Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*NEIC **01** 00:01:46.9±0.9, 19°.46N±0°.02×154°.94W±0°.02, h10km±1km, Error ellipse: s-maj=4.7km s-min=2.3km az=149.0*

HVO 01 00:01:46.5±0.8**, 19°.44N**±0°.03×**154°.91W**±0°.02**, h11**km±2km**, ML2.8**/43**, ML2.9**/38(NEIC)**, Error ellipse: s-maj=4.3km s-min=1.9km az=147.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.09**	**269**		Pg	00 01 49.3	+0.2
JOKA				Sg	Sg	00 01 51.2	+0.2
JOKA				IAML		00 01 51.5	
	comp=E,6μm,0.4s						
JCUZ	**Jacuzzi**	**0.19**	**254**		Pg	00 01 50.8	+0.2
JCUZ					Sg	00 01 54.1	+0.6
NPOC	**North of Pu‘u**	**0.19**	**257**		Pg	00 01 50.9	+0.2
NPOC					Sg	00 01 54.1	+0.5
STCH	**Steam Cracks**	**0.21**	**256**		Pg	00 01 51.1	+0.1
STCH				IAML		00 01 55.2	
	comp=E,2μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.25**	**257**		Pg	00 01 51.8	0.0
PUH	**Pauahi**	**0.29**	**258**		Pg	00 01 52.4	-0.1
PUH				Sg	Sg	00 01 56.9	+0.3
PUH				IAML		00 01 57.8	
	comp=E,2μm,0.3s						
PUH				IAML		00 01 57.8	
	comp=N,2μm,0.4s						
BYL	**Byron's Ledge**	**0.33**	**266**		Pg	00 01 53.1	-0.1
BYL				IAML		00 01 58.3	
	comp=E,1μm,0.5s						
HATHI	**Halema‘uma‘u T**	**0.33**	**268**		Pg	00 01 53.1	-0.1
HATHI					Sg	00 01 57.8	+0.1
HATHI				IAML		00 02 01.5	
	comp=E,2μm,0.5s						
HATHI				IAML		00 02 02.7	
	comp=N,1μm,0.3s						
KKO	**Keanakako'i**	**0.34**	**264**		Pg	00 01 53.2	-0.2
KKO					Sg	00 01 58.0	+0.2
SBLHI	**Steaming Bluff**	**0.34**	**269**		Pg	00 01 53.1	-0.2
SBLHI					Sg	00 01 57.9	0.0
RIM	**Rim**	**0.34**	**263**		Pg	00 01 53.3	-0.2
RIM					Sg	00 01 58.2	+0.1
UWB	**Uwekahuna Bluf**	**0.34**	**268**		Pg	00 01 53.2	-0.2
UWB					Sg	00 01 58.5	+0.4
RSD	**Rainshed**	**0.35**	**275**		Pg	00 01 53.6	+0.1
RSD					Sg	00 01 58.7	+0.5
OBL	**Observatory Le**	**0.35**	**267**		Pg	00 01 53.4	-0.2
OBL					Sg	00 01 58.7	+0.4
UWE	**Uwekahuna**	**0.36**	**268**	Pg	Pg	00 01 53.6	-0.2
UWE					Sg	00 01 59.1	+0.5
UWE				IAML		00 02 00.5	
	comp=E,2μm,0.3s						
SDHHI	**Sand Hill**	**0.36**	**263**		Pg	00 01 53.5	-0.3
SDHHI					Sg	00 01 58.9	+0.2
WRMHI	**West Rim**	**0.37**	**266**		Pg	00 01 53.6	-0.3
WRMHI					Sg	00 01 59.1	+0.2
HLP	**Hilina Pali**	**0.40**	**250**		Pg	00 01 54.4	-0.1
HLP					Sg	00 02 00.1	+0.4
MLH	**Mauna Loa**	**0.45**	**278**		Pg	00 01 55.1	-0.3
MLH					Sg	00 02 01.4	-0.1
MLH				IAML		00 02 07.7	
	comp=E,768nm,0.4s						
MLH				IAML		00 02 09.7	
	comp=N,790nm,0.4s						
HTC	**Hot Caves**	**0.50**	**247**		Pg	00 01 55.9	-0.4
AIN	**Ainahou**	**0.52**	**263**		Pg	00 01 56.1	-0.6
AIN					Sg	00 02 03.3	-0.3
AIN				IAML		00 02 03.6	
	comp=E,971nm,0.5s						
AIN				IAML		00 02 03.8	
	comp=N,980nm,0.1s						
HMH	**Humu‘ula Sheep**	**0.56**	**287**		Pg	00 01 56.8	-0.8
HMH	**Humu‘ula Sheep**	**0.56**	**287**		Sg	00 02 04.7	-0.4
MWH	**Mokuaweoweo**	**0.65**	**274**		Pg	00 01 57.7	-1.5
MWH				IAML		00 02 12.0	
	comp=E,584nm,0.7s						
MWH				IAML		00 02 16.2	
	comp=N,593nm,0.4s						
POHA	**Pohakuloa**	**0.67**	**299**		Pg	00 01 58.4	-1.2
POHA				IAML		00 02 21.9	
	comp=N,429nm,0.6s						
KHU	**Kahuku**	**0.69**	**254**		Pg	00 01 58.1	-1.9
KHU					Sg	00 02 06.8	-2.3
ALEP	**Alea Permanent**	**0.70**	**279**		Pg	00 01 58.5	-1.7
HUH	**Hualalai**	**0.91**	**286**		Pg	00 02 03.6	-0.5

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*NAO **01** 00:02:19.2, 40°.78N×13°.07E, h10km, MB4.2*

*BGR **01** 00:02:35.5±0.6, 42°.39N×13°.46E, h10km, ML4.5/18, Error ellipse: s-maj=11.1km s-min=11.1km az=33.0*

*MED_RC **01** 00:02:39.0±0.4, 42°.80N×13°.03E, h10km, MW4.3/20, Moment Tensor Solution.Mantle waves: s20,c26; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.90±.10; $M_{\theta\theta}$1.15±.07; $M_{\phi\phi}$-0.24±.12; $M_{r\theta}$-1.89±.23; $M_{\theta\phi}$-0.27±.06; $M_{\phi r}$2.13±.32; Best double couple: $M_0$3.04000×10^{15} NP1:ϕ_s255.00000°, δ16.00000°, λ-149.00000°. NP2:ϕ_s135.00000°, δ82.00000°, λ-76.00000°. Principal axes: T 2.9500, Plg36.0000°, Azm213.0000°; N 0.2000, Plg13.0000°, Azm313.0000°; P -3.1400, Plg51.0000°, Azm60.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*NEIC **01** 00:02:40.0±1.7, 42°.81N±0°.05×13°.10E±0°.06, h6km±1km, mb4.2/10, Mwr4.1/26, Mwr4.0(VIE) Error ellipse: s-maj=7.0km s-min=6.4km az=172.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.73; $M_{\theta\theta}$0.99; $M_{\phi\phi}$-0.26; $M_{r\theta}$0.34; $M_{\theta\phi}$-0.80; $M_{\phi r}$1.21; Fault plane solution: $M_0$1.74000×10^{15} NP1:ϕ_s153.48000°, δ66.71000°, λ-42.65000°. NP2:ϕ_s263.49000°, δ51.51000°, λ-149.67000°. Principal axes: T 1.4179, Plg9.0000°, Azm212.0000°; N 0.5212, Plg42.0000°, Azm310.0000°; P -1.9391, Plg46.0000°, Azm112.0000°;*

*ROM **01** 00:02:39.4±0.0, 42°.798N±0°.002×13°.131E±0°.003, h10km, ML4.1/472, Mw4.0, Mw4.1 Error ellipse: s-maj=0.2km s-min=0.2km az=240.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.50; $M_{\theta\theta}$0.59; $M_{\phi\phi}$-0.09; $M_{r\theta}$-1.02; $M_{\theta\phi}$-0.20; $M_{\phi r}$0.77; Fault plane solution: $M_0$1.40276×10^{15} NP1:ϕ_s125.00000°, δ79.00000°, λ-79.00000°. NP2:ϕ_s261.00000°, δ15.00000°, λ-133.00000°.*

*PDG **01** 00:02:39.9±1.0, 42°.83N×13°.12E, h13km, ML4.2/11 Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*

*NEIC **01** 00:02:39.9, 42°.83N×13°.07E, h5km*

*IDC **01** 00:02:39.5±0.7, 42°.93N×13°.12E, h0km, mb3.8/15, mbtmp3.8/27, ML3.5/10, MS3.5/12, Error ellipse: s-maj=13.4km s-min=9.7km az=93.0*

*PRU **01** 00:02:39.3, 42°.71N×13°.13E, h10km, M4.2*

*MOS **01** 00:02:40.9±1.0, 43°.01N×13°.18E, h19km, mb4.4/18, Error ellipse: s-maj=6.2km s-min=3.6km az=72.0*

*LDG **01** 00:02:41.6±0.1, 42°.71N×13°.21E, h8km, Ml3.9/34, Error ellipse: s-maj=2.9km s-min=2.0km az=31.0*

ISC 01 00:02:40.4±0.6**, 42°.79N**±0°.01×**13°.11E**±0°.02**, h10**km±3km**, n468, σ1s53**/587**, mb4.2**/28**, MS3.5**/9**, 80C-22D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.04**	**2**		**Pg**	**00 02 40.9**	**-1.5**
NRCA	**Norcia**	**0.04**	**2**	⇑P	**Pg**	**00 02 41.7**	**-0.8**
NRCA				S	**Sg**	**00 02 42.8**	**-1.2**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
FEMA	**Monte Fema**	**0.17**	**345**	⇑P	**Pg**	**00 02 43.7**	**-0.5**
FEMA				S	**Sg**	**00 02 46.7**	**-0.3**
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
GAVE	**Gavelli**	**0.19**	**238**	⇑P	**Pg**	**00 02 44.6**	**+0.2**
GAVE				S	**Sg**	**00 02 48.3**	**+1.0**
GAVE				AML	AML		
GAVE				AML	AML		
GAVE				AML	AML		
GAVE				AML	AML		
GAVE				AML	AML		
GAVE				AML	AML		
GAVE				AML	AML		
GAVE				AML	AML		
GAVE				AML	AML		
GAVE				AML	AML		
GAVE				AML	AML		
LNSS	**Leonessa**	**0.20**	**196**	⇑P	**Pg**	**00 02 44.6**	**0.0**
LNSS				S	**Sg**	**00 02 48.2**	**+0.7**
LNSS				AML	AML		
LNSS				AML	AML		
LNSS				AML	AML		
LNSS				AML	AML		
LNSS				AML	AML		
LNSS				AML	AML		
LNSS				AML	AML		
LNSS				AML	AML		
MTRA	**Matera**	**0.21**	**100**	⇑P	**Pg**	**00 02 44.0**	**-0.8**
MTRA				S	**Sg**	**00 02 47.2**	**-0.7**
MTRA				AML	AML		
MTRA				AML	AML		
MTRA				AML	AML		
MTRA				AML	AML		
MTRA				AML	AML		
MTRA				AML	AML		
MTRA				AML	AML		
SMA1	**SAN MARTINO**	**0.23**	**134**	⇑P	**Pg**	**00 02 44.6**	**-0.6**
SMA1				S	**Sg**	**00 02 48.4**	**-0.1**
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
FDMO	**Fiordimonte**	**0.24**	**356**		**Pg**	**00 02 44.7**	**-0.7**
FDMO				Sg	**Sg**	**00 02 48.2**	**-0.6**
FDMO	**Fiordimonte**	**0.24**	**356**	⇑P	**Pg**	**00 02 44.7**	**-0.7**
FDMO				S	**Sg**	**00 02 48.6**	**-0.2**
CESI	**CESI - Serrava**	**0.26**	**324**	⇑P	**Pg**	**00 02 45.4**	**-0.4**
CESI				S	**Sg**	**00 02 49.5**	**+0.2**
CESI				AML	AML		
CESI				AML	AML		
CESI				AML	AML		
CESI				AML	AML		
CESI				AML	AML		
CESI				AML	AML		
RM33	**Pellescritta (**	**0.29**	**165**	⇑P	**Pg**	**00 02 45.8**	**-0.5**
RM33				S	**Sg**	**00 02 50.7**	**+0.4**
RM33				AML	AML		
	comp=E,57750μm,0.4s						
RM33				AML	AML		
	comp=N,60850μm,1.5s						
RM33				AML	AML		
	comp=N,60950μm,1.4s						
RM33				AML	AML		
	comp=N,60850μm,1.4s						
RM33				AML	AML		
	comp=E,56100μm,0.4s						
RM33				AML	AML		
	comp=N,60850μm,0.6s						
RM33				AML	AML		
	comp=N,60950μm,0.6s						
RM33				AML	AML		
	comp=E,57750μm,0.4s						
CSP1	**Cessapalombo**	**0.31**	**13**	⇑P	**Pg**	**00 02 45.7**	**-0.9**
CSP1				S	**Sg**	**00 02 50.5**	**-0.3**
CSP1				AML	AML		
CSP1				AML	AML		
CSP1				AML	AML		
CSP1				AML	AML		
GUMA	**Gualdo di Mace**	**0.32**	**31**		**Pg**	**00 02 46.1**	**-0.7**
GUMA				Sg	**Sg**	**00 02 50.7**	**-0.3**
GUMA	**Gualdo di Mace**	**0.32**	**31**	⇑P	**Pg**	**00 02 46.0**	**-0.7**
GUMA				S	**Sg**	**00 02 50.8**	**-0.2**
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
MF5	**Montefalcone A**	**0.32**	**52**	⇑P	**Pg**	**00 02 46.2**	**-0.7**
MF5				S	**Sg**	**00 02 51.3**	**+0.1**
MF5				AML	AML		
MF5				AML	AML		
ARRO	**Arrone**	**0.33**	**230**	⇑P	**Pg**	**00 02 47.0**	**0.0**
ARRO				AML	AML		
	comp=N,74950μm,0.6s						
ARRO				AML	AML		
	comp=N,74950μm,1.4s						
ARRO				AML	AML		
	comp=E,71200μm,0.8s						
MML1	**Montelago di S**	**0.34**	**342**	⇑P	**Pg**	**00 02 46.4**	**-0.7**
MML1				S	**Sg**	**00 02 51.8**	**+0.1**
CAMP	**Campotosto**	**0.34**	**139**		**Pg**	**00 02 46.4**	**-0.8**
CAMP				Sg	**Sg**	**00 02 51.5**	**-0.2**
CAMP	**Campotosto**	**0.34**	**139**	⇑P	**Pg**	**00 02 46.4**	**-0.8**
CAMP				S	**Sg**	**00 02 51.6**	**0.0**
CAMP				AML	AML		
	comp=N,31900μm,0.3s						
CAMP				AML	AML		
	comp=N,31900μm,1.7s						
CAMP				AML	AML		
	comp=E,35400μm,0.6s						
PF6	**Pievefavera**	**0.36**	**9**	⇑P	**Pg**	**00 02 46.4**	**-1.2**
PF6				S	**Sg**	**00 02 51.6**	**-0.7**
SAP2	**Sant'Angelo in**	**0.37**	**35**	⇑P	**Pg**	**00 02 47.2**	**-0.5**
SAP2				S	**Sg**	**00 02 53.1**	**+0.5**
SAP2				AML	AML		
SAP2				AML	AML		
SAP2				AML	AML		
SEF1	**Sefro**	**0.37**	**341**	P	**Pg**	**00 02 47.1**	**-0.7**
SEF1				S	**Sg**	**00 02 53.0**	**+0.2**
SEF1				AML	AML		
SEF1				AML	AML		
SEF1				AML	AML		
PIO1	**Pioraco**	**0.40**	**346**	P	**Pg**	**00 02 47.4**	**-0.8**
PIO1				S	**Sg**	**00 02 53.5**	**0.0**
MOMA	**Monte Martano**	**0.40**	**272**	⇑P	**Pg**	**00 02 48.1**	**-0.1**
MOMA				S	**Sb**	**00 02 54.9**	**-0.9**
MOMA				AML	AML		
	comp=E,89250μm,0.8s						
MOMA				AML	AML		
	comp=E,89250μm,1.2s						
MOMA				AML	AML		
	comp=E,84400μm,0.2s						
MOMA				AML	AML		
	comp=N,73300μm,0.2s						
MOMA				AML	AML		
	comp=N,69600μm,0.8s						
MDAR	**Monte D'Aria**	**0.40**	**3**	P	**Pg**	**00 02 47.4**	**-0.9**
MDAR				S	**Sg**	**00 02 53.5**	**-0.2**
MDAR				AML	AML		
	comp=E,83000μm,1.0s						
MDAR				AML	AML		
	comp=N,71500μm,1.2s						
MDAR				AML	AML		
	comp=E,83000μm,1.1s						
MDAR				AML	AML		
	comp=N,71500μm,1.2s						
TERO	**Teramo**	**0.40**	**115**	⇑P	**Pg**	**00 02 47.1**	**-1.1**
TERO				S	**Sg**	**00 02 53.1**	**-0.4**
TERO				AML	AML		
	comp=E,14300μm,0.5s						
TERO				AML	AML		
	comp=N,19650μm,0.5s						
TERO				AML	AML		
	comp=N,34500μm,0.5s						
TERO				AML	AML		
	comp=E,27200μm,1.0s						
TERO				AML	AML		
	comp=N,19650μm,1.5s						
TERO				AML	AML		
	comp=E,14300μm,1.5s						
ASSB	**Assisi San Ben**	**0.42**	**307**	⇑P	**Pg**	**00 02 48.0**	**-0.5**
ASSB				AML	AML		
	comp=E,35750μm,1.2s						
ASSB				AML	AML		
	comp=N,40050μm,0.2s						
ASSB				AML	AML		
	comp=N,40050μm,1.8s						
FIU1	**Fiuminata**	**0.42**	**342**	P	**Pg**	**00 02 47.8**	**-0.8**
FIU1				S	**Sg**	**00 02 54.2**	**+0.1**
CESX	**Cesi**	**0.43**	**245**		**Pg**	**00 02 48.5**	**-0.3**
CESX	**Cesi**	**0.43**	**245**	⇑P	**Pg**	**00 02 48.5**	**-0.3**
CESX				AML	AML		
	comp=N,76400μm,1.4s						
CESX				AML	AML		
CESX				AML	AML		
CESX				AML	AML		
	comp=N,76400μm,0.6s						
MNTP	**Montappone**	**0.43**	**37**	⇑P	**Pg**	**00 02 48.4**	**-0.5**
MNTP				S	**Sb**	**00 02 55.8**	**-0.8**
MNTP				AML	AML		
MNTP				AML	AML		
MNTP				AML	AML		
	comp=E,91600μm,0.3s						
SSM1	**San Severino M**	**0.44**	**6**	P	**Pg**	**00 02 48.1**	**-0.9**
SSM1				S	**Sg**	**00 02 54.8**	**0.0**
OFFI	**Offida**	**0.45**	**71**	⇑P	**Pg**	**00 02 48.7**	**-0.4**
OFFI				AML	AML		
	comp=E,85000μm,1.6s						
OFFI				AML	AML		
	comp=N,86050μm,0.6s						
OFFI				AML	AML		
	comp=E,85000μm,0.4s						
OFFI				AML	AML		
	comp=N,86050μm,1.4s						
GAG1	**Gagliole**	**0.45**	**356**	P	**Pg**	**00 02 48.5**	**-0.6**
MNTT	**Montottone**	**0.45**	**53**	⇑P	**Pg**	**00 02 48.8**	**-0.3**
MNTT				S	**Sb**	**00 02 56.6**	**-0.5**
MNTT				AML	AML		
MNTT				AML	AML		
MNTT				AML	AML		
MNTT				AML	AML		
MTL1	**Matelica**	**0.47**	**351**	P	**Pg**	**00 02 48.7**	**-0.8**
MTL1				S	**Sg**	**00 02 56.1**	**+0.4**
SNTG	**Esanatoglia**	**0.48**	**345**	⇑P	**Pg**	**00 02 48.9**	**-0.9**
SNTG				S	**Sg**	**00 02 56.2**	**+0.1**
SNTG				AML	AML		
	comp=E,26450μm,0.4s						
SNTG				AML	AML		
	comp=N,28200μm,1.3s						
SNTG				AML	AML		
	comp=N,29550μm,1.3s						
SNTG				AML	AML		
	comp=E,26200μm,0.3s						
SNTG				AML	AML		
	comp=E,26200μm,1.7s						
SNTG				AML	AML		
	comp=N,28200μm,0.7s						
SNTG				AML	AML		
	comp=N,29550μm,0.7s						
GIGS	**Gran Sasso**	**0.48**	**135**	⇑P	**Pg**	**00 02 48.5**	**-1.3**
GIGS				S	**Sg**	**00 02 55.6**	**-0.6**
GIGS				AML	AML		
	comp=N,7405μm,0.2s						
GIGS				AML	AML		
	comp=E,6935μm,0.8s						
AQU	**L'Aquila**	**0.49**	**154**	⇑P	**Pg**	**00 02 49.0**	**-0.8**
ATCC	**AVT- Casa Cast**	**0.52**	**319**	⇑P	**Pg**	**00 02 50.0**	**-0.5**
ATCC				AML	AML		
	comp=N,61300μm,1.0s						
ATCC				AML	AML		
	comp=E,40650μm,0.9s						
FIAM	**Fiamignano**	**0.52**	**180**	⇑P	**Pg**	**00 02 49.8**	**-0.7**
FIAM				S	**Sg**	**00 02 58.0**	**+0.4**
FIAM				AML	AML		
	comp=E,33950μm,0.8s						
FIAM				AML	AML		
	comp=N,27800μm,0.5s						
FIAM				AML	AML		
	comp=E,17750μm,0.8s						
FIAM				AML	AML		
	comp=N,14750μm,0.5s						
EL6	**Elcito**	**0.54**	**359**	⇑P	**Pg**	**00 02 49.8**	**-1.1**
EL6				S	**Sg**	**00 02 57.9**	**-0.1**
EL6				AML	AML		
	comp=E,56850μm,1.1s						
EL6				AML	AML		
	comp=N,70150μm,0.5s						
EL6				AML	AML		
	comp=N,70150μm,1.5s						
EL6				AML	AML		
	comp=E,56850μm,0.9s						
TRE1	**Treia**	**0.54**	**16**	P	**Pg**	**00 02 50.2**	**-0.6**
TRE1				S	**Sb**	**00 02 59.0**	**-0.7**
TRE1				AML	AML		
	comp=E,89900μm,1.1s						
TRE1				AML	AML		
	comp=N,99300μm,1.0s						
FOSV	**Fossato di Vic**	**0.56**	**333**	⇓P	**Pg**	**00 02 50.5**	**-0.9**
FOSV				S	**Sg**	**00 02 59.0**	**+0.3**
FOSV				AML	AML		
	comp=N,30750μm,0.8s						
FOSV				AML	AML		
	comp=E,37000μm,0.6s						
CING	**Cingoli**	**0.59**	**6**	⇑P	**Pg**	**00 02 50.6**	**-1.2**
CING				S	**Sg**	**00 02 59.4**	**-0.1**
TRTR	**Tortoreto Alta**	**0.59**	**88**	P	**Pg**	**00 02 51.7**	**-0.1**
TRTR				AML	AML		
	comp=N,71350μm,0.6s						
TRTR				AML	AML		
	comp=E,89900μm,0.5s						
TRTR				AML	AML		
	comp=N,71400μm,0.6s						
CADA	**Capodarco di F**	**0.62**	**50**	P	**Pb**	**00 02 52.6**	**-0.7**
CADA				AML	AML		
CADA				AML	AML		
	comp=E,99300μm,0.4s						
CADA				AML	AML		
MURB	**Monte Urbino**	**0.64**	**318**		**Pg**	**00 02 52.0**	**-0.8**
MURB	**Monte Urbino**	**0.64**	**318**	P	**Pg**	**00 02 52.0**	**-0.8**
MURB				AML	AML		
	comp=E,83700μm,0.3s						
MURB				AML	AML		
	comp=N,82550μm,1.0s						
MMUR	**Monte Murano**	**0.65**	**353**	P	**Pg**	**00 02 52.0**	**-1.1**
MMUR				AML	AML		
	comp=N,35850μm,1.0s						
MMUR				AML	AML		
	comp=E,44450μm,0.3s						
CIMA	**Civitanova Mar**	**0.66**	**38**	P	**Pg**	**00 02 52.7**	**-0.3**
CIMA				AML	AML		
	comp=E,49700μm,1.4s						
CIMA				AML	AML		
	comp=N,43650μm,1.6s						
CIMA				AML	AML		
	comp=E,49700μm,0.6s						
CIMA				AML	AML		
	comp=N,43650μm,0.4s						
VCEL	**Villa Celiera**	**0.67**	**126**	P	**Pg**	**00 02 52.0**	**-1.3**
VCEL				S	**Sb**	**00 03 03.0**	**-0.5**
VCEL				AML	AML		
	comp=N,23100μm,0.5s						
VCEL				AML	AML		
	comp=E,27450μm,0.5s						
SSFR	**Montelago di S**	**0.69**	**340**	P	**Pg**	**00 02 52.6**	**-1.0**
SSFR				AML	AML		
	comp=N,33550μm,1.2s						
SSFR				AML	AML		
	comp=E,43900μm,0.2s						
SSFR				AML	AML		
	comp=N,33100μm,0.3s						
SSFR				AML	AML		
	comp=E,40850μm,0.2s						
ATTE	**AVT- Monte Tez**	**0.69**	**306**	P	**Pg**	**00 02 53.1**	**-0.6**
ATTE				AML	AML		
	comp=N,13900μm,0.7s						
ATTE				AML	AML		
	comp=E,14900μm,0.4s						
PP3	**Marolino**	**0.69**	**32**	⇑P	**Pg**	**00 02 53.2**	**-0.4**
ATFO	**Monte Foce - G**	**0.70**	**326**	⇑P	**Pg**	**00 02 52.9**	**-0.9**
ATFO				S	**Sb**	**00 03 04.4**	**+0.1**
ATFO				AML	AML		
	comp=N,16900μm,0.8s						
ATFO				AML	AML		
	comp=E,23300μm,1.0s						
ATSC	**Scheggia e Pas**	**0.70**	**334**	P	**Pg**	**00 02 52.9**	**-1.1**
ARVD	**Arcevia**	**0.72**	**350**	⇓P	**Pg**	**00 02 53.0**	**-1.2**
ARVD				S	**Sb**	**00 03 04.1**	**-0.7**
ARVD				AML	AML		
	comp=N,17000μm,1.0s						
ARVD				AML	AML		
	comp=E,16950μm,0.9s						
ARVD				AML	AML		
	comp=N,17000μm,1.0s						
ATLO	**AVT- Montelove**	**0.73**	**316**	P	**Pg**	**00 02 53.6**	**-1.0**
MGAB	**Montegabbione**	**0.74**	**280**	P	**Pg**	**00 02 54.2**	**-0.5**
MGAB				AML	AML		
	comp=E,55650μm,0.6s						
MGAB				AML	AML		
	comp=E,49950μm,0.6s						
MGAB				AML	AML		
	comp=N,53400μm,0.6s						
MGAB				AML	AML		
	comp=N,55750μm,1.3s						
MGAB				AML	AML		
	comp=N,55750μm,0.7s						

MGAB AML AML
comp=N,53400µm,0.6s
T0110 Collepietro 0.75 139 ⇑P **Pg 00 02 53.2 -1.7**
T0110 AML AML
comp=E,19150µm,1.4s
T0110 AML AML
comp=N,24600µm,0.4s
ATVA AVT- Monte Val 0.78 309 P **Pg 00 02 54.7 -0.7**
FRON Frontone 0.78 339 P **Pg 00 02 54.1 -1.3**
FRON S **Sg 00 03 05.8 +0.3**
FRON AML AML
comp=E,12800µm,0.9s
FRON AML AML
comp=N,17900µm,0.4s
ATVO AVT- Monte Val 0.78 319 ⇑P **Pg 00 02 54.4 -1.1**
ATVO AML AML
comp=N,13050µm,1.4s
ATVO AML AML
comp=E,13450µm,0.5s
ATVO AML AML
comp=N,13050µm,0.6s
ATBU Serra di Buran 0.80 329 ⇑P **Pg 00 02 54.9 -0.9**
ATMI Monte Miggiano 0.82 311 P **Pg 00 02 55.6 -0.6**
ATMI AML AML
comp=N,53000µm,1.0s
ATMI AML AML
comp=E,38450µm,0.8s
AOI Ancona 0.84 25 ⇑P **Pg 00 02 55.3 -1.3**
AOI AML AML
comp=E,13400µm,0.4s
AOI AML AML
comp=N,11650µm,0.5s
ATPC Poggio Castell 0.84 325 ⇑P **Pg 00 02 55.6 -1.0**
ATPI Pietralunga - 0.84 322 ⇑P **Pg 00 02 55.5 -1.1**
ATPI AML AML
comp=E,16000µm,0.7s
ATPI AML AML
comp=E,15400µm,0.6s
ATPI AML AML
comp=E,16000µm,0.7s
ATPI AML AML
comp=E,16000µm,1.3s
ATPI AML AML
comp=E,15400µm,1.4s
ATPI AML AML
comp=N,12290µm,0.5s
ATPI AML AML
comp=N,12205µm,0.5s
COR1 Corinaldo 0.84 354 P **Pg 00 02 56.1 -0.5**
COR1 AML AML
comp=E,35350µm,0.5s
COR1 AML AML
comp=N,39450µm,1.1s
COR1 AML AML
comp=E,17800µm,0.5s
COR1 AML AML
comp=N,37100µm,1.4s
COR1 AML AML
comp=E,19550µm,0.7s
COR1 AML AML
comp=N,37150µm,1.4s
COR1 AML AML
comp=E,35450µm,0.7s
CERT Cerreto 0.85 187 ⇑P **Pg 00 02 55.1 -1.6**
CERT AML AML
comp=E,11950µm,0.6s
CERT AML AML
comp=N,11460µm,0.5s
PIEI Pieia 0.85 331 ⇑P **Pg 00 02 55.5 -1.4**
PIEI AML AML
comp=E,11650µm,1.6s
PIEI AML AML
comp=N,9925µm,0.8s
PIEI AML AML
comp=E,11650µm,0.4s
PCRO Pietralacroce 0.87 21 P **Pg 00 02 56.4 -0.7**
MPAG Monte Paganucc 0.88 343 ⇓P **Pg 00 02 55.9 -1.4**
MPAG AML AML
comp=N,12650µm,0.6s
MPAG AML AML
comp=E,12850µm,0.5s
MPAG AML AML
comp=N,13600µm,0.8s
MPAG AML AML
comp=E,13200µm,0.8s
MPAG AML AML
comp=N,12700µm,0.6s
MPAG AML AML
comp=E,12850µm,1.5s
INTR Introdacqua 0.98 143 **Pg 00 02 56.9 -2.3**
MCIV Monte Civitell 1.06 270 AML AML
comp=E,8125µm,1.1s
MCIV AML AML
comp=N,7630µm,0.5s
MCIV AML AML
comp=N,7630µm,1.5s
ASQU Asqua 1.39 317 P **Pn 00 03 05.2 -0.7**
FROS Frosini 1.49 287 AML AML
comp=N,3455µm,0.5s
FROS AML AML
comp=E,5780µm,0.8s
FROS AML AML
comp=E,5780µm,1.2s
CSNT Castellina Chi 1.50 298 P **Pn 00 03 07.0 -0.2**
OSSC Osservatorio P 1.55 299 **Pn 00 03 07.9 0.0**
OSSC Osservatorio P 1.55 299 P **Pn 00 03 08.0 0.0**
RUFI Rufina 1.57 312 P **Pn 00 03 07.7 -0.6**
LMD Lutirano 1.64 322 P **Pn 00 03 09.3 +0.1**
CASP Castiglione de 1.65 271 **Pn 00 03 08.6 -0.8**
TRIF Trifonti 1.65 282 AML AML
comp=E,1760µm,0.5s
TRIF AML AML
comp=N,2395µm,0.6s
SEI Scarperia 1.80 315 P **Pn 00 03 11.6 +0.2**
IMOL Imola, Italy 1.86 328 P **Pg 00 03 15.9 -0.1**
MAGO Bibbona 1.86 286 AML AML
comp=E,780µm,0.7s
MAGO AML AML
comp=N,834µm,0.9s
PAOL Paolisi 2.07 148 **Pn 00 03 15.2 +0.1**
PII Pisa 2.11 297 P **Pn 00 03 15.8 +0.3**
POPM Popiglio 2.12 307 P **Pn 00 03 15.6 -0.2**
BRJN Brijuni 2.16 12 *e*Pn **Pn 00 03 15.3 -1.1**
SGRT San Giovanni R 2.21 117 **Pn 00 03 17.4 +0.3**
MAIM Mastiano 2.22 301 P **Pn 00 03 17.4 +0.3**
BDI Bagni Di Lucca 2.23 306 P **Pn 00 03 16.6 -0.8**
CARD Cardoso 2.28 304 P **Pn 00 03 17.6 -0.4**
GSCL Gusciola 2.41 311 P **Pn 00 03 20.3 +0.5**
SARO Sassorosso 2.41 306 P **Pn 00 03 19.0 -0.9**
KIJV Kijevo 2.69 62 *e*Pn **Pn 00 03 23.8 +0.2**
PRMA PARMA 2.83 315 **Pn 00 03 23.7 -1.8**
OPPE Oppeano 2.88 332 AML AML
comp=E,2800µm,1.0s
OPPE AML AML
comp=N,2340µm,1.2s
KNDS Knezji Dol 2.88 18 *i* Pn **Pn 00 03 25.7 -0.7**
KNDS *i* Sn **Sn 00 04 00.7 -0.4**
KNDS IAML 00 04 24.6
comp=Z,752nm,0.9s
ACER Acerenza 2.92 132 **Pn 00 03 27.5 +0.7**
TRI Trieste 2.95 9 **Pn 00 03 25.9 -1.3**
TRI Trieste 2.95 9 P **Pn 00 03 25.9 -1.3**
A050A Klekovaca 3.00 55 *e*Pn **Pn 00 03 28.4 +0.4**
MSSA Maissana 3.02 301 **Pn 00 03 28.0 -0.3**
PGF Pioggiola 3.04 267 *e*Pn **Pn 00 03 28.5 -0.1**
PGF *e*Sn **Sn 00 04 05.1 0.0**
comp=Z,62nm,0.4s
PGF Pioggiola 3.04 267 AML AML
comp=N,108µm,0.9s
PGF AML AML
comp=N,108µm,1.1s
PGF AML AML
comp=E,195µm,0.6s
SABO M.te Sabotino 3.21 6 **Pn 00 03 29.8 -1.0**
OZLJ Ozalj 3.29 30 *e*Pn **Pn 00 03 31.6 -0.3**
STON Ston 3.38 87 *e*Pn **Pn 00 03 32.6 -0.4**
MATE Matera 3.44 127 ⇓P **Pn 00 03 34.8 +0.9**
MATE ⇑S **Sn 00 04 15.6 +1.0**
CUC Castrocucco 3.46 143 **Pn 00 03 35.0 +0.8**
STAL STALIGIAL 3.48 355 **Pn 00 03 34.0 -0.6**
A051A Mrakovica 3.53 50 *e*Pn **Pn 00 03 34.4 -0.8**
BLY Banja Luka 3.54 55 *e*Pn **Pn 00 03 32.8 -2.5**
BLY Banja Luka 3.54 55 ⇑P **Pn 00 03 36.2 +0.9**
MOSL Moslavina 3.85 42 *e*Pn **Pn 00 03 38.4 -1.2**
MDI Monti di Nese 3.85 322 AML AML
comp=E,626µm,0.7s
MDI AML AML
comp=E,624µm,0.5s
MDI AML AML
comp=N,502µm,0.3s
MDI AML AML
comp=N,511µm,0.3s
MDI AML AML
comp=E,624µm,1.5s
MYKA Terra Mystica 3.85 5 *i* Pn **Pn 00 03 39.4 -0.3**
comp=E,32nm,0.3s,SNR=71
MYKA *e*Sn **Sn 00 04 26.2 +1.1**
comp=E,42nm,0.4s
OBKA Obir 3.85 15 *i* Pn **Pn 00 03 38.7 -1.0**
comp=E,11nm,0.3s,SNR=23
OBKA Obir 3.85 15 *e*Pn **Pn 00 03 38.8 -1.0**
OBKA Obir 3.85 15 *e*Pn **Pn 00 03 38.8 -1.0**
TREB Trebinje 3.86 89 *e*Pn **Pn 00 03 39.7 0.0**
TAR1 Taranto 3.86 125 AML AML
comp=N,506µm,0.7s
TAR1 AML AML
comp=E,484µm,0.6s
TAR1 AML AML
comp=N,506µm,1.3s
TAR1 AML AML
comp=E,484µm,1.4s
OZOL Ozolo 3.90 339 AML AML
comp=N,1046µm,0.5s
OZOL AML AML
comp=E,1315µm,0.4s
OZOL AML AML
comp=E,1465µm,0.4s
OZOL AML AML
comp=N,910µm,0.6s
ABTA Abfaltersbach 3.98 354 *i* Pn **Pn 00 03 41.7 +0.3**
comp=N,85nm,0.4s,SNR=171
ABTA *e*Sn **Sn 00 04 29.1 +1.0**
comp=N,299nm,0.7s
HCY Herceg Novi 3.99 93 ⇑*i* Pn **Pn 00 03 41.8 +0.3**
HCY *i* Sn **Sn 00 04 29.2 +1.0**
BRY Bratogost 3.99 87 ⇓*i* Pn **Pn 00 03 41.7 0.0**
BRY *i* Sn **Sn 00 04 29.2 +0.7**
BRES Bressanone 4.03 346 AML AML
comp=E,722µm,1.0s
BRES AML AML
comp=E,722µm,1.0s
BRES AML AML
comp=N,745µm,1.6s
BRES AML AML
comp=N,745µm,0.4s
KLINJ Klinje 4.03 83 *e*Pn **Pn 00 03 42.2 0.0**
DOB Doboj 4.10 60 *e*Pn **Pn 00 03 44.4 +1.4**
SOKA Soboth 4.12 19 *e*Pn **Pn 00 03 42.7 -0.7**
comp=N,8.5nm,0.3s,SNR=18
SOKA *e*Sn **Sn 00 04 31.0 -0.6**
comp=N,14nm,0.4s
BERNI Berninapass 4.24 330 AML AML
comp=E,252µm,0.8s
BERNI AML AML
comp=N,302µm,0.7s
UPM Unac-Piva 4.27 83 ⇑*i* Pn **Pn 00 03 45.9 +0.4**
UPM *i* Sn **Sn 00 04 35.8 +0.4**
SBF Sospel 4.28 286 *e*Pn **Pn 00 03 45.1 -0.4**
SBF *e*Sn **Sn 00 04 31.7 -3.8**
comp=N,62nm,0.4s
MUGIO Muggio 4.28 318 AML AML
comp=N,216µm,0.4s
MUGIO AML AML
comp=E,242µm,0.6s
MUGIO AML AML
comp=E,242µm,1.4s
KOGS Kog 4.29 30 AML AML
comp=N,2570µm,1.0s
KOGS AML AML
comp=E,3220µm,1.2s
KOGS AML AML
comp=E,3220µm,0.8s
CEME Cevo 4.29 91 ⇓*i* Pn **Pn 00 03 45.9 +0.2**
CEME *i* Sn **Sn 00 04 36.4 +0.7**
KBA Koelnbreinsper 4.29 2 *i* Pn **Pn 00 03 46.0 +0.2**
comp=E,10nm,0.2s
KBA *e*Sn **Sn 00 04 34.6 -1.3**
comp=E,33nm,0.3s
KBA Koelnbreinsper 4.29 2 *e*Pn **Pn 00 03 45.9 +0.2**
KBA *e*Sn **Sn 00 04 37.2 +1.3**
KBA Koelnbreinsper 4.29 2 *e*Pn **Pn 00 03 45.9 +0.2**
KBA *e*Sn **Sn 00 04 37.2 +1.3**
BUM Brajici-Budva 4.30 95 ⇓*i* Pn **Pn 00 03 46.2 +0.4**
BUM *i* Sn **Sn 00 04 36.3 +0.3**
NKME Niksic 4.30 88 ⇑*i* Pn **Pn 00 03 46.2 +0.4**
NKME *i* Sn **Sn 00 04 36.7 +0.7**
ROSI Rosskopf 4.31 344 AML AML
comp=E,1080µm,1.1s
ROSI AML AML
comp=E,1080µm,0.9s
ROSI AML AML
comp=N,976µm,0.9s
FUORN Ofenpass-Fuorn 4.33 333 **Pn 00 03 47.9 +1.5**
VSL Villasalto 4.33 222 **Pn 00 03 46.6 +0.4**
VSL Villasalto 4.33 222 AML AML
comp=N,228µm,1.3s
VSL AML AML
comp=N,228µm,0.7s
VSL AML AML
comp=E,217µm,1.4s
VARE Varese 4.38 316 AML AML
comp=N,402µm,0.6s
VARE AML AML
comp=E,464µm,1.0s
BEHE Becsehely 4.51 34 Pn **Pn 00 03 47.3 -1.3**
BEHE Becsehely 4.51 34 *e*Pn **Pn 00 03 50.9 +2.2**
DRME Dracevica, Mon 4.53 96 ⇑*i* Pn **Pn 00 03 49.3 +0.4**
DRME *i* Sn **Sn 00 04 42.0 +0.4**
TIP Timpagrande 4.54 141 **Pn 00 03 51.4 +2.2**
PDG Podgorica 4.55 92 **Pn 00 03 49.2 +0.1**
PDG Podgorica 4.55 92 ⇓P **Pn 00 03 49.6 +0.4**
PDG Podgorica 4.55 92 AML AML
comp=N,244µm,0.7s
PDG AML AML
comp=E,234µm,0.6s
PDG AML AML
comp=E,224µm,0.6s
PDG AML AML
comp=N,248µm,1.3s
PDG Podgorica 4.55 92 ⇓*i* Pn **Pn 00 03 49.6 +0.4**
PDG *i* Sn **Sn 00 04 42.6 +0.6**
FETA Feichten 4.55 339 *e*Pn **Pn 00 03 50.2 +0.8**
comp=N,8.3nm,0.5s,SNR=23
TUE Stuetta 4.55 325 **Pn 00 03 50.3 +0.8**
TUE Stuetta 4.55 325 AML AML
comp=E,422µm,1.3s
TUE AML AML
comp=E,442µm,1.3s
TUE AML AML
comp=N,500µm,0.7s
TUE AML AML
comp=E,422µm,0.7s
TUE AML AML
comp=E,442µm,0.7s
TUE AML AML
comp=N,496µm,0.8s
TUE AML AML
comp=N,500µm,1.3s
WTTA Wattenberg 4.59 347 *i* Pn **Pn 00 03 50.9 +1.0**
comp=N,18nm,0.3s,SNR=29
WTTA *e*Sn **Sn 00 04 45.5 +2.1**
comp=N,260nm,0.6s
WTTA Wattenberg 4.59 347 *e*Pn **Pn 00 03 51.1 +1.2**
WTTA *e*Sn **Sn 00 04 47.9 +4.5**
WTTA Wattenberg 4.59 347 AML AML
comp=E,630µm,0.7s
WTTA AML AML
comp=N,592µm,0.7s
WTTA AML AML
comp=N,592µm,1.3s
WTTA Wattenberg 4.59 347 *e*Pn **Pn 00 03 51.1 +1.2**
WTTA *e*Sn **Sn 00 04 47.9 +4.5**
DAVOX Davos/Dischmat 4.60 331 Pn **Pn 00 03 52.7 +2.6**
comp=N,12nm,0.3s,baz=158,slow=19,SNR=175
DAVOX Sn **Sn 00 04 40.9 -2.7**
comp=N,14nm,0.3s,baz=107,slow=16,SNR=6.8
DAVOX LR LR 00 06 07.5
comp=N,334nm,18.7s,baz=135,slow=46
ULC Ulcinj 4.62 98 ⇑*i* Pn **Pn 00 03 50.3 +0.1**
ULC *i* Sn **Sn 00 04 43.9 +0.1**
SQTA Sankt Quirin 4.63 344 *i* Pn **Pn 00 03 51.2 +0.8**
comp=N,17nm,0.2s,SNR=46
SQTA *e*Sn **Sn 00 04 46.0 +1.8**
comp=N,39nm,0.4s
LESA Schwarzleotal 4.64 356 *i* Pn **Pn 00 03 50.8 +0.3**
comp=N,30nm,0.3s,SNR=65
LESA *e*Sn **Sn 00 04 43.9 -0.6**
comp=N,114nm,0.5s
RUDO Rudo 4.65 78 *e*Pn **Pn 00 03 50.7 +0.1**
WATA Walderalm 4.67 347 *i* Pn **Pn 00 03 52.1 +1.1**
comp=N,19nm,0.2s,SNR=51
WATA *e*Sn **Sn 00 04 48.2 +2.9**
comp=N,51nm,0.3s
KOME Kolasin 4.71 87 ⇓*i* Pn **Pn 00 03 52.0 +0.5**
KOME *i* Sn **Sn 00 04 46.5 +0.3**
MOTA Moosalm 4.77 343 *i* Pn **Pn 00 03 53.6 +1.3**
comp=N,24nm,0.4s,SNR=41
MOTA *e*Sn **Sn 00 04 49.8 +2.1**
comp=N,51nm,0.5s
ARSA Arzberg 4.77 20 **Pn 00 03 51.5 -0.8**
ARSA Arzberg 4.77 20 *i* Pn **Pn 00 03 51.2 -1.1**
comp=N,15nm,0.3s,SNR=24
ARSA *e*Sn **Sn 00 04 46.9 -0.8**
comp=N,22nm,0.3s
ARSA Arzberg 4.77 20 *e*Pn **Pn 00 03 51.3 -1.0**
ARSA *e*Sn **Sn 00 04 45.3 -2.4**
ARSA Arzberg 4.77 20 *e*Pn **Pn 00 03 51.3 -1.0**
ARSA *e*Sn **Sn 00 04 45.3 -2.4**
LMR La Mourre 4.87 279 *e*Pn **Pn 00 03 53.4 -0.2**
LMR *e*Sn **Sn 00 04 46.9 -3.0**
comp=N,22nm,0.5s
BIOA Bad Ischl, Aus 4.91 4 *i* Pn **Pn 00 03 54.0 -0.2**
comp=N,19nm,0.2s,SNR=71
BIOA *e*Sn **Sn 00 04 52.0 +0.9**
comp=N,146nm,0.8s
RJOB Jochberg 4.95 358 *e*Pn **Pn 00 03 55.1 +0.4**
RJOB *e*Sn **Sn 00 04 55.0 +3.0**
RJOB Jochberg 4.95 358 *e*Pn **Pn 00 03 55.1 +0.4**
RJOB *e*Sn **Sn 00 04 55.0 +3.0**
RETA Reutte 4.98 341 *i* Pn **Pn 00 03 56.6 +1.5**
comp=N,9.8nm,0.3s,SNR=21
RETA *e*Sn **Sn 00 04 54.5 +1.7**
comp=N,49nm,0.5s
MBDF Montbardon 4.98 295 *e*Pn **Pn 00 03 56.2 +0.9**
MBDF *e*Sn **Sn 00 04 50.0 -3.0**
comp=N,66nm,0.6s
IVA Berane 4.99 87 ⇑*i* Pn **Pn 00 03 56.2 +0.9**
IVA *i* Sn **Sn 00 04 53.3 +0.3**
CEL Celeste 5.00 154 **Pn 00 03 56.7 +1.2**
PLONS Plons/SG 5.01 329 *e*Pn **Pn 00 03 58.0 +2.3**
PLONS *e*Sn **Sn 00 04 55.5 +1.9**
PLONS Plons/SG 5.01 329 *e*Pn **Pn 00 03 58.0 +2.3**
PLONS *e*Sn **Sn 00 04 55.5 +1.9**
OBER Oberstdorf 5.03 338 *e*Pn **Pn 00 03 57.7 +1.9**
OBER Oberstdorf 5.03 338 *e*Pn **Pn 00 03 57.7 +1.9**
DAVA Damuels 5.04 334 *e*Pn **Pn 00 03 57.8 +1.7**
comp=N,71nm,0.6s,SNR=46
DAVA *e*Sn **Sn 00 04 56.3 +1.9**
comp=N,65nm,0.4s
DAVA Damuels 5.04 334 *e*Pn **Pn 00 03 57.9 +1.8**
DAVA *e*Sn **Sn 00 04 56.6 +2.2**
DAVA Damuels 5.04 334 *e*Pn **Pn 00 03 57.9 +1.8**
DAVA *e*Sn **Sn 00 04 56.6 +2.2**
PUK Puka 5.08 96 AML AML
comp=N,580µm,0.5s
PUK AML AML
comp=N,580µm,1.5s
PUK AML AML
comp=E,385µm,1.5s
MOA Molln 5.12 9 *i* Pn **Pn 00 03 56.9 -0.1**
comp=E,4.1nm,0.1s,SNR=24
MOA *e*Sn **Sn 00 04 55.6 -0.6**
comp=E,82nm,0.6s
MOA Molln 5.12 9 *e*Pn **Pn 00 03 57.0 -0.1**
MOA Molln 5.12 9 *e*Pn **Pn 00 03 57.0 -0.1**
BNI Bardonecchia 5.17 298 **Pn 00 03 58.5 +0.8**
BNI Bardonecchia 5.17 298 P **Pn 00 03 58.6 +0.8**
MORH Mrgy, Hungar 5.23 47 *e*Pn **Pn 00 03 57.3 -1.2**
MORH Mrgy, Hungar 5.23 47 ⇑P **Pn 00 03 59.2 +0.7**
TIR Tirane 5.23 104 **Pn 00 03 58.7 +0.2**
TIR Tirane 5.23 104 ⇑P **Pn 00 03 59.2 +0.7**
TIR Tirane 5.23 104 P **Pn 00 03 58.7 +0.2**
LPG La Plagne 5.32 303 *e*Pn **Pn 00 04 01.2 +1.2**
LPG *e*Sn **Sn 00 04 57.4 -4.0**
comp=E,18nm,0.4s
LPL La Plagne 5.34 303 *e*Pn **Pn 00 04 01.5 +1.3**
LPL *e*Sn **Sn 00 04 59.8 -2.0**
comp=E,25nm,0.5s
RONA Rosalia, Austr 5.40 24 *i* Pn **Pn 00 04 00.0 -0.8**
comp=E,11nm,0.4s,SNR=28
RONA *e*Sn **Sn 00 05 01.2 -1.9**
comp=E,16nm,0.5s
VAE Valguarnera 5.40 169 Pn **Pn 00 04 04.4 +3.4**
comp=E,5.0nm,0.7s,baz=66,slow=13,SNR=3.7
SENIN Lac Senin/Sane 5.47 313 **Pn 00 04 02.9 +0.8**
CONA Conrad Observa 5.49 20 *e*Pn **Pn 00 04 01.5 -0.7**
comp=E,16nm,0.3s,SNR=30
CONA *e*Sn **Sn 00 05 03.6 -1.7**
comp=E,16nm,0.4s
WILA Wila 5.50 329 *e*Pn **Pn 00 04 03.4 +1.1**
WILA *e*Sn **Sn 00 05 06.9 +1.4**
WILA Wila 5.50 329 *e*Pn **Pn 00 04 03.4 +1.1**
WILA *e*Sn **Sn 00 05 06.9 +1.4**
FUR Furstenfeldbru 5.53 347 *e*Pn **Pn 00 04 03.9 +1.3**
FUR Furstenfeldbru 5.53 347 *e*Pn **Pn 00 04 03.9 +1.3**
SMRF Simiane la Rot 5.62 285 *e*Pn **Pn 00 04 05.0 +1.1**
ORIF Oris-en-Rattie 5.64 295 *e*Pn **Pn 00 04 05.9 +1.6**
ORIF *e*Sn **Sn 00 05 05.2 -4.0**
comp=E,80nm,0.7s
RAFF Raffo Rosso 5.65 170 Pn **Pn 00 04 06.0 +1.7**
SULZ Cheisacher 5.91 325 *e*Pn **Pn 00 04 08.7 +0.8**
SULZ *e*Sn **Sn 00 05 14.6 -1.0**
SULZ Cheisacher 5.91 325 *e*Pn **Pn 00 04 08.7 +0.8**
SULZ *e*Sn **Sn 00 05 14.6 -1.0**
SLE Schleitheim 5.94 328 *e*Pn **Pn 00 04 08.6 +0.2**
SLE Schleitheim 5.94 328 *e*Pn **Pn 00 04 08.6 +0.2**
BALST Balsthal 5.95 322 *e*Pn **Pn 00 04 08.8 +0.4**
BALST *e*Sn **Sn 00 05 16.3 -0.3**
BALST Balsthal 5.95 322 *e*Pn **Pn 00 04 08.8 +0.4**
BALST *e*Sn **Sn 00 05 16.3 -0.3**
GEC2 GERESS Array S 6.07 4 *e*Pn **Pn 00 04 08.8 -1.3**
GEC2 *e*Sn **Sn 00 05 18.9 -0.7**
GEC2 GERESS Array S 6.07 4 *e*Pn **Pn 00 04 08.8 -1.3**
GEC2 *e*Sn **Sn 00 05 18.9 -0.7**
GERES GERESS Array B 6.07 4 Pn **Pn 00 04 09.3 -0.8**
comp=E,0.4nm,0.3s,baz=175,slow=13,SNR=92
GERES Sn **Sn 00 05 15.7 -3.9**
comp=E,1.4nm,0.3s,baz=183,slow=24,SNR=7.1
GERES Lg Lg 00 05 50.0
baz=205,slow=38
comp=E,5.5nm,0.4s
ZST Bratislava 6.09 26 *e*P **Pn 00 04 09.4 -0.9**
ZST *e* 00 05 15.4
NORI Noerdlinger Ri 6.18 345 *e*Pn **Pn 00 04 11.2 -0.3**
NORI *e*Sn **Sn 00 05 20.8 -1.4**
NORI Noerdlinger Ri 6.18 345 *e*Pn **Pn 00 04 11.2 -0.3**
NORI *e*Sn **Sn 00 05 20.8 -1.4**
SRO Srobarova 6.22 34 *e*P **Pn 00 04 08.5 -3.5**
SRO *e* 00 05 19.5
CABF La Chapelle 6.29 310 *e*Pn **Pn 00 04 14.7 +1.5**
CABF *e*Sn **Sn 00 05 23.3 -1.9**
comp=E,45nm,0.7s
BOVS Bovan 6.34 79 ⇑P **Pn 00 04 13.9 +0.2**
KHC Kasperske Hory 6.35 3*c* *i*P **Pn 00 04 13.0 -0.9**
KHC pmax pmax
comp=Z,14nm,0.9s
KHC Kasperske Hory 6.35 3 *e*PN **Pn 00 04 12.8 -1.1**
KHC *e*SN **Sn 00 05 23.5 -2.9**
KHC AMS AMS 00 06 50.0
comp=Z,800nm,11.2s
WET Wettzell 6.36 359 *e*Pn **Pn 00 04 12.5 -1.5**
WET *e*Sn **Sn 00 05 25.2 -1.4**
WET Wettzell 6.36 359 *e*Pn **Pn 00 04 12.5 -1.5**
WET *e*Sn **Sn 00 05 25.2 -1.4**
VIVF Saint-Julien-l 6.44 292 *e*Pn **Pn 00 04 15.5 +0.3**
VIVF *e*Sn **Sn 00 05 25.5 -3.3**
comp=Z,4.0nm,0.4s
SMOL Smolenice 6.47 26 *e*P **Pn 00 04 14.1 -1.5**
SMOL *e* 00 05 31.3
BFO Black Forest 6.47 330 **Pn 00 04 15.4 -0.2**
BFO Black Forest 6.47 330 P **Pn 00 04 15.4 -0.2**
BFO Black Forest 6.47 330 *e*Pn **Pn 00 04 15.8 +0.1**
BFO *e*Sn **Sn 00 05 30.5 +1.0**
BFO Black Forest 6.47 330 *e*Pn **Pn 00 04 15.8 +0.1**

BFO eSn **Sn** 00 05 30.5 +1.0
FNA Florina 6.50 105 **Pn** 00 04 16.1 +0.1
FNA Florina 6.50 105 P **Pn** 00 04 16.1 +0.1
STU Stuttgart 6.58 337 **Pn** 00 04 17.2 +0.2
STU Stuttgart 6.58 337 P **Pn** 00 04 17.2 +0.2
KRUC Moravsky 6.67 19 ePN **Pn** 00 04 17.2 -1.2
KRUC eSN **Sn** 00 05 30.6 -3.8
HINF Hinteralfeld 6.69 321 ePn **Pn** 00 04 18.1 -0.5
HINF eSn **Sn** 00 05 32.9 -1.8
comp=Z,46nm,0.4s
TREC Trest 6.71 13 eP **Pn** 00 04 17.3 -1.6
TREC e 00 05 31.3
TREC Trest 6.71 13 ePN **Pn** 00 04 17.3 -1.6
TREC eSN **Sn** 00 05 31.3 -4.0
BZS Buzias 6.73 62 ⇑P **Pn** 00 04 20.3 +1.1
BZS Buzias 6.73 62 P **Pn** 00 04 20.2 +1.1
ECH Echery 6.85 324 **Pn** 00 04 20.6 -0.1
ECH Echery 6.85 324 P **Pn** 00 04 20.6 -0.1
JAVC Velka Javorina 6.85 26 ePN **Pn** 00 04 19.4 -1.4
JAVC eSN Sb 00 05 51.3 -10
LASF Ste Croix 6.86 284 ePn **Pn** 00 04 21.2 +0.3
CDF Champ du Feu 6.95 326 ePn **Pn** 00 04 22.2 0.0
CDF eSn **Sn** 00 05 38.6 -2.7
comp=Z,74nm,0.5s
VRAC Vranov 6.95 19 Pn **Pn** 00 04 21.2 -1.0
comp=Z,1.0nm,0.3s,baz=205,slow=11,SNR=10
VRAC Sn **Sn** 00 05 37.3 -3.9
comp=Z,1.9nm,0.3s,baz=330,slow=3.3,SNR=4.0
VRAC Lg Lg 00 06 20.4
comp=Z,0.6nm,0.3s,baz=245,slow=23,SNR=3.1
VRAC LR LR 00 07 44.1
comp=Z,359nm,20.1s,baz=194,slow=45
comp=Z,2.7nm,0.4s
VRAC Vranov 6.95 19 ePN **Pn** 00 04 20.8 -1.4
VRAC eSN **Sn** 00 05 37.4 -3.9
VYHS Vyhne 6.97 33 eP **Pn** 00 04 20.9 -1.5
VYHS e 00 05 43.8
ROTZ Rotzenmuhle 7.00 355 ePn **Pn** 00 04 20.0 -2.9
ROTZ eSn **Sn** 00 05 38.3 -4.2
ROTZ Rotzenmuhle 7.00 355 ePn **Pn** 00 04 20.0 -2.9
ROTZ eSn **Sn** 00 05 38.3 -4.2
PSZ Piszkesteto 7.00 41 Pn **Pn** 00 04 22.1 -0.9
PSZ Piszkesteto 7.00 41 ⇑P **Pn** 00 04 24.0 +1.0
PSZ Piszkesteto 7.00 41 P **Pn** 00 04 22.1 -0.9
TRAN Tran 7.02 86 P **Pn** 00 04 20.7 -2.4
GRFO Grafenberg 7.02 350 Pn **Pn** 00 04 21.5 -1.7
GRFO Grafenberg 7.02 350 P **Pn** 00 04 21.5 -1.7
GRA1 Grafenberg Arr 7.02 350 **Pn** 00 04 21.0 -2.2
GRF Grafenberg Arr 7.02 350 P **Pn** 00 04 21.0 -2.2
GRF Grafenberg Arr 7.02 350 ePn **Pn** 00 04 21.6 -1.6
GRF Grafenberg Arr 7.02 350 ePn **Pn** 00 04 21.6 -1.6
HERR Herculane 7.04 70 ⇑P **Pn** 00 04 23.9 +0.4
HAU Haudompre 7.06 320 ePn **Pn** 00 04 23.6 0.0
HAU eSn **Sn** 00 05 41.0 -2.9
comp=Z,92nm,0.4s
DJES Djerdap 7.07 71 ⇓P **Pn** 00 04 25.7 +2.0
SURR Surduc 7.11 62 ⇑P **Pn** 00 04 25.2 +0.8
MANZ Manzenberg 7.23 355 ePn **Pn** 00 04 24.2 -1.8
MANZ Manzenberg 7.23 355 ePn **Pn** 00 04 24.2 -1.8
PRU Pruhonice 7.26 7 ePN **Pn** 00 04 24.7 -1.7
PRU AMS AMS 00 07 20.0
comp=Z,600nm,11.7s
PRA Prague 7.34 7 eSN **Sn** 00 05 48.6 -2.1
MAUC Maruska 7.34 25 ePN **Pn** 00 04 27.4 -0.2
VTS Vitosha 7.46 88 P **Pn** 00 04 29.6 +0.3
KKB Krupnik 7.49 94 P **Pn** 00 04 29.8 +0.3
LIT Litokhoron 7.54 108 Pn **Pn** 00 04 30.6 +0.3
LIT Litokhoron 7.54 108 P **Pn** 00 04 30.6 +0.3
SRE Strehaia 7.55 72 ⇑P **Pn** 00 04 31.6 +1.3
SRE Strehaia 7.55 72 P **Pn** 00 04 31.6 +1.3
VALD Valchedram 7.59 80 P **Pn** 00 04 31.9 +1.0
PLNA Plana 7.61 89 P **Pn** 00 04 32.2 +0.8
MORC Moravsky Berou 7.63 22 **Pn** 00 04 30.5 -1.0
MORC Moravsky Berou 7.63 22 ePN **Pn** 00 04 30.2 -1.3
MORC eSN **Sn** 00 05 56.6 -1.3
MORC Moravsky Berou 7.63 22 P **Pn** 00 04 30.5 -1.0
KEST Kesra 7.63 204 Pn **Pn** 00 04 35.0 +3.4
comp=Z,1.0nm,0.3s,baz=5.4,slow=5.9,SNR=33
KEST Sn **Sn** 00 05 57.3 -0.9
baz=158,slow=10
KEST LR LR 00 07 46.9
comp=Z,533nm,18.2s,baz=16,slow=40
comp=Z,4.9nm,0.5s
SMF Signal de Mont 7.64 303 ePn **Pn** 00 04 31.6 -0.1
SMF eSn **Sn** 00 05 55.1 -3.2
comp=Z,24nm,0.5s
DEV Deva 7.67 63 ⇓P **Pn** 00 04 33.5 +1.4
DEV Deva 7.67 63 P **Pn** 00 04 33.4 +1.4
KECS Kecovo 7.68 40 eP **Pn** 00 04 36.2 +4.0
KRLC Kraliky 7.71 18 eP **Pn** 00 04 31.8 -0.8
KRLC MLR MLR
comp=Z,800nm,11.2s
KRLC Kraliky 7.71 18 ePN **Pn** 00 04 31.8 -0.8
KRLC AMS AMS 00 07 40.0
comp=Z,800nm,11.2s
PAGF Fort de Pagny 7.74 321 ePn **Pn** 00 04 33.8 +0.8
PAGF eSn **Sn** 00 05 56.7 -4.0
comp=Z,16nm,0.4s
LANS Liptovska Anna 7.75 33 eP **Pn** 00 04 35.9 +2.8
MPEP Malo Peshtene 7.80 82 P **Pn** 00 04 34.6 +0.7
PVCC Panska Ves 7.80 7 eP **Pn** 00 04 32.0 -1.8
PVCC Panska Ves 7.80 7 ePN **Pn** 00 04 32.0 -1.8
STEB Steborice 7.83 23 ePN **Pn** 00 04 33.5 -0.8
SFTF Sexfontaines 7.84 316 ePn **Pn** 00 04 34.5 +0.2
baz=130
SFTF eSn **Sn** 00 05 59.7 -3.3
comp=Z,23nm,0.5s
DPC Dobruska-Polom 7.88 15 eP **Pn** 00 04 33.1 -1.8
DPC MLR MLR
comp=Z,800nm,12.4s
DPC Dobruska-Polom 7.88 15 ePN **Pn** 00 04 33.1 -1.8
DPC AMS AMS 00 07 50.0
comp=Z,800nm,12.4s
DRGR 7.91 56 ⇓P **Pn** 00 04 37.3 +1.8
DRGR 7.91 56 P **Pn** 00 04 37.2 +1.8
MOX Moxa 7.92 353 ePn **Pn** 00 04 33.6 -1.8
MOX eSn **Sn** 00 06 00.6 -4.5
MOX Moxa 7.92 353 ePn **Pn** 00 04 33.6 -1.8
MOX eSn **Sn** 00 06 00.6 -4.5
LOR Lormes 7.93 308 ePn **Pn** 00 04 36.7 +1.0
baz=121
LOR eSn **Sn** 00 06 02.3 -3.1
comp=Z,12nm,0.4s
UPC Upice 7.97 13 eP **Pn** 00 04 35.4 -0.7
UPC MLR MLR
comp=Z,900nm,13.3s
UPC Upice 7.97 13 ePN **Pn** 00 04 35.4 -0.7
UPC AMS AMS 00 07 50.0
comp=Z,900nm,13.3s
MTLF Montolieu 8.00 278 ePn **Pn** 00 04 36.9 +0.4
MTLF eSn **Sn** 00 06 03.2 -3.8
comp=Z,1.2nm,0.3s
MMB Musomishta 8.00 95 P **Pn** 00 04 36.9 +0.3
AVF Avril sur Loir 8.01 303 ePn **Pn** 00 04 37.4 +0.8
AVF eSn **Sn** 00 06 03.9 -3.3
comp=Z,15nm,0.6s
MEZF Maizieres J'vi 8.03 318 ePn **Pn** 00 04 37.0 +0.1
MEZF eSn **Sn** 00 06 05.1 -2.6
comp=Z,18nm,0.5s
SSF Saint Saulge 8.04 305 ePn **Pn** 00 04 37.0 -0.1
SSF eSn **Sn** 00 06 04.7 -3.3
comp=Z,16nm,0.5s
OSTC Ostas 8.05 14 eP **Pn** 00 04 35.8 -1.5
OSTC MLR MLR
comp=Z,800nm,11.1s
OSTC Ostas 8.05 14 ePN **Pn** 00 04 35.8 -1.5
OSTC AMS AMS 00 07 50.0
comp=Z,800nm,11.1s
CHVC Chvalec 8.05 14 eP **Pn** 00 04 35.0 -2.3
CHVC Chvalec 8.05 14 ePN **Pn** 00 04 35.0 -2.3
SAVF Savonnieres en 8.07 319 ePn **Pn** 00 04 37.7 +0.2
SAVF Savonnieres en 8.07 319 ePn **Pn** 00 04 38.2 +0.7
SAVF eSn **Sn** 00 06 04.5 -4.2
comp=Z,28nm,0.7s
SAVF eSn Sb 00 06 04.7 -31
comp=Z,33nm,0.7s
TNS Taunus Mts 8.10 338 ePn **Pn** 00 04 37.4 -0.5
TNS Taunus Mts 8.10 338 ePn **Pn** 00 04 37.4 -0.5
BRG Berggiesshubel 8.10 4 Pn **Pn** 00 04 38.3 +0.4
BRG Berggiesshubel 8.10 4 P Pb 00 04 54.2 -6.5
BRG S **Sn** 00 06 07.5 -2.0
BRG r 00 07 04.3
BRG Amp 00 07 33.9

comp=Z,36nm,1.0s
MARR Marisel-Cluj 8.11 58 ⇑P **Pn** 00 04 39.7 +1.5
LOT Lotru 8.11 67 ⇑P **Pn** 00 04 39.9 +1.6
PGB Panagyurishte 8.16 88 P **Pn** 00 04 40.1 +1.3
MESR Meseseni 8.22 55 ⇑P **Pn** 00 04 41.6 +2.1
BGF Bois d'Agland 8.23 301 ePn **Pn** 00 04 39.9 +0.2
BGF eSn **Sn** 00 06 08.0 -4.6
comp=Z,13nm,0.4s
CORI Orista 8.23 268 **Pn** 00 04 39.1 -0.6
CAR Calviac 8.26 289 ePn **Pn** 00 04 41.4 +1.2
VLAD Vladila 8.31 78 ⇓P **Pn** 00 04 41.5 +0.7
WLF Walferdange 8.39 327 Pn **Pn** 00 04 41.9 0.0
WLF Walferdange 8.39 327 P **Pn** 00 04 41.9 0.0
WLF Walferdange 8.39 327 ePn **Pn** 00 04 43.0 +1.1
WLF Walferdange 8.39 327 ePn **Pn** 00 04 43.0 +1.1
PLVB Pleven 8.45 82 ⇓P **Pn** 00 04 43.6 +1.0
NEUB Neuenburg 8.47 354 ePn **Pn** 00 04 42.8 -0.1
NEUB Neuenburg 8.47 354 ePn **Pn** 00 04 42.8 -0.1
CLL Collm 8.52 360 **Pn** 00 04 42.0 -1.7
CLL Collm 8.52 360 eP **Pn** 00 04 42.0 -1.7
CLL Collm 8.52 360 ePn **Pn** 00 04 42.2 -1.4
CLL Collm 8.52 360 ePn **Pn** 00 04 42.2 -1.4
CLL Collm 8.52 360 ePn **Pn** 00 04 42.0 -1.6
CLL ex x 00 04 45.0
CLL ex x 00 04 49.0
CLL eSn Sn 00 06 03.0 -17
CLL ex x 00 06 16.0
CLL eSb Sg 00 06 47.0 -27
CLL eSg Sg 00 07 07.0 -6.5
comp=Z,66nm,1.1s
CLL eLmax 00 07 36.0
TCF Toulx Ste Croi 8.53 298 ePn **Pn** 00 04 44.4 +0.5
TCF eSn **Sn** 00 06 16.6 -3.6
comp=Z,7.4nm,0.6s
HYF Humbligny 8.66 305 ePn **Pn** 00 04 45.4 -0.2
HYF eSn **Sn** 00 06 19.0 -4.2
ARR Arges 8.69 69 ⇑P **Pn** 00 04 47.9 +1.9
RZN Rozhen 8.70 93 P **Pn** 00 04 47.9 +1.6
STHS Stebnicka Huta 8.70 38 eP **Pn** 00 04 47.3 +1.1
RJF Les Rejaudoux 8.72 291 ePn **Pn** 00 04 47.1 +0.6
CEST Esterri de Car 8.74 273 Pn **Pn** 00 04 44.9 -1.9
ITM Ithomi 8.78 127 Pn **Pn** 00 04 47.6 +0.3
KOLS Kolonicke sedl 8.86 43 eP **Pn** 00 04 55.5 +7.2
KDZ Kurdzhali 9.15 93 eP **Pn** 00 04 55.4 +3.1
LFF La Frestale 9.19 288 ePn **Pn** 00 04 53.4 +0.5
GIVF Givet 9.28 325 ePn **Pn** 00 04 55.3 +1.3
GIVF eSn **Sn** 00 06 33.7 -4.7
comp=Z,2.3nm,0.2s
ELND Elena 9.38 85 ⇑P **Pn** 00 04 56.6 +1.2
EPF Esparros 9.38 276 ePn **Pn** 00 04 56.8 +1.3
RDO Rodhopi 9.40 96 **Pn** 00 04 55.8 0.0
SZH Strazhitsa 9.44 83 eP **Pn** 00 04 56.4 +0.2
BAIF Baives 9.51 323 ePn **Pn** 00 04 58.3 +1.0
BAIF eSn **Sn** 00 06 39.4 -4.8
comp=Z,12nm,0.7s
MLR Muntele Rosu 9.61 69 **Pn** 00 04 59.8 +1.0
MLR Muntele Rosu 9.61 69 Pn **Pn** 00 05 00.4 +1.6
comp=Z,0.2nm,0.3s,baz=174,slow=20,SNR=6.3
comp=Z,3.0nm,0.7s
MLR Muntele Rosu 9.61 69 ⇑P **Pn** 00 05 00.0 +1.2
MLR Muntele Rosu 9.61 69 P **Pn** 00 04 59.8 +1.0
BURAR Bucovina Array 9.81 56 **Pn** 00 05 01.2 -0.2
BURAR Bucovina Array 9.81 56 ⇑P **Pn** 00 05 01.8 +0.3
BURAR Bucovina Array 9.81 56 P **Pn** 00 05 01.7 +0.3
RAZG Razgrad 9.82 81 ⇓P **Pn** 00 05 02.0 +0.5
ALN Alexandroupoli 9.84 97 Pn **Pn** 00 05 02.1 +0.4
ALN Alexandroupoli 9.84 97 P **Pn** 00 05 02.1 +0.4
LOZB Loznitsa 9.88 82 ⇓P **Pn** 00 05 02.8 +0.5
ETSF Etsaut 10.04 275 eP Pn 00 05 09.4 +4.8
PLOR Plostina 10.17 68 ⇑P **Pn** 00 05 07.6 +1.2
PLOR Plostina 10.17 68 P **Pn** 00 05 07.5 +1.2
MFF Saint Martin d 10.18 297 ePn **Pn** 00 05 07.3 +0.9
MFF Saint Martin d 10.18 297 ePn **Pn** 00 05 07.3 +0.9
VRI Vrincioaia 10.23 68 ⇑P **Pn** 00 05 08.9 +1.7
VRI Vrincioaia 10.23 68 P **Pn** 00 05 08.8 +1.7
SJPF Ste Jean 10.52 277 ePn **Pn** 00 05 11.2 +0.1
GRR Gorron 11.27 305 ePn **Pn** 00 05 21.7 +0.4
GRR eSn **Sn** 00 07 21.0 -6.2
comp=Z,0.8nm,0.2s
IDI Anoyia 11.82 125 Pn **Pn** 00 05 30.4 +1.4
IDI Anoyia 11.82 125 Pn **Pn** 00 05 28.8 -0.2
comp=Z,5.3nm,0.7s,baz=5.3,slow=12,SNR=1.6
IDI Sn **Sn** 00 07 35.3 -5.7
comp=Z,0.3nm,0.3s,baz=80,slow=7.8,SNR=2.4
SGMF Saint Gilles 12.26 302 ePn **Pn** 00 05 35.7 +0.8
ESBB Sonseca Array 13.22 262 Pn **Pn** 00 05 46.1 -2.0
ESDC Sonseca Array 13.22 262 Pn **Pn** 00 05 47.7 -0.4
baz=68,slow=14,SNR=14
comp=Z,1.1nm,0.8s
AKASG Malin Array Be 13.57 49 Pn **Pn** 00 05 52.0 -0.7
AKASG comp=Z,0.2nm,0.3s,baz=246,slow=11,SNR=1.9
LR LR 00 11 44.8
comp=Z,104nm,19.8s,baz=210,slow=40
comp=Z,0.4nm,0.5s
AKASG Malin Array Be 13.57 49 P **Pn** 00 05 52.0 -0.7
AKBB Malin Array Si 13.57 49⇑ eP **Pn** 00 05 50.5 -2.2
NACGM Naroch 15.06 32⇓ iP **Pn** 00 06 14.7 +1.7
comp=Z,13nm,1.0s,baz=223
MNK Minsk 15.21 35 i P **Pn** 00 06 17.0 +2.0
comp=E,13nm,0.8s
MNK i P **Pn** 00 06 17.0 +2.0
comp=N,5.0nm,0.7s
MNK i P **Pn** 00 06 17.0 +2.0
comp=Z,5.0nm,0.5s,baz=227
MNK i PP **sP** 00 06 25.6 +0.9
MNK i S **Sn** 00 09 08.6 +5.2
MNK i SS **S** 00 09 18.8 -1.5
MNK i LQ LQ 00 10 52.2
MNK i LR LR 00 11 51.4
MNK i LRM MLR 00 13 03.1
comp=N,131nm,14.9s
MNK i LRM MLR 00 13 03.4
comp=E,145nm,14.1s
MNK i LRM MLR 00 13 07.9
comp=Z,261nm,14.8s
MNK Minsk 15.21 35 i P **Pn** 00 06 16.9 +2.0
MNK i S **Sn** 00 09 08.5 +5.2
MNK pmax pmax
comp=N,5.0nm,0.7s
MNK pmax pmax
comp=E,13nm,0.8s
MNK pmax pmax
comp=Z,5.0nm,0.5s
MNK MLR MLR
comp=N,131nm,15.0s
MNK MLR MLR
comp=E,145nm,14.0s
MNK MLR MLR
comp=Z,261nm,15.0s
BR131 Keskin Array S 15.73 94⇓ eP **Pn** 00 06 21.8 -0.3
BRTR Keskin Array B 15.73 94 Pn **Pn** 00 06 23.2 +1.1
baz=289,slow=12,SNR=2.2
comp=Z,0.5nm,0.8s
EKA Eskdalemuir Ar 16.41 325 Pn **Pn** 00 06 30.8 +0.3
baz=140,slow=14
comp=Z,0.4nm,0.3s
KONO Kongsberg 17.02 354⇓ eP **Pn** 00 06 34.9 -3.3
KONO pmax pmax
comp=Z,28nm,1.4s
HFS Hagfors 17.37 1 P **Pn** 00 06 42.8 +0.2
comp=Z,0.1nm,0.3s,baz=187,slow=12,SNR=4.1
HFS LR LR 00 14 18.9
comp=Z,154nm,18.0s,baz=190,slow=41
comp=Z,2.1nm,0.9s
TOKA Tokat 17.65 90 **P** 00 06 47.1 -0.1
VSU Vasula 17.85 24⇓ eP **Pn** 00 06 47.7 -0.8
VSU pmax pmax
comp=Z,22nm,1.0s
NB2 NORSAR Subarra 18.31 357 P **P** 00 06 54.7 +0.4
comp=Z,28nm,2.0s,baz=176,slow=11
NOA NORSAR Array B 18.31 357 P **Pn** 00 06 53.8 -0.4
baz=175,slow=11,SNR=4.7
NOA LR LR 00 15 05.4
comp=Z,106nm,18.6s,baz=175,slow=41
comp=Z,3.7nm,1.1s
SOC Sochi 19.39 79 eP **Pn** 00 07 10.2 +2.8
SOC MLR MLR
comp=Z,83nm,15.0s
VSR Storozhevoye 19.58 56 eP **Pn** 00 07 10.0 +0.4
VSR pmax pmax
comp=Z,6.0nm,1.0s
VORD Divnogorie 19.60 56 eP **Pn** 00 07 11.2 +1.5
VORD pmax pmax
comp=Z,6.0nm,1.0s

OBN Obninsk 19.61 43⇓ eP **P** 00 07 08.9 +0.3
OBN S **Sn** 00 10 50.0 +0.1
OBN pmax pmax
comp=Z,8.0nm,0.8s
OBN MLR MLR
comp=Z,122nm,14.0s
MMAI Mount Meron Ar 20.07 112 P Pn 00 07 14.9 -0.6
comp=Z,1.5nm,0.5s,baz=330,slow=9.7,SNR=5.4
comp=Z,1.5nm,0.5s
FINES FINESS Array B 20.23 18 P **P** 00 07 13.9 -1.4
FINES FINESS Array B 20.23 18 P **P** 00 07 14.9 -0.3
comp=Z,3.1nm,0.5s,baz=182,slow=10,SNR=19
FINES LR LR 00 15 56.1
comp=Z,176nm,18.4s,baz=212,slow=40
comp=Z,3.1nm,0.5s
FINES FINESS Array B 20.23 18 P **P** 00 07 13.9 -1.4
MOS Moscow 20.44 42 eP **P** 00 07 15.7 -1.9
MOS pmax pmax
comp=Z,26nm,1.1s
MOS MLR MLR
comp=Z,300nm,11.0s
KOPT Kop Dagi 20.69 88 P **P** 00 07 21.1 +0.4
KOPT IAmb IAmb 00 07 42.6
comp=Z,11nm,1.2s
TAM Tamanrasset 20.92 200 P **P** 00 07 22.1 -1.1
TAM Tamanrasset 20.92 200 P **P** 00 07 22.1 -1.1
TAM pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 21.48 77 P **P** 00 07 26.8 -2.2
KIV IAmb IAmb 00 07 36.8
comp=Z,25nm,1.3s
KIV Kislovodsk 21.48 77 eP **P** 00 07 30.0 +1.0
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,46nm,14.0s
SHA1 Shidzhatmaz 21.49 77⇑ eP **P** 00 07 29.6 +0.3
ASF Jabal al Asfar 21.58 112 P **P** 00 07 33.9 +3.7
comp=Z,2.4nm,0.8s,baz=325,slow=14,SNR=3.7
KBZ Khabaz 21.66 77 P **P** 00 07 31.2 +0.4
comp=Z,4.1nm,0.9s,baz=254,slow=5.5,SNR=6.0
KBZ LR LR 00 17 30.7
comp=Z,55nm,19.9s,baz=302,slow=41
comp=Z,4.1nm,0.9s
KBZ Khabaz 21.66 77 ce P **P** 00 07 32.1 +1.3
KBZ pmax pmax
comp=Z,7.0nm,1.0s
MARD Mardin 21.82 95 P **P** 00 07 32.1 -0.7
MARD IAmb IAmb 00 07 43.9
comp=Z,11nm,1.3s
GNI Garni 23.78 86⇑ eP **P** 00 07 53.9 +0.8
GNI pmax pmax
comp=Z,15nm,1.4s
KLMR Klimovskoe 24.08 32 eP **P** 00 07 52.7 -2.9
KLMR pmax pmax
comp=Z,24nm,1.6s
BELG Belogornoye 24.96 55 ce P **P** 00 08 03.4 -0.2
BELG pmax pmax
comp=Z,5.0nm,0.9s
AKT Akhty 25.60 81 eP **P** 00 08 07.9 -1.8
AKT e 00 08 43.7
AKT pmax pmax
comp=Z,13nm,1.8s
ARCES ARCESS Array B 27.56 9 P **P** 00 08 26.9 -0.1
comp=Z,0.7nm,0.7s,baz=187,slow=9.5,SNR=4.5
ARCES LR LR 00 19 43.8
comp=Z,35nm,22.0s,baz=94,slow=37
comp=Z,0.7nm,0.7s
TORD Torodi Ar. Bea 31.15 202 P **P** 00 08 58.3 -0.9
TORD IAmb IAmb 00 09 00.4
comp=Z,2.8nm,1.0s
TORD Torodi Ar. Bea 31.15 202 P **P** 00 08 59.7 +0.5
comp=Z,3.2nm,0.8s,baz=16,slow=10,SNR=15
TORD LR LR 00 23 13.3
comp=Z,178nm,18.1s,baz=136,slow=39
comp=Z,3.2nm,0.8s
ARTI Arti 31.72 49 P **P** 00 09 03.4 -0.6
ARTI Arti 31.72 49 LR LR 00 23 23.9
comp=Z,93nm,18.6s,baz=205,slow=39
ARTI Arti 31.72 49 c iP **P** 00 09 03.4 -0.6
ARTI 00 10 08.7
ARTI S **S** 00 14 14.7 +1.3
ARTI SS **SnSn** 00 16 00.2 +0.5
ARTI pmax pmax
comp=Z,9.0nm,1.2s
ABKAR Akbulak array 32.72 62 P **P** 00 09 11.7 -1.1
SVE Sverdlovsk 33.00 48 eP **P** 00 09 15.4 +0.2
SPITS Spitsbergen Ar 35.52 1 P **P** 00 09 37.7 +0.8
comp=Z,0.7nm,0.5s,baz=184,slow=9.1,SNR=5.8
comp=Z,0.7nm,0.5s
SPITS Spitsbergen Ar 35.52 1 P **P** 00 09 36.6 -0.3
SPITS 00 09 37.7
SPITS pmax pmax
comp=Z,24nm,1.2s
BVAR Borovoye Array 38.76 54 P **P** 00 10 05.2 +0.6
comp=Z,2.1nm,0.8s,baz=263,slow=7.0,SNR=10.0
comp=Z,2.1nm,0.8s
KK31 Karatay Array 41.29 69 P **P** 00 10 26.2 +0.4
KK31 IAmb IAmb 00 10 32.3
comp=Z,8.1nm,1.5s
KK31 Karatay Array 41.29 69 P **P** 00 10 26.2 +0.4
KK31 pmax pmax
comp=Z,8.0nm,1.5s
KURBB Kurchatov Arra 44.20 56 P **P** 00 10 48.7 -0.6
comp=Z,0.5nm,0.5s,baz=288,slow=9.7,SNR=8.8
comp=Z,0.5nm,0.5s
KURK Kurchatov 44.23 56 P **P** 00 10 48.7 -0.8
KURK IAmb IAmb 00 10 55.1
comp=Z,3.7nm,1.0s
KURK Kurchatov 44.23 56⇑ eP **P** 00 10 49.4 -0.1
KURK pmax pmax
comp=Z,4.0nm,1.0s
KSH Kashi 46.47 72 P **P** 00 11 08.2 +0.6
KSH sP sP 00 11 15.4 +2.9
KSH pmax pmax
comp=Z,4.0nm,1.3s
ZALV Zalesovo Beam 46.96 50 P **P** 00 11 11.2 +0.2
ZALV Zalesovo Beam 46.96 50 P **P** 00 11 10.9 -0.1
comp=Z,0.9nm,0.4s,baz=286,slow=7.4,SNR=1.9
comp=Z,0.9nm,0.4s
ZALV Zalesovo Beam 46.96 50 P **P** 00 11 11.2 +0.2
MK31 Makanchi Array 47.81 60⇑ eP **P** 00 11 17.5 -0.3
MKAR Makanchi Array 47.81 60 P **P** 00 11 17.8 0.0
comp=Z,1.0nm,0.6s,baz=284,slow=6.7,SNR=12
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 47.81 60 P **P** 00 11 17.9 +0.1
KNGR Kungurtug, Tuv 55.43 50⇑ eP **P** 00 12 14.2 -0.6
KNGR pmax pmax
comp=Z,4.0nm,1.7s
SONM Songino Array 61.85 50 P **P** 00 12 60.0 +0.4
comp=Z,2.1nm,1.0s,baz=294,slow=8.5,SNR=11
comp=Z,2.1nm,1.0s
SONM Songino Array 61.85 50 P **P** 00 13 00.0 +0.4
ULN Ulaanbaatar 62.20 49⇓ eP **P** 00 13 01.8 -0.2
ULN pmax pmax
comp=Z,4.0nm,1.3s
YKA Yellowknife Ar 67.02 336 P **P** 00 13 33.0 0.0
comp=Z,1.4nm,0.8s,baz=48,slow=7.8,SNR=4.1
comp=Z,1.4nm,0.8s
YKA Yellowknife Ar 67.02 336 i P **P** 00 13 34.0 +1.0
YKA pmax pmax
comp=Z,1.0nm,0.8s
ULM Lac du Bonnet 68.58 319 P **P** 00 13 43.1 +0.1
comp=Z,0.9nm,0.5s,baz=74,slow=7.4,SNR=1.3
comp=Z,0.9nm,0.5s
SEY Seymchan 69.71 19⇓ eP **P** 00 13 50.4 +0.6
SEY pmax pmax
comp=Z,6.0nm,1.3s
PZH PanZhiHua 71.57 71 P **P** 00 14 01.3 -0.6
ILAR Eielson Array 71.63 351 P **P** 00 14 01.6 +0.1
comp=Z,0.3nm,0.7s,baz=7.4,slow=4.7,SNR=4.2
comp=Z,0.3nm,0.7s
MA2 Magadan 72.19 21⇑ eP **P** 00 14 07.8 +2.8
MA2 pmax pmax
comp=Z,9.0nm,1.1s
CMAR Chiang Mai Arr 74.70 79 i P **P** 00 14 18.0 -2.4
CMAR pmax pmax
comp=Z,1.0nm,0.8s
HKT Hockley 82.60 304 ce P **P** 00 15 02.5 -1.1
HKT pmax pmax
comp=Z,5.0nm,1.7s
TXAR Lajitas Array 87.69 309 P **P** 00 15 30.4 +1.0
comp=Z,0.1nm,0.5s,baz=29,slow=6.5,SNR=2.2
comp=Z,0.1nm,0.5s
TGY Tagaytay City 93.14 68 LR LR 01 03 50.0
comp=Z,300nm,19.2s,baz=40,slow=39
ATAH Atahualpa 95.90 266 LR LR 00 56 59.5

comp=Z,81nm,19.1s,baz=40,slow=34

*IDC **01** 00:11:26.6±0.8, 40°.74N×22°.06E, h0km, mb3.6/10, mbtmp3.6/20, ML3.4/8, Error ellipse: s-maj=12.7km s-min=11.1km az=135.0*
*SOF **01** 00:11:26.6, 40°.72N±0°.01×22°.08E±0°.03, h10km, MD3.8/4*
*SKO **01** 00:11:27.4, 40°.73N×22°.08E, h20km, ML3.7*
*THE **01** 00:11:27.9, 41°N±1°×22°.1E±0°.9, h4km±2km, M3.7/21, MLh3.7/21*
*ATH **01** 00:11:27.7, 40°.75N×22°.11E, h5km±1km, ML3.8/36, Manual Solution by G.Panopoulou First location: 2019/09/01 00:12:39, This location: 2019/09/01 00:30:29 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*PDG **01** 00:11:28.0±0.6, 40°.73N×22°.13E, h16km±1km, ML4.2/11, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
*BEO **01** 00:11:29.6±0.4, 40°.89N×22°.05E, h0km±4km, ML3.4/18*
*AFAD **01** 00:11:30.8, 40°.82N×22°.68E, h6km±2km, MW3.9*
ISC 01 00:11:28.0±1.0, **40°.74N**±0°.02×**22°.10E**±0°.01, **h8**km±7km, **n262**, σ1s01/332, **mb3.5**/7, **27C-16D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZN	Kozani	0.50	210	P	Pg	00 11 37.0	-0.8
KZN				S	Sg	00 11 44.5	+0.1
KZN	Kozani	0.50	210	P	Pg	00 11 37.2	-0.5
KZN				S	Sg	00 11 44.5	+0.1
FNA	Florina	0.55	275	P	Pg	00 11 38.3	-0.5
FNA				S	Sg	00 11 46.3	+0.2
FNA	Florina	0.55	275	⇑iPg	Pg	00 11 38.4	-0.4
FNA				i Sg	Sg	00 11 46.4	+0.4
FNA	Florina	0.55	275	ePg	Pg	00 11 38.4	-0.4
FNA				eSg	Sg	00 11 46.2	+0.2
FNA	Florina	0.55	275	P	Pg	00 11 38.5	-0.2
FNA				S	Sg	00 11 46.2	+0.2
THE	Thessaloniki	0.66	99	P	Pg	00 11 40.9	0.0
THE				S	Sb	00 11 51.3	+0.1
THE	Thessaloniki	0.66	99	i Pg	Pg	00 11 41.0	+0.2
THE				i Sg	Sb	00 11 51.9	+0.6
THE	Thessaloniki	0.66	99	P	Pg	00 11 41.0	+0.2
THE				S	Sg	00 11 49.2	-0.3
VAY	Valandovo	0.68	31	i Pg	Pg	00 11 41.1	0.0
VAY				i Sg	Sb	00 11 51.8	+0.1
VAY				eLg	Lg	00 11 52.3	
	comp=N,1µm,0.6s						
VAY				eLg	Lg	00 11 52.5	
	comp=E,1µm,0.6s						
LIT	Litokhoron	0.70	155	P	Pg	00 11 41.0	-0.6
LIT				S	Sb	00 11 52.4	0.0
LIT	Litokhoron	0.70	155	i Pg	Pg	00 11 41.6	0.0
LIT				i Sg	Sb	00 11 53.3	+0.9
LIT	Litokhoron	0.70	155	P	Pg	00 11 41.2	-0.3
LIT				S	Sg	00 11 51.1	+0.4
KNT	Kendrikon	0.73	55	P	Pg	00 11 42.3	+0.1
KNT				S	Sb	00 11 52.9	-0.4
KNT	Kendrikon	0.73	55	i Pg	Pg	00 11 42.5	+0.3
KNT				i Sg	Sb	00 11 53.0	-0.4
KNT	Kendrikon	0.73	55	P	Pg	00 11 42.4	+0.3
KNT				S	Sg	00 11 51.8	0.0
HORT	Hortiatis	0.77	100	P	Pg	00 11 43.0	+0.1
HORT				S	Sb	00 11 54.3	-0.1
HORT	Hortiatis	0.77	100	P	Pg	00 11 43.0	+0.1
HORT				S	Sg	00 11 53.4	+0.4
PENT	Pentalofos	0.92	234	P	Pg	00 11 45.5	-0.1
PENT				S	Sb	00 11 58.1	-0.5
SOH	Sokhos	0.95	85	P	Pg	00 11 46.1	-0.3
SOH				S	Sb	00 12 00.4	+0.7
SOH	Sokhos	0.95	85	i Pg	Pb	00 11 46.7	-0.1
SOH				i Sg	Sn	00 12 01.1	-0.5
SOH	Sokhos	0.95	85	P	Pb	00 11 46.7	-0.1
SOH				S	Sg	00 11 58.2	-0.5
OHR	Ohrid	1.05	291	i Pg	Pg	00 11 47.7	-0.6
OHR				i Sg	Sb	00 12 03.0	+0.4
OHR				eLg	Lg	00 12 04.0	
	comp=N,2µm,0.4s						
OHR				eLg	Lg	00 12 04.5	
	comp=E,1µm,0.6s						
PLG	Polygyros	1.09	109	P	Pg	00 11 48.1	-0.8
PLG				S	Sb	00 12 03.6	+0.1
PLG	Polygyros	1.09	109	P	Pg	00 11 48.3	-0.6
PLG				S	Sg	00 12 02.6	-0.3
LRSO	Larissa Observ	1.09	168	P	Pb	00 11 49.2	0.0
LRSO				S	Sn	00 12 04.4	-0.5
THL	Klokotos Trika	1.18	183	P	Pb	00 11 49.3	-1.3
THL				S	Sn	00 12 07.0	0.0
THL	Klokotos Trika	1.18	183	P	Pn	00 11 50.7	0.0
THL				S	Sb	00 12 06.1	+0.1
SRS	Serrai	1.19	71	P	Pb	00 11 50.0	-0.9
SRS				S	Sb	00 12 06.9	+0.5
SRS	Serrai	1.19	71	i Pg	Pb	00 11 50.0	-0.9
SRS				i Sg	Sn	00 12 07.2	-0.2
SRS	Serrai	1.19	71	ePg	Pb	00 11 50.2	-0.7
SRS				eSg	Sn	00 12 08.5	+1.1
SRS	Serrai	1.19	71	P	Pb	00 11 49.9	-0.9
SRS				S	Sg	00 12 05.9	-0.4
SKO	Skopje	1.33	338	i Pg	Pn	00 11 52.6	-0.4
SKO				i Sg	Sg	00 12 10.8	0.0
KKB	Krupnik	1.34	35	P	Pn	00 11 52.8	-0.3
KKB				S	Sg	00 12 11.6	+0.3
KKB	Krupnik	1.34	35	P	Pn	00 11 53.0	-0.2
KKB				S	Sn	00 12 11.2	0.0
KKB	Krupnik	1.34	35	i Pn	Pn	00 11 52.9	-0.3
PRMD	Pramanda	1.43	213	P	Pn	00 11 54.5	0.0
JAN	Janina	1.45	222	P	Pn	00 11 54.8	+0.3
PAIG	Paliouri	1.45	123	P	Pn	00 11 53.4	-1.2
PAIG				S	Sn	00 12 13.7	-0.1
MMB	Musomishta	1.48	57	P	Pn	00 11 54.8	-0.3
MMB				S	Sg	00 12 15.8	+0.1
MMB	Musomishta	1.48	57	P	Pn	00 11 54.6	-0.4
MMB				S	Sg	00 12 15.7	0.0
MMB	Musomishta	1.48	57	i Pn	Pn	00 11 54.9	-0.1
OUR	Ouranopolis	1.49	105	P	Pn	00 11 54.7	-0.3
OUR				S	Sn	00 12 14.7	+0.1
OUR	Ouranopolis	1.49	105	P	Pn	00 11 54.9	-0.1
OUR				S	Sg	00 12 15.6	-0.3
TETR	Tetrakomo, Epi	1.53	205	P	Pn	00 11 56.0	+0.2
TETR				S	Sg	00 12 17.0	-0.3
TETR	Tetrakomo, Epi	1.53	205	P	Pn	00 11 56.1	+0.3
TETR				S	Sg	00 12 17.0	-0.3
NEO	Neokhori	1.67	149	P	Pn	00 11 57.1	-0.5
NEO				S	Sn	00 12 19.3	0.0
NEO	Neokhori	1.67	149	P	Pn	00 11 57.4	-0.3
NEO				S	Sn	00 12 19.3	0.0
AGG	Agios Georgios	1.73	174	P	Pn	00 11 58.4	+0.1
AGG	Agios Georgios	1.73	174	P	Pn	00 11 58.4	+0.1
AGG				S	Sb	00 12 22.0	+0.2
MAKR	Makrakomi, Fth	1.73	179	P	Pn	00 11 58.9	+0.5
MAKR	Makrakomi, Fth	1.73	179	P	Pn	00 11 59.0	+0.5
MAKR				S	Sb	00 12 22.1	+0.3
BOSS	Bosilegrad	1.78	9	ePn	Pn	00 11 59.3	+0.2
TIR	Tirane	1.80	290	⇓P	Pb	00 12 01.5	+0.2
TIR	Tirane	1.80	290	i Pn	Pb	00 12 01.2	0.0
TIR	Tirane	1.80	290	P	Pn	00 11 59.8	+0.4
IGT	Igoumenitsa	1.82	229	i Pn	Pb	00 12 01.9	+0.4
IGT	Igoumenitsa	1.82	229	ePn	Pg	00 12 02.2	-0.6
IGT	Igoumenitsa	1.82	229	P	Pb	00 12 00.9	-0.6
EVR	Evrytania	1.84	187	P	Pn	00 12 00.3	+0.3
EVR	Evrytania	1.84	187	P	Pn	00 12 00.1	+0.2
KAVA	Kavala	1.85	81	P	Pn	00 11 59.4	-0.6
KAVA	Kavala	1.85	81	P	Pn	00 11 59.4	-0.6
THAS	Thassos island	1.99	93	P	Pn	00 12 01.2	-0.8
THAS	Thassos island	1.99	93	P	Pn	00 12 01.1	-1.0
PLNA	Plana	2.00	29	P	Pn	00 12 02.6	+0.4
AXAR	Agios Charalam	2.02	168	P	Pn	00 12 03.0	+0.6
VTS	Vitosha	2.06	24	P	Pn	00 12 03.2	+0.2
VTS				S	Sn	00 12 29.2	+0.2
VTS	Vitosha	2.06	24	ePn	Pn	00 12 03.3	+0.2
BARS	Barje	2.08	354	i Pn	Pn	00 12 03.4	+0.1
BARS	Barje	2.08	354	ePn	Pn	00 12 03.5	+0.1
ANX	Ano Chora	2.15	184	P	Pn	00 12 04.9	+0.6
ATAL	Atalanti	2.16	161	P	Pn	00 12 04.2	-0.2
PVO	Paravola	2.17	192	P	Pn	00 12 05.3	+0.8
LKR	Lokris	2.20	161	P	Pn	00 12 04.9	+0.1
RZN	Rozhen	2.21	64	eP	Pn	00 12 04.8	-0.3
TSLK	Tsoukalades, L	2.21	211	P	Pn	00 12 05.9	+0.8
LKD2	Lefkada island	2.25	210	P	Pn	00 12 06.6	+1.1
EFP	Efpalio	2.32	184	P	Pn	00 12 07.0	+0.5
KALE	Kalithea	2.35	179	P	Pn	00 12 07.4	+0.5
PGB	Panagyurishte	2.35	41	P	Pn	00 12 08.0	+0.9
EVGI	Lefkada island	2.39	208	P	Pn	00 12 08.6	+1.0
PLD	Plovdiv	2.43	54	eP	Pn	00 12 07.9	-0.2
ULC	Ulcinj	2.48	301	⇑iPn	Pn	00 12 09.8	+1.1
ULC				i Sn	Sn	00 12 40.9	+1.8
LIA	Limnos Island	2.50	109	P	Pn	00 12 08.6	-0.4
ZAPS	Zavoj	2.56	9	ePn	Pn	00 12 10.5	+0.6
FSK	Fiskardo	2.57	208	P	Pn	00 12 10.6	+0.6
SELS	Selova	2.58	344	ePn	Pn	00 12 10.3	+0.1
KDZ	Kurdzhali	2.60	69	eP	Pn	00 12 09.9	-0.5
AXS	Araxos	2.60	193	P	Pn	00 12 12.0	+1.6
KYMI	Kymi, Euboea I	2.61	143	P	Pn	00 12 09.9	-0.6
SMTH	Samothraki Isl	2.62	95	P	Pn	00 12 10.1	-0.6
DRME	Dracevica, Mon	2.63	304	ePn	Pn	00 12 11.7	+0.9
DRME				i Sn	Sn	00 12 44.7	+1.9
RDO	Rodhopi	2.63	80	P	Pn	00 12 10.2	-0.6
VIL2	Platees	2.68	160	P	Pn	00 12 12.0	+0.5
KLV	Kalavryta, Ach	2.69	179	P	Pn	00 12 12.2	+0.4
IVA	Berane	2.69	323	ePn	Pn	00 12 12.4	+0.6
IVA				i Sn	Sn	00 12 45.7	+1.0
PDG	Podgorica	2.72	309	⇑P	Pn	00 12 13.8	+1.8
PDG	Podgorica	2.72	309	ePn	Pn	00 12 13.6	+1.5
PDG	Podgorica	2.72	309	⇓iPn	Pn	00 12 13.5	+1.5
PDG				i Sn	Sn	00 12 47.0	+1.8
PDG	Podgorica	2.72	309	P	Pn	00 12 12.6	+0.5
RLS	Riolos of Patr	2.72	191	P	Pn	00 12 13.0	+0.9
STFN	Stefani	2.79	156	P	Pn	00 12 13.4	+0.4
LTK	Loutraki	2.79	166	P	Pn	00 12 13.4	+0.3
DRO	Drossia	2.80	186	P	Pn	00 12 14.7	+1.5
GUR	Goura	2.81	176	P	Pn	00 12 13.5	+0.2
VLS	Valsamata	2.81	205	P	Pn	00 12 14.3	+0.9
LOUT	Loutraki	2.83	166	P	Pn	00 12 14.4	+0.8
DMLN	Damoulianata-K	2.83	209	P	Pn	00 12 13.8	+0.2
KOME	Kolasin	2.86	318	⇑iPn	Pn	00 12 15.1	+1.0
KOME				i Sn	Sn	00 12 50.2	+1.4
BUM	Brajici-Budva	2.87	304	⇓iPn	Pn	00 12 14.1	-0.1
BUM				i Sn	Sn	00 12 50.3	+1.4
MAGU	Magoula	2.87	157	P	Pn	00 12 14.6	+0.4
PSDA	Pessada-Kefalo	2.88	205	P	Pn	00 12 14.9	+0.8
PARN3	Mandra,Attica,	2.88	157	P	Pn	00 12 14.1	-0.1
MPEP	Malo Peshtene	2.88	24	P	Pn	00 12 15.4	+1.1
PARN1	Fyli,Attica,Gr	2.90	155	P	Pn	00 12 14.7	+0.1
BOVS	Bovan	2.91	354	⇓P	Pn	00 12 14.8	+0.1
BOVS	Bovan	2.91	354	ePn	Pn	00 12 14.4	-0.2
BLKB	Belogradchik	2.91	8	ePn	Pn	00 12 15.4	+0.7
DIM	Dimitrovgrad	2.92	62	eP	Pn	00 12 14.4	-0.4
CLEM	Kyllini,Ilia,G	2.94	195	P	Pn	00 12 16.6	+1.5
GOCS	Kraljevo Serbi	2.96	342	ePn	Pn	00 12 15.6	+0.1
SJES	Sjenica	2.98	328	ePn	Pn	00 12 16.8	+1.1
CEME	Cevo	2.99	308	⇑iPn	Pn	00 12 16.7	+0.9
CEME				i Sn	Sn	00 12 53.6	+1.7
ALN	Alexandroupoli	3.00	86	P	Pn	00 12 15.3	-0.5
DION	Dionisos Attik	3.01	151	P	Pn	00 12 16.3	+0.2
PTL	Penteli	3.02	153	P	Pn	00 12 16.7	+0.6
ZAGS	Zajecar	3.07	2	ePn	Pn	00 12 17.1	+0.2
ORTH	Orthonies,Zaky	3.08	201	P	Pn	00 12 17.6	+0.5
CAVK	Edirne/Enez-Ca	3.09	90	P	Pg	00 12 25.8	-1.5
CAVK				S	Sb	00 13 04.0	+2.9
NKME	Niksic	3.11	312	⇓iPn	Pn	00 12 19.6	+2.2
NKME				i Sn	Sn	00 12 56.8	+2.0
VALD	Valchedram	3.11	18	eP	Pn	00 12 17.6	+0.2
IVAS	Ivanjica	3.18	334	ePn	Pn	00 12 18.9	+0.4
HCY	Herceg Novi	3.20	303	⇓iPn	Pn	00 12 19.5	+0.9
HCY				i Sn	Sn	00 12 58.8	+1.8
PLVB	Pleven	3.24	34	⇑P	Pn	00 12 20.0	+0.8
KARY	Karystos	3.25	145	P	Pn	00 12 19.0	-0.4
SIGR	SIGRI	3.26	117	P	Pn	00 12 19.6	+0.1
MET5	Makryloggos,Me	3.26	162	P	Pn	00 12 20.0	+0.4
MET2	Kameni Chora,	3.27	163	P	Pn	00 12 20.1	+0.5
MET4	Agioi Theodoro	3.27	162	P	Pn	00 12 20.2	+0.6
GRUS	Gruza	3.31	342	ePn	Pn	00 12 20.2	+0.1
KOCA	Canakkale, Ayv	3.33	110	P	Pn	00 12 21.0	+0.5
EZN	Ezine	3.36	104	⇓P	Pn	00 12 22.0	+1.3
UPM	Unac-Piva	3.43	317	ePn	Pn	00 12 22.9	+1.0
UPM				i Sn	Sn	00 13 03.5	+0.7
BRY	Bratogost	3.43	310	ePn	Pn	00 12 22.7	+0.8
BRY				i Sn	Sn	00 13 03.4	+0.6
TREB	Trebinje	3.43	306	ePn	Pn	00 12 22.5	+0.7
TREB	Trebinje	3.43	306	ePn	Pn	00 12 23.4	+1.6
KESN	Edirne-Kesan	3.48	87	P	Pn	00 12 22.0	-0.7
RUDO	Rudo	3.52	326	ePn	Pn	00 12 22.5	-0.6
PRK	Paraskevi	3.53	114	P	Pn	00 12 23.4	+0.2
BAYC	CANAKKALE_Bayr	3.54	105	P	Pn	00 12 23.2	-0.2
ITM	Ithomi	3.56	182	P	Pn	00 12 24.9	+1.3
ELND	Elena	3.57	51	⇑P	Pn	00 12 25.6	+1.9
KLINJ	Klinje	3.57	314	ePn	Pn	00 12 26.0	+2.1
SVIS	Svilajnac	3.58	350	ePn	Pn	00 12 24.3	+0.4
KUBS	Kucevo	3.68	355	ePn	Pn	00 12 23.6	-1.7
TRUS	Trudelj	3.70	341	ePn	Pn	00 12 25.5	0.0
BBLS	Lazi&#263i	3.71	328	ePn	Pn	00 12 26.3	+0.6
ZIMR		3.79	39	⇑P	Pn	00 12 28.6	+1.9
AYVA	Ayvalik	3.80	111	P	Pn	00 12 27.2	+0.3
AYVA				S	Sn	00 13 10.5	-1.3
NOCI	Noci	3.83	272	P	Pn	00 12 26.9	-0.4
PYL2	Kinigos	3.84	185	P	Pn	00 12 27.9	+0.5
CHOS	Chios island	3.85	126	P	Pn	00 12 28.1	+0.5
KIRK	Kırklareli	3.91	73	P	Pn	00 12 28.6	+0.3
KIRK				S	Sg	00 13 34.1	+0.6
STON	Ston	3.92	304	ePn	Pn	00 12 28.1	-0.4
STON	Ston	3.92	304	ePn	Pn	00 12 29.4	+0.9
DJES	Djerdap	3.94	4	⇑P	Pn	00 12 28.4	-0.3
BUHA	Balikesir, Bur	4.01	106	P	Pn	00 12 30.9	+1.1
BUHA				S	Sn	00 13 14.9	-2.0
LTRZ	Laterza	4.02	270	P	Pn	00 12 29.6	-0.3
MDVR	Moldovita	4.05	356	⇑P	Pn	00 12 31.5	+1.1
MDVR	Moldovita	4.05	356	ePn	Pn	00 12 30.3	-0.1
VLI	Veliai	4.07	171	P	Pn	00 12 30.9	+0.3
MATE	Matera	4.11	270	⇑P	Pn	00 12 33.5	+2.5
HERR	Herculane	4.14	3	⇑P	Pn	00 12 31.6	0.0
ARMN	Kirklareli, Me	4.17	73	P	Pn	00 12 32.0	0.0
ARMN				S	Sb	00 13 36.7	+4.7
ZEDA	zmir-Bergama	4.22	113	P	Pn	00 12 32.8	+0.1
LOZB	Loznitsa	4.25	50	⇑P	Pn	00 12 34.4	+1.3
TEKS	Tekeris	4.25	334	ePn	Pn	00 12 33.1	0.0
TIP	Timpagrande	4.39	251	⇓P	Pn	00 12 37.6	+2.5
TIP	Timpagrande	4.39	251	P	Pn	00 12 35.1	0.0
VIZE	Kirklareli, Vi	4.41	77	P	Pn	00 12 35.4	+0.1
VRSS	Vrsac	4.42	353	ePn	Pn	00 12 35.2	-0.2
STEP	BALIKESIR_Sava	4.52	106	P	Pn	00 12 37.7	+0.9
STEP				S	Sn	00 13 34.6	+5.1
BLKS	Balkesir-Sus	4.57	99	P	Pn	00 12 37.7	+0.3
BKES	Balkesir-Mer	4.57	101	P	Pn	00 12 38.9	+1.4
GZR	Gura Zlata	4.68	6	ePn	Pn	00 12 38.8	-0.2
FRGS	Fruska Gora	4.72	340	ePn	Pn	00 12 39.6	0.0
SMG	Samos	4.76	128	P	Pn	00 12 40.9	+0.8
CUC	Castrocucco	4.86	263	P	Pn	00 12 41.7	+0.2
LOT	Lotru	4.86	14	⇑P	Pn	00 12 41.5	0.0
BZS	Buzias	4.89	356	ePn	Pn	00 12 41.2	-0.6
ARR	Arges	4.98	21	⇑P	Pn	00 12 43.4	+0.2
SURR	Surduc	5.01	0	⇑P	Pn	00 12 43.7	+0.2
KIJV	Kijevo	5.33	310	ePn	Pn	00 12 49.0	+1.0
BLY	Banja Luka	5.40	320	ePn	Pn	00 12 49.6	+0.7
BLY	Banja Luka	5.40	320	⇑P	Pn	00 12 50.6	+1.7
ISR	Istrita	5.46	35	⇓P	Pn	00 12 51.4	+1.7
MLR	Muntele Rosu	5.52	29	Pn	Pn	00 12 50.7	+0.1
	comp=E,1.8nm,0.3s,baz=224,slow=6.2,SNR=16						
MLR				Sn	Sn	00 13 55.8	+1.6
	comp=E,1.1nm,0.3s,baz=202,slow=21,SNR=4.1						
MLR				Lg	Lg	00 14 25.4	
	comp=E,0.2nm,0.3s,baz=83,slow=16,SNR=6.0						
	comp=E,17nm,0.8s						
MLR	Muntele Rosu	5.52	29	⇓P	Pn	00 12 52.3	+1.7
MLR	Muntele Rosu	5.52	29	ePn	Pn	00 12 51.6	+1.0
A050A	Klekovaca	5.56	314	ePn	Pn	00 12 52.3	+1.2
NEHR	Nehoiu	5.60	32	⇓P	Pn	00 12 53.2	+1.6
A051A	Mrakovica	5.73	320	ePn	Pn	00 12 54.2	+0.8
TLBR	Topalu	5.80	47	⇓P	Pn	00 12 56.0	+1.7
BISRR	Bisoca	5.87	34	⇓P	Pn	00 12 57.1	+1.8
IDI	Anoyia	5.87	157	Pn	Pn	00 12 56.9	+1.5
	comp=E,9.9nm,0.6s,baz=343,slow=12,SNR=12						
IDI				Sn	Sn	00 14 04.6	+1.7
	comp=E,1.4nm,0.3s,baz=166,slow=18,SNR=1.8						
DOMA	Ktahya-Doman	5.88	97	P	Pn	00 12 56.4	+0.8
COVR	Voineasa-Covas	5.92	29	⇑P	Pn	00 12 57.4	+1.4
OZUR		5.99	25	⇑P	Pn	00 12 57.8	+0.8
MORH	Mrgy, Hungar	6.02	336	ePn	Pn	00 12 57.7	+0.3
MORH	Mrgy, Hungar	6.02	336	⇑P	Pn	00 12 58.1	+0.7
TURR	Turia	6.03	27	⇑P	Pn	00 12 58.9	+1.4
DRGR		6.07	4	ePn	Pn	00 12 57.9	-0.2
CJR	Cluj-Napoca	6.07	10	⇑P	Pn	00 12 59.5	+1.4
PLOR	Plostina	6.09	31	⇓P	Pn	00 13 00.0	+1.6
VRI	Vrincioaia	6.13	32	⇑P	Pn	00 13 00.6	+1.6
TPGR	Topolog	6.20	46	⇑P	Pn	00 13 00.3	+0.3
MOSL	Moslavina	6.25	323	ePn	Pn	00 13 00.4	-0.1
VARL	Varlezi	6.64	37	⇑P	Pn	00 13 07.8	+1.9
TESR	Tescani	6.64	28	⇑P	Pn	00 13 06.3	+0.4
VLDR	Vladesti	6.71	39	⇓P	Pn	00 13 08.3	+1.5
VAE	Valguarnera	6.81	244	Pn	Pn	00 13 08.3	0.0
	comp=E,1.8nm,0.5s,baz=19,slow=16,SNR=1.8						
VAE				Sn	Sn	00 14 25.3	-0.8
	comp=E,0.6nm,0.3s,baz=26,slow=20,SNR=3.0						
OZLJ	Ozalj	6.87	317	ePn	Pn	00 13 09.4	+0.4
BEHE	Becsehely	6.91	328	ePn	Pn	00 13 10.0	+0.4
BOJS	Bojanci	6.91	316	i Pn	Pn	00 13 10.3	+0.7
BOJS				i Sn	Sn	00 14 25.2	-3.2
BURAR	Bucovina Array	7.23	17	⇓P	Pn	00 13 15.0	+1.0
PSZ	Piszkesteto	7.35	348	⇑P	Pn	00 13 16.2	+0.5
BRJN	Brijuni	7.42	307	ePn	Pn	00 13 16.2	-0.3
SOKA	Soboth	7.84	322	ePn	Pn	00 13 22.4	+0.1
	comp=E,5.3nm,0.6s,SNR=12						
OBKA	Obir	7.95	319	ePn	Pn	00 13 24.1	+0.1
	comp=E,2.6nm,0.5s,SNR=12						
ARSA	Arzberg	8.05	326	ePn	Pn	00 13 24.6	-0.7
	comp=E,3.3nm,0.5s,SNR=5.0						
RONA	Rosalia, Austr	8.11	331	ePn	Pn	00 13 25.9	-0.2
	comp=E,0.9nm,0.4s						
CONA	Conrad Observa	8.46	330	ePn	Pn	00 13 30.7	-0.2
	comp=E,0.9nm,0.4s						
BRTR	Keskin Array B	8.88	93	Pn	Pn	00 13 37.2	+0.4
	comp=E,0.1nm,0.3s,baz=279,slow=13,SNR=4.1						
	comp=E,0.6nm,0.6s						
MOA	Molln	9.06	324	ePn	Pn	00 13 39.2	+0.2
	comp=E,1.6nm,0.5s,SNR=4.8						
ABTA	Abfaltersbach	9.17	314	ePn	Pn	00 13 40.0	-0.8
	comp=E,1.2nm,0.3s,SNR=6.3						
BIOA	Bad Ischl, Aus	9.23	322	ePn	Pn	00 13 41.6	+0.2
	comp=E,3.8nm,0.4s						
VRAC	Vranov	9.41	337	Pn	Pn	00 13 43.7	-0.1
	comp=E,0.1nm,0.3s,baz=171,slow=13,SNR=2.7						
VRAC				Sn	Sn	00 15 23.2	-6.6
	baz=77,slow=9.7,SNR=1.4						
	comp=E,1.1nm,0.7s						
LESA	Schwarzleotal	9.52	318	ePn	Pn	00 13 44.8	-0.6
	comp=E,4.0nm,0.5s						
WTTA	Wattenberg	9.96	314	i Pn	Pn	00 13 51.7	+0.1
	comp=E,1.7nm,0.5s						
WATA	Walderalm	10.04	315	ePn	Pn	00 13 53.0	+0.4
	comp=E,1.6nm,0.5s						
GERES	GERESS Array B	10.06	326	Pn	Pn	00 13 53.6	+0.7
	baz=155,slow=11,SNR=7.7						
	comp=E,1.1nm,0.7s						
SQTA	Sankt Quirin	10.17	313	ePn	Pn	00 13 55.1	+0.7
	comp=E,2.7nm,0.4s						
MOTA	Moosalm	10.30	313	ePn	Pn	00 13 56.4	+0.2
	comp=E,2.2nm,0.5s,SNR=7.3						
FETA	Feichten	10.33	311	ePn	Pn	00 13 56.8	+0.1
	comp=E,1.4nm,0.5s						
KHC	Kasperske Hory	10.33	327	ePN	Pn	00 13 57.6	+1.1
DAVOX	Davos/Dischmat	10.70	308	Pn	Pn	00 14 01.5	-0.2
	comp=E,0.7nm,0.3s,baz=130,slow=16,SNR=11						
DAVOX				Sn	Sn	00 15 57.4	-4.4
	comp=E,0.1nm,0.3s,baz=18,slow=20,SNR=2.3						
	comp=E,1.8nm,0.5s						
DAVA	Damuels	10.96	311	ePn	Pn	00 14 06.1	+0.8
	comp=E,1.1nm,0.3s						
KEST	Kesra	11.21	248	Pn	Pn	00 14 08.2	-0.4
	comp=E,0.1nm,0.3s,baz=32,slow=13,SNR=4.7						
	comp=E,1.8nm,0.9s						
CLL	Collm	12.30	332	eP	Pn	00 14 23.0	-0.4
CLL				e(sP)		00 14 28.0	
CLL				ex	x	00 14 36.0	
CLL				ex	x	00 15 18.0	
MMAI	Mount Meron Ar	13.13	122	Pn	Pn	00 14 35.4	+0.5
	comp=E,0.3nm,0.3s,baz=309,slow=13,SNR=4.2						
	comp=E,0.9nm,0.5s						
ESDC	Sonseca Array	19.92	275	P	P	00 15 59.4	-0.8
	comp=E,0.1nm,0.3s,baz=77,slow=8.7,SNR=8.9						
	comp=E,0.3nm,0.8s						
HFS	Hagfors	20.11	348	P	P	00 16 01.6	-0.4
	comp=E,1.5nm,0.5s,baz=172,slow=12,SNR=8.4						
	comp=E,1.5nm,0.5s						
FINES	FINESS Array B	20.87	5	P	P	00 16 10.0	-0.2
	comp=E,0.5nm,0.5s,baz=184,slow=12,SNR=4.1						
	comp=E,0.5nm,0.5s						
NOA	NORSAR Array B	21.40	345	P	P	00 16 15.2	-0.7
	comp=E,1.1nm,0.5s,baz=160,slow=11,SNR=11						
	comp=E,1.1nm,0.5s						
EKA	Eskdalemuir Ar	22.15	320	P	P	00 16 24.3	+0.2
	comp=E,1.6nm,0.8s,baz=116,slow=10,SNR=3.7						
	comp=E,1.6nm,0.8s						
ARCES	ARCESS Array B	28.91	2	P	P	00 17 26.4	-0.8
	comp=E,1.0nm,0.7s,baz=184,slow=8.8,SNR=3.7						
	comp=E,1.0nm,0.7s						
TORD	Torodi Ar. Bea	32.79	219	P	P	00 18 00.7	-1.1
	comp=E,0.7nm,0.6s,baz=30,slow=9.3,SNR=5.8						
	comp=E,0.7nm,0.6s						
MKAR	Makanchi Array	42.95	61	P	P	00 19 27.9	+0.5
	comp=E,0.4nm,0.7s,baz=278,slow=7.7,SNR=5.5						
	comp=E,0.4nm,0.7s						
ZALV	Zalesovo Beam	43.09	50	P	P	00 19 28.7	+0.4
	comp=E,1.8nm,0.6s,baz=285,slow=8.9,SNR=8.2						
	comp=E,1.8nm,0.6s						
ILAR	Eielson Array	74.47	355	P	P	00 23 07.1	+0.7
	comp=E,0.4nm,0.9s,baz=13,slow=4.9,SNR=2.9						
	comp=E,0.4nm,0.9s						
TXAR	Lajitas Array	94.07	315	P	P	00 24 46.5	-0.7
	comp=E,0.3nm,0.7s,baz=58,slow=3.6,SNR=5.1						
	comp=E,0.3nm,0.7s						

*IDC **01** 00:14:33.0±1.1, 26°.73S×178°.54W, h288km±10km, mb3.5/12, mbtmp4.2/12, Error ellipse: s-maj=16.5km s-min=15.8km az=47.0*
*NEIC **01** 00:14:34.9±2.1, 26°.92S±0°.09×178°.44W±0°.08, h303km±7km, mb4.1/13, Error ellipse: s-maj=13.2km s-min=9.8km az=165.0*
ISC 01 00:14:34.0±0.5, **27°.01S**±0°.05×**178°.36W**±0°.08, **h300**km, **n144**, σ2s05/123, **mb4.0**/19, **3D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RIZ	Raoul Island	2.26	170	P	Pn	00 15 25.5	+2.7
RIZ				S	S	00 16 06.5	+4.7
RAO	Raoul Island	2.27	170		Pn	00 15 25.4	+2.5
RAO				Sn	S	00 16 04.3	+2.4
RAO	Raoul Island	2.27	170	P	Pn	00 15 25.6	+2.7
	1µm,0.2s,baz=64,slow=3.2,SNR=38						
RAO				S	S	00 16 03.8	+1.8
	1µm,0.4s,baz=251,slow=22,SNR=9.5						
GLKZ	Green Lake	2.28	170	P	Pn	00 15 25.5	+2.5
GLKZ				S	S	00 16 03.1	+1.0
MSVF	Nonsavu	9.81	340		Pn	00 16 48.9	-1.0
GRZ	Great Barrier	10.61	208	P	P	00 17 02.7	+0.3
GRZ				S	S	00 19 00.4	+1.9
OUZ	Omahuta	10.70	218	P	P	00 17 05.0	+1.6
WCZ	Waipu Caves	10.86	213	P	P	00 17 06.7	+1.6
MXZ	Matakaoa Point	10.89	194	P	Pn	00 16 57.6	-5.3
MXZ				S	S	00 18 56.8	-8.1
KUZ	Kuaotunu	10.93	206	P	Pn	00 17 05.9	+2.5
KUZ				S	S	00 19 05.6	-0.1
NIUE	Niue	11.07	46	Pn	Pn	00 17 04.5	-0.8
NIUE	Niue	11.07	46	P	Pn	00 17 04.6	-0.7
WMGZ	Waiomatatini S	11.12	193	P	Pn	00 17 01.9	-3.8
HAZ	Te Kaha	11.20	196	P	Pn	00 17 01.7	-5.0
WIAZ	Waiheke Island	11.21	208	P	P	00 17 10.0	+1.0
PKGZ	Pakihiroa	11.24	195	P	Pn	00 17 02.1	-5.0
PKGZ				S	S	00 19 05.8	-6.8
MBAZ	Motutapu North	11.29	209	P	Pn	00 17 09.3	+1.6
PUZ	Puketiti	11.39	194	P	Pn	00 17 03.2	-5.9
PUZ				S	S	00 19 08.4	-7.8
RUGZ	Raukumara Rang	11.42	196	P	Pn	00 17 04.9	-4.7
ETAZ	East Tamaki Re	11.43	208	P	P	00 17 14.4	+3.0
MKAZ	Moumakai	11.46	207	P	P	00 17 13.4	+1.5
WHRZ	Whale Island	11.51	199	P	Pn	00 17 07.8	-2.7
WHRZ				S	S	00 19 13.9	-4.9
OPRZ	Ohinepanea	11.62	200	P	Pn	00 17 13.2	+1.4
AWAZ	Awhitu Peninsu	11.64	209	P	P	00 17 15.2	+1.4
CNGZ	Carnagh Statio	11.80	193	P	Pn	00 17 08.9	-5.0
EDRZ	Edgecumbe	11.81	199	P	Pn	00 17 15.3	+1.1
KMRZ	Kaimai	11.83	203	P	P	00 17 18.0	+2.1
TKGZ	Te Karaka	11.84	195	P	Pn	00 17 09.0	-5.4
TKGZ				S	S	00 19 19.4	-6.7
URZ	Urewera	11.85	198	P	Pn	00 17 13.4	-1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	9.2nm,0.3s,baz=267,slow=4.7,SNR=18						
URZ				S	**S**	**00 19 22.1**	**-4.3**
	35nm,0.4s,baz=188,slow=22,SNR=16						
URZ	**Urewera**	**11.85**	**198**	P	Pn	00 17 09.3	-5.3
URZ				S	**S**	**00 19 20.7**	**-5.7**
TOZ	**Tahuroa Road**	**11.88**	**204**	Pn	**Pn**	**00 17 15.4**	**+0.5**
TOZ	**Tahuroa Road**	**11.88**	**204**	P	**P**	**00 17 18.3**	**+1.9**
OMRZ	**Omania**	**11.92**	**201**	P	**P**	**00 17 17.9**	**+0.9**
RAGZ	**Rawiri**	**11.99**	**196**	P	**Pn**	**00 17 15.6**	**-0.8**
RAGZ				S	**S**	**00 19 23.3**	**-6.5**
TARZ	**Mount Tarawera**	**12.00**	**200**	P	**Pn**	**00 17 17.5**	**+0.9**
RRRZ	**Republican Roa**	**12.09**	**200**	P	**Pn**	**00 17 18.7**	**+1.2**
RRRZ				S	**S**	**00 19 29.2**	**-2.8**
RIGZ	**Rimuhau**	**12.11**	**195**	P	**Pn**	**00 17 16.7**	**-1.0**
RIGZ				S	S	00 19 24.5	-7.9
MUGZ	**Murupara**	**12.15**	**198**	P	Pn	00 17 13.3	-4.8
HRRZ	**Handcock Road**	**12.21**	**200**	P	**Pn**	**00 17 19.8**	**+0.8**
RTZ	**Ruatahuna**	**12.22**	**197**	P	Pn	00 17 12.7	-6.4
SNGZ	**Shannon Statio**	**12.28**	**196**	P	Pn	00 17 16.5	-3.3
SNGZ				S	S	00 19 29.0	-7.3
PRGZ	**Paritu Road**	**12.29**	**194**	P	Pn	00 17 15.4	-4.6
PRGZ				S	S	00 19 27.2	-9.3
ALRZ	**Allen Road**	**12.35**	**200**	P	**Pn**	**00 17 20.2**	**-0.4**
TLZ	**Tolley Road**	**12.40**	**203**	P	**P**	**00 17 24.0**	**+1.7**
KNZ	**Kokohu**	**12.43**	**194**	P	**Pn**	**00 17 19.4**	**-2.2**
RAHZ	**Arahi**	**12.47**	**197**	P	Pn	00 17 17.9	-4.3
RAHZ				S	S	00 19 32.7	-7.9
MTHZ	**Maungataniwha**	**12.48**	**198**	P	**Pn**	**00 17 19.3**	**-3.0**
MHGZ	**Mahia Peninsul**	**12.51**	**194**	P	Pn	00 17 17.9	-4.6
WHHZ	**Waihua**	**12.59**	**196**	P	**Pn**	**00 17 21.9**	**-1.6**
NMHZ	**Naumai**	**12.72**	**197**	P	Pn	00 17 17.6	-7.5
NMHZ				S	S	00 19 38.1	-8.0
RATZ	**Rangitukua**	**12.81**	**201**	P	**Pn**	**00 17 26.1**	**-0.1**
HIZ	**Hauiti**	**12.81**	**205**	P	**P**	**00 17 29.2**	**+2.4**
ARHZ	**Aropaoanui**	**12.82**	**196**	P	Pn	00 17 20.9	-5.4
ARHZ				S	S	00 19 38.7	-10
BKZ	**Black Stump Fm**	**12.87**	**198**	P	Pn	00 17 21.8	-5.1
BKZ				S	S	00 19 39.3	-10
RITZ	**Rihia Road**	**12.88**	**201**	P	**Pn**	**00 17 26.6**	**-0.4**
KATZ	**Kakaramea**	**12.93**	**201**	P	**Pn**	**00 17 28.2**	**+0.4**
KRVZ	**Karewarewa**	**13.05**	**201**	P	**Pn**	**00 17 28.6**	**-0.7**
TMVZ	**Te Maari**	**13.05**	**201**	P	**Pn**	**00 17 28.4**	**-0.9**
ETVZ	**East Tongariro**	**13.07**	**201**	P	**Pn**	**00 17 28.0**	**-1.5**
MCHZ	**McNeill Hill**	**13.07**	**197**	P	**Pn**	**00 17 26.9**	**-2.4**
MCHZ				S	S	00 19 45.0	-8.9
WTVZ	**West Tongariro**	**13.09**	**201**	P	**Pn**	**00 17 27.9**	**-1.8**
NNVZ	**North Ngauruho**	**13.10**	**201**	P	**Pn**	**00 17 29.1**	**-0.8**
TWVZ	**Taurewa**	**13.10**	**202**	P	**Pn**	**00 17 29.3**	**-0.5**
OTVZ	**Oturere**	**13.11**	**201**	P	Pn	00 17 25.3	-4.7
KWHZ	**Kaweka Forest**	**13.13**	**198**	P	Pn	00 17 23.6	-6.4
KWHZ				S	S	00 19 45.1	-10
NGZ	**Ngauruhoe**	**13.14**	**201**	P	**Pn**	**00 17 29.5**	**-0.8**
CKHZ	**Cape Kidnapper**	**13.18**	**196**	P	**Pn**	**00 17 28.4**	**-2.2**
CKHZ				S	S	00 19 44.9	-11
FWVZ	**Far West T-bar**	**13.23**	**201**	P	**Pn**	**00 17 29.5**	**-2.0**
MAVZ	**Matarangi**	**13.24**	**201**	P	**Pn**	**00 17 30.0**	**-1.6**
WHVZ	**Whangaehu Hut**	**13.24**	**201**	P	**Pn**	**00 17 28.8**	**-2.9**
WNVZ	**Wahianoa**	**13.28**	**201**	P	Pn	00 17 27.6	-4.5
MOVZ	**Moawhango**	**13.31**	**200**	P	Pn	00 17 28.7	-3.6
KRHZ	**Kereru**	**13.35**	**198**	P	Pn	00 17 25.9	-6.8
KAHZ	**Kahuranaki**	**13.36**	**196**	P	Pn	00 17 28.7	-4.1
VRZ	**Vera Road**	**13.38**	**204**	P	**P**	**00 17 33.0**	**-0.1**
PXZ	**Pawanui**	**13.58**	**196**	P	P	00 17 31.7	-3.6
PINNC	**Pines Island,**	**13.61**	**286**	P	**Pn**	**00 17 36.8**	**+0.9**
NEZ	**North Egmont**	**13.76**	**205**	P	**Pn**	**00 17 39.9**	**+2.3**
TSZ	**Takapari Road**	**13.85**	**198**	P	P	00 17 32.1	-6.2
PRHZ	**Porangahau**	**13.86**	**196**	P	P	00 17 34.3	-4.0
DVHZ	**Dannevirke**	**14.01**	**198**	P	P	00 17 35.9	-4.2
POWZ	**Post Office Ro**	**14.21**	**199**	P	**P**	**00 17 40.0**	**-2.2**
PRWZ	**Pori Road**	**14.30**	**198**	P	**P**	**00 17 40.4**	**-2.9**
BFZ	**Birch Farm**	**14.35**	**197**	P	**P**	**00 17 40.8**	**-2.9**
MRZ	**Mangatainoka R**	**14.51**	**199**	P	P	00 17 39.7	-5.9
CPWZ	**Castlepoint**	**14.58**	**197**	P	**P**	**00 17 45.6**	**-0.7**
DZM	**Mont Dzumac**	**14.67**	**286**	P	**P**	**00 17 47.6**	**0.0**
DZM	**Mont Dzumac**	**14.67**	**286**	P	**Pn**	**00 17 50.6**	**+1.9**
	23nm,0.9s,baz=122,slow=7.7,SNR=17						
HOWZ	**Holdsworth Sta**	**14.75**	**199**	P	P	00 17 44.2	-4.0
OGWZ	**Otaki Gorge**	**14.78**	**200**	P	P	00 17 42.9	-5.5
TMWZ	**Te Maipa**	**14.84**	**197**	P	P	00 17 45.0	-4.2
KIW	**Kapiti Island**	**14.89**	**200**	P	P	00 17 45.6	-4.2
MTW	**Mount Morrison**	**14.99**	**198**	P	**P**	**00 17 48.2**	**-2.7**
CAW	**Cannon Point**	**15.07**	**199**	P	**P**	**00 17 47.3**	**-4.4**
DUWZ	**D'Urville Isla**	**15.17**	**203**	P	**P**	**00 17 49.0**	**-3.8**
TRWZ	**Traveller**	**15.17**	**197**	P	**P**	**00 17 50.7**	**-2.1**
PAWZ	**Paruwai Farm**	**15.22**	**198**	P	**P**	**00 17 51.1**	**-2.3**
MSWZ	**Moikau Station**	**15.30**	**198**	P	**P**	**00 17 50.9**	**-3.4**
WEL	**Wellington**	**15.32**	**200**	P	**P**	**00 17 51.6**	**-2.9**
BHW	**Baring Head**	**15.41**	**199**	P	**P**	**00 17 52.7**	**-2.6**
TCW	**Tory Channel**	**15.41**	**201**	P	**P**	**00 17 51.6**	**-3.9**
PLWZ	**Palliser**	**15.45**	**198**	P	**P**	**00 17 53.5**	**-2.4**
BSWZ	**Blackbirch Sta**	**16.00**	**202**	P	**P**	**00 17 59.6**	**-2.2**
RPZ	**Rata Peaks**	**18.74**	**204**	P	**P**	**00 18 30.9**	**-0.6**
	7.6nm,0.6s,baz=12,slow=8.2,SNR=3.6						
RPZ				S	**S**	**00 21 45.6**	**-2.9**
	8.1nm,0.5s,baz=314,slow=23,SNR=7.4						
EIDS	**Eidsvold**	**27.44**	**266**	P	**P**	**00 19 52.6**	**-0.3**
EIDS				IAmb	IAmb	00 20 08.7	
	comp=Z,16nm,1.4s						
CTAO	**Charters Tower**	**33.08**	**274**	P	**P**	**00 20 42.2**	**-0.2**
CTAO				IAmb	IAmb	00 20 45.3	
	comp=Z,11nm,1.4s						
STKA	**Stephens Creek**	**35.07**	**252**	P	**P**	**00 20 59.2**	**0.0**
	comp=Z,0.7nm,0.3s,baz=66,slow=9.6,SNR=2.8						
	comp=Z,0.7nm,0.3s						
BBOO	**Buckleboo**	**39.69**	**250**	P	**P**	**00 21 36.2**	**-1.6**
AS31	**Alice Springs**	**43.07**	**263**	P	**P**	**00 22 03.7**	**-1.6**
ASAR	**Alice Springs**	**43.07**	**263**	P	**P**	**00 22 03.7**	**-1.6**
ASAR	**Alice Springs**	**43.07**	**263**	P	**P**	**00 22 04.1**	**-1.2**
	comp=Z,2.4nm,0.5s,baz=91,slow=7.2,SNR=41						
	comp=Z,2.4nm,0.5s						
WRA	**Warramunga Arr**	**43.75**	**269**		**P**	**00 22 08.9**	**-1.8**
WRA	**Warramunga Arr**	**43.75**	**269**	P	**P**	**00 22 09.1**	**-1.6**
	comp=Z,2.5nm,0.4s,baz=107,slow=7.7,SNR=23						
	comp=Z,2.5nm,0.4s						
WB0	**Warramunga Arr**	**43.76**	**269**	P	**P**	**00 22 08.9**	**-1.8**
WB0				IAmb	IAmb	00 22 09.9	
	comp=Z,4.4nm,0.7s						
KNRA	**Kununurra**	**50.21**	**272**	P	**P**	**00 22 58.5**	**-1.7**
KNRA				IAmb	IAmb	00 22 59.9	
	comp=Z,6.7nm,0.8s						
VNDA	**Vanda**	**51.43**	**185**	P	**P**	**00 23 10.3**	**+1.8**
VNDA	**Vanda**	**51.43**	**185**	P	**P**	**00 23 11.0**	**+2.6**
	comp=Z,1.8nm,0.6s,baz=358,slow=7.5,SNR=14						
	comp=Z,1.8nm,0.6s						
CASY	**Casey**	**58.00**	**207**	P	**P**	**00 23 54.9**	**-0.5**
QSPA	**South Pole Qui**	**63.09**	**180**	P	**P**	**00 24 31.4**	**+1.5**
QSPA				IAmb	IAmb	00 24 40.5	
	comp=Z,5.9nm,1.3s						
QSPA	**South Pole Qui**	**63.09**	**180**	P	**P**	**00 24 32.6**	**+2.8**
	comp=Z,1.9nm,0.7s,baz=52,slow=1.5,SNR=8.6						
	comp=Z,1.9nm,0.7s						
MJAR	**Matsushiro Arr**	**75.28**	**325**	P	**P**	**00 25 42.5**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=154,slow=6.4,SNR=1.6						
	comp=Z,0.4nm,0.5s						
MAW	**Mawson**	**75.36**	**200**	P	**P**	**00 25 45.2**	**+0.8**
	comp=Z,2.7nm,0.5s,baz=136,slow=6.3,SNR=16						
	comp=Z,2.7nm,0.5s						
TROLL	**Troll, Antarti**	**81.25**	**180**	⇓P	**P**	**00 26 17.0**	**+0.4**
	comp=Z,44nm,0.4s						
TROLL	**Troll, Antarti**	**81.25**	**180**	P	**P**	**00 26 17.0**	**+0.4**
SNAA	**Sanae**	**81.54**	**179**	⇓P	**P**	**00 26 18.4**	**+0.3**
	comp=Z,9.5nm,0.4s						
SNAA	**Sanae**	**81.54**	**179**	P	**P**	**00 26 18.4**	**+0.3**
SNAA	**Sanae**	**81.54**	**179**	P	**P**	**00 26 18.8**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=254,slow=14,SNR=5.7						
	comp=Z,0.5nm,0.6s						
VNA3	**Neumayer Olymp**	**81.70**	**176**	⇓P	**P**	**00 26 18.8**	**0.0**
	comp=Z,2.8nm,0.5s						
VNA3	**Neumayer Olymp**	**81.70**	**176**	P	**P**	**00 26 18.8**	**0.0**
O02D	**Mt. Diablo Mer**	**84.48**	**39**	P	**P**	**00 26 33.8**	**+0.3**
KSXB	**Camp Six Broad**	**85.00**	**38**	P	**P**	**00 26 35.7**	**-0.3**
KSXB				IAmb	IAmb	00 26 41.1	
	comp=Z,2.4nm,1.0s						
PLCA	**Paso Flores**	**85.06**	**133**	P	**P**	**00 26 37.1**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=259,slow=6.0,SNR=4.0						
	comp=Z,1.9nm,0.7s						
M02C	**Callahan**	**85.26**	**38**	P	**P**	**00 26 37.0**	**-0.3**
M02C				IAmb	IAmb	00 26 38.9	
	comp=Z,4.1nm,1.1s						
NVAR	**Mina Array Bea**	**85.98**	**43**	P	**P**	**00 26 41.1**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=218,slow=9.2,SNR=8.2						
	comp=Z,1.1nm,0.7s						
TXAR	**Lajitas Array**	**90.83**	**57**	P	**P**	**00 27 04.2**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=196,slow=8.8,SNR=6.4						
	comp=Z,0.6nm,0.9s						
PDAR	**Pinedale Array**	**93.90**	**43**	P	**P**	**00 27 17.6**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=227,slow=5.2,SNR=4.8						
	comp=Z,0.5nm,0.3s						
ARCES	**ARCESS Array B**	**135.22**	**348**	PKP	**PKPdf**	**00 33 16.2**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=45,slow=1.4,SNR=4.4						
NOA	**NORSAR Array B**	**145.36**	**352**	PKPbc	**PKPdf**	**00 33 36.0**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=76,slow=2.9,SNR=1.2						
HFS	**Hagfors**	**145.87**	**349**	PKPbc	**PKPdf**	**00 33 36.0**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=33,slow=3.5,SNR=7.2						
AKASG	**Malin Array Be**	**148.37**	**326**	PKPbc	**PKPdf**	**00 33 42.6**	**+1.8**
	comp=Z,0.8nm,0.5s,baz=44,slow=3.7,SNR=6.3						
MMAI	**Mount Meron Ar**	**150.24**	**290**	PKPbc	**PKPbc**	**00 33 50.4**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=100,slow=3.2,SNR=9.5						
BRTR	**Keskin Array B**	**150.58**	**304**	PKPbc	**PKPbc**	**00 33 48.9**	**-1.8**
BRTR	**Keskin Array B**	**150.58**	**304**	PKPbc	**PKPbc**	**00 33 49.5**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=90,slow=2.3,SNR=3.4						
BURAR	**Bucovina Array**	**152.35**	**324**	PKPbc	**PKPbc**	**00 33 54.2**	**-0.2**

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*SKO **01** 00:24:37.3, 40°.72N×22°.09E, h17km, ML2.8*
*THE **01** 00:24:37.9, 41°N±2°×2°2E±°, h3km±1km, M2.6/14, MLh2.6/14*
*PDG **01** 00:24:38.4±0.5, 40°.77N×22°.14E, h15km±1km, ML2.9/8, Error ellipse: s-maj=0.7km s-min=1.2km az=0.0*
*ATH **01** 00:24:38.0, 40°.74N×22°.11E, h6km±1km, ML2.8/21, Manual Solution by G.Panopoulou First location: 2019/09/01 03:04:04, This location: 2019/09/01 03:01:41 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*BEO **01** 00:24:39.4±0.4, 40°.88N×22°.09E, h0km, ML2.5/18*
ISC 01 00:24:38.0±1.1**, 40°.74N**±0°.02×**22°.12E**±0°.01**, h4**km±9km**, n104,** σ**0s.67**/143**, 8C-4D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.51**	**212**	P	**Pg**	**00 24 47.2**	**-0.5**
KZN				S	**Sg**	**00 24 55.1**	**+0.8**
FNA	**Florina**	**0.56**	**275**	P	**Pg**	**00 24 48.3**	**-0.5**
FNA				S	**Sg**	**00 24 55.7**	**-0.4**
FNA	**Florina**	**0.56**	**275**	⇑*i*Pg	**Pg**	**00 24 48.4**	**-0.5**
FNA				*i* Sg	**Sg**	**00 24 56.6**	**+0.5**
FNA	**Florina**	**0.56**	**275**	*e*Pg	**Pg**	**00 24 48.4**	**-0.5**
FNA				*e*Sg	**Sg**	**00 24 56.3**	**+0.1**
FNA	**Florina**	**0.56**	**275**	P	**Pg**	**00 24 48.3**	**-0.5**
FNA				S	**Sg**	**00 24 56.4**	**+0.3**
THE	**Thessaloniki**	**0.65**	**99**	P	**Pg**	**00 24 51.0**	**+0.4**
THE				S	**Sg**	**00 25 00.3**	**+1.2**
THE	**Thessaloniki**	**0.65**	**99**	*i* Pg	**Pg**	**00 24 51.0**	**+0.4**
THE				*i* Sg	**Sb**	**00 25 01.8**	**+0.4**
THE	**Thessaloniki**	**0.65**	**99**	P	**Pg**	**00 24 50.9**	**+0.3**
THE				S	**Sg**	**00 24 60.0**	**+0.9**
VAY	**Valandovo**	**0.68**	**30**	⇑*i*Pg	**Pg**	**00 24 51.1**	**+0.1**
VAY				*i* Sg	**Sb**	**00 25 01.2**	**-0.9**
VAY				*e*Lg	Lg	00 25 02.1	
	comp=E,146nm,0.3s						
VAY				*e*Lg	Lg	00 25 03.9	
	comp=N,399nm,0.5s						
LIT	**Litokhoron**	**0.70**	**156**	P	**Pg**	**00 24 51.0**	**-0.4**
LIT				S	**Sg**	**00 25 00.8**	**+0.3**
LIT	**Litokhoron**	**0.70**	**156**	*i* Pg	**Pg**	**00 24 51.0**	**-0.4**
LIT	**Litokhoron**	**0.70**	**156**	P	**Pg**	**00 24 51.4**	**0.0**
LIT				S	**Sg**	**00 25 01.1**	**+0.7**
KNT	**Kendrikon**	**0.73**	**54**	P	**Pg**	**00 24 52.2**	**+0.3**
KNT				S	**Sg**	**00 25 01.9**	**+0.5**
KNT	**Kendrikon**	**0.73**	**54**	⇑*i*Pg	**Pg**	**00 24 52.4**	**+0.4**
KNT				*i* Sg	**Sb**	**00 25 03.4**	**-0.1**
KNT	**Kendrikon**	**0.73**	**54**	P	**Pg**	**00 24 52.2**	**+0.3**
KNT				S	**Sg**	**00 25 02.0**	**+0.5**
HORT	**Hortiatis**	**0.76**	**100**	P	**Pg**	**00 24 52.9**	**+0.2**
HORT	**Hortiatis**	**0.76**	**100**	P	**Pg**	**00 24 52.8**	**+0.2**
PENT	**Pentalofos**	**0.92**	**234**	S	**Sg**	**00 25 07.8**	**+0.1**
PENT	**Pentalofos**	**0.92**	**234**	P	**Pg**	**00 24 55.6**	**-0.1**
SOH	**Sokhos**	**0.94**	**85**	P	**Pg**	**00 24 56.1**	**0.0**
SOH				S	**Sg**	**00 25 09.3**	**+1.0**
SOH	**Sokhos**	**0.94**	**85**	*i* Pg	**Pg**	**00 24 56.5**	**+0.5**
SOH				*i* Sg	**Sg**	**00 25 09.3**	**+1.0**
SOH	**Sokhos**	**0.94**	**85**	P	**Pg**	**00 24 56.2**	**+0.2**
SOH				S	**Sb**	**00 25 09.5**	**-0.3**
OHR	**Ohrid**	**1.06**	**291**	*i* Pg	**Pg**	**00 24 57.9**	**-0.5**
OHR				*i* Sg	**Sb**	**00 25 12.9**	**-0.4**
OHR				*e*Lg	Lg	00 25 13.9	
	comp=N,324nm,0.4s						
OHR				*e*Lg	Lg	00 25 14.3	
	comp=E,253nm,0.4s						
PLG	**Polygyros**	**1.08**	**109**	P	**Pg**	**00 24 58.1**	**-0.5**
PLG				S	**Sg**	**00 25 13.3**	**+0.7**
PLG	**Polygyros**	**1.08**	**109**	P	**Pg**	**00 24 58.1**	**-0.5**
PLG				S	**Sg**	**00 25 12.9**	**+0.4**
LRSO	**Larissa Observ**	**1.09**	**169**	P	**Pg**	**00 24 58.3**	**-0.5**
THL	**Klokotos Trika**	**1.18**	**184**	P	**Pg**	**00 25 00.1**	**-0.5**
THL				S	**Sb**	**00 25 16.4**	**0.0**
THL	**Klokotos Trika**	**1.18**	**184**	P	**Pg**	**00 24 59.9**	**-0.6**
THL				S	**Sg**	**00 25 15.7**	**0.0**
SRS	**Serrai**	**1.18**	**71**	P	**Pg**	**00 24 60.0**	**-0.7**
SRS	**Serrai**	**1.18**	**71**	*i* Pg	**Pg**	**00 25 00.1**	**-0.5**
SRS				*i* Sg	**Sg**	**00 25 16.1**	**+0.1**
SRS	**Serrai**	**1.18**	**71**	*e*Pg	**Pg**	**00 25 00.2**	**-0.5**
SRS				*e*Sg	**Sg**	**00 25 16.1**	**+0.1**
SRS	**Serrai**	**1.18**	**71**	P	**Pg**	**00 25 00.2**	**-0.5**
SKO	**Skopje**	**1.33**	**338**	*i* Pg	**Pn**	**00 25 02.7**	**-0.7**
SKO				*i* Sg	**Sb**	**00 25 19.7**	**-1.3**
KKB	**Krupnik**	**1.34**	**34**	*i* Pn	**Pn**	**00 25 02.9**	**-0.6**
PAIG	**Paliouri**	**1.44**	**124**	P	**Pn**	**00 25 03.7**	**-1.1**
PAIG				S	**Sn**	**00 25 23.7**	**-0.5**
JAN	**Janina**	**1.45**	**222**	P	**Pb**	**00 25 05.1**	**-0.5**
MMB	**Musomishta**	**1.47**	**56**	P	**Pn**	**00 25 04.3**	**-1.0**
MMB				S	**Sn**	**00 25 24.9**	**-0.2**
MMB	**Musomishta**	**1.47**	**56**	*i* Pn	**Pn**	**00 25 05.3**	**0.0**
OUR	**Ouranopolis**	**1.48**	**105**	P	**Pn**	**00 25 05.1**	**-0.2**
OUR				S	**Sb**	**00 25 25.3**	**+0.2**
OUR	**Ouranopolis**	**1.48**	**105**	P	**Pn**	**00 25 05.1**	**-0.2**
OUR				S	**Sb**	**00 25 25.2**	**+0.1**
TETR	**Tetrakomo, Epi**	**1.54**	**205**	P	**Pb**	**00 25 06.4**	**-0.6**
TETR	**Tetrakomo, Epi**	**1.54**	**205**	P	**Pn**	**00 25 06.0**	**-0.2**
TETR				S	**Sb**	**00 25 26.4**	**-0.4**
NEO	**Neokhori**	**1.66**	**149**	P	**Pn**	**00 25 07.2**	**-0.8**
AGG	**Agios Georgios**	**1.72**	**174**	P	**Pn**	**00 25 08.4**	**-0.3**
AGG	**Agios Georgios**	**1.72**	**174**	P	**Pn**	**00 25 08.4**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.72**	**180**	P	**Pn**	**00 25 08.9**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.72**	**180**	P	**Pn**	**00 25 08.4**	**-0.3**
BOSS	**Bosilegrad**	**1.78**	**9**	*e*Pn	**Pn**	**00 25 09.2**	**-0.3**
TIR	**Tirane**	**1.81**	**290**	*i* Pn	**Pb**	**00 25 11.8**	**+0.1**
IGT	**Igoumenitsa**	**1.82**	**229**	*e*Pn	**Pb**	**00 25 12.1**	**+0.2**
IGT	**Igoumenitsa**	**1.82**	**229**	P	**Pn**	**00 25 10.5**	**+0.4**
EVR	**Evrytania**	**1.83**	**188**	P	**Pn**	**00 25 10.2**	**-0.1**
EVR	**Evrytania**	**1.83**	**188**	P	**Pn**	**00 25 10.4**	**+0.1**
KAVA	**Kavala**	**1.84**	**81**	P	**Pn**	**00 25 09.4**	**-0.8**
KAVA	**Kavala**	**1.84**	**81**	P	**Pn**	**00 25 09.4**	**-0.8**
THAS	**Thassos island**	**1.98**	**93**	P	**Pn**	**00 25 10.8**	**-1.4**
AXAR	**Agios Charalam**	**2.01**	**168**	P	**Pn**	**00 25 12.8**	**0.0**
VTS	**Vitosha**	**2.06**	**24**	*e*Pn	**Pn**	**00 25 13.1**	**-0.4**
BARS	**Barje**	**2.09**	**354**	*i* Pn	**Pn**	**00 25 13.4**	**-0.3**
BARS	**Barje**	**2.09**	**354**	*e*Pn	**Pn**	**00 25 13.3**	**-0.5**
ANX	**Ano Chora**	**2.15**	**184**	P	**Pn**	**00 25 14.0**	**-0.7**
ATAL	**Atalanti**	**2.16**	**161**	P	**Pn**	**00 25 13.8**	**-1.0**
PVO	**Paravola**	**2.17**	**192**	P	**Pn**	**00 25 15.1**	**+0.3**
TSLK	**Tsoukalades, L**	**2.22**	**211**	P	**Pn**	**00 25 15.4**	**-0.1**
LKD2	**Lefkada island**	**2.25**	**210**	P	**Pn**	**00 25 16.6**	**+0.6**
EFP	**Efpalio**	**2.31**	**184**	P	**Pn**	**00 25 17.5**	**+0.6**
KALE	**Kalithea**	**2.34**	**180**	P	**Pn**	**00 25 17.3**	**0.0**
EVGI	**Lefkada island**	**2.40**	**209**	P	**Pn**	**00 25 18.3**	**+0.3**
PLD	**Plovdiv**	**2.43**	**54**	*e*Pn	**Pn**	**00 25 19.8**	**+1.4**
ULC	**Ulcinj**	**2.48**	**300**	⇑*i*Pn	**Pn**	**00 25 19.1**	**-0.1**
ULC				*i* Sn	**Sn**	**00 25 51.2**	**+1.2**
LIA	**Limnos Island**	**2.49**	**109**	P	**Pn**	**00 25 18.9**	**-0.3**
ZAPS	**Zavoj**	**2.56**	**8**	*e*Pn	**Pn**	**00 25 20.8**	**+0.5**
FSK	**Fiskardo**	**2.57**	**208**	P	**Pn**	**00 25 21.0**	**+0.6**
SELS	**Selova**	**2.59**	**344**	*e*Pn	**Pn**	**00 25 20.2**	**-0.5**
SMTH	**Samothraki Isl**	**2.61**	**95**	P	**Pn**	**00 25 20.1**	**-0.9**
RDO	**Rodhopi**	**2.62**	**80**	P	**Pn**	**00 25 20.7**	**-0.4**
DRME	**Dracevica, Mon**	**2.64**	**304**	⇑*i*Pn	**Pn**	**00 25 21.4**	**+0.1**
DRME				*i* Sn	**Sn**	**00 25 55.0**	**+1.3**
VIL2	**Platees**	**2.68**	**160**	P	**Pn**	**00 25 22.4**	**+0.6**
KLV	**Kalavryta, Ach**	**2.69**	**179**	P	**Pn**	**00 25 22.1**	**0.0**
IVA	**Berane**	**2.70**	**323**	⇑*i*Pn	**Pn**	**00 25 22.4**	**+0.1**
IVA				*i* Sn	**Sn**	**00 25 56.4**	**+0.9**
RLS	**Riolos of Patr**	**2.73**	**191**	P	**Pn**	**00 25 22.9**	**+0.4**
PDG	**Podgorica**	**2.73**	**309**	*e*Pn	**Pn**	**00 25 24.2**	**+1.6**
PDG	**Podgorica**	**2.73**	**309**	⇑*i*Pn	**Pn**	**00 25 23.2**	**+0.6**
PDG				*i* Sn	**Sn**	**00 25 57.1**	**+1.1**
GUR	**Goura**	**2.80**	**176**	P	**Pn**	**00 25 23.5**	**-0.2**
VLS	**Valsamata**	**2.82**	**205**	P	**Pn**	**00 25 23.9**	**+0.1**
DMLN	**Damoulianata-K**	**2.84**	**209**	P	**Pn**	**00 25 24.3**	**+0.2**
KOME	**Kolasin**	**2.87**	**318**	⇓*i*Pn	**Pn**	**00 25 25.2**	**+0.6**
KOME				*i* Sn	**Sn**	**00 25 59.8**	**+0.2**
BOVS	**Bovan**	**2.91**	**354**	*e*Pn	**Pn**	**00 25 24.4**	**-0.6**
GOCS	**Kraljevo Serbi**	**2.97**	**342**	*e*Pn	**Pn**	**00 25 25.4**	**-0.6**
ALN	**Alexandroupoli**	**2.99**	**86**	P	**Pn**	**00 25 25.4**	**-0.7**
CEME	**Cevo**	**3.00**	**308**	⇓*i*Pn	**Pn**	**00 25 26.8**	**+0.4**
CEME				*i* Sn	**Sn**	**00 26 03.6**	**+0.8**
ZAGS	**Zajecar**	**3.07**	**2**	*e*Pn	**Pn**	**00 25 26.7**	**-0.6**
NKME	**Niksic**	**3.12**	**312**	⇓*i*Pn	**Pn**	**00 25 28.1**	**+0.2**
NKME				*i* Sn	**Sn**	**00 26 06.5**	**+0.9**
IVAS	**Ivanjica**	**3.19**	**333**	*e*Pn	**Pn**	**00 25 28.3**	**-0.7**
GRUS	**Gruza**	**3.31**	**342**	*e*Pn	**Pn**	**00 25 29.9**	**-0.7**
UPM	**Unac-Piva**	**3.43**	**317**	⇑*i*Pn	**Pn**	**00 25 34.0**	**+1.6**
UPM				*i* Sn	**Sn**	**00 26 13.5**	**-0.2**
BRY	**Bratogost**	**3.44**	**310**	⇓*i*Pn	**Pn**	**00 25 32.6**	**+0.2**
BRY				*i* Sn	**Sn**	**00 26 14.2**	**+0.5**
TREB	**Trebinje**	**3.44**	**306**	*e*Pn	**Pn**	**00 25 35.0**	**+2.6**
KUBS	**Kucevo**	**3.69**	**355**	*e*Pn	**Pn**	**00 25 33.3**	**-2.4**
TRUS	**Trudelj**	**3.71**	**341**	*e*Pn	**Pn**	**00 25 35.3**	**-0.7**
BBLS	**Lazi&#263i**	**3.72**	**328**	*e*Pn	**Pn**	**00 25 35.7**	**-0.5**
TEKS	**Tekeris**	**4.26**	**334**	*e*Pn	**Pn**	**00 25 43.1**	**-0.5**
GZR	**Gura Zlata**	**4.68**	**6**	*e*Pn	**Pn**	**00 25 48.3**	**-1.1**
BZS	**Buzias**	**4.89**	**356**	*e*Pn	**Pn**	**00 25 51.4**	**-0.8**

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*FUNV **01** 00:57:20.2, 10°.61N×62°.11W, h16km, MW3.9*
*TRN **01** 00:57:22.2, 10°.71N×62°.28W, h37km, MD3.7, North of the Paria peninsula.*
ISC 01 00:57:22.2±1.7**, 10°.73N**±0°.09×**62°.27W**±0°.09**, h52**km±50km**, n31,** σ**1s.38**/52**, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**0.71**	**93**	*e*P	**Pn**	**00 57 36.8**	**+0.8**
DMDM				*e*S	**Sn**	**00 57 45.7**	**-0.5**
PSWS	**West Secondary**	**0.74**	**95**	*e*P	**Pn**	**00 57 36.0**	**-0.5**
PSWS				*e*S	**Sn**	**00 57 46.0**	**-0.9**
TRN	**Trinidad (W)**	**0.86**	**95**	*e*P	**Pn**	**00 57 39.1**	**+1.1**
TRN				*e*S	**Sn**	**00 57 50.2**	**+0.6**
TPP	**Pointe-a-Pierr**	**0.90**	**117**	x	x	00 57 42.5	
TBH	**Brigand Hill**	**1.21**	**102**	x	x	00 57 48.5	
GRFF	**Grenada Fort F**	**1.41**	**22**	*e*P	**Pn**	**00 57 45.2**	**-0.3**
GRFF				*e*S	**Sn**	**00 58 03.4**	**+0.4**
GRGR	**Grenville**	**1.52**	**23**	*e*P	**Pn**	**00 57 47.6**	**+0.6**
GRW	**Mount Saint Ca**	**1.54**	**23**	*e*P	**Pn**	**00 57 46.7**	**-0.7**
GRW				*e*S	**Sn**	**00 58 07.2**	**+0.9**
GRHS	**Sauteurs**	**1.61**	**22**	*e*P	**Pn**	**00 57 49.2**	**+1.0**
GRHS				*e*S	**Sn**	**00 58 08.6**	**+0.8**
GRSS	**Sisters**	**1.69**	**22**	*e*P	**Pn**	**00 57 49.5**	**+0.3**
GRSS				*e*S	**Sn**	**00 58 10.3**	**+0.5**
GCMP	**Grenada, Carri**	**1.93**	**25**	*e*P	**Pn**	**00 57 53.2**	**+0.6**
GCMP				*e*S	**Sn**	**00 58 16.4**	**+0.6**
PCRV	**Puerto La Cruz**	**2.39**	**257**	*e*P	**Pn**	**00 58 00.7**	**+1.8**
PCRV	**Puerto La Cruz**	**2.39**	**257**	*e*P	**Pn**	**00 57 59.8**	**+0.9**
SVB	**Belmont**	**2.72**	**21**	*e*P	**Pn**	**00 58 03.9**	**+0.5**
SVB				*e*S	**Sn**	**00 58 33.5**	**-1.6**
SLBI	**Saint Lucia, B**	**3.51**	**21**	*e*P	**Pn**	**00 58 15.0**	**+0.8**
SLBI				*e*S	**Sn**	**00 58 53.3**	**-1.3**
BIM	**Bigot**	**3.94**	**17**	*e*P	**Pn**	**00 58 21.1**	**+0.9**
BIM				*e*S	**Sn**	**00 59 03.9**	**-1.3**
SVN	**Savane Anatole**	**4.23**	**15**	*e*P	**Pn**	**00 58 25.1**	**+1.0**
SVN				*e*S	**Sn**	**00 59 12.3**	**0.0**
ILAM	**Ilet Lapin Mar**	**4.25**	**19**	*e*P	**Pn**	**00 58 25.7**	**+1.3**
ILAM				*e*S	**Sn**	**00 59 12.4**	**-0.2**
DLDT	**Laudat, Domini**	**4.66**	**11**	*e*P	**Pn**	**00 58 32.0**	**+1.9**
DLDT				*e*S	**Sn**	**00 59 22.2**	**-0.8**
DLPL	**La Plaine**	**4.68**	**12**	*e*S	**Sn**	**00 59 23.3**	**-0.1**
TACV	**Tcata**	**4.72**	**263**	*e*P	**Pn**	**00 58 32.4**	**+1.5**
TACV				*e*S	**Sn**	**00 59 23.9**	**-0.4**
DSLB	**Salisbury**	**4.75**	**10**	*e*P	**Pn**	**00 58 32.0**	**+0.7**
DSLB				*e*S	**Sn**	**00 59 23.1**	**-2.1**
TBG	**Guadaloupe-3**	**5.13**	**7**	*e*P	**Pn**	**00 58 36.8**	**+0.3**
TBG				*e*S	**Sn**	**00 59 32.7**	**-1.6**
CACV	**CAICARA DEL OR**	**5.26**	**234**	*e*P	Pn	00 58 32.3	-6.0
CACV				*e*S	Sn	00 59 24.5	-13
BENV	**Beln**	**5.30**	**262**	*e*P	**Pn**	**00 58 39.4**	**+0.5**
BENV				*e*S	**Sn**	**00 59 37.5**	**-1.2**
MMLZ	**Guadeloupe Bro**	**5.32**	**6**	*e*P	**Pn**	**00 58 41.3**	**+2.3**
MMLZ				*e*S	**Sn**	**00 59 38.8**	**-0.2**
ATGZ	**Broadband at L**	**5.36**	**6**	*e*P	**Pn**	**00 58 40.1**	**+0.5**
ATGZ				*e*S	**Sn**	**00 59 40.0**	**-0.1**
DHSZ	**Broadband at M**	**5.53**	**5**	*e*P	**Pn**	**00 58 44.3**	**+2.3**
DHSZ				*e*S	**Sn**	**00 59 41.2**	**-3.1**
DSDZ	**La Diserade, G**	**5.67**	**12**	*e*P	**Pn**	**00 58 44.9**	**+0.9**
DSDZ				*e*S	**Sn**	**00 59 45.4**	**-2.3**
BAUV	**El Baul**	**5.96**	**253**	*e*P	**Pn**	**00 58 48.5**	**+0.7**
BAUV				*e*S	**Sn**	**00 59 50.7**	**-4.1**
BAUV	**El Baul**	**5.96**	**253**	*e*P	**Pn**	**00 58 48.6**	**+0.7**
BAUV				*e*S	**Sn**	**00 59 52.1**	**-2.8**

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*IDC **01** 01:04:51.1±1.2, 28°.41N×98°.73E, h0km, mb3.7/9, mbtmp3.7/9, MS4.6/1, Error ellipse: s-maj=44.8km s-min=18.1km az=61.0*
ISC 01 01:04:56.3±0.9**, 28°.5N**±0°.1×**98°.75E**±0°.09**, h35**km**, n18,** σ**2s.16**/23**, mb3.6**/8**, Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**2.81**	**246**	*e*P	**Pn**	**01 05 34.7**	**-4.1**
LKP				*e*S	**Sn**	**01 06 17.0**	**+5.4**
LKP				IAML		01 06 20.3	
	comp=E,920nm,0.8s						
LKP				IAML		01 06 21.2	
	comp=N,792nm,0.6s						
KOHI	**KOHIMA**	**4.97**	**237**	*e*P	**Pn**	**01 06 07.3**	**-1.4**
KOHI				*e*S	**Sn**	**01 07 08.2**	**+3.2**
KOHI				IAML		01 07 16.7	
	comp=N,113nm,0.3s						
TEZP	**TEZPUR**	**5.60**	**252**	*e*P	**Pn**	**01 06 15.8**	**-1.3**
TEZP				*e*S	**Sn**	**01 07 21.9**	**+1.7**
TEZP				IAML		01 07 27.0	
	comp=N,76nm,0.5s						
TEZP				IAML		01 07 27.3	
	comp=E,90nm,0.7s						
IMP	**Imphal**	**5.63**	**231**	*e*P	**Pn**	**01 06 15.9**	**-1.7**
IMP				*e*S	**Sn**	**01 07 23.4**	**+2.2**
IMP				IAML		01 07 32.0	
	comp=N,57nm,0.8s						
IMP				IAML		01 07 37.8	
	comp=E,40nm,0.5s						
GUWA	**GUWAHATI**	**6.68**	**252**	*e*P	**Pn**	**01 06 30.2**	**-1.8**
GUWA				*e*S	**Sn**	**01 07 47.7**	**+0.9**
GUWA				IAML		01 07 50.6	
	comp=N,43nm,0.4s						
GUWA				IAML		01 07 50.9	
	comp=E,37nm,0.6s						
SHL	**Shillong**	**6.78**	**246**	*e*P	**Pn**	**01 06 30.5**	**-3.0**
SHL				*e*S	**Sn**	**01 07 48.0**	**-1.6**
SHL				IAML		01 07 54.4	
	comp=N,77nm,0.3s						
SHL				IAML		01 07 54.7	
	comp=E,47nm,0.5s						
AZL	**Aizawl**	**7.21**	**230**	*e*P	**Pn**	**01 06 38.0**	**-1.4**
AZL				*e*S	**Sn**	**01 08 00.8**	**+0.6**
AZL				IAML		01 08 03.7	
	comp=N,35nm,0.9s						
CMAR	**Chiang Mai Arr**	**9.99**	**179**	Pn	Pn	01 07 23.1	+5.6
	comp=N,0.4nm,0.3s,baz=352,slow=13,SNR=9.9						
CMAR				Lg	Lg	01 10 12.8	
	baz=7.2,slow=28						
SONM	**Songino Array**	**20.20**	**15**	P	**P**	**01 09 28.8**	**+0.7**
	comp=N,3.0nm,0.9s,baz=201,slow=12,SNR=13						
	comp=N,3.0nm,0.9s						
MKAR	**Makanchi Array**	**22.36**	**329**	P	**P**	**01 09 50.6**	**-0.6**
	comp=N,1.2nm,0.9s,baz=141,slow=12,SNR=6.1						
	comp=N,1.2nm,0.9s						
KURBB	**Kurchatov Arra**	**26.87**	**331**	P	**P**	**01 10 35.0**	**+1.4**
	comp=N,0.5nm,0.4s,baz=143,slow=10,SNR=7.4						
	comp=N,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**27.40**	**342**	P	**P**	**01 10 39.1**	**+0.8**
	comp=N,0.3nm,0.3s,baz=157,slow=7.8,SNR=2.0						
	comp=N,0.3nm,0.3s						
BVAR	**Borovoye Array**	**32.21**	**327**	P	**P**	**01 11 21.0**	**+0.1**
	comp=N,0.4nm,0.5s,baz=148,slow=13,SNR=3.8						
	comp=N,0.4nm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BELG	Belogornoye	44.47	317	LR	LR	01 35 20.5	
	comp=N,815nm,20.6s,baz=314,slow=41						
PETK	Petropavlovsk-	49.28	43	P	P	01 13 42.1	+0.6
	comp=N,0.7nm,0.7s,baz=265,slow=8.4,SNR=1.7						
	comp=N,0.7nm,0.7s						
WRA	Warramunga Arr	59.17	140	P	P	01 14 54.0	0.0
	comp=N,1.8nm,0.9s,baz=328,slow=7.6,SNR=10						
	comp=N,1.8nm,0.9s						
ASAR	Alice Springs	61.94	143	P	P	01 15 12.1	-0.7
	comp=N,0.8nm,0.8s,baz=327,slow=5.7,SNR=5.3						
	comp=N,0.8nm,0.8s						
ILAR	Eielson Array	74.15	24	P	P	01 16 29.2	+0.4
	comp=N,0.6nm,0.8s,baz=300,slow=5.3,SNR=7.4						
	comp=N,0.6nm,0.8s						

*SOME **01** 01:08:09.9, 41°.53N×78°.80E, h15km*
*KRNET **01** 01:08:09.7±0.1, 41°.57N×78°.79E, h10km, mb2.8*
*NNC **01** 01:08:10.4±1.9, 41°.58N×78°.72E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=13.4km s-min=7.9km az=164.0*
ISC 01 01:08:08.7±2.5, 41°.4N±0°.1×78°.75E±0°.06, h10km±11km, n17, σ0s.75/32, 11C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	0.77	293	⇑iP	Pb	01 08 24.4	0.0
TARG				⇑iS	Sb	01 08 35.2	0.0
PRZ	Przheval'sk	1.08	346	⇑iP	Pb	01 08 28.4	-1.2
PRZ				⇑iS	Sb	01 08 42.1	-1.8
KDJ	Kajisay	1.37	301	⇑iP	Pb	01 08 34.8	+0.3
KDJ				⇑iS	Sg	01 08 53.1	+0.4
SATY	Saty	1.65	351	P	Pb	01 08 38.6	-0.5
	2.8nm,0.1s						
SATY				S	Sn	01 08 59.2	+0.1
	9.2nm,0.1s						
UZB	Uzynbulak	1.72	7	P	Pn	01 08 39.0	+0.1
	1.2nm,0.1s						
UZB				S	Sn	01 08 60.0	-1.1
	4.3nm,0.3s						
UZB	Uzynbulak	1.72	7	eP	Pn	01 08 39.8	+0.9
	0.9nm,0.1s						
UZB				eS	Sn	01 09 01.0	-0.1
	4.7nm,0.1s						
SHLS	Shalkode	1.80	17	P	Pg	01 08 43.3	+0.1
	2.0nm,0.1s						
SHLS				S	Sg	01 09 07.0	+0.4
	33nm,0.5s						
SHLS	Shalkode	1.80	17	eP	Pg	01 08 43.3	+0.1
	2.2nm,0.1s						
SHLS				eS	Sg	01 09 07.3	+0.7
	12nm,0.2s						
PDGK	Podgornoye	1.97	16	⇑P	Pn	01 08 42.7	+0.5
	1.3nm,0.4s						
PDGK				⇓S	Sn	01 09 07.5	+0.3
	15nm,0.5s						
KPKS	Kokpek	2.03	359	P	Pb	01 08 45.3	-0.5
	0.1nm,0.1s						
KPKS				S	Sb	01 09 10.8	-0.4
	17nm,0.3s						
ULHL	Ulahol	2.04	294	⇓iP	Pg	01 08 47.2	-0.7
ULHL				⇓iS	Sg	01 09 14.4	0.0
TNSS	Tian-Shan	2.09	321	Pg	Pb	01 08 47.2	+0.3
	3.2nm,0.2s						
TNSS				Lg	Lg	01 09 14.2	
	1.9nm,0.2s						
TNSS	Tian-Shan	2.09	321	eP	Pb	01 08 47.7	+0.7
	0.4nm,0.1s						
TNSS				eS	Sb	01 09 14.5	+1.4
	1.8nm,0.2s						
KOTS	Kotyrbulak	2.17	326	eP	Pb	01 08 48.3	+0.1
	2.9nm,0.1s						
KOTS				eS	Sb	01 09 15.7	+0.4
	8.9nm,0.4s						
KNDC	Almaty	2.22	324	⇑Pn	Pn	01 08 46.2	+0.6
	8.5nm,0.3s						
KNDC				⇑Sn	Sn	01 09 13.8	+0.6
	4.7nm,0.4s						
KTBS	Karatobe	2.74	327	Pg	Pb	01 08 57.7	-0.1
	1.5nm,0.2s						
KTBS				Lg	Lg	01 09 31.8	
	8.6nm,0.3s						
TKM2	Tokmak 2	2.78	303	⇑iP	Pb	01 08 57.1	-1.4
TKM2				⇑iS	Sb	01 09 31.6	-1.1

*IDC **01** 01:11:50.4±2.0, 21°.92N×93°.90E, h0km, mb3.7/4, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=106.4km s-min=22.2km az=56.0*
*BKK **01** 01:11:55.1±1.0, 23°N±6°×9°6E±°, h5km, M3.7/7, mb4.0/3, Mjma3.2/6, ML3.8/7, MLv3.7/6*
ISC 01 01:11:54.1±1.7, 23°.0N±0°.8×9°6E±°, h10km, n7, σ1s.23/8, mb3.7/4, Myanmar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHTO	Chiang Mai	4.88	147	Sg	Sg	01 14 29.6	-1.4
CMAR	Chiang Mai Arr	5.19	149	Pn	Pb	01 13 20.4	-4.5
	0.4nm,0.3s,baz=304,slow=13,SNR=4.4						
CMAR				Pg	Pg	01 13 33.1	-0.4
	0.9nm,0.3s,baz=318,slow=18,SNR=17						
CMAR				Lg	Lg	01 14 42.2	
	1.9nm,0.3s,baz=319,slow=31,SNR=10						
	0.6nm,0.3s						
CM02	Chiang Mai Arr	5.21	150	P	Pn	01 13 13.4	+1.2
CM02				Pg	Pg	01 13 33.2	-0.7
MKAR	Makanchi Array	26.27	338	P	P	01 17 29.4	-0.2
	1.0nm,0.7s,baz=152,slow=9.6,SNR=7.1						
	1.0nm,0.7s						
KURBB	Kurchatov Arra	30.84	338	P	P	01 18 09.7	-0.6
	0.4nm,0.3s,baz=150,slow=9.6,SNR=3.4						
	0.4nm,0.3s						
BVAR	Borovoye Array	35.85	333	P	P	01 18 52.9	-1.0
	0.6nm,0.5s,baz=133,slow=10.0,SNR=6.3						
	0.6nm,0.5s						
ASAR	Alice Springs	59.11	139	P	P	01 21 56.5	+1.4
	0.2nm,0.4s,baz=312,slow=6.5,SNR=4.4						
	0.2nm,0.4s						

*CATAC **01** 01:41:42.5±0.5, 13°N±2°×9°1W±°, h11km±2km, M3.9/23, MLv3.9/23, Error ellipse: s-maj=5.2km s-min=2.5km az=24.8, confirmed*
*SNET **01** 01:41:46.3±1.9, 13°.42N×90°.44W, h15km, ML3.5*
ISC 01 01:41:49.5±2.0, 13°.42N±0°.05×90°.37W±0°.09, h38km, n56, σ2s.08/61, 8D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ESSJ	San Jos, E	0.18	318	eP	Pn	01 41 58.5	-0.4
ESSJ				eS	Sn	01 42 09.0	+1.4
NUBE	Las Nubes	0.75	50	i P	Pn	01 42 01.1	-2.6
NUBE	Las Nubes	0.75	50	⇓P	Pn	01 42 01.0	-2.7
NUBE	Las Nubes	0.75	50	S	Sn	01 42 14.6	+0.7
LOAL	Lomas de Alarc	0.81	45	eP	Pn	01 42 02.4	-2.1
LOAL				eS	Sn	01 42 15.5	0.0
LOAL	Lomas de Alarc	0.81	45	⇓P	Pn	01 42 02.4	-2.1
SLOZ	Alcaldia de Sa	0.83	44	⇓P	Pn	01 42 02.5	-2.3
SLOZ	Alcaldia de Sa	0.83	44	S	Sn	01 42 16.4	+0.6
CEVE	Cerro Verde	0.83	61	eP	Pn	01 42 02.8	-2.2
CEVE				eS	Sn	01 42 18.1	+1.9
CEVE	Cerro Verde	0.83	61	⇓P	Pn	01 42 02.7	-2.2
CEVE	Cerro Verde	0.83	61	S	Sn	01 42 17.2	+1.0
FG8	Yepocapa, Chim	0.85	348	eP	Pn	01 42 04.3	-0.8
FG16	Alotenango, Sa	0.85	351	eP	Pn	01 42 04.3	-1.0
FG16				IAML		01 42 29.9	
	comp=N,6µm,0.2s						
JAYA	Jayaque - finc	0.93	76	eP	Pn	01 42 03.8	-2.5
JAYA				eP		01 42 04.0	
JAYA	Jayaque - finc	0.93	76	eP	Pn	01 42 03.5	-2.8
JAYA	Jayaque - finc	0.93	76	⇓P	Pn	01 42 03.4	-2.8
JAYA	Jayaque - finc	0.93	76	S	Sn	01 42 19.9	+1.4
CEDA	San Andres	1.02	68	P	Pn	01 42 05.1	-2.3
LALI	Alcalda de L	1.03	86	eP	Pn	01 42 04.5	-2.9
LALI	Alcalda de L	1.03	86	P	Pn	01 42 03.7	-3.7
PMON	Piamonte	1.07	74	⇓P	Pn	01 42 05.5	-2.6
PMON	Piamonte	1.07	74	S	Sn	01 42 23.2	+1.4
BOQS	Boqueron	1.11	74	eP	Pn	01 42 06.8	-1.9
UEES	Universidad Ev	1.14	75	P	Pn	01 42 07.7	-1.3
PANCS	Alcalda de	1.18	81	P	Pn	01 42 07.9	-1.6
PANCS	Alcalda de	1.18	81	S	Sn	01 42 25.8	+1.5
LOMA	Loma Larga	1.19	79	P	Pn	01 42 08.6	-1.2
LOMA	Loma Larga	1.19	79	S	Sn	01 42 28.2	+3.4
MTO3	Montecristo	1.38	45	eP	Pn	01 42 11.0	-1.5
MTO3	Montecristo	1.38	45	⇓P	Pn	01 42 10.9	-1.6
MTO3	Montecristo	1.38	45	S	Sn	01 42 32.1	+2.5
PAVA	Las Pavas	1.43	78	P	Pn	01 42 11.3	-1.7
PAVA	Las Pavas	1.43	78	S	Sn	01 42 33.5	+2.9
ESQI	Esquipulas	1.51	41	eP	Pn	01 42 13.6	-0.6
ESQI	Esquipulas	1.51	41	S	Sn	01 42 36.3	+3.6
ESQI	Esquipulas	1.51	41	P	Pn	01 42 12.8	-1.4
TECO	Alcaldia de Te	1.55	86	P	Pn	01 42 13.3	-1.4
TECO	Alcaldia de Te	1.55	86	S	Sn	01 42 35.7	+2.0
LLGN	La Laguna	1.57	62	P	Pn	01 42 13.5	-1.5
LLGN	La Laguna	1.57	62	S	Sn	01 42 37.8	+3.6
SCLA	Alcaldia de Sa	1.62	80	P	Pn	01 42 13.7	-2.0
SCLA	Alcaldia de Sa	1.62	80	S	Sn	01 42 39.3	+3.9
PACA	Pacayal	2.00	88	P	Pn	01 42 20.2	-0.7
PACA	Pacayal	2.00	88	S	Sn	01 42 46.3	+1.6
SARH	Santa Rosa de	2.06	49	i P	Pn	01 42 20.8	-0.9
SARH	Santa Rosa de	2.06	49	⇓P	Pn	01 42 20.7	-1.0
CNCH	Conchagua	2.48	93	P	Pn	01 42 25.9	-1.6
CNCH	Conchagua	2.48	93	S	Sn	01 42 59.1	+2.6
CSGN	Cosiguina Volc	2.78	99	P	Pn	01 42 29.8	-1.7
CSGN				S	Sn	01 43 05.3	+1.4
CHOHN	Orocuina	3.13	89	P	Pn	01 42 34.2	-2.2
CRIN	San Cristobal	3.32	102	S	Sn	01 43 18.7	+1.4
PKGN	Cerro Pekin	3.40	102	P	Pn	01 42 38.0	-2.0
PKGN				S	Sn	01 43 19.1	0.0
YUSH	Yuscaran	3.47	81	P	Pn	01 42 39.2	-1.9
CNGA	Al SSO del Vol	3.70	104	P	Pn	01 42 42.1	-2.1
CNGN	Cerro Negro	3.70	104	P	Pn	01 42 42.6	-1.7
COPN	Copaltepe	3.89	108	P	Pn	01 42 45.5	-1.4

NEIC 01 01:52:11.8±1.6, 43°.56N±0°.03×127°.8W±0°.2, h10km±2km, ML3.1/74, Error ellipse: s-maj=21.9km s-min=3.1km az=256.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	2.58	104		Pn	01 52 52.4	-1.4
I02E	Swisshome, OR	2.87	78		Pn	01 52 57.0	-0.7
I02E				IAML		01 53 28.1	
	comp=N,96nm,0.1s						
I02E				IAML		01 53 28.5	
	comp=E,78nm,0.1s						
K02D	Willamette Mer	3.11	105		Pn	01 52 59.9	-1.1
K02D				IAML		01 53 39.8	
	comp=N,61nm,0.4s						
K02D				IAML		01 53 40.5	
	comp=E,68nm,0.4s						
I03D	Drain, OR	3.19	86		Pn	01 53 01.7	-0.4
I03D				IAML		01 53 43.7	
	comp=N,67nm,0.5s						
I03D				IAML		01 53 45.0	
	comp=E,45nm,0.6s						
KSXB	Camp Six Broad	3.33	120	Pn	Pn	01 53 03.1	-1.0
COR	Corvallis	3.36	71		Pn	01 53 04.3	-0.1
L02F	Cave Junction	3.39	114		Pn	01 53 05.2	+0.4
KRMB	Red Mountain	3.49	124	Pn	Pn	01 53 05.8	-0.4
BUCK	Buck Mountain	3.50	78		Pn	01 53 06.7	+0.3
BUCK				IAML		01 53 52.9	
	comp=N,28nm,1.0s						
BUCK				IAML		01 53 55.1	
	comp=E,28nm,0.5s						
G03D	McMinnville, O	3.61	61		Pn	01 53 08.1	+0.2
G03D				IAML		01 53 58.8	
	comp=E,37nm,0.6s						
H04D	Lebanon	3.74	73		Pn	01 53 10.3	+0.7
H04D				IAML		01 53 57.4	
	comp=N,23nm,0.4s						
H04D				IAML		01 53 59.1	
	comp=E,28nm,0.7s						
BBOR	Butler Butte	3.76	99		Pn	01 53 10.1	0.0
BBOR				IAML		01 53 59.4	
	comp=E,46nm,0.5s						
BBOR				IAML		01 54 00.3	
	comp=N,50nm,0.6s						
F03A	Seaside	3.81	50		Pn	01 53 11.1	+0.5
RADR	Rader Ridge	4.01	43	Pn	Pn	01 53 12.4	-0.9
RADR				IAML		01 54 49.4	
	comp=N,32nm,1.8s						
RADR				IAML		01 54 51.0	
	comp=E,37nm,1.9s						
J04A	Umpqua Nationa	4.12	92		Pn	01 53 14.6	-0.4
G04A	Mulino	4.12	65		Pn	01 53 15.8	+1.0
G04A				IAML		01 53 43.2	
	comp=E,36nm,0.7s						
YBH	Yreka Blue Hor	4.14	114		Pn	01 53 16.4	+1.3
YBH				IAML		01 54 60.0	
	comp=N,35nm,0.2s						
KMPM	Mount Pierce	4.14	138	Pn	Pn	01 53 17.4	+2.2
H04A	Detroit Lake	4.16	72		Pn	01 53 15.9	+0.5
H04A				IAML		01 54 08.4	
	comp=E,15nm,0.6s						
H04A				IAML		01 54 15.9	
	comp=N,21nm,0.5s						
E03A	Lebam	4.21	43		Pn	01 53 15.9	-0.1
WISH	Wishkah	4.53	37	Pn	Pn	01 53 20.7	+0.2
WISH				IAML		01 54 45.6	
	comp=N,34nm,2.8s						
WISH				IAML		01 55 09.1	
	comp=E,29nm,2.5s						
I05D	Terrebonne, OR	4.69	78	IAML		01 54 32.0	
	comp=N,11nm,2.7s						
I05D				IAML		01 54 52.9	
	comp=E,12nm,2.5s						
NLWA	Neilton Lookou	4.71	34		Pn	01 53 23.1	+0.2
NLWA				IAML		01 54 17.4	
	comp=E,21nm,0.6s						
HOOD	Mount Hood Mea	4.71	66	IAML		01 54 00.8	
	comp=E,20nm,0.7s						
HOOD				IAML		01 54 03.1	
	comp=N,26nm,0.7s						
G05A	Wamic	4.91	68	IAML		01 54 02.0	
	comp=E,15nm,2.0s						
G05A				IAML		01 54 32.1	
	comp=N,12nm,2.0s						
PINE	Pine Mountain	4.94	85	IAML		01 54 19.1	
	comp=E,16nm,0.1s						
PINE				IAML		01 54 32.3	
	comp=N,11nm,2.5s						
K05A	Summer Lake	5.08	97	IAML		01 55 06.8	
	comp=N,9.9nm,4.3s						
LON	Longmire	5.27	51	IAML		01 54 36.9	
	comp=E,10.0nm,0.6s						
LON				IAML		01 54 44.9	
	comp=N,11nm,0.8s						
GNW	Green Mountain	5.29	39		Pn	01 53 30.6	-0.3

CATAC 01 01:53:32.4±0.6, 13°N±6°×8°8W±°, h48km±7km, M2.7/7, MLv2.7/7, Error ellipse: s-maj=13.6km s-min=4.0km az=29.5, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.61	61	P	Pn	01 53 46.5	+1.5
CSGN				S	Sn	01 53 56.1	+2.1
CNCH	Conchagua	0.65	24	P	Pn	01 53 46.1	+0.5
CNCH	Conchagua	0.65	24	S	Sn	01 53 57.4	+2.4
POTN	Potosi Cosigui	0.67	61	S	Sn	01 53 57.0	+1.9
PACA	Pacayal	0.82	345	P	Pn	01 53 48.1	+0.4
PACA	Pacayal	0.82	345	S	Sn	01 54 00.3	+1.4
TECO	Alcaldia de Te	1.08	322	S	Sn	01 54 05.3	+0.3
PKGN	Cerro Pekin	1.10	90	P	Pn	01 53 50.4	-1.0
PKGN				S	Sn	01 54 06.4	+0.9
SCLA	Alcaldia de Sa	1.19	329	S	Sn	01 54 08.8	+1.1
SCLA	Alcaldia de Sa	1.19	329	P	Pn	01 53 52.3	-0.4
CHOHN	Orocuina	1.22	49	P	Pn	01 53 52.9	-0.3
CHOHN	Orocuina	1.22	49	S	Sn	01 54 09.0	+0.4
CNGA	Al SSO del Vol	1.38	97	P	Pn	01 53 55.2	-0.1
CNGA				S	Sn	01 54 12.6	+0.2
CNGN	Cerro Negro	1.38	97	P	Pn	01 53 56.5	+1.2
CNGN	Cerro Negro	1.38	97	S	Sn	01 54 13.3	+0.8
YUSH	Yuscaran	1.77	44	P	Pn	01 53 60.0	-0.7

*IDC **01** 02:05:55.1±0.9, 52°.03N×169°.63W, h0km, mb3.7/14, mbtmp3.7/16, ML3.5/2, Error ellipse: s-maj=26.9km s-min=20.6km az=170.0*
*NEIC **01** 02:05:57.5±2.1, 51°.90N±0°.01×169°.55W±0°.08, h10km±1km, mb3.9/15, ML3.5/10, ML3.0(AEIC), Error ellipse: s-maj=8.7km s-min=3.0km az=262.0*
*AEIC **01** 02:05:57.8±2.1, 51°.80N±0°.04×169°.58W±0°.09, h10km±4km, Error ellipse: s-maj=7.9km s-min=4.9km az=109.0*
ISC 01 02:05:59.1±0.7, 51°.97N±0°.07×169°.50W±0°.06, h30km, n60, σ1s.55/55, mb3.8/18, Fox Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CLCO	Concord Point,	0.83	351		Pn	02 06 15.3	+0.5
CLCO					Sn	02 06 29.8	+3.7
CLES	Cleveland East	0.89	344		Pn	02 06 15.0	-0.6
CLES					Sn	02 06 26.5	-1.0
CLES				IAML		02 06 33.2	
	comp=N,2µm,0.6s						
CLES				IAML		02 06 36.3	
	comp=E,2µm,0.6s						
NIKH	Nikolski High	1.08	21		Pb	02 06 18.9	-0.3
NIKH	Nikolski High	1.08	21		Sb	02 06 35.9	+2.9
OKTU	Okmok Mt. Tuli	1.67	31		Pb	02 06 27.8	-1.5
OKFG	Magazine Ridge	1.74	33		Pb	02 06 28.6	-1.7
MAPS	Pakushin South	2.41	39		Pn	02 06 38.0	+1.5
MSW	Makushin Switc	2.55	39		Pn	02 06 40.3	+1.9
UNV	Unalaska Valle	2.61	43	Pn	Pn	02 06 41.2	+1.9
UNV				IAML		02 07 25.4	
	comp=N,118nm,0.7s						
UNV				IAML		02 07 35.7	
	comp=E,108nm,1.2s						
UNV	Unalaska Valle	2.61	43		Sb	02 07 14.0	-2.8
MTBL	Makushin Table	2.63	39		Pb	02 06 41.6	-4.0
MTBL					Sb	02 07 14.6	-2.9
ATKA	Atka Island	2.91	277	Pn	Pn	02 06 42.7	-0.6
ATKA				IAML		02 07 31.7	
	comp=E,141nm,2.7s						
ATKA				IAML		02 08 17.0	
	comp=N,204nm,4.1s						
ATKA	Atka Island	2.91	277		Sn	02 07 16.2	-0.9
AKRB	Akutan Reef Bi	3.00	42		Pn	02 06 46.5	+1.9
ADK	Adak	4.45	272	Pn	Pn	02 07 04.9	+0.4
KDAK	Kodiak Island	11.34	52	Pn	Pn	02 08 38.2	-0.6
KDAK	Kodiak Island	11.34	52	Pn	Pn	02 08 37.9	-0.9
	comp=N,0.4nm,0.3s,baz=212,slow=3.2,SNR=5.5						
SYI	Shuyak Island	11.78	49	Pn	Pn	02 08 45.0	+0.1
CNPM	China Poot	12.74	46	Pn	Pn	02 08 59.2	+1.2
SLKM	Skilak Lake	13.67	44	Pn	Pn	02 09 11.1	+0.4
SUA	Susitna One	13.96	40	Pn	Pn	02 09 15.4	+0.6
PWL	Port Wells	14.65	44	Pn	Pn	02 09 23.0	-1.0
CAST	Castle Rocks	14.71	32	Pn	P	02 09 28.1	-2.6
HIN	Hinchinbrook I	15.26	47	Pn	Pn	02 09 30.6	-1.6
FID	Port Fidalgo	15.42	46	Pn	Pn	02 09 32.0	-2.2
BPAW	Bear Paw Mtn.	15.53	31	P	P	02 09 38.2	-1.5
SCM	Sheep Creek Mo	15.54	42	Pn	Pn	02 09 32.9	-3.0
HMT	Hamilton	16.28	49	Pn	Pn	02 09 45.4	+0.1
ILAR	Eielson Array	17.33	34	P	Pn	02 09 57.7	-0.7
	comp=N,0.1nm,0.3s,baz=231,slow=10,SNR=7.5						
	comp=N,0.3nm,0.5s						
O28M	Mount Upton	18.32	50	P	Pn	02 10 13.6	+2.6
J26L	Joseph Creek	18.37	37		P	02 10 09.4	-1.7
PETK	Petropavlovsk-	19.89	286	P	P	02 10 27.5	-0.4
	comp=N,1.3nm,0.3s,baz=82,slow=14,SNR=9.8						
	comp=N,3.2nm,0.4s						
N30M	Aishikik Lake	19.96	49	P	Pn	02 10 30.9	+0.6
N30M				IAmb	IAmb	02 10 33.9	
	comp=Z,5.8nm,0.7s						
O30N	Mendenhall	20.28	51	P	Pn	02 10 35.9	+1.7
N31M	Braeburn, Yuko	20.57	49		Pn	02 10 38.4	+0.8
N31M				IAmb	IAmb	02 10 57.0	
	comp=Z,7.9nm,1.2s						
H29M	Whitestone	21.11	36	P	P	02 10 41.7	+0.8
H29M				IAmb	IAmb	02 10 55.2	
	comp=Z,5.7nm,0.9s						
G29M	Pine Creek	21.56	34	P	P	02 10 45.8	+0.1
P33M	Teslin, Yukon	21.81	53		P	02 10 47.9	-0.6
P33M				IAmb	IAmb	02 11 02.6	
	comp=Z,4.4nm,1.0s						
MMPY	Sheldon Lake,	22.88	47	P	P	02 11 01.6	+1.7
MMPY				IAmb	IAmb	02 11 27.2	
	comp=Z,5.6nm,1.3s						
INK	Inuvik	23.73	33	P	P	02 11 08.3	+0.2
INK				IAmb	IAmb	02 11 47.7	
	comp=Z,5.0nm,1.1s						
H11N2	WAKE ISLAND Hy	37.09	219	T	T	02 52 20.0	
	baz=24,slow=76,SNR=5.8						
H11N3	WAKE ISLAND Hy	37.10	219	T	T	02 52 25.0	
	baz=24,slow=76,SNR=5.7						
H11N1	WAKE ISLAND Hy	37.11	219	T	T	02 52 27.2	
	baz=24,slow=76,SNR=6.2						
H11S1	WAKE ISLAND Hy	38.27	218	T	T	02 53 54.4	
	baz=24,slow=76,SNR=7.2						
H11S2	WAKE ISLAND Hy	38.29	218	T	T	02 53 55.4	
	baz=24,slow=76,SNR=6.7						
H11S3	WAKE ISLAND Hy	38.29	218	T	T	02 53 55.6	
	baz=24,slow=76,SNR=5.8						
PDAR	Pinedale Array	40.56	79	P	P	02 13 36.5	+0.7
	comp=Z,0.3nm,0.6s,baz=322,slow=7.3,SNR=1.8						
	comp=Z,0.3nm,0.6s						
KSRS	Korea Array	45.37	277	P	P	02 14 15.2	+0.7
	comp=Z,0.6nm,0.5s,baz=46,slow=8.6,SNR=4.2						
	comp=Z,0.6nm,0.5s						
TXAR	Lajitas Array	52.84	89	P	P	02 15 13.4	+1.6
	comp=Z,0.3nm,0.6s,baz=296,slow=5.7,SNR=6.3						
	comp=Z,0.3nm,0.6s						
ARCES	ARCESS Array B	58.31	354	P	P	02 15 50.4	-0.1
	comp=Z,1.1nm,0.8s,baz=5.2,slow=6.4,SNR=2.0						
	comp=Z,1.1nm,0.8s						
KURBB	Kurchatov Arra	62.73	318	P	P	02 16 20.8	0.0
	comp=Z,0.3nm,0.5s,baz=45,slow=6.9,SNR=4.2						
	comp=Z,0.3nm,0.5s						
BVAR	Borovoye Array	63.99	324	P	P	02 16 28.9	-0.3
	comp=Z,2.8nm,0.6s,baz=52,slow=7.0,SNR=17						
	comp=Z,2.8nm,0.6s						
FINES	FINESS Array B	66.26	352	P	P	02 16 43.3	-0.4
	comp=Z,1.3nm,0.7s,baz=19,slow=12,SNR=5.1						
	comp=Z,1.3nm,0.7s						
NOA	NORSAR Array B	67.34	360	P	P	02 16 51.5	+0.8
	comp=Z,0.5nm,0.8s,baz=359,slow=6.1,SNR=1.3						
	comp=Z,0.5nm,0.8s						
HFS	Hagfors	68.22	358	P	P	02 16 56.6	+0.3
	comp=Z,1.1nm,0.7s,baz=2.3,slow=4.0,SNR=8.7						
	comp=Z,1.1nm,0.7s						
AKASG	Malin Array Be	76.48	348	P	P	02 17 45.5	-0.1
	comp=Z,0.3nm,0.5s,baz=18,slow=6.5,SNR=2.1						
	comp=Z,0.3nm,0.5s						
GERES	GERESS Array B	79.53	358	P	P	02 18 03.4	+0.7
	comp=Z,0.2nm,0.6s,baz=354,slow=7.9,SNR=2.2						
	comp=Z,0.2nm,0.6s						
WRA	Warramunga Arr	86.69	232	P	P	02 18 39.7	-0.2
	comp=Z,0.5nm,1.0s,baz=28,slow=5.3,SNR=2.2						
	comp=Z,0.5nm,1.0s						
ESDC	Sonseca Array	87.87	11	P	P	02 18 45.8	+0.3
	comp=Z,0.2nm,0.6s,baz=0.2,slow=4.9,SNR=2.2						
	comp=Z,0.2nm,0.6s						
ASAR	Alice Springs	90.08	230	P	P	02 18 56.2	+0.4
	comp=Z,0.6nm,0.5s,baz=29,slow=4.6,SNR=12						
	comp=Z,0.6nm,0.5s						

*IDC **01** 02:20:35.1±0.8, 66°.75N×135°.83W, h0km, mb3.7/4, mbtmp3.6/7, ML3.8/3, Error ellipse: s-maj=12.3km s-min=8.7km az=124.0*
*PGC **01** 02:20:37.8, 66°.66N×135°.77W, h18km, ML3.7/38, ML3.6(AEIC), 96km southwest of Fort McPherson, Nt Northern Yukon Territory, Canada*
*ANF **01** 02:20:37.3±0.2, 66°.65N×135°.79W, h18km±1km, ML3.9/37, Error ellipse: s-maj=1.4km s-min=1.3km az=105.0*
ISC 01 02:20:37.0±0.6, 66°.66N±0°.02×135°.72W±0°.02, h22km±4km, n180, σ1s.20/260, mb3.7/4, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
G30M	tAoh Zraii Nji	0.38	328	P	Pb	02 20 45.2	+0.1
G30M				S	Sb	02 20 50.2	-0.4
G30M	tAoh Zraii Nji	0.38	328	P	Pb	02 20 45.1	+0.1
	baz=152,SNR=1000						
G30M				S	Sb	02 20 50.4	-0.2
	baz=152						
EPYK	Eagle Plains	0.50	235	P	Pb	02 20 46.8	-0.2
EPYK				S	Sb	02 20 53.2	-0.7
EPYK	Eagle Plains	0.50	235	P	Pb	02 20 46.9	-0.2
	baz=52,SNR=1000						
EPYK				S	Sb	02 20 53.5	-0.4
	baz=52						
G31M	Satah River	0.63	64	P	Pn	02 20 50.2	-0.5
G31M				S	Sn	02 20 59.3	-0.6
G31M	Satah River	0.63	64	P	Pn	02 20 50.1	-0.5
	baz=247,SNR=1000						
G31M				S	Sn	02 20 59.4	-0.6
	baz=247						
G29M	Pine Creek	0.95	287	P	Pb	02 20 54.7	0.0
G29M				S	Sn	02 21 07.3	-0.6

G29M	**Pine Creek**	**0.95**	**287**	P	**Pb**	**02 20 54.8**	**0.0**
	baz=105,SNR=1000						
G29M				S	**Sn**	**02 21 07.5**	**-0.4**
	baz=105						
F30M	**Barrier River**	**0.96**	**358**	P	**Pn**	**02 20 55.1**	**0.0**
F30M				S	**Sn**	**02 21 08.6**	**+0.6**
F30M	**Barrier River**	**0.96**	**358**	P	**Pb**	**02 20 54.9**	**0.0**
	baz=180,SNR=1000						
F30M				S	**Sn**	**02 21 08.8**	**+0.7**
	baz=180						
H31M	**Peel River**	**1.02**	**146**	P	**Pn**	**02 20 56.2**	**+0.1**
H31M				S	**Sn**	**02 21 09.4**	**-0.3**
H31M	**Peel River**	**1.02**	**146**	P	**Pn**	**02 20 56.1**	**+0.1**
	baz=326,SNR=1000						
H31M				S	**Sn**	**02 21 09.8**	**+0.1**
	baz=326						
F31M	**Tsiigehtchic**	**1.10**	**44**	P	**Pb**	**02 20 57.7**	**+0.4**
F31M				S	**Sn**	**02 21 12.8**	**+1.2**
F31M	**Tsiigehtchic**	**1.10**	**44**	P	**Pb**	**02 20 57.9**	**+0.6**
	baz=226,SNR=664						
F31M				S	**Sn**	**02 21 13.2**	**+1.6**
	baz=226						
H29M	**Whitestone**	**1.16**	**249**	P	**Pb**	**02 20 58.1**	**-0.2**
H29M				S	**Sn**	**02 21 13.3**	**+0.4**
H29M	**Whitestone**	**1.16**	**249**	P	**Pb**	**02 20 58.1**	**-0.2**
	baz=66,SNR=1000						
H29M				S	**Sn**	**02 21 13.4**	**+0.4**
	baz=66						
I30M	**Mount Dempster**	**1.47**	**191**	P	**Pb**	**02 21 02.9**	**-0.8**
I30M				S	**Sb**	**02 21 22.2**	**+0.3**
I30M	**Mount Dempster**	**1.47**	**191**	P	**Pb**	**02 21 02.9**	**-0.8**
	baz=9.3,SNR=1000						
I30M				S	**Sb**	**02 21 22.2**	**+0.3**
	baz=9.3						
I29M	**Ogilvie Camp,**	**1.68**	**220**	Pn	**Pn**	**02 21 05.7**	**+0.6**
I29M				Sn	**Sb**	**02 21 26.8**	**-1.1**
I29M	**Ogilvie Camp,**	**1.68**	**220**	P	**Pn**	**02 21 05.5**	**+0.5**
	baz=37						
I29M				S	**Sb**	**02 21 27.3**	**-0.6**
	baz=37						
INK	**Inuvik**	**1.86**	**26**	Pg	**Pn**	**02 21 08.2**	**+0.7**
	11nm,0.3s,baz=210,slow=19,SNR=695						
INK				Lg	Lg	02 21 32.1	
	45nm,0.3s,baz=154,slow=5.1,SNR=11						
INK	**Inuvik**	**1.86**	**26**	Pn	**Pn**	**02 21 08.1**	**+0.7**
INK				Sg	**Sb**	**02 21 34.8**	**+1.9**
INK	**Inuvik**	**1.86**	**26**	P	**Pn**	**02 21 08.1**	**+0.7**
	baz=209,SNR=674						
INK				Sb	**Sb**	**02 21 35.1**	**+2.2**
	baz=209						
F28M	**Old Crow**	**1.89**	**302**	Pn	**Pn**	**02 21 08.1**	**+0.2**
F28M	**Old Crow**	**1.89**	**302**	P	**Pn**	**02 21 08.0**	**+0.2**
	baz=119,SNR=165						
F28M				S	**Sn**	**02 21 31.6**	**+0.6**
	baz=119						
E29M	**Blow River**	**1.93**	**335**	Pn	**Pb**	**02 21 10.1**	**-1.4**
E29M	**Blow River**	**1.93**	**335**	P	**Pn**	**02 21 09.5**	**+1.0**
	baz=154,SNR=200						
E29M				Sb	**Sb**	**02 21 36.9**	**+1.9**
	baz=154						
I28M	**Miner Creek**	**2.11**	**237**	Pn	**Pn**	**02 21 10.7**	**-0.3**
I28M				Pg	**Pb**	**02 21 15.7**	**+1.1**
I28M				Sg	**Sb**	**02 21 42.0**	**+1.8**
I28M	**Miner Creek**	**2.11**	**237**	P	**Pn**	**02 21 10.8**	**-0.3**
	baz=52,SNR=222						
I28M				Sb	**Sb**	**02 21 41.6**	**+1.3**
	baz=52						
J30M	**Hart River**	**2.11**	**187**	Pn	**Pn**	**02 21 11.7**	**+0.6**
J30M	**Hart River**	**2.11**	**187**	P	**Pn**	**02 21 11.6**	**+0.6**
	baz=5.9,SNR=448						
J30M				S	**Sn**	**02 21 38.0**	**+1.4**
	baz=5.9						
G27K	**Doyon Strip**	**2.36**	**276**	Pn	**Pn**	**02 21 14.9**	**+0.4**
G27K	**Doyon Strip**	**2.36**	**276**	P	**Pn**	**02 21 14.9**	**+0.4**
	baz=91,SNR=287						
G27K				S	**Sn**	**02 21 43.4**	**+0.7**
	baz=91						
H27K	**Steamboat Moun**	**2.37**	**262**	Pn	**Pn**	**02 21 15.0**	**+0.3**
H27K	**Steamboat Moun**	**2.37**	**262**	P	**Pn**	**02 21 14.9**	**+0.3**
	baz=77,SNR=932						
H27K				S	**Sn**	**02 21 43.6**	**+0.5**
	baz=77						
E28M	**Babbage River**	**2.44**	**325**	Pn	**Pn**	**02 21 16.0**	**+0.5**
E28M	**Babbage River**	**2.44**	**325**	P	**Pn**	**02 21 16.0**	**+0.5**
	baz=142,SNR=40						
E28M				S	**Sn**	**02 21 44.7**	**0.0**
	baz=142						
J29N	**Klondike Camp**	**2.45**	**206**	Pn	**Pn**	**02 21 17.0**	**+1.3**
J29N				Sg	**Sb**	**02 21 52.3**	**+2.3**
J29N	**Klondike Camp**	**2.45**	**206**	Sb	**Sb**	**02 21 52.1**	**+2.1**
	baz=23						
I27K	**Kandik River**	**2.62**	**249**	Pn	**Pn**	**02 21 18.0**	**0.0**
I27K				Pg	**Pb**	**02 21 24.4**	**+1.1**
I27K	**Kandik River**	**2.62**	**249**	P	**Pn**	**02 21 18.1**	**0.0**
	baz=63,SNR=362						
I27K				Sb	**Sb**	**02 21 56.7**	**+1.7**
	baz=63						
E27K	**Coleen River**	**2.74**	**307**	Pn	**Pn**	**02 21 20.3**	**+0.7**
E27K	**Coleen River**	**2.74**	**307**	P	**Pn**	**02 21 20.0**	**+0.4**
	baz=122,SNR=45						
E27K				Sb	**Sb**	**02 22 00.5**	**+2.1**
	baz=122						
D28M	**Stokes Point**	**2.91**	**338**	Pn	**Pn**	**02 21 22.7**	**+0.8**
D28M	**Stokes Point**	**2.91**	**338**	S	**Sn**	**02 21 57.3**	**+1.1**
	baz=156						
K29M	**Barlow Dome**	**2.93**	**196**	Pn	**Pn**	**02 21 23.3**	**+1.0**
K29M	**Barlow Dome**	**2.93**	**196**	P	**Pn**	**02 21 22.8**	**+0.5**
	baz=14,SNR=176						
K29M				S	**Sn**	**02 21 57.7**	**+0.9**
	baz=14						
DAWY	**Dawson**	**3.02**	**212**	Pn	**Pn**	**02 21 24.1**	**+0.5**
DAWY	**Dawson**	**3.02**	**212**	P	**Pn**	**02 21 24.1**	**+0.5**
	baz=28,SNR=69						
DAWY				Sb	**Sb**	**02 22 08.7**	**+2.1**
	baz=28						
G26K	**Porcupine Rive**	**3.21**	**279**	Pn	**Pn**	**02 21 25.9**	**-0.1**
G26K	**Porcupine Rive**	**3.21**	**279**	P	**Pn**	**02 21 26.0**	**0.0**
	baz=92,SNR=44						
G26K				S	**Sn**	**02 22 02.1**	**-1.4**
	baz=92						
D27M	**Malcolm River**	**3.26**	**325**	Pn	**Pn**	**02 21 27.9**	**+1.1**
D27M				Sn	**Sn**	**02 22 04.6**	**-0.4**
D27M	**Malcolm River**	**3.26**	**325**	P	**Pn**	**02 21 27.1**	**+0.2**
	baz=141						
D27M				S	**Sn**	**02 22 05.1**	**+0.1**
	baz=141						
I26K	**Coal Creek Min**	**3.33**	**249**	Pn	**Pn**	**02 21 27.3**	**-0.4**
I26K	**Coal Creek Min**	**3.33**	**249**	P	**Pn**	**02 21 27.4**	**-0.3**
	baz=62						
I26K				Sb	**Sb**	**02 22 17.4**	**+2.1**
	baz=62						
F26K	**Sheenjek River**	**3.45**	**291**	Pn	**Pn**	**02 21 29.6**	**+0.2**
F26K	**Sheenjek River**	**3.45**	**291**	P	**Pn**	**02 21 29.6**	**+0.2**
	baz=104,SNR=66						
F26K				S	**Sn**	**02 22 08.0**	**-1.5**
	baz=104						
L29M	**L29M**	**3.71**	**197**	Pn	**Pn**	**02 21 33.6**	**+0.6**
L29M	**L29M**	**3.71**	**197**	P	**Pn**	**02 21 33.1**	**+0.1**
	baz=15,SNR=77						
L29M				S	**Sn**	**02 22 14.9**	**-1.1**
	baz=15						
K27K	**Chicken**	**3.75**	**228**	Pn	**Pn**	**02 21 33.5**	**0.0**
K27K	**Chicken**	**3.75**	**228**	P	**Pn**	**02 21 33.2**	**-0.3**
	baz=42						
K27K				Sb	**Sb**	**02 22 29.9**	**+2.5**
	baz=42						
J26L	**Joseph Creek**	**3.91**	**240**	P	**Pn**	**02 21 35.5**	**-0.3**
	baz=53,SNR=28						
J26L				S	**Sn**	**02 22 21.5**	**+0.5**
	baz=53						
F25K	**Christian Rive**	**3.99**	**288**	Pn	**Pn**	**02 21 37.1**	**+0.3**
F25K	**Christian Rive**	**3.99**	**288**	P	**Pn**	**02 21 36.9**	**+0.1**
	baz=99,SNR=44						
F25K				S	**Sn**	**02 22 22.2**	**-0.6**
	baz=99						
H25L	**Birch Creek**	**4.07**	**269**	P	**Pn**	**02 21 37.9**	**0.0**
	baz=80						
H25L				S	**Sn**	**02 22 25.1**	**+0.3**
	baz=80						
E25K	**Arctic Village**	**4.08**	**296**	Pn	**Pn**	**02 21 38.7**	**+0.7**
E25K	**Arctic Village**	**4.08**	**296**	P	**Pn**	**02 21 38.5**	**+0.5**
	baz=107,SNR=21						
E25K				S	**Sn**	**02 22 23.8**	**-1.2**
	baz=107						
G25K	**Bearman Lake**	**4.13**	**276**	Pn	**Pn**	**02 21 38.8**	**+0.2**
G25K	**Bearman Lake**	**4.13**	**276**	P	**Pn**	**02 21 38.7**	**+0.2**
	baz=87						
G25K				S	**Sn**	**02 22 25.3**	**-0.8**
	baz=87						
M30M	**Minto, Yukon**	**4.13**	**187**	Pn	**Pn**	**02 21 39.7**	**+1.0**
M30M	**Minto, Yukon**	**4.13**	**187**	P	**Pn**	**02 21 39.5**	**+0.8**
	baz=5.6,SNR=284						
M30M				S	**Sn**	**02 22 26.0**	**-0.2**
	baz=5.6						
PRP	**Porcupine Dome**	**4.16**	**259**	P	**Pn**	**02 21 38.3**	**-0.8**
	baz=70						
PRP				S	**Sn**	**02 22 25.6**	**-1.4**
	baz=70						
C27K	**Jago River**	**4.22**	**319**	Pn	**Pn**	**02 21 41.1**	**+1.3**
C27K				Sn	**Sn**	**02 22 27.5**	**-0.9**
C27K	**Jago River**	**4.22**	**319**	P	**Pn**	**02 21 41.2**	**+1.3**
	baz=131,SNR=45						
C27K				S	**Sn**	**02 22 28.7**	**+0.3**
	baz=131						
SCRK	**Sand Creek**	**4.39**	**236**	P	**Pn**	**02 21 42.1**	**-0.3**
	baz=48,SNR=26						
SCRK				Sb	**Sb**	**02 22 50.8**	**+4.9**
	baz=48						
M29M	**Somme Creek**	**4.39**	**197**	Pn	**Pn**	**02 21 43.6**	**+1.2**
M29M				Sn	**Sn**	**02 22 30.7**	**-2.3**
M29M	**Somme Creek**	**4.39**	**197**	P	**Pn**	**02 21 43.3**	**+0.8**
	baz=14,SNR=115						
M29M				S	**Sn**	**02 22 31.1**	**-1.9**
	baz=14						
L27K	**Beaver Creek,**	**4.45**	**219**	Pn	**Pn**	**02 21 43.6**	**+0.4**
L27K	**Beaver Creek,**	**4.45**	**219**	P	**Pn**	**02 21 43.5**	**+0.4**
	baz=33,SNR=47						
L27K				S	**Sn**	**02 22 33.0**	**-1.3**
	baz=33						
MMPY	**Sheldon Lake,**	**4.49**	**153**	Pn	**Pn**	**02 21 45.0**	**+1.3**
MMPY				Sn	**Sn**	**02 22 34.6**	**-0.5**
MMPY	**Sheldon Lake,**	**4.49**	**153**	P	**Pn**	**02 21 44.9**	**+1.3**
	baz=336,SNR=116						
MMPY				S	**Sn**	**02 22 36.0**	**+0.9**
	baz=336						
J25K	**Salcha River,**	**4.50**	**247**	Pn	**Pn**	**02 21 43.5**	**-0.3**
J25K	**Salcha River,**	**4.50**	**247**	P	**Pn**	**02 21 43.4**	**-0.3**
	baz=58						
J25K				S	**Sn**	**02 22 35.7**	**+0.3**
	baz=58						
M31M	**Drury Creek, Y**	**4.51**	**172**	Pn	**Pn**	**02 21 45.0**	**+1.0**
M31M	**Drury Creek, Y**	**4.51**	**172**	P	**Pn**	**02 21 44.7**	**+0.7**
	baz=353						
M31M				S	**Sn**	**02 22 38.1**	**+2.4**
	baz=353						
DOT	**Dot Lake**	**4.64**	**233**	Pn	**Pn**	**02 21 45.2**	**-0.5**
G24K	**Hadweenzic Riv**	**4.67**	**276**	P	**Pn**	**02 21 45.9**	**-0.3**
	baz=85						
G24K				S	**Sn**	**02 22 37.5**	**-2.2**
	baz=85						
C26K	**Camden Bay**	**4.73**	**318**	S	**Sn**	**02 22 41.7**	**+0.9**
	baz=130						
BVCY	**Beaver Creek**	**4.80**	**210**	Pn	**Pn**	**02 21 48.6**	**+0.6**
BVCY	**Beaver Creek**	**4.80**	**210**	P	**Pn**	**02 21 48.6**	**+0.6**
	baz=25,SNR=130						
D25K	**Kavik River**	**4.82**	**309**	Pn	**Pn**	**02 21 49.8**	**+1.7**
D25K				Sn	**Sn**	**02 22 41.3**	**-2.0**
D25K	**Kavik River**	**4.82**	**309**	S	**Sn**	**02 22 43.4**	**+0.2**
	baz=119						
F24K	**Squaw Lake**	**4.83**	**286**	P	**Pn**	**02 21 48.5**	**+0.1**
	baz=95						
F24K				S	**Sn**	**02 22 41.9**	**-1.8**
	baz=95						
L26K	**Log Cabin Wild**	**4.89**	**225**	Pn	**Pn**	**02 21 49.6**	**+0.4**
ILAR	**Eielson Array**	**4.99**	**253**	Pn	**Pn**	**02 21 50.6**	**+0.2**
	0.4nm,0.3s,baz=64,slow=14,SNR=13						
ILAR				Pg	**Pb**	**02 22 00.0**	**-3.5**
	1.3nm,0.3s,baz=56,slow=16,SNR=10						
ILAR				Sn	**Sn**	**02 22 46.0**	**-1.3**
	2.1nm,0.3s,baz=160,slow=26,SNR=2.4						
ILAR				Lg	Lg	02 23 11.3	
	4.8nm,0.3s,baz=57,slow=30,SNR=4.5						
	0.7nm,0.5s						
H24K	**Noodor Dome**	**4.99**	**266**	P	**Pn**	**02 21 49.9**	**-0.6**
	baz=75						
POKR	**Poker Plat Res**	**5.05**	**258**	P	**Pn**	**02 21 51.0**	**-0.3**
	baz=67						
M27K	**Edge Creek, AK**	**5.07**	**215**	Pn	**Pn**	**02 21 51.9**	**+0.1**
M27K	**Edge Creek, AK**	**5.07**	**215**	P	**Pn**	**02 21 52.0**	**+0.3**
	baz=29,SNR=44						
E24K	**Your Creek**	**5.13**	**292**	P	**Pn**	**02 21 53.1**	**+0.6**
	baz=100						
E24K				S	**Sn**	**02 22 51.5**	**+0.5**
	baz=100						
C36M	**Paulatuk**	**5.14**	**53**	Pn	**Pn**	**02 21 52.1**	**-0.4**
C36M				Sn	**Sn**	**02 22 48.2**	**-2.8**
C36M	**Paulatuk**	**5.14**	**53**	P	**Pn**	**02 21 52.0**	**-0.4**
	baz=244,SNR=87						
C36M				S	**Sn**	**02 22 48.4**	**-2.6**
	baz=244						
N31M	**Braeburn, Yuko**	**5.19**	**180**	Pn	**Pn**	**02 21 54.4**	**+1.1**
N31M	**Braeburn, Yuko**	**5.19**	**180**	S	**Sn**	**02 22 53.0**	**+0.5**
	baz=360						
N30M	**Aishikik Lake**	**5.26**	**187**	Pn	**Pn**	**02 21 55.3**	**+1.0**
N30M				Sn	**Sn**	**02 22 52.3**	**-1.8**
N30M	**Aishikik Lake**	**5.26**	**187**	P	**Pn**	**02 21 55.2**	**+1.0**
	baz=5.7,SNR=52						
N30M				S	**Sn**	**02 22 53.3**	**-0.8**
	baz=5.7						
M26K	**Nabesna, AK**	**5.30**	**220**	Pn	**Pn**	**02 21 55.1**	**+0.3**
M26K	**Nabesna, AK**	**5.30**	**220**	P	**Pn**	**02 21 54.5**	**-0.4**
	baz=33,SNR=6.9						
YUK3	**Moose Creek**	**5.32**	**205**	Pn	**Pn**	**02 21 56.0**	**+0.7**
YUK3	**Moose Creek**	**5.32**	**205**	P	**Pn**	**02 21 55.8**	**+0.6**
	baz=20,SNR=35						
YUK2	**White River**	**5.38**	**207**	Pn	**Pn**	**02 21 56.4**	**+0.5**
YUK4	**Talbot Arm**	**5.49**	**195**	Pn	**Pn**	**02 21 57.1**	**-0.4**
YUK4	**Talbot Arm**	**5.49**	**195**	P	**Pn**	**02 21 56.9**	**-0.6**
	baz=12,SNR=46						
BRWY	**Burwash Landin**	**5.51**	**197**	Pn	**Pn**	**02 21 58.8**	**+1.1**
E23K	**Chandalar**	**5.55**	**291**	P	**Pn**	**02 21 59.1**	**+0.9**
	baz=98						
E23K				S	**Sn**	**02 23 00.2**	**-1.1**
	baz=98						
PAX	**Paxson**	**5.57**	**233**	Pn	**Pn**	**02 21 59.2**	**+0.7**
PAX				Sg	Sb	02 23 29.6	+10
PAX	**Paxson**	**5.57**	**233**	P	**Pn**	**02 21 59.5**	**+0.9**
	baz=44						
YUK5	**Granite Creek**	**5.63**	**191**	Pn	**Pn**	**02 22 00.4**	**+1.0**
YUK5				Sn	**Sn**	**02 23 02.9**	**-0.5**
TOLK	**Toolik Lake Re**	**5.65**	**297**	P	**Pn**	**02 22 01.1**	**+1.5**
	baz=104						
TOLK				S	**Sn**	**02 23 03.9**	**+0.3**
	baz=104						
N32M	**Quiet Lake**	**5.65**	**167**	Pn	**Pn**	**02 22 01.1**	**+1.4**
H23K	**Yukon River**	**5.65**	**268**	P	**Pn**	**02 21 59.2**	**-0.4**
	baz=75						
YUK8	**Steele Glacier**	**5.68**	**200**	Pn	**Pn**	**02 22 01.6**	**+1.4**
YUK8	**Steele Glacier**	**5.68**	**200**	P	**Pn**	**02 22 01.1**	**+0.9**
	baz=16,SNR=6.7						
YUK8				S	**Sn**	**02 23 05.1**	**+0.2**
	baz=16						
G23K	**Bananza Creek**	**5.68**	**277**	P	**Pn**	**02 21 59.9**	**-0.2**
	baz=84						
G23K				S	**Sn**	**02 23 02.7**	**-1.9**
	baz=84						
COLD	**Coldfoot**	**5.72**	**282**	Pn	**Pn**	**02 22 01.1**	**+0.6**
COLD	**Coldfoot**	**5.72**	**282**	P	**Pn**	**02 22 01.7**	**+1.2**
	baz=89						
COLD				S	**Sn**	**02 23 04.2**	**-1.2**
	baz=89						
YUK6	**Outpost Mounta**	**5.86**	**193**	Pn	**Pn**	**02 22 04.0**	**+1.4**
YUK6	**Outpost Mounta**	**5.86**	**193**	P	**Pn**	**02 22 03.8**	**+1.2**
	baz=10,SNR=152						
HYT	**Haines Junctio**	**5.91**	**189**	Pn	**Pn**	**02 22 04.4**	**+1.2**
HYT	**Haines Junctio**	**5.91**	**189**	P	**Pn**	**02 22 04.0**	**+0.8**
	baz=6.7,SNR=22						
O30N	**Mendenhall**	**5.92**	**182**	Pn	**Pn**	**02 22 04.6**	**+1.3**
O30N	**Mendenhall**	**5.92**	**182**	P	**Pn**	**02 22 04.6**	**+1.3**
	baz=1.2,SNR=9.5						
WHY	**Whitehorse**	**6.04**	**176**	Pn	**Pn**	**02 22 05.8**	**+0.9**
WHY	**Whitehorse**	**6.04**	**176**	P	**Pn**	**02 22 05.7**	**+0.8**
	baz=357,SNR=12						
TGTN	**Hyland Airport**	**6.09**	**144**	Pn	**Pn**	**02 22 07.7**	**+2.0**
TGTN	**Hyland Airport**	**6.09**	**144**	P	**Pn**	**02 22 07.2**	**+1.5**
	baz=331						
DHY	**Denali Highway**	**6.13**	**240**	P	**Pn**	**02 22 07.0**	**+0.7**
	baz=49						
MCARA	**McCarthy VSAT**	**6.19**	**215**	Pn	**Pn**	**02 22 07.8**	**+0.8**
MCARA	**McCarthy VSAT**	**6.19**	**215**	P	**Pn**	**02 22 08.1**	**+1.1**
	baz=28						
CTGM	**Chitina Glacie**	**6.23**	**206**	Pn	**Pn**	**02 22 09.1**	**+1.4**
CTG	**Chitna Glacier**	**6.23**	**206**	P	**Pn**	**02 22 08.4**	**+0.7**
	baz=21,SNR=5.3						
O28M	**Mount Upton**	**6.23**	**201**	Pn	**Pn**	**02 22 09.9**	**+2.0**
O28M				Sn	**Sn**	**02 23 18.2**	**-0.3**
O28M	**Mount Upton**	**6.23**	**201**	P	**Pn**	**02 22 09.4**	**+1.5**
	baz=16,SNR=16						
WRGLY	**Wrigley**	**6.24**	**118**	P	**Pn**	**02 22 09.2**	**+1.6**
	baz=309,SNR=12						
PTPK	**Patty Peak**	**6.24**	**212**	Pn	**Pn**	**02 22 09.2**	**+1.3**
YUK7	**Dusty Glacier**	**6.25**	**191**	Pn	**Pn**	**02 22 09.4**	**+1.5**
G22K	**Bettles**	**6.25**	**280**	P	**Pn**	**02 22 08.6**	**+0.9**
	baz=85						
LOGN	**Logan Glacier**	**6.31**	**204**	Pn	**Pn**	**02 22 09.2**	**+0.4**
BALM	**Baldy**	**6.36**	**211**	Pn	**Pn**	**02 22 10.3**	**+1.0**
H22K	**Ishtalitna Cre**	**6.37**	**270**	P	**Pn**	**02 22 09.3**	**0.0**
	baz=76						
E22K	**Anaktuvuk Pass**	**6.38**	**291**	P	**Pn**	**02 22 10.7**	**+1.1**
	baz=96						
KIAG	**Kiagna River**	**6.46**	**210**	Pn	**Pn**	**02 22 12.2**	**+1.3**
F22K	**John River**	**6.48**	**285**	P	**Pn**	**02 22 12.1**	**+1.1**
	baz=90						
O29M	**Mount Kennedy**	**6.51**	**193**	Pn	**Pn**	**02 22 13.2**	**+1.7**
O29M	**Mount Kennedy**	**6.51**	**193**	P	**Pn**	**02 22 12.8**	**+1.4**
	baz=9.8,SNR=12						
GRNC	**Granite Creek**	**6.52**	**207**	Pn	**Pn**	**02 22 14.5**	**+2.8**
P30M	**Million Dollar**	**6.59**	**185**	Pn	**Pn**	**02 22 13.9**	**+1.4**
P30M	**Million Dollar**	**6.59**	**185**	P	**Pn**	**02 22 14.0**	**+1.6**
	baz=4.1,SNR=17						
P33M	**Teslin, Yukon**	**6.60**	**167**	Pn	**Pn**	**02 22 13.2**	**+0.5**
P33M	**Teslin, Yukon**	**6.60**	**167**	P	**Pn**	**02 22 13.1**	**+0.4**
	baz=350						
WAT1	**Susitna Watana**	**6.70**	**241**	P	**Pn**	**02 22 14.1**	**+0.1**
	baz=49						
BPAW	**Bear Paw Mtn.**	**6.87**	**255**	P	**Pn**	**02 22 15.4**	**-0.9**
	baz=61						
TRF	**Thorofare Moun**	**6.95**	**249**	P	**Pn**	**02 22 17.8**	**+0.2**
	baz=56						
SCM	**Sheep Creek Mo**	**7.00**	**232**	P	**Pn**	**02 22 18.5**	**+0.4**
	baz=41						
H21K	**Melozitna Rive**	**7.00**	**270**	P	**Pn**	**02 22 18.1**	**+0.1**
	baz=74						
F21K	**Alatna River**	**7.00**	**283**	P	**Pn**	**02 22 18.5**	**+0.5**
	baz=86						
G21K	**Allakaket**	**7.09**	**277**	P	**Pn**	**02 22 19.3**	**+0.1**
	baz=81						
P32M	**Atlin**	**7.15**	**172**	Pn	**Pn**	**02 22 21.7**	**+1.5**
PNL	**Peninsula**	**7.21**	**195**	Pn	**Pn**	**02 22 23.7**	**+2.7**
PLBC	**Pleasant Camp**	**7.24**	**183**	Pn	**Pn**	**02 22 23.9**	**+2.6**
Q32M	**Nakina River**	**7.89**	**167**	Pn	**Pn**	**02 22 33.7**	**+3.3**
KUKN	**Kugluktuk,NWT**	**8.07**	**72**	P	**Pn**	**02 22 31.9**	**-0.8**
KUKN				S	**Sn**	**02 23 56.9**	**-6.2**
DLBC	**Dease Lake**	**8.65**	**160**	Pn	**Pn**	**02 22 41.6**	**+0.8**
	2.4nm,0.3s,baz=174,slow=21,SNR=2.2						
DLBC				Sn	**Sn**	**02 24 15.9**	**-1.8**
	4.9nm,0.3s,baz=244,slow=20,SNR=3.1						
DLBC				Lg	Lg	02 25 09.2	
	3.9nm,0.3s,baz=74,slow=24,SNR=7.1						
	6.4nm,0.4s						
YKAW3	**Yellowknife Wh**	**9.92**	**105**	P	**Pn**	**02 22 56.0**	**-2.1**
YKA	**Yellowknife Ar**	**9.96**	**105**	Pn	**Pn**	**02 22 56.8**	**-1.8**
	0.5nm,0.3s,baz=311,slow=11,SNR=22						
YKA				Sn	Sn	02 24 39.0	-11
	1.3nm,0.3s,baz=274,slow=16,SNR=5.2						
YKA				Lg	Lg	02 25 47.5	
	0.6nm,0.3s,baz=299,slow=27,SNR=4.3						
	0.3nm,0.3s						
YKAW1	**Yellowknife Wh**	**10.02**	**105**	P	**Pn**	**02 22 57.0**	**-2.3**
FINES	**FINESS Array B**	**51.50**	**11**	P	**P**	**02 29 40.9**	**+0.7**
	0.4nm,0.5s,baz=356,slow=6.6,SNR=4.1						
	0.4nm,0.5s						
HFS	**Hagfors**	**51.51**	**19**	P	**P**	**02 29 40.9**	**+0.7**
	2.4nm,0.8s,baz=344,slow=5.0,SNR=7.1						
	2.4nm,0.8s						
AKASG	**Malin Array Be**	**62.41**	**11**	P	**P**	**02 30 58.0**	**+0.5**
	0.4nm,0.5s,baz=354,slow=7.2,SNR=2.4						
	0.4nm,0.5s						
ESDC	**Sonseca Array**	**67.76**	**38**	P	**P**	**02 31 34.1**	**+1.6**
	0.4nm,0.8s,baz=332,slow=6.9,SNR=5.4						
	0.4nm,0.8s						

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*IDC **01** 02:22:08.8±0.9, 30.°01S×14.°03W, h0km, mb3.9/7, mbtmp3.9/7, MS3.9/5, Error ellipse: s-maj=35.8km s-min=23.5km az=125.0*

ISC 01 02:22:10.2±0.9**, 30.°0S**±0.°2×**14.°0W**±0.°2**, h10**km**, n15, σ0.s56**/9**, mb4.0**/6**, MS3.8**/5**, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**20.96**	**358**	T	T	02 48 52.0	
	baz=178,slow=74,SNR=6.9						
H10S3	**ASCENSION HYDR**	**20.97**	**358**	T	T	02 48 52.6	
	baz=42,slow=74,SNR=5.3						
TSUM	**Tsumeb**	**30.60**	**77**	LR	LR	02 38 48.8	
	comp=Z,230nm,18.2s,baz=350,slow=33						
BOSA	**Boshof**	**34.17**	**98**	LR	LR	02 40 42.3	
	comp=Z,151nm,18.0s,baz=266,slow=33						
BDFB	**Brasilia**	**34.29**	**287**	P	**P**	**02 28 57.5**	**+0.5**
	6.5nm,0.7s,baz=124,slow=6.1,SNR=11						
BDFB				LR	LR	02 40 40.7	
	comp=Z,139nm,21.7s,baz=180,slow=32						
	6.5nm,0.7s						
LBTB	**Lobatse**	**35.37**	**92**	LR	LR	02 40 46.2	
	comp=Z,138nm,20.9s,baz=251,slow=32						
LSZ	**Lusaka**	**41.39**	**79**	LR	LR	02 45 14.8	
	comp=Z,426nm,19.3s,baz=238,slow=34						
TORD	**Torodi Ar. Bea**	**45.51**	**22**	P	**P**	**02 30 29.7**	**-0.3**
	1.4nm,0.9s,baz=207,slow=6.4,SNR=4.8						
	1.4nm,0.9s						
PLCA	**Paso Flores**	**46.60**	**241**	P	**P**	**02 30 38.0**	**-0.6**
	1.9nm,1.1s,baz=112,slow=8.4,SNR=3.3						
	1.9nm,1.1s						
QSPA	**South Pole Qui**	**60.22**	**180**	P	**P**	**02 32 18.4**	**+0.1**
	0.9nm,0.7s,baz=213,slow=2.1,SNR=5.3						
	0.9nm,0.7s						
KEST	**Kesra**	**69.00**	**20**	P	**P**	**02 33 15.2**	**-0.7**
	2.3nm,0.9s,baz=136,slow=3.8,SNR=4.7						
	2.3nm,0.9s						
ESDC	**Sonseca Array**	**69.97**	**8**	P	**P**	**02 33 22.0**	**+0.3**
	0.3nm,0.8s,baz=184,slow=6.8,SNR=2.3						
	0.3nm,0.8s						
BRTR	**Keskin Array B**	**82.32**	**35**	P	**P**	**02 34 32.8**	**+0.6**
	0.5nm,0.7s,baz=194,slow=7.0,SNR=3.8						
	0.5nm,0.7s						
SEY	**Seymchan**	**145.92**	**11**	PKPbc	**PKPbc**	**02 41 48.9**	**-0.3**
	1.6nm,0.8s,baz=57,slow=3.5,SNR=5.3						
KSRS	**Korea Array**	**147.67**	**67**	PKPbc	**PKPbc**	**02 41 55.5**	**+0.5**
	0.9nm,0.9s,baz=268,slow=3.6,SNR=4.1						

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*AEIC **01** 02:28:28.8±1.0, 53.°11N±0.°05×167.°06W±0.°04, h17km±5km, Error ellipse: s-maj=7.7km s-min=3.4km az=168.0*

NEIC 01 02:28:28.1±0.5**, 53.°11N**±0.°02×**167.°07W**±0.°06**, h35**km±2km**, ML3.2**/8**, ML2.4**(AEIC)**, Error ellipse: s-maj=6.0km s-min=3.1km az=105.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.59**	**301**		Pn	02 28 40.0	0.0
OKTU	**Okmok Mt. Tuli**	**0.65**	**296**		Pn	02 28 40.9	+0.1
MGOD	**Makushin Gods**	**0.70**	**10**		Pn	02 28 41.3	-0.3
MAPS	**Pakushin South**	**0.71**	**6**		Pn	02 28 41.5	-0.2
OKNC	**Okmok New Cone**	**0.72**	**299**		Pn	02 28 41.7	-0.2
OKNC					Sn	02 28 51.9	+0.2
OKCE	**Okmok Cone E**	**0.73**	**297**		Pn	02 28 42.1	+0.2
MREP	**Makushin Rep't**	**0.73**	**15**		Pn	02 28 42.0	-0.1
OKSP	**Okmok Steeple**	**0.75**	**282**		Pn	02 28 42.2	-0.1
MNAT	**Makushin Natee**	**0.81**	**16**		Pn	02 28 43.0	-0.1
UNV	**Unalaska Valle**	**0.81**	**24**		Pn	02 28 42.6	-0.4
UNV				IAML		02 28 55.2	
	comp=N,548nm,0.2s						
UNV	**Unalaska Valle**	**0.81**	**24**		Sn	02 28 54.3	+0.4
MSW	**Makushin Switc**	**0.83**	**12**		Pn	02 28 43.1	-0.2
MTBL	**Makushin Table**	**0.90**	**15**		Pn	02 28 44.8	+0.5
NIKH	**Nikolski High**	**1.08**	**264**		Pn	02 28 47.3	+0.5
NIKH					Sn	02 29 01.1	+0.5
NIKH	**Nikolski High**	**1.08**	**264**	IAML		02 29 02.8	
	comp=E,596nm,0.5s						
ZRO	**Akutan Zero**	**1.18**	**33**		Pn	02 28 48.6	+0.4
ZRO					Sn	02 29 03.6	+0.6
AKRB	**Akutan Reef Bi**	**1.19**	**30**		Sn	02 29 04.5	+1.3
AKBBA	**Akutan Broad B**	**1.20**	**34**		Pn	02 28 48.9	+0.5
LVA	**Lava Point**	**1.22**	**30**		Pn	02 28 49.5	+0.7
LVA				IAML		02 29 07.2	
	comp=E,772nm,0.5s						
AKLV	**Akutan Long Va**	**1.25**	**32**		Pn	02 28 49.1	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AKGG	**Akutan Green G**	**1.27**	**30**		Pn	02 28 49.9	+0.6
AKUT	**Akutan**	**1.29**	**36**	IAML		02 29 07.8	
	comp=E,398nm,0.2s						

*KRSC **01** 02:29:19.5±2.3,49°.80N×156°.92E,h17^{km}±38^{km},Ml4.4*
*MOS **01** 02:29:20.3±0.9,49°.69N×156°.45E,h59^{km},mb4.0/4,Error ellipse: s-maj=16.5km s-min=4.4km az=76.0*
*IDC **01** 02:29:24.9±2.9,50°.01N×155°.90E,h95^{km}±22^{km},mb3.2/7, mbtmp3.7/11,MS2.7/2,Error ellipse: s-maj=34.1km s-min=16.4km az=143.0*
ISC 01 02:29:22.6±1.4**,49°.8N**±0°.1×**156°.44E**±0°.08**,h62**^{km}±14^{km}**, n75,**σ1^{s}**45**/74**,mb3.7**/10**,8C-2D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.91**	**347**⇑	*i*PN	**Pn**	**02 29 37.5**	**-2.0**
SKR				*i* S	**Sn**	**02 29 49.8**	**-2.2**
SKR				pmax	pmax		
	comp=Z,1μm,0.4s						
SKR				smax	smax		
	comp=E,2μm,0.2s						
SKR				smax	smax		
	comp=N,2μm,0.2s						
SKR	**Severo-Kuril's**	**0.91**	**347**	*e*P	**Pn**	**02 29 37.4**	**-2.1**
SKR				*e*S	**Sn**	**02 29 50.2**	**-1.7**
PAU	**Pauzhetka**	**1.69**	**8**	PN	**Pn**	**02 29 48.6**	**-1.2**
PAU				S	**Sn**	**02 30 10.5**	**+0.2**
PAU	**Pauzhetka**	**1.69**	**8**	*e*P	**Pn**	**02 29 48.6**	**-1.2**
PAU				*e*S	**Sn**	**02 30 10.5**	**+0.2**
MIPR	**Malaya Ipel'ka**	**2.49**	**4**	PN	**Pn**	**02 30 00.1**	**-0.5**
MIPR				S	**Sn**	**02 30 30.3**	**+0.5**
MIPR	**Malaya Ipel'ka**	**2.49**	**4**	*e*P	**Pn**	**02 30 00.2**	**-0.5**
MIPR				*e*S	**Sn**	**02 30 30.4**	**+0.5**
ASAK	**Asacha**	**2.75**	**19**	PN	**Pn**	**02 30 04.5**	**+0.3**
ASAK	**Asacha**	**2.75**	**19**	*e*P	**Pn**	**02 30 04.5**	**+0.3**
MTVR	**Mutnovka**	**2.90**	**22**	PN	**Pn**	**02 30 06.3**	**-0.1**
MTVR				S	**Sn**	**02 30 41.3**	**+1.1**
MTVR	**Mutnovka**	**2.90**	**22**	*e*P	**Pn**	**02 30 06.3**	**-0.1**
MTVR				*e*S	**Sn**	**02 30 41.3**	**+1.1**
GRL	**Gorelyy**	**2.94**	**20**	PN	**Pn**	**02 30 07.2**	**+0.3**
GRL	**Gorelyy**	**2.94**	**20**	*e*P	**Pn**	**02 30 07.2**	**+0.3**
RUS	**Russkaya**	**2.94**	**26**	PN	**Pn**	**02 30 06.7**	**-0.1**
RUS				S	**Sn**	**02 30 40.4**	**-0.5**
RUS	**Russkaya**	**2.94**	**26**	*e*P	**Pn**	**02 30 06.8**	**-0.1**
RUS				*e*S	**Sn**	**02 30 40.5**	**-0.5**
APC	**Apacha**	**3.16**	**8**	PN	**Pn**	**02 30 11.6**	**+1.8**
APC	**Apacha**	**3.16**	**8**	*e*P	**Pn**	**02 30 11.6**	**+1.8**
KRMR	**Karymshinskiy**	**3.21**	**19**	PN	**Pn**	**02 30 11.2**	**+0.7**
KRMR	**Karymshinskiy**	**3.21**	**19**	*e*P	**Pn**	**02 30 11.2**	**+0.7**
PEA0B	**Petropavlovsk-**	**3.41**	**13***c*	*i*PN	**Pn**	**02 30 13.6**	**+0.4**
PETK	**Petropavlovsk-**	**3.41**	**13**	P	**Pn**	**02 30 13.5**	**+0.3**
	comp=N,13nm,0.4s,baz=181,slow=12,SNR=75						
PETK				S	**Sn**	**02 30 53.4**	**+1.1**
	comp=N,9.2nm,0.5s,baz=183,slow=13,SNR=4.1						
PETK				LR	LR	02 31 47.8	
	comp=N,92nm,19.8s,baz=233,slow=43						
PET	**Petropavlovsk**	**3.51**	**22**	*e*PN	**Pn**	**02 30 14.9**	**+0.3**
PET				*e*S	**Sn**	**02 30 56.2**	**+1.3**
PET				pmax	pmax		
	comp=Z,32nm,0.5s						
PET				smax	smax		
	comp=E,237nm,0.6s						
PET				smax	smax		
	comp=N,203nm,0.5s						
DALK	**Dalny**	**3.54**	**23**	PN	**Pn**	**02 30 15.0**	**0.0**
DALK	**Dalny**	**3.54**	**23**	*e*P	**Pn**	**02 30 15.0**	**0.0**
UGLR	**Uglovaya**	**3.73**	**23**	PN	**Pn**	**02 30 19.9**	**+2.3**
UGLR	**Uglovaya**	**3.73**	**23**	*e*P	**Pn**	**02 30 19.9**	**+2.3**
AVH	**Avacha**	**3.75**	**22**	PN	**Pn**	**02 30 20.1**	**+2.1**
AVH	**Avacha**	**3.75**	**22**	*e*P	**Pn**	**02 30 20.1**	**+2.1**
KOK	**Koryaka**	**3.76**	**21**	PN	**Pn**	**02 30 19.8**	**+1.8**
KOK	**Koryaka**	**3.76**	**21**	*e*P	**Pn**	**02 30 19.8**	**+1.8**
SMAR	**Somma**	**3.77**	**22**	PN	**Pn**	**02 30 20.1**	**+1.8**
SMAR	**Somma**	**3.77**	**22**	*e*P	**Pn**	**02 30 20.1**	**+1.8**
KRER	**Koryakskii**	**3.79**	**21**	PN	**Pn**	**02 30 19.6**	**+1.0**
KRER	**Koryakskii**	**3.79**	**21**	*e*P	**Pn**	**02 30 19.7**	**+1.0**
SDLR	**Sedlovina**	**3.80**	**23**	PN	**Pn**	**02 30 19.8**	**+1.1**
SDLR	**Sedlovina**	**3.80**	**23**	*e*P	**Pn**	**02 30 19.8**	**+1.1**
KRX	**Arik**	**3.82**	**20**	PN	**Pn**	**02 30 20.6**	**+1.7**
KRX	**Arik**	**3.82**	**20**	*e*P	**Pn**	**02 30 20.7**	**+1.7**
SPN	**Mys Shipunski**	**3.99**	**33**	PN	**Pn**	**02 30 21.0**	**-0.1**
SPN				S	**Sn**	**02 31 07.2**	**+0.6**
SPN	**Mys Shipunski**	**3.99**	**33**	*e*P	**Pn**	**02 30 21.0**	**-0.1**
SPN				*e*S	**Sn**	**02 31 07.2**	**+0.6**
GNL	**Ganaly**	**4.01**	**13**	PN	**Pn**	**02 30 22.8**	**+1.3**
GNL	**Ganaly**	**4.01**	**13**	*e*P	**Pn**	**02 30 22.9**	**+1.3**
KII	**Karymskiy**	**4.63**	**23**	PN	**Pn**	**02 30 32.7**	**+2.7**
KII	**Karymskiy**	**4.63**	**23**	*e*P	**Pn**	**02 30 32.7**	**+2.7**
MKZ	**Mys Kozlova**	**5.77**	**32**	PN	**Pn**	**02 30 44.2**	**-1.2**
MKZ	**Mys Kozlova**	**5.77**	**32**	*e*P	**Pn**	**02 30 44.3**	**-1.2**
KBG	**Krutoberegovo**	**7.49**	**28**	*e*PN	**Pn**	**02 31 11.0**	**+2.1**
KBG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
YSS	**Yuzhno-Sakhali**	**9.54**	**258**	*e*PN	**Pn**	**02 31 39.5**	**+2.4**
YSS				*e*S	**Sn**	**02 33 26.7**	**+4.0**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MA2	**Magadan**	**10.33**	**344**	P	**Pn**	**02 31 45.9**	**-1.9**
	comp=Z,9.4nm,0.6s,baz=187,slow=13,SNR=5.1						
MA2				LR	LR	02 35 57.8	
	comp=Z,49nm,20.5s,baz=92,slow=39						
MA2	**Magadan**	**10.33**	**344**⇑	*e*PN	**Pn**	**02 31 46.1**	**-1.6**
MA2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ASAJ	**Asahikawa**	**11.03**	**244**	P	**Pn**	**02 31 57.6**	**+0.1**
	comp=Z,13nm,0.8s,baz=72,slow=13,SNR=7.6						
ERM	**Erimo**	**12.08**	**235**⇑	*e*PN	**Pn**	**02 32 12.5**	**+0.8**
SEY	**Seymchan**	**13.35**	**352**	P	**Pn**	**02 32 27.1**	**-1.8**
	comp=Z,0.6nm,0.4s,baz=94,slow=23,SNR=2.0						
SEY	**Seymchan**	**13.35**	**352**⇑	*e*PN	**Pn**	**02 32 29.2**	**+0.3**
USA0B	**Ussuriysk Arra**	**17.56**	**261**⇓	*e*P	**Pn**	**02 33 22.7**	**-0.1**
PSTR	**Posyet**	**19.06**	**258**⇑	*e*P	**P**	**02 33 38.5**	**-1.2**
KSRS	**Korea Array**	**23.89**	**250**	P	**P**	**02 34 27.1**	**-3.2**
	comp=Z,0.5nm,0.6s,baz=45,slow=11,SNR=2.4						
	comp=Z,0.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**31.14**	**161**	T	T	03 08 38.6	
	baz=346,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**31.16**	**161**	T	T	03 08 36.3	
	baz=346,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**31.16**	**161**	T	T	03 08 40.6	
	baz=346,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**32.29**	**162**	T	T	03 10 03.8	
	baz=347,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**32.30**	**162**	T	T	03 10 01.3	
	baz=347,slow=76,SNR=448						
H11S2	**WAKE ISLAND Hy**	**32.30**	**162**	T	T	03 10 05.1	
	baz=347,slow=76,SNR=248						
ILAR	**Eielson Array**	**32.78**	**41**	P	**P**	**02 35 49.2**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=278,slow=6.7,SNR=6.3						
	comp=Z,0.3nm,0.7s						
MKAR	**Makanchi Array**	**47.55**	**296**	P	P	02 37 46.6	-4.9
	comp=Z,0.3nm,0.6s,baz=54,slow=7.3,SNR=3.6						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**47.55**	**296**	*e*P	P	02 37 48.7	-2.8
KURK	**Kurchatov**	**47.56**	**303**⇓	*e*P	P	02 37 47.8	-3.7
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURBB	**Kurchatov Arra**	**47.66**	**303**	P	P	02 37 48.1	-4.1
	comp=Z,1.1nm,0.6s,baz=67,slow=8.2,SNR=8.9						
	comp=Z,1.1nm,0.6s						
ARTI	**Arti**	**54.38**	**317**⇑	*e*P	P	02 38 38.7	-3.8
ARTI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AAK	**Ala-Archa**	**54.48**	**296**⇑	*e*P	**P**	**02 38 42.7**	**-1.0**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**62.20**	**336**	P	P	02 39 33.6	-3.4
	comp=Z,1.1nm,0.8s,baz=29,slow=6.2,SNR=2.0						
	comp=Z,1.1nm,0.8s						
TXAR	**Lajitas Array**	**74.10**	**63**	P	**P**	**02 40 52.1**	**0.0**
	comp=Z,0.2nm,0.5s,baz=323,slow=5.6,SNR=3.8						
	comp=Z,0.2nm,0.5s						
MMAI	**Mount Meron Ar**	**82.40**	**313**	P	P	02 41 34.6	-3.3
	comp=Z,0.2nm,0.3s,baz=46,slow=7.0,SNR=1.6						
	comp=Z,0.2nm,0.3s						
H03N2	**Juan Fernandez**	**136.52**	**89**	T	T	05 20 42.4	
	baz=312,slow=77,SNR=14						
H03N1	**Juan Fernandez**	**136.53**	**89**	T	T	05 20 44.0	
	baz=312,slow=77,SNR=19						
H03N3	**Juan Fernandez**	**136.54**	**89**	T	T	05 20 44.2	
	baz=312,slow=77,SNR=19						

*IDC **01** 02:34:48.8±0.4,49°.75S×114°.55W,h0^{km},mb4.3/15, mbtmp4.3/15,MS5.0/45,Error ellipse: s-maj=19.7km s-min=14.9km az=130.0*
*NEIC **01** 02:34:51.0±2.4,49°.9S±0°.1×114°.8W±0°.2,h10^{km}±1^{km}, mb5.1/110,Ms_20 5.2/874,Mwb5.4/15,Mww5.5/26,Error ellipse: s-maj=24.2km s-min=19.2km az=308.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.54; $M_{\theta\theta}$0.42; $M_{\phi\phi}$-0.96; $M_{r\theta}$-0.74; $M_{\theta\phi}$1.24; $M_{\phi r}$-0.44; Fault plane solution: $M_0$1.72000×10^{17} NP1: ϕ_s290.26000°,δ65.90000°,λ26.37000°. NP2: ϕ_s188.81000°,δ66.08000°,λ153.46000°. Principal axes: T 1.7549, Plg35.0000°, Azm149.0000°; N -0.0632, Plg55.0000°, Azm330.0000°; P -1.6917, Plg0.0000°, Azm240.0000°;*
*NEIC **01** 02:34:51,49°.85S×114°.77W,h10^{km}*
*BJI **01** 02:34:51.0,49°.90S×115°.10W,h10^{km},mB5.4/2,Ms5.4/18, Ms7 5.3/18*
*NEIC **01** 02:34:51,49°.85S×114°.77W,h12^{km}*
*NEIC **01** 02:34:51,50°.05S×114°.30W,h12^{km},Moment Tensor Solution. Duration: 3^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.19; $M_{\theta\theta}$1.06; $M_{\phi\phi}$-0.87; $M_{r\theta}$-0.28; $M_{\theta\phi}$1.85; $M_{\phi r}$0.35; Fault plane solution: $M_0$2.14000×10^{17} NP1: ϕ_s194.58000°,δ79.59000°,λ-171.59000°. NP2: ϕ_s103.05000°,δ81.73000°,λ-10.52000°. Principal axes: T 2.1823, Plg1.0000°, Azm149.0000°; N -0.0850, Plg77.0000°, Azm245.0000°; P -2.0973, Plg13.0000°, Azm59.0000°;*
*GCMT **01** 02:34:54.0±0.1,49°.99S±0°.01×114°.51W±0°.01,h12^{km}, MW5.5/144,Moment Tensor Solution. s141,c270; s144,c298; Duration: 1^{s}4 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.04±.02; $M_{\theta\theta}$0.93±.02; $M_{\phi\phi}$-0.88±.02; $M_{r\theta}$0.31±.05; $M_{\theta\phi}$2.05±.02; $M_{\phi r}$0.18±.05; Best double couple: $M_0$2.27000×10^{17} NP1:ϕ_s12.00000°,δ84.00000°, λ174.00000°. NP2:ϕ_s102.00000°,δ84.00000°,λ7.00000°. Principal axes: T 2.3180, Plg9.0000°, Azm327.0000°; N -0.0960, Plg81.0000°, Azm144.0000°; P -2.2230, Plg0.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 02:34:51.0±0.7**,49°.85S**±0°.06×**114°.80W**±0°.05**,h14**^{km}±3^{km}**, h15**^{km}**:pP-P,n706,**σ1^{s}**72**/245**,mb5.1**/66**,MS5.2**/457**, 25C-12D,Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**23.07**	**13**	LR	LR	02 46 33.3	
	comp=Z,2μm,18.2s,baz=188,slow=31						
MG05	**Puerto Natales**	**26.55**	**110**	IAMs_20	IAMs_20	02 47 54.2	
	comp=Z,7μm,20.0s						
GO09	**Cerro Castillo**	**26.74**	**110**	IAMs_20	IAMs_20	02 48 11.4	
	comp=Z,7μm,18.0s						
MG02	**Cerro Sombrero**	**28.27**	**114**	IAMs_20	IAMs_20	02 49 00.2	
	comp=Z,6μm,18.0s						
USHA	**Ushuaia**	**28.34**	**118**	LR	LR	02 49 45.4	
	comp=Z,5μm,18.1s,baz=262,slow=32						
COYC	**Coyhaique**	**28.77**	**98**		**P**	**02 40 51.6**	**+3.7**
COYC				IAmb	IAmb	02 40 57.4	
	comp=Z,43nm,1.4s						
MG01	**Puerto William**	**28.79**	**118**	IAMs_20	IAMs_20	02 48 41.2	
	comp=Z,8μm,22.0s						
LL05	**Los Muermos**	**29.79**	**90**	IAMs_20	IAMs_20	02 49 19.4	
	comp=Z,4μm,18.0s						
LL02	**Futaleuf**	**29.96**	**94**	IAMs_20	IAMs_20	02 49 52.0	
	comp=Z,5μm,20.0s						
PMSA	**Palmer Station**	**30.21**	**139**	IAMs_20	IAMs_20	02 49 15.3	
	comp=Z,8μm,22.0s						
PMSA	**Palmer Station**	**30.21**	**139**	*e*P	**P**	**02 40 58.4**	**-2.1**
	comp=Z,553nm,26.0s						
PMSA				*e*S	**S**	**02 45 56.6**	**-2.4**
	comp=Z,394nm,27.0s						
PMSA				*e*LR	LR	02 48 47.3	
	comp=Z,8μm,22.0s						
PMSA	**Palmer Station**	**30.21**	**139**	LR	LR	02 49 56.1	
	comp=Z,6μm,18.5s,baz=253,slow=30						
H03S2	**Juan Fernandez**	**30.79**	**72**	T	T	03 13 17.4	
	baz=226,slow=74,SNR=236						
H03S1	**Juan Fernandez**	**30.80**	**72**	T	T	03 13 18.7	
	baz=226,slow=74,SNR=202						
H03S3	**Juan Fernandez**	**30.81**	**72**	T	T	03 13 17.7	
	baz=226,slow=74,SNR=194						
RKT	**Rikitea**	**31.02**	**322**	*e*LR	LR	02 49 12.4	
	comp=Z,29μm,26.2s						
H03N3	**Juan Fernandez**	**31.05**	**72**	T	T	03 13 28.0	
	baz=229,slow=71,SNR=928						
H03N2	**Juan Fernandez**	**31.05**	**72**	T	T	03 13 29.8	
	baz=229,slow=71,SNR=957						
H03N1	**Juan Fernandez**	**31.06**	**72**	T	T	03 13 26.9	
	baz=229,slow=71,SNR=1101						
PLCA	**Paso Flores**	**32.02**	**91**	P	**P**	**02 41 15.5**	**-1.4**
	comp=Z,3.0nm,1.2s,baz=216,slow=8.7,SNR=5.1						
PLCA				LR	LR	02 50 54.6	
	comp=Z,2μm,19.6s,baz=233,slow=30						
	comp=Z,3.0nm,1.2s						
BI05	**Punta Hualpn**	**32.56**	**82**	IAMs_20	IAMs_20	02 50 02.0	
	comp=Z,5μm,21.0s						
ESPZ	**Base Esperanza**	**33.29**	**136**	IAMs_20	IAMs_20	02 50 48.9	
	comp=Z,5μm,22.0s						
ML02	**Panimavida**	**34.30**	**82**	P	**P**	**02 41 37.2**	**+0.6**
ML02				IAmb	IAmb	02 41 44.9	
	comp=Z,39nm,1.0s						
ML02				IAMs_20	IAMs_20	02 51 18.0	
	comp=Z,4μm,22.0s						
BO02	**Sierra Bellavi**	**35.31**	**82**	IAMs_20	IAMs_20	02 51 48.7	
	comp=Z,4μm,22.0s						
BO01	**Tunca**	**35.36**	**81**		**P**	**02 41 45.1**	**-0.8**
BO01				IAmb	IAmb	02 41 54.2	
	comp=Z,41nm,1.1s						
BO01				IAMs_20	IAMs_20	02 51 48.3	
	comp=Z,5μm,21.0s						
VA01	**Torpederas**	**35.89**	**79**	IAMs_20	IAMs_20	02 51 47.3	
	comp=Z,5μm,22.0s						
BO04	**La Punta**	**35.92**	**81**	IAMs_20	IAMs_20	02 52 05.1	
	comp=Z,5μm,22.0s						
MT02	**Curacav**	**36.06**	**79**	IAMs_20	IAMs_20	02 52 08.7	
	comp=Z,5μm,20.0s						
MT05	**Renca**	**36.23**	**80**		P	02 41 58.5	+5.2
LMEL	**Las Melosas**	**36.27**	**81**	IAMs_20	IAMs_20	02 52 17.3	
	comp=Z,5μm,22.0s						
MT13	**San Alfonso**	**36.29**	**81**	IAMs_20	IAMs_20	02 52 27.7	
	comp=Z,4μm,19.0s						
MT16	**CCHEN**	**36.34**	**80**	IAMs_20	IAMs_20	02 52 17.1	
	comp=Z,4μm,22.0s						
VA06	**Catapilco**	**36.41**	**78**	P	P	02 41 59.9	+5.0
PEL	**Peldehue**	**36.42**	**80**	IAMs_20	IAMs_20	02 52 18.4	
	comp=Z,5μm,22.0s						
MT08	**Bocatoma Ro**	**36.65**	**81**	IAMs_20	IAMs_20	02 53 15.1	
	comp=Z,4μm,19.0s						
CO06	**Fray Jorge**	**37.47**	**76**	IAMs_20	IAMs_20	02 52 30.1	
	comp=Z,4μm,22.0s						
TBI	**Tubuai**	**37.84**	**302**	*e*S	**S**	**02 47 59.8**	**+2.2**
	comp=Z,2μm,31.5s						
TBI				*e*SS	**SnSn**	**02 50 40.7**	**+2.3**
	comp=Z,2μm,20.2s						
TBI				*e*LR	LR	02 52 15.9	
	comp=Z,5μm,27.2s						
TBI				*e*LR	LR	02 52 19.4	
	comp=Z,19μm,27.8s						
CO03	**El Pedregal**	**37.95**	**77**	IAMs_20	IAMs_20	02 52 57.8	
	comp=Z,3μm,19.0s						
CO01	**Juntas del Tor**	**38.91**	**76**	IAMs_20	IAMs_20	02 53 45.3	
	comp=Z,3μm,18.0s						
CFA	**Coronel Fontan**	**38.99**	**80**	LR	LR	02 54 24.0	
	comp=Z,1μm,20.0s,baz=210,slow=30						
TRQA	**Tornquist**	**39.04**	**93**	P	**P**	**02 42 15.6**	**-1.5**
TRQA				IAmb	IAmb	02 42 25.8	
	comp=Z,62nm,1.4s						
SBA	**Scott Base**	**39.43**	**199**		**P**	**02 42 18.8**	**-1.0**
BELA	**Belgrano 2**	**39.80**	**161**		**P**	**02 42 24.2**	**+1.3**
BELA				IAmb	IAmb	02 42 33.1	
	comp=Z,27nm,0.8s						
QSPA	**South Pole Qui**	**40.36**	**180**	P	**P**	**02 42 31.1**	**+3.3**
QSPA	**South Pole Qui**	**40.36**	**180**	P	**P**	**02 42 30.6**	**+2.7**
	comp=Z,11nm,1.0s,baz=124,slow=5.3,SNR=23						
QSPA				LR	LR	02 57 43.8	
	comp=Z,2μm,18.9s,baz=100,slow=34						
	comp=Z,11nm,1.0s						
VNDA	**Vanda**	**40.51**	**199**	P	**P**	**02 42 31.4**	**+2.6**
	comp=Z,1.4nm,1.2s,baz=102,slow=9.9,SNR=7.2						
	comp=Z,1.4nm,1.2s						
PB14	**IPOC Station P**	**42.54**	**70**	IAMs_20	IAMs_20	02 55 09.6	
	comp=Z,3μm,22.0s						
PPT2	**Papeete2**	**42.60**	**307**	*e*S	**S**	**02 49 08.7**	**-0.3**
	comp=Z,759nm,25.2s						
PPT2				*e*SS	**SS**	**02 52 22.4**	**+3.4**
	comp=Z,6μm,27.2s						
PPT2				*e*LR	LR	02 54 30.7	
	comp=Z,6μm,24.8s						
PPT2				*e*LR	LR	02 54 31.6	
	comp=Z,5μm,27.0s						
PPT	**Papeete**	**42.62**	**307**	LR	LR	02 56 30.6	
	comp=Z,2μm,18.0s,baz=140,slow=30						
GO02	**Mina Guanaco**	**42.64**	**72**	IAMs_20	IAMs_20	02 55 16.3	
	comp=Z,3μm,22.0s						
PB10	**IPOC Station P**	**43.28**	**69**	IAMs_20	IAMs_20	02 55 32.1	
	comp=Z,3μm,21.0s						
PB05	**IPOC Station P**	**43.98**	**69**	IAMs_20	IAMs_20	02 55 52.9	
	comp=Z,4μm,22.0s						
PB06	**IPOC Station P**	**44.48**	**69**	IAMs_20	IAMs_20	02 56 26.9	
	comp=Z,2μm,19.0s						
PB03	**IPOC Station P**	**44.86**	**69**	IAMs_20	IAMs_20	02 56 37.2	
	comp=Z,3μm,20.0s						
AF01	**San Pedro de A**	**45.14**	**71**	IAMs_20	IAMs_20	02 56 46.5	
	comp=Z,3μm,21.0s						
PB02	**IPOC Station P**	**45.33**	**68**	IAMs_20	IAMs_20	02 57 01.6	
	comp=Z,3μm,19.0s						
PB09	**IPOC Station P**	**45.36**	**69**	IAMs_20	IAMs_20	02 57 03.4	
	comp=Z,3μm,20.0s						
RAR	**Rarotonga**	**45.45**	**292**	*e*S	**S**	**02 49 49.3**	**-1.1**
	comp=Z,326nm,25.0s						
RAR				*e*SS	**SS**	**02 53 13.2**	**-0.6**
	comp=Z,696μm,31.0s						
RAR				*e*LR	LR	02 55 51.9	
	comp=Z,1μm,26.0s						
RAR	**Rarotonga**	**45.45**	**292**	LR	LR	02 57 52.6	
	comp=Z,458nm,18.0s,baz=142,slow=30						
PATCX	**Punta Patache**	**45.56**	**67**	IAMs_20	IAMs_20	02 56 37.6	
	comp=Z,4μm,22.0s						
TA01	**Diego Aracena**	**45.74**	**67**	IAMs_20	IAMs_20	02 56 53.4	
	comp=Z,4μm,20.0s						
PB01	**IPOC Station P**	**45.79**	**68**	IAMs_20	IAMs_20	02 57 15.6	
	comp=Z,3μm,20.0s						
TAOE	**Nuku Hiva Isla**	**46.00**	**324**	*e*S	**S**	**02 49 59.2**	**+0.8**
	comp=Z,833nm,24.0s						
TAOE				*e*SS	**SS**	**02 53 20.7**	**-2.8**
	comp=Z,332nm,26.1s						
TAOE				*e*LR	LR	02 56 04.0	
	comp=Z,8μm,26.4s						
PSAL	**Palomas, Salto**	**46.17**	**88**	*e*P	**P**	**02 43 14.7**	**-0.3**
PB11	**IPOC Station P**	**46.67**	**67**	IAMs_20	IAMs_20	02 57 10.1	
	comp=Z,4μm,22.0s						
PB08	**IPOC Station P**	**46.68**	**67**	IAMs_20	IAMs_20	02 57 34.2	
	comp=Z,3μm,20.0s						
GO01	**Chusmiza**	**47.02**	**67**	IAMs_20	IAMs_20	02 57 52.2	
	comp=Z,4μm,21.0s						
PB12	**IPOC Station P**	**47.16**	**65**	IAMs_20	IAMs_20	02 57 24.2	
	comp=Z,4μm,22.0s						
AP01	**Chacalluta**	**47.35**	**65**	IAMs_20	IAMs_20	02 57 39.0	
	comp=Z,3μm,19.0s						
PB16	**IPOC Station P**	**47.86**	**66**	IAMs_20	IAMs_20	02 57 59.8	
	comp=Z,3μm,20.0s						
VNA3	**Neumayer Olymp**	**48.20**	**155**	⇓P	**P**	**02 43 29.6**	**-0.7**
	comp=Z,7.5nm,0.8s						
PLTB	**Pedras Altas**	**48.32**	**92**		**P**	**02 43 29.9**	**-1.9**
PLTB	**Pedras Altas**	**48.32**	**92**	*e*P	**P**	**02 43 31.2**	**-0.6**
SNZO	**South Karori**	**48.39**	**252**	*e*P	**P**	**02 43 35.9**	**+3.8**
	comp=Z,6.1nm,27.0s						
SNZO				*e*S	**S**	**02 50 30.5**	**-1.4**
	comp=Z,46nm,25.0s						
SNZO				*e*SS	**SS**	**02 54 02.5**	**+1.3**
	comp=Z,24nm,23.0s						
SNZO				*e*LR	LR	02 57 10.6	
	comp=Z,351nm,25.0s						
PB18	**Visviri**	**48.46**	**65**	IAMs_20	IAMs_20	02 58 17.6	
	comp=Z,3μm,19.0s						
RTZ	**Ruatahuna**	**48.56**	**256**	IAMs_20	IAMs_20	02 59 24.6	
	comp=Z,3μm,20.0s						
URZ	**Urewera**	**48.69**	**257**	LR	LR	02 59 48.7	
	comp=Z,3μm,19.2s,baz=132,slow=31						
VNA1	**Neumayer--Stat**	**48.91**	**155**	⇓P	**P**	**02 43 35.1**	**-0.7**
	comp=Z,22nm,1.2s						
NNA	**Nana**	**48.95**	**53**	IAMs_20	IAMs_20	02 58 53.8	
	comp=Z,3μm,19.0s						
NNA	**Nana**	**48.95**	**53**	LR	LR	02 58 45.9	
	comp=Z,4μm,21.2s,baz=210,slow=30						
RPZ	**Rata Peaks**	**49.22**	**247**	LR	LR	03 00 11.7	
	comp=Z,2μm,20.3s,baz=136,slow=31						
NNZ	**Nelson**	**49.26**	**251**	IAMs_20	IAMs_20	02 58 33.4	
	comp=Z,3μm,22.0s						
CPSB	**Cacapava Do Su**	**49.31**	**91**	*e*P	**P**	**02 43 37.4**	**-2.0**
CPUP	**Villa Florida**	**49.56**	**84**	P	**P**	**02 43 39.4**	**-1.9**
	comp=Z,1.9nm,1.0s,baz=89,slow=7.9,SNR=5.7						
CPUP				LR	LR	03 01 01.2	
	comp=Z,860nm,21.2s,baz=90,slow=32						
	comp=Z,1.9nm,1.0s						
SNAA	**Sanae**	**49.73**	**157**	⇓P	**P**	**02 43 42.4**	**+0.2**
	comp=Z,76nm,1.0s						
SNAA	**Sanae**	**49.73**	**157**		**P**	**02 43 40.5**	**-1.6**
SNAA				IAmb	IAmb	02 43 50.9	
	comp=Z,30nm,1.5s						
SNAA				IAMs_20	IAMs_20	03 01 46.5	
	comp=Z,2μm,21.0s						
SNAA	**Sanae**	**49.73**	**157**	P	**P**	**02 43 41.8**	**-0.3**
	comp=Z,5.3nm,1.2s,baz=228,slow=4.9,SNR=8.5						
SNAA				LR	LR	03 01 57.5	
	comp=Z,3μm,21.6s,baz=272,slow=33						
	comp=Z,5.3nm,1.2s						
HIZ	**Hauiti**	**49.95**	**255**	IAMs_20	IAMs_20	03 01 34.4	
	comp=Z,3μm,18.0s						
MLZ	**Mavora Lakes**	**50.01**	**244**	IAMs_20	IAMs_20	02 59 44.7	
	comp=Z,3μm,18.0s						
TOZ	**Tahuroa Road**	**50.02**	**256**	IAMs_20	IAMs_20	03 00 21.3	
	comp=Z,3μm,19.0s						
LPAZ	**La Paz**	**50.28**	**65**	P	**P**	**02 43 46.4**	**-1.2**
	comp=Z,5.5nm,0.8s,baz=178,slow=5.6,SNR=16						
LPAZ				LR	LR	02 59 57.3	
	comp=Z,2μm,19.1s,baz=228,slow=30						
	comp=Z,5.5nm,0.8s						
TROLL	**Troll, Antarti**	**50.80**	**159**	⇓P	**P**	**02 43 50.3**	**+0.1**
	comp=Z,477nm,1.1s						
RAO	**Raoul Island**	**51.22**	**269**	LR	LR	02 59 47.5	
	comp=Z,864nm,21.8s,baz=129,slow=29						
SJPY	**San Joaquin**	**51.28**	**84**	*e*P	**P**	**02 43 53.9**	**-0.5**
ATAH	**Atahualpa**	**52.33**	**48**	LR	LR	03 00 52.0	
	comp=Z,3μm,19.8s,baz=218,slow=30						
MURT	**Porto Murtinho**	**52.70**	**79**	*e*P	**P**	**02 44 05.0**	**+0.1**
OUZ	**Omahuta**	**52.78**	**257**	IAMs_20	IAMs_20	03 01 45.5	
	comp=Z,3μm,19.0s						
NIUE	**Niue**	**53.30**	**285**	*e*S	**S**	**02 51 40.6**	**+0.2**
	comp=Z,209nm,29.6s						
NIUE				*e*SS	**SS**	**02 55 12.0**	**-8.1**
	comp=Z,126nm,32.2s						
NIUE				*e*LQ	LQ	02 57 05.1	
	comp=Z,391nm,26.8s						
NIUE				*e*LR	LR	02 59 20.6	
	comp=Z,316nm,25.9s						
AMBA	**Amambai (Brazi**	**53.46**	**83**	*e*P	**P**	**02 44 10.4**	**-0.1**
PTGB	**Pitanga**	**54.08**	**87**	*e*P	**P**	**02 44 15.4**	**+0.2**
BDQN	**Bodoquena, MS**	**54.13**	**79**	*e*P	**P**	**02 44 14.8**	**-0.7**
CZSB	**Cruzeiro do Su**	**54.70**	**54**	P	**P**	**02 44 20.9**	**+1.3**
CZSB	**Cruzeiro do Su**	**54.70**	**54**	*e*P	**P**	**02 44 19.4**	**-0.3**
SIV	**San Ignacio**	**54.76**	**72**	LR	LR	03 03 49.5	
	comp=Z,2μm,20.7s,baz=271,slow=32						
AQDB	**Aquidauana**	**54.78**	**80**	*e*P	**P**	**02 44 19.6**	**-0.6**
TRCB	**Terra Rica**	**55.07**	**84**	*e*P	**P**	**02 44 21.9**	**-0.5**
RPRD	**Ribas do Rio P**	**56.05**	**82**	*e*P	**P**	**02 44 29.0**	**-0.4**
PTLB	**Pontes e Lacer**	**56.37**	**73**		**P**	**02 44 32.6**	**+1.0**
PTLB	**Pontes e Lacer**	**56.37**	**73**	*e*P	**P**	**02 44 31.3**	**-0.3**
PCMB	**Pacaembu**	**56.81**	**85**	*e*P	**P**	**02 44 34.3**	**-0.4**
VILB	**Vilhena**	**57.63**	**70**	*e*P	**P**	**02 44 40.3**	**-0.4**
SALV	**Santo Antonio**	**58.17**	**76**	*e*P	**P**	**02 44 43.9**	**-0.5**
OTAV	**Otavalo**	**58.78**	**44**	P	**P**	**02 44 49.5**	**+0.3**
CASY	**Casey**	**59.14**	**200**	P	**P**	**02 44 51.8**	**+1.3**
CASY	**Casey**	**59.14**	**200**	*e*S	**S**	**02 52 52.2**	**-4.6**
	comp=Z,106nm,27.0s						
CASY				*e*SS	**SS**	**02 56 50.0**	**-0.1**
	comp=Z,173nm,27.0s						
CASY				*e*LQ	LQ	02 59 36.4	
	comp=Z,484nm,27.0s						
CASY				*e*LR	LR	03 02 09.8	
	comp=Z,564nm,22.0s						
SYO	**Syowa Base**	**59.96**	**170**⇓	*e*P	**P**	**02 44 52.6**	**-3.4**
NFK	**Norfolk Island**	**60.45**	**259**	*e*LR	LR	03 02 46.7	
PDRB	**Porto dos Gac**	**60.80**	**72**	*e*P	**P**	**02 45 01.7**	**-0.8**
IPMB	**Ipameri, GO**	**61.40**	**84**	*e*P	**P**	**02 45 06.1**	**-0.5**
CLDB	**Colider**	**61.95**	**73**	*e*P	**P**	**02 45 09.0**	**-1.3**
TEFE	**Tefe**	**62.60**	**60**	*e*P	**P**	**02 45 13.7**	**-0.9**
MAW	**Mawson**	**62.86**	**179**	P	**P**	**02 45 14.8**	**-0.9**
	comp=Z,7.2nm,1.1s,baz=189,slow=7.7,SNR=8.5						
MAW				LR	LR	03 11 40.2	

comp=Z,3µm,18.0s,baz=178,slow=35
comp=Z,7.2nm,1.1s
BDFB Brasilia 63.25 83 P **P** **02 45 16.5 -2.7**
comp=Z,1.8nm,0.8s,baz=144,slow=3.7,SNR=4.9
BDFB LR LR 03 09 58.5
comp=Z,2µm,20.3s,baz=214,slow=33
comp=Z,1.8nm,0.8s
XMAS Kiritimati 63.33 311 IAMs_20 IAMs_20 03 05 30.5
comp=Z,2µm,20.0s
XMAS Kiritimati 63.33 311 *e*S **S** **02 53 49.6 -1.7**
XMAS comp=Z,60nm,26.0s *e*SS **SS** **02 57 52.3 -5.8**
comp=Z,14nm,28.0s
XMAS *e*LQ LQ 03 01 28.1
comp=Z,17nm,28.0s
XMAS *e*LR LR 03 04 02.5
comp=Z,144nm,25.0s
DIAM Diamantina, MG 64.10 88 *e*P **P** **02 45 24.4 -0.4**
ROSC El Rosal 64.74 46 P **P** **02 45 26.2 -2.9**
comp=Z,4.6nm,0.3s,baz=120,slow=6.1,SNR=3.9
ROSC LR LR 03 09 56.5
comp=Z,2µm,18.2s,baz=232,slow=33
comp=Z,4.6nm,0.3s
NPGB Novo Progresso 65.19 70 *e*P **P** **02 45 30.2 -1.6**
JTS Las Juntas de 65.34 33 LR LR 03 07 27.1
comp=Z,1µm,19.1s,baz=190,slow=30
JANB Januaria 66.07 85 *e*P **P** **02 45 36.9 -0.6**
BCIP Isla Barro Col 66.22 38 IAMs_20 IAMs_20 03 06 57.8
comp=Z,2µm,22.0s
DZM Mont Dzumac 66.31 263 *e*S **S** **02 54 27.2 -1.0**
DZM comp=Z,590nm,24.6s *e*SS **SS** **02 58 40.8 -3.3**
comp=Z,311nm,26.1s
DZM *e*LQ LQ 03 02 41.1
comp=Z,3µm,30.6s
DZM *e*LR LR 03 05 28.5
comp=Z,3µm,23.3s
ITTB Itaituba 67.08 68 *e*P **P** **02 45 42.2 -1.7**
SDBA SAO DESIDERIO 67.66 83 *e*P **P** **02 45 47.3 -0.3**
CMIG Matias Romero 68.93 20 LR LR 03 07 46.4
comp=Z,332nm,19.8s,baz=186,slow=29
BOAV Boa Vista 69.76 60 P **P** **02 46 00.2 -0.4**
BOAV Boa Vista 69.76 60 *e*P **P** **02 46 00.3 -0.3**
SDV Santo Domingo 70.01 47 IAMs_20 IAMs_20 03 12 21.9
comp=Z,1µm,20.0s
SDV Santo Domingo 70.01 47 LR LR 03 12 53.2
comp=Z,1µm,19.7s,baz=208,slow=33
MOIG Morelia 70.26 14 IAMs_20 IAMs_20 03 10 17.4
comp=Z,2µm,20.0s
ZAIG Zacatecas 73.10 12 IAMs_20 IAMs_20 03 12 02.7
comp=Z,1µm,20.0s
SLBS Sierra La Lagu 73.33 5 IAMs_20 IAMs_20 03 11 11.6
comp=Z,2µm,20.0s
LPIG La Paz 73.72 4 LR LR 03 11 43.9
comp=Z,1µm,20.1s,baz=188,slow=30
PCRV Puerto La Cruz 74.07 52 LR LR 03 15 01.5
comp=Z,3µm,20.6s,slow=33
STKA Stephens Creek 74.28 239 P **P** **02 46 27.8 +0.3**
comp=Z,2.1nm,0.8s,baz=132,slow=6.0,SNR=4.2
STKA LR LR 03 13 52.4
comp=Z,1µm,19.3s,baz=140,slow=32
comp=Z,2.1nm,0.8s
MTDJ Mount Denham 75.36 36 IAMs_20 IAMs_20 03 12 03.1
comp=Z,1µm,21.0s
MDP Montagnes des 76.48 65 LR LR 03 16 45.3
comp=Z,814nm,19.9s,baz=208,slow=33
SRIG Santa Rosalia 76.85 2 IAMs_20 IAMs_20 03 13 24.0
comp=Z,1µm,21.0s
HPIG 76.87 8 P **P** **02 46 43.1 +0.6**
HPIG IAmb IAmb 02 46 52.1
comp=Z,22nm,1.5s
HATHI Halema'uma'u T 77.71 321 IAMs_20 IAMs_20 03 12 39.8
comp=Z,2µm,20.0s
POHA Pohakuloa 78.12 321 *e*P P 02 46 37.8 -12
comp=Z,2.4nm,22.2s
POHA Pohakuloa 78.12 321 *e*PP **PP** **02 49 41.4 -5.1**
POHA comp=Z,3.5nm,25.3s *e*S **S** **02 56 46.3 +2.8**
comp=Z,19nm,28.3s
POHA Pohakuloa 78.12 321 *e*LR LR 03 10 56.8
comp=Z,97nm,23.0s
HSIG 78.59 3 IAMs_20 IAMs_20 03 13 56.9
comp=Z,1µm,21.0s
SDDR Presa de Saban 78.59 42 IAMs_20 IAMs_20 03 19 43.5
comp=Z,831nm,18.0s
BBGH Gun Hill 79.20 55 IAMs_20 IAMs_20 03 17 46.5
comp=Z,2µm,22.0s
TXAR Lajitas Array 79.45 10 P **P** **02 46 55.4 -1.2**
TXAR Lajitas Array 79.45 10 P **P** **02 46 56.8 +0.3**
comp=Z,2.5nm,1.0s,baz=187,slow=5.0,SNR=16
TXAR LR LR 03 15 36.1
comp=Z,334nm,19.4s,baz=182,slow=31
comp=Z,2.5nm,1.0s
SJG San Juan 80.14 46 LR LR 03 18 39.1
comp=Z,577nm,20.8s,baz=194,slow=33
HNDO Hondo 80.22 14 P **P** **02 47 01.5 +0.9**
SFX San Felipe 80.53 360 IAMs_20 IAMs_20 03 14 50.2
comp=Z,1µm,19.0s
GDHS Morne Mazeau, 80.70 51 IAMs_20 IAMs_20 03 18 38.6
comp=Z,2µm,20.0s
VTX Valle De La Tr 80.88 359 IAMs_20 IAMs_20 03 14 55.6
comp=Z,960nm,19.0s
ABD La Joyeuse, An 81.01 51 IAMs_20 IAMs_20 03 18 27.5
comp=Z,2µm,21.0s
319A Douglas 81.01 5 IAMs_20 IAMs_20 03 15 28.1
comp=Z,1µm,20.0s
JCT Junction City 81.08 13 IAmb IAmb 02 47 27.9
comp=Z,44nm,1.6s
HKT Hockley 81.21 17 P **P** **02 47 06.5 +0.7**
HKT IAmb IAmb 02 47 29.1
comp=Z,45nm,1.7s
CCX Cicese 81.37 358 IAMs_20 IAMs_20 03 14 39.5
comp=Z,903nm,21.0s
ESJX Sierra Juarez 81.50 359 IAMs_20 IAMs_20 03 15 13.9
comp=Z,957nm,19.0s
MNHN Monahans 81.53 10 IAmb IAmb 02 47 30.6
comp=Z,26nm,1.5s
SMRT St. Maarten 81.56 49 IAMs_20 IAMs_20 03 20 49.1
comp=Z,1µm,19.0s
EPT El Paso 81.59 7 IAMs_20 IAMs_20 03 15 48.5
comp=Z,936nm,20.0s
CBX Cerro Bola 81.81 358 IAMs_20 IAMs_20 03 15 34.3
comp=Z,1µm,21.0s
ANWB Willy Bob 81.87 50 IAMs_20 IAMs_20 03 19 22.3
comp=Z,1µm,20.0s
CPBX Cerro Prieto 81.90 360 IAMs_20 IAMs_20 03 15 29.7
comp=Z,1µm,19.0s
JOHN Johnston Islan 81.95 308 *e*S **S** **02 57 25.6 +2.2**
JOHN comp=Z,306nm,27.5s *e*SS SS 03 02 30.2 -13
comp=Z,123nm,25.2s
JOHN *e*LQ LQ 03 09 15.1
comp=Z,195nm,27.0s
JOHN *e*LR LR 03 12 49.1
comp=Z,2µm,29.5s
YUH Yuha Desert 82.14 359 IAMs_20 IAMs_20 03 15 33.8
comp=Z,983nm,19.0s
BAR Barrett 82.18 358 IAMs_20 IAMs_20 03 15 02.0
comp=Z,1µm,21.0s
121A Cookes Peak, D 82.25 6 IAMs_20 IAMs_20 03 16 44.0
comp=Z,861nm,20.0s
113A Mohawk Valley, 82.26 1 IAMs_20 IAMs_20 03 15 59.0
comp=Z,1µm,19.0s
CPE Camp Elliot 82.40 358 IAMs_20 IAMs_20 03 14 37.7
comp=Z,1µm,21.0s
DPP Dos Picos Cty 82.50 358 IAMs_20 IAMs_20 03 14 41.5
comp=Z,1µm,21.0s
GLA Glamis 82.53 360 IAMs_20 IAMs_20 03 16 01.3
comp=Z,1µm,18.0s
BORC Borrego Spring 82.76 359 IAMs_20 IAMs_20 03 15 20.4
comp=Z,994nm,21.0s
PFO Pinyon Flats O 83.11 359 IAMs_20 IAMs_20 03 15 41.4
comp=Z,881nm,20.0s
PFO Pinyon Flats O 83.11 359 LR LR 03 16 46.5
comp=Z,778nm,18.7s,baz=184,slow=30
BC3 Big Chuckawall 83.14 359 P **P** **02 47 16.9 +0.9**
BC3 IAmb IAmb 02 47 26.4
comp=Z,28nm,1.7s
BC3 IAMs_20 IAMs_20 03 16 17.3
comp=Z,1µm,19.0s
PMD Palm Desert 83.14 359 IAMs_20 IAMs_20 03 16 27.4
comp=Z,831nm,18.0s
ELS Elsinore Mount 83.16 358 IAMs_20 IAMs_20 03 15 29.0
comp=Z,1µm,22.0s
ABTX Abilene, Hawle 83.20 13 IAmb IAmb 02 47 39.2
comp=Z,19nm,1.3s
Y14A Wickenburg 83.43 2 IAmb IAmb 02 47 40.2
comp=Z,24nm,1.8s
Y14A IAMs_20 IAMs_20 03 16 39.2
comp=Z,1µm,21.0s
BELC Belle Mtn. Jos 83.49 359 P **P** **02 47 19.8 +1.9**
BELC IAmb IAmb 02 47 28.4
comp=Z,26nm,1.5s
BELC IAMs_20 IAMs_20 03 16 16.6
comp=Z,930nm,19.0s
IRM Iron Mountain 83.64 360 IAmb IAmb 02 47 42.4
comp=Z,24nm,1.6s
IRM IAMs_20 IAMs_20 03 16 34.5
comp=Z,1µm,19.0s
PASC Pasadena Art C 83.70 357 IAMs_20 IAMs_20 03 15 42.3
comp=Z,1µm,20.0s
Y22A Socorro 83.71 7 IAmb IAmb 02 47 39.7
comp=Z,15nm,1.6s
Y22A IAMs_20 IAMs_20 03 18 02.5
comp=Z,803nm,19.0s
MWC Mount Wilson 83.75 357 IAMs_20 IAMs_20 03 15 54.6
comp=Z,1µm,20.0s
BFSC Mount Baldy Ra 83.76 358 IAMs_20 IAMs_20 03 15 15.7
comp=Z,1µm,22.0s
Y22D IRIS PASSCAL I 83.84 7 IAMs_20 IAMs_20 03 18 16.1
comp=Z,752nm,18.0s
X16A Lo Mia Camp, P 83.95 3 IAmb IAmb 02 47 30.3
comp=Z,15nm,1.6s
DANC Danby, Needles 84.12 360 IAMs_20 IAMs_20 03 16 48.3
comp=Z,904nm,20.0s
X18A Snowflake 84.12 4 IAmb IAmb 02 47 44.6
comp=Z,18nm,1.3s
X18A IAMs_20 IAMs_20 03 16 48.3
comp=Z,1µm,22.0s
NEE2 Needles Airpor 84.25 0 IAMs_20 IAMs_20 03 16 54.7
comp=Z,964nm,20.0s
W13A Hualapai Mount 84.58 1 IAmb IAmb 02 47 33.6
comp=Z,20nm,1.6s
W13A IAMs_20 IAMs_20 03 18 02.5
comp=Z,1µm,18.0s
Z38A Mt. Pleasant 84.59 17 IAMs_20 IAMs_20 03 20 23.8
comp=Z,971nm,20.0s
W18A Petrified Fore 84.71 4 IAMs_20 IAMs_20 03 18 41.1
comp=Z,779nm,18.0s
ANMO Albuquerque 84.75 7 P **P** **02 47 24.4 +0.1**
ANMO IAmb IAmb 02 47 47.4
comp=Z,14nm,1.4s
ANMO Albuquerque 84.75 7 LR LR 03 18 41.3
comp=Z,184nm,18.9s,baz=272,slow=31
GSC Goldstone, Bar 84.80 358 IAMs_20 IAMs_20 03 16 33.2
comp=Z,1µm,20.0s
ASAR Alice Springs 84.91 239 P **P** **02 47 23.5 -2.0**
ASAR Alice Springs 84.91 239 P **P** **02 47 24.8 -0.8**
comp=Z,3.6nm,0.8s,baz=147,slow=4.6,SNR=18
ASAR LR LR 03 20 38.6
comp=Z,1µm,18.8s,baz=148,slow=32
comp=Z,3.6nm,0.8s
MTPC Mountain Pass 84.96 359 IAmb IAmb 02 47 35.9
comp=Z,19nm,1.4s
MTPC IAMs_20 IAMs_20 03 17 13.6
comp=Z,993nm,19.0s
LRMC Laurel Mtn Rad 84.99 358 IAMs_20 IAMs_20 03 16 24.4
comp=Z,1µm,21.0s
CCCA Chr Cany lake 85.03 358 IAMs_20 IAMs_20 03 16 27.4
comp=Z,1µm,21.0s
WUAZ Wupatki 85.05 3 P **P** **02 47 26.7 +0.9**
WUAZ IAmb IAmb 02 47 35.7
comp=Z,32nm,1.6s
H01W1 Cape Leeuwin H 85.15 218 T T 04 22 43.0
baz=150,slow=76,SNR=316
H01W2 Cape Leeuwin H 85.15 218 T T 04 22 43.3
baz=150,slow=76,SNR=474
H01W3 Cape Leeuwin H 85.16 218 T T 04 22 44.3
baz=150,slow=76,SNR=472
VES Vestal, Richgr 85.40 357 IAMs_20 IAMs_20 03 16 43.2
comp=Z,1µm,20.0s
NWAO Nanjin SRO 85.56 222 LR LR 03 16 20.1
comp=Z,1µm,21.9s,baz=127,slow=29
MPMC Manual Prospec 85.57 358 IAMs_20 IAMs_20 03 16 55.6
comp=Z,1µm,21.0s
GWY Greenwater Val 85.68 358 **P** **02 47 30.9 +2.0**
GWY IAmb IAmb 02 47 51.5
comp=Z,27nm,1.6s
PMPB Monarch Peak 85.86 355 IAMs_20 IAMs_20 03 16 35.2
comp=Z,1µm,21.0s
U15A North Rim 85.93 2 IAmb IAmb 02 47 40.3
comp=Z,34nm,1.7s
U15A IAMs_20 IAMs_20 03 18 38.3
comp=Z,881nm,19.0s
FURC Furnace Creek, 85.96 358 IAmb IAmb 02 47 40.5
comp=Z,29nm,1.6s
FURC IAMs_20 IAMs_20 03 17 09.0
comp=Z,1µm,21.0s
SHPR Sheep Range 85.98 360 P **P** **02 47 31.1 +0.7**
WCT Wildcat Mounta 86.28 359 IAmb IAmb 02 47 55.1
comp=Z,77nm,1.3s
TPNV Topopah Spring 86.43 359 IAMs_20 IAMs_20 03 17 27.6
comp=Z,980nm,21.0s
RTBA Rita Blanca 86.57 10 IAmb IAmb 02 47 42.8
comp=Z,36nm,1.7s
MVCO Mesa Verde 86.86 5 IAMs_20 IAMs_20 03 19 45.7
comp=Z,706nm,18.0s
PRN Pahroc Range 86.88 360 IAmb IAmb 02 47 45.4
comp=Z,19nm,1.5s
DSP Deep Springs 86.89 357 P **P** **02 47 36.5 +2.0**
DSP IAmb IAmb 02 47 45.0
comp=Z,20nm,1.5s
T25A Trinidad 87.10 8 IAMs_20 IAMs_20 03 19 07.3
comp=Z,820nm,21.0s
OK038 West end E0370 87.12 13 IAMs_20 IAMs_20 03 20 56.9
comp=Z,829nm,19.0s
X48A Hartselle 87.47 23 IAmb IAmb 02 47 46.6
comp=Z,14nm,1.1s
FARB Farallon Islan 87.47 353 IAMs_20 IAMs_20 03 17 12.3
comp=Z,1µm,21.0s
HMU Henry Mountain 87.48 3 IAmb IAmb 02 47 47.3
comp=Z,28nm,1.8s
S22A 4UR Ranch, Cre 87.50 6 IAMs_20 IAMs_20 03 19 45.9
comp=Z,1µm,21.0s
TPH Tonopah 87.57 358 IAmb IAmb 02 47 48.5
comp=Z,22nm,1.6s
WRA Warramunga Arr 87.62 242 P **P** **02 47 38.7 -0.2**
comp=Z,0.5nm,0.3s,baz=138,slow=4.4,SNR=5.0
WRA LR LR 03 23 40.6
comp=Z,1µm,18.0s,baz=166,slow=33
comp=Z,0.5nm,0.3s
WRAB Tennant Creek 87.62 242 IAMs_20 IAMs_20 03 23 28.7
comp=Z,1µm,19.0s
HBAR Harrisburg 87.68 19 IAMs_20 IAMs_20 03 23 57.8
comp=Z,820nm,18.0s
R11B Troy Canyon, C 87.82 359 P **P** **02 47 39.8 +0.5**
R11B IAmb IAmb 02 47 49.7
comp=Z,15nm,1.6s
PV02 Paradox Valley 87.84 5 IAmb IAmb 02 48 02.1
comp=Z,18nm,1.3s
PV02 IAMs_20 IAMs_20 03 18 35.9
comp=Z,841nm,21.0s
PV18 Skein Mesa, Pa 87.87 5 IAMs_20 IAMs_20 03 19 23.7
comp=Z,808nm,20.0s
PV03 Paradox Valley 87.88 5 IAmb IAmb 02 47 48.9
comp=Z,16nm,1.7s
T35A Sooner Cattle 87.89 15 P **P** **02 47 39.9 +0.3**
PV11 David Mesa, Pa 87.92 5 IAMs_20 IAMs_20 03 31 13.1
comp=Z,1µm,21.0s
PV19 Morning Glory 87.93 5 IAMs_20 IAMs_20 03 18 37.3
comp=Z,857nm,22.0s
PV16 Nyswonger Mesa 87.94 5 IAmb IAmb 02 47 49.2
comp=Z,29nm,1.9s
PV12 Saucer Basin, 87.95 5 IAMs_20 IAMs_20 03 18 37.7
comp=Z,821nm,21.0s
NVAR Mina Array Bea 87.95 357 P **P** **02 47 41.3 +1.2**
comp=Z,1.3nm,1.0s,baz=191,slow=6.4,SNR=7.0
NVAR LR LR 03 18 32.5
comp=Z,2µm,21.0s,baz=149,slow=30
comp=Z,1.3nm,1.0s
PV20 West Nyswonger 87.96 5 IAMs_20 IAMs_20 03 19 34.1
comp=Z,792nm,19.0s
PV10 Paradox Valley 87.99 5 IAMs_20 IAMs_20 03 19 13.6
comp=Z,1µm,22.0s
PV04 Paradox Valley 88.02 5 IAMs_20 IAMs_20 03 25 00.5
comp=Z,1µm,19.0s
PMG Port Moresby 88.03 258 IAMs_20 IAMs_20 03 18 41.7
comp=Z,1µm,22.0s
PMG Port Moresby 88.03 258 LR LR 03 19 37.9
comp=Z,1µm,21.6s,baz=158,slow=30
PV23 Carpenter Ridg 88.07 5 IAMs_20 IAMs_20 03 19 49.0
comp=Z,797nm,20.0s
CVS Carmenet Viney 88.08 354 IAMs_20 IAMs_20 03 18 01.9
comp=Z,1µm,20.0s
PV07 Paradox Valley 88.08 5 IAMs_20 IAMs_20 03 24 38.2
comp=Z,813nm,18.0s
RUSS Russell Ranch 88.24 354 IAMs_20 IAMs_20 03 18 11.5
comp=Z,1µm,20.0s
Q16A Castle Valley 88.44 3 IAmb IAmb 02 47 52.0
comp=Z,28nm,1.7s
SWET Sewanee 88.47 23 IAmb IAmb 02 47 52.0
comp=Z,19nm,1.3s
AFDM Forest Hills D 88.58 355 IAMs_20 IAMs_20 03 18 37.4
comp=Z,1µm,20.0s
MNRC McLaughlin Min 88.61 354 IAMs_20 IAMs_20 03 18 19.3
comp=Z,1µm,20.0s
V48A Smith Brothers 88.75 22 IAmb IAmb 02 47 52.5
comp=Z,18nm,1.2s
TMUT Trail Mountain 88.82 3 **P** **02 47 43.9 -0.3**
TMUT IAmb IAmb 02 47 52.6
comp=Z,25nm,2.0s
WVT Waverly 88.87 22 P **P** **02 47 43.7 -0.5**
WVT IAmb IAmb 02 47 53.2
comp=Z,10.0nm,1.1s
Y57A Sumter 88.90 28 IAMs_20 IAMs_20 03 22 05.7
comp=Z,819nm,18.0s
SUTB Sutter Butte 88.91 355 IAMs_20 IAMs_20 03 18 33.4
comp=Z,1µm,20.0s
P17A Butcher Ranch, 89.01 3 IAmb IAmb 02 48 07.8
comp=Z,22nm,1.8s
Y58A Scranton 89.02 29 IAMs_20 IAMs_20 03 23 40.9
comp=Z,885nm,18.0s
R32A Long Quarter, 89.03 13 IAMs_20 IAMs_20 03 21 33.3
comp=Z,792nm,20.0s
KSCO Kaye Shedlock' 89.13 9 IAMs_20 IAMs_20 03 20 58.1
comp=Z,1µm,20.0s
ORV Oroville 89.22 355 IAMs_20 IAMs_20 03 18 54.2
comp=Z,1µm,20.0s
TKL Tuckaleechee C 89.46 25 LR LR 03 21 15.0
comp=Z,405nm,21.5s,baz=196,slow=31
BIRD Birdtown, Kers 89.46 28 IAMs_20 IAMs_20 03 22 42.9
comp=Z,696nm,19.0s
KCPM Cahto Peak 89.49 353 IAMs_20 IAMs_20 03 19 51.7
comp=Z,1µm,18.0s
T45A Paducah 89.53 21 IAMs_20 IAMs_20 03 24 28.8
comp=Z,712nm,19.0s
Y60A Bolivia 89.57 30 IAMs_20 IAMs_20 03 22 02.4
comp=Z,830nm,20.0s
ISCO Idaho Springs 89.63 7 IAMs_20 IAMs_20 03 21 41.3
comp=Z,1µm,18.0s
X58A Rowland 89.72 29 IAMs_20 IAMs_20 03 24 10.5
comp=Z,859nm,18.0s
T47A Sharon Grove 89.86 22 **P** **02 47 49.9 +1.1**
O03E Paynes Creek 89.97 355 IAMs_20 IAMs_20 03 19 16.2
comp=Z,940nm,20.0s
KMRM Mail Ridge 90.03 353 IAMs_20 IAMs_20 03 18 37.5
comp=Z,1µm,20.0s
S44A Carbondale 90.04 20 IAMs_20 IAMs_20 03 24 51.0
comp=Z,717nm,19.0s
SIUC Southern Illin 90.07 20 IAMs_20 IAMs_20 03 24 51.1
comp=Z,760nm,18.0s
W57A Gilead 90.08 28 IAMs_20 IAMs_20 03 22 40.2
comp=Z,719nm,20.0s
ELK Elko 90.21 360 IAMs_20 IAMs_20 03 20 28.9
comp=Z,746nm,19.0s
ELK Elko 90.21 360 LR LR 03 20 50.3
comp=Z,719nm,19.5s,baz=188,slow=31
KMPM Mount Pierce 90.26 353 IAMs_20 IAMs_20 03 18 32.1
comp=Z,1µm,21.0s
HATC Hat Creek Radi 90.47 355 IAMs_20 IAMs_20 03 19 33.7
comp=Z,1µm,20.0s
JCC Jacoby Creek, 90.65 353 IAMs_20 IAMs_20 03 18 56.4
comp=Z,927nm,19.0s
KHMM Horse Mountain 90.68 353 **P** **02 47 54.9 +2.2**
KHMM IAmb IAmb 02 48 03.0
comp=Z,16nm,1.3s
KHMM IAMs_20 IAMs_20 03 18 56.3
comp=Z,1µm,20.0s
N02D Trinity Center 90.71 354 IAmb IAmb 02 48 02.6
comp=Z,19nm,1.6s
KRPM Rodgers 90.99 353 IAMs_20 IAMs_20 03 19 05.3
comp=Z,1µm,21.0s
OGNE Ogallala 91.11 10 IAMs_20 IAMs_20 03 22 10.3
comp=Z,1µm,22.0s
HWUT Hardware Ranch 91.12 2 IAMs_20 IAMs_20 03 21 57.8
comp=Z,1µm,19.0s
M02C Callahan 91.13 354 IAmb IAmb 02 48 05.6
comp=Z,18nm,1.6s
KRMB Red Mountain 91.34 353 IAMs_20 IAMs_20 03 19 36.7
comp=Z,1µm,21.0s
YBH Yreka Blue Hor 91.46 354 LR LR 03 20 13.8
comp=Z,106nm,19.9s,baz=155,slow=30
TULE Intermountain 91.62 355 IAMs_20 IAMs_20 03 20 20.7
comp=Z,752nm,20.0s
V61A Roper 91.74 30 IAMs_20 IAMs_20 03 22 04.1
comp=Z,969nm,21.0s
L02F Cave Junction 91.91 353 IAMs_20 IAMs_20 03 20 50.8
comp=Z,1µm,19.0s
WVOR Wild Horse Val 91.96 357 IAmb IAmb 02 48 22.1
comp=Z,13nm,1.2s
WVOR IAMs_20 IAMs_20 03 21 39.1
comp=Z,1µm,19.0s
KBO Bosley Butte 92.05 353 IAMs_20 IAMs_20 03 19 25.5
comp=Z,1µm,22.0s
AHID Auburn Hatcher 92.29 3 IAMs_20 IAMs_20 03 22 27.8
comp=Z,1µm,19.0s
K04D Chiloquin, OR 92.29 355 IAMs_20 IAMs_20 03 20 33.9
comp=Z,899nm,21.0s
K05A Summer Lake 92.35 356 IAMs_20 IAMs_20 03 20 48.3
comp=Z,708nm,20.0s
PDAR Pinedale Array 92.35 4 P **P** **02 48 00.0 -0.5**
comp=Z,3.4nm,1.1s,baz=176,slow=4.5,SNR=14
PDAR LR LR 03 22 03.3
comp=Z,459nm,21.7s,baz=183,slow=31
comp=Z,3.4nm,1.1s
T59A Double "B" Far 92.51 29 IAMs_20 IAMs_20 03 23 51.5
comp=Z,1µm,20.0s
BBOR Butler Butte 92.61 354 IAMs_20 IAMs_20 03 20 09.3
comp=Z,869nm,22.0s
HDIL Hopedale 92.78 19 IAMs_20 IAMs_20 03 25 21.5
comp=Z,693nm,20.0s
L34A Svendsen Farm, 92.85 14 IAMs_20 IAMs_20 03 24 51.4
comp=Z,624nm,18.0s
J08A Circle Bar Ran 92.88 357 IAmb IAmb 02 48 12.7
comp=Z,9.1nm,1.4s
J08A IAMs_20 IAMs_20 03 22 10.4
comp=Z,1µm,19.0s
MFID Camas Ranch 92.89 359 IAMs_20 IAMs_20 03 21 38.4
comp=Z,915nm,21.0s
J04A Umpqua Nationa 92.93 355 IAMs_20 IAMs_20 03 21 04.7
comp=Z,1µm,20.0s
TPAW Teton Pass 93.02 3 IAmb IAmb 02 48 15.2
comp=Z,12nm,1.2s
TPAW IAMs_20 IAMs_20 03 22 51.0
comp=Z,1µm,19.0s
HLID Hailey 93.03 0 IAmb IAmb 02 48 15.9
comp=Z,9.6nm,1.4s
K30B Basset 93.10 11 IAMs_20 IAMs_20 03 24 42.9
comp=Z,743nm,18.0s
SFIN Lafayette 93.10 21 IAMs_20 IAMs_20 03 26 37.2
comp=Z,816nm,19.0s
LOHW Long Hollow 93.15 3 **P** **02 48 07.4 +3.3**
LOHW IAmb IAmb 02 48 13.4
comp=Z,15nm,1.8s
R58B Mineral 93.32 28 IAMs_20 IAMs_20 03 24 19.7
comp=Z,963nm,20.0s
CBN Corbin Frederi 93.69 29 IAMs_20 IAMs_20 03 24 37.6
comp=Z,1µm,20.0s
S61A Accomac 93.75 30 IAMs_20 IAMs_20 03 24 30.6
comp=Z,766nm,20.0s
FITZ Fitzroy Crossi 93.92 236 LR LR 03 24 08.2
comp=Z,2µm,21.9s,baz=156,slow=31
I05D Terrebonne, OR 93.98 355 IAMs_20 IAMs_20 03 23 13.5
comp=Z,776nm,18.0s
LKWY Lake 94.11 3 IAMs_20 IAMs_20 03 23 20.8
comp=Z,1µm,20.0s
KNRA Kununurra 94.18 240 IAMs_20 IAMs_20 03 26 49.1
comp=Z,832nm,19.0s
BOSA Boshof 94.20 146 LR LR 03 24 37.3
comp=Z,735nm,18.1s,baz=208,slow=32
H04A Detroit Lake 94.37 355 IAMs_20 IAMs_20 03 21 37.8
comp=Z,929nm,20.0s
P57A Homestead Farm 94.67 28 IAMs_20 IAMs_20 03 25 06.9
comp=Z,734nm,20.0s
RLMT Red Lodge 94.71 4 IAMs_20 IAMs_20 03 24 48.7
comp=Z,940nm,18.0s
DLMT Dillon 94.85 2 IAMs_20 IAMs_20 03 23 46.5
comp=Z,764nm,19.0s
G05A Wamic 94.88 355 IAMs_20 IAMs_20 03 23 41.3
comp=Z,1µm,18.0s
G04A Mulino 94.91 355 IAMs_20 IAMs_20 03 21 41.1
comp=Z,688nm,20.0s
SUSD Miller 94.92 11 IAMs_20 IAMs_20 03 25 49.5
comp=Z,692nm,18.0s

HOOD	Mount Hood Mea	94.97	355	IAMs_20	IAMs_20	03 22 31.9	
	comp=Z,1µm,19.0s						
K43A	Burlington	95.04	19	IAMs_20	IAMs_20	03 28 01.7	
	comp=Z,648nm,19.0s						
BOZ	Bozeman (W)	95.10	2	IAMs_20	IAMs_20	03 24 32.1	
	comp=Z,622nm,19.0s						
I37A	Lemond, Waseca	95.33	15	IAMs_20	IAMs_20	03 26 04.3	
	comp=Z,775nm,19.0s						
PAMR	Moraine State	95.41	26	IAMs_20	IAMs_20	03 28 51.5	
	comp=Z,604nm,18.0s						
F10A	Beach Ranch, E	95.46	358	IAMs_20	IAMs_20	03 24 05.8	
	comp=Z,1µm,19.0s						
YPT	Yellepit	95.58	357	IAMs_20	IAMs_20	03 23 11.9	
	comp=Z,855nm,20.0s						
MVL	Millersville	95.65	29	IAMs_20	IAMs_20	03 26 57.9	
	comp=Z,920nm,18.0s						
F03A	Seaside	95.70	354	IAMs_20	IAMs_20	03 22 04.0	
	comp=Z,1µm,21.0s						
SSPA	Standing Stone	95.77	27	IAMs_20	IAMs_20	03 25 10.9	
	comp=Z,807nm,21.0s						
F04D	Rainier, OR	95.81	354	IAMs_20	IAMs_20	03 23 01.1	
	comp=Z,1µm,19.0s						
P61A	Hammonton	95.85	30	IAMs_20	IAMs_20	03 25 34.1	
	comp=Z,1µm,21.0s						
HAWA	Hanford	95.95	357	IAMs_20	IAMs_20	03 23 21.6	
	comp=Z,615nm,19.0s						
E09A	Wood Farm, Sta	96.02	358	IAMs_20	IAMs_20	03 23 32.6	
	comp=Z,1µm,20.0s						
E08A	Dider Farm, El	96.03	357	IAMs_20	IAMs_20	03 23 43.7	
	comp=Z,693nm,20.0s						
I42A	Draeger Farm,	96.06	19	IAMs_20	IAMs_20	03 29 10.2	
	comp=Z,647nm,18.0s						
MXC	Moxie City	96.16	356	IAMs_20	IAMs_20	03 23 17.3	
	comp=Z,772nm,22.0s						
RADR	Rader Ridge	96.20	354	IAMs_20	IAMs_20	03 22 15.4	
	comp=Z,1µm,21.0s						
N58A	Sunbury	96.31	28	IAMs_20	IAMs_20	03 26 28.2	
	comp=Z,866nm,20.0s						
E03A	Lebam	96.31	354	IAMs_20	IAMs_20	03 22 50.2	
	comp=Z,864nm,21.0s						
J47A	Sunmer	96.34	22	IAMs_20	IAMs_20	03 27 09.1	
	comp=Z,693nm,21.0s						
K50A	Casco	96.45	23	IAMs_20	IAMs_20	03 28 55.6	
	comp=Z,607nm,18.0s						
M57A	Sunshine Farm,	96.64	28	IAMs_20	IAMs_20	03 26 23.0	
	comp=Z,1µm,21.0s						
H11S2	WAKE ISLAND Hy	96.76	291	T	T	04 36 02.4	
	baz=140,slow=76,SNR=313						
H11S3	WAKE ISLAND Hy	96.78	291	T	T	04 36 03.5	
	baz=140,slow=76,SNR=192						
H11S1	WAKE ISLAND Hy	96.78	291	T	T	04 36 02.3	
	baz=140,slow=76,SNR=184						
E28A	Huff	96.82	10	IAMs_20	IAMs_20	03 26 13.4	
	comp=Z,698nm,20.0s						
BRNJ	Basking Ridge	96.84	30	IAMs_20	IAMs_20	03 26 14.2	
	comp=Z,895nm,20.0s						
LTY	Liberty	96.86	356	IAMs_20	IAMs_20	03 23 24.6	
	comp=Z,876nm,20.0s						
WISH	Wishkah	96.89	354	IAMs_20	IAMs_20	03 22 36.7	
	comp=Z,953nm,21.0s						
L56A	Greenwood	97.25	27	IAMs_20	IAMs_20	03 26 07.7	
	comp=Z,793nm,20.0s						
GNW	Green Mountain	97.28	355	IAMs_20	IAMs_20	03 23 57.8	
	comp=Z,907nm,19.0s						
PAL	Palisades	97.34	30	IAMs_20	IAMs_20	03 25 24.6	
	comp=Z,977nm,21.0s						
JAY	Jayapura	97.39	257	LR	LR	03 29 56.6	
	comp=Z,389nm,18.6s,baz=196,slow=34						
N62A	Caumsett State	97.42	30	IAMs_20	IAMs_20	03 25 25.3	
	comp=Z,815nm,22.0s						
I49A	Point Hope	97.49	23	IAMs_20	IAMs_20	03 27 33.4	
	comp=Z,833nm,22.0s						
H11N3	WAKE ISLAND Hy	97.58	291	T	T	04 37 13.7	
	baz=142,slow=76,SNR=40						
H11N1	WAKE ISLAND Hy	97.58	291	T	T	04 37 12.9	
	baz=142,slow=76,SNR=27						
LBTB	Lobatse	97.59	144	LR	LR	03 23 57.1	
	comp=Z,2µm,21.9s,baz=206,slow=30						
H11N2	WAKE ISLAND Hy	97.59	291	T	T	04 37 13.7	
	baz=142,slow=76,SNR=26						
WSPT	Westport, CT	97.68	30	IAMs_20	IAMs_20	03 24 45.9	
	comp=Z,874nm,22.0s						
MMNY	Mt. Morris Dam	97.69	27	IAMs_20	IAMs_20	03 26 25.8	
	comp=Z,684nm,20.0s						
BINY	Binghamton	97.77	28	IAMs_20	IAMs_20	03 27 33.7	
	comp=Z,696nm,20.0s						
L59A	Walton	98.06	29	IAMs_20	IAMs_20	03 28 06.4	
	comp=Z,813nm,19.0s						
K57A	Scipio Center	98.10	27	IAMs_20	IAMs_20	03 27 26.6	
	comp=Z,785nm,20.0s						
E38A	The Farm, Brul	98.16	16	IAMs_20	IAMs_20	03 27 36.0	
	comp=Z,804nm,19.0s						
KGCAE	Kacgae	98.19	141	IAMs_20	IAMs_20	03 25 18.6	
	comp=Z,1µm,20.0s						
J55A	Hilton	98.21	26	IAMs_20	IAMs_20	03 26 32.5	
	comp=Z,813nm,21.0s						
M63A	Gales Ferry	98.31	31	IAMs_20	IAMs_20	03 26 33.2	
	comp=Z,753nm,21.0s						
DGMT	Dagmar	98.36	7	IAMs_20	IAMs_20	03 26 11.5	
	comp=Z,724nm,22.0s						
A04D	Lummi Island	98.42	355	IAMs_20	IAMs_20	03 24 35.1	
	comp=Z,873nm,19.0s						
UCCT	U. Connecticut	98.60	31	IAMs_20	IAMs_20	03 26 53.9	
	comp=Z,711nm,21.0s						
J57A	Williamstown	98.88	28	IAMs_20	IAMs_20	03 28 08.1	
	comp=Z,696nm,20.0s						
TRY	Troy	98.98	29	IAMs_20	IAMs_20	03 26 16.8	
	comp=Z,849nm,22.0s						
L61B	Northampton	99.04	30	IAMs_20	IAMs_20	03 27 57.5	
	comp=Z,707nm,20.0s						
GRTLG	Ghanzi	99.10	139	IAMs_20	IAMs_20	03 35 02.9	
	comp=Z,698nm,19.0s						
J59A	Piesco	99.38	29	IAMs_20	IAMs_20	03 28 00.4	
	comp=Z,882nm,20.0s						
K62A	Royalston	99.38	30	IAMs_20	IAMs_20	03 28 25.2	
	comp=Z,777nm,20.0s						
TSUM	Tsumeb	99.39	135	LR	LR	03 25 11.9	
	comp=Z,395nm,21.4s,baz=161,slow=30						
DELO	Deloro Mine	99.42	26	IAMs_20	IAMs_20	03 27 30.4	
	comp=Z,792nm,21.0s						
WES	Weston	99.43	31	IAMs_20	IAMs_20	03 27 04.8	
	comp=Z,620nm,20.0s						
HRV	Adam Dziewonsk	99.46	31	IAMs_20	IAMs_20	03 27 15.6	
	comp=Z,672nm,20.0s						
EYMN	Ely	99.47	16	IAMs_20	IAMs_20	03 28 11.5	
	comp=Z,627nm,20.0s						
ACCN	Adirondack Com	99.57	29	IAMs_20	IAMs_20	03 27 06.4	
	comp=Z,929nm,22.0s						
NCB	Newcomb	99.92	28	IAMs_20	IAMs_20	03 28 04.9	
	comp=Z,783nm,20.0s						
HNH	Hanover	100.30	30	IAMs_20	IAMs_20	03 33 40.7	
	comp=Z,658nm,18.0s						
LONY	Lake Ozonia	100.40	28	IAMs_20	IAMs_20	03 28 45.1	
	comp=Z,994nm,21.0s						
VT1	Waterbury	100.71	29	IAMs_20	IAMs_20	03 30 02.3	
	comp=Z,633nm,19.0s						
I62A	Tamworth	100.75	30	IAMs_20	IAMs_20	03 28 07.5	
	comp=Z,696nm,21.0s						
LBNH	Lisbon	100.89	30	IAMs_20	IAMs_20	03 26 09.4	
	comp=Z,704nm,22.0s						
FRNY	Flat Rock	100.90	29	IAMs_20	IAMs_20	03 27 30.6	
	comp=Z,710nm,21.0s						
I63A	Otisfield	101.16	31	IAMs_20	IAMs_20	03 28 28.6	
	comp=Z,631nm,21.0s						
GMARE	Gumare	101.25	139	IAMs_20	IAMs_20	03 24 43.9	
	comp=Z,1µm,22.0s						
H62A	Milan	101.44	30	IAMs_20	IAMs_20	03 29 28.6	
	comp=Z,753nm,19.0s						
WVL	Waterville	101.92	31	IAMs_20	IAMs_20	03 28 18.7	
	comp=Z,671nm,21.0s						
G62A	West of Eustis	102.21	30	IAMs_20	IAMs_20	03 30 38.1	
	comp=Z,747nm,20.0s						
FAKI	Fak Fak	102.33	250	IAMs_20	IAMs_20	03 32 20.9	
	comp=Z,791nm,19.0s						
EMMW	East Machias	102.80	33	IAMs_20	IAMs_20	03 29 22.0	
	comp=Z,548nm,19.0s						
G65A	Princeton	103.19	32	IAMs_20	IAMs_20	03 35 28.4	
	comp=Z,665nm,18.0s						
F64A	Sherman	103.51	31	IAMs_20	IAMs_20	03 31 19.3	
	comp=Z,632nm,19.0s						
MMRI	Maumere	103.57	239	IAMs_20	IAMs_20	03 31 13.6	
	comp=Z,1µm,21.0s						
E62A	Clayton Lake	103.78	30	IAMs_20	IAMs_20	03 29 59.6	
	comp=Z,704nm,21.0s						
D62A	Allapoint, All	104.34	30	IAMs_20	IAMs_20	03 30 15.5	
	comp=Z,660nm,21.0s						
FFC	Flin Flon	104.75	8	IAMs_20	IAMs_20	03 31 35.6	
	comp=Z,685nm,20.0s						
MBO	M'Bour	105.89	86	IAMs_20	IAMs_20	03 33 22.4	
	comp=Z,880nm,19.0s						
CRAG	Craig	106.06	349	IAMs_20	IAMs_20	03 28 52.0	
	comp=Z,854nm,18.0s						
U33K	Whale Pass	106.69	349	IAMs_20	IAMs_20	03 28 44.8	
	comp=Z,760nm,18.0s						
WRAK	Wrangell Islan	106.90	350	IAMs_20	IAMs_20	03 27 38.3	
	comp=Z,893nm,20.0s						
SIT	Sitka	107.89	348	IAMs_20	IAMs_20	03 27 13.4	
	comp=Z,767nm,21.0s						
KAPI	Kappang	107.93	239	IAMs_20	IAMs_20	03 35 07.3	
	comp=Z,869nm,19.0s						
JAGI	Jajag, Banyuwa	108.00	232	IAMs_20	IAMs_20	03 32 35.1	
	comp=Z,901nm,20.0s						
S31K	Pelican	108.89	348	IAMs_20	IAMs_20	03 28 37.8	
	comp=Z,700nm,20.0s						
R32K	Eaglecrest	108.97	349	IAMs_20	IAMs_20	03 29 32.8	
	comp=Z,915nm,19.0s						
BESE	Bessie Mountai	109.31	349	IAMs_20	IAMs_20	03 29 54.0	
	comp=Z,832nm,19.0s						
Q32M	Nakina River	109.38	351	IAMs_20	IAMs_20	03 31 13.0	
	comp=Z,680nm,18.0s						
LUWI	Luwuk	109.47	244	IAMs_20	IAMs_20	03 34 06.0	
	comp=Z,611nm,21.0s						
ACRG	Accra	110.03	106	IAMs_20	IAMs_20	03 31 50.6	
	comp=Z,520nm,20.0s						
P32M	Atlin	110.16	350	IAMs_20	IAMs_20	03 30 14.5	
	comp=Z,630nm,19.0s						
SKAG	Skagway	110.23	349	IAMs_20	IAMs_20	03 28 25.2	
	comp=Z,1µm,21.0s						
P29M	Windy Craggy	110.70	348	IAMs_20	IAMs_20	03 29 30.9	
	comp=Z,834nm,20.0s						
OHAK	Old Harbor	111.34	339	IAMs_20	IAMs_20	03 33 26.8	
	comp=Z,613nm,19.0s						
ISLE	Juniper Island	112.32	346	IAMs_20	IAMs_20	03 29 44.5	
	comp=Z,814nm,21.0s						
N30M	Aishikik Lake	112.39	349	IAMs_20	IAMs_20	03 30 12.3	
	comp=Z,897nm,20.0s						
PLK4	Peulik 4	112.45	337	IAMs_20	IAMs_20	03 29 46.1	
	comp=Z,885nm,20.0s						
BKB	Balikpapan	112.61	238	IAMs_20	IAMs_20	03 39 19.2	
	comp=Z,688nm,20.0s						
M31M	Drury Creek, Y	112.79	350	IAMs_20	IAMs_20	03 32 49.9	
	comp=Z,768nm,19.0s						
MMPY	Sheldon Lake,	112.88	352	IAMs_20	IAMs_20	03 32 11.4	
	comp=Z,810nm,20.0s						
WRGLY	Wrigley	112.94	356	IAMs_20	IAMs_20	03 32 56.9	
	comp=Z,780nm,20.0s						
Q19K	Cape Douglas,	112.97	339	IAMs_20	IAMs_20	03 32 54.6	
	comp=Z,819nm,18.0s						
SEW	Seward	113.14	342	IAMs_20	IAMs_20	03 30 55.1	
	comp=Z,753nm,20.0s						
MCARA	McCarthy VSAT	113.17	346	IAMs_20	IAMs_20	03 30 39.8	
	comp=Z,722nm,20.0s						
M29M	Somme Creek	113.52	348	IAMs_20	IAMs_20	03 30 04.2	
	comp=Z,816nm,21.0s						
P19K	Oil Pt	113.52	340	IAMs_20	IAMs_20	03 31 40.4	
	comp=Z,695nm,20.0s						
O22K	Cooper Landing	113.54	342	IAMs_20	IAMs_20	03 31 36.7	
	comp=Z,690nm,19.0s						
PWL	Port Wells	113.61	343	IAMs_20	IAMs_20	03 31 57.7	
	comp=Z,730nm,19.0s						
SLKM	Skilak Lake	113.66	342	IAMs_20	IAMs_20	03 31 12.1	
	comp=Z,736nm,20.0s						
P18K	Big Mountain,	113.75	339	IAMs_20	IAMs_20	03 36 36.3	
	comp=Z,583nm,18.0s						
RC01	Rabbit Creek A	114.10	342	IAMs_20	IAMs_20	03 31 06.5	
	comp=Z,750nm,20.0s						
KNK	Knik Glacier	114.15	343	IAMs_20	IAMs_20	03 32 33.9	
	comp=Z,824nm,19.0s						
O19K	Port Alsworth	114.25	340	IAMs_20	IAMs_20	03 32 21.7	
	comp=Z,723nm,20.0s						
PMR	Palmer	114.44	343	IAMs_20	IAMs_20	03 31 20.6	
	comp=Z,664nm,21.0s						
O16K	Kokwok River B	114.62	337	IAMs_20	IAMs_20	03 30 34.3	
	comp=Z,847nm,20.0s						
SUA	Susitna One	114.64	342	IAMs_20	IAMs_20	03 31 45.9	
	comp=Z,700nm,20.0s						
SPU	Mount Spurr	114.65	341	IAMs_20	IAMs_20	03 31 46.2	
	comp=Z,518nm,20.0s						
MENT	Mentasta	114.75	346	IAMs_20	IAMs_20	03 32 02.7	
	comp=Z,833nm,20.0s						
L26K	Log Cabin Wild	114.77	346	IAMs_20	IAMs_20	03 30 47.2	
	comp=Z,945nm,22.0s						
M22K	Willow	114.78	342	IAMs_20	IAMs_20	03 31 47.6	
	comp=Z,584nm,20.0s						
N19K	Bonanza Creek	114.84	340	IAMs_20	IAMs_20	03 30 43.3	
	comp=Z,667nm,20.0s						
N18K	Kilae Creek	115.05	339	IAMs_20	IAMs_20	03 36 09.6	
	comp=Z,694nm,18.0s						
PAX	Paxson	115.06	345	IAMs_20	IAMs_20	03 34 05.0	
	comp=Z,740nm,18.0s						
N17K	Nushagak Hills	115.22	338	IAMs_20	IAMs_20	03 38 12.1	
	comp=Z,760nm,18.0s						
SKT	Skwentna	115.27	342	IAMs_20	IAMs_20	03 31 16.5	
	comp=Z,879nm,21.0s						
J30M	Hart River	115.31	350	IAMs_20	IAMs_20	03 32 55.7	
	comp=Z,824nm,20.0s						
CUT	Chulitna	115.40	343	IAMs_20	IAMs_20	03 31 50.1	
	comp=Z,750nm,20.0s						
DOT	Dot Lake	115.47	346	IAMs_20	IAMs_20	03 30 53.9	
	comp=Z,768nm,21.0s						
RIDG	Independent Ri	115.68	346	IAMs_20	IAMs_20	03 32 30.2	
	comp=Z,683nm,20.0s						
I30M	Mount Dempster	115.94	350	IAMs_20	IAMs_20	03 33 27.2	
	comp=Z,828nm,19.0s						
M17K	Holitna River	116.04	339	IAMs_20	IAMs_20	03 37 32.9	
	comp=Z,753nm,18.0s						
M16K	Timber Creek	116.08	338	IAMs_20	IAMs_20	03 31 30.9	
	comp=Z,859nm,22.0s						
PPLA	Purkeypile	116.23	342	IAMs_20	IAMs_20	03 32 17.9	
	comp=Z,701nm,21.0s						
H31M	Peel River	116.30	351	IAMs_20	IAMs_20	03 35 45.7	
	comp=Z,723nm,18.0s						
TRF	Thorofare Moun	116.36	343	IAMs_20	IAMs_20	03 33 55.4	
	comp=Z,797nm,19.0s						
MCK	McKinley	116.37	344	IAMs_20	IAMs_20	03 32 14.6	
	comp=Z,868nm,20.0s						
KTH	Kantishna Hill	116.58	343	IAMs_20	IAMs_20	03 35 21.0	
	comp=Z,712nm,19.0s						
L18K	Granite Mounta	116.59	340	IAMs_20	IAMs_20	03 36 44.4	
	comp=Z,687nm,18.0s						
CAST	Castle Rocks	116.68	342	IAMs_20	IAMs_20	03 33 18.8	
	comp=Z,744nm,20.0s						
L16K	Owhat River	116.80	338	IAMs_20	IAMs_20	03 31 18.9	
	comp=Z,881nm,22.0s						
ILAR	Eielson Array	116.97	345	PKP	PKPdf	02 53 33.7	-0.1
	comp=Z,0.6nm,1.0s,baz=134,slow=2.6,SNR=5.2						
K20K	Telida	117.03	341	IAMs_20	IAMs_20	03 33 42.0	
	comp=Z,825nm,19.0s						
BPAW	Bear Paw Mtn.	117.08	343	IAMs_20	IAMs_20	03 32 04.5	
	comp=Z,515nm,20.0s						
G31M	Satah River	117.38	351	IAMs_20	IAMs_20	03 34 55.3	
	comp=Z,771nm,20.0s						
K17K	Iditarod	117.39	339	IAMs_20	IAMs_20	03 35 40.6	
	comp=Z,666nm,19.0s						
PRP	Porcupine Dome	117.45	346	IAMs_20	IAMs_20	03 32 51.1	
	comp=Z,728nm,20.0s						
H27K	Steamboat Moun	117.54	348	IAMs_20	IAMs_20	03 32 17.6	
	comp=Z,813nm,22.0s						
G30M	tAoh Zraii Nji	117.63	351	IAMs_20	IAMs_20	03 36 24.7	
	comp=Z,776nm,18.0s						
J20K	Nowinta River	117.77	342	IAMs_20	IAMs_20	03 33 06.7	
	comp=Z,783nm,21.0s						
F31M	Tsiigehtchic	117.83	352	IAMs_20	IAMs_20	03 35 30.1	
	comp=Z,604nm,19.0s						
MLY	Manley	117.88	344	IAMs_20	IAMs_20	03 33 51.6	
	comp=Z,505nm,20.0s						
G27K	Doyon Strip	118.11	348	IAMs_20	IAMs_20	03 33 21.6	
	comp=Z,847nm,20.0s						
J17K	VABM Dome	118.16	339	IAMs_20	IAMs_20	03 32 26.9	
	comp=Z,511nm,21.0s						
F30M	Barrier River	118.20	351	IAMs_20	IAMs_20	03 37 09.9	
	comp=Z,659nm,18.0s						
I21K	Tanana	118.25	343	IAMs_20	IAMs_20	03 37 25.2	
	comp=Z,611nm,18.0s						
I20K	Naaghedeneel	118.39	342	IAMs_20	IAMs_20	03 33 55.0	
	comp=Z,674nm,20.0s						
J16K	Anvik River	118.42	338	IAMs_20	IAMs_20	03 35 04.8	
	comp=Z,720nm,20.0s						
F28M	Old Crow	118.65	349	IAMs_20	IAMs_20	03 34 38.7	
	comp=Z,834nm,20.0s						
H21K	Melozitna Rive	118.83	343	IAMs_20	IAMs_20	03 38 50.6	
	comp=Z,522nm,18.0s						
I17K	Unalakleet	118.95	339	IAMs_20	IAMs_20	03 33 01.9	
	comp=Z,634nm,21.0s						
E28M	Babbage River	119.56	350	IAMs_20	IAMs_20	03 35 18.6	
	comp=Z,837nm,20.0s						
H17K	Granite Mounta	119.67	340	IAMs_20	IAMs_20	03 38 33.8	
	comp=Z,744nm,18.0s						
F21K	Alatna River	120.35	344	IAMs_20	IAMs_20	03 39 33.8	
	comp=Z,702nm,18.0s						
G16K	Koyuk River	120.61	339	IAMs_20	IAMs_20	03 33 52.8	
	comp=Z,622nm,22.0s						
F20K	Avaraart Lake	120.62	343	IAMs_20	IAMs_20	03 34 14.0	
	comp=Z,464nm,21.0s						
F19K	Shaleruckik Mo	120.84	342	IAMs_20	IAMs_20	03 36 01.7	
	comp=Z,821nm,20.0s						
E19K	Redstone River	121.27	342	IAMs_20	IAMs_20	03 35 25.1	
	comp=Z,622nm,22.0s						
E21K	Killik River	121.52	344	IAMs_20	IAMs_20	03 35 08.7	
	comp=Z,780nm,21.0s						
MBAR	Mbarara	121.72	138	IAMs_20	IAMs_20	03 38 05.5	
	comp=Z,721nm,20.0s						
BKNI	Bangkinang	121.94	224	IAMs_20	IAMs_20	03 49 21.1	
	comp=Z,438nm,20.0s						
D20K	Etivluk River	122.23	343	IAMs_20	IAMs_20	03 42 23.6	
	comp=Z,550nm,18.0s						
C19K	Lookout Ridge	123.14	342	IAMs_20	IAMs_20	03 37 01.4	
	comp=Z,488nm,21.0s						
B20K	Meade River	123.45	344	IAMs_20	IAMs_20	03 36 33.8	
	comp=Z,725nm,20.0s						
JHJ2	Mitsune	123.95	283	*e*LQ	LQ	03 26 51.0	
	comp=Z,29nm,27.4s						
JHJ2				*e*LR	LR	03 32 17.9	
	comp=Z,35nm,24.9s						
RPSI	Rantau Prapat	124.99	223	IAMs_20	IAMs_20	03 49 00.7	
	comp=Z,693nm,19.0s						
AVE	Averroes	125.34	78	IAMs_20	IAMs_20	03 46 27.2	
	comp=Z,647nm,19.0s						
PET	Petropavlovsk	125.72	312	IAMs_20	IAMs_20	03 36 43.1	
	comp=Z,673nm,22.0s						
SFJD	Kangerlussuaq	126.16	26	IAMs_20	IAMs_20	03 45 46.3	
	comp=Z,664nm,18.0s						
PETK	Petropavlovsk-	126.23	312	PKP	PKPdf	02 53 52.2	+0.3
	comp=Z,2.3nm,1.0s,baz=95,slow=16,SNR=2.6						
TAM	Tamanrasset	126.53	98	IAMs_20	IAMs_20	03 41 25.6	
	comp=Z,410nm,19.0s						
JOW	Kunigami	127.17	269	*e*S	SKSdf	03 01 08.5	+2.8
	comp=Z,265nm,35.0s						
JOW	Kunigami	127.17	269	*e*SS	SS	03 13 01.6	-0.6
	comp=Z,164nm,27.9s						
JOW	Kunigami	127.17	269	*e*LQ	LQ	03 28 15.9	
	comp=Z,414nm,30.4s						
JOW				*e*LR	LR	03 33 35.4	
	comp=Z,629nm,24.7s						
MJAR	Matsushiro Arr	127.17	285	PKP	PKiKP	02 53 56.3	+1.5
	comp=Z,0.9nm,0.9s,baz=158,slow=4.0,SNR=4.1						
LODK	Lodwar	127.28	141	IAMs_20	IAMs_20	03 43 57.7	
	comp=Z,678nm,19.0s						
ERM	Erimo	127.51	293	IAMs_20	IAMs_20	03 39 02.3	
	comp=Z,709nm,21.0s						
ILULI	Ilulissat	127.56	24	IAMs_20	IAMs_20	03 44 24.2	
	comp=Z,464nm,22.0s						
MESJ	Messejana	127.72	74	IAMs_20	IAMs_20	03 45 37.3	
	comp=Z,495nm,18.0s						
PESTR	Estremoz	128.75	73	IAMs_20	IAMs_20	03 45 13.4	
	comp=Z,446nm,20.0s						
COI	Coimbra	129.05	71	IAMs_20	IAMs_20	03 47 33.4	
	comp=Z,580nm,19.0s						
MTE	Manteigas	129.69	71	IAMs_20	IAMs_20	03 50 18.6	
	comp=Z,568nm,18.0s						
YSS	Yuzhno-Sakhali	130.60	298	IAMs_20	IAMs_20	03 43 50.2	
	comp=Z,499nm,19.0s						
PAB	San Pablo	131.16	74	IAMs_20	IAMs_20	03 47 12.4	
	comp=Z,380nm,18.0s						
ESDC	Sonseca Array	131.48	74	PKP	PKiKP	02 54 04.1	+0.7
	comp=Z,2.9nm,1.2s,baz=220,slow=1.6,SNR=4.7						
MA2	Magadan	132.97	316	IAMs_20	IAMs_20	03 46 10.6	
	comp=Z,401nm,21.0s						
QIZ	Qiongzhong	133.06	245	PKP	PKPdf	02 54 05.9	-0.1
QIZ				PP	PP	02 56 31.4	-0.6
QIZ				SS	SS	03 14 14.4	+0.2
QIZ				LR	LR		
	comp=Z,120nm,12.7s						
QIZ				LR	LR		
	comp=Z,310nm,16.7s						
QIZ				LR	LR		
	comp=Z,230nm,15.1s						
CEST	Esterri de Car	136.38	74	IAMs_20	IAMs_20	03 50 27.5	
	comp=Z,390nm,20.0s						
SLVN	Son La	138.30	241	IAMs_20	IAMs_20	04 01 26.7	
	comp=Z,373nm,20.0s						
CHTO	Chiang Mai	138.96	233	IAMs_20	IAMs_20	03 48 43.7	
	comp=Z,386nm,22.0s						
VSL	Villasalto	139.84	83	IAMs_20	IAMs_20	03 59 21.7	
	comp=Z,318nm,18.0s						
SENIN	Lac Senin/Sane	142.00	72	IAMs_20	IAMs_20	03 56 03.3	
	comp=Z,543nm,20.0s						
WLF	Walferdange	142.72	67	IAMs_20	IAMs_20	03 58 24.3	
	comp=Z,567nm,20.0s						
ECH	Echery	142.73	70	IAMs_20	IAMs_20	03 53 38.5	
	comp=Z,371nm,20.0s						
OSSC	Osservatorio P	143.14	79	IAMs_20	IAMs_20	03 56 22.2	
	comp=Z,376nm,20.0s						
TUE	Stuetta	143.32	73	IAMs_20	IAMs_20	03 52 53.1	
	comp=Z,427nm,20.0s						
YAK	Yakutsk	143.48	314	IAMs_20	IAMs_20	03 51 34.6	
	comp=Z,456nm,20.0s						
BFO	Black Forest	143.49	70	IAMs_20	IAMs_20	03 53 59.6	
	comp=Z,358nm,20.0s						
CESX	Cesi	143.54	81	IAMs_20	IAMs_20	03 59 50.8	
	comp=Z,436nm,21.0s						
PZH	PanZhiHua	143.55	244	PKP	PKPbc	02 54 23.9	+1.4
FUORN	Ofenpass-Fuorn	143.95	73		PKPab	02 54 23.5	+0.8
FUORN				IAMs_20	IAMs_20	03 55 43.8	
	comp=Z,475nm,19.0s						
DAVA	Damuels	144.00	72	*e*PKP	PKPdf	02 54 25.4	0.0
	comp=Z,5.4nm,0.8s						
CAMP	Campotosto	144.03	81	IAMs_20	IAMs_20	03 58 01.8	
	comp=Z,457nm,20.0s						
FDMO	Fiordimonte	144.07	80	IAMs_20	IAMs_20	03 56 45.9	
	comp=Z,473nm,20.0s						
INTR	Introdacqua	144.09	83	IAMs_20	IAMs_20	04 01 14.2	
	comp=Z,519nm,19.0s						
GUMA	Gualdo di Mace	144.25	81	IAMs_20	IAMs_20	03 57 00.4	
	comp=Z,533nm,20.0s						
CUC	Castrocucco	144.26	87	PKPdf	PKPab	02 54 22.9	-0.9
CUC				IAMs_20	IAMs_20	03 58 07.6	
	comp=Z,364nm,20.0s						
TNS	Taunus Mts	144.30	67	*e*PKPbc	PKiKP	02 54 31.9	+2.7
	baz=250,slow=2.8						
XAN	Xi'an	144.41	260	⇓PKP	PKPbc	02 54 25.8	+1.0
XAN				pPKP	PKiKP	02 54 34.2	+4.3
XAN				LR	LR		
	comp=Z,250nm,19.2s						
XAN				LR	LR		
	comp=Z,200nm,18.6s						
XAN				LR	LR		
	comp=Z,420nm,19.2s						
FETA	Feichten	144.41	73	*e*PKP	PKPab	02 54 24.3	0.0
	comp=Z,14nm,1.0s,SNR=9.4						
TIP	Timpagrande	144.42	89	IAMs_20	IAMs_20	03 55 14.9	
	comp=Z,568nm,22.0s						
TIXI	Tiksi	144.48	331		PKPab	02 54 23.0	-0.6
TIXI	Tiksi	144.48	331	IAMs_20	IAMs_20	03 49 14.8	
	comp=Z,563nm,22.0s						
RETA	Reutte	144.63	72	*e*PKP	PKPab	02 54 24.8	-0.1
	comp=Z,12nm,1.5s						
IBBN	Ibbenburen	144.64	63	*e*PKPbc	PKiKP	02 54 32.9	+3.2
	baz=250,slow=2.8						
KASTN	Kahler Asten	144.64	65	*e*PKPbc	PKiKP	02 54 32.4	+2.6
	baz=250,slow=2.8						
MOTA	Moosalm	144.78	73	*e*PKP	PKPab	02 54 25.5	-0.2
	comp=Z,14nm,1.2s,SNR=7.3						
SQTA	Sankt Quirin	144.80	73	*e*PKP	PKPab	02 54 25.5	-0.1
	comp=Z,8.3nm,1.0s						
WATA	Walderalm	145.07	73	*e*PKP	PKPbc	02 54 26.0	-0.6
	comp=Z,9.5nm,1.2s,SNR=7.4						
WTTA	Wattenberg	145.08	73	*e*PKP	PKPbc	02 54 26.5	-0.3
	comp=Z,17nm,1.2s,SNR=9.5						
SGRT	San Giovanni R	145.14	84	IAMs_20	IAMs_20	03 56 32.9	
	comp=Z,469nm,20.0s						
MATE	Matera	145.18	86	⇑P	PKPbc	02 54 26.3	-0.7
XLT	XiLinHaoTe	145.28	280	*e*PKPbc	PKPbc	02 54 28.0	+0.7
XLT				pPKP	PKiKP	02 54 35.0	+3.5
XLT				SS	SS	03 16 38.6	0.0
XLT				LR	LR		
	comp=Z,150nm,15.2s						
XLT				LR	LR		
	comp=Z,270nm,20.8s						
XLT				LR	LR		
	comp=Z,410nm,19.0s						
STAL	STALIGIAL	145.32	75		PKPbc	02 54 24.9	-2.5
STAL				IAMs_20	IAMs_20	03 54 53.1	
	comp=Z,351nm,21.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABTA	Abfaltersbach	145.41	74	ePKP	PKPbc	02 54 27.5	-0.2
	comp=Z,8.4nm,1.1s,SNR=9.1						
CD2	Chengdu	145.56	251	PKPbc	PKPdf	02 54 29.0	+0.6
GTTG	Gottingen	145.67	65	ePKPbc	PKiKP	02 54 36.6	+4.7
	baz=250,slow=2.8						
RETH	Rethem/Aller,	145.70	63	ePKPbc	PKiKP	02 54 36.5	+4.7
	baz=250,slow=2.8						
TRI	Trieste	145.75	77	IAMs_20	IAMs_20	03 55 35.2	
	comp=Z,388nm,20.0s						
SABO	M.te Sabotino	145.76	76		PKPdf	02 54 27.2	-1.0
GRFO	Grafenberg	145.77	69		PKPdf	02 54 27.4	-0.7
GRA1	Grafenberg Arr	145.77	69		PKPdf	02 54 27.8	-0.3
GRF	Grafenberg Arr	145.77	69	ePKPbc	PKiKP	02 54 36.8	+4.6
	baz=250,slow=2.8						
GRF				eL	L	03 51 40.5	
	comp=Z,415nm,21.5s						
LESA	Schwarzleotal	145.79	73	ePKP	PKPdf	02 54 28.4	+0.1
	comp=Z,14nm,1.4s,SNR=7.8						
HYB	Hyderabad	145.90	203	ePKPab	PKPab	02 54 31.1	+0.7
HYB				esPKPab	sPKPab	02 54 35.1	-0.5
HYB				ePP	PP	02 57 52.0	+1.5
MYKA	Terra Mystica	146.06	75	ePKP	PKPdf	02 54 29.0	+0.2
	comp=Z,3.5nm,0.6s						
MOX	Moxa	146.35	68	ePKPab	PKPdf	02 54 30.3	+1.3
	baz=252,slow=3.7						
MOX				ePKPbc	sPKPab	02 54 37.9	+1.4
	baz=250,slow=2.8						
MOX				eL	L	03 52 57.6	
	comp=Z,355nm,20.9s						
ROTZ	Rotzenmuhle	146.40	69	ePKPab	PKPbc	02 54 30.6	+0.1
	baz=252,slow=3.7						
MANZ	Manzenberg	146.41	69	ePKPab	PKPbc	02 54 31.0	+0.4
	baz=252,slow=3.7						
SPITS	Spitsbergen Ar	146.48	16	PKPbc	PKPdf	02 54 28.7	+0.2
	comp=Z,18nm,1.1s,baz=241,slow=5.9,SNR=6.3						
BIOA	Bad Ischl, Aus	146.49	73	ePKP	PKPdf	02 54 30.2	+0.8
	comp=Z,10.0nm,1.5s						
WET	Wettzell	146.58	71	ePKPab	PKPbc	02 54 31.7	+0.6
	baz=252,slow=3.7						
OBKA	Obir	146.58	76	ePKP	PKPdf	02 54 31.2	+1.5
	comp=Z,8.9nm,0.9s,SNR=8.7						
PLN	Plauen	146.62	68	ePKPab	PKPbc	02 54 31.5	+0.4
	baz=252,slow=3.7						
ITM	Ithomi	146.62	96	IAMs_20	IAMs_20	03 58 48.8	
	comp=Z,451nm,21.0s						
NEUB	Neuenburg	146.63	67	ePKPab	PKPbc	02 54 31.4	+0.3
	baz=252,slow=3.7						
NEUB				ePKPbc	sPKPab	02 54 38.1	+0.6
	baz=250,slow=2.8						
FLTG	Flechtingen	146.67	65	ePKPab	PKPbc	02 54 31.1	-0.1
	baz=252,slow=3.7						
HHC	Hu-ho-hao-te	146.67	272	ePKPbc	PKPdf	02 54 26.5	-3.5
KEK	Kerkira	146.69	90	IAMs_20	IAMs_20	04 00 20.6	
	comp=Z,580nm,21.0s						
TANN	Tannenbergstha	146.78	68	ePKPab	PKPdf	02 54 31.2	+1.3
	baz=252,slow=3.7						
LEGS	Legarje	146.83	77	i PKPbc	PKPbc	02 54 32.5	+0.6
GORT1	Trebel	146.91	63	ePKPab	PKPbc	02 54 31.8	+0.1
	baz=252,slow=3.7						
MOA	Molln	146.94	73	ePKP	PKPdf	02 54 30.1	-0.1
	comp=Z,4.3nm,0.6s						
SOKA	Soboth	146.96	76	ePKP	PKPdf	02 54 32.0	+1.7
	comp=Z,6.7nm,1.0s,SNR=7.3						
GEC2	GERESS Array S	146.97	72	ePKPab	PKPdf	02 54 31.9	+1.6
	baz=252,slow=3.7						
GEC2				ePKPbc	sPKPab	02 54 39.5	+0.4
	baz=250,slow=2.8						
GERES	GERESS Array B	146.97	72	PKPbc	PKPdf	02 54 31.8	+1.6
	comp=Z,2.6nm,0.8s,baz=260,slow=3.8,SNR=18						
KHC	Kasperske Hory	147.00	71	⇑ePKP	PKPbc	02 54 32.4	+0.1
KHC				ePKPAB	sPKPab	02 54 39.2	+0.1
KHC				AMS	AMS	03 56 30.0	
	comp=Z,300nm,20.1s						
CLL	Collm	147.39	67		PKPdf	02 54 31.8	+1.1
CLL	Collm	147.39	67	ePKPab	PKPbc	02 54 33.9	+0.7
	baz=252,slow=3.7						
CLL				ePKPbc	sPKPab	02 54 40.5	0.0
	baz=250,slow=2.8						
BLY	Banja Luka	147.49	80	⇑P	PKPbc	02 54 34.0	+0.2
ARSA	Arzberg	147.49	75		PKPdf	02 54 33.0	+1.9
ARSA				IAMs_20	IAMs_20	03 58 50.5	
	comp=Z,427nm,19.0s						
ARSA	Arzberg	147.49	75	ePKP	PKPdf	02 54 32.5	+1.4
	comp=Z,4.1nm,1.1s						
BTO	Baotou	147.54	271	ePKPbc	PKPdf	02 54 28.3	-3.2
BTO				PKPab	PKiKP	02 54 36.6	+0.4
BTO				PP	PP	02 58 05.6	+4.5
BTO				LR	LR		
	comp=Z,190nm,4.8s						
BTO				LR	LR		
	comp=Z,150nm,4.9s						
BTO				LR	LR		
	comp=Z,530nm,17.4s						
KOGS	Kog	147.63	77	i PKPbc	PKPbc	02 54 34.3	+0.3
PDG	Podgorica	147.74	85		PKPdf	02 54 33.7	+2.1
PDG				IAMs_20	IAMs_20	03 56 53.8	
	comp=Z,395nm,21.0s						
PDG	Podgorica	147.74	85	⇑P	PKPbc	02 54 33.9	-0.6
BRG	Berggiesshubel	147.82	68	ePKPab	PKiKP	02 54 36.4	+0.1
	baz=252,slow=3.7						
BRG	Berggiesshubel	147.82	68	ePKP	PKiKP	02 54 36.4	+0.1
BRG				Amp		02 54 38.0	
	comp=Z,3.1nm,0.9s						
BRG	Berggiesshubel	147.82	68	P	PKPab	02 54 41.5	+4.5
BRG				Amp		02 54 44.9	
	comp=Z,12nm,1.1s						
PRA	Prague	147.85	70	AMS	AMS	03 52 50.0	
	comp=Z,400nm,17.2s						
PRU	Pruhonice	147.89	70	⇑ePKP	PKPbc	02 54 35.2	+0.6
PRU				ePKPAB	sPKPab	02 54 42.0	-0.5
PRU				AMS	AMS	03 52 20.0	
	comp=Z,300nm,22.8s						
BEHE	Becsehely	147.97	77		PKPdf	02 54 33.7	+1.9
CONA	Conrad Observa	147.97	74	ePKP	PKPdf	02 54 33.2	+1.3
	comp=Z,2.2nm,0.7s						
PVCC	Panska Ves	148.09	69	AMS	AMS	03 52 50.0	
	comp=Z,500nm,24.4s						
RONA	Rosalia, Austr	148.15	75	epPKP	pPKPdf	02 54 35.0	-1.1
	comp=Z,2.6nm,1.1s						
TREC	Trest	148.23	72	AMS	AMS	03 57 20.0	
	comp=Z,400nm,25.2s						
FNA	Florina	148.28	90	IAMs_20	IAMs_20	04 02 18.9	
	comp=Z,341nm,21.0s						
NB2	NORSAR Subarra	148.33	49	PKPdf	PKPab	02 54 40.4	+1.6
	comp=Z,88nm,2.5s,baz=266,slow=1.7						
NB2	NORSAR Subarra	148.33	49	PKPdf	PKPab	02 54 40.4	+1.6
	comp=Z,88nm,2.5s,baz=266,slow=1.7						
NOA	NORSAR Array B	148.33	49	PKPbc	PKPdf	02 54 33.7	+1.7
	comp=Z,3.2nm,1.1s,baz=265,slow=2.1,SNR=4.0						
KRUC	Moravsky	148.71	72	ePKP	PKPbc	02 54 36.9	+0.1
VRAC	Vranov	148.92	72	ePKP	PKPbc	02 54 37.4	0.0
VRAC	Vranov	148.92	72	⇑P	PKPbc	02 54 38.6	+1.3
LZDM	Lanzhou Array	148.94	258	PKPbc	PKPbc	02 54 37.5	-0.7
	comp=Z,5.1nm,0.7s,baz=116,slow=3.4,SNR=3.8						
UPC	Upice	148.95	70	AMS	AMS	03 57 10.0	
	comp=Z,500nm,19.5s						
CHVC	Chvalec	149.00	69	⇑ePKP	PKPbc	02 54 38.5	+0.9
CHVC				AMS	AMS	03 57 10.0	
	comp=Z,400nm,18.0s						
MORH	Mrgy, Hungar	149.05	79	⇓P	PKPbc	02 54 37.8	0.0
DPC	Dobruska-Polom	149.09	70	⇑ePKP	PKPbc	02 54 38.2	+0.4
DPC				ePKPAB	pPKPab	02 54 45.3	-0.8
DPC				AMS	AMS	03 54 20.0	
	comp=Z,400nm,23.7s						
OSTC	Ostas	149.09	70	⇑ePKP	PKPbc	02 54 36.9	-0.9
OSTC				⇑ePKP	sPKPdf	02 54 38.0	-0.9
OSTC				AMS	AMS	03 53 50.0	
	comp=Z,300nm,20.7s						
KSP	Ksiaz	149.22	69	eP	PKPab	02 54 43.1	+0.4
KRLC	Kraliky	149.28	71	⇑ePKP	PKPbc	02 54 38.0	-0.3
JAVC	Velka Javorina	149.43	73	ePKP	PKiKP	02 54 40.1	+0.3
RAYN	Ar Rayn	149.53	142		PKPbc	02 54 39.3	-0.4
MORC	Moravsky Berou	149.66	72		PKPbc	02 54 38.5	-0.7
MORC	Moravsky Berou	149.66	72	ePKP	PKPbc	02 54 38.2	-1.0
MORC	Moravsky Berou	149.66	72	⇑P	PKiKP	02 54 40.9	+0.7
MAUC	Maruska	149.70	72	⇑ePKP	PKPbc	02 54 40.4	+1.1
MAUC				ePKPAB	PKPab	02 54 46.5	+1.8
STEB	Steborice	149.85	71	ePKPAB	PKPab	02 54 44.4	-0.8
BOVS	Bovan	149.89	85	⇑P	PKPdf	02 54 36.2	+1.1
MDVR	Moldovita	150.41	83	⇓P	PKPbc	02 54 41.0	-0.2
GKP	Gorka Klasztor	150.43	65	eP	PKPab	02 54 49.5	+2.0
PSZ	Piszkesteto	150.49	76		PKPbc	02 54 41.0	-0.3
PSZ				IAMs_20	IAMs_20	04 05 31.7	
	comp=Z,293nm,19.0s						
PSZ	Piszkesteto	150.49	76	⇑P	PKiKP	02 54 42.7	+0.7
BZS	Buzias	150.70	81	⇑P	PKPbc	02 54 42.5	+0.7
HERR	Herculane	150.90	83	⇑P	PKPbc	02 54 42.8	+0.5
SIRR	Siria	150.99	80	⇑P	PKiKP	02 54 44.2	+1.2
SURR	Surduc	151.08	81	⇑P	PKPbc	02 54 43.4	+0.7
OJC	Ojcow	151.18	72	eP	PKPab	02 54 48.1	-2.7
NIE	Niedzica	151.24	73	eP	PKiKP	02 54 44.3	+0.8
GZR	Gura Zlata	151.35	82	⇓P	PKiKP	02 54 45.2	+1.3
ALN	Alexandroupoli	151.36	93	IAMs_20	IAMs_20	04 01 37.1	
	comp=Z,377nm,22.0s						
DEV	Deva	151.63	82	⇓P	PKiKP	02 54 45.1	+0.8
DRGR		151.86	80	⇑P	PKPbc	02 54 45.2	+0.7
LSA	Lhasa	151.91	234	PKPbc	PKiKP	02 54 46.7	+0.6
LSA				IAMs_20	IAMs_20	04 03 56.1	
	comp=Z,483nm,21.0s						
MARR	Marisel-Cluj	152.07	80	⇓P	PKPbc	02 54 44.9	-0.2
MMAI	Mount Meron Ar	152.29	116	PKPbc	PKiKP	02 54 47.3	+1.1
	comp=Z,6.8nm,1.0s,baz=241,slow=2.9,SNR=4.6						
CSS	Mathiatis	152.42	111	IAMs_20	IAMs_20	03 56 48.2	
	comp=Z,582nm,22.0s						
ISP	Isparta	152.50	103	IAMs_20	IAMs_20	04 18 38.1	
	comp=Z,424nm,21.0s						
ARR	Arges	152.53	84	⇑P	PKPbc	02 54 44.2	-1.9
EVN	Everest	152.60	225		PKPbc	02 54 47.1	-0.4
ULN	Ulaanbaatar	152.65	282		PKPbc	02 54 46.9	+0.4
ULN	Ulaanbaatar	152.65	282	IAMs_20	IAMs_20	04 13 14.2	
	comp=Z,342nm,21.0s						
ARCES	ARCESS Array B	152.71	29	PKPbc	PKPbc	02 54 45.3	-0.4
	comp=Z,3.5nm,1.1s,baz=270,slow=1.8,SNR=6.6						
KWP	Kalwaria Pacla	152.80	74	eP	PKPbc	02 54 47.2	+0.7
SONM	Songino Array	153.05	282		PKPbc	02 54 45.7	-1.5
SONM	Songino Array	153.05	282	PKPbc	PKPbc	02 54 47.5	+0.2
	comp=Z,2.6nm,0.9s,baz=141,slow=2.4,SNR=8.1						
MLR	Muntele Rosu	153.43	84	⇑P	PKPdf	02 54 39.6	-0.9
GTA	Gaotai	153.47	260	PKPbc	PKiKP	02 54 51.6	+3.0
GTA				LR	LR		
	comp=N,170nm,21.1s						
GTA				LR	LR		
	comp=E,220nm,21.1s						
GTA				LR	LR		
	comp=Z,240nm,21.1s						
BURAR	Bucovina Array	153.75	79		PKPdf	02 54 41.7	+0.8
BURAR	Bucovina Array	153.75	79	⇑P	PKPbc	02 54 47.4	-1.4
SUW	Suwalki	154.04	65	eP	PKPdf	02 54 42.0	+1.1
SUW	Suwalki	154.04	65		PKPdf	02 54 41.1	+0.2
VRI	Vrincioaia	154.08	84	⇑P	PKPbc	02 54 47.3	-2.1
TIRR	Tirgusor	154.59	88	IAMs_20	IAMs_20	04 19 40.0	
	comp=Z,358nm,21.0s						
CFR	Carcaliu	154.71	86	⇓P	PKPdf	02 54 43.4	+1.2
ANTO	Ankara	155.13	101	IAMs_20	IAMs_20	04 04 50.7	
	comp=Z,396nm,21.0s						
FINES	FINESS Array B	155.47	47	PKPbc	PKPdf	02 54 51.3	+8.6
	comp=Z,3.0nm,1.1s,baz=292,slow=0.7,SNR=3.6						
BRTR	Keskin Array B	155.59	102		PKPdf	02 54 48.9	+5.2
BRTR	Keskin Array B	155.59	102	PKP	PKPdf	02 54 43.9	+0.1
	comp=Z,1.7nm,0.9s,baz=219,slow=1.8,SNR=8.2						
BRTR				PKPab	PKPab	02 55 10.3	+0.4
	comp=Z,3.4nm,1.0s,baz=184,slow=3.6,SNR=8.2						
KIEV	Kiev	157.12	74		PKPdf	02 54 45.1	-0.1
KIEV	Kiev	157.12	74	IAMs_20	IAMs_20	04 16 24.3	
	comp=Z,406nm,19.0s						
KIEV	Kiev	157.12	74	⇑P	PKPdf	02 54 46.3	+1.1
AKASG	Malin Array Be	157.13	74		PKPdf	02 54 45.2	+0.1
AKASG	Malin Array Be	157.13	74	PKP	PKPdf	02 54 45.6	+0.5
	comp=Z,1.9nm,0.9s,baz=278,slow=1.9,SNR=5.9						
TOKA	Tokat	157.72	104	IAMs_20	IAMs_20	04 07 07.0	
	comp=Z,371nm,20.0s						
ARPR	Arapgir-MALATY	158.14	109	IAMs_20	IAMs_20	04 04 29.7	
	comp=Z,514nm,21.0s						
MARD	Mardin	158.44	116	IAMs_20	IAMs_20	04 11 15.1	
	comp=Z,425nm,20.0s						
WMQ	Urumqi	163.50	257	ePKP	PKPdf	02 54 49.3	-3.3
WMQ				LR	LR		
	comp=Z,420nm,15.7s						
WMQ				LR	LR		
	comp=Z,230nm,15.7s						
WMQ				LR	LR		
	comp=Z,430nm,22.9s						
ZALV	Zalesovo Beam	167.22	296	PKPab	PKPab	02 55 59.8	-0.3
ZALV	Zalesovo Beam	167.22	296	PKPab	PKPab	02 55 60.0	-0.1
	comp=Z,0.4nm,0.4s,baz=86,slow=4.6,SNR=1.7						
MKAR	Makanchi Array	168.22	261	PKP	PKPdf	02 54 56.4	+0.2
	comp=Z,0.6nm,1.0s,baz=90,slow=0.1,SNR=4.9						
MKAR				PKPab	pPKPab	02 56 06.8	-1.9
	comp=Z,1.1nm,0.8s,baz=104,slow=5.1,SNR=7.0						
KURBB	Kurchatov Arra	171.42	280	PKP	PKPdf	02 54 57.0	-0.9
	comp=Z,0.3nm,0.6s,baz=90,slow=1.2,SNR=4.6						
BVAR	Borovoye Array	175.46	316	PKP	PKPdf	02 55 01.0	+1.6
	comp=Z,0.6nm,0.7s,baz=210,slow=1.2,SNR=3.9						
ABKAR	Akbulak array	176.53	98		PKPab	02 56 40.0	-1.5

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*CATAC **01** 03:05:40.5±0.8, 10°N±5°×8°6W±°, h13km±6km, M2.8/8, MLv2.8/8, Error ellipse: s-maj=10.2km s-min=8.4km az=13.1, confirmed*

*UCR **01** 03:05:43.1±0.8, 10.31°N×86.28°W, h5km±999km, MW3.6*

ISC 01 03:05:42.4±2.2, **10.24°N**±0.07°×**86.4°W**±0.1°, **h17**km, **n34**, σ**0.s60**/35, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUD3	Juan Diaz 3	0.81	95	eP	Pb	03 05 57.9	-0.1
ALIBA	Liberia Airpor	0.87	66	eP	Pb	03 05 57.6	-1.4
ELI1	Hacienda Flor	0.88	63	eP	Pb	03 05 59.5	+0.3
ELI1	Hacienda Flor	0.88	63	P	Pg	03 05 59.9	+0.3
ELI1	Hacienda Flor	0.88	63	S	Sn	03 06 13.4	+0.9
INDI	Punta indio, G	0.92	114	P	Pb	03 05 59.7	-0.1
INDI	Punta indio, G	0.92	114	S	Sb	03 06 11.5	-0.3
LAPC	Finca la Perla	1.05	60	eP	Pb	03 06 01.4	-0.7
LCRUZ	La Cruz	1.09	41	eP	Pb	03 06 02.5	-0.4
GPS3	Bodega del ICE	1.10	62	eP	Pb	03 06 03.1	+0.1
GPS2	Hotel Rincn d	1.11	63	eP	Pb	03 06 02.5	-0.6
VORI	VORI	1.14	60	eP	Pn	03 06 03.2	-0.6
BUAI	Buenos Aires	1.19	58	eP	Pn	03 06 04.4	+0.2
CUI	Cuipilapa	1.24	70	eP	Pn	03 06 04.6	-0.4
MESS	Mesas	1.24	66	eP	Pn	03 06 04.7	-0.4
CARN	Rivas	1.25	41	eP	Pn	03 06 04.9	-0.1
CARN	Rivas	1.25	41	P	Pn	03 06 04.7	-0.3
CARN				S	Sn	03 06 22.5	+1.1
MOTZ	Rio Naranjo	1.34	71	eP	Pn	03 06 05.8	-0.5
VMAR	Armenia, Volca	1.34	65	eP	Pn	03 06 06.5	0.0
TIMP	Tierras Morena	1.36	75	eP	Pn	03 06 06.2	-0.4
JTS	Las Juntas de	1.38	88	eP	Pn	03 06 06.5	-0.4
JTS	Las Juntas de	1.38	88	P	Pn	03 06 06.0	-0.9
TENO	El Achiote	1.43	71	eP	Pn	03 06 06.7	-1.0
JAPN	Al SSO del Vol	1.44	27	P	Pn	03 06 08.1	+0.4
MORN	Al O del Volca	1.47	28	P	Pn	03 06 08.3	+0.2
QUEB	Quebradon, Cot	1.48	75	eP	Pn	03 06 08.4	+0.1
ARE1	Arenal 1	1.62	82	eP	Pn	03 06 11.2	+0.9
VARE2	V. Arenal	1.62	82	eP	Pn	03 06 11.1	+0.8
CEDE	Laguna Cedeo	1.64	81	eP	Pb	03 06 11.7	-0.5
ACON	Acoyapa	2.07	34	eP	Pn	03 06 15.6	-0.8
ACON	Acoyapa	2.07	34	P	Pn	03 06 15.5	-0.9
ACON	Acoyapa	2.07	34	S	Sb	03 06 44.8	-0.1
CNGN	Cerro Negro	2.27	351	P	Pn	03 06 19.1	-0.1
BOAB	BOACO BROADBAN	2.29	17	P	Pn	03 06 19.2	-0.2

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*IDC **01** 03:16:25.5±6.9, 23.80°S×179.14°E, h460km±70km, mb3.0/5, mbtmp4.0/6, Error ellipse: s-maj=47.1km s-min=23.9km az=49.0*

*NEIC **01** 03:16:34.7±2.0, 24.19°S±0.10°×178.8°E±0.2°, h536km±11km, mb4.3/7, Error ellipse: s-maj=29.8km s-min=9.9km az=110.0*

ISC 01 03:16:32.9±0.9, **24.26°S**±0.09°×**179.0°E**±0.2°, **h549**km, **n26**, σ**1.s64**/24, **mb3.9**/9, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.56	352	P	P	03 18 16.5	-0.4
MXZ	Matakaoa Point	13.28	182	P	P	03 19 23.8	-0.7
TOZ	Tahuroa Road	13.76	192	P	P	03 19 31.8	+2.3
URZ	Urewera	14.05	186	P	P	03 19 30.3	-2.1
	19nm,0.6s,baz=351,slow=4.1,SNR=19						
URZ				S	S	03 21 56.6	-3.7
	5.2nm,0.7s,baz=336,slow=22,SNR=3.8						
QRZ	Quartz Range	17.39	197	P	P	03 20 06.7	+1.6
CTAO	Charters Tower	30.59	271	P	P	03 22 02.9	+0.2
CTAO				IAmb	IAmb	03 22 13.8	
	comp=Z,7.0nm,1.2s						
TOO	Toolangi	31.50	237	P	P	03 22 11.3	+1.0
TOO				IAmb	IAmb	03 22 36.3	
	comp=Z,3.9nm,1.2s						
STKA	Stephens Creek	33.76	249	P	P	03 22 30.0	+0.6
STKA				IAmb	IAmb	03 22 41.1	
	comp=Z,49nm,1.5s						
STKA	Stephens Creek	33.76	249	P	P	03 22 29.9	+0.4
	comp=Z,1.5nm,0.4s,baz=89,slow=11,SNR=6.2						
	comp=Z,1.5nm,0.4s						
BBOO	Buckleboo	38.48	247	P	P	03 23 08.0	-0.4
BBOO				IAmb	IAmb	03 23 29.5	
	comp=Z,15nm,1.2s						
ASAR	Alice Springs	41.10	261	P	P	03 23 29.4	-0.2
	comp=Z,0.6nm,0.7s,baz=89,slow=7.5,SNR=9.1						
	comp=Z,0.6nm,0.7s						
WB0	Warramunga Arr	41.49	267	P	P	03 23 31.9	-0.7
WB0				IAmb	IAmb	03 23 35.2	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	41.49	267	P	P	03 23 32.0	-0.6
	comp=Z,0.5nm,0.5s,baz=104,slow=7.9,SNR=6.1						
	comp=Z,0.5nm,0.5s						
QSPA	South Pole Qui	65.83	180	P	P	03 26 27.4	+3.4
QSPA	South Pole Qui	65.83	180	P	P	03 26 27.2	+3.2
	comp=Z,1.1nm,0.7s,baz=290,slow=0.6,SNR=9.4						
	comp=Z,1.1nm,0.7s						
MJAR	Matsushiro Arr	71.69	326	P	P	03 26 58.7	-0.9
	comp=Z,1.0nm,0.7s,baz=153,slow=6.2,SNR=3.0						
	comp=Z,1.0nm,0.7s						
ARCES	ARCESS Array B	132.05	348	PKP	PKPdf	03 34 43.4	-0.2
	comp=Z,0.6nm,0.7s,baz=26,slow=3.1,SNR=4.9						
NOA	NORSAR Array B	142.29	350	PKhKP	PKPpre	03 34 59.0	
	comp=Z,1.0nm,0.7s,baz=14,slow=2.3,SNR=4.3						
HFS	Hagfors	142.72	348	PKhKP	PKPpre	03 35 00.4	
	comp=Z,2.8nm,0.4s,baz=63,slow=3.7,SNR=40						
PABE	Paberze	143.79	336	PKPbc	PKPab	03 35 04.7	+0.2
AKASG	Malin Array Be	144.78	326	PKP	PKPdf	03 35 07.0	-0.2
	comp=Z,1.1nm,0.4s,baz=68,slow=1.6,SNR=8.9						
MMAI	Mount Meron Ar	147.03	294	PKPbc	PKiKP	03 35 15.7	-0.9
	comp=Z,0.8nm,0.4s,baz=104,slow=3.0,SNR=2.7						
BRTR	Keskin Array B	147.07	306	PKPbc	PKPbc	03 35 14.4	-0.3
	comp=Z,0.3nm,0.5s,baz=73,slow=3.9,SNR=4.7						
ANTO	Ankara	147.65	307	PKPdf	PKPbc	03 35 14.7	-1.5
BURAR	Bucovina Array	148.76	325	PKPbc	PKiKP	03 35 20.7	+1.0
EKA	Eskdalemuir Ar	148.92	2	PKPbc	PKPbc	03 35 18.4	-0.3
	comp=Z,1.7nm,0.9s,baz=11,slow=2.2,SNR=4.7						

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*IDC **01** 03:17:45.5±0.8, 30.21°S×13.69°W, h0km, mb4.0/10, mbtmp4.0/10, Error ellipse: s-maj=24.2km s-min=20.3km az=90.0*

ISC 01 03:17:46.9±0.7, **30.2°S**±0.1°×**13.7°W**±0.1°, **h10**km, **n11**, σ**1.s21**/11, **mb4.1**/9, **Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof	33.84	97	P	P	03 24 29.1	-0.7
	2.9nm,0.9s,baz=250,slow=15,SNR=1.6						
	2.9nm,0.9s						
BDFB	Brasilia	34.63	287	P	P	03 24 35.3	-1.4
	5.3nm,0.8s,baz=145,slow=8.0,SNR=7.2						
	5.3nm,0.8s						
SNAA	Sanae	41.93	175	P	P	03 25 36.8	-0.7
	1.1nm,1.1s,baz=337,slow=7.7,SNR=2.6						
	1.1nm,1.1s						
TORD	Torodi Ar. Bea	45.58	21	P	P	03 26 05.9	-1.4
	1.6nm,0.9s,baz=196,slow=7.4,SNR=7.5						
	1.6nm,0.9s						
LPAZ	La Paz	51.47	273	P	P	03 26 54.5	+0.9
	1.4nm,0.8s,baz=144,slow=16,SNR=4.7						
	1.4nm,0.8s						
MAW	Mawson	57.34	154	P	P	03 27 34.6	-0.2
	1.6nm,0.8s,baz=307,slow=9.2,SNR=4.5						
	1.6nm,0.8s						
QSPA	South Pole Qui	60.02	180	P	P	03 27 54.8	+1.2
	1.3nm,0.9s,baz=227,slow=4.9,SNR=3.9						
	1.3nm,0.9s						
KEST	Kesra	69.08	20	P	P	03 28 54.3	+1.2
	2.7nm,0.8s,baz=153,slow=6.8,SNR=5.3						
	2.7nm,0.8s						
ESDC	Sonseca Array	70.12	8	P	P	03 28 59.5	+0.2
	0.5nm,0.8s,baz=197,slow=6.0,SNR=4.5						
	0.5nm,0.8s						
BRTR	Keskin Array B	82.31	35	P	P	03 30 10.3	+1.5
	1.1nm,0.8s,baz=207,slow=5.1,SNR=6.6						
	1.1nm,0.8s						
KSRS	Korea Array	147.47	67	PKPbc	PKPbc	03 37 30.4	-0.9
	1.2nm,0.7s,baz=272,slow=4.0,SNR=7.8						

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*SDD **01** 03:33:41.5±1.4, 18.45°N×72.19°W, h13km±34km, MD3.0, ML2.5, MW2.8*

*OSPL **01** 03:33:42.2±1.2, 18.42°N×72.04°W, h45km±13km, ML2.4*

ISC 01 03:33:42.0±1.3, **18.35°N**±0.07°×**72.04°W**±0.05°, **h28**km±9km, **n9**, σ**1.s21**/18, **2C-5D**, **Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIDR	Jimani	0.23	53	⇓ePg	Pb	03 33 47.6	-0.6
JIDR				⇓eSg	Sb	03 33 51.6	-0.9
JIDR				IAML		03 33 52.4	
	comp=N,872nm,0.4s						
PAPH	Port-au-Prince	0.30	305	i P	Pn	03 33 49.9	-0.6
PAPH				eS	Sb	03 33 56.2	+2.1
PAPH				IAML		03 33 57.2	
	comp=Z,290nm,0.3s						
LODU1	El Espartillar	0.54	90	i P	Pb	03 33 52.5	-0.5
LODU1				eS	Sb	03 34 00.8	+0.3
LODU1				IAML		03 34 06.9	
	comp=Z,382nm,0.2s						
NEDR	Neiba UASD	0.61	78	⇑ePg	Pb	03 33 54.2	+0.1
NEDR				⇓eSg	Sb	03 34 04.2	+1.9
NEDR				IAML		03 34 07.0	
	comp=N,250nm,0.2s						
PODR	Polo	0.75	104	i P	Pn	03 33 57.4	+0.6
PODR				i S	Sb	03 34 09.0	+2.5
PODR				IAML		03 34 15.5	
	comp=N,120nm,0.3s						
PODR	Polo	0.75	104	i P	Pn	03 33 56.4	-0.5
PODR				eS	Sb	03 34 05.7	-0.8
LOVI	El Cajuil, Ovi	0.85	131	i P	Pn	03 33 57.3	-0.7
LOVI				eS	Sn	03 34 09.2	-0.4
LOVI				IAML		03 34 15.7	
	comp=Z,101nm,1.6s						
SDDR	Presa de Saban	0.95	49	ePg	Pn	03 33 59.2	-0.3
SDDR				⇓eSg	Sb	03 34 12.2	0.0
ABDR	Alto Bandera	1.42	71	⇑ePg	Pb	03 34 07.8	-0.2
ABDR				⇓eSg	Sb	03 34 27.3	+1.5
ABDR				IAML		03 34 28.5	
	comp=N,33nm,0.5s						

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*DJA **01** 03:36:39.2±0.2, 8°S±2°×12°1E±°, h10km, M4.2/19, mB5.0/2, mb4.4/4, MLv4.2/19, Mw(mB)4.3/2*

*IDC **01** 03:36:40.5±2.4, 8.32°S×120.68°E, h65km±19km, mb3.6/6, mbtmp4.0/11, Error ellipse: s-maj=59.8km s-min=10.8km az=63.0*

ISC 01 03:36:39.6±0.7, **8.30°S**±0.04°×**120.76°E**±0.04°, **h50**km, **n35**, σ**2.s51**/41, **mb3.9**/7, **Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	1.44	199	P	Pn	03 37 04.9	+1.6
WSI				S	Sn	03 37 24.1	+3.1
MMRI	Maumere	1.50	103	P	Pn	03 37 05.7	+1.6
MMRI	Maumere	1.50	103	S	Sn	03 37 25.3	+2.8
MMRI	Maumere	1.50	103	P	Pn	03 37 05.7	+1.6
MMRI				S	Sn	03 37 24.7	+2.2
WBSI	Waikabubak, Su	1.90	225	P	Pn	03 37 12.4	+2.7
WBSI				S	Sn	03 37 37.4	+4.9
BASI	Baing, Sumba	1.92	185	P	Pn	03 37 11.6	+1.8
BASI				S	Sn	03 37 36.9	+4.1
BSSI	Bau Bau, Buton	2.16	353	P	Pn	03 37 14.2	+1.0
PLAI	Plampang	3.00	260	P	Pn	03 37 26.1	+1.4
PLAI	Plampang	3.00	260	S	Sn	03 38 00.5	+1.0
PLAI	Plampang	3.00	260	P	Pn	03 37 26.3	+1.6
BKSI	Bulukumba	3.02	348	P	Pn	03 37 26.0	+0.9
BBSI	Bau Bau	3.32	33	P	Pn	03 37 31.4	+2.3
KAPI	Kappang	3.42	343	P	Pn	03 37 32.5	+2.1
	101nm,0.5s,baz=168,slow=6.2,SNR=72						
KAPI				S	Sn	03 38 10.8	+1.1
	42nm,0.4s,baz=339,slow=21,SNR=7.8						
KAPI	Kappang	3.42	343	P	Pn	03 37 32.5	+2.1
BATI	Baumata	3.43	124	P	Pn	03 37 33.0	+2.3
	25nm,0.6s,baz=286,slow=4.4,SNR=6.1						
BATI	Baumata	3.43	124	P	Pn	03 37 34.4	+3.7
SOEI	Soe	3.75	113	P	Pn	03 37 36.9	+1.8
SOEI	Soe	3.75	113	P	Pn	03 37 39.7	+4.6
TWSI	Taliwang, Sumb	3.86	263	P	Pn	03 37 36.6	+0.1
BNSI	Bone	3.93	350	P	Pn	03 37 40.8	+3.4
TTSI	Tana Toraja	5.30	350	P	Pn	03 37 59.9	+3.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.1nm697nm25nm,0.7s						
JAGI	**Jajag, Banyuwa**	**6.54**	**268**	P	**Pn**	**03 38 13.9**	**+0.5**
JAGI	**Jajag, Banyuwa**	**6.54**	**268**	P	**Pn**	**03 38 14.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**10.83**	**155**	P	**Pn**	**03 39 11.7**	**-0.4**
	4.9nm,0.6s,baz=338,slow=7.6,SNR=18						
FITZ				S	**Sn**	**03 41 04.8**	**-7.2**
	4.5nm,0.9s,baz=271,slow=21,SNR=3.5						
MTN	**Manton Dam**	**11.15**	**115**	P	**Pn**	**03 39 17.1**	**+0.7**
KDU	**Kakadu**	**12.31**	**112**	P	**Pn**	**03 39 32.5**	**+0.2**
WRA	**Warramunga Arr**	**17.51**	**133**	P	**Pn**	**03 40 39.0**	**-1.4**
	3.4nm,0.7s,baz=307,slow=12,SNR=20						
ASAR	**Alice Springs**	**19.80**	**142**	P	**P**	**03 41 07.0**	**+0.9**
	2.5nm,0.7s,baz=323,slow=11,SNR=28						
STKA	**Stephens Creek**	**30.43**	**143**	P	**P**	**03 42 47.5**	**+0.1**
	0.8nm,0.4s,baz=355,slow=8.9,SNR=3.9						
	0.8nm,0.4s						
MJAR	**Matsushiro Arr**	**47.52**	**19**	P	**P**	**03 45 09.3**	**-0.7**
	0.8nm,0.6s,baz=193,slow=8.6,SNR=4.1						
	0.8nm,0.6s						
SONM	**Songino Array**	**57.32**	**349**	P	**P**	**03 46 23.0**	**+0.5**
	1.4nm,0.5s,baz=169,slow=8.3,SNR=5.6						
	1.4nm,0.5s						
HEH	**HeiHe**	**58.60**	**5**	*e*P	**P**	**03 46 30.0**	**-1.2**
HEH				PcP	PcP	03 47 36.2	+15
HEH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MKAR	**Makanchi Array**	**64.65**	**332**	P	**P**	**03 47 11.8**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=138,slow=7.5,SNR=6.6						
	comp=Z,0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**69.03**	**338**	P	**P**	**03 47 37.2**	**-2.6**
	comp=Z,0.6nm,0.4s,baz=156,slow=7.5,SNR=4.2						
	comp=Z,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**69.13**	**333**	P	**P**	**03 47 39.7**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=147,slow=5.4,SNR=4.5						
	comp=Z,0.3nm,0.5s						

IDC 01 03:59:27.7±2.3**, 0°.50S×129°.78E, h0^{km}, mb3.5**/2**, mbtmp3.5**/4**, ML3.5**/2**, Error ellipse: s-maj=105.6km s-min=27.7km az=73.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.96**	**193**	P	P	04 03 39.8	+0.2
	0.1nm,0.3s,baz=14,slow=4.2,SNR=1.5						
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**19.84**	**167**	P	P	04 03 59.5	-0.7
	0.2nm,0.3s,baz=347,slow=11,SNR=5.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**23.38**	**170**	P	P	04 04 38.4	+0.1
	1.6nm,0.6s,baz=347,slow=10,SNR=15						
	1.6nm,0.6s						
MKAR	**Makanchi Array**	**62.74**	**325**	P	P	04 09 54.8	0.0
	0.2nm,0.4s,baz=123,slow=5.3,SNR=2.7						
	0.2nm,0.4s						

IDC 01 04:06:34.5±80.0**, 15°.43S×167°.18E, h0^{km}, mb4.0**/3**, mbtmp4.0**/3**, Error ellipse: s-maj=1354.0km s-min=117.6km az=66.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.48**	**230**	P	P	04 12 31.6	+0.1
	1.0nm,0.5s,baz=65,slow=9.0,SNR=5.2						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**31.58**	**257**	P	P	04 12 59.2	+0.1
	0.6nm,0.4s,baz=88,slow=9.2,SNR=6.7						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**32.35**	**250**	P	P	04 13 05.7	-0.2
	1.3nm,0.4s,baz=81,slow=8.9,SNR=29						
	1.3nm,0.4s						

*IDC **01** 04:30:03.2±1.4, 1°.25N×124°.46E, h0^{km}, mb3.7/5, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=136.7km s-min=18.8km az=65.0*

*DJA **01** 04:30:33.6±0.8, 0°N±6°×12°4E±°, h202^{km}±12^{km}, M3.6/6, MLv3.6/6*

ISC 01 04:30:25.8±1.2**, 0°.9N**±0°.1×**124°.1E**±0°.1**, h200^{km}, n11,** σ**2s.97**/10**, mb3.5**/5**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**2.21**	**258**	P	Pn	04 31 12.7	+6.1
LUWI	**Luwuk**	**2.38**	**214**	P	Pn	04 31 13.5	+5.1
LUWI				S	**Sn**	**04 31 39.6**	**-2.0**
APSI	**Ampana**	**3.07**	**233**	P	**Pn**	**04 31 20.2**	**+3.9**
SANI	**Sanana**	**3.51**	**148**	P	**Pn**	**04 31 25.8**	**+4.2**
FITZ	**Fitzroy Crossi**	**18.98**	**176**	P	**P**	**04 34 30.6**	**-1.7**
	0.2nm,0.3s,baz=1.2,slow=9.2,SNR=5.0						
	1.9nm,0.9s						
WRA	**Warramunga Arr**	**23.05**	**155**	P	**P**	**04 35 12.7**	**-1.0**
	5.1nm,0.5s,baz=332,slow=9.8,SNR=60						
	5.1nm,0.5s						
ASAR	**Alice Springs**	**26.25**	**159**	P	**P**	**04 35 40.3**	**-2.4**
	0.2nm,0.4s,baz=332,slow=10,SNR=5.6						
	0.2nm,0.4s						
STKA	**Stephens Creek**	**36.60**	**155**	P	**P**	**04 37 11.9**	**-1.0**
	1.2nm,0.6s,baz=332,slow=12,SNR=4.8						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**58.41**	**327**	P	**P**	**04 40 00.8**	**+0.3**
	0.3nm,0.4s,baz=130,slow=8.5,SNR=6.0						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**62.72**	**329**	P	**P**	**04 40 29.2**	**-0.2**
	0.4nm,0.5s,baz=132,slow=6.9,SNR=5.1						
	0.4nm,0.5s						
BRG	**Berggiesshubel**	**101.88**	**323**	P	**Pdif**	**04 43 52.8**	**-3.8**
BRG				Amp		04 43 53.2	
	comp=Z,6.4nm,1.0s						
BRG				PKPPKP		05 11 46.1	
BRG				Amp		05 11 48.9	
	comp=Z,8.6nm,1.6s						

*ANF **01** 04:32:25.9±0.5, 59°.06N×136°.95W, h3^{km}±4^{km}, ML5.5/49, Error ellipse: s-maj=1.6km s-min=1.3km az=17.0*

*IDC **01** 04:32:25.1±0.3, 59°.21N×136°.93W, h0^{km}, mb4.6/36, mbtmp4.7/41, ML4.5/5, MS4.4/64, Error ellipse: s-maj=9.4km s-min=5.6km az=36.0*

*MOS **01** 04:32:26.2±1.0, 59°.22N×137°.00W, h17^{km}, mb5.2/53, MS4.6/15, Error ellipse: s-maj=10.9km s-min=4.2km az=100.2*

*NEIC **01** 04:32:26.1, 59°.10N×136°.97W, h22^{km}*

*AEIC **01** 04:32:26.1±2.0, 59°.10N±0°.02×136°.97W±0°.05, h10^{km}±3^{km}, mb5.0/561(NEIC), ML5.1/136(NEIC), Mwr5.0(OTT), Mwr4.9/75(NEIC), Mww5.0/57(NEIC), Error ellipse: s-maj=4.2km s-min=3.3km az=59.0*

*NEIC **01** 04:32:26, 59°.08N×136°.86W, h0^{km}*

*NEIC **01** 04:32:26.1, 59°.10N×136°.97W, h22^{km}, Moment Tensor Solution. Duration: 1s.5 Moment tensor: Scale 10^{16}Nm; M_{rr}4.23; $M_{\theta\theta}$-1.07; $M_{\phi\phi}$-3.16; $M_{r\theta}$-0.39; $M_{\theta\phi}$2.28; $M_{\phi r}$0.09; Fault plane solution: $M_0$4.45000×10^{16} NP1: ϕ_s151.39000°, δ43.29000°, λ95.95000°. NP2: ϕ_s323.25000°, δ47.00000°, λ84.43000°. Principal axes: T 4.2571, Plg86.0000°, Azm172.0000°; N 0.3691, Plg4.0000°, Azm327.0000°; P -4.6262, Plg2.0000°, Azm57.0000°;*

*PGC **01** 04:32:27.4±0.0, 59°.11N×136°.99W, h5^{km}, ML5.3/32, Mw5.0, 104km southwest of Skagway, Ak Southeastern Alaska*

*NEIC **01** 04:32:27.1±2.4, 59°.11N±0°.02×136°.94W±0°.06, h13^{km}±3^{km}, Error ellipse: s-maj=4.6km s-min=2.9km az=60.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.65; $M_{\theta\theta}$-0.45; $M_{\phi\phi}$-2.20; $M_{r\theta}$-0.99; $M_{\theta\phi}$1.84; $M_{\phi r}$-0.04; Fault plane solution: $M_0$3.22000×10^{16} NP1: ϕ_s167.53000°, δ43.99000°, λ120.04000°. NP2: ϕ_s308.74000°, δ53.04000°, λ64.21000°. Principal axes: T 3.0122, Plg69.0000°, Azm159.0000°; N 0.3891, Plg20.0000°, Azm325.0000°; P -3.4013, Plg5.0000°, Azm57.0000°;*

*NEIC **01** 04:32:27.4, 59°.11N×136°.99W, h15^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}4.40; $M_{\theta\theta}$-0.64; $M_{\phi\phi}$-1.78; $M_{r\theta}$0.72; $M_{\theta\phi}$2.02; $M_{\phi r}$0.62; Fault plane solution: $M_0$4.10000×10^{16} NP1: ϕ_s129.00000°, δ46.00000°, λ70.00000°. NP2: ϕ_s337.00000°, δ47.00000°, λ110.00000°. Principal axes: T 3.9760, Plg76.0000°, Azm321.0000°; N -0.0032, Plg14.0000°, Azm143.0000°; P -3.9728, Plg0.0000°, Azm53.0000°;*

*GCMT **01** 04:32:29.1±0.2, 59°.20N±0°.01×137°.00W±0°.02, h22^{km}, MW5.1/122, Moment Tensor Solution. s96,c146; s122,c194; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.85±.13; $M_{\theta\theta}$-1.06±.09; $M_{\phi\phi}$-3.79±.09; $M_{r\theta}$-0.26±.17; $M_{\theta\phi}$2.46±.06; $M_{\phi r}$0.42±.13; Best double couple: $M_0$5.06800×10^{16} NP1: ϕ_s150.00000°, δ42.00000°, λ90.00000°. NP2: ϕ_s329.00000°, δ48.00000°, λ90.00000°. Principal axes: T 4.8740, Plg87.0000°, Azm237.0000°; N 0.3880, Plg0.0000°, Azm329.0000°; P -5.2630, Plg3.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **01** 04:32:30.6, 59°.84N×139°.85W, h21^{km}±3^{km}, mb5.2, Ms4.7*

ISC 01 04:32:26.8±0.4**, 59°.08N**±0°.02×**137°.03W**±0°.01**, h12^{km}**±2^{km}**, h12^{km}:pP-P, n1502,** σ**1s.26**/1368**, mb5.0**/361**, MS4.6**/92**, 43C-40D, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.51**	**42**		**Pg**	**04 32 35.8**	**-0.8**
PLBC					**Sg**	**04 32 42.4**	**-1.0**
PLBC	**Pleasant Camp**	**0.51**	**42**	P	**Pg**	**04 32 35.9**	**-0.8**
PLBC				S	**Sg**	**04 32 42.1**	**-1.3**
PLBC	**Pleasant Camp**	**0.51**	**42**	P	**Pg**	**04 32 35.9**	**-0.8**
PLBC				S	**Sg**	**04 32 42.1**	**-1.3**
PLBC	**Pleasant Camp**	**0.51**	**42**	P	**Pg**	**04 32 35.9**	**-0.8**
	baz=214,SNR=1000						
PLBC				S	**Sg**	**04 32 41.4**	**-2.0**
	baz=214						
P29M	**Windy Craggy**	**0.66**	**327**		**Pg**	**04 32 38.6**	**-0.9**
P29M				IAML		04 32 53.4	
	comp=N,63µm,0.6s						
P29M	**Windy Craggy**	**0.66**	**327**	P	**Pg**	**04 32 38.8**	**-0.8**
P29M				S	**Sg**	**04 32 47.7**	**-0.5**
P29M	**Windy Craggy**	**0.66**	**327**	P	**Pg**	**04 32 38.7**	**-0.8**
P29M				S	**Sg**	**04 32 47.6**	**-0.5**
P29M	**Windy Craggy**	**0.66**	**327**	P	**Pg**	**04 32 38.6**	**-0.9**
	baz=141,SNR=1000						
P29M				S	**Sg**	**04 32 48.2**	**0.0**
	baz=141						
R31K	**City Hall, Gus**	**0.95**	**134**		**Pg**	**04 32 44.6**	**-0.4**
R31K					**Sb**	**04 32 57.6**	**-0.1**
R31K	**City Hall, Gus**	**0.95**	**134**	P	**Pg**	**04 32 44.6**	**-0.4**
R31K				S	**Sg**	**04 32 57.4**	**0.0**
R31K	**City Hall, Gus**	**0.95**	**134**	P	**Pg**	**04 32 44.5**	**-0.6**
R31K				S	**Sg**	**04 32 57.4**	**0.0**
R31K	**City Hall, Gus**	**0.95**	**134**	P	**Pg**	**04 32 44.3**	**-0.8**
	baz=319,SNR=98						
SKAG	**Skagway**	**0.95**	**66**		**Pg**	**04 32 43.6**	**-1.4**
SKAG				IAML		04 32 56.6	
	comp=N,73µm,0.6s						
SKAG				IAML		04 32 59.9	
	comp=E,43µm,0.7s						
SKAG	**Skagway**	**0.95**	**66**		**Sg**	**04 32 55.9**	**-1.6**
SKAG	**Skagway**	**0.95**	**66**	P	**Pg**	**04 32 43.6**	**-1.4**
SKAG	**Skagway**	**0.95**	**66**	S	**Sg**	**04 32 55.9**	**-1.6**
SKAG	**Skagway**	**0.95**	**66**	P	**Pg**	**04 32 43.7**	**-1.4**
	baz=245,SNR=1000						
SKAG				S	**Sg**	**04 32 55.2**	**-2.2**
	baz=245						
P30M	**Million Dollar**	**1.04**	**2**		**Pb**	**04 32 45.1**	**-1.6**
P30M					**Sg**	**04 32 58.9**	**-1.5**
P30M	**Million Dollar**	**1.04**	**2**	IAML		04 33 03.6	
	comp=E,34µm,0.8s						
P30M	**Million Dollar**	**1.04**	**2**	P	**Pb**	**04 32 45.4**	**-1.4**
P30M				S	**Sg**	**04 32 58.5**	**-1.9**
P30M	**Million Dollar**	**1.04**	**2**	P	**Pb**	**04 32 45.4**	**-1.4**
P30M				S	**Sg**	**04 32 58.9**	**-1.5**
P30M	**Million Dollar**	**1.04**	**2**	P	**Pb**	**04 32 45.3**	**-1.4**
	baz=177,SNR=1000						
P30M				S	**Sg**	**04 32 59.4**	**-1.0**
	baz=177						
S31K	**Pelican**	**1.20**	**159**		**Pn**	**04 32 48.1**	**-1.2**
S31K				IAML		04 33 07.2	
	comp=N,66µm,0.5s						
S31K	**Pelican**	**1.20**	**159**		**Sg**	**04 33 05.1**	**-0.3**
S31K	**Pelican**	**1.20**	**159**	P	**Pn**	**04 32 48.4**	**-1.0**
S31K				S	**Sb**	**04 33 04.6**	**-0.3**
S31K	**Pelican**	**1.20**	**159**	P	**Pn**	**04 32 48.1**	**-1.2**
S31K				S	**Sb**	**04 33 04.6**	**-0.3**
S31K	**Pelican**	**1.20**	**159**	P	**Pn**	**04 32 48.2**	**-1.2**
	baz=344,SNR=1000						
S31K				S	**Sb**	**04 33 04.6**	**-0.3**
	baz=344						
BESE	**Bessie Mountai**	**1.24**	**113**		**Pn**	**04 32 48.4**	**-1.5**
BESE	**Bessie Mountai**	**1.24**	**113**		**Sb**	**04 33 05.2**	**-0.8**
BESE	**Bessie Mountai**	**1.24**	**113**	P	**Pn**	**04 32 48.5**	**-1.5**
BESE				S	**Sb**	**04 33 04.9**	**-1.2**
BESE	**Bessie Mountai**	**1.24**	**113**	P	**Pn**	**04 32 48.5**	**-1.5**
BESE				S	**Sb**	**04 33 05.0**	**-1.0**
PNL	**Peninsula**	**1.35**	**297**		**Pn**	**04 32 50.5**	**-1.0**
PNL	**Peninsula**	**1.35**	**297**	P	**Pn**	**04 32 50.4**	**-1.0**
PNL	**Peninsula**	**1.35**	**297**	S	**Sn**	**04 33 09.5**	**+0.2**
PNL	**Peninsula**	**1.35**	**297**	Pn	**Pn**	**04 32 50.3**	**-1.1**
PNL				Sg	**Sb**	**04 33 07.9**	**-1.3**
PNL	**Peninsula**	**1.35**	**297**	P	**Pn**	**04 32 50.3**	**-1.1**
PNL	**Peninsula**	**1.35**	**297**	P	**Pn**	**04 32 50.2**	**-1.1**
	baz=113,SNR=1000						
YKU2	**Yakutat**	**1.42**	**289**		**Pb**	**04 32 52.9**	**-0.3**
YKU2	**Yakutat**	**1.42**	**289**		**Sg**	**04 33 13.1**	**+0.6**
YKU2	**Yakutat**	**1.42**	**289**	P	**Pb**	**04 32 52.9**	**-0.3**
YKU2	**Yakutat**	**1.42**	**289**	S	**Sg**	**04 33 13.4**	**+0.9**
O29M	**Mount Kennedy**	**1.45**	**328**		**Pn**	**04 32 51.9**	**-1.1**
O29M	**Mount Kennedy**	**1.45**	**328**		**Sn**	**04 33 12.0**	**0.0**
O29M	**Mount Kennedy**	**1.45**	**328**	Pn	**Pn**	**04 32 52.3**	**-0.7**
O29M				Sg	**Sb**	**04 33 12.2**	**-0.1**
O29M	**Mount Kennedy**	**1.45**	**328**	P	**Pn**	**04 32 51.7**	**-1.2**
O29M				S	**Sn**	**04 33 11.9**	**-0.2**
O29M	**Mount Kennedy**	**1.45**	**328**	P	**Pn**	**04 32 51.9**	**-1.1**
	baz=144,SNR=1000						
R32K	**Eaglecrest**	**1.54**	**121**		**Pn**	**04 32 52.9**	**-1.1**
R32K				IAML		04 33 17.6	
	comp=N,49µm,0.3s						
R32K				IAML		04 33 17.9	
	comp=E,41µm,0.3s						
R32K	**Eaglecrest**	**1.54**	**121**		**Sn**	**04 33 13.3**	**-0.7**
R32K	**Eaglecrest**	**1.54**	**121**	Pn	**Pn**	**04 32 53.0**	**-1.0**
R32K				Sg	**Sn**	**04 33 13.5**	**-0.5**
R32K	**Eaglecrest**	**1.54**	**121**	Pn	**Pn**	**04 32 52.9**	**-1.1**
R32K				Sn	**Sn**	**04 33 13.3**	**-0.7**
R32K	**Eaglecrest**	**1.54**	**121**	P	**Pn**	**04 32 53.0**	**-1.1**
	baz=304,SNR=1000						
YUK7	**Dusty Glacier**	**1.56**	**339**		**Pn**	**04 32 54.6**	**+0.1**
YUK7					**Sn**	**04 33 14.1**	**-0.6**
YUK7	**Dusty Glacier**	**1.56**	**339**	Pn	**Pn**	**04 32 54.6**	**+0.1**
YUK7	**Dusty Glacier**	**1.56**	**339**	Pn	**Pn**	**04 32 54.1**	**-0.3**
YUK7				Sn	**Sn**	**04 33 13.5**	**-1.1**
BCPM	**Bancas Point**	**1.59**	**304**		**Pn**	**04 32 54.1**	**-0.6**
BCPM				IAML		04 33 18.1	
	comp=N,32µm,0.7s						
BCPM				IAML		04 33 19.4	
	comp=E,21µm,0.3s						
BCPM	**Bancas Point**	**1.59**	**304**		**Sn**	**04 33 15.5**	**+0.3**
JIS	**Juneau Island**	**1.60**	**119**		**Pn**	**04 32 53.7**	**-1.1**
JIS					**Sn**	**04 33 14.6**	**-0.8**
JIS					**Sb**	**04 33 14.7**	**-1.6**
JIS	**Juneau Island**	**1.60**	**119**	P	**Pn**	**04 32 53.9**	**-0.9**
JIS	**Juneau Island**	**1.60**	**119**	S	**Sn**	**04 33 14.6**	**-0.8**
O30N	**Mendenhall**	**1.76**	**15**		**Pn**	**04 32 56.9**	**-0.2**
O30N				IAML		04 33 22.8	
	comp=E,22µm,0.8s						
O30N	**Mendenhall**	**1.76**	**15**		**Sn**	**04 33 19.8**	**+0.4**
O30N	**Mendenhall**	**1.76**	**15**	Pn	**Pn**	**04 32 57.8**	**+0.7**
O30N				Sg	**Sb**	**04 33 20.7**	**-0.2**
O30N	**Mendenhall**	**1.76**	**15**	Pn	**Pn**	**04 32 56.9**	**-0.2**
O30N				Sn	**Sn**	**04 33 18.9**	**-0.6**
O30N	**Mendenhall**	**1.76**	**15**	P	**Pn**	**04 32 57.1**	**0.0**
	baz=193,SNR=1000						
O30N				S	**Sb**	**04 33 20.3**	**-0.7**
	baz=193						
HYT	**Haines Junctio**	**1.76**	**352**		**Pn**	**04 32 56.9**	**-0.4**
HYT				IAML		04 33 24.2	
	comp=N,22µm,1.0s						
HYT				IAML		04 33 25.5	
	comp=E,19µm,0.7s						
HYT	**Haines Junctio**	**1.76**	**352**		**Sn**	**04 33 20.5**	**+0.8**
HYT	**Haines Junctio**	**1.76**	**352**	Pn	**Pn**	**04 32 57.5**	**+0.3**
HYT				Sg	**Sb**	**04 33 20.6**	**-0.6**
HYT	**Haines Junctio**	**1.76**	**352**	Pn	**Pn**	**04 32 56.8**	**-0.4**
HYT				Sn	**Sn**	**04 33 18.8**	**-0.8**
HYT	**Haines Junctio**	**1.76**	**352**	P	**Pn**	**04 32 56.9**	**-0.4**
	baz=169,SNR=1000						
HYT				S	**Sb**	**04 33 21.2**	**-0.1**
	baz=169						
P32M	**Atlin**	**1.77**	**72**		**Pn**	**04 32 56.5**	**-0.7**
P32M				IAML		04 33 22.8	
	comp=N,26µm,0.9s						
P32M				IAML		04 33 26.7	
	comp=E,14µm,1.5s						
P32M	**Atlin**	**1.77**	**72**		**Sn**	**04 33 19.2**	**-0.5**
P32M	**Atlin**	**1.77**	**72**	Pn	**Pn**	**04 32 56.7**	**-0.6**
P32M				Sg	**Sb**	**04 33 20.8**	**-0.6**
P32M	**Atlin**	**1.77**	**72**	Pn	**Pn**	**04 32 56.6**	**-0.7**
P32M				Sn	**Sn**	**04 33 18.6**	**-1.1**
P32M	**Atlin**	**1.77**	**72**	P	**Pn**	**04 32 56.4**	**-0.9**
	baz=254,SNR=1000						
P32M				S	**Sn**	**04 33 19.3**	**-0.5**
	baz=254						
WHY	**Whitehorse**	**1.92**	**33**		**Pn**	**04 32 59.0**	**-0.3**
WHY	**Whitehorse**	**1.92**	**33**		**Sn**	**04 33 24.0**	**+0.6**
WHY	**Whitehorse**	**1.92**	**33**	Pn	**Pn**	**04 33 00.1**	**+0.8**
WHY				Sg	**Sb**	**04 33 25.6**	**0.0**
WHY	**Whitehorse**	**1.92**	**33**	Pn	**Pn**	**04 32 59.1**	**-0.3**
WHY				Sg	**Sb**	**04 33 25.4**	**-0.2**
WHY	**Whitehorse**	**1.92**	**33**	P	**Pn**	**04 32 59.1**	**-0.2**
	baz=213,SNR=1000						
PINM	**Pinnacle**	**1.93**	**303**	P	**Pn**	**04 32 59.4**	**-0.1**
	baz=119,SNR=1000						
PCA	**Pinnacle**	**1.93**	**303**		**Pn**	**04 32 59.3**	**-0.1**
PCA	**Pinnacle**	**1.93**	**303**		**Sn**	**04 33 24.7**	**+0.9**
PCA	**Pinnacle**	**1.93**	**303**	Pn	**Pn**	**04 32 59.8**	**+0.3**
PCA				Sg	**Sn**	**04 33 24.4**	**+0.7**
PCA	**Pinnacle**	**1.93**	**303**	Pn	**Pn**	**04 32 59.4**	**-0.1**
PCA				Sn	**Sn**	**04 33 23.2**	**-0.6**
YUK6	**Outpost Mounta**	**1.98**	**341**		**Sb**	**04 33 27.8**	**+0.2**
YUK6	**Outpost Mounta**	**1.98**	**341**	Pn	**Pn**	**04 33 00.5**	**+0.2**
YUK6	**Outpost Mounta**	**1.98**	**341**	Pn	**Pn**	**04 33 00.1**	**-0.2**
YUK6	**Outpost Mounta**	**1.98**	**341**	P	**Pn**	**04 33 00.1**	**-0.2**
	baz=157,SNR=1000						
YUK5	**Granite Creek**	**2.10**	**349**		**Sn**	**04 33 28.7**	**+0.8**
YUK5	**Granite Creek**	**2.10**	**349**	Pn	**Pn**	**04 33 02.5**	**+0.7**
YUK5				Sg	**Sb**	**04 33 32.1**	**+1.2**
YUK5	**Granite Creek**	**2.10**	**349**	Pn	**Pn**	**04 33 02.3**	**+0.5**
YUK5				Sg	**Sb**	**04 33 31.8**	**+0.9**
SAMH	**Samovar Hills**	**2.18**	**300**		**Sb**	**04 33 32.3**	**-0.8**
SAMH	**Samovar Hills**	**2.18**	**300**	Pn	**Pn**	**04 33 04.0**	**+1.2**
SAMH				Sg	**Sb**	**04 33 33.2**	**+0.1**
SAMH	**Samovar Hills**	**2.18**	**300**	Pn	**Pn**	**04 33 03.0**	**+0.2**
SAMH				Sn	**Sn**	**04 33 29.4**	**-0.4**
SIT	**Sitka**	**2.23**	**155**		**Pn**	**04 33 02.3**	**-1.1**
SIT				IAML		04 33 40.4	
	comp=N,11µm,1.2s						
SIT				IAML		04 33 43.2	
	comp=E,19µm,0.7s						
SIT	**Sitka**	**2.23**	**155**	P	**Pn**	**04 33 03.0**	**-0.4**
SIT	**Sitka**	**2.23**	**155**	P	**Pn**	**04 33 02.3**	**-1.1**
SIT						04 33 32.5	
SIT	**Sitka**	**2.23**	**155**	P	**Pn**	**04 33 02.4**	**-1.1**
	baz=339,SNR=535						
CHX	**Chaix Hills**	**2.30**	**297**		**Sb**	**04 33 35.4**	**-1.2**
O28M	**Mount Upton**	**2.32**	**318**		**Pn**	**04 33 05.1**	**0.0**
O28M	**Mount Upton**	**2.32**	**318**	Pn	**Pn**	**04 33 05.3**	**+0.2**
O28M	**Mount Upton**	**2.32**	**318**	Pn	**Pn**	**04 33 05.1**	**0.0**
O28M	**Mount Upton**	**2.32**	**318**	P	**Pn**	**04 33 05.1**	**0.0**
	baz=134						
N30M	**Aishikik Lake**	**2.38**	**359**		**Pn**	**04 33 05.7**	**0.0**
N30M				IAML		04 33 42.7	
	comp=E,10µm,1.2s						
N30M	**Aishikik Lake**	**2.38**	**359**	Pn	**Pn**	**04 33 06.0**	**+0.3**
N30M				Pg	**Pb**	**04 33 10.1**	**+0.4**
N30M				Sg	**Sb**	**04 33 40.6**	**+1.6**
N30M	**Aishikik Lake**	**2.38**	**359**	Pn	**Pn**	**04 33 05.6**	**0.0**
N30M				Pg	**Pb**	**04 33 09.7**	**0.0**
N30M				Sn	**Sn**	**04 33 33.2**	**-1.7**
N30M				Sg	**Sb**	**04 33 40.6**	**+1.6**
N30M	**Aishikik Lake**	**2.38**	**359**	P	**Pn**	**04 33 05.8**	**0.0**
	baz=177,SNR=1000						
YUK4	**Talbot Arm**	**2.41**	**341**	Pn	**Pn**	**04 33 07.9**	**+1.8**
YUK4				Sg	**Sg**	**04 33 44.3**	**+0.2**
YUK4	**Talbot Arm**	**2.41**	**341**	Pn	**Pn**	**04 33 07.7**	**+1.5**
YUK4				Sn	**Sn**	**04 33 35.4**	**-0.3**
YUK4	**Talbot Arm**	**2.41**	**341**	P	**Pn**	**04 33 07.7**	**+1.5**
	baz=160,SNR=1000						
YUK4				Sb	**Sg**	**04 33 44.6**	**+0.5**
	baz=160						
P33M	**Teslin, Yukon**	**2.42**	**60**		**Pn**	**04 33 05.5**	**-0.7**
P33M				IAML		04 33 48.5	
	comp=N,8µm,1.1s						
P33M				IAML		04 33 48.6	
	comp=E,8µm,1.3s						
P33M	**Teslin, Yukon**	**2.42**	**60**	Pn	**Pn**	**04 33 05.8**	**-0.4**
P33M				Pg	**Pb**	**04 33 10.3**	**+0.1**
P33M				Sg	**Sb**	**04 33 41.0**	**+1.0**
P33M	**Teslin, Yukon**	**2.42**	**60**	Pn	**Pn**	**04 33 05.6**	**-0.7**
P33M				Pg	**Pb**	**04 33 10.2**	**0.0**
P33M				Sg	**Sb**	**04 33 40.7**	**+0.7**
P33M	**Teslin, Yukon**	**2.42**	**60**	P	**Pn**	**04 33 05.5**	**-0.7**
	baz=243,SNR=1000						
Q32M	**Nakina River**	**2.46**	**91**		**Pn**	**04 33 05.9**	**-1.0**
Q32M				IAML		04 33 45.9	
	comp=E,14µm,0.9s						
Q32M				IAML		04 33 50.6	
	comp=N,16µm,1.1s						
Q32M	**Nakina River**	**2.46**	**91**	Pn	**Pn**	**04 33 06.3**	**-0.6**
Q32M				Pg	**Pb**	**04 33 11.8**	**+0.7**
Q32M				Sg	**Sb**	**04 33 43.2**	**+1.8**
Q32M	**Nakina River**	**2.46**	**91**	Pn	**Pn**	**04 33 06.3**	**-0.6**
Q32M				Pg	**Pb**	**04 33 11.2**	**+0.1**
Q32M				Sn	**Sn**	**04 33 36.9**	**-0.1**
Q32M				Sg	**Sb**	**04 33 43.6**	**+2.2**
Q32M	**Nakina River**	**2.46**	**91**	P	**Pn**	**04 33 06.0**	**-0.9**
	baz=275,SNR=1000						
TABL	**Table Mountain**	**2.49**	**305**	IAML		04 33 45.9	
	comp=N,9µm,1.0s						
TABL	**Table Mountain**	**2.49**	**305**	Pn	**Pn**	**04 33 07.6**	**+0.4**
TABL	**Table Mountain**	**2.49**	**305**	Pn	**Pn**	**04 33 07.3**	**+0.1**
TABL				Sn	**Sn**	**04 33 36.9**	**-0.7**
N31M	**Braeburn, Yuko**	**2.49**	**14**		**Pn**	**04 33 07.3**	**+0.2**
N31M				IAML		04 33 47.3	
	comp=N,17µm,0.9s						
N31M	**Braeburn, Yuko**	**2.49**	**14**	Pn	**Pn**	**04 33 08.4**	**+1.3**
N31M				Pg	**Pb**	**04 33 11.3**	**-0.1**
N31M	**Braeburn, Yuko**	**2.49**	**14**	Pn	**Pn**	**04 33 07.5**	**+0.4**
N31M				Pg	**Pb**	**04 33 11.3**	**-0.1**
N31M				Sn	**Sn**	**04 33 35.3**	**-2.2**
N31M				Sg	**Sb**	**04 33 43.6**	**+1.6**
N31M	**Braeburn, Yuko**	**2.49**	**14**	P	**Pn**	**04 33 07.5**	**+0.4**
	baz=193,SNR=177						
N31M				Sb	**Sb**	**04 33 43.8**	**+1.8**
	baz=193						
BRWY	**Burwash Landin**	**2.50**	**337**	Pn	**Pn**	**04 33 07.8**	**+0.5**
BRWY	**Burwash Landin**	**2.50**	**337**	Pn	**Pn**	**04 33 07.8**	**+0.5**
BRWY				Sn	**Sn**	**04 33 37.0**	**-0.8**
RKAV	**Rock Avalanche**	**2.51**	**301**	Pn	**Pn**	**04 33 08.1**	**+0.6**
RKAV	**Rock Avalanche**	**2.51**	**301**	Pn	**Pn**	**04 33 07.6**	**+0.2**
RKAV				Sn	**Sn**	**04 33 38.2**	**+0.2**
YUK8	**Steele Glacier**	**2.60**	**329**	Pn	**Pn**	**04 33 09.5**	**+0.7**
YUK8	**Steele Glacier**	**2.60**	**329**	Pn	**Pn**	**04 33 09.4**	**+0.6**
YUK8	**Steele Glacier**	**2.60**	**329**	P	**Pn**	**04 33 09.5**	**+0.7**
	baz=146,SNR=303						
LOGN	**Logan Glacier**	**2.66**	**313**		**Pn**	**04 33 09.4**	**-0.1**
LOGN				IAML		04 33 54.6	
	comp=N,5µm,0.8s						
LOGN	**Logan Glacier**	**2.66**	**313**	Pn	**Pn**	**04 33 10.0**	**+0.5**
LOGN	**Logan Glacier**	**2.66**	**313**	Pn	**Pn**	**04 33 09.1**	**-0.4**
YAH	**Yahtse**	**2.71**	**300**	IAML		04 33 50.3	
	comp=E,7µm,0.9s						
YAH				IAML		04 33 51.8	
	comp=N,5µm,1.2s						
MESA	**MESA**	**2.73**	**296**	IAML		04 33 56.9	
	comp=N,9µm,1.0s						
MESA				IAML		04 34 02.9	
	comp=E,6µm,0.8s						
MESA	**MESA**	**2.73**	**296**	Pn	**Pn**	**04 33 10.5**	**-0.1**
MESA	**MESA**	**2.73**	**296**	Pn	**Pn**	**04 33 10.4**	**-0.2**
MESA	**MESA**	**2.73**	**296**	P	**Pn**	**04 33 10.2**	**-0.3**
	baz=111						
MESA				S	**Sb**	**04 33 46.7**	**-2.4**
	baz=111						
N32M	**Quiet Lake**	**2.86**	**42**	Pn	**Pn**	**04 33 12.5**	**+0.2**
N32M				Sg	**Sb**	**04 33 54.4**	**+1.6**
N32M	**Quiet Lake**	**2.86**	**42**	Pn	**Pn**	**04 33 12.0**	**-0.3**
N32M				Sg	**Sb**	**04 33 54.4**	**+1.6**
N32M	**Quiet Lake**	**2.86**	**42**	P	**Pn**	**04 33 11.7**	**-0.5**
	baz=224						
N32M				Sb	**Sb**	**04 33 54.1**	**+1.4**

baz=224
CTGM Chitina Glacie 2.87 313 Pn 04 33 12.2 -0.2
CTGM IAML 04 34 00.7
comp=N,4µm,0.7s
CTGM Chitina Glacie 2.87 313 Pn Pn 04 33 12.5 +0.1
CTGM Chitina Glacie 2.87 313 Pn Pn 04 33 12.2 -0.2
CTGM Sn **Sn 04 33 46.6 -0.3**
CTG Chitna Glacier 2.87 313 P Pn 04 33 12.2 -0.2
baz=128,SNR=162
GRNC Granite Creek 2.90 307 Pn 04 33 13.0 +0.1
GRNC Granite Creek 2.90 307 Pn Pn 04 33 13.1 +0.2
GRNC Granite Creek 2.90 307 Pn Pn 04 33 12.8 -0.1
GRNC Sn **Sn 04 33 48.0 +0.3**
CYK Cape Yakataga 2.95 292 Pn 04 33 13.6 +0.2
BARN Barnard Glacie 3.05 312 Pn 04 33 14.9 -0.1
ISLE Juniper Island 3.08 302 Pn 04 33 15.7 +0.3
ISLE Juniper Island 3.08 302 IAML 04 34 12.6
comp=N,5µm,1.0s
ISLE IAML 04 34 34.3
comp=E,4µm,0.9s
R33M Jennings River 3.13 82 Pn 04 33 15.2 -0.7
R33M IAML 04 34 09.3
comp=E,6µm,0.9s
R33M Jennings River 3.13 82 Pn Pn 04 33 15.4 -0.6
R33M Pg **Pb 04 33 22.6 +0.2**
R33M Jennings River 3.13 82 Pn Pn 04 33 15.3 -0.7
R33M Pg **Pb 04 33 22.6 +0.2**
R33M Jennings River 3.13 82 P Pn 04 33 15.0 -1.0
baz=266,SNR=1000
R33M Sb **Sb 04 34 01.6 +1.1**
baz=266
T33K Petersburg 3.15 135 Pn 04 33 15.9 -0.1
T33K Petersburg 3.15 135 Pn Pn 04 33 16.1 0.0
T33K Petersburg 3.15 135 Pn Pn 04 33 15.9 -0.1
T33K Petersburg 3.15 135 P Pn 04 33 14.6 -1.4
baz=319,SNR=88
SNH Sunshine Point 3.15 293 IAML 04 34 15.7
comp=E,4µm,0.7s
SNH IAML 04 34 24.9
comp=N,6µm,1.3s
YUK3 Moose Creek 3.19 329 Pn Pn 04 33 17.3 +0.3
YUK3 Moose Creek 3.19 329 P Pn 04 33 17.2 +0.3
baz=145,SNR=622
YUK3 Sb **Sg 04 34 07.8 -1.4**
baz=145
WAX Waxell Ridge 3.25 297 IAML 04 34 08.4
comp=E,5µm,0.9s
KIAG Kiagna River 3.25 307 Pn Pn 04 33 17.9 +0.2
KIAG Kiagna River 3.25 307 Pn Pn 04 33 17.6 -0.1
YUK2 White River 3.31 327 Pn Pn 04 33 18.8 +0.4
YUK2 White River 3.31 327 Pn Pn 04 33 18.7 +0.3
BALM Baldy 3.31 309 Pn Pn 04 33 18.5 0.0
BALM Baldy 3.31 309 Pn Pn 04 33 18.3 -0.1
S34M Telegraph Cree 3.31 108 Pn 04 33 17.7 -0.7
S34M Telegraph Cree 3.31 108 Pn Pn 04 33 17.8 -0.5
S34M Sg **Sb 04 34 08.0 +2.5**
S34M Telegraph Cree 3.31 108 Pn Pn 04 33 17.7 -0.7
S34M Sn **Sn 04 33 57.1 -0.5**
S34M Telegraph Cree 3.31 108 P Pn 04 33 17.6 -0.7
baz=294,SNR=111
S34M Sb **Sb 04 34 06.9 +1.3**
baz=294
BGLC Bering Glacier 3.35 291 P Pn 04 33 18.9 +0.1
baz=105
M31M Drury Creek, Y 3.39 21 Pn 04 33 20.1 +0.7
M31M IAML 04 34 18.0
comp=E,7µm,0.7s
M31M IAML 04 34 20.3
comp=N,4µm,1.2s
M31M Drury Creek, Y 3.39 21 Pn Pn 04 33 20.1 +0.7
M31M Drury Creek, Y 3.39 21 Pn Pn 04 33 19.9 +0.4
M31M Drury Creek, Y 3.39 21 P Pn 04 33 20.1 +0.7
baz=202,SNR=210
M31M Sb **Sb 04 34 11.0 +3.2**
baz=202
PTPK Patty Peak 3.44 310 Pn Pn 04 33 21.9 +1.5
PTPK Patty Peak 3.44 310 Pn Pn 04 33 20.4 +0.1
M29M Somme Creek 3.44 349 IAML 04 34 14.4
comp=E,3µm,0.8s
M29M IAML 04 34 20.1
comp=N,4µm,0.8s
M29M Somme Creek 3.44 349 Pn Pn 04 33 21.1 +0.8
M29M Somme Creek 3.44 349 Pn Pn 04 33 20.9 +0.5
M29M Sn **Sn 04 34 00.3 -0.8**
M29M Somme Creek 3.44 349 P Pn 04 33 20.8 +0.5
baz=166,SNR=1000
M29M S **Sn 04 34 02.4 +1.3**
baz=166
CRQE Cirque 3.48 301 P Pn 04 33 21.0 +0.2
baz=116,SNR=136
CRQE S **Sn 04 34 05.4 +3.4**
baz=116
CRQM Cirque 3.50 301 IAML 04 34 45.9
comp=N,4µm,0.9s
CRQM IAML 04 34 46.0
comp=E,3µm,0.8s
M30M Minto, Yukon 3.51 2 Pn 04 33 21.2 +0.1
M30M IAML 04 34 20.0
comp=N,3µm,1.0s
M30M IAML 04 34 25.8
comp=E,5µm,1.5s
M30M Minto, Yukon 3.51 2 Pn Pn 04 33 21.2 +0.1
M30M Pg **Pb 04 33 30.6 +1.9**
M30M Minto, Yukon 3.51 2 Pn Pn 04 33 20.9 -0.2
M30M Pg **Pb 04 33 28.7 0.0**
M30M Sg **Sb 04 34 14.8 +3.5**
M30M Minto, Yukon 3.51 2 P Pn 04 33 21.1 0.0
baz=181,SNR=381
M30M Sb **Sb 04 34 15.1 +3.9**
baz=181
SUCK Suckling Hills 3.57 289 IAML 04 34 35.7
comp=E,3µm,0.9s
BERG Berg Lake 3.62 294 IAML 04 34 30.3
comp=N,5µm,1.0s
U33K Whale Pass 3.64 143 IAML 04 34 29.3
comp=E,5µm,1.1s
U33K IAML 04 34 32.2
comp=N,4µm,1.2s
U33K Whale Pass 3.64 143 Pn Pn 04 33 21.5 -1.4
U33K Whale Pass 3.64 143 Pn Pn 04 33 21.0 -1.9
U33K Sn **Sn 04 34 03.9 -1.8**
U33K Whale Pass 3.64 143 P Pn 04 33 21.4 -1.5
baz=328,SNR=135
WRAK Wrangell Islan 3.67 135 Pn 04 33 21.9 -1.3
WRAK Wrangell Islan 3.67 135 Pn Pn 04 33 22.1 -1.1
WRAK Sn **Sn 04 34 05.0 -1.3**
WRAK Wrangell Islan 3.67 135 Pn Pn 04 33 21.9 -1.3
WRAK Sn **Sn 04 34 05.0 -1.3**
WRAK Wrangell Islan 3.67 135 P Pn 04 33 22.0 -1.3
baz=320,SNR=1000
WRAK S **Sn 04 34 05.7 -0.6**
baz=320
DLBC Dease Lake 3.70 97 Pn Pn 04 33 23.1 -0.7
comp=N,475nm,0.3s,baz=262,slow=9.6,SNR=582
DLBC Sn **Sn 04 34 07.6 +0.2**
comp=N,2µm,0.3s,baz=286,slow=18,SNR=4.8
DLBC Lg Lg 04 34 20.5
comp=N,9µm,0.3s,baz=185,slow=19,SNR=14
DLBC Dease Lake 3.70 97 P Pn 04 33 23.0 -0.9
baz=283,SNR=711
DLBC Sb **Sb 04 34 19.5 +2.5**
baz=283
MCARA McCarthy VSAT 3.78 310 Pn 04 33 25.6 +0.9
MCARA IAML 04 34 29.6
comp=E,4µm,0.9s
MCARA IAML 04 34 41.3
comp=N,3µm,0.9s
MCARA McCarthy VSAT 3.78 310 Pn Pn 04 33 25.6 +0.9
MCARA McCarthy VSAT 3.78 310 Pn Pn 04 33 25.0 +0.3
MCARA McCarthy VSAT 3.78 310 P Pn 04 33 25.2 +0.5
baz=124,SNR=130
BVCY Beaver Creek 3.83 332 Pn Pn 04 33 25.7 +0.1
BVCY Beaver Creek 3.83 332 P Pn 04 33 25.6 +0.1
baz=148,SNR=449
BVCY Sb **Sg 04 34 26.0 -3.7**
baz=148
KAIM Kayak Island 3.86 286 Pn 04 33 25.6 -0.3
KAIM IAML 04 34 45.1
comp=N,3µm,1.0s
KAIM IAML 04 34 47.7
comp=E,2µm,1.0s
KAIM Kayak Island 3.86 286 P Pn 04 33 26.0 +0.1
baz=99,SNR=34
VRDI Verde Repeater 3.86 307 Pn 04 33 25.8 -0.3
HMT Hamilton 3.87 292 IAML 04 34 22.6
comp=N,5µm,0.8s
M27K Edge Creek, AK 4.06 326 Pn 04 33 29.2 +0.5
M27K IAML 04 34 45.8
comp=N,3µm,0.8s
M27K IAML 04 34 52.2
comp=E,2µm,1.0s
M27K Edge Creek, AK 4.06 326 Pn Pn 04 33 29.2 +0.5
M27K Edge Creek, AK 4.06 326 Pn Pn 04 33 29.2 +0.5
M27K Edge Creek, AK 4.06 326 P Pn 04 33 29.2 +0.5
baz=141,SNR=152
L29M L29M 4.08 353 Pn 04 33 29.3 +0.4
L29M L29M 4.08 353 Pn Pn 04 33 29.5 +0.6
L29M Sg **Sg 04 34 33.7 -3.8**
L29M L29M 4.08 353 Pn Pn 04 33 28.6 -0.3
L29M Sg **Sg 04 34 33.3 -4.1**
L29M L29M 4.08 353 P Pn 04 33 29.4 +0.5
baz=171,SNR=617
RAGM Ragged Mountai 4.08 292 IAML 04 34 55.9
comp=E,4µm,0.9s
GLB Gilahina Butte 4.12 308 Pn 04 33 29.7 +0.1
T35M Bob Quinn 4.17 117 Pn Pn 04 33 30.0 -0.2
T35M Sg **Sg 04 34 36.2 -4.5**
T35M Bob Quinn 4.17 117 Pn Pn 04 33 29.8 -0.4
T35M Sg **Sg 04 34 36.2 -4.5**
T35M Bob Quinn 4.17 117 P Pn 04 33 29.6 -0.6
baz=304,SNR=132
CRAG Craig 4.20 148 Pn 04 33 29.5 -1.0
CRAG Craig 4.20 148 P Pn 04 33 29.8 -0.7
CRAG Craig 4.20 148 P Pn 04 33 29.6 -1.0
baz=332,SNR=83
BMRM Bremner River 4.25 300 IAML 04 34 35.0
comp=N,2µm,0.7s
BMRM IAML 04 34 52.0
comp=E,2µm,0.8s
BMRM Bremner River 4.25 300 P Pn 04 33 31.2 -0.1
baz=113,SNR=46
WTLY Watson Lake, Y 4.31 73 Pn 04 33 31.6 -0.5
WTLY Watson Lake, Y 4.31 73 Pg Pb 04 33 44.1 +1.7
WTLY Sg **Sb 04 34 37.8 +3.4**
WTLY Watson Lake, Y 4.31 73 Pg Pb 04 33 43.9 +1.5
M26K Nabesna, AK 4.43 321 Pn Pn 04 33 34.2 +0.3
M26K Nabesna, AK 4.43 321 Pn Pn 04 33 34.0 +0.1
M26K Nabesna, AK 4.43 321 P Pn 04 33 34.4 +0.6
baz=135,SNR=39
MMPY Sheldon Lake, 4.53 36 Pn 04 33 35.3 +0.2
MMPY Sheldon Lake, 4.53 36 Pn Pn 04 33 35.5 +0.3
MMPY Pg **Pb 04 33 48.5 +2.3**
MMPY Sg **Sg 04 34 48.0 -4.1**
MMPY Sheldon Lake, 4.53 36 Pn Pn 04 33 35.4 +0.2
MMPY Pg **Pb 04 33 48.1 +1.9**
MMPY Sg **Sb 04 34 46.0 +5.3**
MMPY Sheldon Lake, 4.53 36 P Pn 04 33 35.2 +0.2
baz=220
N25K Chitina, Valde 4.53 307 Pn Pn 04 33 35.6 +0.4
N25K Chitina, Valde 4.53 307 Pn Pn 04 33 35.3 +0.1
N25K Chitina, Valde 4.53 307 P Pn 04 33 36.1 +0.9
baz=120,SNR=100
MAYO Mayo, Yukon 4.56 6 Sg Sb 04 34 46.9 +5.3
BCAR Beaver Creek A 4.61 332 Pn 04 33 35.9 -0.4
L27K Beaver Creek, 4.62 332 IAML 04 35 00.5
comp=E,1µm,0.9s
L27K Beaver Creek, 4.62 332 Pn Pn 04 33 36.0 -0.5
L27K Pg **Pb 04 33 50.3 +2.6**
L27K Beaver Creek, 4.62 332 Pn Pn 04 33 35.9 -0.5
L27K Beaver Creek, 4.62 332 P Pn 04 33 35.9 -0.5
baz=147,SNR=266
EYAK Cordova Ski Ar 4.64 292 Pn 04 33 36.7 +0.2
EYAK Cordova Ski Ar 4.64 292 P Pn 04 33 36.8 +0.2
EYAK Cordova Ski Ar 4.64 292 P Pn 04 33 37.0 +0.4
baz=104,SNR=32
V35K Ketchikan 4.78 140 IAML 04 35 12.6
comp=N,2µm,1.2s
V35K Ketchikan 4.78 140 Pn Pn 04 33 37.7 -0.8
V35K Sn **Sn 04 34 32.1 -1.7**
V35K Ketchikan 4.78 140 Pn Pn 04 33 37.4 -1.1
V35K Sn **Sn 04 34 32.4 -1.4**
V35K Ketchikan 4.78 140 P Pn 04 33 37.7 -0.8
baz=325,SNR=450
K29M Barlow Dome 4.78 357 IAML 04 35 04.1
comp=N,2µm,0.9s
K29M IAML 04 35 08.9
comp=E,2µm,1.4s
K29M Barlow Dome 4.78 357 Pn Pn 04 33 39.8 +1.1
K29M Barlow Dome 4.78 357 Pn Pn 04 33 38.8 +0.1
K29M Sn **Sn 04 34 32.0 -2.1**
K29M Barlow Dome 4.78 357 P Pn 04 33 39.4 +0.7
baz=176,SNR=1000
Q23K Middleton Isla 4.80 278 Pn 04 33 38.4 -0.3
Q23K Middleton Isla 4.80 278 P Pn 04 33 39.0 +0.2
baz=90
DIV Divide 4.83 299 Pn Pn 04 33 39.8 +0.5
U35K Hyder 4.93 127 Pn 04 33 41.2 +0.6
U35K Hyder 4.93 127 Pn Pn 04 33 41.3 +0.7
U35K Hyder 4.93 127 Pn Pn 04 33 41.2 +0.6
U35K Hyder 4.93 127 P Pn 04 33 41.1 +0.5
baz=314,SNR=103
HIN Hinchinbrook I 4.97 289 IAML 04 35 21.9
comp=E,1µm,1.0s
HIN IAML 04 35 26.2
comp=N,1µm,1.1s
TGTN Hyland Airport 5.00 57 Pn 04 33 41.8 +0.3
TGTN Hyland Airport 5.00 57 Pn Pn 04 33 41.5 0.0
TGTN Hyland Airport 5.00 57 Pn Pn 04 33 41.5 0.0
TGTN Hyland Airport 5.00 57 P Pn 04 33 41.6 0.0
baz=244,SNR=66
L26K Log Cabin Wild 5.00 325 IAML 04 35 14.2
comp=E,1µm,0.7s
L26K IAML 04 35 14.7
comp=N,864nm,0.7s
L26K Log Cabin Wild 5.00 325 Pn Pn 04 33 41.8 +0.1
L26K Log Cabin Wild 5.00 325 Pn Pn 04 33 41.6 0.0
L26K Log Cabin Wild 5.00 325 P Pn 04 33 41.8 +0.1
baz=139,SNR=83
KLU Klutina 5.04 302 IAML 04 35 06.7
comp=E,891nm,0.8s
KLU IAML 04 35 09.8
comp=N,889nm,0.7s
KLU Klutina 5.04 302 P Pn 04 33 43.5 +1.3
baz=114,SNR=57
MENT Mentasta 5.05 323 P Pn 04 33 43.5 +1.2
DAWY Dawson 5.12 348 Pn 04 33 44.1 +0.8
DAWY Dawson 5.12 348 Pn Pn 04 33 44.0 +0.8
DAWY Dawson 5.12 348 Pn Pn 04 33 43.9 +0.5
DAWY Sn **Sn 04 34 39.6 -2.8**
DAWY Sg **Sg 04 35 05.8 -5.3**
DAWY Dawson 5.12 348 P Pn 04 33 44.1 +0.8
baz=165,SNR=576
HARP HAARP 5.19 313 Pn 04 33 45.6 +1.4
HARP HAARP 5.19 313 P Pn 04 33 46.2 +2.1
baz=126,SNR=25
GLI Glacier Island 5.37 294 IAML 04 34 53.4
comp=E,611nm,1.0s
GLI Glacier Island 5.37 294 P Pn 04 33 47.1 +0.6
baz=105,SNR=69
J29N Klondike Camp 5.42 355 Pn Pn 04 33 48.4 +1.1
J29N Klondike Camp 5.42 355 Pn Pn 04 33 47.8 +0.5
J29N Klondike Camp 5.42 355 P Pn 04 33 48.2 +0.9
baz=173,SNR=32
M24K Tolsona, Glenn 5.43 308 Pn 04 33 48.9 +1.3
M24K Tolsona, Glenn 5.43 308 P Pn 04 33 50.1 +2.6
baz=119,SNR=82
K27K Chicken 5.52 336 Pn Pn 04 33 49.1 +0.5
K27K Chicken 5.52 336 Pn Pn 04 33 49.1 +0.5
K27K Chicken 5.52 336 P Pn 04 33 49.1 +0.5
baz=151
J30M Hart River 5.52 3 Pn Pn 04 33 50.0 +1.1
J30M Hart River 5.52 3 Pn Pn 04 33 49.1 +0.3
J30M Hart River 5.52 3 P Pn 04 33 49.9 +1.1
baz=183,SNR=175
NDB Naden 5.62 155 Pn Pn 04 33 50.3 +0.2
LIRD Liard River Hi 5.62 82 Pn Pn 04 33 50.3 +0.2
PAX Paxson 5.66 317 Pn 04 33 51.2 +0.5
PAX Paxson 5.66 317 Pn Pn 04 33 51.2 +0.5
PAX Paxson 5.66 317 Pn Pn 04 33 50.8 +0.1
PAX Paxson 5.66 317 P Pn 04 33 51.2 +0.5
PAX Paxson 5.66 317 P Pn 04 33 51.4 +0.7
baz=129,SNR=31
DOT Dot Lake 5.69 327 Pn Pn 04 33 50.8 -0.3
SCM Sheep Creek Mo 5.79 303 P Pn 04 33 53.8 +1.3
baz=114,SNR=41
SCRK Sand Creek 5.93 329 P Pn 04 33 54.1 -0.2
baz=142,SNR=182
PCLB Port Clements 5.93 153 Pn Pn 04 33 54.8 +0.4
PCLB Port Clements 5.93 153 Pn Pn 04 33 54.6 +0.2
M23K Glacier View 5.95 302 P Pn 04 33 55.3 +0.7
baz=112,SNR=62
PWL Port Wells 5.95 292 P Pn 04 33 54.7 +0.1
baz=102,SNR=62
RIDG Independent Ri 5.99 325 P Pn 04 33 55.0 -0.2
baz=137,SNR=60
TOAD Toad River Com 6.11 87 Pn Pn 04 33 56.7 -0.1
TOAD Toad River Com 6.11 87 Pn Pn 04 33 56.6 -0.1
TOAD Toad River Com 6.11 87 P Pn 04 33 56.1 -0.7
baz=277
KNK Knik Glacier 6.15 297 P Pn 04 33 58.6 +1.2
baz=107,SNR=37
I30M Mount Dempster 6.17 3 Pn Pn 04 33 59.2 +1.5
I30M Mount Dempster 6.17 3 Pn Pn 04 33 58.6 +0.9
I30M Mount Dempster 6.17 3 P Pn 04 33 58.8 +1.1
baz=182,SNR=452
J26L Joseph Creek 6.25 333 P Pn 04 33 59.1 +0.3
baz=147,SNR=161
WAT6 Susitna Watana 6.30 308 Pn 04 33 60.0 +0.4
WAT6 Susitna Watana 6.30 308 P Pn 04 34 00.9 +1.3
baz=119,SNR=76
K24K Donnelly Dome 6.32 322 P Pn 04 34 01.4 +1.7
baz=134
I29M Ogilvie Camp, 6.33 355 Pn 04 34 00.9 +1.2
I29M Ogilvie Camp, 6.33 355 Pn Pn 04 34 01.0 +1.2
I29M Ogilvie Camp, 6.33 355 Pn Pn 04 34 00.4 +0.6
I29M Ogilvie Camp, 6.33 355 P Pn 04 34 00.6 +0.8
baz=173,SNR=24
SEW Seward 6.39 285 P Pn 04 33 59.9 -0.7
baz=94,SNR=29
DHY Denali Highway 6.42 313 Pn 04 34 02.5 +1.4
DHY Denali Highway 6.42 313 P Pn 04 34 02.7 +1.6
baz=124,SNR=39
DIB Dawson Inlet, 6.42 155 Pn 04 34 01.1 +0.1
DIB Dawson Inlet, 6.42 155 Pn Pn 04 34 00.9 -0.1
DIB Sn **Sn 04 35 12.2 -1.9**
DI2B Dawson Inlet 6.42 155 Pn Pn 04 34 00.6 -0.4
H02S2 DAWSON INLET T 6.42 155 Pn Pn 04 34 00.9 -0.1
H02S2 Sn **Sn 04 35 16.5 +2.4**
PMR Palmer 6.51 298 Pn 04 34 03.7 +1.5
PMR Palmer 6.51 298 P Pn 04 34 03.8 +1.5
PMR Palmer 6.51 298 P Pn 04 34 03.7 +1.5
PMR Palmer 6.51 298 P Pn 04 34 03.6 +1.3
baz=107,SNR=38
I28M Miner Creek 6.53 349 Pn Pn 04 34 03.5 +0.9
I28M Miner Creek 6.53 349 Pn Pn 04 34 03.2 +0.6
I28M Miner Creek 6.53 349 P Pn 04 34 03.5 +0.9
baz=166,SNR=465
GRNB Grenville Isla 6.55 140 Pn Pn 04 34 02.3 -0.5
GRNB Sn **Sn 04 35 15.6 -1.8**
O22K Cooper Landing 6.56 288 P Pn 04 34 02.4 -0.5
baz=97,SNR=11
MOBC Moresby Island 6.59 152 Pn Pn 04 34 03.5 +0.1
RC01 Rabbit Creek A 6.67 293 P Pn 04 34 04.7 +0.3
baz=102,SNR=34
KOTAN Kotaneelee Air 6.67 75 Pn Pn 04 34 05.0 +0.5
KOTAN Kotaneelee Air 6.67 75 Pn Pn 04 34 04.5 0.0
KOTAN Sn **Sn 04 35 15.9 -4.4**
KOTAN Kotaneelee Air 6.67 75 P Pn 04 34 04.5 0.0
baz=266,SNR=41
WAT1 Susitna Watana 6.75 309 Pn 04 34 06.7 +1.1
WAT1 Susitna Watana 6.75 309 P Pn 04 34 06.6 +1.1
baz=118
NBC1 NorthernBC 1 6.77 79 Pn Pn 04 34 06.0 +0.1
NBC1 Pg **Pg 04 34 34.1 -2.2**
NBC1 NorthernBC 1 6.77 79 Pn Pn 04 34 05.8 -0.1
NBC1 Pg **Pg 04 34 34.1 -2.2**
J25K Salcha River, 6.80 328 Pn Pn 04 34 06.3 0.0
J25K Salcha River, 6.80 328 Pn Pn 04 34 06.1 -0.3
J25K Salcha River, 6.80 328 P Pn 04 34 05.9 -0.4
baz=140,SNR=96
KITB Kitimat 6.83 134 Pn Pn 04 34 07.2 +0.6
KITB Sn **Sn 04 35 20.7 -3.5**
H31M Peel River 6.86 9 Pn Pn 04 34 07.9 +0.8
H31M Peel River 6.86 9 Pn Pn 04 34 07.8 +0.7
H31M Peel River 6.86 9 P Pn 04 34 07.7 +0.6
baz=191,SNR=118
MBLB Minette Bay Lo 6.87 134 Pn Pn 04 34 07.2 +0.1
MBLB Minette Bay Lo 6.87 134 Pn Pn 04 34 07.2 +0.1
MBLB Sn **Sn 04 35 22.3 -2.8**
I26K Coal Creek Min 6.87 338 Pn Pn 04 34 08.3 +1.1
I26K Coal Creek Min 6.87 338 Pn Pn 04 34 08.2 +1.1
I26K Coal Creek Min 6.87 338 P Pn 04 34 08.0 +0.9
baz=152
WAT7 Susitna Watana 6.87 308 Pn 04 34 08.5 +1.2
I27K Kandik River 6.88 344 Pn Pn 04 34 08.4 +0.9
I27K Kandik River 6.88 344 Pn Pn 04 34 08.3 +0.9
I27K Kandik River 6.88 344 P Pn 04 34 08.3 +0.9
baz=159,SNR=268
M22K Willow 7.01 298 P Pn 04 34 10.4 +1.4
baz=106,SNR=28
NAHA Nahanni Butte 7.10 68 Pn Pn 04 34 11.2 +0.9
NAHA Nahanni Butte 7.10 68 Pn Pn 04 34 11.1 +0.8
HDA Harding Lake 7.12 323 P Pn 04 34 09.6 -0.9
baz=136,SNR=16
RND Reindeer 7.16 312 Pn 04 34 12.7 +1.5
RND Reindeer 7.16 312 P Pn 04 34 12.7 +1.5
BAIB Barry Inlet 7.17 153 Pn Pn 04 34 10.9 -0.4
BAIB Barry Inlet 7.17 153 Pn Pn 04 34 11.1 -0.3
H29M Whitestone 7.19 356 Pn Pn 04 34 11.8 +0.2
H29M Whitestone 7.19 356 Pn Pn 04 34 11.8 +0.2
H29M Whitestone 7.19 356 P Pn 04 34 11.6 0.0
baz=174,SNR=140
SUA Susitna One 7.23 295 P Pn 04 34 13.0 +0.8
baz=103,SNR=17
GRIB Gribbell Islan 7.24 139 Pn Pn 04 34 12.7 +0.4
GRIB Gribbell Islan 7.24 139 Pn Pn 04 34 12.3 -0.1
CNPM China Poot 7.29 280 Pn 04 34 13.3 +0.3
CUT Chulitna 7.29 303 P Pn 04 34 14.6 +1.7
baz=111,SNR=65
EPYK Eagle Plains 7.32 1 Pn 04 34 14.2 +0.9
EPYK Eagle Plains 7.32 1 Pn Pn 04 34 14.3 +0.9
EPYK Eagle Plains 7.32 1 Pn Pn 04 34 14.2 +0.9
EPYK Eagle Plains 7.32 1 P Pn 04 34 13.4 +0.1
baz=181
ILAR Eielson Array 7.36 325 Pn 04 34 12.5 -1.4
ILAR Eielson Array 7.36 325 Pn Pn 04 34 12.1 -1.7
comp=E,1.2nm,0.3s,baz=136,slow=12,SNR=94
ILAR Lg Lg 04 36 16.6
comp=E,4.9nm,0.3s,baz=139,slow=26,SNR=5.5
comp=E,5.9nm,0.7s
MCK McKinley 7.37 314 Pn 04 34 15.9 +1.9
MCK McKinley 7.37 314 P Pn 04 34 15.9 +1.9
MCK McKinley 7.37 314 P Pn 04 34 15.5 +1.5
baz=123,SNR=22
FNSB Fort Nelson 7.40 86 Pn Pn 04 34 14.6 +0.1
FNSB Fort Nelson 7.40 86 Pn Pn 04 34 13.7 -0.8
H27K Steamboat Moun 7.46 346 Pn 04 34 16.5 +1.2
H27K Steamboat Moun 7.46 346 Pn Pn 04 34 16.6 +1.2
H27K Steamboat Moun 7.46 346 P Pn 04 34 16.6 +1.2
baz=161,SNR=302
HOM Homer 7.49 281 Pn 04 34 16.6 +0.9
HOM Homer 7.49 281 P Pn 04 34 17.3 +1.7
baz=88,SNR=10
WRH Wood River Hil 7.52 321 Pn 04 34 16.0 -0.2
JEDB Jedway, Haida 7.56 152 Pn Pn 04 34 16.9 +0.2
JEDB Jedway, Haida 7.56 152 Pn Pn 04 34 16.9 +0.2
PRP Porcupine Dome 7.57 332 P Pn 04 34 17.2 +0.3
baz=144,SNR=45
BUTB Butedale 7.70 138 Pn Pn 04 34 19.4 +0.7
BUTB Butedale 7.70 138 Pn Pn 04 34 19.0 +0.3
SKT Skwentna 7.72 298 P Pn 04 34 19.8 +1.0
baz=105,SNR=21
COLA College 7.72 323 P Pn 04 34 19.3 +0.5
COLA College 7.72 323 *de*P Pn 04 34 19.7 +0.9
COLA pmax pmax
comp=Z,3.0nm,0.6s
NBC5 NorthernBC 5 7.72 96 Pn Pn 04 34 18.4 -0.6
NBC5 NorthernBC 5 7.72 96 Pn Pn 04 34 18.3 -0.6
TRF Thorofare Moun 7.74 310 Pn 04 34 20.3 +1.1
TRF Thorofare Moun 7.74 310 P Pn 04 34 20.4 +1.1
baz=118,SNR=87
STLK Strandline Lak 7.74 295 Pn 04 34 19.4 +0.2
WRGLY Wrigley 7.76 52 Pn 04 34 20.4 +1.0
WRGLY Wrigley 7.76 52 P Pn 04 34 19.8 +0.4
baz=243
POKR Poker Plat Res 7.77 326 P Pn 04 34 19.9 +0.4
baz=136
SPCG Spurr Capps Gl 7.79 293 Pn 04 34 19.5 -0.4
BWN Browne 7.81 316 Pn 04 34 19.4 -0.6
N20K Mount Spurr 7.87 292 P Pn 04 34 21.7 +0.8
baz=99
SPCR Spurr Chakacha 7.87 292 P Pn 04 34 21.4 +0.5
baz=99,SNR=12

G29M	Pine Creek	7.87	357		Pn	04 34 21.2	+0.3
G29M	Pine Creek	7.87	357	Pn	Pn	04 34 21.2	+0.3
G29M	Pine Creek	7.87	357	P	Pn	04 34 21.4	+0.4
	baz=176,SNR=21						
NEA2	Nenana	7.93	319		Pn	04 34 21.7	0.0
NEA2	Nenana	7.93	319	P	Pn	04 34 22.7	+1.0
	baz=128,SNR=28						
G30M	tAoh Zraii Nji	7.94	2	Pn	Pn	04 34 22.3	+0.5
G30M	tAoh Zraii Nji	7.94	2	P	Pn	04 34 22.3	+0.5
	baz=182						
G31M	Satah River	7.97	8	Pn	Pn	04 34 23.2	+1.0
G31M	Satah River	7.97	8	Pn	Pn	04 34 22.9	+0.7
G31M				Sn	Sn	04 35 47.3	-4.8
G31M	Satah River	7.97	8	P	Pn	04 34 22.8	+0.6
	baz=190,SNR=301						
O20K	Slope Mountain	7.98	284	P	Pn	04 34 23.2	+0.7
	baz=90,SNR=11						
Q20K	Shuyak Island	7.99	273	P	Pn	04 34 23.3	+0.8
	baz=80,SNR=18						
G27K	Doyon Strip	8.03	347		Pn	04 34 24.2	+1.0
G27K	Doyon Strip	8.03	347	Pn	Pn	04 34 24.2	+1.0
G27K	Doyon Strip	8.03	347	Pn	Pn	04 34 24.4	+1.2
G27K	Doyon Strip	8.03	347	P	Pn	04 34 23.9	+0.8
	baz=162,SNR=67						
KTH	Kantishna Hill	8.04	310		Pn	04 34 24.8	+1.5
NBC6	NorthernBC 6	8.16	87	Pn	Pn	04 34 24.5	-0.4
NBC6				Sn	Sn	04 35 52.6	-4.3
NBC8	Simpson Ranch	8.20	102	Pn	Pn	04 34 25.1	-0.4
ILS	Iliamna Low So	8.20	283		Pn	04 34 25.9	+0.4
ILSW	Iliamna Southw	8.24	283		Pn	04 34 26.7	+0.6
H25L	Birch Creek	8.26	334	P	Pn	04 34 26.9	+0.7
	baz=146,SNR=28						
KDAK	Kodiak Island	8.27	268	Pn	Pn	04 34 25.6	-0.8
	comp=Z,18nm,0.3s,baz=52,slow=10,SNR=223						
KDAK				Sn	Sn	04 35 56.4	-3.1
	comp=Z,6.8nm,0.3s,baz=347,slow=18,SNR=6.2						
KDAK				LR	LR	04 37 53.0	
	comp=Z,5µm,18.5s,baz=70,slow=39						
	comp=Z,100nm,0.5s						
KDAK	Kodiak Island	8.27	268*ce*	P	Pn	04 34 25.5	-0.8
KDAK				pmax	pmax		
	comp=Z,89nm,0.8s						
KDAK	Kodiak Island	8.27	268	P	Pn	04 34 25.7	-0.6
	baz=74						
PPLA	Purkeypile	8.29	304		Pn	04 34 27.2	+0.4
PPLA	Purkeypile	8.29	304	P	Pn	04 34 26.9	0.0
	baz=110,SNR=13						
P19K	Oil Pt	8.30	281		Pn	04 34 26.8	0.0
P19K	Oil Pt	8.30	281	P	Pn	04 34 27.5	+0.7
	baz=87,SNR=23						
BPAW	Bear Paw Mtn.	8.33	313		Pn	04 34 27.8	+0.6
BPAW	Bear Paw Mtn.	8.33	313	P	Pn	04 34 27.9	+0.6
	baz=120,SNR=36						
I23K	Minto, Yukon-K	8.38	322	P	Pn	04 34 28.5	+0.7
	baz=130,SNR=11						
AU22	Augustine Moun	8.38	279		Pn	04 34 28.3	+0.5
FSJB	Fort St James	8.38	118	Pn	Pn	04 34 28.8	+0.8
FSJB	Fort St James	8.38	118	Pn	Pn	04 34 28.2	+0.2
AGU	Augustine-Summ	8.42	279		Pn	04 34 29.6	+1.1
AUCH	Augustine Cone	8.43	279		Pn	04 34 29.6	+1.1
H24K	Noodor Dome	8.43	328	P	Pn	04 34 28.8	+0.3
	baz=138,SNR=11						
M20K	Styx River	8.43	296	P	Pn	04 34 29.6	+0.9
	baz=102						
CAST	Castle Rocks	8.45	307	P	Pn	04 34 29.3	+0.4
	baz=114,SNR=46						
G26K	Porcupine Rive	8.47	342	Pn	Pn	04 34 29.8	+0.8
G26K	Porcupine Rive	8.47	342	Pn	Pn	04 34 29.7	+0.8
G26K	Porcupine Rive	8.47	342	P	Pn	04 34 29.5	+0.5
	baz=155,SNR=35						
F31M	Tsiigehtchic	8.52	9		Pn	04 34 30.1	+0.5
F31M	Tsiigehtchic	8.52	9	Pn	Pn	04 34 30.2	+0.5
F31M	Tsiigehtchic	8.52	9	P	Pn	04 34 29.0	-0.7
	baz=191,SNR=19						
BBB	Bella Bella	8.55	140	Pn	Pn	04 34 30.8	+0.6
	comp=Z,10nm,0.3s,baz=326,slow=14,SNR=101						
BBB				Sn	Sn	04 36 06.4	-0.1
	comp=Z,7.3nm,0.3s,baz=309,slow=13,SNR=7.1						
BBB				Lg	Lg	04 36 54.9	
	comp=Z,3.4nm,0.3s,baz=233,slow=19,SNR=8.8						
	comp=Z,195nm,0.8s						
BBB	Bella Bella	8.55	140	Pn	Pn	04 34 30.8	+0.6
Q19K	Cape Douglas,	8.58	276		Pn	04 34 31.2	+0.5
Q19K	Cape Douglas,	8.58	276	P	Pn	04 34 31.6	+0.9
	baz=82,SNR=16						
F30M	Barrier River	8.58	3		Pn	04 34 30.9	+0.3
F30M	Barrier River	8.58	3	Pn	Pn	04 34 31.2	+0.6
F30M	Barrier River	8.58	3	Pn	Pn	04 34 30.9	+0.3
F30M	Barrier River	8.58	3	P	Pn	04 34 30.6	0.0
	baz=184,SNR=39						
F28M	Old Crow	8.66	353		Pn	04 34 31.6	-0.1
F28M	Old Crow	8.66	353	Pn	Pn	04 34 31.9	+0.3
F28M	Old Crow	8.66	353	P	Pn	04 34 31.8	+0.1
	baz=170,SNR=52						
G25K	Bearman Lake	8.74	336		Pn	04 34 33.6	+0.8
G25K	Bearman Lake	8.74	336	Pn	Pn	04 34 33.8	+1.0
G25K	Bearman Lake	8.74	336	Pn	Pn	04 34 33.6	+0.8
G25K	Bearman Lake	8.74	336	P	Pn	04 34 33.2	+0.5
	baz=147,SNR=28						
CHUM	Lake Minchumin	8.74	310	P	Pn	04 34 33.8	+0.9
	baz=116,SNR=54						
MLY	Manley	8.76	319		Pn	04 34 33.3	+0.1
MLY	Manley	8.76	319	P	Pn	04 34 33.9	+0.7
	baz=126,SNR=31						
OHAK	Old Harbor	8.80	265	P	Pn	04 34 33.2	-0.4
OHAK	Old Harbor	8.80	265	P	Pn	04 34 32.7	-0.9
	baz=71,SNR=27						
O19K	Port Alsworth	8.83	285	P	Pn	04 34 34.1	+0.1
	baz=90,SNR=14						
H23K	Yukon River	8.89	325	P	Pn	04 34 35.5	+0.6
	baz=133,SNR=29						
L20K	Farewell, AK	8.91	300	P	Pn	04 34 35.4	+0.2
	baz=105,SNR=32						
N19K	Bonanza Creek	8.93	289	P	Pn	04 34 35.7	+0.2
	baz=93,SNR=7.9						
G24K	Hadweenzic Riv	8.99	333	P	Pn	04 34 36.3	0.0
	baz=143,SNR=15						
M19K	Big River Lodg	9.02	296	P	Pn	04 34 37.5	+0.8
	baz=100,SNR=13						
BMAR	Burnt Mountain	9.03	341		Pn	04 34 37.7	+0.8
KAHG	Katmai Hook Gl	9.12	274		Pn	04 34 38.1	+0.1
NBC7	Fort St John	9.12	101	Pn	Pn	04 34 38.0	-0.1
F26K	Sheenjek River	9.21	343		Pn	04 34 40.5	+1.3
F26K	Sheenjek River	9.21	343	Pn	Pn	04 34 40.5	+1.3
F26K	Sheenjek River	9.21	343	P	Pn	04 34 40.2	+1.0
	baz=156,SNR=133						
K20K	Telida	9.26	305	P	Pn	04 34 40.1	+0.2
	baz=110,SNR=23						
I21K	Tanana	9.28	317		Pn	04 34 40.2	0.0
I21K	Tanana	9.28	317	P	Pn	04 34 40.8	+0.7
	baz=124,SNR=21						
L19K	White Mountain	9.29	297	P	Pn	04 34 40.2	-0.1
	baz=101,SNR=24						
R18K	Karluk	9.29	268	P	Pn	04 34 40.7	+0.4
	baz=73						
Q18K	Katmai Hardscr	9.32	275	P	Pn	04 34 41.7	+0.7
	baz=80,SNR=11						
P18K	Big Mountain,	9.33	280		Pn	04 34 40.9	-0.1
P18K	Big Mountain,	9.33	280	P	Pn	04 34 41.3	+0.4
	baz=84						
E29M	Blow River	9.35	358		Pn	04 34 41.2	+0.1
E29M	Blow River	9.35	358	Pn	Pn	04 34 41.7	+0.6
E29M	Blow River	9.35	358	Pn	Pn	04 34 41.6	+0.5
E29M	Blow River	9.35	358	P	Pn	04 34 41.2	+0.1
	baz=177,SNR=36						
E27K	Coleen River	9.36	349	Pn	Pn	04 34 42.0	+0.7
E27K	Coleen River	9.36	349	Pn	Pn	04 34 41.8	+0.5
E27K	Coleen River	9.36	349	P	Pn	04 34 41.5	+0.2
	baz=165,SNR=39						
F25K	Christian Rive	9.37	339		Pn	04 34 42.0	+0.6
F25K	Christian Rive	9.37	339	Pn	Pn	04 34 42.4	+1.0
F25K	Christian Rive	9.37	339	Pn	Pn	04 34 42.0	+0.6
F25K	Christian Rive	9.37	339	P	Pn	04 34 42.5	+1.0
	baz=151,SNR=89						
INK	Inuvik	9.39	8	Pn	Pn	04 34 41.5	-0.1
	comp=Z,1.2nm,0.3s,baz=191,slow=12,SNR=26						
INK				Sn	Sn	04 36 24.0	-2.9
	baz=175,slow=12						
INK				Lg	Lg	04 37 14.4	
	comp=Z,3.4nm,0.3s,baz=192,slow=14,SNR=3.5						
INK				LR	LR	04 38 51.9	
	comp=Z,3µm,19.5s,baz=190,slow=42						
	comp=Z,16nm,0.7s						
INK	Inuvik	9.39	8	Pn	Pn	04 34 41.9	+0.3
INK	Inuvik	9.39	8	P	Pn	04 34 42.1	+0.5
	baz=191,SNR=28						
H22K	Ishtalitna Cre	9.50	322		Pn	04 34 43.2	-0.1
H22K	Ishtalitna Cre	9.50	322	P	Pn	04 34 45.0	+1.8
	baz=129,SNR=14						
J20K	Nowinta River	9.60	309	P	Pn	04 34 44.9	+0.4
	baz=114,SNR=42						
N18K	Kilae Creek	9.61	288	P	Pn	04 34 44.3	-0.5
	baz=91						
E28M	Babbage River	9.62	354		Pn	04 34 45.0	+0.2
E28M	Babbage River	9.62	354	Pn	Pn	04 34 45.3	+0.4
E28M	Babbage River	9.62	354	Pn	Pn	04 34 44.9	0.0
E28M	Babbage River	9.62	354	P	Pn	04 34 44.9	0.0
	baz=172,SNR=18						
M18K	Stony River	9.63	293		Pn	04 34 44.1	-1.0
M18K	Stony River	9.63	293	P	Pn	04 34 45.8	+0.7
	baz=96,SNR=33						
G23K	Bananza Creek	9.66	328		Pn	04 34 45.0	-0.4
G23K	Bananza Creek	9.66	328	P	Pn	04 34 46.0	+0.6
	baz=136,SNR=24						
ANCK	Angle Creek	9.67	273		Pn	04 34 45.6	+0.1
F24K	Squaw Lake	9.76	335		Pn	04 34 47.7	+0.9
F24K	Squaw Lake	9.76	335	P	Pn	04 34 47.6	+0.9
	baz=145,SNR=74						
E25K	Arctic Village	9.82	341		Pn	04 34 48.7	+1.0
E25K	Arctic Village	9.82	341	Pn	Pn	04 34 49.0	+1.3
E25K	Arctic Village	9.82	341	Pn	Pn	04 34 48.7	+1.0
E25K	Arctic Village	9.82	341	P	Pn	04 34 48.7	+1.0
	baz=153,SNR=89						
H21K	Melozitna Rive	9.83	319		Pn	04 34 48.7	+1.0
H21K	Melozitna Rive	9.83	319	P	Pn	04 34 48.7	+1.0
	baz=124,SNR=44						
Q17K	Contact Creek	9.85	273	P	Pn	04 34 48.4	+0.2
	baz=77						
P17K	Kvichak River	9.97	279		Pn	04 34 49.8	+0.2
P17K	Kvichak River	9.97	279	P	Pn	04 34 50.0	+0.3
	baz=82,SNR=13						
I20K	Naaghedeneel	9.99	312		Pn	04 34 49.2	-0.7
I20K	Naaghedeneel	9.99	312	P	Pn	04 34 50.2	+0.2
	baz=117,SNR=10						
PHC	Port Hardy	10.04	143	Pn	Pn	04 34 49.9	-0.7
PHC	Port Hardy	10.04	143	Pn	Pn	04 34 50.7	+0.1
COLD	Coldfoot	10.09	330	Pn	Pn	04 34 51.7	+0.4
COLD	Coldfoot	10.09	330	Pn	Pn	04 34 51.2	0.0
COLD	Coldfoot	10.09	330	P	Pn	04 34 51.2	0.0
	baz=137,SNR=27						
J19K	Poorman	10.13	307	P	Pn	04 34 52.0	+0.3
	baz=110,SNR=46						
L18K	Granite Mounta	10.14	296	P	Pn	04 34 52.2	+0.3
	baz=99						
Q16K	King Salmon	10.17	276	P	Pn	04 34 53.5	+1.2
	baz=79,SNR=17						
WTMTA	White Mountain	10.18	102	Pn	Pn	04 34 52.4	-0.2
G22K	Bettles	10.22	326	P	Pn	04 34 53.7	+0.6
	baz=133						
O17K	Koliganek Bris	10.24	282	P	Pn	04 34 52.8	-0.5
	baz=85,SNR=11						
N17K	Nushagak Hills	10.25	287	P	Pn	04 34 53.5	0.0
	baz=89						
PACB	Port Alice, BC	10.26	143	Pn	Pn	04 34 53.7	+0.1
R17L	Mt. Peulik Vol	10.26	270	P	Pn	04 34 54.5	+0.9
	baz=74						
D28M	Stokes Point	10.31	357	Pn	Pn	04 34 54.8	+0.5
D28M	Stokes Point	10.31	357	P	Pn	04 34 54.8	+0.5
	baz=175						
IMAR	Indian Mountai	10.34	319		Pn	04 34 55.7	+1.0
D27M	Malcolm River	10.34	352	Pn	Pn	04 34 55.1	+0.4
D27M	Malcolm River	10.34	352	Pn	Pn	04 34 55.0	+0.2
D27M	Malcolm River	10.34	352	P	Pn	04 34 54.3	-0.5
	baz=168						
E24K	Your Creek	10.34	335	P	Pn	04 34 55.9	+1.1
	baz=145						
MAYB	Maynard	10.39	143	Pn	Pn	04 34 55.8	+0.3
M17K	Holitna River	10.40	292	P	Pn	04 34 55.9	+0.4
	baz=94,SNR=13						
J18K	Innoko River	10.42	303	P	Pn	04 34 55.9	0.0
	baz=106,SNR=39						
H20K	Anotleneega Mo	10.48	315	P	Pn	04 34 57.2	+0.6
	baz=119,SNR=28						
CHIR	Chirikof Islan	10.53	260	P	Pn	04 34 57.8	+0.4
	baz=64						
G21K	Allakaket	10.57	322	P	Pn	04 34 58.9	+1.1
	baz=127,SNR=23						
E23K	Chandalar	10.58	334	P	Pn	04 34 59.0	+0.9
	baz=142,SNR=29						
NCRB	Newcastle Ridg	10.75	139	Pn	Pn	04 35 02.1	+1.7
NCRB	Newcastle Ridg	10.75	139	Pn	Pn	04 35 01.1	+0.7
NCSB	Newcastle Ridg	10.75	139	Pn	Pn	04 35 02.3	+1.8
NCSB	Newcastle Ridg	10.75	139	Pn	Pn	04 35 01.8	+1.4
O16K	Kokwok River B	10.76	282	P	Pn	04 35 00.6	+0.1
	baz=84,SNR=7.5						
BDMTA	Bald Mountain	10.77	106	Pn	Pn	04 35 00.9	+0.3
BDMTA	Bald Mountain	10.77	106	Pn	Pn	04 35 01.2	+0.5
WOSB	Woss	10.79	141	Pn	Pn	04 35 02.8	+1.8
WOSB	Woss	10.79	141	Pn	Pn	04 35 02.3	+1.3
P16K	Nushagak River	10.79	279		Pn	04 35 01.7	+0.9
P16K	Nushagak River	10.79	279	P	Pn	04 35 01.4	+0.6
	baz=81						
F22K	John River	10.82	328	P	Pn	04 35 00.9	-0.4
	baz=134						
EDB	Eliza Dome	10.87	144	Pn	Pn	04 35 02.8	+0.8
L17K	Donlin	10.87	295	P	Pn	04 35 01.7	-0.3
	baz=97						
R16K	Pilot Point	10.90	271	P	Pn	04 35 03.3	+1.0
	baz=73						
GCSA	Galena City Sc	10.91	310	P	Pn	04 35 02.5	0.0
	baz=112						
K17K	Iditarod	10.96	298	P	Pn	04 35 02.7	-0.4
	baz=100,SNR=19						
C27K	Jago River	10.96	348	Pn	Pn	04 35 05.5	+2.3
C27K	Jago River	10.96	348	P	Pn	04 35 04.0	+0.8
	baz=161,SNR=41						
F21K	Alatna River	11.00	325	P	Pn	04 35 04.7	+0.9
	baz=130,SNR=16						
D25K	Kavik River	11.04	342	Pn	Pn	04 35 06.9	+2.7
D25K	Kavik River	11.04	342	P	Pn	04 35 06.3	+2.0
	baz=154						
N16K	Nishlik Lake	11.04	287	P	Pn	04 35 04.7	+0.4
	baz=88,SNR=6.7						
TOLK	Toolik Lake Re	11.04	335	P	Pn	04 35 05.7	+1.4
	baz=144,SNR=34						
H19K	Roundabout Mou	11.07	314	P	Pn	04 35 04.4	-0.2
	baz=116,SNR=34						
M16K	Timber Creek	11.12	289	P	Pn	04 35 06.2	+0.8
	baz=90						
E22K	Anaktuvuk Pass	11.17	330	P	Pn	04 35 07.0	+0.9
	baz=137,SNR=36						
GDR	Gold River	11.29	141	Pn	Pn	04 35 08.4	+0.7
CBB	Campbell River	11.30	138	Pn	Pn	04 35 10.2	+2.3
CBB	Campbell River	11.30	138	Pn	Pn	04 35 09.0	+1.1
D24K	Happy Valley	11.31	338	P	Pn	04 35 09.5	+1.6
	baz=147,SNR=22						
C26K	Camden Bay	11.38	346	Pn	Pn	04 35 09.7	+0.8
C26K	Camden Bay	11.38	346	P	Pn	04 35 09.2	+0.3
	baz=159						
L16K	Owhat River	11.39	293	P	Pn	04 35 09.8	+0.7
	baz=93						
J17K	VABM Dome	11.44	302	P	Pn	04 35 09.7	0.0
	baz=102,SNR=8.6						
YKA	Yellowknife Ar	11.45	63		Pn	04 35 08.3	-1.6
YKA	Yellowknife Ar	11.45	63	Pn	Pn	04 35 07.3	-2.6
	comp=Z,3.9nm,0.3s,baz=266,slow=13,SNR=78						
YKA				Sn	Sn	04 37 08.7	-8.9
	comp=Z,1.3nm,0.3s,baz=266,slow=24,SNR=2.0						
YKA				Lg	Lg	04 38 18.1	
	comp=Z,0.8nm,0.3s,baz=259,slow=27,SNR=5.4						
YKA				LR	LR	04 39 57.4	
	comp=Z,5µm,18.7s,baz=267,slow=40						
	comp=Z,22nm,0.6s						
YKAW3	Yellowknife Wh	11.46	63	Pn	Pn	04 35 07.7	-2.2
YKAW1	Yellowknife Wh	11.51	63	Pn	Pn	04 35 08.4	-2.3
YKAW1	Yellowknife Wh	11.51	63	Pn	Pn	04 35 08.8	-1.9
D23K	Nanushuk River	11.54	335	P	Pn	04 35 12.2	+1.1
	baz=142						
G19K	Purcell Mounta	11.59	316	P	Pn	04 35 11.3	-0.5
	baz=118,SNR=5.4						
F20K	Avaraart Lake	11.60	321	P	Pn	04 35 11.0	-0.8
	baz=124						
H18K	Honhosa River	11.65	310	P	Pn	04 35 12.3	-0.3
	baz=111						
O15K	Ungalikthiuk R	11.70	280		Pn	04 35 13.7	+0.4
O15K	Ungalikthiuk R	11.70	280	P	Pn	04 35 13.5	+0.2
	baz=81						
C36M	Paulatuk	11.71	23		Pn	04 35 12.3	-1.1
C36M	Paulatuk	11.71	23	Pn	Pn	04 35 12.1	-1.3
C36M	Paulatuk	11.71	23	P	Pn	04 35 11.6	-1.8
	baz=214						
N15K	Kwethluk River	11.71	285	P	Pn	04 35 13.6	+0.2
	baz=85						
C24K	Franklin Bluff	11.78	340	P	Pn	04 35 14.1	-0.2
	baz=149						
BRLDA	Berland Lookou	11.90	106	Pn	Pn	04 35 17.6	+1.5
BRLDA	Berland Lookou	11.90	106	Pn	Pn	04 35 17.2	+1.1
STPRA	Salt Prairie L	11.93	98	Pn	Pn	04 35 16.0	-0.5
D22K	Ayikyak River	11.94	332		Pn	04 35 18.0	+1.4
D22K	Ayikyak River	11.94	332	P	Pn	04 35 17.3	+0.7
	baz=137						
E21K	Killik River	11.96	329	P	Pn	04 35 16.8	-0.1
	baz=133						
M15K	Kasigluk River	11.97	288	P	Pn	04 35 17.0	0.0
	baz=87						
G18K	Tagagawik	12.05	314	P	Pn	04 35 18.2	+0.1
	baz=114,SNR=22						
J16K	Anvik River	12.09	300	P	Pn	04 35 18.2	-0.4
	baz=100						
WSLR	Whistler	12.12	132	Pn	Pn	04 35 22.6	+3.5
LLLB	Lillooet	12.15	128	Pn	Pn	04 35 22.4	+2.9
F19K	Shaleruckik Mo	12.16	318	P	Pn	04 35 19.6	0.0
	baz=120,SNR=14						
OZB	Mount Ozzard	12.18	141	Pn	Pn	04 35 24.4	+4.4
OZB	Mount Ozzard	12.18	141	Pn	Pn	04 35 23.8	+3.8
B927	Port Alberni	12.18	139	Pn	Pn	04 35 23.9	+4.0
B927	Port Alberni	12.18	139	Pn	Pn	04 35 23.2	+3.3
PABB	Port Alberni	12.18	139	Pn	Pn	04 35 24.4	+4.5
PABB	Port Alberni	12.18	139	Pn	Pn	04 35 22.7	+2.8
H17K	Granite Mounta	12.19	308	P	Pn	04 35 20.5	+0.5
	baz=108,SNR=5.2						
C23K	Itkillik River	12.23	337		Pn	04 35 23.2	+2.6
C23K	Itkillik River	12.23	337	P	Pn	04 35 21.4	+0.9
	baz=145,SNR=8.9						
I17K	Unalakleet	12.25	303	P	Pn	04 35 20.8	+0.1
	baz=102						
E19K	Redstone River	12.31	321	P	Pn	04 35 21.7	+0.1
	baz=123,SNR=12						
L15K	Ungalak Mounta	12.35	293	P	Pn	04 35 22.4	+0.3
	baz=91						
S14K	Fog Glacier	12.36	267	P	Pn	04 35 23.1	+0.7
	baz=68						
WPB	Watts Point	12.38	134	Pn	Pn	04 35 27.3	+4.6
K15K	Wolf Creek Mou	12.40	295		Pn	04 35 22.7	-0.1
K15K	Wolf Creek Mou	12.40	295	P	Pn	04 35 23.4	+0.6
	baz=94						
B928	Bamfield	12.40	141	Pn	Pn	04 35 27.4	+4.5
B928	Bamfield	12.40	141	Pn	Pn	04 35 26.7	+3.8
MGRB	Mount Grey	12.41	139	Pn	Pn	04 35 25.8	+2.7
MGRB	Mount Grey	12.41	139	Pn	Pn	04 35 25.0	+1.8
O14K	Tigyukauivet M	12.41	281	P	Pn	04 35 23.7	+0.6
	baz=80						
E20K	Nigu River	12.46	325	P	Pn	04 35 24.6	+0.9
	baz=128						
N14K	Kuskokwak Cree	12.53	284		Pn	04 35 24.6	0.0
N14K	Kuskokwak Cree	12.53	284	P	Pn	04 35 25.2	+0.6
	baz=83						
M14K	Bethel	12.59	288		Pn	04 35 25.0	-0.4
M14K	Bethel	12.59	288	P	Pn	04 35 26.5	+1.0
	baz=87						
C21K	Knifeblade Rid	12.67	330	P	Pn	04 35 27.1	+0.6
	baz=134						
G17K	Kiwalik Mounta	12.67	310	P	Pn	04 35 27.5	+0.9
	baz=109						
F18K	Selawik	12.72	316	P	Pn	04 35 27.2	+0.1
	baz=115,SNR=7.6						
CLRS	Cowichan Lake	12.75	138	Pn	Pn	04 35 32.5	+4.8
CLRS	Cowichan Lake	12.75	138	Pn	Pn	04 35 31.7	+4.0
D20K	Etivluk River	12.87	327		Pn	04 35 30.5	+1.2
D20K	Etivluk River	12.87	327	P	Pn	04 35 30.2	+0.9
	baz=129,SNR=13						
PTRF	Port Renfrew	12.90	139	Pn	Pn	04 35 32.9	+3.2
PTRF	Port Renfrew	12.90	139	Pn	Pn	04 35 32.6	+2.9
L14K	Kuka Creek	12.92	291	P	Pn	04 35 31.1	+1.2
	baz=89,SNR=24						
B21K	Ikpikpuk River	12.96	332	P	Pn	04 35 31.1	+0.7
	baz=136						
CHNA	Chernabura Isl	13.00	261	P	Pn	04 35 31.6	+0.5
	baz=62						
KUKN	Kugluktuk,NWT	13.07	39	P	Pn	04 35 32.6	+0.7
H16K	Elim	13.07	306	P	Pn	04 35 32.5	+0.5
	baz=103						
SYMB	Survey Mountai	13.09	138	Pn	Pn	04 35 37.2	+4.7
SYMB	Survey Mountai	13.09	138	Pn	Pn	04 35 36.1	+3.7
SNB	Saturna Island	13.13	136	Pn	Pn	04 35 37.8	+4.8
SNB	Saturna Island	13.13	136	Pn	Pn	04 35 36.7	+3.8
B010	North Saanich	13.14	137	Pn	Pn	04 35 37.2	+4.2
PGC	Sidney	13.14	137	Pn	Pn	04 35 37.1	+4.2
B009	North Saanich	13.14	137	Pn	Pn	04 35 37.4	+4.4
B009	North Saanich	13.14	137	Pn	Pn	04 35 37.1	+4.2
B011	North Saanich	13.14	137	Pn	Pn	04 35 37.0	+4.1
B011	North Saanich	13.14	137	Pn	Pn	04 35 36.3	+3.3
D19K	Kuna River	13.17	324	P	Pn	04 35 34.8	+1.4
	baz=125						
SDPT	Sand Point	13.22	264	P	Pn	04 35 33.4	-0.6
	baz=64						
B22K	Teshekpuk Lake	13.22	335	P	Pn	04 35 34.0	0.0
	baz=140						
F17K	Baldwin Pennin	13.24	314	P	Pn	04 35 34.6	+0.4
	baz=112,SNR=7.2						
HOPB	Hope	13.29	130	Pn	Pn	04 35 39.4	+4.3
M13K	Dall Lake	13.30	287	P	Pn	04 35 36.6	+1.4
	baz=84						
VDEB	Vedder Mountai	13.31	132	Pn	Pn	04 35 38.5	+3.1
G16K	Koyuk River	13.31	309	P	Pn	04 35 36.2	+0.9
	baz=106						
J14K	Nanvaranak Lak	13.36	297	P	Pn	04 35 36.8	+0.9
	baz=94						
VGZ	Gonzales	13.38	137	Pn	Pn	04 35 39.7	+3.4
E18K	Tukpahlearik C	13.42	318	P	Pn	04 35 38.8	+2.1
	baz=117,SNR=13						
E17K	Hotham Inlet	13.70	316	P	Pn	04 35 41.1	+0.5
	baz=114,SNR=6.1						
A36M	Sachs Harbour	13.80	15		Pn	04 35 41.2	-0.6
A36M	Sachs Harbour	13.80	15	Pn	Pn	04 35 39.9	-1.9
A36M	Sachs Harbour	13.80	15	P	Pn	04 35 40.2	-1.6
	baz=206,SNR=22						
K13K	Kusilvak Mount	13.85	294	P	Pn	04 35 43.0	+0.4
	baz=89						
B20K	Meade River	13.86	330	P	Pn	04 35 43.1	+0.4
	baz=132						
S12K	Black Hills	13.88	267	P	Pn	04 35 44.6	+1.5
	baz=66						
G15K	Niukluk	13.90	307	P	Pn	04 35 43.4	+0.1
	baz=102						
C19K	Lookout Ridge	13.96	325	P	Pn	04 35 44.4	+0.2
	baz=125						
C18K	Utukok River	14.21	322	P	Pn	04 35 46.0	-1.6
	baz=120,SNR=17						
GNW	Green Mountain	14.28	138	Pn	Pn	04 35 51.6	+3.0
GNW	Green Mountain	14.28	138	Pn	Pn	04 35 51.2	+2.6
F15K	North Star Dit	14.32	309	P	Pn	04 35 48.4	-0.6
	baz=104						
WISH	Wishkah	14.35	141	Pn	P	04 35 53.5	-3.1
WISH	Wishkah	14.35	141	Pn	P	04 35 53.3	-3.3
ANM	Nome	14.38	304	P	Pn	04 35 49.0	-0.9
	baz=99,SNR=6.7						
D17K	Noatak River	14.40	318	P	Pn	04 35 50.2	+0.1
	baz=114,SNR=6.0						
C17K	DeLong Mountai	14.76	320	P	Pn	04 35 54.0	-1.1
	baz=116						
B18K	Kokolik River	14.77	324	P	Pn	04 35 55.9	+0.8
	baz=122						
D05A	Enumclaw	14.90	137	Pn	P	04 36 00.7	-2.0
D05A	Enumclaw	14.90	137	Pn	P	04 36 00.1	-2.6
E03A	Lebam	14.92	141	Pn	P	04 36 01.1	-1.8
E03A	Lebam	14.92	141	Pn	Pn	04 35 58.9	+1.6
B08A	Colville Reser	14.95	128	Pn	P	04 36 01.0	-2.3
B08A	Colville Reser	14.95	128	Pn	Pn	04 36 00.2	+2.5
F14K	Arctic Creek	14.95	308	P	Pn	04 35 56.3	-1.2
	baz=101,SNR=5.9						
FMW	Mount Fremont	15.23	136	Pn	P	04 36 04.3	-2.3
LTY	Liberty	15.32	133	IAmb	IAmb	04 36 07.0	
	comp=Z,151nm,1.4s						
LTY	Liberty	15.32	133	Pn	P	04 36 05.5	-2.0
LTY	Liberty	15.32	133	Pn	Pn	04 36 05.0	+2.3
LON	Longmire	15.34	137	Pn	Pn	04 36 05.0	+2.1
C16K	Lisburne Hills	15.41	318	P	Pn	04 36 02.3	-1.3
	baz=113,SNR=7.6						
TNA	Tin City	15.62	307	P	Pn	04 36 05.8	-0.5
	baz=100						
C09A	Chrisman Ranch	15.82	127	P	P	04 36 13.0	0.0
G03D	McMinnville, O	16.21	143	IAmb	IAmb	04 36 21.9	
	comp=Z,115nm,1.2s						
HOOD	Mount Hood Mea	16.63	139	IAmb	IAmb	04 36 26.6	
	comp=Z,127nm,1.3s						

HSPGA **Hill Springs,** 16.69 115 Pn **P** 04 36 23.1 +0.4
HSPGA **Hill Springs,** 16.69 115 P **P** 04 36 22.6 -0.1
COR **Corvallis** 16.76 144 P **P** 04 36 25.2 +1.9
COR IAmb IAmb 04 36 28.0
comp=Z,332nm,1.6s
COR **Corvallis** 16.76 144 P **P** 04 36 25.2 +1.9
COR pmax pmax
comp=Z,332nm,1.6s
G05A **Wamic** 16.82 139 IAmb IAmb 04 36 28.2
comp=Z,141nm,1.5s
UNV **Unalaska Valle** 17.02 265 P **Pn** 04 36 25.1 +0.7
baz=60
GAMB **Gambell** 17.08 301 P **Pn** 04 36 25.5 +0.4
baz=90
BSMT **Bassoo Peak** 17.27 121 Pn **P** 04 36 29.3 0.0
BSMT **Bassoo Peak** 17.27 121 P **Pn** 04 36 28.2 +0.5
JTMT **Jette** 17.58 120 Pn **P** 04 36 33.2 +0.7
JTMT **Jette** 17.58 120 P **P** 04 36 33.5 +1.0
YBMT **Yellow Bay** 17.61 120 Pn **P** 04 36 33.9 +1.0
YBMT **Yellow Bay** 17.61 120 P **Pn** 04 36 31.9 0.0
G08A **Pilot Rock** 17.62 134 **P** 04 36 32.9 -0.1
KEBM **Edson Butte** 18.04 149 **P** 04 36 40.4 +2.9
KEBM IAmb IAmb 04 36 42.1
comp=Z,120nm,1.2s
PINE **Pine Mountain** 18.22 140 IAmb IAmb 04 36 43.9
comp=Z,123nm,1.2s
MSO **Missoula** 18.43 122 IAmb IAmb 04 36 51.8
comp=Z,330nm,1.8s
BBOR **Butler Butte** 18.49 145 IAmb IAmb 04 36 48.9
comp=Z,223nm,2.0s
J05D **Fort Rock, OR** 18.58 141 IAmb IAmb 04 36 48.7
comp=Z,108nm,1.5s
OVMT **Ovando** 18.67 120 Pn **Pn** 04 36 46.6 +1.8
OVMT **Ovando** 18.67 120 P **Pn** 04 36 45.9 +1.0
NIKH **Nikolski High** 18.68 265 P **Pn** 04 36 46.2 +1.4
baz=58
KBO **Bosley Butte** 18.68 149 IAmb IAmb 04 36 50.5
comp=Z,123nm,1.2s
K04D **Chiloquin, OR** 19.01 143 IAmb IAmb 04 36 53.9
comp=Z,116nm,1.3s
LYMT **Lyon Mountain** 19.06 119 P **Pn** 04 36 50.6 +1.0
LYMT **Lyon Mountain** 19.06 119 Pn **Pn** 04 36 50.9 +1.2
LYMT **Lyon Mountain** 19.06 119 P **Pn** 04 36 50.3 +0.6
KSXB **Camp Six Broad** 19.13 149 IAmb IAmb 04 36 55.8
comp=Z,96nm,1.1s
K05A **Summer Lake** 19.19 141 IAmb IAmb 04 36 56.5
comp=Z,99nm,1.4s
KRMB **Red Mountain** 19.41 149 IAmb IAmb 04 36 59.2
comp=Z,161nm,1.4s
EGMT **Eagleton** 19.47 113 IAmb IAmb 04 37 00.9
comp=Z,92nm,1.1s
FFC **Flin Flon** 19.48 88 P **P** 04 36 53.8 +0.6
FFC IAmb IAmb 04 37 02.6
comp=Z,92nm,1.4s
FFC **Flin Flon** 19.48 88 P **P** 04 36 53.8 +0.6
FFC **Flin Flon** 19.48 88 *eP* **P** 04 36 53.8 +0.6
YBH **Yreka Blue Hor** 19.55 146 P **Pn** 04 36 56.7 +1.2
comp=Z,1.4nm,1.0s,baz=0.6,slow=12,SNR=24
YBH LR LR 04 43 35.9
comp=Z,124nm,19.0s,baz=316,slow=34
KRPM **Rodgers** 19.72 150 IAmb IAmb 04 37 02.8
comp=Z,122nm,1.1s
BLKN **Baker Lake** 19.86 57 P **P** 04 36 57.3 +0.1
BLKN **Baker Lake** 19.86 57 P **P** 04 36 56.7 -0.5
BLKN **Baker Lake** 19.86 57 P **P** 04 36 56.9 -0.3
KHMM **Horse Mountain** 20.06 149 IAmb IAmb 04 37 07.7
comp=Z,87nm,1.2s
DLMT **Dillon** 20.15 122 IAmb IAmb 04 37 15.1
comp=Z,73nm,1.1s
WVOR **Wild Horse Val** 20.21 137 IAmb IAmb 04 37 11.9
comp=Z,126nm,2.0s
N02D **Trinity Center** 20.25 147 IAmb IAmb 04 37 06.6
comp=Z,144nm,1.1s
KMPM **Mount Pierce** 20.39 151 IAmb IAmb 04 37 11.3
comp=Z,165nm,1.5s
BOZ **Bozeman (W)** 20.40 120 IAmb IAmb 04 37 16.7
comp=Z,85nm,1.3s
KMRM **Mail Ridge** 20.68 150 IAmb IAmb 04 37 11.2
comp=Z,89nm,1.1s
HATC **Hat Creek Radi** 20.75 145 IAmb IAmb 04 37 15.6
comp=Z,108nm,1.4s
O02D **Mt. Diablo Mer** 20.97 148 IAmb IAmb 04 37 14.1
comp=Z,79nm,1.0s
YHL **Hebgen Lake** 21.18 121 IAmb IAmb 04 37 15.5
comp=Z,68nm,1.0s
KCPM **Cahto Peak** 21.22 150 IAmb IAmb 04 37 16.3
comp=Z,60nm,1.1s
YHB **Horse Butte** 21.25 121 IAmb IAmb 04 37 19.6
comp=Z,124nm,1.6s
YNR **Norris Junctio** 21.51 120 P **P** 04 37 16.5 +1.0
YNR IAmb IAmb 04 37 34.1
comp=Z,59nm,1.2s
YFT **Old Faithful** 21.64 121 P **P** 04 37 19.4 +2.4
YMP **Mirror Lake Pl** 21.72 119 IAmb IAmb 04 37 34.4
comp=Z,115nm,1.4s
LKWY **Lake** 21.75 120 P **P** 04 37 19.3 +1.1
LKWY IAmb IAmb 04 37 32.3
comp=Z,134nm,1.6s
LKWY **Lake** 21.75 120 P **P** 04 37 19.3 +1.1
LKWY pmax pmax
comp=Z,134nm,1.7s
RLMT **Red Lodge** 21.83 118 IAmb IAmb 04 37 21.9
comp=Z,64nm,1.1s
DGMT **Dagmar** 21.89 105 IAmb IAmb 04 37 28.5
comp=Z,121nm,1.2s
FCC **Fort Churchill** 21.89 72 P **P** 04 37 22.0 +2.7
ORV **Oroville** 21.91 146 IAmb IAmb 04 37 23.9
comp=Z,73nm,1.4s
RES **Resolute Bay** 21.97 28 P **P** 04 37 17.2 -2.8
comp=Z,18nm,0.7s,baz=251,slow=9.7,SNR=4.1
RES Lg Lg 04 43 54.5
comp=Z,0.4nm,0.3s,baz=259,slow=5.2,SNR=1.0
RES LR LR 04 46 30.9
comp=Z,3μm,19.8s,baz=244,slow=39
comp=Z,18nm,0.7s
RES **Resolute Bay** 21.97 28 P **P** 04 37 19.9 -0.1
GDXM **Geysers** 22.25 150 IAmb IAmb 04 37 28.8
comp=Z,88nm,1.5s
SNOW **Snow King Moun** 22.46 122 IAmb IAmb 04 37 29.8
comp=Z,53nm,0.9s
MPK **Martis Peak** 22.58 144 IAmb IAmb 04 37 31.6
comp=Z,44nm,1.0s
CVS **Carmenet Viney** 22.77 149 IAmb IAmb 04 37 33.8
comp=Z,95nm,1.2s
AHID **Auburn Hatcher** 22.88 124 IAmb IAmb 04 37 33.6
comp=Z,95nm,1.6s
ELK **Elko** 22.92 134 Lg Lg 04 44 38.9
comp=Z,0.1nm,0.3s,baz=287,slow=19,SNR=7.1
WAKR **Walker** 23.49 143 IAmb IAmb 04 37 39.8
comp=Z,92nm,1.8s
PDAR **Pinedale Array** 23.55 122 P **P** 04 37 37.9 +1.0
comp=Z,10nm,0.8s,baz=317,slow=9.0,SNR=65
PDAR PcP **PcP** 04 41 22.3 +0.4
comp=Z,1.4nm,0.9s,baz=314,slow=6.6,SNR=2.1
PDAR Lg Lg 04 44 49.3
baz=315,slow=8.8,SNR=1.1
PDAR LR LR 04 48 04.5
comp=Z,231nm,19.2s,baz=318,slow=40
comp=Z,10nm,0.8s
HWUT **Hardware Ranch** 23.64 126 IAmb IAmb 04 37 41.2
comp=Z,42nm,1.2s
NVAR **Mina Array Bea** 23.91 142 P **P** 04 37 41.9 +1.4
comp=Z,16nm,0.8s,baz=332,slow=8.5,SNR=95
NVAR PcP **PcP** 04 41 23.2 +0.4
comp=Z,2.3nm,0.7s,baz=336,slow=4.6,SNR=5.7
NVAR Lg Lg 04 45 10.1
comp=Z,0.1nm,0.3s,baz=336,slow=16,SNR=1.9
NVAR LR LR 04 46 42.1
comp=Z,1μm,19.0s,baz=328,slow=36
comp=Z,16nm,0.8s
TCUT **Toone Canyon** 24.11 127 IAmb IAmb 04 37 46.0
comp=Z,48nm,1.0s
CTU **Camp Tracy** 24.32 128 IAmb IAmb 04 37 47.6
comp=Z,33nm,1.0s
TPH **Tonopah** 24.59 140 IAmb IAmb 04 37 51.4
comp=Z,36nm,1.0s
SCZ **Santa Cruz** 24.70 149 IAmb IAmb 04 37 51.6
comp=Z,37nm,1.4s
SPR3 **Spring Creek 3** 24.78 134 IAmb IAmb 04 37 53.8
comp=Z,37nm,1.3s
BBGB **Big Mountain B** 24.81 148 IAmb IAmb 04 37 53.5
comp=Z,63nm,1.3s
R11B **Troy Canyon, C** 24.90 137 IAmb IAmb 04 37 53.0
comp=Z,48nm,1.1s
DSP **Deep Springs** 24.99 142 IAmb IAmb 04 37 55.0
comp=Z,44nm,1.3s
K22A **Casper** 25.00 118 IAmb IAmb 04 38 01.5
comp=Z,24nm,1.0s
ULM **Lac du Bonnet** 25.02 92 P **P** 04 37 50.9 +0.6
comp=Z,15nm,0.9s,baz=299,slow=11,SNR=14
comp=Z,15nm,0.9s
ULM **Lac du Bonnet** 25.02 92 P **P** 04 37 51.1 +0.9
ULM **Lac du Bonnet** 25.02 92 P **P** 04 37 50.5 +0.3
ULM **Lac du Bonnet** 25.02 92 *ceP* **P** 04 37 50.6 +0.3
RSSD **Black Hills** 25.04 112 P **P** 04 37 52.2 +1.4
RSSD **Black Hills** 25.04 112 P **P** 04 37 52.2 +1.4
RSSD pmax pmax
comp=Z,86nm,1.2s
ILON **Igloolik, Nuna** 25.15 43 P **P** 04 37 51.9 +0.7
ILON **Igloolik, Nuna** 25.15 43 P **P** 04 37 52.1 +0.9
ILON **Igloolik, Nuna** 25.15 43 P **P** 04 37 51.4 +0.2
BILL **Bilibino** 25.83 314 *ceP* **P** 04 37 57.5 +0.1
BILL pmax pmax
comp=Z,12nm,1.0s
TCRU **Three Creeks R** 25.83 132 IAmb IAmb 04 38 01.2
comp=Z,34nm,1.2s
P18A **Preston Nutter** 25.84 127 IAmb IAmb 04 38 01.4
comp=Z,59nm,1.2s
PRN **Pahroc Range** 25.93 137 IAmb IAmb 04 38 01.9
comp=Z,33nm,1.4s
TPNV **Topopah Spring** 25.93 139 IAmb IAmb 04 38 23.4
comp=Z,24nm,0.9s
WCT **Wildcat Mounta** 25.95 140 IAmb IAmb 04 38 04.7
comp=Z,33nm,1.2s
Q16A **Castle Valley** 26.07 129 IAmb IAmb 04 38 03.1
comp=Z,38nm,1.1s
SRU **San Rafael Swe** 26.16 128 IAmb IAmb 04 38 03.8
comp=Z,34nm,1.1s
FURC **Furnace Creek,** 26.17 141 IAmb IAmb 04 38 13.7
comp=Z,37nm,1.4s
AGMN **Agassiz Nation** 26.23 96 IAmb IAmb 04 38 03.1
comp=Z,21nm,0.9s
AGMN **Agassiz Nation** 26.23 96 P **P** 04 38 01.8 +0.6
O20A **White River Ci** 26.26 123 IAmb IAmb 04 38 04.3
comp=Z,25nm,1.1s
POIN **Pond Inlet** 26.29 35 P **P** 04 38 01.6 +0.1
HAYD **Hayden** 26.37 122 IAmb IAmb 04 38 06.4
comp=Z,52nm,0.9s
MTPU **Mount Pierson** 26.43 132 IAmb IAmb 04 38 07.0
comp=Z,27nm,1.1s
EPLO **Experimental L** 26.47 92 IAmb IAmb 04 38 05.6
comp=Z,61nm,1.6s
EPLO **Experimental L** 26.47 92 P **P** 04 38 02.5 -1.0
QSM **Queen of Sheba** 26.63 141 IAmb IAmb 04 38 11.0
comp=Z,32nm,1.3s
CCCA **Chr Cany lake** 26.87 143 IAmb IAmb 04 38 16.9
comp=Z,80nm,1.8s
SHOC **Shoshone, Teco** 26.88 140 IAmb IAmb 04 38 10.6
comp=Z,28nm,1.1s
PKCU **Pink Cliffs** 26.90 133 IAmb IAmb 04 38 47.7
comp=Z,41nm,1.4s
KNB **Kanab** 27.09 134 IAmb IAmb 04 38 12.6
comp=Z,31nm,1.1s
SOLO **Sioux Lookout** 27.11 90 P **P** 04 38 09.2 +0.1
SOLO **Sioux Lookout** 27.11 90 P **P** 04 38 08.3 -0.8
PKLO **Pickle Lake** 27.14 86 P **P** 04 38 09.0 -0.4
PKLO **Pickle Lake** 27.14 86 P **P** 04 38 08.5 -1.0
PV21 **Cone Mtn., Par** 27.27 126 IAmb IAmb 04 38 13.2
comp=Z,19nm,0.8s
PV23 **Carpenter Ridg** 27.35 127 IAmb IAmb 04 38 13.9
comp=Z,40nm,0.8s
PV22 **Blue Mesa, Par** 27.37 126 IAmb IAmb 04 38 14.0
comp=Z,26nm,0.8s
PV10 **Paradox Valley** 27.40 127 IAmb IAmb 04 38 15.2
comp=Z,36nm,1.0s
PV14 **Lion Creek, Pa** 27.41 127 IAmb IAmb 04 38 14.4
comp=Z,31nm,1.2s
PV04 **Paradox Valley** 27.44 127 IAmb IAmb 04 38 14.8
comp=Z,26nm,1.0s
PV20 **West Nyswonger** 27.46 127 IAmb IAmb 04 38 14.8
comp=Z,45nm,1.1s
PV19 **Morning Glory** 27.48 127 IAmb IAmb 04 38 15.1
comp=Z,37nm,1.0s
PV16 **Nyswonger Mesa** 27.50 127 IAmb IAmb 04 38 15.3
comp=Z,34nm,1.3s
PV07 **Paradox Valley** 27.51 126 IAmb IAmb 04 38 15.1
comp=Z,20nm,0.8s
PV17 **East Wray Mesa** 27.51 127 IAmb IAmb 04 38 15.3
comp=Z,18nm,0.8s
V12A **Nelson** 27.52 138 IAmb IAmb 04 38 16.5
comp=Z,49nm,1.5s
PV11 **David Mesa, Pa** 27.53 127 IAmb IAmb 04 38 15.5
comp=Z,21nm,0.7s
PV12 **Saucer Basin,** 27.55 126 IAmb IAmb 04 38 15.8
comp=Z,48nm,1.2s
PV18 **Skein Mesa, Pa** 27.56 127 IAmb IAmb 04 38 15.8
comp=Z,31nm,0.8s
PV05 **Paradox Valley** 27.63 127 IAmb IAmb 04 38 16.4
comp=Z,29nm,0.8s
F33A **5 Mile Ranch,** 27.64 100 IAmb IAmb 04 38 26.5
comp=Z,50nm,1.4s
PV15 **Paradox Valley** 27.66 126 IAmb IAmb 04 38 16.5
comp=Z,24nm,0.8s
PV02 **Paradox Valley** 27.67 126 IAmb IAmb 04 38 16.8
comp=Z,31nm,0.9s
PV13 **Radium Mtn., P** 27.67 127 IAmb IAmb 04 38 16.9
comp=Z,36nm,1.0s
ISCO **Idaho Springs** 27.69 120 IAmb IAmb 04 38 22.2
comp=Z,24nm,0.9s
PV01 **Paradox Valley** 27.80 126 IAmb IAmb 04 38 18.0
comp=Z,34nm,0.9s
MWC **Mount Wilson** 27.87 145 IAmb IAmb 04 38 19.7
comp=Z,43nm,1.5s
BFSC **Mount Baldy Pa** 27.97 144 IAmb IAmb 04 38 20.6
comp=Z,39nm,1.6s
ATKO **Atikokan Iron** 28.09 91 P **P** 04 38 17.9 -0.1
ATKO **Atikokan Iron** 28.09 91 P **P** 04 38 18.1 +0.1
OGNE **Ogallala** 28.42 114 IAmb IAmb 04 38 24.3
comp=Z,42nm,1.1s
EYMN **Ely** 28.70 93 IAmb IAmb 04 38 25.6
comp=Z,17nm,0.7s
EYMN **Ely** 28.70 93 P **P** 04 38 24.3 +0.8
PFO **Pinyon Flats O** 28.92 143 LR LR 04 51 21.2
comp=Z,543nm,19.1s,baz=328,slow=39
PFO **Pinyon Flats O** 28.92 143 *jeP* **P** 04 38 25.3 -0.3
PFO pmax pmax
comp=Z,20nm,2.2s
WUAZ **Wupatki** 28.96 133 IAmb IAmb 04 38 29.1
comp=Z,27nm,0.9s
ECSD **EROS Data Cent** 28.96 104 IAmb IAmb 04 38 27.6
comp=Z,32nm,1.1s
KSCO **Kaye Shedlock'** 29.68 117 IAmb IAmb 04 38 35.2
comp=Z,25nm,1.0s
Y14A **Wickenburg** 29.77 137 IAmb IAmb 04 38 36.5
comp=Z,19nm,1.1s
SPMN **Marine on St.** 29.84 98 IAmb IAmb 04 38 35.9
comp=Z,28nm,1.2s
X16A **Lo Mia Camp, P** 29.91 134 IAmb IAmb 04 38 38.3
comp=Z,16nm,0.9s
GTOO **Geraldton** 29.92 86 P **P** 04 38 34.9 +0.7
GTOO **Geraldton** 29.92 86 P **P** 04 38 34.6 +0.4
W18A **Petrified Fore** 29.93 131 IAmb IAmb 04 38 37.8
comp=Z,27nm,0.9s
X18A **Snowflake** 30.37 132 IAmb IAmb 04 38 42.3
comp=Z,30nm,0.9s
L34A **Svendsen Farm,** 30.38 106 P **P** 04 38 38.4 0.0
I37A **Lemond, Waseca** 30.39 100 P **P** 04 38 39.6 +1.2
COWI **Conover** 31.13 93 IAmb IAmb 04 38 46.8
comp=Z,30nm,1.4s
COWI **Conover** 31.13 93 P **P** 04 38 45.5 +0.5
G40A **Rib Lake** 31.15 95 IAmb IAmb 04 38 47.1
comp=Z,14nm,0.8s
CBKS **Cedar Bluff** 31.18 114 IAmb IAmb 04 38 48.2
comp=Z,26nm,1.1s
ANMO **Albuquerque** 31.40 127 P **P** 04 38 49.6 +1.9
ANMO IAmb IAmb 04 38 50.8
comp=Z,45nm,1.6s
ANMO **Albuquerque** 31.40 127 P **P** 04 38 49.0 +1.4
comp=Z,12nm,1.1s,baz=36,slow=3.3,SNR=17
ANMO PcP **PcP** 04 41 40.7 -0.2
comp=Z,6.9nm,1.1s,baz=48,slow=4.2,SNR=4.8
ANMO LR LR 04 52 09.8
comp=Z,1μm,20.1s,baz=60,slow=38
comp=Z,12nm,1.1s
ANMO **Albuquerque** 31.40 127 *c iP* **P** 04 38 49.0 +1.4
ANMO pmax pmax
comp=Z,15nm,1.3s
FRB **Frobisher Bay** 31.65 52 LR LR 04 51 57.9
comp=Z,2μm,19.9s,baz=300,slow=37
FRB **Frobisher Bay** 31.65 52 P **P** 04 38 49.8 +0.5
RTBA **Rita Blanca** 31.74 120 IAmb IAmb 04 38 53.3
comp=Z,35nm,1.2s
I40A **Norwalk** 31.89 98 IAmb IAmb 04 38 53.9
comp=Z,25nm,0.8s
Y22D **IRIS PASSCAL I** 31.97 128 P **P** 04 38 52.4 -0.1
baz=331
TUC **Tucson** 32.04 135 P **P** 04 38 55.3 +2.2
TUC IAmb IAmb 04 38 56.7
comp=Z,23nm,0.9s
TUC **Tucson** 32.04 135 P **P** 04 38 55.3 +2.2
TUC pmax pmax
comp=Z,23nm,0.9s
KAPO **Kapuskasing** 32.39 83 P **P** 04 38 56.9 +1.0
NEEM **North Greenlan** 32.48 24 P **P** 04 38 57.2 +0.4
NEEM **North Greenlan** 32.48 24 *i* P **P** 04 38 57.7 +0.9
NEEM IAmb IAmb 04 39 04.4
comp=Z,50nm,0.8s
I42A **Draeger Farm,** 32.77 96 IAmb IAmb 04 39 01.7
comp=Z,20nm,0.9s
SEY **Seymchan** 32.86 307 P **P** 04 38 59.9 0.0
comp=Z,4.7nm,0.6s,baz=68,slow=11,SNR=9.1
SEY LR LR 04 54 10.1
comp=Z,676nm,18.7s,baz=80,slow=40
comp=Z,4.7nm,0.6s
SEY **Seymchan** 32.86 307 *deP* **P** 04 39 00.8 +0.9
SEY pmax pmax
comp=Z,6.0nm,1.1s
L40A **Anamosa** 32.90 101 IAmb IAmb 04 39 02.1
comp=Z,26nm,0.9s
121A **Cookes Peak, D** 32.97 131 IAmb IAmb 04 39 05.0
comp=Z,31nm,0.9s
319A **Douglas** 33.43 134 IAmb IAmb 04 39 09.0
comp=Z,23nm,0.9s
E46A **Sault Ste Mari** 33.45 89 IAmb IAmb 04 39 07.7
comp=Z,28nm,0.9s
P38A **Dawn** 33.56 106 IAmb IAmb 04 39 08.0
comp=Z,21nm,1.0s
N41A **Harden Midland** 34.09 102 IAmb IAmb 04 39 12.2
comp=Z,28nm,0.8s
LG4Q **La Grande 4** 34.12 71 P **P** 04 39 10.4 -0.5
EPT **El Paso** 34.15 130 IAmb IAmb 04 39 14.5
comp=Z,23nm,1.0s
KUQ **Kuujjuaa** 34.34 61 P **P** 04 39 13.0 +0.2
DKNS **Dickens** 34.87 121 IAmb IAmb 04 39 20.1
comp=Z,24nm,1.0s
SUBO **Sudbury** 34.92 86 P **P** 04 39 18.6 +0.6
SUBO **Sudbury** 34.92 86 P **P** 04 39 17.6 -0.4
MA2 **Magadan** 35.16 303 P **P** 04 39 19.7 -0.3
MA2 IAmb IAmb 04 39 22.8
comp=Z,26nm,0.9s
MA2 **Magadan** 35.16 303 P **P** 04 39 19.8 -0.1
comp=Z,14nm,0.7s,baz=74,slow=9.6,SNR=10
MA2 LR LR 04 55 45.3
comp=Z,739nm,19.1s,baz=66,slow=40
comp=Z,14nm,0.7s
MA2 **Magadan** 35.16 303 P **P** 04 39 21.1 +1.1
MA2 **Magadan** 35.16 303 *ceP* **P** 04 39 21.1 +1.1
MA2 pmax pmax
comp=Z,20nm,0.9s
R40A **Maddies Statio** 35.22 106 IAmb IAmb 04 39 22.5
comp=Z,38nm,1.5s
SN07 **Snyder 07** 35.37 121 IAmb IAmb 04 39 24.4
comp=Z,27nm,1.1s
APMT **Aspermont** 35.52 120 IAmb IAmb 04 39 25.1
comp=Z,49nm,1.8s
P43A **Skaggs, Pawnee** 35.56 102 IAmb IAmb 04 39 25.0
comp=Z,21nm,0.8s
PEA0B **Petropavlovsk-** 35.56 290 *deP* **P** 04 39 24.9 +1.4
PETK **Petropavlovsk-** 35.56 290 P **P** 04 39 23.2 -0.3
PETK **Petropavlovsk-** 35.56 290 P **P** 04 39 24.5 +1.0
comp=Z,3.4nm,0.7s,baz=66,slow=14,SNR=9.1
PETK LR LR 04 55 35.2
comp=Z,384nm,19.1s,baz=64,slow=39
comp=Z,3.4nm,0.7s
PECS **Pecos** 35.58 126 IAmb IAmb 04 39 26.8
comp=Z,31nm,2.0s
VHRN **Van Horn** 35.63 128 IAmb IAmb 04 39 28.0
comp=Z,45nm,1.3s
U38A **Gravette** 35.64 110 IAmb IAmb 04 39 25.6
comp=Z,22nm,0.8s
VLDQ **Val d'Or** 35.82 81 P **P** 04 39 24.9 -0.8
CCM **Cathedral Cave** 35.91 105 P **P** 04 39 26.0 -0.6
CCM **Cathedral Cave** 35.91 105 P **P** 04 39 26.0 -0.6
CCM pmax pmax
comp=Z,11nm,1.1s
NOR **Nord** 36.03 12 *i* P **P** 04 39 28.0 +0.9
NOR IAmb IAmb 04 39 34.4
comp=Z,11nm,0.8s
MGMO **Mountain Grove** 36.10 107 IAmb IAmb 04 39 29.1
comp=Z,27nm,0.9s
SFIN **Lafayette** 36.24 99 IAmb IAmb 04 39 31.4
comp=Z,26nm,0.8s
BMRO **Meriville Lake** 36.24 88 P **P** 04 39 30.8 +1.4
SGCY **Sterling City** 36.27 123 P **P** 04 39 30.5 +0.7
SGCY IAmb IAmb 04 39 32.0
comp=Z,34nm,0.8s
FVM **French Village** 36.37 105 IAmb IAmb 04 39 32.3
comp=Z,30nm,1.0s
Q44A **Meyer Farm, Va** 36.38 102 IAmb IAmb 04 39 31.9
comp=Z,28nm,1.0s
BASO **Ashfield** 36.42 89 P **P** 04 39 30.5 -0.4
N47A **Urbana** 36.59 97 IAmb IAmb 04 39 33.8
comp=Z,29nm,0.7s
BUKO **Buck Lake** 36.60 86 IAmb IAmb 04 39 39.3
comp=Z,17nm,0.9s
BUKO **Buck Lake** 36.60 86 P **P** 04 39 32.6 +0.2
P46A **Rosedale** 36.75 100 IAmb IAmb 04 39 42.8
comp=Z,27nm,0.7s
PLPT **Palo Pinto** 36.76 118 IAmb IAmb 04 39 35.9
comp=Z,30nm,1.1s
TIXI **Tiksi** 36.81 328 LR LR 04 58 02.0
comp=Z,366nm,18.3s,baz=0.0,slow=42
CLWO **Collingwood** 36.82 88 P **P** 04 39 35.8 +1.5
SFJD **Kangerlussuaq** 36.85 41 LR LR 04 55 19.0
comp=Z,2μm,18.6s,baz=306,slow=37
SCHQ **Schefferville** 36.90 65 P **P** 04 39 35.1 +0.3
SCHQ **Schefferville** 36.90 65 P **P** 04 39 35.8 +0.9
comp=Z,116nm,0.7s,baz=308,slow=13,SNR=12
SCHQ **Schefferville** 36.90 65 P **P** 04 39 35.6 +0.8
OZNA **Ozona** 37.12 123 IAmb IAmb 04 39 39.3
comp=Z,33nm,0.9s
S44A **Carbondale** 37.18 104 IAmb IAmb 04 39 38.7
comp=Z,38nm,1.1s
SIUC **Southern Illin** 37.19 104 IAmb IAmb 04 39 38.7
comp=Z,35nm,1.1s
SADO **Sadowa** 37.19 86 LR LR 04 55 13.2
comp=Z,12μm,20.0s,baz=330,slow=37
CHRO **Chalk River** 37.23 83 P **P** 04 39 38.7 +0.9
CHRO **Chalk River** 37.23 83 P **P** 04 39 37.3 -0.4
PBMO **Poplar Bluff** 37.31 106 IAmb IAmb 04 39 39.5
comp=Z,40nm,1.0s
N49A **Columbus Grove** 37.33 95 IAmb IAmb 04 39 40.4
comp=Z,42nm,1.1s
TXAR **Lajitas Array** 37.44 128 P **P** 04 39 41.4 +1.6
comp=Z,3.5nm,0.7s,baz=332,slow=8.8,SNR=54
TXAR PcP **PcP** 04 41 58.1 -0.1
comp=Z,1.8nm,0.8s,baz=327,slow=3.6,SNR=5.5
TXAR LR LR 04 56 31.0
comp=Z,873nm,18.1s,baz=333,slow=39
comp=Z,3.5nm,0.7s
SUMG **Summit** 37.49 29 P **P** 04 39 41.0 +0.8
SUMG **Summit** 37.49 29 P **P** 04 39 41.0 +0.8
SUMG pmax pmax
comp=Z,54nm,1.0s
SUMG **Summit** 37.49 29 *i* P **P** 04 39 40.0 -0.2
SUMG IAmb IAmb 04 39 48.9
comp=Z,30nm,0.8s
LCAR **Lake Charles** 37.51 107 IAmb IAmb 04 39 41.1
comp=Z,20nm,1.0s
ACTO **Acton** 37.53 89 P **P** 04 39 41.8 +1.5
ACTO **Acton** 37.53 89 P **P** 04 39 40.5 +0.2
PEMO **Pembroke** 37.55 84 P **P** 04 39 41.2 +0.7
MIAR **Mount Ida** 37.55 111 IAmb IAmb 04 39 42.4
comp=Z,30nm,0.8s
FW13 **Cleburne** 37.55 118 IAmb IAmb 04 39 42.9
comp=Z,35nm,0.9s
GRQ **Grand Remous** 37.63 82 P **P** 04 39 41.5 +0.4
BRDY **Brady** 37.74 121 IAmb IAmb 04 39 44.2
comp=Z,25nm,1.1s
P48A **Milroy** 37.78 98 IAmb IAmb 04 39 43.4
comp=Z,45nm,1.5s
WHTX **Lake Whitney,** 37.84 118 IAmb IAmb 04 39 45.3
comp=Z,40nm,1.0s
UALR **University of** 37.96 110 IAmb IAmb 04 39 45.0
comp=Z,19nm,0.8s
PLVO **Plevna** 38.07 84 P **P** 04 39 46.2 +1.3
PLVO **Plevna** 38.07 84 P **P** 04 39 45.5 +0.6
JCT **Junction City** 38.08 122 IAmb IAmb 04 39 47.3
comp=Z,77nm,1.9s
DELO **Deloro Mine** 38.15 85 P **P** 04 39 46.6 +1.1

DELO Deloro Mine 38.15 85 P **P** **04 39 45.1 -0.4**
WCI Wyandotte Cave 38.27 100 P **P** **04 39 46.8 +0.2**
WCI IAmb IAmb 04 39 48.0
comp=Z,26nm,1.2s
WCI Wyandotte Cave 38.27 100 P **P** **04 39 46.8 +0.2**
WCI pmax pmax
comp=Z,26nm,1.3s
GAC Glen Almond 38.44 82 P **P** **04 39 48.5 +0.6**
GAC Glen Almond 38.44 82 P **P** **04 39 48.3 +0.4**
ACSO Alum Creek Sta 38.46 95 IAmb IAmb 04 39 50.4
comp=Z,26nm,1.1s
WLAR White Oak Lake 38.47 112 IAmb IAmb 04 39 50.2
comp=Z,28nm,0.9s
OTT Ottawa 38.52 83 P **P** **04 39 49.4 +0.8**
TRQ Mont Tremblant 38.55 81 P **P** **04 39 49.5 +0.5**
TRQ Mont Tremblant 38.55 81 P **P** **04 39 49.2 +0.2**
DY2G Dye2 38.59 40 *i* P **P** **04 39 50.0 +0.7**
DRIO Del Rio 38.64 124 IAmb IAmb 04 39 51.7
comp=Z,23nm,1.0s
435B Jarrell 38.81 119 IAmb IAmb 04 39 53.6
comp=Z,36nm,1.1s
CCAR Cane Creek 38.93 110 IAmb IAmb 04 39 54.2
comp=Z,47nm,1.1s
WBO Williamsburg 39.02 83 IAmb IAmb 04 40 09.3
comp=Z,38nm,1.5s
LDAQ Lac Daran 39.06 77 P **P** **04 39 53.8 +0.6**
WVT Waverly 39.12 104 P **P** **04 39 54.0 +0.3**
WVT Waverly 39.12 104 P **P** **04 39 54.1 +0.3**
WVT pmax pmax
comp=Z,18nm,0.9s
HNDO Hondo 39.13 122 IAmb IAmb 04 39 56.2
comp=Z,34nm,1.1s
O52A Adamsville 39.13 94 IAmb IAmb 04 40 02.6
comp=Z,110nm,1.9s
N53A Lisbon 39.14 92 IAmb IAmb 04 40 07.2
comp=Z,37nm,1.1s
Q51A Peebles 39.17 96 IAmb IAmb 04 40 03.7
comp=Z,51nm,1.8s
NATX Nacogdoches 39.33 115 IAmb IAmb 04 39 58.0
comp=Z,43nm,1.1s
P52A Corning 39.34 95 IAmb IAmb 04 40 05.1
comp=Z,66nm,1.8s
O53A New Philadelph 39.36 93 IAmb IAmb 04 40 08.8
comp=Z,64nm,1.6s
PAMR Moraine State 39.43 92 IAmb IAmb 04 40 05.2
comp=Z,108nm,1.8s
PTNY Frank Revetta 39.50 83 P **P** **04 39 58.3 +1.5**
WCNY West Carthage 39.54 84 P **P** **04 39 57.3 +0.1**
LPIG La Paz 39.72 140 LR LR 04 56 24.5
comp=Z,350nm,18.4s,baz=332,slow=36
CFNY Clifton-Fine, 39.72 84 P **P** **04 39 59.5 +0.8**
Q52A Bidwell 39.77 96 IAmb IAmb 04 40 08.2
comp=Z,24nm,0.9s
A61 Sainte Mathild 39.82 76 P **P** **04 40 00.3 +0.8**
A61 Sainte Mathild 39.82 76 P **P** **04 39 59.8 +0.3**
P53A Whipple 39.83 94 IAmb IAmb 04 40 09.3
comp=Z,97nm,1.8s
U49A Red Boiling Sp 39.85 101 IAmb IAmb 04 40 01.5
comp=Z,22nm,0.7s
PLAL Pickwick Lake 39.90 105 IAmb IAmb 04 40 02.2
comp=Z,28nm,1.0s
V48A Smith Brothers 39.93 103 IAmb IAmb 04 40 02.2
comp=Z,32nm,0.9s
CACQ Cacouna 39.95 75 P **P** **04 40 01.3 +0.8**
FRNY Flat Rock 40.00 82 P **P** **04 40 01.0 0.0**
Y45A Yeager Farm, C 40.06 108 IAmb IAmb 04 40 03.2
comp=Z,41nm,1.1s
S51A Beattyville 40.10 98 IAmb IAmb 04 40 11.3
comp=Z,49nm,1.8s
143A Socs Landing, 40.10 111 IAmb IAmb 04 40 04.2
comp=Z,72nm,1.2s
833A Chaparral WMA, 40.12 123 P **P** **04 40 02.3 +0.2**
SLBS Sierra La Lagu 40.22 140 P **P** **04 40 03.2 0.0**
SLBS IAmb IAmb 04 40 12.8
comp=Z,54nm,1.6s
NCB Newcomb 40.28 83 IAmb IAmb 04 40 09.6
comp=Z,89nm,1.8s
HKT Hockley 40.31 118 P **P** **04 40 04.7 +1.1**
HKT IAmb IAmb 04 40 06.5
comp=Z,50nm,1.4s
HKT Hockley 40.31 118 *ce*P **P** **04 40 04.6 +1.0**
HKT pmax pmax
comp=Z,30nm,1.3s
BINY Binghamton 40.63 87 IAmb IAmb 04 40 19.2
comp=Z,26nm,1.1s
BINY Binghamton 40.63 87 P **P** **04 40 06.4 +0.1**
M57A Sunshine Farm, 40.67 89 IAmb IAmb 04 40 13.7
comp=Z,55nm,1.8s
D62A Allapoint, All 40.76 76 P **P** **04 40 08.2 +1.0**
D62A IAmb IAmb 04 40 14.4
comp=Z,24nm,1.0s
SWET Sewanee 40.79 103 IAmb IAmb 04 40 08.8
comp=Z,26nm,1.1s
SSPA Standing Stone 40.79 90 P **P** **04 40 07.8 +0.2**
SSPA IAmb IAmb 04 40 09.7
comp=Z,54nm,1.4s
X48A Hartselle 40.83 105 IAmb IAmb 04 40 09.9
comp=Z,29nm,0.9s
441A DeRidder 40.86 114 IAmb IAmb 04 40 11.1
comp=Z,35nm,0.7s
TZTN Tazewell 40.96 99 IAmb IAmb 04 40 10.9
comp=Z,22nm,0.8s
ACCN Adirondack Com 40.98 84 IAmb IAmb 04 40 22.4
comp=Z,36nm,1.4s
KBS Kingsbay 41.00 9 P **P** **04 40 09.9 +1.0**
KBS Kingsbay 41.00 9 *de*P **P** **04 40 08.9 0.0**
KBS pmax pmax
comp=Z,24nm,0.9s
W50A Signal Mountai 41.11 102 IAmb IAmb 04 40 12.0
comp=Z,46nm,1.5s
L59A Walton 41.13 86 IAmb IAmb 04 40 23.3
comp=Z,31nm,1.1s
N58A Sunbury 41.24 89 IAmb IAmb 04 40 20.5
comp=Z,74nm,1.9s
Q56A Snyder Ridge, 41.30 93 IAmb IAmb 04 40 18.5
comp=Z,88nm,1.9s
FPAL Fort Paine 41.48 103 IAmb IAmb 04 40 15.5
comp=Z,31nm,1.2s
POHA Pohakuloa 41.50 207 *e*S **S** **04 46 29.1 -0.1**
comp=Z,15nm,26.0s
POHA *e*SS **SS** **04 49 36.0 +2.3**
comp=Z,12nm,26.1s
POHA *e*LR LR 04 51 36.9
comp=Z,35nm,22.8s
TKL Tuckaleechee C 41.53 100 LR LR 04 58 16.1
comp=Z,3μm,19.4s,baz=331,slow=37
P57A Homestead Farm 41.58 91 IAmb IAmb 04 40 16.0
comp=Z,33nm,1.2s
J61A Chester 41.58 83 IAmb IAmb 04 40 16.4
comp=Z,35nm,1.5s
Y49A Blount Mountai 41.62 104 IAmb IAmb 04 40 16.0
comp=Z,30nm,1.0s
X51A Calhoun 41.84 102 IAmb IAmb 04 40 26.3
comp=Z,19nm,0.9s
U54A Nelsons Funny 41.86 98 IAmb IAmb 04 40 26.0
comp=Z,34nm,0.7s
PKME Peaks-Kenny Pk 41.89 78 P **P** **04 40 16.6 +0.1**
W52A Murphy 41.90 101 IAmb IAmb 04 40 18.4
comp=Z,31nm,1.4s
ANGG Ammassalik, Gr 41.92 38 IAmb IAmb 04 40 17.6
comp=Z,54nm,1.4s
LRAL Lakeview Retre 41.99 106 IAmb IAmb 04 40 26.1
comp=Z,92nm,2.0s
SPITS Spitsbergen Ar 42.03 8 P **P** **04 40 16.5 -0.8**
comp=Z,16nm,0.8s,baz=343,slow=3.5,SNR=9.1
SPITS LR LR 04 59 44.3
comp=Z,319nm,19.1s,baz=333,slow=39
comp=Z,16nm,0.8s
SPITS Spitsbergen Ar 42.03 8 P **P** **04 40 16.4 -1.0**
SPITS pmax pmax
comp=Z,66nm,1.0s
BLA Blacksburg 42.05 96 IAmb IAmb 04 40 27.9
comp=Z,58nm,1.6s
BATG Bathurst New B 42.11 74 IAmb IAmb 04 40 25.5
comp=Z,24nm,0.9s
346A Big Creek Wild 42.11 110 IAmb IAmb 04 40 20.7
comp=Z,26nm,0.9s
YAK Yakutsk 42.16 315 LR LR 04 59 47.3
comp=Z,670nm,19.2s,baz=54,slow=39
YAK Yakutsk 42.16 315 *e*P **P** **04 40 19.6 +1.1**
YAK *e*'PP **pP** **04 40 23.0 +0.6**
YAK *e* 04 41 56.3
YAK *e* 04 42 14.9
YAK *e*PPP PPP 04 42 26.7
YAK *e*S **S** **04 46 37.8 +0.1**
YAK *e*SS SS 04 49 33.6 -11
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=Z,55nm,1.8s
YAK pmax pmax
comp=E,43nm,2.2s
YAK pmax pmax
comp=N,30nm,1.6s
YAK smax smax
comp=N,40nm,13.6s
YAK smax smax
comp=E,71nm,12.2s
YAK MLR MLR
comp=Z,1μm,14.0s
YAK MLR MLR
comp=E,725nm,13.0s
YAK MLR MLR
comp=N,342nm,16.0s
K62A Royalston 42.23 83 IAmb IAmb 04 40 26.8
comp=Z,52nm,1.5s
MCNB McAdam 42.65 76 P **P** **04 40 23.2 +0.4**
MCNB McAdam 42.65 76 P **P** **04 40 23.0 +0.3**
U56A King 42.73 96 IAmb IAmb 04 40 24.8
comp=Z,44nm,1.5s
R58B Mineral 42.79 93 IAmb IAmb 04 40 33.2
comp=Z,64nm,1.8s
G65A Princeton 42.80 77 P **P** **04 40 23.4 -0.6**
G65A IAmb IAmb 04 40 25.9
comp=Z,47nm,1.4s
UCCT U. Connecticut 42.86 84 IAmb IAmb 04 40 34.2
comp=Z,80nm,1.7s
EMMW East Machias 43.20 77 IAmb IAmb 04 40 36.4
comp=Z,67nm,1.6s
250A Grady 43.20 106 IAmb IAmb 04 40 29.0
comp=Z,29nm,0.8s
GGN Saint George 43.22 77 IAmb IAmb 04 40 36.4
comp=Z,77nm,1.6s
GGN Saint George 43.22 77 P **P** **04 40 28.0 +0.7**
GGN Saint George 43.22 77 P **P** **04 40 27.8 +0.4**
SRNB Snider Mountai 43.33 75 P **P** **04 40 28.0 -0.2**
HKNB Havelock Quarr 43.35 75 P **P** **04 40 25.0 -3.4**
WCNB Wards Creek 43.52 75 P **P** **04 40 30.2 +0.4**
ELNB Elgin, New Bru 43.55 75 P **P** **04 40 30.4 +0.4**
T59A Double "B" Far 43.71 93 IAmb IAmb 04 40 33.3
comp=Z,29nm,1.4s
LMN Caledonia Moun 43.72 74 P **P** **04 40 31.7 +0.2**
LMN IAmb IAmb 04 40 38.3
comp=Z,22nm,0.8s
LMN Caledonia Moun 43.72 74 P **P** **04 40 31.6 +0.2**
ZAIG Zacatecas 43.74 131 P **P** **04 40 33.3 +1.2**
W57A Gilead 43.86 97 IAmb IAmb 04 40 42.4
comp=Z,75nm,1.7s
BIRD Birdtown, Kers 44.01 98 IAmb IAmb 04 40 35.9
comp=Z,22nm,1.2s
TYV Tymovskoe 44.15 296 *e*P **P** **04 40 35.9 +1.1**
TYV *e*S **S** **04 47 07.0 -0.2**
TYV pmax pmax
comp=Z,20nm,1.0s
TYV pmax pmax
comp=Z,100nm,2.2s
TYV smax smax
comp=N,100nm,2.8s
TYV smax smax
comp=E,100nm,2.8s
352A Blakely 44.27 105 IAmb IAmb 04 40 37.2
comp=Z,23nm,0.8s
DRLN Deer Lake 44.89 66 P **P** **04 40 41.3 +0.6**
JMIC Jan Mayen 45.28 21 LR LR 05 00 12.1
comp=Z,592nm,18.4s,baz=337,slow=37
YSS Yuzhno-Sakhali 46.84 292 P **P** **04 40 57.0 +0.9**
YSS Yuzhno-Sakhali 46.84 292 P **P** **04 40 57.4 +1.3**
YSS Yuzhno-Sakhali 46.84 292 *ce*P **P** **04 40 57.2 +1.1**
YSS *e*S **S** **04 47 47.1 +1.0**
YSS pmax pmax
comp=Z,300nm,3.0s
YSS pmax pmax
comp=Z,60nm,0.7s
YSS MLR MLR
comp=N,300nm,16.0s
YSS MLR MLR
comp=E,300nm,16.0s
YSS MLR MLR
comp=Z,500nm,16.0s
GRNR Gornyy 47.05 300 ⇑ *i*P **P** **04 40 58.6 +0.8**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=E,430nm,20.0s
GRNR MLR MLR
comp=N,250nm,16.0s
GRNR MLR MLR
comp=Z,470nm,14.0s
BORG Borgarnes 47.35 32 LR LR 05 01 31.4
comp=Z,867nm,19.5s,baz=325,slow=37
JOHN Johnston Islan 48.52 223 *e*P P 04 40 59.1 -10
comp=Z,124nm,28.2s
JOHN *e*S **S** **04 48 10.0 -0.4**
comp=Z,290nm,26.3s
JOHN *e*LR LR 04 54 55.1
comp=Z,487nm,21.6s
ZEA Zeya 48.83 308 *e*P **P** **04 41 12.1 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=E,500nm,15.0s
ZEA MLR MLR
comp=Z,700nm,14.0s
JKA Kamikawa-asahi 48.98 290 P **P** **04 41 14.1 +1.3**
ASAJ Asahikawa 48.98 290 LR LR 05 02 01.9
comp=Z,100nm,21.6s,baz=138,slow=36
ASAJ Asahikawa 48.98 290 P **P** **04 41 14.1 +1.3**
ASAJ pmax pmax
comp=Z,27nm,1.0s
TLIG Tlapa 50.02 129 IAmb IAmb 04 41 27.4
comp=Z,16nm,1.3s
ERM Erimo 50.27 288 ⇑ *e*P **P** **04 41 24.3 +1.7**
ERM pmax pmax
comp=Z,84nm,1.4s
BOD Bodaibo 50.68 319 *e*P **P** **04 41 24.2 -1.3**
BOD pmax pmax
comp=Z,32nm,1.4s
KEV Kevo 50.95 7 P **P** **04 41 26.2 -1.1**
KEV Kevo 50.95 7 P **P** **04 41 26.2 -1.1**
KEV pmax pmax
comp=Z,37nm,0.8s
ARCES ARCESS Array B 51.06 8 P **P** **04 41 27.0 -1.3**
ARCES IAmb IAmb 04 41 33.8
comp=Z,21nm,0.8s
ARCES ARCESS Array B 51.06 8 P **P** **04 41 26.8 -1.4**
comp=Z,6.1nm,0.8s,baz=354,slow=7.3,SNR=29
ARCES PcP **PcP** **04 42 44.4 +0.5**
comp=Z,3.9nm,0.8s,baz=332,slow=5.2,SNR=1.6
comp=Z,6.1nm,0.8s
HEH HeiHe 51.35 305 *e*P **P** **04 41 30.4 -0.2**
HEH pmax pmax
comp=Z,18nm,0.7s
HEH LR LR
comp=N,540nm,19.1s
HEH LR LR
comp=E,680nm,19.2s
HEH LR LR
comp=Z,930nm,14.7s
CMIG Matias Romero 51.95 125 P **P** **04 41 36.9 +1.4**
comp=Z,21nm,0.8s,baz=342,slow=7.6,SNR=14
comp=Z,21nm,0.8s
TEIG Tepich 52.12 117 P **P** **04 41 37.7 +1.0**
LVZ Lovozero 53.18 4 P **P** **04 41 43.4 -0.6**
LVZ Lovozero 53.18 4 *de*P **P** **04 41 43.2 -0.8**
LVZ pmax pmax
comp=Z,26nm,1.1s
APA Apatity 53.46 5 *e*P **P** **04 41 43.2 -2.8**
APA *e*S **S** **04 49 21.2 +3.5**
APA MLR MLR
comp=Z,510nm,18.3s
USA0B Ussuriysk Arra 53.94 297 *ce*P **P** **04 41 49.8 -0.1**
USRK Ussuriysk Ar. 53.94 297 P **P** **04 41 50.2 +0.3**
comp=Z,3.7nm,0.7s,baz=44,slow=6.8,SNR=4.6
USRK LR LR 05 08 09.1
comp=Z,654nm,18.3s,baz=40,slow=40
comp=Z,3.7nm,0.7s
PETF Flores 54.29 120 P **P** **04 41 54.2 +1.6**
JMM Marumori 54.62 286 P **P** **04 41 56.0 +1.2**
BNX BinXian 54.81 301 ⇓ P **P** **04 41 57.1 +0.9**
BNX PP **PP** **04 43 56.0 -2.6**
BNX S **S** **04 49 36.6 0.0**
BNX sS **sS** **04 49 42.9 -0.2**
BNX pmax pmax
comp=Z,13nm,1.7s
BNX pmax pmax
comp=Z,150nm,4.6s
BNX LR LR
comp=N,470nm,18.7s
BNX LR LR
comp=E,270nm,14.6s
BNX LR LR
comp=Z,590nm,16.7s
HIA Hailar 55.27 309 *ce*P **P** **04 42 00.2 +0.7**
HIA pmax pmax
comp=Z,9.0nm,1.0s
MSHR Mys Shultsa 55.58 297 ⇑ *e*P **P** **04 42 00.9 -0.8**
MSHR pmax pmax
comp=Z,16nm,0.8s
PSTR Posyet 55.69 297 ⇓ *e*P **P** **04 42 03.6 +1.1**
H11N2 WAKE ISLAND Hy 56.02 250 T T 05 41 49.3
baz=31,slow=76,SNR=1483
H11N3 WAKE ISLAND Hy 56.03 250 T T 05 41 50.3
baz=31,slow=76,SNR=1359
H11N1 WAKE ISLAND Hy 56.04 250 T T 05 41 50.6
baz=31,slow=76,SNR=1082
MJAR Matsushiro Arr 56.93 287 P **P** **04 42 12.1 +0.6**
MJAR IAmb IAmb 04 42 14.0
comp=Z,24nm,1.4s
MJAR Matsushiro Arr 56.93 287 P **P** **04 42 12.2 +0.6**
comp=Z,4.9nm,0.7s,baz=43,slow=6.0,SNR=26
MJAR LR LR 05 09 41.7
comp=Z,180nm,18.5s,baz=70,slow=39
comp=Z,4.9nm,0.7s
MJAR Matsushiro Arr 56.93 287 P **P** **04 42 12.1 +0.6**
MJAR pmax pmax
comp=Z,24nm,1.4s
MAJO Matsushiro 56.93 287 P **P** **04 42 12.0 +0.4**
MAJO IAmb IAmb 04 42 13.9
comp=Z,22nm,0.9s
MAJO Matsushiro 56.93 287 P **P** **04 42 12.5 +1.0**
MAJO Matsushiro 56.93 287 ⇑ *e*P **P** **04 42 10.9 -0.6**
MAJO pmax pmax
comp=Z,26nm,1.0s
H11S1 WAKE ISLAND Hy 57.16 250 T T 05 43 13.3
baz=31,slow=76,SNR=1065
H11S2 WAKE ISLAND Hy 57.17 250 T T 05 43 14.3
baz=31,slow=76,SNR=430
H11S3 WAKE ISLAND Hy 57.18 250 T T 05 43 19.3
baz=31,slow=76,SNR=416
CN2 Changchun 57.20 301 P **P** **04 42 13.6 +0.3**
CN2 S **S** **04 50 05.4 -2.9**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,400nm,16.0s
CN2 LR LR
comp=E,300nm,16.0s
CN2 LR LR
comp=Z,400nm,15.0s
NB2 NORSAR Subarra 57.69 18 P **P** **04 42 15.5 -1.1**
comp=Z,3.3nm,0.7s,baz=343,slow=7.4
NOA NORSAR Array B 57.69 18 P **P** **04 42 15.8 -0.8**
comp=Z,4.3nm,0.7s,baz=344,slow=7.2,SNR=28
NOA LR LR 05 07 46.2
comp=Z,476nm,20.6s,baz=330,slow=37
comp=Z,4.3nm,0.7s
CHIV Chivirico 58.05 105 IAmb IAmb 04 42 21.1
comp=Z,33nm,1.2s
JGF Kuroka 58.10 287 IAmb IAmb 04 42 22.1
comp=Z,29nm,1.4s
JGF Kuroka 58.10 287 P **P** **04 42 20.4 +0.6**
INU Inuyama 58.47 287 IAmb IAmb 04 42 25.0
comp=Z,40nm,1.7s
INU Inuyama 58.47 287 P **P** **04 42 23.6 +1.3**
IRK Irkutsk 58.47 321 *e*P **P** **04 42 20.4 -1.7**
IRK pmax pmax
comp=Z,26nm,2.0s
JHJ2 Mitsune 58.85 283 *e*LR LR 04 59 40.5
comp=Z,21nm,25.1s
JHJ Hachijo jima 2 58.86 283 LR LR 05 05 47.2
comp=Z,46nm,21.4s,baz=100,slow=34
HFS Hagfors 58.94 17 P **P** **04 42 24.3 -0.9**
comp=Z,7.5nm,0.7s,baz=339,slow=5.7,SNR=24
HFS LR LR 05 08 28.2
comp=Z,588nm,19.6s,baz=337,slow=37
comp=Z,7.5nm,0.7s
XMAS Kiritimati 59.07 204 *e*S **S** **04 50 25.8 -7.5**
comp=Z,11nm,29.0s
XMAS *e*LR LR 04 59 43.1
comp=Z,22nm,23.0s
FINES FINESS Array B 59.09 9 P **P** **04 42 25.9 -0.4**
FINES FINESS Array B 59.09 9 P **P** **04 42 24.9 -1.3**
comp=Z,5.8nm,0.8s,baz=352,slow=4.8,SNR=21
FINES LR LR 05 09 47.1
comp=Z,259nm,20.1s,baz=0.5,slow=38
comp=Z,5.8nm,0.8s
FINES FINESS Array B 59.09 9 P **P** **04 42 25.9 -0.4**
SIUN Universidad Ur 59.41 117 IAmb IAmb 04 42 31.2
comp=Z,15nm,0.8s
EKA Eskdalemuir Ar 60.11 28 P **P** **04 42 32.5 -0.9**
comp=Z,8.8nm,0.8s,baz=338,slow=6.5,SNR=16
comp=Z,8.8nm,0.8s
KLMR Klimovskoe 60.37 2 *e*P **P** **04 42 32.8 -2.2**
KLMR *e* 04 43 18.8
KLMR pmax pmax
comp=Z,75nm,1.5s
ZAK Zakamensk 60.39 320 *e*P **P** **04 42 35.3 -0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.7s
ESPN Las Esperanzas 60.96 117 P **P** **04 42 40.2 +0.6**
XLT XiLinHaoTe 61.10 308 *e*P **P** **04 42 41.2 +0.8**
XLT sP sP 04 42 49.6 +3.5
XLT PcP **PcP** **04 43 22.9 -0.4**
XLT pmax pmax
comp=Z,12nm,0.7s
XLT pmax pmax
comp=Z,120nm,5.4s
XLT LR LR
comp=N,470nm,15.3s
XLT LR LR
comp=E,590nm,14.5s
XLT LR LR
comp=Z,290nm,21.7s
KSRS Korea Array 61.16 295 P **P** **04 42 41.8 +1.1**
comp=Z,14nm,0.6s,baz=32,slow=6.8,SNR=77
comp=Z,14nm,0.6s
KSAR Wonju Array Be 61.18 295 P **P** **04 42 41.7 +0.8**
KSAR Wonju Array Be 61.18 295 P **P** **04 42 41.7 +0.8**
ULN Ulaanbaatar 61.24 316 P **P** **04 42 40.9 -0.5**
ULN Ulaanbaatar 61.24 316 ⇑ *e*P **P** **04 42 41.2 -0.2**
ULN pmax pmax
comp=Z,8.0nm,0.9s
SONM Songino Array 61.50 317 P **P** **04 42 43.9 +0.8**
SONM IAmb IAmb 04 42 45.2
comp=Z,21nm,1.5s
SONM Songino Array 61.50 317 P **P** **04 42 43.0 -0.1**
comp=Z,2.5nm,0.7s,baz=31,slow=7.6,SNR=20
SONM LR LR 05 11 38.4
comp=Z,761nm,19.4s,baz=7.0,slow=38
comp=Z,2.5nm,0.7s
SONM Songino Array 61.50 317 P **P** **04 42 43.9 +0.8**
SONM pmax pmax
comp=Z,21nm,1.5s
MUD Monsted U'grnd 61.70 21 *i* P **P** **04 42 44.9 +0.8**
VSU Vasula 62.10 10 *ce*P **P** **04 42 44.8 -2.0**
VSU pmax pmax
comp=Z,23nm,0.8s
TJN Taejon 62.29 295 P **P** **04 42 49.7 +1.3**
TJN Taejon 62.29 295 *ce*P **P** **04 42 49.3 +0.9**
JTS Las Juntas de 62.34 119 LR LR 05 11 54.8
comp=Z,365nm,21.8s,baz=334,slow=38
ZALV Zalesovo Beam 62.39 334 P **P** **04 42 47.4 -1.5**
comp=Z,5.4nm,0.7s,baz=24,slow=6.8,SNR=16
ZALV LR LR 05 14 19.1
comp=Z,354nm,18.9s,baz=345,slow=40
comp=Z,5.4nm,0.7s
ZALV Zalesovo Beam 62.39 334 *i* P **P** **04 42 47.5 -1.3**
ZALV pmax pmax
comp=Z,5.0nm,0.7s
DEL Delary 62.48 18 *i* P **P** **04 42 48.8 -0.5**
KIRV Kirov 62.56 356 LR LR 05 14 50.5
comp=Z,109nm,18.2s,baz=360,slow=41
KIRV Kirov 62.56 356 ⇑ *e*P **P** **04 42 49.4 -0.5**

JNU Nakatsue 63.26 290 P **P** **04 42 55.5 +0.5**
comp=Z,18nm,0.8s,baz=45,slow=4.3,SNR=12
JNU LR LR 05 11 47.2
comp=Z,140nm,19.7s,baz=35,slow=37
comp=Z,18nm,0.8s
JNU Nakatsue 63.26 290 P **P** **04 42 56.1 +1.1**
SVE Sverdlovsk 63.58 349 *eP* **P** **04 42 56.1 -0.6**
SVE pmax pmax
comp=Z,31nm,1.4s
ARTI Arti 64.22 351 P **P** **04 42 59.5 -1.4**
ARTI Arti 64.22 351 LR LR 05 13 14.0
comp=Z,167nm,21.1s,baz=12,slow=38
ARTI Arti 64.22 351 *d iP* **P** **04 42 59.4 -1.5**
ARTI 04 43 31.5
ARTI S **S** **04 51 39.4 +1.7**
ARTI SS **SS** **04 55 43.3 -2.5**
ARTI pmax pmax
comp=Z,15nm,0.9s
BJI Beijing 64.26 305 P **P** **04 43 02.8 +1.4**
BJI S **S** **04 51 39.3 +0.7**
BJI pmax pmax
comp=Z,3.0nm,0.9s
BJI pmax pmax
comp=Z,85nm,6.7s
BJI LR LR
comp=N,110nm,15.4s
BJI LR LR
comp=E,130nm,13.5s
BJI LR LR
comp=Z,200nm,17.6s
OBIP Obispado Ponce 64.64 97 IAmb IAmb 04 43 06.2
comp=Z,15nm,0.9s
SJG San Juan 64.82 97 LR LR 05 13 10.2
comp=Z,326nm,19.1s,baz=295,slow=38
RETH Rethem/Aller, 65.26 22 *eP* **P** **04 43 07.8 +0.1**
comp=Z,10nm,0.9s,baz=345,slow=6.3
RETH *ep*P **sP** **04 43 14.2 +0.9**
baz=344,slow=6.3
IBBN Ibbenburen 65.36 23 *eP* **P** **04 43 09.1 +0.7**
comp=Z,75nm,1.8s,baz=345,slow=6.3
IBBN *ep*P **sP** **04 43 14.8 +0.8**
baz=344,slow=6.3
MOS Moscow 65.45 3 *eP* **P** **04 43 07.1 -1.8**
MOS pmax pmax
comp=Z,67nm,0.9s
HHC Hu-ho-hao-te 65.48 309 *eP* **P** **04 43 07.5 -2.0**
HHC PP **PP** **04 45 30.1 -2.9**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,220nm,6.9s
HHC LR LR
comp=N,540nm,13.1s
HHC LR LR
comp=E,390nm,13.9s
HHC LR LR
comp=Z,940nm,12.7s
FLTG Flechtingen 66.00 21 *eP* **P** **04 43 12.2 -0.3**
comp=Z,20nm,1.0s,baz=345,slow=6.3
OBN Obninsk 66.04 4 P **P** **04 43 12.7 0.0**
OBN Obninsk 66.04 4 LR LR 05 14 27.1
comp=Z,140nm,21.8s,baz=302,slow=38
OBN Obninsk 66.04 4 *d iP* **P** **04 43 12.3 -0.4**
OBN *i* *SP **sP** **04 43 17.8 -0.5**
OBN *i* 04 43 22.8
OBN 04 43 42.0
OBN *e*S **S** **04 52 04.7 +4.8**
OBN 04 53 06.0
OBN pmax pmax
comp=Z,78nm,1.7s
OBN MLR MLR
comp=Z,200nm,16.0s
BVAR Borovoye Array 66.07 342 P **P** **04 43 12.0 -1.0**
comp=Z,3.8nm,0.6s,baz=11,slow=6.6,SNR=23
comp=Z,3.8nm,0.6s
BVAR Borovoye Array 66.07 342 P **P** **04 43 12.0 -1.0**
BUG Bochum--Univer 66.08 24 *eP* **P** **04 43 12.7 -0.4**
comp=Z,19nm,1.0s,baz=345,slow=6.3
GKP Gorka Klasztor 66.09 17 *eP* **P** **04 43 14.1 +1.1**
ASSE Asse, Remlinge 66.09 21 *eP* **P** **04 43 13.5 +0.5**
comp=Z,23nm,0.9s,baz=345,slow=6.3
MNK Minsk 66.12 10 *i* LRM MLR 05 13 35.3
comp=N,223nm,16.6s
MNK Minsk 66.12 10 *i* P **P** **04 43 13.7 +0.5**
MNK *i* 04 43 43.9
MNK *i* 04 45 39.0
MNK *i* PPP PPP 04 47 13.1
MNK *i* S **S** **04 52 02.7 +1.8**
MNK *i* SS **SS** **04 56 19.3 +4.0**
MNK pmax pmax
comp=Z,36nm,0.9s
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=E,14nm,0.9s
MNK MLR MLR
comp=E,307nm,18.0s
MNK MLR MLR
comp=Z,472nm,17.0s
MNK MLR MLR
comp=N,223nm,17.0s
MNK Minsk 66.12 10 *i* P **P** **04 43 13.7 +0.5**
comp=E,14nm,0.9s
MNK Minsk 66.12 10 *i* P **P** **04 43 13.7 +0.5**
comp=N,6.0nm,0.9s
MNK Minsk 66.12 10 *i* P **P** **04 43 13.7 +0.5**
comp=Z,36nm,0.9s,baz=351
MNK Minsk 66.12 10 *i* PcP **PcP** **04 43 43.9 +0.4**
MNK Minsk 66.12 10 *i* PP PP 04 45 39.1 +1.0
MNK Minsk 66.12 10 *i* PPP PPP 04 47 13.2
MNK Minsk 66.12 10 *i* S **S** **04 52 02.8 +1.8**
MNK Minsk 66.12 10 *i* SS SS 04 56 19.4 +4.0
MNK Minsk 66.12 10 *i* SSS SSS 04 59 27.3
MNK Minsk 66.12 10 *i* LQ LQ 05 07 46.3
MNK Minsk 66.12 10 *i* LRM MLR 05 13 28.4
comp=E,307nm,18.4s
MNK Minsk 66.12 10 *i* LRM MLR 05 13 30.3
comp=Z,472nm,17.2s
SUW Suwalki 66.13 13 *eP* **P** **04 43 12.7 -0.6**
BTO Baotou 66.30 310 *eP* **P** **04 43 14.2 -0.6**
BTO pP **pP** **04 43 18.4 -0.6**
BTO sP **sP** **04 43 20.4 -0.1**
BTO PP **PP** **04 45 42.0 +1.8**
BTO S **S** **04 52 03.6 -0.3**
BTO Baotou 66.30 310 SS SS 04 56 16.6 -2.6
BTO pmax pmax
comp=Z,17nm,0.6s
BTO pmax pmax
comp=Z,160nm,3.6s
BTO LR LR
comp=N,1μm,14.0s
BTO LR LR
comp=E,1μm,17.0s
BTO LR LR
comp=Z,390nm,15.9s
RUE Ruedersdorf 66.31 19 *eP* **P** **04 43 13.9 -0.6**
comp=Z,45nm,1.2s,baz=345,slow=6.3
GTTG Gottingen 66.52 22 *eP* **P** **04 43 16.6 +0.8**
comp=Z,61nm,1.2s,baz=345,slow=6.3
GTTG *ep*P **sP** **04 43 22.2 +0.8**
baz=344,slow=6.3
BSTI Sart Tilman 66.53 25 *dP* **P** **04 43 16.2 +0.3**
comp=Z,3.6nm,1.0s
KASTN Kahler Asten 66.54 23 *eP* **P** **04 43 16.1 +0.1**
comp=Z,11nm,0.8s,baz=345,slow=6.3
MEM Membach 66.60 25 *dP* **P** **04 43 15.7 -0.7**
comp=Z,22nm,1.0s
BGES Gesves 66.61 25 *dP* **P** **04 43 17.2 +0.8**
BMRD Maredsous 66.61 26 *dP* **P** **04 43 16.5 0.0**
comp=Z,10nm,1.0s
BMRD *dx* x 04 43 22.7
BCLA Clavier 66.62 25 *dP* **P** **04 43 17.3 +0.8**
BTNL Ternell 66.64 25 *dP* **P** **04 43 17.8 +1.1**
comp=Z,17nm,1.1s
DOU Dourbes 66.77 26 *dP* **P** **04 43 15.7 -1.8**
KURK Kurchatov 66.78 336 P **P** **04 43 16.7 -0.8**
BHOU Houvegnez 66.84 25 *dP* **P** **04 43 18.9 +0.9**
RCHB Rochefort 66.85 25 *dP* **P** **04 43 17.8 -0.3**
comp=Z,12nm,1.1s
KURBB Kurchatov Arra 66.88 336 P **P** **04 43 16.7 -1.5**
comp=Z,6.1nm,0.8s,baz=22,slow=5.9,SNR=37
KURBB PKPPKP **P'P'df** **05 11 47.8 -6.1**
comp=Z,1.1nm,0.9s,baz=200,slow=3.5,SNR=7.5
KURBB LR LR 05 17 02.3
comp=Z,324nm,18.6s,baz=152,slow=40
comp=Z,6.1nm,0.8s

TIA Tai'an 67.06 302 P **P** **04 43 20.7 +1.1**
TIA pmax pmax
comp=Z,15nm,1.7s
TIA LR LR
comp=N,300nm,18.6s
TIA LR LR
comp=E,500nm,18.6s
TIA LR LR
comp=Z,500nm,17.5s
HNS HongShan 67.10 305 ⇓P **P** **04 43 21.3 +1.5**
HNS pmax pmax
comp=Z,27nm,1.1s
HNS LR LR
comp=N,220nm,13.8s
HNS LR LR
comp=E,450nm,16.3s
HNS LR LR
comp=Z,440nm,14.8s
NEUB Neuenburg 67.18 21 *eP* **P** **04 43 20.2 +0.1**
comp=Z,37nm,1.0s,baz=345,slow=6.3
UBBA Unterbreizbach 67.22 22 *eP* **P** **04 43 20.2 0.0**
comp=Z,21nm,1.5s,baz=345,slow=6.3
CLL Collm 67.30 20 IAmb IAmb 04 43 27.3
comp=Z,16nm,1.0s
CLL Collm 67.30 20 *i* P **P** **04 43 20.4 -0.4**
CLL *i* 04 43 24.9
CLL *i* 04 43 26.3
CLL pmax pmax
comp=Z,11nm,1.0s
CLL MLR MLR
comp=Z,400nm,18.9s
CLL Collm 67.30 20 *eP* **P** **04 43 20.5 -0.4**
comp=Z,18nm,1.1s,baz=345,slow=6.3
CLL *ep*P **sP** **04 43 26.5 +0.1**
baz=344,slow=6.3
CLL Collm 67.30 20 *i* P **P** **04 43 20.4 -0.4**
comp=Z,11nm,1.0s
CLL *i* pP **pP** **04 43 24.9 0.0**
CLL *i* sP **sP** **04 43 26.3 -0.2**
comp=Z,21nm,1.1s
CLL *e*PP **PP** **04 45 48.0 -0.4**
CLL *e*SS SS 04 56 36.0 +2.2
CLL Lm MLR 05 14 00.0
comp=Z,400nm,18.9s
TNS Taunus Mts 67.47 23 *eP* **P** **04 43 22.5 +0.5**
comp=Z,30nm,1.5s,baz=345,slow=6.3
TNS *ep*P **sP** **04 43 28.0 +0.3**
baz=344,slow=6.3
WLF Walferdange 67.52 25 *dP* **P** **04 43 23.0 +0.7**
comp=Z,7.2nm,1.2s
WLF Walferdange 67.52 25 *eP* **P** **04 43 22.9 +0.7**
comp=Z,16nm,1.1s,baz=345,slow=6.3
MOX Moxa 67.69 21 *eP* **P** **04 43 22.9 -0.4**
comp=Z,21nm,1.0s,baz=345,slow=6.3
MOX *ep*P **sP** **04 43 29.3 +0.4**
baz=344,slow=6.3
MOX *e*L L 05 13 48.8
comp=Z,374nm,20.3s
TAOE Nuku Hiva Isla 67.76 183 *e*LR LR 05 03 45.7
comp=Z,256nm,22.7s
BRG Berggiesshubel 67.88 19 *eP* **P** **04 43 25.8 +1.3**
comp=Z,17nm,1.0s,baz=345,slow=6.3
BRG Berggiesshubel 67.88 19 *i* P **P** **04 43 26.2 +1.6**
BRG Amp 04 43 27.4
comp=Z,10nm,1.0s
BRG Berggiesshubel 67.88 19 P P 04 43 32.5 +8.0
BRG Amp 04 43 33.5
comp=Z,17nm,1.0s
PLN Plauen 67.94 21 *eP* **P** **04 43 24.7 -0.3**
comp=Z,5.1nm,1.0s,baz=345,slow=6.3
PLN *ep*P **sP** **04 43 31.0 +0.5**
baz=344,slow=6.3
TANN Tannenbergstha 68.06 20 *eP* **P** **04 43 25.4 -0.4**
comp=Z,18nm,1.1s,baz=345,slow=6.3
KSP Ksiaz 68.30 18 *eP* **P** **04 43 27.3 +0.2**
PVCC Panska Ves 68.32 19 *eP* **P** **04 43 27.5 +0.2**
PVCC *e**PP **pP** **04 43 31.9 +0.5**
PVCC MLR MLR
comp=Z,300nm,16.4s
PVCC Panska Ves 68.32 19 *eP* **P** **04 43 27.5 +0.2**
PVCC *ep*P **pP** **04 43 31.9 +0.5**
PVCC AMS AMS 05 17 50.0
comp=Z,300nm,16.4s
MANZ Manzenberg 68.41 21 *eP* **P** **04 43 27.7 -0.2**
comp=Z,3.1nm,1.3s,baz=345,slow=6.3
MANZ *ep*P **sP** **04 43 34.2 +0.7**
baz=344,slow=6.3
CHVC Chvalec 68.51 18 *eP* **P** **04 43 28.5 0.0**
CHVC Chvalec 68.51 18 *eP* **P** **04 43 28.5 0.0**
GRA1 Grafenberg Arr 68.53 22 IAmb IAmb 04 43 40.1
comp=Z,16nm,1.0s
GRF Grafenberg Arr 68.53 22 *eP* **P** **04 43 28.7 +0.1**
comp=Z,14nm,1.1s,baz=345,slow=6.3
GRF *e*L L 05 14 14.7
comp=Z,464nm,19.9s
GRFO Grafenberg 68.53 22 IAmb IAmb 04 43 40.0
comp=Z,15nm,1.0s
OSTC Ostas 68.56 18 *eP* **P** **04 43 29.0 +0.2**
OSTC MLR MLR
comp=Z,400nm,24.0s
OSTC Ostas 68.56 18 *eP* **P** **04 43 29.0 +0.2**
OSTC AMS AMS 05 12 50.0
comp=Z,400nm,24.0s
UPC Upice 68.58 18 *eP* **P** **04 43 28.9 0.0**
UPC MLR MLR
comp=Z,400nm,21.1s
UPC Upice 68.58 18 *eP* **P** **04 43 28.9 0.0**
UPC AMS AMS 05 13 10.0
comp=Z,400nm,21.1s
LPSR Galich'ya Gora 68.62 3 *eP* **P** **04 43 27.5 -1.6**
LPSR pmax pmax
comp=Z,20nm,0.9s
ROTZ Rotzenmuhle 68.64 21 *eP* **P** **04 43 27.4 -1.9**
comp=Z,3.2nm,1.3s,baz=345,slow=6.3
PRA Prague 68.74 19 AMS AMS 05 18 20.0
comp=Z,300nm,14.9s
DPC Dobruska-Polom 68.78 18 *eP* **P** **04 43 30.5 +0.3**
DPC *e**PP **sP** **04 43 35.5 -0.4**
DPC MLR MLR
comp=Z,400nm,22.8s
DPC Dobruska-Polom 68.78 18 *eP* **P** **04 43 30.5 +0.3**
DPC *ep*P **sP** **04 43 35.5 -0.4**
DPC AMS AMS 05 13 20.0
comp=Z,400nm,22.8s
BELG Belogornoye 68.81 357⇑ *eP* **P** **04 43 30.4 +0.1**
BELG pmax pmax
comp=Z,4.0nm,1.0s
PRU Pruhonice 68.84 19 *eP* **P** **04 43 29.9 -0.6**
PRU AMS AMS 05 18 20.0
comp=Z,300nm,19.2s
KRLC Kraliky 69.12 18 *eP* **P** **04 43 32.5 +0.2**
KRLC *e**PP **sP** **04 43 38.0 0.0**
KRLC MLR MLR
comp=Z,300nm,14.6s
KRLC Kraliky 69.12 18 *eP* **P** **04 43 32.5 +0.2**
KRLC *ep*P **sP** **04 43 38.0 0.0**
KRLC AMS AMS 05 15 40.0
comp=Z,300nm,14.6s
BFO Black Forest 69.25 24 P **P** **04 43 33.4 +0.2**
BFO Black Forest 69.25 24 P **P** **04 43 33.4 +0.2**
BFO pmax pmax
comp=Z,26nm,1.3s
BFO Black Forest 69.25 24 *eP* **P** **04 43 34.1 +1.0**
comp=Z,31nm,1.4s,baz=345,slow=6.3
WET Wettzell 69.36 21 *eP* **P** **04 43 33.6 -0.3**
comp=Z,17nm,1.2s,baz=345,slow=6.3
STEB Steborice 69.41 17 *eP* **P** **04 43 33.8 -0.3**
STEB *ep*P **sP** **04 43 39.7 -0.1**
OJC Ojcow 69.43 16 *eP* **P** **04 43 34.1 -0.1**
KHC Kasperske Hory 69.50 20 *ceP* **P** **04 43 34.9 +0.3**
KHC pmax pmax
comp=Z,8.0nm,0.9s
KHC Kasperske Hory 69.50 20 *eP* **P** **04 43 35.0 +0.3**
KHC *ep*P **sP** **04 43 40.9 +0.5**
KHC AMS AMS 05 18 00.0
comp=Z,300nm,18.6s
MORC Moravsky Berou 69.53 17 IAmb IAmb 04 43 41.5
comp=Z,17nm,1.4s
MORC Moravsky Berou 69.53 17 *eP* **P** **04 43 34.5 -0.3**
MORC Moravsky Berou 69.53 17⇑ P **P** **04 43 34.6 -0.3**
MORC Moravsky Berou 69.53 17 P **P** **04 43 34.6 -0.3**
VORR Voronezh 69.56 2 *eP* **P** **04 43 34.3 -0.6**
VORR pmax pmax
comp=Z,10.0nm,1.0s
OKC Ostrava-Krasne 69.56 17 AMS AMS 05 17 30.0
comp=Z,400nm,19.5s

MK31 Makanchi Array 69.65 332 *ceP* **P** **04 43 33.7 -1.9**
MKAR Makanchi Array 69.65 332 P **P** **04 43 33.6 -2.0**
MKAR Makanchi Array 69.65 332 P **P** **04 43 33.8 -1.8**
comp=Z,2.9nm,0.7s,baz=23,slow=4.7,SNR=28
MKAR PKP2bc 05 11 41.4
comp=Z,0.7nm,0.9s,baz=183,slow=2.9,SNR=5.7
MKAR LR LR 05 18 20.0
comp=Z,286nm,19.0s,baz=9.5,slow=40
comp=Z,2.9nm,0.7s
MAKZ Makanchi 69.71 333 P **P** **04 43 34.7 -1.3**
GEC2 GERESS Array S 69.79 20 *eP* **P** **04 43 36.2 -0.4**
comp=Z,17nm,1.4s,baz=345,slow=6.3
GERES GERESS Array B 69.79 20 P **P** **04 43 36.2 -0.4**
comp=Z,2.8nm,0.7s,baz=330,slow=5.7,SNR=28
comp=Z,2.8nm,0.7s
NJ2 Nanjing 69.80 299 *eP* **P** **04 43 38.3 +1.6**
NJ2 pmax pmax
comp=Z,21nm,0.7s
VRAC Vranov 69.83 18 LR LR 05 14 23.5
comp=Z,306nm,21.5s,baz=340,slow=36
VRAC Vranov 69.83 18 *eP* **P** **04 43 36.6 -0.1**
VRAC Vranov 69.83 18 ⇓P **P** **04 43 37.2 +0.4**
VRAC Vranov 69.83 18 P **P** **04 43 37.1 +0.4**
MAUC Maruska 69.97 17 *eP* **P** **04 43 37.9 +0.3**
MAUC *ep*P **sP** **04 43 43.4 +0.1**
FUR Furstenfeldbru 70.00 22 *eP* **P** **04 43 38.5 +0.8**
comp=Z,18nm,0.9s,baz=345,slow=6.3
FUR *ep*P **sP** **04 43 43.7 +0.3**
baz=344,slow=6.3
AKASG Malin Array Be 70.00 9 P **P** **04 43 36.7 -1.0**
AKASG Malin Array Be 70.00 9 P **P** **04 43 36.5 -1.2**
comp=Z,15nm,0.5s,baz=353,slow=5.9,SNR=62
AKASG LR LR 05 17 29.2
comp=Z,250nm,18.4s,baz=350,slow=39
comp=Z,15nm,0.5s
AKASG Malin Array Be 70.00 9 *i* P **P** **04 43 36.7 -1.0**
AKASG pmax pmax
comp=Z,24nm,0.7s
AKBB Malin Array Si 70.00 9 *ceP* **P** **04 43 36.5 -1.2**
KIEV Kiev 70.01 9 P **P** **04 43 36.8 -0.9**
KIEV Kiev 70.01 9 ⇓P **P** **04 43 37.1 -0.6**
KIEV Kiev 70.01 9 P **P** **04 43 36.8 -0.9**
KIEV pmax pmax
comp=Z,43nm,0.8s
VSR Storozhevoye 70.01 3 *eP* **P** **04 43 35.8 -2.0**
VSR pmax pmax
comp=Z,5.0nm,1.1s
KRUC Moravsky 70.04 18 *eP* **P** **04 43 37.5 -0.5**
NIE Niedzica 70.28 16 *eP* **P** **04 43 40.1 +0.6**
SDV Santo Domingo 70.38 106 LR LR 05 15 59.8
comp=Z,482nm,20.8s,baz=320,slow=37
KWP Kalwaria Pacla 70.39 14 *eP* **P** **04 43 40.2 +0.1**
STHS Stebnicka Huta 70.41 15 *eP* **P** **04 43 40.9 +0.6**
STHS pmax pmax
comp=Z,9.0nm,1.1s
LANS Liptovska Anna 70.42 16 *eP* **P** **04 43 41.4 +1.0**
LANS *e* 04 43 48.2
JAVC Velka Javorina 70.44 17 *eP* **P** **04 43 41.3 +0.8**
LYN LuoYang 70.48 305 P **P** **04 43 42.0 +1.1**
LYN pP sP 04 43 46.7 +0.1
LYN sP pP 04 43 49.3 +4.2
LYN pmax pmax
comp=Z,64nm,1.2s
LYN pmax pmax
comp=Z,350nm,3.9s
LYN LR LR
comp=N,290nm,22.0s
LYN LR LR
comp=E,500nm,21.3s
LYN LR LR
comp=Z,470nm,18.6s
RETA Reutte 70.55 23 *i* P **P** **04 43 41.1 -0.1**
comp=Z,3.1nm,0.7s
DAVA Damuels 70.56 23 *i* P **P** **04 43 41.3 -0.1**
comp=Z,15nm,1.8s
DAVA Damuels 70.56 23 *eP* **P** **04 43 41.2 -0.1**
comp=Z,40nm,1.8s,baz=345,slow=6.3
RJOB Jochberg 70.70 21 *eP* **P** **04 43 42.0 -0.1**
comp=Z,7.0nm,0.9s,baz=345,slow=6.3
RJOB *ep*P **sP** **04 43 48.0 +0.3**
baz=344,slow=6.3
SMOL Smolenice 70.74 18 *eP* **P** **04 43 42.4 +0.1**
SMOL *e* 04 43 48.6
SMOL pmax pmax
comp=Z,7.0nm,1.4s
MOTA Moosalm 70.75 22 *eP* **P** **04 43 42.4 -0.1**
comp=Z,3.6nm,0.7s
WATA Walderalm 70.85 22 *eP* **P** **04 43 43.1 -0.1**
comp=Z,14nm,1.1s,SNR=8.4
MOA Molln 70.86 20 *eP* **P** **04 43 42.8 -0.2**
comp=Z,3.2nm,0.8s
MOA Molln 70.86 20 *eP* **P** **04 43 42.9 -0.1**
comp=Z,6.3nm,0.9s,baz=345,slow=6.3
SQTA Sankt Quirin 70.89 22 *epP* **P** **04 43 43.5 +0.2**
comp=Z,10nm,0.9s,SNR=7.6
SENIN Lac Senin/Sane 70.89 25 IAmb IAmb 04 43 50.7
comp=Z,15nm,0.8s
BIOA Bad Ischl, Aus 70.89 21 *eP* **P** **04 43 43.0 -0.3**
comp=Z,4.8nm,0.6s,SNR=6.1
WTTA Wattenberg 70.93 22 *epP* **P** **04 43 43.8 +0.2**
comp=Z,28nm,1.3s,SNR=8.5
WTTA Wattenberg 70.93 22 *eP* **P** **04 43 44.0 +0.3**
comp=Z,38nm,1.2s,baz=345,slow=6.3
WTTA *ep*P **sP** **04 43 50.0 +0.6**
baz=344,slow=6.3
VYHS Vyhne 70.97 17 *eP* **P** **04 43 43.6 -0.1**
VYHS *e* 04 43 49.7
VYHS pmax pmax
comp=Z,13nm,1.4s
LESA Schwarzleotal 70.98 21 *i* pP **P** **04 43 43.9 +0.1**
comp=Z,12nm,1.1s,SNR=7.0
FETA Feichten 70.99 23 *eP* **P** **04 43 43.8 -0.1**
comp=Z,11nm,1.3s,SNR=6.5
WMQ Urumqi 71.01 327 *eP* **P** **04 43 48.4 +4.3**
WMQ LR LR
comp=N,240nm,16.1s
WMQ LR LR
comp=E,310nm,17.7s
WMQ LR LR
comp=Z,190nm,19.3s
KOLS Kolonicke sedl 71.02 14 *eP* **P** **04 43 44.4 +0.4**
KOLS *e* 04 43 52.0
KOLS pmax pmax
comp=Z,10.0nm,1.5s
DAVOX Davos/Dischmat 71.04 23 LR LR 05 15 07.3
comp=Z,458nm,21.9s,baz=332,slow=36
CONA Conrad Observa 71.05 19 *eP* **P** **04 43 44.3 +0.1**
comp=Z,8.4nm,0.7s,SNR=9.2
ABKAR Akbulak array 71.13 348 P **P** **04 43 43.5 -1.1**
GTA Gaotai 71.17 317 *eP* **P** **04 43 44.8 -0.4**
GTA sP sP 04 43 52.1 +1.2
GTA pmax pmax
comp=Z,8.0nm,1.3s
GTA LR LR
comp=N,220nm,17.5s
GTA LR LR
comp=E,340nm,17.5s
GTA LR LR
comp=Z,600nm,19.1s
TUE Stuetta 71.23 24 IAmb IAmb 04 43 55.2
comp=Z,8.4nm,0.8s
FUORN Ofenpass-Fuorn 71.28 23 IAmb IAmb 04 43 53.6
comp=Z,25nm,1.2s
RONA Rosalia, Austr 71.35 19 *eP* **P** **04 43 46.2 +0.1**
comp=Z,11nm,1.6s
KBA Koelnbreinsper 71.43 21 *i* pP **P** **04 43 46.8 +0.1**
comp=Z,17nm,0.7s
KBA Koelnbreinsper 71.43 21 *eP* **P** **04 43 47.1 +0.4**
comp=Z,19nm,0.8s,baz=345,slow=6.3
ABTA Abfaltersbach 71.60 22 *i* P **P** **04 43 47.6 0.0**
comp=Z,4.2nm,0.6s
ARSA Arzberg 71.65 19 IAmb IAmb 04 43 55.1
comp=Z,15nm,1.1s
ARSA Arzberg 71.65 19 *eP* **P** **04 43 47.9 0.0**
comp=Z,13nm,1.3s,SNR=7.1
ARSA Arzberg 71.65 19 *eP* **P** **04 43 48.1 +0.2**
comp=Z,18nm,1.2s,baz=345,slow=6.3
PSZ Piszkesteto 71.69 16 ⇓P **P** **04 43 48.7 +0.6**
PSZ Piszkesteto 71.69 16 P **P** **04 43 48.7 +0.6**
MYKA Terra Mystica 71.92 21 *i* P **P** **04 43 49.3 -0.2**
comp=Z,7.4nm,0.9s
BNI Bardonecchia 72.00 26 **sP** **04 43 56.2 +0.5**
BNI IAmb IAmb 04 43 57.9
comp=Z,12nm,1.2s
ROSC El Rosal 72.08 111 P **P** **04 43 52.1 +0.8**
comp=Z,17nm,0.6s,baz=345,slow=11,SNR=14

comp=Z,17nm,0.6s
SOKA Soboth 72.12 20 *i* P **P** **04 43 50.4 -0.4**
comp=Z,15nm,1.2s,SNR=12
OBKA Obir 72.20 20 *e*P **P** **04 43 51.1 -0.2**
comp=Z,24nm,0.8s,SNR=14
OBKA Obir 72.20 20 *e*P **P** **04 43 50.7 -0.5**
comp=Z,24nm,0.8s,baz=345,slow=6.3
GUMO Guam 72.34 267 LR LR 05 12 36.7
comp=Z,57nm,21.4s,baz=82,slow=33
XAN Xi'an 72.40 307 ⇓P **P** **04 43 52.7 +0.2**
XAN sP sP 04 43 59.2 +0.9
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN LR LR
comp=N,680nm,14.4s
XAN LR LR
comp=E,190nm,12.4s
XAN LR LR
comp=Z,470nm,16.5s
BMR Baia Mare 72.41 14 ⇓P **P** **04 43 52.8 +0.4**
BMR Baia Mare 72.41 14 P **P** **04 43 52.7 +0.4**
GROS Grobnik 72.41 20 *i* P **P** **04 43 52.0 -0.4**
SORM Soroca 72.47 10 ⇓P **P** **04 43 51.9 -0.8**
SORM Soroca 72.47 10 P **P** **04 43 51.8 -0.8**
SABO M.te Sabotino 72.54 21 IAmb IAmb 04 43 59.3
comp=Z,18nm,0.9s
LZH Lanzhou 72.62 312 *e*P **P** **04 43 53.8 -0.2**
LZH pP sP 04 43 59.5 -0.3
LZH sP pP 04 44 01.9 +3.6
LZH pmax pmax
comp=Z,13nm,1.3s
LZH LR LR
comp=N,710nm,14.1s
LZH LR LR
comp=E,530nm,14.8s
LZH LR LR
comp=Z,900nm,14.8s
BURAR Bucovina Array 72.67 12 P **P** **04 43 53.7 -0.3**
BURAR Bucovina Array 72.67 12 ⇓P **P** **04 43 54.0 -0.1**
BURAR Bucovina Array 72.67 12 P **P** **04 43 53.9 -0.1**
JAVS Javornik 72.71 21 *i* P **P** **04 43 53.2 -1.1**
LZDM Lanzhou Array 72.80 312 P **P** **04 43 55.7 +0.5**
comp=Z,1.6nm,0.4s,baz=54,slow=48,SNR=3.5
LZDM LR LR 05 20 11.5
comp=Z,498nm,18.1s,baz=95,slow=39
comp=Z,1.6nm,0.4s
MORH Mrgy, Hungar 73.17 17 ⇓P **P** **04 43 56.8 0.0**
DRGR 73.18 14 ⇓P **P** **04 43 57.0 -0.1**
DRGR 73.18 14 P **P** **04 43 56.9 -0.1**
BOJS Bojanci 73.30 20 *i* P **P** **04 43 57.0 -0.6**
MARR Marisel-Cluj 73.34 14 ⇓P **P** **04 43 58.0 -0.1**
CJR Cluj-Napoca 73.37 14 ⇑P **P** **04 43 59.0 +0.8**
CJR Cluj-Napoca 73.37 14 P **P** **04 43 58.9 +0.8**
SIRR Siria 73.55 15 ⇑P **P** **04 43 59.6 +0.5**
MILM Milestii Mici 73.72 10 ⇑P **P** **04 43 59.3 -0.8**
MILM Milestii Mici 73.72 10 *e*P **P** **04 43 57.0 -3.1**
comp=Z,25nm,0.7s
MILM *e*L L 05 16 51.0
MILM LRM MLR 05 17 40.0
comp=Z,400nm,21.5s
MILM Milestii Mici 73.72 10 *e*P **P** **04 43 57.0 -3.1**
MILM pmax pmax
comp=Z,25nm,0.7s
MILM MLR MLR
comp=Z,400nm,21.5s
SURR Surduc 74.12 15 ⇓P **P** **04 44 02.5 +0.1**
OTAV Otavalo 74.17 118 P **P** **04 44 05.1 +1.4**
OTAV IAmb IAmb 04 44 06.2
comp=Z,32nm,1.5s
OTAV Otavalo 74.17 118 P **P** **04 44 05.1 +1.4**
OTAV pmax pmax
comp=Z,32nm,1.5s
BZS Buzias 74.19 15 ⇑P **P** **04 44 03.1 +0.2**
BZS Buzias 74.19 15 P **P** **04 44 03.0 +0.2**
ESDC Sonseca Array 74.19 36 P **P** **04 44 03.1 0.0**
ESDC Sonseca Array 74.19 36 P **P** **04 44 02.2 -0.8**
comp=Z,6.2nm,0.9s,baz=337,slow=5.1,SNR=27
ESDC LR LR 05 15 27.5
comp=Z,306nm,19.4s,baz=333,slow=35
comp=Z,6.2nm,0.9s
PAB San Pablo 74.19 36 P **P** **04 44 03.9 +0.8**
TURR Turia 74.30 12 ⇑P **P** **04 44 04.1 +0.6**
GHRR 74.44 11 ⇑P **P** **04 44 04.9 +0.6**
OSSC Osservatorio P 74.44 23 IAmb IAmb 04 44 10.6
comp=Z,11nm,1.0s
COVR Voineasa-Covas 74.52 12 ⇓P **P** **04 44 05.8 +0.9**
VRI Vrincioaia 74.56 12 ⇑P **P** **04 44 05.5 +0.4**
VRI Vrincioaia 74.56 12 P **P** **04 44 05.4 +0.4**
GZR Gura Zlata 74.56 15 ⇓P **P** **04 44 05.1 -0.1**
GZR Gura Zlata 74.56 15 P **P** **04 44 05.0 -0.1**
PLOR Plostina 74.56 12 ⇑P **P** **04 44 05.7 +0.5**
PLOR Plostina 74.56 12 P **P** **04 44 05.6 +0.5**
LOT Lotru 74.63 14 ⇑P **P** **04 44 05.7 +0.1**
ARR Arges 74.82 13 ⇓P **P** **04 44 06.7 +0.1**
MLR Muntele Rosu 74.84 12 LR LR 05 18 48.9
comp=Z,404nm,19.7s,baz=353,slow=37
MLR Muntele Rosu 74.84 12 ⇑P **P** **04 44 06.8 0.0**
MLR Muntele Rosu 74.84 12 P **P** **04 44 06.8 0.0**
MURB Monte Urbino 74.95 23 IAmb IAmb 04 44 16.1
comp=Z,24nm,1.2s
MDVR Moldovita 75.02 16 ⇑P **P** **04 44 08.1 +0.3**
CASP Castiglione de 75.06 24 IAmb IAmb 04 44 14.4
comp=Z,18nm,1.0s
AAK Ala-Archa 75.33 336 P **P** **04 44 09.3 -0.5**
AAK IAmb IAmb 04 44 16.2
comp=Z,10nm,0.8s
AAK Ala-Archa 75.33 336 LR LR 05 21 08.7
comp=Z,342nm,20.0s,baz=15,slow=39
AAK Ala-Archa 75.33 336 *ce*P **P** **04 44 09.4 -0.4**
AAK pmax pmax
comp=Z,9.0nm,0.8s
CFR Carcaliu 75.38 11 ⇑P **P** **04 44 09.7 0.0**
CFR Carcaliu 75.38 11 P **P** **04 44 09.7 0.0**
KKAR Karatay Array 75.65 340 P **P** **04 44 10.9 -0.5**
KKAR Karatay Array 75.65 340 P **P** **04 44 10.9 -0.5**
CAMP Campotosto 75.82 22 IAmb IAmb 04 45 05.4
comp=Z,13nm,0.7s
HARR Harsova 75.84 11 ⇑P **P** **04 44 12.3 -0.2**
HARR Harsova 75.84 11 P **P** **04 44 12.2 -0.2**
BOVS Bovan 76.14 16 ⇑P **P** **04 44 14.3 +0.2**
GOF Gofitskoye 76.22 360 *ce*P **P** **04 44 14.6 0.0**
PDG Podgorica 76.96 18 IAmb IAmb 04 44 25.0
comp=Z,15nm,1.0s
PDG Podgorica 76.96 18 ⇑P **P** **04 44 19.2 +0.5**
PPT Papeete 77.06 192 LR LR 05 12 25.0
comp=Z,256nm,18.5s,baz=328,slow=31
PPT2 Papeete2 77.08 192 *e*S **S** **04 54 12.7 +4.5**
comp=Z,350nm,25.5s
PPT2 Papeete2 77.08 192 *e*LQ LQ 05 04 51.2
comp=Z,258nm,25.5s
PPT2 *e*LR LR 05 08 07.3
comp=Z,238nm,21.8s
PPT2 *e*LR LR 05 08 09.2
comp=Z,226nm,24.2s
CD2 Chengdu 77.22 310 *e*P **P** **04 44 19.2 -1.3**
PAOL Paolisi 77.50 22 IAmb IAmb 04 44 28.3
comp=Z,27nm,1.5s
KBZ Khabaz 77.55 0 P **P** **04 44 22.7 +0.7**
comp=Z,1.2nm,0.6s,baz=4.8,slow=12,SNR=5.8
KBZ LR LR 05 25 14.9
comp=Z,99nm,20.3s,baz=358,slow=41
comp=Z,1.2nm,0.6s
KSH Kashi 78.01 334 P **P** **04 44 27.3 +2.4**
KSH PcP **PcP** **04 44 33.0 -1.6**
KSH pmax pmax
comp=Z,11nm,0.9s
KSH LR LR
comp=N,400nm,14.4s
KSH LR LR
comp=E,390nm,14.4s
KSH LR LR
comp=Z,570nm,14.4s
MAK Makhachkala 78.25 357 *e*P P 04 44 20.8 -5.1
MAK *e*S **S** **04 54 13.5 -6.8**
MAK *e*SSS SSS 05 02 39.7
MAK pmax pmax
comp=Z,33nm,0.4s
MAK MLR MLR
comp=Z,544nm,19.0s
CUC Castrocucco 78.74 21 IAmb IAmb 04 44 35.1
comp=Z,10.0nm,0.9s
FNA Florina 78.89 17 IAmb IAmb 04 44 29.8
comp=Z,20nm,1.6s
RDO Rodhopi 79.09 13 IAmb IAmb 04 44 37.4
comp=Z,12nm,1.0s
TIP Timpagrande 79.70 20 IAmb IAmb 04 44 34.8
comp=Z,19nm,1.2s
TIP Timpagrande 79.70 20 ⇓P **P** **04 44 33.8 -0.3**
AKT Akhty 79.72 356 *e*P **P** **04 44 32.9 -1.3**
AKT *e* 04 44 42.6
AKT *e* 04 47 37.2
AKT *e*S **S** **04 54 37.9 +1.6**
AKT pmax pmax
comp=Z,10.0nm,1.6s
GYA Guiyang 79.96 305 P **P** **04 44 35.8 +0.1**
GYA pmax pmax
comp=Z,27nm,1.1s
GYA LR LR
comp=Z,280nm,20.9s
SIMJ Simiganj 80.24 340 P **P** **04 44 37.1 0.0**
SIMJ IAmb IAmb 04 44 43.9
comp=Z,12nm,0.8s
VAE Valguarnera 80.90 23 LR LR 05 23 22.8
comp=Z,356nm,18.4s,baz=3.5,slow=38
BOAV Boa Vista 81.03 100 IAmb IAmb 04 44 43.5
comp=Z,26nm,1.1s
BOAV Boa Vista 81.03 100 *e*P **P** **04 44 42.0 +0.6**
ANTO Ankara 81.04 8 IAmb IAmb 04 44 49.0
comp=Z,32nm,1.4s
BRTR Keskin Array B 81.25 7 P **P** **04 44 42.0 -0.4**
BRTR Keskin Array B 81.25 7 P **P** **04 44 42.3 -0.1**
comp=Z,2.4nm,0.9s,baz=315,slow=1.8,SNR=11
comp=Z,2.4nm,0.9s
KEST Kesra 81.48 27 P **P** **04 44 43.6 -0.1**
comp=Z,8.8nm,0.8s,baz=327,slow=3.7,SNR=12
KEST LR LR 05 21 26.3
comp=Z,380nm,19.0s,baz=326,slow=36
comp=Z,8.8nm,0.8s
PZH PanZhiHua 81.94 309 P **P** **04 44 45.9 -0.4**
PZH PanZhiHua 81.94 309 S **S** **04 54 56.6 -3.4**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH LR LR
comp=N,300nm,12.1s
PZH LR LR
comp=E,200nm,13.0s
PZH LR LR
comp=Z,390nm,13.9s
TBTG Tabatinga, AM 82.06 112 *e*P **P** **04 44 46.5 -0.3**
RAR Rarotonga 82.17 201 *e*S **S** **04 55 01.7 0.0**
comp=Z,106nm,23.0s
RAR Rarotonga 82.17 201 *e*LR LR 05 10 34.8
comp=Z,280nm,23.0s
BNN Bunyan 82.24 6 IAmb IAmb 04 44 55.4
comp=Z,21nm,1.2s
NIUE Niue 82.43 211 *e*LR LR 05 10 32.0
comp=Z,157nm,22.8s
MDP Montagnes des 82.76 92 LR LR 05 20 04.4
comp=Z,231nm,21.0s,baz=340,slow=35
TBI Tubuai 82.77 192 *e*S **S** **04 55 04.2 -3.5**
comp=Z,414nm,31.0s
TBI Tubuai 82.77 192 *e*LQ LQ 05 07 14.7
comp=Z,547nm,25.5s
TBI *e*LR LR 05 10 40.8
comp=Z,1μm,25.8s
TBI *e*LR LR 05 10 45.7
comp=Z,798nm,23.0s
CZSB Cruzeiro do Su 83.84 116 *e*P **P** **04 44 56.0 0.0**
TEFE Tefe 84.04 107 *e*P **P** **04 44 57.7 +0.6**
NIL Nilore 84.24 335 P **P** **04 44 58.4 +0.4**
NIL Nilore 84.24 335 P **P** **04 44 58.4 +0.4**
NIL pmax pmax
comp=Z,18nm,1.1s
SAVO Savo Central 84.55 242 P **P** **04 45 00.6 +0.9**
HNR Honiara 84.74 242 LR LR 05 15 28.6
comp=Z,296nm,21.6s,baz=37,slow=30
IDI Anoyia 84.78 15 LR LR 05 27 42.1
comp=Z,114nm,18.2s,baz=310,slow=39
QIZ Qiongzhong 85.08 299 P **P** **04 45 01.5 -0.9**
QIZ Qiongzhong 85.08 299 S **S** **04 55 32.4 +0.8**
QIZ LR LR
comp=N,280nm,17.9s
QIZ LR LR
comp=E,340nm,19.2s
QIZ LR LR
comp=Z,400nm,13.7s
SLVN Son La 85.65 305 IAmb IAmb 04 45 12.5
comp=Z,13nm,1.1s
SLVN Son La 85.65 305 P **P** **04 45 06.5 +1.2**
NNA Nana 85.73 122 LR LR 05 25 11.8
comp=Z,209nm,18.1s,baz=6.0,slow=37
EVN Everest 85.99 322 IAmb IAmb 04 45 25.3
comp=Z,15nm,0.8s
DAV Davao City (W) 87.78 280 LR LR 05 21 22.5
comp=Z,268nm,21.1s,baz=360,slow=34
MMAI Mount Meron Ar 88.03 6 P **P** **04 45 16.8 0.0**
comp=Z,0.7nm,0.3s,baz=347,slow=12,SNR=3.8
comp=Z,0.7nm,0.3s
JAY Jayapura 88.16 262 LR LR 05 30 28.0
comp=Z,57nm,18.1s,baz=330,slow=40
RPN Rapa Nui 88.91 156 LR LR 05 16 36.8
comp=Z,98nm,19.4s,baz=278,slow=30
ITTB Itaituba 89.25 100 *e*P **P** **04 45 22.1 -0.4**
CHTO Chiang Mai 89.95 308 P **P** **04 45 27.4 +1.5**
CMAR Chiang Mai Arr 90.27 308 P **P** **04 45 27.9 +0.5**
CMAR Chiang Mai Arr 90.27 308 P **P** **04 45 27.5 +0.1**
comp=Z,9.4nm,0.9s,baz=26,slow=4.6,SNR=35
CMAR LR LR 05 27 51.5
comp=Z,152nm,21.1s,baz=25,slow=37
comp=Z,9.4nm,0.9s
CMAR Chiang Mai Arr 90.27 308 *i* P **P** **04 45 27.7 +0.3**
CMAR pmax pmax
comp=Z,10.0nm,0.9s
PMG Port Moresby 90.81 253 LR LR 05 20 39.4
comp=Z,946nm,20.0s,baz=156,slow=32
NPGB Novo Progresso 91.72 101 *e*P **P** **04 45 33.9 -0.2**
DZM Mont Dzumac 93.20 231 *e*LR LR 05 15 37.9
comp=Z,253nm,22.6s
LPAZ La Paz 93.45 116 P **P** **04 45 41.7 -1.0**
comp=Z,1.1nm,0.5s,baz=342,slow=3.2,SNR=8.0
LPAZ LR LR 05 31 00.2
comp=Z,220nm,21.9s,baz=341,slow=38
comp=Z,1.1nm,0.5s
RAO Raoul Island 94.31 215 LR LR 05 21 06.8
comp=Z,178nm,20.3s,baz=132,slow=31
VILB Vilhena 94.36 108 *e*P **P** **04 45 46.3 +0.1**
SIV San Ignacio 96.54 110 LR LR 05 33 39.7
comp=Z,170nm,18.1s,baz=290,slow=38
TORD Torodi Ar. Bea 100.63 41 P **Pdif** **04 46 13.4 -1.1**
comp=Z,0.2nm,0.4s,baz=347,slow=6.9,SNR=1.7
TORD PKKPbc **PKKPbc** **05 02 25.8 0.0**
comp=Z,0.8nm,0.6s,baz=160,slow=1.5,SNR=4.3
SNZO South Karori 107.71 216 *e*LR LR 05 22 19.2
comp=Z,9.6nm,23.0s
ASAR Alice Springs 109.52 257 PKiKP **PKiKP** **04 50 56.2 -0.6**
comp=Z,0.6nm,0.8s,baz=39,slow=1.8,SNR=5.1
PMSA Palmer Station 135.15 144 *e*LR LR 05 34 55.4
comp=Z,87nm,25.0s
BOSA Boshof 147.19 30 PKPbc **PKPdf** **04 52 07.7 +0.5**
comp=Z,18nm,1.0s,baz=343,slow=3.0,SNR=19
QSPA South Pole Qui 148.90 180 PKPbc **PKiKP** **04 52 14.0 -0.1**
comp=Z,39nm,0.8s,baz=72,slow=1.2,SNR=193
CASY Casey 149.64 228 *e*LR LR 05 41 43.4
comp=Z,78nm,25.0s
VNA3 Neumayer Olymp 155.74 141 ⇑PKPab **PKPab** **04 52 45.0 -0.4**
comp=Z,5.8nm,0.7s
VNA1 Neumayer--Stat 156.23 140 ⇑PKPab **PKPab** **04 52 48.7 +1.2**
comp=Z,5.7nm,1.0s
SNAA Sanae 157.86 143 ⇑PKPab **PKPab** **04 52 55.5 +0.8**
comp=Z,33nm,1.0s
SNAA Sanae 157.86 143 PKPab **PKPab** **04 52 54.7 0.0**
comp=Z,5.1nm,0.9s,baz=278,slow=4.8,SNR=14
TROLL Troll, Antarti 159.41 145 ⇓PKPab **PKPab** **04 53 02.5 +1.1**
comp=Z,43nm,0.8s
MAW Mawson 167.71 218 PKPab **PKPab** **04 53 38.1 +0.4**
comp=Z,2.3nm,0.7s,baz=128,slow=5.1,SNR=5.8
SYO Syowa Base 169.93 173 ⇓*e*PKPdf **PKPdf** **04 52 32.6 +0.2**
SYO Syowa Base 169.93 173 ⇓*ep*PLPab 04 53 49.6

*NEIC **01** 04:42:24.2±0.9, 19.°60N±0.°09×145.°2E±0.°1, h142km±9km, mb4.5/18, Error ellipse: s-maj=21.5km s-min=2.8km az=124.0*
*IDC **01** 04:42:25.4±1.8, 19.°62N×145.°29E, h159km±17km, mb3.7/19, mbtmp4.2/21, Error ellipse: s-maj=15.2km s-min=9.0km az=85.0*
ISC 01 04:42:25.0±0.6, **19.°63N**±0.°06×**145.°3E**±0.°1, **h150**km, **n50,**
σ1**§05/49, mb4.1/30, Mariana Islands**

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

GUMO Guam 6.02 184 P **Pn** **04 43 53.7 +1.7**
14nm,0.3s,baz=342,slow=20,SNR=1.6
GUMO S **Sn** **04 44 59.2 -0.9**
14nm,0.3s,baz=10,slow=17,SNR=1.3
JCJ Chichijima 7.96 340 P **Pn** **04 44 20.3 +2.5**
baz=270,slow=20
JCJ S **Sn** **04 45 45.0 -1.6**
baz=270,slow=20
MJAR Matsushiro Arr 17.96 341 P **P** **04 46 24.2 +0.5**
0.9nm,0.5s,baz=167,slow=9.0,SNR=1.8
H11S3 WAKE ISLAND Hy 20.25 90 T T 05 07 42.3
baz=278
H11S1 WAKE ISLAND Hy 20.26 90 T T 05 07 49.2
baz=278
H11S2 WAKE ISLAND Hy 20.27 90 T T 05 07 55.6
baz=278
KSRS Korea Array 23.35 323 P **P** **04 47 19.0 -0.8**
2.0nm,0.9s,baz=147,slow=10,SNR=9.7
2.0nm,0.9s
BKB Balikpapan 34.75 237 P P 04 48 55.8 -5.3
PETK Petropavlovsk- 34.77 13 P **P** **04 49 01.0 +0.1**
PETK Petropavlovsk- 34.77 13 P **P** **04 49 00.9 +0.1**
1.1nm,0.7s,baz=216,slow=7.4,SNR=2.5
1.1nm,0.7s
WB0 Warramunga Arr 40.59 196 P **P** **04 49 49.0 -1.0**
WR8 Warramunga Arr 40.74 196 P **P** **04 49 50.2 -1.0**
WR8 IAmb IAmb 04 50 12.7
comp=Z,8.8nm,1.4s
WRA Warramunga Arr 40.77 196 P **P** **04 49 50.6 -0.9**
comp=Z,2.8nm,0.6s,baz=16,slow=8.6,SNR=43
comp=Z,2.8nm,0.6s
FITZ Fitzroy Crossi 42.17 208 P **P** **04 50 02.7 -0.3**
FITZ Fitzroy Crossi 42.17 208 P **P** **04 50 02.6 -0.3**
comp=Z,4.7nm,0.9s,baz=28,slow=12,SNR=13
comp=Z,4.7nm,0.9s
SONM Songino Array 42.18 321 P **P** **04 50 03.3 +0.3**
comp=Z,0.9nm,0.5s,baz=138,slow=8.9,SNR=4.6
comp=Z,0.9nm,0.5s
CMAR Chiang Mai Arr 43.73 276 P **P** **04 50 16.9 +1.2**
comp=Z,0.5nm,0.3s,baz=83,slow=7.1,SNR=4.1
comp=Z,0.5nm,0.3s
AS31 Alice Springs 44.44 195 P **P** **04 50 19.7 -1.4**
ASAR Alice Springs 44.44 195 P **P** **04 50 19.9 -1.3**
ASAR Alice Springs 44.44 195 P **P** **04 50 19.4 -1.7**
comp=Z,2.0nm,0.6s,baz=16,slow=7.3,SNR=36
comp=Z,2.0nm,0.6s
DZM Mont Dzumac 46.31 152 P **P** **04 50 36.8 +0.8**
comp=Z,2.3nm,0.4s,baz=300,slow=20,SNR=1.6
comp=Z,2.3nm,0.4s
ZALV Zalesovo Beam 57.05 322 P **P** **04 51 54.1 -1.1**
ZALV Zalesovo Beam 57.05 322 P **P** **04 51 54.0 -1.1**
comp=Z,2.7nm,0.6s,baz=102,slow=8.4,SNR=9.1
comp=Z,2.7nm,0.6s
MKAR Makanchi Array 57.55 313 P **P** **04 51 58.8 0.0**
comp=Z,1.4nm,0.8s,baz=93,slow=9.0,SNR=8.3
MKAR PcP **sP** **04 52 49.9 +1.1**
comp=Z,0.3nm,0.5s,baz=88,slow=3.3,SNR=1.9
comp=Z,1.4nm,0.8s
KURBB Kurchatov Arra 60.38 318 P **P** **04 52 18.0 -0.2**
comp=Z,4.0nm,0.5s,baz=95,slow=7.4,SNR=30
comp=Z,4.0nm,0.5s
E23K Chandalar 62.70 23 P **P** **04 52 34.9 +1.3**
E23K IAmb IAmb 04 52 35.5
comp=Z,5.4nm,0.7s
H24K Noodor Dome 62.80 25 P **P** **04 52 34.9 +0.6**
H24K IAmb IAmb 04 52 36.5
comp=Z,13nm,1.5s
ILAR Eielson Array 62.98 26 P **P** **04 52 33.4 -2.0**
ILAR Eielson Array 62.98 26 P **P** **04 52 34.1 -1.4**
comp=Z,2.8nm,0.8s,baz=259,slow=6.0,SNR=26
comp=Z,2.8nm,0.8s
SCRK Sand Creek 64.09 28 P **P** **04 52 42.6 -0.3**
SCRK IAmb IAmb 04 52 43.7
comp=Z,5.6nm,0.9s
D25K Kavik River 64.16 22 P **P** **04 52 43.9 +0.8**
TABL Table Mountain 65.02 32 P **P** **04 52 49.2 +0.1**
H27K Steamboat Moun 65.43 25 P **P** **04 52 52.2 +0.8**
H27K IAmb IAmb 04 52 52.6
comp=Z,6.3nm,0.8s
BVAR Borovoye Array 65.52 320 P **P** **04 52 51.8 -0.4**
comp=Z,6.2nm,0.5s,baz=90,slow=8.0,SNR=40
comp=Z,6.2nm,0.5s
KKAR Karatay Array 65.89 309 P **P** **04 52 54.5 -0.3**
I28M Miner Creek 65.99 26 P **P** **04 52 55.1 0.0**
I28M IAmb IAmb 04 52 55.9
comp=Z,3.8nm,0.8s
L29M L29M 66.61 29 P **P** **04 53 00.0 +1.0**
L29M IAmb IAmb 04 53 00.7
comp=Z,7.4nm,0.7s
G31M Satah River 68.37 25 P **P** **04 53 10.0 +0.2**
AB31 Akbulak array 72.40 317 P **P** **04 53 33.9 -0.8**
AB31 IAmb IAmb 04 53 34.7
comp=Z,4.7nm,0.7s
ABKAR Akbulak array 72.40 317 P **P** **04 53 33.9 -0.8**
YKA Yelowknife Ar 77.35 28 P **P** **04 54 02.3 -0.5**
comp=Z,2.2nm,0.7s,baz=295,slow=5.7,SNR=14
comp=Z,2.2nm,0.7s
YBH Yreka Blue Hor 78.64 50 P **P** **04 54 11.1 +0.5**
comp=Z,0.1nm,0.7s,baz=286,slow=1.9,SNR=7.1
J05D Fort Rock, OR 79.25 48 P **P** **04 54 14.1 +0.2**
J05D IAmb IAmb 04 54 15.0
comp=Z,4.9nm,0.9s
K05A Summer Lake 79.65 48 P **P** **04 54 16.7 +0.5**
K05A IAmb IAmb 04 54 17.9
comp=Z,15nm,1.3s
ARCES ARCESS Array B 81.50 342 P **P** **04 54 24.5 -0.7**
ARCES ARCESS Array B 81.50 342 P **P** **04 54 24.1 -1.1**
comp=Z,1.7nm,0.6s,baz=56,slow=5.6,SNR=19
comp=Z,1.7nm,0.6s
NVAR Mina Array Bea 82.87 52 P **P** **04 54 33.2 -0.1**
comp=Z,2.1nm,0.8s,baz=290,slow=5.3,SNR=17
comp=Z,2.1nm,0.8s
ELK Elko 84.30 49 P **P** **04 54 40.5 -0.1**
comp=Z,1.9nm,0.9s,baz=308,slow=6.3,SNR=6.8
comp=Z,1.9nm,0.9s
FINES FINESS Array B 85.89 335 P **P** **04 54 45.2 -2.4**
comp=Z,0.9nm,0.5s,baz=62,slow=4.9,SNR=17
comp=Z,0.9nm,0.5s
PDAR Pinedale Array 87.45 45 P **P** **04 54 54.9 -1.1**
comp=Z,0.1nm,0.4s,baz=313,slow=4.0,SNR=1.8
comp=Z,0.1nm,0.4s

*IDC **01** 05:00:07.9±0.7, 30.°28S×72.°45W, h0km, mb3.9/9, mbtmp4.0/12, ML4.1/3, MS2.6/1, Error ellipse: s-maj=29.6km s-min=18.2km az=87.0*
*NEIC **01** 05:00:08.1±1.5, 30.°22S±0.°05×72.°59W±0.°06, h10km±1km, mb4.3/9, ML3.9(GUC), Error ellipse: s-maj=9.5km s-min=8.9km az=269.0*
*GUC **01** 05:00:10.7±0.7, 30.°21S×72.°36W, h40km±4km, ML3.9*
*VAO **01** 05:01:02.6±2.2, 28.°34S×70.°26W, h353km±23km, mb3.5*
ISC 01 05:00:08.2±0.5, **30.°22S**±0.°04×**72.°59W**±0.°04, **h10**km, **n96,**
σ1**§47/98, mb4.1/10, 3C-4D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CO06	**Fray Jorge**	**0.94**	**119**		**Pg**	**05**	**00 25.9**	**-0.4**
CO06				Sg	**Sg**	**05**	**00 37.7**	**-0.9**
CO06	**Fray Jorge**	**0.94**	**119**	⇑*i* P	**Pg**	**05**	**00 26.0**	**-0.4**
CO06				*i* S	**Sg**	**05**	**00 37.5**	**-1.1**
CO06				IAML		05	00 39.0	
	comp=N,4μm,0.2s							
CO05	**La Serena**	**1.21**	**76**		**Pg**	**05**	**00 31.0**	**-0.4**
CO05				Sg	**Sb**	**05**	**00 45.9**	**-0.9**
CO05	**La Serena**	**1.21**	**76**	*e*P	**Pg**	**05**	**00 31.0**	**-0.4**
CO05				*i* S	**Sb**	**05**	**00 45.9**	**-0.9**
CO05				IAML		05	00 46.8	
	comp=N,4μm,0.2s							
GO04	**Tololo Observa**	**1.55**	**89**		**Pb**	**05**	**00 36.6**	**-0.5**
GO04	**Tololo Observa**	**1.55**	**89**	⇓*i* P	**Pb**	**05**	**00 36.3**	**-0.9**
GO04				*i* S	**Sn**	**05**	**00 55.5**	**-0.8**
CO02	**Combarbal**	**1.69**	**126**		**Pn**	**05**	**00 37.3**	**-0.5**
CO02	**Combarbal**	**1.69**	**126**	⇑*i* P	**Pn**	**05**	**00 37.4**	**-0.5**
CO02				*i* S	**Sn**	**05**	**00 56.7**	**-2.9**
CO02				IAML		05	00 58.0	
	comp=N,7μm,0.3s							
CO03	**El Pedregal**	**1.75**	**111**		**Pn**	**05**	**00 38.7**	**-0.1**
CO03	**El Pedregal**	**1.75**	**111**	⇑*i* P	**Pn**	**05**	**00 38.8**	**+0.1**
CO03				*i* S	**Sn**	**05**	**00 59.7**	**-1.5**
CO03				IAML		05	01 01.1	
	comp=E,3μm,0.3s							
LCO	**Las Campanas**	**2.03**	**54**	Pn	**Pn**	**05**	**00 42.9**	**+0.1**
LCO					**Pb**	**05**	**00 43.3**	**-2.1**
LCO	**Las Campanas**	**2.03**	**54**	⇓*i* P	**Pn**	**05**	**00 43.5**	**+0.7**
LCO				*e*S	**Sn**	**05**	**01 08.2**	**-0.2**
LCO				IAML		05	01 09.8	

ML3.4(AEIC),107km southwest of Skagway, Ak
Southeastern Alaska
ISC 01 05:11:17.5±1.1,59°07N±0°02×136°98W±0°02,h1km±10km, n202,σ093/278,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PLBC	**Pleasant Camp**	**0.50**	**38**		**Pg**	**05 11 27.9**	**+0.8**
PLBC	**Pleasant Camp**	**0.50**	**38**	P	**Pg**	**05 11 27.9**	**+0.8**
PLBC				S	**Sg**	**05 11 34.2**	**+0.6**
PLBC	**Pleasant Camp** baz=218,SNR=1000	**0.50**	**38**	P	**Pg**	**05 11 27.9**	**+0.8**
PLBC	baz=218			S	**Sg**	**05 11 32.4**	**-1.2**
P29M	**Windy Craggy**	**0.69**	**326**		**Pg**	**05 11 30.7**	**+0.1**
P29M				Sg	**Sg**	**05 11 39.3**	**-0.2**
P29M	comp=N,1μm,0.3s			IAML		05 11 47.1	
P29M	comp=E,997nm,0.3s			IAML		05 11 49.6	
P29M	**Windy Craggy**	**0.69**	**326**	P	**Pg**	**05 11 30.7**	**+0.1**
P29M				S	**Sg**	**05 11 39.5**	**0.0**
P29M	**Windy Craggy** baz=142,SNR=233	**0.69**	**326**	P	**Pg**	**05 11 30.7**	**+0.1**
P29M	baz=142			S	**Sg**	**05 11 39.6**	**0.0**
R31K	**City Hall, Gus**	**0.92**	**135**		**Pg**	**05 11 36.4**	**+1.3**
R31K					**Sb**	**05 11 49.6**	**+0.7**
R31K	**City Hall, Gus**	**0.92**	**135**	P	**Pg**	**05 11 36.0**	**+1.0**
R31K				S	**Sb**	**05 11 49.5**	**+0.6**
R31K	**City Hall, Gus** baz=318,SNR=26	**0.92**	**135**	P	**Pg**	**05 11 35.9**	**+0.9**
R31K	baz=318			S	**Sb**	**05 11 49.0**	**+0.1**
SKAG	**Skagway**	**0.93**	**64**		**Pg**	**05 11 35.4**	**+0.1**
SKAG				Sg	**Sg**	**05 11 47.6**	**+0.1**
SKAG	comp=N,734nm,0.6s			IAML		05 11 51.4	
SKAG	**Skagway** baz=246,SNR=140	**0.93**	**64**	P	**Pg**	**05 11 35.7**	**+0.3**
SKAG	baz=246			S	**Sg**	**05 11 48.0**	**+0.5**
P30M	**Million Dollar**	**1.06**	**0**		**Pg**	**05 11 37.4**	**-0.4**
P30M	comp=N,680nm,0.6s			IAML		05 11 54.9	
P30M	comp=E,587nm,0.5s			IAML		05 11 56.0	
P30M	**Million Dollar**	**1.06**	**0**	P	**Pg**	**05 11 37.4**	**-0.4**
P30M				S	**Sg**	**05 11 50.7**	**-0.8**
P30M	**Million Dollar** baz=179,SNR=880	**1.06**	**0**	P	**Pg**	**05 11 37.3**	**-0.4**
P30M	baz=179			S	**Sg**	**05 11 50.8**	**-0.6**
S31K	**Pelican**	**1.18**	**160**		**Pb**	**05 11 40.6**	**0.0**
S31K				Sg	**Sb**	**05 11 56.4**	**+0.1**
S31K	comp=E,775nm,0.5s			IAML		05 11 58.0	
S31K	comp=N,717nm,0.4s			IAML		05 11 59.6	
S31K	**Pelican**	**1.18**	**160**	P	**Pb**	**05 11 40.4**	**-0.2**
S31K				S	**Sb**	**05 11 56.7**	**+0.5**
S31K	**Pelican** baz=343,SNR=699	**1.18**	**160**	P	**Pb**	**05 11 40.4**	**-0.2**
S31K	baz=343			S	**Sb**	**05 11 56.8**	**+0.5**
BESE	**Bessie Mountai**	**1.21**	**113**		**Pb**	**05 11 40.7**	**-0.5**
BESE				Sg	**Sb**	**05 11 56.5**	**-0.8**
BESE	**Bessie Mountai**	**1.21**	**113**	P	**Pb**	**05 11 40.5**	**-0.6**
BESE				S	**Sb**	**05 11 56.8**	**-0.5**
PNL	**Peninsula**	**1.38**	**297**		**Pn**	**05 11 42.6**	**-1.3**
PNL					**Sg**	**05 12 02.5**	**+0.7**
PNL	**Peninsula**	**1.38**	**297**	P	**Pn**	**05 11 41.7**	**-2.2**
PNL	**Peninsula** baz=114,SNR=71	**1.38**	**297**	P	**Pn**	**05 11 42.5**	**-1.4**
PNL	baz=114			S	**Sb**	**05 12 00.5**	**-1.7**
YKU2	**Yakutat**	**1.45**	**289**	Pn	**Pn**	**05 11 44.5**	**-0.4**
YKU2					**Sg**	**05 12 05.1**	**+1.0**
O29M	**Mount Kennedy**	**1.48**	**327**	Pn	**Pn**	**05 11 44.1**	**-1.2**
O29M	**Mount Kennedy**	**1.48**	**327**	Pn	**Pn**	**05 11 44.2**	**-1.2**
O29M				Sg	**Sn**	**05 12 04.2**	**-1.4**
O29M	**Mount Kennedy** baz=145,SNR=316	**1.48**	**327**	P	**Pn**	**05 11 44.2**	**-1.3**
O29M	baz=145			S	**Sn**	**05 12 04.0**	**-1.5**
R32K	**Eaglecrest**	**1.51**	**121**		**Pn**	**05 11 45.0**	**-0.7**
R32K	comp=E,472nm,0.3s			IAML		05 12 09.5	
R32K	comp=N,625nm,0.2s			IAML		05 12 09.6	
R32K	**Eaglecrest**	**1.51**	**121**	Pn	**Pn**	**05 11 45.1**	**-0.7**
R32K				Sg	**Sn**	**05 12 05.4**	**-0.6**
R32K	**Eaglecrest** baz=304,SNR=57	**1.51**	**121**	P	**Pn**	**05 11 45.0**	**-0.7**
R32K	baz=304			S	**Sn**	**05 12 05.5**	**-0.6**
JIS	**Juneau Island**	**1.57**	**119**		**Pn**	**05 11 45.8**	**-0.6**
YUK7	**Dusty Glacier**	**1.58**	**339**		**Pn**	**05 11 46.4**	**-0.5**
YUK7					**Sb**	**05 12 07.5**	**-0.7**
YUK7	**Dusty Glacier**	**1.58**	**339**	Pn	**Pn**	**05 11 46.4**	**-0.5**
YUK7				Sg	**Sb**	**05 12 07.5**	**-0.7**
BCPM	**Bancas Point**	**1.62**	**304**	Pn	**Pn**	**05 11 46.4**	**-0.8**
P32M	**Atlin**	**1.75**	**71**		**Pn**	**05 11 48.7**	**-0.4**
P32M	comp=E,286nm,0.6s			IAML		05 12 14.4	
P32M	comp=N,558nm,0.3s			IAML		05 12 14.6	
P32M	**Atlin**	**1.75**	**71**	Pn	**Pn**	**05 11 48.7**	**-0.4**
P32M				Sg	**Sb**	**05 12 13.1**	**+0.1**
P32M	**Atlin** baz=254,SNR=620	**1.75**	**71**	P	**Pn**	**05 11 48.5**	**-0.6**
P32M	baz=254			S	**Sn**	**05 12 11.5**	**-0.6**
O30N	**Mendenhall**	**1.77**	**14**		**Pn**	**05 11 49.6**	**+0.3**
O30N	comp=N,259nm,0.6s			IAML		05 12 17.7	
O30N	**Mendenhall**	**1.77**	**14**	Pn	**Pn**	**05 11 49.3**	**0.0**
O30N				Sg	**Sb**	**05 12 12.5**	**-0.9**
O30N	**Mendenhall** baz=194,SNR=658	**1.77**	**14**	P	**Pn**	**05 11 48.9**	**-0.4**
O30N	baz=194			S	**Sb**	**05 12 12.2**	**-1.2**
HYT	**Haines Junctio**	**1.78**	**352**		**Pn**	**05 11 49.5**	**-0.1**
HYT	comp=N,363nm,0.5s			IAML		05 12 14.7	
HYT	comp=E,326nm,0.6s			IAML		05 12 14.9	
HYT	**Haines Junctio**	**1.78**	**352**	Pn	**Pn**	**05 11 49.5**	**-0.1**
HYT				Sg	**Sn**	**05 12 12.4**	**-0.6**
HYT	**Haines Junctio** baz=170,SNR=304	**1.78**	**352**	P	**Pn**	**05 11 49.1**	**-0.5**
HYT	baz=170			S	**Sb**	**05 12 12.9**	**-1.1**
WHY	**Whitehorse**	**1.92**	**33**		**Pn**	**05 11 51.8**	**+0.4**
WHY	**Whitehorse**	**1.92**	**33**	Pn	**Pn**	**05 11 51.6**	**+0.2**
WHY				Pg	**Pb**	**05 11 53.1**	**-0.2**
WHY				Sg	**Sb**	**05 12 17.2**	**-0.5**
WHY	**Whitehorse** baz=214,SNR=1000	**1.92**	**33**	P	**Pn**	**05 11 50.6**	**-0.8**
WHY	baz=214			Sb	**Sg**	**05 12 18.3**	**-0.7**
PINM	**Pinnacle** baz=119,SNR=37	**1.96**	**303**	P	**Pn**	**05 11 51.4**	**-0.6**
PINM	baz=119			S	**Sn**	**05 12 17.2**	**0.0**
PCA	**Pinnacle**	**1.96**	**303**	Pn	**Pn**	**05 11 51.8**	**-0.2**
PCA	**Pinnacle**	**1.96**	**303**	Pn	**Pn**	**05 11 51.6**	**-0.4**
PCA				Sg	**Sn**	**05 12 16.9**	**-0.4**
YUK6	**Outpost Mounta**	**2.01**	**340**		**Pn**	**05 11 52.5**	**-0.3**
YUK6	**Outpost Mounta**	**2.01**	**340**	Pn	**Pn**	**05 11 52.6**	**-0.2**
YUK6				Sg	**Sb**	**05 12 20.1**	**-0.4**
YUK6	**Outpost Mounta** baz=158,SNR=116	**2.01**	**340**	P	**Pn**	**05 11 52.3**	**-0.5**
YUK6	baz=158			Sb	**Sg**	**05 12 21.4**	**-0.5**
YUK5	**Granite Creek**	**2.12**	**348**		**Pn**	**05 11 54.4**	**+0.2**
YUK5	**Granite Creek**	**2.12**	**348**	Pn	**Pn**	**05 11 54.4**	**+0.2**
SIT	**Sitka**	**2.20**	**156**		**Pn**	**05 11 55.3**	**+0.2**
SIT	comp=E,174nm,0.7s			IAML		05 12 32.1	
SIT	**Sitka** baz=338	**2.20**	**156**	P	**Pn**	**05 11 55.3**	**+0.2**
SIT	baz=338			Sb	**Sb**	**05 12 27.5**	**+1.8**
SAMH	**Samovar Hills**	**2.21**	**300**		**Pn**	**05 11 55.8**	**+0.3**
SAMH				Sg	**Sn**	**05 12 24.1**	**+0.7**
O28M	**Mount Upton**	**2.35**	**318**	Pn	**Pn**	**05 11 57.3**	**-0.3**
O28M	**Mount Upton**	**2.35**	**318**	Pn	**Pn**	**05 11 57.3**	**-0.3**
O28M				Sg	**Sb**	**05 12 30.7**	**+0.2**
O28M	**Mount Upton** baz=134,SNR=44	**2.35**	**318**	P	**Pn**	**05 11 56.9**	**-0.7**
O28M	baz=134			Sb	**Sb**	**05 12 31.2**	**+0.6**
N30M	**Aishikik Lake**	**2.40**	**359**		**Pn**	**05 11 58.0**	**0.0**
N30M	comp=E,128nm,0.7s			IAML		05 12 33.0	
N30M	comp=N,140nm,0.3s			IAML		05 12 34.6	
N30M	**Aishikik Lake**	**2.40**	**359**	Pn	**Pn**	**05 11 58.0**	**0.0**
N30M				Sg	**Sb**	**05 12 31.9**	**+0.2**
N30M	**Aishikik Lake** baz=178,SNR=299	**2.40**	**359**	P	**Pn**	**05 11 57.8**	**-0.2**
N30M	baz=178			Sb	**Sb**	**05 12 32.5**	**+0.8**
P33M	**Teslin, Yukon**	**2.40**	**60**		**Pn**	**05 11 57.8**	**-0.3**
P33M	comp=N,148nm,0.4s			IAML		05 12 34.2	
P33M	comp=E,109nm,0.9s			IAML		05 12 40.2	
P33M	**Teslin, Yukon**	**2.40**	**60**	Pn	**Pn**	**05 11 57.8**	**-0.3**
P33M				Pg	**Pb**	**05 12 02.0**	**+0.4**
P33M				Sg	**Sb**	**05 12 32.6**	**+0.8**
P33M	**Teslin, Yukon** baz=243,SNR=529	**2.40**	**60**	P	**Pn**	**05 11 57.7**	**-0.3**
P33M	baz=243			Sb	**Sb**	**05 12 33.1**	**+1.3**
YUK4	**Talbot Arm**	**2.43**	**341**	Pn	**Pn**	**05 11 59.6**	**+1.0**
YUK4				Sg	**Sg**	**05 12 35.6**	**0.0**
YUK4	**Talbot Arm** baz=160,SNR=62	**2.43**	**341**	P	**Pn**	**05 11 59.3**	**+0.7**
YUK4	baz=160			Sb	**Sg**	**05 12 35.9**	**+0.3**
Q32M	**Nakina River**	**2.44**	**90**		**Pn**	**05 11 58.5**	**-0.2**
Q32M	comp=N,155nm,0.7s			IAML		05 12 36.4	
Q32M	comp=E,142nm,0.8s			IAML		05 12 43.5	
Q32M	**Nakina River**	**2.44**	**90**	Pn	**Pn**	**05 11 58.3**	**-0.3**
Q32M				Pg	**Pb**	**05 12 03.0**	**+0.8**
Q32M				Sg	**Sg**	**05 12 35.1**	**-0.6**
Q32M	**Nakina River** baz=275,SNR=38	**2.44**	**90**	P	**Pn**	**05 11 58.4**	**-0.2**
Q32M	baz=275			Sb	**Sg**	**05 12 34.8**	**-0.9**
N31M	**Braeburn, Yuko**	**2.50**	**13**		**Pn**	**05 11 59.7**	**+0.3**
N31M	comp=N,186nm,0.7s			IAML		05 12 40.3	
N31M	comp=E,234nm,0.7s			IAML		05 12 40.5	
N31M	**Braeburn, Yuko**	**2.50**	**13**	Pn	**Pn**	**05 11 59.4**	**+0.1**
N31M				Pg	**Pb**	**05 12 03.2**	**0.0**
N31M				Sg	**Sb**	**05 12 35.3**	**+0.8**
N31M	**Braeburn, Yuko** baz=194,SNR=32	**2.50**	**13**	P	**Pn**	**05 11 59.5**	**+0.1**
N31M	baz=194			Sb	**Sb**	**05 12 35.3**	**+0.8**
TABL	**Table Mountain**	**2.52**	**305**	Pn	**Pn**	**05 11 59.4**	**-0.4**
TABL	comp=N,103nm,0.6s			IAML		05 12 40.8	
TABL	**Table Mountain**	**2.52**	**305**	Pn	**Pn**	**05 11 59.4**	**-0.4**
BRWY	**Burwash Landin**	**2.53**	**337**	Pn	**Pn**	**05 12 00.1**	**+0.3**
RKAV	**Rock Avalanche**	**2.54**	**301**	Pn	**Pn**	**05 12 00.5**	**+0.5**
YUK8	**Steele Glacier**	**2.62**	**329**	Pn	**Pn**	**05 12 01.5**	**+0.3**
YUK8	**Steele Glacier** baz=146,SNR=8.5	**2.62**	**329**	P	**Pn**	**05 12 01.6**	**+0.3**
YUK8	baz=146			Sb	**Sg**	**05 12 40.2**	**-1.5**
LOGN	**Logan Glacier**	**2.69**	**313**	Pn	**Pn**	**05 12 01.0**	**-1.0**
MESA	**MESA** baz=111	**2.76**	**296**	S	**Sn**	**05 12 37.2**	**+0.1**
N32M	**Quiet Lake**	**2.86**	**41**		**Pn**	**05 12 04.5**	**+0.2**
N32M	**Quiet Lake**	**2.86**	**41**	Pn	**Pn**	**05 12 04.3**	**0.0**
N32M				Sg	**Sb**	**05 12 46.2**	**+1.4**
N32M	**Quiet Lake** baz=224	**2.86**	**41**	P	**Pn**	**05 12 04.6**	**+0.3**
N32M	baz=224			Sb	**Sb**	**05 12 46.7**	**+1.9**
CTGM	**Chitina Glacie**	**2.90**	**313**		**Pn**	**05 12 04.4**	**-0.6**
CTGM	**Chitina Glacie**	**2.90**	**313**	Pn	**Pn**	**05 12 04.9**	**-0.1**
CTG	**Chitna Glacier** baz=128	**2.90**	**313**	P	**Pn**	**05 12 04.4**	**-0.6**
CTG	baz=128			S	**Sn**	**05 12 41.1**	**+0.5**
GRNC	**Granite Creek**	**2.93**	**307**	Pn	**Pn**	**05 12 04.9**	**-0.5**
GRNC	**Granite Creek**	**2.93**	**307**	Pn	**Pn**	**05 12 03.9**	**-1.5**
R33M	**Jennings River**	**3.11**	**81**		**Pn**	**05 12 07.5**	**-0.2**
R33M	comp=E,80nm,0.5s			IAML		05 13 00.4	
R33M	comp=N,107nm,0.6s			IAML		05 13 01.0	
R33M	**Jennings River**	**3.11**	**81**	Pn	**Pn**	**05 12 07.5**	**-0.2**
R33M				Pg	**Pb**	**05 12 14.1**	**+0.5**
R33M	**Jennings River** baz=267,SNR=126	**3.11**	**81**	P	**Pn**	**05 12 07.4**	**-0.4**
R33M	baz=267			Sb	**Sb**	**05 12 54.5**	**+2.5**
SNH	**Sunshine Point**	**3.18**	**293**	Pn	**Pn**	**05 12 08.5**	**-0.2**
SNH	comp=E,51nm,1.0s			IAML		05 13 09.7	
SNH	comp=N,70nm,1.0s			IAML		05 13 14.2	
YUK3	**Moose Creek**	**3.22**	**329**	Pn	**Pn**	**05 12 09.5**	**+0.1**
YUK3	**Moose Creek** baz=145,SNR=5.2	**3.22**	**329**	P	**Pn**	**05 12 09.7**	**+0.3**
S34M	**Telegraph Cree**	**3.28**	**108**		**Pn**	**05 12 10.0**	**0.0**
S34M	**Telegraph Cree**	**3.28**	**108**	Pn	**Pn**	**05 12 10.0**	**0.0**
S34M	**Telegraph Cree** baz=294,SNR=10.0	**3.28**	**108**	P	**Pn**	**05 12 10.2**	**+0.2**
S34M	baz=294			Sb	**Sb**	**05 13 00.2**	**+3.3**
WAX	**Waxell Ridge**	**3.28**	**298**	Pn	**Pn**	**05 12 10.4**	**+0.3**
WAX	comp=E,87nm,0.4s			IAML		05 12 56.8	
KIAG	**Kiagna River**	**3.28**	**307**	Pn	**Pn**	**05 12 10.6**	**+0.3**
YUK2	**White River**	**3.33**	**327**	Pn	**Pn**	**05 12 11.2**	**+0.3**
BALM	**Baldy**	**3.34**	**309**	Pn	**Pn**	**05 12 11.2**	**+0.3**
M31M	**Drury Creek, Y**	**3.40**	**21**	Pn	**Pn**	**05 12 12.1**	**+0.5**
M31M	**Drury Creek, Y** baz=203,SNR=10	**3.40**	**21**	P	**Pn**	**05 12 12.0**	**+0.4**
M31M	baz=203			Sb	**Sb**	**05 13 01.8**	**+1.6**
M29M	**Somme Creek**	**3.47**	**348**		**Pn**	**05 12 13.0**	**+0.3**
M29M	comp=E,62nm,0.7s			IAML		05 13 14.1	
M29M	comp=N,52nm,0.7s			IAML		05 13 14.5	
M29M	**Somme Creek**	**3.47**	**348**	Pn	**Pn**	**05 12 13.0**	**+0.3**
M29M	**Somme Creek** baz=167,SNR=78	**3.47**	**348**	P	**Pn**	**05 12 13.0**	**+0.3**
M29M	baz=167			S	**Sn**	**05 12 54.3**	**-0.1**
PTPK	**Patty Peak**	**3.47**	**310**	Pn	**Pn**	**05 12 12.9**	**+0.1**
CRQE	**Cirque** baz=116	**3.51**	**301**	P	**Pn**	**05 12 13.0**	**-0.3**
CRQE	baz=116			S	**Sn**	**05 12 55.7**	**+0.2**
M30M	**Minto, Yukon**	**3.52**	**1**		**Pn**	**05 12 13.1**	**-0.3**
M30M	comp=E,48nm,0.8s			IAML		05 13 10.8	
M30M	comp=N,52nm,0.9s			IAML		05 13 14.3	
M30M	**Minto, Yukon**	**3.52**	**1**	Pn	**Pn**	**05 12 13.1**	**-0.3**
M30M				Sg	**Sb**	**05 13 06.1**	**+2.2**
M30M	**Minto, Yukon** baz=181,SNR=17	**3.52**	**1**	P	**Pn**	**05 12 13.4**	**0.0**
M30M	baz=181			Sb	**Sg**	**05 13 07.1**	**-3.5**
CRQM	**Cirque**	**3.54**	**301**		**Pn**	**05 12 13.0**	**-0.7**
CRQM	comp=N,50nm,0.9s			IAML		05 13 19.4	
SUCK	**Suckling Hills**	**3.60**	**289**		**Pn**	**05 12 14.2**	**-0.2**
U33K	**Whale Pass**	**3.62**	**143**		**Pn**	**05 12 14.4**	**-0.2**
U33K	comp=E,37nm,1.0s			IAML		05 13 23.4	
U33K	**Whale Pass**	**3.62**	**143**	Pn	**Pn**	**05 12 13.9**	**-0.6**
U33K	**Whale Pass** baz=327	**3.62**	**143**	P	**Pn**	**05 12 14.0**	**-0.5**
U33K	baz=327			S	**Sn**	**05 12 57.9**	**+0.1**

*ANF **01** 05:11:17.7±0.3,59°09N×136°98W,h3km±2km, ML3.5/35, Error ellipse: s-maj=1.8km s-min=1.0km az=50.0*
*AEIC **01** 05:11:18.5±1.2,59°10N±0°02×136°95W±0°03,h9km±4km, ML3.2,ML3.3/90(NEIC),Error ellipse: s-maj=4.0km s-min=1.1km az=214.0*
*NEIC **01** 05:11:18.4±1.6,59°09N±0°02×136°97W±0°03,h10km±1km, Error ellipse: s-maj=4.5km s-min=2.9km az=30.0*
*PGC **01** 05:11:18.7±0.2,59°08N×137°01W,h5km, ML3.4/33,*

WRAK	Wrangell Islan	3.63	135	Pn	Pn	05 12 14.3	-0.6
WRAK				Sn	Sn	05 12 56.8	-1.5
WRAK	Wrangell Islan	3.63	135	P	Pn	05 12 14.7	-0.1
	baz=320						
WRAK				S	Sn	05 12 58.0	-0.3
	baz=320						
BERG	Berg Lake	3.66	294		Pn	05 12 15.5	+0.4
BERG				IAML		05 13 07.3	
	comp=N,74nm,0.6s						
DLBC	Dease Lake	3.68	97	P	Pn	05 12 15.3	-0.2
	baz=283,SNR=44						
DLBC				Sb	Sg	05 13 12.3	-3.2
	baz=283						
MCARA	McCarthy VSAT	3.81	310	Pn	Pn	05 12 17.3	0.0
BVCY	Beaver Creek	3.86	332	Pn	Pn	05 12 17.8	-0.2
BVCY	Beaver Creek	3.86	332	P	Pn	05 12 17.5	-0.5
	baz=148						
KAIM	Kayak Island	3.89	286	Pn	Pn	05 12 18.4	+0.1
KAIM				IAML		05 13 09.3	
	comp=N,41nm,1.2s						
KAIM				IAML		05 13 09.3	
	comp=E,34nm,0.5s						
KAIM	Kayak Island	3.89	286	P	Pn	05 12 18.5	+0.1
	baz=99						
KAIM				S	Sn	05 13 05.9	+1.2
	baz=99						
VRDI	Verde Repeater	3.90	307	Pn	Pn	05 12 18.6	0.0
M27K	Edge Creek, AK	4.09	326		Pn	05 12 21.6	+0.4
M27K				IAML		05 13 36.4	
	comp=N,32nm,0.8s						
M27K	Edge Creek, AK	4.09	326	Pn	Pn	05 12 19.0	-2.2
M27K	Edge Creek, AK	4.09	326	P	Pn	05 12 21.3	+0.1
	baz=141						
L29M	L29M	4.09	353		Pn	05 12 21.6	+0.4
L29M	L29M	4.09	353	Pn	Pn	05 12 21.4	+0.2
L29M	L29M	4.09	353	P	Pn	05 12 21.6	+0.3
	baz=171,SNR=30						
T35M	Bob Quinn	4.14	117	Pn	Pn	05 12 22.1	+0.2
CRAG	Craig	4.17	148	Pn	Pn	05 12 21.3	-0.9
CRAG				IAML		05 13 42.5	
	comp=N,24nm,0.9s						
CRAG	Craig	4.17	148	P	Pn	05 12 21.9	-0.3
	baz=332						
BMRM	Bremner River	4.28	300	Pn	Pn	05 12 23.6	-0.1
BMRM				IAML		05 13 40.7	
	comp=N,26nm,0.9s						
WTLY	Watson Lake, Y	4.29	72	Sg	Sg	05 13 30.9	-4.3
MMPY	Sheldon Lake,	4.53	36	Pn	Pn	05 12 27.6	+0.4
MMPY				Pg	Pb	05 12 41.0	+3.2
MMPY				Sg	Sg	05 13 38.4	-4.4
N25K	Chitina, Valde	4.56	307	Pn	Pn	05 12 28.2	+0.5
MAYO	Mayo, Yukon	4.58	6	Sg	Sb	05 13 38.4	+4.3
BCAR	Beaver Creek A	4.64	332	Pn	Pn	05 12 28.1	-0.7
L27K	Beaver Creek,	4.65	332	Pn	Pn	05 12 27.7	-1.2
L27K	Beaver Creek,	4.65	332	Pn	Pn	05 12 27.8	-1.0
L27K	Beaver Creek,	4.65	332	P	Pn	05 12 28.1	-0.8
	baz=147						
V35K	Ketchikan	4.75	140	Pn	Pn	05 12 29.5	-0.6
V35K				Sn	Sn	05 13 23.9	-1.8
V35K	Ketchikan	4.75	140	P	Pn	05 12 30.5	+0.3
	baz=325						
K29M	Barlow Dome	4.80	357		Pn	05 12 31.7	+0.6
K29M				IAML		05 13 53.8	
	comp=E,24nm,0.6s						
K29M	Barlow Dome	4.80	357	Pn	Pn	05 12 31.6	+0.6
K29M	Barlow Dome	4.80	357	P	Pn	05 12 31.5	+0.5
	baz=176,SNR=64						
TGTN	Hyland Airport	4.98	57	Pn	Pn	05 12 34.6	+1.1
HIN	Hinchinbrook I	5.00	290	Pn	Pn	05 12 33.4	-0.3
HIN				IAML		05 13 53.0	
	comp=N,21nm,1.1s						
HIN				IAML		05 14 04.1	
	comp=E,21nm,1.2s						
FID	Port Fidalgo	5.07	293	Pn	Pn	05 12 35.7	+1.1
DAWY	Dawson	5.15	348		Pn	05 12 36.1	+0.4
DAWY				IAML		05 14 03.4	
	comp=E,27nm,0.9s						
DAWY				IAML		05 14 09.0	
	comp=N,22nm,0.8s						
DAWY	Dawson	5.15	348	Pn	Pn	05 12 36.1	+0.4
DAWY	Dawson	5.15	348	P	Pn	05 12 36.2	+0.4
	baz=166,SNR=28						
GLI	Glacier Island	5.40	294	Pn	Pn	05 12 38.8	-0.3
GLI	Glacier Island	5.40	294	P	Pn	05 12 39.0	0.0
	baz=105						
J30M	Hart River	5.54	3	Pn	Pn	05 12 41.8	+0.7
K27K	Chicken	5.54	336	Pn	Pn	05 12 41.1	0.0
K27K	Chicken	5.54	336	P	Pn	05 12 41.3	+0.3
	baz=151						
DOT	Dot Lake	5.72	326		Pn	05 12 43.1	-0.4
DOT	Dot Lake	5.72	326	Pn	Pn	05 12 42.8	-0.7
SCM	Sheep Creek Mo	5.83	303	Pn	Pn	05 12 45.6	+0.5
PCLB	Port Clements	5.91	153	Pn	Pn	05 12 46.1	0.0
SCRK	Sand Creek	5.96	329		Pn	05 12 46.2	-0.7
SCRK	Sand Creek	5.96	329	P	Pn	05 12 46.0	-0.8
	baz=142,SNR=7.3						
PWL	Port Wells	5.98	292	Pn	Pn	05 12 47.0	-0.1
PWL	Port Wells	5.98	292	P	Pn	05 12 46.6	-0.5
	baz=102						
RIDG	Independent Ri	6.02	324	Pn	Pn	05 12 47.1	-0.6
I30M	Mount Dempster	6.19	2		Pn	05 12 51.6	+1.6
I30M	Mount Dempster	6.19	2	Pn	Pn	05 12 51.5	+1.5
I30M	Mount Dempster	6.19	2	P	Pn	05 12 50.7	+0.7
	baz=183,SNR=24						
J26L	Joseph Creek	6.28	333	Pn	Pn	05 12 51.3	0.0
J26L	Joseph Creek	6.28	333	P	Pn	05 12 51.0	-0.3
	baz=147						
DIB	Dawson Inlet,	6.39	155	Pn	Pn	05 12 53.0	+0.3
DIB	Dawson Inlet,	6.39	155	Pn	Pn	05 12 53.0	+0.3
DI2B	Dawson Inlet	6.39	155	Pn	Pn	05 12 53.0	+0.3
SEW	Seward	6.42	285	Pn	Pn	05 12 52.6	-0.5
I28M	Miner Creek	6.55	349	Pn	Pn	05 12 55.2	+0.2
J25K	Salcha River,	6.83	328		Pn	05 12 58.2	-0.6
J25K	Salcha River,	6.83	328	Pn	Pn	05 12 58.0	-0.8
J25K	Salcha River,	6.83	328	P	Pn	05 12 58.4	-0.4
	baz=140						
H31M	Peel River	6.87	9	Pn	Pn	05 12 59.0	-0.3
H31M	Peel River	6.87	9	P	Pn	05 12 59.7	+0.3
	baz=191						
I26K	Coal Creek Min	6.89	338	P	Pn	05 12 59.8	+0.2
	baz=152						
H29M	Whitestone	7.21	355	Pn	Pn	05 13 04.1	+0.2
SUA	Susitna One	7.26	295	Pn	Pn	05 13 05.3	+0.6
CNPM	China Poot	7.32	280	Pn	Pn	05 13 05.8	+0.4
NBC5	NorthernBC 5	7.69	95	Pn	Pn	05 13 10.7	0.0
SKT	Skwentna	7.75	298	Pn	Pn	05 13 12.3	+0.9
TRF	Thorofare Moun	7.77	310	Pn	Pn	05 13 12.2	+0.4
G31M	Satah River	7.98	8	Pn	Pn	05 13 15.5	+1.1
G31M	Satah River	7.98	8	Pn	Pn	05 13 15.2	+0.8
G31M	Satah River	7.98	8	P	Pn	05 13 14.7	+0.2
	baz=190,SNR=7.0						
SYI	Shuyak Island	8.01	273	Pn	Pn	05 13 15.4	+0.5
KTH	Kantishna Hill	8.07	310	Pn	Pn	05 13 16.9	+1.1
KDAK	Kodiak Island	8.29	268	Pn	Pn	05 13 17.5	-1.2
OHAK	Old Harbor	8.82	265	Pn	Pn	05 13 25.1	-0.9
BMAR	Burnt Mountain	9.06	341	Pn	Pn	05 13 30.5	+1.2
IMAR	Indian Mountai	10.37	319	Pn	Pn	05 13 48.4	+1.2

*IDC **01** 05:54:36.2±0.4, 14.°08N×144.°85E, h184km±3km, mb3.8/19, mbtmp4.3/21, MS3.4/3, Error ellipse: s-maj=16.4km s-min=8.5km az=83.0*

*NEIC **01** 05:54:37.6±1.3, 14.°07N±0.°08×144.°8E±0.°1, h185km±5km, mb4.3/45, Error ellipse: s-maj=20.5km s-min=10.8km az=105.0*

ISC 01 05:54:38.1±0.4**, 14.°05N**±0.°06×**144.°83E**±0.°09**, h200**km**, n107, σ1.s25**/108**, mb4.2**/41**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	0.46	175		Pn	05 55 02.5	-2.6
GUMO				Sn	Sn	05 55 22.2	-3.8
GUMO	Guam	0.46	175	P	Pn	05 55 02.4	-2.7
	326nm,0.3s,baz=18,slow=3.2,SNR=181						
GUMO				S	Sn	05 55 21.7	-4.4
	768nm,0.3s,baz=170,slow=23,SNR=7.9						
GUMO	Guam	0.46	175	P	Pn	05 55 02.1	-3.0
GUMO	Guam	0.46	175	S	Sn	05 55 21.7	-4.4
JCJ	Chichijima	13.21	350	Pn	Pn	05 57 37.7	-0.6
PATS	Pohnpei	15.07	117	S	S	06 00 48.1	-0.6
JAY	Jayapura	16.96	194	P	Pn	05 58 23.7	-0.4
	18nm,0.8s,baz=332,slow=4.9,SNR=9.2						
JHJ2	Mitsune	19.52	347	P	Pn	05 58 54.1	+0.1
JHJ	Hachijo jima 2	19.53	347	P	P	05 58 50.9	+0.5
	12nm,0.3s,baz=218,slow=19,SNR=5.4						
JOW	Kunigami	20.03	312	P	P	05 58 56.2	+0.4
	13nm,0.5s,baz=131,slow=9.3,SNR=8.5						
	13nm,0.5s						
JOW	Kunigami	20.03	312	P	Pn	05 58 58.6	-1.7
FAKI	Fak Fak	20.97	217	P	P	05 59 06.9	+0.9
FAKI	Fak Fak	20.97	217	P	P	05 59 06.9	+0.9
H11S3	WAKE ISLAND Hy	21.44	75	T	T	06 20 40.4	
	baz=263,slow=76,SNR=5.7						
H11S1	WAKE ISLAND Hy	21.45	75	T	T	06 20 45.7	
	baz=263,slow=76,SNR=4.2						
H11S2	WAKE ISLAND Hy	21.45	75	T	T	06 20 45.5	
	baz=263,slow=76,SNR=6.4						
H11N1	WAKE ISLAND Hy	21.84	72	T	T	06 21 08.9	
	baz=262,slow=74,SNR=4.4						
H11N2	WAKE ISLAND Hy	21.85	72	T	T	06 21 11.3	
	baz=262,slow=74,SNR=2.6						
H11N3	WAKE ISLAND Hy	21.86	72	T	T	06 21 10.5	
	baz=262						
JGF	Kuroka	22.49	344	P	P	05 59 20.6	-0.2
JGF	Kuroka	22.49	344	P	P	05 59 23.6	+2.7
JNU	Nakatsue	22.84	329	P	P	05 59 24.3	+0.3
JNU				IAmb	IAmb	05 59 25.2	
	comp=Z,6.5nm,0.8s						
MJAR	Matsushiro Arr	23.17	346	P	P	05 59 27.3	+0.4
MJAR	Matsushiro Arr	23.17	346	P	P	05 59 26.0	-1.0
	comp=Z,2.9nm,0.8s,baz=163,slow=9.6,SNR=12						
	comp=Z,2.9nm,0.8s						
MAJO	Matsushiro	23.17	346	P	P	05 59 27.9	+0.9
MJB9	Matsu-Tunnel	23.17	346	P	P	05 59 27.8	+0.8
MJB9				IAmb	IAmb	05 59 39.0	
	comp=Z,7.6nm,0.5s						
PMG	Port Moresby	23.42	174	P	P	05 59 29.9	+0.5
PMG	Port Moresby	23.42	174	P	P	05 59 29.1	-0.3
	comp=Z,20nm,0.6s,baz=349,slow=5.2,SNR=7.8						
	comp=Z,20nm,0.6s						
JMM	Marumori	23.99	352	P	P	05 59 38.6	+4.2
KSRS	Korea Array	27.75	330	P	P	06 00 07.6	-0.5
	comp=Z,1.5nm,0.7s,baz=145,slow=9.8,SNR=11						
KSRS				PcP	PcP	06 03 20.3	+0.8
	comp=Z,0.5nm,0.5s,baz=119,slow=1.3,SNR=4.2						
	comp=Z,1.5nm,0.7s						
COEN	Coen	27.88	183	P	P	06 00 09.6	+0.1
COEN	Coen	27.88	183	P	P	06 00 10.1	+0.6
MTN	Manton Dam	29.97	208	P	P	06 00 27.1	-0.9
MTN				IAmb	IAmb	06 00 28.6	
	comp=Z,6.3nm,0.8s						
KNRA	Kununurra	33.54	209	P	P	06 00 58.8	-0.3
KNRA				IAmb	IAmb	06 00 59.2	
	comp=Z,7.9nm,0.6s						
CTAO	Charters Tower	33.95	178	P	P	06 01 04.4	+1.7
CTAO				IAmb	IAmb	06 01 28.9	
	comp=Z,6.2nm,1.1s						
CTAO	Charters Tower	33.95	178	P	P	06 01 03.6	+0.9
QIS	Mount Isa	34.77	189	P	P	06 01 10.8	+1.0
WB0	Warramunga Arr	35.14	197	P	P	06 01 12.3	-0.6
WB0				IAmb	IAmb	06 01 12.7	
	comp=Z,6.0nm,0.7s						
WR8	Warramunga Arr	35.29	197	P	P	06 01 13.8	-0.4
WR8				IAmb	IAmb	06 01 18.1	
	comp=Z,8.4nm,1.1s						
WRAB	Tennant Creek	35.31	197	P	P	06 01 14.3	0.0
WRAB				IAmb	IAmb	06 01 14.6	
	comp=Z,7.0nm,0.7s						
WRA	Warramunga Arr	35.32	197	P	P	06 01 14.2	-0.3
WRA	Warramunga Arr	35.32	197	P	P	06 01 13.8	-0.6
	comp=Z,5.8nm,0.8s,baz=16,slow=8.8,SNR=41						
WRA				PcP	PcP	06 03 40.9	+0.6
	comp=Z,0.5nm,0.5s,baz=17,slow=3.3,SNR=2.5						
WRA				ScP	ScP	06 07 07.7	+0.6
	comp=Z,0.2nm,0.3s,baz=25,slow=3.7,SNR=5.9						
WRA				LR	LR	06 16 04.7	
	comp=Z,44nm,19.4s,baz=290,slow=36						
	comp=Z,5.8nm,0.8s						
FITZ	Fitzroy Crossi	37.13	211	P	P	06 01 29.6	-0.1
FITZ	Fitzroy Crossi	37.13	211	P	P	06 01 29.1	-0.7
	comp=Z,7.2nm,0.6s,baz=42,slow=8.5,SNR=27						
	comp=Z,7.2nm,0.6s						
JAGI	Jajag, Banyuwa	37.78	235	P	P	06 01 36.5	+1.2
AS01	Alice Springs	38.97	196	P	P	06 01 45.5	+0.4
AS31	Alice Springs	38.98	196	P	P	06 01 45.5	+0.3
ASAR	Alice Springs	38.98	196	P	P	06 01 44.7	-0.5
ASAR	Alice Springs	38.98	196	P	P	06 01 44.4	-0.8
	comp=Z,1.4nm,0.5s,baz=18,slow=11,SNR=37						
ASAR				PcP	PcP	06 03 52.9	+1.4
	comp=Z,0.6nm,0.8s,baz=15,slow=3.8,SNR=2.2						
ASAR				ScP	ScP	06 07 21.1	+0.3
	comp=Z,1.1nm,1.0s,baz=20,slow=4.2,SNR=5.7						
ASAR				LR	LR	06 19 22.5	
	comp=Z,42nm,18.1s,baz=306,slow=38						
	comp=Z,1.4nm,0.5s						
EIDS	Eidsvold	39.65	171	P	P	06 01 51.1	+0.4
EIDS				IAmb	IAmb	06 02 04.2	
	comp=Z,14nm,1.5s						
SMRI	Semarang	40.05	241	P	P	06 01 54.4	+0.2
QLP	Quilpie	40.39	181	P	P	06 01 56.9	+0.1
MBWA	Marble Bar	42.80	216	P	P	06 02 15.6	-0.8
MBWA				IAmb	IAmb	06 02 37.5	
	comp=Z,16nm,1.4s						
CMAR	Chiang Mai Arr	44.18	282	P	P	06 02 27.6	0.0
	comp=Z,2.6nm,0.8s,baz=87,slow=8.3,SNR=12						
	comp=Z,2.6nm,0.8s						
ARMA	Armidale	44.69	172	P	P	06 02 32.3	+0.9
ARMA				IAmb	IAmb	06 02 44.3	
	comp=Z,9.3nm,1.2s						
CMSA	Cobar Meteorol	45.34	179	P	P	06 02 37.2	+0.9
STKA	Stephens Creek	45.77	184	P	P	06 02 40.0	+0.2
STKA	Stephens Creek	45.77	184	P	P	06 02 39.4	-0.3
	comp=Z,6.1nm,0.4s,baz=4.3,slow=9.8,SNR=28						
	comp=Z,6.1nm,0.4s						
STKA	Stephens Creek	45.77	184	P	P	06 02 39.9	+0.2
SONM	Songino Array	46.33	325	P	P	06 02 44.2	0.0
	comp=Z,0.6nm,0.5s,baz=125,slow=5.7,SNR=5.0						
SONM				ScP	ScP	06 07 50.8	+0.5
	comp=Z,1.0nm,0.8s,baz=159,slow=4.5,SNR=4.6						
	comp=Z,0.6nm,0.5s						
BBOO	Buckleboo	47.34	190	P	P	06 02 52.0	+0.1
BBOO	Buckleboo	47.34	190	P	P	06 02 52.1	+0.1
HTT	Hallett	47.55	187	P	P	06 02 54.2	+0.6
CAN	Canberra	49.26	175	P	P	06 03 08.1	+1.5
CAN				IAmb	IAmb	06 03 35.1	
	comp=Z,14nm,1.4s						
CAN	Canberra	49.26	175	P	P	06 03 07.7	+1.1
MORW	Morawa	51.10	213	P	P	06 03 19.6	-0.9
TOO	Toolangi	51.35	179	P	P	06 03 24.5	+2.2
TOO				IAmb	IAmb	06 03 25.4	
	comp=Z,5.5nm,1.0s						
BLDU	Ballidu	52.00	211	P	P	06 03 28.2	+1.1
GLAD	Gladstone	54.83	177	P	P	06 03 48.7	+1.2
TAU	Tasmania Unive	56.73	178	P	P	06 04 02.4	+1.5
MKAR	Makanchi Array	61.13	316	P	P	06 04 31.7	+0.3
MKAR	Makanchi Array	61.13	316	P	P	06 04 31.4	0.0
	comp=Z,0.8nm,0.4s,baz=95,slow=8.5,SNR=12						
	comp=Z,0.8nm,0.4s						
KURBB	Kurchatov Arra	64.25	320	P	P	06 04 51.4	-0.4
	comp=Z,1.7nm,0.4s,baz=102,slow=6.6,SNR=10						
	comp=Z,1.7nm,0.4s						
C18K	Utukok River	64.31	19	P	P	06 04 53.2	+1.3
C18K				IAmb	IAmb	06 05 12.6	
	comp=Z,9.1nm,1.2s						
PPLA	Purkeypile	65.39	27	P	P	06 04 59.0	-0.2
PPLA				IAmb	IAmb	06 05 00.4	
	comp=Z,10nm,1.3s						
CAST	Castle Rocks	65.60	26	P	P	06 04 59.8	-0.6
CAST				IAmb	IAmb	06 05 02.5	
	comp=Z,2.7nm,0.8s						
TRF	Thorofare Moun	66.38	26	P	P	06 05 04.6	-0.9
TRF				IAmb	IAmb	06 05 07.4	
	comp=Z,8.8nm,1.3s						
RND	Reindeer	66.99	27	P	P	06 05 08.4	-0.8
RND				IAmb	IAmb	06 05 29.1	
	comp=Z,7.3nm,1.3s						
E22K	Anaktuvuk Pass	67.25	21	P	P	06 05 10.3	-0.4
E22K				IAmb	IAmb	06 05 25.8	
	comp=Z,9.1nm,1.4s						
ILAR	Eielson Array	68.17	25	P	P	06 05 14.2	-2.3
	comp=Z,0.8nm,0.5s,baz=254,slow=6.0,SNR=14						
	comp=Z,0.8nm,0.5s						
BVAR	Borovoye Array	69.54	322	P	P	06 05 24.4	-0.8
	comp=Z,1.9nm,0.4s,baz=96,slow=6.5,SNR=7.4						
	comp=Z,1.9nm,0.4s						
BMAR	Burnt Mountain	69.69	23	P	P	06 05 26.0	+0.1
H27K	Steamboat Moun	70.65	24	P	P	06 05 32.0	+0.2
M29M	Somme Creek	71.50	29	P	P	06 05 37.6	+0.7
HYT	Haines Junctio	71.83	30	P	P	06 05 39.6	+0.6
AB31	Akbulak array	76.18	318	P	P	06 06 04.2	0.0
ABKAR	Akbulak array	76.18	318	P	P	06 06 03.5	-0.7
I02E	Swisshome, OR	81.30	47	P	P	06 06 33.2	+1.0
BUCK	Buck Mountain	81.89	47	P	P	06 06 36.6	+1.1
H04A	Detroit Lake	82.36	46	P	P	06 06 38.6	+0.8
J05D	Fort Rock, OR	83.33	47	P	P	06 06 43.6	+0.6
J05D				IAmb	IAmb	06 06 45.1	
	comp=Z,3.3nm,0.8s						
PINE	Pine Mountain	83.42	47	P	P	06 06 44.6	+1.1
PINE				IAmb	IAmb	06 06 45.6	
	comp=Z,4.2nm,0.8s						
K05A	Summer Lake	83.70	48	P	P	06 06 45.8	+0.8
K05A				IAmb	IAmb	06 06 59.2	
	comp=Z,4.5nm,1.1s						
CASY	Casey	84.05	193	P	P	06 06 46.6	+0.9
PLID	Pearl Lake	86.52	44	P	P	06 06 58.9	0.0
PLID				IAmb	IAmb	06 07 00.3	
	comp=Z,3.8nm,1.1s						
ARCES	ARCESS Array B	86.64	342	P	P	06 06 58.4	-0.3
	comp=Z,0.9nm,0.9s,baz=58,slow=5.4,SNR=4.6						
	comp=Z,0.9nm,0.9s						
NVAR	Mina Array Bea	86.66	51	P	P	06 07 00.1	+0.4
	comp=Z,0.7nm,0.5s,baz=286,slow=5.8,SNR=8.8						
	comp=Z,0.7nm,0.5s						
FINES	FINESS Array B	90.73	335	P	P	06 07 17.2	-0.8
	comp=Z,1.1nm,0.7s,baz=50,slow=4.3,SNR=5.7						
	comp=Z,1.1nm,0.7s						
PDAR	Pinedale Array	91.67	45	P	P	06 07 23.1	-0.1
	comp=Z,0.4nm,0.6s,baz=276,slow=6.6,SNR=4.5						
	comp=Z,0.4nm,0.6s						
VNDA	Vanda	91.93	176	P	P	06 07 24.0	+0.8
	comp=Z,1.2nm,1.0s,baz=344,slow=3.8,SNR=5.6						
	comp=Z,1.2nm,1.0s						
MMAI	Mount Meron Ar	98.07	307	LR	LR	06 59 57.1	
	comp=Z,19nm,18.2s,baz=188,slow=40						
SNAA	Sanae	119.23	191	PKP	PKiKP	06 13 02.4	-0.5
	comp=Z,0.6nm,0.7s,baz=184,slow=5.0,SNR=23						
TORD	Torodi Ar. Bea	134.57	305	PKP	PKPdf	06 13 33.6	0.0
	comp=Z,0.8nm,0.8s,baz=43,slow=2.4,SNR=3.8						
TORD				SKPbc	SKPbc	06 16 45.1	+0.2
	comp=Z,1.5nm,0.8s,baz=44,slow=3.6,SNR=7.1						
PLCA	Paso Flores	139.30	138	PKP	PKPdf	06 13 42.0	+0.3
	comp=Z,2.3nm,0.8s,baz=215,slow=1.8,SNR=6.4						
DBIC	Dimbokro	143.55	302	PKP	PKPbc	06 13 48.1	+0.2
	comp=Z,2.1nm,0.5s,baz=72,slow=3.2,SNR=3.5						
LPAZ	La Paz	148.13	98	PKPbc	PKiKP	06 14 02.8	-0.7
	comp=Z,3.6nm,0.7s,baz=309,slow=0.8,SNR=18						
CPUP	Villa Florida	155.93	124	PKPab	PKPab	06 14 38.4	+1.4
	comp=Z,0.1nm,0.3s,baz=237,slow=1.2,SNR=3.2						

*IDC **01** 06:19:59.3±1.2, 47.°29N×92.°97E, h0km, mb3.8/8, mbtmp3.8/14, ML3.2/5, MS3.1/8, Error ellipse: s-maj=32.7km s-min=12.4km az=4.0*

*NNC **01** 06:20:04.5±3.1, 47.°17N×92.°67E, h0km, mb4.1, mpv3.5, Error ellipse: s-maj=31.7km s-min=18.0km az=126.0*

*ASRS **01** 06:20:11.8±0.5, 48°N±2°×9°3E±°, h10km, MLh4.7/14, Error ellipse: s-maj=5.0km s-min=4.4km az=156.0, confirmed*

ISC 01 06:20:01.5±0.8**, 47.°39N**±0.°05×**93.°07E**±0.°04**, h10**km**, n40, σ2.s94**/53**, mb3.8**/9**, MS3.2**/4**, 5C-6D, Mongolia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TEL	Teeli	4.09	334	Pn	Pn	06 21 06.3	+2.1
TEL				Sg	Sg	06 22 08.9	-3.9
DGZ	Jazzator, Alta	4.40	304	Pn	Pb	06 21 12.9	-6.0
DGZ				Pg	Pg	06 21 27.1	+1.3
DGZ				Sg	Sg	06 22 20.9	-1.8
KZLR	Kyzyl	4.42	11	Pg	Pb	06 21 21.0	+1.9
KZLR				Sg	Sb	06 22 17.0	+4.6
AKAR	Aktash	4.64	311	Pn	Pb	06 21 15.9	-7.1
AKAR				Pg	Pg	06 21 31.9	+1.5
AKAR				Sg	Sg	06 22 25.9	-4.6
ULGR	Ulagan, Altay	4.67	316	Pn	Pn	06 21 15.7	+3.6
ULGR				Pg	Pg	06 21 31.5	+0.6
ULGR				Sg	Sg	06 22 27.4	-3.9
CHBI	Chibit, Altay	4.70	311	Pn	Pb	06 21 16.4	-7.6
CHBI				Pg	Pg	06 21 30.3	-1.1
CHBI				Sg	Sg	06 22 29.3	-3.0
ARDR	Aradan	5.20	2	Pn	Pn	06 21 22.2	+2.8
ARDR				Pg	Pb	06 21 36.2	+3.7
ARDR				Sg	Sb	06 22 40.5	+5.4
DJO	Djoy, Khakassi	5.53	348	Pg	Pg	06 21 44.2	-3.1
DJO				Sg	Sb	06 22 51.8	+7.4
CERR	Cheremushki	5.58	350	Pg	Pg	06 21 45.9	-2.3
CERR				Sg	Sg	06 22 55.7	-4.6
YALR	Yailyu, Altay	5.64	323	Pn	Pn	06 21 29.4	+4.1
YALR				Pg	Pg	06 21 46.0	-3.5
YALR				Sg	Sg	06 23 01.1	-1.4
ARTR	Artybash	5.80	322	Pn	Pn	06 21 32.5	+5.0
ARTR				Pg	Pg	06 21 51.8	-0.7
ARTR				Sg	Sg	06 23 07.1	-0.4
ELDR	Elanda	5.96	313	Pn	Pn	06 21 33.1	+3.4
ELDR				Pg	Pg	06 21 58.3	+2.8
ELDR				Sg	Sg	06 23 13.3	+0.6
VEH	Verkhnyaya Baz	6.13	344	Pn	Pn	06 21 35.5	+3.4
VEH				Pg	Pg	06 21 57.6	-1.2
VEH				Sg	Sg	06 23 10.2	-7.9
UKR	Ust'-Kan	6.50	306	Pn	Pb	06 21 44.3	-10
UKR				Pg	Pg	06 22 05.8	0.0
UKR				Sg	Sg	06 23 30.5	+0.6
LUZB	Luzhba, Kemero	6.82	339	Pg	Pg	06 22 05.1	-6.9
LUZB				Sg	Sg	06 23 35.3	-4.9
MK31	Makanchi Array	7.38	269	⇑Pn	Pn	06 21 50.1	+0.8
	1.8nm,0.3s,baz=90,slow=15,SNR=42						
MK31				⇑Lg	Lg	06 23 47.8	
	26nm,0.5s,baz=86,slow=30,SNR=6.0						
MKAR	Makanchi Array	7.38	269	Pn	Pn	06 21 50.1	+0.8
	1.0nm,0.3s,baz=37,slow=12,SNR=45						
MKAR				Lg	Lg	06 23 47.8	
	5.6nm,0.3s,baz=84,slow=29,SNR=9.0						
MKAR				LR	LR	06 24 50.2	
	comp=Z,54nm,21.6s,baz=66,slow=40						
	1.6nm,0.4s						
MAKZ	Makanchi	7.59	270	⇓Pn	Pn	06 21 50.9	-1.3
	7.4nm,0.9s						
MAKZ				⇓Lg	Lg	06 23 54.9	
	77nm,1.4s						
ZAA0	Zalesovo Array	8.40	324	⇓Pn	Pn	06 22 08.0	+4.8
	0.4nm,0.8s						
ZAA0				⇓Lg	Lg	06 24 33.0	
	7.0nm,0.8s						
ZALV	Zalesovo Beam	8.40	324	Pn	Pn	06 22 03.4	+0.2
	0.7nm,0.3s,baz=143,slow=13,SNR=11						
ZALV				Lg	Lg	06 24 17.9	
	1.4nm,0.3s,baz=135,slow=25,SNR=7.9						
ZALV				LR	LR	06 25 25.1	
	comp=Z,113nm,18.8s,baz=76,slow=39						
	0.9nm,0.3s						
SALR	Pechorkino, Sa	8.43	329	Sg	Sg	06 24 27.2	-4.7
SONM	Songino Array	9.02	82	Pn	Pn	06 22 12.4	+0.7
	1.4nm,0.7s,baz=277,slow=12,SNR=4.6						
SONM				Pg		06 22 46.3	
	1.3nm,0.3s,baz=288,slow=18,SNR=10						
SONM				Sn	Sn	06 23 54.2	+0.9
	1.2nm,0.3s,baz=279,slow=19,SNR=3.5						
SONM				Lg	Lg	06 24 40.7	
	3.1nm,0.3s,baz=273,slow=23,SNR=11						
SONM				LR	LR	06 25 50.9	
	comp=Z,71nm,19.1s,baz=270,slow=39						
KURBB	Kurchatov Arra	10.09	294	⇓Pn	Pn	06 22 29.1	+2.8
	5.0nm,0.5s						
KURBB				⇑Lg	Lg	06 25 18.0	
	59nm,0.6s						
KURBB	Kurchatov Arra	10.09	294	Pn	Pn	06 22 24.8	-1.5
	0.1nm,0.3s,baz=101,slow=14,SNR=9.0						
KURBB				Lg	Lg	06 25 14.8	
	0.3nm,0.3s,baz=291,slow=23,SNR=4.7						
	1.5nm,0.2s						
PDGK	Podgornoye	10.38	252	⇑Pn	Pn	06 22 30.2	-0.3
	6.5nm,0.6s						
PDGK				⇑Sn	Sn	06 24 27.1	+0.2
	24nm,0.8s						
PDGK				⇓Lg	Lg	06 25 27.1	
	26nm,0.7s						
AAK	Ala-Archa	13.96	257	Pn	Pn	06 23 16.1	-3.4
	0.2nm,0.3s,baz=135,slow=16,SNR=1.3						
AAK				Lg	Lg	06 27 21.2	
	0.3nm,0.3s,baz=137,slow=18,SNR=1.5						
	1.3nm,0.5s						
BVAR	Borovoye Array	15.55	300	Pn	Pn	06 23 36.8	-3.8
	0.2nm,0.3s,baz=95,slow=11,SNR=11						
BVAR				Lg	Lg	06 28 10.5	
	baz=25,slow=43						
BVAR				LR	LR	06 29 55.8	

	comp=Z,73nm,19.6s,baz=64,slow=38						
	0.6nm,0.5s						
ARTI	**Arti**	**23.00**	**306**	P	**P**	**06 25 04.9**	**-1.3**
	2.7nm,0.4s,baz=110,slow=2.9,SNR=6.3						
	2.7nm,0.4s						
AKTO	**Aktyubinsk**	**23.11**	**291**	P	**P**	**06 25 06.6**	**-0.7**
	1.0nm,0.3s,baz=67,slow=7.7,SNR=1.7						
AKTO				LR	LR	06 34 36.3	
	comp=Z,78nm,19.9s,baz=190,slow=38						
	1.0nm,0.3s						
KSRS	**Korea Array**	**27.37**	**98**	P	**P**	**06 25 46.2**	**-0.5**
	0.4nm,0.5s,baz=286,slow=7.8,SNR=4.4						
	0.4nm,0.5s						
ARCES	**ARCESS Array B**	**38.92**	**329**	P	**P**	**06 27 26.9**	**0.0**
	2.0nm,1.0s,baz=66,slow=6.8,SNR=5.7						
	2.0nm,1.0s						
FINES	**FINESS Array B**	**39.55**	**316**	P	**P**	**06 27 32.6**	**+0.4**
	1.0nm,0.8s,baz=104,slow=3.9,SNR=1.9						
	1.0nm,0.8s						
AKASG	**Malin Array Be**	**40.83**	**299**	P	**P**	**06 27 42.5**	**-0.4**
	1.4nm,0.3s,baz=62,slow=9.2,SNR=12						
	1.4nm,0.3s						
HFS	**Hagfors**	**45.74**	**317**	P	**P**	**06 28 22.1**	**-0.4**
	0.9nm,0.5s,baz=108,slow=4.8,SNR=5.5						
	0.9nm,0.5s						
NB2	**NORSAR Subarra**	**46.55**	**318**	P	**P**	**06 28 28.7**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=65,slow=7.4						
NOA	**NORSAR Array B**	**46.55**	**318**	LR	LR	06 48 58.4	
	comp=Z,15nm,18.0s,baz=320,slow=37						
ILAR	**Eielson Array**	**58.86**	**26**	P	**P**	**06 29 59.6**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=300,slow=4.4,SNR=5.4						
	comp=Z,0.4nm,0.8s						
SFJD	**Kangerlussuaq**	**62.65**	**345**	LR	LR	07 01 19.1	
	comp=Z,21nm,18.4s,baz=31,slow=40						
PFO	**Pinyon Flats O**	**95.11**	**24**	LR	LR	07 21 12.9	
	comp=Z,28nm,19.5s,baz=245,slow=39						
LPAZ	**La Paz**	**145.31**	**327**	PKPbc	**PKPbc**	**06 39 37.3**	**-2.9**
	comp=Z,1.0nm,0.7s,baz=334,slow=2.7,SNR=5.9						

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*DJA **01** 06:23:51.7±0.8, 5°N±2°×12°5E±°, h26km±7km, M4.8/28, mb4.8/28, mB5.3/10, MLv5.0/14, Mw(mB)4.8/10, MwMwp6.1/2, Mwp6.1/2*
*IDC **01** 06:23:52.4±1.3, 5.°20N×125.°44E, h64km±10km, mb4.0/24, mbtmp4.4/26, MS3.5/19, Error ellipse: s-maj=18.7km s-min=7.9km az=82.0*
*NEIC **01** 06:23:52.1±1.8, 5.°17N±0.°05×125.°25E±0.°05, h56km±7km, mb4.7/60, Error ellipse: s-maj=8.8km s-min=5.4km az=147.0*
ISC 01 06:23:49.7±0.3**, 5.°20N**±0.°03×**125.°41E**±0.°06**, h35**km**, n180,** σ**1.s65**/158**, mb4.7**/60**, MS3.5**/17**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.51**	**175**	P	**Pn**	**06 24 14.6**	**+0.3**
SGSI				S	**Sn**	**06 24 33.2**	**+0.5**
DAV	**Davao City (W)**	**1.87**	**5**		**Pn**	**06 24 22.2**	**+2.9**
DAV	**Davao City (W)**	**1.87**	**5**	P	**Pn**	**06 24 22.4**	**+3.1**
	370nm,0.3s,baz=160,slow=1.5,SNR=13						
DAV				S	**Sn**	**06 24 45.5**	**+3.9**
	1μm,0.5s,baz=66,slow=23,SNR=5.9						
DAV				LR	LR	06 24 51.4	
	comp=Z,566nm,21.8s,baz=121,slow=32						
DAV	**Davao City (W)**	**1.87**	**5**	P	**Pn**	**06 24 23.0**	**+3.8**
DAV	**Davao City (W)**	**1.87**	**5**	P	**Pn**	**06 24 21.0**	**+1.8**
KMSI	**Cibinong**	**4.81**	**197**	P	**Pn**	**06 25 01.0**	**+1.3**
TNTI	**Ternate**	**4.81**	**156**		**Pn**	**06 25 02.8**	**+3.1**
TNTI	**Ternate**	**4.81**	**156**	P	**Pn**	**06 25 00.9**	**+1.2**
MRSI	**Marisa**	**5.83**	**217**	P	**Pn**	**06 25 13.8**	**+0.1**
	1.3nm2μm142nm,0.6s						
TOLI2	**Tolitoli**	**6.15**	**229**		**Pn**	**06 25 16.6**	**-1.6**
LUWI	**Luwuk**	**6.74**	**203**		**Pn**	**06 25 26.9**	**+0.7**
LUWI	**Luwuk**	**6.74**	**203**	P	**Pn**	**06 25 30.0**	**+3.8**
LUWI	**Luwuk**	**6.74**	**203**	S	**Sn**	**06 26 47.3**	**+5.6**
LUWI	**Luwuk**	**6.74**	**203**	P	**Pn**	**06 25 29.4**	**+3.2**
MYLDM	**Lahad Datu**	**6.88**	**270**		**Pn**	**06 25 29.1**	**+0.9**
APSI	**Ampana**	**7.14**	**212**	P	**Pn**	**06 25 34.8**	**+3.1**
SANI	**Sanana**	**7.22**	**175**	P	**Pn**	**06 25 32.1**	**-0.8**
	0.3nm1μm67nm,0.8s						
SWI	**Sorong**	**8.39**	**136**	P	**Pn**	**06 25 49.9**	**+1.0**
	2μm64nm,0.9s						
NLAI	**Namlea**	**8.55**	**169**	P	**Pn**	**06 25 51.8**	**+0.7**
AAI	**Ambon**	**9.25**	**162**	P	**Pn**	**06 26 02.5**	**+1.7**
	86nm,0.8s						
TTSI	**Tana Toraja**	**9.91**	**214**	P	**Pn**	**06 26 11.0**	**+1.2**
	47nm,1.0s						
FAKI	**Fak Fak**	**10.57**	**140**	Pn	**Pn**	**06 26 20.8**	**+2.0**
FAKI	**Fak Fak**	**10.57**	**140**	P	**Pn**	**06 26 20.2**	**+1.4**
	66nm,1.3s						
SPSI	**Sidrap Palu**	**10.71**	**212**	P	**Pn**	**06 26 21.3**	**+0.6**
	19nm,0.7s						
BNSI	**Bone**	**10.91**	**209**	P	**Pn**	**06 26 25.3**	**+1.9**
	43nm,0.8s						
KAPI	**Kappang**	**11.61**	**209**	Pn	**Pn**	**06 26 33.9**	**+0.8**
KAPI	**Kappang**	**11.61**	**209**	P	**Pn**	**06 26 36.4**	**+3.3**
	7.8nm,0.4s,baz=341,slow=6.0,SNR=9.5						
KAPI				LR	LR	06 31 27.7	
	comp=Z,247nm,18.4s,baz=30,slow=39						
SBUM	**Sibu**	**13.44**	**259**	Pn	**Pn**	**06 26 58.1**	**+0.1**
SBUM	**Sibu**	**13.44**	**259**	P	**P**	**06 27 03.5**	**-3.5**
MMRI	**Maumere**	**14.10**	**193**	Pn	**Pn**	**06 27 07.2**	**+0.1**
EDFI	**Ende, Flores**	**14.34**	**195**	P	**Pn**	**06 27 11.2**	**+0.7**
SOEI	**Soe**	**14.90**	**184**	Pn	**Pn**	**06 27 16.8**	**-1.2**
SOEI	**Soe**	**14.90**	**184**	P	**Pn**	**06 27 19.6**	**+1.6**
	50nm,0.8s						
BATI	**Baumata**	**15.40**	**186**	P	**P**	**06 27 27.6**	**-1.2**
	62nm,0.7s,baz=195,slow=13,SNR=1.0						
KSM	**Kuching**	**15.52**	**257**	Pn	**Pn**	**06 27 22.2**	**-3.9**
KSM	**Kuching**	**15.52**	**257**	P	**P**	**06 27 31.4**	**+1.3**
JAY	**Jayapura**	**17.09**	**116**	P	**P**	**06 27 47.8**	**+0.1**
	15nm,0.9s,baz=230,slow=4.4,SNR=7.2						
JAY				LR	LR	06 33 22.3	
	comp=Z,226nm,20.0s,baz=352,slow=33						
JAY	**Jayapura**	**17.09**	**116**	P	**P**	**06 27 49.1**	**+1.5**
	19nm,0.9s						
DRS	**Darwin Rock St**	**18.34**	**163**	P	**P**	**06 28 00.8**	**-0.5**
MTN	**Manton Dam**	**18.80**	**162**		**P**	**06 28 05.5**	**-0.9**
MTN	**Manton Dam**	**18.80**	**162**	P	**Pn**	**06 28 07.7**	**+0.6**
MTN	**Manton Dam**	**18.80**	**162**	S	**S**	**06 31 38.3**	**-0.3**
KDU	**Kakadu**	**19.11**	**158**	P	**P**	**06 28 10.1**	**+0.4**
GUMO	**Guam**	**20.91**	**65**	LR	LR	06 35 30.6	
	comp=Z,106nm,21.6s,baz=212,slow=33						
KNRA	**Kununurra**	**21.00**	**171**		**P**	**06 28 30.4**	**+0.1**
KNRA				IAmb	IAmb	06 28 38.1	
	comp=Z,31nm,0.7s						
JOW	**Kunigami**	**21.69**	**7**	P	**P**	**06 28 39.0**	**+1.4**
JOW				IAmb	IAmb	06 28 41.7	
	comp=Z,26nm,0.7s						
JOW	**Kunigami**	**21.69**	**7**	*e*LR	LR	06 33 50.3	
	comp=Z,205nm,26.1s						
JOW	**Kunigami**	**21.69**	**7**	P	**P**	**06 28 36.4**	**-1.2**
	comp=Z,27nm,0.7s,baz=157,slow=9.9,SNR=6.3						
	comp=Z,27nm,0.7s						
BBJI	**Bungbulang**	**21.73**	**235**	P	**P**	**06 28 43.2**	**+4.9**
MYKOM	**Kota Tinggi**	**21.78**	**262**	P	**P**	**06 28 36.9**	**-1.9**
MYKOM				IAmb	IAmb	06 28 47.2	
	comp=Z,27nm,1.0s						
MYKOM	**Kota Tinggi**	**21.78**	**262**	P	**P**	**06 28 43.7**	**+4.9**
FITZ	**Fitzroy Crossi**	**23.15**	**179**	P	**P**	**06 28 52.9**	**-0.3**
MDSI	**Maura Dua**	**23.29**	**246**	P	**P**	**06 29 00.5**	**+5.9**
	comp=Z,24nm,1.2s						
MASI	**Maura Aman, Be**	**24.58**	**251**	P	**P**	**06 29 08.8**	**+2.0**
PDSI	**Padang**	**25.65**	**257**	P	**P**	**06 29 20.6**	**+4.1**
	comp=Z,41nm,0.9s						
COEN	**Coen**	**25.94**	**137**	P	**P**	**06 29 17.8**	**-1.3**
PMG	**Port Moresby**	**26.08**	**124**	P	**P**	**06 29 21.1**	**+0.7**
PMG				IAmb	IAmb	06 29 22.4	
	comp=Z,18nm,0.8s						
PMG	**Port Moresby**	**26.08**	**124**	LR	LR	06 40 07.8	
	comp=Z,125nm,19.5s,baz=252,slow=37						
WRAB	**Tennant Creek**	**26.48**	**161**	P	**P**	**06 29 23.5**	**-0.4**
WRAB				IAmb	IAmb	06 29 37.7	
	comp=Z,16nm,0.8s						
WRA	**Warramunga Arr**	**26.48**	**161**	P	**P**	**06 29 23.1**	**-0.8**
WRA	**Warramunga Arr**	**26.48**	**161**	P	**P**	**06 29 23.1**	**-0.8**
	comp=Z,11nm,0.7s,baz=339,slow=10,SNR=44						
WRA				S	**S**	**06 33 51.4**	**-4.3**
	comp=Z,2.4nm,1.0s,baz=338,slow=16,SNR=5.4						
WRA				ScP	**ScP**	**06 36 24.2**	**-1.8**
	comp=Z,0.4nm,0.5s,baz=347,slow=3.2,SNR=4.6						
	comp=Z,11nm,0.7s						
PSI	**Prapat**	**26.53**	**266**	LR	LR	06 41 27.6	
	comp=Z,116nm,19.5s,baz=98,slow=40						
MBWA	**Marble Bar**	**26.78**	**192**		**P**	**06 29 26.1**	**-0.4**
MBWA				IAmb	IAmb	06 29 30.3	
	comp=Z,18nm,1.1s						
MBWA	**Marble Bar**	**26.78**	**192**	P	**P**	**06 29 26.7**	**+0.1**
PSA00	**Pilbara Seismi**	**27.16**	**191**		**P**	**06 29 29.6**	**-0.4**
PSA00				IAmb	IAmb	06 29 36.6	
	comp=Z,16nm,0.8s						
PSA00	**Pilbara Seismi**	**27.16**	**191**	P	**P**	**06 29 29.6**	**-0.4**
PSA00	**Pilbara Seismi**	**27.16**	**191**	P	**P**	**06 29 30.1**	**+0.1**
NJ2	**Nanjing**	**27.41**	**348**	*e*P	**P**	**06 29 34.3**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
JNU	**Nakatsue**	**28.25**	**10**	P	**P**	**06 29 39.0**	**-0.6**
JNU				IAmb	IAmb	06 29 42.4	
	comp=Z,15nm,0.8s						
JNU	**Nakatsue**	**28.25**	**10**	P	**P**	**06 29 38.8**	**-0.9**
	comp=Z,15nm,0.8s,baz=272,slow=1.4,SNR=8.8						
	comp=Z,15nm,0.8s						
JNU	**Nakatsue**	**28.25**	**10**	P	**P**	**06 29 39.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**29.00**	**299**	P	**P**	**06 29 46.8**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=99,slow=6.7,SNR=6.8						
CMAR				LR	LR	06 42 03.4	
	comp=Z,85nm,18.4s,baz=110,slow=38						
	comp=Z,1.2nm,0.6s						
QIS	**Mount Isa**	**29.15**	**152**	P	**P**	**06 29 48.3**	**+0.5**
JMN	**Monobe**	**29.46**	**14**	P	**P**	**06 29 50.3**	**-0.1**
JMN				IAmb	IAmb	06 29 51.9	
	comp=Z,20nm,0.9s						
JMN	**Monobe**	**29.46**	**14**	P	**P**	**06 29 50.9**	**+0.5**
ASAR	**Alice Springs**	**29.86**	**164**	P	**P**	**06 29 54.1**	**0.0**
ASAR	**Alice Springs**	**29.86**	**164**	P	**P**	**06 29 53.9**	**-0.2**
	comp=Z,3.2nm,0.7s,baz=350,slow=7.8,SNR=75						
ASAR				PcP	**PcP**	**06 32 56.5**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=343,slow=2.4,SNR=5.7						
ASAR				S	**S**	**06 34 47.4**	**-1.6**
	comp=Z,1.2nm,0.8s,baz=322,slow=11,SNR=5.8						
ASAR				ScP	**ScP**	**06 36 34.6**	**-1.8**
	comp=Z,1.8nm,0.8s,baz=348,slow=2.8,SNR=9.1						
	comp=Z,3.2nm,0.7s						
AS01	**Alice Springs**	**29.87**	**164**	P	**P**	**06 29 54.3**	**+0.1**
JHJ2	**Mitsune**	**30.85**	**24**	*e*LR	LR	06 38 09.3	
	comp=Z,14nm,29.6s						
PZH	**PanZhiHua**	**30.98**	**316**	P	**P**	**06 30 05.1**	**+1.0**
INU	**Inuyama**	**31.86**	**18**	P	**P**	**06 30 11.6**	**0.0**
INU	**Inuyama**	**31.86**	**18**	P	**P**	**06 30 11.1**	**-0.4**
TV1H	**Townsville Har**	**32.16**	**140**	P	**P**	**06 30 15.6**	**+1.3**
KSRS	**Korea Array**	**32.19**	**4**	P	**P**	**06 30 13.6**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=184,slow=11,SNR=9.5						
KSRS				ScP	**ScP**	**06 36 42.0**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=190,slow=3.8,SNR=4.9						
	comp=Z,1.6nm,0.6s						
JGF	**Kuroka**	**32.20**	**18**	P	**P**	**06 30 14.5**	**-0.1**
JGF				IAmb	IAmb	06 30 15.7	
	comp=Z,8.8nm,0.8s						
JGF	**Kuroka**	**32.20**	**18**	P	**P**	**06 30 14.4**	**-0.1**
CTAO	**Charters Tower**	**32.42**	**141**	P	**P**	**06 30 18.2**	**+1.5**
CTAO				IAmb	IAmb	06 30 33.7	
	comp=Z,25nm,1.5s						
MAJO	**Matsushiro**	**33.33**	**19**	P	**P**	**06 30 24.0**	**-0.5**
MAJO				IAmb	IAmb	06 30 25.2	
	comp=Z,7.7nm,0.7s						
MAJO	**Matsushiro**	**33.33**	**19**	P	**P**	**06 30 23.3**	**-1.2**
MJAR	**Matsushiro Arr**	**33.33**	**19**	P	**P**	**06 30 24.0**	**-0.5**
MJAR	**Matsushiro Arr**	**33.33**	**19**	P	**P**	**06 30 23.1**	**-1.4**
	comp=Z,7.4nm,0.9s,baz=193,slow=9.2,SNR=23						
MJAR				LR	LR	06 44 45.7	
	comp=Z,52nm,19.6s,baz=210,slow=38						
	comp=Z,7.4nm,0.9s						
JMM	**Marumori**	**35.41**	**21**	P	**P**	**06 30 42.8**	**+0.4**
JMM	**Marumori**	**35.41**	**21**	P	**P**	**06 30 42.3**	**-0.1**
INKA	**Innaminka**	**35.94**	**156**	P	**P**	**06 30 47.8**	**+0.7**
INKA				IAmb	IAmb	06 31 16.5	
	comp=Z,4.1nm,0.5s						
LZH	**Lanzhou**	**36.58**	**330**	*e*P	**P**	**06 30 54.6**	**+1.9**
LZH				pP	sP	06 31 08.1	+1.9
LZH				sP	pwP	06 31 15.8	+11
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
HNR	**Honiara**	**37.36**	**113**	LR	LR	06 45 33.3	
	comp=Z,76nm,21.9s,baz=270,slow=35						
HHC	**Hu-ho-hao-te**	**37.61**	**343**	*e*P	**P**	**06 31 04.2**	**+2.9**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,51nm,6.7s						
SHL	**Shillong**	**37.95**	**306**	P	**P**	**06 31 04.3**	**-0.2**
JTM	**Tenmabayashi**	**38.12**	**19**	P	**P**	**06 31 05.4**	**0.0**
NWAO	**Narrogin (SRO)**	**38.70**	**191**	P	**P**	**06 31 10.4**	**0.0**
BBOO	**Buckleboo**	**39.13**	**166**	P	**P**	**06 31 14.4**	**+0.4**
BBOO	**Buckleboo**	**39.13**	**166**	P	**P**	**06 31 14.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**39.27**	**7**	P	**P**	**06 31 15.0**	**0.0**
USRK	**Ussuriysk Ar.**	**39.27**	**7**	P	**P**	**06 31 15.3**	**+0.2**
	comp=Z,8.2nm,0.7s,baz=187,slow=5.6,SNR=19						
	comp=Z,8.2nm,0.7s						
EIDS	**Eidsvold**	**39.31**	**142**	P	**P**	**06 31 15.6**	**-0.1**
EIDS				IAmb	IAmb	06 31 25.6	
	comp=Z,12nm,0.9s						
EIDS	**Eidsvold**	**39.31**	**142**	P	**P**	**06 31 15.2**	**-0.4**
MDJ	**Mudanjiang**	**39.43**	**5**	P	**P**	**06 31 17.0**	**+0.7**
MDJ	**Mudanjiang**	**39.43**	**5**	P	**P**	**06 31 17.0**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MDJ	**Mudanjiang**	**39.43**	**5**	P	**P**	**06 31 17.1**	**+0.7**
ERM	**Erimo**	**39.93**	**21**	P	**P**	**06 31 19.9**	**-0.6**
STKA	**Stephens Creek**	**39.97**	**158**	P	**P**	**06 31 21.1**	**+0.1**
STKA	**Stephens Creek**	**39.97**	**158**	P	**P**	**06 31 21.6**	**+0.6**
	comp=Z,14nm,0.5s,baz=329,slow=8.5,SNR=29						
	comp=Z,14nm,0.5s						
STKA	**Stephens Creek**	**39.97**	**158**	P	**P**	**06 31 21.4**	**+0.4**
LSA	**Lhasa**	**40.49**	**311**	P	**P**	**06 31 23.6**	**-2.4**
LSA				IAmb	IAmb	06 31 44.7	
	comp=Z,5.1nm,0.5s						
ASAJ	**Asahikawa**	**41.60**	**19**	P	**P**	**06 31 34.9**	**+0.6**
	comp=Z,7.2nm,0.8s,baz=230,slow=12,SNR=10						
ASAJ				LR	LR	06 47 15.6	
	comp=Z,47nm,20.8s,baz=150,slow=34						
	comp=Z,7.2nm,0.8s						
JKA	**Kamikawa-asahi**	**41.61**	**19**	P	**P**	**06 31 35.4**	**+1.0**
H11N1	**WAKE ISLAND Hy**	**42.85**	**67**	T	T	07 17 37.5	
	baz=255,slow=75,SNR=8.7						
H11N2	**WAKE ISLAND Hy**	**42.86**	**67**	T	T	07 18 01.8	
	baz=255,slow=75,SNR=3.1						
H11N3	**WAKE ISLAND Hy**	**42.87**	**67**	T	T	07 17 40.7	
	baz=255,slow=75,SNR=7.0						
EVN	**Everest**	**43.07**	**306**	P	**P**	**06 31 45.5**	**-1.8**
EVN				IAmb	IAmb	06 31 50.7	
	comp=Z,8.0nm,0.6s						
ARMA	**Armidale**	**43.41**	**146**	P	**P**	**06 31 49.0**	**-0.3**
ARMA				IAmb	IAmb	06 32 00.7	
	comp=Z,13nm,0.7s						
ARMA	**Armidale**	**43.41**	**146**	P	**P**	**06 31 50.4**	**+1.0**
KLR	**Kul'dur**	**44.20**	**6**	P	**P**	**06 31 54.7**	**-0.6**
	baz=186,slow=7.0						
SONM	**Songino Array**	**45.50**	**342**	P	**P**	**06 32 05.8**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=152,slow=6.5,SNR=2.1						
	comp=Z,0.5nm,0.6s						
BRAT	**Ballarat**	**45.90**	**159**	P	**P**	**06 32 10.4**	**+1.5**
CAN	**Canberra**	**46.01**	**153**	P	**P**	**06 32 11.2**	**+1.3**
CAN				IAmb	IAmb	06 32 12.2	
	comp=Z,9.2nm,0.8s						
TOO	**Toolangi**	**46.48**	**158**	P	**P**	**06 32 14.4**	**+0.8**
DZM	**Mont Dzumac**	**48.45**	**126**	*e*LR	LR	06 46 23.2	
	comp=Z,91nm,26.9s						
PETK	**Petropavlovsk-**	**54.59**	**23**	P	**P**	**06 33 14.1**	**-0.5**
	comp=Z,4.4nm,0.9s,baz=192,slow=5.1,SNR=5.2						
	comp=Z,4.4nm,0.9s						
MKAR	**Makanchi Array**	**55.61**	**325**	P	**P**	**06 33 21.9**	**-0.2**
MKAR	**Makanchi Array**	**55.61**	**325**	P	**P**	**06 33 21.7**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=120,slow=8.0,SNR=21						
	comp=Z,1.9nm,0.6s						
YAK	**Yakutsk**	**56.80**	**2**	P	**P**	**06 33 29.9**	**-0.3**
YAK	**Yakutsk**	**56.80**	**2**	P	**P**	**06 33 29.6**	**-0.6**
	comp=Z,36nm,0.7s,baz=287,slow=21,SNR=9.2						
AAK	**Ala-Archa**	**58.39**	**318**	LR	LR	07 00 37.9	
	comp=Z,71nm,21.3s,baz=115,slow=38						
ZALV	**Zalesovo Beam**	**58.69**	**333**	P	**P**	**06 33 42.9**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=344,slow=30,SNR=1.9						
ZALV				LR	LR	07 01 26.5	
	comp=Z,39nm,18.2s,baz=60,slow=38						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**59.80**	**327**	P	**P**	**06 33 50.5**	**-0.9**
	comp=Z,2.1nm,0.2s,baz=123,slow=6.7,SNR=7.8						
	comp=Z,2.1nm,0.2s						
GAR	**Garm**	**59.97**	**312**	P	**P**	**06 33 50.9**	**-2.1**
KKAR	**Karatay Array**	**61.27**	**317**	P	**P**	**06 34 00.7**	**-0.9**
JOHN	**Johnston Islan**	**64.65**	**74**	*e*LR	LR	06 53 49.5	
	comp=Z,114nm,27.6s						
BVAR	**Borovoye Array**	**65.38**	**327**	P	**P**	**06 34 28.0**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=138,slow=9.3,SNR=5.2						
	comp=Z,0.5nm,0.3s						
NIUE	**Niue**	**68.05**	**113**	P	**P**	**06 34 45.2**	**-1.1**
NIUE	**Niue**	**68.05**	**113**	*e*LR	LR	06 55 28.6	
	comp=Z,101nm,25.9s						
ABKAR	**Akbulak array**	**70.19**	**321**	P	**P**	**06 34 58.2**	**-0.8**
AKTO	**Aktyubinsk**	**71.70**	**322**	P	**P**	**06 35 07.5**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=104,slow=4.2,SNR=4.1						
AKTO				LR	LR	07 08 36.5	
	comp=Z,39nm,18.1s,baz=223,slow=37						
	comp=Z,0.9nm,0.3s						
CASY	**Casey**	**72.12**	**186**	P	**P**	**06 35 10.6**	**+0.4**
ARTI	**Arti**	**73.08**	**328**	P	**P**	**06 35 15.3**	**-1.0**
ARTI				IAmb	IAmb	06 35 16.5	
	comp=Z,3.7nm,0.5s						
ARTI	**Arti**	**73.08**	**328**	LR	LR	07 07 59.1	
	comp=Z,27nm,20.1s,baz=53,slow=36						
POHA	**Pohakuloa**	**77.98**	**71**	*e*LR	LR	07 00 09.3	
	comp=Z,2.2nm,25.4s						
KIRV	**Kirov**	**78.29**	**329**	LR	LR	07 12 49.8	
	comp=Z,38nm,19.7s,baz=107,slow=38						
L18K	**Granite Mounta**	**79.79**	**28**	P	**P**	**06 35 53.6**	**-0.5**
L18K				IAmb	IAmb	06 36 05.1	
	comp=Z,12nm,1.2s						
C19K	**Lookout Ridge**	**79.84**	**21**	P	**P**	**06 35 54.8**	**+0.4**
C19K				IAmb	IAmb	06 36 14.5	
	comp=Z,18nm,1.4s						
D19K	**Kuna River**	**80.24**	**21**	P	**P**	**06 35 56.5**	**0.0**
E19K	**Redstone River**	**80.38**	**22**	IAmb	IAmb	06 36 19.6	
	comp=Z,8.9nm,1.0s						
H19K	**Roundabout Mou**	**80.38**	**24**	P	**P**	**06 35 57.9**	**+0.6**
I23K	**Minto, Yukon-K**	**83.31**	**25**	IAmb	IAmb	06 36 14.0	
	comp=Z,6.7nm,0.8s						
NEA2	**Nenana**	**83.41**	**26**	IAmb	IAmb	06 36 29.2	
	comp=Z,10nm,1.2s						
MCK	**McKinley**	**83.44**	**27**	IAmb	IAmb	06 36 35.3	
	comp=Z,10nm,1.0s						
H24K	**Noodor Dome**	**83.94**	**24**	P	**P**	**06 36 16.3**	**+0.3**
H24K				IAmb	IAmb	06 36 43.1	
	comp=Z,6.8nm,1.1s						
CCB	**Clear Creek Bu**	**83.96**	**26**	IAmb	IAmb	06 36 15.8	
	comp=Z,9.6nm,1.4s						
G24K	**Hadweenzic Riv**	**84.12**	**24**	IAmb	IAmb	06 36 18.3	
	comp=Z,7.1nm,0.9s						
HDA	**Harding Lake**	**84.33**	**26**	IAmb	IAmb	06 36 32.1	
	comp=Z,7.2nm,1.1s						
ILAR	**Eielson Array**	**84.35**	**25**	P	**P**	**06 36 16.2**	**-1.9**
	comp=Z,1.2nm,0.8s,baz=243,slow=5.3,SNR=20						
	comp=Z,1.2nm,0.8s						
MAW	**Mawson**	**84.67**	**200**	P	**P**	**06 36 19.1**	**-0.3**
	comp=Z,2.9nm,1.0s,baz=346,slow=3.3,SNR=4.9						
	comp=Z,2.9nm,1.0s						
VNDA	**Vanda**	**85.04**	**173**	P	**P**	**06 36 20.9**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=293,slow=6.0,SNR=9.4						
	comp=Z,1.3nm,0.8s						
BMAR	**Burnt Mountain**	**85.24**	**23**	P	**P**	**06 36 23.2**	**+0.7**
F28M	**Old Crow**	**87.03**	**22**	IAmb	IAmb	06 36 37.6	
	comp=Z,3.7nm,0.8s						
I28M	**Miner Creek**	**87.25**	**25**	P	**P**	**06 36 32.5**	**0.0**
I28M				IAmb	IAmb	06 36 48.0	
	comp=Z,4.1nm,0.9s						
TBI	**Tubuai**	**87.58**	**114**	*e*LR	LR	07 04 24.8	
	comp=Z,328nm,26.0s						
BRTR	**Keskin Array B**	**88.08**	**310**	P	**P**	**06 36 36.4**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=98,slow=7.9,SNR=2.7						
	comp=Z,0.6nm,0.8s						
ARCES	**ARCESS Array B**	**88.62**	**340**	P	**P**	**06 36 36.5**	**-2.4**
	comp=Z,0.5nm,0.5s,baz=78,slow=4.9,SNR=7.2						
ARCES				LR	LR	07 22 33.3	
	comp=Z,16nm,19.2s,baz=116,slow=40						
	comp=Z,0.5nm,0.5s						
FINES	**FINESS Array B**	**89.92**	**332**	P	**P**	**06 36 43.2**	**-1.9**
	comp=Z,1.0nm,0.6s,baz=38,slow=3.4,SNR=5.7						
FINES				LR	LR	07 19 47.3	
	comp=Z,34nm,20.9s,baz=96,slow=37						
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**89.93**	**321**	LR	LR	07 19 54.3	
	comp=Z,17nm,18.7s,baz=54,slow=37						
QSPA	**South Pole Qui**	**95.10**	**180**	P	**P**	**06 37 10.0**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=309,slow=1.9,SNR=5.8						
	comp=Z,1.0nm,0.7s						
TAOE	**Nuku Hiva Isla**	**95.16**	**98**	*e*LR	LR	07 08 04.2	
	comp=Z,104nm,26.3s						
HFS	**Hagfors**	**96.11**	**332**	LR	LR	07 23 51.7	
	comp=Z,29nm,18.3s,baz=74,slow=37						
NOA	**NORSAR Array B**	**96.89**	**333**	LR	LR	07 25 21.5	
	comp=Z,33nm,19.4s,baz=65,slow=38						
PMSA	**Palmer Station**	**120.15**	**175**	*e*LR	LR	07 19 14.9	
	comp=Z,55nm,28.0s						
TORD	**Torodi Ar. Bea**	**121.21**	**289**	PKP	**PKPdf**	**06 42 39.1**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=34,slow=3.4,SNR=2.3						
TXAR	**Lajitas Array**	**121.72**	**51**	PKP	**PKPdf**	**06 42 40.6**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=236,slow=1.2,SNR=9.1						
TKL	**Tuckaleechee C**	**130.99**	**32**	PKP	**PKPdf**	**06 42 57.6**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=132,slow=6.8,SNR=5.7						

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*SNET **01** 06:27:07.8±2.3, 12.°02N×86.°94W, h57km, ML3.8*
*UCR **01** 06:27:07.0±0.9, 12.°00N×86.°95W, h64km±14km, MW4.0*
*CATAC **01** 06:27:07.6±0.2, 12°N±2°×8°7W±°, h37km±2km, M3.9/11, MLv3.9/11, Error ellipse: s-maj=4.1km s-min=1.6km az=35.6, confirmed*
ISC 01 06:27:08.0±1.2**, 12.°00N**±0.°04×**86.°97W**±0.°03**, h55**km±10km**, n128,** σ**1.s02**/147**, 13C-18D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.41**	**64**	⇓P	**Pn**	**06 27 18.3**	**-0.4**
ALEN	**Leon**	**0.47**	**12**	⇓P	**Pn**	**06 27 18.6**	**-0.6**
ALEN	**Leon**	**0.47**	**12**	S	**Sn**	**06 27 26.8**	**-0.6**
CNGA	**Al SSO del Vol**	**0.56**	**28**	⇓P	**Pn**	**06 27 20.0**	**-0.3**
CNGN	**Cerro Negro**	**0.57**	**28**	⇓P	**Pn**	**06 27 20.0**	**-0.4**
CNGN	**Cerro Negro**	**0.57**	**28**	S	**Sn**	**06 27 30.1**	**+0.7**
SAPS	**Ciudad Sandino**	**0.58**	**73**	⇓P	**Pn**	**06 27 20.2**	**-0.3**
SAPS	**Ciudad Sandino**	**0.58**	**73**	S	**Sn**	**06 27 30.0**	**+0.4**
PLRN	**Geotermica Pol**	**0.62**	**19**	⇓P	**Pn**	**06 27 19.8**	**-1.2**
PLRN				S	**Sn**	**06 27 29.8**	**-0.6**
MOM2	**El Cardon**	**0.65**	**47**	⇓P	**Pn**	**06 27 21.2**	**-0.1**
MOM2				S	**Sn**	**06 27 31.6**	**+0.6**
APQ3	**Volcan Apoyequ**	**0.65**	**65**	⇓P	**Pn**	**06 27 21.2**	**-0.1**
APQ3				S	**Sn**	**06 27 31.7**	**+0.6**
ABCN	**Banco Central**	**0.66**	**79**	P	**Pn**	**06 27 21.5**	**+0.1**
ABCN	**Banco Central**	**0.66**	**79**	S	**Sn**	**06 27 31.5**	**+0.3**
APQ2	**Apoyeque**	**0.66**	**72**	⇑P	**Pn**	**06 27 21.3**	**-0.2**
APQ2				S	**Sn**	**06 27 31.0**	**-0.3**
PKGN	**Cerro Pekin**	**0.67**	**360**	⇓P	**Pn**	**06 27 21.5**	**-0.1**
PKGN				S	**Sn**	**06 27 32.3**	**+0.8**
MOM3	**MOM3**	**0.68**	**41**	⇓P	**Pn**	**06 27 21.4**	**-0.3**
MOM3				S	**Sn**	**06 27 31.9**	**+0.2**
UNAN	**Cigeo UNAN**	**0.69**	**80**	⇓P	**Pn**	**06 27 21.7**	**-0.2**
UNAN				S	**Sn**	**06 27 32.3**	**+0.3**
ALLN	**Telcor Managua**	**0.70**	**77**	P	**Pn**	**06 27 21.8**	**-0.2**
ALLN	**Telcor Managua**	**0.70**	**77**	S	**Sn**	**06 27 32.5**	**+0.4**
TISN	**Laguna Tiscapa**	**0.70**	**78**	⇓P	**Pn**	**06 27 20.8**	**-1.2**
CRIN	**San Cristobal**	**0.70**	**354**	*e*P	**Pn**	**06 27 21.8**	**-0.2**
CRIN				*e*S	**Sn**	**06 27 32.9**	**+0.5**
CRIN	**San Cristobal**	**0.70**	**354**	⇓P	**Pn**	**06 27 21.9**	**-0.2**
CRIN	**San Cristobal**	**0.70**	**354**	S	**Sn**	**06 27 33.0**	**+0.6**
MGAN	**Managua**	**0.72**	**78**	*e*P	**Pn**	**06 27 21.9**	**-0.4**
MGAN				*e*S	**Sn**	**06 27 33.0**	**+0.3**
MGAN	**Managua**	**0.72**	**78**	⇓P	**Pn**	**06 27 22.1**	**-0.1**
R4DEC	**Barrio San Lui**	**0.72**	**78**	⇑P	**Pn**	**06 27 22.1**	**-0.1**
R4DEC	**Barrio San Lui**	**0.72**	**78**	S	**Sn**	**06 27 33.2**	**+0.5**
MAS3	**Al N del Volca**	**0.78**	**88**	⇑P	**Pn**	**06 27 22.5**	**-0.4**
MAS3				S	**Sn**	**06 27 33.7**	**-0.3**
WILN	**Americas 2**	**0.78**	**78**	⇓P	**Pn**	**06 27 22.7**	**-0.3**
WILN				S	**Sn**	**06 27 34.5**	**+0.5**
SABN	**Sabanita**	**0.79**	**93**	P	**Pn**	**06 27 21.7**	**-1.5**
MASN	**Masaya**	**0.80**	**90**	P	**Pn**	**06 27 23.4**	**+0.1**
MASN				S	**Sn**	**06 27 34.0**	**-0.5**
NANN	**Nandasmo**	**0.83**	**94**	⇑P	**Pn**	**06 27 24.2**	**+0.6**
NANN	**Nandasmo**	**0.83**	**94**	S	**Sn**	**06 27 35.8**	**+0.6**
POTN	**Potosi Cosigui**	**1.13**	**332**	*e*P	**Pn**	**06 27 27.0**	**-0.5**
POTN	**Potosi Cosigui**	**1.13**	**332**	⇑P	**Pn**	**06 27 27.2**	**-0.4**
POTN				S	**Sn**	**06 27 41.8**	**-0.2**
CSGN	**Cosiguina Volc**	**1.13**	**330**	*e*P	**Pn**	**06 27 27.1**	**-0.6**
CSGN	**Cosiguina Volc**	**1.13**	**330**	⇓P	**Pn**	**06 27 27.3**	**-0.3**
CSGN				S	**Sn**	**06 27 41.6**	**-0.7**
ARIN	**Rivas**	**1.24**	**116**	P	**Pn**	**06 27 27.9**	**-1.0**
ARIN	**Rivas**	**1.24**	**116**	S	**Sn**	**06 27 43.5**	**-1.2**
JAPN	**Al SSO del Vol**	**1.35**	**110**	*e*P	**Pn**	**06 27 29.9**	**-0.6**
JAPN	**Al SSO del Vol**	**1.35**	**110**	⇑P	**Pn**	**06 27 30.0**	**-0.6**
JAPN				S	**Sn**	**06 27 47.2**	**-0.2**
BOAB	**BOACO BROADBAN**	**1.35**	**70**	⇑P	**Pn**	**06 27 30.0**	**-0.6**

BOAB	BOACO BROADBAN	1.35	70	S	Sn	06 27 47.5	0.0
MORN	Al O del Volca	1.37	109	⇑P	Pn	06 27 30.0	-0.8
MORN				S	Sn	06 27 48.0	+0.1
MATN	Matagalpa	1.38	48	⇓P	Pn	06 27 29.7	-1.3
MATN	Matagalpa	1.38	48	S	Sn	06 27 48.0	-0.4
OMEN	Al SSO del Vol	1.40	110	⇑P	Pn	06 27 29.0	-2.3
CNCH	Conchagua	1.53	327	eP	Pn	06 27 32.5	-0.6
CNCH				eS	Sn	06 27 52.6	+0.7
CNCH	Conchagua	1.53	327	⇑P	Pn	06 27 32.5	-0.6
LCND	La Caada	1.58	326	eS	Sn	06 27 52.3	-0.8
LCRUZ	La Cruz	1.60	125	eP	Pn	06 27 32.7	-1.2
CARN	Rivas	1.63	119	eP	Pn	06 27 32.1	-2.3
CARN	Rivas	1.63	119	⇑P	Pn	06 27 33.4	-0.9
CARN				S	Sn	06 27 52.8	-1.4
OCON	Estacion meteo	1.70	16	P	Pn	06 27 35.7	+0.4
RCPN	Sur Rio San Ju	1.75	29	P	Pn	06 27 35.8	-0.3
RCVN	Varillal2	1.75	26	⇑P	Pn	06 27 36.6	+0.4
RCVN	Varillal2	1.75	26	S	Sn	06 27 58.0	+0.6
ACON	Acoyapa	1.76	91	eP	Pn	06 27 34.4	-1.7
ACON	Acoyapa	1.76	91	S	Sn	06 27 55.7	-1.7
ACON	Acoyapa	1.76	91	P	Pn	06 27 33.8	-2.2
CNRM	Centro Naciona	1.88	322	eP	Pn	06 27 37.5	-0.2
CNRM				eS	Sn	06 28 01.0	+0.6
BLLM	Bellamira	1.90	319	eP	Pn	06 27 37.8	-0.2
LCY	Lacayo	1.92	318	eP	Pn	06 27 38.3	-0.1
ELI1	Hacienda Flor	1.93	134	eP	Pn	06 27 37.9	-0.6
ELI1	Hacienda Flor	1.93	134	P	Pn	06 27 38.6	+0.1
ELI1	Hacienda Flor	1.93	134	S	Sn	06 28 05.1	+3.5
LAPC	Finca la Perla	1.94	129	eP	Pn	06 27 36.7	-1.9
BUAI	Buenos Aires	1.95	124	eP	Pn	06 27 37.6	-1.2
PEJA	Penjamo Buenos	1.96	124	eP	Pn	06 27 37.7	-1.2
PACA	Pacayal	1.97	318	P	Pn	06 27 39.0	-0.1
PACA	Pacayal	1.97	318	S	Sn	06 28 02.8	+0.1
ALIBA	Liberia Airpor	1.97	135	eP	Pn	06 27 37.9	-1.2
VRLE	La Escondida,	1.98	127	eP	Pn	06 27 37.6	-1.6
GPS2	Hotel Rincn d	2.01	128	eP	Pn	06 27 38.4	-1.2
TGUH	Tegucigalpa,Un	2.07	352	⇑P	Pn	06 27 40.9	+0.5
TGUH				S	Sn	06 28 05.2	0.0
MESS	Mesas	2.14	125	eP	Pn	06 27 40.6	-0.8
VMAR	Armenia, Volca	2.17	123	eP	Pn	06 27 40.3	-1.4
COLC	Colonia	2.18	127	eP	Pn	06 27 41.3	-0.6
CUI	Cuipilapa	2.21	127	eP	Pn	06 27 41.6	-0.8
BAGA	Bagaces	2.22	131	eP	Pn	06 27 40.9	-1.6
PQSS	Presa 15 de Se	2.24	316	P	Pn	06 27 42.6	-0.1
PQSS	Presa 15 de Se	2.24	316	S	Sn	06 28 09.8	+0.6
MOTZ	Rio Naranjo	2.27	125	eP	Pn	06 27 42.5	-0.7
JUD3	Juan Diaz 3	2.30	142	eP	Pn	06 27 42.9	-0.6
TECO	Alcaldia de Te	2.34	311	P	Pn	06 27 43.6	-0.5
TECO	Alcaldia de Te	2.34	311	S	Sn	06 28 10.5	-1.1
TENO	El Achiote	2.34	123	eP	Pn	06 27 43.1	-0.9
TIMP	Tierras Morena	2.37	126	eP	Pn	06 27 43.8	-0.8
SCLA	Alcaldia de Sa	2.41	315	⇓P	Pn	06 27 45.2	+0.2
SCLA	Alcaldia de Sa	2.41	315	S	Sn	06 28 13.3	-0.1
INDI	Punta indio, G	2.56	146	P	Pn	06 27 46.1	-1.0
INDI	Punta indio, G	2.56	146	S	Sn	06 28 26.0	+8.9
PAVA	Las Pavas	2.57	312	P	Pn	06 27 47.3	+0.1
PAVA	Las Pavas	2.57	312	S	Sn	06 28 16.0	-1.4
JTS	Las Juntas de	2.61	130	eP	Pn	06 27 46.9	-0.8
NYURE	Nandayure	2.61	139	eP	Pn	06 27 47.1	-0.6
ESPN	Las Esperanzas	2.62	85	eP	Pn	06 27 47.6	-0.2
LBRS	Las Brisas	2.66	311	eP	Pn	06 27 50.2	+1.7
MTEVE	Monteverde	2.68	128	eP	Pn	06 27 48.1	-0.8
VARE2	V. Arenal	2.68	124	eP	Pn	06 27 48.8	0.0
ARE1	Arenal 1	2.69	124	eP	Pn	06 27 48.7	-0.1
CASO	Castillo	2.69	125	eP	Pn	06 27 48.3	-0.6
LOMA	Loma Larga	2.70	308	P	Pn	06 27 48.5	-0.6
LOMA	Loma Larga	2.70	308	S	Sn	06 28 18.4	-2.3
SIUN	Universidad Ur	2.74	51	P	Pn	06 27 57.5	+8.0
SOCE	Pocosol	2.81	125	P	Pn	06 27 51.4	+0.8
COVE	Coope Vega, Sa	2.82	116	P	Pn	06 27 50.9	+0.3
BOQS	Boqueron	2.84	308	eP	Pn	06 27 51.6	+0.6
PMON	Piamonte	2.85	307	P	Pn	06 27 51.2	0.0
PMON	Piamonte	2.85	307	S	Sn	06 28 24.7	+0.3
JAYA	Jayaque - finc	2.93	305	eP	Pn	06 27 53.2	+1.0
JAYA	Jayaque - finc	2.93	305	P	Pn	06 27 51.6	-0.6
JAYA	Jayaque - finc	2.93	305	S	Sn	06 28 23.9	-2.4
CBL1	Cabuya	3.02	142	eP	Pn	06 27 53.3	-0.1
CEVE	Cerro Verde	3.16	305	eP	Pn	06 27 56.6	+1.1
CEVE				eS	Sn	06 28 37.2	+5.0
NUBE	Las Nubes	3.33	305	P	Pn	06 27 57.4	-0.3
NUBE	Las Nubes	3.33	305	S	Sn	06 28 35.1	-1.1
ESQI	Esquipulas	3.44	318	P	Pn	06 27 59.6	+0.4
FAME	Alcaldia de Sa	3.49	302	P	Pn	06 27 59.7	-0.1
FAME	Alcaldia de Sa	3.49	302	S	Sn	06 28 38.0	-1.9
ACOS	Acosta	3.52	128	eP	Pn	06 27 59.9	-0.4
LCR2	La Lucha 2	3.67	127	P	Pn	06 28 03.1	+0.6
LCR2	La Lucha 2	3.67	127	S	Sn	06 28 47.4	+2.7
VERH	Veragua Rainfo	4.24	119	eP	Pn	06 28 09.7	-0.4
OCHAL	Ojochal	4.36	131	P	Pn	06 28 13.6	+1.9
OCHAL	Ojochal	4.36	131	S	Sn	06 29 01.1	-0.1
DRK0	Durika	4.56	126	P	Pn	06 28 15.5	+0.9
DRK0	Durika	4.56	126	S	Sn	06 29 07.0	+0.6

*NEIC **01** 06:34:55.6±0.8, 18°.4N±0°.2×68°.23W±0°.05, h156^{km}±7^{km}, ML2.9/14, Md3.3/18(RSPR), Error ellipse: s-maj=28.9km s-min=6.6km az=186.0*
*RSPR **01** 06:34:55.6, 18°.28N×68°.29W, h149^{km}±2^{km}, MD3.3/18*
*OSPL **01** 06:34:57.8±1.4, 18°.12N×68°.25W, h150^{km}±14^{km}, ML3.0*
*SDD **01** 06:34:59.4±2.2, 18°.11N×68°.25W, h132^{km}±13^{km}, MD3.5, ML3.4, MW3.3*
ISC 01 06:34:57.2±1.4**, 18°.14N**±0°.08×**68°.27W**±0°.03**, h136**^{km}±8^{km}**, n83,** σ1^{s}.**33**/113**, 28C-20D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADR	Isla Saona	0.49	276	⇑eP	Pn	06 35 17.0	+0.2
SADR	Isla Saona	0.49	276	eS	Sn	06 35 31.6	-0.1
SADR	Isla Saona	0.49	276	ePg	Pn	06 35 17.1	+0.2
HIDR	Higuey Centro	0.62	317	⇑eP	Pn	06 35 16.3	-1.3
HIDR	Higuey Centro	0.62	317	eS	Sn	06 35 32.7	-0.4
HIDR	Higuey Centro	0.62	317	⇑ePg	Pn	06 35 17.2	-0.4
HIDR				⇓eSg	Sn	06 35 32.1	-1.1
HIDR				IAML		06 35 34.2	
	comp=N,483nm,0.2s						
IDE	Isla Desecheo	0.79	72		Pn	06 35 19.2	+0.3
IDE					Sn	06 35 36.6	+1.3
IDE	Isla Desecheo	0.79	72	⇑eP	Pn	06 35 19.2	+0.3
IDE	Isla Desecheo	0.79	72	eS	Sn	06 35 36.6	+1.3
PRSN	Puerto Rico Se	1.07	86		Pn	06 35 21.2	0.0
PRSN					Sn	06 35 41.4	+1.9
PRSN	Puerto Rico Se	1.07	86	⇑eP	Pn	06 35 21.2	0.0
PRSN	Puerto Rico Se	1.07	86	eS	Sn	06 35 41.4	+1.9
PRSN	Puerto Rico Se	1.07	86	ePg	Pn	06 35 21.2	0.0
PRSN				⇓eSg	Sn	06 35 39.1	-0.3
PRSN				IAML		06 35 44.5	
	comp=N,552nm,0.2s						
CRPR	Cabo Rojo, PR	1.11	97		Pn	06 35 21.4	-0.2
CRPR				Sn	Sn	06 35 41.9	+1.8
CRPR	Cabo Rojo, PR	1.11	97	⇑eP	Pn	06 35 21.2	-0.4
CRPR	Cabo Rojo, PR	1.11	97	eS	Sn	06 35 42.5	+2.4
CRPR	Cabo Rojo, PR	1.11	97	⇑ePg	Pn	06 35 21.6	0.0
CRPR				⇓eSg	Sn	06 35 40.3	+0.2
CRPR				IAML		06 35 45.4	
	comp=N,86nm,0.6s						
CRPR	Cabo Rojo, PR	1.11	97	i P	Pn	06 35 21.3	-0.3
CRPR				eS	Sn	06 35 40.5	+0.3
CRPR				IAML		06 35 45.4	
	comp=Z,81nm,0.5s						
MIDR	Miches	1.12	319	⇑eP	Pn	06 35 21.1	-0.7
MIDR	Miches	1.12	319	eS	Sn	06 35 39.8	-0.6
LSP	Las Mesas	1.12	88		Pn	06 35 21.3	-0.5
LSP	Las Mesas	1.12	88	⇑eP	Pn	06 35 21.3	-0.5
AGPR	Aguadilla, PR	1.15	73		Pn	06 35 21.9	-0.1
AGPR					Sn	06 35 41.7	+0.9
AGPR	Aguadilla, PR	1.15	73	⇑eP	Pn	06 35 21.9	-0.1
AGPR	Aguadilla, PR	1.15	73	eS	Sn	06 35 41.7	+0.9
AGPR	Aguadilla, PR	1.15	73	ePg	Pn	06 35 22.1	+0.1
AGPR				⇓eSg	Sn	06 35 40.8	-0.1
AGPR				IAML		06 35 48.4	
	comp=N,346nm,0.2s						
AGPR	Aguadilla, PR	1.15	73	i P	Pn	06 35 21.8	-0.1
AGPR				eS	Sn	06 35 41.0	+0.2
AGPR				IAML		06 35 43.0	
	comp=Z,210nm,0.2s						
MLPR	Magueyes Islan	1.18	98	⇑eP	Pn	06 35 22.0	-0.2
MLPR	Magueyes Islan	1.18	98	eS	Sn	06 35 43.1	+1.8
MLPR	Magueyes Islan	1.18	98	⇑ePg	Pn	06 35 21.9	-0.3
MLPR				⇓eSg	Sn	06 35 39.9	-1.4
MLPR				IAML		06 35 45.8	
	comp=N,44nm,0.3s						
SMDR	Samana, DR	1.44	323	⇑eP	Pn	06 35 23.1	-1.9
SMDR	Samana, DR	1.44	323	eS	Sn	06 35 44.3	-2.0
SMDR	Samana, DR	1.44	323	⇓ePg	Pn	06 35 25.3	+0.3
SMDR				eSg	Sn	06 35 44.7	-1.6
SMDR				IAML		06 35 54.7	
	comp=N,187nm,0.4s						
AOPR	Arecibo Observ	1.45	82	Pn	Pn	06 35 24.6	-0.6
AOPR	Arecibo Observ	1.45	82	⇓ePg	Pn	06 35 24.6	-0.6
AOPR				⇓eSg	Sn	06 35 46.3	-0.2
AOPR				IAML		06 36 31.9	
	comp=N,15µm,3.3s						
UUPR	Utuado, UPR, P	1.47	85	Pn	Pn	06 35 25.2	-0.2
UUPR	Utuado, UPR, P	1.47	85		Sn	06 35 48.1	+1.2
UUPR	Utuado, UPR, P	1.47	85	⇑eP	Pn	06 35 25.5	+0.1
UUPR	Utuado, UPR, P	1.47	85	eS	Sn	06 35 48.1	+1.2
OBIP	Obispado Ponce	1.58	93		Pn	06 35 26.6	0.0
OBIP					Sn	06 35 49.8	+0.7
OBIP				IAML		06 35 52.2	
	comp=N,64nm,0.3s						
OBIP				IAML		06 35 52.5	
	comp=E,76nm,0.2s						
OBIP	Obispado Ponce	1.58	93	⇑eP	Pn	06 35 26.8	+0.2
OBIP	Obispado Ponce	1.58	93	eS	Sn	06 35 50.3	+1.3
SDD	Santo Domingo	1.60	282	Pn	Pn	06 35 26.2	-0.5
SDD				IAML		06 35 58.7	
	comp=N,64nm,0.8s						
SDD	Santo Domingo	1.60	282	i P	Pn	06 35 27.3	+0.6
CELP	Cerrillos	1.61	92		Pn	06 35 26.6	-0.3
CELP					Sn	06 35 50.6	+1.1
CELP				IAML		06 35 52.2	
	comp=E,151nm,0.4s						
CELP	Cerrillos	1.61	92	⇑eP	Pn	06 35 26.6	-0.3
CELP	Cerrillos	1.61	92	eS	Sn	06 35 50.6	+1.1
CELP	Cerrillos	1.61	92	⇓ePg	Pn	06 35 26.9	0.0
CELP				⇓eSg	Sn	06 35 48.1	-1.4
CELP				IAML		06 35 52.9	
	comp=N,186nm,0.2s						
EMPR	Esperanza - Ma	1.68	78		Sn	06 35 50.4	-0.6
EMPR	Esperanza - Ma	1.68	78	Pn	Pn	06 35 26.6	-1.2
EMPR	Esperanza - Ma	1.68	78	⇑eP	Pn	06 35 26.6	-1.2
EMPR	Esperanza - Ma	1.68	78	eS	Sn	06 35 50.4	-0.6
ECPR	Experimental S	1.82	84	⇑eP	Pn	06 35 28.1	-1.2
ECPR	Experimental S	1.82	84	eS	Sn	06 35 53.0	-0.9
DR08	Loma La Naviza	1.86	296	⇓ePg	Pn	06 35 30.6	+0.8
DR08				eSg	Sn	06 35 53.2	-1.6
DR08				IAML		06 35 59.6	
	comp=N,3µm,0.2s						
NADR	Nagua	1.93	309	ePg	Pn	06 35 31.6	+1.0
NADR				⇓eSg	Sn	06 35 55.3	-1.0
NADR				IAML		06 36 02.7	
	comp=N,1µm,0.3s						
NAG1	Nagua	1.94	309	⇑ePg	Pn	06 35 32.3	+1.6
SJG	San Juan	2.01	90		Pn	06 35 30.8	-0.8
SJG				IAML		06 36 02.8	
	comp=N,88nm,0.2s						
SJG	San Juan	2.01	90	⇑eP	Pn	06 35 30.9	-0.8
SJG	San Juan	2.01	90	eS	Sn	06 35 57.1	-0.9
SJG	San Juan	2.01	90	ePg	Pn	06 35 30.3	-1.3
SJG				⇓eSg	Sn	06 35 57.1	-0.9
SJG	San Juan	2.01	90	i P	Pn	06 35 30.9	-0.8
SJG				eS	Sn	06 35 57.0	-0.9
SJG				IAML		06 36 04.0	
	comp=Z,44nm,0.2s						
IGPR	InterUniversit	2.06	94		Pn	06 35 32.2	0.0
IGPR					Sn	06 36 00.1	+1.1
IGPR	InterUniversit	2.06	94	⇑eP	Pn	06 35 32.2	0.0
IGPR	InterUniversit	2.06	94	eS	Sn	06 36 00.1	+1.1
GCPR	Guaynabo City	2.08	85		Pn	06 35 31.0	-1.5
GCPR					Sn	06 35 57.5	-2.0
GCPR				IAML		06 35 59.1	
	comp=E,52nm,0.4s						
GCPR				IAML		06 36 01.7	
	comp=N,38nm,0.3s						
GCPR	Guaynabo City	2.08	85	⇓eP	Pn	06 35 30.9	-1.5
GCPR	Guaynabo City	2.08	85	eS	Sn	06 35 57.5	-2.0
PDPR	Patillas Dam,	2.14	93		Pn	06 35 32.5	-0.6
PDPR				IAML		06 36 05.3	
	comp=E,66nm,0.2s						
PDPR	Patillas Dam,	2.14	93	⇑eP	Pn	06 35 32.7	-0.4
PDPR	Patillas Dam,	2.14	93	eS	Sn	06 36 00.8	+0.1
SFDR	San Fco. de Ma	2.19	302	⇑ePg	Pn	06 35 36.5	+2.6
SFDR				eSg	Sn	06 36 01.6	-0.3
SFDR				IAML		06 36 09.1	
	comp=N,285nm,0.4s						
HUMP	Col San Antoni	2.30	90		Pn	06 35 34.2	-0.9
ABDR	Alto Bandera	2.34	287	ePg	Pn	06 35 37.1	+1.2
ABDR				⇓eSg	Sn	06 36 04.7	-1.0
ABDR				IAML		06 36 13.8	
	comp=N,100nm,0.3s						
SC01	Santiago de lo	2.66	299	⇑eP	Pn	06 35 43.8	+4.1
SC01	Santiago de lo	2.66	299	eS	Sn	06 36 13.9	+1.5
SC01	Santiago de lo	2.66	299	ePg	Pn	06 35 39.9	+0.2
SC01				⇓eSg	Sn	06 36 10.9	-1.5
SC01				IAML		06 36 22.2	
	comp=N,201nm,0.5s						
PODR	Polo	2.87	271	⇓ePg	Pn	06 35 42.4	-0.1
PODR				⇓eSg	Sn	06 36 16.4	-1.0
PODR				IAML		06 36 24.3	
	comp=N,47nm,0.7s						
LOVI	El Cajuil, Ovi	2.97	264	i P	Pn	06 35 43.4	-0.2
LOVI				eS	Sn	06 36 16.5	-3.0
LOVI				IAML		06 36 22.1	
	comp=Z,78nm,0.4s						
SDDR	Presa de Saban	2.99	287	⇑ePg	Pn	06 35 45.1	+1.2
SDDR				⇓eSg	Sn	06 36 18.3	-1.7
SDDR				IAML		06 36 28.2	
	comp=N,37nm,2.2s						
LODU1	El Espartillar	3.06	274	i P	Pn	06 35 45.4	+0.7
REDR	Restauracion	3.14	290	⇑ePg	Pn	06 35 50.2	+4.5
REDR				⇓eSg	Sn	06 36 28.2	+4.9
REDR				IAML		06 36 33.1	
	comp=N,52nm,0.2s						
JIDR	Jimani	3.42	276	⇑ePg	Pn	06 35 50.3	+0.8
JIDR				⇑eSg	Sn	06 36 26.5	-3.4
JIDR				IAML		06 37 08.9	
	comp=N,29nm,3.2s						

*IDC **01** 06:40:54.6±1.7, 52°.06N×150°.39E, h0^{km}, mb3.4/4, mbtmp3.4/5, ML2.6/1, Error ellipse: s-maj=77.3km s-min=22.9km az=135.0*
*KRSC **01** 06:41:08.0±2.7, 49°.45N×156°.94E, h16^{km}±35^{km}, Ml4.1*
*MOS **01** 06:41:07.3±0.8, 49°.23N×156°.41E, h33^{km}, mb4.2/2, Error ellipse: s-maj=24.9km s-min=4.8km az=77.3*
ISC 01 06:41:10.5±0.9**, 49°.46N**±0°.08×**156°.22E**±0°.09**, h54**^{km}**, n60,** σ1^{s}.**71**/61**, mb3.4**/5**, 1C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.22	357	d iPN	Pn	06 41 29.8	-1.4
SKR				i S	Sn	06 41 45.2	-1.5
SKR	Severo-Kuril's	1.22	357	eP	Pn	06 41 29.9	-1.4
SKR				eS	Sn	06 41 46.4	-0.3
PAU	Pauzhetka	2.04	10	PN	Pn	06 41 41.9	-0.5
PAU				S	Sn	06 42 07.1	+0.5
PAU	Pauzhetka	2.04	10	eP	Pn	06 41 41.9	-0.5
PAU				eS	Sn	06 42 07.2	+0.5
KDTR	Khodutka, Kamc	2.63	26	PN	Pn	06 41 49.7	-0.7
KDTR	Khodutka, Kamc	2.63	26	eP	Pn	06 41 49.8	-0.7
KDTR				eS	Sn	06 42 20.7	-0.4
ASAK	Asacha	3.11	19	PN	Pn	06 41 57.9	+0.8
ASAK	Asacha	3.11	19	eP	Pn	06 41 57.9	+0.8
MTVR	Mutnovka	3.27	22	PN	Pn	06 41 59.4	+0.1
MTVR	Mutnovka	3.27	22	eP	Pn	06 41 59.5	+0.1
MTVR				eS	Sn	06 42 38.4	+1.4
GRL	Gorelyy	3.31	20	PN	Pn	06 42 00.4	+0.6
GRL	Gorelyy	3.31	20	eP	Pn	06 42 00.4	+0.6
RUS	Russkaya	3.31	25	PN	Pn	06 41 59.8	+0.1
RUS	Russkaya	3.31	25	eP	Pn	06 41 59.9	+0.1
KRMR	Karymshinskiy	3.58	19	PN	Pn	06 42 05.1	+1.7
KRMR	Karymshinskiy	3.58	19	eP	Pn	06 42 05.2	+1.7
PEA0B	Petropavlovsk-	3.77	14	i PN	Pn	06 42 03.2	-2.8
PETK	Petropavlovsk-	3.77	14	Pn	Pn	06 42 05.5	-0.5
	1.5nm,0.3s,baz=97,slow=24,SNR=32						
PETK				Sn	Sn	06 43 00.6	+12
	0.6nm,0.3s,baz=111,slow=20,SNR=1.7						
	1.7nm,0.4s						
PETK	Petropavlovsk-	3.77	14		Sn	06 43 00.6	+12
PETK	Petropavlovsk-	3.77	14	PN	Pn	06 42 05.5	-0.5
PET	Petropavlovsk	3.88	22	ePN	Pn	06 42 09.4	+1.9
PET	Petropavlovsk	3.88	22	eP	Pn	06 42 09.1	+1.6
DALK	Dalny	3.91	23	PN	Pn	06 42 09.0	+1.1
DALK	Dalny	3.91	23	eP	Pn	06 42 09.0	+1.1
UGLR	Uglovaya	4.09	23	PN	Pn	06 42 12.6	+2.1
UGLR	Uglovaya	4.09	23	eP	Pn	06 42 12.6	+2.1
AVH	Avacha	4.12	22	PN	Pn	06 42 13.8	+2.9
AVH	Avacha	4.12	22	eP	Pn	06 42 13.9	+2.9
KOK	Koryaka	4.12	21	PN	Pn	06 42 13.2	+2.3
KOK	Koryaka	4.12	21	eP	Pn	06 42 13.2	+2.3
SMAR	Somma	4.14	22	PN	Pn	06 42 13.5	+2.3
SMAR	Somma	4.14	22	eP	Pn	06 42 13.6	+2.3
KRER	Koryakskii	4.16	21	PN	Pn	06 42 14.1	+2.6
KRER	Koryakskii	4.16	21	eP	Pn	06 42 14.2	+2.6
SDLR	Sedlovina	4.17	23	PN	Pn	06 42 12.5	+0.9
SDLR	Sedlovina	4.17	23	eP	Pn	06 42 12.6	+0.9
KRX	Arik	4.19	20	PN	Pn	06 42 14.5	+2.7
KRX	Arik	4.19	20	eP	Pn	06 42 14.6	+2.7
SPN	Mys Shipunski	4.35	32	PN	Pn	06 42 14.2	+0.2
SPN	Mys Shipunski	4.35	32	eP	Pn	06 42 14.2	+0.2
GNL	Ganaly	4.37	14	PN	Pn	06 42 16.6	+2.2
GNL	Ganaly	4.37	14	eP	Pn	06 42 16.7	+2.2
MKZ	Mys Kozlova	6.13	32	PN	Pn	06 42 37.6	-0.7
MKZ	Mys Kozlova	6.13	32	eP	Pn	06 42 37.6	-0.7
YUK	Yuzh-Kuril'sk	8.94	237	i PN	Pn	06 43 15.9	-0.9
YSS	Yuzhno-Sakhali	9.34	260	ePN	Pn	06 43 25.5	+3.3
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK	Yakutsk	19.35	321	i P	P	06 45 27.9	-3.2
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ILAR	Eielson Array	33.13	41	P	P	06 47 38.4	-2.7
	comp=Z,0.2nm,0.6s,baz=269,slow=7.4,SNR=5.6						
	comp=Z,0.2nm,0.6s						
ILAR	Eielson Array	33.13	41	P	P	06 47 38.4	-2.7
OBN	Obninsk	64.23	326	*SS	sS	07 00 39.0	+1.7
OBN	Obninsk	64.23	326	pmax	pmax		
	comp=Z,5.0nm,0.8s						
OBN	Obninsk	64.23	326	⇑eP	P	06 51 41.5	+2.2
OBN	Obninsk	64.23	326	*PP	pP	06 51 52.0	-2.0
OBN	Obninsk	64.23	326	*SP	sP	06 51 59.0	-1.1
WRA	Warramunga Arr	71.78	202	P	P	06 52 26.1	-0.9
	comp=Z,0.3nm,0.5s,baz=12,slow=6.0,SNR=4.8						
	comp=Z,0.3nm,0.5s						
WRA	Warramunga Arr	71.78	202	i P	P	06 52 27.1	+0.1
TXAR	Lajitas Array	74.38	63	P	P	06 52 44.1	+1.5
	comp=Z,0.3nm,0.6s,baz=329,slow=7.7,SNR=5.1						
	comp=Z,0.3nm,0.6s						
TXAR	Lajitas Array	74.38	63	P	P	06 52 44.1	+1.5
ASAR	Alice Springs	75.47	201	P	P	06 52 48.3	-0.3
	comp=Z,0.3nm,0.6s,baz=15,slow=4.9,SNR=6.3						
	comp=Z,0.3nm,0.6s						
ASAR	Alice Springs	75.47	201	P	P	06 52 48.3	-0.3

*WEL **01** 06:46:16.2±0.4, 42°S±2°×17°3E±°, h9^{km}±3^{km}, M3.4/12, ML3.6/12, MLv3.4/12, Error ellipse: s-maj=2.5km s-min=2.1km az=59.1, confirmed*
*NOU **01** 06:46:16.4, 41°.66S×173°.11E, h9^{km}, MLv3.8/19, South Island, New Zealand*
ISC 01 06:46:16.3±0.9**, 41°.66S**±0°.02×**173°.11E**±0°.02**, h10**^{km}±8^{km}**, n117,** σ1^{s}.**17**/135**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	Tophouse	0.18	237	P	Pg	06 46 20.5	+0.3
THZ				S	Sg	06 46 23.4	+0.4
BTWS	Nelson Brightw	0.27	2	P	Pb	06 46 22.8	-0.5
BTWS				S	Sb	06 46 28.3	+0.3
MRNZ	Matariki Terra	0.38	315	P	Pb	06 46 24.5	-0.6
MRNZ				S	Sb	06 46 30.3	-0.7
MATW	Matariki Wadsw	0.39	307	P	Pb	06 46 24.5	-0.8
MATW				S	Sb	06 46 30.5	-0.8
NELH	Nelson Hospita	0.39	18	P	Pb	06 46 24.9	-0.5
NELH				S	Sb	06 46 31.8	+0.3
NCBS	Nelson Council	0.41	18	P	Pb	06 46 25.2	-0.5
NCBS				S	Sb	06 46 31.8	-0.2
NLMS	Nelson Nelmac	0.41	17	P	Pg	06 46 23.9	-0.5
MOLW	Molesworth Sta	0.44	166	P	Pg	06 46 25.6	+0.6
MOLW				S	Sg	06 46 30.7	0.0
LOKS	Mount Lookout	0.45	142	P	Pb	06 46 26.1	-0.3
LOKS				S	Sb	06 46 33.0	-0.2
NNZ	Nelson	0.49	24	P	Pg	06 46 26.0	+0.1
NNZ				S	Sb	06 46 33.5	-0.7
MOTS	Motueka DOC wo	0.54	352	P	Pg	06 46 27.2	+0.4
MOTS				S	Sb	06 46 35.5	-0.2
GLOS	29 km south-we	0.56	110	P	Pb	06 46 28.2	-0.1
GLOS				S	Sb	06 46 36.2	-0.3
BSWZ	Blackbirch Sta	0.57	95	P	Pb	06 46 28.3	-0.2
BSWZ				S	Sb	06 46 36.5	-0.2
MCASZ	Murchison	0.60	257	P	Pb	06 46 28.4	-0.6
BWRS	Waikakaho Road	0.64	70	P	Pg	06 46 28.3	-0.3
BWRS				S	Sb	06 46 37.9	-0.5
HAVS	Havelock	0.64	53	P	Pg	06 46 28.2	-0.4
TKNZ	Takaka Hill	0.64	350	P	Pg	06 46 28.8	+0.1
MGCS	Blenheim Marlb	0.64	76	P	Pb	06 46 29.3	-0.3
MGCS				S	Sb	06 46 39.5	+0.8
TUWZ	Tuamarina	0.67	70	P	Pg	06 46 29.7	+0.5
KEKS	Kekerengu Vall	0.71	115	P	Pb	06 46 31.2	+0.3
KEKS				S	Sb	06 46 41.5	+0.8
SEDS	Seddon Fire St	0.72	91	P	Pb	06 46 31.3	+0.3
QCCS	Picton Queen C	0.78	61	P	Pg	06 46 30.7	-0.7
WDFS	Ward Fire Stat	0.79	102	P	Pb	06 46 32.7	+0.6
KHZ	Kahutara	0.82	157	P	Pb	06 46 32.9	+0.3
KHZ	Kahutara	0.82	157	P	Pb	06 46 33.0	+0.3
KHZ				S	Sb	06 46 43.6	-0.2
CMWZ	Cape Campbell	0.83	96	P	Pn	06 46 33.8	-0.3
QRZ	Quartz Range	0.94	332	P	Pg	06 46 33.9	-0.6
QRZ	Quartz Range	0.94	332	S	Sb	06 46 47.2	-0.2
QRZ	Quartz Range	0.94	332	P	Pg	06 46 34.0	-0.5
QRZ				S	Sg	06 46 46.8	0.0
DSZ	Denniston Nort	0.98	265	P	Pg	06 46 34.9	-0.3
TCW	Tory Channel	0.98	63	P	Pg	06 46 34.5	-0.8
TCW				S	Sg	06 46 48.4	+0.4
DUWZ	D'Urville Isla	1.05	36	P	Pg	06 46 35.6	-1.0
SNZO	South Karori	1.25	74	P	Pn	06 46 39.4	-0.4
SNZO	South Karori	1.25	74	S	Sn	06 46 57.5	+0.8
LTZ	Lake Taylor	1.28	209	P	Pn	06 46 39.6	-0.7
WEL	Wellington	1.30	74	P	Pn	06 46 40.4	-0.1
GVZ	Greta Valley S	1.30	183	P	Pb	06 46 40.9	-0.1
BHW	Baring Head	1.34	80	P	Pn	06 46 41.4	+0.3
AMCZ	Amberley	1.55	193	P	Pn	06 46 44.2	+0.2
CAW	Cannon Point	1.57	70	P	Pn	06 46 44.8	+0.5
KIW	Kapiti Island	1.57	60	P	Pn	06 46 44.5	+0.2
PLWZ	Palliser	1.61	87	P	Pn	06 46 44.5	-0.3
MSWZ	Moikau Station	1.62	82	P	Pn	06 46 44.9	-0.2
INZ	Inchbonnie	1.63	229	P	Pn	06 46 45.7	+0.5
PAWZ	Paruwai Farm	1.76	82	P	Pn	06 46 46.4	-0.5
OGWZ	Otaki Gorge	1.77	62	P	Pn	06 46 47.8	+0.8
OXZ	Oxford	1.84	205	P	Pn	06 46 47.5	-0.6
MTW	Mount Morrison	1.87	75	P	Pn	06 46 47.9	-0.5
HOWZ	Holdsworth Sta	1.96	68	P	Pn	06 46 49.8	+0.1
OKCZ	Okains Bay	2.06	181	P	Pn	06 46 50.4	-0.7
MQZ	McQueen's Vall	2.07	189	P	Pn	06 46 49.6	-1.5
MRZ	Mangatainoka R	2.11	63	P	Pn	06 46 52.1	+0.4
TMWZ	Te Maipa	2.16	76	P	Pn	06 46 51.6	-0.8
RACZ	Rakaia	2.19	199	P	Pn	06 46 51.8	-1.0
MHCZ	Mount Hutt	2.19	211	P	Pn	06 46 52.5	-0.3
OHWZ	Ohakea	2.21	50	P	Pb	06 46 56.4	0.0
WVZ	Waitaha Valley	2.26	231	P	Pn	06 46 54.4	+0.7
NMEZ	Namu Road	2.32	15	P	Pn	06 46 56.4	+1.9
POWZ	Post Office Ro	2.38	59	P	Pn	06 46 56.3	+1.0
WAZ	Wanganui	2.38	37	P	Pb	06 46 58.1	-1.2
PRWZ	Pori Road	2.43	64	P	Pn	06 46 55.9	-0.2
PREZ	Palmer Road	2.45	19	P	Pn	06 46 54.4	-2.1
NBEZ	Newall Road No	2.46	14	P	Pn	06 46 58.6	+2.0
KHEZ	Kahui Hut	2.46	17	P	Pn	06 46 58.3	+1.7
KHEZ	Kahui Hut	2.46	17	S	Sn	06 47 27.2	+0.4
KHEZ	Kahui Hut	2.46	17	P	Pn	06 46 58.6	+1.9
WACZ	Wakanui South	2.46	202	P	Pn	06 46 55.7	-0.9
NEZ	North Egmont	2.50	18	P	Pn	06 46 59.2	+2.0
RPZ	Rata Peaks	2.55	216	P	Pn	06 46 58.0	+0.2
RPZ	Rata Peaks	2.55	216	S	Sn	06 47 30.0	+1.1
RPZ	Rata Peaks	2.55	216	P	Pn	06 46 58.0	+0.2
PKE	Pukeiti	2.56	15	P	Pn	06 46 59.9	+2.1
BFZ	Birch Farm	2.56	69	P	Pn	06 46 56.8	-1.1
BFZ	Birch Farm	2.56	69	S	Sn	06 47 29.6	+0.5
BFZ	Birch Farm	2.56	69	P	Pn	06 46 56.9	-1.0
DREZ	Durham Road	2.61	19	P	Pn	06 47 00.7	+2.2
GCSZ	Gaunt Creek Bo	2.64	230	P	Pn	06 46 59.8	+0.8
DVHZ	Dannevirke	2.68	60	P	Pn	06 46 59.5	-0.1
TSZ	Takapari Road	2.69	54	P	Pn	06 47 00.3	+0.6

ARCZ	Arundel	2.69	211	P	Pn	06 46 59.1	-0.6
ANWZ	Angora Road	2.81	66	P	Pn	06 47 00.3	-1.0
VRZ	Vera Road	2.83	27	P	Pn	06 47 03.9	+2.3
MTVZ	Mangateitei	2.90	39	P	Pb	06 47 08.9	+0.7
PKVZ	Pokaka	2.92	36	P	Pb	06 47 05.9	-2.6
PNHZ	Pukenui	2.92	54	P	Pn	06 47 02.6	-0.4
TRVZ	Turoa	3.00	39	P	Pb	06 47 10.1	0.0
WNVZ	Wahianoa	3.00	40	P	Pn	06 47 06.3	+2.1
MOVZ	Moawhango	3.02	43	P	Pn	06 47 06.3	+2.0
MAVZ	Matarangi	3.04	39	P	Pb	06 47 08.1	-2.6
WHVZ	Whangaehu Hut	3.04	39	P	Pn	06 47 06.9	+2.3
FWVZ	Far West T-bar	3.04	39	P	Pn	06 47 07.4	+2.6
FOZ	Fox Glacier	3.07	231	P	Pn	06 47 05.1	+0.2
TUVZ	Tukino	3.08	40	P	Pb	06 47 09.8	-1.5
COVZ	Chateau Observ	3.08	38	P	Pb	06 47 12.4	+1.2
NGZ	Ngauruhoe	3.13	38	P	Pn	06 47 08.3	+2.4
TMZ	Timaru	3.13	209	P	Pn	06 47 04.9	-0.8
TWVZ	Taurewa	3.14	35	P	Pn	06 47 09.0	+3.0
OTVZ	Oturere	3.17	39	P	Pn	06 47 08.7	+2.4
NNVZ	North Ngauruho	3.17	38	P	Pn	06 47 09.1	+2.7
WTVZ	West Tongariro	3.17	37	P	Pb	06 47 09.7	-3.1
KRHZ	Kereru	3.19	52	P	Pb	06 47 13.4	+0.2
ETVZ	East Tongariro	3.21	39	P	Pn	06 47 09.3	+2.3
KRVZ	Karewarewa	3.21	38	P	Pb	06 47 10.6	-2.9
TMVZ	Te Maari	3.22	39	P	Pn	06 47 09.5	+2.4
KATZ	Kakaramea	3.33	37	P	Pb	06 47 13.4	-2.2
KAHZ	Kahuranaki	3.42	58	P	Pn	06 47 09.0	-0.7
HIZ	Hauiti	3.42	24	P	Pn	06 47 10.1	+0.4
BKZ	Black Stump Fm	3.59	47	P	Pn	06 47 12.3	+0.2
BKZ	Black Stump Fm	3.59	47	P	Pn	06 47 12.4	+0.4
TLZ	Tolley Road	3.81	30	P	Pn	06 47 17.6	+2.4
ODZ	Otahua Downs	3.83	207	P	Pn	06 47 14.4	-1.0
ODZ	Otahua Downs	3.83	207	P	Pn	06 47 14.3	-1.0
JCZ	Jackson Bay	3.99	231	P	Pn	06 47 18.3	+0.7
JCZ	Jackson Bay	3.99	231	P	Pn	06 47 18.0	+0.4
URZ	Urewera	4.58	43	P	Pn	06 47 25.2	-0.5
KUZ	Kuaotunu	5.31	23	P	Pn	06 47 36.6	+0.9
OUZ	Omahuta	6.44	4	P	Pn	06 47 53.1	+1.8

*SNET **01** 07:28:07.4±1.3, 13°15N×90°04W, h23km, ML3.2*
*GCG **01** 07:28:08.5±0.8, 13°24N×90°06W, h27km±7km, MD3.8, ML3.2*
*CATAC **01** 07:28:08.6±0.5, 13°N±3°×9°0W±°, h21km±3km, M3.2/18, MLv3.2/18, Error ellipse: s-maj=6.2km s-min=3.9km az=22.4, confirmed*
ISC 01 07:28:08.0±2.8, **13°19N**±0°10×**90°01W**±0°10, **h25**km±13km, **n51**, σ**0s45**/57, **2C-8D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FAME	Alcaldia de Sa	0.65	360	⇓P	Pn	07 28 21.1	-0.6
JAYA	Jayaque - finc	0.72	50	eP	Pb	07 28 22.4	+0.3
JAYA				eS	Sn	07 28 33.0	0.0
JAYA	Jayaque - finc	0.72	50	i P	Pb	07 28 22.2	+0.2
JAYA				i S	Sb	07 28 31.8	+0.2
JAYA	Jayaque - finc	0.72	50	⇓P	Pb	07 28 22.2	+0.2
LALI	Alcalda de L	0.74	66	eP	Pb	07 28 22.2	+0.1
LALI				eS	Sb	07 28 31.5	-0.4
LALI	Alcalda de L	0.74	66	i P	Pb	07 28 22.3	+0.1
LALI				i S	Sb	07 28 31.5	-0.4
LALI	Alcalda de L	0.74	66	⇑P	Pb	07 28 22.3	+0.1
CEVE	Cerro Verde	0.74	31	eP	Pb	07 28 22.7	+0.2
CEVE				eS	Sn	07 28 34.6	+0.8
CEVE	Cerro Verde	0.74	31	⇓P	Pb	07 28 22.7	+0.2
CEVE	Cerro Verde	0.74	31	S	Sn	07 28 33.3	-0.4
NUBE	Las Nubes	0.75	18	i P	Pb	07 28 22.6	+0.1
NUBE				i S	Sn	07 28 32.8	-1.0
NUBE	Las Nubes	0.75	18	⇓P	Pb	07 28 22.6	+0.1
LOAL	Lomas de Alarc	0.84	16	eS	Sn	07 28 36.3	+0.5
LOAL	Lomas de Alarc	0.84	16	P	Pn	07 28 24.3	-0.1
LOAL	Lomas de Alarc	0.84	16	S	Sn	07 28 35.6	-0.3
PMON	Piamonte	0.86	52	⇓P	Pb	07 28 24.2	-0.2
PMON	Piamonte	0.86	52	S	Sb	07 28 36.0	+0.5
CEDA	San Andres	0.86	44	eP	Pb	07 28 24.1	-0.2
CEDA	San Andres	0.86	44	⇓P	Pb	07 28 24.1	-0.2
CEDA	San Andres	0.86	44	S	Sb	07 28 36.0	+0.6
SLOZ	Alcaldia de Sa	0.86	15	⇓P	Pb	07 28 24.4	0.0
SLOZ	Alcaldia de Sa	0.86	15	S	Sn	07 28 36.2	-0.3
BOQS	Boqueron	0.90	53	eP	Pb	07 28 25.0	-0.1
UEES	Universidad Ev	0.92	55	P	Pb	07 28 25.2	-0.2
UEES	Universidad Ev	0.92	55	S	Sb	07 28 36.9	-0.3
LOMA	Loma Larga	0.94	61	eP	Pb	07 28 24.9	-0.8
LOMA	Loma Larga	0.94	61	P	Pb	07 28 25.1	-0.7
LOMA	Loma Larga	0.94	61	S	Sb	07 28 37.4	-0.4
IGN	Direccin Gen	0.97	57	S	Sb	07 28 38.7	-0.1
UDBS	Universidad Do	0.99	58	P	Pb	07 28 26.0	-0.5
UDBS	Universidad Do	0.99	58	S	Sb	07 28 38.8	-0.3
LFRS	El Faro	1.02	65	eP	Pn	07 28 26.6	-0.3
PAVA	Las Pavas	1.17	63	P	Pn	07 28 29.1	+0.2
PAVA	Las Pavas	1.17	63	S	Sn	07 28 43.9	-0.3
TECO	Alcaldia de Te	1.25	74	⇑P	Pn	07 28 29.3	-0.6
TECO	Alcaldia de Te	1.25	74	S	Sn	07 28 44.7	-1.3
SCLA	Alcaldia de Sa	1.35	68	P	Pn	07 28 31.5	+0.1
SCLA	Alcaldia de Sa	1.35	68	S	Sn	07 28 48.7	+0.2
MTO3	Montecristo	1.36	28	i P	Pn	07 28 31.8	+0.1
MTO3	Montecristo	1.36	28	P	Pn	07 28 31.7	+0.1
MTO3	Montecristo	1.36	28	S	Sn	07 28 49.2	+0.1
PQSS	Presa 15 de Se	1.48	73	⇓P	Pn	07 28 33.3	+0.2
PQSS	Presa 15 de Se	1.48	73	S	Sn	07 28 51.9	+0.3
ESQI	Esquipulas	1.51	25	P	Pn	07 28 34.1	+0.5
ESQI	Esquipulas	1.51	25	S	Sn	07 28 53.0	+0.3
PACA	Pacayal	1.67	80	P	Pn	07 28 36.8	+1.0
PACA	Pacayal	1.67	80	S	Sn	07 28 57.0	+0.5
SARH	Santa Rosa de	1.99	37	i P	Pn	07 28 40.9	+0.7
SARH	Santa Rosa de	1.99	37	P	Pn	07 28 40.4	+0.2
CNCH	Conchagua	2.12	87	P	Pn	07 28 42.4	+0.3
CSGN	Cosiguina Volc	2.40	95	P	Pn	07 28 46.3	+0.5

TRN 01 07:31:40.4, 17°94N×61°21W, h23km, MD3.9, North-east of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANWB	Willy Bob	0.61	244	eP	Pn	07 31 54.2	+0.5
MBWH		1.52	218	eS	Sb	07 32 28.8	+2.1
MBFL	Flemmings, Mon	1.53	219	eP	Pb	07 32 08.1	+0.1
MLYT	Lee's Yard	1.54	218	eP	Pb	07 32 08.4	+0.3
MLYT				eS	Sb	07 32 28.6	+1.5
SKI	Saint Kitts	1.58	248	eP	Pb	07 32 08.9	-0.1
SKI				eS	Sb	07 32 30.1	+1.5
SKOC	St. Kitts, UWI	1.59	246	eP	Pb	07 32 08.2	-0.8
SKOC				eS	Sb	07 32 29.1	+0.3
DSDZ	La Diserade, G	1.62	175	eP	Pb	07 32 09.1	-0.5
DHSZ	Broadband at M	1.74	198	eP	Pb	07 32 12.1	+0.4
DHSZ				eS	Sb	07 32 33.5	+0.3
ATGZ	Broadband at L	1.90	195	eP	Pb	07 32 13.1	-1.3
MMLZ	Guadeloupe Bro	1.94	193	eP	Pb	07 32 13.7	-1.3
MMLZ				eS	Sb	07 32 37.8	-1.0
TBG	Guadaloupe-3	2.12	192	eP	Pb	07 32 17.2	-0.9
TBG				eS	Sb	07 32 42.7	-1.3
DSLB	Salisbury	2.50	185	eP	Pn	07 32 20.6	+1.0
DSLB				eS	Sn	07 32 50.8	+1.3
DLDT	Laudat, Domini	2.60	183	eP	Pn	07 32 23.2	+2.1

*CATAC **01** 07:38:01.9±0.5, 11°N±3°×8°6W±°, h14km±2km, M3.1/19, MLv3.1/19, Error ellipse: s-maj=6.2km s-min=4.2km az=39.6, confirmed*
*UCR **01** 07:38:01.1±0.8, 10°61N×86°38W, h22km±4km, MW3.7*
ISC 01 07:38:02.1±1.7, **10°62N**±0°06×**86°33W**±0°06, **h18**km±5km, **n61**, σ**0s68**/69, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELI1	Hacienda Flor	0.76	88	eP	Pn	07 38 17.4	-0.5
ELI1	Hacienda Flor	0.76	88	P	Pg	07 38 17.3	+0.3
ELI1	Hacienda Flor	0.76	88	S	Sn	07 38 29.9	+0.9
ALIBA	Liberia Airpor	0.77	92	eP	Pg	07 38 17.3	+0.1
ALIBA				eS	Sn	07 38 30.3	+1.1
DELF	Filadelfia	0.78	103	eP	Pb	07 38 17.0	-0.1
DELF				eS	Sg	07 38 28.4	+0.6
LCRUZ	La Cruz	0.82	57	eP	Pb	07 38 17.4	-0.4
LCRUZ				eS	Sn	07 38 30.8	+0.4
LAPC	Finca la Perla	0.89	81	eP	Pb	07 38 18.6	-0.5
JUD3	Juan Diaz 3	0.90	120	eP	Pb	07 38 18.4	-0.8
VRLE	La Escondida,	0.96	80	eP	Pb	07 38 19.8	-0.5
GPS2	Hotel Rincn d	0.97	82	eP	Pb	07 38 20.0	-0.4
CARN	Rivas	0.97	55	eP	Pb	07 38 19.9	-0.4
CARN	Rivas	0.97	55	P	Pn	07 38 20.6	-0.1
CARN				S	Sn	07 38 35.4	+1.3
GPS1	Guardaparques	0.97	81	eP	Pb	07 38 20.0	-0.5
VORI	VORI	0.98	79	eP	Pb	07 38 20.2	-0.5
BUAI	Buenos Aires	1.01	76	eP	Pb	07 38 21.1	0.0
PEJA	Penjamo Buenos	1.03	75	eP	Pb	07 38 21.3	-0.2
BAGA	Bagaces	1.05	95	eP	Pb	07 38 21.6	-0.2
JAPN	Al SSO del Vol	1.10	35	eP	Pn	07 38 22.5	-0.1
JAPN	Al SSO del Vol	1.10	35	P	Pb	07 38 22.7	+0.2
COLC	Colonia	1.11	88	eP	Pn	07 38 22.1	-0.6
OMEN	Al SSO del Vol	1.12	38	P	Pn	07 38 21.4	-1.4
MESS	Mesas	1.12	84	eP	Pn	07 38 22.1	-0.8
MORN	Al O del Volca	1.13	36	P	Pb	07 38 23.3	+0.1
CUI	Cuipilapa	1.14	88	eP	Pn	07 38 22.8	-0.5
NADN	Granada	1.15	15	eP	Pn	07 38 22.5	-0.8
NADN	Granada	1.15	15	P	Pn	07 38 22.6	-0.8
NADN				S	Sn	07 38 39.3	+0.6
VMAR	Armenia, Volca	1.21	81	eP	Pn	07 38 23.9	-0.2
MOTZ	Rio Naranjo	1.24	87	eP	Pn	07 38 23.8	-0.7
TIMP	Tierras Morena	1.29	92	eP	Pn	07 38 24.6	-0.6
NANN	Nandasmo	1.32	9	P	Pg	07 38 27.4	-0.3
TENO	El Achiote	1.33	86	eP	Pn	07 38 24.8	-1.0
JTS	Las Juntas de	1.39	104	eP	Pn	07 38 25.5	-1.1
JTS	Las Juntas de	1.39	104	P	Pn	07 38 26.9	+0.3
QUEB	Quebradon, Cot	1.41	90	eP	Pn	07 38 27.2	+0.3
UNAN	Cigeo UNAN	1.48	2	P	Pb	07 38 29.5	+0.4
UNAN				S	Sb	07 38 48.1	+0.6
MTEVE	Monteverde	1.51	101	eP	Pn	07 38 28.4	0.0
TISN	Laguna Tiscapa	1.51	2	P	Pn	07 38 28.0	-0.2
R4DEC	Barrio San Lui	1.52	3	S	Sb	07 38 49.5	+0.9
WILN	Americas 2	1.53	5	P	Pb	07 38 29.5	-0.5
WILN				S	Sb	07 38 49.5	+0.4
SAPS	Ciudad Sandino	1.54	357	S	Sb	07 38 50.0	+0.8
SAPS	Ciudad Sandino	1.54	357	P	Pn	07 38 28.3	-0.3
COPN	Copaltepe	1.57	351	eP	Pn	07 38 28.7	-0.4
COPN	Copaltepe	1.57	351	P	Pb	07 38 29.9	-0.6
ARE1	Arenal 1	1.59	96	eP	Pn	07 38 29.7	+0.4
VARE2	V. Arenal	1.59	96	eP	Pn	07 38 29.8	+0.4
CEDE	Laguna Cedeo	1.60	95	eP	Pn	07 38 29.0	-0.6
APQ3	Volcan Apoyequ	1.64	359	S	Sb	07 38 51.6	-0.5
SOCE	Pocosol	1.70	98	P	Pb	07 38 32.1	-0.7
ACON	Acoyapa	1.75	40	eP	Pn	07 38 30.4	-1.2
ACON	Acoyapa	1.75	40	P	Pn	07 38 30.5	-1.1
ACON	Acoyapa	1.75	40	S	Sn	07 38 54.3	+0.9
MOM2	El Cardon	1.81	355	P	Pn	07 38 32.7	+0.4
MOM2				S	Sb	07 38 56.9	-0.1
MOM3	MOM3	1.88	354	S	Sb	07 38 58.9	-0.3
CNGA	Al SSO del Vol	1.89	349	P	Pn	07 38 32.7	-0.9
COVE	Coope Vega, Sa	1.90	87	P	Pb	07 38 35.1	-1.0
CNGN	Cerro Negro	1.90	349	P	Pn	07 38 34.1	+0.5
BOAB	BOACO BROADBAN	1.93	20	P	Pn	07 38 33.7	-0.3
BOAB	BOACO BROADBAN	1.93	20	S	Sb	07 38 59.3	-1.1
PKGN	Cerro Pekin	2.13	343	S	Sb	07 39 06.5	+0.3
MATN	Matagalpa	2.33	10	P	Pn	07 38 38.1	-1.4
MATN	Matagalpa	2.33	10	S	Sb	07 39 11.0	-1.0

ROM 01 07:49:46.5±0.0, **42°798N**±0°002×**13°135E**±0°004, **h10**km, **ML2.4**/62, **9C, Error ellipse: s-maj=0.3km s-min=0.1km az=79.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NRCA	Norcia	0.04	337	⇑P	Pg	07 49 48.9	+0.3
NRCA				S	Sg	07 49 50.1	+0.1
NRCA				AML	AML		
	comp=N,96000μm,0.1s						
NRCA				AML	AML		
	comp=E,69550μm,0.1s						
NRCA				AML	AML		
NRCA				AML	AML		
	comp=N,96500μm,0.1s						
NRCA				AML	AML		
	comp=E,72700μm,0.1s						
MC2	Monte Cornacci	0.12	19	P	Pg	07 49 50.0	+0.4
MC2				S	Sg	07 49 52.5	+0.7
FEMA	Monte Fema	0.18	339	⇑P	Pg	07 49 50.9	+0.5
FEMA				S	Sg	07 49 54.0	+0.9
FEMA				AML	AML		
	comp=E,4870μm,1.4s						
FEMA				AML	AML		
	comp=N,4655μm,0.3s						
FEMA				AML	AML		
	comp=E,4865μm,1.4s						
FEMA				AML	AML		
	comp=N,4650μm,0.3s						
MTRA	Matera	0.20	102	P	Pg	07 49 51.2	+0.6
MTRA				S	Sg	07 49 54.6	+1.1
MTRA				AML	AML		
	comp=N,3100μm,0.2s						
MTRA				AML	AML		
	comp=E,2550μm,0.2s						
MTRA				AML	AML		
	comp=E,2540μm,0.2s						
MTRA				AML	AML		
	comp=N,3120μm,0.2s						
MTRA				AML	AML		
	comp=N,3095μm,0.2s						
GAVE	Gavelli	0.21	239	P	Pg	07 49 51.6	+0.7
GAVE				S	Sg	07 49 55.0	+1.2
GAVE				AML	AML		
	comp=E,3035μm,0.2s						
GAVE				AML	AML		
	comp=N,880μm,0.3s						
GAVE				AML	AML		
	comp=N,2760μm,0.3s						
GAVE				AML	AML		
	comp=E,3055μm,0.2s						
GAVE				AML	AML		
	comp=E,3030μm,0.2s						
LNSS	Leonessa	0.21	200	⇑P	Pg	07 49 51.7	+0.8
LNSS				S	Sg	07 49 55.1	+1.3
LNSS				AML	AML		
	comp=E,8920μm,0.1s						
LNSS				AML	AML		
	comp=N,8190μm,0.6s						
LNSS				AML	AML		
	comp=N,8780μm,0.6s						
LNSS				AML	AML		
	comp=E,9575μm,0.1s						
LNSS				AML	AML		
	comp=E,8920μm,0.1s						
SMA1	SAN MARTINO	0.22	139	⇑P	Pg	07 49 51.8	+0.7
SMA1				S	Sg	07 49 55.6	+1.3
SMA1				AML	AML		
	comp=E,4035μm,0.5s						
SMA1				AML	AML		
	comp=N,2400μm,1.6s						
SMA1				AML	AML		
	comp=N,2400μm,0.4s						
FDMO	Fiordimonte	0.24	352	P	Pg	07 49 52.1	+0.6
FDMO				S	Sg	07 49 55.8	+1.0
CESI	CESI - Serrava	0.27	321	⇑P	Pg	07 49 52.6	+0.6
CESI				S	Sg	07 49 56.9	+1.2
CESI				AML	AML		
	comp=E,5495μm,0.1s						
CESI				AML	AML		
	comp=E,5505μm,0.1s						
CESI				AML	AML		
	comp=N,7730μm,0.3s						
CESI				AML	AML		
	comp=E,5500μm,0.1s						
CESI				AML	AML		
	comp=N,7735μm,0.3s						
CESI				AML	AML		
	comp=E,5500μm,1.9s						
CESI				AML	AML		
	comp=N,8565μm,0.3s						
CESI				AML	AML		
	comp=E,5505μm,1.9s						
RM33	Pellescritta (	0.29	169	⇑P	Pg	07 49 53.0	+0.5
RM33				S	Sb	07 49 58.0	-0.9
RM33				AML	AML		
	comp=E,1140μm,0.1s						
RM33				AML	AML		
	comp=E,1138μm,0.1s						
RM33				AML	AML		
	comp=N,1390μm,0.9s						
RM33				AML	AML		
	comp=N,1340μm,0.9s						
RM33				AML	AML		
	comp=N,1390μm,1.1s						
RM33				AML	AML		
	comp=N,1340μm,1.1s						
RM33				AML	AML		
	comp=E,1138μm,0.1s						
CSP1	Cessapalombo	0.30	10	⇑P	Pg	07 49 53.0	+0.4
CSP1				S	Sg	07 49 57.8	+1.2
CSP1				AML	AML		
	comp=N,2410μm,0.4s						
CSP1				AML	AML		
	comp=E,2270μm,0.8s						
CSP1				AML	AML		
	comp=E,2270μm,1.2s						
GUMA	Gualdo di Mace	0.30	29	⇑P	Pb	07 49 53.4	-0.7
GUMA				S	Sb	07 49 58.5	-0.6
GUMA				AML	AML		
	comp=E,4720μm,0.3s						
GUMA				AML	AML		
	comp=E,4720μm,0.4s						
GUMA				AML	AML		
	comp=E,4965μm,0.3s						
GUMA				AML	AML		
	comp=N,4770μm,0.3s						
GUMA				AML	AML		
	comp=N,4015μm,0.5s						
MF5	Montefalcone A	0.31	51	P	Pb	07 49 53.5	-0.6
MF5				S	Sb	07 49 58.8	-0.5
MF5				AML	AML		
	comp=E,1173μm,0.5s						
MF5				AML	AML		
	comp=N,929μm,1.5s						
MF5				AML	AML		
	comp=E,1174μm,0.5s						
MF5				AML	AML		
	comp=N,934μm,1.5s						
MF5				AML	AML		
	comp=N,934μm,0.5s						
CAMP	Campotosto	0.33	142	⇑P	Pg	07 49 53.6	+0.4
CAMP				S	Sb	07 49 58.8	-1.2
CAMP				AML	AML		
	comp=N,803μm,1.1s						
CAMP				AML	AML		
	comp=E,580μm,0.2s						
MML1	Montelago di S	0.34	339	P	Pg	07 49 53.6	+0.4
MML1				S	Sg	07 49 58.9	+1.1
ARRO	Arrone	0.35	231	P	Pg	07 49 54.1	+0.7
ARRO				S	Sb	07 49 59.7	-0.7
ARRO				AML	AML		
	comp=N,506μm,1.1s						
ARRO				AML	AML		
	comp=E,555μm,0.2s						
PF6	Pievefavera	0.35	7	P	Pg	07 49 53.6	+0.1
PF6				S	Sg	07 49 59.1	+0.8
SAP2	Sant'Angelo in	0.36	33	P	Pb	07 49 54.5	-0.4
SAP2				S	Sb	07 50 00.2	-0.4
SAP2				AML	AML		
	comp=E,1540μm,0.5s						
SAP2				AML	AML		
	comp=E,1535μm,0.5s						
SAP2				AML	AML		
	comp=N,13200μm,0.2s						
SAP2				AML	AML		
	comp=E,1535μm,1.5s						
SEF1	Sefro	0.38	339	P	Pg	07 49 54.3	+0.3
SEF1				S	Sb	07 50 00.2	-1.0
TERO	Teramo	0.39	117	P	Pg	07 49 54.5	+0.3
TERO				S	Sb	07 50 00.5	-1.0
TERO				AML	AML		
	comp=N,587μm,1.2s						
TERO				AML	AML		
	comp=E,967μm,1.2s						
TERO				AML	AML		
	comp=N,587μm,0.8s						
MDAR	Monte D'Aria	0.40	1	P	Pg	07 49 54.7	+0.4
MDAR				S	Sb	07 50 00.9	-0.9
PIO1	Pioraco	0.40	344	P	Pg	07 49 54.8	+0.4
MOMA	Monte Martano	0.42	271	P	Pg	07 49 55.2	+0.5
MOMA				S	Sb	07 50 01.9	-0.5
MOMA				AML	AML		
	comp=E,710μm,0.2s						
MOMA				AML	AML		
	comp=N,1495μm,1.6s						
MOMA				AML	AML		
	comp=N,564μm,0.5s						
MOMA				AML	AML		
	comp=N,1495μm,1.6s						
MOMA				AML	AML		
	comp=E,746μm,1.5s						
MOMA				AML	AML		
	comp=E,710μm,0.2s						
MOMA				AML	AML		
	comp=N,1495μm,0.4s						
MOMA				AML	AML		
	comp=E,746μm,0.5s						
FIU1	Fiuminata	0.42	339	P	Pg	07 49 55.0	+0.3
MNTP	Montappone	0.42	36	P	Pb	07 49 55.8	-0.3
ASSB	Assisi San Ben	0.43	305	P	Pg	07 49 55.2	+0.3
ASSB				S	Sb	07 50 01.8	-0.9
ASSB				AML	AML		
	comp=E,794μm,0.2s						
ASSB				AML	AML		
	comp=N,770μm,1.5s						
ASSB				AML	AML		
	comp=N,770μm,0.5s						
OFFI	Offida	0.43	71	P	Pb	07 49 56.3	+0.1
OFFI				AML	AML		
	comp=N,956μm,0.6s						
OFFI				AML	AML		
	comp=E,673μm,0.5s						
MNTT	Montottone	0.43	52	P	Pg	07 49 55.5	+0.6
MNTT				AML	AML		
	comp=E,1070μm,0.3s						
MNTT				AML	AML		
	comp=N,1210μm,1.3s						
MNTT				AML	AML		
	comp=N,1205μm,1.3s						
MNTT				AML	AML		
	comp=E,1065μm,0.3s						
SSM1	San Severino M	0.43	4	P	Pg	07 49 55.0	0.0
GAG1	Gagliole	0.44	354	P	Pb	07 49 55.9	-0.5
GAG1				S	Sb	07 50 02.7	-0.4
CESX	Cesi	0.45	246	P	Pg	07 49 55.7	+0.3
CESX				S	Sb	07 50 03.0	-0.3
CESX				AML	AML		
	comp=E,250μm,0.5s						
CESX				AML	AML		
	comp=N,383μm,0.4s						
GIGS	Gran Sasso	0.47	137	P	Pg	07 49 55.7	-0.1
GIGS				S	Sg	07 50 02.9	+0.9
GIGS				AML	AML		
	comp=E,167μm,1.1s						
GIGS				AML	AML		
	comp=N,115μm,0.3s						
GIGS				AML	AML		
	comp=E,167μm,0.9s						
SNTG	Esanatoglia	0.48	343	P	Pg	07 49 56.0	+0.2
SNTG				S	Sb	07 50 03.6	-0.6
SNTG				AML	AML		
	comp=E,719μm,0.9s						
SNTG				AML	AML		
	comp=N,662μm,1.3s						
SNTG				AML	AML		
	comp=N,646μm,1.3s						
SNTG				AML	AML		
	comp=E,674μm,0.3s						
SNTG				AML	AML		
	comp=E,719μm,1.1s						
SNTG				AML	AML		
	comp=N,662μm,1.3s						
FIAM	Fiamignano	0.53	181	P	Pg	07 49 57.0	+0.2
FIAM				S	Sb	07 50 05.0	-0.7
FIAM				AML	AML		
	comp=N,290μm,0.9s						
FIAM				AML	AML		
	comp=E,198μm,1.0s						
FIAM				AML	AML		
	comp=N,290μm,1.1s						
ATCC	AVT- Casa Cast	0.53	317	P	Pg	07 49 57.1	+0.2
ATCC				S	Sb	07 50 05.3	-0.4
ATCC				AML	AML		
	comp=E,690μm,0.4s						
ATCC				AML	AML		
	comp=N,689μm,0.3s						
EL6	Elcito	0.53	357	P	Pg	07 49 57.0	+0.1
EL6				S	Sb	07 50 05.4	-0.4
EL6				AML	AML		
	comp=E,1255μm,1.0s						
EL6				AML	AML		
	comp=N,1400μm,1.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EL6				AML	AML		
	comp=E,1255µm,1.0s						
EL6				AML	AML		
	comp=N,1400µm,1.0s						
FOSV	**Fossato di Vic**	**0.57**	**331**	P	Pg	07 49 57.6	0.0
FOSV				S	Sb	07 50 06.3	-0.5
FOSV				AML	AML		
	comp=E,414µm,0.3s						
FOSV				AML	AML		
	comp=N,497µm,0.3s						

ROM 01 07:50:21.2±0.1**, 42°.808N**±0°.004×**13°.133E**±0°.007**, h10**km**, ML1.4**/14**, 3C-1D, Error ellipse: s-maj=0.6km s-min=0.4km az=270.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.03**	**332**	⇑P	Pg	07 50 23.4	+0.1
NRCA				S	Sg	07 50 24.7	0.0
NRCA				AML	AML		
	comp=E,3065µm,0.1s						
NRCA				AML	AML		
	comp=N,4245µm,0.2s						
NRCA				AML	AML		
	comp=E,3015µm,0.1s						
NRCA				AML	AML		
	comp=N,4825µm,0.2s						
NRCA				AML	AML		
	comp=E,3015µm,0.1s						
NRCA				AML	AML		
	comp=N,4829µm,0.2s						
NRCA				AML	AML		
	comp=E,3065µm,0.1s						
NRCA				AML	AML		
	comp=N,4249µm,0.1s						
MC2	**Monte Cornacci**	**0.11**	**22**	⇑P	Pg	07 50 24.7	+0.4
MC2				S	Sg	07 50 27.2	+0.7
FEMA	**Monte Fema**	**0.17**	**338**	P	Pg	07 50 25.6	+0.5
MTRA	**Matera**	**0.20**	**105**	P	Pg	07 50 25.9	+0.4
MTRA				S	Sg	07 50 29.7	+1.3
MTRA				AML	AML		
	comp=E,128µm,0.2s						
MTRA				AML	AML		
	comp=N,121µm,0.2s						
MTRA				AML	AML		
	comp=E,140µm,0.3s						
MTRA				AML	AML		
	comp=N,128µm,0.2s						
LNSS	**Leonessa**	**0.22**	**199**	⇓P	Pg	07 50 26.3	+0.5
LNSS				S	Sg	07 50 30.4	+1.5
LNSS				AML	AML		
	comp=E,320µm,0.1s						
LNSS				AML	AML		
	comp=N,292µm,0.1s						
LNSS				AML	AML		
	comp=E,274µm,0.1s						
LNSS				AML	AML		
	comp=N,266µm,0.1s						
FDMO	**Fiordimonte**	**0.23**	**352**	⇑P	Pg	07 50 26.6	+0.5
FDMO				S	Sg	07 50 30.6	+1.3
FDMO				AML	AML		
	comp=E,122µm,0.2s						
FDMO				AML	AML		
	comp=N,81µm,0.1s						
TERO	**Teramo**	**0.39**	**118**	P	Pg	07 50 29.1	+0.1
TERO				AML	AML		
	comp=E,47µm,0.1s						
TERO				AML	AML		
	comp=N,60µm,0.3s						
TERO				AML	AML		
	comp=E,289µm,1.0s						
TERO				AML	AML		
	comp=N,62µm,0.7s						

*IDC **01** 07:58:35.4±2.9, 31°.96S×177°.11W, h0km, mb3.8/2, mbtmp3.8/3, ML3.3/1, Error ellipse: s-maj=71.7km s-min=35.7km az=122.0*

*WEL **01** 07:58:42.9±0.6, 31°S±14°×17°9W±3°7, h12km, mB4.6/4, ML4.5/9, MLv4.4/7, Mw(mB)3.8/4, Error ellipse: s-maj=51.2km s-min=3.9km az=110.9, confirmed*

ISC 01 07:58:44.0±2.0**, 31°.7S**±0°.1×**177°.8W**±0°.3**, h35**km**, n24,** σ**1s.46**/35**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.47**	**358**	P	**Pn**	**07 59 21.9**	**+0.1**
GLKZ				S	**Sn**	**07 59 50.7**	**-0.1**
MXZ	**Matakaoa Point**	**6.62**	**208**	P	**Pn**	**08 00 18.2**	**-0.6**
MXZ				S	**Sn**	**08 01 33.2**	**+0.1**
WMGZ	**Waiomatatini S**	**6.81**	**206**	P	**Pn**	**08 00 21.9**	**+0.6**
WMGZ				S	**Sn**	**08 01 38.7**	**+1.1**
PKGZ	**Pakihiroa**	**6.98**	**208**	P	**Pn**	**08 00 22.7**	**-1.0**
PKGZ				S	**Sn**	**08 01 42.4**	**+0.5**
HAZ	**Te Kaha**	**7.01**	**210**	P	**Pn**	**08 00 24.0**	**0.0**
HAZ				S	**Sn**	**08 01 44.6**	**+2.1**
PUZ	**Puketiti**	**7.09**	**206**	P	**Pn**	**08 00 24.5**	**-0.7**
PUZ				S	**Sn**	**08 01 44.8**	**+0.2**
RUGZ	**Raukumara Rang**	**7.23**	**210**	P	**Pn**	**08 00 27.5**	**+0.3**
RUGZ				S	**Sn**	**08 01 48.4**	**+0.3**
TWGZ	**Tauwhareparae**	**7.29**	**207**	S	**Sn**	**08 01 51.5**	**+2.0**
CNGZ	**Carnagh Statio**	**7.47**	**205**	P	**Pn**	**08 00 29.8**	**-0.7**
TKGZ	**Te Karaka**	**7.56**	**207**	S	**Sn**	**08 01 56.5**	**+0.3**
URZ	**Urewera**	**7.72**	**211**	Pn	**Pn**	**08 00 31.5**	**-2.3**
	0.5nm,0.3s,baz=256,slow=3.9,SNR=10						
URZ				Sn	**Sn**	**08 01 59.7**	**-0.2**
	2.2nm,0.3s,baz=31,slow=20,SNR=12						
	3.1nm,0.7s						
URZ	**Urewera**	**7.72**	**211**	P	**Pn**	**08 00 32.3**	**-1.5**
URZ				S	**Sn**	**08 01 59.0**	**-1.0**
WCZ	**Waipu Caves**	**7.75**	**235**	P	Pn	08 00 41.4	+7.1
RIGZ	**Rimuhau**	**7.83**	**206**	S	**Sn**	**08 02 01.6**	**-1.2**
OUZ	**Omahuta**	**7.96**	**242**	P	Pn	08 00 43.6	+6.4
PRGZ	**Paritu Road**	**7.98**	**205**	S	**Sn**	**08 02 06.2**	**-0.2**
MUGZ	**Murupara**	**8.05**	**212**	P	**Pn**	**08 00 36.3**	**-2.1**
MUGZ				S	**Sn**	**08 02 07.3**	**-0.9**
SNGZ	**Shannon Statio**	**8.06**	**208**	P	**Pn**	**08 00 37.1**	**-1.5**
SNGZ				S	**Sn**	**08 02 08.4**	**0.0**
MHGZ	**Mahia Peninsul**	**8.17**	**204**	S	**Sn**	**08 02 12.8**	**+1.6**
BKZ	**Black Stump Fm**	**8.74**	**210**	P	**Pn**	**08 00 48.9**	**+1.0**
BKZ				S	**Sn**	**08 02 22.8**	**-2.4**
TSZ	**Takapari Road**	**9.71**	**210**	P	**Pn**	**08 01 03.6**	**+2.4**
TSZ				S	**Sn**	**08 02 45.0**	**-3.9**
ASAR	**Alice Springs**	**43.21**	**268**	P	**P**	**08 06 42.7**	**+0.8**
	0.4nm,0.4s,baz=110,slow=7.4,SNR=16						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**44.32**	**273**	P	**P**	**08 06 52.8**	**+2.0**
	0.7nm,0.2s,baz=111,slow=8.1,SNR=18						
	0.7nm,0.2s						
FINES	**FINESS Array B**	**146.45**	**339**	PKPbc	**PKPdf**	**08 18 17.9**	**-1.4**
	1.2nm,0.5s,baz=47,slow=2.5,SNR=10						

*IDC **01** 08:10:53.8±0.5, 22°.61S×175°.85W, h0km, mb4.6/15, mbtmp4.5/15, MS3.7/41, Error ellipse: s-maj=20.4km s-min=16.1km az=111.0*

*NEIC **01** 08:10:57.5±1.0, 22°.68S±0°.05×175°.41W±0°.09, h35km±1km, mb4.6/27, Error ellipse: s-maj=14.5km s-min=8.2km az=109.0*

ISC 01 08:10:57.9±0.3**, 22°.76S**±0°.05×**175°.53W**±0°.05**, h33**km**, n151,** σ**2s.18**/124**, mb4.7**/30**, MS3.8**/39**, 12C-5D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.39**	**56**		**Pn**	**08 12 26.8**	**-3.0**
NIUE				Sn	Sn	08 13 28.7	-13
NIUE	**Niue**	**6.39**	**56**	*e*Pn	**Pn**	**08 12 27.8**	**-2.0**
	755nm,1.1s						
NIUE				*e*Sn	**Sn**	**08 13 33.9**	**-7.8**
NIUE				*e*LR	LR	08 13 40.0	
	1µm,27.2s						
NIUE	**Niue**	**6.39**	**56**	P	**Pb**	**08 12 52.7**	**+4.3**
NIUE				S	**Sb**	**08 14 09.6**	**+5.2**
RIZ	**Raoul Island**	**6.80**	**198**	S	**Sn**	**08 13 51.4**	**-0.4**
RAO	**Raoul Island**	**6.81**	**198**	Pn	**Pn**	**08 12 35.8**	**+0.4**
RAO	**Raoul Island**	**6.81**	**198**	Sn	**Sn**	**08 13 50.7**	**-1.2**
	177nm,0.3s,baz=76,slow=22,SNR=8.7						
RAO				LR	LR	08 14 24.4	
	comp=Z,172nm,20.3s,baz=1.5,slow=31						
GLKZ	**Green Lake**	**6.82**	**198**	P	**Pn**	**08 12 38.4**	**+2.8**
GLKZ				S	**Sn**	**08 13 49.9**	**-2.2**
MSVF	**Nonsavu**	**7.83**	**309**		**Pn**	**08 12 49.3**	**-0.4**
FUTU	**Fugatoga**	**8.76**	**343**	Pn	**Pn**	**08 12 59.8**	**-2.6**
RAR	**Rarotonga**	**14.70**	**87**	Pn	**Pn**	**08 14 20.0**	**-3.5**
RAR	**Rarotonga**	**14.70**	**87**	*e*P	**Pn**	**08 14 23.0**	**-0.5**
	88nm,26.0s						
RAR				*e*LR	LR	08 17 26.7	
	846nm,27.0s						
RAR	**Rarotonga**	**14.70**	**87**	Pn	**Pn**	**08 14 20.1**	**-3.3**
	7.2nm,0.3s,baz=275,slow=7.7,SNR=14						
RAR				Sn	Sn	08 16 46.8	-18
	3.7nm,0.3s,baz=182,slow=16,SNR=3.7						
RAR				LR	LR	08 18 55.3	
	comp=Z,205nm,21.4s,baz=277,slow=32						
RAR	**Rarotonga**	**14.70**	**87**	P	**Pn**	**08 14 20.7**	**-2.8**
OUZ	**Omahuta**	**15.62**	**215**	P	**P**	**08 14 37.9**	**-1.5**
MXZ	**Matakaoa Point**	**15.68**	**198**	P	**Pn**	**08 14 32.5**	**-3.8**
MXZ				S	Sn	08 17 14.5	-14
PINNC	**Pines Island,**	**15.72**	**267**	Pn	**Pn**	**08 14 37.2**	**+0.3**
PINNC				IAmb	IAmb	08 15 01.6	
	comp=Z,53nm,1.0s						
WCZ	**Waipu Caves**	**15.80**	**212**	P	**Pn**	**08 14 38.1**	**+0.2**
HAZ	**Te Kaha**	**16.01**	**200**	P	**Pn**	**08 14 34.1**	**-6.5**
HAZ				S	Sn	08 17 24.8	-12
PUZ	**Puketiti**	**16.16**	**198**	P	**Pn**	**08 14 37.5**	**-5.1**
PUZ				S	Sn	08 17 26.0	-15
URZ	**Urewera**	**16.68**	**201**	Pn	**Pn**	**08 14 42.0**	**-7.2**
	comp=Z,2.1nm,0.3s,baz=279,slow=5.1,SNR=17						
URZ				Sn	Sn	08 17 40.3	-13
	comp=Z,2.4nm,0.3s,baz=103,slow=12,SNR=8.2						
URZ	**Urewera**	**16.68**	**201**	P	**Pn**	**08 14 45.7**	**-3.4**
URZ				S	Sn	08 17 38.6	-15
DZM	**Mont Dzumac**	**16.69**	**269**	Pn	**Pn**	**08 14 49.6**	**+0.2**
DZM	**Mont Dzumac**	**16.69**	**269**	*e*P	P	08 15 01.5	+10
	comp=Z,116nm,1.5s						
DZM				*e*S	**S**	**08 18 07.3**	**+3.1**
	comp=Z,536nm,30.7s						
DZM				*e*LR	LR	08 19 12.1	
	comp=Z,569nm,24.4s						
DZM	**Mont Dzumac**	**16.69**	**269**	Pn	**P**	**08 14 51.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=90,slow=18,SNR=4.0						
DZM				LR	LR	08 19 54.4	
	comp=Z,346nm,21.9s,baz=132,slow=33						
MUGZ	**Murupara**	**16.99**	**201**	P	**Pn**	**08 14 50.0**	**-3.1**
MUGZ				S	Sn	08 17 46.5	-14
BKZ	**Black Stump Fm**	**17.71**	**201**	P	**Pn**	**08 14 58.8**	**-3.2**
BKZ				S	Sn	08 18 01.2	-17
HIZ	**Hauiti**	**17.73**	**205**	P	**P**	**08 15 04.4**	**+1.7**
CKHZ	**Cape Kidnapper**	**17.98**	**199**	P	**Pn**	**08 15 03.7**	**-1.4**
OTVZ	**Oturere**	**17.99**	**203**	P	**Pn**	**08 15 02.7**	**-2.8**
WNVZ	**Wahianoa**	**18.16**	**203**	P	**Pn**	**08 15 05.2**	**-2.4**
WNVZ				S	Sn	08 18 14.5	-15
KAHZ	**Kahuranaki**	**18.16**	**199**	P	**Pn**	**08 15 05.3**	**-2.2**
KAHZ				S	Sn	08 18 11.3	-18
PXZ	**Pawanui**	**18.38**	**199**	P	**P**	**08 15 06.8**	**-3.2**
PXZ				S	Sn	08 18 11.4	-23
PNHZ	**Pukenui**	**18.48**	**200**	P	**P**	**08 15 05.4**	**-5.6**
PNHZ				S	Sn	08 18 15.2	-22
SNZO	**South Karori**	**20.23**	**202**	*e*LR	LR	08 20 11.7	
	comp=Z,39nm,24.0s						
LTZ	**Lake Taylor**	**22.40**	**204**	P	**P**	**08 15 53.0**	**-0.5**
RPZ	**Rata Peaks**	**23.66**	**205**	LR	LR	08 24 49.7	
	comp=Z,513nm,18.3s,baz=33,slow=35						
TBI	**Tubuai**	**23.98**	**97**	*e*P	**P**	**08 16 08.6**	**-0.9**
	comp=Z,260nm,27.5s						
TBI				*e*LR	LR	08 21 48.1	
	comp=Z,3µm,27.0s						
PPT2	**Papeete2**	**24.88**	**83**	*e*P	**P**	**08 16 16.5**	**-1.4**
	comp=Z,38nm,22.8s						
PPT2				*e*S	S	08 20 27.2	-12
	comp=Z,545nm,25.0s						
PPT2				*e*LR	LR	08 22 10.0	
	comp=Z,758nm,26.0s						
PPT2				*e*LR	LR	08 22 16.9	
	comp=Z,423nm,26.2s						
PPT	**Papeete**	**24.89**	**83**	LR	LR	08 23 26.5	
	comp=Z,165nm,20.9s,baz=266,slow=30						
ARMA	**Armidale**	**30.26**	**248**	P	**P**	**08 17 06.0**	**0.0**
ARMA				IAmb	IAmb	08 17 17.8	
	comp=Z,6.2nm,0.9s						
XMAS	**Kiritimati**	**30.32**	**38**	*e*S	**S**	**08 22 02.9**	**-1.7**
	comp=Z,3.0nm,27.0s						
XMAS				*e*LR	LR	08 25 07.3	
	comp=Z,12nm,25.0s						
EIDS	**Eidsvold**	**30.55**	**258**	P	**P**	**08 17 08.3**	**-0.3**
EIDS				IAmb	IAmb	08 17 09.3	
	comp=Z,7.1nm,0.9s						
CAN	**Canberra**	**33.26**	**240**	P	**P**	**08 17 31.9**	**-0.5**
CTAO	**Charters Tower**	**35.61**	**267**		**P**	**08 17 52.7**	**-0.1**
CTAO				IAmb	IAmb	08 18 05.0	
	comp=Z,7.9nm,0.7s						
TOO	**Toolangi**	**36.51**	**237**	P	**P**	**08 18 00.1**	**-0.2**
TAOE	**Nuku Hiva Isla**	**36.62**	**74**	*e*LR	LR	08 27 30.5	
	comp=Z,392nm,27.1s						
PMG	**Port Moresby**	**38.11**	**284**	P	**P**	**08 18 12.7**	**-1.3**
STKA	**Stephens Creek**	**38.95**	**247**	P	**P**	**08 18 20.5**	**-0.5**
STKA	**Stephens Creek**	**38.95**	**247**	P	**P**	**08 18 19.7**	**-1.3**
	comp=Z,2.2nm,0.5s,baz=98,slow=12,SNR=8.8						
STKA				LR	LR	08 33 37.3	
	comp=Z,175nm,19.2s,baz=34,slow=35						
	comp=Z,2.2nm,0.5s						
JOHN	**Johnston Islan**	**39.69**	**9**	*e*LR	LR	08 29 33.6	
	comp=Z,186nm,26.2s						
INKA	**Innaminka**	**39.70**	**254**	P	**P**	**08 18 27.2**	**-0.1**
COEN	**Coen**	**40.05**	**275**	P	**P**	**08 18 29.5**	**-0.8**
COEN				IAmb	IAmb	08 18 38.5	
	comp=Z,10nm,0.9s						
BBOO	**Buckleboo**	**43.66**	**246**	P	**P**	**08 18 59.4**	**-0.3**
BBOO				IAmb	IAmb	08 19 16.7	
	comp=Z,11nm,1.0s						
AS31	**Alice Springs**	**46.28**	**258**	P	**P**	**08 19 18.9**	**-1.7**
AS31				IAmb	IAmb	08 19 33.1	
	comp=Z,2.4nm,0.5s						
ASAR	**Alice Springs**	**46.28**	**258**	P	**P**	**08 19 18.9**	**-1.8**
ASAR	**Alice Springs**	**46.28**	**258**	P	**P**	**08 19 19.0**	**-1.6**
	comp=Z,2.9nm,0.6s,baz=97,slow=7.3,SNR=30						
ASAR				LR	LR	08 38 29.6	
	comp=Z,203nm,19.5s,baz=84,slow=36						
	comp=Z,2.9nm,0.6s						
WR8	**Warramunga Arr**	**46.45**	**264**	P	**P**	**08 19 20.2**	**-1.8**
WR8				IAmb	IAmb	08 19 29.7	
	comp=Z,8.9nm,0.9s						
POHA	**Pohakuloa**	**46.55**	**26**	*e*S	**S**	**08 26 04.8**	**-4.9**
	comp=Z,2.0nm,26.7s						
POHA				*e*SS	**SS**	**08 29 40.8**	**+4.5**
	comp=Z,2.6nm,28.8s						
POHA				*e*LR	LR	08 32 38.1	
	comp=Z,6.0nm,22.8s						
WB0	**Warramunga Arr**	**46.59**	**264**	P	**P**	**08 19 21.5**	**-1.5**
WRAB	**Tennant Creek**	**46.59**	**264**	P	**P**	**08 19 21.6**	**-1.5**
WRAB				IAmb	IAmb	08 19 30.2	
	comp=Z,10nm,0.9s						
WRA	**Warramunga Arr**	**46.60**	**264**		**P**	**08 19 21.8**	**-1.4**
WRA	**Warramunga Arr**	**46.60**	**264**	P	**P**	**08 19 21.6**	**-1.5**
	comp=Z,7.0nm,0.7s,baz=102,slow=8.1,SNR=50						
WRA				LR	LR	08 39 12.7	
	comp=Z,158nm,18.2s,baz=186,slow=37						
	comp=Z,7.0nm,0.7s						
MTN	**Manton Dam**	**51.50**	**271**	P	**P**	**08 19 59.9**	**-0.8**
MTN				IAmb	IAmb	08 20 14.0	
	comp=Z,6.2nm,0.9s						
KNRA	**Kununurra**	**52.83**	**267**		**P**	**08 20 09.8**	**-0.8**
KNRA				IAmb	IAmb	08 20 24.2	
	comp=Z,9.5nm,0.9s						
GUMO	**Guam**	**53.01**	**309**	LR	LR	08 39 57.1	
	comp=Z,47nm,21.0s,baz=146,slow=33						
SBA	**Scott Base**	**55.79**	**184**	P	**P**	**08 20 35.3**	**+4.1**
SBA				IAmb	IAmb	08 20 35.9	
	comp=Z,7.4nm,0.8s						
VNDA	**Vanda**	**55.88**	**186**	P	**P**	**08 20 32.1**	**+0.2**
VNDA				IAmb	IAmb	08 20 36.1	
	comp=Z,4.6nm,0.9s						
VNDA	**Vanda**	**55.88**	**186**	P	**P**	**08 20 34.4**	**+2.5**
	comp=Z,2.9nm,0.9s,baz=359,slow=6.1,SNR=24						
VNDA				LR	LR	08 44 30.8	
	comp=Z,25nm,18.1s,baz=12,slow=36						
	comp=Z,2.9nm,0.9s						
BATI	**Baumata**	**59.28**	**271**	LR	LR	08 45 46.3	
	comp=Z,247nm,20.1s,baz=134,slow=36						
RPN	**Rapa Nui**	**59.57**	**109**	LR	LR	08 42 55.6	
	comp=Z,31nm,19.3s,baz=212,slow=32						
MBWA	**Marble Bar**	**59.62**	**258**	P	**P**	**08 20 57.5**	**-1.5**
MBWA				IAmb	IAmb	08 21 03.7	
	comp=Z,6.2nm,0.8s						
MORW	**Morawa**	**61.12**	**248**	P	**P**	**08 21 08.1**	**-1.1**
CASY	**Casey**	**62.92**	**206**	P	**P**	**08 21 21.0**	**+0.4**
CASY				IAmb	IAmb	08 21 36.3	
	comp=Z,5.0nm,0.7s						
CASY	**Casey**	**62.92**	**206**	*e*LR	LR	08 39 58.4	
	comp=Z,182nm,26.0s						
DAV	**Davao City (W)**	**64.77**	**290**	LR	LR	08 46 52.9	
	comp=Z,26nm,21.4s,baz=176,slow=34						
KAPI	**Kappang**	**64.78**	**275**	LR	LR	08 49 18.1	
	comp=Z,39nm,21.3s,baz=101,slow=36						
QSPA	**South Pole Qui**	**67.32**	**180**	P	**P**	**08 21 50.5**	**+1.1**
QSPA	**South Pole Qui**	**67.32**	**180**	P	**P**	**08 21 52.6**	**+3.2**
	comp=Z,15nm,0.9s,baz=31,slow=1.3,SNR=33						
QSPA				LR	LR	08 47 15.5	
	comp=Z,59nm,20.9s,baz=9.0,slow=32						
	comp=Z,15nm,0.9s						
JHJ2	**Mitsune**	**70.01**	**321**	*e*S	S	08 31 28.1	+13
	comp=Z,3.7nm,27.9s						
JHJ2				*e*LQ	LQ	08 40 50.7	
	comp=Z,4.5nm,24.6s						
JHJ2				*e*LR	LR	08 43 37.7	
	comp=Z,13nm,33.5s						
JOW	**Kunigami**	**73.38**	**309**	*e*LR	LR	08 45 22.5	
	comp=Z,161nm,25.6s						
MJAR	**Matsushiro Arr**	**73.39**	**323**	P	**P**	**08 22 27.3**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=287,slow=40,SNR=2.9						
MJAR				LR	LR	08 48 19.5	
	comp=Z,38nm,21.3s,baz=152,slow=31						
	comp=Z,0.6nm,0.6s						
JNU	**Nakatsue**	**75.49**	**316**	LR	LR	08 49 30.3	
	comp=Z,43nm,21.9s,baz=100,slow=31						
SHEM	**Shemya Is, Ala**	**75.71**	**354**	LR	LR	08 51 56.7	
	comp=Z,128nm,18.6s,baz=331,slow=33						
PMSA	**Palmer Station**	**78.30**	**156**	*e*LR	LR	08 46 28.3	
	comp=Z,118nm,30.0s						
LPIG	**La Paz**	**78.62**	**58**	LR	LR	08 54 25.3	
	comp=Z,62nm,18.2s,baz=216,slow=33						
PETK	**Petropavlovsk-**	**79.06**	**344**		**P**	**08 22 57.4**	**-1.0**
PETK	**Petropavlovsk-**	**79.06**	**344**	P	**P**	**08 22 59.0**	**+0.6**
	comp=Z,4.4nm,0.7s,baz=119,slow=8.6,SNR=8.2						
PETK				LR	LR	08 53 12.7	
	comp=Z,47nm,19.9s,baz=151,slow=32						
	comp=Z,4.4nm,0.7s						
PFO	**Pinyon Flats O**	**79.40**	**47**	LR	LR	08 51 48.1	
	comp=Z,22nm,18.6s,baz=252,slow=31						
KSRS	**Korea Array**	**80.10**	**318**	LR	LR	08 52 38.1	
	comp=Z,21µm,21.9s,baz=130,slow=31						
MAW	**Mawson**	**80.21**	**199**	P	**P**	**08 23 06.4**	**+1.7**
	comp=Z,12nm,0.8s,baz=127,slow=6.4,SNR=38						
MAW				LR	LR	08 56 53.6	
	comp=Z,48nm,21.1s,baz=117,slow=34						
	comp=Z,12nm,0.8s						
NVAR	**Mina Array Bea**	**81.12**	**42**	P	**P**	**08 23 12.8**	**+2.6**
	comp=Z,3.8nm,0.8s,baz=226,slow=9.3,SNR=35						
NVAR				LR	LR	08 56 31.2	
	comp=Z,56nm,18.1s,baz=246,slow=34						
	comp=Z,3.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**82.12**	**325**	LR	LR	08 52 04.2	
	comp=Z,28nm,21.3s,baz=54,slow=30						
H03S2	**Juan Fernandez**	**82.82**	**124**	T	T	09 54 51.2	
	baz=246,slow=75,SNR=101						
H03S1	**Juan Fernandez**	**82.84**	**124**	T	T	09 54 52.4	
	baz=246,slow=75,SNR=109						
H03S3	**Juan Fernandez**	**82.84**	**124**	T	T	09 54 54.3	
	baz=246,slow=75,SNR=141						
ELK	**Elko**	**84.41**	**42**	LR	LR	08 51 52.8	
	comp=Z,73nm,21.6s,baz=150,slow=29						
SYO	**Syowa Base**	**85.02**	**192**	⇑*e*PcP	**P**	**08 23 30.6**	**+0.9**
BBB	**Bella Bella**	**85.33**	**27**	LR	LR	08 54 09.6	
	comp=Z,46nm,18.8s,baz=224,slow=30						
TROLL	**Troll, Antarti**	**85.47**	**179**	⇓P	**P**	**08 23 33.3**	**+1.2**
	comp=Z,612nm,0.6s						
SNAA	**Sanae**	**85.68**	**178**	⇓P	**P**	**08 23 33.9**	**+0.9**
	comp=Z,210nm,0.9s						
SNAA	**Sanae**	**85.68**	**178**		**P**	**08 23 33.7**	**+0.6**
SNAA	**Sanae**	**85.68**	**178**	P	**P**	**08 23 34.0**	**+0.9**
	comp=Z,9.3nm,0.9s,baz=192,slow=3.7,SNR=35						
SNAA				LR	LR	08 59 25.7	
	comp=Z,28nm,20.7s,baz=122,slow=34						
	comp=Z,9.3nm,0.9s						
VNA3	**Neumayer Olymp**	**85.73**	**175**	⇓P	**P**	**08 23 34.1**	**+0.9**
	comp=Z,22nm,0.7s						
PLCA	**Paso Flores**	**86.06**	**133**	P	**P**	**08 23 37.8**	**+2.2**
	comp=Z,7.7nm,1.0s,baz=237,slow=5.9,SNR=8.7						
PLCA				LR	LR	08 52 04.0	
	comp=Z,47nm,20.8s,baz=238,slow=29						
	comp=Z,7.7nm,1.0s						
TXAR	**Lajitas Array**	**86.36**	**56**	P	**P**	**08 23 39.4**	**+2.2**
	comp=Z,6.6nm,0.9s,baz=211,slow=8.4,SNR=59						
	comp=Z,6.6nm,0.9s						
VNA1	**Neumayer--Stat**	**86.41**	**176**	⇓P	**P**	**08 23 37.8**	**+1.2**
	comp=Z,32nm,0.9s						
MA2	**Magadan**	**86.58**	**344**	LR	LR	08 57 07.0	
	comp=Z,42nm,20.9s,baz=174,slow=32						
PSI	**Prapat**	**86.97**	**274**	LR	LR	09 03 03.1	
	comp=Z,57nm,20.1s,baz=134,slow=36						
ANMO	**Albuquerque**	**87.05**	**50**	LR	LR	08 57 22.7	
	comp=Z,49nm,18.1s,baz=336,slow=32						
CMIG	**Matias Romero**	**88.22**	**71**	LR	LR	08 53 34.9	
	comp=Z,30nm,21.4s,baz=216,slow=29						
PDAR	**Pinedale Array**	**89.06**	**42**	P	**P**	**08 23 50.9**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=218,slow=3.0,SNR=11						
PDAR				LR	LR	08 59 47.6	
	comp=Z,26nm,18.1s,baz=273,slow=33						
	comp=Z,1.2nm,0.8s						
SEY	**Seymchan**	**89.11**	**346**	LR	LR	08 59 37.8	
	comp=Z,54nm,20.2s,baz=128,slow=33						
ILAR	**Eielson Array**	**90.03**	**12**	P	**P**	**08 23 54.4**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=215,slow=6.0,SNR=9.2						
	comp=Z,1.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**93.03**	**289**	P	**P**	**08 24 08.4**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=115,slow=7.2,SNR=1.0						
CMAR				LR	LR	09 02 37.9	
	comp=Z,21nm,21.5s,baz=120,slow=34						
	comp=Z,1.0nm,0.3s						
NNA	**Nana**	**93.27**	**104**	LR	LR	08 58 43.6	
	comp=Z,52nm,18.4s,baz=266,slow=31						
ATAH	**Atahualpa**	**93.80**	**99**	LR	LR	08 57 14.6	
	comp=Z,34nm,19.9s,baz=231,slow=30						
JTS	**Las Juntas de**	**94.44**	**81**	LR	LR	09 00 42.3	
	comp=Z,18nm,18.1s,baz=340,slow=32						
YAK	**Yakutsk**	**95.07**	**337**	LR	LR	09 00 36.2	
	comp=Z,22nm,21.9s,baz=142,slow=32						
YKA	**Yellowknife Ar**	**97.61**	**24**	LR	LR	09 02 46.4	
	comp=Z,54nm,18.6s,baz=300,slow=32						
LPAZ	**La Paz**	**99.08**	**112**	LR	LR	09 01 39.3	
	comp=Z,14nm,20.2s,baz=206,slow=31						
MKAR	**Makanchi Array**	**114.42**	**312**	PKP	PKPdf	08 29 33.8	-0.5
	comp=Z,0.3nm,0.6s,baz=80,slow=1.4,SNR=5.6						
KURBB	**Kurchatov Arra**	**117.26**	**316**	PKP	**PKPdf**	**08 29 38.8**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=91,slow=2.0,SNR=8.7						
BVAR	**Borovoye Array**	**122.28**	**319**	PKP	**PKiKP**	**08 29 49.2**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=94,slow=2.1,SNR=9.8						
SPITS	**Spitsbergen Ar**	**124.24**	**357**	PKP	**PKiKP**	**08 29 52.4**	**-0.2**
	comp=Z,4.3nm,0.9s,baz=12,slow=7.7,SNR=2.6						
ARCES	**ARCESS Array B**	**131.54**	**350**	PKP	**PKiKP**	**08 30 07.3**	**0.0**
	comp=Z,2.8nm,0.8s,baz=270,slow=1.2,SNR=6.4						
FINES	**FINESS Array B**	**138.57**	**344**	PKP	**PKPdf**	**08 30 19.3**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=4.3,slow=5.6,SNR=5.2						
HFS	**Hagfors**	**142.10**	**352**	PKP	**PKPdf**	**08 30 27.2**	**+1.1**
	comp=Z,4.2nm,1.0s,baz=29,slow=3.3,SNR=5.5						
SUW	**Suwalki**	**145.75**	**340**	*e*PKP	**PKPab**	**08 30 33.9**	**+0.4**
AKASG	**Malin Array Be**	**146.09**	**331**	PKPbc	**PKPbc**	**08 30 34.0**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=42,slow=4.1,SNR=15						
EKA	**Eskdalemuir Ar**	**146.98**	**8**	PKPbc	**PKPbc**	**08 30 37.1**	**+0.4**
	comp=Z,3.3nm,0.6s,baz=326,slow=2.4,SNR=7.8						
BRTR	**Keskin Array B**	**150.06**	**311**	PKPbc	**PKPbc**	**08 30 45.6**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=132,slow=3.4,SNR=21						
OJC	**Ojcow**	**150.08**	**340**	*e*PKP	**PKiKP**	**08 30 46.3**	**+0.5**
KSP	**Ksiaz**	**150.50**	**345**	*e*PKP	**PKiKP**	**08 30 47.4**	**+0.7**
NIE	**Niedzica**	**150.61**	**339**	*e*PKP	**PKiKP**	**08 30 48.1**	**+1.1**
CLL	**Collm**	**150.75**	**349**	⇓*i*PKPbc	**PKiKP**	**08 30 47.1**	**-0.1**
	comp=Z,14nm,1.0s						
CLL				*i* PKPab	**PKPab**	**08 30 53.6**	**+0.1**
CLL				*i* sPKPbc	**sPKPbc**	**08 31 01.2**	**+0.6**
OSTC	**Ostas**	**150.78**	**345**	⇑*e*PKP	**PKiKP**	**08 30 48.0**	**+0.7**
CHVC	**Chvalec**	**150.79**	**345**	⇑*e*PKP	**PKiKP**	**08 30 48.1**	**+0.8**
UPC	**Upice**	**150.87**	**345**	⇑*e*PKP	**PKiKP**	**08 30 47.8**	**+0.3**
MMAI	**Mount Meron Ar**	**150.91**	**297**	PKPbc	**PKiKP**	**08 30 48.9**	**+0.6**
	comp=Z,14nm,0.8s,baz=80,slow=1.9,SNR=14						
STEB	**Steborice**	**150.94**	**342**	⇑*e*PKP	**PKiKP**	**08 30 48.0**	**+0.4**
DPC	**Dobruska-Polom**	**150.94**	**344**	⇑*e*PKP	**PKiKP**	**08 30 48.7**	**+1.0**
DPC				*e*PKPAB	**sPKPdf**	**08 30 55.8**	**+0.3**
BRG	**Berggiesshubel**	**150.99**	**348**	P	**PKPab**	**08 30 56.6**	**+2.1**
BRG				Amp		08 30 58.0	
	comp=Z,3.4nm,0.7s						
KRLC	**Kraliky**	**151.08**	**343**	⇑*e*PKP	**PKiKP**	**08 30 48.6**	**+0.6**
MORC	**Moravsky Berou**	**151.14**	**342**	*e*PKP	**PKiKP**	**08 30 48.7**	**+0.6**
PVCC	**Panska Ves**	**151.18**	**347**	⇑*e*PKP	**PKiKP**	**08 30 49.1**	**+1.0**
MAUC	**Maruska**	**151.43**	**342**	⇑*e*PKP	**PKiKP**	**08 30 49.6**	**+0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAUC				ePKPAB	PKPab	08 30 56.2	-0.3
PRU	Pruhonice	151.70	346	⇑ePKP	PKiKP	08 30 49.6	+0.4
TREC	Trest	152.13	344	⇑ePKP	PKiKP	08 30 50.7	+0.6
KHC	Kasperske Hory	152.72	347	⇑ePKP	PKiKP	08 30 52.0	+0.6
KHC				ePKPAB	pPKPbc	08 31 00.7	-0.9
GERES	GERESS Array B	152.96	347	PKPbc	PKiKP	08 30 52.2	+0.3
	comp=Z,1.5nm,0.8s,baz=311,slow=2.6,SNR=10.0						
TORD	Torodi Ar. Bea	170.08	164	PKP	PKPdf	08 31 01.9	-1.2
	comp=Z,0.5nm,0.8s,baz=78,slow=2.1,SNR=3.6						
TORD				PKPab	PKPab	08 32 19.9	+1.8
	comp=Z,3.8nm,0.8s,baz=174,slow=3.0,SNR=17						

*SOME **01** 08:17:29.8, 42°.32N×71°.68E, h0^{km}*
*KRNET **01** 08:17:29.3±0.1, 42°.16N×71°.65E, h14^{km}, mb3.9*
*KNET **01** 08:17:31.5±0.4, 42°.34N×71°.78E, h7^{km}±3^{km}, ml3.6, Error ellipse: s-maj=5.1km s-min=3.0km az=1.0*
*NNC **01** 08:17:31.8±0.8, 42°.47N×71°.63E, h0^{km}, mb4.3, mpv4.1, Error ellipse: s-maj=9.8km s-min=1.8km az=15.0*
*ISU **01** 08:17:31, 42°.30N×71°.62E, h26^{km}*
ISC 01 08:17:30.2±1.1**, 42°.23N**±0°.02×**71°.51E**±0°.02**, h7**^{km}±9^{km}**, n77, σ1.74**/129**, 35C-29D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRKS	Terek-Say	0.76	202	⇑iP	Pg	08 17 43.8	-1.0
TRKS				⇑iS	Sg	08 17 55.2	+0.6
KSNS	Kasansay	1.07	180	P	Pn	08 17 54.4	+2.6
KSNS				S	Sn	08 18 10.3	+3.3
IUG	Iuzhnay	1.10	266	eP	Pn	08 17 53.3	+1.0
IUG				eS	Sn	08 18 09.0	+1.1
KK31	Karatay Array	1.14	320	⇓P	Pb	08 17 51.4	-1.0
	85nm,0.2s,baz=338,slow=5.2,SNR=555						
KK31				⇓S	Sg	08 18 06.1	-0.8
	203nm,0.3s,baz=139,slow=29,SNR=22						
NAM	Namangan	1.25	175	P	Pn	08 17 53.4	-0.7
NAM				S	Sn	08 18 11.2	0.0
CHRV	Charvak	1.31	244	P	Pn	08 17 54.0	-1.0
CHRV				S	Sg	08 18 12.5	+0.3
CHMG	Chimgan	1.31	239	P	Pb	08 17 54.6	-0.7
CHMG				S	Sg	08 18 13.4	+0.9
MRKS	Merke	1.37	67	eP	Pn	08 17 53.6	-2.2
	33nm,0.1s						
MRKS				eS	Sb	08 18 11.1	-2.9
	276nm,0.1s						
CHDK	Chadak	1.38	205	P	Pn	08 17 53.8	-2.3
CHDK				S	Sb	08 18 12.8	-1.6
CHM	Chimkent	1.42	274	eP	Pg	08 17 58.3	+0.8
CHM				eS	Sg	08 18 18.5	+2.6
CHM	Chimkent	1.42	274	eP	Pg	08 17 58.3	+0.8
	424nm,0.1s						
CHM				eS	Sg	08 18 18.4	+2.6
	964nm,0.2s						
ARSB	Arslanbob	1.43	129	⇓iP	Pn	08 17 54.2	-2.5
ARSB				⇓iS	Sn	08 18 12.1	-3.7
BRLS	Borolday	1.47	303	eP	Pg	08 17 57.6	-0.8
BRLS				eS	Sg	08 18 18.1	+0.6
BRLS	Borolday	1.47	303	eP	Pg	08 17 57.6	-0.8
	19nm,0.2s						
BRLS				eS	Sg	08 18 18.1	+0.6
	522nm,0.2s						
ANR	Andizhan	1.61	156	P	Pb	08 18 00.2	-0.1
ANR				S	Sg	08 18 21.4	-0.5
TGS	TashGRES	1.69	242	P	Pg	08 18 04.9	+2.2
TGS				S	Sg	08 18 28.3	+3.6
EKS2	Erkin-Say	1.73	75	⇑P	Pn	08 18 00.1	-0.8
	52nm,0.1s,SNR=86						
EKS2				⇑S	Sn	08 18 22.3	-1.0
	162nm,0.3s						
EKS2	Erkin-Say	1.73	75	⇑iP	Pn	08 18 00.0	-0.9
EKS2				⇑iS	Sn	08 18 22.9	-0.4
TSTA	Tashata	1.81	156	P	Pb	08 18 02.4	-1.3
MINT	Mingtut	1.81	193	P	Pg	08 18 05.9	+1.0
FRG	Fergana	1.87	174	P	Pb	08 18 04.1	-0.6
FRG				S	Sb	08 18 27.7	-0.6
CHMI	Chimion	1.96	180	P	Pb	08 18 06.0	-0.3
CHMI				S	Sb	08 18 30.1	-0.9
SALK	Salom-Alik	2.19	127	⇑iP	Pn	08 18 07.3	0.0
SALK				⇑iS	Sn	08 18 34.9	0.0
UCH	Uchtor	2.23	89	⇑P	Pn	08 18 08.8	+0.7
	34nm,0.2s,SNR=164						
UCH				⇓S	Sb	08 18 38.2	-0.9
	586nm,0.4s						
UCH	Uchtor	2.23	89	⇓iP	Pn	08 18 08.0	-0.1
UCH				⇓iS	Sn	08 18 36.4	+0.3
AAK	Ala-Archa	2.24	79	⇓P	Pn	08 18 08.9	+0.9
	132nm,0.3s,SNR=59						
AAK				⇓S	Sb	08 18 38.1	-1.2
	138nm,0.3s						
AAK	Ala-Archa	2.24	79	⇓Pn	Pb	08 18 09.5	-1.7
	50nm,0.6s						
AAK				⇑Sn	Sb	08 18 38.6	-0.6
	47nm,0.5s						
AAK	Ala-Archa	2.24	79	⇓iP	Pn	08 18 08.2	+0.2
AAK				⇓iS	Sn	08 18 37.1	+1.0
FRU1	Bishkek	2.38	75	⇑iP	Pn	08 18 10.0	+0.3
FRU1				⇑iS	Sn	08 18 40.3	+1.1
USP	Ospenovka	2.43	64	⇑P	Pn	08 18 11.0	+0.6
	79nm,0.2s,SNR=126						
USP				⇑S	Sb	08 18 42.4	-2.1
	286nm,0.3s						
USP	Ospenovka	2.43	64	⇑iP	Pn	08 18 11.1	+0.6
USP				⇑iS	Sb	08 18 42.2	-2.3
CHMS	Chumysh	2.51	71	⇓P	Pn	08 18 12.5	+0.9
	77nm,0.3s,SNR=32						
CHMS				⇓S	Sb	08 18 44.4	-2.4
	146nm,0.2s						
CHMS	Chumysh	2.51	71	⇑iP	Pn	08 18 12.0	+0.5
CHMS				⇑iS	Sn	08 18 43.6	+1.2
KBK	Karagaybulak	2.58	79	⇑P	Pn	08 18 13.7	+1.1
	42nm,0.2s,SNR=15						
KBK				⇓S	Sb	08 18 46.5	-2.4
	286nm,0.3s						
KBK	Karagaybulak	2.58	79	⇑iP	Pn	08 18 13.0	+0.4
KBK				⇑iS	Sn	08 18 45.1	+0.8
SGDS	Sogindy	2.60	61	Pg	Pb	08 18 14.8	-2.3
	53nm,0.3s						
SGDS				Lg	Lg	08 18 47.3	
	280nm,0.4s						
TKM2	Tokmak 2	3.09	76	⇑P	Pn	08 18 21.3	+1.6
	23nm,0.2s,SNR=10						
TKM2	Tokmak 2	3.09	76	⇑iP	Pn	08 18 20.1	+0.4
TKM2				⇑iS	Sn	08 18 57.7	+0.6
DGS	Degeres	3.29	71	Pg	Pb	08 18 28.3	-0.8
	23nm,0.2s						
DGS				Lg	Lg	08 19 10.2	
	184nm,0.4s						
BTLS	Baital	3.35	32	Pg	Pb	08 18 29.1	-1.0
	9.4nm,0.3s						
BTLS				Lg	Lg	08 19 12.2	
	78nm,0.3s						
BTLS	Baital	3.35	32	eP	Pb	08 18 29.1	-1.0
	9.4nm,0.3s						
BTLS				eS	Sb	08 19 12.2	+1.1
	78nm,0.3s						
KST	Kastek	3.38	75	Pg	Pb	08 18 29.4	-1.2
	15nm,0.6s						
KST				Lg	Lg	08 19 12.1	
	134nm,0.7s						
KST	Kastek	3.38	75	eP	Pb	08 18 29.4	-1.2
	15nm,0.6s						
KST				eS	Sb	08 19 12.1	+0.1
	134nm,0.7s						
KRBS	Karabastau	3.39	63	Pg	Pb	08 18 29.7	-1.0
	8.9nm,0.3s						
KRBS				Lg	Lg	08 19 12.6	
	28nm,0.5s						
DZI	Dzhizak	3.50	234	P	Pg	08 18 34.7	-2.5
ULHL	Ulahol	3.51	88	⇑P	Pn	08 18 26.7	+1.3
	14nm,0.2s,SNR=12						
ULHL	Ulahol	3.51	88	⇓eP	Pn	08 18 25.7	+0.2
ULHL				⇓iS	Sn	08 19 07.2	-0.2
BXML	Bakhmal	3.66	227	P	Pg	08 18 40.0	-0.4
MTBS	Maitube	3.73	74	Pg	Pb	08 18 36.1	-0.5
	52nm,0.3s						
MTBS				Lg	Lg	08 19 23.6	
	80nm,0.6s						
MTBS	Maitube	3.73	74	eP	Pb	08 18 36.1	-0.5
	52nm,0.3s						
MTBS				eS	Sb	08 19 23.6	+1.5
	80nm,0.6s						
KUU	Kurty	3.91	63	Pg	Pb	08 18 39.3	-0.2
	52nm,0.6s						
KUU				Lg	Lg	08 19 28.5	
	134nm,0.3s						
KUU	Kurty	3.91	63	eP	Pb	08 18 39.3	-0.2
	52nm,0.6s						
KUU				eS	Sb	08 19 28.5	+1.6
	134nm,0.3s						
CHGR	Chuyangaron	4.00	207	iP	Pn	08 18 33.3	+1.2
CHGR				iS	Sn	08 19 20.5	+1.2
KTBS	Karatobe	4.07	67	Pg	Pb	08 18 42.9	+0.6
	46nm,0.6s						
KTBS				Lg	Lg	08 19 35.0	
	79nm,0.4s						
TNSS	Tian-Shan	4.09	77	Pg	Pb	08 18 42.6	-0.2
	16nm,0.4s						
TNSS				Lg	Lg	08 19 35.1	
	20nm,0.6s						
TNSS	Tian-Shan	4.09	77	eP	Pb	08 18 42.6	-0.2
	16nm,0.4s						
TNSS				eS	Sb	08 19 35.1	+2.5
	20nm,0.6s						
KNDC	Almaty	4.14	74	⇓Pg	Pb	08 18 45.5	+2.1
	148nm,0.7s						
KNDC				⇑Lg	Lg	08 19 38.2	
	101nm,0.5s						
KDJ	Kajisay	4.21	90	⇓iP	Pn	08 18 35.6	+0.5
KDJ				⇓iS	Sn	08 19 24.5	-0.2
KOTS	Kotyrbulak	4.24	74	Pg	Pb	08 18 46.7	+1.4
	63nm,0.4s						
KOTS				Lg	Lg	08 19 41.6	
	93nm,0.7s						
KOTS	Kotyrbulak	4.24	74	eP	Pb	08 18 46.7	+1.4
	63nm,0.4s						
KOTS				eS	Sg	08 19 41.6	-4.9
	93nm,0.7s						
CHKK	Chushkaly	4.33	66	Pg	Pb	08 18 47.2	+0.6
	14nm,0.2s						
CHKK				Lg	Lg	08 19 42.4	
	65nm,0.5s						
CHKK	Chushkaly	4.33	66	eP	Pb	08 18 47.2	+0.6
	14nm,0.2s						
CHKK				eS	Sb	08 19 42.4	+3.3
	65nm,0.5s						
KSH	Kashi	4.33	127	Pn	Pb	08 18 48.2	+1.3
KSH				Sn	Sb	08 19 34.2	-5.2
KSH				smax	smax		
	comp=N,33nm,0.4s						
KSH				smax	smax		
	comp=E,22nm,0.5s						
TARG	Taragay, Kyrgy	4.72	94	⇑eP	Pn	08 18 42.6	+0.4
TARG				⇑iS	Sn	08 19 35.9	-1.5
TMD	Tamdy-Bulak	5.14	267	P	Pg	08 19 04.7	-4.1
SATY	Saty	5.15	78	Pg	Pb	08 19 01.5	+0.8
	comp=E,7.0nm,0.5s						
SATY				Lg	Lg	08 20 07.4	
	comp=E,46nm,0.5s						
KPKS	Kokpek	5.41	74	Pg	Pb	08 19 06.2	+1.0
	comp=E,0.2nm,0.1s						
KPKS				Lg	Lg	08 20 15.0	
	comp=E,40nm,0.4s						
UZB	Uzynbulak	5.61	78	Pg	Pb	08 19 10.6	+2.0
	comp=E,3.1nm,0.3s						
UZB				Lg	Lg	08 20 22.9	
	comp=E,18nm,0.6s						
UZB	Uzynbulak	5.61	78	eP	Pb	08 19 10.6	+2.0
	comp=E,2.6nm,0.2s						
UZB				eS	Sb	08 20 22.9	+6.8
	comp=E,18nm,0.6s						
SHLS	Shalkode	5.93	78	Pg	Pg	08 19 23.4	-0.4
	comp=E,7.2nm,0.5s						
SHLS				Lg	Lg	08 20 45.0	
	comp=E,30nm,0.8s						
SHLS	Shalkode	5.93	78	eP	Pg	08 19 23.7	-0.1
	comp=E,4.1nm,0.2s						
SHLS				eS	Sg	08 20 45.4	+4.8
	comp=E,31nm,0.5s						
PDGK	Podgornoye	5.97	77	⇓Pg	Pb	08 19 18.2	+3.5
	comp=E,17nm,0.7s						
PDGK				⇑Lg	Lg	08 20 39.9	
	comp=E,21nm,0.8s						
MK31	Makanchi Array	8.95	56	⇓Pn	Pn	08 19 38.7	-1.2
	comp=E,1.2nm,0.4s						
MK31				⇑Sn	Sn	08 21 20.8	-0.1
	comp=E,1.3nm,0.5s						
MK31				⇓Lg	Lg	08 22 10.5	
	comp=E,3.3nm,0.6s,baz=237,slow=31,SNR=4.6						
KURBB	Kurchatov Arra	9.69	28	⇑Pn	Pn	08 19 50.1	+0.1
	comp=E,1.3nm,0.7s						
KURBB				⇑Sn	Sn	08 21 37.8	-1.1
	comp=E,5.6nm,0.8s						
KURBB				⇓Lg	Lg	08 22 31.8	
	comp=E,20nm,0.6s						
AB31	Akbulak array	10.70	315	⇓Pn	Pn	08 20 02.6	-1.2
	comp=E,3.2nm,1.1s,baz=125,slow=13,SNR=12						
AB31				⇓Sn	Sn	08 22 06.1	+2.2
	comp=E,0.5nm,0.4s,baz=124,slow=22,SNR=4.3						
AB31				⇓Lg	Lg	08 23 09.3	
	comp=E,3.2nm,0.7s						
BVA0	Borovoye Array	10.82	356	⇓Pn	Pn	08 20 04.9	-0.7
	comp=E,2.7nm,1.2s,baz=159,slow=11,SNR=4.8						
BVA0				⇓Lg	Lg	08 23 11.2	
	comp=E,6.4nm,0.8s,baz=158,slow=27,SNR=4.1						
BRVK	Borovoye	10.86	356	⇑Pn	Pn	08 20 06.8	+0.7
	comp=E,0.8nm,0.8s						
BRVK				⇑Sn	Sn	08 22 07.9	0.0
	comp=E,1.0nm,0.5s						
BRVK				⇑Lg	Lg	08 23 13.6	
	comp=E,7.6nm,1.0s						

*NEIC **01** 08:18:52.9±1.6, 59°.97N±0°.02×140°.05W±0°.03, h10^{km}±1^{km}, Error ellipse: s-maj=4.8km s-min=2.8km az=33.0*
*ANF **01** 08:18:52.1±0.3, 59°.94N×140°.03W, h1^{km}±2^{km}, ML2.8/26, Error ellipse: s-maj=2.4km s-min=1.4km az=28.0*
*AEIC **01** 08:18:53.3±1.2, 59°.96N±0°.04×140°.09W±0°.04, h12^{km}±3^{km}, ML2.5, ML2.7/72(NEIC), Error ellipse: s-maj=6.5km s-min=2.3km az=192.0*
ISC 01 08:18:53.2±0.8**, 59°.95N**±0°.02×**140°.05W**±0°.02**, h14**^{km}±6^{km}**, n109, σ0.99**/136**, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PINM	Pinnacle	0.17	325	P	Pg	08 18 57.1	-0.3
	baz=149,SNR=1000						
PINM				S	Sg	08 19 00.5	+0.2
	baz=149						
PCA	Pinnacle	0.18	325		Pg	08 18 57.1	-0.4
PCA				Sg	Sg	08 19 01.6	+1.3
BCPM	Bancas Point	0.21	90		Pg	08 18 57.5	-0.4
BCPM				Sg	Sg	08 19 01.5	+0.4
SAMH	Samovar Hills	0.41	296		Pb	08 19 01.9	-0.3
PNL	Peninsula	0.44	130		Pg	08 19 01.2	-0.7
PNL	Peninsula	0.44	130	P	Pg	08 19 01.2	-0.7
	baz=311,SNR=1000						
PNL				S	Sg	08 19 06.8	-1.0
	baz=311						
YKU2	Yakutat	0.48	156		Pg	08 19 02.7	0.0
CHX	Chaix Hills	0.55	282		Pb	08 19 04.3	-0.2
TABL	Table Mountain	0.73	312		Pg	08 19 06.7	-0.7
TABL				IAML		08 19 21.9	
	comp=N,305nm,0.7s						
RKAV	Rock Avalanche	0.73	299		Pg	08 19 07.3	-0.1
O29M	Mount Kennedy	0.82	64		Pg	08 19 08.3	-0.8
O29M				IAML		08 19 20.5	
	comp=N,178nm,0.6s						
O29M				IAML		08 19 22.2	
	comp=E,180nm,0.8s						
O29M	Mount Kennedy	0.82	64	P	Pg	08 19 08.1	-0.9
	baz=247,SNR=86						
O29M				S	Sg	08 19 19.5	-0.4
	baz=247						
O28M	Mount Upton	0.82	355		Pg	08 19 08.4	-0.8
O28M				IAML		08 19 21.2	
	comp=N,314nm,0.7s						
O28M	Mount Upton	0.82	355	P	Pg	08 19 08.4	-0.8
	baz=177,SNR=180						
O28M				S	Sb	08 19 19.9	-0.6
	baz=177						
YAH	Yahtse	0.94	297		Pg	08 19 10.8	-0.6
YAH				IAML		08 19 26.6	
	comp=E,192nm,0.6s						
YAH				IAML		08 19 36.1	
	comp=N,214nm,1.1s						
MESA	MESA	0.98	284		Pg	08 19 11.2	-0.8
MESA	MESA	0.98	284	P	Pg	08 19 11.4	-0.7
	baz=102,SNR=124						
MESA				S	Sb	08 19 25.6	+0.9
	baz=102						
LOGN	Logan Glacier	0.99	332		Pg	08 19 10.8	-1.6
YUK7	Dusty Glacier	1.12	58		Pg	08 19 13.7	-1.0
YUK7					Sn	08 19 29.5	-0.2
BAGL	Bagley Icefiel	1.15	299		Pb	08 19 13.8	-0.9
GRNC	Granite Creek	1.15	313		Pg	08 19 13.2	-2.2
GRNC				IAML		08 19 37.7	
	comp=N,150nm,0.7s						
CTGM	Chitina Glacie	1.20	329		Pb	08 19 14.3	-1.4
CTGM				IAML		08 19 36.2	
	comp=N,120nm,0.5s						
CTG	Chitna Glacier	1.20	328	P	Pb	08 19 14.3	-1.4
	baz=148,SNR=66						
CTG				S	Sb	08 19 30.8	-0.3
	baz=148						
P29M	Windy Craggy	1.22	104		Pn	08 19 14.3	-1.4
P29M				IAML		08 19 34.1	
	comp=E,158nm,0.3s						
P29M	Windy Craggy	1.22	104	P	Pn	08 19 14.4	-1.4
	baz=287,SNR=33						
P29M				S	Sb	08 19 30.6	-0.8
	baz=287						
CYK	Cape Yakataga	1.23	277		Pn	08 19 15.5	-0.3
CYK					Sn	08 19 33.4	+1.3
BARK	Barkley Ridge	1.30	291		Pn	08 19 16.5	-0.4
YUK6	Outpost Mounta	1.30	39		Pn	08 19 17.2	+0.1
YUK6	Outpost Mounta	1.30	39	P	Pn	08 19 17.2	+0.1
	baz=222,SNR=361						
YUK6				S	Sn	08 19 35.0	+0.6
	baz=222						
ISLE	Juniper Island	1.31	301		Pn	08 19 16.1	-1.1
ISLE				IAML		08 19 43.8	
	comp=E,128nm,0.6s						
ISLE				IAML		08 19 46.4	
	comp=N,108nm,1.1s						
YUK8	Steele Glacier	1.34	6		Pn	08 19 17.8	+0.2
YUK8	Steele Glacier	1.34	6	P	Pn	08 19 17.9	+0.2
	baz=187,SNR=374						
YUK8				S	Sg	08 19 36.7	+0.1
	baz=187						
BARN	Barnard Glacie	1.36	325		Pn	08 19 17.0	-1.0
BARN				IAML		08 19 39.6	
	comp=E,145nm,0.3s						
BARN				IAML		08 19 40.3	
	comp=N,86nm,0.5s						
SNH	Sunshine Point	1.41	280		Pn	08 19 18.3	-0.1
SNH				IAML		08 19 40.8	
	comp=E,89nm,0.5s						
SNH				IAML		08 19 47.1	
	comp=N,153nm,0.8s						
WAX	Waxell Ridge	1.48	291		Pn	08 19 19.2	-0.2
KIAG	Kiagna River	1.50	311		Pn	08 19 18.6	-1.1
HYT	Haines Junctio	1.54	54		Pb	08 19 20.9	-0.6
HYT				IAML		08 19 44.2	
	comp=E,104nm,0.7s						
HYT	Haines Junctio	1.54	54	P	Pb	08 19 20.9	-0.6
	baz=237,SNR=106						
HYT				S	Sg	08 19 41.7	-1.0
	baz=237						
YUK4	Talbot Arm	1.56	26	P	Pg	08 19 23.4	+0.3
	baz=208,SNR=195						
YUK4				S	Sg	08 19 45.6	+2.2
	baz=208						
P30M	Million Dollar	1.56	82		Pn	08 19 21.1	+0.6
P30M				IAML		08 19 43.7	
	comp=N,93nm,0.7s						
P30M				IAML		08 19 44.4	
	comp=E,76nm,0.8s						
P30M	Million Dollar	1.56	82	P	Pn	08 19 21.2	+0.7
	baz=266,SNR=36						
P30M				S	Sb	08 19 42.2	+0.8
	baz=266						
BALM	Baldy	1.57	315		Pn	08 19 19.7	-1.0
TGL	Tana Glacier	1.60	301		Pn	08 19 20.6	-0.4
TGL				IAML		08 19 51.8	
	comp=N,64nm,0.7s						
YUK5	Granite Creek	1.60	42		Pb	08 19 22.4	-0.2
BGLC	Bering Glacier	1.63	277		Pn	08 19 21.8	+0.5
BGLC	Bering Glacier	1.63	277	P	Pn	08 19 21.9	+0.6
	baz=94						
BGLC				S	Sg	08 19 45.7	+0.1
	baz=94						
GRIN	Grindle Hills	1.67	283		Pn	08 19 22.5	+0.6
CRQE	Cirque	1.71	299	P	Pn	08 19 22.5	-0.1
	baz=117						
CRQE				S	Sb	08 19 46.3	+0.6
	baz=117						
PTPK	Patty Peak	1.72	317		Pn	08 19 22.5	-0.3
CRQM	Cirque	1.73	299		Pn	08 19 22.4	-0.6
CRQM				IAML		08 19 47.5	
	comp=N,71nm,0.9s						
CRQM				IAML		08 19 58.5	
	comp=E,101nm,0.7s						
YUK3	Moose Creek	1.84	354		Pn	08 19 25.4	+0.9
YUK3	Moose Creek	1.84	354	P	Pb	08 19 25.7	-1.0
	baz=174,SNR=76						
YUK3				Sb	Sg	08 19 52.1	-0.2
	baz=174						
SUCK	Suckling Hills	1.87	275		Pn	08 19 24.6	-0.1
SUCK				IAML		08 20 01.3	
	comp=E,56nm,0.8s						
SUCK				IAML		08 20 08.9	
	comp=N,43nm,0.9s						
BERG	Berg Lake	1.88	285		Pn	08 19 24.6	-0.1
YUK2	White River	1.88	349		Pn	08 19 26.0	+1.1
PLBC	Pleasant Camp	1.94	103		Pn	08 19 26.4	+0.9
PLBC	Pleasant Camp	1.94	103	P	Pn	08 19 26.0	+0.5
	baz=287,SNR=24						
PLBC				S	Sn	08 19 51.3	+1.6
	baz=287						
NICHA	Nichawak Mount	1.98	280		Pn	08 19 26.1	-0.1
MCARA	McCarthy VSAT	2.05	316		Pn	08 19 28.2	+1.1
MCARA				IAML		08 20 05.0	
	comp=N,77nm,0.6s						
MCARA	McCarthy VSAT	2.05	316	P	Pn	08 19 27.9	+0.8
	baz=133,SNR=19						
MCARA				S	Sb	08 19 55.6	+0.2
	baz=133						
N30M	Aishikik Lake	2.10	43		Pn	08 19 29.0	+1.1
N30M	Aishikik Lake	2.10	43	P	Pn	08 19 28.4	+0.6
	baz=226,SNR=64						
N30M				S	Sb	08 19 55.8	-1.1
	baz=226						
VRDI	Verde Repeater	2.11	309		Pn	08 19 28.2	+0.1
O30N	Mendenhall	2.13	66		Pn	08 19 29.0	+0.7
O30N				IAML		08 20 01.2	
	comp=E,35nm,0.8s						
O30N	Mendenhall	2.13	66	P	Pn	08 19 28.7	+0.4
	baz=250,SNR=35						
O30N				S	Sb	08 19 56.5	-1.3
	baz=250						
HMT	Hamilton	2.14	282		Pn	08 19 28.6	+0.2
KAIM	Kayak Island	2.20	271		Pn	08 19 29.0	-0.2
KAIM				IAML		08 20 14.0	
	comp=E,34nm,1.1s						
KAIM				IAML		08 20 29.3	
	comp=N,36nm,1.0s						
KAIM	Kayak Island	2.20	271	P	Pn	08 19 29.4	+0.3
	baz=87						
GLB	Gilahina Butte	2.38	311		Pn	08 19 31.9	+0.3
GLB				IAML		08 20 12.6	
	comp=N,28nm,0.8s						
GOAT	Goat Mountain	2.41	287		Pn	08 19 32.0	-0.2
SKAG	Skagway	2.45	100	S	Sn	08 20 04.2	+2.0
	baz=284						
BMRM	Bremner River	2.47	296		Pn	08 19 33.0	-0.1
BMRM				IAML		08 20 10.2	
	comp=N,37nm,0.6s						
BMRM	Bremner River	2.47	296	P	Pn	08 19 32.9	-0.1
	baz=112						
BMRM				S	Sn	08 20 05.6	+2.6
	baz=112						
M27K	Edge Creek, AK	2.57	341	Pb	Pb	08 19 39.3	+0.2
	baz=159						
M27K				Sb	Sg	08 20 13.0	-2.7
	baz=159						
N31M	Braeburn, Yuko	2.60	52		Pn	08 19 36.0	+1.1
N31M				IAML		08 20 19.9	
	comp=E,45nm,0.8s						
N31M				IAML		08 20 21.5	
	comp=N,33nm,0.8s						
N31M	Braeburn, Yuko	2.60	52	P	Pn	08 19 35.9	+1.1
	baz=236,SNR=38						
M29M	Somme Creek	2.62	16	Pn	Pn	08 19 36.3	+1.3
M29M				IAML		08 20 18.0	
	comp=N,25nm,0.5s						
M29M				IAML		08 20 20.6	

	comp=E,28nm,0.7s						
M29M	Somme Creek	2.62	16	P	Pn	08 19 36.1	+1.1
	baz=198,SNR=86						
M29M				Sb	Sg	08 20 14.6	-2.5
	baz=198						
WHY	Whitehorse	2.67	72		Pn	08 19 36.4	+0.7
WHY	Whitehorse	2.67	72	P	Pn	08 19 36.5	+0.7
	baz=257,SNR=18						
WHY				Sb	Sb	08 20 15.6	+2.2
	baz=257						
N25K	Chitina, Valde	2.78	309		Pn	08 19 38.1	+0.9
N25K	Chitina, Valde	2.78	309	P	Pn	08 19 38.2	+0.9
	baz=125						
S31K	Pelican	2.81	134		Pn	08 19 38.2	+0.6
S31K	Pelican	2.81	134	P	Pn	08 19 38.1	+0.5
	baz=317						
M26K	Nabesna, AK	2.84	331	P	Pn	08 19 39.2	+1.1
	baz=149						
L29M	L29M	3.30	15		Pn	08 19 46.0	+1.7
L29M				IAML		08 20 46.5	
	comp=E,23nm,0.7s						
L29M	L29M	3.30	15	P	Pn	08 19 45.5	+1.2
	baz=197,SNR=8.8						
M31M	Drury Creek, Y	3.56	48	Pn	Pn	08 19 49.5	+1.6
M31M				IAML		08 20 53.1	
	comp=E,13nm,1.0s						
M31M				IAML		08 20 54.3	
	comp=N,9.9nm,0.8s						
GLI	Glacier Island	3.61	288	Pn	Pn	08 19 49.1	+0.5
M24K	Tolsona, Glenn	3.68	309	Pn	Pn	08 19 49.8	+0.3
SIT	Sitka	3.82	137	Pn	Pn	08 19 51.2	-0.2
K29M	Barlow Dome	4.08	16	Pn	Pn	08 19 57.1	+1.9
K29M	Barlow Dome	4.08	16	P	Pn	08 19 56.7	+1.5
	baz=198,SNR=22						
Q32M	Nakina River	4.10	101	Pn	Pn	08 19 55.0	-0.4
DAWY	Dawson	4.14	4	P	Pn	08 19 57.3	+1.5
	baz=185						
DOT	Dot Lake	4.17	335	Pn	Pn	08 19 56.3	+0.1
K27K	Chicken	4.20	348	P	Pn	08 19 58.0	+1.3
	baz=166						
SCRK	Sand Creek	4.44	337	Pn	Pn	08 20 00.8	+0.7
SCRK	Sand Creek	4.44	337	P	Pn	08 20 00.9	+0.7
	baz=154						
J26L	Joseph Creek	4.85	342	Pn	Pn	08 20 07.2	+1.5
EGAK	Eagle	4.87	354	Pn	Pn	08 20 07.4	+1.5
J30M	Hart River	4.95	19	Pn	Pn	08 20 09.3	+2.2
J30M	Hart River	4.95	19	P	Pn	08 20 08.3	+1.2
	baz=202,SNR=7.5						
MMPY	Sheldon Lake,	5.01	54	Pn	Pn	08 20 09.1	+1.2
I28M	Miner Creek	5.52	1	Pn	Pn	08 20 14.7	-0.1
H29M	Whitestone	6.34	6	Pn	Pn	08 20 25.4	-0.6
KDAK	Kodiak Island	6.85	257	Pn	Pn	08 20 33.2	+0.2
OHAK	Old Harbor	7.44	254	Pn	Pn	08 20 40.5	-0.6
G31M	Satah River	7.46	18	Pn	Pn	08 20 41.3	0.0

*IDC **01** 08:25:15.2±1.2, 3°.31S×146°.14E, h0^{km}, mb3.8/8, mbtmp3.9/9, ML1.8/1, MS3.6/5, Error ellipse: s-maj=51.9km s-min=17.6km az=91.0*

ISC 01 08:25:19.1±1.0**, 3°.32S**±0°.09×**146°.1E**±0°.3**, h25^{km}, n14, σ0^{s}.70**/10**, mb3.6**/7**, MS3.4**/5**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.13	170	Pn	Pn	08 26 47.1	-1.1
	1.5nm,0.3s,baz=170,slow=16,SNR=5.0						
PMG				Sn	Sn	08 27 58.8	+1.2
	baz=168,slow=22						
	10nm,0.6s						
WRA	Warramunga Arr	20.12	214	P	P	08 29 51.0	-0.4
	22nm,1.0s,baz=38,slow=12,SNR=60						
	22nm,1.0s						
ASAR	Alice Springs	23.42	209	P	P	08 30 26.2	-0.3
	6.3nm,0.9s,baz=44,slow=7.7,SNR=68						
	6.3nm,0.9s						
DZM	Mont Dzumac	27.14	135	LR	LR	08 40 05.6	
	comp=Z,137nm,18.2s,baz=1.5,slow=33						
STKA	Stephens Creek	28.72	188	P	P	08 31 15.0	+0.5
	3.3nm,0.8s,baz=1.0,slow=12,SNR=5.6						
	3.3nm,0.8s						
JOW	Kunigami	34.58	331	LR	LR	08 43 00.6	
	comp=Z,84nm,21.6s,baz=142,slow=31						
JHJ	Hachijo jima 2	36.73	351	LR	LR	08 46 15.0	
	comp=Z,54nm,20.5s,baz=107,slow=34						
KSRS	Korea Array	43.95	339	P	P	08 33 24.1	0.0
	0.3nm,0.4s,baz=152,slow=8.8,SNR=4.6						
	0.3nm,0.4s						
MKAR	Makanchi Array	74.88	320	P	P	08 36 58.5	+0.7
	0.2nm,0.5s,baz=135,slow=5.3,SNR=3.4						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	78.57	323	P	P	08 37 18.5	0.0
	0.3nm,0.7s,baz=90,slow=4.6,SNR=2.0						
	0.3nm,0.7s						
ILAR	Eielson Array	83.38	23	P	P	08 37 43.9	0.0
	0.3nm,0.6s,baz=235,slow=4.3,SNR=4.5						
	0.3nm,0.6s						
BVAR	Borovoye Array	84.10	324	P	P	08 37 47.8	0.0
	0.3nm,0.4s,baz=90,slow=8.6,SNR=2.1						
	0.3nm,0.4s						
ARTI	Arti	91.48	326	LR	LR	09 22 00.9	
	comp=Z,14nm,19.8s,baz=64,slow=37						
KIRV	Kirov	96.32	328	LR	LR	09 22 58.4	
	comp=Z,66nm,21.4s,baz=59,slow=36						

*IDC **01** 08:57:23.9±1.0, 37°.48N×20°.56E, h0^{km}, mb3.8/11, mbtmp3.6/17, ML2.1/3, MS2.7/3, Error ellipse: s-maj=18.4km s-min=16.3km az=175.0*
*PDG **01** 08:57:26.6±0.4, 37°.47N×20°.41E, h19^{km}±1^{km}, ML3.7/10, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0*
*ATH **01** 08:57:26.7, 37°.44N×20°.41E, h8^{km}±1^{km}, ML3.6/34, Manual Solution by N.Liadopoulou First location: 2019/09/01 08:58:11, This location: 2019/09/01 09:46:06 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **01** 08:57:28.3, 38°N±1°×2°0E±°, h0^{km}±2^{km}, M3.7/18, MLh3.7/18*
*NAO **01** 08:57:34.9, 38°.09N×20°.76E, h10^{km}, MB3.8*

ISC 01 08:57:27.5±0.7**, 37°.50N**±0°.04×**20°.46E**±0°.03**, h21^{km}**±2^{km}**, n132, σ1^{s}.57**/172**, mb3.9**/10**, 5C-4D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRI1	kERI	0.33	60	P	Pb	08 57 34.4	-0.2
KRI1				S	Sb	08 57 39.0	-0.4
LTHK	Lithakia	0.36	55	P	Pb	08 57 34.9	-0.2
LTHK				S	Sb	08 57 39.6	-0.7
LTHK	Lithakia	0.36	55	P	Pb	08 57 35.0	-0.2
LTHK				S	Sb	08 57 40.4	+0.1
ORTH	Orthonies,Zaky	0.40	28	P	Pb	08 57 35.4	-0.3
ORTH				S	Sb	08 57 41.0	-0.4
ORTH	Orthonies,Zaky	0.40	28	P	Pb	08 57 35.4	-0.3
ORTH				S	Sb	08 57 42.0	+0.7
KYPS	Kipseli, Zakin	0.43	42	P	Pb	08 57 36.5	+0.2
KYPS				S	Sb	08 57 43.5	+1.3
RTZL	Ratzakli, Kefa	0.63	23	P	Pb	08 57 39.3	-0.5
RTZL				S	Sb	08 57 48.6	+0.4
CLEM	Kyllini,Ilia,G	0.66	54	P	Pb	08 57 40.8	+0.4
CLEM				S	Sn	08 57 51.1	-0.2
ARG2	Argostoli	0.68	2	P	Pb	08 57 40.4	-0.2
ARG2				S	Sb	08 57 50.0	+0.4
VLS	Valsamata	0.68	9	P	Pb	08 57 40.1	-0.7
VLS				S	Sb	08 57 49.7	-0.1
VLS	Valsamata	0.68	9	P	Pb	08 57 40.5	-0.2
VLS				S	Sn	08 57 51.2	-0.7
DMLN	Damoulianata-K	0.74	355	P	Pb	08 57 41.6	-0.1
DMLN				S	Sb	08 57 52.1	+0.8
DMLN	Damoulianata-K	0.74	355	P	Pn	08 57 42.9	+0.3
DMLN				S	Sn	08 57 53.2	-0.1
FSK	Fiskardo	0.96	5	P	Pn	08 57 47.0	+1.3
FSK				S	Sn	08 58 00.2	+1.5
RLS	Riolos of Patr	0.97	55	P	Pn	08 57 45.8	0.0
RLS				S	Sn	08 57 59.5	+0.5
RLS	Riolos of Patr	0.97	55	P	Pn	08 57 45.9	+0.1
RLS				S	Sn	08 58 00.7	+1.7
AXS	Araxos	1.00	46	P	Pn	08 57 46.3	0.0
AXS				S	Sn	08 58 02.1	+2.3
DRO	Drossia	1.09	65	P	Pb	08 57 49.0	+1.3
DRO				S	Sn	08 58 04.2	+2.2
EVGI	Lefkada island	1.13	8	P	Pb	08 57 48.3	0.0
EVGI				S	Sn	08 58 04.0	+1.1
EVGI	Lefkada island	1.13	8	P	Pb	08 57 48.5	+0.2
EVGI				S	Sn	08 58 05.0	+2.1
AST1	Astakos	1.15	25	P	Pb	08 57 49.1	+0.5
AST1				S	Sn	08 58 05.5	+2.0
ITM	Ithomi	1.21	105	P	Pb	08 57 50.4	+0.7
ITM	Ithomi	1.21	105	P	Pb	08 57 50.0	+0.3
NYDR	Nydri-Lefkada	1.23	9	P	Pb	08 57 49.9	0.0
NYDR				S	Sn	08 58 07.8	+2.6
LKD2	Lefkada island	1.30	7	P	Pb	08 57 51.0	-0.1
LKD2	Lefkada island	1.30	7	P	Pb	08 57 51.2	+0.1
LKD2				S	Sb	08 58 09.9	+2.5
TSLK	Tsoukalades, L	1.33	7	P	Pb	08 57 51.9	+0.1
TSLK				S	Sb	08 58 10.5	+2.2
TSLK	Tsoukalades, L	1.33	7	P	Pb	08 57 52.4	+0.7
TSLK				S	Sb	08 58 11.0	+2.7
PVO	Paravola	1.40	37	P	Pb	08 57 53.4	+0.6
PVO				S	Sb	08 58 12.7	+2.5
KLV	Kalavryta, Ach	1.45	67	P	Pb	08 57 54.0	+0.3
EFP	Efpalio	1.47	51	P	Pb	08 57 54.7	+0.6
EFP				S	Sb	08 58 15.6	+3.2
GUR	Goura	1.56	73	P	Pb	08 57 56.2	+0.6
ANX	Ano Chora	1.59	46	P	Pb	08 57 56.6	+0.5
ANX	Ano Chora	1.59	46	P	Pb	08 57 56.4	+0.3
ANX				S	Sb	08 58 17.6	+1.8
KALE	Kalithea	1.60	56	P	Pb	08 57 56.5	+0.2
KALE	Kalithea	1.60	56	P	Pb	08 57 56.8	+0.4
EVR	Evrytania	1.77	36	P	Pb	08 57 59.7	+0.4
EVR	Evrytania	1.77	36	P	Pb	08 57 59.8	+0.5
TETR	Tetrakomo, Epi	1.95	19	P	Pb	08 58 02.0	-0.3
TETR	Tetrakomo, Epi	1.95	19	P	Pb	08 58 02.0	-0.3
MAKR	Makrakomi, Fth	2.00	41	P	Pb	08 58 02.6	-0.6
IGT	Igoumenitsa	2.03	357	P	Pn	08 58 01.5	+1.0
IGT	Igoumenitsa	2.03	357	P	Pb	08 58 02.3	-1.4
LTK	Loutraki	2.05	75	P	Pb	08 58 02.7	-1.4
LTK	Loutraki	2.05	75	P	Pb	08 58 02.5	-1.6
PRMD	Pramanda	2.09	14	P	Pb	08 58 04.2	-0.4
AGG	Agios Georgios	2.12	44	P	Pb	08 58 04.8	-0.4
AGG	Agios Georgios	2.12	44	P	Pb	08 58 03.9	-1.2
VLI	Veliai	2.13	111	P	Pb	08 58 04.5	-0.8
VLI	Veliai	2.13	111	P	Pb	08 58 03.7	-1.6
AXAR	Agios Charalam	2.15	53	P	Pb	08 58 04.7	-0.9
AXAR	Agios Charalam	2.15	53	P	Pb	08 58 04.2	-1.4
JAN	Janina	2.17	8	P	Pb	08 58 04.4	-1.7
MET2	Kameni Chora,	2.28	86	P	Pn	08 58 05.3	+1.4
MET6	Megalochori,Me	2.30	87	P	Pn	08 58 05.5	+1.4
MET5	Makryloggos,Me	2.31	86	P	Pn	08 58 06.0	+1.8
LKR	Lokris	2.31	59	P	Pn	08 58 06.0	+1.7
VIL2	Platees	2.33	71	P	Pn	08 58 06.3	+1.7
MET4	Agioi Theodoro	2.34	86	P	Pn	08 58 06.2	+1.6
ATAL	Atalanti	2.35	59	P	Pn	08 58 06.7	+2.0
VILL	Villia	2.35	73	P	Pn	08 58 06.4	+1.6
THL	Klokotos Trika	2.40	30	P	Pb	08 58 08.4	-1.5
THL	Klokotos Trika	2.40	30	P	Pb	08 58 07.8	-2.0
PARN2	Moni Osiou Mel	2.47	73	P	Pn	08 58 08.4	+1.9
PARN3	Mandra,Attica,	2.48	76	P	Pn	08 58 08.4	+1.9
MAGU	Magoula	2.49	76	P	Pn	08 58 08.0	+1.3
STFN	Stefani	2.53	74	P	Pn	08 58 09.2	+1.8
PARN1	Fyli,Attica,Gr	2.61	76	P	Pn	08 58 09.8	+1.4
ATH	Athens Observa	2.62	79	P	Pn	08 58 10.1	+1.6
VLY	Voula,Athens	2.67	81	P	Pn	08 58 10.7	+1.5
PENT	Pentalofos	2.74	11	P	Pn	08 58 12.8	+2.5
PTL	Penteli	2.75	77	P	Pn	08 58 11.6	+1.2
ANKY	Antikythira Is	2.81	125	P	Pn	08 58 12.3	+1.2
DION	Dionisos Attik	2.81	77	P	Pn	08 58 12.6	+1.4
KZN	Kozani	2.98	20	P	Pn	08 58 15.8	+2.2
LIT	Litokhoron	3.04	31	P	Pn	08 58 16.1	+1.7
KYMI	Kymi, Euboea I	3.09	67	P	Pn	08 58 16.3	+1.4
TIP	Timpagrande	3.36	301	P	Pn	08 58 19.5	+0.8
OHR	Ohrid	3.62	4	*i* Pn	Pn	08 58 25.1	+2.8
OHR				*e*Sn	Sn	08 59 08.4	+4.1
CEL	Celeste	3.69	283	P	Pn	08 58 24.2	+0.9
MESG	Mesagne	3.69	327	P	Pn	08 58 24.3	+1.0
PLG	Polygyros	3.69	38	P	Pn	08 58 24.5	+1.1
VAY	Valandovo	4.15	23	*i* Pn	Pn	08 58 31.6	+2.0
VAY				*e*Sn	Sn	08 59 21.5	+4.1
IDI	Anoyia	4.20	120	Pn	Pn	08 58 30.0	-0.3
	1.6nm,0.3s,baz=308,slow=17,SNR=8.4						
IDI				Sn	Sn	08 59 18.9	+0.1
	4.3nm,0.3s,baz=335,slow=21,SNR=8.8						
	6.0nm,0.8s						
IDI	Anoyia	4.20	120	P	Pn	08 58 30.8	+0.5
NOCI	Noci	4.21	322	P	Pn	08 58 31.2	+0.8
CUC	Castrocucco	4.40	306	P	Pn	08 58 34.1	+1.1
LIA	Limnos Island	4.40	56	P	Pn	08 58 34.6	+1.6
SKO	Skopje	4.53	9	*i* Pn	Pn	08 58 37.1	+2.3
ULC	Ulcinj	4.55	349	*e*Pn	Pn	08 58 34.8	-0.3
ULC				*i* Sn	Sn	08 59 26.9	-0.5
MMB	Musomishta	4.78	31	*e*P	Pn	08 58 40.4	+2.2
DRME	Dracevica, Mon	4.78	349	*e*Pn	Pn	08 58 38.8	+0.6
DRME				*i* Sn	Sn	08 59 32.4	-0.6
KKB	Krupnik	4.80	25	*e*P	Pn	08 58 40.2	+1.7
VAE	Valguarnera	4.81	272	Pn	Pn	08 58 40.9	+2.3
	1.2nm,0.3s,baz=127,slow=14,SNR=1.8						
VAE				Sn	Sn	08 59 39.1	+5.3
	1.8nm,0.3s,baz=248,slow=20,SNR=2.2						
	3.9nm,0.3s						
SMTH	Samothraki Isl	4.94	52	P	Pn	08 58 42.1	+1.7
PDG	Podgorica	5.01	350	*e*Pn	Pn	08 58 42.7	+1.4
PDG				*i* Sn	Sn	08 59 38.0	-0.6
WDD	Wied Dalam	5.05	253	P	Pn	08 58 42.5	+0.6
PVY	Plav	5.10	356	*e*Pn	Pn	08 58 44.0	+1.3
PVY				*i* Sn	Sn	08 59 40.3	-0.8
CEME	Cevo	5.18	347	*e*Pn	Pn	08 58 44.5	+0.8
CEME				*i* Sn	Sn	08 59 41.9	-0.9
RZN	Rozhen	5.33	37	*e*P	Pn	08 58 48.0	+2.0
RDO	Rodhopi	5.36	46	P	Pn	08 58 47.3	+1.2
IVA	Berane	5.38	356	⇓*i*Pn	Pn	08 58 47.2	+0.6
IVA				*i* Sn	Sn	08 59 47.0	-0.9
NKME	Niksic	5.39	348	⇓*i*Pn	Pn	08 58 47.7	+1.1
NKME				*i* Sn	Sn	08 59 46.9	-1.0
KOME	Kolasin	5.39	353	⇑*i*Pn	Pn	08 58 47.3	+0.6
KOME				*i* Sn	Sn	08 59 47.5	-0.7
VTS	Vitosha	5.54	22	*e*P	Pn	08 58 50.9	+2.2
KDZ	Kurdzhali	5.59	41	*e*P	Pn	08 58 51.0	+1.7
BRY	Bratogost	5.59	345	⇑*i*Pn	Pn	08 58 50.6	+1.1
BRY				*i* Sn	Sn	08 59 51.5	-1.6
UPM	Unac-Piva	5.82	349	⇓*i*Pn	Pn	08 58 53.7	+1.1
UPM				*i* Sn	Sn	08 59 56.9	-1.9
BOVS	Bovan	6.20	8	⇑P	Pn	08 58 59.1	+1.4
MPEP	Malo Peshtene	6.36	22	*e*P	Pn	08 59 02.3	+2.4
ARR	Arges	8.46	20	⇑P	Pn	08 59 30.2	+1.4
MLR	Muntele Rosu	8.98	26	Pn	Pn	08 59 36.5	+0.6
	4.1nm,0.9s,baz=194,slow=6.5,SNR=11						
MLR				LR	LR	09 03 36.2	
	comp=Z,26nm,21.8s,baz=198,slow=42						
MLR	Muntele Rosu	8.98	26	⇓P	Pn	08 59 39.6	+3.7
VRI	Vrincioaia	9.58	27	⇑P	Pn	08 59 47.7	+3.6
BRTR	Keskin Array B	10.55	74	Sn	Sn	09 01 48.0	-7.1
	0.2nm,0.3s,baz=7.8,slow=28,SNR=8.2						
DAVOX	Davos/Dischmat	12.14	323	LR	LR	09 06 32.9	
	comp=Z,19nm,20.4s,baz=262,slow=45						
GERES	GERESS Array B	12.36	339	Pn	Pn	09 00 24.1	+2.0
	baz=183,slow=14,SNR=1.8						
	0.1nm,0.3s						
AKASG	Malin Array Be	14.61	23	Pn	Pn	09 00 53.0	+0.3
	0.2nm,0.4s,baz=211,slow=9.2,SNR=10						
ESDC	Sonseca Array	19.20	284	P	Pn	09 01 51.7	+0.7
	0.6nm,1.0s,baz=95,slow=9.0,SNR=1.8						
HFS	Hagfors	23.06	351	P	P	09 02 30.4	-0.8
	2.9nm,0.6s,baz=156,slow=11,SNR=12						
	2.9nm,0.6s						
EKA	Eskdalemuir Ar	23.96	326	P	P	09 02 39.6	-0.4
	0.8nm,0.6s,baz=122,slow=11,SNR=4.2						
	0.8nm,0.6s						
FINES	FINESS Array B	24.23	7	P	P	09 02 41.9	-0.5
	2.3nm,0.6s,baz=181,slow=9.7,SNR=16						
	2.3nm,0.6s						
NB2	NORSAR Subarra	24.27	349	P	P	09 02 45.9	+3.0
	comp=Z,2.5nm,0.8s,baz=161,slow=10						
NOA	NORSAR Array B	24.27	349	P	P	09 02 42.7	-0.2
	comp=Z,0.6nm,0.9s,baz=160,slow=11,SNR=1.6						
	comp=Z,0.6nm,0.9s						
TORD	Torodi Ar. Bea	29.48	220	P	P	09 03 29.3	-0.7
	comp=Z,0.7nm,0.5s,baz=31,slow=9.1,SNR=4.8						
	comp=Z,0.7nm,0.5s						
ARCES	ARCESS Array B	32.21	3	P	P	09 03 52.2	-1.4
	comp=Z,1.2nm,0.8s,baz=187,slow=9.5,SNR=5.0						
	comp=Z,1.2nm,0.8s						
KURBB	Kurchatov Arra	42.67	53	P	P	09 05 21.1	-1.3
	comp=Z,0.6nm,0.5s,baz=280,slow=8.5,SNR=4.9						
	comp=Z,0.6nm,0.5s						
MKAR	Makanchi Array	45.70	58	P	P	09 05 45.3	-1.5
	comp=Z,0.7nm,0.5s,baz=275,slow=7.9,SNR=11						
	comp=Z,0.7nm,0.5s						
ZALV	Zalesovo Beam	46.18	48	P	P	09 05 49.3	-1.1
	comp=Z,1.5nm,0.5s,baz=274,slow=9.9,SNR=4.7						
	comp=Z,1.5nm,0.5s						
SONM	Songino Array	60.93	50	P	P	09 07 38.4	-0.4
	comp=Z,0.6nm,0.7s,baz=266,slow=5.8,SNR=1.7						
	comp=Z,0.6nm,0.7s						
KSRS	Korea Array	79.80	50	P	P	09 09 34.8	+0.7
	comp=Z,0.4nm,0.5s,baz=307,slow=4.4,SNR=3.1						
	comp=Z,0.4nm,0.5s						
BDFB	Brasilia	83.18	245	LR	LR	09 47 44.2	
	comp=Z,16nm,18.8s,baz=3.8,slow=36						

*ISK **01** 09:24:08.2, 37°.54N×26°.79E, h22^{km}, ML2.4/20*
*ATH **01** 09:24:09.2, 37°.62N×26°.95E, h16^{km}±1^{km}, ML2.7/2, Manual Solution by A.Agalos First location: 2019/09/01 17:50:26, This location: 2019/09/01 17:49:35 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 4 km*
*AFAD **01** 09:24:09.6, 37°.59N×26°.79E, h7^{km}±3^{km}, ML2.5*
*THE **01** 09:24:10.3, 38°N±6°×2°7E±°, h12^{km}±5^{km}, M2.8/5, MLh2.8/5*

ISC 01 09:24:09.3±0.9**, 37°.59N**±0°.02×**26°.83E**±0°.03**, h15^{km}**±6^{km}**, n50, σ0^{s}.66**/74**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMG	Samos	0.12	2	P	Pg	09 24 13.1	+0.1
SMG				S	Sg	09 24 15.4	+0.2
SMG	Samos	0.12	2	P	Pg	09 24 13.1	+0.1
SMG				S	Sb	09 24 15.6	-0.4
KRL1	Karlovasi Samo	0.23	334	P	Pb	09 24 14.9	-0.2
KRL1				S	Sb	09 24 18.9	-0.1
GCAM	G?zelcaml?	0.34	71	Pg	Pb	09 24 17.1	+0.1
GCAM				Sg	Sb	09 24 23.1	+0.9
GCAM	G?zelcaml?	0.34	71	P	Pb	09 24 17.2	+0.1
GCAM				S	Sb	09 24 22.6	+0.4
GCAM				*i* IAML		09 24 23.0	
	comp=E,1µm,0.8s						
DDIM	Aydin, Didim	0.35	112	P	Pb	09 24 17.6	+0.3
DDIM				S	Sb	09 24 23.3	+0.7
DDIM				*i* IAML		09 24 24.0	
	comp=N,625nm,0.2s						
DDIM				*i* IAML		09 24 24.0	
	comp=E,554nm,0.2s						
KUSD	Kusadasi-Aydin	0.45	53	Pg	Pb	09 24 18.9	-0.1
KUSD				Sg	Sb	09 24 26.9	+1.4
GMLD	Gumuldur	0.49	8	Pg	Pb	09 24 19.7	+0.1
YKAV	Yalikavak-Bodr	0.59	142	Pg	Pg	09 24 19.9	-1.0
YKAV				Sg	Sg	09 24 28.9	+0.1
KLNA	Kalymnos	0.64	170	P	Pg	09 24 22.4	+0.4
KLNA				S	Sg	09 24 30.9	+0.4
ZEYE	Izmir, Urla-Ze	0.70	338	P	Pb	09 24 23.4	+0.2
ZEYE				S	Sb	09 24 32.3	-0.2
ZEYE				*i* IAML		09 24 37.0	
	comp=N,303nm,0.2s						
ZEYE				*i* IAML		09 24 38.0	
	comp=E,206nm,0.2s						
BDRM	Kayabasi	0.72	137	P	Pg	09 24 23.4	0.0
BDRM				S	Sg	09 24 33.3	+0.4
BDRM				*i* IAML		09 24 38.0	
	comp=E,182nm,0.3s						
BLCB	Balcova	0.81	12	Pg	Pg	09 24 25.4	+0.3
BLCB	Balcova	0.81	12	P	Pg	09 24 25.6	+0.4
BLCB				S	Sn	09 24 36.7	-1.2
AYDN	Tasoluk	0.83	85	P	Pg	09 24 26.2	+0.6
AYDN				S	Sb	09 24 36.4	-0.2
AYDN				*i* IAML		09 24 39.0	
	comp=N,204nm,0.3s						
AYDN				*i* IAML		09 24 42.0	
	comp=E,288nm,0.3s						
AYDB	Zeytinkoy-Aydi	0.91	67	Pg	Pb	09 24 26.6	-0.3
AYDB				Sg	Sn	09 24 40.5	-0.1
CHOS	Chios island	1.00	323	P	Pn	09 24 29.1	+0.2
CHOS				S	Sn	09 24 43.5	+0.7
CHOS	Chios island	1.00	323	P	Pn	09 24 29.2	+0.2
CHOS				S	Sn	09 24 43.1	+0.3
YAZI	Mula-Dat§a-	1.04	151	P	Pn	09 24 29.7	+0.4
YAZI				S	Sb	09 24 43.2	+0.9
YAZI				*i* IAML		09 24 48.0	
	comp=E,121nm,0.6s						
YAZI				*i* IAML		09 24 49.0	
	comp=N,105nm,0.3s						
IZMR	zmir-demi	1.04	58	P	Pg	09 24 30.2	+0.7
IZMR				S	Sb	09 24 42.3	-0.2
IZMR				*i* IAML		09 24 48.0	
	comp=E,86nm,0.5s						
DAT	Datca	1.05	145	Pg	Pb	09 24 27.6	-1.6
DAT	Datca	1.05	145	P	Pg	09 24 30.9	+1.3
DAT				*i* IAML		09 24 49.0	
	comp=N,111nm,0.4s						
DAT	Datca	1.05	145	P	Pg	09 24 30.4	+0.7
DAT				S	Sn	09 24 45.3	+1.4
EAG2	Marmaro, Chios	1.11	329	P	Pn	09 24 30.4	+0.1
KARB	zmir-Karabur	1.12	343	P	Pg	09 24 31.1	+0.1
FOCM	Foa	1.12	356	Pn	Pb	09 24 29.9	-0.5
ODEM	Odemis-Izmir	1.20	55	Pn	Pn	09 24 31.1	-0.5
NAZL	Nazilli-Aydin	1.22	72	Pn	Pn	09 24 31.2	-0.6
ESEN	Aydn-Nazilli	1.22	80	P	Pg	09 24 33.0	+0.1
MULA	Mugla, Merkez-	1.23	105	P	Pg	09 24 33.5	+0.4
MULA				S	Sg	09 24 49.4	+0.2
KIRA	zmir-Kiraz	1.38	64	P	Pg	09 24 35.6	-0.3
KIRA				S	Sg	09 24 53.6	-0.4
ZEDA	zmir-Bergama	1.39	8	P	Pb	09 24 34.6	-0.3
ZEDA				S	Sg	09 24 54.0	-0.1
IZMD	zmir-Dikili-	1.39	3	P	Pg	09 24 36.5	+0.3
TURN	Turunc	1.39	125	Pn	Pn	09 24 32.8	-1.4
TURN	Turunc	1.39	125	P	Pb	09 24 35.8	+0.8
TURN				*i* IAML		09 25 08.0	
	comp=E,56nm,0.4s						
GOMA	Golmarmara-Man	1.41	37	Pn	Pn	09 24 34.0	-0.4
AKHS	Akhisar	1.50	31	P	Pg	09 24 38.5	+0.3
AKHS				S	Sg	09 24 58.4	+0.6
AKHS				*i* IAML		09 25 03.0	
	comp=E,76nm,0.4s						
MANT	Manisa	1.63	56	P	Pg	09 24 41.4	+0.6
SOMA	Soma-Manisa	1.66	19	Pn	Pn	09 24 37.6	-0.2
TAVA	DENIZLI_Tavas	1.66	94	P	Pg	09 24 41.1	-0.2
PRK	Paraskevi	1.71	345	P	Pb	09 24 39.7	-0.7
KULA	Kula-Manisa	1.71	57	Pn	Pn	09 24 38.3	-0.4
ARG	Arkhangelos	1.72	143	Pn	Pn	09 24 37.4	-1.3
SIGR	SIGRI	1.79	335	P	Pn	09 24 40.2	+0.6
SIGR	SIGRI	1.79	335	P	Pn	09 24 39.5	-0.2
SIGR				S	Sn	09 25 02.0	-0.1
APMY	Acipayam-Deniz	1.97	93	Pn	Pn	09 24 41.2	-1.0
YAYO	Edremit-Balk	2.02	5	Pn	Pn	09 24 42.8	-0.1
KARP	Karpathos	2.06	172	Pn	Pn	09 24 41.9	-1.5
CAME	Cameli-Denizli	2.08	107	Pn	Pn	09 24 42.6	-1.1
EZN	Ezine	2.27	350	Pn	Pn	09 24 44.8	-1.4

*FUNV **01** 09:25:10.7, 10°.34N×61°.65W, h34^{km}, MW3.2*

ISC 01 09:25:05.2±1.7**, 10°.2N**±0°.2×**61°.9W**±0°.1**, h28^{km}, n4, σ3^{s}.04**/8**, Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DMDM	Guralp CMG5TDE	0.63	33	*e*P	Pn	09 25 18.8	+0.5
DMDM				*e*S	Sb	09 25 25.7	-0.5
TRN	Trinidad (W)	0.69	45	*e*P	Pn	09 25 19.9	+0.9
TRN				*e*S	Sb	09 25 27.6	-0.2
PCRV	Puerto La Cruz	2.69	270	*e*P	Pb	09 25 54.2	+1.4
PCRV				*e*S	Sb	09 26 25.1	-0.4
CACV	CAICARA DEL OR	5.26	241	*e*P	Pn	09 26 24.8	+2.7
CACV				*e*S	Sn	09 27 15.9	-6.0

KRSC 01 09:32:05.7±1.8**, 49°.76N×156°.90E, h68^{km}**±24^{km}**, Ml3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.06	332	*e*P	Pn	09 32 25.8	+1.1
SKR				*e*S	Sn	09 32 39.7	+0.8
PAU	Pauzhetka	1.71	358	*e*P	Pn	09 32 35.5	+2.1
PAU				*e*S	Sn	09 32 55.9	+1.6
KDTR	Khodutka, Kamc	2.19	20	*e*P	Pn	09 32 42.9	+3.1
KDTR				*e*S	Sn	09 33 08.9	+3.2
MIPR	Malaya Ipel'ka	2.52	358	*e*P	Pn	09 32 45.6	+1.2
ASAK	Asacha	2.71	13	*e*P	Pn	09 32 50.1	+3.2
MTVR	Mutnovka	2.85	16	*e*P	Pn	09 32 51.8	+3.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MTVR				*e*S	Sn	09 33 25.4	+3.3
RUS	**Russkaya**	**2.87**	**20**	*e*P	Pn	09 32 51.5	+2.5
RUS				*e*S	Sn	09 33 24.6	+2.3
GRL	**Gorelyy**	**2.90**	**14**	*e*P	Pn	09 32 52.8	+3.3
GRL				*e*S	Sn	09 33 27.6	+4.3
KRMR	**Karymshinskiy**	**3.17**	**14**	*e*P	Pn	09 32 56.1	+2.9
APC	**Apacha**	**3.18**	**3**	*e*P	Pn	09 32 56.8	+3.5
DALK	**Dalny**	**3.48**	**19**	*e*P	Pn	09 33 00.4	+3.0
UGLR	**Uglovaya**	**3.66**	**18**	*e*P	Pn	09 33 02.2	+2.3
AVH	**Avacha**	**3.70**	**17**	*e*P	Pn	09 33 04.0	+3.6
KOK	**Koryaka**	**3.70**	**16**	*e*P	Pn	09 33 04.0	+3.5
SMAR	**Somma**	**3.71**	**18**	*e*P	Pn	09 33 03.6	+2.9
KRER	**Koryakskii**	**3.74**	**17**	*e*P	Pn	09 33 04.7	+3.7
SDLR	**Sedlovina**	**3.74**	**19**	*e*P	Pn	09 33 03.7	+2.7
KRX	**Arik**	**3.77**	**16**	*e*P	Pn	09 33 04.6	+3.2
SPN	**Mys Shipunski**	**3.88**	**29**	*e*P	Pn	09 33 06.2	+3.4
SPN				*e*S	Sn	09 33 49.6	+2.7
GNL	**Ganaly**	**4.00**	**9**	*e*P	Pn	09 33 06.5	+2.0
MKZ	**Mys Kozlova**	**5.65**	**30**	*e*P	Pn	09 33 28.7	+1.8

CATAC 01 09:59:22.0±0.6**, 12°N**±3°×**8°7W**±°**, h25**km±5km**, M2.7**/13**, MLv2.7**/13**, Error ellipse: s-maj=7.1km s-min=4.2km az=29.5, confirmed, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.71**	**40**	P	Pn	09 59 36.2	-0.1
SAPS	**Ciudad Sandino**	**0.83**	**50**	P	Pb	09 59 37.8	+0.1
SAPS	**Ciudad Sandino**	**0.83**	**50**	S	Sn	09 59 49.2	-0.3
UNAN	**Cigeo UNAN**	**0.90**	**58**	P	Pn	09 59 39.2	+0.2
UNAN				S	Sn	09 59 51.4	+0.1
APQ2	**Apoyeque**	**0.91**	**52**	P	Pb	09 59 38.2	-0.9
TISN	**Laguna Tiscapa**	**0.92**	**57**	P	Pb	09 59 37.8	-1.5
CNGA	**Al SSO del Vol**	**0.92**	**22**	P	Pb	09 59 39.2	-0.2
CNGA				S	Sn	09 59 51.6	-0.3
APQ3	**Volcan Apoyequ**	**0.92**	**47**	S	Sn	09 59 52.1	+0.3
CNGN	**Cerro Negro**	**0.93**	**22**	P	Pb	09 59 39.9	+0.4
MGAN	**Managua**	**0.94**	**57**	S	Sn	09 59 52.8	+0.6
R4DEC	**Barrio San Lui**	**0.94**	**57**	S	Sn	09 59 52.7	+0.5
MAS3	**Al N del Volca**	**0.94**	**66**	S	Sn	09 59 52.7	+0.4
NANN	**Nandasmo**	**0.96**	**72**	S	Sn	09 59 53.7	+0.9
NANN	**Nandasmo**	**0.96**	**72**	P	Pb	09 59 40.2	+0.1
MOM2	**El Cardon**	**0.97**	**35**	P	Pn	09 59 40.0	0.0
MOM2				S	Sn	09 59 54.7	+1.6
PLRN	**Geotermica Pol**	**0.99**	**17**	P	Pn	09 59 38.8	-1.4
PLRN				S	Sb	09 59 52.7	-0.3
WILN	**Americas 2**	**1.00**	**58**	S	Sn	09 59 54.6	+1.0
ILCN	**San Idelfonso**	**1.00**	**20**	P	Pn	09 59 29.9	-10
NADN	**Granada**	**1.01**	**83**	P	Pn	09 59 39.8	-0.7
NADN				S	Sn	09 59 54.9	+1.0
MOM3	**MOM3**	**1.02**	**31**	P	Pb	09 59 41.1	+0.1
MOM3				S	Sn	09 59 54.7	+0.5
PKGN	**Cerro Pekin**	**1.03**	**4**	P	Pb	09 59 41.1	-0.1
PKGN				S	Sn	09 59 54.7	+0.2
MORN	**Al O del Volca**	**1.38**	**93**	S	Sn	10 00 03.5	+0.4
CSGN	**Cosiguina Volc**	**1.42**	**340**	P	Pn	09 59 46.3	0.0
CSGN				S	Sb	10 00 05.2	-0.4
BOAB	**BOACO BROADBAN**	**1.58**	**59**	S	Sn	10 00 08.2	+0.2
BOAB	**BOACO BROADBAN**	**1.58**	**59**	P	Pn	09 59 47.6	-0.8
MATN	**Matagalpa**	**1.70**	**40**	P	Pn	09 59 49.0	-1.1
MATN	**Matagalpa**	**1.70**	**40**	S	Sn	10 00 11.0	0.0
CHOHN	**Orocuina**	**1.84**	**357**	S	Sn	10 00 14.4	-0.2
CHOHN	**Orocuina**	**1.84**	**357**	P	Pn	09 59 52.5	+0.4
RCVN	**Varillal2**	**2.11**	**23**	P	Pn	09 59 56.0	+0.2
YUSH	**Yuscaran**	**2.32**	**5**	P	Pn	09 59 59.6	+1.0

*IPEC **01** 10:06:38.4±0.2, 51.°51N×16.°32E, h1km, ML2.2/7, Error ellipse: s-maj=2.4km s-min=1.3km az=75.0*
*VIE **01** 10:06:38.7±0.8, 51.°47N×16.°10E, h0km, mb2.0/1, ml2.6/2, Error ellipse: s-maj=10.4km s-min=3.8km az=58.0 76 km NW of Wroclaw Suspected Mining induced.*
*PRU **01** 10:06:39.9, 51.°47N×16.°19E, h0km*
ISC 01 10:06:40.1±1.3**, 51.°39N**±0.°06×**16.°19E**±0.°03**, h0**km**, n24, σ0.s62**/49**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.55**	**173**	*e*Pg	**Pg**	**10 06 51.5**	**+0.9**
KSP				*e*Sg	**Sb**	**10 07 00.7**	**-0.3**
CHVC	**Chvalec**	**0.81**	**186**	*e*PG	**Pb**	**10 06 56.3**	**-0.7**
CHVC				*e*SG	**Sb**	**10 07 08.6**	**+0.2**
	24nm,0.5s						
OSTC	**Ostas**	**0.83**	**179**	*e*PG	**Pb**	**10 06 57.1**	**-0.4**
OSTC				*e*SG	**Sb**	**10 07 09.8**	**+0.6**
	19nm,0.3s						
UPC	**Upice**	**0.89**	**187**	*e*PG	**Pb**	**10 06 57.9**	**-0.5**
UPC				*e*SG	**Sb**	**10 07 11.4**	**+0.6**
	52nm,0.4s						
DPC	**Dobruska-Polom**	**1.04**	**175**	*e*PG	**Pg**	**10 07 00.3**	**+0.2**
DPC				*e*SG	**Sb**	**10 07 14.8**	**-0.5**
	24nm,0.6s						
PIVO	**Bartosovice**	**1.22**	**169**	*e*Pg	**Pg**	**10 07 03.8**	**+0.3**
	baz=354						
PIVO				*e*Sg	**Sg**	**10 07 19.9**	**+0.5**
	25nm,0.2s,baz=354						
PVCC	**Panska Ves**	**1.34**	**231**	*e*PG	**Pg**	**10 07 05.0**	**-0.8**
PVCC				*e*SG	**Sn**	**10 07 24.7**	**+0.1**
	54nm,0.4s						
KRLC	**Kraliky**	**1.37**	**164**	*e*PG	**Pg**	**10 07 06.0**	**-0.3**
KRLC				*e*SG	**Sn**	**10 07 25.3**	**0.0**
	23nm,0.7s						
BRG	**Berggiesshubel**	**1.51**	**251**	Pg	**Pb**	**10 07 08.9**	**-0.1**
BRG				Sg	**Sn**	**10 07 29.1**	**+0.3**
BRG				Amp		10 07 31.8	
	comp=Z,25nm,0.3s						
RICC	**Richard**	**1.57**	**238**	*e*PG	**Pn**	**10 07 08.8**	**-0.4**
RICC				*e*SG	**Sb**	**10 07 30.4**	**0.0**
RYBC	**Ceska Rybna**	**1.58**	**183**	*e*Pn	**Pn**	**10 07 09.1**	**-0.3**
	baz=5.3						
RYBC				*e*Sg	**Sg**	**10 07 31.8**	**+0.9**
	comp=Z,22nm,0.2s,baz=5.3						
PRU	**Pruhonice**	**1.75**	**217**	*e*PG	**Pn**	**10 07 12.0**	**+0.3**
PRU				*e*SG	**Sg**	**10 07 36.5**	**+0.2**
	comp=Z,17nm,0.5s						
STEB	**Steborice**	**1.77**	**145**	*e*PN	**Pn**	**10 07 11.0**	**-1.0**
STEB				*e*PG	**Pb**	**10 07 13.5**	**+0.1**
STEB				*e*SG	**Sg**	**10 07 37.9**	**+1.0**
MORC	**Moravsky Berou**	**1.83**	**151**	*e*Pn	**Pn**	**10 07 11.8**	**-1.0**
	baz=336						
MORC				*e*Sg	**Sb**	**10 07 37.9**	**0.0**
	comp=Z,16nm,0.5s,baz=336						
CLL	**Collm**	**2.00**	**269**	*e*Pg	**Pn**	**10 07 15.0**	**-0.2**
CLL				*e*x	x	10 07 19.0	
CLL				*e*Sg	**Sn**	**10 07 41.0**	**+0.1**
	comp=Z,13nm,0.4s						
VRAC	**Vranov**	**2.10**	**173**	*e*Pn	**Pn**	**10 07 15.9**	**-0.6**
	baz=356						
VRAC				*e*Sg	**Sg**	**10 07 47.5**	**0.0**
	comp=Z,11nm,0.4s,baz=356						
TREC	**Trest**	**2.14**	**192**	*e*PG	**Pg**	**10 07 20.8**	**-0.4**
TREC				*e*SG	**Sg**	**10 07 50.5**	**+1.6**
KRUC	**Moravsky**	**2.33**	**177**	*e*Pn	**Pn**	**10 07 19.3**	**-0.4**
	baz=359						
KRUC				*e*Sg	**Sg**	**10 07 54.9**	**0.0**
	comp=Z,6.8nm,0.4s,baz=359						
KRUC	**Moravsky**	**2.33**	**177**	*e*PN	**Pn**	**10 07 19.4**	**-0.3**
KRUC				*e*SG	**Sg**	**10 07 55.0**	**0.0**
OJC	**Ojcow**	**2.57**	**116**	*e*Pg	**Pg**	**10 07 29.6**	**+0.2**
OJC				*e*Sg	**Sg**	**10 08 04.0**	**+1.3**
JAVC	**Velka Javorina**	**2.70**	**159**	*e*Pn	**Pn**	**10 07 24.1**	**-0.8**
	baz=342						
JAVC				*e*Sg	**Sg**	**10 08 05.6**	**-1.3**
	comp=Z,12nm,0.8s,baz=342						
KHC	**Kasperske Hory**	**2.81**	**218**	*e*PN	**Pn**	**10 07 25.6**	**-0.8**
KHC				*e*PG	**Pb**	**10 07 31.3**	**+0.1**
KHC				*e*SG	**Sg**	**10 08 11.5**	**+1.1**
	comp=Z,7.7nm,0.5s						
CONA	**Conrad Observa**	**3.47**	**184**	*e*Pn	**Pn**	**10 07 35.8**	**+0.4**
	comp=Z,0.2nm,0.2s						
CONA				Sg	**Sg**	**10 08 31.9**	**+0.4**
	comp=Z,3.3nm,0.3s						
MOA	**Molln**	**3.76**	**200**	*e*Pn	**Pn**	**10 07 39.1**	**-0.3**
	comp=Z,0.4nm,0.2s						

*IDC **01** 10:23:49.1±1.7, 79.°33N×17.°29W, h0km, mb3.6/5, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=45.5km s-min=24.7km az=15.0*
*DNK **01** 10:23:49.6±1.8, 79.°19N×17.°11W, h2km±28km, ML2.9*
*BER **01** 10:23:51.6±2.8, 79.°22N×17.°66W, h0km±26km, ML2.7, ML2.9(DNK), Confirmed Earthquake*
*KOLA **01** 10:23:55.2, 80.°42N×17.°17W, h0km, ML1.7, Error ellipse: s-maj=231.1km s-min=50.4km az=10.0*
ISC 01 10:23:49.6±0.8**, 79.°29N**±0.°06×**17.°30W**±0.°06**, h10**km**, n30, σ2.s13**/41**, mb3.5**/5**, Eastern Kalaallit Nunaat**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.33**	**2**	*i* P	**Pn**	**10 24 29.0**	**+1.2**
NOR				*i* S	**Sb**	**10 25 00.2**	**0.0**
NOR				IAML		10 25 02.1	
	comp=Z,214nm,0.4s						
NOR	**Nord**	**2.33**	**2**	*i* P	**Pn**	**10 24 29.0**	**+1.2**
NOR				*i* S	**Sb**	**10 25 00.2**	**0.0**
NOR				IAML		10 25 02.1	
	comp=Z,214nm,0.4s						
DAG	**Danmarks Havn**	**2.55**	**187**	*i* P	**Pn**	**10 24 31.2**	**+0.3**
DAG				*i*		10 25 04.5	
DAG				IAML		10 25 13.1	
	comp=Z,200nm,0.4s						
DAG	**Danmarks Havn**	**2.55**	**187**	*i* P	**Pn**	**10 24 31.2**	**+0.3**
DAG				*i*		10 25 04.5	
DAG				IAML		10 25 13.1	
	comp=Z,200nm,0.4s						
DBG	**Daneborg**	**5.06**	**189**	*i* P	**Pn**	**10 25 03.5**	**-1.8**
DBG				IAML		10 26 34.3	
	comp=Z,49nm,0.4s						
DBG	**Daneborg**	**5.06**	**189**	*i* P	**Pn**	**10 25 03.5**	**-1.8**
DBG				*i* P	Pb	10 25 05.0	-13
DBG				IAML		10 26 34.3	
	comp=Z,49nm,0.4s						
KBS	**Kingsbay**	**5.51**	**79**	P	**Pn**	**10 25 13.2**	**+1.7**
KBS				S	**Sn**	**10 26 10.9**	**-4.0**
KBS	**Kingsbay**	**5.51**	**79**	*e*P	**Pn**	**10 25 12.2**	**+0.7**
KBS				*e*S	**Sn**	**10 26 12.4**	**-2.5**
KBS				IAML		10 26 18.5	
	comp=Z,8.1nm,0.4s						
KBS	**Kingsbay**	**5.51**	**79**	*i* P	**Pn**	**10 25 12.1**	**+0.5**
KBS				*i* S	**Sn**	**10 26 11.2**	**-3.6**
BRBB	**Barentsburg B**	**6.25**	**85**	P	**Pn**	**10 25 22.9**	**+1.2**
BRBB				S	**Sn**	**10 26 30.9**	**-2.0**
BRBB	**Barentsburg B**	**6.25**	**85**	*e*P	**Pn**	**10 25 23.1**	**+1.5**
BRBB				*e*S	**Sn**	**10 26 31.0**	**-2.0**
BRBA	**Barentsburg A**	**6.27**	**86**	*e*P	**Pn**	**10 25 24.5**	**+2.6**
BRBA				*e*S	**Sn**	**10 26 32.3**	**-1.1**
BRBA				IAML		10 26 35.6	
	comp=Z,4.8nm,0.3s						
SPA0	**Spitsbergen Ar**	**6.62**	**83**	*e*P	**Pn**	**10 25 27.9**	**+1.2**
SPA0				*e*S	**Sn**	**10 26 40.0**	**-2.0**
SPA0				IAML		10 26 45.7	
	comp=Z,7.0nm,0.7s						
SPITS	**Spitsbergen Ar**	**6.62**	**83**	Pn	**Pn**	**10 25 27.4**	**+0.7**
	baz=293,slow=7.7						
SPITS				Sn	**Sn**	**10 26 42.4**	**+0.4**
	baz=276,slow=33						
	comp=Z,1.8nm,0.3s						
SPITS	**Spitsbergen Ar**	**6.62**	**83**	P	**Pn**	**10 25 28.6**	**+2.0**
SPITS				S	**Sn**	**10 26 38.7**	**-3.3**
NEEM	**North Greenlan**	**6.99**	**272**	*i* P	**Pn**	**10 25 29.0**	**-3.0**
NEEM				IAML		10 26 49.7	
	comp=Z,29nm,0.4s						
NEEM	**North Greenlan**	**6.99**	**272**	*i* P	**Pn**	**10 25 29.0**	**-3.0**
NEEM				IAML		10 26 49.7	
	comp=Z,29nm,0.4s						
HSPB	**Hornsund (broa**	**7.05**	**92**	S	**Sn**	**10 26 51.1**	**-1.6**
HSPB	**Hornsund (broa**	**7.05**	**92**	*e*S	**Sn**	**10 26 49.5**	**-3.2**
HSPB				IAML		10 26 50.7	
	comp=Z,1.3nm,0.6s						
SUMG	**Summit**	**8.40**	**228**	*i* P	**Pn**	**10 25 49.2**	**-2.4**
SUMG				IAML		10 27 22.7	
	comp=Z,12nm,0.4s						
SUMG	**Summit**	**8.40**	**228**	*i* P	**Pn**	**10 25 49.2**	**-2.4**
SUMG				IAML		10 27 22.7	
	comp=Z,12nm,0.4s						
JNW	**Jan Mayen West**	**8.60**	**160**	*e*P	**Pn**	**10 25 53.9**	**+0.1**
JNE	**Jan Mayen East**	**8.64**	**160**	*e*P	**Pn**	**10 25 54.4**	**0.0**
JMI	**Jan Mayen**	**8.68**	**161**	*e*P	**Pn**	**10 25 54.4**	**-0.5**
HOPEN	**Hopen**	**9.12**	**86**	*e*S	**Sn**	**10 27 37.5**	**-5.8**
HOPEN				IAML		10 27 42.4	
	comp=Z,4.4nm,0.7s						
HFS	**Hagfors**	**21.46**	**135**	P	**P**	**10 28 38.9**	**+1.4**
	comp=Z,5.0nm,1.0s,baz=356,slow=6.2,SNR=6.1						
	comp=Z,5.0nm,1.0s						
FINES	**FINESS Array B**	**22.05**	**118**	P	**P**	**10 28 45.4**	**+1.5**
	comp=Z,3.8nm,0.5s,baz=338,slow=11,SNR=30						
	comp=Z,3.8nm,0.5s						
ESDC	**Sonseca Array**	**40.08**	**164**	P	**P**	**10 31 25.5**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=8.6,slow=8.1,SNR=4.4						
	comp=Z,0.6nm,0.7s						
BRTR	**Keskin Array B**	**44.26**	**121**	P	**P**	**10 32 00.2**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=358,slow=6.5,SNR=2.4						
	comp=Z,0.6nm,0.8s						
NVAR	**Mina Array Bea**	**54.55**	**289**	P	**P**	**10 33 18.4**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=358,slow=6.3,SNR=2.1						
	comp=Z,0.1nm,0.5s						

*PRU **01** 10:30:42.7, 44.°68N×18.°67E, h1km*
*BEO **01** 10:30:43.7±0.5, 44.°60N×18.°47E, h21km±4km, ML2.6/12*
*RHSSO **01** 10:30:43.1±0.3, 44.°64N×18.°50E, h6km±2km, ML2.7/12*
ISC 01 10:30:42.7±1.1**, 44.°68N**±0.°02×**18.°53E**±0.°02**, h5**km±9km**, n62, σ1.s06**/113**, 14C-5D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOB	**Doboj**	**0.31**	**279**	⇑*i*Pg	**Pg**	**10 30 48.4**	**-0.4**
DOB				*e*Sg	**Sg**	**10 30 53.5**	**+0.7**
TEKS	**Tekeris**	**0.73**	**100**	*e*Pg	**Pg**	**10 30 56.8**	**+0.1**
TEKS				*e*Sg	**Sn**	**10 31 10.4**	**-0.7**
BLY	**Banja Luka**	**0.96**	**274**	*e*Pg	**Pg**	**10 31 00.9**	**-0.3**
BLY				*e*Sg	**Sg**	**10 31 13.3**	**-0.3**
BLY	**Banja Luka**	**0.96**	**274**	⇑P	**Pb**	**10 31 02.3**	**+0.4**
BLY				⇑S	**Sg**	**10 31 14.5**	**+0.9**
BLY	**Banja Luka**	**0.96**	**274**	*e*Pg	**Pg**	**10 31 01.9**	**+0.7**
BLY				*e*Sg	**Sg**	**10 31 14.3**	**+0.7**
FRGS	**Fruska Gora**	**1.03**	**62**	*e*Pg	**Pb**	**10 31 02.7**	**-0.3**
FRGS				*e*Sg	**Sn**	**10 31 19.1**	**+0.5**
BBLS	**Lazi&#263i**	**1.03**	**142**	*e*Pg	**Pg**	**10 31 01.5**	**-1.0**
BBLS				*e*Sg	**Sb**	**10 31 17.1**	**+0.2**
A051A	**Mrakovica**	**1.20**	**287**	*e*Pg	**Pg**	**10 31 05.2**	**-0.5**
A051A				*e*Sg	**Sg**	**10 31 21.6**	**+0.3**
RUDO	**Rudo**	**1.22**	**150**	*e*Pg	**Pg**	**10 31 04.1**	**-2.1**
RUDO				*e*Sg	**Sg**	**10 31 20.7**	**-1.3**
AVAS	**Avala Beograd**	**1.42**	**89**	*e*Pg	**Pb**	**10 31 09.5**	**-0.1**
AVAS				*e*Sg	**Sg**	**10 31 31.6**	**+3.4**
TRUS	**Trudelj**	**1.42**	**108**	*e*Pg	**Pg**	**10 31 10.5**	**+0.6**
TRUS				*e*Sg	**Sg**	**10 31 29.6**	**+1.3**
A050A	**Klekovaca**	**1.44**	**263**	⇑*i*Pg	**Pn**	**10 31 09.2**	**-0.3**
A050A				*e*Sg	**Sn**	**10 31 27.4**	**-1.5**
KLINJ	**Klinje**	**1.51**	**178**	*e*Pg	**Pn**	**10 31 10.0**	**-0.5**
KLINJ				*e*Sg	**Sn**	**10 31 29.4**	**-1.3**
MORH	**Mrgy, Hungar**	**1.53**	**3**	*e*Pn	**Pb**	**10 31 11.5**	**-0.1**
MORH				*e*Sn	**Sg**	**10 31 31.8**	**-0.2**
MORH	**Mrgy, Hungar**	**1.53**	**3**	⇑P	**Pg**	**10 31 11.9**	**-0.2**
MORH				⇑S	**Sg**	**10 31 31.8**	**-0.2**
RICI	**Ricice**	**1.56**	**221**	*e*Pn	**Pn**	**10 31 11.0**	**-0.1**
RICI				Sn	**Sb**	**10 31 33.0**	**+1.0**
MOSL	**Moslavina**	**1.56**	**307**	*e*Pn	**Pb**	**10 31 12.1**	**0.0**
MOSL				*e*Sn	**Sb**	**10 31 32.6**	**+0.4**
MOSL	**Moslavina**	**1.56**	**307**	*e*Pn	**Pn**	**10 31 10.6**	**-0.6**
MOSL				Sn	**Sb**	**10 31 32.6**	**+0.4**
IVAS	**Ivanjica**	**1.61**	**133**	*e*Pg	**Pn**	**10 31 10.8**	**-1.0**
IVAS				*e*Sg	**Sb**	**10 31 33.9**	**+0.4**
GRUS	**Gruza**	**1.76**	**116**	*e*Pg	**Pb**	**10 31 15.0**	**-0.4**
GRUS				*e*Sg	**Sg**	**10 31 39.7**	**+0.5**
SJES	**Sjenica**	**1.76**	**143**	*e*Pg	**Pn**	**10 31 13.5**	**-0.5**
SJES				*e*Sg	**Sg**	**10 31 39.4**	**+0.1**
MAKA	**Makarska**	**1.77**	**219**	*e*Pn	**Pn**	**10 31 14.0**	**+0.1**
MAKA				Sn	**Sn**	**10 31 37.5**	**+0.7**
STON	**Ston**	**1.91**	**199**	*e*Pn	**Pn**	**10 31 15.7**	**-0.1**
STON				*e*Sn	**Sn**	**10 31 38.7**	**-1.5**
STON	**Ston**	**1.91**	**199**	*e*Pn	**Pn**	**10 31 16.4**	**+0.5**
STON				Sn	**Sn**	**10 31 41.1**	**+0.9**
TREB	**Trebinje**	**1.97**	**184**	*e*Pn	**Pn**	**10 31 17.0**	**+0.3**
TREB				*e*Sn	**Sn**	**10 31 41.4**	**-0.4**
UDBI	**Udbina**	**1.98**	**266**	*e*Pn	**Pn**	**10 31 17.4**	**+0.5**
UDBI				Sn	**Sn**	**10 31 44.0**	**+1.9**
GOCS	**Kraljevo Serbi**	**2.03**	**123**	*e*Pg	**Pn**	**10 31 18.6**	**+1.0**
GOCS				*e*Sg	**Sg**	**10 31 47.6**	**-0.2**
DBRK	**Dubrovnik**	**2.03**	**188**	*e*Pn	**Pn**	**10 31 18.0**	**+0.5**
DBRK				Sn	**Sn**	**10 31 44.4**	**+1.1**
VRSS	**Vrsac**	**2.04**	**77**	*e*Pg	**Pg**	**10 31 21.5**	**-0.2**
VRSS				*e*Sg	**Sg**	**10 31 50.1**	**+2.0**
PLIT	**Plitvice**	**2.08**	**276**	*e*Pn	**Pn**	**10 31 18.1**	**-0.2**
PLIT				Sn	**Sn**	**10 31 45.4**	**+0.8**
BEHE	**Becsehely**	**2.17**	**326**	*e*Pn	**Pn**	**10 31 19.6**	**+0.1**
BEHE				*e*Sn	**Sn**	**10 31 48.1**	**+1.3**
MORI	**Morici**	**2.19**	**249**	*e*Pn	**Pn**	**10 31 20.4**	**+0.8**
MORI				Sn	**Sn**	**10 31 48.4**	**+1.3**
LSTV	**Lastovo**	**2.25**	**212**	*e*Pn	**Pn**	**10 31 20.6**	**+0.1**
LSTV				Sn	**Sn**	**10 31 49.8**	**+1.1**
MDVR	**Moldovita**	**2.27**	**86**	⇑P	**Pg**	**10 31 26.1**	**-0.1**
MDVR				⇑S	**Sg**	**10 31 57.5**	**+1.8**
ZIRJ	**Zirje**	**2.32**	**245**	*e*Pn	**Pn**	**10 31 22.4**	**+0.9**
ZIRJ				Sn	**Sn**	**10 31 51.2**	**+0.9**
OZLJ	**Ozalj**	**2.36**	**294**	*e*Pn	**Pn**	**10 31 21.8**	**-0.2**
OZLJ				*e*Sn	**Sn**	**10 31 51.0**	**-0.3**
SELS	**Selova**	**2.37**	**127**	*e*Sg	**Sg**	**10 31 59.5**	**+0.5**
BZS	**Buzias**	**2.38**	**66**	⇑P	**Pg**	**10 31 27.3**	**-0.9**
BZS				⇓S	**Sg**	**10 31 58.3**	**-0.8**
VIRC	**Vir**	**2.52**	**262**	*e*Pn	**Pn**	**10 31 24.5**	**+0.3**
VIRC				Sn	**Sn**	**10 31 56.3**	**+1.1**
DUGI	**Dugi Otok**	**2.58**	**256**	*e*Pn	**Pn**	**10 31 25.8**	**+0.6**
DUGI				Sn	**Sn**	**10 31 58.2**	**+1.2**
NVLJ	**Novalja**	**2.62**	**269**	*e*Pn	**Pn**	**10 31 25.9**	**+0.3**
NVLJ				Sn	**Sn**	**10 31 57.9**	**+0.3**
SIRR	**Siria**	**2.71**	**53**	⇓P	**Pb**	**10 31 30.5**	**-1.2**
SIRR				⇑S	**Sb**	**10 32 05.2**	**-0.1**
SURR	**Surduc**	**2.76**	**66**	⇑P	**Pb**	**10 31 32.4**	**-0.1**
SURR				⇓S	**Sb**	**10 32 06.4**	**-0.1**
HERR	**Herculane**	**2.77**	**85**	⇑P	**Pb**	**10 31 33.0**	**+0.2**
GZR	**Gura Zlata**	**3.09**	**75**	⇑P	**Pb**	**10 31 37.0**	**-1.3**
SOKA	**Soboth**	**3.16**	**310**	*i* Pn	**Pn**	**10 31 32.6**	**-0.6**
	1.2nm,0.3s,SNR=5.0						
SOKA				*e*Sn	**Sn**	**10 32 09.3**	**-2.0**
	1.3nm,0.3s						
ARSA	**Arzberg**	**3.31**	**322**	*i* Pn	**Pn**	**10 31 35.4**	**+0.2**
	6.7nm,0.3s,SNR=21						
ARSA				*e*Sn	**Sn**	**10 32 13.0**	**-2.1**
	3.4nm,0.3s						
OBKA	**Obir**	**3.34**	**305**	*e*Pn	**Pn**	**10 31 35.3**	**-0.4**
	0.6nm,0.2s						
PSZ	**Piszkesteto**	**3.37**	**16**	⇓P	**Pn**	**10 31 38.0**	**+1.9**
RONA	**Rosalia, Austr**	**3.39**	**334**	*i* Pn	**Pn**	**10 31 36.7**	**+0.4**
	2.8nm,0.3s,SNR=12						
RONA				*e*Sn	**Sn**	**10 32 15.5**	**-1.4**
	5.8nm,0.5s						
BRJN	**Brijuni**	**3.41**	**275**	*e*Pn	**Pn**	**10 31 37.0**	**+0.5**
BRJN				*e*Sn	**Sn**	**10 32 16.0**	**-1.2**
DRGR		**3.61**	**53**	⇑P	**Pn**	**10 31 42.8**	**+3.5**
CONA	**Conrad Observa**	**3.74**	**331**	*i* Pn	**Pn**	**10 31 41.3**	**+0.2**
	0.8nm,0.3s,SNR=9.4						
CONA				*e*Sn	**Sn**	**10 32 25.6**	**+0.1**
	2.3nm,0.4s						
MARR	**Marisel-Cluj**	**3.78**	**57**	⇓P	**Pb**	**10 31 45.9**	**-4.1**
JAVC	**Velka Javorina**	**4.22**	**352**	*e*PN	**Pn**	**10 31 49.1**	**+1.4**
MOA	**Molln**	**4.33**	**318**	*e*Pn	**Pn**	**10 31 49.8**	**+0.6**
	1.0nm,0.3s						
MOA				*e*Sn	**Sn**	**10 32 39.6**	**-0.5**
	2.5nm,0.2s						
BIOA	**Bad Ischl, Aus**	**4.54**	**313**	*i* Pn	**Pn**	**10 31 52.2**	**+0.1**
	1.3nm,0.2s						
BIOA				*e*Sn	**Sn**	**10 32 44.0**	**-1.1**
	4.6nm,0.3s						
KRUC	**Moravsky**	**4.62**	**342**	*e*PN	**Pn**	**10 31 53.4**	**+0.3**
MAUC	**Maruska**	**4.71**	**354**	*e*SN	**Sn**	**10 32 48.9**	**-0.5**
LESA	**Schwarzleotal**	**4.91**	**306**	*e*Pn	**Pn**	**10 31 57.0**	**-0.3**
	0.2nm,0.2s						
LESA				*e*Sn	**Sn**	**10 32 52.8**	**-1.6**
	0.9nm,0.3s						
MORC	**Moravsky Berou**	**5.14**	**353**	*e*PN	**Pn**	**10 31 58.9**	**-1.4**
KHC	**Kasperske Hory**	**5.59**	**324**	*e*PN	**Pn**	**10 32 07.6**	**+1.0**
KHC				*e*SN	**Sn**	**10 33 11.4**	**+0.2**

*JMA **01** 10:32:43.0±1.4, 45°N±7°×15°0E±°, h30km, MV4.1/10, SE OFF ETOROFU*
*NIED **01** 10:32:43.0, 45.°08N×149.°64E, h30km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.89; $M_{\theta\theta}$-1.34; $M_{\phi\phi}$-1.55; $M_{r\theta}$0.65; $M_{\theta\phi}$-1.54; $M_{\phi r}$3.74; Fault plane solution: $M_0$4.78000×10^{14} NP1: ϕ_s241.00000°, δ24.00000°, λ130.00000°. NP2: ϕ_s19.00000°, δ72.00000°, λ74.00000°.*
*SKHL **01** 10:32:47.1±0.9, 45.°10N×149.°40E, h68km±7km, mb4.5/3*
*IDC **01** 10:32:47.5±3.1, 44.°85N×149.°53E, h70km±29km, mb3.4/6, mbtmp3.7/11, MS3.0/1, Error ellipse: s-maj=31.3km s-min=17.8km az=131.0*
ISC 01 10:32:46.7±0.8**, 44.°89N**±0.°08×**149.°49E**±0.°08**, h60**km**, n38, σ1.s68**/39**, mb3.5**/6**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.20**	**287**	*e*P	**Pn**	**10 33 05.2**	**-2.1**
KUR				AMB	AMB	10 33 05.9	
	200nm,0.2s						
KUR				*e*S	**Sn**	**10 33 19.6**	**-3.1**
KUR				A	A	10 33 23.8	
	250nm,0.5s						
KUR				A	A	10 33 23.8	
	450nm,0.5s						
SHO	**Shikotan**	**2.16**	**243**	*e*P	**Pn**	**10 33 21.1**	**+0.8**
SHO				AMB	AMB	10 33 23.3	
	30nm,0.4s						
SHO				*e*S	**Sn**	**10 33 45.9**	**0.0**
SHO				A	A	10 33 54.5	
	190nm,0.6s						
SHO				A	A	10 33 54.5	
	260nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.73**	**253**	*e*P	**Pn**	**10 33 28.1**	**0.0**
YUK				AMB	AMB	10 33 30.7	
	70nm,0.3s						
YUK				*e*S	**Sn**	**10 33 58.3**	**-1.6**
YUK				A	A	10 34 03.8	
	330nm,0.5s						
YUK				A	A	10 34 03.8	
	470nm,0.5s						
NEM2	**Nemuro 2**	**3.10**	**242**	*e*P	**Pn**	**10 33 31.2**	**-1.8**
NEM2				*e*S	**Sn**	**10 34 06.1**	**-2.7**
NMR	**Nemuro--Hokkai**	**3.10**	**242**	*e*P	**Pn**	**10 33 32.0**	**-1.1**
NMR				*e*S	**Sn**	**10 34 04.8**	**-4.2**
JRA	**Rausu**	**3.27**	**255**	*e*P	**Pn**	**10 33 35.7**	**+0.3**
JNK	**Nakash**	**3.67**	**251**	P	**Pn**	**10 33 41.1**	**+0.2**
JNK				S	**Sn**	**10 34 23.4**	**+0.6**
AKK	**Akkeshi**	**3.84**	**243**	*e*P	**Pn**	**10 33 42.8**	**-0.4**
JAK	**Akkeshi**	**3.94**	**243**	P	**Pn**	**10 33 43.2**	**-1.4**
JAK				*e*S	**Sn**	**10 34 27.6**	**-1.9**
JTKR	**Abashiri--Toko**	**4.10**	**259**	P	**Pn**	**10 33 48.1**	**+1.3**
JTKR				*e*S	**Sn**	**10 34 38.7**	**+5.2**
JAR	**Ashorobuto**	**4.42**	**251**	P	**Pn**	**10 33 52.0**	**+0.9**
JAR				*e*S	**Sn**	**10 34 43.9**	**+2.7**
JOB	**Onbets**	**4.54**	**246**	*e*P	**Pn**	**10 33 53.4**	**+0.6**
JOB				*e*S	**Sn**	**10 34 43.4**	**-0.8**
JKK2	**Kamakawa 2**	**4.94**	**261**	*e*P	**Pn**	**10 33 59.0**	**+0.7**
JCH	**Churui**	**4.98**	**245**	*e*P	**Pn**	**10 33 59.7**	**+0.8**
JCH				*e*S	**Sn**	**10 34 55.8**	**+0.6**
ASAJ	**Asahikawa**	**4.99**	**264**	P	**Pn**	**10 34 00.4**	**+1.4**
	16nm,1.1s,baz=70,slow=12,SNR=11						
YSS	**Yuzhno-Sakhali**	**5.13**	**296**	*e*P	**Pn**	**10 34 00.1**	**-0.8**
JNBK	**Urakawa-nobuka**	**5.54**	**244**	*e*P	**Pn**	**10 34 06.3**	**-0.3**
PETK	**Petropavlovsk-**	**9.83**	**30**	P	**Pn**	**10 35 06.5**	**+1.3**
	1.8nm,0.6s,baz=203,slow=11,SNR=10						
USRK	**Ussuriysk Ar.**	**12.51**	**273**	P	**Pn**	**10 35 42.8**	**+1.1**
	1.0nm,0.6s,baz=87,slow=13,SNR=4.4						
KSRS	**Korea Array**	**17.82**	**253**	P	**P**	**10 36 50.1**	**-0.3**
	0.9nm,0.6s,baz=56,slow=12,SNR=5.2						
SEY	**Seymchan**	**18.16**	**4**	P	**P**	**10 36 54.9**	**+0.9**
	1.1nm,0.7s,baz=187,slow=6.8,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**28.95**	**144**	T	T	11 09 12.1	
	baz=335,slow=76,SNR=390						
H11N1	**WAKE ISLAND Hy**	**28.97**	**144**	T	T	11 09 30.2	
	baz=335,slow=76,SNR=261						
H11N3	**WAKE ISLAND Hy**	**28.97**	**144**	T	T	11 09 15.9	
	baz=335,slow=76,SNR=273						
SONM	**Songino Array**	**29.60**	**291**	LR	LR	10 51 56.8	
	comp=Z,29nm,18.9s,baz=62,slow=39						
H11S1	**WAKE ISLAND Hy**	**29.97**	**146**	T	T	11 10 39.1	
	baz=336,slow=76,SNR=452						
H11S3	**WAKE ISLAND Hy**	**29.98**	**146**	T	T	11 10 46.2	
	baz=336,slow=76,SNR=295						
H11S2	**WAKE ISLAND Hy**	**29.99**	**146**	T	T	11 10 43.7	
	baz=336,slow=76,SNR=239						
ILAR	**Eielson Array**	**39.58**	**37**	P	**P**	**10 40 11.0**	**-0.6**
	0.6nm,1.0s,baz=270,slow=8.4,SNR=3.3						
	0.6nm,1.0s						
MKAR	**Makanchi Array**	**45.55**	**297**	P	**P**	**10 40 59.9**	**-0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.5nm,0.7s,baz=78,slow=8.9,SNR=4.3						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**65.98**	**196**	P	**P**	**10 43 26.6**	**-0.1**
	0.8nm,0.8s,baz=7.5,slow=6.4,SNR=4.0						
	0.8nm,0.8s						
HFS	**Hagfors**	**69.28**	**338**	P	**P**	**10 43 48.0**	**+1.0**
	3.7nm,1.0s,baz=60,slow=8.9,SNR=2.3						
	3.7nm,1.0s						
ASAR	**Alice Springs**	**69.69**	**195**	P	**P**	**10 43 49.6**	**-0.3**
	0.6nm,0.9s,baz=14,slow=5.3,SNR=5.3						
	0.6nm,0.9s						
TXAR	**Lajitas Array**	**80.62**	**58**	P	**P**	**10 44 52.5**	**-0.6**
	0.3nm,0.6s,baz=302,slow=4.4,SNR=8.0						
	0.3nm,0.6s						
H03N2	**Juan Fernandez**	**141.28**	**90**	T	T	13 29 34.0	
	baz=305,slow=77,SNR=6.1						
H03N3	**Juan Fernandez**	**141.30**	**90**	T	T	13 29 37.2	
	baz=305,slow=77,SNR=8.7						
H03N1	**Juan Fernandez**	**141.30**	**90**	T	T	13 29 36.6	
	baz=305,slow=77,SNR=7.4						
SNAA	**Sanae**	**150.04**	**197**	PKPbc	**PKPbc**	**10 52 28.3**	**-0.8**
	0.7nm,0.9s,baz=191,slow=5.2,SNR=2.7						

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*IDC **01** 10:34:05.6±0.6, 6°.04S×151°.21E, h0^{km}, mb4.1/14, mbtmp4.1/15, ML1.9/1, MS3.5/24, Error ellipse: s-maj=26.0km s-min=15.8km az=99.0*

*NEIC **01** 10:34:08.1±1.1, 6°.15S±0°.04×151°.37E±0°.09, h10^{km}±1^{km}, mb4.6/14, Error ellipse: s-maj=15.2km s-min=6.1km az=83.0*

*GCMT **01** 10:34:14.1±0.4, 6°.46S±0°.03×151°.12E±0°.04, h23^{km}±1^{km}, MW4.8/57, Moment Tensor Solution. s27,c29; s57,c73; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.80±.16; $M_{\theta\theta}$-1.47±.09; $M_{\phi\phi}$-0.33±.09; $M_{r\theta}$0.98±.12; $M_{\theta\phi}$-0.57±.07; $M_{\phi r}$-0.37±.15; Best double couple: $M_0$2.02600×10^{16} NP1:ϕ_s233.00000°, δ35.00000°, λ62.00000°. NP2: ϕ_s86.00000°, δ59.00000°, λ108.00000°. Principal axes: T 2.1750, Plg70.0000°, Azm36.0000°; N -0.2980, Plg16.0000°, Azm256.0000°; P -1.8770, Plg13.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 10:34:11.6±0.4**, 6°.17S**±0°.05×**151°.29E**±0°.06**, h35^{km}, n69, σ2.10**/54**, mb4.3**/22**, MS3.5**/23**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.15**	**24**		**Pn**	**10 34 43.1**	**-1.8**
PMG	**Port Moresby**	**5.21**	**232**	Pn	**Pn**	**10 35 26.9**	**-0.1**
PMG	**Port Moresby**	**5.21**	**232**	Pn	**Pn**	**10 35 27.1**	**+0.1**
	2.7nm,0.3s,baz=53,slow=6.0,SNR=7.0						
PMG				Sn	**Sn**	**10 36 24.4**	**-1.5**
	5.3nm,0.3s,baz=62,slow=16,SNR=9.1						
PMG				LR	LR	10 37 20.5	
	comp=Z,266nm,18.4s,baz=35,slow=37						
	32nm,0.7s						
MANU	**Manus Island**	**5.67**	**316**	Pn	**Pn**	**10 35 33.2**	**-0.2**
HNR	**Honiara**	**9.16**	**111**	LR	LR	10 39 40.4	
	comp=Z,284nm,18.3s,baz=292,slow=36						
EIDS	**Eidsvold**	**19.09**	**181**	P	**P**	**10 38 30.1**	**-1.3**
GUMO	**Guam**	**20.64**	**342**	LR	LR	10 46 23.0	
	comp=Z,50nm,20.0s,baz=163,slow=36						
MTN	**Manton Dam**	**20.95**	**250**	P	**P**	**10 38 51.4**	**-0.3**
MTN				IAmb	IAmb	10 39 04.8	
	comp=Z,43nm,1.3s						
WRAB	**Tennant Creek**	**21.41**	**229**	P	**P**	**10 38 56.0**	**-0.6**
WRAB				IAmb	IAmb	10 39 00.0	
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**21.42**	**229**	P	**P**	**10 38 55.2**	**-1.5**
WRA	**Warramunga Arr**	**21.42**	**229**	P	**P**	**10 38 54.8**	**-1.9**
	comp=Z,6.7nm,0.6s,baz=53,slow=11,SNR=44						
WRA				PcP	**PcP**	**10 42 59.6**	**0.0**
	comp=Z,0.2nm,0.6s,baz=53,slow=2.2,SNR=1.8						
WRA				ScP	**ScP**	**10 46 38.9**	**+4.7**
	comp=Z,0.3nm,1.0s,baz=55,slow=2.7,SNR=4.8						
WRA				LR	LR	10 47 56.1	
	comp=Z,161nm,18.1s,baz=344,slow=39						
	comp=Z,6.7nm,0.6s						
DZM	**Mont Dzumac**	**21.55**	**139**	P	**P**	**10 38 57.7**	**-0.4**
DZM				IAmb	IAmb	10 39 05.0	
	comp=Z,26nm,1.1s						
DZM	**Mont Dzumac**	**21.55**	**139**	*e*P	**P**	**10 39 02.1**	**+4.0**
	comp=Z,66nm,23.9s						
DZM				*e*S	**S**	**10 42 51.8**	**-3.5**
	comp=Z,92nm,25.7s						
DZM				*e*LR	LR	10 44 02.8	
	comp=Z,363nm,22.9s						
DZM	**Mont Dzumac**	**21.55**	**139**	P	**P**	**10 38 59.7**	**+1.6**
	comp=Z,7.3nm,0.7s,baz=318,slow=19,SNR=9.8						
	comp=Z,7.3nm,0.7s						
KNRA	**Kununurra**	**24.03**	**245**	P	**P**	**10 39 23.3**	**-0.2**
KNRA				IAmb	IAmb	10 39 39.5	
	comp=Z,11nm,1.0s						
ASAR	**Alice Springs**	**24.13**	**222**	P	**P**	**10 39 23.8**	**-0.7**
ASAR	**Alice Springs**	**24.13**	**222**	P	**P**	**10 39 23.4**	**-1.1**
	comp=Z,12nm,0.7s,baz=55,slow=8.7,SNR=94						
ASAR				ScP	**ScP**	**10 46 47.5**	**+6.3**
	comp=Z,0.4nm,0.8s,baz=96,slow=1.3,SNR=5.1						
ASAR				LR	LR	10 50 02.5	
	comp=Z,208nm,18.8s,baz=38,slow=40						
	comp=Z,12nm,0.7s						
STKA	**Stephens Creek**	**27.14**	**198**	P	**P**	**10 39 51.2**	**-0.3**
STKA	**Stephens Creek**	**27.14**	**198**	P	**P**	**10 39 51.3**	**-0.3**
	comp=Z,3.9nm,0.8s,baz=26,slow=13,SNR=4.7						
STKA				LR	LR	10 50 44.7	
	comp=Z,132nm,18.6s,baz=16,slow=37						
	comp=Z,3.9nm,0.8s						
NFK	**Norfolk Island**	**27.66**	**147**	*e*LR	LR	10 46 55.1	
KAPI	**Kappang**	**31.41**	**270**	LR	LR	10 54 41.6	
	comp=Z,78nm,19.2s,baz=100,slow=40						
JOW	**Kunigami**	**39.67**	**327**	*e*S	**S**	**10 47 39.1**	**-2.6**
	comp=Z,78nm,27.6s						
JOW				*e*SS	**SnSn**	**10 50 42.7**	**+1.7**
	comp=Z,64nm,27.1s						
JOW				*e*LR	LR	10 52 34.5	
	comp=Z,183nm,31.6s						
JOW	**Kunigami**	**39.67**	**327**	LR	LR	10 56 58.5	
	comp=Z,93nm,20.6s,baz=148,slow=35						
NIUE	**Niue**	**39.85**	**112**	*e*S	**S**	**10 47 49.8**	**+5.2**
	comp=Z,68nm,21.8s						
NIUE				*e*SS	**SS**	**10 50 37.0**	**-4.8**
	comp=Z,79nm,24.5s						
NIUE				*e*LR	LR	10 52 32.8	
	comp=Z,130nm,30.6s						
JHJ2	**Mitsune**	**40.56**	**345**	*e*S	**S**	**10 47 57.6**	**+2.9**
	comp=Z,5.5nm,28.6s						
JHJ2				*e*LR	LR	10 52 53.6	
	comp=Z,12nm,28.8s						
SNZO	**South Karori**	**40.75**	**153**	*e*LR	LR	10 53 03.2	
	comp=Z,15nm,24.0s						
RPZ	**Rata Peaks**	**41.23**	**158**	LR	LR	10 58 46.7	
	comp=Z,288nm,18.4s,baz=318,slow=36						
JNU	**Nakatsue**	**43.62**	**335**	LR	LR	10 59 18.7	
	comp=Z,63nm,18.2s,baz=162,slow=35						
JOHN	**Johnston Islan**	**44.93**	**59**	*e*SS	SS	10 52 25.3	+3.4
	comp=Z,78nm,27.9s						
JOHN				*e*LR	LR	10 54 55.7	
	comp=Z,100nm,23.7s						
KSRS	**Korea Array**	**48.57**	**335**	P	**P**	**10 42 49.7**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=155,slow=9.7,SNR=4.3						
	comp=Z,0.4nm,0.7s						
NJ2	**Nanjing**	**48.99**	**323**	*e*P	**P**	**10 42 56.0**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ASAJ	**Asahikawa**	**50.67**	**352**	LR	LR	11 03 39.3	
	comp=Z,44nm,19.4s,baz=170,slow=35						
XMAS	**Kiritimati**	**51.83**	**83**	*e*SS	**SS**	**10 54 15.3**	**+1.0**
	comp=Z,4.1nm,36.0s						
XMAS				*e*LR	LR	10 57 57.1	
	comp=Z,3.7nm,24.0s						
CN2	**Changchun**	**54.95**	**337**	P	**P**	**10 43 41.6**	**+2.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**57.12**	**297**	LR	LR	11 07 20.0	
	comp=Z,19nm,20.7s,baz=130,slow=35						
POHA	**Pohakuloa**	**58.30**	**62**	*e*LR	LR	11 01 08.5	
	comp=Z,3.6nm,22.8s						
HHC	**Hu-ho-hao-te**	**59.30**	**326**	*e*P	**P**	**10 44 12.3**	**+2.2**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,24nm,5.9s						
PETK	**Petropavlovsk-**	**59.30**	**4**	P	**P**	**10 44 07.3**	**-2.4**
	comp=Z,0.9nm,0.5s,baz=186,slow=6.9,SNR=6.1						
PETK				LR	LR	11 07 57.4	
	comp=Z,26nm,19.7s,baz=208,slow=34						
	comp=Z,0.9nm,0.5s						
TBI	**Tubuai**	**59.38**	**113**	*e*LR	LR	11 01 36.5	
	comp=Z,433nm,33.2s						
MA2	**Magadan**	**65.54**	**360**	LR	LR	11 15 49.2	
	comp=Z,28nm,18.0s,baz=175,slow=38						
CASY	**Casey**	**66.28**	**197**	P	**P**	**10 44 56.6**	**+0.6**
CASY				IAmb	IAmb	10 45 04.3	
	comp=Z,3.0nm,1.0s						
CASY	**Casey**	**66.28**	**197**	*e*LR	LR	11 04 47.0	
	comp=Z,76nm,21.0s						
SONM	**Songino Array**	**66.69**	**329**	P	**P**	**10 44 58.9**	**-0.2**
SONM	**Songino Array**	**66.69**	**329**	P	**P**	**10 44 59.4**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=116,slow=3.4,SNR=1.9						
SONM				LR	LR	11 13 33.0	
	comp=Z,60nm,20.8s,baz=144,slow=36						
	comp=Z,0.5nm,0.5s						
SEY	**Seymchan**	**68.91**	**1**	LR	LR	11 14 40.9	
	comp=Z,22nm,19.8s,baz=186,slow=35						
VNDA	**Vanda**	**71.53**	**178**	P	**P**	**10 45 27.6**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=328,slow=6.6,SNR=4.7						
VNDA				LR	LR	11 13 09.7	
	comp=Z,24nm,20.3s,baz=324,slow=33						
	comp=Z,0.7nm,0.9s						
WMQ	**Urumqi**	**75.74**	**318**	*e*P	**P**	**10 45 56.4**	**+2.5**
WMQ				LR	LR		
	comp=Z,170nm,20.3s						
K15K	**Wolf Creek Mou**	**77.20**	**21**	P	**P**	**10 46 02.2**	**+0.5**
L18K	**Granite Mounta**	**78.91**	**22**	P	**P**	**10 46 11.0**	**-0.2**
L18K				IAmb	IAmb	10 46 24.0	
	comp=Z,19nm,1.4s						
MKAR	**Makanchi Array**	**80.38**	**319**	P	**P**	**10 46 18.1**	**-1.4**
MKAR	**Makanchi Array**	**80.38**	**319**	P	**P**	**10 46 18.7**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=116,slow=5.5,SNR=3.8						
	comp=Z,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**81.46**	**327**	LR	LR	11 22 27.1	
	comp=Z,24nm,21.7s,baz=67,slow=36						
IMAR	**Indian Mountai**	**82.17**	**20**	P	**P**	**10 46 28.9**	**+0.4**
MAW	**Mawson**	**83.74**	**203**	LR	LR	11 20 28.9	
	comp=Z,58nm,21.5s,baz=78,slow=33						
QSPA	**South Pole Qui**	**83.80**	**180**	P	**P**	**10 46 37.1**	**-0.1**
QSPA				IAmb	IAmb	10 47 02.5	
	comp=Z,12nm,1.5s						
QSPA	**South Pole Qui**	**83.80**	**180**	P	**P**	**10 46 36.8**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=359,slow=1.6,SNR=4.3						
	comp=Z,1.3nm,0.9s						
KURBB	**Kurchatov Arra**	**83.95**	**322**	P	**P**	**10 46 36.4**	**-1.7**
	comp=Z,1.3nm,0.2s,baz=103,slow=2.9,SNR=1.4						
	comp=Z,1.3nm,0.2s						
ILAR	**Eielson Array**	**83.98**	**22**	P	**P**	**10 46 35.6**	**-2.3**
	comp=Z,2.2nm,0.8s,baz=250,slow=5.5,SNR=21						
	comp=Z,2.2nm,0.8s						
M27K	**Edge Creek, AK**	**84.95**	**25**	P	**P**	**10 46 43.7**	**+0.6**
M27K				IAmb	IAmb	10 46 45.3	
	comp=Z,6.8nm,0.9s						
K29M	**Barlow Dome**	**87.34**	**25**	P	**P**	**10 46 55.1**	**+0.3**
KKAR	**Karatay Array**	**87.48**	**314**	P	**P**	**10 46 54.7**	**-1.1**
BVAR	**Borovoye Array**	**89.44**	**323**	P	**P**	**10 47 02.8**	**-2.1**
	comp=Z,0.4nm,0.5s,baz=116,slow=6.6,SNR=2.5						
BVAR				LR	LR	11 30 24.8	
	comp=Z,13nm,18.0s,baz=108,slow=38						
	comp=Z,0.4nm,0.5s						
YBH	**Yreka Blue Hor**	**91.08**	**48**	LR	LR	11 23 47.8	
	comp=Z,6.6nm,18.9s,baz=273,slow=33						
NVAR	**Mina Array Bea**	**94.10**	**52**	P	**P**	**10 47 28.0**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=251,slow=6.8,SNR=7.4						
NVAR				LR	LR	11 25 45.8	
	comp=Z,71nm,18.9s,baz=272,slow=33						
	comp=Z,0.7nm,0.7s						
PFO	**Pinyon Flats O**	**95.24**	**57**	LR	LR	11 26 29.6	
	comp=Z,49nm,18.1s,baz=266,slow=33						
ARTI	**Arti**	**96.71**	**326**	LR	LR	11 31 18.0	
	comp=Z,26nm,21.5s,baz=80,slow=36						
PMSA	**Palmer Station**	**104.54**	**165**	*e*LR	LR	11 22 29.4	
	comp=Z,40nm,25.0s						
GERES	**GERESS Array B**	**124.41**	**327**	PKP	**PKPdf**	**10 53 07.3**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=64,slow=3.1,SNR=5.4						
TORD	**Torodi Ar. Bea**	**149.26**	**285**	PKPbc	**PKPbc**	**10 53 56.5**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=69,slow=2.4,SNR=12						

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*IDC **01** 10:59:08.2±8.4, 24°.85S×179°.69E, h459^{km}±104^{km}, mb3.1/5, mbtmp4.0/6, Error ellipse: s-maj=68.9km s-min=30.1km az=6.0*

ISC 01 10:59:12.4±1.0**, 25°.17S**±0°.09×**179°.6E**±0°.2**, h507^{km}, n18, σ1.95**/19**, mb3.4**/5**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.62**	**152**	P	**P**	**11 00 37.6**	**+1.3**
WCZ	**Waipu Caves**	**11.66**	**202**	P	**P**	**11 01 51.1**	**+3.9**
KUZ	**Kuaotunu**	**12.02**	**195**	P	P	11 01 57.1	+6.2
MKAZ	**Moumakai**	**12.50**	**197**	P	**P**	**11 01 58.5**	**+2.5**
HAZ	**Te Kaha**	**12.65**	**187**	P	**P**	**11 01 58.0**	**+0.5**
HAZ				S	**S**	**11 04 12.6**	**-1.1**
URZ	**Urewera**	**13.23**	**189**	P	**P**	**11 02 02.2**	**-1.4**
	10nm,0.5s,baz=5.2,slow=11,SNR=12						
URZ				S	**S**	**11 04 24.6**	**-0.3**
	12nm,0.9s,baz=55,slow=22,SNR=8.9						
URZ	**Urewera**	**13.23**	**189**	P	**P**	**11 02 04.2**	**+0.6**
URZ				S	**S**	**11 04 26.5**	**+1.6**
BKZ	**Black Stump Fm**	**14.21**	**190**	P	**P**	**11 02 13.7**	**-0.4**
BKZ				S	**S**	**11 04 38.9**	**-4.9**
OTVZ	**Oturere**	**14.35**	**193**	P	**P**	**11 02 15.0**	**-0.7**
WNVZ	**Wahianoa**	**14.52**	**193**	P	**P**	**11 02 17.0**	**-0.4**
WAZ	**Wanganui**	**15.06**	**194**	S	S	11 04 49.9	-10
QRZ	**Quartz Range**	**16.70**	**199**	P	**P**	**11 02 40.5**	**+0.5**
ASAR	**Alice Springs**	**41.52**	**262**	P	**P**	**11 06 15.0**	**-0.1**
	2.3nm,1.0s,baz=92,slow=7.2,SNR=19						
	2.3nm,1.0s						
WRA	**Warramunga Arr**	**42.01**	**268**	P	**P**	**11 06 18.4**	**-0.6**
	1.9nm,0.6s,baz=100,slow=6.9,SNR=34						
	1.9nm,0.6s						
MJAR	**Matsushiro Arr**	**72.76**	**326**	P	**P**	**11 09 46.5**	**-2.2**
	1.1nm,0.9s,baz=153,slow=6.0,SNR=4.4						
	1.1nm,0.9s						
KSRS	**Korea Array**	**79.01**	**320**	P	**P**	**11 10 24.0**	**+0.7**
	0.3nm,0.3s,baz=120,slow=7.2,SNR=2.6						
	0.3nm,0.3s						
TXAR	**Lajitas Array**	**91.38**	**58**	P	**P**	**11 11 24.4**	**+0.3**
	0.3nm,0.8s,baz=219,slow=6.1,SNR=5.2						
	0.3nm,0.8s						
HFS	**Hagfors**	**143.72**	**348**	PKP	PKPab	11 17 46.4	-1.2
	0.8nm,0.4s,baz=46,slow=4.2,SNR=7.6						

RSNC 01 11:10:42.3±0.0**, 7°N**±1°×**7°3W**±°**, h150^{km}**±2^{km}**, M3.2, mB4.7, mb3.2, ML2.9, Mw(mB)4.0, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**188**	P	Pn	11 11 02.5	-0.5
BARC				S	Sn	11 11 17.5	-1.3
BRJC	**Barrancabermej**	**0.61**	**284**	P	Pn	11 11 04.1	-0.1
BRJC				S	Sn	11 11 21.2	+0.3
PAMC	**Pamplona, Colo**	**0.68**	**41**	P	Pn	11 11 05.3	+0.1
PAMC				S	Sn	11 11 22.8	+0.1
RUSC	**La Rusia**	**0.93**	**176**	P	Pn	11 11 06.3	-0.8
RUSC				S	Sn	11 11 25.2	-0.8
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	P	Pn	11 11 08.8	-1.3
PTBC				S	Sn	11 11 30.2	-1.2
OCAC	**Ocana**	**1.41**	**353**	P	Pn	11 11 10.5	-0.6
OCAC				S	Sn	11 11 33.1	-0.1
NORC	**Norcasia**	**2.12**	**234**	P	Pn	11 11 18.5	-0.4
NORC				S	Sn	11 11 46.3	-0.8
ROSC	**El Rosal**	**2.29**	**211**	P	Pn	11 11 22.1	+0.8
ROSC				S	Sn	11 11 52.7	+1.4
HELC	**Santa Helena**	**2.45**	**255**	P	Pn	11 11 23.7	+0.5
HELC				S	Sn	11 11 53.3	-1.2
UREC	**San Jos de Ur**	**2.54**	**291**	P	Pn	11 11 22.9	-1.0
UREC				S	Sn	11 11 53.5	-2.4
GUY2C	**Guyana, Caldas**	**2.72**	**234**	P	Pn	11 11 26.7	+0.1
GUY2C				S	Sn	11 11 59.9	-0.9
VILC	**Villavicencio,**	**2.75**	**191**	P	Pn	11 11 25.7	-1.1
VILC				S	Sn	11 12 00.2	-0.9
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	11 11 30.3	+0.4
CBOC				S	Sn	11 12 05.4	-1.2
DBBC	**Dabeiba**	**3.04**	**274**	P	Pn	11 11 30.2	-0.1
DBBC				S	Sn	11 12 05.6	-1.8
ARGC	**Ariguani, Magd**	**3.20**	**340**	P	Pn	11 11 32.4	+0.2
ARGC				S	Sn	11 12 11.8	+0.9
SDV	**Santo Domingo**	**3.22**	**51**	P	Pn	11 11 31.7	-1.0
SDV				S	Sn	11 12 09.6	-2.1
ANIL	**Santa Ana**	**3.23**	**224**	P	Pn	11 11 33.8	+0.9
ANIL				S	Sn	11 12 12.1	+0.1
PRAC	**Prado**	**3.55**	**209**	P	Pn	11 11 35.9	-0.8
PRAC				S	Sn	11 12 17.7	-1.3
APAC	**Apartado, Choc**	**3.56**	**288**	P	Pn	11 11 36.3	-0.6
APAC				S	Sn	11 12 17.1	-2.2
ORTC	**Ortega, Tolima**	**3.57**	**216**	P	Pn	11 11 36.6	-0.5
ORTC				S	Sn	11 12 18.7	-0.9
SJCC	**San Jacinto, C**	**3.65**	**327**	P	Pn	11 11 36.2	-1.9
SJCC				S	Sn	11 12 17.6	-3.8
URMC	**La Uribe, Meta**	**3.76**	**199**	P	Pn	11 11 39.3	-0.3
URMC				S	Sn	11 12 23.3	-0.8
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	P	Pn	11 11 42.7	-2.2
CRJC				S	Sn	11 12 30.2	-3.5
YOTC	**Yotoco, Valle**	**4.26**	**229**	P	Pn	11 11 45.0	-1.1
YOTC				S	Sn	11 12 36.2	+0.6
SMRC	**Santa Marta, M**	**4.43**	**346**	P	Pn	11 11 47.8	-0.5
SMRC				S	Sn	11 12 36.3	-3.4
CAPC	**Capurgana**	**4.53**	**294**	P	Pn	11 11 49.7	+0.1
CAPC				S	Sn	11 12 38.4	-3.6
MACC	**Macarena, Meta**	**4.71**	**189**	P	Pn	11 11 49.5	-2.4
MACC				S	Sn	11 12 41.9	-4.3
URIC	**Uribia, Colomb**	**4.97**	**13**	P	Pn	11 11 53.0	-2.4
URIC				S	Sn	11 12 48.8	-3.6
GARC	**Garzon, Huila**	**5.17**	**207**	P	Pn	11 11 56.5	-1.8
GARC				S	Sn	11 12 51.0	-6.5
POPC	**Popayan, Colom**	**5.52**	**220**	P	Pn	11 12 02.4	-0.5
	4.0nm,2.0s						
POPC				S	Sn	11 13 05.5	-0.4
	4.0nm,2.0s						
FLOC	**Florencia**	**5.78**	**206**	P	Pn	11 12 04.6	-1.6

IDC 01 11:13:02.5±2.2**, 24°.42N**×**94°.12E, h0^{km}, mb3.5**/4**, mbtmp3.5**/4**, MS4.0**/1**, Error ellipse: s-maj=97.6km s-min=24.6km az=69.0, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.44**	**142**	Lg	Lg	11 16 56.8	
	0.1nm,0.3s,baz=325,slow=30,SNR=1.5						
MKAR	**Makanchi Array**	**24.25**	**340**	P	P	11 18 21.4	+0.2
	0.3nm,0.4s,baz=150,slow=9.8,SNR=4.5						
	0.3nm,0.4s						
SONM	**Songino Array**	**25.32**	**20**	P	P	11 18 30.7	-0.3
	0.3nm,0.4s,baz=201,slow=8.8,SNR=1.8						
	0.3nm,0.4s						
BATI	**Baumata**	**44.91**	**137**	LR	LR	11 41 45.2	
	comp=Z,180nm,19.5s,baz=200,slow=38						
WRA	**Warramunga Arr**	**58.98**	**135**	P	P	11 23 04.0	-0.2
	0.4nm,0.5s,baz=322,slow=7.4,SNR=8.6						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**61.44**	**138**	P	P	11 23 21.1	+0.1
	0.5nm,0.3s,baz=314,slow=6.5,SNR=24						
	0.5nm,0.3s						

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*NEIC **01** 11:29:43.6, 37°.25N×104°.92W, h5^{km}*

*IDC **01** 11:29:43.3±1.0, 37°.35N×105°.08W, h0^{km}, mb3.0/1, mbtmp3.3/5, ML3.9/3, MS2.8/1, Error ellipse: s-maj=20.7km s-min=9.4km az=77.0*

*NEIC **01** 11:29:43.3±1.1, 37°.27N±0°.02×104°.92W±0°.02, h5^{km}±5^{km}, mb_Lg3.4/170, ML3.6/70, Mwr3.5/20, Error ellipse: s-maj=2.9km s-min=1.9km az=202.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.85; $M_{\theta\theta}$1.58; $M_{\phi\phi}$0.27; $M_{r\theta}$0.23; $M_{\theta\phi}$0.47; $M_{\phi r}$0.78; Fault plane solution: $M_0$1.97000×10^{14} NP1:ϕ_s87.06000°, δ39.85000°, λ-64.32000°. NP2:ϕ_s235.00000°, δ54.73000°, λ-109.88000°. Principal axes: T 1.7968, Plg8.0000°, Azm339.0000°; N 0.3135, Plg16.0000°, Azm247.0000°; P -2.1103, Plg72.0000°, Azm94.0000°;*

ISC 01 11:29:43.6±0.7**, 37°.35N**±0°.04×**104°.98W**±0°.04**, h10^{km}, n90, σ1.62**/67**, Colorado**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.50**	**114**		**Pg**	**11 29 52.3**	**-1.1**
T25A				Sg	**Sg**	**11 29 58.0**	**-2.0**
SDCO	**Great Sand Dun**	**0.57**	**314**	Pg	**Pb**	**11 29 56.0**	**0.0**
S22A	**4UR Ranch, Cre**	**1.52**	**286**		**Pg**	**11 30 13.2**	**+0.3**
S22A				IAML		11 30 39.4	
	comp=E,642nm,0.7s						
Q24A	**Divide**	**1.62**	**355**		**Pg**	**11 30 14.7**	**-0.1**
Q24A				IAML		11 30 42.6	
	comp=E,622nm,0.7s						
RTBA	**Rita Blanca**	**2.01**	**116**	Pn	**Pn**	**11 30 17.8**	**0.0**
KSCO	**Kaye Shedlock'**	**2.49**	**47**		**Pb**	**11 30 28.2**	**-0.3**
KSCO				IAmb_Lg		11 31 03.7	
	comp=Z,210nm,0.7s						
ISCO	**Idaho Springs**	**2.50**	**349**		**Pb**	**11 30 27.9**	**-0.9**
ANMO	**Albuquerque**	**2.68**	**207**		**Pn**	**11 30 28.0**	**+1.1**
ANMO	**Albuquerque**	**2.68**	**207**	Pn	**Pn**	**11 30 28.1**	**+1.1**
	comp=Z,3.7nm,0.3s,baz=111,slow=12,SNR=34						
ANMO				Pg	**Pb**	**11 30 32.2**	**+0.4**
	comp=Z,11nm,0.3s,baz=101,slow=18,SNR=32						
ANMO				Lg	Lg	11 31 04.4	
	comp=Z,17nm,0.3s,baz=334,slow=21,SNR=11						
	comp=Z,14nm,0.4s						
MVCO	**Mesa Verde**	**2.81**	**268**		**Pb**	**11 30 31.5**	**-2.5**
MVCO				IAML		11 31 16.3	
	comp=Z,330nm,0.6s						
MVCO				IAML		11 31 18.0	
	comp=Z,260nm,0.7s						
PV01	**Paradox Valley**	**2.95**	**287**		**Pb**	**11 30 34.3**	**-2.2**
PV01				IAML		11 31 21.1	
	comp=N,201nm,0.8s						
PV01				IAML		11 31 21.7	
	comp=E,133nm,0.7s						
PV02	**Paradox Valley**	**3.10**	**287**		**Pb**	**11 30 36.5**	**-2.4**
PV07	**Paradox Valley**	**3.10**	**292**		**Pb**	**11 30 36.7**	**-2.2**
PV07				IAML		11 31 28.6	
	comp=N,155nm,1.0s						
PV07				IAML		11 31 30.1	
	comp=E,111nm,0.9s						
PV13	**Radium Mtn., P**	**3.15**	**286**		**Pb**	**11 30 36.4**	**-3.4**
BNM	**Barren Site**	**3.46**	**203**		**Pn**	**11 30 39.4**	**+1.6**
Y22D	**IRIS PASSCAL I**	**3.63**	**206**		**Pn**	**11 30 39.0**	**-1.0**
AMTX	**Amarillo**	**3.63**	**132**		**Pn**	**11 30 38.8**	**-1.1**
HAYD	**Hayden**	**3.63**	**331**		**Pb**	**11 30 44.5**	**-3.5**
CRNM	**Carthage**	**3.68**	**203**		**Pn**	**11 30 41.9**	**+1.2**
Y22A	**Socorro**	**3.77**	**206**		**Pn**	**11 30 43.2**	**+1.3**
O20A	**White River Ci**	**3.78**	**319**		**Pb**	**11 30 46.6**	**-3.8**
O20A				IAML		11 32 08.1	
	comp=E,84nm,1.5s						
O20A				IAML		11 32 10.9	
	comp=E,56nm,1.5s						
SBM	**South Baldy**	**3.81**	**209**		**Pn**	**11 30 44.1**	**+1.4**
MSTX	**Muleshoe**	**3.82**	**151**		**Pn**	**11 30 41.8**	**-0.8**
MSTX				IAmb_Lg		11 31 49.0	
	comp=Z,108nm,0.8s						
OGNE	**Ogallala**	**4.26**	**32**		**Pn**	**11 30 51.9**	**+3.3**
OGNE				IAmb_Lg		11 32 03.7	
	comp=Z,120nm,0.8s						
CBKS	**Cedar Bluff**	**4.39**	**69**		**Pn**	**11 30 51.7**	**+1.4**
CBKS				IAmb_Lg		11 32 14.3	
	comp=Z,67nm,0.7s						
SMWD	**Samnorwood**	**4.43**	**119**		**Pn**	**11 30 51.6**	**+0.6**
HMU	**Henry Mountain**	**4.61**	**279**		Pn	11 30 57.7	+4.0
SRU	**San Rafael Swe**	**4.71**	**294**		**Pn**	**11 30 58.3**	**+3.4**
SRU				IAML		11 32 18.2	
	comp=N,50nm,1.3s						
SRU				IAML		11 32 20.9	
	comp=E,70nm,0.8s						
NOKA	**Waynoka**	**4.89**	**97**	IAmb_Lg		11 32 20.2	
	comp=Z,82nm,0.7s						
DKNS	**Dickens**	**4.94**	**137**		**Pn**	**11 30 58.9**	**+0.9**
OK038	**West end E0370**	**5.07**	**98**	Pn	**Pn**	**11 31 00.9**	**+1.1**
OK038				IAmb_Lg		11 32 32.3	
	comp=Z,63nm,0.8s						
R32A	**Long Quarter,**	**5.07**	**76**		**Pn**	**11 31 00.7**	**+0.9**
R32A				IAmb_Lg		11 32 30.0	
	comp=Z,64nm,0.8s						
POST	**Post**	**5.13**	**145**	Pn	**Pn**	**11 31 01.2**	**+0.6**
TMUT	**Trail Mountain**	**5.27**	**294**		**Pn**	**11 31 04.9**	**+2.2**
121A	**Cookes Peak, D**	**5.33**	**206**		**Pn**	**11 31 04.7**	**+1.3**
121A				IAML		11 32 36.8	
	comp=E,25nm,0.7s						
121A				IAML		11 32 42.4	
	comp=N,21nm,0.8s						
CSTR	**Hydro, Custer**	**5.34**	**107**		**Pn**	**11 31 05.0**	**+1.5**
SN07	**Snyder 07**	**5.41**	**141**		**Pn**	**11 31 05.7**	**+1.3**
WUAZ	**Wupatki**	**5.47**	**252**		**Pn**	**11 31 07.4**	**+2.1**
ODSA	**Odessa**	**5.58**	**158**	IAmb_Lg		11 32 40.3	
	comp=Z,63nm,1.0s						
KAN14	**Manchester OK**	**5.62**	**92**		**Pn**	**11 31 08.0**	**+0.8**
KAN14				IAmb_Lg		11 32 50.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,78nm,1.1s						
APMT	**Aspermont**	**5.64**	**134**		**Pn**	**11 31 08.5**	**+0.9**
WMOK	**Wichita Mounta**	**5.66**	**116**		**Pn**	**11 31 08.0**	**+0.3**
CROK	**Carrier**	**5.67**	**96**		**Pn**	**11 31 08.4**	**+0.5**
CROK				IAmb_Lg		11 32 57.0	
	comp=Z,48nm,1.0s						
KAN01	**Argonia South**	**5.76**	**90**	Pn	**Pn**	**11 31 09.4**	**+0.2**
PECS	**Pecos**	**6.03**	**171**	IAmb_Lg		11 32 53.6	
	comp=Z,63nm,1.0s						
SGCY	**Sterling City**	**6.28**	**149**	IAmb_Lg		11 33 05.7	
	comp=Z,77nm,0.8s						
OKCSW	**OKLAHOMA CITY**	**6.38**	**105**	IAmb_Lg		11 33 15.3	
	comp=Z,73nm,0.7s						
X34A	**Smith Ranch, M**	**6.41**	**113**	IAmb_Lg		11 33 15.8	
	comp=Z,71nm,0.8s						
ABTX	**Abilene, Hawle**	**6.43**	**136**	IAmb_Lg		11 33 18.4	
	comp=Z,47nm,0.8s						
PDAR	**Pinedale Array**	**6.45**	**328**	Pn	**Pn**	**11 31 21.8**	**+2.9**
	comp=Z,0.5nm,0.3s,baz=123,slow=10,SNR=15						
PDAR				Lg	Lg	11 33 06.2	
	baz=139,slow=31						
	comp=Z,0.7nm,0.4s						
QUOK	**Quay**	**6.74**	**98**	IAmb_Lg		11 33 32.5	
	comp=Z,45nm,1.1s						
T35A	**Sooner Cattle**	**6.78**	**91**	Pn	**Pn**	**11 31 23.3**	**+0.1**
T35A				IAmb_Lg		11 33 27.0	
	comp=Z,67nm,1.0s						
RSSD	**Black Hills**	**6.80**	**6**		**Pn**	**11 31 25.0**	**+1.3**
RSSD				IAmb_Lg		11 33 26.9	
	comp=Z,38nm,0.9s						
TUC	**Tucson**	**6.93**	**225**	IAmb_Lg		11 33 31.1	
	comp=Z,2.7nm,0.8s						
TUC	**Tucson**	**6.93**	**225**	IAmb_Lg		11 33 31.2	
	comp=Z,2.6nm,0.8s						
DEOK	**Depew**	**6.99**	**100**	Pn	**Pn**	**11 31 25.1**	**-0.9**
DEOK				IAmb_Lg		11 33 18.2	
	comp=Z,43nm,0.8s						
ALPN	**Alpine**	**7.04**	**171**	IAmb_Lg		11 33 25.4	
	comp=Z,48nm,1.0s						
PLPT	**Palo Pinto**	**7.09**	**128**	IAmb_Lg		11 33 32.3	
	comp=Z,37nm,0.8s						
OZNA	**Ozona**	**7.16**	**152**	IAmb_Lg		11 33 30.3	
	comp=Z,61nm,0.7s						
LOOK	**Love County**	**7.17**	**115**	IAmb_Lg		11 33 36.8	
	comp=Z,64nm,0.7s						
HVU	**Hansel Valley**	**7.47**	**309**	Pn	**Pn**	**11 31 33.8**	**+1.0**
Z35A	**Perchaven, San**	**7.48**	**120**	IAmb_Lg		11 33 55.5	
	comp=Z,53nm,0.9s						
FW06	**Azle**	**7.48**	**123**	IAmb_Lg		11 33 43.0	
	comp=Z,51nm,1.0s						
TUL3	**Leonard**	**7.53**	**98**		**Pn**	**11 31 31.9**	**-1.4**
TUL3				IAmb_Lg		11 33 49.8	
	comp=Z,54nm,0.7s						
SPR3	**Spring Creek 3**	**7.55**	**285**		**Pn**	**11 31 34.5**	**+0.5**
SAND	**Sanderson**	**7.75**	**161**		**Pn**	**11 31 36.8**	**+0.3**
SAND				IAmb_Lg		11 33 59.0	
	comp=Z,57nm,0.8s						
BRDY	**Brady**	**7.81**	**139**		**Pn**	**11 31 35.9**	**-1.4**
BRDY				IAmb_Lg		11 33 59.4	
	comp=Z,47nm,0.9s						
FW13	**Cleburne**	**7.96**	**127**	IAmb_Lg		11 34 02.3	
	comp=Z,38nm,0.8s						
TXAR	**Lajitas Array**	**8.07**	**172**	Pn	**Pn**	**11 31 43.0**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=357,slow=11,SNR=35						
TXAR				Lg	Lg	11 33 52.2	
	comp=Z,2.4nm,0.3s,baz=352,slow=29,SNR=5.5						
	comp=Z,0.7nm,0.4s						
RLO	**Rose Lookout**	**8.08**	**95**		**Pn**	**11 31 40.8**	**-0.2**
RLO				IAmb_Lg		11 34 06.5	
	comp=Z,31nm,0.8s						
WHTX	**Lake Whitney,**	**8.18**	**129**	IAmb_Lg		11 34 19.1	
	comp=Z,35nm,1.0s						
SUSD	**Miller**	**8.43**	**31**	IAmb_Lg		11 34 35.7	
	comp=Z,40nm,0.7s						
U38A	**Gravette**	**8.54**	**93**		**Pn**	**11 31 46.9**	**-0.4**
YNE	**Yellowstone No**	**8.54**	**335**	Pn	**Pn**	**11 31 50.4**	**+2.8**
ELK	**Elko**	**8.67**	**296**	Lg	Lg	11 34 08.9	
	baz=166,slow=23,SNR=1.5						
HHAR	**Hobbs**	**8.92**	**94**		**Pn**	**11 31 52.5**	**0.0**
ECSD	**EROS Data Cent**	**9.01**	**42**		**Pn**	**11 31 55.8**	**+2.0**
HNDO	**Hondo**	**9.13**	**147**	IAmb_Lg		11 34 32.6	
	comp=Z,48nm,0.9s						
P38A	**Dawn**	**9.26**	**72**	Pn	**Pn**	**11 31 56.8**	**-0.4**
S39A	**Bolivar**	**9.27**	**84**		**Pn**	**11 31 57.1**	**-0.2**
MIAR	**Mount Ida**	**9.66**	**103**		**Pn**	**11 32 01.5**	**-1.1**
E28A	**Huff**	**9.76**	**18**	IAmb_Lg		11 35 00.8	
	comp=Z,31nm,0.9s						
R40A	**Maddies Statio**	**10.10**	**81**	Pn	**Pn**	**11 32 08.1**	**-0.6**
X40A	**Basin Creek Fa**	**10.25**	**103**		**Pn**	**11 32 10.9**	**+0.1**
P40A	**Paris**	**10.38**	**74**	Pn	**Pn**	**11 32 11.3**	**-1.1**
WHAR	**Wooly Hollow**	**10.44**	**98**	Pn	**Pn**	**11 32 12.1**	**-1.3**
NVAR	**Mina Array Bea**	**10.59**	**280**	Pg	Pn	11 33 02.7	+47
	comp=Z,0.2nm,0.3s,baz=103,slow=18,SNR=4.5						
NVAR				Lg	Lg	11 35 12.1	
	baz=84,slow=30,SNR=1.3						
NVAR				LR	LR	11 36 56.0	
	comp=Z,53nm,20.6s,baz=256,slow=42						
ULM	**Lac du Bonnet**	**14.46**	**24**	Pn	**Pn**	**11 33 07.2**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=203,slow=15,SNR=2.0						
ULM				Lg	Lg	11 37 11.8	
	comp=Z,0.2nm,0.3s,baz=122,slow=23,SNR=3.6						
TKL	**Tuckaleechee C**	**17.13**	**89**	Sn	Sn	11 36 40.2	-13
	comp=Z,0.1nm,0.3s,baz=209,slow=19,SNR=1.6						
TKL				Lg	Lg	11 38 33.9	
	comp=Z,0.1nm,0.3s,baz=354,slow=19,SNR=5.8						
ILAR	**Eielson Array**	**36.87**	**332**	P	**P**	**11 36 54.2**	**+2.3**
	comp=Z,0.2nm,0.7s,baz=128,slow=7.3,SNR=2.3						
	comp=Z,0.2nm,0.7s						

*NEIC **01** 11:38:09.1±2.5, 2.°37N±0.°05×126.°67E±0.°06, h35km±1km, mb4.6/12, Error ellipse: s-maj=11.3km s-min=8.3km az=289.0*
*IDC **01** 11:38:11.5±4.9, 2.°38N×126.°76E, h66km±49km, mb3.6/6, mbtmp4.0/7, ML4.2/1, Error ellipse: s-maj=41.6km s-min=17.4km az=75.0*
*DJA **01** 11:38:12.9±0.4, 2°N±3°×12°7E±°, h49km±21km, M4.2/14, mB5.0/4, mb4.4/6, MLv4.1/14, Mw(mB)4.4/4*
ISC 01 11:38:10.7±0.6**, 2.°49N**±0.°05×**126.°69E**±0.°09**, h55**km**, n38,** σ1.°**84**/40**, mb4.1**/12**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.66**	**316**	P	**Pn**	**11 38 39.4**	**+1.9**
TNTI	**Ternate**	**1.84**	**158**		**Pn**	**11 38 36.9**	**-3.0**
TNTI	**Ternate**	**1.84**	**158**	P	**Pn**	**11 38 42.2**	**+2.3**
TNTI				S	**Sn**	**11 39 04.3**	**+2.3**
KMSI	**Cibinong**	**3.31**	**235**	P	**Pn**	**11 39 03.2**	**+3.1**
SANI	**Sanana**	**4.56**	**189**	P	**Pn**	**11 39 17.1**	**-0.2**
DAV	**Davao City (W)**	**4.68**	**346**	Pn	**Pn**	**11 39 20.0**	**+1.1**
MRSI	**Marisa**	**5.15**	**247**	P	**Pn**	**11 39 28.4**	**+3.1**
	0.3nm2μm110nm,0.9s						
LUWI	**Luwuk**	**5.26**	**228**	Pn	**Pn**	**11 39 23.7**	**-3.1**
LUWI	**Luwuk**	**5.26**	**228**	P	**Pn**	**11 39 29.1**	**+2.3**
NLAI	**Namlea**	**5.71**	**176**	P	**Pn**	**11 39 34.1**	**+1.2**
	39nm,0.8s						
TOLI2	**Tolitoli**	**6.06**	**257**		**Pn**	**11 39 35.9**	**-1.9**
APSI	**Ampana**	**6.07**	**236**	P	**Pn**	**11 39 42.5**	**+4.6**
MYLDM	**Lahad Datu**	**8.60**	**288**	Pn	**Pn**	**11 40 12.5**	**-0.1**
KAPI	**Kappang**	**10.18**	**223**	Pn	**Pn**	**11 40 32.0**	**-2.3**
KAPI	**Kappang**	**10.18**	**223**	P	**Pn**	**11 40 34.5**	**+0.3**
	1.9nm,0.3s,baz=66,slow=12,SNR=5.1						
	6.6nm,0.4s						
SBUM	**Sibu**	**14.46**	**270**		**Pn**	**11 41 32.0**	**-0.4**
SSLB	**Suanglung**	**21.89**	**346**	P	**P**	**11 42 59.1**	**-0.1**
SSLB				IAmb	IAmb	11 43 09.0	
	comp=Z,13nm,0.9s						
YHNB	**Yeheng**	**22.64**	**347**	P	**P**	**11 43 07.1**	**-0.2**
YHNB				IAmb	IAmb	11 43 43.6	
	comp=Z,19nm,1.1s						
WRAB	**Tennant Creek**	**23.52**	**162**	P	**P**	**11 43 13.7**	**-2.3**
WRAB				IAmb	IAmb	11 43 21.8	
	comp=Z,4.0nm,0.6s						
WRA	**Warramunga Arr**	**23.52**	**162**	P	**P**	**11 43 13.3**	**-2.8**
WRA	**Warramunga Arr**	**23.52**	**162**	P	**P**	**11 43 14.3**	**-1.8**
	comp=Z,2.2nm,0.4s,baz=343,slow=10,SNR=43						
	comp=Z,2.2nm,0.4s						
AS31	**Alice Springs**	**26.93**	**165**	P	**P**	**11 43 45.8**	**-1.3**
ASAR	**Alice Springs**	**26.93**	**165**	P	**P**	**11 43 45.8**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=348,slow=7.2,SNR=24						
ASAR				PcP	**PcP**	**11 47 08.1**	**0.0**
	comp=Z,0.2nm,0.4s,baz=332,slow=2.4,SNR=1.8						
	comp=Z,0.8nm,0.4s						
MORW	**Morawa**	**33.00**	**197**	P	**P**	**11 44 39.4**	**-1.3**
KSRS	**Korea Array**	**34.81**	**2**	P	**P**	**11 44 58.0**	**+1.8**
	comp=Z,1.0nm,0.6s,baz=177,slow=10,SNR=6.0						
	comp=Z,1.0nm,0.6s						
MJAR	**Matsushiro Arr**	**35.51**	**16**	P	**P**	**11 45 02.6**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=190,slow=9.0,SNR=4.3						
	comp=Z,0.6nm,0.5s						
PEA0B	**Petropavlovsk-**	**56.59**	**22**	P	**P**	**11 47 47.2**	**-0.5**
PEA0B				IAmb	IAmb	11 48 19.7	
	comp=Z,19nm,1.4s						
PETK	**Petropavlovsk-**	**56.59**	**22**	P	**P**	**11 47 47.5**	**-0.2**
MKAR	**Makanchi Array**	**58.55**	**326**	P	**P**	**11 48 01.5**	**-0.2**
MKAR	**Makanchi Array**	**58.55**	**326**	P	**P**	**11 48 01.9**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=122,slow=7.3,SNR=6.0						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**62.76**	**328**	P	**P**	**11 48 30.2**	**0.0**
	comp=Z,1.0nm,0.6s,baz=131,slow=6.4,SNR=9.1						
	comp=Z,1.0nm,0.6s						
AB31	**Akbulak array**	**73.08**	**321**	P	**P**	**11 49 35.0**	**-0.1**
ABKAR	**Akbulak array**	**73.08**	**321**	P	**P**	**11 49 34.2**	**-0.9**
KIP	**Kipapa**	**75.41**	**69**	P	**P**	**11 49 49.0**	**-0.1**
J16K	**Anvik River**	**80.05**	**26**	P	**P**	**11 50 14.5**	**+0.2**
D19K	**Kuna River**	**82.28**	**21**	P	**P**	**11 50 26.9**	**+0.9**
D19K				IAmb	IAmb	11 50 35.5	
	comp=Z,14nm,1.4s						
D20K	**Etivluk River**	**82.87**	**21**	P	**P**	**11 50 31.1**	**+2.0**
D20K				IAmb	IAmb	11 50 36.3	
	comp=Z,9.8nm,1.2s						
IMAR	**Indian Mountai**	**83.48**	**24**	P	**P**	**11 50 34.4**	**+2.2**

*BJI **01** 11:57:32.4, 5.°08N×126.°91E, h102km, mB4.9/13, mb5.0/59*
*GCMT **01** 11:57:34.8±0.4, 5.°38N±0.°03×126.°97E±0.°03, h96km±4km, MW4.8/70, Moment Tensor Solution. s18,c18; s70,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.49±.09; $M_{\theta\theta}$1.24±.11; $M_{\phi\phi}$-0.74±.12; $M_{r\theta}$-0.92±.05; $M_{\theta\phi}$1.19±.14; $M_{\phi r}$0.50±.05; Best double couple: $M_0$1.91700×10^{16} NP1:ϕ_s204.00000°,δ55.00000°,λ-166.00000°. NP2: ϕ_s105.00000°,δ78.00000°,λ-36.00000°. Principal axes: T 1.9700, Plg16.0000°, Azm159.0000°; N -0.1040, Plg52.0000°, Azm270.0000°; P -1.8640, Plg33.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **01** 11:57:36.8±1.3, 5.°38N±0.°06×126.°76E±0.°09, h98km±7km, mb4.8/43 Error ellipse: s-maj=14.2km s-min=8.0km az=67.0*
*IDC **01** 11:57:36.0±1.2, 5.°43N×126.°82E, h95km±9km, mb4.4/26, mbtmp4.8/29, MS3.3/36, Error ellipse: s-maj=19.5km s-min=8.3km az=73.0*
*DJA **01** 11:57:37.2±0.3, 5°N±2°×12°7E±°, h91km±3km, M4.8/35, mB5.2/21, mb5.0/35, MLv5.5/15, Mw4.8/14, Mw(mB)4.6/21*
ISC 01 11:57:36.9±0.4**, 5.°39N**±0.°03×**126.°82E**±0.°06**, h103**km±3km**, h103**km**:pP-P, n518,** σ1.°**04**/521**, mb4.8**/71**, 2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.08**	**324**		**Pn**	**11 58 09.3**	**-1.3**
DAV	**Davao City (W)**	**2.08**	**324**	P	**Pn**	**11 58 09.0**	**-1.6**
	734nm,0.3s,baz=240,slow=6.9,SNR=12						
DAV				S	**Sn**	**11 58 36.1**	**-0.2**
	2μm,0.6s,baz=68,slow=19,SNR=6.1						
DAV				LR	LR	11 59 05.2	
	comp=Z,2μm,19.2s,baz=120,slow=44						
DAV	**Davao City (W)**	**2.08**	**324**	P	**Pn**	**11 58 11.6**	**+1.0**
SGSI	**Sangihe**	**2.13**	**217**	P	**Pn**	**11 58 09.1**	**-2.2**
SGSI				S	**Sn**	**11 58 36.8**	**-0.8**
TNTI	**Ternate**	**4.62**	**173**		**Pn**	**11 58 43.3**	**-1.3**
TNTI	**Ternate**	**4.62**	**173**	P	**Pn**	**11 58 43.5**	**-1.0**
TNTI	**Ternate**	**4.62**	**173**	P	**Pn**	**11 58 43.6**	**-1.0**
TNTI				S	**Sn**	**11 59 35.5**	**-1.6**
KMSI	**Cibinong**	**5.56**	**211**	P	**Pn**	**11 58 56.4**	**-0.9**
MRSI	**Marisa**	**6.90**	**225**	P	**Pn**	**11 59 14.2**	**-1.2**
TOLI2	**Tolitoli**	**7.38**	**235**		**Pn**	**11 59 20.2**	**-1.8**
TOLI2	**Tolitoli**	**7.38**	**235**	P	**Pn**	**11 59 19.8**	**-2.2**
SANI	**Sanana**	**7.44**	**186**	P	**Pn**	**11 59 18.4**	**-4.4**
	1.0nm5μm169nm,0.9s						
LUWI	**Luwuk**	**7.56**	**212**		**Pn**	**11 59 24.0**	**-0.5**
LUWI	**Luwuk**	**7.56**	**212**	P	**Pn**	**11 59 23.8**	**-0.7**
LUWI	**Luwuk**	**7.56**	**212**	P	**Pn**	**11 59 23.7**	**-0.7**
APSI	**Ampana**	**8.12**	**220**	P	**Pn**	**11 59 33.1**	**+1.1**
MYLDM	**Lahad Datu**	**8.29**	**269**	Pn	**Pn**	**11 59 34.3**	**0.0**
MYLDM	**Lahad Datu**	**8.29**	**269**	P	**Pn**	**11 59 34.4**	**0.0**
NLAI	**Namlea**	**8.58**	**178**	P	**Pn**	**11 59 36.2**	**-2.1**
AAI	**Ambon**	**9.12**	**171**	P	**Pn**	**11 59 45.1**	**-0.6**
	101nm,0.6s						
PCI	**Palu**	**9.37**	**228**	P	**Pn**	**11 59 50.1**	**+1.0**
	108nm,1.0s						
FAKI	**Fak Fak**	**9.88**	**147**	Pn	**Pn**	**11 59 56.0**	**+0.1**
FAKI	**Fak Fak**	**9.88**	**147**	P	**Pn**	**11 59 55.2**	**-0.7**
FAKI	**Fak Fak**	**9.88**	**147**	P	**Pn**	**11 59 55.4**	**-0.5**
	53nm,1.0s						
KDI	**Kendari**	**10.19**	**204**	P	**Pn**	**11 59 57.7**	**-2.5**
KKM	**Kota Kinabalu**	**10.57**	**274**	Pn	**Pn**	**12 00 04.1**	**-1.5**
KKM	**Kota Kinabalu**	**10.57**	**274**	P	**Pn**	**12 00 06.8**	**+1.2**
KKM	**Kota Kinabalu**	**10.57**	**274**	S	**Sn**	**12 02 04.5**	**+2.4**
TTSI	**Tana Toraja**	**10.92**	**220**	P	**Pn**	**12 00 09.7**	**-0.4**
	1μm136nm,1.1s						
SPSI	**Sidrap Palu**	**11.66**	**217**	P	**Pn**	**12 00 18.4**	**-1.7**
	709nm69nm,0.7s						
BNSI	**Bone**	**11.81**	**215**	P	**Pn**	**12 00 21.2**	**-0.9**
	56nm,0.7s						
KAPI	**Kappang**	**12.52**	**214**		**Pn**	**12 00 29.8**	**-1.7**
KAPI	**Kappang**	**12.52**	**214**	P	**Pn**	**12 00 29.9**	**-1.6**
	112nm,0.9s,baz=15,slow=9.5,SNR=32						
KAPI				LR	LR	12 06 08.6	
	comp=Z,138nm,19.1s,baz=64,slow=41						
BKSI	**Bulukumba**	**12.57**	**212**	P	**Pn**	**12 00 30.5**	**-1.6**
	40nm,0.7s						
MMRI	**Maumere**	**14.66**	**198**	Pn	**Pn**	**12 00 57.0**	**-2.3**
SBUM	**Sibu**	**14.86**	**259**	P	**Pn**	**12 01 02.2**	**+0.4**
EDFI	**Ende, Flores**	**14.95**	**200**	P	**Pn**	**12 01 01.9**	**-1.2**
	797nm72nm,0.9s						
SOEI	**Soe**	**15.26**	**190**	Pn	**Pn**	**12 01 06.5**	**-0.5**
SOEI	**Soe**	**15.26**	**190**	P	**Pn**	**12 01 06.8**	**-0.2**
SOEI	**Soe**	**15.26**	**190**	P	**P**	**12 01 09.0**	**-0.5**
	2μm109nm,0.7s						
BATI	**Baumata**	**15.81**	**191**	P	**P**	**12 01 15.0**	**-0.5**
	81nm,0.5s,baz=339,slow=3.0,SNR=12						
BATI	**Baumata**	**15.81**	**191**	P	**P**	**12 01 15.0**	**-0.5**
	1μm114nm,0.8s						
JAY	**Jayapura**	**15.94**	**119**	LR	LR	12 07 15.5	
	comp=Z,45nm,20.2s,baz=44,slow=36						
STKI	**Sintang**	**16.21**	**251**	P	**P**	**12 01 21.1**	**+1.1**
WBSI	**Waikabubak, Su**	**16.67**	**206**	P	**Pn**	**12 01 23.3**	**-1.1**
	1μm102nm,0.9s						
PLAI	**Plampang**	**16.76**	**213**	P	**Pn**	**12 01 25.0**	**-0.5**
PLAI	**Plampang**	**16.76**	**213**	P	**Pn**	**12 01 25.4**	**-0.1**
	1μm165nm,1.0s						
KSM	**Kuching**	**16.93**	**257**		**Pn**	**12 01 27.2**	**-0.5**
KSM	**Kuching**	**16.93**	**257**	P	**P**	**12 01 28.5**	**+0.5**
DRS	**Darwin Rock St**	**18.16**	**167**	P	**P**	**12 01 40.4**	**-1.1**
TWG	**Pinlang**	**18.20**	**343**	P	**P**	**12 01 40.5**	**-1.3**
MTN	**Manton Dam**	**18.62**	**167**		**P**	**12 01 45.6**	**-0.8**
MTN	**Manton Dam**	**18.62**	**167**	P	**P**	**12 01 45.6**	**-0.8**
JAGI	**Jajag, Banyuwa**	**18.69**	**223**	P	**P**	**12 01 47.3**	**+0.1**
TPUB	**Ta-pu**	**18.78**	**342**	P	**P**	**12 01 48.5**	**+0.3**
TPUB	**Ta-pu**	**18.78**	**342**	P	**Pn**	**12 01 48.9**	**-0.9**
TPUB	**Ta-pu**	**18.78**	**342**	S	**Sn**	**12 05 19.2**	**-1.1**
KDU	**Kakadu**	**18.82**	**163**	P	**P**	**12 01 48.3**	**-0.3**
NACB	**Ninganchiao**	**19.34**	**345**	P	**Pn**	**12 01 55.6**	**-0.8**
NACB	**Ninganchiao**	**19.34**	**345**	P	**Pn**	**12 01 56.8**	**+0.4**
GUMO	**Guam**	**19.56**	**64**	LR	LR	12 07 59.7	
	comp=Z,109nm,20.9s,baz=227,slow=32						
YHNB	**Yeheng**	**19.87**	**345**	P	**P**	**12 01 59.3**	**-0.8**
YHNB	**Yeheng**	**19.87**	**345**	P	**Pn**	**12 02 02.2**	**-0.4**
UGM	**Wanagama**	**20.95**	**231**	P	**P**	**12 02 11.4**	**-0.4**
UGM	**Wanagama**	**20.95**	**231**	P	**P**	**12 02 11.8**	**0.0**
QZH	**Quanzhou**	**20.98**	**339**	*e*P	Pn	12 02 14.6	-0.9
QZH				S	**S**	**12 06 04.9**	**+4.8**
KNRA	**Kununurra**	**21.02**	**175**		**P**	**12 02 12.0**	**-0.4**
JOW	**Kunigami**	**21.37**	**4**	P	**P**	**12 02 17.0**	**+0.9**
JOW	**Kunigami**	**21.37**	**4**	*e*P	**P**	**12 02 12.4**	**-3.7**
	120nm,29.1s						
JOW				*e*S	**S**	**12 06 00.0**	**-7.5**
JOW				*e*LR	LR	12 07 27.2	
	360nm,30.6s						
JOW	**Kunigami**	**21.37**	**4**	P	**P**	**12 02 18.2**	**+2.2**
	26nm,0.7s,baz=173,slow=6.0,SNR=5.3						
JOW				LR	LR	12 13 12.9	
	comp=Z,23nm,18.4s,baz=180,slow=44						
LEM	**Lembang**	**22.69**	**238**	LR	LR	12 12 14.4	
	comp=Z,144nm,19.0s,baz=304,slow=39						
MYKOM	**Kota Tinggi**	**23.20**	**262**	P	**P**	**12 02 34.6**	**-0.4**
COEN	**Coen**	**25.16**	**140**	P	**P**	**12 02 53.0**	**+0.2**
KAVG	**Kavieng**	**25.23**	**108**	P	**P**	**12 02 53.9**	**+0.4**
JCJ	**Chichijima**	**26.08**	**32**	P	**P**	**12 02 59.0**	**-2.0**
JCJ				IAmb	IAmb	12 03 02.7	
	comp=Z,18nm,0.7s						
JCJ	**Chichijima**	**26.08**	**32**	P	**P**	**12 02 59.4**	**-1.6**
WRAB	**Tennant Creek**	**26.23**	**164**	P	**P**	**12 03 02.1**	**-0.3**
WRA	**Warramunga Arr**	**26.24**	**164**	P	**P**	**12 03 01.7**	**-0.8**
WRA	**Warramunga Arr**	**26.24**	**164**	P	**P**	**12 03 01.7**	**-0.8**
	comp=Z,4.8nm,0.5s,baz=343,slow=10.0,SNR=135						
WRA				PcP	**PcP**	**12 06 26.7**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=331,slow=2.3,SNR=4.5						
WRA				ScP	**ScP**	**12 09 59.0**	**+1.6**
	comp=Z,2.5nm,0.8s,baz=340,slow=3.3,SNR=8.5						
WRA				LR	LR	12 15 48.0	
	comp=Z,43nm,19.1s,baz=356,slow=42						
WRA				P3KPbc		12 35 47.2	
	comp=Z,0.3nm,1.0s,baz=156,slow=4.6,SNR=4.9						
	comp=Z,4.8nm,0.5s						
MBWA	**Marble Bar**	**27.29**	**195**		**P**	**12 03 11.6**	**-0.3**
MBWA				IAmb	IAmb	12 03 19.2	
	comp=Z,26nm,0.9s						
MBWA	**Marble Bar**	**27.29**	**195**	P	**P**	**12 03 11.5**	**-0.3**
NJ2	**Nanjing**	**27.55**	**345**	*e*P	**P**	**12 03 15.2**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
PSA00	**Pilbara Seismi**	**27.66**	**194**		**P**	**12 03 14.5**	**-0.7**
PSA00	**Pilbara Seismi**	**27.66**	**194**	P	**P**	**12 03 14.9**	**-0.3**
JNU	**Nakatsue**	**27.85**	**7**		**P**	**12 03 15.7**	**-1.1**
JNU				IAmb	IAmb	12 03 17.4	
	comp=Z,20nm,1.0s						
JNU	**Nakatsue**	**27.85**	**7**	LR	LR	12 13 59.9	
	comp=Z,18nm,21.3s,baz=201,slow=35						
JNU	**Nakatsue**	**27.85**	**7**	P	**P**	**12 03 16.5**	**-0.3**
QIS	**Mount Isa**	**28.68**	**154**	P	**P**	**12 03 24.3**	**0.0**
JMN	**Monobe**	**28.95**	**12**	P	**P**	**12 03 27.0**	**+0.5**
ENH	**Enshi**	**29.65**	**329**	P	**P**	**12 03 31.6**	**-1.3**
ENH				IAmb	IAmb	12 03 33.1	
	comp=Z,17nm,0.8s						
ASAR	**Alice Springs**	**29.70**	**167**	P	**P**	**12 03 32.9**	**-0.4**
ASAR	**Alice Springs**	**29.70**	**167**	P	**P**	**12 03 33.0**	**-0.3**
	comp=Z,4.4nm,0.4s,baz=340,slow=6.8,SNR=125						
ASAR				PcP	**PcP**	**12 06 35.6**	**+0.4**
	comp=Z,3.4nm,0.6s,baz=355,slow=2.3,SNR=8.3						
ASAR				ScP	**ScP**	**12 10 10.0**	**+2.0**
	comp=Z,5.1nm,1.0s,baz=347,slow=2.8,SNR=13						
ASAR				LR	LR	12 17 08.1	
	comp=Z,55nm,18.3s,baz=10,slow=39						
ASAR				P3KPbc		12 35 32.6	
	comp=Z,0.3nm,0.7s,baz=182,slow=4.4,SNR=5.4						
	comp=Z,4.4nm,0.4s						
AS01	**Alice Springs**	**29.71**	**167**	P	**P**	**12 03 33.3**	**-0.1**
JHJ2	**Mitsune**	**30.12**	**22**	*e*LR	LR	12 11 27.8	
	comp=Z,33nm,32.5s						
CMAR	**Chiang Mai Arr**	**30.15**	**298**	P	**P**	**12 03 37.4**	**0.0**
	comp=Z,3.5nm,0.7s,baz=113,slow=6.7,SNR=5.0						
CMAR				LR	LR	12 17 46.7	
	comp=Z,42nm,18.8s,baz=135,slow=40						
	comp=Z,3.5nm,0.7s						
CHTO	**Chiang Mai**	**30.28**	**299**	P	**P**	**12 03 38.3**	**-0.2**
INU	**Inuyama**	**31.26**	**16**	P	**P**	**12 03 46.5**	**-0.5**
CTA	**Charters Tower**	**31.72**	**144**	P	**P**	**12 03 52.3**	**+1.1**
CTAO	**Charters Tower**	**31.72**	**144**	P	**P**	**12 03 51.1**	**-0.1**
CTAO				IAmb	IAmb	12 04 03.5	
	comp=Z,41nm,1.8s						
CTAO	**Charters Tower**	**31.72**	**144**	P	**P**	**12 03 52.2**	**+1.1**
LYN	**LuoYang**	**31.91**	**337**	P	**P**	**12 03 53.1**	**+0.4**
LYN				pmax	pmax		
	comp=Z,37nm,0.7s						
KSAR	**Wonju Array Be**	**31.92**	**2**	P	**P**	**12 03 53.1**	**+0.5**
KSRS	**Korea Array**	**31.93**	**2**	P	**P**	**12 03 52.4**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=178,slow=11,SNR=20						
KSRS				PcP	**PcP**	**12 06 41.7**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=182,slow=2.2,SNR=10						
KSRS				ScP	**ScP**	**12 10 16.3**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=186,slow=2.9,SNR=5.0						
	comp=Z,3.4nm,0.8s						
TIA	**Tai'an**	**31.94**	**345**	P	**P**	**12 03 53.1**	**+0.2**
TIA				PcP	**PcP**	**12 06 42.1**	**+1.2**
TIA				S	**S**	**12 08 56.4**	**-0.3**
TIA				pmax	pmax		
	comp=Z,44nm,1.0s						
MJAR	**Matsushiro Arr**	**32.72**	**17**	P	**P**	**12 03 57.8**	**-1.9**
	comp=Z,2.3nm,0.9s,baz=189,slow=9.2,SNR=8.1						
MJAR				PcP	**PcP**	**12 06 43.8**	**+0.7**
	comp=Z,4.0nm,0.8s,baz=192,slow=2.8,SNR=10						
MJAR				ScP	**ScP**	**12 10 19.1**	**+1.3**
	comp=Z,2.8nm,0.9s,baz=192,slow=3.2,SNR=9.8						
	comp=Z,2.3nm,0.9s						
MEEK	**Meekatharra**	**32.82**	**194**	P	**P**	**12 04 00.1**	**-0.6**
XAN	**Xi'an**	**32.99**	**332**	⇑P	**P**	**12 04 01.2**	**-1.0**
XAN				sP	sP	12 04 34.5	-2.5
XAN				pmax	pmax		
	comp=Z,34nm,0.8s						
CD2	**Chengdu**	**33.38**	**322**	*e*P	**P**	**12 04 06.0**	**+0.4**
HNS	**HongShan**	**33.73**	**342**	⇑P	**P**	**12 04 09.2**	**+0.8**
HNS				pmax	pmax		
	comp=Z,57nm,1.0s						
INKA	**Innaminka**	**35.58**	**158**	P	**P**	**12 04 25.0**	**+0.5**
INKA				IAmb	IAmb	12 05 11.9	
	comp=Z,20nm,1.9s						
BJT	**Baijiatuau**	**35.79**	**346**	P	**P**	**12 04 26.4**	**+0.3**
MORW	**Morawa**	**35.80**	**196**	P	**P**	**12 04 26.1**	**-0.3**
MORW	**Morawa**	**35.80**	**196**	P	**P**	**12 04 25.9**	**-0.5**
BJI	**Beijing**	**35.80**	**346**	P	**P**	**12 04 26.6**	**+0.3**
BJI				sP	**sP**	**12 05 00.8**	**+0.8**
BJI				S	**S**	**12 09 56.6**	**+0.4**
BJI				pmax	pmax		
	comp=Z,38nm,1.1s						
QLP	**Quilpie**	**35.98**	**153**	P	**P**	**12 04 28.0**	**0.0**
BLDU	**Ballidu**	**37.09**	**195**	P	**P**	**12 04 36.9**	**-0.4**
LZDM	**Lanzhou Array**	**37.11**	**328**	P	**P**	**12 04 37.3**	**-0.6**
	comp=Z,2.9nm,0.4s,baz=156,slow=11,SNR=5.7						
LZDM				LR	LR	12 20 41.9	
	comp=Z,67nm,20.8s,baz=315,slow=37						
	comp=Z,2.9nm,0.4s						
LZH	**Lanzhou**	**37.13**	**328**	*e*P	**P**	**12 04 38.1**	**+0.2**
LZH				pP	pP	12 04 59.5	-1.6
LZH				sP	sP	12 05 09.4	-3.5
LZH				pmax	pmax		
	comp=Z,38nm,1.3s						
LZH				LR	LR		
	comp=Z,340nm,11.7s						
LZH				LR	LR		
	comp=Z,500nm,11.3s						
LZH				LR	LR		
	comp=Z,150nm,11.3s						
KLBR	**Kellerberrin**	**37.78**	**193**	P	**P**	**12 04 43.3**	**+0.1**
HHC	**Hu-ho-hao-te**	**37.86**	**341**	*e*P	**P**	**12 04 46.1**	**+2.2**
HHC				pmax	pmax		
	comp=Z,38nm,1.1s						
HHC				pmax	pmax		
	comp=Z,100nm,6.7s						
BTO	**Baotou**	**38.17**	**339**	*e*P	**P**	**12 04 47.4**	**+0.9**
BTO				pP	**pP**	**12 05 10.4**	**+1.4**
BTO				sP	**sP**	**12 05 22.9**	**+2.6**
BTO				S	**S**	**12 10 35.6**	**+3.3**
BTO				SS	**SS**	**12 13 18.3**	**-6.1**
BTO				pmax	pmax		
	comp=Z,20nm,0.6s						
BTO				pmax	pmax		
	comp=Z,200nm,4.7s						
BTO				LR	LR		
	comp=Z,170nm,4.7s						
BTO				LR	LR		
	comp=Z,98nm,6.9s						
BTO				LR	LR		
	comp=Z,140nm,6.5s						
CN2	**Changchun**	**38.27**	**358**	P	**P**	**12 04 46.6**	**-0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MUN	**Mundaring**	**38.51**	**195**	P	**P**	**12 04 49.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**38.92**	**6**	P	**P**	**12 04 52.3**	**-0.2**
USRK	**Ussuriysk Ar.**	**38.92**	**6**	P	**P**	**12 04 52.8**	**+0.2**
	comp=Z,6.4nm,0.7s,baz=199,slow=8.6,SNR=15						
USRK				PcP	**PcP**	**12 07 01.0**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=204,slow=3.1,SNR=4.5						
	comp=Z,6.4nm,0.7s						
BBOO	**Buckleboo**	**38.99**	**168**		**P**	**12 04 53.2**	**-0.1**
BBOO				IAmb	IAmb	12 04 54.3	
	comp=Z,21nm,0.8s						
BBOO	**Buckleboo**	**38.99**	**168**	P	**P**	**12 04 53.6**	**+0.3**
MDJ	**Mudanjiang**	**39.14**	**3**	P	**P**	**12 04 54.8**	**+0.4**
MDJ	**Mudanjiang**	**39.14**	**3**	P	**P**	**12 04 55.2**	**+0.8**

MDJ pmax pmax
comp=Z,53nm,1.0s
MDJ Mudanjiang 39.14 3 P P 12 04 55.2 +0.8
NWAO Narrogin (SRO) 39.18 193 P P 12 04 54.9 0.0
XLT XiLinHaoTe 39.50 348 *eP* **P 12 04 57.8 +0.3**
XLT pmax pmax
comp=Z,23nm,0.8s
XLT pmax pmax
comp=Z,92nm,4.5s
STKA Stephens Creek 39.65 160 P 12 04 58.4 -0.3
STKA Stephens Creek 39.65 160 P **P 12 04 59.1 +0.3**
comp=Z,9.2nm,0.7s,baz=341,slow=8.1,SNR=20
STKA LR LR 12 23 41.6
comp=Z,63nm,18.5s,baz=4.7,slow=40
comp=Z,9.2nm,0.7s
STKA Stephens Creek 39.65 160 P P 12 04 59.5 +0.8
HTT Hallett 40.28 164 P P 12 05 03.9 -0.1
CMSA Cobar Meteorol 40.90 155 P P 12 05 10.6 +1.5
ASAJ Asahikawa 40.99 17 LR LR 12 23 31.7
comp=Z,23nm,19.3s,baz=212,slow=38
JKA Kamikawa-asahi 40.99 17 P P 12 05 09.8 +0.1
JKA IAmb IAmb 12 05 11.5
comp=Z,15nm,0.9s
H11N1 WAKE ISLAND Hy 41.49 66 T T 12 49 59.6
baz=255,slow=75,SNR=8.1
H11N2 WAKE ISLAND Hy 41.49 66 T T 12 49 59.0
baz=255,slow=75,SNR=6.3
H11N3 WAKE ISLAND Hy 41.50 66 T T 12 50 15.0
baz=255,slow=75,SNR=6.2
GTA Gaotai 41.74 328 *eP* **P 12 05 15.9 -0.1**
GTA PcP **PcP 12 07 09.5 -1.2**
GTA S **S 12 11 29.6 +3.9**
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA LR LR
comp=Z,140nm,15.5s
GTA LR LR
comp=Z,240nm,14.7s
GTA LR LR
comp=Z,170nm,22.3s
ARMA Armidale 42.80 148 P P 12 05 25.5 +0.7
ARMA IAmb IAmb 12 05 51.7
comp=Z,46nm,1.8s
YSS Yuzhno-Sakhali 43.63 16 P 12 05 31.3 +0.3
YSS IAmb IAmb 12 05 33.2
comp=Z,16nm,0.9s
EVN Everest 44.10 305 P P 12 05 35.0 -0.9
HEH HeiHe 44.71 1 *eP* **P 12 05 39.4 -0.2**
HEH pmax pmax
comp=Z,15nm,1.5s
ULN Ulaanbaatar 45.58 341 P 12 05 47.3 +0.6
ULN Ulaanbaatar 45.58 341 P P 12 05 47.0 +0.3
ULN PcP **PcP 12 07 24.3 +0.7**
SONM Songino Array 45.77 341 P P 12 05 48.9 +0.8
SONM IAmb IAmb 12 05 49.6
comp=Z,23nm,1.3s
SONM Songino Array 45.77 341 P P 12 05 48.7 +0.6
comp=Z,9.4nm,0.6s,baz=157,slow=8.8,SNR=35
SONM PcP **PcP 12 07 24.5 +0.3**
comp=Z,4.1nm,0.7s,baz=157,slow=3.7,SNR=7.4
SONM ScP **ScP 12 11 09.7 +1.8**
comp=Z,0.3nm,0.4s,baz=143,slow=3.1,SNR=2.0
comp=Z,9.4nm,0.6s
PALK Pallekele 45.86 275 LR LR 12 26 27.1
comp=Z,37nm,18.7s,baz=121,slow=38
DZM Mont Dzumac 47.43 127 *e*LR LR 12 19 30.0
comp=Z,86nm,33.6s
DZM Mont Dzumac 47.43 127 LR LR 12 26 17.7
comp=Z,83nm,18.2s,baz=342,slow=36
WMQ Urumqi 51.43 324 *eP* **P 12 06 32.6 +1.0**
WMQ pmax pmax
comp=Z,84nm,0.7s
WMQ LR LR
comp=Z,330nm,13.1s
WMQ LR LR
comp=Z,430nm,18.3s
WMQ LR LR
comp=Z,370nm,24.1s
PETK Petropavlovsk- 53.87 23 P P 12 06 49.9 +0.6
comp=Z,9.0nm,0.7s,baz=193,slow=5.8,SNR=13
PETK LR LR 12 29 16.9
comp=Z,8.5nm,21.5s,baz=224,slow=35
comp=Z,9.0nm,0.7s
ZSN Zaisan 55.18 326 *eP* **P 12 06 58.0 -0.8**
MKAR Makanchi Array 56.26 325 P P 12 07 05.9 -0.7
MKAR Makanchi Array 56.26 325 P P 12 07 05.5 -1.2
comp=Z,13nm,0.6s,baz=121,slow=8.3,SNR=57
MKAR PcP **PcP 12 08 03.1 +0.1**
comp=Z,5.9nm,0.7s,baz=123,slow=4.5,SNR=7.5
MKAR ScP **ScP 12 11 53.8 +0.8**
comp=Z,1.0nm,0.6s,baz=111,slow=5.0,SNR=5.5
MKAR LR LR 12 33 02.2
comp=Z,38nm,19.8s,baz=106,slow=38
comp=Z,13nm,0.6s
UZB Uzynbulak 56.42 319 *eP* **P 12 07 07.0 -1.0**
comp=Z,8.5nm,1.2s
MAKZ Makanchi 56.45 324 P P 12 07 06.9 -1.1
MAKZ PcP **PcP 12 08 02.5 -1.3**
YAK Yakutsk 56.56 2 P P 12 07 08.7 +0.3
YAK Yakutsk 56.56 2 LR LR 12 31 12.5
comp=Z,14nm,21.7s,baz=192,slow=36
TARG Taragay, Kyrgy 56.59 317 P P 12 07 09.0 -0.5
SATY Saty 56.78 319 *eP* **P 12 07 09.9 -0.7**
comp=Z,9.2nm,0.9s
KPKS Kokpek 56.79 320 *eP* **P 12 07 10.0 -0.6**
KSH Kashi 56.95 314 P P 12 07 15.0 +3.2
KSH pmax pmax
comp=Z,5.0nm,0.7s
MA2 Magadan 57.08 14 LR LR 12 33 21.1
comp=Z,8.9nm,19.7s,baz=198,slow=38
MA2 Magadan 57.08 14 P P 12 07 11.5 -0.7
TDK Taldyqorghan 57.68 321 *eP* **P 12 07 15.5 -1.2**
comp=Z,4.3nm,0.5s
MDOK Medeo 57.72 319 *eP* **P 12 07 15.1 -2.1**
TNSS Tian-Shan 57.73 318 *eP* **P 12 07 15.1 -2.5**
ZALV Zalesovo Beam 59.16 333 P P 12 07 26.3 -0.5
comp=Z,8.7nm,0.4s,baz=124,slow=6.2,SNR=34
ZALV LR LR 12 33 47.7
comp=Z,26nm,19.2s,baz=133,slow=37
comp=Z,8.7nm,0.4s
AAK Ala-Archa 59.20 317 LR LR 12 36 46.2
comp=Z,17nm,19.8s,baz=91,slow=40
SGDS Sogindy 59.44 318 *eP* **P 12 07 27.8 -1.2**
KURBB Kurchatov Arra 60.40 327 P P 12 07 34.3 -1.0
comp=Z,19nm,0.6s,baz=126,slow=6.7,SNR=75
comp=Z,19nm,0.6s
BTLS Baital 60.47 320 *eP* **P 12 07 35.9 0.0**
comp=Z,4.8nm,1.0s
SHEM Shemya Is, Ala 60.99 31 LR LR 12 28 50.7
comp=Z,26nm,22.0s,baz=282,slow=31
KKAR Karatay Array 62.09 316 P P 12 07 47.4 +0.4
BRLS Borolday 62.53 316 *eP* **P 12 07 48.8 -1.1**
JOHN Johnston Islan 63.24 74 *e*LR LR 12 26 50.8
comp=Z,46nm,24.4s
BRZS Berezniki 63.40 324 *eP* **P 12 07 54.8 -0.7**
BVAR Borovoye Array 65.99 327 P P 12 08 11.6 -0.6
comp=Z,19nm,0.7s,baz=120,slow=8.8,SNR=39
BVAR LR LR 12 39 12.1
comp=Z,18nm,18.7s,baz=102,slow=38
comp=Z,19nm,0.7s
BORK Borovoye 66.04 327 P P 12 08 12.1 -0.5
TIXI Tiksi 66.19 1 P P 12 08 13.3 +0.2
TIXI IAmb IAmb 12 08 14.2
comp=Z,11nm,0.9s
TIXI Tiksi 66.19 1 LR LR 12 37 20.8
comp=Z,24nm,22.0s,baz=193,slow=36
NIUE Niue 66.83 113 *e*LR LR 12 28 21.8
comp=Z,80nm,23.4s
NIKH Nikolski High 70.41 35 P P 12 08 40.3 +0.4
baz=252
ABKAR Akbulak array 70.93 320 P P 12 08 42.2 -0.9
P08K Saint George I 71.19 32 P P 12 08 45.4 +0.9
baz=250
UNV Unalaska Valle 72.01 35 P P 12 08 50.5 +1.0
baz=254
AKTO Aktyubinsk 72.43 321 LR LR 12 42 54.8
comp=Z,43nm,20.9s,baz=232,slow=38
CASY Casey 72.47 187 P P 12 08 52.5 +0.6
CASY Casey 72.47 187 *e*LR LR 12 31 10.5
comp=Z,82nm,28.0s
CASY Casey 72.47 187 P P 12 08 52.5 +0.6
CASY PcP **PcP 12 09 10.9 +1.9**
CASY pP **pP 12 09 18.8 +1.3**
CASY sP **sP 12 09 27.8 -0.7**
DRV Dumont d'Urvil 72.51 175 P P 12 08 51.9 -0.2
GAMB Gambell 72.85 24 P P 12 08 55.5 +1.3
baz=246
ARTI Arti 73.68 327 P 12 08 58.2 -1.1
ARTI IAmb IAmb 12 09 00.1
comp=Z,21nm,1.1s
ARTI Arti 73.68 327 LR LR 12 45 35.7
comp=Z,20nm,18.1s,baz=62,slow=39
ARTI Arti 73.68 327 P P 12 08 58.7 -0.5
ARTI sP **sP 12 09 36.5 +1.1**
M11K Mekoryuk 74.07 28 P P 12 09 01.8 +0.3
baz=252
TNA Tin City 75.03 23 P P 12 09 07.6 +0.7
baz=249
K13K Kusilvak Mount 75.25 27 P P 12 09 08.6 +0.4
baz=253
XMAS Kiritimati 75.61 89 *e*LR LR 12 32 35.2
comp=Z,3.1nm,23.0s
F14K Arctic Creek 75.63 23 P P 12 09 10.7 +0.3
baz=251
SDPT Sand Point 75.78 34 P P 12 09 11.9 +0.5
baz=259
J14K Nanvaranak Lak 75.97 26 P P 12 09 12.7 +0.4
baz=254
L14K Kuka Creek 75.99 28 P P 12 09 12.9 +0.4
baz=255
N14K Kuskokwak Cree 76.12 29 P P 12 09 13.7 +0.5
baz=257
CHNA Chernabura Isl 76.18 35 P P 12 09 13.8 +0.1
baz=260
O14K Tigyukauivet M 76.18 30 P P 12 09 14.0 +0.4
baz=257
M14K Bethel 76.19 29 P P 12 09 14.3 +0.7
baz=256
F15K North Star Dit 76.36 23 P P 12 09 14.9 +0.4
baz=252
G15K Niukluk 76.40 24 P P 12 09 14.9 +0.2
baz=253
S14K Fog Glacier 76.47 33 P P 12 09 15.4 0.0
baz=259
POHA Pohakuloa 76.58 71 *e*LR LR 12 32 57.8
comp=Z,2.7nm,29.1s
L15K Ungalak Mounta 76.63 28 P P 12 09 16.9 +0.8
baz=256
K15K Wolf Creek Mou 76.76 27 P P 12 09 17.6 +0.8
baz=256
M15K Kasigluk River 76.78 29 P P 12 09 18.0 +1.0
baz=257
O15K Ungalikthiuk R 76.89 30 P P 12 09 18.0 +0.4
baz=258
C16K Lisburne Hills 76.91 21 P P 12 09 18.2 +0.7
baz=251
N15K Kwethluk River 76.96 29 P P 12 09 18.4 +0.4
baz=258
H16K Elim 77.04 25 P P 12 09 19.0 +0.6
baz=255
J16K Anvik River 77.41 26 P P 12 09 21.0 +0.6
baz=257
D17K Noatak River 77.55 22 P P 12 09 21.9 +0.8
baz=254,SNR=6.0
L16K Owhat River 77.58 28 P P 12 09 22.0 +0.7
baz=258
N16K Nishlik Lake 77.67 29 P P 12 09 23.0 +1.0
baz=259
M16K Timber Creek 77.68 29 P P 12 09 22.5 +0.5
baz=259
RDOG Red Dog Mine 77.71 21 P P 12 09 22.7 +0.6
baz=254
C17K DeLong Mountai 77.74 21 P P 12 09 22.7 +0.5
baz=253
O16K Kokwok River B 77.84 30 P P 12 09 23.0 +0.2
baz=260
E17K Hotham Inlet 77.84 22 P P 12 09 23.3 +0.5
baz=255
F17K Baldwin Pennin 77.90 23 P P 12 09 23.9 +0.9
baz=256
G17K Kiwalik Mounta 77.91 24 P P 12 09 23.4 +0.2
baz=256
H17K Granite Mounta 78.08 25 P P 12 09 24.5 +0.3
baz=257
J17K VABM Dome 78.10 26 P P 12 09 25.2 +0.9
baz=258
L17K Donlin 78.20 28 P P 12 09 25.7 +0.9
baz=259
K17K Iditarod 78.31 27 P P 12 09 26.3 +0.9
baz=259
O17K Koliganek Bris 78.36 30 P P 12 09 26.6 +0.8
baz=261
E18K Tukpahlearik C 78.39 22 P P 12 09 26.6 +0.8
baz=256
Q16K King Salmon 78.42 31 P P 12 09 26.7 +0.6
baz=261
R17L Mt. Peulik Vol 78.42 32 P P 12 09 26.6 +0.4
baz=262
N17K Nushagak Hills 78.44 29 P P 12 09 26.8 +0.6
baz=260
B18K Kokolik River 78.46 20 P P 12 09 26.8 +0.6
baz=254
M17K Holitna River 78.47 28 P P 12 09 27.2 +0.8
baz=260
C18K Utukok River 78.48 21 P P 12 09 27.1 +0.7
baz=255
F18K Selawik 78.56 23 P P 12 09 27.2 +0.5
baz=257
P17K Kvichak River 78.61 31 P P 12 09 27.3 +0.1
baz=261
Q17K Contact Creek 78.75 32 P P 12 09 28.3 +0.2
baz=262
H18K Honhosa River 78.77 25 P P 12 09 28.2 +0.3
baz=258
G18K Tagagawik 78.80 24 P P 12 09 28.8 +0.6
baz=258
L18K Granite Mounta 78.96 28 P P 12 09 29.6 +0.6
baz=261
N18K Kilae Creek 79.10 29 P P 12 09 30.7 +0.9
baz=262
J18K Innoko River 79.16 26 P P 12 09 30.4 +0.2
baz=260
C19K Lookout Ridge 79.16 21 P P 12 09 30.9 +0.8
C19K Lookout Ridge 79.16 21 P P 12 09 31.1 +1.0
baz=257
M18K Stony River 79.25 28 P P 12 09 31.3 +0.7
baz=262
GCSA Galena City Sc 79.31 25 P P 12 09 31.5 +0.7
baz=260
F19K Shaleruckik Mo 79.34 23 P P 12 09 31.6 +0.6
baz=259
R18K Karluk 79.42 33 P P 12 09 32.0 +0.4
baz=263
SII Sitkinak Islan 79.46 34 P P 12 09 32.1 +0.2
baz=264
G19K Purcell Mounta 79.48 24 P P 12 09 32.3 +0.5
baz=259
D19K Kuna River 79.55 21 P P 12 09 32.7 +0.5
baz=258
H19K Roundabout Mou 79.63 24 P 12 09 33.1 +0.6
H19K IAmb IAmb 12 09 34.6
comp=Z,13nm,0.8s
H19K Roundabout Mou 79.63 24 P P 12 09 32.8 +0.2
baz=260,SNR=12
E19K Redstone River 79.67 22 P P 12 09 33.8 +1.0
baz=259
J19K Poorman 79.73 26 P P 12 09 33.8 +0.6
baz=261
N19K Bonanza Creek 79.80 29 P P 12 09 34.3 +0.5
baz=263
O19K Port Alsworth 79.81 30 P P 12 09 34.5 +0.9
baz=263
L19K White Mountain 79.81 28 P P 12 09 34.3 +0.6
baz=262
M19K Big River Lodg 79.99 28 P P 12 09 35.6 +1.0
baz=263
Q19K Cape Douglas, 80.00 31 P P 12 09 35.0 +0.2
baz=264
OHAK Old Harbor 80.02 33 P P 12 09 35.3 +0.5
baz=264
D20K Etivluk River 80.13 21 P P 12 09 35.9 +0.6
baz=259
F20K Avaraart Lake 80.17 23 P P 12 09 36.5 +1.0
F20K Avaraart Lake 80.17 23 P P 12 09 36.4 +0.9
baz=261,SNR=5.7
B20K Meade River 80.19 20 P P 12 09 36.0 +0.5
baz=259
E20K Nigu River 80.20 22 P P 12 09 36.4 +0.7
baz=260
H20K Anotleneega Mo 80.27 24 P P 12 09 36.8 +0.7
baz=262,SNR=7.6
L20K Farewell, AK 80.30 28 P P 12 09 36.9 +0.6
baz=263
K20K Telida 80.32 27 P P 12 09 37.6 +1.2
baz=263
I20K Naaghedeneel 80.33 25 P P 12 09 37.1 +0.8
baz=262
J20K Nowinta River 80.39 26 P 12 09 37.4 +0.7
J20K IAmb IAmb 12 09 39.0
comp=Z,31nm,1.6s
J20K Nowinta River 80.39 26 P P 12 09 37.8 +1.0
baz=262,SNR=5.5
KDAK Kodiak Island 80.45 32 P P 12 09 37.9 +0.7
baz=265
GNI Garni 80.50 310 LR LR 12 50 06.7
comp=Z,18nm,21.2s,baz=165,slow=39
M20K Styx River 80.58 28 P P 12 09 38.3 +0.4
baz=264
Q20K Shuyak Island 80.62 32 P P 12 09 38.7 +0.6
baz=265
A21K Barrow 80.62 19 P P 12 09 38.9 +1.1
baz=259
O20K Slope Mountain 80.64 30 P P 12 09 39.0 +0.8
baz=264
IMAR Indian Mountai 80.80 24 P P 12 09 40.0 +1.1
C21K Knifeblade Rid 80.86 21 P P 12 09 40.5 +1.3
baz=261
N20K Mount Spurr 80.95 29 P P 12 09 40.4 +0.5
baz=265
G21K Allakaket 80.96 24 P P 12 09 40.3 +0.6
baz=263
B21K Ikpikpuk River 80.99 20 P P 12 09 40.5 +0.7
baz=261
E21K Killik River 81.05 22 P P 12 09 40.8 +0.6
baz=262,SNR=5.1
F21K Alatna River 81.06 23 P P 12 09 40.9 +0.6
baz=263
A22K Sinclair Lake 81.09 19 P P 12 09 41.2 +0.9
baz=261
HOM Homer 81.09 31 P P 12 09 40.8 +0.3
baz=265
PPLA Purkeypile 81.12 27 P P 12 09 41.3 +0.5
baz=264
H21K Melozitna Rive 81.14 24 P P 12 09 41.4 +0.7
baz=264,SNR=8.6
CHUM Lake Minchumin 81.16 26 P P 12 09 41.4 +0.6
baz=264
CAST Castle Rocks 81.22 27 P P 12 09 41.7 +0.5
baz=264,SNR=12
SKT Skwentna 81.34 28 P P 12 09 42.0 +0.1
baz=265
I21K Tanana 81.43 25 P P 12 09 42.9 +0.7
baz=264
B22K Teshekpuk Lake 81.50 20 P P 12 09 43.3 +0.8
baz=262
D22K Ayikyak River 81.57 21 P P 12 09 43.5 +0.6
baz=263
F22K John River 81.60 23 P P 12 09 44.1 +1.0
baz=264
SUA Susitna One 81.67 29 P P 12 09 43.4 -0.3
baz=266
H22K Ishtalitna Cre 81.75 24 P P 12 09 44.8 +0.9
baz=265,SNR=9.6
BPAW Bear Paw Mtn. 81.76 26 P P 12 09 44.3 +0.3
baz=265,SNR=12
G22K Bettles 81.80 23 P P 12 09 44.7 +0.6
baz=264
E22K Anaktuvuk Pass 81.81 22 P P 12 09 44.9 +0.6
baz=264,SNR=7.1
KBZ Khabaz 81.91 313 P P 12 09 45.1 -0.1
comp=Z,1.5nm,0.5s,baz=124,slow=3.6,SNR=4.4
comp=Z,1.5nm,0.5s
MLY Manley 81.94 25 P P 12 09 45.4 +0.3
baz=266,SNR=6.0
CUT Chulitna 81.96 28 P P 12 09 45.3 +0.2
baz=266
M22K Willow 81.99 28 P P 12 09 44.7 -0.5
baz=266,SNR=7.4
TRF Thorofare Moun 82.02 27 P P 12 09 45.4 -0.2
baz=266,SNR=6.7
RC01 Rabbit Creek A 82.14 29 P P 12 09 45.5 -0.6
baz=267
SEW Seward 82.22 30 P P 12 09 46.3 -0.2
baz=267
D23K Nanushuk River 82.30 21 P P 12 09 47.4 +0.7
baz=265
COLD Coldfoot 82.34 23 P P 12 09 47.7 +0.8
baz=266
G23K Bananza Creek 82.37 23 P P 12 09 47.7 +0.5
baz=266
C23K Itkillik River 82.40 20 P P 12 09 47.8 +0.6
baz=265
PMR Palmer 82.45 29 P P 12 09 47.8 +0.2
baz=267,SNR=5.0
H23K Yukon River 82.50 24 P P 12 09 48.7 +0.8
baz=266,SNR=9.3
I23K Minto, Yukon-K 82.54 25 P P 12 09 48.3 +0.3
I23K IAmb IAmb 12 09 50.0
comp=Z,18nm,1.1s
I23K Minto, Yukon-K 82.54 25 P P 12 09 48.4 +0.4
baz=267,SNR=8.5
E23K Chandalar 82.62 22 P P 12 09 49.2 +0.7
baz=266,SNR=6.2
NEA2 Nenana 82.63 26 P P 12 09 48.5 -0.1
baz=267,SNR=8.7
MCK McKinley 82.64 27 P P 12 09 48.6 -0.1
baz=267,SNR=11
TOLK Toolik Lake Re 82.68 22 P P 12 09 49.4 +0.6
baz=266
KNK Knik Glacier 82.77 29 P P 12 09 49.3 0.0
baz=268
WAT1 Susitna Watana 82.78 27 P P 12 09 49.0 -0.4
baz=268
PWL Port Wells 82.81 29 P P 12 09 49.3 -0.3
baz=268
D24K Happy Valley 82.98 21 P P 12 09 51.0 +0.8
baz=267
E24K Your Creek 83.04 22 P P 12 09 51.1 +0.5
baz=267
C24K Franklin Bluff 83.06 20 P P 12 09 51.3 +0.7
baz=267
M23K Glacier View 83.13 28 P P 12 09 51.6 +0.4
baz=269
WAT6 Susitna Watana 83.14 28 P P 12 09 51.2 -0.2
baz=268,SNR=6.1
COLA College 83.16 25 P P 12 09 51.2 0.0
baz=268
CCB Clear Creek Bu 83.17 26 P 12 09 50.9 -0.4
CCB IAmb IAmb 12 09 52.0
comp=Z,16nm,1.1s
H24K Noodor Dome 83.19 24 P 12 09 51.9 +0.5
H24K IAmb IAmb 12 09 54.6
comp=Z,15nm,0.9s
H24K Noodor Dome 83.19 24 P P 12 09 52.0 +0.5
baz=268,SNR=15
F24K Squaw Lake 83.25 23 P P 12 09 52.6 +0.9
baz=268,SNR=5.7
SCM Sheep Creek Mo 83.32 28 P P 12 09 52.5 +0.2
baz=269
DHY Denali Highway 83.32 27 P P 12 09 52.8 +0.5
baz=269
POKR Poker Flat Res 83.35 25 P P 12 09 53.2 +0.9
baz=268
G24K Hadweenzic Riv 83.38 24 P P 12 09 53.1 +0.7
baz=268,SNR=14
HDA Harding Lake 83.54 26 P P 12 09 53.2 0.0
baz=269,SNR=7.0
ILAR Eielson Array 83.57 25 P P 12 09 53.2 -0.2
ILAR Eielson Array 83.57 25 P P 12 09 52.1 -1.3
comp=Z,4.6nm,0.9s,baz=245,slow=5.8,SNR=33
comp=Z,4.6nm,0.9s
MARD Mardin 83.62 307 P 12 09 53.4 -1.0
MARD IAmb IAmb 12 09 58.4
comp=Z,6.6nm,0.7s
Q23K Middleton Isla 83.78 31 P P 12 09 54.8 +0.4
baz=270
D25K Kavik River 83.86 21 P P 12 09 54.9 +0.1
baz=269
M24K Tolsona, Glenn 83.87 28 P P 12 09 55.6 +0.6
baz=270
G25K Bearman Lake 83.92 23 P P 12 09 56.1 +1.0
baz=270,SNR=6.5
KLU Klutina 83.99 29 P P 12 09 56.0 +0.3
baz=270
H25L Birch Creek 84.03 24 P P 12 09 56.8 +1.1
baz=270,SNR=11
K24K Donnelly Dome 84.05 26 P P 12 09 55.9 0.0
baz=270
DIV Divide 84.06 29 P 12 09 56.7 +0.7
EYAK Cordova Ski Ar 84.08 30 P P 12 09 56.8 +0.8
baz=270
F25K Christian Rive 84.11 23 P P 12 09 57.1 +1.0

	baz=270						
E25K	Arctic Village	84.14	22	P	P	12 09 57.4	+1.1
	baz=270,SNR=7.4						
PRP	Porcupine Dome	84.16	25	P	P	12 09 56.6	+0.1
	baz=270						
PAX	Paxson	84.19	27	P	P	12 09 57.0	+0.3
	baz=270,SNR=7.5						
J25K	Salcha River,	84.22	26	P	P	12 09 56.8	0.0
	baz=270						
HARP	HAARP	84.34	28	P	P	12 09 57.9	+0.5
	baz=271						
C26K	Camden Bay	84.38	20	P	P	12 09 58.2	+0.9
	baz=270						
RIDG	Independent Ri	84.46	27	P	P	12 09 58.2	+0.2
	baz=271,SNR=8.6						
BMAR	Burnt Mountain	84.52	23	P	P	12 09 59.8	+1.6
N25K	Chitina, Valde	84.62	29	P	P	12 09 59.8	+1.0
	baz=271						
BMRM	Bremner River	84.63	29	P	P	12 09 59.2	+0.3
	baz=271,SNR=5.7						
F26K	Sheenjek River	84.68	23	P	P	12 10 00.1	+1.1
	baz=271						
KAIM	Kayak Island	84.75	30	P	P	12 10 00.4	+0.9
	baz=272						
C27K	Jago River	84.80	21	P	P	12 10 00.8	+1.3
	baz=271						
SCRK	Sand Creek	84.84	26	P	P	12 10 00.7	+0.7
	baz=272,SNR=6.6						
G26K	Porcupine Rive	84.84	23	P	P	12 10 00.8	+1.1
	baz=272,SNR=7.6						
J26L	Joseph Creek	85.01	26	P	P	12 10 00.9	+0.2
	baz=272,SNR=5.9						
VNDA	Vanda	85.05	173	P	P	12 10 00.7	+0.1
	comp=Z,2.5nm,0.8s,baz=310,slow=5.7,SNR=17						
VNDA				LR	LR	12 48 05.0	
	comp=Z,18nm,18.2s,baz=313,slow=36						
	comp=Z,2.5nm,0.8s						
BERG	Berg Lake	85.09	30	P	P	12 10 01.8	+0.6
I26K	Coal Creek Min	85.15	25	P	P	12 10 01.9	+0.5
	baz=272						
L26K	Log Cabin Wild	85.16	27	P	P	12 10 02.2	+0.7
	baz=272						
MAW	Mawson	85.33	200	P	P	12 10 03.2	+1.1
	comp=Z,1.7nm,0.9s,baz=108,slow=3.2,SNR=2.9						
	comp=Z,1.7nm,0.9s						
M26K	Nabesna, AK	85.35	28	P	P	12 10 02.9	+0.4
	baz=273						
CRQE	Cirque	85.38	30	P	P	12 10 03.7	+1.0
	baz=273,SNR=7.0						
MCARA	McCarthy VSAT	85.38	29	P	P	12 10 03.2	+0.6
	baz=273						
E27K	Coleen River	85.62	22	P	P	12 10 04.7	+1.0
	baz=274						
K27K	Chicken	85.68	26	P	P	12 10 05.2	+1.2
	baz=273						
G27K	Doyon Strip	85.69	23	P	P	12 10 05.2	+1.2
	baz=274						
OBN	Obninsk	85.76	325	P	P	12 10 03.8	-0.7
	comp=Z,59nm,1.4s						
H27K	Steamboat Moun	85.77	24	P	P	12 10 05.7	+1.3
	baz=274,SNR=5.6						
I27K	Kandik River	85.78	25	P	P	12 10 05.5	+1.0
	baz=274,SNR=9.2						
D27M	Malcolm River	85.78	21	P	P	12 10 05.2	+0.7
	baz=274						
L27K	Beaver Creek,	85.85	27	P	P	12 10 05.8	+0.9
	baz=274,SNR=5.8						
BCAR	Beaver Creek A	85.87	27	P	P	12 10 05.6	+0.6
M27K	Edge Creek, AK	85.87	28	P	P	12 10 06.1	+1.0
	baz=274						
MESA	MESA	85.97	30	P	P	12 10 06.8	+1.0
	baz=274						
CTG	Chitna Glacier	86.22	29	P	P	12 10 07.5	+0.6
	baz=274,SNR=9.3						
F28M	Old Crow	86.32	23	P	P	12 10 07.3	+0.2
	baz=275						
E28M	Babbage River	86.35	22	P	P	12 10 08.0	+0.8
	baz=275						
I28M	Miner Creek	86.49	25	P	P	12 10 08.5	+0.5
	baz=275,SNR=7.9						
YUK3	Moose Creek	86.58	28	P	P	12 10 09.2	+0.5
	baz=275						
O28M	Mount Upton	86.80	29	P	P	12 10 10.8	+0.8
	baz=275						
PINM	Pinnacle	86.83	30	P	P	12 10 09.8	0.0
	baz=275						
DAWY	Dawson	86.85	26	P	P	12 10 09.6	-0.2
	baz=276						
YUK8	Steele Glacier	86.96	29	P	P	12 10 10.7	0.0
	baz=276						
E29M	Blow River	86.98	22	P	P	12 10 10.5	+0.2
	baz=277						
H29M	Whitestone	87.05	24	P	P	12 10 11.3	+0.7
	baz=277						
G29M	Pine Creek	87.11	23		P	12 10 10.7	-0.3
G29M				IAmb	IAmb	12 10 16.0	
	comp=Z,9.8nm,1.0s						
G29M	Pine Creek	87.11	23	P	P	12 10 10.9	-0.1
	baz=277						
I29M	Ogilvie Camp,	87.17	25	P	P	12 10 10.9	-0.4
	baz=277						
PNL	Peninsula	87.30	30	P	P	12 10 11.3	-0.7
	baz=276						
M29M	Somme Creek	87.45	28	P	P	12 10 12.5	-0.3
	baz=277						
YUK4	Talbot Arm	87.49	29	P	P	12 10 13.8	+0.6
	baz=277						
L29M	L29M	87.52	27	P	P	12 10 13.6	+0.5
	baz=277						
O29M	Mount Kennedy	87.64	30	P	P	12 10 14.8	+1.0
	baz=277						
YUK6	Outpost Mounta	87.67	29	P	P	12 10 14.6	+0.5
	baz=277						
EPYK	Eagle Plains	87.69	24	P	P	12 10 13.4	-0.4
	baz=278						
K29M	Barlow Dome	87.70	26	P	P	12 10 14.6	+0.6
	baz=278						
G30M	tAoh Zraii Nji	87.80	23	P	P	12 10 14.7	+0.4
	baz=279						
F30M	Barrier River	87.87	22	P	P	12 10 15.6	+1.0
	baz=279						
I30M	Mount Dempster	88.00	25	P	P	12 10 15.1	-0.3
	baz=278						
HYT	Haines Junctio	88.10	29	P	P	12 10 16.8	+0.9
	baz=278						
J30M	Hart River	88.11	25	P	P	12 10 15.9	-0.1
	baz=278						
P29M	Windy Craggy	88.14	30	P	P	12 10 16.0	0.0
	baz=278						
M30M	Minto, Yukon	88.20	27	P	P	12 10 15.3	-1.0
	baz=278						
N30M	Aishikik Lake	88.22	29	P	P	12 10 15.9	-0.5
	baz=278						
MAYO	Mayo, Yukon	88.45	26	P	P	12 10 17.5	+0.1
	baz=279						
P30M	Million Dollar	88.46	30	P	P	12 10 18.1	+0.5
	baz=278						
G31M	Satah River	88.57	23	P	P	12 10 17.8	0.0
	baz=280						
INK	Inuvik	88.59	22	P	P	12 10 17.8	-0.1
	baz=281						
F31M	Tsiigehtchic	88.67	22	P	P	12 10 17.5	-0.8
	baz=281						
H31M	Peel River	88.74	24	P	P	12 10 19.3	+0.6
	baz=280						
O30N	Mendenhall	88.80	29	P	P	12 10 18.8	-0.3
	baz=279						
N31M	Braeburn, Yuko	88.83	28	P	P	12 10 18.8	-0.5
	baz=279						
PLBC	Pleasant Camp	88.86	30	P	P	12 10 18.9	-0.5
	baz=279						
SPITS	Spitsbergen Ar	88.88	349	P	P	12 10 18.5	-0.7
	comp=Z,3.1nm,0.4s,baz=93,slow=9.3,SNR=8.4						
	comp=Z,3.1nm,0.4s						
ARCES	ARCESS Array B	88.93	340		P	12 10 18.8	-0.7
ARCES	ARCESS Array B	88.93	340	P	P	12 10 18.8	-0.7
	comp=Z,8.7nm,0.4s,baz=84,slow=6.1,SNR=110						
ARCES				LR	LR	12 54 09.2	
	comp=Z,22nm,19.0s,baz=60,slow=38						
	comp=Z,8.7nm,0.4s						
BR104	Keskin Array S	89.04	310	P	P	12 10 19.5	-1.4
	comp=Z,2.8nm,1.0s						
BRTR	Keskin Array B	89.04	310	P	P	12 10 19.4	-1.5
	comp=Z,1.3nm,0.6s,baz=122,slow=4.4,SNR=8.4						
	comp=Z,1.3nm,0.6s						
BR105	Keskin Array S	89.06	310	P	P	12 10 19.5	-1.4
	comp=Z,2.4nm,0.8s						
M31M	Drury Creek, Y	89.36	28	P	P	12 10 21.7	0.0
	baz=280						
SKAG	Skagway	89.38	30	P	P	12 10 22.1	+0.3
	baz=280						
WHY	Whitehorse	89.40	29	P	P	12 10 22.8	+0.7
	baz=280						
SIT	Sitka	89.78	33	P	P	12 10 24.1	+0.4
	baz=280						
R32K	Eaglecrest	90.00	31	P	P	12 10 25.7	+1.0
	baz=280						
P32M	Atlin	90.17	30	P	P	12 10 25.7	+0.2
	baz=281						
N32M	Quiet Lake	90.17	29	P	P	12 10 25.5	-0.1
	baz=282						
FINES	FINESS Array B	90.42	332	P	P	12 10 26.0	-0.6
FINES	FINESS Array B	90.42	332	P	P	12 10 25.5	-1.1
	comp=Z,4.2nm,0.5s,baz=51,slow=5.1,SNR=50						
FINES				LR	LR	12 53 40.7	
	comp=Z,25nm,18.3s,baz=52,slow=37						
	comp=Z,4.2nm,0.5s						
P33M	Teslin, Yukon	90.49	29	P	P	12 10 27.0	-0.1
	baz=282						
AK09	Malin Array Si	90.64	321	P	P	12 10 26.8	-1.1
AK08	Malin Array Si	90.66	321	P	P	12 10 26.8	-1.2
AK03	Malin Array Si	90.67	321	P	P	12 10 26.9	-1.1
AK10	Malin Array Si	90.67	321	P	P	12 10 26.9	-1.1
AKASG	Malin Array Be	90.67	321	P	P	12 10 27.3	-0.7
AKASG				IAmb	IAmb	12 10 31.5	
	comp=Z,4.9nm,1.1s						
AKASG	Malin Array Be	90.67	321	P	P	12 10 26.9	-1.1
	comp=Z,2.8nm,0.7s,baz=66,slow=4.1,SNR=9.9						
AKASG				LR	LR	12 54 10.2	
	comp=Z,13nm,18.6s,baz=36,slow=37						
	comp=Z,2.8nm,0.7s						
AK01	Malin Array Si	90.68	321	P	P	12 10 26.6	-1.4
KIEV	Kiev	90.68	321	P	P	12 10 27.2	-0.8
KIEV				IAmb	IAmb	12 10 32.2	
	comp=Z,8.9nm,1.1s						
KIEV	Kiev	90.68	321	P	P	12 10 26.3	-1.7
	comp=Z,39nm,1.0s						
AK02	Malin Array Si	90.69	321	P	P	12 10 26.7	-1.4
AK04	Malin Array Si	90.70	321	P	P	12 10 26.7	-1.5
MMPY	Sheldon Lake,	90.70	27	P	P	12 10 27.9	-0.1
	baz=283						
AK06	Malin Array Si	90.70	321	P	P	12 10 27.0	-1.2
AK07	Malin Array Si	90.71	321	P	P	12 10 27.0	-1.2
AK11	Malin Array Si	90.71	321	P	P	12 10 27.0	-1.2
AK21	Malin Array Si	90.77	321	P	P	12 10 27.3	-1.2
AK17	Malin Array Si	90.78	321	P	P	12 10 27.3	-1.2
AK13	Malin Array Si	90.79	321	P	P	12 10 27.4	-1.1
AK20	Malin Array Si	90.80	321	P	P	12 10 27.4	-1.2
Q32M	Nakina River	91.02	31	P	P	12 10 29.2	-0.6
	baz=282						
U33K	Whale Pass	91.15	33	P	P	12 10 29.8	-0.3
	baz=281						
WRAK	Wrangell Islan	91.51	33	P	P	12 10 31.7	-0.1
	baz=282						
R33M	Jennings River	91.58	30	P	P	12 10 32.5	+0.3
	baz=283						
MI28	Mi28,Pidlybu	91.60	321	P	P	12 10 30.9	-1.4
C36M	Paulatuk	91.62	20	P	P	12 10 32.9	+0.9
	baz=290						
S34M	Telegraph Cree	91.83	31	P	P	12 10 32.7	-0.6
	baz=283						
V35K	Ketchikan	92.15	34	P	P	12 10 36.4	+1.7
	baz=283						
DLBC	Dease Lake	92.28	31	LR	LR	12 47 47.8	
	comp=Z,339nm,21.9s,baz=221,slow=33						
DLBC	Dease Lake	92.28	31	P	P	12 10 36.5	+1.1
	baz=284						
TGTN	Hyland Airport	92.34	28	P	P	12 10 36.4	+0.8
	baz=286						
T35M	Bob Quinn	92.51	32	P	P	12 10 37.7	+1.3
	baz=284						
RNPP9	Sopachiv	92.61	322	P	P	12 10 36.1	-0.9
RNPP8	Varash	92.64	322	P	P	12 10 36.3	-0.8
RNPP5	Staryi Chortor	92.65	322	P	P	12 10 36.3	-0.9
MLR	Muntele Rosu	93.77	316	LR	LR	12 58 08.5	
	comp=Z,29nm,18.3s,baz=96,slow=39						
BURAR	Bucovina Array	93.83	318	P	P	12 10 42.5	-0.4
BURAR				IAmb	IAmb	12 10 49.1	
	comp=Z,2.8nm,0.8s						
LIRD	Liard River Hi	93.98	29	P	P	12 10 43.7	+0.6
	baz=288						
TOAD	Toad River Com	94.57	30	P	P	12 10 46.1	+0.2
	baz=288						
QSPA	South Pole Qui	95.29	180	P	P	12 10 51.1	+2.1
	comp=Z,1.8nm,0.8s,baz=299,slow=1.1,SNR=7.1						
	comp=Z,1.8nm,0.8s						
RES	Resolute Bay	96.17	10	LR	LR	13 03 06.3	
	comp=Z,14nm,18.0s,baz=22,slow=41						
HFS	Hagfors	96.60	332	P	P	12 10 53.2	-1.8
	comp=Z,3.9nm,0.6s,baz=108,slow=4.8,SNR=19						
HFS				LR	LR	12 56 59.4	
	comp=Z,39nm,18.1s,baz=86,slow=37						
	comp=Z,3.9nm,0.6s						
NB2	NORSAR Subarra	97.35	334	P	P	12 10 56.7	-1.8
	comp=Z,1.3nm,0.7s,baz=66,slow=4.6						
NOA	NORSAR Array B	97.35	334	P	P	12 10 56.7	-1.8
	comp=Z,2.2nm,0.8s,baz=66,slow=4.5,SNR=7.1						
NOA				LR	LR	12 59 06.0	
	comp=Z,7.5nm,18.2s,baz=70,slow=38						
	comp=Z,2.2nm,0.8s						
KSP	Ksiaz	98.58	323	P	P	12 11 03.6	-0.6
LSZ	Lusaka	99.71	255	LR	LR	12 53 46.8	
	comp=Z,22nm,18.5s,baz=121,slow=34						
CLL	Collm	100.35	324	*e*Pdif	Pdif	12 11 12.0	-0.1
GERES	GERESS Array B	100.85	322	P	Pdif	12 11 13.9	-0.5
	comp=Z,0.9nm,0.7s,baz=46,slow=5.8,SNR=5.0						
SCHQ	Schefferville	118.92	9	PKP	PKPdf	12 16 13.3	-0.1
	comp=Z,56nm,0.8s,baz=0.0,slow=2.0,SNR=5.2						
PMSA	Palmer Station	120.22	175	*e*LR	LR	12 53 19.0	
	comp=Z,52nm,36.0s						
TXAR	Lajitas Array	120.50	51	PKP	PKiKP	12 16 17.9	+0.6
	comp=Z,0.5nm,0.7s,baz=190,slow=1.9,SNR=6.7						
TORD	Torodi Ar. Bea	122.48	289	PKP	PKPdf	12 16 21.0	-0.2
	comp=Z,3.4nm,0.7s,baz=56,slow=2.0,SNR=16						
PLCA	Paso Flores	141.51	159	PKP	PKiKP	12 16 58.1	-1.2
	comp=Z,2.1nm,0.8s,baz=214,slow=5.3,SNR=4.9						
AAGR	Agrelo	148.82	154	*e*P	PKiKP	12 17 14.3	-0.3
AUSP	Uspallata	149.30	152	*e*P	PKiKP	12 17 15.9	+0.1
RTLS	Leoncito	149.70	152	*e*P	PKiKP	12 17 16.6	0.0
CFA	Coronel Fontan	150.34	153	PKPbc	PKiKP	12 17 17.4	-0.3
	comp=Z,12nm,0.8s,baz=248,slow=3.8,SNR=28						
ACCO	Cerro Coronel	150.81	151	*e*P	PKiKP	12 17 19.6	+0.6
AROD	Rodeo	150.96	150	*e*P	PKiKP	12 17 20.3	+1.0
ACDV	Cuesta del Vie	151.13	150	*e*P	PKiKP	12 17 20.1	+0.6
ACHE	Chepes	151.41	155	*e*P	PKiKP	12 17 20.1	+0.1
AVFE	Valle Fertil	151.50	154	*e*P	PKiKP	12 17 20.6	+0.4
AGUA	GUANDACOL	152.00	151	*e*P	PKiKP	12 17 22.2	+0.9
APLL	PUNTA DE LOS L	152.13	155	*e*P	PKiKP	12 17 21.9	+0.5
LPAZ	La Paz	161.77	128	PKP	PKPdf	12 17 28.9	+1.2
	comp=Z,1.0nm,0.7s,baz=214,slow=2.4,SNR=4.8						
SIV	San Ignacio	166.92	144	PKP	PKPdf	12 17 32.4	+0.9
	comp=Z,2.5nm,0.9s,baz=242,slow=3.6,SNR=8.3						

IDC 01 12:11:06.2±4.7,**3.°89S**×**150.°85E,h109**km±46km,**mb3.2**/2, **mbtmp3.6**/2,**MS3.4**/1,**Error ellipse: s-maj=124.9km s-min=29.8km az=122.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.66	224	P	P	12 16 00.5	+1.9
	1.5nm,0.4s,baz=53,slow=10,SNR=53						
WRA				S	S	12 19 58.2	-0.7
	0.6nm,0.8s,baz=46,slow=16,SNR=3.6						
	1.5nm,0.4s						
ASAR	Alice Springs	25.58	218	P	P	12 16 26.5	+1.1
	0.2nm,0.3s,baz=50,slow=8.6,SNR=9.8						
	0.2nm,0.3s						
TGY	Tagaytay City	34.64	302	LR	LR	12 33 39.7	
	comp=Z,56nm,18.2s,baz=10.0,slow=39						
TORD	Torodi Ar. Bea	148.18	289	PKPbc	PKPdf	12 30 38.0	+0.9
	0.3nm,0.3s,baz=47,slow=2.0,SNR=6.2						

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*JMA **01** 12:15:12.8±0.2,25°N±2°×124.°4E±0.°8,h106km±2km, MV3.4/14,NW OFF MIYAKOJIMA ISLAND*

*IDC **01** 12:15:14.4±7.6,25.°47N×124.°77E,h144km±88km,mb3.4/6, mbtmp3.9/7,Error ellipse: s-maj=86.6km s-min=14.5km az=62.0*

ISC 01 12:15:11.5±0.9,**25.°26N**±0.°09×**124.°44E**±0.°05,**h113**km±9km, **n29**,σ**1.s03**/41,**mb3.7**/6,**Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	Tarama	0.66	159	*i* P	Pn	12 15 30.1	+0.2
JTJ				S	Sn	12 15 43.3	-0.4
JISG	Ishigakijimahi	0.68	190	*i* P	Pn	12 15 30.0	-0.1
JISG				S	Sn	12 15 42.8	-1.2
JIRB	Irabujima	0.79	123	*i* P	Pn	12 15 31.2	+0.2
JIRB				S	Sn	12 15 45.1	-0.6
JIKM	Ikemajima	0.81	115	P	Pn	12 15 31.7	+0.6
JIKM				S	Sn	12 15 46.2	+0.4
JMJ	Miyako jima 2	0.89	120	P	Pn	12 15 33.1	+1.2
JIJ	Ishigaki jima	0.93	197	*i* P	Pn	12 15 31.9	-0.5
JIJ				S	Sn	12 15 46.2	-1.9
JMJ2	Miyako jima3	0.96	123	*i* P	Pn	12 15 33.3	+0.7
JMJ2				S	Sn	12 15 48.8	+0.4
JOGS	Gusukube	1.01	120	*i* P	Pn	12 15 33.9	+0.9
JOGS				S	Sn	12 15 49.8	+0.5
JKRS	Kuro-shima	1.09	201	P	Pn	12 15 33.8	-0.1
JKRS				S	Sn	12 15 49.9	-1.0
IRIF	Iriomote-Funau	1.13	215	*i* P	Pn	12 15 34.1	-0.2
IRIF				S	Sn	12 15 50.5	-1.0
HATJ	Hateruma jima	1.33	206	P	Pn	12 15 36.5	0.0
HATJ				S	Sn	12 15 54.7	-0.9
YOJ	Yonaguni jima	1.52	239	P	Pn	12 15 39.1	+0.3
YOJ	Yonaguni jima	1.52	239	P	Pn	12 15 39.5	+0.7
JYNG	Yonagunijimaku	1.58	240	P	Pn	12 15 40.0	+0.6
JYNG				*e*S	Sn	12 15 60.0	-0.8
JKE	Kume jima 2	2.37	63	P	Pn	12 15 50.0	+0.7
NACB	Ninganchiao	2.81	248	P	Pn	12 15 54.8	-0.3
YHNB	Yeheng	2.84	259	P	Pn	12 15 57.7	+2.1
SSLB	Suanglung	3.50	246	P	Pn	12 16 04.1	-0.2
JOW	Kunigami	3.79	65	P	Pn	12 16 07.8	-0.2
	54nm,0.3s,baz=243,slow=9.0,SNR=8.6						
JOW				S	Sn	12 16 48.0	-3.8
	11nm,0.3s,baz=104,slow=25,SNR=1.6						
JOW	Kunigami	3.79	65	P	Pn	12 16 07.6	-0.5
TWGBT	Beinan	3.92	232	P	Pn	12 16 08.2	-1.7
TPUB	Ta-pu	3.99	241	P	Pn	12 16 11.2	+0.4
TPUB	Ta-pu	3.99	241	S	Sn	12 16 57.0	+0.2
MKAR	Makanchi Array	39.68	314	P	P	12 22 32.6	0.0
	0.6nm,0.5s,baz=106,slow=7.1,SNR=6.8						
	0.6nm,0.5s						
ZALV	Zalesovo Beam	41.01	325	P	P	12 22 42.9	-0.4
	2.2nm,0.5s,baz=114,slow=8.4,SNR=6.2						
	2.2nm,0.5s						
KURBB	Kurchatov Arra	43.24	318	P	P	12 23 01.7	+0.2
	0.9nm,0.6s,baz=109,slow=8.8,SNR=7.4						
	0.9nm,0.6s						
WRA	Warramunga Arr	45.95	167	P	P	12 23 23.7	+0.4
	1.0nm,0.7s,baz=348,slow=8.4,SNR=13						
	1.0nm,0.7s						
BVAR	Borovoye Array	48.75	319	P	P	12 23 45.0	+0.3
	0.7nm,0.4s,baz=106,slow=7.2,SNR=5.6						
	0.7nm,0.4s						
ASAR	Alice Springs	49.49	169	P	P	12 23 51.8	+1.2
	0.5nm,0.5s,baz=353,slow=8.7,SNR=19						
	0.5nm,0.5s						

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*NNC **01** 12:15:20.9±2.1,40.°76N×78.°33E,h0km,mb3.7,mpv3.2, Error ellipse: s-maj=14.3km s-min=11.1km az=176.0*

*SOME **01** 12:15:20.8,40.°75N×78.°27E,h10km*

*KRNET **01** 12:15:21.8±0.1,41.°02N×78.°80E,mb3.0*

ISC 01 12:15:18.4±3.1,**40.°7N**±0.°1×**78.°29E**±0.°06,**h8**km±16km,**n21**, σ**0.s77**/31,**10C-4D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.10	341	⇑*i*P	Pn	12 15 41.2	+0.6
TARG				⇑*i*S	Sb	12 15 55.2	+0.4
KDJ	Kajisay	1.67	330	⇑*i*P	Pg	12 15 51.4	+1.0
KDJ				⇑*i*S	Sg	12 16 13.1	+1.1
ULHL	Ulahol	2.19	316	⇑*i*P	Pg	12 16 00.5	+0.1
ULHL				⇑*i*S	Sg	12 16 28.9	+0.1
SATY	Saty	2.37	2	Pg	Pg	12 16 04.3	+0.5
	6.6nm,0.3s						
SATY				Lg	Lg	12 16 35.9	
	16nm,0.3s						
UZB	Uzynbulak	2.52	12	Pg	Pg	12 16 05.5	-1.1
	1.6nm,0.2s						
UZB				Lg	Lg	12 16 38.1	
	8.1nm,0.5s						
UZB	Uzynbulak	2.52	12	*e*P	Pg	12 16 06.2	-0.5
	1.3nm,0.1s						
UZB				*e*S	Sg	12 16 38.6	-0.7
	7.8nm,0.2s						
TNSS	Tian-Shan	2.55	337	Pg	Pg	12 16 07.1	-0.3
	6.0nm,0.2s						
TNSS				Lg	Lg	12 16 40.6	
	3.9nm,0.5s						
TNSS	Tian-Shan	2.55	337	*e*P	Pg	12 16 07.5	+0.2
	6.0nm,0.2s						
TNSS				*e*S	Sg	12 16 41.0	+0.5
	3.8nm,0.3s						
KOTS	Kotyrbulak	2.69	341	Pg	Pg	12 16 10.3	+0.3
	6.0nm,0.2s						
KOTS				Lg	Lg	12 16 45.7	
	19nm,0.4s						
KOTS	Kotyrbulak	2.69	341	*e*P	Pg	12 16 10.3	+0.3
	6.0nm,0.2s						
KOTS				*e*S	Sg	12 16 45.7	+0.8
	19nm,0.4s						
KNDC	Almaty	2.71	339	⇑Pg	Pb	12 16 06.7	-0.5
	8.5nm,0.3s						
KNDC				⇑Lg	Lg	12 16 45.3	
	15nm,0.7s						
PDGK	Podgornoye	2.79	18	⇓Pg	Pb	12 16 09.4	+0.9
	1.8nm,0.3s						
PDGK				⇓Lg	Lg	12 16 45.0	
	13nm,0.5s						
KPKS	Kokpek	2.79	6	Pg	Pg	12 16 11.0	-0.9
	0.3nm,0.1s						
KPKS				Lg	Lg	12 16 47.1	
	21nm,0.5s						
MTBS	Maitube	2.81	331	Pg	Pg	12 16 11.7	-0.5
	3.7nm,0.2s						
MTBS				Lg	Lg	12 16 48.5	
	16nm,0.4s						
MTBS	Maitube	2.81	331	*e*P	Pg	12 16 11.7	-0.5
	3.7nm,0.2s						
MTBS				*e*S	Sg	12 16 48.5	-0.2
	16nm,0.4s						
KST	Kastek	2.93	324	Pg	Pg	12 16 14.0	-0.5
	3.1nm,0.2s						
KST				Lg	Lg	12 16 52.4	
	12nm,0.5s						
KST	Kastek	2.93	324	*e*P	Pg	12 16 14.2	-0.2
	2.7nm,0.1s						
KST				*e*S	Sg	12 16 52.8	+0.3
	12nm,0.4s						
TKM2	Tokmak 2	3.01	319	⇓*i*P	Pb	12 16 11.6	-0.8
TKM2				⇓*i*S	Sb	12 16 47.5	-1.8
DGS	Degeres	3.17	324	Pg	Pg	12 16 18.1	-1.0
	2.9nm,0.5s						
DGS				Lg	Lg	12 16 59.4	
	16nm,0.5s						
UCH	Uchtor	3.23	300	⇑*i*P	Pb	12 16 16.2	-0.1
UCH				⇑*i*S	Sb	12 16 56.6	+0.6
KTBS	Karatobe	3.25	339	Pg	Pg	12 16 19.3	-1.4
	6.1nm,0.4s						
KTBS				Lg	Lg	12 17 01.4	
	15nm,0.4s						

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*IDC **01** 12:15:51.6±1.2,29.°31N×98.°37E,h0km,mb3.7/6, mbtmp3.6/7,ML3.8/1,Error ellipse: s-maj=71.6km s-min=19.3km az=60.0*

ISC 01 12:15:56.9±1.3,**29.°4N**±0.°2×**98.°4E**±0.°3,**h35**km,**n7**,σ**0.s92**/7, **mb3.5**/6,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	19.46	16	P	P	12 20 20.8	+0.2
	0.3nm,0.3s,baz=199,slow=7.8,SNR=3.5						
	0.7nm,0.7s						
MKAR	Makanchi Array	21.47	329	P	P	12 20 41.0	-1.3
	0.9nm,0.7s,baz=126,slow=10,SNR=8.3						
	0.9nm,0.7s						
KURBB	Kurchatov Arra	25.99	330	P	P	12 21 26.1	-0.1
	1.0nm,0.6s,baz=135,slow=11,SNR=9.7						
	1.0nm,0.6s						
ZALV	Zalesovo Beam	26.50	342	P	P	12 21 30.2	-0.6
	0.7nm,0.5s,baz=150,slow=9.6,SNR=1.8						
	0.7nm,0.5s						
FINES	FINESS Array B	56.29	327	P	P	12 25 34.6	+0.9
	3.7nm,1.1s,baz=109,slow=7.6,SNR=2.2						
	3.7nm,1.1s						
WRA	Warramunga Arr	60.02	140	P	P	12 25 59.8	-0.5
	1.0nm,0.8s,baz=330,slow=7.4,SNR=4.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.0nm,0.8s						
ASAR	**Alice Springs**	**62.80**	**143**	P	**P**	**12 26 19.3**	**+0.2**
	0.3nm,0.8s,baz=328,slow=6.4,SNR=5.4						
	0.3nm,0.8s						

*IDC **01** 12:37:46.1±1.5, 37.°55N×20.°72E, h0km, mb3.6/6, mbtmp3.6/6, MS2.7/1, Error ellipse: s-maj=45.6km s-min=27.7km az=128.0*

*ATH **01** 12:37:48.4, 37.°39N×20.°53E, h6km±2km, ML3.3/15, Manual Solution by A.Agalos First location: 2019/09/01 12:38:48, This location: 2019/09/01 12:47:56 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*

*THE **01** 12:37:49.1, 37°N±1°×2°1E±°, h7km±2km, M3.2/12, MLh3.2/12*

ISC 01 12:37:48.5±1.4**, 37.°41N**±0.°04×**20.°52E**±0.°04**, h14**km±8km**, n62,** σ0.s**87**/85**, mb3.7**/5**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.34**	**43**	P	**Pg**	**12 37 55.5**	**0.0**
KRI1				S	**Sg**	**12 38 00.6**	**+0.4**
KRI1	**kERI**	**0.34**	**43**	P	**Pg**	**12 37 55.5**	**0.0**
KRI1				S	**Sg**	**12 38 00.3**	**+0.1**
LTHK	**Lithakia**	**0.39**	**40**	P	**Pg**	**12 37 56.2**	**-0.1**
LTHK				S	**Sg**	**12 38 01.8**	**+0.2**
LTHK	**Lithakia**	**0.39**	**40**	P	**Pg**	**12 37 56.3**	**-0.1**
LTHK				S	**Sg**	**12 38 01.5**	**-0.1**
ORTH	**Orthonies,Zaky**	**0.46**	**18**	P	**Pg**	**12 37 57.4**	**-0.2**
ORTH				S	**Sb**	**12 38 04.3**	**-0.7**
ORTH	**Orthonies,Zaky**	**0.46**	**18**	P	**Pg**	**12 37 57.4**	**-0.2**
ORTH				S	**Sg**	**12 38 03.7**	**-0.1**
KYPS	**Kipseli, Zakin**	**0.47**	**31**	P	**Pb**	**12 37 58.0**	**-0.5**
KYPS				S	**Sb**	**12 38 05.0**	**-0.4**
CLEM	**Kyllini,Ilia,G**	**0.68**	**45**	P	**Pb**	**12 38 01.8**	**-0.3**
RTZL	**Ratzakli, Kefa**	**0.69**	**17**	P	**Pg**	**12 38 01.8**	**-0.2**
RTZL				S	**Sb**	**12 38 11.8**	**+0.1**
ARG2	**Argostoli**	**0.76**	**358**	P	**Pb**	**12 38 03.5**	**-0.1**
ARG2				S	**Sb**	**12 38 13.9**	**+0.1**
ARG2	**Argostoli**	**0.76**	**358**	P	**Pb**	**12 38 04.2**	**+0.7**
ARG2				S	**Sb**	**12 38 14.3**	**+0.5**
VLS	**Valsamata**	**0.76**	**4**	P	**Pg**	**12 38 02.6**	**-0.7**
VLS				S	**Sb**	**12 38 14.2**	**+0.3**
VLS	**Valsamata**	**0.76**	**4**	P	**Pg**	**12 38 02.7**	**-0.7**
VLS				S	**Sb**	**12 38 14.0**	**+0.1**
LXR1	**Lixouri, Cepha**	**0.79**	**355**	P	**Pb**	**12 38 04.3**	**+0.4**
LXR1				S	**Sb**	**12 38 15.6**	**+1.1**
DMLN	**Damoulianata-K**	**0.83**	**352**	S	**Sb**	**12 38 16.6**	**+0.8**
DMLN	**Damoulianata-K**	**0.83**	**352**	P	**Pb**	**12 38 05.7**	**+1.0**
DMLN				S	**Sb**	**12 38 16.6**	**+0.8**
SMHA	**Samh**	**0.84**	**7**	P	**Pb**	**12 38 04.9**	**0.0**
SMHA				S	**Sb**	**12 38 16.1**	**+0.1**
ZARO	**Zacharo**	**0.90**	**85**	P	**Pb**	**12 38 06.2**	**+0.3**
AMT	**Artemida-Makis**	**0.95**	**82**	P	**Pg**	**12 38 06.7**	**-0.2**
AMT				S	**Sb**	**12 38 19.6**	**+0.3**
RLS	**Riolos of Patr**	**0.99**	**49**	P	**Pg**	**12 38 06.9**	**-0.6**
RLS				S	**Sb**	**12 38 21.5**	**+1.3**
RLS	**Riolos of Patr**	**0.99**	**49**	P	**Pg**	**12 38 07.1**	**-0.4**
RLS				S	**Sg**	**12 38 20.1**	**-0.4**
AXS	**Araxos**	**1.03**	**41**	P	**Pg**	**12 38 08.1**	**-0.4**
AXS				S	**Sb**	**12 38 22.2**	**+0.7**
FSK	**Fiskardo**	**1.04**	**2**	P	**Pg**	**12 38 07.8**	**-0.9**
PYL1	**Pylos**	**1.06**	**118**	P	**Pg**	**12 38 07.9**	**-1.0**
DRO	**Drossia**	**1.09**	**60**	P	**Pb**	**12 38 09.2**	**+0.1**
DRO				S	**Sg**	**12 38 23.1**	**-0.5**
ITM	**Ithomi**	**1.15**	**101**	P	**Pb**	**12 38 10.4**	**+0.4**
ITM				S	**Sb**	**12 38 26.1**	**+1.3**
ITM	**Ithomi**	**1.15**	**101**	P	**Pg**	**12 38 10.0**	**-0.5**
EVGI	**Lefkada island**	**1.21**	**5**	P	**Pg**	**12 38 11.0**	**-0.8**
EVGI				S	**Sn**	**12 38 28.9**	**+1.7**
EVGI	**Lefkada island**	**1.21**	**5**	P	**Pg**	**12 38 11.0**	**-0.8**
AST1	**Astakos**	**1.21**	**22**	P	**Pn**	**12 38 11.8**	**+0.8**
NYDR	**Nydri-Lefkada**	**1.30**	**6**	P	**Pn**	**12 38 12.5**	**+0.3**
NYDR				S	**Sg**	**12 38 30.2**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.30**	**6**	P	**Pn**	**12 38 12.6**	**+0.3**
UPR	**University Cam**	**1.33**	**49**	P	**Pg**	**12 38 14.1**	**+0.1**
LKD2	**Lefkada island**	**1.38**	**4**	P	**Pn**	**12 38 13.8**	**+0.5**
LKD2				S	**Sn**	**12 38 33.4**	**+2.0**
LKD2	**Lefkada island**	**1.38**	**4**	P	**Pn**	**12 38 13.7**	**+0.3**
KLV1	**Kalavrita**	**1.40**	**63**	P	**Pg**	**12 38 15.2**	**-0.3**
TSLK	**Tsoukalades, L**	**1.41**	**4**	P	**Pn**	**12 38 14.6**	**+0.9**
KLV	**Kalavryta, Ach**	**1.44**	**64**	P	**Pn**	**12 38 14.8**	**+0.7**
KLV	**Kalavryta, Ach**	**1.44**	**64**	P	**Pn**	**12 38 14.8**	**+0.7**
PVO	**Paravola**	**1.44**	**33**	P	**Pb**	**12 38 15.3**	**+0.3**
EFP	**Efpalio**	**1.49**	**47**	P	**Pb**	**12 38 16.2**	**+0.3**
GUR	**Goura**	**1.54**	**70**	P	**Pn**	**12 38 16.1**	**+0.6**
SERG	**Sergoula**	**1.57**	**50**	P	**Pn**	**12 38 16.7**	**+0.7**
ANX	**Ano Chora**	**1.61**	**43**	P	**Pb**	**12 38 18.0**	**-0.2**
TETR	**Tetrakomo, Epi**	**2.02**	**17**	P	**Pn**	**12 38 23.9**	**+1.8**
LTK	**Loutraki**	**2.03**	**72**	P	**Pn**	**12 38 22.9**	**+0.6**
VLI	**Veliai**	**2.05**	**109**	P	**Pn**	**12 38 24.0**	**+1.4**
IGT	**Igoumenitsa**	**2.12**	**356**	P	**Pn**	**12 38 24.8**	**+1.3**
AGG	**Agios Georgios**	**2.15**	**41**	P	**Pn**	**12 38 25.7**	**+1.8**
AXAR	**Agios Charalam**	**2.16**	**51**	P	**Pn**	**12 38 25.5**	**+1.4**
MET2	**Kameni Chora,**	**2.24**	**84**	P	**Pn**	**12 38 25.9**	**+0.7**
LKR	**Lokris**	**2.31**	**57**	P	**Pn**	**12 38 26.9**	**+0.7**
VIL2	**Platees**	**2.32**	**69**	P	**Pn**	**12 38 27.1**	**+0.9**
THL	**Klokotos Trika**	**2.45**	**28**	P	**Pn**	**12 38 29.1**	**+1.1**
DION	**Dionisos Attik**	**2.79**	**75**	P	**Pn**	**12 38 33.2**	**+0.5**
MLR	**Muntele Rosu**	**9.04**	**25**	LR	LR	12 44 40.3	
	comp=Z,50nm,20.6s,baz=186,slow=47						
HFS	**Hagfors**	**23.15**	**351**	P	**P**	**12 42 52.6**	**-1.6**
	1.7nm,0.8s,baz=156,slow=11,SNR=1.5						
	1.7nm,0.8s						
FINES	**FINESS Array B**	**24.30**	**6**	P	**P**	**12 43 03.8**	**-1.5**
	1.1nm,0.7s,baz=195,slow=9.9,SNR=1.4						
	1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.44**	**220**	P	**P**	**12 43 53.4**	**+1.6**
	0.2nm,0.5s,baz=18,slow=11,SNR=1.0						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**42.69**	**53**	P	**P**	**12 45 42.9**	**-1.7**
	0.3nm,0.5s,baz=279,slow=8.5,SNR=3.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.70**	**58**	P	**P**	**12 46 07.0**	**-2.0**
	0.5nm,0.6s,baz=273,slow=6.8,SNR=5.2						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**46.20**	**48**	P	**P**	**12 46 10.3**	**-2.4**
	0.9nm,0.3s,baz=292,slow=9.3,SNR=4.3						
	0.9nm,0.3s						

*IDC **01** 12:46:37.5±1.0, 11.°98N×144.°05E, h0km, mb3.8/9, mbtmp3.8/9, MS3.1/2, Error ellipse: s-maj=32.3km s-min=19.0km az=110.0*

ISC 01 12:46:41.5±1.0**, 12.°0N**±0.°1×**144.°1E**±0.°2**, h26**km**, n17,** σ0.s**95**/11**, mb3.8**/9**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.77**	**26**	Pn	**Pn**	**12 47 10.6**	**+0.2**
	57nm,0.3s,baz=180,slow=5.1,SNR=47						
GUMO				Sn	**Sb**	**12 47 34.7**	**-0.3**
	121nm,0.3s,baz=3.3,slow=23,SNR=16						
H11S3	**WAKE ISLAND Hy**	**22.73**	**71**	T	T	13 15 18.4	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**22.75**	**71**	T	T	13 15 33.9	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**22.75**	**71**	T	T	13 15 37.1	
	baz=253						
H11N1	**WAKE ISLAND Hy**	**23.23**	**68**	T	T	13 16 04.0	
	baz=255						
H11N2	**WAKE ISLAND Hy**	**23.23**	**68**	T	T	13 15 58.1	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**23.24**	**68**	T	T	13 16 17.3	
	baz=255						
MJAR	**Matsushiro Arr**	**25.02**	**349**	LR	LR	13 01 30.3	
	comp=Z,39nm,18.2s,baz=180,slow=36						
WRA	**Warramunga Arr**	**33.15**	**197**	P	**P**	**12 53 17.0**	**+1.1**
	0.2nm,0.6s,baz=16,slow=9.4,SNR=1.5						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**36.81**	**196**	P	**P**	**12 53 46.2**	**-1.3**
	0.9nm,1.1s,baz=7.9,slow=7.1,SNR=2.6						
	0.9nm,1.1s						
SONM	**Songino Array**	**47.61**	**326**	P	**P**	**12 55 16.2**	**+0.8**
	0.3nm,0.5s,baz=142,slow=7.3,SNR=2.2						
SONM				LR	LR	13 17 24.1	
	comp=Z,17nm,18.3s,baz=116,slow=39						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**62.12**	**317**	P	**P**	**12 57 00.9**	**+0.6**
	0.4nm,0.5s,baz=92,slow=7.7,SNR=6.3						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**65.35**	**320**	P	**P**	**12 57 21.2**	**-0.4**
	1.3nm,0.7s,baz=103,slow=6.8,SNR=13						
	1.3nm,0.7s						
ILAR	**Eielson Array**	**70.33**	**25**	P	**P**	**12 57 52.0**	**-0.7**
	0.3nm,0.5s,baz=248,slow=6.1,SNR=8.2						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**70.71**	**322**	P	**P**	**12 57 55.1**	**-0.1**
	1.9nm,0.4s,baz=103,slow=8.0,SNR=23						
	1.9nm,0.4s						
NVAR	**Mina Array Bea**	**88.51**	**51**	P	**P**	**12 59 33.5**	**+1.1**
	0.3nm,0.5s,baz=266,slow=5.3,SNR=4.6						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**92.28**	**335**	P	**P**	**12 59 48.0**	**-1.2**
	0.7nm,0.5s,baz=64,slow=5.2,SNR=10						
	0.7nm,0.5s						

*IDC **01** 12:53:08.6±1.5, 24.°33N×120.°99E, h0km, mb3.7/3, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=94.4km s-min=25.7km az=78.0*

*TAP **01** 12:53:09.6, 24.°86N×122.°21E, h11km, ML3.6, C*

*JMA **01** 12:53:10.0±0.2, 25°N±1°×122.°2E±0.°3, h0km, MV3.3/6, TAIWAN REGION*

ISC 01 12:53:09.8±1.0**, 24.°79N**±0.°02×**122.°23E**±0.°02**, h6**km±8km**, n89,** σ0.s**93**/146**, mb3.6**/3**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGS		**0.28**	**281**	P	**Pg**	**12 53 15.6**	**+0.3**
EGS				*e*S	**Sg**	**12 53 19.2**	**+0.3**
TWB1	**Santiao Chiao**	**0.31**	**315**	*i* P	**Pg**	**12 53 15.3**	**-0.6**
TWB1				*i* S	**Sg**	**12 53 19.0**	**-1.0**
EOS2	**EOS2**	**0.37**	**180**	P	**Pb**	**12 53 18.6**	**-0.1**
EOS2				*e*S	**Sb**	**12 53 25.6**	**+0.9**
TWC	**Suao**	**0.39**	**242**	P	**Pg**	**12 53 17.6**	**+0.2**
TWC				S	**Sb**	**12 53 23.5**	**-1.9**
TIPB	**Shuangxi**	**0.41**	**296**	*e*P	**Pg**	**12 53 17.8**	**0.0**
ESAO	**Su ao**	**0.41**	**239**	P	**Pb**	**12 53 18.2**	**-1.3**
ESAO				*e*S	**Sb**	**12 53 24.3**	**-1.7**
ILA	**Ilan**	**0.44**	**267**	*e*P	**Pb**	**12 53 20.4**	**+0.4**
SXI1	**Grass Mountain**	**0.44**	**313**	P	**Pg**	**12 53 18.0**	**-0.4**
SXI1				S	**Sg**	**12 53 23.9**	**-0.3**
NWF	**Wu-fen Shan**	**0.49**	**304**	*e*P	**Pg**	**12 53 20.1**	**+0.8**
NWF				*e*S	**Sg**	**12 53 25.7**	**-0.1**
WFSB	**Wu-fen Shan**	**0.49**	**304**	*e*P	**Pg**	**12 53 20.4**	**+1.0**
WFSB				S	**Sg**	**12 53 25.9**	**+0.1**
EOS3	**EOS3**	**0.51**	**171**	*e*P	**Pb**	**12 53 21.3**	**+0.2**
TWE	**Neicheng**	**0.52**	**262**	P	**Pg**	**12 53 19.8**	**0.0**
EWUT	**Wuta**	**0.54**	**230**	*e*P	**Pb**	**12 53 20.8**	**-0.8**
EWUT				*e*S	**Sb**	**12 53 28.2**	**-1.3**
TNOU	**National Taiwa**	**0.55**	**311**	P	**Pg**	**12 53 20.8**	**+0.4**
TNOU				*e*S	**Sg**	**12 53 28.4**	**+0.8**
ENA	**Nanau**	**0.57**	**231**	*e*P	**Pb**	**12 53 21.4**	**-0.9**
ENA				*e*S	**Sb**	**12 53 29.6**	**-1.1**
FUSB	**Fushanzhiwuyua**	**0.58**	**267**	*e*P	**Pb**	**12 53 21.7**	**-0.8**
FUSB				*e*S	**Sb**	**12 53 29.8**	**-1.2**
TWA	**Mucha**	**0.62**	**288**	*e*P	**Pb**	**12 53 22.6**	**-0.4**
TWA				*e*S	**Sb**	**12 53 31.3**	**-0.7**
ENTT	**Nioudou**	**0.62**	**256**	*e*P	**Pg**	**12 53 22.0**	**+0.2**
EAHA	**Aohua**	**0.64**	**224**	P	**Pb**	**12 53 22.8**	**-0.6**
EAHA				*e*S	**Sb**	**12 53 32.1**	**-0.5**
NWLT	**Wulai**	**0.66**	**269**	*e*P	**Pb**	**12 53 23.1**	**-0.7**
NHDH	**Xindian Distri**	**0.66**	**285**	*e*P	**Pb**	**12 53 23.6**	**-0.2**
NHDH				*e*S	**Sb**	**12 53 32.8**	**-0.5**
EOS4	**EOS4**	**0.67**	**173**	*e*P	**Pb**	**12 53 24.1**	**+0.4**
LATG	**Datong**	**0.69**	**248**	*e*P	**Pb**	**12 53 23.9**	**-0.4**
LATG				*e*S	**Sb**	**12 53 33.7**	**-0.4**
YM01	**YM01**	**0.69**	**301**	P	**Pg**	**12 53 23.5**	**+0.3**
YM01				*e*S	**Sg**	**12 53 33.3**	**+1.0**
TAP	**Taipei**	**0.70**	**291**	*e*P	**Pg**	**12 53 23.7**	**+0.4**
TAP				*e*S	**Sg**	**12 53 33.6**	**+1.1**
YM08	**YM08**	**0.70**	**304**	*e*P	**Pg**	**12 53 23.2**	**-0.2**
YM08				*e*S	**Sg**	**12 53 33.0**	**+0.5**
ZUZH	**Zhuzihu**	**0.72**	**301**	*e*P	**Pg**	**12 53 23.9**	**+0.2**
JYNG	**Yonagunijimaku**	**0.73**	**117**	*e*P	**Pg**	**12 53 24.0**	**+0.1**
JYNG				S	**Sb**	**12 53 34.8**	**-0.5**
TWY	**Chenhua**	**0.75**	**310**	*e*P	**Pg**	**12 53 24.2**	**0.0**
TWY				*e*S	**Sg**	**12 53 34.5**	**+0.6**
ANP	**Anpu**	**0.76**	**302**	*e*P	**Pg**	**12 53 24.3**	**-0.1**
YOJ	**Yonaguni jima**	**0.78**	**115**	*e*P	**Pb**	**12 53 25.5**	**-0.3**
YOJ				*e*S	**Sg**	**12 53 35.3**	**+0.2**
YOJ	**Yonaguni jima**	**0.78**	**115**	P	**Pg**	**12 53 25.2**	**+0.3**
YOJ				S	**Sg**	**12 53 35.7**	**+0.6**
YHNB	**Yeheng**	**0.79**	**261**	*e*P	**Pb**	**12 53 25.4**	**-0.5**
TWS1	**Kuangyinshan**	**0.80**	**293**	*e*P	**Pg**	**12 53 25.6**	**+0.4**
NTST	**Danshui**	**0.80**	**298**	*e*P	**Pg**	**12 53 25.6**	**+0.4**
NSK	**Sanguang**	**0.80**	**262**	*e*P	**Pb**	**12 53 25.4**	**-0.8**
ETL	**Fush Village**	**0.84**	**221**	*e*P	**Pb**	**12 53 26.4**	**-0.4**
ETL				*e*S	**Sb**	**12 53 38.3**	**-0.1**
NACB	**Ninganchiao**	**0.84**	**223**	P	**Pb**	**12 53 26.2**	**-0.7**
NACB				S	**Sb**	**12 53 37.8**	**-0.7**
PCYT	**Pengchaiyu**	**0.85**	**350**	P	**Pg**	**12 53 25.0**	**-1.2**
NNSB	**Datong**	**0.85**	**245**	*e*P	**Pb**	**12 53 26.3**	**-0.8**
NNSB				*e*S	**Sb**	**12 53 38.4**	**-0.4**
NNS	**Nan Shan**	**0.85**	**246**	*e*P	**Pb**	**12 53 26.9**	**-0.2**
NNS				*e*S	**Sb**	**12 53 38.9**	**0.0**
ETLH	**Xiulin Townshi**	**0.90**	**230**	*e*P	**Pb**	**12 53 27.8**	**-0.1**
TWD	**Chiawan**	**0.91**	**219**	*e*P	**Pb**	**12 53 27.5**	**-0.6**
TWD				*e*S	**Sn**	**12 53 42.3**	**-0.3**
NCUH	**Zhongli**	**0.96**	**281**	*e*P	**Pb**	**12 53 29.0**	**+0.1**
HWA	**Hwalien**	**0.99**	**215**	*e*P	**Pn**	**12 53 30.1**	**-0.2**
NFF	**Wufeng Townshi**	**1.02**	**261**	*e*P	**Pb**	**12 53 29.8**	**-0.2**
FUSS	**Fushou**	**1.05**	**239**	*e*P	**Pn**	**12 53 30.9**	**-0.4**
FUSS				*e*S	**Sb**	**12 53 45.1**	**+0.5**
ETM	**Tongmen**	**1.06**	**219**	*e*P	**Pb**	**12 53 30.1**	**-0.5**
LXIB	**Xiulin Townshi**	**1.07**	**224**	*e*P	**Pb**	**12 53 30.3**	**-0.5**
LXIB				S	**Sn**	**12 53 45.8**	**-1.0**
TEYL	**Yanliau Villag**	**1.08**	**212**	*e*P	**Pn**	**12 53 31.7**	**+0.2**
TEYL				*e*S	**Sn**	**12 53 46.6**	**-0.2**
WHF	**Hehuan Shan**	**1.09**	**234**	*e*P	**Pb**	**12 53 31.1**	**-0.2**
WHF				*e*S	**Sb**	**12 53 45.8**	**-0.1**
TWT	**Tachien**	**1.10**	**241**	*e*P	**Pn**	**12 53 32.1**	**+0.2**
TWT				*e*S	**Sb**	**12 53 46.3**	**+0.3**
TDCB	**Techi**	**1.11**	**241**	*e*P	**Pn**	**12 53 32.1**	**0.0**
TDCB				*e*S	**Sb**	**12 53 46.7**	**+0.3**
NSTT	**Nanjuang**	**1.13**	**262**	*e*P	**Pn**	**12 53 32.4**	**+0.3**
NSTT				*e*S	**Sn**	**12 53 48.4**	**+0.4**
SHUL	**Shoufeng**	**1.17**	**211**	*e*P	**Pn**	**12 53 33.4**	**+0.6**
SHUL				*e*S	**Sn**	**12 53 51.4**	**+2.5**
ESL	**Shilin**	**1.21**	**217**	*e*P	**Pn**	**12 53 33.2**	**-0.1**
ESL				*e*S	**Sn**	**12 53 50.1**	**0.0**
OWD	**Renai**	**1.27**	**229**	*e*P	**Pn**	**12 53 34.1**	**-0.1**
OWD				*e*S	**Sn**	**12 53 53.1**	**+1.4**
WHP	**Taichung City**	**1.28**	**247**	*e*P	**Pn**	**12 53 35.4**	**+1.1**
WHP				*e*S	**Sn**	**12 53 51.3**	**-0.4**
WUSB	**Renai**	**1.29**	**232**	*e*P	**Pn**	**12 53 34.8**	**+0.3**
WUSB				*e*S	**Sn**	**12 53 51.6**	**-0.5**
WARBT	**Fenglin Townsh**	**1.32**	**216**	*e*P	**Pn**	**12 53 35.2**	**+0.4**
WARBT				*e*S	**Sn**	**12 53 53.9**	**+1.3**
EGFH	**Guangfu**	**1.34**	**213**	*e*P	**Pn**	**12 53 35.5**	**+0.5**
EGFH				*e*S	**Sn**	**12 53 55.2**	**+2.1**
IRIF	**Iriomote-Funau**	**1.44**	**108**	P	**Pn**	**12 53 37.0**	**+0.6**
IRIF				*e*S	**Sg**	**12 53 55.3**	**-0.8**
HGSD	**Ruisui**	**1.49**	**210**	*e*P	**Pb**	**12 53 38.5**	**+0.6**
SMLT	**Sun Moon Lake**	**1.51**	**234**	*e*P	**Pb**	**12 53 38.9**	**+0.5**
SMLT				*e*S	**Sn**	**12 53 59.6**	**+2.0**
TYC	**Yuchr**	**1.53**	**235**	*e*P	**Pg**	**12 53 39.2**	**0.0**
TYC				S	**Sn**	**12 53 59.9**	**+2.0**
SSLB	**Suanglung**	**1.53**	**230**	*e*P	**Pb**	**12 53 39.1**	**+0.4**
SSLB				*e*S	**Sn**	**12 54 00.1**	**+2.0**
WHYT	**Xinyi Township**	**1.66**	**229**	*e*P	**Pg**	**12 53 41.9**	**+0.1**
WJS	**Zhushan**	**1.68**	**235**	*e*P	**Pg**	**12 53 42.9**	**+0.9**
WJS				*e*S	**Sg**	**12 54 06.7**	**+3.0**
CHKH	**Chenggong**	**1.77**	**206**	*e*P	**Pg**	**12 53 42.3**	**-1.4**
FULB	**Fuli**	**1.80**	**209**	*e*P	**Pb**	**12 53 42.1**	**-1.2**
ALS	**Alishan**	**1.82**	**226**	*e*P	**Pg**	**12 53 44.4**	**-0.4**
ALS				*e*S	**Sg**	**12 54 10.9**	**+2.4**
CHN5	**Tsauling**	**1.85**	**230**	*e*P	**Pg**	**12 53 44.6**	**-0.7**
CHN5				*e*S	**Sg**	**12 54 10.3**	**+1.0**
EHD	**Haiduan**	**1.88**	**210**	*e*P	**Pn**	**12 53 42.7**	**+0.1**
WDLH	**Douliu**	**1.89**	**235**	*e*P	**Pg**	**12 53 45.0**	**-1.2**
WDLH				*e*S	**Sg**	**12 54 12.2**	**+1.4**
EDH	**Donghe**	**2.00**	**205**	*e*P	**Pn**	**12 53 44.2**	**+0.1**
WCKO	**Fanlu**	**2.00**	**228**	*e*P	**Pb**	**12 53 46.1**	**-0.6**
WCKO				*e*S	**Sg**	**12 54 14.3**	**+0.1**
TPUB	**Ta-pu**	**2.08**	**225**	*e*P	**Pb**	**12 53 47.5**	**-0.6**
TPUB				*e*S	**Sg**	**12 54 17.1**	**+0.3**
STYH	**Taoyuan**	**2.09**	**220**	*e*P	**Pb**	**12 53 46.6**	**-1.5**
STYH				*e*S	**Sg**	**12 54 14.8**	**-2.2**
CHY	**Chiayi**	**2.09**	**232**	*e*P	**Pb**	**12 53 46.9**	**-1.3**
WTP	**Ta-pu**	**2.13**	**224**	*e*P	**Pb**	**12 53 48.4**	**-0.5**
WTP				*e*S	**Sg**	**12 54 19.1**	**+0.7**
WSL	**Shuilin Townsh**	**2.22**	**236**	*e*P	**Pb**	**12 53 48.8**	**-1.6**
TWGBT	**Beinan**	**2.23**	**208**	*e*S	**Sb**	**12 54 16.4**	**-2.0**
SCST	**Cishan**	**2.48**	**220**	*e*P	**Pb**	**12 53 54.0**	**-0.7**
SCST				*e*S	**Sg**	**12 54 27.2**	**-2.2**
MASBT	**Mashibuluo**	**2.62**	**214**	*e*P	**Pn**	**12 53 53.6**	**+1.0**
MASBT				*e*S	**Sn**	**12 54 26.1**	**+1.4**
SCZT	**Fangliau**	**2.83**	**212**	*e*P	**Pn**	**12 53 57.3**	**+1.8**
SCZT				*e*S	**Sb**	**12 54 35.5**	**0.0**
KSRS	**Korea Array**	**13.53**	**20**	Pn	**P**	**12 56 33.2**	**+1.7**
	0.1nm,0.3s,baz=196,slow=11,SNR=5.9						
	0.6nm,0.7s						
SONM	**Songino Array**	**26.20**	**335**	P	**P**	**12 58 44.7**	**-0.6**
	0.7nm,0.6s,baz=151,slow=9.5,SNR=2.0						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**46.00**	**164**	P	**P**	**13 01 32.5**	**-1.7**
	1.6nm,0.8s,baz=344,slow=8.1,SNR=16						
	1.6nm,0.8s						
ASAR	**Alice Springs**	**49.48**	**166**	P	**P**	**13 02 00.0**	**-1.2**
	0.6nm,0.8s,baz=352,slow=7.3,SNR=6.4						
	0.6nm,0.8s						

NEIC 01 12:54:37.2±0.6**, 36.°89N**±0.°01×**104.°803W**±0.°009**, h4**km±2km**, mb_Lg2.7**/90**, ML2.6**/24**, Error ellipse: s-maj=2.1km s-min=0.9km az=198.0, New Mexico**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.40**	**51**	Pg	Pg	12 54 45.5	+0.4
T25A				Sg	Sg	12 54 51.0	+0.7
SDCO	**Great Sand Dun**	**1.02**	**327**		Pg	12 54 56.7	-0.1
SDCO				Sg	Sg	12 55 09.5	-0.6
SDCO				IAML		12 55 15.9	
	150nm,0.2s						
SDCO				IAML		12 55 16.0	
	105nm,0.1s						
RTBA	**Rita Blanca**	**1.72**	**104**		Pb	12 55 08.9	-0.5
RTBA					Sb	12 55 31.1	-0.3
S22A	**4UR Ranch, Cre**	**1.83**	**299**	Pn	Pb	12 55 11.5	+0.1
S22A					Sn	12 55 33.9	+0.5
S22A				IAML		12 55 38.2	
	comp=N,60nm,0.1s						
S22A				IAML		12 55 40.5	
	comp=E,83nm,0.6s						
Q24A	**Divide**	**2.09**	**353**	Pn	Pb	12 55 15.3	-0.6
Q24A					Sb	12 55 42.2	-0.1
Q24A				IAML		12 55 44.5	
	comp=N,46nm,0.2s						
Q24A				IAML		12 55 49.9	
	comp=E,63nm,0.4s						
ANMO	**Albuquerque**	**2.35**	**215**	Pn	Pn	12 55 18.0	+1.2
ANMO	**Albuquerque**	**2.35**	**215**	Pn	Pn	12 55 18.1	+1.3
ANMO				IAML		12 55 51.3	
	comp=E,17nm,0.3s						
ANMO				IAML		12 55 53.3	
	comp=E,21nm,0.4s						
ANMO	**Albuquerque**	**2.35**	**215**	Pn	Pn	12 55 18.1	+1.3
ANMO				IAML		12 55 51.3	
	comp=E,22nm,0.3s						
ANMO				IAML		12 55 53.3	
	comp=E,23nm,0.5s						
KSCO	**Kaye Shedlock'**	**2.73**	**38**	Pn	Pn	12 55 23.2	+1.2
MVCO	**Mesa Verde**	**2.97**	**277**	Pn	Pn	12 55 26.7	+1.4
ISCO	**Idaho Springs**	**2.98**	**348**	Pn	Pn	12 55 27.0	+1.5
PV15	**Paradox Valley**	**3.26**	**298**	Pn	Pn	12 55 30.1	+0.7
MSTX	**Muleshoe**	**3.35**	**150**	IAmb_Lg		12 56 29.9	
	comp=Z,17nm,0.9s						
PV03	**Paradox Valley**	**3.49**	**294**	Pn	Pn	12 55 33.6	+1.2
PV20	**West Nyswonger**	**3.61**	**295**	IAmb_Lg		12 56 36.4	
	comp=Z,20nm,1.0s						
PV10	**Paradox Valley**	**3.68**	**295**	IAmb_Lg		12 56 37.8	
	comp=Z,14nm,1.2s						
SMWD	**Samnorwood**	**4.10**	**114**	IAmb_Lg		12 56 50.4	
	comp=Z,20nm,0.8s						
ELIS	**Ellis County**	**4.42**	**99**	IAmb_Lg		12 56 58.1	
	comp=Z,21nm,0.8s						
DKNS	**Dickens**	**4.51**	**134**	IAmb_Lg		12 57 07.3	
	comp=Z,11nm,0.9s						
OGNE	**Ogallala**	**4.59**	**27**	Pn	Pn	12 55 49.2	+1.7
OK038	**West end E0370**	**4.89**	**93**	IAmb_Lg		12 57 11.8	
	comp=Z,15nm,0.7s						
SN07	**Snyder 07**	**4.96**	**139**	IAmb_Lg		12 57 19.5	
	comp=Z,13nm,1.0s						
R32A	**Long Quarter,**	**5.07**	**71**	IAmb_Lg		12 57 22.4	
	comp=Z,11nm,0.8s						
MNHN	**Monahans**	**5.78**	**162**	IAmb_Lg		12 57 48.2	
	comp=Z,7.4nm,0.8s						
ABTX	**Abilene, Hawle**	**6.01**	**134**	IAmb_Lg		12 58 02.4	
	comp=Z,11nm,1.2s						
X34A	**Smith Ranch, M**	**6.11**	**110**	IAmb_Lg		12 58 08.3	
	comp=Z,12nm,0.9s						
T35A	**Sooner Cattle**	**6.64**	**87**	IAmb_Lg		12 58 16.2	
	comp=Z,12nm,1.0s						
RSSD	**Black Hills**	**7.25**	**4**	IAmb_Lg		12 58 34.8	
	comp=Z,6.2nm,0.8s						
BRDY	**Brady**	**7.37**	**138**	IAmb_Lg		12 58 32.3	
	comp=Z,7.1nm,1.1s						
JCT	**Junction City**	**7.63**	**145**	IAmb_Lg		12 58 51.7	
	comp=Z,7.5nm,0.7s						
RLO	**Rose Lookout**	**7.91**	**92**	IAmb_Lg		12 58 50.7	
	comp=Z,9.1nm,1.1s						

*KRSC **01** 12:59:40.0±1.7, 55.°44N×166.°17E, h37km±13km, Ml3.7*

*IDC **01** 12:59:39.5±1.7, 56.°03N×165.°69E, h0km, mb3.2/2, mbtmp3.2/3, ML2.6/1, Error ellipse: s-maj=159.8km s-min=25.8km az=150.0*

ISC 01 12:59:42.2±1.2**, 55.°48N**±0.°07×**166.°20E**±0.°08**, h20**km**, n31,** σ**1.s21**/34**, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.30**	**206**	*e*P	**Pb**	**12 59 48.1**	**-0.8**
BKI				*e*S	**Sb**	**12 59 53.3**	**-0.1**
KBTR	**Krutoberegovo**	**2.04**	**292**	*e*P	**Pn**	**13 00 13.0**	**-2.4**
KBG	**Krutoberegovo**	**2.12**	**293**	*e*P	**Pn**	**13 00 15.9**	**-0.6**
MKZ	**Mys Kozlova**	**2.73**	**252**	*e*P	**Pn**	**13 00 24.1**	**-0.8**
MKZ				*e*S	**Sn**	**13 00 56.2**	**-1.1**
SMKR	**Semkarok**	**2.88**	**295**	*e*P	**Pn**	**13 00 27.5**	**+0.5**
KLY	**Klyuchi**	**3.24**	**287**	*e*P	**Pn**	**13 00 30.2**	**-1.6**
TUMD	**Tumrok D**	**3.33**	**268**	*e*P	**Pn**	**13 00 33.5**	**+0.5**
TUMD				*e*S	**Sn**	**13 01 13.7**	**+1.7**
KIRR	**Kirishev**	**3.35**	**281**	*e*P	**Pn**	**13 00 34.3**	**+0.8**
KMNR	**Kamenistaya**	**3.40**	**277**	*e*P	**Pn**	**13 00 33.6**	**-0.5**
KPT	**Kopyto**	**3.42**	**281**	*e*P	**Pn**	**13 00 31.8**	**-2.6**
KOZ	**Kozyrevsk**	**3.62**	**282**	*e*P	**Pn**	**13 00 37.3**	**+0.1**
KOZ				*e*S	**Sn**	**13 01 20.9**	**+1.7**
ESO	**Esso**	**4.27**	**279**	*e*P	**Pn**	**13 00 47.8**	**+1.8**
SPN	**Mys Shipunski**	**4.33**	**239**	*e*P	**Pn**	**13 00 46.5**	**-0.4**
SPN				*e*S	**Sn**	**13 01 34.4**	**-2.3**
SDLR	**Sedlovina**	**4.81**	**246**	*e*P	**Pn**	**13 00 54.2**	**+0.7**
SMAR	**Somma**	**4.86**	**246**	*e*P	**Pn**	**13 00 55.3**	**+1.0**
KRER	**Koryakskii**	**4.87**	**247**	*e*P	**Pn**	**13 00 55.7**	**+1.3**
UGLR	**Uglovaya**	**4.88**	**245**	*e*P	**Pn**	**13 00 55.3**	**+0.8**
AVH	**Avacha**	**4.89**	**246**	*e*P	**Pn**	**13 00 56.0**	**+1.3**
KRX	**Arik**	**4.89**	**247**	*e*P	**Pn**	**13 00 55.6**	**+0.9**
KOK	**Koryaka**	**4.93**	**247**	*e*P	**Pn**	**13 00 56.2**	**+1.0**
DALK	**Dalny**	**5.01**	**244**	*e*P	**Pn**	**13 00 56.7**	**+0.6**
GNL	**Ganaly**	**5.12**	**253**	*e*P	**Pn**	**13 00 59.3**	**+1.4**
KRMR	**Karymshinskiy**	**5.43**	**244**	*e*S	**Sn**	**13 02 03.9**	**+0.1**
PETK	**Petropavlovsk-**	**5.52**	**248**	Pn	**Pn**	**13 01 03.0**	**-0.1**
	0.9nm,0.3s,baz=65,slow=17,SNR=16						
PETK				Sn	**Sn**	**13 02 06.1**	**+0.2**
	0.4nm,0.3s,baz=26,slow=25,SNR=4.4						
	1.6nm,0.5s						
MTVR	**Mutnovka**	**5.60**	**241**	*e*P	**Pn**	**13 01 04.9**	**+0.5**
ASAK	**Asacha**	**5.80**	**241**	*e*P	**Pn**	**13 01 08.1**	**+1.0**
ILAR	**Eielson Array**	**24.57**	**49**	P	**P**	**13 05 00.0**	**-0.3**
	0.5nm,0.8s,baz=270,slow=9.8,SNR=5.3						
	0.5nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.69**	**179**	T	T	13 44 16.5	
	baz=359,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**35.70**	**179**	T	T	13 44 19.0	
	baz=359,slow=76,SNR=6.5						
H11N1	**WAKE ISLAND Hy**	**35.71**	**179**	T	T	13 44 19.1	
	baz=359,slow=76,SNR=7.5						
TXAR	**Lajitas Array**	**66.45**	**72**	P	**P**	**13 10 30.9**	**+0.8**
	0.1nm,0.5s,baz=293,slow=5.6,SNR=4.9						
	0.1nm,0.5s						

*IDC **01** 13:21:05.9±1.0, 38.°11N×97.°96W, h0km, mbtmp3.4/4, ML3.3/4, Error ellipse: s-maj=13.7km s-min=10.9km az=109.0*

*NEIC **01** 13:21:06.7±0.6, 38.°03N±0.°02×97.°98W±0.°03, h3km±3km, mb_Lg3.1/134, ML3.2/8, Error ellipse: s-maj=3.9km s-min=1.4km az=45.0*

ISC 01 13:21:04.6±1.3**, 38.°07N**±0.°04×**97.°98W**±0.°04**, h14**km±11km**, n78, σ2.s04**/30**, Kansas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R32A	**Long Quarter,**	**0.67**	**301**		**Pn**	**13 21 19.5**	**-0.3**
R32A				Sg	**Sb**	**13 21 28.9**	**+1.5**
R32A				IAML		13 21 33.0	
	2µm,0.6s						
R32A				IAML		13 21 33.1	
	2µm,0.4s						
KAN08	**Anthony NE Sta**	**0.85**	**180**		**Pb**	**13 21 21.2**	**+0.1**
KAN08				IAML		13 21 40.7	
	comp=N,581nm,0.4s						
KAN01	**Argonia South**	**0.94**	**169**		**Pn**	**13 21 22.9**	**-0.5**
KAN01				Sg	**Sb**	**13 21 34.7**	**-0.2**
KAN01				IAML		13 21 43.9	
	comp=E,440nm,0.3s						
KAN14	**Manchester OK**	**1.11**	**179**		**Pn**	**13 21 26.0**	**+0.2**
BLOK	**Blackwell**	**1.45**	**155**		**Pg**	**13 21 32.1**	**-0.3**
BLOK					**Sg**	**13 21 50.8**	**-0.3**
CBKS	**Cedar Bluff**	**1.57**	**299**		**Pg**	**13 21 34.9**	**+0.1**
CBKS					**Sg**	**13 21 56.5**	**+1.5**
CROK	**Carrier**	**1.57**	**180**		**Pg**	**13 21 33.9**	**-0.8**
CROK					**Sg**	**13 21 54.3**	**-0.8**
NOKA	**Waynoka**	**1.62**	**208**		**Pg**	**13 21 35.3**	**-0.5**
NOKA					**Sg**	**13 21 56.0**	**-0.9**
T35A	**Sooner Cattle**	**1.64**	**134**		**Pg**	**13 21 35.6**	**-0.5**
T35A					**Sg**	**13 21 57.1**	**-0.4**
OK038	**West end E0370**	**1.71**	**201**		**Pb**	**13 21 36.3**	**+0.5**
OK038					**Sg**	**13 21 58.7**	**-0.8**
QUOK	**Quay**	**2.15**	**151**		**Pb**	**13 21 42.5**	**-0.9**
OK052	**Battle Ridge R**	**2.28**	**155**		**Pb**	**13 21 44.2**	**-1.4**
ELIS	**Ellis County**	**2.31**	**210**	IAmb_Lg		13 22 18.0	
	comp=Z,82nm,0.7s						
DEOK	**Depew**	**2.52**	**152**	IAmb_Lg		13 22 29.7	
	comp=Z,49nm,0.8s						
TUL3	**Leonard**	**2.78**	**140**		**Pn**	**13 21 51.1**	**+2.4**
TUL3				IAmb_Lg		13 22 34.5	
	comp=Z,68nm,0.8s						
U38A	**Gravette**	**3.30**	**119**	IAmb_Lg		13 22 50.6	
	comp=Z,61nm,0.7s						
BGNE	**Belgrade**	**3.33**	**358**	IAmb_Lg		13 22 57.5	
	comp=Z,57nm,0.7s						
WMOK	**Wichita Mounta**	**3.39**	**191**	Pn	**Pn**	**13 21 59.7**	**+2.5**
WMOK				IAmb_Lg		13 22 56.7	
	comp=Z,39nm,0.7s						
SMWD	**Samnorwood**	**3.48**	**212**	Pn	**Pn**	**13 22 01.0**	**+2.6**
SMWD				IAmb_Lg		13 22 59.7	
	comp=Z,61nm,0.8s						
KSCO	**Kaye Shedlock'**	**3.76**	**286**	IAmb_Lg		13 23 08.4	
	comp=Z,59nm,0.7s						
P38A	**Dawn**	**3.80**	**65**	Pn	**Pn**	**13 22 06.2**	**+3.5**
P38A				IAmb_Lg		13 23 09.3	
	comp=Z,45nm,0.9s						
LOOK	**Love County**	**4.12**	**171**	IAmb_Lg		13 23 26.9	
	comp=Z,46nm,0.7s						
R40A	**Maddies Statio**	**4.50**	**85**	IAmb_Lg		13 23 34.2	
	comp=Z,26nm,0.7s						
MGMO	**Mountain Grove**	**4.63**	**100**	IAmb_Lg		13 23 38.3	
	comp=Z,44nm,0.8s						
K30B	**Basset**	**4.76**	**345**	IAmb_Lg		13 23 37.3	
	comp=Z,29nm,0.8s						
Z35A	**Perchaven, San**	**4.77**	**173**	IAmb_Lg		13 23 44.8	
	comp=Z,27nm,1.1s						
DKNS	**Dickens**	**5.00**	**209**	IAmb_Lg		13 23 47.1	
	comp=Z,42nm,0.8s						
APMT	**Aspermont**	**5.05**	**201**	IAmb_Lg		13 23 48.7	
	comp=Z,24nm,0.7s						
FCAR	**Ozark Folk Cen**	**5.17**	**113**	IAmb_Lg		13 23 57.5	
	comp=Z,32nm,0.7s						
T25A	**Trinidad**	**5.19**	**262**	IAmb_Lg		13 23 54.3	
	comp=Z,38nm,0.8s						
CCM	**Cathedral Cave**	**5.31**	**88**	IAmb_Lg		13 23 58.8	
	comp=Z,21nm,0.8s						
Z38A	**Mt. Pleasant**	**5.39**	**152**	IAmb_Lg		13 24 09.8	
	comp=Z,36nm,0.7s						
SN07	**Snyder 07**	**5.51**	**206**	IAmb_Lg		13 24 13.3	
	comp=Z,40nm,1.0s						
TREL	**Terrell**	**5.55**	**163**	IAmb_Lg		13 24 16.2	
	comp=Z,25nm,0.7s						
ABTX	**Abilene, Hawle**	**5.61**	**195**	IAmb_Lg		13 24 04.5	
	comp=Z,22nm,0.8s						
ECSD	**EROS Data Cent**	**5.75**	**10**	IAmb_Lg		13 24 14.6	
	comp=Z,20nm,0.8s						
POST	**Post**	**5.76**	**211**	IAmb_Lg		13 24 18.0	
	comp=Z,28nm,0.9s						
LCAR	**Lake Charles**	**5.81**	**108**	IAmb_Lg		13 24 14.0	
	comp=Z,34nm,0.7s						
FVM	**French Village**	**5.96**	**89**	IAmb_Lg		13 24 16.8	
	comp=Z,40nm,1.2s						
SLM	**Saint Louis**	**6.11**	**82**	IAmb_Lg		13 24 20.0	
	comp=Z,26nm,0.7s						
ISCO	**Idaho Springs**	**6.20**	**289**	IAmb_Lg		13 24 29.7	
	comp=Z,30nm,1.0s						
237A	**Washetta, Mont**	**6.31**	**163**	IAmb_Lg		13 24 41.1	
	comp=Z,18nm,0.8s						
Z41A	**Richland Creek**	**6.39**	**137**	IAmb_Lg		13 24 34.0	
	comp=Z,28nm,0.8s						
L40A	**Anamosa**	**6.54**	**50**	IAmb_Lg		13 24 40.0	
	comp=Z,33nm,0.9s						
CGM3	**Cape Girardeau**	**6.64**	**94**	IAmb_Lg		13 24 39.7	
	comp=Z,28nm,0.9s						
NATX	**Nacogdoches**	**6.86**	**156**	IAmb_Lg		13 24 54.2	
	comp=Z,24nm,0.9s						
I37A	**Lemond, Waseca**	**6.87**	**29**	IAmb_Lg		13 24 57.1	
	comp=Z,22nm,0.8s						
S44A	**Carbondale**	**6.91**	**90**	IAmb_Lg		13 24 53.8	
	comp=Z,37nm,1.0s						
SIUC	**Southern Illin**	**6.94**	**90**	IAmb_Lg		13 24 50.2	
	comp=Z,30nm,0.8s						
ODSA	**Odessa**	**7.02**	**214**	IAmb_Lg		13 24 53.3	
	comp=Z,15nm,0.9s						
Q44A	**Meyer Farm, Va**	**7.08**	**81**	IAmb_Lg		13 24 59.2	
	comp=Z,24nm,0.9s						
HDIL	**Hopedale**	**7.17**	**67**	IAmb_Lg		13 25 12.2	
	comp=Z,33nm,0.8s						
435B	**Jarrell**	**7.28**	**177**	IAmb_Lg		13 25 13.9	
	comp=Z,20nm,0.8s						
L42A	**Oliver, Polo**	**7.49**	**56**	IAmb_Lg		13 25 11.7	
	comp=Z,26nm,0.8s						
ANMO	**Albuquerque**	**7.51**	**248**	Pg	**Pg**	**13 23 24.4**	**-3.9**
	comp=Z,0.4nm,0.3s,baz=147,slow=14,SNR=5.6						
ANMO				Lg	Lg	13 24 57.0	
	comp=Z,1.3nm,0.3s,baz=65,slow=19,SNR=6.6						
RSSD	**Black Hills**	**7.58**	**325**	IAmb_Lg		13 25 19.5	
	comp=Z,17nm,0.9s						
143A	**Socs Landing,**	**7.58**	**133**	IAmb_Lg		13 25 12.2	
	comp=Z,32nm,0.7s						
OZNA	**Ozona**	**7.59**	**201**	IAmb_Lg		13 25 20.7	
	comp=Z,23nm,0.9s						
HAYD	**Hayden**	**7.60**	**292**	IAmb_Lg		13 25 24.2	
	comp=Z,17nm,0.8s						
JFWS	**Jewell Farm**	**7.62**	**48**	IAmb_Lg		13 25 13.0	
	comp=Z,28nm,0.8s						
JCT	**Junction City**	**7.72**	**192**	IAmb_Lg		13 25 32.3	
	comp=Z,28nm,0.8s						
MNHN	**Monahans**	**7.79**	**212**	IAmb_Lg		13 25 24.0	
	comp=Z,30nm,1.1s						
F33A	**5 Mile Ranch,**	**7.86**	**9**	IAmb_Lg		13 25 21.3	
	comp=Z,16nm,0.8s						
SPMN	**Marine on St.**	**8.13**	**27**	IAmb_Lg		13 25 29.3	
	comp=Z,15nm,0.9s						
PECS	**Pecos**	**8.26**	**218**	IAmb_Lg		13 25 34.5	
	comp=Z,15nm,0.9s						
PLAL	**Pickwick Lake**	**8.55**	**108**	IAmb_Lg		13 25 35.9	
	comp=Z,12nm,0.7s						
HNDO	**Hondo**	**8.59**	**188**	IAmb_Lg		13 25 45.7	
	comp=Z,22nm,1.0s						
SAND	**Sanderson**	**8.80**	**204**	IAmb_Lg		13 25 58.4	
	comp=Z,14nm,0.7s						
DRIO	**Del Rio**	**8.90**	**195**	IAmb_Lg		13 26 04.8	
	comp=Z,15nm,0.8s						
ALPN	**Alpine**	**8.99**	**213**	IAmb_Lg		13 25 57.1	
	comp=Z,14nm,0.8s						
VHRN	**Van Horn**	**9.29**	**221**	IAmb_Lg		13 26 07.8	
	comp=Z,15nm,0.8s						
EPT	**El Paso**	**9.41**	**231**	IAmb_Lg		13 26 06.5	
	comp=Z,15nm,1.2s						
Z47A	**Carrollton**	**9.42**	**118**	IAmb_Lg		13 26 14.6	
	comp=Z,22nm,0.9s						
833A	**Chaparral WMA,**	**9.80**	**187**	IAmb_Lg		13 26 24.8	
	comp=Z,14nm,1.1s						
TXAR	**Lajitas Array**	**9.92**	**210**	Pn	**Pn**	**13 23 28.5**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=38,slow=11,SNR=11						
TXAR				Pg		13 24 07.5	
	comp=Z,0.3nm,0.3s,baz=28,slow=15,SNR=7.0						
TXAR				Lg	Lg	13 26 14.6	
	comp=Z,0.5nm,0.3s,baz=22,slow=28,SNR=8.9						
	comp=Z,0.2nm,0.3s						
PDAR	**Pinedale Array**	**9.99**	**302**	Pn	**Pn**	**13 23 30.4**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=109,slow=12,SNR=1.7						
PDAR				Lg	Lg	13 26 17.4	
	comp=Z,0.9nm,0.3s,baz=99,slow=31,SNR=8.1						
	comp=Z,0.3nm,0.3s						
TKL	**Tuckaleechee C**	**11.63**	**98**	Pn	**Pn**	**13 23 51.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=280,slow=12,SNR=1.7						
TKL				Lg	Lg	13 27 05.7	
	comp=Z,0.4nm,0.3s,baz=184,slow=23,SNR=4.6						
	comp=Z,2.3nm,0.8s						
ULM	**Lac du Bonnet**	**12.27**	**6**	Pn	**Pn**	**13 23 57.8**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=193,slow=14,SNR=5.1						
ULM				Sn	**Sn**	**13 26 08.8**	**-6.4**
	comp=Z,0.2nm,0.3s,baz=94,slow=23,SNR=3.5						
ULM				Lg	Lg	13 27 23.5	
	comp=Z,0.2nm,0.3s,baz=136,slow=22,SNR=1.2						
	comp=Z,1.4nm,0.7s						

NEIC 01 13:32:06.4±0.9**, 36.°87N**±0.°02×**104.°79W**±0.°02**, h5**km±1km**, mb_Lg2.4**/34**, ML2.7**/68**, Error ellipse: s-maj=4.7km s-min=2.9km az=327.0, New Mexico**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.41**	**48**	Pg	Pg	13 32 15.2	+0.8
T25A				Sg	Sg	13 32 20.9	+1.1
SDCO	**Great Sand Dun**	**1.04**	**327**	Pg	Pg	13 32 26.0	-0.5
SDCO				Sg	Sg	13 32 39.7	-0.3
S22A	**4UR Ranch, Cre**	**1.85**	**299**	Pn	Pb	13 32 41.3	+0.4
S22A				IAML		13 33 11.4	
	comp=E,43nm,0.1s						
Q24A	**Divide**	**2.11**	**352**		Pb	13 32 45.4	0.0
Q24A				IAML		13 33 14.5	
	comp=E,31nm,0.2s						
ANMO	**Albuquerque**	**2.34**	**216**	Pn	Pn	13 32 46.3	+0.5
ANMO	**Albuquerque**	**2.34**	**216**	Pn	Pb	13 32 47.9	-1.4
ANMO				IAML		13 33 21.1	
	comp=E,9.5nm,0.3s						
ANMO				IAML		13 33 23.1	
	comp=E,11nm,0.4s						
ANMO	**Albuquerque**	**2.34**	**216**	Pn	Pb	13 32 48.1	-1.1
ANMO				IAML		13 33 21.1	
	comp=E,13nm,0.3s						
ANMO				IAML		13 33 23.1	
	comp=E,12nm,0.5s						
KSCO	**Kaye Shedlock'**	**2.74**	**38**	Pn	Pn	13 32 50.9	-0.3
MVCO	**Mesa Verde**	**2.99**	**278**	Pn	Pn	13 32 54.7	+0.1
MVCO				Pg	Pb	13 33 01.9	+1.6
MVCO				IAML		13 33 40.3	
	comp=E,13nm,1.1s						
MVCO				IAML		13 33 42.8	
	comp=E,15nm,0.6s						
ISCO	**Idaho Springs**	**3.00**	**348**		Pn	13 32 54.5	-0.4
BNM	**Barren Site**	**3.10**	**209**		Pb	13 33 03.5	+1.3
AMTX	**Amarillo**	**3.21**	**127**	Pn	Pn	13 32 56.3	-1.3
AMTX					Pb	13 33 05.2	+1.3
AMTX				IAmb_Lg		13 33 53.4	
	comp=Z,12nm,0.7s						
LENM	**Lemitar**	**3.23**	**214**	Pn	Pn	13 32 56.5	-1.4
PV01	**Paradox Valley**	**3.26**	**294**		Pb	13 33 06.7	+1.8
PV01				IAML		13 34 38.7	
	comp=N,11nm,0.4s						
PV01				IAML		13 34 39.1	
	comp=E,9.8nm,0.3s						
PV15	**Paradox Valley**	**3.28**	**298**		Pn	13 32 58.0	-0.7
PV15				IAML		13 34 40.3	
	comp=E,13nm,1.0s						
PV15				IAML		13 34 42.3	
	comp=N,12nm,1.1s						
CRNM	**Carthage**	**3.31**	**209**		Pb	13 33 07.1	+1.3
MSTX	**Muleshoe**	**3.33**	**150**	Pn	Pn	13 32 57.9	-1.3
PV02	**Paradox Valley**	**3.41**	**294**		Pb	13 33 08.3	+0.9
PV02				IAML		13 34 35.7	
	comp=E,29nm,0.9s						
Y22A	**Socorro**	**3.42**	**212**	Pg	Pb	13 33 07.1	-0.5
Y22A				IAML		13 33 54.4	
	comp=E,11nm,0.6s						
PV13	**Radium Mtn., P**	**3.45**	**293**		Pb	13 33 10.4	+2.2
PV13				IAML		13 34 37.3	
	comp=E,17nm,0.6s						
PV13				IAML		13 34 37.9	
	comp=N,19nm,1.2s						
PV12	**Saucer Basin,**	**3.50**	**296**		Pg	13 33 12.0	-1.5
PV03	**Paradox Valley**	**3.51**	**294**		Pg	13 33 11.5	-2.1
PV03				IAML		13 34 32.1	
	comp=N,24nm,0.5s						
PV03				IAML		13 34 32.9	
	comp=E,18nm,0.5s						
PV11	**David Mesa, Pa**	**3.54**	**295**		Pb	13 33 10.5	+0.8
PV18	**Skein Mesa, Pa**	**3.55**	**294**		Pg	13 33 12.5	-2.0
PV18				IAML		13 34 31.6	
	comp=E,23nm,0.5s						
PV18				IAML		13 34 32.2	
	comp=N,24nm,0.4s						
PV16	**Nyswonger Mesa**	**3.58**	**295**		Pb	13 33 12.4	+2.1
PV16				IAML		13 34 11.9	
	comp=N,20nm,1.4s						
PV16				IAML		13 34 32.5	
	comp=E,17nm,0.8s						
PV22	**Blue Mesa, Par**	**3.58**	**299**		Pb	13 33 12.5	+2.2
PV22				IAML		13 34 32.8	
	comp=E,19nm,0.8s						
PV22				IAML		13 34 34.5	
	comp=N,10nm,0.5s						
PV19	**Morning Glory**	**3.63**	**295**		Pb	13 33 13.5	+2.3
PV19				IAML		13 34 28.9	
	comp=N,25nm,0.7s						
PV19				IAML		13 34 33.3	
	comp=E,21nm,0.4s						
PV20	**West Nyswonger**	**3.63**	**295**		Pg	13 33 14.2	-1.7
PV05	**Paradox Valley**	**3.63**	**291**	Pn	Pn	13 33 02.0	-1.5
PV05					Pb	13 33 13.0	+1.8
PV05				IAML		13 34 30.1	
	comp=N,28nm,0.6s						
PV10	**Paradox Valley**	**3.69**	**295**		Pg	13 33 15.0	-2.2
PV10				IAML		13 34 33.1	
	comp=N,24nm,0.5s						
PV23	**Carpenter Ridg**	**3.70**	**297**		Pg	13 33 16.0	-1.4
SMWD	**Samnorwood**	**4.09**	**114**	IAmb_Lg		13 34 22.6	
	comp=Z,9.8nm,1.0s						
R32A	**Long Quarter,**	**5.07**	**70**	IAmb_Lg		13 34 51.7	
	comp=Z,5.6nm,0.9s						
APMT	**Aspermont**	**5.21**	**131**	IAmb_Lg		13 34 56.4	
	comp=Z,11nm,1.0s						

*SJA **01** 13:34:49.0±0.8, 28.°67S×71.°79W, h8km±4km, ML3.6, MW3.4*

*GUC **01** 13:34:54.2±0.7, 28.°78S×71.°37W, h32km±3km, ML3.4*

ISC 01 13:34:51.0±1.0**, 28.°70S**±0.°02×**71.°67W**±0.°05**, h10**km**, n34, σ2.s37**/69**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.72**	**47**	*e*P	**Pn**	**13 35 06.7**	**-0.6**
AC04				*i* S	**Sb**	**13 35 15.6**	**0.0**
AC04				IAML		13 35 18.5	
	comp=N,2µm,0.2s						
AC04	**Llanos de Chal**	**0.72**	**47**	*e*P	**Pn**	**13 35 06.1**	**-1.2**
AC04				*e*S	**Sb**	**13 35 15.8**	**+0.2**
AC04				IAML		13 35 18.3	
	comp=Z,774nm,0.3s						
LCO	**Las Campanas**	**0.90**	**110**	*e*P	**Pg**	**13 35 07.8**	**-0.7**
LCO				*i* S	**Sg**	**13 35 17.9**	**-2.4**
LCO	**Las Campanas**	**0.90**	**110**	*e*P	**Pg**	**13 35 08.2**	**-0.3**
LCO				*e*P	**Pb**	**13 35 08.5**	**-0.5**
LCO				*e*S	**Sg**	**13 35 18.5**	**-1.8**
LCO				IAML		13 35 18.7	
	comp=Z,3µm,0.2s						
LCO				IAML		13 35 18.7	
	comp=Z,3µm,0.2s						
CO05	**La Serena**	**1.27**	**163**	*e*P	**Pg**	**13 35 16.1**	**+0.6**
CO05				*i* S	**Sb**	**13 35 31.1**	**-0.4**
CO05				IAML		13 35 33.0	
	comp=N,2µm,0.3s						
GO04	**Tololo Observa**	**1.65**	**153**	*e*P	**Pb**	**13 35 21.4**	**-0.3**
GO04				*i* S	**Sn**	**13 35 41.6**	**-0.1**
GO04	**Tololo Observa**	**1.65**	**153**	*e*P	**Pg**	**13 35 21.6**	**-1.2**
GO04				*e*S	**Sb**	**13 35 42.6**	**-0.1**
GO04				IAML		13 35 44.5	
	comp=Z,974nm,0.2s						
GO04				IAML		13 35 44.5	
	comp=Z,974nm,0.2s						
GO03	**Copiapo**	**1.68**	**49**	*e*P	**Pb**	**13 35 21.7**	**-0.4**
GO03				*i* S	**Sb**	**13 35 43.1**	**-0.2**
GO03				IAML		13 35 45.4	
	comp=E,640nm,0.3s						
GO03	**Copiapo**	**1.68**	**49**	*e*P	**Pg**	**13 35 21.9**	**-1.3**
GO03				*e*S	**Sg**	**13 35 44.6**	**-0.4**
GO03				IAML		13 35 47.8	
	comp=Z,391nm,0.7s						
GO03				IAML		13 35 47.8	
	comp=Z,391nm,0.7s						
AC06	**Mina Casimiro**	**1.77**	**41**	*e*P	**Pg**	**13 35 23.6**	**-1.4**
AC06				*i* S	**Sb**	**13 35 45.8**	**-0.2**
AC06				IAML		13 35 50.1	
	comp=E,495nm,0.1s						
CO01	**Juntas del Tor**	**1.87**	**133**	*e*P	**Pb**	**13 35 24.9**	**-0.7**
CO01				*i* S	**Sn**	**13 35 46.5**	**-0.7**
CO01				IAML		13 35 51.2	
	comp=N,539nm,0.5s						
CO01	**Juntas del Tor**	**1.87**	**133**	*e*P	**Pb**	**13 35 25.0**	**-0.6**
CO01				*e*S	**Sn**	**13 35 47.2**	**0.0**
CO01				IAML		13 35 49.0	
	comp=Z,482nm,0.2s						
CO01				IAML		13 35 49.0	
	comp=Z,482nm,0.2s						
CO03	**El Pedregal**	**2.30**	**158**	*e*P	**Pb**	**13 35 30.6**	**-2.1**
CO03				*i* S	**Sn**	**13 35 58.1**	**+0.7**
CO03				IAML		13 36 03.9	
	comp=E,426nm,0.4s						
CO03	**El Pedregal**	**2.30**	**158**	*e*P	**Pb**	**13 35 30.5**	**-2.1**
CO03				*e*S	**Sb**	**13 36 01.3**	**+0.1**
CO03				IAML		13 36 05.6	
	comp=Z,246nm,0.5s						
CO03				IAML		13 36 05.6	
	comp=Z,246nm,0.5s						
AROD	**Rodeo**	**2.41**	**128**	*e*P	**Pb**	**13 35 33.7**	**-1.0**
AROD				*e*S	**Sb**	**13 36 03.8**	**-0.8**
CO02	**Combarbal**	**2.56**	**167**	*e*P	**Pn**	**13 35 33.7**	**+1.0**
CO02				*e*S	**Sb**	**13 36 09.7**	**+0.9**
CO02				IAML		13 36 15.0	
	comp=Z,512nm,0.5s						
CO02				IAML		13 36 15.0	
	comp=Z,512nm,0.5s						
ACDV	**Cuesta del Vie**	**2.66**	**124**	*e*P	**Pb**	**13 35 37.6**	**-1.3**
ACDV				*e*S	**Sb**	**13 36 12.6**	**+0.9**
ACDV				IAML		13 36 17.0	
	comp=Z,143nm,0.6s						
ACDV				IAML		13 36 17.0	
	comp=Z,143nm,0.6s						
AC01	**Pan de Azucar**	**2.71**	**21**	*e*P	**Pn**	**13 35 35.4**	**+0.7**
AC01				*e*S	**Sg**	**13 36 22.9**	**+4.6**
AC01				IAML		13 36 24.7	
	comp=Z,83nm,0.3s						
AGUA	**GUANDACOL**	**2.89**	**107**	*e*P	**Pb**	**13 35 41.5**	**-1.3**
AGUA				*e*S	**Sb**	**13 36 17.2**	**-1.0**
AGUA				IAML		13 36 22.7	
	comp=Z,190nm,0.5s						
AGUA				IAML		13 36 22.7	
	comp=Z,190nm,0.5s						
AC02	**Maricunga**	**2.92**	**51**	*e*P	**Pb**	**13 35 40.4**	**-3.1**
AC02				*i* S	**Sn**	**13 36 16.1**	**+2.8**
AC02				IAML		13 36 21.5	
	comp=E,196nm,0.5s						
AC02	**Maricunga**	**2.92**	**51**	*e*P	**Pb**	**13 35 40.2**	**-3.2**
AC02				*e*S	**Sb**	**13 36 18.6**	**-0.8**
AC02				IAML		13 36 24.3	
	comp=Z,99nm,0.2s						
AC02				IAML		13 36 24.3	
	comp=Z,99nm,0.2s						
ACCO	**Cerro Coronel**	**2.94**	**130**	*e*P	**Pb**	**13 35 41.9**	**-1.9**
ACCO				*e*S	**Sb**	**13 36 21.7**	**+1.7**
VCA	**Vinchina**	**3.04**	**92**	*e*P	**Pb**	**13 35 43.6**	**-1.8**
VCA				*e*S	**Sb**	**13 36 25.7**	**+3.1**
VCA				IAML		13 36 28.3	
	comp=Z,180nm,0.4s						
VCA				IAML		13 36 28.3	
	comp=Z,180nm,0.4s						
RTLS	**Leoncito**	**3.71**	**147**	*e*P	**Pb**	**13 35 53.5**	**-3.3**
RTLS				*e*S	**Sb**	**13 36 39.7**	**-2.3**
RTLS				*e*S	**Sn**	**13 36 40.2**	**+7.6**
RTLS				IAML		13 36 52.3	
	comp=Z,332nm,0.4s						
RTLS				IAML		13 36 52.3	
	comp=Z,332nm,0.4s						
GO02	**Mina Guanaco**	**3.98**	**28**	*e*P	**Pn**	**13 35 54.0**	**+1.6**
GO02				*i* S	**Sb**	**13 36 52.2**	**+2.4**
GO02	**Mina Guanaco**	**3.98**	**28**	*e*P	**Pn**	**13 35 54.1**	**+1.6**
GO02				*e*P	Pb	13 35 54.2	-7.3
GO02				*e*S	**Sg**	**13 36 54.2**	**-4.8**
GO02				IAML		13 37 08.4	
	comp=Z,72nm,0.5s						
GO02				IAML		13 37 08.4	
	comp=Z,72nm,0.5s						
CFA	**Coronel Fontan**	**4.15**	**135**	*e*P	**Pn**	**13 35 57.7**	**+3.2**
CFA				*e*S	**Sn**	**13 36 48.7**	**+5.6**
CFA				IAML		13 37 01.5	
	comp=Z,51nm,0.3s						
AVFE	**Valle Fertil**	**4.15**	**119**	*e*P	**Pn**	**13 35 57.4**	**+2.8**
AVFE				*e*S	**Sb**	**13 36 52.2**	**-2.4**
AVFE				IAML		13 36 56.6	
	comp=Z,74nm,0.3s						
AVFE				IAML		13 36 56.6	
	comp=Z,74nm,0.3s						
VA03	**San Esteban**	**4.16**	**167**	*e*P	**Pn**	**13 35 57.7**	**+3.0**
VA03				*e*S	**Sg**	**13 37 02.7**	**-2.1**
VA03				IAML		13 37 02.8	
	comp=Z,51nm,0.5s						
VA03				IAML		13 37 02.8	
	comp=Z,51nm,0.5s						
ACLC	**CERRO LA CRUZ**	**4.19**	**101**	*e*P	**Pn**	**13 35 52.2**	**-3.0**
ACLC				*e*S	**Sn**	**13 36 47.2**	**+2.9**
ACLC				IAML		13 36 55.3	
	comp=Z,54nm,0.4s						
ACLC				IAML		13 36 55.3	
	comp=Z,54nm,0.4s						
MT02	**Curacav**	**4.57**	**174**	*e*P	**Pn**	**13 36 01.4**	**+1.2**
MT02				*e*S	**Sg**	**13 37 12.9**	**-4.8**
MT02				IAML		13 37 17.4	
	comp=Z,44nm,0.7s						
MT02				IAML		13 37 17.4	
	comp=Z,44nm,0.7s						
APLL	**PUNTA DE LOS L**	**4.79**	**112**	*e*S	**Sn**	**13 37 02.2**	**+3.4**
ACHE	**Chepes**	**4.99**	**121**	*e*P	**Pn**	**13 36 09.0**	**+2.9**
ACHE				*e*S	**Sn**	**13 37 08.2**	**+4.2**
CYA	**Choya**	**5.17**	**89**	*e*P	**Pn**	**13 36 10.5**	**+2.1**
CYA				*e*S	**Sn**	**13 37 10.7**	**+2.5**
CYA				IAML		13 37 17.6	
	comp=Z,16nm,0.6s						
CYA				IAML		13 37 17.6	
	comp=Z,16nm,0.6s						

*FUNV **01** 13:39:12.6, 10.°62N×62.°68W, h104km, MW3.6*

*TRN **01** 13:39:12.5, 10.°67N×62.°77W, h101km, MD3.0, Paria peninsula.*

ISC 01 13:39:08.3±2.1**, 10.°56N**±0.°08×**62.°71W**±0.°07**, h145**km±20km**, n13, σ1.s93**/24**, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**1.15**	**83**	*e*P	**Pn**	**13 39 36.1**	**+2.2**
DMDM				*e*S	**Sn**	**13 39 52.3**	**-1.2**
PSMG	**Mucurapo Girls**	**1.16**	**85**	*e*P	**Pn**	**13 39 35.5**	**+1.5**
PSMG				*e*S	**Sn**	**13 39 52.6**	**-1.1**
PSKH	**Kent House, Po**	**1.17**	**84**	*e*P	**Pn**	**13 39 36.1**	**+1.9**
PSKH				*e*S	**Sn**	**13 39 52.3**	**-1.6**
TRN	**Trinidad (W)**	**1.29**	**86**	*e*P	**Pn**	**13 39 37.5**	**+2.2**
TRN				*e*S	**Sn**	**13 39 54.3**	**-1.6**
GRFF	**Grenada Fort F**	**1.76**	**33**	*e*P	**Pn**	**13 39 41.0**	**+0.6**
GRFF				*e*S	**Sn**	**13 40 02.8**	**-2.2**
GRGR	**Grenville**	**1.87**	**33**	*e*P	**Pn**	**13 39 43.0**	**+1.3**
GRGR				*e*S	**Sn**	**13 40 05.2**	**-2.1**
PCRV	**Puerto La Cruz**	**1.93**	**259**	*e*P	**Pn**	**13 39 43.9**	**+1.5**
PCRV				*e*S	**Sn**	**13 40 07.1**	**-1.5**
PCRV	**Puerto La Cruz**	**1.93**	**259**	*e*P	**Pn**	**13 39 44.5**	**+2.1**
PCRV				*e*S	**Sn**	**13 40 06.7**	**-1.8**
GRHS	**Sauteurs**	**1.96**	**32**	*e*S	**Sn**	**13 40 08.3**	**-0.7**
GCMP	**Grenada, Carri**	**2.29**	**33**	*e*P	**Pn**	**13 39 47.5**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GCMP				eS	Sn	13 40 14.2	-2.0
CACV	CAICARA DEL OR	4.81	232	eP	Pn	13 40 17.5	-1.7
CACV				eS	Sn	13 41 04.9	-10
BENV	Beln	4.85	263	eP	Pn	13 40 22.5	+2.8
BENV				eS	Sn	13 41 14.1	-1.2
BAUV	El Baul	5.50	253	eP	Pn	13 40 30.8	+2.5
BAUV				eS	Sn	13 41 28.6	-2.1

*NEIC **01** 13:53:29.0±0.8, 38°.582N±0°.009×112°.191W±0°.008, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.8km az=151.0*

UUSS 01 13:53:29.4±1.0, **38°.57N**±0°.01×**112°.20W**±0°.01, **h7**km±1km, **ML2.3**/10, **ML2.6**/120(NEIC), **Error ellipse: s-maj=2.1km s-min=1.5km az=202.0, Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSU	Marysvale	0.06	165	Pg	Pg	13 53 31.3	0.0
MSU				Sg	Sg	13 53 33.0	+0.3
TCRU	Three Creeks R	0.20	282	Pg	Pg	13 53 33.9	+0.3
TCRU				Sg	Sg	13 53 37.4	+1.0
TCRU				IAML		13 53 38.4	
	comp=N,707nm,0.2s						
TCRU				IAML		13 53 38.6	
	comp=E,830nm,0.3s						
WCU	Willow Creek	0.41	12		Pg	13 53 37.3	-0.1
NMUT	North Mineral	0.52	265		Pg	13 53 39.4	0.0
NMUT					Sg	13 53 47.0	+0.8
MTPU	Mount Pierson	0.53	179		Pg	13 53 39.8	+0.1
MTPU				Sg	Sg	13 53 47.4	+0.9
OWUT	Old Woman Plat	0.64	70		Pg	13 53 41.8	0.0
IMU	Iron Mountain	0.76	275		Pg	13 53 44.1	+0.1
DWU	Dry Willow Pea	0.78	234		Pg	13 53 44.8	+0.3
BTU	Barney Top	0.85	163		Pg	13 53 45.8	0.0
Q16A	Castle Valley	0.87	66	Pg	Pg	13 53 45.5	-0.7
Q16A				IAML		13 53 57.4	
	comp=E,254nm,0.4s						
Q16A				IAML		13 53 57.5	
	comp=N,134nm,0.5s						
TMUT	Trail Mountain	1.06	46	Pg	Pg	13 53 48.7	-1.1
TMUT				IAML		13 54 04.7	
	comp=E,60nm,0.6s						
TMUT				IAML		13 54 09.0	
	comp=N,95nm,0.5s						
PKCU	Pink Cliffs	1.12	185		Pg	13 53 51.0	0.0
PKCU				IAML		13 54 10.9	
	comp=N,51nm,0.2s						
PKCU				IAML		13 54 11.2	
	comp=E,78nm,0.3s						
DBD	Des Bee Dove	1.14	49		Pg	13 53 50.2	-1.1
ARUT	Antelope Range	1.25	232		Pg	13 53 53.4	0.0
PSUT	Pine Spring	1.30	269		Pn	13 53 53.7	-0.5
HMU	Henry Mountain	1.30	118		Pn	13 53 53.2	-1.1
HMU				IAML		13 54 13.4	
	comp=E,133nm,0.5s						
HMU				IAML		13 54 16.2	
	comp=N,132nm,0.7s						
NLU	North Lily Min	1.39	4		Pn	13 53 55.5	0.0
SRU	San Rafael Swe	1.41	67		Pn	13 53 55.1	-0.6
SRU				Sg	Sb	13 54 13.1	-1.4
SRU				IAML		13 54 14.5	
	comp=N,137nm,0.4s						
SRU				IAML		13 54 15.3	
	comp=E,196nm,0.4s						
P17A	Butcher Ranch,	1.45	51		Pn	13 53 55.2	-1.1
P17A				IAML		13 54 17.7	
	comp=E,36nm,0.5s						
P17A				IAML		13 54 19.2	
	comp=N,29nm,0.4s						
MPU	Maple Canyon	1.51	17		Pn	13 53 57.4	+0.3
KNB	Kanab	1.62	198		Pb	13 53 59.5	-0.3
SPR3	Spring Creek 3	1.72	285		Pn	13 53 59.9	-0.2
LCMT	Little Creek M	1.76	208		Pb	13 54 01.4	-0.7
LCMT					Sb	13 54 25.2	+0.8
LCMT				IAML		13 54 27.2	
	comp=E,52nm,0.2s						
LCMT				IAML		13 54 28.5	
	comp=N,40nm,0.3s						
P18A	Preston Nutter	1.85	54		Pn	13 54 00.7	-1.1
P18A				IAML		13 54 31.3	
	comp=N,30nm,0.8s						
P18A				IAML		13 54 31.5	
	comp=E,99nm,0.7s						
U15A	North Rim	2.14	182		Pb	13 54 08.5	-0.1
U15A				IAML		13 54 39.9	
	comp=E,25nm,0.5s						
U15A				IAML		13 54 42.2	
	comp=N,24nm,0.5s						
BSUT	Blindstream Ca	2.26	29		Pb	13 54 09.8	-1.0
PRN	Pahroc Range	2.54	244	IAML		13 54 57.9	
	comp=N,19nm,0.4s						
PRN				IAML		13 55 00.8	
	comp=E,20nm,0.8s						
PV17	East Wray Mesa	2.56	95	IAML		13 54 49.5	
	comp=N,83nm,0.4s						
PV16	Nyswonger Mesa	2.59	95	IAML		13 54 52.6	
	comp=E,76nm,0.8s						
PV03	Paradox Valley	2.65	96	IAML		13 54 52.9	
	comp=E,78nm,0.5s						
PV22	Blue Mesa, Par	2.67	90	IAML		13 54 54.5	
	comp=N,46nm,0.5s						
PV13	Radium Mtn., P	2.68	98	IAML		13 54 57.3	
	comp=E,76nm,0.6s						
PV07	Paradox Valley	2.79	92	IAML		13 54 58.6	
	comp=N,48nm,0.8s						
PV01	Paradox Valley	2.88	97	IAML		13 54 59.0	
	comp=N,53nm,0.6s						
PV01				IAML		13 54 59.4	
	comp=E,47nm,0.4s						
PV15	Paradox Valley	2.92	93	IAML		13 54 59.8	
	comp=E,55nm,0.8s						
PV15				IAML		13 55 01.6	
	comp=N,58nm,0.8s						
S11A	Rachel	2.95	253	IAML		13 55 06.2	
	comp=N,16nm,0.8s						
S11A				IAML		13 55 09.4	
	comp=E,17nm,1.2s						
WUAZ	Wupatki	3.11	168	IAML		13 55 08.5	
	comp=E,33nm,0.4s						
WUAZ				IAML		13 55 08.7	
	comp=E,32nm,0.3s						
MVCO	Mesa Verde	3.22	114	IAML		13 55 09.8	
	comp=E,34nm,0.7s						
MVCO				IAML		13 55 10.6	
	comp=E,30nm,0.5s						
O20A	White River Ci	3.44	62	IAML		13 55 21.2	
	comp=E,15nm,1.1s						
O20A				IAML		13 55 24.3	
	comp=E,17nm,0.8s						
TPNV	Topopah Spring	3.60	245	IAML		13 55 31.9	
	comp=E,3.8nm,0.6s						
TPNV				IAML		13 55 37.6	
	comp=E,4.8nm,0.9s						
TPH	Tonopah	3.98	264	IAML		13 55 36.3	
	comp=N,3.1nm,0.7s						
TPH				IAML		13 55 42.2	
	comp=E,3.4nm,0.5s						
X16A	Lo Mia Camp, P	4.18	171	IAML		13 55 45.6	
	comp=E,4.5nm,0.8s						
X16A				IAML		13 55 50.6	
	comp=N,2.8nm,0.7s						
GMN	Gold Mountain	4.20	254	IAML		13 55 48.9	
	comp=N,2.2nm,0.6s						
SHOC	Shoshone, Teco	4.21	232	IAML		13 55 43.3	
	comp=N,3.8nm,1.2s						
SHOC				IAML		13 56 03.7	
	comp=E,4.6nm,1.0s						
FURC	Furnace Creek,	4.26	242	IAML		13 55 47.9	
	comp=N,5.5nm,0.9s						
FURC				IAML		13 55 51.6	
	comp=E,6.8nm,1.1s						
S22A	4UR Ranch, Cre	4.31	99	IAML		13 55 49.7	
	comp=E,3.9nm,0.5s						
S22A				IAML		13 55 50.5	
	comp=N,2.3nm,0.7s						

*IDC **01** 14:37:26.0±1.9, 37°.46N×21°.05E, h0km, mb3.7/6, mbtmp3.7/8, ML1.3/2, Error ellipse: s-maj=37.5km s-min=23.6km az=16.0*
*THE **01** 14:37:27.8, 37°N±3°×2°1E±°, h0km±1km, M3.2/16, MLh3.2/16*
*ATH **01** 14:37:27.7, 37°.20N×20°.89E, h12km±1km, ML3.3/13, Manual Solution by A.Agalos First location: 2019/09/01 14:38:26, This location: 2019/09/01 14:48:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

ISC 01 14:37:28.3±1.1, **37°.23N**±0°.03×**20°.96E**±0°.03, **h16**km±7km, **n62**, σ**1s.20**/86, **mb3.7**/6, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRI1	kERI	0.44	345	P	Pg	14 37 36.9	-0.4
KRI1				S	Sb	14 37 44.2	+0.1
KRI1	kERI	0.44	345	P	Pg	14 37 37.0	-0.2
KRI1				S	Sg	14 37 43.8	+0.5
LTHK	Lithakia	0.48	348	P	Pg	14 37 37.4	-0.6
LTHK				S	Sg	14 37 45.1	+0.6
LTHK	Lithakia	0.48	348	P	Pg	14 37 37.5	-0.5
LTHK				S	Sg	14 37 44.7	+0.1
KYPS	Kipseli, Zakin	0.59	350	P	Pg	14 37 39.9	-0.1
KYPS				S	Sb	14 37 48.9	+0.4
ZARO	Zacharo	0.60	65	P	Pb	14 37 40.6	+0.2
ZARO				S	Sb	14 37 50.1	+1.3
ORTH	Orthonies,Zaky	0.65	341	S	Sg	14 37 50.2	+0.4
ORTH	Orthonies,Zaky	0.65	341	P	Pg	14 37 40.2	-0.9
ORTH				S	Sg	14 37 50.2	+0.4
AMT	Artemida-Makis	0.67	63	P	Pg	14 37 41.4	0.0
AMT				S	Sb	14 37 51.6	+1.1
PYL1	Pylos	0.67	118	P	Pg	14 37 41.2	-0.2
PYL1				S	Sb	14 37 51.4	+0.8
CLEM	Kyllini,Ilia,G	0.67	12	P	Pg	14 37 41.3	-0.1
CLEM				S	Sg	14 37 51.0	+0.6
MTHA	Methoni	0.73	124	P	Pg	14 37 42.3	-0.2
LCHA	Lechaina	0.74	19	P	Pb	14 37 43.0	+0.2
ITM	Ithomi	0.77	94	P	Pg	14 37 42.3	-1.1
ITM				S	Sb	14 37 54.3	+0.6
ITM	Ithomi	0.77	94	P	Pg	14 37 43.0	-0.4
ITM				S	Sb	14 37 54.8	+1.2
RTZL	Ratzakli, Kefa	0.85	350	P	Pg	14 37 43.4	-1.5
RTZL				S	Sg	14 37 56.2	0.0
RLS	Riolos of Patr	0.92	26	P	Pg	14 37 45.1	-1.0
RLS				S	Sg	14 37 58.3	+0.1
RLS	Riolos of Patr	0.92	26	P	Pg	14 37 45.1	-1.0
VLS	Valsamata	0.99	343	P	Pg	14 37 45.8	-1.6
VLS				S	Sb	14 38 00.7	+0.9
ARG2	Argostoli	1.01	339	P	Pg	14 37 46.9	-1.0
ARG2				S	Sb	14 38 01.9	+1.4
AXS	Araxos	1.02	19	P	Pg	14 37 46.9	-1.1
DMLN	Damoulianata-K	1.11	335	P	Pg	14 37 49.0	-0.7
UPR	University Cam	1.24	32	P	Pb	14 37 52.1	+0.9
UPR				S	Sn	14 38 09.8	+2.6
UPR	University Cam	1.24	32	P	Pg	14 37 51.3	-0.9
KLV	Kalavryta, Ach	1.24	49	P	Pg	14 37 50.7	-1.6
FSK	Fiskardo	1.26	346	P	Pg	14 37 50.9	-1.8
GUR	Goura	1.30	57	P	Pg	14 37 51.6	-1.8
EVGI	Lefkada island	1.41	350	P	Pn	14 37 53.6	+0.4
EVGI				S	Sb	14 38 13.5	+1.6
EVGI	Lefkada island	1.41	350	P	Pn	14 37 53.9	+0.6
EFP	Efpalio	1.41	32	P	Pn	14 37 53.2	0.0
EFP				S	Sn	14 38 14.5	+3.1
EFP	Efpalio	1.41	32	P	Pn	14 37 53.9	+0.6
PVO	Paravola	1.45	18	P	Pn	14 37 54.7	+0.9
PVO				S	Sn	14 38 15.8	+3.3
PVO	Paravola	1.45	18	P	Pn	14 37 54.8	+0.9
SERG	Sergoula	1.46	36	P	Pn	14 37 54.7	+0.7
SERG	Sergoula	1.46	36	P	Pn	14 37 54.8	+0.7
KALE	Kalithea	1.49	39	P	Pn	14 37 55.1	+0.8
KALE	Kalithea	1.49	39	P	Pn	14 37 54.9	+0.5
NYDR	Nydri-Lefkada	1.49	352	P	Pn	14 37 55.9	+1.5
NYDR				S	Sg	14 38 15.6	-0.8
NYDR	Nydri-Lefkada	1.49	352	P	Pn	14 37 55.0	+0.6
ANX	Ano Chora	1.56	29	P	Pn	14 37 56.2	+0.8
ANX	Ano Chora	1.56	29	P	Pn	14 37 56.1	+0.8
LKD2	Lefkada island	1.57	351	P	Pn	14 37 56.2	+0.7
LKD2				S	Sg	14 38 19.0	0.0
LKD2	Lefkada island	1.57	351	P	Pn	14 37 56.4	+0.9
VLI	Veliai	1.67	107	P	Pn	14 37 57.9	+1.1
LTK	Loutraki	1.78	63	P	Pn	14 37 59.5	+1.2
EVR	Evrytania	1.81	21	P	Pn	14 38 00.0	+1.2
MET2	Kameni Chora,	1.92	78	P	Pn	14 38 01.1	+0.8
MET5	Makryloggos,Me	1.95	78	P	Pn	14 38 01.8	+1.2
KTHA	Kythira Island	1.95	119	P	Pn	14 38 01.5	+0.8
AXAR	Agios Charalam	2.04	41	P	Pn	14 38 03.3	+1.4
VIL2	Platees	2.08	61	P	Pn	14 38 03.4	+1.0
TETR	Tetrakomo, Epi	2.12	7	P	Pn	14 38 04.1	+0.9
LKR	Lokris	2.15	48	P	Pn	14 38 04.7	+1.3
ATAL	Atalanti	2.19	48	P	Pn	14 38 05.4	+1.5
IDI	Anoyia	3.72	120	Pn	Pn	14 38 26.3	+1.2
	0.9nm,0.3s,baz=299,slow=15,SNR=7.6						
IDI				Sn	Sn	14 39 08.6	0.0
	3.6nm,0.3s,baz=326,slow=22,SNR=7.8						
	20nm,1.1s						
VAE	Valguarnera	5.22	275	Pn	Pn	14 38 47.0	+1.3
	0.7nm,0.3s,baz=113,slow=13,SNR=2.1						
VAE				Sn	Sn	14 39 48.9	+3.2
	2.2nm,0.3s,baz=190,slow=23,SNR=3.6						
	4.1nm,0.3s						
HFS	Hagfors	23.39	351	P	P	14 42 34.3	-1.7
	2.8nm,0.8s,baz=153,slow=9.7,SNR=2.6						
	2.8nm,0.8s						
FINES	FINESS Array B	24.45	6	P	P	14 42 43.9	-2.1
	1.0nm,0.7s,baz=182,slow=10,SNR=4.3						
	1.0nm,0.7s						
ARCES	ARCESS Array B	32.45	3	P	P	14 43 56.0	-1.4
	0.3nm,0.4s,baz=187,slow=8.6,SNR=5.1						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	42.52	53	P	P	14 45 21.1	-1.6
	0.5nm,0.5s,baz=276,slow=8.6,SNR=4.3						
	0.5nm,0.5s						
MKAR	Makanchi Array	45.51	58	P	P	14 45 45.0	-1.8
	0.5nm,0.4s,baz=272,slow=7.0,SNR=9.5						
	0.5nm,0.4s						
ZALV	Zalesovo Beam	46.07	47	P	P	14 45 49.6	-1.4
	0.9nm,0.4s,baz=274,slow=7.8,SNR=4.9						
	0.9nm,0.4s						

*NOU **01** 14:42:07.4, 40°.29S×173°.56E, h160km, MLv3.5/15, Cook Strait, New Zealand*
*WEL **01** 14:42:09.3±1.2, 40°S±4°×17°4E±°, h151km±8km, M2.9/12, MLv2.9/12, Error ellipse: s-maj=11.3km s-min=5.1km az=92.6, confirmed*

ISC 01 14:42:05.4±1.8, **40°.25S**±0°.04×**173°.53E**±0°.06, **h181**km±11km, **n54**, σ**1s.19**/62, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.63	152	P	Pn	14 42 32.1	+1.2
DUWZ				S	Sn	14 42 49.2	-1.5
NMEZ	Namu Road	0.88	18	P	Pn	14 42 33.4	+1.0
NMEZ				S	Sn	14 42 52.6	-0.5
TKNZ	Takaka Hill	0.90	209	P	Pn	14 42 33.7	+1.2
TKNZ				S	Sn	14 42 52.1	-1.4
QRZ	Quartz Range	0.95	232	P	Pn	14 42 34.0	+1.2
QRZ	Quartz Range	0.95	232	P	Pn	14 42 34.1	+1.3
QRZ				S	Sn	14 42 52.5	-1.6
NNZ	Nelson	0.97	187	P	Pn	14 42 34.3	+1.3
NNZ				S	Sn	14 42 53.3	-1.1
NBEZ	Newall Road No	1.01	15	P	Pn	14 42 34.4	+1.1
NBEZ				S	Sn	14 42 54.5	-0.3
KHEZ	Kahui Hut	1.02	22	P	Pn	14 42 34.3	+0.8
KHEZ	Kahui Hut	1.02	22	P	Pn	14 42 34.6	+1.0
KHEZ				S	Sn	14 42 54.6	-0.6
PREZ	Palmer Road	1.03	29	P	Pn	14 42 34.4	+0.9
NEZ	North Egmont	1.07	24	P	Pn	14 42 34.7	+0.8
QCCS	Picton Queen C	1.10	160	S	Sn	14 42 54.4	-1.7
PKE	Pukeiti	1.11	19	P	Pn	14 42 35.1	+1.0
TCW	Tory Channel	1.12	150	P	Pn	14 42 35.7	+1.7
DREZ	Durham Road	1.18	26	P	Pn	14 42 35.6	+1.0
KIW	Kapiti Island	1.22	121	P	Pn	14 42 35.9	+1.0
TUWZ	Tuamarina	1.22	165	P	Pn	14 42 37.1	+2.3
TUWZ				S	Sn	14 42 57.1	-0.8
WAZ	Wanganui	1.23	67	P	Pn	14 42 36.3	+1.3
MRNZ	Matariki Terra	1.29	207	P	Pn	14 42 36.9	+1.4
OGWZ	Otaki Gorge	1.38	115	P	Pn	14 42 37.4	+1.1
SNZO	South Karori	1.39	140	P	Pn	14 42 38.0	+1.7
SNZO	South Karori	1.39	140	S	Sn	14 42 58.2	-2.2
WEL	Wellington	1.40	138	P	Pn	14 42 37.8	+1.3
CAW	Cannon Point	1.45	127	P	Pn	14 42 38.2	+1.2
VRZ	Vera Road	1.47	41	P	Pn	14 42 37.7	+0.6
BSWZ	Blackbirch Sta	1.49	170	P	Pn	14 42 39.4	+2.1
MRZ	Mangatainoka R	1.62	105	P	Pn	14 42 39.6	+1.0
HOWZ	Holdsworth Sta	1.65	114	P	Pn	14 42 39.8	+1.0
PKVZ	Pokaka	1.70	56	P	Pn	14 42 40.2	+0.7
MSWZ	Moikau Station	1.75	132	P	Pn	14 42 41.0	+1.1
MTW	Mount Morrison	1.75	122	P	Pn	14 42 41.1	+1.1
TRVZ	Turoa	1.82	59	P	Pn	14 42 41.7	+0.7
WNVZ	Wahianoa	1.84	61	P	Pn	14 42 41.6	+0.5
FWVZ	Far West T-bar	1.85	58	P	Pn	14 42 41.6	+0.4
WHVZ	Whangaehu Hut	1.86	59	P	Pn	14 42 41.8	+0.5
COVZ	Chateau Observ	1.88	57	P	Pn	14 42 41.8	+0.5
TWVZ	Taurewa	1.89	52	P	Pn	14 42 41.8	+0.3
PRWZ	Pori Road	1.89	100	P	Pn	14 42 42.6	+1.3
MOVZ	Moawhango	1.91	65	P	Pn	14 42 41.8	+0.2
TUVZ	Tukino	1.91	60	P	Pn	14 42 42.5	+0.7
OTVZ	Oturere	1.97	57	P	Pn	14 42 43.1	+0.6
TMWZ	Te Maipa	1.99	116	P	Pn	14 42 43.6	+1.1
HIZ	Hauiti	2.02	31	P	Pn	14 42 43.1	+0.4
HIZ	Hauiti	2.02	31	P	Sn	14 43 10.7	-0.9
HIZ	Hauiti	2.02	31	P	Pn	14 42 43.4	+0.6
TMVZ	Te Maari	2.03	57	P	Pn	14 42 43.8	+0.9
BFZ	Birch Farm	2.12	103	P	Pn	14 42 44.8	+0.9
KHZ	Kahutara	2.17	180	P	Pn	14 42 45.7	+1.4
KHZ	Kahutara	2.17	180	P	Sn	14 43 12.6	-2.0
BKZ	Black Stump Fm	2.53	66	P	Pn	14 42 48.6	0.0
URZ	Urewera	3.42	56	P	Pn	14 43 01.5	+2.3
RPZ	Rata Peaks	3.92	207	P	Pn	14 43 06.4	+0.9
JCZ	Jackson Bay	5.20	221	P	Pn	14 43 22.5	+0.5
ODZ	Otahua Downs	5.24	203	P	Pn	14 43 22.8	+0.4

DJA 01 14:43:51.5±0.3, **8°S**±4°×**10°8E**±°, **h136**km±4km, **M3.8**/14, **mB5.4**/1, **mb4.2**/2, **MLv3.6**/14, **Mw(mB)4.9**/1, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNJI	Cibinong	0.67	297	P	Pn	14 44 13.1	+0.8
CNJI				S	Sn	14 44 30.0	+2.0
LEM	Lembang	0.80	352	P	Pn	14 44 14.4	+0.9
LEM				S	Sn	14 44 32.6	+2.5
KPJI	Karang Pucung	1.23	77	P	Pn	14 44 17.7	+0.6
KPJI				S	Sn	14 44 38.0	+1.4
SKJI	Sukabumi	1.31	298	P	Pn	14 44 19.0	+1.0
SKJI				S	Sn	14 44 38.9	+0.7
TNG	Tangerang	1.80	323	P	Pn	14 44 23.2	-0.2
CGJI	Cibinong	2.25	296	P	Pn	14 44 29.6	+0.7
CGJI				S	Sn	14 44 57.2	-0.4
UGM	Wanagama	2.78	96	P	Pn	14 44 35.7	+0.1
UGM				S	Sn	14 45 08.2	-1.4
WOJI	Wonogiri, Jawa	3.17	94	P	Pn	14 44 40.5	-0.1
PCJI	Pacitan	3.46	100	P	Pn	14 44 44.2	-0.1
PCJI				S	Sn	14 45 23.2	-2.0
KASI	Kota Agung	3.83	303	P	Pn	14 44 49.7	+0.5
KASI				S	Sn	14 45 32.8	-1.0
JAGI	Jajag, Banyuwa	6.42	98	P	Pn	14 45 24.5	+0.8

*GUC **01** 14:50:08.7±0.9, 27°.48S×70°.26W, h101km±3km, ML4.3*
*SJA **01** 14:50:09.0±1.4, 27°.43S×70°.30W, h75km, ML4.0, MW4.0*
*NEIC **01** 14:50:09.6±1.5, 27°.45S±0°.04×70°.26W±0°.08, h93km±2km, mb4.4/7, ML4.3(GUC), Error ellipse: s-maj=10.8km s-min=5.7km az=107.0*
*IDC **01** 14:50:10.4±0.5, 27°.47S×70°.03W, h89km±4km, mb3.6/8, mbtmp3.8/12, MS2.8/2, Error ellipse: s-maj=19.1km s-min=10.7km az=79.0*

ISC 01 14:50:09.2±0.5, **27°.47S**±0°.03×**70°.33W**±0°.04, **h91**km±4km, **n89**, σ**1s.96**/121, **mb4.0**/8, **1C-5D**, **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AC06	Mina Casimiro	0.11	348		Pn	14 50 23.0	+1.0
AC06				Sn	Sn	14 50 32.8	+1.2
AC06	Mina Casimiro	0.11	348	⇓eP	Pn	14 50 23.1	+1.0
AC06				eS	Sn	14 50 32.9	+1.2
AC06				IAML		14 50 33.3	
	comp=E,30μm,0.1s						
GO03	Copiapo	0.15	147		Pn	14 50 22.8	+0.5
GO03				Sn	Sn	14 50 32.5	+0.6
GO03	Copiapo	0.15	147	eP	Pn	14 50 22.7	+0.5
GO03				eS	Sn	14 50 32.5	+0.6
GO03				IAML		14 50 33.6	
	comp=E,18μm,0.2s						
AC04	Llanos de Chal	0.99	222		Pn	14 50 30.4	+1.6
AC04				Sn	Sn	14 50 45.7	+2.3
AC04	Llanos de Chal	0.99	222	⇑eP	Pn	14 50 30.4	+1.6
AC04				eS	Sn	14 50 45.7	+2.3
AC04				IAML		14 50 47.5	
	comp=E,10μm,0.2s						
AC02	Maricunga	1.24	60		Pn	14 50 32.6	+0.4
AC02	Maricunga	1.24	60	⇓eP	Pn	14 50 33.0	+0.8
AC02				eS	Sn	14 50 49.8	+0.3
AC02				IAML		14 50 50.2	
	comp=E,11μm,0.2s						
AC02	Maricunga	1.24	60	eP	Sn	14 50 50.0	+0.4
AC02				eS		14 50 50.1	
AC02				IAML		14 50 50.9	
	comp=Z,4μm,0.3s						
AC01	Pan de Azucar	1.34	349		Pn	14 50 34.2	+1.2
AC01				Sn	Sn	14 50 51.7	+0.8
AC01	Pan de Azucar	1.34	349	eP	Pn	14 50 34.4	+1.4
AC01				eS	Sn	14 50 52.3	+1.4
AC01				IAML		14 50 53.9	
	comp=N,5μm,0.3s						
LCO	Las Campanas	1.57	192		Pn	14 50 37.1	+1.0
LCO	Las Campanas	1.57	192	eP	Pn	14 50 36.8	+0.7
LCO				eS	Sn	14 50 58.1	+1.6
LCO				IAML		14 51 00.5	
	comp=N,6μm,0.2s						
VCA	Vinchina	2.26	124	eP	Pn	14 50 47.4	+2.4
VCA				eS	Sn	14 51 12.3	-0.1
VCA	Vinchina	2.26	124	eP	Pn	14 50 47.4	+2.4
VCA				eS	Sn	14 51 15.7	+3.4
VCA				IAML		14 51 20.7	
	comp=Z,375nm,0.4s						
GO02	Mina Guanaco	2.39	16		Pn	14 50 47.7	+0.8
GO02	Mina Guanaco	2.39	16	eP	Pn	14 50 47.6	+0.8
GO02				eS	Sn	14 51 17.3	+1.6
GO02				IAML		14 51 18.9	
	comp=N,1μm,0.2s						
GO02	Mina Guanaco	2.39	16	eP	Pn	14 50 47.8	+1.0
GO02				eS	Sn	14 51 06.9	-8.7
GO02				IAML		14 51 25.4	
	comp=Z,1μm,0.3s						
CO01	Juntas del Tor	2.51	175		Pn	14 50 49.6	+1.3
CO01	Juntas del Tor	2.51	175	eP	Pn	14 50 50.1	+1.7
CO05	La Serena	2.57	198		Pn	14 50 49.0	0.0
CO05	La Serena	2.57	198	eP	Pn	14 50 49.5	+0.6
CO05				IAML		14 51 14.8	
	comp=N,888nm,0.2s						
AGUA	GUANDACOL	2.58	142	eP	Pn	14 50 51.6	+2.4
AGUA				eS	Sn	14 51 10.7	-9.2
AGUA				eS		14 51 15.7	
AGUA				IAML		14 51 23.9	
	comp=Z,852nm,0.6s						
GO04	Tololo Observa	2.73	189		Pn	14 50 51.6	+0.3
GO04	Tololo Observa	2.73	189	eP	Pn	14 50 51.7	+0.5
AROD	Rodeo	2.79	165	eP	Pn	14 50 54.9	+2.7
AROD				eS	Sn	14 51 21.3	-4.0
PB14	IPOC Station P	2.83	359		Pn	14 50 52.7	-0.1
PB14	IPOC Station P	2.83	359	eP	Pn	14 50 52.9	+0.1
PB14				IAML		14 51 27.1	
	comp=E,595nm,0.7s						
ACDV	Cuesta del Vie	2.89	159	eP	Pn	14 50 56.9	+3.4
ACDV				eS	Sn	14 51 16.7	-11
ACDV				IAML		14 51 23.1	
	comp=Z,309nm,0.8s						
AANI	Anillaco	3.28	115	eP	Pn	14 51 00.1	+1.5
AANI				eP		14 51 00.3	
AANI				eS	Sn	14 51 37.7	+1.0
AANI				IAML		14 51 44.5	
	comp=Z,1μm,0.7s						
ACCO	Cerro Coronel	3.30	161	eP	Pn	14 51 01.4	+2.4
ACCO				eS	Sn	14 51 22.2	-15
CO03	El Pedregal	3.37	185		Pn	14 51 00.3	+0.4
CO03	El Pedregal	3.37	185	eP	Pn	14 51 00.4	+0.6
CO03				IAML		14 52 06.7	
	comp=E,364nm,0.4s						
CO06	Fray Jorge	3.39	199	Pn	Pn	14 50 59.2	-0.8
CO06	Fray Jorge	3.39	199	eP	Pn	14 50 59.4	-0.6
CO06				IAML		14 52 09.4	
	comp=N,204nm,0.7s						
ACLC	CERRO LA CRUZ	3.55	124	eP	Pn	14 51 03.5	+1.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACLC				eS	Sn	14 51 44.4	+1.0
ACLC				IAML		14 51 45.7	
	comp=Z,165nm,0.5s						
CO02	Combarbal	3.77	189		Pn	14 51 04.9	-0.3
PB10	IPOC Station P	3.94	357		Pn	14 51 06.7	-0.8
AVFE	Valle Fertil	4.05	142	eP	Pn	14 51 10.1	+1.1
AVFE				eS	Sn	14 51 54.8	-0.6
AVFE				IAML		14 51 56.6	
	comp=Z,177nm,0.5s						
FSA	Cafayete	4.12	72	eP	Pn	14 51 11.8	+1.9
FSA				eS	Sn	14 52 05.4	+8.4
CYA	Choya	4.12	105	eP	Pn	14 51 10.2	+0.3
CYA				eS	Sn	14 51 56.7	-0.2
RTLL	Cerro Villicun	4.17	158	eP	Pn	14 51 12.5	+1.9
RTLL				eS	Sn	14 52 00.3	+2.1
RTLL				IAML		14 52 00.9	
	comp=Z,169nm,0.6s						
RTLS	Leoncito	4.41	169	eP	Pn	14 51 06.5	-7.5
RTLS				IAML		14 52 39.3	
	comp=Z,224nm,0.5s						
CFA	Coronel Fontan	4.50	157	P	Pn	14 51 16.1	+1.0
	comp=Z,11nm,0.5s,baz=340,slow=15,SNR=59						
CFA				S	Sn	14 52 04.9	-1.4
	comp=Z,20nm,0.3s,baz=231,slow=20,SNR=13						
PB05	IPOC Station P	4.60	1		Pn	14 51 14.9	-1.6
PB06	IPOC Station P	4.79	8	Pn	Pn	14 51 18.0	-1.2
AUSP	Uspallata	4.81	170	eS	Sn	14 52 01.4	-13
ACHE	Chepes	4.87	140	eS	Sn	14 52 13.2	-2.3
VA06	Catapilco	5.14	189	Pn	Pn	14 51 22.5	-1.3
ASAL	Salagasta	5.27	166	eP	Pn	14 51 26.9	+1.5
VA03	San Esteban	5.28	182	Pn	Pn	14 51 25.8	+0.1
PB03	IPOC Station P	5.42	6	Pn	Pn	14 51 26.2	-1.5
AZAP	Zapla	5.74	57	eP	Pn	14 51 33.0	+1.0
AZAP				IAML		14 52 39.8	
	comp=Z,33nm,2.0s						
AAGR	Agrelo	5.75	167	eP	Pn	14 51 33.9	+1.9
MT02	Curacav	5.81	187		Pn	14 51 31.4	-1.4
TCA	Tanti	6.31	129	eP	Pn	14 51 38.9	-0.8
TCA				eS	Sn	14 52 46.5	-3.9
TCA				IAML		14 53 12.8	
	comp=Z,43nm,0.6s						
MRA	San Martin	6.35	142	eP	Pn	14 51 40.3	+0.1
MRA				eS	Sn	14 52 49.1	-2.3
MRA				IAML		14 53 18.3	
	comp=Z,33nm,0.6s						
MT01	Popeta	6.42	187	Pn	Pn	14 51 39.5	-1.6
PB01	IPOC Station P	6.44	7		Pn	14 51 39.2	-2.4
BO04	La Punta	6.50	182	Pn	Pn	14 51 41.0	-1.2
BO02	Sierra Bellavi	7.31	183	Pn	Pn	14 51 52.0	-1.3
LPAZ	La Paz	11.31	11	P	Pn	14 52 48.2	-0.1
	comp=Z,0.5nm,0.4s,baz=200,slow=7.2,SNR=4.6						
LPAZ				LR	LR	14 58 16.4	
	comp=Z,33nm,18.9s,baz=156,slow=43						
CPUP	Villa Florida	11.66	87	P	Pn	14 52 50.4	-2.1
	comp=Z,0.3nm,0.5s,baz=288,slow=3.2,SNR=3.5						
TRQA	Tornquist	12.67	149	Pn	Pn	14 53 04.0	-1.9
SIV	San Ignacio	14.29	39	P	Pn	14 53 26.4	-0.9
	comp=Z,0.8nm,0.6s,baz=249,slow=8.1,SNR=6.5						
PLTB	Pedras Altas	15.16	110	Pn	Pn	14 53 34.9	-3.5
PLTB				IAmb	IAmb	14 53 41.2	
	comp=Z,25nm,1.4s						
LL02	Futaleuf	15.73	184	Pn	Pn	14 53 41.4	-4.0
GO07	Milladeo Hill,	15.84	189	Pn	Pn	14 53 42.1	-4.7
ITAB	Concordia	16.17	93	Pn	Pn	14 53 48.5	-2.5
ITAB				IAmb	IAmb	14 54 13.5	
	comp=Z,11nm,1.0s						
TRCB	Terra Rica	16.68	78	Pn	Pn	14 53 55.5	-2.0
TRCB				IAmb	IAmb	14 54 00.1	
	comp=Z,42nm,0.7s						
VAO	Valinhos	21.59	83	P	P	14 54 51.2	-0.6
VAO				IAmb	IAmb	14 54 51.9	
	comp=Z,25nm,0.8s						
BDFB	Brasilia	23.81	65	P	P	14 55 12.2	-1.9
	comp=Z,1.2nm,0.5s,baz=232,slow=12,SNR=2.1						
BDFB				pP	pP	14 55 33.2	-1.4
	comp=Z,8.6nm,0.9s,baz=237,slow=9.4,SNR=6.6						
BDFB				LR	LR	15 05 34.8	
	comp=Z,37nm,20.6s,baz=186,slow=39						
	comp=Z,1.2nm,0.5s						
BAUV	El Baul	36.26	4	P	P	14 57 02.5	-1.3
VNA3	Neumayer Olymp	54.90	160	⇓P	P	14 59 31.2	+1.1
SNAA	Sanae	57.12	160	⇓P	P	14 59 46.7	+0.8
	comp=Z,13nm,0.4s						
SNAA	Sanae	57.12	160	P	P	14 59 46.7	+0.8
	comp=Z,0.8nm,0.6s,baz=274,slow=7.1,SNR=11						
SNAA				pP	pP	15 00 08.2	-0.6
	comp=Z,0.9nm,0.6s,baz=252,slow=11,SNR=3.7						
	comp=Z,0.8nm,0.6s						
TROLL	Troll, Antarti	58.84	160	⇓P	P	14 59 58.8	+0.9
	comp=Z,45nm,0.7s						
QSPA	South Pole Qui	62.75	180	P	P	15 00 27.3	+2.7
	comp=Z,1.1nm,0.8s,baz=163,slow=3.4,SNR=8.7						
	comp=Z,1.1nm,0.8s						
TXAR	Lajitas Array	64.88	328	P	P	15 00 41.5	+2.6
	comp=Z,0.8nm,0.9s,baz=152,slow=9.2,SNR=6.8						
TXAR				pP	pP	15 01 03.8	+1.6
	comp=Z,0.2nm,0.6s,baz=153,slow=9.2,SNR=2.8						
	comp=Z,0.8nm,0.9s						
DBIC	Dimbokro	71.73	72	P	P	15 01 22.6	+0.6
	comp=Z,4.9nm,0.9s,baz=231,slow=10,SNR=3.2						
	comp=Z,4.9nm,0.9s						
PDAR	Pinedale Array	78.67	332	P	P	15 02 03.3	+1.9
	comp=Z,0.3nm,0.3s,baz=139,slow=7.4,SNR=2.5						
	comp=Z,0.3nm,0.3s						
MAW	Mawson	79.00	163	P	P	15 02 03.8	+1.1
	comp=Z,0.8nm,0.5s,baz=228,slow=12,SNR=1.8						
	comp=Z,0.8nm,0.5s						
TORD	Torodi Ar. Bea	80.59	70	P	P	15 02 12.4	+0.2
	comp=Z,1.3nm,0.7s,baz=271,slow=4.8,SNR=8.1						
TORD				pP	pP	15 02 35.4	-1.1
	comp=Z,2.3nm,0.7s,baz=267,slow=4.8,SNR=7.2						
	comp=Z,1.3nm,0.7s						
ASAR	Alice Springs	124.04	207	PKP	PKiKP	15 08 58.1	+0.2
	comp=Z,0.7nm,0.5s,baz=124,slow=1.4,SNR=25						
ASAR				pPKP	pPKPdf	15 09 23.7	+0.6
	comp=Z,0.2nm,0.5s,baz=133,slow=1.8,SNR=2.2						
WRA	Warramunga Arr	127.16	210	PKP	PKiKP	15 09 04.3	+0.1
	comp=Z,1.0nm,0.6s,baz=166,slow=1.7,SNR=21						
WRA				pPKP	pPKPdf	15 09 29.6	+0.5
	comp=Z,0.5nm,0.7s,baz=155,slow=1.8,SNR=2.8						
KURBB	Kurchatov Arra	146.94	37	PKPbc	PKPbc	15 09 40.8	-0.1
	comp=Z,1.2nm,0.6s,baz=303,slow=3.2,SNR=12						
KURBB				pPKPbc	pPKPdf	15 10 05.1	+0.9
	comp=Z,1.3nm,0.9s,baz=297,slow=3.4,SNR=4.3						
ZALV	Zalesovo Beam	147.85	28	PKPbc	PKiKP	15 09 44.2	-0.9
	comp=Z,3.7nm,0.7s,baz=300,slow=3.7,SNR=16						
ZALV				pPKPbc	pPKPbc	15 10 08.2	-0.3
	comp=Z,1.6nm,0.7s,baz=302,slow=3.3,SNR=3.2						
MKAR	Makanchi Array	151.10	41	PKPbc	PKiKP	15 09 52.6	+0.5
	comp=Z,2.5nm,0.7s,baz=321,slow=2.2,SNR=21						
MKAR				PKPab	PKPab	15 09 59.3	-0.3
	comp=Z,0.4nm,0.5s,baz=322,slow=2.1,SNR=3.0						
MKAR				pPKPbc	pPKPbc	15 10 17.3	+0.3
	comp=Z,2.8nm,0.7s,baz=327,slow=2.0,SNR=12						
MJAR	Matsushiro Arr	154.24	298	PKPab	PKPab	15 10 15.4	+2.2
	comp=Z,0.5nm,0.6s,baz=77,slow=3.7,SNR=6.3						

IDC 01 14:55:06.1±1.8, 11.29S×118.51E, h0km, mb3.8/2, mbtmp3.8/5, ML3.6/3, Error ellipse: s-maj=52.4km s-min=23.7km az=33.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	5.18	78	Pn	Pn	14 56 25.9	+0.9
	10nm,0.3s,baz=209,slow=2.1,SNR=8.7						
BATI				Sn	Sn	14 57 25.6	+0.1
	2.8nm,0.3s,baz=358,slow=22,SNR=1.5						
	24nm,0.3s						
WRA	Warramunga Arr	17.49	121	P	Pn	14 59 09.8	-1.9
	0.1nm,0.3s,baz=296,slow=10.0,SNR=5.5						
WRA				S	Sn	15 02 16.2	-11
	0.2nm,0.5s,baz=290,slow=25,SNR=1.4						
	0.8nm,0.7s						
ASAR	Alice Springs	19.14	132	P	Pn	14 59 32.1	+0.2
	0.1nm,0.3s,baz=310,slow=12,SNR=18						
ASAR				S	Sn	15 02 56.2	-11
	0.2nm,0.5s,baz=311,slow=26,SNR=4.1						
	1.6nm,0.9s						
MKAR	Makanchi Array	66.27	334	P	P	15 05 56.7	+0.4
	0.5nm,0.4s,baz=149,slow=7.6,SNR=8.8						
	0.5nm,0.4s						
ZALV	Zalesovo Beam	71.00	340	P	P	15 06 24.7	-0.9
	0.5nm,0.5s,baz=138,slow=5.8,SNR=2.2						
	0.5nm,0.5s						

SJA 01 14:56:19.0±0.7, 37.76S×73.18W, h10km±4km, ML3.6, MW3.4
GUC 01 14:56:25.3±0.7, 37.85S×72.85W, h38km±2km, ML3.8
ISC 01 14:56:21.4±1.2, 37.91S±0.02×72.82W±0.04, h8km±10km, n29, σ1.55/51, 1C-4D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BI04	Isla Mocha	0.98	239	eP	Pn	14 56 42.4	+1.0
BI04				eS	Sn	14 56 55.4	0.0
BI04				IAML		14 57 02.1	
	comp=E,8μm,0.2s						
BI05	Punta Hualpn	1.20	346	⇑iP	Pg	14 56 45.1	+0.8
BI05				eS	Sg	14 56 59.4	-0.5
BI05				IAML		14 57 02.7	
	comp=E,3μm,0.3s						
BI05	Punta Hualpn	1.20	346	eP	Pg	14 56 44.5	+0.2
BI05				IAML		14 57 04.2	
	comp=Z,1μm,0.4s						
LC01	Cunco	1.23	143	eP	Pg	14 56 47.3	+2.2
LC01				eS	Sn	14 57 03.8	+2.0
LC01				IAML		14 57 05.4	
	comp=E,2μm,0.2s						
CANA	Caviahue	1.39	90	eP	Pg	14 56 50.5	+2.4
CANA				eS	Sb	14 57 00.1	-5.5
CANA				IAML		14 57 17.4	
	comp=Z,185nm,0.4s						
BI02	San Fabin de	1.75	45	⇓iP	Pg	14 56 53.7	-1.3
BI02				eS	Sb	14 57 15.3	-0.7
BI02				IAML		14 57 16.7	
	comp=N,860nm,0.1s						
BI02	San Fabin de	1.75	45	eP	Pb	14 56 53.3	-0.5
BI02				IAML		14 57 22.0	
	comp=Z,391nm,0.4s						
LR03	Panguipulli	1.76	168	eP	Pg	14 56 54.7	-0.5
LR03				eS	Sg	14 57 17.4	-0.6
LR03	Panguipulli	1.76	168	eP	Pn	14 56 50.4	-1.8
LR03				eP	Pg	14 56 54.7	-0.5
LR03				eS	Sg	14 57 20.7	+2.7
LR03				IAML		14 57 25.1	
	comp=Z,3μm,0.3s						
GO06	Curarrehue	1.98	148	eP	Pg	14 56 58.2	-1.1
GO06	Curarrehue	1.98	148	eP	Pb	14 56 57.7	0.0
GO06				IAML		14 57 32.1	
	comp=Z,181nm,0.5s						
LR05	Currie	2.40	165	eP	Pb	14 57 04.5	-0.4
LR05	Currie	2.40	165	eP	Pb	14 57 04.2	-0.7
LR05				eS	Sg	14 57 39.0	+0.4
LR05				IAML		14 57 43.2	
	comp=Z,273nm,0.5s						
ML02	Panimavida	2.42	28	eP	Pb	14 57 02.3	-2.8
ML02				eS	Sn	14 57 31.1	+0.2
ML02				IAML		14 57 45.2	
	comp=N,1μm,0.7s						
GO05	Hualane	2.98	14	⇓iP	Pn	14 57 09.7	+0.7
GO05				eS	Sn	14 57 44.1	-0.8
GO05				IAML		14 57 60.0	
	comp=E,467nm,0.7s						
GO05	Hualane	2.98	14	eP	Pn	14 57 09.1	+0.2
GO05				eS	Sb	14 57 50.4	-0.9
GO05				IAML		14 58 05.7	
	comp=Z,194nm,0.7s						
BO03	Pichilemu	3.48	12	eP	Pn	14 57 15.3	-0.4
BO02	Sierra Bellavi	3.52	28	⇓iP	Pn	14 57 17.3	+0.9
BO02				eS	Sn	14 57 58.2	0.0
BO02	Sierra Bellavi	3.52	28	eP	Pn	14 57 17.2	+0.8
BO02				eS	Sn	14 57 58.4	+0.2
BO02				IAML		14 58 16.7	
	comp=Z,243nm,0.5s						
BO01	Tunca	3.78	22	⇓iP	Pn	14 57 19.7	-0.3
BO01	Tunca	3.78	22	eP	Pn	14 57 20.1	+0.2
BO01				eS	Sn	14 58 05.6	+1.1
BO01				IAML		14 58 24.2	
	comp=Z,111nm,0.6s						
MT01	Popeta	4.23	18	eP	Pn	14 57 26.1	0.0
MT01				eS	Sn	14 58 15.8	0.0
MT01				IAML		14 58 35.4	
	comp=Z,88nm,0.3s						
BO04	La Punta	4.30	25	eP	Pn	14 57 26.5	-0.7
LMEL	Las Melosas	4.58	28	eP	Pn	14 57 32.4	+1.4
LMEL				eS	Sn	14 58 26.8	+2.4
LMEL				IAML		14 59 01.4	
	comp=Z,89nm,0.8s						
MT13	San Alfonso	4.64	27	eP	Pn	14 57 33.0	+1.2
MT13				eP	Pb	14 57 33.6	-9.4
MT13				eS	Sn	14 58 27.9	+2.0
MT13				IAML		14 58 46.3	
	comp=Z,66nm,0.5s						
MT05	Renca	4.81	21	eP	Pn	14 57 34.2	0.0
MT05				eS	Sn	14 58 30.9	+0.7
MT05				IAML		14 59 00.8	
	comp=Z,99nm,2.0s						
MT02	Curacav	4.84	17	eP	Pn	14 57 33.6	-0.9
MT02				eS	Sb	14 58 48.1	+3.4
MT02				IAML		14 58 50.6	
	comp=Z,61nm,0.4s						
MT04	Ro Olivares	5.00	27	eP	Pn	14 57 37.6	+0.7
MT04				eS	Sn	14 58 36.3	+1.4
MT04				IAML		14 58 50.7	
	comp=Z,45nm,0.5s						
MT08	Bocatoma Ro	5.00	28	eP	Pn	14 57 38.4	+1.5
MT08				eP	Pb	14 57 39.0	-10
MT08				eS	Sn	14 58 37.7	+2.6
MT08				IAML		14 58 53.8	
	comp=Z,33nm,0.7s						

OMAN 01 15:08:57.4±0.1, 27.40N×61.71E, h10km, mb3.8/3, ml3.1/1, Error ellipse: s-maj=1.8km s-min=1.7km az=24.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NGCH	Negor - Chabah	2.10	194	P	Pn	15 09 33.6	+1.0
	SNR=30						
NGCH				S	Sg	15 10 04.1	-0.8
JASK	Jask - Hormozg	3.77	247	P	Pn	15 09 55.7	+0.1
WSAR	Wadi Sarin	5.00	215	P	Pn	15 10 12.0	-0.5
WSAR				S	Sn	15 11 11.1	+0.8
BIDO	Bidbid	5.04	221	P	Pn	15 10 13.0	-0.1
BIDO				S	Sn	15 11 13.5	+2.1
MDH	Madha	5.29	248	P	Pn	15 10 17.0	+0.5
	SNR=7.8						
MDH				S	Sn	15 11 18.3	+0.8
SMDO	Samad	5.45	218	P	Pn	15 10 18.6	-0.1
SMDO				S	Sn	15 11 23.6	+1.9
UOSS	Minazif	5.52	245	P	Pn	15 10 19.3	-0.3
UOSS				S	Sn	15 11 23.4	+0.2
JLN	Jalan Bani Buh	5.63	202	P	Pn	15 10 20.1	-1.1
	SNR=7.7						
JLN				S	Sn	15 11 27.0	+1.0
HATD	Hatta, Dubai	5.63	244	P	Pn	15 10 21.0	-0.2
HATD				S	Sn	15 11 26.3	+0.3
SOHO	SOHO	5.69	236	P	Pn	15 10 21.9	-0.1
SOHO				S	Sn	15 11 28.3	+0.9
ASHO	Ashiyiah	5.76	243	P	Pn	15 10 23.3	+0.3
ASHO				S	Sn	15 11 30.3	+1.1
JMDO	Jabal Madar	5.99	214	P	Pn	15 10 26.3	+0.3

IDC 01 15:13:58.4±1.6, 0.24N×126.17E, h0km, mb3.4/5, mbtmp3.5/5, MS2.9/1, Error ellipse: s-maj=179.1km s-min=21.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.59	159	P	P	15 18 49.0	-1.0
	1.1nm,0.7s,baz=337,slow=11,SNR=21						
	1.1nm,0.7s						
ASAR	Alice Springs	24.92	163	P	P	15 19 24.1	+0.7
	0.5nm,0.5s,baz=339,slow=9.9,SNR=16						
	0.5nm,0.5s						
JNU	Nakatsue	33.01	7	LR	LR	15 34 12.8	
	comp=Z,19nm,20.0s,baz=252,slow=37						
MKAR	Makanchi Array	60.12	327	P	P	15 24 09.1	+1.3
	0.2nm,0.4s,baz=127,slow=5.6,SNR=2.1						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	64.39	329	P	P	15 24 34.5	-1.7
	0.2nm,0.6s,baz=130,slow=7.0,SNR=1.7						
	0.2nm,0.6s						
BVAR	Borovoye Array	69.94	328	P	P	15 25 11.8	+0.3
	0.3nm,0.4s,baz=110,slow=12,SNR=1.6						
	0.3nm,0.4s						

NNC 01 15:15:18.9±1.4, 42.05N×78.94E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=10.1km s-min=4.5km az=152.0
SOME 01 15:15:20.7, 42.08N×78.75E
KRNET 01 15:15:21.6±0.1, 40.97N×77.34E, h13km, mb2.4
ISC 01 15:15:20.3±1.5, 42.16N±0.07×78.88E±0.07, h0km, n13, σ1.02/19, 4C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	0.91	242	⇓eP	Pg	15 15 37.6	-0.1
TARG				⇓eS	Sg	15 15 49.1	-0.3
SATY	Saty	0.97	339	P	Pn	15 15 40.7	-0.6
	0.7nm,0.1s						
SATY				S	Sn	15 15 55.1	-0.7
	17nm,0.1s						
UZB	Uzynbulak	1.00	6	P	Pb	15 15 40.5	0.0
	2.0nm,0.3s						
UZB				S	Sb	15 15 54.8	+0.6
	9.6nm,0.2s						
PDGK	Podgornoye	1.25	21	⇑P	Pg	15 15 43.8	-0.6
	2.6nm,1.3s						
PDGK				⇑S	Sn	15 16 02.3	-0.6
	3.1nm,0.6s						
KDJ	Kajisay	1.26	269	⇓eP	Pg	15 15 43.6	-0.9
KDJ				⇓eS	Sg	15 15 59.7	-1.2
KNDC	Almaty	1.77	308	⇑Pn	Pn	15 15 51.2	-1.0
	8.5nm,0.4s						
KNDC				⇑Sn	Sg	15 16 17.2	+0.2
	13nm,0.5s						
ULHL	Ulahol	1.96	273	⇓eP	Pn	15 15 49.9	-5.1
ULHL				⇓eS	Sn	15 16 10.7	-10
KTBS	Karatobe	2.24	315	Pg	Pg	15 16 03.4	+0.2
	8.9nm,0.2s						
KTBS				Lg	Lg	15 16 34.1	
	12nm,0.4s						
KST	Kastek	2.33	293	Pg	Pb	15 16 04.0	+0.8
	1.9nm,0.2s						
KST				Lg	Lg	15 16 34.9	
	11nm,0.7s						
DGS	Degeres	2.54	296	Pg	Pb	15 16 07.4	+0.6
	1.9nm,0.4s						
DGS				Lg	Lg	15 16 41.1	
	4.9nm,0.4s						
TKM2	Tokmak 2	2.54	289	⇓eP	Pn	15 16 03.1	+0.1
TKM2				⇓eS	Sn	15 16 33.4	-1.4
CMLA	Cha da Macela	74.86	307	eS	S	15 36 43.1	+2.3
CMLA				IAML		15 36 45.0	
CMLA				IAML		15 36 45.5	
CMLA				IAML		15 36 46.1	
PSMN	Pico do Norte,	75.09	306	eS	S	15 36 45.0	+1.7
PSMN				IAML		15 36 46.2	
PSMN				IAML		15 36 46.4	
PSMN				IAML		15 36 46.6	

ISK 01 15:16:33.7, 37.55N×26.83E, h7km, ML2.8/24
AFAD 01 15:16:33.7, 37.57N×26.85E, h11km±3km, ML2.8
ATH 01 15:16:33.6, 37.54N×26.84E, h11km±2km, ML3.2/4, Manual Solution by A.Agalos First location: 2019/09/01 15:17:09, This location: 2019/09/01 15:27:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km
THE 01 15:16:34.2, 38°N±2°×2°7E±°, h10km±7km, M3.2/6, MLh3.2/6
ISC 01 15:16:33.5±0.8, 37.55N±0.01×26.86E±0.02, h15km±6km, n88, σ0.58/130, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMG	Samos	0.16	355	P	Pg	15 16 37.6	0.0
SMG				S	Sg	15 16 40.5	+0.2
SMG	Samos	0.16	355	P	Pg	15 16 37.6	0.0
SMG				S	Sg	15 16 40.0	-0.3
KRL1	Karlovasi Samo	0.27	334	P	Pg	15 16 39.4	0.0
KRL1				S	Sg	15 16 43.4	+0.1
DDIM	Aydin, Didim	0.32	107	P	Pb	15 16 41.3	+0.4
DDIM				S	Sb	15 16 46.2	+0.3
DDIM				i IAML		15 16 47.0	
	comp=N,1μm,0.6s						
DDIM				i IAML		15 16 47.0	
	comp=E,1μm,0.7s						
GCAM	G?zelcaml?	0.33	64	Pg	Pb	15 16 41.0	-0.2
GCAM				Sg	Sb	15 16 46.5	+0.2
GCAM	G?zelcaml?	0.33	64	P	Pb	15 16 41.5	+0.3
GCAM				S	Sb	15 16 46.0	-0.3
DIDI	Didim-Aydin	0.35	120	Pg	Pb	15 16 41.6	+0.1
DIDI				Sg	Sb	15 16 47.1	+0.3
DGB	zmir	0.50	2	P	Pg	15 16 43.4	-0.1
DGB				S	Sg	15 16 50.0	-0.2
DGB				i IAML		15 16 54.0	
	comp=E,1μm,0.5s						
DGB				i IAML		15 16 55.0	
	comp=N,673nm,0.2s						
GMLD	Gumuldur	0.53	5	Pg	Pg	15 16 44.2	+0.2
GMLD				Sg	Sb	15 16 52.1	+0.3
YKAV	Yalikavak-Bodr	0.55	142	Pg	Pb	15 16 44.9	+0.1
KLNA	Kalymnos	0.60	171	P	Pg	15 16 45.0	-0.4
KLNA				S	Sb	15 16 53.8	-0.1
BDRM	Kayabasi	0.68	136	P	Pb	15 16 47.0	0.0
BDRM				S	Sb	15 16 56.6	+0.4
BDRM				i IAML		15 17 01.0	
	comp=E,442nm,0.4s						
ZEYE	Izmir, Urla-Ze	0.74	338	P	Pg	15 16 47.5	-0.5
ZEYE				S	Sb	15 16 58.4	+0.4
ZEYE				i IAML		15 17 00.0	
	comp=E,918nm,0.6s						
AYDN	Tasoluk	0.82	82	P	Pn	15 16 50.2	-0.4
AYDN				S	Sb	15 17 00.3	-0.1
AYDN				i IAML		15 17 05.0	
	comp=E,312nm,0.3s						
AYDN				i IAML		15 17 06.0	
	comp=N,367nm,0.3s						
BLCB	Balcova	0.84	10	Pg	Pg	15 16 50.1	+0.1
BLCB				Sg	Sn	15 17 02.5	-0.5
BLCB	Balcova	0.84	10	P	Pg	15 16 50.1	+0.1
BLCB				S	Sg	15 17 01.5	+0.4
AYDB	Zeytinkoy-Aydi	0.91	64	Pg	Pn	15 16 51.9	0.0
AYDB				Sg	Sn	15 17 05.4	+0.6
NISR	Nisiros	0.96	167	P	Pn	15 16 52.9	+0.4
YAZI	Mula-Dat§a-	0.99	151	P	Pg	15 16 52.7	0.0
YAZI				S	Sb	15 17 04.9	-0.4
YAZI				i IAML		15 17 09.0	
	comp=N,214nm,0.5s						
YAZI				i IAML		15 17 09.0	
	comp=E,238nm,0.3s						
DAT	Datca	1.00	145	Pg	Pn	15 16 53.5	+0.3
DAT				Sg	Sn	15 17 07.9	+0.8
DAT	Datca	1.00	145	P	Pn	15 16 53.2	0.0
DAT				S	Sb	15 17 05.1	-0.6
DAT				i IAML		15 17 13.0	
	comp=E,180nm,0.4s						
DAT	Datca	1.00	145	P	Pn	15 16 53.0	-0.1
DAT				S	Sn	15 17 07.2	+0.2
IZMR	zmir-demi	1.05	56	P	Pg	15 16 53.8	+0.1
IZMR				S	Sb	15 17 06.2	-0.6
IZMR				i IAML		15 17 10.0	
	comp=N,182nm,0.7s						
ASTA	Astypalaia	1.08	202	P	Pb	15 16 53.4	-0.6
ASTA				S	Sb	15 17 08.2	+0.4
EAG2	Marmaro, Chios	1.15	329	P	Pg	15 16 55.7	-0.1
EAG2				S	Sn	15 17 10.7	+0.2
FOCM	Foa	1.16	355	Pn	Pg	15 16 56.3	+0.3
FOCM				Sn	Sg	15 17 12.9	+1.7
KARB	zmir-Karabur	1.16	343	P	Pn	15 16 55.2	0.0
KARB				S	Sb	15 17 09.1	-1.1
KARB				i IAML		15 17 16.0	
	comp=E,322nm,0.6s						
MULA	Mugla, Merkez-	1.20	104	P	Pg	15 16 56.5	-0.3
MULA				S	Sb	15 17 10.0	-1.5
ODEM	Odemis-Izmir	1.21	53	Pn	Pg	15 16 57.2	+0.4
ESEN	Aydn-Nazilli	1.21	78	P	Pg	15 16 56.5	-0.4
ESEN				S	Sn	15 17 12.1	+0.1
NAZL	Nazilli-Aydin	1.21	70	Pn	Pg	15 16 56.6	-0.3
TURN	Turunc	1.35	125	Pn	Pg	15 16 59.9	+0.3
TURN	Turunc	1.35	125	P	Pb	15 16 58.5	0.0
TURN				S	Sg	15 17 16.8	-0.4
KIRA	zmir-Kiraz	1.38	62	P	Pb	15 16 58.9	-0.2
KIRA				S	Sb	15 17 16.6	0.0
ZEDA	zmir-Bergama	1.42	7	P	Pn	15 16 58.5	-0.3
ZEDA				S	Sb	15 17 18.0	+0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZEDA				i IAML		15 17 25.0	
	comp=E,130nm,0.4s						
ZEDA				i IAML		15 17 26.0	
	comp=N,193nm,0.5s						
GOMA	Golmarmara-Man	1.43	36	Pn	Pg	15 17 00.7	-0.3
IZMD	zmir-Dikili-	1.43	2	P	Pb	15 17 00.6	+0.6
AKHS	Akhisar	1.52	29	P	Pg	15 17 03.0	+0.1
AKHS				S	Sg	15 17 22.4	-0.3
AKHS				i IAML		15 17 30.0	
	comp=E,118nm,0.6s						
AKS	Akhisar	1.52	29	Pn	Pb	15 17 02.1	+0.6
THERA	Ancient Thera,	1.62	223	P	Pn	15 17 01.2	-0.3
THR3	Thira Island,	1.63	226	P	Pn	15 17 02.0	+0.3
MANT	Manisa	1.64	55	P	Pg	15 17 04.9	-0.2
MANT				S	Sn	15 17 22.3	-0.6
SNT5	Nea Kammeni, S	1.64	226	P	Pb	15 17 03.2	-0.2
SNT5				S	Sg	15 17 25.9	-0.4
SNT5	Nea Kammeni, S	1.64	226	P	Pn	15 17 02.1	+0.3
TAVA	DENIZLI_Tavas	1.64	92	P	Pb	15 17 03.6	+0.1
SAP3	Santorini-Thir	1.65	228	P	Pb	15 17 03.6	+0.1
SAP3	Santorini-Thir	1.65	228	P	Pn	15 17 02.2	+0.3
THR5	Thira Island,	1.66	227	P	Pb	15 17 03.1	-0.6
ARG	Arkhangelos	1.68	142	Pn	Pb	15 17 04.5	+0.4
ARG	Arkhangelos	1.68	142	P	Pn	15 17 02.8	+0.5
SOMA	Soma-Manisa	1.69	18	Pn	Pb	15 17 04.4	+0.1
GORD	Gordes-Manisa	1.71	37	Pn	Pb	15 17 04.9	+0.3
KULA	Kula-Manisa	1.72	55	Pn	Pb	15 17 05.0	+0.2
DNIZ	Denizli-Tavas-	1.74	87	P	Pb	15 17 04.2	-0.9
DNIZ				i IAML		15 17 37.0	
	comp=N,87nm,0.4s						
DNIZ				i IAML		15 17 38.0	
	comp=E,98nm,0.4s						
DNZT	Denizli-Tavas-	1.75	98	P	Pb	15 17 05.2	-0.1
DNZT				S	Sb	15 17 27.2	0.0
PRK	Paraskevi	1.75	345	P	Pn	15 17 04.1	+0.8
PRK	Paraskevi	1.75	345	P	Pb	15 17 05.0	-0.4
AYVA	Ayvalik	1.76	356	P	Pb	15 17 05.6	+0.1
AYVA				S	Sg	15 17 30.0	-0.1
AYVA				i IAML		15 17 35.0	
	comp=E,118nm,0.9s						
AYVA				i IAML		15 17 38.0	
	comp=N,199nm,0.6s						
SIGR	SIGRI	1.83	335	Pn	Pn	15 17 04.5	+0.1
SIGR	SIGRI	1.83	335	P	Pn	15 17 04.2	-0.2
SIGR				S	Sb	15 17 28.8	-0.7
SIGR	SIGRI	1.83	335	P	Pn	15 17 04.1	-0.4
SABU	Mula-Dalaman	1.84	113	P	Pn	15 17 05.4	+0.9
SABU				S	Sb	15 17 29.7	0.0
STEP	BALIKESIR_Sava	1.94	20	P	Pb	15 17 09.8	+1.1
STEP				S	Sg	15 17 36.8	+0.8
STEP				i IAML		15 17 42.0	
	comp=E,116nm,0.7s						
APMY	Acipayam-Deniz	1.95	92	Pn	Pb	15 17 08.4	-0.3
BUHA	Balikesir, Bur	1.95	5	P	Pn	15 17 06.6	+0.5
BUHA				S	Sb	15 17 31.8	-1.1
BUHA				i IAML		15 17 45.0	
	comp=N,83nm,0.5s						
BUHA				i IAML		15 17 45.0	
	comp=E,126nm,1.1s						
KARY	Karystos	1.98	285	P	Pn	15 17 07.3	+0.9
KARP	Karpathos	2.02	173	P	Pn	15 17 07.7	+0.7
KOCA	Canakkale, Ayv	2.03	344	P	Pg	15 17 11.8	-0.6
KOCA				i IAML		15 17 48.0	
	comp=N,86nm,0.6s						
KOCA				i IAML		15 17 49.0	
	comp=E,85nm,1.3s						
CAME	Cameli-Denizli	2.04	107	Pn	Pb	15 17 09.7	-0.7
USAK	Uak-Merkez	2.06	55	P	Pg	15 17 13.1	-0.1
YAYO	Edremit-Balk	2.06	5	Pn	Pb	15 17 09.9	-0.8
DEMI	Demirci	2.09	44	P	Pg	15 17 13.9	+0.3
GOLH	Golhisar	2.18	98	P	Pb	15 17 11.5	-1.2
BAYC	CANAKKALE_Bayr	2.20	354	P	Pn	15 17 08.9	-0.6
IZZE	Mula-Seydike	2.20	120	P	Pb	15 17 11.6	-1.4
IZZE				i IAML		15 17 44.0	
	comp=E,56nm,0.3s						
IZZE				i IAML		15 17 56.0	
	comp=N,106nm,0.5s						
PASA	Karahalli, USA	2.23	68	P	Pn	15 17 10.9	+1.0
BALY	Balya	2.27	15	P	Pb	15 17 15.2	+1.1
BALY				i IAML		15 17 51.0	
	comp=E,84nm,0.5s						
BALY				i IAML		15 18 00.0	
	comp=N,70nm,0.9s						
EZN	Ezine	2.31	350	Pn	Pb	15 17 13.4	-1.4
BKES	Balkesir-Mer	2.33	21	P	Pb	15 17 15.9	+0.6
BKES				i IAML		15 17 59.0	
	comp=N,45nm,0.5s						
DION	Dionisos Attik	2.37	284	P	Pn	15 17 11.8	-0.1
DURS	Dursunbey	2.41	31	P	Pb	15 17 16.2	-0.3
DURS				S	Sb	15 17 46.0	0.0
DURS				i IAML		15 18 01.0	
	comp=E,47nm,0.7s						
PTL	Penteli	2.42	283	P	Pn	15 17 13.1	+0.5
KYMI	Kymi, Euboea I	2.43	297	P	Pn	15 17 13.7	+1.1
VLY	Voula,Athens	2.45	278	P	Pn	15 17 13.4	+0.5
BLKS	Balkesir-Sus	2.48	20	P	Pb	15 17 18.3	+0.6
BLKS				S	Sg	15 17 52.0	-1.2
ZKR	Zakros	2.49	192	P	Pn	15 17 15.2	+1.8
GDZ	Gediz	2.57	53	P	Pg	15 17 21.5	-1.4
GDZ				S	Sb	15 17 51.5	+0.6
PARN1	Fyli,Attica,Gr	2.58	283	P	Pn	15 17 15.2	+0.5

*IDC **01** 15:20:33.9±0.9, 13°.90N×145°.12E, h109km±5km, mb3.3/10, mbtmp3.8/11, Error ellipse: s-maj=34.7km s-min=13.5km az=89.0*
*NEIC **01** 15:20:34.3±2.3, 13°.8N±0°.1×145°.2E±0°.2, h115km±7km, mb4.5/19, Error ellipse: s-maj=33.1km s-min=10.4km az=112.0*
ISC 01 15:20:34.8±0.6**, 13°.82N**±0°.09×**145°.1E**±0°.2**, h125km, n40,** σ**1s.18**/38**, mb4.0**/21**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	0.35	229	Pn	Pn	15 20 51.7	-0.8
GUMO				Sn	Sn	15 21 03.0	-2.9
GUMO	Guam	0.35	229	P	Pn	15 20 51.7	-0.8
	482nm,0.3s,baz=329,slow=1.1,SNR=297						
GUMO				S	Sn	15 21 03.7	-2.2
	2µm,0.3s,baz=323,slow=20,SNR=24						
JHJ	Hachijo jima 2	19.82	347	P	P	15 24 55.7	+0.1
	34nm,0.8s,baz=90,slow=19,SNR=2.3						
H11S3	WAKE ISLAND Hy	21.20	74	T	T	15 47 20.2	
	baz=262						
H11S1	WAKE ISLAND Hy	21.22	74	T	T	15 47 07.2	
	baz=262,slow=74						
H11S2	WAKE ISLAND Hy	21.22	75	T	T	15 47 08.3	
	baz=262,slow=74						
H11N1	WAKE ISLAND Hy	21.62	71	T	T	15 48 18.2	
	baz=257,slow=75,SNR=16						
H11N2	WAKE ISLAND Hy	21.63	71	T	T	15 48 19.7	
	baz=257,slow=75,SNR=3.2						
H11N3	WAKE ISLAND Hy	21.64	71	T	T	15 48 19.3	
	baz=257,slow=75,SNR=9.4						
MJAR	Matsushiro Arr	23.46	346	P	P	15 25 30.9	-2.1
	0.7nm,0.6s,baz=169,slow=10,SNR=4.7						
	0.7nm,0.6s						
SAUI	Saumlaki	25.65	213	P	P	15 25 53.2	+0.2
KSRS	Korea Array	28.09	330	P	P	15 26 14.5	-0.2
	0.2nm,0.3s,baz=134,slow=9.0,SNR=4.3						
	0.2nm,0.3s						
KNRA	Kununurra	33.49	209	P	P	15 27 02.3	-0.1
KNRA				IAmb	IAmb	15 27 20.4	
	comp=Z,12nm,1.4s						
WB0	Warramunga Arr	35.02	198	P	P	15 27 15.0	-0.5
WB0				IAmb	IAmb	15 27 43.6	
	comp=Z,7.4nm,1.3s						
WR8	Warramunga Arr	35.16	198	P	P	15 27 17.2	+0.4
WR8				IAmb	IAmb	15 27 54.1	
	comp=Z,8.1nm,1.2s						
WRA	Warramunga Arr	35.20	198	P	P	15 27 17.8	+0.7
	comp=Z,0.9nm,0.6s,baz=19,slow=9.2,SNR=16						
WRA				PcP	PcP	15 29 47.9	+2.3
	comp=Z,0.1nm,0.6s,baz=18,slow=3.8,SNR=1.3						
	comp=Z,0.9nm,0.6s						
AS31	Alice Springs	38.84	197	P	P	15 27 48.5	+0.5
ASAR	Alice Springs	38.85	197	P	P	15 27 49.0	+1.1
	comp=Z,0.3nm,0.6s,baz=17,slow=14,SNR=11						
ASAR				PcP	PcP	15 29 57.8	+1.1
	comp=Z,0.3nm,0.9s,baz=16,slow=4.8,SNR=1.3						
	comp=Z,0.3nm,0.6s						
INKA	Innaminka	41.54	186	P	P	15 28 10.6	+0.6
STKA	Stephens Creek	45.57	184	P	P	15 28 41.6	-0.6
STKA	Stephens Creek	45.57	184	P	P	15 28 42.4	+0.1
	comp=Z,1.4nm,0.5s,baz=2.6,slow=7.7,SNR=5.0						
	comp=Z,1.4nm,0.5s						
BBOO	Buckleboo	47.18	190	P	P	15 28 55.2	+0.4
BBOO				IAmb	IAmb	15 28 57.0	
	comp=Z,32nm,1.5s						
CAN	Canberra	49.01	176	P	P	15 29 08.4	-0.5
TAU	Tasmania Unive	56.49	178	P	P	15 30 04.3	+0.6
MKAR	Makanchi Array	61.51	316	P	P	15 30 39.2	+0.7
	comp=Z,0.2nm,0.4s,baz=93,slow=8.4,SNR=4.8						
	comp=Z,0.2nm,0.4s						
KURBB	Kurchatov Arra	64.62	320	P	P	15 30 59.6	+0.7
	comp=Z,0.3nm,0.4s,baz=100,slow=6.3,SNR=6.1						
	comp=Z,0.3nm,0.4s						
D20K	Etivluk River	65.94	20	P	P	15 31 07.5	+0.3
D20K				IAmb	IAmb	15 31 31.8	
	comp=Z,15nm,1.4s						
IL31		68.24	25	P	P	15 31 20.9	-0.7
IL31				IAmb	IAmb	15 31 57.3	
	comp=Z,4.3nm,1.2s						
ILAR	Eielson Array	68.24	25	P	P	15 31 21.1	-0.6
	comp=Z,0.3nm,0.5s,baz=251,slow=5.5,SNR=7.8						
	comp=Z,0.3nm,0.5s						
J25K	Salcha River,	68.84	26	P	P	15 31 25.4	-0.2
TGL	Tana Glacier	69.27	30	P	P	15 31 27.5	-0.8
TGL				IAmb	IAmb	15 31 44.5	
	comp=Z,8.4nm,1.3s						
SCRK	Sand Creek	69.30	26	P	P	15 31 28.7	+0.2
BVAR	Borovoye Array	69.91	322	P	P	15 31 33.0	+0.8
	comp=Z,0.6nm,0.3s,baz=94,slow=10,SNR=3.6						
	comp=Z,0.6nm,0.3s						
BCAR	Beaver Creek A	70.11	28	P	P	15 31 34.5	+1.1
C27K	Jago River	70.59	21	P	P	15 31 36.9	+0.8
C27K				IAmb	IAmb	15 31 50.0	
	comp=Z,20nm,1.4s						
O02D	Mt. Diablo Mer	82.78	51	P	P	15 32 44.4	-0.9
O02D				IAmb	IAmb	15 32 57.4	
	comp=Z,8.3nm,1.5s						
PINE	Pine Mountain	83.36	47	P	P	15 32 46.5	-1.8
PINE				IAmb	IAmb	15 32 51.9	
	comp=Z,2.7nm,0.7s						
AFDM	Forest Hills D	84.42	51	P	P	15 32 51.7	-1.9
AFDM				IAmb	IAmb	15 33 34.1	
	comp=Z,2.0nm,0.9s						
PDAR	Pinedale Array	91.61	45	P	P	15 33 30.7	+2.4
	comp=Z,0.2nm,0.5s,baz=290,slow=7.1,SNR=1.6						
	comp=Z,0.2nm,0.5s						
TORD	Torodi Ar. Bea	134.95	305	PKP	PKPdf	15 39 40.3	+0.2
	comp=Z,0.5nm,0.9s,baz=28,slow=1.5,SNR=2.5						

*SOME **01** 15:21:11.1, 40°.62N×77°.35E, h5km*
*KRNET **01** 15:21:11.3±0.1, 40°.63N×77°.29E, h18km, mb3.4*
*NNC **01** 15:21:12.2±0.8, 40°.63N×77°.35E, h0km, mb4.0, mpv3.5, Error ellipse: s-maj=5.8km s-min=3.7km az=167.0*
ISC 01 15:21:12.2±1.6**, 40°.66N**±0°.07×**77°.46E**±0°.04**, h10km, n43,** σ**1s.28**/63**, 21C-15D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.10	14	⇓eP	Pb	15 21 33.3	-0.4
TARG				⇓eS	Sn	15 21 49.5	-0.1
KDJ	Kajisay	1.48	352	⇑eP	Pb	15 21 39.3	-0.8
KDJ				⇑eS	Sb	15 21 59.7	+0.7
ULHL	Ulahol	1.83	330	P	Pb	15 21 45.0	-0.9
	SNR=5.0						
ULHL	Ulahol	1.83	330	⇑eP	Pn	15 21 44.6	+0.6
ULHL				⇑eS	Sb	15 22 08.8	-0.2
PRZ	Przheval'sk	1.96	21	⇑eP	Pg	15 21 48.6	-1.2
PRZ				⇑eS	Sg	15 22 15.8	+0.6
TNSS	Tian-Shan	2.41	351	Pg	Pg	15 21 57.0	-1.4
	16nm,0.4s						
TNSS				Lg	Lg	15 22 29.6	
	9.7nm,0.6s						
TNSS	Tian-Shan	2.41	351	eP	Pg	15 21 57.0	-1.4
	5.6nm,0.2s						
TNSS				eS	Sg	15 22 29.5	-0.2
	8.9nm,0.3s						
SATY	Saty	2.50	16	Pg	Pg	15 21 58.9	-1.4
	17nm,1.0s						
SATY				Lg	Lg	15 22 32.7	
	52nm,0.9s						
KNDC	Almaty	2.58	352	⇑Pg	Pg	15 22 00.0	-1.7
	63nm,0.5s						
KNDC				⇓Lg	Lg	15 22 35.8	
	94nm,0.7s						
KOTS	Kotyrbulak	2.59	354	Pg	Pg	15 22 00.4	-1.5
	23nm,0.3s						
KOTS				Lg	Lg	15 22 35.9	
	77nm,0.8s						
KOTS	Kotyrbulak	2.59	354	eP	Pg	15 22 00.4	-1.5
	23nm,0.3s						
KOTS				eS	Sg	15 22 35.9	+0.5
	77nm,0.8s						
MTBS	Maitube	2.59	343	Pg	Pb	15 21 59.4	+0.6
MTBS				Lg	Lg	15 22 33.6	
MTBS	Maitube	2.59	343	eP	Pg	15 22 00.4	-1.4
	3.5nm,0.1s						
MTBS				eS	Sg	15 22 35.4	+0.1
	32nm,0.3s						
KST	Kastek	2.63	335	Pg	Pb	15 22 00.4	+0.8
	8.3nm,0.3s						
KST				Lg	Lg	15 22 35.9	
	31nm,0.7s						
KST	Kastek	2.63	335	eP	Pg	15 22 01.0	-1.7
	6.6nm,0.1s						
KST				eS	Sg	15 22 36.3	-0.4
	22nm,0.3s						
TKM2	Tokmak 2	2.65	329	P	Pb	15 22 00.5	+0.5
	SNR=26						
TKM2	Tokmak 2	2.65	329	⇑eP	Pn	15 21 56.5	+1.2
TKM2				⇑eS	Sn	15 22 29.6	+2.0
UCH	Uchtor	2.71	306	P	Pg	15 22 38.5	+34
	SNR=5.5						
UCH	Uchtor	2.71	306	⇓eP	Pn	15 21 56.8	+0.5
UCH				⇓eS	Sn	15 22 30.1	+0.7
KBK	Karagaybulak	2.74	318	P	Pb	15 22 02.3	+0.9
	SNR=12						
KBK	Karagaybulak	2.74	318	⇑eP	Pn	15 21 57.4	+0.9
KBK				⇑eS	Sn	15 22 31.1	+1.4
UZB	Uzynbulak	2.75	25	Pg	Pg	15 22 03.6	-1.4
	8.1nm,0.5s						
UZB				Lg	Lg	15 22 40.8	
	12nm,0.9s						
UZB	Uzynbulak	2.75	25	eP	Pg	15 22 03.6	-1.4
	8.1nm,0.5s						
UZB				eS	Sg	15 22 40.8	+0.2
	12nm,0.9s						
SALK	Salom-Alik	2.77	276	⇓eP	Pn	15 21 57.0	+0.2
SALK				⇓iS	Sn	15 22 30.3	-0.1
DGS	Degeres	2.87	335	Pg	Pb	15 22 04.6	+1.0
	13nm,0.5s						
DGS				Lg	Lg	15 22 43.1	
	29nm,0.7s						
KPKS	Kokpek	2.95	18	Pg	Pg	15 22 07.5	-1.3
	0.2nm,0.1s						
KPKS				Lg	Lg	15 22 47.9	
	54nm,0.5s						
AAK	Ala-Archa	2.97	313	P	Pb	15 22 05.9	+0.5
	SNR=6.9						
AAK	Ala-Archa	2.97	313	⇑Pg	Pb	15 22 05.2	-0.1
	12nm,0.7s						
AAK				⇑Lg	Lg	15 22 45.2	
	20nm,0.8s						
AAK	Ala-Archa	2.97	313	⇑eP	Pn	15 22 00.4	+0.8
AAK				⇑eS	Sn	15 22 36.3	+0.9
FRU1	Bishkek	3.02	316	⇑eP	Pn	15 22 01.4	+1.3
FRU1				⇑iS	Sn	15 22 37.9	+1.6
PDGK	Podgornoye	3.07	29	⇓Pg	Pb	15 22 08.0	+1.0
	12nm,0.6s						
PDGK				⇑Lg	Lg	15 22 51.3	
	70nm,0.7s						
CHMS	Chumysh	3.09	320	P	Pb	15 22 08.4	+1.1
	SNR=6.5						
CHMS	Chumysh	3.09	320	⇓eP	Pn	15 22 02.2	+1.1
CHMS				⇓eS	Sn	15 22 39.3	+1.2
KTBS	Karatobe	3.10	350	Pg	Pb	15 22 08.5	+0.9
	40nm,0.5s						
KTBS				Lg	Lg	15 22 49.5	
	16nm,0.3s						
EKS2	Erkin-Say	3.41	307	⇓eP	Pn	15 22 06.2	+0.7
EKS2				⇓iS	Sn	15 22 46.4	+0.4
USP	Ospenovka	3.41	321	P	Pb	15 22 13.4	+0.6
	SNR=27						
USP	Ospenovka	3.41	321	⇓eP	Pn	15 22 06.6	+1.0
USP				⇓eS	Sn	15 22 47.1	+1.0
ARSB	Arslanbob	3.45	283	⇑eP	Pn	15 22 06.4	+0.2
ARSB				⇑eS	Sn	15 22 46.6	-0.6
SGDS	Sogindy	3.50	324	Pg	Pb	15 22 16.0	+1.8
SGDS				Lg	Lg	15 23 02.6	
MRKS	Merke	3.79	305	Pg	Pb	15 22 20.7	+1.3
	3.6nm,0.2s						
MRKS				Lg	Lg	15 23 10.2	
	8.2nm,0.6s						
MRKS	Merke	3.79	305	eP	Pb	15 22 20.6	+1.3
	3.6nm,0.1s						
MRKS				eS	Sg	15 23 10.1	-3.9
	7.2nm,0.2s						
TDK	Taldyqorghan	4.40	9	eP	Pg	15 22 33.1	-3.3
	5.5nm,0.1s						
TDK				eS	Sg	15 23 31.4	-2.0
	12nm,0.2s						
KK31	Karatay Array	5.73	298	⇑Pg	Pb	15 22 54.9	+2.6
	0.9nm,0.6s,baz=114,slow=16,SNR=6.9						
KK31				⇓Lg	Lg	15 24 13.4	
	2.1nm,0.7s,baz=127,slow=28,SNR=4.2						

IDC 01 15:43:45.8±2.1**, 13°.46N**×**120°.40E, h0km, mb3.4**/5**, mbtmp3.4**/5**, Error ellipse: s-maj=321.9km s-min=21.1km az=63.0, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	35.92	157	P	P	15 50 47.6	-0.4
	0.1nm,0.6s,baz=333,slow=9.0,SNR=1.3						
	0.1nm,0.6s						
ASAR	Alice Springs	39.19	160	P	P	15 51 15.9	+0.1
	0.2nm,0.8s,baz=341,slow=8.7,SNR=6.3						
	0.2nm,0.8s						
MKAR	Makanchi Array	46.05	324	P	P	15 52 11.8	+0.4
	0.3nm,0.5s,baz=120,slow=8.6,SNR=3.8						
	0.3nm,0.5s						
ZALV	Zalesovo Beam	49.13	333	P	P	15 52 33.9	-1.2
	0.5nm,0.4s,baz=137,slow=6.8,SNR=2.8						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	50.22	326	P	P	15 52 43.7	+0.2
	0.7nm,0.5s,baz=134,slow=7.6,SNR=9.0						
	0.7nm,0.5s						

*MOS **01** 15:54:18.9±0.8, 20°.31S×178°.57W, h593km, mb6.2/25, Error ellipse: s-maj=20.6km s-min=7.7km az=109.2*
*BJI **01** 15:54:19.7, 20°.23S×178°.43W, h600km, mB6.4/81, mb6.0/88*
*NEIC **01** 15:54:20.4±2.1, 20°.36S±0°.09×178°.57W±0°.09, h591km±1km, mb6.1/788, Mwb6.7/76, Mww6.6/65, Error ellipse: s-maj=15.7km s-min=14.4km az=158.0, Moment Tensor Solution. Moment tensor: Scale 10^19Nm; Mrr-0.87; Mθθ0.64; Mφφ0.22; Mrθ-0.75; Mθφ0.30; Mφr-0.90; Fault plane solution: Mo1.44000×10^19 NP1: φs254.01000°, δ19.47000°, λ-62.21000°. NP2:φs44.80000°, δ72.85000°, λ-99.36000°. Principal axes: T 1.3659, Plg27.0000°, Azm142.0000°; N 0.1428, Plg9.0000°, Azm48.0000°; P -1.5086, Plg61.0000°, Azm301.0000°;*
*BGR **01** 15:54:20.8, 21°.27S×177°.85W, h621km±10km*
*PMR **01** 15:54:20.0, 20°.40S×178°.40W, h617km*
*NEIC **01** 15:54:21.2, 20°.36S×178°.59W, h601km*
*NOU **01** 15:54:21.4, 20°.43S×178°.47W, h609km, ML6.2/192, Fiji Islands Region*
*NEIC **01** 15:54:21.2, 20°.36S×178°.59W, h600km, Moment Tensor Solution. Duration: 10s.1.0 Moment tensor: Scale 10^19 Nm; Mrr-0.65; Mθθ0.39; Mφφ0.26; Mrθ-0.63; Mθφ0.08; Mφr-0.81; Fault plane solution: Mo1.18000×10^19 NP1: φs238.51000°, δ14.21000°, λ-72.58000°. NP2:φs40.58000°, δ76.45000°, λ-94.33000°. Principal axes: T 1.0300, Plg31.0000°, Azm134.0000°; N 0.2565, Plg4.0000°, Azm42.0000°; P -1.2865, Plg58.0000°, Azm305.0000°;*
*NEIC **01** 15:54:21.6, 20°.36S×178°.59W, h607km*
*IPGP **01** 15:54:22.0, 20°.42S×178°.54W, h617km, Mw6.7, Fault plane solution: NP1:φs233.00000°, δ17.00000°, λ-76.00000°. NP2:φs39.00000°, δ74.00000°, λ-94.00000°.*
*IDC **01** 15:54:22.0±0.2, 20°.40S×178°.53W, h615km±2km, mb5.5/25, mbtmp6.4/27, Error ellipse: s-maj=7.9km s-min=7.0km az=69.0*
*GCMT **01** 15:54:25.4±0.1, 20°.40S×178°.51W, h614km, MW6.7/170, Moment Tensor Solution. s170,c459; s163,c320; Duration: 5s.3 Moment tensor: Scale 10^19Nm; Mrr-0.75±.00; Mθθ0.41±.01; Mφφ0.33±.01; Mrθ-0.68±.01; Mθφ0.19±.01; Mφr-0.84±.01; Best double couple: Mo1.26700×10^19 NP1:φs233.00000°, δ16.00000°, λ-78.00000°. NP2:φs41.00000°, δ74.00000°, λ-93.00000°. Principal axes: T 1.1720, Plg29.0000°, Azm134.0000°; N 0.1900, Plg3.0000°, Azm42.0000°; P -1.3620, Plg60.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
ISC 01 15:54:21.1±0.2**, 20°.49S**±0°.02×**178°.47W**±0°.02**, h611km**±1km**, h612km:pP-P, n2038,** σ**1s.51**/2460**, mb6.1**/501**, 110C-152D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	2.26	352	P	P	15 55 37.6	-0.1
LKBA	Tubou, Lakemba	2.26	352	S	S	15 56 40.2	+0.4
TAVE	Taveuni	4.00	340	P	P	15 55 47.3	-0.2
TAVE	Taveuni	4.00	340	S	S	15 56 59.0	+1.2
MSVF	Nonsavu	4.28	309		P	15 55 49.5	0.0
MSVF	Nonsavu	4.28	309	P	P	15 55 49.6	0.0
MSVF	Nonsavu	4.28	309	⇑P	P	15 55 49.3	-0.3
DGTI	Dogotuki	4.50	337	P	P	15 55 50.5	-0.6
YSA	Yasawairara	5.31	314	P	P	15 55 56.8	-0.5
FUTU	Fugatoga	6.15	3		P	15 56 01.2	-3.2
FUTU	Fugatoga	6.15	3	P	P	15 56 03.8	-0.5
NIUE	Niue	8.16	82		P	15 56 21.3	-1.2
NIUE	Niue	8.16	82	⇑iP	P	15 56 21.6	-0.9
	24µm,1.1s						
NIUE				eS	S	15 58 10.5	+8.7
	42µm,1.0s						
NIUE	Niue	8.16	82	P	P	15 56 21.7	-0.8
NIUE	Niue	8.16	82	S	S	15 58 03.0	+1.2
NIUE	Niue	8.16	82	P	P	15 56 20.4	-2.1
NIUE				S	S	15 57 58.2	-3.6
RIZ	Raoul Island	8.74	177	P	P	15 56 26.6	-1.1
RIZ				S	S	15 58 06.9	-4.6
RAO	Raoul Island	8.74	177	P	P	15 56 26.9	-0.9
RAO	Raoul Island	8.74	177	P	P	15 56 27.0	-0.7
	2µm,0.5s,baz=64,slow=8.7,SNR=32						
RAO				S	S	15 58 08.8	-2.9
	7µm,0.4s,baz=73,slow=20,SNR=7.4						
RAO	Raoul Island	8.74	177	P	P	15 56 27.1	-0.7
RAO	Raoul Island	8.74	177	P	S	15 58 11.1	-0.6
RAO	Raoul Island	8.74	177	P	P	15 56 26.9	-0.9
GLKZ	Green Lake	8.75	177	P	P	15 56 26.2	-1.7
INH	Isangel	11.56	273	P	P	15 56 55.8	+0.2
FUNA	Funafuti	12.10	349		P	15 56 58.3	-2.7
FUNA	Funafuti	12.10	349	P	P	15 56 59.8	-1.2
FUNA	Funafuti	12.10	349	⇑P	P	15 56 58.1	-2.9
DVP	Devils Point	12.91	280	P	P	15 57 09.0	+0.1
DVP	Devils Point	12.91	280	S	S	15 59 29.6	+2.9
PINNC	Pines Island,	13.28	258		P	15 57 12.3	-0.2
PINNC	Pines Island,	13.28	258	P	P	15 57 12.4	-0.2
PINNC	Pines Island,	13.28	258	S	S	15 59 36.6	+3.5
OUENC	Ouen Island, N	13.81	259	P	P	15 57 17.3	-0.6
DZM	Mont Dzumac	14.15	261		P	15 57 20.5	-0.7
DZM	Mont Dzumac	14.15	261	eP	P	15 57 22.2	+0.9
	5µm,0.8s						
DZM				eS	S	15 59 48.6	+0.2
	3µm,1.5s						
DZM	Mont Dzumac	14.15	261	P	P	15 57 20.7	-0.6
	1µm,0.7s,baz=88,slow=15,SNR=362						
DZM				S	S	15 59 48.0	-0.4
	116nm,0.8s,baz=102,slow=18,SNR=1.2						
DZM				ScP	ScP	16 04 30.3	+1.3
	81nm,1.0s,baz=45,slow=5.7,SNR=4.7						
DZM				ScS	ScS	16 08 11.3	+4.3
	49nm,1.2s,baz=144,slow=19,SNR=9.6						
DZM	Mont Dzumac	14.15	261	P	P	15 57 21.7	+0.4
DZM	Mont Dzumac	14.15	261	⇑P	P	15 57 20.6	-0.7
ONTNC	Ouen Toro	14.16	260		P	15 57 20.6	-0.6
ONTNC	Ouen Toro	14.16	260	P	P	15 57 21.2	0.0
ONTNC	Ouen Toro	14.16	260	⇓P	P	15 57 20.6	-0.6
SANVU	Saraoutou	14.52	288		P	15 57 23.7	-0.9
SANVU	Saraoutou	14.52	288	P	P	15 57 24.1	-0.5

SANVU	Saraoutou	14.52	288	⇓P	P	15 57 21.9	-2.7
NFK	Norfolk Island	14.99	233	eP	P	15 57 31.2	+2.5
NFK				eS	S	16 00 04.2	+2.5
NFK	Norfolk Island	14.99	233	⇓P	P	15 57 31.4	+2.6
KOUNC	Koumac, New Ca	16.16	267	P	P	15 57 41.9	+2.4
KOUNC	Koumac, New Ca	16.16	267	⇓P	P	15 57 41.0	+1.6
OUZ	Omahuta	16.26	204	P	P	15 57 43.3	+3.1
OUZ	Omahuta	16.26	204	P	P	15 57 42.1	+1.9
OUZ	Omahuta	16.26	204	⇑P	P	15 57 42.9	+2.7
GRZ	Great Barrier	16.58	197	P	P	15 57 43.2	+0.1
WCZ	Waipu Caves	16.64	201	P	P	15 57 44.8	+1.1
KUZ	Kuaotunu	16.98	196	P	P	15 57 48.9	+2.1
KUZ	Kuaotunu	16.98	196	S	S	16 00 37.7	+3.8
KUZ	Kuaotunu	16.98	196	P	P	15 57 48.3	+1.6
MXZ	Matakaoa Point	17.25	189		P	15 57 48.2	-1.0
MXZ	Matakaoa Point	17.25	189	P	P	15 57 49.1	-0.1
MXZ	Matakaoa Point	17.25	189	P	P	15 57 49.0	-0.2
MXZ				S	S	16 00 35.2	-3.1
WIZ	White Island	17.40	192	P	P	15 57 53.0	+2.4
RAR	Rarotonga	17.49	96		P	15 57 52.2	+0.6
RAR	Rarotonga	17.49	96	⇑iP	P	15 57 51.6	-0.1
	16µm,1.3s						
RAR				eS	S	16 00 47.1	+4.4
	4µm,25.0s						
RAR				eLR	LR	16 02 33.4	
	12µm,28.0s						
RAR	Rarotonga	17.49	96	P	P	15 57 51.7	0.0
	1µm,1.1s,baz=246,slow=6.7,SNR=96						
RAR				ScP	ScP	16 04 36.1	+0.7
	95nm,1.0s,baz=243,slow=4.5,SNR=3.3						
RAR	Rarotonga	17.49	96	P	P	15 57 52.3	+0.6
RAR	Rarotonga	17.49	96	P	P	15 57 52.3	+0.6
RAR	Rarotonga	17.49	96	⇑P	P	15 57 52.3	+0.6
HAZ	Te Kaha	17.52	190	P	P	15 57 51.7	+0.1
HAZ				S	S	16 00 39.9	-2.7
PUZ	Puketiti	17.75	188	P	P	15 57 54.0	+0.2
WHRZ	Whale Island	17.76	192	P	P	15 57 55.3	+1.4
TGRZ	Tauranga	17.78	194	P	P	15 57 56.0	+1.9
OPRZ	Ohinepanea	17.83	193	P	P	15 57 55.5	+1.0
LUES	Luesalemba Tem	17.92	301	P	P	15 57 53.0	-2.7
MARZ	Manawahe	17.94	193	P	P	15 57 57.1	+1.5
TOZ	Tahuroa Road	17.97	196		P	15 57 57.5	+1.7
TOZ	Tahuroa Road	17.97	196	P	P	15 57 58.2	+2.5
KMRZ	Kaimai	17.97	194	P	P	15 57 58.1	+2.2
LIRZ	Lichensteins R	18.02	193	P	P	15 57 58.4	+2.1
EDRZ	Edgecumbe	18.05	192	P	P	15 57 57.2	+0.7
KARZ	Kaharoa	18.07	194	P	P	15 57 57.9	+1.1
OMRZ	Omania	18.12	193	P	P	15 57 58.4	+1.2
URZ	Urewera	18.12	191	P	P	15 57 55.9	-1.3
	1µm,0.7s,baz=2.3,slow=4.2,SNR=207						
URZ				S	S	16 00 47.7	-4.7
	594nm,0.6s,baz=94,slow=19,SNR=11						
URZ				ScP	ScP	16 04 37.2	+0.8
	95nm,0.8s,baz=330,slow=5.3,SNR=4.1						
URZ				ScS	ScS	16 08 14.3	-3.3
	70nm,0.9s,baz=133,slow=19,SNR=12						
URZ	Urewera	18.12	191	P	P	15 57 56.0	-1.2
URZ	Urewera	18.12	191	P	P	15 57 55.6	-1.5
MKRZ	Makatiti	18.13	193	P	P	15 58 00.9	+3.5
NGRZ	Ngongotaha	18.16	194	P	P	15 58 00.4	+2.9
CNGZ	Carnagh Statio	18.17	188	P	P	15 57 58.3	+0.7
CNGZ				S	S	16 00 52.2	-0.9
TKGZ	Te Karaka	18.17	189	P	P	15 57 58.4	+0.8
TKGZ				S	S	16 00 50.4	-2.8
UTU	Utuhina	18.23	194	P	P	15 58 00.9	+2.8
HLRZ	Highlands Stat	18.27	193	P	P	15 58 00.1	+1.6
RAGZ	Rawiri	18.30	190	P	P	15 57 59.8	+0.9
RRRZ	Republican Roa	18.32	193	P	P	15 57 59.7	+0.7
HSRZ	Hossack Road	18.34	193	P	P	15 58 01.0	+1.8
MUGZ	Murupara	18.40	192	P	P	15 57 59.4	-0.3
GRRZ	Galatos Road	18.41	194	P	P	15 57 60.0	+0.1
HRRZ	Handcock Road	18.41	193	P	P	15 57 59.1	-0.7
RIGZ	Rimuhau	18.45	189	P	P	15 57 59.7	-0.5
RTZ	Ruatahuna	18.49	191		P	15 57 58.8	-1.9
RTZ	Ruatahuna	18.49	191	P	P	15 57 57.3	-3.4
PRRZ	Plateau Road	18.49	193	P	P	15 58 00.5	-0.1
TLZ	Tolley Road	18.52	195	P	P	15 58 03.3	+2.4
WPRZ	Whakapapatarin	18.56	193	P	P	15 58 01.9	+0.7
ALRZ	Allen Road	18.57	193	P	P	15 58 01.5	+0.3
SNGZ	Shannon Statio	18.59	190	P	P	15 58 01.5	0.0
KUTZ	Kaahu Road	18.61	194	P	P	15 58 03.2	+1.5
PRGZ	Paritu Road	18.64	189	P	P	15 58 03.2	+1.2
MTHZ	Maungataniwha	18.75	191	P	P	15 58 03.0	+0.1
RAHZ	Arahi	18.77	191	P	P	15 58 02.8	-0.3
KNZ	Kokohu	18.77	189	P	P	15 58 04.1	+1.1
MRHZ	Matea Rd	18.81	192	P	P	15 58 03.1	-0.4
WATZ	Wairara	18.84	194	P	P	15 58 04.9	+1.2
MHGZ	Mahia Peninsul	18.86	189	P	P	15 58 05.0	+1.0
HIZ	Hauiti	18.87	196	P	P	15 58 06.6	+2.6
HIZ	Hauiti	18.87	196	P	P	15 58 06.6	+2.6
WHHZ	Waihua	18.90	190	P	P	15 58 05.2	+1.0
HATZ	Hinemaiaia	18.93	193	P	P	15 58 05.0	+0.4
RATZ	Rangitukua	18.98	194	P	P	15 58 05.2	+0.1
NMHZ	Naumai	18.99	191	P	P	15 58 05.0	-0.2
RITZ	Rihia Road	19.07	194	P	P	15 58 06.5	+0.7
KATZ	Kakaramea	19.10	194	P	P	15 58 08.2	+1.9
BKZ	Black Stump Fm	19.12	192		P	15 58 05.0	-1.3
BKZ	Black Stump Fm	19.12	192	P	P	15 58 05.4	-0.9
BKZ	Black Stump Fm	19.12	192	P	P	15 58 05.4	-0.9
ARHZ	Aropaoanui	19.12	191	P	P	15 58 07.1	+0.9
KRVZ	Karewarewa	19.23	194	P	P	15 58 07.6	+0.2
TMVZ	Te Maari	19.23	194	P	P	15 58 07.1	-0.4
ETVZ	East Tongariro	19.25	194	P	P	15 58 07.4	-0.2
TWVZ	Taurewa	19.25	195	P	P	15 58 07.6	0.0
WTVZ	West Tongariro	19.26	194	P	P	15 58 07.2	-0.5
NNVZ	North Ngauruho	19.27	194	P	P	15 58 07.5	-0.3
NGZ	Ngauruhoe	19.32	194	P	P	15 58 08.2	0.0
MCHZ	McNeill Hill	19.35	191	P	P	15 58 07.8	-0.5
COVZ	Chateau Observ	19.35	194	P	P	15 58 08.0	-0.4
KWHZ	Kaweka Forest	19.38	192	P	P	15 58 09.1	+0.5
FWVZ	Far West T-bar	19.40	194	P	P	15 58 08.6	-0.4
MAVZ	Matarangi	19.41	194	P	P	15 58 09.0	-0.3
WHVZ	Whangaehu Hut	19.42	194	P	P	15 58 08.6	-0.6
TRVZ	Turoa	19.45	194	P	P	15 58 09.6	+0.1
WNVZ	Wahianoa	19.46	194	P	P	15 58 08.7	-0.8
PKVZ	Pokaka	19.48	195	P	P	15 58 09.9	+0.3
CKHZ	Cape Kidnapper	19.49	190	P	P	15 58 10.0	+0.5
MTVZ	Mangateitei	19.55	194	P	P	15 58 12.0	+1.8
KRHZ	Kereru	19.60	192	P	P	15 58 09.6	-1.1
KAHZ	Kahuranaki	19.66	191	P	P	15 58 11.2	+0.1
KHEZ	Kahui Hut	19.83	197	P	P	15 58 14.3	+1.5
BFZ	Birch Farm	20.63	191	P	P	15 58 18.1	-1.7
BFZ	Birch Farm	20.63	191	P	P	15 58 20.3	+0.5
MRZ	Mangatainoka R	20.74	193	P	P	15 58 19.3	-1.6
HURO	Huro Makira	21.36	295	P	P	15 58 24.8	-1.9
MSWZ	Moikau Station	21.54	193	P	P	15 58 26.9	-1.0
SNZO	South Karori	21.55	194	P	P	15 58 27.4	-0.6
SNZO	South Karori	21.55	194	eS	sP	16 01 05.4	+0.9
	1µm,36.0s						
SNZO	South Karori	21.55	194	P	P	15 58 28.1	0.0
SNZO	South Karori	21.55	194	⇑P	P	15 58 26.6	-1.5
TCW	Tory Channel	21.56	195	P	P	15 58 26.7	-1.4
BHW	Baring Head	21.61	194	P	P	15 58 27.4	-1.1
QRZ	Quartz Range	21.68	199	P	P	15 58 28.8	-0.4
QRZ	Quartz Range	21.68	199	P	P	15 58 29.9	+0.7
PLWZ	Palliser	21.68	193	P	P	15 58 28.6	-0.7
TKNZ	Takaka Hill	21.74	198	P	P	15 58 29.4	-0.4
NNZ	Nelson	21.80	197	P	P	15 58 29.5	-0.7
TUWZ	Tuamarina	21.85	195	P	P	15 58 29.6	-1.1
CMWZ	Cape Campbell	22.09	195	P	P	15 58 33.3	+0.5
BSWZ	Blackbirch Sta	22.14	195	P	P	15 58 32.6	-0.7
MRNZ	Matariki Terra	22.14	198	P	P	15 58 33.5	+0.2
THZ	Tophouse	22.43	197	P	P	15 58 36.0	0.0
NGOA	Tingoa Renbel	22.44	290	P	P	15 58 35.8	-0.5
DSZ	Denniston Nort	22.74	199	P	P	15 58 37.3	-1.4
KHZ	Kahutara	22.88	195	P	P	15 58 39.4	-0.5
KHZ	Kahutara	22.88	195	P	P	15 58 39.9	+0.1
KHZ	Kahutara	22.88	195	⇑P	P	15 58 38.5	-1.4
LHI	Lord Howe Isla	22.94	237	P	P	15 58 41.5	+1.0
LHI	Lord Howe Isla	22.94	237	⇑P	P	15 58 42.5	+1.9
CTZ	Chatham Island	23.24	177	P	P	15 58 47.0	+4.1
CTZ	Chatham Island	23.24	177	P	P	15 58 46.1	+3.1
ALEG	Aligegeo Malai	23.26	297	P	P	15 58 43.2	-0.4
TARA	Tarawa	23.29	338	P	P	15 58 42.5	-1.3
TARA	Tarawa	23.29	338	P	P	15 58 43.7	-0.1
TARA	Tarawa	23.29	338	⇓P	P	15 58 41.4	-2.4
GVZ	Greta Valley S	23.52	196	P	P	15 58 45.5	-0.1
HNR	Honiara	23.54	295	P	P	15 58 44.8	-1.3
HNR	Honiara	23.54	295	P	P	15 58 46.3	+0.2
HNR	Honiara	23.54	295	⇓P	P	15 58 44.1	-2.0
LTZ	Lake Taylor	23.55	197	P	P	15 58 45.0	-0.9
INZ	Inchbonnie	23.74	199	P	P	15 58 46.5	-1.0
SAVO	Savo Central	23.79	295	P	P	15 58 49.7	+1.3
TATA	Tatamba Isabel	24.20	297	P	P	15 58 51.1	-0.8
RPZ	Rata Peaks	24.76	198	P	P	15 58 57.2	+0.7
JCZ	Jackson Bay	25.81	201	P	P	15 59 06.3	+0.5
ODZ	Otahua Downs	26.10	198	P	P	15 59 08.2	+0.1
ODZ	Otahua Downs	26.10	198	⇑P	P	15 59 08.3	+0.1
TBI	Tubuai	27.04	101	eP	P	15 59 18.4	+1.6
	2µm,1.0s						
TBI				epP	pP	16 00 49.2	-0.9
	2µm,1.3s						
TBI				eS	S	16 03 13.0	-0.4
	49µm,26.8s						
TBI				eScP	ScP	16 05 01.3	+0.9
	529nm,1.3s						
TBI				esS	sS	16 06 00.6	-11
	39µm,28.0s						
TBI				esS	SS	16 06 12.7	-5.4
	193µm,28.2s						
PAE	Paea	27.43	89	eP	P	15 59 21.0	+0.7
	716nm,1.2s						
PAE				epP	pP	16 00 51.9	-1.9
	989nm,1.4s						
PAE				eScP	ScP	16 05 03.4	+1.7
	101nm,1.0s						
PPT2	Papeete2	27.45	89	eP	P	15 59 21.5	+1.0
	3µm,1.2s						
PPT2				epP	pP	16 00 52.5	-1.5
	2µm,1.4s						
PPT2				eS	S	16 03 25.8	+5.9
	7µm,22.0s						
PPT2				eScP	ScP	16 05 03.1	+1.3
	330nm,1.2s						
PPT2				esS	sS	16 06 09.3	-8.9
	46µm,27.0s						
PPT2				esS	SS	16 06 16.4	-8.8
	50µm,24.2s						
PPT	Papeete	27.45	89	P	P	15 59 21.0	+0.6
	2µm,0.9s,baz=284,slow=2.1,SNR=62						
PPT				ScP	ScP	16 05 03.3	+1.5
	315nm,1.0s,baz=281,slow=8.8,SNR=6.2						
	2µm,0.9s						
PPTF	Pamatai, Papee	27.46	89	P	P	15 59 21.1	+0.5
PPTF	Pamatai, Papee	27.46	89	P	P	15 59 21.6	+1.0
PPTF	Pamatai, Papee	27.46	89	⇑P	P	15 59 21.2	+0.7
TW1H	Toowoomba 1 Ha	27.85	250	P	P	15 59 24.3	+0.4
SYZ	Scrubby Hill	27.89	198	P	P	15 59 25.5	+1.7
EIDS	Eidsvold	28.43	254	P	P	15 59 28.7	-0.1
EIDS				IAmb	IAmb	15 59 32.2	
	comp=Z,595nm,0.8s						
EIDS	Eidsvold	28.43	254	P	P	15 59 29.0	+0.2
ARMA	Armidale	28.68	244	P	P	15 59 32.2	+1.2
ARMA	Armidale	28.68	244	P	P	15 59 32.3	+1.2
ARMA	Armidale	28.68	244	⇑P	P	15 59 31.9	+0.9
NTLH	Newcastle Hard	29.27	239	P	P	15 59 36.7	+0.7
PMOR	Pomariorio Ree	29.60	84	eP	P	15 59 39.7	+0.7
	comp=Z,4µm,1.2s						
PMOR				epP	pP	16 01 12.9	-0.9
	comp=Z,2µm,1.4s						
PMOR				eScP	ScP	16 05 10.3	+1.7
	comp=Z,382nm,1.1s						
VAH	Vaihoa	29.79	85	eP	P	15 59 40.9	+0.3
	comp=Z,869nm,1.0s						
VAH				epP	pP	16 01 17.0	+1.5
	comp=Z,158nm,1.3s						
VAH				eScP	ScP	16 05 10.0	+0.8
	comp=Z,108nm,1.3s						
MGCD	Mangrove Creek	29.84	239	P	P	15 59 42.4	+1.5
RIV	Riverview	29.99	237	P	P	15 59 43.4	+1.3
SYDH	Sydney Hard Ro	30.30	238	P	P	15 59 45.7	+0.9
XMAS	Kiritimati	30.43	45	P	P	15 59 46.2	0.0
XMAS	Kiritimati	30.43	45	⇑iP	P	15 59 45.7	-0.5
	comp=Z,101nm,0.8s						
XMAS				epP	PP	16 01 25.5	-1.2
	comp=Z,287nm,23.0s						
XMAS				eS	S	16 04 06.9	+1.1
	comp=Z,524nm,34.0s						
XMAS				eSS	SS	16 06 58.6	-17
	comp=Z,746nm,31.0s						
XMAS	Kiritimati	30.43	45	P	P	15 59 46.7	+0.5
RMQ	Roma	30.59	252	P	P	15 59 48.4	+1.0
CNB	Canberra Magne	31.87	236	P	P	15 59 58.9	+0.6
CAN	Canberra	32.15	236	IAmb	IAmb	16 00 04.5	
	comp=Z,491nm,0.8s						
CAN	Canberra	32.15	236	P	P	16 00 01.5	+0.9
CAN	Canberra	32.15	236	⇓P	P	16 00 01.4	+0.9
CAN	Canberra	32.15	236	P	P	16 00 01.6	+0.9
RABL	Rabaul	32.84	296	P	P	16 00 04.9	-1.8
CTA	Charters Tower	33.05	264	P	P	16 00 08.6	+0.2
CTAO	Charters Tower	33.05	264	P	P	16 00 08.3	-0.1
CTAO	Charters Tower	33.05	264	P	P	16 00 08.6	+0.2
CTAO	Charters Tower	33.05	264	⇓P	P	16 00 08.1	-0.3
CTAO	Charters Tower	33.05	264	P	P	16 00 08.4	+0.1
CMSA	Cobar Meteorol	33.90	244	P	P	16 00 15.9	+0.7
QLP	Quilpie	34.64	253	P	P	16 00 21.8	+0.3
PMG	Port Moresby	34.91	283	P	P	16 00 23.4	-0.4
PMG	Port Moresby	34.91	283	S	S	16 05 12.5	-1.1
	comp=Z,34nm,1.0s,baz=135,slow=20,SNR=8.6						
PMG				ScP	ScP	16 05 28.3	+1.2
	comp=Z,132nm,1.1s,baz=161,slow=2.7,SNR=3.8						
PMG	Port Moresby	34.91	283	P	P	16 00 23.9	+0.1
PMG	Port Moresby	34.91	283	⇓P	P	16 00 23.5	-0.4
PMG	Port Moresby	34.91	283	P	P	16 00 23.9	+0.1
GLAD	Gladstone	35.01	227	P	P	16 00 25.2	+0.9
MTSU	Mount Surprise	35.15	267	P	P	16 00 26.0	+0.1
PATS	Pohnpei	35.47	318	P	P	16 00 28.1	-0.3
TOO	Toolangi	35.55	234	P	P	16 00 29.1	+0.2
TOO				IAmb	IAmb	16 00 32.6	
	comp=Z,323nm,0.7s						
CORO	Coronation Par	35.80	227	P	P	16 00 31.5	+0.7
MOO	Moorlands	36.20	225	P	P	16 00 35.5	+1.4
TAU	Tasmania Unive	36.33	224	P	P	16 00 35.8	+0.7
TAU	Tasmania Unive	36.33	224	P	P	16 00 36.6	+1.5
TAU	Tasmania Unive	36.33	224	⇓P	P	16 00 35.9	+0.8
GEXS	Deakin Univers	36.65	233	P	P	16 00 39.1	+1.3
BRAT	Ballarat	36.73	234	P	P	16 00 39.5	+1.1
COEN	Coen	37.14	274	P	P	16 00 42.6	+0.4
STKA	Stephens Creek	37.40	244	P	P	16 00 44.7	+0.6
	comp=Z,1µm,0.9s,baz=92,slow=9.5,SNR=344						
STKA				S	S	16 05 49.1	-1.1
	comp=Z,34nm,0.8s,baz=60,slow=20,SNR=2.3						
STKA				P3KPbc		16 30 51.5	
	comp=Z,5.1nm,0.7s,baz=297,slow=9.0,SNR=11						
	comp=Z,1µm,0.9s						
STKA	Stephens Creek	37.40	244	P	P	16 00 45.0	+0.9
INKA	Innaminka	37.79	251	IAmb	IAmb	16 00 51.8	
	comp=Z,652nm,0.8s						
JOHN	Johnston Islan	38.01	14	P	P	16 00 49.2	+0.1
JOHN	Johnston Islan	38.01	14	⇑iP	P	16 00 48.3	-0.8
	comp=Z,4µm,1.3s						
JOHN				epP	pP	16 02 30.7	+0.1
	comp=Z,8µm,26.9s						
JOHN				eS	S	16 06 01.6	+2.3
	comp=Z,289nm,1.0s						
JOHN	Johnston Islan	38.01	14	P	P	16 00 49.9	+0.8
TAOE	Nuku Hiva Isla	38.73	78	P	P	16 00 55.7	+0.6
TAOE	Nuku Hiva Isla	38.73	78	eScP	ScP	16 05 42.2	+0.5
	comp=Z,482nm,1.3s						
TAOE	Nuku Hiva Isla	38.73	78	P	P	16 00 56.3	+1.1
TAOE	Nuku Hiva Isla	38.73	78	⇑P	P	16 00 55.7	+0.6
TAOE	Nuku Hiva Isla	38.73	78	P	P	16 00 55.8	+0.6
QIS	Mount Isa	39.19	262	P	P	16 00 58.4	-0.2
HTT	Hallett	39.84	242	P	P	16 01 04.5	+0.7
GHSS	Government Hou	40.33	240	P	P	16 01 08.0	+0.5
RKT	Rikitea	40.36	102	eP	P	16 01 09.4	+1.5
	comp=Z,730nm,0.9s						
RKT				eScP	ScP	16 05 50.0	+2.2
	comp=Z,130nm,1.0s						
RKT				eS	S	16 06 34.2	+0.6
	comp=Z,73µm,27.8s						
RKT				esS	sS	16 09 44.4	+1.0
	comp=Z,87µm,27.2s						
RKT				eLR	LR	16 13 10.2	
	comp=Z,38µm,34.8s						
PTPS	Port Pirie	40.58	243	P	P	16 01 10.1	+0.6
WHYH	Whyalla	40.91	243	P	P	16 01 12.5	+0.4
H11S2	WAKE ISLAND Hy	41.37	338	P	P	16 01 13.3	-2.3
	SNR=7.4						
H11S3	WAKE ISLAND Hy	41.38	338	P	P	16 01 13.0	-2.7
	baz=308,slow=74,SNR=6.3						
H11S1	WAKE ISLAND Hy	41.39	338	P	P	16 01 14.5	-1.3
	baz=138,slow=74,SNR=9.4						
MMPI	Merauke	41.47	281	P	P	16 01 16.4	-0.4
WAKE	Wake Island	42.12	339	P	P	16 01 20.4	-1.3
WAKE	Wake Island	42.12	339	P	P	16 01 21.4	-0.3
WAKE	Wake Island	42.12	339	P	P	16 01 20.3	-1.4
BBOO	Buckleboo	42.16	243	P	P	16 01 22.0	0.0
BBOO	Buckleboo	42.16	243	P	P	16 01 22.2	+0.2
H11N3	WAKE ISLAND Hy	42.44	339	P	P	16 01 23.2	-0.8
	baz=173,slow=11,SNR=55						
H11N3				pP	PcP	16 03 04.8	+2.4
	baz=17,slow=73,SNR=11						
H11N1	WAKE ISLAND Hy	42.45	339	P	P	16 01 23.2	-0.8
	baz=173,slow=11,SNR=40						
H11N1				pP	PcP	16 03 03.6	+1.2
	baz=17,slow=73,SNR=11						
H11N2	WAKE ISLAND Hy	42.46	339	P	P	16 01 23.3	-0.8
	baz=173,slow=11,SNR=46						
H11N2				pP	PcP	16 03 04.2	+1.8
	baz=17,slow=73,SNR=0.3						
JAY	Jayapura	43.62	289	S	S	16 07 20.2	-0.2
	comp=Z,167nm,1.2s,baz=117,slow=18,SNR=19						
JAY	Jayapura	43.62	289	P	P	16 01 33.6	0.0
JAY				S	S	16 07 21.3	+0.8
AS01	Alice Springs	44.05	257	P	P	16 01 36.9	+0.1
GENI	Genyem	44.06	288	P	P	16 01 38.5	+1.6
GENI	Genyem	44.06	288	P	P	16 01 37.3	+0.4
GENI				S	S	16 07 30.6	+4.0
GENI	Genyem	44.06	288	⇓P	P	16 01 36.7	-0.2
ASAR	Alice Springs	44.09	257	P	P	16 01 36.5	-0.6
ASAR	Alice Springs	44.09	257	P	P	16 01 36.6	-0.5
	comp=Z,3µm,0.8s,baz=95,slow=7.1,SNR=4740						
ASAR				PcP	PcP	16 03 08.9	+0.4
	comp=Z,110nm,0.5s,baz=90,slow=3.4,SNR=5.4						
ASAR				ScP	ScP	16 06 04.1	+1.1
	comp=Z,32nm,0.8s,baz=97,slow=5.1,SNR=2.0						
ASAR				S	S	16 07 23.6	-3.3
	comp=Z,69nm,0.7s,baz=95,slow=14,SNR=13						
ASAR				ScS	ScS	16 10 28.8	+0.4
	comp=Z,26nm,1.0s,baz=91,slow=7.5,SNR=4.3						
ASAR				P3KP		16 31 48.0	
	comp=Z,1.4nm,0.8s,baz=313,slow=1.9,SNR=4.6						
ASAR				PKP2bc		16 33 30.6	
	comp=Z,7.8nm,1.1s,baz=284,slow=3.2,SNR=9.6						
ASAR				P4KPbc		16 39 20.9	
	comp=Z,1.3nm,0.7s,baz=100,slow=3.8,SNR=14						
	comp=Z,3µm,0.8s						
WRAB	Tennant Creek	44.16	262	P	P	16 01 37.1	-0.5
WRA	Warramunga Arr	44.17	262	P	P	16 01 37.0	-0.7
	comp=Z,1µm,0.6s,baz=97,slow=7.1,SNR=1585						
WRA				PcP	PcP	16 03 09.1	+0.3
	comp=Z,56nm,0.8s,baz=103,slow=2.6,SNR=4.9						
WRA				ScP	ScP	16 06 05.2	+1.8
	comp=Z,62nm,1.1s,baz=95,slow=3.9,SNR=2.4						
WRA				S	S	16 07 25.3	-2.7
	comp=Z,58nm,0.8s,baz=98,slow=14,SNR=12						
WRA				ScS	ScS	16 10 23.9	-5.0
	comp=Z,21nm,1.2s,baz=96,slow=8.5,SNR=4.9						
WRA				PKPPKP	P'P'df	16 33 05.2	-4.4
	comp=Z,1.9nm,0.9s,baz=276,slow=2.1,SNR=3.2						
WRA				PKP2bc		16 33 29.7	
	comp=Z,7.1nm,1.0s,baz=297,slow=3.1,SNR=9.5						
WRA				P4KPbc		16 39 21.3	
	comp=Z,1.6nm,1.0s,baz=95,slow=3.7,SNR=6.0						
	comp=Z,1µm,0.6s						
AIN	Ainahou	45.58	31	IAmb	IAmb	16 01 54.5	
	comp=Z,926nm,1.2s						
HLP	Hilina Pali	45.58	31	IAmb	IAmb	16 01 53.2	
	comp=Z,455nm,0.9s						
SMPI	Sarmi	45.63	288	P	P	16 01 48.2	-0.7
	comp=Z,32µmcomp=Z,24µmcomp=Z,2µm,1.0s						
SMPI				S	S	16 07 51.5	+2.9
	comp=Z,32µmcomp=Z,24µmcomp=Z,2µm,1.0s						
HUH	Hualalai	45.66	30	IAmb	IAmb	16 01 53.8	
	comp=Z,547nm,0.9s						
PUH	Pauahi	45.70	31	IAmb	IAmb	16 01 54.4	
	comp=Z,611nm,0.8s						
UWE	Uwekahuna	45.70	31	IAmb	IAmb	16 01 53.9	
	comp=Z,551nm,1.0s						
HATHI	Halema‘uma‘u T	45.72	31	IAmb	IAmb	16 01 53.2	
	comp=Z,2µm,1.7s						
MLH	Mauna Loa	45.72	31	IAmb	IAmb	16 01 54.6	
	comp=Z,1µm,1.3s						
STCH	Steam Cracks	45.75	31	IAmb	IAmb	16 01 54.6	
	comp=Z,822nm,0.9s						
JOKA	Jonika Flow	45.85	32	IAmb	IAmb	16 01 54.8	
	comp=Z,538nm,0.8s						
POHA	Pohakuloa	45.87	31	P	P	16 01 48.9	-1.9
POHA				IAmb	IAmb	16 02 04.6	
	comp=Z,692nm,0.8s						
POHA	Pohakuloa	45.87	31	⇑iP	P	16 01 50.0	-0.8
	comp=Z,94nm,1.0s						
POHA				epP	pP	16 03 37.8	-0.4
	comp=Z,261nm,26.1s						
POHA				eS	S	16 07 51.7	-0.3
	comp=Z,711nm,24.0s						
POHA				eSS	SS	16 11 20.4	-7.7
	comp=Z,572nm,28.0s						
POHA	Pohakuloa	45.87	31	⇓P	P	16 01 50.9	0.0
HON	Honolulu	46.12	27	IAmb	IAmb	16 01 58.1	
	comp=Z,1µm,1.0s						
KIP	Kipapa	46.20	27	P	P	16 01 53.1	+0.1
KIP				IAmb	IAmb	16 01 57.6	
	comp=Z,599nm,0.9s						
KIP	Kipapa	46.20	27	P	P	16 01 53.7	+0.7
KIP	Kipapa	46.20	27	P	P	16 01 52.8	-0.2
HLK	Haleakala	46.40	29	IAmb	IAmb	16 01 59.8	
	comp=Z,953nm,1.0s						
KDU	Kakadu	47.51	271	P	P	16 02 02.6	-0.4
SRPI	Serui, Papua	47.90	287	P	P	16 02 06.0	+0.1
	comp=Z,21µmcomp=Z,14µmcomp=Z,554nm,0.8s						
BAKI	Biak	48.31	288	P	P	16 02 10.3	+1.3
	comp=Z,38µmcomp=Z,24µmcomp=Z,2µm,0.9s						
BAKI				S	S	16 08 29.1	+3.6
	comp=Z,38µmcomp=Z,24µmcomp=Z,2µm,0.9s						
MIDW	Midway	48.43	1	P	P	16 02 08.2	-1.2
MIDW				IAmb	IAmb	16 02 12.7	
	comp=Z,806nm,1.0s						
MIDW	Midway	48.43	1	P	P	16 02 09.1	-0.3
MIDW	Midway	48.43	1	⇓P	P	16 02 08.2	-1.2
MTN	Manton Dam	48.72	271	P	P	16 02 11.9	-0.1
DRS	Darwin Rock St	49.05	271	P	P	16 02 13.9	-0.5
KMPI	Kaimana, Papua	49.44	283	P	P	16 02 17.3	0.0
	comp=Z,35µmcomp=Z,27µmcomp=Z,2µm,0.8s						
GUMO	Guam	49.45	310	P	P	16 02 16.7	-0.6
GUMO	Guam	49.45	310	P	P	16 02 17.1	-0.2
GUMO	Guam	49.45	310	⇓P	P	16 02 16.7	-0.6
GUMO				⇑P	P	16 02 20.1	+2.9
GUMO	Guam	49.45	310	P	P	16 02 16.7	-0.6
GUMO				ScP	ScP	16 06 27.0	+1.4
RKPI	Ransiki, Papua	49.91	286	P	P	16 02 20.4	-0.3
	comp=Z,33µmcomp=Z,21µmcomp=Z,794nm,1.2s						
SAUI	Saumlaki	50.06	277	P	P	16 02 22.9	+1.1
SAUI	Saumlaki	50.06	277	P	P	16 02 22.2	+0.4
SAUI	Saumlaki	50.06	277	⇓P	P	16 02 22.2	+0.4
KNRA	Kununurra	50.22	266	P	P	16 02 22.5	-0.4
FAKI	Fak Fak	51.07	283	P	P	16 02 28.5	-0.6
FAKI				IAmb	IAmb	16 02 32.4	
	comp=Z,2µm,1.3s						
FAKI	Fak Fak	51.07	283	P	P	16 02 28.9	-0.2
FAKI	Fak Fak	51.07	283	P	P	16 02 28.3	-0.8
	comp=Z,36µmcomp=Z,17µmcomp=Z,912nm,1.0s						
FITZ	Fitzroy Crossi	52.59	262	S	S	16 09 22.1	-0.8
	comp=Z,29nm,0.8s,baz=18,slow=20,SNR=8.2						
FITZ				PKPPKP		16 32 52.5	
	comp=Z,15nm,1.0s,baz=271,slow=4.0,SNR=9.8						
BNDI	Bandanaira	52.59	280	P	P	16 02 40.8	+0.8
BNDI	Bandanaira	52.59	280	P	P	16 02 39.6	-0.4
	comp=Z,44µmcomp=Z,4µm,1.5s						
SWI	Sorong	52.82	285	P	P	16 02 41.5	-0.1
DRV	Dumont d’Urvil	53.22	199	P	P	16 02 44.5	+1.0
MSAI	Masohi	53.94	281	P	P	16 02 49.8	+0.3
	comp=Z,35µmcomp=Z,15µmcomp=Z,1µm,0.6s						
AAI	Ambon	54.49	280	P	P	16 02 52.4	-0.9
	comp=Z,32µmcomp=Z,17µmcomp=Z,786nm,1.0s						
NLAI	Namlea	55.67	280	P	P	16 03 01.2	-0.3
	comp=Z,31µmcomp=Z,23µmcomp=Z,1µm,1.1s						
SOEI	Soe	56.06	272	P	P	16 03 02.2	-2.2
SOEI	Soe	56.06	272	P	P	16 03 04.8	+0.4
SOEI	Soe	56.06	272	P	P	16 03 05.7	+1.3
BATI	Baumata	56.49	271	P	P	16 03 08.4	+1.2
	comp=Z,32µmcomp=Z,19µmcomp=Z,1µm,1.1s						
TNTI	Ternate	57.03	285	IAmb	IAmb	16 03 14.5	
	comp=Z,1µm,1.0s						
TNTI	Ternate	57.03	285	P	P	16 03 11.8	+0.9
TNTI	Ternate	57.03	285	P	P	16 03 10.6	-0.3
	comp=Z,20µmcomp=Z,22µmcomp=Z,1µm,1.3s						
SANI	Sanana	57.15	281	P	P	16 03 07.0	-4.7
SANI	Sanana	57.15	281	P	P	16 03 12.0	+0.3
SANI	Sanana	57.15	281	P	P	16 03 10.9	-0.8

comp=Z,35µmcomp=Z,19µmcomp=Z,1µm,1.1s
PSA00 Pilbara Seismi 57.24 257 IAmb IAmb 16 03 15.1
comp=Z,1µm,0.7s
PSA00 Pilbara Seismi 57.24 257 P **P** **16 03 11.9 -0.3**
MBWA Marble Bar 57.43 257 P **P** **16 03 12.7 -0.7**
MBWA IAmb IAmb 16 03 16.3
comp=Z,1µm,0.7s
MBWA Marble Bar 57.43 257 P **P** **16 03 13.1 -0.4**
MBWA S **S** **16 10 26.1 +0.6**
MBWA Marble Bar 57.43 257 P **P** **16 03 13.1 -0.4**
MBWA Marble Bar 57.43 257 P **P** **16 03 12.8 -0.7**
MEEK Meekatharra 57.51 251 P **P** **16 03 13.4 -0.6**
KLBR Kellerberrin 57.66 245 P **P** **16 03 15.0 +0.1**
SBA Scott Base 57.86 184 P **P** **16 03 18.1 +2.7**
SBA Scott Base 57.86 184 P **P** **16 03 18.1 +2.7**
SBA pmax pmax
comp=Z,414nm,1.0s
SBA Scott Base 57.86 184 P **P** **16 03 18.2 +2.8**
VNDA Vanda 57.89 185 P **P** **16 03 17.6 +2.0**
comp=Z,91nm,0.7s,baz=0.0,slow=7.3,SNR=265
VNDA ScP **ScP** **16 07 02.9 +1.4**
comp=Z,78nm,1.1s,baz=5.5,slow=6.1,SNR=4.5
VNDA S **S** **16 10 34.7 +5.2**
comp=Z,3.9nm,0.8s,baz=45,slow=8.6,SNR=6.4
VNDA P4KPbc 16 40 17.4
comp=Z,1.8nm,0.9s,baz=348,slow=4.4,SNR=11
comp=Z,91nm,0.7s
VNDA Vanda 57.89 185 P **P** **16 03 17.4 +1.9**
VNDA ScP **ScP** **16 07 03.2 +1.8**
NWAO Narrogin (SRO) 57.98 243 P **P** **16 03 16.9 -0.2**
NWAO IAmb IAmb 16 03 20.4
comp=Z,1µm,1.4s
NWAO Narrogin (SRO) 57.98 243 P **P** **16 03 17.1 +0.1**
NWAO S **S** **16 10 32.7 +0.5**
NWAO Narrogin (SRO) 57.98 243 P **P** **16 03 17.7 +0.7**
NWAO Narrogin (SRO) 57.98 243 P **P** **16 03 17.1 +0.1**
MMRI Maumere 58.31 272 IAmb IAmb 16 03 22.5
comp=Z,2µm,1.2s
MMRI Maumere 58.31 272 P **P** **16 03 19.6 +0.1**
MMRI Maumere 58.31 272 P **P** **16 03 18.8 -0.7**
comp=Z,34µmcomp=Z,25µmcomp=Z,1µm,0.8s
BLDU Ballidu 58.66 246 P **P** **16 03 21.6 0.0**
EDFI Ende, Flores 58.79 272 P **P** **16 03 22.2 -0.6**
comp=Z,29µmcomp=Z,17µmcomp=Z,875nm,0.9s
MUN Mundaring 58.94 244 P **P** **16 03 24.1 +0.7**
BBSI Bau Bau 59.05 276 P **P** **16 03 24.9 +0.4**
comp=Z,31µmcomp=Z,16µmcomp=Z,745nm,1.1s
MTKN Mount Kenneth 59.31 244 P **P** **16 03 26.3 +0.4**
BASI Baing, Sumba 59.38 270 P **P** **16 03 27.2 +0.6**
comp=Z,27µmcomp=Z,36µmcomp=Z,3µm,1.6s
MORW Morawa 59.43 248 P **P** **16 03 26.6 -0.2**
WSI Waingapu 59.81 271 P **P** **16 03 29.6 +0.1**
SGSI Sangihe 59.94 287 P **P** **16 03 28.3 -2.0**
comp=Z,31µmcomp=Z,26µmcomp=Z,2µm,1.2s
KMSI Cibinong 60.03 283 P **P** **16 03 30.5 -0.4**
comp=Z,29µmcomp=Z,21µmcomp=Z,2µm,1.1s
H01W1 Cape Leeuwin H 60.36 241 P **P** **16 03 35.3 +2.8**
baz=111,slow=7.1,SNR=38
H01W2 Cape Leeuwin H 60.37 241 P **P** **16 03 35.3 +2.7**
baz=111,slow=7.1,SNR=34
H01W3 Cape Leeuwin H 60.37 241 P **P** **16 03 35.0 +2.4**
baz=111,slow=7.1,SNR=32
LUWI Luwuk 60.50 281 P P 16 03 28.7 -5.4
LUWI Luwuk 60.50 281 P **P** **16 03 33.8 -0.2**
LUWI Luwuk 60.50 281 P **P** **16 03 34.3 +0.3**
LUWI Luwuk 60.50 281 P **P** **16 03 34.3 +0.3**
comp=Z,34µmcomp=Z,32µmcomp=Z,3µm,1.1s
WBSI Waikabubak, Su 60.66 270 P **P** **16 03 34.8 -0.4**
comp=Z,27µmcomp=Z,16µmcomp=Z,1µm,1.1s
JCJ Chichijima 60.74 320 P **P** **16 03 34.9 -0.4**
BSSI Bau Bau, Buton 60.77 274 P **P** **16 03 35.0 -0.8**
comp=Z,28µmcomp=Z,15µmcomp=Z,887nm,1.9s
BKSI Bulukumba 61.39 275 P **P** **16 03 38.9 -1.0**
comp=Z,11µmcomp=Z,545nm,0.9s
DAV Davao City (W) 61.42 291 P **P** **16 03 40.0 0.0**
DAV IAmb IAmb 16 03 43.5
comp=Z,946nm,0.8s
DAV Davao City (W) 61.42 291 P **P** **16 03 39.3 -0.7**
DAV S **S** **16 11 17.8 +2.3**
DAV Davao City (W) 61.42 291 P P 16 03 35.0 -5.0
APSI Ampana 61.58 280 P **P** **16 03 42.0 +0.9**
comp=Z,16µmcomp=Z,12µmcomp=Z,913nm,1.1s
BNSI Bone 61.73 276 P **P** **16 03 41.4 -0.6**
comp=Z,27µmcomp=Z,15µmcomp=Z,1µm,1.2s
KAPI Kappang 61.84 275 P **P** **16 03 42.4 -0.4**
KAPI IAmb IAmb 16 03 45.4
comp=Z,1µm,1.8s
KAPI Kappang 61.84 275 P **P** **16 03 42.4 -0.4**
KAPI S **S** **16 11 21.2 +0.5**
KAPI Kappang 61.84 275 P **P** **16 03 42.8 0.0**
KAPI Kappang 61.84 275 P **P** **16 03 42.3 -0.4**
MRSI Marisa 61.86 282 P **P** **16 03 43.7 +0.8**
comp=Z,29µmcomp=Z,12µmcomp=Z,626nm,1.0s
GIRL Giralia 62.13 255 P **P** **16 03 45.4 +0.9**
GIRL IAmb IAmb 16 03 48.8
comp=Z,628nm,0.8s
SPSI Sidrap Palu 62.20 276 P **P** **16 03 43.8 -1.3**
comp=Z,22µmcomp=Z,8µmcomp=Z,510nm,1.1s
CCD Concordia, Ant 62.37 194 P **P** **16 03 46.9 +1.3**
CCD PcP **PcP** **16 04 18.7 +0.6**
PLAI Plampang 62.43 271 P **P** **16 03 46.4 -0.2**
PLAI Plampang 62.43 271 P **P** **16 03 46.0 -0.6**
comp=Z,31µmcomp=Z,27µmcomp=Z,2µm,1.9s
TTSI Tana Toraja 62.48 277 P **P** **16 03 46.5 -0.4**
VA02 Isla de Pascua 62.82 111 P **P** **16 03 50.9 +2.0**
VA02 IAmb IAmb 16 03 52.5
comp=Z,977nm,1.1s
RPN Rapa Nui 62.91 111 P **P** **16 03 50.8 +1.3**
RPN IAmb IAmb 16 03 53.1
comp=Z,738nm,0.8s
TOLI2 Tolitoli 63.17 282 P **P** **16 03 50.4 -0.9**
TOLI2 IAmb IAmb 16 03 54.5
comp=Z,545nm,0.8s
TOLI2 Tolitoli 63.17 282 P **P** **16 03 51.8 +0.5**
PCI Palu 63.26 280 P **P** **16 03 53.3 +1.4**
comp=Z,2µm,1.2s
CASY Casey 63.79 205 P **P** **16 03 55.2 +0.9**
CASY Casey 63.79 205 *eP* **P** **16 03 53.6 -0.7**
comp=Z,693nm,26.0s
CASY *e*pP **pP** **16 05 51.8 -1.4**
comp=Z,2µm,25.0s
CASY *e*S **S** **16 11 40.2 -2.3**
comp=Z,6µm,33.0s
CASY *e*SS **SS** **16 15 56.6 -9.3**
comp=Z,6µm,42.0s
CASY Casey 63.79 205 P **P** **16 03 55.4 +1.1**
CASY pP **pwP** **16 05 55.0 -1.2**
DNP Denpasar 64.89 270 P **P** **16 04 02.5 +0.3**
comp=Z,31µmcomp=Z,1µm,0.6s
SRBI Singaraja 65.07 270 P **P** **16 04 02.7 -0.6**
comp=Z,31µmcomp=Z,20µmcomp=Z,1µm,1.5s
SMKI Samarinda 65.86 279 P **P** **16 04 06.5 -1.8**
comp=Z,25µmcomp=Z,1µm,1.5s
JAGI Jajag, Banyuwa 65.94 270 P **P** **16 04 07.2 -1.5**
JAGI IAmb IAmb 16 04 10.8
comp=Z,832nm,0.8s
JAGI Jajag, Banyuwa 65.94 270 P **P** **16 04 08.5 -0.3**
JAGI Jajag, Banyuwa 65.94 270 P **P** **16 04 07.3 -1.5**
comp=Z,26µmcomp=Z,16µmcomp=Z,1µm,1.1s
ABJI Asem Bagus 66.08 270 P **P** **16 04 09.5 -0.1**
comp=Z,33µmcomp=Z,18µmcomp=Z,1µm,1.9s
JHJ2 Mitsune 66.53 322 ⇑*iP* **P** **16 04 11.2 -0.7**
comp=Z,1µm,1.1s
JHJ2 *e*pP **pP** **16 06 11.4 -1.5**
comp=Z,119nm,1.2s
JHJ2 *e*S **S** **16 12 16.1 +0.1**
comp=Z,1µm,27.1s
JHJ2 Mitsune 66.53 322 P **P** **16 04 12.0 +0.1**
JHJ2 Mitsune 66.53 322 P **P** **16 04 11.5 -0.5**
KMMI Kalianget 66.57 271 P **P** **16 04 13.0 +0.4**
comp=Z,32µmcomp=Z,16µmcomp=Z,921nm,1.8s
GMJI Gumkmas 66.67 270 P **P** **16 04 12.3 -0.9**
comp=Z,23µmcomp=Z,12µmcomp=Z,662nm,1.1s
BLJI Banyuglugur 66.70 270 P **P** **16 04 13.2 -0.2**
comp=Z,31µmcomp=Z,19µmcomp=Z,901nm,0.6s
MYLDM Lahad Datu 66.90 285 P **P** **16 04 16.3 +1.7**
JMZ Minamidaito 2 67.11 311 P **P** **16 04 15.7 +0.1**
GRJI Gresik 68.01 271 P **P** **16 04 21.6 +0.2**
comp=Z,34µmcomp=Z,2µm,1.9s
JOD2 Odawara 2 68.52 324 P **P** **16 04 22.9 -1.1**
JSG Sagara 68.60 323 P **P** **16 04 24.8 +0.3**
JSG Sagara 68.60 323 P **P** **16 04 24.6 +0.1**
TBJI Tambak Boyo 68.64 271 P **P** **16 04 25.7 +0.5**
comp=Z,29µmcomp=Z,2µm,1.9s
NGJI Ngawi 68.82 270 P **P** **16 04 27.2 +0.9**
comp=Z,16µmcomp=Z,747nm,1.0s
PCJI Pacitan 68.82 269 P **P** **16 04 26.4 +0.1**
WOJI Wonogiri, Jawa 69.17 269 P **P** **16 04 28.5 +0.1**
comp=Z,31µmcomp=Z,24µmcomp=Z,2µm,1.1s
JRY Ryogami san 69.17 324 P **P** **16 04 27.5 -0.4**
JIE Ise 69.25 321 P **P** **16 04 28.1 -0.3**
KKM Kota Kinabalu 69.33 285 P **P** **16 04 29.5 +0.1**
UGM Wanagama 69.52 269 P **P** **16 04 30.3 -0.3**
UGM Wanagama 69.52 269 P **P** **16 04 30.2 -0.3**
comp=Z,15µmcomp=Z,828nm,0.6s
JMM Marumori 69.54 327 P **P** **16 04 29.8 -0.2**
QSPA South Pole Qui 69.58 180 P **P** **16 04 32.4 +2.4**
QSPA IAmb IAmb 16 04 35.4
comp=Z,703nm,0.9s
QSPA South Pole Qui 69.58 180 P **P** **16 04 32.4 +2.4**
comp=Z,729nm,0.9s,baz=22,slow=1.0,SNR=646
QSPA pP **pwP** **16 06 36.0 +1.5**
comp=Z,128nm,0.8s,baz=32,slow=5.4,SNR=4.1
QSPA S **S** **16 12 50.7 +0.1**
comp=Z,24nm,1.0s,baz=18,slow=3.6,SNR=4.5
QSPA PKP2bc 16 32 20.6
comp=Z,35nm,1.0s,baz=235,slow=3.3,SNR=13
comp=Z,729nm,0.9s
QSPA South Pole Qui 69.58 180 P **P** **16 04 32.9 +2.9**
JGF Kuroka 69.73 323 IAmb IAmb 16 04 34.9
comp=Z,456nm,1.0s
JGF Kuroka 69.73 323 P **P** **16 04 31.4 +0.1**
JGF Kuroka 69.73 323 P **P** **16 04 30.3 -1.0**
INU Inuyama 69.75 322 P **P** **16 04 30.7 -0.6**
INU IAmb IAmb 16 04 35.2
comp=Z,593nm,1.1s
INU Inuyama 69.75 322 P **P** **16 04 31.4 +0.1**
INU Inuyama 69.75 322 P **P** **16 04 31.0 -0.3**
JOW Kunigami 69.82 310 IAmb IAmb 16 04 36.5
comp=Z,1µm,1.2s
JOW Kunigami 69.82 310 ⇑*iP* **P** **16 04 29.8 -2.1**
comp=Z,2µm,1.1s
JOW *e*pP **pP** **16 06 35.9 +1.0**
comp=Z,391nm,1.4s
JOW *e*S **S** **16 12 53.9 -0.3**
comp=Z,13µm,27.9s
JOW *e*SS **SS** **16 17 40.6 +0.1**
comp=Z,21µm,25.5s
JOW Kunigami 69.82 310 P **P** **16 04 32.2 +0.2**
comp=Z,384nm,0.6s,baz=125,slow=16,SNR=122
JOW pP **pP** **16 06 36.2 +1.3**
comp=Z,46nm,0.9s,baz=168,slow=6.1,SNR=1.9
JOW S **S** **16 12 57.5 +3.3**
comp=Z,9.6nm,0.7s,baz=99,slow=18,SNR=1.8
comp=Z,384nm,0.6s
JOW Kunigami 69.82 310 P **P** **16 04 32.7 +0.8**
JAM Amami Oshima 69.84 312 P **P** **16 04 32.5 +0.5**
SMRI Semarang 69.88 270 IAmb IAmb 16 04 36.4
comp=Z,664nm,0.7s
SMRI Semarang 69.88 270 P **P** **16 04 33.0 +0.3**
SMRI Semarang 69.88 270 P **P** **16 04 32.9 +0.3**
comp=Z,20µmcomp=Z,1µm,1.3s
MJAR Matsushiro Arr 69.94 324 P **P** **16 04 31.5 -0.9**
MJAR IAmb IAmb 16 04 36.0
comp=Z,433nm,1.0s
MJAR Matsushiro Arr 69.94 324 P **P** **16 04 31.4 -1.1**
comp=Z,267nm,0.8s,baz=157,slow=6.0,SNR=380
MJAR pP **pP** **16 06 35.5 +0.5**
comp=Z,40nm,0.9s,baz=146,slow=4.5,SNR=5.0
MJAR S **S** **16 12 56.7 +1.5**
comp=Z,5.9nm,1.2s,baz=170,slow=15,SNR=5.0
MJAR PKKP **PKKPdf** **16 24 16.2 +2.0**
comp=Z,0.7nm,0.7s,baz=270,slow=2.4,SNR=4.7
MJAR PKP2bc 16 32 27.1
comp=Z,15nm,1.2s,baz=336,slow=2.8,SNR=18
comp=Z,267nm,0.8s
MAJO Matsushiro 69.94 324 P **P** **16 04 31.4 -1.1**
MAJO IAmb IAmb 16 04 36.1
comp=Z,502nm,0.9s
MAJO Matsushiro 69.94 324 P **P** **16 04 31.8 -0.7**
MAJO Matsushiro 69.94 324 P **P** **16 04 31.4 -1.1**
MAJO pmax pmax
comp=Z,502nm,0.9s
MAJO Matsushiro 69.94 324 P **P** **16 04 31.9 -0.6**
MAJO PcP **PcP** **16 04 49.0 -0.9**
MAT Matsushiro 69.94 324 P **P** **16 04 31.6 -0.9**
JMN Monobe 70.48 319 IAmb IAmb 16 04 40.9
comp=Z,839nm,1.0s
JMN Monobe 70.48 319 P **P** **16 04 36.4 +0.6**
JMN Monobe 70.48 319 P **P** **16 04 35.9 +0.1**
JOM Ohasama 70.51 328 P **P** **16 04 35.4 -0.3**
JWT Wachi 70.64 321 P **P** **16 04 36.2 -0.4**
JYA Atsumi 70.64 326 P **P** **16 04 36.6 0.0**
JMJ Miyako jima 2 70.83 307 P **P** **16 04 39.4 +1.5**
JSD Sado 71.00 325 P **P** **16 04 38.7 +0.1**
JSD Sado 71.00 325 P **P** **16 04 38.2 -0.5**
JAD Aida 71.13 320 P **P** **16 04 39.5 +0.1**
JSU Suzuyama 71.20 315 P **P** **16 04 39.7 -0.3**
KPJI Karang Pucung 71.20 269 P **P** **16 04 40.1 -0.3**
comp=Z,29µmcomp=Z,15µmcomp=Z,941nm,0.9s
STKI Sintang 71.37 277 P **P** **16 04 42.5 +1.1**
comp=Z,32µmcomp=Z,18µmcomp=Z,942nm,2.0s
SBUM Sibu 71.57 280 P **P** **16 04 42.9 +0.4**
ERM Erimo 71.59 331 P **P** **16 04 41.8 -0.1**
ERM IAmb IAmb 16 04 48.8
comp=Z,391nm,0.9s
ERM Erimo 71.59 331 P **P** **16 04 43.1 +1.1**
ERM Erimo 71.59 331 P **P** **16 04 41.8 -0.1**
ERM pmax pmax
comp=Z,391nm,0.9s
JEM Erimo 71.59 331 P **P** **16 04 43.2 +1.2**
JTM Tenmabayashi 71.62 329 P **P** **16 04 42.2 0.0**
JTM Tenmabayashi 71.62 329 P **P** **16 04 42.0 -0.2**
JNU Nakatsue 71.96 317 P **P** **16 04 43.8 -0.7**
comp=Z,992nm,1.0s,baz=79,slow=2.0,SNR=157
JNU pP **pP** **16 06 49.1 +1.0**
comp=Z,48nm,1.1s,baz=119,slow=5.9,SNR=1.5
JNU S **S** **16 13 19.2 +1.0**
comp=Z,18nm,1.2s,baz=143,slow=19,SNR=7.2
comp=Z,992nm,1.0s
JNU Nakatsue 71.96 317 P **P** **16 04 44.1 -0.3**
JNU Nakatsue 71.96 317 P **P** **16 04 43.6 -0.7**
YUK Yuzh-Kuril'sk 72.04 334*d* *iP* **P** **16 04 44.2 -0.3**
YUK *i* *pP **pwP** **16 06 49.6 -1.1**
YUK *e* 16 07 30.9
YUK *i* S **S** **16 13 21.3 +2.9**
YUK *i* SS **SS** **16 18 07.4 -6.1**
YUK pmax pmax
comp=Z,3µm,1.3s
YUK pmax pmax
comp=N,1µm,1.4s
YUK pmax pmax
comp=E,938nm,0.9s
ADK Adak 72.07 1 P **P** **16 04 44.1 -0.4**
ADK Adak 72.07 1 P **P** **16 04 43.6 -0.9**
ADK Adak 72.07 1 P **P** **16 04 44.1 -0.4**
ADK pmax pmax
comp=Z,4µm,1.4s
ADK Adak 72.07 1 P **P** **16 04 43.5 -1.0**
JOT Ohata 72.09 329 P **P** **16 04 44.9 +0.1**
JCJI Jatiwangi 72.10 270 P **P** **16 04 44.9 -0.7**
comp=Z,29µmcomp=Z,2µm,1.9s
KUR Kuril'sk 72.23 336*d* *iP* **P** **16 04 44.6 -0.9**
KUR *e* 16 04 56.1
KUR *i* 16 07 48.6
KUR *i* S **S** **16 13 22.1 +1.7**
KUR *e*SSS SSS 16 21 27.6
KUR pmax pmax
comp=Z,3µm,1.5s
KUR pmax pmax
comp=Z,13µm,4.9s
BBJI Bungbulang 72.36 268 P **P** **16 04 46.4 -0.8**
YOJ Yonaguni jima 72.37 305 P **P** **16 04 46.5 -0.3**
ATKA Atka Island 72.47 3 P **P** **16 04 46.0 -0.8**
ATKA Atka Island 72.47 3 P **P** **16 04 46.1 -0.7**
CNJI Cibinong 72.90 268 P **P** **16 04 49.4 -0.7**
comp=Z,564nm,1.1s
KSM Kuching 72.97 278 P **P** **16 04 51.6 +1.0**
TWGBT Beinan 72.99 303 P **P** **16 04 49.0 -1.5**
TWG Pinlang 73.00 303 IAmb IAmb 16 04 53.2
comp=Z,551nm,0.8s
JEW Eniwo 73.03 330 P **P** **16 04 50.6 +0.4**
SMY Shemya 73.19 355 P **P** **16 04 51.7 +0.9**
XMI Christmas Isla 73.25 265 P **P** **16 04 52.5 +0.4**
NACB Ninganchiao 73.30 304 P **P** **16 04 51.9 -0.3**
DBJI Dramaga 73.50 269 P **P** **16 04 53.7 +0.1**
comp=Z,31µmcomp=Z,30µmcomp=Z,2µm,1.4s
ASAJ Asahikawa 73.50 332 P **P** **16 04 53.9 +1.0**
comp=Z,956nm,0.8s,baz=214,slow=7.8,SNR=214
ASAJ S **S** **16 13 37.7 +3.1**
comp=Z,17nm,1.1s,baz=128,slow=13,SNR=5.9
comp=Z,956nm,0.8s
ASAJ Asahikawa 73.50 332 P **P** **16 04 53.9 +1.0**
SKJI Sukabumi 73.53 269 P **P** **16 04 53.2 -0.6**
comp=Z,27µmcomp=Z,27µmcomp=Z,3µm,1.2s
JSH Shimam 73.54 329 P **P** **16 04 53.4 +0.3**
SSLB Suanglung 73.60 304 IAmb IAmb 16 04 57.4
comp=Z,470nm,0.6s
SSLB Suanglung 73.60 304 P **P** **16 04 53.0 -0.9**
TPUB Ta-pu 73.60 303 P **P** **16 04 53.1 -0.8**
NIKH Nikolski High 73.62 6 P **P** **16 04 53.0 -0.3**
NIKH Nikolski High 73.62 6 P **P** **16 04 52.4 -0.9**
baz=189,SNR=25
TNG Tangerang 73.73 269 P **P** **16 04 54.6 -0.2**
comp=Z,2µm,1.2s
YHNB Yeheng 73.73 305 P **P** **16 04 54.6 -0.1**
JTU Tsushima 73.81 317 P **P** **16 04 54.4 -0.4**
TPI Tanjungpandan 73.94 273 P **P** **16 04 56.2 +0.2**
comp=Z,30µmcomp=Z,14µmcomp=Z,721nm,1.2s
SBJI Serang 74.23 269 P **P** **16 04 57.3 -0.4**
comp=Z,24µmcomp=Z,2µm,2.0s
SKR Severo-Kuril's 74.32 344 *e*P **P** **16 04 56.6 -0.7**
SKR *e*PPP PPP 16 07 01.8
SKR *e* 16 07 57.2
SKR pmax pmax
comp=Z,972nm,1.3s
SKR pmax pmax
comp=Z,5µm,7.9s
CGJI Cibinong 74.47 269 P **P** **16 04 58.1 -0.9**
comp=Z,22µmcomp=Z,2µm,1.1s
UNV Unalaska Valle 74.74 7 IAmb IAmb 16 05 00.8
comp=Z,518nm,0.7s
UNV Unalaska Valle 74.74 7 P **P** **16 04 58.9 -0.6**
UNV Unalaska Valle 74.74 7 P **P** **16 04 58.4 -1.2**
baz=192,SNR=34
LVA Lava Point 75.11 8 IAmb IAmb 16 05 04.4
comp=Z,552nm,0.9s
AKUT Akutan 75.11 8 P **P** **16 05 01.4 -0.2**
BLSI Bandar Lampung 75.31 270 P **P** **16 05 02.9 -0.8**
comp=Z,14µmcomp=Z,10µmcomp=Z,800nm,1.1s
PPBI Pangkal Pinang 75.56 273 P **P** **16 05 05.3 +0.2**
YSS Yuzhno-Sakhali 75.69 334 P **P** **16 05 05.2 +0.2**
YSS Yuzhno-Sakhali 75.69 334 P **P** **16 05 06.3 +1.3**
YSS Yuzhno-Sakhali 75.69 334*k* *iP* **P** **16 05 05.5 +0.5**
YSS *e**PP **pwP** **16 07 11.9 -1.4**
YSS *e* 16 08 06.4
YSS *e**SP **sP** **16 08 12.9 +1.0**
YSS *e*S **S** **16 13 59.9 +2.0**
YSS *e* 16 14 19.6
YSS *e* 16 22 37.2
YSS pmax pmax
comp=Z,11µm,4.9s
YSS pmax pmax
comp=N,4µm,4.5s
YSS pmax pmax
comp=E,2µm,3.6s
YSS pmax pmax
comp=Z,1µm,1.0s
YSS smax smax
comp=N,4µm,7.1s
YSS smax smax
comp=E,8µm,6.4s
YSS MLR MLR
comp=Z,2µm,15.0s
YSS Yuzhno-Sakhali 75.69 334 P **P** **16 05 05.9 +0.9**
KLI Kotabumi 75.84 270 P **P** **16 05 05.5 -1.1**
comp=Z,20µmcomp=Z,15µmcomp=Z,1µm,1.1s
PET Petropavlovsk 75.85 346 P **P** **16 05 04.6 -1.1**
PET IAmb IAmb 16 05 09.1
comp=Z,699nm,1.2s
PET Petropavlovsk 75.85 346*k* *iP* **P** **16 05 04.6 -1.1**
PET *e**PP **pP** **16 07 08.2 -3.3**
PET *e* 16 08 08.5
PET *e*S **S** **16 13 57.9 -1.5**
PET *e*SP **SPn** **16 14 41.7 +0.1**
PET pmax pmax
comp=Z,558nm,1.2s
PET pmax pmax
comp=Z,5µm,14.2s
PET pmax pmax
comp=Z,6µm,14.6s
PET pmax pmax
comp=Z,6µm,11.1s
PET pmax pmax
comp=Z,6µm,9.1s
PET Petropavlovsk 75.85 346 P **P** **16 05 05.2 -0.5**
KNMB Chin-men Tao 75.95 303 IAmb IAmb 16 05 11.1
comp=Z,864nm,1.2s
KASI Kota Agung 75.96 269 P **P** **16 05 06.2 -1.1**
comp=Z,14µmcomp=Z,12µmcomp=Z,1µm,1.0s
QZH Quanzhou 76.04 304⇓*iP* **P** **16 05 07.5 +0.1**
QZH pP **pP** **16 07 11.4 -1.6**
QZH sP **sP** **16 08 14.6 -0.5**
QZH S **S** **16 14 06.2 +3.6**
QZH pmax pmax
comp=Z,950nm,1.3s
QZH pmax pmax
comp=Z,10µm,7.6s
FALS False Pass 76.13 9 IAmb IAmb 16 05 10.7
comp=Z,763nm,0.8s
FALS False Pass 76.13 9 P **P** **16 05 07.5 +0.3**
FALS False Pass 76.13 9 P **P** **16 05 05.9 -1.3**
baz=194,SNR=16
PEA0B Petropavlovsk- 76.14 345*d* *iP* **P** **16 05 06.7 -0.7**
PETK Petropavlovsk- 76.14 345 P **P** **16 05 06.4 -1.0**
PETK Petropavlovsk- 76.14 345 P **P** **16 05 06.8 -0.6**
comp=Z,910nm,1.0s,baz=132,slow=4.3,SNR=393
PETK PKiKP **PKiKP** **16 10 45.2 -0.7**
comp=Z,9.2nm,0.7s,baz=201,slow=6.7,SNR=8.7
PETK S **S** **16 14 01.5 -1.1**
comp=Z,2.3nm,1.1s,baz=184,slow=7.0,SNR=1.7
comp=Z,910nm,1.0s
TJN Taejon 76.26 318 P **P** **16 05 08.7 +0.3**
TJN Taejon 76.26 318*d* *iP* **P** **16 05 07.6 -0.8**
LWLI Liwa 76.54 270 P **P** **16 05 10.0 -0.6**
PMBI Palembang 76.58 272 P **P** **16 05 09.5 -1.2**
comp=Z,21µmcomp=Z,1µm,1.1s
KSRS Korea Array 76.58 319 P **P** **16 05 10.3 +0.2**
comp=Z,217nm,0.9s,baz=142,slow=6.0,SNR=363
KSRS pP **pP** **16 07 19.4 +3.1**
comp=Z,36nm,1.0s,baz=135,slow=6.4,SNR=5.9
KSRS S **S** **16 14 10.6 +2.6**
comp=Z,0.3nm,0.5s,baz=215,slow=7.4,SNR=1.3
KSRS PKPPKP **P'P'df** **16 32 14.8 -1.7**
comp=Z,0.8nm,0.7s,baz=330,slow=2.0,SNR=4.8
comp=Z,217nm,0.9s
KSAR Wonju Array Be 76.60 319 P **P** **16 05 09.8 -0.4**
KSAR Wonju Array Be 76.60 319 P **P** **16 05 09.8 -0.4**
MDSI Maura Dua 76.60 270 P **P** **16 05 09.6 -1.2**
comp=Z,23µmcomp=Z,15µmcomp=Z,961nm,1.1s
CNBA Chernabura Isl 76.72 11 IAmb IAmb 16 05 14.6
comp=Z,1µm,1.2s
CHNA Chernabura Isl 76.73 11 P **P** **16 05 10.0 -0.5**
baz=198,SNR=13
H06E1 SOCORRO T-PHAS 76.82 64 P **P** **16 05 12.3 +0.4**
SNR=11
TEY Ternei 76.98 329⇓*eP* **P** **16 05 12.4 +0.3**
TEY pmax pmax
comp=N,30nm,1.7s
TEY pmax pmax
comp=Z,100nm,1.7s
TEY pmax pmax
comp=E,30nm,1.7s
TEY pmax pmax
comp=N,300nm,5.6s
TEY pmax pmax
comp=E,300nm,5.7s
TEY pmax pmax
comp=Z,1µm,5.3s
TEY pmax pmax
comp=E,100nm,17.8s
TEY pmax pmax
comp=N,200nm,18.0s
TEY pmax pmax
comp=Z,100nm,26.6s
SDPT Sand Point 77.07 10 P **P** **16 05 11.8 -0.5**
SDPT Sand Point 77.07 10 P **P** **16 05 11.2 -1.1**
baz=197,SNR=26
P08K Saint George I 77.15 5 IAmb IAmb 16 05 16.9
comp=Z,1µm,1.1s
P08K Saint George I 77.15 5 P **P** **16 05 12.5 -0.3**
baz=188,SNR=8.0
S12K Black Hills 77.16 9 P **P** **16 05 12.1 -0.7**
baz=196,SNR=27
SSE Sheshan 77.34 310 P **P** **16 05 14.5 +0.1**
SSE S **S** **16 14 18.9 +2.8**

SSE pmax pmax
comp=Z,120nm,0.9s
SSE pmax pmax
comp=Z,3μm,7.9s
INCN Inchon 77.41 318 P **P** **16 05 14.8 +0.2**
INCN IAmb IAmb 16 05 19.2
comp=Z,1μm,1.4s
INCN Inchon 77.41 318 P **P** **16 05 14.9 +0.2**
INCN S **S** **16 14 21.8 +5.1**
INCN Inchon 77.41 318 P **P** **16 05 14.8 +0.2**
INCN pmax pmax
comp=Z,1μm,1.4s
INCN Inchon 77.41 318 P **P** **16 05 15.2 +0.6**
LHSI Lahat 77.44 271 P **P** **16 05 14.8 -0.6**
comp=Z,25μmcomp=Z,18μmcomp=Z,998nm,1.9s
DSRI Dabo 77.61 274 P **P** **16 05 17.0 +0.7**
comp=Z,28μmcomp=Z,15μmcomp=Z,660nm,2.6s
UGL Uglegorsk 77.65 335 *e*P **P** **16 05 15.5 -0.1**
UGL *e* 16 05 19.2
UGL pmax pmax
comp=Z,1μm,1.0s
SPIA Saint Paul Isl 77.67 5 P **P** **16 05 15.0 -0.5**
baz=188,SNR=9.1
MNAI Manna 77.79 270 P **P** **16 05 17.6 +0.3**
MNAI Manna 77.79 270 P **P** **16 05 17.4 +0.1**
comp=Z,29μmcomp=Z,2μm,2.2s
FARB Farallon Islan 77.89 42 IAmb IAmb 16 05 22.3
comp=Z,1μm,1.2s
HULI Fort Hunter Li 78.02 44 IAmb IAmb 16 05 24.3
comp=Z,818nm,1.2s
RAMR Ramage Ranch 78.03 45 IAmb IAmb 16 05 23.3
comp=Z,717nm,1.1s
MSHR Mys Shultsa 78.05 324 *d* iP **P** **16 05 18.2 +0.3**
MSHR pmax pmax
comp=Z,436nm,1.1s
S14K Fog Glacier 78.12 11 P **P** **16 05 17.6 -0.5**
baz=198,SNR=20
TPRI Tanjung Pinang 78.16 275 P **P** **16 05 19.5 +0.3**
comp=Z,28μmcomp=Z,14μmcomp=Z,618nm,2.2s
MCCM Marconi Confer 78.24 42 P **P** **16 05 20.6 +1.5**
HKC Hong Kong Obse 78.29 299 ⇑P **P** **16 05 21.0 +1.4**
PSTR Posyet 78.29 324 *d* iP **P** **16 05 19.6 +0.4**
HKPS Hong Kong Po S 78.30 299 P **P** **16 05 20.0 +0.2**
SAO San Andreas Ge 78.32 43 IAmb IAmb 16 05 24.8
comp=Z,2μm,1.9s
CHGN Chignik 78.34 11 P **P** **16 05 18.6 -0.6**
baz=199,SNR=34
KSI Kapahiang 78.37 270 P **P** **16 05 19.4 -1.0**
CHIR Chirikof Islan 78.44 13 P **P** **16 05 18.0 -1.7**
CHIR Chirikof Islan 78.44 13 P **P** **16 05 19.5 -0.1**
baz=202,SNR=14
BBGB Big Mountain B 78.47 44 IAmb IAmb 16 05 26.2
comp=Z,992nm,1.5s
CVS Carmenet Viney 78.63 42 IAmb IAmb 16 05 27.4
comp=Z,850nm,1.2s
DLV Lat 78.69 287 IAmb IAmb 16 05 26.9
comp=Z,891nm,1.3s
DLV Lat 78.69 287 P **P** **16 05 23.8 +1.6**
GDXM Geysers 78.70 41 IAmb IAmb 16 05 27.2
comp=Z,1μm,2.0s
USA0B Ussuriysk Arra 78.70 326 *d* iP **P** **16 05 21.7 +0.3**
USRK Ussuriysk Ar. 78.70 326 P **P** **16 05 21.8 +0.4**
USRK Ussuriysk Ar. 78.70 326 P **P** **16 05 22.2 +0.8**
comp=Z,567nm,0.8s,baz=129,slow=3.8,SNR=325
USRK pP **pwP** **16 07 29.7 -1.4**
comp=Z,39nm,1.0s,baz=122,slow=5.2,SNR=3.9
USRK S **S** **16 14 32.2 +2.4**
comp=Z,1.0nm,0.6s,baz=173,slow=13,SNR=1.1
comp=Z,567nm,0.8s
KCPM Cahto Peak 78.77 40 IAmb IAmb 16 05 27.4
comp=Z,2μm,1.7s
TYV Tymovskoe 78.85 336 *e*P **P** **16 05 22.5 +0.5**
TYV *e*S **S** **16 14 24.6 -6.4**
TYV pmax pmax
comp=Z,546nm,1.4s
TYV pmax pmax
comp=Z,2μm,2.8s
TYV smax smax
comp=N,54nm,2.2s
TYV smax smax
comp=E,55nm,2.2s
TYV smax smax
comp=N,3μm,4.4s
TYV smax smax
comp=E,2μm,4.4s
TJX Tijuana 78.88 49 IAmb IAmb 16 05 28.6
comp=Z,1μm,1.4s
MASI Maura Aman, Be 78.88 271 P **P** **16 05 22.5 -0.6**
KMPM Mount Pierce 78.90 39 IAmb IAmb 16 05 29.0
comp=Z,1μm,1.2s
MNRC McLaughlin Min 78.96 41 IAmb IAmb 16 05 29.2
comp=Z,789nm,1.1s
BTDF Bukit Timah Da 79.02 276 P **P** **16 05 23.9 +0.1**
KMRM Mail Ridge 79.02 40 IAmb IAmb 16 05 29.5
comp=Z,1μm,1.1s
MYKOM Kota Tinggi 79.10 276 IAmb IAmb 16 05 28.4
comp=Z,2μm,1.7s
MYKOM Kota Tinggi 79.10 276 P **P** **16 05 24.6 +0.4**
RUSS Russell Ranch 79.12 42 IAmb IAmb 16 05 29.8
comp=Z,665nm,1.1s
GZH Guangzhou 79.33 300 P **P** **16 05 25.5 +0.4**
GZH pP **pP** **16 07 32.1 +0.6**
GZH sP **sP** **16 08 33.2 -0.4**
GZH S **SKSac** **16 14 42.7 -1.5**
GZH pmax pmax
comp=Z,890nm,1.2s
VES Vestal, Richgr 79.33 45 IAmb IAmb 16 05 30.3
comp=Z,1μm,1.4s
TPO Tropico Hills 79.37 47 IAmb IAmb 16 05 30.3
comp=Z,816nm,1.3s
KRPM Rodgers 79.42 39 IAmb IAmb 16 05 31.2
comp=Z,2μm,1.9s
SII Sitkinak Islan 79.43 13 P **P** **16 05 25.4 +0.5**
SII Sitkinak Islan 79.43 13 P **P** **16 05 24.9 -0.1**
baz=203,SNR=36
NJ2 Nanjing 79.53 310 ⇓iP **P** **16 05 26.3 +0.3**
NJ2 PcP **PcP** **16 05 35.6 +4.1**
NJ2 pP **pwP** **16 07 37.3 +1.7**
NJ2 PP **PP** **16 08 37.2 -1.3**
NJ2 S **S** **16 14 41.1 +2.3**
NJ2 pmax pmax
comp=Z,390nm,1.3s
NJ2 pmax pmax
comp=Z,8μm,3.7s
O02D Mt. Diablo Mer 79.55 40 IAmb IAmb 16 05 31.9
comp=Z,824nm,1.1s
BELA Belgrano 2 79.63 173 P **P** **16 05 25.8 0.0**
R16K Pilot Point 79.69 11 P **P** **16 05 25.9 -0.3**
baz=200
KRMB Red Mountain 79.72 38 IAmb IAmb 16 05 32.7
comp=Z,724nm,1.3s
SLBS Sierra La Lagu 79.88 60 P **P** **16 05 29.7 +1.6**
SLBS Sierra La Lagu 79.88 60 P **P** **16 05 29.5 +1.4**
SLBS pP **pP** **16 07 35.6 +0.6**
PFO Pinyon Flats O 79.89 48 P **P** **16 05 29.2 +1.1**
PFO Pinyon Flats O 79.89 48 P **P** **16 05 28.7 +0.6**
KRJI Kerinci 79.97 272 P **P** **16 05 28.9 0.0**
comp=Z,23μmcomp=Z,19μmcomp=Z,946nm,1.1s
KBO Bosley Butte 79.97 38 IAmb IAmb 16 05 33.9
comp=Z,1μm,1.6s
R17L Mt. Peulik Vol 79.98 12 P **P** **16 05 27.7 -0.1**
baz=201
SALN Salton City 80.05 49 IAmb IAmb 16 05 34.9
comp=Z,767nm,1.2s
N02D Trinity Center 80.09 39 IAmb IAmb 16 05 35.3
comp=Z,1μm,1.4s
OHAK Old Harbor 80.24 14 IAmb IAmb 16 05 33.2
comp=Z,803nm,1.3s
OHAK Old Harbor 80.24 14 P **P** **16 05 29.4 +0.3**
OHAK Old Harbor 80.24 14 P **P** **16 05 29.2 +0.1**
baz=204,SNR=32
MDJ Mudanjiang 80.25 325 IAmb IAmb 16 05 34.5
comp=Z,1μm,1.1s
MDJ Mudanjiang 80.25 325 P **P** **16 05 30.0 +0.5**
MDJ PP **PP** **16 08 41.7 -2.5**
MDJ S **S** **16 14 48.7 +3.0**
MDJ pmax pmax
comp=Z,770nm,1.2s
MDJ pmax pmax
comp=Z,13μm,3.6s
MDJ Mudanjiang 80.25 325 P **P** **16 05 30.7 +1.2**
MDJ Mudanjiang 80.25 325 P **P** **16 05 30.4 +0.9**
MDJ PcP **PcP** **16 05 34.3 -0.1**
M02C Callahan 80.26 39 IAmb IAmb 16 05 35.5
comp=Z,982nm,1.2s
WSHM Spangler Hills 80.27 46 IAmb IAmb 16 05 34.8
comp=Z,1μm,1.8s
L02F Cave Junction 80.29 38 IAmb IAmb 16 05 35.4
comp=Z,937nm,1.6s
R18K Karluk 80.30 13 P **P** **16 05 29.2 -0.2**
baz=203
CCCA Chr Cany lake 80.31 46 IAmb IAmb 16 05 35.2
comp=Z,1μm,1.5s
KEBM Edson Butte 80.33 37 IAmb IAmb 16 05 35.5
comp=Z,597nm,1.1s
QIZ Qiongzhong 80.45 294 P **P** **16 05 30.3 -0.8**
QIZ pP **pP** **16 07 36.1 -1.7**
QIZ sP **sP** **16 08 42.0 +2.9**
QIZ S **S** **16 14 50.8 +2.1**
QIZ sS **sS** **16 18 36.5 +0.4**
QIZ pmax pmax
comp=Z,160nm,1.7s
QIZ pmax pmax
comp=Z,6μm,5.0s
QIZ Qiongzhong 80.45 294 P **P** **16 05 31.6 +0.5**
YBH Yreka Blue Hor 80.55 39 PKPPKP 16 32 12.5
comp=Z,0.2nm,0.9s,baz=214,slow=1.3,SNR=3.2
TIN Tinemaha, Big 80.59 45 IAmb IAmb 16 05 35.7
comp=Z,410nm,0.8s
WAKR Walker 80.63 43 IAmb IAmb 16 05 37.2
comp=Z,1μm,1.6s
Q17K Contact Creek 80.66 12 P **P** **16 05 30.6 -0.8**
baz=201
O14K Tigyukauivet M 80.70 9 P **P** **16 05 30.7 -0.7**
baz=196,SNR=13
GLA Glamis 80.75 50 IAmb IAmb 16 05 38.0
comp=Z,524nm,1.1s
O15K Ungalikthiuk R 80.84 10 P **P** **16 05 31.7 -0.4**
baz=198,SNR=20
O15K S **S** **16 14 51.5 +0.6**
baz=198
KDAK Kodiak Island 80.91 14 P **P** **16 05 33.0 +0.4**
KDAK IAmb IAmb 16 05 36.6
comp=Z,1μm,1.4s
KDAK Kodiak Island 80.91 14 *i* P **P** **16 05 32.4 -0.1**
KDAK pmax pmax
comp=Z,1μm,1.3s
KDAK Kodiak Island 80.91 14 P **P** **16 05 32.4 -0.1**
baz=204
KDAK S **S** **16 14 52.5 +0.9**
baz=204
KDAK Kodiak Island 80.91 14 P **P** **16 05 32.9 +0.4**
Q16K King Salmon 80.91 11 P **P** **16 05 32.3 -0.2**
baz=201,SNR=49
Q16K S **S** **16 14 52.5 +1.0**
baz=201
COCO West Island 80.92 260 P **P** **16 05 34.1 +0.4**
COCO West Island 80.92 260 P **P** **16 05 34.2 +0.6**
PIX Pinacate 80.97 52 IAmb IAmb 16 05 38.5
comp=Z,705nm,1.5s
P16K Nushagak River 81.00 11 P **P** **16 05 32.5 -0.5**
baz=199,SNR=42
P16K S **S** **16 14 53.1 +0.6**
baz=199
LHV Little Huntoon 81.09 44 IAmb IAmb 16 05 39.3
comp=Z,819nm,1.3s
PPSI Pulau Pagai 81.10 270 P **P** **16 05 35.4 +0.8**
comp=Z,24μmcomp=Z,781nm,1.5s
IRM Iron Mountain 81.11 49 IAmb IAmb 16 05 39.7
comp=Z,837nm,1.4s
Q18K Katmai Hardscr 81.19 12 P **P** **16 05 33.5 -0.7**
baz=202,SNR=124
Q18K S **S** **16 14 55.0 +0.2**
baz=202
M11K Mekoryuk 81.19 6 P **P** **16 05 34.8 +0.9**
baz=192,SNR=16
M11K S **S** **16 14 54.9 +0.6**
baz=192
DANC Danby, Needles 81.20 48 IAmb IAmb 16 05 39.9
comp=Z,1μm,1.5s
BKNI Bangkinang 81.20 274 P P 16 05 29.9 -5.2
BKNI Bangkinang 81.20 274 P **P** **16 05 35.3 +0.2**
comp=Z,14μmcomp=Z,578nm,1.4s
N14K Kuskokwak Cree 81.28 8 P **P** **16 05 34.6 +0.3**
baz=196,SNR=99
RYN Ryan 81.29 43 IAmb IAmb 16 05 40.1
comp=Z,1μm,1.7s
GRNR Gornyy 81.29 333 ⇓*i* P **P** **16 05 35.2 +0.5**
GRNR pmax pmax
comp=E,100nm,1.2s
GRNR pmax pmax
comp=N,120nm,1.1s
GRNR pmax pmax
comp=Z,470nm,1.2s
GRNR MLR MLR
comp=E,670nm,17.0s
GRNR MLR MLR
comp=N,690nm,14.0s
GRNR MLR MLR
comp=Z,1μm,15.0s
PDSI Padang 81.31 272 P **P** **16 05 34.2 -1.5**
comp=Z,20μmcomp=Z,6μmcomp=Z,293nm,1.3s
NVAR Mina Array Bea 81.32 44 P **P** **16 05 36.1 +0.7**
comp=Z,155nm,1.0s,baz=225,slow=7.7,SNR=193
NVAR pP **pwP** **16 07 45.1 -1.0**
comp=Z,39nm,1.0s,baz=239,slow=7.4,SNR=5.8
NVAR S **S** **16 14 59.2 +2.1**
comp=Z,0.3nm,0.5s,baz=289,slow=2.9,SNR=1.5
NVAR PKKPbc **PKKPbc** **16 24 06.9 +0.8**
comp=Z,6.8nm,0.8s,baz=45,slow=3.8,SNR=15
NVAR SKKP 16 26 33.5
comp=Z,2.1nm,0.8s,baz=100,slow=2.4,SNR=4.0
NVAR PKPPKP **P'P'df** **16 32 10.4 +1.9**
comp=Z,2.2nm,0.8s,baz=64,slow=4.9,SNR=6.7
comp=Z,155nm,1.0s
PAHR Pah Rah Range 81.36 42 IAmb IAmb 16 05 41.2
comp=Z,654nm,1.3s
113A Mohawk Valley, 81.37 50 IAmb IAmb 16 05 40.9
comp=Z,588nm,1.3s
I02E Swisshome, OR 81.39 36 IAmb IAmb 16 05 40.8
comp=Z,795nm,1.2s
NKL Nikolayevsk 81.41 337 *e*P **P** **16 05 34.1 -1.1**
NKL *e*S **S** **16 14 54.4 -2.4**
NKL pmax pmax
comp=N,244nm,1.1s
NKL pmax pmax
comp=E,741nm,1.1s
NKL pmax pmax
comp=Z,3μm,1.1s
NKL smax smax
comp=N,1μm,2.5s
NKL smax smax
comp=E,652nm,2.5s
I03D Drain, OR 81.41 37 IAmb IAmb 16 05 41.4
comp=Z,903nm,1.3s
DL2 Dalian 81.42 317 P **P** **16 05 35.3 -0.3**
DL2 pP **pwP** **16 07 48.2 +2.1**
DL2 sP **sP** **16 08 43.3 -1.1**
DL2 S **S** **16 14 53.7 -3.9**
DL2 sS **sS** **16 18 41.4 -4.4**
DL2 pmax pmax
comp=Z,570nm,1.3s
DL2 pmax pmax
comp=Z,10μm,7.1s
MAW Mawson 81.43 200 P **P** **16 05 36.1 +0.9**
comp=Z,96nm,0.8s,baz=130,slow=5.9,SNR=135
MAW pP **pwP** **16 07 45.2 -0.3**
comp=Z,114nm,0.9s,baz=139,slow=6.0,SNR=9.9
MAW S **S** **16 14 56.0 -0.8**
comp=Z,18nm,1.1s,baz=172,slow=15,SNR=4.5
MAW PKKPbc **PKKPbc** **16 24 03.9 -2.3**
comp=Z,4.6nm,0.8s,baz=288,slow=2.4,SNR=7.4
MAW PKPPKP **P'P'df** **16 32 08.3 -0.6**
comp=Z,8.4nm,1.0s,baz=243,slow=0.4,SNR=6.0
comp=Z,96nm,0.8s
P17K Kvichak River 81.43 11 P **P** **16 05 34.7 -0.4**
baz=201,SNR=163
P17K S **S** **16 14 56.9 0.0**
baz=201
PMSA Palmer Station 81.47 157 *e*P P 16 05 26.3 -9.2
comp=Z,1μm,30.0s
PMSA *ep*P pP 16 07 30.9 -12
comp=Z,4μm,27.0s
PMSA *e*S **SKSac** **16 14 53.7 -3.5**
comp=Z,7μm,27.0s
PMSA Palmer Station 81.47 157 *e*LR LR 16 32 07.0
comp=Z,3μm,22.0s
PMSA Palmer Station 81.47 157 pP **pP** **16 07 44.7 +1.7**
comp=Z,30nm,1.0s,baz=226,slow=8.4,SNR=1.7
PMSA S **SKSac** **16 14 58.2 +1.0**
comp=Z,12nm,1.1s,baz=169,slow=16,SNR=9.6
PMSA Palmer Station 81.47 157 P **P** **16 05 36.8 +1.3**
O16K Kokwok River B 81.52 10 IAmb IAmb 16 05 39.3
comp=Z,966nm,1.2s
O16K Kokwok River B 81.52 10 P **P** **16 05 34.6 -1.0**
baz=199,SNR=102
PPI Padang Panjang 81.53 273 P **P** **16 05 35.6 -1.2**
M13K Dall Lake 81.54 8 IAmb IAmb 16 05 38.0
comp=Z,1μm,1.4s
M13K Dall Lake 81.54 8 P **P** **16 05 36.5 +0.8**
baz=194,SNR=28
M13K S **SKSac** **16 15 00.2 +2.9**
baz=194
HSIG 81.60 55 IAmb IAmb 16 05 41.8
comp=Z,842nm,1.8s
214A Organ Pipe Nat 81.65 52 IAmb IAmb 16 05 42.6
comp=Z,699nm,1.4s
K04D Chiloquin, OR 81.66 39 IAmb IAmb 16 05 42.8
comp=Z,767nm,1.1s
Q20K Shuyak Island 81.70 13 P **P** **16 05 36.6 +0.1**
baz=204,SNR=36
Q20K S **SKSac** **16 14 59.5 +1.1**
baz=204
SYI Shuyak Island 81.70 13 IAmb IAmb 16 05 41.8
comp=Z,950nm,1.1s
Q19K Cape Douglas, 81.73 13 IAmb IAmb 16 05 41.0
comp=Z,829nm,0.9s
Q19K Cape Douglas, 81.73 13 P **P** **16 05 36.4 -0.4**
baz=203,SNR=30
Q19K S **SKSac** **16 14 59.5 +0.8**
baz=203
N15K Kwethluk River 81.75 9 P **P** **16 05 37.3 +0.5**
baz=197,SNR=134
N15K S **SKSac** **16 15 00.4 +1.7**
baz=197
NEE2 Needles Airpor 81.80 48 IAmb IAmb 16 05 42.9
comp=Z,2μm,1.8s
TPH Tonopah 81.82 44 IAmb IAmb 16 05 43.5
comp=Z,750nm,1.2s
P18K Big Mountain, 81.84 12 IAmb IAmb 16 05 40.8
comp=Z,921nm,1.0s
P18K Big Mountain, 81.84 12 P **P** **16 05 36.8 -0.6**
baz=202,SNR=37
P18K S **SKSac** **16 15 00.2 +0.7**
baz=202
O17K Koliganek Bris 81.86 11 P **P** **16 05 36.7 -0.6**
baz=200,SNR=43
O17K S **SKSac** **16 15 00.7 +1.3**
baz=200
SNY Shenyang 81.91 320 ⇓P **P** **16 05 37.8 -0.2**
SNY S **SKSac** **16 14 56.1 -4.5**
SNY pmax pmax
comp=Z,220nm,1.1s
SNY pmax pmax
comp=Z,6μm,4.2s
BUCK Buck Mountain 81.93 37 IAmb IAmb 16 05 44.2
comp=Z,1μm,1.3s
COR Corvallis 82.00 36 P **P** **16 05 39.7 +1.3**
COR IAmb IAmb 16 05 43.8
comp=Z,548nm,1.1s
COR Corvallis 82.00 36 P **P** **16 05 39.7 +1.3**
COR pmax pmax
comp=Z,548nm,1.2s
CN2 Changchun 82.02 323 ⇓iP **P** **16 05 38.4 -0.2**
CN2 pP pP 16 07 48.0 +1.7
CN2 sP sP 16 08 46.9 -0.5
CN2 SKS **SKSac** **16 14 57.5 -3.8**
CN2 S **S** **16 15 04.4 +1.0**
CN2 SS **SS** **16 20 45.6 +3.7**
CN2 pmax pmax
comp=Z,700nm,1.3s
CN2 pmax pmax
comp=Z,9μm,3.0s
CNSH ChangSha 82.04 304 P **P** **16 05 39.4 +0.4**
CNSH S **SKSac** **16 14 55.9 -6.2**
CNSH pmax pmax
comp=Z,370nm,1.4s
M14K Bethel 82.05 8 P **P** **16 05 38.7 +0.5**
baz=196,SNR=104
M14K S **S** **16 15 04.8 +1.9**
baz=196
WHN Wuhan 82.08 307 ⇓iP **P** **16 05 39.5 +0.3**
WHN sP **sP** **16 08 50.6 +2.4**
WHN SKS **SKSac** **16 14 59.2 -3.0**
WHN pmax pmax
comp=Z,2μm,1.4s
WHN pmax pmax
comp=Z,19μm,7.6s
BNX BinXian 82.16 325 ⇓P **P** **16 05 39.0 -0.2**
BNX PcP **PcP** **16 05 44.1 +1.4**
BNX S **S** **16 15 07.8 +3.1**
BNX pmax pmax
comp=Z,520nm,1.1s
BNX pmax pmax
comp=Z,3μm,2.9s
M15K Kasigluk River 82.17 9 P **P** **16 05 39.1 +0.3**
baz=197,SNR=248
M15K S **S** **16 15 05.2 +1.1**
baz=197
N16K Nishlik Lake 82.24 10 P **P** **16 05 39.9 +0.6**
baz=198,SNR=138
N16K S **S** **16 15 06.2 +1.2**
baz=198
Q09A Carvers 82.27 44 IAmb IAmb 16 05 45.6
comp=Z,655nm,1.1s
H04D Lebanon 82.27 37 IAmb IAmb 16 05 45.8
comp=Z,1μm,1.3s
G03D McMinnville, O 82.41 36 IAmb IAmb 16 05 45.6
comp=Z,1μm,1.4s
SISI Saibi 82.45 271 P **P** **16 05 41.5 0.0**
comp=Z,14μmcomp=Z,560nm,2.2s
P19K Oil Pt 82.48 13 IAmb IAmb 16 05 44.3
comp=Z,985nm,1.0s
P19K Oil Pt 82.48 13 P **P** **16 05 40.4 -0.2**
baz=204,SNR=30
P19K S **SKSac** **16 15 06.7 +3.1**
baz=204
L14K Kuka Creek 82.53 8 IAmb IAmb 16 05 45.2
comp=Z,783nm,0.9s
L14K Kuka Creek 82.53 8 P **P** **16 05 40.9 +0.3**
baz=195,SNR=132
L14K S **S** **16 15 09.9 +2.3**
baz=195
N17K Nushagak Hills 82.55 10 P **P** **16 05 40.6 -0.2**
baz=200,SNR=20
N17K S **SKSac** **16 15 07.5 +3.6**
baz=200
H04A Detroit Lake 82.68 37 IAmb IAmb 16 05 47.2
comp=Z,511nm,1.1s
IPM Ipoh 82.69 278 P **P** **16 05 43.0 +0.3**
F03A Seaside 82.70 35 IAmb IAmb 16 05 50.2
comp=Z,602nm,1.2s
MNSI Mandailing Nat 82.73 274 P **P** **16 05 42.0 -0.9**
comp=Z,21μmcomp=Z,8μmcomp=Z,443nm,1.1s
M16K Timber Creek 82.73 9 P **P** **16 05 42.8 +1.1**
baz=198,SNR=214
M16K S **S** **16 15 12.5 +2.7**
baz=198
GULI GuiLin 82.75 300 P **P** **16 05 43.8 +1.1**
GULI pP **pwP** **16 07 52.7 -2.1**
GULI S **SKSac** **16 15 08.8 +2.0**
GULI pmax pmax
comp=Z,9μm,2.4s
O19K Port Alsworth 82.76 12 P **P** **16 05 41.3 -0.6**
baz=203,SNR=284
O19K S **S** **16 15 09.5 -0.5**
baz=203
CNPM China Poot 82.79 14 IAmb IAmb 16 05 46.6
comp=Z,1μm,1.2s
HOM Homer 82.82 13 P **P** **16 05 42.0 -0.1**
baz=205,SNR=17
HOM S **S** **16 15 11.3 +0.7**
baz=205
G04A Mulino 82.84 36 IAmb IAmb 16 05 47.6
comp=Z,689nm,1.0s
K13K Kusilvak Mount 82.87 7 IAmb IAmb 16 05 47.1
comp=Z,859nm,1.1s
K13K Kusilvak Mount 82.87 7 P **P** **16 05 42.9 +0.5**
baz=193,SNR=73
K13K S **S** **16 15 13.2 +2.1**
baz=193
RADR Rader Ridge 82.89 35 IAmb IAmb 16 05 49.1
comp=Z,831nm,1.3s
PRN Pahroc Range 82.90 46 IAmb IAmb 16 05 48.6
comp=Z,582nm,1.2s
N18K Kilae Creek 82.92 11 IAmb IAmb 16 05 46.3
comp=Z,661nm,1.5s
N18K Kilae Creek 82.92 11 P **P** **16 05 42.1 -0.6**
baz=201,SNR=46
N18K S **S** **16 15 11.4 -0.3**

baz=201
TIA Tai'an 82.94 313 P **P** **16 05 43.3 -0.1**
TIA PP **PP** **16 09 10.0 +3.9**
TIA SKS **SKSac** **16 15 06.0 -1.6**
TIA S **SKKSac** **16 15 17.4 +3.8**
TIA ScS **ScS** **16 15 25.9 +3.2**
TIA SS **SS** **16 21 02.6 +7.0**
TIA pmax pmax
comp=Z,440nm,1.4s
TIA pmax pmax
comp=Z,10µm,8.0s
I05D Terrebonne, OR 82.95 37 IAmb IAmb 16 05 48.4
comp=Z,805nm,1.2s
O20K Slope Mountain 83.00 13 P **P** **16 05 42.4 -0.7**
baz=204,SNR=45
O20K S **S** **16 15 12.2 -0.4**
baz=204
L15K Ungalak Mounta 83.00 8 P **P** **16 05 42.9 -0.1**
baz=196,SNR=76
L15K S **S** **16 15 13.6 +1.3**
baz=196
BRLK Bradley Lake 83.08 14 IAmb IAmb 16 05 44.5
comp=Z,734nm,1.0s
E03A Lebam 83.09 35 IAmb IAmb 16 05 50.2
comp=Z,697nm,1.0s
RED Redoubt Volcan 83.28 13 IAmb IAmb 16 05 48.2
comp=Z,800nm,1.1s
N19K Bonanza Creek 83.30 12 IAmb IAmb 16 05 47.8
comp=Z,516nm,1.1s
N19K Bonanza Creek 83.30 12 P **P** **16 05 43.7 -1.0**
baz=202,SNR=99
N19K S **S** **16 15 14.4 -1.2**
baz=202
L16K Owhat River 83.31 9 IAmb IAmb 16 05 49.2
comp=Z,2µm,1.6s
L16K Owhat River 83.31 9 P **P** **16 05 45.2 +0.6**
baz=198,SNR=94
L16K S **S** **16 15 18.2 +2.9**
baz=198
TUC Tucson 83.32 52 P **P** **16 05 47.0 +1.5**
TUC Tucson 83.32 52 P **P** **16 05 47.4 +1.9**
KULM Kulim 83.33 278 P **P** **16 05 46.6 +0.8**
M17K Holitna River 83.33 10 P **P** **16 05 45.5 +0.7**
baz=200,SNR=105
M17K S **S** **16 15 18.8 +3.1**
baz=200
WISH Wishkah 83.35 34 IAmb IAmb 16 05 51.3
comp=Z,541nm,1.0s
HOOD Mount Hood Mea 83.37 36 IAmb IAmb 16 05 50.3
comp=Z,494nm,1.1s
WVOR Wild Horse Val 83.40 40 IAmb IAmb 16 05 50.8
comp=Z,1µm,1.8s
H02S2 DAWSON INLET T 83.46 26 P **P** **16 05 45.9 +0.4**
SNR=268
H02S2 pP **pwP** **16 07 56.8 -0.1**
SNR=6.3
NLWA Neilton Lookou 83.47 34 IAmb IAmb 16 05 52.2
comp=Z,523nm,1.1s
G05A Wamic 83.51 37 IAmb IAmb 16 05 51.0
comp=Z,630nm,1.2s
MG05 Puerto Natales 83.59 143 IAmb IAmb 16 05 49.5
comp=Z,507nm,1.1s
K15K Wolf Creek Mou 83.59 8 P **P** **16 05 46.5 +0.5**
baz=196,SNR=134
K15K S **S** **16 15 21.2 +3.1**
baz=196
MG04 Isla Riesco 83.61 144 P **P** **16 05 47.8 +1.4**
MG04 IAmb IAmb 16 05 49.8
comp=Z,402nm,1.0s
MA2 Magadan 83.65 345 P **P** **16 05 45.0 -1.3**
MA2 IAmb IAmb 16 05 49.8
comp=Z,1µm,1.2s
MA2 Magadan 83.65 345 P **P** **16 05 45.4 -1.0**
MA2 Magadan 83.65 345 *de*P **P** **16 05 45.3 -1.0**
MA2 pmax pmax
comp=Z,1µm,1.3s
MA2 Magadan 83.65 345 P **P** **16 05 45.3 -1.0**
MA2 PcP **PcP** **16 05 49.2 +0.2**
PBSI Pulau Batu 83.66 272 P **P** **16 05 48.1 +0.7**
comp=Z,16µmcomp=Z,393nm,1.0s
M18K Stony River 83.69 11 P **P** **16 05 46.5 0.0**
baz=201,SNR=62
M18K S **S** **16 15 19.8 +0.8**
baz=201
SEW Seward 83.71 14 IAmb IAmb 16 05 50.6
comp=Z,805nm,1.0s
SEW Seward 83.71 14 P **P** **16 05 45.9 -0.7**
baz=207,SNR=79
SEW S **S** **16 15 18.3 -0.9**
baz=207
MG03 Isla Dawson 83.77 145 P **P** **16 05 48.3 +1.1**
J14K Nanvaranak Lak 83.79 7 P **P** **16 05 47.0 +0.1**
baz=194,SNR=32
J14K S **S** **16 15 21.7 +1.8**
baz=194
Q23K Middleton Isla 83.87 16 P **P** **16 05 47.5 +0.2**
baz=210,SNR=11
Q23K S **S** **16 15 20.7 -0.1**
baz=210
Q23K S **S** **16 15 20.7 -0.1**
baz=210
X16A Lo Mia Camp, P 83.87 50 IAmb IAmb 16 05 53.7
comp=Z,673nm,1.7s
G06A Carlson Farm, 83.89 37 IAmb IAmb 16 05 52.8
comp=Z,676nm,1.3s
L17K Donlin 83.89 9 P **P** **16 05 48.2 +0.8**
baz=199,SNR=49
L17K S **S** **16 15 25.5 +4.5**
baz=199
CAPN Captain Cook N 83.93 13 P **P** **16 05 48.1 +0.5**
baz=206
CAPN S **S** **16 15 22.5 +1.2**
baz=206
O22K Cooper Landing 83.98 14 P **P** **16 05 47.5 -0.4**
baz=207,SNR=28
O22K S **S** **16 15 21.5 -0.5**
baz=207
RPSI Rantau Prapat 84.02 275 IAmb IAmb 16 05 50.3
comp=Z,456nm,1.2s
PSI Prapat 84.05 275 P **P** **16 05 49.4 -0.1**
B04A Port Angeles 84.08 34 IAmb IAmb 16 05 54.0
comp=Z,979nm,1.7s
N20K Mount Spurr 84.10 12 P **P** **16 05 47.4 -1.3**
baz=205
N20K S **S** **16 15 20.9 -2.3**
baz=205
SPCR Spurr Chakacha 84.10 12 P **P** **16 05 47.4 -1.2**
baz=205,SNR=114
SPCR S **S** **16 15 20.9 -2.3**
baz=205
GNW Green Mountain 84.13 34 IAmb IAmb 16 05 53.9
comp=Z,403nm,1.1s
GAMB Gambell 84.15 3 IAmb IAmb 16 05 53.1
comp=Z,678nm,1.2s
GAMB Gambell 84.15 3 P **P** **16 05 49.1 +0.5**
baz=186,SNR=21
GAMB S **S** **16 15 25.0 +1.7**
baz=186
KNB Kanab 84.21 47 IAmb IAmb 16 05 55.1
comp=Z,593nm,1.3s
L18K Granite Mounta 84.23 10 IAmb IAmb 16 05 54.3
comp=Z,902nm,1.4s
L18K Granite Mounta 84.23 10 P **P** **16 05 49.4 +0.3**
baz=200,SNR=192
L18K S **S** **16 15 26.7 +2.4**
baz=200
CLRS Cowichan Lake 84.25 33 IAmb IAmb 16 05 54.3
comp=Z,534nm,1.3s
U15A North Rim 84.28 48 IAmb IAmb 16 05 55.7
comp=Z,497nm,1.2s
M19K Big River Lodg 84.33 11 P **P** **16 05 49.2 -0.4**
baz=202,SNR=62
M19K S **S** **16 15 24.5 -0.8**
baz=202
USHA Ushuaia 84.38 147 P4KP 16 42 57.3
comp=Z,46nm,0.5s,baz=316,slow=0.8,SNR=6.1
CBB Campbell River 84.43 31 IAmb IAmb 16 05 55.3
comp=Z,825nm,1.4s
K17K Iditarod 84.44 9 IAmb IAmb 16 05 54.6
comp=Z,509nm,1.2s
K17K Iditarod 84.44 9 P **P** **16 05 50.2 +0.1**
baz=199,SNR=57
K17K S **S** **16 15 29.1 +2.8**
baz=199
L19K White Mountain 84.51 11 P **P** **16 05 50.3 -0.2**
baz=202,SNR=184
L19K S **S** **16 15 27.4 +0.3**
baz=202

RC01 Rabbit Creek A 84.53 14 P **P** **16 05 50.1 -0.5**
baz=207,SNR=77
RC01 S **S** **16 15 25.9 -1.3**
baz=207
M20K Styx River 84.55 12 P **P** **16 05 49.6 -1.2**
baz=204,SNR=53
M20K S **S** **16 15 25.5 -2.0**
baz=204
ELK Elko 84.57 43 PKPPKP 16 32 04.2
comp=Z,0.7nm,0.3s,baz=105,slow=8.4,SNR=3.3
BBB Bella Bella 84.60 28 IAmb IAmb 16 05 55.8
comp=Z,604nm,1.3s
BBB Bella Bella 84.60 28 PKPPKP 16 32 04.0
comp=Z,5.7nm,1.1s,baz=182,slow=1.7,SNR=3.2
TSI Tuntungan 84.64 276 P **P** **16 05 52.5 +0.3**
PWL Port Wells 84.64 14 P **P** **16 05 50.6 -0.6**
baz=208,SNR=109
PWL S **S** **16 15 27.3 -1.0**
baz=208
SUA Susitna One 84.64 13 IAmb IAmb 16 05 54.7
comp=Z,627nm,1.1s
SUA Susitna One 84.64 13 P **P** **16 05 50.5 -0.8**
baz=206,SNR=57
SUA S **S** **16 15 27.6 -1.0**
baz=206
J16K Anvik River 84.67 8 IAmb IAmb 16 05 55.6
comp=Z,1µm,1.5s
J16K Anvik River 84.67 8 P **P** **16 05 51.3 +0.1**
baz=197,SNR=70
J16K S **S** **16 15 31.5 +3.1**
baz=197
HIN Hinchinbrook I 84.67 15 IAmb IAmb 16 05 55.0
comp=Z,1µm,1.4s
F07A Phinny Hill Vi 84.68 37 IAmb IAmb 16 05 56.6
comp=Z,801nm,1.5s
PKCU Pink Cliffs 84.78 47 IAmb IAmb 16 05 58.6
comp=Z,617nm,1.2s
KAIM Kayak Island 84.80 16 P **P** **16 05 52.2 +0.2**
baz=212,SNR=33
KAIM S **S** **16 15 30.5 +0.7**
baz=212
ESPZ Base Esperanza 84.82 157 IAmb IAmb 16 05 56.7
comp=Z,508nm,1.2s
CRAG Craig 84.88 24 IAmb IAmb 16 05 57.5
comp=Z,374nm,1.1s
CRAG Craig 84.88 24 P **P** **16 05 53.6 +1.2**
CRAG Craig 84.88 24 P **P** **16 05 53.4 +1.1**
baz=222,SNR=116
CRAG S **S** **16 15 33.0 +2.3**
baz=222
MXC Moxie City 84.89 36 IAmb IAmb 16 05 57.6
comp=Z,707nm,1.6s
A04D Lummi Island 84.92 33 IAmb IAmb 16 05 59.0
comp=Z,742nm,1.0s
GLI Glacier Island 84.95 15 P **P** **16 05 52.0 -0.6**
baz=209,SNR=112
GLI S **S** **16 15 30.3 -0.9**
baz=209
SKT Skwentna 84.95 12 IAmb IAmb 16 05 55.2
comp=Z,507nm,1.3s
SKT Skwentna 84.95 12 P **P** **16 05 50.9 -1.8**
baz=205,SNR=75
SKT S **S** **16 15 28.4 -2.9**
baz=205
L20K Farewell, AK 84.96 11 P **P** **16 05 52.1 -0.6**
baz=203,SNR=29
L20K S **S** **16 15 30.4 -0.9**
baz=203
J17K VABM Dome 84.98 9 P **P** **16 05 52.9 +0.1**
baz=198,SNR=82
J17K S **S** **16 15 34.3 +2.9**
baz=198
FID Port Fidalgo 84.98 15 IAmb IAmb 16 05 57.0
comp=Z,788nm,1.2s
EYAK Cordova Ski Ar 84.99 16 IAmb IAmb 16 05 57.3
comp=Z,710nm,1.2s
EYAK Cordova Ski Ar 84.99 16 P **P** **16 05 52.7 -0.1**
EYAK Cordova Ski Ar 84.99 16 P **P** **16 05 52.5 -0.3**
baz=210,SNR=91
EYAK S **S** **16 15 31.0 -0.6**
baz=210
M22K Willow 85.04 13 P **P** **16 05 52.4 -0.6**
baz=206,SNR=128
M22K S **S** **16 15 31.2 -0.8**
baz=206
HEH HeiHe 85.07 329 *e*P **P** **16 05 53.0 -0.4**
HEH pP **pP** **16 08 00.9 -1.7**
HEH S **S** **16 15 35.3 +2.5**
HEH pmax pmax
comp=Z,600nm,1.4s
HEH pmax pmax
comp=Z,9µm,7.6s
LTY Liberty 85.09 35 IAmb IAmb 16 05 58.3
comp=Z,995nm,1.7s
KNK Knik Glacier 85.10 14 IAmb IAmb 16 05 57.1
comp=Z,704nm,1.2s
KNK Knik Glacier 85.10 14 P **P** **16 05 53.0 -0.4**
baz=208,SNR=121
KNK S **S** **16 15 32.2 -0.6**
baz=208
PMR Palmer 85.11 14 P **P** **16 05 53.3 0.0**
PMR Palmer 85.11 14 P **P** **16 05 52.9 -0.4**
baz=207,SNR=240
PMR S **S** **16 15 31.3 -1.3**
baz=207
E07A Sunnyside 85.12 36 IAmb IAmb 16 05 58.9
comp=Z,709nm,1.2s
HMT Hamilton 85.19 16 IAmb IAmb 16 05 57.9
comp=Z,751nm,1.2s
HAWA Hanford 85.20 37 IAmb IAmb 16 05 59.9
comp=Z,753nm,1.2s
HNS HongShan 85.21 313 ⇓P **P** **16 05 54.7 +0.3**
HNS SKS **SKSac** **16 15 20.1 -1.6**
HNS S **ScS** **16 15 41.6 +0.2**
HNS pmax pmax
comp=Z,520nm,1.2s
HNS pmax pmax
comp=Z,8µm,6.7s
I17K Unalakleet 85.23 8 P **P** **16 05 54.2 +0.3**
baz=197
I17K S **S** **16 15 37.1 +3.3**
baz=197
BGLC Bering Glacier 85.27 17 P **P** **16 05 54.9 +0.8**
baz=213,SNR=11
BGLC S **S** **16 15 36.1 +1.8**
baz=213
SIT Sitka 85.28 22 IAmb IAmb 16 05 58.9
comp=Z,589nm,1.5s
SIT Sitka 85.28 22 P **P** **16 05 54.7 +0.5**
SIT Sitka 85.28 22 P **P** **16 05 54.9 +0.7**
baz=220,SNR=43
SIT S **S** **16 15 35.6 +1.2**
baz=220
V35K Ketchikan 85.36 25 IAmb IAmb 16 06 00.3
comp=Z,520nm,1.1s
V35K Ketchikan 85.36 25 P **P** **16 05 55.4 +0.7**
baz=223,SNR=261
V35K S **S** **16 15 37.3 +2.0**
baz=223
U33K Whale Pass 85.36 24 IAmb IAmb 16 06 00.4
comp=Z,547nm,1.1s
U33K Whale Pass 85.36 24 P **P** **16 05 55.5 +0.9**
baz=222,SNR=222
U33K S **S** **16 15 37.8 +2.5**
baz=222
ANM Nome 85.38 6 P **P** **16 05 54.4 -0.2**
baz=192
ANM S **S** **16 15 38.3 +3.0**
baz=192
KCSI Kotacane, Aceh 85.38 275 P **P** **16 05 55.2 -0.7**
WAH2 Wahluke Slope 85.39 36 IAmb IAmb 16 06 00.0
comp=Z,728nm,1.3s
J18K Innoko River 85.40 10 IAmb IAmb 16 05 59.5
comp=Z,853nm,1.3s
J18K Innoko River 85.40 10 P **P** **16 05 54.5 -0.2**
baz=200,SNR=180
J18K S **S** **16 15 37.4 +1.9**
baz=200
LYN LuoYang 85.41 309 ⇓*i*P **P** **16 05 56.1 +0.7**
LYN pP pwP 16 08 06.9 -1.0
LYN SKS **SKSac** **16 15 21.0 -2.1**
LYN S **ScS** **16 15 43.9 +0.8**
LYN pmax pmax
comp=Z,840nm,1.2s
LYN pmax pmax
comp=Z,13µm,3.8s
E08A Dider Farm, El 85.52 37 IAmb IAmb 16 06 00.7
comp=Z,662nm,1.2s

MOIG Morelia 85.52 67 IAmb IAmb 16 06 00.2
comp=Z,769nm,1.7s
BJT Baijiatuau 85.57 316 IAmb IAmb 16 06 00.5
comp=Z,720nm,1.3s
BJT Baijiatuau 85.57 316 P **P** **16 05 57.5 +1.4**
BJT Baijiatuau 85.57 316 P **P** **16 05 56.7 +0.6**
BJI Beijing 85.57 316 P **P** **16 05 56.1 0.0**
BJI SKS **SKSac** **16 15 22.0 -1.8**
BJI pmax pmax
comp=Z,210nm,2.3s
BJI pmax pmax
comp=Z,4µm,6.5s
BMO Blue Mountains 85.58 39 IAmb IAmb 16 06 00.8
comp=Z,345nm,1.1s
CUT Chulitna 85.59 13 P **P** **16 05 54.8 -0.8**
baz=206,SNR=236
CUT S **S** **16 15 35.6 -1.6**
baz=206
M23K Glacier View 85.60 14 P **P** **16 05 55.1 -0.7**
baz=209,SNR=74
M23K S **S** **16 15 36.5 -0.9**
baz=209
BMRM Bremner River 85.64 16 P **P** **16 05 55.8 -0.2**
baz=212,SNR=260
BMRM S **S** **16 15 37.8 -0.1**
baz=212
PPLA Purkeypile 85.66 12 P **P** **16 05 53.9 -2.3**
baz=204,SNR=27
PPLA S **S** **16 15 34.6 -3.6**
baz=204
121A Cookes Peak, D 85.66 53 IAmb IAmb 16 06 02.5
comp=Z,914nm,1.8s
MFID Camas Ranch 85.66 40 IAmb IAmb 16 06 01.4
comp=Z,513nm,1.4s
S31K Pelican 85.66 21 IAmb IAmb 16 06 00.9
comp=Z,519nm,1.1s
S31K Pelican 85.66 21 P **P** **16 05 56.5 +0.5**
baz=219,SNR=162
S31K S **S** **16 15 40.1 +2.0**
baz=219
ENH Enshi 85.67 304 P **P** **16 05 57.7 +0.8**
ENH Enshi 85.67 304 P **P** **16 05 57.5 +0.7**
SURA Surathani 85.68 281 P **P** **16 05 58.5 +1.3**
MESA MESA 85.68 17 P **P** **16 05 56.6 +0.2**
baz=214,SNR=148
MESA S **S** **16 15 39.6 +0.9**
baz=214
SCM Sheep Creek Mo 85.73 14 P **P** **16 05 56.2 -0.2**
baz=209,SNR=193
SCM S **S** **16 15 38.5 -0.3**
baz=209
K20K Telida 85.73 11 P **P** **16 05 56.0 -0.4**
baz=203
K20K S **S** **16 15 39.0 +0.3**
baz=203
KLU Klutina 85.76 15 P **P** **16 05 56.0 -0.7**
baz=210,SNR=128
KLU S **S** **16 15 38.9 -0.3**
baz=210
H16K Elim 85.77 7 P **P** **16 05 56.4 -0.1**
baz=195,SNR=43
H16K S **S** **16 15 40.8 +1.9**
baz=195
CRQE Cirque 85.85 17 P **P** **16 05 57.1 0.0**
baz=213,SNR=107
CRQE S **S** **16 15 40.2 0.0**
baz=213
WRAK Wrangell Islan 85.88 24 IAmb IAmb 16 06 02.7
comp=Z,541nm,1.1s
WRAK Wrangell Islan 85.88 24 P **P** **16 05 57.9 +0.8**
baz=223,SNR=215
WRAK S **S** **16 15 43.6 +3.3**
baz=223
TGL Tana Glacier 85.92 17 IAmb IAmb 16 06 01.6
comp=Z,788nm,1.3s
G15K Niukluk 85.93 6 P **P** **16 05 56.9 -0.3**
baz=194,SNR=34
G15K S **S** **16 15 41.7 +1.3**
baz=194
D08A Wollman Farm, 85.93 36 IAmb IAmb 16 06 02.7
comp=Z,760nm,1.1s
T33K Petersburg 85.95 23 P **P** **16 05 58.3 +0.9**
baz=222
T33K S **S** **16 15 43.2 +2.4**
baz=222
PNL Peninsula 86.01 19 P **P** **16 05 58.7 +1.0**
PNL Peninsula 86.01 19 P **P** **16 05 57.7 0.0**
baz=216,SNR=226
PNL S **S** **16 15 42.4 +1.0**
baz=216
E09A Wood Farm, Sta 86.05 37 IAmb IAmb 16 06 03.5
comp=Z,640nm,1.2s
J19K Poorman 86.07 10 P **P** **16 05 57.8 0.0**
baz=201,SNR=74
J19K S **S** **16 15 42.8 +1.0**
baz=201
PCA Pinnacle 86.10 18 IAmb IAmb 16 06 03.0
comp=Z,650nm,1.1s
PINM Pinnacle 86.10 18 P **P** **16 05 58.3 +0.1**
baz=216,SNR=115
PINM S **S** **16 15 42.4 0.0**
baz=216
HMU Henry Mountain 86.10 47 IAmb IAmb 16 06 03.5
comp=Z,602nm,1.7s
CAST Castle Rocks 86.15 12 P **P** **16 05 56.5 -1.8**
baz=205,SNR=357
CAST S **S** **16 15 38.7 -3.9**
baz=205
TNA Tin City 86.15 4 P **P** **16 05 57.9 -0.3**
baz=190,SNR=14
TNA S **S** **16 15 44.3 +1.9**
baz=190
BCPM Bancas Point 86.17 18 IAmb IAmb 16 06 02.8
comp=Z,612nm,1.2s
R31K City Hall, Gus 86.18 21 P **P** **16 05 58.9 +0.4**
baz=220,SNR=9.1
R31K S **S** **16 15 45.0 +2.1**
baz=220
N25K Chitina, Valde 86.19 15 P **P** **16 05 58.5 -0.2**
baz=212,SNR=305
N25K S **S** **16 15 42.9 -0.3**
baz=212
F14K Arctic Creek 86.19 5 P **P** **16 05 58.3 -0.1**
baz=191,SNR=35
F14K S **S** **16 15 45.6 +2.8**
baz=191
M24K Tolsona, Glenn 86.23 15 P **P** **16 05 59.0 +0.2**
baz=210,SNR=130
M24K S **S** **16 15 44.4 +0.9**
baz=210
GYA Guiyang 86.26 300 ⇓P **P** **16 06 00.5 +0.7**
GYA pP pwP 16 08 14.1 +1.2
GYA sP sP 16 09 10.8 +0.7
GYA SKS **SKSac** **16 15 27.8 -1.1**
GYA S **S** **16 15 43.5 -2.0**
GYA pmax pmax
comp=Z,250nm,1.4s
GYA pmax pmax
comp=Z,7µm,6.9s
SEY Seymchan 86.26 347 *di*P **P** **16 05 57.8 -1.0**
SEY pmax pmax
comp=Z,693nm,1.1s
EPT El Paso 86.28 54 IAmb IAmb 16 06 05.0
comp=Z,962nm,1.5s
WAT6 Susitna Watana 86.29 14 P **P** **16 05 58.4 -0.8**
baz=209,SNR=391
WAT6 S **S** **16 15 42.9 -1.4**
baz=209
WAT1 Susitna Watana 86.33 13 P **P** **16 05 58.6 -0.7**
baz=208
WAT1 S **S** **16 15 42.7 -1.7**
baz=208
H17K Granite Mounta 86.34 8 P **P** **16 05 58.7 -0.5**
baz=197,SNR=34
H17K S **S** **16 15 44.3 0.0**
baz=197
H03S2 Juan Fernandez 86.36 125 P **P** **16 06 01.0 +1.2**
baz=200,slow=74,SNR=4.8
H03S1 Juan Fernandez 86.38 125 P **P** **16 06 01.0 +1.2**
baz=200,slow=74,SNR=12
H03S3 Juan Fernandez 86.38 125 P **P** **16 06 00.1 +0.2**
baz=200,slow=74,SNR=7.9
MCARA McCarthy VSAT 86.40 16 IAmb IAmb 16 06 04.5
comp=Z,633nm,1.2s
MCARA McCarthy VSAT 86.40 16 P **P** **16 05 59.5 -0.1**
baz=213,SNR=123
MCARA S **S** **16 15 45.2 +0.2**
baz=213

U35K Hyder 86.41 25 IAmb IAmb 16 06 28.8
comp=Z,550nm,1.4s
U35K Hyder 86.41 25 P **P** **16 06 00.2 +0.6**
baz=225
U35K S **S** **16 15 48.7 +3.5**
baz=225
COYC Coyhaique 86.45 138 P **P** **16 06 02.7 +2.4**
TMUT Trail Mountain 86.46 46 IAmb IAmb 16 06 06.1
comp=Z,336nm,1.1s
B08A Colville Reser 86.47 35 IAmb IAmb 16 06 04.4
comp=Z,380nm,1.1s
GO07 Milladeo Hill, 86.47 135 IAmb IAmb 16 06 04.7
comp=Z,548nm,1.4s
SLVN Son La 86.47 294 IAmb IAmb 16 06 04.9
comp=Z,540nm,1.6s
SLVN Son La 86.47 294 P **P** **16 06 01.1 +0.2**
J20K Nowinta River 86.48 10 IAmb IAmb 16 06 03.7
comp=Z,673nm,1.4s
J20K Nowinta River 86.48 10 P **P** **16 05 59.3 -0.5**
baz=203
J20K S **S** **16 15 46.5 +0.9**
baz=203
LOGN Logan Glacier 86.48 17 IAmb IAmb 16 06 05.0
comp=Z,741nm,1.2s
P29M Windy Craggy 86.48 19 IAmb IAmb 16 06 04.9
comp=Z,779nm,1.2s
P29M Windy Craggy 86.48 19 P **P** **16 06 00.6 +0.6**
baz=218,SNR=238
P29M S **S** **16 15 48.2 +2.3**
baz=218
R32K Eaglecrest 86.49 22 P **P** **16 06 00.4 +0.4**
baz=221,SNR=143
R32K S **S** **16 15 46.9 +0.9**
baz=221
G16K Koyuk River 86.49 7 IAmb IAmb 16 06 03.9
comp=Z,309nm,1.1s
G16K Koyuk River 86.49 7 P **P** **16 05 59.7 -0.2**
baz=195,SNR=44
G16K S **S** **16 15 46.1 +0.5**
baz=195
KTH Kantishna Hill 86.50 12 IAmb IAmb 16 06 03.2
comp=Z,497nm,1.0s
CTG Chitna Glacier 86.51 17 P **P** **16 06 00.3 +0.1**
baz=214,SNR=250
CTG S **S** **16 15 46.6 +0.2**
baz=214
H03N2 Juan Fernandez 86.51 124 P **P** **16 05 59.0 -1.5**
baz=212,slow=74,SNR=3.5
CTGM Chitina Glacie 86.51 17 IAmb IAmb 16 06 04.4
comp=Z,643nm,1.1s
VA04 Juan Fernndez 86.51 125 IAmb IAmb 16 06 03.5
comp=Z,471nm,0.9s
LLLB Lillooet 86.52 32 IAmb IAmb 16 06 05.0
comp=Z,477nm,1.2s
H03N1 Juan Fernandez 86.52 124 P **P** **16 05 59.4 -1.1**
baz=50,slow=74,SNR=5.8
TRF Thorofare Moun 86.53 12 P **P** **16 05 59.0 -1.3**
baz=206,SNR=260
TRF S **S** **16 15 44.3 -2.2**
baz=206
CHUM Lake Minchumin 86.53 11 P **P** **16 05 58.8 -1.2**
baz=204,SNR=47
CHUM S **S** **16 15 43.2 -2.9**
baz=204
JIS Juneau Island 86.53 22 P **P** **16 06 01.4 +1.2**
F15K North Star Dit 86.57 6 P **P** **16 05 59.9 -0.3**
baz=193,SNR=24
F15K S **S** **16 15 47.8 +1.4**
baz=193
GCSA Galena City Sc 86.58 9 P **P** **16 06 00.2 0.0**
baz=200,SNR=46
GCSA S **S** **16 15 48.8 +2.3**
baz=200
HLID Hailey 86.60 41 IAmb IAmb 16 06 07.0
comp=Z,353nm,1.1s
BESE Bessie Mountai 86.60 21 IAmb IAmb 16 06 05.5
comp=Z,623nm,1.2s
SYO Syowa Base 86.64 193 ⇑*i*PcP **PcP** **16 06 04.4 +2.2**
SYO Syowa Base 86.64 193 ⇑*i*pP pP 16 08 09.4 -1.4
O28M Mount Upton 86.67 18 IAmb IAmb 16 06 06.0
comp=Z,638nm,1.1s
O28M Mount Upton 86.67 18 P **P** **16 06 01.2 0.0**
baz=216,SNR=249
O28M S **S** **16 15 48.7 +0.5**
baz=216
HVU Hansel Valley 86.69 43 IAmb IAmb 16 06 06.4
comp=Z,530nm,1.4s
HARP HAARP 86.73 15 P **P** **16 06 01.0 -0.1**
baz=211,SNR=80
HARP S **S** **16 15 48.3 +0.2**
baz=211
H18K Honhosa River 86.75 8 P **P** **16 06 00.5 -0.7**
baz=199,SNR=50
H18K S **S** **16 15 48.9 +0.7**
baz=199
LHMI Lhok Sumawe 86.75 277 P **P** **16 06 03.0 +0.7**
O29M Mount Kennedy 86.76 19 IAmb IAmb 16 06 06.0
comp=Z,678nm,1.4s
O29M Mount Kennedy 86.76 19 P **P** **16 06 01.8 +0.3**
baz=217,SNR=153
O29M S **S** **16 15 50.7 +1.9**
baz=217
PLBC Pleasant Camp 86.78 20 P **P** **16 06 01.9 +0.6**
baz=219,SNR=451
PLBC S **S** **16 15 50.5 +1.9**
baz=219
G17K Kiwalik Mounta 86.79 7 P **P** **16 06 00.9 -0.4**
baz=197,SNR=72
G17K S **S** **16 15 48.7 +0.2**
baz=197
DHY Denali Highway 86.81 14 P **P** **16 06 00.8 -0.7**
baz=209,SNR=189
DHY S **S** **16 15 48.0 -1.1**
baz=209
SRU San Rafael Swe 86.83 46 IAmb IAmb 16 06 07.0
comp=Z,365nm,1.0s
P17A Butcher Ranch, 86.86 46 IAmb IAmb 16 06 07.5
comp=Z,576nm,1.5s
Y22A Socorro 86.91 52 IAmb IAmb 16 06 07.9
comp=Z,535nm,1.6s
MLSI Meulaboh, Aceh 86.92 276 P **P** **16 06 03.4 +0.3**
comp=Z,23μmcomp=Z,12μmcomp=Z,790nm,0.9s
TIY Taiyuan 86.94 312 *e*P **P** **16 06 03.2 +0.5**
TIY pP **pwP** **16 08 16.4 0.0**
TIY SKS **SKSac** **16 15 31.9 -0.5**
TIY pmax pmax
comp=Z,260nm,1.5s
JLU Jordanelle 86.95 45 IAmb IAmb 16 06 07.8
comp=Z,629nm,1.9s
BPAW Bear Paw Mtn. 86.98 12 P **P** **16 06 00.5 -1.7**
baz=206,SNR=75
BPAW S **S** **16 15 46.6 -3.8**
baz=206
TLIG Tlapa 86.99 70 IAmb IAmb 16 06 08.9
comp=Z,430nm,1.6s
I20K Naaghedeneel 87.00 10 P **P** **16 06 02.2 0.0**
baz=202,SNR=32
I20K S **S** **16 15 51.2 +0.8**
baz=202
Y22D IRIS PASSCAL I 87.00 52 IAmb IAmb 16 06 08.6
comp=Z,1μm,1.9s
Y22D IRIS PASSCAL I 87.00 52 P **P** **16 06 06.8 +3.6**
baz=243
Y22D S S 16 16 01.6 +9.4
baz=243
MCK McKinley 87.05 13 P **P** **16 06 01.7 -0.9**
baz=208,SNR=284
MCK S **S** **16 15 49.2 -1.9**
baz=208
T35M Bob Quinn 87.08 24 IAmb IAmb 16 06 08.2
comp=Z,401nm,1.4s
T35M Bob Quinn 87.08 24 P **P** **16 06 04.1 +1.2**
baz=224,SNR=123
T35M S **S** **16 15 54.5 +2.9**
baz=224
P30M Million Dollar 87.11 19 P **P** **16 06 03.7 +0.7**
baz=218,SNR=367
P30M S **S** **16 15 54.7 +2.9**
baz=218
SKAG Skagway 87.12 20 P **P** **16 06 04.1 +1.2**
baz=220,SNR=167
SKAG S **S** **16 15 54.5 +2.8**
baz=220
PAX Paxson 87.15 14 IAmb IAmb 16 06 06.5
comp=Z,434nm,1.3s
PAX Paxson 87.15 14 P **P** **16 06 02.2 -0.9**
baz=211,SNR=165
PAX S **S** **16 15 50.2 -1.9**
baz=211
YUK8 Steele Glacier 87.21 18 P **P** **16 06 04.0 +0.3**
baz=216,SNR=235
YUK8 S **S** **16 15 54.5 +1.4**
baz=216
TCUT Toone Canyon 87.24 44 IAmb IAmb 16 06 10.0
comp=Z,744nm,1.3s
M26K Nabesna, AK 87.27 16 IAmb IAmb 16 06 08.5
comp=Z,586nm,1.1s
M26K Nabesna, AK 87.27 16 P **P** **16 06 03.5 -0.1**
baz=213,SNR=294
M26K S **S** **16 15 53.2 +0.1**
baz=213
P18A Preston Nutter 87.27 46 IAmb IAmb 16 06 09.4
comp=Z,446nm,1.5s
PV05 Paradox Valley 87.31 48 IAmb IAmb 16 06 09.6
comp=Z,388nm,1.3s
LL05 Los Muermos 87.32 133 IAmb IAmb 16 06 08.5
comp=Z,480nm,1.1s
YUK6 Outpost Mounta 87.34 18 P **P** **16 06 04.3 +0.1**
baz=217,SNR=205
YUK6 S **S** **16 15 54.7 +0.4**
baz=217
BSUT Blindstream Ca 87.38 45 IAmb IAmb 16 06 10.0
comp=Z,619nm,1.4s
H19K Roundabout Mou 87.38 9 IAmb IAmb 16 06 08.1
comp=Z,740nm,1.2s
H19K Roundabout Mou 87.38 9 P **P** **16 06 03.9 -0.1**
baz=200,SNR=233
H19K S **S** **16 15 54.3 +0.4**
baz=200
HWUT Hardware Ranch 87.38 44 IAmb IAmb 16 06 09.3
comp=Z,383nm,1.6s
ZEA Zeya 87.40 331 *e*P **P** **16 06 04.4 0.0**
ZEA *e* 16 15 34.6
ZEA *e*S **S** **16 15 56.9 +2.3**
ZEA *e*SS **SS** **16 22 04.6 +5.1**
ZEA pmax pmax
comp=E,1μm,7.8s
ZEA pmax pmax
comp=N,900nm,6.1s
ZEA pmax pmax
comp=Z,3μm,6.7s
ZEA pmax pmax
comp=E,50nm,1.0s
ZEA pmax pmax
comp=N,70nm,1.1s
ZEA pmax pmax
comp=Z,300nm,1.1s
ZEA smax smax
comp=N,1μm,8.2s
ZEA smax smax
comp=E,3μm,9.3s
YUK3 Moose Creek 87.42 17 P **P** **16 06 04.6 0.0**
baz=215,SNR=1000
YUK3 S **S** **16 15 55.5 +0.6**
baz=215
G18K Tagagawik 87.42 8 IAmb IAmb 16 06 07.7
comp=Z,325nm,1.1s
G18K Tagagawik 87.42 8 P **P** **16 06 03.5 -0.7**
baz=198,SNR=109
G18K S **S** **16 15 53.6 -0.8**
baz=198
TXAR Lajitas Array 87.42 58 P **P** **16 06 06.3 +1.1**
TXAR Lajitas Array 87.42 58 P **P** **16 06 06.5 +1.3**
comp=Z,88nm,0.8s,baz=219,slow=5.7,SNR=610
TXAR pP **pP** **16 08 16.6 +1.4**
comp=Z,74nm,1.1s,baz=246,slow=3.6,SNR=6.7
TXAR S **SKSac** **16 15 36.2 +0.5**
comp=Z,2.3nm,1.1s,baz=268,slow=1.3,SNR=2.3
TXAR PKKPbc **PKKPbc** **16 23 53.0 +1.7**
comp=Z,4.1nm,0.7s,baz=47,slow=3.0,SNR=16
TXAR SKKP 16 26 15.8
comp=Z,2.3nm,0.7s,baz=85,slow=3.5,SNR=5.6
TXAR PKPPKP **P'P'df** **16 31 54.8 -3.4**
comp=Z,0.9nm,0.8s,baz=70,slow=3.6,SNR=4.9
comp=Z,88nm,0.8s
S34M Telegraph Cree 87.42 23 P **P** **16 06 05.3 +0.9**
baz=224,SNR=552
S34M S **S** **16 15 57.3 +2.6**
baz=224
PV10 Paradox Valley 87.49 47 IAmb IAmb 16 06 09.8
comp=Z,440nm,1.1s
PV19 Morning Glory 87.50 48 IAmb IAmb 16 06 10.0
comp=Z,546nm,1.2s
HYT Haines Junctio 87.50 19 IAmb IAmb 16 06 09.4
comp=Z,301nm,1.0s
HYT Haines Junctio 87.50 19 P **P** **16 06 05.3 +0.5**
baz=218,SNR=151
HYT S **S** **16 15 55.9 +0.3**
baz=218
M27K Edge Creek, AK 87.52 16 P **P** **16 06 05.5 +0.6**
baz=214,SNR=668
M27K S **S** **16 15 56.2 +0.5**
baz=214
PV18 Skein Mesa, Pa 87.52 48 IAmb IAmb 16 06 10.1
comp=Z,475nm,1.3s
PV20 West Nyswonger 87.52 47 IAmb IAmb 16 06 10.1
comp=Z,494nm,1.2s
MENT Mentasta 87.54 15 IAmb IAmb 16 06 09.1
comp=Z,392nm,1.1s
MENT Mentasta 87.54 15 P **P** **16 06 05.1 +0.2**
PV23 Carpenter Ridg 87.55 47 IAmb IAmb 16 06 10.4
comp=Z,345nm,1.1s
PV11 David Mesa, Pa 87.57 48 IAmb IAmb 16 06 10.3
comp=Z,404nm,1.4s
YUK4 Talbot Arm 87.58 18 P **P** **16 06 05.9 +0.6**
baz=217,SNR=101
YUK4 S **S** **16 15 56.7 +0.3**
baz=217
H20K Anotleneega Mo 87.58 10 P **P** **16 06 04.9 -0.1**
baz=202,SNR=251
H20K S **S** **16 15 56.1 +0.2**
baz=202
PV04 Paradox Valley 87.59 47 IAmb IAmb 16 06 10.6
comp=Z,297nm,1.2s
PV02 Paradox Valley 87.62 48 IAmb IAmb 16 06 10.6
comp=Z,682nm,1.5s
PV21 Cone Mtn., Par 87.62 47 IAmb IAmb 16 06 10.8
comp=Z,396nm,1.3s
F17K Baldwin Pennin 87.63 7 IAmb IAmb 16 06 09.6
comp=Z,463nm,1.1s
F17K Baldwin Pennin 87.63 7 P **P** **16 06 05.0 -0.1**
baz=196
F17K S **S** **16 15 57.5 +1.3**
baz=196
XLT XiLinHaoTe 87.64 319 *e*P **P** **16 06 05.7 -0.2**
XLT pP pwP 16 08 19.4 0.0
XLT PP **PP** **16 09 39.8 -3.5**
XLT SKS **SKSac** **16 15 35.5 -0.8**
XLT SS **SS** **16 22 08.7 +5.2**
XLT pmax pmax
comp=Z,340nm,1.3s
XLT pmax pmax
comp=Z,6μm,9.7s
LL02 Futaleuf 87.64 135 IAmb IAmb 16 06 09.3
comp=Z,485nm,1.0s
PAF Port-aux-Franc 87.69 218 P **P** **16 06 06.9 +0.9**
PAF IAmb IAmb 16 08 24.1
comp=Z,441nm,1.2s
PAF Port-aux-Franc 87.69 218 P **P** **16 06 06.9 +0.9**
PAF pmax pmax
comp=Z,441nm,1.2s
L26K Log Cabin Wild 87.70 15 IAmb IAmb 16 06 10.4
comp=Z,442nm,1.2s
L26K Log Cabin Wild 87.70 15 P **P** **16 06 05.6 0.0**
baz=213,SNR=91
L26K S **S** **16 15 57.1 -0.1**
baz=213
ANMO Albuquerque 87.74 51 P **P** **16 06 07.1 +0.4**
ANMO IAmb IAmb 16 06 11.3
comp=Z,405nm,1.4s
ANMO Albuquerque 87.74 51 PKPPKP 16 31 56.9
comp=Z,0.9nm,0.7s,baz=223,slow=5.8,SNR=6.1
ANMO Albuquerque 87.74 51 P **P** **16 06 07.4 +0.7**
ANMO pP **pP** **16 08 18.0 +1.0**
PV22 Blue Mesa, Par 87.74 47 IAmb IAmb 16 06 11.2
comp=Z,359nm,1.4s
TROLL Troll, Antarti 87.74 180 ⇑P **P** **16 06 05.4 -0.6**
comp=Z,6μm,0.6s
TROLL ⇑pP **pP** **16 08 15.7 -0.6**
comp=Z,9μm,0.8s
TROLL ⇑SKSac **SKSac** **16 15 34.9 -1.5**
TROLL ⇓PKKPbc **PKKPbc** **16 23 48.4 -3.5**
comp=Z,526nm,0.7s
P32M Atlin 87.75 21 IAmb IAmb 16 06 10.8
comp=Z,437nm,1.2s
P32M Atlin 87.75 21 P **P** **16 06 06.5 +0.5**
baz=221,SNR=315
P32M S **S** **16 15 59.9 +2.1**
baz=221
XAN Xi'an 87.77 308 ⇓P **P** **16 06 07.2 +0.5**
XAN sP sP 16 09 19.0 +1.6
XAN PP **PP** **16 09 48.6 +4.0**
XAN SKS **SKSac** **16 15 35.7 -1.8**
XAN S **ScS** **16 16 02.8 -0.1**
XAN sS sS 16 19 50.0 -0.9
XAN SS **SS** **16 22 12.1 +6.3**
XAN pmax pmax
comp=Z,800nm,1.2s
XAN pmax pmax
comp=Z,9μm,6.8s
I21K Tanana 87.78 11 P **P** **16 06 05.2 -0.7**
baz=205,SNR=58
I21K S **S** **16 15 56.3 -1.3**
baz=205
Q32M Nakina River 87.78 22 IAmb IAmb 16 06 11.2
comp=Z,422nm,1.1s
Q32M Nakina River 87.78 22 P **P** **16 06 06.8 +0.5**
baz=222,SNR=288
Q32M S **S** **16 16 00.3 +1.9**
baz=222
PV07 Paradox Valley 87.79 48 IAmb IAmb 16 06 11.4
comp=Z,409nm,1.6s
NEA2 Nenana 87.79 12 IAmb IAmb 16 06 08.8
comp=Z,288nm,1.0s
NEA2 Nenana 87.79 12 P **P** **16 06 04.8 -1.2**
baz=207,SNR=64
NEA2 S **S** **16 15 55.1 -2.8**
baz=207
K24K Donnelly Dome 87.80 14 P **P** **16 06 05.8 -0.3**
baz=210
K24K S **S** **16 15 58.0 0.0**
baz=210
BVCY Beaver Creek 87.83 17 P **P** **16 06 06.5 +0.2**
baz=215,SNR=489
BVCY S **S** **16 15 59.4 +1.1**
baz=215
G19K Purcell Mounta 87.87 9 IAmb IAmb 16 06 10.8
comp=Z,539nm,1.1s
G19K Purcell Mounta 87.87 9 P **P** **16 06 06.0 -0.3**
baz=200,SNR=89
G19K S **S** **16 15 59.4 +1.0**
baz=200
MLY Manley 87.87 11 IAmb IAmb 16 06 10.2
comp=Z,564nm,1.3s
MLY Manley 87.87 11 P **P** **16 06 05.0 -1.4**
baz=206,SNR=170
MLY S **S** **16 15 56.3 -2.3**
baz=206
ALPN Alpine 87.88 57 IAmb IAmb 16 08 24.8
comp=Z,449nm,1.2s
O30N Mendenhall 87.89 19 IAmb IAmb 16 06 11.2
comp=Z,380nm,0.9s
O30N Mendenhall 87.89 19 P **P** **16 06 06.8 +0.2**
baz=219,SNR=444
O30N S **S** **16 16 00.8 +1.8**
baz=219
RIDG Independent Ri 87.95 14 IAmb IAmb 16 06 11.3
comp=Z,620nm,1.3s
RIDG Independent Ri 87.95 14 P **P** **16 06 06.5 -0.4**
baz=211,SNR=97
RIDG S **S** **16 15 58.7 -0.8**
baz=211
F18K Selawik 87.97 7 P **P** **16 06 06.0 -0.7**
baz=198,SNR=49
F18K S **S** **16 15 59.2 0.0**
baz=198
SNAA Sanae 88.04 179 ⇑P **P** **16 06 06.5 -0.8**
comp=Z,1μm,0.8s
SNAA ⇑pP **pP** **16 08 16.5 -1.1**
comp=Z,1μm,0.8s
SNAA ⇑SKSac **SKSac** **16 15 37.5 -0.4**
SNAA ⇑PKKPbc **PKKPbc** **16 23 47.9 -3.2**
comp=Z,197nm,1.1s
SNAA Sanae 88.04 179 P **P** **16 06 07.2 -0.1**
SNAA IAmb IAmb 16 08 24.4
comp=Z,812nm,1.8s
SNAA Sanae 88.04 179 P **P** **16 06 06.8 -0.5**
comp=Z,53nm,0.8s,baz=207,slow=7.1,SNR=99
SNAA pP **pwP** **16 08 19.7 -0.5**
comp=Z,48nm,0.9s,baz=184,slow=7.2,SNR=5.4
SNAA S **SKSac** **16 15 37.4 -0.6**
comp=Z,25nm,0.9s,baz=182,slow=22,SNR=21
SNAA PKKPbc **PKKPbc** **16 23 47.3 -3.9**
comp=Z,8.0nm,0.9s,baz=110,slow=2.0,SNR=11
SNAA PKPPKP P'P'df 16 31 47.1 -9.5
comp=Z,4.7nm,1.0s,baz=348,slow=3.5,SNR=5.7
comp=Z,53nm,0.8s
SNAA Sanae 88.04 179 *i*P **P** **16 06 06.8 -0.5**
SNAA pmax pmax
comp=Z,98nm,1.1s
DOT Dot Lake 88.06 15 IAmb IAmb 16 06 11.8
comp=Z,581nm,1.2s
PAYG Puerto Ayora 88.06 90 P **P** **16 06 11.1 +2.6**
PAYG IAmb IAmb 16 06 12.3
comp=Z,447nm,1.4s
HDA Harding Lake 88.07 13 P **P** **16 06 06.4 -0.8**
baz=209,SNR=398
HDA S **S** **16 15 59.2 -1.2**
baz=209
H21K Melozitna Rive 88.07 10 IAmb IAmb 16 06 11.2
comp=Z,478nm,1.1s
H21K Melozitna Rive 88.07 10 P **P** **16 06 07.0 -0.3**
baz=204,SNR=260
H21K S **S** **16 16 00.8 +0.4**
baz=204
L27K Beaver Creek, 88.11 16 IAmb IAmb 16 06 12.3
comp=Z,516nm,1.2s
L27K Beaver Creek, 88.11 16 P **P** **16 06 07.5 -0.1**
baz=214,SNR=441
L27K S **S** **16 16 01.2 +0.3**
baz=214
PECS Pecos 88.13 56 IAmb IAmb 16 06 13.1
comp=Z,568nm,1.8s
N30M Aishikik Lake 88.13 19 IAmb IAmb 16 06 12.0
comp=Z,271nm,1.1s
N30M Aishikik Lake 88.13 19 P **P** **16 06 07.6 -0.1**
baz=218,SNR=242
N30M S **S** **16 16 01.4 +0.3**
baz=218
BCAR Beaver Creek A 88.13 16 P **P** **16 06 07.2 -0.5**
LL03 Petrohue 88.16 133 IAmb IAmb 16 06 11.8
comp=Z,465nm,1.1s
E17K Hotham Inlet 88.19 6 P **P** **16 06 07.4 -0.3**
baz=196,SNR=48
E17K S **S** **16 16 02.3 +1.0**
baz=196
VNA3 Neumayer Olymp 88.19 176 ⇑P **P** **16 06 07.4 -0.5**
comp=Z,489nm,0.7s
VNA3 ⇑pP **pP** **16 08 17.5 -0.8**
comp=Z,393nm,0.7s
VNA3 ⇑SKSac **SKSac** **16 15 37.2 -1.5**
VNA3 ⇓PKKPbc **PKKPdf** **16 23 46.1 +3.8**
comp=Z,20nm,0.8s
WHY Whitehorse 88.19 20 P **P** **16 06 08.2 +0.2**
baz=220,SNR=216
WHY S **S** **16 16 04.6 +2.8**
baz=220
DLBC Dease Lake 88.21 23 P **P** **16 06 08.9 +0.7**
baz=224,SNR=301
DLBC S **S** **16 16 05.4 +3.3**
baz=224
IMAR Indian Mountai 88.22 10 P **P** **16 06 07.4 -0.5**
I23K Minto, Yukon-K 88.23 12 P **P** **16 06 06.7 -1.3**
baz=207,SNR=207
I23K S **S** **16 16 00.7 -1.1**
baz=207
COLA College 88.29 13 P **P** **16 06 07.9 -0.4**
COLA College 88.29 13 P **P** **16 06 07.6 -0.6**
COLA College 88.29 13*d* *i*P **P** **16 06 06.7 -1.5**
COLA pmax pmax
comp=Z,729nm,1.1s
COLA College 88.29 13 P **P** **16 06 07.3 -0.9**
baz=208
COLA S **S** **16 16 01.3 -0.9**
baz=208
COLA College 88.29 13 P **P** **16 06 07.3 -0.9**
SCRK Sand Creek 88.36 14 IAmb IAmb 16 06 12.8
comp=Z,356nm,1.0s
SCRK Sand Creek 88.36 14 P **P** **16 06 08.5 -0.3**
baz=212,SNR=252
SCRK S **S** **16 16 03.0 -0.3**
baz=212
ILAR Eielson Array 88.40 13 P **P** **16 06 08.1 -0.7**

Sta	Name	Dist	Azi	Phase	ISC	Time	Res
ILAR	Eielson Array	88.40	13	P	P	16 06 07.8	-0.9
	comp=Z,411nm,1.1s,baz=224,slow=4.6,SNR=662						
ILAR				pP	pP	16 08 20.4	+1.2
	comp=Z,108nm,1.1s,baz=229,slow=4.8,SNR=9.4						
ILAR				PKiKP	PKiKP	16 11 04.3	-0.7
	comp=Z,2.7nm,0.5s,baz=261,slow=3.5,SNR=7.6						
ILAR				ScS	S	16 16 02.3	-1.1
	comp=Z,13nm,1.1s,baz=211,slow=6.7,SNR=10.0						
ILAR				PKKPbc	PKKPbc	16 23 47.7	-2.5
	comp=Z,2.0nm,0.7s,baz=357,slow=2.3,SNR=10						
ILAR				PKPPKP	P'P'df	16 31 50.2	-3.2
	comp=Z,1.2nm,0.8s,baz=349,slow=3.3,SNR=6.5						
	comp=Z,411nm,1.1s						
F19K	Shaleruckik Mo	88.42	8	P	P	16 06 08.4	-0.4
	baz=199,SNR=208						
F19K				S	S	16 16 04.0	+0.6
	baz=199						
HIA	Hailar	88.43	325	IAmb	IAmb	16 06 13.7	
	comp=Z,218nm,0.9s						
HIA	Hailar	88.43	325	P	P	16 06 09.5	+0.2
HIA	Hailar	88.43	325	P	P	16 06 09.4	0.0
M29M	Somme Creek	88.51	17	P	P	16 06 09.7	+0.2
	baz=217,SNR=687						
M29M				S	S	16 16 05.2	+0.5
	baz=217						
P33M	Teslin, Yukon	88.52	21	P	P	16 06 09.9	+0.3
	baz=222,SNR=226						
P33M				S	S	16 16 05.7	+0.8
	baz=222						
H22K	Ishtalitna Cre	88.53	11	P	P	16 06 08.9	-0.5
	baz=205,SNR=566						
H22K				S	S	16 16 04.7	+0.1
	baz=205						
N31M	Braeburn, Yuko	88.54	19	P	P	16 06 09.9	+0.3
	baz=219,SNR=375						
N31M				S	S	16 16 05.6	+0.7
	baz=219						
R33M	Jennings River	88.56	22	IAmb	IAmb	16 06 14.7	
	comp=Z,634nm,1.4s						
R33M	Jennings River	88.56	22	P	P	16 06 10.5	+0.6
	baz=224,SNR=393						
R33M				S	S	16 16 06.8	+1.4
	baz=224						
J25K	Salcha River,	88.59	14	IAmb	IAmb	16 06 14.0	
	comp=Z,427nm,1.1s						
J25K	Salcha River,	88.59	14	P	P	16 06 08.9	-0.9
	baz=211,SNR=286						
J25K				S	S	16 16 03.4	-1.9
	baz=211						
POKR	Poker Plat Res	88.59	13	IAmb	IAmb	16 06 12.6	
	comp=Z,309nm,0.8s						
POKR	Poker Plat Res	88.59	13	P	P	16 06 08.5	-1.2
	baz=209,SNR=116						
POKR				S	S	16 16 03.9	-1.3
	baz=209						
MSO	Missoula	88.63	38	IAmb	IAmb	16 08 27.9	
	comp=Z,486nm,1.6s						
E18K	Tukpahlearik C	88.64	7	P	P	16 06 09.7	-0.2
	baz=197,SNR=136						
E18K				S	S	16 16 05.7	+0.2
	baz=197						
DLMT	Dillon	88.66	40	IAmb	IAmb	16 06 16.3	
	comp=Z,550nm,1.3s						
D17K	Noatak River	88.66	6	P	P	16 06 10.0	+0.1
	baz=194,SNR=103						
D17K				S	S	16 16 06.7	+1.1
	baz=194						
NVL	N'lazarevskaya	88.71	183	*e*P	P	16 06 08.5	-1.8
NVL				pmax	pmax		
	comp=Z,26nm,0.8s						
TPAW	Teton Pass	88.72	42	IAmb	IAmb	16 06 16.1	
	comp=Z,596nm,1.4s						
S22A	4UR Ranch, Cre	88.74	49	IAmb	IAmb	16 06 16.3	
	comp=Z,396nm,1.4s						
G21K	Allakaket	88.75	10	P	P	16 06 10.1	-0.2
	baz=203,SNR=272						
G21K				S	S	16 16 05.3	-1.2
	baz=203						
H23K	Yukon River	88.80	11	P	P	16 06 09.5	-1.2
	baz=207,SNR=103						
H23K				S	S	16 16 06.0	-1.1
	baz=207						
SNOW	Snow King Moun	88.83	42	IAmb	IAmb	16 06 15.7	
	comp=Z,404nm,1.1s						
LR05	Currie	88.83	133		pP	16 08 22.8	+0.7
VNA1	Neumayer--Stat	88.85	177	⇑P	P	16 06 10.0	-0.9
	comp=Z,488nm,0.8s						
VNA1				⇓pP	pP	16 08 20.5	-0.9
	comp=Z,391nm,0.9s						
VNA1				⇑SKSac	SKSac	16 15 45.8	+3.3
VNA1				⇓PKKPbc	PKKPdf	16 23 44.3	+3.1
	comp=Z,34nm,1.0s						
K27K	Chicken	88.86	15	P	P	16 06 11.5	+0.5
	baz=214						
K27K				S	S	16 16 08.0	+0.4
	baz=214						
O20A	White River Ci	88.87	46	IAmb	IAmb	16 06 17.2	
	comp=Z,296nm,1.1s						
SAND	Sanderson	88.90	58	IAmb	IAmb	16 08 29.2	
	comp=Z,307nm,1.3s						
J26L	Joseph Creek	88.90	14	P	P	16 06 11.4	+0.2
	baz=212,SNR=676						
J26L				S	S	16 16 08.0	-0.2
	baz=212						
F20K	Avaraart Lake	88.91	9	P	P	16 06 10.9	-0.2
	baz=201,SNR=207						
F20K				S	S	16 16 08.7	+0.9
	baz=201						
KMI	Kunming	88.95	297	⇓P	P	16 06 13.7	+1.1
KMI				sP	sP	16 09 24.1	+0.9
KMI				PP	PP	16 09 52.6	-1.6
KMI				SKS	SKSac	16 15 45.1	0.0
KMI				S	S	16 16 10.7	+0.1
KMI				sS	sS	16 19 57.8	-5.2
KMI				pmax	pmax		
	comp=Z,320nm,1.3s						
KMI				pmax	pmax		
	comp=Z,5µm,3.6s						
MNHN	Monahans	88.97	56	IAmb	IAmb	16 08 29.7	
	comp=Z,443nm,1.6s						
BILL	Bilibino	88.98	354	*d i*P	P	16 06 10.6	-0.8
BILL				*i* *PP	pP	16 08 23.8	+1.2
BILL				*i*		16 09 52.9	
BILL				pmax	pmax		
	comp=Z,186nm,1.0s						
LOHW	Long Hollow	89.00	42	IAmb	IAmb	16 06 17.2	
	comp=Z,483nm,1.5s						
RDOG	Red Dog Mine	89.02	6	IAmb	IAmb	16 06 16.3	
	comp=Z,320nm,1.1s						
RDOG	Red Dog Mine	89.02	6	P	P	16 06 11.5	-0.1
	baz=194,SNR=29						
RDOG				S	S	16 16 08.1	-0.8
	baz=194						
C16K	Lisburne Hills	89.02	5	IAmb	IAmb	16 06 16.1	
	comp=Z,449nm,1.1s						
C16K	Lisburne Hills	89.02	5	P	P	16 06 11.1	-0.5
	baz=192						
C16K				S	S	16 16 08.4	-0.5
	baz=192						
HHC	Hu-ho-hao-te	89.03	315	⇓*i*P	P	16 06 12.7	+0.3
HHC				pP	pwP	16 08 25.1	-1.7
HHC				sP	sP	16 09 24.3	+1.2
HHC				PP	PP	16 09 55.6	+1.3
HHC				SKS	SKSac	16 15 45.2	+0.6
HHC				S	ScS	16 16 13.6	+0.4
HHC				pmax	pmax		
	comp=Z,260nm,1.3s						
HHC				pmax	pmax		
	comp=Z,5µm,6.3s						
E19K	Redstone River	89.09	8	P	P	16 06 11.8	-0.2
	baz=200,SNR=328						
E19K				S	S	16 16 10.2	+0.7
	baz=200						
M30M	Minto, Yukon	89.09	18	P	P	16 06 12.0	-0.1
	baz=218,SNR=759						
M30M				S	S	16 16 10.1	+0.3
	baz=218						
H24K	Noodor Dome	89.13	12	P	P	16 06 10.4	-1.9
	baz=208,SNR=41						
H24K				S	S	16 16 08.6	-1.5
	baz=208						
L29M	L29M	89.14	17	P	P	16 06 12.7	+0.4
	baz=217,SNR=1000						
L29M				S	S	16 16 10.1	-0.1
	baz=217						
N32M	Quiet Lake	89.14	20	P	P	16 06 12.9	+0.5
	baz=222						
N32M				S	S	16 16 11.7	+1.3
	baz=222						
YHB	Horse Butte	89.20	41	IAmb	IAmb	16 06 19.4	
	comp=Z,422nm,1.2s						
PDAR	Pinedale Array	89.25	43	P	P	16 06 13.8	+0.2
	comp=Z,125nm,0.8s,baz=209,slow=3.1,SNR=242						
PDAR				pP	pP	16 08 25.8	+1.6
	comp=Z,23nm,1.1s,baz=239,slow=5.0,SNR=4.2						
PDAR				S	SKSac	16 15 46.5	+0.3
	comp=Z,0.3nm,0.6s,baz=238,slow=12,SNR=1.2						
PDAR				PKKP	PKKPdf	16 23 43.1	+0.2
	comp=Z,6.9nm,0.9s,baz=103,slow=4.5,SNR=12						
PDAR				PKPPKP	P'P'df	16 31 48.9	-5.0
	comp=Z,0.5nm,0.4s,baz=55,slow=1.7,SNR=3.3						
	comp=Z,125nm,0.8s						
YFT	Old Faithful	89.27	41	IAmb	IAmb	16 06 20.5	
	comp=Z,289nm,1.1s						
PRP	Porcupine Dome	89.33	13	P	P	16 06 12.5	-0.8
	baz=211,SNR=472						
PRP				S	S	16 16 10.4	-1.7
	baz=211						
BOZ	Bozeman (W)	89.36	40	IAmb	IAmb	16 06 18.9	
	comp=Z,354nm,1.2s						
F21K	Alatna River	89.40	9	IAmb	IAmb	16 06 17.8	
	comp=Z,284nm,1.1s						
F21K	Alatna River	89.40	9	P	P	16 06 12.9	-0.5
	baz=203,SNR=150						
F21K				S	S	16 16 12.8	+0.3
	baz=203						
C17K	DeLong Mountai	89.41	6	P	P	16 06 13.1	-0.3
	baz=194,SNR=39						
C17K				S	S	16 16 13.0	+0.6
	baz=194						
G22K	Bettles	89.44	10	P	P	16 06 13.4	-0.1
	baz=205						
G22K				S	S	16 16 12.5	-0.2
	baz=205						
YNR	Norris Junctio	89.50	41	IAmb	IAmb	16 06 22.1	
	comp=Z,300nm,1.3s						
G23K	Bananza Creek	89.51	11	IAmb	IAmb	16 06 18.7	
	comp=Z,398nm,1.2s						
G23K	Bananza Creek	89.51	11	P	P	16 06 13.7	-0.3
	baz=206,SNR=137						
G23K				S	S	16 16 12.6	-0.9
	baz=206						
M31M	Drury Creek, Y	89.52	19	IAmb	IAmb	16 06 18.5	
	comp=Z,195nm,1.1s						
M31M	Drury Creek, Y	89.52	19	P	P	16 06 13.6	-0.5
	baz=221,SNR=186						
M31M				S	S	16 16 12.5	-1.1
	baz=221						
DAWY	Dawson	89.57	16	IAmb	IAmb	16 06 19.1	
	comp=Z,428nm,1.0s						
DAWY	Dawson	89.57	16	P	P	16 06 14.3	0.0
	baz=216,SNR=348						
DAWY				S	S	16 16 13.2	-0.8
	baz=216						
LKWY	Lake	89.60	42	IAmb	IAmb	16 06 22.1	
	comp=Z,295nm,1.2s						
PLCA	Paso Flores	89.60	134	P	P	16 06 16.6	+1.4
	comp=Z,178nm,1.1s,baz=234,slow=4.9,SNR=133						
PLCA				pP	pwP	16 08 28.4	-0.5
	comp=Z,28nm,1.1s,baz=245,slow=7.8,SNR=5.3						
PLCA				S	SKSac	16 15 49.0	+0.7
	comp=Z,2.0nm,0.9s,baz=288,slow=20,SNR=1.6						
PLCA				PKKPbc	PKKPbc	16 23 45.6	-0.7
	comp=Z,2.4nm,0.9s,baz=192,slow=8.2,SNR=2.8						
PLCA				PKPPKP	P'P'df	16 31 48.9	-6.2
	comp=Z,11nm,1.0s,baz=47,slow=1.1,SNR=5.3						
	comp=Z,178nm,1.1s						
PLCA	Paso Flores	89.60	134	P	P	16 06 16.7	+1.5
I26K	Coal Creek Min	89.68	14	P	P	16 06 14.7	0.0
	baz=213						
I26K				S	S	16 16 14.4	-0.5
	baz=213						
SDCO	Great Sand Dun	89.68	49	IAmb	IAmb	16 06 20.1	
	comp=Z,428nm,1.8s						
CM31	Chiang Mai Arr	89.69	290	P	P	16 06 17.1	+1.2
	SNR=124						
CM31				S	SKSac	16 15 50.8	+1.6
CMAR	Chiang Mai Arr	89.69	290	P	P	16 06 16.9	+1.1
	comp=Z,430nm,1.1s,baz=118,slow=2.7,SNR=470						
CMAR				pP	pP	16 08 28.5	+2.2
	comp=Z,64nm,1.0s,baz=111,slow=4.6,SNR=4.7						
CMAR				PP	PP	16 10 02.9	+3.1
	comp=Z,49nm,1.1s,baz=110,slow=8.6,SNR=5.8						
CMAR				S	SKSac	16 15 48.8	-0.4
	comp=Z,0.6nm,0.6s,baz=171,slow=17,SNR=0.9						
CMAR				PKKPbc	PKKPbc	16 23 46.5	+1.3
	comp=Z,6.3nm,0.6s,baz=291,slow=2.7,SNR=20						
CMAR				SKKPbc	SKKPbc	16 26 27.4	+0.4
	comp=Z,6.0nm,0.9s,baz=291,slow=2.9,SNR=7.6						
CMAR				PKPPKP	P'P'df	16 31 55.3	+0.7
	comp=Z,2.6nm,0.8s,baz=273,slow=2.4,SNR=7.5						
	comp=Z,430nm,1.1s						
HAYD	Hayden	89.71	46	IAmb	IAmb	16 06 21.1	
	comp=Z,245nm,1.1s						
C18K	Utukok River	89.76	6	IAmb	IAmb	16 06 18.8	
	comp=Z,427nm,1.2s						
C18K	Utukok River	89.76	6	P	P	16 06 14.7	-0.4
	baz=196,SNR=70						
C18K				S	S	16 16 13.8	-1.9
	baz=196						
CHTO	Chiang Mai	89.83	290	P	P	16 06 17.0	+0.5
CHTO				S	SKSac	16 15 50.9	+1.0
CHTO	Chiang Mai	89.83	290	P	P	16 06 17.5	+1.0
CHTO	Chiang Mai	89.83	290	P	P	16 06 17.8	+1.3
YMP	Mirror Lake Pl	89.84	41	IAmb	IAmb	16 06 34.1	
	comp=Z,236nm,1.3s						
WTLY	Watson Lake, Y	89.84	22	IAmb	IAmb	16 06 20.9	
	comp=Z,278nm,1.1s						
WTLY	Watson Lake, Y	89.84	22	P	P	16 06 16.1	+0.4
	baz=226,SNR=51						
WTLY				S	S	16 16 17.1	+0.4
	baz=226						
F22K	John River	89.87	10	P	P	16 06 15.4	-0.2
	baz=204,SNR=36						
F22K				S	S	16 16 14.9	-1.7
	baz=204						
DRIO	Del Rio	89.88	59	IAmb	IAmb	16 08 34.0	
	comp=Z,468nm,1.3s						
K29M	Barlow Dome	89.89	17	P	P	16 06 16.0	+0.1
	baz=218,SNR=422						
K29M				S	S	16 16 16.7	-0.4
	baz=218						
H25L	Birch Creek	89.92	13	P	P	16 06 14.4	-1.4
	baz=210,SNR=28						
H25L				S	S	16 16 16.7	-0.3
	baz=210						
COLD	Coldfoot	89.94	11	IAmb	IAmb	16 06 20.9	
	comp=Z,440nm,1.1s						
COLD	Coldfoot	89.94	11	P	P	16 06 16.0	+0.1
	baz=206,SNR=70						
COLD				S	S	16 16 17.5	+0.2
	baz=206						
BTO	Baotou	89.95	314	*e*P	P	16 06 17.6	+0.9
BTO				PP	PP	16 10 00.2	-1.3
BTO				SKS	SKSac	16 15 46.5	-3.4
BTO				S	SKKSac	16 16 09.5	+3.3
BTO				pmax	pmax		
	comp=Z,520nm,1.4s						
BTO				pmax	pmax		
	comp=Z,3µm,4.2s						
D19K	Kuna River	89.96	7	P	P	16 06 15.7	-0.3
	baz=199						
D19K				S	S	16 16 15.8	-1.6
	baz=199						
G24K	Hadweenzic Riv	89.97	12	P	P	16 06 14.9	-1.1
	baz=209,SNR=40						
G24K				S	S	16 16 16.7	-0.8
	baz=209						
E20K	Nigu River	89.98	8	P	P	16 06 16.0	-0.1
	baz=201,SNR=253						
E20K				S	S	16 16 16.3	-1.3
	baz=201						
MSTX	Muleshoe	90.06	54	IAmb	IAmb	16 06 21.6	
	comp=Z,203nm,1.0s						
YNE	Yellowstone No	90.06	41	IAmb	IAmb	16 06 22.5	
	comp=Z,298nm,1.2s						
OZNA	Ozona	90.08	57	IAmb	IAmb	16 06 21.8	
	comp=Z,358nm,1.6s						
MAYO	Mayo, Yukon	90.14	18	P	P	16 06 17.6	+0.6
	baz=219,SNR=152						
MAYO				S	S	16 16 18.1	-1.1
	baz=219						
J29N	Klondike Camp	90.19	16	P	P	16 06 17.7	+0.5
	baz=217,SNR=68						
J29N				S	S	16 16 19.0	-0.7
	baz=217						
T25A	Trinidad	90.19	50	IAmb	IAmb	16 06 22.2	
	comp=Z,548nm,1.9s						
I27K	Kandik River	90.28	14	P	P	16 06 17.4	-0.1
	baz=214,SNR=150						
I27K				S	S	16 16 20.1	-0.3
	baz=214						
G25K	Bearman Lake	90.30	12	P	P	16 06 16.8	-0.7
	baz=210,SNR=48						
G25K				S	S	16 16 20.4	+0.1
	baz=210						
PZH	PanZhiHua	90.31	298	P	P	16 06 19.0	+0.3
PZH				pP	pP	16 08 30.3	+1.0
PZH				PP	PP	16 10 03.0	-1.6
PZH				SKS	SKSac	16 15 52.1	-0.5
PZH				S	ScS	16 16 23.7	-0.8
PZH				pmax	pmax		
	comp=Z,240nm,1.3s						
PZH				pmax	pmax		
	comp=Z,4µm,7.7s						
TOAD	Toad River Com	90.32	25	P	P	16 06 18.4	+0.6
	baz=229,SNR=106						
D20K	Etivluk River	90.35	8	P	P	16 06 17.6	-0.2
	baz=200,SNR=209						
D20K				S	S	16 16 18.9	-2.0
	baz=200						
LIRD	Liard River Hi	90.36	24	P	P	16 06 18.5	+0.5
	baz=228						
LIRD				S	S	16 16 21.2	0.0
	baz=228						
C19K	Lookout Ridge	90.37	7	P	P	16 06 17.7	-0.2
	baz=198,SNR=107						
C19K				S	S	16 16 19.5	-1.6
	baz=198						
B18K	Kokolik River	90.40	6	P	P	16 06 17.7	-0.2
	baz=196,SNR=43						
B18K				S	S	16 16 20.2	-0.9
	baz=196						
CD2	Chengdu	90.41	303	⇓P	P	16 06 19.3	+0.3
CD2				pP	pP	16 08 28.5	-1.2
CD2				sP	sP	16 09 26.5	-3.4
CD2				SKS	SKSac	16 15 53.4	+0.6
CD2				S	ScS	16 16 24.5	-0.5
CD2				SS	SS	16 22 45.8	+2.3
CD2				pmax	pmax		
	comp=Z,190nm,0.9s						
CD2				pmax	pmax		
	comp=Z,7µm,6.0s						
833A	Chaparral WMA,	90.43	60	IAmb	IAmb	16 06 23.6	
	comp=Z,526nm,1.7s						
E21K	Killik River	90.46	9	P	P	16 06 17.6	-0.6
	baz=203,SNR=140						
E21K				S	S	16 16 20.9	-0.9
	baz=203						
SGCY	Sterling City	90.48	56	IAmb	IAmb	16 08 36.9	
	comp=Z,527nm,1.6s						
E22K	Anaktuvuk Pass	90.50	10	P	P	16 06 18.2	-0.3
	baz=205,SNR=254						
E22K				S	S	16 16 20.7	-1.6
	baz=205						
I28M	Miner Creek	90.55	15	IAmb	IAmb	16 06 22.7	
	comp=Z,358nm,1.1s						
I28M	Miner Creek	90.55	15	P	P	16 06 18.4	-0.4
	baz=216,SNR=208						
I28M				S	S	16 16 22.2	-0.7
	baz=216						
F24K	Squaw Lake	90.62	11	IAmb	IAmb	16 06 23.3	
	comp=Z,340nm,1.2s						
F24K	Squaw Lake	90.62	11	P	P	16 06 19.0	0.0
	baz=208,SNR=111						
F24K				S	S	16 16 23.4	+0.2
	baz=208						
POST	Post	90.65	55	IAmb	IAmb	16 08 37.7	
	comp=Z,336nm,1.2s						
J30M	Hart River	90.79	17	IAmb	IAmb	16 06 24.1	
	comp=Z,380nm,1.5s						
J30M	Hart River	90.79	17	P	P	16 06 20.0	0.0
	baz=219,SNR=154						
J30M				S	S	16 16 24.2	-0.9
	baz=219						
E23K	Chandalar	90.79	10	IAmb	IAmb	16 06 24.6	
	comp=Z,298nm,1.1s						
E23K	Chandalar	90.79	10	P	P	16 06 19.7	-0.2
	baz=207,SNR=94						
E23K				S	S	16 16 25.4	+0.5
	baz=207						
MMPY	Sheldon Lake,	90.80	20	IAmb	IAmb	16 06 24.4	
	comp=Z,353nm,1.3s						
MMPY	Sheldon Lake,	90.80	20	P	P	16 06 20.4	+0.3
	baz=223,SNR=175						
MMPY				S	S	16 16 25.6	+0.4
	baz=223						
H27K	Steamboat Moun	90.82	14	IAmb	IAmb	16 06 24.9	
	comp=Z,437nm,1.2s						
H27K	Steamboat Moun	90.82	14	P	P	16 06 19.9	-0.1
	baz=214,SNR=239						
H27K				S	S	16 16 24.1	-1.0
	baz=214						
I29M	Ogilvie Camp,	90.89	16	P	P	16 06 19.9	-0.5
	baz=217,SNR=379						
I29M				S	S	16 16 24.6	-1.1
	baz=217						
G26K	Porcupine Rive	90.93	13	P	P	16 06 20.5	0.0
	baz=212,SNR=134						
G26K				S	S	16 16 26.4	+0.5
	baz=212						
HNDO	Hondo	90.99	59	IAmb	IAmb	16 06 27.1	
	comp=Z,325nm,1.2s						
E24K	Your Creek	91.00	11	IAmb	IAmb	16 06 24.9	
	comp=Z,228nm,1.3s						
E24K	Your Creek	91.00	11	P	P	16 06 20.8	0.0
	baz=208,SNR=47						
E24K				S	S	16 16 27.0	+0.3
	baz=208						
C21K	Knifeblade Rid	91.01	8	P	P	16 06 20.7	-0.1
	baz=202,SNR=86						
C21K				S	S	16 16 25.2	-1.3
	baz=202						
TGTN	Hyland Airport	91.02	22	P	P	16 06 21.5	+0.5
	baz=226,SNR=110						
TGTN				S	S	16 16 28.5	+1.5
	baz=226						
D22K	Ayikyak River	91.05	9	P	P	16 06 20.7	-0.3
	baz=204,SNR=70						
D22K				S	S	16 16 26.1	-0.9
	baz=204						
F25K	Christian Rive	91.11	12	IAmb	IAmb	16 06 25.8	
	comp=Z,344nm,1.6s						
F25K	Christian Rive	91.11	12	P	P	16 06 21.4	0.0
	baz=210,SNR=60						
F25K				S	S	16 16 27.0	-0.6
	baz=210						
RTBA	Rita Blanca	91.11	51	IAmb	IAmb	16 06 25.8	
	comp=Z,262nm,1.3s						
SN07	Snyder 07	91.13	55	IAmb	IAmb	16 08 39.8	
	comp=Z,240nm,1.3s						
K22A	Casper	91.17	45	IAmb	IAmb	16 06 27.3	
	comp=Z,227nm,1.1s						
BMAR	Burnt Mountain	91.17	12	P	P	16 06 22.2	+0.6
ML02	Panimavida	91.21	129	IAmb	IAmb	16 06 24.9	
	comp=Z,344nm,1.1s						
G27K	Doyon Strip	91.27	14	IAmb	IAmb	16 06 26.2	
	comp=Z,238nm,1.4s						
G27K	Doyon Strip	91.27	14	P	P	16 06 21.9	-0.1
	baz=214,SNR=83						
G27K				S	S	16 16 28.6	-0.4
	baz=214						
A19K	Wainwright	91.28	6	P	P	16 06 22.1	+0.1
	baz=196,SNR=7.6						
A19K				S	S	16 16 28.1	-0.8
	baz=196						
I30M	Mount Dempster	91.28	16	IAmb	IAmb	16 06 26.7	
	comp=Z,273nm,1.1s						
I30M	Mount Dempster	91.28	16	P	P	16 06 22.0	-0.2
	baz=219,SNR=236						
I30M				S	S	16 16 27.8	-1.6
	baz=219						
TOLK	Toolik Lake Re	91.32	10	IAmb	IAmb	16 06 27.0	
	comp=Z,296nm,1.2s						
TOLK	Toolik Lake Re	91.32	10	P	P	16 06 21.9	-0.4
	baz=207,SNR=54						
TOLK				S	S	16 16 27.6	-1.9
	baz=207						
EFI	East Falkland	91.33	148	P	P	16 06 24.1	+1.3
EFI				IAmb	IAmb	16 06 25.2	
	comp=Z,225nm,0.9s						
EFI	East Falkland	91.33	148	P	P	16 06 24.1	+1.3
EFI				pmax	pmax		

comp=Z,225nm,1.0s
D23K Nanushuk River 91.43 10 P **P** **16 06 22.9 +0.2**
baz=206,SNR=70
D23K S **S** **16 16 29.0 -1.4**
baz=206
B21K Ikpikpuk River 91.46 8 IAmb IAmb 16 06 26.8
comp=Z,416nm,1.4s
B21K Ikpikpuk River 91.46 8 P **P** **16 06 22.5 -0.3**
baz=202,SNR=33
B21K S **S** **16 16 28.7 -1.8**
baz=202
F26K Sheenjek River 91.49 12 P **P** **16 06 23.4 +0.3**
baz=212,SNR=40
F26K S **S** **16 16 31.2 +0.3**
baz=212
B20K Meade River 91.51 7 P **P** **16 06 23.1 +0.1**
baz=200,SNR=19
B20K S **S** **16 16 31.3 +0.5**
baz=200
H29M Whitestone 91.56 15 P **P** **16 06 23.5 +0.2**
baz=217,SNR=208
H29M S **S** **16 16 31.1 -0.5**
baz=217
E25K Arctic Village 91.58 12 IAmb IAmb 16 06 27.7
comp=Z,208nm,1.2s
E25K Arctic Village 91.58 12 P **P** **16 06 23.6 +0.2**
baz=211,SNR=48
E25K S **S** **16 16 30.5 -1.2**
baz=211
KOTAN Kotaneelee Air 91.61 24 P **P** **16 06 23.8 +0.1**
baz=230,SNR=61
KOTAN S **S** **16 16 32.3 +0.1**
baz=230
EGMT Eagleton 91.69 39 IAmb IAmb 16 06 28.9
comp=Z,229nm,1.3s
BRDY Brady 91.90 57 **pwP** **16 08 37.1 -3.3**
BRDY IAmb IAmb 16 08 43.6
comp=Z,324nm,1.6s
D24K Happy Valley 91.90 10 IAmb IAmb 16 06 29.1
comp=Z,227nm,1.1s
D24K Happy Valley 91.90 10 P **P** **16 06 25.0 +0.1**
baz=208,SNR=30
D24K S **S** **16 16 35.6 +1.2**
baz=208
735A Kenedy 91.92 60 IAmb IAmb 16 06 31.1
comp=Z,276nm,1.3s
735A pwP 16 08 36.9 -3.8
YAK Yakutsk 91.94 338 P **P** **16 06 23.9 -1.3**
YAK Yakutsk 91.94 338 P **P** **16 06 23.9 -1.3**
comp=Z,452nm,0.8s,baz=103,slow=4.0,SNR=235
YAK S **SKSac** **16 15 55.3 -4.4**
comp=Z,16nm,1.0s,baz=162,slow=3.2,SNR=14
YAK PKPPKP **P'P'df** **16 31 48.0 +0.9**
comp=Z,2.3nm,0.5s,baz=91,slow=2.7,SNR=4.8
comp=Z,452nm,0.8s
YAK Yakutsk 91.94 338 *d* iP **P** **16 06 23.8 -1.3**
YAK *e**PP **pP** **16 08 36.9 +0.6**
YAK *e*S **SKSac** **16 15 57.1 -2.6**
YAK *e* 16 16 35.0
YAK *e*SS **SS** **16 23 05.5 +1.8**
YAK pmax pmax
comp=Z,559nm,1.1s
YAK pmax pmax
comp=N,67nm,1.1s
YAK pmax pmax
comp=E,121nm,1.3s
YAK pmax pmax
comp=Z,4μm,8.9s
YAK pmax pmax
comp=N,613nm,5.1s
YAK pmax pmax
comp=E,504nm,5.6s
YAK smax smax
comp=N,657nm,2.0s
YAK smax smax
comp=E,368nm,2.3s
EF04 Eagle Ford 04 92.07 60 IAmb IAmb 16 06 31.1
comp=Z,536nm,1.9s
EPYK Eagle Plains 92.09 16 P **P** **16 06 25.3 -0.5**
baz=219,SNR=35
EPYK S **S** **16 16 34.8 -1.4**
baz=219
BO02 Sierra Bellavi 92.11 128 IAmb IAmb 16 06 29.2
comp=Z,391nm,1.6s
MT01 Popeta 92.18 127 IAmb IAmb 16 06 29.3
comp=Z,214nm,0.8s
G29M Pine Creek 92.20 15 IAmb IAmb 16 06 30.1
comp=Z,439nm,1.4s
G29M Pine Creek 92.20 15 P **P** **16 06 25.8 -0.5**
baz=217,SNR=62
G29M S **S** **16 16 35.5 -1.6**
baz=217
C23K Itkillik River 92.23 9 P **P** **16 06 26.4 +0.1**
baz=206,SNR=30
C23K S **S** **16 16 36.8 -0.4**
baz=206
H31M Peel River 92.27 17 P **P** **16 06 26.0 -0.7**
baz=221,SNR=32
H31M S **S** **16 16 38.3 +0.5**
baz=221
B22K Teshekpuk Lake 92.29 8 P **P** **16 06 26.3 -0.3**
baz=203,SNR=8.7
B22K S **S** **16 16 38.4 +0.8**
baz=203
F28M Old Crow 92.33 14 P **P** **16 06 26.7 -0.2**
baz=216,SNR=37
F28M S **S** **16 16 38.2 -0.1**
baz=216
LZH Lanzhou 92.41 308 *e*P **P** **16 06 29.1 +0.9**
LZH sP sP 16 09 39.6 +0.5
LZH SKS **SKSac** **16 16 02.4 -1.5**
LZH S **ScS** **16 16 42.2 +0.5**
LZH sS sS 16 20 29.0 -6.7
LZH pmax pmax
comp=Z,220nm,1.3s
LZH pmax pmax
comp=Z,4μm,4.1s
C24K Franklin Bluff 92.43 10 IAmb IAmb 16 06 31.5
comp=Z,344nm,1.1s
C24K Franklin Bluff 92.43 10 P **P** **16 06 27.3 +0.1**
baz=208,SNR=26
C24K S **S** **16 16 39.3 +0.4**
baz=208
SMWD Samnorwood 92.43 53 pwP 16 08 40.5 -2.3
E27K Coleen River 92.43 13 IAmb IAmb 16 06 31.7
comp=Z,240nm,1.3s
E27K Coleen River 92.43 13 P **P** **16 06 27.6 +0.2**
baz=214,SNR=32
E27K S **S** **16 16 39.3 +0.1**
baz=214
TNCH TengChong 92.46 296 ⇓ *i* P **P** **16 06 29.0 +0.3**
TNCH sP sP 16 09 39.9 0.0
TNCH PP **PP** **16 10 20.2 -1.1**
TNCH SKS **SKSac** **16 16 05.7 +1.0**
TNCH S **ScS** **16 16 47.5 +4.9**
TNCH pmax pmax
comp=Z,230nm,1.4s
TNCH pmax pmax
comp=Z,4μm,4.5s
LZDM Lanzhou Array 92.47 307 P **P** **16 06 28.8 +0.1**
comp=Z,109nm,1.0s,baz=127,slow=3.9,SNR=35
LZDM pP **pP** **16 08 40.7 +1.1**
comp=Z,94nm,1.0s,baz=192,slow=4.1,SNR=3.9
LZDM S **SKSac** **16 16 03.0 -1.7**
comp=Z,2.6nm,0.4s,baz=157,slow=4.7,SNR=1.7
LZDM PKKPbc **PKKPbc** **16 23 39.0 -0.3**
comp=Z,6.7nm,0.4s,baz=204,slow=3.2,SNR=4.8
comp=Z,109nm,1.0s
D25K Kavik River 92.47 11 P **P** **16 06 26.7 -0.8**
baz=210,SNR=21
D25K S **S** **16 16 38.1 -1.4**
baz=210
G30M tAoh Zraii Nji 92.69 15 P **P** **16 06 28.2 -0.4**
baz=219,SNR=174
G30M S **S** **16 16 39.3 -2.2**
baz=219
A22K Sinclair Lake 92.70 8 P **P** **16 06 28.5 0.0**
baz=202
A22K S **S** **16 16 42.1 +0.9**
baz=202
MT05 Renca 92.77 127 IAmb IAmb 16 06 32.4
comp=Z,386nm,1.6s
A21K Barrow 92.81 7 P **P** **16 06 28.0 -1.0**
baz=200
A21K S **S** **16 16 41.7 -0.5**
baz=200
PEL Peldehue 92.92 127 IAmb IAmb 16 06 33.0
comp=Z,140nm,0.9s

PLPT Palo Pinto 93.02 56 pwP 16 08 42.9 -2.5
G31M Satah River 93.14 16 P **P** **16 06 30.0 -0.5**
baz=221,SNR=172
G31M S **S** **16 16 44.0 -1.2**
baz=221
E28M Babbage River 93.21 13 IAmb IAmb 16 06 35.5
comp=Z,222nm,1.0s
E28M Babbage River 93.21 13 P **P** **16 06 30.8 -0.2**
baz=216,SNR=92
E28M S **S** **16 16 45.0 -0.8**
baz=216
C27K Jago River 93.22 12 IAmb IAmb 16 06 34.9
comp=Z,184nm,1.1s
C27K Jago River 93.22 12 P **P** **16 06 31.0 +0.1**
baz=212,SNR=23
C27K S **S** **16 16 45.7 -0.1**
baz=212
CIT Chita 93.23 325 *e*P **P** **16 06 30.8 -0.6**
CIT pmax pmax
comp=Z,578nm,2.5s
C26K Camden Bay 93.25 11 P **P** **16 06 31.0 0.0**
baz=211
C26K S **S** **16 16 47.0 +1.0**
baz=211
WTFS Witchita Falls 93.26 55 IAmb IAmb 16 08 49.3
comp=Z,334nm,1.4s
F30M Barrier River 93.29 15 IAmb IAmb 16 06 44.5
comp=Z,222nm,1.1s
F30M Barrier River 93.29 15 P **P** **16 06 30.7 -0.6**
baz=220,SNR=39
F30M S **S** **16 16 45.4 -1.2**
baz=220
WHTX Lake Whitney, 93.38 57 IAmb IAmb 16 08 51.8
comp=Z,285nm,1.8s
E29M Blow River 93.40 14 IAmb IAmb 16 06 35.1
comp=Z,147nm,1.2s
E29M Blow River 93.40 14 P **P** **16 06 31.0 -0.8**
baz=218,SNR=44
E29M S **S** **16 16 45.9 -1.6**
baz=218
ELIS Ellis County 93.42 53 IAmb IAmb 16 08 53.7
comp=Z,158nm,1.1s
D27M Malcolm River 93.43 13 IAmb IAmb 16 06 36.2
comp=Z,313nm,1.3s
D27M Malcolm River 93.43 13 P **P** **16 06 32.1 +0.1**
baz=215,SNR=36
D27M S **S** **16 16 47.2 -0.7**
baz=215
RSSD Black Hills 93.45 44 P **P** **16 06 32.8 -0.1**
RSSD IAmb IAmb 16 08 51.2
comp=Z,183nm,1.2s
OGNE Ogallala 93.47 48 IAmb IAmb 16 06 37.0
comp=Z,296nm,1.6s
FW13 Cleburne 93.54 57 IAmb IAmb 16 08 52.4
comp=Z,239nm,1.3s
CO02 Combarbal 93.54 125 IAmb IAmb 16 06 36.7
comp=Z,153nm,0.9s
F31M Tsiigehtchic 93.67 16 P **P** **16 06 32.5 -0.4**
baz=221,SNR=255
F31M S **S** **16 16 48.9 -0.9**
baz=221
FW06 Azle 93.67 56 IAmb IAmb 16 08 51.4
comp=Z,169nm,1.2s
WRGLY Wrigley 93.83 22 P **P** **16 06 33.8 0.0**
WRGLY Wrigley 93.83 22 P **P** **16 06 33.7 0.0**
baz=230,SNR=12
WRGLY S **S** **16 16 51.5 +0.2**
baz=230
D28M Stokes Point 93.97 13 P **P** **16 06 34.0 -0.3**
baz=217
D28M S **S** **16 16 52.9 +0.6**
baz=217
Z35A Perchaven, San 94.04 56 IAmb IAmb 16 08 52.8
comp=Z,180nm,1.1s
OK038 West end E0370 94.08 53 IAmb IAmb 16 08 53.1
comp=Z,194nm,1.3s
AUSP Uspallata 94.31 127 *e*P **P** **16 06 39.5 +2.2**
AAGR Agrelo 94.33 128 *e*P **P** **16 06 39.0 +1.8**
LOOK Love County 94.34 55 IAmb IAmb 16 08 54.4
comp=Z,108nm,1.1s
ARCO CERRO ARCO 94.37 127 *e*P **P** **16 06 38.5 +1.1**
INK Inuvik 94.37 15 IAmb IAmb 16 06 39.4
comp=Z,269nm,1.2s
INK Inuvik 94.37 15 P **P** **16 06 35.5 -0.7**
baz=222,SNR=102
INK S **S** **16 16 53.8 -2.0**
baz=222
RTLS Leoncito 94.57 126 *e*P **P** **16 06 39.5 +1.0**
CROK Carrier 94.66 53 IAmb IAmb 16 08 56.2
comp=Z,314nm,1.5s
237A Washetta, Mont 94.69 58 IAmb IAmb 16 08 53.5
comp=Z,204nm,1.3s
LCO Las Campanas 94.75 123 P **P** **16 06 39.5 +0.2**
KAN14 Manchester OK 94.84 52 IAmb IAmb 16 08 56.4
comp=Z,168nm,1.5s
KAN08 Anthony NE Sta 94.94 52 IAmb IAmb 16 08 57.0
comp=Z,256nm,1.5s
ULN Ulaanbaatar 95.06 319 P **P** **16 06 38.8 -1.2**
ULN Ulaanbaatar 95.06 319 P **P** **16 06 39.0 -1.0**
ULN S **SKSac** **16 16 17.5 -0.1**
ULN Ulaanbaatar 95.06 319 *d* iP **P** **16 06 38.0 -2.0**
ULN pmax pmax
comp=Z,70nm,1.2s
AROD Rodeo 95.18 125 *e*P **P** **16 06 42.4 +1.1**
ACCO Cerro Coronel 95.31 125 *e*P **P** **16 06 43.9 +2.0**
ACDV Cuesta del Vie 95.45 125 *e*P **P** **16 06 43.9 +1.5**
SONM Songino Array 95.45 319 P **P** **16 06 40.1 -1.6**
SONM Songino Array 95.45 319 P **P** **16 06 40.7 -1.1**
comp=Z,42nm,1.1s,baz=129,slow=2.6,SNR=85
SONM pP **pP** **16 08 53.3 -0.6**
comp=Z,7.2nm,1.0s,baz=140,slow=4.7,SNR=2.4
SONM PP **PP** **16 10 40.7 -3.0**
comp=Z,20nm,1.0s,baz=137,slow=5.8,SNR=3.8
SONM PKiKP **PKiKP** **16 11 18.0 +0.2**
comp=Z,5.0nm,0.8s,baz=77,slow=1.2,SNR=16
SONM S **SKSac** **16 16 17.7 -1.9**
comp=Z,8.0nm,1.2s,baz=100,slow=1.6,SNR=3.1
SONM PKKPbc **PKKPbc** **16 23 30.4 -1.4**
comp=Z,3.9nm,0.7s,baz=270,slow=3.6,SNR=8.5
SONM PKPPKP **P'P'df** **16 31 42.0 0.0**
comp=Z,0.9nm,0.8s,baz=345,slow=5.2,SNR=4.2
comp=Z,42nm,1.1s
QUOK Quay 95.49 54 **pP** **16 08 52.3 -1.2**
QUOK IAmb IAmb 16 09 00.2
comp=Z,269nm,1.6s
NATX Nacogdoches 95.52 58 pP 16 08 51.7 -1.9
DEOK Depew 95.53 54 IAmb IAmb 16 09 00.9
comp=Z,256nm,1.3s
BOD Bodaibo 95.86 330 *e*P **P** **16 06 41.4 -1.7**
BOD pmax pmax
comp=Z,99nm,1.6s
T35A Sooner Cattle 95.91 53 IAmb IAmb 16 09 02.0
comp=Z,276nm,1.4s
TUL3 Leonard 96.09 54 IAmb IAmb 16 09 03.0
comp=Z,236nm,1.5s
AGUA GUANDACOL 96.25 124 *e*P **P** **16 06 46.8 +1.0**
GTA Gaotai 96.62 309 P **P** **16 06 46.9 -0.3**
GTA pP pP 16 08 57.3 -1.0
GTA sP sP 16 09 59.4 +0.9
GTA PP **PP** **16 10 53.1 +0.3**
GTA SKS **SKSac** **16 16 23.9 -2.0**
GTA pmax pmax
comp=Z,95nm,1.5s
GTA pmax pmax
comp=Z,2μm,12.0s
YKA Yellowknife Ar 96.68 25 P **P** **16 06 46.4 -0.3**
comp=Z,29nm,1.0s,baz=251,slow=3.9,SNR=46
YKA pP **pP** **16 08 59.7 +1.5**
comp=Z,18nm,1.0s,baz=248,slow=4.4,SNR=7.5
YKA PP **PP** **16 10 50.7 -1.7**
comp=Z,8.1nm,1.0s,baz=244,slow=6.8,SNR=4.4
YKA PKiKP **PKiKP** **16 11 19.0 -0.3**
comp=Z,3.9nm,0.8s,baz=247,slow=1.7,SNR=6.0
YKA PKKPbc **PKKPbc** **16 23 28.6 -0.2**
comp=Z,1.3nm,0.5s,baz=46,slow=2.7,SNR=13
YKA SKKPbc SKKPbc 16 26 14.0 +0.3
comp=Z,7.8nm,1.0s,baz=54,slow=4.8,SNR=8.7
YKA PKPPKP **P'P'df** **16 31 40.7 +2.4**
comp=Z,0.6nm,0.7s,baz=130,slow=1.9,SNR=4.3
comp=Z,29nm,1.0s
TRQA Tornquist 96.69 135 P **P** **16 06 48.0 +0.5**
RLO Rose Lookout 96.77 54 IAmb IAmb 16 09 06.0
comp=Z,180nm,1.5s
JTS Las Juntas de 96.80 82 P **P** **16 06 47.9 -0.5**
JTS IAmb IAmb 16 09 17.3
comp=Z,111nm,1.3s
BOAB BOACO BROADBA 96.85 79 PP PKiKP 16 10 53.1 -28

BOAB BOACO BROADBA 96.85 79 IAmb IAmb 16 09 34.0
comp=Z,196nm,1.7s
ACHE Chepes 96.86 127 *e*P **P** **16 06 49.8 +1.2**
ATAH Atahualpa 96.88 100 PKKPbc PKKPbc 16 23 28.1 +1.0
comp=Z,13nm,0.9s,baz=37,slow=3.4,SNR=4.2
PB14 IPOC Station P 96.92 119 PP **PP** **16 10 51.2 -3.8**
MIAR Mount Ida 97.33 56 IAmb IAmb 16 09 08.8
comp=Z,105nm,1.4s
APLL PUNTA DE LOS L 97.33 126 *e*P **P** **16 06 51.7 +1.2**
C36M Paulatuk 97.56 17 P Pdif 16 06 49.4 -1.1
baz=230
X40A Basin Creek Fa 97.88 56 pP 16 09 03.0 -1.3
SHL Shillong 98.28 294 P Pdif 16 06 54.5 -0.5
SNR=22
ZAK Zakamensk 98.34 321 *e*P Pdif 16 06 53.5 -1.0
ZAK pmax pmax
comp=Z,76nm,1.6s
ZAK pmax pmax
comp=Z,65nm,1.9s
TIXI Tiksi 98.62 345 PKKPbc PKKPbc 16 23 19.6 -4.1
comp=Z,3.8nm,0.5s,baz=25,slow=4.2,SNR=10
TIXI SKKP 16 26 04.9
comp=Z,4.0nm,0.7s,baz=311,slow=2.2,SNR=3.6
TIXI Tiksi 98.62 345 *i* P Pdif 16 06 53.7 -1.4
TIXI pmax pmax
comp=Z,98nm,1.3s
CYA Choya 98.82 125 *e*P **P** **16 06 58.1 +0.8**
GOMU GeErMu 99.27 305 P **Pdif** **16 06 59.2 -0.2**
GOMU PP **PP** **16 11 16.9 +3.9**
GOMU SKS **SKSac** **16 16 37.8 -2.0**
LSA Lhasa 100.19 298 P **Pdif** **16 07 03.0 -0.7**
LSA pmax pmax
comp=Z,12nm,1.4s
ULM Lac du Bonnet 100.90 40 P **Pdif** **16 07 05.9 +0.1**
comp=Z,23nm,1.2s,baz=229,slow=6.1,SNR=8.9
ULM pP pwP 16 09 19.9 -1.0
comp=Z,2.3nm,0.7s,baz=241,slow=5.5,SNR=2.0
ULM PKiKP **PKiKP** **16 11 28.4 +1.2**
comp=Z,14nm,0.8s,baz=253,slow=3.3,SNR=7.8
ULM PKKPbc **PKKPbc** **16 23 14.7 -1.9**
comp=Z,3.5nm,0.4s,baz=74,slow=4.2,SNR=8.4
AZAP Zapla 101.42 121 *e*P **Pdif** **16 07 13.8 +4.7**
LPAZ La Paz 102.47 113 P **Pdif** **16 07 16.6 +2.2**
comp=Z,26nm,0.8s,baz=252,slow=2.8,SNR=88
LPAZ pP **pPdif** **16 09 28.1 +1.9**
comp=Z,4.4nm,1.0s,baz=225,slow=5.0,SNR=1.8
LPAZ PKiKP **PKiKP** **16 11 33.6 +1.7**
comp=Z,17nm,1.1s,baz=290,slow=3.2,SNR=3.7
LPAZ S **SKSac** **16 16 55.7 -0.7**
comp=Z,2.6nm,0.8s,baz=270,slow=7.1,SNR=2.3
LPAZ PKKPbc **PKKPbc** **16 23 11.2 -0.9**
comp=Z,9.6nm,0.8s,baz=43,slow=3.1,SNR=10
LPAZ PKPPKP **P'P'df** **16 31 29.5 -2.7**
comp=Z,1.7nm,0.8s,baz=52,slow=1.5,SNR=5.2
MALK Mahakanadarawa 103.14 274 PP PKiKP 16 11 40.6 +8.3
CPUP Villa Florida 106.36 127 Pdiff **Pdif** **16 07 33.7 +3.0**
comp=Z,2.0nm,1.1s,baz=104,slow=2.6,SNR=7.8
CPUP PKiKP **PKiKP** **16 11 37.5 -0.5**
comp=Z,1.2nm,0.8s,baz=212,slow=2.2,SNR=3.3
CPUP PKKPbc **PKKPbc** **16 22 58.2 -2.1**
comp=Z,3.4nm,1.0s,baz=278,slow=1.3,SNR=5.5
CPUP PKPPKP **P'P'df** **16 31 19.5 -4.0**
comp=Z,1.5nm,1.0s,baz=299,slow=0.4,SNR=4.9
WMQ Urumqi 106.58 311 Pdif **Pdif** **16 07 31.0 -0.3**
WMQ SS SS 16 26 25.6 -0.5
WMQ AMB AMB
comp=Z,2μm,4.1s
HYB Hyderabad 107.73 282 *e*PKiKP **PKiKP** **16 11 40.8 0.0**
HYB *e*PP **PP** **16 12 13.4 -1.4**
HYB *e*pPKiKP **pPKiKP** **16 13 57.9 -3.1**
HYB *e*SKSac **SKSac** **16 17 19.5 +1.2**
HYB *e*SKKSac **SKKSdf** **16 29 23.5 +0.8**
ZSN Zaisan 109.23 314 *e*PKiKP **PKiKP** **16 11 41.7 -1.0**
ZALV Zalesovo Beam 110.20 321 Pdiff **Pdif** **16 07 46.0 -1.1**
comp=Z,4.5nm,0.9s,baz=108,slow=4.8,SNR=13
ZALV PKiKP **PKiKP** **16 11 42.9 -1.4**
comp=Z,36nm,0.7s,baz=152,slow=1.6,SNR=34
ZALV PKKPbc **PKKPbc** **16 22 46.5 -2.1**
comp=Z,3.2nm,0.7s,baz=256,slow=3.3,SNR=4.6
ZALV PKKPab **PKKPab** **16 23 00.9 +1.1**
comp=Z,12nm,1.1s,baz=260,slow=4.2,SNR=5.8
MKAR Makanchi Array 110.87 313 Pdiff **Pdif** **16 07 49.6 -0.6**
comp=Z,4.4nm,0.9s,baz=91,slow=7.3,SNR=17
MKAR PKiKP **PKiKP** **16 11 44.6 -1.3**
comp=Z,61nm,0.8s,baz=78,slow=1.3,SNR=37
MKAR pPKiKP **pPKiKP** **16 14 08.5 +2.3**
comp=Z,15nm,0.8s,baz=85,slow=2.3,SNR=3.9
MKAR PKKPbc **PKKPbc** **16 22 46.1 -0.3**
comp=Z,11nm,0.7s,baz=281,slow=3.5,SNR=22
MKAR PKKPab **PKKPab** **16 22 58.8 +1.6**
comp=Z,7.6nm,0.7s,baz=296,slow=2.8,SNR=6.9
UGON Onchagaon 111.03 293 IAmb IAmb 16 09 52.5
comp=Z,35nm,0.4s
ASOR Ausora 111.24 294 IAmb IAmb 16 09 44.4
comp=Z,550nm,0.5s
KLP Kalpa 111.41 297 IAmb IAmb 16 09 44.1
comp=Z,16nm,0.8s
GOA Goa 111.55 279 IAmb IAmb 16 09 50.7
comp=Z,21nm,0.8s
JMIU JAMIA UNIVERSI 111.61 294 IAmb IAmb 16 09 41.2
comp=Z,57nm,0.6s
LDR Lodi Road 111.68 294 IAmb IAmb 16 09 39.6
comp=Z,198nm,0.3s
NDI New Delhi 111.70 294 IAmb IAmb 16 09 54.1
comp=Z,11nm,0.5s
KAD Karad 111.71 281 IAmb IAmb 16 09 45.5
comp=Z,34nm,1.4s
SMLA Simla 112.23 296 IAmb IAmb 16 09 40.8
comp=Z,7.9nm,0.8s
PDGK Podgornoye 112.37 309 PKiKP **PKiKP** **16 11 47.5 -1.5**
RTK Rohtak 112.46 294 IAmb IAmb 16 09 48.4
comp=Z,41nm,0.5s
CGRH CHANDIGARH 112.49 296 IAmb IAmb 16 09 40.2
comp=Z,2μm,0.1s
UZB Uzynbulak 112.69 309 *e*PKiKP **PKiKP** **16 11 48.5 -1.1**
UZB *e*PP **PP** **16 12 47.3 -2.2**
UZB Uzynbulak 112.69 309 *i* PKiKP **PKiKP** **16 11 48.5 -1.1**
UZB *e* 16 12 47.3
ALCI Alchi Leh 112.78 299 IAmb IAmb 16 09 49.1
comp=Z,177nm,0.8s
BHK Bhakra 112.92 296 IAmb IAmb 16 09 47.3
comp=Z,34nm,0.6s
SATY Saty 113.12 309 *e*PKiKP **PKiKP** **16 11 49.3 -1.1**
SATY *e*PP **PP** **16 12 50.4 -2.1**
SATY Saty 113.12 309 *i* PKiKP **PKiKP** **16 11 49.3 -1.1**
SATY *e* 16 12 50.3
TDK Taldyqorghan 113.34 311 *e*PKiKP **PKiKP** **16 11 49.3 -1.3**
TDK Taldyqorghan 113.34 311 *i* PKiKP **PKiKP** **16 11 49.3 -1.3**
TLWR Talawar 113.40 297 IAmb IAmb 16 09 46.0
comp=Z,20nm,0.8s
KURK Kurchatov 113.69 317 *i* PKiKP **PKiKP** **16 11 50.0 -1.1**
KURBB Kurchatov Arra 113.74 317 Pdiff **Pdif** **16 08 02.4 -0.4**
comp=Z,0.2nm,0.2s,baz=89,slow=4.3,SNR=2.8
KURBB PKiKP **PKiKP** **16 11 50.0 -1.2**
comp=Z,2.2nm,1.0s,baz=102,slow=1.7,SNR=4.8
KURBB PP **PP** **16 12 51.1 -5.2**
comp=Z,16nm,0.9s,baz=93,slow=7.3,SNR=9.3
KURBB pPKiKP **pPKiKP** **16 14 14.2 +2.6**
comp=Z,17nm,0.8s,baz=101,slow=1.9,SNR=5.0
KURBB PKKPbc **PKKPbc** **16 22 35.9 -1.1**
comp=Z,12nm,0.9s,baz=273,slow=4.0,SNR=18
KURBB PKKPab **PKKPab** **16 22 45.5 +1.3**
comp=Z,23nm,1.1s,baz=278,slow=4.4,SNR=4.7
KURBB SKKPbc SKKPbc 16 25 22.5 -3.2
comp=Z,4.8nm,0.9s,baz=276,slow=3.9,SNR=5.9
KURBB Kurchatov Arra 113.74 317 PKiKP **PKiKP** **16 11 49.6 -1.6**
UDPR Udaipur 113.90 289 IAmb IAmb 16 09 55.5
comp=Z,12nm,1.0s
MDOK Medeo 114.12 309 *e*PKP PKPdf 16 11 51.1 -1.3
MDOK Medeo 114.12 309 *e*PKiKP PKPdf 16 11 51.0 -1.4
TNSS Tian-Shan 114.18 309 *e*PKP PKPdf 16 11 51.2 -1.7
TNSS Tian-Shan 114.18 309 *e*PKiKP PKPdf 16 11 51.1 -1.7
AAA Alma-Ata 114.22 309 *e*PKP PKPdf 16 11 51.1 -1.4
AAA Alma-Ata 114.22 309 *e*PKiKP PKPdf 16 11 51.0 -1.5
JMU Jammu 114.41 297 IAmb IAmb 16 09 52.6
comp=Z,24nm,0.4s
KSH Kashi 114.52 305 PKP **PKiKP** **16 11 54.0 +0.8**
KSH SS SS 16 28 16.8 +6.0
KSH AMB AMB
comp=Z,3μm,7.7s
BKNR BIKANER 114.97 292 IAmb IAmb 16 10 17.9
comp=Z,133nm,0.4s
TKM2 Tokmak 2 115.16 309 P **PKPdf** **16 11 53.9 -0.6**
SNR=44
SPB Sao Paulo 115.23 130 **PKiKP** **16 11 56.5 +1.5**
KBK Karagaybulak 115.61 308 P **PKPdf** **16 11 54.9 -0.4**

SNR=16
CHMS Chumysh 115.78 309 P **PKPdf 16 11 55.1 -0.3**
SNR=29
UCH Uchtor 115.90 308 P **PKiKP 16 11 56.5 +0.3**
SNR=24
SGDS Sogindy 115.91 309 *e*PKP **PKPdf 16 11 54.4 -1.3**
SGDS *e*PP **PP 16 13 09.7 -1.9**
NIL Nilore 115.92 298 **PKPdf 16 11 55.2 -0.8**
NIL Nilore 115.92 298 P **PKPdf 16 11 55.3 -0.8**
NIL Nilore 115.92 298 P **PKPdf 16 11 55.8 -0.2**
NIL Nilore 115.92 298 PKiKP **PKPdf 16 11 55.2 -0.8**
AAK Ala-Archa 115.94 308 P **PKPdf 16 11 55.8 -0.2**
SNR=24
AAK Ala-Archa 115.94 308 **PKPdf 16 11 54.3 -1.7**
AAK Ala-Archa 115.94 308 PKKPbc PKKPbc 16 22 27.9 -1.7
comp=Z,32nm,0.9s,baz=254,slow=4.3,SNR=4.4
AAK PKKPab **PKKPab 16 22 36.9 +2.0**
comp=Z,22nm,0.7s,baz=223,slow=4.9,SNR=22
AAK Ala-Archa 115.94 308 P **PKPdf 16 11 55.7 -0.2**
AAK Ala-Archa 115.94 308 P **PKPdf 16 11 54.6 -1.4**
AAK Ala-Archa 115.94 308 *i* PKPdf **PKPdf 16 11 55.1 -0.8**
SNR=11
AAK Ala-Archa 115.94 308*c i* PKiKP **PKPdf 16 11 55.6 -0.3**
AAK pmax pmax
comp=Z,67nm,1.3s
USP Ospenovka 115.99 309 P **PKPdf 16 11 55.4 -0.4**
SNR=24
BTLS Baital 116.43 311 *e*PKP **PKPdf 16 11 55.5 -1.1**
BTLS Baital 116.43 311 *e*PKiKP **PKPdf 16 11 55.4 -1.1**
EKS2 Erkin-Say 116.47 308 P **PKPdf 16 11 56.7 -0.2**
SNR=28
SJG San Juan 116.50 79 **PKPdf 16 11 55.9 -1.5**
SJG San Juan 116.50 79 PKKPbc PKKPbc 16 22 26.0 -1.0
comp=Z,6.5nm,0.4s,baz=22,slow=9.0,SNR=6.1
SJG San Juan 116.50 79 PKiKP **PKPdf 16 11 55.9 -1.5**
BOAV Boa Vista 116.97 98 **PKPdf 16 11 57.4 -1.1**
BRZS Berezniki 117.47 316 *e*PKP **PKPdf 16 11 57.4 -1.0**
BRZS Berezniki 117.47 316 *e*PKiKP **PKPdf 16 11 57.3 -1.1**
NEEM North Greenlan 117.65 11 *i* P **PKPdf 16 11 58.4 0.0**
NOR Nord 118.36 3 *i* P **PKPdf 16 11 58.4 -0.9**
UPNV Upernavik 118.78 17 *i* P **PKPdf 16 11 60.0 -0.3**
BVAR Borovoye Array 118.78 320 PKP **PKPdf 16 12 00.3 -0.5**
comp=Z,103nm,0.4s,baz=111,slow=2.3,SNR=100
BVAR PP **PP 16 13 27.3 -3.5**
comp=Z,44nm,0.9s,baz=76,slow=6.1,SNR=4.3
BVAR pPKP **pPKPdf 16 14 22.6 +1.5**
comp=Z,37nm,0.8s,baz=85,slow=1.7,SNR=4.5
BVAR PKKPbc **PKKPbc 16 22 19.3 -0.5**
comp=Z,7.9nm,0.7s,baz=274,slow=3.8,SNR=6.2
KK31 Karatay Array 118.89 309 PKiKP **PKPdf 16 12 00.5 -0.9**
KKAR Karatay Array 118.89 309 **PKPdf 16 11 59.6 -1.8**
KKAR Karatay Array 118.89 309 PKiKP **PKPdf 16 11 59.6 -1.8**
SCHQ Schefferville 118.93 38 PKP **PKPdf 16 12 00.3 -0.8**
comp=Z,433nm,0.9s,baz=316,slow=2.3,SNR=11
SCHQ PP **PP 16 13 30.1 -1.7**
comp=Z,177nm,0.9s,baz=295,slow=6.5,SNR=5.4
SCHQ PKKPbc **PKKPbc 16 22 18.2 -1.1**
comp=Z,87nm,0.8s,baz=135,slow=4.6,SNR=6.0
VOI Vohitsoka 118.93 229 P **PKiKP 16 12 03.2 +0.8**
SNR=6.7
IUG Iuzhnay 119.22 308 *e*PKP **PKPdf 16 12 00.9 -1.3**
IUG *e*PP **PP 16 13 32.4 -1.9**
IUG Iuzhnay 119.22 308 *e*PKiKP **PKPdf 16 12 00.8 -1.3**
IUG *e* 16 13 32.3
BRLS Boroldaу 119.39 309 *e*PKP **PKPdf 16 12 01.4 -1.0**
BRLS Boroldaу 119.39 309 *e*PKiKP **PKPdf 16 12 01.3 -1.0**
KBL Kabul 119.50 299 **PKPdf 16 12 02.4 -0.7**
KBL Kabul 119.50 299 PKiKP **PKPdf 16 12 02.4 -0.7**
BDFB Brasilia 119.53 123 PKP **PKPdf 16 12 02.7 -0.8**
comp=Z,19nm,0.7s,baz=221,slow=2.3,SNR=19
BDFB PP **PP 16 13 32.6 -3.7**
comp=Z,13nm,1.1s,baz=268,slow=7.7,SNR=3.5
BDFB pPKP **pPKPdf 16 14 25.5 +2.2**
comp=Z,4.9nm,0.6s,baz=194,slow=1.7,SNR=1.5
BDFB PKKPab **PKKPbc 16 22 16.8 -0.2**
comp=Z,30nm,0.8s,baz=62,slow=4.1,SNR=16
CHM Chimkent 119.54 308 *e*PKP **PKPdf 16 12 01.3 -1.4**
CHM Chimkent 119.54 308 *e*PKiKP **PKPdf 16 12 01.2 -1.4**
SIMJ Simiganj 119.84 304 **PKPdf 16 12 02.2 -1.3**
NUUG Nugaatsiaq 120.15 18 *i* P **PKPdf 16 12 02.2 -0.7**
BBSR BB Station 120.34 64 **PKPdf 16 12 03.5 -0.9**
ABPO Ambohimpanom 120.45 232 **PKPdf 16 12 05.2 -0.1**
ABPO Ambohimpanom 120.45 232 PKiKP **PKPdf 16 12 05.2 -0.1**
H05S1 Guadeloupe/Mar 120.49 85 PKP **PKPdf 16 12 03.8 -1.4**
SNR=9.4
H05N1 Guadeloupe/Mar 120.77 83 PKP **PKPdf 16 12 04.7 -1.0**
SNR=20
SAATT Saattut 120.94 18 *i* P **PKiKP 16 12 04.6 0.0**
SAQQ Saqqaq 121.23 19 *i* P **PKPdf 16 12 04.5 -0.5**
KBS Kingsbay 121.31 358 **PKPdf 16 12 04.5 -0.5**
KBS Kingsbay 121.31 358 *e*Pdif **Pdif 16 08 36.8 +0.9**
KBS IVmB_BB 16 08 42.9
comp=Z,473nm,2.9s
KBS *e*PKPdf **PKPdf 16 12 04.5 -0.5**
KBS *e*PP **PP 16 13 45.3 -1.6**
KBS *e*SKSac **SKSac 16 18 07.7 +0.6**
KBS *i* 16 26 33.0
KBS IVMs_BB IVMs_BB 16 28 12.3
comp=Z,1μm,14.3s
KBS *e*SS **SS 16 29 34.4 -0.3**
KBS Kingsbay 121.31 358 PKiKP **PKPdf 16 12 04.5 -0.5**
KBS Kingsbay 121.31 358 *i* P **PKPdf 16 12 04.6 -0.4**
MSEY Mahe Island 121.45 251 **PKPdf 16 12 05.5 -1.7**
MSEY Mahe Island 121.45 251 P **PKiKP 16 12 08.0 +0.6**
MSEY Mahe Island 121.45 251 PKiKP **PKPdf 16 12 05.5 -1.7**
SBV Sambava 121.68 239 P **PKiKP 16 12 08.3 +0.5**
SPA0 Spitsbergen Ar 121.82 356 *e*Pdif **Pdif 16 08 40.7 +2.4**
SPA0 IVmB_BB 16 08 44.2
comp=Z,258nm,2.1s
SPA0 *e*PKPdf **PKPdf 16 12 04.9 -1.1**
SPA0 *e*PP **PP 16 13 49.2 -1.2**
SPA0 *e*PKSdf **PKSdf 16 15 41.4 -0.8**
SPA0 *e*SS SS 16 29 47.6 +6.5
SPITS Spitsbergen Ar 121.82 356 PKP **PKPdf 16 12 05.5 -0.5**
comp=Z,196nm,0.9s,baz=93,slow=5.2,SNR=63
SPITS pPKP **pPKPdf 16 14 27.7 +1.2**
comp=Z,15nm,0.8s,baz=33,slow=3.4,SNR=1.7
SPITS PKPbc **PKKPab 16 22 07.1 -1.1**
comp=Z,16nm,0.8s,baz=106,slow=9.2,SNR=8.3
ILULI Ilulissat 121.88 20 *i* P **PKPdf 16 12 05.7 -0.6**
HOPEN Hopen 122.69 354 *e*Pdif **Pdif 16 08 41.2 -0.9**
HOPEN IVmB_BB 16 09 00.1
comp=Z,896nm,2.8s
HOPEN *e*PKPdf **PKPdf 16 12 06.8 -0.9**
HOPEN *e*PP **PP 16 13 54.3 -1.8**
HOPEN *e*SKSac **SKSac 16 18 12.9 +1.2**
HOPEN *i* 16 26 44.7
HOPEN *e*SS **SS 16 29 51.0 -1.0**
DAG Danmarks Havn 122.77 5 PKP **PKPdf 16 12 05.2 -2.6**
DAG Danmarks Havn 122.77 5 *i* P **PKPdf 16 12 05.8 -2.0**
SJMB Sao Joao De Ma 122.82 130 *e*P **PKPdf 16 12 07.8 -1.9**
HSPB Hornsund (broa 123.01 356 *e*PKP **PKPdf 16 12 06.9 -1.4**
PRPB Parauapebas 123.03 112 *e*P **PKPdf 16 12 08.9 -1.3**
SFJD Kangerlussuaq 123.09 22 **PKPdf 16 12 07.2 -1.5**
SFJD Kangerlussuaq 123.09 22 PKiKP **PKPdf 16 12 07.2 -1.5**
SFJD Kangerlussuaq 123.09 22 *i* P **PKPdf 16 12 08.0 -0.7**
SUMG Summit 123.24 13 PKP **PKPdf 16 12 05.5 -3.9**
SUMG Summit 123.24 13 *i* P **PKiKP 16 12 09.6 -0.1**
SMTB Santa Maria do 123.58 116 *e*P **PKPdf 16 12 10.1 -1.2**
SVE Sverdlovsk 123.73 325*c i*PKiKP **PKPdf 16 12 09.7 -0.5**
SVE *e* 16 13 59.3
SVE pmax pmax
comp=Z,314nm,1.0s
NUUK Nuuk 123.94 25 *i* P **PKiKP 16 12 10.6 -0.1**
SUR Sutherland 124.29 200 **PKPdf 16 12 12.4 0.0**
SUR Sutherland 124.29 200 P **PKiKP 16 12 13.5 +0.7**
DY2G Dye2 124.85 21 *i* P **PKPdf 16 12 12.1 -0.3**
ARTI Arti 125.05 325 **PKPdf 16 12 10.8 -1.9**
ARTI Arti 125.05 325 *i* PKiKP **PKPdf 16 12 11.7 -1.0**
ARTI 16 14 07.9
ARTI PPP PPP 16 16 53.8
ARTI 16 18 19.9
BJO1 Bjornoya 125.14 354 *e*Pdif **Pdif 16 08 54.1 +1.0**
BJO1 *e*PKPdf **PKPdf 16 12 11.9 -0.5**
BJO1 *e*PP **PP 16 14 07.1 -5.2**
BJO1 *e* 16 15 29.6
BJO1 *e*SS SS 16 30 24.2 +1.9
NGCH Negor - Chabah 125.26 287 P **PKiKP 16 12 15.6 +1.0**
AB31 Akbulak array 125.77 317 PKiKP **PKPdf 16 12 13.8 -0.5**
BOSA Boshof 126.08 206 PKP **PKiKP 16 12 16.5 +0.2**
comp=Z,16nm,0.7s,baz=144,slow=2.5,SNR=3.7
BOSA pPKP **pPKPdf 16 14 36.8 +0.7**
comp=Z,19nm,0.9s,baz=127,slow=5.3,SNR=4.0
BOSA PKKPab **PKKPbc 16 21 51.6 -1.3**
comp=Z,17nm,1.0s,baz=341,slow=4.6,SNR=15
BOSA SKKPbc SKKPbc 16 24 45.1 +1.8
comp=Z,7.0nm,1.0s,baz=332,slow=4.0,SNR=5.5
CMC01 Camacan, BA 126.19 128 *e*P **PKPdf 16 12 13.9 -2.3**
JLN Jalan Bani Buh 126.34 283 P **PKiKP 16 12 17.0 +0.2**
SNR=17
AKTO Aktyubinsk 126.76 318 PKiKP **PKPdf 16 12 15.3 -0.9**
WSAR Wadi Sarin 127.22 284 P **PKiKP 16 12 18.3 -0.2**
SNR=23
MHTO MHTO 127.46 281 P **PKPdf 16 12 18.4 0.0**
SNR=19
JMDO Jabal Madar 127.57 283 P **PKiKP 16 12 19.0 -0.3**
SNR=12
VADS Vadso 127.63 348 *e*Pdif **Pdif 16 09 04.3 +0.1**
VADS *e*PKPdf **sPdif 16 12 15.8 -0.9**
VADS *e*PP **PP 16 14 24.8 -3.6**
VADS *e* 16 15 34.5
DQM DQM 127.66 280 P **PKPdf 16 12 19.0 +0.2**
SNR=9.9
BIDO Bidbid 127.72 284 P **PKiKP 16 12 19.7 +0.2**
SNR=20
SMDO Samad 127.72 284 P **PKPdf 16 12 19.0 0.0**
SNR=33
NRS Narsarsuaq 127.92 27 *i* P **PKPdf 16 12 17.8 -0.3**
SCO Scoresbysund 128.07 10 *i* P **PKPdf 16 12 17.9 -0.2**
SOEG Soedalen 128.07 15 *i* P **PKPdf 16 12 17.8 -0.4**
HAMF Hammerfest 128.14 351 *e*PKPdf **PKPdf 16 12 16.4 -1.9**
HAMF *e*PP **PP 16 14 28.9 -2.8**
HAMF *e* 16 15 35.8
HAMF *e* 16 17 32.4
HAMF *e*SS SS 16 31 00.7 +1.6
JASK Jask - Hormozg 128.26 287 P **PKiKP 16 12 20.5 -0.1**
SNR=15
LVZ Lovozero 128.26 345 **PKPdf 16 12 16.4 -2.2**
LVZ Lovozero 128.26 345 PKiKP **PKPdf 16 12 16.4 -2.2**
KEV Kevo 128.37 349 PKPpre 16 12 06.1
KEV **PKPdf 16 12 17.0 -1.7**
KEV Kevo 128.37 349 PKHKP PKPpre 16 12 06.1
KEV 16 12 17.0
KIRV Kirov 128.73 330*c i*PKiKP **PKPdf 16 12 19.7 0.0**
APA Apatity 128.81 345 *i* PKiKP **PKPdf 16 12 18.0 -1.6**
ARA0 ARCESS Array S 128.83 349 *e*Pdif **Pdif 16 09 12.2 +2.7**
ARA0 IVmB_BB 16 09 20.3
comp=Z,271nm,2.6s
ARA0 *e*PKPdf **PKPdf 16 12 17.8 -1.8**
ARA0 *e* 16 14 31.0
ARA0 *e* 16 15 39.7
ARA0 *e*SS SS 16 31 08.8 +1.2
ARA0 *i* 16 34 45.1
ARA0 IVMs_BB IVMs_BB 16 53 03.0
comp=Z,588nm,13.1s
ARCES ARCESS Array B 128.83 349 PKPpre 16 12 04.9
ARCES ARCESS Array B 128.83 349 PKP **PKPdf 16 12 19.1 -0.5**
comp=Z,102nm,0.7s,baz=25,slow=1.5,SNR=46
ARCES PP **PP 16 14 32.0 -4.2**
comp=Z,20nm,0.9s,baz=15,slow=8.4,SNR=4.2
ARCES PKKP **PKKPdf 16 22 27.8 -1.1**
comp=Z,2.5nm,0.7s,baz=151,slow=2.1,SNR=5.3
ARCES SKKPbc SKKPbc 16 24 34.0 -3.7
comp=Z,3.4nm,0.8s,baz=186,slow=2.5,SNR=4.7
LBTB Lobatse 129.08 208 PKP **PKiKP 16 12 22.2 -0.3**
comp=Z,16nm,0.7s,baz=147,slow=4.3,SNR=11
LBTB PP **PP 16 14 41.1 +3.1**
comp=Z,24nm,0.9s,baz=155,slow=6.2,SNR=3.3
LBTB SKKPbc SKKPbc 16 24 33.5 +0.5
comp=Z,8.2nm,1.0s,baz=270,slow=7.1,SNR=3.7
JNW Jan Mayen West 129.11 4 *e*PKPdf **PKiKP 16 12 20.9 +0.1**
JNW *e*PP **PP 16 14 38.1 +0.2**
JNW *e*SS SS 16 31 13.6 +2.7
JMIC Jan Mayen 129.14 4 *e*PKPdf **PKiKP 16 12 21.1 +0.2**
JMIC *e*PP **PP 16 14 37.8 -0.3**
ARQ Araqi 129.15 284 P **PKPdf 16 12 21.7 0.0**
SNR=21
JNE Jan Mayen East 129.15 4 *e*PKPdf **PKiKP 16 12 21.9 +1.0**
JNE *e*PP **PP 16 14 39.0 +0.8**
SOHO SOHO 129.25 285 P **PKPdf 16 12 21.4 -0.3**
SOHO SOHO 129.25 285 *i* PKPdf **PKPdf 16 12 20.5 -1.2**
SNR=39
JETT Jettan, Norway 129.60 352 *e*PKPdf **PKPdf 16 12 20.3 -0.8**
JETT *e*PP **PP 16 14 41.5 +0.4**
JETT *e* 16 15 46.3
JETT IVMs_BB IVMs_BB 16 44 33.1
comp=Z,627nm,12.8s
MDH Madha 129.60 286 P **PKPdf 16 12 22.0 -0.4**
SNR=20
MDH Madha 129.60 286 *i* PKPdf **PKPdf 16 12 20.9 -1.5**
SNR=33
UOSS Minazif 129.65 286 **PKPdf 16 12 20.2 -2.3**
UOSS Minazif 129.65 286 P **PKPdf 16 12 22.0 -0.5**
UOSS Minazif 129.65 286 *i* PKPdf **PKPdf 16 12 21.0 -1.5**
SNR=28
KTK1 Kautokeino 129.67 350 *e*Pdif **Pdif 16 09 15.4 +2.0**
KTK1 *e*PKPdf **PKPdf 16 12 19.7 -1.5**
KTK1 *e*PP **PP 16 14 41.8 +0.2**
KTK1 *e* 16 15 42.4
KTK1 *e*SS SS 16 31 14.0 -3.8
HATD Hatta, Dubai 129.70 286 P **PKPdf 16 12 22.7 +0.1**
SNR=36
HATD Hatta, Dubai 129.70 286 *i* PKPdf **PKPdf 16 12 21.6 -1.0**
SNR=37
TRO Tromso 129.72 352 *e*PKPdf **PKPdf 16 12 19.7 -1.6**
TRO *e* 16 14 37.7
TRO *e* 16 15 44.0
MSFE Esma-Masafi 129.73 286 *i* PKPdf **PKPdf 16 12 21.6 -1.1**
SNR=30
ASHO Ashiyiah 129.75 286 P **PKPdf 16 12 22.6 -0.2**
SNR=33
ASHO Ashiyiah 129.75 286 *i* PKPdf **PKPdf 16 12 21.5 -1.2**
SNR=32
SHME Shamm 129.82 287 *i* PKPdf **PKPdf 16 12 19.8 -3.0**
SNR=19
ALNE Al Ain 129.95 285 *i* PKPdf **PKPdf 16 12 20.4 -2.7**
SNR=18
NAZ Nazwa, Dubai 130.14 286 P **PKPdf 16 12 23.1 -0.3**
SNR=22
NAZ Nazwa, Dubai 130.14 286 *i* PKPdf **PKPdf 16 12 21.3 -2.1**
SNR=22
FAQ Al Faqa, Dubai 130.18 286 P **PKiKP 16 12 24.0 -0.4**
SNR=17
FAQ Al Faqa, Dubai 130.18 286 *i* PKPdf **PKPdf 16 12 21.8 -1.7**
SNR=20
UMQ Umm Al-Quwin 130.20 287 *i* PKPdf **PKPdf 16 12 22.0 -1.5**
SNR=6.4
RBK Rabkut 130.28 276 P **PKPdf 16 12 24.0 +0.1**
SNR=11
ASUD Al Ashush, Dub 130.40 285 P **PKiKP 16 12 24.6 -0.3**
SNR=9.3
ASUD Al Ashush, Dub 130.40 285 *i* PKPdf **PKPdf 16 12 22.2 -1.7**
SNR=11
DOK Doka 130.57 277 P **PKiKP 16 12 25.0 -0.4**
SNR=6.8
AJN Ajban 130.70 285 *i* PKPdf **PKPdf 16 12 21.6 -2.8**
SNR=14
WHFO Wadi Hawf 130.77 276 P **PKPdf 16 12 24.3 -0.5**
SNR=8.2
ABTO Aybut 131.09 276 P **PKPdf 16 12 25.6 +0.1**
SNR=6.6
KLMR Klimovskoe 131.69 336 *e*PKiKP **PKPdf 16 12 23.8 -1.4**
KLMR *e* 16 15 01.1
KLMR PPP PPP 16 17 50.6
KLMR 16 18 36.1
KLMR pmax pmax
comp=Z,302nm,1.2s
LOF Lofoten 131.77 354 *e*PKPdf **PKPdf 16 12 23.5 -1.7**
LOF *e* 16 14 52.5
LOF *e* 16 15 51.9
LOF *e*SS SS 16 31 40.6 -2.3
STEI Steigen 131.78 353 *e*PKPdf **PKPdf 16 12 23.7 -1.5**
STEI *e*PP **PP 16 14 54.9 0.0**
MZR Muzera 131.88 283 *i* PKPdf **PKPdf 16 12 24.0 -2.8**
SNR=8.6
FAUS Fauske 132.30 353 *e*Pdif **Pdif 16 09 25.4 +0.4**
FAUS IVmB_BB 16 09 29.7
comp=Z,591nm,3.1s
FAUS *e*PKPdf **PKPdf 16 12 24.7 -1.5**
FAUS *e*PP **PP 16 14 57.8 -0.4**
FAUS *e* 16 15 53.2
FAUS *e*SS SS 16 31 57.2 +7.9
FAUS IVMs_BB IVMs_BB 16 41 20.5
comp=Z,1μm,5.6s
BELG Belogornoye 132.33 323 pPKP pPKPdf 16 14 50.6 +3.5
comp=Z,158nm,0.9s,baz=130,slow=1.3,SNR=6.3
BELG Belogornoye 132.33 323 *i* PKiKP **PKPdf 16 12 26.3 -0.4**
VAGH Vaagaholmen 133.15 354 *e*PKPdf **PKPdf 16 12 27.3 -0.5**
VAGH *e*PP **PP 16 15 01.4 -2.1**
VAGH *e*SKSac **SKSac 16 18 43.7 +1.3**
VAGH *e*SS **SS 16 32 00.8 +1.4**
BORG Borgarnes 133.22 13 **PKPdf 16 12 28.4 +0.4**
BORG Borgarnes 133.22 13 PKiKP **PKPdf 16 12 28.4 +0.4**
MOR8 Moi Rana 133.56 353 *e*PKPdf **PKPdf 16 12 28.9 +0.2**
MOR8 *e*PP **PP 16 15 04.9 -1.3**
MOR8 *e*SKSac **SKSac 16 18 44.5 +0.8**
MOR8 *e*SS **SS 16 32 06.7 +2.2**
TRNA Turayna 134.14 285 P **PKPdf 16 12 31.6 +0.7**
SNR=5.5
SHMA Al-Shehemyia 134.45 287 P **PKPdf 16 12 32.2 +0.8**
SNR=5.8
RCBR Riachuelo 134.88 121 pPKP **pPKPdf 16 14 54.8 +2.2**
comp=Z,16nm,1.1s,baz=225,slow=4.4,SNR=5.5
RCBR SKPbc **SKPbc 16 15 07.1 +0.2**
comp=Z,34nm,0.9s,baz=198,slow=6.5,SNR=15
NSS Namsos 135.43 354 *e*PKPdf **PKPdf 16 12 31.1 -1.0**
NSS *e*SKPdf **SKPbc 16 15 08.1 +1.2**
MAK Makhachkala 135.61 311 *e*P **Pdif 16 09 41.9 +1.6**
MAK *i* 16 12 32.4
MAK *e*PPP PPP 16 18 22.9
MAK *e* 16 18 52.3
MAK *e*SS SS 16 32 26.8 -3.7
MAK pmax pmax
comp=Z,396nm,0.9s
FINES FINESS Array B 135.63 343 PKhKP PKPpre 16 12 20.4
comp=Z,7.2nm,0.3s,baz=66,slow=3.5,SNR=31
FINES PKP **PKPdf 16 12 32.8 +0.2**
comp=Z,108nm,0.8s,baz=55,slow=3.1,SNR=19
FINES pPKP pPKPdf 16 14 56.4 +3.5
comp=Z,23nm,0.8s,baz=114,slow=1.7,SNR=2.0
FINES SKKPbc SKKPbc 16 24 09.6 -3.2
comp=Z,6.3nm,0.7s,baz=188,slow=2.1,SNR=8.1
MOS Moscow 135.67 332 *e*PKiKP **PKPdf 16 12 30.2 -2.6**
MOS pmax pmax
comp=Z,224nm,1.2s
PUL Pulkovo 135.71 340 *i* PKiKP **PKPdf 16 12 32.6 -0.2**
PUL pmax pmax
comp=Z,306nm,0.9s
AKT Akhty 135.82 309 *e*PKiKP **PKPdf 16 12 33.0 -0.8**
AKT *e* 16 15 19.8
AKT *e* 16 15 51.6
AKT *e*PPP PPP 16 18 28.2
AKT pmax pmax
comp=Z,181nm,1.0s
LSZ Lusaka 135.85 218 PKhKP PKPpre 16 12 22.3
comp=Z,5.7nm,0.5s,baz=138,slow=1.8,SNR=9.0
LSZ PKP **PKPdf 16 12 35.1 +0.5**
comp=Z,73nm,0.7s,baz=2.1,slow=0.3,SNR=28
LSZ pPKP pPKPdf 16 14 55.7 +0.9
comp=Z,34nm,1.0s,baz=169,slow=0.7,SNR=2.9
VRH Novokhopyorsk 136.14 324 *e*PKHKP PKPpre 16 12 26.1
VRH pmax pmax
comp=Z,270nm,0.9s
OBN Obninsk 136.53 331 PKhKP PKPpre 16 12 22.2
comp=Z,18nm,0.3s,baz=136,slow=3.2,SNR=9.5
OBN PKP **PKPdf 16 12 33.5 -0.9**
comp=Z,104nm,0.5s,baz=295,slow=3.2,SNR=21
OBN SKPbc **SKPbc 16 15 11.6 +1.2**
comp=Z,785nm,1.2s,baz=1.4,slow=1.1,SNR=47
OBN Obninsk 136.53 331*d i*PKiKP **PKPdf 16 12 33.7 -0.7**
OBN *i* 16 18 33.1
OBN *i* PS 16 25 55.1
OBN *i* 16 27 46.2
OBN *i* SS SS 16 32 38.3 -1.8
OBN pmax pmax
comp=Z,230nm,1.2s
OBN pmax pmax
comp=Z,352nm,1.1s
LPSR Galich'ya Gora 136.88 327 *e*PKHKP PKPpre 16 12 25.1
LPSR pmax pmax
comp=Z,280nm,1.0s
VORR Voronezh 137.25 326 *e*PKHKP PKPpre 16 12 26.6
VORR pmax pmax
comp=Z,350nm,0.9s
VSR Storozhevoye 137.51 325 *e*PKHKP PKPpre 16 12 26.8
VSR pmax pmax
comp=Z,190nm,1.0s
TSUM Tsumeb 137.54 203 PKHKP PKPpre 16 12 29.0
comp=Z,15nm,0.7s,baz=132,slow=2.2,SNR=21
TSUM PKP **PKiKP 16 12 39.4 -0.3**
comp=Z,24nm,0.5s,baz=146,slow=2.9,SNR=13
TSUM pPKP pPKPdf 16 14 58.7 +0.7
comp=Z,7.0nm,0.7s,baz=140,slow=5.2,SNR=2.2
VORD Divnogorie 137.58 325 *e*PKHKP PKPpre 16 12 26.9
VORD pmax pmax
comp=Z,190nm,1.0s
KIBK Kibwezi 137.63 242 PKP PKPdf 16 12 29.1 -8.7
VSU Vasula 137.89 341*c i*PKiKP **PKPdf 16 12 34.9 -1.9**
VSU pmax pmax
comp=Z,101nm,0.8s
GOF Gofitskoye 137.99 315*ce*PKHKP PKPpre 16 12 27.1
DOMB Dombas 138.15 355 *e*PKPdf **PKPdf 16 12 31.2 -6.1**
DOMB *e*SKPdf **SKiKP 16 15 16.9 -1.6**
DOMB *e*SKSdf SKSdf 16 18 38.2 -12
DOMB *e*SS **SS 16 32 59.3 +1.0**
DOMB IVMs_BB IVMs_BB 16 33 36.2
comp=Z,3μm,4.3s
GNI Garni 138.35 308 PKhKP PKPpre 16 12 31.2
comp=Z,28nm,1.0s,baz=186,slow=5.4,SNR=6.4
GNI PKP **PKPdf 16 12 39.3 +0.8**
comp=Z,58nm,0.9s,baz=4.2,slow=8.9,SNR=14
GNI pPKP pPKPdf 16 15 00.0 +1.1
comp=Z,39nm,1.0s,baz=220,slow=7.9,SNR=3.6
GNI SKKPbc SKKPbc 16 24 02.9 +1.4
comp=Z,21nm,0.8s,baz=151,slow=3.9,SNR=9.2
GNI Garni 138.35 308 P **PKPdf 16 12 39.3 +0.8**
GNI Garni 138.35 308 PKPdf PKPdf 16 12 29.6 -8.9
GNI Garni 138.35 308 *i* PKiKP **PKPdf 16 12 37.1 -1.4**
KBZ Khabaz 138.56 314 PKhKP PKPpre 16 12 30.2
comp=Z,14nm,0.8s,baz=124,slow=1.8,SNR=11
KBZ pPKP pPKPdf 16 15 01.5 +2.5
comp=Z,20nm,0.9s,baz=68,slow=4.4,SNR=1.8
KBZ SKKPbc SKKPbc 16 24 02.9 +2.3
comp=Z,5.0nm,0.8s,baz=263,slow=6.3,SNR=4.9
KBZ Khabaz 138.56 314*c i*PKiKP **PKPdf 16 12 38.9 +0.4**
KBZ pmax pmax
comp=Z,39nm,1.0s
KVAR Kislovodsk Arr 138.62 314 PKP **PKPdf 16 12 36.9 -1.9**
comp=Z,2.0nm,0.3s,baz=31,slow=5.9,SNR=1.9
KIV Kislovodsk 138.63 314 *i* PKPdf PKPdf 16 12 30.6 -8.2
SNR=17
KIV Kislovodsk 138.63 314 *i* PKiKP **PKPdf 16 12 37.0 -1.8**
KIV *e* 16 15 33.4
KIV *e* 16 18 47.8
KIV *e*SS SS 16 32 59.4 -6.5
KIV *e*SSS SSS 16 38 25.3
KIV pmax pmax
comp=Z,85nm,1.0s
SHA1 Shidzhatmaz 138.72 314 *i* PKiKP **PKPdf 16 12 37.4 -1.8**
NB2 NORSAR Subarra138.91 353 PKP PKPdf 16 12 29.5 -9.2
comp=Z,143nm,1.4s,baz=16,slow=3.2
NOA NORSAR Array B 138.91 353 PKhKP PKPpre 16 12 29.2
comp=Z,92nm,0.9s,baz=13,slow=2.3,SNR=63
NOA pPKP pPKPdf 16 14 55.0 -4.2
comp=Z,17nm,1.0s,baz=22,slow=2.8,SNR=5.3
NOA SKPbc **SKPbc 16 15 17.8 +0.7**
comp=Z,108nm,1.0s,baz=14,slow=2.5,SNR=12
NOA SKKPbc **SKKPbc 16 23 59.4 -1.0**
comp=Z,11nm,0.9s,baz=190,slow=4.4,SNR=7.2
KMBO Kilima Mbogo 138.96 243 PKhKP PKPpre 16 12 33.3
comp=Z,12nm,0.5s,baz=92,slow=2.6,SNR=34
KMBO pPKP pPKPdf 16 15 02.3 +1.5
comp=Z,17nm,0.9s,baz=68,slow=1.1,SNR=2.5
KMBO SKKPbc SKKPbc 16 24 01.7 +4.4
comp=Z,10nm,1.1s,baz=305,slow=6.0,SNR=7.0
NC602 NORSAR Array S 139.17 352 *e*PKPdf **PKPdf 16 12 33.3 -5.8**
NC602 *e*SKPdf **SKPbc 16 15 17.5 -0.2**
NC602 *e*SS **SS 16 33 11.0 +1.0**
HYA Hoyanger 139.22 357 *e*PKPdf **PKPdf 16 12 35.5 -3.7**
HYA *e*SKPdf **SKPbc 16 15 17.8 0.0**
HYA *e*PKSdf **PKSdf 16 16 17.1 +2.3**
HYA *e*SS **SS 16 33 11.4 +0.9**
RAYN Ar Rayn 139.23 283 *i* PKPdf **PKPdf 16 12 33.0 -7.5**
SNR=18
RAYN Ar Rayn 139.23 283 ⇑PKHKP PKPpre 16 12 32.5
ERBR Yeremizino-Bor 139.38 317 *i* PKHKP PKPpre 16 12 33.8
ERBR *e* 16 15 45.9
ERBR pmax pmax
comp=N,129nm,1.1s
ERBR pmax pmax
comp=E,53nm,1.1s
ERBR pmax pmax
comp=Z,422nm,1.0s

ATD	**Arta Tunnel**	**139.40**	**264**	P	**PKPdf**	**16 12 36.4**	**-4.6**
	SNR=9.7						
HFS	**Hagfors**	**139.46**	**351**	PKhKP	PKPpre	16 12 31.7	
	comp=Z,41nm,0.4s,baz=57,slow=5.3,SNR=85						
HFS				SKPbc	**SKPbc**	**16 15 19.3**	**+0.8**
	comp=Z,116nm,0.9s,baz=32,slow=5.6,SNR=14						
HFS				SKKPbc	**SKKPbc**	**16 23 56.8**	**-1.4**
	comp=Z,13nm,0.8s,baz=174,slow=1.4,SNR=7.2						
SKAR	**Skarslia**	**139.56**	**355**	ePKPdf	**PKPdf**	**16 12 34.9**	**-5.0**
SKAR				ePKSdf	**PKSdf**	**16 16 19.5**	**+3.9**
SKAR				eSS	SS	16 33 10.1	-4.5
SKAR				IVMs_BB	IVMs_BB	16 51 22.9	
	comp=Z,2μm,4.2s						
BER	**Bergen**	**140.05**	**357**	ePKPdf	**PKPdf**	**16 12 37.9**	**-2.8**
BER				ePKSdf	**PKSdf**	**16 16 18.2**	**+1.9**
BER				eSKSac	**SKSac**	**16 19 00.3**	**+1.2**
BER				IVMs_BB	IVMs_BB	16 37 05.6	
	comp=Z,5μm,4.1s						
KONO	**Kongsberg**	**140.45**	**354**	ePKPdf	PKPdf	16 12 32.5	-9.0
KONO				eSKSdf	**SKSdf**	**16 18 56.0**	**+1.8**
KONO				eSS	**SS**	**16 33 29.0**	**+4.2**
KONO	**Kongsberg**	**140.45**	**354**	⇑PKHKP	PKPpre	16 12 34.9	
MNK	**Minsk**	**140.59**	**336**	i PKIKP	**PKPdf**	**16 12 38.1**	**-3.8**
MNK				i		16 15 55.3	
MNK				i		16 18 53.0	
MNK				i SS	SS	16 33 26.3	-0.6
MNK				pmax	pmax		
	comp=N,21nm,0.9s						
MNK				pmax	pmax		
	comp=E,47nm,1.0s						
MNK				pmax	pmax		
	comp=Z,76nm,0.8s						
MNK				pmax	pmax		
	comp=Z,182nm,0.8s						
SOC	**Sochi**	**140.76**	**315**	ePKHKP	PKPpre	16 12 27.3	
SOC				e		16 15 44.8	
SOC				ePPP	PPP	16 18 53.3	
SOC				eSS	SS	16 33 23.2	-7.0
SOC				eSSS	SSS	16 38 56.0	
BLS5	**Blasjo**	**140.94**	**356**	ePKPdf	**PKPdf**	**16 12 37.4**	**-5.0**
BLS5				eSS	SS	16 33 25.4	-5.1
ANN	**Anapa**	**141.72**	**318**	i PKHKP	PKPpre	16 12 38.1	
ANN				e		16 15 55.5	
ANN				pmax	pmax		
	comp=Z,242nm,0.9s						
ANN				pmax	pmax		
	comp=N,120nm,1.0s						
ANN				pmax	pmax		
	comp=E,25nm,0.7s						
TJOU	**Tjoern**	**141.78**	**351**	i P	**PKPdf**	**16 12 39.0**	**-4.8**
BIGH	**Upper Bighouse**	**141.83**	**5**	eP	**PKPdf**	**16 12 36.5**	**-7.5**
HOMB	**Homborsund**	**141.92**	**354**	ePKPdf	**PKPdf**	**16 12 37.7**	**-6.4**
HOMB				ePP	**PP**	**16 15 58.0**	**+0.9**
HOMB				eSS	SS	16 33 39.4	-2.1
HOMB				IVMs_BB	IVMs_BB	16 48 37.3	
	comp=Z,2μm,4.2s						
HOMB	**Homborsund**	**141.92**	**354**	i P	**PKPdf**	**16 12 39.1**	**-5.0**
SNART	**Snartemo**	**141.97**	**355**	i P	**PKPdf**	**16 12 39.1**	**-5.1**
BORU	**Boraas**	**141.99**	**350**	i P	**PKPdf**	**16 12 39.4**	**-4.8**
ONAU	**Onsala**	**142.35**	**351**	i P	**PKPdf**	**16 12 39.3**	**-5.6**
FURI	**Furi**	**142.36**	**258**		**PKPdf**	**16 12 45.2**	**-1.4**
SUW	**Suwalki**	**142.67**	**339**	ePKP	**PKPdf**	**16 12 42.5**	**-3.0**
SUW				epPKP	pPKPdf	16 15 27.8	+22
SUW				ePP	**PP**	**16 15 59.3**	**-2.4**
BLEU	**Blekinge**	**142.68**	**347**	i P	**PKPdf**	**16 12 41.1**	**-4.4**
MCD	**Coleburn Disti**	**142.78**	**4**	eP	**PKPdf**	**16 12 41.7**	**-4.0**
AKASG	**Malin Array Be**	**142.79**	**331**	PKP	**PKPdf**	**16 12 43.2**	**-2.7**
	comp=Z,490nm,0.6s,baz=44,slow=4.3,SNR=918						
AKASG				pPKP	**pPKPdf**	**16 15 07.7**	**+1.3**
	comp=Z,59nm,0.8s,baz=42,slow=4.2,SNR=2.9						
AKASG				SKKPbc	SKKPbc	16 23 41.7	-2.8
	comp=Z,3.5nm,0.7s,baz=235,slow=3.5,SNR=9.4						
AKBB	**Malin Array Si**	**142.79**	**331**c	i PKHKP	PKPpre	16 12 42.1	
KIEV	**Kiev**	**142.80**	**331**	⇑P	**PKPdf**	**16 12 42.6**	**-3.3**
KIEV	**Kiev**	**142.80**	**331**	i PKPdf	**PKPdf**	**16 12 42.2**	**-3.7**
	SNR=722						
KIEV	**Kiev**	**142.80**	**331**	⇑PKHKP	PKPpre	16 12 42.6	
KPL	**Plockton**	**142.81**	**6**	eP	**PKPdf**	**16 12 42.6**	**-3.1**
DEL	**Delary**	**142.91**	**349**	i P	**PKPdf**	**16 12 42.1**	**-3.8**
LODK	**Lodwar**	**142.94**	**247**		**PKPdf**	**16 12 45.9**	**-1.5**
LODK	**Lodwar**	**142.94**	**247**	P	**PKPdf**	**16 12 46.1**	**-1.3**
	SNR=348						
SHEL	**Horse Pasture**	**143.09**	**168**		PKPbc	16 12 46.6	+0.7
SHEL	**Horse Pasture**	**143.09**	**168**	PKIKP	PKPbc	16 12 46.6	+0.7
DRUM	**Mains of Drumt**	**143.50**	**4**	eP	PKPab	16 12 44.6	-1.2
MUD	**Monsted U'grnd**	**143.63**	**353**	i P	PKPbc	16 12 45.0	-1.2
SIM	**Simferopol'**	**143.70**	**320**	ePKIKP	PKPbc	16 12 46.7	-0.2
SIM				e		16 16 10.0	
SIM				pmax	pmax		
	comp=Z,347nm,1.4s						
LUNU	**Lund**	**143.78**	**349**	i P	PKPbc	16 12 45.2	-1.5
INVG	**Invergeldie, C**	**143.87**	**5**	eP	PKPbc	16 12 46.4	-0.6
LAWE	**Loch Awe, Argy**	**143.90**	**7**	eP	PKPbc	16 12 46.3	-0.8
COP	**Copenhagen**	**143.91**	**350**	i P	PKPbc	16 12 46.6	-0.6
BSD	**Bornholm Skovb**	**143.97**	**347**	i P	PKPbc	16 12 46.3	-1.0
TOKA	**Tokat**	**144.27**	**311**		PKPbc	16 12 48.8	-0.1
EDI	**Edinburgh**	**144.44**	**5**	eP	**PKPdf**	**16 12 47.8**	**-0.8**
PGBU	**Glenifferbraes**	**144.44**	**6**	eP	**PKPdf**	**16 12 48.0**	**-0.7**
MBAR	**Mbarara**	**144.55**	**237**	PKPdf	PKPbc	16 12 50.6	-0.1
MBAR	**Mbarara**	**144.55**	**237**	PKIKP	PKPbc	16 12 50.6	-0.1
IDGL	**Inch Island, C**	**144.80**	**9**	PKP	**PKPdf**	**16 12 47.7**	**-1.5**
RGN	**Rugen**	**144.83**	**348**	ePKP	**PKPab**	**16 12 50.6**	**-0.3**
R9F13	**Warsaw-Wawer**	**144.84**	**339**	ePKPbc	**PKPdf**	**16 12 49.3**	**-0.1**
R9F13				ePKPab	**PKPab**	**16 12 50.8**	**-0.3**
R9F13				epPKP	**pPKPdf**	**16 15 11.6**	**+1.6**
R9F13				e		16 15 20.7	
R9F13				ePKKP	PKKPdf	16 22 06.0	+8.4
SORM	**Soroca**	**144.96**	**328**	⇑P	PKPbc	16 12 50.4	-0.2
SORM	**Soroca**	**144.96**	**328**	⇑PKIKP	PKPbc	16 12 50.4	-0.2
CLGH	**Cloghs, Cushen**	**144.98**	**8**	eP	**PKPdf**	**16 12 49.9**	**+0.4**
EKA	**Eskdalemuir Ar**	**145.03**	**5**	PKP	**PKPbc**	**16 12 50.1**	**-0.5**
	comp=Z,349nm,0.9s,baz=346,slow=2.7,SNR=181						
EKA				pPKP	**pPKPdf**	**16 15 12.2**	**+1.8**
	comp=Z,26nm,0.8s,baz=12,slow=2.4,SNR=3.5						
EKA				SKKPbc	SKKPbc	16 23 34.4	-1.4
	comp=Z,11nm,0.9s,baz=153,slow=4.8,SNR=6.8						
ESK	**Eskdalemuir**	**145.04**	**5**		**PKPdf**	**16 12 49.0**	**-0.7**
ESK	**Eskdalemuir**	**145.04**	**5**	eP	**PKPdf**	**16 12 49.8**	**+0.1**
ESK	**Eskdalemuir**	**145.04**	**5**	PKIKP	**PKPdf**	**16 12 49.0**	**-0.7**
GKP	**Gorka Klasztor**	**145.11**	**343**	ePKP	**PKPbc**	**16 12 50.9**	**0.0**
GKP				epPKP	**pPKPdf**	**16 15 13.7**	**+3.2**
GKP				ePP	**PP**	**16 16 16.9**	**+0.9**
NEWG	**New Galloway**	**145.15**	**6**	eP	**PKPdf**	**16 12 50.0**	**+0.1**
PURM	**Purcari**	**145.22**	**325**	⇑P	**PKPbc**	**16 12 51.1**	**-0.4**
BZK	**Bozkurt**	**145.25**	**315**	⇓P	**PKPbc**	**16 12 52.2**	**+0.5**
BEL	**Belsk**	**145.29**	**339**	ePKP	**PKPdf**	**16 12 50.8**	**+0.6**
BEL				epPKP	**pPKPdf**	**16 15 14.2**	**+3.5**
BEL				ePP	**PP**	**16 16 14.6**	**-2.6**
GAL1	**Galloway**	**145.35**	**6**	eP	**PKPdf**	**16 12 50.6**	**+0.5**
KIS	**Kishinev**	**145.48**	**326**	⇓P	**PKPdf**	**16 12 51.2**	**+0.6**
KIS	**Kishinev**	**145.48**	**326**	⇓PKP	**PKPdf**	**16 12 51.0**	**+0.3**
KIS				i pPKP	pPKPbc	16 15 09.0	-0.5
KIS	**Kishinev**	**145.48**	**326**	i PP	PP	16 16 09.0	-10
KIS	**Kishinev**	**145.48**	**326**d	i PKIKP	**PKPdf**	**16 12 51.0**	**+0.3**
KIS				i		16 15 09.0	
KIS				i		16 16 09.0	
KIS				pmax	pmax		
	comp=Z,1μm,1.3s						
MILM	**Milestii Mici**	**145.53**	**326**	⇓P	**PKPdf**	**16 12 50.9**	**+0.1**
MILM	**Milestii Mici**	**145.53**	**326**	⇓i PKP	**PKPdf**	**16 12 49.0**	**-1.8**
	comp=Z,4μm,1.6s						
MILM				i pPKP	pPKPab	16 15 08.0	-0.7
MILM	**Milestii Mici**	**145.53**	**326**	i PP	PP	16 16 09.0	-10
MILM	**Milestii Mici**	**145.53**	**326**d	i PKIKP	**PKPdf**	**16 12 49.0**	**-1.8**
MILM				pmax	pmax		
	comp=Z,4μm,1.6s						
EDMD	**Edmundbyers**	**145.61**	**4**	eP	**PKPdf**	**16 12 50.8**	**+0.2**
DRBR	**Darabani**	**145.75**	**330**	⇓P	**PKPbc**	**16 12 52.4**	**-0.5**
KESW	**Keswick, Cumbr**	**145.77**	**5**	eP	**PKPbc**	**16 12 52.2**	**-0.5**
IOMK	**Kirk Michael**	**145.96**	**6**	eP	**PKPbc**	**16 12 52.5**	**-0.8**
ILTH	**Belurgan, Co L**	**145.98**	**8**	PKP	**PKPdf**	**16 12 52.2**	**+1.0**
CIDE	**Kastamonu/Cide**	**145.98**	**316**	⇑P	**PKPbc**	**16 12 54.3**	**+0.5**
IASR	**Iasi**	**146.00**	**328**	⇓P	**PKPbc**	**16 12 53.4**	**-0.2**
HLG	**Helgoland**	**146.01**	**353**	ePKPbc	**PKPbc**	**16 12 54.3**	**+0.9**
	baz=16,slow=2.4						
IGLA	**Glengowla, Co**	**146.07**	**12**	PKP	**PKPdf**	**16 12 52.4**	**+1.0**
GDLE	**Glaisdale, N Y**	**146.07**	**2**	eP	**PKPdf**	**16 12 50.7**	**-0.7**
H07S1	**FLORES T-PHASE**	**146.21**	**49**	PKPbc	**PKPbc**	**16 12 54.9**	**+0.4**
	SNR=121						
H07S1				pPKPbc	**pPKPdf**	**16 15 13.0**	**+0.6**
	SNR=16						
VASR	**Vaslui**	**146.25**	**327**	⇓P	**PKPbc**	**16 12 54.8**	**+0.4**

FKH	**Fakeheh**	**146.31**	**301**	eP	**PKPdf**	**16 12 52.9**	**+0.3**
ASF	**Jabal al Asfar**	**146.38**	**298**	PKPbc	**PKPbc**	**16 12 55.7**	**+0.4**
	comp=Z,285nm,1.0s,baz=108,slow=1.1,SNR=70						
ASF				pPKP	**pPKPdf**	**16 15 16.5**	**+3.2**
	comp=Z,128nm,1.0s,baz=85,slow=1.9,SNR=6.2						
ASF				SKKPbc	SKKPbc	16 23 29.6	+0.8
	comp=Z,38nm,1.2s,baz=274,slow=3.8,SNR=8.4						
KWP	**Kalwaria Pacla**	**146.38**	**335**	ePKP	**PKPdf**	**16 12 52.1**	**0.0**
KWP				epPKP	**pPKPdf**	**16 15 15.8**	**+3.0**
KWP				ePP	**PP**	**16 16 16.4**	**-7.2**
BEIL	**Beino**	**146.41**	**302**	eP	**PKPdf**	**16 12 52.9**	**+0.2**
HPK	**Haverah Park**	**146.50**	**3**	eP	**PKPdf**	**16 12 53.0**	**+0.8**
BR131	**Keskin Array S**	**146.50**	**312**	P	**PKPdf**	**16 12 51.8**	**-1.0**
	SNR=247						
BRTR	**Keskin Array B**	**146.50**	**312**		**PKPdf**	**16 12 50.2**	**-2.7**
BRTR	**Keskin Array B**	**146.50**	**312**	PKP	**PKPdf**	**16 12 52.2**	**-0.6**
	comp=Z,124nm,0.8s,baz=132,slow=1.8,SNR=110						
BRTR				PKPbc	**PKPbc**	**16 12 55.7**	**+0.2**
	comp=Z,116nm,0.7s,baz=141,slow=4.7,SNR=134						
BRTR				pPKPbc	**pPKPdf**	**16 15 14.2**	**+0.7**
	comp=Z,27nm,0.9s,baz=150,slow=3.2,SNR=4.1						
BRTR				SKKPbc	SKKPbc	16 23 28.4	-0.4
	comp=Z,18nm,0.9s,baz=236,slow=4.7,SNR=18						
PRAR	**RASCA**	**146.53**	**329**	⇑P	**PKPbc**	**16 12 54.3**	**-0.9**
KIRS	**Kirsehir-Merke**	**146.56**	**311**	⇑P	**PKPdf**	**16 12 53.4**	**+0.5**
BIR	**Birlad**	**146.58**	**326**	⇓P	**PKPbc**	**16 12 55.9**	**+0.7**
BIR	**Birlad**	**146.58**	**326**	⇓PKP2	**PKPbc**	**16 12 55.9**	**+0.7**
VLDR	**Vladesti**	**146.62**	**325**	⇑P	**PKPdf**	**16 12 53.6**	**+1.0**
TLCR		**146.64**	**324**	⇓P	**PKPbc**	**16 12 54.8**	**-0.6**
TLCR		**146.64**	**324**	⇓PKP2	**PKPbc**	**16 12 54.8**	**-0.6**
HWQ	**Hawqa**	**146.67**	**302**	eP	**PKPdf**	**16 12 52.5**	**-0.7**
RUE	**Ruedersdorf**	**146.68**	**346**	ePKPdf	**PKPdf**	**16 12 52.6**	**+0.1**
	baz=14,slow=1.5						
RUE				ePKPbc	**PKPbc**	**16 12 55.9**	**+0.7**
	baz=16,slow=2.4						
GORT1	**Trebel**	**146.69**	**349**	ePKPdf	**PKPdf**	**16 12 52.5**	**+0.1**
	baz=14,slow=1.5						
GORT1				ePKPbc	**PKPbc**	**16 12 56.0**	**+0.8**
	baz=16,slow=2.4						
H10S3	**ASCENSION HYDR**	**146.69**	**150**	PKPbc	**PKPbc**	**16 12 56.0**	**-0.2**
	baz=205,slow=74,SNR=7.1						
H10S2	**ASCENSION HYDR**	**146.69**	**150**	PKPbc	**PKPbc**	**16 12 55.4**	**-0.7**
	baz=15,slow=74,SNR=17						
VARL	**Varlezi**	**146.71**	**326**	⇓P	**PKPbc**	**16 12 56.3**	**+0.7**
DSB	**Dublin**	**146.74**	**9**	PKP	**PKPdf**	**16 12 50.2**	**-2.4**
DSB	**Dublin**	**146.74**	**9**	PKP	**PKPdf**	**16 12 53.6**	**+1.0**
SCTR	**Scanteiesti**	**146.77**	**325**	⇓P	**PKPbc**	**16 12 56.3**	**+0.5**
GIUM	**Giurgiulesti**	**146.78**	**325**	⇑P	**PKPbc**	**16 12 56.1**	**+0.3**
TATR	**Tatarca**	**146.79**	**325**	⇑P	**PKPdf**	**16 12 53.9**	**+1.0**
ZAHL	**Zahle**	**146.82**	**301**	eP	**PKPdf**	**16 12 53.6**	**0.0**
BURAR	**Bucovina Array**	**146.83**	**330**		**PKPdf**	**16 12 51.9**	**-1.1**
BURAR	**Bucovina Array**	**146.83**	**330**	⇑P	**PKPbc**	**16 12 56.8**	**+0.8**
GHRR		**146.83**	**326**	⇓P	**PKPbc**	**16 12 54.6**	**-1.3**
JURR	**Jurilovca**	**146.86**	**323**	⇓P	**PKiKP**	**16 12 57.5**	**-0.4**
TESR	**Tescani**	**146.91**	**328**	⇑P	**PKPbc**	**16 12 56.3**	**+0.1**
NEGRR	**Negrea**	**146.93**	**325**	⇓P	**PKPbc**	**16 12 56.3**	**+0.1**
WLF1	**Llynfaes**	**146.94**	**7**	eP	**PKPdf**	**16 12 54.2**	**+1.4**
RCY	**Rachaya**	**146.96**	**300**	eP	**PKPdf**	**16 12 54.0**	**+0.2**
SCHL	**Schela**	**146.97**	**325**	⇑P	**PKPbc**	**16 12 56.8**	**+0.5**
IZVR	**Izvoarele**	**146.98**	**325**	⇓P	**PKPbc**	**16 12 56.0**	**-0.3**
OJC	**Ojcow**	**146.99**	**338**	ePKP	**PKPdf**	**16 12 52.6**	**-0.5**
OJC				epPKP	pPKPbc	16 15 15.4	+0.8
OJC				ePP	sPKPab	16 16 15.7	+1.8
SCHLR	**Schela**	**146.99**	**325**	⇓P	**PKPbc**	**16 12 57.0**	**+0.6**
BHL	**Bhannes**	**147.00**	**301**	eP	**PKPdf**	**16 12 52.8**	**-1.0**
TUDR		**147.00**	**325**	⇓P	**PKPbc**	**16 12 56.8**	**+0.4**
CFR	**Carcaliu**	**147.02**	**324**	⇓P	**PKPbc**	**16 12 56.3**	**-0.1**
COSR	**Cosmesti PH**	**147.02**	**326**	⇓P	**PKiKP**	**16 12 57.5**	**-0.7**
ANTO	**Ankara**	**147.03**	**313**		**PKPdf**	**16 12 53.2**	**-0.4**
ANTO	**Ankara**	**147.03**	**313**	P	**PKPdf**	**16 12 53.5**	**-0.1**
ANTO	**Ankara**	**147.03**	**313**	PKIKP	**PKPdf**	**16 12 53.2**	**-0.4**
TPGR	**Topolog**	**147.06**	**324**	⇑P	**PKPbc**	**16 12 57.1**	**+0.5**
SHBL	**Chebaa**	**147.07**	**300**	eP	**PKPdf**	**16 12 54.3**	**+0.3**
QRWL	**Qaraoun**	**147.07**	**300**	eP	**PKPdf**	**16 12 54.2**	**+0.3**
PANC	**Panciu**	**147.09**	**326**	⇓P	**PKPbc**	**16 12 56.9**	**+0.3**
KOLS	**Kolonicke sedl**	**147.11**	**335**	ePKIKP	**PKPdf**	**16 12 54.0**	**+0.6**
KOLS				e		16 12 57.3	
DQRL	**Deir Qamar**	**147.12**	**301**	eP	**PKPdf**	**16 12 54.4**	**+0.4**
STHS	**Stebnicka Huta**	**147.12**	**336**	ePKIKP	**PKPdf**	**16 12 52.7**	**-0.7**
ONER	**Baraj Valea Uz**	**147.16**	**328**	⇑P	**PKiKP**	**16 12 58.5**	**0.0**
ODBI	**Odobesti**	**147.21**	**326**	⇓P	**PKPbc**	**16 12 57.1**	**+0.2**
RETH	**Rethem/Aller,**	**147.24**	**351**	ePKPdf	**PKPdf**	**16 12 53.2**	**-0.2**
	baz=14,slow=1.5						
RETH				ePKPbc	**PKPbc**	**16 12 56.8**	**+0.1**
	baz=16,slow=2.4						
VAL	**Valentia**	**147.29**	**14**	PKP	**PKPdf**	**16 12 53.4**	**-0.1**
VAL	**Valentia**	**147.29**	**14**	PKP	**PKPdf**	**16 12 52.1**	**-1.4**
VRI	**Vrincioaia**	**147.31**	**327**	⇑P	**PKPbc**	**16 12 56.9**	**-0.4**
VRI	**Vrincioaia**	**147.31**	**327**	⇑PKP2	**PKPbc**	**16 12 56.9**	**-0.4**
TIRR	**Tirgusor**	**147.31**	**323**	⇑P	**PKPbc**	**16 12 57.1**	**-0.1**
STNC	**Stoke**	**147.32**	**4**	eP	**PKPbc**	**16 12 56.6**	**-0.4**
FLTG	**Flechtingen**	**147.33**	**349**	ePKPdf	**PKPdf**	**16 12 53.2**	**-0.4**
	baz=14,slow=1.5						
FLTG				ePKPbc	**PKPbc**	**16 12 56.8**	**-0.2**
	baz=16,slow=2.4						
TSCT	**Constanta Port**	**147.36**	**323**	⇑P	**PKPbc**	**16 12 57.1**	**-0.2**
PLOR	**Plostina**	**147.36**	**327**	⇓P	**PKPbc**	**16 12 56.6**	**-0.8**
PLOR	**Plostina**	**147.36**	**327**	⇓PKIKP	**PKPbc**	**16 12 56.6**	**-0.8**
EFOR	**EFORIE**	**147.42**	**322**	⇑P	**PKiKP**	**16 12 58.3**	**-0.7**
MMAI	**Mount Meron Ar**	**147.42**	**300**	PKPbc	**PKPbc**	**16 12 58.7**	**+0.7**
	comp=Z,738nm,0.8s,baz=70,slow=4.7,SNR=218						
MMAI				pPKPbc	**pPKPbc**	**16 15 15.8**	**0.0**
	comp=Z,344nm,1.1s,baz=98,slow=2.9,SNR=3.4						
MMAI				SKKPbc		16 23 25.3	
	comp=Z,7.9nm,0.8s,baz=316,slow=2.3,SNR=6.6						
HARR	**Harsova**	**147.44**	**324**	⇑P	**PKPbc**	**16 12 56.6**	**-0.9**
FOEL	**Foel Wylfa**	**147.45**	**5**	eP	**PKPdf**	**16 12 53.7**	**-0.1**
TLBR	**Topalu**	**147.47**	**324**	⇓P	**PKiKP**	**16 12 58.7**	**-0.5**
NIE	**Niedzica**	**147.48**	**337**	ePKP	**PKPdf**	**16 12 54.3**	**+0.3**
NIE				epPKP	**pPKPbc**	**16 15 15.6**	**-0.4**
NIE				ePP	**sPKPab**	**16 16 16.6**	**+0.8**
MFTR	**Murfatlar**	**147.48**	**323**	⇓P	**PKPbc**	**16 12 58.3**	**+0.7**
GRER		**147.51**	**326**	⇓P	**PKiKP**	**16 12 59.7**	**+0.5**
IWEX	**Carrickbyrne,**	**147.52**	**9**	PKP	**PKPdf**	**16 12 54.8**	**+0.9**
BISRR	**Bisoca**	**147.54**	**326**	⇓P	**PKiKP**	**16 12 59.2**	**-0.2**
KSP	**Ksiaz**	**147.54**	**342**	ePKP	**PKPdf**	**16 12 53.8**	**-0.2**
KSP				epPKP	**pPKPdf**	**16 15 15.0**	**+0.2**
KSP				ePP	**sPKPab**	**16 16 16.8**	**+0.6**
TURR	**Turia**	**147.55**	**327**	⇓P	**PKiKP**	**16 12 59.5**	**+0.2**
BMR	**Baia Mare**	**147.57**	**332**	⇑P	**PKPbc**	**16 12 57.6**	**-0.2**
BMR	**Baia Mare**	**147.57**	**332**	⇑PKP2	**PKPbc**	**16 12 57.6**	**-0.2**
COVR	**Voineasa-Covas**	**147.60**	**327**	⇑P	**PKPbc**	**16 12 58.2**	**+0.2**
MANR	**Mangalia**	**147.61**	**322**	⇑P	**PKPbc**	**16 12 58.2**	**+0.2**
TSMN	**Mangalia Port-**	**147.61**	**322**	⇓P	**PKiKP**	**16 12 58.8**	**-0.6**
ARCR	**ARCALIA**	**147.62**	**330**	⇓P	**PKPbc**	**16 12 58.5**	**+0.5**
ASSE	**Asse, Remlinge**	**147.62**	**349**	ePKPdf	**PKPdf**	**16 12 53.8**	**-0.2**
	baz=14,slow=1.5						
ASSE				ePKPbc	**PKPbc**	**16 12 58.2**	**+0.5**
	baz=16,slow=2.4						
ASSE				epPKPbc	**pPKPab**	**16 15 18.4**	**+1.7**
	baz=17,slow=2.9						
OZUR		**147.63**	**328**	⇑P	**PKPbc**	**16 12 58.7**	**+0.6**
ASCN	**Ascension**	**147.72**	**149**		**PKPdf**	**16 12 54.1**	**-1.3**
CWF	**Charnwood Fore**	**147.73**	**3**	eP	**PKPdf**	**16 12 54.1**	**-0.1**
H10N3	**ASCENSION HYDR**	**147.74**	**149**	PKPbc	**PKPbc**	**16 12 58.2**	**-0.6**
	baz=209,slow=3.1,SNR=15						
H10N1	**ASCENSION HYDR**	**147.74**	**149**	PKPbc	**PKPbc**	**16 12 58.2**	**-0.6**
	baz=209,slow=3.1,SNR=17						
H10N2	**ASCENSION HYDR**	**147.75**	**149**	PKPbc	**PKPbc**	**16 12 58.2**	**-0.7**
	baz=209,slow=3.1,SNR=12						
WACR	**West Acre**	**147.81**	**1**	eP	**PKPdf**	**16 12 55.4**	**+1.1**
AMRR	**Amara**	**147.82**	**324**	⇓P	**PKiKP**	**16 12 59.3**	**-0.6**
AMRR	**Amara**	**147.82**	**324**	⇓PKP2	**PKiKP**	**16 12 59.3**	**-0.6**
OSTC	**Ostas**	**147.82**	**342**	ePKIKP	**PKPdf**	**16 12 55.1**	**+0.6**
OSTC				e		16 12 59.7	
OSTC	**Ostas**	**147.82**	**342**	ePKPDF	**PKPdf**	**16 12 55.1**	**+0.6**
OSTC				⇑ePKP	**PKiKP**	**16 12 59.7**	**0.0**
NEHR	**Nehoiu**	**147.83**	**326**	⇑P	**PKPbc**	**16 12 59.0**	**+0.4**
CHVC	**Chvalec**	**147.84**	**343**	ePKIKP	**PKPdf**	**16 12 54.9**	**+0.4**
CHVC	**Chvalec**	**147.84**	**343**	ePKPDF	**PKPdf**	**16 12 54.9**	**+0.4**
CHVC				⇑ePKP	**PKPbc**	**16 12 59.1**	**+0.7**
HLM1	**Long Mynd**	**147.84**	**5**	eP	**PKPdf**	**16 12 54.5**	**+0.1**
SAHE	**Sakarya_HENDEK**	**147.86**	**316**	⇑P	**PKPdf**	**16 12 56.5**	**+1.6**
OKC	**Ostrava-Krasne**	**147.87**	**340**	ePKIKP	**PKPdf**	**16 12 55.0**	**+0.4**
OKC	**Ostrava-Krasne**	**147.87**	**340**	ePKPDF	**PKPdf**	**16 12 55.0**	**+0.4**
IBBN	**Ibbenburen**	**147.87**	**353**	ePKPdf	**PKPdf**	**16 12 53.9**	**-0.5**
	baz=14,slow=1.5						
ICOR	**Ion Corvin**	**147.87**	**323**	⇑P	**PKPbc**	**16 12 58.8**	**+0.2**
STEB	**Steborice**	**147.90**	**340**	ePKPDF	**PKPdf**	**16 12 54.9**	**+0.3**
STEB				⇑ePKP	**PKPbc**	**16 12 59.0**	**+0.4**
ISR	**Istrita**	**147.91**	**326**	⇓P	**PKiKP**	**16 12 59.9**	**-0.3**
DOPR	**Dopca**	**147.92**	**328**	⇓P	**PKiKP**	**16 12 59.7**	**-0.4**

UPC	**Upice**	**147.93**	**342**	ePKP2	**PKPbc**	**16 12 59.2**	**+0.6**
UPC	**Upice**	**147.93**	**342**	⇑ePKP	**PKPbc**	**16 12 59.2**	**+0.6**
UPC				epPKP	**pPKPdf**	**16 15 14.7**	**-0.7**
TGMR	**Targu Mures**	**147.95**	**329**	⇑P	**PKPbc**	**16 12 59.0**	**+0.2**
CLL	**Collm**	**147.95**	**346**	i PKIKP	**PKPdf**	**16 12 55.0**	**+0.4**
CLL				i		16 13 01.7	
CLL				pmax	pmax		
	comp=Z,155nm,1.3s						
CLL				pmax	pmax		
	comp=Z,1μm,1.0s						
CLL				pmax	pmax		
	comp=Z,1μm,1.0s						
CLL				pmax	pmax		
	comp=Z,949nm,1.1s						
CLL	**Collm**	**147.95**	**346**	ePKPdf	**PKPdf**	**16 12 54.6**	**-0.1**
	baz=14,slow=1.5						
CLL				ePKPbc	**PKPbc**	**16 12 59.2**	**+0.6**
	baz=16,slow=2.4						
CLL				epPKPbc	**pPKPab**	**16 15 20.4**	**+2.3**
	baz=17,slow=2.9						
KALB	**Balgarevo**	**147.96**	**322**	⇓P	**PKPbc**	**16 12 58.5**	**-0.4**
MLR	**Muntele Rosu**	**147.97**	**327**	PKPbc	**PKPbc**	**16 12 58.6**	**-0.4**
	comp=Z,63nm,1.0s,baz=14,slow=4.7,SNR=32						
MLR				pPKPbc	**pPKPab**	**16 15 19.1**	**+0.9**
	comp=Z,84nm,1.1s,baz=64,slow=4.6,SNR=2.7						
MLR	**Muntele Rosu**	**147.97**	**327**	⇑P	**PKPbc**	**16 12 58.6**	**-0.4**
PSN	**Preselentsi**	**147.98**	**322**	P	**PKPdf**	**16 12 54.1**	**-0.8**
DPC	**Dobruska-Polom**	**147.98**	**342**	ePKIKP	**PKPdf**	**16 12 55.3**	**+0.5**
DPC	**Dobruska-Polom**	**147.98**	**342**	ePKPDF	**PKPdf**	**16 12 55.3**	**+0.5**
DPC				⇑ePKP	**PKiKP**	**16 12 59.8**	**-0.3**
LANS	**Liptovska Anna**	**148.00**	**338**	ePKIKP	**PKPdf**	**16 12 55.8**	**+0.9**
LANS				e		16 13 00.4	
KRLC	**Kraliky**	**148.09**	**341**	ePKHKP	PKPpre	16 12 55.3	
KRLC	**Kraliky**	**148.09**	**341**	ePKPDF	**PKPdf**	**16 12 55.3**	**+0.3**
KRLC				⇑ePKP	**PKiKP**	**16 12 59.9**	**-0.4**
MORC	**Moravsky Berou**	**148.11**	**340**	⇓P	**PKPbc**	**16 12 58.0**	**-1.2**
MORC	**Moravsky Berou**	**148.11**	**340**	⇓PKHKP	PKPpre	16 12 58.0	
BRG	**Berggiesshubel**	**148.13**	**345**	⇓ePKPf		16 12 56.9	
BRG				Amp		16 12 58.1	
	comp=Z,167nm,1.3s						
BRG				⇑PKP	**PKiKP**	**16 13 01.4**	**+1.1**
BRG				Amp		16 13 02.3	
	comp=Z,513nm,1.0s						
BRG	**Berggiesshubel**	**148.13**	**345**	P	**PKPab**	**16 13 04.0**	**-0.3**
BRG				Amp		16 13 05.4	
	comp=Z,829nm,1.0s						
BRG	**Berggiesshubel**	**148.13**	**345**	P	**PKPab**	**16 13 07.0**	**+2.6**
BRG				Amp		16 13 08.4	
	comp=Z,353nm,0.9s						
BRG	**Berggiesshubel**	**148.13**	**345**	Amp		16 14 41.2	
	comp=Z,97nm,1.0s						
BRG	**Berggiesshubel**	**148.13**	**345**	pPKP	**pPKPdf**	**16 15 20.0**	**+4.3**
BRG				Amp		16 15 25.0	
	comp=Z,161nm,1.0s						
KECS	**Kecovo**	**148.18**	**336**	ePKP2	**PKiKP**	**16 13 00.2**	**-0.3**
LEHL	**Lehliu**	**148.19**	**325**	⇓P	**PKPbc**	**16 12 58.6**	**-0.8**
MESR	**Meseseni**	**148.21**	**332**	⇑P	**PKiKP**	**16 13 00.4**	**-0.2**
RSBS	**Rosebush, Pemb**	**148.21**	**7**	eP	**PKPdf**	**16 12 54.3**	**-0.7**
CBBR	**Cluj-Babes-Bol**	**148.22**	**331**	⇓P	**PKPbc**	**16 12 59.9**	**+0.5**
CJR	**Cluj-Napoca**	**148.24**	**331**	⇓P	**PKPbc**	**16 13 00.0**	**+0.4**
CICN	**Ciocanesti**	**148.25**	**324**	⇑P	**PKPbc**	**16 12 58.7**	**-0.9**
MDB	**Medias**	**148.29**	**329**	⇑P	**PKPbc**	**16 13 00.0**	**+0.3**
MDB	**Medias**	**148.29**	**329**	⇑PKP2	**PKPbc**	**16 13 00.0**	**+0.3**
PCED	**Cedros**	**148.29**	**49**	ePKP	**PKPbc**	**16 12 59.5**	**-0.4**
PCED				eSKP		16 15 20.8	
PVCC	**Panska Ves**	**148.30**	**344**	ePKHKP	PKPpre	16 12 56.1	
PVCC	**Panska Ves**	**148.30**	**344**	ePKPDF	**PKPdf**	**16 12 56.1**	**+0.9**
PVCC				⇑ePKP	**PKiKP**	**16 13 00.2**	**-0.5**
NEUB	**Neuenburg**	**148.30**	**348**	ePKPdf	**PKPdf**	**16 12 55.3**	**+0.1**
	baz=14,slow=1.5						
NEUB				ePKPbc	**PKiKP**	**16 13 00.4**	**-0.2**
	baz=16,slow=2.4						
GTTG	**Gottingen**	**148.30**	**350**	ePKPdf	**PKPdf**	**16 12 54.5**	**-0.7**
	baz=14,slow=1.5						
GTTG				ePKPbc	**PKiKP**	**16 13 00.1**	**-0.5**
	baz=16,slow=2.4						
GTTG				epPKPbc	**pPKPab**	**16 15 21.4**	**+1.8**
	baz=17,slow=2.9						
CALA	**Caldeira**	**148.31**	**49**	ePKP	**PKiKP**	**16 13 02.3**	**+1.1**
CALA				eSKP		16 15 18.2	
MCH1	**Michaelchurch**	**148.35**	**5**	eP	**PKPdf**	**16 12 55.1**	**-0.2**
SULR		**148.36**	**325**	⇑P	**PKPbc**	**16 12 59.9**	**+0.1**
MAUC	**Maruska**	**148.38**	**340**	⇑ePKP	**PKiKP**	**16 13 01.0**	**+0.1**
HOR	**Horta**	**148.39**	**49**	ePKP	**PKPbc**	**16 13 00.1**	**-0.1**
RICC	**Richard**	**148.40**	**345**	⇑ePKP	**PKiKP**	**16 13 00.9**	**0.0**
EIL	**Elat**	**148.47**	**294**	PKPbc	**PKPbc**	**16 13 00.4**	**-0.2**
	comp=Z,25nm,1.1s,baz=155,slow=1.7,SNR=22						
EIL				pPKPbc	**pPKPbc**	**16 15 18.8**	**-0.1**
	comp=Z,2.7nm,1.0s,baz=47,slow=1.3,SNR=1.3						
SILT	**Sile**	**148.49**	**317**	⇑P	**PKPbc**	**16 13 00.4**	**+0.1**
PCAN	**Candelaria**	**148.52**	**49**	ePKP	**PKPbc**	**16 12 59.1**	**-1.4**
PCAN				eSKP		16 15 19.7	
MONM	**Monmouth**	**148.52**	**5**	eP	**PKPdf**	**16 12 55.6**	**+0.1**
PICO	**Pico**	**148.54**	**49**	ePKP	**PKPbc**	**16 12 59.2**	**-1.4**
PICO				eSKP		16 15 19.8	
SRBC	**Serra Branca**	**148.57**	**47**	ePKP	**PKPdf**	**16 12 56.2**	**+0.1**
SRBC				eSKP		16 15 16.9	
ROSA	**Rosais**	**148.57**	**48**	ePKP	**PKPbc**	**16 12 59.2**	**-1.4**
ROSA				eSKP		16 15 19.8	
DRGR		**148.59**	**332**	⇓P	**PKPbc**	**16 12 59.9**	**-0.6**
MTUR	**Matau**	**148.60**	**327**	⇓P	**PKPbc**	**16 12 59.9**	**-0.7**
MTUR	**Matau**	**148.60**	**327**	⇓PKHKP	PKPpre	16 12 59.9	
PGRA	**Graciosa**	**148.61**	**47**	ePKP	**PKPab**	**16 13 10.1**	**+3.3**
PGRA				eSKP		16 15 31.8	
PPNO	**Prainha do Nor**	**148.67**	**49**	ePKP	**PKPdf**	**16 12 58.5**	**+2.2**
PPNO				eSKP		16 15 20.6	
PRD	**Provadia**	**148.69**	**322**	P	**PKPdf**	**16 12 55.9**	**-0.2**
BUC1	**Bucharest**	**148.70**	**325**	⇑P	**PKPbc**	**16 12 59.3**	**-1.3**
TNR	**Turnu Rosu**	**148.70**	**329**	⇑P	**PKPbc**	**16 13 00.0**	**-0.7**
TNR	**Turnu Rosu**	**148.70**	**329**	⇑PKHKP	PKPpre	16 13 00.0	
PMAN	**Manadas**	**148.72**	**48**	ePKP	**PKPdf**	**16 12 58.5**	**+2.2**
PMAN				eSKP		16 15 15.4	
ARR	**Arges**	**148.72**	**328**	⇓P	**PKPdf**	**16 12 57.5**	**+1.3**
OLDB	**Oldbury-Upon-S**	**148.72**	**5**	eP	**PKPdf**	**16 12 56.5**	**+0.6**
PRA	**Prague**	**148.75**	**344**	⇑ePKP	**PKiKP**	**16 13 01.6**	**0.0**
PRA				epPKP	**pPKPab**	**16 15 21.2**	**0.0**
BORR	**Bors**	**148.76**	**333**	⇓P	**PKPbc**	**16 13 00.7**	**-0.1**
VYHS	**Vyhne**	**148.78**	**338**	ePKHKP	PKPpre	16 12 56.1	
BUG	**Bochum--Univer**	**148.78**	**353**	ePKPdf	**PKPdf**	**16 12 55.0**	**-1.0**
	baz=14,slow=1.5						
BUG				ePKPbc	**PKPbc**	**16 13 01.1**	**+0.5**
	baz=16,slow=2.4						
BUG				epPKPbc	**pPKPab**	**16 15 22.6**	**+1.2**
	baz=17,slow=2.9						
PID	**Ribeirinha**	**148.78**	**49**	ePKP	**PKPbc**	**16 12 58.9**	**-2.2**
PID				eSKP		16 15 16.5	
PRU	**Pruhonice**	**148.80**	**344**	ePKPDF	**PKPdf**	**16 12 56.3**	**+0.2**
PRU				⇑ePKP	**PKiKP**	**16 13 01.3**	**-0.4**
SGRR	**Singureni**	**148.81**	**325**	⇓P	**PKPbc**	**16 12 59.7**	**-1.3**
KLYT	**Kilyos**	**148.81**	**318**	⇓P	**PKPbc**	**16 12 59.3**	**-1.7**
VRAC	**Vranov**	**148.82**	**341**	PKPbc	**PKPbc**	**16 13 01.0**	**+0.1**
	comp=Z,21nm,0.9s,baz=27,slow=2.2,SNR=26						
VRAC	**Vranov**	**148.82**	**341**	ePKP	**PKPdf**	**16 12 55.7**	**-0.4**
VRAC				e		16 15 22.8	
VRAC	**Vranov**	**148.82**	**341**	⇓P	**PKPbc**	**16 12 59.4**	**-1.5**
VRAC	**Vranov**	**148.82**	**341**	⇓PKHKP	PKPpre	16 12 59.4	
MOX	**Moxa**	**148.87**	**348**	ePKPdf	**PKPdf**	**16 12 56.1**	**-0.1**
	baz=14,slow=1.5						
MOX				ePKPbc	**PKPbc**	**16 13 01.4**	**+0.5**
	baz=16,slow=2.4						
PSZ	**Piszkesteto**	**148.87**	**336**	⇓P	**PKPdf**	**16 12 56.9**	**+0.5**
PSZ	**Piszkesteto**	**148.87**	**336**	⇓PKHKP	PKPpre	16 12 56.9	
JAVC	**Velka Javorina**	**148.87**	**339**	ePKP	**PKPdf**	**16 12 57.0**	**+0.7**
JAVC				e		16 15 24.5	
KASTN	**Kahler Asten**	**148.87**	**352**	ePKPdf	**PKPdf**	**16 12 56.0**	**-0.2**
	baz=14,slow=1.5						
KASTN				ePKPbc	**PKPbc**	**16 13 01.3**	**+0.3**
	baz=16,slow=2.4						
KASTN				epPKPbc	**pPKPab**	**16 15 22.7**	**+1.0**
	baz=17,slow=2.9						
PLN	**Plauen**	**148.90**	**347**	ePKPdf	**PKPdf**	**16 12 55.9**	**-0.4**
	baz=14,slow=1.5						
PLN				ePKPbc	**PKiKP**	**16 13 01.7**	**-0.3**
	baz=16,slow=2.4						
TANN	**Tannenbergstha**	**148.90**	**346**	ePKPdf	**PKPdf**	**16 12 56.3**	**0.0**
	baz=14,slow=1.5						
TANN				ePKPbc	**PKiKP**	**16 13 01.9**	**-0.1**
	baz=16,slow=2.4						
TANN				epPKPbc	**pPKPab**	**16 15 22.6**	**+0.8**
	baz=17,slow=2.9						
RAZG	**Razgrad**	**148.94**	**323**	⇓P	**PKPbc**	**16 12 59.5**	**-1.8**
UBBA	**Unterbreizbach**	**149.00**	**350**	ePKPdf	**PKPdf**	**16 12 55.8**	**-0.4**
	baz=14,slow=1.5						

UBBA *e*PKPbc **PKPbc** **16 13 01.5 +0.4**
baz=16,slow=2.4
UBBA *ep*PKPbc **pPKPab** **16 15 22.9 +0.9**
baz=17,slow=2.9
LOZB Loznitsa 149.02 323 ⇓P **PKPbc** **16 13 01.2 -0.3**
KRUC Moravsky 149.10 341 *e*PKP **PKPdf** **16 12 56.0 -0.6**
KRUC *e* 16 15 23.9
HUMR Humele 149.13 326 ⇑P **PKPbc** **16 13 00.7 -1.1**
TREC Trest 149.16 342 *e*PKHKP PKPpre 16 13 01.9
TREC Trest 149.16 342⇓ *e*PKP **PKPbc** **16 13 01.9 +0.2**
DEV Deva 149.18 330 ⇑P **PKPbc** **16 13 02.0 +0.2**
DEV Deva 149.18 330 ⇑PKHKP PKPpre 16 13 02.0
PSBA Serra de Santa 149.19 47 *e*PKP **PKPbc** **16 12 59.8 -2.3**
PSBA *e*SKP 16 15 13.6
BSZH Besenyszg 149.22 335 ⇓P **PKPbc** **16 13 02.0 +0.2**
SMOL Smolenice 149.25 339 *e*PKHKP PKPpre 16 12 57.3
COPA Copaceanca 149.27 326 ⇓P **PKPbc** **16 13 01.7 -0.4**
PAGU Agualva, Azore 149.29 47 *e*PKP **PKPbc** **16 12 59.8 -2.6**
PAGU *e*SKP 16 15 20.0
ADH Angra Heroismo 149.30 48 *e*PKP **PKPbc** **16 13 00.1 -2.3**
ADH *e*SKP 16 15 17.7
PSCM Serra do Cume 149.36 47 *e*PKP **PKPbc** **16 13 00.5 -2.0**
PSCM *e*SKP 16 15 18.3
MANZ Manzenberg 149.38 347 *e*PKPdf **PKPdf** **16 12 57.1 0.0**
baz=14,slow=1.5
MANZ *e*PKPbc **PKiKP** **16 13 02.7 -0.3**
baz=16,slow=2.4
SZH Strazhitsa 149.43 324 P **PKPdf** **16 12 56.7 -0.6**
SIRR Siria 149.46 332 ⇓P **PKPbc** **16 13 02.6 0.0**
PHSR Pinarhisar 149.54 320 ⇓P **PKPbc** **16 13 02.2 -0.6**
SRO Srobarova 149.54 337 *e*PKP2 **PKiKP** **16 13 03.6 +0.3**
ROTZ Rotzenmuhle 149.57 346 *ep*PKPbc pPKPbc 16 15 23.7 +1.9
baz=17,slow=2.9
BEBN Eben Emael 149.57 355 *d*PKPdf **PKPdf** **16 12 59.0 +1.8**
GZR Gura Zlata 149.61 330 ⇓P **PKPdf** **16 12 58.0 +0.4**
GZR Gura Zlata 149.61 330 ⇓PKHKP PKPpre 16 12 58.0
ZST Bratislava 149.63 339 *e*PKP2 **PKiKP** **16 13 04.3 +0.8**
SURR Surduc 149.64 331 ⇑P **PKPdf** **16 12 57.3 -0.2**
HMNX Herstmonceux 149.67 1 *e*P **PKPdf** **16 12 57.0 -0.3**
UCC Uccle 149.67 356 *d*PKPdf **PKPdf** **16 12 57.5 +0.1**
UCC *d*PKP **PKPbc** **16 13 03.0 +0.2**
ELND Elena 149.71 323 ⇓P **PKPdf** **16 13 00.2 +2.5**
MEM Membach 149.73 354 *d*PKPdf **PKPdf** **16 12 57.7 +0.2**
MEM *d*PKP **PKiKP** **16 13 03.5 -0.2**
BTNL Ternell 149.74 354 *d*PKPdf **PKPdf** **16 12 57.8 +0.3**
BTNL *d*PKP **PKiKP** **16 13 03.6 -0.1**
VLAD Vladila 149.79 326 ⇑P **PKPbc** **16 13 03.4 +0.1**
BSTI Sart Tilman 149.79 355 *d*PKPdf **PKPdf** **16 12 57.6 0.0**
BSTI *d*PKP **PKiKP** **16 13 03.8 0.0**
TNS Taunus Mts 149.82 351 *e*PKPdf **PKPdf** **16 12 57.4 -0.3**
baz=14,slow=1.5
TNS *e*PKPbc **PKiKP** **16 13 03.6 -0.3**
baz=16,slow=2.4
KHC Kasperske Hory 149.83 344 *e*PKPDF **PKPdf** **16 12 58.1 +0.3**
KHC ⇑*e*PKP **PKiKP** **16 13 03.9 -0.1**
KHC *ep*PKP **pPKPdf** **16 15 17.8 -0.8**
KHC *ex* x 16 19 47.0
KHC *ex* x 16 26 49.4
KHC *ex* x 16 30 02.0
GRF Grafenberg Arr 149.85 347 *e*PKPdf **PKPdf** **16 12 57.6 -0.2**
baz=14,slow=1.5
GRF *e*PKPbc **PKPbc** **16 13 03.6 +0.3**
baz=16,slow=2.4
GRF *e*PKPab **PKPab** **16 13 11.8 +0.3**
baz=16,slow=4.0
GRFO Grafenberg 149.85 347 **PKPdf** **16 12 57.2 -0.5**
GRFO Grafenberg 149.85 347 PKIKP **PKPdf** **16 12 57.2 -0.5**
BAND Balkesir-Ban 149.90 317 ⇑P **PKPbc** **16 13 03.4 -0.3**
SRE Strehaia 149.93 328 ⇓P **PKiKP** **16 13 04.3 +0.1**
SRE Strehaia 149.93 328 ⇓PKHKP PKPpre 16 13 04.3
BZS Buzias 149.97 331 ⇓P **PKiKP** **16 13 04.1 -0.2**
BCLA Clavier 149.98 355 *d*PKPdf **PKPdf** **16 12 56.9 -1.0**
BCLA *d*PKP **PKPbc** **16 13 03.8 +0.2**
BHOU Houvegnez 149.98 354 *d*PKPdf **PKPdf** **16 12 58.4 +0.4**
BHOU *d*PKP **PKiKP** **16 13 04.1 -0.1**
BHOU *d*PKPab **PKPab** **16 13 10.9 -1.1**
WET Wettzell 150.00 345 *e*PKPdf **PKPdf** **16 12 57.6 -0.4**
baz=14,slow=1.5
WET *e*PKPbc **PKiKP** **16 13 04.3 0.0**
baz=16,slow=2.4
WET *e*PKPab **PKPab** **16 13 12.9 +0.7**
baz=16,slow=4.0
BGES Gesves 150.03 355 *d*PKPdf **PKPdf** **16 12 57.9 -0.1**
BGES *d*PKP **PKPbc** **16 13 03.7 0.0**
TIM Timisoara 150.06 332 ⇓P **PKPbc** **16 13 02.7 -1.2**
TIM Timisoara 150.06 332 ⇓PKHKP PKPpre 16 13 02.7
GEC2 GERESS Array S 150.06 344 *e*PKPdf **PKPdf** **16 12 57.8 -0.4**
baz=14,slow=1.5
GEC2 *e*PKPbc **PKiKP** **16 13 04.3 -0.2**
baz=16,slow=2.4
GEC2 *ep*PKPbc **pPKPab** **16 15 26.8 +0.3**
baz=17,slow=2.9
GERES GERESS Array B 150.06 344 PKP **PKPdf** **16 12 57.6 -0.6**
comp=Z,33nm,0.8s,baz=321,slow=1.7,SNR=107
GERES PKPbc **PKPbc** **16 13 03.9 -0.1**
comp=Z,255nm,0.9s,baz=349,slow=2.0,SNR=75
GERES pPKPbc **pPKPbc** **16 15 23.7 +0.7**
comp=Z,42nm,0.8s,baz=354,slow=3.9,SNR=4.7
BMRD Maredsous 150.13 356 *d*PKPdf **PKPdf** **16 12 57.7 -0.4**
BMRD *d*PKP **PKPbc** **16 13 03.6 -0.3**
RMGR Halanga-Turnu 150.19 329 ⇑P **PKPbc** **16 13 04.1 -0.1**
RCHB Rochefort 150.25 355 *d*PKPdf **PKPdf** **16 12 57.7 -0.6**
RCHB *d*PKP **PKPbc** **16 13 03.8 -0.4**
CONA Conrad Observa 150.27 340 *i* PKP **PKPdf** **16 12 57.7 -0.8**
comp=Z,52nm,1.1s,SNR=49
CONA *e*PKP **PKPbc** **16 13 04.4 0.0**
comp=Z,648nm,1.4s
CONA *e*PKP **PKPab** **16 13 14.1 +0.6**
comp=Z,353nm,1.0s
CONA *ep*PKP **pPKPdf** **16 15 20.9 +1.3**
comp=Z,567nm,1.4s
RONA Rosalia, Austr 150.33 340 *i* PKP **PKPdf** **16 12 57.7 -0.9**
comp=Z,45nm,1.4s,SNR=58
RONA *e*PKP **PKPbc** **16 13 04.4 -0.2**
comp=Z,304nm,0.8s
RONA *e*PKP **PKPab** **16 13 14.5 +0.8**
comp=Z,363nm,1.3s
RONA *ep*PKP **pPKPdf** **16 15 20.8 +1.3**
comp=Z,352nm,1.7s
PUNG Punghina 150.35 328 ⇑P **PKPbc** **16 13 04.6 0.0**
DOU Dourbes 150.35 356 *d*PKPdf **PKPdf** **16 12 58.6 +0.1**
DOU *d*PKP **PKiKP** **16 13 04.9 0.0**
DOU *dp*PKPdf **pPKPdf** **16 15 18.4 -3.3**
MDVR Moldovita 150.56 330 ⇑P **PKPbc** **16 13 02.4 -2.8**
MPEP Malo Peshtene 150.59 326 P **PKPdf** **16 12 58.4 -0.7**
WLF Walferdange 150.65 354 PKP **PKPdf** **16 12 58.5 -0.5**
WLF Walferdange 150.65 354 *d*PKP **PKPdf** **16 12 58.7 -0.3**
WLF Walferdange 150.65 354 *e*PKPdf **PKPdf** **16 12 58.9 -0.1**
baz=14,slow=1.5
WLF *e*PKPbc **PKiKP** **16 13 06.1 +0.5**
baz=16,slow=2.4
WLF *e*PKPab **PKPab** **16 13 15.5 +0.7**
baz=16,slow=4.0
PSET Sete Cidades 150.75 48 *e*PKP **PKPdf** **16 13 02.2 +2.6**
PSET *e*SKP 16 15 17.7
MORH Mrgy, Hungar 150.75 335 *e*P **PKPdf** **16 12 59.0 -0.2**
MORH Mrgy, Hungar 150.75 335 ⇓P **PKPdf** **16 13 00.7 +1.5**
MOA Molln 150.82 342 *i* PKP **PKPdf** **16 12 58.3 -1.1**
comp=Z,26nm,1.0s,SNR=19
MOA *e*PKP **PKPbc** **16 13 05.1 -0.5**
comp=Z,158nm,1.0s
MOA *e*PKP **PKPab** **16 13 16.5 +0.8**
comp=Z,377nm,1.2s
MOA *ep*PKP **pPKPdf** **16 15 20.5 +0.2**
comp=Z,146nm,1.5s
KDZ Kurdzhali 150.84 322 P **PKPdf** **16 12 57.6 -1.9**
PLD Plovdiv 150.85 323 P **PKPdf** **16 12 57.6 -1.9**
ALN Alexandroupoli 150.87 320 P **PKPdf** **16 12 57.8 -1.8**
CMLA Cha da Macela 150.91 48 *e*PKP **PKPdf** **16 13 01.5 +1.7**
CMLA *e*SKP 16 15 23.6
CAVK Edirne/Enez-Ca 150.92 319 ⇑P **PKPbc** **16 13 05.3 -0.8**
ARSA Arzberg 150.98 340 *i* PKP **PKPdf** **16 12 58.4 -1.1**
comp=Z,28nm,1.4s,SNR=36
ARSA *e*PKP **PKPbc** **16 13 05.6 -0.4**
comp=Z,86nm,1.2s
ARSA *e*PKP **PKPab** **16 13 16.6 +0.2**
comp=Z,118nm,1.1s
ARSA *ep*PKP **pPKPdf** **16 15 20.0 -0.6**
comp=Z,140nm,1.6s
PGRON Lagoa das Cont 151.01 48 *e*PKP **PKPbc** **16 13 03.9 -2.5**
PGRON *e*SKP 16 15 23.3
RDO Rodhopi 151.03 321 P **PKPdf** **16 12 58.0 -1.7**
STU Stuttgart 151.11 349 *e*PKPdf **PKPdf** **16 12 58.7 -1.0**
baz=14,slow=1.5
STU *e*PKPbc **PKiKP** **16 13 06.7 +0.1**
baz=16,slow=2.4
STU *e*PKPab **PKPab** **16 13 16.9 0.0**
baz=16,slow=4.0
BIOA Bad Ischl, Aus 151.14 343 *i* PKP **PKPdf** **16 12 58.6 -1.2**
comp=Z,60nm,1.3s,SNR=41
BIOA *e*PKP **PKPbc** **16 13 05.8 -0.6**
comp=Z,328nm,0.9s
BIOA *e*PKP **PKPab** **16 13 17.7 +0.7**
comp=Z,598nm,1.3s
BIOA *ep*PKP **pPKPdf** **16 15 21.2 +0.4**
comp=Z,158nm,1.3s
RZN Rozhen 151.15 322 P **PKPdf** **16 12 58.0 -2.2**
BART Pico Bartolome 151.15 48 *e*PKP **PKPbc** **16 13 04.5 -2.2**
BART *e*SKP 16 15 24.0
JSA Saint Aubin 151.21 5 *e*P **PKPdf** **16 12 59.6 -0.2**
BEHE Becsehely 151.24 338 *e*P **PKPdf** **16 12 59.3 -0.6**
FUR Furstenfeldbru 151.28 346 *e*PKPdf **PKPdf** **16 12 59.5 -0.5**
baz=14,slow=1.5
FUR *e*PKPbc **PKiKP** **16 13 07.0 +0.1**
baz=16,slow=2.4
FUR *e*PKPab **PKPab** **16 13 17.9 +0.3**
baz=16,slow=4.0
RJOB Jochberg 151.32 344 *e*PKPdf **PKPdf** **16 12 59.1 -1.1**
baz=14,slow=1.5
RJOB *e*PKPab **PKPab** **16 13 18.4 +0.6**
baz=16,slow=4.0
EZN Ezine 151.33 318 ⇑P **PKPbc** **16 13 06.3 -0.7**
PLNA Plana 151.36 325 P **PKPdf** **16 12 59.7 -0.7**
VTS Vitosha 151.36 325 *i* P **PKPdf** **16 12 59.3 -1.2**
BOVS Bovan 151.42 328 ⇓P **PKPbc** **16 13 06.5 -0.6**
KOGS Kog 151.44 338 *i* PKPdf **PKPdf** **16 12 59.0 -1.2**
KOGS *i* PKPbc **PKPbc** **16 13 06.2 -0.8**
KOGS *e*PKPab **PKPab** **16 13 18.2 -0.1**
KOGS *e* 16 16 36.8
KOGS *e*PP **PP** **16 16 55.9 +3.5**
KOGS *e* 16 20 01.2
KOGS *e* 16 30 05.0
KOGS *e*SS SS 16 35 32.8 +4.8
KOGS *i* 16 39 25.7
SMTH Samothraki Isl 151.44 320 P **PKPdf** **16 12 58.6 -1.8**
PSMN Pico do Norte, 151.59 49 *e*PKP **PKPdf** **16 13 01.5 +0.7**
PSMN *e*SKP 16 15 22.2
SOKA Soboth 151.64 340 *i* PKP **PKPdf** **16 12 59.5 -1.2**
comp=Z,46nm,1.4s,SNR=70
SOKA *e*PKP **PKPbc** **16 13 06.8 -0.8**
comp=Z,187nm,1.1s
SOKA *e*PKP **PKPab** **16 13 19.0 -0.3**
comp=Z,362nm,1.3s
SOKA *ep*PKP **pPKPdf** **16 15 21.7 -0.1**
comp=Z,218nm,1.3s
LESA Schwarzleotal 151.64 344 *i* PKP **PKPdf** **16 12 59.5 -1.2**
comp=Z,55nm,1.1s,SNR=67
LESA *e*PKP **PKPbc** **16 13 07.2 -0.4**
comp=Z,234nm,1.2s
LESA *e*PKP **PKPab** **16 13 19.4 +0.1**
comp=Z,440nm,1.2s
LESA *ep*PKP **pPKPdf** **16 15 21.6 0.0**
comp=Z,71nm,1.3s
BFO Black Forest 151.68 350 *e*PKPdf **PKPdf** **16 12 59.7 -0.9**
baz=14,slow=1.5
BFO *e*PKPbc **PKPbc** **16 13 07.4 -0.2**
baz=16,slow=2.4
BFO *e*PKPab **PKPab** **16 13 19.3 -0.1**
baz=16,slow=4.0
BFO *ep*PKPbc **pPKPab** **16 15 30.8 -2.2**
baz=17,slow=2.9
KAVA Kavala 151.72 321 P **PKPdf** **16 12 59.1 -1.7**
KBA Koelnbreinsper 151.78 343 *e*PKP **PKPdf** **16 12 59.3 -1.7**
comp=Z,39nm,1.2s
KBA *e*PKP **PKPbc** **16 13 06.9 -1.1**
comp=Z,232nm,1.0s
KBA *e*PKP **PKPab** **16 13 20.0 0.0**
comp=Z,265nm,1.1s
KBA *ep*PKP **pPKPdf** **16 15 20.9 -1.1**
comp=Z,78nm,1.2s
THAS Thassos island 151.85 321 P **PKPdf** **16 12 57.8 -3.2**
OBKA Obir 151.94 341 *i* PKP **PKPdf** **16 12 59.6 -1.5**
comp=Z,24nm,1.3s,SNR=29
OBKA *e*PKP **PKPbc** **16 13 06.8 -1.5**
comp=Z,118nm,1.4s
OBKA *e*PKP **PKPab** **16 13 19.9 -0.7**
comp=Z,96nm,0.9s
OBKA *ep*PKP **pPKPdf** **16 15 21.5 -0.7**
comp=Z,70nm,1.4s
KKB Krupnik 151.95 324 *i* P **PKPdf** **16 12 59.7 -1.5**
SIGR SIGRI 151.98 317 P **PKPdf** **16 12 59.1 -2.2**
MOSL Moslavina 151.98 337 *e*P **PKPdf** **16 13 00.1 -1.0**
LIA Limnos Island 152.00 319 P **PKPdf** **16 12 59.2 -2.0**
WATA Walderalm 152.00 345 *i* PKP **PKPdf** **16 13 00.8 -0.5**
comp=Z,69nm,1.1s,SNR=43
WATA *e*PKP **PKPbc** **16 13 08.0 -0.5**
comp=Z,195nm,1.1s
WATA *e*PKP **PKPab** **16 13 20.8 0.0**
comp=Z,432nm,1.1s
WATA *ep*PKP **pPKPdf** **16 15 22.4 -0.2**
comp=Z,163nm,1.6s
WATA *e*PP **PP** **16 16 54.3 -1.2**
comp=Z,63nm,1.4s
RETA Reutte 152.04 347 *i* PKP **PKPdf** **16 13 00.8 -0.5**
comp=Z,33nm,1.1s,SNR=26
RETA *e*PKP **PKPbc** **16 13 08.1 -0.4**
comp=Z,89nm,0.8s
RETA *e*PKP **PKPab** **16 13 21.1 +0.1**
comp=Z,352nm,1.1s
RETA *ep*PKP **pPKPdf** **16 15 22.2 -0.3**
comp=Z,103nm,1.2s
RETA *e*PP **PP** **16 16 56.5 +0.9**
comp=Z,86nm,1.5s
WTTA Wattenberg 152.05 345 *i* PKP **PKPdf** **16 13 01.0 -0.4**
comp=Z,77nm,1.1s,SNR=66
WTTA *e*PKP **PKPbc** **16 13 08.3 -0.3**
comp=Z,209nm,0.7s
WTTA *e*PKP **PKPab** **16 13 21.3 +0.2**
comp=Z,561nm,1.2s
WTTA *ep*PKP **pPKPdf** **16 15 22.5 +0.1**
comp=Z,206nm,1.7s
MOTA Moosalm 152.10 346 *i* PKP **PKPdf** **16 13 01.0 -0.4**
comp=Z,114nm,1.2s,SNR=56
MOTA *e*PKP **PKPbc** **16 13 08.3 -0.4**
comp=Z,209nm,0.9s
MOTA *e*PKP **PKPab** **16 13 21.2 -0.1**
comp=Z,512nm,1.0s
MYKA Terra Mystica 152.11 342 *i* PKP **PKPdf** **16 12 59.9 -1.4**
comp=Z,29nm,1.1s,SNR=34
MYKA *e*PKP **PKPbc** **16 13 07.1 -1.5**
comp=Z,118nm,1.0s
MYKA *e*PKP **PKPab** **16 13 20.6 -0.7**
comp=Z,133nm,0.9s
MYKA *ep*PKP **pPKPdf** **16 15 22.1 -0.3**
comp=Z,42nm,0.9s
SQTA Sankt Quirin 152.19 346 *i* PKP **PKPdf** **16 13 01.2 -0.3**
comp=Z,64nm,1.0s,SNR=48
SQTA *e*PKP **PKPbc** **16 13 08.4 -0.5**
comp=Z,177nm,0.9s
SQTA *e*PKP **PKPab** **16 13 21.6 -0.1**
comp=Z,215nm,1.3s
SQTA *ep*PKP **pPKPdf** **16 15 22.8 0.0**
comp=Z,171nm,1.1s
ABTA Abfaltersbach 152.31 344 *i* PKP **PKPdf** **16 13 00.3 -1.4**
comp=Z,148nm,1.1s,SNR=110
ABTA *e*PKP **PKPbc** **16 13 08.0 -1.1**
comp=Z,241nm,0.7s
ABTA *e*PKP **PKPab** **16 13 21.4 -0.7**
comp=Z,275nm,1.0s
ABTA *ep*PKP **pPKPdf** **16 15 22.0 -0.6**
comp=Z,223nm,1.2s
ABTA PP **PP** **16 16 56.3 -0.9**
comp=Z,110nm,1.3s
LJU Ljubljana 152.36 340 *i* PKPdf **PKPdf** **16 13 01.0 -0.6**
LJU *i* PKPbc **PKPbc** **16 13 09.0 -0.1**
LJU *e*PKPab **PKPab** **16 13 21.9 -0.4**
LJU *i* pPKPdf **pPKPdf** **16 15 22.7 0.0**
LJU *i* pPKPbc **pPKPbc** **16 15 29.6 +1.0**
LJU *es*PKPbc **sPKPbc** **16 16 25.4 -1.6**
LJU *e* 16 16 41.9
LJU *e*PP **PP** **16 16 59.2 +1.7**
LJU *e* 16 19 09.6
LJU *e* 16 20 07.3
LJU *e* 16 23 28.7
LJU *e* 16 26 58.2
LJU *e* 16 30 20.9
LJU *e* 16 45 58.1
DAVA Damuels 152.41 348 *e*PKP **PKPdf** **16 13 01.5 -0.4**
comp=Z,49nm,1.1s,SNR=38
DAVA *e*PKP **PKPbc** **16 13 09.0 -0.4**
comp=Z,211nm,1.3s
DAVA *e*PKP **PKPab** **16 13 22.4 -0.2**
comp=Z,233nm,1.1s
DAVA *ep*PKP **pPKPdf** **16 15 22.4 -0.7**
comp=Z,141nm,1.1s
DAVA *e*PP **PP** **16 16 55.2 -2.6**
comp=Z,48nm,1.4s
A051A Mrakovica 152.43 336 *e*P **PKPdf** **16 13 00.6 -1.2**
OZLJ Ozalj 152.43 339 *e*P **PKPdf** **16 13 01.2 -0.5**
FETA Feichten 152.49 346 *i* PKP **PKPdf** **16 13 01.9 -0.1**
comp=Z,143nm,1.1s,SNR=74
FETA *e*PKP **PKiKP** **16 13 09.6 0.0**
comp=Z,183nm,1.2s
FETA *e*PKP **PKPab** **16 13 23.2 +0.2**
comp=Z,313nm,1.3s
FETA *ep*PKP **pPKPdf** **16 15 22.5 -0.8**
comp=Z,71nm,1.1s
RUDO Rudo 152.54 331 *e*P **PKPdf** **16 13 01.6 -0.4**
BLY Banja Luka 152.54 335 *e*P **PKPdf** **16 13 01.9 0.0**
BLY Banja Luka 152.54 335 ⇓P **PKPbc** **16 13 06.6 -2.9**
HORT Hortiatis 152.80 322 P **PKPdf** **16 13 00.1 -2.5**
DAVOX Davos/Dischmat 152.90 347 PKP **PKPdf** **16 13 01.9 -0.7**
comp=Z,66nm,0.9s,baz=39,slow=3.5,SNR=66
DAVOX PKPbc **PKiKP** **16 13 10.7 +0.1**
comp=Z,316nm,0.6s,baz=4.0,slow=5.0,SNR=27
DAVOX PKPab **PKPab** **16 13 24.9 +0.2**
comp=Z,437nm,1.0s,baz=352,slow=6.8,SNR=10.0
DAVOX pPKPbc **pPKPbc** **16 15 32.3 +2.2**
comp=Z,106nm,1.0s,baz=25,slow=6.9,SNR=4.7
A050A Klekovaca 153.02 336 *e*P **PKPdf** **16 13 01.4 -1.3**
AOS Alonnisos 153.24 319 P **PKPdf** **16 13 00.8 -2.3**
KLINJ Klinje 153.24 332 *e*P **PKPdf** **16 13 02.2 -0.9**
BRJN Brijuni 153.63 340 *e*P **PKPdf** **16 13 02.3 -1.1**
FNA Florina 153.64 325 P **PKPdf** **16 13 02.0 -1.7**
TREB Trebinje 153.71 331 *e*P **PKPdf** **16 13 01.4 -2.3**
OHR Ohrid 153.72 326 ⇓*i* P **PKPdf** **16 13 03.4 -0.4**
STON Ston 153.87 332 *e*P **PKPdf** **16 13 02.7 -1.1**
THL Klokotos Trika 154.10 322 P **PKPdf** **16 13 02.1 -2.2**
AGG Agios Georgios 154.27 320 P **PKPdf** **16 13 02.6 -2.0**
MAKR Makrakomi, Fth 154.40 321 P **PKPdf** **16 13 03.1 -1.7**
LTK Loutraki 154.50 318 P **PKPdf** **16 13 02.4 -2.5**
EVR Evrytania 154.65 321 P **PKPdf** **16 13 04.0 -1.2**
IDI Anoyia 154.71 311 PKP **PKPdf** **16 13 03.9 -1.4**
IDI Anoyia 154.71 311 PKP **PKPdf** **16 13 05.4 0.0**
comp=Z,100nm,0.9s,baz=77,slow=1.8,SNR=10
IDI PKPbc **PKPbc** **16 13 15.0 +0.4**
comp=Z,99nm,1.1s,baz=10,slow=0.6,SNR=6.8
IDI PKPab **PKPab** **16 13 34.3 +1.4**
comp=Z,105nm,0.7s,baz=45,slow=17,SNR=6.8
IDI pPKP **pPKPdf** **16 15 28.9 +2.4**
comp=Z,38nm,0.9s,baz=97,slow=3.1,SNR=2.2
ANX Ano Chora 154.79 320 P **PKPdf** **16 13 04.2 -1.2**
EFP Efpalio 154.91 320 P **PKPdf** **16 13 04.7 -0.7**
VLC Villacollemand 155.27 345 PKP **PKPdf** **16 13 02.6 -3.1**
ANKY Antikythira Is 155.52 313 P **PKPdf** **16 13 04.8 -1.5**
ITM Ithomi 155.67 317 P **PKPdf** **16 13 05.0 -1.5**
AQU L'Aquila 156.01 338 PKP **PKPdf** **16 13 05.2 -1.6**
PCAB Cabril 157.34 19 *e*PKPdf **PKPdf** **16 13 08.9 +0.3**
PCAB *e*PKPab **PKPab** **16 13 43.8 0.0**
PCAB *i* x x 16 15 33.8
ECAL Calabor 157.50 16 PKP **PKPdf** **16 13 08.1 -0.7**
PBRG Braganca 157.62 16 *e*PKPdf **PKPdf** **16 13 10.6 +1.7**
PBRG *e*PKPab **PKPab** **16 13 45.3 +0.3**
PBRG *i* x x 16 15 30.4
POLO Lamas de Olo 157.72 19 *e*PKPdf **PKPdf** **16 13 09.3 +0.2**
POLO *e*PKPab **PKPab** **16 13 46.0 +0.4**
POLO *i* x x 16 15 30.2
PVRL Vila Real 157.84 19 *e*PKPdf **PKPdf** **16 13 10.0 +0.8**
PVRL *e*PKPab **PKPab** **16 13 45.7 -0.3**
PVRL *i* x x 16 15 31.9
EJON La Jonquera 158.07 357 PKP **PKPdf** **16 13 08.7 -0.7**
ARBS La Rabassa 158.10 360 *e*PKP **PKPdf** **16 13 10.9 +1.2**
ARBS *e*PKP **PKPab** **16 13 48.9 +1.5**
ARBS *ep*PKP **pPKPdf** **16 15 30.4 -0.9**
ARBS *e*PP **PP** **16 17 36.4 +7.4**
ARBS *e*SKS 16 20 43.2
ARBS *e*SKKS 16 26 46.6
ARBS *e*SS SS **16 36 32.0 -7.1**
MVO Moncorvo 158.14 18 *e*PKPdf **PKPdf** **16 13 09.5 -0.1**
MVO *e*PKPab **PKPab** **16 13 47.2 -0.2**
MVO *i* x x 16 15 32.1
CSOR Sort 158.17 1 *e*PKP **PKPdf** **16 13 11.2 +1.6**
CSOR *e*PKP **PKPab** **16 13 48.0 +0.5**
CSOR *ep*PKP **pPKPdf** **16 15 32.3 +1.1**
CSOR *e*PP **PP** **16 17 31.5 +2.4**
CSOR *e*SKS 16 20 39.2
CSOR *e*SKKS 16 26 43.5
CSOR *e*SS SS **16 36 46.1 +6.6**
CBEU Beuda 158.27 358 *e*PKP **PKPdf** **16 13 11.0 +1.3**
CBEU *e*PKP **PKPab** **16 13 48.2 +0.3**
CBEU *ep*PKP **pPKPdf** **16 15 30.9 -0.3**
CBEU *e*PP **PP** **16 17 35.6 +5.9**
CBEU *e*SKKS 16 26 13.6
CBEU *e*SS SS **16 36 44.1 +3.6**
PVIS Viseu 158.29 20 *e*PKPdf **PKPdf** **16 13 09.8 0.0**
PVIS *e*PKPab **PKPab** **16 13 47.9 -0.2**
PVIS *i* x x 16 15 32.5
COI Coimbra 158.58 21 *e*PKPdf **PKPdf** **16 13 10.3 +0.3**
COI *e*PKPab **PKPab** **16 13 48.9 -0.3**
COI *i* x x 16 15 33.9
MTE Manteigas 158.69 19 *e*PKPdf **PKPdf** **16 13 10.0 -0.2**
MTE *e*PKPab **PKPab** **16 13 49.9 +0.1**
MTE *i* x x 16 15 33.2
PCAS Casmilo, Conde 158.69 22 *e*PKPdf **PKPdf** **16 13 12.0 +1.9**
PCAS *e*PKPab **PKPab** **16 13 49.7 0.0**
PCAS *i* x x 16 15 31.7
CFON Fontmartina 158.77 358 *e*PKP **PKPdf** **16 13 11.1 +1.0**
CFON *e*PKP **PKPab** **16 13 50.0 -0.1**
CFON *ep*PKP **pPKPdf** **16 15 32.6 +0.7**
CFON *e*PP **PP** **16 17 35.1 +2.8**
CFON *e*SKS 16 20 48.9
CFON *e*SKKS 16 26 16.7
CFON *e*SS SS **16 36 38.5 -7.2**
PSARD Sardoal 159.21 21 *e*PKPdf **PKPdf** **16 13 10.7 -0.1**
PSARD *e*PKPab **PKPab** **16 13 52.1 0.0**
PSARD *i* x x 16 15 32.8
PCBR Castelo Branco 159.22 20 *e*PKPdf **PKPdf** **16 13 10.7 0.0**
PCBR *e*PKPab **PKPab** **16 13 51.7 -0.3**
PCBR *i* x x 16 15 36.7
PMOZ Porto Moniz, M 159.28 50 PKP **PKPdf** **16 13 10.3 -0.9**
PMOZ Porto Moniz, M 159.28 50 *e*PKPdf **PKPdf** **16 13 12.5 +1.4**
PMOZ *e*PKPab **PKPab** **16 13 55.6 +2.8**
PMOZ *i* x x 16 15 33.8
PMAFR Mafra 159.37 25 PKP **PKPdf** **16 13 11.3 +0.3**
PMAFR Mafra 159.37 25 *e*PKPdf **PKPdf** **16 13 10.8 -0.1**
PMAFR *e*PKPab **PKPab** **16 13 52.9 +0.1**
PMAFR *i* x x 16 15 33.3
PMAR Madeira 159.53 50 *e*PKPdf **PKPdf** **16 13 12.2 +0.6**
PMAR *e*PKPab **PKPab** **16 13 57.0 +3.0**
PMAR *i* x x 16 15 34.4
PARRA Arraiolos 159.58 24 *e*PKPdf **PKPdf** **16 13 11.5 +0.3**
PARRA *e*PKPab **PKPab** **16 13 55.0 +1.4**
PARRA *i* x x 16 15 32.6
PMRV Marv??o 159.62 20 *e*PKPdf **PKPdf** **16 13 11.2 0.0**
PMRV *e*PKPab **PKPab** **16 13 53.4 -0.5**
PMRV *i* x x 16 15 33.0
LIS Lisbon 159.62 25 *e*PKPdf **PKPdf** **16 13 11.2 0.0**
LIS *e*PKPab **PKPab** **16 13 54.2 +0.3**
LIS *ep*PKPdf **pPKPdf** **16 15 31.6 -1.2**
LIS *e*PP **PP** **16 17 38.3 +1.2**
LIS Lisbon 159.62 25 *e*PKPdf **PKPdf** **16 13 12.4 +1.2**
LIS *e*PKPab **PKPab** **16 13 54.1 +0.3**
PMTG Montargil 159.66 22 *e*PKPdf **PKPdf** **16 13 11.1 -0.2**
PMTG *e*PKPab **PKPab** **16 13 53.6 -0.3**
PMTG *i* x x 16 15 32.9
VAE Valguarnera 159.70 329 PKP **PKPdf** **16 13 10.8 -0.7**
comp=Z,4.0nm,0.4s,baz=346,slow=2.0,SNR=9.4
VAE PKPab **PKPab** **16 13 54.4 +0.1**
comp=Z,43nm,1.0s,baz=124,slow=14,SNR=4.5
PMPST Porto Santo, M 159.75 48 *e*PKPdf **PKPdf** **16 13 12.7 +1.1**
PMPST *i* x x 16 15 34.2
PMPS Porto Santo 159.76 48 *e*PKPdf **PKPdf** **16 13 13.4 +1.9**
PMPS *e*PKPab **PKPab** **16 13 57.1 +2.4**
PMPS *i* x x 16 15 38.6
CMAS Mas de Barbera 159.80 3 *e*PKP **PKPdf** **16 13 13.1 +1.7**
CMAS *e*PKP **PKPab** **16 13 57.8 +3.2**
CMAS *ep*PKP pPKPdf 16 15 11.4 -22
CMAS *e*PP **PP** **16 17 43.0 +5.3**
CMAS *e*SKS 16 20 50.2
CMAS *e*SKKS 16 26 43.1

CMAS				eSS	SS	16 37 01.7	+5.5
PESTR	Estremoz	160.06	21	PKP	PKPdf	16 13 11.9	+0.2
PESTR	Estremoz	160.06	21	ePKPdf	PKPdf	16 13 11.6	-0.1
PESTR				ePKPab	PKPab	16 13 55.6	-0.2
PESTR				i x	x	16 15 32.6	
EVO	Evora	160.21	23	PKP	PKPdf	16 13 12.2	+0.3
EVO	Evora	160.21	23	ePKPdf	PKPdf	16 13 12.2	+0.3
EVO				ePKPab	PKPab	16 13 56.5	0.0
EVO				i x	x	16 15 32.9	
ESDC	Sonseca Array	160.30	13		PKPdf	16 13 11.0	-1.0
ESDC	Sonseca Array	160.30	13	PKP	PKPdf	16 13 11.7	-0.3
	comp=Z,14nm,0.9s,baz=345,slow=2.9,SNR=49						
ESDC				PKPab	PKPab	16 13 56.3	-0.5
	comp=Z,189nm,1.1s,baz=342,slow=3.3,SNR=36						
ESDC				pPKPab	pPKPab	16 16 11.2	+2.0
	comp=Z,19nm,1.3s,baz=339,slow=3.9,SNR=2.7						
ESDC				PP	PP	16 17 36.9	-3.6
	comp=Z,63nm,1.3s,baz=344,slow=3.1,SNR=8.7						
PAB	San Pablo	160.34	14		PKPdf	16 13 12.6	+0.5
PAB	San Pablo	160.34	14	PKIKP	PKPdf	16 13 12.6	+0.5
PBEJ	Beja	160.71	23	ePKPdf	PKPdf	16 13 12.9	+0.4
PBEJ				ePKPab	PKPab	16 13 58.7	+0.1
PBEJ				i x	x	16 15 38.7	
MESJ	Messejana	160.75	24	ePKPdf	PKPdf	16 13 12.5	0.0
MESJ				ePKPab	PKPab	16 13 59.1	+0.3
MESJ				epPKPdf	pPKPdf	16 15 32.9	-1.2
MESJ				ePP	PP	16 17 44.2	+1.1
MESJ	Messejana	160.75	24	ePKPdf	PKPdf	16 13 12.9	+0.4
MESJ				ePKPab	PKPab	16 13 58.8	0.0
MESJ				i x	x	16 15 33.1	
PTEO	Sao Teotonio	160.80	25	ePKPdf	PKPdf	16 13 13.4	+0.9
PTEO				ePKPab	PKPab	16 13 59.2	+0.2
PTEO				i x	x	16 15 35.4	
PBAR	Barrancos	160.87	21	ePKPdf	PKPdf	16 13 12.5	-0.1
PBAR				ePKPab	PKPab	16 13 59.5	+0.2
PBAR				i x	x	16 15 34.9	
PCVE	Castro Verde	161.00	24	ePKPdf	PKPdf	16 13 13.0	+0.2
PCVE				ePKPab	PKPab	16 14 00.1	+0.2
PCVE				i x	x	16 15 34.2	
MORF	Marmelete	161.04	26	ePKPdf	PKPdf	16 13 12.8	0.0
MORF				ePKPab	PKPab	16 14 00.4	+0.2
MORF				epPKPdf	pPKPdf	16 15 33.2	-1.3
MORF				ePP	PP	16 17 45.8	+1.1
MORF	Marmelete	161.04	26	ePKPdf	PKPdf	16 13 13.2	+0.3
MORF				ePKPab	PKPab	16 14 00.3	+0.2
MORF				i x	x	16 15 33.5	
PFVI	Vila Bisbo	161.12	26	ePKPdf	PKPdf	16 13 13.6	+0.7
PVAQ	Vaqueiros	161.32	24	ePKPdf	PKPdf	16 13 13.5	+0.4
PVAQ				ePKPab	PKPab	16 14 01.8	+0.5
PVAQ				i x	x	16 15 34.0	
PBDV	Barranco-do-Ve	161.38	24	ePKPdf	PKPdf	16 13 14.3	+1.1
PBDV				ePKPab	PKPab	16 14 02.3	+0.6
PBDV				i x	x	16 15 35.6	
SFS	San Fernando	162.70	21	PKP	PKPdf	16 13 15.8	+1.3
CART	Cartagena	162.82	7	PKP	PKPdf	16 13 12.8	-1.8
CNIL	Conil	162.84	21	PKP	PKPdf	16 13 14.6	0.0
EMAL	Malaga-Limoner	162.97	17	PKP	PKPdf	16 13 13.4	-1.3
KEST	Kesra	163.33	337	PKP	PKPdf	16 13 15.0	-0.3
	comp=Z,23nm,0.9s,baz=319,slow=1.5,SNR=15						
KEST				PKPab	PKPab	16 14 09.4	-0.9
	comp=Z,155nm,0.9s,baz=12,slow=3.8,SNR=16						
KEST				PP	PP	16 17 57.3	+0.7
	comp=Z,83nm,1.3s,baz=352,slow=7.3,SNR=3.8						
KEST	Kesra	163.33	337	P	PKPdf	16 13 15.3	+0.1
	SNR=9.9						
CEU	Ceuta	163.49	20	PKP	PKPdf	16 13 15.2	-0.1
WMELI	Melilla	164.71	14	PKP	PKPdf	16 13 15.2	-1.2
DBIC	Dimbokro	164.94	155	PKP	PKPdf	16 13 16.5	-0.7
	comp=Z,55nm,0.8s,baz=145,slow=1.1,SNR=25						
DBIC				PKPab	PKPab	16 14 18.4	+0.7
	comp=Z,198nm,1.1s,baz=228,slow=5.5,SNR=18						
DBIC				pPKP	pPKPdf	16 15 40.1	+1.2
	comp=Z,143nm,1.1s,baz=172,slow=1.0,SNR=6.3						
DBIC				pPKPab	pPKPab	16 16 30.1	+0.5
	comp=Z,18nm,0.9s,baz=190,slow=7.8,SNR=1.3						
AVE	Averroes	164.96	30	PKP	PKPdf	16 13 16.9	+0.3
MDT	Midelt	166.56	23	PKP	PKPdf	16 13 19.1	+1.0
	comp=Z,50nm,1.0s,baz=48,slow=1.6,SNR=53						
MDT				PKPab	PKPab	16 14 25.2	+0.5
	comp=Z,100nm,1.1s,baz=335,slow=5.5,SNR=12						
MDT				pPKP	pPKPdf	16 15 41.9	+1.9
	comp=Z,17nm,1.0s,baz=0.7,slow=2.5,SNR=2.1						
MDT				pPKPab	sPKPdf	16 16 39.8	+1.7
	comp=Z,68nm,1.2s,baz=349,slow=7.0,SNR=3.2						
MDT				PP	PP	16 18 13.7	+0.6
	comp=Z,115nm,1.3s,baz=345,slow=4.3,SNR=6.2						
TIO	Tiouine	166.93	36	PKP	PKPdf	16 13 16.3	-2.1
TOA0	Torodi Ar. Sit	172.70	181	P	PKPdf	16 13 22.2	+0.2
	SNR=15						
TORD	Torodi Ar. Bea	172.70	181		PKPdf	16 13 19.8	-2.2
TORD	Torodi Ar. Bea	172.70	181	PKP	PKPdf	16 13 21.2	-0.7
	comp=Z,57nm,0.9s,baz=82,slow=2.0,SNR=109						
TORD				PKPab	PKPab	16 14 52.5	+0.5
	comp=Z,32nm,0.9s,baz=161,slow=2.3,SNR=6.5						
TORD				pPKP	pPKPdf	16 15 43.8	-0.3
	comp=Z,79nm,1.2s,baz=180,slow=0.8,SNR=5.2						
TORD				pPKPab	pPKPab	16 17 05.1	+0.9
	comp=Z,72nm,1.2s,baz=169,slow=2.0,SNR=4.6						
TORD				PP	PP	16 18 43.0	+0.2
	comp=Z,22nm,0.9s,baz=128,slow=2.3,SNR=4.3						

*NEIC **01** 16:10:38.7±1.5, 19°.2S±0°.1×176°.3W±0°.1, h6km±4km, mb5.0/22, Error ellipse: s-maj=18.9km s-min=16.2km az=149.0*

*IDC **01** 16:10:38.2±0.8, 19°.15S×176°.49W, h0km, mb4.3/11, mbtmp4.3/11, MS4.3/1, Error ellipse: s-maj=29.3km s-min=19.9km az=147.0*

ISC 01 16:10:41.0±0.6**, 19°.2S**±0°.1×**176°.5W**±0°.1**, h21**km**, n47, σ0s.83**/46**, mb4.8**/22**, 1C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.38	285	Pn	Pn	16 12 01.2	+1.0
TOZ	Tahuroa Road	19.76	199	P	P	16 15 08.6	-1.1
PPT	Papeete	25.58	91	LR	LR	16 25 33.2	
	comp=Z,600nm,18.2s,baz=228,slow=35						
PMG	Port Moresby	36.47	280	P	P	16 17 44.1	-0.8
	15nm,1.1s,baz=93,slow=12,SNR=1.6						
	15nm,1.1s						
TOO	Toolangi	37.82	233	P	P	16 17 56.9	+0.7
STKA	Stephens Creek	39.65	243	P	P	16 18 11.6	+0.1
STKA				IAmb	IAmb	16 18 27.4	
	comp=Z,70nm,1.1s						
STKA	Stephens Creek	39.65	243	P	P	16 18 11.3	-0.2
	comp=Z,4.9nm,0.9s,baz=111,slow=6.1,SNR=4.5						
	comp=Z,4.9nm,0.9s						
WR8	Warramunga Arr	46.05	260	P	P	16 19 04.0	+0.3
WR8				IAmb	IAmb	16 19 19.4	
	comp=Z,16nm,1.3s						
WB0	Warramunga Arr	46.18	261	P	P	16 19 05.6	+1.0
WB0				IAmb	IAmb	16 19 11.5	
	comp=Z,11nm,1.1s						
WRA	Warramunga Arr	46.21	260		P	16 19 05.1	+0.2
WRA	Warramunga Arr	46.21	260	P	P	16 19 05.7	+0.8
	comp=Z,3.2nm,0.9s,baz=99,slow=5.3,SNR=5.5						
	comp=Z,3.2nm,0.9s						
AS31	Alice Springs	46.22	255	P	P	16 19 05.3	+0.3
ASAR	Alice Springs	46.22	255	P	P	16 19 05.4	+0.4
ASAR	Alice Springs	46.22	255	P	P	16 19 06.0	+1.0
	comp=Z,12nm,0.8s,baz=95,slow=8.5,SNR=53						
	comp=Z,12nm,0.8s						
FITZ	Fitzroy Crossi	54.62	261	P	P	16 20 09.1	+0.5
	comp=Z,3.5nm,1.1s,baz=106,slow=7.4,SNR=2.0						
	comp=Z,3.5nm,1.1s						
VNDA	Vanda	59.34	185	P	P	16 20 41.0	-0.1
VNDA				IAmb	IAmb	16 21 01.0	
	comp=Z,11nm,1.6s						
PSA00	Pilbara Seismi	59.36	256	P	P	16 20 41.0	-1.1
PSA00				IAmb	IAmb	16 20 49.7	
	comp=Z,18nm,1.1s						
NWAO	Narrogin (SRO)	60.23	242	P	P	16 20 47.9	0.0
MJAR	Matsushiro Arr	70.02	322	P	P	16 21 52.2	+0.9
MJAR	Matsushiro Arr	70.02	322	P	P	16 21 52.1	+0.9
	comp=Z,1.3nm,0.8s,baz=156,slow=5.6,SNR=8.3						
	comp=Z,1.3nm,0.8s						
QSPA	South Pole Qui	70.88	180	P	P	16 21 57.9	+1.6
	comp=Z,3.8nm,1.0s,baz=311,slow=5.2,SNR=3.9						
	comp=Z,3.8nm,1.0s						
PETK	Petropavlovsk-	75.38	344	P	P	16 22 23.9	+1.1
	comp=Z,2.6nm,0.8s,baz=106,slow=5.3,SNR=4.6						
	comp=Z,2.6nm,0.8s						
PLK4	Peulik 4	78.34	11	P	P	16 22 38.4	-1.1
USA0B	Ussuriysk Arra	78.69	325	P	P	16 22 40.0	-1.6
USA0B				IAmb	IAmb	16 23 10.5	
	comp=Z,14nm,1.4s						
USRK	Ussuriysk Ar.	78.69	325	P	P	16 22 40.2	-1.4
NVAR	Mina Array Bea	79.10	43	P	P	16 22 44.6	+0.3
	comp=Z,0.5nm,0.6s,baz=221,slow=8.0,SNR=5.6						
	comp=Z,0.5nm,0.6s						
TULE	Intermountain	79.25	38	P	P	16 22 43.6	-1.3
N25K	Chitina, Valde	84.45	15	P	P	16 23 12.2	+0.4
N25K				IAmb	IAmb	16 23 18.1	
	comp=Z,6.0nm,0.8s						
GLB	Gilahina Butte	84.50	15	P	P	16 23 12.6	+0.6
GLB				IAmb	IAmb	16 23 58.8	
	comp=Z,46nm,2.0s						
TXAR	Lajitas Array	85.15	57	P	P	16 23 17.1	+1.0
	comp=Z,1.8nm,0.9s,baz=218,slow=7.9,SNR=5.1						
	comp=Z,1.8nm,0.9s						
MCK	McKinley	85.39	12		P	16 23 16.2	-0.2
MCK				IAmb	IAmb	16 23 22.0	
	comp=Z,13nm,1.0s						
HDA	Harding Lake	86.39	12	P	P	16 23 21.2	-0.2
HDA				IAmb	IAmb	16 23 27.3	
	comp=Z,9.7nm,1.0s						
CCB	Clear Creek Bu	86.43	12		P	16 23 21.4	-0.1
CCB				IAmb	IAmb	16 23 27.4	
	comp=Z,11nm,1.0s						
ILAR	Eielson Array	86.73	12	P	P	16 23 22.7	-0.3
	comp=Z,1.5nm,0.9s,baz=238,slow=4.8,SNR=4.5						
	comp=Z,1.5nm,0.9s						
SYO	Syowa Base	88.31	192⇑	iP	P	16 23 30.0	-0.7
D20K	Etivluk River	88.83	7	P	P	16 23 33.6	+0.7
F25K	Christian Rive	89.46	11	P	P	16 23 36.9	+0.9
F25K				IAmb	IAmb	16 24 25.4	
	comp=Z,8.9nm,1.2s						
CMAR	Chiang Mai Arr	91.03	289	P	P	16 23 43.7	-0.7
AKASG	Malin Array Be	142.52	333	PKP	PKPdf	16 30 13.5	+1.2
	comp=Z,0.2nm,0.3s,baz=40,slow=2.4,SNR=4.2						
BRTR	Keskin Array B	146.97	315	PKPbc	PKPbc	16 30 21.8	-0.8
	comp=Z,1.4nm,0.9s,baz=123,slow=4.6,SNR=5.4						
CLL	Collm	147.08	349	PKPbc	PKPbc	16 30 22.2	0.0
ASF	Jabal al Asfar	147.39	300	PKPbc	PKPbc	16 30 23.9	+0.1
	comp=Z,2.6nm,0.9s,baz=101,slow=6.6,SNR=3.5						
MLR	Muntele Rosu	147.85	330	PKPbc	PKPbc	16 30 24.4	-0.4
	comp=Z,5.0nm,1.0s,baz=79,slow=16,SNR=3.2						
GERES	GERESS Array B	149.29	347	PKPbc	PKPbc	16 30 28.2	0.0
	comp=Z,2.2nm,0.9s,baz=323,slow=3.5,SNR=9.8						
BFO	Black Forest	150.66	353		PKPab	16 30 36.6	-1.7
DAVOX	Davos/Dischmat	151.98	351	PKPbc	PKiKP	16 30 35.5	+0.3
	comp=Z,2.0nm,0.4s,baz=42,slow=6.9,SNR=3.7						
TORD	Torodi Ar. Bea	173.75	164	PKPab	PKPab	16 32 19.2	-0.3
	comp=Z,0.8nm,1.0s,baz=134,slow=4.2,SNR=3.8						

*ATH **01** 16:10:54.1, 37°.60N×26°.96E, h17km±1km, ML2.8/2, Manual Solution by A.Agalos First location: 2019/09/01 17:41:16, This location: 2019/09/01 17:40:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 4 km*

*ISK **01** 16:10:54.7, 37°.54N×26°.85E, h4km, ML2.4/19*

*AFAD **01** 16:10:54.7, 37°.58N×26°.84E, h7km±3km, ML2.5*

ISC 01 16:10:54.7±0.9**, 37°.57N**±0°.02×**26°.84E**±0°.03**, h16**km±6km**, n42, σ0s.51**/66**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMG	Samos	0.14	358	P	Pg	16 10 58.3	-0.3
SMG				S	Sg	16 11 01.0	-0.3
KRL1	Karlovasi Samo	0.25	335	P	Pg	16 11 00.3	0.0
KRL1				S	Sg	16 11 04.4	+0.3
DDIM	Aydin, Didim	0.34	109	P	Pb	16 11 02.3	+0.1
DDIM				S	Sg	16 11 06.3	-0.1
DDIM				i IAML		16 11 08.0	
	comp=N,482nm,0.2s						
GCAM	G?zelcaml?	0.34	66	Pg	Pg	16 11 02.1	+0.4
GCAM				Sg	Sb	16 11 07.5	0.0
GCAM	G?zelcaml?	0.34	66	P	Pg	16 11 01.9	+0.2
GCAM				S	Sg	16 11 06.6	+0.1
GCAM				i IAML		16 11 08.0	
	comp=N,1µm,0.2s						
DIDI	Didim-Aydin	0.37	121	Pg	Pg	16 11 02.3	+0.1
DIDI				Sg	Sg	16 11 07.8	+0.4
DGB	zmir	0.49	4	P	Pg	16 11 04.4	0.0
DGB				S	Sg	16 11 10.8	-0.2
GMLD	Gumuldur	0.51	6	Pg	Pb	16 11 05.9	+0.6
YKAV	Yalikavak-Bodr	0.56	141	Pg	Pg	16 11 05.7	-0.1
YKAV				Sg	Sg	16 11 13.8	+0.5
KLNA	Kalymnos	0.62	170	P	Pg	16 11 06.5	-0.3
KLNA				S	Sg	16 11 15.6	+0.6
BDRM	Kayabasi	0.69	136	P	Pg	16 11 08.3	+0.1
BDRM				S	Sg	16 11 16.6	-0.8
BDRM				i IAML		16 11 22.0	
	comp=E,207nm,0.3s						
ZEYE	Izmir, Urla-Ze	0.72	338	P	Pg	16 11 08.2	-0.7
ZEYE				S	Sg	16 11 18.7	+0.3
ZEYE				i IAML		16 11 21.0	
	comp=E,223nm,0.2s						
AYDN	Tasoluk	0.83	83	P	Pb	16 11 10.6	-0.1
AYDN				S	Sg	16 11 21.3	-0.5
AYDN				i IAML		16 11 23.0	
	comp=E,129nm,0.2s						
AYDN				i IAML		16 11 26.0	
	comp=N,205nm,0.2s						
BLCB	Balcova	0.83	11	Pg	Pn	16 11 11.6	-0.2
BLCB				Sg	Sn	16 11 24.3	+0.6
AYDB	Zeytinkoy-Aydi	0.91	65	Pg	Pn	16 11 12.9	-0.1
YAZI	Mula-Dat§a-	1.01	151	P	Pb	16 11 13.8	+0.1
YAZI				S	Sb	16 11 27.1	+0.3
YAZI				i IAML		16 11 30.0	
	comp=E,84nm,0.9s						
DAT	Datca	1.02	145	Pg	Pb	16 11 14.5	+0.5
DAT	Datca	1.02	145	P	Pb	16 11 14.3	+0.2
DAT				S	Sb	16 11 27.7	+0.4
CHOS	Chios island	1.03	323	P	Pb	16 11 14.2	0.0
CHOS				S	Sg	16 11 28.1	0.0
IZMR	zmir-demi	1.05	57	P	Pb	16 11 14.7	+0.3
IZMR				S	Sb	16 11 26.6	-1.3
ASTA	Astypalaia	1.09	201	P	Pb	16 11 15.3	+0.1
KARB	zmir-Karabur	1.15	343	P	Pn	16 11 16.0	-0.1
KARB				S	Sb	16 11 31.0	+0.2
FOCM	Foa	1.15	356	Pn	Pg	16 11 17.7	+0.8
ODEM	Odemis-Izmir	1.21	54	Pn	Pg	16 11 18.5	+0.5
NAZL	Nazilli-Aydin	1.22	70	Pn	Pb	16 11 17.4	+0.1
ESEN	Aydn-Nazilli	1.22	79	P	Pb	16 11 17.8	+0.5
ESEN				S	Sb	16 11 32.8	0.0
MULA	Mugla, Merkez-	1.22	104	P	Pg	16 11 18.1	0.0
MULA				S	Sb	16 11 33.0	+0.2
TURN	Turunc	1.37	125	Pn	Pg	16 11 20.9	-0.2
TURN	Turunc	1.37	125	P	Pn	16 11 19.4	+0.3
KIRA	zmir-Kiraz	1.39	62	P	Pn	16 11 19.8	+0.4
KIRA				S	Sn	16 11 35.5	-1.9
ZEDA	zmir-Bergama	1.41	7	P	Pn	16 11 19.9	+0.2
ZEDA				S	Sn	16 11 37.9	-0.1
AKHS	Akhisar	1.52	30	P	Pg	16 11 23.4	-0.5
AKHS				S	Sg	16 11 43.8	+0.2
AKHS				i IAML		16 11 48.0	
	comp=E,53nm,0.4s						
MANT	Manisa	1.64	55	P	Pg	16 11 26.2	0.0
SOMA	Soma-Manisa	1.68	19	Pn	Pb	16 11 25.9	+0.7
GORD	Gordes-Manisa	1.70	38	Pn	Pb	16 11 26.2	+0.5
KULA	Kula-Manisa	1.72	56	Pn	Pb	16 11 26.6	+0.7
DNZT	Denizli-Tavas-	1.76	99	P	Pb	16 11 26.8	+0.2
DNZT				S	Sb	16 11 49.9	+1.4
SIGR	SIGRI	1.82	335	Pn	Pb	16 11 27.9	+0.4
SIGR	SIGRI	1.82	335	P	Pn	16 11 24.8	-0.5
APMY	Acipayam-Deniz	1.96	92	Pn	Pb	16 11 29.5	-0.5
YAYO	Edremit-Balk	2.05	5	Pn	Pb	16 11 31.2	-0.3
CAME	Cameli-Denizli	2.06	107	Pn	Pb	16 11 30.9	-0.9

*IDC **01** 16:15:39.8±0.8, 19°.35S×176°.37W, h0km, mb4.2/9, mbtmp4.2/10, ML3.8/1, MS4.6/1, Error ellipse: s-maj=28.3km s-min=21.3km az=118.0*

*NEIC **01** 16:15:41.2±0.8, 19°.3S±0°.1×176°.0W±0°.1, h10km±1km, mb5.0/12, Error ellipse: s-maj=21.4km s-min=15.1km az=201.0*

ISC 01 16:15:40.5±0.5**, 19°.34S**±0°.08×**176°.11W**±0°.10**, h10**km**, n37, σ1s.46**/35**, mb4.7**/15**, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FUTU	Fugatoga	5.37	339	Pn	Pn	16 16 58.3	-2.4
MSVF	Nonsavu	5.77	285	Pn	Pn	16 17 09.0	+2.7
NIUE	Niue	5.84	88	Pn	Pn	16 17 06.1	-1.2
RAO	Raoul Island	10.00	189	Pn	Pn	16 18 02.5	-1.8
FUNA	Funafuti	11.68	336	Pn	Pn	16 18 21.6	-5.7
DZM	Mont Dzumac	16.55	258	LR	LR	16 24 51.5	
	comp=Z,2µm,19.8s,baz=282,slow=34						
URZ	Urewera	19.75	196	P	P	16 20 09.1	-1.5
	0.3nm,0.3s,baz=23,slow=5.8,SNR=6.0						
	12nm,0.9s						
MRNZ	Matariki Terra	23.95	201	P	P	16 20 52.1	-2.9
STKA	Stephens Creek	39.90	243	P	P	16 23 13.6	-1.3
	3.6nm,0.9s,baz=61,slow=13,SNR=4.6						
	3.6nm,0.9s						
ASAR	Alice Springs	46.53	255	P	P	16 24 08.0	-0.6
ASAR	Alice Springs	46.53	255	P	P	16 24 08.6	0.0
	9.8nm,0.8s,baz=85,slow=8.4,SNR=46						
	9.8nm,0.8s						
WB2	Warramunga Arr	46.53	261	P	P	16 24 06.0	-2.6
WB2				IAmb	IAmb	16 24 13.7	
	comp=Z,9.3nm,1.1s						
WRA	Warramunga Arr	46.54	261	P	P	16 24 07.6	-1.1
	comp=Z,1.4nm,0.7s,baz=97,slow=8.7,SNR=10						
	comp=Z,1.4nm,0.7s						
MTN	Manton Dam	50.95	269	P	P	16 24 39.9	-2.8
MTN				IAmb	IAmb	16 24 47.3	
	comp=Z,19nm,1.2s						
MJAR	Matsushiro Arr	70.36	322	P	P	16 26 54.2	-0.5
	comp=Z,0.9nm,0.8s,baz=149,slow=4.8,SNR=4.7						
	comp=Z,0.9nm,0.8s						
MAJO	Matsushiro	70.37	322	P	P	16 26 54.7	-0.1
MAJO				IAmb	IAmb	16 28 54.7	
	comp=Z,23nm,2.0s						
QSPA	South Pole Qui	70.72	180	P	P	16 26 57.7	+1.0
QSPA	South Pole Qui	70.72	180	P	P	16 26 58.2	+1.5
	comp=Z,3.3nm,0.9s,baz=5.7,slow=4.9,SNR=2.7						
	comp=Z,3.3nm,0.9s						
PETK	Petropavlovsk-	75.63	344	P	P	16 27 25.9	+0.3
	comp=Z,3.2nm,0.9s,baz=120,slow=8.8,SNR=3.8						
	comp=Z,3.2nm,0.9s						
BELA	Belgrano 2	80.47	172	P	P	16 27 53.2	+1.0
O22K	Cooper Landing	82.36	13	P	P	16 28 02.5	+0.2
PWL	Port Wells	83.00	13	P	P	16 28 05.2	-0.5
BMRM	Bremner River	83.95	15	P	P	16 28 11.1	+0.5
N25K	Chitina, Valde	84.51	15	P	P	16 28 14.0	+0.5
N25K				IAmb	IAmb	16 28 21.2	
	comp=Z,33nm,1.9s						
TXAR	Lajitas Array	84.93	57	P	P	16 28 19.6	+3.3
	comp=Z,1.1nm,1.0s,baz=222,slow=5.0,SNR=5.6						
	comp=Z,1.1nm,1.0s						
CCB	Clear Creek Bu	86.52	12	P	P	16 28 23.6	+0.4
CCB				IAmb	IAmb	16 31 40.2	
	comp=Z,16nm,1.7s						
ILAR	Eielson Array	86.81	12	P	P	16 28 25.7	+1.0
	comp=Z,0.8nm,0.9s,baz=222,slow=5.2,SNR=4.3						
	comp=Z,0.8nm,0.9s						
SYO	Syowa Base	88.23	192⇓	iP	P	16 28 32.6	+0.9
D20K	Etivluk River	88.94	7	P	P	16 28 35.3	+0.5
D20K				IAmb	IAmb	16 31 21.2	
	comp=Z,19nm,1.4s						
SNAA	Sanae	89.10	178	P	P	16 28 35.8	-0.1
SNAA				IAmb	IAmb	16 31 55.2	
	comp=Z,21nm,1.3s						
SNAA	Sanae	89.10	178	P	P	16 28 36.3	+0.4
	comp=Z,1.6nm,0.9s,baz=170,slow=6.0,SNR=3.3						
	comp=Z,1.6nm,0.9s						
BVAR	Borovoye Array	119.33	321	PKP	PKPdf	16 34 29.5	-0.4
	comp=Z,0.5nm,0.6s,baz=96,slow=1.4,SNR=2.9						
AKASG	Malin Array Be	142.83	333	PKP	PKPdf	16 35 14.1	0.0
	comp=Z,0.1nm,0.2s,baz=351,slow=1.2,SNR=1.2						
BRTR	Keskin Array B	147.34	315	PKPbc	PKPdf	16 35 24.1	+1.5
	comp=Z,1.0nm,0.8s,baz=132,slow=1.8,SNR=4.0						
GERES	GERESS Array B	149.52	347	PKPbc	PKPbc	16 35 30.9	+0.6
	comp=Z,1.5nm,0.9s,baz=343,slow=2.8,SNR=8.4						
DAVOX	Davos/Dischmat	152.20	351	PKPbc	PKPbc	16 35 37.4	+0.6
	comp=Z,2.8nm,0.8s,baz=49,slow=7.1,SNR=5.9						
TORD	Torodi Ar. Bea	173.49	161	PKPab	PKPab	16 37 20.4	+0.7
	comp=Z,1.5nm,1.0s,baz=145,slow=3.7,SNR=4.2						

*NEIC **01** 16:17:29.9±1.2, 43°.62N±0°.05×105°.45W±0°.06, h0km±1km, ML2.9/14, Error ellipse: s-maj=10.6km s-min=3.9km az=315.0*

*IDC **01** 16:17:31.0±1.9, 43°.65N×105°.58W, h0km, mbtmp3.3/2, ML2.9/2, Error ellipse: s-maj=43.8km s-min=10.0km az=150.0*

ISC 01 16:17:29.6±0.9**, 43°.68N**±0°.06×**105°.51W**±0°.05**, h0**km**, n14, σ1s.65**/13**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	Black Hills	1.15	67	Pg	Pg	16 17 52.1	+0.4
K22A	Casper	1.27	216	Pg	Pg	16 17 54.0	+0.1
K22A				IAML		16 18 17.8	
	192nm,0.3s						
K22A				IAML		16 18 22.1	
	160nm,0.3s						
LAO	LASA Array	3.05	351	Pn	Pb	16 18 22.8	-1.9
LAO				IAML		16 19 24.3	
	58nm,2.0s						
RLMT	Red Lodge	3.05	299	Pn	Pb	16 18 22.8	-2.1
RLMT				IAML		16 19 28.3	
	26nm,1.1s						
RLMT				IAML		16 19 35.0	
	39nm,2.4s						
PD31	Pinedale Array	3.10	254	Pn	Pn	16 18 21.7	+1.8
PDAR	Pinedale Array	3.10	254	Pn	Pb	16 18 23.7	-2.0
	1.7nm,0.3s,baz=75,slow=18,SNR=23						
PDAR				Pg	Pg	16 18 29.0	+0.1
	1.7nm,0.3s,baz=68,slow=16,SNR=9.5						
PDAR				Lg	Lg	16 19 06.8	
	4.7nm,0.3s,baz=73,slow=36,SNR=4.8						
	1.2nm,0.3s						
HAYD	Hayden	3.42	203	Pn	Pn	16 18 25.3	+1.0
LOHW	Long Hollow	3.70	271		Pn	16 18 28.7	+0.6
LOHW				IAML		16 19 59.5	
	16nm,2.8s						
LOHW				IAML		16 20 12.0	
	18nm,4.2s						
OGNE	Ogallala	3.76	135		Pn	16 18 29.2	+0.3
ISCO	Idaho Springs	3.88	181	Pn	Pn	16 18 32.3	+1.6
ISCO				IAML		16 19 39.4	
	14nm,3.4s						
YHH	Holmes Hill	3.99	288	Pn	Pn	16 18 35.0	+2.8
I10CA	LAC DU BONNET	9.19	42	I	I	17 20 40.0	
	baz=224,slow=319,SNR=3.1						
I56US	NEWPORT INFRAS	9.29	304	I	I	17 14 40.0	
	baz=119,slow=320,SNR=2.1						
ULM	Lac du Bonnet	9.30	42	Pn	Pn	16 19 45.2	+0.4
	0.2nm,0.3s,baz=220,slow=11,SNR=2.3						
ULM				Lg	Lg	16 22 19.4	
	0.1nm,0.3s,baz=322,slow=18,SNR=2.4						
	2.5nm,0.8s						

*CATAC **01** 16:21:34.0±0.6, 15°N±3°×9°3W±°, h29km±3km, M3.7/12, MLv3.7/12, Error ellipse: s-maj=8.8km s-min=4.2km az=36.8, confirmed*

*MEX **01** 16:21:34.2±0.7, 14°.66N×92°.61W, h77km±6km, MD4.2*

*SNET **01** 16:21:34.6±1.4, 14°.55N×92°.61W, h38km, ML3.7*

ISC 01 16:21:31.5±1.6**, 14°.63N**±0°.06×**92°.72W**±0°.03**, h18**km±7km**, n41, σ1s.78**/61**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		0.52	58	eP	Pn	16 21 45.5	+1.4
THIG				eS	Sn	16 21 54.2	+1.7
PATR	El Naranjo	0.68	44	eP	Pn	16 21 47.1	+0.6
PATR				eS	Sn	16 21 57.2	+0.5
CHUJ	Union Juarez	0.75	52	eP	Pn	16 21 47.9	+0.4
CHUJ				eS	Sn	16 21 59.1	+0.6
PAVE	Pavencul	0.77	43	eP	Pn	16 21 48.4	+0.7
PAVE				eS	Sn	16 21 59.6	+0.6
PCIG		1.17	336	eP	Pb	16 21 54.5	+1.3
PCIG				eS	Sg	16 22 09.8	+0.3
HUEH	Huehuetenango	1.36	60	eP	Pg	16 21 57.7	-0.2
HUEH				eS	Sg	16 22 14.7	-1.1
HUEH	Huehuetenango	1.36	60	eP	Pb	16 21 57.1	+0.4
HUEH				eS	Sg	16 22 14.8	-0.9
HUEH	Huehuetenango	1.36	60	S	Sg	16 22 15.6	-0.2
HUEH	Huehuetenango	1.36	60	P	Pb	16 21 57.4	+0.7
CCIG	Comitan	1.73	19	eP	Pb	16 22 03.2	+0.2
CCIG				eS	Sb	16 22 23.9	-0.7
CCIG	Comitan	1.73	19	P	Pb	16 22 03.5	+0.5
TGIG		2.17	350	eP	Pb	16 22 09.5	-0.9
TGIG				eS	Sn	16 22 33.2	-0.1
FAME	Alcaldia de Sa	2.74	106	P	Pn	16 22 15.3	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SLOZ	Alcaldia de Sa	2.91	102	P	Pn	16 22 19.3	+2.2
SLOZ	Alcaldia de Sa	2.91	102	S	Sn	16 22 53.3	+1.6
NUBE	Las Nubes	2.94	104	eP	Pn	16 22 18.0	+0.4
NUBE				eS	Sn	16 22 49.6	-3.1
NUBE	Las Nubes	2.94	104	P	Pn	16 22 18.9	+1.3
UXUV	UXUV	3.00	333	eP	Pn	16 22 20.5	+2.3
UXUV				eS	Sn	16 22 55.7	+1.9
CEVE	Cerro Verde	3.11	105	eP	Pn	16 22 21.4	+1.4
CEVE	Cerro Verde	3.11	105	S	Sn	16 22 56.9	+0.1
CEVE	Cerro Verde	3.11	105	P	Pn	16 22 21.3	+1.4
SNJE	San Jose	3.12	104	eP	Pn	16 22 20.8	+0.8
JAYA	Jayaque - finc	3.32	107	eP	Pn	16 22 22.6	-0.2
JAYA	Jayaque - finc	3.32	107	P	Pn	16 22 23.8	+1.0
HUIG	Huatulco	3.46	290	eP	Pn	16 22 25.2	+0.7
HUIG				eS	Sn	16 23 03.0	-2.1
PETF	Flores	3.57	50	eP	Pn	16 22 24.7	-1.3
NEUV	Arroyo Zacate	4.26	316	eP	Pn	16 22 36.7	+1.2
NEUV				eS	Sn	16 23 23.9	-1.0
PEIG	Puerto Escondi	4.48	288	eP	Pn	16 22 37.7	-1.0
PEIG				eS	Sn	16 23 24.6	-5.7
PMUV	Sontecomapan	4.52	330	eS	Sn	16 23 28.1	-3.3
SCIG	Sabancuy	4.55	19	eP	Pn	16 22 39.2	-0.4
SCIG				eS	Sn	16 23 28.8	-3.4
VHO	Vista Hermosa	4.56	303	eP	Pn	16 22 41.1	+1.2
VHO				eS	Sn	16 23 29.7	-2.8
YOIG	Yosondua	5.14	296	eP	Pn	16 22 41.1	-6.9
TOIG	Toxpalan	5.41	310	eP	Pn	16 22 54.7	+3.2
TOIG				eS	Sn	16 23 53.1	-0.2
TXIG	Tlaxiaco	5.51	299	eP	Pn	16 22 55.8	+2.7
TXIG				eS	Sn	16 23 55.3	-0.8
HLIG	Huajuapan de L	5.83	304	eP	Pn	16 22 59.9	+2.6
HLIG				eS	Sn	16 24 03.4	-0.4
TPIG	Tehuac#an	5.83	311	eS	Sn	16 24 09.3	+5.5
JAUV	Jalcomulco	6.12	321	eP	Pn	16 23 01.0	-0.1
JAUV				eS	Sn	16 24 09.7	-1.0
FTIG	Fresnillo de T	6.13	303	eP	Pn	16 23 03.1	+1.7
FTIG				eS	Sn	16 24 11.4	+0.2
MGIG	Malinaltepec	6.25	295	eP	Pn	16 23 09.2	+6.1
MGIG				eS	Sn	16 24 14.4	+0.3
PPM	Popocatepetl	7.17	309	eP	Pn	16 23 15.8	-0.2
CXUV	Coxquihui	7.21	321	eS	Sn	16 24 36.9	-0.7

IDC 01 16:31:36.2±4.9**,6°.69S**×**127°.92E,h333**km±54km**,mb2.8**/1**, mbtmp3.9**/5**,Error ellipse: s-maj=63.4km s-min=21.9km az=56.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.47	230	P	Pn	16 33 00.5	0.0
	60nm,0.3s,baz=68,slow=5.4,SNR=16						
BATI				S	S	16 34 08.8	+0.2
	22nm,0.3s,baz=66,slow=20,SNR=7.5						
FITZ	Fitzroy Crossi	11.56	191	P	Pn	16 34 13.3	+0.3
	1.4nm,1.0s,baz=29,slow=10,SNR=0.7						
FITZ				S	S	16 36 22.3	+0.1
	1.1nm,0.8s,baz=17,slow=22,SNR=1.0						
WRA	Warramunga Arr	14.58	155	P	P	16 34 46.4	-0.7
	2.0nm,0.5s,baz=331,slow=12,SNR=28						
WRA				S	S	16 37 24.1	-1.3
	0.4nm,0.9s,baz=332,slow=20,SNR=2.2						
ASAR	Alice Springs	17.84	162	P	P	16 35 22.7	+0.3
	2.6nm,0.5s,baz=345,slow=12,SNR=40						
MKAR	Makanchi Array	66.84	328	P	P	16 41 52.9	-0.1
	0.2nm,0.5s,baz=117,slow=8.0,SNR=2.1						
	0.2nm,0.5s						

NEIC 01 16:41:06.7±1.4**,36°.88N**±0°.01×**104°.85W**±0°.03**,h5**km±1km**, mb_Lg2.6**/26**,ML2.6**/66**,Error ellipse: s-maj=3.9km s-min=2.8km az=282.0,New Mexico**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	Trinidad	0.43	53		Pg	16 41 15.1	-0.1
SDCO	Great Sand Dun	1.01	329		Pg	16 41 26.4	+0.3
RTBA	Rita Blanca	1.75	104		Pb	16 41 38.9	-0.5
RTBA					Sn	16 42 00.6	0.0
RTBA				IAmb_Lg		16 42 05.8	
	comp=Z,30nm,0.8s						
S22A	4UR Ranch, Cre	1.80	299		Pg	16 41 40.9	-0.4
S22A				IAML		16 42 07.1	
	comp=E,49nm,0.1s						
Q24A	Divide	2.10	354		Pb	16 41 44.8	-0.7
Q24A				IAML		16 42 15.6	
	comp=E,31nm,0.2s						
ANMO	Albuquerque	2.33	215		Pn	16 41 47.5	+1.6
KSCO	Kaye Shedlock'	2.76	39		Pn	16 41 52.2	+0.5
MVCO	Mesa Verde	2.94	278		Pb	16 42 01.1	+1.4
MVCO				IAML		16 42 42.5	
	comp=E,15nm,1.0s						
MVCO				IAML		16 42 42.6	
	comp=E,15nm,0.6s						
ISCO	Idaho Springs	2.98	349		Pn	16 41 55.5	+0.5
BNM	Barren Site	3.09	209		Pb	16 42 02.1	-0.1
BNM					Sb	16 42 41.2	+1.0
PV01	Paradox Valley	3.22	294		Pb	16 42 05.0	+0.5
AMTX	Amarillo	3.25	127		Pg	16 42 07.8	-1.1
CRNM	Carthage	3.30	208		Pb	16 42 07.0	+1.1
MSTX	Muleshoe	3.36	149		Pb	16 42 08.3	+1.5
PV02	Paradox Valley	3.37	294		Pb	16 42 08.8	+1.8
PV02				IAML		16 43 04.8	
	comp=E,14nm,1.1s						
Y22A	Socorro	3.41	211		Pg	16 42 09.8	-2.2
Y22A				IAML		16 42 52.6	
	comp=E,11nm,2.1s						
PV13	Radium Mtn., P	3.41	293		Pb	16 42 09.0	+1.3
PV13				IAML		16 42 54.8	
	comp=E,13nm,3.5s						
PV13				IAML		16 43 02.7	
	comp=N,11nm,2.1s						
PV12	Saucer Basin,	3.46	296		Pb	16 42 10.2	+1.7
PV03	Paradox Valley	3.46	295		Pb	16 42 10.8	+2.1
PV03				IAML		16 43 06.9	
	comp=E,9.0nm,1.4s						
PV03				IAML		16 43 07.3	
	comp=N,16nm,0.9s						
SBM	South Baldy	3.47	214		Pb	16 42 09.3	+0.5
PV11	David Mesa, Pa	3.50	295		Pb	16 42 11.3	+2.0
PV11				IAML		16 43 10.8	
	comp=E,23nm,1.0s						
PV18	Skein Mesa, Pa	3.51	294		Pb	16 42 10.7	+1.4
PV18				IAML		16 43 10.6	
	comp=N,16nm,1.0s						
PV18				IAML		16 43 19.4	
	comp=E,14nm,3.0s						
PV16	Nyswonger Mesa	3.54	295		Pg	16 42 12.5	-2.0
PV16				IAML		16 43 10.8	
	comp=E,9.4nm,1.0s						
PV16				IAML		16 43 21.1	
	comp=N,18nm,3.0s						
PV22	Blue Mesa, Par	3.54	299	IAML		16 42 45.7	
	comp=E,8.4nm,4.1s						
PV22				IAML		16 43 03.8	
	comp=N,10nm,1.1s						
PV19	Morning Glory	3.58	295	IAML		16 43 13.5	
	comp=N,16nm,1.9s						
PV19				IAML		16 43 17.9	
	comp=E,13nm,4.9s						
PV20	West Nyswonger	3.58	295	IAML		16 43 07.2	
	comp=E,21nm,1.1s						
PV05	Paradox Valley	3.59	291		Pb	16 42 10.9	+0.1
PV05				IAML		16 43 33.8	
	comp=N,9.6nm,4.6s						
PV10	Paradox Valley	3.65	295	IAML		16 43 15.8	
	comp=N,17nm,3.0s						
PV10				IAML		16 43 17.3	
	comp=E,18nm,3.4s						
SMWD	Samnorwood	4.13	114	IAmb_Lg		16 43 27.3	
	comp=Z,10nm,0.8s						
W18A	Petrified Fore	4.34	248	IAML		16 43 22.9	
	comp=E,10nm,0.8s						
ELIS	Ellis County	4.45	99	IAmb_Lg		16 43 34.6	
	comp=Z,17nm,1.0s						
POST	Post	4.69	143	IAmb_Lg		16 43 37.2	
	comp=Z,11nm,1.2s						
R32A	Long Quarter,	5.11	71	IAmb_Lg		16 44 03.1	
	comp=Z,8.2nm,0.8s						

*IDC **01** 16:50:43.0±1.7, 37°.85N×142°.42E, h0km, mb3.5/5, mbtmp3.4/10, ML2.7/5, Error ellipse: s-maj=34.1km s-min=20.3km az=87.0*
*JMA **01** 16:50:48.3±0.2, 37°.8N±0°.4×142°.1E±0°.9, h35km±2km, MV3.3/33, SE OFF MIYAGI PREF*
ISC 01 16:50:44.4±3.4**,37°.82N**±0°.05×**142°.25E**±0°.08**,h9**km±22km**, n28,**σ**1°.35**/32**,mb3.5**/5**,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.79	308	i P	Pn	16 51 01.5	-0.2
JIKH				S	Sb	16 51 10.6	-0.5
JIO	Ouri	0.95	312	i P	Pn	16 51 04.1	+0.2
JIO				S	Sb	16 51 15.1	-0.7
JMST	Minamisoumatoc	1.08	265	i P	Pb	16 51 05.1	-0.2
JMST				S	Sb	16 51 17.0	-2.6
JMM	Marumori	1.15	273	i P	Pn	16 51 06.3	-0.4
JFK	Kawauchi	1.18	248	P	Pn	16 51 06.6	-0.6
JFK				S	Sb	16 51 19.9	-2.7
JOU	Okura	1.36	294	i P	Pb	16 51 10.1	0.0
JMK	Ichinoseki	1.39	325	i P	Pb	16 51 10.7	+0.2
JMK				S	Sn	16 51 27.4	-1.0
JOTO	OTAMA OYAMA	1.54	261	i P	Pn	16 51 12.7	+0.5
JOTO				S	Sn	16 51 30.0	-2.3
JYS	Shirataka	1.77	284	i P	Pn	16 51 15.8	+0.6
JYS				S	Sn	16 51 37.7	-0.2
JOM	Ohasama	1.81	336	P	Pb	16 51 17.1	-0.7
JYK	Kaneyama	1.84	307	P	Pn	16 51 17.1	+0.8
JRG	Rokugo	2.02	322	P	Pb	16 51 20.4	-0.9
MJAR	Matsushiro Arr	3.47	250	Pn	Pn	16 51 40.3	+1.7
	0.1nm,0.3s,baz=64,slow=13,SNR=7.1						
MJAR				Sn	Sn	16 52 23.7	+3.7
	0.2nm,0.3s,baz=88,slow=20,SNR=4.9						
	0.7nm,0.4s						
JHJ	Hachijo jima 2	5.11	204	Pn	Pn	16 52 01.9	+0.8
	2.3nm,0.3s,baz=43,slow=16,SNR=1.8						
JHJ				Sn	Sn	16 52 58.2	-2.0
	5.9nm,0.3s,baz=55,slow=22,SNR=1.7						
	11nm,0.3s						
ASAJ	Asahikawa	6.29	2	Pn	Pn	16 52 17.3	-0.1
	0.2nm,0.3s,baz=180,slow=17,SNR=1.6						
ASAJ				Sn	Sn	16 53 28.3	-1.1
	0.1nm,0.3s,baz=192,slow=33,SNR=0.6						
	4.9nm,1.0s						
USRK	Ussuriysk Ar.	10.03	313	Pn	Pn	16 53 09.7	+1.0
	0.1nm,0.3s,baz=129,slow=12,SNR=1.9						
	0.3nm,0.4s						
KSRS	Korea Array	11.37	273	Pn	Pn	16 53 27.6	+0.7
	0.1nm,0.3s,baz=93,slow=14,SNR=1.4						
	0.2nm,0.3s						
SONM	Songino Array	27.91	303	P	P	16 56 36.0	+1.2
	0.7nm,0.8s,baz=101,slow=8.0,SNR=4.2						
	0.7nm,0.8s						
H11N2	WAKE ISLAND Hy	28.00	123	T	T	17 26 04.6	
	baz=316,slow=75,SNR=20						
H11N1	WAKE ISLAND Hy	28.01	123	T	T	17 26 06.6	
	baz=316,slow=75,SNR=16						
H11N3	WAKE ISLAND Hy	28.02	123	T	T	17 26 05.7	
	baz=316,slow=75,SNR=15						
H11S1	WAKE ISLAND Hy	28.75	125	T	T	17 27 00.6	
	baz=317,slow=76,SNR=8.9						
H11S3	WAKE ISLAND Hy	28.75	125	T	T	17 27 00.8	
	baz=317,slow=76,SNR=13						
H11S2	WAKE ISLAND Hy	28.77	125	T	T	17 27 02.0	
	baz=317,slow=76,SNR=12						
ZALV	Zalesovo Beam	41.88	312	P	P	16 58 34.8	+0.1
	0.4nm,0.5s,baz=77,slow=6.4,SNR=2.0						
	0.4nm,0.5s						
MKAR	Makanchi Array	44.27	302	P	P	16 58 55.2	+0.9
	0.2nm,0.7s,baz=79,slow=7.5,SNR=2.1						
	0.2nm,0.7s						
KURBB	Kurchatov Arra	46.05	307	P	P	16 59 08.5	+0.2
	0.5nm,0.6s,baz=84,slow=8.2,SNR=3.5						
	0.5nm,0.6s						
WRA	Warramunga Arr	57.94	189	P	P	17 00 37.2	+0.1
	0.4nm,0.6s,baz=4.7,slow=6.9,SNR=10						
	0.4nm,0.6s						

*SDD **01** 16:55:57.2±1.5, 18°.00N×71°.82W, h23km±32km, MD2.6, ML2.3, MW2.9*
*OSPL **01** 16:55:57.4±1.0, 18°.15N×71°.80W, h9km±999km, ML2.5*
ISC 01 16:55:57.9±1.7**,18°.11N**±0°.05×**71°.75W**±0°.07**,h13**km±10km**, n9,**σ**0°.98**/17**,Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LODU1	El Espartillar	0.36	47	i P	Pg	16 56 04.6	-0.6
LODU1				eS	Sg	16 56 08.5	-1.5
LODU1				IAML		16 56 12.3	
	comp=Z,1μm,0.3s						
JIDR	Jimani	0.40	346	ePg	Pb	16 56 06.2	-0.6
JIDR				eSg	Sb	16 56 14.0	+1.2
JIDR				IAML		16 56 14.8	
	comp=N,231nm,0.5s						
PODR	Polo	0.45	82	ePg	Pg	16 56 06.9	+0.1
PODR				eSg	Sb	16 56 15.7	+1.2
PODR				IAML		16 56 20.5	
	comp=N,230nm,0.4s						
PODR	Polo	0.45	82	i P	Pg	16 56 06.6	-0.3
PODR				eS	Sg	16 56 13.7	+0.8
LOVI	El Cajuil, Ovi	0.47	130	i P	Pg	16 56 07.2	-0.1
LOVI				eS	Sg	16 56 14.4	+0.8
LOVI				IAML		16 56 22.6	
	comp=Z,115nm,0.3s						
NEDR	Neiba UASD	0.49	40	ePg	Pg	16 56 07.3	-0.3
NEDR				eSg	Sg	16 56 15.7	+1.6
NEDR				IAML		16 56 19.2	
	comp=N,228nm,0.4s						
REDR	Restauracion	1.11	18	ePg	Pg	16 56 19.6	+0.3
REDR				eSg	Sg	16 56 34.8	+1.1
REDR				IAML		16 56 35.5	
	comp=N,43nm,0.2s						
ABDR	Alto Bandera	1.28	56	ePg	Pn	16 56 21.0	-0.8
BANI	BANI	1.35	78	ePg	Pn	16 56 22.8	+0.1
BANI				eSg	Sn	16 56 39.7	-0.8
BANI				IAML		16 56 41.7	
	comp=N,34nm,0.4s						

*NEIC **01** 16:58:23.9±1.7, 0°.36N±0°.07×126°.33E±0°.05, h27km±5km, mb4.6/29, Error ellipse: s-maj=10.5km s-min=7.6km az=166.0*
*DJA **01** 16:58:24.4±0.1, 0°N±1°×12°6E±°, h10km, M4.5/21, mB5.1/2, mb4.7/14, MLv4.4/21, Mw(mB)4.5/2*
*IDC **01** 16:58:27.4±3.2, 0°.23N×126°.22E, h55km±31km, mb3.9/19, mbtmp4.2/22, ML3.8/3, Error ellipse: s-maj=23.1km s-min=11.5km az=79.0*
ISC 01 16:58:25.2±0.3**,0°.30N**±0°.04×**126°.27E**±0°.05**,h35**km**,n96,** σ**1°.45**/98**,mb4.5**/37**,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.20	67		Pn	16 58 44.1	-1.3
TNTI	Ternate	1.20	67	P	Pn	16 58 46.1	+0.7
TNTI				S	Sn	16 59 04.8	+4.3
KMSI	Cibinong	2.30	277	P	Pn	16 59 00.8	+0.2
KMSI				S	Sn	16 59 31.4	+3.6
SANI	Sanana	2.35	187	P	Pn	16 59 00.4	-0.9
SGSI	Sangihe	3.44	348	P	Pn	16 59 19.9	+3.5
SGSI				S	Sn	17 00 00.2	+4.2
NLAI	Namlea	3.61	167	P	Pn	16 59 19.0	+0.3
LUWI	Luwuk	3.74	249		Pn	16 59 21.3	+0.9
LUWI	Luwuk	3.74	249	P	Pn	16 59 22.0	+1.6
MRSI	Marisa	4.33	272	P	Pn	16 59 29.1	+0.6
AAI	Ambon	4.40	154	P	Pn	16 59 31.3	+1.7
AAI				S	Sn	17 00 22.2	+2.5
MSAI	Masohi	4.49	144	P	Pn	16 59 31.9	+1.1
APSI	Ampana	4.77	255	P	Pn	16 59 35.0	+0.4
SWI	Sorong	5.12	103	P	Pn	16 59 43.0	+3.5
	0.2nm2μm40nm,0.7s						
TOLI2	Tolitoli	5.54	278		Pn	16 59 43.4	-1.9
PCI	Palu	6.54	259	P	Pn	17 00 01.3	+2.3
	0.2nm57nm,1.0s						
FAKI	Fak Fak	6.78	118	Pn	Pn	16 59 59.8	-2.5
FAKI	Fak Fak	6.78	118	P	Pn	17 00 05.5	+3.2
	81nm,1.1s						
BBSI	Bau Bau	6.83	213	P	Pn	17 00 05.2	+2.2
	0.2nm65nm,1.1s						
TTSI	Tana Toraja	7.25	243	P	Pn	17 00 09.2	+0.5
	0.2nm53nm,0.5s						
BNSI	Bone	7.72	233	P	Pn	17 00 16.6	+1.4
	0.1nm30nm,0.6s						
SPSI	Sidrap Palu	7.75	237	P	Pn	17 00 16.7	+1.1
BKSI	Bulukumba	8.29	228	P	Pn	17 00 23.7	+0.6
	30nm,0.6s						
KAPI	Kappang	8.38	231		Pn	17 00 25.0	+0.8
KAPI	Kappang	8.38	231	P	Pn	17 00 25.5	+1.3
	2.7nm,0.3s,baz=58,slow=15,SNR=7.5						
	12nm,0.5s						
MYLDM	Lahad Datu	9.15	302		Pn	17 00 35.8	+1.0
SAUI	Saumlaki	9.64	149	P	Pn	17 00 43.0	+1.5
SMPI	Sarmi	12.65	100	P	Pn	17 01 24.4	+1.7
	15nm,1.5s						
MTN	Manton Dam	13.92	160	Pn	Pn	17 01 40.4	+0.3
SBUM	Sibu	14.20	279		Pn	17 01 44.3	+0.4
JAY	Jayapura	14.70	101	P	P	17 01 54.6	-1.9
	0.1nm,0.3s,baz=291,slow=8.6,SNR=1.2						
	3.2nm,0.8s						
KSM	Kuching	16.00	274		P	17 02 09.9	-0.9
KNRA	Kununurra	16.06	171		Pn	17 02 07.8	-0.7
FITZ	Fitzroy Crossi	18.29	182	P	P	17 02 35.1	-1.1
	0.3nm,0.3s,baz=22,slow=10,SNR=11						
	5.0nm,0.7s						
WRAB	Tennant Creek	21.61	159	P	P	17 03 11.2	-1.1
WRAB				IAmb	IAmb	17 03 16.9	
	comp=Z,47nm,1.1s						
WRA	Warramunga Arr	21.62	159		P	17 03 09.7	-2.7
WRA	Warramunga Arr	21.62	159	P	P	17 03 11.2	-1.1
	comp=Z,20nm,0.6s,baz=336,slow=11,SNR=59						
	comp=Z,20nm,0.6s						
COEN	Coen	21.93	131		P	17 03 14.7	-1.2
MBWA	Marble Bar	22.26	196	P	P	17 03 17.9	-1.4
TWG	Pinlang	22.95	348	P	P	17 03 23.9	-2.7
TWG				IAmb	IAmb	17 03 31.8	
	comp=Z,19nm,1.0s						
TPUB	Ta-pu	23.51	347	P	P	17 03 30.0	-2.2
TPUB				IAmb	IAmb	17 03 38.4	
	comp=Z,38nm,1.1s						
ASAR	Alice Springs	24.95	163		P	17 03 45.7	+0.2
ASAR	Alice Springs	24.95	163	P	P	17 03 45.9	+0.4
	comp=Z,9.4nm,0.5s,baz=345,slow=11,SNR=154						
	comp=Z,9.4nm,0.5s						
CTAO	Charters Tower	28.18	137	P	P	17 04 12.4	-2.1
CTAO				IAmb	IAmb	17 04 36.3	
	comp=Z,11nm,1.1s						
CMAR	Chiang Mai Arr	32.34	305	P	P	17 04 52.4	+0.9
	comp=Z,0.2nm,0.3s,baz=122,slow=9.0,SNR=1.8						
	comp=Z,0.2nm,0.3s						
NJ2	Nanjing	32.35	348	eP	P	17 04 53.2	+1.9
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BBOO	Buckleboo	34.20	165	P	P	17 05 07.2	-0.3
BBOO				IAmb	IAmb	17 05 26.2	
	comp=Z,14nm,1.1s						
EIDS	Eidsvold	35.02	139	P	P	17 05 14.9	+0.2
EIDS				IAmb	IAmb	17 05 17.0	
	comp=Z,10nm,1.1s						
STKA	Stephens Creek	35.14	157		P	17 05 15.2	-0.3
STKA	Stephens Creek	35.14	157	P	P	17 05 15.3	-0.3
	comp=Z,5.0nm,0.8s,baz=333,slow=9.8,SNR=10						
	comp=Z,5.0nm,0.8s						
PZH	PanZhiHua	35.16	320	P	P	17 05 17.4	+1.4
INU	Inuyama	36.28	15	P	P	17 05 24.4	-1.0
INU				IAmb	IAmb	17 05 46.9	
	comp=Z,9.1nm,1.0s						
JGF	Kuroka	36.61	15	P	P	17 05 26.1	-2.1
JGF				IAmb	IAmb	17 05 34.4	
	comp=Z,3.9nm,0.7s						
KSRS	Korea Array	37.00	2	P	P	17 05 33.0	+1.6
	comp=Z,2.5nm,0.8s,baz=184,slow=9.9,SNR=16						
	comp=Z,2.5nm,0.8s						
MJAR	Matsushiro Arr	37.73	16	P	P	17 05 37.4	-0.2
	comp=Z,2.5nm,0.9s,baz=184,slow=8.9,SNR=12						
	comp=Z,2.5nm,0.9s						
ARMA	Armidale	38.93	144	P	P	17 05 49.3	+1.3
ARMA				IAmb	IAmb	17 05 51.5	
	comp=Z,12nm,1.1s						
BJI	Beijing	40.61	348	P	P	17 06 01.6	0.0
BJI				pmax	pmax		
	comp=Z,4.0nm,0.5s						
HHC	Hu-ho-hao-te	42.51	343	eP	P	17 06 18.5	+1.1
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
USRK	Ussuriysk Ar.	44.01	6	P	P	17 06 29.2	-0.1
USRK	Ussuriysk Ar.	44.01	6	P	P	17 06 30.5	+1.3
	comp=Z,4.4nm,0.7s,baz=183,slow=5.0,SNR=9.7						
	comp=Z,4.4nm,0.7s						
GTA	Gaotai	45.82	331	eP	P	17 06 44.9	+0.9
GTA				pP	pP	17 06 52.7	-0.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HEH	HeiHe	49.78	1	eP	P	17 07 15.2	+1.0
HEH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ULN	Ulaanbaatar	50.23	343	P	P	17 07 16.5	-1.5
ULN				IAmb	IAmb	17 07 25.1	
	comp=Z,2.9nm,0.8s						
SONM	Songino Array	50.40	343	P	P	17 07 18.0	-1.2
SONM	Songino Array	50.40	343	P	P	17 07 19.8	+0.6
	comp=Z,1.4nm,0.6s,baz=159,slow=9.8,SNR=10						
	comp=Z,1.4nm,0.6s						
WMQ	Urumqi	55.29	327	eP	P	17 07 56.4	+1.1
WMQ				sP	sP	17 08 10.8	+1.9
WMQ				PcP	PcP	17 08 56.8	+1.0
WMQ				pmax	pmax		
	comp=Z,48nm,0.9s						
PETK	Petropavlovsk-	58.77	22	P	P	17 08 20.4	+0.7
PETK	Petropavlovsk-	58.77	22	P	P	17 08 20.9	+1.3
	comp=Z,3.5nm,0.7s,baz=151,slow=3.4,SNR=7.5						
	comp=Z,3.5nm,0.7s						
TUWZ	Tuamarina	59.81	140	P	P	17 08 27.3	+0.2
MKAR	Makanchi Array	60.12	327		P	17 08 28.6	-0.6
MKAR	Makanchi Array	60.12	327	P	P	17 08 29.3	+0.1
	comp=Z,2.1nm,0.5s,baz=129,slow=7.3,SNR=30						
	comp=Z,2.1nm,0.5s						
KSH	Kashi	60.17	317	P	P	17 08 34.8	+5.0
BKZ	Black Stump Fm	60.39	137	P	P	17 08 30.9	-0.3
YAK	Yakutsk	61.63	2		P	17 08 39.1	+0.1
ZALV	Zalesovo Beam	63.43	334	P	P	17 08 50.3	-1.0
ZALV	Zalesovo Beam	63.43	334	P	P	17 08 50.9	-0.4
	comp=Z,1.3nm,0.6s,baz=102,slow=6.1,SNR=6.0						
	comp=Z,1.3nm,0.6s						
KURBB	Kurchatov Arra	64.38	328	P	P	17 08 58.0	+0.4
	comp=Z,2.6nm,0.6s,baz=134,slow=6.0,SNR=20						
	comp=Z,2.6nm,0.6s						
KKAR	Karatay Array	65.44	318	P	P	17 09 03.6	-1.1
BVAR	Borovoye Array	69.94	328	P	P	17 09 32.8	-0.1
	comp=Z,0.9nm,0.5s,baz=134,slow=4.2,SNR=6.7						
	comp=Z,0.9nm,0.5s						
ABKAR	Akbulak array	74.51	321		P	17 09 59.9	-0.3
NIKH	Nikolski High	74.88	35	P	P	17 10 01.2	-1.1
ARTI	Arti	77.66	328	P	P	17 10 17.0	-1.0
ARTI				IAmb	IAmb	17 10 26.2	
	comp=Z,13nm,1.4s						
VNDA	Vanda	80.10	173	P	P	17 10 30.8	-0.2
	comp=Z,0.6nm,0.8s,baz=298,slow=6.3,SNR=3.9						
	comp=Z,0.6nm,0.8s						
MAW	Mawson	80.40	200	P	P	17 10 32.3	-0.4
	comp=Z,0.7nm,0.6s,baz=22,slow=5.4,SNR=1.5						
	comp=Z,0.7nm,0.6s						
RAYN	Ar Rayn	81.41	294		P	17 10 38.6	-0.6
RAYN				IAmb	IAmb	17 10 48.9	
	comp=Z,3.6nm,0.9s						
C18K	Utukok River	83.41	21	P	P	17 10 48.0	-0.7
L18K	Granite Mounta	83.71	27	P	P	17 10 52.8	+2.5
C19K	Lookout Ridge	84.10	20	P	P	17 10 50.5	-1.7
D19K	Kuna River	84.47	21		P	17 10 54.7	+0.7
GEVA	Gevas	84.48	308		P	17 10 53.2	-1.8
D20K	Etivluk River	85.05	21	P	P	17 10 55.2	-1.8
GURO	Guroymak-BITLI	85.30	308	P	P	17 10 57.9	-1.1
ILAR	Eielson Array	88.38	25	P	P	17 11 12.4	-0.9
	comp=Z,0.2nm,0.6s,baz=237,slow=4.6,SNR=4.4						
	comp=Z,0.2nm,0.6s						
QSPA	South Pole Qui	90.23	180	P	P	17 11 22.9	+0.9
	comp=Z,1.7nm,1.0s,baz=247,slow=2.1,SNR=5.7						
	comp=Z,1.7nm,1.0s						
BRTR	Keskin Array B	91.84	310	P	P	17 11 29.6	-0.5
	comp=Z,0.4nm,0.5s,baz=106,slow=4.8,SNR=2.4						
	comp=Z,0.4nm,0.5s						
ARCES	ARCESS Array B	93.49	340	P	P	17 11 36.3	-0.6
	comp=Z,1.4nm,0.9s,baz=72,slow=4.0,SNR=3.5						
	comp=Z,1.4nm,0.9s						
TORD	Torodi Ar. Bea	123.47	286	PKP	PKiKP	17 17 19.9	-0.3
	comp=Z,0.4nm,0.7s,baz=54,slow=2.6,SNR=2.8						

*NOU **01** 17:18:26.6, 20°.53S×178°.41W, h608km, mb4.5/50, Fiji Islands Region*
*BGR **01** 17:18:26.6, 20°.82S×178°.79W, h600km*
*NEIC **01** 17:18:26.6±2.3, 20°.5S±0°.1×178°.4W±0°.1, h600km±6km, mb4.6/296, Error ellipse: s-maj=18.0km s-min=14.5km az=118.0*
*IDC **01** 17:18:28.0±1.4, 20°.48S×178°.64W, h610km±16km,*

mb3.8/22,mbtmp4.7/24,Error ellipse: s-maj=12.3km s-min=9.5km az=149.0

ISC 01 17:18:26.4±0.3**,20.57S**±0.05×**178.50W**±0.07**,h600**km**, n662,**σ0.80/596**,mb4.6**/168**,24C-21D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**2.35**	**353**	P	**P**	**17 19 43.5**	**+1.2**
TAVE	**Taveuni**	**4.07**	**341**	P	**P**	**17 19 53.6**	**+1.1**
MSVF	**Nonsavu**	**4.31**	**310**		**P**	**17 19 55.2**	**+1.0**
MSVF	**Nonsavu**	**4.31**	**310**	P	**P**	**17 19 55.5**	**+1.2**
DGTI	**Dogotuki**	**4.57**	**338**	P	**P**	**17 19 56.8**	**+0.7**
YSA	**Yasawairara**	**5.36**	**315**	P	**P**	**17 20 03.0**	**+0.8**
FUTU	**Fugatoga**	**6.24**	**3**		**P**	**17 20 09.6**	**-0.1**
NIUE	**Niue**	**8.21**	**81**	S	S	17 22 17.2	+10
RAO	**Raoul Island**	**8.66**	**177**	P	**P**	**17 20 32.7**	**+0.9**
	108nm,0.3s,baz=37,slow=20,SNR=2.0						
RAO				S	**S**	**17 22 13.7**	**-1.1**
	271nm,0.4s,baz=73,slow=22,SNR=5.0						
GLKZ	**Green Lake**	**8.67**	**177**	P	**P**	**17 20 32.3**	**+0.4**
GLKZ				S	**S**	**17 22 15.4**	**+0.4**
PINNC	**Pines Island,**	**13.23**	**259**	P	**P**	**17 21 18.6**	**+1.0**
PINNC	**Pines Island,**	**13.23**	**259**	P	**P**	**17 21 18.3**	**+0.8**
OUENC	**Ouen Island, N**	**13.77**	**260**	P	**P**	**17 21 23.6**	**+0.6**
DZM	**Mont Dzumac**	**14.11**	**261**	P	**P**	**17 21 26.3**	**-0.2**
	23nm,0.5s,baz=82,slow=19,SNR=26						
DZM	**Mont Dzumac**	**14.11**	**261**	P	**P**	**17 21 26.9**	**+0.4**
ONTNC	**Ouen Toro**	**14.12**	**260**	P	**P**	**17 21 23.8**	**-2.6**
ONTNC	**Ouen Toro**	**14.12**	**260**	P	**P**	**17 21 26.5**	**+0.1**
SANVU	**Saraoutou**	**14.52**	**288**		**P**	**17 21 30.5**	**+0.2**
SANVU	**Saraoutou**	**14.52**	**288**	P	**P**	**17 21 30.8**	**+0.5**
OUZ	**Omahuta**	**16.17**	**204**	P	**P**	**17 21 45.5**	**+0.4**
KUZ	**Kuaotunu**	**16.89**	**196**	P	**P**	**17 21 54.3**	**+2.7**
KUZ	**Kuaotunu**	**16.89**	**196**	P	**P**	**17 21 54.2**	**+2.6**
HAZ	**Te Kaha**	**17.42**	**190**	P	**P**	**17 21 57.3**	**+0.8**
HAZ				S	**S**	**17 24 43.1**	**-4.3**
PUZ	**Puketiti**	**17.66**	**188**	P	**P**	**17 21 57.7**	**-1.1**
TOZ	**Tahuroa Road**	**17.87**	**196**		**P**	**17 22 01.8**	**+1.2**
TOZ				IAmb	IAmb	17 22 04.5	
	comp=Z,14nm,1.0s						
URZ	**Urewera**	**18.03**	**191**	P	**P**	**17 22 00.9**	**-1.2**
	comp=Z,19nm,0.6s,baz=9.4,slow=4.3,SNR=32						
URZ				S	**S**	**17 24 52.8**	**-4.4**
	comp=Z,15nm,0.7s,baz=81,slow=10,SNR=9.6						
URZ	**Urewera**	**18.03**	**191**	P	**P**	**17 22 00.7**	**-1.4**
URZ	**Urewera**	**18.03**	**191**	P	**P**	**17 22 01.2**	**-0.9**
URZ				S	**S**	**17 24 53.9**	**-3.3**
RTZ	**Ruatahuna**	**18.40**	**191**	P	**P**	**17 22 03.7**	**-1.9**
RTZ				IAmb	IAmb	17 22 15.5	
	comp=Z,11nm,0.9s						
BKZ	**Black Stump Fm**	**19.02**	**192**	P	**P**	**17 22 11.0**	**-0.2**
BKZ				IAmb	IAmb	17 22 24.7	
	comp=Z,25nm,1.5s						
BKZ	**Black Stump Fm**	**19.02**	**192**	P	**P**	**17 22 10.1**	**-1.1**
BKZ	**Black Stump Fm**	**19.02**	**192**	P	**P**	**17 22 10.3**	**-0.9**
BKZ				S	**S**	**17 25 08.3**	**-5.0**
BFZ	**Birch Farm**	**20.54**	**191**	P	**P**	**17 22 24.7**	**-0.1**
MRZ	**Mangatainoka R**	**20.65**	**193**	P	**P**	**17 22 25.0**	**-0.8**
OGWZ	**Otaki Gorge**	**20.89**	**194**	P	**P**	**17 22 27.6**	**-0.3**
TCW	**Tory Channel**	**21.47**	**195**	P	**P**	**17 22 33.0**	**0.0**
TCW	**Tory Channel**	**21.47**	**195**	P	**P**	**17 22 34.6**	**+1.5**
QRZ	**Quartz Range**	**21.59**	**199**	P	**P**	**17 22 35.0**	**+0.8**
QRZ	**Quartz Range**	**21.59**	**199**	P	**P**	**17 22 35.3**	**+1.1**
QRZ	**Quartz Range**	**21.59**	**199**	P	**P**	**17 22 35.5**	**+1.4**
TKNZ	**Takaka Hill**	**21.65**	**198**	P	**P**	**17 22 34.4**	**-0.3**
TKNZ	**Takaka Hill**	**21.65**	**198**	P	**P**	**17 22 35.0**	**+0.2**
NNZ	**Nelson**	**21.70**	**197**	P	**P**	**17 22 35.5**	**+0.3**
NNZ	**Nelson**	**21.70**	**197**	P	**P**	**17 22 35.8**	**+0.7**
TUWZ	**Tuamarina**	**21.76**	**195**	P	**P**	**17 22 35.2**	**-0.4**
TUWZ	**Tuamarina**	**21.76**	**195**	P	**P**	**17 22 36.8**	**+1.2**
BSWZ	**Blackbirch Sta**	**22.04**	**195**	P	**P**	**17 22 39.7**	**+1.5**
THZ	**Tophouse**	**22.34**	**197**	P	**P**	**17 22 40.6**	**-0.4**
THZ				IAmb	IAmb	17 23 08.1	
	comp=Z,16nm,1.1s						
THZ	**Tophouse**	**22.34**	**197**	P	**P**	**17 22 41.0**	**+0.1**
THZ				S	**S**	**17 26 02.5**	**-3.2**
DSZ	**Denniston Nort**	**22.65**	**199**	P	**P**	**17 22 43.0**	**-0.6**
DSZ	**Denniston Nort**	**22.65**	**199**	P	**P**	**17 22 44.5**	**+0.9**
KHZ	**Kahutara**	**22.79**	**195**	P	**P**	**17 22 44.7**	**-0.1**
GVZ	**Greta Valley S**	**23.43**	**196**	P	**P**	**17 22 50.5**	**-0.1**
GVZ	**Greta Valley S**	**23.43**	**196**	P	**P**	**17 22 50.1**	**-0.4**
LTZ	**Lake Taylor**	**23.46**	**197**	P	**P**	**17 22 50.4**	**-0.5**
HNR	**Honiara**	**23.55**	**295**	P	**P**	**17 22 50.1**	**-1.8**
	comp=Z,15nm,0.6s,baz=160,slow=12,SNR=1.4						
	comp=Z,15nm,0.6s						
INZ	**Inchbonnie**	**23.65**	**199**	P	**P**	**17 22 50.9**	**-1.5**
INZ	**Inchbonnie**	**23.65**	**199**	P	**P**	**17 22 51.0**	**-1.5**
OXZ	**Oxford**	**24.03**	**197**	P	**P**	**17 22 55.1**	**-0.7**
OXZ				IAmb	IAmb	17 22 55.8	
	comp=Z,14nm,1.0s						
TATA	**Tatamba Isabel**	**24.21**	**297**	P	**P**	**17 22 57.4**	**-0.4**
RPZ	**Rata Peaks**	**24.67**	**198**	P	**P**	**17 23 01.1**	**-0.4**
	comp=Z,11nm,1.1s,baz=24,slow=12,SNR=2.2						
	comp=Z,11nm,1.1s						
FOZ	**Fox Glacier**	**24.89**	**200**	P	**P**	**17 23 03.6**	**+0.2**
JCZ	**Jackson Bay**	**25.71**	**201**	P	**P**	**17 23 11.9**	**+1.1**
WKZ	**Wanaka**	**26.30**	**200**	P	**P**	**17 23 15.0**	**-0.8**
WHZ	**Wether Hill Ro**	**27.60**	**201**	P	**P**	**17 23 29.3**	**+2.1**
EIDS	**Eidsvold**	**28.38**	**255**	P	**P**	**17 23 34.8**	**+0.5**
EIDS				IAmb	IAmb	17 23 38.6	
	comp=Z,12nm,1.2s						
ARMA	**Armidale**	**28.61**	**244**	P	**P**	**17 23 36.9**	**+0.6**
ARMA				IAmb	IAmb	17 23 58.9	
	comp=Z,11nm,1.1s						
CTA	**Charters Tower**	**33.02**	**265**	P	**P**	**17 24 14.7**	**+0.8**
CTAO	**Charters Tower**	**33.02**	**265**	P	**P**	**17 24 14.8**	**+0.9**
CTAO	**Charters Tower**	**33.02**	**265**	P	**P**	**17 24 14.7**	**+0.8**
CMSA	**Cobar Meteorol**	**33.83**	**244**	P	**P**	**17 24 21.7**	**+1.1**
PMG	**Port Moresby**	**34.90**	**283**	P	**P**	**17 24 29.8**	**+0.1**
PMG				IAmb	IAmb	17 24 39.6	
	comp=Z,26nm,1.2s						
PMG	**Port Moresby**	**34.90**	**283**	P	**P**	**17 24 30.0**	**+0.4**
	comp=Z,6.8nm,0.7s,baz=93,slow=17,SNR=6.4						
	comp=Z,6.8nm,0.7s						
MTSU	**Mount Surprise**	**35.12**	**267**	P	**P**	**17 24 32.0**	**+0.5**
TOO	**Toolangi**	**35.48**	**234**	P	**P**	**17 24 34.8**	**+0.6**
COEN	**Coen**	**37.12**	**274**	P	**P**	**17 24 49.0**	**+1.1**
COEN				IAmb	IAmb	17 25 09.0	
	comp=Z,17nm,1.2s						
COEN	**Coen**	**37.12**	**274**	P	**P**	**17 24 49.0**	**+1.1**
STKA	**Stephens Creek**	**37.33**	**244**	P	**P**	**17 24 50.0**	**+0.5**
STKA	**Stephens Creek**	**37.33**	**244**	P	**P**	**17 24 49.5**	**0.0**
	comp=Z,3.4nm,0.8s,baz=75,slow=12,SNR=6.3						
STKA				PcP	**PcP**	**17 26 53.1**	**+0.9**
	comp=Z,3.3nm,0.7s,baz=39,slow=3.1,SNR=3.7						
	comp=Z,3.4nm,0.8s						
STKA	**Stephens Creek**	**37.33**	**244**	P	**P**	**17 24 51.0**	**+1.6**
MANU	**Manus Island**	**38.05**	**295**	P	**P**	**17 24 55.3**	**-0.2**
MANU				IAmb	IAmb	17 25 21.4	
	comp=Z,18nm,1.4s						
QIS	**Mount Isa**	**39.14**	**262**	P	**P**	**17 25 04.8**	**+0.6**
HTT	**Hallett**	**39.78**	**242**	P	**P**	**17 25 10.3**	**+1.1**
BBOO	**Buckleboo**	**42.09**	**244**	P	**P**	**17 25 27.4**	**0.0**
BBOO				IAmb	IAmb	17 25 43.3	
	comp=Z,22nm,1.3s						
BBOO	**Buckleboo**	**42.09**	**244**	P	**P**	**17 25 28.3**	**+0.9**
WAKE	**Wake Island**	**42.20**	**339**	P	**P**	**17 25 26.5**	**-1.7**
AS01	**Alice Springs**	**44.00**	**257**	P	**P**	**17 25 43.0**	**+0.6**
ASAR	**Alice Springs**	**44.04**	**257**		**P**	**17 25 42.2**	**-0.6**
ASAR	**Alice Springs**	**44.04**	**257**	P	**P**	**17 25 43.1**	**+0.4**
	comp=Z,15nm,0.8s,baz=86,slow=8.6,SNR=94						
ASAR				PcP	**PcP**	**17 27 15.1**	**+0.4**
	comp=Z,5.6nm,0.7s,baz=104,slow=3.8,SNR=15						
ASAR				ScP	**ScP**	**17 30 10.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=89,slow=4.0,SNR=4.8						
ASAR				S	**S**	**17 31 30.6**	**-2.2**
	comp=Z,1.9nm,0.7s,baz=91,slow=15,SNR=13						
ASAR				PKiKP	**PKiKP**	**17 34 11.8**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=95,slow=1.4,SNR=4.7						
	comp=Z,15nm,0.8s						
WRAB	**Tennant Creek**	**44.12**	**262**	P	**P**	**17 25 42.5**	**-0.8**
WRA	**Warramunga Arr**	**44.12**	**262**		**P**	**17 25 42.5**	**-0.9**
WRA	**Warramunga Arr**	**44.12**	**262**	P	**P**	**17 25 43.4**	**+0.1**
	comp=Z,11nm,0.9s,baz=95,slow=6.3,SNR=46						
WRA				PcP	**PcP**	**17 27 14.9**	**0.0**
	comp=Z,2.7nm,0.7s,baz=100,slow=3.8,SNR=7.5						
WRA				S	**S**	**17 31 31.6**	**-2.4**
	comp=Z,2.3nm,1.0s,baz=95,slow=14,SNR=8.0						
	comp=Z,11nm,0.9s						
MLH	**Mauna Loa**	**45.81**	**31**	P	**P**	**17 25 56.9**	**+0.6**
HMH	**Humu'ula Sheep**	**45.85**	**31**	P	**P**	**17 25 57.0**	**+0.3**
DHH	**Diamond Head**	**46.24**	**27**	P	**P**	**17 25 57.5**	**-1.8**
KDU	**Kakadu**	**47.48**	**271**	P	**P**	**17 26 08.9**	**+0.1**
MTN	**Manton Dam**	**48.69**	**271**		**P**	**17 26 17.2**	**-0.5**
MTN				IAmb	IAmb	17 26 18.6	
	comp=Z,14nm,0.7s						
MTN	**Manton Dam**	**48.69**	**271**	P	**P**	**17 26 17.8**	**0.0**
KNRA	**Kununurra**	**50.19**	**266**		**P**	**17 26 28.9**	**+0.2**
KNRA				IAmb	IAmb	17 26 29.3	
	comp=Z,9.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.55**	**263**	P	**P**	**17 26 46.1**	**+0.5**
	comp=Z,5.0nm,0.5s,baz=98,slow=4.6,SNR=48						
	comp=Z,5.0nm,0.5s						
SOEI	**Soe**	**56.03**	**272**		**P**	**17 27 10.3**	**+0.1**
BATI	**Baumata**	**56.46**	**271**	P	**P**	**17 27 14.2**	**+1.1**
	comp=Z,16nm,0.6s,baz=121,slow=5.9,SNR=1.9						
	comp=Z,16nm,0.6s						
PSA00	**Pilbara Seismi**	**57.19**	**257**	P	**P**	**17 27 17.8**	**-0.2**
PSA00	**Pilbara Seismi**	**57.19**	**257**	P	**P**	**17 27 18.0**	**+0.1**
PSA00				IAmb	IAmb	17 27 18.8	
	comp=Z,6.7nm,0.8s						
PSA00	**Pilbara Seismi**	**57.19**	**257**	P	**P**	**17 27 18.4**	**+0.5**
MBWA	**Marble Bar**	**57.38**	**258**	P	**P**	**17 27 19.3**	**+0.1**
MBWA				IAmb	IAmb	17 27 19.5	
	comp=Z,42nm,1.4s						
MBWA	**Marble Bar**	**57.38**	**258**	P	**P**	**17 27 19.3**	**+0.1**
MEEK	**Meekatharra**	**57.45**	**251**	P	**P**	**17 27 19.7**	**0.0**
KLBR	**Kellerberrin**	**57.60**	**245**	P	**P**	**17 27 21.2**	**+0.6**
SBA	**Scott Base**	**57.77**	**184**		**P**	**17 27 23.3**	**+2.4**
BLDU	**Ballidu**	**58.59**	**246**	P	**P**	**17 27 27.5**	**+0.2**
MORW	**Morawa**	**59.37**	**248**	P	**P**	**17 27 32.6**	**+0.2**
MORW				IAmb	IAmb	17 27 33.0	
	comp=Z,45nm,1.4s						
MORW	**Morawa**	**59.37**	**248**	P	**P**	**17 27 32.9**	**+0.5**
GIRL	**Giralia**	**62.08**	**255**	P	**P**	**17 27 51.5**	**+1.2**
PLAI	**Plampang**	**62.40**	**271**	P	**P**	**17 27 52.6**	**+0.1**
TOLI2	**Tolitoli**	**63.16**	**282**	P	**P**	**17 27 57.8**	**+0.4**
JHJ2	**Mitsune**	**66.58**	**323**	P	**P**	**17 28 18.5**	**+0.2**
JHJ2	**Mitsune**	**66.58**	**323**	P	**P**	**17 28 18.6**	**+0.2**
KKM	**Kota Kinabalu**	**69.32**	**285**	P	**P**	**17 28 35.5**	**-0.1**
KKM				IAmb	IAmb	17 28 37.0	
	comp=Z,16nm,0.8s						
QSPA	**South Pole Qui**	**69.50**	**180**	P	**P**	**17 28 38.8**	**+3.1**
	comp=Z,5.1nm,0.8s,baz=331,slow=0.5,SNR=28						
	comp=Z,5.1nm,0.8s						
JMM	**Marumori**	**69.60**	**327**	P	**P**	**17 28 36.3**	**-0.2**
JGF	**Kuroka**	**69.79**	**323**	P	**P**	**17 28 37.6**	**-0.2**
MJAR	**Matsushiro Arr**	**69.99**	**324**		**P**	**17 28 38.3**	**-0.7**
MJAR	**Matsushiro Arr**	**69.99**	**324**	P	**P**	**17 28 38.4**	**-0.5**
	comp=Z,7.1nm,0.6s,baz=155,slow=5.6,SNR=45						
	comp=Z,7.1nm,0.6s						
MAJO	**Matsushiro**	**69.99**	**324**		**P**	**17 28 37.8**	**-1.1**
MAJO				IAmb	IAmb	17 28 39.5	
	comp=Z,8.7nm,0.7s						
MAJO	**Matsushiro**	**69.99**	**324**	P	**P**	**17 28 38.3**	**-0.6**
AMKA	**Amchitka**	**71.66**	**359**	P	**P**	**17 28 47.6**	**-0.6**
JTM	**Tenmabayashi**	**71.69**	**329**	P	**P**	**17 28 48.3**	**-0.4**
JTM				IAmb	IAmb	17 28 50.0	
	comp=Z,21nm,0.8s						
JNU	**Nakatsue**	**72.01**	**317**	P	**P**	**17 28 50.8**	**0.0**
JNU				IAmb	IAmb	17 28 51.8	
	comp=Z,28nm,1.1s						
KIWB	**Kanaga Island**	**72.12**	**1**	P	**P**	**17 28 50.2**	**-0.7**
ATKA	**Atka Island**	**72.56**	**3**	P	**P**	**17 28 52.4**	**-1.0**
KSM	**Kuching**	**72.96**	**278**		**P**	**17 28 56.9**	**+0.3**
KSM				IAmb	IAmb	17 28 58.3	
	comp=Z,14nm,0.7s						
TWGBT	**Beinan**	**73.02**	**303**	P	**P**	**17 28 55.9**	**-0.9**
TWG	**Pinlang**	**73.03**	**303**	P	**P**	**17 28 55.2**	**-1.6**
NACB	**Ninganchiao**	**73.33**	**304**	P	**P**	**17 28 57.9**	**-0.6**
NACB				IAmb	IAmb	17 28 58.3	
	comp=Z,14nm,0.7s						
JKA	**Kamikawa-asahi**	**73.57**	**332**	IAmb	IAmb	17 29 01.9	
	comp=Z,29nm,1.0s						
TPUB	**Ta-pu**	**73.62**	**303**	P	**P**	**17 28 59.4**	**-0.8**
SSLB	**Suanglung**	**73.62**	**304**	P	**P**	**17 28 59.2**	**-1.0**
SSLB				IAmb	IAmb	17 29 05.7	
	comp=Z,21nm,1.2s						
SSLB	**Suanglung**	**73.62**	**304**	P	**P**	**17 28 59.5**	**-0.7**
NIKH	**Nikolski High**	**73.71**	**6**	P	**P**	**17 29 00.2**	**+0.2**
	baz=189						
UNV	**Unalaska Valle**	**74.83**	**7**	P	**P**	**17 29 05.3**	**-1.0**
UNV	**Unalaska Valle**	**74.83**	**7**	P	**P**	**17 29 05.2**	**-1.0**
UNV	**Unalaska Valle**	**74.83**	**7**	P	**P**	**17 29 06.0**	**-0.2**
	baz=192						
YSS	**Yuzhno-Sakhali**	**75.75**	**334**		**P**	**17 29 12.4**	**+0.9**
YSS				IAmb	IAmb	17 29 13.4	
	comp=Z,22nm,0.9s						
PET	**Petropavlovsk**	**75.92**	**346**	P	**P**	**17 29 11.6**	**-0.7**
PET				IAmb	IAmb	17 29 19.5	
	comp=Z,16nm,1.3s						
PETK	**Petropavlovsk-**	**76.22**	**345**		**P**	**17 29 12.7**	**-1.3**
PETK	**Petropavlovsk-**	**76.22**	**345**	P	**P**	**17 29 13.4**	**-0.6**
	comp=Z,14nm,0.7s,baz=121,slow=7.4,SNR=49						
	comp=Z,14nm,0.7s						
FALS	**False Pass**	**76.23**	**9**	P	**P**	**17 29 13.9**	**0.0**
	baz=194						
KSRS	**Korea Array**	**76.63**	**319**	P	**P**	**17 29 17.4**	**+0.9**
	comp=Z,4.2nm,0.7s,baz=126,slow=5.7,SNR=26						
	comp=Z,4.2nm,0.7s						
KSAR	**Wonju Array Be**	**76.65**	**319**		**P**	**17 29 16.8**	**+0.1**
CHNA	**Chernabura Isl**	**76.83**	**11**	P	**P**	**17 29 17.6**	**+0.4**
	baz=198						
SDPT	**Sand Point**	**77.16**	**10**	P	**P**	**17 29 19.2**	**+0.1**
	baz=197						
P08K	**Saint George I**	**77.24**	**5**	P	**P**	**17 29 19.7**	**+0.3**
	baz=188						
S12K	**Black Hills**	**77.25**	**9**	P	**P**	**17 29 18.7**	**-0.8**
S12K	**Black Hills**	**77.25**	**9**	P	**P**	**17 29 19.2**	**-0.4**
	baz=196						
SPIA	**Saint Paul Isl**	**77.76**	**5**	P	**P**	**17 29 22.6**	**+0.4**
	baz=188						
S14K	**Fog Glacier**	**78.22**	**11**	P	**P**	**17 29 24.4**	**-0.4**
	baz=198						
CHGN	**Chignik**	**78.44**	**11**	P	**P**	**17 29 25.8**	**0.0**
	baz=199						
CHIR	**Chirikof Islan**	**78.53**	**13**	P	**P**	**17 29 25.8**	**-0.5**
	baz=202						
CVS	**Carmenet Viney**	**78.71**	**42**	P	**P**	**17 29 28.1**	**+0.3**
CVS				IAmb	IAmb	17 29 30.0	
	comp=Z,29nm,1.1s						
HOPS	**Hopland Field**	**78.73**	**41**	IAmb	IAmb	17 29 30.4	
	comp=Z,22nm,1.0s						
USRK	**Ussuriysk Ar.**	**78.76**	**326**		**P**	**17 29 28.5**	**+0.7**
USRK	**Ussuriysk Ar.**	**78.76**	**326**	P	**P**	**17 29 29.1**	**+1.3**
	comp=Z,10nm,0.7s,baz=117,slow=3.5,SNR=20						
	comp=Z,10nm,0.7s						
MTOS	**Mt Oso, Westle**	**78.92**	**43**	P	**P**	**17 29 29.2**	**+0.3**
MTOS				IAmb	IAmb	17 29 31.5	
	comp=Z,16nm,1.1s						
KMPM	**Mount Pierce**	**78.99**	**39**	IAmb	IAmb	17 29 32.1	
	comp=Z,33nm,1.0s						
MNRC	**McLaughlin Min**	**79.05**	**41**	IAmb	IAmb	17 29 32.5	
	comp=Z,20nm,0.9s						
KMRM	**Mail Ridge**	**79.11**	**40**		**P**	**17 29 30.3**	**+0.4**
VES	**Vestal, Richgr**	**79.41**	**45**	IAmb	IAmb	17 29 33.5	
	comp=Z,35nm,1.4s						
KHMM	**Horse Mountain**	**79.50**	**39**	P	**P**	**17 29 32.9**	**+0.8**
KHMM				IAmb	IAmb	17 29 34.9	
	comp=Z,14nm,0.9s						
SII	**Sitkinak Islan**	**79.52**	**13**	P	**P**	**17 29 31.5**	**-0.1**
	baz=203						
BELA	**Belgrano 2**	**79.55**	**173**		**P**	**17 29 31.8**	**+0.2**
NJ2	**Nanjing**	**79.56**	**310**	*e*P	**P**	**17 29 32.6**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
O02D	**Mt. Diablo Mer**	**79.63**	**40**	IAmb	IAmb	17 29 35.7	
	comp=Z,18nm,0.8s						
R16K	**Pilot Point**	**79.78**	**11**	P	**P**	**17 29 33.8**	**+0.9**
	baz=200						
CMB	**Columbia Colle**	**79.83**	**43**		**P**	**17 29 33.1**	**-0.7**
R17L	**Mt. Peulik Vol**	**80.07**	**12**	P	**P**	**17 29 34.7**	**+0.2**
	baz=201						
N02D	**Trinity Center**	**80.17**	**39**	IAmb	IAmb	17 29 38.4	
	comp=Z,16nm,1.0s						
O03E	**Paynes Creek**	**80.30**	**40**	IAmb	IAmb	17 29 39.0	
	comp=Z,22nm,1.1s						
MDJ	**Mudanjiang**	**80.31**	**325**	IAmb	IAmb	17 29 38.0	
	comp=Z,13nm,0.9s						
MDJ	**Mudanjiang**	**80.31**	**325**	P	**P**	**17 29 36.8**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,18nm,1.0s						
OHAK	**Old Harbor**	**80.33**	**14**	P	**P**	**17 29 34.9**	**-0.8**
OHAK	**Old Harbor**	**80.33**	**14**	P	**P**	**17 29 36.1**	**+0.4**
	baz=204						
M02C	**Callahan**	**80.34**	**39**	IAmb	IAmb	17 29 39.3	
	comp=Z,17nm,0.8s						
CCCA	**Chr Cany lake**	**80.39**	**46**	IAmb	IAmb	17 29 39.2	
	comp=Z,18nm,1.2s						
R18K	**Karluk**	**80.40**	**13**	P	**P**	**17 29 35.9**	**-0.2**
	baz=203						
YBH	**Yreka Blue Hor**	**80.64**	**39**		**P**	**17 29 38.4**	**+0.5**
YBH				IAmb	IAmb	17 29 40.6	
	comp=Z,15nm,0.8s						
TIN	**Tinemaha, Big**	**80.67**	**45**	IAmb	IAmb	17 29 41.0	
	comp=Z,32nm,1.1s						
WAKR	**Walker**	**80.72**	**43**		**P**	**17 29 39.5**	**+0.9**
WAKR				IAmb	IAmb	17 29 41.1	
	comp=Z,23nm,1.2s						
Q17K	**Contact Creek**	**80.76**	**12**	P	**P**	**17 29 38.0**	**-0.1**
	baz=201						
O14K	**Tigyukauivet M**	**80.79**	**9**	P	**P**	**17 29 37.7**	**-0.4**
	baz=196						
O15K	**Ungalikthiuk R**	**80.93**	**10**	P	**P**	**17 29 38.7**	**-0.2**
	baz=198						
KDAK	**Kodiak Island**	**81.00**	**14**	P	**P**	**17 29 39.0**	**-0.2**
	baz=204						
Q16K	**King Salmon**	**81.00**	**11**	P	**P**	**17 29 39.1**	**-0.1**
	baz=201						
P16K	**Nushagak River**	**81.09**	**11**	P	**P**	**17 29 39.9**	**+0.3**
	baz=199						
LHV	**Little Huntoon**	**81.17**	**44**	IAmb	IAmb	17 29 43.2	
	comp=Z,14nm,1.0s						
DANC	**Danby, Needles**	**81.28**	**48**	IAmb	IAmb	17 29 43.8	
	comp=Z,17nm,1.0s						
M11K	**Mekoryuk**	**81.29**	**6**	P	**P**	**17 29 40.6**	**0.0**
	baz=192						
Q18K	**Katmai Hardscr**	**81.29**	**12**	P	**P**	**17 29 40.5**	**-0.3**
	baz=202						
MAW	**Mawson**	**81.34**	**200**	P	**P**	**17 29 41.3**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=112,slow=4.9,SNR=3.6						
	comp=Z,1.4nm,0.5s						
N14K	**Kuskokwak Cree**	**81.38**	**8**	P	**P**	**17 29 41.5**	**+0.4**
	baz=196						
NVAR	**Mina Array Bea**	**81.40**	**44**	P	**P**	**17 29 43.2**	**+1.2**
	comp=Z,6.0nm,0.7s,baz=222,slow=9.0,SNR=39						
	comp=Z,6.0nm,0.7s						
PAHR	**Pah Rah Range**	**81.45**	**42**	IAmb	IAmb	17 29 44.3	
	comp=Z,16nm,1.1s						
P17K	**Kvichak River**	**81.52**	**11**	P	**P**	**17 29 41.9**	**0.0**
	baz=201						
O16K	**Kokwok River B**	**81.61**	**10**	P	**P**	**17 29 42.1**	**-0.2**
	baz=199						
M13K	**Dall Lake**	**81.63**	**8**	P	**P**	**17 29 42.7**	**+0.3**
	baz=194						
K04D	**Chiloquin, OR**	**81.75**	**39**	IAmb	IAmb	17 29 46.0	
	comp=Z,27nm,1.1s						
Q20K	**Shuyak Island**	**81.79**	**13**	P	**P**	**17 29 43.3**	**+0.1**
	baz=204						
Q19K	**Cape Douglas,**	**81.82**	**13**	P	**P**	**17 29 43.5**	**0.0**
	baz=203						
N15K	**Kwethluk River**	**81.84**	**9**	P	**P**	**17 29 43.6**	**+0.1**
	baz=197						
TPH	**Tonopah**	**81.91**	**44**	IAmb	IAmb	17 29 46.7	
	comp=Z,12nm,0.8s						
TPNV	**Topopah Spring**	**81.93**	**46**	IAmb	IAmb	17 29 46.9	
	comp=Z,11nm,0.8s						
P18K	**Big Mountain,**	**81.93**	**12**	P	**P**	**17 29 44.4**	**+0.4**
	baz=202						
O17K	**Koliganek Bris**	**81.95**	**11**	P	**P**	**17 29 44.7**	**+0.7**
	baz=200						
CN2	**Changchun**	**82.07**	**323**	P	**P**	**17 29 45.8**	**+0.8**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
M14K	**Bethel**	**82.14**	**8**	P	**P**	**17 29 45.3**	**+0.4**
	baz=196						
BNX	**BinXian**	**82.22**	**325**	⇑P	**P**	**17 29 46.1**	**+0.4**
BNX				pmax	pmax		
	comp=Z,19nm,0.8s						
M15K	**Kasigluk River**	**82.26**	**9**	P	**P**	**17 29 46.0**	**+0.5**
	baz=197						
N16K	**Nishlik Lake**	**82.33**	**10**	P	**P**	**17 29 46.9**	**+0.9**
	baz=198						
H04D	**Lebanon**	**82.36**	**37**	IAmb	IAmb	17 29 49.0	
	comp=Z,11nm,0.9s						
P19K	**Oil Pt**	**82.57**	**13**	P	**P**	**17 29 48.0**	**+0.8**
	baz=204						
L14K	**Kuka Creek**	**82.62**	**8**	P	**P**	**17 29 47.7**	**+0.4**
	baz=195						
S11A	**Rachel**	**82.64**	**45**	IAmb	IAmb	17 29 50.2	
	comp=Z,12nm,0.7s						
N17K	**Nushagak Hills**	**82.64**	**10**	P	**P**	**17 29 47.8**	**+0.3**
	baz=200						
IPM	**Ipoh**	**82.67**	**278**	P	**P**	**17 29 49.8**	**+1.0**
H04A	**Detroit Lake**	**82.77**	**37**	IAmb	IAmb	17 29 50.4	
	comp=Z,33nm,1.4s						
M16K	**Timber Creek**	**82.83**	**9**	IAmb	IAmb	17 29 50.0	
	comp=Z,20nm,0.8s						
M16K	**Timber Creek**	**82.83**	**9**	P	**P**	**17 29 49.0**	**+0.6**
	baz=198						
O19K	**Port Alsworth**	**82.85**	**12**	P	**P**	**17 29 48.4**	**-0.1**
	baz=203						
HOM	**Homer**	**82.91**	**13**	P	**P**	**17 29 49.7**	**+0.8**
	baz=205						
G04A	**Mulino**	**82.93**	**36**	IAmb	IAmb	17 29 52.5	
	comp=Z,26nm,1.0s						
K13K	**Kusilvak Mount**	**82.96**	**7**	P	**P**	**17 29 49.8**	**+0.7**
	baz=193						
TIA	**Tai'an**	**82.98**	**313**	P	**P**	**17 29 50.4**	**+0.6**
TIA				PcP	**PcP**	**17 29 53.9**	**+1.1**
TIA				pmax	pmax		
	comp=Z,11nm,1.3s						
PRN	**Pahroc Range**	**82.98**	**46**	IAmb	IAmb	17 29 52.5	
	comp=Z,13nm,0.9s						
N18K	**Kilae Creek**	**83.01**	**11**	P	**P**	**17 29 49.7**	**+0.3**
	baz=201						
O20K	**Slope Mountain**	**83.09**	**13**	P	**P**	**17 29 49.9**	**+0.1**
	baz=204						
L15K	**Ungalak Mounta**	**83.09**	**8**	P	**P**	**17 29 50.5**	**+0.8**
	baz=196						
KULM	**Kulim**	**83.32**	**278**	P	**P**	**17 29 52.7**	**+0.7**
N19K	**Bonanza Creek**	**83.39**	**12**	P	**P**	**17 29 51.6**	**+0.3**
	baz=202						
L16K	**Owhat River**	**83.41**	**9**	P	**P**	**17 29 52.4**	**+1.1**
	baz=198						
M17K	**Holitna River**	**83.43**	**10**	P	**P**	**17 29 52.1**	**+0.8**
	baz=200						
WVOR	**Wild Horse Val**	**83.49**	**40**	IAmb	IAmb	17 29 54.6	
	comp=Z,13nm,1.1s						
NLWA	**Neilton Lookou**	**83.56**	**34**	IAmb	IAmb	17 29 54.8	
	comp=Z,20nm,1.0s						
K15K	**Wolf Creek Mou**	**83.68**	**8**	P	**P**	**17 29 53.2**	**+0.6**
	baz=196						
MA2	**Magadan**	**83.73**	**345**		**P**	**17 29 51.8**	**-1.2**
MA2				IAmb	IAmb	17 29 53.3	
	comp=Z,12nm,0.9s						
M18K	**Stony River**	**83.78**	**11**	P	**P**	**17 29 53.5**	**+0.4**
	baz=201						
SEW	**Seward**	**83.80**	**14**	P	**P**	**17 29 53.6**	**+0.4**
	baz=207						
J14K	**Nanvaranak Lak**	**83.88**	**7**	P	**P**	**17 29 54.5**	**+1.0**
	baz=194						
L17K	**Donlin**	**83.98**	**9**	P	**P**	**17 29 54.8**	**+0.7**
	baz=199						
319A	**Douglas**	**84.07**	**54**	IAmb	IAmb	17 29 58.5	
	comp=Z,23nm,1.1s						
O22K	**Cooper Landing**	**84.08**	**14**	P	**P**	**17 29 55.1**	**+0.5**
	baz=207						
J08A	**Circle Bar Ran**	**84.12**	**39**	IAmb	IAmb	17 29 57.7	
	comp=Z,18nm,1.2s						
N20K	**Mount Spurr**	**84.19**	**12**	P	**P**	**17 29 55.5**	**+0.3**
	baz=205						
SPCR	**Spurr Chakacha**	**84.19**	**12**	P	**P**	**17 29 55.2**	**-0.1**
	baz=205						
SPU	**Mount Spurr**	**84.21**	**13**	IAmb	IAmb	17 29 55.2	
	comp=Z,11nm,1.0s						
GNW	**Green Mountain**	**84.22**	**34**	IAmb	IAmb	17 29 57.6	
	comp=Z,11nm,0.9s						
GAMB	**Gambell**	**84.24**	**3**	P	**P**	**17 29 55.5**	**+0.2**
	baz=186						
L18K	**Granite Mounta**	**84.32**	**10**	IAmb	IAmb	17 29 57.4	
	comp=Z,13nm,0.8s						
L18K	**Granite Mounta**	**84.32**	**10**	P	**P**	**17 29 56.7**	**+1.0**
	baz=200						
U15A	**North Rim**	**84.36**	**48**	IAmb	IAmb	17 29 59.4	
	comp=Z,11nm,0.7s						
M19K	**Big River Lodg**	**84.42**	**11**	P	**P**	**17 29 56.8**	**+0.5**
	baz=202						
D05A	**Enumclaw**	**84.43**	**35**	IAmb	IAmb	17 29 59.2	
	comp=Z,28nm,1.2s						
CBB	**Campbell River**	**84.52**	**31**	IAmb	IAmb	17 29 59.2	
	comp=Z,17nm,1.3s						
K17K	**Iditarod**	**84.54**	**9**	P	**P**	**17 29 57.4**	**+0.6**
	baz=199						
STLK	**Strandline Lak**	**84.54**	**12**	IAmb	IAmb	17 29 56.2	
	comp=Z,8.9nm,0.8s						
L19K	**White Mountain**	**84.60**	**11**	P	**P**	**17 29 57.7**	**+0.6**
	baz=202						

RC01	Rabbit Creek A baz=207	84.62	14	P	P	17 29 57.2	0.0
PWL	Port Wells baz=208	84.73	14	P	P	17 29 58.0	+0.2
SUA	Susitna One baz=206	84.74	13	P	P	17 29 57.8	-0.2
PKCU	Pink Cliffs comp=Z,12nm,1.0s	84.86	47	IAmb	IAmb	17 30 02.5	
KAIM	Kayak Island baz=212	84.89	16	P	P	17 29 58.5	-0.1
G08A	Pilot Rock comp=Z,12nm,0.9s	84.96	38	IAmb	IAmb	17 30 01.6	
CRAG	Craig baz=222	84.97	24	P	P	17 29 59.0	0.0
GLI	Glacier Island baz=209	85.04	15	P	P	17 29 59.1	-0.2
SKT	Skwentna baz=205	85.04	12	P	P	17 29 59.6	+0.3
L20K	Farewell, AK baz=203	85.05	11	P	P	17 29 59.6	+0.3
J17K	VABM Dome baz=198	85.07	9	P	P	17 29 59.7	+0.3
EYAK	Cordova Ski Ar baz=210	85.08	16	P	P	17 29 59.3	-0.2
HEH	HeiHe HEH comp=Z,10.0nm,0.6s	85.13	329	eP pmax	P pmax	17 29 59.9	0.0
M22K	Willow baz=206	85.13	13	P	P	17 30 00.0	+0.4
LTY	Liberty comp=Z,14nm,1.4s	85.18	35	IAmb	IAmb	17 30 02.1	
KNK	Knik Glacier comp=Z,15nm,0.8s	85.19	14	IAmb	IAmb	17 30 00.8	
KNK	Knik Glacier baz=208	85.19	14	P	P	17 30 00.2	+0.1
PMR	Palmer baz=207	85.20	14	P	P	17 30 00.9	+0.9
E07A	Sunnyside comp=Z,14nm,1.0s	85.21	36	IAmb	IAmb	17 30 02.7	
HAWA	Hanford comp=Z,14nm,0.9s	85.29	37	IAmb	IAmb	17 30 03.1	
LYN	LuoYang LYN comp=Z,31nm,0.8s	85.44	309	eP pmax	P pmax	17 30 03.2	+1.4
V35K	Ketchikan comp=Z,17nm,1.1s	85.45	25	IAmb	IAmb	17 30 03.4	
V35K	Ketchikan baz=223,SNR=8.6	85.45	25	P	P	17 30 02.5	+1.2
U33K	Whale Pass comp=Z,14nm,0.9s	85.45	24	IAmb	IAmb	17 30 03.5	
U33K	Whale Pass baz=222,SNR=8.3	85.45	24	P	P	17 30 02.0	+0.7
ANM	Nome baz=192	85.47	6	P	P	17 30 02.5	+1.2
J18K	Innoko River baz=200	85.49	10	P	P	17 30 02.1	+0.7
E08A	Dider Farm, El comp=Z,9.4nm,0.8s	85.61	37	IAmb	IAmb	17 30 04.5	
BJI	Beijing BJI comp=Z,4.0nm,0.7s	85.61	316	P pmax	P pmax	17 30 02.7	+0.2
BMO	Blue Mountains comp=Z,7.6nm,0.8s	85.67	39	IAmb	IAmb	17 30 04.5	
CUT	Chulitna baz=206	85.68	13	P	P	17 30 02.6	+0.3
M23K	Glacier View baz=209	85.69	14	P	P	17 30 02.4	0.0
BMRM	Bremner River baz=212	85.73	16	P	P	17 30 02.6	-0.1
MFID	Camas Ranch comp=Z,9.2nm,1.0s	85.75	40	IAmb	IAmb	17 30 05.4	
PPLA	Purkeypile baz=204	85.75	12	P	P	17 30 02.9	+0.1
S31K	Pelican comp=Z,8.6nm,0.9s	85.75	21	IAmb	IAmb	17 30 04.7	
S31K	Pelican baz=219	85.75	21	P	P	17 30 03.1	+0.4
MESA	MESA baz=214	85.78	17	P	P	17 30 03.0	-0.1
SCM	Sheep Creek Mo baz=209	85.82	14	P	P	17 30 03.1	0.0
K20K	Telida baz=203	85.83	11	P	P	17 30 03.5	+0.5
KLU	Klutina baz=210	85.86	15	P	P	17 30 03.1	-0.2
H16K	Elim baz=195	85.86	7	P	P	17 30 03.5	+0.4
CRQE	Cirque baz=213	85.94	17	P	P	17 30 04.2	+0.4
WRAK	Wrangell Islan comp=Z,12nm,0.8s	85.97	24	IAmb	IAmb	17 30 05.8	
WRAK	Wrangell Islan baz=223,SNR=5.4	85.97	24	P	P	17 30 04.2	+0.4
D08A	Wollman Farm, comp=Z,13nm,0.9s	86.02	36	IAmb	IAmb	17 30 06.5	
G15K	Niukluk baz=194	86.02	6	P	P	17 30 03.9	+0.1
PNL	Peninsula baz=216	86.10	19	P	P	17 30 04.6	+0.2
E09A	Wood Farm, Sta comp=Z,16nm,1.2s	86.14	37	IAmb	IAmb	17 30 06.7	
J19K	Poorman baz=201	86.16	10	P	P	17 30 05.3	+0.8
PINM	Pinnacle baz=216	86.19	18	P	P	17 30 05.4	+0.5
CAST	Castle Rocks comp=Z,10nm,0.7s	86.24	12	IAmb	IAmb	17 30 04.5	
CAST	Castle Rocks baz=205,SNR=10.0	86.24	12	P	P	17 30 03.3	-1.7
TNA	Tin City baz=190	86.24	4	P	P	17 30 04.4	-0.5
N25K	Chitina, Valde baz=212,SNR=7.8	86.28	15	P	P	17 30 05.3	0.0
F14K	Arctic Creek baz=191	86.28	5	P	P	17 30 05.3	+0.2
M24K	Tolsona, Glenn baz=210	86.33	15	P	P	17 30 05.5	0.0
GLB	Gilahina Butte comp=Z,8.9nm,0.6s	86.34	16	IAmb	IAmb	17 30 06.0	
WAT6	Susitna Watana baz=209,SNR=9.0	86.38	14	P	P	17 30 05.7	-0.1
WAT1	Susitna Watana baz=208	86.42	13	P	P	17 30 05.5	-0.4
H17K	Granite Mounta baz=197	86.43	8	P	P	17 30 06.2	+0.4
MCARA	McCarthy VSAT comp=Z,16nm,1.1s	86.49	16	IAmb	IAmb	17 30 07.6	
MCARA	McCarthy VSAT baz=213	86.49	16	P	P	17 30 06.1	-0.1
TMUT	Trail Mountain comp=Z,9.7nm,1.2s	86.54	46	IAmb	IAmb	17 30 09.9	
SYO	Syowa Base	86.55	193⇑	eP	P	17 30 07.0	+0.5
B08A	Colville Reser comp=Z,12nm,0.8s	86.56	35	IAmb	IAmb	17 30 08.2	
PLID	Pearl Lake comp=Z,7.6nm,0.8s	86.56	39	IAmb	IAmb	17 30 08.4	
J20K	Nowinta River baz=203	86.57	10	P	P	17 30 06.2	-0.2
LOGN	Logan Glacier comp=Z,9.8nm,0.8s	86.58	17	IAmb	IAmb	17 30 08.0	
P29M	Windy Craggy comp=Z,11nm,0.9s	86.58	19	IAmb	IAmb	17 30 08.5	
P29M	Windy Craggy baz=218,SNR=5.2	86.58	19	P	P	17 30 06.4	-0.3
R32K	Eaglecrest baz=221	86.58	22	P	P	17 30 06.7	+0.1
KTH	Kantishna Hill comp=Z,18nm,1.0s	86.59	12	IAmb	IAmb	17 30 06.3	
CTG	Chitna Glacier baz=214,SNR=7.7	86.60	17	P	P	17 30 07.0	+0.1
CTGM	Chitina Glacie comp=Z,15nm,0.8s	86.60	17	IAmb	IAmb	17 30 08.2	
LLLB	Lillooet comp=Z,11nm,1.1s	86.61	32	IAmb	IAmb	17 30 08.8	
TRF	Thorofare Moun baz=206,SNR=12	86.62	12	P	P	17 30 06.1	-0.8
CHUM	Lake Minchumin baz=204	86.62	11	P	P	17 30 06.1	-0.6
F15K	North Star Dit baz=193	86.66	6	P	P	17 30 06.8	-0.1
HLID	Hailey comp=Z,9.6nm,0.9s	86.69	41	IAmb	IAmb	17 30 10.2	
BESE	Bessie Mountai comp=Z,12nm,1.0s	86.70	21	IAmb	IAmb	17 30 09.2	
O28M	Mount Upton comp=Z,14nm,0.8s	86.76	18	IAmb	IAmb	17 30 09.1	
O28M	Mount Upton baz=216,SNR=10	86.76	18	P	P	17 30 07.9	0.0
HARP	HAARP baz=211	86.82	15	P	P	17 30 08.3	+0.5
H18K	Honhosa River baz=199	86.84	8	P	P	17 30 08.4	+0.7
O29M	Mount Kennedy baz=217	86.86	19	P	P	17 30 08.5	+0.4
PLBC	Pleasant Camp baz=219,SNR=5.1	86.87	20	P	P	17 30 08.8	+0.8
G17K	Kiwalik Mounta baz=197	86.88	7	P	P	17 30 08.4	+0.5
DHY	Denali Highway baz=209	86.90	14	P	P	17 30 07.5	-0.7
SRU	San Rafael Swe comp=Z,6.9nm,0.8s	86.91	46	IAmb	IAmb	17 30 10.9	
P17A	Butcher Ranch, comp=Z,12nm,1.5s	86.94	46	IAmb	IAmb	17 30 11.5	
BPAW	Bear Paw Mtn. baz=206	87.07	12	P	P	17 30 08.3	-0.5
VHRN	Van Horn comp=Z,10nm,1.0s	87.08	56	IAmb	IAmb	17 30 12.5	
MCK	McKinley baz=208,SNR=8.9	87.15	13	P	P	17 30 09.1	-0.2
T35M	Bob Quinn baz=224	87.18	24	P	P	17 30 09.8	+0.3
P30M	Million Dollar baz=218,SNR=8.6	87.21	19	P	P	17 30 09.9	+0.3
SKAG	Skagway comp=Z,16nm,1.4s	87.21	20	IAmb	IAmb	17 30 12.0	
SKAG	Skagway baz=220	87.21	20	P	P	17 30 09.9	+0.4
PAX	Paxson baz=211	87.24	14	P	P	17 30 09.3	-0.5
YUK8	Steele Glacier baz=216,SNR=11	87.30	18	P	P	17 30 10.4	0.0
TCUT	Toone Canyon comp=Z,2nm,1.0s	87.32	44	IAmb	IAmb	17 30 14.8	
M26K	Nabesna, AK comp=Z,14nm,1.0s	87.36	16	IAmb	IAmb	17 30 11.7	
M26K	Nabesna, AK baz=213,SNR=8.6	87.36	16	P	P	17 30 10.1	-0.2
YUK6	Outpost Mounta baz=217	87.43	18	P	P	17 30 10.9	-0.1
BSUT	Blindstream Ca comp=Z,8.2nm,1.1s	87.46	45	IAmb	IAmb	17 30 14.6	
H19K	Roundabout Mou baz=200	87.47	9	P	P	17 30 11.1	+0.5
TXAR	Lajitas Array	87.49	58		P	17 30 13.1	+1.3
TXAR	Lajitas Array comp=Z,6.5nm,0.8s,baz=217,slow=6.0,SNR=65 comp=Z,6.5nm,0.8s	87.49	58	P	P	17 30 13.7	+1.9
YUK3	Moose Creek baz=215,SNR=19	87.51	17	P	P	17 30 11.3	+0.1
G18K	Tagagawik baz=198	87.51	8	P	P	17 30 11.4	+0.6
S34M	Telegraph Cree comp=Z,13nm,0.9s	87.52	23	IAmb	IAmb	17 30 13.4	
S34M	Telegraph Cree baz=224,SNR=12	87.52	23	P	P	17 30 11.7	+0.6
HYT	Haines Junctio baz=218,SNR=5.9	87.59	19	P	P	17 30 11.8	+0.3
PV20	West Nyswonger comp=Z,7.8nm,1.0s	87.60	48	IAmb	IAmb	17 30 14.0	
M27K	Edge Creek, AK baz=214,SNR=12	87.61	16	P	P	17 30 11.6	0.0
PV23	Carpenter Ridg comp=Z,9.4nm,0.8s	87.63	47	IAmb	IAmb	17 30 14.2	
MENT	Mentasta comp=Z,9.9nm,1.0s	87.63	15	IAmb	IAmb	17 30 12.7	
H20K	Anotleneega Mo baz=202,SNR=5.7	87.67	10	P	P	17 30 12.0	+0.4
PV12	Saucer Basin, comp=Z,24nm,1.5s	87.71	48	IAmb	IAmb	17 30 14.7	
L26K	Log Cabin Wild baz=213	87.80	15	P	P	17 30 12.6	+0.3
XAN	Xi'an XAN comp=Z,20nm,0.8s	87.80	308	⇑P pmax	P pmax	17 30 14.4	+1.3
ANMO	Albuquerque ANMO comp=Z,9.8nm,1.2s	87.82	51	IAmb	P IAmb	17 30 13.7 17 30 15.9	+0.4
P32M	Atlin comp=Z,7.9nm,1.0s	87.85	21	IAmb	IAmb	17 30 14.5	
P32M	Atlin baz=221,SNR=6.5	87.85	21	P	P	17 30 13.2	+0.6
I21K	Tanana baz=205	87.87	11	P	P	17 30 12.8	+0.3
Q32M	Nakina River comp=Z,8.3nm,0.8s	87.88	22	IAmb	IAmb	17 30 14.9	
Q32M	Nakina River baz=222,SNR=10	87.88	22	P	P	17 30 13.3	+0.4
NEA2	Nenana comp=Z,8.7nm,0.8s	87.89	12	IAmb	IAmb	17 30 12.4	
NEA2	Nenana baz=207	87.89	12	P	P	17 30 12.7	0.0
K24K	Donnelly Dome baz=210	87.89	14	P	P	17 30 12.9	+0.2
BVCY	Beaver Creek baz=215,SNR=6.5	87.92	17	P	P	17 30 13.2	+0.2
SNAA	Sanae comp=Z,3.7nm,1.4s,baz=194,slow=4.2,SNR=2.1 comp=Z,3.7nm,1.4s	87.95	179	P	P	17 30 13.4	+0.3
ALPN	Alpine comp=Z,11nm,1.0s	87.95	57	IAmb	IAmb	17 30 16.3	
G19K	Purcell Mounta baz=200	87.96	9	P	P	17 30 13.3	+0.3
MLY	Manley comp=Z,9.7nm,0.6s	87.96	11	IAmb	IAmb	17 30 12.8	
MLY	Manley baz=206	87.96	11	P	P	17 30 12.9	-0.1
O30N	Mendenhall comp=Z,9.4nm,0.7s	87.98	19	IAmb	IAmb	17 30 14.8	
O30N	Mendenhall baz=219,SNR=6.1	87.98	19	P	P	17 30 13.3	0.0
RIDG	Independent Ri baz=211	88.05	14	P	P	17 30 13.4	-0.1
F18K	Selawik baz=198	88.06	7	P	P	17 30 13.4	+0.1
HDA	Harding Lake baz=205,SNR=18	88.16	13	P	P	17 30 13.6	-0.4
H21K	Melozitna Rive comp=Z,8.5nm,0.8s	88.16	10	IAmb	IAmb	17 30 14.9	
H21K	Melozitna Rive baz=204,SNR=8.0	88.16	10	P	P	17 30 13.9	-0.1
L27K	Beaver Creek, baz=214,SNR=6.1	88.21	16	P	P	17 30 14.0	-0.2
N30M	Aishikik Lake baz=218	88.22	19	P	P	17 30 14.2	-0.2
BCAR	Bear Creek A	88.22	16	P	P	17 30 14.1	-0.2
E17K	Hotham Inlet baz=196	88.28	6	P	P	17 30 14.1	-0.3
WHY	Whitehorse baz=220,SNR=5.0	88.28	20	P	P	17 30 14.6	-0.1
DLBC	Dease Lake baz=224,SNR=5.3	88.30	23	P	P	17 30 15.1	+0.2
IMAR	Indian Mountai	88.31	10	P	P	17 30 13.8	-0.7
I23K	Minto, Yukon-K baz=207,SNR=5.4	88.32	12	P	P	17 30 14.0	-0.6
AHID	Auburn Hatcher comp=Z,8.6nm,1.1s	88.35	43	IAmb	IAmb	17 30 18.4	
COLA	College	88.38	13	P	P	17 30 13.2	-1.7
COLA	College baz=208	88.38	13	P	P	17 30 14.3	-0.6
SCRK	Sand Creek comp=Z,8.8nm,0.9s	88.45	14	IAmb	IAmb	17 30 17.7	
SCRK	Sand Creek baz=212,SNR=5.4	88.45	14	P	P	17 30 15.3	-0.2
ILAR	Eielson Array	88.49	13		P	17 30 13.7	-1.7
ILAR	Eielson Array comp=Z,7.5nm,0.8s,baz=222,slow=5.5,SNR=56 comp=Z,7.5nm,0.8s	88.49	13	P	P	17 30 14.6	-0.9
F19K	Shaleruckik Mo baz=199	88.52	8	P	P	17 30 15.4	-0.1
M29M	Somme Creek baz=217,SNR=14	88.60	17	P	P	17 30 16.4	+0.2
P33M	Teslin, Yukon comp=Z,5.0nm,0.9s	88.61	21	IAmb	IAmb	17 30 17.7	
P33M	Teslin, Yukon baz=222,SNR=5.7	88.61	21	P	P	17 30 16.4	+0.2
H22K	Ishtalitna Cre baz=205,SNR=12	88.62	11	P	P	17 30 16.1	0.0
N31M	Braeburn, Yuko baz=219,SNR=5.0	88.64	19	P	P	17 30 16.7	+0.5
R33M	Jennings River comp=Z,12nm,1.2s	88.65	22	IAmb	IAmb	17 30 18.5	
R33M	Jennings River baz=224,SNR=7.0	88.65	22	P	P	17 30 16.6	+0.1
J25K	Salcha River, baz=211,SNR=9.2	88.68	14	P	P	17 30 16.1	-0.4
POKR	Poker Plat Res baz=209	88.68	13	P	P	17 30 16.1	-0.2
E18K	Tukpahlearik C baz=197	88.73	7	P	P	17 30 16.4	-0.1
DLMT	Dillon comp=Z,7.3nm,0.9s	88.74	40	IAmb	IAmb	17 30 19.5	
D17K	Noatak River baz=194	88.75	6	P	P	17 30 16.7	+0.2
TPAW	Teton Pass comp=Z,8.4nm,0.9s	88.81	42	IAmb	IAmb	17 30 19.9	
G21K	Allakaket baz=203,SNR=6.9	88.84	10	P	P	17 30 17.1	+0.1
H23K	Yukon River baz=207	88.89	12	P	P	17 30 17.3	0.0
O20A	White River Ci comp=Z,6.2nm,0.9s	88.95	46	IAmb	IAmb	17 30 20.3	
K27K	Chicken baz=214	88.95	15	P	P	17 30 17.6	0.0
KMI	Kunming KMI comp=Z,9.0nm,1.1s	88.96	297	P pmax	P pmax	17 30 20.7	+1.8
SAND	Sanderson comp=Z,4.7nm,0.9s	88.97	58	IAmb	IAmb	17 30 20.3	
J26L	Joseph Creek baz=212,SNR=12	88.99	14	P	P	17 30 17.7	-0.3
F20K	Avaraart Lake baz=201,SNR=5.7	89.00	9	P	P	17 30 17.4	-0.3
HHC	Hu-ho-hao-te HHC comp=Z,23nm,0.7s	89.07	315	eP pmax	P pmax	17 30 19.6	+0.7
E19K	Redstone River baz=200,SNR=9.8	89.18	8	P	P	17 30 18.7	+0.1
M30M	Minto, Yukon baz=218,SNR=16	89.18	18	P	P	17 30 18.3	-0.5
H24K	Noodor Dome baz=208	89.22	12	P	P	17 30 19.4	+0.5
N32M	Quiet Lake baz=222	89.23	20	P	P	17 30 19.1	+0.1
L29M	L29M baz=217,SNR=14	89.23	17	P	P	17 30 19.3	+0.3
PDAR	Pinedale Array comp=Z,5.1nm,0.6s,baz=217,slow=2.8,SNR=23 comp=Z,5.1nm,0.6s	89.34	43	P	P	17 30 20.6	+0.4
YHL	Hebgen Lake comp=Z,10nm,1.0s	89.34	41	IAmb	IAmb	17 30 23.0	
PRP	Porcupine Dome comp=Z,9.6nm,1.0s	89.43	13	IAmb	IAmb	17 30 21.6	
PRP	Porcupine Dome baz=211,SNR=7.0	89.43	13	P	P	17 30 20.4	+0.4
BOZ	Bozeman (W) comp=Z,6.6nm,0.9s	89.45	40	IAmb	IAmb	17 30 22.8	
F21K	Alatna River comp=Z,4.0nm,0.8s	89.49	9	IAmb	IAmb	17 30 20.7	
F21K	Alatna River baz=203	89.49	9	P	P	17 30 20.7	+0.6
C17K	DeLong Mountai baz=194	89.50	6	P	P	17 30 20.7	+0.7
G22K	Bettles baz=205	89.54	10	P	P	17 30 20.6	+0.4
G23K	Bananza Creek baz=206	89.60	11	P	P	17 30 20.9	+0.3
M31M	Drury Creek, Y baz=221	89.61	19	P	P	17 30 21.0	+0.3
DAWY	Dawson baz=216,SNR=8.6	89.66	16	P	P	17 30 20.5	-0.5
CMAR	Chiang Mai Arr	89.70	290		P	17 30 23.2	+1.0
CMAR	Chiang Mai Arr comp=Z,7.4nm,0.9s,baz=124,slow=3.1,SNR=33 comp=Z,7.4nm,0.9s	89.70	290	P	P	17 30 23.9	+1.8
I26K	Coal Creek Min comp=Z,13nm,1.1s	89.77	14	IAmb	IAmb	17 30 22.6	
I26K	Coal Creek Min baz=213	89.77	14	P	P	17 30 21.7	+0.3
CHTO	Chiang Mai	89.83	290		P	17 30 24.0	+1.3
CHTO	Chiang Mai	89.83	290	P	P	17 30 24.3	+1.6
C18K	Utukok River baz=196	89.86	6	P	P	17 30 21.7	-0.1
WTLY	Watson Lake, Y comp=Z,4.3nm,0.8s	89.94	22	IAmb	IAmb	17 30 23.5	
WTLY	Watson Lake, Y baz=226	89.94	22	P	P	17 30 22.0	-0.3
F22K	John River baz=204	89.96	10	P	P	17 30 22.8	+0.6
K29M	Barlow Dome baz=218,SNR=6.8	89.98	17	P	P	17 30 22.8	+0.3
H25L	Birch Creek baz=210	90.01	13	P	P	17 30 23.2	+0.7
COLD	Coldfoot comp=Z,8.7nm,1.0s	90.03	11	IAmb	IAmb	17 30 24.4	
COLD	Coldfoot baz=206	90.03	11	P	P	17 30 22.7	+0.1
D19K	Kuna River baz=199	90.05	7	P	P	17 30 22.9	+0.2
E20K	Nigu River baz=201	90.07	8	P	P	17 30 22.9	+0.1
MSTX	Muleshoe comp=Z,5.4nm,0.7s	90.13	54	IAmb	IAmb	17 30 25.0	
YNE	Yellowstone No comp=Z,6.7nm,0.9s	90.14	41	IAmb	IAmb	17 30 26.4	
OZNA	Ozona comp=Z,4.1nm,0.7s	90.15	57	IAmb	IAmb	17 30 26.1	
MAYO	Mayo, Yukon baz=219	90.24	18	P	P	17 30 24.1	+0.5
J29N	Klondike Camp baz=217	90.28	16	P	P	17 30 24.2	+0.4
PZH	PanZhiHua	90.33	298	P	P	17 30 25.9	+0.9
I27K	Kandik River baz=214	90.37	14	P	P	17 30 24.0	-0.2
G25K	Bearman Lake baz=210	90.39	12	P	P	17 30 23.9	-0.3
TOAD	Toad River Com baz=229	90.41	25	P	P	17 30 24.4	-0.1
D20K	Etivluk River baz=200	90.44	8	P	P	17 30 24.7	+0.2
C19K	Lookout Ridge baz=198	90.46	7	P	P	17 30 24.6	0.0
B18K	Kokolik River baz=196	90.49	6	P	P	17 30 24.5	-0.1
E21K	Killik River baz=202	90.55	9	P	P	17 30 24.9	0.0
SGCY	Sterling City comp=Z,4.7nm,1.0s	90.55	56	IAmb	IAmb	17 30 28.7	
E22K	Anaktuvuk Pass baz=205	90.59	10	P	P	17 30 25.5	+0.3
I28M	Miner Creek comp=Z,6.6nm,0.8s	90.65	15	IAmb	IAmb	17 30 25.9	
I28M	Miner Creek baz=216,SNR=5.2	90.65	15	P	P	17 30 25.8	+0.2
F24K	Squaw Lake baz=208	90.71	11	P	P	17 30 26.1	+0.4
J30M	Hart River baz=219	90.88	17	P	P	17 30 26.6	-0.1
E23K	Chandalar baz=207	90.88	10	P	P	17 30 26.7	+0.1
MMPY	Sheldon Lake, comp=Z,4.5nm,0.8s	90.90	20	IAmb	IAmb	17 30 29.1	
MMPY	Sheldon Lake, baz=223	90.90	20	P	P	17 30 27.2	+0.5
H27K	Steamboat Moun comp=Z,12nm,1.4s	90.91	14	IAmb	IAmb	17 30 28.6	
H27K	Steamboat Moun baz=214	90.91	14	P	P	17 30 27.4	+0.7
I29M	Ogilvie Camp, comp=Z,10nm,1.3s	90.98	16	IAmb	IAmb	17 30 29.7	
I29M	Ogilvie Camp, baz=217	90.98	16	P	P	17 30 27.3	+0.3
G26K	Porcupine Rive comp=Z,8.0nm,0.9s	91.02	13	IAmb	IAmb	17 30 29.3	
G26K	Porcupine Rive baz=212	91.02	13	P	P	17 30 27.3	+0.2
E24K	Your Creek baz=208	91.09	11	P	P	17 30 27.8	+0.3
C21K	Knifeblade Rid baz=202	91.10	8	P	P	17 30 27.9	+0.5
TGTN	Hyland Airport baz=226	91.11	22	P	P	17 30 28.2	+0.5
D22K	Ayikyak River baz=204	91.14	9	P	P	17 30 28.1	+0.4
F25K	Christian Rive baz=210	91.20	12	P	P	17 30 28.3	+0.3
G27K	Doyon Strip baz=214	91.36	14	P	P	17 30 29.4	+0.7
I30M	Mount Dempster baz=219	91.37	16	P	P	17 30 29.0	0.0
TOLK	Toolik Lake Re baz=207	91.41	10	P	P	17 30 29.1	+0.2
D23K	Nanushuk River baz=206	91.52	10	P	P	17 30 30.2	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
F26K	Sheenjek River	91.58	12	P	P	17 30 30.3	+0.6
	baz=212						
B20K	Meade River	91.60	7	P	P	17 30 30.1	+0.4
	baz=200						
H29M	Whitestone	91.65	15	P	P	17 30 30.3	+0.2
	baz=217						
E25K	Arctic Village	91.67	12	P	P	17 30 29.8	-0.3
	baz=211						
KOTAN	Kotaneelee Air	91.70	24	P	P	17 30 30.2	-0.2
	baz=230						
ABTX	Abilene, Hawle	91.98	56	IAmb	IAmb	17 30 33.7	
	comp=Z,11nm,1.3s						
EPYK	Eagle Plains	92.18	16	P	P	17 30 32.1	-0.4
	baz=219						
G29M	Pine Creek	92.29	15	P	P	17 30 32.9	0.0
	baz=217						
C23K	Itkillik River	92.32	9	P	P	17 30 33.1	+0.1
	baz=206						
H31M	Peel River	92.36	17	P	P	17 30 33.0	-0.3
	baz=221						
B22K	Teshekpuk Lake	92.38	8	P	P	17 30 33.3	0.0
	baz=203						
LZH	Lanzhou	92.44	308	eP	P	17 30 36.0	+1.4
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
C24K	Franklin Bluff	92.52	10	P	P	17 30 33.7	-0.2
	baz=208						
E27K	Coleen River	92.52	13	P	P	17 30 33.8	-0.3
	baz=214						
D25K	Kavik River	92.56	11	P	P	17 30 34.1	-0.1
	baz=210						
G30M	tAoh Zraii Nji	92.78	15	P	P	17 30 35.2	-0.1
	baz=219						
G31M	Satah River	93.23	16	P	P	17 30 37.3	+0.1
	baz=221						
E28M	Babbage River	93.31	13	P	P	17 30 38.0	+0.4
	baz=216						
C27K	Jago River	93.31	12	P	P	17 30 37.7	+0.1
	baz=212						
C26K	Camden Bay	93.34	11	P	P	17 30 38.1	+0.4
	baz=211						
F30M	Barrier River	93.38	15	P	P	17 30 37.6	-0.3
	baz=220						
E29M	Blow River	93.50	14	P	P	17 30 38.3	-0.2
	baz=218						
D27M	Malcolm River	93.53	13	P	P	17 30 38.9	+0.2
	baz=215						
F31M	Tsiigehtchic	93.76	16	P	P	17 30 39.5	-0.2
	baz=221						
INK	Inuvik	94.47	15	P	P	17 30 42.7	-0.1
	baz=222						
SONM	Songino Array	95.50	319	P	P	17 30 48.2	+0.1
	comp=Z,0.4nm,0.4s,baz=116,slow=3.4,SNR=2.6						
	comp=Z,0.4nm,0.4s						
YKA	Yellowknife Ar	96.78	25	P	P	17 30 53.0	-0.3
	comp=Z,0.7nm,0.7s,baz=256,slow=3.9,SNR=4.8						
	comp=Z,0.7nm,0.7s						
A36M	Sachs Harbour	99.07	15	P		17 31 03.8	
	baz=229						
ZALV	Zalesovo Beam	110.25	321	PKiKP	PKiKP	17 35 49.6	-1.1
	comp=Z,2.4nm,0.6s,baz=167,slow=1.6,SNR=16						
MKAR	Makanchi Array	110.91	313	Pdiff	Pdif	17 31 56.9	+0.2
	comp=Z,0.5nm,0.8s,baz=93,slow=4.9,SNR=2.5						
MKAR				PKiKP	PKiKP	17 35 51.4	-0.9
	comp=Z,2.1nm,0.6s,baz=74,slow=1.3,SNR=20						
KURBB	Kurchatov Arra	113.78	317	PKiKP	PKiKP	17 35 56.8	-0.8
	comp=Z,3.5nm,0.2s,baz=92,slow=1.8,SNR=18						
BVAR	Borovoye Array	118.83	320	PKP	PKPdf	17 36 06.8	-0.5
	comp=Z,9.6nm,0.5s,baz=113,slow=1.0,SNR=38						
KKAR	Karatay Array	118.92	309		PKPdf	17 36 06.4	-1.4
SPITS	Spitsbergen Ar	121.91	356	PKP	PKPdf	17 36 11.9	-0.7
	comp=Z,7.1nm,0.7s,baz=98,slow=4.6,SNR=9.1						
ARTI	Arti	125.10	325		PKPdf	17 36 17.7	-1.5
ABKAR	Akbulak array	125.82	316		PKPdf	17 36 19.7	-1.1
BOSA	Boshof	125.98	206	PKP	PKiKP	17 36 22.6	+0.1
	comp=Z,8.7nm,1.2s,baz=270,slow=1.0,SNR=2.7						
ARCES	ARCESS Array B	128.91	349		PKPdf	17 36 25.1	-1.0
ARCES	ARCESS Array B	128.91	349	PKP	PKPdf	17 36 25.7	-0.4
	comp=Z,3.4nm,0.5s,baz=18,slow=1.4,SNR=30						
FINES	FINESS Array B	135.71	343	PKhKP	PKPpre	17 36 26.6	
	comp=Z,1.2nm,0.6s,baz=0.0,slow=1.8,SNR=6.9						
FINES				PKP	PKPdf	17 36 37.1	-2.0
	comp=Z,3.0nm,0.7s,baz=72,slow=0.4,SNR=7.2						
NOA	NORSAR Array B	139.00	353	PKhKP	PKPpre	17 36 36.3	
	comp=Z,2.3nm,0.8s,baz=18,slow=2.8,SNR=7.4						
NOA				PKP	PKiKP	17 36 46.7	-0.9
	comp=Z,0.9nm,0.5s,baz=40,slow=2.5,SNR=4.8						
HFS	Hagfors	139.54	351	PKhKP	PKPpre	17 36 37.9	
	comp=Z,5.1nm,0.4s,baz=42,slow=2.4,SNR=24						
TJOU	Tjoern	141.86	351	i P	PKPdf	17 36 49.1	-1.2
SNART	Snartemo	142.05	355	i P	PKPpre	17 36 46.9	
SUW	Suwalki	142.74	339	ePKP	PKPdf	17 36 50.0	-2.1
AKASG	Malin Array Be	142.85	331	PKhKP	PKPpre	17 36 49.1	
	comp=Z,25nm,0.5s,baz=44,slow=4.3,SNR=185						
LODK	Lodwar	142.88	247		PKPdf	17 36 52.3	-1.4
ARPR	Arapgir-MALATY	143.41	308		PKPbc	17 36 53.3	+0.5
SORM	Soroca	145.02	328	⇓P	PKPbc	17 36 57.4	+0.3
EKA	Eskdalemuir Ar	145.12	5	PKPbc	PKPdf	17 36 56.6	+0.5
	comp=Z,15nm,0.9s,baz=326,slow=2.8,SNR=18						
VASR	Vaslui	146.30	327	⇑P	PKPbc	17 37 01.4	+0.6
BRTR	Keskin Array B	146.54	312		PKPdf	17 36 59.0	-0.3
BRTR	Keskin Array B	146.54	312	PKPbc	PKPbc	17 37 01.5	-0.4
	comp=Z,7.9nm,0.6s,baz=138,slow=3.1,SNR=46						
TLCR		146.69	324	⇓P	PKPbc	17 37 01.8	-0.1
RUE	Ruedersdorf	146.76	346	ePKPbc	PKPbc	17 37 02.0	+0.2
	baz=19,slow=2.5						
GORT1	Trebel	146.77	349	ePKPbc	PKPbc	17 37 02.2	+0.5
	baz=19,slow=2.5						
BURAR	Bucovina Array	146.89	330		PKPdf	17 36 58.6	-0.9
TESR	Tescani	146.97	327	⇓P	PKPbc	17 37 02.6	-0.1
OJC	Ojcow	147.06	338	ePKP	PKPbc	17 37 02.7	0.0
ANTO	Ankara	147.06	313		PKPbc	17 37 02.9	-0.3
TPGR	Topolog	147.12	324	⇑P	PKPbc	17 37 03.3	+0.2
PANC	Panciu	147.15	326	⇓P	PKPbc	17 37 03.7	+0.6
ONER	Baraj Valea Uz	147.22	327	⇓P	PKPbc	17 37 03.5	+0.2
RETH	Rethem/Aller,	147.32	351	ePKPbc	PKPbc	17 37 03.2	0.0
	baz=19,slow=2.5						
TIRR	Tirgusor	147.37	323	⇓P	PKPbc	17 37 03.6	-0.1
VRI	Vrincioaia	147.37	326	⇓P	PKPbc	17 37 03.6	-0.1
FLTG	Flechtingen	147.41	349	ePKPbc	PKPbc	17 37 03.4	-0.1
	baz=19,slow=2.5						
FLTG				ePKPab	PKPab	17 37 07.2	-0.4
	baz=15,slow=4.3						
PLOR	Plostina	147.42	327	⇑P	PKPbc	17 37 04.1	+0.3
MMAI	Mount Meron Ar	147.44	299	PKPbc	PKPbc	17 37 05.2	+0.9
	comp=Z,12nm,0.5s,baz=74,slow=4.6,SNR=41						
TLBR	Topalu	147.52	323	⇑P	PKPbc	17 37 03.6	-0.5
NIE	Niedzica	147.54	337	ePKP	PKPbc	17 37 04.8	+0.7
TURR	Turia	147.61	327	⇑P	PKiKP	17 37 05.3	-0.5
ASSE	Asse, Remlinge	147.70	349	ePKPbc	PKPbc	17 37 04.5	+0.3
	baz=19,slow=2.5						
NEHR	Nehoiu	147.89	326	⇓P	PKPbc	17 37 04.2	-0.9
OSTC	Ostas	147.90	342	⇑ePKP	PKPbc	17 37 05.5	+0.6
SAHE	Sakarya_HENDEK	147.90	316	⇑P	PKPbc	17 37 04.3	-0.9
CHVC	Chvalec	147.92	342	⇑ePKP	PKPbc	17 37 05.5	+0.5
IBBN	Ibbenburen	147.95	353	ePKPbc	PKPbc	17 37 05.4	+0.4
	baz=19,slow=2.5						
STEB	Steborice	147.98	340	⇑ePKP	PKPbc	17 37 05.4	+0.3
STEB				ePKPAB	PKPab	17 37 10.9	+0.8
UPC	Upice	148.00	342	⇑ePKP	PKPbc	17 37 05.8	+0.7
CLL	Collm	148.03	346	ePKPbc	PKPbc	17 37 05.3	+0.2
	baz=19,slow=2.5						
CLL				ePKPab	PKPab	17 37 10.0	-0.1
	baz=15,slow=4.3						
DPC	Dobruska-Polom	148.05	342	⇑ePKP	PKPbc	17 37 05.9	+0.6
DPC				ePKPAB	PKPab	17 37 11.4	+1.0
KRLC	Kraliky	148.16	341	⇑ePKP	PKPbc	17 37 06.0	+0.4
PVCC	Panska Ves	148.37	344	⇑ePKP	PKPbc	17 37 06.7	+0.7
NEUB	Neuenburg	148.38	348	ePKPbc	PKPbc	17 37 06.2	+0.2
	baz=19,slow=2.5						
GTTG	Gottingen	148.38	350	ePKPbc	PKPbc	17 37 06.3	+0.3
	baz=19,slow=2.5						
MAUC	Maruska	148.45	339	⇑ePKP	PKiKP	17 37 07.2	-0.2
RICC	Richard	148.48	345	⇑ePKP	PKPbc	17 37 06.5	+0.2
PRA	Prague	148.83	344	⇑ePKP	PKPbc	17 37 07.7	+0.5
BUG	Bochum--Univer	148.86	353	ePKPbc	PKPbc	17 37 07.4	+0.2
	baz=19,slow=2.5						
PRU	Pruhonice	148.87	344	⇑ePKP	PKPbc	17 37 07.8	+0.5
VRAC	Vranov	148.90	341	ePKP	PKPbc	17 37 07.6	+0.2
PSZ	Piszkesteto	148.93	336	⇑P	PKPbc	17 37 08.0	+0.4
MOX	Moxa	148.94	347	ePKPbc	PKPbc	17 37 07.5	0.0
	baz=19,slow=2.5						
MOX				ePKPab	PKPab	17 37 13.8	-0.2
	baz=15,slow=4.3						
KASTN	Kahler Asten	148.95	352	ePKPbc	PKPbc	17 37 07.7	+0.2
	baz=19,slow=2.5						
TANN	Tannenbergstha	148.98	346	ePKPbc	PKPbc	17 37 07.9	+0.2
	baz=19,slow=2.5						
TANN				ePKPab	PKPab	17 37 14.0	-0.3
	baz=15,slow=4.3						
PLN	Plauen	148.98	347	ePKPbc	PKPbc	17 37 07.8	+0.2
	baz=19,slow=2.5						
UBBA	Unterbreizbach	149.08	349	ePKPbc	PKPbc	17 37 08.0	+0.3
	baz=19,slow=2.5						
TREC	Trest	149.24	342	⇑ePKP	PKPbc	17 37 08.4	+0.2
TREC				ePKPAB	PKPab	17 37 15.6	+0.3
MANZ	Manzenberg	149.46	346	ePKPbc	PKPbc	17 37 09.0	+0.3
	baz=19,slow=2.5						
SIRR	Siria	149.52	332	⇓P	PKPbc	17 37 09.4	+0.4
SURR	Surduc	149.70	331	⇓P	PKPbc	17 37 08.9	-0.5
UCC	Uccle	149.75	356	dPKiKP	PKPbc	17 37 09.6	+0.2
MEM	Membach	149.82	354	dPKiKP	PKPbc	17 37 09.5	0.0
BTNL	Ternell	149.83	354	dPKP	PKPbc	17 37 09.4	-0.1
BSTI	Sart Tilman	149.88	355	dPKiKP	PKPbc	17 37 09.8	+0.1
TNS	Taunus Mts	149.91	351	ePKPbc	PKiKP	17 37 10.3	-0.1
	baz=19,slow=2.5						
TNS				ePKPab	PKPab	17 37 17.8	-0.3
	baz=15,slow=4.3						
KHC	Kasperske Hory	149.91	344	ePKPDF	PKPdf	17 37 04.4	+0.2
KHC				⇑ePKP	PKPbc	17 37 10.2	+0.4
KHC				ePKPAB	PKPab	17 37 18.6	+0.5
GRF	Grafenberg Arr	149.93	347	ePKPbc	PKPbc	17 37 10.2	+0.3
	baz=19,slow=2.5						
GRF				ePKPab	PKPab	17 37 18.4	+0.3
	baz=15,slow=4.3						
GRFO	Grafenberg	149.93	347		PKPdf	17 37 01.1	-3.1
SRE	Strehaia	149.99	328	⇑P	PKiKP	17 37 10.9	+0.2
BCLA	Clavier	150.06	355	dPKPbc	PKPbc	17 37 09.4	-0.7
BCLA				dPKP	PKPab	17 37 17.8	-0.9
BHOU	Houvegnez	150.07	354	dPKiKP	PKPbc	17 37 10.4	+0.3
WET	Wettzell	150.07	345	ePKPbc	PKPbc	17 37 10.5	+0.3
	baz=19,slow=2.5						
WET				ePKPab	PKPab	17 37 19.0	+0.2
	baz=15,slow=4.3						
BGES	Gesves	150.12	355	dPKP	PKPbc	17 37 09.8	-0.4
GEC2	GERESS Array S	150.14	344	ePKPbc	PKPbc	17 37 10.4	-0.1
	baz=19,slow=2.5						
GERES	GERESS Array B	150.14	344	PKP	PKPdf	17 37 04.8	+0.1
	comp=Z,0.8nm,0.8s,baz=350,slow=3.0,SNR=7.2						
GERES				PKPbc	PKPbc	17 37 10.4	-0.1
	comp=Z,7.1nm,0.7s,baz=336,slow=2.9,SNR=54						
GERES				PKPab	PKPab	17 37 19.2	0.0
	comp=Z,2.9nm,0.8s,baz=341,slow=2.8,SNR=6.5						
BMRD	Maredsous	150.22	356	dPKiKP	PKPbc	17 37 10.8	+0.3
CONA	Conrad Observa	150.34	340	ePKiKP	PKPbc	17 37 11.1	+0.2
	comp=Z,7.5nm,0.6s,SNR=9.1						
RONA	Rosalia, Austr	150.40	340	ePKiKP	PKPbc	17 37 11.2	+0.2
	comp=Z,9.7nm,0.5s,SNR=13						
RONA				ePKP	PKPab	17 37 20.4	+0.2
	comp=Z,8.6nm,1.0s						
DOU	Dourbes	150.44	356	dPKP	PKPbc	17 37 11.2	+0.2
WLF	Walferdange	150.74	354	dPKiKP	PKiKP	17 37 12.0	0.0
WLF	Walferdange	150.74	354	ePKPbc	PKiKP	17 37 12.7	+0.6
	baz=19,slow=2.5						
WLF				ePKPab	PKPab	17 37 21.4	-0.1
	baz=15,slow=4.3						
MOA	Molln	150.89	342	ePKP	PKPbc	17 37 11.9	-0.2
	comp=Z,4.0nm,0.6s						
MOA				ePKP	PKPab	17 37 22.7	+0.4
	comp=Z,8.3nm,1.2s						
STU	Stuttgart	151.19	349	ePKPbc	PKiKP	17 37 13.1	0.0
	baz=19,slow=2.5						
BIOA	Bad Ischl, Aus	151.22	343	ePKP	PKPbc	17 37 12.3	-0.6
	comp=Z,9.0nm,0.9s						
BIOA				i PKP	PKPab	17 37 23.9	+0.3
	comp=Z,14nm,0.8s						
FUR	Furstenfeldbru	151.36	346	ePKPbc	PKPbc	17 37 13.3	+0.1
	baz=19,slow=2.5						
FUR				ePKPab	PKPab	17 37 24.6	+0.3
	baz=15,slow=4.3						
RJOB	Jochberg	151.40	344	ePKPbc	PKPbc	17 37 12.9	-0.4
	baz=19,slow=2.5						
RJOB				ePKPab	PKPab	17 37 25.1	+0.6
	baz=15,slow=4.3						
SOKA	Soboth	151.71	340	ePKP	PKPbc	17 37 13.3	-0.7
	comp=Z,2.9nm,0.5s,SNR=6.3						
LESA	Schwarzleotal	151.72	344	ePKP	PKPbc	17 37 13.4	-0.7
	comp=Z,6.2nm,0.5s,SNR=5.2						
BFO	Black Forest	151.77	350	ePKPbc	PKPbc	17 37 14.2	+0.1
	baz=19,slow=2.5						
BFO				ePKPab	PKPab	17 37 25.6	-0.3
	baz=15,slow=4.3						
KBA	Koelnbreinsper	151.86	343	ePKP	PKPbc	17 37 13.4	-1.1
	comp=Z,5.9nm,0.6s						
OBKA	Obir	152.01	341	ePKP	PKPbc	17 37 13.6	-1.2
	comp=Z,4.1nm,0.8s						
WATA	Walderalm	152.07	345	ePKP	PKPbc	17 37 14.5	-0.5
	comp=Z,4.6nm,0.5s,SNR=5.7						
WATA				ePKP	PKPab	17 37 27.2	-0.2
	comp=Z,5.7nm,0.7s						
RETA	Reutte	152.12	346	ePKP	PKPbc	17 37 14.7	-0.2
	comp=Z,5.6nm,0.7s						
RETA				ePKP	PKPab	17 37 27.3	-0.2
	comp=Z,7.0nm,0.7s						
WTTA	Wattenberg	152.13	345	ePKP	PKPbc	17 37 14.8	-0.3
	comp=Z,7.8nm,0.5s,SNR=7.9						
WTTA				ePKP	PKPab	17 37 27.7	0.0
	comp=Z,9.6nm,0.6s						
MOTA	Moosalm	152.18	346	ePKP	PKPbc	17 37 14.4	-0.8
	comp=Z,8.4nm,0.7s						
MOTA				ePKP	PKPab	17 37 27.6	-0.2
	comp=Z,8.3nm,0.7s						
MYKA	Terra Mystica	152.18	342	ePKP	PKPbc	17 37 14.0	-1.1
	comp=Z,3.4nm,0.5s,SNR=5.1						
MYKA				ePKP	PKPab	17 37 27.1	-0.7
	comp=Z,4.7nm,0.7s						
SQTA	Sankt Quirin	152.27	346	ePKP	PKPbc	17 37 14.9	-0.4
	comp=Z,5.1nm,0.6s,SNR=5.6						
SQTA				ePKP	PKPab	17 37 28.5	+0.3
	comp=Z,7.0nm,0.9s						
ABTA	Abfaltersbach	152.39	344	ePKP	PKPbc	17 37 14.5	-1.0
	comp=Z,13nm,0.6s,SNR=6.6						
ABTA				ePKP	PKPab	17 37 27.9	-0.8
	comp=Z,8.0nm,0.9s						
DAVA	Damuels	152.50	348	ePKP	PKPbc	17 37 15.2	-0.7
	comp=Z,3.1nm,0.6s						
DAVA				i PKP	PKPab	17 37 28.7	-0.6
	comp=Z,13nm,1.3s						
FETA	Feichten	152.57	346	ePKP	PKPbc	17 37 15.3	-0.7
	comp=Z,5.6nm,0.6s						
FETA				i PKP	PKPab	17 37 29.2	-0.4
	comp=Z,10nm,1.3s						
TUE	Stuetta	153.38	348		PKPdf	17 37 08.9	-0.8
ESDC	Sonseca Array	160.39	13	PKPab	PKPab	17 38 03.0	-0.5
	comp=Z,3.9nm,1.1s,baz=338,slow=3.6,SNR=11						
KEST	Kesra	163.40	337	PKPab	PKPab	17 38 17.1	+0.2
	comp=Z,1.7nm,0.6s,baz=45,slow=5.7,SNR=1.9						
TORD	Torodi Ar. Bea	172.61	181	PKP	PKPdf	17 37 26.9	-1.4
	comp=Z,1.9nm,0.8s,baz=175,slow=0.5,SNR=9.9						
TORD				PKPab	PKPab	17 38 58.4	+0.5
	comp=Z,0.7nm,0.7s,baz=160,slow=2.3,SNR=3.9						

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*IDC **01** 17:19:41.2±1.5, 28.°94N×95.°58E, h0km, mb3.3/6, mbtmp3.4/6, MS4.3/1, Error ellipse: s-maj=72.2km s-min=21.3km az=64.0*

ISC 01 17:19:47.4±1.1**, 29.°2N**±0.°1×**95.°52E**±0.°08**, h40**km**, n18, σ1.s80**/28**, mb3.5**/4**, Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ODAN	Odare	7.55	254	Pn	Pn	17 21 37.4	+2.1
	baz=250,slow=0.0						
ODAN				Sn	Sn	17 23 02.1	+2.3
	46nm,0.3s,baz=250,slow=0.0						
RAMN	Ramite	8.19	256	Pn	Pn	17 21 45.5	+1.4
	baz=252,slow=0.0						
RAMN				Sn	Sn	17 23 17.5	+2.0
	25nm,0.4s,baz=252,slow=0.0						
GUN	Gumba	8.58	264	Pn	Pn	17 21 50.9	+1.5
	baz=259,slow=0.0						
GUN				Sn	Sn	17 23 25.3	+0.2
	10nm,0.2s,baz=259,slow=0.0						
PKI	Pulchoki	9.05	262	Pn	Pn	17 21 56.8	+0.9
	baz=258,slow=0.0						
PKI				Sn	Sn	17 23 36.7	-0.1
	10nm,0.2s,baz=258,slow=0.0						
PKIN	Phulchoki	9.06	262	Pn	Pn	17 21 57.5	+1.5
	baz=258,slow=0.0						
PKIN				Sn	Sn	17 23 36.6	-0.3
	19nm,0.3s,baz=258,slow=0.0						
KKN	Kakani	9.12	264	Pn	Pn	17 21 57.9	+1.2
	baz=260,slow=0.0						
KKN				Sn	Sn	17 23 37.5	-0.8
	18nm,0.2s,baz=260,slow=0.0						
DMN	Daman	9.31	263	Pn	Pn	17 22 00.9	+1.5
	baz=259,slow=0.0						
DMN				Sn	Sn	17 23 41.6	-1.3
	11nm,0.4s,baz=259,slow=0.0						
GKN	Gorkha	9.64	266	Pn	Pn	17 22 04.4	+0.6
	baz=262,slow=0.0						
GKN				Sn	Sn	17 23 49.2	-1.8
	15nm,0.4s,baz=262,slow=0.0						
DANN	Dangsing	10.36	268	Pn	Pn	17 22 13.1	-0.6
	baz=264,slow=0.0						
DANN				Sn	Sn	17 24 06.1	-2.6
	12nm,0.3s,baz=264,slow=0.0						
KOLN	Koldanda	10.59	265	Pn	Pn	17 22 16.5	-0.3
	baz=262,slow=0.0						
KOLN				Sn	Sn	17 24 11.4	-2.8
	16nm,0.4s,baz=262,slow=0.0						
PYUN	Piuthan	11.06	267	Pn	Pn	17 22 22.2	-1.2
	baz=264,slow=0.0						
PYUN				Sn	Sn	17 24 21.7	-4.2
	9.3nm,0.3s,baz=264,slow=0.0						
MKAR	Makanchi Array	20.39	333	P	P	17 24 23.3	+2.6
	0.3nm,0.4s,baz=136,slow=12,SNR=6.3						
	0.3nm,0.4s						
SONM	Songino Array	20.43	21	P	P	17 24 21.8	+0.4
	0.8nm,0.7s,baz=206,slow=9.9,SNR=4.4						
	0.8nm,0.7s						
KURBB	Kurchatov Arra	24.95	334	P	P	17 25 08.3	+1.4
	0.3nm,0.5s,baz=140,slow=11,SNR=2.2						
	0.3nm,0.5s						
ZALV	Zalesovo Beam	25.94	345	P	P	17 25 16.8	+0.9
	0.6nm,0.5s,baz=163,slow=7.5,SNR=2.4						
	0.6nm,0.5s						
JNU	Nakatsue	30.42	74	LR	LR	17 39 16.5	
	comp=Z,566nm,20.3s,baz=20,slow=39						
WRA	Warramunga Arr	61.55	138	P	P	17 29 59.0	-1.8
	0.5nm,0.7s,baz=320,slow=7.4,SNR=5.2						
	0.5nm,0.7s						
ASAR	Alice Springs	64.23	141	P	P	17 30 16.8	-1.7
	0.4nm,0.7s,baz=322,slow=6.0,SNR=2.3						
	0.4nm,0.7s						

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*AEIC **01** 17:20:46.5±1.2, 54.°4N±0.°2×164.°4W±0.°2, h83km±7km, Error ellipse: s-maj=37.9km s-min=4.8km az=152.0*

NEIC 01 17:20:46.4±1.1**, 54.°4N**±0.°3×**164.°4W**±0.°3**, h80**km±11km**, ML2.6**/12**, ML2.5**(AEIC)**, Error ellipse: s-maj=49.5km s-min=4.4km az=153.0, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WEBT	Westdahl Beart	0.25	309		Pn	17 20 58.8	+0.3
SSLS	Shishaldin Sou	0.37	41		Pn	17 20 58.9	-0.4
SSBA	Shishaldin	0.38	26		Pn	17 20 59.6	+0.3
ISNN	Isanotski Nort	0.55	42		Pn	17 21 00.8	+0.2
FALS	False Pass	0.72	53		Pn	17 21 01.9	-0.3
FALS	False Pass	0.72	53		Sn	17 21 15.0	+1.0
AKSA	Akutan Strait	0.81	249		Pn	17 21 02.7	-0.5
AKSA					Sn	17 21 15.9	+0.2
AKUT	Akutan	0.85	250		Pn	17 21 03.2	-0.4
AKUT					Sn	17 21 17.1	+0.6
AKUT	Akutan	0.85	250	IAML		17 21 18.5	
	comp=N,100nm,0.3s						
AKUT				IAML		17 21 19.6	
	comp=E,126nm,0.4s						
AHB	Akutan Harbor	0.88	249		Pn	17 21 03.6	-0.5
AKLV	Akutan Long Va	0.94	254		Pn	17 21 04.8	0.0
AKGG	Akutan Green G	0.95	256		Pn	17 21 05.3	+0.4
ZRO	Akutan Zero	0.98	250		Pn	17 21 04.8	-0.4
ZRO					Sn	17 21 19.9	+0.7
LVA	Lava Point	0.99	255	Pn	Pn	17 21 05.7	+0.4
LVA				IAML		17 21 31.7	
	comp=E,104nm,1.1s						
LVA				IAML		17 21 31.7	
	comp=N,180nm,0.9s						
AKMO	Akutan Morgan	1.00	251		Pn	17 21 05.0	-0.4
AKMO					Sn	17 21 20.2	+0.7
UNV	Unalaska Valle	1.36	245		Pn	17 21 09.0	-0.9
MTBL	Makushin Table	1.41	252		Pn	17 21 10.7	+0.1
DT1	Dutton Round H	1.41	60		Pn	17 21 09.9	-0.6
MNAT	Makushin Natee	1.44	249		Pn	17 21 10.3	-0.7
MSW	Makushin Switc	1.48	251		Pn	17 21 11.2	-0.3
MREP	Makushin Rep't	1.51	247		Pn	17 21 11.1	-0.7
MAPS	Pakushin South	1.61	248		Pn	17 21 12.7	-0.5
S12K	Black Hills	1.86	46		Pn	17 21 14.6	-1.8
S12K	Black Hills	1.86	46	IAML		17 21 47.1	
	comp=E,48nm,0.2s						
SDPT	Sand Point	2.45	66		Pn	17 21 24.1	-0.2
SDPT	Sand Point	2.45	66	IAML		17 22 47.7	
	comp=N,42nm,1.1s						

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*JMA **01** 17:25:49.2±0.1, 25°N±1°×122.°3E±0.°3, h51km±3km, MV2.2/6, TAIWAN REGION*

*TAP **01** 17:25:49.5, 24.°86N×122.°22E, h10km, ML2.7, C*

ISC 01 17:25:48.8±1.1**, 24.°84N**±0.°02×**122.°28E**±0.°03**, h10**km±9km**, n51, σ0.s48**/88**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.32	303	i P	Pg	17 25 55.2	0.0
TWB1				i S	Sg	17 25 58.9	-0.5
EGS		0.32	272	i P	Pg	17 25 55.4	+0.2
EGS				eS	Sg	17 25 59.1	-0.3
EOS2	EOS2	0.42	186	P	Pb	17 25 58.3	+0.2
EOS2				eS	Sb	17 26 05.6	+1.1
TIPB	Shuangxi	0.44	288	P	Pg	17 25 57.7	+0.3
TIPB				eS	Sg	17 26 03.7	+0.5
SXI1	Grass Mountain	0.45	305	i P	Pg	17 25 58.2	+0.6
SXI1				S	Sg	17 26 03.7	+0.1
TWC	Suao	0.46	240	P	Pg	17 25 57.5	-0.2
TWC				eS	Sg	17 26 02.8	-0.9
ESAO	Su ao	0.48	237	eP	Pg	17 25 58.3	+0.3
ESAO				eS	Sg	17 26 04.5	+0.1
NWF	Wu-fen Shan	0.51	297	eP	Pb	17 26 00.1	+0.2
WFSB	Wu-fen Shan	0.51	297	eP	Pg	17 25 59.4	+0.6
WFSB				eS	Sg	17 26 05.7	+0.2
EOS3	EOS3	0.55	177	P	Pb	17 26 00.8	+0.4
EOS3				eS	Sb	17 26 10.0	+1.8
TNOU	National Taiwa	0.56	304	eP	Pg	17 26 00.0	+0.4
TNOU				eS	Sg	17 26 08.0	+0.9
TWE	Neicheng	0.57	259	eP	Pg	17 25 59.6	-0.3
TWE				eS	Sg	17 26 07.6	+0.2
EWUT	Wuta	0.60	230	eP	Pg	17 26 00.5	+0.1
EWUT				eS	Sg	17 26 07.9	-0.4
FUSB	Fushanzhiwuyua	0.64	263	eP	Pg	17 26 01.0	-0.1
FUSB				S	Sb	17 26 11.1	+0.1
ENA	Nanau	0.64	231	P	Pg	17 26 01.2	0.0
TWA	Mucha	0.65	283	eP	Pb	17 26 02.6	+0.3
TWA				S	Sb	17 26 11.5	+0.1
ENTT	Nioudou	0.68	254	P	Pg	17 26 02.4	+0.4
EAHA	Aohua	0.71	225	eP	Pg	17 26 02.8	+0.3
EOS4	EOS4	0.71	177	eP	Pb	17 26 03.9	+0.9
EOS4				eS	Sn	17 26 15.7	+0.3
NWLT	Wulai	0.71	266	eP	Pb	17 26 03.4	+0.1
NWLT				eS	Sg	17 26 12.4	+0.6
JYNG	Yonagunijimaku	0.71	122	eP	Pb	17 26 03.3	0.0
JYNG				eS	Sb	17 26 13.6	+0.4
YM01	YM01	0.72	296	P	Pb	17 26 03.3	-0.1
YM01				S	Sb	17 26 13.0	-0.3
YM08	YM08	0.72	299	eP	Pg	17 26 03.1	+0.4
ZUZH	Zhuzihu	0.74	296	eP	Pg	17 26 03.5	+0.3
LATG	Datong	0.75	247	P	Pg	17 26 03.6	+0.3
LATG				S	Sg	17 26 13.3	+0.2
YOJ	Yonaguni jima	0.76	119	P	Pb	17 26 04.2	+0.1
YOJ				eS	Sb	17 26 15.1	+0.6
YOJ	Yonaguni jima	0.76	119	P	Pb	17 26 04.0	0.0
YOJ				eS	Sb	17 26 14.8	+0.3
TWY	Chenhua	0.76	305	P	Pb	17 26 04.2	+0.1
TWY				S	Sb	17 26 14.2	-0.3
YHNB	Yeheng	0.84	259	eP	Pg	17 26 04.6	-0.4
NSK	Sanguang	0.86	260	eP	Pg	17 26 05.3	0.0
ETL	Fush Village	0.90	222	eP	Pg	17 26 06.2	+0.1
NACB	Ninganchiao	0.91	224	P	Pg	17 26 06.2	-0.1
NACB				eS	Sg	17 26 17.6	-0.6
NNSB	Datong	0.91	244	P	Pg	17 26 06.4	0.0
NNSB				S	Sg	17 26 18.2	-0.1
NNS	Nan Shan	0.92	245	eP	Pg	17 26 06.5	+0.1
NNS				S	Sb	17 26 19.4	+0.3
ETLH	Xiulin Townshi	0.96	230	eP	Pg	17 26 07.2	-0.1
ETLH				eS	Sg	17 26 19.4	-0.5
TWD	Chiawan	0.98	220	eP	Pg	17 26 07.3	-0.3

TWD				eS	**Sn**	**17 26 22.0**	**-0.4**
FUSS	**Fushou**	**1.11**	**239**	eP	**Pg**	**17 26 10.5**	**+0.3**
FUSS				S	**Sb**	**17 26 25.6**	**+0.7**
ETM	**Tongmen**	**1.13**	**220**	eP	**Pb**	**17 26 10.3**	**0.0**
LXIB	**Xiulin Townshi**	**1.13**	**225**	eP	**Pb**	**17 26 10.1**	**-0.5**
LXIB				eS	**Sg**	**17 26 25.7**	**+0.3**
WHF	**Hehuan Shan**	**1.16**	**234**	P	**Pb**	**17 26 11.0**	**0.0**
WHF				S	**Sg**	**17 26 26.0**	**0.0**
NSTT	**Nanjuang**	**1.18**	**260**	eP	**Pg**	**17 26 12.4**	**+0.9**
NSTT				eS	**Sn**	**17 26 28.8**	**+1.2**
OWD	**Renai**	**1.34**	**229**	eP	**Pb**	**17 26 14.2**	**+0.2**
OWD				eS	**Sb**	**17 26 31.6**	**+0.3**
WHP	**Taichung City**	**1.34**	**246**	eP	**Pg**	**17 26 14.6**	**+0.1**
WHP				eS	**Sn**	**17 26 31.6**	**+0.1**
WUSB	**Renai**	**1.35**	**232**	eP	**Pb**	**17 26 14.6**	**+0.3**
WUSB				eS	**Sb**	**17 26 31.9**	**+0.1**
WARBT	**Fenglin Townsh**	**1.38**	**217**	eP	**Pb**	**17 26 14.6**	**-0.1**
WARBT				eS	**Sg**	**17 26 33.8**	**+0.6**
IRIF	**Iriomote-Funau**	**1.41**	**110**	P	**Pn**	**17 26 13.0**	**-1.5**
WCS	**Beigang Elemen**	**1.47**	**239**	eP	**Pg**	**17 26 17.2**	**+0.2**
HGSD	**Ruisui**	**1.55**	**211**	eP	**Pb**	**17 26 17.3**	**-0.3**
SMLT	**Sun Moon Lake**	**1.58**	**233**	eP	**Pg**	**17 26 19.9**	**+0.8**
TYC	**Yuchr**	**1.60**	**235**	eP	**Pg**	**17 26 19.4**	**0.0**
TYC				eS	**Sg**	**17 26 39.7**	**-0.5**
SSLB	**Suanglung**	**1.60**	**230**	eP	**Pb**	**17 26 19.0**	**+0.5**
SSLB				eS	**Sg**	**17 26 40.1**	**-0.1**

*NOU **01** 17:28:54.1, 41°.33S×172°.76E, h132km, MLv3.7/16, South Island, New Zealand*
*WEL **01** 17:28:56.7±1.0, 41°S±5°×17°3E±°, h119km±7km, M2.5/8, MLv2.5/8, Error ellipse: s-maj=9.0km s-min=5.4km az=130.0, confirmed*
ISC 01 17:28:53.3±1.4**, 41°.31S**±0°.04×**172°.76E**±0°.04**, h150**km±7km**, n59, σ1ˢ16**/76**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRNZ	**Matariki Terra**	**0.09**	**179**	P	**Pn**	**17 29 14.0**	**+0.6**
MRNZ				S	**Sn**	**17 29 27.5**	**-1.2**
MATW	**Matariki Wadsw**	**0.13**	**198**	P	**Pn**	**17 29 13.9**	**+0.5**
MATW				S	**Sn**	**17 29 27.7**	**-1.1**
MOTS	**Motueka DOC wo**	**0.27**	**46**	P	**Pn**	**17 29 14.4**	**+0.7**
MOTS				S	**Sn**	**17 29 28.3**	**-0.8**
TKNZ	**Takaka Hill**	**0.32**	**29**	P	**Pn**	**17 29 14.5**	**+0.6**
TKNZ				S	**Sn**	**17 29 28.0**	**-1.5**
THZ	**Tophouse**	**0.47**	**166**	P	**Pn**	**17 29 15.6**	**+1.1**
THZ				S	**Sn**	**17 29 30.2**	**-0.6**
NNZ	**Nelson**	**0.48**	**79**	P	**Pn**	**17 29 15.3**	**+0.8**
NNZ				S	**Sn**	**17 29 30.0**	**-0.6**
QRZ	**Quartz Range**	**0.51**	**340**	P	**Pn**	**17 29 15.1**	**+0.4**
QRZ	**Quartz Range**	**0.51**	**340**	P	**Pn**	**17 29 15.4**	**+0.7**
QRZ				S	**Sn**	**17 29 29.2**	**-1.7**
DSZ	**Denniston Nort**	**0.84**	**238**	P	**Pn**	**17 29 17.7**	**+0.9**
DSZ				S	**Sn**	**17 29 32.8**	**-1.9**
BWRS	**Waikakaho Road**	**0.88**	**99**	P	**Pn**	**17 29 18.4**	**+1.4**
BWRS				S	**Sn**	**17 29 34.6**	**-0.5**
TUWZ	**Tuamarina**	**0.90**	**98**	P	**Pn**	**17 29 19.3**	**+2.1**
TUWZ				S	**Sn**	**17 29 35.7**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.93**	**116**	P	**Pn**	**17 29 18.7**	**+1.3**
BSWZ				S	**Sn**	**17 29 35.7**	**-0.2**
DUWZ	**D'Urville Isla**	**1.02**	**61**	P	**Pn**	**17 29 19.3**	**+1.1**
DUWZ				S	**Sn**	**17 29 37.2**	**0.0**
SJFS	**Springs Juncti**	**1.11**	**203**	P	**Pn**	**17 29 20.3**	**+1.3**
SJFS				S	**Sn**	**17 29 37.6**	**-1.1**
TCW	**Tory Channel**	**1.15**	**86**	P	**Pn**	**17 29 20.6**	**+1.2**
TCW				S	**Sn**	**17 29 38.4**	**-0.8**
KHZ	**Kahutara**	**1.25**	**152**	P	**Pn**	**17 29 21.6**	**+1.4**
KHZ	**Kahutara**	**1.25**	**152**	P	**Sn**	**17 29 40.4**	**-0.6**
KHZ	**Kahutara**	**1.25**	**152**	P	**Pn**	**17 29 21.7**	**+1.5**
KHZ				S	**Sn**	**17 29 40.3**	**-0.7**
LTZ	**Lake Taylor**	**1.52**	**194**	P	**Pn**	**17 29 24.6**	**+1.6**
LTZ				S	**Sn**	**17 29 45.1**	**-0.8**
BHW	**Baring Head**	**1.60**	**94**	P	**Pn**	**17 29 23.1**	**-0.7**
BHW				S	**Sn**	**17 29 45.3**	**-1.9**
GVZ	**Greta Valley S**	**1.67**	**173**	P	**Pn**	**17 29 26.4**	**+1.7**
KIW	**Kapiti Island**	**1.69**	**75**	P	**Pn**	**17 29 25.2**	**+0.4**
INZ	**Inchbonnie**	**1.72**	**214**	P	**Pn**	**17 29 26.6**	**+1.5**
CAW	**Cannon Point**	**1.75**	**84**	P	**Pn**	**17 29 26.1**	**+0.6**
OGWZ	**Otaki Gorge**	**1.89**	**76**	P	**Pn**	**17 29 27.7**	**+0.6**
PLWZ	**Palliser**	**1.90**	**99**	P	**Pn**	**17 29 27.8**	**+0.5**
PAWZ	**Paruwai Farm**	**2.01**	**93**	P	**Pn**	**17 29 29.0**	**+0.5**
MTW	**Mount Morrison**	**2.08**	**87**	P	**Pn**	**17 29 29.7**	**+0.5**
OXZ	**Oxford**	**2.08**	**195**	P	**Pn**	**17 29 30.2**	**+0.9**
HOWZ	**Holdsworth Sta**	**2.12**	**80**	P	**Pn**	**17 29 30.1**	**+0.3**
NBEZ	**Newall Road No**	**2.21**	**23**	P	**Pn**	**17 29 32.6**	**+1.7**
KHEZ	**Kahui Hut**	**2.23**	**26**	P	**Pn**	**17 29 32.5**	**+1.3**
KHEZ	**Kahui Hut**	**2.23**	**26**	P	**Pn**	**17 29 32.6**	**+1.4**
MRZ	**Mangatainoka R**	**2.23**	**74**	P	**Pn**	**17 29 31.2**	**+0.1**
LREZ	**Lake Rotokare**	**2.23**	**35**	P	**Pn**	**17 29 33.3**	**+2.1**
PREZ	**Palmer Road**	**2.24**	**29**	P	**Pn**	**17 29 33.0**	**+1.7**
NEZ	**North Egmont**	**2.28**	**27**	P	**Pn**	**17 29 33.0**	**+1.2**
WAZ	**Wanganui**	**2.30**	**48**	P	**Pn**	**17 29 33.8**	**+1.8**
PKE	**Pukeiti**	**2.31**	**24**	P	**Pn**	**17 29 33.8**	**+1.6**
MHCZ	**Mount Hutt**	**2.39**	**201**	P	**Pn**	**17 29 34.5**	**+1.5**
MQZ	**McQueen's Vall**	**2.40**	**182**	P	**Pn**	**17 29 33.9**	**+0.9**
OKCZ	**Okains Bay**	**2.42**	**175**	P	**Pn**	**17 29 35.0**	**+1.5**
RACZ	**Rakaia**	**2.46**	**190**	P	**Pn**	**17 29 34.9**	**+1.1**
PRWZ	**Pori Road**	**2.55**	**74**	P	**Pn**	**17 29 35.2**	**+0.2**
AKCZ	**Akaroa Harbour**	**2.56**	**178**	P	**Pn**	**17 29 36.5**	**+1.4**
RPZ	**Rata Peaks**	**2.71**	**207**	P	**Pn**	**17 29 38.1**	**+1.1**
RPZ	**Rata Peaks**	**2.71**	**207**	S	**Sn**	**17 30 09.8**	**-1.0**
BFZ	**Birch Farm**	**2.71**	**78**	P	**Pn**	**17 29 36.9**	**-0.1**
BFZ	**Birch Farm**	**2.71**	**78**	S	**Sn**	**17 30 09.2**	**-1.6**
BFZ	**Birch Farm**	**2.71**	**78**	P	**Pn**	**17 29 37.0**	**-0.1**
PKVZ	**Pokaka**	**2.83**	**45**	P	**Pn**	**17 29 39.5**	**+1.0**
WNVZ	**Wahianoa**	**2.94**	**49**	P	**Pn**	**17 29 40.9**	**+0.9**
HIZ	**Hauiti**	**3.23**	**31**	P	**Pn**	**17 29 44.5**	**+1.0**
BKZ	**Black Stump Fm**	**3.57**	**54**	P	**Pn**	**17 29 48.1**	**+0.1**
BKZ	**Black Stump Fm**	**3.57**	**54**	S	**Sn**	**17 30 29.7**	**-0.7**
JCZ	**Jackson Bay**	**4.02**	**225**	P	**Pn**	**17 29 54.6**	**+0.7**
JCZ	**Jackson Bay**	**4.02**	**225**	S	**Sn**	**17 30 39.2**	**-1.8**
ODZ	**Otahua Downs**	**4.04**	**202**	P	**Pn**	**17 29 54.9**	**+0.9**
ODZ	**Otahua Downs**	**4.04**	**202**	S	**Sn**	**17 30 39.3**	**-1.9**

*TAP **01** 17:30:46.0, 24°.64N×122°.37E, h17km, ML2.7, C*
*JMA **01** 17:30:46.5±0.1, 25°N±1°×122°.4E±0°.4, h30km±3km, MV1.9/7, NW OFF ISHIGAKIJIMA IS*
ISC 01 17:30:46.2±0.9**, 24°.62N**±0°.03×**122°.40E**±0°.02**, h26**km±8km**, n52, σ0ˢ64**/81**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.25**	**217**	P	**Pb**	**17 30 52.5**	**0.0**
EOS2				i S	**Sb**	**17 30 57.8**	**+1.0**
EOS3	**EOS3**	**0.34**	**193**	i P	**Pb**	**17 30 54.2**	**+0.4**
EOS3				S	**Sn**	**17 31 00.2**	**-1.1**
EGS		**0.48**	**298**	P	**Pb**	**17 30 55.3**	**-0.9**
EGS				eS	**Sb**	**17 31 02.6**	**-0.3**
EOS4	**EOS4**	**0.50**	**188**	eP	**Pn**	**17 30 57.2**	**-0.2**
TWC	**Suao**	**0.50**	**269**	i P	**Pb**	**17 30 55.2**	**-1.3**
ESAO	**Su ao**	**0.51**	**265**	eP	**Pb**	**17 30 55.6**	**-1.0**
JYNG	**Yonagunijimaku**	**0.53**	**108**	P	**Pb**	**17 30 56.8**	**-0.1**
JYNG				eS	**Sb**	**17 31 03.8**	**-0.3**
TWB1	**Santiao Chiao**	**0.54**	**316**	P	**Pb**	**17 30 56.2**	**-1.0**
TWB1				S	**Sb**	**17 31 03.7**	**-0.9**
YOJ	**Yonaguni jima**	**0.58**	**105**	P	**Pb**	**17 30 57.8**	**0.0**
YOJ				S	**Sb**	**17 31 06.0**	**+0.3**
YOJ	**Yonaguni jima**	**0.58**	**105**	eP	**Pb**	**17 30 57.7**	**-0.2**
YOJ				eS	**Sb**	**17 31 05.8**	**+0.1**
EWUT	**Wuta**	**0.59**	**253**	P	**Pb**	**17 30 57.6**	**-0.4**
EWUT				eS	**Sb**	**17 31 06.1**	**+0.1**
ENA	**Nanau**	**0.63**	**253**	eP	**Pb**	**17 30 58.0**	**-0.6**
TIPB	**Shuangxi**	**0.63**	**304**	eP	**Pb**	**17 30 58.4**	**-0.3**
EAHA	**Aohua**	**0.67**	**245**	eP	**Pb**	**17 30 59.1**	**-0.1**
EAHA				eS	**Sb**	**17 31 08.6**	**+0.4**
SXI1	**Grass Mountain**	**0.67**	**315**	i P	**Pb**	**17 30 59.3**	**-0.1**
SXI1				i S	**Sb**	**17 31 08.7**	**+0.3**
TWE	**Neicheng**	**0.67**	**279**	P	**Pb**	**17 30 58.4**	**-1.0**
TWE				eS	**Sb**	**17 31 08.1**	**-0.3**
NWF	**Wu-fen Shan**	**0.72**	**309**	P	**Pb**	**17 31 00.3**	**+0.1**
NWF				S	**Sb**	**17 31 10.4**	**+0.6**
WFSB	**Wu-fen Shan**	**0.72**	**309**	P	**Pb**	**17 30 60.0**	**-0.2**
WFSB				S	**Sb**	**17 31 10.3**	**+0.7**
FUSB	**Fushanzhiwuyua**	**0.75**	**281**	P	**Pb**	**17 31 00.1**	**-0.6**
FUSB				S	**Sb**	**17 31 10.4**	**-0.2**
ENTT	**Nioudou**	**0.76**	**272**	eP	**Pb**	**17 31 00.3**	**-0.5**
TNOU	**National Taiwa**	**0.78**	**313**	P	**Pb**	**17 31 00.9**	**-0.2**
TNOU				S	**Sb**	**17 31 10.9**	**-0.4**
LATG	**Datong**	**0.80**	**264**	eP	**Pb**	**17 31 01.0**	**-0.6**
TWA	**Mucha**	**0.82**	**296**	eP	**Pb**	**17 31 01.8**	**-0.2**
TWA				eS	**Sb**	**17 31 12.6**	**-0.1**
NWLT	**Wulai**	**0.83**	**281**	eP	**Pn**	**17 31 02.4**	**0.0**
NWLT				eS	**Sb**	**17 31 12.8**	**-0.1**
ETL	**Fush Village**	**0.84**	**237**	eP	**Pn**	**17 31 02.4**	**-0.1**
NACB	**Ninganchiao**	**0.86**	**239**	P	**Pb**	**17 31 02.2**	**-0.3**
NACB				S	**Sn**	**17 31 13.9**	**-0.4**
NHDH	**Xindian Distri**	**0.86**	**294**	eP	**Pn**	**17 31 02.8**	**+0.1**
NHDH				eS	**Sb**	**17 31 14.0**	**+0.2**
YM01	**YM01**	**0.92**	**305**	eP	**Pb**	**17 31 03.4**	**-0.1**
YM01				eS	**Sb**	**17 31 15.5**	**+0.1**
YM08	**YM08**	**0.93**	**308**	eP	**Pn**	**17 31 04.0**	**+0.3**
YM08				eS	**Sb**	**17 31 15.3**	**-0.4**
ETLH	**Xiulin Townshi**	**0.93**	**244**	eP	**Pn**	**17 31 03.9**	**+0.2**
YHNB	**Yeheng**	**0.93**	**273**	P	**Pb**	**17 31 03.6**	**-0.2**
YHNB				S	**Sb**	**17 31 15.5**	**-0.3**
NNSB	**Datong**	**0.94**	**259**	eP	**Pb**	**17 31 03.6**	**-0.5**
NNSB				eS	**Sn**	**17 31 16.5**	**-0.2**
ZUZH	**Zhuzihu**	**0.95**	**305**	eP	**Pn**	**17 31 04.2**	**+0.3**
ZUZH				i S	**Sb**	**17 31 16.2**	**0.0**
NSK	**Sanguang**	**0.95**	**274**	eP	**Pb**	**17 31 03.9**	**-0.2**
NSK				eS	**Sb**	**17 31 15.4**	**-0.9**
NNS	**Nan Shan**	**0.95**	**259**	eP	**Pb**	**17 31 03.8**	**-0.3**
TWY	**Chenhua**	**0.98**	**312**	eS	**Sn**	**17 31 17.5**	**+0.2**
TWS1	**Kuangyinshan**	**1.01**	**299**	eP	**Pb**	**17 31 05.2**	**+0.1**
TWS1				eS	**Sn**	**17 31 18.6**	**+0.4**
NTST	**Danshui**	**1.02**	**302**	eP	**Pb**	**17 31 08.5**	**+3.3**
NTST				eS	**Sn**	**17 31 18.6**	**+0.3**
PCYT	**Pengchaiyu**	**1.05**	**344**	eP	**Pb**	**17 31 05.8**	**+0.1**
LXIB	**Xiulin Townshi**	**1.08**	**237**	eP	**Pb**	**17 31 06.7**	**+0.3**
FUSS	**Fushou**	**1.11**	**251**	eP	**Pb**	**17 31 07.8**	**+0.8**
SHUL	**Shoufeng**	**1.12**	**223**	eP	**Pb**	**17 31 08.3**	**+1.3**
WHF	**Hehuan Shan**	**1.14**	**246**	eP	**Pb**	**17 31 08.0**	**+0.5**
NFF	**Wufeng Townshi**	**1.17**	**271**	eP	**Pb**	**17 31 08.2**	**+0.5**
NFF				eS	**Sb**	**17 31 23.5**	**+1.0**
ESL	**Shilin**	**1.19**	**228**	eP	**Pb**	**17 31 08.1**	**-0.1**
IRIF	**Iriomote-Funau**	**1.25**	**103**	eP	**Pn**	**17 31 07.9**	**-0.1**
IRIF				eS	**Sn**	**17 31 23.9**	**0.0**
WARBT	**Fenglin Townsh**	**1.29**	**226**	eP	**Pb**	**17 31 09.2**	**-0.6**
OWD	**Renai**	**1.30**	**240**	eP	**Pb**	**17 31 10.2**	**+0.1**
WUSB	**Renai**	**1.32**	**242**	eP	**Pb**	**17 31 11.4**	**+0.9**
WHP	**Taichung City**	**1.37**	**256**	eP	**Pb**	**17 31 12.1**	**+0.9**
HGSD	**Ruisui**	**1.43**	**219**	eP	**Pb**	**17 31 11.5**	**-0.7**
JIJ	**Ishigaki jima**	**1.61**	**99**	eS	**Sn**	**17 31 32.5**	**-0.4**

*IDC **01** 17:31:17.9±1.6, 32°.51S×71°.80W, h0km, mb3.8/3, mbtmp3.6/6, ML3.9/3, Error ellipse: s-maj=69.6km s-min=24.5km az=100.0*
*SJA **01** 17:31:18.4±0.8, 32°.66S×72°.14W, h31km±3km, ML3.8, MW4.0*
*GUC **01** 17:31:21.9±0.8, 32°.65S×71°.81W, h24km±19km, ML3.8*
ISC 01 17:31:18.8±1.6**, 32°.64S**±0°.02×**71°.91W**±0°.05**, h7**km±10km**, n61, σ1ˢ26**/89**, 11D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.44**	**150**	⇓iP	**Pb**	**17 31 29.9**	**+1.1**
VA01				eS	**Sb**	**17 31 35.7**	**+0.1**
VA01				IAML		17 31 36.7	
	comp=N,8μm,0.1s						
VA01	**Torpederas**	**0.44**	**150**	eP	**Pb**	**17 31 29.9**	**+1.1**
VA06	**Catapilco**	**0.53**	**81**	⇓iP	**Pb**	**17 31 30.7**	**+0.4**
VA06				eS	**Sb**	**17 31 37.3**	**-0.8**
VA06				IAML		17 31 38.0	
	comp=N,19μm,0.3s						
ROCH	**El Roble**	**0.83**	**114**	⇓iP	**Pb**	**17 31 35.8**	**+0.2**
ROCH				eS	**Sb**	**17 31 45.9**	**-1.1**
ROCH				IAML		17 31 46.7	
	comp=N,5μm,0.2s						
MT02	**Curacav**	**0.90**	**133**	⇓iP	**Pg**	**17 31 36.8**	**+0.8**
MT02				eS	**Sg**	**17 31 47.5**	**-0.1**
MT02				IAML		17 31 51.6	
	comp=E,3μm,0.3s						
PEL	**Peldehue**	**1.15**	**116**	eP	**Pb**	**17 31 40.8**	**-0.1**
PEL				eS	**Sg**	**17 31 55.2**	**-0.5**
PEL				IAML		17 31 59.0	
	comp=N,7μm,0.3s						
VA03	**San Esteban**	**1.15**	**96**	⇓iP	**Pb**	**17 31 40.5**	**-0.7**
VA03				eS	**Sg**	**17 31 54.8**	**-1.1**
VA03				IAML		17 31 58.3	
	comp=N,3μm,0.4s						
MT05	**Renca**	**1.24**	**127**	eP	**Pb**	**17 31 42.5**	**0.0**
MT05				eS	**Sb**	**17 31 58.1**	**-0.6**
MT05				IAML		17 32 01.9	
	comp=N,6μm,0.5s						
MT10	**Hacienda Santa**	**1.32**	**119**	⇓iP	**Pn**	**17 31 43.7**	**0.0**
MT10				eS	**Sb**	**17 31 60.0**	**-1.1**
MT10				IAML		17 32 04.0	
	comp=E,9μm,0.5s						
MT01	**Popeta**	**1.34**	**156**	eP	**Pn**	**17 31 44.1**	**+0.2**
MT01				eS	**Sb**	**17 32 00.5**	**-1.0**
MT01				IAML		17 32 04.1	
	comp=E,2μm,0.3s						
MT01	**Popeta**	**1.34**	**156**	eP	**Pn**	**17 31 44.1**	**+0.2**
MT01				eS	**Sg**	**17 32 02.3**	**+0.5**
MT01				IAML		17 32 05.6	
	comp=Z,1μm,0.4s						
MT09	**Talagante**	**1.37**	**146**	eP	**Pn**	**17 31 44.7**	**+0.3**
MT09				eS	**Sb**	**17 32 01.8**	**-0.8**
MT09				IAML		17 32 04.4	
	comp=N,3μm,0.4s						
MT14	**Cerro Cal¡n**	**1.38**	**123**	⇓iP	**Pn**	**17 31 44.7**	**+0.2**
MT14				eS	**Sb**	**17 32 01.7**	**-1.1**
MT14				IAML		17 32 08.8	
	comp=E,5μm,0.3s						
MT16	**CCHEN**	**1.41**	**124**	⇓iP	**Pn**	**17 31 45.1**	**+0.3**
MT16				eS	**Sb**	**17 32 02.4**	**-1.1**
MT16				IAML		17 32 09.6	
	comp=N,1μm,0.4s						
MT03	**Universidad Ad**	**1.45**	**126**	⇓iP	**Pn**	**17 31 45.9**	**+0.4**
MT03				eS	**Sn**	**17 32 04.0**	**-0.8**
MT03				IAML		17 32 10.9	
	comp=E,4μm,0.4s						
MT15	**Las Vizcachas**	**1.52**	**129**	eP	**Pn**	**17 31 46.9**	**+0.5**
MT15				IAML		17 32 10.5	
	comp=N,6μm,0.3s						
FCH	**Farellones**	**1.52**	**117**	eP	**Pn**	**17 31 46.9**	**+0.1**
FCH				IAML		17 32 09.5	
	comp=N,2μm,0.2s						
CO02	**Combarbal**	**1.63**	**29**	eP	**Pn**	**17 31 48.6**	**+0.6**
CO02				IAML		17 32 14.9	
	comp=E,4μm,0.3s						
CO02	**Combarbal**	**1.63**	**29**	eP	**Pn**	**17 31 48.6**	**+0.6**
CO02				eS	**Sb**	**17 32 10.0**	**-0.1**
CO02				IAML		17 32 15.2	
	comp=Z,871nm,0.2s						
MT04	**Ro Olivares**	**1.67**	**117**	⇓iP	**Pn**	**17 31 49.1**	**+0.4**
MT04				IAML		17 32 13.2	
	comp=N,2μm,0.2s						
BO04	**La Punta**	**1.73**	**141**	eP	**Pb**	**17 31 50.7**	**-0.2**
BO04				IAML		17 32 18.8	
	comp=N,1μm,0.3s						
MT13	**San Alfonso**	**1.75**	**129**	eP	**Pb**	**17 31 50.8**	**-0.5**
MT13				IAML		17 32 16.9	
	comp=E,3μm,0.3s						
MT13	**San Alfonso**	**1.75**	**129**	eP	**Pb**	**17 31 50.9**	**-0.4**
MT13				eS	**Sg**	**17 32 14.7**	**-0.4**
MT13				IAML		17 32 19.2	
	comp=Z,1μm,0.5s						
MT08	**Bocatoma Ro**	**1.78**	**117**	⇓iP	**Pn**	**17 31 51.1**	**+0.9**
MT08				IAML		17 32 17.9	
	comp=E,743nm,0.2s						
MT08	**Bocatoma Ro**	**1.78**	**117**	eP	**Pn**	**17 31 45.7**	**-4.5**
MT08				eP	**Pb**	**17 31 51.2**	**-0.7**
MT08				eS	**Sg**	**17 32 16.6**	**+0.5**
MT08				IAML		17 32 18.2	
	comp=Z,596nm,0.3s						
LMEL	**Las Melosas**	**1.87**	**130**	eP	**Pn**	**17 31 52.6**	**+1.3**
LMEL				IAML		17 32 21.2	
	comp=N,2μm,0.2s						
LMEL	**Las Melosas**	**1.87**	**130**	eP	**Pb**	**17 31 53.0**	**-0.3**
LMEL				eS	**Sg**	**17 32 18.0**	**-0.9**
LMEL				IAML		17 32 22.7	
	comp=Z,1μm,0.8s						
BO01	**Tunca**	**1.88**	**159**	eP	**Pn**	**17 31 52.0**	**+0.8**
BO01				eS	**Sn**	**17 32 15.8**	**+0.6**
BO01				IAML		17 32 24.0	
	comp=Z,410nm,0.4s						
CO03	**El Pedregal**	**2.08**	**30**	eP	**Pn**	**17 31 55.2**	**+1.1**
CO03				eS	**Sb**	**17 32 23.2**	**+0.3**
CO03				IAML		17 32 26.1	
	comp=Z,329nm,0.4s						
BO02	**Sierra Bellavi**	**2.34**	**157**	eP	**Pn**	**17 31 58.3**	**+0.6**
BO02				eS	**Sb**	**17 32 28.7**	**-1.8**
BO02				IAML		17 32 37.1	
	comp=Z,737nm,0.5s						
GO05	**Hualane**	**2.36**	**180**	eP	**Pn**	**17 31 55.0**	**-3.0**
GO05				eS	**Sn**	**17 32 26.9**	**-0.3**
RTLS	**Leoncito**	**2.37**	**70**	eP	**Pb**	**17 32 01.6**	**-0.4**
RTLS				eS	**Sg**	**17 32 33.9**	**-1.1**
RTLS				IAML		17 32 34.6	
	comp=Z,804nm,0.6s						
ARCO	**CERRO ARCO**	**2.52**	**95**	eP	**Pb**	**17 32 04.4**	**0.0**
ARCO				eS	**Sb**	**17 32 33.2**	**-2.5**
ARCO				IAML		17 32 41.7	
	comp=Z,330nm,0.5s						
ASAL	**Salagasta**	**2.60**	**90**	eP	**Pb**	**17 32 05.6**	**-0.2**
ASAL				eS	**Sb**	**17 32 37.2**	**-0.7**
AAGR	**Agrelo**	**2.63**	**100**	eP	**Pb**	**17 32 06.3**	**-0.1**
AAGR				eS	**Sg**	**17 32 43.4**	**0.0**
AAGR				IAML		17 32 49.8	
	comp=Z,252nm,1.1s						
GO04	**Tololo Observa**	**2.64**	**21**	eP	**Pn**	**17 32 02.8**	**+0.8**
GO04				eS	**Sn**	**17 32 33.7**	**-0.7**
GO04				IAML		17 32 49.8	
	comp=Z,444nm,0.3s						
CO01	**Juntas del Tor**	**3.08**	**31**	eP	**Pn**	**17 32 10.3**	**+2.3**
CO01				eS	**Sn**	**17 32 45.7**	**+0.5**
CO01				IAML		17 32 55.1	
	comp=Z,153nm,0.7s						
ACCO	**Cerro Coronel**	**3.18**	**51**	eP	**Pb**	**17 32 13.8**	**-2.0**
ACCO				eS	**Sb**	**17 32 56.2**	**+1.4**
RTLL	**Cerro Villicun**	**3.20**	**67**	eP	**Pb**	**17 32 13.5**	**-2.5**
RTLL				eS	**Sb**	**17 32 54.7**	**-0.5**
RTLL				IAML		17 33 00.5	
	comp=Z,193nm,0.4s						
AROD	**Rodeo**	**3.23**	**41**	eP	**Pn**	**17 32 13.7**	**+3.4**
AROD				eS	**Sb**	**17 32 55.2**	**-1.1**
CFA	**Coronel Fontan**	**3.29**	**73**	eP	**Pn**	**17 32 13.8**	**+3.0**
CFA				eS	**Sn**	**17 32 50.7**	**+0.7**
RFA	**San Rafael**	**3.57**	**127**	eP	**Pn**	**17 32 17.9**	**+3.2**
LCO	**Las Campanas**	**3.77**	**16**	eP	**Pn**	**17 32 18.0**	**+0.5**
LCO				eS	**Sb**	**17 33 14.1**	**+2.4**
LCO				IAML		17 33 20.7	
	comp=Z,214nm,0.8s						
ACAN	**Cantantal**	**4.01**	**86**	eP	**Pn**	**17 32 22.6**	**+2.0**
BI02	**San Fabin de**	**4.04**	**173**	eP	**Pn**	**17 32 21.9**	**+0.7**
BI05	**Punta Hualpn**	**4.23**	**194**	eP	**Pn**	**17 32 23.0**	**-0.5**
H03N1	**Juan Fernandez**	**5.93**	**260**	T	T	17 39 17.7	
	baz=89,slow=74,SNR=98						
H03N3	**Juan Fernandez**	**5.94**	**260**	T	T	17 39 19.9	
	baz=89,slow=74,SNR=155						
H03N2	**Juan Fernandez**	**5.95**	**260**	T	T	17 39 21.3	
	baz=89,slow=74,SNR=116						
PLCA	**Paso Flores**	**8.15**	**173**	Pn	**Pn**	**17 33 18.8**	**+1.3**
	comp=Z,1.8nm,0.3s,baz=348,slow=14,SNR=29						
	comp=Z,4.7nm,0.3s						
CPUP	**Villa Florida**	**14.17**	**67**	Pn	**Pn**	**17 34 39.7**	**-0.2**
	baz=159,slow=8.6,SNR=1.6						
	comp=Z,0.2nm,0.4s						
LPAZ	**La Paz**	**16.64**	**13**	Pn	**Pn**	**17 35 12.2**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=211,slow=12,SNR=4.0						
	comp=Z,0.2nm,0.4s						
SNAA	**Sanae**	**52.80**	**158**	P	**P**	**17 40 34.8**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=279,slow=8.9,SNR=9.6						
	comp=Z,0.9nm,0.7s						
QSPA	**South Pole Qui**	**57.59**	**180**	P	**P**	**17 41 11.1**	**+2.1**
	comp=Z,1.9nm,1.0s,baz=156,slow=5.1,SNR=4.2						
	comp=Z,1.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**83.65**	**70**	P	**P**	**17 43 47.2**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=224,slow=4.0,SNR=1.5						
	comp=Z,0.3nm,0.6s						
H11S2	**WAKE ISLAND Hy**	**125.89**	**270**	T	T	20 09 17.4	
	baz=118,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**125.90**	**270**	T	T	20 09 20.2	
	baz=118,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hy**	**125.90**	**270**	T	T	20 09 17.2	
	baz=118,slow=75,SNR=15						
BVAR	**Borovoye Array**	**146.21**	**42**	PKPbc	**PKPdf**	**17 50 59.0**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=300,slow=3.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**153.02**	**31**	PKPbc	**PKPbc**	**17 51 15.5**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=298,slow=3.1,SNR=4.3						
MKAR	**Makanchi Array**	**155.78**	**47**	PKPab	**PKPab**	**17 51 39.1**	**-0.7**
	comp=Z,0.1nm,0.5s,baz=286,slow=3.2,SNR=1.7						

IDC 01 17:34:32.6±6.6**, 2°.64S**×**146°.80E, h0**km**, mb3.5**/4**, mbtmp3.5**/4**, MS3.7**/1**, Error ellipse: s-maj=227.5km s-min=27.8km az=97.0, Admiralty Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.07**	**214**	P	P	17 39 19.2	+0.6
	1.7nm,0.9s,baz=42,slow=11,SNR=16						
	1.7nm,0.9s						
ASAR	**Alice Springs**	**24.34**	**210**	P	P	17 39 52.1	-0.4
	1.0nm,0.9s,baz=37,slow=7.3,SNR=16						
	1.0nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**28.71**	**42**	T	T	18 10 21.8	
	baz=223,slow=76,SNR=35						
H11S2	**WAKE ISLAND Hy**	**28.72**	**42**	T	T	18 10 20.4	
	baz=223,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**28.73**	**42**	T	T	18 10 21.8	
	baz=223,slow=76,SNR=42						
H11N1	**WAKE ISLAND Hy**	**29.71**	**41**	T	T	18 11 38.3	
	baz=222,slow=76,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**29.73**	**41**	T	T	18 11 37.8	
	baz=222,slow=76,SNR=8.0						
H11N3	**WAKE ISLAND Hy**	**29.73**	**41**	T	T	18 11 38.9	
	baz=222,slow=76,SNR=7.2						
MJAR	**Matsushiro Arr**	**39.79**	**349**	LR	LR	17 57 47.0	
	comp=Z,98nm,18.5s,baz=356,slow=35						
SONM	**Songino Array**	**61.40**	**330**	P	P	17 44 51.3	+0.5
	0.3nm,0.4s,baz=141,slow=7.1,SNR=2.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**74.80**	**320**	P	P	17 46 14.4	-0.5
	0.3nm,0.7s,baz=96,slow=4.3,SNR=2.6						
	0.3nm,0.7s						

*IDC **01** 17:41:05.1±1.0, 60°.60S×26°.44W, h0km, mb3.8/5, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=48.6km s-min=24.0km az=87.0*
ISC 01 17:41:06.3±1.0**, 60°.7S**±0°.2×**26°.2W**±0°.3**, h10**km**, n19, σ1ˢ35**/11**, mb3.7**/4**, 4D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.38**	**151**	⇓P	**Pn**	**17 44 01.2**	**-1.1**
	comp=Z,24nm,0.3s						
VNA3	**Neumayer Olymp**	**12.51**	**155**	⇓P	**Pn**	**17 44 02.1**	**-2.0**
	comp=Z,8.2nm,0.3s						
SNAA	**Sanae**	**14.38**	**150**	⇓P	**Pn**	**17 44 28.5**	**-1.1**
	comp=Z,42nm,0.3s						
SNAA	**Sanae**	**14.38**	**150**	Pn	**Pn**	**17 44 29.4**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=316,slow=20,SNR=43						
SNAA				Sn	Sn	17 46 57.7	-11
	comp=Z,0.1nm,0.3s,baz=9.0,slow=21,SNR=3.7						
	comp=Z,1.8nm,0.3s						
TROLL	**Troll, Antarti**	**15.96**	**147**	⇓P	**Pn**	**17 44 50.0**	**-0.7**
	comp=Z,116nm,0.8s						
QSPA	**South Pole Qui**	**29.58**	**180**	P	**P**	**17 47 13.3**	**+2.2**
	comp=Z,1.1nm,0.6s,baz=166,slow=1.3,SNR=7.2						
	comp=Z,1.1nm,0.6s						
VNDA	**Vanda**	**41.98**	**183**	P	**P**	**17 48 56.9**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=196,slow=7.3,SNR=3.9						
	comp=Z,0.6nm,0.9s						
H04S2	**CROZET ISLANDS**	**45.34**	**109**	T	T	18 38 32.8	
	baz=223,slow=74,SNR=15						
H04S3	**CROZET ISLANDS**	**45.35**	**109**	T	T	18 38 45.7	
	baz=223,slow=74,SNR=12						
H04S1	**CROZET ISLANDS**	**45.36**	**109**	T	T	18 38 49.1	
	baz=223,slow=74,SNR=10.0						
H10S2	**ASCENSION HYDR**	**52.31**	**14**	T	T	18 47 08.0	
	baz=33,slow=74,SNR=12						
H10S3	**ASCENSION HYDR**	**52.31**	**14**	T	T	18 47 06.4	
	baz=187,slow=74,SNR=12						
H10N1	**ASCENSION HYDR**	**53.42**	**14**	T	T	18 48 31.0	
	baz=187						
H10N3	**ASCENSION HYDR**	**53.43**	**14**	T	T	18 48 29.5	
	baz=187,slow=74						
H10N2	**ASCENSION HYDR**	**53.44**	**14**	T	T	18 48 42.9	
	baz=187,slow=74						
LPAZ	**La Paz**	**53.54**	**307**	P	**P**	**17 50 26.5**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=157,slow=7.4,SNR=2.6						
	comp=Z,0.4nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	76.85	28	P	P	17 52 59.0	+0.9
	comp=Z,0.7nm,0.3s,baz=199,slow=5.9,SNR=13						
	comp=Z,0.7nm,0.3s						
ASAR	Alice Springs	94.43	162	P	P	17 54 26.4	-0.1
	comp=Z,0.4nm,1.1s,baz=194,slow=4.4,SNR=1.7						
	comp=Z,0.4nm,1.1s						
SONM	Songino Array	150.18	94	PKPbc	PKiKP	18 00 57.0	-0.2
	comp=Z,0.4nm,0.6s,baz=208,slow=2.8,SNR=2.6						

*IDC **01** 17:51:16.3±0.9, 21°.41N×145°.51E, h0km, mb3.9/15, mbtmp3.8/16, ML2.9/1, Error ellipse: s-maj=31.2km s-min=16.3km az=81.0*

ISC 01 17:51:22.6±0.8**, 21°.4N**±0°.1×**145°.5E**±0°.2**, h44km, n22, σ0s.87**/16**, mb3.8**/15**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	16.39	339	Pn	Pn	17 55 08.8	-0.7
	baz=165,slow=9.8,SNR=5.3						
	0.7nm,0.6s						
H11N1	WAKE ISLAND Hy	20.14	91	T	T	18 16 50.9	
	baz=276						
H11N2	WAKE ISLAND Hy	20.14	91	T	T	18 16 46.5	
	baz=276						
H11N3	WAKE ISLAND Hy	20.16	91	T	T	18 16 45.5	
	baz=276						
H11S3	WAKE ISLAND Hy	20.16	94	T	T	18 16 41.5	
	baz=283						
H11S1	WAKE ISLAND Hy	20.17	94	T	T	18 16 35.6	
	baz=283						
H11S2	WAKE ISLAND Hy	20.18	94	T	T	18 16 45.5	
	baz=283						
KSRS	Korea Array	22.08	320	P	P	17 56 14.8	+1.0
	1.2nm,0.7s,baz=143,slow=10.0,SNR=11						
	1.2nm,0.7s						
SONM	Songino Array	40.95	320	P	P	17 59 00.8	-0.3
	0.3nm,0.5s,baz=132,slow=8.7,SNR=2.5						
	0.3nm,0.5s						
WRA	Warramunga Arr	42.47	196	P	P	17 59 14.4	+0.8
	1.1nm,0.5s,baz=18,slow=8.7,SNR=17						
	1.1nm,0.5s						
CMAR	Chiang Mai Arr	43.71	275	P	P	17 59 23.9	+0.1
	0.5nm,0.7s,baz=79,slow=8.1,SNR=2.1						
	0.5nm,0.7s						
ASAR	Alice Springs	46.15	195	P	P	17 59 43.5	+0.5
	0.5nm,0.7s,baz=14,slow=6.6,SNR=15						
	0.5nm,0.7s						
STKA	Stephens Creek	53.07	184	P	P	18 00 34.0	-1.5
	1.2nm,0.6s,baz=37,slow=5.1,SNR=2.9						
	1.2nm,0.6s						
ZALV	Zalesovo Beam	55.78	321	P	P	18 00 54.3	-0.7
	0.9nm,0.4s,baz=110,slow=9.0,SNR=4.4						
	0.9nm,0.4s						
MKAR	Makanchi Array	56.48	313	P	P	18 00 59.7	-0.5
	0.5nm,0.6s,baz=95,slow=7.6,SNR=5.4						
	0.5nm,0.6s						
KURBB	Kurchatov Arra	59.21	317	P	P	18 01 18.5	-0.7
	0.9nm,0.2s,baz=96,slow=7.4,SNR=6.1						
	0.9nm,0.2s						
ILAR	Eielson Array	61.37	27	P	P	18 01 32.9	-0.8
	0.4nm,0.9s,baz=259,slow=5.2,SNR=2.9						
	0.4nm,0.9s						
BVAR	Borovoye Array	64.29	320	P	P	18 01 53.5	+0.1
	2.0nm,0.5s,baz=88,slow=7.1,SNR=14						
	2.0nm,0.5s						
ARCES	ARCESS Array B	79.90	342	P	P	18 03 26.4	0.0
	1.6nm,0.8s,baz=67,slow=9.3,SNR=4.6						
	1.6nm,0.8s						
NVAR	Mina Array Bea	81.68	52	P	P	18 03 38.1	+1.3
	0.2nm,0.3s,baz=298,slow=5.8,SNR=1.9						
	0.2nm,0.3s						
KBZ	Khabaz	84.11	315	P	P	18 03 50.2	+1.3
	1.7nm,0.8s,baz=69,slow=8.4,SNR=4.0						
	1.7nm,0.8s						
FINES	FINESS Array B	84.38	335	P	P	18 03 49.5	-0.5
	1.1nm,0.4s,baz=81,slow=7.1,SNR=13						
	1.1nm,0.4s						

NOU 01 18:06:28.2, 15°.46S×167°.34E, h33km, mB5.5/9**, Vanuatu Islands, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.13	276	P	Pb	18 06 35.4	+1.2
SANVU	Saraoutou	0.13	276	S	Sb	18 06 40.5	+2.2
LUES	Luesalemba Tem	4.97	344	S	Sn	18 08 37.5	+0.6
DZM	Mont Dzumac	6.63	187	P	Pn	18 08 03.0	-0.5
OUENC	Ouen Island, N	6.94	184	P	Pn	18 08 08.0	+0.4
ALEG	Aligegeo Malai	9.31	315	P	Pn	18 08 40.2	+0.1
SAVO	Savo Central	9.66	310	P	Pn	18 08 43.7	-1.4
TATA	Tatamba Isabel	10.19	313	P	Pn	18 08 53.6	+1.4

CATAC 01 18:09:24.0±0.5**, 12°N**±2°×**8°6W**±°**, h8km**±1km**, M2.4**/11**, MLv2.4**/11**, Error ellipse: s-maj=4.1km s-min=2.4km az=41.1, confirmed, Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAS3	Al N del Volca	0.06	134	S	Sg	18 09 28.2	+1.0
UNAN	Cigeo UNAN	0.07	311	P	Pg	18 09 26.4	+0.5
UNAN				S	Sg	18 09 28.0	+0.7
MGAN	Managua	0.08	342	P	Pg	18 09 27.0	+0.8
MGAN				S	Sg	18 09 28.8	+1.2
R4DEC	Barrio San Lui	0.09	341	P	Pg	18 09 26.8	+0.6
R4DEC	Barrio San Lui	0.09	341	S	Sg	18 09 28.9	+1.3
AERN	Aeropuerto Man	0.09	34	S	Sg	18 09 29.7	+1.8
WILN	Americas 2	0.10	19	P	Pg	18 09 27.3	+1.0
WILN				S	Sg	18 09 29.8	+1.9
ALLN	Telcor Managua	0.10	329	S	Sg	18 09 29.6	+1.5
ALLN	Telcor Managua	0.10	329	P	Pg	18 09 26.9	+0.5
ABCN	Banco Central	0.10	302	S	Sg	18 09 29.9	+1.8
ABCN	Banco Central	0.10	302	P	Pg	18 09 26.8	+0.3
MASN	Masaya	0.10	140	S	Sg	18 09 29.5	+1.4
NANN	Nandasmo	0.16	143	S	Sg	18 09 31.0	+1.4
APQ2	Apoyeque	0.17	322	S	Sg	18 09 31.5	+1.7
SAPS	Ciudad Sandino	0.21	299	S	Sg	18 09 33.2	+2.1
APQ3	Volcan Apoyequ	0.25	325	S	Sb	18 09 34.1	-1.2
COPN	Copaltepe	0.38	287	P	Pb	18 09 33.0	0.0
BOAB	BOACO BROADBAN	0.66	55	P	Pg	18 09 37.0	+0.2
BOAB				S	Sb	18 09 46.5	-0.7
RCVN	Varillal2	1.51	1	S	Sn	18 10 11.2	-0.3

*NEIC **01** 18:13:40.4±2.4, 56°.23N±0°.05×152°.9W±0°.1, h10km±2km, Error ellipse: s-maj=10.7km s-min=8.1km az=233.0*

*AEIC **01** 18:13:42.4±1.6, 56°.18N±0°.07×152°.9W±0°.1, h18km±7km, ML3.1, ML3.1/36(NEIC), Error ellipse: s-maj=10.9km s-min=6.9km az=150.0*

*IDC **01** 18:13:45.5±5.1, 56°.63N×154°.74W, h0km, mb3.6/4, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=112.6km s-min=22.9km az=134.0*

ISC 01 18:13:40.2±1.3**, 56°.31N**±0°.08×**152°.85W**±0°.06**, h10km, n69, σ1s.84**/65**, mb3.7**/4**, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SII	Sitkinak Islan	0.78	289		Pn	18 13 57.1	-0.2
SII				IAML		18 14 09.3	
	comp=E,713nm,0.8s						
SII				IAML		18 14 16.5	
	comp=N,1μm,0.6s						
SII	Sitkinak Islan	0.78	289		Sn	18 14 08.6	-0.5
OHAK	Old Harbor	0.95	346		Pb	18 14 00.2	+1.5
OHAK	Old Harbor	0.95	346		Sn	18 14 14.9	+1.7
KDAK	Kodiak Island	1.49	6		Pn	18 14 08.2	+1.2
KDAK				IAML		18 14 27.6	
	comp=N,133nm,0.3s						
KDAK	Kodiak Island	1.49	6		Sn	18 14 23.9	-2.5
KDAK					Sb	18 14 26.9	0.0
R18K	Karluk	1.54	326		Pn	18 14 05.7	-2.0
R18K	Karluk	1.54	326	IAML		18 14 22.7	
	comp=E,214nm,0.4s						
R18K				IAML		18 14 23.1	
	comp=N,210nm,0.6s						
CHIR	Chirikof Islan	1.63	254	Pn	Pn	18 14 07.8	-1.0
CHIR				IAML		18 14 50.4	
	comp=N,141nm,1.0s						
SYI	Shuyak Island	2.32	6	Pn	Pn	18 14 20.2	+1.8
SYI	Shuyak Island	2.32	6		Sn	18 14 49.4	+2.3
KAWH	Katmai	2.33	334		Pn	18 14 20.0	+1.3
PLK4	Peulik 4	2.33	306		Pn	18 14 19.4	+0.7
PLK4	Peulik 4	2.33	306	IAML		18 15 13.6	
	comp=E,78nm,0.9s						
PLK4				IAML		18 15 15.7	
	comp=N,98nm,1.1s						
KAHC	Katmai Hardscr	2.62	335		Pn	18 14 20.4	-2.2
KAHC					Pb	18 14 24.6	-2.6
Q19K	Cape Douglas,	2.66	351	Pn	Pn	18 14 25.7	+2.5
CNPM	China Poot	3.34	14		Pn	18 14 33.8	+1.4
CNPM				IAML		18 15 15.3	
	comp=E,31nm,0.9s						
CNPM				IAML		18 15 20.1	
	comp=N,28nm,0.7s						
CNPM	China Poot	3.34	14		Sn	18 15 10.3	-1.9
P19K	Oil Pt	3.36	357	Pn	Pn	18 14 35.1	+2.3
P19K				IAML		18 15 00.4	
	comp=E,43nm,1.1s						
P19K	Oil Pt	3.36	357		Sn	18 15 07.2	-5.5
P17K	Kvichak River	3.48	328		Pn	18 14 36.0	+1.7
BRLK	Bradley Lake	3.62	16		Pn	18 14 36.8	+0.4
BRLK				IAML		18 15 20.5	
	comp=N,43nm,0.2s						
BRLK				IAML		18 15 55.0	
	comp=E,35nm,0.6s						
ILS	Iliamna Low So	3.66	358		Pn	18 14 37.1	+0.1
O20K	Slope Mountain	3.79	2		Pn	18 14 39.4	+0.8
O20K					Pb	18 14 41.1	-6.0
O20K					Sn	18 15 18.3	-4.9
O19K	Port Alsworth	3.98	349		Pn	18 14 40.6	-0.5
O19K					Pb	18 14 43.1	-7.1
O19K	Port Alsworth	3.98	349	IAML		18 15 35.9	
	comp=N,33nm,0.4s						
O19K				IAML		18 15 43.8	
	comp=E,31nm,0.5s						
CNBA	Chernabura Isl	4.10	252		Pn	18 14 41.8	-1.1
RED	Redoubt Volcan	4.12	1		Pn	18 14 45.0	+1.7
RDWB	Redoubt West	4.19	0		Pn	18 14 44.4	0.0
RDWB					Pb	18 14 46.1	-8.0
SEW	Seward	4.21	24	Pn	Pn	18 14 44.6	+0.2
SEW				IAML		18 15 38.9	
	comp=E,16nm,1.2s						
RDT	Redoubt	4.29	3		Pn	18 14 46.1	+0.6
RDT					Pb	18 14 47.1	-8.5
RDT					Sn	18 15 31.9	-3.7
N19K	Bonanza Creek	4.60	350	Pn	Pn	18 14 51.5	+1.7
SPU	Mount Spurr	4.91	5	Pn	Pn	18 14 55.0	+1.0
PWL	Port Wells	5.14	25	Pn	Pn	18 14 57.5	+0.3
PWL				IAML		18 15 55.5	
	comp=E,18nm,1.2s						
PWL				IAML		18 15 59.0	
	comp=N,16nm,0.5s						
S12K	Black Hills	5.20	267		Pn	18 14 58.0	-0.1
HIN	Hinchinbrook I	5.29	37	Pn	Pn	18 14 58.7	-0.5
N15K	Kwethluk River	5.44	318	Pn	Pn	18 15 02.7	+1.4
GLI	Glacier Island	5.48	31	Pn	Pn	18 15 02.3	+0.5
FID	Port Fidalgo	5.57	34	Pn	Pn	18 15 02.6	-0.4
M20K	Styx River	5.59	359	Pn	Pn	18 15 05.5	+2.1
M17K	Holitna River	5.63	337	Pn	Pn	18 15 05.8	+1.9
M19K	Big River Lodg	5.67	353		Pn	18 15 05.4	+1.0
L19K	White Mountain	5.98	351		Pn	18 15 11.1	+2.4
SCM	Sheep Creek Mo	6.23	25	Pn	Pn	18 15 13.0	+0.9
L18K	Granite Mounta	6.25	343	Pn	Pn	18 15 14.9	+2.5
KLU	Klutina	6.32	32	Pn	Pn	18 15 14.4	+1.0
BMRM	Bremner River	6.35	39	Pn	Pn	18 15 14.6	+0.8
N25K	Chitina, Valde	6.81	35		Pn	18 15 21.1	+1.0
BARK	Barkley Ridge	6.82	49		Pn	18 15 20.9	+0.6
VRDI	Verde Repeater	6.94	41	Pn	Pn	18 15 20.9	-1.1
GLB	Gilahina Butte	6.96	39	Pn	Pn	18 15 23.5	+1.4
K17K	Iditarod	7.00	339	Pn	Pn	18 15 24.5	+1.8
K20K	Telida	7.10	356	Pn	Pn	18 15 26.6	+2.5
DHY	Denali Highway	7.33	20	Pn	Pn	18 15 28.3	+1.0
J19K	Poorman	7.83	351	Pn	Pn	18 15 36.0	+2.0
PNL	Peninsula	7.90	59		Pn	18 15 35.7	+0.6
J20K	Nowinta River	7.92	356	Pn	Pn	18 15 38.0	+2.7
ILAR	Eielson Array	8.98	17	Pn	Pn	18 15 51.8	+2.0
	comp=N,0.2nm,0.3s,baz=203,slow=14,SNR=11						
ILAR				Sn	Sn	18 17 27.8	-3.1
	comp=N,0.1nm,0.3s,baz=209,slow=24,SNR=4.0						
	comp=N,0.6nm,0.5s						
H18K	Honhosa River	9.27	345	Pn	Pn	18 15 54.8	+1.0
H11N2	WAKE ISLAND Hy	47.21	236	T	T	19 13 04.3	
	baz=30,slow=76,SNR=4.8						
H11N3	WAKE ISLAND Hy	47.21	236	T	T	19 13 01.3	
	baz=30,slow=76,SNR=5.2						
H11N1	WAKE ISLAND Hy	47.23	236	T	T	19 13 03.6	
	baz=30,slow=76,SNR=5.6						
H11S1	WAKE ISLAND Hy	48.36	235	T	T	19 14 27.1	
	baz=29,slow=76,SNR=10						
H11S2	WAKE ISLAND Hy	48.37	235	T	T	19 14 28.9	
	baz=29,slow=76,SNR=9.1						
H11S3	WAKE ISLAND Hy	48.38	235	T	T	19 14 28.5	
	baz=29,slow=76,SNR=9.3						
SONM	Songino Array	57.08	308	P	P	18 23 27.5	+1.1
	comp=N,0.2nm,0.3s,baz=54,slow=7.3,SNR=2.3						
	comp=N,0.2nm,0.3s						
KURBB	Kurchatov Arra	65.26	327	P	P	18 24 22.9	+1.3
	comp=N,0.3nm,0.5s,baz=29,slow=6.1,SNR=4.3						
	comp=N,0.3nm,0.5s						
BVAR	Borovoye Array	65.39	333	P	P	18 24 23.0	+0.6
	comp=N,0.9nm,0.7s,baz=43,slow=6.7,SNR=4.7						
	comp=N,0.9nm,0.7s						
MKAR	Makanchi Array	67.39	322	P	P	18 24 35.7	+0.4
	comp=N,0.3nm,0.6s,baz=35,slow=7.9,SNR=2.2						
	comp=N,0.3nm,0.6s						

IDC 01 18:14:44.0±2.4**, 6°.50S**×**128°.80E, h0km, mb3.4**/1**, mbtmp3.0**/3**, ML2.9**/2**, Error ellipse: s-maj=165.4km s-min=33.5km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.40	159	Pn	Pn	18 18 09.6	+0.3
	0.1nm,0.3s,baz=341,slow=13,SNR=2.0						
WRA				Sn	Sn	18 20 33.3	-17
	0.1nm,0.3s,baz=330,slow=23,SNR=2.2						
	0.3nm,0.9s						
ASAR	Alice Springs	17.76	164	P	Pn	18 18 52.7	-0.1
	baz=346,slow=10,SNR=5.9						
	0.1nm,0.4s						
MKAR	Makanchi Array	67.16	327	P	P	18 25 39.9	0.0
	0.2nm,0.4s,baz=128,slow=8.2,SNR=2.2						
	0.2nm,0.4s						

*IDC **01** 18:16:50.7±1.1, 53°.90N×35°.23W, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=38.9km s-min=22.2km az=8.0*

ISC 01 18:16:52.6±0.9**, 53°.9N**±0°.3×**35°.2W**±0°.1**, h14km, n9, σ0s.96**/9**, mb3.7**/7**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	25.46	111	P	P	18 22 20.8	+0.9
	2.0nm,1.0s,baz=310,slow=9.1,SNR=6.2						
	2.0nm,1.0s						
AKASG	Malin Array Be	38.34	68	P	P	18 24 13.1	+0.6
	0.2nm,0.4s,baz=309,slow=8.5,SNR=2.9						
	0.2nm,0.4s						
BRTR	Keskin Array B	47.34	78	P	P	18 25 24.2	-1.7
	0.7nm,0.7s,baz=298,slow=7.2,SNR=4.9						
	0.7nm,0.7s						
PDAR	Pinedale Array	48.45	289	P	P	18 25 34.6	0.0
	0.4nm,0.3s,baz=51,slow=8.2,SNR=2.5						
	0.4nm,0.3s						
TORD	Torodi Ar. Bea	49.99	130	P	P	18 25 46.3	+0.1
	0.9nm,0.9s,baz=330,slow=8.3,SNR=4.5						
	0.9nm,0.9s						
TXAR	Lajitas Array	54.34	272	P	P	18 26 18.7	+0.1
	0.2nm,0.7s,baz=25,slow=5.3,SNR=2.5						
	0.2nm,0.7s						
KURBB	Kurchatov Arra	62.00	41	P	P	18 27 12.3	+0.6
	0.5nm,0.9s,baz=321,slow=7.2,SNR=3.6						
	0.5nm,0.9s						
MKAR	Makanchi Array	66.56	42	P	P	18 27 42.5	+0.7
	0.5nm,0.9s,baz=328,slow=5.1,SNR=2.8						
	0.5nm,0.9s						
ASAR	Alice Springs	148.72	19	PKPbc	PKiKP	18 36 39.8	-0.9
	0.5nm,0.7s,baz=346,slow=3.4,SNR=5.8						

*ISK **01** 18:37:54.5, 37°.55N×26°.76E, h9km, ML2.9/20*

*THE **01** 18:37:55.8, 38°N±2°×2°7E±°, h14km±5km, M3.0/7, MLh3.0/7*

*ATH **01** 18:37:55.3, 37°.56N×26°.85E, h15km±1km, ML3.1/4, Manual Solution by A.Agalos First location: 2019/09/01 18:38:32, This location: 2019/09/01 19:02:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 3 km*

*AFAD **01** 18:37:56.1, 37°.56N×26°.80E, h13km, ML2.8*

ISC 01 18:37:55.3±0.9**, 37°.55N**±0°.02×**26°.77E**±0°.02**, h15km**±6km**, n68, σ0s.61**/90**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMG	Samos	0.16	18	P	Pg	18 37 59.3	-0.1
SMG				S	Sg	18 38 02.0	-0.2
SMG	Samos	0.16	18	P	Pg	18 37 59.3	-0.1
SMG				S	Sg	18 38 01.7	-0.5
KRL1	Karlovasi Samo	0.25	348	P	Pg	18 38 01.0	+0.2
KRL1				S	Sg	18 38 04.8	+0.4
DDIM	Aydin, Didim	0.39	104	P	Pg	18 38 03.5	+0.4
DDIM				S	Sg	18 38 08.4	0.0
DDIM				*i* IAML		18 38 10.0	
	comp=N,737nm,0.2s						
GCAM	G?zelcaml?	0.40	68	Pg	Pg	18 38 03.1	-0.2
GCAM				Sg	Sb	18 38 09.1	-0.7
GCAM	G?zelcaml?	0.40	68	P	Pg	18 38 03.3	+0.1
GCAM				S	Sg	18 38 08.7	0.0
DIDI	Didim-Aydin	0.41	115	Pg	Pg	18 38 03.9	+0.3
DIDI				Sg	Sg	18 38 09.7	+0.5
DGB	zmir	0.51	10	P	Pg	18 38 05.3	-0.1
DGB				*i* IAML		18 38 15.0	
	comp=N,1μm,0.2s						
DGB				*i* IAML		18 38 16.0	
	comp=E,2μm,0.6s						
GMLD	Gumuldur	0.54	12	Pg	Pg	18 38 05.5	-0.4
GMLD				Sg	Sg	18 38 13.4	+0.3
YKAV	Yalikavak-Bodr	0.59	136	Pg	Pg	18 38 06.4	-0.5
YKAV				Sg	Sg	18 38 15.3	+0.6
KLNA	Kalymnos	0.62	165	P	Pg	18 38 06.9	-0.5
KLNA				S	Sg	18 38 15.3	-0.2
ZEYE	Izmir, Urla-Ze	0.72	343	P	Pg	18 38 09.1	-0.2
ZEYE				S	Sg	18 38 18.9	+0.1
ZEYE				*i* IAML		18 38 21.0	
	comp=E,789nm,0.2s						
BDRM	Kayabasi	0.72	132	P	Pg	18 38 09.5	+0.1
BDRM				S	Sg	18 38 18.9	-0.1
BDRM				*i* IAML		18 38 23.0	
	comp=E,766nm,0.3s						
BLCB	Balcova	0.86	14	Pg	Pg	18 38 11.7	-0.2
BLCB				Sg	Sb	18 38 24.2	+1.0
BLCB	Balcova	0.86	14	P	Pg	18 38 11.7	-0.2
BLCB				S	Sg	18 38 23.1	-0.1
AYDN	Tasoluk	0.89	83	P	Pg	18 38 12.3	-0.2
AYDN				S	Sg	18 38 22.1	-2.0
AYDN				*i* IAML		18 38 27.0	
	comp=N,498nm,0.6s						
AYDN				*i* IAML		18 38 28.0	
	comp=E,436nm,0.2s						
AYDB	Zeytinkoy-Aydi	0.97	66	Pg	Pb	18 38 13.7	-0.2
AYDB				Sg	Sn	18 38 28.0	0.0
YAZI	Mula-Dat§a-	1.03	148	P	Pb	18 38 14.1	-0.6
YAZI				*i* IAML		18 38 31.0	
	comp=N,245nm,0.6s						
YAZI				*i* IAML		18 38 31.0	
	comp=E,244nm,0.4s						
DAT	Datca	1.04	142	Pg	Pb	18 38 15.1	0.0
DAT				Sg	Sn	18 38 29.9	+0.1
DAT	Datca	1.04	142	P	Pb	18 38 15.1	0.0
DAT				*i* IAML		18 38 35.0	
	comp=N,270nm,0.5s						
DAT	Datca	1.04	142	P	Pb	18 38 15.3	+0.2
DAT				S	Sn	18 38 30.6	+0.7
ASTA	Astypalaia	1.06	199	P	Pb	18 38 15.4	+0.1
IZMR	zmir-demi	1.10	58	P	Pb	18 38 15.6	-0.4
IZMR				S	Sb	18 38 28.2	-2.0
KARB	zmir-Karabur	1.15	346	P	Pb	18 38 16.6	-0.2
KARB				*i* IAML		18 38 40.0	
	comp=E,232nm,0.5s						
FOCM	Foa	1.16	358	Pn	Pn	18 38 17.2	+0.3
ODEM	Odemis-Izmir	1.26	55	Pn	Pb	18 38 18.9	+0.2
MULA	Mugla, Merkez-	1.27	103	P	Pn	18 38 18.6	0.0
NAZL	Nazilli-Aydin	1.27	71	Pn	Pn	18 38 18.7	+0.2
ESEN	Aydn-Nazilli	1.27	78	P	Pn	18 38 18.5	0.0
TNSA	Tinos	1.28	270	P	Pn	18 38 19.5	+0.9
TURN	Turunc	1.41	123	Pn	Pn	18 38 21.0	+0.6
TURN	Turunc	1.41	123	P	Pn	18 38 19.9	-0.4
ZEDA	zmir-Bergama	1.43	10	P	Pn	18 38 20.5	-0.2
ZEDA				*i* IAML		18 38 47.0	
	comp=E,116nm,1.0s						
IZMD	zmir-Dikili-	1.44	5	P	Pg	18 38 22.9	0.0
KIRA	zmir-Kiraz	1.44	63	P	Pn	18 38 20.9	0.0
KIRA				*i* IAML		18 38 44.0	
	comp=N,123nm,0.6s						
GOMA	Golmarmara-Man	1.47	38	Pn	Pn	18 38 21.9	+0.8
AKHS	Akhisar	1.56	31	P	Pb	18 38 24.5	+0.7
AKS	Akhisar	1.56	31	Pn	Pn	18 38 23.2	+0.8
THERA	Ancient Thera,	1.57	222	P	Pn	18 38 22.5	-0.1
THERA	Ancient Thera,	1.57	222	P	Pn	18 38 22.1	-0.6
THR3	Thira Island,	1.58	224	P	Pn	18 38 23.6	+0.9
SNT5	Nea Kammeni, S	1.59	224	P	Pn	18 38 23.8	+0.9
THR5	Thira Island,	1.61	226	P	Pb	18 38 25.0	+0.3
THR6	Thira Island,	1.62	223	P	Pn	18 38 24.2	+0.9
MANT	Manisa	1.69	56	P	Pb	18 38 26.9	+0.7
TAVA	DENIZLI_Tavas	1.71	92	P	Pn	18 38 25.3	+0.7
SOMA	Soma-Manisa	1.71	20	Pn	Pn	18 38 25.5	+1.0
ARG	Arkhangelos	1.72	140	Pn	Pn	18 38 24.8	+0.1
ARG	Arkhangelos	1.72	140	P	Pn	18 38 24.7	+0.1
ARG				S	Sn	18 38 46.6	+0.3
ARG	Arkhangelos	1.72	140	P	Pn	18 38 24.5	-0.2
PRK	Paraskevi	1.74	347	P	Pn	18 38 24.5	-0.4
PRK				S	Sn	18 38 46.2	-0.5
PRK	Paraskevi	1.74	347	P	Pn	18 38 24.8	-0.1
GORD	Gordes-Manisa	1.75	39	Pn	Pn	18 38 26.1	+1.0
KULA	Kula-Manisa	1.77	57	Pn	Pn	18 38 26.7	+1.2
DNIZ	Denizli-Tavas-	1.80	87	P	Pn	18 38 26.5	+0.7
DNIZ				*i* IAML		18 38 58.0	
	comp=N,106nm,0.6s						
DNIZ				*i* IAML		18 39 04.0	
	comp=E,154nm,0.3s						
SIGR	SIGRI	1.81	337	Pn	Pn	18 38 26.1	+0.3
SIGR	SIGRI	1.81	337	P	Pn	18 38 25.7	-0.1
SIGR				S	Sn	18 38 47.7	-0.7
SIGR	SIGRI	1.81	337	P	Pn	18 38 25.5	-0.3
DNZT	Denizli-Tavas-	1.81	98	P	Pn	18 38 26.6	+0.6
SABU	Mula-Dalaman	1.90	112	P	Pn	18 38 27.9	+0.8
KARY	Karystos	1.91	285	P	Pn	18 38 27.4	+0.2
KARY	Karystos	1.91	285	P	Pn	18 38 27.3	0.0
APMY	Acipayam-Deniz	2.01	92	Pn	Pn	18 38 29.8	+1.0
YAYO	Edremit-Balk	2.07	6	Pn	Pn	18 38 30.6	+1.2
CAME	Cameli-Denizli	2.11	106	Pn	Pn	18 38 31.1	+1.0
EZN	Ezine	2.30	351	Pn	Pn	18 38 33.7	+1.1
DION	Dionisos Attik	2.31	284	P	Pn	18 38 32.6	-0.2
BASM	Basmaki-Afyon	2.62	81	Pn	Pn	18 38 38.1	+0.9

*ISK **01** 18:51:43.7, 38°.83N×39°.03E, h5km, ML3.3/24*

*AFAD **01** 18:51:43.5, 38°.78N×39°.02E, h11km±1km, MW3.7*

ISC 01 18:51:44.2±0.8**, 38°.78N**±0°.02×**39°.00E**±0°.02**, h10km, n57, σ1s.44**/69**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.28	183	P	Pg	18 51 49.7	-0.2
ELZG				S	Sg	18 51 53.9	+0.1
TNCL	Tunceli-Merkez	0.54	51	P	Pg	18 51 53.9	-0.8
TNCL				S	Sg	18 52 01.1	-0.7
ARPR	Arapgir-MALATY	0.61	301	Pg	Pg	18 51 55.9	-0.1
ARPR				Sg	Sb	18 52 05.9	+0.3
KOVA	Elazig, Kovanc	0.64	96	P	Pg	18 51 55.8	-0.7
MAYA	Malatya/Merkez	0.64	225	P	Pg	18 51 56.1	-0.4
MAYA				S	Sg	18 52 04.7	-0.3
ILIC	ilic-Erzincan	0.75	333	Pg	Pg	18 51 58.5	-0.2
ILIC				Sg	Sb	18 52 09.4	-0.4
HEKM	Malatya_Hekimh	0.82	277	P	Pg	18 51 59.8	-0.2
HEKM				S	Sb	18 52 11.9	+0.1
NARI	Adyaman-Kaht	0.91	192	P	Pn	18 52 02.1	-1.0
AKCD	Akcadag	0.97	241	P	Pg	18 52 02.2	-0.7
AKCD				S	Sg	18 52 14.2	-1.4
AZEY	Adyaman-Merk	1.13	212	P	Pn	18 52 06.2	0.0
AZEY				S	Sb	18 52 20.6	-0.1
HANM	anlurfa/Hi	1.20	185	P	Pg	18 52 07.4	+0.2
DYBB	Diyarbakir	1.22	132	Pn	Pg	18 52 08.5	+1.0
DYBB				Sn	Sn	18 52 25.8	+1.9
YEDI	Yedisu-Bingol	1.37	61	Pn	Pg	18 52 10.4	0.0
KELT	Kelkit	1.38	8	P	Pb	18 52 09.4	-0.8
KELT				S	Sb	18 52 26.7	-1.3
ATAB	Bozova	1.42	203	P	Pg	18 52 11.8	+0.3

AKCA	**Adyaman/G¶l**	**1.43**	**227**	P	**Pg**	**18 52 11.4**	**-0.1**
AKCA				S	**Sg**	**18 52 31.4**	**+1.3**
SUSE	**Susehri**	**1.56**	**337**	P	**Pg**	**18 52 13.5**	**-0.5**
SUSE				S	**Sg**	**18 52 34.9**	**+0.7**
ALUC	**Giresun/Alucra**	**1.57**	**354**	P	**Pg**	**18 52 13.5**	**-0.8**
SLHN	**Bingol, Solhan**	**1.59**	**83**	P	**Pb**	**18 52 12.6**	**-1.1**
SANL	**SANLIURFA_Merk**	**1.61**	**180**	P	**Pg**	**18 52 14.1**	**-0.9**
KARO	**Karliova-Bingo**	**1.68**	**71**	Pn	**Pb**	**18 52 14.9**	**-0.4**
KOPT	**Kop Dagi**	**1.69**	**43**	P	**Pg**	**18 52 16.1**	**-0.6**
ECAT	**Cat-ERZURUM**	**1.74**	**61**	P	**Pg**	**18 52 16.2**	**-1.4**
BAYB	**BAYBURT**	**1.77**	**33**	P	**Pb**	**18 52 16.5**	**-0.3**
SCER	**sogukcermik**	**1.81**	**307**	P	**Pb**	**18 52 17.7**	**+0.2**
GZT	**Gaziantep**	**1.82**	**219**	P	**Pg**	**18 52 19.2**	**+0.2**
CUAYA	**Sivas-Altinyay**	**1.82**	**286**	P	**Pg**	**18 52 18.5**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.83**	**109**	Pn	**Pb**	**18 52 17.2**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.83**	**109**	P	**Pb**	**18 52 17.0**	**-0.8**
BAYT	**Aydıntepe-Bayb**	**1.84**	**28**	Pn	**Pb**	**18 52 17.8**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.92**	**189**	P	**Pb**	**18 52 18.4**	**-0.9**
SVSK	**Karacayir**	**1.92**	**307**	Pn	**Pb**	**18 52 19.0**	**-0.3**
MUSM	**Mu-Merkez**	**1.96**	**91**	P	**Pb**	**18 52 19.2**	**-0.9**
BTMN	**Batman**	**1.99**	**116**	P	**Pb**	**18 52 19.5**	**-1.1**
KHMN	**Narli-Kahraman**	**2.01**	**227**	Pn	**Pb**	**18 52 20.9**	**+0.1**
NZIP	**Nizip/Gaziante**	**2.03**	**212**	P	**Pb**	**18 52 19.8**	**-1.3**
MARD	**Mardin**	**2.03**	**136**	P	**Pb**	**18 52 21.0**	**-0.2**
GAZ	**Gaziantep**	**2.14**	**222**	Pn	**Pb**	**18 52 22.6**	**-0.4**
MACK	**Trabzon**	**2.24**	**15**	P	**Pg**	**18 52 25.3**	**-1.8**
IZDR	**Rize**	**2.34**	**30**	P	**Pb**	**18 52 26.7**	**+0.3**
GURO	**Guroymak-BITLI**	**2.38**	**95**	Pn	**Pb**	**18 52 25.4**	**-1.8**
TOKT	**Tokat**	**2.44**	**310**	Pn	**Pb**	**18 52 26.4**	**-1.8**
BNN	**Bunyan**	**2.47**	**273**	Pn	**Pb**	**18 52 27.1**	**-1.5**
KOPR	**Koprukoy-ERZUR**	**2.52**	**60**	Pn	**Pb**	**18 52 26.9**	**-2.7**
CHOM	**Cayeli-Rize**	**2.68**	**30**	Pn	**Pn**	**18 52 29.0**	**+1.6**
YOZ	**Yozgat**	**2.99**	**288**	Pn	**Pb**	**18 52 34.6**	**-2.9**
CEYT	**Ceyhan**	**3.12**	**237**	Pn	**Pb**	**18 52 37.1**	**-2.6**
SENK	**Senkaya-Erzuru**	**3.14**	**54**	Pn	**Pn**	**18 52 35.6**	**+1.8**
KOZK	**Kozakli-Nevseh**	**3.25**	**279**	Pn	**Pn**	**18 52 38.2**	**+2.9**
TAHT	**Tahtakopru-Hat**	**3.28**	**224**	Pn	**Pb**	**18 52 39.1**	**-3.4**
BCA	**Borcka**	**3.34**	**36**	Pn	**Pn**	**18 52 38.2**	**+1.8**
CMRD	**Camardi-Nigde**	**3.35**	**252**	Pn	**Pn**	**18 52 39.4**	**+2.7**
KARA	**Karaisali**	**3.47**	**245**	Pn	**Pb**	**18 52 41.5**	**-4.1**
BATM	**Batumi**	**3.49**	**35**	P	**Pb**	**18 52 42.8**	**-3.3**
GHRG	**Ghorjomi**	**3.90**	**40**	P	**Pb**	**18 52 53.5**	**+0.3**
KAMT	**Kaman**	**4.16**	**280**	Pn	**Pn**	**18 52 50.9**	**+3.1**
GARIG	**Gari**	**5.11**	**40**	P	**Pg**	**18 53 21.0**	**-1.0**

WEL 01 18:52:44.8±1.1**,36˚S**±9˚×**18˚0E**±˚**,h12**km**,M3.4**/10**, ML3.6**/11**,MLv3.4**/10**,Error ellipse: s-maj=13.3km s-min=8.6km az=139.1,confirmed,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.69**	**228**	P	Pn	18 53 13.6	-0.4
MXZ				S	Sb	18 53 36.5	-0.5
WMGZ	**Waiomatatini S**	**1.81**	**220**	P	Pn	18 53 16.0	+0.2
PUZ	**Puketiti**	**2.08**	**218**	P	Pn	18 53 19.4	-0.1
PUZ				S	Sn	18 53 46.6	+1.2
HAZ	**Te Kaha**	**2.13**	**231**	P	Pn	18 53 21.0	+0.8
RUGZ	**Raukumara Rang**	**2.33**	**229**	P	Pn	18 53 23.5	+0.5
CNGZ	**Carnagh Statio**	**2.44**	**213**	P	Pn	18 53 24.2	-0.2
TKGZ	**Te Karaka**	**2.57**	**218**	S	Sn	18 53 58.2	+0.9
RAGZ	**Rawiri**	**2.84**	**223**	P	Pn	18 53 30.1	+0.1
RAGZ				S	Sn	18 54 04.6	+0.4
URZ	**Urewera**	**2.86**	**230**	P	Pn	18 53 30.0	-0.2
URZ				S	Sn	18 54 05.1	+0.6
MYRZ	**Mayor Island**	**3.04**	**253**	P	Pn	18 53 32.7	0.0
SNGZ	**Shannon Statio**	**3.09**	**220**	P	Pn	18 53 33.9	+0.5
SNGZ				S	Sn	18 54 10.6	+0.4
RTZ	**Ruatahuna**	**3.17**	**226**	P	Pn	18 53 34.9	+0.3
MUGZ	**Murupara**	**3.20**	**230**	P	Pn	18 53 34.6	-0.4
MUGZ				S	Sn	18 54 13.4	+0.3
RAHZ	**Arahi**	**3.32**	**221**	P	Pn	18 53 36.4	-0.1
RAHZ				S	Sn	18 54 16.6	+0.7
KUZ	**Kuaotunu**	**3.36**	**264**	P	Pn	18 53 36.3	-0.8
CTZ	**Chatham Island**	**7.76**	**161**	P	Pn	18 54 36.9	-0.6

*IDC **01** 18:53:07.6±1.0, 9˚.41N×125˚.83E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=60.7km s-min=22.1km az=72.0*

ISC 01 18:53:16.1±1.0**,9˚.4N**±0˚.2×**125˚.9E**±0˚.4**,h67**km**,n7,**σ**0s95**/7**, mb3.9**/7**,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.31**	**164**	P	**P**	**18 59 22.6**	**+1.2**
	0.2nm,0.7s,baz=336,slow=9.2,SNR=1.8						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**33.77**	**167**	P	**P**	**18 59 50.5**	**-1.3**
	0.2nm,0.7s,baz=340,slow=8.8,SNR=4.4						
	0.2nm,0.7s						
PETK	**Petropavlovsk-**	**50.61**	**24**	P	**P**	**19 02 08.1**	**-0.1**
	1.6nm,0.8s,baz=231,slow=7.3,SNR=4.2						
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**52.49**	**323**	P	**P**	**19 02 22.8**	**+0.4**
	0.7nm,0.6s,baz=118,slow=6.8,SNR=5.4						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**56.57**	**326**	P	**P**	**19 02 51.3**	**-0.5**
	0.4nm,0.6s,baz=128,slow=7.9,SNR=4.4						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**84.88**	**340**	P	**P**	**19 05 43.6**	**+0.2**
	0.7nm,0.6s,baz=76,slow=5.3,SNR=5.0						
	0.7nm,0.6s						
FINES	**FINESS Array B**	**86.47**	**332**	P	**P**	**19 05 51.6**	**+0.2**
	1.8nm,0.8s,baz=99,slow=7.2,SNR=8.0						
	1.8nm,0.8s						

*IDC **01** 18:54:01.2±1.9, 36˚.76N×141˚.61E, h0km, mb3.4/4, mbtmp3.5/7, ML2.9/3, Error ellipse: s-maj=36.1km s-min=24.3km az=87.0*

*JMA **01** 18:54:03.5±0.2, 36˚.7N±0˚.5×14˚2E±˚, h53km±3km, MV3.2/33, E OFF IBARAKI PREF*

ISC 01 18:54:02.4±3.4**,36˚.70N**±0˚.04×**141˚.66E**±0˚.08**,h14**km±22km**, n22,**σ**1s04**/26**,mb3.4**/4**,4D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.80**	**300**	⇓P	**Pb**	**18 54 18.2**	**+0.2**
ONAJ				⇓*e*S	**Sb**	**18 54 28.4**	**-0.3**
JHO	**Hitachi**	**0.88**	**264**	P	**Pb**	**18 54 19.2**	**-0.2**
JHO				*e*S	**Sb**	**18 54 30.8**	**-0.3**
JFK	**Kawauchi**	**0.91**	**317**	*e*P	**Pb**	**18 54 19.9**	**-0.1**
JHYU	**Hitachinakayam**	**0.93**	**248**	*e*P	**Pb**	**18 54 19.7**	**-0.6**
JHYU				*e*S	**Sb**	**18 54 31.5**	**-1.1**
JFFD	**Fukushimafurud**	**0.96**	**294**	*e*P	**Pb**	**18 54 20.3**	**-0.5**
JFFD				*e*S	**Sb**	**18 54 33.0**	**-0.4**
JMM	**Marumori**	**1.35**	**330**	*e*P	**Pn**	**18 54 26.4**	**-0.4**
JMM				*e*S	**Sn**	**18 54 43.3**	**-1.3**
JOTO	**OTAMA OYAMA**	**1.36**	**309**	*e*P	**Pn**	**18 54 27.4**	**+0.5**
JOTO				*e*S	**Sn**	**18 54 44.8**	**0.0**
JIO	**Ouri**	**1.77**	**352**	⇓P	**Pn**	**18 54 32.4**	**-0.1**
JIO				⇓*e*S	**Sn**	**18 54 52.8**	**-2.0**
JAG	**Ashikaga**	**1.79**	**262**	P	**Pn**	**18 54 32.7**	**-0.2**
JAG				*e*S	**Sn**	**18 54 53.5**	**-2.0**
MJAR	**Matsushiro Arr**	**2.78**	**268**	Pn	**Pn**	**18 54 47.3**	**+0.9**
	1.4nm,0.3s,baz=87,slow=15,SNR=142						
MJAR				Sn	**Sn**	**18 55 21.5**	**+1.7**
	0.5nm,0.3s,baz=94,slow=13,SNR=5.7						
	18nm,0.6s						
JHJ	**Hachijo jima 2**	**3.89**	**204**	Pn	**Pn**	**18 55 02.1**	**+0.4**
	7.4nm,0.3s,baz=318,slow=22,SNR=16						
JHJ				Sn	**Sn**	**18 55 45.0**	**-2.2**
	14nm,0.3s,baz=72,slow=19,SNR=7.7						
	13nm,0.3s						
ASAJ	**Asahikawa**	**7.44**	**5**	Pn	**Pn**	**18 55 51.1**	**+0.6**
	0.1nm,0.3s,baz=117,slow=14,SNR=1.6						
	5.5nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**27.81**	**121**	T	T	19 29 07.4	
	baz=313,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**27.82**	**121**	T	T	19 29 06.0	
	baz=313,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**27.83**	**121**	T	T	19 29 05.4	
	baz=313,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**28.52**	**123**	T	T	19 29 57.0	
	baz=314,slow=75,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**28.52**	**123**	T	T	19 30 19.6	
	baz=314,slow=75,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**28.53**	**123**	T	T	19 30 03.6	
	baz=314,slow=75,SNR=4.4						
ZALV	**Zalesovo Beam**	**42.28**	**313**	P	**P**	**19 01 55.2**	**0.0**

	0.5nm,0.5s,baz=96,slow=6.2,SNR=2.7						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**44.46**	**302**	P	**P**	**19 02 13.1**	**+0.2**
	0.3nm,0.6s,baz=78,slow=8.4,SNR=6.9						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**46.36**	**308**	P	**P**	**19 02 27.9**	**0.0**
	0.4nm,0.5s,baz=82,slow=7.6,SNR=4.5						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**56.76**	**188**	P	**P**	**19 03 47.7**	**+1.8**
	0.3nm,1.0s,baz=3.6,slow=7.6,SNR=2.1						
	0.3nm,1.0s						

*NEIC **01** 18:57:54.0±1.1, 46˚.63N±0˚.10×143˚.9E±0˚.2, h387km±7km, mb4.1/49, Error ellipse: s-maj=22.0km s-min=12.3km az=109.0*

*MOS **01** 18:57:53.3±0.8, 46˚.71N×143˚.85E, h384km, mb4.0/3, Error ellipse: s-maj=12.5km s-min=7.1km az=84.2*

*JMA **01** 18:57:53.3±0.4, 46˚N±3˚×14˚4E±˚, h406km, MV3.9/32, SOUTHERN SEA OF OKHOTSK*

*SKHL **01** 18:57:54.6±0.3, 46˚.70N×144˚.10E, h369km±5km, mb4.6/5, msh5.0/1, msha5.0/5*

*IDC **01** 18:57:54.9±1.2, 46˚.88N×143˚.70E, h377km±15km, mb3.2/17, mbtmp4.1/25, Error ellipse: s-maj=16.1km s-min=10.8km az=157.0*

ISC 01 18:57:54.0±0.5**,46˚.59N**±0˚.05×**143˚.85E**±0˚.05**,h383**km±6km**, n333,**σ**1s52**/344**,mb3.9**/44**,2C-1D,Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzhno-Sakhali**	**0.83**	**296**		**Pn**	**18 58 43.5**	**+0.8**
YSS				Sn	**S**	**18 59 20.4**	**-1.6**
YSS	**Yuzhno-Sakhali**	**0.83**	**296**	P	**Pn**	**18 58 43.6**	**+0.9**
YSS	**Yuzhno-Sakhali**	**0.83**	**296**α	*i*PN	**Pn**	**18 58 43.6**	**+0.9**
YSS				*e*S	**S**	**18 59 21.4**	**-0.6**
YSS				pmax	pmax		
	comp=Z,30nm,0.4s						
YSS				smax	smax		
	comp=N,500nm,3.7s						
YSS				smax	smax		
	comp=N,190nm,0.8s						
YSS				smax	smax		
	comp=E,100nm,0.8s						
YSS	**Yuzhno-Sakhali**	**0.83**	**296**	*e*P	**Pn**	**18 58 43.5**	**+0.8**
YSS				AMB	AMB	18 58 43.8	
	comp=E,60nm,0.4s						
YSS				*e*S	**S**	**18 59 21.5**	**-0.6**
YSS				A	A	18 59 22.2	
	comp=E,180nm,0.8s						
YSS				A	A	18 59 22.2	
	comp=E,80nm,0.8s						
JSE	**Soyaes**	**1.86**	**209**	P	**Pn**	**18 58 48.6**	**+1.1**
JWK2	**Keihoku**	**1.87**	**228**	P	**Pn**	**18 58 49.3**	**+1.7**
JWK2				*e*S	**S**	**18 59 32.8**	**+2.0**
JRBN	**Rebuntou**	**2.27**	**240**	*e*P	**Pn**	**18 58 51.1**	**+0.9**
JSS	**Shosan**	**2.60**	**213**	*e*P	**Pn**	**18 58 54.5**	**+1.7**
JMP	**Maruseppu**	**2.61**	**188**	P	**Pn**	**18 58 53.8**	**+0.9**
JTKR	**Abashiri--Toko**	**2.62**	**179**	P	**Pn**	**18 58 54.0**	**+1.1**
JTKR				*e*S	**S**	**18 59 41.4**	**+0.9**
ASAJ	**Asahikawa**	**2.63**	**200**	P	**Pn**	**18 58 54.4**	**+1.4**
	comp=E,141nm,0.5s,baz=7.2,slow=4.6,SNR=277						
JKA	**Kamikawa-asahi**	**2.63**	**200**		**Pn**	**18 58 54.3**	**+1.3**
RUSJ	**Misakicho**	**2.68**	**158**	*e*PN	**Pn**	**18 58 54.5**	**+1.2**
JRA	**Rausu**	**2.80**	**161**	P	**Pn**	**18 58 55.2**	**+0.8**
JKK2	**Kamakawa 2**	**2.83**	**196**	P	**Pn**	**18 58 55.9**	**+1.3**
YUK	**Yuzh-Kuril'sk**	**2.92**	**150**	*e*PN	**Pn**	**18 58 55.9**	**+0.6**
YUK				*i*S	**S**	**18 59 45.8**	**+1.0**
YUK				pmax	pmax		
	comp=Z,127nm,0.4s						
YUK				pmax	pmax		
	comp=N,33nm,0.2s						
YUK				smax	smax		
	comp=E,683nm,1.1s						
YUK				smax	smax		
	comp=N,699nm,0.9s						
YUK				smax	smax		
	comp=E,317nm,0.3s						
YUK				smax	smax		
	comp=N,147nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.92**	**150**	*e*P	**Pn**	**18 58 56.2**	**+0.9**
YUK				AMB	AMB	18 58 56.4	
	comp=N,130nm,0.3s						
YUK				AMB	AMB	18 58 56.4	
	comp=N,180nm,0.4s						
YUK				*i*S	**S**	**18 59 45.8**	**+1.0**
YUK				A	A	18 59 49.7	
	comp=N,700nm,1.0s						
YUK				A	A	18 59 49.7	
	comp=N,680nm,1.0s						
YUK				A	A	18 59 49.9	
	comp=N,650nm,1.0s						
YUK				A	A	18 59 49.9	
	comp=N,560nm,1.0s						
JNK	**Nakash**	**3.07**	**168**	P	**Pn**	**18 58 57.0**	**+0.4**
GLVR	**Golovnino**	**3.09**	**157**	*e*PN	**Pn**	**18 58 57.2**	**+0.5**
GLVR				*e*S	**S**	**18 59 48.3**	**+1.0**
GLVR				pmax	pmax		
	comp=Z,133nm,0.3s						
GLVR				pmax	pmax		
	comp=E,13nm,0.2s						
GLVR				pmax	pmax		
	comp=N,15nm,0.3s						
GLVR				smax	smax		
	comp=N,371nm,0.3s						
GLVR				smax	smax		
	comp=E,482nm,0.3s						
GLVR	**Golovnino**	**3.09**	**157**	*e*P	**Pn**	**18 58 57.2**	**+0.5**
GLVR				AMB	AMB	18 58 58.1	
	comp=E,130nm,0.3s						
GLVR				*e*S	**S**	**18 59 48.3**	**+1.0**
GLVR				A	A	18 59 55.7	
	comp=E,370nm,0.3s						
GLVR				A	A	18 59 55.7	
	comp=E,480nm,0.3s						
KUR	**Kuril'sk**	**3.12**	**114**	*e*S	**S**	**18 59 54.7**	**+7.0**
JAR	**Ashorobuto**	**3.30**	**181**	P	**Pn**	**18 58 59.2**	**+0.7**
SHO	**Shikotan**	**3.44**	**141**	*e*P	**Pn**	**18 59 02.3**	**+2.5**
SHO				*e*S	**S**	**18 59 53.0**	**0.0**
NMR	**Nemuro--Hokkai**	**3.49**	**157**	*e*PN	**Pn**	**18 58 58.3**	**-1.9**
NMR				*e*S	**S**	**18 59 48.9**	**-4.9**
NMR	**Nemuro--Hokkai**	**3.49**	**157**	*e*P	**Pn**	**18 58 58.3**	**-1.9**
NMR				*e*S	**S**	**18 59 49.9**	**-3.9**
NEM2	**Nemuro 2**	**3.50**	**157**	P	**Pn**	**18 58 58.9**	**-1.4**
NEM2				*e*S	**S**	**18 59 50.1**	**-3.8**
JFR	**Furan**	**3.54**	**195**	P	**Pn**	**18 59 01.8**	**+1.0**
AKK	**Akkeshi**	**3.65**	**168**	*e*P	**Pn**	**18 59 00.7**	**-1.0**
JAK	**Akkeshi**	**3.65**	**170**	P	**Pn**	**18 59 01.0**	**-0.7**
JAK				S	**S**	**18 59 54.3**	**-2.1**
JBT2	**Biratori 2**	**3.96**	**196**	P	**Pn**	**18 59 05.3**	**+0.6**
JBT2				S	**S**	**19 00 01.4**	**-0.5**
JCH	**Churui**	**3.99**	**185**	P	**Pn**	**18 59 04.3**	**-0.8**
JCH				S	**S**	**18 59 58.8**	**-3.8**
JEW	**Eniwo**	**4.12**	**205**	P	**Pn**	**18 59 07.8**	**+1.5**
TYV	**Tymovskoe**	**4.35**	**350**	*e*PN	**Pn**	**18 59 07.6**	**-0.7**
TYV				*e*S	**S**	**19 00 05.2**	**-3.4**
TYV				pmax	pmax		
	comp=Z,9.0nm,0.4s						
TYV				smax	smax		
	comp=N,16nm,1.3s						
TYV				smax	smax		
	comp=E,12nm,1.3s						
JNBK	**Urakawa-nobuka**	**4.38**	**191**	P	**Pn**	**18 59 08.4**	**-0.5**
JEM	**Erimo**	**4.60**	**186**	P	**Pn**	**18 59 11.7**	**+0.6**
ERM	**Erimo**	**4.60**	**186**		**Pn**	**18 59 11.2**	**+0.1**
ERM	**Erimo**	**4.60**	**186**	P	**Pn**	**18 59 11.7**	**+0.6**
ERM	**Erimo**	**4.60**	**186**	*i*PN	**Pn**	**18 59 11.2**	**+0.1**
JOSM	**Okushiri--Mats**	**5.49**	**216**	P	**Pn**	**18 59 20.9**	**+0.4**
JOT	**Ohata**	**5.59**	**202**	*e*P	**Pn**	**18 59 20.9**	**-0.6**
JOT				S	**S**	**19 00 28.4**	**-4.2**
JSI2	**Shiura 2**	**6.07**	**205**	P	**Pn**	**18 59 26.2**	**-0.6**
JTM	**Tenmabayashi**	**6.14**	**200**		**Pn**	**18 59 26.3**	**-1.4**
JTM	**Tenmabayashi**	**6.14**	**200**	P	**Pn**	**18 59 26.9**	**-0.7**
JANG	**Nango**	**6.44**	**196**	*e*P	**Pn**	**18 59 30.2**	**-0.8**
JANG				*e*S	**S**	**19 00 45.2**	**-4.9**
GRNR	**Gornyy**	**6.45**	**313**	⇓*i*PN	**Pn**	**18 59 31.1**	**+0.2**
GRNR				pmax	pmax		
	comp=E,1.0nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
JIW	**Iwasaki**	**6.61**	**206**	P	**Pn**	**18 59 32.3**	**-0.6**
USA0B	**Ussuriysk Arra**	**8.68**	**258**	*i*PN	**P**	**18 59 57.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**8.68**	**258**		**P**	**18 59 56.9**	**-0.4**
USRK	**Ussuriysk Ar.**	**8.68**	**258**	P	**P**	**18 59 57.5**	**+0.2**
	comp=Z,9.5nm,0.6s,baz=58,slow=13,SNR=36						
JMM	**Marumori**	**9.01**	**196**	P	**Pn**	**19 00 00.3**	**-0.1**
SKR	**Severo-Kuril's**	**9.09**	**59**	*i*PN	**Pn**	**19 00 01.0**	**-0.2**
JSD	**Sado**	**9.50**	**208**	P	**P**	**19 00 07.1**	**+0.6**
MSHR	**Mys Shultsa**	**9.90**	**251**	*i*PN	**P**	**19 00 11.0**	**+0.1**
MDJ	**Mudanjiang**	**10.19**	**264**	P	**Pn**	**19 00 14.4**	**+0.3**
MDJ	**Mudanjiang**	**10.19**	**264**	P	**Pn**	**19 00 14.6**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,19nm,1.4s						
MJA0	**Matsu Arr-Jizo**	**10.88**	**205**	*e*PN	**Pn**	**19 00 23.8**	**+1.4**
MJA0				pmax	pmax		
	comp=Z,13nm,0.7s						
MAJO	**Matsushiro**	**10.89**	**205**		**Pn**	**19 00 23.5**	**+1.0**
MAJO	**Matsushiro**	**10.89**	**205**	P	**Pn**	**19 00 23.7**	**+1.2**
MJAR	**Matsushiro Arr**	**10.89**	**205**		**Pn**	**19 00 22.6**	**+0.1**
MJAR	**Matsushiro Arr**	**10.89**	**205**	P	**Pn**	**19 00 23.8**	**+1.4**
	comp=Z,10nm,0.6s,baz=14,slow=12,SNR=65						
PETK	**Petropavlovsk-**	**11.06**	**49**	P	**P**	**19 00 23.4**	**-0.2**
PETK	**Petropavlovsk-**	**11.06**	**49**	P	**Pn**	**19 00 24.1**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=236,slow=8.5,SNR=8.6						
HEH	**HeiHe**	**11.52**	**295**	*e*P	**Pn**	**19 00 29.2**	**-0.3**
HEH				pmax	pmax		
	comp=Z,36nm,0.5s						
JGF	**Kuroka**	**12.02**	**206**		**Pn**	**19 00 36.0**	**+0.4**
JGF	**Kuroka**	**12.02**	**206**	P	**Pn**	**19 00 37.5**	**+1.9**
INU	**Inuyama**	**12.36**	**207**		**P**	**19 00 38.0**	**-0.2**
INU	**Inuyama**	**12.36**	**207**	P	**Pn**	**19 00 41.4**	**+1.9**
MA2	**Magadan**	**13.64**	**15**	P	**P**	**19 00 51.7**	**-0.3**
	comp=Z,11nm,0.6s,baz=200,slow=11,SNR=13						
MA2	**Magadan**	**13.64**	**15**	*i*P	**P**	**19 00 51.8**	**-0.2**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JHJ	**Hachijo jima 2**	**13.81**	**194**	P	**Pn**	**19 00 59.1**	**+2.7**
	comp=Z,24nm,0.3s,baz=61,slow=10,SNR=14						
KSRS	**Korea Array**	**14.93**	**238**	P	**Pn**	**19 01 09.2**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=42,slow=9.7,SNR=8.1						
SEY	**Seymchan**	**17.07**	**13**	P	**P**	**19 01 29.2**	**+0.2**
	comp=Z,26nm,0.6s,baz=193,slow=7.9,SNR=158						
SEY	**Seymchan**	**17.07**	**13**	*i*P	**P**	**19 01 29.1**	**+0.1**
SEY				pmax	pmax		
	comp=Z,25nm,0.9s						
YAK	**Yakutsk**	**17.47**	**337**	*i*P	**P**	**19 01 32.3**	**-0.9**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**23.92**	**268**	*e*P	**P**	**19 02 34.6**	**-0.6**
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
BILL	**Bilibino**	**24.39**	**20**	*i*P	**P**	**19 02 41.3**	**+2.5**
ULN	**Ulaanbaatar**	**24.87**	**286**	P	**P**	**19 02 43.4**	**-0.3**
SONM	**Songino Array**	**25.31**	**287**	P	**P**	**19 02 47.5**	**-0.1**
SONM	**Songino Array**	**25.31**	**287**	P	**P**	**19 02 47.2**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=76,slow=9.2,SNR=7.9						
	comp=Z,1.2nm,0.6s						
GAMB	**Gambell**	**29.83**	**39**	P	**P**	**19 03 25.3**	**-1.6**
	baz=256						
P08K	**Saint George I**	**30.07**	**53**	P	**P**	**19 03 27.4**	**-1.8**
	baz=271						
F14K	**Arctic Creek**	**32.46**	**36**	P	**P**	**19 03 48.1**	**-1.6**
	baz=259						
GTA	**Gaotai**	**32.65**	**273**	*e*P	**P**	**19 03 53.7**	**+1.8**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ANM	**Nome**	**32.70**	**38**	P	**P**	**19 03 50.2**	**-1.7**
	baz=261						
K13K	**Kusilvak Mount**	**32.74**	**43**	P	**P**	**19 03 50.8**	**-1.4**
	baz=266						
C16K	**Lisburne Hills**	**33.45**	**32**	P	**P**	**19 03 56.4**	**-1.7**
	baz=256						
L14K	**Kuka Creek**	**33.66**	**44**	P	**P**	**19 03 58.0**	**-2.0**
	baz=269						
M14K	**Bethel**	**34.01**	**45**	P	**P**	**19 04 01.0**	**-2.0**
	baz=270						
H16K	**Elim**	**34.05**	**38**	P	**P**	**19 04 01.6**	**-1.7**
	baz=264						
G16K	**Koyuk River**	**34.09**	**37**	P	**P**	**19 04 02.1**	**-1.5**
	baz=263						
D17K	**Noatak River**	**34.16**	**33**	P	**P**	**19 04 03.0**	**-1.2**
	baz=259						
N14K	**Kuskokwak Cree**	**34.16**	**47**	P	**P**	**19 04 03.3**	**-1.0**
	baz=272						
K15K	**Wolf Creek Mou**	**34.23**	**43**	P	**P**	**19 04 03.4**	**-1.4**
	baz=268						
L15K	**Ungalak Mounta**	**34.23**	**44**	P	**P**	**19 04 03.2**	**-1.8**
	baz=269						
C17K	**DeLong Mountai**	**34.28**	**32**	P	**P**	**19 04 03.8**	**-1.5**
	baz=258						
S12K	**Black Hills**	**34.32**	**54**	P	**P**	**19 04 03.6**	**-2.1**
	baz=278						
O14K	**Tigyukauivet M**	**34.40**	**48**	P	**P**	**19 04 04.6**	**-1.8**
	baz=273						
E17K	**Hotham Inlet**	**34.53**	**34**	P	**P**	**19 04 06.4**	**-1.0**
	baz=261						
F17K	**Baldwin Pennin**	**34.67**	**35**	P	**P**	**19 04 06.9**	**-1.6**
	baz=263						
I17K	**Unalakleet**	**34.67**	**40**	P	**P**	**19 04 06.8**	**-1.7**
	baz=267						
J16K	**Anvik River**	**34.68**	**41**	P	**P**	**19 04 06.7**	**-2.0**
	baz=268						
G17K	**Kiwalik Mounta**	**34.81**	**37**	P	**P**	**19 04 08.1**	**-1.6**
	baz=265						
N15K	**Kwethluk River**	**34.95**	**46**	P	**P**	**19 04 09.7**	**-1.3**
	baz=273						
B18K	**Kokolik River**	**34.95**	**30**	P	**P**	**19 04 09.7**	**-1.2**
	baz=258						
C18K	**Utukok River**	**35.03**	**31**	P	**P**	**19 04 10.7**	**-1.0**
	baz=260						
E18K	**Tukpahlearik C**	**35.05**	**34**	P	**P**	**19 04 10.4**	**-1.4**
	baz=262						
H17K	**Granite Mounta**	**35.07**	**38**	P	**P**	**19 04 10.6**	**-1.4**
	baz=266						
O15K	**Ungalikthiuk R**	**35.15**	**48**	P	**P**	**19 04 10.4**	**-2.3**
	baz=274						
L16K	**Owhat River**	**35.19**	**44**	P	**P**	**19 04 11.1**	**-1.9**
	baz=271						
SDPT	**Sand Point**	**35.26**	**55**	P	**P**	**19 04 11.5**	**-2.2**
	baz=279						
F18K	**Selawik**	**35.32**	**35**	P	**P**	**19 04 12.0**	**-2.0**
	baz=264						
J17K	**VABM Dome**	**35.37**	**41**	P	**P**	**19 04 12.6**	**-1.9**
	baz=269						
A19K	**Wainwright**	**35.38**	**29**	P	**P**	**19 04 12.0**	**-2.4**
	baz=258						
M16K	**Timber Creek**	**35.47**	**45**	P	**P**	**19 04 13.2**	**-2.2**
	baz=273						
S14K	**Fog Glacier**	**35.63**	**53**	P	**P**	**19 04 14.7**	**-2.1**
	baz=279						
G18K	**Tagagawik**	**35.66**	**36**		**P**	**19 04 15.9**	**-1.1**
G18K	**Tagagawik**	**35.66**	**36**	P	**P**	**19 04 15.6**	**-1.3**
	baz=266,SNR=8.5						
C19K	**Lookout Ridge**	**35.68**	**31**	P	**P**	**19 04 15.7**	**-1.4**
	baz=261						
K17K	**Iditarod**	**35.73**	**42**	P	**P**	**19 04 16.1**	**-1.4**
	baz=271						
H18K	**Honhosa River**	**35.74**	**38**	P	**P**	**19 04 17.3**	**-0.3**
H18K				IAmb	IAmb	19 04 20.8	
	comp=Z,11nm,1.2s						
H18K	**Honhosa River**	**35.74**	**38**	P	**P**	**19 04 16.1**	**-1.5**
	baz=267						
L17K	**Donlin**	**35.74**	**43**	P	**P**	**19 04 16.2**	**-1.5**
	baz=272						
CHNA	**Chernabura Isl**	**35.85**	**56**	P	**P**	**19 04 16.2**	**-2.5**
	baz=281						
O16K	**Kokwok River B**	**35.99**	**47**	P	**P**	**19 04 17.8**	**-2.0**
	baz=275						
F19K	**Shaleruckik Mo**	**36.09**	**35**	P	**P**	**19 04 19.7**	**-0.8**
F19K				IAmb	IAmb	19 04 20.7	
	comp=Z,10nm,0.9s						
F19K	**Shaleruckik Mo**	**36.09**	**35**	P	**P**	**19 04 18.4**	**-2.1**
	baz=266						
D19K	**Kuna River**	**36.12**	**32**	P	**P**	**19 04 19.7**	**-1.1**
D19K				IAmb	IAmb	19 04 23.8	
	comp=Z,17nm,1.2s						
D19K	**Kuna River**	**36.12**	**32**	P	**P**	**19 04 18.8**	**-2.0**
	baz=263						
M17K	**Holitna River**	**36.18**	**44**	P	**P**	**19 04 21.6**	**+0.2**
M17K	**Holitna River**	**36.18**	**44**	P	**P**	**19 04 19.1**	**-2.2**
	baz=273						
E19K	**Redstone River**	**36.35**	**34**	P	**P**	**19 04 21.8**	**-0.9**
E19K	**Redstone River**	**36.35**	**34**	P	**P**	**19 04 20.8**	**-1.9**
	baz=265,SNR=6.8						
GCSA	**Galena City Sc**	**36.36**	**38**	P	**P**	**19 04 20.4**	**-2.3**
	baz=269						
N17K	**Nushagak Hills**	**36.37**	**46**	P	**P**	**19 04 20.3**	**-2.6**
	baz=275						
J18K	**Innoko River**	**36.44**	**41**	P	**P**	**19 04 21.0**	**-2.4**
	baz=271						
O17K	**Koliganek Bris**	**36.48**	**47**	P	**P**	**19 04 21.6**	**-2.2**

	baz=276						
L18K	**Granite Mounta**	**36.49**	**43**	P	**P**	**19 04 24.2**	**+0.2**
L18K				IAmb	IAmb	19 05 07.3	
	comp=Z,13nm,1.4s						
L18K	**Granite Mounta**	**36.49**	**43**	P	**P**	**19 04 21.7**	**-2.2**
	baz=273						
R16K	**Pilot Point**	**36.51**	**51**	P	**P**	**19 04 22.4**	**-1.6**
	baz=278						
H19K	**Roundabout Mou**	**36.55**	**37**		**P**	**19 04 22.3**	**-2.1**
H19K	**Roundabout Mou**	**36.55**	**37**	P	**P**	**19 04 22.2**	**-2.2**
	baz=269,SNR=9.8						
B20K	**Meade River**	**36.66**	**30**	P	**P**	**19 04 24.1**	**-1.1**
B20K	**Meade River**	**36.66**	**30**	P	**P**	**19 04 23.6**	**-1.6**
	baz=262						
D20K	**Etivluk River**	**36.69**	**32**	P	**P**	**19 04 24.5**	**-1.1**
D20K	**Etivluk River**	**36.69**	**32**	P	**P**	**19 04 24.1**	**-1.5**
	baz=264,SNR=5.2						
E20K	**Nigu River**	**36.81**	**33**	P	**P**	**19 04 24.7**	**-1.9**
	baz=265						
P17K	**Kvichak River**	**36.88**	**48**	P	**P**	**19 04 25.3**	**-1.9**
	baz=277						
F20K	**Avaraart Lake**	**36.90**	**35**	P	**P**	**19 04 25.0**	**-2.2**
	baz=267						
J19K	**Poorman**	**36.91**	**40**	P	**P**	**19 04 26.1**	**-1.3**
J19K				IAmb	IAmb	19 04 32.4	
	comp=Z,7.8nm,1.3s						
J19K	**Poorman**	**36.91**	**40**	P	**P**	**19 04 25.2**	**-2.2**
	baz=271						
M18K	**Stony River**	**36.95**	**44**	P	**P**	**19 04 25.4**	**-2.3**
	baz=275						
N18K	**Kilae Creek**	**36.99**	**45**	P	**P**	**19 04 25.5**	**-2.6**
	baz=276						
R17L	**Mt. Peulik Vol**	**37.14**	**50**	P	**P**	**19 04 27.6**	**-1.9**
	baz=279						
H20K	**Anotleneega Mo**	**37.21**	**37**	P	**P**	**19 04 29.2**	**-0.7**
	baz=270,SNR=13						
L19K	**White Mountain**	**37.35**	**43**	P	**P**	**19 04 29.5**	**-1.6**
	baz=274						
I20K	**Naaghedeneel**	**37.39**	**38**	P	**P**	**19 04 29.9**	**-1.4**
	baz=271						
C21K	**Knifeblade Rid**	**37.39**	**31**	P	**P**	**19 04 29.9**	**-1.5**
	baz=265						
B21K	**Ikpikpuk River**	**37.49**	**30**	P	**P**	**19 04 31.3**	**-0.8**
B21K	**Ikpikpuk River**	**37.49**	**30**	P	**P**	**19 04 30.8**	**-1.3**
	baz=265						
J20K	**Nowinta River**	**37.55**	**39**	P	**P**	**19 04 32.5**	**-0.2**
J20K				IAmb	IAmb	19 04 33.3	
	comp=Z,8.9nm,0.9s						
J20K	**Nowinta River**	**37.55**	**39**	P	**P**	**19 04 31.1**	**-1.6**
	baz=272						
M19K	**Big River Lodg**	**37.59**	**43**	P	**P**	**19 04 31.5**	**-1.6**
	baz=275						
K20K	**Telida**	**37.63**	**41**	P	**P**	**19 04 31.6**	**-1.8**
	baz=274						
E21K	**Killik River**	**37.64**	**32**	P	**P**	**19 04 31.9**	**-1.5**
	baz=267						
N19K	**Bonanza Creek**	**37.66**	**45**	P	**P**	**19 04 31.6**	**-2.2**
	baz=277						
IMAR	**Indian Mountai**	**37.67**	**36**	P	**P**	**19 04 33.0**	**-0.7**
G21K	**Allakaket**	**37.77**	**36**		**P**	**19 04 33.8**	**-0.7**
G21K	**Allakaket**	**37.77**	**36**	P	**P**	**19 04 33.4**	**-1.1**
	baz=270,SNR=8.9						
F21K	**Alatna River**	**37.78**	**34**	P	**P**	**19 04 33.8**	**-0.8**
F21K	**Alatna River**	**37.78**	**34**	P	**P**	**19 04 33.7**	**-1.0**
	baz=269						
CHIR	**Chirikof Islan**	**37.88**	**53**	P	**P**	**19 04 34.4**	**-1.2**
	baz=282						
H21K	**Melozitna Rive**	**38.07**	**37**	IAmb	IAmb	19 04 37.0	
	comp=Z,6.6nm,0.6s						
H21K	**Melozitna Rive**	**38.07**	**37**	P	**P**	**19 04 35.4**	**-1.6**
	baz=272,SNR=5.9						
D22K	**Ayikyak River**	**38.13**	**32**	P	**P**	**19 04 36.6**	**-0.9**
D22K				IAmb	IAmb	19 05 00.5	
	comp=Z,20nm,1.4s						
D22K	**Ayikyak River**	**38.13**	**32**	P	**P**	**19 04 36.3**	**-1.2**
	baz=268						
R18K	**Karluk**	**38.17**	**50**	P	**P**	**19 04 36.2**	**-1.6**
	baz=281						
M20K	**Styx River**	**38.19**	**43**	P	**P**	**19 04 37.4**	**-0.7**
	baz=276						
F22K	**John River**	**38.29**	**34**	P	**P**	**19 04 37.6**	**-1.2**
	baz=270						
I21K	**Tanana**	**38.43**	**38**	P	**P**	**19 04 38.9**	**-1.1**
	baz=273						
E22K	**Anaktuvuk Pass**	**38.43**	**33**	P	**P**	**19 04 38.6**	**-1.4**
	baz=269,SNR=6.3						
P19K	**Oil Pt**	**38.44**	**47**	P	**P**	**19 04 38.0**	**-2.1**
	baz=279						
SII	**Sitkinak Islan**	**38.51**	**52**	P	**P**	**19 04 39.1**	**-1.7**
	baz=282						
CAST	**Castle Rocks**	**38.52**	**41**	P	**P**	**19 04 40.1**	**-0.7**
CAST				IAmb	IAmb	19 04 40.5	
	comp=Z,8.3nm,1.3s						
CAST	**Castle Rocks**	**38.52**	**41**	P	**P**	**19 04 39.0**	**-1.7**
	baz=275						
PPLA	**Purkeypile**	**38.52**	**41**	P	**P**	**19 04 38.8**	**-2.1**
	baz=276						
G22K	**Bettles**	**38.56**	**35**	P	**P**	**19 04 39.6**	**-1.4**
	baz=271						
H22K	**Ishtalitna Cre**	**38.65**	**37**	P	**P**	**19 04 40.4**	**-1.3**
	baz=273,SNR=5.9						
O20K	**Slope Mountain**	**38.67**	**46**	P	**P**	**19 04 40.7**	**-1.4**
	baz=279						
N20K	**Mount Spurr**	**38.71**	**44**	P	**P**	**19 04 40.9**	**-1.5**
	baz=278						
SPCR	**Spurr Chakacha**	**38.71**	**44**	P	**P**	**19 04 40.4**	**-2.0**
	baz=278						
PZH	**PanZhiHua**	**38.75**	**254**	P	**P**	**19 04 42.9**	**-0.3**
OHAK	**Old Harbor**	**38.85**	**51**	P	**P**	**19 04 42.0**	**-1.5**
	baz=282						
D23K	**Nanushuk River**	**38.86**	**32**	P	**P**	**19 04 41.9**	**-1.5**
	baz=270						
C23K	**Itkillik River**	**38.90**	**30**	P	**P**	**19 04 42.2**	**-1.5**
	baz=268						
SKT	**Skwentna**	**38.93**	**43**	P	**P**	**19 04 42.5**	**-1.6**
	baz=277						
WMQ	**Urumqi**	**38.95**	**287**	*e*P	**P**	**19 04 46.1**	**+1.5**
COLD	**Coldfoot**	**39.06**	**34**	P	**P**	**19 04 43.4**	**-1.7**
	baz=272						
KDAK	**Kodiak Island**	**39.11**	**50**	P	**P**	**19 04 44.0**	**-1.6**
	baz=282						
G23K	**Bananza Creek**	**39.16**	**35**	P	**P**	**19 04 44.1**	**-1.8**
	baz=273						
E23K	**Chandalar**	**39.26**	**33**	P	**P**	**19 04 46.2**	**-0.6**
E23K				IAmb	IAmb	19 04 51.8	
	comp=Z,6.8nm,0.9s						
E23K	**Chandalar**	**39.26**	**33**	P	**P**	**19 04 44.9**	**-1.9**
	baz=272						
TOLK	**Toolik Lake Re**	**39.26**	**32**	P	**P**	**19 04 45.6**	**-1.2**
TOLK				IAmb	IAmb	19 05 23.2	
	comp=Z,18nm,1.4s						
TOLK	**Toolik Lake Re**	**39.26**	**32**	P	**P**	**19 04 45.4**	**-1.3**
	baz=271						
TRF	**Thorofare Moun**	**39.31**	**40**	P	**P**	**19 04 45.4**	**-2.0**
	baz=277						
SUA	**Susitna One**	**39.37**	**43**	P	**P**	**19 04 46.1**	**-1.8**
	baz=279						
H23K	**Yukon River**	**39.41**	**37**	IAmb	IAmb	19 04 48.7	
	comp=Z,6.0nm,0.7s						
H23K	**Yukon River**	**39.41**	**37**	P	**P**	**19 04 46.5**	**-1.5**
	baz=274						
CUT	**Chulitna**	**39.46**	**42**	P	**P**	**19 04 47.0**	**-1.3**
	baz=278						
D24K	**Happy Valley**	**39.52**	**31**	P	**P**	**19 04 47.3**	**-1.5**
	baz=271						
I23K	**Minto, Yukon-K**	**39.54**	**38**	P	**P**	**19 04 48.7**	**-0.3**
I23K	**Minto, Yukon-K**	**39.54**	**38**	P	**P**	**19 04 47.4**	**-1.5**
	baz=275						
C24K	**Franklin Bluff**	**39.56**	**30**	P	**P**	**19 04 48.2**	**-0.9**
C24K	**Franklin Bluff**	**39.56**	**30**	P	**P**	**19 04 47.8**	**-1.4**
	baz=270						
E24K	**Your Creek**	**39.68**	**33**	P	**P**	**19 04 49.6**	**-0.6**
E24K	**Your Creek**	**39.68**	**33**	P	**P**	**19 04 48.7**	**-1.5**
	baz=273						
NEA2	**Nenana**	**39.72**	**38**	IAmb	IAmb	19 04 50.8	
	comp=Z,6.3nm,0.6s						
NEA2	**Nenana**	**39.72**	**38**	P	**P**	**19 04 49.0**	**-1.5**
	baz=276						
MCK	**McKinley**	**39.88**	**40**	P	**P**	**19 04 50.0**	**-1.9**
	baz=277						
F24K	**Squaw Lake**	**39.94**	**34**	P	**P**	**19 04 51.2**	**-1.1**
F24K				IAmb	IAmb	19 04 52.1	
	comp=Z,4.8nm,0.6s						
F24K	**Squaw Lake**	**39.94**	**34**	P	**P**	**19 04 50.7**	**-1.6**
	baz=274						
H24K	**Noodor Dome**	**40.09**	**36**	P	**P**	**19 04 53.5**	**0.0**
H24K	**Noodor Dome**	**40.09**	**36**	P	**P**	**19 04 52.0**	**-1.5**
	baz=276						
PMR	**Palmer**	**40.12**	**43**	P	**P**	**19 04 52.1**	**-1.6**
	baz=280						
G24K	**Hadweenzic Riv**	**40.17**	**35**	P	**P**	**19 04 52.7**	**-1.4**
	baz=275						
WAT1	**Susitna Watana**	**40.18**	**41**	P	**P**	**19 04 53.3**	**-1.0**
	baz=279						
COLA	**College**	**40.21**	**38**	P	**P**	**19 04 53.0**	**-1.4**
	baz=277						
CCB	**Clear Creek Bu**	**40.25**	**38**	P	**P**	**19 04 54.2**	**-0.6**
POKR	**Poker Plat Res**	**40.35**	**38**	P	**P**	**19 04 54.4**	**-1.3**
	baz=277						
D25K	**Kavik River**	**40.39**	**31**	P	**P**	**19 04 54.8**	**-1.2**
D25K				IAmb	IAmb	19 04 55.5	
	comp=Z,8.7nm,0.7s						
D25K	**Kavik River**	**40.39**	**31**	P	**P**	**19 04 53.9**	**-2.1**
	baz=273						
ILAR	**Eielson Array**	**40.63**	**38**	P	**P**	**19 04 57.0**	**-0.8**
ILAR	**Eielson Array**	**40.63**	**38**	P	**P**	**19 04 57.1**	**-0.7**
	comp=Z,3.2nm,0.7s,baz=267,slow=6.9,SNR=38						
	comp=Z,3.2nm,0.7s						
HDA	**Harding Lake**	**40.65**	**39**	P	**P**	**19 04 57.1**	**-1.0**
HDA	**Harding Lake**	**40.65**	**39**	P	**P**	**19 04 56.3**	**-1.7**
	baz=278						
DHY	**Denali Highway**	**40.67**	**41**	P	**P**	**19 04 57.6**	**-0.8**
DHY				IAmb	IAmb	19 04 58.3	
	comp=Z,5.3nm,0.9s						
DHY	**Denali Highway**	**40.67**	**41**	P	**P**	**19 04 56.9**	**-1.5**
	baz=280						
M23K	**Glacier View**	**40.74**	**43**	P	**P**	**19 04 57.2**	**-1.6**
	baz=281						
E25K	**Arctic Village**	**40.77**	**33**	P	**P**	**19 04 57.5**	**-1.5**
	baz=275						
F25K	**Christian Rive**	**40.79**	**34**	P	**P**	**19 04 57.8**	**-1.4**
	baz=276						
H25L	**Birch Creek**	**40.87**	**36**	P	**P**	**19 04 58.4**	**-1.3**
	baz=277						
PRP	**Porcupine Dome**	**41.09**	**37**	IAmb	IAmb	19 05 02.4	
	comp=Z,7.7nm,0.6s						
PRP	**Porcupine Dome**	**41.09**	**37**	P	**P**	**19 05 00.4**	**-1.3**
	baz=278,SNR=6.9						
MK31	**Makanchi Array**	**41.25**	**294**	*i* P	**P**	**19 05 03.3**	**+0.1**
MKAR	**Makanchi Array**	**41.25**	**294**	P	**P**	**19 05 03.3**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=75,slow=8.6,SNR=9.5						
	comp=Z,1.0nm,0.7s						
K24K	**Donnelly Dome**	**41.26**	**39**	P	**P**	**19 05 01.5**	**-1.5**
	baz=280						
J25K	**Salcha River,**	**41.30**	**38**	P	**P**	**19 05 01.9**	**-1.4**
	baz=279						
C27K	**Jago River**	**41.31**	**30**	P	**P**	**19 05 02.5**	**-0.7**
C27K	**Jago River**	**41.31**	**30**	P	**P**	**19 05 02.0**	**-1.2**
	baz=275						
F26K	**Sheenjek River**	**41.35**	**33**	P	**P**	**19 05 02.7**	**-1.0**
	baz=277						
G26K	**Porcupine Rive**	**41.59**	**34**	P	**P**	**19 05 04.8**	**-0.7**
	baz=278						
KLU	**Klutina**	**41.64**	**43**	P	**P**	**19 05 05.2**	**-1.0**
	baz=282						
RIDG	**Independent Ri**	**41.68**	**39**	P	**P**	**19 05 04.7**	**-1.6**
RIDG				IAmb	IAmb	19 05 43.5	
	comp=Z,7.7nm,1.1s						
RIDG	**Independent Ri**	**41.68**	**39**	P	**P**	**19 05 05.4**	**-0.9**
	baz=281						
HARP	**HAARP**	**41.80**	**41**	P	**P**	**19 05 06.2**	**-1.1**
	baz=282						
SCRK	**Sand Creek**	**42.01**	**39**	P	**P**	**19 05 07.7**	**-1.4**
SCRK				IAmb	IAmb	19 05 08.5	
	comp=Z,5.4nm,0.5s						
SCRK	**Sand Creek**	**42.01**	**39**	P	**P**	**19 05 07.2**	**-1.8**
	baz=281						
DOT	**Dot Lake**	**42.04**	**39**	P	**P**	**19 05 08.0**	**-1.3**
KURK	**Kurchatov**	**42.04**	**300**	P	**P**	**19 05 09.8**	**+0.5**
J26L	**Joseph Creek**	**42.09**	**38**	P	**P**	**19 05 08.2**	**-1.4**
	baz=281						
I26K	**Coal Creek Min**	**42.11**	**37**	P	**P**	**19 05 08.6**	**-1.1**
	baz=280						
KURBB	**Kurchatov Arra**	**42.12**	**300**	P	**P**	**19 05 09.8**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=73,slow=8.4,SNR=5.6						
	comp=Z,0.7nm,0.5s						
N25K	**Chitina, Valde**	**42.23**	**42**	P	**P**	**19 05 09.1**	**-1.8**
	baz=283						
E27K	**Coleen River**	**42.24**	**32**	P	**P**	**19 05 09.5**	**-1.3**
	baz=279						
BMRM	**Bremner River**	**42.38**	**43**	P	**P**	**19 05 10.9**	**-1.1**
	baz=284						
G27K	**Doyon Strip**	**42.44**	**34**	P	**P**	**19 05 10.9**	**-1.5**
	baz=280						
L26K	**Log Cabin Wild**	**42.48**	**40**	P	**P**	**19 05 11.5**	**-1.3**
	baz=283						
H27K	**Steamboat Moun**	**42.60**	**35**	P	**P**	**19 05 12.0**	**-1.6**
	baz=281						
I27K	**Kandik River**	**42.68**	**36**	P	**P**	**19 05 12.9**	**-1.4**
	baz=281						
M26K	**Nabesna, AK**	**42.78**	**41**	P	**P**	**19 05 13.9**	**-1.3**
	baz=284						
K27K	**Chicken**	**42.82**	**39**	P	**P**	**19 05 13.9**	**-1.5**
	baz=283						
E28M	**Babbage River**	**42.93**	**32**	P	**P**	**19 05 14.5**	**-1.6**
	baz=280						
F28M	**Old Crow**	**42.98**	**33**	P	**P**	**19 05 14.8**	**-1.8**
	baz=281						
D28M	**Stokes Point**	**43.09**	**30**	P	**P**	**19 05 16.0**	**-1.3**
	baz=280						
L27K	**Beaver Creek,**	**43.15**	**40**		**P**	**19 05 17.6**	**-0.4**
L27K	**Beaver Creek,**	**43.15**	**40**	P	**P**	**19 05 16.4**	**-1.6**
	baz=284						
BCAR	**Beaver Creek A**	**43.17**	**40**	P	**P**	**19 05 17.5**	**-0.7**
M27K	**Edge Creek, AK**	**43.30**	**41**	P	**P**	**19 05 17.3**	**-2.1**
	baz=285						
I28M	**Miner Creek**	**43.40**	**36**		**P**	**19 05 20.1**	**0.0**
I28M				IAmb	IAmb	19 05 21.4	
	comp=Z,6.5nm,0.8s						
I28M	**Miner Creek**	**43.40**	**36**	P	**P**	**19 05 18.4**	**-1.7**
	baz=283,SNR=6.5						
E29M	**Blow River**	**43.56**	**32**	P	**P**	**19 05 19.9**	**-1.3**
	baz=282						
G29M	**Pine Creek**	**43.83**	**34**	P	**P**	**19 05 21.8**	**-1.5**
	baz=283						
H29M	**Whitestone**	**43.85**	**35**	P	**P**	**19 05 22.1**	**-1.3**
	baz=283						
CTG	**Chitna Glacier**	**43.92**	**43**	P	**P**	**19 05 23.4**	**-0.9**
	baz=286						
DAWY	**Dawson**	**43.96**	**38**	P	**P**	**19 05 23.3**	**-1.1**
	baz=285						
I29M	**Ogilvie Camp,**	**44.08**	**36**	P	**P**	**19 05 24.6**	**-0.7**
	baz=284						
YUK3	**Moose Creek**	**44.10**	**41**	P	**P**	**19 05 24.8**	**-1.0**
	baz=286						
EPYK	**Eagle Plains**	**44.46**	**34**	IAmb	IAmb	19 05 28.8	
	comp=Z,9.0nm,0.7s						
EPYK	**Eagle Plains**	**44.46**	**34**	P	**P**	**19 05 27.7**	**-0.6**
	baz=285,SNR=5.8						
F30M	**Barrier River**	**44.51**	**33**	P	**P**	**19 05 27.6**	**-1.0**
	baz=284,SNR=5.4						
O28M	**Mount Upton**	**44.52**	**43**	P	**P**	**19 05 27.1**	**-2.0**
	baz=287						
YUK8	**Steele Glacier**	**44.56**	**42**	P	**P**	**19 05 27.7**	**-1.7**
	baz=287						
L29M	**L29M**	**44.76**	**39**	P	**P**	**19 05 29.5**	**-1.2**
	baz=287						
M29M	**Somme Creek**	**44.81**	**40**	P	**P**	**19 05 29.9**	**-1.2**
	baz=287						
K29M	**Barlow Dome**	**44.81**	**38**	P	**P**	**19 05 30.0**	**-1.2**
	baz=286						
I30M	**Mount Dempster**	**44.90**	**36**	P	**P**	**19 05 30.7**	**-1.2**
	baz=286						
INK	**Inuvik**	**45.16**	**31**	P	**P**	**19 05 32.9**	**-0.7**
	baz=285						
G31M	**Satah River**	**45.26**	**33**	P	**P**	**19 05 33.4**	**-1.0**
	baz=286						
F31M	**Tsiigehtchic**	**45.31**	**33**	P	**P**	**19 05 34.2**	**-0.6**
	baz=286						
O29M	**Mount Kennedy**	**45.42**	**43**	P	**P**	**19 05 35.5**	**-0.5**
	baz=289						
M30M	**Minto, Yukon**	**45.51**	**40**	P	**P**	**19 05 36.3**	**-0.2**
	baz=288						
H31M	**Peel River**	**45.55**	**35**	IAmb	IAmb	19 05 37.3	
	comp=Z,9.2nm,0.6s						
H31M	**Peel River**	**45.55**	**35**	P	**P**	**19 05 36.0**	**-0.7**
	baz=287,SNR=5.5						
HYT	**Haines Junctio**	**45.75**	**42**		**P**	**19 05 37.8**	**-0.7**
HYT	**Haines Junctio**	**45.75**	**42**	P	**P**	**19 05 37.8**	**-0.7**
	baz=289,SNR=6.6						
P29M	**Windy Craggy**	**46.04**	**44**		**P**	**19 05 39.9**	**-0.7**
P29M				IAmb	IAmb	19 05 43.7	
	comp=Z,5.9nm,0.9s						
P29M	**Windy Craggy**	**46.04**	**44**	P	**P**	**19 05 40.9**	**+0.2**
	baz=290						
P30M	**Million Dollar**	**46.24**	**43**	P	**P**	**19 05 42.4**	**+0.2**
	baz=290						
CMAR	**Chiang Mai Arr**	**46.25**	**248**	P	**P**	**19 05 44.7**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=38,slow=9.4,SNR=4.7						
	comp=Z,0.6nm,0.5s						
WHY	**Whitehorse**	**47.02**	**42**	P	**P**	**19 05 47.0**	**-1.1**
	baz=291						
MMPY	**Sheldon Lake,**	**47.89**	**38**	P	**P**	**19 05 53.9**	**-0.8**
	baz=292						
C36M	**Paulatuk**	**48.07**	**28**	P	**P**	**19 05 55.6**	**-0.3**
	baz=292						
R32K	**Eaglecrest**	**48.10**	**45**	P	**P**	**19 05 55.8**	**-0.5**
	baz=294						
DLBC	**Dease Lake**	**50.18**	**43**	P	**P**	**19 06 10.9**	**-1.0**
	baz=296						
SPITS	**Spitsbergen Ar**	**51.53**	**348**	P	**P**	**19 06 20.6**	**-0.9**
	comp=Z,3.0nm,0.9s,baz=28,slow=6.5,SNR=1.9						
	comp=Z,3.0nm,0.9s						
YKA	**Yellowknife Ar**	**54.74**	**34**	P	**P**	**19 06 44.5**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=355,slow=9.5,SNR=9.7						
	comp=Z,1.6nm,0.8s						
ARCES	**ARCESS Array B**	**55.75**	**338**	P	**P**	**19 06 51.0**	**-0.8**
	comp=Z,3.0nm,1.0s,baz=25,slow=6.9,SNR=1.7						
	comp=Z,3.0nm,1.0s						
HEF	**Hetta**	**57.02**	**338**	*e*P	P	19 07 08.1	+7.4
KIF	**Kilpisjarvi**	**57.32**	**339**	*e*P	P	19 07 07.4	+4.7
FINES	**FINESS Array B**	**61.27**	**331**	P	**P**	**19 07 28.1**	**-1.4**
	comp=Z,1.6nm,0.5s,baz=48,slow=7.5,SNR=15						
	comp=Z,1.6nm,0.5s						
FINES	**FINESS Array B**	**61.27**	**331**	*e*P	**P**	**19 07 29.1**	**-0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
VSU	**Vasula**	**63.20**	**328**	*i* P	**P**	**19 07 43.2**	**+1.0**
VSU				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WVOR	**Wild Horse Val**	**65.16**	**54**	P	**P**	**19 07 52.8**	**-2.5**
WVOR				IAmb	IAmb	19 07 59.0	
	comp=Z,8.1nm,1.2s						
NOA	**NORSAR Array B**	**66.09**	**337**	P	**P**	**19 07 59.8**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=32,slow=6.7,SNR=3.5						
	comp=Z,0.7nm,0.7s						
HFS	**Hagfors**	**66.15**	**335**	P	**P**	**19 08 00.6**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=57,slow=5.5,SNR=10						
	comp=Z,1.0nm,0.4s						
LRM	**Limekiln Ridge**	**66.20**	**48**	P	**P**	**19 08 02.4**	**+0.4**
NVAR	**Mina Array Bea**	**68.02**	**57**	P	**P**	**19 08 15.2**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=298,slow=6.9,SNR=8.8						
	comp=Z,1.2nm,0.6s						
BORG	**Borgarnes**	**68.39**	**353**	*i* P	**P**	**19 08 14.0**	**-0.9**
PDAR	**Pinedale Array**	**69.82**	**49**	P	**P**	**19 08 25.1**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=301,slow=1.5,SNR=14						
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**70.50**	**190**	P	**P**	**19 08 31.0**	**+2.8**
	comp=Z,0.3nm,0.8s,baz=4.7,slow=6.4,SNR=2.3						
	comp=Z,0.3nm,0.8s						
ASAR	**Alice Springs**	**70.50**	**190**	P	**P**	**19 08 31.0**	**+2.8**
ULM	**Lac du Bonnet**	**70.61**	**36**	P	**P**	**19 08 28.5**	**0.0**
	comp=Z,1.6nm,0.4s,baz=27,slow=2.3,SNR=2.9						
	comp=Z,1.6nm,0.4s						
EKA	**Eskdalemuir Ar**	**74.70**	**341**	P	**P**	**19 08 51.9**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=360,slow=7.8,SNR=1.8						
	comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**82.95**	**54**	P	**P**	**19 09 38.9**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=294,slow=3.9,SNR=7.7						
	comp=Z,0.8nm,0.8s						

*ISK **01** 19:04:30.1, 38.°99N×26.°08E, h10km, ML2.5/13*

*ATH **01** 19:04:30.5, 39.°00N×26.°07E, h14km±1km, ML2.5/3, Manual Solution by A.Agalos First location: 2019/09/01 19:05:48, This location: 2019/09/01 19:19:02 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

*THE **01** 19:04:31.2, 39°N±4°×2°6E±°, h10km±2km, M2.3/7, MLh2.3/7*

*AFAD **01** 19:04:31.4, 39.°01N×26.°14E, h7km±4km, ML2.2*

ISC 01 19:04:30.9±0.9**, 39.°00N**±0.°02×**26.°07E**±0.°02**, h13**km±7km**, n44,** σ0.s43/70**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.27**	**321**	Pg	**Pg**	**19 04 36.3**	**-0.2**
SIGR				Sg	**Sg**	**19 04 40.8**	**+0.5**
SIGR	**SIGRI**	**0.27**	**321**	P	**Pg**	**19 04 36.3**	**-0.2**
SIGR				S	**Sg**	**19 04 40.5**	**+0.2**
SIGR	**SIGRI**	**0.27**	**321**	P	**Pg**	**19 04 36.2**	**-0.2**
SIGR				S	**Sg**	**19 04 40.3**	**0.0**
PRK	**Paraskevi**	**0.29**	**32**	P	**Pg**	**19 04 36.7**	**-0.1**
PRK				S	**Sb**	**19 04 41.9**	**-0.7**
PRK	**Paraskevi**	**0.29**	**32**	P	**Pg**	**19 04 36.5**	**-0.3**
PRK				S	**Sg**	**19 04 41.3**	**+0.4**
KARB	**zmir-Karabur**	**0.43**	**142**	P	**Pg**	**19 04 39.6**	**+0.3**
KARB				S	**Sg**	**19 04 45.1**	**0.0**
KARB				*i* IAML		19 04 46.0	
	comp=N,218nm,0.3s						
KARB				*i* IAML		19 04 48.0	
	comp=E,233nm,0.4s						
GPNR	**Gulpinar-Canak**	**0.46**	**6**	Pg	**Pg**	**19 04 39.5**	**-0.4**
GPNR				Sg	**Sb**	**19 04 47.1**	**-0.4**
EAG2	**Marmaro, Chios**	**0.46**	**176**	P	**Pg**	**19 04 39.8**	**-0.1**
EAG2				S	**Sg**	**19 04 46.5**	**+0.5**
KOCA	**Canakkale, Ayv**	**0.50**	**6**	P	**Pg**	**19 04 41.0**	**+0.2**
KOCA				S	**Sb**	**19 04 48.8**	**-0.1**
KOCA				*i* IAML		19 04 53.0	
	comp=E,210nm,0.4s						
KOCA				*i* IAML		19 04 57.0	
	comp=N,169nm,0.4s						
AYVA	**Ayvalik**	**0.57**	**57**	P	**Pg**	**19 04 41.1**	**-0.9**
AYVA				S	**Sg**	**19 04 49.2**	**-0.4**
AYVA				*i* IAML		19 04 55.0	
	comp=E,192nm,0.3s						
FOCM	**Foa**	**0.59**	**119**	Pg	**Pg**	**19 04 41.8**	**-0.6**
FOCM				Sg	**Sg**	**19 04 50.3**	**+0.1**
IZMD	**zmir-Dikili-**	**0.67**	**91**	P	**Pb**	**19 04 44.7**	**+0.3**
IZMD				S	**Sg**	**19 04 51.6**	**-1.1**
ZEDA	**zmir-Bergama**	**0.79**	**92**	P	**Pg**	**19 04 45.7**	**-0.3**
ZEDA				S	**Sb**	**19 04 57.3**	**+0.4**
ZEDA				*i* IAML		19 04 59.0	
	comp=E,146nm,0.2s						
EZNE	**Ezine-Canakkal**	**0.79**	**17**	Pg	**Pg**	**19 04 45.9**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**0.83**	**26**	P	**Pg**	**19 04 46.7**	**-0.2**
BAYC				S	**Sb**	**19 04 59.0**	**+0.8**
BAYC				*i* IAML		19 05 01.0	
	comp=E,202nm,0.2s						
BAYC				*i* IAML		19 05 02.0	
	comp=N,180nm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**0.83**	**156**	P	**Pb**	**19 04 47.8**	**+0.6**
ZEYE				S	**Sg**	**19 04 57.1**	**-0.7**
ZEYE				*i* IAML		19 05 01.0	
	comp=N,84nm,0.3s						
ZEYE				*i* IAML		19 05 09.0	
	comp=E,74nm,0.6s						
BOZC	**Bozcaada**	**0.84**	**359**	Pg	**Pg**	**19 04 46.7**	**-0.4**
BOZC				Sg	**Sb**	**19 04 59.0**	**+0.5**
EZN	**Ezine**	**0.85**	**13**	Pg	**Pg**	**19 04 46.8**	**-0.4**
EZN				Sg	**Sb**	**19 04 59.3**	**+0.6**
EZN	**Ezine**	**0.85**	**13**	P	**Pg**	**19 04 46.8**	**-0.4**
EZN				S	**Sb**	**19 04 59.1**	**+0.4**
BUHA	**Balikesir, Bur**	**0.93**	**57**	P	**Pg**	**19 04 48.3**	**-0.4**
BUHA				S	**Sg**	**19 05 00.9**	**0.0**
YAYO	**Edremit-Balk**	**0.99**	**52**	Pg	**Pg**	**19 04 49.5**	**-0.4**
YAYO				Sg	**Sb**	**19 05 03.5**	**+0.7**
LIA	**Limnos Island**	**1.13**	**323**	P	**Pb**	**19 04 52.1**	**-0.1**
LIA				S	**Sb**	**19 05 07.5**	**+0.7**
LIA	**Limnos Island**	**1.13**	**323**	P	**Pb**	**19 04 52.0**	**-0.3**
LIA				S	**Sb**	**19 05 07.1**	**+0.3**
SOMA	**Soma-Manisa**	**1.15**	**82**	Pn	**Pb**	**19 04 52.4**	**-0.2**
SOMA				Sn	**Sn**	**19 05 08.7**	**+0.4**
SKY	**Skiros Island**	**1.19**	**265**	P	**Pb**	**19 04 53.3**	**0.0**
GADA	**Gvkgeada**	**1.20**	**354**	Pn	**Pb**	**19 04 53.0**	**-0.4**
GADA	**Gvkgeada**	**1.20**	**354**	P	**Pb**	**19 04 53.0**	**-0.4**
GADA				S	**Sg**	**19 05 09.7**	**+0.2**
CANM	**Can-anakkale**	**1.26**	**37**	Pn	**Pn**	**19 04 54.5**	**+0.3**
YENI	**Yenice-Canakka**	**1.30**	**44**	Pn	**Pn**	**19 04 55.1**	**+0.3**
AKHS	**Akhisar**	**1.36**	**95**	P	**Pg**	**19 04 57.0**	**0.0**
AKHS				S	**Sb**	**19 05 13.6**	**-0.1**
AKHS				*i* IAML		19 05 17.0	
	comp=E,48nm,0.3s						
GELI	**Tayfur-Gelibol**	**1.43**	**12**	Pn	**Pn**	**19 04 56.6**	**+0.1**
SMTH	**Samothraki Isl**	**1.53**	**344**	P	**Pn**	**19 04 58.0**	**+0.1**
SMTH				S	**Sb**	**19 05 18.7**	**+0.4**
SMTH	**Samothraki Isl**	**1.53**	**344**	P	**Pn**	**19 04 57.7**	**-0.2**
KYMI	**Kymi, Euboea I**	**1.58**	**257**	P	**Pn**	**19 04 58.3**	**-0.3**

KARY	Karystos	1.61	233	P	Pn	19 04 58.3	-0.6
GONE	Gonen-Balikesi	1.63	50	Pn	Pn	19 04 59.4	+0.2
KRBG	Karabiga-Canak	1.68	34	Pn	Pn	19 04 59.9	-0.1
ERIK	Erikli-Kesan	1.70	11	Pn	Pn	19 05 00.6	+0.4
ALN	Alexandroupoli	1.89	359	Pn	Pn	19 05 03.4	+0.5
ALN	Alexandroupoli	1.89	359	P	Pn	19 05 03.1	+0.2
ALN	Alexandroupoli	1.89	359	P	Pn	19 05 02.8	-0.1
THAS	Thassos island	1.91	327	P	Pn	19 05 02.8	-0.4
DION	Dionisos Attik	1.91	242	P	Pn	19 05 02.5	-0.7
RDO	Rodhopi	2.18	349	Pn	Pn	19 05 07.5	+0.7

*NEIC **01** 19:06:00.1±1.0, 19°.98N±0°.03×155°.86W±0°.05, h33^{km}±9^{km}, Error ellipse: s-maj=7.5km s-min=3.6km az=70.0*

HVO 01 19:06:01.6±2.4**, 20°.01N**±0°.06×**155°.89W**±0°.10**, h28**^{km}±7^{km}**, ML2.5**/10**, ML2.5**/40(NEIC)**, Error ellipse: s-maj=15.5km s-min=5.6km az=59.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MHA	Mahukona	0.18	356	Pg	Pb	19 06 07.0	-0.3
MHA				Sg	Sb	19 06 11.5	+0.2
HPAH	Hawaii Prepara	0.18	83		Pb	19 06 07.2	-0.3
HUH	Hualalai	0.33	171		Pb	19 06 08.6	-1.0
HUH				IAML		19 06 22.4	
	comp=N,349nm,0.4s						
POHA	Pohakuloa	0.42	127	Sg	Sb	19 06 15.1	-2.0
POHA	Pohakuloa	0.42	127		Pb	19 06 09.5	-1.3
ALEP	Alea Permanent	0.52	154		Pb	19 06 11.3	-1.2
ALEP					Sb	19 06 18.4	-1.5
CPH	Captain Cook	0.52	183		Pb	19 06 10.6	-1.7
HMH	Humu'ula Sheep	0.56	137		Pb	19 06 11.6	-1.5
HMH					Sb	19 06 19.2	-1.6
MWH	Mokuaweoweo	0.59	152		Pb	19 06 11.8	-2.0
MWH					Sb	19 06 19.7	-2.4
MWH	Mokuaweoweo	0.59	152	IAML		19 06 22.6	
	comp=N,198nm,2.8s						
MWH				IAML		19 06 30.2	
	comp=E,201nm,0.9s						
MLH	Mauna Loa	0.70	137		Pb	19 06 13.3	-2.1
MLH					Sb	19 06 22.1	-2.7
MLH	Mauna Loa	0.70	137	IAML		19 06 22.3	
	comp=E,131nm,0.2s						
MLH				IAML		19 06 39.6	
	comp=N,264nm,3.5s						
AIN	Ainahou	0.75	147		Pb	19 06 14.1	-2.2
AIN					Pn	19 06 23.3	+6.7
AIN	Ainahou	0.75	147	IAML		19 06 23.8	
	comp=E,220nm,0.3s						
AIN				IAML		19 06 24.2	
	comp=N,381nm,0.4s						
RSD	Rainshed	0.79	133		Pb	19 06 12.2	-4.7
RSD	Rainshed	0.79	133		Sb	19 06 24.1	-3.2
KHU	Kahuku	0.80	161		Pb	19 06 14.5	-2.6
KHU					Sb	19 06 24.2	-3.5
UWE	Uwekahuna	0.81	136		Pb	19 06 14.7	-2.6
UWE					Sb	19 06 24.9	-3.0
WRMHI	West Rim	0.82	137		Pb	19 06 14.7	-2.7
HLK	Haleakala	0.82	336	Pn	Pb	19 06 15.4	-2.1
HLK				IAML		19 06 26.7	
	comp=E,182nm,4.6s						
HLK				IAML		19 06 28.7	
	comp=N,171nm,4.7s						
UWB	Uwekahuna Bluf	0.82	135		Pb	19 06 14.6	-2.8
OBL	Observatory Le	0.82	136		Pb	19 06 14.7	-2.7
OBL					Sb	19 06 25.0	-3.1
SBLHI	Steaming Bluff	0.82	135		Pb	19 06 14.6	-2.8
SBLHI					Pn	19 06 24.6	+7.1
HATHI	Halema'uma'u T	0.83	135		Pb	19 06 14.7	-2.8
HATHI				IAML		19 06 35.2	
	comp=E,133nm,1.2s						
HATHI	Halema'uma'u T	0.83	135		Sb	19 06 24.7	-3.8
HATHI	Halema'uma'u T	0.83	135	IAML		19 06 23.8	
	comp=N,169nm,4.9s						
SDHHI	Sand Hill	0.83	138		Pb	19 06 14.9	-2.7
SDHHI					Sb	19 06 25.0	-3.5
BYL	Byron's Ledge	0.84	135	Pn	Pb	19 06 15.1	-2.6
BYL				IAML		19 06 30.8	
	comp=N,125nm,1.8s						
BYL				IAML		19 06 35.4	
	comp=E,167nm,4.2s						
PUH	Pauahi	0.90	135	Pn	Pn	19 06 17.1	-1.4
PUH				IAML		19 06 28.6	
	comp=N,173nm,2.6s						
PUH				IAML		19 06 35.2	
	comp=E,125nm,3.6s						
HLP	Hilina Pali	0.90	142		Pn	19 06 15.8	-2.7
HLP					Sb	19 06 26.5	-3.7
HTC	Hot Caves	0.90	149		Pn	19 06 15.8	-2.6
KNHH	Kane Nui o Ham	0.92	133		Sb	19 06 26.6	-4.5
KNHH	Kane Nui o Ham	0.92	133		Pn	19 06 16.1	-2.8
STCH	Steam Cracks	0.95	131		Pn	19 06 16.3	-2.9
STCH					Sb	19 06 27.3	-4.5
STCH	Steam Cracks	0.95	131	IAML		19 06 34.7	
	comp=E,156nm,3.7s						
STCH				IAML		19 06 38.6	
	comp=N,160nm,3.9s						
NPOC	North of Pu'u	0.96	130		Pn	19 06 16.4	-2.9
NPOC					Sb	19 06 27.6	-4.4
JCUZ	Jacuzzi	0.97	130		Pn	19 06 16.6	-2.8
JCUZ					Sb	19 06 27.5	-4.8
JOKA	Jonika Flow	1.01	124		Pn	19 06 17.2	-2.9
JOKA					Sn	19 06 29.3	-4.1
JOKA	Jonika Flow	1.01	124	IAML		19 06 40.4	
	comp=E,130nm,3.3s						

IDC 01 19:08:11.7±2.4**, 6°.65S×131°.26E, h0**^{km}**, mb3.5**/1**, mbtmp3.7**/5**, ML3.7**/4**, Error ellipse: s-maj=56.9km s-min=30.7km az=81.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	8.31	244	Pn	Pn	19 10 15.8	+2.2
	1.4nm,0.3s,baz=72,slow=20,SNR=1.7						
BATI				Sn	Sn	19 11 43.4	-4.8
	2.1nm,0.3s,baz=66,slow=20,SNR=1.7						
	12nm,0.7s						
FITZ	Fitzroy Crossi	12.63	205	Pn	Pn	19 11 11.2	-1.5
	0.4nm,0.3s,baz=28,slow=10,SNR=31						
FITZ				Sn	Sn	19 13 21.0	-13
	0.9nm,0.3s,baz=156,slow=20,SNR=7.5						
	1.5nm,0.5s						
WRA	Warramunga Arr	13.55	168	Pn	Pn	19 11 25.4	0.0
	0.3nm,0.3s,baz=345,slow=14,SNR=14						
WRA				Sn	Sn	19 13 46.7	-10
	0.8nm,0.3s,baz=344,slow=25,SNR=11						
	0.4nm,0.3s						
ASAR	Alice Springs	17.11	172	P	Pn	19 12 12.7	+0.2
	0.2nm,0.3s,baz=350,slow=12,SNR=18						
ASAR				S	Sn	19 15 11.7	-12
	0.8nm,0.7s,baz=349,slow=24,SNR=6.5						
	0.8nm,0.6s						
MKAR	Makanchi Array	68.63	326	P	P	19 19 16.5	-0.3
	0.2nm,0.4s,baz=132,slow=6.0,SNR=2.4						
	0.2nm,0.4s						

IDC 01 19:12:26.8±1.9**, 1°.44N×126°.37E, h0**^{km}**, mb3.3**/4**, mbtmp3.3**/4**, MS3.8**/2**, Error ellipse: s-maj=184.3km s-min=23.9km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.64	160	P	P	19 17 29.8	+0.1
	0.4nm,0.5s,baz=338,slow=11,SNR=3.5						
	0.4nm,0.5s						
ASAR	Alice Springs	26.01	164	P	P	19 18 01.6	-0.1
	0.2nm,0.5s,baz=348,slow=7.1,SNR=1.8						
	0.2nm,0.5s						
NWAO	Narrogin (SRO)	35.25	193	LR	LR	19 35 03.9	
	comp=Z,138nm,19.5s,baz=90,slow=38						
MKAR	Makanchi Array	59.23	326	P	P	19 22 30.4	+0.3
	0.4nm,0.6s,baz=114,slow=7.5,SNR=4.4						
	0.4nm,0.6s						
RPZ	Rata Peaks	60.12	144	LR	LR	19 49 55.8	
	comp=Z,64nm,18.2s,baz=328,slow=37						
KURBB	Kurchatov Arra	63.47	328	P	P	19 22 58.3	-0.3
	0.2nm,0.5s,baz=130,slow=6.2,SNR=4.5						
	0.2nm,0.5s						

*IDC **01** 19:31:12.5±4.2, 20°.41S×178°.68W, h595^{km}±47^{km}, mb2.9/10, mbtmp3.8/11, Error ellipse: s-maj=23.6km s-min=18.9km az=80.0*

ISC 01 19:31:11.4±0.7**, 20°.4S**±0°.2×**178°.6W**±0°.1**, h587**^{km}**, n18,** σ**1.^{s}04**/17**, mb3.4**/10**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.01	261	P	P	19 34 11.7	+1.0
	4.6nm,0.5s,baz=93,slow=23,SNR=7.6						
ASAR	Alice Springs	43.96	257	P	P	19 38 28.3	+0.4
	0.6nm,0.4s,baz=90,slow=7.7,SNR=24						
ASAR				PcP	PcP	19 40 00.6	0.0
	0.3nm,0.6s,baz=100,slow=4.0,SNR=5.3						
	0.6nm,0.4s						
WRA	Warramunga Arr	44.02	262	P	P	19 38 28.4	+0.1
	0.5nm,0.3s,baz=95,slow=4.9,SNR=13						
	0.5nm,0.3s						
VNDA	Vanda	57.96	185	P	P	19 40 07.2	-0.9
	0.2nm,0.3s,baz=340,slow=3.3,SNR=7.5						
	0.2nm,0.3s						
QSPA	South Pole Qui	69.67	180	P	P	19 41 24.5	+1.8
	1.2nm,0.7s,baz=14,slow=4.4,SNR=11						
	1.2nm,0.7s						
PETK	Petropavlovsk-	76.02	346	P	P	19 41 58.3	-0.7
	1.2nm,0.8s,baz=150,slow=5.8,SNR=2.2						
	1.2nm,0.8s						
NVAR	Mina Array Bea	81.37	44	P	P	19 42 29.5	+1.5
	0.3nm,0.5s,baz=258,slow=4.7,SNR=2.1						
	0.3nm,0.5s						
TXAR	Lajitas Array	87.51	58	P	P	19 42 58.9	+0.9
	0.5nm,0.8s,baz=207,slow=7.0,SNR=5.3						
	0.5nm,0.8s						
SNAA	Sanae	88.12	179	P	P	19 42 58.4	-1.7
	0.4nm,0.7s,baz=196,slow=15,SNR=1.4						
	0.4nm,0.7s						
ILAR	Eielson Array	88.35	13	P	P	19 43 00.1	-0.8
	0.3nm,0.5s,baz=212,slow=5.4,SNR=4.7						
	0.3nm,0.5s						
PDAR	Pinedale Array	89.30	43	P	P	19 43 07.3	+1.1
	0.5nm,0.6s,baz=222,slow=5.6,SNR=4.2						
	0.5nm,0.6s						
BVAR	Borovoye Array	118.62	320	PKP	PKPdf	19 48 52.2	-0.9
	0.6nm,0.3s,baz=113,slow=2.2,SNR=4.0						
ARCES	ARCESS Array B	128.71	349	PKP	PKPdf	19 49 11.7	-0.3
	1.2nm,0.8s,baz=7.3,slow=1.9,SNR=4.4						
HFS	Hagfors	139.34	351	PKhKP	PKPpre	19 49 25.6	
	2.7nm,0.9s,baz=332,slow=2.5,SNR=7.4						
AKASG	Malin Array Be	142.63	331	PKhKP	PKPpre	19 49 34.9	
	0.9nm,0.4s,baz=45,slow=4.2,SNR=11						
BRTR	Keskin Array B	146.33	312	PKPbc	PKPbc	19 49 47.4	-0.2
	0.5nm,0.5s,baz=149,slow=7.2,SNR=3.6						
MMAI	Mount Meron Ar	147.24	300	PKPbc	PKiKP	19 49 50.9	-0.9
	1.5nm,0.7s,baz=67,slow=8.5,SNR=5.4						
GERES	GERESS Array B	149.94	344	PKPbc	PKPbc	19 49 56.2	-0.1
	0.2nm,0.5s,baz=357,slow=6.1,SNR=4.1						

*SOME **01** 19:48:08.4, 39°.95N×77°.07E, h5^{km}*
*KRNET **01** 19:48:08.9±0.1, 39°.63N×77°.33E, mb3.3*
*NNC **01** 19:48:10.2±0.8, 40°.01N×77°.09E, h0^{km}, mb3.7, mpv3.4, Error ellipse: s-maj=5.7km s-min=4.6km az=159.0*

ISC 01 19:48:12.7±1.9**, 40°.14N**±0°.08×**77°.03E**±0°.04**, h10**^{km}**, n38,** σ**1.^{s}98**/59**, 18C-14D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.69	20	⇓eP	Pb	19 48 43.6	-0.6
TARG				⇓eS	Sg	19 49 09.0	+1.8
KDJ	Kajisay	1.99	3	⇑eP	Pb	19 48 48.7	-0.5
KDJ				⇑eS	Sg	19 49 17.7	+0.9
ULHL	Ulahol	2.19	344	⇓eP	Pb	19 48 52.1	-0.4
ULHL				⇓eS	Sg	19 49 23.8	+0.7
PRZ	Przheval'sk	2.56	23	⇓eP	Pn	19 48 55.2	+0.8
PRZ				⇓eS	Sb	19 49 29.0	-1.4
SALK	Salom-Alik	2.56	288	⇑eP	Pn	19 48 55.3	+0.9
SALK				⇑eS	Sb	19 49 29.3	-1.1
UCH	Uchtor	2.82	318	⇑eP	Pb	19 49 01.0	-2.5
UCH				⇑eS	Sb	19 49 39.1	+0.8
TNSS	Tian-Shan	2.90	359	Pg	Pb	19 49 05.1	+0.3
	3.6nm,0.3s						
TNSS				Lg	Lg	19 49 46.7	
	7.9nm,0.6s						
TNSS	Tian-Shan	2.90	359	eP	Pb	19 49 05.6	+0.9
	3.7nm,0.2s						
TNSS				eS	Sg	19 49 46.7	+0.9
	7.9nm,0.6s						
KBK	Karagaybulak	2.96	329	⇓eP	Pb	19 49 03.0	-2.7
KBK				⇓eS	Sb	19 49 42.6	+0.5
TKM2	Tokmak 2	2.98	339	⇑eP	Pb	19 49 03.2	-2.9
TKM2				⇑eS	Sb	19 49 43.0	+0.4
KST	Kastek	3.01	345	Pg	Pb	19 49 07.5	+1.0
	4.9nm,0.6s						
KST				Lg	Lg	19 49 50.3	
	27nm,0.6s						
KST	Kastek	3.01	345	eP	Pb	19 49 08.3	+1.8
	3.3nm,0.2s						
KST				eS	Sg	19 49 51.5	+2.0
	27nm,0.5s						
MTBS	Maitube	3.02	352	Pg	Pg	19 49 08.6	-2.0
	2.9nm,0.3s						
MTBS				Lg	Lg	19 49 52.0	
	22nm,0.4s						
MTBS	Maitube	3.02	352	eP	Pg	19 49 08.6	-2.0
	1.3nm,0.1s						
MTBS				eS	Sg	19 49 52.1	+2.3
	32nm,0.3s						
KNDC	Almaty	3.08	359	⇑Pg	Pb	19 49 08.5	+0.9
	7.8nm,0.5s						
KNDC				⇑Lg	Lg	19 49 53.3	
	112nm,0.8s						
KOTS	Kotyrbulak	3.09	1	Pg	Pb	19 49 08.1	+0.1
	9.8nm,0.3s						
KOTS				Lg	Lg	19 49 51.2	
	90nm,0.7s						
KOTS	Kotyrbulak	3.09	1	eP	Pb	19 49 08.1	+0.1
	9.8nm,0.3s						
KOTS				eS	Sg	19 49 51.2	-0.9
	90nm,0.7s						
AAK	Ala-Archa	3.14	323	⇓Pg	Pb	19 49 10.2	+1.4
	1.8nm,0.5s						
AAK				⇑Lg	Lg	19 49 53.9	
	7.1nm,0.6s						
AAK	Ala-Archa	3.14	323	⇓eP	Pb	19 49 05.3	-3.5
AAK				⇓eS	Sb	19 49 46.7	-0.5
FRU1	Bishkek	3.22	327	⇓eP	Pb	19 49 06.8	-3.3
FRU1				⇓eS	Sb	19 49 49.1	-0.3
DGS	Degeres	3.24	343	Pg	Pb	19 49 12.0	+1.6
	6.2nm,0.3s						
DGS				Lg	Lg	19 49 58.4	
	15nm,0.4s						
CHMS	Chumysh	3.33	330	⇑eP	Pn	19 49 07.9	+3.0
CHMS				⇑eS	Sb	19 49 51.1	-1.4
UZB	Uzynbulak	3.35	26	eP	Pb	19 49 13.7	+1.3
	2.3nm,0.2s						
UZB				eS	Sg	19 50 00.4	-0.1
	7.8nm,0.6s						
EKS2	Erkin-Say	3.51	317	⇑eP	Pn	19 49 10.3	+2.8
EKS2				⇑eS	Sb	19 49 55.1	-2.8
KPKS	Kokpek	3.55	20	Pg	Pb	19 49 16.4	+0.8
	0.2nm,0.1s						
KPKS				Lg	Lg	19 50 05.5	
	20nm,0.5s						
KTBS	Karatobe	3.58	356	Pg	Pb	19 49 17.4	+1.3
	6.6nm,0.4s						
KTBS				Lg	Lg	19 50 08.1	
	17nm,0.5s						
USP	Ospenovka	3.66	330	⇑eP	Pn	19 49 12.4	+3.0
USP				⇑eS	Sb	19 49 58.9	-3.0
PDGK	Podgornoye	3.68	29	⇑Pg	Pg	19 49 19.9	-3.3
	5.1nm,0.7s						
PDGK				⇓Lg	Lg	19 50 08.8	
	14nm,0.7s						
KRBS	Karabastau	3.70	345	Pg	Pb	19 49 19.8	+1.6
KRBS				Lg	Lg	19 50 11.2	
CHKK	Chushkaly	3.71	359	Pg	Pb	19 49 20.5	+2.1
	12nm,0.1s						
CHKK				Lg	Lg	19 50 12.6	
	12nm,0.5s						
CHKK	Chushkaly	3.71	359	eP	Pb	19 49 20.5	+2.1
	12nm,0.1s						
CHKK				eS	Sg	19 50 12.6	+0.7
	12nm,0.2s						
SGDS	Sogindy	3.77	332	Pg	Pb	19 49 21.6	+2.2
SGDS				Lg	Lg	19 50 14.1	
MRKS	Merke	3.87	314	Pg	Pb	19 49 23.2	+2.1
	4.3nm,0.4s						
MRKS				Lg	Lg	19 50 17.0	
	10nm,0.6s						
MRKS	Merke	3.87	314	eP	Pb	19 49 23.4	+2.3
	3.5nm,0.3s						
MRKS				eS	Sg	19 50 17.4	+0.4
	10nm,0.6s						
ARXS	Arharly	4.11	8	Pg	Pb	19 49 27.6	+2.3
	5.5nm,0.5s						
ARXS				Lg	Lg	19 50 25.2	
	14nm,0.5s						
BTLS	Baital	5.37	337	Pg	Pb	19 49 50.7	+4.1
	1.4nm,0.3s						
BTLS	Baital	5.37	337	eP	Pg	19 49 51.2	-4.4
	0.6nm,0.2s						
BTLS				eS	Sg	19 51 04.8	-0.3
	4.1nm,0.3s						
KK31	Karatay Array	5.71	303	Pg	Pb	19 49 55.4	+2.9
	1.3nm,0.6s,baz=116,slow=14,SNR=6.5						

*SOME **01** 19:50:21.4, 40°.25N×70°.48E, h5^{km}*
*KRNET **01** 19:50:22.4±0.1, 40°.13N×70°.97E, mb3.0*
*ISU **01** 19:50:23, 40°.29N×70°.52E, h25^{km}*

ISC 01 19:50:26.5±1.1**, 40°.26N**±0°.04×**70°.72E**±0°.03**, h26**^{km}±9^{km}**, n17,** σ**2.^{s}17**/30**, 10C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MINT	Mingtut	0.28	44	P	Pb	19 50 32.1	-1.3
MINT				S	Sb	19 50 38.7	+0.6
CHMI	Chimion	0.62	89	P	Pb	19 50 38.0	-0.7
CHMI				S	Sn	19 50 49.2	+0.4
FRG	Fergana	0.82	82	P	Pb	19 50 41.9	-0.3
FRG				S	Sn	19 50 56.4	+2.5
GAR	Garm	1.30	194	⇓eP	Pn	19 50 45.4	-3.8
GAR				⇓eS	Sn	19 51 01.8	-4.0
TRKS	Terek-Say	1.30	14	⇑eP	Pn	19 50 47.1	-2.2
TRKS				⇑eS	Sn	19 51 04.9	-1.1
TSTA	Tashata	1.38	76	P	Pn	19 50 51.9	+1.7
TSTA				S	Sb	19 51 13.3	+4.4
CHMG	Chimgan	1.39	338	P	Pn	19 50 48.2	-2.3
CHMG				S	Sn	19 51 07.4	-0.7
TGS	TashGRES	1.47	322	P	Pn	19 50 50.6	-0.8
TGS				S	Sn	19 51 10.6	+0.7
CHRV	Charvak	1.49	337	P	Pn	19 50 49.9	-1.9
CHRV				S	Sn	19 51 09.5	-1.0
CHGR	Chuyangaron	2.01	217	⇑eP	Pn	19 50 58.4	-0.5
CHGR				⇑eS	Sn	19 51 24.5	+1.3
BXML	Bakhmal	2.14	255	P	Pn	19 51 01.5	+0.7
BXML				S	Sb	19 51 31.7	+0.8
DZI	Dzhizak	2.22	267	S	Sn	19 51 29.6	+1.2
SALK	Salom-Alik	2.44	74	⇑eP	Pn	19 51 02.1	-2.8
SALK				⇑eS	Sn	19 51 30.8	-3.3
BRLS	Borolday	2.84	347	eP	Pn	19 51 10.5	+0.2
	1.0nm,0.1s						
BRLS				eS	Sn	19 51 45.6	+1.9
	14nm,0.2s						
KK31	Karatay Array	2.84	357	⇑Pg	Pn	19 51 14.0	+3.7
	0.7nm,0.2s,baz=185,slow=18,SNR=7.9						
KK31				⇑Lg	Lg	19 51 52.8	
	6.5nm,0.5s,baz=183,slow=30,SNR=11						
MRKS	Merke	3.11	36	eP	Pb	19 51 21.1	-0.2
	0.3nm,0.1s						
MRKS				eS	Sb	19 52 03.6	+4.7
	9.1nm,0.3s						
UCH	Uchtor	3.47	54	⇑eP	Pn	19 51 17.5	-1.8
UCH				⇑eS	Sn	19 51 57.6	-2.2

*ISK **01** 19:53:06.4, 37°.55N×26°.76E, h13^{km}, ML2.8/19*
*AFAD **01** 19:53:06.9, 37°.56N×26°.79E, h7^{km}±2^{km}, ML2.6*
*THE **01** 19:53:07.9, 38°N±13°×2°7E±°, h8^{km}±8^{km}, M2.8/5, MLh2.8/5*
*ATH **01** 19:53:07.1, 37°.63N×26°.91E, h18^{km}±1^{km}, ML2.8/2, Manual Solution by S.Liakopoulos First location: 2019/09/01 19:54:33, This location: 2019/09/01 21:06:14 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 4 km*

ISC 01 19:53:07.1±1.0**, 37°.59N**±0°.02×**26°.79E**±0°.03**, h16**^{km}±8^{km}**, n51,** σ**0.^{s}52**/69**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMG	Samos	0.13	16	P	Pb	19 53 10.9	-0.3
SMG				S	Sb	19 53 13.3	-0.7
SMG	Samos	0.13	16	P	Pb	19 53 10.9	-0.3
SMG				S	Sb	19 53 13.6	-0.4
GCAM	G?zelcaml?	0.37	72	Pg	Pg	19 53 14.9	+0.2
GCAM				Sg	Sb	19 53 21.3	+0.5
GCAM	G?zelcaml?	0.37	72	P	Pg	19 53 14.9	+0.2
GCAM				S	Sb	19 53 20.4	-0.4
GCAM				*i* IAML		19 53 21.0	
	comp=E,1μm,0.5s						
DDIM	Aydin, Didim	0.38	109	P	Pg	19 53 15.1	+0.2
DDIM				S	Sg	19 53 19.9	-0.3
DIDI	Didim-Aydin	0.41	120	Pg	Pg	19 53 15.1	-0.4
DIDI				Sg	Sg	19 53 21.6	+0.5
DGB	zmir	0.47	9	P	Pb	19 53 17.0	-0.1
DGB				S	Sb	19 53 24.0	+0.2
DGB				*i* IAML		19 53 27.0	
	comp=N,574nm,0.3s						
DGB				*i* IAML		19 53 27.0	
	comp=E,776nm,0.2s						
GMLD	Gumuldur	0.50	11	Pg	Pb	19 53 17.7	+0.2
GMLD				Sg	Sb	19 53 25.5	+0.9
YKAV	Yalikavak-Bodr	0.60	140	Pg	Pg	19 53 18.5	-0.5
ZEYE	Izmir, Urla-Ze	0.69	341	P	Pb	19 53 20.7	-0.2
ZEYE				S	Sb	19 53 29.9	-0.2
ZEYE				*i* IAML		19 53 35.0	
	comp=E,294nm,0.3s						
BDRM	Kayabasi	0.73	135	P	Pg	19 53 21.0	-0.4
BDRM				S	Sg	19 53 31.2	+0.1
BDRM				*i* IAML		19 53 34.0	
	comp=E,365nm,0.3s						
BLCB	Balcova	0.82	14	Pg	Pb	19 53 23.3	+0.2
BLCB				Sg	Sn	19 53 35.9	0.0
BLCB	Balcova	0.82	14	P	Pb	19 53 23.3	+0.2
BLCB				S	Sn	19 53 35.4	-0.5
AYDN	Tasoluk	0.87	85	P	Pb	19 53 24.1	+0.2
AYDN				S	Sg	19 53 34.6	-0.8
AYDN				*i* IAML		19 53 38.0	
	comp=N,236nm,0.5s						
AYDN				*i* IAML		19 53 41.0	
	comp=E,241nm,0.2s						
AYDB	Zeytinkoy-Aydi	0.94	67	Pg	Pb	19 53 25.7	+0.5
AYDB				Sg	Sn	19 53 39.7	+0.7
CHOS	Chios island	0.99	324	P	Pg	19 53 25.9	-0.4
CHOS				S	Sb	19 53 39.4	+0.6
CHOS	Chios island	0.99	324	P	Pn	19 53 26.4	-0.1
CHOS				S	Sb	19 53 39.4	+0.6
YAZI	Mula-Dat§a-	1.04	149	P	Pb	19 53 26.2	-0.6
YAZI				*i* IAML		19 53 43.0	
	comp=N,114nm,0.7s						
YAZI				*i* IAML		19 53 43.0	
	comp=E,119nm,0.4s						
DAT	Datca	1.06	143	Pg	Pb	19 53 26.9	-0.2
DAT				Sg	Sg	19 53 41.9	+0.4
DAT	Datca	1.06	143	P	Pb	19 53 27.2	0.0
DAT				*i* IAML		19 53 47.0	
	comp=N,124nm,0.6s						
IZMR	zmir-demi	1.07	59	P	Pg	19 53 27.5	-0.3
KARB	zmir-Karabur	1.12	345	P	Pg	19 53 28.3	-0.4
KARB				*i* IAML		19 53 52.0	
	comp=E,105nm,0.6s						
FOCM	Foa	1.13	358	Pn	Pg	19 53 28.8	-0.1
ODEM	Odemis-Izmir	1.23	55	Pn	Pg	19 53 30.4	-0.4
NAZL	Nazilli-Aydin	1.25	72	Pn	Pn	19 53 30.1	+0.2
ESEN	Aydn-Nazilli	1.25	80	P	Pn	19 53 29.9	0.0
MULA	Mugla, Merkez-	1.26	105	P	Pn	19 53 29.9	-0.2
ZEDA	zmir-Bergama	1.40	9	P	Pn	19 53 32.3	+0.3
KIRA	zmir-Kiraz	1.41	64	P	Pn	19 53 32.5	+0.3
TURN	Turunc	1.41	124	Pn	Pn	19 53 32.1	-0.1
TURN	Turunc	1.41	124	P	Pn	19 53 32.1	-0.1
GOMA	Golmarmara-Man	1.43	38	Pn	Pb	19 53 33.5	+0.1
AKHS	Akhisar	1.52	32	P	Pg	19 53 36.5	+0.1
AKHS				*i* IAML		19 54 01.0	
	comp=E,72nm,0.4s						
SAP3	Santorini-Thir	1.63	226	P	Pn	19 53 36.4	+1.2
MANT	Manisa	1.66	56	P	Pg	19 53 38.8	-0.3
SOMA	Soma-Manisa	1.67	20	Pn	Pb	19 53 36.8	-0.8
PRK	Paraskevi	1.71	346	P	Pn	19 53 37.1	+0.8
GORD	Gordes-Manisa	1.71	39	Pn	Pb	19 53 37.5	-0.8
ARG	Arkhangelos	1.73	142	Pn	Pn	19 53 36.6	0.0

ARG	**Arkhangelos**	**1.73**	**142**	P	**Pn**	**19 53 36.3**	**-0.3**
KULA	**Kula-Manisa**	**1.74**	**57**	Pn	**Pb**	**19 53 38.0**	**-0.8**
SIGR	**SIGRI**	**1.78**	**336**	Pn	**Pn**	**19 53 37.7**	**+0.4**
SIGR	**SIGRI**	**1.78**	**336**	P	**Pn**	**19 53 37.3**	**+0.1**
SIGR	**SIGRI**	**1.78**	**336**	P	**Pn**	**19 53 37.3**	**+0.1**
SIGR				S	**Sn**	**19 53 58.8**	**-0.8**
DNIZ	**Denizli-Tavas-**	**1.78**	**88**	P	**Pn**	**19 53 37.8**	**+0.4**
DNZT	**Denizli-Tavas-**	**1.80**	**99**	P	**Pn**	**19 53 38.1**	**+0.5**
SABU	**Mula-Dalaman**	**1.90**	**113**	P	**Pn**	**19 53 39.9**	**+1.0**
APMY	**Acipayam-Deniz**	**2.00**	**92**	Pn	**Pn**	**19 53 41.5**	**+1.2**
YAYO	**Edremit-Balk**	**2.04**	**6**	Pn	**Pn**	**19 53 42.0**	**+1.3**
KARP	**Karpathos**	**2.06**	**172**	Pn	**Pn**	**19 53 41.3**	**+0.3**
CAME	**Cameli-Denizli**	**2.10**	**107**	Pn	**Pn**	**19 53 42.6**	**+0.8**

*UCR **01** 20:29:06.9±1.1, 12°.01N×86°.96W, h135km±12km, MW3.8*
*CATAC **01** 20:29:07.3±0.5, 12°N±3°×8°7W±°, h134km±3km, M3.2/21, MLv3.2/21, Error ellipse: s-maj=7.8km s-min=4.6km az=40.0, confirmed*
ISC 01 20:29:07.6±1.8**, 12°.27N**±0°.06×**86°.75W**±0°.06**, h141**km±10km**, n48, σ0s.68**/68**, 6C-2D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.18**	**118**	⇑eP	**Pn**	**20 29 26.2**	**-0.5**
COPN				eS	**Sn**	**20 29 41.5**	**+0.2**
COPN	**Copaltepe**	**0.18**	**118**	P	**Pn**	**20 29 26.1**	**-0.6**
ALEN	**Leon**	**0.22**	**329**	S	**Sn**	**20 29 41.9**	**+0.4**
CNGA	**Al SSO del Vol**	**0.23**	**12**	P	**Pn**	**20 29 27.0**	**+0.1**
CNGA				S	**Sn**	**20 29 41.4**	**-0.3**
CNGN	**Cerro Negro**	**0.24**	**13**	S	**Sn**	**20 29 41.8**	**0.0**
CNGN	**Cerro Negro**	**0.24**	**13**	P	**Pn**	**20 29 26.7**	**-0.3**
MOM2	**El Cardon**	**0.31**	**57**	P	**Pn**	**20 29 27.1**	**0.0**
MOM2				S	**Sn**	**20 29 42.6**	**+0.7**
PLRN	**Geotermica Pol**	**0.32**	**357**	P	**Pn**	**20 29 26.8**	**-0.4**
PLRN				S	**Sn**	**20 29 42.6**	**+0.5**
MOM3	**MOM3**	**0.34**	**43**	P	**Pn**	**20 29 27.1**	**-0.1**
MOM3				S	**Sn**	**20 29 42.5**	**+0.4**
SAPS	**Ciudad Sandino**	**0.35**	**106**	P	**Pn**	**20 29 27.2**	**0.0**
SAPS	**Ciudad Sandino**	**0.35**	**106**	S	**Sn**	**20 29 42.1**	**0.0**
APQ2	**Apoyeque**	**0.42**	**99**	P	**Pn**	**20 29 27.8**	**+0.3**
APQ2				S	**Sn**	**20 29 43.2**	**+0.5**
PKGN	**Cerro Pekin**	**0.46**	**331**	P	**Pn**	**20 29 27.7**	**-0.1**
PKGN				S	**Sn**	**20 29 44.0**	**+0.9**
TISN	**Laguna Tiscapa**	**0.49**	**104**	P	**Pn**	**20 29 26.9**	**-1.0**
UNAN	**Cigeo UNAN**	**0.49**	**108**	P	**Pn**	**20 29 28.0**	**+0.1**
UNAN				S	**Sn**	**20 29 43.7**	**+0.4**
R4DEC	**Barrio San Lui**	**0.51**	**103**	S	**Sn**	**20 29 44.1**	**+0.7**
R4DEC	**Barrio San Lui**	**0.51**	**103**	P	**Pn**	**20 29 27.9**	**-0.1**
MGAN	**Managua**	**0.51**	**103**	⇑iP	**Pn**	**20 29 27.9**	**0.0**
MGAN				eS	**Sn**	**20 29 44.0**	**+0.7**
MGAN	**Managua**	**0.51**	**103**	P	**Pn**	**20 29 28.0**	**0.0**
MGAN	**Managua**	**0.51**	**103**	S	**Sn**	**20 29 43.9**	**+0.6**
CRIN	**San Cristobal**	**0.52**	**326**	⇑iP	**Pn**	**20 29 28.1**	**0.0**
CRIN				eS	**Sn**	**20 29 44.8**	**+1.0**
CRIN	**San Cristobal**	**0.52**	**326**	P	**Pn**	**20 29 28.0**	**-0.1**
MAS3	**Al N del Volca**	**0.61**	**113**	P	**Pn**	**20 29 28.4**	**-0.2**
MAS3				S	**Sn**	**20 29 45.3**	**+0.7**
NADN	**Granada**	**0.87**	**126**	eP	**Pn**	**20 29 29.8**	**-0.7**
NADN				eS	**Sn**	**20 29 47.4**	**-0.4**
NADN	**Granada**	**0.87**	**126**	P	**Pn**	**20 29 29.7**	**-0.7**
NADN				S	**Sn**	**20 29 47.1**	**-0.7**
POTN	**Potosi Cosigui**	**1.04**	**315**	⇑iP	**Pn**	**20 29 31.8**	**-0.1**
POTN				eS	**Sn**	**20 29 50.6**	**+0.3**
MATN	**Matagalpa**	**1.04**	**51**	P	**Pn**	**20 29 31.0**	**-1.0**
MATN	**Matagalpa**	**1.04**	**51**	S	**Sn**	**20 29 49.7**	**-0.9**
CSGN	**Cosiguina Volc**	**1.06**	**312**	⇑iP	**Pn**	**20 29 31.9**	**-0.3**
CSGN				eS	**Sn**	**20 29 50.5**	**-0.3**
CSGN	**Cosiguina Volc**	**1.06**	**312**	P	**Pn**	**20 29 32.0**	**-0.2**
CSGN				S	**Sn**	**20 29 49.9**	**-1.0**
BOAB	**BOACO BROADBAN**	**1.08**	**80**	S	**Sn**	**20 29 50.9**	**0.0**
BOAB	**BOACO BROADBAN**	**1.08**	**80**	P	**Pn**	**20 29 32.2**	**0.0**
JAPN	**Al SSO del Vol**	**1.28**	**125**	⇓iP	**Pn**	**20 29 34.4**	**+0.2**
OMEN	**Al SSO del Vol**	**1.33**	**124**	P	**Pn**	**20 29 33.2**	**-1.5**
RCVN	**Varillal2**	**1.42**	**22**	P	**Pn**	**20 29 36.1**	**+0.3**
RCVN	**Varillal2**	**1.42**	**22**	S	**Sn**	**20 29 57.9**	**+0.6**
CNCH	**Conchagua**	**1.46**	**314**	S	**Sn**	**20 29 58.3**	**+0.3**
CNCH	**Conchagua**	**1.46**	**314**	P	**Pn**	**20 29 35.7**	**-0.5**
LCRUZ	**La Cruz**	**1.61**	**137**	eP	**Pn**	**20 29 36.1**	**-1.6**
LCRUZ				eS	**Sn**	**20 30 00.5**	**-0.3**
CARN	**Rivas**	**1.61**	**132**	eP	**Pn**	**20 29 38.0**	**+0.3**
CARN				eS	**Sn**	**20 30 01.0**	**+0.3**
LAPC	**Finca la Perla**	**1.97**	**139**	eP	**Pn**	**20 29 42.3**	**+0.4**
LAPC				eS	**Sn**	**20 30 07.1**	**-1.1**
GPS1	**Guardaparques**	**2.02**	**137**	eP	**Pn**	**20 29 41.4**	**-1.2**
GPS2	**Hotel Rincn d**	**2.04**	**137**	eP	**Pn**	**20 29 41.3**	**-1.4**
MESS	**Mesas**	**2.15**	**135**	eP	**Pn**	**20 29 45.0**	**+0.9**
MESS				eS	**Sn**	**20 30 13.9**	**+1.8**
CUI	**Cuipilapa**	**2.23**	**136**	⇓eP	**Pn**	**20 29 45.1**	**+0.1**
JUD3	**Juan Diaz 3**	**2.40**	**150**	⇑iP	**Pn**	**20 29 47.6**	**+0.4**
INVE	**Universidad In**	**2.43**	**137**	eP	**Pn**	**20 29 48.9**	**+1.4**
JTS	**Las Juntas de**	**2.64**	**138**	eP	**Pn**	**20 29 49.9**	**-0.2**

*IDC **01** 20:34:04.3±0.9, 53°.91N×35°.21W, h0km, mb3.8/11, mbtmp3.9/13, ML3.7/2, MS3.4/15, Error ellipse: s-maj=30.3km s-min=17.1km az=4.0*
*NEIC **01** 20:34:04.7±2.5, 54°.0N±0°.2×35°.5W±0°.2, h10km±1km, mb4.4/15, Error ellipse: s-maj=34.0km s-min=17.1km az=193.0*
ISC 01 20:34:06.1±0.6**, 53°.9N**±0°.2×**35°.37W**±0°.07**, h16**km**, n46, σ1s.53**/33**, mb4.1**/18**, MS3.4**/14**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**13.01**	**28**	LR	LR	20 40 32.7	
	comp=Z,55nm,20.4s,baz=251,slow=30						
SCHQ	**Schefferville**	**18.29**	**286**	Pn	**Pn**	**20 38 14.8**	**-4.1**
SCHQ	**Schefferville**	**18.29**	**286**	P	**Pn**	**20 38 18.6**	**-0.3**
	4.4nm,0.3s,baz=62,slow=15,SNR=3.8						
SCHQ				LR	LR	20 44 42.2	
	comp=Z,596nm,19.7s,baz=95,slow=35						
	25nm,0.6s						
EKA	**Eskdalemuir Ar**	**18.63**	**72**	P	**P**	**20 38 21.7**	**-1.0**
	baz=291,slow=12						
	3.7nm,1.0s						
FRB	**Frobisher Bay**	**19.58**	**313**	LR	LR	20 44 28.0	
	comp=Z,97nm,19.9s,baz=96,slow=32						
BATG	**Bathurst New B**	**20.46**	**264**	P	**P**	**20 38 42.7**	**-0.1**
BATG				IAmb	IAmb	20 39 05.8	
	comp=Z,18nm,1.3s						
GGN	**Saint George**	**22.08**	**259**	P	**P**	**20 38 58.6**	**-1.6**
GGN				IAmb	IAmb	20 39 09.5	
	comp=Z,17nm,1.0s						
D62A	**Allapoint, All**	**22.32**	**266**	P	**P**	**20 39 00.7**	**-2.2**
D62A				IAmb	IAmb	20 39 08.4	
	comp=Z,18nm,1.2s						
G65A	**Princeton**	**22.45**	**260**	P	**P**	**20 39 02.5**	**-1.8**
G65A				IAmb	IAmb	20 39 09.6	
	comp=Z,13nm,0.9s						
F64A	**Sherman**	**22.55**	**263**	P	**P**	**20 39 03.6**	**-1.6**
F64A				IAmb	IAmb	20 39 29.8	
	comp=Z,23nm,1.4s						
EMMW	**East Machias**	**22.67**	**259**	P	**P**	**20 39 05.7**	**-0.9**
EMMW				IAmb	IAmb	20 39 13.0	
	comp=Z,9.1nm,1.0s						
ESBB	**Sonseca Array**	**25.52**	**111**	P	**P**	**20 39 31.5**	**-2.3**
ESBB				IAmb	IAmb	20 39 36.2	
	comp=Z,8.1nm,1.1s						
ESDC	**Sonseca Array**	**25.52**	**111**	P	**P**	**20 39 31.8**	**-2.0**
ESDC	**Sonseca Array**	**25.52**	**111**	P	**P**	**20 39 34.2**	**+0.4**
	comp=Z,4.5nm,1.0s,baz=315,slow=8.9,SNR=13						
ESDC				LR	LR	20 47 53.1	
	comp=Z,66nm,19.2s,baz=310,slow=33						
	comp=Z,4.5nm,1.0s						
NOA	**NORSAR Array B**	**25.57**	**55**	P	**P**	**20 39 34.2**	**+0.2**
	comp=Z,2.1nm,1.0s,baz=275,slow=9.0,SNR=4.2						
NOA				LR	LR	20 47 59.0	
	comp=Z,40nm,18.3s,baz=265,slow=33						
	comp=Z,2.1nm,1.0s						
CLL	**Collm**	**29.05**	**75**	eP	**P**	**20 40 05.0**	**-0.2**
CLL				Lm	MLR	22 27 00.0	
	comp=Z,200nm,20.0s						
DAVOX	**Davos/Dischmat**	**29.32**	**85**	LR	LR	20 50 52.3	
	comp=Z,84nm,21.5s,baz=280,slow=34						
SADO	**Sadowa**	**29.52**	**270**	LR	LR	20 51 08.0	
	comp=Z,1μm,18.3s,baz=26,slow=35						
GERES	**GERESS Array B**	**30.55**	**79**	P	**P**	**20 40 16.9**	**-1.8**
	comp=Z,0.6nm,0.9s,baz=290,slow=12,SNR=5.3						
	comp=Z,0.6nm,0.9s						
FINES	**FINESS Array B**	**32.57**	**52**	LR	LR	20 51 34.9	
	comp=Z,34nm,19.4s,baz=218,slow=32						

KEST	**Kesra**	**35.82**	**102**	LR	LR	20 55 25.1	
	comp=Z,20nm,20.4s,baz=272,slow=36						
ULM	**Lac du Bonnet**	**36.38**	**290**	LR	LR	20 54 52.9	
	comp=Z,78nm,18.4s,baz=136,slow=34						
BURAR	**Bucovina Array**	**37.80**	**74**	P	**P**	**20 41 22.3**	**+0.8**
TKL	**Tuckaleechee C**	**38.02**	**261**	LR	LR	20 55 17.1	
	comp=Z,69nm,20.1s,baz=72,slow=33						
AKASG	**Malin Array Be**	**38.42**	**68**	P	**P**	**20 41 26.2**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=310,slow=8.4,SNR=5.8						
	comp=Z,0.5nm,0.5s						
YKA	**Yellowknife Ar**	**40.08**	**315**	PcP	**PcP**	**20 43 46.0**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=49,slow=5.0,SNR=3.4						
ECSD	**EROS Data Cent**	**40.39**	**281**	P	**P**	**20 41 45.0**	**+1.9**
ECSD				IAmb	IAmb	20 41 46.4	
	comp=Z,5.1nm,0.9s						
F31M	**Tsiigehtchic**	**44.75**	**327**	P	**P**	**20 42 15.9**	**-2.2**
BRTR	**Keskin Array B**	**47.43**	**78**	P	**P**	**20 42 41.5**	**+1.7**
	comp=Z,1.1nm,0.6s,baz=315,slow=5.7,SNR=7.5						
	comp=Z,1.1nm,0.6s						
BOZ	**Bozeman (W)**	**47.73**	**293**	P	**P**	**20 42 43.0**	**+0.9**
BOZ				IAmb	IAmb	20 42 48.8	
	comp=Z,6.1nm,1.4s						
PDAR	**Pinedale Array**	**48.39**	**289**	LR	LR	21 02 02.4	
	comp=Z,31nm,19.6s,baz=30,slow=35						
TORD	**Torodi Ar. Bea**	**50.03**	**130**	P	**P**	**20 42 59.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**50.03**	**130**	P	**P**	**20 42 59.4**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=338,slow=8.3,SNR=8.3						
	comp=Z,1.7nm,0.9s						
HWUT	**Hardware Ranch**	**50.28**	**289**		**P**	**20 43 01.9**	**+0.3**
ILAR	**Eielson Array**	**50.58**	**329**	PcP	**PcP**	**20 44 21.5**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=43,slow=3.9,SNR=4.5						
ANMO	**Albuquerque**	**51.89**	**279**	LR	LR	21 04 49.5	
	comp=Z,134nm,18.1s,baz=147,slow=36						
ELK	**Elko**	**52.91**	**290**	LR	LR	21 04 33.8	
	comp=Z,41nm,18.7s,baz=63,slow=34						
TXAR	**Lajitas Array**	**54.27**	**272**	P	**P**	**20 43 33.9**	**+2.6**
	comp=Z,0.5nm,0.7s,baz=50,slow=12,SNR=5.2						
	comp=Z,0.5nm,0.7s						
NVAR	**Mina Array Bea**	**56.22**	**290**	P	**P**	**20 43 47.0**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=51,slow=7.4,SNR=1.7						
NVAR				LR	LR	21 06 08.7	
	comp=Z,37nm,18.2s,baz=107,slow=34						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**62.07**	**41**	P	**P**	**20 44 25.2**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=322,slow=7.1,SNR=6.3						
	comp=Z,0.8nm,0.9s						
MKAR	**Makanchi Array**	**66.63**	**42**	P	**P**	**20 44 55.9**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=324,slow=7.2,SNR=6.2						
	comp=Z,0.9nm,0.8s						
AAK	**Ala-Archa**	**66.71**	**49**	LR	LR	21 13 56.1	
	comp=Z,24nm,19.2s,baz=35,slow=36						
SONM	**Songino Array**	**73.61**	**26**	P	**P**	**20 45 39.0**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=246,slow=2.9,SNR=3.7						
	comp=Z,0.6nm,0.9s						
QSPA	**South Pole Qui**	**143.77**	**180**	PKP	PKPbc	20 53 37.5	+0.9
	comp=Z,0.8nm,0.8s,baz=42,slow=2.9,SNR=2.8						
WRA	**Warramunga Arr**	**145.22**	**17**	PKPbc	**PKPbc**	**20 53 41.6**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=341,slow=3.1,SNR=6.0						
ASAR	**Alice Springs**	**148.77**	**19**	PKPbc	**PKPbc**	**20 53 52.5**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=346,slow=1.9,SNR=6.6						

CATAC 01 20:36:00.4±0.5**, 12°N**±1°×**8°6W**±°**, h9**km±2km**, M2.6**/14**, MLv2.6**/14**, Error ellipse: s-maj=3.7km s-min=2.2km az=47.7, confirmed, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UNAN	**Cigeo UNAN**	**0.06**	**310**	P	Pg	20 36 02.9	+0.6
UNAN				S	Sg	20 36 04.5	+0.7
MAS3	**Al N del Volca**	**0.07**	**135**	P	Pg	20 36 03.1	+0.6
MAS3				S	Sg	20 36 04.7	+0.7
MGAN	**Managua**	**0.07**	**344**	P	Pg	20 36 03.3	+0.8
MGAN	**Managua**	**0.07**	**344**	S	Sg	20 36 05.5	+1.4
R4DEC	**Barrio San Lui**	**0.08**	**344**	P	Pg	20 36 03.3	+0.7
R4DEC	**Barrio San Lui**	**0.08**	**344**	S	Sg	20 36 05.5	+1.4
AERN	**Aeropuerto Man**	**0.09**	**39**	S	Sg	20 36 06.0	+1.6
AERN	**Aeropuerto Man**	**0.09**	**39**	P	Pg	20 36 03.5	+0.8
ALLN	**Telcor Managua**	**0.09**	**330**	S	Sg	20 36 06.1	+1.6
ALLN	**Telcor Managua**	**0.09**	**330**	P	Pg	20 36 03.4	+0.7
WILN	**Americas 2**	**0.09**	**24**	P	Pg	20 36 03.8	+1.1
WILN				S	Sg	20 36 06.3	+1.8
ABCN	**Banco Central**	**0.09**	**300**	P	Pg	20 36 04.0	+1.2
ABCN	**Banco Central**	**0.09**	**300**	S	Sg	20 36 06.4	+1.9
MASN	**Masaya**	**0.11**	**140**	P	Pg	20 36 04.0	+0.9
MASN				S	Sg	20 36 06.2	+1.2
SABN	**Sabanita**	**0.13**	**152**	P	Pg	20 36 04.4	+1.0
APQ2	**Apoyeque**	**0.16**	**322**	S	Sg	20 36 07.6	+1.5
NANN	**Nandasmo**	**0.17**	**143**	S	Sg	20 36 08.3	+1.9
CNGN	**Cerro Negro**	**0.63**	**313**	S	Sb	20 36 21.9	-0.5
CNGN	**Cerro Negro**	**0.63**	**313**	P	Pg	20 36 12.4	-0.1
BOAB	**BOACO BROADBAN**	**0.66**	**56**	P	Pb	20 36 13.7	-0.4
BOAB	**BOACO BROADBAN**	**0.66**	**56**	S	Sb	20 36 23.0	-0.4

*IDC **01** 20:38:14.2±1.8, 56°.12S×26°.44W, h0km, mb4.0/4, mbtmp4.0/5, ML3.7/1, Error ellipse: s-maj=79.3km s-min=25.1km az=97.0*
ISC 01 20:38:19.5±1.8**, 56°.2S**±0°.2×**26°.4W**±0°.4**, h35**km**, n14, σ0s.55**/9**, mb4.1**/3**, 4D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.54**	**159**	⇓P	**P**	**20 42 11.8**	**+1.1**
	comp=Z,2.7nm,0.3s						
VNA3	**Neumayer Olymp**	**16.75**	**161**	⇓P	**P**	**20 42 12.5**	**-0.6**
	comp=Z,2.6nm,0.3s						
SNAA	**Sanae**	**18.48**	**156**	⇓P	**P**	**20 42 32.3**	**+0.2**
	comp=Z,84nm,0.5s						
SNAA	**Sanae**	**18.48**	**156**	P	**P**	**20 42 32.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=320,slow=13,SNR=29						
SNAA				S	Sn	20 45 41.4	-16
	comp=Z,2.0nm,1.4s,baz=63,slow=6.6,SNR=1.9						
	comp=Z,1.6nm,0.5s						
TROLL	**Troll, Antarti**	**19.97**	**154**	⇓P	**P**	**20 42 48.6**	**+0.2**
	comp=Z,84nm,0.3s						
QSPA	**South Pole Qui**	**34.10**	**180**	P	**P**	**20 45 00.7**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=236,slow=1.2,SNR=22						
	comp=Z,1.8nm,0.7s						
MAW	**Mawson**	**39.81**	**143**	P	**P**	**20 45 48.3**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=229,slow=9.3,SNR=1.9						
	comp=Z,1.0nm,0.6s						
VNDA	**Vanda**	**46.49**	**182**	P	**P**	**20 46 42.3**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=186,slow=8.0,SNR=23						
	comp=Z,1.6nm,0.6s						
H10S2	**ASCENSION HYDR**	**47.98**	**16**	T	T	21 39 39.5	
	baz=189,slow=74,SNR=4.5						
H10S3	**ASCENSION HYDR**	**47.98**	**16**	T	T	21 39 39.9	
	baz=31,slow=74,SNR=4.6						
H10N1	**ASCENSION HYDR**	**49.09**	**16**	T	T	21 41 03.8	
	baz=188,slow=75,SNR=5.8						
H10N3	**ASCENSION HYDR**	**49.10**	**16**	T	T	21 41 03.8	
	baz=188,slow=75,SNR=4.8						
H10N2	**ASCENSION HYDR**	**49.11**	**16**	T	T	21 41 04.9	
	baz=188,slow=75,SNR=9.1						
TORD	**Torodi Ar. Bea**	**72.94**	**29**	P	**P**	**20 49 45.1**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=199,slow=6.1,SNR=8.8						
	comp=Z,0.6nm,0.4s						

*IDC **01** 20:41:09.2±5.6, 20°.17S×178°.50W, h534km±61km, mb3.0/9, mbtmp3.9/10, Error ellipse: s-maj=28.6km s-min=19.3km az=55.0*
ISC 01 20:41:14.7±0.7**, 20°.3S**±0°.1×**178°.6W**±0°.2**, h600**km**, n17, σ1s.02**/16**, mb3.4**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.25**	**191**	P	**P**	**20 44 49.6**	**-2.8**
	7.2nm,0.5s,baz=88,slow=3.0,SNR=7.3						
STKA	**Stephens Creek**	**37.34**	**244**	P	**P**	**20 47 38.1**	**+0.2**
	1.2nm,0.6s,baz=94,slow=11,SNR=4.7						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**43.99**	**257**	P	**P**	**20 48 30.9**	**+0.2**
	0.3nm,0.4s,baz=89,slow=8.2,SNR=7.3						
ASAR				PcP	**PcP**	**20 50 02.6**	**-0.2**
	0.4nm,0.6s,baz=87,slow=5.9,SNR=2.4						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**44.05**	**262**	P	**P**	**20 48 30.9**	**-0.2**
	0.4nm,0.3s,baz=97,slow=8.8,SNR=11						
	0.4nm,0.3s						
VNDA	**Vanda**	**58.04**	**185**	P	**P**	**20 50 11.8**	**+0.7**
	0.4nm,0.5s,baz=4.1,slow=6.5,SNR=5.4						
	0.4nm,0.5s						
MJAR	**Matsushiro Arr**	**69.72**	**324**	P	**P**	**20 51 25.8**	**+0.2**
	0.4nm,0.4s,baz=188,slow=3.7,SNR=2.8						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**69.75**	**180**	P	**P**	**20 51 27.1**	**+1.6**
	2.3nm,0.7s,baz=307,slow=1.2,SNR=17						
	2.3nm,0.7s						
TXAR	**Lajitas Array**	**87.45**	**58**	P	**P**	**20 52 59.6**	**-0.4**
	0.3nm,0.8s,baz=259,slow=4.9,SNR=2.3						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**88.27**	**13**	P	**P**	**20 53 01.9**	**-0.8**
	0.3nm,0.4s,baz=224,slow=5.9,SNR=5.2						
	0.3nm,0.4s						
PDAR	**Pinedale Array**	**89.23**	**43**	P	**P**	**20 53 08.7**	**+0.6**
	1.1nm,0.3s,baz=223,slow=5.5,SNR=3.2						
	1.1nm,0.3s						
HFS	**Hagfors**	**139.27**	**351**	PKhKP	PKPpre	20 59 27.5	
	2.0nm,0.8s,baz=29,slow=3.3,SNR=1.7						
AKASG	**Malin Array Be**	**142.57**	**331**	PKhKP	PKPpre	20 59 36.7	
	1.4nm,0.4s,baz=46,slow=4.1,SNR=13						
BRTR	**Keskin Array B**	**146.28**	**312**	PKPbc	**PKPbc**	**20 59 49.2**	**-0.3**
	0.5nm,0.5s,baz=90,slow=4.9,SNR=2.6						
MMAI	**Mount Meron Ar**	**147.22**	**300**	PKPbc	**PKPbc**	**20 59 53.0**	**+0.8**
	0.7nm,0.4s,baz=116,slow=1.9,SNR=4.9						
MLR	**Muntele Rosu**	**147.75**	**327**	PKPbc	**PKPbc**	**20 59 52.8**	**-0.4**
	0.5nm,0.3s,baz=0.0,slow=0.0,SNR=1.6						
GERES	**GERESS Array B**	**149.87**	**344**	PKPbc	**PKPbc**	**20 59 57.7**	**-0.4**
	0.3nm,0.6s,baz=63,slow=6.1,SNR=4.1						
DAVOX	**Davos/Dischmat**	**152.71**	**347**	PKPbc	**PKPbc**	**21 00 04.6**	**-0.2**
	0.8nm,0.5s,baz=135,slow=4.3,SNR=2.4						

*IDC **01** 20:49:43.6±0.7, 38°.69N×22°.39E, h0km, mb3.8/16, mbtmp3.8/28, ML3.8/9, MS2.8/3, Error ellipse: s-maj=13.7km s-min=12.0km az=162.0*
*ATH **01** 20:49:45.4, 38°.69N×22°.45E, h6km±1km, ML3.9/28, Manual Solution by S.Liakopoulos First location: 2019/09/01 20:50:36, This location: 2019/09/01 21:43:40 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*PDG **01** 20:49:45.3±0.6, 38°.70N×22°.46E, h13km, ML3.9/10, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*THE **01** 20:49:45.5, 38°.7N±0°.5×22°.4E±0°.5, h16km, M3.9/24, MLh3.9/24*
*NEIC **01** 20:49:46.7, 38°.77N×22°.58E, h10km*
*NEIC **01** 20:49:46.6±2.1, 38°.76N±0°.06×22°.57E±0°.06, h10km±1km, mb4.3/9, Mwr3.8/17, Error ellipse: s-maj=10.1km s-min=7.8km az=188.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-6.15; $M_{\theta\theta}$0.25; $M_{\phi\phi}$5.89; $M_{r\theta}$1.65; $M_{\theta\phi}$-1.53; $M_{\phi r}$0.90; Fault plane solution: $M_0$6.49000×10^{14} NP1:ϕ_s180.83000°, δ49.20000°, λ-69.32000°. NP2:ϕ_s330.82000°, δ44.91000°, λ-112.25000°. Principal axes: T 6.3029, Plg2.0000°, Azm256.0000°; N 0.3649, Plg16.0000°, Azm347.0000°; P -6.6678, Plg74.0000°, Azm158.0000°;*
*NAO **01** 20:50:00.9, 39°.95N×20°.80E, h10km, MB3.6*
ISC 01 20:49:46.0±0.7**, 38°.69N**±0°.01×**22°.45E**±0°.01**, h17**km±4km**, n237, σ1s.20**/308**, mb3.9**/19**, 15C-15D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.18**	**66**	P	**Pg**	**20 49 50.3**	**-0.3**
AXAR				S	**Sg**	**20 49 54.3**	**+0.6**
AXAR	**Agios Charalam**	**0.18**	**66**	P	**Pg**	**20 49 50.5**	**-0.1**
AXAR				S	**Sg**	**20 49 52.4**	**-1.3**
AGG	**Agios Georgios**	**0.34**	**345**	P	**Pg**	**20 49 52.3**	**-0.9**
AGG				S	**Sg**	**20 49 57.8**	**-0.4**
AGG	**Agios Georgios**	**0.34**	**345**	P	**Pg**	**20 49 52.5**	**-0.7**
AGG				S	**Sg**	**20 49 57.5**	**-0.6**
KALE	**Kalithea**	**0.39**	**219**	P	**Pg**	**20 49 53.0**	**-0.9**
KALE				S	**Sg**	**20 49 58.5**	**-0.9**
KALE	**Kalithea**	**0.39**	**219**	P	**Pg**	**20 49 53.1**	**-0.9**
KALE				S	**Sg**	**20 49 58.5**	**-0.9**
MAKR	**Makrakomi, Fth**	**0.40**	**323**	P	**Pg**	**20 49 53.5**	**-0.8**
MAKR				S	**Sb**	**20 50 00.0**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.40**	**323**	P	**Pg**	**20 49 53.6**	**-0.7**
MAKR				S	**Sg**	**20 49 58.9**	**-1.1**
SERG	**Sergoula**	**0.41**	**228**	P	**Pg**	**20 49 53.3**	**-1.2**
SERG				S	**Sg**	**20 49 59.6**	**-0.6**
ANX	**Ano Chora**	**0.42**	**257**	P	**Pg**	**20 49 53.5**	**-1.2**
ANX				S	**Sg**	**20 50 00.5**	**0.0**
ANX	**Ano Chora**	**0.42**	**257**	P	**Pg**	**20 49 53.7**	**-1.0**
ANX				S	**Sg**	**20 49 59.6**	**-0.9**
LKR	**Lokris**	**0.43**	**95**	P	**Pb**	**20 49 54.7**	**-0.5**
LKR				S	**Sb**	**20 50 00.7**	**-0.8**
ATAL	**Atalanti**	**0.45**	**90**	P	**Pg**	**20 49 54.5**	**-0.6**
ATAL				S	**Sb**	**20 50 02.4**	**+0.5**
ATAL	**Atalanti**	**0.45**	**90**	P	**Pb**	**20 49 55.3**	**-0.2**
ATAL				S	**Sg**	**20 50 00.3**	**-0.9**
EFP	**Efpalio**	**0.50**	**238**	P	**Pg**	**20 49 54.6**	**-1.4**
EFP				S	**Sb**	**20 50 02.8**	**-0.6**
EFP	**Efpalio**	**0.50**	**238**	P	**Pg**	**20 49 54.9**	**-1.1**
EFP				S	**Sg**	**20 50 02.1**	**-0.7**
EVR	**Evrytania**	**0.55**	**294**	P	**Pg**	**20 49 55.5**	**-1.4**
EVR				S	**Sg**	**20 50 03.6**	**-0.7**
EVR	**Evrytania**	**0.55**	**294**	P	**Pg**	**20 49 55.7**	**-1.3**
EVR				S	**Sg**	**20 50 03.4**	**-0.9**
UPR	**University Cam**	**0.66**	**232**	P	**Pg**	**20 49 57.9**	**-1.1**
UPR				S	**Sg**	**20 50 07.4**	**-0.4**
KLV	**Kalavryta, Ach**	**0.69**	**200**	P	**Pg**	**20 49 58.0**	**-1.5**
KLV				S	**Sg**	**20 50 08.3**	**-0.4**
KLV	**Kalavryta, Ach**	**0.69**	**200**	P	**Pg**	**20 49 58.0**	**-1.5**
KLV				S	**Sg**	**20 50 08.0**	**-0.7**
PVO	**Paravola**	**0.72**	**264**	P	**Pg**	**20 49 58.7**	**-1.5**
PVO				S	**Sb**	**20 50 09.8**	**-0.1**
PVO	**Paravola**	**0.72**	**264**	P	**Pg**	**20 49 59.0**	**-1.2**
PVO				S	**Sb**	**20 50 09.9**	**0.0**
GUR	**Goura**	**0.76**	**186**	P	**Pg**	**20 49 59.9**	**-0.9**
GUR				S	**Sb**	**20 50 11.2**	**+0.3**
LTK	**Loutraki**	**0.78**	**148**	P	**Pg**	**20 50 00.6**	**-0.7**
LTK				S	**Sn**	**20 50 13.2**	**-0.5**
LTK	**Loutraki**	**0.78**	**148**	P	**Pg**	**20 50 00.6**	**-0.7**
LTK				S	**Sb**	**20 50 11.6**	**+0.1**
VIL2	**Platees**	**0.80**	**126**	P	**Pb**	**20 50 01.5**	**0.0**
VIL2				S	**Sn**	**20 50 13.6**	**-0.5**
LOUT	**Loutraki**	**0.82**	**149**	P	**Pg**	**20 50 01.1**	**-0.9**
LOUT				S	**Sg**	**20 50 12.1**	**-0.6**
VILL	**Villia**	**0.86**	**128**	P	**Pg**	**20 50 01.5**	**-1.2**
VILL				S	**Sn**	**20 50 15.5**	**-0.1**
NEO	**Neokhori**	**0.86**	**44**	P	**Pg**	**20 50 01.7**	**-1.1**
NEO				S	**Sb**	**20 50 14.5**	**+0.6**
NEO	**Neokhori**	**0.86**	**44**	P	**Pg**	**20 50 01.7**	**-1.1**
NEO				S	**Sb**	**20 50 13.9**	**+0.1**
THL	**Klokotos Trika**	**0.93**	**339**	P	**Pg**	**20 50 02.7**	**-1.4**
THL				S	**Sb**	**20 50 16.3**	**+0.4**
THL	**Klokotos Trika**	**0.93**	**339**	P	**Pg**	**20 50 02.7**	**-1.4**
THL				S	**Sb**	**20 50 16.5**	**+0.7**
PARN2	**Moni Osiou Mel**	**0.94**	**122**	P	**Pg**	**20 50 03.1**	**-1.2**
PARN2				S	**Sn**	**20 50 18.1**	**+0.6**
PARN2	**Moni Osiou Mel**	**0.94**	**122**	P	**Pg**	**20 50 03.1**	**-1.2**
PARN2				S	**Sb**	**20 50 16.7**	**+0.7**
DRO	**Drossia**	**0.94**	**218**	P	**Pg**	**20 50 02.6**	**-1.6**
DRO				S	**Sb**	**20 50 16.4**	**+0.4**
AXS	**Araxos**	**0.98**	**240**	P	**Pg**	**20 50 03.4**	**-1.5**
AXS				S	**Sb**	**20 50 17.5**	**+0.4**
LRSO	**Larissa Observ**	**0.98**	**358**	P	**Pg**	**20 50 03.9**	**-1.1**
LRSO				S	**Sb**	**20 50 18.0**	**+0.9**
LRSO	**Larissa Observ**	**0.98**	**358**	P	**Pg**	**20 50 04.1**	**-0.9**
LRSO				S	**Sb**	**20 50 18.0**	**+0.9**
RLS	**Riolos of Patr**	**1.00**	**231**	P	**Pg**	**20 50 04.2**	**-1.2**
RLS	**Riolos of Patr**	**1.00**	**231**	P	**Pg**	**20 50 03.9**	**-1.4**
RLS				S	**Sb**	**20 50 18.6**	**+0.9**
STFN	**Stefani**	**1.00**	**121**	P	**Pg**	**20 50 04.3**	**-1.2**
STFN				S	**Sn**	**20 50 19.5**	**+0.4**
STFN	**Stefani**	**1.00**	**121**	P	**Pg**	**20 50 04.2**	**-1.2**
STFN				S	**Sg**	**20 50 17.4**	**-1.3**
TYRN	**Tyrnavos**	**1.03**	**351**	P	**Pg**	**20 50 04.3**	**-1.7**
TYRN				S	**Sg**	**20 50 18.5**	**-1.0**
TYRN	**Tyrnavos**	**1.03**	**351**	P	**Pg**	**20 50 04.2**	**-1.7**
TYRN				S	**Sb**	**20 50 19.6**	**+1.0**
PARN3	**Mandra,Attica,**	**1.04**	**126**	P	**Pg**	**20 50 05.1**	**-1.0**
PARN3				S	**Sn**	**20 50 19.8**	**0.0**
PARN3	**Mandra,Attica,**	**1.04**	**126**	P	**Pg**	**20 50 05.0**	**-1.0**
PARN3				S	**Sb**	**20 50 18.9**	**+0.1**
MAGU	**Magoula**	**1.04**	**126**	P	**Pg**	**20 50 04.9**	**-1.2**
MAGU				S	**Sn**	**20 50 20.3**	**+0.4**
MAGU	**Magoula**	**1.04**	**126**	P	**Pg**	**20 50 05.0**	**-1.2**
MAGU				S	**Sg**	**20 50 18.5**	**-1.2**
TETR	**Tetrakomo, Epi**	**1.12**	**306**	P	**Pb**	**20 50 05.5**	**-1.5**
TETR				S	**Sg**	**20 50 20.9**	**-1.5**
TETR	**Tetrakomo, Epi**	**1.12**	**306**	P	**Pb**	**20 50 05.6**	**-1.4**
TETR				S	**Sg**	**20 50 20.9**	**-1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PARN1	**Fyli,Attica,Gr**	**1.13**	**121**	P	**Pb**	**20 50 06.5**	**-0.6**
PARN1				S	**Sb**	**20 50 21.9**	**+0.5**
ATH	**Athens Observa**	**1.23**	**125**	P	**Pg**	**20 50 08.9**	**-0.9**
ATH				S	**Sb**	**20 50 24.6**	**+0.3**
MET2	**Kameni Chora,**	**1.28**	**147**	P	**Pb**	**20 50 09.7**	**0.0**
MET2				S	**Sb**	**20 50 26.1**	**+0.2**
PTL	**Penteli**	**1.29**	**120**	P	**Pb**	**20 50 09.6**	**-0.2**
PTL				S	**Sb**	**20 50 26.1**	**0.0**
MET5	**Makryloggos,Me**	**1.29**	**146**	P	**Pg**	**20 50 10.0**	**-0.9**
KYMI	**Kymi, Euboea I**	**1.30**	**92**	P	**Pn**	**20 50 09.5**	**+0.2**
KYMI				S	**Sn**	**20 50 26.8**	**+0.6**
MET4	**Agioi Theodoro**	**1.31**	**145**	P	**Pb**	**20 50 10.1**	**0.0**
CLEM	**Kyllini,Ilia,G**	**1.31**	**233**	P	**Pg**	**20 50 10.9**	**-0.4**
MET6	**Megalochori,Me**	**1.31**	**147**	P	**Pb**	**20 50 10.2**	**+0.1**
DION	**Dionisos Attik**	**1.32**	**117**	P	**Pg**	**20 50 10.4**	**-1.0**
VLY	**Voula,Athens**	**1.35**	**128**	P	**Pb**	**20 50 10.8**	**0.0**
LKD2	**Lefkada island**	**1.40**	**274**	P	**Pb**	**20 50 12.0**	**+0.2**
EVGI	**Lefkada island**	**1.40**	**268**	P	**Pb**	**20 50 11.9**	**+0.2**
TSLK	**Tsoukalades, L**	**1.41**	**276**	P	**Pg**	**20 50 12.2**	**-0.9**
FSK	**Fiskardo**	**1.50**	**262**	P	**Pn**	**20 50 12.7**	**+0.7**
VLS	**Valsamata**	**1.55**	**251**	P	**Pn**	**20 50 13.6**	**+0.8**
KYPS	**Kipseli, Zakin**	**1.55**	**236**	P	**Pn**	**20 50 13.2**	**+0.4**
ITM	**Ithomi**	**1.57**	**195**	Pn	**Pg**	**20 50 15.1**	**-1.1**
ITM	**Ithomi**	**1.57**	**195**	P	**Pb**	**20 50 14.1**	**-0.4**
JAN	**Janina**	**1.57**	**308**	P	**Pb**	**20 50 14.5**	**-0.1**
LTHK	**Lithakia**	**1.60**	**233**	P	**Pb**	**20 50 15.5**	**+0.3**
ORTH	**Orthonies,Zaky**	**1.61**	**239**	P	**Pn**	**20 50 14.3**	**+0.6**
DMLN	**Damoulianata-K**	**1.69**	**255**	P	**Pb**	**20 50 16.2**	**-0.4**
KZN	**Kozani**	**1.69**	**342**	P	**Pb**	**20 50 16.1**	**-0.7**
KARY	**Karystos**	**1.70**	**112**	P	**Pn**	**20 50 15.8**	**+0.9**
IGT	**Igoumenitsa**	**1.85**	**298**	P	**Pb**	**20 50 19.6**	**+0.3**
PLG	**Polygyros**	**1.85**	**24**	P	**Pn**	**20 50 17.0**	**0.0**
PYL2	**Kinigos**	**1.88**	**198**	P	**Pb**	**20 50 20.0**	**+0.2**
HORT	**Hortiatis**	**1.97**	**15**	P	**Pn**	**20 50 18.8**	**+0.2**
THE	**Thessaloniki**	**1.98**	**12**	P	**Pn**	**20 50 18.8**	**+0.1**
VLI	**Veliai**	**2.01**	**169**	P	**Pn**	**20 50 19.8**	**+0.6**
OUR	**Ouranopolis**	**2.02**	**35**	P	**Pn**	**20 50 19.7**	**+0.3**
SOH	**Sokhos**	**2.24**	**18**	P	**Pn**	**20 50 23.3**	**+0.9**
FNA	**Florina**	**2.25**	**339**		**Pn**	**20 50 23.9**	**+1.5**
FNA	**Florina**	**2.25**	**339**	P	**Pn**	**20 50 23.8**	**+1.4**
KEK	**Kerkira**	**2.30**	**297**		**Pb**	**20 50 28.1**	**+1.1**
LIA	**Limnos Island**	**2.44**	**60**	P	**Pn**	**20 50 25.3**	**+0.3**
MHLO	**Agia Marina, M**	**2.53**	**142**	P	**Pn**	**20 50 27.3**	**+1.0**
OHR	**Ohrid**	**2.73**	**333**	*i* Pn	**Pn**	**20 50 31.9**	**+2.8**
OHR				*e*Sn	**Sb**	**20 51 05.3**	**-2.3**
MMB	**Musomishta**	**3.02**	**19**	*i* P	**Pn**	**20 50 34.3**	**+1.2**
MMB				S	**Sn**	**20 51 08.2**	**-0.7**
KKB	**Krupnik**	**3.19**	**9**	*i* P	**Pn**	**20 50 36.6**	**+1.2**
KKB				S	**Sn**	**20 51 13.5**	**+0.5**
EZN	**Ezine**	**3.22**	**68**	⇑P	**Pn**	**20 50 36.6**	**+0.9**
SKO	**Skopje**	**3.37**	**347**	*i* Pn	**Pn**	**20 50 39.5**	**+1.7**
RDO	**Rodhopi**	**3.41**	**43**		**Pn**	**20 50 38.3**	**-0.1**
RZN	**Rozhen**	**3.47**	**30**	*i* P	**Pn**	**20 50 40.2**	**+0.7**
RZN				S	**Sn**	**20 51 19.6**	**-0.7**
CAVK	**Edirne/Enez-Ca**	**3.50**	**54**	⇓P	**Pn**	**20 50 40.0**	**+0.4**
ALN	**Alexandroupoli**	**3.54**	**50**		**Pn**	**20 50 39.7**	**-0.4**
KDZ	**Kurdzhali**	**3.68**	**36**	P	**Pn**	**20 50 42.5**	**+0.4**
IDI	**Anoyia**	**3.92**	**149**		**Pn**	**20 50 47.0**	**+1.5**
IDI	**Anoyia**	**3.92**	**149**	Pn	**Pn**	**20 50 45.8**	**+0.3**
	10nm,0.3s,baz=332,slow=16,SNR=34						
IDI				Sn	**Sn**	**20 51 30.0**	**-1.2**
	9.3nm,0.3s,baz=44,slow=22,SNR=5.8						
VTS	**Vitosha**	**3.97**	**8**	S	**Sn**	**20 51 32.8**	**+0.4**
VTS				P	**Pn**	**20 50 48.0**	**+1.8**
ULC	**Ulcinj**	**4.08**	**324**	⇓*i* Pn	**Pn**	**20 50 49.2**	**+1.5**
ULC				*i* Sn	**Sn**	**20 51 36.2**	**+1.1**
DRME	**Dracevica, Mon**	**4.29**	**326**	*e*Pn	**Pn**	**20 50 52.0**	**+1.6**
DRME				*i* Sn	**Sn**	**20 51 41.3**	**+1.2**
PDG	**Podgorica**	**4.46**	**328**		**Pn**	**20 50 54.5**	**+1.7**
PDG	**Podgorica**	**4.46**	**328**	⇓P	**Pn**	**20 50 54.8**	**+2.0**
PDG	**Podgorica**	**4.46**	**328**	*e*Pn	**Pn**	**20 50 54.3**	**+1.6**
PDG				*i* Sn	**Sn**	**20 51 45.4**	**+1.2**
TIP	**Timpagrande**	**4.46**	**278**		**Pn**	**20 50 54.6**	**+1.6**
IVA	**Berane**	**4.60**	**336**	*e*Pn	**Pn**	**20 50 56.2**	**+1.3**
IVA				*i* Sn	**Sn**	**20 51 48.8**	**+0.8**
CEME	**Cevo**	**4.69**	**326**	⇓*i* Pn	**Pn**	**20 50 57.6**	**+1.5**
CEME				*i* Sn	**Sn**	**20 51 51.1**	**+0.9**
KOME	**Kolasin**	**4.71**	**333**	*e*Pn	**Pn**	**20 50 57.8**	**+1.4**
KOME				*i* Sn	**Sn**	**20 51 51.4**	**+0.7**
MPEP	**Malo Peshtene**	**4.76**	**11**	P	**Pn**	**20 50 58.7**	**+1.7**
MANT	**Manisa**	**4.79**	**91**		**Pn**	**20 50 58.9**	**+1.3**
HCY	**Herceg Novi**	**4.81**	**323**	*e*Pn	**Pn**	**20 50 59.1**	**+1.5**
HCY				*i* Sn	**Sn**	**20 51 54.0**	**+1.1**
MATE	**Matera**	**4.84**	**296**	⇑P	**Pn**	**20 51 00.5**	**+2.5**
NKME	**Niksic**	**4.86**	**328**	*e*Pn	**Pn**	**20 50 59.9**	**+1.5**
NKME				*i* Sn	**Sn**	**20 51 55.0**	**+0.8**
KARP	**Karpathos**	**4.90**	**128**		**Pn**	**20 51 00.5**	**+1.5**
ELND	**Elena**	**4.97**	**30**	⇓P	**Pn**	**20 51 00.5**	**+0.7**
BOVS	**Bovan**	**4.97**	**354**	⇑P	**Pn**	**20 51 01.0**	**+1.2**
PLVB	**Pleven**	**4.97**	**19**	⇑P	**Pn**	**20 51 01.6**	**+1.8**
TREB	**Trebinje**	**5.08**	**324**	*e*Pn	**Pn**	**20 51 02.2**	**+0.8**
BRY	**Bratogost**	**5.14**	**326**	*e*Pn	**Pn**	**20 51 03.7**	**+1.3**
BRY				*i* Sn	**Sn**	**20 52 01.8**	**+0.4**
ARG	**Arkhangelos**	**5.15**	**117**	Pn	**Pn**	**20 51 04.0**	**+1.7**
CEL	**Celeste**	**5.16**	**267**		**Pn**	**20 51 04.9**	**+2.4**
UPM	**Unac-Piva**	**5.24**	**330**	*e*Pn	**Pn**	**20 51 05.1**	**+1.3**
UPM				*i* Sn	**Sn**	**20 52 04.1**	**+0.2**
SZH	**Strazhitsa**	**5.29**	**29**	P	**Pn**	**20 51 05.2**	**+1.0**
CUC	**Castrocucco**	**5.30**	**286**		**Pn**	**20 51 06.8**	**+2.3**
KLINJ	**Klinje**	**5.34**	**328**	*e*Pn	**Pn**	**20 51 06.6**	**+1.5**
ACER	**Acerenza**	**5.43**	**295**		**Pn**	**20 51 08.2**	**+2.0**
RUDO	**Rudo**	**5.44**	**336**	*e*Pn	**Pn**	**20 51 06.7**	**+0.4**
STON	**Ston**	**5.51**	**321**	*e*Pn	**Pn**	**20 51 07.2**	**-0.1**
LOZB	**Loznitsa**	**5.63**	**33**	⇓P	**Pn**	**20 51 10.3**	**+1.4**
SGRT	**San Giovanni R**	**5.97**	**303**		**Pn**	**20 51 15.1**	**+1.4**
MDVR	**Moldovita**	**6.11**	**355**	⇓P	**Pn**	**20 51 16.7**	**+1.2**
HUMR	**Humele**	**6.13**	**17**	⇓P	**Pn**	**20 51 17.3**	**+1.6**
HERR	**Herculane**	**6.18**	**360**	⇓P	**Pn**	**20 51 17.6**	**+1.1**
ISP	**Isparta**	**6.41**	**95**	Pn	**Pn**	**20 51 20.7**	**+0.9**
VAE	**Valguarnera**	**6.45**	**262**	Pn	**Pn**	**20 51 20.6**	**+0.4**
	1.7nm,0.4s,baz=332,slow=22,SNR=1.6						
VAE				Sn	**Sn**	**20 52 36.1**	**+2.5**
	0.6nm,0.3s,baz=106,slow=23,SNR=1.7						
PAOL	**Paolisi**	**6.50**	**294**		**Pn**	**20 51 23.7**	**+2.9**
RAFF	**Raffo Rosso**	**6.55**	**260**		**Pn**	**20 51 24.0**	**+2.4**
GZR	**Gura Zlata**	**6.70**	**2**	⇑P	**Pn**	**20 51 25.0**	**+1.3**
ICOR	**Ion Corvin**	**6.75**	**35**	⇓P	**Pn**	**20 51 25.5**	**+1.2**
BZS	**Buzias**	**6.95**	**355**	⇑P	**Pn**	**20 51 27.4**	**+0.4**
MDUB	**Mudurnu**	**6.99**	**73**		**Pn**	**20 51 26.5**	**-1.1**
BLY	**Banja Luka**	**7.22**	**329**	*e*Pn	**Pn**	**20 51 31.9**	**+1.2**
BLY	**Banja Luka**	**7.22**	**329**	⇑P	**Pn**	**20 51 32.5**	**+1.9**
HARR	**Harsova**	**7.26**	**33**	⇑P	**Pn**	**20 51 33.6**	**+2.3**
MLR	**Muntele Rosu**	**7.27**	**20**		**Pn**	**20 51 32.7**	**+1.2**
MLR	**Muntele Rosu**	**7.27**	**20**	Pn	**Pn**	**20 51 33.7**	**+2.2**
	1.9nm,0.3s,baz=199,slow=5.3,SNR=17						
MLR				Sn	**Sn**	**20 52 56.2**	**+2.5**
	baz=220,slow=18						
MLR				Lg	Lg	20 53 40.6	
	14nm,0.7s						
MLR	**Muntele Rosu**	**7.27**	**20**	⇑P	**Pn**	**20 51 33.8**	**+2.2**
A050A	**Klekovaca**	**7.29**	**324**	*e*Pn	**Pn**	**20 51 32.6**	**+0.9**
TIRR	**Tirgusor**	**7.29**	**36**	Pn	**Pn**	**20 51 32.2**	**+0.6**
NEHR	**Nehoiu**	**7.31**	**22**	⇑P	**Pn**	**20 51 33.7**	**+1.7**
INTR	**Introdacqua**	**7.32**	**300**		**Pn**	**20 51 35.1**	**+2.9**
A051A	**Mrakovica**	**7.55**	**329**	*e*Pn	**Pn**	**20 51 36.3**	**+1.0**
COVR	**Voineasa-Covas**	**7.67**	**20**	⇓P	**Pn**	**20 51 39.4**	**+2.5**
PLOR	**Plostina**	**7.80**	**22**	⇑P	**Pn**	**20 51 41.2**	**+2.5**
TURR	**Turia**	**7.82**	**19**	⇑P	**Pn**	**20 51 41.7**	**+2.7**
VRI	**Vrincioaia**	**7.84**	**22**	⇑P	**Pn**	**20 51 41.8**	**+2.6**
CAMP	**Campotosto**	**7.87**	**302**		**Pn**	**20 51 41.3**	**+1.5**
MARR	**Marisel-Cluj**	**7.99**	**3**	⇑P	**Pn**	**20 51 43.8**	**+2.3**
MORH	**Mrgy, Hungar**	**8.03**	**341**	*e*Pn	**Pn**	**20 51 42.7**	**+1.0**
MORH	**Mrgy, Hungar**	**8.03**	**341**	⇑P	**Pn**	**20 51 43.0**	**+1.3**
DRGR		**8.10**	**1**	⇓P	**Pn**	**20 51 44.9**	**+2.1**
MOSL	**Moslavina**	**8.10**	**330**	*e*Pn	**Pn**	**20 51 43.2**	**+0.3**
GUMA	**Gualdo di Mace**	**8.17**	**305**	Pn	Pn	20 51 49.3	+5.6
NRCA	**Norcia**	**8.20**	**303**		**Pn**	**20 51 46.4**	**+2.1**
FDMO	**Fiordimonte**	**8.31**	**304**		**Pn**	**20 51 47.2**	**+1.5**
TESR	**Tescani**	**8.40**	**20**	⇓P	**Pn**	**20 51 49.7**	**+2.7**
CESX	**Cesi**	**8.46**	**301**		**Pn**	**20 51 49.9**	**+2.2**
OZLJ	**Ozalj**	**8.64**	**325**	*e*Pn	**Pn**	**20 51 50.4**	**+0.2**
BRTR	**Keskin Array B**	**8.75**	**80**		**Pn**	**20 51 53.4**	**+1.6**
BRTR	**Keskin Array B**	**8.75**	**80**	Pn	**Pn**	**20 51 54.8**	**+2.9**
	1.5nm,0.3s,baz=256,slow=13,SNR=46						
	4.3nm,0.4s						
MURB	**Monte Urbino**	**8.78**	**304**		**Pn**	**20 51 54.3**	**+2.0**
BEHE	**Becsehely**	**8.82**	**334**		**Pn**	**20 51 53.9**	**+1.2**
BRJN	**Brijuni**	**8.98**	**316**	*e*Pn	**Pn**	**20 51 53.9**	**-0.9**
BURAR	**Bucovina Array**	**9.14**	**12**	Pn	**Pn**	**20 51 57.6**	**+0.4**
BURAR	**Bucovina Array**	**9.14**	**12**	⇓P	**Pn**	**20 51 59.9**	**+2.7**
PSZ	**Piszkesteto**	**9.41**	**349**		**Pn**	**20 52 02.5**	**+1.7**
PSZ	**Piszkesteto**	**9.41**	**349**	⇓P	**Pn**	**20 52 03.5**	**+2.7**
SOKA	**Soboth**	**9.66**	**328**	*e*Pn	**Pn**	**20 52 04.7**	**+0.4**
	0.7nm,0.3s,SNR=7.0						
OBKA	**Obir**	**9.74**	**326**	*e*Pn	**Pn**	**20 52 05.9**	**+0.5**
	0.9nm,0.4s						
SABO	**M.te Sabotino**	**9.79**	**321**		**Pn**	**20 52 07.5**	**+1.6**
ARSA	**Arzberg**	**9.94**	**332**		**Pn**	**20 52 09.1**	**+1.1**
ARSA	**Arzberg**	**9.94**	**332**	*e*Pn	**Pn**	**20 52 08.5**	**+0.5**
	1.9nm,0.4s						
RONA	**Rosalia, Austr**	**10.06**	**336**	*e*Pn	**Pn**	**20 52 09.8**	**+0.2**
	0.6nm,0.4s						
STAL	**STALIGIAL**	**10.43**	**320**	Pn	**Pn**	**20 52 15.0**	**+0.2**
KEST	**Kesra**	**10.86**	**258**	Pn	**Pn**	**20 52 21.2**	**+0.5**
	0.1nm,0.3s,baz=54,slow=18,SNR=1.6						
	2.3nm,0.9s						
ABTA	**Abfaltersbach**	**10.86**	**321**	*e*Pn	**Pn**	**20 52 21.3**	**+0.5**
	2.2nm,0.4s,SNR=8.4						
MOA	**Molln**	**10.92**	**330**	*e*Pn	**Pn**	**20 52 21.8**	**+0.4**
	1.5nm,0.4s						
MSSA	**Maissana**	**11.20**	**304**	Pn	**Pn**	**20 52 26.9**	**+1.6**
LESA	**Schwarzleotal**	**11.27**	**324**	*e*Pn	**Pn**	**20 52 26.5**	**+0.2**
	1.1nm,0.4s						
WTTA	**Wattenberg**	**11.65**	**321**	*e*Pn	**Pn**	**20 52 32.5**	**+0.9**
	1.0nm,0.3s						
MMAI	**Mount Meron Ar**	**11.94**	**114**	Pn	**Pn**	**20 52 36.4**	**+0.9**
	0.4nm,0.3s,baz=299,slow=14,SNR=2.4						
	1.9nm,0.7s						
GERES	**GERESS Array B**	**11.95**	**331**	Pn	**Pn**	**20 52 35.6**	**+0.1**
	0.4nm,0.5s,baz=150,slow=14,SNR=6.6						
FUORN	**Ofenpass-Fuorn**	**11.96**	**315**	Pn	**Pn**	**20 52 36.4**	**+0.6**
KHC	**Kasperske Hory**	**12.23**	**331**	*e*PN	**Pn**	**20 52 40.3**	**+1.0**
DAVOX	**Davos/Dischmat**	**12.26**	**315**	Pn	**Pn**	**20 52 40.8**	**+0.8**
	0.2nm,0.3s,baz=149,slow=19,SNR=3.9						
DAVOX				Sn	**Sn**	**20 54 53.5**	**-2.8**
	0.2nm,0.3s,baz=312,slow=23,SNR=5.1						
	0.8nm,0.3s						
TUE	**Stuetta**	**12.38**	**313**	Pn	**Pn**	**20 52 43.7**	**+2.1**
AKASG	**Malin Array Be**	**12.93**	**20**	Pn	**Pn**	**20 52 49.0**	**+0.2**
	0.4nm,0.3s,baz=205,slow=12,SNR=2.7						
	0.2nm,0.3s						
GHAJ	**Ghor Haditha**	**13.03**	**120**	Pn	**Pn**	**20 52 52.0**	**+1.7**
ASF	**Jabal al Asfar**	**13.45**	**115**	Pn	**Pn**	**20 52 57.7**	**+1.5**
	0.2nm,0.3s,baz=329,slow=12,SNR=3.7						
	0.6nm,0.4s						
SENIN	**Lac Senin/Sane**	**13.53**	**309**	Pn	**Pn**	**20 52 59.6**	**+2.3**
KBZ	**Khabaz**	**16.18**	**65**	Pn	**P**	**20 53 34.8**	**-0.8**
	0.1nm,0.3s,baz=243,slow=4.5,SNR=4.0						
	0.9nm,0.5s						
PABE	**Paberze**	**16.85**	**3**	Pn	**Pn**	**20 53 40.5**	**-0.3**
PABE				IAmb	IAmb	20 53 53.7	
	comp=Z,15nm,0.8s						
GNI	**Garni**	**17.29**	**78**	LR	LR	21 01 07.3	
	comp=Z,41nm,18.3s,baz=300,slow=40						
OBN	**Obninsk**	**18.99**	**26**	P	**Pn**	**20 54 07.9**	**+0.7**
	comp=Z,2.3nm,0.3s,baz=180,slow=6.1,SNR=3.5						
	comp=Z,6.9nm,0.4s						
ESDC	**Sonseca Array**	**20.48**	**281**	P	**P**	**20 54 23.9**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=78,slow=11,SNR=14						
	comp=Z,1.4nm,0.7s						
PAB	**San Pablo**	**20.79**	**281**	P	Pn	20 54 28.1	-0.7
HFS	**Hagfors**	**22.16**	**348**	P	**P**	**20 54 39.3**	**-1.6**
	comp=Z,2.1nm,0.6s,baz=164,slow=12,SNR=7.6						
	comp=Z,2.1nm,0.6s						
KONO	**Kongsberg**	**22.52**	**343**	P	**P**	**20 54 43.0**	**-1.6**
KONO				IAmb	IAmb	20 54 54.6	
	comp=Z,16nm,1.1s						
FINES	**FINESS Array B**	**22.89**	**4**	P	**P**	**20 54 47.2**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=179,slow=11,SNR=15						
FINES				LR	LR	21 05 18.0	
	comp=Z,22nm,20.7s,baz=223,slow=41						
	comp=Z,0.9nm,0.3s						
NB2	**NORSAR Subarra**	**23.45**	**346**	P	**P**	**20 54 53.8**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=160,slow=11						
NOA	**NORSAR Array B**	**23.45**	**346**	P	**P**	**20 54 53.8**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=150,slow=8.9,SNR=8.1						
NOA				LR	LR	21 04 27.3	
	comp=Z,20nm,19.8s,baz=195,slow=38						
	comp=Z,1.1nm,0.6s						
EKA	**Eskdalemuir Ar**	**23.91**	**322**	P	**P**	**20 54 59.2**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=125,slow=9.0,SNR=17						
	comp=Z,2.1nm,0.5s						
ESK	**Eskdalemuir**	**23.93**	**322**	P	**P**	**20 54 59.4**	**+0.5**
ESK				IAmb	IAmb	20 54 59.8	
	comp=Z,6.3nm,0.9s						
MESJ	**Messejana**	**24.04**	**278**	P	**P**	**20 54 59.7**	**-0.5**
MESJ				IAmb	IAmb	20 55 00.5	
	comp=Z,13nm,1.0s						
KEV	**Kevo**	**31.22**	**3**	P	**P**	**20 56 03.8**	**-0.2**
KEV				IAmb	IAmb	20 56 04.1	
	comp=Z,3.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**31.40**	**221**	P	**P**	**20 56 06.9**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=30,slow=9.2,SNR=9.5						
	comp=Z,0.4nm,0.4s						
KKAR	**Karatay Array**	**36.20**	**67**	P	**P**	**20 56 47.2**	**-0.6**
ARSB	**Arslanbob**	**38.36**	**70**	P	**P**	**20 57 06.1**	**-0.1**
KURBB	**Kurchatov Arra**	**40.70**	**54**	P	**P**	**20 57 25.9**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=282,slow=9.9,SNR=5.0						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**43.74**	**59**	P	**P**	**20 57 50.4**	**+0.1**
MKAR	**Makanchi Array**	**43.74**	**59**	P	**P**	**20 57 51.1**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=275,slow=7.2,SNR=20						
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**44.22**	**49**	P	**P**	**20 57 53.5**	**-0.5**
ZALV	**Zalesovo Beam**	**44.22**	**49**	P	**P**	**20 57 54.3**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=273,slow=8.9,SNR=9.8						
	comp=Z,2.5nm,0.5s						
SONM	**Songino Array**	**58.96**	**51**	P	**P**	**20 59 44.2**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=282,slow=6.8,SNR=2.4						
	comp=Z,0.3nm,0.5s						
ILON	**Igloolik, Nuna**	**59.08**	**336**	P	**P**	**20 59 44.0**	**-0.8**
SCHQ	**Schefferville**	**59.10**	**318**	P	**P**	**20 59 43.5**	**-1.8**
	comp=Z,34nm,0.7s,baz=14,slow=16,SNR=1.8						
A36M	**Sachs Harbour**	**67.30**	**350**	P	**P**	**21 00 39.0**	**-0.3**
YKA	**Yellowknife Ar**	**73.41**	**341**	P	**P**	**21 01 17.3**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=32,slow=6.2,SNR=3.8						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**76.53**	**355**	P	**P**	**21 01 35.0**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=349,slow=2.7,SNR=5.8						
	comp=Z,0.4nm,0.8s						
KSRS	**Korea Array**	**77.83**	**52**	P	**P**	**21 01 42.2**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=302,slow=5.4,SNR=5.2						
	comp=Z,1.5nm,0.6s						
MJAR	**Matsushiro Arr**	**84.54**	**47**	P	**P**	**21 02 18.5**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=328,slow=4.4,SNR=2.9						
	comp=Z,1.1nm,0.8s						
PDAR	**Pinedale Array**	**87.96**	**327**	P	**P**	**21 02 35.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=5.2,slow=4.2,SNR=1.7						
	comp=Z,0.2nm,0.3s						
TXAR	**Lajitas Array**	**95.70**	**315**	P	**P**	**21 03 10.6**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=32,slow=7.8,SNR=2.3						
	comp=Z,0.2nm,0.7s						
ASAR	**Alice Springs**	**120.73**	**97**	PKP	**PKPdf**	**21 08 37.0**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=329,slow=2.6,SNR=2.0						

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*IDC **01** 21:19:35.8±1.0, 14°.64S×177°.05W, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=53.0km s-min=25.6km az=140.0*

ISC 01 21:19:37.6±1.0**, 14°.6S**±0°.3×**177°.1W**±0°.3**, h12**km**, n7, σ0.90**/7**, mb3.9**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.56**	**256**	P	**P**	**21 28 06.1**	**+0.4**
	0.7nm,1.2s,baz=88,slow=8.1,SNR=1.7						
	0.7nm,1.2s						
ASAR	**Alice Springs**	**46.98**	**251**	P	**P**	**21 28 09.2**	**+0.3**
	0.6nm,0.7s,baz=89,slow=7.9,SNR=6.9						
	0.6nm,0.7s						
QSPA	**South Pole Qui**	**75.42**	**180**	P	**P**	**21 31 21.2**	**0.0**
	1.8nm,1.0s,baz=39,slow=6.5,SNR=3.8						
	1.8nm,1.0s						
NVAR	**Mina Array Bea**	**76.18**	**44**	P	**P**	**21 31 26.7**	**+0.5**
	1.3nm,0.9s,baz=255,slow=5.3,SNR=6.1						
	1.3nm,0.9s						
ILAR	**Eielson Array**	**82.41**	**13**	P	**P**	**21 31 59.2**	**-0.1**
	1.0nm,1.0s,baz=208,slow=5.0,SNR=5.5						
	1.0nm,1.0s						
PDAR	**Pinedale Array**	**84.10**	**43**	P	**P**	**21 32 09.3**	**+0.5**
	0.5nm,0.9s,baz=247,slow=5.1,SNR=1.5						
	0.5nm,0.9s						
BRTR	**Keskin Array B**	**143.26**	**319**	PKP	**PKPdf**	**21 39 10.8**	**-1.6**
	1.7nm,1.1s,baz=64,slow=3.4,SNR=4.6						

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*UPP **01** 21:24:50.2±1.0, 60°.44N×10°.98E, h0km, ML2.3, Presumed earthquake*

*NAO **01** 21:24:54.6±0.1, 60°.36N×11°.30E, h9km±1km, ML2.0*

*IDC **01** 21:24:54.8±3.0, 60°.35N×11°.44E, h0km, mbtmp3.6/2, ML2.5/2, Error ellipse: s-maj=29.0km s-min=8.2km az=53.0*

*BER **01** 21:24:54.9±2.0, 60°.36N×11°.35E, h12km±5km, ML2.1, ML2.3(DNK), Confirmed Earthquake*

*DNK **01** 21:24:54.1±1.6, 60°.35N×11°.19E, h26km±14km, ML2.3*

ISC 01 21:24:51.3±1.4**, 60°.33N**±0°.02×**11°.26E**±0°.02**, h4**km±10km**, n72, σ1.48**/121**, 3C-1D, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NC602	**NORSAR Array S**	**0.43**	**19**	*e*P	**Pb**	**21 25 02.0**	**+0.6**
NC602				*e*S	**Sb**	**21 25 07.6**	**-0.7**
NC602				IAML		21 25 08.3	
	comp=Z,327nm,0.1s						
NC6	**NORSAR Subarra**	**0.43**	**13**	Pg	**Pb**	**21 25 02.2**	**+0.7**
NC6				Sg	**Sb**	**21 25 07.6**	**-0.7**
OSL	**Oslo**	**0.47**	**215**	Pg	**Pn**	**21 25 04.2**	**-0.6**
OSL				Sg	**Sb**	**21 25 11.1**	**+1.6**
OSL	**Oslo**	**0.47**	**215**	⇑*e*P	**Pn**	**21 25 04.2**	**-0.6**
OSL				*e*S	**Sb**	**21 25 11.1**	**+1.6**
OSL				IAML		21 25 11.6	
	comp=Z,211nm,0.3s						
NAO	**NORSAR Subarra**	**0.54**	**337**	Pg	**Pb**	**21 25 04.5**	**+1.2**
NAO				Sg	**Sb**	**21 25 11.4**	**0.0**
NAO01	**NORSAR Array S**	**0.55**	**341**	*e*P	**Pb**	**21 25 04.3**	**+0.9**
NAO01				*e*S	**Sb**	**21 25 11.5**	**-0.2**
NAO01				IAML		21 25 11.9	
	comp=Z,196nm,0.1s						
NB2	**NORSAR Subarra**	**0.72**	**358**	Pg	**Pb**	**21 25 07.2**	**+0.9**
NB2				Sg	**Sb**	**21 25 16.4**	**-0.1**
NOA	**NORSAR Array B**	**0.72**	**358**	Pg	**Pn**	**21 25 07.8**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=180,slow=16,SNR=71						
NOA				Lg	Lg	21 25 17.1	
	comp=Z,0.8nm,0.3s,baz=190,slow=20,SNR=26						
NB201	**NORSAR Array S**	**0.72**	**1**	⇑*e*P	**Pb**	**21 25 07.2**	**+0.8**
NB201				*e*S	**Sb**	**21 25 16.3**	**-0.5**
NB201				IAML		21 25 17.0	
	comp=Z,48nm,0.3s						
NBO	**NORSAR Subarra**	**0.74**	**342**	Pg	**Pb**	**21 25 07.7**	**+0.9**
NBO				Sg	**Sb**	**21 25 17.4**	**+0.1**
NBO00	**NORSAR Array S**	**0.74**	**342**	*e*P	**Pb**	**21 25 07.7**	**+0.9**
NBO00				*e*S	**Sb**	**21 25 17.4**	**+0.1**
NBO00				IAML		21 25 17.9	
	comp=Z,78nm,0.3s						
NC4	**NORSAR Subarra**	**0.79**	**16**	Pg	**Pn**	**21 25 08.9**	**-0.3**
NC4				Sg	**Sb**	**21 25 19.2**	**+0.7**
NC303	**NORSAR Array S**	**0.90**	**3**	⇑*e*P	**Pb**	**21 25 10.3**	**+0.8**
NC303				*e*S	**Sb**	**21 25 21.6**	**-0.3**
NC303				IAML		21 25 22.4	
	comp=Z,123nm,0.3s						
NC3	**NORSAR Subarra**	**0.94**	**4**	Pg	**Pb**	**21 25 10.3**	**+0.2**
NC3				Sg	**Sg**	**21 25 21.5**	**0.0**
NC2	**NORSAR Subarra**	**0.98**	**348**	Pg	**Pn**	**21 25 11.8**	**-0.1**
NC2				Sg	**Sb**	**21 25 24.3**	**+0.2**
NC204	**NORSAR Array S**	**0.98**	**346**	⇓*e*P	**Pn**	**21 25 11.7**	**-0.1**
NC204				*e*S	**Sb**	**21 25 24.4**	**+0.2**
NC204				IAML		21 25 24.7	
	comp=Z,63nm,0.1s						
KON	**Kongsberg**	**1.08**	**232**	Pg	**Pn**	**21 25 14.2**	**+1.1**
KON				Sg	**Sn**	**21 25 28.9**	**+0.5**
KONO	**Kongsberg**	**1.08**	**232**	*e*P	**Pn**	**21 25 14.2**	**+1.1**
KONO				*e*S	**Sn**	**21 25 28.7**	**+0.3**
UDD	**Uddeholm**	**1.20**	**100**	P	**Pn**	**21 25 15.8**	**+1.1**
UDD				S	**Sn**	**21 25 32.2**	**+0.8**
UDD	**Uddeholm**	**1.20**	**100**	P	**Pn**	**21 25 15.8**	**+1.1**
UDD				S	**Sn**	**21 25 32.2**	**+0.8**
HFS	**Hagfors**	**1.23**	**98**	Pg	**Pn**	**21 25 16.2**	**+1.0**
	baz=280,slow=18						
HFS				Sg	**Sn**	**21 25 32.5**	**+0.3**
	baz=282,slow=37						
STRU	**Stroemstad**	**1.30**	**182**	P	**Pn**	**21 25 17.1**	**+1.1**
STRU				S	**Sn**	**21 25 35.0**	**+1.2**
STRU	**Stroemstad**	**1.30**	**182**	*i* P	**Pn**	**21 25 18.3**	**+2.2**
STRU				*i* S	**Sn**	**21 25 35.0**	**+1.2**
STRU	**Stroemstad**	**1.30**	**182**	P	**Pn**	**21 25 17.1**	**+1.1**
STRU				*i* P	**Pn**	**21 25 18.3**	**+2.2**
STRU				*i* S	**Sn**	**21 25 35.0**	**+1.2**
STRU				S	**Sn**	**21 25 35.0**	**+1.2**
SKAR	**Skarslia**	**1.51**	**285**	Pb	**Pb**	**21 25 20.9**	**+1.2**
SKAR				Sb	**Sn**	**21 25 40.1**	**+1.1**
SKAR	**Skarslia**	**1.51**	**285**	*e*P	**Pb**	**21 25 20.5**	**+0.7**
SKAR				*e*S	**Sn**	**21 25 39.9**	**+0.8**
SKAR				IAML		21 25 41.2	
	comp=Z,57nm,0.2s						
NASU	**Vaermlandsnaes**	**1.71**	**144**	P	**Pb**	**21 25 23.2**	**0.0**
NASU	**Vaermlandsnaes**	**1.71**	**144**	P	**Pb**	**21 25 23.2**	**0.0**
VANU	**Vaenersborg**	**1.89**	**167**	P	**Pn**	**21 25 25.6**	**+1.4**
VANU	**Vaenersborg**	**1.89**	**167**	P	**Pn**	**21 25 25.6**	**+1.4**
DOMB	**Dombas**	**2.02**	**329**	Pn	**Pg**	**21 25 29.4**	**-0.5**
DOMB				Sn	**Sg**	**21 25 56.0**	**-0.2**
DOMB	**Dombas**	**2.02**	**329**	*e*Pg	**Pg**	**21 25 29.5**	**-0.5**
DOMB				IAML		21 26 01.1	
	comp=Z,32nm,0.3s						
NRAU	**Nora**	**2.05**	**110**	P	**Pn**	**21 25 28.1**	**+1.7**
NRAU	**Nora**	**2.05**	**110**	P	**Pn**	**21 25 28.1**	**+1.7**
FALU	**Falun**	**2.27**	**84**	P	**Pn**	**21 25 31.4**	**+1.9**
FALU	**Falun**	**2.27**	**84**	P	**Pn**	**21 25 31.4**	**+1.9**
TJOU	**Tjoern**	**2.31**	**175**	P	**Pn**	**21 25 31.4**	**+1.4**
TJOU	**Tjoern**	**2.31**	**175**	*i* P	**Pn**	**21 25 31.7**	**+1.7**
TJOU	**Tjoern**	**2.31**	**175**	P	**Pn**	**21 25 31.4**	**+1.4**
TJOU				*i* P	**Pn**	**21 25 31.7**	**+1.7**
ASKU	**Askersund**	**2.31**	**127**	P	**Pn**	**21 25 31.9**	**+1.8**
ASKU	**Askersund**	**2.31**	**127**	P	**Pn**	**21 25 31.9**	**+1.8**
ODD1	**Odda**	**2.36**	**262**	*e*P	**Pn**	**21 25 32.6**	**+1.9**
HOMB	**Homborsund**	**2.50**	**216**	Pn	**Pn**	**21 25 33.5**	**+0.9**
HOMB				Sn	**Sn**	**21 26 05.2**	**+1.7**
HOMB	**Homborsund**	**2.50**	**216**	*e*	**Pn**	**21 25 32.5**	**-0.1**
	baz=39,slow=14						
HOMB				*i* P	**Pb**	**21 25 33.4**	**-3.3**
HOMB				*e*S	**Sn**	**21 26 02.5**	**-1.0**
HOMB				IAML		21 26 14.4	
	comp=Z,3.7nm,0.4s						
HOMB	**Homborsund**	**2.50**	**216**	*e*	**Pn**	**21 25 32.5**	**-0.1**
	baz=39,slow=14						
HOMB				*i* P	**Pb**	**21 25 33.4**	**-3.3**
HOMB				*e*S	**Sn**	**21 26 02.5**	**-1.0**
HOMB				IAML		21 26 14.4	
	comp=Z,3.7nm,0.4s						
FKPU	**Falk**	**2.52**	**149**	P	**Pn**	**21 25 34.3**	**+1.4**
FKPU	**Falk**	**2.52**	**149**	P	**Pn**	**21 25 34.3**	**+1.4**
BLS5	**Blasjo**	**2.59**	**252**	*e*P	**Pn**	**21 25 35.3**	**+1.5**
BLS5				*e*S	**Sn**	**21 26 07.5**	**+1.8**
BLS5				IAML		21 26 17.9	
	comp=Z,16nm,0.5s						
HYA	**Hoyanger**	**2.63**	**291**	Pn	**Pn**	**21 25 35.3**	**+0.9**
HYA				Sn	**Sn**	**21 26 05.9**	**-0.8**
HYA	**Hoyanger**	**2.63**	**291**	*e*P	**Pn**	**21 25 35.4**	**+0.9**
HYA				*e*Pg	**Pb**	**21 25 39.5**	**+0.7**
HYA				*e*S	**Sn**	**21 26 07.1**	**+0.4**
HYA				*e*Sg	**Sb**	**21 26 13.5**	**+2.1**
HYA				IAML		21 26 15.4	
	comp=Z,14nm,0.4s						
BORU	**Boraas**	**2.81**	**163**	P	**Pn**	**21 25 37.9**	**+1.0**
BORU	**Boraas**	**2.81**	**163**	P	**Pn**	**21 25 37.9**	**+1.0**
ESKU	**Eskilstuna**	**2.82**	**111**	P	**Pn**	**21 25 39.0**	**+2.0**
ESKU	**Eskilstuna**	**2.82**	**111**	P	**Pn**	**21 25 39.0**	**+2.0**
MOL	**Molde**	**2.87**	**323**	*e*P	**Pn**	**21 25 38.7**	**+1.0**
MOL				*e*Pg	**Pb**	**21 25 43.5**	**+0.5**
MOL				*e*Sg	**Sb**	**21 26 20.3**	**+2.0**
MOL				IAML		21 26 23.8	
	comp=Z,14nm,0.3s						
SNART	**Snartemo**	**2.88**	**228**	*i* P	**Pn**	**21 25 39.0**	**+1.2**
SNART				*i* S	**Sn**	**21 26 10.4**	**-2.4**
SNART				IAML		21 26 27.4	
	comp=Z,8.4nm,0.3s						
SNART	**Snartemo**	**2.88**	**228**	*i* P	**Pn**	**21 25 39.0**	**+1.2**
SNART				*i* S	**Sn**	**21 26 10.4**	**-2.4**
SNART				IAML		21 26 27.4	
	comp=Z,8.4nm,0.3s						
ONAU	**Onsala**	**2.96**	**173**	P	**Pn**	**21 25 40.1**	**+1.2**
ONAU	**Onsala**	**2.96**	**173**	*i* P	**Pn**	**21 25 39.9**	**+1.0**
ONAU	**Onsala**	**2.96**	**173**	*i* P	**Pn**	**21 25 39.9**	**+1.0**
ONAU				P	Pb	21 25 40.1	-4.4
ASK	**Askoy**	**3.01**	**276**	*e*P	**Pn**	**21 25 40.9**	**+1.2**
ASK				*e*Sg	**Sb**	**21 26 24.5**	**+2.0**
ASK				IAML		21 26 25.8	
	comp=Z,25nm,0.2s						
KMY	**Karmoy**	**3.24**	**252**	*e*S	**Sn**	**21 26 23.3**	**+1.6**
KMY				*e*Sg	**Sg**	**21 26 32.6**	**-2.6**
KMY				IAML		21 26 43.7	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,12nm,0.6s						
FOO	**Floro**	**3.29**	**295**	*e*S	**Sn**	**21 26 22.2**	**-0.7**
FOO				*e*Sg	**Sb**	**21 26 33.1**	**+2.7**
FOO				IAML		21 26 39.8	
	comp=Z,11nm,0.4s						
DEL	**Delary**	**4.10**	**159**	*i* P	**Pn**	**21 25 55.5**	**+0.8**
DEL	**Delary**	**4.10**	**159**	*i* P	**Pn**	**21 25 55.5**	**+0.8**
BLEU	**Blekinge**	**4.69**	**147**	*i* P	**Pn**	**21 26 04.8**	**+2.1**
BLEU	**Blekinge**	**4.69**	**147**	*i* P	**Pn**	**21 26 04.8**	**+2.1**
LUNU	**Lund**	**4.85**	**165**	*i* P	**Pn**	**21 26 05.7**	**+0.8**
LUNU	**Lund**	**4.85**	**165**	*i* P	**Pn**	**21 26 05.7**	**+0.8**
FIA0	**FINESS Array S**	**7.32**	**75**	Pn	**Pn**	**21 26 41.0**	**+2.3**
	baz=259,slow=9.3						
FIA0				Sn	**Sn**	**21 27 58.2**	**-3.8**
	baz=268,slow=37						
FINES	**FINESS Array B**	**7.32**	**75**	Pn	**Pn**	**21 26 39.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=264,slow=10,SNR=8.5						
FINES				Sn	**Sn**	**21 27 57.4**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=269,slow=22,SNR=1.5						
FINES				Lg	Lg	21 28 36.8	
	comp=Z,0.9nm,0.3s,baz=264,slow=28,SNR=9.1						
	comp=Z,3.7nm,0.9s						
ARCES	**ARCESS Array B**	**11.00**	**27**	Pn	**Pn**	**21 27 30.3**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=215,slow=11,SNR=2.6						
ARCES				Sn	**Sn**	**21 29 28.1**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=215,slow=23,SNR=1.0						
	comp=Z,2.4nm,1.0s						

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*TAP **01** 21:29:33.6, 24°.63N×122°.19E, h71km±1km, ML2.6, B*
*JMA **01** 21:29:33.9±0.2, 25°N±1°×122°.2E±0°.3, h71km±2km, MV1.5/8, TAIWAN REGION*
ISC 01 21:29:33.5±1.4**, 24°.64N**±0°.04×**122°.22E**±0°.03**, h73**km±8km**,**
n45, σ0s.55/81**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.22**	**176**	*i* P	**Pn**	**21 29 44.9**	**+0.5**
EGS		**0.33**	**309**	P	**Pn**	**21 29 45.7**	**+0.4**
TWC	**Suao**	**0.34**	**265**	*i* P	**Pn**	**21 29 45.0**	**-0.2**
TWC				*i* S	**Sn**	**21 29 53.0**	**-0.9**
ESAO	**Su ao**	**0.34**	**260**	*e*P	**Pn**	**21 29 45.0**	**-0.4**
EOS3	**EOS3**	**0.36**	**165**	P	**Pn**	**21 29 45.7**	**+0.5**
EOS3				S	**Sn**	**21 29 54.9**	**+1.0**
EWUT	**Wuta**	**0.44**	**244**	P	**Pn**	**21 29 46.0**	**-0.1**
EWUT				*i* S	**Sn**	**21 29 55.3**	**-0.1**
ILA	**Ilan**	**0.44**	**287**	S	**Sn**	**21 29 55.5**	**+0.2**
ENA	**Nanau**	**0.48**	**244**	*i* P	**Pn**	**21 29 46.6**	**+0.1**
ENA				*i* S	**Sn**	**21 29 56.2**	**+0.3**
TIPB	**Shuangxi**	**0.49**	**313**	P	**Pn**	**21 29 46.9**	**+0.3**
TIPB				S	**Sn**	**21 29 55.5**	**-0.7**
TWE	**Neicheng**	**0.51**	**280**	*i* P	**Pn**	**21 29 46.8**	**+0.2**
TWE				*i* S	**Sn**	**21 29 56.4**	**0.0**
EOS4	**EOS4**	**0.52**	**170**	*e*P	**Pn**	**21 29 46.4**	**-0.1**
EOS4				S	**Sn**	**21 29 55.6**	**-0.3**
EAHA	**Aohua**	**0.53**	**235**	*e*P	**Pn**	**21 29 46.3**	**-0.6**
EAHA				*e*S	**Sn**	**21 29 57.1**	**+0.3**
SXI1	**Grass Mountain**	**0.55**	**326**	P	**Pn**	**21 29 47.7**	**+0.5**
SXI1				S	**Sn**	**21 29 58.0**	**+0.7**
FUSB	**Fushanzhiwuyua**	**0.58**	**282**	P	**Pn**	**21 29 47.9**	**+0.4**
FUSB				S	**Sn**	**21 29 57.6**	**-0.3**
NWF	**Wu-fen Shan**	**0.58**	**318**	P	**Pn**	**21 29 47.3**	**-0.2**
NWF				*e*S	**Sn**	**21 29 57.8**	**-0.1**
WFSB	**Wu-fen Shan**	**0.58**	**318**	*e*P	**Pn**	**21 29 47.3**	**-0.1**
ENTT	**Nioudou**	**0.59**	**270**	*i* P	**Pn**	**21 29 48.0**	**+0.5**
ENTT				*i* S	**Sn**	**21 29 57.9**	**0.0**
LATG	**Datong**	**0.64**	**261**	P	**Pn**	**21 29 48.4**	**+0.3**
LATG				*e*S	**Sn**	**21 29 59.2**	**+0.4**
TNOU	**National Taiwa**	**0.65**	**322**	*e*P	**Pn**	**21 29 48.3**	**+0.2**
TNOU				*e*S	**Sn**	**21 29 58.3**	**-0.6**
NWLT	**Wulai**	**0.66**	**282**	*e*P	**Pn**	**21 29 48.1**	**-0.2**
NWLT				*i* S	**Sn**	**21 29 59.1**	**-0.2**
TWA	**Mucha**	**0.67**	**301**	P	**Pn**	**21 29 48.1**	**-0.2**
TWA				S	**Sn**	**21 29 58.5**	**-0.8**
JYNG	**Yonagunijimaku**	**0.69**	**106**	P	**Pn**	**21 29 48.6**	**+0.1**
JYNG				*e*S	**Sn**	**21 29 59.1**	**-0.5**
NACB	**Ninganchiao**	**0.73**	**231**	*e*P	**Pn**	**21 29 48.4**	**-0.5**
NACB				*i* S	**Sn**	**21 29 59.7**	**-0.8**
YOJ	**Yonaguni jima**	**0.74**	**103**	*e*P	**Pn**	**21 29 49.4**	**+0.2**
YOJ				S	**Sn**	**21 30 00.9**	**+0.2**
YOJ	**Yonaguni jima**	**0.74**	**103**	*e*P	**Pn**	**21 29 49.1**	**0.0**
YHNB	**Yeheng**	**0.77**	**273**	*e*P	**Pn**	**21 29 49.7**	**+0.3**
YHNB				*e*S	**Sn**	**21 30 01.5**	**+0.2**
YM01	**YM01**	**0.78**	**311**	*e*P	**Pn**	**21 29 50.1**	**+0.6**
YM01				*i* S	**Sn**	**21 30 01.5**	**+0.1**
NSK	**Sanguang**	**0.78**	**273**	P	**Pn**	**21 29 50.1**	**+0.5**
NSK				S	**Sn**	**21 30 01.8**	**+0.2**
NNSB	**Datong**	**0.79**	**255**	P	**Pn**	**21 29 50.2**	**+0.5**
NNSB				S	**Sn**	**21 30 01.8**	**0.0**
NNS	**Nan Shan**	**0.79**	**256**	P	**Pn**	**21 29 50.5**	**+0.7**
NNS				*e*S	**Sn**	**21 30 01.9**	**0.0**
ETLH	**Xiulin Townshi**	**0.80**	**237**	*e*P	**Pn**	**21 29 49.6**	**-0.2**
ETLH				*e*S	**Sn**	**21 30 01.0**	**-0.9**
ZUZH	**Zhuzihu**	**0.80**	**311**	*e*P	**Pn**	**21 29 50.1**	**+0.3**
ZUZH				*i* S	**Sn**	**21 30 01.0**	**-0.9**
ANP	**Anpu**	**0.83**	**311**	*e*S	**Sn**	**21 30 02.8**	**+0.1**
ETM	**Tongmen**	**0.94**	**225**	*e*P	**Pn**	**21 29 51.1**	**-0.3**
ETM				*e*S	**Sn**	**21 30 04.3**	**-0.5**
TEYL	**Yanliau Villag**	**0.95**	**216**	*e*P	**Pn**	**21 29 51.8**	**+0.3**
TEYL				*e*S	**Sn**	**21 30 04.2**	**-0.8**
LXIB	**Xiulin Townshi**	**0.96**	**230**	*e*P	**Pn**	**21 29 51.4**	**-0.4**
LXIB				*i* S	**Sn**	**21 30 03.9**	**-1.5**
PCYT	**Pengchaiyu**	**1.00**	**352**	*e*S	**Sn**	**21 30 05.3**	**-0.7**
NFF	**Wufeng Townshi**	**1.00**	**270**	*e*P	**Pn**	**21 29 52.5**	**+0.3**
NFF				*i* S	**Sn**	**21 30 07.0**	**+0.9**
SHUL	**Shoufeng**	**1.04**	**215**	*e*P	**Pn**	**21 29 53.0**	**+0.4**
SHUL				S	**Sn**	**21 30 06.4**	**-0.4**
WUSB	**Renai**	**1.19**	**238**	*e*P	**Pn**	**21 29 55.6**	**+0.9**
WUSB				S	**Sn**	**21 30 10.3**	**-0.2**
IRIF	**Iriomote-Funau**	**1.41**	**102**	*e*P	**Pn**	**21 29 57.1**	**-0.2**
IRIF				*e*S	**Sn**	**21 30 14.7**	**-0.7**
WHYT	**Xinyi Township**	**1.56**	**233**	*e*P	**Pn**	**21 30 01.2**	**+1.8**
JKRS	**Kuro-shima**	**1.68**	**103**	*e*P	**Pn**	**21 30 01.6**	**+0.7**
JKRS				*e*S	**Sn**	**21 30 21.9**	**+0.1**
JIJ	**Ishigaki jima**	**1.78**	**98**	*e*P	**Pn**	**21 30 02.5**	**+0.3**
JIJ				*e*S	**Sn**	**21 30 23.6**	**-0.4**
VWUC	**VWUC**	**2.54**	**279**	*e*P	**Pn**	**21 30 12.5**	**+0.1**
VWUC				*i* S	**Sn**	**21 30 40.9**	**-1.4**

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*IDC **01** 21:29:46.4±1.0, 3°.38S×148°.93E, h0km, mb4.1/12, mbtmp4.1/14, ML2.3/2, MS3.8/27, Error ellipse: s-maj=33.4km s-min=16.0km az=103.0*
*NEIC **01** 21:29:48.5±1.6, 3°.36S±0°.06×148°.93E±0°.08, h10km±1km, mb4.4/15, Error ellipse: s-maj=13.3km s-min=9.8km az=86.0*
*GCMT **01** 21:29:52.5±0.3, 3°.42S±0°.02×148°.95E±0°.02, h21km±2km, MW5.0/78, Moment Tensor Solution. s8,c8; s78,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.38±.24; $M_{\theta\theta}$2.08±.17; $M_{\phi\phi}$-1.70±.16; $M_{r\theta}$-0.45±.28; $M_{\theta\phi}$2.77±.12; $M_{\phi r}$0.03±.28; Best double couple: $M_0$3.38200×10^{16} NP1:ϕ_s197.00000°,δ83.00000°,λ180.00000°. NP2: ϕ_s287.00000°,δ90.00000°,λ7.00000°. Principal axes: T 3.5810, Plg6.0000°, Azm152.0000°; N -0.3990, Plg83.0000°, Azm291.0000°; P -3.1840, Plg5.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 21:29:49.6±0.6**, 3°.35S**±0°.07×**148°.93E**±0°.09**, h19**km**, n59,**
σ0s.74/35**, mb4.2**/20**, MS3.9**/23**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.34**	**105**		**Pn**	**21 30 40.1**	**-0.8**
PMG	**Port Moresby**	**6.27**	**196**	Pn	**Pn**	**21 31 21.3**	**+0.1**
	1.9nm,0.3s,baz=21,slow=8.6,SNR=4.2						
PMG				Sn	**Sn**	**21 32 32.3**	**0.0**
	0.9nm,0.3s,baz=16,slow=18,SNR=3.1						
PMG				LR	LR	21 33 46.0	
	comp=Z,715nm,19.2s,baz=282,slow=38						
	5.0nm,0.5s						
JAY	**Jayapura**	**8.25**	**276**	Pn	**Pn**	**21 31 47.9**	**-0.5**
	0.2nm,0.3s,baz=98,slow=14,SNR=4.5						
JAY				LR	LR	21 34 40.2	
	comp=Z,693nm,20.6s,baz=67,slow=36						
	8.7nm,1.1s						
HNR	**Honiara**	**12.51**	**119**	LR	LR	21 37 41.6	
	comp=Z,412nm,18.0s,baz=293,slow=38						
GUMO	**Guam**	**17.30**	**347**	LR	LR	21 39 37.0	
	comp=Z,231nm,18.8s,baz=158,slow=34						
WRAB	**Tennant Creek**	**21.77**	**220**	P	**P**	**21 34 41.4**	**+0.9**
WRAB				IAmb	IAmb	21 34 50.5	
	comp=Z,17nm,0.9s						
WRA	**Warramunga Arr**	**21.78**	**220**	P	**P**	**21 34 39.4**	**-1.2**
WRA	**Warramunga Arr**	**21.78**	**220**	P	**P**	**21 34 39.4**	**-1.2**
	comp=Z,8.2nm,0.9s,baz=42,slow=11,SNR=23						
WRA				LR	LR	21 44 30.7	
	comp=Z,204nm,20.9s,baz=2.5,slow=41						
	comp=Z,8.2nm,0.9s						
EIDS	**Eidsvold**	**21.99**	**175**	P	**P**	**21 34 42.5**	**-0.2**
EIDS				IAmb	IAmb	21 34 54.6	
	comp=Z,11nm,0.9s						
KNRA	**Kununurra**	**23.32**	**237**	P	**P**	**21 34 55.6**	**-1.2**
KNRA				IAmb	IAmb	21 35 24.0	
	comp=Z,9.1nm,1.0s						
AS31	**Alice Springs**	**24.87**	**214**	P	**P**	**21 35 11.1**	**-0.3**
AS31				IAmb	IAmb	21 35 21.8	
	comp=Z,6.2nm,1.1s						
ASAR	**Alice Springs**	**24.88**	**214**	P	**P**	**21 35 10.1**	**-1.3**
ASAR	**Alice Springs**	**24.88**	**214**	P	**P**	**21 35 10.8**	**-0.6**
	comp=Z,6.6nm,0.9s,baz=40,slow=9.4,SNR=35						
	comp=Z,6.6nm,0.9s						
DZM	**Mont Dzumac**	**25.21**	**139**	P	**P**	**21 35 15.5**	**+1.0**
INKA	**Innaminka**	**25.48**	**197**	P	**P**	**21 35 16.0**	**-0.8**
INKA				IAmb	IAmb	21 35 33.0	
	comp=Z,9.6nm,1.1s						
DAV	**Davao City (W)**	**25.50**	**294**	LR	LR	21 44 07.6	
	comp=Z,104nm,20.9s,baz=98,slow=34						
BATI	**Baumata**	**25.98**	**254**	LR	LR	21 46 39.4	
	comp=Z,674nm,21.4s,baz=85,slow=39						
ARMA	**Armidale**	**27.04**	**175**	P	**P**	**21 35 31.9**	**+0.9**
ARMA				IAmb	IAmb	21 35 57.3	
	comp=Z,13nm,1.2s						
FITZ	**Fitzroy Crossi**	**27.11**	**236**	P	**P**	**21 35 31.6**	**0.0**
FITZ				IAmb	IAmb	21 35 45.5	
	comp=Z,5.2nm,1.1s						
FITZ	**Fitzroy Crossi**	**27.11**	**236**	P	**P**	**21 35 31.3**	**-0.3**
	comp=Z,15nm,0.8s,baz=57,slow=11,SNR=26						
FITZ				LR	LR	21 47 00.7	
	comp=Z,461nm,18.9s,baz=59,slow=38						
	comp=Z,15nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**27.88**	**38**	T	T	22 04 47.6	
	baz=220,slow=76,SNR=1615						
H11S2	**WAKE ISLAND Hy**	**27.89**	**38**	T	T	22 04 48.2	
	baz=220,slow=76,SNR=1381						
H11S1	**WAKE ISLAND Hy**	**27.90**	**38**	T	T	22 04 49.0	
	baz=220,slow=76,SNR=1322						
H11N1	**WAKE ISLAND Hy**	**28.93**	**37**	T	T	22 06 06.7	
	baz=219,slow=76,SNR=277						
H11N3	**WAKE ISLAND Hy**	**28.95**	**37**	T	T	22 06 07.6	
	baz=219,slow=76,SNR=361						
H11N2	**WAKE ISLAND Hy**	**28.95**	**37**	T	T	22 06 06.8	
	baz=219,slow=76,SNR=451						
KAPI	**Kappang**	**29.14**	**266**	LR	LR	21 47 50.6	
	comp=Z,136nm,20.6s,baz=78,slow=37						
STKA	**Stephens Creek**	**29.20**	**193**	LR	LR	21 48 13.6	
	comp=Z,334nm,20.2s,baz=14,slow=38						
TGY	**Tagaytay City**	**32.73**	**303**	LR	LR	21 47 25.4	
	comp=Z,77nm,19.6s,baz=263,slow=32						
JOW	**Kunigami**	**36.03**	**328**	LR	LR	21 48 17.6	
	comp=Z,219nm,21.7s,baz=130,slow=31						
JNU	**Nakatsue**	**40.09**	**336**	LR	LR	21 54 09.1	
	comp=Z,39nm,18.2s,baz=146,slow=36						
LEM	**Lembang**	**41.28**	**264**	LR	LR	21 57 20.5	
	comp=Z,63nm,18.5s,baz=9.0,slow=40						
URZ	**Urewera**	**43.24**	**147**	LR	LR	21 53 00.8	
	comp=Z,363nm,20.7s,baz=316,slow=32						
CMAR	**Chiang Mai Arr**	**53.77**	**296**	P	**P**	**21 39 12.2**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=112,slow=7.6,SNR=5.3						
	comp=Z,0.7nm,0.4s						
PETK	**Petropavlovsk-**	**56.73**	**6**	LR	LR	22 00 11.3	
	comp=Z,89nm,21.9s,baz=188,slow=32						
LZDM	**Lanzhou Array**	**57.55**	**317**	LR	LR	22 01 33.1	
	comp=Z,55nm,20.9s,baz=40,slow=33						
BRDH	**Bariadhala**	**61.57**	**298**	LR	LR	22 06 36.4	
	comp=Z,70nm,19.4s,baz=130,slow=36						
SONM	**Songino Array**	**63.08**	**329**	P	**P**	**21 40 16.3**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=145,slow=5.2,SNR=5.7						
SONM				LR	LR	22 06 51.9	
	comp=Z,90nm,21.9s,baz=178,slow=35						
	comp=Z,0.8nm,0.9s						
SEY	**Seymchan**	**66.16**	**2**	P	**P**	**21 40 35.9**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=170,slow=15,SNR=2.2						
SEY				LR	LR	22 10 53.6	
	comp=Z,54nm,18.5s,baz=164,slow=37						
	comp=Z,0.6nm,0.3s						
VNDA	**Vanda**	**74.44**	**177**	P	**P**	**21 41 26.3**	**+0.2**
VNDA	**Vanda**	**74.44**	**177**	P	**P**	**21 41 25.7**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=345,slow=7.2,SNR=4.4						
VNDA				LR	LR	22 11 13.5	
	comp=Z,82nm,21.1s,baz=109,slow=33						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**76.71**	**320**	P	**P**	**21 41 39.3**	**-0.4**
MKAR	**Makanchi Array**	**76.71**	**320**	P	**P**	**21 41 39.5**	**-0.2**
	comp=Z,2.2nm,1.0s,baz=103,slow=6.5,SNR=9.3						
MKAR				LR	LR	22 15 34.0	
	comp=Z,80nm,18.9s,baz=96,slow=36						
	comp=Z,2.2nm,1.0s						
ZALV	**Zalesovo Beam**	**77.83**	**327**	P	**P**	**21 41 44.7**	**-1.0**
ZALV	**Zalesovo Beam**	**77.83**	**327**	P	**P**	**21 41 45.1**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=108,slow=4.7,SNR=7.8						
ZALV				LR	LR	22 16 22.5	
	comp=Z,59nm,20.0s,baz=123,slow=36						
	comp=Z,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**80.29**	**322**	P	**P**	**21 41 58.5**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=106,slow=4.9,SNR=10						
KURBB				LR	LR	22 18 28.4	
	comp=Z,67nm,19.1s,baz=176,slow=36						
	comp=Z,1.9nm,0.8s						
AAK	**Ala-Archa**	**80.88**	**314**	LR	LR	22 17 49.3	
	comp=Z,72nm,20.2s,baz=114,slow=36						
ILAR	**Eielson Array**	**82.31**	**23**	P	**P**	**21 42 10.3**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=258,slow=5.9,SNR=5.1						
	comp=Z,0.7nm,0.9s						
K24K	**Donnelly Dome**	**82.35**	**24**	P	P	21 42 15.6	+5.5
H24K	**Noodor Dome**	**82.39**	**22**	P	**P**	**21 42 10.4**	**+0.1**
H24K				IAmb	IAmb	21 42 52.9	
	comp=Z,10nm,1.4s						
J25K	**Salcha River,**	**82.84**	**23**	P	**P**	**21 42 12.8**	**+0.2**
J25K				IAmb	IAmb	21 42 40.5	
	comp=Z,3.8nm,1.1s						
FYU	**Fort Yukon**	**83.67**	**22**	P	**P**	**21 42 15.9**	**-0.8**
KKAR	**Karatay Array**	**83.84**	**314**	P	**P**	**21 42 18.7**	**+0.5**
BVAR	**Borovoye Array**	**85.78**	**324**	P	**P**	**21 42 28.6**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=99,slow=8.9,SNR=6.1						
	comp=Z,1.2nm,0.8s						
H02S2	**DAWSON INLET T**	**85.85**	**36**	T	T	23 17 22.1	
	SNR=6.4						
QSPA	**South Pole Qui**	**86.60**	**180**	P	**P**	**21 42 32.4**	**+0.7**
QSPA	**South Pole Qui**	**86.60**	**180**	LR	LR	22 21 47.4	
	comp=Z,70nm,18.2s,baz=171,slow=36						
ARTI	**Arti**	**93.06**	**326**	LR	LR	22 24 26.4	
	comp=Z,143nm,21.8s,baz=86,slow=35						
TORD	**Torodi Ar. Bea**	**146.18**	**289**	PKPbc	**PKPbc**	**21 49 29.3**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=95,slow=2.0,SNR=4.8						

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*SJA **01** 21:31:57.3±0.3, 18°.51S×71°.02W, h20km±999km, MW5.0(GFZ)*
*IDC **01** 21:32:11.7±0.4, 18°.48S×70°.94W, h0km, mb4.5/16, mbtmp4.4/20, ML3.8/4, MS4.4/38, Error ellipse: s-maj=20.3km s-min=13.0km az=69.0*
*VAO **01** 21:32:12.6±0.3, 18°.48S×71°.13W, h10km, mb4.7*
*GUC **01** 21:32:15.5±0.8, 18°.60S×71°.03W, h31km±4km, ML4.9*
*NEIC **01** 21:32:16.4, 18°.58S×71°.03W, h30km*
*NEIC **01** 21:32:16.4, 18°.57S×71°.04W, h35km*
*NEIC **01** 21:32:16.4, 18°.58S×70°.82W, h30km, Moment Tensor Solution. Duration: 1s.0 Moment tensor: Scale 10^{16} Nm; M_{rr}3.92; $M_{\theta\theta}$0.67; $M_{\phi\phi}$-4.58; $M_{r\theta}$0.67; $M_{\theta\phi}$2.11; $M_{\phi r}$-3.02; Fault plane solution: $M_0$5.69000×10^{16} NP1: ϕ_s333.15000°,δ28.58000°,λ78.74000°. NP2: ϕ_s165.92000°,δ62.02000°,λ96.07000°. Principal axes: T 4.8774, Plg72.0000°, Azm90.0000°; N 1.3739, Plg5.0000°, Azm343.0000°; P -6.2512, Plg17.0000°, Azm251.0000°;*
*NEIC **01** 21:32:16.4±1.8, 18°.58S±0°.05×71°.03W±0°.05, h35km±1km, mb5.0/156, Mwr5.0/42, Mww5.1/16, Mwr4.9(GUC) Error ellipse: s-maj=9.1km s-min=7.7km az=125.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.24; $M_{\theta\theta}$0.76; $M_{\phi\phi}$-0.99; $M_{r\theta}$-0.77; $M_{\theta\phi}$1.13; $M_{\phi r}$-4.36; Fault plane solution: $M_0$4.65000×10^{16} NP1: ϕ_s190.99000°,δ87.73000°,λ107.20000°. NP2: ϕ_s288.29000°,δ17.34000°,λ7.65000°. Principal axes: T 4.4901, Plg45.0000°, Azm118.0000°; N 0.3114, Plg17.0000°, Azm10.0000°; P -4.8015, Plg40.0000°, Azm265.0000°;*
*GCMT **01** 21:32:20.4±0.3, 18°.69S±0°.02×71°.38W±0°.02, h40km±1km, MW5.2/88, Moment Tensor Solution. s54,c63; s88,c119; Duration: 1s.0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.72±.04; $M_{\theta\theta}$0.08±.03; $M_{\phi\phi}$-0.80±.03; $M_{r\theta}$0.04±.03; $M_{\theta\phi}$0.31±.02; $M_{\phi r}$-0.45±.03; Best double couple: $M_0$0.93100×10^{17} NP1:ϕ_s332.00000°,δ31.00000°, λ75.00000°. NP2:ϕ_s170.00000°,δ60.00000°,λ99.00000°. Principal axes: T 0.8490, Plg74.0000°, Azm104.0000°; N 0.1630, Plg8.0000°, Azm346.0000°; P -1.0130, Plg14.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 21:32:12.2±0.8**, 18°.62S**±0°.03×**71°.13W**±0°.04**, h10**km±4km**,**
n312, σ1s.43/245**, mb5.0**/88**, MS4.4**/35**, 7C-4D, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.76**	**90**		**Pb**	**21 32 28.5**	**+0.8**
PB12	**IPOC Station P**	**0.76**	**90**	⇓*i*P	**Pb**	**21 32 27.7**	**0.0**
PB12				*e*S	**Sg**	**21 32 36.9**	**0.0**
AP01	**Chacalluta**	**0.79**	**72**		**Pb**	**21 32 29.0**	**+0.9**
AP01				Sn	**Sb**	**21 32 38.9**	**+0.1**
AP01	**Chacalluta**	**0.79**	**72**	⇓*i*P	**Pb**	**21 32 28.1**	**0.0**
AP01				*e*S	**Sg**	**21 32 37.6**	**-0.1**
PX02	**IPOC Station P**	**0.95**	**111**	*e*P	**Pg**	**21 32 30.6**	**+0.1**
PX02				*e*S	**Sg**	**21 32 42.1**	**-0.7**
PB16	**IPOC Station P**	**1.57**	**80**		**Pn**	**21 32 40.8**	**+0.1**
PB16				Sn	**Sn**	**21 32 58.9**	**-2.5**
PB16	**IPOC Station P**	**1.57**	**80**	*e*P	**Pn**	**21 32 40.6**	**-0.1**
PB16				*e*S	**Sn**	**21 33 00.5**	**-0.9**
PB11	**IPOC Station P**	**1.80**	**129**		**Pn**	**21 32 44.6**	**+1.1**
PB11	**IPOC Station P**	**1.80**	**129**	⇑*i*P	**Pb**	**21 32 44.9**	**-0.5**
PB11				IAML		21 33 14.9	
	comp=E,13μm,0.3s						
PB18	**Visviri**	**1.88**	**57**		**Pn**	**21 32 44.5**	**-0.4**
PB18	**Visviri**	**1.88**	**57**	*e*P	**Pb**	**21 32 47.2**	**+0.2**
PB18				IAML		21 33 20.8	
	comp=E,14μm,0.4s						
TA02	**Huaiquique**	**1.89**	**150**	*e*P	**Pb**	**21 32 46.4**	**-0.6**
HMBC	**Humberstone**	**2.02**	**145**		**Pn**	**21 32 48.0**	**+1.4**
HMBC	**Humberstone**	**2.02**	**145**	*e*P	**Pn**	**21 32 47.9**	**+1.2**
HMBC				*e*S	**Sn**	**21 33 11.7**	**-0.4**
HMBC				IAML		21 33 31.1	
	comp=N,6μm,0.4s						
GO01	**Chusmiza**	**2.11**	**120**		**Pn**	**21 32 49.5**	**+1.5**
TA01	**Diego Aracena**	**2.13**	**155**		**Pn**	**21 32 48.9**	**+0.8**
TA01	**Diego Aracena**	**2.13**	**155**	*e*P	**Pn**	**21 32 48.8**	**+0.8**
TA01				*e*S	**Sn**	**21 33 14.3**	**-0.3**
PATCX	**Punta Patache**	**2.38**	**157**		**Pn**	**21 32 52.5**	**+1.0**
PB08	**IPOC Station P**	**2.40**	**129**		**Pn**	**21 32 53.2**	**+1.1**
PB01	**IPOC Station P**	**2.87**	**148**		**Pn**	**21 32 59.0**	**+0.9**
PB02	**IPOC Station P**	**2.93**	**157**	Pn	**Pn**	**21 33 01.1**	**+2.0**
PB09	**IPOC Station P**	**3.62**	**151**		**Pn**	**21 33 10.7**	**+2.0**
PB03	**IPOC Station P**	**3.65**	**159**		**Pn**	**21 33 10.3**	**+1.3**
LPAZ	**La Paz**	**3.68**	**51**	Pn	**Pb**	**21 33 15.3**	**-2.6**
	comp=N,8.5nm,0.3s,baz=229,slow=13,SNR=129						
LPAZ				Lg	Lg	21 34 05.3	
	comp=N,18nm,0.3s,baz=234,slow=13,SNR=1.3						
LPAZ				LR	LR	21 34 50.1	
	comp=N,8μm,18.3s,baz=236,slow=46						
PB05	**IPOC Station P**	**4.30**	**169**		**Pn**	**21 33 18.6**	**+0.7**
PB06	**IPOC Station P**	**4.32**	**161**	Pn	**Pn**	**21 33 19.0**	**+0.8**
PB10	**IPOC Station P**	**4.90**	**174**	Pn	**Pn**	**21 33 27.4**	**+1.4**
AF01	**San Pedro de A**	**5.12**	**148**	Pn	**Pn**	**21 33 30.6**	**+1.2**
PB14	**IPOC Station P**	**6.02**	**174**	Pn	**Pn**	**21 33 42.0**	**+0.3**
GO02	**Mina Guanaco**	**6.67**	**168**		**Pn**	**21 33 51.5**	**+0.9**
AC01	**Pan de Azucar**	**7.51**	**176**	Pn	**Pn**	**21 34 01.3**	**-0.6**
AC02	**Maricunga**	**8.38**	**168**	Pn	**Pn**	**21 34 15.3**	**+1.0**
NNA	**Nana**	**8.59**	**319**	Pn	**Pn**	**21 34 19.4**	**+2.6**
NNA	**Nana**	**8.59**	**319**	Pn	**Pn**	**21 34 18.7**	**+1.9**
	comp=N,3.3nm,0.3s,baz=148,slow=13,SNR=6.3						
NNA				Sn	**Sn**	**21 35 51.2**	**-2.7**
	comp=N,1.3nm,0.3s,baz=162,slow=9.6,SNR=1.6						
	comp=N,9.7nm,0.4s						
AC06	**Mina Casimiro**	**8.73**	**175**		**Pn**	**21 34 18.2**	**-0.5**
SIV	**San Ignacio**	**9.96**	**76**	Pn	**Pn**	**21 34 36.6**	**+1.0**
	comp=N,0.5nm,0.3s,baz=256,slow=16,SNR=64						
SIV				Sn	**Sn**	**21 36 29.9**	**+2.4**
	baz=205,slow=17						
SIV				Lg	Lg	21 37 24.6	
	baz=210,slow=20						
SIV				LR	LR	21 38 50.4	
	comp=N,5μm,18.2s,baz=274,slow=41						
VCA	**Vinchina**	**10.42**	**166**	*e*P	**Pn**	**21 34 43.2**	**+1.2**
CZSB	**Cruzeiro do Su**	**10.93**	**352**		**Pn**	**21 34 49.2**	**+0.3**
CZSB	**Cruzeiro do Su**	**10.93**	**352**	*e*P	**Pn**	**21 34 47.8**	**-1.1**
AGUA	**GUANDACOL**	**11.08**	**168**	*e*P	**Pn**	**21 34 52.8**	**+1.8**
ACLC	**CERRO LA CRUZ**	**11.41**	**161**	*e*P	**Pn**	**21 34 56.0**	**+0.4**
ACDV	**Cuesta del Vie**	**11.64**	**171**	*e*P	**Pn**	**21 35 00.9**	**+2.1**
PTLB	**Pontes e Lacer**	**11.90**	**76**		**Pn**	**21 35 01.9**	**-0.2**
PTLB	**Pontes e Lacer**	**11.90**	**76**	*e*P	**Pn**	**21 35 01.5**	**-0.6**
VILB	**Vilhena**	**11.93**	**63**		**Pn**	**21 35 02.4**	**-0.2**
VILB	**Vilhena**	**11.93**	**63**	*e*P	**Pn**	**21 35 02.3**	**-0.3**
VILB				*e*S	**Sn**	**21 37 16.4**	**+0.5**
AVFE	**Valle Fertil**	**12.44**	**165**	*e*P	**Pn**	**21 35 09.6**	**0.0**
APLL	**PUNTA DE LOS L**	**12.45**	**161**	*e*P	**Pn**	**21 35 08.8**	**-0.9**
MURT	**Porto Murtinho**	**13.05**	**106**	*e*P	**Pn**	**21 35 15.5**	**-2.4**
MURT				*e*S	**Sn**	**21 37 46.4**	**+3.1**
CFA	**Coronel Fontan**	**13.19**	**169**	Pn	**Pn**	**21 35 19.8**	**-0.1**
	comp=N,0.5nm,0.3s,baz=349,slow=16,SNR=6.9						
CFA				Sn	Sn	21 37 33.8	-13
	comp=N,0.2nm,0.3s,baz=226,slow=8.1,SNR=1.1						
	comp=N,1.1nm,0.3s						
RTLS	**Leoncito**	**13.23**	**173**	*e*P	**Pn**	**21 35 20.0**	**-0.5**
ATAH	**Atahualpa**	**13.43**	**327**	Pn	**Pn**	**21 35 24.4**	**+0.9**
	comp=N,0.4nm,0.3s,baz=84,slow=12,SNR=2.4						
ATAH				Sn	**Sn**	**21 37 58.4**	**+5.3**
	comp=N,0.1nm,0.3s,baz=109,slow=18,SNR=1.8						
ATAH				LR	LR	21 41 24.4	
	comp=N,1μm,18.5s,baz=155,slow=41						
	comp=N,2.5nm,0.5s						
AUSP	**Uspallata**	**13.64**	**174**	⇓*e*P	Pn	21 35 00.9	-25
BDQN	**Bodoquena, MS**	**13.68**	**100**	*e*P	**Pn**	**21 35 26.2**	**-0.2**
BDQN				*e*S	**Sn**	**21 38 00.8**	**+2.2**
ACAN	**Cantantal**	**14.05**	**166**	*e*P	**Pn**	**21 35 29.4**	**-2.2**
AQDB	**Aquidauana**	**14.66**	**100**	Pn	**Pn**	**21 35 38.4**	**-1.6**
AQDB	**Aquidauana**	**14.66**	**100**	*e*P	**Pn**	**21 35 41.1**	**+1.2**
AQDB				*e*S	**Sn**	**21 38 25.3**	**+2.7**
MT08	**Bocatoma Ro**	**14.80**	**176**	Pn	**Pn**	**21 35 40.9**	**-1.0**
CPUP	**Villa Florida**	**14.88**	**124**	Pn	**Pn**	**21 35 41.6**	**-1.2**
	comp=N,0.1nm,0.3s,baz=244,slow=0.7,SNR=4.7						
CPUP				LR	LR	21 42 03.4	
	comp=N,265nm,21.6s,baz=164,slow=40						
	comp=N,0.5nm,0.6s						
SALV	**Santo Antonio**	**14.99**	**82**	*e*P	**Pn**	**21 35 44.4**	**0.0**
MT13	**San Alfonso**	**15.08**	**177**	Pn	**Pn**	**21 35 46.3**	**+0.7**
LMEL	**Las Melosas**	**15.19**	**177**	Pn	**Pn**	**21 35 48.6**	**+1.5**
SJPY	**San Joaquin**	**15.32**	**117**	*e*P	**Pn**	**21 35 49.7**	**+0.9**
PDRB	**Porto dos Gac**	**15.54**	**65**	*e*P	**Pn**	**21 35 50.6**	**-1.2**
AMBA	**Amambai (Brazi**	**15.69**	**109**	*e*P	**Pn**	**21 35 54.7**	**+1.1**
BO02	**Sierra Bellavi**	**16.11**	**179**	Pn	**Pn**	**21 36 00.1**	**+1.1**
TEFE	**Tefe**	**16.31**	**24**	*e*P	**Pn**	**21 36 01.6**	**+0.1**
H03N1	**Juan Fernandez**	**16.32**	**204**	Pn	**Pn**	**21 36 02.7**	**+1.3**
	baz=110,slow=14						
H03N1				T	T	21 53 49.0	
	baz=27,slow=73,SNR=1181						
H03N2	**Juan Fernandez**	**16.33**	**204**	Pn	**Pn**	**21 36 02.6**	**+1.1**
	baz=110,slow=14						
H03N2				T	T	21 53 44.2	
	baz=27,slow=73,SNR=793						
H03N3	**Juan Fernandez**	**16.34**	**204**	Pn	**Pn**	**21 36 02.4**	**+0.8**
	baz=110,slow=14						
H03N3				T	T	21 53 54.2	
	baz=27,slow=73,SNR=1296						
RPRD	**Ribas do Rio P**	**16.53**	**99**	*e*P	**Pn**	**21 36 06.2**	**+1.8**
CLDB	**Colider**	**16.70**	**65**	*e*P	**Pn**	**21 36 05.8**	**-0.8**
C2SB	**Chapadao do Su**	**17.33**	**93**	*e*P	**P**	**21 36 16.2**	**+0.3**
PSAL	**Palomas, Salto**	**17.43**	**138**	*e*P	**P**	**21 36 18.6**	**+1.7**
TRCB	**Terra Rica**	**17.79**	**107**		**Pn**	**21 36 19.1**	**-1.2**
TRCB	**Terra Rica**	**17.79**	**107**	*e*P	**P**	**21 36 21.2**	**+0.2**
COHC	**Cochancay**	**17.92**	**333**		**P**	**21 36 23.7**	**+1.3**
BI02	**San Fabin de**	**17.98**	**180**		**P**	**21 36 23.2**	**+0.2**
ARAG	**Araguaiana, MT**	**18.68**	**84**	*e*P	**Pn**	**21 36 31.6**	**+0.4**
PTGB	**Pitanga**	**18.72**	**112**	*e*P	**Pn**	**21 36 32.5**	**+0.8**
NPGB	**Novo Progresso**	**19.18**	**55**	*e*P	**P**	**21 36 35.4**	**-1.0**
ITAB	**Concordia**	**19.47**	**120**	P	**P**	**21 36 38.5**	**-0.9**
ITAB	**Concordia**	**19.47**	**120**	*e*P	**P**	**21 36 40.1**	**+0.8**
ITRB	**Iturama**	**19.65**	**97**	*e*P	**Pn**	**21 36 43.2**	**+0.3**

CPSB Cacapava Do Su 19.89 129 *eP* **Pn 21 36 45.6 +0.1**
OTAV Otavalo 20.07 338 P **P 21 36 45.3 -1.2**
SNDB Serra Nova Dou 20.23 74 *eP* **P 21 36 46.9 -0.9**
PLTB Pedras Altas 20.52 133 P **P 21 36 51.2 +0.4**
PLTB IAmb IAmb 21 36 53.5
comp=Z,50nm,1.1s
PLTB Pedras Altas 20.52 133 *eP* **P 21 36 52.0 +1.1**
FLOC Florencia 20.56 347 **P 21 36 51.4 +0.1**
ITTB Itaituba 20.66 49 *eP* **P 21 36 51.2 -1.3**
FRTB Fartura 20.67 107 *eP* **P 21 36 53.0 +0.4**
TRQA Tornquist 20.95 159 **P 21 36 53.8 -1.6**
TRQA IAmb IAmb 21 37 13.8
comp=Z,164nm,1.8s
BB19B Bebedouro 21.40 100 *eP* **P 21 37 01.0 +0.6**
IPMB Ipameri, GO 21.77 92 *eP* **P 21 37 04.2 -0.3**
PLCA Paso Flores 22.05 179 P **P 21 37 08.9 +1.7**
comp=Z,25nm,1.0s,baz=359,slow=13,SNR=21
comp=Z,25nm,1.0s
BDFB Brasilia 22.29 86 P **P 21 37 10.3 +0.3**
comp=Z,14nm,0.8s,baz=255,slow=9.3,SNR=18
BDFB LR LR 21 46 37.3
comp=Z,898nm,18.0s,baz=284,slow=39
comp=Z,14nm,0.8s
RCLB Rio Claro- Sao 22.42 104 *eP* **P 21 37 12.0 +0.6**
BOAV Boa Vista 23.35 28 **P 21 37 20.0 -1.0**
BOAV IAmb IAmb 21 37 22.0
comp=Z,33nm,1.1s
BOAV Boa Vista 23.35 28 *eP* **P 21 37 20.0 -1.0**
PMNB Patos De Minas 23.40 94 *eP* **P 21 37 22.4 +0.7**
ROSC El Rosal 23.52 352 P **P 21 37 23.4 +0.2**
ROSC El Rosal 23.52 352 P **P 21 37 24.3 +1.1**
comp=Z,8.4nm,0.5s,baz=226,slow=11,SNR=5.0
comp=Z,8.4nm,0.5s
PRPB Parauapebas 24.18 62 *eP* **P 21 37 28.4 -0.7**
RUSC La Rusia 24.43 355 P **P 21 37 29.9 -2.0**
RUSC IAmb IAmb 21 37 35.0
comp=Z,78nm,1.2s
SMTB Santa Maria do 24.81 70 *eP* **P 21 37 35.0 +0.1**
BSCB Bom Sucesso 24.90 100 *eP* **P 21 37 36.4 +0.7**
JANB Januaria 25.90 86 *eP* **P 21 37 43.5 -1.4**
SDV Santo Domingo 27.34 1 *eP* **P 21 37 56.9 -0.9**
BAUV El Baul 27.56 7 **P 21 37 58.5 -1.0**
MDP Montagnes des 29.80 39 LR LR 21 50 50.4
comp=Z,2µm,18.4s,baz=216,slow=38
JTS Las Juntas de 31.80 334 LR LR 21 51 46.3
comp=Z,792nm,19.5s,baz=154,slow=37
MPOM Morne Pois Mar 34.38 18 **P 21 38 58.1 -1.6**
FDF Fort de France 34.57 17 P **P 21 39 00.2 -1.3**
NBAN Anadia - AL 34.89 80 *eP* **P 21 39 02.0 -2.4**
RPN Rapa Nui 36.09 249 LR LR 21 50 11.0
comp=Z,1µm,20.8s,baz=82,slow=30
CRPR Cabo Rojo, PR 36.61 6 P **P 21 39 17.8 -1.1**
RCBR Riachuelo 36.61 74 LR LR 21 55 09.9
comp=Z,592nm,18.5s,baz=246,slow=38
OBIP Obispado Ponce 36.70 7 P **P 21 39 18.3 -1.4**
OBIP IAmb IAmb 21 39 36.0
comp=Z,24nm,0.9s
CELP Cerrillos 36.74 7 P **P 21 39 18.7 -1.3**
CELP IAmb IAmb 21 39 45.9
comp=Z,35nm,1.1s
PDPR Patillas Dam, 36.75 8 P **P 21 39 17.9 -2.2**
SABA Saba 36.84 13 P **P 21 39 18.5 -2.3**
SMRT St. Maarten 37.29 13 P **P 21 39 21.4 -3.3**
CMIG Matias Romero 42.49 325 LR LR 21 56 50.8
comp=Z,341nm,20.2s,baz=165,slow=35
PMSA Palmer Station 46.37 176 *eS* **S 21 47 23.4 -2.2**
comp=Z,115nm,32.0s
PMSA *eSS* **SS 21 50 48.5 -2.7**
comp=Z,58nm,25.0s
PMSA *eLR* LR 21 53 40.3
comp=Z,333nm,28.0s
PMSA Palmer Station 46.37 176 LR LR 21 57 39.2
comp=Z,85nm,20.5s,baz=348,slow=33
HNDO Hondo 55.03 330 P **P 21 41 45.6 +1.3**
HNDO IAmb IAmb 21 42 09.3
comp=Z,10.0nm,0.9s
TKL Tuckaleechee C 55.29 347 LR LR 22 07 40.3
comp=Z,367nm,19.8s,baz=170,slow=39
T59A Double "B" Far 55.62 354 **P 21 41 48.0 -0.3**
T59A IAmb IAmb 21 41 49.7
comp=Z,22nm,1.0s
WLAR White Oak Lake 56.08 338 **P 21 41 52.4 +0.7**
MIAR Mount Ida 57.02 338 **P 21 41 59.4 +1.0**
MIAR IAmb IAmb 21 42 26.7
comp=Z,21nm,1.3s
TXAR Lajitas Array 57.08 326 P **P 21 41 59.3 +0.2**
comp=Z,0.6nm,0.7s,baz=143,slow=6.9,SNR=7.4
comp=Z,0.6nm,0.7s
T47A Sharon Grove 57.33 345 P **P 21 42 00.1 -0.4**
T47A IAmb IAmb 21 42 00.9
comp=Z,16nm,1.2s
ABTX Abilene, Hawle 57.80 332 IAmb IAmb 21 42 30.9
comp=Z,15nm,1.0s
CGM3 Cape Girardeau 58.30 343 P **P 21 42 07.9 +0.6**
S44A Carbondale 58.55 343 P **P 21 42 08.7 -0.4**
SIUC Southern Illin 58.56 343 P **P 21 42 08.9 -0.2**
APMT Aspermont 58.60 332 **P 21 42 10.2 +0.6**
APMT IAmb IAmb 21 42 36.7
comp=Z,11nm,0.9s
SN07 Snyder 07 58.76 331 IAmb IAmb 21 42 12.0
comp=Z,8.6nm,0.9s
VHRN Van Horn 58.93 326 **P 21 42 11.9 -0.2**
VHRN IAmb IAmb 21 42 24.0
comp=Z,24nm,1.7s
RLO Rose Lookout 58.99 338 P **P 21 42 11.4 -0.8**
RLO IAmb IAmb 21 42 13.7
comp=Z,14nm,1.0s
TUL3 Leonard 59.05 337 **P 21 42 12.4 -0.2**
TUL3 IAmb IAmb 21 42 13.9
comp=Z,17nm,1.0s
OK052 Battle Ridge R 59.51 336 IAmb IAmb 21 42 17.4
comp=Z,16nm,1.0s
QUOK Quay 59.63 336 IAmb IAmb 21 42 17.8
comp=Z,15nm,0.9s
SMWD Samnorwood 60.16 333 IAmb IAmb 21 42 22.1
comp=Z,16nm,0.9s
T35A Sooner Cattle 60.21 337 IAmb IAmb 21 42 22.7
comp=Z,17nm,1.2s
MSTX Muleshoe 60.37 330 IAmb IAmb 21 42 23.7
comp=Z,14nm,1.0s
BINY Binghamton 60.68 356 P **P 21 42 24.2 +0.5**
TRY Troy 61.09 358 P **P 21 42 27.5 +1.1**
J59A Piesco 61.85 357 P **P 21 42 32.5 +0.9**
BNM Barren Site 62.42 327 P **P 21 42 36.2 +0.2**
ANMO Albuquerque 62.96 328 P **P 21 42 39.5 0.0**
ANMO IAmb IAmb 21 42 59.8
comp=Z,10nm,1.5s
ANMO Albuquerque 62.96 328 LR LR 22 10 26.8
comp=Z,100nm,20.5s,baz=236,slow=36
FRNY Flat Rock 63.19 358 P **P 21 42 40.7 +0.3**
FRNY IAmb IAmb 21 42 54.6
comp=Z,26nm,1.4s
VNA3 Neumayer Olymp 63.46 161 ⇑P **P 21 42 43.3 +1.2**
comp=Z,7.5nm,0.9s
SADO Sadowa 63.50 354 LR LR 22 14 23.0
comp=Z,1µm,18.3s,baz=177,slow=40
G62A West of Eustis 63.53 0 **P 21 42 43.8 +1.0**
GGN Saint George 63.55 3 P **P 21 42 42.8 0.0**
GGN IAmb IAmb 21 42 43.9
comp=Z,28nm,1.5s
VNA1 Neumayer--Stat 63.68 161 ⇑P **P 21 42 45.6 +2.1**
comp=Z,13nm,1.0s
T25A Trinidad 63.72 331 IAmb IAmb 21 43 14.6
comp=Z,7.5nm,1.1s
BUKO Buck Lake 64.19 354 P **P 21 42 47.9 +0.7**
BUKO IAmb IAmb 21 42 48.2
comp=Z,17nm,1.0s
F64A Sherman 64.22 2 **P 21 42 47.4 +0.1**
F64A IAmb IAmb 21 42 49.0
comp=Z,16nm,1.1s
TRQ Mont Tremblant 64.61 357 **P 21 42 50.3 +0.4**
SDCO Great Sand Dun 64.72 330 IAmb IAmb 21 42 53.9
comp=Z,9.7nm,0.9s
X16A Lo Mia Camp, P 65.21 324 IAmb IAmb 21 43 14.4
comp=Z,12nm,1.2s
S22A 4UR Ranch, Cre 65.35 329 IAmb IAmb 21 43 16.4
comp=Z,17nm,1.8s
SNAA Sanae 65.67 161 ⇑P **P 21 42 57.6 +1.0**
comp=Z,167nm,0.7s
SNAA Sanae 65.67 161 **P 21 42 57.0 +0.4**
SNAA IAmb IAmb 21 42 59.6
comp=Z,15nm,1.0s
SNAA Sanae 65.67 161 P **P 21 42 57.8 +1.2**
comp=Z,8.6nm,0.8s,baz=284,slow=7.3,SNR=54
comp=Z,8.6nm,0.8s

WUAZ Wupatki 65.99 325 P **P 21 42 58.4 -0.9**
WUAZ IAmb IAmb 21 43 21.7
comp=Z,17nm,1.4s
LDAQ Lac Daran 66.28 360 **P 21 43 01.4 +0.7**
ECSD EROS Data Cent 66.30 340 **P 21 43 00.4 -0.5**
ECSD IAmb IAmb 21 43 02.2
comp=Z,15nm,1.1s
PV01 Paradox Valley 66.51 328 IAmb IAmb 21 43 05.3
comp=Z,6.9nm,0.9s
SPMN Marine on St. 66.53 343 P **P 21 43 01.8 -0.5**
SPMN IAmb IAmb 21 43 03.6
comp=Z,17nm,1.0s
PV15 Paradox Valley 66.63 329 IAmb IAmb 21 43 34.6
comp=Z,19nm,1.1s
PV02 Paradox Valley 66.65 328 IAmb IAmb 21 43 34.7
comp=Z,30nm,1.6s
PV13 Radium Mtn., P 66.65 328 IAmb IAmb 21 43 34.5
comp=Z,8.3nm,1.1s
PV10 Paradox Valley 66.93 328 IAmb IAmb 21 43 07.1
comp=Z,26nm,1.5s
IRM Iron Mountain 67.16 321 IAmb IAmb 21 43 24.9
comp=Z,11nm,1.4s
BORC Borrego Spring 67.31 320 P **P 21 43 08.6 +1.1**
BORC IAmb IAmb 21 43 28.7
comp=Z,24nm,1.5s
TROLL Troll, Antarti 67.39 161 ⇑P **P 21 43 08.2 +0.6**
comp=Z,305nm,0.8s
TAOE Nuku Hiva Isla 67.41 268 *e*LR LR 22 03 10.4
comp=Z,318nm,30.1s
HMU Henry Mountain 67.46 327 IAmb IAmb 21 43 30.8
comp=Z,26nm,1.4s
PFO Pinyon Flats O 67.57 320 LR LR 22 09 23.3
comp=Z,125nm,20.8s,baz=145,slow=33
KNB Kanab 67.88 325 IAmb IAmb 21 43 33.7
comp=Z,20nm,1.3s
O20A White River Ci 67.91 330 IAmb IAmb 21 43 14.4
comp=Z,9.0nm,1.1s
F33A 5 Mile Ranch, 68.09 341 **P 21 43 11.7 -0.5**
F33A IAmb IAmb 21 44 00.1
comp=Z,28nm,1.7s
LCMT Little Creek M 68.11 325 IAmb IAmb 21 43 34.7
comp=Z,14nm,1.5s
Q16A Castle Valley 68.42 327 IAmb IAmb 21 43 46.3
comp=Z,12nm,1.3s
P18A Preston Nutter 68.49 328 IAmb IAmb 21 43 36.1
comp=Z,14nm,1.4s
RSSD Black Hills 69.31 335 P **P 21 43 19.0 -1.2**
CCCA Chr Cany lake 69.42 321 P **P 21 43 20.4 -0.4**
QSM Queen of Sheba 69.43 322 IAmb IAmb 21 43 42.5
comp=Z,12nm,1.4s
BSUT Blindstream Ca 69.44 329 IAmb IAmb 21 43 52.5
comp=Z,9.8nm,1.2s
MPU Maple Canyon 69.48 328 IAmb IAmb 21 43 43.5
comp=Z,17nm,1.4s
TPNV Topopah Spring 69.75 323 IAmb IAmb 21 43 45.4
comp=Z,24nm,1.6s
CLC China Lake 69.76 321 IAmb IAmb 21 44 10.0
comp=Z,8.9nm,0.5s
FURC Fuaca Creek, 69.77 322 IAmb IAmb 21 43 45.1
comp=Z,20nm,1.3s
WCT Wildcat Mounta 69.86 322 IAmb IAmb 21 43 42.5
comp=Z,15nm,1.2s
DBIC Dimbokro 69.98 75 P **P 21 43 23.6 -0.9**
comp=Z,16nm,1.0s,baz=273,slow=7.7,SNR=7.0
DBIC LR LR 22 14 08.6
comp=Z,326nm,18.1s,baz=248,slow=36
comp=Z,16nm,1.0s
DBIC Dimbokro 69.98 75 P **P 21 43 23.7 -0.9**
AGMN Agassiz Nation 70.19 343 **P 21 43 25.4 +0.3**
R11B Troy Canyon, C 70.36 324 IAmb IAmb 21 43 48.3
comp=Z,25nm,1.7s
PDAR Pinedale Array 70.59 331 P **P 21 43 28.1 0.0**
comp=Z,0.7nm,0.5s,baz=125,slow=3.1,SNR=7.5
PDAR LR LR 22 16 19.3
comp=Z,98nm,20.5s,baz=150,slow=38
comp=Z,0.7nm,0.5s
EPLO Experimental L 70.88 345 **P 21 43 28.4 -1.0**
EPLO IAmb IAmb 21 43 30.5
comp=Z,16nm,1.0s
DSP Deep Springs 71.03 322 P **P 21 43 30.1 -0.4**
TPH Tonopah 71.09 323 IAmb IAmb 21 43 49.6
comp=Z,12nm,1.5s
QSPA South Pole Qui 71.56 180 **P 21 43 34.8 +1.3**
QSPA IAmb IAmb 21 43 38.6
comp=Z,27nm,1.5s
QSPA South Pole Qui 71.56 180 P **P 21 43 35.7 +2.2**
comp=Z,4.9nm,1.0s,baz=148,slow=5.1,SNR=7.2
comp=Z,4.9nm,1.0s
QSPA South Pole Qui 71.56 180 P **P 21 43 38.2 +4.7**
NVAR Mina Array Bea 71.95 323 P **P 21 43 37.6 +1.2**
comp=Z,1.1nm,0.9s,baz=141,slow=3.9,SNR=4.7
NVAR LR LR 22 15 27.7
comp=Z,139nm,20.1s,baz=132,slow=36
comp=Z,1.1nm,0.9s
ULM Lac du Bonnet 71.97 344 P **P 21 43 35.2 -0.7**
comp=Z,5.7nm,0.7s,baz=140,slow=7.9,SNR=4.9
ULM LR LR 22 17 02.6
comp=Z,182nm,21.5s,baz=169,slow=37
comp=Z,5.7nm,0.7s
RLMT Red Lodge 72.31 333 IAmb IAmb 21 43 40.8
comp=Z,9.1nm,1.0s
TBI Tubuai 72.46 251 *e*S **S 21 52 56.3 -7.7**
comp=Z,1µm,27.2s
TBI *e*SS **SS 21 57 40.8 -1.8**
comp=Z,692nm,33.2s
TBI *e*LR LR 22 05 50.0
comp=Z,1µm,31.0s
TBI *e*LR LR 22 05 53.2
comp=Z,2µm,27.5s
BUCR Buckhorn Ranch 72.52 321 P **P 21 43 39.4 -0.3**
SCHQ Schefferville 73.25 3 P **P 21 43 43.7 +0.3**
comp=Z,73nm,1.0s,baz=260,slow=1.7,SNR=3.7
SCHQ LR LR 22 16 29.7
comp=Z,949nm,21.8s,baz=192,slow=36
PAHR Pah Rah Range 73.43 323 IAmb IAmb 21 44 06.6
comp=Z,28nm,1.5s
PPT2 Papeete2 73.95 257 *e*S **SKiKP 21 53 15.2 -2.6**
comp=Z,227nm,26.5s
PPT2 *e*SS **SS 21 58 04.3 -1.4**
comp=Z,95nm,24.5s
PPT2 *e*LQ LQ 22 03 30.4
comp=Z,289nm,23.2s
PPT2 *e*LR LR 22 06 30.2
comp=Z,101nm,23.8s
PPT2 *e*LR LR 22 06 36.8
comp=Z,163nm,24.5s
MFID Camas Ranch 74.11 328 IAmb IAmb 21 44 16.0
comp=Z,12nm,1.1s
PLID Pearl Lake 75.40 329 P **P 21 43 57.9 +1.5**
K05A Summer Lake 76.30 325 IAmb IAmb 21 44 23.4
comp=Z,29nm,1.4s
PINE Pine Mountain 77.04 325 P **P 21 44 07.3 +1.5**
L02F Cave Junction 77.41 323 IAmb IAmb 21 44 26.6
comp=Z,18nm,1.4s
TORD Torodi Ar. Bea 78.40 72 P **P 21 44 12.1 -1.7**
TORD IAmb IAmb 21 44 14.5
comp=Z,14nm,0.9s
TORD Torodi Ar. Bea 78.40 72 P **P 21 44 12.2 -1.6**
comp=Z,16nm,0.9s,baz=253,slow=4.9,SNR=58
comp=Z,16nm,0.9s
LTY Liberty 79.23 328 IAmb IAmb 21 44 20.5
comp=Z,12nm,1.2s
VNDA Vanda 79.31 190 P **P 21 44 20.1 +2.4**
comp=Z,1.6nm,0.9s,baz=140,slow=6.9,SNR=8.4
comp=Z,1.6nm,0.9s
SYO Syowa Base 79.91 160 ‖*e*P **P 21 44 17.2 -3.9**
SYO Syowa Base 79.91 160 ‖*e*PcP **PcP 21 44 25.6 -3.0**
PBDV Barranco-do-Ve 81.38 46 *e*P **P 21 44 29.1 -0.4**
PBDV *i* IAmb IAmb 21 44 44.2
comp=Z,48nm,1.9s
PARRA Arraiolos 81.45 44 *e*P **P 21 44 34.3 +4.6**
PARRA *i* IAmb IAmb 21 44 48.5
comp=Z,31nm,1.9s
PCVE Castro Verde 81.50 46 *e*P **P 21 44 31.6 +1.6**
PCVE *i* IAmb IAmb 21 44 32.9
comp=Z,35nm,1.8s
MDT Midelt 81.55 51 LR LR 22 21 44.7
comp=Z,117nm,18.1s,baz=234,slow=37
PVAQ Vaqueiros 81.60 46 *e*S S 21 55 01.1 +18
PVAQ *e*LR LR 22 13 58.8
PVAQ *i* IAMs_20 IAMs_20 22 20 12.8
comp=Z,144nm,20.0s
LLLB Lilooet 82.09 330 IAmb IAmb 21 44 51.1
comp=Z,16nm,1.3s
FRB Frobisher Bay 82.12 1 LR LR 22 21 38.9
comp=Z,152nm,20.9s,baz=187,slow=36
RAR Rarotonga 82.23 250 *e*LR LR 22 10 20.6
comp=Z,458nm,25.0s
RAR Rarotonga 82.23 250 LR LR 22 12 45.0
comp=Z,243nm,18.7s,baz=103,slow=30
PMRV Marv??o 82.86 44 *e*LR LR 22 14 56.3
PMRV *i* IAMs_20 IAMs_20 22 18 18.3
comp=Z,206nm,22.0s
TSUM Tsumeb 82.89 108 **P 21 44 38.2 +0.2**
TSUM IAmb IAmb 21 44 40.5
comp=Z,21nm,1.1s
TSUM Tsumeb 82.89 108 LR LR 22 19 21.4
comp=Z,270nm,19.8s,baz=225,slow=34
MTE Manteigas 83.27 44 *e*S **S 21 55 04.8 +4.7**
MTE *e*LR LR 22 15 22.1
MTE *i* IAMs_20 IAMs_20 22 18 40.3
comp=Z,314nm,20.0s
MVO Moncorvo 83.99 43 *e*P **P 21 44 43.7 +0.7**
MVO *i* IAmb IAmb 21 44 45.1
comp=Z,36nm,1.3s
MVO *e*LR LR 22 16 29.1
MVO *i* IAMs_20 IAMs_20 22 19 11.0
comp=Z,305nm,20.0s
KOOLE Kule 84.09 112 P **P 21 44 42.3 -1.8**
KOOLE IAmb IAmb 21 44 46.5
comp=Z,14nm,1.1s
ESDC Sonseca Array 85.28 46 **P 21 44 48.8 -0.8**
ESDC Sonseca Array 85.28 46 P **P 21 44 50.2 +0.6**
comp=Z,6.4nm,1.0s,baz=243,slow=5.8,SNR=18
ESDC LR LR 22 19 12.0
comp=Z,160nm,21.1s,baz=256,slow=33
comp=Z,6.4nm,1.0s
TAM Tamanrasset 85.42 64 **P 21 44 48.8 -2.0**
KGCAE Kacgae 85.89 113 P **P 21 44 51.9 -1.3**
BBB Bella Bella 86.10 329 LR LR 22 24 58.3
comp=Z,74nm,18.5s,baz=138,slow=37
BOSA Boshof 86.65 119 LR LR 22 21 45.2
comp=Z,139nm,18.1s,baz=176,slow=34
XMAS Kiritimati 87.15 273 *e*SS SS 22 01 22.0 -1.4
comp=Z,7.0nm,23.0s
XMAS Kiritimati 87.15 273 *e*LR LR 22 12 35.3
comp=Z,24nm,24.0s
MAW Mawson 87.67 164 P **P 21 45 03.2 +2.5**
comp=Z,6.1nm,1.0s,baz=237,slow=5.4,SNR=5.9
MAW LR LR 22 22 35.9
comp=Z,128nm,21.8s,baz=220,slow=34
comp=Z,6.1nm,1.0s
YKA Yellowknife Ar 87.80 341 **P 21 45 02.3 +1.1**
YKA Yellowknife Ar 87.80 341 P **P 21 45 01.4 +0.1**
comp=Z,7.7nm,0.8s,baz=138,slow=4.5,SNR=36
YKA LR LR 22 26 57.8
comp=Z,111nm,19.8s,baz=183,slow=38
comp=Z,7.7nm,0.8s
LBTB Lobatse 88.13 116 LR LR 22 23 14.5
comp=Z,155nm,18.3s,baz=226,slow=35
DLBC Dease Lake 90.70 333 LR LR 22 29 33.5
comp=Z,1µm,18.9s,baz=96,slow=38
POHA Pohakuloa 91.12 290 *e*LR LR 22 14 26.2
comp=Z,9.0nm,22.7s
NIUE Niue 91.95 249 *e*LR LR 22 14 49.1
comp=Z,438nm,24.7s
P33M Teslin, Yukon 92.89 334 IAmb IAmb 21 47 48.5
comp=Z,11nm,1.7s
KEST Kesra 93.26 53 LR LR 22 29 40.2
comp=Z,91nm,18.6s,baz=258,slow=37
EKA Eskdalemuir Ar 93.28 32 P **P 21 45 26.4 -0.7**
comp=Z,0.8nm,0.6s,baz=234,slow=5.8,SNR=3.9
comp=Z,0.8nm,0.6s
LSZ Lusaka 93.73 107 LR LR 22 26 21.6
comp=Z,205nm,18.2s,baz=238,slow=35
RES Resolute Bay 94.32 354 LR LR 22 29 42.5
comp=Z,135nm,21.0s,baz=135,slow=37
URZ Urewera 94.65 227 LR LR 22 19 29.6
comp=Z,143nm,19.9s,baz=119,slow=30
SNZO South Karori 94.80 224 *e*LR LR 22 16 07.3
comp=Z,22nm,22.0s
CASY Casey 95.35 181 *e*LR LR 22 16 25.2
comp=Z,86nm,31.0s
DAVOX Davos/Dischmat 97.39 43 LR LR 22 29 23.6
comp=Z,157nm,18.6s,baz=264,slow=35
INK Inuvik 97.54 341 LR LR 22 34 10.8
comp=Z,150nm,19.2s,baz=104,slow=38
VAE Valguarnera 97.68 53 LR LR 22 28 33.6
comp=Z,147nm,22.0s,baz=278,slow=35
GERES GERESS Array B 100.48 42 P **Pdif 21 46 00.3 +0.4**
comp=Z,0.8nm,0.9s,baz=269,slow=7.3,SNR=4.7
JOHN Johnston Islan 102.92 283 *e*SS SS 22 05 01.8 -5.9
comp=Z,126nm,28.2s
JOHN Johnston Islan 102.92 283 *e*LR LR 22 19 55.5
comp=Z,280nm,26.3s
NFK Norfolk Island 105.87 231 *e*LR LR 22 21 21.1
DZM Mont Dzumac 110.68 237 *e*LR LR 22 23 29.9
comp=Z,213nm,31.6s
KBZ Khabaz 119.90 50 PKP **PKPdf 21 51 02.9 -0.2**
comp=Z,2.4nm,0.9s,baz=270,slow=2.0,SNR=5.0
H11S2 WAKE ISLAND Hyl 25.39 280 T T 00 09 01.8
baz=100,slow=74,SNR=82
H11S1 WAKE ISLAND Hyl 25.40 280 T T 00 08 58.4
baz=100,slow=74,SNR=439
H11N3 WAKE ISLAND Hyl 25.40 281 T T 23 09 03.6
baz=100,slow=75,SNR=66
H11S3 WAKE ISLAND Hyl 25.41 280 T T 00 09 05.2
baz=100,slow=74,SNR=49
H11N2 WAKE ISLAND Hyl 25.42 281 T T 00 09 04.6
baz=100,slow=75,SNR=62
H11N1 WAKE ISLAND Hyl 25.42 281 T T 00 09 03.7
baz=100,slow=75,SNR=47
SEY Seymchan 126.64 337 PKP **PKiKP 21 51 17.3 +1.3**
comp=Z,1.4nm,0.6s,baz=53,slow=20,SNR=4.5
PETK Petropavlovsk- 129.02 324 PKP **PKPdf 21 51 20.3 -0.1**
comp=Z,1.2nm,0.7s,baz=64,slow=6.6,SNR=3.3
ABKAR Akbulak array 130.39 40 **PKPdf 21 51 22.9 -0.1**
ASAR Alice Springs 131.39 211 PKP **PKPdf 21 51 26.6 +0.8**
comp=Z,2.5nm,1.0s,baz=146,slow=1.8,SNR=11
WRA Warramunga Arr 134.25 214 PKP **PKPdf 21 51 31.9 +0.6**
comp=Z,1.9nm,0.9s,baz=145,slow=1.7,SNR=9.0
BVAR Borovoye Array 134.53 32 PKP **PKPdf 21 51 31.2 +0.5**
comp=Z,0.8nm,0.8s,baz=286,slow=2.6,SNR=3.6
KURBB Kurchatov Arra 139.99 30 PKhKP PKPpre 21 51 33.9
comp=Z,0.8nm,0.2s,baz=294,slow=2.6,SNR=4.1
KURBB PKP **PKPdf 21 51 41.8 +1.0**
comp=Z,0.3nm,0.2s,baz=310,slow=2.7,SNR=4.2
ZALV Zalesovo Beam 140.16 22 PKPdf **PKPdf 21 51 40.7 -0.4**
ZALV Zalesovo Beam 140.16 22 PKhKP PKPpre 21 51 27.2
comp=Z,1.9nm,0.9s,baz=323,slow=2.2,SNR=5.0
ZALV PKP pPKPdf 21 51 42.3 -1.6
comp=Z,3.4nm,0.8s,baz=318,slow=1.9,SNR=12
MKAR Makanchi Array 144.42 32 **PKPab 21 51 47.8 +0.7**
MKAR Makanchi Array 144.42 32 PKP **PKPab 21 51 47.6 +0.4**
comp=Z,4.4nm,0.7s,baz=320,slow=3.8,SNR=33
KSH Kashi 144.79 47 PKPbc **PKPdf 21 51 50.4 +0.4**
HEH HeiHe 145.13 339 *e*P **PKPbc 21 51 49.8 +0.3**
HEH pmax pmax
comp=Z,17nm,0.7s
USRK Ussuriysk Ar. 147.97 328 PKPbc **PKPbc 21 51 58.4 +0.4**
comp=Z,3.3nm,0.8s,baz=38,slow=2.6,SNR=11
MJAR Matsushiro Arr 148.64 311 PKPbc **PKPbc 21 52 01.1 +1.0**
comp=Z,12nm,0.9s,baz=72,slow=1.3,SNR=43
JHJ2 Mitsune 148.78 304 *e*LR LR 22 41 09.0
comp=Z,13nm,26.4s
BNX BinXian 148.89 334 ⇑P **PKPbc 21 52 00.3 -0.1**
BNX pmax pmax
comp=Z,10.0nm,1.4s
WMQ Urumqi 149.21 31 *e*PKPbc **PKPdf 21 51 57.3 +0.1**
WMQ PKPab **sPKPbc 21 52 04.2 -1.0**
WMQ LR LR
comp=Z,220nm,24.0s
SONM Songino Array 150.79 3 PKPdf **PKPdf 21 51 58.9 -0.7**
SONM Songino Array 150.79 3 PKP **PKPdf 21 52 00.5 +0.9**
comp=Z,1.0nm,0.9s,baz=11,slow=2.9,SNR=4.0
SONM PKPbc **PKPbc 21 52 06.0 +0.8**
comp=Z,6.4nm,1.0s,baz=325,slow=1.8,SNR=23
HYB Hyderabad 151.16 88 *e*PKiKP **PKPbc 21 52 06.2 -0.6**
KSRS Korea Array 154.89 322 PKP **PKPdf 21 52 06.8 +1.1**
comp=Z,0.8nm,0.7s,baz=48,slow=1.8,SNR=4.9
KSRS PKPbc **sPKPbc 21 52 17.0 -1.1**
comp=Z,0.7nm,0.7s,baz=32,slow=0.4,SNR=4.4
HHC Hu-ho-hao-te 157.72 355 *e*P **PKPdf 21 52 09.5 0.0**
GTA Gaotai 157.85 19 *e*P **PKPab 21 52 42.2 -0.1**
GTA sP sPKPab 21 52 58.0 +12
GTA pmax pmax
comp=Z,2.0nm,1.3s
JOW Kunigami 160.34 298 *e*LR LR 22 46 35.3
comp=Z,142nm,26.4s
LZH Lanzhou 162.04 13 *e*P **PKPab 21 53 02.4 +1.7**
LZH pmax pmax
comp=Z,22nm,1.4s
NJ2 Nanjing 163.88 328 *e*P **PKPdf 21 52 16.9 +0.6**
NJ2 pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,5.0nm,0.5s						
CD2	**Chengdu**	**166.91**	**20**	PKP	**PKPdf**	**21 52 19.0**	**+0.1**
PZH	**PanZhiHua**	**169.76**	**39**	PKP	**PKPdf**	**21 52 20.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**170.58**	**89**	PKP	**PKPdf**	**21 52 22.9**	**+1.4**
	comp=Z,0.7nm,0.9s,baz=314,slow=1.1,SNR=5.1						
CMAR				PKPab	**PKPab**	**21 53 39.9**	**+0.9**
	comp=Z,2.9nm,1.1s,baz=281,slow=3.8,SNR=8.9						

*IDC **01** 22:00:07.1±1.5, 26°.49N×67°.58E, h0km, mb3.7/7, mbtmp3.7/7, MS3.6/4, Error ellipse: s-maj=34.4km s-min=29.8km az=133.0*

ISC 01 22:00:10.8±1.3**, 26°.5N**±0°.2×**67°.6E**±0°.2**, h23km, n11, σ1s.03**/7**, mb3.6**/6**, MS3.8**/4**, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**23.35**	**26**	P	**P**	**22 05 15.9**	**-1.5**
	0.7nm,0.7s,baz=208,slow=10,SNR=5.7						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**25.49**	**16**	P	**P**	**22 05 36.6**	**-0.6**
	0.7nm,0.2s,baz=211,slow=8.7,SNR=5.1						
	0.7nm,0.2s						
BVAR	**Borovoye Array**	**26.55**	**4**	P	**P**	**22 05 47.8**	**+1.0**
	1.1nm,0.9s,baz=179,slow=11,SNR=5.2						
	1.1nm,0.9s						
ASF	**Jabal al Asfar**	**27.28**	**289**	LR	LR	22 19 38.0	
	comp=Z,39nm,18.6s,baz=187,slow=43						
SONM	**Songino Array**	**37.01**	**45**	P	**P**	**22 07 19.1**	**+0.4**
	0.6nm,0.7s,baz=245,slow=8.1,SNR=3.8						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**44.61**	**333**	P	**P**	**22 08 21.3**	**+0.3**
	2.7nm,1.0s,baz=125,slow=12,SNR=2.7						
	2.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**62.81**	**272**	P	**P**	**22 10 34.6**	**-0.4**
	0.6nm,0.8s,baz=46,slow=6.4,SNR=3.6						
	0.6nm,0.8s						
TSUM	**Tsumeb**	**66.48**	**232**	LR	LR	22 40 27.9	
	comp=Z,42nm,18.0s,baz=148,slow=36						
GUMO	**Guam**	**72.82**	**83**	LR	LR	22 46 06.7	
	comp=Z,55nm,19.3s,baz=94,slow=38						
JAY	**Jayapura**	**76.09**	**100**	LR	LR	22 50 05.5	
	comp=Z,96nm,18.1s,baz=302,slow=39						
WRA	**Warramunga Arr**	**79.51**	**118**	P	**P**	**22 12 16.2**	**+0.2**
	0.7nm,0.9s,baz=300,slow=4.9,SNR=3.8						
	0.7nm,0.9s						

HEL 01 22:05:32.4±0.3**, 67°.15N**×**20°.69E, h0km, ML1.3, Suspected explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.84**	**135**	PG	Pg	22 05 47.5	-1.0
PAJU	**Pajala**	**0.96**	**97**	PG	Pg	22 05 50.0	-0.7
PAJU				SB	Sg	22 06 02.8	-0.3
LANU	**Lannavaara**	**1.03**	**29**	PG	Pg	22 05 50.9	-1.2
LANU				SB	Sg	22 06 05.6	+0.2
KALU	**Kalix**	**1.68**	**139**	PG	Pn	22 06 03.0	0.0
KALU				SN	Sg	22 06 27.4	+1.0
HEF	**Hetta**	**1.69**	**40**	*e*P	Pn	22 06 02.3	-0.9
HEF	**Hetta**	**1.69**	**40**	PG	Pn	22 06 02.6	-0.6
HEF				MSG		22 06 22.9	
	comp=Z,1.7nm,0.2s						
HEF				SG	Sn	22 06 24.7	-0.8
TOF	**Tornio**	**1.81**	**125**	PG	Pn	22 06 04.8	+0.1
TOF				MSG		22 06 26.3	
	comp=Z,1.4nm,0.2s						
TOF				SN	Sb	22 06 29.5	+0.1
KIF	**Kilpisjarvi**	**1.86**	**1**	*e*P	Pn	22 06 06.0	+0.6
KIF	**Kilpisjarvi**	**1.86**	**1**	PG	Pn	22 06 06.3	+0.8
KIF				MSG		22 06 28.9	
	comp=Z,2.5nm,0.2s						
KIF				SG	Sb	22 06 31.4	+0.4
KTK1	**Kautokeino**	**2.10**	**26**	PG	Pb	22 06 10.3	-0.9
KTK1				SG	Sb	22 06 37.3	-0.6
RNF	**Rovaniemi**	**2.17**	**102**	PG	Pn	22 06 10.7	+0.9
RNF				SG	Sb	22 06 40.1	+0.2
RANF	**Ranua**	**2.69**	**112**	PG	Pb	22 06 19.7	-1.7
RANF				SG	Sb	22 06 54.5	-0.4
OUL	**Oulu**	**2.96**	**132**	SG	Sb	22 07 03.5	+0.8
ARA0	**ARCESS Array S**	**2.99**	**35**	SB	Sb	22 07 01.1	-2.2
KEV	**Kevo**	**3.50**	**39**	SG	Sg	22 07 22.6	-2.2

*PAS **01** 22:07:55.0±1.8, 31°.68N±0°.02×115°.91W±0°.02, h11km±8km, ML3.1/53, ML2.9/44(NEIC), Error ellipse: s-maj=3.0km s-min=2.3km az=220.0*

*NEIC **01** 22:07:54.4±1.6, 31°.67N±0°.02×115°.95W±0°.02, h13km±9km, Error ellipse: s-maj=3.1km s-min=2.3km az=218.0*

*MEX **01** 22:07:55.5±0.6, 31°.61N×115°.95W, h25km, MD3.6*

ECX 01 22:07:55.5±0.5**, 31°.69N**×**115°.91W, h6km**±3km**, MD2.9, ML3.1, 5C-7D, Baja California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJX	**San Joaquin**	**0.09**	**331**	*i* P	Pg	22 08 01.3	+3.8
SJX				*e*S	Sg	22 08 06.0	+7.1
SJX				IAML		22 08 06.5	
	comp=N,5μm,0.1s						
VTX	**Valle De La Tr**	**0.31**	**160**		Pg	22 08 01.1	-0.6
VTX				Sg	Sg	22 08 04.9	-0.9
VTX				IAML		22 08 05.9	
	comp=E,2μm,0.2s						
VTX	**Valle De La Tr**	**0.31**	**160**	⇓*i*P	Pg	22 08 01.1	-0.5
VTX				*e*S	Sg	22 08 05.7	-0.1
VTX				IAML		22 08 05.9	
	comp=E,2μm,0.2s						
VTX				⇓*e*		22 08 05.9	
ESJX	**Sierra Juarez**	**0.32**	**354**		Pg	22 08 01.3	-0.5
ESJX				Sg	Sg	22 08 05.9	-0.2
ALAMX	**Rancho Alamar**	**0.36**	**28**	⇓*i*P	Pg	22 08 02.1	-0.5
ALAMX				*e*S	Sg	22 08 07.0	-0.4
ALAMX				IAML		22 08 08.2	
	comp=E,2μm,0.3s						
ALAMX				⇓*e*		22 08 08.2	
SV2X	**San Vicente**	**0.45**	**219**	⇓*e*P	Pg	22 08 03.5	-0.6
SV2X				*i* S	Sg	22 08 09.6	-0.4
SV2X				IAML		22 08 09.7	
	comp=E,1μm,0.1s						
SV2X				⇑*e*		22 08 09.7	
CCX	**Cicese**	**0.67**	**286**		Pg	22 08 07.5	-0.8
CCX				Sg	Sg	22 08 16.5	-0.6
CCX				IAML		22 08 16.8	
	comp=N,523nm,0.5s						
CCX				IAML		22 08 17.1	
	comp=E,500nm,0.4s						
CCX	**Cicese**	**0.67**	**286**	⇑*i*P	Pg	22 08 07.5	-0.8
CCX				*e*S	Sg	22 08 16.6	-0.5
RHX	**Rio Hardy**	**0.70**	**50**	*e*P	Pg	22 08 08.0	-0.9
PBX	**Punta Banda**	**0.70**	**275**	⇑*i*P	Pg	22 08 07.9	-1.0
PBX				*e*S	Sg	22 08 17.3	-0.7
SPIG	**San Pedro Mart**	**0.74**	**149**	⇓*e*P	Pg	22 08 08.7	-1.1
SPIG				*e*S	Sg	22 08 18.7	-0.8
SPIG	**San Pedro Mart**	**0.74**	**149**	*e*P	Pg	22 08 08.7	-1.1
SPIG				*e*S	Sg	22 08 18.2	-1.3
ECBX	**El Chinero**	**0.76**	**106**	⇑*i*P	Pg	22 08 09.5	-0.7
ECBX				*e*S	Sg	22 08 19.4	-0.6
ECBX				IAML		22 08 20.3	
	comp=E,480nm,0.3s						
ECBX				*e*		22 08 20.3	
CPBX	**Cerro Prieto**	**0.89**	**35**		Pg	22 08 12.2	-0.5
CPBX				Sg	Sg	22 08 23.8	-0.5
CBX	**Cerro Bola**	**0.90**	**315**		Sg	22 08 22.9	-1.5
CBX	**Cerro Bola**	**0.90**	**315**	Pg	Pg	22 08 11.2	-1.5
CBX				IAML		22 08 24.8	
	comp=E,506nm,0.2s						
CBX				IAML		22 08 25.9	
	comp=N,430nm,0.5s						
CBX	**Cerro Bola**	**0.90**	**315**	*e*P	Pg	22 08 11.2	-1.5
CBX				*e*S	Sg	22 08 22.9	-1.5
CBX				⇑*e*		22 08 23.8	
CBX				IAML		22 08 23.8	
	comp=E,499nm,0.1s						
CBX	**Cerro Bola**	**0.90**	**315**	*e*P	Pg	22 08 11.2	-1.6
CBX				*e*S	Sg	22 08 22.5	-1.9
RMX	**La Rumorosa**	**0.93**	**351**		Pg	22 08 11.1	-2.2
RMX					Sg	22 08 22.1	-3.2
RMX	**La Rumorosa**	**0.93**	**351**	*e*P	Pg	22 08 11.1	-2.2
RMX				*e*S	Sg	22 08 22.4	-2.9
MBIG	**Mexicali**	**0.94**	**40**	*e*P	Pg	22 08 12.3	-1.3
MBIG				*e*S	Sg	22 08 24.9	-0.9
YUH	**Yuha Desert**	**0.96**	**359**		Pg	22 08 12.3	-1.6
YUH				IAML		22 08 25.6	
	comp=N,213nm,0.1s						
YUH				IAML		22 08 25.7	
	comp=E,209nm,0.1s						
YUH	**Yuha Desert**	**0.96**	**359**		Sg	22 08 24.5	-1.9
SGL	**Mount Signal**	**0.97**	**9**		Pg	22 08 12.9	-1.3
SGL					Sg	22 08 26.4	-0.5
IKP	**In-Ko-Pah, Jac**	**0.98**	**350**		Pg	22 08 12.8	-1.5
IKP					Sg	22 08 25.2	-1.7
TJIG	**Tijuana**	**0.99**	**319**	*e*P	Pg	22 08 12.6	-1.9
TJIG	**Tijuana**	**0.99**	**319**	*e*P	Pg	22 08 12.7	-1.8
TJIG				*e*S	Sg	22 08 25.3	-2.1
UABX	**UABC, Campus M**	**1.02**	**23**		Sb	22 08 29.7	+0.4
5053	**Calexico**	**1.04**	**20**		Pg	22 08 14.8	-0.7
TKX	**Tecate**	**1.06**	**326**		Pg	22 08 14.0	-1.9
TKX					Sg	22 08 27.4	-2.2
PESCX	**Ej. Pescaderos**	**1.09**	**47**		Sb	22 08 31.7	+0.4
SQX	**San Quintin**	**1.11**	**178**	⇓*e*P	Pg	22 08 14.3	-2.5
SQX				*e*S	Sg	22 08 29.1	-2.0
SFX	**San Felipe**	**1.11**	**125**		Pg	22 08 15.6	-1.3
SFX				IAML		22 08 31.3	
	comp=N,246nm,0.6s						
SFX				IAML		22 08 31.4	
	comp=E,139nm,0.5s						
SFX	**San Felipe**	**1.11**	**125**		Sg	22 08 30.2	-1.1
SFX	**San Felipe**	**1.11**	**125**	*e*P	Pg	22 08 15.8	-1.0
SFX				*e*S	Sg	22 08 30.1	-1.2
COK2	**Cook Ranch 2**	**1.17**	**7**		Pg	22 08 17.1	-0.9
DUZA	**Dulzura**	**1.18**	**322**		Pg	22 08 15.8	-2.3
DUZA					Sg	22 08 30.9	-2.4
BAR	**Barrett**	**1.18**	**327**		Pg	22 08 16.2	-2.0
BAR				IAML		22 08 32.5	
	comp=E,346nm,0.3s						
BAR	**Barrett**	**1.18**	**327**		Sg	22 08 31.0	-2.6
DREC	**Desert Rsrch C**	**1.18**	**19**		Sb	22 08 34.0	+0.2
CRR	**Carrizo Plain**	**1.20**	**358**		Pg	22 08 16.9	-1.6
CRR					Sg	22 08 33.1	-1.0
SWSC	**Sam W. Stewart**	**1.26**	**4**		Pn	22 08 18.2	-1.4
SWSC					Sg	22 08 35.4	-0.6
OLP	**Otay Lakes Par**	**1.26**	**317**		Sg	22 08 33.6	-2.5
TJX	**Tijuana**	**1.27**	**311**	Pn	Pn	22 08 18.4	-1.3
TJX				IAML		22 08 37.3	
	comp=E,229nm,0.8s						
TJX				IAML		22 08 40.6	
	comp=N,229nm,0.6s						
SDRC	**San Diego Road**	**1.36**	**320**		Pn	22 08 19.2	-1.8
SDRC					Sb	22 08 36.2	-2.9
MTRP	**Mission Trails**	**1.49**	**320**		Sn	22 08 40.4	-2.2
JUEM	**Julian Eagle M**	**1.51**	**337**		Pn	22 08 19.9	-3.3
SDMC	**San Diego Miss**	**1.51**	**317**		Sn	22 08 41.1	-1.9
SLH	**Sleepy Hollow**	**1.53**	**349**		Pn	22 08 23.1	-0.2
CPE	**Camp Elliot**	**1.57**	**320**		Pn	22 08 22.4	-1.5
DPP	**Dos Picos Cty**	**1.57**	**327**		Pn	22 08 22.4	-1.6
DPP				IAML		22 08 43.3	
	comp=N,160nm,0.2s						
DPP				IAML		22 08 43.3	
	comp=E,223nm,0.3s						
DPP	**Dos Picos Cty**	**1.57**	**327**		Sn	22 08 42.3	-2.4
SALN	**Salton City**	**1.59**	**358**	Pn	Pn	22 08 23.8	-0.3
SALN				IAML		22 08 48.8	
	comp=N,148nm,0.4s						
SALN				IAML		22 08 49.4	
	comp=E,227nm,0.4s						
MATG	**Mataguay Scout**	**1.63**	**338**		Pn	22 08 24.3	-0.6
MATG					Sn	22 08 45.2	-1.0
BORC	**Borrego Spring**	**1.64**	**345**		Pn	22 08 23.1	-1.7
BORC				IAML		22 08 45.6	
	comp=N,84nm,0.1s						
BORC				IAML		22 08 46.1	
	comp=E,132nm,0.2s						
GLA	**Glamis**	**1.64**	**34**	Pn	Pn	22 08 21.9	-3.0
GORC	**Green Oak Ranc**	**1.84**	**323**		Pn	22 08 27.2	-0.4
PLM	**Palomar**	**1.85**	**334**		Pn	22 08 27.2	-0.6
FRD	**Ford Ranch, An**	**1.90**	**342**		Pn	22 08 29.3	+0.8
FRD	**Ford Ranch, An**	**1.90**	**342**		Pn	22 08 29.2	+0.8
BZNA	**Buzz No.'s Pla**	**1.91**	**341**		Pb	22 08 30.1	-0.7
SNDA	**J Saunders Pla**	**1.95**	**343**		Pb	22 08 30.7	-0.8
DNR	**Dunn Ranch,Anz**	**1.97**	**342**	Pn	Pn	22 08 28.1	-1.5
PFO	**Pinyon Flats O**	**1.98**	**347**		Pn	22 08 27.6	-2.0
PFO	**Pinyon Flats O**	**1.98**	**347**	Pn	Pn	22 08 27.5	-2.1
PFO				IAML		22 08 57.3	
	comp=E,15nm,0.7s						
PFO				IAML		22 08 58.5	
	comp=E,24nm,0.4s						
PMD	**Palm Desert**	**2.00**	**349**		Pn	22 08 27.9	-1.8
PMD				IAML		22 08 58.2	
	comp=E,47nm,0.4s						
CRY	**Cary Ranch**	**2.00**	**340**		Pb	22 08 31.1	-1.2
BC3	**Big Chuckawall**	**2.00**	**11**		Pn	22 08 27.6	-2.4
PIX	**Pinacate**	**2.09**	**93**	Pn	Pn	22 08 27.9	-3.1
113A	**Mohawk Valley,**	**2.11**	**59**	Pn	Pn	22 08 29.1	-2.3
DGR	**Domenigoni Val**	**2.17**	**335**		Pn	22 08 33.0	+0.8
POB	**Polly Butte**	**2.17**	**337**		Pn	22 08 33.6	+1.4
BELC	**Belle Mtn. Jos**	**2.31**	**358**		Pn	22 08 32.1	-2.1
ELS	**Elsinore Mount**	**2.34**	**327**		Pn	22 08 35.1	+0.6
ELS	**Elsinore Mount**	**2.34**	**327**	Pn	Pn	22 08 34.0	-0.5
ELS				IAML		22 09 07.2	
	comp=E,62nm,0.4s						
ELS				IAML		22 09 07.3	
	comp=N,42nm,0.4s						
BBSC	**Beaumont Base**	**2.41**	**338**		Pn	22 08 31.2	-4.2
IRM	**Iron Mountain**	**2.55**	**14**	Pn	Pn	22 08 36.1	-1.3
214A	**Organ Pipe Nat**	**2.65**	**83**	Pn	Pn	22 08 36.2	-2.6
PSRC	**Puddingstone R**	**2.88**	**327**		Pb	22 08 45.6	-1.7
Y14A	**Wickenburg**	**3.32**	**47**	Pn	Pn	22 08 46.8	-1.2

*IDC **01** 22:41:16.2±0.6, 2°.14N×96°.63E, h0km, mb4.5/24, mbtmp4.5/27, ML4.2/3, MS3.8/25, Error ellipse: s-maj=19.4km s-min=12.9km az=45.0*

*BJI **01** 22:41:20.2, 1°.99N×96°.60E, h46km, mB4.9/10, mb4.9/60, Ms4.3/23, Ms7 4.1/22*

*DJA **01** 22:41:21.0±0.4, 2°N±2°×9°7E±°, h39km±5km, M4.9/25, mb5.0/25, mB5.3/7, MLv4.9/19, Mw(mB)4.8/7*

*NEIC **01** 22:41:22.4±1.3, 2°.19N±0°.05×96°.65E±0°.02, h32km±5km, mb4.9/59, Error ellipse: s-maj=7.7km s-min=1.6km az=166.0*

ISC 01 22:41:21.4±0.5**, 2°.14N**±0°.04×**96°.62E**±0°.05**, h32km**±2km**, h33km:pP-P, n238, σ1s.24**/234**, mb4.8**/84**, MS3.9**/34**, 9C-6D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.26**	**131**		**Pb**	**22 41 44.4**	**-0.3**
GSI	**Gunungsitoli**	**1.26**	**131**	P	**Pn**	**22 41 42.8**	**0.0**
GSI				S	**Sn**	**22 41 59.6**	**+0.9**
KCSI	**Kotacane, Aceh**	**1.79**	**40**	P	**Pn**	**22 41 50.7**	**+0.6**
KCSI				S	**Sb**	**22 42 14.8**	**-0.9**
MLSI	**Meulaboh, Aceh**	**2.12**	**354**	P	**Pn**	**22 41 54.4**	**-0.3**
MLSI				S	**Sn**	**22 42 21.2**	**+1.2**
TSI	**Tuntungan**	**2.36**	**55**	P	**Pn**	**22 41 59.5**	**+1.5**
RPSI	**Rantau Prapat**	**2.36**	**76**		**Pn**	**22 41 58.4**	**+0.4**
RPSI	**Rantau Prapat**	**2.36**	**76**		**Pn**	**22 41 58.4**	**+0.4**
RPSI					**Sb**	**22 42 32.0**	**-0.2**
PSI	**Prapat**	**2.39**	**74**	Pn	**Pn**	**22 41 58.4**	**-0.1**
	17nm,0.3s,baz=254,slow=11,SNR=78						
PSI				Sn	**Sb**	**22 42 32.0**	**-1.0**
	32nm,0.3s,baz=251,slow=18,SNR=5.2						
PSI				LR	LR	22 42 47.1	
	comp=Z,918nm,20.5s,baz=337,slow=39						
	168nm,0.6s						
PSI	**Prapat**	**2.39**	**74**	P	**Pn**	**22 41 58.4**	**-0.1**
PBSI	**Pulau Batu**	**2.74**	**143**	P	**Pn**	**22 42 03.2**	**+0.1**
LHMI	**Lhok Sumawe**	**3.08**	**6**		**Pn**	**22 42 08.5**	**+0.6**
LHMI	**Lhok Sumawe**	**3.08**	**6**	P	**Pn**	**22 42 08.3**	**+0.4**
LHMI	**Lhok Sumawe**	**3.08**	**6**	P	**Pn**	**22 42 08.7**	**+0.8**
LHMI				S	**Sn**	**22 42 46.9**	**+3.2**
MNSI	**Mandailing Nat**	**3.24**	**114**	P	**Pn**	**22 42 10.5**	**+0.4**
SISI	**Saibi**	**4.24**	**144**	P	**Pn**	**22 42 23.9**	**+0.2**
PPI	**Padang Panjang**	**4.57**	**124**	P	**Pn**	**22 42 29.3**	**+0.9**
PPI				S	**Sn**	**22 43 21.6**	**+1.2**
BKNI	**Bangkinang**	**4.77**	**112**	P	**Pn**	**22 42 33.8**	**+2.7**
PDSI	**Padang**	**4.89**	**128**	P	**Pn**	**22 42 33.7**	**+0.9**
IPM	**Ipoh**	**4.97**	**62**		**Pn**	**22 42 34.7**	**+0.7**
IPM	**Ipoh**	**4.97**	**62**	P	**Pn**	**22 42 34.6**	**+0.7**
KULM	**Kulim**	**5.09**	**52**		**Pn**	**22 42 35.9**	**+0.3**
KULM	**Kulim**	**5.09**	**52**	P	**Pn**	**22 42 35.8**	**+0.3**
KRJI	**Kerinci**	**6.41**	**131**	P	**Pn**	**22 42 57.0**	**+3.3**
	4μm202nm,0.6s						
MYKOM	**Kota Tinggi**	**7.23**	**93**		**Pn**	**22 43 05.3**	**+0.4**
MYKOM	**Kota Tinggi**	**7.23**	**93**	P	**Pn**	**22 43 05.7**	**+0.8**
SURA	**Surathani**	**7.59**	**23**	P	**Pn**	**22 43 09.6**	**-0.3**
MASI	**Maura Aman, Be**	**7.68**	**133**	P	**Pn**	**22 43 12.3**	**+1.1**
	0.6nm125nm,1.2s						
KSI	**Kapahiang**	**8.29**	**134**	P	**Pn**	**22 43 19.4**	**-0.1**
	7μm107nm,0.4s						
DSRI	**Dabo**	**8.37**	**108**	P	**Pn**	**22 43 20.5**	**-0.1**
MNAI	**Manna**	**9.04**	**136**	Pn	**Pn**	**22 43 29.0**	**-0.7**
MNAI	**Manna**	**9.04**	**136**	P	**Pn**	**22 43 29.1**	**-0.7**
	241nm,1.5s						
LHSI	**Lahat**	**9.09**	**131**	P	**Pn**	**22 43 30.1**	**-0.4**
	58nm,1.0s						
PMBI	**Palembang**	**9.57**	**122**	P	**Pn**	**22 43 35.9**	**-1.2**
MDSI	**Maura Dua**	**10.02**	**131**	P	**Pn**	**22 43 42.5**	**-0.7**
	45nm,0.8s						
KSM	**Kuching**	**13.69**	**93**	P	**Pn**	**22 44 34.8**	**+1.3**
SBUM	**Sibu**	**15.59**	**89**		**Pn**	**22 44 58.7**	**-0.3**
SBUM	**Sibu**	**15.59**	**89**	P	**Pn**	**22 44 59.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**16.38**	**8**		**Pn**	**22 45 08.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**16.38**	**8**	Pn	**Pn**	**22 45 07.8**	**-1.2**
	1.5nm,0.3s,baz=186,slow=9.7,SNR=87						
CMAR				LR	LR	22 51 40.8	
	comp=Z,283nm,21.0s,baz=195,slow=38						
	30nm,0.8s						
PALK	**Pallekele**	**16.66**	**288**	Pn	**Pn**	**22 45 13.7**	**+1.0**
	0.3nm,0.3s,baz=101,slow=16,SNR=2.0						
PALK				Sn	Sn	22 48 03.2	-14
	1.2nm,0.3s,baz=56,slow=3.6,SNR=7.4						
	9.0nm,0.9s						
CHTO	**Chiang Mai**	**16.73**	**8**		**Pn**	**22 45 12.6**	**-0.9**
CHTO	**Chiang Mai**	**16.73**	**8**	P	**Pn**	**22 45 12.9**	**-0.6**
KKM	**Kota Kinabalu**	**19.92**	**78**	P	**P**	**22 45 51.1**	**+0.4**
KKM				IAmb	IAmb	22 45 53.7	
	comp=Z,46nm,0.9s						
KKM	**Kota Kinabalu**	**19.92**	**78**	P	**P**	**22 45 51.3**	**+0.5**
SLVN	**Son La**	**20.35**	**20**	P	**P**	**22 45 55.0**	**-0.3**
SLVN	**Son La**	**20.35**	**20**	P	**P**	**22 45 56.1**	**+0.7**
QIZ	**Qiongzhong**	**21.20**	**37**	P	**P**	**22 46 05.2**	**+0.7**
QIZ				S	**S**	**22 50 02.2**	**+3.6**
QIZ				LR	LR		
	comp=Z,370nm,12.4s						
QIZ				LR	LR		
	comp=Z,540nm,12.4s						
QIZ				LR	LR		
	comp=Z,580nm,15.8s						
MYLDM	**Lahad Datu**	**22.04**	**82**	P	**P**	**22 46 14.6**	**+1.1**
MYLDM				IAmb	IAmb	22 46 17.2	
	comp=Z,64nm,0.9s						
MYLDM	**Lahad Datu**	**22.04**	**82**	P	**P**	**22 46 14.7**	**+1.2**
TNCH	**TengChong**	**22.83**	**4**	P	**P**	**22 46 22.2**	**+0.1**
TNCH				S	**S**	**22 50 23.4**	**-6.1**
TNCH				pmax	pmax		
	comp=Z,54nm,0.7s						
TNCH				LR	LR		
	comp=Z,320nm,17.9s						
TNCH				LR	LR		
	comp=Z,300nm,15.9s						
TNCH				LR	LR		
	comp=Z,380nm,18.9s						
KMI	**Kunming**	**23.60**	**14**	⇑P	**P**	**22 46 30.1**	**+0.3**
KMI				pP	sP	22 46 42.3	-0.6
KMI				pmax	pmax		
	comp=Z,20nm,1.1s						
KMI				LR	LR		
	comp=Z,310nm,15.7s						
KMI				LR	LR		
	comp=Z,230nm,13.6s						
KMI				LR	LR		
	comp=Z,310nm,15.3s						
SHL	**Shillong**	**23.73**	**349**		**P**	**22 46 28.9**	**-2.1**
SHL				IAmb	IAmb	22 46 31.3	
	comp=Z,44nm,0.7s						
TOLI2	**Tolitoli**	**24.17**	**92**	P	**P**	**22 46 34.4**	**-0.6**
TOLI2				IAmb	IAmb	22 46 36.1	
	comp=Z,25nm,0.9s						
TOLI2	**Tolitoli**	**24.17**	**92**	P	**P**	**22 46 35.6**	**+0.5**
PZH	**PanZhiHua**	**24.72**	**11**	P	**P**	**22 46 39.9**	**-0.1**
PZH				pmax	pmax		
	comp=Z,30nm,1.0s						
H08S2	**Diego Garcia H**	**25.96**	**248**	T	T	23 13 39.4	
	baz=68,slow=75,SNR=171						
H08S3	**Diego Garcia H**	**25.96**	**248**	T	T	23 13 35.8	
	baz=68,slow=75,SNR=4467						
H08S1	**Diego Carcia H**	**25.98**	**248**	T	T	23 13 44.5	
	baz=68,slow=75,SNR=51						
EVN	**Everest**	**27.33**	**341**	P	**P**	**22 47 04.7**	**+0.4**
EVN				IAmb	IAmb	22 47 07.3	
	comp=Z,12nm,0.7s						
LSA	**Lhasa**	**27.90**	**350**	P	**P**	**22 47 08.4**	**-0.7**
LSA				IAmb	IAmb	22 47 10.6	
	comp=Z,20nm,0.8s						
LSA	**Lhasa**	**27.90**	**350**	P	**P**	**22 47 08.4**	**-0.7**
LSA				pmax	pmax		
	comp=Z,26nm,0.8s						
CD2	**Chengdu**	**29.40**	**13**	P	**P**	**22 47 20.6**	**-1.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
MBWA	**Marble Bar**	**32.37**	**137**	P	**P**	**22 47 48.8**	**+0.6**
MBWA				IAmb	IAmb	22 48 01.1	
	comp=Z,11nm,1.1s						
PSA00	**Pilbara Seismi**	**32.73**	**137**	P	**P**	**22 47 51.8**	**+0.4**
PSA00				IAmb	IAmb	22 48 08.3	
	comp=Z,28nm,1.4s						
XAN	**Xi'an**	**33.75**	**19**	⇑P	**P**	**22 47 58.7**	**-1.5**
XAN				sP	sP	22 48 15.9	+2.3
XAN				pmax	pmax		
	comp=Z,16nm,0.9s						
XAN				LR	LR		
	comp=Z,370nm,17.9s						
XAN				LR	LR		
	comp=Z,370nm,16.5s						
XAN				LR	LR		
	comp=Z,340nm,15.1s						
GOMU	**GeErMu**	**33.93**	**357**	P	**P**	**22 48 02.3**	**+0.2**
GOMU				pmax	pmax		
	comp=Z,11nm,0.9s						
LZDM	**Lanzhou Array**	**34.28**	**10**	P	**P**	**22 48 03.9**	**-1.2**
	comp=Z,11nm,0.6s,baz=189,slow=7.3,SNR=14						
	comp=Z,11nm,0.6s						
LZH	**Lanzhou**	**34.43**	**10**	*e*P	**P**	**22 48 05.2**	**-1.0**
LZH				pP	pP	22 48 15.5	-0.2
LZH				sP	sP	22 48 20.8	+1.2
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
LZH				LR	LR		
	comp=Z,260nm,13.7s						
LZH				LR	LR		
	comp=Z,300nm,12.7s						
LZH				LR	LR		
	comp=Z,300nm,13.7s						
LYN	**LuoYang**	**35.47**	**23**	*e*P	**P**	**22 48 15.3**	**+0.3**
LYN				pmax	pmax		
	comp=Z,30nm,0.9s						
KNRA	**Kununurra**	**36.38**	**120**	P	**P**	**22 48 21.1**	**-1.9**
NJ2	**Nanjing**	**36.38**	**33**	*e*P	**P**	**22 48 25.1**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
GTA	**Gaotai**	**37.21**	**4**	P	**P**	**22 48 30.2**	**+0.2**
GTA				pmax	pmax		
	comp=Z,55nm,0.9s						
GTA				LR	LR		
	comp=Z,160nm,17.1s						
GTA				LR	LR		
	comp=Z,110nm,18.3s						
GTA				LR	LR		
	comp=Z,120nm,19.1s						
MTN	**Manton Dam**	**37.35**	**114**	P	**P**	**22 48 30.5**	**-0.8**
NIL	**Nilore**	**38.22**	**328**	P	**P**	**22 48 38.4**	**-0.1**
KDU	**Kakadu**	**38.52**	**113**	P	**P**	**22 48 39.7**	**-1.5**
HNS	**HongShan**	**38.83**	**23**	⇓P	**P**	**22 48 43.8**	**+0.3**
HNS				pmax	pmax		
	comp=Z,21nm,0.9s						
HNS				LR	LR		
	comp=Z,240nm,14.9s						
HNS				LR	LR		
	comp=Z,240nm,15.8s						
JOW	**Kunigami**	**39.03**	**48**	P	**P**	**22 48 45.4**	**0.0**
H01W3	**Cape Leeuwin H**	**40.33**	**158**	T	T	23 31 41.0	
	baz=332,slow=76,SNR=194						
H01W2	**Cape Leeuwin H**	**40.34**	**158**	T	T	23 31 49.3	
	baz=332,slow=76,SNR=170						
H01W1	**Cape Leeuwin H**	**40.34**	**158**	T	T	23 31 42.2	
	baz=332,slow=76,SNR=156						
HHC	**Hu-ho-hao-te**	**40.83**	**17**	*e*P	**P**	**22 49 04.4**	**+4.2**
HHC				sP	sP	22 49 18.1	+4.4
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		

HHC LR LR
comp=Z,160nm,14.3s
HHC LR LR
comp=Z,200nm,21.9s
HHC LR LR
comp=Z,190nm,17.7s
BJT Baijiatuau 41.67 23 P **P** **22 49 06.0 -1.0**
BJT IAmb IAmb 22 49 08.5
comp=Z,18nm,0.9s
BJT Baijiatuau 41.67 23 P **P** **22 49 07.5 +0.5**
KSH Kashi 41.68 336 P **P** **22 49 06.6 -0.7**
KSH pP pP 22 49 17.9 +1.1
KSH pmax pmax
comp=Z,8.0nm,0.7s
BJI Beijing 41.69 23 P **P** **22 49 07.5 +0.3**
BJI pP **pP** **22 49 16.6 -0.1**
BJI sP **sP** **22 49 20.3 -0.3**
BJI S **S** **22 55 20.3 -1.6**
BJI pmax pmax
comp=Z,10.0nm,1.0s
BJI LR LR
comp=Z,81nm,20.1s
BJI LR LR
comp=Z,60nm,16.4s
BJI LR LR
comp=Z,71nm,18.5s
WMQ Urumqi 42.26 350 *e*P **P** **22 49 09.9 -1.9**
WMQ pmax pmax
comp=Z,66nm,1.1s
SMPI Sarmi 42.28 95 P **P** **22 49 11.8 -0.6**
comp=Z,45nm,1.2s
TARG Taragay, Kyrgy 42.89 339 P **P** **22 49 17.4 0.0**
TARG IAmb IAmb 22 49 21.2
comp=Z,46nm,1.3s
WRA Warramunga Arr 43.02 122 P **P** **22 49 17.9 -0.5**
WRA Warramunga Arr 43.02 122 P **P** **22 49 17.6 -0.7**
comp=Z,11nm,0.7s,baz=297,slow=8.3,SNR=97
WRA PcP **PcP** **22 51 07.7 -0.6**
comp=Z,1.3nm,0.8s,baz=297,slow=3.5,SNR=3.8
comp=Z,11nm,0.7s
WRAB Tennant Creek 43.03 122 P **P** **22 49 18.2 -0.1**
WRAB IAmb IAmb 22 49 18.9
comp=Z,15nm,0.8s
DL2 Dalian 43.13 29 P **P** **22 49 18.9 0.0**
DL2 pmax pmax
comp=Z,63nm,0.8s
DL2 LR LR
comp=Z,200nm,17.2s
DL2 LR LR
comp=Z,200nm,15.8s
DL2 LR LR
comp=Z,160nm,11.5s
CHGR Chuyangaron 44.17 329 P **P** **22 49 27.8 +0.4**
SIMJ Simiganj 44.25 329 P **P** **22 49 28.2 +0.2**
SIMJ IAmb IAmb 22 49 32.1
comp=Z,14nm,0.7s
SIMJ Simiganj 44.25 329 P **P** **22 49 28.3 +0.2**
SIMJ sP **sP** **22 49 42.3 +0.9**
JAY Jayapura 44.31 96 P **P** **22 49 26.7 -2.2**
comp=Z,17nm,0.8s
TJN Taejon 44.35 36 P **P** **22 49 28.1 -0.6**
TJN Taejon 44.35 36 P **P** **22 49 28.6 -0.2**
ASAR Alice Springs 44.42 127 P **P** **22 49 30.0 +0.4**
ASAR Alice Springs 44.42 127 P **P** **22 49 29.0 -0.6**
comp=Z,6.1nm,0.8s,baz=301,slow=8.5,SNR=44
ASAR PcP **PcP** **22 51 13.0 -0.1**
comp=Z,1.2nm,0.7s,baz=292,slow=2.9,SNR=4.6
ASAR ScP **ScP** **22 55 04.3 +1.4**
comp=Z,0.7nm,0.9s,baz=284,slow=3.7,SNR=3.5
ASAR LR LR 23 09 03.4
comp=Z,81nm,21.5s,baz=306,slow=38
comp=Z,6.1nm,0.8s
AS01 Alice Springs 44.46 127 P **P** **22 49 30.6 +0.7**
JNU Nakatsue 44.49 42 P **P** **22 49 29.8 -0.3**
JNU IAmb IAmb 22 49 30.4
comp=Z,14nm,0.9s
UCH Uchtor 44.56 337 P **P** **22 49 32.5 +1.5**
SNR=13
TKM2 Tokmak 2 44.74 338 P **P** **22 49 32.8 +0.8**
SNR=11
KBK Karagaybulak 44.76 337 P **P** **22 49 33.5 +1.3**
SNR=15
AAK Ala-Archa 44.92 337 P **P** **22 49 34.4 +1.0**
AAK IAmb IAmb 22 49 40.1
comp=Z,10nm,1.0s
FRU1 Bishkek 45.01 337 P **P** **22 49 34.5 +0.4**
FRU1 IAmb IAmb 22 49 38.0
comp=Z,11nm,0.8s
XLT XiLinHaoTe 45.03 20 *e*P **P** **22 49 34.6 +0.4**
XLT pmax pmax
comp=Z,11nm,0.6s
XLT pmax pmax
comp=Z,120nm,6.5s
XLT LR LR
comp=Z,350nm,14.6s
XLT LR LR
comp=Z,140nm,12.1s
XLT LR LR
comp=Z,560nm,15.6s
CHMS Chumysh 45.12 337 P **P** **22 49 35.7 +0.8**
SNR=6.6
EKS2 Erkin-Say 45.22 336 P **P** **22 49 37.2 +1.5**
SNR=6.7
KSRS Korea Array 45.41 35 P **P** **22 49 36.2 -1.0**
comp=Z,10nm,0.8s,baz=228,slow=8.3,SNR=38
comp=Z,10nm,0.8s
USP Ospenovka 45.45 337 P **P** **22 49 38.5 +1.0**
SNR=17
MKAR Makanchi Array 46.20 346 P **P** **22 49 43.7 +0.4**
MKAR Makanchi Array 46.20 346 P **P** **22 49 43.4 +0.2**
comp=Z,32nm,0.7s,baz=161,slow=8.0,SNR=267
MKAR LR LR 23 10 47.9
comp=Z,126nm,22.0s,baz=143,slow=38
comp=Z,32nm,0.7s
MAKZ Makanchi 46.28 346 ⇑P **P** **22 49 43.9 0.0**
MAKZ sP **sP** **22 49 57.5 0.0**
SONM Songino Array 46.30 9 P **P** **22 49 44.0 -0.1**
SONM IAmb IAmb 22 49 45.4
comp=Z,19nm,0.9s
SONM Songino Array 46.30 9 P **P** **22 49 44.2 +0.1**
comp=Z,17nm,0.8s,baz=191,slow=9.0,SNR=70
SONM PcP **PcP** **22 51 19.7 +0.5**
comp=Z,1.4nm,0.7s,baz=192,slow=2.2,SNR=2.8
comp=Z,17nm,0.8s
ULN Ulaanbaatar 46.43 10 P **P** **22 49 45.1 -0.2**
ULN IAmb IAmb 22 49 46.3
comp=Z,12nm,0.9s
JMN Monobe 46.89 44 P **P** **22 49 48.9 -0.1**
JMN Monobe 46.89 44 P **P** **22 49 49.7 +0.7**
KKAR Karatay Array 46.96 334 P **P** **22 49 49.7 +0.4**
QIS Mount Isa 47.77 120 P **P** **22 49 56.2 +0.3**
comp=Z,9.0nm,1.7s
QIS Mount Isa 47.77 120 P **P** **22 49 57.0 +1.0**
CN2 Changchun 48.74 28 P **P** **22 50 02.5 -0.5**
CN2 pmax pmax
comp=Z,20nm,0.7s
COEN Coen 48.83 111 P **P** **22 50 03.5 -0.7**
COEN IAmb IAmb 22 50 04.3
comp=Z,23nm,1.2s
JCJ Chichijima 50.17 56 P **P** **22 50 15.0 +0.7**
JGF Kuroka 50.31 44 P **P** **22 50 14.9 -0.4**
JGF IAmb IAmb 22 50 15.4
comp=Z,23nm,1.0s
JGF Kuroka 50.31 44 P **P** **22 50 14.9 -0.4**
KURBB Kurchatov Arra 50.68 345 P **P** **22 50 18.0 +0.3**
comp=Z,14nm,0.7s,baz=164,slow=7.1,SNR=121
KURBB PcP **PcP** **22 51 33.8 -1.0**
comp=Z,1.2nm,0.3s,baz=162,slow=3.7,SNR=4.7
KURBB LR LR 23 15 12.9
comp=Z,90nm,20.3s,baz=168,slow=40
comp=Z,14nm,0.7s
JHJ2 Mitsune 50.83 48 *e*LR LR 23 04 59.2
comp=Z,9.0nm,24.4s
HIA Hailar 50.95 19 P **P** **22 50 20.3 +0.5**
BBOO Buckleboo 50.95 136 P **P** **22 50 19.3 -0.8**
BBOO IAmb IAmb 22 50 24.7
comp=Z,10nm,0.9s
BNX BinXian 51.12 27 ⇓P **P** **22 50 20.7 -0.4**
BNX pmax pmax
comp=Z,27nm,0.7s
MDJ Mudanjiang 51.34 30 P **P** **22 50 24.4 +1.6**
MAJO Matsushiro 51.40 43 P **P** **22 50 24.4 +1.0**
MJAR Matsushiro Arr 51.40 43 P **P** **22 50 22.6 -0.8**
MJAR Matsushiro Arr 51.40 43 P **P** **22 50 22.9 -0.5**
comp=Z,3.9nm,0.8s,baz=220,slow=6.1,SNR=18
MJAR PcP **PcP** **22 51 37.3 -0.4**
comp=Z,1.4nm,0.4s,baz=234,slow=4.2,SNR=6.4
MJAR LR LR 23 13 13.1
comp=Z,64nm,20.5s,baz=256,slow=37
comp=Z,3.9nm,0.8s
PMG Port Moresby 51.63 104 P **P** **22 50 25.3 -0.2**
PMG Port Moresby 51.63 104 P **P** **22 50 25.7 +0.3**
USRK Ussuriysk Ar. 52.27 32 **P** **22 50 29.7 0.0**
USRK Ussuriysk Ar. 52.27 32 P **P** **22 50 29.5 -0.2**
comp=Z,5.7nm,0.7s,baz=233,slow=7.7,SNR=17
USRK PcP **PcP** **22 51 39.5 -1.3**
comp=Z,0.5nm,0.3s,baz=212,slow=5.1,SNR=1.4
USRK LR LR 23 14 55.7
comp=Z,167nm,18.4s,baz=219,slow=39
comp=Z,5.7nm,0.7s
ZALV Zalesovo Beam 52.55 351 P **P** **22 50 31.9 +0.3**
ZALV Zalesovo Beam 52.55 351 P **P** **22 50 31.8 +0.2**
comp=Z,45nm,0.6s,baz=171,slow=6.8,SNR=193
ZALV LR LR 23 15 06.6
comp=Z,66nm,18.6s,baz=191,slow=39
RAYN Ar Rayn 53.81 298 P **P** **22 50 42.9 +1.4**
STKA Stephens Creek 54.41 132 P **P** **22 50 46.5 +0.8**
STKA Stephens Creek 54.41 132 P **P** **22 50 46.1 +0.4**
comp=Z,2.7nm,0.7s,baz=313,slow=16,SNR=4.7
STKA LR LR 23 16 16.0
comp=Z,73nm,20.4s,baz=356,slow=39
comp=Z,2.7nm,0.7s
HEH HeiHe 54.58 24 *e*P **P** **22 50 45.9 -0.7**
HEH pmax pmax
comp=Z,12nm,1.2s
BVAR Borovoye Array 55.18 341 P **P** **22 50 50.6 -0.2**
comp=Z,10nm,0.6s,baz=145,slow=8.9,SNR=51
comp=Z,10nm,0.6s
BORK Borovoye 55.22 341 P **P** **22 50 51.0 -0.1**
ABKAR Akbulak array 56.42 332 P **P** **22 50 60.0 +0.1**
CMSA Cobar Meteorol 57.34 130 P **P** **22 51 07.3 +0.7**
comp=Z,18nm,0.9s
CMSA Cobar Meteorol 57.34 130 P **P** **22 51 07.7 +1.0**
ERM Érimo 57.52 40 P **P** **22 51 08.1 +0.3**
ERM IAmb IAmb 22 51 21.7
comp=Z,28nm,1.4s
FURI Furi 58.01 279 LR LR 23 13 08.9
comp=Z,58nm,20.1s,baz=104,slow=33
ASAJ Asahikawa 58.27 38 LR LR 23 16 27.7
comp=Z,69nm,20.3s,baz=320,slow=36
TOO Toolangi 60.01 136 P **P** **22 51 26.2 +0.9**
ARTI Arti 62.14 337 P **P** **22 51 38.9 -0.3**
ARTI Arti 62.14 337 LR LR 23 20 31.5
comp=Z,67nm,20.0s,baz=177,slow=38
ARTI Arti 62.14 337 P **P** **22 51 39.0 -0.2**
ARTI pP **pP** **22 51 48.9 -0.1**
H04N2 CROZET ISLANDS 62.23 214 T T 23 59 05.8
baz=52,slow=75,SNR=2695
H04N1 CROZET ISLANDS 62.24 214 T T 23 59 28.9
baz=52,slow=75,SNR=3576
H04N3 CROZET ISLANDS 62.25 214 T T 23 59 12.5
baz=52,slow=75,SNR=2931
H04S1 CROZET ISLANDS 62.58 213 T T 23 59 44.0
baz=52,slow=75,SNR=2116
H04S3 CROZET ISLANDS 62.59 213 T T 23 59 39.4
baz=52,slow=75,SNR=2566
H04S2 CROZET ISLANDS 62.60 213 T T 23 59 33.2
baz=52,slow=75,SNR=1663
KBZ Khabaz 62.99 319 P **P** **22 51 45.3 +0.2**
comp=Z,3.5nm,1.0s,baz=117,slow=6.8,SNR=6.1
comp=Z,3.5nm,1.0s
YAK Yakutsk 64.69 17 P **P** **22 51 55.4 -0.5**
BRTR Keskin Array B 68.06 312 P **P** **22 52 17.7 -0.5**
comp=Z,1.3nm,0.8s,baz=108,slow=4.7,SNR=8.4
comp=Z,1.3nm,0.8s
CASY Casey 68.99 174 *e*LR LR 23 13 21.7
comp=Z,59nm,25.0s
LSZ Lusaka 69.83 253 LR LR 23 18 55.1
comp=Z,98nm,20.8s,baz=104,slow=32
PETK Petropavlovsk- 71.28 34 P **P** **22 52 38.1 +0.5**
PETK Petropavlovsk- 71.28 34 P **P** **22 52 36.9 -0.8**
comp=Z,2.1nm,0.8s,baz=224,slow=10,SNR=4.1
comp=Z,2.1nm,0.8s
PET Petropavlovsk 71.78 34 P **P** **22 52 41.1 +0.5**
DZM Mont Dzumac 72.19 114 *e*LR LR 23 14 42.9
comp=Z,88nm,24.1s
TIXI Tiksi 72.37 10 LR LR 23 28 10.5
comp=Z,75nm,18.3s,baz=224,slow=39
LBTB Lobatse 73.79 243 LR LR 23 20 48.5
comp=Z,107nm,20.9s,baz=76,slow=32
SORM Soroca 74.02 320 ⇑P **P** **22 52 53.7 -0.3**
AKASG Malin Array Be 74.17 322 P **P** **22 52 53.8 -1.0**
comp=Z,0.9nm,0.5s,baz=92,slow=4.9,SNR=8.2
AKASG LR LR 23 30 10.6
comp=Z,24nm,18.5s,baz=92,slow=40
comp=Z,0.9nm,0.5s
KIEV Kiev 74.17 322 P **P** **22 52 54.6 -0.3**
KIEV Kiev 74.17 322 ⇓P **P** **22 52 54.2 -0.6**
VRI Vrincioaia 74.54 317 ⇑P **P** **22 52 58.0 +0.8**
TESR Tescani 74.74 318 ⇑P **P** **22 52 58.6 +0.3**
BOSA Boshof 74.75 240 LR LR 23 20 21.8
comp=Z,62nm,18.1s,baz=13,slow=31
MLR Muntele Rosu 74.99 317 ⇑P **P** **22 53 00.9 +1.0**
PLVB Pleven 75.49 314 ⇓P **P** **22 53 03.9 +1.2**
BURAR Bucovina Array 75.94 319 P **P** **22 53 06.2 +0.9**
BURAR Bucovina Array 75.94 319 ⇓P **P** **22 53 07.3 +2.0**
MNK Minsk 76.03 326 *i* P **P** **22 53 04.7 -0.8**
comp=E,6.0nm,0.9s
MNK *i* P **P** **22 53 04.7 -0.8**
comp=N,7.0nm,0.8s
MNK *i* P **P** **22 53 04.7 -0.8**
comp=Z,13nm,0.8s,baz=106
MNK *i* PcP **pP** **22 53 13.3 -2.2**
MNK *i* PP **PP** **22 55 58.3 +2.0**
MNK *i* PPP PPP 22 57 30.9
MNK *i* S **S** **23 02 48.5 +2.0**
MNK *i* PS **PnS** **23 03 15.7 -11**
MNK *i* SS SS 23 08 05.7 +26
MARR Marisel-Cluj 77.16 317 ⇓P **P** **22 53 13.3 +1.1**
DRGR 77.45 317 ⇑P **P** **22 53 12.5 -1.3**
LVZ Lovozero 77.76 340 P **P** **22 53 15.0 0.0**
LVZ pP **pP** **22 53 25.9 +0.7**
LVZ sP **sP** **22 53 30.2 +1.3**
FINES FINESS Array B 78.90 333 P **P** **22 53 20.6 -0.8**
comp=Z,3.1nm,0.7s,baz=108,slow=4.5,SNR=18
FINES LR LR 23 31 51.3
comp=Z,79nm,19.2s,baz=88,slow=38
comp=Z,3.1nm,0.7s
MORH Mrgy. Hungar 80.14 316 ⇑P **P** **22 53 28.5 0.0**
TSUM Tsumeb 80.36 250 LR LR 23 27 23.8
comp=Z,39nm,18.9s,baz=151,slow=34
ARCES ARCESS Array B 81.46 340 P **P** **22 53 35.5 +0.4**
comp=Z,2.2nm,0.5s,baz=108,slow=6.7,SNR=25
ARCES LR LR 23 35 07.0
comp=Z,60nm,18.4s,baz=166,slow=40
comp=Z,2.2nm,0.5s
VRAC Vranov 81.88 319 LR LR 23 34 25.0
comp=Z,23nm,20.6s,baz=97,slow=39
ARSA Arzberg 82.39 317 *e*P **P** **22 53 41.1 +0.6**
comp=Z,1.7nm,0.9s
SNZO South Karori 82.47 132 *e*LR LR 23 19 40.6
comp=Z,7.9nm,22.0s
SOKA Soboth 82.67 317 *e*P **P** **22 53 42.6 +0.6**
comp=Z,3.3nm,0.9s
OBKA Obir 82.99 316 *e*P **P** **22 53 43.8 +0.2**
comp=Z,2.2nm,1.0s
MOA Molln 83.28 318 *e*P **P** **22 53 45.1 0.0**
comp=Z,0.3nm,0.3s
GERES GERESS Array B 83.73 319 P **P** **22 53 47.3 -0.1**
comp=Z,2.3nm,0.9s,baz=93,slow=5.8,SNR=10
comp=Z,2.3nm,0.9s
NRCA Norcia 83.79 313 P **P** **22 53 47.4 -0.5**
URZ Urewera 83.85 129 LR LR 23 33 26.6
comp=Z,67nm,19.4s,baz=290,slow=37
STAL STALIGIAL 84.25 316 P **P** **22 53 50.1 +0.1**
STAL IAmb IAmb 22 54 03.6
comp=Z,10nm,1.3s
HFS Hagfors 84.62 330 P **P** **22 53 52.0 +0.4**
comp=Z,2.6nm,0.9s,baz=115,slow=10,SNR=6.9
comp=Z,2.6nm,0.9s
WTTA Wattenberg 85.03 317 *e*P **P** **22 53 53.6 -0.6**
comp=Z,3.5nm,0.7s
WATA Walderalm 85.07 317 *e*P **P** **22 53 54.3 -0.1**
comp=Z,1.7nm,0.7s
SQTA Sankt Quirin 85.32 317 *i* P **P** **22 53 55.2 -0.4**
comp=Z,2.3nm,0.6s
MOTA Moosalm 85.39 317 *e*P **P** **22 53 55.4 -0.6**
comp=Z,1.5nm,0.8s
RETA Reutte 85.63 317 *e*P **P** **22 53 56.9 -0.1**
comp=Z,2.8nm,0.6s
NOA NORSAR Array B 85.91 331 P **P** **22 53 58.5 +0.5**
comp=Z,1.5nm,0.9s,baz=93,slow=4.7,SNR=3.8
comp=Z,1.5nm,0.9s
SPITS Spitsbergen Ar 85.92 348 P **P** **22 53 57.6 -0.2**
comp=Z,4.1nm,0.8s,baz=106,slow=11,SNR=4.1
SPITS LR LR 23 40 07.6
comp=Z,49nm,18.2s,baz=120,slow=41
comp=Z,4.1nm,0.8s
FUORN Ofenpass-Fuorn 85.95 316 P **P** **22 53 59.0 +0.2**
DAVA Damuels 86.23 317 *e*P **P** **22 54 00.0 0.0**
comp=Z,4.8nm,1.0s
C18K Utukok River 92.45 21 P **P** **22 54 29.3 +0.4**
C19K Lookout Ridge 92.91 20 P **P** **22 54 30.3 -0.7**
JOHN Johnston Islan 93.07 73 *e*LR LR 23 24 28.1
comp=Z,87nm,24.3s
D19K Kuna River 93.58 21 P **P** **22 54 34.8 +0.7**
EKA Eskdalemuir Ar 93.82 326 P **P** **22 54 35.8 +0.4**
comp=Z,1.3nm,0.8s,baz=71,slow=5.9,SNR=3.7
comp=Z,1.3nm,0.8s
J16K Anvik River 93.83 26 P **P** **22 54 35.1 -0.2**
J16K IAmb IAmb 22 54 49.6
comp=Z,10nm,1.1s
G18K Tagagawik 94.04 23 P **P** **22 54 35.9 -0.3**
G18K IAmb IAmb 22 54 37.8
comp=Z,5.8nm,1.1s
E19K Redstone River 94.18 22 P **P** **22 54 37.1 +0.3**
E19K IAmb IAmb 22 54 51.0
comp=Z,5.4nm,0.9s
TORD Torodi Ar. Bea 94.32 283 P **P** **22 54 38.5 0.0**
comp=Z,0.4nm,0.9s,baz=80,slow=3.8,SNR=2.1
TORD LR LR 23 36 06.9
comp=Z,61nm,18.9s,baz=129,slow=35
comp=Z,0.4nm,0.9s
F20K Avaraart Lake 94.86 22 P **P** **22 54 39.8 -0.1**
F20K IAmb IAmb 22 54 41.2
comp=Z,6.1nm,0.8s
SNAA Sanae 95.00 198 LR LR 23 32 24.5
comp=Z,23nm,18.9s,baz=105,slow=32
H19K Roundabout Mou 95.02 24 P **P** **22 54 42.0 +1.4**
H19K IAmb IAmb 22 54 42.5
comp=Z,6.1nm,0.8s
L18K Granite Mounta 95.84 27 P **P** **22 54 45.5 +1.0**
L18K IAmb IAmb 22 55 02.3
comp=Z,9.4nm,1.4s
ILAR Eielson Array 99.06 23 P **Pdif** **22 54 58.4 -0.6**
comp=Z,0.2nm,0.8s,baz=304,slow=3.8,SNR=2.1
comp=Z,0.2nm,0.8s
XMAS Kiritimati 105.83 87 *e*LR LR 23 30 24.8
comp=Z,6.7nm,38.0s
POHA Pohakuloa 106.02 69 *e*LR LR 23 30 26.5
comp=Z,3.5nm,26.5s
TBI Tubuai 112.77 114 *e*LR LR 23 33 32.2
comp=Z,352nm,28.2s
PPT2 Papeete2 113.31 108 *e*LR LR 23 33 43.1
comp=Z,66nm,24.0s
PPT2 *e*LR LR 23 33 49.5
comp=Z,121nm,30.5s
PMSA Palmer Station 115.95 189 *e*LR LR 23 35 03.4
comp=Z,76nm,26.0s
RKT Rikitea 125.87 117 *e*LR LR 23 39 37.1
comp=Z,44µm,43.8s
NVAR Mina Array Bea 128.35 35 PKP **PKiKP** **23 00 26.2 0.0**
comp=Z,0.7nm,0.8s,baz=302,slow=1.1,SNR=4.9
PDAR Pinedale Array 129.44 25 PKP **PKPdf** **23 00 26.0 -1.5**
comp=Z,0.8nm,0.3s,baz=324,slow=2.3,SNR=4.3
CPUP Villa Florida 145.29 224 PKPbc **PKPdf** **23 00 57.1 +0.3**
comp=Z,0.7nm,0.7s,baz=114,slow=12,SNR=5.8

JMA 01 22:48:02.5±0.1, 42.1°N±0.3°, 140.4°E±0.4, h7 km±1 km, MV1.4/24, OSHIMA PEN REG HOKKAIDO, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYM2	**Yakumo 2**	**0.04**	**276**	*i* P	Pg	22 48 03.7	-0.2
JKB	**Kayabe**	**0.51**	**116**	P	Pg	22 48 12.1	-0.2
JKB				*e*S	Sg	22 48 18.8	0.0
JNB	**Noboribetsu**	**0.58**	**52**	*e*P	Pg	22 48 13.4	-0.3
JNB				S	Sg	22 48 21.1	-0.1
JSR	**Shiriuchi**	**0.58**	**181**	*e*S	Sg	22 48 21.4	+0.1
JSH	**Shimam**	**0.60**	**332**	*e*P	Pg	22 48 14.2	+0.1
JOMM	**Oshimamatsumae**	**0.67**	**208**	S	Sb	22 48 25.0	-0.9
JOT	**Ohata**	**0.87**	**147**	*e*P	Pg	22 48 18.5	-0.7

*CATAC **01** 22:55:50.2±0.4, 13°N±2°, 9°0W±°, h26 km±2 km, M4.3/24, MLv4.3/24, Error ellipse: s-maj=5.5km s-min=2.9km az=25.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.72; $M_{\theta\theta}$0.07; $M_{\phi\phi}$-2.79; $M_{r\theta}$-3.41; $M_{\theta\phi}$-1.90; $M_{\phi r}$-1.41; Fault plane solution: $M_0$4.98075×10^{15} NP1: ϕ_s235.54043°, δ71.61652°, λ115.62586°. NP2: ϕ_s358.86446°, δ31.17125°, λ37.53936°. Principal axes: T 5.0527, Plg55.8961°, Azm178.5943°; N -0.1471, Plg24.2313°, Azm46.9381°; P -4.9056, Plg22.4585°, Azm306.2160°; confirmed*

*SNET **01** 22:55:52.0±0.9, 13°21'N×89°46'W, h49 km±16 km, ML4.1*

ISC 01 22:55:49.7±1.7, 13°11'N±0'.07×89°50'W±0'.04, h16 km±9 km, n85, σ0°933/90, 3C-17D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.42**	**24**	⇓*i* P	**Pn**	**22 56 01.2**	**+0.2**
LALI	**Alcalda de L**	**0.42**	**24**	P	**Pn**	**22 56 01.3**	**+0.2**
LALI	**Alcalda de L**	**0.42**	**24**	S	**Sn**	**22 56 08.9**	**+0.4**
JAYA	**Jayaque - finc**	**0.55**	**5**	⇓*i* P	**Pn**	**22 56 02.8**	**-0.3**
JAYA				*e*S	**Sn**	**22 56 11.2**	**-0.7**
JAYA	**Jayaque - finc**	**0.55**	**5**	P	**Pn**	**22 56 02.8**	**-0.3**
PANCS	**Alcalda de**	**0.59**	**32**	*e*P	**Pn**	**22 56 03.2**	**-0.4**
PANCS	**Alcalda de**	**0.59**	**32**	P	**Pn**	**22 56 03.2**	**-0.4**
PANCS	**Alcalda de**	**0.59**	**32**	S	**Sn**	**22 56 12.7**	**-0.2**
LOMA	**Loma Larga**	**0.62**	**31**	⇓*i* P	**Pn**	**22 56 03.7**	**-0.4**
LOMA				*e*S	**Sn**	**22 56 13.7**	**-0.1**
LOMA	**Loma Larga**	**0.62**	**31**	P	**Pn**	**22 56 03.7**	**-0.4**
PMON	**Piamonte**	**0.63**	**16**	⇓*i* P	**Pn**	**22 56 03.8**	**-0.3**
PMON	**Piamonte**	**0.63**	**16**	P	**Pn**	**22 56 03.9**	**-0.3**
SEMO	**Seminario San**	**0.65**	**24**	S	**Sn**	**22 56 14.5**	**+0.1**
SEMO	**Seminario San**	**0.65**	**24**	P	**Pn**	**22 56 04.1**	**-0.3**
UEES	**Universidad Ev**	**0.66**	**23**	⇓*i* P	**Pn**	**22 56 04.2**	**-0.2**
UEES				*e*S	**Sn**	**22 56 14.4**	**-0.2**
UEES	**Universidad Ev**	**0.66**	**23**	P	**Pn**	**22 56 04.3**	**-0.2**
UTEC	**Universidad Te**	**0.66**	**26**	S	**Sn**	**22 56 14.8**	**+0.2**
UTEC	**Universidad Te**	**0.66**	**26**	P	**Pn**	**22 56 04.2**	**-0.3**
BOQS	**Boqueron**	**0.66**	**19**	⇓*i* P	**Pn**	**22 56 04.6**	**-0.1**
LFRS	**El Faro**	**0.67**	**40**	⇑*i* P	**Pn**	**22 56 04.5**	**-0.1**
PIC2	**El Picacho**	**0.68**	**20**	⇓*e*P	**Pn**	**22 56 04.8**	**-0.1**
IGN	**Direccin Gen**	**0.68**	**28**	⇓*i* P	**Pn**	**22 56 04.7**	**-0.2**
IGN	**Direccin Gen**	**0.68**	**28**	P	**Pn**	**22 56 04.6**	**-0.2**
IGN	**Direccin Gen**	**0.68**	**28**	S	**Sn**	**22 56 15.2**	**0.0**
UDBS	**Universidad Do**	**0.69**	**29**	*e*P	**Pn**	**22 56 04.8**	**-0.1**
UDBS	**Universidad Do**	**0.69**	**29**	S	**Sn**	**22 56 15.7**	**+0.3**
UDBS	**Universidad Do**	**0.69**	**29**	P	**Pn**	**22 56 04.8**	**-0.1**
AEIL	**Aeropuerto Ilo**	**0.69**	**32**	*e*P	**Pn**	**22 56 05.1**	**+0.2**
CEDA	**San Andres**	**0.70**	**8**	⇓*i* P	**Pn**	**22 56 04.8**	**-0.2**
CEDA	**San Andres**	**0.70**	**8**	P	**Pn**	**22 56 04.8**	**-0.2**
CEDA	**San Andres**	**0.70**	**8**	S	**Sn**	**22 56 15.6**	**0.0**
CEVE	**Cerro Verde**	**0.73**	**350**	⇓*i* P	**Pn**	**22 56 05.3**	**-0.3**
CEVE	**Cerro Verde**	**0.73**	**350**	S	**Sn**	**22 56 16.1**	**-0.5**
CEVE	**Cerro Verde**	**0.73**	**350**	P	**Pn**	**22 56 05.3**	**-0.3**
LFU	**La Fuente**	**0.74**	**30**	⇓*i* P	**Pn**	**22 56 05.7**	**0.0**
SNJE	**San Jose**	**0.76**	**352**	⇓*i* P	**Pb**	**22 56 05.7**	**+0.9**
LBRS	**Las Brisas**	**0.77**	**35**	⇓*i* P	**Pn**	**22 56 06.1**	**+0.1**
PAVA	**Las Pavas**	**0.81**	**42**	⇓*i* P	**Pn**	**22 56 06.7**	**0.0**
PAVA	**Las Pavas**	**0.81**	**42**	S	**Sn**	**22 56 18.9**	**+0.4**
PAVA	**Las Pavas**	**0.81**	**42**	P	**Pn**	**22 56 06.7**	**0.0**
TECO	**Alcaldia de Te**	**0.82**	**58**	S	**Sn**	**22 56 18.1**	**-0.4**
TECO	**Alcaldia de Te**	**0.82**	**58**	P	**Pb**	**22 56 06.0**	**+0.4**
NUBE	**Las Nubes**	**0.84**	**341**	⇓*i* P	**Pb**	**22 56 06.4**	**+0.4**
NUBE	**Las Nubes**	**0.84**	**341**	P	**Pb**	**22 56 06.4**	**+0.4**
NUBE	**Las Nubes**	**0.84**	**341**	S	**Sn**	**22 56 18.5**	**-0.7**
FAME	**Alcaldia de Sa**	**0.89**	**326**	P	**Pb**	**22 56 06.7**	**-0.1**
FAME	**Alcaldia de Sa**	**0.89**	**326**	S	**Sb**	**22 56 18.3**	**-0.1**
LOAL	**Lomas de Alarc**	**0.93**	**343**	*e*P	**Pg**	**22 56 08.1**	**+0.4**
LOAL	**Lomas de Alarc**	**0.93**	**343**	S	**Sn**	**22 56 21.9**	**+0.6**
LOAL	**Lomas de Alarc**	**0.93**	**343**	P	**Pg**	**22 56 08.2**	**+0.4**
SCLA	**Alcaldia de Sa**	**0.95**	**52**	*e*P	**Pn**	**22 56 08.6**	**0.0**
SCLA	**Alcaldia de Sa**	**0.95**	**52**	S	**Sn**	**22 56 22.2**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.95**	**52**	P	**Pn**	**22 56 08.7**	**+0.2**
SLOZ	**Alcaldia de Sa**	**0.95**	**343**	*e*P	**Pb**	**22 56 08.3**	**+0.3**
SLOZ	**Alcaldia de Sa**	**0.95**	**343**	P	**Pb**	**22 56 08.3**	**+0.3**
SLOZ	**Alcaldia de Sa**	**0.95**	**343**	S	**Sn**	**22 56 22.1**	**+0.2**
TECA	**Tecapa**	**1.04**	**68**	*e*P	**Pb**	**22 56 09.4**	**-0.1**
TECA				*e*P		22 56 09.5	
PQSS	**Presa 15 de Se**	**1.05**	**61**	⇑*e*P	**Pn**	**22 56 10.1**	**+0.3**

PQSS	Presa 15 de Se	1.05	61	P	Pg	22 56 09.9	-0.1
PQSS	Presa 15 de Se	1.05	61	S	Sn	22 56 23.6	-0.4
LLGN	La Laguna	1.18	27	*e*P	Pn	22 56 12.1	+0.4
LLGN	La Laguna	1.18	27	P	Pb	22 56 11.7	-0.1
LLGN	La Laguna	1.18	27	S	Sn	22 56 28.0	+0.5
PACA	Pacayal	1.20	72	*e*P	Pb	22 56 12.3	+0.1
PACA	Pacayal	1.20	72	S	Sg	22 56 28.5	0.0
PACA	Pacayal	1.20	72	P	Pb	22 56 12.5	+0.3
LCY	Lacayo	1.21	75	*e*P	Pn	22 56 12.2	0.0
RANC	El Ranchito	1.22	74	S	Sg	22 56 29.2	-0.1
BLLM	Bellamira	1.27	75	*e*P	Pn	22 56 13.0	+0.1
MTO3	Montecristo	1.29	6⇓	*i*P	Pn	22 56 13.4	0.0
MTO3	Montecristo	1.29	6	P	Pn	22 56 13.3	0.0
MTO3	Montecristo	1.29	6	S	Sg	22 56 30.4	-1.1
CNRM	Centro Naciona	1.34	74	*e*P	Pn	22 56 14.3	+0.4
CNRM	Centro Naciona	1.34	74	P	Pn	22 56 14.0	+0.1
CNRM	Centro Naciona	1.34	74	S	Sn	22 56 31.7	+0.3
CAHU	Cacacuatique	1.41	62	*e*P	Pn	22 56 15.3	+0.3
ESQI	Esquipulas	1.45	6⇓	*i*P	Pn	22 56 15.8	+0.3
ESQI	Esquipulas	1.45	6	S	Sb	22 56 34.5	-0.3
ESQI	Esquipulas	1.45	6	P	Pn	22 56 15.8	+0.3
CNCH	Conchagua	1.63	84⇑	*e*P	Pn	22 56 17.6	-0.3
CNCH	Conchagua	1.63	84	P	Pn	22 56 17.8	-0.1
CNCH	Conchagua	1.63	84	S	Sn	22 56 38.7	0.0
CSGN	Cosiguina Volc	1.89	94	P	Pn	22 56 21.4	-0.1
CSGN				S	Sn	22 56 44.7	-0.5
POTN	Potosi Cosigui	1.94	93	P	Pn	22 56 22.1	-0.1
POTN				S	Sn	22 56 46.0	-0.3
TGUH	Tegucigalpa,Un	2.36	66	P	Pn	22 56 28.0	+0.1

*NEIC **01** 23:19:17.5±2.5, 53.°06N±0.°08×168.°68W±0.°08, h84km±5km, mb4.2/118, ML4.2/24, ML3.8(AEIC), Error ellipse: s-maj=14.0km s-min=1.8km az=151.0*

*IDC **01** 23:19:17.1±3.9, 53.°41N×168.°84W, h82km±33km, mb3.5/16, mbtmp3.8/19, MS3.1/1, Error ellipse: s-maj=25.0km s-min=15.1km az=7.0*

*AEIC **01** 23:19:18.9±3.0, 53.°04N±0.°09×168.°67W±0.°09, h77km±5km, Error ellipse: s-maj=13.8km s-min=5.7km az=155.0*

ISC 01 23:19:17.3±0.7, **53.°05N**±0.°09×**168.°71W**±0.°05, **h91**km±6km, **n251**, σ1s**21**/257, **mb4.0**/26, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.12	227	Pn	Pn	23 19 29.1	-1.0
NIKH				Sn	Sn	23 19 38.0	-1.7
NIKH				IAML		23 19 39.0	
	comp=E,18μm,0.7s						
OKSP	Okmok Steeple	0.32	52		Pn	23 19 30.0	-1.0
OKCE	Okmok Cone E	0.50	41		Pn	23 19 31.4	-0.7
OKTU	Okmok Mt. Tuli	0.52	50		Pn	23 19 31.6	-0.7
OKNC	Okmok New Cone	0.54	41		Pn	23 19 32.0	-0.4
OKNC					Sn	23 19 43.9	+0.2
OKFG	Magazine Ridge	0.60	53		Pn	23 19 32.3	-0.6
CLCO	Concord Point,	0.67	247		Pn	23 19 33.3	-0.2
CLCO					Sn	23 19 45.4	-0.2
CLES	Cleveland East	0.75	253		Pn	23 19 34.3	0.0
CLES				Sn	Sn	23 19 47.6	+0.5
MAPS	Pakushin South	1.30	54		Pn	23 19 40.1	-0.5
MAPS					Sn	23 19 57.3	-0.9
UNV	Unalaska Valle	1.54	58		Pn	23 19 43.6	+0.1
UNV				Sn	Sn	23 20 03.4	0.0
UNV				IAML		23 20 03.9	
	comp=E,2μm,0.4s						
UNV				IAML		23 20 04.0	
	comp=N,2μm,0.3s						
LVA	Lava Point	1.94	54		Pn	23 19 49.3	+0.6
LVA				Sn	Sn	23 20 13.5	+0.7
LVA				IAML		23 20 16.3	
	comp=E,2μm,0.7s						
LVA				IAML		23 20 16.7	
	comp=N,4μm,0.7s						
AKBBA	Akutan Broad B	1.96	57		Pn	23 19 49.4	+0.4
AKBBA					Sn	23 20 14.3	+1.2
AKUT	Akutan	2.06	57		Pn	23 19 50.4	+0.2
AKUT				Sn	Sn	23 20 16.0	+0.6
AKUT	Akutan	2.06	57	P	Pn	23 19 50.5	+0.3
AKSA	Akutan Strait	2.10	58		Pn	23 19 51.1	+0.3
WEBT	Westdahl Beart	2.81	55		Pn	23 20 01.1	+0.9
SSBA	Shishaldin	3.21	56		Pn	23 20 06.2	+0.5
ATKA	Atka Island	3.45	258		Pn	23 20 09.5	+0.8
P08K	Saint George I	3.59	353	Pn	Pn	23 20 10.3	-0.4
P08K				IAML		23 20 51.8	
	comp=N,518nm,0.8s						
FALS	False Pass	3.61	58		Pn	23 20 11.5	+0.5
FALS	False Pass	3.61	58	P	Pn	23 20 10.5	-0.5
SPIA	Saint Paul Isl	4.23	349		Pn	23 20 20.0	+0.8
SPIA				IAML		23 21 10.7	
	comp=N,528nm,0.6s						
DT1	Dutton Round H	4.31	59		Pn	23 20 20.8	+0.3
DOL	Dolgoi Island	4.54	60		Pn	23 20 24.2	+0.6
S12K	Black Hills	4.71	53	Pn	Pn	23 20 26.2	+0.4
S12K				IAML		23 21 30.9	
	comp=N,103nm,1.1s						
PS1A	Pavlof South-1	4.73	57		Pn	23 20 26.0	-0.1
KIWB	Kanaga Island	5.30	260	Pn	Pn	23 20 35.0	+1.1
KIWB				IAML		23 21 50.4	
	comp=E,132nm,0.6s						
KIWB				IAML		23 21 56.5	
	comp=N,98nm,0.8s						
SDPT	Sand Point	5.35	61	Pn	Pn	23 20 35.0	+0.4
SDPT				IAML		23 21 57.0	
	comp=E,115nm,0.9s						
SDPT				IAML		23 21 59.2	
	comp=N,126nm,1.2s						
SDPT	Sand Point	5.35	61	P	Pn	23 20 35.0	+0.4
VNKR	Veniaminof 5	6.20	58		Pn	23 20 46.5	+0.4
CHGN	Chignik	6.80	57	Pn	Pn	23 20 54.1	-0.1
O14K	Tigyukauivet M	7.47	31	Pn	Pn	23 21 03.8	+0.4
M11K	Mekoryuk	7.48	10	Pn	Pn	23 21 04.2	+0.7
AMKA	Amchitka	7.55	262	Pn	Pn	23 21 05.7	+1.2
O15K	Ungalikthiuk R	7.89	35	Pn	Pn	23 21 10.1	+1.0
N14K	Kuskokwak Cree	7.91	27	Pn	Pn	23 21 08.4	-0.8
M13K	Dall Lake	7.94	20	Pn	Pn	23 21 11.2	+1.4
CHIR	Chirikof Islan	8.12	65	Pn	Pn	23 21 10.6	-1.7
CHIR	Chirikof Islan	8.12	65	P	Pn	23 21 10.7	-1.5
PLK4	Peulik 4	8.40	52	Pn	Pn	23 21 16.9	+0.7
P16K	Nushagak River	8.47	41	Pn	Pn	23 21 18.2	+1.2
M14K	Bethel	8.55	23		Pn	23 21 19.0	+0.9
N15K	Kwethluk River	8.56	30		Pn	23 21 19.4	+1.1
O16K	Kokwok River B	8.81	38		Pn	23 21 22.7	+1.1
L14K	Kuka Creek	8.93	19	Pn	Pn	23 21 23.9	+0.7
SII	Sitkinak Islan	9.09	62	Pn	Pn	23 21 23.6	-1.9
SII	Sitkinak Islan	9.09	62	P	Pn	23 21 24.4	-1.1
K13K	Kusilvak Mount	9.17	12	Pn	Pn	23 21 27.2	+0.8
OHAK	Old Harbor	9.77	59	Pn	Pn	23 21 32.0	-2.6
OHAK	Old Harbor	9.77	59	P	Pn	23 21 31.4	-3.2
N17K	Nushagak Hills	9.79	36		Pn	23 21 36.4	+1.5
P18K	Big Mountain,	9.82	44	Pn	Pn	23 21 36.7	+1.3
L16K	Owhat River	10.00	26	Pn	Pn	23 21 37.9	+0.2
K15K	Wolf Creek Mou	10.02	20		Pn	23 21 39.7	+1.6
Q19K	Cape Douglas,	10.28	49	Pn	Pn	23 21 41.6	0.0
KDAK	Kodiak Island	10.31	56	Pn	Pn	23 21 40.3	-1.8
KDAK	Kodiak Island	10.31	56	P	Pn	23 21 38.7	-3.3
	comp=N,7.9nm,0.3s,baz=247,slow=7.6,SNR=36						
KDAK				S	Sn	23 23 25.3	-10
	comp=N,17nm,1.1s,baz=246,slow=10.0,SNR=2.2						
KDAK				LR	LR	23 25 44.6	
	comp=N,109nm,18.6s,baz=232,slow=38						
M17K	Holitna River	10.35	32		Pn	23 21 43.9	+1.3
N18K	Kilae Creek	10.36	37	Pn	Pn	23 21 43.1	+0.4
O19K	Port Alsworth	10.66	42	Pn	Pn	23 21 45.4	-1.4
SYI	Shuyak Island	10.72	52		Pn	23 21 46.1	-1.5
P19K	Oil Pt	10.82	46	Pn	Pn	23 21 49.7	+0.7
N19K	Bonanza Creek	10.97	39		Pn	23 21 51.7	+0.6
J16K	Anvik River	11.11	19	Pn	Pn	23 21 54.2	+1.4
K17K	Iditarod	11.14	26		Pn	23 21 54.0	+0.6
L18K	Granite Mounta	11.20	30	Pn	Pn	23 21 54.7	+0.6
J17K	VABM Dome	11.53	22	Pn	Pn	23 21 58.7	+0.2
CNPM	China Poot	11.65	49	Pn	Pn	23 21 58.9	-1.4
M19K	Big River Lodg	11.72	35		Pn	23 22 03.2	+2.1
L19K	White Mountain	11.76	33		Pn	23 22 03.0	+1.3
SPU	Mount Spurr	12.14	41	Pn	Pn	23 22 08.7	+1.8
J18K	Innoko River	12.17	26	Pn	Pn	23 22 08.5	+1.3
STLK	Strandline Lak	12.41	40	Pn	Pn	23 22 13.3	+2.8
TNA	Tin City	12.55	2	Pn	Pn	23 22 12.1	-0.1
SLKM	Skilak Lake	12.56	46	Pn	Pn	23 22 11.4	-0.9
SEW	Seward	12.72	49	Pn	Pn	23 22 12.1	-2.3
G16K	Koyuk River	12.79	12	Pn	Pn	23 22 17.3	+2.0
SKT	Skwentna	12.81	39	Pn	Pn	23 22 17.5	+1.7
K20K	Telida	12.86	31	Pn	Pn	23 22 17.7	+1.4
F15K	North Star Dit	12.86	8	Pn	Pn	23 22 18.2	+1.9
J19K	Poorman	12.89	27	Pn	Pn	23 22 17.9	+1.1
RC01	Rabbit Creek A	13.05	44	Pn	Pn	23 22 17.5	-1.3
PPLA	Purkeypile	13.15	35	Pn	Pn	23 22 21.8	+1.4
H18K	Honhosa River	13.22	19	Pn	Pn	23 22 23.1	+2.0
J20K	Nowinta River	13.44	28		Pn	23 22 25.1	+1.1
CAST	Castle Rocks	13.54	33		Pn	23 22 27.6	+2.3
PWL	Port Wells	13.54	47	Pn	Pn	23 22 23.0	-2.3
PMR	Palmer	13.55	43	Pn	Pn	23 22 23.4	-2.1
GHO	Glory Hole Cre	13.73	43		Pn	23 22 27.8	0.0
G18K	Tagagawik	13.83	17	Pn	Pn	23 22 31.4	+2.4
F17K	Baldwin Pennin	13.93	13	Pn	Pn	23 22 31.3	+1.0
KTH	Kantishna Hill	14.02	34		Pn	23 22 34.1	+2.5
TRF	Thorofare Moun	14.17	35	Pn	Pn	23 22 35.8	+2.2
HIN	Hinchinbrook I	14.18	50	Pn	Pn	23 22 31.8	-1.9
BPAW	Bear Paw Mtn.	14.36	33		Pn	23 22 38.1	+2.2
SCM	Sheep Creek Mo	14.42	44	Pn	Pn	23 22 35.0	-1.8
EYAK	Cordova Ski Ar	14.59	50	P	Pn	23 22 36.6	-2.2
RND	Reindeer	14.66	37		Pn	23 22 40.3	+0.5
MCK	McKinley	14.82	36	Pn	Pn	23 22 42.4	+0.5
E18K	Tukpahlearik C	14.94	12	P	P	23 22 49.5	+2.8
H21K	Melozitna Rive	14.95	26	P	P	23 22 45.5	-1.3
IMAR	Indian Mountai	14.96	24	Pn	Pn	23 22 45.4	+1.8
DHY	Denali Highway	15.03	40		Pn	23 22 44.8	+0.3
M24K	Tolsona, Glenn	15.03	44		Pn	23 22 44.3	-0.3
BMRM	Bremner River	15.26	49	Pn	Pn	23 22 45.2	-2.2
BMRM				IAmb	IAmb	23 23 11.9	
	comp=Z,23nm,1.4s						
NEA2	Nenana	15.31	33	IAmb	IAmb	23 22 48.7	
	comp=Z,7.1nm,0.6s						
C16K	Lisburne Hills	15.36	5	P	P	23 22 53.4	+2.1
C16K				IAmb	IAmb	23 23 05.6	
	comp=Z,32nm,1.3s						
SUCK	Suckling Hills	15.37	53	Pn	Pn	23 22 49.5	+0.7
G21K	Allakaket	15.45	23	Pn	Pn	23 22 51.0	+1.3
G21K				IAmb	IAmb	23 23 30.8	
	comp=Z,14nm,1.4s						
E19K	Redstone River	15.49	17		P	23 22 53.6	+0.9
N25K	Chitina, Valde	15.50	47		Pn	23 22 47.9	-2.7
N25K				IAmb	IAmb	23 22 57.1	
	comp=Z,10nm,0.6s						
WRH	Wood River Hil	15.57	35		Pn	23 22 50.6	-0.6
WRH				IAmb	IAmb	23 22 59.8	
	comp=Z,14nm,1.2s						
I23K	Minto, Yukon-K	15.58	31		Pn	23 22 52.0	+0.7
PAX	Paxson	15.72	42		Pn	23 22 52.7	-0.6
CCB	Clear Creek Bu	15.77	34		Pn	23 22 52.9	-0.9
GLB	Gilahina Butte	15.79	48		Pn	23 22 52.1	-2.0
GLB				IAmb	IAmb	23 22 55.5	
	comp=Z,17nm,1.3s						
SNH	Sunshine Point	15.85	53	Pn	Pn	23 22 54.6	-0.2
CRQM	Cirque	15.87	51		Pn	23 22 55.1	-0.2
CRQM				IAmb	IAmb	23 22 56.1	
	comp=Z,13nm,0.6s						
VRDI	Verde Repeater	15.88	49		Pn	23 22 53.6	-1.7
VRDI				IAmb	IAmb	23 22 56.0	
	comp=Z,10nm,0.9s						
WAX	Waxell Ridge	15.92	52	Pn	Pn	23 22 54.4	-1.3
HDA	Harding Lake	15.93	36	Pn	Pn	23 22 54.5	-1.2
H23K	Yukon River	15.99	29	P	Pn	23 22 57.4	+0.8
H23K				IAmb	IAmb	23 23 10.4	
	comp=Z,20nm,1.5s						
TGL	Tana Glacier	16.01	51		Pn	23 22 56.4	-0.6
TGL				IAmb	IAmb	23 22 57.6	
	comp=Z,19nm,0.7s						
K24K	Donnelly Dome	16.02	39	Pn	Pn	23 22 57.5	+0.6
F21K	Alatna River	16.03	22		Pn	23 22 57.8	+0.8
C18K	Utukok River	16.05	10		Pn	23 22 58.8	+1.5
C18K				IAmb	IAmb	23 23 08.9	
	comp=Z,25nm,1.5s						
MCARA	McCarthy VSAT	16.12	49		Pn	23 22 56.8	-1.4
MCARA				IAmb	IAmb	23 23 05.7	
	comp=Z,11nm,0.8s						
ILAR	Eielson Array	16.16	35	Pn	Pn	23 22 57.1	-1.5
ILAR	Eielson Array	16.16	35	P	Pn	23 22 56.8	-1.8
	comp=Z,2.1nm,0.6s,baz=234,slow=12,SNR=45						
ILAR				S	Sn	23 25 46.9	-10
	comp=Z,0.1nm,0.3s,baz=253,slow=24,SNR=1.7						
MESA	MESA	16.28	53		Pn	23 22 60.0	-0.4
D19K	Kuna River	16.29	14		Pn	23 23 00.7	+0.4
D19K				IAmb	IAmb	23 23 15.4	
	comp=Z,13nm,1.3s						
RIDG	Independent Ri	16.34	40		Pn	23 23 00.9	-0.1
MENT	Mentasta	16.42	43	Pn	Pn	23 23 01.3	-0.6
MENT				IAmb	IAmb	23 23 36.1	
	comp=Z,18nm,0.9s						
YAH	Yahtse	16.42	53		Pn	23 23 02.3	+0.1
G23K	Bananza Creek	16.49	27		P	23 23 05.2	+1.3
G23K				IAmb	IAmb	23 23 08.0	
	comp=Z,6.3nm,0.6s						
H24K	Noodor Dome	16.50	31		Pn	23 23 02.8	-0.2
H24K				IAmb	IAmb	23 23 05.0	
	comp=Z,8.2nm,0.7s						
M26K	Nabesna, AK	16.50	45		Pn	23 23 01.8	-1.2
M26K				IAmb	IAmb	23 23 03.4	
	comp=Z,8.4nm,0.6s						
GRNC	Granite Creek	16.52	52		Pn	23 23 02.4	-0.9
GRNC				IAmb	IAmb	23 23 07.5	
	comp=Z,12nm,0.6s						
DOT	Dot Lake	16.61	41		Pn	23 23 02.5	-1.7
J25K	Salcha River,	16.61	37		Pn	23 23 03.0	-1.2
J25K				IAmb	IAmb	23 23 05.6	
	comp=Z,11nm,0.8s						
L26K	Log Cabin Wild	16.61	43		Pn	23 23 04.0	-0.3
L26K				IAmb	IAmb	23 23 07.0	
	comp=Z,8.0nm,0.7s						
BARN	Barnard Glacie	16.65	51		Pn	23 23 03.7	-1.2
C19K	Lookout Ridge	16.66	11		P	23 23 06.2	+0.5
D20K	Etivluk River	16.72	15		P	23 23 06.8	+0.5
TABL	Table Mountain	16.73	53	P	Pn	23 23 06.0	0.0
TABL				IAmb	IAmb	23 23 21.1	
	comp=Z,16nm,0.9s						
CTGM	Chitina Glacie	16.78	51	P	P	23 23 06.8	-0.4
CTGM				IAmb	IAmb	23 23 11.0	
	comp=Z,11nm,0.6s						
SCRK	Sand Creek	16.79	40		Pn	23 23 05.8	-0.8
SCRK				IAmb	IAmb	23 23 10.8	
	comp=Z,4.8nm,0.5s						
COLD	Coldfoot	16.82	25		P	23 23 08.6	+1.1
COLD				IAmb	IAmb	23 23 34.9	
	comp=Z,8.4nm,0.6s						
LOGN	Logan Glacier	16.89	52	P	P	23 23 08.7	+0.1
LOGN				IAmb	IAmb	23 23 12.7	
	comp=Z,8.0nm,0.8s						
M27K	Edge Creek, AK	16.97	46	P	Pn	23 23 08.3	-0.5
M27K				IAmb	IAmb	23 23 11.2	
	comp=Z,15nm,1.2s						
PRP	Porcupine Dome	17.07	34		Pn	23 23 08.1	-1.9
PCA	Pinnacle	17.09	54	P	P	23 23 11.0	+0.5
E22K	Anaktuvuk Pass	17.15	22	P	Pn	23 23 11.0	+0.2
E22K				IAmb	IAmb	23 23 45.2	
	comp=Z,16nm,1.5s						
G24K	Hadweenzic Riv	17.20	29		Pn	23 23 11.7	+0.2
G24K				IAmb	IAmb	23 23 11.7	
	comp=Z,18nm,1.4s						
J26L	Joseph Creek	17.21	38		Pn	23 23 10.1	-1.6
L27K	Beaver Creek,	17.26	44		Pn	23 23 10.9	-1.3
O28M	Mount Upton	17.27	52	P	P	23 23 12.7	-0.1
O28M				IAmb	IAmb	23 23 15.1	
	comp=Z,10nm,0.5s						
YKU2	Yakutat	17.27	56		P	23 23 12.5	+0.1
BCAR	Beaver Creek A	17.28	44	P	Pn	23 23 10.5	-1.9
BCPM	Bancas Point	17.36	55	P	P	23 23 14.9	+1.4
BCPM				IAmb	IAmb	23 23 28.5	
	comp=Z,14nm,0.6s						
PNL	Peninsula	17.43	56	P	P	23 23 15.7	+1.4
K27K	Chicken	17.56	41	P	Pn	23 23 16.4	+0.5
D22K	Ayikyak River	17.58	19	P	P	23 23 16.4	+0.6
D22K				IAmb	IAmb	23 23 34.5	
	comp=Z,18nm,1.2s						
E23K	Chandalar	17.60	24	P	Pn	23 23 17.5	+1.1
E23K				IAmb	IAmb	23 23 37.4	
	comp=Z,12nm,1.2s						
F24K	Squaw Lake	17.65	27	P	Pn	23 23 17.8	+0.9
I26K	Coal Creek Min	17.78	36	P	P	23 23 16.0	-2.0
I26K				IAmb	IAmb	23 23 19.0	
	comp=Z,14nm,0.6s						
O29M	Mount Kennedy	17.95	54	P	Pn	23 23 20.7	0.0
TOLK	Toolik Lake Re	18.06	23	P	Pn	23 23 23.1	+1.3
TOLK				IAmb	IAmb	23 23 44.9	
	comp=Z,7.1nm,0.8s						
D23K	Nanushuk River	18.06	21	P	P	23 23 21.3	+0.2
D23K				IAmb	IAmb	23 23 41.3	
	comp=Z,26nm,1.4s						
P29M	Windy Craggy	18.26	57		Pn	23 23 24.9	+0.6
F25K	Christian Rive	18.33	29	P	P	23 23 23.8	-0.3
G26K	Porcupine Rive	18.49	32	P	P	23 23 25.5	-0.3
M29M	Somme Creek	18.51	48	P	P	23 23 26.2	0.0
M29M				IAmb	IAmb	23 23 28.4	
	comp=Z,8.9nm,0.7s						
BMAR	Burnt Mountain	18.54	30	P	P	23 23 27.0	+0.6
HYT	Haines Junctio	18.57	53		Pn	23 23 28.0	-0.1
DAWY	Dawson	18.65	42	P	P	23 23 26.7	-0.9
E25K	Arctic Village	18.71	27	P	P	23 23 28.7	+0.5
E25K				IAmb	IAmb	23 23 33.4	
	comp=Z,6.8nm,0.7s						
C23K	Itkillik River	18.78	20	P	P	23 23 29.1	+0.1
H27K	Steamboat Moun	18.83	35		P	23 23 28.3	-1.3
H27K				IAmb	IAmb	23 23 31.2	
	comp=Z,9.0nm,0.8s						
F26K	Sheenjek River	18.84	29	P	P	23 23 29.0	-0.6
L29M	L29M	18.85	46		P	23 23 29.4	-0.4
L29M				IAmb	IAmb	23 24 08.0	
	comp=Z,13nm,1.5s						
N30M	Aishikik Lake	18.89	51	P	Pn	23 23 31.1	-0.7
N30M				IAmb	IAmb	23 23 31.7	
	comp=Z,10nm,0.5s						
S31K	Pelican	18.92	62		Pn	23 23 31.6	-0.5
S31K				IAmb	IAmb	23 23 33.1	
	comp=Z,8.6nm,0.9s						
I28M	Miner Creek	19.02	38		P	23 23 30.5	-1.2
I28M				IAmb	IAmb	23 23 33.5	
	comp=Z,7.0nm,0.5s						
G27K	Doyon Strip	19.10	33		P	23 23 32.0	-0.5
BILL	Bilibino	19.19	331	P	P	23 23 33.1	-0.3
BILL				IAmb	IAmb	23 23 52.6	
	comp=Z,14nm,1.2s						
O30N	Mendenhall	19.24	53	P	P	23 23 34.2	+0.1
O30N				IAmb	IAmb	23 23 40.3	
	comp=Z,15nm,0.8s						
M30M	Minto, Yukon	19.29	48	P	P	23 23 34.4	-0.1
K29M	Barlow Dome	19.35	44		P	23 23 34.9	-0.4
SIT	Sitka	19.42	65	P	Pn	23 23 36.9	-1.1
SKAG	Skagway	19.46	57		Pn	23 23 37.1	-1.4
N31M	Braeburn, Yuko	19.51	51		P	23 23 37.8	+0.8
N31M				IAmb	IAmb	23 23 43.4	
	comp=Z,8.4nm,0.7s						
BESE	Bessie Mountai	19.66	60		P	23 23 39.3	+0.6
BESE				IAmb	IAmb	23 23 43.7	
	comp=Z,7.3nm,0.6s						
WHY	Whitehorse	19.81	54		P	23 23 41.0	+0.7
R32K	Eaglecrest	19.83	61	P	P	23 23 41.1	+0.6
E27K	Coleen River	19.90	30	P	P	23 23 40.5	-0.7
H29M	Whitestone	19.95	37		P	23 23 40.6	-1.0
PETK	Petropavlovsk-	20.08	284	P	P	23 23 44.0	+0.8
PETK	Petropavlovsk-	20.08	284	P	P	23 23 42.5	-0.7
	comp=Z,0.9nm,0.6s,baz=79,slow=12,SNR=4.0						
J30M	Hart River	20.08	42		P	23 23 42.9	-0.4
F28M	Old Crow	20.12	32	P	P	23 23 42.8	-0.7
C27K	Jago River	20.22	25	P	P	23 23 45.1	+0.5
C27K				IAmb	IAmb	23 23 57.7	
	comp=Z,19nm,1.2s						
I30M	Mount Dempster	20.29	41		P	23 23 43.3	-2.2
P32M	Atlin	20.29	57		P	23 23 46.2	+0.7
P32M				IAmb	IAmb	23 23 52.1	
	comp=Z,7.4nm,0.6s						
G29M	Pine Creek	20.39	35		P	23 23 45.3	-1.1
EPYK	Eagle Plains	20.61	37	P	P	23 23 47.1	-1.8
D27M	Malcolm River	20.72	28	P	P	23 23 50.6	+0.6
E28M	Babbage River	20.77	30	P	P	23 23 49.8	-0.7
E28M				IAmb	IAmb	23 24 23.3	
	comp=Z,15nm,1.4s						
P33M	Teslin, Yukon	20.79	56		P	23 23 51.1	+0.3
P33M				IAmb	IAmb	23 23 58.6	
	comp=Z,16nm,0.9s						
Q32M	Nakina River	21.01	59	P	P	23 23 54.7	+1.2
Q32M				IAmb	IAmb	23 23 58.9	
	comp=Z,9.6nm,1.0s						
G30M	tAoh Zraii Nji	21.05	36		P	23 23 52.8	-0.8
E29M	Blow River	21.16	32	P	P	23 23 53.4	-1.3
E29M				IAmb	IAmb	23 24 01.9	
	comp=Z,16nm,1.4s						
H31M	Peel River	21.29	40		P	23 23 54.3	-1.8
H31M				IAmb	IAmb	23 23 55.1	
	comp=Z,11nm,1.0s						
F30M	Barrier River	21.48	35		P	23 23 57.6	-0.5
F30M				IAmb	IAmb	23 24 00.7	
	comp=Z,11nm,0.8s						
R33M	Jennings River	21.69	58		P	23 24 02.0	+1.5
R33M				IAmb	IAmb	23 24 09.4	
	comp=Z,5.6nm,0.8s						
G31M	Satah River	21.73	37		P	23 23 59.2	-1.5
G31M				IAmb	IAmb	23 24 02.9	
	comp=Z,8.4nm,0.6s						
MMPY	Sheldon Lake,	21.80	49	P	P	23 24 01.7	+0.1
DLBC	Dease Lake	22.20	60	P	P	23 24 05.1	-0.8
	comp=Z,85nm,0.9s,baz=264,slow=10,SNR=19						
INK	Inuvik	22.55	34		P	23 24 07.3	-2.1
INK				IAmb	IAmb	23 24 08.6	
	comp=Z,13nm,1.4s						
INK	Inuvik	22.55	34	P	P	23 24 06.4	-3.0
	comp=Z,2.8nm,0.5s,baz=249,slow=5.7,SNR=5.1						
	comp=Z,2.8nm,0.5s						
C36M	Paulatuk	26.14	34	P	P	23 24 42.9	+0.6
BUCR	Buckhorn Ranch	36.66	95	P	P	23 26 15.2	+0.2
NVAR	Mina Array Bea	37.28	92	P	P	23 26 23.6	+3.1
	comp=Z,0.5nm,0.6s,baz=299,slow=14,SNR=4.2						
NVAR				PcP	PcP	23 28 39.3	+1.3
	comp=Z,0.2nm,0.6s,baz=287,slow=4.4,SNR=1.6						
	comp=Z,0.5nm,0.6s						
H11N2	WAKE ISLAND Hy	38.24	219	T	T	00 07 39.9	
	baz=24						
H11N3	WAKE ISLAND Hy	38.24	219	T	T	00 07 39.3	
	baz=24						
H11N1	WAKE ISLAND Hy	38.26	219	T	T	00 07 47.4	
	baz=24						
PDAR	Pinedale Array	39.89	80	P	P	23 26 43.1	+0.8
	comp=Z,0.7nm,0.7s,baz=318,slow=8.1,SNR=7.3						
	comp=Z,0.7nm,0.7s						
ULM	Lac du Bonnet	43.48	63	P	P	23 27 11.4	+0.3
	comp=Z,4.6nm,0.9s,baz=317,slow=8.3,SNR=3.3						
	comp=Z,4.6nm,0.9s						
VTX	Valle De La Tr	43.58	98	P	P	23 27 12.2	0.0
W18A	Petrified Fore	44.63	89	P	P	23 27 21.9	+1.1
EPLO	Experimental L	44.95	63	P	P	23 27 23.5	+0.6
EPLO				IAmb	IAmb	23 27 56.6	
	comp=Z,5.5nm,1.1s						
ECSD	EROS Data Cent	46.87	71	P	P	23 27 37.8	-0.2
ECSD				IAmb	IAmb	23 27 60.0	
	comp=Z,5.7nm,1.4s						
EYMN	Ely	47.16	63	P	P	23 27 41.1	+0.9
TBO	Thunder Bay	47.86	62	P	P	23 27 44.8	-0.8
SONM	Songino Array	51.29	301	P	P	23 28 12.3	+0.5
	comp=Z,0.3nm,0.6s,baz=38,slow=9.5,SNR=1.5						
SONM				PcP	PcP	23 29 25.4	-0.2
	comp=Z,0.2nm,0.3s,baz=57,slow=5.3,SNR=1.9						
	comp=Z,0.3nm,0.6s						
TXAR	Lajitas Array	52.34	90	P	P	23 28 20.7	+0.8
	comp=Z,0.5nm,0.5s,baz=319,slow=6.5,SNR=4.2						
	comp=Z,0.5nm,0.5s						
HHC	Hu-ho-hao-te	53.05	291	*e*P	P	23 28 24.5	-0.4
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BVAR	Borovoye Array	63.38	325	P	P	23 29 35.7	-0.9
	comp=Z,1.6nm,0.7s,baz=48,slow=7.4,SNR=6.5						
	comp=Z,1.6nm,0.7s						
MKAR	Makanchi Array	63.62	314	P	P	23 29 37.3	-1.0
	comp=Z,0.1nm,0.4s,baz=35,slow=5.3,SNR=2.2						
	comp=Z,0.1nm,0.4s						
FINES	FINESS Array B	65.25	352	P	P	23 29 46.9	-1.6
	comp=Z,0.9nm,0.6s,baz=7.4,slow=7.1,SNR=6.6						
	comp=Z,0.9nm,0.6s						
NOA	NORSAR Array B	66.26	0	P	P	23 29 53.7	-1.4
	comp=Z,0.7nm,0.6s,baz=358,slow=6.3,SNR=1.9						
	comp=Z,0.7nm,0.6s						
HFS	Hagfors	67.15	359	P	P	23 29 59.1	-1.7
	comp=Z,1.3nm,0.4s,baz=358,slow=4.3,SNR=20						
	comp=Z,1.3nm,0.4s						
PZH	PanZhiHua	69.01	286	P	P	23 30 14.7	+1.6
AKASG	Malin Array Be	75.52	348	P	P	23 30 48.6	-2.6
	comp=Z,0.3nm,0.3s,baz=16,slow=5.8,SNR=3.4						
	comp=Z,0.3nm,0.3s						
CMAR	Chiang Mai Arr	76.85	283	P	P	23 30 59.5	+0.2
	comp=Z,0.4nm,0.3s,baz=34,slow=5.5,SNR=4.1						
	comp=Z,0.4nm,0.3s						
ESDC	Sonseca Array	86.71	12	P	P	23 31 50.0	-0.8
	comp=Z,0.5nm,0.7s,baz=358,slow=5.1,SNR=5.3						
	comp=Z,0.5nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	87.74	232	P	P	23 31 55.5	-0.3
	comp=Z,0.3nm,0.6s,baz=23,slow=5.2,SNR=1.5						
	comp=Z,0.3nm,0.6s						
ASAR	Alice Springs	91.14	231	P	P	23 32 12.7	+1.0
	comp=Z,0.2nm,0.3s,baz=17,slow=14,SNR=1.1						
	comp=Z,0.2nm,0.3s						
TORD	Torodi Ar. Bea	113.56	10	PKiKP	PKiKP	23 37 44.2	-0.7
	comp=Z,0.5nm,0.9s,baz=336,slow=3.2,SNR=1.7						
QSPA	South Pole Qui	142.82	180	PKhKP	PKPpre	23 38 36.4	
	comp=Z,0.9nm,0.9s,baz=339,slow=4.8,SNR=6.0						
BOSA	Boshof	153.49	332	PKPbc	PKPbc	23 39 05.2	+0.3
	comp=Z,3.1nm,0.9s,baz=14,slow=6.0,SNR=5.2						

*HLW **01** 23:58:45.4, 27°.66N×34°.29E, h27km±1km, Ml2.5*
*SGS **01** 23:58:46.6, 27°.84N×34°.46E, h7km, Ml1.6*
ISC 01 23:58:44.0±1.0**, 27°.73N**±0°.05×**34°.39E**±0°.04**, h10**km**, n23, σ0s.75**/25**, Red Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TR1	Tor 1	0.47	306	P	Pb	23 58 54.9	+0.5
KRABS	KRABS	0.85	64	S	Sg	23 59 11.0	-0.6
KRABS				P	Pg	23 59 00.5	0.0
HKAT	Jabal Katrina	0.87	337	P	Pb	23 59 01.9	+0.6
HHRG	Al Ghardaqah	0.88	235	P	Pg	23 59 01.2	+0.2
HHRG				S	Sg	23 59 12.2	-0.3
AYUS	`Aynunah	0.91	59	P	Pg	23 59 01.3	-0.1
AYUS	`Aynunah	0.91	59	S	Sg	23 59 12.6	-0.7
TAYS	Tayyib Ism	0.93	28	P	Pg	23 59 01.5	-0.4
BDAS	Al Bad`	0.94	42	P	Pg	23 59 01.7	-0.4
MWLHS	Almuwaylih	1.00	89	P	Pg	23 59 02.5	-0.8
HRDS	Abu Rudays	1.37	316	P	Pb	23 59 10.4	+0.6
WTBKS	WTBKS	1.40	75	P	Pn	23 59 09.3	-0.4
HAQS	Haql	1.40	20	P	Pn	23 59 10.0	+0.3
JLOS		1.40	44	P	Pn	23 59 09.0	-0.7
JMOS	Jabal al Moall	1.57	24	P	Pn	23 59 11.5	-0.4
URD07	Al Anba	1.96	91	P	Pn	23 59 18.1	+0.6
URD06	Shuwaq	2.13	97	P	Pn	23 59 20.2	+0.5
URD05	Al Faraah	2.34	102	P	Pn	23 59 23.2	+0.5
URD12	Shuwaq	2.37	89	P	Pn	23 59 23.9	+0.9
NADB	Abo Dabab	2.38	177	P	Pn	23 59 21.4	-1.7
URD10	Hayder	2.44	79	P	Pn	23 59 24.4	+0.5
BIDS	Bi'r al Bayda'	2.44	110	P	Pn	23 59 24.4	+0.5
URD04	Abu Rakah	2.64	103	P	Pn	23 59 28.1	+1.4
URD03	Al Ula	2.93	110	P	Pn	23 59 31.8	+1.1

*NOU **02** 00:40:26.4, 39°.58S×174°.12E, h226km, MLv3.6/11, North Island, New Zealand*
*WEL **02** 00:40:30.3±0.8, 40°S±5°×17°4E±°, h189km±6km, M2.9/31, ML2.6/9, MLv2.9/31, Error ellipse: s-maj=7.7km s-min=5.4km az=142.4, confirmed*
ISC 02 00:40:25.4±1.7**, 39°.61S**±0°.06×**174°.10E**±0°.05**, h225**km±9km**, n113, σ1s.51**/124**, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NMEZ	Namu Road	0.26	319	P	Pn	00 40 56.2	+1.4
PREZ	Palmer Road	0.27	10	P	Pn	00 40 56.2	+1.3
LREZ	Lake Rotokare	0.28	58	P	Pn	00 40 56.4	+1.7
LREZ				S	S	00 41 17.1	-0.6
KHEZ	Kahui Hut	0.32	348	P	Pn	00 40 56.7	+1.7
KHEZ	Kahui Hut	0.32	348	P	Pn	00 40 56.4	+1.3
KHEZ				S	S	00 41 17.3	-0.9
NEZ	North Egmont	0.34	359	P	Pn	00 40 56.7	+1.6
NEZ				S	S	00 41 17.5	-0.7
NBEZ	Newall Road No	0.39	332	P	Pn	00 40 56.8	+1.7
PKE	Pukeiti	0.42	348	P	Pn	00 40 56.7	+1.5
DREZ	Durham Road	0.43	11	P	Pn	00 40 56.9	+1.7
DREZ				S	S	00 41 18.3	-0.2
WAZ	Wanganui	0.70	102	P	Pn	00 40 58.2	+2.1
WAZ				S	S	00 41 19.4	-0.7
VRZ	Vera Road	0.70	47	P	Pn	00 40 57.1	+0.9
VRZ				S	S	00 41 18.1	-2.1
WCDS	Wanganui Civil	0.80	114	S	S	00 41 20.6	-0.3
ORCS	Ohakune Ruapeh	1.03	80	S	S	00 41 20.9	-2.4
MTVZ	Mangateitei	1.08	79	P	Pn	00 40 59.8	+1.5
OHWZ	Ohakea	1.11	123	P	Pn	00 40 59.3	+1.0
TWVZ	Taurewa	1.17	63	P	Pn	00 41 00.0	+1.1
FWVZ	Far West T-bar	1.18	73	P	Pn	00 41 00.2	+1.0
FWVZ				S	S	00 41 22.7	-2.7
MAVZ	Matarangi	1.18	74	P	Pn	00 41 00.6	+1.3
WNVZ	Wahianoa	1.19	77	P	Pn	00 41 00.7	+1.5
WNVZ				S	S	00 41 23.1	-2.4
WHVZ	Whangaehu Hut	1.20	75	P	Pn	00 41 00.9	+1.6
DUWZ	D'Urville Isla	1.20	186	P	Pn	00 41 00.5	+1.5
NGZ	Ngauruhoe	1.24	70	P	Pn	00 41 01.4	+1.9
HIZ	Hauiti	1.24	28	P	Pn	00 41 00.4	+1.0
HIZ	Hauiti	1.24	28	P	Pn	00 41 00.4	+1.0
TUVZ	Tukino	1.25	75	P	Pn	00 41 01.3	+1.7
WTVZ	West Tongariro	1.26	67	P	Pn	00 41 01.2	+1.6
NNVZ	North Ngauruho	1.27	68	P	Pn	00 41 01.4	+1.6
OTVZ	Oturere	1.29	70	P	Pn	00 41 01.7	+1.8
MOVZ	Moawhango	1.29	82	P	Pn	00 41 00.9	+1.2
KRVZ	Karewarewa	1.30	67	P	Pn	00 41 01.4	+1.5
TMVZ	Te Maari	1.34	69	P	Pn	00 41 02.1	+1.9
KATZ	Kakaramea	1.39	63	P	Pn	00 41 02.4	+1.8
KIW	Kapiti Island	1.40	154	P	Pn	00 41 01.8	+1.3
OGWZ	Otaki Gorge	1.46	146	P	Pn	00 41 02.5	+1.6
KHLK	Kaihoka Lakes	1.48	230	S	S	00 41 26.6	-2.4
POWZ	Post Office Ro	1.50	122	P	Pn	00 41 02.7	+1.5
TSZ	Takapari Road	1.50	108	P	Pn	00 41 02.8	+1.5
MRZ	Mangatainoka R	1.54	133	P	Pn	00 41 02.9	+1.3
TCW	Tory Channel	1.60	175	P	Pn	00 41 03.9	+1.8
PNHZ	Pukenui	1.65	101	P	Pn	00 41 04.2	+1.6
CAW	Cannon Point	1.67	154	P	Pn	00 41 04.1	+1.4
TKNZ	Takaka Hill	1.67	211	P	Pn	00 41 04.0	+1.3
HOWZ	Holdsworth Sta	1.68	140	P	Pn	00 41 04.0	+1.2
NNZ	Nelson	1.70	199	P	Pn	00 41 04.5	+1.6
QRZ	Quartz Range	1.71	224	P	Pn	00 41 04.2	+1.1
PRWZ	Pori Road	1.72	124	P	Pn	00 41 04.9	+1.8
DVHZ	Dannevirke	1.73	114	P	Pn	00 41 04.7	+1.5
KRHZ	Kereru	1.75	92	P	Pn	00 41 05.2	+1.7
SNZO	South Karori	1.76	165	P	Pn	00 41 04.6	+1.2
TIWZ	Tintock	1.80	131	P	Pn	00 41 05.3	+1.5
KWHZ	Kaweka Forest	1.81	85	P	Pn	00 41 05.9	+1.9
MTW	Mount Morrison	1.88	146	P	Pn	00 41 05.8	+1.2
BHW	Baring Head	1.89	162	P	Pn	00 41 05.8	+1.2
BKZ	Black Stump Fm	1.91	77	P	Pn	00 41 06.1	+1.2
BKZ	Black Stump Fm	1.91	77	P	Pn	00 41 06.2	+1.3
BKZ				S	S	00 41 32.6	-3.1
BFZ	Birch Farm	1.96	124	P	Pn	00 41 06.7	+1.4
BFZ	Birch Farm	1.96	124	P	Pn	00 41 06.8	+1.4
MSWZ	Moikau Station	2.01	154	P	Pn	00 41 06.9	+1.1
MCHZ	McNeill Hill	2.02	86	P	Pn	00 41 08.2	+2.3
MCHZ				S	S	00 41 36.6	-0.8
TMWZ	Te Maipa	2.03	138	P	Pn	00 41 07.3	+1.3
PAWZ	Paruwai Farm	2.04	151	P	Pn	00 41 07.3	+1.2
MRNZ	Matariki Terra	2.06	209	P	Pn	00 41 07.8	+1.5
MRNZ				S	S	00 41 36.1	-2.3
CPWZ	Castlepoint	2.07	130	P	Pn	00 41 08.3	+2.0
BSWZ	Blackbirch Sta	2.11	185	P	Pn	00 41 08.8	+2.0
PLWZ	Palliser	2.15	156	P	Pn	00 41 08.2	+1.1
KAHZ	Kahuranaki	2.15	96	P	Pn	00 41 09.4	+2.1
TRWZ	Traveller	2.16	146	P	Pn	00 41 08.6	+1.3
NMHZ	Naumai	2.16	77	P	Pn	00 41 09.7	+2.3
MTHZ	Maungataniwha	2.26	71	P	Pn	00 41 09.6	+1.2
ARHZ	Aropaoanui	2.27	82	P	Pn	00 41 10.6	+2.2
THZ	Tophouse	2.33	203	P	Pn	00 41 10.7	+1.6
MUGZ	Murupara	2.37	62	P	Pn	00 41 10.3	+0.8
RAHZ	Arahi	2.42	74	P	Pn	00 41 11.8	+1.8
RTZ	Ruatahuna	2.45	67	P	Pn	00 41 11.4	+0.9
SNGZ	Shannon Statio	2.65	73	P	Pn	00 41 12.7	+0.2
URZ	Urewera	2.71	61	P	Pn	00 41 13.8	+0.8
URZ	Urewera	2.71	61	P	Pn	00 41 13.9	+0.8
DSZ	Denniston Nort	2.76	219	P	Pn	00 41 15.1	+1.5
RAGZ	Rawiri	2.81	68	P	Pn	00 41 15.4	+1.1
KNZ	Kokohu	2.83	79	P	Pn	00 41 16.0	+1.6
KHZ	Kahutara	2.84	188	P	Pn	00 41 16.3	+1.9
KHZ	Kahutara	2.84	188	P	Pn	00 41 16.2	+1.9
MHGZ	Mahia Peninsul	2.98	82	P	Pn	00 41 18.1	+2.0
RIGZ	Rimuhau	2.99	74	P	Pn	00 41 17.8	+1.6
KUZ	Kuaotunu	3.13	25	P	Pn	00 41 20.2	+2.3
TKGZ	Te Karaka	3.14	69	P	Pn	00 41 19.4	+1.5
RUGZ	Raukumara Rang	3.24	61	P	Pn	00 41 19.3	+0.1
CNGZ	Carnagh Statio	3.39	72	P	Pn	00 41 22.9	+2.1
HAZ	Te Kaha	3.42	58	P	Pn	00 41 21.4	+0.2
GVZ	Greta Valley S	3.45	193	P	Pn	00 41 23.4	+1.9
LTZ	Lake Taylor	3.46	203	P	Pn	00 41 23.1	+1.6
PKGZ	Pakihiroa	3.57	62	P	Pn	00 41 23.7	+0.8
PUZ	Puketiti	3.59	66	P	Pn	00 41 23.3	+0.1
AMCZ	Amberley	3.73	197	P	Pn	00 41 25.9	+1.2
WMGZ	Waiomatatini S	3.82	63	P	Pn	00 41 26.6	+0.7
MXZ	Matakaoa Point	3.88	60	P	Pn	00 41 27.5	+0.9
MXZ	Matakaoa Point	3.88	60	P	Pn	00 41 27.6	+1.0
OXZ	Oxford	4.02	202	P	Pn	00 41 29.4	+1.1
OKCZ	Okains Bay	4.18	190	P	Pn	00 41 31.1	+0.8
WVZ	Waitaha Valley	4.29	215	P	Pn	00 41 32.2	+0.7
MHCZ	Mount Hutt	4.36	205	P	Pn	00 41 33.2	+0.8
WACZ	Wakanui South	4.65	201	P	Pn	00 41 37.1	+1.3
GCSZ	Gaunt Creek Bo	4.66	216	P	Pn	00 41 36.9	+0.8
RPZ	Rata Peaks	4.69	208	P	Pn	00 41 37.9	+1.4
RPZ	Rata Peaks	4.69	208	P	Pn	00 41 37.5	+1.0
ARCZ	Arundel	4.85	206	P	Pn	00 41 39.3	+0.8
FOZ	Fox Glacier	5.07	218	P	Pn	00 41 42.0	+0.9
TMZ	Timaru	5.30	205	P	Pn	00 41 45.3	+1.3
LBZ	Lake Benmore	5.59	210	P	Pn	00 41 48.7	+1.0
JCZ	Jackson Bay	5.97	220	P	Pn	00 41 53.8	+1.2
JCZ	Jackson Bay	5.97	220	P	Pn	00 41 53.3	+0.7
ODZ	Otahua Downs	6.00	204	P	Pn	00 41 54.6	+1.7
ODZ	Otahua Downs	6.00	204	P	Pn	00 41 54.2	+1.3

*OSPL **02** 00:54:50.9±0.5, 17°.90N×65°.82W, h8km±3km, ML2.8*
*NEIC **02** 00:54:50.5±1.5, 17°.84N±0°.02×65°.90W±0°.02, h10km±1km, ML2.9/15, Md2.7/14(RSPR), Error ellipse: s-maj=4.0km s-min=3.0km az=327.0*
*RSPR **02** 00:54:51.8, 17°.91N×65°.89W, h8km±1km, MD2.7/14*
ISC 02 00:54:51.1±1.1**, 17°.89N**±0°.05×**65°.89W**±0°.03**, h18**km±4km**, n68, σ0s.55**/84**, 2C-7D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDPR	Patillas Dam,	0.18	314		Pb	00 54 55.4	-0.3
PDPR				Sg	Sg	00 54 58.8	+0.1
PDPR				IAML		00 54 59.0	
	comp=N,4µm,0.3s						
PDPR				IAML		00 54 59.1	
	comp=E,5µm,0.1s						
PDPR	Patillas Dam,	0.18	314	⇑iP	Pg	00 54 55.7	+0.1
PDPR	Patillas Dam,	0.18	314	eS	Sg	00 54 58.9	+0.1
IGPR	InterUniversit	0.22	289		Pg	00 54 56.4	+0.1
IGPR					Sb	00 55 00.1	0.0
IGPR	InterUniversit	0.22	289	⇑iP	Pg	00 54 56.4	+0.1
IGPR	InterUniversit	0.22	289	eS	Sb	00 55 00.1	0.0
HUMP	Col San Antoni	0.25	8		Pg	00 54 56.9	+0.1
HUMP				Sg	Sg	00 55 00.9	+0.2
SJG	San Juan	0.33	311		Pg	00 54 58.1	0.0
SJG	San Juan	0.33	311	IAML		00 55 03.3	
	comp=E,5µm,0.2s						
SJG				IAML		00 55 03.5	
	comp=E,5µm,0.2s						
SJG	San Juan	0.33	311	⇑iP	Pg	00 54 58.1	0.0
SJG	San Juan	0.33	311	eP	Pg	00 54 58.1	0.0
SJG				eS	Sg	00 55 02.9	0.0
SJG	San Juan	0.33	311	i P	Pg	00 54 58.1	0.0
SJG				eS	Sg	00 55 02.9	0.0
SJG				IAML		00 55 05.0	
	comp=Z,3µm,0.4s						
GCPR	Guaynabo City	0.45	336		Pg	00 55 00.1	-0.2
GCPR					Sb	00 55 06.6	-0.4
GCPR				IAML		00 55 07.4	
	comp=E,585nm,0.2s						
GCPR				IAML		00 55 08.4	
	comp=N,476nm,0.1s						
GCPR	Guaynabo City	0.45	336	⇑iP	Pg	00 55 00.2	-0.1
GCPR	Guaynabo City	0.45	336	eS	Sb	00 55 07.0	-0.1
ECPR	Experimental S	0.62	313	⇑iP	Pb	00 55 02.8	-0.6
ECPR	Experimental S	0.62	313	eS	Sg	00 55 11.2	-0.4
CELP	Cerrillos	0.68	285		Pb	00 55 03.9	-0.6
CELP					Sb	00 55 13.3	-0.3
CELP				IAML		00 55 17.1	
	comp=E,358nm,0.2s						
CELP	Cerrillos	0.68	285	⇓iP	Pb	00 55 04.1	-0.4
CELP	Cerrillos	0.68	285	eS	Sb	00 55 13.6	0.0
OBIP	Obispado Ponce	0.70	282		Pb	00 55 04.2	-0.6
OBIP					Sb	00 55 13.5	-0.6
OBIP				IAML		00 55 18.7	
	comp=E,334nm,0.5s						
OBIP	Obispado Ponce	0.70	282	⇓iP	Pb	00 55 04.5	-0.3
OBIP	Obispado Ponce	0.70	282	eS	Sb	00 55 13.5	-0.6
EMPR	Esperanza - Ma	0.84	314		Pb	00 55 07.0	-0.2
EMPR					Sg	00 55 18.7	0.0
EMPR	Esperanza - Ma	0.84	314	Pg	Pb	00 55 06.9	-0.3
EMPR	Esperanza - Ma	0.84	314	⇑iP	Pb	00 55 07.0	-0.2
EMPR	Esperanza - Ma	0.84	314	eS	Sg	00 55 18.7	0.0
UUPR	Utuado, UPR, P	0.87	294		Pb	00 55 07.3	-0.4
UUPR	Utuado, UPR, P	0.87	294		Sb	00 55 18.9	-0.1
UUPR	Utuado, UPR, P	0.87	294	Pg	Pb	00 55 07.1	-0.5
UUPR	Utuado, UPR, P	0.87	294	Sg	Sb	00 55 18.4	-0.6
UUPR	Utuado, UPR, P	0.87	294	⇓iP	Pb	00 55 07.3	-0.4
UUPR	Utuado, UPR, P	0.87	294	eS	Sb	00 55 18.9	-0.1
AOPR	Arecibo Observ	0.94	299	Pg	Pb	00 55 08.1	-0.7
AOPR	Arecibo Observ	0.94	299	eP	Pb	00 55 07.9	-1.0
AOPR				eS	Sb	00 55 20.3	-0.7
GBPR	Guanica, Bosqu	0.95	275		Pn	00 55 09.9	+0.4
GBPR	Guanica, Bosqu	0.95	275	⇓iP	Pn	00 55 09.9	+0.4
MLPR	Magueyes Islan	1.10	274	⇓iP	Pn	00 55 11.9	+0.2
MLPR	Magueyes Islan	1.10	274	eS	Sn	00 55 27.2	+0.7
CRPR	Cabo Rojo, PR	1.17	276		Pn	00 55 11.9	-0.6
CRPR					Pb	00 55 12.3	-0.4
CRPR				IAML		00 55 35.5	
	comp=E,155nm,0.8s						
CRPR	Cabo Rojo, PR	1.17	276	⇑iP	Pn	00 55 12.5	-0.1
CRPR	Cabo Rojo, PR	1.17	276	eS	Sg	00 55 31.3	+2.3
CRPR	Cabo Rojo, PR	1.17	276	i P	Pn	00 55 12.4	-0.1
CRPR				eS	Sn	00 55 28.8	+0.8
CRPR				IAML		00 55 36.3	
	comp=Z,155nm,1.0s						
LSP	Las Mesas	1.17	284		Pn	00 55 12.5	-0.2
LSP					Sg	00 55 29.1	-0.1
LSP	Las Mesas	1.17	284	⇑iP	Pn	00 55 12.5	-0.2
LSP	Las Mesas	1.17	284	eS	Sg	00 55 29.1	-0.1
PRSN	Puerto Rico Se	1.24	285		Pn	00 55 13.8	+0.3
PRSN					Sg	00 55 32.0	+0.8
PRSN	Puerto Rico Se	1.24	285	Pn	Pn	00 55 13.0	-0.6
PRSN	Puerto Rico Se	1.24	285	⇓iP	Pn	00 55 13.8	+0.3
PRSN	Puerto Rico Se	1.24	285	eS	Sg	00 55 32.0	+0.8
AGPR	Aguadilla, PR	1.29	296		Pn	00 55 14.3	-0.1
AGPR					Sb	00 55 31.7	+0.4
AGPR	Aguadilla, PR	1.29	296	⇓iP	Pn	00 55 14.3	-0.1
AGPR	Aguadilla, PR	1.29	296	eS	Sb	00 55 31.7	+0.4
AGPR	Aguadilla, PR	1.29	296	i P	Pn	00 55 14.2	-0.1
AGPR				eS	Sb	00 55 31.6	+0.4
AGPR				IAML		00 55 38.7	
	comp=Z,155nm,1.1s						
IDE	Isla Desecheo	1.58	288		Pn	00 55 19.3	+1.0
IDE					Sb	00 55 40.7	+1.0
IDE	Isla Desecheo	1.58	288	⇑iP	Pn	00 55 19.3	+1.0
IDE	Isla Desecheo	1.58	288	eS	Sb	00 55 40.7	+1.0
SABA	Saba	2.54	96	Pn	Pn	00 55 32.1	+0.7
SABA				IAML		00 56 04.9	
	comp=N,86nm,0.3s						
SABA				IAML		00 56 21.2	
	comp=E,131nm,0.7s						
SADR	Isla Saona	2.77	277	⇑eP	Pg	00 55 42.9	-1.3
SKI	Saint Kitts	3.06	100	eP	Pn	00 55 38.8	+0.2
MIDR	Miches	3.19	290	⇑eP	Pb	00 55 46.8	-0.5
MBFL	Flemmings, Mon	3.69	107	eP	Pn	00 55 47.4	+0.1
MBWH		3.71	107	eP	Pn	00 55 47.8	+0.2
MLYT	Lee's Yard	3.72	108	eP	Pn	00 55 48.1	+0.4
ANWB	Willy Bob	3.92	93	eP	Pn	00 55 51.3	+0.9
DHSZ	Broadband at M	4.26	112	eP	Pn	00 55 55.7	+0.6
ATGZ	Broadband at L	4.37	114	eP	Pn	00 55 55.7	-0.8
DSLB	Salisbury	4.93	119	eP	Pn	00 56 03.7	-0.7

ROM 02 01:07:19.2±0.1**, 44°.028N**±0°.003×**11°.678E**±0°.005**, h7**km±1km**, ML0.9**/6**, 1C-1D, Error ellipse: s-maj=0.4km s-min=0.2km az=287.0, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LMD	Lutirano	0.05	23	P	Pg	01 07 21.1	+0.2
LMD				S	Sg	01 07 22.3	+0.2
BRIS	BRISIGHELLA	0.17	315	⇑P	Pg	01 07 24.0	+1.2
BRIS				S	Sg	01 07 27.8	+2.7
BRIS				AML	AML		
	comp=E,38µm,1.2s						
BRIS				AML	AML		
	comp=N,43µm,1.6s						
BRIS				AML	AML		
	comp=E,38µm,0.8s						
RUFI	Rufina	0.22	213	P	Pg	01 07 24.5	+0.8
RUFI				S	Sg	01 07 28.5	+1.8
SEI	Scarperia	0.23	277	⇓P	Pg	01 07 24.3	+0.4
SEI				S	Sg	01 07 28.5	+1.5
SEI				AML	AML		
	comp=E,47µm,0.5s						
SEI				AML	AML		
	comp=N,78µm,0.2s						
SEI				AML	AML		
	comp=E,47µm,1.5s						
ASQU	Asqua	0.24	161	P	Pg	01 07 24.8	+0.7
ASQU				S	Sg	01 07 29.0	+1.6
ASQU				AML	AML		
	comp=N,34µm,0.2s						
ASQU				AML	AML		
	comp=E,45µm,0.2s						

ROM 02 01:07:30.7±0.0**, 43°.422N**±0°.002×**12°.752E**±0°.003**, h12**km**, ML2.2**/93**, 8C-13D, Error ellipse: s-maj=0.2km s-min=0.1km az=217.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SSFR	Montelago di S	0.03	58	P	Pg	01 07 33.2	+0.3
SSFR				S	Sg	01 07 34.9	+0.4
SSFR				AML	AML		
	comp=E,13950µm,0.9s						
SSFR				AML	AML		
	comp=N,26600µm,0.1s						
SSFR				AML	AML		
	comp=N,12850µm,0.7s						
SSFR				AML	AML		
	comp=E,13950µm,0.9s						
SSFR				AML	AML		
	comp=E,7500µm,0.6s						
SSFR				AML	AML		
	comp=E,7500µm,1.4s						
SSFR				AML	AML		
	comp=N,26600µm,0.2s						
ATSC	Scheggia e Pas	0.05	272	⇑P	Pg	01 07 33.4	+0.3
ATSC				S	Sg	01 07 35.0	+0.2
FRON	Frontone	0.10	349	⇓P	Pg	01 07 33.7	+0.2
FRON				S	Sg	01 07 36.1	+0.5
FRON				AML	AML		
	comp=N,2645µm,0.5s						
FRON				AML	AML		
	comp=E,2525µm,0.4s						
FRON				AML	AML		
	comp=N,2645µm,1.5s						
FOSV	Fossato di Vic	0.13	177	⇑P	Pg	01 07 34.2	+0.3
FOSV				S	Sg	01 07 37.0	+0.8
FOSV				AML	AML		
	comp=E,2995µm,0.1s						
FOSV				AML	AML		
	comp=N,2445µm,0.2s						
ATFO	Monte Foce - G	0.14	247	⇑P	Pg	01 07 34.5	+0.4
ATFO				S	Sg	01 07 37.5	+0.8
ATFO				AML	AML		
	comp=N,3040µm,0.5s						
ATFO				AML	AML		
	comp=E,2840µm,0.2s						
ATFO				AML	AML		
	comp=N,3040µm,1.5s						
ARVD	Arcevia	0.16	61	P	Pg	01 07 34.6	+0.2
ARVD				S	Sg	01 07 37.6	+0.6
ARVD				AML	AML		
	comp=E,574µm,1.2s						
ARVD				AML	AML		
	comp=N,608µm,0.5s						
MMUR	Monte Murano	0.18	84	P	Pg	01 07 35.0	+0.2
MMUR				S	Sg	01 07 38.4	+0.8
MMUR				AML	AML		
	comp=E,1270µm,0.1s						
MMUR				AML	AML		
	comp=N,1645µm,0.2s						
PIEI	Pieia	0.19	306	⇓P	Pg	01 07 35.0	+0.1
PIEI				S	Sg	01 07 38.4	+0.5
MPAG	Monte Paganucc	0.21	2	⇓P	Pg	01 07 35.3	+0.1
MPAG				S	Sg	01 07 38.9	+0.6
MPAG				AML	AML		
	comp=E,1085µm,0.1s						
MPAG				AML	AML		
	comp=N,898µm,0.1s						
MPAG				AML	AML		
	comp=E,1211µm,0.1s						
MPAG				AML	AML		
	comp=N,806µm,0.1s						
SNTG	Esanatoglia	0.22	140	P	Pg	01 07 35.5	+0.2
SNTG				S	Sg	01 07 39.5	+1.0
SNTG				AML	AML		
	comp=E,780µm,0.4s						
SNTG				AML	AML		
	comp=N,1046µm,0.1s						
SNTG				AML	AML		
	comp=E,816µm,0.1s						
SNTG				AML	AML		
	comp=E,780µm,0.4s						
SNTG				AML	AML		
	comp=E,780µm,0.4s						
SNTG				AML	AML		
	comp=N,1046µm,0.1s						
SNTG				AML	AML		
	comp=E,780µm,1.6s						
SNTG				AML	AML		
	comp=N,1135µm,0.4s						
ATPC	Poggio Castell	0.22	285	⇓P	Pg	01 07 35.8	+0.4
ATPC				S	Sg	01 07 39.9	+1.2
NARO	Abbazia di Nar	0.23	327	⇓P	Pg	01 07 35.5	0.0
NARO				S	Sg	01 07 39.5	+0.7
NARO				AML	AML		
	comp=E,968µm,0.1s						
NARO				AML	AML		
	comp=N,1055µm,0.2s						
NARO				AML	AML		
	comp=N,1055µm,1.8s						
MURB	Monte Urbino	0.23	226	⇑P	Pg	01 07 36.0	+0.5
MURB				S	Sg	01 07 40.5	+1.6
MURB				AML	AML		
	comp=E,7495µm,0.3s						
MURB				AML	AML		
	comp=N,6815µm,0.2s						
MURB				AML	AML		
	comp=E,7495µm,1.7s						
ATCC	AVT- Casa Cast	0.25	199	⇑P	Pg	01 07 36.4	+0.5
ATCC				S	Sb	01 07 40.9	-0.6
ATCC				AML	AML		
	comp=N,4185µm,0.1s						
ATCC				AML	AML		
	comp=E,3495µm,0.7s						
MTL1	Matelica	0.25	131	P	Pg	01 07 36.2	+0.3
MTL1				S	Sb	01 07 40.5	-1.0
ATVO	AVT- Monte Val	0.26	261	⇓P	Pg	01 07 36.2	+0.3
ATVO				S	Sb	01 07 40.7	-0.9
ATVO				AML	AML		
	comp=N,1965µm,0.4s						
ATVO				AML	AML		
	comp=E,1620µm,0.2s						
ATVO				AML	AML		
	comp=E,1620µm,1.8s						
ATVO				AML	AML		
	comp=N,1965µm,1.6s						
ATPI	Pietralunga -	0.26	276	⇓P	Pg	01 07 36.3	+0.3
ATPI				S	Sb	01 07 40.7	-1.0
ATPI				AML	AML		
	comp=E,1570µm,0.3s						
ATPI				AML	AML		
	comp=N,1210µm,0.3s						
ATPI				AML	AML		
	comp=N,1165µm,0.3s						
ATPI				AML	AML		
	comp=E,1565µm,0.3s						
FIU1	Fiuminata	0.27	151	P	Pg	01 07 36.3	+0.1
FIU1				S	Sb	01 07 41.0	-1.0
EL6	Elcito	0.27	110	⇓P	Pg	01 07 36.5	+0.1
EL6				S	Sb	01 07 41.3	-0.8
EL6				AML	AML		
	comp=E,758µm,0.3s						
EL6				AML	AML		
	comp=N,665µm,0.5s						
ATLO	AVT- Montelove	0.27	247	P	Pg	01 07 36.6	+0.2
ATLO				S	Sg	01 07 41.1	+1.0
APEC	Apecchio	0.28	300	⇓P	Pg	01 07 36.7	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
APEC				S	Sb	01 07 41.7	-0.6
APEC				AML	AML		
	comp=N,464µm,0.3s						
APEC				AML	AML		
	comp=E,443µm,0.6s						
COR1	Corinaldo	0.28	41	P	Pb	01 07 37.0	-0.5
COR1				S	Sb	01 07 42.0	-0.2
COR1				AML	AML		
	comp=E,394µm,0.3s						
COR1				AML	AML		
	comp=N,514µm,1.3s						
PIO1	Pioraco	0.30	145	P	Pg	01 07 36.9	+0.1
SEF1	Sefro	0.31	152	P	Pg	01 07 37.1	+0.2
SEF1				S	Sb	01 07 42.2	-1.0
CING	Cingoli	0.33	98	⇓P	Pg	01 07 37.5	+0.2
CING				S	Sb	01 07 43.0	-0.7
PE3	Peglio	0.33	326	⇓P	Pg	01 07 37.7	+0.3
PE3				S	Sb	01 07 43.3	-0.5
PE3				AML	AML		
	comp=E,1805µm,1.3s						
PE3				AML	AML		
	comp=E,1805µm,0.7s						
PE3				AML	AML		
	comp=N,1305µm,0.3s						
MML1	Montelago di S	0.35	152	⇑P	Pg	01 07 37.6	-0.1
MML1				S	Sb	01 07 43.4	-0.9
FCOR	Fonte Corniale	0.35	7	P	Pg	01 07 38.0	+0.2
FCOR				S	Sb	01 07 43.9	-0.5
ATMI	Monte Miggiano	0.36	256	P	Pb	01 07 38.7	-0.4
ATMI				S	Sb	01 07 43.8	-0.9
ATMI				AML	AML		
	comp=E,276µm,0.4s						
ATMI				AML	AML		
	comp=N,206µm,0.4s						
ATMI				AML	AML		
	comp=E,276µm,1.6s						
MDAR	Monte D'Aria	0.37	129	P	Pg	01 07 38.3	+0.3
MDAR				S	Sb	01 07 44.2	-0.7
ATTE	AVT- Monte Tez	0.37	232	P	Pg	01 07 38.3	+0.3
ATTE				S	Sg	01 07 43.7	+0.7
ATTE				AML	AML		
	comp=N,155µm,1.4s						
ATTE				AML	AML		
	comp=N,155µm,0.6s						
ATTE				AML	AML		
	comp=E,162µm,0.7s						
ATVA	AVT- Monte Val	0.37	247	P	Pg	01 07 38.4	+0.3
BADI	Badiali	0.38	283	⇓P	Pg	01 07 38.4	+0.2
BADI				S	Sb	01 07 44.5	-0.7
BADI				AML	AML		
	comp=E,287µm,0.1s						
BADI				AML	AML		
	comp=N,338µm,0.6s						
ASSB	Assisi San Ben	0.39	190	⇑P	Pg	01 07 38.3	0.0
ASSB				S	Sb	01 07 44.8	-0.6
ASSB				AML	AML		
	comp=E,1385µm,0.3s						
ASSB				AML	AML		
	comp=N,613µm,0.2s						
ASSB				AML	AML		
	comp=E,1385µm,1.7s						
MCIF	Montecalvo in	0.40	347	P	Pb	01 07 39.7	0.0
ATMC	Monte Cedrone	0.41	274	P	Pg	01 07 38.9	+0.1
ATMC				S	Sb	01 07 45.4	-0.7
PF6	Pievefavera	0.42	130	P	Pg	01 07 39.2	+0.2
PF6				S	Sb	01 07 46.2	-0.2
CESI	CESI - Serrava	0.43	165	P	Pg	01 07 39.1	-0.1
CESI				S	Sb	01 07 46.2	-0.5
CESI				AML	AML		
	comp=E,394µm,0.6s						
CESI				AML	AML		
	comp=N,289µm,0.4s						
CESI				AML	AML		
	comp=E,394µm,1.4s						
PARC	Parchiule	0.44	301	⇓P	Pg	01 07 39.4	+0.1
PARC				S	Sb	01 07 46.3	-0.6
PARC				AML	AML		
	comp=N,332µm,0.4s						
PARC				AML	AML		
	comp=E,248µm,0.2s						
PARC				AML	AML		
	comp=E,248µm,1.8s						
SENI	Senigallia	0.45	51	P	Pb	01 07 40.5	-0.1
SENI				AML	AML		
	comp=E,1670µm,0.3s						
SENI				AML	AML		
	comp=N,182µm,1.0s						
SENI				AML	AML		
	comp=E,246µm,1.0s						
SENI				AML	AML		
	comp=N,182µm,1.0s						
SENI				AML	AML		
	comp=E,1675µm,0.3s						
SENI				AML	AML		
	comp=E,246µm,1.0s						
SENI				AML	AML		
	comp=N,623µm,0.7s						
FDMO	Fiordimonte	0.46	147	P	Pg	01 07 39.5	-0.2
FDMO				S	Sb	01 07 46.8	-0.6
FDMO				AML	AML		
	comp=N,506µm,0.1s						
FDMO				AML	AML		
	comp=E,638µm,0.2s						
CSP1	Cessapalombo	0.47	135	⇑P	Pg	01 07 40.0	+0.1
CSP1				S	Sb	01 07 47.5	-0.3
CSP1				AML	AML		
	comp=E,404µm,0.4s						
CSP1				AML	AML		
	comp=N,564µm,1.6s						
CSP1				AML	AML		
	comp=N,564µm,0.4s						
SSP9	Sansepolcro	0.48	289	P	Pg	01 07 40.0	0.0
SSP9				S	Sb	01 07 47.5	-0.5
CPGN	Carpegna, Ital	0.49	321	P	Pb	01 07 41.0	-0.3
CPGN				AML	AML		
	comp=E,401µm,1.0s						
CPGN				AML	AML		
	comp=N,422µm,0.5s						
CPGN				AML	AML		
	comp=N,488µm,0.4s						
CPGN				AML	AML		
	comp=E,432µm,1.1s						
FEMA	Monte Fema	0.51	155	P	Pg	01 07 40.9	+0.2
RSM	Repubblica di	0.55	337	P	Pb	01 07 42.5	+0.2
GUMA	Gualdo di Mace	0.56	130	P	Pg	01 07 41.5	-0.1
GUMA				AML	AML		
	comp=N,427µm,0.2s						
GUMA				AML	AML		
	comp=E,685µm,0.4s						
SAP2	Sant'Angelo in	0.57	124	P	Pg	01 07 41.9	0.0
CAFI	Castiglion Fio	0.58	261	P	Pg	01 07 42.3	+0.3
CAFI				AML	AML		
	comp=E,78µm,0.7s						
CAFI				AML	AML		
	comp=N,55µm,0.5s						
MNTP	Montappone	0.60	118	P	Pb	01 07 43.0	0.0
MC2	Monte Cornacci	0.60	148	P	Pg	01 07 42.3	-0.1
PP3	Marolino	0.63	94	P	Pb	01 07 43.5	0.0
AOI	Ancona	0.63	78	P	Pg	01 07 43.0	0.0
MOMA	Monte Martano	0.63	192	P	Pg	01 07 42.7	-0.2
MOMA				AML	AML		
	comp=N,90µm,0.3s						
MOMA				AML	AML		
	comp=E,132µm,0.3s						
NRCA	Norcia	0.65	156	P	Pg	01 07 42.9	-0.4
MF5	Montefalcone A	0.68	130	P	Pg	01 07 44.0	+0.2
MF5				AML	AML		
	comp=E,208µm,0.6s						
MF5				AML	AML		
	comp=N,228µm,1.6s						
MF5				AML	AML		
	comp=N,228µm,0.4s						
MGAB	Montegabbione	0.69	223	P	Pg	01 07 44.0	0.0
MNTT	Montottone	0.71	120	P	Pg	01 07 44.8	+0.2
MNTT				AML	AML		
	comp=E,293µm,1.5s						
MNTT				AML	AML		
	comp=N,422µm,0.2s						
MNTT				AML	AML		
	comp=E,293µm,0.5s						
GAVE	Gavelli	0.74	172	P	Pg	01 07 44.7	-0.3
GAVE				AML	AML		
	comp=E,264µm,1.2s						
GAVE				AML	AML		
	comp=N,238µm,0.4s						
ASQU	Asqua	0.79	298	P	Pg	01 07 45.8	-0.3
ASQU				AML	AML		
	comp=N,29µm,0.4s						
ASQU				AML	AML		
	comp=E,37µm,0.7s						
MTRA	Matera	0.82	144	P	Pg	01 07 46.0	-0.4
MTRA				AML	AML		
	comp=E,154µm,0.4s						
MTRA				AML	AML		
	comp=N,181µm,0.5s						
CESX	Cesi	0.82	189	P	Pg	01 07 46.6	+0.1
OFFI	Offida	0.84	125	P	Pg	01 07 46.9	0.0
OFFI				AML	AML		
	comp=N,266µm,0.7s						
OFFI				AML	AML		
	comp=E,394µm,0.4s						
OFFI				AML	AML		
	comp=N,266µm,1.3s						
SACS	San Casciano d	0.84	227	P	Pg	01 07 46.6	-0.3
ARRO	Arrone	0.84	179	P	Pg	01 07 46.5	-0.5
ARRO				AML	AML		
	comp=E,69µm,0.8s						
ARRO				AML	AML		
	comp=N,51µm,0.7s						
ARRO				AML	AML		
	comp=N,51µm,1.3s						
ARRO				AML	AML		
	comp=E,69µm,1.2s						
LNSS	Leonessa	0.85	165	P	Pg	01 07 46.4	-0.6
SMA1	SAN MARTINO	0.90	151	P	Pg	01 07 47.3	-0.7
SMA1				AML	AML		
	comp=E,136µm,0.3s						
SMA1				AML	AML		
	comp=N,108µm,0.4s						
TERO	Teramo	1.01	142	P	Pb	01 07 49.5	-0.6
TERO				AML	AML		
	comp=E,67µm,0.3s						
TERO				AML	AML		
	comp=N,74µm,1.1s						
TERO				AML	AML		
	comp=E,67µm,1.7s						
GIGS	Gran Sasso	1.14	148	P	Pb	01 07 51.5	-0.9
GIGS				AML	AML		
	comp=E,24µm,0.4s						
GIGS				AML	AML		
	comp=N,22µm,0.8s						
GIGS				AML	AML		
	comp=E,24µm,1.6s						
BRIS	BRISIGHELLA	1.16	309	P	Pb	01 07 50.3	-2.2

*NEIC **02** 01:25:36.5±1.6, 34°.95N±0°.01×97°.73W±0°.01, h11km±6km, Error ellipse: s-maj=1.7km s-min=1.4km az=124.0*

NEIC 02 01:25:36.1±1.6**, 34°.938N**±0°.009×**97°.72W**±0°.01**, h5**km±1km**, mb_Lg2.3**/20**, ML2.4**/16**, ML2.4**/29**, Error ellipse: s-maj=2.6km s-min=1.7km az=56.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
X34A	Smith Ranch, M	0.35	196	Pg	Pb	01 25 43.9	-0.9
					Sg	01 25 48.8	+1.4
X34A				IAML		01 25 50.5	
	comp=E,430nm,0.3s						
X34A				IAML		01 25 50.5	
	comp=N,476nm,0.5s						
OKCSW	OKLAHOMA CITY	0.52	26		Pg	01 25 46.3	+0.2
OKCSW				IAML		01 25 57.9	
	comp=N,301nm,0.2s						
OKCSW				IAML		01 25 58.0	
	comp=E,216nm,0.1s						
OKCFA	Oklahoma City	0.52	25		Pg	01 25 46.5	+0.3
OKCFA					Sg	01 25 53.8	+0.8
OK004	Okla Sci Mus	0.62	19		Pg	01 25 48.4	+0.5
OK004					Sg	01 25 56.2	+0.2
ADOK	Arcadia Dam	0.77	22	Pg	Pg	01 25 50.7	-0.2
ADOK				Sg	Sg	01 26 01.1	+0.3
OK029	Liberty Lake	0.88	14		Pg	01 25 52.7	-0.3
OK029				Sg	Sg	01 26 04.6	+0.1
OK029				IAML		01 26 12.0	
	comp=E,126nm,0.2s						
OK029				IAML		01 26 14.6	
	comp=E,102nm,0.2s						
WMOK	Wichita Mounta	0.90	257	Pg	Pg	01 25 52.3	-1.0
WMOK	Wichita Mounta	0.90	257	Sg	Sb	01 26 05.7	-0.7
LOOK	Love County	1.04	155		Pg	01 25 55.9	-0.2
LOOK				Sg	Sn	01 26 11.9	-0.4
LOOK				IAML		01 26 17.2	
	comp=E,121nm,0.2s						
LOOK				IAML		01 26 21.7	
	comp=N,112nm,0.2s						
CSTR	Hydro, Custer	1.06	312		Pg	01 25 56.5	-0.1
OK052	Battle Ridge R	1.29	35		Pn	01 25 59.7	-1.2
WTFS	Witchita Falls	1.32	208		Pn	01 26 00.1	-1.1
DEOK	Depew	1.34	47		Pn	01 26 00.3	-1.2
QUOK	Quay	1.48	33		Pn	01 26 03.0	-0.5
CROK	Carrier	1.58	352		Pn	01 26 04.4	-0.4
Z35A	Perchaven, San	1.65	166		Pn	01 26 05.1	-0.7
OK038	West end E0370	1.75	332	Pn	Pn	01 26 06.7	-0.4
ELIS	Ellis County	1.79	310	Pn	Pn	01 26 06.9	-0.8
TUL3	Leonard	1.85	58		Pn	01 26 08.2	-0.2
TUL3				IAmb_Lg		01 26 36.9	
	comp=Z,13nm,0.7s						
BLOK	Blackwell	1.86	13		Pn	01 26 08.6	-0.1
FW03	Perrin-Whitt E	1.92	189		Pn	01 26 10.3	+0.9
FW03					Sb	01 26 36.3	+0.5
FW06	Azle	1.96	176	IAmb_Lg		01 26 40.0	
	comp=Z,11nm,0.9s						
KAN14	Manchester OK	2.02	354	Pn	Pn	01 26 11.2	+0.2
SMWD	Samnorwood	2.08	275	Pn	Pn	01 26 11.0	-0.7
FW09	Farmers Branch	2.12	161		Pg	01 26 16.4	-0.3
PLPT	Palo Pinto	2.18	193	Pn	Pn	01 26 13.1	+0.1
T35A	Sooner Cattle	2.20	26	Pn	Pn	01 26 14.2	+0.8
KAN01	Argonia South	2.21	359	Pn	Pn	01 26 13.6	+0.1
FW07	Weatherford	2.23	181		Pb	01 26 15.8	-1.1
FW07					Sb	01 26 45.3	+0.5
KAN08	Anthony NE Sta	2.29	355	Pn	Pn	01 26 13.6	-1.0
RLO	Rose Lookout	2.52	60	Pn	Pn	01 26 17.2	-0.4
APMT	Aspermont	2.56	232	Pn	Pn	01 26 18.9	+0.5
ABTX	Abilene, Hawle	2.81	215	Pn	Pn	01 26 22.8	+1.0
Z38A	Mt. Pleasant	2.82	126	IAmb_Lg		01 27 09.9	
	comp=Z,14nm,0.9s						
DKNS	Dickens	2.94	245	Pn	Pn	01 26 25.3	+1.7
WHTX	Lake Whitney,	2.95	176	Pn	Pn	01 26 22.2	-1.4
U38A	Gravette	3.10	60	Pn	Pn	01 26 25.7	0.0
SN07	Snyder 07	3.22	236	Pn	Pn	01 26 25.4	-1.9
HHAR	Hobbs	3.36	65	Pn	Pn	01 26 29.2	-0.1
MIAR	Mount Ida	3.43	95	Pn	Pn	01 26 30.6	+0.3
R32A	Long Quarter,	3.57	347	Pn	Pn	01 26 31.2	-0.9
POST	Post	3.66	240	Pn	Pn	01 26 33.9	+0.5
POST				IAmb_Lg		01 27 39.3	
	comp=Z,6.9nm,0.9s						
BRDY	Brady	3.80	197	Pn	Pn	01 26 34.5	-0.8
BRDY				IAmb_Lg		01 27 37.4	
	comp=Z,9.2nm,0.8s						
X40A	Basin Creek Fa	4.05	95	Pn	Pn	01 26 39.7	+1.0
X40A				IAmb_Lg		01 27 50.7	
	comp=Z,9.7nm,1.0s						
MSTX	Muleshoe	4.29	258	Pn	Pn	01 26 41.8	-0.3
MSTX				IAmb_Lg		01 28 01.9	
	comp=Z,7.2nm,1.1s						
RTBA	Rita Blanca	4.35	292	Pn	Pn	01 26 41.8	-1.2
WHAR	Wooly Hollow	4.46	84	Pn	Pn	01 26 44.4	0.0
FCAR	Ozark Folk Cen	4.67	77	Pn	Pn	01 26 48.8	+1.6
JCT	Junction City	4.78	202	Pn	Pn	01 26 49.4	+0.6
OZNA	Ozona	4.92	217	Pn	Pn	01 26 50.6	-0.3
OZNA				IAmb_Lg		01 28 15.8	
	comp=Z,5.1nm,1.0s						
MGMO	Mountain Grove	4.94	62	Pn	Pn	01 26 51.0	0.0
R40A	Maddies Statio	5.51	51	Pn	Pn	01 26 59.1	+0.3
SAND	Sanderson	6.21	218	Pn	Pn	01 27 07.5	-1.0
SAND				IAmb_Lg		01 29 08.6	
	comp=Z,5.4nm,1.1s						
ALPN	Alpine	6.75	229	IAmb_Lg		01 29 20.9	
	comp=Z,3.1nm,0.8s						

OTT 02 02:00:19.5±0.5**, 45°.78N**×**51°.39W, h18**km**, ML4.0**/14**, 224km southeast from St. John''s, Nl, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJNN	Saint John's	2.02	335	PN	Pn	02 00 53.1	+0.4
SJNN				SN	Sn	02 01 17.3	-0.2
SJNN				Trac		02 01 22.9	
	comp=Z,68nm,0.1s						
DRLN	Deer Lake	5.41	312	PN	Pn	02 01 38.9	-0.3
DRLN				SN	Sn	02 02 36.9	-4.1
DRLN				Trac		02 03 11.3	
	comp=Z,12nm,0.4s						
GBN	Guysborough	7.11	271	PN	Pn	02 02 02.1	-0.5
GBN				SN	Sn	02 03 18.4	-4.4
GBN				Trac		02 03 28.1	
	comp=Z,9.9nm,0.5s						
PCAQ	Pointe Carleto	8.73	301	PN	Pn	02 02 24.2	-0.5
PCAQ				Trac		02 04 04.7	
	comp=Z,8.6nm,0.3s						
BJBQ	Baie Johan-Bee	8.88	305	PN	Pn	02 02 25.4	-1.4
BJBQ				SN	Sn	02 03 59.4	-6.9
BJBQ				Trac		02 04 12.5	
	comp=Z,41nm,0.9s						
LMN	Caledonia Moun	9.37	275	PN	Pn	02 02 31.9	-1.6
LMN				SN	Sn	02 04 10.8	-7.6
LMN				Trac		02 04 37.9	
	comp=Z,13nm,0.6s						
SVNB	Stilesville Qu	9.40	277	PN	Pn	02 02 32.3	-1.6
SVNB				SN	Sn	02 04 11.7	-7.4
SVNB				Trac		02 04 27.4	
	comp=Z,1.5nm,0.2s						
PMAQ	Port Menier	9.60	300	SN	Sn	02 04 16.7	-7.3
ELNB	Elgin, New Bru	9.61	275	PN	Pn	02 02 35.0	-1.8
ELNB				SN	Sn	02 04 17.2	-7.1
ELNB				Trac		02 04 32.9	
	comp=Z,4.5nm,0.6s						
HKNB	Havelock Quarr	9.76	276	PN	Pn	02 02 32.8	-6.1
HKNB				SN	Sn	02 04 16.2	-12
HKNB				Trac		02 04 29.5	
	comp=Z,17nm,0.7s						
WCNB	Wards Creek	9.88	274	PN	Pn	02 02 38.8	-1.7
WCNB				SN	Sn	02 04 23.6	-7.2
WCNB				Trac		02 04 35.7	
	comp=Z,1.1nm,0.2s						
HSNB	Heath Steele M	10.22	284	PN	Pn	02 02 43.1	-2.1
HSNB				SN	Sn	02 04 29.3	-10
HSNB				Trac		02 04 35.1	
	comp=Z,12nm,0.6s						
MCNB	McAdam	11.15	275	PN	Pn	02 02 54.8	-3.1
MCNB				SN	Sn	02 04 53.5	-8.4
MCNB				Trac		02 05 05.5	
	comp=Z,0.7nm,0.1s						
SNFQ	Sainte-Felicit	11.27	292	PN	Pn	02 02 58.2	-1.3
SNFQ				SN	Sn	02 04 57.3	-7.5
SNFQ				Trac		02 05 15.6	
	comp=Z,1.9nm,0.2s						
ICQ	Pointe Anglais	11.35	295	PN	Pn	02 02 59.6	-0.9
ICQ				SN	Sn	02 04 58.3	-8.4
ICQ				Trac		02 05 10.5	
	comp=Z,132nm,2.0s						
CACQ	Cacouna	12.58	286	PN	Pn	02 03 15.0	-2.4
CACQ				Trac		02 05 35.2	
	comp=Z,53nm,1.7s						

FUNV 02 02:09:13.6, 10°.35N×69°.42W, h17km, MW2.9, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACV	Jacura	0.93	38	*e*P	Pb	02 09 31.0	-0.4
JACV				*e*S	Sg	02 09 44.4	+0.3
JACV	Jacura	0.93	38	*e*P	Pb	02 09 30.8	-0.6
JACV				*e*S	Sb	02 09 43.5	0.0
BENV	Beln	1.83	102	*e*P	Pn	02 09 43.6	-0.7
BENV				*e*S	Sn	02 10 06.7	-0.5
BENV	Beln	1.83	102	*e*P	Pn	02 09 44.5	+0.2
BENV				*e*S	Sn	02 10 07.5	+0.4
BAUV	El Baul	1.94	136	*e*P	Pn	02 09 43.4	-2.5
BAUV				*e*S	Sn	02 10 06.3	-3.7
BAUV	El Baul	1.94	136	*e*P	Pn	02 09 45.1	-0.8
BAUV				*e*S	Sn	02 10 08.5	-1.5
TACV	Tcata	2.36	95	*e*P	Pn	02 09 50.2	-1.5
TACV				*e*S	Sn	02 10 18.7	-1.5
TACV	Tcata	2.36	95	*e*P	Pn	02 09 51.0	-0.7
TACV				*e*S	Sn	02 10 17.6	-2.7
CAPV	Capacho	3.78	229	*e*P	Pn	02 10 06.1	-5.2
CACV	CAICARA DEL OR	3.96	134	*e*P	Pn	02 10 16.5	+2.8
CACV				*e*S	Sn	02 11 04.2	+4.4

IDC 02 02:12:05.1±2.1**, 4°.95S**×**152°.86E, h0**km**, mb3.6**/3**, mbtmp3.6**/3**, Error ellipse: s-maj=69.3km s-min=46.6km az=132.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.39	229	P	P	02 17 15.4	-0.4
	0.5nm,0.5s,baz=54,slow=9.9,SNR=8.7						
	0.5nm,0.5s						
ASAR	Alice Springs	26.08	223	P	P	02 17 41.3	+0.6
	0.5nm,0.6s,baz=50,slow=9.1,SNR=4.2						
	0.5nm,0.6s						
QSPA	South Pole Qui	85.01	180	P	P	02 24 41.8	-0.6
	0.6nm,0.5s,baz=204,slow=1.2,SNR=9.1						
	0.6nm,0.5s						
TORD	Torodi Ar. Bea	150.41	288	PKPbc	PKPbc	02 31 59.8	+0.1
	0.5nm,0.6s,baz=62,slow=1.6,SNR=7.5						

*CATAC **02** 02:12:32.9±0.5, 12°N±3°×9°0W±°, h12km±4km, M3.6/23, MLv3.6/23, Error ellipse: s-maj=8.1km s-min=4.2km az=49.1, confirmed*

*SNET **02** 02:12:33.0±1.2, 12°.34N×89°.56W, h36km±17km, ML3.5*

*GCG **02** 02:12:33.8±0.3, 12°.52N×89°.76W, h18km±6km, MD4.2, ML2.7*

ISC 02 02:12:34.8±2.7**, 12°.4N**±0°.1×**89°.62W**±0°.09**, h47**km**, n58, σ0s.80**/62**, 11C-15D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	1.09	15	*e*P	Pn	02 12 52.7	-1.1
LALI				*e*S	Sn	02 13 08.0	+0.3
LALI	Alcalda de L	1.09	15	*i* P	Pn	02 12 52.5	-1.3
LALI				IAML		02 13 14.2	
	comp=N,181nm,0.4s						
LALI	Alcalda de L	1.09	15	S	Sn	02 13 07.6	-0.2
LALI	Alcalda de L	1.09	15	⇓P	Pn	02 12 52.9	-0.9
JAYA	Jayaque - finc	1.23	8	*e*P	Pn	02 12 54.9	-0.9
JAYA	Jayaque - finc	1.23	8	*e*P	Pn	02 12 54.5	-1.3
JAYA	Jayaque - finc	1.23	8	S	Sn	02 13 11.3	-0.1
JAYA	Jayaque - finc	1.23	8	⇑P	Pn	02 12 55.1	-0.7
PANCS	Alcalda de	1.25	20	P	Pn	02 12 54.8	-1.2
LOMA	Loma Larga	1.29	20	*e*P	Pn	02 12 55.3	-1.2
LOMA	Loma Larga	1.29	20	⇑P	Pn	02 12 56.2	-0.3
LFRS	El Faro	1.31	24	*e*P	Pn	02 12 55.7	-1.1
PMON	Piamonte	1.31	13	S	Sn	02 13 13.2	-0.1
PMON	Piamonte	1.31	13	⇑P	Pn	02 12 56.2	-0.7
SEMO	Seminario San	1.33	17	⇓P	Pn	02 12 56.8	-0.2
UTEC	Universidad Te	1.33	18	⇓P	Pn	02 12 57.0	-0.1
UEES	Universidad Ev	1.33	16	S	Sn	02 13 13.8	0.0
UEES	Universidad Ev	1.33	16	⇓P	Pn	02 12 56.4	-0.7
BOQS	Boqueron	1.34	14	*e*P	Pn	02 12 56.8	-0.5
IGN	Direccin Gen	1.35	19	⇑P	Pn	02 12 56.6	-0.8
UDBS	Universidad Do	1.36	19	⇑P	Pn	02 12 57.1	-0.3
TECO	Alcaldia de Te	1.37	36	⇓P	Pn	02 12 56.3	-1.3
CEDA	San Andres	1.39	9	S	Sn	02 13 15.4	+0.4
CEDA	San Andres	1.39	9	⇓P	Pn	02 12 56.9	-0.9
CEVE	Cerro Verde	1.39	360	*e*P	Pn	02 12 57.4	-0.7
CEVE	Cerro Verde	1.39	360	S	Sn	02 13 15.6	+0.1
CEVE	Cerro Verde	1.39	360	⇑P	Pn	02 12 57.7	-0.4
PAVA	Las Pavas	1.44	27	S	Sn	02 13 16.5	+0.1
PAVA	Las Pavas	1.44	27	⇓P	Pn	02 12 57.8	-0.8
FAME	Alcaldia de Sa	1.46	345	P	Pn	02 12 58.1	-0.7
RTR	El Retiro	1.46	359	*e*P	Pn	02 12 58.4	-0.5
NUBE	Las Nubes	1.48	354	*e*P	Pn	02 12 58.2	-0.9
NUBE	Las Nubes	1.48	354	*i* P	Pn	02 12 58.3	-0.9
NUBE				*i* S	Sn	02 13 17.4	+0.1
NUBE	Las Nubes	1.48	354	⇑P	Pn	02 12 58.4	-0.7
TECA	Tecapa	1.52	46	*e*P	Pn	02 12 58.2	-1.5
SCLA	Alcaldia de Sa	1.54	34	*e*P	Pn	02 12 58.8	-1.0
SCLA	Alcaldia de Sa	1.54	34	S	Sn	02 13 19.2	+0.5
SCLA	Alcaldia de Sa	1.54	34	⇓P	Pn	02 12 58.9	-1.0
LOAL	Lomas de Alarc	1.57	354	S	Sn	02 13 21.1	+1.5
LOAL	Lomas de Alarc	1.57	354	⇓P	Pn	02 13 00.4	+0.1
PQSS	Presa 15 de Se	1.57	41	⇓P	Pn	02 12 59.9	-0.4
SLOZ	Alcaldia de Sa	1.60	354	S	Sn	02 13 21.4	+1.2
SLOZ	Alcaldia de Sa	1.60	354	⇑P	Pn	02 13 00.7	0.0
PACA	Pacayal	1.63	50	*e*P	Pn	02 13 01.3	+0.1
PACA	Pacayal	1.63	50	S	Sn	02 13 21.7	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACA	**Pacayal**	**1.63**	**50**	⇓P	**Pn**	**02 13 01.0**	**-0.2**
CNRM	**Centro Naciona**	**1.75**	**53**	⇓P	**Pn**	**02 13 02.0**	**-0.7**
LLGN	**La Laguna**	**1.85**	**21**	⇓P	**Pn**	**02 13 03.9**	**-0.3**
CNCH	**Conchagua**	**1.93**	**64**	*e*P	**Pn**	**02 13 05.0**	**-0.3**
CNCH	**Conchagua**	**1.93**	**64**	S	**Sn**	**02 13 29.6**	**+1.1**
CNCH	**Conchagua**	**1.93**	**64**	⇓P	**Pn**	**02 13 05.0**	**-0.3**
MTO3	**Montecristo**	**1.98**	**7**	*i* P	**Pn**	**02 13 06.0**	**0.0**
MTO3	**Montecristo**	**1.98**	**7**	S	**Sn**	**02 13 31.0**	**+1.2**
MTO3	**Montecristo**	**1.98**	**7**	⇑P	**Pn**	**02 13 06.1**	**0.0**
CSGN	**Cosiguina Volc**	**2.08**	**75**	⇑P	**Pn**	**02 13 07.2**	**-0.1**
CSGN				S	**Sn**	**02 13 33.4**	**+1.3**
ESQI	**Esquipulas**	**2.14**	**7**	S	**Sn**	**02 13 35.2**	**+1.6**
ESQI	**Esquipulas**	**2.14**	**7**	⇓P	**Pn**	**02 13 08.3**	**+0.1**
PKGN	**Cerro Pekin**	**2.59**	**84**	⇑P	**Pn**	**02 13 13.3**	**-0.9**
PKGN				S	**Sn**	**02 13 44.8**	**+0.4**

*IDC **02** 02:31:45.7±4.7, 20.°55S×178.°82W, h557km±50km, mb3.3/7, mbtmp4.3/8, Error ellipse: s-maj=31.5km s-min=27.2km az=133.0*
*NEIC **02** 02:31:47.0±0.9, 20.°9S±0.°1×178.°8W±0.°2, h566km±9km, mb4.3/19, Error ellipse: s-maj=26.3km s-min=16.4km az=46.0*
*NOU **02** 02:32:39.6, 18.°05S×179.°59E, h185km, MLv3.2/4, Fiji Islands*
ISC 02 02:31:46.6±0.7**, 20.°9S**±0.°1×**178.°8W**±0.°1**, h579km, n44, σ1.s30**/43**, mb4.3**/18**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**4.27**	**345**	P	**P**	**02 33 11.4**	**-1.3**
MSVF	**Nonsavu**	**4.34**	**315**		**P**	**02 33 11.5**	**-1.7**
MSVF	**Nonsavu**	**4.34**	**315**	P	**P**	**02 33 12.1**	**-1.1**
DGTI	**Dogotuki**	**4.76**	**342**	P	**P**	**02 33 14.5**	**-1.9**
YSA	**Yasawairara**	**5.41**	**319**	P	**P**	**02 33 20.9**	**-0.8**
PINNC	**Pines Island,**	**12.95**	**260**	P	**P**	**02 34 35.6**	**+0.6**
DZM	**Mont Dzumac**	**13.84**	**262**	P	**P**	**02 34 42.9**	**-1.4**
DZM	**Mont Dzumac**	**13.84**	**262**	P	**P**	**02 34 43.9**	**-0.4**
	10nm,0.8s,baz=81,slow=16,SNR=8.0						
URZ	**Urewera**	**17.71**	**191**	S	**S**	**02 38 08.3**	**-5.7**
	1.8nm,0.6s,baz=16,slow=22,SNR=1.8						
QRZ	**Quartz Range**	**21.24**	**199**	P	**P**	**02 35 51.9**	**-0.5**
WHZ	**Wether Hill Ro**	**27.25**	**201**	P	**P**	**02 36 45.6**	**+0.2**
WHZ				IAmb	IAmb	02 37 00.8	
	comp=Z,8.8nm,1.0s						
EIDS	**Eidsvold**	**28.08**	**255**	P	**P**	**02 36 53.2**	**+0.3**
EIDS				IAmb	IAmb	02 36 54.1	
	comp=Z,5.1nm,0.6s						
CTAO	**Charters Tower**	**32.76**	**265**	P	**P**	**02 37 33.4**	**+0.2**
COEN	**Coen**	**36.91**	**274**	P	**P**	**02 38 08.6**	**+0.9**
COEN				IAmb	IAmb	02 38 09.8	
	comp=Z,9.8nm,1.0s						
STKA	**Stephens Creek**	**37.00**	**244**	P	**P**	**02 38 08.9**	**+0.7**
STKA	**Stephens Creek**	**37.00**	**244**	P	**P**	**02 38 09.6**	**+1.4**
	comp=Z,4.4nm,0.5s,baz=86,slow=9.6,SNR=5.3						
	comp=Z,4.4nm,0.5s						
BBOO	**Buckleboo**	**41.76**	**244**	P	**P**	**02 38 46.4**	**0.0**
BBOO				IAmb	IAmb	02 38 46.9	
	comp=Z,11nm,0.7s						
WR8	**Warramunga Arr**	**43.71**	**263**	P	**P**	**02 39 01.2**	**-0.6**
WR8				IAmb	IAmb	02 39 04.0	
	comp=Z,5.0nm,0.9s						
AS31	**Alice Springs**	**43.75**	**257**	P	**P**	**02 39 01.9**	**-0.2**
ASAR	**Alice Springs**	**43.76**	**257**	P	**P**	**02 39 01.5**	**-0.6**
ASAR	**Alice Springs**	**43.76**	**257**	P	**P**	**02 39 02.3**	**+0.2**
	comp=Z,13nm,0.8s,baz=87,slow=8.4,SNR=110						
ASAR				PcP	**PcP**	**02 40 36.6**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=92,slow=3.7,SNR=4.7						
	comp=Z,13nm,0.8s						
WB0	**Warramunga Arr**	**43.84**	**263**	P	**P**	**02 39 02.5**	**-0.2**
WRAB	**Tennant Creek**	**43.85**	**263**	P	**P**	**02 39 02.3**	**-0.5**
WRAB				IAmb	IAmb	02 39 03.3	
	comp=Z,9.8nm,0.9s						
WRA	**Warramunga Arr**	**43.86**	**263**	P	**P**	**02 39 02.5**	**-0.4**
WRA	**Warramunga Arr**	**43.86**	**263**	P	**P**	**02 39 02.5**	**-0.4**
	comp=Z,6.7nm,0.7s,baz=98,slow=8.7,SNR=86						
	comp=Z,6.7nm,0.7s						
MTN	**Manton Dam**	**48.47**	**271**	P	**P**	**02 39 37.4**	**-0.4**
MTN				IAmb	IAmb	02 39 38.5	
	comp=Z,13nm,0.8s						
KNRA	**Kununurra**	**49.94**	**267**	P	**P**	**02 39 48.4**	**-0.2**
KNRA				IAmb	IAmb	02 39 49.5	
	comp=Z,11nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.29**	**263**	P	**P**	**02 40 05.7**	**+0.2**
PSA00	**Pilbara Seismi**	**56.90**	**257**	P	**P**	**02 40 37.9**	**+0.1**
PSA00				IAmb	IAmb	02 40 38.9	
	comp=Z,7.9nm,0.8s						
MBWA	**Marble Bar**	**57.09**	**258**	P	**P**	**02 40 38.2**	**-0.9**
MBWA				IAmb	IAmb	02 40 39.6	
	comp=Z,12nm,0.8s						
CASY	**Casey**	**63.34**	**205**	P	**P**	**02 41 19.8**	**+0.3**
CASY				IAmb	IAmb	02 41 20.8	
	comp=Z,6.1nm,1.1s						
QSPA	**South Pole Qui**	**69.21**	**180**	P	**P**	**02 41 58.0**	**+2.1**
QSPA	**South Pole Qui**	**69.21**	**180**	P	**P**	**02 41 58.6**	**+2.7**
	comp=Z,1.0nm,0.8s,baz=186,slow=1.1,SNR=5.6						
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**81.77**	**44**	P	**P**	**02 43 06.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=258,slow=4.7,SNR=3.5						
	comp=Z,0.2nm,0.5s						
ILAR	**Eielson Array**	**88.82**	**13**	P	**P**	**02 43 37.9**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=213,slow=5.6,SNR=6.6						
	comp=Z,0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**89.58**	**290**	P	**P**	**02 43 45.0**	**+1.3**
	comp=Z,0.6nm,0.2s,baz=109,slow=5.8,SNR=5.1						
	comp=Z,0.6nm,0.2s						
BVAR	**Borovoye Array**	**118.90**	**320**	PKP	**PKPdf**	**02 49 29.4**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=93,slow=3.7,SNR=5.1						
HFS	**Hagfors**	**139.78**	**350**	PKhKP	PKPpre	02 50 02.5	
	comp=Z,0.5nm,0.3s,baz=70,slow=4.7,SNR=9.6						
AKASG	**Malin Array Be**	**142.98**	**330**	PKhKP	PKPpre	02 50 12.2	
	comp=Z,0.7nm,0.3s,baz=44,slow=4.6,SNR=16						
EKA	**Eskdalemuir Ar**	**145.42**	**4**	PKPbc	**PKPbc**	**02 50 21.0**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=4.4,slow=2.9,SNR=2.4						
BRTR	**Keskin Array B**	**146.56**	**311**		**PKPbc**	**02 50 24.3**	**+0.1**
BRTR	**Keskin Array B**	**146.56**	**311**	PKPbc	**PKPbc**	**02 50 23.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=139,slow=4.3,SNR=6.1						
BURAR	**Bucovina Array**	**147.02**	**330**		**PKPbc**	**02 50 24.9**	**-0.2**
GERES	**GERESS Array B**	**150.35**	**343**	PKPbc	**PKPbc**	**02 50 33.4**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=299,slow=2.8,SNR=6.9						

IDC 02 02:37:43.1±47.0**, 16.°67S**×**175.°93W, h0km, mb4.3**/3**, mbtmp4.3**/3**, Error ellipse: s-maj=883.4km s-min=162.6km az=78.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.30**	**241**	P	P	02 45 31.2	+0.7
	2.7nm,0.6s,baz=87,slow=16,SNR=5.3						
	2.7nm,0.6s						
WRA	**Warramunga Arr**	**47.20**	**258**	P	P	02 46 17.8	-0.3
	1.2nm,0.4s,baz=96,slow=7.3,SNR=32						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**47.41**	**253**	P	P	02 46 19.1	-0.6
	2.7nm,0.4s,baz=89,slow=8.5,SNR=54						
	2.7nm,0.4s						

IDC 02 02:40:29.9±5.1**, 18.°63S**×**176.°57W, h0km, mb3.7**/3**, mbtmp3.7**/3**, Error ellipse: s-maj=140.8km s-min=49.1km az=28.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.22**	**260**	P	P	02 48 57.3	+0.1
	0.4nm,0.3s,baz=98,slow=8.2,SNR=8.4						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**46.28**	**255**	P	P	02 48 57.2	-0.4
	0.7nm,0.6s,baz=95,slow=7.5,SNR=7.1						
	0.7nm,0.6s						
QSPA	**South Pole Qui**	**71.43**	**180**	P	P	02 51 52.2	+0.3
	0.7nm,0.9s,baz=114,slow=17,SNR=1.9						
	0.7nm,0.9s						
AKASG	**Malin Array Be**	**142.00**	**333**	PKP	PKPdf	03 00 02.1	-1.6
	0.5nm,0.4s,baz=47,slow=4.2,SNR=4.5						

*IDC **02** 02:43:36.8±22.0, 23.°04S×177.°09W, h140km±191km, mb3.5/5, mbtmp3.9/5, Error ellipse: s-maj=68.1km s-min=40.4km az=60.0*
ISC 02 02:43:39.6±1.2**, 23.°0S**±0.°3×**177.°1W**±0.°2**, h167km, n10, σ0.s63**/8**, mb3.8**/5**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.97**	**197**	S	S	02 49 58.8	-13
	2.2nm,0.4s,baz=52,slow=14,SNR=2.2						
STKA	**Stephens Creek**	**37.52**	**247**	P	**P**	**02 50 38.3**	**+0.8**
	1.0nm,0.5s,baz=120,slow=13,SNR=3.2						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**44.82**	**259**	P	**P**	**02 51 37.2**	**0.0**
	1.4nm,0.8s,baz=98,slow=6.3,SNR=10.0						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**45.14**	**264**	P	**P**	**02 51 38.8**	**-1.0**
	2.9nm,0.6s,baz=102,slow=8.3,SNR=37						
	2.9nm,0.6s						
QSPA	**South Pole Qui**	**67.05**	**180**	P	**P**	**02 54 14.4**	**-0.2**
	2.0nm,1.1s,baz=303,slow=4.9,SNR=3.1						
	2.0nm,1.1s						
ILAR	**Eielson Array**	**90.59**	**12**	P	**P**	**02 56 22.6**	**+0.4**
	0.2nm,0.5s,baz=210,slow=5.4,SNR=4.9						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**131.55**	**350**	PKP	**PKiKP**	**03 02 32.3**	**-0.3**
	1.8nm,0.8s,baz=22,slow=5.7,SNR=3.8						
HFS	**Hagfors**	**142.16**	**351**	PKhKP	PKPpre	03 02 46.9	
	9.2nm,1.2s,baz=29,slow=3.3,SNR=6.3						
AKASG	**Malin Array Be**	**145.62**	**330**	PKPbc	**PKPdf**	**03 02 57.8**	**+0.1**
	0.8nm,0.3s,baz=45,slow=4.2,SNR=9.9						
BRTR	**Keskin Array B**	**149.13**	**310**	PKPbc	**PKPbc**	**03 03 08.3**	**-0.1**
	1.1nm,0.6s,baz=144,slow=5.2,SNR=8.5						

*IDC **02** 02:56:13.9±1.9, 34.°59S×179.°71W, h0km, mb3.8/4, mbtmp3.8/5, ML3.7/1, MS3.8/1, Error ellipse: s-maj=47.8km s-min=31.3km az=54.0*
*WEL **02** 02:56:19.7±1.5, 35°S±7°×18°0W±1°4, h12km, M4.0/2, ML4.3/9, MLv4.0/2, Error ellipse: s-maj=18.3km s-min=9.1km az=86.5, confirmed*
ISC 02 02:56:21.8±1.3**, 34.°99S**±0.°09×**179.°9W**±0.°1**, h39km, n31, σ0.s91**/34**, mb3.8**/4**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.96**	**209**	P	**Pn**	**02 57 05.8**	**-0.5**
MXZ				S	**Sn**	**02 57 40.6**	**0.0**
WMGZ	**Waiomatatini S**	**3.15**	**206**	P	**Pn**	**02 57 08.7**	**-0.1**
WMGZ				S	**Sn**	**02 57 46.4**	**+1.3**
PKGZ	**Pakihiroa**	**3.31**	**209**	P	**Pn**	**02 57 10.5**	**-0.6**
HAZ	**Te Kaha**	**3.35**	**214**	P	**Pn**	**02 57 10.6**	**-1.0**
PUZ	**Puketiti**	**3.43**	**206**	P	**Pn**	**02 57 12.9**	**+0.2**
PUZ				S	**Sn**	**02 57 53.3**	**+1.2**
RUGZ	**Raukumara Rang**	**3.57**	**213**	P	**Pn**	**02 57 14.6**	**-0.1**
RUGZ				S	**Sn**	**02 57 56.1**	**+0.4**
CNGZ	**Carnagh Statio**	**3.82**	**203**	P	**Pn**	**02 57 17.7**	**-0.3**
MYRZ	**Mayor Island**	**3.89**	**233**	P	**Pn**	**02 57 18.9**	**-0.2**
GRZ	**Great Barrier**	**4.01**	**250**	P	**Pn**	**02 57 19.7**	**-0.9**
URZ	**Urewera**	**4.07**	**216**	Pn	**Pn**	**02 57 20.8**	**-0.7**
	3.8nm,0.3s,baz=247,slow=4.2,SNR=28						
URZ				Sn	**Sn**	**02 58 07.1**	**-0.7**
	8.4nm,0.3s,baz=128,slow=21,SNR=7.3						
	8.1nm,0.3s						
URZ	**Urewera**	**4.07**	**216**	P	**Pn**	**02 57 20.6**	**-0.9**
RAGZ	**Rawiri**	**4.12**	**211**	P	**Pn**	**02 57 21.5**	**-0.8**
RAGZ				S	**Sn**	**02 58 09.2**	**-0.1**
SNGZ	**Shannon Statio**	**4.40**	**210**	P	**Pn**	**02 57 25.7**	**-0.4**
SNGZ				S	**Sn**	**02 58 16.2**	**+0.2**
MUGZ	**Murupara**	**4.41**	**217**	P	**Pn**	**02 57 25.4**	**-0.7**
RTZ	**Ruatahuna**	**4.42**	**214**	P	**Pn**	**02 57 25.3**	**-1.1**
KNZ	**Kokohu**	**4.48**	**205**	P	**Pn**	**02 57 25.1**	**-2.0**
TOZ	**Tahuroa Road**	**4.63**	**232**	P	**Pn**	**02 57 29.6**	**+0.4**
WCZ	**Waipu Caves**	**4.81**	**257**	P	**Pn**	**02 57 33.2**	**+1.5**
BKZ	**Black Stump Fm**	**5.08**	**214**	P	**Pn**	**02 57 34.1**	**-1.4**
OUZ	**Omahuta**	**5.36**	**266**	P	**Pn**	**02 57 38.9**	**-0.2**
HIZ	**Hauiti**	**5.50**	**229**	P	**Pn**	**02 57 41.3**	**+0.2**
CTZ	**Chatham Island**	**9.09**	**165**	P	**Pn**	**02 58 29.7**	**-0.7**
ASAR	**Alice Springs**	**41.52**	**273**	P	**P**	**03 04 04.3**	**-1.2**
	1.0nm,0.5s,baz=114,slow=7.9,SNR=21						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**42.93**	**278**	P	**P**	**03 04 15.7**	**-1.3**
	0.5nm,0.4s,baz=118,slow=7.7,SNR=6.6						
	0.5nm,0.4s						
JAY	**Jayapura**	**48.81**	**303**	LR	LR	03 22 37.0	
	comp=Z,110nm,21.2s,baz=328,slow=32						
QSPA	**South Pole Qui**	**55.13**	**180**	P	**P**	**03 05 51.7**	**+1.7**
	0.9nm,0.9s,baz=172,slow=7.6,SNR=2.0						
	0.9nm,0.9s						
SNAA	**Sanae**	**73.62**	**179**	P	**P**	**03 07 51.0**	**+0.4**
	1.3nm,1.1s,baz=37,slow=2.1,SNR=2.6						
	1.3nm,1.1s						
H03N3	**Juan Fernandez**	**79.47**	**123**	T	T	04 36 41.8	
	baz=237,slow=72						
H03N2	**Juan Fernandez**	**79.47**	**123**	T	T	04 36 40.5	
	baz=237,slow=72						
H03N1	**Juan Fernandez**	**79.48**	**123**	T	T	04 36 38.5	
	baz=237,slow=72						
FINES	**FINESS Array B**	**148.80**	**336**	PKPbc	**PKPdf**	**03 16 00.1**	**-0.1**
	2.9nm,1.1s,baz=81,slow=6.2,SNR=4.2						

*NEIC **02** 02:59:13.7±0.9, 19.°20N±0.°02×155.°458W±0.°008, h46km±2km, Error ellipse: s-maj=3.4km s-min=1.0km az=180.0*
HVO 02 02:59:15.6±0.8**, 19.°20N**±0.°02×**155.°45W**±0.°02**, h37km**±3km**, ML2.9**/43**, ML3.0**/42(NEIC)**, Error ellipse: s-maj=3.4km s-min=2.4km az=151.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.06**	**52**		Pn	02 59 21.4	-0.4
HPO	**Honuapo**	**0.15**	**222**		Pn	02 59 21.6	-5.1
HPO					Sn	02 59 26.0	-12
HLP	**Hilina Pali**	**0.16**	**54**		Pn	02 59 21.8	-4.4
HLP				Sn	Sn	02 59 26.6	-10
HLP				IAML		02 59 26.7	
	comp=N,2µm,0.2s						
HLP				IAML		02 59 28.0	
	comp=E,2µm,0.3s						
KHU	**Kahuku**	**0.16**	**286**		Pn	02 59 21.8	-4.6
KHU					Sn	02 59 26.2	-11
AIN	**Ainahou**	**0.17**	**357**		Pn	02 59 22.1	-3.9
AIN				Sn	Sn	02 59 26.9	-9.3
AIN				IAML		02 59 26.9	
	comp=E,2µm,0.3s						
SDHHI	**Sand Hill**	**0.24**	**38**		Pn	02 59 22.2	-2.1
SDHHI					Sn	02 59 27.2	-5.2
WRMHI	**West Rim**	**0.25**	**34**		Pn	02 59 22.2	-2.0
WRMHI					Sn	02 59 27.4	-4.5
RIM	**Rim**	**0.26**	**40**		Pn	02 59 22.3	-1.8
RIM					Sn	02 59 27.6	-4.2
KKO	**Keanakako'i**	**0.26**	**41**		Pn	02 59 22.4	-1.7
KKO					Sn	02 59 27.4	-4.3
UWE	**Uwekahuna**	**0.26**	**34**		Pn	02 59 22.5	-1.6
UWE				Sn	Sn	02 59 27.6	-4.1
OBL	**Observatory Le**	**0.27**	**36**		Pn	02 59 22.4	-1.7
OBL					Sn	02 59 27.4	-4.2
UWB	**Uwekahuna Bluf**	**0.28**	**36**		Pn	02 59 22.4	-1.7
UWB					Sn	02 59 27.2	-4.2
BYL	**Byron's Ledge**	**0.28**	**40**		Pn	02 59 22.4	-1.6
BYL				Sn	Sn	02 59 27.6	-3.9
BYL				IAML		02 59 28.0	
	comp=E,1µm,0.1s						
PUH	**Pauahi**	**0.28**	**52**		Pn	02 59 22.5	-1.5
PUH				Sn	Sn	02 59 27.7	-3.7
PUH				IAML		02 59 27.7	
	comp=E,1µm,0.2s						
PUH				IAML		02 59 29.3	
	comp=N,1µm,0.2s						
SBLHI	**Steaming Bluff**	**0.28**	**37**		Pn	02 59 22.4	-1.6
SBLHI					Sn	02 59 27.4	-4.0
HATHI	**Halema‘uma‘u T**	**0.28**	**39**		Pn	02 59 22.5	-1.5
HATHI				Sn	Sn	02 59 27.8	-3.6
HATHI				IAML		02 59 28.0	
	comp=E,2µm,0.3s						
HATHI				IAML		02 59 28.9	
	comp=N,1µm,0.3s						
MLH	**Mauna Loa**	**0.30**	**11**		Pn	02 59 22.8	-1.4
MLH				IAML		02 59 28.9	
	comp=E,1µm,0.4s						
MLH	**Mauna Loa**	**0.30**	**11**		Sn	02 59 28.3	-3.1
RSD	**Rainshed**	**0.31**	**32**		Pn	02 59 22.4	-1.6
RSD	**Rainshed**	**0.31**	**32**		Sn	02 59 27.8	-3.4
MWH	**Mokuaweoweo**	**0.32**	**334**		Pn	02 59 23.1	-1.4
MWH	**Mokuaweoweo**	**0.32**	**334**		Sn	02 59 29.0	-2.9
KNHH	**Kane Nui o Ham**	**0.32**	**56**		Pn	02 59 23.0	-1.0
STCH	**Steam Cracks**	**0.36**	**59**		Pn	02 59 23.4	-0.8
STCH				IAML		02 59 29.3	
	comp=N,2µm,0.1s						
STCH	**Steam Cracks**	**0.36**	**59**		Sn	02 59 29.1	-2.0
NPOC	**North of Pu‘u**	**0.37**	**59**		Pn	02 59 23.5	-0.9
NPOC					Sn	02 59 29.3	-2.0
JCUZ	**Jacuzzi**	**0.38**	**61**		Pn	02 59 23.8	-0.6
JCUZ					Sn	02 59 29.5	-1.8
ALEP	**Alea Permanent**	**0.39**	**331**		Pn	02 59 23.6	-1.3
ALEP					Sn	02 59 29.6	-2.4
HMH	**Humu‘ula Sheep**	**0.40**	**355**		Pn	02 59 24.4	-0.6
HMH				IAML		02 59 31.0	
	comp=E,1µm,0.3s						
HMH	**Humu‘ula Sheep**	**0.40**	**355**		Sn	02 59 30.7	-1.4
JOKA	**Jonika Flow**	**0.48**	**61**		Pn	02 59 24.6	-1.4
JOKA				IAML		02 59 32.0	
	comp=N,868nm,0.3s						
JOKA	**Jonika Flow**	**0.48**	**61**		Sn	02 59 31.6	-1.6
CPH	**Captain Cook**	**0.53**	**303**		Pn	02 59 25.0	-1.8
POHA	**Pohakuloa**	**0.56**	**352**		Pn	02 59 25.8	-1.6
POHA	**Pohakuloa**	**0.56**	**352**		Sn	02 59 32.9	-2.6
HUH	**Hualalai**	**0.60**	**323**		Pn	02 59 26.6	-1.5
HUH				IAML		02 59 36.2	
	comp=E,521nm,0.2s						
HUH				IAML		02 59 39.8	
	comp=N,629nm,0.2s						
HUH	**Hualalai**	**0.60**	**323**		Sn	02 59 34.7	-2.0
HPAH	**Hawaii Prepara**	**0.86**	**344**		Pn	02 59 29.3	-1.9
HPAH					Sn	02 59 39.4	-3.3
HPAH	**Hawaii Prepara**	**0.86**	**344**	IAML		02 59 39.9	
	comp=N,429nm,0.3s						
HPAH				IAML		02 59 40.0	
	comp=E,337nm,0.2s						

*MDD **02** 03:00:60.0±0.7, 35.°83N×0.°24W, h13km±13km, mb_Lg2.5/14, Error ellipse: s-maj=13.2km s-min=3.8km az=150.0*
*CNRM **02** 03:00:59.6, 35.°85N×0.°24W, h51km, ML2.3*
*CRAAG **02** 03:01:02.3, 35.°66N×0.°12E, Ml3.3, Algerie 09km NE Mohammadia*
ISC 02 03:01:00.3±1.8**, 35.°83N**±0.°03×**0.°26W**±0.°04**, h33km**±7km**, n45, σ0.s99**/67**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EANR	**'Ain N'Sour**	**1.11**	**83**	P	**Pb**	**03 01 20.7**	**-0.3**
EBNR	**Beni Rached**	**1.52**	**72**	P	**Pb**	**03 01 29.8**	**+1.8**
EADEB	**Ain Deheb**	**1.77**	**122**	P	**Pn**	**03 01 29.3**	**+0.5**
EBGR	**Bougara**	**1.81**	**98**	P	**Pn**	**03 01 29.3**	**+0.1**
CART	**Cartagena**	**1.85**	**341**	Pn	**Pn**	**03 01 29.8**	**0.0**
CART				Sn	**Sn**	**03 01 50.5**	**-1.6**
CART	**Cartagena**	**1.85**	**341**	P	**Pn**	**03 01 28.8**	**-1.0**
CART	**Cartagena**	**1.85**	**341**	S	**Sn**	**03 01 51.3**	**-0.8**
EARB	**Arib**	**1.90**	**75**	P	**Pb**	**03 01 32.3**	**-2.0**
ENIJ	**Nijar**	**1.94**	**307**	Pn	**Pn**	**03 01 31.2**	**+0.2**
ENIJ				Sn	**Sn**	**03 01 53.4**	**-1.0**
ENIJ	**Nijar**	**1.94**	**307**	Pn	**Pn**	**03 01 30.8**	**-0.2**
ENIJ				Sn	**Sn**	**03 01 53.7**	**-0.6**
ENIJ				*i* IVmb_Lg		03 01 54.7	
EDDR	**Deurdeur**	**2.02**	**84**	P	**Pn**	**03 01 33.1**	**+1.0**
TAF	**Taforalt**	**2.03**	**241**	P	**Pn**	**03 01 31.6**	**-0.7**
TAF	**Taforalt**	**2.03**	**241**	S	**Sn**	**03 01 56.4**	**-0.1**
TLOR	**Lorca, Murcia**	**2.16**	**328**	Pn	**Pn**	**03 01 34.3**	**+0.3**
TLOR				Sn	**Sn**	**03 01 59.6**	**0.0**
EMUR	**La Murta**	**2.16**	**339**	Pn	**Pn**	**03 01 34.5**	**+0.5**
EMUR				Sn	**Sn**	**03 01 58.5**	**-1.2**
EMUR	**La Murta**	**2.16**	**339**	Pn	**Pn**	**03 01 34.7**	**+0.7**
EMUR				Sn	**Sn**	**03 01 58.6**	**-1.2**
EMUR				*i* IVmb_Lg		03 02 06.4	
ELOR	**Lorca, Murcia**	**2.17**	**327**	Pn	**Pn**	**03 01 34.7**	**+0.6**
ELOR				Sn	**Sn**	**03 01 59.3**	**-0.6**
EALB	**Alboran**	**2.26**	**274**	Pn	**Pn**	**03 01 35.6**	**+0.3**
EALB				Sn	**Sn**	**03 02 01.7**	**-0.3**
EALB				*i* IVmb_Lg		03 02 18.6	
GOG	**Mont Gurugu**	**2.31**	**256**	P	**Pn**	**03 01 35.5**	**-0.7**
GOG	**Mont Gurugu**	**2.31**	**256**	S	**Sn**	**03 02 04.7**	**+1.2**
AFON	**Font Roja**	**2.84**	**356**	Sn	**Sn**	**03 02 17.3**	**+0.7**
AFON				*i* IVmb_Lg		03 02 28.6	
EBEN2	**Beniarda presa**	**2.84**	**1**	Pn	**Pn**	**03 01 44.4**	**+0.9**
EBEN2				Sn	**Sn**	**03 02 16.3**	**-0.2**
ELGU	**Los Guajares,**	**2.91**	**292**	Pn	**Pn**	**03 01 44.5**	**+0.1**
ELGU				Sn	**Sn**	**03 02 18.8**	**+0.5**
ELGU	**Los Guajares,**	**2.91**	**292**	Pn	**Pn**	**03 01 43.9**	**-0.5**
ELGU				Sn	**Sn**	**03 02 18.5**	**+0.2**
ELGU				*i* IVmb_Lg		03 02 22.2	
EQES	**Quesada**	**3.00**	**312**	Pn	**Pn**	**03 01 47.6**	**+1.9**
EQES				Sn	**Sn**	**03 02 21.7**	**+1.3**
EQES				*i* IVmb_Lg		03 02 27.5	
PALE	**Palemas**	**3.06**	**260**	P	**Pn**	**03 01 45.3**	**-1.1**
PALE	**Palemas**	**3.06**	**260**	S	**Sn**	**03 02 22.0**	**0.0**
AKLM	**AKL**	**3.23**	**247**	P	**Pn**	**03 01 49.1**	**+0.3**
AKLM	**AKL**	**3.23**	**247**	S	**Sn**	**03 02 27.3**	**+1.1**
E0803	**Jimena (Jaen)**	**3.27**	**309**	Pn	**Pn**	**03 01 51.7**	**+2.4**
E0803				Sn	**Sn**	**03 02 28.3**	**+1.3**
EGOR	**Sierra Gorda,**	**3.36**	**294**	Pn	**Pn**	**03 01 51.2**	**+0.6**
EGOR	**Sierra Gorda,**	**3.36**	**294**	Pn	**Pn**	**03 01 52.4**	**+1.8**
EGOR				Sn	**Sn**	**03 02 28.9**	**-0.5**
EIBI	**Ibiza**	**3.44**	**21**	Pn	**Pn**	**03 01 52.0**	**+0.4**
EIBI				Sn	**Sn**	**03 02 31.2**	**-0.1**
EIBI	**Ibiza**	**3.44**	**21**	Pn	**Pn**	**03 01 52.3**	**+0.7**
EIBI				Sn	**Sn**	**03 02 31.1**	**-0.1**
ECHE	**Chera**	**3.80**	**352**	Pn	**Pn**	**03 01 55.6**	**-1.0**
ECHE				Sn	**Sn**	**03 02 41.1**	**+0.9**
PSIM	**Granatula de C**	**4.09**	**318**	Pn	**Pn**	**03 02 00.8**	**+0.3**
PSIM				Sn	**Sn**	**03 02 46.2**	**-1.1**
EADA	**Adamuz**	**4.17**	**305**	Pn	**Pn**	**03 02 03.6**	**+2.0**
EADA				Sn	**Sn**	**03 02 49.8**	**+0.5**
EADA				*i* IVmb_Lg		03 03 04.8	
EMOS	**Mosqueruela**	**4.53**	**358**	Pn	**Pn**	**03 02 07.2**	**+0.4**
EMOS				Sn	**Sn**	**03 02 56.6**	**-1.9**
MDT	**Midelt**	**4.69**	**231**	P	**Pn**	**03 02 08.8**	**-0.1**
MDT	**Midelt**	**4.69**	**231**	S	**Sn**	**03 03 01.5**	**-0.6**
ECAB	**El Cabril**	**4.70**	**300**	Pn	**Pn**	**03 02 09.5**	**+0.5**
ECAB	**El Cabril**	**4.70**	**300**	Pn	**Pn**	**03 02 08.9**	**-0.1**
ECAB				Sn	**Sn**	**03 03 02.4**	**0.0**
MD31	**MD31**	**4.75**	**233**	P	**Pn**	**03 02 09.4**	**-0.3**
MD31	**MD31**	**4.75**	**233**	S	**Sn**	**03 03 04.2**	**+0.5**
PAB	**San Pablo**	**4.93**	**320**	Pn	**Pn**	**03 02 13.8**	**+1.6**
PAB				Sn	**Sn**	**03 03 06.2**	**-1.9**

*IDC **02** 03:10:58.3±3.7, 11.°93N×124.°13E, h81km±35km, mb3.6/11, mbtmp3.9/11, MS3.4/22, Error ellipse: s-maj=35.2km s-min=14.1km az=69.0*
ISC 02 03:10:50.1±0.8**, 11.°9N**±0.°1×**124.°1E**±0.°1**, h13km, n31, σ1.s38**/14**, mb3.9**/11**, MS3.5**/20**, Leyte**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.79**	**305**	P	**Pb**	**03 11 54.5**	**-2.4**
	430nm,0.4s,baz=131,slow=14,SNR=10						
TGY				S	**Sb**	**03 12 45.0**	**+2.2**
	197nm,0.4s,baz=135,slow=11,SNR=0.9						
JOW	**Kunigami**	**15.33**	**14**	LR	LR	03 19 36.1	
	comp=Z,107nm,21.9s,baz=124,slow=34						
KAPI	**Kappang**	**17.39**	**195**	LR	LR	03 22 14.1	
	comp=Z,139nm,18.3s,baz=32,slow=39						
GUMO	**Guam**	**20.29**	**83**	LR	LR	03 21 32.0	
	comp=Z,48nm,20.9s,baz=212,slow=31						
JNU	**Nakatsue**	**21.98**	**15**	LR	LR	03 23 38.8	
	comp=Z,55nm,21.2s,baz=210,slow=35						
CMAR	**Chiang Mai Arr**	**25.14**	**288**	P	**P**	**03 16 15.5**	**+0.3**
	1.0nm,0.3s,baz=94,slow=8.4,SNR=5.4						
CMAR				LR	LR	03 27 21.4	
	comp=Z,72nm,18.9s,baz=120,slow=39						
	1.0nm,0.3s						
KSRS	**Korea Array**	**25.64**	**7**	P	**P**	**03 16 19.7**	**+0.2**
	1.1nm,0.5s,baz=182,slow=11,SNR=7.1						
	1.1nm,0.5s						
PSI	**Prapat**	**26.57**	**252**	LR	LR	03 28 42.5	
	comp=Z,121nm,18.2s,baz=90,slow=40						
MJAR	**Matsushiro Arr**	**27.59**	**25**	LR	LR	03 27 08.1	
	comp=Z,29nm,20.6s,baz=218,slow=35						
BRDH	**Bariadhala**	**32.73**	**293**	LR	LR	03 32 06.7	
	comp=Z,51nm,18.2s,baz=160,slow=39						
USRK	**Ussuriysk Ar.**	**32.86**	**10**	LR	LR	03 32 44.4	
	comp=Z,35nm,18.1s,baz=198,slow=40						
WRA	**Warramunga Arr**	**33.23**	**162**	P	**P**	**03 17 27.1**	**-0.1**
	0.9nm,0.8s,baz=339,slow=10,SNR=4.9						
WRA				PcP	**PcP**	**03 20 09.3**	**-0.5**
	0.2nm,0.5s,baz=356,slow=3.0,SNR=1.5						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**36.65**	**165**	P	**P**	**03 17 57.7**	**+1.0**
	1.9nm,0.8s,baz=341,slow=7.4,SNR=15						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.9nm,0.8s						
SONM	Songino Array	38.75	341	P	P	03 18 14.7	+0.4
	0.3nm,0.5s,baz=138,slow=5.0,SNR=3.7						
SONM				LR	LR	03 34 00.7	
	comp=Z,91nm,20.1s,baz=146,slow=36						
	0.3nm,0.5s						
HNR	Honiara	41.45	119	LR	LR	03 34 25.4	
	comp=Z,26nm,20.5s,baz=334,slow=34						
STKA	Stephens Creek	46.66	159	P	P	03 19 18.6	0.0
	2.6nm,0.8s,baz=322,slow=8.7,SNR=3.3						
	2.6nm,0.8s						
PETK	Petropavlovsk-	49.04	26	LR	LR	03 39 40.6	
	comp=Z,19nm,21.2s,baz=186,slow=35						
MKAR	Makanchi Array	49.44	323	P	P	03 19 41.9	+1.9
	0.4nm,0.6s,baz=117,slow=8.3,SNR=4.8						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	53.52	326	P	P	03 20 10.6	+0.2
	2.2nm,0.2s,baz=122,slow=6.8,SNR=4.1						
	2.2nm,0.2s						
BVAR	Borovoye Array	59.11	325	P	P	03 20 50.3	0.0
	0.7nm,0.7s,baz=119,slow=8.4,SNR=2.3						
BVAR				LR	LR	03 48 27.4	
	comp=Z,30nm,18.0s,baz=107,slow=38						
	0.7nm,0.7s						
AKTO	Aktyubinsk	65.71	320	LR	LR	03 52 39.5	
	comp=Z,50nm,18.4s,baz=61,slow=38						
ARTI	Arti	66.78	327	LR	LR	03 50 13.7	
	comp=Z,59nm,19.8s,baz=64,slow=35						
KIRV	Kirov	71.93	328	LR	LR	03 53 49.9	
	comp=Z,28nm,19.9s,baz=89,slow=36						
GNI	Garni	74.33	309	LR	LR	03 57 27.8	
	comp=Z,24nm,21.1s,baz=75,slow=38						
ILAR	Eielson Array	78.87	26	P	P	03 22 53.1	+0.3
	0.4nm,0.9s,baz=243,slow=6.2,SNR=4.5						
	0.4nm,0.9s						
ARCES	ARCESS Array B	81.91	339	LR	LR	04 01 48.5	
	comp=Z,26nm,18.2s,baz=152,slow=37						
SPITS	Spitsbergen Ar	81.98	349	LR	LR	04 03 24.4	
	comp=Z,28nm,19.6s,baz=352,slow=38						
MMAI	Mount Meron Ar	82.55	302	LR	LR	04 06 48.9	
	comp=Z,15nm,18.1s,baz=52,slow=41						
FINES	FINESS Array B	83.44	331	P	P	03 23 14.9	-2.3
	0.8nm,0.7s,baz=65,slow=4.7,SNR=4.7						
	0.8nm,0.7s						
AKASG	Malin Array Be	83.95	320	LR	LR	04 00 56.3	
	comp=Z,29nm,21.8s,baz=26,slow=36						
NOA	NORSAR Array B	90.34	333	LR	LR	04 06 46.1	
	comp=Z,30nm,18.6s,baz=50,slow=37						

*IDC **02** 03:13:30.1±1.4, 56°.12S×24°.66W, h0km, mb3.8/2, mbtmp3.7/3, ML3.4/1, MS2.8/1, Error ellipse: s-maj=56.7km s-min=36.4km az=54.0*

ISC 02 03:13:31.7±1.1**, 56°.2S**±0°.2×**24°.8W**±0°.3**, h10**km**, n8,** σ1s**54**/7**, 3C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.20	160	⇑P	Pn	03 17 18.1	-0.8
	comp=Z,0.8nm,0.2s						
VNA3	Neumayer Olymp	16.45	163	⇑P	Pn	03 17 20.6	-1.6
	comp=Z,0.6nm,0.2s						
SNAA	Sanae	18.09	158	⇑P	P	03 17 44.5	+1.3
	comp=Z,6.1nm,0.2s						
SNAA	Sanae	18.09	158	P	Pn	03 17 43.9	+1.0
	comp=Z,0.1nm,0.3s,baz=305,slow=14,SNR=15						
	comp=Z,0.6nm,0.5s						
PMSA	Palmer Station	20.85	230	LR	LR	03 24 20.2	
	comp=Z,23nm,18.2s,baz=192,slow=31						
LPAZ	La Paz	51.57	303	P	P	03 22 39.4	+0.7
	comp=Z,1.6nm,0.7s,baz=212,slow=7.2,SNR=10.0						
	comp=Z,1.6nm,0.7s						
TORD	Torodi Ar. Bea	72.52	27	P	P	03 24 58.6	0.0
	comp=Z,0.6nm,0.9s,baz=190,slow=7.1,SNR=2.1						
	comp=Z,0.6nm,0.9s						
ILAR	Eielson Array	151.22	311	PKPbc	PKPbc	03 33 21.9	-1.8
	comp=Z,0.5nm,0.7s,baz=90,slow=1.8,SNR=6.1						

*IDC **02** 03:15:26.6±5.8, 35°.87N×69°.81E, h75km±48km, mb3.4/8, mbtmp3.8/13, ML3.7/5, MS2.8/4, Error ellipse: s-maj=37.7km s-min=26.5km az=15.0*
*NNC **02** 03:15:34.6±4.1, 36°.45N×69°.48E, h66km±81km, mb3.8, mpv3.7, Error ellipse: s-maj=29.6km s-min=28.6km az=139.0*

ISC 02 03:15:31.9±1.1**, 36°.23N**±0°.09×**69°.7E**±0°.1**, h112**km**, n21,** σ1s**66**/22**, mb3.7**/6**, 3C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.89	5	P	Pn	03 17 10.7	+0.4
	2.5nm,0.3s,baz=197,slow=16,SNR=35						
KK31				⇓S	Sn	03 18 26.5	-0.7
	2.6nm,0.3s,baz=188,slow=21,SNR=6.1						
AAK	Ala-Archa	7.41	29	⇑P	Pn	03 17 17.7	+0.3
	1.8nm,0.5s						
AAK				⇑S	Sn	03 18 39.4	-0.5
	2.1nm,0.4s						
AAK	Ala-Archa	7.41	29	P	Pn	03 17 17.3	-0.1
	2.1nm,0.3s,baz=224,slow=8.5,SNR=9.4						
AAK				S	Sn	03 18 38.2	-1.7
	8.0nm,0.5s,baz=159,slow=23,SNR=8.4						
AAK				LR	LR	03 20 07.7	
	comp=Z,27nm,21.9s,baz=184,slow=37						
	4.2nm,0.3s						
MK31	Makanchi Array	14.15	38	P	P	03 18 52.4	+1.2
	2.2nm,0.7s,baz=218,slow=12,SNR=12						
MKAR	Makanchi Array	14.15	38	P	Pn	03 18 47.0	-0.1
	0.1nm,0.3s,baz=227,slow=13,SNR=4.0						
	0.4nm,0.6s						
AB31	Akbulak array	14.83	334	P	Pn	03 18 55.4	-0.3
	1.0nm,0.3s,baz=154,slow=12,SNR=86						
AB31				⇓S	Sn	03 21 35.4	-3.9
	0.9nm,0.8s,baz=93,slow=8.3,SNR=6.9						
KURBB	Kurchatov Arra	15.74	21	P	Pn	03 19 06.9	-0.2
	0.3nm,0.3s,baz=209,slow=11,SNR=9.9						
	1.9nm,0.2s						
AKTO	Aktyubinsk	16.50	333	⇑P	P	03 19 19.3	+2.1
	2.3nm,0.8s						
AKTO	Aktyubinsk	16.50	333	P	P	03 19 19.2	+2.0
	0.9nm,0.3s,baz=131,slow=11,SNR=8.9						
	2.2nm,0.3s						
BVAR	Borovoye Array	16.80	2	P	P	03 19 21.2	+0.7
	0.1nm,0.3s,baz=170,slow=9.2,SNR=6.7						
	1.3nm,0.5s						
ZALV	Zalesovo Beam	20.62	26	P	P	03 20 03.7	+1.7
	2.6nm,0.4s,baz=216,slow=11,SNR=13						
	2.6nm,0.4s						
KVAR	Kislovodsk Arr	21.96	299	LR	LR	03 31 36.2	
	comp=Z,29nm,20.7s,baz=270,slow=44						
ASF	Jabal al Asfar	27.32	271	LR	LR	03 34 31.0	
	comp=Z,20nm,18.8s,baz=327,slow=42						
FINES	FINESS Array B	37.11	327	P	P	03 22 33.2	+2.0
	1.3nm,0.7s,baz=117,slow=9.4,SNR=3.4						
	1.3nm,0.7s						
ARCES	ARCESS Array B	40.98	338	P	P	03 23 05.0	+1.7
	2.7nm,0.9s,baz=108,slow=8.0,SNR=7.4						
	2.7nm,0.9s						
HFS	Hagfors	42.61	322	P	P	03 23 17.9	+1.2
	1.0nm,0.5s,baz=115,slow=6.5,SNR=8.2						
	1.0nm,0.5s						
NOA	NORSAR Array B	43.95	323	P	P	03 23 28.4	+1.0
	0.4nm,0.4s,baz=98,slow=8.1,SNR=2.4						
	0.4nm,0.4s						
TORD	Torodi Ar. Bea	64.63	268	P	P	03 25 56.1	-1.8
	0.4nm,1.0s,baz=55,slow=6.4,SNR=1.6						
	0.4nm,1.0s						
GUMO	Guam	70.24	87	LR	LR	03 56 05.5	
	comp=Z,13nm,21.5s,baz=108,slow=35						
ILAR	Eielson Array	75.33	15	P	P	03 27 03.4	+0.9
	0.2nm,0.8s,baz=328,slow=6.5,SNR=1.8						
	0.2nm,0.8s						
WRA	Warramunga Arr	82.77	121	P	P	03 27 41.1	-2.5
	0.2nm,0.3s,baz=311,slow=5.5,SNR=1.5						
	0.2nm,0.3s						

TEH 02 03:41:39.9, 39°.02N×45°.19E, h9km**, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ISHB	Shabestar	0.81	155	Pg	Pg	03 41 55.6	+0.1
ISHB				Sg	Sb	03 42 08.3	+0.9
ISHB	Shabestar	0.81	155	Pg	Pg	03 41 55.5	0.0
ITBZ	Tabriz	1.09	136	Pg	Pg	03 42 00.4	-0.5
ITBZ	Tabriz	1.09	136	Pg	Pg	03 42 00.4	-0.4
ITBZ				Sg	Sb	03 42 15.8	+0.4
IHRS	Heris	1.61	115	Pg	Pn	03 42 09.3	+0.5
IHRS				Sg	Sg	03 42 32.4	+0.6
IHRS	Heris	1.61	115	Pg	Pb	03 42 09.6	-0.4
GRMI	Germi	2.12	95	Pn	Pb	03 42 19.6	+1.0

*IDC **02** 03:42:41.4±0.8, 1°.72N×126°.69E, h0km, mb4.2/12, mbtmp4.2/14, ML4.0/2, MS3.2/5, Error ellipse: s-maj=53.7km s-min=14.1km az=71.0*
*DJA **02** 03:42:46.0±0.2, 2°N±2°×12°7E±°, h10km, M4.4/12, mb4.7/2, MLv4.3/12*
*NEIC **02** 03:42:47.4±1.9, 1°.8N±0°.1×126°.7E±0°.1, h36km±7km, mb4.4/11, Error ellipse: s-maj=18.4km s-min=11.9km az=222.0*

ISC 02 03:42:48.1±0.6**, 1°.72N**±0°.05×**126°.67E**±0°.07**, h47**km**, n47,** σ1s**39**/46**, mb4.5**/17**, MS3.3**/6**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.17	144		Pn	03 43 08.1	0.0
TNTI	Ternate	1.17	144	P	Pn	03 43 08.4	+0.3
TNTI				S	Sn	03 43 25.3	+2.4
SGSI	Sangihe	2.26	330	P	Pn	03 43 22.6	-0.4
SGSI				S	Sn	03 43 50.9	+1.2
KMSI	Cibinong	2.92	247	P	Pn	03 43 31.7	-0.4
KMSI				S	Sn	03 44 05.9	-0.2
SANI	Sanana	3.81	190	P	Pn	03 43 43.8	-0.5
SANI				S	Sn	03 44 29.6	+1.7
LUWI	Luwuk	4.77	235	Pn	Pn	03 43 58.5	+1.0
LUWI	Luwuk	4.77	235	P	Pn	03 43 57.7	+0.2
MRSI	Marisa	4.89	255	P	Pn	03 44 03.2	+4.0
APSI	Ampana	5.67	243	P	Pn	03 44 08.7	-1.1
TOLI2	Tolitoli	5.92	264	Pn	Pn	03 44 10.7	-2.6
MYLDM	Lahad Datu	8.85	293	Pn	Pn	03 44 56.1	+2.5
KAPI	Kappang	9.62	226	Pn	Pn	03 45 01.8	-2.3
	2.5nm,0.3s,baz=155,slow=16,SNR=2.1						
	5.6nm,0.3s						
SBUM	Sibu	14.46	273	P	P	03 46 16.7	+0.8
KNRA	Kununurra	17.41	173	Pn	Pn	03 46 46.8	-0.9
KNRA				IAmb	IAmb	03 46 48.8	
	comp=Z,18nm,0.9s						
FITZ	Fitzroy Crossi	19.72	183	P	P	03 47 12.9	-0.9
	comp=Z,0.3nm,0.3s,baz=21,slow=9.1,SNR=9.6						
	comp=Z,2.3nm,0.7s						
TPUB	Ta-pu	22.24	345	P	P	03 47 39.6	-1.4
TPUB				IAmb	IAmb	03 48 13.5	
	comp=Z,44nm,1.4s						
WB0	Warramunga Arr	22.66	161	P	P	03 47 44.4	-1.1
WB0				IAmb	IAmb	03 47 46.8	
	comp=Z,20nm,0.7s						
WRAB	Tennant Creek	22.80	161	P	P	03 47 46.5	-0.5
WRAB				IAmb	IAmb	03 47 48.3	
	comp=Z,17nm,0.8s						
WRA	Warramunga Arr	22.81	161	P	P	03 47 44.9	-2.2
WRA	Warramunga Arr	22.81	161	P	P	03 47 45.8	-1.3
	comp=Z,13nm,0.6s,baz=339,slow=11,SNR=60						
	comp=Z,13nm,0.6s						
WR8	Warramunga Arr	22.87	161	P	P	03 47 46.9	-0.9
WR8				IAmb	IAmb	03 47 49.0	
	comp=Z,16nm,0.8s						
AS31	Alice Springs	26.20	165	P	P	03 48 20.4	+1.8
ASAR	Alice Springs	26.20	165	P	P	03 48 21.4	+2.8
ASAR	Alice Springs	26.20	165	P	P	03 48 18.2	-0.4
	comp=Z,2.4nm,0.6s,baz=349,slow=11,SNR=28						
	comp=Z,2.4nm,0.6s						
CMAR	Chiang Mai Arr	31.88	303	LR	LR	04 03 25.3	
	comp=Z,20nm,18.1s,baz=145,slow=39						
BBOO	Buckleboo	35.47	166	P	P	03 49 40.6	+0.3
KSRS	Korea Array	35.58	2	LR	LR	04 04 24.0	
	comp=Z,7µm,21.6s,baz=185,slow=37						
STKA	Stephens Creek	36.29	158	P	P	03 49 45.9	-1.4
	comp=Z,2.0nm,0.8s,baz=319,slow=4.2,SNR=2.9						
	comp=Z,2.0nm,0.8s						
SONM	Songino Array	49.17	342	P	P	03 51 32.2	+0.6
	comp=Z,0.9nm,0.7s,baz=157,slow=8.0,SNR=4.9						
	comp=Z,0.9nm,0.7s						
MKAR	Makanchi Array	59.17	326	P	P	03 52 43.7	-0.6
MKAR	Makanchi Array	59.17	326	P	P	03 52 43.9	-0.4
	comp=Z,1.4nm,0.3s,baz=120,slow=8.1,SNR=28						
MKAR				LR	LR	04 19 00.8	
	comp=Z,17nm,19.7s,baz=70,slow=37						
	comp=Z,1.4nm,0.3s						
KURBB	Kurchatov Arra	63.39	328	P	P	03 53 12.5	-0.2
	comp=Z,1.9nm,0.5s,baz=129,slow=6.2,SNR=15						
	comp=Z,1.9nm,0.5s						
BVAR	Borovoye Array	68.97	327	P	P	03 53 48.3	-0.1
	comp=Z,0.8nm,0.5s,baz=104,slow=6.1,SNR=5.6						
	comp=Z,0.8nm,0.5s						
TIXI	Tiksi	69.84	1	LR	LR	04 26 15.2	
	comp=Z,17nm,19.4s,baz=212,slow=37						
AB31	Akbulak array	73.66	321	P	P	03 54 16.1	-0.7
AB31				IAmb	IAmb	03 54 17.3	
	comp=Z,1.2nm,0.8s						
ABKAR	Akbulak array	73.66	321	P	P	03 54 16.0	-0.8
AKTO	Aktyubinsk	75.19	322	LR	LR	04 31 37.9	
	comp=Z,16nm,18.8s,baz=318,slow=39						
VNDA	Vanda	81.45	173	P	P	03 54 58.7	-1.0
VNDA				IAmb	IAmb	03 55 01.3	
	comp=Z,2.1nm,1.1s						
VNDA	Vanda	81.45	173	P	P	03 55 00.1	+0.3
	comp=Z,1.1nm,0.7s,baz=305,slow=9.4,SNR=7.6						
	comp=Z,1.1nm,0.7s						
KVAR	Kislovodsk Arr	84.47	314	LR	LR	04 36 53.2	
	comp=Z,13nm,19.9s,baz=279,slow=38						
BRTR	Keskin Array B	91.25	310	P	P	03 55 48.9	-0.1
	comp=Z,0.5nm,0.7s,baz=149,slow=5.8,SNR=3.6						
	comp=Z,0.5nm,0.7s						
QSPA	South Pole Qui	91.64	180	P	P	03 55 51.7	+1.6
QSPA	South Pole Qui	91.64	180	P	P	03 55 50.9	+0.8
	comp=Z,0.6nm,0.9s,baz=185,slow=2.5,SNR=3.6						
	comp=Z,0.6nm,0.9s						
ARCES	ARCESS Array B	92.30	340	P	P	03 55 53.4	+0.4
	comp=Z,3.3nm,1.1s,baz=79,slow=4.7,SNR=2.1						
	comp=Z,3.3nm,1.1s						
FINES	FINESS Array B	93.56	332	P	P	03 55 59.7	+0.8
	comp=Z,2.9nm,1.0s,baz=53,slow=5.4,SNR=2.4						
	comp=Z,2.9nm,1.0s						
MT02	Curacav	144.46	154	PKPdf	PKPdf	04 02 19.1	-0.8
CO03	El Pedregal	146.70	152	PKPbc	PKPab	04 02 26.1	-0.7

*TRN **02** 03:49:36.4, 10°.59N×62°.49W, h70km, MD3.0, Paria peninsula.*
*FUNV **02** 03:49:36.7, 10°.53N×62°.50W, h69km, MW3.5*

ISC 02 03:49:34.9±2.3**, 10°.56N**±0°.09×**62°.57W**±0°.09**, h76**km±45km**, n11,** σ1s**18**/19**, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DMDM	Guralp CMG5TDE	1.01	82	eP	Pn	03 49 54.5	+0.7
DMDM				eS	Sn	03 50 07.3	-0.7
TRN	Trinidad (W)	1.15	85	eP	Pn	03 49 56.3	+0.7
TRN				eS	Sn	03 50 10.0	-1.1
GRFF	Grenada Fort F	1.69	29	eP	Pn	03 50 03.2	+0.6
GRFF				eS	Sn	03 50 22.7	-0.9
GRGR	Grenville	1.81	30	eP	Pn	03 50 04.2	+0.1
GRGR				eS	Sn	03 50 25.9	-0.4
GRHS	Sauteurs	1.89	29	eP	Pn	03 50 06.0	+0.8
GRHS				eS	Sn	03 50 27.4	-0.9
GRSS	Sisters	1.97	28	eS	Sn	03 50 30.1	0.0
PCRV	Puerto La Cruz	2.07	260	eP	Pn	03 50 08.5	+0.9
PCRV				eS	Sn	03 50 32.5	0.0
GCMP	Grenada, Carri	2.22	30	eP	Pn	03 50 10.5	+0.8
GCMP				eS	Sn	03 50 35.2	-1.0
CACV	CAICARA DEL OR	4.92	233	eP	Pn	03 50 42.0	-4.3
CACV				eS	Sn	03 51 30.4	-12
BENV	Beln	4.98	264	eP	Pn	03 50 48.5	+1.3
BENV				eS	Sn	03 51 42.3	-1.4
BAUV	El Baul	5.62	254	eP	Pn	03 50 57.1	+1.1
BAUV				eS	Sn	03 51 56.5	-2.8

*NEIC **02** 03:59:19.9±2.2, 37°.20N±0°.02×112°.86W±0°.02, h10km±2km, Error ellipse: s-maj=3.2km s-min=3.0km az=164.0*
*REN **02** 03:59:21.4±2.2, 37°.19N±0°.02×112°.90W±0°.02, h14km±6km, Error ellipse: s-maj=2.3km s-min=2.0km az=196.0*

UUSS 02 03:59:21.6±1.7**, 37°.19N**±0°.02×**112°.89W**±0°.02**, h18**km±4km**, ML3.0**/11**, ML2.8**/1(REN)**, ML3.1**/170(NEIC)**, Error ellipse: s-maj=2.4km s-min=2.1km az=191.0, Utah**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNB	Kanab	0.18	162		Pb	03 59 26.4	0.0
KNB				Sg	Sb	03 59 29.2	-0.3
KNB				IAML		03 59 30.1	
	comp=E,4µm,0.3s						
KNB				IAML		03 59 30.2	
	comp=N,2µm,0.4s						
ZNPU	Zion National	0.25	312		Pb	03 59 27.7	-0.1
ZNPU					Sg	03 59 31.5	-0.1
LCMT	Little Creek M	0.33	238	Pg	Pg	03 59 28.8	0.0
LCMT				Sg	Sg	03 59 33.7	+0.1
PKCU	Pink Cliffs	0.53	61		Pg	03 59 32.3	-0.1
PKCU				Sg	Sg	03 59 39.5	-0.1
PKCU				IAML		03 59 40.2	
	comp=N,1µm,0.4s						
PKCU				IAML		03 59 40.9	
	comp=E,3µm,0.4s						
ARUT	Antelope Range	0.74	324		Pb	03 59 35.8	-0.3
ICU	Indian Springs	0.82	268		Pb	03 59 37.3	-0.2
ICU					Sb	03 59 47.9	-0.5
U15A	North Rim	0.90	147		Pb	03 59 38.4	-0.5
U15A				Sg	Sb	03 59 49.6	-1.1
U15A				IAML		03 59 50.7	
	comp=E,887nm,0.5s						
U15A				IAML		03 59 50.7	
	comp=N,762nm,0.4s						
DWU	Dry Willow Pea	0.92	355		Pb	03 59 38.9	-0.4
BTU	Barney Top	0.99	55		Pb	03 59 40.5	0.0
BTU					Sb	03 59 51.1	-2.3
MTPU	Mount Pierson	1.02	33		Pb	03 59 40.5	-0.6
MTPU				Sg	Sb	03 59 53.2	-1.1
MTPU				IAML		03 59 54.0	
	comp=N,270nm,0.5s						
MTPU				IAML		03 59 55.2	
	comp=E,266nm,0.4s						
PGAZ	Page	1.18	103		Pn	03 59 43.3	-0.1
NMUT	North Mineral	1.33	1		Pn	03 59 45.8	+0.3
MSU	Marysvale	1.44	23	Pn	Pn	03 59 47.3	+0.2
IMU	Iron Mountain	1.46	352		Pb	03 59 48.2	-0.2
TCRU	Three Creeks R	1.46	14	Pn	Pn	03 59 47.9	+0.5
TCRU				IAML		04 00 08.9	
	comp=N,169nm,0.5s						
TCRU				IAML		04 00 09.7	
	comp=E,189nm,0.4s						
PSUT	Pine Spring	1.54	331	Pn	Pn	03 59 48.2	-0.4
PSUT				IAML		04 00 11.3	
	comp=N,226nm,0.5s						
PSUT				IAML		04 00 12.4	
	comp=E,197nm,0.5s						
PRN	Pahroc Range	1.73	278	Pn	Pn	03 59 51.3	+0.3
PRN				IAML		04 00 21.7	
	comp=E,162nm,0.8s						
PRN				IAML		04 00 22.8	
	comp=N,196nm,0.4s						
HMU	Henry Mountain	1.87	66	Pn	Pb	03 59 54.5	-0.9
SHPR	Sheep Range	1.94	250	Pn	Pn	03 59 54.0	+0.1
SHPR				IAML		04 00 23.3	
	comp=N,76nm,0.3s						
OWUT	Old Woman Plat	1.97	36		Pb	03 59 57.4	+0.3
WUAZ	Wupatki	2.07	143	Pn	Pn	03 59 56.4	+0.7
SPR3	Spring Creek 3	2.14	328	Pn	Pn	03 59 56.0	-0.8
V12A	Nelson	2.15	228	Pn	Pn	03 59 56.5	-0.2
V12A				IAML		04 00 29.7	
	comp=N,64nm,0.4s						
Q16A	Castle Valley	2.20	38	Pn	Pn	03 59 58.7	+1.2
Q16A				IAML		04 00 31.6	
	comp=E,87nm,0.9s						
Q16A				IAML		04 00 31.6	
	comp=N,60nm,0.7s						
W13A	Hualapai Mount	2.23	201	Pn	Pn	03 59 58.1	+0.1
S11A	Rachel	2.32	282	Pn	Pn	03 59 58.8	-0.3
S11A				IAML		04 00 35.4	
	comp=E,158nm,0.6s						
S11A				IAML		04 00 39.1	
	comp=N,159nm,0.4s						
Q12A	Willow Creek R	2.40	321		Pn	04 00 01.7	+1.4
R11B	Troy Canyon, C	2.43	299		Pn	04 00 00.3	-0.3
TMUT	Trail Mountain	2.49	32	Pn	Pn	04 00 01.2	-0.4
TMUT				IAML		04 00 42.2	
	comp=N,75nm,0.5s						
TMUT				IAML		04 00 43.6	
	comp=E,80nm,0.6s						
MCY	Mercury	2.52	259		Pn	04 00 03.0	+1.2
TPNV	Topopah Spring	2.70	266		Pn	04 00 04.3	0.0
TPNV				IAML		04 00 46.2	
	comp=E,47nm,0.6s						
TPNV				IAML		04 00 49.4	
	comp=E,54nm,0.3s						
NSP	Numbskull Pass	2.70	261		Pn	04 00 04.7	+0.4
MTPC	Mountain Pass	2.74	232	Pn	Pn	04 00 04.8	-0.1
NEE2	Needles Airpor	2.79	211	Pn	Pn	04 00 05.3	-0.1
NEE2				IAML		04 00 50.3	
	comp=E,121nm,0.8s						
NEE2				IAML		04 00 52.1	
	comp=N,143nm,0.7s						
AMDNV	Amargosa	2.82	256		Pn	04 00 07.1	+1.4
MPU	Maple Canyon	2.99	19	Pn	Pn	04 00 08.6	+0.2
SHOC	Shoshone, Teco	3.01	246	Pn	Pn	04 00 09.0	+0.5
SHOC				IAML		04 01 05.5	
	comp=N,59nm,0.5s						
SHOC				IAML		04 01 08.4	
	comp=E,82nm,0.6s						
WCT	Wildcat Mounta	3.02	264	Pn	Pn	04 00 09.4	+0.8
PV05	Paradox Valley	3.14	72	Pn	Pn	04 00 13.5	+3.0
P18A	Preston Nutter	3.20	40	Pn	Pn	04 00 12.0	+0.6
P18A				IAML		04 01 04.3	
	comp=E,51nm,0.5s						
P18A				IAML		04 01 08.6	
	comp=N,36nm,0.7s						
Y14A	Wickenburg	3.24	182	Pn	Pn	04 00 13.3	+1.6
Y14A				IAML		04 01 08.6	
	comp=N,33nm,0.7s						
PV10	Paradox Valley	3.27	68	Pn	Pn	04 00 13.2	+0.9
GMRC	Granite Mounta	3.28	224		Pn	04 00 12.7	+0.4
W18A	Petrified Fore	3.28	128	Pn	Pn	04 00 13.6	+1.1
W18A				IAML		04 01 08.8	
	comp=N,94nm,0.7s						
W18A				IAML		04 01 11.0	
	comp=E,99nm,0.6s						
PV14	Lion Creek, Pa	3.29	68	Pn	Pn	04 00 14.2	+1.7
PV14				IAML		04 01 09.7	
	comp=N,118nm,0.6s						
PV19	Morning Glory	3.29	69	Pn	Pn	04 00 13.9	+1.3
PV17	East Wray Mesa	3.30	70	Pn	Pn	04 00 14.1	+1.4
PV17				IAML		04 01 09.7	
	comp=E,94nm,0.4s						
PV20	West Nyswonger	3.32	68	Pn	Pn	04 00 14.2	+1.3
SGV	South Grapevin	3.32	268		Pn	04 00 13.2	+0.4
PV23	Carpenter Ridg	3.32	66	Pn	Pn	04 00 14.5	+1.5
PV18	Skein Mesa, Pa	3.33	70	Pn	Pn	04 00 14.2	+1.1
PV16	Nyswonger Mesa	3.34	69	Pn	Pn	04 00 15.2	+2.0
PV13	Radium Mtn., P	3.37	72	Pn	Pn	04 00 15.3	+1.6
PV11	David Mesa, Pa	3.37	70	Pn	Pn	04 00 15.7	+2.0
PV03	Paradox Valley	3.38	70	Pn	Pn	04 00 15.1	+1.4
PV03				IAML		04 01 11.3	
	comp=E,106nm,0.7s						
PV04	Paradox Valley	3.38	68	Pn	Pn	04 00 15.3	+1.6
PV21	Cone Mtn., Par	3.39	65	Pn	Pn	04 00 16.0	+2.1
QSM	Queen of Sheba	3.42	250	Pn	Pn	04 00 15.3	+1.1
QSM				IAML		04 01 10.4	
	comp=N,22nm,0.7s						
PV12	Saucer Basin,	3.43	70	Pn	Pn	04 00 15.8	+1.3
PV02	Paradox Valley	3.45	72	Pn	Pn	04 00 15.8	+1.1
GMN	Gold Mountain	3.49	273	Pn	Pn	04 00 16.4	+1.2
MVCO	Mesa Verde	3.51	88	Pn	Pn	04 00 16.5	+1.0
PV22	Blue Mesa, Par	3.52	66	Pn	Pn	04 00 16.8	+1.2
PV22				IAML		04 01 12.1	
	comp=E,64nm,0.6s						
PV22				IAML		04 01 14.1	
	comp=N,86nm,0.9s						
TPH	Tonopah	3.55	286	Pn	Pn	04 00 16.1	0.0
TPH				IAML		04 01 14.4	
	comp=E,25nm,0.4s						
TPH				IAML		04 01 16.2	
	comp=N,42nm,0.5s						
PV01	Paradox Valley	3.56	73	Pn	Pn	04 00 17.7	+1.5
PV01				IAML		04 01 15.9	
	comp=N,103nm,0.8s						
PV01				IAML		04 01 16.3	
	comp=E,106nm,0.8s						
PV07	Paradox Valley	3.59	68	Pn	Pn	04 00 17.9	+1.4
PV07				IAML		04 01 16.7	
	comp=E,86nm,1.0s						
PV07				IAML		04 01 19.8	
	comp=N,72nm,0.8s						
JLU	Jordanelle	3.59	18	Pn	Pn	04 00 17.3	+0.6
GSC	Goldstone, Bar	3.68	240	Pn	Pn	04 00 18.1	+0.3

GSC				IAML		04 01 20.3	
	comp=N,17nm,0.6s						
GSC				IAML		04 01 25.7	
	comp=E,21nm,0.6s						
PV15	**Paradox Valley**	**3.68**	**70**	Pn	Pn	04 00 19.5	+1.6
PV15				IAML		04 01 29.6	
	comp=E,83nm,0.9s						
BGU	**Big Grassy Mou**	**3.73**	**358**	Pn	Pn	04 00 20.2	+1.6
BSUT	**Blindstream Ca**	**3.73**	**26**	Pn	Pn	04 00 20.5	+1.7
MPMC	**Manual Prospec**	**3.87**	**254**	Pn	Pn	04 00 21.1	+0.7
CCCA	**Chr Cany lake**	**3.97**	**247**	Pn	Pn	04 00 22.9	+1.2
CCCA				IAML		04 02 04.8	
	comp=E,20nm,0.0s						
CCCA				IAML		04 02 04.8	
	comp=N,39nm,0.0s						
ELK	**Elko**	**4.00**	**333**	Pn	Pn	04 00 22.3	+0.1
CLC	**China Lake**	**4.03**	**252**	Pn	Pn	04 00 22.9	+0.4
WSHM	**Spangler Hills**	**4.04**	**248**	Pn	Pn	04 00 23.1	+0.5
WSHM				IAML		04 03 05.6	
	comp=N,27nm,0.1s						
WSHM				IAML		04 03 05.9	
	comp=N,39nm,0.1s						
DSP	**Deep Springs**	**4.05**	**274**	Pn	Pn	04 00 22.8	0.0
BELC	**Belle Mtn. Jos**	**4.06**	**219**	Pn	Pn	04 00 23.0	-0.1
BELC				IAML		04 01 33.1	
	comp=N,18nm,0.7s						
BELC				IAML		04 01 41.7	
	comp=E,15nm,0.9s						
GLA	**Glamis**	**4.42**	**202**	Pn	Pn	04 00 29.1	+1.2
GLA				IAML		04 01 41.8	
	comp=E,36nm,0.8s						
GLA				IAML		04 01 48.1	
	comp=N,25nm,0.7s						
113A	**Mohawk Valley,**	**4.47**	**190**	Pn	Pn	04 00 29.6	+1.1
113A				IAML		04 01 47.8	
	comp=N,12nm,0.9s						
113A				IAML		04 01 49.3	
	comp=E,12nm,1.3s						
LHV	**Little Huntoon**	**4.58**	**285**	Pn	Pn	04 00 30.2	+0.3
LHV				IAML		04 01 49.3	
	comp=E,26nm,1.1s						
LHV				IAML		04 01 52.2	
	comp=N,14nm,0.8s						
PFO	**Pinyon Flats O**	**4.61**	**220**	Pn	Pn	04 00 30.4	-0.2
RYN	**Ryan**	**4.68**	**290**	Pn	Pn	04 00 30.9	-0.7
RYN				IAML		04 01 50.1	
	comp=N,12nm,0.8s						
RYN				IAML		04 01 50.6	
	comp=E,11nm,0.8s						
O20A	**White River Ci**	**4.68**	**50**	Pn	Pn	04 00 33.5	+1.9
DNR	**Dunn Ranch,Anz**	**4.73**	**221**	Pn	Pn	04 00 32.4	+0.2
DNR				IAML		04 01 56.4	
	comp=N,16nm,1.3s						
DNR				IAML		04 02 03.5	
	comp=E,22nm,0.9s						
S22A	**4UR Ranch, Cre**	**4.86**	**82**	Pn	Pn	04 00 34.8	+0.7
S22A				IAML		04 01 43.8	
	comp=N,9.0nm,0.1s						
S22A				IAML		04 01 53.8	
	comp=E,16nm,0.6s						
ELS	**Elsinore Mount**	**5.12**	**228**	Pn	Pn	04 00 37.4	-0.1
ELS				IAML		04 01 39.1	
	comp=E,8.4nm,0.6s						
TUC	**Tucson**	**5.17**	**160**	Pn	Pn	04 00 38.9	+0.7
TUC				IAML		04 02 07.2	
	comp=E,6.6nm,0.9s						
YUH	**Yuha Desert**	**5.17**	**210**	Pn	Pn	04 00 38.2	+0.1
ANMO	**Albuquerque**	**5.67**	**111**	Pn	Pn	04 00 45.1	-0.1
ESJX	**Sierra Juarez**	**5.75**	**207**	Pn	Pn	04 00 47.1	+0.8
CBX	**Cerro Bola**	**5.77**	**214**	Pn	Pn	04 00 47.8	+1.3
Y22A	**Socorro**	**5.82**	**122**	Pn	Pn	04 00 47.4	+0.1
SDCO	**Great Sand Dun**	**5.91**	**82**	Pn	Pn	04 00 47.4	-1.1

*NEIC **02** 04:05:04.2±1.0, 33°.648N±0°.008×117°.322W±0°.009, h9km±5km, Error ellipse: s-maj=1.2km s-min=1.0km az=197.0*

PAS 02 04:05:04.6±0.9, **33°.649N**±0°.007×**117°.334W**±0°.008, **h6**km±1km, **ML3.2**/194, **ML3.2**/124(NEIC), **Error ellipse: s-maj=1.0km s-min=1.0km az=217.0, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELS	**Elsinore Mount**	**0.08**	**269**		Pg	04 05 06.2	-0.2
ELS				Sg	Sg	04 05 07.5	-0.2
ELS				IAML		04 05 08.0	
	comp=E,12µm,0.6s						
ELS				IAML		04 05 08.2	
	comp=N,12µm,0.3s						
MURC	**Murrieta**	**0.12**	**113**		Pg	04 05 07.5	+0.2
MURC					Sg	04 05 09.6	+0.6
BACC	**Bachelor Mtn.**	**0.25**	**98**		Pg	04 05 09.3	-0.1
BACC					Sg	04 05 12.8	0.0
DGR	**Domenigoni Val**	**0.27**	**90**		Pg	04 05 09.8	-0.1
DGR					Sg	04 05 13.5	0.0
HMTC	**Hemet**	**0.28**	**78**		Pg	04 05 10.1	-0.1
HMTC					Sg	04 05 13.9	0.0
PEC	**Perris**	**0.28**	**31**		Pg	04 05 09.9	-0.2
PEC					Sg	04 05 13.7	-0.2
CRNC	**Corona**	**0.29**	**320**		Pg	04 05 10.3	-0.1
CRNC					Sg	04 05 14.1	-0.2
RSBC	**Riverside Bore**	**0.32**	**1**		Pg	04 05 10.5	-0.4
RSBC					Sg	04 05 14.7	-0.6
RSBC	**Riverside Bore**	**0.32**	**1**		Pg	04 05 10.6	-0.4
POB	**Polly Butte**	**0.34**	**84**		Pg	04 05 11.2	-0.1
POB					Sg	04 05 15.9	0.0
BBSC	**Beaumont Base**	**0.40**	**47**		Pg	04 05 12.5	+0.1
BBSC					Sg	04 05 18.5	+0.9
MLSC	**Mira Loma**	**0.40**	**332**		Pg	04 05 12.2	-0.2
MLSC					Sg	04 05 17.3	-0.4
CFT	**Crafton Hills**	**0.43**	**26**		Pg	04 05 12.8	-0.1
CFT					Sg	04 05 18.8	+0.3
CLTC	**Calectric**	**0.44**	**2**		Pg	04 05 13.1	-0.1
CLTC					Sg	04 05 18.8	-0.2
CHNC	**Chino**	**0.45**	**320**		Pg	04 05 13.2	-0.1
CHNC					Sg	04 05 19.7	+0.4
CFSC	**Central Fire S**	**0.46**	**5**		Pg	04 05 13.1	-0.4
CFSC					Sg	04 05 19.8	+0.4
SANC	**Santa Ana**	**0.46**	**277**		Pg	04 05 13.6	0.0
PLM	**Palomar**	**0.49**	**127**		Pg	04 05 14.1	0.0
PLM					Sg	04 05 21.3	+0.8
SVD	**Seven Oaks Dam**	**0.50**	**23**		Pg	04 05 13.9	-0.3
SVD					Sg	04 05 21.0	+0.3
GORC	**Green Oak Ranc**	**0.50**	**170**		Pg	04 05 13.8	-0.4
GORC					Sg	04 05 20.6	-0.2
CRY	**Cary Ranch**	**0.50**	**99**		Pg	04 05 14.0	-0.3
CRY					Sg	04 05 20.9	0.0
GVDA	**Garner Valley**	**0.55**	**88**		Pg	04 05 14.9	-0.3
GVDA					Sg	04 05 22.5	+0.1
BZNA	**Buzz No.'s Pla**	**0.58**	**106**		Pg	04 05 15.6	-0.2
BZNA					Sg	04 05 23.5	+0.2
DNR	**Dunn Ranch,Anz**	**0.59**	**98**		Pg	04 05 15.9	-0.1
DNR				Sg	Sg	04 05 23.7	-0.1
PSRC	**Puddingstone R**	**0.59**	**318**		Pg	04 05 15.9	-0.1
PSRC					Sg	04 05 23.9	+0.1
SNDA	**J Saunders Pla**	**0.61**	**99**		Pg	04 05 16.2	-0.1
SNDA					Sg	04 05 24.4	+0.1
FRD	**Ford Ranch, An**	**0.63**	**104**		Pg	04 05 16.4	-0.3
FRD					Sg	04 05 25.0	0.0
FRD	**Ford Ranch, An**	**0.63**	**104**		Pg	04 05 16.4	-0.3
FRD					Sg	04 05 24.8	-0.2
SSK	**Sunset Peak**	**0.64**	**332**		Pg	04 05 16.5	-0.4
BFSC	**Mount Baldy Ra**	**0.65**	**335**		Pg	04 05 16.5	-0.6
BFSC				Sg	Sg	04 05 24.8	-0.8
RHC	**Rose Hills Cem**	**0.67**	**302**		Pg	04 05 17.9	+0.5
RHC					Sb	04 05 27.5	-0.7
DEVC	**Devers**	**0.69**	**65**		Pg	04 05 17.8	-0.2
DEVC					Sg	04 05 27.2	+0.3
BBRC	**Big Bear Solar**	**0.70**	**29**		Pg	04 05 17.7	-0.4
BBRC					Sg	04 05 27.3	+0.1
DPP	**Dos Picos Cty**	**0.73**	**153**		Pg	04 05 17.6	-0.9
DPP				Sg	Sg	04 05 27.1	-1.0
DPP				IAML		04 05 27.9	
	comp=E,663nm,0.2s						
MATG	**Mataguay Scout**	**0.73**	**128**		Pg	04 05 17.9	-0.7
MATG					Sg	04 05 28.1	0.0
PFO	**Pinyon Flats O**	**0.73**	**93**		Pg	04 05 18.3	-0.4
PFO				Sg	Sg	04 05 27.4	-0.7
PFO	**Pinyon Flats O**	**0.73**	**93**		Pg	04 05 18.2	-0.4
PFO					Sg	04 05 27.7	-0.5
XPFO	**Pinon Flat**	**0.73**	**93**		Pg	04 05 18.2	-0.5
XPFO					Sg	04 05 27.8	-0.5
GVRC	**Garvey Reservo**	**0.77**	**302**		Pg	04 05 19.8	+0.5
CPE	**Camp Elliot**	**0.78**	**166**		Pg	04 05 18.6	-1.1
CPE				Sg	Sg	04 05 28.6	-1.2
CPE				IAML		04 05 33.0	
	comp=E,610nm,0.5s						
CPE				IAML		04 05 33.4	
	comp=N,621nm,0.5s						
PMD	**Palm Desert**	**0.80**	**90**		Pg	04 05 19.4	-0.5
PMD				Sg	Sg	04 05 29.4	-0.9
PMD				IAML		04 05 30.1	
	comp=N,588nm,0.5s						
PMD				IAML		04 05 30.3	
	comp=E,774nm,0.3s						
FMP	**Fort Macarthur**	**0.80**	**275**		Pg	04 05 20.0	-0.1
FMP					Sb	04 05 31.4	-0.7
SIL	**Silver Peak**	**0.81**	**31**		Pg	04 05 19.7	-0.6
SIL					Sg	04 05 30.6	-0.3
EW2	**E Wide Canyon**	**0.82**	**69**		Pg	04 05 20.0	-0.4
EW2					Sg	04 05 31.2	0.0
MWC	**Mount Wilson**	**0.83**	**314**		Pg	04 05 20.2	-0.4
MWC				IAML		04 05 34.0	
	comp=E,744nm,0.4s						
MWC				IAML		04 05 34.0	
	comp=N,527nm,0.5s						
MWC	**Mount Wilson**	**0.83**	**314**		Sg	04 05 32.0	+0.6
JUEM	**Julian Eagle M**	**0.84**	**132**		Pg	04 05 19.5	-1.2
JUEM					Sg	04 05 30.7	-0.9
BORC	**Borrego Spring**	**0.85**	**116**		Pg	04 05 20.7	-0.3
BORC				Sg	Sg	04 05 31.6	-0.5
BORC				IAML		04 05 32.6	
	comp=N,547nm,0.7s						
MTRP	**Mission Trails**	**0.86**	**164**		Pg	04 05 20.0	-1.1
MTRP					Sg	04 05 31.4	-0.8
EML	**El Monte Cty P**	**0.86**	**151**		Pg	04 05 19.8	-1.3
EML					Sg	04 05 30.9	-1.3
SDMC	**San Diego Miss**	**0.88**	**169**		Pg	04 05 20.4	-1.1
SDMC					Sg	04 05 32.1	-0.7
PASC	**Pasadena Art C**	**0.88**	**307**		Pg	04 05 21.0	-0.5
PASC				IAML		04 05 34.7	
	comp=E,506nm,0.4s						
PASC				IAML		04 05 34.9	
	comp=N,537nm,0.5s						
PASC	**Pasadena Art C**	**0.88**	**307**		Sg	04 05 32.4	-0.5
BLAC	**Blackrock camp**	**0.89**	**62**		Pg	04 05 21.2	-0.5
BLAC					Sg	04 05 33.1	-0.2
CHFC	**Chilao Flat St**	**0.89**	**320**		Pg	04 05 20.9	-0.9
CHFC					Sg	04 05 32.3	-1.1
RPV	**Rancho Palos V**	**0.90**	**276**		Pg	04 05 21.1	-0.8
RPV					Sb	04 05 34.7	-0.2
ADO	**Adelanto Recei**	**0.90**	**355**		Pg	04 05 21.3	-0.7
ADO					Sg	04 05 33.6	-0.1
VTV	**Victorville**	**0.91**	**0**		Pg	04 05 20.8	-1.2
VTV					Sg	04 05 33.2	-0.7
HOLC	**Holcomb Ridge**	**0.91**	**332**		Pg	04 05 21.1	-1.0
HOLC					Sg	04 05 33.5	-0.5
CIAC	**Catalina I. Ai**	**0.94**	**255**		Pg	04 05 21.6	-0.9
JNH	**Juniper Hills**	**0.95**	**327**		Pg	04 05 21.9	-1.0
SDRC	**San Diego Road**	**0.97**	**160**		Pg	04 05 21.8	-1.4
DECC	**Green Verdugo**	**1.03**	**306**		Pg	04 05 23.7	-0.6
GTM	**Goat Mountain**	**1.04**	**51**		Pg	04 05 23.9	-0.6
DJJ	**Donna J Jenkin**	**1.04**	**296**		Pg	04 05 23.8	-0.7
LRRC	**Littlerock Res**	**1.05**	**327**		Pg	04 05 23.9	-0.8
BAR	**Barrett**	**1.11**	**150**		Pg	04 05 24.2	-1.8
BAR				Sg	Sg	04 05 38.4	-2.0
BAR				IAML		04 05 39.1	
	comp=E,584nm,0.1s						
BAR				IAML		04 05 39.2	
	comp=N,654nm,0.2s						
SBB	**Saddle Back Bu**	**1.11**	**339**		Pg	04 05 25.0	-1.0
DUZA	**Dulzura**	**1.14**	**156**		Pg	04 05 24.6	-1.9
TJX	**Tijuana**	**1.16**	**168**		Pg	04 05 26.6	-0.2
TJX				Sg	Sg	04 05 41.4	-0.5
BELC	**Belle Mtn. Jos**	**1.17**	**72**		Pg	04 05 26.4	-0.6
BELC				Sg	Sg	04 05 41.2	-0.9
SALN	**Salton City**	**1.19**	**108**		Pg	04 05 27.1	-0.3
SALN				IAML		04 05 44.8	
	comp=E,655nm,0.6s						
SALN				IAML		04 05 45.1	
	comp=N,654nm,0.7s						
HYS	**Haystack Butte**	**1.23**	**351**		Pg	04 05 26.9	-1.2
TPO	**Tropico Hills**	**1.43**	**329**		Pn	04 05 31.0	-0.3
TPO				IAML		04 05 50.9	
	comp=E,283nm,0.7s						
TPO				IAML		04 05 51.7	
	comp=N,402nm,0.4s						
CBX	**Cerro Bola**	**1.45**	**157**		Pn	04 05 30.1	-1.4
OSI	**Osito Audit: C**	**1.50**	**310**		Pn	04 05 31.2	-1.0
OSI				IAML		04 05 52.4	
	comp=E,196nm,0.8s						
OSI				IAML		04 05 53.0	
	comp=N,288nm,0.9s						
YUH	**Yuha Desert**	**1.55**	**130**		Pn	04 05 32.2	-0.5
BC3	**Big Chuckawall**	**1.57**	**89**		Pn	04 05 31.9	-1.2
BC3				IAML		04 05 57.1	
	comp=N,195nm,0.6s						
GSC	**Goldstone, Bar**	**1.71**	**15**		Pn	04 05 34.4	-0.6
LRMC	**Laurel Mtn Rad**	**1.85**	**351**		Pn	04 05 36.3	-0.7
LRMC				IAML		04 06 05.1	
	comp=E,194nm,0.3s						
LRMC				IAML		04 06 05.8	
	comp=N,211nm,0.9s						
CCX	**Cicese**	**1.86**	**162**		Pn	04 05 37.0	-0.1
CCX				IAML		04 06 04.2	
	comp=N,181nm,0.4s						
CCX				IAML		04 06 08.1	
	comp=E,205nm,0.6s						
CCCA	**Chr Cany lake**	**1.87**	**359**		Pn	04 05 36.8	-0.5
IRM	**Iron Mountain**	**1.89**	**74**		Pn	04 05 37.1	-0.4
IRM				IAML		04 06 05.2	
	comp=E,156nm,0.3s						
IRM				IAML		04 06 05.9	
	comp=N,209nm,0.4s						
DANC	**Danby, Needles**	**1.90**	**58**		Pn	04 05 37.2	-0.3
DANC				IAML		04 06 07.1	
	comp=E,301nm,0.5s						
WSHM	**Spangler Hills**	**1.95**	**356**		Pn	04 05 37.4	-0.9
WSHM				IAML		04 06 07.7	
	comp=E,222nm,0.4s						
WSHM				IAML		04 06 08.6	
	comp=E,131nm,0.3s						
ESJX	**Sierra Juarez**	**2.01**	**144**		Pn	04 05 39.3	0.0
ESJX				IAML		04 06 08.1	
	comp=E,176nm,0.2s						
ESJX				IAML		04 06 09.1	
	comp=N,166nm,0.5s						
CLC	**China Lake**	**2.17**	**354**		Pn	04 05 40.5	-0.9
CLC				IAML		04 06 15.2	
	comp=E,92nm,0.5s						
GLA	**Glamis**	**2.18**	**105**		Pn	04 05 40.8	-0.7
GLA				IAML		04 06 22.0	
	comp=N,99nm,0.6s						
GLA				IAML		04 06 22.3	
	comp=E,138nm,0.5s						
ISA	**Isabella, Lake**	**2.22**	**335**		Pn	04 05 40.8	-1.2
QSM	**Queen of Sheba**	**2.34**	**9**		Pn	04 05 43.5	-0.2
QSM				IAML		04 06 23.2	
	comp=E,113nm,0.6s						
QSM				IAML		04 06 26.2	
	comp=N,81nm,0.6s						
MTPC	**Mountain Pass**	**2.35**	**38**		Pn	04 05 43.6	-0.4
MPMC	**Manual Prospec**	**2.41**	**357**		Pn	04 05 44.0	-0.8
MPMC				IAML		04 06 21.7	
	comp=E,76nm,0.5s						
SHOC	**Shoshone, Teco**	**2.41**	**21**		Pn	04 05 44.3	-0.4
NEE2	**Needles Airpor**	**2.51**	**63**		Pn	04 05 46.1	+0.1
GWY	**Greenwater Val**	**2.59**	**12**		Pn	04 05 46.6	-0.6
GWY				IAML		04 06 29.4	
	comp=N,103nm,0.4s						
GWY				IAML		04 06 35.0	
	comp=E,145nm,0.6s						
VTX	**Valle De La Tr**	**2.60**	**149**		Pn	04 05 47.0	-0.3
VTX				IAML		04 06 26.0	
	comp=E,70nm,0.4s						
VES	**Vestal, Richgr**	**2.62**	**327**		Pn	04 05 47.3	-0.2
VES				IAML		04 06 35.2	
	comp=E,84nm,0.6s						
VES				IAML		04 06 38.5	
	comp=N,74nm,0.8s						
FURC	**Furnace Creek,**	**2.84**	**8**		Pn	04 05 51.4	+0.9
FURC				IAML		04 06 41.1	
	comp=N,106nm,1.1s						
FURC				IAML		04 06 48.6	
	comp=E,121nm,1.0s						
CWC	**Cottonwood Cre**	**2.85**	**348**		Pn	04 05 50.6	-0.2
V12A	**Nelson**	**2.91**	**44**		Pn	04 05 50.8	-0.8
V12A				IAML		04 06 42.4	
	comp=E,47nm,0.9s						
113A	**Mohawk Valley,**	**3.12**	**105**	Pn	Pn	04 05 53.9	-0.4
WCT	**Wildcat Mounta**	**3.19**	**10**	Pn	Pn	04 05 55.5	+0.1
W13A	**Hualapai Mount**	**3.20**	**62**	Pn	Pn	04 05 55.6	0.0
SHPR	**Sheep Range**	**3.36**	**31**	Pn	Pn	04 05 57.1	-0.8
TPNV	**Topopah Spring**	**3.41**	**15**	Pn	Pn	04 05 58.7	+0.2
TPNV				IAML		04 06 55.1	
	comp=E,76nm,0.6s						
TPNV				IAML		04 06 58.6	
	comp=E,64nm,0.7s						
TIN	**Tinemaha, Big**	**3.48**	**348**	Pn	Pn	04 05 59.1	-0.3
RAMR	**Ramage Ranch**	**3.52**	**305**	Pn	Pn	04 05 59.0	-1.0
RAMR				IAML		04 07 09.8	
	comp=N,47nm,1.2s						
RAMR				IAML		04 07 16.7	
	comp=E,48nm,1.4s						
Y14A	**Wickenburg**	**3.62**	**84**	Pn	Pn	04 06 01.2	-0.1
GMN	**Gold Mountain**	**3.64**	**1**	Pn	Pn	04 06 01.8	0.0
DSP	**Deep Springs**	**3.75**	**352**	Pn	Pn	04 06 03.8	+0.8
HULI	**Fort Hunter Li**	**3.99**	**308**	Pn	Pn	04 06 05.0	-1.3
HULI				IAML		04 06 54.2	
	comp=E,43nm,2.5s						
HULI				IAML		04 07 46.7	
	comp=N,40nm,1.9s						
PRN	**Pahroc Range**	**4.19**	**26**	Pn	Pn	04 06 10.2	+1.0
S11A	**Rachel**	**4.19**	**18**	Pn	Pn	04 06 10.7	+1.4
TPH	**Tonopah**	**4.42**	**1**	Pn	Pn	04 06 13.3	+0.9
BUCR	**Buckhorn Ranch**	**4.62**	**331**	Pn	Pn	04 06 15.1	0.0
LHV	**Little Huntoon**	**4.69**	**349**	Pn	Pn	04 06 17.2	+1.3
LCMT	**Little Creek M**	**4.74**	**44**	Pn	Pn	04 06 16.9	+0.2
R11B	**Troy Canyon, C**	**4.90**	**16**	Pn	Pn	04 06 19.5	+0.5
X16A	**Lo Mia Camp, P**	**4.95**	**79**	Pn	Pn	04 06 19.4	-0.3
U15A	**North Rim**	**4.98**	**55**	Pn	Pn	04 06 20.5	+0.3
KNB	**Kanab**	**4.99**	**46**	Pn	Pn	04 06 21.3	+1.1
WUAZ	**Wupatki**	**5.26**	**68**	Pn	Pn	04 06 24.8	+0.8
WUAZ				IAML		04 07 51.7	
	comp=N,11nm,0.5s						
WUAZ				IAML		04 08 01.1	
	comp=N,8.5nm,2.2s						
PKCU	**Pink Cliffs**	**5.58**	**46**	Pn	Pn	04 06 31.2	+2.8
PSUT	**Pine Spring**	**5.63**	**29**	Pn	Pn	04 06 30.5	+1.4
SPR3	**Spring Creek 3**	**5.86**	**24**	Pn	Pn	04 06 30.8	-1.6
MTPU	**Mount Pierson**	**6.06**	**42**	Pn	Pn	04 06 35.4	+0.3
X18A	**Snowflake**	**6.19**	**80**	Pn	Pn	04 06 36.9	+0.1
MSU	**Marysvale**	**6.40**	**39**	Pn	Pn	04 06 41.9	+2.2
HMU	**Henry Mountain**	**6.86**	**50**	Pn	Pn	04 06 45.9	-0.1
PV13	**Radium Mtn., P**	**8.24**	**54**	Pn	Pn	04 07 06.4	+1.5
PV23	**Carpenter Ridg**	**8.27**	**52**	Pn	Pn	04 07 07.7	+2.4

*SDD **02** 04:13:59.5±2.1, 19°.26N×70°.00W, h19km±9km, MD2.9, ML2.3, MW2.9*

*OSPL **02** 04:13:59.4±1.1, 19°.20N×69°.90W, h16km±5km, ML2.5*

ISC 02 04:13:58.9±0.9, **19°.23N**±0°.03×**69°.95W**±0°.02, **h17**km±7km, **n15**, σ1s53/27, **16C-2D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADR	**Nagua**	**0.15**	**34**	⇑ePg	**Pg**	**04 14 03.2**	**0.0**
NADR				⇓eSg	**Sb**	**04 14 07.2**	**+1.0**
NADR				IAML		04 14 07.4	
	comp=N,2µm,0.3s						
LONA1	**Toro Cenizo, N**	**0.17**	**27**	iP	**Pg**	**04 14 03.5**	**+0.2**
LONA1				eS	**Sg**	**04 14 06.7**	**+0.3**
LONA1				IAML		04 14 09.2	
	comp=Z,2µm,1.6s						
DR08	**Loma La Naviza**	**0.27**	**195**	⇓ePg	**Pg**	**04 14 05.7**	**+0.7**
DR08				⇑eSg	**Sb**	**04 14 10.6**	**+0.9**
DR08				IAML		04 14 11.0	
	comp=N,6µm,0.1s						
SFDR	**San Fco. de Ma**	**0.28**	**282**	⇑ePg	**Pg**	**04 14 04.6**	**-0.5**
SFDR				⇑eSg	**Sg**	**04 14 09.3**	**0.0**
SFDR				IAML		04 14 09.5	
	comp=N,915nm,0.1s						
SMDR	**Samana, DR**	**0.72**	**85**	⇑ePg	**Pb**	**04 14 11.6**	**-1.4**
SMDR				⇑eSg	**Sg**	**04 14 24.1**	**+1.5**
SMDR				IAML		04 14 26.8	
	comp=N,35nm,0.5s						
ABDR	**Alto Bandera**	**0.76**	**237**	⇑ePg	**Pb**	**04 14 13.0**	**-0.9**
ABDR				⇑eSg	**Sg**	**04 14 23.4**	**-0.6**
ABDR				IAML		04 14 24.4	
	comp=N,56nm,0.2s						
SC01	**Santiago de lo**	**0.76**	**285**	⇑ePg	**Pb**	**04 14 11.6**	**-2.2**
SC01				IAML		04 14 33.4	
	comp=N,32nm,0.3s						
SC01	**Santiago de lo**	**0.76**	**285**	iP	**Pb**	**04 14 12.8**	**-0.9**
SC01				eS	**Sg**	**04 14 25.0**	**+1.0**
SDD	**Santo Domingo**	**0.76**	**178**	⇑eSg	**Sb**	**04 14 22.9**	**-0.8**
SDD	**Santo Domingo**	**0.76**	**178**	iP	**Pb**	**04 14 12.4**	**-1.3**
SDD				eS	**Sb**	**04 14 22.1**	**-1.7**
MIDR	**Miches**	**0.88**	**106**	⇑ePg	**Pb**	**04 14 15.8**	**+0.1**
MIDR				⇑eSg	**Sg**	**04 14 28.9**	**+1.1**
MIDR				IAML		04 14 31.6	
	comp=N,9.1nm,0.9s						
SDDR	**Presa de Saban**	**1.29**	**259**	eS	**Sb**	**04 14 37.9**	**-1.1**
HIDR	**Higuey Centro**	**1.32**	**118**	⇑ePg	**Pn**	**04 14 22.4**	**-0.2**
HIDR				⇑eSg	**Sg**	**04 14 42.6**	**+0.8**
HIDR				IAML		04 14 43.9	
	comp=N,39nm,0.2s						
LOPP1	**Punta Rusia, P**	**1.33**	**298**	iP	**Pn**	**04 14 22.7**	**0.0**
LOPP1				eS	**Sn**	**04 14 39.6**	**-0.5**
LOPP1				IAML		04 14 47.7	
	comp=Z,35nm,1.1s						
REDR	**Restauracion**	**1.37**	**268**	⇑ePg	**Pg**	**04 14 27.2**	**+1.9**
REDR				⇑eSg	**Sg**	**04 14 48.3**	**+5.2**
REDR				IAML		04 14 51.4	
	comp=N,39nm,0.2s						

*SNET **02** 04:19:20.0±0.9, 13°.06N×89°.51W, h37km±22km, ML2.7*

CATAC 02 04:19:19.6±0.6, **13°N**±4°×**9°0W**±°, **h27**km±3km, **M2.8**/19, **MLv2.8**/19, **Error ellipse: s-maj=8.4km s-min=4.8km az=32.7, confirmed, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.45**	**24**	P	Pn	04 19 30.1	-0.1
JAYA	**Jayaque - finc**	**0.57**	**5**	eP	Pn	04 19 31.8	-0.3
JAYA				eS	Sn	04 19 41.0	+0.2
JAYA	**Jayaque - finc**	**0.57**	**5**	P	Pn	04 19 32.0	-0.2
PANCS	**Alcalda de**	**0.62**	**31**	P	Pn	04 19 32.6	-0.1
LOMA	**Loma Larga**	**0.65**	**30**	eP	Pb	04 19 32.7	+0.2
LOMA	**Loma Larga**	**0.65**	**30**	S	Sn	04 19 43.0	+0.4
LOMA	**Loma Larga**	**0.65**	**30**	P	Pn	04 19 33.0	-0.2
PMON	**Piamonte**	**0.66**	**16**	P	Pn	04 19 33.0	-0.2
PMON	**Piamonte**	**0.66**	**16**	S	Sn	04 19 43.1	+0.4
UEES	**Universidad Ev**	**0.69**	**22**	P	Pn	04 19 33.5	-0.1
UEES	**Universidad Ev**	**0.69**	**22**	S	Sn	04 19 43.8	+0.4
BOQS	**Boqueron**	**0.69**	**19**	eP	Pn	04 19 33.5	-0.2
LFRS	**El Faro**	**0.69**	**39**	eP	Pb	04 19 33.4	+0.2
LFRS				eS	Sn	04 19 43.1	-0.5
UDBS	**Universidad Do**	**0.72**	**28**	S	Sn	04 19 44.7	+0.4
UDBS	**Universidad Do**	**0.72**	**28**	P	Pn	04 19 34.2	+0.2
CEDA	**San Andres**	**0.73**	**8**	P	Pn	04 19 34.1	0.0
CEVE	**Cerro Verde**	**0.75**	**351**	eP	Pn	04 19 35.1	+0.4
CEVE	**Cerro Verde**	**0.75**	**351**	P	Pn	04 19 35.2	+0.5
CEVE	**Cerro Verde**	**0.75**	**351**	S	Sn	04 19 45.5	+0.2
SNJE	**San Jose**	**0.79**	**353**	eP	Pb	04 19 34.9	0.0
LBRS	**Las Brisas**	**0.80**	**34**	eP	Pn	04 19 35.3	+0.2
PAVA	**Las Pavas**	**0.84**	**41**	P	Pb	04 19 35.6	-0.1
TECO	**Alcaldia de Te**	**0.84**	**57**	P	Pb	04 19 35.1	-0.5
NUBE	**Las Nubes**	**0.86**	**342**	eP	Pb	04 19 35.6	-0.5
NUBE				eS	Sb	04 19 47.3	0.0
NUBE	**Las Nubes**	**0.86**	**342**	P	Pb	04 19 35.7	-0.3
FAME	**Alcaldia de Sa**	**0.91**	**327**	P	Pn	04 19 36.3	-0.3
LOAL	**Lomas de Alarc**	**0.95**	**344**	S	Sn	04 19 50.5	+0.6
LOAL	**Lomas de Alarc**	**0.95**	**344**	P	Pn	04 19 37.2	0.0
SCLA	**Alcaldia de Sa**	**0.98**	**51**	P	Pn	04 19 37.6	+0.1
SLOZ	**Alcaldia de Sa**	**0.98**	**344**	P	Pn	04 19 37.8	+0.1
SLOZ	**Alcaldia de Sa**	**0.98**	**344**	S	Sn	04 19 51.1	+0.5
LLGN	**La Laguna**	**1.21**	**27**	P	Pn	04 19 40.4	-0.4
PACA	**Pacayal**	**1.22**	**71**	eP	Pn	04 19 41.0	+0.1
PACA	**Pacayal**	**1.22**	**71**	P	Pn	04 19 41.1	+0.2
PACA	**Pacayal**	**1.22**	**71**	S	Sn	04 19 56.7	+0.2
MTO3	**Montecristo**	**1.32**	**6**	P	Pn	04 19 42.4	0.0
MTO3	**Montecristo**	**1.32**	**6**	S	Sn	04 19 59.5	+0.2
ESQI	**Esquipulas**	**1.48**	**6**	S	Sn	04 20 03.5	+0.4
ESQI	**Esquipulas**	**1.48**	**6**	P	Pn	04 19 44.3	-0.3
CNCH	**Conchagua**	**1.64**	**83**	P	Pn	04 19 46.4	-0.4

*TRN **02** 04:22:36.7, 10.55N×62.60W, h63km, MD3.1, Gulf of Paria.*
*FUNV **02** 04:22:37.7, 10.54N×62.55W, h72km, MW3.4*
ISC 02 04:22:35.2±2.4**, 10.51N**±0.09×**62.58W**±0.09**, h90**km±35km**,**
n13, σ1s48/21**, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**1.03**	**79**	*e*P	**Pn**	**04 22 56.5**	**+1.3**
DMDM				*e*S	**Sn**	**04 23 09.6**	**-0.7**
PSKH	**Kent House, Po**	**1.05**	**81**	*e*S	**Sn**	**04 23 09.0**	**-1.8**
TRN	**Trinidad (W)**	**1.17**	**83**	*e*P	**Pn**	**04 22 57.9**	**+1.0**
TRN				*e*S	**Sn**	**04 23 11.8**	**-1.3**
GRFF	**Grenada Fort F**	**1.74**	**28**	*e*P	**Pn**	**04 23 04.4**	**+0.3**
GRFF				*e*S	**Sn**	**04 23 24.7**	**-1.3**
GRGR	**Grenville**	**1.85**	**29**	*e*P	**Pn**	**04 23 05.9**	**+0.4**
GRGR				*e*S	**Sn**	**04 23 28.3**	**-0.3**
GRHS	**Sauteurs**	**1.94**	**28**	*e*S	**Sn**	**04 23 29.3**	**-1.2**
GRSS	**Sisters**	**2.02**	**28**	*e*P	**Pn**	**04 23 09.1**	**+1.4**
GRSS				*e*S	**Sn**	**04 23 32.0**	**-0.4**
PCRV	**Puerto La Cruz**	**2.05**	**261**	*e*P	**Pn**	**04 23 09.7**	**+1.6**
PCRV				*e*S	**Sn**	**04 23 32.6**	**-0.6**
PCRV	**Puerto La Cruz**	**2.05**	**261**	*e*P	**Pn**	**04 23 09.7**	**+1.6**
GCMP	**Grenada, Carri**	**2.27**	**30**	*e*P	**Pn**	**04 23 12.1**	**+1.1**
GCMP				*e*S	**Sn**	**04 23 37.2**	**-1.1**
CACV	**CAICARA DEL OR**	**4.88**	**234**	*e*P	Pn	04 23 43.0	-3.3
CACV				*e*S	Sn	04 24 30.9	-11
BENV	**Beln**	**4.97**	**264**	*e*P	**Pn**	**04 23 48.9**	**+1.4**
BENV				*e*S	**Sn**	**04 24 41.8**	**-1.9**
BAUV	**El Baul**	**5.60**	**254**	*e*P	**Pn**	**04 23 57.1**	**+1.0**
BAUV				*e*S	**Sn**	**04 24 56.2**	**-2.9**

IDC 02 04:28:49.4±1.6**, 54.26S**×**143.43E, h0**km**, mb3.8**/4**,**
mbtmp3.8/4**, MS3.6**/9**, Error ellipse: s-maj=220.4km**
s-min=21.1km az=80.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**20.84**	**71**	LR	LR	04 39 25.5	
	comp=Z,183nm,19.4s,baz=144,slow=30						
VNDA	**Vanda**	**24.29**	**170**	P	P	04 34 09.7	+1.8
	1.1nm,1.1s,baz=332,slow=8.3,SNR=3.5						
VNDA				LR	LR	04 42 26.9	
	comp=Z,59nm,18.6s,baz=360,slow=34						
	1.1nm,1.1s						
URZ	**Urewera**	**27.91**	**69**	LR	LR	04 44 26.3	
	comp=Z,167nm,18.6s,baz=227,slow=34						
H01W1	**Cape Leeuwin H**	**28.14**	**302**	T	T	05 04 39.2	
	baz=142,slow=75,SNR=145						
H01W2	**Cape Leeuwin H**	**28.14**	**301**	T	T	05 04 39.5	
	baz=142,slow=75,SNR=167						
H01W3	**Cape Leeuwin H**	**28.15**	**302**	T	T	05 04 40.4	
	baz=142,slow=75,SNR=140						
ASAR	**Alice Springs**	**31.38**	**343**	P	P	04 35 11.9	0.0
	0.7nm,0.8s,baz=161,slow=9.1,SNR=6.0						
ASAR				PcP	PcP	04 38 07.0	+1.4
	0.8nm,1.1s,baz=154,slow=2.6,SNR=2.7						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**34.96**	**345**	P	P	04 35 43.2	+0.1
	1.6nm,0.7s,baz=168,slow=7.9,SNR=12						
WRA				PcP	PcP	04 38 13.1	-2.4
	0.5nm,1.2s,baz=186,slow=2.4,SNR=3.0						
	1.6nm,0.7s						
QSPA	**South Pole Qui**	**35.85**	**180**	P	P	04 35 49.1	-1.4
	2.9nm,1.0s,baz=360,slow=4.8,SNR=5.5						
	2.9nm,1.0s						
SNAA	**Sanae**	**52.13**	**193**	LR	LR	04 59 34.4	
	comp=Z,94nm,19.8s,baz=186,slow=35						
KAPI	**Kappang**	**52.73**	**330**	LR	LR	04 58 52.2	
	comp=Z,36nm,20.2s,baz=112,slow=34						
RPN	**Rapa Nui**	**77.74**	**119**	LR	LR	05 07 30.3	
	comp=Z,26nm,21.1s,baz=176,slow=30						
PALK	**Pallekele**	**80.51**	**297**	LR	LR	05 09 48.4	
	comp=Z,32nm,21.5s,baz=128,slow=30						
BOSA	**Boshof**	**81.82**	**232**	LR	LR	05 09 43.0	
	comp=Z,24nm,19.8s,baz=190,slow=30						
LBTB	**Lobatse**	**84.72**	**234**	LR	LR	05 13 05.7	
	comp=Z,34nm,18.2s,baz=143,slow=31						

*IDC **02** 04:57:58.7±1.9, 41.18N×142.27E, h0km, mb3.8/7, mbtmp3.8/8, ML3.1/1, Error ellipse: s-maj=59.7km s-min=31.3km az=66.0*
*JMA **02** 04:58:06.5±0.1, 41.0N±0.3×14˚2E±˚, h57km±1km, MV3.4/35, E OFF AOMORI PREF*
JMA Felt II J1 at E OFF AOMORI PREF .
ISC 02 04:58:06.7±1.5**, 41.00N**±0.05×**142.0E**±0.1**, h58**km±10km**,**
n27, σ0s**52**/28**, mb4.0**/7**, 10D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.46**	**271**	⇓*i*P	**Pn**	**04 58 18.2**	**+0.1**
JARK				⇓S	**Sn**	**04 58 26.4**	**0.0**
JAHD	**Aomorihigashid**	**0.55**	**299**	⇓*i*P	**Pn**	**04 58 19.2**	**+0.2**
JAHD				⇓*e*S	**Sn**	**04 58 28.3**	**+0.3**
JANG	**Nango**	**0.72**	**209**	*i* P	**Pn**	**04 58 20.7**	**-0.4**
JANG				S	**Sn**	**04 58 30.7**	**-0.8**
JTM	**Tenmabayashi**	**0.72**	**253**	⇓*i*P	**Pn**	**04 58 21.1**	**0.0**
JTM				⇓S	**Sn**	**04 58 31.4**	**-0.1**
JOT	**Ohata**	**0.80**	**299**	⇓*i*P	**Pn**	**04 58 22.0**	**0.0**
JOT				⇓*e*S	**Sn**	**04 58 33.4**	**+0.1**
JKB	**Kayabe**	**1.14**	**322**	⇓*i*P	**Pn**	**04 58 26.6**	**+0.2**
JKB				⇓*e*S	**Sn**	**04 58 41.3**	**+0.2**
JSR	**Shiriuchi**	**1.29**	**295**	*i* P	**Pn**	**04 58 28.8**	**+0.3**
JAH	**Hinai**	**1.30**	**232**	P	**Pn**	**04 58 29.0**	**+0.3**
JAH				S	**Sn**	**04 58 45.8**	**+0.7**
JIW	**Iwasaki**	**1.55**	**255**	P	**Pn**	**04 58 32.2**	**+0.2**
JOMM	**Oshimamatsumae**	**1.58**	**290**	P	**Pn**	**04 58 32.3**	**0.0**
JOM	**Ohasama**	**1.61**	**199**	*i* P	**Pn**	**04 58 32.9**	**0.0**
JNB	**Noboribetsu**	**1.63**	**335**	P	**Pn**	**04 58 33.0**	**-0.1**
JYM2	**Yakumo 2**	**1.64**	**313**	P	**Pn**	**04 58 33.9**	**+0.6**
USRK	**Ussuriysk Ar.**	**8.03**	**297**	Pn	**Pn**	**04 59 59.5**	**-1.2**
	0.2nm,0.3s,baz=97,slow=15,SNR=4.7						
	1.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**30.01**	**127**	T	T	05 35 44.0	
	baz=320,slow=75						
H11N1	**WAKE ISLAND Hy**	**30.02**	**128**	T	T	05 35 47.8	
	baz=320,slow=75						
H11N3	**WAKE ISLAND Hy**	**30.03**	**127**	T	T	05 35 46.6	
	baz=320,slow=75						
H11S1	**WAKE ISLAND Hy**	**30.84**	**129**	T	T	05 36 48.8	
	baz=322,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.84**	**129**	T	T	05 36 48.7	
	baz=322,slow=76						
H11S2	**WAKE ISLAND Hy**	**30.86**	**129**	T	T	05 36 46.3	
	baz=322,slow=76						
ZALV	**Zalesovo Beam**	**39.67**	**309**	P	**P**	**05 05 32.3**	**-0.4**
	0.8nm,0.3s,baz=82,slow=9.0,SNR=1.0						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**42.49**	**299**	P	**P**	**05 05 55.2**	**-1.0**
	0.2nm,0.5s,baz=90,slow=8.8,SNR=2.6						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**44.00**	**305**	P	**P**	**05 06 08.1**	**0.0**
	0.9nm,0.6s,baz=79,slow=8.8,SNR=5.5						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**48.30**	**310**	P	**P**	**05 06 41.8**	**-0.1**
	0.8nm,0.4s,baz=74,slow=10,SNR=3.6						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**61.04**	**188**	P	**P**	**05 08 15.7**	**+1.3**
	0.1nm,0.3s,baz=13,slow=6.4,SNR=1.1						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**65.53**	**332**	P	**P**	**05 08 43.4**	**-0.2**
	3.7nm,1.0s,baz=29,slow=9.4,SNR=8.0						
	3.7nm,1.0s						
HFS	**Hagfors**	**70.66**	**335**	P	**P**	**05 09 15.3**	**-0.5**
	2.6nm,0.9s,baz=38,slow=6.7,SNR=5.6						
	2.6nm,0.9s						

*SNET **02** 05:25:23.0±0.7, 13.11N×89.51W, h46km±19km, ML2.2*
CATAC 02 05:25:22.1±0.6**, 13˚N**±3˚×**9˚0W**±˚**, h27**km±3km**, M2.6**/18**,**
MLv2.6/18**, 1C, Error ellipse: s-maj=7.5km s-min=4.5km**
az=24.0, confirmed, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.47**	**26**	P	Pn	05 25 33.1	+0.2
JAYA	**Jayaque - finc**	**0.59**	**8**	*e*P	Pn	05 25 34.6	-0.2
JAYA				*e*S	Sn	05 25 43.5	-0.1
JAYA	**Jayaque - finc**	**0.59**	**8**	P	Pn	05 25 34.8	0.0
PANCS	**Alcalda de**	**0.64**	**32**	P	Pn	05 25 35.3	-0.1
PANCS	**Alcalda de**	**0.64**	**32**	S	Sn	05 25 45.2	+0.5
LOMA	**Loma Larga**	**0.67**	**32**	P	Pn	05 25 35.8	-0.1
LOMA	**Loma Larga**	**0.67**	**32**	S	Sn	05 25 46.1	+0.5
PMON	**Piamonte**	**0.67**	**18**	P	Pb	05 25 35.6	+0.2
PMON	**Piamonte**	**0.67**	**18**	S	Sn	05 25 46.1	+0.5
SEMO	**Seminario San**	**0.70**	**25**	S	Sn	05 25 46.7	+0.5
SEMO	**Seminario San**	**0.70**	**25**	P	Pn	05 25 36.1	-0.2
UEES	**Universidad Ev**	**0.70**	**24**	P	Pb	05 25 35.9	0.0
UEES	**Universidad Ev**	**0.70**	**24**	S	Sn	05 25 47.0	+0.6
IGN	**Direccin Gen**	**0.73**	**29**	P	Pn	05 25 36.7	0.0
CEDA	**San Andres**	**0.74**	**10**	P	Pb	05 25 36.6	+0.2
CEDA	**San Andres**	**0.74**	**10**	S	Sn	05 25 47.7	+0.5
CEVE	**Cerro Verde**	**0.76**	**353**	P	Pb	05 25 37.0	+0.1
CEVE	**Cerro Verde**	**0.76**	**353**	S	Sn	05 25 48.1	+0.2
SNJE	**San Jose**	**0.80**	**355**	*e*P	Pb	05 25 37.5	0.0
NUBE	**Las Nubes**	**0.86**	**344**	⇑*e*P	Pb	05 25 38.3	-0.3
NUBE	**Las Nubes**	**0.86**	**344**	P	Pb	05 25 38.4	-0.2
NUBE	**Las Nubes**	**0.86**	**344**	S	Sn	05 25 50.6	+0.3
PAVA	**Las Pavas**	**0.86**	**42**	*e*P	Pn	05 25 38.3	-0.3
PAVA	**Las Pavas**	**0.86**	**42**	P	Pn	05 25 38.4	-0.1
PAVA	**Las Pavas**	**0.86**	**42**	S	Sn	05 25 50.7	+0.4
TECO	**Alcaldia de Te**	**0.87**	**57**	*e*P	Pn	05 25 37.8	-0.7
TECO				*e*S	Sb	05 25 49.4	-0.5
TECO	**Alcaldia de Te**	**0.87**	**57**	P	Pn	05 25 38.1	-0.4
FAME	**Alcaldia de Sa**	**0.90**	**329**	P	Pn	05 25 38.8	-0.2
FAME	**Alcaldia de Sa**	**0.90**	**329**	S	Sn	05 25 51.4	+0.2
SLOZ	**Alcaldia de Sa**	**0.98**	**346**	*e*P	Pn	05 25 40.2	0.0
SLOZ	**Alcaldia de Sa**	**0.98**	**346**	P	Pn	05 25 40.2	0.0
SLOZ	**Alcaldia de Sa**	**0.98**	**346**	S	Sn	05 25 53.4	+0.2
SCLA	**Alcaldia de Sa**	**1.00**	**51**	P	Pn	05 25 40.6	+0.2
SCLA	**Alcaldia de Sa**	**1.00**	**51**	S	Sb	05 25 54.1	+0.4
PQSS	**Presa 15 de Se**	**1.09**	**60**	P	Pn	05 25 41.5	-0.2
LLGN	**La Laguna**	**1.23**	**28**	P	Pn	05 25 43.4	-0.2
PACA	**Pacayal**	**1.24**	**71**	*e*P	Pn	05 25 43.8	0.0
PACA	**Pacayal**	**1.24**	**71**	S	Sn	05 25 59.7	0.0
PACA	**Pacayal**	**1.24**	**71**	P	Pn	05 25 43.7	-0.1
MTO3	**Montecristo**	**1.33**	**7**	P	Pn	05 25 45.3	+0.1
ESQI	**Esquipulas**	**1.49**	**7**	P	Pn	05 25 47.3	+0.1
ESQI	**Esquipulas**	**1.49**	**7**	S	Sn	05 26 06.3	+0.4
CNCH	**Conchagua**	**1.67**	**83**	S	Sn	05 26 10.6	+0.4
CNCH	**Conchagua**	**1.67**	**83**	P	Pn	05 25 49.5	-0.2

GII 02 05:41:32.7±0.0**, 32.91N**×**35.50E, h0**km**, confirmed, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMID	**Amiad**	**0.04**	**61**	P	Pg	05 41 33.1	-0.4
SPIR	**Sapir Facility**	**0.06**	**141**	P	Pg	05 41 33.7	0.0
SPIR	**Sapir Facility**	**0.06**	**141**	S	Sg	05 41 36.0	+1.6
MGDL	**Migdal**	**0.07**	**173**	P	Pg	05 41 34.0	+0.1
KNHM	**Kefar Nahum**	**0.07**	**109**	P	Pg	05 41 34.1	0.0
MMC7	**Mount Meron ar**	**0.14**	**322**	P	Pg	05 41 35.3	-0.1
MMC7	**Mount Meron ar**	**0.14**	**322**	S	Sg	05 41 38.0	+0.7

*IDC **02** 05:55:37.3±0.7, 0.33N×103.28W, h0km, mb4.2/9, mbtmp4.2/9, MS3.4/21, Error ellipse: s-maj=39.2km s-min=16.4km az=59.0*
*NEIC **02** 05:55:40.3±1.4, 0.38N±0.10×103.0W±0.1, h10km±1km, mb4.4/172, Error ellipse: s-maj=20.4km s-min=15.4km az=247.0*
ISC 02 05:55:39.4±0.5**, 0.39N**±0.07×**103.0W**±0.1**, h10**km**, n212,**
σ0s**80**/180**, mb4.4**/81**, MS3.3**/20**, 2C, Galapagos Triple Junction region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**12.77**	**95**	Pn	Pn	05 58 37.4	-3.8
TLIG	**Tlapa**	**17.62**	**14**	Pn	**Pn**	**05 59 43.8**	**-1.5**
RTAL	**Retalhuleu**	**17.96**	**38**	Pn	**Pn**	**05 59 48.2**	**-1.2**
CMIG	**Matias Romero**	**18.43**	**25**	LR	LR	06 05 27.2	
	comp=Z,196nm,21.2s,baz=198,slow=32						
CCIG	**Comitan**	**19.09**	**34**	P	**P**	**06 00 01.0**	**-1.6**
MTO3	**Montecristo**	**19.39**	**44**	P	**P**	**06 00 05.2**	**-0.7**
ESQI	**Esquipulas**	**19.52**	**43**	P	**P**	**06 00 06.7**	**-0.5**
ESQI				IAmb	IAmb	06 00 41.0	
	comp=Z,19nm,1.2s						
JTS	**Las Juntas de**	**20.48**	**61**	LR	LR	06 05 41.3	
	comp=Z,79nm,19.2s,baz=234,slow=29						
TGUH	**Tegucigalpa,Un**	**20.67**	**48**	P	**P**	**06 00 19.6**	**-0.2**
TGUH				IAmb	IAmb	06 00 30.0	
	comp=Z,29nm,1.1s						
ZAIG	**Zacatecas**	**22.25**	**1**	P	**P**	**06 00 37.1**	**+0.2**
OTAV	**Otavalo**	**24.56**	**90**	P	**P**	**06 00 59.3**	**-1.0**
OTAV				IAmb	IAmb	06 01 05.1	
	comp=Z,9.4nm,1.4s						
LPIG	**La Paz**	**24.61**	**344**	LR	LR	06 08 22.7	
	comp=Z,57nm,19.8s,baz=198,slow=31						
PRVC	**Isla de Provid**	**25.03**	**58**	P	**P**	**06 01 02.6**	**-1.3**
ATAH	**Atahualpa**	**25.67**	**107**	LR	LR	06 08 37.0	
	comp=Z,70nm,19.5s,baz=272,slow=30						
RPN	**Rapa Nui**	**28.02**	**192**	LR	LR	06 09 46.1	
	comp=Z,138nm,21.6s,baz=2.0,slow=30						
TX31	**Lajitas Ar. Si**	**28.79**	**359**	P	**P**	**06 01 38.9**	**+1.1**
TXAR	**Lajitas Array**	**28.79**	**359**	P	**P**	**06 01 37.6**	**-0.1**
TXAR	**Lajitas Array**	**28.79**	**359**	P	**P**	**06 01 38.5**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=179,slow=11,SNR=18						
TXAR				PcP	**PcP**	**06 04 46.3**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=179,slow=5.8,SNR=4.9						
TXAR				LR	LR	06 11 56.3	
	comp=Z,154nm,20.6s,baz=194,slow=34						
	comp=Z,1.4nm,0.8s						
ROSC	**El Rosal**	**28.99**	**81**	LR	LR	06 11 07.4	
	comp=Z,69nm,21.6s,baz=235,slow=32						
HNDO	**Hondo**	**29.20**	**7**	P	**P**	**06 01 42.4**	**+1.1**
HNDO				IAmb	IAmb	06 01 52.6	
	comp=Z,4.1nm,0.7s						
ALPN	**Alpine**	**29.83**	**359**		**P**	**06 01 47.5**	**+0.5**
ALPN				IAmb	IAmb	06 01 50.4	
	comp=Z,2.4nm,0.7s						
JCT	**Junction City**	**30.08**	**6**	P	**P**	**06 01 49.9**	**+0.7**
JCT				IAmb	IAmb	06 01 53.3	
	comp=Z,6.8nm,1.1s						
VHRN	**Van Horn**	**30.29**	**357**	P	**P**	**06 01 50.5**	**-0.5**
OZNA	**Ozona**	**30.42**	**3**	P	**P**	**06 01 52.7**	**+0.6**
MNTX	**Cornudas Mount**	**31.22**	**356**	P	**P**	**06 01 59.6**	**+0.4**
CZSB	**Cruzeiro do Su**	**31.28**	**106**	P	**P**	**06 01 59.4**	**-0.4**
CZSB				IAmb	IAmb	06 02 02.9	
	comp=Z,11nm,1.0s						
319A	**Douglas**	**31.39**	**350**	P	**P**	**06 02 00.8**	**0.0**
319A				IAmb	IAmb	06 02 02.4	
	comp=Z,3.9nm,0.7s						
SGCY	**Sterling City**	**31.41**	**3**		**P**	**06 02 01.0**	**+0.1**
SGCY				IAmb	IAmb	06 02 04.7	
	comp=Z,5.9nm,0.8s						
NATX	**Nacogdoches**	**32.19**	**13**	P	**P**	**06 02 08.4**	**+0.8**
ABTX	**Abilene, Hawle**	**32.22**	**5**	P	**P**	**06 02 07.7**	**-0.3**
ABTX				IAmb	IAmb	06 02 11.8	
	comp=Z,6.8nm,0.8s						
121A	**Cookes Peak, D**	**32.29**	**352**	P	**P**	**06 02 09.9**	**+1.2**
121A				IAmb	IAmb	06 02 12.2	
	comp=Z,3.6nm,0.7s						
SFX	**San Felipe**	**32.49**	**341**		**P**	**06 02 11.1**	**+0.9**
PLPT	**Palo Pinto**	**32.55**	**7**	P	**P**	**06 02 10.8**	**0.0**
PLPT				IAmb	IAmb	06 02 13.8	
	comp=Z,4.5nm,0.9s						
SN07	**Snyder 07**	**32.59**	**3**	P	**P**	**06 02 11.6**	**+0.4**
SN07				IAmb	IAmb	06 02 14.1	
	comp=Z,3.6nm,0.8s						
CRNM	**Carthage**	**33.57**	**354**	P	**P**	**06 02 20.6**	**+0.7**
Y22A	**Socorro**	**33.58**	**354**	P	**P**	**06 02 19.6**	**-0.4**
SBM	**South Baldy**	**33.64**	**354**	P	**P**	**06 02 21.6**	**+0.9**
ESJX	**Sierra Juarez**	**33.74**	**340**	P	**P**	**06 02 22.4**	**+0.9**
WLAR	**White Oak Lake**	**34.41**	**15**	P	**P**	**06 02 27.2**	**+0.3**
ANMO	**Albuquerque**	**34.53**	**355**	LR	LR	06 16 16.3	
	comp=Z,38nm,19.8s,baz=281,slow=36						
X18A	**Snowflake**	**34.58**	**350**	P	**P**	**06 02 29.2**	**+0.5**
SMWD	**Samnorwood**	**34.63**	**4**		**P**	**06 02 30.2**	**+1.2**
SMWD				IAmb	IAmb	06 02 32.2	
	comp=Z,5.2nm,0.6s						
MIAR	**Mount Ida**	**35.11**	**14**		**P**	**06 02 33.4**	**+0.4**
MIAR				IAmb	IAmb	06 02 36.5	
	comp=Z,7.7nm,0.8s						
250A	**Grady**	**35.18**	**25**	P	**P**	**06 02 34.1**	**+0.4**
PFO	**Pinyon Flats O**	**35.38**	**340**	P	**P**	**06 02 36.2**	**+0.6**
PFO	**Pinyon Flats O**	**35.38**	**340**	LR	LR	06 14 33.9	
	comp=Z,50nm,20.4s,baz=230,slow=32						
PMD	**Palm Desert**	**35.39**	**341**	P	**P**	**06 02 35.2**	**-0.2**
IRM	**Iron Mountain**	**35.47**	**343**	P	**P**	**06 02 36.6**	**+0.4**
Z47A	**Carrollton**	**35.54**	**22**	P	**P**	**06 02 37.1**	**+0.4**
Z47A				IAmb	IAmb	06 02 40.9	
	comp=Z,14nm,1.1s						
WUAZ	**Wupatki**	**35.81**	**348**	P	**P**	**06 02 38.6**	**-0.6**
BAUV	**El Baul**	**35.84**	**75**	P	**P**	**06 02 40.6**	**+1.0**
U15A	**North Rim**	**36.88**	**347**	P	**P**	**06 02 48.7**	**+0.2**
MVCO	**Mesa Verde**	**36.99**	**353**	P	**P**	**06 02 49.7**	**+0.3**
GSC	**Goldstone, Bar**	**37.04**	**341**	P	**P**	**06 02 49.8**	**+0.1**
GSC				IAmb	IAmb	06 02 53.0	
	comp=Z,3.1nm,0.7s						
PLAL	**Pickwick Lake**	**37.14**	**21**		**P**	**06 02 51.0**	**+0.6**
PLAL				IAmb	IAmb	06 02 53.7	
	comp=Z,8.6nm,0.9s						
TPO	**Tropico Hills**	**37.14**	**339**	P	**P**	**06 02 50.1**	**-0.4**
TPO				IAmb	IAmb	06 02 54.8	
	comp=Z,5.9nm,0.8s						
LCAR	**Lake Charles**	**37.17**	**16**	P	**P**	**06 02 50.6**	**0.0**
LCAR				IAmb	IAmb	06 02 53.2	
	comp=Z,3.1nm,0.6s						
SDCO	**Great Sand Dun**	**37.24**	**357**		**P**	**06 02 52.4**	**+0.8**
PB12	**IPOC Station P**	**37.25**	**122**	P	**P**	**06 02 51.7**	**0.0**
SHOC	**Shoshone, Teco**	**37.42**	**342**	P	**P**	**06 02 53.1**	**+0.2**
SHOC				IAmb	IAmb	06 03 05.0	
	comp=Z,5.1nm,0.7s						
WSHM	**Spangler Hills**	**37.54**	**340**	P	**P**	**06 02 53.9**	**0.0**
GWY	**Greenwater Val**	**37.81**	**342**		**P**	**06 02 56.4**	**+0.2**
PB16	**IPOC Station P**	**37.82**	**121**	P	**P**	**06 02 56.0**	**-1.1**
PB16				IAmb	IAmb	06 03 02.3	
	comp=Z,5.7nm,0.9s						
MGMO	**Mountain Grove**	**37.91**	**14**	P	**P**	**06 02 57.5**	**+0.6**
MGMO				IAmb	IAmb	06 02 59.4	
	comp=Z,9.4nm,1.3s						
PV05	**Paradox Valley**	**37.92**	**352**	P	**P**	**06 02 58.0**	**+0.7**
ISA	**Isabella, Lake**	**37.93**	**339**	P	**P**	**06 02 57.6**	**+0.4**
MPMC	**Manual Prospec**	**37.96**	**341**	P	**P**	**06 02 58.6**	**+1.0**
PV13	**Radium Mtn., P**	**37.97**	**353**	P	**P**	**06 02 58.3**	**+0.6**
PV02	**Paradox Valley**	**38.00**	**353**	P	**P**	**06 02 58.3**	**+0.4**
PV02				IAmb	IAmb	06 03 00.1	
	comp=Z,10.0nm,1.3s						
PBMO	**Poplar Bluff**	**38.04**	**16**	P	**P**	**06 02 58.5**	**+0.5**
PBMO				IAmb	IAmb	06 03 01.4	
	comp=Z,5.6nm,0.9s						
PV03	**Paradox Valley**	**38.06**	**353**	P	**P**	**06 02 58.6**	**+0.2**
PV12	**Saucer Basin,**	**38.12**	**353**	P	**P**	**06 02 59.2**	**+0.3**
PV12				IAmb	IAmb	06 03 01.6	
	comp=Z,7.4nm,1.1s						
LPAZ	**La Paz**	**38.19**	**117**	P	**P**	**06 03 00.0**	**-0.3**
LPAZ				IAmb	IAmb	06 03 02.8	
	comp=Z,5.9nm,0.8s						
LPAZ	**La Paz**	**38.19**	**117**	P	**P**	**06 03 01.6**	**+1.3**
	comp=Z,5.7nm,0.8s,baz=306,slow=7.1,SNR=23						
	comp=Z,5.7nm,0.8s						
WVT	**Waverly**	**38.26**	**20**		**P**	**06 03 00.1**	**+0.3**
WVT				IAmb	IAmb	06 03 03.2	
	comp=Z,6.3nm,0.8s						
V48A	**Smith Brothers**	**38.27**	**21**	P	**P**	**06 03 00.3**	**+0.4**
V48A				IAmb	IAmb	06 03 02.9	
	comp=Z,6.1nm,0.7s						
PB11	**IPOC Station P**	**38.33**	**123**	P	**P**	**06 03 01.6**	**+0.7**
TEFE	**Tefe**	**38.55**	**96**	*e*P	**P**	**06 03 03.6**	**+1.0**
CGM3	**Cape Girardeau**	**38.75**	**17**	P	**P**	**06 03 06.1**	**+2.2**
CGM3				IAmb	IAmb	06 03 07.9	
	comp=Z,6.5nm,0.8s						
CLTN	**Cedars of Leba**	**38.76**	**22**	P	**P**	**06 03 06.0**	**+2.0**
CLTN				IAmb	IAmb	06 03 08.0	
	comp=Z,11nm,1.2s						
PB02	**IPOC Station P**	**38.88**	**126**	P	**P**	**06 03 05.2**	**-0.2**
S11A	**Rachel**	**38.89**	**344**	P	**P**	**06 03 05.8**	**+0.4**
S11A				IAmb	IAmb	06 03 16.8	
	comp=Z,12nm,1.5s						
CPCT	**Cooper Cave**	**38.91**	**24**	P	**P**	**06 03 04.7**	**-0.6**
CPCT				IAmb	IAmb	06 03 09.8	
	comp=Z,6.7nm,1.0s						
TCRU	**Three Creeks R**	**39.01**	**348**	P	**P**	**06 03 06.9**	**+0.5**
PSUT	**Pine Spring**	**39.25**	**347**		**P**	**06 03 08.4**	**0.0**
SIUC	**Southern Illin**	**39.26**	**17**	P	**P**	**06 03 08.6**	**+0.3**
SIUC				IAmb	IAmb	06 03 11.3	
	comp=Z,9.0nm,0.8s						
T47A	**Sharon Grove**	**39.28**	**20**	P	**P**	**06 03 09.1**	**+0.6**
T47A				IAmb	IAmb	06 03 11.8	
	comp=Z,6.7nm,1.0s						
ISCO	**Idaho Springs**	**39.30**	**357**	P	**P**	**06 03 09.7**	**+0.8**
U49A	**Red Boiling Sp**	**39.34**	**22**	P	**P**	**06 03 09.7**	**+0.8**
U49A				IAmb	IAmb	06 03 12.0	
	comp=Z,4.9nm,0.8s						
PCRV	**Puerto La Cruz**	**39.38**	**74**	LR	LR	06 17 55.6	
	comp=Z,37nm,21.2s,slow=34						
TKL	**Tuckaleechee C**	**39.40**	**25**	P	**P**	**06 03 11.0**	**+1.5**
TKL				IAmb	IAmb	06 03 31.0	
	comp=Z,11nm,1.1s						
TKL	**Tuckaleechee C**	**39.40**	**25**	LR	LR	06 17 56.4	
	comp=Z,29nm,20.6s,baz=222,slow=34						
P18A	**Preston Nutter**	**39.61**	**351**	P	**P**	**06 03 10.8**	**-0.7**
O20A	**White River Ci**	**39.85**	**354**		**P**	**06 03 13.9**	**+0.6**
O20A				IAmb	IAmb	06 03 17.3	
	comp=Z,5.0nm,0.8s						
MDPB	**Devils Postpil**	**39.92**	**340**	P	**P**	**06 03 13.3**	**-0.8**
SAO	**San Andreas Ge**	**40.02**	**337**	P	**P**	**06 03 14.6**	**0.0**
SAO				IAmb	IAmb	06 03 15.1	
	comp=Z,6.4nm,0.8s						
P40A	**Paris**	**40.23**	**13**	P	**P**	**06 03 16.0**	**-0.2**
P40A				IAmb	IAmb	06 03 18.8	
	comp=Z,6.2nm,0.7s						
TZTN	**Tazewell**	**40.25**	**25**	P	**P**	**06 03 15.4**	**-1.1**
TZTN				IAmb	IAmb	06 03 29.4	
	comp=Z,20nm,1.2s						
BUCR	**Buckhorn Ranch**	**40.33**	**339**	P	**P**	**06 03 17.2**	**-0.1**
PDPR	**Patillas Dam,**	**40.35**	**62**	P	**P**	**06 03 16.8**	**-0.8**
PDPR				IAmb	IAmb	06 03 33.6	
	comp=Z,8.9nm,1.1s						
NVAR	**Mina Array Bea**	**40.38**	**341**	P	**P**	**06 03 18.2**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=170,slow=9.8,SNR=5.6						
NVAR				PcP	**PcP**	**06 05 19.6**	**-1.4**
	comp=Z,1.0nm,1.1s,baz=186,slow=4.5,SNR=4.0						
NVAR				LR	LR	06 16 17.3	
	comp=Z,67nm,19.4s,baz=230,slow=31						
	comp=Z,0.9nm,0.9s						
H03N2	**Juan Fernandez**	**40.56**	**148**	T	T	06 46 37.5	
	baz=323,slow=78,SNR=25						
H03N1	**Juan Fernandez**	**40.57**	**148**	T	T	06 46 37.9	
	baz=323,slow=78,SNR=21						
BSUT	**Blindstream Ca**	**40.58**	**351**	P	**P**	**06 03 20.1**	**+0.5**
H03N3	**Juan Fernandez**	**40.58**	**148**	T	T	06 46 39.8	
	baz=323,slow=78,SNR=24						
V55A	**Taylorsville**	**40.69**	**28**	P	**P**	**06 03 19.7**	**-0.5**
R49A	**Shelbyville**	**41.13**	**21**	P	**P**	**06 03 23.9**	**+0.1**
R49A				IAmb	IAmb	06 03 26.3	
	comp=Z,8.1nm,0.7s						
WELL	**Weller Preserv**	**41.22**	**339**	P	**P**	**06 03 24.5**	**0.0**
WELL				IAmb	IAmb	06 03 28.1	
	comp=Z,4.1nm,0.8s						
TCUT	**Toone Canyon**	**41.25**	**350**	P	**P**	**06 03 24.8**	**-0.2**
TCUT				IAmb	IAmb	06 03 40.4	
	comp=Z,5.9nm,1.1s						
R50A	**Paris**	**41.44**	**22**	P	**P**	**06 03 26.3**	**0.0**
R50A				IAmb	IAmb	06 03 29.1	
	comp=Z,8.5nm,0.8s						
HWUT	**Hardware Ranch**	**41.75**	**350**		**P**	**06 03 29.5**	**+0.5**
AFDM	**Forest Hills D**	**41.76**	**339**	P	**P**	**06 03 29.7**	**+0.8**
L34A	**Svendsen Farm,**	**41.82**	**7**	P	**P**	**06 03 30.0**	**+0.6**
L34A				IAmb	IAmb	06 03 34.0	
	comp=Z,9.6nm,0.9s						
P48A	**Milroy**	**42.08**	**20**	P	**P**	**06 03 33.0**	**+1.5**
P48A				IAmb	IAmb	06 03 33.3	
	comp=Z,4.1nm,0.6s						
BOAV	**Boa Vista**	**42.52**	**87**	P	**P**	**06 03 36.8**	**+1.3**
BW06	**Boulder Array**	**42.60**	**353**	P	**P**	**06 03 35.9**	**-0.1**
PD31	**Pinedale Array**	**42.60**	**353**	P	**P**	**06 03 36.0**	**0.0**
PDAR	**Pinedale Array**	**42.60**	**353**	P	**P**	**06 03 36.0**	**0.0**
	comp=Z,2.0nm,0.7s,baz=160,slow=4.7,SNR=21						
PDAR				PcP	**PcP**	**06 05 26.6**	**-1.7**
	comp=Z,0.1nm,0.4s,baz=183,slow=3.6,SNR=2.0						
	comp=Z,2.0nm,0.7s						
Q52A	**Bidwell**	**42.84**	**24**	P	**P**	**06 03 36.4**	**-1.4**
O48B	**Farmland**	**42.88**	**20**	P	**P**	**06 03 37.5**	**-0.5**
O48B				IAmb	IAmb	06 03 39.6	
	comp=Z,8.8nm,0.7s						
GO04	**Tololo Observa**	**43.17**	**138**	P	**P**	**06 03 39.0**	**-1.8**
N47A	**Urbana**	**43.26**	**19**	P	**P**	**06 03 39.8**	**-1.3**
RSSD	**Black Hills**	**43.55**	**359**	P	**P**	**06 03 44.3**	**+0.6**
RSSD				IAmb	IAmb	06 03 46.7	
	comp=Z,4.4nm,0.9s						
WVOR	**Wild Horse Val**	**44.16**	**343**	IAmb	IAmb	06 03 51.9	
	comp=Z,5.9nm,1.4s						
I37A	**Lemond, Waseca**	**44.27**	**10**	IAmb	IAmb	06 03 51.0	
	comp=Z,11nm,0.9s						
MFID	**Camas Ranch**	**44.35**	**347**	IAmb	IAmb	06 03 53.8	
	comp=Z,2.8nm,0.8s						
O53A	**New Philadelph**	**44.36**	**24**	P	**P**	**06 03 49.9**	**0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VILB	Vilhena	44.47	109	P	P	06 03 51.8	+0.5
VILB	Vilhena	44.47	109	eP	P	06 03 52.2	+1.0
JCC	Jacoby Creek,	44.53	337	P	P	06 03 51.6	+0.3
M02C	Callahan	44.59	339	P	P	06 03 52.3	+0.4
M02C				IAmb	IAmb	06 03 54.5	
	comp=Z,3.1nm,0.7s						
YBH	Yreka Blue Hor	44.84	339	IAmb	IAmb	06 03 55.9	
	comp=Z,2.4nm,0.8s						
N53A	Lisbon	44.98	24	P	P	06 03 55.1	+0.2
MCMT	McKenzie Canyo	45.10	350	P	P	06 03 56.1	0.0
PLID	Pearl Lake	45.97	347	P	P	06 04 02.3	-0.7
PLID				IAmb	IAmb	06 04 05.2	
	comp=Z,2.5nm,1.0s						
K02D	Willamette Mer	46.02	339	P	P	06 04 03.9	+0.6
K02D				IAmb	IAmb	06 04 06.1	
	comp=Z,4.2nm,0.9s						
PINE	Pine Mountain	46.08	342	IAmb	IAmb	06 04 07.3	
	comp=Z,5.9nm,0.9s						
PTLB	Pontes e Lacer	46.10	112	P	P	06 04 04.7	+0.5
PTLB	Pontes e Lacer	46.10	112	eP	P	06 04 04.5	+0.3
G08A	Pilot Rock	46.88	345	IAmb	IAmb	06 04 13.0	
	comp=Z,3.8nm,1.1s						
H04A	Detroit Lake	47.27	341	IAmb	IAmb	06 04 15.4	
	comp=Z,4.9nm,0.8s						
ITTB	Itaituba	47.47	96	eP	P	06 04 14.5	-0.4
HAWA	Hanford	48.06	345		P	06 04 19.1	+0.1
HAWA				IAmb	IAmb	06 04 22.0	
	comp=Z,4.5nm,0.8s						
NPGB	Novo Progresso	48.11	100	eP	P	06 04 18.9	-1.0
BINY	Binghamton	48.21	27	P	P	06 04 20.0	-0.3
BINY				IAmb	IAmb	06 04 36.0	
	comp=Z,5.2nm,1.0s						
CLDB	Colider	48.25	105	eP	P	06 04 20.9	-0.1
WAH2	Wahluke Slope	48.40	345	P	P	06 04 21.5	-0.1
WAH2				IAmb	IAmb	06 04 24.5	
	comp=Z,5.3nm,0.8s						
EYMN	Ely	48.41	10	P	P	06 04 22.2	+0.5
EYMN				IAmb	IAmb	06 04 23.4	
	comp=Z,6.0nm,0.9s						
SADO	Sadowa	49.00	22	LR	LR	06 25 29.8	
	comp=Z,357nm,19.1s,baz=229,slow=36						
LON	Longmire	49.02	343	P	P	06 04 27.4	+1.0
LON				IAmb	IAmb	06 04 28.9	
	comp=Z,5.1nm,0.9s						
NEW	Newport	49.23	348	P	P	06 04 27.7	-0.3
NEW				IAmb	IAmb	06 04 30.1	
	comp=Z,5.0nm,1.0s						
RADR	Rader Ridge	49.34	341	P	P	06 04 30.8	+1.9
MURT	Porto Murtinho	49.41	119	eP	P	06 04 29.9	+0.1
SALV	Santo Antonio	49.42	111	eP	P	06 04 30.6	+0.6
BUKO	Buck Lake	49.47	22	P	P	06 04 30.4	+0.5
BDQN	Bodoquena, MS	49.76	117	eP	P	06 04 32.8	+0.3
WISH	Wishkah	49.95	342	P	P	06 04 34.6	+1.2
ULM	Lac du Bonnet	50.05	6	LR	LR	06 25 14.5	
	comp=Z,77nm,19.3s,baz=171,slow=36						
NLWA	Neilton Lookou	50.22	342	P	P	06 04 35.3	-0.3
NLWA				IAmb	IAmb	06 04 38.1	
	comp=Z,5.7nm,0.8s						
PLCA	Paso Flores	50.45	148	LR	LR	06 20 31.4	
	comp=Z,44nm,21.0s,baz=305,slow=30						
MDP	Montagnes des	50.51	84	LR	LR	06 23 26.4	
	comp=Z,31nm,18.1s,baz=216,slow=33						
A04D	Lummi Island	51.06	343	P	P	06 04 42.5	+0.7
CPUP	Villa Florida	51.39	125	P	P	06 04 45.6	+0.9
CPUP	Villa Florida	51.39	125	P	P	06 04 45.5	+0.9
	comp=Z,0.7nm,0.8s,baz=323,slow=11,SNR=4.7						
CPUP				LR	LR	06 23 55.5	
	comp=Z,9.4nm,18.5s,baz=110,slow=33						
	comp=Z,0.7nm,0.8s						
SNDB	Serra Nova Dou	52.78	105	eP	P	06 04 56.1	+0.8
TRQA	Tornquist	53.75	140	P	P	06 05 02.0	-0.1
D62A	Allapoint, All	55.13	28	P	P	06 05 13.3	+1.5
PTGB	Pitanga	55.24	121	eP	P	06 05 13.4	+0.3
BDFB	Brasilia	56.58	109	P	P	06 05 23.3	+0.4
BDFB	Brasilia	56.58	109	P	P	06 05 23.6	+0.7
	comp=Z,9.5nm,1.1s,baz=244,slow=7.5,SNR=7.9						
	comp=Z,9.5nm,1.1s						
MOBC	Moresby Island	57.83	340	P	P	06 05 32.6	+1.5
MOBC				IAmb	IAmb	06 05 45.4	
	comp=Z,9.8nm,1.3s						
MG05	Puerto Natales	57.92	158	P	P	06 05 32.0	+0.4
VAO	Valinhos	59.20	117	P	P	06 05 42.2	+1.0
YKA	Yellowknife Ar	62.56	354	LR	LR	06 30 54.9	
	comp=Z,60nm,20.3s,baz=189,slow=34						
Q32M	Nakina River	62.75	343	P	P	06 06 05.4	+0.5
Q32M				IAmb	IAmb	06 06 08.1	
	comp=Z,2.7nm,0.8s						
R33M	Jennings River	62.76	344	P	P	06 06 05.3	+0.5
R33M				IAmb	IAmb	06 06 07.6	
	comp=Z,3.4nm,0.8s						
WTLY	Watson Lake, Y	62.82	346	P	P	06 06 04.7	-0.4
MMPY	Sheldon Lake,	65.59	346	P	P	06 06 23.9	+0.6
M30M	Minto, Yukon	67.00	344	P	P	06 06 32.4	+0.2
M30M				IAmb	IAmb	06 06 38.7	
	comp=Z,3.8nm,1.3s						
L29M	L29M	67.80	344	P	P	06 06 38.6	+1.3
FRB	Frobisher Bay	68.12	16	LR	LR	06 37 19.1	
	comp=Z,24nm,18.2s,baz=358,slow=37						
K29M	Barlow Dome	68.21	344	P	P	06 06 40.6	+0.7
BCAR	Beaver Creek A	68.84	342	P	P	06 06 43.5	-0.4
I30M	Mount Dempster	69.02	346	P	P	06 06 44.6	-0.5
I30M				IAmb	IAmb	06 07 02.9	
	comp=Z,7.5nm,1.4s						
K27K	Chicken	69.64	343	P	P	06 06 49.3	+0.6
I28M	Miner Creek	70.12	345	P	P	06 06 53.2	+1.4
I28M				IAmb	IAmb	06 06 57.9	
	comp=Z,3.9nm,1.2s						
H27K	Steamboat Moun	71.14	345	P	P	06 06 58.4	+0.4
RND	Reindeer	71.36	340	P	P	06 06 59.1	-0.3
ILAR	Eielson Array	71.64	342	P	P	06 06 59.9	-1.0
ILAR	Eielson Array	71.64	342	P	P	06 06 59.5	-1.4
	comp=Z,2.2nm,0.8s,baz=164,slow=4.8,SNR=17						
	comp=Z,2.2nm,0.8s						
H24K	Noodor Dome	72.67	342	P	P	06 07 06.5	-0.6
J20K	Nowinta River	73.69	339	P	P	06 07 12.7	-0.5
RES	Resolute Bay	74.36	2	LR	LR	06 40 10.1	
	comp=Z,43nm,19.7s,baz=282,slow=36						
SFJD	Kangerlussuaq	75.76	19	LR	LR	06 41 31.6	
	comp=Z,14nm,18.2s,baz=242,slow=36						
ANGG	Ammassalik, Gr	79.68	23	P	P	06 07 48.4	+1.4
BELA	Belgrano 2	85.91	169	P	P	06 08 19.4	+0.3
BELA				IAmb	IAmb	06 08 19.6	
	comp=Z,5.9nm,1.2s						
H11N3	WAKE ISLAND Hy	89.94	290	T	T	07 47 58.4	
	baz=92,SNR=4.0						
H11N2	WAKE ISLAND Hy	89.96	290	T	T	07 48 06.4	
	baz=92,SNR=5.1						
H11N1	WAKE ISLAND Hy	89.96	290	T	T	07 47 56.9	
	baz=92,SNR=4.4						
H11S2	WAKE ISLAND Hy	90.15	288	T	T	07 48 10.1	
	baz=94,slow=74,SNR=5.4						
H11S1	WAKE ISLAND Hy	90.15	288	T	T	07 48 07.6	
	baz=94,slow=74,SNR=4.3						
H11S3	WAKE ISLAND Hy	90.16	288	T	T	07 48 08.1	
	baz=94						
QSPA	South Pole Qui	90.41	180	P	P	06 08 42.4	+1.4
QSPA	South Pole Qui	90.41	180	P	P	06 08 41.9	+1.0
	comp=Z,3.3nm,1.0s,baz=146,slow=0.9,SNR=9.6						
	comp=Z,3.3nm,1.0s						
VNA3	Neumayer Olymp	91.44	161	⇑P	P	06 08 45.4	-0.2
	comp=Z,2.0nm,0.8s						
SNAA	Sanae	93.57	162	⇑P	P	06 08 54.8	-0.6
	comp=Z,57nm,0.8s						
SNAA	Sanae	93.57	162	P	P	06 08 55.2	-0.2
SNAA	Sanae	93.57	162	P	P	06 08 55.1	-0.4
	comp=Z,3.0nm,0.9s,baz=241,slow=3.5,SNR=12						
	comp=Z,3.0nm,0.9s						
TORD	Torodi Ar. Bea	104.23	76	Pdif	Pdif	06 09 44.4	-0.1
WRA	Warramunga Arr	120.65	247	PKP	PKPdf	06 14 30.1	-2.5
	comp=Z,0.5nm,0.7s,baz=97,slow=2.8,SNR=3.0						
SONM	Songino Array	125.59	336	PKP	PKPdf	06 14 40.1	-1.3
	comp=Z,0.2nm,0.3s,baz=22,slow=4.7,SNR=4.3						
CMAR	Chiang Mai Arr	151.43	312	PKPbc	PKPbc	06 15 33.9	-0.7
	comp=Z,1.5nm,0.7s,baz=6.4,slow=1.6,SNR=8.2						

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*NIC **02** 06:13:15.6, 36°.55N×28°.78E, h0^{km}±2^{km}, Ml3.3/12*
*IDC **02** 06:13:16.8±0.9, 36°.35N×28°.83E, h0^{km}, mb3.9/6, mbtmp3.8/13, ML3.4/7, Error ellipse: s-maj=18.4km s-min=15.5km az=179.0*
*ISK **02** 06:13:17.6, 36°.49N×28°.72E, h5^{km}, ML3.7/29*
*AFAD **02** 06:13:17.9, 36°.46N×28°.73E, h7^{km}±2^{km}, MW3.7*
*ATH **02** 06:13:18.8, 36°.41N×28°.83E, h8^{km}±3^{km}, ML3.6/18, Manual Solution by A.Andreou First location: 2019/09/02 06:14:44, This location: 2020/08/24 07:55:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*NEIC **02** 06:13:18.0±1.4, 36°.36N±0°.05×28°.79E±0°.04, h10^{km}±1^{km}, mb4.6/5, Error ellipse: s-maj=8.5km s-min=5.7km az=169.0*
*THE **02** 06:13:18.6, 36°N±7°×2°9E±1°3, h2^{km}±20^{km}, M3.6/12, MLh3.6/12*
*GII **02** 06:13:22.1±0.0, 36°.16N±0°.03×28°.930E±0°.009, h20^{km}, Mws3.6, confirmed*
ISC 02 06:13:17.8±1.0**, 36°.41N**±0°.02×**28°.79E**±0°.02**, h7**^{km}±7^{km}**, n178, σ1§54**/221**, mb4.3**/8**, 6C-2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IZZE	Mula-Seydike	0.35	86	P	Pg	06 13 25.4	+0.7
IZZE				S	Sb	06 13 32.2	0.0
IZZE				i IAML		06 13 35.0	
	comp=N,9μm,0.7s						
IZZE				i IAML		06 13 39.0	
	comp=E,7μm,0.4s						
SABU	Mula-Dalaman	0.43	19	P	Pg	06 13 26.2	-0.1
SABU				S	Sg	06 13 32.2	+0.2
SABU				i IAML		06 13 35.0	
	comp=E,3μm,0.6s						
SABU				i IAML		06 13 38.0	
	comp=N,3μm,0.7s						
TURN	Turunc	0.57	310	Pg	Pg	06 13 28.1	-0.6
TURN				Sg	Sg	06 13 35.9	-0.2
TURN	Turunc	0.57	310	P	Pg	06 13 27.9	-0.8
TURN				S	Sg	06 13 35.5	-0.6
TURN				i IAML		06 13 38.0	
	comp=E,2μm,0.4s						
ARG	Arkhangelos	0.57	250	Pg	Pg	06 13 28.8	0.0
ARG	Arkhangelos	0.57	250	Pg	Pg	06 13 29.1	+0.3
ARG				Sg	Sb	06 13 38.3	-0.1
ARG	Arkhangelos	0.57	250	P	Pg	06 13 28.8	0.0
ARG				S	Sb	06 13 38.7	+0.3
ARG	Arkhangelos	0.57	250	P	Pg	06 13 28.7	0.0
ARG				S	Sb	06 13 38.9	+0.5
ARG				AML	AML	06 13 40.0	
	12nm,0.3s						
ARG				AML	AML	06 13 42.3	
	6.6nm,0.4s						
ARG	Arkhangelos	0.57	250	P	Pg	06 13 29.4	+0.7
ARG				S	Sb	06 13 38.5	+0.1
CAME	Cameli-Denizli	0.67	38	Pg	Pg	06 13 30.9	+0.2
CAME				Sg	Sb	06 13 41.6	+0.1
KSL	Kastellorizon	0.69	112	P	Pg	06 13 30.8	-0.3
KSL				S	Sn	06 13 44.7	-0.3
KSL				AML	AML	06 13 49.5	
	6.1nm,0.5s						
KSL				AML	AML	06 13 53.3	
	4.6nm,0.9s						
KSL	Kastellorizon	0.69	112	P	Pb	06 13 31.8	-0.4
KNIK	Mula-Seydike	0.77	55	P	Pb	06 13 33.0	-0.5
KNIK				S	Sb	06 13 44.1	-0.1
KNIK				i IAML		06 13 47.0	
	comp=E,988nm,0.4s						
KNIK				i IAML		06 13 48.0	
	comp=N,2μm,0.8s						
CAEL	Denizli, Camel	0.83	31	P	Pg	06 13 32.9	-0.8
CAEL				S	Sg	06 13 44.9	+0.4
CAEL				i IAML		06 13 54.0	
	comp=E,2μm,1.0s						
CAEL				i IAML		06 14 04.0	
	comp=N,2μm,1.1s						
DNZT	Denizli-Tavas-	0.89	12	P	Pg	06 13 34.0	-0.8
DEMR	Demre-Antalya	0.92	101	Pg	Pn	06 13 37.3	+0.2
MULA	Mugla, Merkez-	0.92	336	P	Pg	06 13 34.8	-0.7
MULA				S	Sg	06 13 48.1	+0.6
MULA				i IAML		06 13 49.0	
	comp=E,1μm,0.5s						
MULA				i IAML		06 13 54.0	
	comp=N,545nm,0.8s						
DAT	Datca	1.02	288	Pg	Pg	06 13 37.3	-0.1
GOLH	Golhisar	1.03	37	P	Pg	06 13 36.9	-0.6
GOLH				S	Sn	06 13 54.0	+0.5
GOLH				i IAML		06 13 59.0	
	comp=N,1μm,0.4s						
GOLH				i IAML		06 14 01.0	
	comp=E,1μm,0.5s						
TAVA	DENIZLI_Tavas	1.06	5	P	Pg	06 13 37.1	-0.9
APMY	Acipayam-Deniz	1.13	21	Pn	Pg	06 13 38.8	-0.8
DNIZ	Denizli-Tavas-	1.23	9	P	Pg	06 13 40.3	-1.1
AKUM	Antalya-Kumluc	1.26	94	P	Pg	06 13 42.8	+0.9
AKUM				S	Sn	06 14 04.3	+5.4
AKUM				i IAML		06 14 07.0	
	comp=N,724nm,0.6s						
AKUM				i IAML		06 14 09.0	
	comp=E,550nm,0.5s						
NISR	Nisiros	1.35	279	P	Pn	06 13 43.5	+0.4
NISR	Nisiros	1.35	279	P	Pn	06 13 43.4	+0.3
NISR				S	Sn	06 14 02.0	+0.8
KORT	Korkueli	1.39	64	Pn	Pg	06 13 45.5	+1.1
KORT	Korkueli	1.39	64	P	Pg	06 13 45.1	+0.7
KORT				S	Sn	06 14 08.5	+6.1
KORT				i IAML		06 14 12.0	
	comp=N,966nm,0.6s						
YKAV	Yalikavak-Bodr	1.40	301	Pn	Pn	06 13 44.0	+0.2
KEMT	Kemer-ANTALYA	1.44	82	Pn	Pg	06 13 46.7	+1.4
INCE	Denizli-Bozkur	1.44	26	P	Pn	06 13 44.8	+0.4
INCE				S	Sg	06 14 05.0	+0.9
INCE				i IAML		06 14 08.0	
	comp=E,964nm,0.6s						
INCE				i IAML		06 14 08.0	
	comp=N,1μm,0.4s						
DIDI	Didim-Aydin	1.57	308	Pn	Pn	06 13 46.6	+0.5
ANTB	Antalya	1.58	71	Pn	Pg	06 13 48.4	+0.4
KARP	Karpathos	1.58	237		Pn	06 13 46.5	+0.3
KARP	Karpathos	1.58	237	Pn	Pb	06 13 47.9	+0.6
KARP	Karpathos	1.58	237	P	Pn	06 13 47.3	+1.1
KARP				S	Sb	06 14 08.3	+0.9
KARP	Karpathos	1.58	237	P	Pn	06 13 46.4	+0.2
KARP				S	Sg	06 14 09.2	+0.7
KARP				AML	AML	06 14 13.1	
	4.3nm,0.7s						
KARP				AML	AML	06 14 13.3	
	4.3nm,0.7s						
KARP	Karpathos	1.58	237	P	Pn	06 13 47.0	+0.8
KARP				S	Sg	06 14 09.2	+0.7
NAZL	Nazilli-Aydin	1.60	346	Pn	Pn	06 13 46.9	+0.4
BRDR	BURDUR-Merkez	1.64	38	P	Pb	06 13 48.6	+0.3
BRDR				S	Sg	06 14 12.8	+2.4
BRDR				i IAML		06 14 18.0	
	comp=N,482nm,1.0s						
BUCA	Burdur, Bucak-	1.69	57	P	Pg	06 13 50.5	+0.4
AYDB	Zeytinkoy-Aydi	1.69	335	Pn	Pn	06 13 48.4	+0.5
GCAM	G?zelcaml?	1.79	316	Pn	Pn	06 13 49.4	+0.3
BASM	Basmaki-Afyon	1.81	33	Pn	Pb	06 13 50.8	-0.5
ODEM	Odemis-Izmir	1.94	343	Pn	Pn	06 13 51.9	+0.6
ISP	Isparta	1.98	44		Pn	06 13 52.9	+1.1
ISP	Isparta	1.98	44	Pn	Pb	06 13 53.5	-0.6
ISP	Isparta	1.98	44	P	Pg	06 13 55.3	-0.4
ISP	Isparta	1.98	44	S	Sg	06 14 24.5	+3.3
ISP	Isparta	1.98	44	P	Pb	06 13 53.2	-0.9
KHL	Karahalli	2.00	17	Pn	Pn	06 13 53.3	+1.3
SMG	Samos	2.03	310	P	Pn	06 13 52.3	0.0
SMG				S	Sb	06 14 20.0	-0.4
SMG	Samos	2.03	310	P	Pn	06 13 52.4	0.0
SMG				S	Sn	06 14 19.6	+1.7
MANT	Manisa	2.08	355		Pn	06 13 53.7	+0.3
KULA	Kula-Manisa	2.10	357	Pn	Pn	06 13 53.9	+0.4
GMLD	Gumuldur	2.23	319	Pn	Pn	06 13 56.4	+1.2
GOMA	Golmarmara-Man	2.39	343	Pn	Pn	06 13 58.3	+0.9
BLCB	Balcova	2.41	325	Pn	Pn	06 13 58.5	+0.9
BLCB	Balcova	2.41	325	P	Pn	06 13 58.0	+0.4
ZKR	Zakros	2.46	239	Pn	Pn	06 14 00.4	+2.1
ZKR	Zakros	2.46	239	S	Sb	06 14 31.8	-1.0
ZKR				AML	AML	06 14 42.0	
	0.5nm,0.7s						
ZKR				AML	AML	06 14 49.4	
	1.1nm,1.0s						
ZKR	Zakros	2.46	239	P	Pn	06 14 00.6	+2.3
ALAN	Alanya-ANTALYA	2.62	86	Pn	Pb	06 14 03.4	-1.6
SEYD	Seydisehir-KON	2.64	67	Pn	Pb	06 14 03.6	-1.8
THERA	Ancient Thera,	2.67	270	P	Pn	06 14 01.9	+0.6
NPS	Neapolis	2.82	247	P	Pn	06 14 04.5	+1.2
NPS	Neapolis	2.82	247	P	Pn	06 14 04.5	+1.2
NPS				S	Sn	06 14 39.4	+1.7
GAZI	Gazipasa	2.85	93	Pn	Pn	06 14 05.5	+1.7
HDMB	Hadim	3.02	78	Pn	Pb	06 14 09.3	-2.8
AKMS	Akamas	3.20	115	P	Pn	06 14 08.4	-0.2
AKMS				S	Sn	06 14 49.2	+2.2
AKMS				AML	AML	06 14 49.8	
	0.3nm,0.7s						
AKMS				AML	AML	06 14 51.7	
	0.3nm,0.5s						
AKMS	Akamas	3.20	115	P	Pn	06 14 08.6	0.0
AKMS				S	Sn	06 14 45.8	-1.2
IACM	Heraklion	3.21	251	P	Pn	06 14 10.8	+2.1
IACM				S	Sn	06 14 48.1	+0.9
ALFC	Alefka	3.34	111	P	Pn	06 14 10.3	-0.2
ALFC				S	Sn	06 14 53.0	+2.5
ALFC				AML	AML	06 14 55.2	
	0.2nm,0.3s						
ALFC				AML	AML	06 15 25.3	
	0.2nm,0.7s						
ALFC	Alefka	3.34	111	P	Pn	06 14 10.2	-0.2
ALFC				S	Sn	06 14 50.0	-0.4
IDI	Anoyia	3.36	252		Pn	06 14 11.4	+0.7
IDI	Anoyia	3.36	252	P	Pn	06 14 11.6	+0.8
IDI				S	Sn	06 14 52.9	+2.0
IDI	Anoyia	3.36	252	Pn	Pn	06 14 12.2	+1.4
	23nm,0.3s,baz=60,slow=16,SNR=86						
IDI				Sn	Sn	06 14 53.1	+2.2
	21nm,0.3s,baz=334,slow=11,SNR=17						
	70nm,0.4s						
IDI	Anoyia	3.36	252	P	Pn	06 14 11.7	+1.0
IDI				S	Sn	06 14 52.5	+1.6
LADK	Ladik-KONYA	3.36	57	Pn	Pn	06 14 13.5	+2.6
PRK	Paraskevi	3.46	326	P	Pn	06 14 13.1	+1.0
PRK				S	Sn	06 14 54.3	+1.0
NATA	Nata	3.49	117	P	Pn	06 14 12.5	+0.1
NATA				S	Sn	06 14 56.8	+2.8
NATA				AML	AML	06 15 38.0	
	0.5nm,0.7s						
NATA				AML	AML	06 15 38.8	
	0.8nm,0.8s						
NATA	Nata	3.49	117	P	Pn	06 14 12.8	+0.3
TROD	Troodos	3.63	113	P	Pn	06 14 14.3	-0.3
TROD				S	Sn	06 15 01.2	+3.4
TROD				AML	AML	06 15 06.0	
	0.1nm,0.4s						
TROD				AML	AML	06 15 16.2	
	0.1nm,0.4s						
SIGR	SIGRI	3.63	321	P	Pn	06 14 16.0	+1.6
XYLS	Xyliatos	3.74	111	P	Pn	06 14 15.4	-0.5
XYLS				S	Sn	06 15 02.5	+2.2
XYLS				AML	AML	06 15 04.3	
	0.1nm,0.3s						
XYLS				AML	AML	06 15 04.5	
	0.1nm,0.4s						
APOL	The Sanctuary	3.75	116	P	Pn	06 14 16.0	0.0
APOL				S	Sn	06 15 03.8	+3.3
APOL				AML	AML	06 15 10.7	
	0.1nm,0.5s						
APOL				AML	AML	06 15 13.4	
	0.2nm,0.6s						
KARY	Karystos	3.83	296	P	Pn	06 14 18.2	+1.0
EZN	Ezine	3.92	331	⇑P	Pn	06 14 19.6	+1.2
CSS	Mathiatis	3.97	110	Pn	Pn	06 14 18.2	-0.9
CSS	Mathiatis	3.97	110	P	Pn	06 14 19.6	+0.5
CSS	Mathiatis	3.97	110	S	Sn	06 15 03.3	-2.6
CSS	Mathiatis	3.97	110	P	Pn	06 14 19.0	-0.1
ASGA	Asgata	3.98	113	P	Pn	06 14 20.2	+1.0
ASGA				S	Sn	06 15 08.4	+2.3
ASGA				AML	AML	06 15 24.5	
	0.1nm,0.5s						
ASGA				AML	AML	06 15 37.3	
	0.1nm,0.7s						
GVD	Gavdhos	4.14	249	P	Pn	06 14 22.5	+1.1
MVOU	Mavrovouni	4.18	108	P	Pn	06 14 22.6	+0.6
MVOU				S	Sn	06 15 14.4	+3.3
MVOU				AML	AML	06 15 42.9	
	0.1nm,0.9s						
MVOU				AML	AML	06 15 47.8	
	0.1nm,0.8s						
MVOU	Mavrovouni	4.18	108	P	Pn	06 14 22.5	+0.5
DION	Dionisos Attik	4.21	295	P	Pn	06 14 24.0	+1.5
VLY	Voula,Athens	4.24	291	P	Pn	06 14 24.2	+1.4
GADA	Gvkgeada	4.40	330	P	Pn	06 14 26.4	+1.4
MDUB	Mudurnu	4.47	24	Pn	Pn	06 14 26.5	+0.4
ANKY	Antikythira Is	4.47	265	P	Pn	06 14 27.8	+1.8
ANKY	Antikythira Is	4.47	265	P	Pn	06 14 27.7	+1.7
LIA	Limnos Island	4.49	322	P	Pn	06 14 27.7	+1.5
LIA	Limnos Island	4.49	322	P	Pn	06 14 27.6	+1.4
ANTO	Ankara	4.68	41		Pn	06 14 29.5	+0.6
ANTO	Ankara	4.68	41	⇑P	Pn	06 14 31.6	+2.7
VLI	Veliai	4.72	275	P	Pn	06 14 30.9	+1.6
VLI	Veliai	4.72	275	P	Pn	06 14 30.9	+1.6
VIL2	Platees	4.75	294	P	Pn	06 14 31.1	+1.3
SMTH	Samothraki Isl	4.79	329	P	Pn	06 14 31.6	+1.2
KIRS	Kirsehir-Merke	4.89	55	⇓P	Pn	06 14 34.1	+2.3
LOUT	Loutraki	4.90	290	P	Pn	06 14 33.3	+1.5
LTK	Loutraki	4.92	291	P	Pn	06 14 33.7	+1.6
ALN	Alexandroupoli	4.96	335	Pn	Pn	06 14 33.9	+1.2
ALN	Alexandroupoli	4.96	335	P	Pn	06 14 33.9	+1.2
BRTR	Keskin Array B	5.06	48		Pn	06 14 36.1	+2.0
BRTR	Keskin Array B	5.06	48	Pn	Pn	06 14 36.0	+1.8
	0.9nm,0.3s,baz=226,slow=16,SNR=15						
BRTR				Sn	Sn	06 15 36.4	+3.5
	1.3nm,0.3s,baz=217,slow=26,SNR=10.0						
	3.1nm,0.4s						
ATAL	Atalanti	5.12	298	P	Pn	06 14 35.7	+0.9
RDO	Rodhopi	5.37	333		Pn	06 14 39.5	+1.3
RDO	Rodhopi	5.37	333	P	Pn	06 14 39.8	+1.5
GUR	Goura	5.37	288	P	Pn	06 14 39.6	+1.2
KLV	Kalavryta, Ach	5.54	289	P	Pn	06 14 42.1	+1.4
ANX	Ano Chora	5.88	294	P	Pn	06 14 46.7	+1.3
BNN	Bunyan	6.11	64		Pn	06 14 46.7	-1.9
MMA0B	Mount Meron ar	6.42	120	P	Pn	06 14 53.0	+0.2
MMA0B	Mount Meron ar	6.42	120	S	Sn	06 16 03.2	-3.1
MMAI	Mount Meron Ar	6.42	120	Pn	Pn	06 14 52.1	-0.6
	7.2nm,0.3s,baz=302,slow=13,SNR=9.9						
MMAI				Sn	Sn	06 16 05.3	-0.9
	5.0nm,0.3s,baz=301,slow=25,SNR=2.7						
	3.0nm,0.2s						
GEM	Giv'at Ha'Em	6.49	117	P	Pn	06 14 53.8	+0.1
GEM	Giv'at Ha'Em	6.49	117	S	Sn	06 16 05.2	-3.0
TETR	Tetrakomo, Epi	6.62	298	P	Pn	06 14 56.7	+1.1
HMDT	Nahal Hemdat	6.95	125	P	Pn	06 15 00.0	0.0
HMDT	Nahal Hemdat	6.95	125	S	Sn	06 16 16.4	-2.9
KZIT	Kziot	7.21	138	P	Pn	06 15 03.1	-0.5
KZIT	Kziot	7.21	138	S	Sn	06 16 22.2	-3.6
FNA	Florina	7.26	309	Pn	Pn	06 15 03.9	-0.4
DSI	Dead Sea	7.30	130	P	Pn	06 15 04.5	-0.3
DSI	Dead Sea	7.30	130	S	Sn	06 16 24.2	-3.8
GHAJ	Ghor Haditha	7.60	130	Pn	Pn	06 15 07.6	-1.3
GHAJ	Ghor Haditha	7.60	130	P	Pn	06 15 08.8	-0.1
GHAJ	Ghor Haditha	7.60	130	S	Sn	06 16 31.9	-3.3
ASF	Jabal al Asfar	7.93	120	Pn	Pn	06 15 13.3	-0.3
	1.0nm,0.3s,baz=300,slow=5.5,SNR=4.0						
	1.9nm,0.3s						
PRNI	Paran	7.97	138	P	Pn	06 15 13.5	-0.6
PRNI	Paran	7.97	138	S	Sn	06 16 39.7	-4.8
TIRR	Tirgusor	8.04	358	Pn	Pn	06 15 16.1	+1.1
TIRR	Tirgusor	8.04	358	⇑P	Pn	06 15 15.8	+0.9
MBRI	Mt Berech	8.36	140	P	Pn	06 15 19.0	-0.5
MBRI	Mt Berech	8.36	140	S	Sn	06 16 49.9	-4.3
TPGR	Topolog	8.44	358	⇑P	Pn	06 15 21.4	+1.0
EIL2	Elat	8.48	141	P	Pn	06 15 20.7	-0.4
EIL2	Elat	8.48	141	S	Sn	06 16 53.2	-3.8
EIL	Elat	8.48	141	Pn	Pn	06 15 21.0	0.0
	0.1nm,0.3s,baz=109,slow=0.9,SNR=1.7						
EIL				Sn	Sn	06 16 51.7	-5.3
	0.4nm,0.3s,baz=19,slow=8.7,SNR=7.2						
	0.4nm,0.3s						
MLR	Muntele Rosu	9.32	348		Pn	06 15 33.2	+0.5
MLR	Muntele Rosu	9.32	348	Pn	Pn	06 15 35.1	+2.5
	0.4nm,0.3s,baz=178,slow=1.8,SNR=8.3						
	6.0nm,0.7s						
MLR	Muntele Rosu	9.32	348	⇑P	Pn	06 15 33.8	+1.2
PLOR	Plostina	9.57	351	⇓P	Pn	06 15 37.1	+1.1
VRI	Vrincioaia	9.57	351	⇑P	Pn	06 15 37.3	+1.3
KOPT	Kop Dagi	9.89	65	Pn	Pn	06 15 39.3	-1.3
TIP	Timpagrande	9.91	290	Pn	Pn	06 15 40.0	-0.7
CEL	Celeste	10.43	284	Pn	Pn	06 15 47.9	+0.1
CUC	Castrocucco	10.81	293	Pn	Pn	06 15 52.7	-0.3
ACER	Acerenza	10.96	297	Pn	Pn	06 15 54.5	-0.5
SGRT	San Giovanni R	11.45	302	Pn	Pn	06 16 00.6	-1.2
BURAR	Bucovina Array	11.50	348	Pn	Pn	06 16 02.3	-0.2
GERES	GERESS Array B	16.62	323	Pn	P	06 17 13.3	-0.5
	baz=146,slow=9.7,SNR=4.7						

0.6nm,0.6s
FINES FINESS Array B 25.11 357 P **P** **06 18 43.3 +0.4**
FINES FINESS Array B 25.11 357 P **P** **06 18 43.5 +0.6**
3.9nm,0.5s,baz=170,slow=8.9,SNR=17
3.9nm,0.5s
FIA1 FINESS Array S 25.11 357 P **P** **06 18 42.9 0.0**
ESDC Sonseca Array 25.92 287 P **P** **06 18 50.4 -0.1**
0.3nm,0.4s,baz=88,slow=9.3,SNR=2.2
0.3nm,0.4s
AB31 Akbulak array 26.00 51 P **P** **06 18 50.7 -0.4**
ABKAR Akbulak array 26.00 51 P **P** **06 18 50.8 -0.3**
NC602 NORSAR Array S 26.71 341 P **P** **06 18 57.2 -0.2**
NC602 IAmb IAmb 06 19 24.3
comp=Z,19nm,1.4s
NAO01 NORSAR Array S 26.98 341 P **P** **06 18 59.8 -0.1**
NAO01 IAmb IAmb 06 19 26.3
comp=Z,15nm,1.2s
TORD Torodi Ar. Bea 33.58 233 P **P** **06 19 57.9 -0.7**
comp=Z,0.9nm,0.6s,baz=34,slow=9.2,SNR=7.6
comp=Z,0.9nm,0.6s
KURBB Kurchatov Arra 38.03 52 P **P** **06 20 36.2 -0.3**
comp=Z,1.1nm,0.2s,baz=276,slow=8.8,SNR=4.8
comp=Z,1.1nm,0.2s
MKAR Makanchi Array 40.62 58 P **P** **06 20 57.6 -0.6**
MKAR Makanchi Array 40.62 58 P **P** **06 20 57.8 -0.4**
comp=Z,1.0nm,0.6s,baz=279,slow=7.5,SNR=12
comp=Z,1.0nm,0.6s
E22K Anaktuvuk Pass 75.77 0 P **P** **06 25 04.6 +0.7**
E22K IAmb IAmb 06 25 15.2
comp=Z,12nm,1.4s
BMAR Burnt Mountain 76.36 357 P **P** **06 25 08.1 +0.9**
ILAR Eielson Array 79.09 358 P **P** **06 25 23.7 +1.3**
comp=Z,0.2nm,0.7s,baz=2.9,slow=6.5,SNR=1.9
comp=Z,0.2nm,0.7s

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*ASRS **02** 06:29:52.0±1.4, 54°.16N×86°.99E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 02 06:29:55.9±3.2**, 54°.16N×86°.66E, h0km, mbtmp3.0**/2**, ML2.7**/2**, Error ellipse: s-maj=27.0km s-min=15.6km az=56.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.10**	**259**	I	I	06 37 00.0	
	baz=78,slow=323,SNR=6.2						
ZALV	**Zalesovo Beam**	**1.10**	**259**	Pg	Pg	06 30 16.2	-0.8
	0.5nm,0.3s,baz=76,slow=19,SNR=5.1						
ZALV				Lg	Lg	06 30 32.4	
	1.6nm,0.3s,baz=79,slow=28,SNR=3.6						
ZALV				Rg	Rg	06 30 37.7	
	2.9nm,0.3s,baz=75,slow=29,SNR=15						
KURBB	**Kurchatov Arra**	**6.11**	**238**	Pn	Pn	06 31 28.3	+1.0
	0.1nm,0.3s,baz=55,slow=13,SNR=1.7						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**7.88**	**202**	Pn	Pn	06 31 52.8	+1.0
	0.2nm,0.3s,baz=26,slow=14,SNR=5.7						
MKAR				Lg	Lg	06 34 11.5	
	0.1nm,0.3s,baz=22,slow=29,SNR=3.5						
	0.2nm,0.3s						

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*IDC **02** 06:29:53.2±1.5, 20°.57S×175°.48E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=48.6km s-min=42.3km az=6.0*
*NOU **02** 06:30:15.1, 21°.51S×170°.67E, h96km, mb4.4/13, Southeast of Loyalty Islands*
ISC 02 06:30:03.1±1.4**, 20°.7S**±0°.2×**172°.6E**±0°.2**, h35km, n17,** σ**3**s**.71**/11**, mb3.7**/3**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INH	**Isangel**	**3.31**	**289**	P	**Pn**	**06 30 53.7**	**+1.2**
DVP	**Devils Point**	**5.09**	**304**	P	**Pn**	**06 31 19.6**	**+2.7**
PINNC	**Pines Island,**	**5.17**	**247**	P	Pn	06 31 03.5	-15
OUENC	**Ouen Island, N**	**5.63**	**251**	P	Pn	06 31 09.6	-15
DZM	**Mont Dzumac**	**5.90**	**255**	P	Pn	06 31 13.7	-15
ONTNC	**Ouen Toro**	**5.95**	**253**	P	Pn	06 31 13.8	-15
SANVU	**Saraoutou**	**7.29**	**314**	P	**Pn**	**06 31 51.5**	**+4.3**
NGOA	**Tingoa Renbel**	**15.06**	**305**	P	**Pn**	**06 33 33.1**	**-0.3**
MXZ	**Matakaoa Point**	**17.56**	**165**	P	**P**	**06 34 11.8**	**+5.9**
URZ	**Urewera**	**17.97**	**168**	P	**P**	**06 34 14.3**	**+3.9**
BKZ	**Black Stump Fm**	**18.75**	**171**	P	**Pn**	**06 34 21.2**	**+1.5**
BFZ	**Birch Farm**	**20.20**	**172**	P	**P**	**06 34 34.6**	**-0.2**
WRA	**Warramunga Arr**	**35.83**	**264**	P	P	06 37 18.3	+19
	0.3nm,0.4s,baz=99,slow=8.1,SNR=2.5						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**35.88**	**258**	P	P	06 37 17.2	+17
	0.8nm,0.8s,baz=87,slow=8.6,SNR=6.4						
	0.8nm,0.8s						
QSPA	**South Pole Qui**	**69.40**	**180**	P	**P**	**06 41 03.5**	**-3.9**
	1.7nm,0.9s,baz=43,slow=4.7,SNR=5.1						
	1.7nm,0.9s						
ARCES	**ARCESS Array B**	**127.22**	**346**	PKP	**PKPdf**	**06 49 00.1**	**-3.1**
	2.6nm,0.9s,baz=47,slow=1.9,SNR=3.9						
GERES	**GERESS Array B**	**147.19**	**334**	PKPbc	**PKPbc**	**06 49 40.3**	**-2.4**
	0.9nm,0.5s,baz=19,slow=3.4,SNR=6.0						

CATAC 02 06:31:42.8±0.4**, 12°N**±2°×**8°7W**±°**, h33km**±4km**, M2.8**/26**, MLv2.8**/26**, Error ellipse: s-maj=5.9km s-min=2.6km az=43.9, confirmed, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABN	**Sabanita**	**0.63**	**48**	P	Pn	06 31 55.2	-0.2
NADN	**Granada**	**0.64**	**70**	P	Pb	06 31 56.1	+0.5
NADN				S	Sn	06 32 06.2	+1.7
COPN	**Copaltepe**	**0.64**	**4**	P	Pb	06 31 55.7	0.0
NANN	**Nandasmo**	**0.65**	**52**	S	Sn	06 32 06.6	+1.7
NANN	**Nandasmo**	**0.65**	**52**	P	Pb	06 31 57.0	+1.1
MASN	**Masaya**	**0.66**	**47**	P	Pb	06 31 56.3	+0.3
MASN				S	Sn	06 32 06.5	+1.4
UNAN	**Cigeo UNAN**	**0.68**	**32**	P	Pb	06 31 56.9	+0.6
UNAN				S	Sn	06 32 07.3	+1.8
TISN	**Laguna Tiscapa**	**0.70**	**31**	P	Pn	06 31 56.4	-0.1
MGAN	**Managua**	**0.72**	**33**	P	Pb	06 31 57.3	+0.3
MGAN	**Managua**	**0.72**	**33**	S	Sb	06 32 08.0	+1.4
WILN	**Americas 2**	**0.77**	**36**	P	Pb	06 31 57.9	+0.2
WILN				S	Sb	06 32 09.1	+1.2
APQ3	**Volcan Apoyequ**	**0.78**	**20**	P	Pb	06 31 58.0	0.0
MOM2	**El Cardon**	**0.91**	**10**	P	Pn	06 31 59.7	+0.4
JAPN	**Al SSO del Vol**	**0.95**	**91**	P	Pn	06 31 59.9	+0.2
CNGN	**Cerro Negro**	**0.96**	**357**	P	Pn	06 31 59.9	-0.2
CNGN	**Cerro Negro**	**0.96**	**357**	S	Sb	06 32 13.4	-0.1
MORN	**Al O del Volca**	**0.97**	**89**	P	Pn	06 32 00.3	+0.1
MORN				S	Sb	06 32 13.6	-0.3
PLRN	**Geotermica Pol**	**1.05**	**353**	P	Pn	06 32 01.2	0.0
CARN	**Rivas**	**1.15**	**107**	P	Pn	06 32 02.7	+0.1
CARN				S	Sn	06 32 18.0	+0.7
PKGN	**Cerro Pekin**	**1.17**	**344**	P	Pn	06 32 02.8	-0.1
PKGN				S	Sn	06 32 18.4	+0.6
BOAB	**BOACO BROADBAN**	**1.32**	**46**	S	Sn	06 32 22.1	+0.8
BOAB	**BOACO BROADBAN**	**1.32**	**46**	P	Pn	06 32 05.1	+0.2
POTN	**Potosi Cosigui**	**1.68**	**330**	P	Pn	06 32 09.8	-0.1
POTN				S	Sn	06 32 30.8	+0.4
CSGN	**Cosiguina Volc**	**1.69**	**328**	P	Pn	06 32 09.6	-0.5
CSGN				S	Sn	06 32 31.0	+0.4
INDI	**Punta indio, G**	**2.00**	**146**	P	Pn	06 32 15.0	+0.6
INDI	**Punta indio, G**	**2.00**	**146**	S	Sn	06 32 38.9	+0.7
JTS	**Las Juntas de**	**2.07**	**127**	P	Pn	06 32 15.4	+0.1
JTS				S	Sn	06 32 40.5	+0.5
RCVN	**Varillal2**	**2.08**	**12**	P	Pn	06 32 16.3	+0.7
CNCH	**Conchagua**	**2.08**	**326**	S	Sn	06 32 40.8	+0.4
CNCH	**Conchagua**	**2.08**	**326**	P	Pn	06 32 15.7	+0.2
SOCE	**Pocosol**	**2.29**	**120**	P	Pn	06 32 18.4	0.0
COVE	**Coope Vega, Sa**	**2.34**	**110**	P	Pn	06 32 18.8	-0.2
ESPN	**Las Esperanzas**	**2.38**	**74**	P	Pn	06 32 19.6	0.0
CNRM	**Centro Naciona**	**2.44**	**322**	P	Pn	06 32 20.4	+0.1
PACA	**Pacayal**	**2.53**	**320**	P	Pn	06 32 22.0	+0.4
SCLA	**Alcaldia de Sa**	**2.96**	**317**	P	Pn	06 32 27.8	+0.2
LCR2	**La Lucha 2**	**3.15**	**124**	P	Pn	06 32 30.2	-0.1

IDC 02 06:39:13.6±2.8**, 3°.32N×128°.54E, h0km, mb3.4**/4**, mbtmp3.5**/4**, MS4.1**/1**, Error ellipse: s-maj=233.4km s-min=23.0km az=69.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.81**	**166**	P	P	06 44 28.6	+0.2
	0.2nm,0.3s,baz=345,slow=9.3,SNR=1.9						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**27.33**	**169**	P	P	06 44 59.5	-1.0
	0.3nm,0.5s,baz=354,slow=7.7,SNR=7.7						
	0.3nm,0.5s						
USRK	**Ussuriysk Ar.**	**40.82**	**4**	LR	LR	07 01 37.4	
	comp=Z,256nm,21.6s,baz=155,slow=33						
MKAR	**Makanchi Array**	**58.92**	**325**	P	P	06 49 14.8	+0.2
	0.2nm,0.5s,baz=112,slow=6.4,SNR=3.8						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**63.06**	**327**	P	P	06 49 43.1	+0.5
	0.8nm,0.7s,baz=123,slow=7.0,SNR=4.5						
	0.8nm,0.7s						

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*BJI **02** 06:41:40.9, 11°.91N×145°.33E, h10km, mB4.9/19, mb4.8/58, Ms4.6/37, Ms7 4.4/35*
*IDC **02** 06:41:46.6±0.6, 12°.38N×144°.67E, h0km, mb4.4/24, mbtmp4.4/24, MS4.2/33, Error ellipse: s-maj=19.7km s-min=12.3km az=86.0*
*NEIC **02** 06:41:47.6±1.2, 12°.34N±0°.08×144°.8E±0°.1, h10km±1km, mb5.1/167, Error ellipse: s-maj=20.1km s-min=12.9km az=98.0*
*GCMT **02** 06:41:51.6±0.2, 12°.27N±0°.01×144°.71E±0°.01, h16km±1km, MW5.0/123, Moment Tensor Solution. s31,c39; s123,c184; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.55±.11; Mθθ2.41±.08; Mφφ-2.96±.10; Mrθ0.22±.26; Mθφ-1.59±.10; Mφr1.50±.33; Best double couple: M0 3.38400×10^16 NP1:φs242.00000°, δ73.00000°, λ-170.00000°. NP2:φs149.00000°, δ81.00000°, λ-17.00000°. Principal axes: T 2.8620, Plg5.0000°, Azm197.0000°; N 1.0400, Plg71.0000°, Azm302.0000°; P -3.9050, Plg19.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **02** 06:41:55.5±0.2, 13°N±3°×14°4E±°, h10km, M4.7/25, mb4.9/25, mB5.4/6, MLv4.4/1, Mw(mB)4.9/6*
ISC 02 06:41:48.4±0.7**, 12°.37N**±0°.04×**144°.91E**±0°.05**, h18km**±2km**, n283,** σ**1**s**.65**/233**, mb5.0**/127**, MS4.3**/48**, 1C-2D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.22**	**358**		**Pg**	**06 42 12.5**	**+0.6**
GUMO	**Guam**	**1.22**	**358**	Pn	**Pg**	**06 42 12.9**	**+1.0**
	386nm,0.3s,baz=168,slow=6.9,SNR=158						
GUMO				Sn	**Sb**	**06 42 27.4**	**+1.1**
	863nm,0.3s,baz=180,slow=23,SNR=8.7						
JAY	**Jayapura**	**15.36**	**196**	P	**P**	**06 45 35.1**	**+6.1**
	1μm64nm,1.3s						
GENI	**Genyem**	**15.59**	**198**	P	P	06 45 38.7	+7.2
	208nm,1.6s						
BAKI	**Biak**	**16.06**	**214**	P	**P**	**06 45 42.3**	**+5.6**
	36nm,1.2s						
JHJ2	**Mitsune**	**21.17**	**348**	*e*P	**P**	**06 46 34.4**	**+1.7**
	4.1nm,25.8s						
JHJ2				*e*LR	LR	06 51 32.1	
	165nm,27.8s						
JOW	**Kunigami**	**21.24**	**315**	P	**P**	**06 46 33.3**	**-0.2**
JOW				IAmb	IAmb	06 46 50.6	
	comp=Z,195nm,1.6s						
JOW	**Kunigami**	**21.24**	**315**	*e*P	**P**	**06 46 33.8**	**+0.3**
	comp=Z,189nm,1.2s						
JOW				*e*S	**S**	**06 50 20.5**	**-8.6**
	comp=Z,244nm,27.5s						
JOW				*e*LR	LR	06 51 32.1	
	comp=Z,965nm,30.1s						
JOW	**Kunigami**	**21.24**	**315**	P	**P**	**06 46 33.6**	**0.0**
	comp=Z,22nm,0.7s,baz=135,slow=21,SNR=4.6						
	comp=Z,22nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**21.84**	**71**	T	T	07 09 51.7	
	baz=254						
H11S1	**WAKE ISLAND Hy**	**21.86**	**71**	T	T	07 10 04.5	
	baz=254,slow=74						
H11S2	**WAKE ISLAND Hy**	**21.86**	**71**	T	T	07 10 05.7	
	baz=254,slow=74						
H11N1	**WAKE ISLAND Hy**	**22.33**	**68**	T	T	07 10 34.1	
	baz=255,slow=75,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**22.34**	**68**	T	T	07 10 34.2	
	baz=255,slow=75,SNR=6.9						
H11N3	**WAKE ISLAND Hy**	**22.35**	**68**	T	T	07 10 35.8	
	baz=255,slow=75,SNR=8.6						
TGY	**Tagaytay City**	**23.40**	**277**	LR	LR	06 56 32.7	
	comp=Z,593nm,19.1s,baz=67,slow=38						
JMN	**Monobe**	**23.53**	**336**	P	**P**	**06 46 58.4**	**+0.8**
YOJ	**Yonaguni jima**	**23.97**	**303**	P	**P**	**06 47 01.9**	**0.0**
YOJ				IAmb	IAmb	06 47 23.4	
	comp=Z,78nm,1.1s						
INU	**Inuyama**	**23.97**	**344**	P	**P**	**06 47 01.2**	**-0.6**
INU				IAmb	IAmb	06 47 21.8	
	comp=Z,96nm,1.9s						
JGF	**Kuroka**	**24.12**	**345**	P	**P**	**06 47 02.9**	**-0.3**
JNU	**Nakatsue**	**24.33**	**330**		**P**	**06 47 05.6**	**+0.5**
JNU	**Nakatsue**	**24.33**	**330**	P	**P**	**06 47 05.0**	**-0.2**
	comp=Z,14nm,0.8s,baz=119,slow=5.7,SNR=10						
	comp=Z,14nm,0.8s						
MJAR	**Matsushiro Arr**	**24.82**	**347**		**P**	**06 47 09.7**	**+0.2**
MJAR	**Matsushiro Arr**	**24.82**	**347**	P	**P**	**06 47 09.4**	**-0.1**
	comp=Z,6.6nm,0.8s,baz=165,slow=8.6,SNR=12						
	comp=Z,6.6nm,0.8s						
MAJO	**Matsushiro**	**24.82**	**347**		**P**	**06 47 08.7**	**-0.9**
MJB9	**Matsu-Tunnel**	**24.82**	**347**	P	**P**	**06 47 09.4**	**-0.2**
TWG	**Pinlang**	**24.95**	**298**	P	**P**	**06 47 10.2**	**-0.7**
SSLB	**Suanglung**	**25.41**	**300**		**P**	**06 47 13.1**	**-1.9**
TPUB	**Ta-pu**	**25.50**	**299**	P	**P**	**06 47 14.6**	**-1.4**
TPUB				IAmb	IAmb	06 47 34.0	
	comp=Z,47nm,1.0s						
JMM	**Marumori**	**25.66**	**352**	P	**P**	**06 47 16.3**	**-0.8**
MRSI	**Marisa**	**25.67**	**244**	P	**P**	**06 47 22.8**	**+5.4**
	comp=Z,2μmcomp=Z,102nm,1.5s						
COEN	**Coen**	**26.21**	**184**	P	**P**	**06 47 21.0**	**-1.2**
COEN				IAmb	IAmb	06 47 54.8	
	comp=Z,39nm,1.3s						
TOLI2	**Tolitoli**	**26.41**	**247**	P	**P**	**06 47 23.0**	**-1.1**
MYLDM	**Lahad Datu**	**27.05**	**257**	P	**P**	**06 47 28.3**	**-1.6**
SSE	**Sheshan**	**28.75**	**314**	P	P	06 47 50.2	+5.2
SSE				S	S	06 52 45.3	+12
SSE				pmax	pmax		
	comp=Z,13nm,0.7s						
SSE				pmax	pmax		
	comp=Z,47nm,3.5s						
SSE				LR	LR		
	comp=Z,150nm,17.1s						
SSE				LR	LR		
	comp=Z,210nm,16.1s						
KSRS	**Korea Array**	**29.25**	**332**	P	**P**	**06 47 49.4**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=146,slow=9.4,SNR=7.5						
KSRS				PcP	**PcP**	**06 50 58.9**	**+2.7**
	comp=Z,1.5nm,0.6s,baz=179,slow=2.4,SNR=6.2						
	comp=Z,1.2nm,0.5s						
KAPI	**Kappang**	**30.39**	**237**	LR	LR	06 59 18.5	
	comp=Z,210nm,21.8s,baz=59,slow=35						
BATI	**Baumata**	**30.80**	**224**	LR	LR	06 59 45.3	
	comp=Z,400nm,21.3s,baz=132,slow=35						
NJ2	**Nanjing**	**30.94**	**313**	*e*P	**P**	**06 48 06.1**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NJ2				LR	LR		
	comp=Z,600nm,18.7s						
NJ2				LR	LR		
	comp=Z,420nm,17.9s						
NJ2				LR	LR		
	comp=Z,380nm,20.4s						
KNRA	**Kununurra**	**32.12**	**210**		**P**	**06 48 13.9**	**-0.9**
KNRA				IAmb	IAmb	06 48 28.8	
	comp=Z,23nm,0.9s						
WHN	**Wuhan**	**33.55**	**307**	P	P	06 48 33.4	+6.2
WHN				pmax	pmax		
	comp=Z,44nm,0.7s						
DL2	**Dalian**	**33.55**	**326**	P	**P**	**06 48 27.4**	**+0.2**
DL2				S	**S**	**06 53 44.2**	**-4.4**
DL2				pmax	pmax		
	comp=Z,22nm,0.8s						
DL2				pmax	pmax		
	comp=Z,120nm,5.7s						
DL2				LR	LR		
	comp=Z,300nm,17.5s						
DL2				LR	LR		
	comp=Z,470nm,12.2s						
DL2				LR	LR		
	comp=Z,630nm,19.8s						
WB0	**Warramunga Arr**	**33.57**	**198**	P	**P**	**06 48 27.7**	**+0.2**
USRK	**Ussuriysk Ar.**	**33.61**	**343**	P	**P**	**06 48 27.2**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=140,slow=9.4,SNR=3.3						
	comp=Z,2.7nm,0.7s						
WR8	**Warramunga Arr**	**33.71**	**198**	P	**P**	**06 48 28.6**	**-0.1**
WR8				IAmb	IAmb	06 48 43.3	
	comp=Z,20nm,0.8s						
WRAB	**Tennant Creek**	**33.74**	**198**	P	**P**	**06 48 28.7**	**-0.3**
WRAB				IAmb	IAmb	06 48 43.6	
	comp=Z,21nm,0.8s						
WRA	**Warramunga Arr**	**33.75**	**198**		**P**	**06 48 28.3**	**-0.8**
WRA	**Warramunga Arr**	**33.75**	**198**	P	**P**	**06 48 29.1**	**0.0**
	comp=Z,9.3nm,0.7s,baz=22,slow=9.8,SNR=154						
WRA				LR	LR	07 01 35.4	
	comp=Z,496nm,21.5s,baz=14,slow=35						
	comp=Z,9.3nm,0.7s						
SBUM	**Sibu**	**33.84**	**256**	P	**P**	**06 48 29.5**	**-0.5**
QIZ	**Qiongzhong**	**34.36**	**286**	P	**P**	**06 48 34.8**	**+0.3**
QIZ				S	**S**	**06 54 02.6**	**+1.0**
QIZ				LR	LR		
	comp=Z,570nm,8.7s						
QIZ				LR	LR		
	comp=Z,590nm,8.3s						
QIZ				LR	LR		
	comp=Z,550nm,14.7s						
FITZ	**Fitzroy Crossi**	**35.75**	**213**	P	**P**	**06 48 46.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**35.75**	**213**	LR	LR	07 03 05.7	
	comp=Z,282nm,21.6s,baz=35,slow=36						
KSM	**Kuching**	**35.96**	**255**	P	**P**	**06 48 48.0**	**-0.4**
KSM				IAmb	IAmb	06 49 03.7	
	comp=Z,30nm,1.1s						
BNX	**BinXian**	**36.44**	**339**	⇓P	**P**	**06 48 52.8**	**+0.8**
BNX				pP	**pwP**	**06 49 03.9**	**-1.4**
BNX				S	**S**	**06 54 33.2**	**+0.3**
BNX				sS	**ScP**	**06 54 52.8**	**-9.0**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BNX				pmax	pmax		
	comp=Z,49nm,4.3s						
BNX				LR	LR		
	comp=Z,610nm,21.7s						
BNX				LR	LR		
	comp=Z,1μm,19.6s						
BNX				LR	LR		
	comp=Z,1μm,47.2s						
HNS	**HongShan**	**36.76**	**318**	⇓P	**P**	**06 48 54.9**	**+0.1**
HNS				pmax	pmax		
	comp=Z,16nm,0.8s						
HNS				LR	LR		
	comp=Z,350nm,18.6s						
HNS				LR	LR		
	comp=Z,570nm,15.2s						
HNS				LR	LR		
	comp=Z,590nm,16.1s						
LYN	**LuoYang**	**36.80**	**312**	P	**P**	**06 48 54.6**	**-0.7**
LYN				S	**S**	**06 54 41.7**	**+3.0**
LYN				SS	**SS**	**06 57 14.3**	**-5.6**
LYN				pmax	pmax		
	comp=Z,49nm,0.7s						
LYN				LR	LR		
	comp=Z,440nm,16.7s						
LYN				LR	LR		
	comp=Z,730nm,12.2s						
LYN				LR	LR		
	comp=Z,560nm,13.5s						
ENH	**Enshi**	**37.30**	**304**	P	**P**	**06 48 59.1**	**-0.5**
ENH				IAmb	IAmb	06 49 13.2	
	comp=Z,32nm,0.8s						
AS31	**Alice Springs**	**37.39**	**197**	P	**P**	**06 48 59.7**	**-0.7**
ASAR	**Alice Springs**	**37.39**	**197**	P	**P**	**06 49 00.3**	**-0.1**
ASAR	**Alice Springs**	**37.39**	**197**	P	**P**	**06 49 01.0**	**+0.6**
	comp=Z,2.8nm,0.6s,baz=18,slow=9.6,SNR=28						
ASAR				LR	LR	07 04 58.4	
	comp=Z,382nm,19.4s,baz=10,slow=37						
	comp=Z,2.8nm,0.6s						
EIDS	**Eidsvold**	**37.98**	**171**	P	**P**	**06 49 03.8**	**-1.5**
XAN	**Xi'an**	**39.19**	**309**	⇑P	**P**	**06 49 15.4**	**-0.1**
XAN				S	**S**	**06 55 15.9**	**+0.8**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XAN				LR	LR		
	comp=Z,490nm,13.7s						
XAN				LR	LR		
	comp=Z,420nm,15.8s						
XAN				LR	LR		
	comp=Z,550nm,18.6s						
TPI	**Tanjungpandan**	**39.95**	**250**	P	P	06 49 26.9	+4.9
	comp=Z,47nm,1.5s						
DZM	**Mont Dzumac**	**40.22**	**148**	*e*S	**S**	**06 55 25.7**	**-4.9**
	comp=Z,129nm,32.4s						
DZM				*e*LR	LR	07 00 25.3	
	comp=Z,395nm,23.6s						
HEH	**HeiHe**	**40.42**	**343**	*e*P	**P**	**06 49 24.9**	**-0.5**
HEH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**40.73**	**320**	*e*P	**P**	**06 49 31.4**	**+3.1**
HHC				S	**S**	**06 55 43.9**	**+5.9**
HHC				sS	sS	06 55 55.7	+13
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,4.3s						
HHC				LR	LR		
	comp=Z,380nm,17.7s						
HHC				LR	LR		
	comp=Z,350nm,16.0s						
HHC				LR	LR		
	comp=Z,690nm,18.5s						
MBWA	**Marble Bar**	**41.50**	**217**	P	**P**	**06 49 33.3**	**-1.4**
MBWA				IAmb	IAmb	06 50 11.7	
	comp=Z,34nm,1.3s						
BTO	**Baotou**	**41.57**	**319**	*e*P	**P**	**06 49 35.5**	**+0.3**
BTO				pP	**sP**	**06 49 38.8**	**-0.6**
BTO				sP	**pwP**	**06 49 46.1**	**-2.6**
BTO				S	**S**	**06 55 51.7**	**+1.2**
BTO				pmax	pmax		
	comp=Z,18nm,0.6s						
BTO				pmax	pmax		
	comp=Z,100nm,3.8s						
BTO				LR	LR		
	comp=Z,530nm,12.9s						
BTO				LR	LR		
	comp=Z,520nm,8.3s						
BTO				LR	LR		
	comp=Z,600nm,12.0s						
PSA00	**Pilbara Seismi**	**41.75**	**216**	P	**P**	**06 49 35.8**	**-0.9**
PETK	**Petropavlovsk-**	**41.91**	**12**	P	**P**	**06 49 36.5**	**-1.1**
PETK	**Petropavlovsk-**	**41.91**	**12**	LR	LR	07 07 03.0	
	comp=Z,303nm,19.0s,baz=188,slow=36						
MYKOM	**Kota Tinggi**	**42.02**	**259**	P	**P**	**06 49 37.9**	**-1.2**
CD2	**Chengdu**	**42.18**	**303**	P	**P**	**06 49 40.3**	**+0.1**
CD2				S	**S**	**06 56 05.1**	**+5.4**
CD2				pmax	pmax		
	comp=Z,40nm,0.6s						
CD2				LR	LR		
	comp=Z,410nm,12.2s						
CD2				LR	LR		
	comp=Z,460nm,10.4s						
PZH	**PanZhiHua**	**42.86**	**296**	P	**P**	**06 49 47.1**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MDSI	**Maura Dua**	**43.81**	**250**	P	P	06 49 58.7	+5.1
	comp=Z,23nm,1.0s						
LZH	**Lanzhou**	**43.83**	**310**	*e*P	**P**	**06 49 54.9**	**+1.2**
LZH				sP	pwP	06 50 02.2	-4.8
LZH				pmax	pmax		
	comp=Z,32nm,1.2s						
LZH				LR	LR		
	comp=Z,310nm,14.8s						
LZH				LR	LR		
	comp=Z,300nm,14.8s						
LZH				LR	LR		
	comp=Z,390nm,14.8s						
LZDM	**Lanzhou Array**	**43.89**	**310**	P	**P**	**06 49 54.4**	**+0.1**
	comp=Z,3.1nm,0.5s,baz=115,slow=6.8,SNR=7.2						
	comp=Z,3.1nm,0.5s						
STKA	**Stephens Creek**	**44.10**	**184**	P	**P**	**06 49 54.4**	**-1.2**
STKA	**Stephens Creek**	**44.10**	**184**	P	**P**	**06 49 56.3**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=71,slow=5.3,SNR=3.3						
STKA				LR	LR	07 09 49.0	
	comp=Z,311nm,18.6s,baz=12,slow=38						
	comp=Z,1.4nm,0.6s						
LHSI	**Lahat**	**44.17**	**251**	P	P	06 50 01.8	+5.3
KULM	**Kulim**	**44.25**	**265**	P	**P**	**06 49 55.5**	**-1.6**
KULM				IAmb	IAmb	06 50 13.8	
	comp=Z,40nm,1.1s						
CM31	**Chiang Mai Arr**	**44.64**	**284**	P	**P**	**06 49 58.8**	**-1.4**
CMAR	**Chiang Mai Arr**	**44.64**	**284**	P	**P**	**06 49 58.8**	**-1.4**
CMAR	**Chiang Mai Arr**	**44.64**	**284**	P	**P**	**06 49 59.8**	**-0.4**
	comp=Z,9.2nm,0.9s,baz=86,slow=6.2,SNR=30						
CMAR				LR	LR	07 07 51.5	

comp=Z,199nm,19.5s,baz=100,slow=35
comp=Z,9.2nm,0.9s
MASI Maura Aman, Be 45.11 253 P P 06 50 09.3 +5.2
BKNI Bangkinang 45.13 258 P P 06 50 09.4 +5.3
BBOO Buckleboo 45.71 190 P **P 06 50 07.6 -0.8**
PSI Prapat 46.50 262 LR LR 07 14 58.2
comp=Z,133nm,18.1s,baz=159,slow=43
RPSI Rantau Prapat 46.52 262 **P 06 50 14.2 -0.9**
RPSI IAmb IAmb 06 50 41.2
comp=Z,13nm,0.9s
SHEM Shemya Is, Ala 46.55 24 LR LR 07 09 04.6
comp=Z,269nm,18.8s,baz=252,slow=35
NFK Norfolk Island 46.79 152 *e*LR LR 07 03 24.9
MA2 Magadan 47.33 4 **P 06 50 20.9 +0.1**
MA2 IAmb IAmb 06 50 23.5
comp=Z,11nm,1.0s
MA2 Magadan 47.33 4 LR LR 07 10 02.8
comp=Z,101nm,20.2s,baz=183,slow=36
KCSI Kotacane, Aceh 47.44 263 P P 06 50 27.0 +4.6
comp=Z,23nm,1.1s
SONM Songino Array 47.76 325 P **P 06 50 23.7 -0.8**
SONM Songino Array 47.76 325 P **P 06 50 25.3 +0.8**
comp=Z,1.4nm,0.6s,baz=136,slow=7.4,SNR=7.8
SONM PcP **PcP 06 51 54.7 +1.2**
comp=Z,2.7nm,0.9s,baz=132,slow=5.0,SNR=3.6
comp=Z,1.4nm,0.6s
GTA Gaotai 48.02 312 *e*P **P 06 50 27.5 +0.8**
GTA sP pwP 06 50 40.2 +0.2
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA LR LR
comp=Z,340nm,19.1s
GTA LR LR
comp=Z,170nm,20.3s
GTA LR LR
comp=Z,220nm,21.1s
MORW Morawa 49.74 214 P **P 06 50 39.4 -0.4**
MORW IAmb IAmb 06 51 09.1
comp=Z,38nm,1.2s
ADK Adak 50.09 30 P **P 06 50 41.9 -0.2**
SEY Seymchan 50.77 4 LR LR 07 12 21.7
comp=Z,176nm,19.9s,baz=185,slow=36
YAK Yakutsk 50.79 351 LR LR 07 12 06.1
comp=Z,339nm,18.5s,baz=166,slow=36
ATKA Atka Island 51.52 31 P **P 06 50 53.0 +0.1**
SHL Shillong 51.53 293 P **P 06 50 53.6 -0.1**
BRDH Bariadhala 51.59 289 LR LR 07 13 49.6
comp=Z,152nm,19.0s,baz=120,slow=37
NWAO Narrogin (SRO) 52.22 210 P **P 06 50 57.5 -0.9**
NWAO PcP **PcP 06 52 09.7 -0.1**
LSA Lhasa 52.60 298 **P 06 51 00.2 -1.7**
LSA Lhasa 52.60 298 P **P 06 51 00.8 -1.1**
LSA pmax pmax
comp=Z,14nm,0.7s
NIUE Niue 54.37 124 *e*S **S 06 58 51.7 -0.5**
comp=Z,147nm,22.6s
NIUE *e*LR LR 07 06 49.4
comp=Z,362nm,32.9s
RAO Raoul Island 54.76 140 LR LR 07 11 52.8
comp=Z,339nm,20.1s,baz=5.5,slow=33
EVN Everest 56.22 295 **P 06 51 27.1 -1.4**
EVN IAmb IAmb 06 52 03.2
comp=Z,13nm,1.0s
POHA Pohakuloa 57.46 74 *e*S **S 06 59 31.5 -2.4**
comp=Z,7.8nm,25.4s
POHA *e*SS **SS 07 03 27.6 +3.7**
comp=Z,2.4nm,24.4s
POHA *e*LR LR 07 08 27.0
comp=Z,30nm,22.9s
XMAS Kiritimati 57.98 95 *e*S **S 06 59 39.5 -0.9**
comp=Z,9.4nm,27.0s
XMAS *e*LR LR 07 08 31.2
comp=Z,38nm,25.0s
WMQ Urumqi 58.01 314 *e*P P 06 51 45.9 +5.6
WMQ pmax pmax
comp=Z,47nm,0.7s
WMQ LR LR
comp=Z,530nm,14.1s
WMQ LR LR
comp=Z,240nm,19.1s
QRZ Quartz Range 58.77 156 P **P 06 51 46.6 +1.3**
TKNZ Takaka Hill 59.12 156 P **P 06 51 47.7 -0.1**
TCW Tory Channel 59.81 155 P **P 06 51 53.0 +0.5**
SNZO South Karori 60.07 154 *e*LR LR 07 09 38.3
comp=Z,12nm,21.0s
ZSN Zaisan 60.83 318 *e*P **P 06 52 00.5 +0.9**
MKAR Makanchi Array 62.40 316 P **P 06 52 10.6 +0.3**
comp=Z,1.6nm,0.5s,baz=95,slow=8.6,SNR=21
comp=Z,1.6nm,0.5s
MAKZ Makanchi 62.61 316 P **P 06 52 11.6 -0.1**
MAKZ IAmb IAmb 06 53 09.8
comp=Z,9.6nm,1.1s
ZAA0 Zalesovo Array 62.64 325 P **P 06 52 10.8 -0.8**
ZALV Zalesovo Beam 62.64 325 P **P 06 52 10.9 -0.8**
ZALV Zalesovo Beam 62.64 325 P **P 06 52 11.8 +0.1**
comp=Z,0.8nm,0.5s,baz=120,slow=5.6,SNR=4.4
ZALV PcP **PcP 06 52 50.9 +0.5**
comp=Z,4.8nm,0.8s,baz=113,slow=4.7,SNR=8.7
comp=Z,0.8nm,0.5s
F15K North Star Dit 63.18 21 P **P 06 52 17.1 +2.1**
I17K Unalakleet 63.73 24 P **P 06 52 19.0 +0.4**
RAR Rarotonga 63.75 121 *e*LR LR 07 10 54.3
comp=Z,237nm,22.0s
RAR Rarotonga 63.75 121 LR LR 07 16 42.4
comp=Z,258nm,18.1s,baz=286,slow=33
M17K Holitna River 64.02 27 P **P 06 52 20.7 +0.1**
HYB Hyderabad 64.06 283 *e*P **P 06 52 21.4 -0.4**
HYB *e*PcP **PcP 06 52 56.5 -0.5**
HYB *e*S **S 07 00 58.3 +0.3**
UZB Uzynbulak 64.08 312 *e*P **P 06 52 22.1 +0.5**
comp=Z,5.2nm,1.3s
K17K Iditarod 64.18 25 **P 06 52 22.1 +0.4**
SATY Saty 64.52 312 *e*P **P 06 52 25.3 +0.8**
L18K Granite Mounta 64.67 26 P **P 06 52 25.3 +0.4**
TDK Taldyqorghan 64.77 314 *e*P **P 06 52 26.9 +1.1**
comp=Z,5.4nm,0.5s
KDAK Kodiak Island 65.08 32 P **P 06 52 28.8 +1.2**
H18K Honhosa River 65.20 23 P **P 06 52 29.6 +1.3**
MDOK Medeo 65.52 312 *e*P **P 06 52 31.6 +0.6**
TNSS Tian-Shan 65.58 312 *e*P **P 06 52 32.0 +0.4**
KURBB Kurchatov Arra 65.58 320 P **P 06 52 30.8 -0.2**
comp=Z,4.8nm,0.8s,baz=103,slow=6.6,SNR=28
comp=Z,4.8nm,0.8s
AAA Alma-Ata 65.62 312 *e*P **P 06 52 32.3 +0.8**
KSH Kashi 66.02 308 P **P 06 52 37.4 +3.2**
KSH sP pwP 06 52 48.0 +0.4
KSH pmax pmax
comp=Z,11nm,0.9s
K20K Telida 66.21 26 P **P 06 52 35.3 +0.4**
J20K Nowinta River 66.47 25 P **P 06 52 36.9 +0.3**
SKT Skwentna 66.86 27 P **P 06 52 39.4 +0.4**
SKT IAmb IAmb 06 54 18.0
comp=Z,30nm,1.6s
CAST Castle Rocks 67.07 26 **P 06 52 40.9 +0.5**
CAST IAmb IAmb 06 52 56.1
comp=Z,16nm,1.1s
IMAR Indian Mountai 67.30 23 P **P 06 52 43.0 +1.3**
KTH Kantishna Hill 67.61 26 P **P 06 52 44.4 +0.6**
PMR Palmer 67.84 28 P **P 06 52 46.8 +1.6**
BTLS Baital 67.85 314 *e*P **P 06 52 46.2 +0.6**
GHO Glory Hole Cre 67.98 28 P **P 06 52 47.0 +0.7**
PWL Port Wells 68.02 29 P **P 06 52 46.2 -0.2**
NIL Nilore 68.05 301 **P 06 52 46.9 -0.3**
ARSB Arslanbob 68.39 310 **P 06 52 49.3 0.0**
SCM Sheep Creek Mo 68.73 28 P **P 06 52 51.8 +0.9**
D22K Ayikyak River 68.75 20 P **P 06 52 51.2 +0.4**
IL31 69.65 25 P **P 06 52 56.9 +0.5**
IL31 IAmb IAmb 06 53 10.7
comp=Z,15nm,1.2s
ILAR Eielson Array 69.65 25 **P 06 52 57.1 +0.7**
ILAR Eielson Array 69.65 25 P **P 06 52 56.8 +0.3**
comp=Z,2.3nm,0.6s,baz=253,slow=5.6,SNR=29
ILAR LR LR 07 21 49.4
comp=Z,155nm,20.8s,baz=250,slow=34
comp=Z,2.3nm,0.6s
DZA Taraz 69.68 311 *e*P **P 06 52 57.8 +0.6**
comp=Z,5.1nm,0.6s
TOLK Toolik Lake Re 69.74 21 P **P 06 52 57.9 +0.9**
BMRM Bremner River 69.82 29 P **P 06 52 57.7 +0.1**
G24K Hadweenzic Riv 69.92 23 P **P 06 52 59.3 +1.1**
G24K IAmb IAmb 06 53 43.0
comp=Z,18nm,1.3s
J25K Salcha River, 70.25 25 P **P 06 53 01.4 +1.2**
J25K IAmb IAmb 06 53 35.0
comp=Z,34nm,1.9s

KK31 Karatay Array 70.29 311 P **P 06 53 01.5 +0.6**
KKAR Karatay Array 70.29 311 P **P 06 53 01.1 +0.3**
DOT Dot Lake 70.60 27 IAmb IAmb 06 53 09.6
comp=Z,9.0nm,0.8s
IUG Iuzhnay 70.62 310 *e*P **P 06 53 03.9 +0.9**
SCRK Sand Creek 70.70 26 P **P 06 53 03.9 +0.8**
SCRK IAmb IAmb 06 53 25.1
comp=Z,14nm,1.3s
BRLS Borolday 70.78 311 *e*P **P 06 53 05.4 +1.5**
L26K Log Cabin Wild 70.79 27 P **P 06 53 04.8 +1.3**
L26K IAmb IAmb 06 53 48.9
comp=Z,16nm,1.4s
BVAR Borovoye Array 70.91 322 P **P 06 53 04.8 +0.4**
comp=Z,3.1nm,0.6s,baz=102,slow=6.8,SNR=17
comp=Z,3.1nm,0.6s
CHM Chimkent 70.94 311 *e*P **P 06 53 05.8 +0.9**
PPT Papeete 71.18 113 LR LR 07 18 48.6
comp=Z,322nm,19.8s,baz=298,slow=31
PPT2 Papeete2 71.19 114 *e*LR LR 07 14 18.2
comp=Z,338nm,30.2s
PPT2 *e*LR LR 07 14 41.1
comp=Z,250nm,21.0s
BMAR Burnt Mountain 71.21 23 P **P 06 53 07.4 +1.4**
CHGR Chuyangaron 71.30 307 **P 06 53 07.4 +0.2**
SIMJ Simiganj 71.42 307 **P 06 53 08.4 +0.5**
SIMJ IAmb IAmb 06 53 09.9
comp=Z,18nm,0.8s
L27K Beaver Creek, 71.48 27 P **P 06 53 07.5 -0.2**
L27K IAmb IAmb 06 54 16.2
comp=Z,21nm,1.7s
KBL Kabul 71.52 302 **P 06 53 09.0 +0.3**
KBL IAmb IAmb 06 53 10.9
comp=Z,19nm,1.1s
DAWY Dawson 72.71 27 P **P 06 53 15.7 +0.6**
DAWY IAmb IAmb 06 54 00.8
comp=Z,18nm,1.4s
HYT Haines Junctio 73.24 30 **P 06 53 18.9 +0.6**
HYT IAmb IAmb 06 53 35.4
comp=Z,14nm,1.0s
TBI Tubuai 73.33 119 *e*S **S 07 02 48.5 +0.8**
comp=Z,617nm,26.0s
TBI Tubuai 73.33 119 *e*LR LR 07 15 18.4
comp=Z,1μm,31.2s
TBI *e*LR LR 07 15 29.4
comp=Z,778nm,32.5s
K29M Barlow Dome 73.50 27 IAmb IAmb 06 53 36.0
comp=Z,18nm,1.2s
J30M Hart River 74.09 26 IAmb IAmb 06 54 09.9
comp=Z,44nm,1.8s
I30M Mount Dempster 74.12 25 P **P 06 53 23.9 +0.4**
SKAG Skagway 74.24 31 P **P 06 53 25.1 +1.0**
SKAG IAmb IAmb 06 53 26.8
comp=Z,13nm,1.0s
G30M tAoh Zraii Nji 74.34 24 **P 06 53 24.6 0.0**
G30M IAmb IAmb 06 53 40.5
comp=Z,31nm,1.3s
H31M Peel River 75.01 25 **P 06 53 29.5 +1.0**
H31M IAmb IAmb 06 54 09.0
comp=Z,25nm,1.3s
INK Inuvik 75.47 22 P **P 06 53 32.2 +1.2**
INK IAmb IAmb 06 53 45.9
comp=Z,16nm,1.1s
DIB Dawson Inlet, 75.78 38 P **P 06 53 32.8 -0.2**
MMPY Sheldon Lake, 76.28 28 P **P 06 53 36.0 +0.2**
DLBC Dease Lake 76.98 33 LR LR 07 24 29.0
comp=Z,1μm,19.9s,baz=252,slow=33
TAOE Nuku Hiva Isla 77.39 102 *e*S **S 07 03 29.8 -3.5**
comp=Z,76nm,25.9s
TAOE Nuku Hiva Isla 77.39 102 *e*LR LR 07 17 22.7
comp=Z,202nm,21.8s
AB31 Akbulak array 77.47 318 P **P 06 53 42.7 0.0**
ABKAR Akbulak array 77.47 318 **P 06 53 42.7 -0.1**
BBB Bella Bella 78.50 39 P **P 06 53 49.0 +0.6**
OZB Mount Ozzard 80.53 42 P **P 06 54 00.3 +0.7**
WISH Wishkah 81.95 44 P **P 06 54 07.5 +0.4**
RADR Rader Ridge 82.04 44 P **P 06 54 07.7 +0.1**
E03A Lebam 82.18 44 **P 06 54 08.3 0.0**
E03A IAmb IAmb 06 54 34.5
comp=Z,26nm,1.1s
KIRV Kirov 82.40 328 LR LR 07 32 57.3
comp=Z,187nm,18.1s,baz=76,slow=37
CASY Casey 82.43 193 *e*LR LR 07 20 03.6
comp=Z,166nm,25.0s
GNW Green Mountain 82.50 43 P **P 06 54 10.4 +0.4**
GNW IAmb IAmb 06 54 28.7
comp=Z,20nm,1.3s
H04A Detroit Lake 83.46 46 IAmb IAmb 06 54 50.3
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 83.64 49 LR LR 07 26 10.9
comp=Z,9.1nm,19.2s,baz=274,slow=32
YKA Yellowknife Ar 83.92 27 P **P 06 54 19.4 +2.5**
comp=Z,2.9nm,0.9s,baz=296,slow=6.5,SNR=5.6
YKA LR LR 07 33 24.0
comp=Z,98nm,18.8s,baz=288,slow=37
comp=Z,2.9nm,0.9s
LTY Liberty 84.00 43 IAmb IAmb 06 54 35.1
comp=Z,9.3nm,0.9s
J05D Fort Rock, OR 84.41 47 IAmb IAmb 06 54 38.2
comp=Z,7.7nm,0.8s
PINE Pine Mountain 84.52 47 P **P 06 54 21.0 +0.3**
PINE IAmb IAmb 06 54 41.0
comp=Z,13nm,0.7s
O03E Paynes Creek 84.59 50 P **P 06 54 21.4 +0.4**
O03E IAmb IAmb 06 54 42.4
comp=Z,14nm,1.1s
E07A Sunnyside 84.69 44 P **P 06 54 21.2 -0.1**
E07A IAmb IAmb 06 54 42.6
comp=Z,9.5nm,0.9s
WAH2 Wahluke Slope 84.84 43 IAmb IAmb 06 54 39.6
comp=Z,12nm,0.8s
D08A Wollman Farm, 85.21 43 **P 06 54 24.8 +0.9**
D08A IAmb IAmb 06 55 14.2
comp=Z,35nm,2.0s
SPITS Spitsbergen Ar 85.26 351 P **P 06 54 23.5 0.0**
comp=Z,11nm,1.0s,baz=56,slow=5.4,SNR=4.8
SPITS LR LR 07 34 04.0
comp=Z,114nm,19.2s,baz=38,slow=37
comp=Z,11nm,1.0s
G08A Pilot Rock 85.58 45 **P 06 54 26.5 +0.6**
RES Resolute Bay 85.72 13 P **P 06 54 26.1 +0.2**
NEW Newport 86.11 42 IAmb IAmb 06 54 33.5
comp=Z,14nm,0.9s
J08A Circle Bar Ran 86.36 47 P **P 06 54 30.4 +0.6**
BUCR Buckhorn Ranch 86.40 52 P **P 06 54 29.6 -0.6**
WVOR Wild Horse Val 86.46 47 P **P 06 54 30.8 +0.4**
WVOR IAmb IAmb 06 54 55.6
comp=Z,34nm,1.9s
BMO Blue Mountains 86.82 45 IAmb IAmb 06 54 49.6
comp=Z,10.0nm,0.9s
LHV Little Huntoon 87.54 52 P **P 06 54 36.1 +0.6**
LHV IAmb IAmb 06 55 04.0
comp=Z,16nm,1.4s
NVAR Mina Array Bea 87.65 51 P **P 06 54 39.9 +3.5**
comp=Z,1.6nm,0.7s,baz=260,slow=6.0,SNR=10.0
comp=Z,1.6nm,0.7s
PLID Pearl Lake 87.66 44 **P 06 54 36.5 +0.2**
PLID IAmb IAmb 06 54 54.8
comp=Z,7.9nm,0.9s
DSP Deep Springs 88.16 52 IAmb IAmb 06 55 24.5
comp=Z,9.3nm,1.3s
ARCES ARCESS Array B 88.26 342 P **P 06 54 38.9 +0.6**
comp=Z,2.9nm,0.7s,baz=69,slow=6.9,SNR=9.5
comp=Z,2.9nm,0.7s
TPH Tonopah 88.56 51 **P 06 54 40.4 -0.2**
TPH IAmb IAmb 06 54 58.6
comp=Z,8.6nm,0.9s
CLC China Lake 88.83 54 IAmb IAmb 06 54 59.9
comp=Z,7.6nm,1.0s
LRMC Laurel Mtn Rad 88.84 54 IAmb IAmb 06 55 00.1
comp=Z,8.6nm,1.0s
MPMC Manual Prospec 88.85 53 IAmb IAmb 06 55 00.2
comp=Z,9.3nm,1.0s
WSHM Spangler Hills 88.96 54 P **P 06 54 43.0 +0.6**
WSHM IAmb IAmb 06 55 00.5
comp=Z,6.7nm,0.6s
BPMT Black Pine Rid 89.01 43 P **P 06 54 42.5 -0.2**
HLID Hailey 89.17 46 IAmb IAmb 06 55 01.7
comp=Z,6.9nm,0.9s
FURC Furnace Creek, 89.24 53 IAmb IAmb 06 55 01.9
comp=Z,18nm,1.1s
WCT Wildcat Mounta 89.34 53 P **P 06 54 44.7 +0.5**
WCT IAmb IAmb 06 55 02.3
comp=Z,9.9nm,1.0s
ELK Elko 89.35 48 P **P 06 54 43.7 -0.7**
ELK IAmb IAmb 06 55 02.9
comp=Z,12nm,1.0s

QSM Queen of Sheba 89.36 53 IAmb IAmb 06 55 02.3
comp=Z,10nm,1.0s
GWY Greenwater Val 89.46 53 IAmb IAmb 06 55 02.9
comp=Z,8.4nm,1.0s
GSC Goldstone, Bar 89.58 54 IAmb IAmb 06 55 03.5
comp=Z,9.5nm,1.1s
TPNV Topopah Spring 89.59 52 IAmb IAmb 06 55 03.6
comp=Z,12nm,1.2s
SHOC Shoshone, Teco 89.85 53 IAmb IAmb 06 55 04.6
comp=Z,13nm,0.9s
LRM Limekiln Ridge 89.85 43 P **P 06 54 46.6 0.0**
MCMT McKenzie Canyo 89.88 44 P **P 06 54 47.5 +0.7**
KBZ Khabaz 90.05 315 P **P 06 54 50.9 +3.6**
comp=Z,1.8nm,0.7s,baz=226,slow=5.8,SNR=4.6
OBN Obninsk 90.15 327 LR LR 07 37 23.5
comp=Z,214nm,18.2s,baz=137,slow=37
VNDA Vanda 90.25 176 LR LR 07 34 16.7
comp=Z,50nm,19.6s,baz=352,slow=35
PFO Pinyon Flats O 90.29 56 P **P 06 54 49.0 +0.3**
PMD Palm Desert 90.35 56 P **P 06 54 49.6 +0.7**
PMD IAmb IAmb 06 55 37.5
comp=Z,9.4nm,1.2s
SPR3 Spring Creek 3 90.50 50 P **P 06 54 49.6 -0.3**
SPR3 IAmb IAmb 06 55 08.1
comp=Z,11nm,1.2s
SHPR Sheep Range 90.55 53 P **P 06 54 50.7 +0.7**
BELC Belle Mtn. Jos 90.56 55 P **P 06 54 49.1 -0.9**
BELC IAmb IAmb 06 56 13.3
comp=Z,7.7nm,0.8s
HVU Hansel Valley 90.84 47 P **P 06 54 51.7 +0.6**
HVU IAmb IAmb 06 55 16.9
comp=Z,11nm,1.2s
QLMT Earthquake Lak 90.84 44 P **P 06 54 52.5 +1.4**
PSUT Pine Spring 90.99 50 IAmb IAmb 06 55 10.0
comp=Z,6.7nm,0.9s
YHL Hebgen Lake 91.00 44 P **P 06 54 52.6 +0.5**
YHL IAmb IAmb 06 55 19.3
comp=Z,18nm,1.3s
YHH Holmes Hill 91.24 44 P **P 06 54 52.5 -0.7**
HWUT Hardware Ranch 91.75 47 IAmb IAmb 06 55 33.8
comp=Z,19nm,1.4s
W13A Hualapai Mount 91.94 54 P **P 06 54 56.6 +0.1**
RLMT Red Lodge 92.19 43 P **P 06 54 56.8 -0.7**
KNB Kanab 92.21 52 P **P 06 54 57.2 -0.5**
KNB IAmb IAmb 06 55 16.3
comp=Z,12nm,1.1s
FINES FINESS Array B 92.28 335 P **P 06 54 56.5 -0.7**
FINES FINESS Array B 92.28 335 P **P 06 54 56.6 -0.6**
comp=Z,2.6nm,0.7s,baz=67,slow=5.0,SNR=9.8
FINES LR LR 07 39 09.3
comp=Z,123nm,19.2s,baz=44,slow=37
comp=Z,2.6nm,0.7s
PDAR Pinedale Array 92.79 45 P **P 06 55 02.6 +2.3**
comp=Z,0.7nm,0.8s,baz=280,slow=7.9,SNR=4.9
comp=Z,0.7nm,0.8s
WUAZ Wupatki 93.78 53 IAmb IAmb 06 55 23.9
comp=Z,5.6nm,0.9s
PV19 Morning Glory 94.69 49 P **P 06 55 08.8 -0.3**
PV19 IAmb IAmb 06 55 26.9
comp=Z,10nm,0.9s
PV20 West Nyswonger 94.70 49 P **P 06 55 09.4 +0.3**
PV20 IAmb IAmb 06 55 26.9
comp=Z,9.1nm,1.0s
PV02 Paradox Valley 94.91 49 P **P 06 55 10.7 +0.6**
PV02 IAmb IAmb 06 55 27.7
comp=Z,6.9nm,0.9s
AKASG Malin Array Be 96.04 325 LR LR 07 39 42.7
comp=Z,123nm,21.5s,baz=56,slow=36
BRTR Keskin Array B 97.93 313 P **P 06 55 23.6 -0.1**
comp=Z,0.5nm,0.8s,baz=90,slow=5.8,SNR=1.9
comp=Z,0.5nm,0.8s
HFS Hagfors 97.94 338 P **P 06 55 22.4 -0.6**
comp=Z,0.8nm,0.5s,baz=57,slow=5.3,SNR=4.6
HFS LR LR 07 43 04.0
comp=Z,106nm,18.6s,baz=40,slow=38
comp=Z,0.8nm,0.5s
NOA NORSAR Array B 98.20 339 LR LR 07 43 45.2
comp=Z,90nm,18.8s,baz=30,slow=38
ULM Lac du Bonnet 98.22 34 LR LR 07 38 06.1
comp=Z,146nm,19.4s,baz=285,slow=34
MAW Mawson 98.32 203 LR LR 07 35 56.0
comp=Z,103nm,21.6s,baz=60,slow=33
MMAI Mount Meron Ar 99.14 307 LR LR 07 43 36.4
comp=Z,47nm,21.8s,baz=35,slow=38
FRB Frobisher Bay 99.90 14 LR LR 07 41 07.5
comp=Z,62nm,20.9s,baz=310,slow=36
SNAA Sanae 117.60 191 PKP **PKiKP 07 00 34.2 +1.4**
comp=Z,0.7nm,0.9s,baz=292,slow=5.4,SNR=2.2
PMSA Palmer Station 123.96 166 *e*LR LR 07 39 14.8
comp=Z,48nm,24.0s
TORD Torodi Ar. Bea 135.58 304 PKP **PKiKP 07 01 09.9 -0.2**
comp=Z,0.8nm,0.9s,baz=44,slow=1.0,SNR=4.0
TORD SKP 07 04 45.3
comp=Z,1.3nm,1.2s,baz=22,slow=4.7,SNR=4.0
DBIC Dimbokro 144.49 301 PKP **PKPdf 07 01 24.3 -0.4**
comp=Z,17nm,1.0s,baz=84,slow=3.7,SNR=9.0
LPAZ La Paz 147.77 101 PKPdc **PKiKP 07 01 36.9 +1.1**
comp=Z,2.2nm,0.7s,baz=260,slow=3.3,SNR=9.9
CPUP Villa Florida 154.89 127 PKPab **PKPab 07 02 05.5 +0.8**
comp=Z,0.4nm,0.7s,baz=243,slow=4.5,SNR=3.7

IDC ***02*** *06:44:25.5±4.8, 15°.29S×167°.50E, h120km±38km, mb3.8/6, mbtmp4.2/7, Error ellipse: s-maj=35.5km s-min=26.3km az=52.0*
NEIC ***02*** *06:44:25.7±2.0, 15°.3S±0°.1×167°.62E±0°.04, h118km±5km, mb4.4/12, Error ellipse: s-maj=16.7km s-min=5.1km az=170.0*
NOU ***02*** *06:44:27.7, 15°.38S×167°.49E, h100km, MLv4.6/16, Vanuatu Islands*

ISC 02 06:44:25.6±0.6, 15°.30S±0°.06×167°.60E±0°.09, h124km, n42, σ0°.96/46, mb4.3/10, 3C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.41**	**249**			**Pn**	**06 44 42.6**	**-0.9**
SANVU				Sn		**Sn**	**06 44 56.1**	**-0.8**
SANVU	**Saraoutou**	**0.41**	**249**	P		**Pn**	**06 44 42.6**	**-0.9**
SANVU	**Saraoutou**	**0.41**	**249**	S		**Sn**	**06 44 55.9**	**-1.1**
DVP	**Devils Point**	**2.48**	**167**	P		**Pn**	**06 45 05.0**	**-0.2**
DVP	**Devils Point**	**2.48**	**167**	S		**Sn**	**06 45 35.2**	**-0.5**
LUES	**Luesalemba Tem**	**4.90**	**340**	P		**Pn**	**06 45 40.0**	**+2.7**
DZM	**Mont Dzumac**	**6.82**	**189**			**Pn**	**06 46 02.9**	**-0.4**
DZM				Sn		**Sn**	**06 47 17.9**	**-1.6**
DZM	**Mont Dzumac**	**6.82**	**189**	P		**Pn**	**06 46 03.1**	**-0.2**
	17nm,0.3s,baz=21,slow=18,SNR=73							
DZM				S		**Sn**	**06 47 19.9**	**+0.3**
	39nm,0.7s,baz=313,slow=23,SNR=10							
DZM	**Mont Dzumac**	**6.82**	**189**	P		**Pn**	**06 46 02.8**	**-0.4**
DZM	**Mont Dzumac**	**6.82**	**189**	S		**Sn**	**06 47 20.0**	**+0.4**
ONTNC	**Ouen Toro**	**7.05**	**189**			**Pn**	**06 46 08.0**	**+1.8**
ONTNC				Sn		**Sn**	**06 47 24.6**	**-0.4**
ONTNC	**Ouen Toro**	**7.05**	**189**	P		**Pn**	**06 46 08.2**	**+1.9**
ONTNC	**Ouen Toro**	**7.05**	**189**	S		**Sn**	**06 47 24.4**	**-0.6**
OUENC	**Ouen Island, N**	**7.12**	**186**	P		**Pn**	**06 46 08.9**	**+1.8**
OUENC	**Ouen Island, N**	**7.12**	**186**	S		**Sn**	**06 47 27.2**	**+0.7**
PINNC	**Pines Island,**	**7.27**	**181**	Pn		**Pn**	**06 46 09.8**	**+0.6**
PINNC				Sn		**Sn**	**06 47 30.2**	**-0.1**
NGOA	**Tingoa Renbel**	**8.22**	**296**	P		**Pn**	**06 46 23.5**	**+1.4**
FUNA	**Funafuti**	**13.19**	**61**	Pn		**Pn**	**06 47 27.6**	**-0.7**
EIDS	**Eidsvold**	**18.43**	**234**	P		**Pn**	**06 48 33.3**	**+0.2**
EIDS				IAmb		IAmb	06 48 34.0	
	comp=Z,11nm,0.7s							
COEN	**Coen**	**23.67**	**270**	P		**P**	**06 49 26.4**	**+0.3**
COEN				IAmb		IAmb	06 50 06.2	
	comp=Z,25nm,1.4s							
WB0	**Warramunga Arr**	**31.94**	**257**	P		**P**	**06 50 38.9**	**-1.0**
WB0				IAmb		IAmb	06 50 52.2	
	comp=Z,13nm,1.3s							
WRA	**Warramunga Arr**	**32.00**	**257**	P		**P**	**06 50 40.2**	**-0.1**
WRA	**Warramunga Arr**	**32.00**	**257**	P		**P**	**06 50 39.7**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=85,slow=8.7,SNR=3.5							
	comp=Z,0.9nm,0.5s							
AS31	**Alice Springs**	**32.77**	**250**	P		**P**	**06 50 45.8**	**-1.3**
ASAR	**Alice Springs**	**32.77**	**250**	P		**P**	**06 50 46.5**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=76,slow=9.1,SNR=18							
	comp=Z,1.9nm,0.4s							
FITZ	**Fitzroy Crossi**	**40.23**	**260**	P		**P**	**06 51 50.5**	**+0.1**
VNDA	**Vanda**	**62.30**	**181**	P		**P**	**06 54 34.7**	**+0.6**
VNDA				IAmb		IAmb	06 55 06.4	
	comp=Z,4.6nm,1.4s							
VNDA	**Vanda**	**62.30**	**181**	P		**P**	**06 54 33.6**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=338,slow=7.6,SNR=6.5							
	comp=Z,1.1nm,0.7s							
SBA	**Scott Base**	**62.57**	**180**	P		**P**	**06 54 36.4**	**+0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CASY	Casey	63.12	202	P	P	06 54 38.8	-0.9
QSPA	South Pole Qui	74.73	180	P	P	06 55 53.2	+1.5
QSPA				IAmb	IAmb	06 55 54.8	
	comp=Z,5.0nm,0.8s						
QSPA	South Pole Qui	74.73	180	P	P	06 55 52.8	+1.1
	comp=Z,5.1nm,0.9s,baz=358,slow=2.9,SNR=29						
	comp=Z,5.1nm,0.9s						
BELA	Belgrano 2	86.13	175	P	P	06 56 51.8	-0.5
BELA				IAmb	IAmb	06 56 52.4	
	comp=Z,3.6nm,0.8s						
ILAR	Eielson Array	86.97	18	P	P	06 56 56.6	+0.2
	comp=Z,0.4nm,0.7s,baz=225,slow=5.0,SNR=2.8						
	comp=Z,0.4nm,0.7s						
SYO	Syowa Base	88.25	197	⇓ePP	PP	07 00 31.0	+0.1
TROLL	Troll, Antarti	92.32	185	⇑P	P	06 57 21.6	-0.1
	comp=Z,273nm,0.6s						
SNAA	Sanae	93.00	183	⇑P	P	06 57 24.1	-0.6
	comp=Z,54nm,0.7s						
SNAA	Sanae	93.00	183	P	P	06 57 24.2	-0.5
SNAA	Sanae	93.00	183	P	P	06 57 24.3	-0.5
	comp=Z,1.5nm,0.6s,baz=190,slow=11,SNR=42						
	comp=Z,1.5nm,0.6s						
VNA3	Neumayer Olymp	93.65	181	⇑P	P	06 57 26.9	-0.8
	comp=Z,5.8nm,0.6s						
ARCES	ARCESS Array B	120.88	345	PKP	PKPdf	07 03 03.1	+0.5
	comp=Z,0.7nm,0.5s,baz=63,slow=2.2,SNR=7.8						
SENIN	Lac Senin/Sane	144.92	336	PKPbc	PKPdf	07 03 49.3	+0.9

*BJI **02** 06:48:21.5, 12.°22N×144.°86E, h16km, mB4.9/7, mb4.6/26, Ms4.7/10, Ms7 4.4/11*

*IDC **02** 06:48:22.4±0.6, 12.°38N×144.°46E, h0km, mb4.3/18, mbtmp4.3/18, Error ellipse: s-maj=22.8km s-min=13.4km az=94.0*

*NEIC **02** 06:48:24.5±1.2, 12.°37N±0.°08×144.°7E±0.°1, h10km±1km, mb4.8/143, Error ellipse: s-maj=19.7km s-min=12.8km az=102.0*

*GCMT **02** 06:48:28.5±0.3, 12.°29N±0.°02×144.°64E±0.°03, h18km±2km, MW4.8/80, Moment Tensor Solution. s6,c6; s80,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.58±.14; $M_{\theta\theta}$1.55±.10; $M_{\phi\phi}$-0.96±.08; $M_{r\theta}$0.42±.18; $M_{\theta\phi}$0.69±.06; $M_{\phi r}$1.14±.28; Best double couple: $M_0$1.94600×10^{16} NP1:ϕ_s115.00000°,δ49.00000°,λ-18.00000°. NP2: ϕ_s217.00000°,δ77.00000°,λ-138.00000°. Principal axes: T 1.9410, Plg17.0000°, Azm340.0000°; N 0.0100, Plg46.0000°, Azm231.0000°; P -1.9510, Plg39.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 06:48:26.4±0.4**, 12.°34N**±0.°06×**144.°70E**±0.°08**, h30km, n179, σ1.s11**/167**, mb4.8**/96**, MS4.5**/6**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.26	7	Pn	Pn	06 48 47.7	-0.3
	319nm,0.3s,baz=156,slow=2.6,SNR=61						
GUMO				Sn	Sb	06 49 04.5	-0.9
	585nm,0.3s,baz=186,slow=22,SNR=9.4						
JOW	Kunigami	21.12	315	P	P	06 53 08.4	-0.4
PMG	Port Moresby	21.74	173	P	P	06 53 17.4	+1.9
	14nm,0.8s,baz=342,slow=9.7,SNR=3.1						
	14nm,0.8s						
H11S3	WAKE ISLAND Hy	22.05	71	T	T	07 16 44.2	
	baz=253						
H11S1	WAKE ISLAND Hy	22.07	71	T	T	07 16 31.6	
	baz=253						
H11S2	WAKE ISLAND Hy	22.07	71	T	T	07 16 40.4	
	baz=253						
H11N1	WAKE ISLAND Hy	22.54	68	T	T	07 17 05.0	
	baz=254,slow=75						
H11N2	WAKE ISLAND Hy	22.55	68	T	T	07 17 06.8	
	baz=254,slow=75						
H11N3	WAKE ISLAND Hy	22.55	68	T	T	07 17 05.3	
	baz=254,slow=75						
INU	Inuyama	23.95	344	P	P	06 53 36.7	-1.3
JGF	Kuroka	24.10	345	P	P	06 53 38.5	-1.0
JNU	Nakatsue	24.25	331	P	P	06 53 40.9	-0.1
JNU	Nakatsue	24.25	331	P	P	06 53 39.9	-1.0
	6.0nm,0.7s,baz=96,slow=4.2,SNR=4.5						
	6.0nm,0.7s						
TWG	Pinlang	24.79	298	P	P	06 53 44.5	-1.4
TWG				IAmb	IAmb	06 53 55.2	
	comp=Z,20nm,1.1s						
MJAR	Matsushiro Arr	24.80	347		P	06 53 45.8	-0.1
MJAR	Matsushiro Arr	24.80	347	P	P	06 53 44.8	-1.1
	comp=Z,2.7nm,0.5s,baz=167,slow=8.7,SNR=7.5						
	comp=Z,2.7nm,0.5s						
MAJO	Matsushiro	24.80	347		P	06 53 45.0	-1.0
MJB9	Matsu-Tunnel	24.81	347	P	P	06 53 44.5	-1.5
NACB	Ninganchiao	24.86	301	P	P	06 53 46.6	0.0
NACB				IAmb	IAmb	06 54 06.4	
	comp=Z,14nm,0.7s						
SSLB	Suanglung	25.24	300		P	06 53 49.6	-0.4
TPUB	Ta-pu	25.34	299	P	P	06 53 49.7	-1.2
TPUB				IAmb	IAmb	06 54 09.1	
	comp=Z,27nm,1.0s						
COEN	Coen	26.17	183	P	P	06 53 59.1	+0.7
TOLI2	Tolitoli	26.21	247	P	P	06 53 58.6	-0.3
MTN	Manton Dam	28.41	209		P	06 54 18.6	+0.1
MTN				IAmb	IAmb	06 54 20.1	
	comp=Z,18nm,0.9s						
KSRS	Korea Array	29.18	332	P	P	06 54 24.3	-0.9
	comp=Z,0.8nm,0.4s,baz=142,slow=9.5,SNR=4.1						
KSRS				PcP	PcP	06 57 33.9	+1.7
	comp=Z,0.5nm,0.3s,baz=155,slow=3.6,SNR=4.9						
	comp=Z,0.8nm,0.4s						
KSAR	Wonju Array Be	29.19	332	P	P	06 54 24.6	-0.6
NJ2	Nanjing	30.81	314	eP	P	06 54 41.3	+1.6
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KNRA	Kununurra	31.99	210		P	06 54 51.0	+0.8
WB0	Warramunga Arr	33.48	198	P	P	06 55 03.5	+0.3
WR8	Warramunga Arr	33.62	198	P	P	06 55 04.2	-0.3
WR8				IAmb	IAmb	06 55 05.7	
	comp=Z,20nm,1.1s						
SBUM	Sibu	33.63	256	P	P	06 55 04.1	-0.6
WRAB	Tennant Creek	33.65	198	P	P	06 55 04.0	-0.6
WRAB				IAmb	IAmb	06 55 06.4	
	comp=Z,15nm,0.8s						
WRA	Warramunga Arr	33.66	198		P	06 55 03.7	-1.1
WRA	Warramunga Arr	33.66	198	P	P	06 55 04.3	-0.5
	comp=Z,14nm,0.9s,baz=19,slow=9.5,SNR=42						
	comp=Z,14nm,0.9s						
QIZ	Qiongzhong	34.17	286	P	P	06 55 08.6	-0.7
QIZ				S	S	07 00 35.7	+1.6
QIZ				LR	LR		
	comp=Z,580nm,10.8s						
QIZ				LR	LR		
	comp=Z,510nm,10.0s						
QIZ				LR	LR		
	comp=Z,560nm,13.5s						
FITZ	Fitzroy Crossi	35.61	212		P	06 55 22.0	+0.3
HNS	HongShan	36.64	318	eP	P	06 55 32.5	+2.2
LYN	LuoYang	36.67	313	P	P	06 55 29.9	-0.7
LYN				pmax	pmax		
	comp=Z,26nm,0.6s						
LYN				LR	LR		
	comp=Z,510nm,15.5s						
LYN				LR	LR		
	comp=Z,550nm,12.6s						
LYN				LR	LR		
	comp=Z,920nm,16.1s						
ENH	Enshi	37.14	304	P	P	06 55 33.2	-1.6
AS31	Alice Springs	37.31	196	P	P	06 55 36.7	+0.6
ASAR	Alice Springs	37.31	196		P	06 55 36.5	+0.3
ASAR	Alice Springs	37.31	196	P	P	06 55 35.8	-0.4
	comp=Z,5.1nm,1.0s,baz=15,slow=6.3,SNR=15						
	comp=Z,5.1nm,1.0s						
HHC	Hu-ho-hao-te	40.62	320	eP	P	06 56 00.2	-3.7
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,68nm,3.7s						
HHC				LR	LR		
	comp=Z,370nm,16.2s						
HHC				LR	LR		
	comp=Z,220nm,16.0s						
HHC				LR	LR		
	comp=Z,410nm,16.2s						
PINNC	Pines Island,	41.27	147	P	P	06 56 09.7	+0.5
MBWA	Marble Bar	41.35	217	P	P	06 56 09.8	-0.2
MBWA				IAmb	IAmb	06 56 33.2	
	comp=Z,18nm,1.2s						
BTO	Baotou	41.46	319	eP	P	06 56 13.4	+2.6
BTO				pP	pP	06 56 16.5	-1.4
BTO				sP	sP	06 56 18.6	-2.2
BTO				PP	PP	06 57 47.2	+0.4
BTO				S	S	07 02 31.6	+7.3
BTO				pmax	pmax		
	comp=Z,12nm,0.6s						
BTO				pmax	pmax		
	comp=Z,230nm,6.4s						
BTO				LR	LR		
	comp=Z,270nm,8.9s						
BTO				LR	LR		
	comp=Z,640nm,16.5s						
BTO				LR	LR		
	comp=Z,710nm,15.9s						
PSA00	Pilbara Seismi	41.61	216		P	06 56 12.7	+0.7
PSA00				IAmb	IAmb	06 56 14.0	
	comp=Z,21nm,1.1s						
PZH	PanZhiHua	42.69	296	P	P	06 56 22.0	+1.0
LZH	Lanzhou	43.69	310	eP	P	06 56 33.9	+4.9
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
KULM	Kulim	44.04	265		P	06 56 31.3	-0.6
KULM				IAmb	IAmb	06 56 47.7	
	comp=Z,24nm,1.1s						
CMAR	Chiang Mai Arr	44.44	284		P	06 56 34.6	-0.5
CMAR	Chiang Mai Arr	44.44	284	P	P	06 56 33.3	-1.9
	comp=Z,4.2nm,0.7s,baz=89,slow=8.2,SNR=15						
	comp=Z,4.2nm,0.7s						
BBOO	Buckleboo	45.64	190	P	P	06 56 43.6	-0.8
RPSI	Rantau Prapat	46.31	262		P	06 56 50.1	+0.1
RPSI				IAmb	IAmb	06 57 05.4	
	comp=Z,12nm,1.0s						
SONM	Songino Array	47.66	326	P	P	06 56 59.4	-0.8
SONM	Songino Array	47.66	326	P	P	06 56 59.1	-1.1
	comp=Z,0.8nm,0.4s,baz=140,slow=9.4,SNR=4.4						
SONM				PcP	PcP	06 58 30.3	+0.9
	comp=Z,0.9nm,0.6s,baz=125,slow=1.8,SNR=2.8						
	comp=Z,0.8nm,0.4s						
GTA	Gaotai	47.89	313	eP	P	06 57 02.4	+0.3
GTA				pP	pP	06 57 06.1	-3.3
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA				LR	LR		
	comp=Z,450nm,15.5s						
GTA				LR	LR		
	comp=Z,260nm,19.1s						
GTA				LR	LR		
	comp=Z,240nm,17.9s						
MORW	Morawa	49.60	213	P	P	06 57 14.5	-0.7
SHL	Shillong	51.35	293		P	06 57 28.6	-0.2
SHL				IAmb	IAmb	06 57 30.6	
	comp=Z,10nm,0.7s						
EVN	Everest	56.05	295		P	06 58 03.2	-0.4
UNV	Unalaska Valle	56.47	32	P	P	06 58 05.8	+0.4
WMQ	Urumqi	57.88	314	eP	P	06 58 18.1	+2.3
WMQ				pmax	pmax		
	comp=Z,26nm,0.9s						
WMQ				LR	LR		
	comp=Z,250nm,19.1s						
NNZ	Nelson	59.51	155	P	P	06 58 27.4	+0.5
MKAR	Makanchi Array	62.28	317	P	P	06 58 45.5	-0.3
	comp=Z,1.0nm,0.5s,baz=91,slow=7.3,SNR=6.1						
	comp=Z,1.0nm,0.5s						
MAKZ	Makanchi	62.49	317	P	P	06 58 46.6	-0.6
MAKZ				IAmb	IAmb	06 58 50.0	
	comp=Z,9.4nm,1.4s						
ZAA0	Zalesovo Array	62.55	325	P	P	06 58 48.2	+0.9
ZALV	Zalesovo Beam	62.55	325	P	P	06 58 48.0	+0.6
ZALV	Zalesovo Beam	62.55	325	P	P	06 58 47.1	-0.3
	comp=Z,0.5nm,0.4s,baz=109,slow=11,SNR=2.2						
ZALV				PcP	PcP	06 59 25.9	-0.4
	comp=Z,2.1nm,0.6s,baz=105,slow=2.9,SNR=5.3						
	comp=Z,0.5nm,0.4s						
J17K	VABM Dome	64.27	25	P	P	06 58 59.4	+0.8
H18K	Honhosa River	65.31	23	P	P	06 59 06.2	+0.8
H18K				IAmb	IAmb	06 59 09.3	
	comp=Z,14nm,1.4s						
KURBB	Kurchatov Arra	65.47	320	P	P	06 59 05.9	-0.8
	comp=Z,3.1nm,1.0s,baz=99,slow=6.9,SNR=11						
KURBB				PcP	PcP	06 59 38.9	+0.5
	comp=Z,4.4nm,0.9s,baz=104,slow=6.3,SNR=5.0						
	comp=Z,3.1nm,1.0s						
G18K	Tagagawik	65.53	22	P	P	06 59 08.3	+1.5
G18K				IAmb	IAmb	06 59 28.7	
	comp=Z,11nm,1.4s						
SYI	Shuyak Island	65.56	31	P	P	06 59 07.7	+0.7
KSH	Kashi	65.87	308	P	P	06 59 12.4	+2.7
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
J19K	Poorman	65.92	25	P	P	06 59 10.4	+1.1
J19K				IAmb	IAmb	06 59 36.6	
	comp=Z,12nm,1.5s						
M20K	Styx River	66.23	27	P	P	06 59 12.9	+1.4
CAST	Castle Rocks	67.19	26	P	P	06 59 17.4	-0.1
CAST				IAmb	IAmb	06 59 31.6	
	comp=Z,6.2nm,1.0s						
IMAR	Indian Mountai	67.41	23	P	P	06 59 19.1	+0.3
NIL	Nilore	67.89	301		P	06 59 23.0	+0.5
PMR	Palmer	67.96	28	P	P	06 59 22.0	-0.3
PMR				IAmb	IAmb	06 59 45.3	
	comp=Z,9.9nm,1.0s						
ARSB	Arslanbob	68.25	310		P	06 59 23.8	-1.0
ILAR	Eielson Array	69.76	25	P	P	06 59 32.4	-1.2
ILAR	Eielson Array	69.76	25	P	P	06 59 31.8	-1.7
	comp=Z,1.8nm,0.6s,baz=251,slow=5.7,SNR=20						
TOLK	Toolik Lake Re	69.84	21	P	P	06 59 34.0	0.0
KK31	Karatay Array	70.15	311	P	P	06 59 36.5	+0.1
KKAR	Karatay Array	70.15	311		P	06 59 36.4	0.0
GAR	Garm	70.25	307	P	P	06 59 36.8	-0.4
RIDG	Independent Ri	70.39	26	P	P	06 59 37.5	0.0
RIDG				IAmb	IAmb	06 59 57.0	
	comp=Z,13nm,1.3s						
BVAR	Borovoye Array	70.81	322	P	P	06 59 40.0	-0.1
	comp=Z,2.3nm,0.5s,baz=104,slow=7.3,SNR=8.0						
	comp=Z,2.3nm,0.5s						
L26K	Log Cabin Wild	70.91	27	P	P	06 59 41.0	+0.4
J26L	Joseph Creek	71.10	26		P	06 59 41.5	-0.3
J26L				IAmb	IAmb	06 59 44.8	
	comp=Z,4.6nm,0.8s						
SIMJ	Simiganj	71.27	307		P	06 59 43.4	0.0
SIMJ				IAmb	IAmb	06 59 45.7	
	comp=Z,9.8nm,0.9s						
BMAR	Burnt Mountain	71.31	23	P	P	06 59 44.1	+1.1
KBL	Kabul	71.36	302		P	06 59 43.7	-0.5
KBL				IAmb	IAmb	06 59 48.0	
	comp=Z,13nm,1.1s						
BCAR	Beaver Creek A	71.62	27	P	P	06 59 44.1	-0.8
EGAK	Eagle	72.17	26	P	P	06 59 48.4	+0.3
EGAK				IAmb	IAmb	07 00 01.3	
	comp=Z,9.2nm,1.4s						
DAWY	Dawson	72.83	27	P	P	06 59 51.9	-0.2
DAWY				IAmb	IAmb	06 59 55.9	
	comp=Z,16nm,1.5s						
J30M	Hart River	74.20	26		P	07 00 01.2	+0.8
J30M				IAmb	IAmb	07 00 05.8	
	comp=Z,16nm,1.5s						
G31M	Satah River	75.22	24		P	07 00 05.3	-0.6
G31M				IAmb	IAmb	07 00 09.2	
	comp=Z,11nm,0.9s						
DIB	Dawson Inlet,	75.94	38		P	07 00 09.7	-0.6
DIB				IAmb	IAmb	07 00 13.2	
	comp=Z,10nm,1.0s						
AB31	Akbulak array	77.36	318	P	P	07 00 18.1	-0.4
ABKAR	Akbulak array	77.36	318	P	P	07 00 18.1	-0.4
WTLY	Watson Lake, Y	77.67	31	P	P	07 00 20.5	+0.5
WTLY				IAmb	IAmb	07 00 34.5	
	comp=Z,6.5nm,0.8s						
ARTI	Arti	77.80	325	P	P	07 00 21.8	+1.0
OZB	Mount Ozzard	80.69	42	P	P	07 00 37.6	+0.9
NLWA	Neilton Lookou	82.00	43		P	07 00 44.5	+0.7
PGC	Sidney	82.07	42	P	P	07 00 45.0	+1.0
PGC				IAmb	IAmb	07 00 49.5	
	comp=Z,13nm,1.1s						
E03A	Lebam	82.35	44	P	P	07 00 45.5	0.0
GNW	Green Mountain	82.67	43	P	P	07 00 48.5	+1.3
GNW				IAmb	IAmb	07 00 51.3	
	comp=Z,6.7nm,0.8s						
LLLB	Lillooet	82.73	40	P	P	07 00 48.6	+1.0
LLLB				IAmb	IAmb	07 00 49.4	
	comp=Z,9.7nm,1.4s						
BUCK	Buck Mountain	83.16	46	P	P	07 00 50.2	+0.3
BBOR	Butler Butte	83.62	48	P	P	07 00 52.5	0.0
H04A	Detroit Lake	83.63	46	P	P	07 00 52.2	-0.1
H04A				IAmb	IAmb	07 00 53.8	
	comp=Z,12nm,1.4s						
M02C	Callahan	83.77	49	P	P	07 00 53.4	+0.3
M02C				IAmb	IAmb	07 01 10.1	
	comp=Z,5.4nm,1.1s						
YBH	Yreka Blue Hor	83.81	49		P	07 00 54.0	+0.6
YBH				IAmb	IAmb	07 01 10.1	
	comp=Z,5.0nm,0.9s						
HOOD	Mount Hood Mea	83.88	45	P	P	07 00 54.3	+0.6
HOOD				IAmb	IAmb	07 01 21.2	
	comp=Z,9.8nm,1.1s						
J04A	Umpqua Nationa	83.96	47	P	P	07 00 54.7	+0.5
J04A				IAmb	IAmb	07 01 19.1	
	comp=Z,6.4nm,0.9s						
WIFE	Three Sisters-	84.01	46	P	P	07 00 55.3	+0.8
WIFE				IAmb	IAmb	07 01 19.4	
	comp=Z,7.8nm,1.1s						
YKA	Yellowknife Ar	84.04	27	P	P	07 00 55.6	+1.6
	comp=Z,1.9nm,0.9s,baz=318,slow=18,SNR=4.2						
	comp=Z,1.9nm,0.9s						
G05A	Wamic	84.13	45	P	P	07 00 55.1	+0.3
G05A				IAmb	IAmb	07 01 04.5	
	comp=Z,5.2nm,0.9s						
LTY	Liberty	84.16	43	P	P	07 00 55.7	+0.7
LTY				IAmb	IAmb	07 00 58.1	
	comp=Z,4.5nm,0.8s						
M03C	McCloud	84.34	49	P	P	07 00 57.2	+1.2
MXC	Moxie City	84.56	44	P	P	07 00 57.6	+0.6
J05D	Fort Rock, OR	84.58	47	P	P	07 00 57.3	0.0
PINE	Pine Mountain	84.69	46		P	07 00 58.3	+0.4
O03E	Paynes Creek	84.77	50	P	P	07 00 59.3	+1.0
O03E				IAmb	IAmb	07 01 26.8	
	comp=Z,9.1nm,1.1s						
B08A	Colville Reser	84.81	42		P	07 00 58.0	-0.3
K05A	Summer Lake	84.94	48	P	P	07 00 59.1	-0.1
WAH2	Wahluke Slope	85.01	43	P	P	07 01 00.1	+0.9
WAH2				IAmb	IAmb	07 01 02.7	
	comp=Z,5.3nm,0.8s						
HAWA	Hanford	85.11	44	P	P	07 01 00.1	+0.3
SPITS	Spitsbergen Ar	85.25	351	P	P	07 00 59.5	-0.3
	comp=Z,3.7nm,0.9s,baz=336,slow=6.6,SNR=1.2						
	comp=Z,3.7nm,0.9s						
BEKR	Beckworth	85.94	50	P	P	07 01 05.0	+0.8
WELL	Weller Preserv	85.97	52	P	P	07 01 05.0	+0.7
NEW	Newport	86.27	42		P	07 01 05.6	+0.1
NEW				IAmb	IAmb	07 01 09.4	
	comp=Z,8.4nm,0.9s						
CMB	Columbia Colle	86.32	52	P	P	07 01 06.9	+0.9
J08A	Circle Bar Ran	86.53	47	P	P	07 01 07.7	+0.7
J08A				IAmb	IAmb	07 01 23.2	
	comp=Z,6.6nm,1.2s						
F10A	Beach Ranch, E	86.76	44	P	P	07 01 08.6	+0.5
F10A				IAmb	IAmb	07 01 32.1	
	comp=Z,4.0nm,0.8s						
BMO	Blue Mountains	86.99	45		P	07 01 10.0	+0.9
BMO				IAmb	IAmb	07 01 10.7	
	comp=Z,7.4nm,1.1s						
PLID	Pearl Lake	87.82	44	P	P	07 01 13.9	+0.6
PLID				IAmb	IAmb	07 01 28.7	
	comp=Z,5.8nm,0.9s						
NVAR	Mina Array Bea	87.83	51	P	P	07 01 14.5	+1.0
	comp=Z,2.1nm,0.9s,baz=262,slow=5.6,SNR=9.8						
	comp=Z,2.1nm,0.9s						
ARCES	ARCESS Array B	88.22	342	P	P	07 01 14.1	-0.4
ARCES				IAmb	IAmb	07 01 27.9	
	comp=Z,5.0nm,1.0s						
ARCES	ARCESS Array B	88.22	342	P	P	07 01 14.1	-0.4
	comp=Z,1.4nm,0.6s,baz=61,slow=5.7,SNR=8.4						
	comp=Z,1.4nm,0.6s						
JTMT	Jette	88.25	42	P	P	07 01 15.9	+0.8
DSP	Deep Springs	88.34	52	P	P	07 01 17.0	+1.4
DSP				IAmb	IAmb	07 01 18.1	
	comp=Z,7.2nm,1.5s						
MFID	Camas Ranch	88.38	46		P	07 01 17.0	+1.1
CWC	Cottonwood Cre	88.48	53	P	P	07 01 17.2	+0.7
TPH	Tonopah	88.74	51		P	07 01 17.9	+0.1
TPH				IAmb	IAmb	07 01 22.1	
	comp=Z,6.2nm,1.2s						
PASC	Pasadena Art C	88.95	55	P	P	07 01 18.8	+0.1
PASC				IAmb	IAmb	07 01 30.9	
	comp=Z,8.5nm,1.2s						
CLC	China Lake	89.01	54	P	P	07 01 19.7	+0.8
LRMC	Laurel Mtn Rad	89.03	54	P	P	07 01 20.1	+0.9
MPMC	Manual Prospec	89.04	53	P	P	07 01 20.3	+1.1
MPMC				IAmb	IAmb	07 01 23.6	
	comp=Z,5.1nm,1.1s						
WSHM	Spangler Hills	89.15	54	P	P	07 01 20.3	+0.7
HLID	Hailey	89.33	46	IAmb	IAmb	07 01 42.9	
	comp=Z,4.8nm,1.1s						
FURC	Furnace Creek,	89.42	53	IAmb	IAmb	07 01 38.9	
	comp=Z,8.0nm,1.0s						
ELK	Elko	89.52	48	IAmb	IAmb	07 01 46.7	
	comp=Z,5.6nm,1.0s						
WCT	Wildcat Mounta	89.52	53	IAmb	IAmb	07 01 25.2	
	comp=Z,5.2nm,1.1s						
GWY	Greenwater Val	89.65	53	IAmb	IAmb	07 01 48.2	
	comp=Z,7.6nm,1.4s						
GSC	Goldstone, Bar	89.77	54	IAmb	IAmb	07 01 24.6	
	comp=Z,6.6nm,1.3s						
TPNV	Topopah Spring	89.78	52	P	P	07 01 23.1	+0.4
TPNV				IAmb	IAmb	07 01 40.7	
	comp=Z,5.1nm,1.0s						
R11B	Troy Canyon, C	89.91	51	IAmb	IAmb	07 01 26.3	
	comp=Z,6.9nm,1.5s						
SHOC	Shoshone, Teco	90.03	53	IAmb	IAmb	07 01 28.0	
	comp=Z,7.0nm,1.1s						
PRN	Pahroc Range	90.58	52	IAmb	IAmb	07 01 50.6	
	comp=Z,5.4nm,1.2s						
BOZ	Bozeman (W)	90.63	43	IAmb	IAmb	07 01 30.1	
	comp=Z,6.6nm,1.4s						
SPR3	Spring Creek 3	90.68	50		P	07 01 27.2	+0.2
SPR3				IAmb	IAmb	07 01 30.0	
	comp=Z,8.3nm,1.3s						
SHPR	Sheep Range	90.74	52		P	07 01 27.4	+0.3
HVU	Hansel Valley	91.01	47	IAmb	IAmb	07 01 30.4	
	comp=Z,9.8nm,1.4s						
HWUT	Hardware Ranch	91.92	47	IAmb	IAmb	07 01 36.0	
	comp=Z,3.8nm,1.1s						
W13A	Hualapai Mount	92.12	54	IAmb	IAmb	07 01 52.4	
	comp=Z,4.4nm,1.2s						
FINES	FINESS Array B	92.22	335	P	P	07 01 30.8	-2.4
	comp=Z,1.9nm,0.6s,baz=57,slow=5.1,SNR=6.1						
KNB	Kanab	92.39	51		P	07 01 34.4	-0.4
PDAR	Pinedale Array	92.96	45	P	P	07 01 38.5	+1.1
	comp=Z,0.6nm,0.7s,baz=318,slow=2.0,SNR=4.3						
	comp=Z,0.6nm,0.7s						
U15A	North Rim	92.97	52	IAmb	IAmb	07 02 02.1	
	comp=Z,6.3nm,1.5s						
Y14A	Wickenburg	93.15	54	IAmb	IAmb	07 01 42.0	
	comp=Z,3.7nm,1.0s						
WUAZ	Wupatki	93.96	53	P	P	07 01 41.7	-0.4
WUAZ				IAmb	IAmb	07 01 59.7	
	comp=Z,3.1nm,0.9s						
PV19	Morning Glory	94.87	49	P	P	07 01 46.0	-0.2
PV19				IAmb	IAmb	07 01 55.2	
	comp=Z,5.3nm,0.9s						
HFS	Hagfors	97.88	338	P	P	07 01 58.2	-1.0
	comp=Z,3.0nm,1.0s,baz=49,slow=4.4,SNR=2.7						
	comp=Z,3.0nm,1.0s						
TORD	Torodi Ar. Bea	135.43	303	PKP	PKiKP	07 07 44.8	-1.3
	comp=Z,1.1nm,0.9s,baz=23,slow=2.8,SNR=4.1						
DBIC	Dimbokro	144.33	300	PKP	PKPdf	07 07 59.2	-1.5
	comp=Z,7.5nm,0.8s,baz=77,slow=4.3,SNR=6.7						
LPAZ	La Paz	147.97	101	PKPbc	PKiKP	07 08 12.0	-0.5
	comp=Z,4.1nm,1.0s,baz=258,slow=3.2,SNR=7.0						

*NEIC **02** 06:55:11.9±1.3, 49.°29S±0.°06×106.°1E±0.°4, h10km±1km, mb4.4/13, Error ellipse: s-maj=43.9km s-min=6.1km az=282.0*

*IDC **02** 06:55:12.3±1.1, 49.°35S×106.°37E, h0km, mb4.0/6, mbtmp4.0/6, MS3.6/4, Error ellipse: s-maj=45.1km s-min=18.7km az=108.0*

ISC 02 06:55:12.6±0.8**, 49.°30S**±0.°10×**106.°3E**±0.°2**, h10km, n27, σ0.s99**/22**, mb4.2**/10**, MS3.6**/4**, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.51	25	T	T	07 14 39.9	
	baz=199,slow=73						
H01W1	Cape Leeuwin H	15.52	25	T	T	07 14 44.1	
	baz=199,slow=73						
H01W3	Cape Leeuwin H	15.53	25	T	T	07 14 41.7	
	baz=199,slow=73						
CASY	Casey	17.17	174	Pn	Pn	06 59 11.6	-0.7
NWAO	Narrogin (SRO)	18.29	31		Pn	06 59 26.7	+0.4

NWAO				IAmb	IAmb	07 00 07.7	
	comp=Z,41nm,0.9s						
MORW	**Morawa**	**21.54**	**24**	P	**P**	**07 00 00.1**	**-1.7**
MORW				IAmb	IAmb	07 00 18.5	
	comp=Z,36nm,1.5s						
BBOO	**Buckleboo**	**27.61**	**65**	P	**P**	**07 00 59.8**	**-0.2**
STKA	**Stephens Creek**	**31.61**	**70**	P	**P**	**07 01 35.4**	**0.0**
ASAR	**Alice Springs**	**33.54**	**50**	P	**P**	**07 01 52.1**	**-0.4**
ASAR	**Alice Springs**	**33.54**	**50**	P	**P**	**07 01 53.2**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=209,slow=8.5,SNR=24						
	comp=Z,1.3nm,0.6s						
AS31	**Alice Springs**	**33.54**	**50**	P	**P**	**07 01 53.3**	**+0.8**
VNDA	**Vanda**	**35.08**	**162**	P	**P**	**07 02 05.5**	**+0.3**
VNDA				IAmb	IAmb	07 02 07.1	
	comp=Z,4.0nm,1.1s						
VNDA	**Vanda**	**35.08**	**162**	P	**P**	**07 02 06.0**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=300,slow=9.3,SNR=12						
	comp=Z,2.9nm,0.8s						
WRA	**Warramunga Arr**	**36.90**	**48**	P	**P**	**07 02 22.3**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=209,slow=8.5,SNR=5.2						
	comp=Z,1.0nm,0.6s						
WR8	**Warramunga Arr**	**36.96**	**48**	P	**P**	**07 02 22.6**	**+0.6**
WR8				IAmb	IAmb	07 02 56.5	
	comp=Z,8.3nm,1.4s						
WB0	**Warramunga Arr**	**37.07**	**47**	P	**P**	**07 02 23.6**	**+0.7**
WB0				IAmb	IAmb	07 02 30.4	
	comp=Z,6.4nm,1.3s						
QSPA	**South Pole Qui**	**40.84**	**180**	P	**P**	**07 02 53.4**	**-0.7**
QSPA	**South Pole Qui**	**40.84**	**180**	P	**P**	**07 02 55.6**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=341,slow=7.6,SNR=12						
QSPA				LR	LR	07 18 51.2	
	comp=Z,150nm,19.2s,baz=346,slow=35						
	comp=Z,0.8nm,0.5s						
UGM	**Wanagama**	**41.40**	**6**	P	**P**	**07 02 57.4**	**-1.6**
KAPI	**Kappang**	**45.59**	**19**	LR	LR	07 20 29.6	
	comp=Z,39nm,21.8s,baz=78,slow=33						
SNAA	**Sanae**	**49.51**	**203**	P	**P**	**07 04 02.2**	**-0.5**
SNAA				IAmb	IAmb	07 04 10.8	
	comp=Z,2.9nm,0.8s						
SNAA	**Sanae**	**49.51**	**203**	P	**P**	**07 04 03.1**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=125,slow=14,SNR=14						
	comp=Z,1.3nm,0.6s						
BELA	**Belgrano 2**	**50.84**	**190**	P	**P**	**07 04 12.0**	**-0.7**
BELA				IAmb	IAmb	07 04 17.9	
	comp=Z,6.0nm,0.6s						
PMSA	**Palmer Station**	**66.02**	**185**	LR	LR	07 34 32.7	
	comp=Z,65nm,20.2s,baz=194,slow=36						
CMAR	**Chiang Mai Arr**	**67.76**	**352**	P	**P**	**07 06 12.4**	**+2.2**
	comp=Z,0.9nm,0.3s,baz=162,slow=6.0,SNR=5.5						
CMAR				LR	LR	07 33 51.0	
	comp=Z,24nm,19.5s,baz=175,slow=34						
	comp=Z,0.9nm,0.3s						
NVAR	**Mina Array Bea**	**146.53**	**92**	PKPbc	**PKPab**	**07 14 54.9**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=251,slow=3.8,SNR=10						
TXAR	**Lajitas Array**	**149.75**	**120**	PKPbc	**PKPbc**	**07 15 02.3**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=216,slow=0.7,SNR=3.2						

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*SOME **02** 07:04:36.6, 41°.90N×73°.77E, h5^{km}*
*NNC **02** 07:04:37.0±2.1, 41°.91N×73°.77E, h0^{km}, mb3.0, mpv2.5, Error ellipse: s-maj=16.5km s-min=7.6km az=2.0*
ISC 02 07:04:37.6±2.7**, 41°.9N**±0°.1×**73°.79E**±0°.04**, h10^{km}, n10, σ0^{s}85**/16**, 2C-2D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**0.91**	**35**	⇑P	**Pg**	**07 04 53.6**	**-1.5**
	5.4nm,1.2s						
AAK				⇑S	**Sb**	**07 05 07.4**	**-0.4**
	2.2nm,0.8s						
MRKS	**Merke**	**0.95**	**334**	P	**Pg**	**07 04 55.4**	**-0.5**
	6.1nm,0.4s						
MRKS				S	**Sb**	**07 05 08.2**	**-0.7**
	6.1nm,0.6s						
MRKS	**Merke**	**0.95**	**334**	*e*P	**Pg**	**07 04 55.4**	**-0.5**
	6.1nm,0.4s						
MRKS				*e*S	**Sn**	**07 05 11.8**	**+1.1**
	6.1nm,0.6s						
MRKS	**Merke**	**0.95**	**334**	*e*P	**Pg**	**07 04 55.4**	**-0.5**
	6.1nm,0.4s						
MRKS				*e*S	**Sb**	**07 05 08.2**	**-0.7**
	6.1nm,0.6s						
KST	**Kastek**	**1.97**	**54**	Pg	**Pg**	**07 05 14.9**	**-0.6**
	2.8nm,0.5s						
KST				Lg	Lg	07 05 41.9	
	4.9nm,0.6s						
KST	**Kastek**	**1.97**	**54**	*e*P	**Pb**	**07 05 13.3**	**-0.4**
	1.8nm,0.4s						
KST				*e*S	**Sg**	**07 05 41.6**	**+0.6**
	4.9nm,0.6s						
KST	**Kastek**	**1.97**	**54**	*e*P	**Pg**	**07 05 14.9**	**-0.6**
	2.8nm,0.5s						
KST				*e*S	**Sg**	**07 05 41.9**	**+0.8**
	4.9nm,0.6s						
DGS	**Degeres**	**1.99**	**47**	Pg	**Pg**	**07 05 15.0**	**-0.7**
	2.5nm,0.4s						
DGS				Lg	Lg	07 05 42.1	
	3.9nm,0.5s						
KK31	**Karatay Array**	**2.71**	**298**	⇓Pg	**Pb**	**07 05 26.4**	**+0.2**
	0.5nm,0.2s,baz=194,slow=78,SNR=6.8						
KK31				⇓Lg	Lg	07 06 03.7	
	0.8nm,0.3s,baz=129,slow=29,SNR=6.1						
KTBS	**Karatobe**	**2.79**	**49**	Pg	**Pb**	**07 05 29.1**	**+1.4**
	1.6nm,0.8s						
KTBS				Lg	Lg	07 06 06.0	
	2.8nm,0.4s						

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*IDC **02** 07:06:01.1±2.2, 3°.82N×95°.78E, h0^{km}, mb3.6/3, mbtmp3.7/5, ML4.0/2, MS3.5/2, Error ellipse: s-maj=68.3km s-min=24.9km az=52.0*
*DJA **02** 07:06:05.5±0.7, 4°N±2°×9°6E±°, h10^{km}, M4.0/7, MLv4.0/7*
ISC 02 07:06:04.5±1.8**, 4°.45N**±0°.07×**96°.3E**±0°.1**, h8^{km}**±10^{km}**, n20, σ1^{s}73**/13**, mb3.8**/3**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.22**	**148**	P	**Pg**	**07 06 08.8**	**-0.1**
MLSI				S	**Sg**	**07 06 12.5**	**+0.6**
LHMI	**Lhok Sumawe**	**1.01**	**40**	P	**Pb**	**07 06 23.7**	**-0.6**
LHMI				S	**Sb**	**07 06 37.9**	**+0.1**
KCSI	**Kotacane, Aceh**	**1.75**	**122**	P	**Pn**	**07 06 34.6**	**-0.5**
KCSI				S	**Sn**	**07 06 56.3**	**-1.3**
TSI	**Tuntungan**	**2.46**	**113**	P	**Pn**	**07 06 44.6**	**-0.3**
PSI	**Prapat**	**3.10**	**122**	Pn	**Pn**	**07 06 55.1**	**+1.2**
	6.0nm,0.3s,baz=324,slow=14,SNR=19						
PSI				Sn	**Sn**	**07 07 34.8**	**+3.5**
	11nm,0.3s,baz=212,slow=12,SNR=6.1						
	13nm,0.3s						
CMAR	**Chiang Mai Arr**	**14.16**	**10**	Pn	**P**	**07 09 33.6**	**+0.5**
	0.4nm,0.3s,baz=188,slow=12,SNR=6.9						
	1.2nm,0.5s						
PALK	**Pallekele**	**15.75**	**281**	LR	LR	07 15 16.5	
	comp=Z,154nm,19.9s,baz=80,slow=36						
H08S2	**Diego Garcia H**	**26.61**	**243**	T	T	07 39 03.7	
	baz=61						
H08S3	**Diego Garcia H**	**26.61**	**243**	T	T	07 38 55.9	
	baz=61						
H08S1	**Diego Carcia H**	**26.62**	**243**	T	T	07 39 06.2	
	baz=61						
MKAR	**Makanchi Array**	**43.89**	**346**	P	**P**	**07 14 13.0**	**+1.4**
	0.1nm,0.4s,baz=165,slow=6.8,SNR=2.2						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**44.56**	**124**	P	**P**	**07 14 15.3**	**-2.1**
	1.7nm,0.7s,baz=302,slow=9.1,SNR=14						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**46.11**	**129**	P	**P**	**07 14 27.7**	**-1.9**
	0.8nm,0.8s,baz=303,slow=7.5,SNR=6.3						
	0.8nm,0.8s						
H04N2	**CROZET ISLANDS**	**63.97**	**213**	T	T	08 25 60.0	
	baz=49,slow=74,SNR=3.5						
H04N1	**CROZET ISLANDS**	**63.98**	**213**	T	T	08 25 54.9	
	baz=49,slow=74,SNR=6.6						
H04N3	**CROZET ISLANDS**	**63.98**	**213**	T	T	08 25 58.3	
	baz=49,slow=74,SNR=5.9						
H04S1	**CROZET ISLANDS**	**64.33**	**212**	T	T	08 26 24.5	
	baz=48						
H04S3	**CROZET ISLANDS**	**64.34**	**212**	T	T	08 26 24.4	
	baz=48						
H04S2	**CROZET ISLANDS**	**64.35**	**212**	T	T	08 26 25.7	
	baz=48						
LBTB	**Lobatse**	**74.53**	**243**	LR	LR	07 42 51.9	
	comp=Z,32nm,21.4s,baz=92,slow=30						

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*TAP **02** 07:23:10.9, 24°.05N×121°.52E, h19^{km}, ML3.6, B*
*JMA **02** 07:23:11.1±0.1, 24°.1N±0°.7×12°2E±°, h19^{km}±1^{km}, MV3.1/7, TAIWAN REGION*
ISC 02 07:23:10.9±0.8**, 24°.05N**±0°.01×**121°.56E**±0°.02**, h18^{km}**±3^{km}**, n103, σ0^{s}53**/190**, 12C-12D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.05**	**50**	⇑*i*P	**Pg**	**07 23 14.8**	**+0.7**
TWD				S	**Sg**	**07 23 17.4**	**+1.0**
ETM	**Tongmen**	**0.10**	**215**	⇑*i*P	**Pg**	**07 23 14.9**	**+0.3**
ETM				S	**Sg**	**07 23 17.4**	**+0.4**
ETL	**Fush Village**	**0.13**	**29**	*i* P	**Pg**	**07 23 15.3**	**+0.4**
ETL				*i* S	**Sg**	**07 23 18.3**	**+0.7**
NACB	**Ninganchiao**	**0.13**	**16**	⇑*i*P	**Pg**	**07 23 15.1**	**+0.2**
NACB				*i* S	**Sg**	**07 23 18.1**	**+0.5**
ETLH	**Xiulin Townshi**	**0.17**	**337**	⇑*i*P	**Pg**	**07 23 15.6**	**+0.1**
ETLH				*i* S	**Sg**	**07 23 18.6**	**-0.1**
TEYL	**Yanliau Villag**	**0.18**	**168**	⇓*i*P	**Pg**	**07 23 16.0**	**+0.4**
TEYL				S	**Sg**	**07 23 19.7**	**+0.9**
ESL	**Shilin**	**0.26**	**206**	⇓*i*P	**Pg**	**07 23 16.5**	**-0.3**
ESL				*e*S	**Sg**	**07 23 20.5**	**-0.3**
SHUL	**Shoufeng**	**0.26**	**179**	⇓*i*P	**Pb**	**07 23 17.4**	**+0.4**
SHUL				*e*S	**Sg**	**07 23 22.1**	**+1.3**
WHF	**Hehuan Shan**	**0.28**	**290**	⇑*i*P	**Pg**	**07 23 17.2**	**-0.2**
WHF				*i* S	**Sg**	**07 23 21.3**	**-0.6**
EHP	**Heping Village**	**0.31**	**33**	*e*P	**Pb**	**07 23 18.4**	**+0.5**
EHP				*e*S	**Sb**	**07 23 23.3**	**+0.6**
EAHA	**Aohua**	**0.33**	**31**	⇑P	**Pb**	**07 23 18.2**	**0.0**
EAHA				*e*S	**Sb**	**07 23 23.2**	**+0.1**
FUSS	**Fushou**	**0.35**	**305**	⇓*i*P	**Pg**	**07 23 18.5**	**+0.1**
FUSS				S	**Sg**	**07 23 23.7**	**+0.2**
OWD	**Renai**	**0.36**	**255**	⇑*i*P	**Pg**	**07 23 18.5**	**0.0**
OWD				*e*S	**Sg**	**07 23 23.0**	**-0.7**
WARBT	**Fenglin Townsh**	**0.36**	**205**	*e*P	**Pg**	**07 23 17.9**	**-0.7**
WARBT				*e*S	**Sg**	**07 23 23.0**	**-0.8**
EGFH	**Guangfu**	**0.40**	**197**	⇑*i*P	**Pg**	**07 23 19.0**	**-0.1**
EGFH				*i* S	**Sg**	**07 23 24.2**	**-0.4**
WUSB	**Renai**	**0.40**	**262**	⇑*i*P	**Pg**	**07 23 19.3**	**0.0**
WUSB				*i* S	**Sg**	**07 23 24.6**	**-0.3**
NNSB	**Datong**	**0.41**	**337**	⇓*i*P	**Pg**	**07 23 19.5**	**+0.1**
NNSB				*i* S	**Sg**	**07 23 24.9**	**-0.3**
TDCB	**Techi**	**0.42**	**299**	⇓*i*P	**Pg**	**07 23 19.6**	**+0.1**
TDCB				S	**Sg**	**07 23 24.9**	**-0.4**
NNS	**Nan Shan**	**0.42**	**337**	⇓*i*P	**Pg**	**07 23 19.7**	**0.0**
NNS				*i* S	**Sg**	**07 23 25.4**	**-0.2**
EWUT	**Wuta**	**0.44**	**27**	⇑*e*P	**Pb**	**07 23 20.0**	**-0.2**
EWUT				*e*S	**Sb**	**07 23 26.4**	**-0.1**
LATG	**Datong**	**0.48**	**357**	⇓*i*P	**Pg**	**07 23 20.6**	**-0.2**
LATG				S	**Sg**	**07 23 27.4**	**0.0**
HGSD	**Ruisui**	**0.57**	**192**	*e*P	**Pg**	**07 23 22.4**	**+0.2**
HGSD				*e*S	**Sg**	**07 23 31.3**	**+1.4**
EHYH	**Wanrong**	**0.58**	**199**	*e*P	**Pb**	**07 23 21.6**	**-1.0**
EHYH				*e*S	**Sb**	**07 23 29.8**	**-0.7**
ESAO	**Su ao**	**0.59**	**27**	*e*P	**Pg**	**07 23 22.7**	**+0.1**
ESAO				S	**Sb**	**07 23 30.1**	**-0.4**
WCS	**Beigang Elemen**	**0.59**	**271**	*e*P	**Pb**	**07 23 22.2**	**-0.4**
WCS				*e*S	**Sb**	**07 23 30.8**	**+0.2**
WHP	**Taichung City**	**0.60**	**292**	⇓*i*P	**Pb**	**07 23 22.7**	**-0.2**
WHP				*e*S	**Sb**	**07 23 30.6**	**-0.4**
SSLB	**Suanglung**	**0.61**	**245**	⇑P	**Pb**	**07 23 22.4**	**-0.6**
SSLB				*e*S	**Sb**	**07 23 29.9**	**-1.3**
TWC	**Suao**	**0.62**	**26**	*e*P	**Pb**	**07 23 23.0**	**-0.2**
TWC				*e*S	**Sg**	**07 23 31.7**	**+0.2**
SMLT	**Sun Moon Lake**	**0.62**	**255**	*e*P	**Pb**	**07 23 22.9**	**-0.3**
SMLT				S	**Sb**	**07 23 30.9**	**-0.7**
YHNB	**Yeheng**	**0.64**	**345**	*e*P	**Pb**	**07 23 23.2**	**-0.3**
YHNB				*i* S	**Sb**	**07 23 31.5**	**-0.6**
TWE	**Neicheng**	**0.68**	**9**	*e*P	**Pg**	**07 23 24.1**	**-0.1**
TWE				S	**Sg**	**07 23 33.7**	**+0.4**
EOS4	**EOS4**	**0.70**	**84**	*e*P	**Pb**	**07 23 24.2**	**-0.2**
EOS4				*e*S	**Sn**	**07 23 36.0**	**+0.3**
NFF	**Wufeng Townshi**	**0.70**	**326**	⇓P	**Pb**	**07 23 24.6**	**-0.1**
NFF				*e*S	**Sg**	**07 23 34.7**	**+0.5**
FUSB	**Fushanzhiwuyua**	**0.71**	**2**	*e*P	**Pb**	**07 23 24.7**	**-0.1**
FUSB				*e*S	**Sb**	**07 23 33.4**	**-0.7**
EOS2	**EOS2**	**0.72**	**59**	*e*P	**Pb**	**07 23 24.4**	**-0.4**
NWLT	**Wulai**	**0.73**	**356**	⇓*e*P	**Pb**	**07 23 24.9**	**-0.1**
NWLT				*e*S	**Sb**	**07 23 33.8**	**-0.9**
EYUL	**Yuli**	**0.73**	**197**	*e*P	**Pb**	**07 23 25.1**	**+0.1**
EYUL				*e*S	**Sb**	**07 23 33.9**	**-0.9**
WHYT	**Xinyi Township**	**0.73**	**241**	*i* P	**Pg**	**07 23 25.5**	**+0.2**
WHYT				S	**Sb**	**07 23 35.0**	**+0.1**
EOS3	**EOS3**	**0.73**	**71**	*e*P	**Pn**	**07 23 26.5**	**+0.3**
ECBN	**Changbin**	**0.74**	**187**	*e*P	**Pb**	**07 23 24.8**	**-0.4**
ECBN				*e*S	**Sb**	**07 23 35.1**	**+0.2**
NSTT	**Nanjuang**	**0.77**	**319**	⇓*e*P	**Pb**	**07 23 25.9**	**+0.1**
NSTT				*e*S	**Sb**	**07 23 36.1**	**+0.3**
LIOB	**Emei**	**0.77**	**320**	*e*P	**Pb**	**07 23 24.9**	**-0.9**
LIOB				*e*S	**Sg**	**07 23 36.3**	**0.0**
TWQ1	**Liyutan**	**0.77**	**293**	*e*P	**Pb**	**07 23 26.0**	**+0.2**
TWQ1				*e*S	**Sb**	**07 23 35.8**	**-0.3**
WJS	**Zhushan**	**0.79**	**254**	*e*P	**Pg**	**07 23 26.9**	**+0.5**
WJS				*i* S	**Sn**	**07 23 38.1**	**-0.4**
KSHI	**Guanxi Townshi**	**0.80**	**335**	*e*P	**Pn**	**07 23 27.2**	**-0.1**
KSHI				*e*S	**Sg**	**07 23 37.9**	**+0.6**
TCU	**Taichung**	**0.81**	**277**	*e*P	**Pg**	**07 23 27.1**	**+0.4**
TCU				S	**Sn**	**07 23 38.9**	**0.0**
EGS		**0.86**	**23**	*e*P	**Pn**	**07 23 27.9**	**-0.2**
EGS				*e*S	**Sn**	**07 23 40.1**	**-0.2**
CHKH	**Chenggong**	**0.87**	**190**	*e*P	**Pb**	**07 23 26.6**	**-0.8**
CHKH				*e*S	**Sg**	**07 23 39.9**	**+0.7**
ALS	**Alishan**	**0.87**	**232**	⇑*i*P	**Pb**	**07 23 27.6**	**0.0**
ALS				*e*S	**Sb**	**07 23 38.7**	**-0.4**
FULB	**Fuli**	**0.88**	**196**	*e*P	**Pb**	**07 23 26.9**	**-0.7**
FULB				*e*S	**Sg**	**07 23 40.2**	**+0.5**
WDJ	**Dajia District**	**0.89**	**290**	*e*P	**Pn**	**07 23 28.8**	**+0.3**
WDJ				*e*S	**Sg**	**07 23 40.2**	**+0.3**
SBCB	**Hsinchu**	**0.90**	**325**	*e*P	**Pn**	**07 23 29.0**	**+0.3**
SBCB				*e*S	**Sb**	**07 23 40.2**	**+0.4**
NHDH	**Xindian Distri**	**0.91**	**358**	*e*P	**Pg**	**07 23 28.6**	**0.0**
WCHH	**Zhanghua**	**0.91**	**272**	*e*P	**Pb**	**07 23 28.2**	**+0.1**
WCHH				*e*S	**Sn**	**07 23 41.9**	**+0.4**
HSN	**Hsinchu**	**0.92**	**325**	*e*P	**Pb**	**07 23 28.3**	**0.0**
HSN				*e*S	**Sg**	**07 23 41.1**	**+0.2**
TIPB	**Shuangxi**	**0.95**	**15**	*e*P	**Pb**	**07 23 29.0**	**+0.1**
TIPB				S	**Sb**	**07 23 41.0**	**-0.2**
EHD	**Haiduan**	**0.95**	**200**	*e*P	**Pb**	**07 23 28.6**	**-0.3**
EHD				*e*S	**Sb**	**07 23 40.9**	**-0.2**
CHKT	**Chengkung**	**0.96**	**190**	*e*P	**Pb**	**07 23 28.4**	**-0.6**
CHKT				*e*S	**Sn**	**07 23 42.9**	**+0.2**
NCUH	**Zhongli**	**0.97**	**340**	*e*P	**Pg**	**07 23 30.6**	**+0.7**
NCUH				*e*S	**Sn**	**07 23 44.7**	**+1.7**
WGK	**Gukeng**	**0.98**	**249**	*e*P	**Pb**	**07 23 29.3**	**0.0**
WGK				*e*S	**Sb**	**07 23 42.1**	**+0.3**
ELDTW	**Lidau**	**0.99**	**210**	*e*P	**Pb**	**07 23 29.1**	**-0.4**
ELDTW				*e*S	**Sb**	**07 23 41.5**	**-0.8**
ECS	**Chishang**	**1.00**	**198**	*e*P	**Pb**	**07 23 29.4**	**-0.2**
ECS				*e*S	**Sg**	**07 23 43.5**	**+0.1**
WDLH	**Douliu**	**1.00**	**249**	*e*P	**Pn**	**07 23 30.1**	**+0.2**
WDLH				*i* S	**Sg**	**07 23 44.1**	**+0.7**
TWB1	**Santiao Chiao**	**1.03**	**22**	P	**Pg**	**07 23 31.4**	**+0.4**
TWB1				S	**Sg**	**07 23 44.6**	**+0.1**
WFSB	**Wu-fen Shan**	**1.04**	**11**	*e*P	**Pg**	**07 23 31.1**	**+0.1**
WFSB				*e*S	**Sn**	**07 23 44.3**	**-0.3**
WCKO	**Fanlu**	**1.06**	**235**	*e*P	**Pn**	**07 23 31.3**	**+0.4**
WCKO				*i* S	**Sg**	**07 23 46.2**	**+0.8**
SXI1	**Grass Mountain**	**1.08**	**16**	*e*P	**Pn**	**07 23 31.0**	**-0.2**
SXI1				S	**Sg**	**07 23 46.8**	**+0.7**
YM01	**YM01**	**1.09**	**1**	*e*P	**Pg**	**07 23 32.0**	**-0.1**
YM01				*e*S	**Sg**	**07 23 46.2**	**-0.2**
EDH	**Donghe**	**1.10**	**192**	*e*P	**Pn**	**07 23 30.4**	**-0.9**
EDH				*e*S	**Sb**	**07 23 44.9**	**-0.4**
ZUZH	**Zhuzihu**	**1.11**	**360**	*e*P	**Pb**	**07 23 31.6**	**0.0**
ZUZH				*e*S	**Sb**	**07 23 45.7**	**0.0**
TNOU	**National Taiwa**	**1.11**	**10**	*e*P	**Pg**	**07 23 32.2**	**-0.2**
TNOU				*e*S	**Sg**	**07 23 47.2**	**+0.1**
NTST	**Danshui**	**1.11**	**355**	*e*P	**Pg**	**07 23 32.5**	**0.0**
NTST				*i* S	**Sg**	**07 23 48.4**	**+1.3**
WTK	**Tuku**	**1.13**	**252**	*e*P	**Pb**	**07 23 32.1**	**+0.3**
WTK				*e*S	**Sg**	**07 23 48.0**	**+0.5**
TPUB	**Ta-pu**	**1.13**	**229**	*e*P	**Pb**	**07 23 32.4**	**+0.5**
TPUB				*e*S	**Sg**	**07 23 47.9**	**+0.3**
STYH	**Taoyuan**	**1.13**	**219**	*e*P	**Pn**	**07 23 31.9**	**+0.1**
STYH				S	**Sb**	**07 23 46.7**	**+0.5**
ANP	**Anpu**	**1.13**	**358**	*e*P	**Pn**	**07 23 31.5**	**-0.5**
ANP				*e*S	**Sn**	**07 23 46.9**	**-0.2**
YM08	**YM08**	**1.13**	**2**	*e*P	**Pn**	**07 23 31.1**	**-0.8**
YM08				*e*S	**Sn**	**07 23 46.8**	**-0.2**
CHY	**Chiayi**	**1.17**	**242**	*e*P	**Pb**	**07 23 33.2**	**+0.6**
CHY				*e*S	**Sg**	**07 23 49.2**	**+0.3**
WTP	**Ta-pu**	**1.18**	**227**	*e*P	**Pg**	**07 23 33.5**	**-0.2**
WTP				*e*S	**Sn**	**07 23 48.9**	**+0.8**
LONT	**Longtian**	**1.20**	**199**	*e*P	**Pn**	**07 23 33.0**	**+0.1**
LONT				*e*S	**Sb**	**07 23 48.6**	**+0.3**
CHN1	**Nanshi**	**1.28**	**228**	P	**Pg**	**07 23 35.2**	**-0.3**
CHN1				S	**Sg**	**07 23 52.9**	**+0.6**
TWG	**Pinlang**	**1.30**	**200**	*e*P	**Pn**	**07 23 34.5**	**+0.3**
TWG				*e*S	**Sn**	**07 23 51.0**	**-0.1**
WSL	**Shuilin Townsh**	**1.32**	**247**	*e*P	**Pb**	**07 23 35.5**	**+0.4**
WSL				*e*S	**Sb**	**07 23 53.0**	**+1.2**
LDUT	**Ludao**	**1.37**	**183**	*e*P	**Pn**	**07 23 33.0**	**-2.1**
YOJ	**Yonaguni jima**	**1.39**	**73**	*e*P	**Pn**	**07 23 34.8**	**-0.5**
YOJ				*e*S	**Sb**	**07 23 54.1**	**+0.3**
ECL	**Taimali**	**1.55**	**201**	*e*P	**Pn**	**07 23 37.9**	**+0.3**
SSD	**Sandimen**	**1.55**	**213**	*e*P	**Pb**	**07 23 39.0**	**0.0**
PCYT	**Pengchaiyu**	**1.64**	**16**	*e*P	**Pn**	**07 23 39.2**	**+0.4**
MASBT	**Mashibuluo**	**1.66**	**211**	*e*P	**Pn**	**07 23 39.9**	**+0.8**
MASBT				S	**Sb**	**07 24 02.4**	**+0.8**
SCZT	**Fangliau**	**1.88**	**207**	*e*P	**Pb**	**07 23 44.5**	**-0.2**
PHUB	**P'eng-hu**	**1.89**	**254**	*e*P	**Pn**	**07 23 42.4**	**+0.1**
PHUB				*i* S	**Sn**	**07 24 06.5**	**+0.8**
PNG	**Penghu**	**1.89**	**256**	*e*P	**Pn**	**07 23 42.5**	**+0.2**
PNG				*e*S	**Sn**	**07 24 06.2**	**+0.5**
WDGT	**Dungji**	**1.91**	**246**	*e*P	**Pn**	**07 23 43.2**	**+0.8**
WDGT				*e*S	**Sb**	**07 24 08.5**	**-0.2**
IRIF	**Iriomote-Funau**	**2.01**	**81**	*e*P	**Pn**	**07 23 43.6**	**-0.2**
VCHM	**Qimei**	**2.12**	**247**	*e*P	**Pn**	**07 23 44.5**	**-0.9**
VWUC	**VWUC**	**2.13**	**296**	*e*P	**Pn**	**07 23 45.7**	**0.0**
JIJ	**Ishigaki jima**	**2.38**	**82**	*e*P	**Pn**	**07 23 48.9**	**-0.2**
JIJ				*e*S	**Sn**	**07 24 17.1**	**-0.7**
PTMZ	**Houxiangcun**	**2.43**	**294**	*e*P	**Pn**	**07 23 48.9**	**-0.7**
MATB	**Ma-tsu**	**2.55**	**325**	*e*P	**Pn**	**07 23 50.5**	**-0.9**
JISG	**Ishigakijimahi**	**2.57**	**77**	*e*P	**Pn**	**07 23 51.5**	**-0.1**
JISG				*e*S	**Sn**	**07 24 21.4**	**-1.1**
MHZQ	**Yeshan**	**3.07**	**312**	*e*P	**Pn**	**07 23 57.4**	**-1.1**
ZPLA	**Ao Xicun**	**3.48**	**269**	*e*P	**Pn**	**07 24 03.6**	**-0.5**
SXFK	**Yanhouchang**	**4.24**	**304**	*e*P	**Pn**	**07 24 14.4**	**-0.3**

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*JMA **02** 07:29:50.4±0.1, 24°.8N±0°.9×122°.3E±0°.2, h50^{km}±2^{km}, MV2.9/7, TAIWAN REGION*
*TAP **02** 07:29:50.3, 24°.86N×122°.22E, h10^{km}, ML3.6, C*
ISC 02 07:29:49.6±1.0**, 24°.88N**±0°.03×**122°.27E**±0°.02**, h15^{km}**±7^{km}**, n55, σ0^{s}72**/96**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.29**	**296**	*i* P	**Pb**	**07 29 56.1**	**-0.4**
TWB1				*i* S	**Sg**	**07 29 59.9**	**0.0**
EGS		**0.31**	**264**	P	**Pg**	**07 29 56.4**	**+0.3**
EGS				*e*S	**Sg**	**07 30 00.7**	**+0.1**
TIPB	**Shuangxi**	**0.41**	**283**	*i* P	**Pb**	**07 29 58.6**	**-0.1**
TIPB				*e*S	**Sg**	**07 30 03.9**	**+0.1**
SXI1	**Grass Mountain**	**0.42**	**301**	*i* P	**Pb**	**07 29 58.9**	**+0.1**
SXI1				S	**Sb**	**07 30 05.2**	**+0.3**
EOS2	**EOS2**	**0.46**	**185**	*i* P	**Pb**	**07 29 59.3**	**0.0**
EOS2				*i* S	**Sb**	**07 30 06.5**	**+0.6**
TWC	**Suao**	**0.47**	**235**	*i* P	**Pg**	**07 29 58.5**	**-0.5**
TWC				*e*S	**Sg**	**07 30 04.0**	**-1.4**
NWF	**Wu-fen Shan**	**0.48**	**293**	*e*P	**Pn**	**07 30 01.0**	**-1.0**
NWF				*e*S	**Sb**	**07 30 08.0**	**+1.2**
WFSB	**Wu-fen Shan**	**0.48**	**293**	*e*P	**Pn**	**07 30 01.0**	**-1.0**
WFSB				*e*S	**Sb**	**07 30 07.5**	**+0.7**
ESAO	**Su ao**	**0.49**	**232**	P	**Pg**	**07 29 59.1**	**-0.3**
ESAO				S	**Sg**	**07 30 04.6**	**-1.5**
TNOU	**National Taiwa**	**0.53**	**301**	*e*P	**Pn**	**07 30 01.5**	**-1.0**
TNOU				*e*S	**Sb**	**07 30 08.0**	**0.0**
TWE	**Neicheng**	**0.57**	**254**	*e*P	**Pg**	**07 30 01.0**	**+0.1**
TWE				*e*S	**Sg**	**07 30 08.2**	**-0.4**
EOS3	**EOS3**	**0.59**	**176**	P	**Pb**	**07 30 01.8**	**+0.2**
FUSB	**Fushanzhiwuyua**	**0.63**	**259**	P	**Pb**	**07 30 02.3**	**-0.1**
FUSB				*e*S	**Sg**	**07 30 10.8**	**+0.3**
YM01	**YM01**	**0.69**	**293**	P	**Pn**	**07 30 04.3**	**-0.5**
YM01				*e*S	**Sn**	**07 30 14.1**	**-1.2**
YM08	**YM08**	**0.69**	**296**	*e*P	**Pn**	**07 30 04.1**	**-0.7**
NWLT	**Wulai**	**0.71**	**262**	*e*P	**Pb**	**07 30 04.2**	**+0.6**
NWLT				*e*S	**Sg**	**07 30 12.6**	**-0.2**
EAHA	**Aohua**	**0.73**	**222**	*e*P	**Pb**	**07 30 03.9**	**-0.2**
EAHA				*e*S	**Sg**	**07 30 13.6**	**0.0**
JYNG	**Yonagunijimaku**	**0.75**	**125**	*e*P	**Pg**	**07 30 04.5**	**+0.4**
JYNG				*e*S	**Sb**	**07 30 15.0**	**+0.7**
EOS4	**EOS4**	**0.76**	**177**	*e*P	**Pg**	**07 30 04.8**	**+0.5**
LATG	**Datong**	**0.76**	**243**	*e*P	**Pg**	**07 30 04.7**	**+0.2**
LATG				*e*S	**Sg**	**07 30 14.6**	**+0.1**
PCYT	**Pengchaiyu**	**0.77**	**346**	P	**Pn**	**07 30 05.4**	**-0.5**
YOJ	**Yonaguni jima**	**0.79**	**122**	*e*P	**Pg**	**07 30 05.0**	**+0.1**
YOJ				*e*S	**Sg**	**07 30 15.7**	**+0.3**
YOJ	**Yonaguni jima**	**0.79**	**122**	*e*P	**Pg**	**07 30 05.1**	**+0.1**
YOJ				*e*S	**Sg**	**07 30 15.7**	**+0.3**
YHNB	**Yeheng**	**0.84**	**256**	*e*P	**Pg**	**07 30 06.1**	**+0.1**
NNSB	**Datong**	**0.93**	**241**	*e*P	**Pg**	**07 30 07.5**	**0.0**
NNSB				*e*S	**Sb**	**07 30 19.3**	**-0.2**
NNS	**Nan Shan**	**0.93**	**242**	P	**Pn**	**07 30 08.1**	**-0.1**
NNS				*e*S	**Sg**	**07 30 19.9**	**+0.1**
ETL	**Fush Village**	**0.93**	**220**	P	**Pb**	**07 30 07.2**	**-0.3**
ETL				*e*S	**Sb**	**07 30 19.5**	**0.0**
NACB	**Ninganchiao**	**0.94**	**221**	*i* P	**Pb**	**07 30 07.1**	**-0.4**
NACB				S	**Sb**	**07 30 18.9**	**-0.8**
ETLH	**Xiulin Townshi**	**0.98**	**227**	*e*P	**Pb**	**07 30 08.4**	**+0.1**
ETLH				*e*S	**Sb**	**07 30 20.8**	**-0.4**
TWD	**Chiawan**	**1.01**	**218**	*e*P	**Pb**	**07 30 08.6**	**-0.2**
TWD				*e*S	**Sb**	**07 30 21.1**	**-0.7**
NFF	**Wufeng Townshi**	**1.08**	**257**	*e*P	**Pg**	**07 30 10.7**	**+0.3**
NFF				*e*S	**Sn**	**07 30 25.1**	**+0.2**
FUSS	**Fushou**	**1.13**	**236**	*e*P	**Pg**	**07 30 11.7**	**+0.3**
FUSS				*e*S	**Sn**	**07 30 26.4**	**0.0**
LIOB	**Emei**	**1.17**	**259**	*e*P	**Pg**	**07 30 13.7**	**+1.6**
LIOB				*e*S	**Sg**	**07 30 30.5**	**+3.1**
WHF	**Hehuan Shan**	**1.17**	**232**	*e*P	**Pb**	**07 30 12.0**	**+0.2**
WHF				*e*S	**Sb**	**07 30 26.7**	**-0.3**
NSTT	**Nanjuang**	**1.18**	**258**	*e*P	**Pg**	**07 30 13.3**	**+0.8**
NSTT				*e*S	**Sg**	**07 30 28.2**	**+0.3**
TDCB	**Techi**	**1.19**	**239**	*e*P	**Pg**	**07 30 12.8**	**+0.2**
TDCB				*e*S	**Sb**	**07 30 27.5**	**+0.3**
SHUL	**Shoufeng**	**1.27**	**211**	*e*P	**Pg**	**07 30 14.9**	**+0.9**
SHUL				*e*S	**Sg**	**07 30 31.4**	**+0.9**
WHP	**Taichung City**	**1.35**	**244**	*e*P	**Pg**	**07 30 15.6**	**0.0**
OWD	**Renai**	**1.36**	**228**	*e*P	**Pb**	**07 30 15.0**	**+0.2**
OWD				*e*S	**Sb**	**07 30 32.6**	**+0.6**
WUSB	**Renai**	**1.38**	**230**	*e*P	**Pg**	**07 30 15.7**	**-0.4**
WUSB				*e*S	**Sb**	**07 30 32.7**	**+0.2**
WARBT	**Fenglin Townsh**	**1.41**	**215**	*e*P	**Pb**	**07 30 15.2**	**-0.4**
IRIF	**Iriomote-Funau**	**1.43**	**112**	*e*P	**Pn**	**07 30 13.9**	**-1.1**
WCS	**Beigang Elemen**	**1.49**	**237**	*e*P	**Pg**	**07 30 18.4**	**+0.2**
HGSD	**Ruisui**	**1.58**	**209**	*e*P	**Pb**	**07 30 17.8**	**-0.8**
SMLT	**Sun Moon Lake**	**1.60**	**232**	*e*P	**Pg**	**07 30 20.4**	**+0.1**
SMLT				*e*S	**Sg**	**07 30 40.6**	**-0.5**
HATJ	**Hateruma jima**	**1.62**	**120**	*e*P	**Pn**	**07 30 17.3**	**-0.3**
SSLB	**Suanglung**	**1.62**	**228**	*e*P	**Pb**	**07 30 19.4**	**+0.2**
SSLB				*e*S	**Sg**	**07 30 41.4**	**-0.5**
CHKH	**Chenggong**	**1.86**	**206**	*e*S	**Sn**	**07 30 45.0**	**+0.9**
ALS	**Alishan**	**1.91**	**225**	*e*P	**Pb**	**07 30 24.7**	**+0.4**
ALS				*e*S	**Sg**	**07 30 50.2**	**-1.0**
EHD	**Haiduan**	**1.98**	**210**	*e*P	**Pn**	**07 30 22.7**	**+0.2**
WCKO	**Fanlu**	**2.09**	**227**	*e*P	**Pb**	**07 30 27.9**	**+0.6**
WCKO				*e*S	**Sb**	**07 30 54.9**	**+1.8**
EDH	**Donghe**	**2.10**	**205**	*e*P	**Pn**	**07 30 23.9**	**-0.2**
EDH				*e*S	**Sn**	**07 30 48.7**	**-1.3**
TPUB	**Ta-pu**	**2.17**	**224**	*e*P	**Pb**	**07 30 28.3**	**-0.3**
TPUB				*e*S	**Sb**	**07 30 56.7**	**+1.3**
STYH	**Taoyuan**	**2.18**	**219**	*e*S	**Sb**	**07 30 56.0**	**+0.4**
WTP	**Ta-pu**	**2.22**	**223**	*e*P	**Pb**	**07 30 29.8**	**+0.2**
WTP				*e*S	**Sb**	**07 30 58.8**	**+1.9**

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*SJA **02** 07:41:24.4±1.9, 35°.06S×70°.95W, h118^{km}±9^{km}, ML3.3, MW3.5*
*GUC **02** 07:41:26.6±0.9, 35°.05S×70°.94W, h103^{km}±4^{km}, ML3.6*
ISC 02 07:41:26.6±1.4**, 35°.05S**±0°.03×**70°.95W**±0°.05**, h101^{km}**±9^{km}**, n53, σ0^{s}77**/80**, 2C-19D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO02	**Sierra Bellavi**	**0.29**	**29**	⇓*i*P	**Pn**	**07 41 40.7**	**-0.7**
BO02				*i* S	**Sn**	**07 41 52.1**	**-0.2**
BO02				IAML		07 41 55.5	
	comp=N,6μm,0.1s						
BO01	**Tunca**	**0.66**	**350**	⇓*i*P	**Pn**	**07 41 43.4**	**-0.3**
BO01				*i* S	**Sn**	**07 41 56.3**	**-0.2**
BO01				IAML		07 41 56.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,1µm,0.2s						
BO01	**Tunca**	**0.66**	**350**	iP	**Pn**	**07 41 42.7**	**-1.1**
BO01				IAML		07 41 56.9	
	comp=Z,1µm,0.1s						
GO05	**Hualane**	**0.81**	**272**	⇑iP	**Pn**	**07 41 45.6**	**+0.5**
GO05				iS	**Sn**	**07 41 59.7**	**+0.7**
GO05				IAML		07 42 01.7	
	comp=E,1µm,0.2s						
GO05	**Hualane**	**0.81**	**272**	iP	**Pn**	**07 41 44.7**	**-0.4**
GO05				IAML		07 42 01.6	
	comp=Z,746nm,0.1s						
ML02	**Panimavida**	**0.81**	**208**	⇑iP	**Pn**	**07 41 45.4**	**+0.3**
ML02				iS	**Sn**	**07 42 00.0**	**+1.0**
ML02				IAML		07 42 01.0	
	comp=E,2µm,0.5s						
ML02	**Panimavida**	**0.81**	**208**	iP	**Pn**	**07 41 45.4**	**+0.3**
ML02				eS	**Sn**	**07 42 00.4**	**+1.4**
ML02				IAML		07 42 03.4	
	comp=Z,825nm,0.5s						
BO04	**La Punta**	**1.09**	**15**	⇓iP	**Pn**	**07 41 48.1**	**-0.1**
BO04				iS	**Sn**	**07 42 04.7**	**+0.4**
BO04				IAML		07 42 05.2	
	comp=N,2µm,0.2s						
MT01	**Popeta**	**1.21**	**348**	⇓iP	**Pn**	**07 41 49.0**	**-0.3**
MT01				iS	**Sn**	**07 42 06.5**	**-0.1**
MT01				IAML		07 42 08.6	
	comp=E,1µm,0.2s						
MT01	**Popeta**	**1.21**	**348**	iP	**Pn**	**07 41 49.1**	**-0.2**
MT01				IAML		07 42 08.2	
	comp=Z,621nm,0.2s						
MT09	**Talagante**	**1.27**	**359**	⇓iP	**Pn**	**07 41 50.1**	**-0.2**
MT09				iS	**Sn**	**07 42 08.3**	**+0.3**
MT09				IAML		07 42 11.3	
	comp=N,2µm,0.2s						
LMEL	**Las Melosas**	**1.34**	**28**	⇓iP	**Pn**	**07 41 51.3**	**+0.1**
LMEL				iS	**Sn**	**07 42 10.3**	**+0.5**
LMEL				IAML		07 42 14.5	
	comp=N,1µm,0.3s						
LMEL	**Las Melosas**	**1.34**	**28**	iP	**Pn**	**07 41 51.2**	**+0.1**
LMEL				eS	**Sn**	**07 42 10.2**	**+0.5**
LMEL				IAML		07 42 18.0	
	comp=Z,446nm,0.1s						
MT13	**San Alfonso**	**1.41**	**23**	⇓iP	**Pn**	**07 41 52.2**	**+0.3**
MT13				iS	**Sn**	**07 42 12.1**	**+1.0**
MT13				IAML		07 42 13.4	
	comp=E,1µm,0.3s						
MT13	**San Alfonso**	**1.41**	**23**	iP	**Pn**	**07 41 52.2**	**+0.3**
MT13				IAML		07 42 14.1	
	comp=Z,628nm,0.2s						
EDS3	**Malargue**	**1.46**	**120**	iP	**Pn**	**07 41 52.3**	**-0.2**
EDS3				eS	**Sn**	**07 42 11.4**	**-0.7**
MT15	**Las Vizcachas**	**1.49**	**14**	⇓iP	**Pn**	**07 41 52.9**	**+0.1**
MT15				iS	**Sn**	**07 42 13.4**	**+0.7**
MT03	**Universidad Ad**	**1.59**	**13**	⇓iP	**Pn**	**07 41 54.0**	**-0.1**
MT03				iS	**Sn**	**07 42 15.0**	**+0.1**
BI02	**San Fabin de**	**1.64**	**189**	eP	**Pn**	**07 41 54.9**	**+0.2**
BI02				eS	**Sn**	**07 42 16.3**	**+0.4**
BI02				IAML		07 42 20.8	
	comp=Z,339nm,0.3s						
MT16	**CCHEN**	**1.65**	**12**	⇓iP	**Pn**	**07 41 54.8**	**-0.1**
MT16				iS	**Sn**	**07 42 16.3**	**0.0**
MT05	**Renca**	**1.66**	**6**	⇓iP	**Pn**	**07 41 54.9**	**0.0**
MT05				iS	**Sn**	**07 42 16.8**	**+0.4**
MT05				IAML		07 42 20.8	
	comp=E,1µm,0.3s						
MT05	**Renca**	**1.66**	**6**	iP	**Pn**	**07 41 55.0**	**0.0**
MT05				eS	**Sn**	**07 42 17.4**	**+1.0**
MT05				IAML		07 42 22.1	
	comp=Z,340nm,0.5s						
MT14	**Cerro Cal¡n**	**1.68**	**12**	⇓iP	**Pn**	**07 41 55.2**	**0.0**
MT14				iS	**Sn**	**07 42 17.4**	**+0.5**
MT14				IAML		07 42 20.9	
	comp=E,909nm,0.3s						
MT04	**Ro Olivares**	**1.77**	**23**	⇓iP	**Pn**	**07 41 56.7**	**+0.2**
MT04				iS	**Sn**	**07 42 20.2**	**+1.0**
MT04				IAML		07 42 23.4	
	comp=N,446nm,0.4s						
MT04	**Ro Olivares**	**1.77**	**23**	iP	**Pn**	**07 41 56.7**	**+0.2**
MT04				eS	**Sn**	**07 42 21.1**	**+1.9**
MT04				IAML		07 42 23.9	
	comp=Z,204nm,0.3s						
MT08	**Bocatoma Ro**	**1.77**	**26**	⇓iP	**Pn**	**07 41 56.8**	**+0.3**
MT08				iS	**Sn**	**07 42 20.1**	**+0.8**
MT08	**Bocatoma Ro**	**1.77**	**26**	iP	**Pn**	**07 41 56.8**	**+0.3**
MT08				eS	**Sn**	**07 42 20.4**	**+1.1**
MT08				IAML		07 42 26.6	
	comp=Z,127nm,0.6s						
MT02	**Curacav**	**1.79**	**355**	iP	**Pn**	**07 41 56.4**	**-0.2**
MT02				IAML		07 42 25.0	
	comp=Z,232nm,0.2s						
FCH	**Farellones**	**1.80**	**18**	⇓iP	**Pn**	**07 41 56.7**	**-0.2**
FCH				iS	**Sn**	**07 42 20.4**	**+0.4**
FCH				IAML		07 42 22.9	
	comp=E,575nm,0.2s						
MT10	**Hacienda Santa**	**1.80**	**11**	⇓iP	**Pn**	**07 41 56.7**	**-0.1**
MT10				iS	**Sn**	**07 42 19.6**	**-0.2**
MT10				IAML		07 42 25.1	
	comp=E,803nm,0.5s						
PEL	**Peldehue**	**1.91**	**7**	⇓iP	**Pn**	**07 41 58.0**	**-0.1**
PEL				iS	**Sn**	**07 42 22.4**	**+0.3**
PEL				IAML		07 42 24.6	
	comp=N,392nm,0.2s						
RFA	**San Rafael**	**2.06**	**83**	iP	**Pn**	**07 41 58.7**	**-1.3**
RFA				IAML		07 42 25.3	
	comp=Z,33nm,0.5s						
ROCH	**El Roble**	**2.07**	**359**	eP		07 42 00.0	
ROCH				⇓iP	**Pn**	**07 41 60.0**	**-0.4**
ROCH				eP		07 42 00.1	
ROCH				IAML		07 42 32.1	
	comp=N,465nm,0.3s						
VA01	**Torpederas**	**2.10**	**344**	⇓iP	**Pn**	**07 42 00.8**	**+0.3**
VA01				iS	**Sn**	**07 42 25.7**	**-0.6**
VA01				IAML		07 42 27.3	
	comp=E,1µm,0.1s						
VA01	**Torpederas**	**2.10**	**344**	iP	**Pn**	**07 42 00.1**	**-0.4**
VA01				IAML		07 42 27.7	
	comp=Z,210nm,0.4s						
VA03	**San Esteban**	**2.30**	**8**	iP	**Pn**	**07 42 03.0**	**-0.2**
VA03				IAML		07 42 33.3	
	comp=Z,175nm,0.6s						
BI05	**Punta Hualpn**	**2.49**	**226**	iP	**Pn**	**07 42 04.9**	**-0.7**
BI05				IAML		07 42 37.0	
	comp=Z,157nm,0.2s						
AAGR	**Agrelo**	**2.63**	**43**	iP	**Pn**	**07 42 07.9**	**+0.3**
ARCO	**CERRO ARCO**	**2.77**	**38**	iP	**Pn**	**07 42 11.0**	**+1.6**
ARCO				IAML		07 42 59.4	
	comp=Z,25nm,0.9s						
RTLS	**Leoncito**	**3.52**	**24**	iP	**Pn**	**07 42 20.6**	**+1.0**
RTLS				IAML		07 43 05.8	
	comp=Z,84nm,0.3s						
CO02	**Combarbal**	**3.83**	**359**	iP	**Pn**	**07 42 22.8**	**-0.8**
CO02				IAML		07 43 11.9	
	comp=Z,102nm,0.4s						
CFA	**Coronel Fontan**	**4.11**	**34**	iP	**Pn**	**07 42 26.7**	**-0.7**
CFA				IAML		07 43 17.1	
	comp=Z,25nm,0.3s						
ACAN	**Cantantal**	**4.18**	**50**	iP	**Pn**	**07 42 27.7**	**-0.6**
ACAN				IAML		07 43 25.0	
	comp=Z,54nm,0.7s						
CO03	**El Pedregal**	**4.20**	**3**	iP	**Pn**	**07 42 27.8**	**-0.8**
CO03				IAML		07 43 18.3	
	comp=Z,39nm,0.3s						
GO06	**Curarrehue**	**4.55**	**185**	iP	**Pn**	**07 42 32.0**	**-1.3**
GO06				IAML		07 43 27.5	
	comp=Z,8.0nm,2.5s						
ACCO	**Cerro Coronel**	**4.72**	**20**	iP	**Pn**	**07 42 35.2**	**-0.6**
GO04	**Tololo Observa**	**4.86**	**2**	iP	**Pn**	**07 42 35.9**	**-1.7**
GO04				IAML		07 43 51.1	
	comp=Z,48nm,0.3s						
AROD	**Rodeo**	**5.02**	**15**	iP	**Pn**	**07 42 39.6**	**-0.3**
ACDV	**Cuesta del Vie**	**5.10**	**18**	iP	**Pn**	**07 42 40.1**	**-0.8**
ACDV				IAML		07 43 40.2	
	comp=Z,12nm,0.6s						
CO01	**Juntas del Tor**	**5.11**	**8**	iP	**Pn**	**07 42 38.0**	**-3.0**
CO01				IAML		07 44 20.2	
	comp=Z,16nm,2.6s						
LR05	**Currie**	**5.24**	**189**	iP	**Pn**	**07 42 41.5**	**-1.1**
LR05				IAML		07 44 24.8	
	comp=Z,14nm,3.2s						
AVFE	**Valle Fertil**	**5.27**	**35**	iP	**Pn**	**07 42 41.4**	**-1.7**
AVFE				IAML		07 43 45.1	
	comp=Z,18nm,0.8s						
ACHE	**Chepes**	**5.29**	**44**	iP	**Pn**	**07 42 42.5**	**-0.9**

SOME 02 07:41:48.2, 45°.50N×82°.30E, h0^{km}, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KPKS	**Kokpek**	**3.29**	**233**	Pg	Pg	07 42 50.4	-0.9
	0.3nm,0.2s						
KPKS				Lg	Lg	07 43 35.2	
	9.8nm,0.3s						
UZB	**Uzynbulak**	**3.33**	**226**	Pg	Pg	07 42 50.7	-1.3
	2.5nm,0.3s						
UZB				Lg	Lg	07 43 35.6	
	3.9nm,0.3s						
UZB	**Uzynbulak**	**3.33**	**226**	eP	Pg	07 42 50.7	-1.3
	2.5nm,0.3s						
UZB				eS	Sg	07 43 35.6	+0.6
	3.9nm,0.3s						
SATY	**Saty**	**3.71**	**230**	Pg	Pg	07 42 58.0	-1.3
	1.9nm,0.1s						
SATY				Lg	Lg	07 43 48.5	
	14nm,0.3s						

NOU 02 07:57:03.5, 48°.57S×164°.78E, h0^{km}, mb4.4/10, Off W. Coast of S. Island, N.Z., Off west coast of South Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**2.73**	**29**	P	Pn	07 57 49.7	+1.1
SYZ	**Scrubby Hill**	**3.58**	**57**	P	Pn	07 57 58.3	-2.0
JCZ	**Jackson Bay**	**5.28**	**33**	P	Pn	07 58 24.2	+0.4
ODZ	**Otahua Downs**	**5.35**	**51**	P	Pn	07 58 24.0	-0.6
RPZ	**Rata Peaks**	**6.52**	**44**	P	Pn	07 58 40.9	+0.2
QRZ	**Quartz Range**	**9.50**	**38**	P	Pn	07 59 21.1	-0.4
TAU	**Tasmania Unive**	**13.43**	**288**	P	Pn	08 00 13.1	-2.2
MOO	**Moorlands**	**13.76**	**290**	P	Pn	08 00 19.0	-0.8
GLAD	**Gladstone**	**14.10**	**296**	P	Pn	08 00 23.9	-0.5
PSA00	**Pilbara Seismi**	**44.69**	**291**	P	P	08 05 21.3	+3.1

*SNET **02** 08:02:06.0±1.3, 13°.55N×88°.43W, h199^{km}±6^{km}, ML2.5*
*GCG **02** 08:02:08.5±0.3, 13°.63N×88°.62W, h193^{km}±8^{km}, MD4.3*
*CATAC **02** 08:02:08.3±0.5, 14°N±7°×8°9W±°, h190^{km}±4^{km}, M2.7/14, MLv2.7/14, Error ellipse: s-maj=15.4km s-min=4.5km az=26.5, confirmed*
ISC 02 08:02:08.9±2.1**, 13°.6N**±0°.1×**88°.50W**±0°.07**, h190**^{km}±13^{km}**, n45,** σ**0^{s}94**/52**, 1D, El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PQSS	**Presa 15 de Se**	**0.07**	**305**	eP	**Pn**	**08 02 33.0**	**-0.8**
PQSS	**Presa 15 de Se**	**0.07**	**305**	P	**Pn**	**08 02 33.0**	**-0.8**
PQSS	**Presa 15 de Se**	**0.07**	**305**	S	**Sn**	**08 02 52.4**	**-0.7**
TECA	**Tecapa**	**0.09**	**181**	eP	**Pn**	**08 02 33.8**	**-0.3**
TECA				eP		08 02 33.9	
TECA				eS	**Sn**	**08 02 54.3**	**+0.7**
TECA				eS		08 02 54.5	
PACA	**Pacayal**	**0.21**	**123**	eP	**Pn**	**08 02 33.6**	**-0.5**
PACA	**Pacayal**	**0.21**	**123**	S	**Sn**	**08 02 54.5**	**+0.9**
SCLA	**Alcaldia de Sa**	**0.25**	**298**	eP	**Pn**	**08 02 33.6**	**-0.5**
SCLA				eS	**Sn**	**08 02 53.9**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.25**	**298**	P	**Pn**	**08 02 33.8**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.25**	**298**	S	**Sn**	**08 02 54.1**	**+0.5**
TECO	**Alcaldia de Te**	**0.28**	**260**	eP	**Pn**	**08 02 33.3**	**-0.8**
TECO				eS	**Sn**	**08 02 52.5**	**-1.0**
TECO	**Alcaldia de Te**	**0.28**	**260**	P	**Pn**	**08 02 33.3**	**-0.8**
PAVA	**Las Pavas**	**0.44**	**287**	eP	**Pn**	**08 02 34.2**	**-0.5**
PAVA	**Las Pavas**	**0.44**	**287**	P	**Pn**	**08 02 34.2**	**-0.5**
PAVA	**Las Pavas**	**0.44**	**287**	S	**Sn**	**08 02 54.6**	**0.0**
LFRS	**El Faro**	**0.55**	**274**	eP	**Pn**	**08 02 34.2**	**-0.9**
LOMA	**Loma Larga**	**0.66**	**275**	eP	**Pn**	**08 02 35.2**	**-0.4**
CNCH	**Conchagua**	**0.72**	**115**	eP	**Pn**	**08 02 34.0**	**-2.0**
CNCH				⇓iP		08 02 35.0	
CNCH	**Conchagua**	**0.72**	**115**	P	**Pn**	**08 02 35.2**	**-0.8**
CNCH	**Conchagua**	**0.72**	**115**	S	**Sn**	**08 02 60.0**	**+3.2**
PMON	**Piamonte**	**0.80**	**279**	eP	**Pn**	**08 02 36.8**	**+0.4**
PMON	**Piamonte**	**0.80**	**279**	S	**Sn**	**08 02 59.2**	**+1.6**
PMON	**Piamonte**	**0.80**	**279**	P	**Pn**	**08 02 37.9**	**+1.5**
JAYA	**Jayaque - finc**	**0.93**	**274**	eP	**Pn**	**08 02 36.5**	**-0.7**
JAYA	**Jayaque - finc**	**0.93**	**274**	iP	**Pn**	**08 02 36.6**	**-0.7**
JAYA				iS	**Sn**	**08 02 58.4**	**-0.8**
JAYA	**Jayaque - finc**	**0.93**	**274**	P	**Pn**	**08 02 36.5**	**-0.7**
MTO3	**Montecristo**	**1.16**	**314**	iP	**Pn**	**08 02 39.1**	**0.0**
MTO3	**Montecristo**	**1.16**	**314**	S	**Sn**	**08 03 02.8**	**+0.3**
MTO3	**Montecristo**	**1.16**	**314**	P	**Pn**	**08 02 39.2**	**+0.2**
ESQI	**Esquipulas**	**1.27**	**320**	P	**Pn**	**08 02 40.2**	**+0.4**
ESQI	**Esquipulas**	**1.27**	**320**	S	**Sn**	**08 03 04.9**	**+1.1**
NUBE	**Las Nubes**	**1.28**	**284**	eP	**Pn**	**08 02 39.6**	**-0.4**
NUBE	**Las Nubes**	**1.28**	**284**	iP	**Pn**	**08 02 39.6**	**-0.4**
NUBE				iS	**Sn**	**08 03 04.0**	**+0.1**
NUBE	**Las Nubes**	**1.28**	**284**	P	**Pn**	**08 02 39.5**	**-0.4**
FAME	**Alcaldia de Sa**	**1.49**	**280**	P	**Pn**	**08 02 41.0**	**-0.6**
FAME	**Alcaldia de Sa**	**1.49**	**280**	S	**Sn**	**08 03 06.7**	**-0.3**
PKGN	**Cerro Pekin**	**1.74**	**121**	P	**Pn**	**08 02 42.3**	**-1.7**
PKGN				S	**Sn**	**08 03 11.6**	**+0.4**
OCON	**Estacion meteo**	**1.97**	**88**	P	**Pn**	**08 02 45.5**	**-0.8**
CNGN	**Cerro Negro**	**2.06**	**121**	P	**Pn**	**08 02 47.6**	**+0.3**
CNGN	**Cerro Negro**	**2.06**	**121**	S	**Sn**	**08 03 18.8**	**+1.6**
CNGA	**Al SSO del Vol**	**2.06**	**121**	P	**Pn**	**08 02 47.2**	**-0.2**
CNGA				S	**Sn**	**08 03 18.0**	**+0.8**
RCVN	**Varillal2**	**2.24**	**90**	P	**Pn**	**08 02 48.5**	**-0.9**
COPN	**Copaltepe**	**2.33**	**127**	P	**Pn**	**08 02 50.6**	**+0.4**
RCPN	**Sur Rio San Ju**	**2.34**	**91**	P	**Pn**	**08 02 48.8**	**-1.7**
BOAB	**BOACO BROADBAN**	**2.98**	**112**	P	**Pn**	**08 02 57.4**	**-0.4**
BOAB	**BOACO BROADBAN**	**2.98**	**112**	S	**Sn**	**08 03 36.3**	**+0.3**

*ISK **02** 08:06:19.2, 36°.50N×28°.70E, h5^{km}, ML2.7/18*
*THE **02** 08:06:19.6, 36°N±61°×2°9E±8°8, h2^{km}±50^{km}, MLh2.7/3*
*AFAD **02** 08:06:19.0, 36°.46N×28°.75E, h24^{km}±3^{km}, ML2.7*
*ATH **02** 08:06:20.4, 36°.46N×28°.96E, h69^{km}±7^{km}, ML3.0/5, Manual Solution by A.Andreou First location: 2019/09/02 08:08:03, This location: 2020/08/24 08:10:16 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
ISC 02 08:06:19.6±1.1**, 36°.44N**±0°.02×**28°.75E**±0°.02**, h11**^{km}±9^{km}**, n43,** σ**0^{s}96**/63**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SABU	**Mula-Dalaman**	**0.42**	**24**	P	**Pg**	**08 06 27.6**	**-0.4**
SABU				S	**Sg**	**08 06 34.6**	**+0.9**
TURN	**Turunc**	**0.53**	**310**	Pg	**Pg**	**08 06 29.1**	**-1.0**
TURN				Sg	**Sg**	**08 06 36.9**	**-0.2**
TURN	**Turunc**	**0.53**	**310**	P	**Pg**	**08 06 29.0**	**-1.0**
TURN				S	**Sg**	**08 06 37.5**	**+0.5**
TURN				i IAML		08 06 38.0	
	comp=N,418nm,0.7s						
ARG	**Arkhangelos**	**0.55**	**247**	Pg	**Pg**	**08 06 30.6**	**+0.2**
ARG				Sg	**Sb**	**08 06 39.5**	**+0.2**
ARG	**Arkhangelos**	**0.55**	**247**	P	**Pg**	**08 06 29.8**	**-0.6**
ARG				S	**Sb**	**08 06 39.2**	**-0.1**
CAME	**Cameli-Denizli**	**0.67**	**41**	Pg	**Pg**	**08 06 32.0**	**-0.7**
KSL	**Kastellorizon**	**0.73**	**113**	P	**Pg**	**08 06 34.2**	**+0.4**
KSL				S	**Sb**	**08 06 44.0**	**-0.3**
DNZT	**Denizli-Tavas-**	**0.87**	**14**	P	**Pg**	**08 06 35.6**	**-0.9**
DNZT				S	**Sb**	**08 06 48.2**	**-0.4**
MULA	**Mugla, Merkez-**	**0.89**	**337**	P	**Pg**	**08 06 36.2**	**-0.6**
MULA				S	**Sg**	**08 06 48.6**	**+0.1**
MULA				i IAML		08 06 50.0	
	comp=E,198nm,0.5s						
DEMR	**Demre-Antalya**	**0.95**	**102**	Pg	**Pn**	**08 06 39.8**	**+0.8**
DAT	**Datca**	**0.99**	**288**	Pg	**Pb**	**08 06 38.4**	**-0.5**
DAT	**Datca**	**0.99**	**288**	P	**Pb**	**08 06 38.7**	**-0.2**
DAT				S	**Sn**	**08 06 54.7**	**+0.9**
DAT				i IAML		08 06 59.0	
	comp=N,181nm,0.3s						
TAVA	**DENIZLI_Tavas**	**1.04**	**7**	P	**Pb**	**08 06 38.8**	**-0.9**
YAZI	**Mula-Dat§a-**	**1.08**	**284**	P	**Pb**	**08 06 39.1**	**-1.2**
YAZI				S	**Sg**	**08 06 55.1**	**+0.8**
APMY	**Acipayam-Deniz**	**1.12**	**23**	Pn	**Pn**	**08 06 41.3**	**-0.2**
DNIZ	**Denizli-Tavas-**	**1.21**	**11**	P	**Pn**	**08 06 41.6**	**-1.1**
DNIZ				S	**Sg**	**08 07 02.2**	**+3.6**
DNIZ				i IAML		08 07 04.0	
	comp=E,411nm,0.3s						
DNIZ				i IAML		08 07 05.0	
	comp=N,359nm,0.5s						
BDRM	**Kayabasi**	**1.23**	**301**	P	**Pn**	**08 06 42.2**	**-0.6**
BDRM				S	**Sg**	**08 07 00.6**	**+1.4**
BDRM				i IAML		08 07 04.0	
	comp=E,116nm,0.7s						
YKAV	**Yalikavak-Bodr**	**1.37**	**301**	Pn	**Pb**	**08 06 45.2**	**-0.1**
ESEN	**Aydn-Nazilli**	**1.40**	**347**	P	**Pn**	**08 06 45.3**	**+0.1**
ESEN				S	**Sg**	**08 07 05.6**	**+0.9**
ESEN				i IAML		08 07 08.0	
	comp=E,104nm,0.7s						
ESEN				i IAML		08 07 09.0	
	comp=N,93nm,0.6s						
KORT	**Korkueli**	**1.40**	**66**	Pn	**Pg**	**08 06 47.3**	**+0.7**
AYDN	**Tasoluk**	**1.41**	**330**	P	**Pb**	**08 06 45.7**	**-0.3**
AYDN				S	**Sg**	**08 07 06.0**	**+1.0**
AYDN				i IAML		08 07 08.0	
	comp=N,232nm,0.5s						
AYDN				i IAML		08 07 09.0	
	comp=E,203nm,0.6s						
KARP	**Karpathos**	**1.57**	**236**	Pn	**Pb**	**08 06 49.3**	**+0.6**
KARP	**Karpathos**	**1.57**	**236**	P	**Pb**	**08 06 48.7**	**0.0**
KARP				S	**Sg**	**08 07 10.2**	**+0.1**
KARP	**Karpathos**	**1.57**	**236**	P	**Pb**	**08 06 48.7**	**0.0**
KARP				S	**Sb**	**08 07 09.7**	**+1.1**
NAZL	**Nazilli-Aydin**	**1.57**	**347**	Pn	**Pb**	**08 06 48.4**	**-0.3**
ANTB	**Antalya**	**1.60**	**73**	Pn	**Pg**	**08 06 50.2**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.66**	**336**	Pn	**Pb**	**08 06 49.6**	**-0.7**
GCAM	**G?zelcaml?**	**1.75**	**317**	Pn	**Pb**	**08 06 50.9**	**-0.9**
KIRA	**zmir-Kiraz**	**1.78**	**351**	P	**Pn**	**08 06 51.3**	**+0.8**
KIRA				S	**Sb**	**08 07 14.8**	**0.0**
BASM	**Basmaki-Afyon**	**1.81**	**35**	Pn	**Pb**	**08 06 52.3**	**-0.5**
IZMR	**zmir-demi**	**1.81**	**340**	P	**Pn**	**08 06 51.7**	**+0.8**
IZMR				S	**Sn**	**08 07 14.2**	**+0.3**
ODEM	**Odemis-Izmir**	**1.92**	**344**	Pn	**Pn**	**08 06 53.3**	**+1.0**
SMG	**Samos**	**1.99**	**310**	P	**Pn**	**08 06 53.4**	**0.0**
SMG				S	**Sb**	**08 07 19.9**	**-0.8**
SMG	**Samos**	**1.99**	**310**	P	**Pn**	**08 06 53.3**	**0.0**
KULA	**Kula-Manisa**	**2.08**	**358**	Pn	**Pn**	**08 06 55.4**	**+0.8**
DGB	**zmir**	**2.20**	**318**	P	**Pn**	**08 06 55.7**	**-0.4**
DGB				S	**Sb**	**08 07 25.9**	**-0.8**
DGB				i IAML		08 07 27.0	
	comp=N,41nm,0.8s						
DGB				i IAML		08 07 27.0	
	comp=E,48nm,0.2s						
BLCB	**Balcova**	**2.38**	**326**	Pn	**Pn**	**08 06 59.8**	**+1.2**
ZKR	**Zakros**	**2.45**	**238**	Pn	**Pb**	**08 07 01.9**	**-1.8**
ZKR	**Zakros**	**2.45**	**238**	P	**Pn**	**08 06 60.0**	**+0.4**
NPS	**Neapolis**	**2.81**	**246**	P	**Pn**	**08 07 04.9**	**+0.4**
CHOS	**Chios island**	**2.90**	**313**	P	**Pn**	**08 07 06.3**	**+0.5**
AKMS	**Akamas**	**3.24**	**115**	P	**Pn**	**08 07 07.0**	**-3.4**
IDI	**Anoyia**	**3.34**	**251**	P	**Pn**	**08 07 12.3**	**+0.4**

*NEIC **02** 08:12:14.7±1.8, 24°.25S±0°.07×67°.1W±0°.1, h184^{km}±10^{km}, mb4.4/14, ML4.0(GUC), Error ellipse: s-maj=15.0km s-min=9.8km az=105.0*
*IDC **02** 08:12:14.4±2.1, 24°.21S×66°.77W, h159^{km}±21^{km}, mb3.5/3, mbtmp4.1/7, Error ellipse: s-maj=38.8km s-min=15.8km az=110.0*
*GUC **02** 08:12:15.6±0.6, 24°.20S×67°.13W, h183^{km}±6^{km}, ML4.0*
*SJA **02** 08:12:15.6±0.7, 24°.18S×67°.09W, h162^{km}±5^{km}, ML3.9, MW3.7*
ISC 02 08:12:14.1±0.6**, 24°.21S**±0°.04×**67°.10W**±0°.04**, h181**^{km}±6^{km}**, n104,** σ**1^{s}63**/133**, mb4.2**/8**, 11C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SALTA		**0.70**	**91**	⇓iP	**Pn**	**08 12 42.3**	**+1.7**
SALTA				iS	**Sn**	**08 13 03.1**	**+2.2**
SALTA		**0.70**	**91**	eP	**Pn**	**08 12 42.3**	**+1.7**
SALTA				eS	**Sn**	**08 12 58.5**	**-2.4**
AF01	**San Pedro de A**	**1.59**	**322**		**Pn**	**08 12 49.9**	**+2.5**
AF01				Sn	**Sn**	**08 13 15.0**	**+1.8**
AF01	**San Pedro de A**	**1.59**	**322**	⇑iP	**Pn**	**08 12 49.9**	**+2.5**
AF01				iS	**Sn**	**08 13 15.5**	**+2.3**
AF01				IAML		08 13 18.6	
	comp=E,498nm,0.7s						
AF01	**San Pedro de A**	**1.59**	**322**	eP	**Pn**	**08 12 45.9**	**-1.5**
HJA	**Humahuaca**	**1.84**	**58**	eP	**Pn**	**08 12 51.8**	**+1.7**
AZAP	**Zapla**	**1.86**	**91**	eP	**Pn**	**08 12 51.4**	**+1.4**
FSA	**Cafayete**	**2.15**	**152**	eP	**Pn**	**08 12 54.5**	**+1.4**
FSA				eS	**Sn**	**08 13 18.8**	**-4.6**
ASTB	**Santa Barbara**	**2.44**	**84**	eP	Pn	08 12 50.6	-5.7
GO02	**Mina Guanaco**	**2.45**	**247**		**Pn**	**08 12 58.3**	**+1.7**
GO02	**Mina Guanaco**	**2.45**	**247**	⇑iP	**Pn**	**08 12 58.3**	**+1.7**
GO02				iS	**Sn**	**08 13 31.0**	**+1.3**
GO02				IAML		08 13 32.3	
	comp=N,936nm,0.5s						
GO02	**Mina Guanaco**	**2.45**	**247**	eP	**Pn**	**08 12 58.3**	**+1.7**
GO02				IAML		08 13 32.1	
	comp=Z,773nm,0.5s						
YJA	**Yavi**	**2.50**	**36**	eP	**Pn**	**08 12 56.0**	**-1.3**
PB06	**IPOC Station P**	**2.72**	**303**		**Pn**	**08 13 01.4**	**+1.8**
PB06	**IPOC Station P**	**2.72**	**303**	⇑iP	**Pn**	**08 13 01.4**	**+1.8**
PB06				iS	**Sn**	**08 13 35.0**	**0.0**
PB06				IAML		08 13 36.3	
	comp=E,672nm,0.3s						
PB06	**IPOC Station P**	**2.72**	**303**	eP	**Pn**	**08 13 00.7**	**+1.1**
PB06				eS	**Sn**	**08 13 35.2**	**+0.2**
PB06				IAML		08 13 37.0	
	comp=Z,317nm,0.2s						
ALOL	**LOMAS DE OLMED**	**2.88**	**83**	eP	**Pn**	**08 13 02.9**	**+1.5**
PB14	**IPOC Station P**	**3.04**	**261**		**Pn**	**08 13 04.3**	**+0.8**
PB14	**IPOC Station P**	**3.04**	**261**	eP	**Pn**	**08 13 04.4**	**+0.8**
PB14				iS	**Sn**	**08 13 41.0**	**-1.1**
PB14				IAML		08 13 42.6	
	comp=E,122nm,0.4s						
PB14	**IPOC Station P**	**3.04**	**261**	eP	**Pn**	**08 13 04.6**	**+1.1**
PB14				eS	**Sn**	**08 13 42.4**	**+0.3**
PB14				IAML		08 13 43.6	
	comp=Z,161nm,0.5s						
PB09	**IPOC Station P**	**3.11**	**320**		**Pn**	**08 13 06.3**	**+2.0**
PB09	**IPOC Station P**	**3.11**	**320**	iP	**Pn**	**08 13 06.5**	**+2.1**
PB09				iS	**Sn**	**08 13 44.1**	**+0.7**
PB09				IAML		08 13 47.5	
	comp=N,254nm,0.3s						
PB09	**IPOC Station P**	**3.11**	**320**	eP	**Pn**	**08 13 06.0**	**+1.6**
PB09				eS	**Sn**	**08 13 44.6**	**+1.2**
PB09				IAML		08 13 45.0	
	comp=Z,232nm,0.5s						
PB05	**IPOC Station P**	**3.15**	**295**		**Pn**	**08 13 05.9**	**+1.1**
PB05	**IPOC Station P**	**3.15**	**295**	⇑iP	**Pn**	**08 13 05.9**	**+1.1**
PB05				iS	**Sn**	**08 13 42.7**	**-1.6**
PB05				IAML		08 13 47.3	
	comp=E,250nm,0.4s						
PB05	**IPOC Station P**	**3.15**	**295**	eP	**Pn**	**08 13 06.0**	**+1.2**
PB05				eS	**Sn**	**08 13 43.8**	**-0.5**
PB05				IAML		08 13 45.8	
	comp=Z,210nm,0.6s						
AC02	**Maricunga**	**3.19**	**215**		**Pn**	**08 13 07.2**	**+1.7**
AC02	**Maricunga**	**3.19**	**215**	⇑iP	**Pn**	**08 13 07.3**	**+1.7**
AC02				IAML		08 14 00.2	
	comp=N,82nm,0.2s						
AC02	**Maricunga**	**3.19**	**215**	eP	**Pn**	**08 13 07.3**	**+1.7**
AC02				eS	**Sn**	**08 13 46.3**	**+0.5**
AC02				IAML		08 14 01.2	
	comp=Z,329nm,0.8s						
PB10	**IPOC Station P**	**3.23**	**282**		**Pn**	**08 13 07.0**	**+1.3**
PB10	**IPOC Station P**	**3.23**	**282**	iP	**Pn**	**08 13 07.0**	**+1.3**
PB10				iS	**Sn**	**08 13 44.9**	**-1.0**
PB10	**IPOC Station P**	**3.23**	**282**	eP	**Pn**	**08 13 07.1**	**+1.4**
PB10				eS	**Sn**	**08 13 46.2**	**+0.3**
PB10				IAML		08 13 50.4	
	comp=Z,195nm,0.5s						
PB03	**IPOC Station P**	**3.25**	**311**		**Pn**	**08 13 07.3**	**+1.2**
PB03	**IPOC Station P**	**3.25**	**311**	⇑iP	**Pn**	**08 13 07.4**	**+1.2**
PB03				iS	**Sn**	**08 13 45.6**	**-1.0**
PB03	**IPOC Station P**	**3.25**	**311**	eP	**Pn**	**08 13 06.9**	**+0.8**
PB03				eS	**Sn**	**08 13 45.7**	**-1.0**
PB03				IAML		08 13 50.6	
	comp=Z,344nm,0.2s						
AC01	**Pan de Azucar**	**3.71**	**238**		**Pn**	**08 13 11.6**	**+0.1**
AC01	**Pan de Azucar**	**3.71**	**238**	⇑iP	**Pn**	**08 13 11.6**	**+0.1**
AC01				iS	**Sn**	**08 13 54.8**	**-1.8**
AC01	**Pan de Azucar**	**3.71**	**238**	eP	**Pn**	**08 13 11.5**	**-0.1**
AC01				eS	**Sn**	**08 13 55.1**	**-1.4**
AC01				IAML		08 13 58.0	
	comp=Z,138nm,0.5s						
PB01	**IPOC Station P**	**3.85**	**325**	Pn	**Pn**	**08 13 14.1**	**+0.7**
PB01	**IPOC Station P**	**3.85**	**325**	eP	**Pn**	**08 13 13.9**	**+0.5**
PB01				eS	**Sn**	**08 13 59.1**	**-0.8**
PB01				IAML		08 14 01.4	
	comp=Z,159nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB02	**IPOC Station P**	**3.86**	**318**		**Pn**	**08 13 14.3**	**+0.6**
PB02	**IPOC Station P**	**3.86**	**318**	⇑*i*P	**Pn**	**08 13 14.3**	**+0.6**
PB02				*i* S	**Sn**	**08 13 58.4**	**-1.8**
PB02	**IPOC Station P**	**3.86**	**318**	*e*P	**Pn**	**08 13 14.1**	**+0.4**
PB02				*e*S	**Sn**	**08 13 59.0**	**-1.3**
PB02				IAML		08 14 01.3	
	comp=Z,305nm,0.3s						
AC06	**Mina Casimiro**	**4.29**	**222**		**Pn**	**08 13 18.8**	**-0.2**
CYA	**Choya**	**4.37**	**165**	*e*P	**Pn**	**08 13 21.5**	**+1.5**
CYA				*e*S	Sn	08 13 57.9	-14
GO03	**Copiapo**	**4.39**	**219**		**Pn**	**08 13 20.1**	**-0.2**
GO03	**Copiapo**	**4.39**	**219**	*e*P	**Pn**	**08 13 20.2**	**-0.1**
GO03				*e*S	**Sn**	**08 14 10.7**	**-1.6**
GO03				IAML		08 14 13.6	
	comp=Z,135nm,0.3s						
PATCX	**Punta Patache**	**4.40**	**320**		**Pn**	**08 13 21.2**	**+0.7**
PATCX	**Punta Patache**	**4.40**	**320**	*e*P	**Pn**	**08 13 20.8**	**+0.3**
PATCX				*e*S	**Sn**	**08 14 09.5**	**-2.9**
PATCX				IAML		08 14 20.0	
	comp=Z,62nm,0.5s						
PB08	**IPOC Station P**	**4.47**	**334**		**Pn**	**08 13 22.6**	**+0.9**
PB08	**IPOC Station P**	**4.47**	**334**	*e*P	**Pn**	**08 13 22.7**	**+1.0**
PB08				*e*S	**Sn**	**08 14 15.1**	**+0.4**
PB08				IAML		08 14 18.7	
	comp=Z,52nm,0.8s						
TA01	**Diego Aracena**	**4.61**	**321**		**Pn**	**08 13 23.5**	**+0.4**
VCA	**Vinchina**	**4.62**	**192**	*e*P	**Pn**	**08 13 25.9**	**+2.7**
VCA				*e*S	**Sn**	**08 14 20.7**	**+3.2**
GO01	**Chusmiza**	**4.92**	**336**		**Pn**	**08 13 28.6**	**+1.0**
GO01	**Chusmiza**	**4.92**	**336**	*e*S	**Sn**	**08 14 23.9**	**-1.3**
GO01				IAML		08 14 29.4	
	comp=Z,33nm,0.6s						
PB11	**IPOC Station P**	**5.02**	**331**	Pn	**Pn**	**08 13 28.2**	**-0.4**
PB11	**IPOC Station P**	**5.02**	**331**	*e*S	**Sn**	**08 14 26.6**	**-0.4**
PB11				IAML		08 14 28.1	
	comp=Z,63nm,0.4s						
ACLC	**CERRO LA CRUZ**	**5.20**	**179**	*e*P	**Pn**	**08 13 31.5**	**+0.7**
AC04	**Llanos de Chal**	**5.34**	**221**	Pn	**Pn**	**08 13 31.7**	**-0.8**
AC04	**Llanos de Chal**	**5.34**	**221**	*e*S	**Sn**	**08 14 31.8**	**-2.5**
AC04				IAML		08 14 34.4	
	comp=Z,65nm,0.3s						
LCO	**Las Campanas**	**5.76**	**213**		**Pn**	**08 13 37.3**	**-0.9**
PB16	**IPOC Station P**	**6.26**	**339**		**Pn**	**08 13 44.6**	**-0.5**
PB12	**IPOC Station P**	**6.33**	**331**		**Pn**	**08 13 45.1**	**-0.5**
GO04	**Tololo Observa**	**6.79**	**208**	Pn	**Pn**	**08 13 51.6**	**-0.1**
PB18	**Visviri**	**6.95**	**341**	Pn	**Pn**	**08 13 53.5**	**-0.7**
CO03	**El Pedregal**	**7.33**	**205**	Pn	**Pn**	**08 13 57.8**	**-0.9**
CFA	**Coronel Fontan**	**7.43**	**188**	P	**Pn**	**08 13 59.9**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=12,slow=13,SNR=28						
CFA				S	**Sn**	**08 15 18.6**	**-5.1**
	comp=Z,6.4nm,0.4s,baz=120,slow=20,SNR=14						
CO06	**Fray Jorge**	**7.59**	**211**	Pn	**Pn**	**08 14 01.0**	**-1.0**
CO02	**Combarbal**	**7.78**	**206**	Pn	**Pn**	**08 14 03.6**	**-0.9**
LPAZ	**La Paz**	**7.94**	**353**	Pn	**Pn**	**08 14 08.8**	**+1.5**
LPAZ	**La Paz**	**7.94**	**353**	P	**Pn**	**08 14 08.3**	**+1.0**
	comp=Z,3.0nm,0.3s,baz=164,slow=5.8,SNR=37						
LPAZ				S	**Sn**	**08 15 32.8**	**-4.0**
	comp=Z,3.2nm,0.6s,baz=304,slow=2.9,SNR=5.7						
MT02	**Curacav**	**9.69**	**201**	Pn	**Pn**	**08 14 26.9**	**-2.6**
SIV	**San Ignacio**	**9.95**	**36**	P	**Pn**	**08 14 31.7**	**-1.4**
	comp=Z,3.4nm,0.4s,baz=246,slow=6.6,SNR=26						
SIV				S	Sn	08 16 13.8	-10
	comp=Z,0.8nm,0.7s,baz=234,slow=20,SNR=1.7						
LMEL	**Las Melosas**	**9.98**	**195**	Pn	**Pn**	**08 14 30.5**	**-2.9**
MT09	**Talagante**	**10.12**	**199**	Pn	**Pn**	**08 14 32.1**	**-3.2**
BO04	**La Punta**	**10.21**	**197**	Pn	**Pn**	**08 14 33.5**	**-3.0**
MT01	**Popeta**	**10.28**	**200**	Pn	**Pn**	**08 14 35.4**	**-1.8**
BO01	**Tunca**	**10.72**	**198**	Pn	**Pn**	**08 14 41.0**	**-2.0**
PTLB	**Pontes e Lacer**	**11.49**	**42**	Pn	**Pn**	**08 14 52.5**	**-0.6**
VILB	**Vilhena**	**12.96**	**31**	Pn	**Pn**	**08 15 12.2**	**+0.2**
PLTB	**Pedras Altas**	**14.09**	**125**	Pn	**Pn**	**08 15 25.2**	**-0.7**
TRQA	**Tornquist**	**14.48**	**164**	Pn	**Pn**	**08 15 30.0**	**-0.7**
LR03	**Panguipulli**	**16.00**	**195**		**Pn**	**08 15 49.5**	**+0.2**
LR03				IAmb	IAmb	08 16 10.3	
	comp=Z,16nm,1.1s						
VAO	**Valinhos**	**18.50**	**90**	P	**P**	**08 16 16.6**	**-0.2**
LL02	**Futaleuf**	**19.33**	**191**	P	**P**	**08 16 25.2**	**-0.3**
LL02				IAmb	IAmb	08 16 30.1	
	comp=Z,7.4nm,0.7s						
GO07	**Milladeo Hill,**	**19.62**	**194**	P	**P**	**08 16 29.7**	**+1.1**
BDFB	**Brasilia**	**19.85**	**68**	P	**P**	**08 16 32.0**	**+0.5**
BDFB				IAmb	IAmb	08 16 32.5	
	comp=Z,13nm,0.7s						
BDFB	**Brasilia**	**19.85**	**68**	P	**P**	**08 16 31.4**	**0.0**
	comp=Z,11nm,0.6s,baz=240,slow=12,SNR=20						
HOPE	**Hope Point**	**37.71**	**151**	P	**P**	**08 19 11.5**	**-0.4**
ESPZ	**Base Esperanza**	**39.75**	**173**	P	**P**	**08 19 28.2**	**-0.6**
ESPZ				IAmb	IAmb	08 19 42.1	
	comp=Z,7.7nm,1.3s						
BELA	**Belgrano 2**	**55.85**	**172**	P	**P**	**08 21 31.7**	**-0.5**
BELA				IAmb	IAmb	08 22 03.6	
	comp=Z,5.4nm,1.4s						
VNA3	**Neumayer Olymp**	**56.98**	**161**	⇑P	**P**	**08 21 44.2**	**+3.9**
	comp=Z,1.8nm,0.7s						
SNAA	**Sanae**	**59.18**	**161**	⇑P	**P**	**08 21 57.4**	**+1.8**
	comp=Z,25nm,0.7s						
SNAA	**Sanae**	**59.18**	**161**	P	**P**	**08 21 57.5**	**+1.8**
SNAA	**Sanae**	**59.18**	**161**	P	**P**	**08 21 57.4**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=272,slow=7.9,SNR=11						
	comp=Z,1.0nm,0.7s						
TROLL	**Troll, Antarti**	**60.90**	**161**	⇑P	**P**	**08 22 09.0**	**+1.6**
	comp=Z,80nm,0.5s						
QSPA	**South Pole Qui**	**66.00**	**180**	P	**P**	**08 22 44.2**	**+3.3**
QSPA	**South Pole Qui**	**66.00**	**180**	P	**P**	**08 22 44.1**	**+3.3**
	comp=Z,0.8nm,0.4s,baz=331,slow=1.5,SNR=22						
	comp=Z,0.8nm,0.4s						
DBIC	**Dimbokro**	**67.96**	**72**	P	**P**	**08 22 53.8**	**-0.1**
DBIC				IAmb	IAmb	08 23 37.9	
	comp=Z,19nm,1.4s						
TORD	**Torodi Ar. Bea**	**76.73**	**69**	P	**P**	**08 23 46.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**76.73**	**69**	P	**P**	**08 23 46.1**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=259,slow=5.0,SNR=11						
	comp=Z,0.6nm,0.4s						
QNGWA	**Qangwa**	**80.71**	**107**	P	**P**	**08 24 04.7**	**-3.0**
QNGWA				IAmb	IAmb	08 24 26.1	
	comp=Z,6.0nm,1.2s						
BOSA	**Boshof**	**80.72**	**117**	P	**P**	**08 24 08.1**	**+0.4**
BOSA				IAmb	IAmb	08 24 32.5	
	comp=Z,19nm,1.5s						
MKAR	**Makanchi Array**	**146.75**	**40**	PKPbc	**PKiKP**	**08 31 36.5**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=326,slow=1.7,SNR=7.8						

JMA 02 08:18:14.1±0.7**,31˚N**±3˚×**14˚1E**±˚**,h0**km**,MV4.0**/14**,NEAR TORISHIMA IS,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.94**	**324**	*e*P	Pn	08 18 48.8	+0.5
JHJ2	**Mitsune**	**2.46**	**334**	P	Pn	08 18 56.8	+1.3
JHJ2				*e*S	Sn	08 19 26.3	-0.1
BSO1	**Boso 1**	**3.75**	**358**	*e*P	Pn	08 19 15.2	+2.5
CBIJ	**Chichi jima**	**3.91**	**166**	*e*S	Sn	08 20 05.0	+3.1
BSO3	**Boso 3**	**3.92**	**353**	*e*P	Pn	08 19 16.7	+1.3
BSO3				*e*S	Sn	08 20 01.9	-0.1
JOD2	**Odawara 2**	**4.67**	**339**	*e*P	Pn	08 19 28.1	+2.2
JHO	**Hitachi**	**5.71**	**356**	*e*P	Pn	08 19 40.5	+0.2
JHO				*e*S	Sn	08 20 41.6	-5.0

*NEIC **02** 08:24:58.8±1.7, 48˚.397N±0˚.009×122˚.84W±0˚.01, h10km±1km, Error ellipse: s-maj=2.7km s-min=1.6km az=14.0*

*SEA **02** 08:24:59.4±1.6, 48˚.41N±0˚.01×122˚.80W±0˚.01, h7km±5km, ML2.3/13, ML2.2/56(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=206.0*

PGC 02 08:24:59.3±0.1**,48˚.39N**×**122˚.82W,h10**km**,ML2.1**/19**, 40km east of Victoria, Bc Washington,Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERW	**Mount Erie**	**0.14**	**64**		Pg	08 25 01.9	-0.7
ERW					Sg	08 25 04.2	-0.6
SVOH	**Skagit Valley**	**0.16**	**129**		Pg	08 25 02.6	-0.2
SVOH					Sg	08 25 05.4	+0.3
SVOH	**Skagit Valley**	**0.16**	**129**	P	Pg	08 25 02.6	-0.2
UWFH	**University of**	**0.20**	**321**		Pg	08 25 03.0	-0.5
UWFH					Sg	08 25 06.2	-0.1
MCW	**Mount Constitu**	**0.29**	**358**		Pg	08 25 04.6	-0.6
VGZ	**Gonzales**	**0.34**	**274**		Pg	08 25 05.3	-0.7
VGZ					Sg	08 25 10.1	-0.4
VGZ	**Gonzales**	**0.34**	**274**	P	Pg	08 25 05.3	-0.7
VGZ				S	Sg	08 25 10.0	-0.5
A04D	**Lummi Island**	**0.34**	**13**		Pg	08 25 05.4	-0.7
SQM	**Sequim**	**0.35**	**206**		Pg	08 25 06.5	+0.3
BLN	**Blyn Mountain**	**0.40**	**195**		Pg	08 25 07.0	-0.1
BLN					Sg	08 25 13.2	+0.9
SNB	**Saturna Island**	**0.45**	**329**		Pg	08 25 07.7	-0.4
SNB					Sg	08 25 14.2	+0.2
SNB	**Saturna Island**	**0.45**	**329**	P	Pg	08 25 07.6	-0.5
SNB				S	Sg	08 25 13.6	-0.5
SWID	**South Whidbey**	**0.47**	**144**		Pg	08 25 08.6	+0.1
SWID					Sb	08 25 15.8	-0.8
B011	**North Saanich**	**0.49**	**302**		Pg	08 25 08.0	-0.8
B011					Sg	08 25 14.5	-0.8
B011	**North Saanich**	**0.49**	**302**	P	Pg	08 25 07.9	-1.0
B011				S	Sg	08 25 14.5	-0.9
B009	**North Saanich**	**0.49**	**302**	P	Pg	08 25 07.9	-1.0
B009				S	Sg	08 25 14.5	-0.9
B010	**North Saanich**	**0.49**	**302**	P	Pg	08 25 08.0	-0.9
B010				S	Sg	08 25 14.5	-0.9
PGC	**Sidney**	**0.49**	**302**		Pg	08 25 08.1	-0.8
PGC					Sg	08 25 14.7	-0.7
PGC				IAML		08 25 15.3	
	comp=E,165nm,0.4s						
PGC				IAML		08 25 16.8	
	comp=N,203nm,0.3s						
PGC	**Sidney**	**0.49**	**302**	P	Pg	08 25 08.0	-0.9
PGC				S	Sg	08 25 14.6	-0.8
B05A	**Bryant**	**0.50**	**104**		Pg	08 25 08.1	-0.9
B05A					Sg	08 25 14.9	-0.7
B04A	**Port Angeles**	**0.56**	**234**	Pg	Pg	08 25 09.6	-0.7
B04A				IAML		08 25 20.7	
	comp=E,121nm,0.2s						
B04A				IAML		08 25 21.8	
	comp=N,111nm,0.3s						
B04A	**Port Angeles**	**0.56**	**234**		Pg	08 25 09.5	-0.8
B04A	**Port Angeles**	**0.56**	**234**		Sg	08 25 17.8	+0.1
B013	**Quilcene**	**0.58**	**186**		Pg	08 25 09.8	-0.7
B013	**Quilcene**	**0.58**	**186**		Pg	08 25 09.8	-0.7
B013					Sg	08 25 18.3	+0.1
STW	**Striped Peak**	**0.62**	**247**		Pg	08 25 10.3	-0.9
STW	**Striped Peak**	**0.62**	**247**	P	Pg	08 25 10.3	-0.9
JCW	**Jim Creek**	**0.63**	**108**		Pg	08 25 10.7	-0.7
JCW	**Jim Creek**	**0.63**	**108**	P	Pg	08 25 10.3	-1.1
SYMB	**Survey Mountai**	**0.67**	**285**		Pg	08 25 11.0	-1.3
SYMB	**Survey Mountai**	**0.67**	**285**	P	Pg	08 25 10.9	-1.5
SYMB				S	Sg	08 25 19.5	-1.7
C04A	**Brinnon**	**0.68**	**189**		Pg	08 25 11.5	-1.0
MBW	**Mount Baker**	**0.73**	**57**		Pg	08 25 13.0	-0.3
HDW	**Hoodsport**	**0.76**	**192**		Pg	08 25 12.7	-1.2
HDW	**Hoodsport**	**0.76**	**192**	P	Pg	08 25 12.7	-1.2
BLH	**Bald Hill**	**0.77**	**136**		Pg	08 25 13.5	-0.6
OSD	**Olympics--Snow**	**0.82**	**226**		Pg	08 25 14.4	-0.7
OSD	**Olympics--Snow**	**0.82**	**226**	P	Pg	08 25 13.9	-1.3
GNW	**Green Mountain**	**0.83**	**180**		Pg	08 25 13.8	-1.4
GNW	**Green Mountain**	**0.83**	**180**	P	Pg	08 25 13.8	-1.4
GMW	**Gold Mountain**	**0.84**	**178**		Pg	08 25 14.0	-1.5
RPW	**Rockport**	**0.87**	**86**		Pg	08 25 15.1	-1.0
HTW	**Haystack Looko**	**0.92**	**129**		Pg	08 25 15.9	-1.0
P403	**Sandy Floe Qua**	**0.94**	**250**		Pg	08 25 16.0	-1.4
B926	**Mesachie Lake**	**0.97**	**297**	S	Sg	08 25 28.2	-2.4
CLRS	**Cowichan Lake**	**0.97**	**297**		Pg	08 25 16.2	-1.8
CLRS	**Cowichan Lake**	**0.97**	**297**	P	Pg	08 25 15.7	-2.2
CLRS				S	Sg	08 25 28.2	-2.4
PTRF	**Port Renfrew**	**1.07**	**279**		Pg	08 25 17.3	-2.6
PTRF	**Port Renfrew**	**1.07**	**279**	P	Pg	08 25 17.2	-2.7
PTRF				S	Sg	08 25 30.9	-2.9
OLQ	**Olympics--Lake**	**1.10**	**218**		Pn	08 25 21.1	+0.4
GPW	**Glacier Peak**	**1.16**	**103**		Pg	08 25 20.0	-1.6
NLWA	**Neilton Lookou**	**1.22**	**216**		Pn	08 25 22.0	-0.5
C03A	**Quillayute Air**	**1.25**	**250**	Pn	Pn	08 25 22.9	0.0
C03A				IAML		08 25 48.6	
	comp=E,58nm,2.2s						
C03A				IAML		08 26 01.2	
	comp=N,62nm,1.9s						
WPB	**Watts Point**	**1.29**	**349**	P	Pn	08 25 21.5	-2.0
WPB				S	Sb	08 25 37.7	-2.8
D05A	**Enumclaw**	**1.33**	**155**		Pn	08 25 22.6	-1.3
D05A	**Enumclaw**	**1.33**	**155**	S	Sb	08 25 38.7	-2.6
HOPB	**Hope**	**1.36**	**42**	S	Sb	08 25 40.0	-2.4
MGRB	**Mount Grey**	**1.39**	**297**	P	Pn	08 25 22.8	-2.1
MGRB				S	Sb	08 25 40.3	-2.9
WRW	**Wenatchee Ridg**	**1.40**	**112**		Pn	08 25 24.5	-0.6
WISH	**Wishkah**	**1.43**	**207**	Pn	Pn	08 25 24.9	-0.3
WISH				IAML		08 25 38.1	
	comp=N,44nm,3.5s						
WISH				IAML		08 25 41.0	
	comp=E,27nm,2.3s						
B941	**Kapowsin**	**1.46**	**164**		Pn	08 25 24.2	-1.6
B927	**Port Alberni**	**1.56**	**303**		Pn	08 25 25.5	-1.6
B927	**Port Alberni**	**1.56**	**303**	P	Pn	08 25 25.5	-1.6
B927				S	Sn	08 25 45.0	-2.3
PABB	**Port Alberni**	**1.56**	**303**	P	Pn	08 25 25.4	-1.6
PABB				S	Sn	08 25 45.1	-2.2
RVC	**Mount Rainier-**	**1.56**	**158**		Pn	08 25 26.2	-1.0
B928	**Bamfield**	**1.60**	**287**	P	Pn	08 25 26.1	-1.5
B928				S	Sn	08 25 46.2	-2.1
BFSB	**Bamfield**	**1.60**	**287**	P	Pn	08 25 26.5	-1.1
BFSB				S	Sn	08 25 46.9	-1.5
OBSR	**Observation Ro**	**1.64**	**155**		Pn	08 25 27.9	-0.6
FMW	**Mount Fremont**	**1.65**	**152**	P	Pn	08 25 27.3	-1.3
NLW	**Nelson Butte**	**1.69**	**100**		Pb	08 25 29.8	-0.7
REMR	**Mount Rainier-**	**1.71**	**157**		Pn	08 25 28.6	-0.7
RCM	**Mount Rainier-**	**1.72**	**154**		Pn	08 25 26.6	-3.1
WSLR	**Whistler**	**1.74**	**358**		Pn	08 25 29.4	-0.3
WSLR	**Whistler**	**1.74**	**358**	P	Pn	08 25 29.1	-0.6
WSLR				S	Sn	08 25 51.0	-1.0
LON	**Longmire**	**1.78**	**157**		Pn	08 25 29.6	-0.6
LON	**Longmire**	**1.78**	**157**	P	Pn	08 25 29.6	-0.6
LON				S	Sn	08 25 52.5	-0.4
LTY	**Liberty**	**1.84**	**127**		Pn	08 25 31.8	+0.7
LTY				IAML		08 25 57.5	
	comp=E,16nm,0.4s						
LTY	**Liberty**	**1.84**	**127**	P	Pn	08 25 30.8	-0.3
LTY				S	Sn	08 25 53.9	-0.6
ETW	**Entiat**	**1.85**	**114**		Pn	08 25 31.4	+0.2
OZB	**Mount Ozzard**	**1.86**	**289**	Pn	Pn	08 25 31.1	-0.2
OZB				IAML		08 26 00.2	
	comp=N,30nm,1.1s						
OZB	**Mount Ozzard**	**1.86**	**289**	P	Pn	08 25 30.9	-0.4
OZB				S	Sn	08 25 53.7	-1.2
B012	**Ucluelet**	**1.88**	**288**	P	Pn	08 25 31.5	-0.1
B012				S	Sn	08 25 54.7	-0.7
E03A	**Lebam**	**1.91**	**196**	Pn	Pn	08 25 32.4	+0.5
E03A				IAML		08 25 42.5	
	comp=E,13nm,3.0s						
E03A				IAML		08 26 20.4	
	comp=N,15nm,2.5s						
E03A	**Lebam**	**1.91**	**196**	P	Pn	08 25 31.9	0.0
E03A				S	Sn	08 25 56.1	0.0
TBM	**Table Mountain**	**1.93**	**128**		Pb	08 25 33.8	-1.0
RADR	**Rader Ridge**	**2.08**	**199**	Pn	Pn	08 25 34.7	+0.4
RADR				IAML		08 25 51.1	
	comp=N,21nm,2.2s						
RADR				IAML		08 26 11.2	
	comp=E,26nm,2.6s						
TDL	**Tradedollar La**	**2.08**	**168**		Pn	08 25 35.0	+0.6
EBG	**Ellensburg**	**2.12**	**133**		Pn	08 25 36.4	+1.4
NAC	**Naches**	**2.14**	**140**		Pn	08 25 36.4	+1.3
STD	**Studebaker Rid**	**2.19**	**169**		Pn	08 25 34.4	-1.6
LLLB	**Lillooet**	**2.30**	**15**		Pn	08 25 37.3	-0.1
LLLB				IAML		08 26 10.2	
	comp=E,11nm,0.9s						
LLLB				IAML		08 26 16.3	
	comp=N,12nm,0.6s						
LLLB	**Lillooet**	**2.30**	**15**	P	Pn	08 25 37.5	+0.1
LLLB				S	Sn	08 26 07.3	+1.4
B08A	**Colville Reser**	**2.33**	**89**	Pn	Pn	08 25 37.8	+0.1
B08A	**Colville Reser**	**2.33**	**89**	S	Sn	08 26 07.7	+1.3
CBB	**Campbell River**	**2.34**	**316**	Pn	Pn	08 25 37.9	-0.1
CBB				IAML		08 26 09.5	
	comp=N,13nm,0.5s						
CBB				IAML		08 26 10.8	
	comp=E,9.6nm,0.7s						
CBB	**Campbell River**	**2.34**	**316**	P	Pn	08 25 38.1	+0.2
CBB				S	Sn	08 26 07.5	+0.8
MXC	**Moxie City**	**2.50**	**136**		Pn	08 25 40.3	+0.3
MXC				IAML		08 26 22.8	
	comp=E,8.1nm,0.7s						
F03A	**Seaside**	**2.51**	**192**	Pn	Pn	08 25 40.6	+0.4
E07A	**Sunnyside**	**2.72**	**131**	Pn	Pn	08 25 43.6	+0.4
E07A				IAML		08 26 24.3	
	comp=E,12nm,0.5s						
E07A				IAML		08 26 26.9	
	comp=N,13nm,0.5s						
WAH2	**Wahluke Slope**	**2.74**	**125**		Pn	08 25 43.5	+0.1
NCSB	**Newcastle Ridg**	**2.92**	**315**	P	Pn	08 25 47.2	+1.3
NCSB				S	Sn	08 26 22.0	+0.8
HAWA	**Hanford**	**3.00**	**131**	Pn	Pn	08 25 47.0	+0.1
HAWA				IAML		08 26 32.0	
	comp=N,6.2nm,1.9s						
HAWA				IAML		08 27 12.5	
	comp=N,6.1nm,3.7s						
WOSB	**Woss**	**3.03**	**307**	P	Pn	08 25 48.6	+1.2
WOSB				S	Sn	08 26 24.8	+1.1
C09A	**Chrisman Ranch**	**3.10**	**99**	Pn	Pn	08 25 47.5	-0.8
F07A	**Phinny Hill Vi**	**3.18**	**141**	Pn	Pn	08 25 47.7	-1.7
F07A				IAML		08 26 52.4	
	comp=E,6.5nm,2.0s						
F07A				IAML		08 27 06.2	
	comp=N,6.3nm,3.0s						
MAYB	**Maynard**	**3.48**	**307**	P	Pn	08 25 55.2	+1.5
MAYB				S	Sn	08 26 36.8	+1.7
H04A	**Detroit Lake**	**3.73**	**173**	Pn	Pn	08 25 55.9	-1.2
NEW	**Newport**	**3.80**	**90**	Pn	Pn	08 25 56.8	-1.3
LNOR	**Lincton Mounta**	**3.99**	**127**	Pn	Pn	08 25 58.1	-2.5
G08A	**Pilot Rock**	**4.08**	**138**	Pn	Pn	08 25 59.7	-2.1
WIFE	**Three Sisters-**	**4.39**	**171**	Pn	Pn	08 26 04.4	-1.8

IDC 02 08:36:30.9±8.0**,1˚.85N**×**124˚.94E,h0**km**,mb4.2**/3**, mbtmp4.0**/4**,ML3.6**/1**,Error ellipse: s-maj=130.8km s-min=110.7km az=124.0,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.83**	**178**	P	P	08 41 01.7	-1.8
	0.1nm,0.3s,baz=18,slow=12,SNR=1.3						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**23.54**	**157**	P	P	08 41 42.8	-0.2
	4.3nm,0.3s,baz=338,slow=10,SNR=74						
	4.3nm,0.3s						
ASAR	**Alice Springs**	**26.82**	**162**	P	P	08 42 13.3	+0.1
	1.8nm,0.4s,baz=351,slow=15,SNR=32						
	1.8nm,0.4s						
STKA	**Stephens Creek**	**37.08**	**156**	P	P	08 43 43.9	+0.8
	1.0nm,0.4s,baz=0.0,slow=8.1,SNR=4.7						
	1.0nm,0.4s						

*NNC **02** 08:40:11.6±2.1, 54˚.75N×87˚.49E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=44.5km s-min=13.9km az=162.0, Suspected Mining explosion.*

*ASRS **02** 08:40:15.0±0.6, 54˚.22N×87˚.15E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 02 08:40:15.7±3.1**,54˚.27N**×**87˚.39E,h0**km**,mbtmp3.0**/2**, ML2.8**/2**,4C-1D,Error ellipse: s-maj=25.7km s-min=19.5km az=36.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.54**	**259**	I	I	08 49 30.0	
	baz=77,slow=321,SNR=9.4						
ZAA0	**Zalesovo Array**	**1.55**	**259**	⇑Pn	Pn	08 40 43.2	-1.3
	0.2nm,0.2s						
ZAA0				⇑Sn	Sg	08 41 07.3	+2.0
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**1.55**	**259**	Pg	Pn	08 40 43.0	-1.4
	2.0nm,0.3s,baz=73,slow=16,SNR=12						
ZALV				Lg	Lg	08 41 05.4	
	3.2nm,0.3s,baz=81,slow=28,SNR=9.2						
KURBB	**Kurchatov Arra**	**6.53**	**240**	⇑Pn	Pn	08 41 54.0	+1.1
	0.9nm,0.3s						
KURBB				⇑Lg	Lg	08 43 49.6	
	14nm,0.7s						
KURBB	**Kurchatov Arra**	**6.53**	**240**	Pn	Pn	08 41 53.1	+0.2
	0.2nm,0.3s,baz=59,slow=15,SNR=10						
KURBB				Sn	Sn	08 43 06.9	-1.1
	baz=173,slow=24,SNR=1.4						
KURBB				Lg	Lg	08 43 44.9	
	0.1nm,0.3s,baz=57,slow=29,SNR=1.5						
	0.9nm,0.3s						
MK31	**Makanchi Array**	**8.16**	**205**	⇓Pn	Pn	08 42 17.3	+2.0
	baz=24,slow=13,SNR=4.3						
MKAR	**Makanchi Array**	**8.16**	**205**	Pn	Pn	08 42 17.0	+1.7
	0.1nm,0.3s,baz=22,slow=14,SNR=4.3						
MKAR				Lg	Lg	08 44 33.6	
	baz=19,slow=35,SNR=2.0						
	0.2nm,0.3s						

GII 02 08:44:41.9±0.0**,30˚.861N**±0˚.003×**35˚.000E**±0˚.002**,h0**km**, confirmed,Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**0.34**	**153**	P	Pg	08 44 48.2	-0.2
ZFRI	**Zfri**	**0.34**	**153**	S	Sg	08 44 54.5	+1.6
ZFRI	**Zfri**	**0.34**	**153**	P	Pg	08 44 47.4	-1.0
ZFRI	**Zfri**	**0.34**	**153**	S	Sb	08 44 56.4	-0.4
PRNI	**Paran**	**0.51**	**180**	P	Pg	08 44 52.0	+0.4
PRNI	**Paran**	**0.51**	**180**	S	Sb	08 45 00.3	-1.3
YTIR	**Yattir**	**0.51**	**11**	P	Pg	08 44 52.6	+0.9
YTIR	**Yattir**	**0.51**	**11**	S	Sg	08 44 59.9	+1.6
KZIT	**Kziot**	**0.52**	**275**	P	Pb	08 44 53.0	-0.9
KZIT	**Kziot**	**0.52**	**275**	S	Sg	08 44 59.6	+1.0
KZIT	**Kziot**	**0.52**	**275**	P	Pb	08 44 54.5	+0.6
KZIT	**Kziot**	**0.52**	**275**	S	Sn	08 45 09.7	+3.6
MSBI	**Mazada**	**0.55**	**34**	P	Pg	08 44 52.4	0.0
DSI	**Dead Sea**	**0.78**	**25**	P	Pg	08 44 46.8	-10
DSI	**Dead Sea**	**0.78**	**25**	S	Sg	08 44 55.8	-11
KRMI	**Paran Flat**	**0.78**	**198**	P	Pg	08 44 56.6	-0.2
KRMI	**Paran Flat**	**0.78**	**198**	P	Pg	08 44 57.2	+0.5
MBRI	**Mt Berech**	**1.07**	**184**	P	Pg	08 45 01.2	-1.1
MBRI	**Mt Berech**	**1.07**	**184**	S	Sn	08 45 21.8	+2.1
EIL2	**Elat**	**1.19**	**182**	P	Pg	08 45 02.5	-2.1
EIL2	**Elat**	**1.19**	**182**	S	Sn	08 45 23.1	+0.6
HMDT	**Nahal Hemdat**	**1.46**	**18**	P	Pn	08 44 58.1	-11
HMDT	**Nahal Hemdat**	**1.46**	**18**	S	Sg	08 45 16.2	-13

*TRN **02** 08:53:35.5, 10˚.60N×62˚.58W, h55km, MD3.2, Paria peninsula.*

*FUNV **02** 08:53:36.0, 10˚.56N×62˚.56W, h53km, MW3.4*

ISC 02 08:53:34.2±1.2**,10˚.51N**±0˚.08×**62˚.63W**±0˚.04**,h50**km**,n11, σ1˚.81**/20**,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**1.07**	**80**	*e*P	**Pn**	**08 53 54.3**	**+1.3**
DMDM				*e*S	**Sn**	**08 54 07.0**	**+0.2**
PSMG	**Mucurapo Girls**	**1.09**	**81**	*e*P	**Pn**	**08 53 54.8**	**+1.7**
PSKH	**Kent House, Po**	**1.10**	**81**	*e*P	**Pn**	**08 53 54.5**	**+1.2**
PSKH				*e*S	**Sn**	**08 54 08.0**	**+0.6**
TRN	**Trinidad (W)**	**1.21**	**83**	*e*P	**Pn**	**08 53 55.5**	**+0.7**
TRN				*e*S	**Sn**	**08 54 09.2**	**-0.9**
GRFF	**Grenada Fort F**	**1.76**	**30**	*e*P	**Pn**	**08 54 02.3**	**0.0**
GRFF				*e*S	**Sn**	**08 54 22.2**	**-1.4**
GRGR	**Grenville**	**1.88**	**30**	*e*P	**Pn**	**08 54 03.2**	**-0.7**
GRGR				*e*S	**Sn**	**08 54 25.8**	**-0.6**
PCRV	**Puerto La Cruz**	**2.00**	**261**	*e*P	**Pn**	**08 54 07.5**	**+1.8**
PCRV				*e*S	**Sn**	**08 54 30.6**	**+1.0**
PCRV	**Puerto La Cruz**	**2.00**	**261**	*e*P	**Pn**	**08 54 08.7**	**+3.0**
PCRV				*e*S	**Sn**	**08 54 31.8**	**+2.1**
CACV	**CAICARA DEL OR**	**4.85**	**233**	*e*P	**Pn**	**08 54 41.0**	**-3.7**
CACV				*e*S	Sn	08 55 28.7	-11
BENV	**Beln**	**4.92**	**264**	*e*P	**Pn**	**08 54 47.3**	**+1.5**
BENV				*e*S	**Sn**	**08 55 39.3**	**-2.3**
BAUV	**El Baul**	**5.56**	**254**	*e*P	**Pn**	**08 54 54.9**	**+0.5**
BAUV				*e*S	**Sn**	**08 55 54.7**	**-2.4**

KRSC 02 09:03:04.5±1.4**,56˚.06N**×**164˚.29E,h15**km±20km**,Ml4.0, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.84**	**281**	*e*P	Pb	09 03 20.4	-0.3
KBTR				*e*S	Sb	09 03 31.5	-0.3
KBG	**Krutoberegovo**	**0.91**	**283**	*e*P	Pb	09 03 21.7	-0.3
KBG				*e*S	Sb	09 03 33.6	-0.2
BKI	**Bering**	**1.28**	**131**	*e*P	Pg	09 03 28.9	-0.3
BKI				*e*S	Sg	09 03 45.4	-0.4
ZLN	**Zelenaya**	**1.96**	**270**	*e*P	Pb	09 03 39.3	-0.6
ZLN				*e*S	Sb	09 04 04.5	+0.4

CIRR	**Tsirk**	**1.99**	**273**	*e*P	Pb	09 03 39.5	-0.9
CIRR				*e*S	Sb	09 04 04.7	-0.3
LGNR	**Loginova**	**2.02**	**272**	*e*S	Sb	09 04 05.5	-0.5
BZGR	**Bezymyannyi-Gr**	**2.02**	**268**	*e*P	Pn	09 03 39.2	+1.0
KLY	**Klyuchi**	**2.05**	**279**	*e*P	Pn	09 03 38.1	-0.3
KLY				*e*S	Sn	09 04 02.4	-1.3
MKZ	**Mys Kozlova**	**2.10**	**225**	*e*P	Pb	09 03 40.8	-1.4
MKZ				*e*S	Sn	09 04 06.2	+1.3
BZP	**Bezymyannyi-Pe**	**2.11**	**268**	*e*P	Pn	09 03 39.6	+0.2
BZWR	**Bezymyannyi-We**	**2.13**	**269**	*e*P	Pn	09 03 40.9	+1.2
BZMR	**Bezymyannaya**	**2.14**	**268**	*e*P	Pb	09 03 41.8	-1.2
KIRR	**Kirishev**	**2.22**	**269**	*e*P	Pb	09 03 43.0	-1.4
KIRR				*e*S	Sb	09 04 10.4	-1.3
KPT	**Kopyto**	**2.29**	**269**	*e*P	Pb	09 03 44.4	-1.1
KPT				*e*S	Sb	09 04 12.6	-1.0
KMNR	**Kamenistaya**	**2.30**	**264**	*e*P	Pb	09 03 44.4	-1.3
TUMD	**Tumrok D**	**2.37**	**250**	*e*P	Pb	09 03 45.3	-1.5
KOZ	**Kozyrevsk**	**2.48**	**272**	*e*P	Pb	09 03 47.0	-1.7
KOZ				*e*S	Sb	09 04 18.6	-0.4
SRDR	**Sredinnyy**	**2.57**	**278**	*e*P	Pn	09 03 47.3	+1.6
SRDR				*e*S	Sb	09 04 19.2	-2.5
ESO	**Esso**	**3.14**	**270**	*e*P	Pn	09 03 55.5	+2.0
PALN	**Palana**	**3.83**	**324**	*e*P	Pn	09 04 04.5	+1.6
SPN	**Mys Shipunski**	**3.87**	**222**	*e*P	Pn	09 04 05.9	+2.5
SPN				*e*S	Sn	09 04 47.9	-0.6
SDLR	**Sedlovina**	**4.20**	**231**	*e*P	Pn	09 04 10.9	+2.9
KRER	**Koryakskii**	**4.24**	**232**	*e*P	Pn	09 04 12.0	+3.3
SMAR	**Somma**	**4.24**	**231**	*e*P	Pn	09 04 11.8	+3.1
KRX	**Arik**	**4.24**	**233**	*e*P	Pn	09 04 12.4	+3.7
AVH	**Avacha**	**4.27**	**231**	*e*P	Pn	09 04 12.3	+3.4
UGLR	**Uglovaya**	**4.27**	**230**	*e*P	Pn	09 04 12.5	+3.5
KOK	**Koryaka**	**4.29**	**232**	*e*P	Pn	09 04 13.4	+4.0
GNL	**Ganaly**	**4.36**	**240**	*e*P	Pn	09 04 14.2	+3.9
GRL	**Gorelyy**	**5.06**	**229**	*e*P	Pn	09 04 24.4	+4.5
MTVR	**Mutnovka**	**5.06**	**228**	*e*P	Pn	09 04 23.8	+3.9
APC	**Apacha**	**5.21**	**236**	*e*P	Pb	09 04 28.9	-6.3
ASAK	**Asacha**	**5.25**	**228**	*e*P	Pn	09 04 26.8	+4.3

NNC ***02*** *09:06:16.5±0.2, 43.̊13N×76.̊93E, h7km±1km, mb4.1, mpv3.8, Error ellipse: s-maj=2.5km s-min=1.6km az=172.0*
KRNET ***02*** *09:06:17.0±0.1, 43.̊08N×76.̊90E, h17km, mb3.4*
SOME ***02*** *09:06:17.2, 43.̊12N×76.̊90E, h20km*
KNET ***02*** *09:06:18.4±0.5, 43.̊06N×76.̊80E, h14km±2km, ml3.1, Error ellipse: s-maj=3.5km s-min=2.2km az=72.0*
ISC 02 09:06:17.3±0.7**, 43.̊13N**±0.̊02×**76.̊91E**±0.̊02**, h12**km±3km**, n58, σ1.̊37**/104**, 37C-20D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAA	**Alma-Ata**	**0.08**	**1**	P	**Pg**	**09 06 20.3**	**+0.2**
	17µm,0.1s						
AAA				S	**Sg**	**09 06 22.2**	**+0.2**
	5µm,0.2s						
AAA	**Alma-Ata**	**0.08**	**1**	*e*P	**Pg**	**09 06 20.3**	**+0.2**
	17µm,0.1s						
AAA				*e*S	**Sg**	**09 06 22.2**	**+0.2**
	5µm,0.2s						
TNSS	**Tian-Shan**	**0.10**	**164**	P	**Pg**	**09 06 20.3**	**-0.2**
	816nm,0.1s						
TNSS				S	**Sg**	**09 06 22.2**	**-0.6**
	1µm,0.2s						
TNSS	**Tian-Shan**	**0.10**	**164**	*e*P	**Pg**	**09 06 20.3**	**-0.2**
	816nm,0.1s						
TNSS				*e*S	**Sg**	**09 06 22.2**	**-0.6**
	1µm,0.2s						
KNDC	**Almaty**	**0.10**	**24**	⇑P	**Pb**	**09 06 20.0**	**-0.2**
	5µm,0.2s						
KNDC				⇓S	**Sb**	**09 06 22.1**	**-0.3**
MDOK	**Medeo**	**0.10**	**71**	Pg	**Pb**	**09 06 19.8**	**-1.6**
MDOK				Lg	Lg	09 06 21.2	
MTBS	**Maitube**	**0.35**	**270**	P	**Pb**	**09 06 24.8**	**-0.8**
	40nm,0.1s						
MTBS				S	**Sb**	**09 06 30.0**	**-1.2**
	452nm,0.2s						
MTBS	**Maitube**	**0.35**	**270**	*e*P	**Pb**	**09 06 24.8**	**-0.8**
	40nm,0.1s						
MTBS				*e*S	**Sb**	**09 06 30.0**	**-1.2**
	452nm,0.2s						
KTBS	**Karatobe**	**0.61**	**344**	P	**Pg**	**09 06 28.7**	**-0.5**
	132nm,0.1s						
KTBS				S	**Sg**	**09 06 36.5**	**-0.7**
	9.2nm,0.3s						
KST	**Kastek**	**0.70**	**263**	P	**Pb**	**09 06 31.0**	**-0.5**
	26nm,0.2s						
KST				S	**Sb**	**09 06 40.6**	**-0.7**
	90nm,0.2s						
KST	**Kastek**	**0.70**	**263**	*e*P	**Pb**	**09 06 31.0**	**-0.5**
	26nm,0.2s						
KST				*e*S	**Sb**	**09 06 40.5**	**-0.7**
	90nm,0.2s						
DGS	**Degeres**	**0.84**	**278**	P	**Pb**	**09 06 33.3**	**-0.6**
	147nm,0.3s						
DGS				S	**Sg**	**09 06 44.5**	**-0.2**
	287nm,0.3s						
TKM2	**Tokmak 2**	**0.99**	**258**	⇑P	**Pb**	**09 06 35.9**	**-0.6**
	32nm,0.1s,SNR=38						
TKM2				⇑S	**Sn**	**09 06 49.8**	**-1.4**
	532nm,0.1s						
TKM2	**Tokmak 2**	**0.99**	**258**	⇓*i*P	**Pb**	**09 06 35.5**	**-1.0**
TKM2				⇓*i*S	**Sg**	**09 06 49.0**	**-0.3**
ULHL	**Ulahol**	**1.01**	**209**	⇓P	**Pb**	**09 06 36.0**	**-0.9**
	44nm,0.1s,SNR=11						
ULHL				⇑S	**Sg**	**09 06 49.8**	**-0.2**
	721nm,0.2s						
ULHL	**Ulahol**	**1.01**	**209**	⇑*i*P	**Pb**	**09 06 35.4**	**-1.5**
ULHL				⇑*i*S	**Sb**	**09 06 48.7**	**-1.6**
KDJ	**Kajisay**	**1.02**	**169**	⇑*i*P	**Pb**	**09 06 35.5**	**-1.5**
KDJ				⇑*i*S	**Sb**	**09 06 49.1**	**-1.3**
KRBS	**Karabastau**	**1.06**	**303**	P	**Pb**	**09 06 37.1**	**-0.7**
	13nm,0.2s						
KRBS				S	**Sg**	**09 06 51.4**	**-0.4**
	129nm,0.2s						
SATY	**Saty**	**1.10**	**93**	P	**Pb**	**09 06 36.5**	**-1.8**
	37nm,0.1s						
SATY				S	**Sb**	**09 06 50.0**	**-2.7**
	488nm,0.1s						
ARXS	**Arharly**	**1.27**	**31**	P	**Pn**	**09 06 40.0**	**-1.0**
	88nm,0.3s						
ARXS				S	**Sb**	**09 06 56.0**	**-1.6**
	395nm,0.2s						
ARXS	**Arharly**	**1.27**	**31**	*e*P	**Pn**	**09 06 40.0**	**-1.0**
ARXS				*e*S	**Sb**	**09 06 56.0**	**-1.6**
PRZ	**Przheval'sk**	**1.27**	**120**	⇑*i*P	**Pn**	**09 06 40.5**	**-0.6**
PRZ				⇑*i*S	**Sn**	**09 06 57.7**	**-0.5**
KPKS	**Kokpek**	**1.34**	**75**	P	**Pn**	**09 06 41.2**	**-0.8**
	0.4nm,0.2s						
KPKS				S	**Sn**	**09 06 57.9**	**-1.8**
	169nm,0.5s						
KBK	**Karagaybulak**	**1.52**	**253**	⇑P	**Pb**	**09 06 45.0**	**-0.6**
	51nm,0.2s,SNR=23						
KBK				⇓S	**Sg**	**09 07 05.3**	**-0.9**
	390nm,0.2s						
KBK	**Karagaybulak**	**1.52**	**253**	⇑*i*P	**Pb**	**09 06 45.0**	**-0.6**
KBK				⇑*i*S	**Sg**	**09 07 05.2**	**-1.0**
UZB	**Uzynbulak**	**1.54**	**89**	P	**Pn**	**09 06 44.5**	**-0.3**
	15nm,0.1s						
UZB				S	**Sn**	**09 07 04.1**	**-0.8**
	123nm,0.2s						
UZB	**Uzynbulak**	**1.54**	**89**	*e*P	**Pn**	**09 06 44.5**	**-0.3**
	15nm,0.1s						
UZB				*e*S	**Sn**	**09 07 04.1**	**-0.8**
	123nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.55**	**154**	⇑*i*P	**Pb**	**09 06 45.2**	**-1.0**
TARG				⇑*i*S	**Sb**	**09 07 05.5**	**-0.4**
CHMS	**Chumysh**	**1.59**	**266**	⇓P	**Pb**	**09 06 46.0**	**-0.6**
	24nm,0.1s,SNR=12						
CHMS				⇑S	**Sg**	**09 07 07.3**	**-1.2**
	564nm,0.3s						
CHMS	**Chumysh**	**1.59**	**266**	⇓*i*P	**Pb**	**09 06 46.4**	**-0.3**
CHMS				⇓*i*S	**Sg**	**09 07 07.9**	**-0.6**
SGDS	**Sogindy**	**1.70**	**282**	P	**Pb**	**09 06 48.5**	**0.0**
	34nm,0.1s						
SGDS				S	**Sg**	**09 07 10.5**	**-1.4**
	242nm,0.2s						
FRU1	**Bishkek**	**1.71**	**260**	⇑*i*P	**Pb**	**09 06 48.5**	**-0.2**
FRU1				⇑*i*S	**Sg**	**09 07 11.2**	**-1.0**
USP	**Ospenovka**	**1.77**	**275**	⇓P	**Pb**	**09 06 49.1**	**-0.6**
	44nm,0.2s,SNR=26						
USP				⇑S	**Sg**	**09 07 13.0**	**-1.2**
	210nm,0.2s						
USP	**Ospenovka**	**1.77**	**275**	⇑*i*P	**Pb**	**09 06 49.1**	**-0.6**
USP				⇑*i*S	**Sg**	**09 07 13.2**	**-1.0**
AAK	**Ala-Archa**	**1.84**	**255**	⇑P	**Pb**	**09 06 50.7**	**-0.3**
	23nm,0.2s,SNR=24						
AAK				⇓S	**Sg**	**09 07 15.8**	**-0.9**
	93nm,0.3s						
AAK	**Ala-Archa**	**1.84**	**255**	⇑Pn	**Pn**	**09 06 49.0**	**+0.1**
	55nm,0.4s						
AAK				⇑Sn	**Sb**	**09 07 14.0**	**-0.2**
	503nm,0.6s						
AAK	**Ala-Archa**	**1.84**	**255**	⇑*i*P	**Pb**	**09 06 50.8**	**-0.3**
AAK				⇑*i*S	**Sg**	**09 07 15.5**	**-1.1**
SHLS	**Shalkode**	**1.87**	**88**	Pg	**Pg**	**09 06 56.5**	**+3.3**
	32nm,0.3s						
SHLS				Lg	Lg	09 07 24.2	
	173nm,0.5s						
SHLS	**Shalkode**	**1.87**	**88**	*e*P	**Pg**	**09 06 56.5**	**+3.3**
	32nm,0.3s						
SHLS				*e*S	**Sg**	**09 07 24.2**	**+6.8**
	173nm,0.5s						
PDGK	**Podgornoye**	**1.90**	**83**	⇑Pn	**Pn**	**09 06 50.0**	**+0.4**
	10nm,0.5s						
PDGK				⇓Sn	**Sb**	**09 07 14.2**	**-1.4**
	45nm,0.7s						
UCH	**Uchtor**	**1.98**	**244**	⇑P	**Pb**	**09 06 53.8**	**+0.1**
	38nm,0.3s,SNR=71						
UCH				⇓S	**Sg**	**09 07 20.5**	**-0.6**
	56nm,0.2s						
UCH	**Uchtor**	**1.98**	**244**	⇑*i*P	**Pb**	**09 06 53.2**	**-0.5**
UCH				⇑*i*S	**Sg**	**09 07 19.4**	**-1.8**
TDK	**Taldyqorghan**	**2.16**	**29**	Pg	**Pb**	**09 06 55.8**	**-0.6**
	142nm,0.4s						
TDK				Lg	Lg	09 07 22.7	
	1.4nm,0.3s						
TDK	**Taldyqorghan**	**2.16**	**29**	*e*P	**Pb**	**09 06 55.8**	**-0.6**
	142nm,0.4s						
TDK				*e*S	**Sb**	**09 07 22.7**	**-0.5**
	1.4nm,0.3s						
EKS2	**Erkin-Say**	**2.35**	**260**	⇓P	**Pb**	**09 06 58.6**	**-1.1**
	13nm,0.2s,SNR=20						
EKS2				⇓S	**Sb**	**09 07 29.7**	**+1.0**
	63nm,0.2s						
EKS2	**Erkin-Say**	**2.35**	**260**	⇓*i*P	**Pb**	**09 06 58.3**	**-1.4**
EKS2				⇓*i*S	**Sb**	**09 07 28.1**	**-0.6**
MRKS	**Merke**	**2.73**	**263**	Pg	**Pb**	**09 07 06.0**	**-0.2**
	14nm,0.3s						
MRKS				Lg	Lg	09 07 40.9	
	87nm,0.3s						
MRKS	**Merke**	**2.73**	**263**	*e*P	**Pb**	**09 07 06.0**	**-0.2**
	14nm,0.3s						
MRKS				*e*S	**Sb**	**09 07 40.9**	**+1.1**
	87nm,0.3s						
BTLS	**Baital**	**2.81**	**314**	Pg	**Pb**	**09 07 07.5**	**0.0**
	14nm,0.2s						
BTLS				Lg	Lg	09 07 43.5	
	24nm,0.5s						
BTLS	**Baital**	**2.81**	**314**	*e*P	**Pb**	**09 07 07.5**	**0.0**
	14nm,0.2s						
BTLS				*e*S	**Sb**	**09 07 43.5**	**+1.6**
	24nm,0.5s						
SALK	**Salom-Alik**	**3.22**	**227**	⇑*i*P	**Pn**	**09 07 10.0**	**+2.2**
SALK				⇑*i*S	**Sn**	**09 07 48.4**	**+2.3**
TRKS	**Terek-Say**	**4.57**	**251**	⇑*i*P	**Pn**	**09 07 29.0**	**+2.6**
TRKS				⇑*i*S	**Sn**	**09 08 21.3**	**+1.8**
KK31	**Karatay Array**	**4.69**	**272**	⇑Pg	**Pb**	**09 07 41.7**	**+2.3**
	0.8nm,0.2s,baz=83,slow=15,SNR=5.3						
KK31				⇑Lg	Lg	09 08 45.5	
	9.9nm,0.3s,baz=92,slow=29,SNR=13						
MAKZ	**Makanchi**	**5.14**	**43**	⇑Pn	**Pn**	**09 07 33.5**	**-0.6**
	1.7nm,0.5s						
MAKZ				⇓Lg	Lg	09 08 59.4	
	9.2nm,0.6s						
IUG	**Iuzhnay**	**5.17**	**261**	Pg	**Pb**	**09 07 51.4**	**+3.7**
	13nm,0.3s						
IUG				Lg	Lg	09 08 58.8	
	79nm,0.6s						
MK31	**Makanchi Array**	**5.29**	**44**	Pn	**Pn**	**09 07 34.9**	**-1.2**
	1.4nm,0.4s,baz=120,slow=8.2,SNR=22						
MK31				Lg	Lg	09 09 04.9	
	2.6nm,0.3s,baz=226,slow=26,SNR=6.7						
KURBB	**Kurchatov Arra**	**7.58**	**8**	⇓Pn	**Pn**	**09 08 07.1**	**-0.4**
	0.7nm,0.3s						
KURBB				⇓Lg	Lg	09 10 17.0	
	51nm,0.8s						
BVA0	**Borovoye Array**	**10.82**	**339**	⇓Lg	Lg	09 12 00.6	
	13nm,0.8s						

MEX ***02*** *09:22:55.2±0.7, 15.̊29N×94.̊70W, h18km±9km, MD4.1*
GCG ***02*** *09:22:56.3±1.1, 15.̊65N×94.̊84W, h35km±16km, MD3.9, ML2.7*
ISC 02 09:22:49.4±1.5**, 15.̊42N**±0.̊05×**94.̊74W**±0.̊02**, h9**km±11km**, n23, σ1.̊88**/45**, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.37**	**285**	*e*P	**Pg**	**09 23 17.2**	**+1.6**
HUIG				*i* S	**Sb**	**09 23 33.1**	**+0.4**
HUIG	**Huatulco**	**1.37**	**285**	*i* P	**Pg**	**09 23 17.2**	**+1.6**
HUIG				*i* S	**Sb**	**09 23 32.8**	**0.0**
HUIG				IAML		09 23 34.0	
	comp=N,70nm,0.2s						
PCIG		**1.49**	**79**	*e*P	**Pn**	**09 23 17.8**	**+1.4**
PCIG				*e*S	**Sn**	**09 23 34.6**	**-1.4**
CMIG	**Matias Romero**	**1.67**	**355**	*e*P	**Pg**	**09 23 22.1**	**+0.7**
CMIG				*e*S	**Sg**	**09 23 42.6**	**-0.5**
UXUV	**UXUV**	**1.97**	**17**	*e*P	**Pg**	**09 23 27.1**	**-0.1**
UXUV				*e*S	**Sg**	**09 23 50.7**	**-2.1**
TGIG		**2.06**	**49**	*e*P	**Pb**	**09 23 27.4**	**+0.4**
TGIG				*e*S	**Sn**	**09 23 51.3**	**+1.2**
TGIG		**2.06**	**49**	*i* P	**Pg**	**09 23 28.7**	**-0.2**
TGIG				*i* S	**Sb**	**09 23 52.2**	**-0.6**
TGIG				IAML		09 23 55.1	
	comp=E,58nm,0.2s						
PEIG	**Puerto Escondi**	**2.39**	**284**	*e*P	**Pb**	**09 23 31.7**	**-1.0**
PEIG				*e*S	**Sn**	**09 23 56.9**	**-1.4**
PATR	**El Naranjo**	**2.43**	**97**	*e*P	**Pn**	**09 23 31.0**	**+1.4**
PATR				*e*S	**Sn**	**09 23 57.3**	**-2.3**
PAVE	**Pavencul**	**2.48**	**95**	*e*P	**Pn**	**09 23 31.9**	**+1.7**
PAVE				*e*S	**Sn**	**09 23 59.7**	**-1.1**
NEUV	**Arroyo Zacate**	**2.50**	**336**	*e*P	**Pb**	**09 23 33.8**	**-0.7**
NEUV				*e*S	**Sb**	**09 24 03.3**	**-2.2**
VHO	**Vista Hermosa**	**2.53**	**311**	*e*P	**Pn**	**09 23 32.4**	**+1.6**
VHO				*e*S	**Sn**	**09 24 00.9**	**-0.9**
CHUJ	**Union Juarez**	**2.56**	**97**	*e*P	**Pn**	**09 23 33.0**	**+1.7**
CHUJ				*e*S	**Sn**	**09 24 00.4**	**-2.3**
CCIG	**Comitan**	**2.65**	**71**	*e*P	**Pn**	**09 23 35.5**	**+3.1**
CCIG				*i* S	**Sn**	**09 24 06.2**	**+1.5**
CCIG	**Comitan**	**2.65**	**71**	*i* P	**Pb**	**09 23 37.5**	**+0.4**
CCIG				*i* S	**Sb**	**09 24 09.8**	**0.0**
CCIG				IAML		09 24 18.0	
	comp=N,53nm,0.5s						
YOIG	**Yosondua**	**3.06**	**298**	*e*P	**Pb**	**09 23 43.3**	**-0.8**
YOIG				*e*S	**Sn**	**09 24 13.6**	**-1.4**
PNIG	**Pinotepa**	**3.40**	**287**	*e*P	**Pn**	**09 23 46.5**	**+3.7**
PNIG				*e*S	**Sn**	**09 24 19.6**	**-3.7**
TXIG	**Tlaxiaco**	**3.44**	**303**	*e*P	**Pb**	**09 23 49.1**	**-1.5**
TXIG				*e*S	**Sn**	**09 24 25.9**	**+1.4**
TOIG	**Toxpalan**	**3.47**	**320**	*e*P	**Pb**	**09 23 50.3**	**-0.9**
TOIG				*e*S	**Sn**	**09 24 27.1**	**+1.9**
FTIG	**Fresnillo de T**	**4.09**	**308**	*e*P	**Pb**	**09 23 58.5**	**-3.2**
FTIG				*e*S	**Sn**	**09 24 37.9**	**-2.5**
TLIG	**Tlapa**	**4.25**	**301**	*e*P	**Pb**	**09 24 00.6**	**-3.8**
TLIG				*e*S	**Sn**	**09 24 44.1**	**-0.2**
JAUV	**Jalcomulco**	**4.39**	**334**	*e*S	**Sn**	**09 24 50.6**	**+2.8**
PETF	**Flores**	**4.91**	**72**	*e*P	**Pn**	**09 24 05.0**	**+1.6**
PETF				*e*S	**Sn**	**09 24 58.1**	**-2.3**

BJI ***02*** *09:24:54.6, 6.̊70S×130.̊00E, h178km, mB4.7/5, mb4.4/24*
IDC ***02*** *09:24:56.0±2.0, 6.̊15S×130.̊28E, h158km±19km, mb4.0/15, mbtmp4.5/19, MS3.3/2, Error ellipse: s-maj=15.7km s-min=9.6km az=76.0*
DJA ***02*** *09:24:58.3±0.1, 6˚S±2˚×13˚0E±˚, h170km±3km, M5.0/39, mB5.5/19, mb4.8/39, MLv5.4/18, Mw4.7/26, Mw(mB)4.9/19*
NEIC ***02*** *09:24:58.1±1.9, 6.̊14S±0.̊06×130.̊20E±0.̊07, h169km±7km, mb4.9/19, Error ellipse: s-maj=10.8km s-min=8.5km az=102.0*
ISC 02 09:24:57.5±0.3**, 6.̊22S**±0.̊04×**130.̊21E**±0.̊04**, h169**km**, n218, σ1.̊29**/221**, mb4.6**/39**, 3D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.71**	**350**	P	**Pn**	**09 25 31.8**	**+1.0**
BNDI	**Bandanaira**	**1.71**	**350**	P	**Pn**	**09 25 32.4**	**+1.6**
BNDI				S	**Sn**	**09 25 57.0**	**+0.5**
SAUI	**Saumlaki**	**2.06**	**148**		**Pn**	**09 25 36.4**	**+1.9**
SAUI	**Saumlaki**	**2.06**	**148**	P	**Pn**	**09 25 36.4**	**+1.9**
SAUI	**Saumlaki**	**2.06**	**148**	P	**Pn**	**09 25 36.8**	**+2.3**
SAUI				S	**Sn**	**09 26 04.2**	**+1.0**
MSAI	**Masohi**	**3.13**	**336**	P	**Pn**	**09 25 47.9**	**+0.6**
MSAI				S	**Sn**	**09 26 25.3**	**-0.8**
AAI	**Ambon**	**3.22**	**321**	P	**Pn**	**09 25 50.4**	**+1.9**
FAKI	**Fak Fak**	**3.85**	**32**		**Pn**	**09 25 55.6**	**-0.9**
FAKI	**Fak Fak**	**3.85**	**32**	P	**Pn**	**09 25 55.5**	**-0.9**
FAKI	**Fak Fak**	**3.85**	**32**	P	**Pn**	**09 25 55.6**	**-0.9**
NLAI	**Namlea**	**4.29**	**314**	P	**Pn**	**09 26 04.7**	**+2.6**
KMPI	**Kaimana, Papua**	**4.31**	**54**	P	**Pn**	**09 26 02.0**	**-0.3**
SWI	**Sorong**	**5.42**	**11**	P	**Pn**	**09 26 15.4**	**-1.5**
SANI	**Sanana**	**5.91**	**314**	P	**Pn**	**09 26 24.8**	**+1.5**
SANI	**Sanana**	**5.91**	**314**	S	**Sn**	**09 27 31.2**	**+0.6**
SANI	**Sanana**	**5.91**	**314**	P	**Pn**	**09 26 24.6**	**+1.3**
	0.5nm2µm113nm,0.6s						
RKPI	**Ransiki, Papua**	**6.12**	**40**	P	**Pn**	**09 26 26.5**	**+0.4**
DRS	**Darwin Rock St**	**6.21**	**174**	P	**Pn**	**09 26 27.7**	**+0.5**
DRS	**Darwin Rock St**	**6.21**	**174**	S	**Sn**	**09 27 36.9**	**-0.9**
MTN	**Manton Dam**	**6.65**	**172**		**Pn**	**09 26 33.4**	**+0.4**
MTN	**Manton Dam**	**6.65**	**172**	P	**Pn**	**09 26 33.1**	**+0.1**
MTN	**Manton Dam**	**6.65**	**172**	S	**Sn**	**09 27 46.1**	**-2.1**
KDU	**Kakadu**	**6.80**	**161**	P	**Pn**	**09 26 34.8**	**-0.3**
SOEI	**Soe**	**6.86**	**239**		**Pn**	**09 26 37.2**	**+1.3**
SOEI	**Soe**	**6.86**	**239**	P	**Pn**	**09 26 36.9**	**+1.0**
SOEI	**Soe**	**6.86**	**239**	S	**Sn**	**09 27 53.4**	**0.0**
SOEI	**Soe**	**6.86**	**239**	P	**Pn**	**09 26 37.3**	**+1.3**
	2.5nm7µm192nm,0.5s						
TNTI	**Ternate**	**7.50**	**338**	P	**Pn**	**09 26 44.0**	**-0.4**
BATI	**Baumata**	**7.60**	**238**	P	**Pn**	**09 26 46.1**	**+0.5**
	516nm,0.4s,baz=139,slow=4.8,SNR=43						
BATI				S	**Sn**	**09 28 10.0**	**-0.9**
	342nm,0.5s,baz=107,slow=8.9,SNR=12						
BATI	**Baumata**	**7.60**	**238**	P	**Pn**	**09 26 46.4**	**+0.8**
BAKI	**Biak**	**7.71**	**50**	P	**Pn**	**09 26 48.7**	**+1.5**
	2.0nm5µm413nm,1.1s						
MMRI	**Maumere**	**8.27**	**253**	P	**Pn**	**09 26 55.4**	**+0.9**
	123nm,0.6s						
WAMI	**Wamena**	**8.78**	**75**	P	**Pn**	**09 27 04.0**	**+2.8**
EDFI	**Ende, Flores**	**8.82**	**253**	P	**Pn**	**09 27 03.6**	**+1.7**
	60nm,0.7s						
SMPI	**Sarmi**	**9.46**	**64**	P	**Pn**	**09 27 10.5**	**+0.3**
	33nm,0.9s						
KNRA	**Kununurra**	**9.51**	**188**		**Pn**	**09 27 10.2**	**-0.6**
BKSI	**Bulukumba**	**10.08**	**275**	P	**Pn**	**09 27 18.7**	**+0.3**
	23nm,0.8s						
BNSI	**Bone**	**10.22**	**280**	P	**Pn**	**09 27 21.4**	**+1.1**
	39nm,1.2s						
BASI	**Baing, Sumba**	**10.33**	**247**	P	**Pn**	**09 27 23.4**	**+1.7**
	184nm,0.9s						
MMPI	**Merauke**	**10.33**	**103**	P	**Pn**	**09 27 22.2**	**+0.5**
WSI	**Waingapu**	**10.40**	**250**	P	**Pn**	**09 27 23.4**	**+0.8**
KAPI	**Kappang**	**10.48**	**276**	P	**Pn**	**09 27 23.6**	**-0.1**
	4.9nm,0.3s,baz=78,slow=15,SNR=2.0						
GENI	**Genyem**	**10.56**	**70**	P	**Pn**	**09 27 24.9**	**+0.3**
	128nm,0.8s						
MRSI	**Marisa**	**10.60**	**309**	P	**Pn**	**09 27 27.0**	**+1.8**
	173nm,0.9s						
SPSI	**Sidrap Palu**	**10.64**	**282**	P	**Pn**	**09 27 26.9**	**+1.2**
	47nm,1.2s						
TTSI	**Tana Toraja**	**10.83**	**286**	P	**Pn**	**09 27 30.0**	**+1.8**
	54nm,1.0s						
JAY	**Jayapura**	**11.09**	**71**	P	**Pn**	**09 27 30.1**	**-1.5**
	7.7nm,0.3s,baz=238,slow=14,SNR=14						
JAY				S	Sn	09 29 22.7	-12
	4.0nm,0.7s,baz=116,slow=15,SNR=0.8						
JAY	**Jayapura**	**11.09**	**71**	P	**Pn**	**09 27 33.1**	**+1.5**
WBSI	**Waikabubak, Su**	**11.24**	**252**	P	**Pn**	**09 27 34.2**	**+0.5**
	2µm110nm,0.5s						
PCI	**Palu**	**11.62**	**297**	P	**Pn**	**09 27 40.0**	**+1.5**
	172nm,1.1s						
TOLI2	**Tolitoli**	**11.90**	**307**	Pn	**Pn**	**09 27 40.6**	**-1.6**
TOLI2	**Tolitoli**	**11.90**	**307**	P	**Pn**	**09 27 42.7**	**+0.6**
TOLI2	**Tolitoli**	**11.90**	**307**	S	**Sn**	**09 29 55.0**	**+0.8**
PLAI	**Plampang**	**12.60**	**257**	P	**Pn**	**09 27 50.8**	**-0.3**
PLAI	**Plampang**	**12.60**	**257**	P	**Pn**	**09 27 50.4**	**-0.7**
	2µm112nm,0.8s						
FITZ	**Fitzroy Crossi**	**12.62**	**200**		**Pn**	**09 27 49.8**	**-1.6**
FITZ	**Fitzroy Crossi**	**12.62**	**200**	P	**Pn**	**09 27 49.6**	**-1.7**
	14nm,0.3s,baz=35,slow=12,SNR=79						
FITZ				S	Sn	09 30 02.5	-8.9
	44nm,0.5s,baz=80,slow=16,SNR=14						
FITZ	**Fitzroy Crossi**	**12.62**	**200**	P	**Pn**	**09 27 51.8**	**+0.5**
TWSI	**Taliwang, Sumb**	**13.45**	**258**	P	**Pn**	**09 28 01.0**	**-0.9**
	51nm,0.7s						
WRAB	**Tennant Creek**	**14.21**	**164**	P	**Pn**	**09 28 09.5**	**-2.0**
WRA	**Warramunga Arr**	**14.22**	**164**		**Pn**	**09 28 08.4**	**-3.1**
WRA	**Warramunga Arr**	**14.22**	**164**	P	**Pn**	**09 28 08.6**	**-3.0**
	27nm,0.6s,baz=346,slow=13,SNR=146						
WRA				S	Sn	09 30 38.5	-11
	74nm,0.9s,baz=344,slow=22,SNR=19						
COEN	**Coen**	**14.89**	**122**		**Pn**	**09 28 20.2**	**+0.3**
COEN	**Coen**	**14.89**	**122**	P	**Pn**	**09 28 20.2**	**+0.3**
JAGI	**Jajag, Banyuwa**	**16.09**	**261**		**Pn**	**09 28 32.9**	**-1.7**
JAGI	**Jajag, Banyuwa**	**16.09**	**261**	P	**Pn**	**09 28 34.8**	**+0.2**
JAGI	**Jajag, Banyuwa**	**16.09**	**261**	P	**Pn**	**09 28 33.8**	**-0.8**
	66nm,0.6s						
MYLDM	**Lahad Datu**	**16.28**	**314**	P	**P**	**09 28 36.5**	**-0.2**
MYLDM	**Lahad Datu**	**16.28**	**314**	P	**Pn**	**09 28 37.4**	**+0.6**
QIS	**Mount Isa**	**16.92**	**148**	P	**P**	**09 28 44.5**	**+0.7**
PMG	**Port Moresby**	**17.08**	**102**		**P**	**09 28 46.8**	**+1.2**
PMG	**Port Moresby**	**17.08**	**102**	P	**Pn**	**09 28 47.4**	**+0.9**
	29nm,0.8s,baz=288,slow=16,SNR=4.3						
ASAR	**Alice Springs**	**17.71**	**169**	P	**P**	**09 28 53.7**	**+1.3**
	100nm,0.6s,baz=350,slow=11,SNR=772						
ASAR				S	**S**	**09 31 59.7**	**-8.0**
	23nm,1.0s,baz=357,slow=26,SNR=8.6						
AS01	**Alice Springs**	**17.72**	**169**	P	**P**	**09 28 53.2**	**+0.7**
MBWA	**Marble Bar**	**17.99**	**213**		**P**	**09 28 56.6**	**+1.1**
MBWA	**Marble Bar**	**17.99**	**213**	P	**P**	**09 28 56.7**	**+1.2**
MTSU	**Mount Surprise**	**18.16**	**132**	P	**P**	**09 28 58.5**	**+1.2**
PSA00	**Pilbara Seismi**	**18.27**	**212**		**P**	**09 28 59.7**	**+1.3**
PSA00	**Pilbara Seismi**	**18.27**	**212**	P	**P**	**09 28 59.8**	**+1.3**
PSA00	**Pilbara Seismi**	**18.27**	**212**	P	**P**	**09 28 58.8**	**+0.3**
KKM	**Kota Kinabalu**	**18.54**	**311**	P	**P**	**09 29 02.3**	**+0.7**
KKM	**Kota Kinabalu**	**18.54**	**311**	P	**Pn**	**09 29 02.7**	**-1.1**
UGM	**Wanagama**	**19.61**	**264**	P	**P**	**09 29 12.7**	**-0.5**
UGM	**Wanagama**	**19.61**	**264**	P	**P**	**09 29 13.2**	**0.0**
STKI	**Sintang**	**19.71**	**288**	P	**P**	**09 29 14.9**	**+0.7**
SBUM	**Sibu**	**19.92**	**295**	P	**P**	**09 29 16.2**	**-0.3**
SBUM	**Sibu**	**19.92**	**295**	P	**P**	**09 29 17.7**	**+1.2**
TV1H	**Townsville Har**	**20.70**	**130**	P	**P**	**09 29 25.1**	**+0.4**
CTA	**Charters Tower**	**20.80**	**133**	P	**P**	**09 29 26.3**	**+0.5**
CTAO	**Charters Tower**	**20.80**	**133**	P	**P**	**09 29 26.6**	**+0.8**
CTAO	**Charters Tower**	**20.80**	**133**	P	**P**	**09 29 26.3**	**+0.5**
KPJI	**Karang Pucung**	**21.16**	**266**	P	**P**	**09 29 30.9**	**+1.2**
	32nm,1.4s						
KSM	**Kuching**	**21.29**	**290**	P	**P**	**09 29 30.4**	**-0.7**
BBJI	**Bungbulang**	**22.44**	**266**	P	**P**	**09 29 42.6**	**-0.1**
MEEK	**Meekatharra**	**23.12**	**207**	P	**P**	**09 29 49.3**	**+0.5**
INKA	**Innaminka**	**23.63**	**156**	IAmb	IAmb	09 29 56.5	
	comp=Z,32nm,0.8s						
QLP	**Quilpie**	**24.27**	**148**	P	**P**	**09 29 59.4**	**+0.2**
MORW	**Morawa**	**26.38**	**209**	P	**P**	**09 30 18.2**	**-0.1**
MORW				IAmb	IAmb	09 31 08.2	
	comp=Z,65nm,1.6s						
BBOO	**Buckleboo**	**27.01**	**169**	P	**P**	**09 30 24.1**	**+0.2**
BBOO				IAmb	IAmb	09 30 24.6	
	comp=Z,21nm,0.8s						
BBOO	**Buckleboo**	**27.01**	**169**	P	**P**	**09 30 23.8**	**-0.1**
BLDU	**Ballidu**	**27.39**	**206**	P	**P**	**09 30 27.8**	**+0.5**
EIDS	**Eidsvold**	**27.59**	**136**	P	**P**	**09 30 28.8**	**-0.4**
EIDS				IAmb	IAmb	09 31 20.1	
	comp=Z,12nm,0.9s						
STKA	**Stephens Creek**	**27.66**	**159**	P	**P**	**09 30 29.9**	**+0.3**
STKA	**Stephens Creek**	**27.66**	**159**	P	**P**	**09 30 29.9**	**+0.3**
	comp=Z,7.9nm,0.5s,baz=340,slow=8.6,SNR=33						
	comp=Z,7.9nm,0.5s						
STKA	**Stephens Creek**	**27.66**	**159**	P	**P**	**09 30 29.8**	**+0.2**
HTT	**Hallett**	**28.26**	**164**	P	**P**	**09 30 35.7**	**+0.7**
MUN	**Mundaring**	**28.78**	**205**	P	**P**	**09 30 39.9**	**+0.3**
CMSA	**Cobar Meteorol**	**29.06**	**152**	P	**P**	**09 30 42.3**	**+0.2**
NWAO	**Narrogin (SRO)**	**29.19**	**203**	P	**P**	**09 30 42.8**	**-0.4**
NWAO	**Narrogin (SRO)**	**29.19**	**203**	P	**P**	**09 30 43.5**	**+0.3**
	comp=Z,8.4nm,0.5s,baz=40,slow=5.8,SNR=7.1						
	comp=Z,8.4nm,0.5s						
NWAO	**Narrogin (SRO)**	**29.19**	**203**	P	**P**	**09 30 43.8**	**+0.6**
HNR	**Honiara**	**29.62**	**98**	LR	LR	09 43 17.6	
	comp=Z,67nm,19.6s,baz=32,slow=37						
ARMA	**Armidale**	**31.38**	**143**	P	**P**	**09 31 04.0**	**+1.3**
ARMA				IAmb	IAmb	09 31 08.4	
	comp=Z,41nm,1.6s						
ARMA	**Armidale**	**31.38**	**143**	P	**P**	**09 31 03.8**	**+1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
RPSI	Rantau Prapat	32.47	285	P	P	09 31 13.0	+0.6
RPSI				IAmb	IAmb	09 31 15.8	
	comp=Z,26nm,1.0s						
CAN	Canberra	33.73	152	P	P	09 31 24.6	+1.6
CAN	Canberra	33.73	152	P	P	09 31 24.8	+1.8
CAN	Canberra	33.73	152	P	P	09 31 24.4	+1.3
CNB	Canberra Magne	33.90	151	P	P	09 31 24.5	0.0
TOO	Toolangi	34.17	158	P	P	09 31 28.8	+2.0
LUES	Luesalemba Tem	35.57	100	P	P	09 31 39.6	+0.6
SANVU	Saraoutou	37.41	107	P	P	09 31 54.8	+0.1
SANVU				IAmb	IAmb	09 31 56.6	
	comp=Z,36nm,0.9s						
SANVU	Saraoutou	37.41	107	P	P	09 31 54.7	+0.1
DZM	Mont Dzumac	38.36	118	P	P	09 32 02.2	-0.4
DZM				IAmb	IAmb	09 32 43.5	
	comp=Z,73nm,1.7s						
DZM	Mont Dzumac	38.36	118	P	P	09 32 02.8	+0.2
MOO	Moorlands	39.09	160	P	P	09 32 09.3	+1.1
CMAR	Chiang Mai Arr	39.40	309	P	P	09 32 10.8	-0.3
CMAR	Chiang Mai Arr	39.40	309	P	P	09 32 11.2	0.0
	comp=Z,5.8nm,0.7s,baz=136,slow=7.4,SNR=24						
	comp=Z,5.8nm,0.7s						
NJ2	Nanjing	39.57	345	eP	P	09 32 14.4	+2.1
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
CHTO	Chiang Mai	39.61	310	P	P	09 32 12.6	-0.2
CHTO				IAmb	IAmb	09 32 13.7	
	comp=Z,16nm,1.0s						
CHTO	Chiang Mai	39.61	310	P	P	09 32 13.0	+0.1
PZH	PanZhiHua	42.66	321	P	P	09 32 40.1	+2.3
MJAR	Matsushiro Arr	43.19	9	P	P	09 32 39.1	-2.6
	comp=Z,1.9nm,0.7s,baz=191,slow=9.4,SNR=5.1						
MJAR				LR	LR	09 49 23.1	
	comp=Z,32nm,20.2s,baz=172,slow=34						
	comp=Z,1.9nm,0.7s						
KSRS	Korea Array	43.50	357	P	P	09 32 43.6	-0.6
	comp=Z,0.7nm,0.4s,baz=178,slow=8.7,SNR=4.0						
	comp=Z,0.7nm,0.4s						
LYN	LuoYang	43.88	339	P	P	09 32 51.9	+4.6
LYN				pmax	pmax		
	comp=Z,17nm,0.8s						
XAN	Xi'an	44.83	335	⇓P	P	09 32 53.9	-1.0
XAN				pP	pP	09 33 31.7	+0.9
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HNS	HongShan	45.74	343	⇓P	P	09 33 01.8	-0.1
HNS				pmax	pmax		
	comp=Z,11nm,0.8s						
LZH	Lanzhou	48.82	331	eP	P	09 33 27.1	+1.1
LZH				pP	pP	09 34 02.8	+0.4
LZH				sP	sP	09 34 21.2	+0.5
LZH				pmax	pmax		
	comp=Z,12nm,1.3s						
HHC	Hu-ho-hao-te	49.87	342	eP	P	09 33 36.6	+2.8
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,79nm,4.5s						
BTO	Baotou	50.16	340	eP	P	09 33 35.2	-0.8
BTO				S	S	09 40 32.6	-2.2
BTO				pmax	pmax		
	comp=Z,13nm,0.5s						
BTO				pmax	pmax		
	comp=Z,240nm,5.1s						
BTO				LR	LR		
	comp=Z,170nm,7.4s						
BTO				LR	LR		
	comp=Z,150nm,4.1s						
BTO				LR	LR		
	comp=Z,140nm,5.0s						
MSZ	Milford Sound	50.47	146	P	P	09 33 39.5	+1.4
JCZ	Jackson Bay	50.59	144	P	P	09 33 39.2	0.0
JCZ	Jackson Bay	50.59	144	P	P	09 33 40.7	+1.4
FOZ	Fox Glacier	50.88	143	P	P	09 33 41.9	+0.7
QRZ	Quartz Range	51.10	139	P	P	09 33 43.5	+0.5
QRZ	Quartz Range	51.10	139	P	P	09 33 44.1	+1.2
WVZ	Waitaha Valley	51.17	142	P	P	09 33 44.9	+1.4
WHZ	Wether Hill Ro	51.23	147	P	P	09 33 44.0	+0.2
INZ	Inchbonnie	51.41	142	P	P	09 33 46.5	+1.2
EAZ	Earnscleugh	51.58	145	P	P	09 33 47.2	+0.7
LBZ	Lake Benmore	51.59	144	P	P	09 33 46.9	+0.3
THZ	Tophouse	51.82	140	P	P	09 33 48.4	0.0
TUWZ	Tuamarina	52.33	139	P	P	09 33 51.9	-0.1
MOVZ	Moawhango	52.59	136	P	P	09 33 54.3	+0.2
MQZ	McQueen's Vall	52.69	142	P	P	09 33 55.1	+0.5
OGWZ	Otaki Gorge	52.84	138	P	P	09 33 55.5	-0.3
BKZ	Black Stump Fm	53.00	135	P	P	09 33 57.2	+0.1
BKZ	Black Stump Fm	53.00	135	P	P	09 33 56.9	-0.1
MRZ	Mangatainoka R	53.04	137	P	P	09 33 56.7	-0.6
URZ	Urewera	53.05	134	P	P	09 33 56.6	-0.8
	comp=Z,7.0nm,0.8s,baz=237,slow=7.2,SNR=10						
	comp=Z,7.0nm,0.8s						
URZ	Urewera	53.05	134	P	P	09 33 57.7	+0.3
URZ	Urewera	53.05	134	P	P	09 33 56.6	-0.8
KWHZ	Kaweka Forest	53.06	136	P	P	09 33 57.7	+0.2
HOWZ	Holdsworth Sta	53.11	138	P	P	09 33 57.1	-0.7
PNHZ	Pukenui	53.12	136	P	P	09 33 57.3	-0.6
NMHZ	Naumai	53.19	135	P	P	09 33 59.2	+0.7
MCHZ	McNeill Hill	53.26	136	P	P	09 33 58.9	0.0
DVHZ	Dannevirke	53.28	137	P	P	09 33 58.4	-0.7
HAZ	Te Kaha	53.33	133	P	P	09 33 59.4	0.0
RUGZ	Raukumara Rang	53.33	133	P	P	09 33 58.7	-1.0
GTA	Gaotai	53.40	331	eP	P	09 34 01.0	+1.0
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BFZ	Birch Farm	53.50	137	P	P	09 34 01.6	+1.0
KAHZ	Kahuranaki	53.54	136	P	P	09 34 01.0	0.0
MXZ	Matakaoa Point	53.63	133	P	P	09 34 01.7	+0.1
MXZ	Matakaoa Point	53.63	133	P	P	09 34 02.0	+0.4
TKGZ	Te Karaka	53.65	134	P	P	09 34 01.6	-0.1
PUZ	Puketiti	53.80	133	P	P	09 34 02.8	-0.1
WMGZ	Waiomatatini S	53.81	133	P	P	09 34 03.2	+0.3
SONM	Songino Array	57.77	341	P	P	09 34 30.7	-0.3
	comp=Z,1.9nm,0.7s,baz=158,slow=6.4,SNR=9.1						
	comp=Z,1.9nm,0.7s						
DRV	Dumont d'Urvil	60.73	176	P	P	09 34 51.2	+0.4
WMQ	Urumqi	62.86	327	eP	P	09 35 08.0	+2.4
PETK	Petropavlovsk-	63.52	18	P	P	09 35 09.0	-0.6
	comp=Z,2.5nm,0.6s,baz=164,slow=2.0,SNR=13						
	comp=Z,2.5nm,0.6s						
SHLS	Shalkode	67.23	322	eP	P	09 35 32.4	-1.6
UZB	Uzynbulak	67.50	322	eP	P	09 35 35.7	+0.1
KSH	Kashi	67.59	317	PKP	PKiKP	09 41 54.7	-4.6
MKAR	Makanchi Array	67.69	327	P	P	09 35 36.7	+0.1
	comp=Z,5.7nm,0.4s,baz=113,slow=8.5,SNR=125						
	comp=Z,5.7nm,0.4s						
SATY	Saty	67.83	322	eP	P	09 35 37.8	+0.1
	comp=Z,8.2nm,1.0s						
MAKZ	Makanchi	67.87	326	P	P	09 35 37.6	-0.1
TNSS	Tian-Shan	68.73	321	eP	P	09 35 43.4	-0.2
MDOK	Medeo	68.73	321	eP	P	09 35 43.5	+0.2
TDK	Taldyqorghan	68.88	323	eP	P	09 35 44.2	+0.1
	comp=Z,7.4nm,0.6s						
ARSB	Arslanbob	70.46	318	IAmb	IAmb	09 35 55.3	
	comp=Z,12nm,1.0s						
ZALV	Zalesovo Beam	70.98	334		P	09 35 55.6	-0.9
ZALV	Zalesovo Beam	70.98	334	P	P	09 35 55.5	-1.1
	comp=Z,3.1nm,0.8s,baz=107,slow=5.1,SNR=8.3						
	comp=Z,3.1nm,0.8s						
BTLS	Baital	71.55	322	eP	P	09 35 59.9	-0.2
CHGR	Chuyangaron	71.95	314	P	P	09 36 02.8	-0.1
CHGR				IAmb	IAmb	09 36 03.6	
	comp=Z,21nm,1.2s						
KURBB	Kurchatov Arra	71.96	328	P	P	09 36 02.0	-0.5
	comp=Z,1.9nm,0.5s,baz=128,slow=4.8,SNR=22						
	comp=Z,1.9nm,0.5s						
SIMJ	Simiganj	72.06	314		P	09 36 02.9	-0.7
DZA	Taraz	72.26	319	eP	P	09 36 05.0	+0.4
	comp=Z,7.2nm,0.5s						
IUG	Iuzhnay	72.80	318	eP	P	09 36 08.1	+0.3
KKAR	Karatay Array	72.90	319		P	09 36 07.7	-0.6
CHM	Chimkent	73.16	318	eP	P	09 36 10.0	+0.2
VNDA	Vanda	73.19	173	P	P	09 36 09.7	+0.3
VNDA	Vanda	73.19	173	P	P	09 36 09.4	0.0
	comp=Z,2.6nm,0.7s,baz=322,slow=7.1,SNR=15						
	comp=Z,2.6nm,0.7s						
VNDA	Vanda	73.19	173	P	P	09 36 09.4	0.0
BRLS	Borolday	73.31	318	eP	P	09 36 10.7	0.0
BRZS	Berezniki	74.79	326	eP	P	09 36 19.7	+0.5
BVAR	Borovoye Array	77.52	328	P	P	09 36 31.7	-2.8
	comp=Z,1.1nm,0.3s,baz=123,slow=5.5,SNR=7.4						
QSPA	South Pole Qui	83.75	180	P	P	09 37 07.4	-0.2
	comp=Z,3.3nm,0.8s,baz=298,slow=1.2,SNR=12						
	comp=Z,3.3nm,0.8s						
SYO	Syowa Base	84.46	201	⇓ePcP	PcP	09 37 18.4	+4.2
RAYN	Ar Rayn	87.63	294	P	P	09 37 26.8	-0.6
L18K	Granite Mounta	87.69	27	P	P	09 37 26.8	+0.1
ILAR	Eielson Array	92.55	25	P	P	09 37 46.7	-2.7
	comp=Z,0.6nm,0.7s,baz=258,slow=4.3,SNR=7.2						
	comp=Z,0.6nm,0.7s						
SNAA	Sanae	96.47	193	P	P	09 38 07.2	-0.1
	comp=Z,0.7nm,0.7s,baz=122,slow=3.6,SNR=6.9						
	comp=Z,0.7nm,0.7s						
PDAR	Pinedale Array	116.19	45	PKP	PKPdf	09 43 19.9	-1.4
	comp=Z,0.5nm,0.8s,baz=5.8,slow=3.8,SNR=3.6						
TXAR	Lajitas Array	124.34	59	PKP	PKPdf	09 43 36.9	-0.3
	baz=186,slow=1.3,SNR=4.3						
CPUP	Villa Florida	146.83	168	PKPbc	PKPbc	09 44 20.5	-0.1
	comp=Z,1.3nm,0.6s,baz=68,slow=5.0,SNR=11						
LPAZ	La Paz	151.20	141	PKPbc	PKPbc	09 44 33.0	+0.3
	comp=Z,2.7nm,0.4s,baz=12,slow=2.7,SNR=34						

*TAP **02** 09:29:43.2, 23°.95N×122°.91E, h22km, ML3.6, D*
*JMA **02** 09:29:44.1±0.2, 24°.0N±0°.6×122°.9E±0°.7, h36km, MV3.4/10, NEAR ISHIGAKIJIMA ISLAND*
ISC 02 09:29:42.4±1.2**, 23°.88N**±0°.03×**122°.93E**±0°.02**, h19**km±3km**, n94,** σ**0s.95**/149**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.57	1	iP	Pg	09 29 53.8	-0.1
JYNG				S	Sb	09 30 00.8	-0.8
YOJ	Yonaguni jima	0.59	7	P	Pg	09 29 54.5	+0.3
YOJ	Yonaguni jima	0.59	7	iP	Pg	09 29 54.2	0.0
YOJ				S	Sb	09 30 00.9	-1.1
YOJ	Yonaguni jima	0.59	7	P	Pg	09 29 54.2	0.0
YOJ				S	Sb	09 30 01.1	-0.9
EOS4	EOS4	0.61	294	iP	Pg	09 29 54.6	+0.2
EOS3	EOS3	0.69	306	iP	Pg	09 29 56.1	+0.1
EOS3				eS	Sg	09 30 05.4	+0.1
HATJ	Hateruma jima	0.82	77	P	Pn	09 29 58.9	-0.1
HATJ				eS	Sn	09 30 10.6	0.0
EOS2	EOS2	0.84	311	iP	Pg	09 29 58.9	+0.2
EOS2				S	Sn	09 30 10.3	-0.5
IRIF	Iriomote-Funau	0.86	58	P	Pb	09 29 59.0	+0.2
JKRS	Kuro-shima	1.05	70	P	Pn	09 30 02.5	+0.3
JKRS				eS	Sb	09 30 15.3	-0.1
EAHA	Aohua	1.18	293	P	Pb	09 30 04.3	+0.1
JIJ	Ishigaki jima	1.21	66	iP	Pb	09 30 04.9	+0.1
ESAO	Su ao	1.21	305	eP	Pn	09 30 04.5	+0.1
ENA	Nanau	1.22	297	eP	Pn	09 30 04.5	+0.1
TWC	Suao	1.23	307	P	Pn	09 30 04.3	-0.3
TWC				eS	Sb	09 30 19.4	-1.1
TWD	Chiawan	1.24	280	eP	Pn	09 30 04.0	-0.7
NACB	Ninganchiao	1.26	284	P	Pn	09 30 04.8	-0.2
NACB	Ninganchiao	1.26	284	P	Pn	09 30 04.1	-0.8
EGS		1.33	317	eP	Pb	09 30 07.4	+0.7
ETLH	Xiulin Townshi	1.36	284	eP	Pn	09 30 06.4	-0.2
ESL	Shilin	1.37	268	eP	Pn	09 30 05.7	-0.9
EGFH	Guangfu	1.39	262	eS	Sn	09 30 24.8	+0.1
TWB1	Santiao Chiao	1.42	323	P	Pn	09 30 07.6	+0.4
TWB1				eS	Sb	09 30 25.6	-0.4
WARBT	Fenglin Townsh	1.42	264	eP	Pn	09 30 06.5	-0.8
WARBT				eS	Sn	09 30 24.1	-1.4
TWE	Neicheng	1.43	306	eP	Pb	09 30 08.4	0.0
TWE				eS	Sg	09 30 27.6	-1.0
HGSD	Ruisui	1.43	255	eP	Pn	09 30 06.8	-0.6
LATG	Datong	1.44	297	eP	Pb	09 30 08.9	+0.2
LATG				eS	Sb	09 30 27.1	+0.4
JISG	Ishigakijimahi	1.45	60	P	Pn	09 30 08.0	+0.3
ENTT	Nioudou	1.46	302	P	Pb	09 30 09.0	0.0
ECBN	Changbin	1.47	248	P	Pn	09 30 07.6	-0.3
ECBN				S	Sn	09 30 25.2	-1.3
TIPB	Shuangxi	1.48	318	eP	Pb	09 30 08.9	-0.6
TIPB				eS	Sb	09 30 27.4	-0.6
EHYH	Wanrong	1.50	256	eP	Pn	09 30 08.1	-0.2
EHYH				eS	Sn	09 30 28.0	+0.6
FUSB	Fushanzhiwuyua	1.51	306	eP	Pb	09 30 10.1	+0.3
NNSB	Datong	1.52	292	eP	Pn	09 30 09.2	+0.5
EHY	Hungye	1.52	256	eP	Pn	09 30 08.3	-0.3
EHY				eS	Sn	09 30 28.7	+0.8
NNS	Nan Shan	1.53	292	eP	Pb	09 30 09.9	-0.4
WHF	Hehuan Shan	1.54	280	eP	Pn	09 30 09.3	0.0
SXI1	Grass Mountain	1.55	322	eP	Pn	09 30 09.7	+0.6
SXI1				eS	Sb	09 30 29.2	-0.6
CHKH	Chenggong	1.56	245	eP	Pn	09 30 08.5	-0.7
CHKH				eS	Sn	09 30 26.8	-2.1
NWLT	Wulai	1.58	305	eP	Pb	09 30 10.9	-0.2
NWLT				eS	Sn	09 30 29.6	+0.1
FUSS	Fushou	1.58	284	eP	Pn	09 30 10.1	+0.4
NWF	Wu-fen Shan	1.58	319	eP	Pb	09 30 10.6	-0.6
NWF				eS	Sn	09 30 29.8	+0.1
TWF1	Yuli	1.58	251	eP	Pn	09 30 09.3	-0.2
TWF1				eS	Sn	09 30 30.2	+0.7
WFSB	Wu-fen Shan	1.58	319	eP	Pb	09 30 10.5	-0.7
WFSB				eS	Sb	09 30 30.2	-0.6
OWD	Renai	1.61	273	eP	Pn	09 30 10.2	+0.2
YHNB	Yeheng	1.62	299	P	Pn	09 30 10.9	+0.8
YHNB	Yeheng	1.62	299	eP	Pn	09 30 11.1	+0.9
NSK	Sanguang	1.64	299	eP	Pn	09 30 11.2	+0.8
NSK				eS	Sb	09 30 33.4	+0.9
FULB	Fuli	1.64	246	eP	Pn	09 30 09.6	-0.7
FULB				eS	Sn	09 30 29.4	-1.6
TWA	Mucha	1.65	312	eP	Pb	09 30 11.7	-0.5
TWA				S	Sb	09 30 32.2	-0.5
TNOU	National Taiwa	1.65	321	eP	Pn	09 30 11.3	+0.9
TNOU				eS	Sn	09 30 30.1	-1.0
WUSB	Renai	1.66	274	eP	Pn	09 30 10.9	+0.2
WUSB				eS	Sb	09 30 33.1	0.0
EHD	Haiduan	1.74	246	eP	Pn	09 30 10.7	-1.0
EHD				eS	Sn	09 30 32.1	-1.3
EDH	Donghe	1.74	239	eP	Pn	09 30 10.8	-0.8
EDH				eS	Sn	09 30 31.9	-1.5
ECS	Chishang	1.75	244	eP	Pn	09 30 13.3	+1.5
ECS				eS	Sn	09 30 34.6	+0.9
YM01	YM01	1.77	316	eP	Pb	09 30 13.3	-1.0
YM01				eS	Sn	09 30 34.8	+0.7
YM08	YM08	1.79	317	eP	Pn	09 30 13.5	+1.1
LDUT	Ludao	1.80	229	eP	Pn	09 30 11.9	-0.5
SSLB	Suanglung	1.81	268	P	Pn	09 30 12.8	+0.2
SSLB	Suanglung	1.81	268	eP	Pn	09 30 12.9	+0.2
NFF	Wufeng Townshi	1.82	295	eP	Pb	09 30 14.7	-0.5
NFF				eS	Sb	09 30 37.5	-0.1
TWY	Chenhua	1.85	319	eP	Pn	09 30 14.1	+1.0
TWY				eS	Sb	09 30 37.0	-1.3
WHP	Taichung City	1.86	283	eP	Pb	09 30 15.0	-0.8
WHP				eS	Sb	09 30 38.7	0.0
SMLT	Sun Moon Lake	1.86	271	eP	Pn	09 30 14.1	+0.8
SMLT				eS	Sn	09 30 37.7	+1.3
ELDTW	Lidau	1.88	249	P	Pn	09 30 13.3	-0.4
ELDTW				eS	Sn	09 30 36.6	-0.4
TYC	Yuchr	1.90	271	eP	Pb	09 30 15.7	-0.7
LIOB	Emei	1.91	294	eP	Pb	09 30 16.0	-0.7
LIOB				eS	Sb	09 30 40.3	+0.2
WHYT	Xinyi Township	1.91	265	eP	Pn	09 30 14.9	+0.9
LONT	Longtian	1.91	240	eP	Pn	09 30 14.2	+0.1
LONT				eS	Sn	09 30 38.0	+0.4
PCYT	Pengchaiyu	1.91	336	eP	Pn	09 30 14.9	+0.9
PCYT				eS	Sn	09 30 38.2	+0.6
NSTT	Nanjuang	1.91	294	eP	Pb	09 30 15.6	-1.1
ALS	Alishan	1.98	260	P	Pn	09 30 15.9	+0.7
TWGBT	Beinan	2.00	239	P	Pn	09 30 14.5	-0.7
TWGBT	Beinan	2.00	239	eP	Pn	09 30 15.0	-0.2
TWGBT				eS	Sn	09 30 39.5	-0.2
TWG	Pinlang	2.00	239	P	Pn	09 30 15.4	+0.1
TWG				S	Sn	09 30 39.8	-0.1
WJS	Zhushan	2.02	269	eP	Pb	09 30 19.2	+0.7
WJS				eS	Sg	09 30 45.9	-1.5
CHN5	Tsauling	2.08	263	eP	Pn	09 30 18.1	+1.6
STYH	Taoyuan	2.10	251	eP	Pn	09 30 17.1	+0.6
STYH				eS	Sn	09 30 42.9	+0.8
WCKO	Fanlu	2.17	259	eP	Pn	09 30 19.5	+1.9
WCKO				eS	Sn	09 30 46.4	+2.3
WCHH	Zhanghua	2.18	276	eS	Sb	09 30 47.8	-0.1
TPUB	Ta-pu	2.19	255	P	Pn	09 30 19.7	+1.9
TPUB	Ta-pu	2.19	255	eP	Pn	09 30 19.8	+1.9
TPUB				eS	Sb	09 30 47.2	-1.0
WTP	Ta-pu	2.21	254	eP	Pn	09 30 20.5	+2.3
WTP				eS	Sb	09 30 48.9	-0.1
CHN1	Nanshi	2.31	253	eP	Pb	09 30 22.1	-1.4
CHN1				eS	Sb	09 30 51.6	-0.1
TWK	Hsinying	2.32	255	eP	Pn	09 30 21.7	+2.0
TWK				eS	Sb	09 30 51.3	-0.7
SNST	Tainan City	2.33	254	eP	Pn	09 30 21.7	+2.0
SNST				eS	Sn	09 30 50.5	+2.7
SSD	Sandimen	2.39	242	eP	Pn	09 30 22.0	+1.4
SSD				eS	Sn	09 30 51.0	+1.5
MASBT	Mashibuluo	2.46	240	eP	Pn	09 30 22.4	+0.9
MASBT				eS	Sn	09 30 52.0	+1.0
SCZT	Fangliau	2.60	235	eP	Pn	09 30 24.9	+1.5
SCZT				eS	Sn	09 30 56.1	+1.6
TSCK	Chigu Township	2.71	255	eP	Pn	09 30 27.3	+2.3
TSCK				eS	Sn	09 30 59.7	+2.5
TWKBT	Hengchun	2.74	226	eP	Pn	09 30 26.6	+1.1
WDGT	Dungji	3.06	259	eP	Pn	09 30 31.0	+1.1
PHUB	P'eng-hu	3.10	264	eP	Pn	09 30 31.6	+1.3
PHUB				eS	Sn	09 31 07.7	+0.9
PNG	Penghu	3.11	265	eP	Pn	09 30 31.6	+1.2
PNG				eS	Sn	09 31 07.7	+0.6

*ISK **02** 09:32:20.6, 36°.50N×31°.24E, h29km, ML2.7/27*
*AFAD **02** 09:32:20.7, 36°.69N×31°.39E, h37km±2km, ML2.4*
*NIC **02** 09:32:21.1, 36°.53N×31°.59E, h45km±23km, Ml2.5/7*
ISC 02 09:32:20.1±1.2**, 36°.45N**±0°.03×**31°.31E**±0°.02**, h24**km±14km**, n46,** σ**1s.53**/69**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNVG	Manavgat-Antal	0.36	14	Pg	Pn	09 32 29.3	-0.4
ALAN	Alanya-ANTALYA	0.59	79	Pg	Pn	09 32 33.9	+0.9
ALAN				Sg	Sn	09 32 43.6	+1.7
KEMT	Kemer-ANTALYA	0.63	285	Pg	Pn	09 32 33.1	-0.3
ANTB	Antalya	0.70	311	Pg	Pb	09 32 33.7	+0.2
AKUM	Antalya-Kumluc	0.79	261	P	Pn	09 32 37.3	+1.7
AKUM				S	Sn	09 32 52.8	+6.1
AKUM				iIAML		09 32 54.0	
	comp=E,297nm,0.8s						
AKUM				iIAML		09 32 56.0	
	comp=N,201nm,0.4s						
GAZI	Gazipasa	0.84	104	Pg	Pn	09 32 37.1	+0.7
GAZI	Gazipasa	0.84	104	P	Pn	09 32 38.1	+1.8
GAZI				S	Sn	09 32 49.6	+1.6
GAZI				iIAML		09 32 53.0	
	comp=N,324nm,0.5s						
GAZI				iIAML		09 32 54.0	
	comp=E,257nm,0.3s						
KORT	Korkueli	0.95	306	Pg	Pb	09 32 36.9	-1.0
KORT	Korkueli	0.95	306	P	Pb	09 32 35.7	-2.2
KORT				S	Sn	09 32 52.0	+1.1
SEYD	Seydisehir-KON	1.05	24	Pg	Pb	09 32 39.3	-0.3
SEYD				Sg	Sb	09 32 52.8	-0.2
SEDI	Konya, Seydise	1.06	19	P	Pn	09 32 39.8	+0.2
SEDI				S	Sn	09 32 55.3	+1.5
BUCA	Burdur, Bucak-	1.07	326	P	Pb	09 32 38.1	-1.7
BUCA				S	Sn	09 32 54.5	+0.8
BUCA				iIAML		09 32 57.0	
	comp=E,87nm,0.5s						
BUCA				iIAML		09 33 02.0	
	comp=N,53nm,0.7s						
HDMB	Hadim	1.08	61	Pn	Pn	09 32 40.5	+0.6
HDMB				Sn	Sn	09 32 55.0	+0.8
ERMK	Ermenek	1.31	81	P	Pb	09 32 45.5	+1.4
ERMK				S	Sb	09 33 05.0	+4.6
BOZY	Bozyazi-Mersin	1.39	104	Pn	Pb	09 32 45.6	+0.3
TEKE	Tekeli-Mersin	1.49	101	Pn	Pb	09 32 47.1	+0.1
TEKE				Sn	Sb	09 33 06.3	+0.8
ISP	Isparta	1.51	336	Pn	Pn	09 32 44.3	-1.4
KKBE	Karaman, Kazim	1.52	59	P	Pn	09 32 46.3	+0.5
KKBE				S	Sn	09 33 05.0	+0.1
KKBE				iIAML		09 33 06.0	
	comp=E,131nm,0.3s						
KKBE				iIAML		09 33 07.0	
	comp=N,124nm,0.5s						
BERE	Bereket-Mersin	1.55	93	Pn	Pb	09 32 47.9	-0.2
BAGO	Egridir - ISPA	1.60	345	P	Pn	09 32 45.5	-1.4
BAGO				S	Sn	09 33 05.0	-1.8
BAGO				iIAML		09 33 08.0	
	comp=N,24nm,0.5s						
BAGO				iIAML		09 33 11.0	
	comp=E,37nm,0.5s						
GOLH	Golhisar	1.61	300	P	Pn	09 32 47.1	0.0
GOLH				S	Sb	09 33 10.8	+1.6
AKMS	Akamas	1.65	149	P	Pn	09 32 47.2	-0.4
AKMS				S	Sn	09 33 08.2	+0.2
AKMS				AML	AML	09 33 17.9	
	0.4nm,0.3s						
AKMS				AML	AML	09 33 18.1	
	0.2nm,0.4s						
ALFC	Alefka	1.66	140	P	Pn	09 32 46.8	-0.9
ALFC				S	Sn	09 33 07.1	-1.2
ALFC				AML	AML	09 33 07.3	
	0.3nm,0.3s						
ALFC				AML	AML	09 33 16.5	
	0.2nm,0.3s						
CAME	Cameli-Denizli	1.69	288	Pn	Pn	09 32 47.8	-0.4
YORU	Yoruktepe-Mers	1.72	99	Pn	Pb	09 32 50.2	-0.7
KRMN	Karaman	1.73	65	Pn	Pb	09 32 49.8	-1.4
KRMN				Sn	Sb	09 33 11.0	-1.5
BASM	Basmaki-Afyon	1.78	326	Pn	Pn	09 32 48.9	-0.5
GULN	MERSIN_Gulnar	1.82	98	P	Pb	09 32 51.2	-1.5
GULN				S	Sb	09 33 15.6	+0.5
GULN				iIAML		09 33 18.0	
	comp=E,47nm,0.9s						
GULN				iIAML		09 33 19.0	
	comp=N,52nm,0.5s						
YVAC	Isparta, Yalva	1.82	358	P	Pn	09 32 48.8	-1.3
YVAC				S	Sn	09 33 09.9	-2.5
YVAC				iIAML		09 33 12.0	
	comp=N,23nm,0.3s						
AKK1	Akkuyu-Mersin	1.83	99	Pn	Pb	09 32 51.8	-1.0
BECE	Buyukeceli-Mer	1.84	98	Pn	Pb	09 32 51.9	-1.1
APMY	Acipayam-Deniz	1.91	303	Pn	Pn	09 32 50.7	-0.4
KEBE	Keben-Mersin	1.94	89	Pn	Pb	09 32 53.3	-1.4
LADK	Ladik-KONYA	1.94	25	Pn	Pn	09 32 52.0	+0.3
KARG	Kargicak-Mersi	1.95	96	Pn	Pb	09 32 53.3	-1.6
NATA	Nata	1.95	148	P	Pn	09 32 51.9	+0.1
NATA				AML	AML	09 33 31.5	
	0.3nm,0.3s						
NATA				AML	AML	09 33 35.8	
	0.4nm,1.0s						
TROD	Troodos	1.96	139	P	Pn	09 32 51.7	-0.2
TROD				S	Sn	09 33 15.2	-0.6
TROD				AML	AML	09 33 26.6	
	0.1nm,0.5s						
TROD				AML	AML	09 33 38.7	
	0.1nm,0.8s						
XYLS	Xyliatos	2.01	135	P	Pn	09 32 51.6	-0.9
XYLS				S	Sn	09 33 15.1	-1.8
XYLS				AML	AML	09 33 19.0	
	0.1nm,0.3s						
XYLS				AML	AML	09 33 21.1	
	0.1nm,0.2s						
CSS	Mathiatis	2.21	131	Pn	Pb	09 32 57.2	-2.2
CSS	Mathiatis	2.21	131	P	Pn	09 32 53.9	-1.4
CSS				S	Sn	09 33 19.9	-1.9
CSS				AML	AML	09 33 22.5	
CSS				AML	AML	09 33 29.5	
	0.1nm,0.4s						
MVOU	Mavrovouni	2.37	126	P	Pn	09 32 56.3	-1.1
MVOU				S	Sn	09 33 23.6	-2.0
MVOU				AML	AML	09 33 29.9	
	0.1nm,0.2s						
MVOU				AML	AML	09 33 31.0	
	0.1nm,0.2s						
KERG	Konya-Eregli	2.45	66	P	Pn	09 32 58.5	-0.2
KERG				S	Sn	09 33 28.7	+0.7
KERG				iIAML		09 34 26.0	
	comp=N,60nm,2.8s						
KERG				iIAML		09 34 26.0	
	comp=E,16nm,3.0s						
TURN	Turunc	2.49	279	Pn	Pn	09 32 59.4	+0.4
MERS	Mersin	2.62	80	Pn	Pn	09 33 02.7	+1.8
KULA	Kula-Manisa	2.95	315	Pn	Pn	09 33 05.9	+0.4
KARA	Karaisali	3.11	74	Pn	Pn	09 33 09.6	+2.0

*IDC **02** 09:33:17.6±5.0, 20°.23S×178°.89W, h648km±62km, mb3.0/10, mbtmp4.0/11, Error ellipse: s-maj=28.9km s-min=22.9km az=112.0*
ISC 02 09:33:18.9±0.8**, 20°.2S**±0°.2×**178°.9W**±0°.2**, h665**km**, n13,** σ**0s.88**/14**, mb3.5**/10**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.79	260	P	P	09 36 14.8	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.4nm,0.7s,baz=135,slow=22,SNR=8.3						
STKA	**Stephens Creek**	**37.14**	**244**	P	**P**	**09 39 35.9**	**-0.9**
	6.9nm,1.2s,baz=84,slow=12,SNR=1.4						
	6.9nm,1.2s						
ASAR	**Alice Springs**	**43.75**	**257**	P	**P**	**09 40 29.0**	**0.0**
	1.5nm,0.5s,baz=88,slow=8.5,SNR=16						
ASAR				PcP	**PcP**	**09 42 01.2**	**+1.0**
	0.4nm,0.5s,baz=100,slow=3.6,SNR=5.0						
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**43.79**	**262**	P	**P**	**09 40 29.1**	**-0.3**
	0.9nm,0.3s,baz=97,slow=7.5,SNR=36						
	0.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.22**	**262**	P	**P**	**09 41 31.4**	**0.0**
	1.5nm,0.7s,baz=90,slow=5.1,SNR=3.2						
	1.5nm,0.7s						
QSPA	**South Pole Qui**	**69.82**	**180**	P	**P**	**09 43 25.2**	**+0.2**
	0.7nm,0.6s,baz=246,slow=1.1,SNR=8.5						
	0.7nm,0.6s						
PETK	**Petropavlovsk-**	**75.81**	**346**	P	**P**	**09 43 59.1**	**+0.1**
	1.7nm,0.6s,baz=109,slow=7.2,SNR=5.2						
	1.7nm,0.6s						
NVAR	**Mina Array Bea**	**81.43**	**44**	P	**P**	**09 44 29.2**	**-0.1**
	0.3nm,0.7s,baz=225,slow=8.6,SNR=4.0						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**87.64**	**58**	P	**P**	**09 44 59.7**	**+0.3**
	0.2nm,0.8s,baz=269,slow=6.7,SNR=3.4						
	0.2nm,0.8s						
ILAR	**Eielson Array**	**88.25**	**13**	P	**P**	**09 45 01.1**	**-0.1**
	0.7nm,0.6s,baz=219,slow=4.8,SNR=10						
	0.7nm,0.6s						
PDAR	**Pinedale Array**	**89.36**	**44**	P	**P**	**09 45 07.6**	**+0.4**
	0.4nm,0.6s,baz=212,slow=5.3,SNR=4.9						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**128.51**	**349**	PKP	**PKiKP**	**09 51 12.7**	**+0.3**
	1.3nm,0.8s,baz=352,slow=2.5,SNR=5.1						
AKASG	**Malin Array Be**	**142.37**	**331**	PKP	**PKPdf**	**09 51 35.5**	**-2.3**
	1.7nm,0.4s,baz=44,slow=4.1,SNR=14						

WEL 02 09:46:28.8±1.2**,34°S**±21°×**18°0E**±3°3**,h292**km±30km**, M3.7**/5**,mB4.5**/1**,ML3.9**/8**,MLv3.7**/5**,Mw(mB)3.6**/1**,Error ellipse: s-maj=49.5km s-min=14.7km az=119.8, confirmed,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.11**	**196**	P	Pn	09 47 35.1	-0.7
MXZ				S	S	09 48 30.3	+0.9
WMGZ	**Waiomatatini S**	**4.34**	**194**	P	Pn	09 47 38.7	+0.4
WMGZ				S	S	09 48 35.3	+1.3
HAZ	**Te Kaha**	**4.43**	**201**	P	Pn	09 47 38.7	-0.7
HAZ				S	S	09 48 36.1	+0.1
PKGZ	**Pakihiroa**	**4.46**	**197**	P	Pn	09 47 39.7	0.0
PKGZ				S	S	09 48 37.5	+1.0
PUZ	**Puketiti**	**4.61**	**195**	P	Pn	09 47 40.9	-0.6
PUZ				S	S	09 48 39.5	-0.2
RUGZ	**Raukumara Rang**	**4.66**	**201**	P	Pn	09 47 42.2	0.0
TKGZ	**Te Karaka**	**5.06**	**197**	P	Pn	09 47 47.1	+0.5
TKGZ				S	S	09 48 49.5	+0.4
URZ	**Urewera**	**5.11**	**204**	P	Pn	09 47 47.0	-0.2
URZ				S	S	09 48 49.2	-1.0
RIGZ	**Rimuhau**	**5.33**	**197**	P	Pn	09 47 49.9	+0.1
RIGZ				S	S	09 48 54.8	-0.2
RAHZ	**Arahi**	**5.71**	**201**	P	Pn	09 47 54.5	0.0
RAHZ				S	S	09 49 05.2	+1.9
MTHZ	**Maungataniwha**	**5.74**	**204**	P	Pn	09 47 54.7	0.0
MTHZ				S	S	09 49 03.3	-0.5
TLZ	**Tolley Road**	**5.82**	**215**	P	Pn	09 47 57.8	+2.0
HIZ	**Hauiti**	**6.30**	**218**	P	Pn	09 48 04.4	+3.0
KWHZ	**Kaweka Forest**	**6.39**	**204**	P	Pn	09 48 02.1	-0.5
TMVZ	**Te Maari**	**6.39**	**210**	P	Pn	09 48 02.7	0.0
ETVZ	**East Tongariro**	**6.41**	**210**	P	Pn	09 48 01.5	-1.3
OTVZ	**Oturere**	**6.45**	**210**	P	Pn	09 48 03.3	-0.1
KAHZ	**Kahuranaki**	**6.59**	**200**	P	Pn	09 48 04.9	-0.1
KAHZ				S	S	09 49 23.3	+0.8
KRHZ	**Kereru**	**6.61**	**203**	P	Pn	09 48 04.1	-1.0
KRHZ				S	S	09 49 22.9	0.0
WNVZ	**Wahianoa**	**6.61**	**209**	P	Pn	09 48 04.8	-0.6
PRHZ	**Porangahau**	**7.09**	**200**	P	Pn	09 48 09.8	-1.3

*IDC **02** 09:50:08.0±3.6, 54°.19N×87°.58E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=32.3km s-min=18.9km az=41.0*

ASRS 02 09:50:10.0±1.6**,54°.12N×87°.22E,h0**km**,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**264**	I	I	09 59 50.0	
	baz=80,slow=319,SNR=4.5						
ZALV	**Zalesovo Beam**	**1.43**	**264**	Pg	Pn	09 50 36.8	-0.4
	2.2nm,0.3s,baz=79,slow=15,SNR=6.8						
ZALV				Lg	Lg	09 51 00.9	
	2.0nm,0.3s,baz=84,slow=27,SNR=7.5						
KURBB	**Kurchatov Arra**	**6.37**	**240**	Pn	Pn	09 51 46.2	+1.2
	0.1nm,0.3s,baz=55,slow=14,SNR=2.4						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.98**	**205**	Pn	Pn	09 52 08.7	+1.5
	0.1nm,0.3s,baz=24,slow=13,SNR=6.3						
	0.2nm,0.2s						

*IDC **02** 10:25:32.9±1.5, 2°.79N×126°.93E, h0km, mb3.6/6, mbtmp3.7/6, Error ellipse: s-maj=112.7km s-min=18.9km az=68.0*

*DJA **02** 10:25:43.2±1.0, 3°N±3°×12°7E±°, h25km±10km, M4.1/11, mB5.0/1, mb4.2/3, MLv4.1/11, Mw(mB)4.3/1*

ISC 02 10:25:43.5±1.1**,3°.0N**±0°.1×**127°.4E**±0°.1**,h100**km**,n10,** σ1s**28**/11**,mb3.6**/6**,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.98**	**289**	P	**Pn**	**10 26 15.3**	**-0.5**
SGSI				S	**Sn**	**10 26 40.2**	**-0.2**
TNTI	**Ternate**	**2.24**	**181**	P	**Pn**	**10 26 20.0**	**+0.8**
SANI	**Sanana**	**5.24**	**196**	P	**Pn**	**10 27 00.3**	**+0.8**
	0.2nm1μm21nm,0.8s						
SWI	**Sorong**	**5.46**	**135**	P	**Pn**	**10 27 02.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**21.06**	**185**	P	**P**	**10 30 17.4**	**-2.4**
	1.9nm,0.9s,baz=9.6,slow=9.2,SNR=2.2						
	1.9nm,0.9s						
WRA	**Warramunga Arr**	**23.82**	**164**	P	**P**	**10 30 46.0**	**-1.6**
	0.5nm,0.5s,baz=339,slow=10,SNR=13						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**27.28**	**167**	P	**P**	**10 31 18.6**	**-0.1**
	0.2nm,0.7s,baz=339,slow=9.3,SNR=4.3						
	0.2nm,0.7s						
STKA	**Stephens Creek**	**37.24**	**160**	P	**P**	**10 32 45.5**	**-0.1**
	1.7nm,0.5s,baz=349,slow=9.1,SNR=3.6						
	1.7nm,0.5s						
MKAR	**Makanchi Array**	**58.51**	**325**	P	**P**	**10 35 31.1**	**+1.7**
	0.9nm,0.6s,baz=123,slow=8.9,SNR=7.5						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**62.69**	**327**	P	**P**	**10 35 58.5**	**+0.9**
	0.5nm,0.5s,baz=120,slow=5.8,SNR=5.3						
	0.5nm,0.5s						

*JMA **02** 10:25:46.0±0.4, 44°N±1°×14°8E±°, h0km, MV3.6/28, E OFF HOKKAIDO*

*SKHL **02** 10:25:50.0±0.6, 44°.00N×147°.90E, h63km±7km, mb4.2/4*

ISC 02 10:25:47.2±2.6**,43°.9N**±0°.1×**148°.0E**±0°.2**,h69**km±26km**,n18,** σ1s**01**/26**,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.85**	**269**	*e*P	**Pn**	**10 26 05.5**	**+1.7**
SHO				AMB	AMB	10 26 06.4	
	120nm,0.3s						
SHO				*e*S	**Sn**	**10 26 15.8**	**-0.3**
SHO				A	A	10 26 19.0	
	430nm,0.3s						
SHO				A	A	10 26 19.0	
	400nm,0.3s						
KUR	**Kuril'sk**	**1.35**	**356**	*e*P	**Pn**	**10 26 10.4**	**+0.3**
KUR				AMB	AMB	10 26 10.4	
	20nm,0.2s						
KUR				*i* S	**Sn**	**10 26 26.2**	**-1.0**
KUR				A	A	10 26 27.4	
	150nm,0.2s						
KUR				A	A	10 26 27.4	
	210nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.56**	**276**	*e*P	**Pn**	**10 26 12.5**	**-0.4**
YUK				AMB	AMB	10 26 15.1	
	90nm,0.2s						
YUK				*i* S	**Sn**	**10 26 30.7**	**-1.5**
YUK				A	A	10 26 34.4	
	380nm,0.4s						
YUK				A	A	10 26 34.4	
	470nm,0.4s						
NEM2	**Nemuro 2**	**1.73**	**253**	P	**Pn**	**10 26 14.1**	**-1.0**
NEM2				S	**Sn**	**10 26 34.8**	**-1.5**
NMR	**Nemuro--Hokkai**	**1.74**	**253**	*e*P	**Pn**	**10 26 14.5**	**-0.8**
NMR				*i* S	**Sn**	**10 26 36.0**	**-0.5**
GLVR	**Golovnino**	**1.81**	**266**	*e*P	**Pn**	**10 26 16.3**	**+0.1**
GLVR				AMB	AMB	10 26 17.0	
	110nm,0.2s						
GLVR				*i* S	**Sn**	**10 26 39.1**	**+0.8**
GLVR				A	A	10 26 44.9	
	260nm,0.2s						
GLVR				A	A	10 26 44.9	
	580nm,0.2s						
JRA	**Rausu**	**2.09**	**272**	P	**Pn**	**10 26 20.5**	**+0.5**
JRA				*e*S	**Sn**	**10 26 45.3**	**+0.4**
JNSB	**Nemuroshibetsu**	**2.18**	**268**	P	**Pn**	**10 26 22.0**	**+0.8**
JKHN	**Kushirohamanak**	**2.23**	**250**	P	**Pn**	**10 26 21.7**	**-0.2**
JNK	**Nakash**	**2.41**	**264**	P	**Pn**	**10 26 24.6**	**+0.3**
AKK	**Akkeshi**	**2.47**	**250**	*e*P	**Pn**	**10 26 25.8**	**+0.7**
JAK	**Akkeshi**	**2.57**	**251**	P	**Pn**	**10 26 26.3**	**-0.2**
JAK				*e*S	**Sn**	**10 26 55.4**	**-1.3**
JTKR	**Abashiri--Toko**	**2.96**	**273**	P	**Pn**	**10 26 33.0**	**+1.1**
JAR	**Ashorobuto**	**3.14**	**261**	P	**Pn**	**10 26 35.1**	**+0.8**
JOB	**Onbets**	**3.20**	**253**	P	**Pn**	**10 26 35.2**	**+0.2**
JCH	**Churui**	**3.63**	**251**	P	**Pn**	**10 26 41.2**	**+0.3**
JEM	**Erimo**	**4.03**	**244**	P	**Pn**	**10 26 48.6**	**+2.3**
JNBK	**Urakawa-nobuka**	**4.17**	**249**	P	**Pn**	**10 26 48.7**	**+0.4**

*IDC **02** 10:28:33.1±2.5, 10°.96S×113°.66E, h0km, mb3.3/4, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=124.9km s-min=22.9km az=45.0*

*DJA **02** 10:28:40.3±0.5, 11°S±8°×11°4E±°, h72km±51km, M4.3/15, mb4.5/1, MLv4.2/15*

ISC 02 10:28:39.9±1.1**,10°.84S**±0°.08×**114°.12E**±0°.06**,h35**km**,n16,** σ1s**23**/22**,mb3.3**/4**,South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.36**	**1**	P	**Pn**	**10 29 15.5**	**-0.6**
JAGI				S	**Sn**	**10 29 44.0**	**+0.2**
DNP	**Denpasar**	**2.41**	**27**	P	**Pn**	**10 29 16.4**	**-0.4**
DNP				S	**Sn**	**10 29 46.5**	**+1.5**
GMJI	**Gumukmas**	**2.63**	**345**	P	**Pn**	**10 29 18.3**	**-1.6**
SRBI	**Singaraja**	**2.94**	**22**	P	**Pn**	**10 29 25.0**	**+0.8**
SRBI				S	**Sn**	**10 29 59.5**	**+1.2**
ABJI	**Asem Bagus**	**3.03**	**2**	P	**Pn**	**10 29 26.7**	**+1.4**
BLJI	**Banyuglugur**	**3.12**	**350**	P	**Pn**	**10 29 27.4**	**+0.8**
BLJI				S	**Sn**	**10 30 03.3**	**+0.7**
TWSI	**Taliwang, Sumb**	**3.44**	**53**	P	**Pn**	**10 29 31.6**	**+0.7**
TWSI				S	**Sn**	**10 30 09.9**	**-0.6**
PCJI	**Pacitan**	**3.91**	**312**	P	**Pn**	**10 29 38.3**	**+0.8**
PLAI	**Plampang**	**4.12**	**61**	P	**Pn**	**10 29 40.9**	**+0.5**
PLAI				S	**Sn**	**10 30 26.5**	**-1.0**
WOJI	**Wonogiri, Jawa**	**4.34**	**313**	P	**Pn**	**10 29 45.5**	**+2.1**
UGM	**Wanagama**	**4.59**	**309**	P	**Pn**	**10 29 46.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**13.28**	**124**	Pn	**Pn**	**10 31 45.8**	**-0.3**
	0.1nm,0.3s,baz=308,slow=9.7,SNR=1.6						
FITZ				Sn	Sn	10 33 58.4	-14
	0.2nm,0.3s,baz=71,slow=14,SNR=1.5						
	1.5nm,0.9s						
WRA	**Warramunga Arr**	**21.48**	**117**	P	**P**	**10 33 27.2**	**+1.6**
	0.7nm,0.8s,baz=290,slow=12,SNR=6.8						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**22.76**	**127**	P	**P**	**10 33 40.8**	**+1.4**
	0.4nm,0.7s,baz=297,slow=8.8,SNR=5.1						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**64.04**	**336**	P	**P**	**10 39 08.5**	**-1.6**
	0.5nm,0.7s,baz=149,slow=7.4,SNR=3.8						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**68.60**	**337**	P	**P**	**10 39 37.2**	**-1.9**
	0.3nm,0.6s,baz=156,slow=5.1,SNR=3.4						
	0.3nm,0.6s						

*IDC **02** 10:31:54.3±0.8, 5°.21S×153°.06E, h0km, mb4.0/11, mbtmp4.0/12, ML2.2/1, MS3.4/10, Error ellipse: s-maj=25.8km s-min=19.3km az=103.0*

*NEIC **02** 10:32:02.5±0.8, 5°.4S±0°.1×153°.0E±0°.1, h49km±14km, mb4.1/9, Error ellipse: s-maj=19.1km s-min=15.4km az=91.0*

ISC 02 10:32:00.2±0.7**,5°.32S**±0°.08×**153°.1E**±0°.1**,h37**km**,n30,** σ1s**05**/25**,mb4.0**/14**,MS3.4**/9**,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.48**	**320**		**Pn**	**10 32 26.7**	**+2.4**
PMG	**Port Moresby**	**7.17**	**235**	Pn	**Pn**	**10 33 43.4**	**+0.8**
PMG	**Port Moresby**	**7.17**	**235**	Pn	**Pn**	**10 33 42.5**	**-0.1**
	2.4nm,0.3s,baz=117,slow=12,SNR=6.0						
PMG				Sn	**Sn**	**10 35 04.0**	**+1.2**
	1.1nm,0.3s,baz=64,slow=17,SNR=1.0						
PMG				LR	LR	10 36 47.6	
	comp=Z,128nm,19.8s,baz=82,slow=41						
	7.9nm,0.5s						
EIDS	**Eidsvold**	**20.03**	**185**	P	**P**	**10 36 30.2**	**+0.2**
EIDS				IAmb	IAmb	10 36 57.7	
	comp=Z,6.8nm,1.0s						
GUMO	**Guam**	**20.50**	**337**	LR	LR	10 44 11.5	
	comp=Z,31nm,18.6s,baz=144,slow=36						
DZM	**Mont Dzumac**	**21.05**	**144**	P	**P**	**10 36 42.0**	**+0.8**
DZM	**Mont Dzumac**	**21.05**	**144**	P	**P**	**10 36 41.9**	**+0.6**
	comp=Z,14nm,1.0s,baz=237,slow=9.3,SNR=13						
	comp=Z,14nm,1.0s						
WB0	**Warramunga Arr**	**23.21**	**230**	P	**P**	**10 37 03.2**	**-0.8**
WB0				IAmb	IAmb	10 37 35.9	
	comp=Z,9.8nm,1.2s						
WR8	**Warramunga Arr**	**23.23**	**230**	P	**P**	**10 37 03.8**	**-0.5**
WR8				IAmb	IAmb	10 37 46.5	
	comp=Z,16nm,1.5s						
WRAB	**Tennant Creek**	**23.34**	**230**	P	**P**	**10 37 04.1**	**-1.2**
WRAB				IAmb	IAmb	10 37 40.4	
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**23.35**	**230**	P	**P**	**10 37 04.3**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=53,slow=9.7,SNR=18						
WRA				LR	LR	10 45 59.8	
	comp=Z,78nm,19.6s,baz=224,slow=36						
	comp=Z,2.1nm,0.7s						
AS31	**Alice Springs**	**25.99**	**224**	P	**P**	**10 37 29.0**	**-0.7**
ASAR	**Alice Springs**	**25.99**	**224**	P	**P**	**10 37 29.1**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=56,slow=8.9,SNR=7.9						
ASAR				LR	LR	10 47 20.5	
	comp=Z,110nm,19.2s,baz=56,slow=36						
	comp=Z,0.7nm,0.6s						
STKA	**Stephens Creek**	**28.54**	**201**	LR	LR	10 48 57.2	
	comp=Z,119nm,18.4s,baz=24,slow=36						
FITZ	**Fitzroy Crossi**	**29.70**	**242**	P	**P**	**10 38 02.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**29.70**	**242**	P	**P**	**10 38 01.9**	**-1.0**
	comp=Z,6.0nm,0.8s,baz=100,slow=7.2,SNR=8.7						
	comp=Z,6.0nm,0.8s						
BKZ	**Black Stump Fm**	**39.77**	**151**	P	**P**	**10 39 30.7**	**+1.1**
MJAR	**Matsushiro Arr**	**43.93**	**343**	LR	LR	10 58 06.6	
	comp=Z,34nm,18.8s,baz=188,slow=36						
MA2	**Magadan**	**64.72**	**359**	LR	LR	11 11 54.2	
	comp=Z,18nm,18.6s,baz=166,slow=37						
SONM	**Songino Array**	**66.94**	**328**	P	**P**	**10 42 47.1**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=153,slow=5.8,SNR=1.5						
	comp=Z,0.3nm,0.3s						
VNDA	**Vanda**	**72.30**	**178**	P	**P**	**10 43 21.2**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=344,slow=6.3,SNR=5.7						
	comp=Z,0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**81.77**	**326**	P	**P**	**10 44 14.1**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=120,slow=8.7,SNR=3.5						
	comp=Z,0.7nm,0.4s						
ILAR	**Eielson Array**	**82.52**	**22**	P	**P**	**10 44 17.8**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=255,slow=6.8,SNR=1.4						
ILAR				LR	LR	11 15 45.5	
	comp=Z,22nm,19.5s,baz=179,slow=32						
	comp=Z,0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**84.41**	**322**	P	**P**	**10 44 28.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=102,slow=3.9,SNR=3.7						
	comp=Z,0.2nm,0.3s						
QSPA	**South Pole Qui**	**84.64**	**180**	P	**P**	**10 44 30.9**	**+1.1**
QSPA				IAmb	IAmb	10 44 40.5	
	comp=Z,3.7nm,1.2s						
QSPA	**South Pole Qui**	**84.64**	**180**	P	**P**	**10 44 30.8**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=302,slow=2.3,SNR=12						
	comp=Z,1.2nm,0.8s						
BVAR	**Borovoye Array**	**89.85**	**323**	P	**P**	**10 44 54.5**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=98,slow=8.1,SNR=5.8						
	comp=Z,1.4nm,0.8s						
ELK	**Elko**	**94.68**	**50**	LR	LR	11 22 37.6	
	comp=Z,35nm,19.4s,baz=257,slow=32						
PDAR	**Pinedale Array**	**98.96**	**48**	LR	LR	11 26 53.7	
	comp=Z,23nm,18.6s,baz=269,slow=33						
TORD	**Torodi Ar. Bea**	**150.77**	**287**	PKPbc	**PKiKP**	**10 51 49.9**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=44,slow=3.1,SNR=9.4						

*SOME **02** 10:41:41.6, 41°.85N×83°.07E, h5km*

NNC 02 10:41:43.9±1.4**,41°.87N×82°.97E,h0**km**,mb3.5,mpv3.2, 4C-1D,Error ellipse: s-maj=10.3km s-min=7.6km az=164.0,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.90**	**298**	Pg	Pn	10 42 31.8	+0.4
	7.8nm,0.2s						
SHLS				Lg	Lg	10 43 07.9	
	38nm,0.6s						
SHLS	**Shalkode**	**2.90**	**298**	*e*P	Pn	10 42 31.8	+0.4
	7.8nm,0.2s						
SHLS				*e*S	Sn	10 43 07.9	+0.9
	38nm,0.6s						
PDGK	**Podgornoye**	**2.96**	**301**	⇓Pg	Pb	10 42 36.9	-0.6
	3.4nm,0.6s						
PDGK				⇑Lg	Lg	10 43 16.8	
	20nm,0.7s						
UZB	**Uzynbulak**	**3.19**	**295**	Pg	Pb	10 42 41.5	0.0
	1.0nm,0.1s						
UZB				Lg	Lg	10 43 24.2	
	14nm,0.4s						
UZB	**Uzynbulak**	**3.19**	**295**	*e*P	Pb	10 42 41.5	0.0
	1.0nm,0.1s						
UZB				*e*S	Sg	10 43 24.2	-2.1
	14nm,0.4s						
KPKS	**Kokpek**	**3.54**	**298**	Pg	Pb	10 42 48.2	+0.7
	0.2nm,0.1s						
KPKS				Lg	Lg	10 43 36.3	
	9.5nm,0.4s						
SATY	**Saty**	**3.58**	**291**	Pg	Pb	10 42 49.9	+1.7
	2.1nm,0.2s						
SATY				Lg	Lg	10 43 39.2	
	12nm,0.2s						
KNOS	**Konyrlen**	**3.73**	**313**	Pg	Pb	10 42 51.6	+0.9
	1.5nm,0.2s						
KNOS				Lg	Lg	10 43 41.8	
	4.7nm,0.1s						
KOTS	**Kotyrbulak**	**4.54**	**289**	Pg	Pg	10 43 08.0	-2.9
	1.7nm,0.2s						
KOTS				Lg	Lg	10 44 10.1	
	12nm,0.5s						
KOTS	**Kotyrbulak**	**4.54**	**289**	*e*P	Pg	10 43 08.0	-2.9
	1.7nm,0.2s						
KOTS				*e*S	Sg	10 44 10.1	+0.4
	12nm,0.5s						
MK31	**Makanchi Array**	**4.95**	**355**	⇑Pg	Pb	10 43 14.4	+3.0
	0.6nm,0.3s,baz=166,slow=16,SNR=8.1						
MK31				⇑Lg	Lg	10 44 22.3	
	7.6nm,0.8s						
KTBS	**Karatobe**	**4.98**	**294**	Pg	Pb	10 43 15.3	+3.3
	0.9nm,0.3s						
KTBS				Lg	Lg	10 44 22.6	
	7.2nm,0.6s						
MAKZ	**Makanchi**	**4.99**	**352**	⇑Lg	Lg	10 44 23.9	
	2.2nm,0.8s						
KST	**Kastek**	**5.32**	**285**	Pg	Pb	10 43 21.8	+4.0
	1.7nm,0.2s						
KST				Lg	Lg	10 44 33.3	
	4.1nm,0.4s						
KST	**Kastek**	**5.32**	**285**	*e*P	Pb	10 43 21.8	+4.0
	1.7nm,0.2s						
KST				*e*S	Sg	10 44 33.3	-1.3
	4.1nm,0.4s						
DGS	**Degeres**	**5.49**	**287**	Pg	Pb	10 43 24.4	+3.7
	0.7nm,0.3s						
DGS				Lg	Lg	10 44 37.9	
	4.3nm,0.3s						

*BEO **02** 10:45:12.5±0.2, 45°.73N×20°.50E, h0km, ML2.5/21*

ISC 02 10:45:11.8±1.2**,45°.70N**±0°.02×**20°.49E**±0°.02**,h3**km±10km**, n44,** σ1s**06**/83**,28C-10D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIM	**Timisoara**	**0.52**	**86**	⇓P	**Pb**	**10 45 23.5**	**-0.1**
TIM				⇑S	**Sb**	**10 45 30.9**	**-0.5**
BANR	**Banloc**	**0.56**	**125**	⇓P	**Pg**	**10 45 23.6**	**+1.1**
BANR				⇑S	**Sb**	**10 45 32.9**	**+0.3**
BANR	**Banloc**	**0.56**	**125**	*e*Pg	**Pg**	**10 45 21.7**	**-0.8**
BANR				*e*Sg	**Sg**	**10 45 30.9**	**+1.2**
FRGS	**Fruska Gora**	**0.72**	**221**	*e*Pg	**Pg**	**10 45 25.5**	**-0.2**
FRGS				*e*Sg	**Sb**	**10 45 37.5**	**+0.1**
BZS	**Buzias**	**0.80**	**96**	⇑P	**Pn**	**10 45 28.9**	**-1.1**
BZS				⇑S	**Sb**	**10 45 40.0**	**+0.5**
BZS	**Buzias**	**0.80**	**96**	*e*Pg	**Pg**	**10 45 27.1**	**0.0**
BZS				*e*Sg	**Sg**	**10 45 38.1**	**+0.6**
VRSS	**Vrsac**	**0.83**	**134**	*e*Pg	**Pg**	**10 45 26.9**	**-0.8**
VRSS				*e*Sg	**Sb**	**10 45 40.1**	**-0.3**
BEO	**Beograd**	**0.89**	**181**	*e*Pg	**Pg**	**10 45 29.3**	**+0.3**
BEO				*e*Sg	**Sg**	**10 45 41.4**	**+0.9**
SIRR	**Siria**	**0.99**	**55**	⇑P	**Pb**	**10 45 31.3**	**-0.4**
SIRR				⇑S	**Sb**	**10 45 44.9**	**-0.3**
SIRR	**Siria**	**0.99**	**55**	*e*Pg	**Pg**	**10 45 30.4**	**-0.5**
SIRR				*e*Sg	**Sg**	**10 45 44.0**	**+0.2**
AVAS	**Avala Beograd**	**1.01**	**179**	*e*Pg	**Pg**	**10 45 31.3**	**+0.2**
AVAS				*e*Sg	**Sg**	**10 45 44.6**	**+0.4**
SURR	**Surduc**	**1.15**	**87**	⇑P	**Pn**	**10 45 35.1**	**+0.3**
SURR				⇑S	**Sn**	**10 45 50.6**	**-0.4**
MDVR	**Moldovita**	**1.27**	**136**	⇓P	**Pg**	**10 45 37.3**	**+1.2**
MDVR				⇓S	**Sn**	**10 45 55.5**	**+1.5**
MDVR	**Moldovita**	**1.27**	**136**	*e*Pg	**Pn**	**10 45 35.0**	**-1.5**
MDVR				*e*Sg	**Sb**	**10 45 52.7**	**-0.3**
TEKS	**Tekeris**	**1.34**	**211**	*e*Pg	**Pn**	**10 45 36.5**	**-0.9**
TEKS				*e*Sg	**Sb**	**10 45 54.6**	**-0.5**
MORH	**Mrgy, Hungar**	**1.38**	**292**	⇑P	**Pb**	**10 45 38.3**	**-0.1**
MORH				⇑S	**Sg**	**10 45 56.5**	**+0.2**
TRUS	**Trudelj**	**1.48**	**182**	*e*Pg	**Pb**	**10 45 40.3**	**+0.3**
TRUS				*e*Sg	**Sb**	**10 45 59.1**	**-0.1**
KUBS	**Kucevo**	**1.54**	**146**	*e*Pg	**Pn**	**10 45 38.8**	**-1.4**
HERR	**Herculane**	**1.59**	**120**	⇑P	**Pb**	**10 45 41.9**	**+0.1**
HERR				⇑S	**Sg**	**10 46 02.9**	**0.0**
GZR	**Gura Zlata**	**1.64**	**100**	⇑P	**Pb**	**10 45 42.9**	**+0.1**
GZR				⇑S	**Sg**	**10 46 05.4**	**+0.9**
GZR	**Gura Zlata**	**1.64**	**100**	*e*Pg	**Pb**	**10 45 42.4**	**-0.3**
GZR				*e*Sg	**Sb**	**10 46 03.6**	**-0.2**
BORR	**Bors**	**1.65**	**32**	⇑P	**Pb**	**10 45 43.0**	**0.0**
BORR				⇑S	**Sb**	**10 46 03.9**	**-0.3**
DEV	**Deva**	**1.70**	**83**	⇑P	**Pb**	**10 45 43.5**	**-0.2**
DEV				⇑S	**Sg**	**10 46 06.6**	**+0.2**
DJES	**Djerdap**	**1.77**	**125**	⇓S	**Sb**	**10 46 07.5**	**-0.2**
GRUS	**Gruza**	**1.82**	**175**	*e*Pn	**Pn**	**10 45 44.2**	**+0.1**
GRUS				*e*Sn	**Sb**	**10 46 08.3**	**-0.7**
DRGR		**1.89**	**54**	⇑P	**Pb**	**10 45 45.8**	**-1.2**
DRGR				⇓S	**Sb**	**10 46 10.4**	**-0.7**
DRGR		**1.89**	**54**	*e*Pg	**Pn**	**10 45 45.2**	**+0.1**
DRGR				*e*Sg	**Sb**	**10 46 11.4**	**+0.4**
BBLS	**Lazi&#263i**	**1.99**	**203**	*e*Pn	**Pb**	**10 45 47.7**	**-1.0**
BBLS				*e*Sn	**Sb**	**10 46 14.3**	**+0.3**
MARR	**Marisel-Cluj**	**2.07**	**61**	⇑P	**Pb**	**10 45 48.8**	**-1.3**
MARR				⇓S	**Sb**	**10 46 14.6**	**-1.7**
IVAS	**Ivanjica**	**2.14**	**187**	*e*Pn	**Pb**	**10 45 50.0**	**-1.3**
IVAS				*e*Sn	**Sb**	**10 46 16.8**	**-1.4**
GOCS	**Kraljevo Serbi**	**2.16**	**172**	*e*Pn	**Pb**	**10 45 50.5**	**-1.1**
GOCS				*e*Sn	**Sb**	**10 46 18.3**	**-0.5**
SRE	**Strehaia**	**2.19**	**117**	⇑P	**Pb**	**10 45 50.6**	**-1.5**
BOVS	**Bovan**	**2.24**	**157**	⇑P	**Pn**	**10 45 50.3**	**+0.4**
BOVS				⇑S	**Sb**	**10 46 20.3**	**-0.9**
BOVS	**Bovan**	**2.24**	**157**	*e*Pn	**Pn**	**10 45 50.0**	**+0.1**
BOVS				*e*Sn	**Sb**	**10 46 20.0**	**-1.1**
PSZ	**Piszkesteto**	**2.25**	**350**	⇑P	**Pn**	**10 45 50.7**	**+0.6**
ZAGS	**Zajecar**	**2.26**	**146**	*e*Pn	**Pn**	**10 45 51.4**	**+1.3**
ZAGS				*e*Sn	**Sb**	**10 46 20.1**	**-1.6**
LOT	**Lotru**	**2.32**	**95**	⇓P	**Pn**	**10 45 52.1**	**+1.1**
LOT				⇑S	**Sb**	**10 46 22.1**	**-1.3**
CJR	**Cluj-Napoca**	**2.39**	**64**	⇓P	**Pn**	**10 45 53.2**	**+1.3**
CJR				⇓S	**Sb**	**10 46 23.2**	**-2.1**
SJES	**Sjenica**	**2.47**	**189**	*e*Pn	**Pb**	**10 45 55.7**	**-1.2**
SJES				*e*Sn	**Sb**	**10 46 25.9**	**-1.8**
SELS	**Selova**	**2.52**	**169**	*e*Pn	**Pn**	**10 45 54.3**	**+0.5**
SELS				*e*Sn	**Sb**	**10 46 28.3**	**-0.9**
BLKB	**Belogradchik**	**2.60**	**142**	⇑S	**Sn**	**10 46 28.7**	**+1.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ZAPS	Zavoj	2.87	147	ePn	Pn	10 45 59.6	+1.0
ZAPS				eSn	Sb	10 46 36.4	-2.9
ARR	Arges	2.93	95	⥣P	Pn	10 46 01.0	+1.6
ARR				⥣S	Sb	10 46 37.6	-3.5
BARS	Barje	3.04	161	ePn	Pn	10 46 02.7	+1.9
BARS				eSn	Sn	10 46 38.5	+0.8

*NEIC **02** 11:19:42.3±1.1, 5°.74S±0°.10×128°.9E±0°.1, h258km±2km, mb4.2/7, Error ellipse: s-maj=20.6km s-min=13.0km az=106.0*

*DJA **02** 11:19:43.3±0.2, 6°S±2°×12°9E±°, h245km, M4.3/12, mB5.1/1, mb4.2/5, MLv4.3/12, Mw(mB)4.4/1*

*IDC **02** 11:19:45.5±2.8, 6°.00S×128°.72E, h303km±29km, mb3.3/7, mbtmp4.1/11, Error ellipse: s-maj=29.5km s-min=10.4km az=72.0*

ISC 02 11:19:41.7±0.5**, 5°.85S**±0°.04×**128°.98E**±0°.06**, h264**km**, n36, σ1s 42**/44**, mb3.8**/11**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.61	35	P	Pn	11 20 23.6	+1.4
MSAI	Masohi	2.48	359	P	Pn	11 20 27.8	-2.1
MSAI				S	S	11 21 06.5	-1.7
SAUI	Saumlaki	3.13	133	P	Pn	11 20 36.8	+0.3
SAUI				S	S	11 21 20.4	+0.3
NLAI	Namlea	3.19	324	S	S	11 21 20.5	-0.8
FAKI	Fak Fak	4.37	48	Pn	Pn	11 20 51.0	+0.4
FAKI	Fak Fak	4.37	48	P	Pn	11 20 51.0	+0.4
SANI	Sanana	4.81	322	P	Pn	11 20 56.9	+1.2
SANI				S	S	11 21 54.3	-0.5
KMPI	Kaimana, Papua	5.19	65	P	Pn	11 21 01.0	+0.7
SWI	Sorong	5.45	25	P	Pn	11 21 03.1	-0.4
SOEI	Soe	6.07	230	Pn	Pn	11 21 13.9	+2.7
SOEI	Soe	6.07	230	P	Pn	11 21 13.6	+2.4
	0.1nm26nm,0.7s						
SOEI				S	S	11 22 24.2	+1.3
	0.1nm26nm,0.7s						
BATI	Baumata	6.81	230	P	Pn	11 21 22.8	+2.4
	24nm,0.5s,baz=92,slow=4.1,SNR=3.9						
BATI				S	S	11 22 35.9	-3.7
	21nm,0.5s,baz=271,slow=18,SNR=2.2						
MTN	Manton Dam	7.27	163	Pn	Pn	11 21 27.3	+1.3
KNRA	Kununurra	9.77	181	Pn	Pn	11 21 58.4	+1.0
FITZ	Fitzroy Crossi	12.60	195	P	Pn	11 22 32.4	-0.1
	4.5nm,0.6s,baz=18,slow=11,SNR=21						
FITZ				S	S	11 24 49.1	-3.6
	0.8nm,0.4s,baz=225,slow=19,SNR=1.3						
WB0	Warramunga Arr	14.81	160		Pn	11 22 60.0	+0.8
WRA	Warramunga Arr	14.95	160	P	P	11 23 00.2	-0.1
WRA	Warramunga Arr	14.95	160	P	Pn	11 23 01.5	+0.6
	2.0nm,0.3s,baz=340,slow=11,SNR=79						
WRA				S	S	11 25 43.0	-2.3
	1.3nm,0.5s,baz=345,slow=21,SNR=6.5						
AS31	Alice Springs	18.34	165	P	Pn	11 23 39.5	-1.3
AS31				IAmb	IAmb	11 23 40.3	
	comp=Z,3.7nm,0.4s						
ASAR	Alice Springs	18.34	166	P	Pn	11 23 39.6	-1.1
	comp=Z,4.4nm,0.4s,baz=348,slow=12,SNR=133						
ASAR				S	S	11 26 51.1	-1.8
	comp=Z,1.2nm,0.6s,baz=348,slow=25,SNR=11						
STKA	Stephens Creek	28.46	157	P	P	11 25 14.6	+2.0
STKA				IAmb	IAmb	11 25 46.9	
	comp=Z,18nm,1.1s						
TPUB	Ta-pu	30.09	345	P	P	11 25 26.1	-1.0
JCJ	Chichijima	35.16	21	P	P	11 26 10.7	-0.2
JCJ				IAmb	IAmb	11 26 42.6	
	comp=Z,27nm,1.2s						
CMAR	Chiang Mai Arr	38.22	310	P	P	11 26 36.6	-0.2
	comp=Z,0.6nm,0.4s,baz=137,slow=6.0,SNR=4.9						
	comp=Z,0.6nm,0.4s						
KSRS	Korea Array	43.09	359	P	P	11 27 16.9	+0.8
	comp=Z,0.5nm,0.5s,baz=177,slow=10,SNR=4.4						
	comp=Z,0.5nm,0.5s						
SONM	Songino Array	57.03	342	P	P	11 29 00.1	-0.4
SONM				IAmb	IAmb	11 29 08.7	
	comp=Z,2.5nm,1.4s						
PETK	Petropavlovsk-	63.56	19	P	P	11 29 45.4	+1.2
PETK	Petropavlovsk-	63.56	19	P	P	11 29 44.4	+0.1
	comp=Z,0.8nm,0.6s,baz=213,slow=7.1,SNR=5.3						
	comp=Z,0.8nm,0.6s						
MK31	Makanchi Array	66.71	327	P	P	11 30 05.0	+0.3
MKAR	Makanchi Array	66.71	327	P	P	11 30 04.9	+0.3
MKAR	Makanchi Array	66.71	327	P	P	11 30 04.3	-0.3
	comp=Z,0.9nm,0.4s,baz=114,slow=8.8,SNR=12						
	comp=Z,0.9nm,0.4s						
ZALV	Zalesovo Beam	70.11	334	P	P	11 30 25.5	+0.1
	comp=Z,0.8nm,0.4s,baz=126,slow=7.3,SNR=1.8						
	comp=Z,0.8nm,0.4s						
SEY	Seymchan	70.87	11	P	P	11 30 30.4	+0.6
	comp=Z,2.0nm,0.7s,baz=199,slow=6.0,SNR=6.7						
	comp=Z,2.0nm,0.7s						
KURBB	Kurchatov Arra	71.00	329	P	P	11 30 31.2	+0.4
	comp=Z,0.7nm,0.3s,baz=129,slow=4.6,SNR=7.6						
	comp=Z,0.7nm,0.3s						
AB31	Akbulak array	80.98	322	P	P	11 31 26.9	-0.1
AB31				IAmb	IAmb	11 31 27.5	
	comp=Z,2.1nm,1.4s						
ABKAR	Akbulak array	80.98	322	P	P	11 31 26.9	-0.1

VIE 02 11:31:34.6±0.4**, 47°.54N**×**15°.64E, h9**km±5km**, mb0.6**/2**, ml1.2**/3**, Error ellipse: s-maj=2.8km s-min=1.1km az=117.0, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	Arzberg	0.30	195	i Pg	Pg	11 31 39.9	-0.7
	1.6nm,0.1s						
ARSA				i Sg	Sg	11 31 43.8	-0.8
	3.0nm,0.1s						
ARSA	Arzberg	0.30	195	i Pg	Pg	11 31 41.0	+0.3
	2.5nm,0.1s						
ARSA				i Sg	Sg	11 31 45.0	+0.4
	0.6nm,0.1s						
CONA	Conrad Observa	0.41	21	i Pg	Pg	11 31 41.4	-1.3
	0.4nm,0.3s						
CONA				eSg	Sg	11 31 48.0	-0.3
	0.8nm,0.1s						
CONA	Conrad Observa	0.41	21	i Pg	Pg	11 31 42.7	0.0
	1.3nm,0.2s						
CONA				i Sg	Sg	11 31 49.0	+0.8
	0.5nm,0.1s						
RONA	Rosalia, Austr	0.47	70	ePg	Pg	11 31 42.9	-0.9
	0.2nm,0.1s						
RONA				i Sg	Sg	11 31 48.8	-1.2
	0.6nm,0.1s						
RONA	Rosalia, Austr	0.47	70	ePg	Pg	11 31 43.8	0.0
	1.5nm,0.4s						

LJU 02 11:32:27.8, 45°.78N×**15°.03E, h0**km**, ML0.7, 1C, Explosion, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VISS	Visnje	0.14	280	⥣i Pg	Pg	11 32 29.7	-0.7
VISS				i Sg	Sg	11 32 32.4	+0.2
VISS				IAML		11 32 34.0	
	comp=Z,39nm,0.1s						
LEGS	Legarje	0.26	50	i Pg	Pg	11 32 32.6	-0.3
LEGS				i Sg	Sg	11 32 37.7	+1.4
PDKS	Podkum	0.28	355	i Pg	Pg	11 32 32.7	-0.5
PDKS				i Sg	Sg	11 32 37.8	+0.9
PDKS				IAML		11 32 39.2	
	comp=Z,8.4nm,0.2s						
GBRS	Gornja Briga	0.29	212	i Pg	Pg	11 32 33.2	-0.2
GBRS				i Sg	Sg	11 32 38.1	+1.0
GBRS				IAML		11 32 39.8	
	comp=Z,1.6nm,0.1s						
CRES	Cresnjevec Ost	0.30	81	i Pg	Pg	11 32 33.6	0.0
CRES				i Sg	Sg	11 32 38.9	+1.4
CRES				IAML		11 32 41.5	
	comp=Z,3.8nm,0.1s						
BOJS	Bojanci	0.32	150	i Pg	Pg	11 32 33.3	-0.5
BOJS				i Sg	Sg	11 32 39.3	+1.3
BOJS				IAML		11 32 41.2	
	comp=Z,3.2nm,0.1s						

VIE 02 11:32:28.2±1.4**, 47°.56N**×**15°.64E, h6**km±30km**, Error ellipse: s-maj=5.6km s-min=2.8km az=116.0, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	Arzberg	0.32	194	ePg	Pg	11 32 34.8	+0.3
	0.1nm,0.0s						
ARSA				i Sg	Sg	11 32 38.9	+0.3
	0.3nm,0.1s						

TAP 02 11:35:40.5, 23°.72N×**121°.49E, h7**km**, ML0.7, 2D, C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	Guangfu	0.08	231	eP	Pg	11 35 42.7	+0.3
EGFH				S	Sg	11 35 44.3	+0.5
SHUL	Shoufeng	0.09	42	eP	Pg	11 35 43.4	+0.8
SHUL				eS	Sg	11 35 45.4	+1.2
WARBT	Fenglin Townsh	0.10	270	⥥i P	Pg	11 35 43.0	+0.3
WARBT				i S	Sg	11 35 44.7	+0.3
ESL	Shilin	0.11	330	⥥i P	Pg	11 35 43.1	+0.2
ESL				i S	Sg	11 35 44.9	+0.2

JMA 02 11:36:29.6±0.2**, 24°.0N**±0°.6×**122°.9E**±0°.8**, h18**km**, MV1.8**/7**, NEAR ISHIGAKIJIMA ISLAND, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.48	2	eP	Pg	11 36 39.0	-0.3
JYNG				S	Sg	11 36 45.7	-0.1
YOJ	Yonaguni jima	0.49	9	P	Pg	11 36 39.4	-0.1
YOJ				S	Sg	11 36 46.3	0.0
IRIF	Iriomote-Funau	0.82	64	eP	Pb	11 36 45.0	-0.3
JKRS	Kuro-shima	1.03	75	P	Pb	11 36 48.2	-0.6
JIJ	Ishigaki jima	1.18	71	P	Pb	11 36 51.7	+0.2
JIJ				eS	Sn	11 37 06.9	+0.1
JISG	Ishigakijimahi	1.41	64	eP	Pn	11 36 53.6	-0.7

*HEL **02** 11:42:32.8±0.4, 67°.84N×20°.04E, h0km, ML1.4, Suspected explosion*

*IDC **02** 11:42:35.3±2.2, 67°.84N×20°.38E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=28.4km s-min=12.7km az=104.0*

ISC 02 11:42:33.9±1.4**, 67°.84N**±0°.03×**20°.24E**±0°.08**, h0**km**, n14, σ1s 24**/23**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	Lannavaara	0.70	72	PG	Pg	11 42 46.9	-0.3
LANU				SG	Sg	11 42 55.8	-0.4
KIF	Kilpisjarvi	1.19	10	PN	Pg	11 42 56.7	0.0
KIF				MSG		11 43 10.4	
	comp=Z,4.7nm,0.2s						
KIF				SG	Sg	11 43 10.8	-1.3
PAJU	Pajala	1.38	125	PG	Pg	11 42 58.3	-2.0
I37NO	I37NO	1.38	335	I	I	11 49 40.0	
	baz=152,slow=324,SNR=1.2						
HEF	Hetta	1.40	64	PG	Pn	11 42 59.4	-1.3
HEF				MSG		11 43 16.9	
	comp=Z,2.0nm,0.2s						
HEF				SG	Sg	11 43 18.5	-0.5
ERTU	Ertsjaerv	1.50	149	PG	Pn	11 43 00.7	-1.3
ERTU				SN	Sn	11 43 24.1	+2.0
KTK1	Kautokeino	1.62	42	PN	Pn	11 43 03.5	-0.1
KTK1				SN	Sg	11 43 26.1	+0.2
KALU	Kalix	2.34	147	PB	Pn	11 43 14.3	+0.8
KALU				SG	Sg	11 43 47.8	-1.0
TOF	Tornio	2.39	136	PB	Pn	11 43 15.1	+0.9
TOF				MSG		11 43 45.1	
	comp=Z,1.5nm,0.2s						
TOF				SG	Sb	11 43 48.5	+1.0
RNF	Rovaniemi	2.56	116	PG	Pn	11 43 18.5	+1.9
RNF				SG	Sb	11 43 53.2	+0.5
ARA0	ARCESS Array S	2.57	46	PG	Pb	11 43 19.7	-1.1
ARA0				SG	Sb	11 43 52.3	-0.7
ARCES	ARCESS Array B	2.57	46	Pn	Pn	11 43 18.0	+1.3
	comp=Z,0.2nm,0.3s,baz=226,slow=15,SNR=12						
ARCES				Sn	Sn	11 43 50.2	+1.5
	comp=Z,0.8nm,0.3s,baz=226,slow=25,SNR=11						
	comp=Z,0.5nm,0.3s						
KEV	Kevo	3.12	49	SN	Sn	11 44 04.1	+1.8
FINES	FINESS Array B	6.89	156	Pn	Pn	11 44 17.0	+1.0
	comp=Z,0.2nm,0.3s,baz=338,slow=10,SNR=1.4						
FINES				Lg	Lg	11 46 12.4	
	comp=Z,0.1nm,0.3s,baz=339,slow=26,SNR=2.4						
	comp=Z,1.2nm,0.7s						

IDC 02 11:56:17.0±4.0**, 31°.29N**×**140°.70E, h0**km**, mb3.3**/2**, mbtmp3.2**/3**, ML2.2**/1**, Error ellipse: s-maj=221.6km s-min=34.3km az=79.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	5.63	339	Pn	Pn	11 57 41.8	-0.2
	0.1nm,0.3s,baz=159,slow=12,SNR=4.3						
	0.5nm,0.3s						
WRA	Warramunga Arr	51.31	188	P	P	12 05 23.2	+0.2
	0.3nm,0.6s,baz=6.3,slow=7.4,SNR=7.6						
	0.3nm,0.6s						
ASAR	Alice Springs	55.03	188	P	P	12 05 50.1	-0.4
	0.1nm,0.5s,baz=355,slow=5.7,SNR=5.9						
	0.1nm,0.5s						

*IDC **02** 12:04:01.4±1.1, 13°.63N×121°.76E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=37.7km s-min=10.4km az=40.0*

*NEIC **02** 12:04:05.5±1.8, 13°.71N±0°.05×121°.63E±0°.07, h37km±8km, mb4.7/14, Error ellipse: s-maj=10.2km s-min=6.7km az=106.0*

ISC 02 12:04:03.2±0.6**, 13°.65N**±0°.09×**121°.7E**±0°.1**, h19**km**, n27, σ1s 12**/27**, mb4.6**/13**, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.84	303	Pg	Pg	12 04 20.0	+0.2
	1μm,0.3s,baz=200,slow=3.2,SNR=68						
TGY				Lg	Lg	12 04 31.6	
	4μm,0.3s,baz=193,slow=20,SNR=18						
TGY				LR	LR	12 05 01.2	
	comp=Z,1μm,21.3s,baz=231,slow=65						
DAV	Davao City (W)	7.58	149	Pn	Pn	12 05 53.7	+0.8
MYLDM	Lahad Datu	8.97	201	Pn	Pn	12 06 11.9	0.0
TPUB	Ta-pu	9.65	354	Pn	Pn	12 06 22.3	+1.0
FAKI	Fak Fak	19.52	147	P	P	12 08 29.3	-0.4
FAKI				IAmb	IAmb	12 08 30.1	
	comp=Z,45nm,1.2s						
CMAR	Chiang Mai Arr	22.35	285	P	P	12 09 01.4	+1.1
	comp=Z,0.3nm,0.4s,baz=96,slow=7.7,SNR=9.0						
	comp=Z,0.3nm,0.4s						
WB0	Warramunga Arr	35.49	159	P	P	12 10 59.4	+0.5
WB0				IAmb	IAmb	12 11 04.8	
	comp=Z,6.7nm,0.6s						
WRA	Warramunga Arr	35.63	159	P	P	12 11 00.1	0.0
WRA	Warramunga Arr	35.63	159	P	P	12 11 00.7	+0.6
	comp=Z,6.3nm,0.7s,baz=340,slow=9.4,SNR=24						
	comp=Z,6.3nm,0.7s						
WB2	Warramunga Arr	35.63	159	P	P	12 11 00.7	+0.5
WB2				IAmb	IAmb	12 11 06.2	
	comp=Z,9.1nm,0.6s						
WR8	Warramunga Arr	35.70	159	P	P	12 11 00.8	+0.1
WR8				IAmb	IAmb	12 11 07.3	
	comp=Z,6.1nm,0.7s						
SONM	Songino Array	36.38	343	P	P	12 11 08.6	+2.1
	comp=Z,0.3nm,0.4s,baz=170,slow=10,SNR=2.0						
	comp=Z,0.3nm,0.4s						
AS31	Alice Springs	38.97	162	P	P	12 11 28.2	-0.2
ASAR	Alice Springs	38.97	162	P	P	12 11 29.2	+0.8
	comp=Z,1.2nm,0.6s,baz=337,slow=7.0,SNR=36						
	comp=Z,1.2nm,0.6s						
MK31	Makanchi Array	46.64	323	P	P	12 12 29.6	-0.9
MKAR	Makanchi Array	46.64	323	P	P	12 12 29.3	-1.2
MKAR	Makanchi Array	46.64	323	P	P	12 12 31.2	+0.8
	comp=Z,0.2nm,0.4s,baz=138,slow=9.6,SNR=3.8						
	comp=Z,0.2nm,0.4s						
STKA	Stephens Creek	49.13	157	P	P	12 12 50.3	+0.5
STKA				IAmb	IAmb	12 13 27.6	
	comp=Z,17nm,1.2s						
KURBB	Kurchatov Arra	50.76	326	P	P	12 13 02.8	+0.8
	comp=Z,0.7nm,0.2s,baz=125,slow=7.4,SNR=1.5						
	comp=Z,0.7nm,0.2s						
CHGR	Chuyangaron	52.48	308	P	P	12 13 14.8	-0.4
CHGR				IAmb	IAmb	12 13 16.2	
	comp=Z,11nm,1.2s						
AB31	Akbulak array	61.39	319	P	P	12 14 15.9	-2.1
AB31				IAmb	IAmb	12 14 45.5	
	comp=Z,3.2nm,1.5s						
ABKAR	Akbulak array	61.39	319	P	P	12 14 15.8	-2.3
ANM	Nome	70.46	26	P	P	12 15 15.3	-0.9
H17K	Granite Mounta	72.83	26	P	P	12 15 28.5	-2.0
H17K				IAmb	IAmb	12 15 29.7	
	comp=Z,5.4nm,0.9s						
BFZ	Birch Farm	73.96	140	P	P	12 15 37.0	-0.5
RND	Reindeer	77.68	27	P	P	12 15 57.0	-1.5
BMAR	Burnt Mountain	78.95	23	P	P	12 16 04.9	-0.5

*IDC **02** 12:07:42.8±3.6, 30°.77S×177°.83W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=165.2km s-min=52.1km az=159.0*

*WEL **02** 12:08:30.0±1.1, 31°S±11°×17°8W±3°0, h310km±10km, M4.3/9, mB4.7/7, ML4.9/6, MLv4.8/9, Mw(mB)3.9/7, Error ellipse: s-maj=41.6km s-min=6.9km az=109.0, confirmed*

*NOU **02** 12:09:32.8, 35°.27S×178°.23E, h296km, MLv4.1/7, Off E. Coast of N. Island, N.Z.*

ISC 02 12:08:25.3±0.9**, 30°.20S**±0°.10×**178°.9W**±0°.2**, h350**km**, n24, σ1s 33**/33**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.25	41	P	Pn	12 09 13.1	+0.9
GLKZ				S	S	12 09 50.4	+0.7
RIZ	Raoul Island	1.25	41	P	Pn	12 09 12.9	+0.7
RIZ				S	S	12 09 47.4	-2.5
MXZ	Matakaoa Point	7.71	197	P	Pn	12 10 21.8	+5.9
MXZ	Matakaoa Point	7.71	197	P	Pn	12 10 20.7	+4.8
MXZ				S	S	12 11 45.5	-0.5
WMGZ	Waiomatatini S	7.93	196	P	Pn	12 10 19.6	+1.2
WMGZ				S	S	12 11 48.9	-1.8
HAZ	Te Kaha	8.03	199	P	P	12 10 21.6	-1.1
HAZ				S	S	12 11 52.3	-0.7
PKGZ	Pakihiroa	8.05	198	P	Pn	12 10 20.6	+0.6
PKGZ				S	S	12 11 54.7	+1.1
WCZ	Waipu Caves	8.07	223	P	P	12 10 25.8	+2.6
PUZ	Puketiti	8.21	196	P	Pn	12 10 22.5	+0.8
PUZ				S	S	12 11 56.0	-0.8
RUGZ	Raukumara Rang	8.26	199	P	P	12 10 25.0	-0.4
RUGZ				S	S	12 11 56.9	-1.2
MARZ	Manawahe	8.60	204	P	P	12 10 32.1	+3.1
CNGZ	Carnagh Statio	8.61	196	P	P	12 10 31.7	+2.6
TKGZ	Te Karaka	8.65	197	P	Pn	12 10 27.6	+0.5
TKGZ				S	S	12 12 06.4	-0.2
URZ	Urewera	8.70	201	P	P	12 10 29.2	-0.9
URZ	Urewera	8.70	201	P	P	12 10 29.2	-0.9
URZ				S	S	12 12 07.4	-0.2
RIGZ	Rimuhau	8.93	197	P	P	12 10 31.7	-1.0
RIGZ				S	S	12 12 11.7	-1.0
BKZ	Black Stump Fm	9.72	202	P	Pn	12 10 39.7	-0.2
BFZ	Birch Farm	11.19	200	P	P	12 10 57.6	-0.2
SNZO	South Karori	12.25	203	P	Pn	12 11 10.7	+0.9
QRZ	Quartz Range	12.70	211	P	Pn	12 11 15.9	+0.7
KHZ	Kahutara	13.63	205	P	Pn	12 11 25.4	-0.7
ASAR	Alice Springs	42.37	267	P	P	12 15 46.2	-0.5
	0.4nm,0.5s,baz=108,slow=7.8,SNR=17						
ASAR				PcP	PcP	12 17 35.3	+2.5
	0.3nm,0.9s,baz=110,slow=3.6,SNR=4.5						
	0.4nm,0.5s						
WRA	Warramunga Arr	43.34	272	P	P	12 15 54.0	-0.5
	0.9nm,0.6s,baz=114,slow=8.0,SNR=16						
	0.9nm,0.6s						
FINES	FINESS Array B	144.70	339	PKPbc	PKiKP	12 27 21.5	-2.3
	1.0nm,0.3s,baz=27,slow=3.5,SNR=9.6						

*KRSC **02** 12:42:26.2±1.9, 52°.30N×154°.27E, h504km±24km, Ml4.4*

*MOS **02** 12:42:26.6±0.7, 52°.57N×153°.63E, h485km, mb4.0/2, Error ellipse: s-maj=11.8km s-min=7.1km az=59.0*

*NEIC **02** 12:42:27.9±1.3, 52°.7N±0°.1×153°.3E±0°.2, h454km±9km, mb4.1/22, Error ellipse: s-maj=21.3km s-min=7.2km az=131.0*

*IDC **02** 12:42:28.4±1.2, 52°.73N×153°.31E, h465km±14km, mb3.1/15, mbtmp4.0/20, Error ellipse: s-maj=14.0km s-min=12.9km az=103.0*

ISC 02 12:42:27.2±0.5**, 52°.67N**±0°.07×**153°.39E**±0°.06**, h447**km**, n144, σ1s 87**/158**, mb3.9**/29**, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	2.30	82	PN	P	12 43 33.0	+3.9
APC	Apacha	2.30	82	eP	P	12 43 33.1	+3.9
PAU	Pauzhetka	2.43	118	PN	P	12 43 31.9	+1.9
PAU	Pauzhetka	2.43	118	eP	P	12 43 32.0	+1.9
SKR	Severo-Kuril's	2.62	138	ePN	P	12 43 32.2	+0.9
SKR				eS	S	12 44 24.9	+1.6
SKR				pmax	pmax		
	comp=Z,195nm,0.5s						
SKR				smax	smax		
	comp=N,34nm,0.4s						
SKR				smax	smax		
	comp=E,50nm,0.4s						
SKR				MLR	MLR		
	comp=Z,200nm,10.0s						
SKR	Severo-Kuril's	2.62	138	eP	P	12 43 32.3	+0.9
PEA0B	Petropavlovsk-	2.65	79	P	P	12 43 33.6	+2.2
PEA0B	Petropavlovsk-	2.65	79	PN	P	12 43 33.6	+2.2
PETK	Petropavlovsk-	2.65	79	P	P	12 43 32.5	+1.1
PETK	Petropavlovsk-	2.65	79	P	P	12 43 32.9	+1.4
	comp=Z,20nm,0.4s,baz=251,slow=1.4,SNR=246						
ASAK	Asacha	2.77	94	PN	P	12 43 34.4	+2.0
ASAK	Asacha	2.77	94	eP	P	12 43 34.5	+2.0
GRL	Gorelyy	2.86	91	PN	P	12 43 33.3	+0.3
GRL	Gorelyy	2.86	91	eP	P	12 43 33.4	+0.3
KRMR	Karymshinskiy	2.89	85	PN	P	12 43 34.8	+1.8
KRMR				S	S	12 44 29.2	+2.5
KRMR	Karymshinskiy	2.89	85	eP	P	12 43 34.9	+1.8
KRMR				eS	S	12 44 29.2	+2.5
GNL	Ganaly	2.92	68	PN	P	12 43 35.7	+2.2
GNL				S	S	12 44 30.8	+3.4
GNL	Ganaly	2.92	68	eP	P	12 43 35.8	+2.2
GNL				eS	S	12 44 30.8	+3.4
MTVR	Mutnovka	2.93	92	PN	P	12 43 35.5	+1.9
MTVR	Mutnovka	2.93	92	eP	P	12 43 35.6	+1.9
RUS	Russkaya	3.14	92	PN	P	12 43 36.0	+1.1
RUS				S	S	12 44 31.3	+1.2
RUS	Russkaya	3.14	92	eP	P	12 43 36.1	+1.1
RUS				eS	S	12 44 31.3	+1.2
PET	Petropavlovsk	3.21	82	P	P	12 43 36.0	+0.5
PET	Petropavlovsk	3.21	82	ePN	P	12 43 37.1	+1.6
PET				eS	S	12 44 32.0	+0.9
PET				pmax	pmax		
	comp=Z,56nm,0.7s						
PET				smax	smax		
	comp=N,44nm,0.7s						
PET				smax	smax		
	comp=E,35nm,0.6s						
KOK	Koryaka	3.23	77	PN	P	12 43 38.3	+2.5
KOK	Koryaka	3.23	77	eP	P	12 43 38.3	+2.5
KRX	Arik	3.25	76	PN	P	12 43 38.2	+2.2
KRX	Arik	3.25	76	eP	P	12 43 38.2	+2.2
DALK	Dalny	3.27	82	PN	P	12 43 37.6	+1.6
DALK	Dalny	3.27	82	eP	P	12 43 37.6	+1.6
AVH	Avacha	3.29	78	PN	P	12 43 38.6	+2.4
AVH	Avacha	3.29	78	eP	P	12 43 38.6	+2.4
KRER	Koryakskii	3.30	77	PN	P	12 43 39.0	+2.6
KRER	Koryakskii	3.30	77	eP	P	12 43 39.1	+2.6
SMAR	Somma	3.33	78	PN	P	12 43 39.0	+2.4
SMAR	Somma	3.33	78	eP	P	12 43 39.1	+2.4
UGLR	Uglovaya	3.33	79	PN	P	12 43 39.1	+2.5
UGLR	Uglovaya	3.33	79	eP	P	12 43 39.1	+2.5
SDLR	Sedlovina	3.38	78	PN	P	12 43 39.1	+2.2
SDLR				S	S	12 44 36.6	+2.8
SDLR	Sedlovina	3.38	78	eP	P	12 43 39.2	+2.2
SDLR				eS	S	12 44 36.6	+2.8
NLC	Nalytchevo	3.64	80	PN	P	12 43 41.3	+2.4
NLC	Nalytchevo	3.64	80	eP	P	12 43 41.3	+2.4
SPN	Mys Shipunski	4.04	81	PN	P	12 43 42.3	-0.1
SPN				S	S	12 44 39.5	-4.2
SPN	Mys Shipunski	4.04	81	eP	P	12 43 42.3	-0.1
SPN				eS	S	12 44 39.5	-4.2
ESO	Esso	4.50	42	PN	P	12 43 49.3	+2.8
ESO	Esso	4.50	42	eP	P	12 43 49.4	+2.8
TUMD	Tumrok D	4.86	56	PN	P	12 43 52.7	+2.8
TUMD	Tumrok D	4.86	56	eP	P	12 43 52.7	+2.8
KMNR	Kamenistaya	5.07	50	PN	P	12 43 54.5	+2.5
KMNR	Kamenistaya	5.07	50	eP	P	12 43 54.5	+2.5

KOZ	Kozyrevsk	5.08	46	PN	P	12 43 55.0	+2.9
KOZ	Kozyrevsk	5.08	46	eP	P	12 43 55.0	+2.9
KPT	Kopyto	5.18	48	PN	P	12 43 55.7	+2.6
KPT	Kopyto	5.18	48	eP	P	12 43 55.7	+2.6
SRDR	Sredinnyy	5.19	43	PN	P	12 43 56.4	+3.3
SRDR	Sredinnyy	5.19	43	eP	P	12 43 56.4	+3.3
KIRR	Kirishev	5.23	48	PN	P	12 43 56.3	+2.6
KIRR	Kirishev	5.23	48	eP	P	12 43 56.3	+2.6
BZMR	Bezymyannaya	5.29	49	PN	P	12 43 56.4	+2.2
BZMR	Bezymyannaya	5.29	49	eP	P	12 43 56.4	+2.2
BZP	Bezymyannyi-Pe	5.30	49	PN	P	12 43 56.5	+2.2
BZP	Bezymyannyi-Pe	5.30	49	eP	P	12 43 56.5	+2.2
BZWR	Bezymyannyi-We	5.31	49	PN	P	12 43 56.8	+2.4
BZWR	Bezymyannyi-We	5.31	49	eP	P	12 43 56.8	+2.4
MKZ	Mys Kozlova	5.31	66	PN	P	12 43 54.9	+0.6
MKZ	Mys Kozlova	5.31	66	eP	P	12 43 54.9	+0.6
BZGR	Bezymyannyi-Gr	5.38	50	PN	P	12 43 57.7	+2.6
BZGR	Bezymyannyi-Gr	5.38	50	eP	P	12 43 57.7	+2.6
ZLN	Zelenaya	5.48	49	PN	P	12 43 59.4	+3.3
ZLN	Zelenaya	5.48	49	eP	P	12 43 59.4	+3.3
CIRR	Tsirk	5.51	48	PN	P	12 43 58.6	+2.2
CIRR	Tsirk	5.51	48	eP	P	12 43 58.6	+2.2
KBG	Krutoberegovo	6.51	53	PN	P	12 44 05.5	-1.0
KBG	Krutoberegovo	6.51	53	eP	P	12 44 05.5	-1.0
KBTR	Krutoberegovo	6.54	53	PN	P	12 44 06.4	-0.4
KBTR	Krutoberegovo	6.54	53	eP	P	12 44 06.4	-0.4
TYV	Tymovskoe	6.90	259	ePN	P	12 44 12.1	+1.3
TYV				eS	S	12 45 37.4	+1.8
TYV				pmax	pmax		
	comp=Z,14nm,0.6s						
TYV				pmax	pmax		
	comp=Z,100nm,2.3s						
TYV				smax	smax		
	comp=N,100nm,2.7s						
TYV				smax	smax		
	comp=E,100nm,2.7s						
TYV				smax	smax		
	comp=N,7.0nm,1.1s						
TYV				smax	smax		
	comp=E,8.0nm,1.1s						
MA2	Magadan	7.07	349	P	P	12 44 14.7	+2.3
MA2	Magadan	7.07	349	P	P	12 44 14.3	+1.9
	comp=E,5.2nm,0.6s,baz=138,slow=8.5,SNR=6.9						
BKI	Bering	7.85	66	eP	P	12 44 22.3	+1.6
KUR	Kuril'sk	8.28	208	ePN	P	12 44 26.5	+0.8
YUK	Yuzh-Kuril'sk	9.98	213	ePN	P	12 44 45.1	+0.9
YUK				S	S	12 46 38.8	+1.9
YUK				pmax	pmax		
	comp=Z,130nm,0.5s						
YUK				pmax	pmax		
	comp=N,9.0nm,0.3s						
YUK				pmax	pmax		
	comp=E,21nm,0.4s						
RUSJ	Misakicho	10.13	215	ePN	P	12 44 47.6	+1.8
SEY	Seymchan	10.30	357	P	P	12 44 49.6	+2.3
	comp=E,3.8nm,0.5s,baz=169,slow=10,SNR=32						
SEY	Seymchan	10.30	357	ePN	P	12 44 48.0	+0.7
SEY				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NMR	Nemuro--Hokkai	10.62	212	ePN	P	12 44 47.6	-3.5
JTM	Tenmabayashi	14.56	220	P	P	12 45 33.2	-0.5
YAK	Yakutsk	15.76	316	P	P	12 45 46.6	+0.4
YAK	Yakutsk	15.76	316	P	P	12 45 46.2	+0.1
	comp=Z,20nm,0.6s,baz=87,slow=1.1,SNR=5.1						
USRK	Ussuriysk Ar.	16.49	248	P	P	12 45 53.0	-1.1
USRK	Ussuriysk Ar.	16.49	248	P	P	12 45 53.0	-1.1
MJAR	Matsushiro Arr	19.35	220	P	P	12 46 23.1	+0.2
	comp=Z,1.3nm,0.4s,baz=18,slow=10,SNR=7.8						
C18K	Utukok River	26.54	36	P	P	12 47 26.5	-0.5
C18K				IAmb	IAmb	12 47 31.6	
	comp=Z,12nm,1.3s						
G18K	Tagagawik	27.04	42	P	P	12 47 31.7	+0.3
G18K				IAmb	IAmb	12 48 01.1	
	comp=Z,5.8nm,1.1s						
H18K	Honhosa River	27.09	44	P	P	12 47 31.8	-0.1
H18K				IAmb	IAmb	12 47 37.3	
	comp=Z,9.2nm,1.2s						
D19K	Kuna River	27.61	37	P	P	12 47 37.0	+0.5
D19K				IAmb	IAmb	12 48 02.7	
	comp=Z,15nm,1.3s						
E19K	Redstone River	27.78	39	P	P	12 47 38.5	+0.6
E19K				IAmb	IAmb	12 48 02.8	
	comp=Z,9.9nm,1.3s						
D20K	Etivluk River	28.19	36	P	P	12 47 42.0	+0.4
B20K	Meade River	28.24	34	P	P	12 47 42.5	+0.7
J19K	Poorman	28.24	46	P	P	12 47 42.0	0.0
J19K				IAmb	IAmb	12 48 09.9	
	comp=Z,15nm,1.5s						
J20K	Nowinta River	28.89	46	P	P	12 47 47.8	+0.2
K20K	Telida	28.95	48	P	P	12 47 49.0	+0.7
K20K				IAmb	IAmb	12 48 22.5	
	comp=Z,7.8nm,1.4s						
B21K	Ikpikpuk River	29.04	35	P	P	12 47 49.6	+0.7
IMAR	Indian Mountai	29.05	42	P	P	12 47 49.2	+0.2
D22K	Ayikyak River	29.63	36	P	P	12 47 54.8	+0.7
D22K				IAmb	IAmb	12 47 57.2	
	comp=Z,26nm,1.4s						
CAST	Castle Rocks	29.84	47	P	P	12 47 57.0	+1.0
CAST				IAmb	IAmb	12 48 08.9	
	comp=Z,13nm,1.4s						
IL31		31.98	44	P	P	12 48 15.0	+0.6
IL31				IAmb	IAmb	12 48 45.5	
	comp=Z,6.4nm,1.4s						
ILAR	Eielson Array	31.98	44	P	P	12 48 14.9	+0.5
ILAR	Eielson Array	31.98	44	P	P	12 48 14.4	0.0
	comp=Z,0.9nm,0.8s,baz=273,slow=9.7,SNR=14						
	comp=Z,0.9nm,0.8s						
ILAR	Eielson Array	31.98	44	P	P	12 48 14.9	+0.5
BMAR	Burnt Mountain	32.65	39	P	P	12 48 21.3	+1.1
ZALV	Zalesovo Beam	39.53	300	P	P	12 49 16.8	-0.7
	comp=Z,1.0nm,0.5s,baz=54,slow=7.3,SNR=2.3						
	comp=Z,1.0nm,0.5s						
KURK	Kurchatov	44.44	299	P	P	12 49 56.6	+0.1
KURK	Kurchatov	44.44	299	P	P	12 49 56.6	+0.1
KURBB	Kurchatov Arra	44.54	299	P	P	12 49 57.0	-0.3
	comp=Z,3.2nm,0.4s,baz=61,slow=7.5,SNR=27						
	comp=Z,3.2nm,0.4s						
MK31	Makanchi Array	44.61	292	P	P	12 49 57.6	-0.3
MK31	Makanchi Array	44.61	292	P	P	12 49 57.7	-0.3
MK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	44.61	292	P	P	12 49 57.8	-0.2
MKAR	Makanchi Array	44.61	292	P	P	12 49 57.6	-0.4
	comp=Z,1.2nm,0.5s,baz=60,slow=6.9,SNR=21						
	comp=Z,1.2nm,0.5s						
MKAR	Makanchi Array	44.61	292	P	P	12 49 57.8	-0.2
BVAR	Borovoye Array	47.39	305	P	P	12 50 18.1	-1.1
	comp=Z,2.3nm,0.5s,baz=60,slow=8.8,SNR=11						
	comp=Z,2.3nm,0.5s						
ARCES	ARCESS Array B	52.34	339	P	P	12 50 54.1	-1.3
	comp=Z,2.3nm,1.0s,baz=41,slow=8.0,SNR=5.6						
	comp=Z,2.3nm,1.0s						
KKAR	Karatay Array	53.46	295	P	P	12 51 03.2	-0.7
KKAR	Karatay Array	53.46	295	P	P	12 51 03.2	-0.7
AB31	Akbulak array	54.88	307	P	P	12 51 13.3	-0.6
ABKAR	Akbulak array	54.88	307	P	P	12 51 13.3	-0.5
FINES	FINESS Array B	58.78	333	P	P	12 51 39.6	-0.9
FINES	FINESS Array B	58.78	333	P	P	12 51 39.3	-1.2
	comp=Z,1.6nm,0.3s,baz=34,slow=7.5,SNR=17						
	comp=Z,1.6nm,0.3s						
FINES	FINESS Array B	58.78	333	P	P	12 51 39.6	-0.9
NVAR	Mina Array Bea	59.66	65	P	P	12 51 47.6	+0.4
	comp=Z,0.2nm,0.5s,baz=312,slow=5.6,SNR=2.6						
	comp=Z,0.2nm,0.5s						
PDAR	Pinedale Array	61.21	57	P	P	12 51 57.6	+0.2
	comp=Z,0.3nm,0.7s,baz=315,slow=6.9,SNR=2.1						
	comp=Z,0.3nm,0.7s						
NOA	NORSAR Array B	62.69	340	P	P	12 52 05.0	-1.5
	comp=Z,1.0nm,0.7s,baz=24,slow=6.6,SNR=3.9						
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	62.69	340	P	P	12 52 05.0	-1.5
HFS	Hagfors	62.98	339	P	P	12 52 06.7	-1.6
	comp=Z,0.7nm,0.4s,baz=54,slow=7.5,SNR=6.2						
	comp=Z,0.7nm,0.4s						
AKASG	Malin Array Be	66.75	325	P	P	12 52 30.8	-1.6
	comp=Z,1.4nm,0.5s,baz=33,slow=6.6,SNR=5.0						
	comp=Z,1.4nm,0.5s						
PSI	Prapat	66.92	242	P	P	12 52 33.9	-0.3
PSI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
RPSI	Rantau Prapat	67.01	242	P	P	12 52 33.9	-0.7
RPSI				IAmb	IAmb	12 52 38.3	
	comp=Z,8.4nm,1.1s						
BUR08	Bucovina Ar. S	70.74	326	P	P	12 52 56.1	-0.7
BUR08				IAmb	IAmb	12 52 56.4	
	comp=Z,2.4nm,0.6s						
BURAR	Bucovina Array	70.76	326	P	P	12 52 55.9	-1.1
WRA	Warramunga Arr	74.19	199	P	P	12 53 16.1	-0.9
	comp=Z,0.3nm,0.6s,baz=14,slow=5.3,SNR=2.2						
	comp=Z,0.3nm,0.6s						
BRTR	Keskin Array B	74.22	316	P	P	12 53 15.9	-1.4
	comp=Z,0.4nm,0.5s,baz=31,slow=5.9,SNR=2.1						
	comp=Z,0.4nm,0.5s						
AS31	Alice Springs	77.89	198	P	P	12 53 37.9	+0.4
ASAR	Alice Springs	77.89	198	P	P	12 53 37.9	+0.3
ASAR	Alice Springs	77.89	198	P	P	12 53 37.6	+0.1
	comp=Z,0.3nm,0.4s,baz=13,slow=5.0,SNR=13						
	comp=Z,0.3nm,0.4s						

IDC 02 13:01:51.0±2.0, 13°.38N×93°.07E, h0km, mb3.4/3, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=44.1km s-min=29.8km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.58	47	Pn	Pn	13 03 43.9	+1.0
	0.3nm,0.3s,baz=228,slow=14,SNR=11						
CMAR				Sn	Sn	13 05 09.5	0.0
	0.1nm,0.3s,baz=232,slow=26,SNR=4.1						
	2.3nm,0.8s						
MKAR	Makanchi Array	34.52	347	P	P	13 08 41.4	+0.3
	0.5nm,0.8s,baz=157,slow=7.8,SNR=5.3						
	0.5nm,0.8s						
KURBB	Kurchatov Arra	38.99	345	P	P	13 09 18.1	-0.9
	0.2nm,0.3s,baz=163,slow=7.0,SNR=4.1						
	0.2nm,0.3s						
ASAR	Alice Springs	54.31	132	P	P	13 11 19.6	+0.1
	0.3nm,1.1s,baz=317,slow=7.9,SNR=1.3						
	0.3nm,1.1s						

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*FCIAR **02** 13:02:42.0, 80°.31N×0°.93E, h10km, station OMEGA has station magnitude of 4.70 station ZFI2 has station magnitude of 4.80*

*MOS **02** 13:02:43.5±1.3, 80°.02N×1°.48W, h10km, mb5.1/45, MS4.3/19, Error ellipse: s-maj=27.0km s-min=5.8km az=92.1*

*BJI **02** 13:02:43.0, 80°.10N×1°.10W, h10km, mB5.1/23, mb4.7/54, Ms5.2/57, Ms7 4.9/57*

*DNK **02** 13:02:43.1±4.9, 80°.20N×0°.19W, h20km±43km, ML4.3*

*IDC **02** 13:02:44.3±0.4, 80°.12N×0°.73W, h0km, mb4.3/27, mbtmp4.3/30, ML3.8/2, MS4.4/74, Error ellipse: s-maj=11.4km s-min=8.5km az=24.0*

*BER **02** 13:02:44.1±3.9, 80°.33N×0°.35W, h10km, mb(Pn)5.6, ML5.0(DNK), Confirmed Earthquake*

*NEIC **02** 13:02:45.3±2.0, 80°.09N±0°.09×0°.6W±0°.4, h10km±1km, mb5.2/502, Error ellipse: s-maj=15.9km s-min=11.7km az=5.0*

*KOLA **02** 13:02:46.2, 80°.64N×2°.70E, h0km, ML3.7, Error ellipse: s-maj=97.9km s-min=31.2km az=40.0, Greenland sea*

*GCMT **02** 13:02:47.3±0.1, 80°.14N±0°.01×1°.12W±0°.04, h14km±1km, MW5.2/141, Moment Tensor Solution. s87,c131; s141,c240; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.01±.10; $M_{\theta\theta}$-6.03±.13; $M_{\phi\phi}$6.04±.11; $M_{r\theta}$0.56±.22; $M_{\theta\phi}$-2.52±.10; $M_{\phi r}$-1.09±.21; Best double couple: $M_0$6.65200×10^{16} NP1:ϕ_s214.00000°, δ81.00000°, λ5.00000°. NP2:ϕ_s123.00000°, δ85.00000°, λ171.00000°. Principal axes: T 6.7510, Plg10.0000°, Azm78.0000°; N -0.1990, Plg80.0000°, Azm276.0000°; P -6.5530, Plg3.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*INMG **02** 13:02:52.0±5.4, 79°.90N×4°.91W, h10km, M5.1, mb4.8, #DIST_RANGE: DISTANT*

*BGR **02** 13:03:17.6, 76°.57N×1°.56E, h10km, mb4.7, Ms3.9*

ISC 02 13:02:44.6±0.7, 80°.12N±0°.03×0°.90W±0°.03, h7km±3km, n978, σ2°.25/696, mb5.2/354, MS4.5/105, 32C-26D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	2.63	111	Pn	Pn	13 03 24.4	-3.0
KBS				Sn	Sn	13 03 51.1	-8.4
KBS	Kingsbay	2.63	111	Pn	Pn	13 03 24.2	-3.2
KBS				Sn	Sn	13 03 52.0	-7.5
KBS	Kingsbay	2.63	111	P	Pn	13 03 24.1	-3.4
KBS				S	Sn	13 03 52.3	-7.2
KBS	Kingsbay	2.63	111⇑	eP	Pn	13 03 24.0	-3.4
KBS				eS	Sn	13 03 51.3	-8.2
KBS				IAML		13 04 01.8	
	comp=Z,423nm,0.5s						
KBS	Kingsbay	2.63	111c	iP	Pn	13 03 24.2	-3.2
KBS	Kingsbay	2.63	111	iP	Pn	13 03 24.4	-3.0
KBS				iS	Sn	13 03 51.4	-8.1
NOR	Nord	2.92	308	Pn	Pn	13 03 29.9	-1.4
NOR	Nord	2.92	308⇓	eP	Pn	13 03 29.6	-1.7
NOR				iS	Sn	13 04 00.8	-5.8
NOR				IAML		13 04 33.2	
	comp=Z,1μm,1.3s						
NOR	Nord	2.92	308	iP	Pn	13 03 29.6	-1.7
NOR				iS	Sn	13 04 00.8	-5.8
NOR				IAML		13 04 33.2	
	comp=Z,1μm,1.3s						
BRBB	Barentsburg B	3.50	118	Pn	Pn	13 03 38.5	-0.9
BRBB				Sn	Sn	13 04 17.2	-3.9
BRBB	Barentsburg B	3.50	118	P	Pn	13 03 38.4	-1.0
BRBB				S	Sn	13 04 16.2	-4.9
BRBB	Barentsburg B	3.50	118⇑	eP	Pn	13 03 37.9	-1.5
BRBB				eS	Sn	13 04 15.0	-6.1
BRBA	Barentsburg A	3.53	118	Pn	Pn	13 03 38.9	-0.8
BRBA				Sn	Sn	13 04 16.7	-5.0
BRBA	Barentsburg A	3.53	118	eP	Pn	13 03 38.3	-1.4
BRBA				eS	Sn	13 04 17.4	-4.2
BRBA				IAML		13 04 20.2	
	comp=Z,313nm,0.4s						
SPA0	Spitsbergen Ar	3.79	112	Pn	Pn	13 03 41.1	-2.2
	baz=322,slow=10						
SPA0				Sn	Sn	13 04 22.1	-6.0
	baz=323,slow=14						
SPA0	Spitsbergen Ar	3.79	112	eP	Pn	13 03 40.4	-3.0
SPA0				eS	Sn	13 04 20.8	-7.3
SPA0	Spitsbergen Ar	3.79	112	eP	Pn	13 03 41.1	-2.2
SPA0				eS	Sn	13 04 21.8	-6.3
SPA0				IAML		13 04 34.9	
	comp=Z,306nm,0.8s						
SPITS	Spitsbergen Ar	3.79	112	Pn	Pn	13 03 41.1	-2.2
	comp=Z,183nm,0.3s,baz=320,slow=8.5,SNR=931						
SPITS				Sn	Sn	13 04 21.2	-6.9
	baz=302,slow=22						
SPITS				LR	LR	13 05 13.2	
	comp=Z,5μm,18.9s,baz=316,slow=40						
SPITS	Spitsbergen Ar	3.79	112	P	Pn	13 03 40.9	-2.4
SPITS				S	Sn	13 04 22.0	-6.0
SPITS	Spitsbergen Ar	3.79	112	P	Pn	13 03 40.7	-2.6
SPITS						13 04 21.2	
HSPB	Hornsund (broa	4.51	125	eP	Pn	13 03 51.8	-1.3
HSPB				eS	Sn	13 04 39.4	-6.3
HSPB	Hornsund (broa	4.51	125	Pn	Pn	13 03 51.7	-1.3
HSPB				Sn	Sn	13 04 39.6	-6.1
HSPB	Hornsund (broa	4.51	125	P	Pn	13 03 51.2	-1.9
HSPB				S	Sn	13 04 41.2	-4.5
HSPB	Hornsund (broa	4.51	125	eP	Pn	13 03 51.3	-1.9
HSPB				eS	Sn	13 04 40.7	-5.0
HSPB	Hornsund (broa	4.51	125	eP	Pn	13 03 51.6	-1.5
HSPB				eS	Sn	13 04 39.1	-6.6
HSPB				IAML		13 04 46.4	
	comp=Z,372nm,0.5s						
DAG	Danmarks Havn	4.88	236⇑	eP	Pn	13 03 56.0	-2.2
DAG				eS	Sn	13 04 50.0	-4.8
DAG				IAML		13 04 54.2	
	comp=Z,2μm,0.4s						
DAG	Danmarks Havn	4.88	236	iP	Pn	13 03 57.0	-1.2
DAG				iS	Sn	13 04 49.2	-5.6
DAG				IAML		13 04 54.2	
	comp=Z,2μm,0.4s						
HOPEN	Hopen	6.32	111	Pn	Pn	13 04 15.6	-2.4
HOPEN				Sn	Sn	13 05 22.4	-7.9
HOPEN	Hopen	6.32	111	eP	Pn	13 04 14.6	-3.4
HOPEN				eS	Sn	13 05 20.7	-10
HOPEN	Hopen	6.32	111	eP	Pn	13 04 15.2	-2.8
HOPEN				eS	Sn	13 05 22.4	-7.9
HOPEN				IAML		13 05 24.8	
	comp=Z,218nm,0.4s						
BJO1	Bjornoya	7.08	132	eP	Pn	13 04 27.0	-1.5
BJO1				eS	Sn	13 05 43.5	-5.6
BJO1	Bjornoya	7.08	132	eP	Pn	13 04 28.2	-0.3
BJO1				eS	Sn	13 05 43.1	-5.9
BJO1				IAML		13 05 48.3	
	comp=Z,30nm,0.3s						
BEA6	Bear Island, N	7.09	132	Pn	Pn	13 04 28.4	-0.1
DBG	Daneborg	7.18	226	iP	Pn	13 04 28.2	-1.6
DBG				IAML		13 05 48.2	
	comp=Z,2μm,1.1s						
DBG	Daneborg	7.18	226	iP	Pn	13 04 28.2	-1.6
DBG				iS	Sn	13 05 41.8	-10
DBG				IAML		13 05 48.2	
	comp=Z,2μm,1.1s						
ZFI2	Zemlya Franca-	7.89	61	eP	Pn	13 04 36.5	-3.0
ZFI2				eS	Sn	13 05 57.4	-11
	comp=Z,236nm,0.5s						
OMEGA	Omega	7.91	62	eP	Pn	13 04 36.5	-3.3
OMEGA				eS	Sn	13 05 57.4	-12
	comp=Z,187nm,0.4s						
JNW	Jan Mayen West	9.31	195	eP	Pn	13 04 59.0	0.0
JNE	Jan Mayen East	9.35	195	eP	Pn	13 04 59.2	-0.2
JMIC	Jan Mayen	9.36	195	Pn	Pn	13 04 59.6	0.0
	comp=Z,211nm,0.3s,baz=43,slow=4.4,SNR=8.9						
JMIC				Sn	Sn	13 06 39.8	-5.2
	comp=Z,35nm,0.3s,baz=99,slow=19,SNR=2.3						
JMIC				LR	LR	13 07 26.9	
	comp=Z,816nm,21.8s,baz=40,slow=30						
JMIC	Jan Mayen	9.36	195	eP	Pn	13 04 59.7	0.0
JMI	Jan Mayen	9.43	196	eP	Pn	13 05 00.4	-0.2
NEEM	North Greenlan	9.83	280	eP	Pn	13 05 02.1	-4.3
NEEM				iS	Sn	13 06 45.4	-12
NEEM				IAML		13 06 54.8	
	comp=Z,523nm,0.8s						
NEEM	North Greenlan	9.83	280	eP	Pn	13 05 02.1	-4.3
NEEM				iS	Sn	13 06 45.0	-12
NEEM				IAML		13 06 54.8	
	comp=Z,523nm,0.8s						
SCO	Scoresbysund	10.93	220		Pn	13 05 20.0	-1.1
SCO	Scoresbysund	10.93	220	i	Pn	13 05 23.8	+2.7
SCO	Scoresbysund	10.93	220	P	Pn	13 05 20.0	-1.1
SCO	Scoresbysund	10.93	220	iP	Pn	13 05 23.8	+2.7
HAMF	Hammerfest	11.19	134	Pn	Pn	13 05 23.9	-0.7
HAMF	Hammerfest	11.19	134	eP	Pn	13 05 25.3	+0.6
SUMG	Summit	11.34	249		Pn	13 05 24.6	-2.6
SUMG	Summit	11.34	249	iP	Pn	13 05 23.7	-3.4
SUMG				iS	Sn	13 07 20.1	-14
SUMG				IAML		13 07 28.9	
	comp=Z,525nm,0.6s						
SUMG	Summit	11.34	249	P	Pn	13 05 24.6	-2.6
SUMG	Summit	11.34	249	iP	Pn	13 05 23.7	-3.4
SUMG				iS	Sn	13 07 20.1	-14
SUMG				IAML		13 07 28.9	
	comp=Z,525nm,0.6s						
JETT	Jettan, Norway	11.84	142	Pn	Pn	13 05 33.9	+0.3
KIF	Kilpisjarvi	12.41	142	Pn	Pn	13 05 40.9	-0.4
KIF	Kilpisjarvi	12.41	142	eP	Pn	13 05 41.2	-0.1
VADS	Vadso	12.42	127	Pn	Pn	13 05 40.1	-1.4
VADS	Vadso	12.42	127	P	Pn	13 05 40.0	-1.4
VADS				S	Sn	13 07 49.7	-10
VADS	Vadso	12.42	127	eP	Pn	13 05 40.6	-0.9
KEV	Kevo	12.44	131		Pn	13 05 41.7	-0.1
KEV	Kevo	12.44	131	Pn	Pn	13 05 41.3	-0.5
KEV	Kevo	12.44	131	eP	Pn	13 05 41.7	-0.1
KEV	Kevo	12.44	131	P	Pn	13 05 41.7	-0.1
ARA0	ARCESS Array S	12.46	134	Pn	Pn	13 05 41.6	-0.4
	baz=351,slow=12						
ARA0				Sn	Sn	13 07 50.8	-10
	baz=353,slow=22						
ARA0	ARCESS Array S	12.46	134	eP	Pn	13 05 41.4	-0.6
ARCES	ARCESS Array B	12.46	134	Pn	Pn	13 05 40.0	-1.9
	comp=Z,1.8nm,0.3s,baz=343,slow=12,SNR=95						
ARCES				Sn	Sn	13 07 49.3	-12
	comp=Z,0.5nm,0.3s,baz=338,slow=23,SNR=1.2						
	comp=Z,5.8nm,0.4s						
ARCES	ARCESS Array B	12.46	134	P	Pn	13 05 41.1	-0.9
ARCES				S	Sn	13 07 52.3	-8.5
LOF	Lofoten	12.60	155	eP	Pn	13 05 45.6	+1.7
KTK1	Kautokeino	12.68	138	Pn	Pn	13 05 45.9	+0.9
KULLO	Kullorsuaq	12.92	275	iP	Pn	13 05 42.5	-5.8
KULLO				iS	Sn	13 07 54.7	-17
KULLO				IAML		13 08 01.3	
	comp=Z,293nm,0.6s						
KULLO	Kullorsuaq	12.92	275	iP	Pn	13 05 42.7	-5.5
KULLO				iS	Sn	13 07 54.4	-18
KULLO				IAML		13 08 01.3	
	comp=Z,293nm,0.6s						
HEF	Hetta	13.30	138	Pn	Pn	13 05 54.4	+0.9
TULEG	Thule	13.40	291	Pn	Pn	13 05 49.2	-5.6
TULEG	Thule	13.40	291	iP	Pn	13 05 49.3	-5.5
TULEG				iS	Sn	13 08 08.9	-15
TULEG				IAML		13 09 39.5	
	comp=Z,329nm,1.1s						
TULEG	Thule	13.40	291	iP	Pn	13 05 49.1	-5.7
TULEG				iS	Sn	13 08 08.9	-15
TULEG				IAML		13 09 39.5	
	comp=Z,329nm,1.1s						
FAUS	Fauske	13.47	152	P	Pn	13 05 58.4	+2.5
TERR	Teriberka	14.09	120	P	Pn	13 06 00.5	-3.7
TERR				S	Sn	13 08 24.8	-16
UPNV	Upernavik	14.16	269	iP	Pn	13 05 58.8	-6.4
UPNV				iS	Sn	13 08 22.9	-19
UPNV				IAML		13 08 31.2	
	comp=Z,595nm,0.8s						
UPNV	Upernavik	14.16	269	iP	Pn	13 05 58.8	-6.4
UPNV				iS	Sn	13 08 22.9	-19
UPNV				IAML		13 08 31.2	
	comp=Z,595nm,0.8s						
SOEG	Soedalen	14.23	230	iP	Pn	13 06 04.2	-2.0
NUUG	Nuugaatsiaq	14.69	264	iP	Pn	13 06 05.3	-7.1
NUUG				IAML		13 08 54.8	
	comp=Z,186nm,0.8s						
NUUG	Nuugaatsiaq	14.69	264	iP	Pn	13 06 05.9	-6.6
NUUG				IAML		13 08 54.8	
	comp=Z,186nm,0.8s						
SAATT	Saattut	15.05	260	iP	Pn	13 06 10.0	-7.2
SAATT				IAML		13 09 06.3	
	comp=Z,223nm,1.0s						
LVZ	Lovozero	15.22	123	Pn	Pn	13 06 15.8	-3.9
LVZ	Lovozero	15.22	123	S	Sn	13 08 55.1	-13
LVZ	Lovozero	15.22	123	P	Pn	13 06 15.8	-3.9
LVZ				pmax	pmax		
	comp=Z,53nm,1.9s						
APA0	Apatity Array	15.26	126	P	Pn	13 06 17.1	-2.9
APA0				S	Sn	13 08 56.4	-13
SAQQ	Saqqaq	15.80	259	iP	Pn	13 06 19.1	-7.9
SAQQ				IAML		13 09 27.0	
	comp=Z,158nm,1.5s						
KVDA	Kovda	16.10	127	P	Pn	13 06 31.0	0.0
KVDA				S	Sn	13 09 16.1	-13
ILULI	Ilulissat	16.36	257	Pn	Pn	13 06 26.0	-8.2
ILULI				IAmb	IAmb	13 06 30.8	
	comp=Z,386nm,1.1s						
ILULI	Ilulissat	16.36	257	iP	Pn	13 06 25.8	-8.4
BORG	Borgarnes	16.43	212		Pn	13 06 34.2	-1.0
BORG	Borgarnes	16.43	212	P	Pn	13 06 34.2	-1.0
BORG				pmax	pmax		
	comp=Z,16nm,1.1s						
GDH	Godhavn	16.73	260	iP	Pn	13 06 31.4	-7.6
GDH	Godhavn	16.73	260	iP	Pn	13 06 31.4	-7.6
ANGG	Ammassalik, Gr	17.53	236		Pn	13 06 46.0	-3.0
ANGG				IAmb	IAmb	13 06 54.5	
	comp=Z,122nm,0.8s						
ANGG	Ammassalik, Gr	17.53	236	iP	Pn	13 06 47.0	-2.0
ANGG	Ammassalik, Gr	17.53	236	iP	Pn	13 06 47.0	-2.0
ISOG	Isortoq, Green	17.79	237	iP	Pn	13 06 48.7	-3.5
ISOG	Isortoq, Green	17.79	237	iP	Pn	13 06 48.7	-3.5
POIN	Pond Inlet	17.93	289	Pn	Pn	13 06 47.3	-6.6
POIN				IAmb	IAmb	13 06 52.3	
	comp=Z,115nm,0.7s						
DY2G	Dye2	18.04	247	iP	Pn	13 06 51.0	-4.5
DY2G	Dye2	18.04	247	iP	Pn	13 06 51.0	-4.5
SFJD	Kangerlussuaq	18.27	253		Pn	13 06 52.4	-5.7
SFJD	Kangerlussuaq	18.27	253	P	Pn	13 06 52.7	-5.4
	comp=Z,228nm,0.6s,baz=16,slow=13,SNR=79						
SFJD				S	Sn	13 10 01.5	-20
	comp=Z,63nm,0.4s,baz=86,slow=19,SNR=5.4						
SFJD				LR	LR	13 13 54.4	
	comp=Z,1μm,20.8s,baz=30,slow=37						
SFJD	Kangerlussuaq	18.27	253	iP	Pn	13 06 51.4	-6.7
SFJD	Kangerlussuaq	18.27	253	P	Pn	13 06 52.4	-5.7
SFJD				pmax	pmax		
	comp=Z,290nm,0.9s						
SFJD	Kangerlussuaq	18.27	253	iP	Pn	13 06 51.4	-6.7

RES Resolute Bay 18.86 305 P P 13 07 01.9 -2.8
RES Resolute Bay 18.86 305 P P 13 07 01.5 -3.2
comp=Z,21nm,0.5s,baz=29,slow=11,SNR=22
RES S Sn 13 10 14.3 -22
comp=Z,43nm,0.8s,baz=143,slow=20,SNR=4.9
RES LR LR 13 14 33.7
comp=Z,2µm,19.9s,baz=36,slow=38
RES Resolute Bay 18.86 305 P P 13 07 01.9 -2.8
RES pmax pmax
comp=Z,31nm,1.0s
NOA NORSAR Array B 19.50 162 P Pn 13 07 13.1 +0.1
comp=Z,0.1nm,0.3s,baz=356,slow=13,SNR=10
NOA LR LR 13 13 47.6
comp=Z,600nm,18.4s,baz=350,slow=34
comp=Z,0.7nm,0.7s
LSH Leshukonskoye 19.72 113 *e*P **P 13 07 11.4 -2.8**
LSH *e*S S 13 10 37.1 -19
FIA0 FINESS Array S 20.32 141 P Pn 13 07 21.6 -1.0
baz=344,slow=11
FINES FINESS Array B 20.32 141 P 13 07 20.9 +0.2
FINES FINESS Array B 20.32 141 P Pn 13 07 21.6 -1.1
comp=Z,5.0nm,0.5s,baz=348,slow=10,SNR=27
FINES LR LR 13 14 33.7
comp=Z,1µm,21.8s,baz=354,slow=35
comp=Z,5.0nm,0.5s
HFS Hagfors 20.54 159 P Pn 13 07 24.2 -1.2
baz=0.3,slow=8.6
HFS Hagfors 20.54 159 P Pn 13 07 24.3 -1.1
comp=Z,9.6nm,0.8s,baz=353,slow=8.7,SNR=10
HFS LR LR 13 14 28.3
comp=Z,1µm,18.2s,baz=5.5,slow=34
comp=Z,9.6nm,0.8s
KONO Kongsberg 20.81 165 P P 13 07 25.9 -0.2
KONO Kongsberg 20.81 165 P **P 13 07 25.9 -0.2**
KONO pmax pmax
comp=Z,38nm,1.3s
ILON Igloolik, Nuna 21.46 287 P 13 07 33.6 +0.6
ILON IAmb IAmb 13 07 34.8
comp=Z,108nm,0.7s
PUL Pulkovo 22.43 137‖ *e*P **P 13 07 43.8 +0.4**
PUL pmax pmax
comp=Z,219nm,1.1s
KLMR Klimovskoe 22.59 124 *e*P **P 13 07 45.1 -0.1**
KLMR S **S 13 11 53.0 +0.4**
KLMR pmax pmax
comp=Z,139nm,1.1s
KLMR MLR MLR
comp=Z,388nm,14.0s
SHIP Sredneye Shipi 22.82 116 *e*P P 13 07 39.9 -7.6
SHIP *e*S S 13 11 41.8 -15
NRS Narsarsuaq 22.90 241 P **P 13 07 48.9 +0.5**
NRS Narsarsuaq 22.90 241 P **P 13 07 48.9 +0.5**
NRS pmax pmax
comp=Z,145nm,0.9s
IVI Ivigtut 23.28 244 P 13 07 53.1 +0.8
VSU Vasula 23.31 142*d i*P **P 13 07 53.8 +1.2**
VSU pmax pmax
comp=Z,90nm,1.5s
FRB Frobisher Bay 24.30 268 P **P 13 08 02.9 +0.8**
comp=Z,136nm,0.8s,baz=23,slow=11,SNR=43
FRB S **S 13 12 24.1 +3.3**
comp=Z,7.2nm,0.7s,baz=103,slow=14,SNR=1.5
FRB LR LR 13 17 31.8
comp=Z,978nm,20.1s,baz=28,slow=36
EKA Eskdalemuir Ar 24.91 183 P **P 13 08 08.1 +0.4**
comp=Z,0.7nm,0.5s,baz=350,slow=8.0,SNR=3.0
comp=Z,0.7nm,0.5s
A36M Sachs Harbour 25.07 323 P 13 08 10.1 +1.1
A36M Sachs Harbour 25.07 323 P **P 13 08 10.2 +1.1**
baz=20
KIRV Kirov 26.26 114 P **P 13 08 19.4 -0.4**
comp=Z,12nm,0.8s,baz=346,slow=9.1,SNR=8.0
comp=Z,12nm,0.8s
NACGM Naroch 26.82 144 *e*P **P 13 08 28.5 +3.5**
comp=Z,15nm,1.0s,baz=350
MOS Moscow 27.28 130 *e*P P 13 08 39.8 +11
MNK Minsk 27.33 142 *i* P **P 13 08 32.2 +2.7**
comp=E,38nm,0.7s
MNK *i* P **P 13 08 32.2 +2.7**
comp=N,11nm,0.9s
MNK *i* P **P 13 08 32.2 +2.7**
comp=Z,17nm,0.7s,baz=350
MNK *i* PP **PnPn 13 09 14.2 +1.2**
MNK *i* S **S 13 13 13.2 +4.2**
MNK *i* SS **SnSn 13 14 23.6 +6.6**
MNK *i* LRM MLR 13 18 45.5
comp=Z,957nm,20.3s
MNK Minsk 27.33 142 *i* P **P 13 08 32.2 +2.7**
MNK *i* 13 09 14.2
MNK *i* S **S 13 13 13.2 +4.2**
MNK *i* SS **SnSn 13 14 23.5 +6.6**
MNK pmax pmax
comp=N,11nm,0.9s
MNK pmax pmax
comp=E,38nm,0.7s
MNK pmax pmax
comp=Z,17nm,0.7s
MNK MLR MLR
comp=N,664nm,18.0s
MNK MLR MLR
comp=E,742nm,20.0s
MNK MLR MLR
comp=Z,957nm,20.0s
C36M Paulatuk 27.46 320 P 13 08 30.4 -0.1
C36M Paulatuk 27.46 320 P **P 13 08 31.5 +0.9**
baz=18
GORT1 Trebel 27.54 164 *e*P **P 13 08 33.0 +1.7**
comp=Z,71nm,1.7s,baz=356,slow=9.1
RETH Rethem/Aller, 27.71 167 *e*P **P 13 08 34.0 +1.1**
comp=Z,33nm,1.4s,baz=356,slow=9.1
OBN Obninsk 27.75 131 P **P 13 08 33.9 +0.6**
OBN Obninsk 27.75 131 LR LR 13 19 31.9
comp=Z,994nm,18.1s,baz=336,slow=36
OBN Obninsk 27.75 131‖ *e*P **P 13 08 36.0 +2.7**
OBN *e* 13 09 19.2
OBN *e*S **S 13 13 17.3 +1.6**
OBN pmax pmax
comp=Z,93nm,1.9s
OBN MLR MLR
comp=Z,837nm,17.0s
IBBN Ibbenburen 28.08 169 *e*P **P 13 08 36.6 +0.4**
comp=Z,16nm,0.9s,baz=356,slow=9.1
A21K Barrow 28.15 344 P **P 13 08 36.7 -0.1**
baz=8.7
FLTG Flechtingen 28.20 164 *e*P **P 13 08 37.5 +0.2**
comp=Z,6.8nm,0.9s,baz=356,slow=9.1
ASSE Asse, Remlinge 28.37 165 *e*P **P 13 08 40.0 +1.3**
comp=Z,52nm,1.9s,baz=356,slow=9.1
BLKN Baker Lake 28.38 294 P 13 08 40.2 +1.5
BLKN IAmb IAmb 13 08 51.4
comp=Z,32nm,0.8s
A22K Sinclair Lake 28.39 342 P **P 13 08 38.9 +0.1**
baz=9.2
C26K Camden Bay 28.83 335 P **P 13 08 41.8 -1.0**
baz=12
D28M Stokes Point 28.92 330 P **P 13 08 43.0 -0.6**
baz=14
GTTG Gottingen 28.92 166 *e*P **P 13 08 45.6 +1.8**
comp=Z,8.4nm,0.8s,baz=356,slow=9.1
BUG Bochum–Univer 28.93 169 *e*P **P 13 08 44.3 +0.5**
comp=Z,26nm,1.4s,baz=356,slow=9.1
B22K Teshekpuk Lake 28.96 341 P **P 13 08 43.3 -0.6**
baz=9.5
C27K Jago River 29.03 334 P **P 13 08 45.3 +0.7**
C27K IAmb IAmb 13 08 47.2
comp=Z,34nm,1.1s
C27K Jago River 29.03 334 P **P 13 08 45.5 +0.9**
baz=12
D27M Malcolm River 29.19 332 P 13 08 46.8 +0.7
D27M Malcolm River 29.19 332 P **P 13 08 47.3 +1.2**
baz=13,SNR=5.7
KASTN Kahler Asten 29.20 168 *e*P **P 13 08 47.5 +1.1**
comp=Z,36nm,1.7s,baz=356,slow=9.1
C24K Franklin Bluff 29.29 338 P **P 13 08 48.8 +1.9**
C24K Franklin Bluff 29.29 338 P **P 13 08 48.0 +1.2**
baz=11,SNR=7.6
C23K Itkillik River 29.29 339 P **P 13 08 48.5 +1.6**
C23K Itkillik River 29.29 339 P **P 13 08 48.7 +1.8**
baz=10,SNR=7.0
CLL Collm 29.30 162 *e*P **P 13 08 48.0 +0.8**
CLL *i* 13 08 52.6
CLL *e*S S 13 13 31.0 -9.2
CLL MLR MLR
comp=Z,500nm,19.4s
CLL Collm 29.30 162 *e*P **P 13 08 48.0 +0.8**
comp=Z,26nm,1.4s,baz=356,slow=9.1
NEUB Neuenburg 29.34 164 *e*P **P 13 08 48.4 +0.9**
comp=Z,28nm,1.1s,baz=356,slow=9.1
INK Inuvik 29.44 326 IAmb IAmb 13 08 49.7
comp=Z,32nm,1.1s
INK Inuvik 29.44 326 LR LR 13 24 22.8
comp=Z,455nm,18.0s,baz=40,slow=44
INK Inuvik 29.44 326 P **P 13 08 48.4 +0.2**
A19K Wainwright 29.46 346 P **P 13 08 49.1 +0.7**
baz=6.9
B20K Meade River 29.48 344 IAmb IAmb 13 08 50.7
comp=Z,36nm,0.9s
B20K Meade River 29.48 344 P **P 13 08 49.4 +0.8**
baz=8.2
D25K Kavik River 29.52 336 IAmb IAmb 13 08 51.6
comp=Z,46nm,0.9s
D25K Kavik River 29.52 336 P **P 13 08 50.2 +1.2**
baz=12,SNR=9.2
KUQ Kuujjuuaa 29.57 264 P 13 08 50.7 +1.3
KUQ IAmb IAmb 13 08 59.2
comp=Z,41nm,0.8s
UBBA Unterbreizbach 29.65 166 *e*P **P 13 08 51.4 +1.3**
comp=Z,9.7nm,1.1s,baz=356,slow=9.1
E28M Babbage River 29.70 331 IAmb IAmb 13 08 53.0
comp=Z,29nm,0.9s
E28M Babbage River 29.70 331 P **P 13 08 51.5 +1.0**
baz=13,SNR=9.7
B21K Ikpikpuk River 29.74 342 P **P 13 08 52.5 +1.6**
B21K IAmb IAmb 13 08 53.6
comp=Z,62nm,0.9s
B21K Ikpikpuk River 29.74 342 P **P 13 08 52.3 +1.5**
baz=8.9,SNR=9.9
E29M Blow River 29.76 329 IAmb IAmb 13 08 53.6
comp=Z,48nm,0.7s
E29M Blow River 29.76 329 P **P 13 08 52.2 +1.1**
baz=14,SNR=24
SVE Sverdlovsk 29.77 103 *e*P **P 13 08 52.1 +0.9**
SVE *e*S **S 13 13 51.9 +4.5**
SVE pmax pmax
comp=Z,15nm,1.1s
SVE MLR MLR
comp=Z,1µm,15.0s
BRG Berggiesshubel 29.79 161 *e*P **P 13 08 54.5 +3.0**
BRG Amp 13 08 56.3
comp=Z,4.1nm,1.0s
BRG Berggiesshubel 29.79 161 S **S 13 13 56.0 +8.2**
ARTI Arti 29.81 106*c i*P **P 13 08 52.5 +0.9**
ARTI 13 09 45.0
ARTI 13 11 53.1
ARTI S **S 13 13 49.9 +1.8**
ARTI pmax pmax
comp=Z,33nm,1.8s
ARTI MLR MLR
comp=Z,920nm,18.0s
D24K Happy Valley 29.86 338 P **P 13 08 53.2 +1.3**
baz=11,SNR=9.8
MOX Moxa 29.90 164 *e*P **P 13 08 53.5 +1.0**
comp=Z,31nm,1.3s,baz=356,slow=9.1
MOX *e*L L 13 20 11.8
comp=Z,320nm,19.2s
KSP Ksiaz 29.96 158 *e*P P 13 08 59.0 +6.0
PLN Plauen 30.08 163 *e*P **P 13 08 55.2 +1.1**
comp=Z,19nm,1.5s,baz=356,slow=9.1
RICC Richard 30.13 161 AMS AMS 13 20 00.0
comp=Z,600nm,19.3s
D23K Nanushuk River 30.16 339 IAmb IAmb 13 08 57.7
comp=Z,71nm,1.1s
D23K Nanushuk River 30.16 339 P **P 13 08 55.9 +1.3**
baz=10.0,SNR=8.6
TANN Tannenbergstha 30.17 163 *e*P **P 13 08 56.3 +1.4**
comp=Z,52nm,1.6s,baz=356,slow=9.1
PVCC Panska Ves 30.17 160 AMS AMS 13 19 40.0
comp=Z,700nm,15.4s
TNS Taunus Mts 30.19 168 *e*P **P 13 08 56.0 +0.9**
comp=Z,6.3nm,0.9s,baz=356,slow=9.1
CHVC Chvalec 30.20 158 *e*P P 13 09 05.5 +10
CHVC MLR MLR
comp=Z,600nm,15.6s
CHVC Chvalec 30.20 158 *e*P P 13 09 05.5 +10
CHVC AMS AMS 13 19 50.0
comp=Z,600nm,15.6s
C21K Knifeblade Rid 30.21 342 P **P 13 08 56.3 +1.3**
baz=8.8,SNR=8.4
OSTC Ostas 30.24 158 *e*S S 13 14 12.2 +17
OSTC AMS AMS 13 20 00.0
comp=Z,600nm,16.2s
E27K Coleen River 30.27 332 IAmb IAmb 13 08 57.5
comp=Z,23nm,0.8s
E27K Coleen River 30.27 332 P **P 13 08 57.0 +1.3**
baz=13,SNR=12
UPC Upice 30.28 158 *e*S S 13 14 12.9 +17
UPC AMS AMS 13 20 00.0
comp=Z,700nm,17.9s
F31M Tsiigehtchic 30.30 326 IAmb IAmb 13 08 57.5
comp=Z,42nm,1.2s
F31M Tsiigehtchic 30.30 326 P **P 13 08 56.3 +0.5**
baz=15,SNR=8.1
B18K Kokolik River 30.33 347 P **P 13 08 57.4 +1.3**
baz=6.5,SNR=14
F30M Barrier River 30.33 327 IAmb IAmb 13 08 57.6
comp=Z,26nm,0.8s
F30M Barrier River 30.33 327 P **P 13 08 57.2 +1.0**
baz=14,SNR=8.6
D22K Ayikyak River 30.37 340 P **P 13 08 57.5 +1.1**
baz=9.4
TOLK Toolik Lake Re 30.41 338 P 13 08 57.9 +1.0
TOLK IAmb IAmb 13 08 59.6
comp=Z,44nm,1.0s
TOLK Toolik Lake Re 30.41 338 P **P 13 08 58.0 +1.1**
baz=10,SNR=7.3
DPC Dobruska-Polom 30.46 158 *e*P P 13 09 07.2 +10
DPC *e*S **S 13 14 00.0 +1.6**
DPC MLR MLR
comp=Z,600nm,16.0s
DPC Dobruska-Polom 30.46 158 *e*P P 13 09 07.2 +10
DPC *e*S **S 13 14 00.0 +1.6**
DPC AMS AMS 13 20 00.0
comp=Z,600nm,16.0s
C19K Lookout Ridge 30.50 345 P **P 13 08 59.4 +1.8**
baz=7.2,SNR=22
LPSR Galich'ya Gora 30.52 130 *e*P P 13 09 03.1 +5.2
LPSR pmax pmax
comp=Z,30nm,1.0s
MANZ Manzenberg 30.58 163 *e*P **P 13 08 59.6 +1.1**
comp=Z,6.8nm,1.8s,baz=356,slow=9.1
PRA Prague 30.62 160 *e*S **S 13 14 03.3 +2.5**
PRA AMS AMS 13 20 10.0
comp=Z,700nm,19.4s
E25K Arctic Village 30.65 335 IAmb IAmb 13 09 01.5
comp=Z,51nm,1.0s
E25K Arctic Village 30.65 335 P **P 13 09 00.1 +1.2**
baz=11,SNR=15
WLF Walferdange 30.67 171 *e*P **P 13 09 00.2 +1.0**
comp=Z,11nm,1.1s,baz=356,slow=9.1
F28M Old Crow 30.69 330 IAmb IAmb 13 09 01.5
comp=Z,47nm,0.8s
F28M Old Crow 30.69 330 P **P 13 09 00.6 +1.2**
baz=13,SNR=23
PRU Pruhonice 30.71 160 *e*P P 13 09 09.3 +10
PRU MLR MLR
comp=Z,700nm,17.2s
PRU Pruhonice 30.71 160 *e*P P 13 09 09.3 +10
PRU AMS AMS 13 20 10.0
comp=Z,700nm,17.2s
D20K Etivluk River 30.75 343 P **P 13 09 01.1 +1.2**
baz=8.0
KRLC Kraliky 30.76 158 *e*P P 13 09 09.1 +9.0
KRLC MLR MLR
comp=Z,600nm,18.4s
KRLC Kraliky 30.76 158 *e*P P 13 09 09.1 +9.0
KRLC AMS AMS 13 20 20.0
comp=Z,600nm,18.4s
ROTZ Rotzenmuhle 30.80 163 *e*P **P 13 09 01.9 +1.4**
comp=Z,4.6nm,1.3s,baz=356,slow=9.1
GRF Grafenberg Arr 30.83 165 *e*P **P 13 09 02.1 +1.4**
comp=Z,18nm,1.3s,baz=356,slow=9.1
GRF *e*L L 13 19 57.3
comp=Z,398nm,20.8s
OJC Ojcow 30.83 154 *e*P P 13 09 10.1 +9.4
G31M Satah River 30.86 326 IAmb IAmb 13 09 02.4
comp=Z,43nm,0.8s
G31M Satah River 30.86 326 P **P 13 09 01.3 +0.6**
baz=14,SNR=20
E21K Killik River 30.88 341 P **P 13 09 01.9 +0.9**
baz=8.8
E24K Your Creek 30.90 337 IAmb IAmb 13 09 03.9
comp=Z,33nm,0.8s
E24K Your Creek 30.90 337 P **P 13 09 02.2 +1.0**
baz=10,SNR=15
F26K Sheenjek River 30.96 334 IAmb IAmb 13 09 04.6
comp=Z,24nm,0.7s
F26K Sheenjek River 30.96 334 P **P 13 09 02.5 +0.8**
baz=12,SNR=16
G30M tAoh Zraii Nji 30.99 328 IAmb IAmb 13 09 03.7
comp=Z,24nm,1.0s
G30M tAoh Zraii Nji 30.99 328 P **P 13 09 01.8 -0.2**
baz=14,SNR=8.9
E23K Chandalar 30.99 338 P **P 13 09 03.7 +1.7**
baz=10,SNR=24
C18K Utukok River 31.02 346 P **P 13 09 03.6 +1.3**
baz=6.5,SNR=25
D19K Kuna River 31.04 344 P **P 13 09 03.5 +1.1**
baz=7.5
OKC Ostrava-Krasne 31.09 156 *e*S S 13 14 22.7 +14
OKC AMS AMS 13 20 30.0
comp=Z,500nm,22.5s
MORC Moravsky Berou 31.11 157 *e*P **P 13 09 06.7 +3.5**
MORC Moravsky Berou 31.11 157 ⇑P P 13 09 12.9 +10
MORC Moravsky Berou 31.11 157 ⇑P P 13 09 12.9 +10
F25K Christian Rive 31.17 335 IAmb IAmb 13 09 06.2
comp=Z,26nm,0.8s
F25K Christian Rive 31.17 335 P **P 13 09 04.6 +1.0**
baz=11,SNR=15
E20K Nigu River 31.18 342 P **P 13 09 05.0 +1.3**
baz=8.1
G29M Pine Creek 31.22 329 P **P 13 09 04.6 +0.6**
baz=13,SNR=20
AKASG Malin Array Be 31.22 142 P **P 13 09 04.1 0.0**
comp=Z,1.8nm,0.6s,baz=352,slow=9.6,SNR=7.0
AKASG LR LR 13 21 15.9
comp=Z,710nm,21.1s,baz=354,slow=36
comp=Z,1.8nm,0.6s
AKBB Malin Array Si 31.22 142*d i*P **P 13 09 08.7 +4.6**
AKBB pmax pmax
comp=Z,41nm,1.8s
KIEV Kiev 31.23 142 ⇑P P 13 09 11.6 +7.5
KIEV Kiev 31.23 142 ⇑P P 13 09 11.6 +7.5
BMAR Burnt Mountain 31.25 334 P **P 13 09 05.7 +1.4**
C17K DeLong Mountai 31.27 348 P **P 13 09 06.1 +1.7**
baz=5.9,SNR=23
AK14 Malin Array Si 31.28 142 P **P 13 09 05.0 +0.4**
F24K Squaw Lake 31.41 336 IAmb IAmb 13 09 07.7
comp=Z,22nm,0.8s
F24K Squaw Lake 31.41 336 P **P 13 09 06.9 +1.2**
baz=10,SNR=10
TREC Trest 31.45 159 *e*P P 13 09 15.9 +10
TREC MLR MLR
comp=Z,800nm,16.9s
TREC Trest 31.45 159 *e*P P 13 09 15.9 +10
TREC AMS AMS 13 20 40.0
comp=Z,800nm,16.9s
WET Wettzell 31.46 163 *e*P **P 13 09 08.4 +2.1**
comp=Z,33nm,1.6s,baz=356,slow=9.1
KHC Kasperske Hory 31.51 162 *e*P P 13 09 16.7 +10
KHC *e*S **S 13 14 19.2 +4.3**
KHC MLR MLR
comp=Z,500nm,16.4s
KHC Kasperske Hory 31.51 162 *e*P P 13 09 16.7 +10
KHC *e*S **S 13 14 19.2 +4.3**
KHC AMS AMS 13 21 10.0
comp=Z,500nm,16.4s
VRAC Vranov 31.51 158 P **P 13 09 08.5 +1.8**
comp=Z,3.0nm,0.6s,baz=0.2,slow=10,SNR=8.9
VRAC LR LR 13 21 21.0
comp=Z,541nm,18.5s,baz=346,slow=35
comp=Z,3.0nm,0.6s
VRAC Vranov 31.51 158 *e*P **P 13 09 07.6 +0.9**
C16K Lisburne Hills 31.55 349 P **P 13 09 08.4 +1.6**
baz=5.1,SNR=13
EPYK Eagle Plains 31.63 328 IAmb IAmb 13 09 13.9
comp=Z,43nm,1.1s
EPYK Eagle Plains 31.63 328 P **P 13 09 07.7 +0.1**
baz=13,SNR=14
G27K Doyon Strip 31.63 331 P **P 13 09 09.2 +1.6**
baz=12,SNR=12
G26K Porcupine Rive 31.66 333 P **P 13 09 09.5 +1.6**
baz=12,SNR=25
NIE Niedzica 31.67 153 *e*P P 13 09 12.8 +4.7
RDOG Red Dog Mine 31.68 347 P **P 13 09 09.4 +1.3**
baz=5.9,SNR=24
F22K John River 31.70 339 P **P 13 09 09.3 +1.1**
baz=9.2,SNR=20
KRUC Moravsky 31.74 158 *e*P **P 13 09 09.1 +0.4**
GEC2 GERESS Array S 31.80 162 *e*P **P 13 09 11.2 +1.8**
comp=Z,33nm,1.4s,baz=356,slow=9.1
GERES GERESS Array B 31.80 162 P **P 13 09 11.8 +2.4**
comp=Z,2.1nm,0.7s,baz=355,slow=8.1,SNR=12
comp=Z,2.1nm,0.7s
LUBAR Lubar, Ukraine 31.84 144 P **P 13 09 09.2 -0.3**
COLD Coldfoot 31.85 338 P **P 13 09 10.9 +1.4**
baz=9.7,SNR=10
BILL Bilibino 31.87 9⇑ *i*P **P 13 09 10.4 +0.8**
BILL pmax pmax
comp=Z,26nm,1.5s
VSR Storozhevoye 31.91 130 *e*P **P 13 09 14.5 +4.4**
VSR pmax pmax
comp=Z,10.0nm,1.2s
H29M Whitestone 31.93 329 IAmb IAmb 13 09 12.2
comp=Z,38nm,0.9s
H29M Whitestone 31.93 329 P **P 13 09 10.8 +0.6**
baz=13,SNR=17
BELG Belogornoye 31.95 120*de*P **P 13 09 10.0 -0.5**
BELG pmax pmax
comp=Z,11nm,0.9s
H31M Peel River 31.96 326 IAmb IAmb 13 09 12.2
comp=Z,38nm,1.2s
H31M Peel River 31.96 326 P **P 13 09 11.0 +0.6**
baz=14,SNR=9.2
G25K Bearman Lake 32.02 335 P **P 13 09 13.5 +2.5**
baz=11,SNR=17
E19K Redstone River 32.03 343 P **P 13 09 12.3 +1.2**
baz=7.6
D17K Noatak River 32.05 347 P **P 13 09 13.0 +1.8**
baz=5.8,SNR=27
F21K Alatna River 32.06 340 P **P 13 09 12.7 +1.3**
baz=8.7,SNR=26
BFO Black Forest 32.07 168 *e*P **P 13 09 13.1 +1.5**
comp=Z,8.5nm,1.1s,baz=356,slow=9.1
G24K Hadweenzic Riv 32.19 336 P **P 13 09 14.5 +2.0**
baz=10,SNR=21
H27K Steamboat Moun 32.19 331 IAmb IAmb 13 09 15.7
comp=Z,100nm,1.9s
H27K Steamboat Moun 32.19 331 P **P 13 09 14.2 +1.6**
baz=12,SNR=12
E18K Tukpahlearik C 32.22 345 P **P 13 09 14.3 +1.5**
baz=6.5
G22K Bettles 32.24 339 P **P 13 09 14.1 +1.3**
baz=9.2
VRH Novokhopyorsk 32.26 127 *e*P **P 13 09 16.3 +3.1**
VRH pmax pmax
comp=Z,10.0nm,1.0s
G23K Bananza Creek 32.35 338 P **P 13 09 14.9 +0.9**
baz=9.6
F20K Avraart Lake 32.36 342 P **P 13 09 14.9 +1.0**
baz=8.0,SNR=22
SMOL Smolenice 32.36 157 *e*P P 13 09 24.7 +11
SCHQ Schefferville 32.42 260 P **P 13 09 15.2 +0.5**
comp=Z,155nm,0.8s,baz=9.9,slow=8.9,SNR=14
SCHQ LR LR 13 22 42.4
comp=Z,5µm,18.4s,baz=25,slow=37
VYHS Vyhne 32.48 155 *e*P P 13 09 23.1 +7.9
H25L Birch Creek 32.49 334 P **P 13 09 17.3 +2.2**
baz=11,SNR=16
E17K Hotham Inlet 32.61 346 P **P 13 09 17.0 +0.9**
baz=6.1,SNR=13
F19K Shaleruckik Mo 32.68 343 IAmb IAmb 13 09 18.5
comp=Z,56nm,1.1s
F19K Shaleruckik Mo 32.68 343 P **P 13 09 17.4 +0.7**
baz=7.3,SNR=22
I30M Mount Dempster 32.72 327 IAmb IAmb 13 09 18.9
comp=Z,35nm,0.8s
I30M Mount Dempster 32.72 327 P **P 13 09 17.9 +0.6**
baz=13,SNR=28
G21K Allakaket 32.76 340 P **P 13 09 18.8 +1.3**
baz=8.5
I29M Ogilvie Camp, 32.76 328 P **P 13 09 18.1 +0.5**
baz=13,SNR=26
I27K Kandik River 32.81 331 P **P 13 09 19.9 +1.9**
baz=12,SNR=30
I28M Miner Creek 32.82 330 IAmb IAmb 13 09 21.0
comp=Z,24nm,0.8s
I28M Miner Creek 32.82 330 P **P 13 09 18.0 -0.1**
baz=12,SNR=26
MOA Molln 32.82 161 *i* pP P 13 09 23.8 +5.6

comp=Z,12nm,1.0s
MOA Molln 32.82 161 *e*P **P** **13 09 19.7 +1.4**
comp=Z,44nm,1.7s,baz=356,slow=9.1
CONA Conrad Observa 32.84 159 *e*pP P 13 09 24.3 +5.9
comp=Z,22nm,1.5s
YKA Yellowknife Ar 32.85 308 P **P** **13 09 19.0 +0.7**
comp=Z,5.6nm,0.8s,baz=17,slow=9.5,SNR=7.8
YKA LR LR 13 22 29.5
comp=Z,2µm,18.5s,baz=16,slow=36
comp=Z,5.6nm,0.8s
YKA Yellowknife Ar 32.85 308 P **P** **13 09 19.0 +0.7**
RJOB Jochberg 32.86 163 *e*P **P** **13 09 20.2 +1.7**
comp=Z,5.6nm,0.8s,baz=356,slow=9.1
BIOA Bad Ischl, Aus 32.95 162 *e*pP P 13 09 26.3 +7.0
comp=Z,3.5nm,0.7s
F18K Selawik 33.00 345 P **P** **13 09 20.5 +1.0**
baz=6.7,SNR=42
RETA Reutte 33.01 165 *i* pP P 13 09 25.7 +5.8
comp=Z,11nm,1.3s
KMPD K-Podol'skiy 33.05 146 P **P** **13 09 19.5 -0.7**
H24K Noodor Dome 33.07 336 P **P** **13 09 21.8 +1.6**
baz=10.0,SNR=34
RONA Rosalia, Austr 33.09 159 *e*pP P 13 09 26.3 +5.7
comp=Z,24nm,1.7s
LESA Schwarzleotal 33.16 163 *i* pP P 13 09 27.2 +6.0
comp=Z,12nm,1.3s
MOTA Moosalm 33.17 165 *e*pP P 13 09 26.7 +5.3
comp=Z,26nm,1.3s
DAVA Damuels 33.17 167 *e*pP P 13 09 27.8 +6.3
comp=Z,22nm,1.5s
DAVA Damuels 33.17 167 *e*P **P** **13 09 23.4 +1.9**
comp=Z,34nm,1.6s,baz=356,slow=9.1
H23K Yukon River 33.20 337 P **P** **13 09 23.2 +1.8**
baz=9.5,SNR=22
WATA Walderalm 33.20 164 *e*pP P 13 09 27.5 +5.8
comp=Z,23nm,1.3s
PRP Porcupine Dome 33.21 334 P **P** **13 09 23.8 +2.2**
baz=11,SNR=36
F17K Baldwin Pennin 33.23 346 P **P** **13 09 22.5 +1.0**
baz=6.1,SNR=11
I26K Coal Creek Min 33.23 332 P **P** **13 09 23.8 +2.2**
baz=11
H22K Ishtalitna Cre 33.25 338 P **P** **13 09 23.9 +2.2**
baz=9.0,SNR=37
WRGLY Wrigley 33.27 316 IAmb IAmb 13 09 24.0
comp=Z,24nm,1.0s
WRGLY Wrigley 33.27 316 P **P** **13 09 22.9 +0.9**
baz=16,SNR=5.2
WTTA Wattenberg 33.27 164 *e*pP P 13 09 28.8 +6.4
comp=Z,22nm,1.5s
WTTA Wattenberg 33.27 164 *e*P **P** **13 09 24.5 +2.1**
comp=Z,25nm,1.3s,baz=356,slow=9.1
SQTA Sankt Quirin 33.30 165 *e*pP P 13 09 28.3 +5.8
comp=Z,8.0nm,0.9s
IMAR Indian Mountai 33.30 340 P **P** **13 09 23.2 +0.9**
G19K Purcell Mounta 33.33 343 IAmb IAmb 13 09 26.1
comp=Z,34nm,1.1s
G19K Purcell Mounta 33.33 343 P **P** **13 09 23.7 +1.3**
baz=7.3,SNR=8.1
J30M Hart River 33.35 327 IAmb IAmb 13 09 25.0
comp=Z,34nm,1.0s
J30M Hart River 33.35 327 P **P** **13 09 23.9 +1.1**
baz=13,SNR=25
FETA Feichten 33.48 166 *i* pP P 13 09 30.1 +6.0
comp=Z,7.3nm,1.1s
ARSA Arzberg 33.49 160 *e*pP **P** **13 09 27.7 +3.6**
comp=Z,5.1nm,1.1s
ARSA Arzberg 33.49 160 *e*P **P** **13 09 26.2 +2.1**
comp=Z,11nm,1.2s,baz=356,slow=9.1
KBA Koelnbreinsper 33.54 162 *i* pP **P** **13 09 28.3 +3.6**
comp=Z,14nm,1.4s
KBA Koelnbreinsper 33.54 162 *e*P **P** **13 09 27.0 +2.3**
comp=Z,28nm,1.6s,baz=356,slow=9.1
H21K Melozitna Rive 33.57 339 P **P** **13 09 26.1 +1.5**
baz=8.5,SNR=19
J29N Klondike Camp 33.65 328 IAmb IAmb 13 09 27.6
comp=Z,25nm,0.8s
J29N Klondike Camp 33.65 328 P **P** **13 09 26.1 +0.8**
baz=12
G18K Tagagawik 33.66 344 P **P** **13 09 26.7 +1.4**
baz=6.8,SNR=14
SORM Soroca 33.66 144 ⇑P P 13 09 33.8 +8.3
SORM Soroca 33.66 144 ⇑P P 13 09 33.8 +8.3
DAVOX Davos/Dischmat 33.68 167 LR LR 13 22 20.3
comp=Z,513nm,21.1s,baz=276,slow=35
POKR Poker Plat Res 33.75 335 P **P** **13 09 28.9 +2.7**
baz=9.9,SNR=30
ABTA Abfaltersbach 33.83 163 *e*pP P 13 09 32.0 +4.9
comp=Z,5.1nm,0.7s
I23K Minto, Yukon-K 33.85 337 P **P** **13 09 29.4 +2.4**
baz=9.4,SNR=53
H20K Anotlenegga Mo 33.86 341 P **P** **13 09 29.0 +1.9**
baz=7.9,SNR=47
BURAR Bucovina Array 33.88 148 ⇓P P 13 09 35.4 +7.9
BURAR Bucovina Array 33.88 148 ⇓P P 13 09 35.4 +7.9
H19K Roundabout Mou 33.91 342 P **P** **13 09 29.4 +1.9**
baz=7.4,SNR=43
TUE Stuetta 33.97 167 P **P** **13 09 25.6 -2.8**
I21K Tanana 33.99 339 P **P** **13 09 30.5 +2.3**
baz=8.7,SNR=7.2
MYKA Terra Mystica 34.01 162 *e*pP **P** **13 09 31.4 +2.8**
comp=Z,25nm,1.7s
COLA College 34.02 335 P **P** **13 09 30.6 +2.1**
COLA College 34.02 335 *d* P **P** **13 09 30.6 +2.1**
COLA pmax pmax
comp=Z,74nm,0.9s
COLA College 34.02 335 P **P** **13 09 30.5 +2.1**
baz=9.8
SOKA Soboth 34.04 160 *i* pP **P** **13 09 31.3 +2.4**
comp=Z,17nm,1.6s
ILAR Eielson Array 34.05 335 P **P** **13 09 30.8 +2.1**
ILAR Eielson Array 34.05 335 P **P** **13 09 30.4 +1.6**
comp=Z,36nm,0.9s,baz=12,slow=9.0,SNR=203
ILAR PcP **PcP** **13 12 07.0 +1.1**
comp=Z,1.6nm,0.8s,baz=331,slow=3.5,SNR=4.8
ILAR LR LR 13 22 51.5
comp=Z,210nm,21.9s,baz=25,slow=35
J26L Joseph Creek 34.06 332 IAmb IAmb 13 09 31.7
comp=Z,21nm,0.7s
J26L Joseph Creek 34.06 332 P **P** **13 09 30.8 +1.9**
baz=11,SNR=22
MLY Manley 34.06 338 IAmb IAmb 13 09 32.1
comp=Z,35nm,0.9s
MLY Manley 34.06 338 P **P** **13 09 31.0 +2.1**
baz=9.0,SNR=23
J25K Salcha River, 34.09 333 IAmb IAmb 13 09 32.5
comp=Z,41nm,1.0s
J25K Salcha River, 34.09 333 P **P** **13 09 31.3 +2.1**
baz=10,SNR=27
F15K North Star Dit 34.09 348 P **P** **13 09 31.3 +2.2**
baz=5.0,SNR=18
DAWY Dawson 34.13 329 IAmb IAmb 13 09 31.5
comp=Z,20nm,0.8s
DAWY Dawson 34.13 329 P **P** **13 09 30.5 +1.0**
baz=12,SNR=16
G17K Kiwalik Mounta 34.14 345 P **P** **13 09 30.7 +1.2**
baz=6.2,SNR=14
OBKA Obir 34.18 161 *i* pP **P** **13 09 32.8 +2.7**
comp=Z,34nm,1.5s
OBKA Obir 34.18 161 *e*P **P** **13 09 32.4 +2.3**
comp=Z,47nm,1.5s,baz=356,slow=9.1
K29M Barlow Dome 34.18 327 IAmb IAmb 13 09 32.8
comp=Z,60nm,1.2s
K29M Barlow Dome 34.18 327 P **P** **13 09 31.7 +1.7**
baz=12,SNR=28
CCB Clear Creek Bu 34.24 335 IAmb IAmb 13 09 33.3
comp=Z,59nm,1.0s
MAYO Mayo, Yukon 34.27 326 IAmb IAmb 13 09 42.2
comp=Z,41nm,0.9s
MAYO Mayo, Yukon 34.27 326 P **P** **13 09 32.4 +1.7**
baz=13,SNR=6.8
G16K Koyuk River 34.32 346 P **P** **13 09 33.2 +2.2**
baz=5.6,SNR=11
TNA Tin City 34.35 350 P **P** **13 09 32.8 +1.6**
baz=4.0
H18K Honhosa River 34.38 343 P **P** **13 09 33.4 +1.8**
baz=6.8
NEA2 Nenana 34.38 336 IAmb IAmb 13 09 34.5
comp=Z,42nm,1.1s
NEA2 Nenana 34.38 336 P **P** **13 09 33.3 +1.7**
baz=9.3,SNR=17
F14K Arctic Creek 34.39 349 P **P** **13 09 32.6 +1.0**
baz=4.5
K27K Chicken 34.40 331 P **P** **13 09 33.7 +1.9**
baz=11
HDA Harding Lake 34.41 335 P **P** **13 09 33.7 +1.8**
baz=9.9,SNR=32
DRGR 34.47 151 ⇓P P 13 09 42.0 +9.4
DRGR 34.47 151 ⇓P P 13 09 42.0 +9.4
I20K Naaghedeneel 34.53 340 P **P** **13 09 34.7 +1.8**
baz=7.8,SNR=8.9
SCRK Sand Creek 34.61 332 IAmb IAmb 13 09 36.5
comp=Z,92nm,1.9s
SCRK Sand Creek 34.61 332 P **P** **13 09 35.3 +1.6**
baz=11,SNR=12
MARR Marisel-Cluj 34.62 150 ⇓P P 13 09 42.9 +8.9
H17K Granite Mounta 34.67 344 P **P** **13 09 36.1 +2.0**
baz=6.3,SNR=20
GCSA Galena City Sc 34.71 342 P **P** **13 09 36.6 +2.2**
baz=7.1,SNR=24
MMPY Sheldon Lake, 34.75 322 IAmb IAmb 13 09 47.9
comp=Z,71nm,1.5s
MMPY Sheldon Lake, 34.75 322 P **P** **13 09 37.4 +2.5**
baz=13,SNR=11
G15K Niukluk 34.79 348 P **P** **13 09 37.4 +2.3**
baz=5.1,SNR=7.3
SIRR Siria 34.91 152 ⇑P P 13 09 44.6 +8.3
MILM Milestii Mici 34.91 144 *e*P P 13 09 43.0 +6.7
MILM *e*S S 13 15 19.0 +11
MILM LRM MLR 13 24 54.0
comp=Z,700nm,15.0s
MILM Milestii Mici 34.91 144 *e*P P 13 09 43.0 +6.7
MILM MLR MLR
comp=Z,700nm,15.0s
RIDG Independent Ri 34.91 333 IAmb IAmb 13 09 48.0
comp=Z,32nm,0.9s
RIDG Independent Ri 34.91 333 P **P** **13 09 37.9 +1.6**
baz=10,SNR=12
K24K Donnelly Dome 34.92 334 P **P** **13 09 37.8 +1.4**
baz=10
DOT Dot Lake 34.94 332 IAmb IAmb 13 09 39.6
comp=Z,38nm,0.8s
L29M L29M 34.96 327 IAmb IAmb 13 09 39.3
comp=Z,34nm,1.1s
L29M L29M 34.96 327 P **P** **13 09 38.1 +1.4**
baz=12,SNR=14
BPAW Bear Paw Mtn. 35.00 338 IAmb IAmb 13 09 40.1
comp=Z,71nm,1.2s
BPAW Bear Paw Mtn. 35.00 338 P **P** **13 09 39.0 +2.0**
baz=8.7,SNR=15
BVAR Borovoye Array 35.07 95 P **P** **13 09 38.7 +1.0**
comp=Z,2.4nm,0.8s,baz=341,slow=8.4,SNR=16
BVAR LR LR 13 27 01.9
comp=Z,718nm,18.5s,baz=329,slow=42
comp=Z,2.4nm,0.8s
H16K Elim 35.07 346 P **P** **13 09 39.3 +1.8**
baz=5.6
TESR Tescani 35.10 146 ⇑P P 13 09 46.4 +8.4
J20K Nowinta River 35.12 340 IAmb IAmb 13 09 41.4
comp=Z,40nm,1.1s
J20K Nowinta River 35.12 340 P **P** **13 09 39.9 +1.9**
baz=7.8,SNR=15
MCK McKinley 35.23 336 IAmb IAmb 13 09 41.9
comp=Z,30nm,1.0s
MCK McKinley 35.23 336 P **P** **13 09 40.6 +1.6**
baz=9.2,SNR=8.3
ANM Nome 35.27 348 P **P** **13 09 41.2 +2.0**
baz=4.6
CHUM Lake Minchumin 35.30 339 P **P** **13 09 41.6 +2.0**
baz=8.3,SNR=21
BCAR Beaver Creek A 35.33 330 P **P** **13 09 41.5 +1.7**
L27K Beaver Creek, 35.34 330 IAmb IAmb 13 09 43.2
comp=Z,42nm,0.8s
L27K Beaver Creek, 35.34 330 P **P** **13 09 41.9 +2.0**
baz=11,SNR=31
YAK Yakutsk 35.35 38 LR LR 13 22 42.6
comp=Z,328nm,21.5s,baz=348,slow=34
YAK Yakutsk 35.35 38 *e*P **P** **13 09 39.2 -0.7**
YAK *e* 13 10 56.0
YAK *e* 13 12 09.5
YAK *e*S **S** **13 15 14.4 +0.4**
YAK *e*SS **SnSn** **13 17 33.2 +1.6**
YAK pmax pmax
comp=Z,27nm,1.3s
YAK pmax pmax
comp=N,20nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,44nm,3.3s
YAK pmax pmax
comp=N,86nm,4.0s
YAK pmax pmax
comp=E,54nm,4.4s
YAK smax smax
comp=E,160nm,5.2s
YAK smax smax
comp=N,48nm,4.8s
YAK MLR MLR
comp=Z,265nm,19.0s
YAK MLR MLR
comp=N,250nm,21.0s
YAK MLR MLR
comp=E,175nm,15.0s
M30M Minto, Yukon 35.35 326 IAmb IAmb 13 09 42.8
comp=Z,46nm,1.2s
M30M Minto, Yukon 35.35 326 P **P** **13 09 41.6 +1.6**
baz=12,SNR=27
J19K Poorman 35.39 341 IAmb IAmb 13 09 44.5
comp=Z,69nm,1.1s
J19K Poorman 35.39 341 P **P** **13 09 42.6 +2.3**
baz=7.4,SNR=25
AKTO Aktyubinsk 35.48 109 LR LR 13 25 44.4
comp=Z,495nm,18.1s,baz=33,slow=39
M31M Drury Creek, Y 35.48 324 IAmb IAmb 13 09 44.5
comp=Z,74nm,1.9s
M31M Drury Creek, Y 35.48 324 P **P** **13 09 43.3 +2.1**
baz=12,SNR=12
TGTN Hyland Airport 35.49 319 P **P** **13 09 43.3 +2.1**
baz=14
L26K Log Cabin Wild 35.50 331 IAmb IAmb 13 09 45.7
comp=Z,35nm,0.9s
L26K Log Cabin Wild 35.50 331 P **P** **13 09 43.6 +2.3**
baz=10,SNR=19
DOPR Dopca 35.52 148 ⇓P P 13 09 50.6 +8.9
KTH Kantishna Hill 35.54 337 IAmb IAmb 13 09 44.5
comp=Z,75nm,1.2s
TRF Thorofare Moun 35.60 337 P **P** **13 09 45.9 +3.6**
baz=8.8,SNR=5.0
MENT Mentasta 35.62 332 IAmb IAmb 13 09 45.9
comp=Z,36nm,1.0s
M29M Somme Creek 35.64 327 IAmb IAmb 13 09 46.0
comp=Z,30nm,1.1s
M29M Somme Creek 35.64 327 P **P** **13 09 45.0 +2.3**
baz=12,SNR=18
PAX Paxson 35.73 333 IAmb IAmb 13 09 46.0
comp=Z,37nm,0.9s
PAX Paxson 35.73 333 P **P** **13 09 45.3 +2.0**
baz=9.9,SNR=16
VRI Vrincioaia 35.75 146 ⇓P P 13 09 53.1 +9.5
VRI Vrincioaia 35.75 146 ⇓P P 13 09 53.1 +10
CAST Castle Rocks 35.75 338 P **P** **13 09 45.3 +1.8**
baz=8.2,SNR=52
I17K Unalakleet 35.76 345 P **P** **13 09 43.4 -0.1**
baz=5.9
PLOR Plostina 35.76 146 ⇓P P 13 09 52.6 +8.9
PLOR Plostina 35.76 146 ⇓P P 13 09 52.6 +8.9
DHY Denali Highway 35.77 335 P **P** **13 09 44.3 +0.6**
baz=9.4,SNR=31
BVCY Beaver Creek 35.89 329 P **P** **13 09 46.8 +2.2**
baz=11,SNR=14
K20K Telida 35.94 340 P **P** **13 09 46.7 +1.7**
baz=7.7,SNR=26
J18K Innoko River 35.98 342 IAmb IAmb 13 09 48.8
comp=Z,74nm,1.2s
J18K Innoko River 35.98 342 P **P** **13 09 46.7 +1.4**
baz=7.0,SNR=12
M27K Edge Creek, AK 36.03 330 IAmb IAmb 13 09 49.8
comp=Z,56nm,1.5s
M27K Edge Creek, AK 36.03 330 P **P** **13 09 47.8 +1.8**
baz=11,SNR=5.7
MLR Muntele Rosu 36.05 147 LR LR 13 24 38.5
comp=Z,828nm,18.5s,baz=6.0,slow=36
MLR Muntele Rosu 36.05 147 ⇑P P 13 09 55.0 +8.7
MLR Muntele Rosu 36.05 147 ⇑P P 13 09 55.0 +8.7
ARR Arges 36.05 149 ⇓P P 13 09 55.5 +9.3
M26K Nabesna, AK 36.09 331 IAmb IAmb 13 09 50.1
comp=Z,44nm,0.9s
M26K Nabesna, AK 36.09 331 P **P** **13 09 49.0 +2.7**
baz=10,SNR=22
WAT1 Susitna Watana 36.10 335 P **P** **13 09 47.2 +0.8**
baz=9.1
J17K VABM Dome 36.17 344 P **P** **13 09 49.1 +2.1**
baz=6.3,SNR=21
GAMB Gambell 36.23 353 P **P** **13 09 48.4 +0.9**
baz=2.7
HARP HAARP 36.27 333 P **P** **13 09 47.5 -0.3**
baz=9.9
PPLA Purkeypile 36.28 338 P **P** **13 09 48.4 +0.3**
baz=8.1
WAT6 Susitna Watana 36.28 335 P **P** **13 09 49.6 +1.4**
baz=9.2,SNR=12
N31M Braeburn, Yuko 36.33 325 IAmb IAmb 13 09 51.3
comp=Z,44nm,1.2s
N31M Braeburn, Yuko 36.33 325 P **P** **13 09 49.6 +1.2**
baz=12,SNR=7.3
KOTAN Kotaneelee Air 36.35 315 P **P** **13 09 50.3 +1.7**
baz=14
J16K Anvik River 36.35 345 P **P** **13 09 49.8 +1.3**
baz=5.8,SNR=15
SEY Seymchan 36.36 20 LR LR 13 24 58.0
comp=Z,253nm,18.0s,baz=351,slow=37
SEY Seymchan 36.36 20 ⇓ *e*P **P** **13 09 49.3 +0.7**
SEY pmax pmax
comp=Z,12nm,1.4s
N32M Quiet Lake 36.38 323 P **P** **13 09 50.4 +1.5**
baz=12
MDVR Moldovita 36.39 153 ⇑P P 13 09 58.7 +10
N30M Aishikik Lake 36.48 326 IAmb IAmb 13 09 53.0
comp=Z,45nm,0.9s
N30M Aishikik Lake 36.48 326 P **P** **13 09 51.4 +1.7**
baz=12,SNR=23
YUK3 Moose Creek 36.48 329 P **P** **13 09 51.8 +1.8**
baz=11,SNR=6.7
M24K Tolsona, Glenn 36.63 333 IAmb IAmb 13 09 54.1
comp=Z,74nm,1.1s
M24K Tolsona, Glenn 36.63 333 P **P** **13 09 51.8 +0.8**
baz=9.6
CUT Chulitna 36.64 337 P **P** **13 09 52.1 +1.1**
baz=8.5,SNR=10
ZALV Zalesovo Beam 36.67 81 P **P** **13 09 51.5 +0.2**
ZALV Zalesovo Beam 36.67 81 P **P** **13 09 51.6 +0.3**
comp=Z,5.5nm,1.0s,baz=352,slow=8.7,SNR=14
ZALV LR LR 13 28 28.1
comp=Z,897nm,18.1s,baz=338,slow=42
comp=Z,5.5nm,1.0s
ZALV Zalesovo Beam 36.67 81 *i* P **P** **13 09 52.2 +0.9**
ZALV pmax pmax
comp=Z,6.0nm,1.0s
YUK4 Talbot Arm 36.74 327 P **P** **13 09 51.3 -0.8**
baz=11,SNR=8.4
L20K Farewell, AK 36.80 339 P **P** **13 09 54.0 +1.6**
baz=7.6,SNR=35
K17K Iditarod 36.81 343 P **P** **13 09 53.8 +1.4**
baz=6.4
YUK8 Steele Glacier 36.90 328 P **P** **13 09 55.5 +1.9**
baz=11
TPGR Topolog 36.92 145 ⇑P P 13 10 01.4 +7.8
WTLY Watson Lake, Y 36.93 319 P **P** **13 09 55.3 +1.7**
baz=13
ABKAR Akbulak array 36.94 108 P **P** **13 09 54.2 +0.5**
SCM Sheep Creek Mo 36.99 334 P **P** **13 09 55.8 +1.6**
baz=9.2,SNR=11
N25K Chitina, Valde 37.00 332 IAmb IAmb 13 09 57.2
comp=Z,40nm,1.1s
N25K Chitina, Valde 37.00 332 P **P** **13 09 55.6 +1.4**
baz=9.8,SNR=6.8
J14K Nanvaranak Lak 37.01 347 P **P** **13 09 55.5 +1.4**
baz=4.9
WHY Whitehorse 37.05 324 IAmb IAmb 13 09 56.9
comp=Z,31nm,0.8s
WHY Whitehorse 37.05 324 P **P** **13 09 56.0 +1.3**
baz=12,SNR=8.3
O30N Mendenhall 37.06 325 IAmb IAmb 13 09 57.3
comp=Z,39nm,0.8s
O30N Mendenhall 37.06 325 P **P** **13 09 56.4 +1.7**
baz=12,SNR=20
M23K Glacier View 37.06 334 P **P** **13 09 55.8 +1.1**
baz=9.1,SNR=7.3
MCARA McCarthy VSAT 37.09 331 IAmb IAmb 13 09 59.2
comp=Z,27nm,0.8s
MCARA McCarthy VSAT 37.09 331 P **P** **13 09 56.0 +1.2**
baz=10
GLB Gilahina Butte 37.10 331 IAmb IAmb 13 09 58.2
comp=Z,64nm,1.0s
YUK6 Outpost Mounta 37.11 327 P **P** **13 09 56.2 +0.9**
baz=11,SNR=14
HYT Haines Junctio 37.15 326 IAmb IAmb 13 09 58.5
comp=Z,39nm,0.9s
HYT Haines Junctio 37.15 326 P **P** **13 09 57.0 +1.5**
baz=11,SNR=20
SKT Skwentna 37.15 337 P **P** **13 09 55.7 +0.3**
baz=8.1,SNR=24
L19K White Mountain 37.15 340 IAmb IAmb 13 09 58.3
comp=Z,64nm,1.1s
L19K White Mountain 37.15 340 P **P** **13 09 57.2 +1.8**
baz=7.3,SNR=21
GHO Glory Hole Cre 37.17 335 IAmb IAmb 13 09 57.9
comp=Z,66nm,1.0s
L18K Granite Mounta 37.22 341 IAmb IAmb 13 10 00.1
comp=Z,56nm,1.1s
L18K Granite Mounta 37.22 341 P **P** **13 09 57.4 +1.5**
baz=6.8,SNR=12
KLU Klutina 37.22 333 P **P** **13 09 56.3 +0.3**
baz=9.5
P33M Teslin, Yukon 37.27 322 IAmb IAmb 13 09 59.3
comp=Z,102nm,1.9s
P33M Teslin, Yukon 37.27 322 P **P** **13 09 58.2 +1.7**
baz=12,SNR=17
M22K Willow 37.27 336 P **P** **13 09 57.6 +1.2**
baz=8.4,SNR=8.0
LIRD Liard River Hi 37.30 316 P **P** **13 09 58.4 +1.8**
baz=14
M20K Styx River 37.35 339 P **P** **13 09 58.1 +1.0**
baz=7.7,SNR=5.9
CTG Chitna Glacier 37.36 329 P **P** **13 09 58.1 +0.8**
baz=10
PMR Palmer 37.37 335 P **P** **13 09 58.1 +1.0**
baz=8.7,SNR=5.7
K15K Wolf Creek Mou 37.38 345 IAmb IAmb 13 10 00.6
comp=Z,43nm,1.2s
K15K Wolf Creek Mou 37.38 345 P **P** **13 09 59.0 +1.7**
baz=5.5,SNR=5.7
L17K Donlin 37.39 343 P **P** **13 09 58.9 +1.6**
baz=6.3,SNR=13
M19K Big River Lodg 37.40 340 P **P** **13 09 58.5 +1.0**
baz=7.3
O28M Mount Upton 37.45 328 IAmb IAmb 13 10 11.5
comp=Z,60nm,1.8s
O28M Mount Upton 37.45 328 P **P** **13 09 59.4 +1.2**
baz=11
KNK Knik Glacier 37.49 335 IAmb IAmb 13 10 00.9
comp=Z,54nm,1.2s
KNK Knik Glacier 37.49 335 P **P** **13 09 59.2 +0.9**
baz=8.8,SNR=6.0
BOD Bodaibo 37.52 53 *e*P **P** **13 09 58.1 -0.4**
BOD pmax pmax
comp=Z,17nm,1.8s
BOVS Bovan 37.52 153 ⇑P P 13 10 08.2 +9.5
FDMO Fiordimonte 37.56 163 P **P** **13 09 59.9 +0.8**
SUA Susitna One 37.60 337 P **P** **13 10 00.1 +0.8**
baz=8.2,SNR=9.3
BMRM Bremner River 37.64 332 IAmb IAmb 13 10 01.8
comp=Z,40nm,1.0s
BMRM Bremner River 37.64 332 P **P** **13 09 59.4 -0.2**
baz=9.7
CRQE Cirque 37.72 331 P **P** **13 10 01.1 +0.8**
baz=10.0,SNR=5.2
CRQM Cirque 37.72 331 IAmb IAmb 13 10 02.9
comp=Z,91nm,1.3s
TOAD Toad River Com 37.74 315 P **P** **13 10 00.8 +0.3**
baz=14,SNR=14
O29M Mount Kennedy 37.76 327 P **P** **13 10 01.1 +0.4**
baz=11,SNR=5.1
NRCA Norcia 37.77 163 P **P** **13 10 02.0 +1.1**
NRCA IAmb IAmb 13 10 12.3
comp=Z,56nm,1.2s
P30M Million Dollar 37.78 325 P **P** **13 10 01.8 +1.0**
baz=11
K13K Kusilvak Mount 37.87 348 P **P** **13 10 02.5 +1.1**
baz=4.5
L16K Owhat River 37.87 344 P **P** **13 10 02.4 +1.0**
baz=5.9,SNR=6.1
R33M Jennings River 37.87 320 P **P** **13 10 03.0 +1.4**
baz=12
M18K Stony River 37.90 341 P **P** **13 10 02.8 +1.1**
baz=6.9
RC01 Rabbit Creek A 37.91 336 P **P** **13 10 01.8 0.0**
baz=8.4
GLI Glacier Island 37.92 334 P **P** **13 10 01.9 0.0**
baz=9.1
N20K Mount Spurr 37.97 338 P **P** **13 10 01.3 -1.0**
baz=7.8

SPCR	**Spurr Chakacha**	**37.97**	**338**	P		**P**	**13 10 01.3**	**-1.0**
	baz=7.8								
P32M	**Atlin**	**37.98**	**323**	IAmb		IAmb	13 10 04.8		
	comp=Z,28nm,0.8s								
P32M	**Atlin**	**37.98**	**323**	P		**P**	**13 10 02.2**	**-0.3**
	baz=12,SNR=6.8								
L15K	**Ungalak Mounta**	**38.00**	**345**	P		**P**	**13 10 03.2**	**+0.7**
	baz=5.4,SNR=6.9								
PWL	**Port Wells**	**38.03**	**335**	P		**P**	**13 10 02.6**	**-0.3**
	baz=8.7								
M17K	**Holitna River**	**38.08**	**342**	P		**P**	**13 10 04.1**	**+0.9**
	baz=6.5,SNR=12								
PINM	**Pinnacle**	**38.12**	**328**	P		**P**	**13 10 03.1**	**-0.5**
	baz=11								
EYAK	**Cordova Ski Ar**	**38.14**	**333**	P		**P**	**13 10 04.0**	**+0.3**
	baz=9.3								
MESA	**MESA**	**38.19**	**329**	P		**P**	**13 10 04.3**	**-0.1**
	baz=10								
SKAG	**Skagway**	**38.27**	**324**	P		**P**	**13 10 04.1**	**-0.7**
	baz=12								
CAPN	**Captain Cook N**	**38.32**	**337**	P		**P**	**13 10 05.7**	**+0.5**
	baz=8.0								
P29M	**Windy Craggy**	**38.34**	**326**	P		**P**	**13 10 05.8**	**+0.3**
	baz=11								
PLBC	**Pleasant Camp**	**38.38**	**325**	P		**P**	**13 10 07.3**	**+1.5**
	baz=11,SNR=6.2								
L14K	**Kuka Creek**	**38.39**	**346**	IAmb		IAmb	13 10 08.8		
	comp=Z,101nm,1.8s								
L14K	**Kuka Creek**	**38.39**	**346**	P		**P**	**13 10 07.0**	**+1.2**
	baz=5.0								
BRZS	**Berezniki**	**38.39**	**94**	*e*P		**P**	**13 10 07.5**	**+1.5**
BRZS	**Berezniki**	**38.39**	**94**	*e*P		**P**	**13 10 07.5**	**+1.5**
Q32M	**Nakina River**	**38.44**	**321**	IAmb		IAmb	13 10 10.1		
	comp=Z,80nm,1.4s								
Q32M	**Nakina River**	**38.44**	**321**	P		**P**	**13 10 07.7**	**+1.1**
	baz=12,SNR=14								
FFC	**Flin Flon**	**38.46**	**294**	P		**P**	**13 10 04.6**	**-1.9**
FFC	**Flin Flon**	**38.46**	**294**	P		**P**	**13 10 04.6**	**-1.9**
FFC				pmax		pmax			
	comp=Z,26nm,1.2s								
PNL	**Peninsula**	**38.46**	**327**	P		**P**	**13 10 06.9**	**+0.4**
	baz=11								
N19K	**Bonanza Creek**	**38.49**	**339**	P		**P**	**13 10 06.5**	**-0.3**
	baz=7.1								
O22K	**Cooper Landing**	**38.51**	**336**	P		**P**	**13 10 07.8**	**+1.0**
	baz=8.3								
SLKM	**Skilak Lake**	**38.52**	**336**	IAmb		IAmb	13 10 09.0		
	comp=Z,57nm,1.0s								
M16K	**Timber Creek**	**38.53**	**343**	P		**P**	**13 10 07.8**	**+0.7**
	baz=6.0								
DLBC	**Dease Lake**	**38.71**	**319**	LR		LR	13 27 41.8		
	comp=Z,8µm,18.2s,baz=6.5,slow=39								
DLBC	**Dease Lake**	**38.71**	**319**	P		**P**	**13 10 10.0**	**+1.4**
	baz=12,SNR=12								
N18K	**Kilae Creek**	**38.71**	**341**	IAmb		IAmb	13 10 11.6		
	comp=Z,70nm,1.4s								
N18K	**Kilae Creek**	**38.71**	**341**	P		**P**	**13 10 09.4**	**+0.8**
	baz=6.8,SNR=6.6								
KURK	**Kurchatov**	**38.71**	**88**	P		**P**	**13 10 09.2**	**+0.7**
KURK	**Kurchatov**	**38.71**	**88**	P		**P**	**13 10 09.3**	**+0.7**
KURK				pmax		pmax			
	comp=Z,34nm,1.2s								
KURBB	**Kurchatov Arra**	**38.79**	**88**	P		**P**	**13 10 10.2**	**+1.0**
	comp=Z,9.7nm,0.8s,baz=342,slow=8.1,SNR=78								
KURBB				LR		LR	13 28 56.2		
	comp=Z,614nm,19.2s,baz=16,slow=41								
	comp=Z,9.7nm,0.8s								
SEW	**Seward**	**38.87**	**335**	P		**P**	**13 10 10.7**	**+0.9**
	baz=8.3								
N17K	**Nushagak Hills**	**38.93**	**342**	IAmb		IAmb	13 10 14.1		
	comp=Z,116nm,1.4s								
N17K	**Nushagak Hills**	**38.93**	**342**	P		**P**	**13 10 11.8**	**+1.4**
	baz=6.4,SNR=10.0								
M15K	**Kasigluk River**	**38.94**	**344**	P		**P**	**13 10 11.1**	**+0.6**
	baz=5.5,SNR=5.3								
M14K	**Bethel**	**38.95**	**345**	P		**P**	**13 10 10.2**	**-0.3**
	baz=5.2								
N16K	**Nishlik Lake**	**39.07**	**343**	P		**P**	**13 10 11.9**	**+0.4**
	baz=6.0								
BESE	**Bessie Mountai**	**39.09**	**323**	IAmb		IAmb	13 10 15.0		
	comp=Z,53nm,1.2s								
O19K	**Port Alsworth**	**39.10**	**339**	P		**P**	**13 10 11.0**	**-0.7**
	baz=7.1								
O20K	**Slope Mountain**	**39.10**	**338**	P		**P**	**13 10 11.6**	**-0.4**
	baz=7.5								
Q23K	**Middleton Isla**	**39.30**	**333**	P		**P**	**13 10 13.9**	**+0.5**
	baz=9.0								
M13K	**Dall Lake**	**39.34**	**346**	P		**P**	**13 10 14.2**	**+0.4**
	baz=4.8								
S34M	**Telegraph Cree**	**39.34**	**320**	P		**P**	**13 10 15.1**	**+1.3**
	baz=12,SNR=6.1								
R32K	**Eaglecrest**	**39.35**	**323**	P		**P**	**13 10 15.1**	**+1.1**
	baz=11,SNR=16								
N15K	**Kwethluk River**	**39.44**	**344**	P		**P**	**13 10 16.0**	**+1.4**
	baz=5.6								
HOM	**Homer**	**39.46**	**337**	P		**P**	**13 10 15.9**	**+1.1**
	baz=7.7								
M11K	**Mekoryuk**	**39.48**	**349**	P		**P**	**13 10 16.5**	**+1.7**
	baz=4.0								
KIV	**Kislovodsk**	**39.50**	**128**	*e*P		**P**	**13 10 16.2**	**+0.8**
KIV				pmax		pmax			
	comp=Z,5.0nm,1.1s								
KIV				MLR		MLR			
	comp=Z,349nm,16.0s								
P19K	**Oil Pt**	**39.57**	**338**	P		**P**	**13 10 16.2**	**+0.5**
	baz=7.3								
MA2	**Magadan**	**39.60**	**22**	LR		LR	13 25 09.6		
	comp=Z,308nm,20.9s,baz=350,slow=34								
MA2	**Magadan**	**39.60**	**22**⇓	*e*P		**P**	**13 10 18.8**	**+2.8**
MA2				pmax		pmax			
	comp=Z,21nm,1.7s								
MA2	**Magadan**	**39.60**	**22**	P		**P**	**13 10 16.5**	**+0.5**
	comp=Z,10nm,1.0s								
O17K	**Koliganek Bris**	**39.68**	**341**	P		**P**	**13 10 17.5**	**+0.9**
	baz=6.3								
KBZ	**Khabaz**	**39.75**	**128**	P		**P**	**13 10 18.9**	**+1.6**
	comp=Z,2.5nm,0.7s,baz=338,slow=4.9,SNR=8.1								
KBZ				LR		LR	13 26 44.1		
	comp=Z,560nm,19.1s,baz=336,slow=36								
	comp=Z,2.5nm,0.7s								
KBZ	**Khabaz**	**39.75**	**128***c*	*e*P		**P**	**13 10 18.9**	**+1.6**
KBZ				pmax		pmax			
	comp=Z,18nm,1.1s								
N14K	**Kuskokwak Cree**	**39.76**	**345**	P		**P**	**13 10 18.1**	**+0.9**
	baz=5.1								
S31K	**Pelican**	**39.84**	**324**	P		**P**	**13 10 18.3**	**+0.4**
	baz=11,SNR=8.5								
O16K	**Kokwok River B**	**39.91**	**342**	P		**P**	**13 10 19.6**	**+1.0**
O16K				IAmb		IAmb	13 10 24.7		
	comp=Z,82nm,1.6s								
O16K	**Kokwok River B**	**39.91**	**342**	P		**P**	**13 10 19.7**	**+1.2**
	baz=6.0								
P18K	**Big Mountain,**	**39.95**	**340**	P		**P**	**13 10 19.7**	**+0.8**
	baz=6.7								
T35M	**Bob Quinn**	**40.16**	**319**	P		**P**	**13 10 21.5**	**+0.9**
	baz=12,SNR=10								
P17K	**Kvichak River**	**40.22**	**341**	P		**P**	**13 10 21.9**	**+0.9**
	baz=6.4								
Q19K	**Cape Douglas,**	**40.32**	**338**	P		**P**	**13 10 22.2**	**+0.2**
	baz=7.1								
FNA	**Florina**	**40.33**	**154**	P		**P**	**13 10 22.6**	**+0.4**
FNA	**Florina**	**40.33**	**154**	P		**P**	**13 10 22.7**	**+0.4**
FNA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
O14K	**Tigyukauivet M**	**40.41**	**345**	P		**P**	**13 10 23.4**	**+0.7**
	baz=5.2								
O15K	**Ungalikthiuk R**	**40.42**	**343**	P		**P**	**13 10 23.2**	**+0.5**
	baz=5.5								
P16K	**Nushagak River**	**40.47**	**342**	P		**P**	**13 10 23.5**	**+0.4**
	baz=6.0								
PCBR	**Castelo Branco**	**40.48**	**188**	*e*P		**P**	**13 10 22.0**	**-1.4**
Q20K	**Shuyak Island**	**40.55**	**337**	P		**P**	**13 10 24.4**	**+0.5**
	baz=7.3								
ESDC	**Sonseca Array**	**40.58**	**184**	P		**P**	**13 10 23.4**	**-1.0**
ESDC	**Sonseca Array**	**40.58**	**184**	P		**P**	**13 10 25.1**	**+0.8**
	comp=Z,2.8nm,1.0s,baz=0.2,slow=8.2,SNR=7.7								
ESDC				LR		LR	13 25 02.3		
	comp=Z,242nm,21.0s,baz=346,slow=33								
	comp=Z,2.8nm,1.0s								
SIT	**Sitka**	**40.64**	**323**	P		**P**	**13 10 24.8**	**+0.3**
	baz=11								
Q18K	**Katmai Hardscr**	**40.68**	**339**	P		**P**	**13 10 25.9**	**+0.8**
	baz=6.7								
VLDQ	**Val d'Or**	**40.71**	**268**	P		**P**	**13 10 25.7**	**+0.4**
PSARD	**Sardoal**	**40.73**	**189**	*e*P		**P**	**13 10 28.0**	**+2.5**
Q16K	**King Salmon**	**40.75**	**341**	P		**P**	**13 10 26.1**	**+0.6**
	baz=6.3								
PMRV	**Marv??o**	**40.89**	**188**	*e*P		P	13 10 36.8	+10
PMRV				*i*		IAmb	IAmb	13 10 52.6	
	comp=Z,28nm,1.4s								
WRAK	**Wrangell Islan**	**40.95**	**321**	P		**P**	**13 10 28.0**	**+0.9**
	baz=12								
Q17K	**Contact Creek**	**41.12**	**340**	P		**P**	**13 10 29.1**	**+0.5**
	baz=6.4								
MAK	**Makhachkala**	**41.15**	**123**	*e*P		**P**	**13 10 24.5**	**-4.4**
MAK				*e*			13 12 02.3		
MAK				*e*S		**S**	**13 16 34.7**	**-7.2**
MAK				pmax		pmax			
	comp=Z,147nm,1.3s								
MAK				MLR		MLR			
	comp=Z,690nm,17.0s								
PMTG	**Montargil**	**41.27**	**189**	*e*P		**P**	**13 10 31.8**	**+1.9**
U33K	**Whale Pass**	**41.33**	**321**	P		**P**	**13 10 31.1**	**+0.8**
U33K	**Whale Pass**	**41.33**	**321**	P		**P**	**13 10 31.5**	**+1.3**
	baz=11,SNR=5.8								
KDAK	**Kodiak Island**	**41.39**	**337**	P		**P**	**13 10 31.6**	**+0.9**
KDAK	**Kodiak Island**	**41.39**	**337**	LR		LR	13 26 58.0		
	comp=Z,397nm,21.7s,baz=30,slow=35								
KDAK	**Kodiak Island**	**41.39**	**337**	P		**P**	**13 10 31.6**	**+0.9**
KDAK				pmax		pmax			
	comp=Z,76nm,0.8s								
KDAK	**Kodiak Island**	**41.39**	**337**	P		**P**	**13 10 31.8**	**+1.1**
	baz=7.2								
PESTR	**Estremoz**	**41.45**	**188**	*e*P		**P**	**13 10 34.0**	**+2.5**
IRK	**Irkutsk**	**41.50**	**64**	*e*P		**P**	**13 10 31.8**	**0.0**
IRK				*e*			13 12 06.3		
IRK				pmax		pmax			
	comp=Z,74nm,2.6s								
MOY	**Mondy**	**41.54**	**67**	*e*P		**P**	**13 10 33.8**	**+1.5**
MOY				pmax		pmax			
	comp=Z,54nm,2.5s								
R17L	**Mt. Peulik Vol**	**41.77**	**340**	P		**P**	**13 10 35.1**	**+1.1**
	baz=6.2								
ULM	**Lac du Bonnet**	**41.79**	**286**	P		**P**	**13 10 34.8**	**+0.7**
	comp=Z,8.5nm,0.7s,baz=18,slow=8.5,SNR=12								
ULM				LR		LR	13 28 05.4		
	comp=Z,1µm,18.1s,baz=12,slow=36								
	comp=Z,8.5nm,0.7s								
R16K	**Pilot Point**	**41.91**	**341**	P		**P**	**13 10 35.7**	**+0.7**
	baz=5.9								
V35K	**Ketchikan**	**41.94**	**320**	P		**P**	**13 10 36.6**	**+1.4**
	baz=11								
CRAG	**Craig**	**41.97**	**321**	P		**P**	**13 10 36.7**	**+1.3**
	baz=11								
EPLO	**Experimental L**	**41.99**	**284**	P		**P**	**13 10 36.3**	**+0.5**
EPLO				IAmb		IAmb	13 10 45.4		
	comp=Z,26nm,0.7s								
OHAK	**Old Harbor**	**41.99**	**338**	P		**P**	**13 10 36.9**	**+1.2**
	baz=6.9								
PBAR	**Barrancos**	**42.13**	**187**	*e*P		P	13 10 46.9	+10
PBAR				*i*		IAmb	IAmb	13 10 59.1	
	comp=Z,20nm,1.4s								
TBO	**Thunder Bay**	**42.25**	**280**	IAmb		IAmb	13 10 48.2		
	comp=Z,50nm,0.8s								
PBEJ	**Beja**	**42.30**	**188**	*e*P		P	13 10 43.1	+4.7
BR131	**Keskin Array S**	**42.54**	**140**⇓	*e*P		**P**	**13 10 42.8**	**+2.2**
BRTR	**Keskin Array B**	**42.55**	**140**			**P**	**13 10 40.8**	**+0.2**
BRTR	**Keskin Array B**	**42.55**	**140**	P		**P**	**13 10 41.5**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=337,slow=6.3,SNR=5.1								
BRTR				LR		LR	13 30 08.5		
	comp=Z,199nm,18.9s,baz=356,slow=39								
	comp=Z,1.0nm,0.8s								
BRTR	**Keskin Array B**	**42.55**	**140**	*i* P		**P**	**13 10 42.2**	**+1.6**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
BR104	**Keskin Array S**	**42.56**	**140**	P		**P**	**13 10 40.0**	**-0.7**
	comp=Z,85nmcomp=Z,8.3nm,1.2s								
AKT	**Akhty**	**42.63**	**124**	*e*P		**P**	**13 10 40.3**	**-0.9**
AKT				*e*			13 12 18.4		
AKT				*e*			13 12 32.7		
AKT				pmax		pmax			
	comp=Z,31nm,1.2s								
AKT				MLR		MLR			
	comp=Z,533nm,18.0s								
PCVE	**Castro Verde**	**42.70**	**188**	*e*P		P	13 10 47.8	+6.1
SII	**Sitkinak Islan**	**42.71**	**338**	P		**P**	**13 10 42.6**	**+1.0**
	baz=6.6								
SPIA	**Saint Paul Isl**	**42.81**	**351**	P		**P**	**13 10 43.0**	**+0.7**
	baz=2.7								
WVL	**Waterville**	**42.82**	**259**	IAmb		IAmb	13 10 54.7		
	comp=Z,36nm,1.0s								
ZSN	**Zaisan**	**42.94**	**83**	*e*P		**P**	**13 10 44.9**	**+1.3**
	comp=Z,15nm,0.8s								
ZSN	**Zaisan**	**42.94**	**83**	*e*P		**P**	**13 10 44.9**	**+1.3**
ZSN				pmax		pmax			
	comp=Z,15nm,0.8s								
MAKZ	**Makanchi**	**43.07**	**87**	⇓P		**P**	**13 10 45.3**	**+0.7**
MK31	**Makanchi Array**	**43.13**	**86***c*	*i*P		**P**	**13 10 45.8**	**+0.7**
MKAR	**Makanchi Array**	**43.13**	**86**	P		**P**	**13 10 45.1**	**0.0**
MKAR	**Makanchi Array**	**43.13**	**86**	P		**P**	**13 10 45.5**	**+0.3**
	comp=Z,7.7nm,0.8s,baz=347,slow=7.3,SNR=74								
MKAR				LR		LR	13 31 39.4		
	comp=Z,642nm,18.3s,baz=324,slow=40								
	comp=Z,7.7nm,0.8s								
MKAR	**Makanchi Array**	**43.13**	**86***ce*	P		**P**	**13 10 45.9**	**+0.7**
MKAR				pmax		pmax			
	comp=Z,8.0nm,0.8s								
ZAK	**Zakamensk**	**43.15**	**65**	*e*P		**P**	**13 10 45.1**	**-0.2**
ZAK				pmax		pmax			
	comp=Z,12nm,2.0s								
VAE	**Valguarnera**	**43.17**	**162**	LR		LR	13 29 09.6		
	comp=Z,399nm,18.2s,baz=318,slow=37								
ZEA	**Zeya**	**43.20**	**43**	*e*P		**P**	**13 10 47.8**	**+2.2**
ZEA				pmax		pmax			
	comp=Z,10.0nm,1.6s								
ZEA				MLR		MLR			
	comp=E,200nm,14.0s								
ZEA				MLR		MLR			
	comp=Z,200nm,19.0s								
CHGN	**Chignik**	**43.22**	**342**	P		**P**	**13 10 45.3**	**-0.3**
	baz=5.6								
EYMN	**Ely**	**43.29**	**281**	P		**P**	**13 10 47.6**	**+1.2**
EYMN				IAmb		IAmb	13 10 56.4		
	comp=Z,42nm,0.8s								
S14K	**Fog Glacier**	**43.29**	**343**	P		**P**	**13 10 47.6**	**+1.2**
	baz=5.3								
P08K	**Saint George I**	**43.37**	**351**	P		**P**	**13 10 46.7**	**-0.1**
	baz=2.9								
BTLS	**Baital**	**43.41**	**95**	*e*P		**P**	**13 10 48.7**	**+1.4**
BTLS	**Baital**	**43.41**	**95**	*e*P		**P**	**13 10 48.7**	**+1.4**
GNI	**Garni**	**43.52**	**127**	LR		LR	13 30 19.8		
	comp=Z,294nm,18.6s,baz=351,slow=38								
E46A	**Sault Ste Mari**	**43.59**	**274**	IAmb		IAmb	13 10 59.0		
	comp=Z,50nm,0.9s								
BUKO	**Buck Lake**	**43.63**	**269**	IAmb		IAmb	13 10 59.8		
	comp=Z,54nm,0.9s								
I62A	**Tamworth**	**43.77**	**260**	IAmb		IAmb	13 11 02.7		
	comp=Z,27nm,0.9s								
TDK	**Taldyqorghan**	**44.20**	**91**	*e*P		**P**	**13 10 55.3**	**+1.6**
	comp=Z,15nm,1.0s								
TDK	**Taldyqorghan**	**44.20**	**91**	*e*P		**P**	**13 10 55.3**	**+1.6**
TDK				pmax		pmax			
	comp=Z,15nm,1.0s								
SADO	**Sadowa**	**44.24**	**268**	LR		LR	13 29 14.4		
	comp=Z,7µm,21.3s,baz=22,slow=36								
SDPT	**Sand Point**	**44.27**	**343**	P		**P**	**13 10 55.4**	**+1.2**
	baz=5.0								
E38A	**The Farm, Brul**	**44.60**	**281**	P		**P**	**13 10 57.9**	**+1.1**
E38A				IAmb		IAmb	13 11 06.5		
	comp=Z,39nm,0.8s								
BBB	**Bella Bella**	**44.62**	**316**	LR		LR	13 30 38.9		
	comp=Z,693nm,18.7s,baz=22,slow=38								
BRLS	**Borolday**	**44.64**	**100**	*e*P		**P**	**13 11 00.5**	**+3.1**
BRLS	**Borolday**	**44.64**	**100**	*e*P		**P**	**13 11 00.4**	**+3.1**
COWI	**Conover**	**44.67**	**278**	IAmb		IAmb	13 11 07.0		
	comp=Z,28nm,0.9s								
KEST	**Kesra**	**44.68**	**168**	LR		LR	13 31 30.7		
	comp=Z,295nm,18.4s,baz=16,slow=39								
KKAR	**Karatay Array**	**44.69**	**99**			**P**	**13 10 58.5**	**+0.8**
KKAR	**Karatay Array**	**44.69**	**99**	P		**P**	**13 10 58.5**	**+0.8**
F42A	**Maple Grove Fa**	**44.83**	**277**	IAmb		IAmb	13 11 08.6		
	comp=Z,37nm,0.7s								
DZA	**Taraz**	**45.03**	**98**	*e*P		**P**	**13 11 01.8**	**+1.3**
	comp=Z,6.3nm,0.5s								
DZA	**Taraz**	**45.03**	**98**	*e*P		**P**	**13 11 01.7**	**+1.3**
DZA				pmax		pmax			
	comp=Z,6.0nm,0.5s								
SGDS	**Sogindy**	**45.05**	**95**	*e*P		**P**	**13 11 02.1**	**+1.4**
SGDS				*e*S		**S**	**13 17 40.0**	**+0.6**
K62A	**Royalston**	**45.10**	**261**	IAmb		IAmb	13 11 12.3		
	comp=Z,36nm,1.2s								
CHM	**Chimkent**	**45.29**	**100**	*e*P		**P**	**13 11 04.0**	**+1.5**
CHM	**Chimkent**	**45.29**	**100**	*e*P		**P**	**13 11 03.9**	**+1.5**
LLLB	**Lillooet**	**45.37**	**310**	IAmb		IAmb	13 11 14.1		
	comp=Z,30nm,1.0s								
IUG	**luzhnay**	**45.53**	**100**	*e*P		**P**	**13 11 06.0**	**+1.4**
	comp=Z,14nm,1.3s								
IUG	**luzhnay**	**45.53**	**100**	*e*P		**P**	**13 11 05.9**	**+1.4**
IUG				pmax		pmax			
	comp=Z,14nm,1.3s								
G40A	**Rib Lake**	**45.66**	**279**	P		**P**	**13 11 06.6**	**+1.2**
G40A				IAmb		IAmb	13 11 15.2		
	comp=Z,58nm,1.2s								
KPKS	**Kokpek**	**45.74**	**91**	*e*P		**P**	**13 11 07.6**	**+1.5**
KPKS	**Kokpek**	**45.74**	**91**	*e*P		**P**	**13 11 07.6**	**+1.5**
MDOK	**Medeo**	**45.75**	**93**	*e*P		**P**	**13 11 07.5**	**+1.2**
MDOK	**Medeo**	**45.75**	**93**	*e*P		**P**	**13 11 07.4**	**+1.2**
AAK	**Ala-Archa**	**45.82**	**95**			**P**	**13 11 06.7**	**-0.2**
AAK				IAmb		IAmb	13 11 10.2		
	comp=Z,69nm,1.9s								
AAK	**Ala-Archa**	**45.82**	**95**	LR		LR	13 32 48.6		
	comp=Z,693nm,19.7s,baz=342,slow=39								
AAK	**Ala-Archa**	**45.82**	**95***c*	*i*P		**P**	**13 11 08.9**	**+2.1**
AAK				pmax		pmax			
	comp=Z,25nm,1.5s								
UNV	**Unalaska Valle**	**46.03**	**348**	P		**P**	**13 11 07.6**	**-0.5**
	baz=3.5								
IDI	**Anoyia**	**46.08**	**150**	LR		LR	13 30 58.6		
	comp=Z,275nm,21.3s,baz=326,slow=37								
SATY	**Saty**	**46.09**	**91**	*e*P		**P**	**13 11 10.3**	**+1.4**
	comp=Z,9.7nm,1.2s								
SATY	**Saty**	**46.09**	**91**	*e*P		**P**	**13 11 10.3**	**+1.4**
SATY				pmax		pmax			
	comp=Z,10.0nm,1.2s								
UZB	**Uzynbulak**	**46.11**	**91**	*e*P		**P**	**13 11 10.5**	**+1.4**
UZB	**Uzynbulak**	**46.11**	**91**	*e*P		**P**	**13 11 10.4**	**+1.4**
SONM	**Songino Array**	**46.11**	**63**			**P**	**13 11 08.9**	**-0.1**
SONM	**Songino Array**	**46.11**	**63**	P		**P**	**13 11 09.9**	**+0.9**
	comp=Z,4.9nm,1.1s,baz=344,slow=9.6,SNR=19								
SONM				PP		**PP**	**13 12 56.1**	**-0.6**	
	comp=Z,1.4nm,0.8s,baz=354,slow=5.9,SNR=3.6								
SONM				LR		LR	13 32 20.2		
	comp=Z,2µm,18.3s,baz=351,slow=38								
	comp=Z,4.9nm,1.1s								
SONM	**Songino Array**	**46.11**	**63**	P		**P**	**13 11 08.9**	**-0.1**	
SONM				pmax		pmax			
	comp=Z,20nm,1.6s								
F33A	**5 Mile Ranch,**	**46.14**	**285**	IAmb		IAmb	13 11 19.2		
	comp=Z,31nm,1.1s								
SHLS	**Shalkode**	**46.17**	**90**	*e*P		**P**	**13 11 11.6**	**+2.0**
	comp=Z,11nm,1.1s								
SHLS	**Shalkode**	**46.17**	**90**	*e*P		**P**	**13 11 11.5**	**+2.0**
SHLS				pmax		pmax			
	comp=Z,11nm,1.1s								
ULN	**Ulaanbaatar**	**46.18**	**63**			**P**	**13 11 10.0**	**+0.4**
ULN				IAmb		IAmb	13 11 12.3		
	comp=Z,22nm,1.1s								
ULN	**Ulaanbaatar**	**46.18**	**63**	P		**P**	**13 11 10.0**	**+0.4**
ULN				pmax		pmax			
	comp=Z,22nm,1.2s								
BINY	**Binghamton**	**46.20**	**264**	P		**P**	**13 11 09.5**	**-0.1**
PEA0B	**Petropavlovsk-**	**46.46**	**18**⇓	*e*P		**P**	**13 11 11.7**	**+0.2**
PETK	**Petropavlovsk-**	**46.46**	**18**			**P**	**13 11 10.3**	**-1.2**
PETK	**Petropavlovsk-**	**46.46**	**18**	P		**P**	**13 11 11.5**	**0.0**
	comp=Z,2.6nm,0.7s,baz=323,slow=2.2,SNR=5.9								
PETK				LR		LR	13 29 00.3		
	comp=Z,271nm,20.9s,baz=352,slow=34								
	comp=Z,2.6nm,0.7s								
PET	**Petropavlovsk**	**46.59**	**17**	*e*P		**P**	**13 11 10.5**	**-2.0**
PET				*e*S		**S**	**13 17 56.7**	**-4.4**
PET				MLR		MLR			
	comp=Z,100nm,13.0s								
PET				MLR		MLR			
	comp=Z,200nm,13.0s								
WMQ	**Urumqi**	**46.95**	**82**	*e*P		**P**	**13 11 17.6**	**+2.1**
WMQ				pmax		pmax			
	comp=Z,23nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,220nm,3.7s								
WMQ				LR		LR			
	comp=Z,1µm,15.7s								
WMQ				LR		LR			
	comp=Z,2µm,13.7s								
WMQ				LR		LR			
	comp=Z,670nm,18.7s								
NEW	**Newport**	**47.02**	**305**	IAmb		IAmb	13 11 27.4		
	comp=Z,33nm,0.9s								
A04D	**Lummi Island**	**47.33**	**310**	IAmb		IAmb	13 11 31.0		
	comp=Z,21nm,1.3s								
SHEM	**Shemya Is, Ala**	**47.37**	**4**	LR		LR	13 29 43.7		
	comp=Z,130nm,21.8s,baz=322,slow=34								
CLRS	**Cowichan Lake**	**47.42**	**311**	IAmb		IAmb	13 11 30.1		
	comp=Z,24nm,1.0s								
PMOZ	**Porto Moniz, M**	**47.86**	**199**	*e*P		P	13 11 27.4	+4.7

comp=Z,270nm,17.9s
BNX LR LR
comp=Z,460nm,16.1s
BNX LR LR
comp=Z,370nm,18.6s
PDAR Pinedale Array 51.27 297 P **P** **13 11 49.7 +0.8**
comp=Z,5.1nm,1.0s,baz=8.7,slow=7.5,SNR=14
PDAR LR LR 13 33 53.9
comp=Z,665nm,18.3s,baz=3.5,slow=36
comp=Z,5.1nm,1.0s
XLT XiLinHaoTe 51.40 56 *e*P **P** **13 11 51.1 +1.5**
XLT sS sS 13 19 22.6 +11
XLT pmax pmax
comp=Z,8.0nm,1.3s
XLT pmax pmax
comp=Z,110nm,3.7s
XLT LR LR
comp=Z,930nm,14.1s
XLT LR LR
comp=Z,450nm,20.9s
R50A Paris 51.45 271 IAmb IAmb 13 11 60.0
comp=Z,29nm,0.7s
H04D Lebanon 51.46 309 IAmb IAmb 13 12 00.8
comp=Z,24nm,0.8s
YSS Yuzhno-Sakhali 51.52 31⇓ *e*P **P** **13 11 52.9 +2.6**
YSS pmax pmax
comp=Z,34nm,1.6s
T59A Double "B" Far 51.55 264 IAmb IAmb 13 12 01.4
comp=Z,34nm,0.8s
P40A Paris 51.56 279 IAmb IAmb 13 11 59.7
comp=Z,38nm,0.8s
R49A Shelbyville 51.58 272 IAmb IAmb 13 12 00.6
comp=Z,50nm,1.1s
Q44A Meyer Farm, Va 51.65 276 IAmb IAmb 13 12 01.4
comp=Z,43nm,1.0s
OLIL Olney 51.66 275 IAmb IAmb 13 12 01.1
comp=Z,39nm,1.0s
P38A Dawn 51.72 281 IAmb IAmb 13 12 01.0
comp=Z,38nm,0.9s
WCI Wyandotte Cave 51.84 273 P **P** **13 11 53.2 +0.4**
WCI IAmb IAmb 13 12 04.3
comp=Z,22nm,0.8s
WCI Wyandotte Cave 51.84 273 P **P** **13 11 53.2 +0.4**
WCI pmax pmax
comp=Z,22nm,0.8s
OGNE Ogallala 51.85 289 IAmb IAmb 13 12 02.9
comp=Z,38nm,0.9s
S51A Beattyville 51.95 270 IAmb IAmb 13 12 03.6
comp=Z,23nm,0.8s
J05D Fort Rock, OR 52.47 307 IAmb IAmb 13 12 10.2
comp=Z,37nm,1.0s
J04A Umpqua Nationa 52.63 308 IAmb IAmb 13 12 10.1
comp=Z,24nm,0.9s
HWUT Hardware Ranch 52.71 298 IAmb IAmb 13 12 10.5
comp=Z,42nm,1.3s
CN2 Changchun 52.76 47 *e*P **P** **13 11 59.8 +0.2**
CN2 *e*S **S** **13 19 30.7 +3.2**
CN2 SS **SS** **13 23 05.8 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,400nm,17.6s
T50A Nancy 52.76 271 IAmb IAmb 13 12 09.3
comp=Z,28nm,0.9s
CCM Cathedral Cave 52.86 278 P **P** **13 12 00.8 +0.4**
CCM IAmb IAmb 13 12 09.4
comp=Z,36nm,0.8s
CCM Cathedral Cave 52.86 278 P **P** **13 12 00.8 +0.4**
CCM pmax pmax
comp=Z,36nm,0.8s
K05A Summer Lake 52.97 307 IAmb IAmb 13 12 13.5
comp=Z,31nm,1.1s
USRK Ussuriysk Ar. 53.15 41 P **P** **13 12 04.2 +1.7**
comp=Z,1.6nm,0.8s,baz=335,slow=6.4,SNR=7.6
comp=Z,1.6nm,0.8s
T47A Sharon Grove 53.19 274 IAmb IAmb 13 12 12.8
comp=Z,46nm,1.4s
GTA Gaotai 53.28 72 P **P** **13 12 03.9 +0.2**
GTA sP pwP 13 12 12.5 +4.2
GTA S **S** **13 19 37.3 +2.3**
GTA pmax pmax
comp=Z,14nm,1.4s
GTA LR LR
comp=Z,470nm,19.1s
GTA LR LR
comp=Z,1μm,18.3s
GTA LR LR
comp=Z,1μm,17.1s
BSUT Blindstream Ca 53.63 297 IAmb IAmb 13 12 17.8
comp=Z,43nm,1.2s
HHC Hu-ho-hao-te 53.72 60 *e*P **P** **13 12 06.2 -0.7**
HHC PP **PP** **13 14 10.2 +2.9**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,65nm,5.2s
HHC LR LR
comp=Z,590nm,19.3s
HHC LR LR
comp=Z,730nm,15.1s
HHC LR LR
comp=Z,1μm,19.3s
BTO Baotou 53.73 62 *e*P **P** **13 12 06.4 -0.5**
BTO pP **sP** **13 12 10.3 +1.6**
BTO sP **pwP** **13 12 14.3 +2.8**
BTO PP **PP** **13 14 07.5 +0.1**
BTO S **S** **13 19 40.2 -0.9**
BTO pmax pmax
comp=Z,24nm,0.7s
BTO pmax pmax
comp=Z,210nm,3.9s
BTO LR LR
comp=Z,920nm,21.5s
BTO LR LR
comp=Z,840nm,16.7s
BTO LR LR
comp=Z,1μm,21.2s
TKL Tuckaleechee C 53.91 270 IAmb IAmb 13 12 18.4
comp=Z,21nm,0.8s
TKL Tuckaleechee C 53.91 270 LR LR 13 36 19.8
comp=Z,399nm,18.2s,baz=18,slow=37
PBMO Poplar Bluff 53.96 277 IAmb IAmb 13 12 17.9
comp=Z,36nm,1.0s
ELK Elko 54.11 301 LR LR 13 35 26.5
comp=Z,625nm,18.1s,baz=14,slow=36
YBH Yreka Blue Hor 54.20 308 LR LR 13 35 54.5
comp=Z,49nm,18.3s,baz=6.5,slow=37
MPU Maple Canyon 54.28 298 P **P** **13 12 09.4 -1.6**
ASAJ Asahikawa 54.32 32 LR LR 13 36 57.7
comp=Z,393nm,18.1s,baz=15,slow=38
V48A Smith Brothers 54.35 273 IAmb IAmb 13 12 20.9
comp=Z,20nm,1.0s
P18A Preston Nutter 54.44 296 IAmb IAmb 13 12 23.4
comp=Z,42nm,1.8s
KRMB Red Mountain 54.56 309 IAmb IAmb 13 12 31.1
comp=Z,48nm,1.7s
W50A Signal Mountai 54.62 271 IAmb IAmb 13 12 28.9
comp=Z,15nm,0.9s
SWET Sewanee 54.71 272 IAmb IAmb 13 12 37.0
comp=Z,79nm,1.9s
TMUT Trail Mountain 54.92 297 IAmb IAmb 13 12 26.6
comp=Z,15nm,0.9s
HATC Hat Creek Radi 54.92 307 IAmb IAmb 13 12 26.6
comp=Z,21nm,0.9s
HODGE Hodges 55.04 268 IAmb IAmb 13 12 26.4
comp=Z,18nm,0.9s
FCAR Ozark Folk Cen 55.12 278 IAmb IAmb 13 12 25.9
comp=Z,34nm,0.8s
KHMM Horse Mountain 55.18 309 IAmb IAmb 13 12 28.6
comp=Z,20nm,1.2s
Q16A Castle Valley 55.28 297 IAmb IAmb 13 12 29.3
comp=Z,29nm,1.0s
PLAL Pickwick Lake 55.31 274 IAmb IAmb 13 12 27.2
comp=Z,19nm,1.1s
PV07 Paradox Valley 55.36 295 IAmb IAmb 13 12 31.6
comp=Z,23nm,1.0s
PV15 Paradox Valley 55.43 294 IAmb IAmb 13 12 29.8
comp=Z,28nm,0.8s
O03E Paynes Creek 55.48 307 IAmb IAmb 13 12 30.8
comp=Z,34nm,1.2s
CROK Carrier 55.51 284 P **P** **13 12 20.0 +0.2**

SDCO Great Sand Dun 55.54 292 IAmb IAmb 13 12 30.4
comp=Z,21nm,0.9s
PV03 Paradox Valley 55.57 295 IAmb IAmb 13 12 30.9
comp=Z,37nm,1.0s
GOMU GeErMu 55.58 77 P **P** **13 12 21.6 +0.9**
GOMU pP pwP 13 12 26.0 +0.7
GOMU sP sP 13 12 29.4 +6.9
GOMU SS **SS** **13 23 44.7 -6.1**
GOMU pmax pmax
comp=Z,11nm,1.3s
GOMU LR LR
comp=Z,960nm,19.2s
GOMU LR LR
comp=Z,750nm,19.5s
GOMU LR LR
comp=Z,750nm,19.7s
TUL3 Leonard 55.72 282 IAmb IAmb 13 12 30.3
comp=Z,23nm,1.0s
S22A 4UR Ranch, Cre 55.75 293 IAmb IAmb 13 12 32.6
comp=Z,23nm,1.1s
TCRU Three Creeks R 55.78 298 IAmb IAmb 13 12 35.5
comp=Z,35nm,1.2s
GOGA Godfrey 56.05 269 P **P** **13 12 24.4 +0.8**
GOGA IAmb IAmb 13 12 33.0
comp=Z,26nm,1.0s
GOGA Godfrey 56.05 269 P **P** **13 12 24.4 +0.8**
GOGA pmax pmax
comp=Z,26nm,1.0s
PSUT Pine Spring 56.07 299 IAmb IAmb 13 12 34.8
comp=Z,19nm,0.9s
Y49A Blount Mountai 56.12 272 IAmb IAmb 13 12 33.0
comp=Z,13nm,0.7s
Q09A Carvers 56.26 303 IAmb IAmb 13 12 40.4
comp=Z,26nm,1.0s
MTPU Mount Pierson 56.30 298 IAmb IAmb 13 12 38.0
comp=Z,20nm,1.1s
MVCO Mesa Verde 56.54 294 IAmb IAmb 13 12 38.3
comp=Z,22nm,0.9s
X40A Basin Creek Fa 56.61 279 IAmb IAmb 13 12 38.1
comp=Z,26nm,0.6s
AFDM Forest Hills D 56.69 306 IAmb IAmb 13 12 38.4
comp=Z,21nm,1.2s
NVAR Mina Array Bea 56.82 304 P **P** **13 12 30.9 +1.5**
comp=Z,7.1nm,0.9s,baz=13,slow=8.0,SNR=32
NVAR LR LR 13 37 54.7
comp=Z,480nm,19.6s,baz=11,slow=37
comp=Z,7.1nm,0.9s
MNRC Mcdaughlin Min 56.96 307 IAmb IAmb 13 12 49.5
comp=Z,19nm,1.0s
DL2 Dalian 57.07 52 P **P** **13 12 29.0 -1.8**
DL2 S **S** **13 20 27.7 +2.2**
DL2 pmax pmax
comp=Z,20nm,1.2s
DL2 pmax pmax
comp=Z,160nm,4.0s
DL2 LR LR
comp=Z,120nm,16.6s
DL2 LR LR
comp=Z,670nm,16.6s
DL2 LR LR
comp=Z,530nm,18.1s
GDXM Geysers 57.08 308 IAmb IAmb 13 12 43.4
comp=Z,24nm,1.4s
LZH Lanzhou 57.18 69 *e*P **P** **13 12 33.0 +1.1**
LZH sP pwP 13 12 41.8 +5.3
LZH pmax pmax
comp=Z,19nm,1.2s
LZH LR LR
comp=Z,940nm,15.5s
LZH LR LR
comp=Z,1μm,14.1s
LZH LR LR
comp=Z,1μm,15.1s
S11A Rachel 57.22 301 IAmb IAmb 13 13 11.7
comp=Z,19nm,1.0s
LZDM Lanzhou Array 57.28 69 P **P** **13 12 33.1 +0.2**
comp=Z,1.3nm,0.4s,baz=330,slow=8.3,SNR=1.2
LZDM LR LR 13 39 24.3
comp=Z,549nm,19.6s,baz=315,slow=38
comp=Z,1.3nm,0.4s
WMOK Wichita Mounta 57.37 284 IAmb IAmb 13 12 43.8
comp=Z,27nm,1.0s
KNB Kanab 57.40 298 IAmb IAmb 13 12 45.1
comp=Z,45nm,1.3s
LCMT Little Creek M 57.47 299 IAmb IAmb 13 12 45.0
comp=Z,19nm,1.3s
HNS HongShan 57.57 58⇓ P **P** **13 12 36.3 +1.9**
HNS pmax pmax
comp=Z,17nm,1.2s
HNS LR LR
comp=Z,450nm,15.2s
HNS LR LR
comp=Z,450nm,14.2s
HNS LR LR
comp=Z,580nm,18.4s
U15A North Rim 57.89 298 IAmb IAmb 13 12 47.2
comp=Z,17nm,0.9s
WTFS Witchita Falls 58.27 284 P **P** **13 12 38.7 -0.7**
WTFS IAmb IAmb 13 12 50.5
comp=Z,35nm,0.9s
ANMO Albuquerque 58.43 292 P **P** **13 12 40.9 +0.2**
ANMO Albuquerque 58.43 292 LR LR 13 38 24.4
comp=Z,1μm,18.0s,baz=112,slow=37
ANMO Albuquerque 58.43 292 P **P** **13 12 40.9 +0.2**
ANMO pmax pmax
comp=Z,13nm,1.0s
CWC Cottonwood Cre 58.74 303 IAmb IAmb 13 12 55.1
comp=Z,52nm,1.7s
DKNS Dickens 58.77 286 P **P** **13 12 42.8 -0.2**
MSTX Muleshoe 58.78 288 P **P** **13 12 41.2 -1.9**
MSTX IAmb IAmb 13 12 53.0
comp=Z,19nm,1.0s
V12A Nelson 58.97 300 IAmb IAmb 13 12 55.3
comp=Z,24nm,0.9s
SHOC Shoshone, Teco 59.01 301 IAmb IAmb 13 12 55.7
comp=Z,17nm,1.0s
MPMC Manual Prospec 59.03 302 IAmb IAmb 13 12 56.2
comp=Z,25nm,1.0s
QSM Queen of Sheba 59.03 302 IAmb IAmb 13 12 56.0
comp=Z,37nm,1.2s
TIA Tai'an 59.09 56 P **P** **13 12 45.8 +0.8**
TIA pP **pwP** **13 12 51.4 +1.7**
TIA S **S** **13 20 57.3 +5.3**
TIA pmax pmax
comp=Z,12nm,1.2s
TIA pmax pmax
comp=Z,140nm,5.0s
TIA LR LR
comp=Z,450nm,15.7s
TIA LR LR
comp=Z,780nm,15.9s
TIA LR LR
comp=Z,870nm,20.8s
PLPT Palo Pinto 59.17 283 P **P** **13 12 48.2 +2.6**
KSRS Korea Array 59.32 46 P **P** **13 12 46.2 -0.4**
comp=Z,1.2nm,0.8s,baz=353,slow=7.4,SNR=5.2
comp=Z,1.2nm,0.8s
PMPB Monarch Peak 59.35 305 IAmb IAmb 13 13 04.1
comp=Z,36nm,1.0s
Y22A Socorro 59.50 292 P **P** **13 12 48.0 -0.1**
Y22A IAmb IAmb 13 12 58.3
comp=Z,17nm,0.8s
CCCA Chr Cany lake 59.54 302 IAmb IAmb 13 12 60.0
comp=Z,23nm,0.9s
ISA Isabella, Lake 59.56 303 IAmb IAmb 13 12 59.9
comp=Z,18nm,1.1s
ABTX Abilene, Hawle 59.58 285 P **P** **13 12 48.1 -0.4**
ABTX IAmb IAmb 13 12 59.2
comp=Z,21nm,1.0s
GSC Goldstone, Bar 59.67 302 IAmb IAmb 13 13 00.3
comp=Z,16nm,0.9s
RAYN Ar Rayn 59.98 130 P **P** **13 12 50.5 -0.9**
RAYN Ar Rayn 59.98 130 P **P** **13 12 50.5 -0.9**
RAYN pmax pmax
comp=Z,13nm,1.4s
XAN Xi'an 59.99 64⇓ P **P** **13 12 52.3 +1.0**
XAN pmax pmax
comp=Z,13nm,1.6s
XAN LR LR
comp=Z,2μm,18.5s
XAN LR LR
comp=Z,920nm,14.4s
XAN LR LR
comp=Z,2μm,18.5s
Y14A Wickenburg 60.44 298 IAmb IAmb 13 13 05.4
comp=Z,16nm,1.0s
ODSA Odessa 60.56 287 P **P** **13 12 53.6 -1.6**

ODSA IAmb IAmb 13 13 05.3
comp=Z,15nm,0.8s
BRDY Brady 60.78 284 IAmb IAmb 13 13 07.3
comp=Z,15nm,0.8s
MWC Mount Wilson 60.92 302 IAmb IAmb 13 13 09.4
comp=Z,32nm,1.2s
PFO Pinyon Flats O 61.28 301 P **P** **13 12 58.6 -1.7**
PFO Pinyon Flats O 61.28 301 LR LR 13 41 34.8
comp=Z,415nm,18.2s,baz=318,slow=38
PFO Pinyon Flats O 61.28 301 P **P** **13 12 58.6 -1.7**
PFO pmax pmax
comp=Z,8.0nm,1.0s
DNR Dunn Ranch,Anz 61.35 301 IAmb IAmb 13 13 13.2
comp=Z,20nm,1.0s
MNHN Monahans 61.35 287 IAmb IAmb 13 13 10.6
comp=Z,24nm,1.0s
MAJO Matsushiro 61.40 37⇑ *e*P **P** **13 13 03.6 +2.8**
MAJO pmax pmax
comp=Z,13nm,1.6s
MJAR Matsushiro Arr 61.40 37 P **P** **13 13 02.0 +1.1**
comp=Z,0.6nm,0.3s,baz=347,slow=7.2,SNR=6.5
MJAR LR LR 13 40 15.0
comp=Z,225nm,19.4s,baz=360,slow=37
comp=Z,0.6nm,0.3s
MJAR Matsushiro Arr 61.40 37 P **P** **13 13 02.0 +1.1**
OZNA Ozona 61.49 286 IAmb IAmb 13 13 15.4
comp=Z,20nm,0.8s
PECS Pecos 61.51 288 IAmb IAmb 13 13 12.0
comp=Z,34nm,1.4s
HKT Hockley 61.55 280 P **P** **13 12 59.5 -2.3**
HKT IAmb IAmb 13 13 17.3
comp=Z,17nm,1.1s
HKT Hockley 61.55 280 P **P** **13 12 59.5 -2.3**
HKT pmax pmax
comp=Z,17nm,1.2s
GLA Glamis 61.59 299 IAmb IAmb 13 13 13.1
comp=Z,12nm,0.9s
TUC Tucson 61.70 295 P **P** **13 13 03.6 +0.6**
TUC IAmb IAmb 13 13 13.8
comp=Z,23nm,1.0s
TUC Tucson 61.70 295 P **P** **13 13 03.6 +0.6**
TUC pmax pmax
comp=Z,23nm,1.0s
JCT Junction City 61.70 284 IAmb IAmb 13 13 13.9
comp=Z,27nm,0.9s
BAR Barrett 62.23 301 IAmb IAmb 13 13 18.0
comp=Z,14nm,1.1s
CD2 Chengdu 62.23 70 P **P** **13 13 06.9 +0.3**
CD2 S **S** **13 21 35.6 +3.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,1μm,15.1s
CD2 LR LR
comp=Z,2μm,16.7s
CD2 LR LR
comp=Z,1μm,15.7s
ALPN Alpine 62.44 288 IAmb IAmb 13 13 18.3
comp=Z,24nm,1.0s
HNDO Hondo 62.55 284 IAmb IAmb 13 13 19.6
comp=Z,15nm,1.2s
CBX Cerro Bola 62.59 301 IAmb IAmb 13 13 20.1
comp=Z,13nm,0.9s
SAND Sanderson 62.60 287 P **P** **13 13 08.4 -0.7**
SAND IAmb IAmb 13 13 19.8
comp=Z,33nm,1.9s
NJ2 Nanjing 63.42 56 *e*P **P** **13 13 13.1 -1.3**
NJ2 pmax pmax
comp=Z,11nm,0.7s
NJ2 LR LR
comp=Z,440nm,15.6s
NJ2 LR LR
comp=Z,500nm,18.0s
NJ2 LR LR
comp=Z,470nm,17.1s
TXAR Lajitas Array 63.47 288 P **P** **13 13 14.9 0.0**
TXAR Lajitas Array 63.47 288 P **P** **13 13 15.6 +0.8**
comp=Z,5.0nm,0.8s,baz=21,slow=6.3,SNR=22
TXAR LR LR 13 41 47.9
comp=Z,459nm,19.1s,baz=8.5,slow=37
comp=Z,5.0nm,0.8s
TXAR Lajitas Array 63.47 288 P **P** **13 13 14.9 0.0**
833A Chaparral WMA, 63.74 284 IAmb IAmb 13 13 27.7
comp=Z,19nm,0.9s
JNU Nakatsue 63.95 44 LR LR 13 40 39.5
comp=Z,132nm,20.9s,baz=355,slow=36
HSIG 64.94 295 IAmb IAmb 13 13 35.0
comp=Z,26nm,0.9s
JHJ2 Mitsune 64.96 36 *e*LR LR 13 32 45.8
comp=Z,20nm,22.4s
SHL Shillong 65.47 83 P **P** **13 13 27.0 -1.1**
SHL Shillong 65.47 83 P **P** **13 13 27.0 -1.1**
SHL pmax pmax
comp=Z,61nm,1.9s
PZH PanZhiHua 66.22 73 P **P** **13 13 34.6 +1.8**
TORD Torodi Ar. Bea 67.00 177 P **P** **13 13 38.3 +0.5**
comp=Z,2.0nm,0.6s,baz=358,slow=6.1,SNR=10
comp=Z,2.0nm,0.6s
SJG San Juan 68.09 249 LR LR 13 44 06.1
comp=Z,141nm,19.3s,baz=350,slow=36
BRDH Bariadhala 68.25 83 LR LR 13 46 48.7
comp=Z,319nm,19.6s,baz=356,slow=39
LPIG La Paz 69.67 293 LR LR 13 45 27.3
comp=Z,1μm,18.2s,baz=14,slow=37
JOW Kunigami 69.84 48 *e*LR LR 13 35 02.2
comp=Z,285nm,22.4s
JOW Kunigami 69.84 48 LR LR 13 45 49.8
comp=Z,281nm,18.8s,baz=138,slow=37
SLBS Sierra La Lagu 70.02 293 P **P** **13 13 57.3 +0.6**
SLBS IAmb IAmb 13 14 07.9
comp=Z,18nm,0.8s
HYB Hyderabad 71.14 97 *e*P **P** **13 14 03.9 +0.4**
HYB *e*S **S** **13 23 21.1 +0.7**
CHTO Chiang Mai 73.28 77 P **P** **13 14 15.4 -0.9**
CHTO IAmb IAmb 13 14 17.0
comp=Z,27nm,1.7s
CHTO Chiang Mai 73.28 77 P **P** **13 14 15.4 -0.9**
CHTO pmax pmax
comp=Z,27nm,1.7s
DBIC Dimbokro 73.45 184 LR LR 13 46 15.6
comp=Z,176nm,18.5s,baz=25,slow=36
FURI Furi 73.57 139 LR LR 13 48 56.7
comp=Z,117nm,20.0s,baz=4.0,slow=38
CMAR Chiang Mai Arr 73.62 77 P **P** **13 14 17.6 -0.7**
CMAR Chiang Mai Arr 73.62 77 P **P** **13 14 17.8 -0.5**
comp=Z,3.6nm,1.1s,baz=353,slow=5.4,SNR=14
CMAR LR LR 13 49 55.5
comp=Z,370nm,19.6s,baz=325,slow=38
comp=Z,3.6nm,1.1s
CMAR Chiang Mai Arr 73.62 77 *i* P **P** **13 14 18.1 -0.2**
CMAR pmax pmax
comp=Z,3.0nm,1.0s
CMIG Matias Romero 73.97 277 LR LR 13 51 16.8
comp=Z,307nm,19.4s,baz=352,slow=39
QIZ Qiongzhong 74.85 66 P **P** **13 14 21.8 -3.6**
QIZ S **S** **13 24 01.4 -1.1**
QIZ LR LR
comp=Z,840nm,16.6s
QIZ LR LR
comp=Z,640nm,17.2s
QIZ LR LR
comp=Z,970nm,20.6s
PCRV Puerto La Cruz 75.63 246 LR LR 13 45 20.6
comp=Z,179nm,21.5s,slow=34
SDV Santo Domingo 77.86 251 LR LR 13 47 31.7
comp=Z,246nm,21.9s,baz=42,slow=34
MDP Montagnes des 78.84 233 LR LR 13 45 34.2
comp=Z,101nm,20.1s,baz=358,slow=33
JTS Las Juntas de 78.91 266 LR LR 13 52 18.4
comp=Z,308nm,18.8s,baz=352,slow=38
POHA Pohakuloa 79.40 336 *e*LR LR 13 39 27.5
comp=Z,6.8nm,24.3s
RUSC La Rusia 81.20 253 P **P** **13 15 00.5 -0.8**
RUSC IAmb IAmb 13 15 14.8
comp=Z,45nm,1.1s
JOHN Johnston Islan 83.13 349 *e*LR LR 13 41 13.6
comp=Z,203nm,24.2s
GUMO Guam 84.78 33 LR LR 13 59 09.4
comp=Z,29nm,19.0s,baz=30,slow=40
RCBR Riachuelo 87.62 215 LR LR 13 48 15.6
comp=Z,54nm,19.3s,baz=54,slow=31
DAV Davao City (W) 88.94 53 LR LR 13 58 25.3
comp=Z,106nm,19.5s,baz=324,slow=38
PSI Prapat 88.95 80 LR LR 14 01 30.9
comp=Z,252nm,18.2s,baz=309,slow=40
ATAH Atahualpa 94.84 256 LR LR 14 00 35.5
comp=Z,85nm,20.7s,baz=26,slow=37

XMAS	**Kiritimati**		**97.09 336**	*e*SS		SS	13 34 15.7	-0.5
	comp=Z,3.6nm,25.0s							
XMAS	**Kiritimati**		**97.09 336**	*e*LR		LR	13 47 43.7	
	comp=Z,9.7nm,31.0s							
BDFB	**Brasilia**		**98.66 226**	LR		LR	13 57 15.1	
	comp=Z,74nm,18.4s,baz=337,slow=33							
NNA	**Nana**		**99.33 254**	LR		LR	14 02 30.9	
	comp=Z,93nm,20.2s,baz=360,slow=36							
TSUM	**Tsumeb**		**99.62 162**	LR		LR	14 03 03.4	
	comp=Z,52nm,19.4s,baz=329,slow=36							
LEM	**Lembang**		**99.83 73**	LR		LR	14 07 57.9	
	comp=Z,251nm,18.9s,baz=335,slow=39							
KAPI	**Kappang**		**99.98 60**	LR		LR	14 06 39.2	
	comp=Z,165nm,18.2s,baz=314,slow=38							
TAOE	**Nuku Hiva Isla**		**106.26 318**	*e*SS		SS	13 36 30.8	+7.1
	comp=Z,98nm,27.3s							
TAOE	**Nuku Hiva Isla**		**106.26 318**	*e*LR		LR	13 52 03.2	
	comp=Z,269nm,31.0s							
PPT2	**Papeete2**		**115.89 327**	*e*LR		LR	13 56 21.9	
	comp=Z,178nm,24.0s							
PPT2				*e*LR		LR	13 56 22.2	
	comp=Z,180nm,22.8s							
WRA	**Warramunga Arr**		**116.70 48**	PKP		**PKiKP**	**13 21 30.1**	**+1.2**
	comp=Z,0.3nm,0.9s,baz=337,slow=2.8,SNR=1.9							
NIUE	**Niue**		**118.71 348**	*e*SS		SS	13 39 10.3	+1.5
	comp=Z,144nm,25.9s							
NIUE	**Niue**		**118.71 348**	*e*LR		LR	13 57 46.1	
	comp=Z,202nm,26.2s							
RKT	**Rikitea**		**119.68 310**	*e*LR		LR	13 58 02.1	
	comp=Z,11μm,38.0s							
RAR	**Rarotonga**		**120.31 337**	*e*LR		LR	13 58 17.5	
	comp=Z,226nm,22.0s							
ASAR	**Alice Springs**		**120.32 49**	PKP		**PKPdf**	**13 21 35.2**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=2.2,slow=1.8,SNR=11							
TBI	**Tubuai**		**121.58 326**	*e*LR		LR	13 59 08.7	
	comp=Z,1μm,35.8s							
DZM	**Mont Dzumac**		**121.62 14**	*e*LR		LR	13 59 09.6	
	comp=Z,178nm,26.5s							
BLDU	**Ballidu**		**124.62 68**	P		**PKiKP**	**13 21 48.0**	**+4.0**
NFK	**Norfolk Island**		**128.62 13**	*e*LR		LR	14 02 15.6	
SNZO	**South Karori**		**141.03 5**	*e*LR		LR	14 08 04.7	
	comp=Z,8.6nm,33.0s							
PMSA	**Palmer Station**		**148.93 228**	*e*LR		LR	14 11 45.3	
	comp=Z,179nm,29.0s							
SYO	**Syowa Base**		**150.63 152**	*e*pPKPbc		pPKPbc	13 22 39.0	+2.6
SYO	**Syowa Base**		**150.63 152**	*e*PKPab		**PKPab**	**13 22 44.1**	**+2.0**
VNA1	**Neumayer--Stat**		**150.64 185**	⇑P		**PKiKP**	**13 22 36.3**	**+0.6**
	comp=Z,14nm,0.9s							
VNA2	**Neumayer--Watz**		**150.90 184**	⇑P		**PKiKP**	**13 22 38.7**	**+2.5**
	comp=Z,8.3nm,0.7s,baz=354,slow=4.2							
VNA3	**Neumayer Olymp**		**151.25 186**	⇑P		**PKiKP**	**13 22 39.0**	**+1.9**
	comp=Z,8.7nm,0.7s							
SNAA	**Sanae**		**151.61 181**	⇑P		**PKPbc**	**13 22 36.7**	**-0.7**
	comp=Z,130nm,0.9s							
SNAA	**Sanae**		**151.61 181**	PKPbc		**PKPbc**	**13 22 36.7**	**-0.7**
SNAA	comp=Z,1.4nm,0.7s,baz=2.0,slow=3.5,SNR=5.4			PKPab		**PKPab**	**13 22 45.9**	**-0.3**
	comp=Z,5.0nm,0.8s,baz=6.9,slow=2.4,SNR=16							
TROLL	**Troll, Antarti**		**151.96 178**	⇑P		**PKiKP**	**13 22 40.0**	**+1.4**
	comp=Z,170nm,0.6s							
CASY	**Casey**		**157.87 92**	*e*LR		LR	14 15 46.3	
	comp=Z,119nm,24.0s							

NEIC ***02*** *13:21:08.6±1.8, 13°.52N±0°.08×119°.98E±0°.08, h35km±2km, mb4.5/10, Error ellipse: s-maj=14.7km s-min=11.6km az=143.0*

IDC ***02*** *13:21:13.6±2.0, 13°.45N×120°.48E, h71km±27km, mb3.5/4, mbtmp3.8/4, MS3.7/1, Error ellipse: s-maj=48.1km s-min=21.7km az=56.0*

ISC 02 13:21:06.5±0.8, 13°.43N±0°.08×120°.0E±0°.1, h16km, n19, σ1s64/18, mb4.2/6, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.13**	**53**	P	**Pb**	**13 21 28.8**	**+1.1**
	1μm,0.3s,baz=153,slow=14,SNR=23						
TGY				S	**Sb**	**13 21 43.2**	**+0.9**
	635nm,0.4s,baz=253,slow=19,SNR=6.5						
MYLDM	**Lahad Datu**	**8.33**	**190**	Pn	**Pn**	**13 23 09.0**	**+2.3**
JOW	**Kunigami**	**15.43**	**29**	P	**Pn**	**13 24 45.0**	**+1.4**
JOW				IAmb	IAmb	13 25 18.5	
	comp=Z,60nm,1.4s						
JMZ	**Minamidaito 2**	**16.23**	**39**	P	**Pn**	**13 24 55.0**	**+1.1**
ENH	**Enshi**	**19.38**	**332**	P	**Pn**	**13 25 34.8**	**+1.9**
CMAR	**Chiang Mai Arr**	**20.85**	**287**	P	Pn	13 25 55.7	+5.3
	comp=Z,0.7nm,0.3s,baz=98,slow=11,SNR=4.1						
	comp=Z,0.7nm,0.3s						
JNU	**Nakatsue**	**21.98**	**25**	P	**P**	**13 25 58.0**	**-1.8**
JNU				IAmb	IAmb	13 26 25.8	
	comp=Z,20nm,1.4s						
WB0	**Warramunga Arr**	**35.90**	**156**	P	**P**	**13 28 05.4**	**-0.8**
WB0				IAmb	IAmb	13 28 40.4	
	comp=Z,9.2nm,1.4s						
WRA	**Warramunga Arr**	**36.04**	**157**	P	**P**	**13 28 06.7**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=334,slow=8.8,SNR=15						
	comp=Z,2.0nm,0.9s						
WR8	**Warramunga Arr**	**36.11**	**156**	P	**P**	**13 28 06.7**	**-1.3**
WR8				IAmb	IAmb	13 28 09.9	
	comp=Z,7.2nm,1.5s						
SONM	**Songino Array**	**36.13**	**344**	P	**P**	**13 28 09.2**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=148,slow=8.5,SNR=2.1						
	comp=Z,0.3nm,0.4s						
AS31	**Alice Springs**	**39.29**	**160**	P	**P**	**13 28 35.1**	**+0.2**
ASAR	**Alice Springs**	**39.29**	**160**	P	**P**	**13 28 34.8**	**-0.1**
ASAR	**Alice Springs**	**39.29**	**160**	P	**P**	**13 28 34.9**	**0.0**
	comp=Z,1.2nm,0.6s,baz=342,slow=8.5,SNR=39						
	comp=Z,1.2nm,0.6s						
BBOO	**Buckleboo**	**48.47**	**162**	P	**P**	**13 29 47.9**	**-0.6**
TIXI	**Tiksi**	**58.44**	**3**	LR	LR	13 59 50.5	
	comp=Z,65nm,18.4s,baz=238,slow=40						
H18K	**Honhosa River**	**74.40**	**26**	P	**P**	**13 32 41.5**	**-2.0**
Q19K	**Cape Douglas,**	**76.74**	**32**	P	**P**	**13 32 53.4**	**-3.6**
FINES	**FINESS Array B**	**80.19**	**331**	P	**P**	**13 33 14.8**	**-1.2**

SNET ***02*** *13:24:19.6±0.9, 12°.57N×87°.91W, h31km±12km, ML2.6*

CATAC 02 13:24:20.2±0.5, 13°N±3°×8°8W±°, h33km±3km, M2.9/12, MLv2.9/12, Error ellipse: s-maj=8.1km s-min=3.9km az=33.8, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**0.45**	**35**	P	Pn	13 24 30.9	+0.4
CSGN				S	Sn	13 24 40.0	+2.5
POTN	**Potosi Cosigui**	**0.50**	**38**	P	Pn	13 24 31.4	+0.4
POTN				S	Sn	13 24 41.1	+2.5
CNCH	**Conchagua**	**0.67**	**360**	*e*P	Pb	13 24 33.6	0.0
CNCH				*e*S	Sn	13 24 44.1	+1.2
CNCH				*e*S	Sb	13 24 44.6	+1.8
CNCH	**Conchagua**	**0.67**	**360**	P	Pb	13 24 33.7	0.0
LCND	**La Caada**	**0.70**	**355**	*e*S	Sb	13 24 44.8	+1.2
CRIN	**San Cristobal**	**0.77**	**83**	P	Pb	13 24 35.6	+0.4
PKGN	**Cerro Pekin**	**0.83**	**85**	P	Pb	13 24 36.1	-0.2
PKGN				S	Sb	13 24 48.8	+1.6
PACA	**Pacayal**	**0.99**	**331**	*e*P	Pn	13 24 37.7	-0.1
PACA				*e*S	Sb	13 24 51.7	0.0
CNGA	**Al SSO del Vol**	**1.10**	**96**	P	Pn	13 24 39.2	-0.2
CNGN	**Cerro Negro**	**1.11**	**95**	P	Pn	13 24 39.4	0.0
CNGN	**Cerro Negro**	**1.11**	**95**	S	Sb	13 24 54.7	-0.4
PQSS	**Presa 15 de Se**	**1.24**	**325**	P	Pn	13 24 42.1	+0.9
PQSS	**Presa 15 de Se**	**1.24**	**325**	S	Sn	13 24 56.9	+0.1
COPN	**Copaltepe**	**1.28**	**109**	P	Pn	13 24 40.8	-0.9
MOM3	**MOM3**	**1.28**	**94**	P	Pn	13 24 41.7	-0.1
MOM3				S	Sb	13 24 59.5	-0.4
MOM2	**El Cardon**	**1.32**	**97**	P	Pn	13 24 42.4	+0.1
MOM2				S	Sn	13 24 59.2	+0.4
TGUH	**Tegucigalpa,Un**	**1.54**	**20**	P	Pn	13 24 45.4	-0.1
TGUH				S	Sn	13 25 04.6	+0.2
LFRS	**El Faro**	**1.57**	**310**	*e*P	Pn	13 24 44.6	-1.3
PMON	**Piamonte**	**1.82**	**307**	P	Pn	13 24 50.1	+0.8
RCVN	**Varillal2**	**1.87**	**58**	P	Pn	13 24 49.9	0.0
RCVN	**Varillal2**	**1.87**	**58**	S	Sn	13 25 12.7	+0.2
JAYA	**Jayaque - finc**	**1.89**	**304**	*e*P	Pn	13 24 49.5	-0.8
JAYA				IAML		13 25 15.8	
	comp=Z,52nm,0.2s						

CRAAG ***02*** *14:08:32.5, 36°.06N×0°.25E, Ml4.1, Algerie 04km NW Sidi-Bellatar*

IDC ***02*** *14:08:33.6±1.9, 35°.72N×0°.15W, h0km, mb3.2/2, mbtmp3.4/4, ML3.4/2, MS2.7/1, Error ellipse: s-maj=39.9km s-min=31.2km az=75.0*

CNRM ***02*** *14:08:36.5, 35°.82N×0°.34W, h54km, ML3.1*

MDD ***02*** *14:08:37.9±0.6, 35°.93N×0°.24W, h12km±5km, mb_Lg3.1/50, Error ellipse: s-maj=5.2km s-min=2.2km az=161.0*

INMG ***02*** *14:08:38.4±1.3, 35°.90N×0°.23W, h24km±11km, ML2.5, Error ellipse: s-maj=9.1km s-min=3.3km az=142.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NW Argelia (ALG)*

ISC 02 14:08:35.5±1.4, 35°.81N±0°.04×0°.19W±0°.03, h24km±12km, n76, σ1s69/120, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USTO	**Oran**	**0.30**	**256**	P	**Pb**	**14 08 42.1**	**-0.3**
EANR	**Ain N'Sour**	**1.06**	**82**	P	**Pb**	**14 08 54.3**	**-0.6**
EADEB	**Ain Deheb**	**1.72**	**123**	P	**Pb**	**14 09 07.0**	**+0.6**
EBGR	**Bougara**	**1.75**	**97**	P	**Pn**	**14 09 04.5**	**+0.1**
EARB	**Arib**	**1.85**	**74**	P	**Pn**	**14 09 04.4**	**-1.3**
CART	**Cartagena**	**1.89**	**340**	Pn	**Pn**	**14 09 06.5**	**+0.2**
CART				Sn	**Sn**	**14 09 27.1**	**-2.2**
CART	**Cartagena**	**1.89**	**340**	P	**Pn**	**14 09 06.4**	**+0.2**
CART	**Cartagena**	**1.89**	**340**	S	**Sn**	**14 09 27.4**	**-1.9**
EDDR	**Deurdeur**	**1.96**	**84**	P	**Pn**	**14 09 06.9**	**-0.4**
ENIJ	**Nijar**	**2.00**	**306**	Pn	**Pn**	**14 09 08.3**	**+0.6**
ENIJ				Sn	**Sn**	**14 09 30.6**	**-1.5**
ENIJ	**Nijar**	**2.00**	**306**	Pn	**Pn**	**14 09 08.5**	**+0.8**
ENIJ				Sn	**Sn**	**14 09 31.0**	**-1.0**
ENIJ				*i* lVmb_Lg		14 09 36.1	
TAF	**Taforalt**	**2.07**	**242**	P	**Pn**	**14 09 07.4**	**-1.3**
TAF	**Taforalt**	**2.07**	**242**	S	**Sn**	**14 09 33.5**	**-0.3**
EMUR	**La Murta**	**2.20**	**338**	Pn	**Pn**	**14 09 12.0**	**+1.5**
EMUR				Sn	**Sn**	**14 09 35.4**	**-1.6**
EMUR	**La Murta**	**2.20**	**338**	Pn	**Pn**	**14 09 11.9**	**+0.7**
EMUR				Sn	**Sn**	**14 09 35.6**	**-1.4**
EMUR				*i* lVmb_Lg		14 09 43.5	
TLOR	**Lorca, Murcia**	**2.20**	**327**	Pn	**Pn**	**14 09 11.7**	**+1.2**
TLOR				Sn	**Sn**	**14 09 35.7**	**-1.4**
ELOR	**Lorca, Murcia**	**2.21**	**326**	Pn	**Pn**	**14 09 11.4**	**+0.7**
ELOR				Sn	**Sn**	**14 09 36.0**	**-1.3**
ELOR				*i* lVmb_Lg		14 09 38.2	
EALB	**Alboran**	**2.31**	**274**	Pn	**Pb**	**14 09 15.8**	**-0.6**
EALB				Sn	**Sn**	**14 09 39.7**	**+0.1**
EALB				*i* lVmb_Lg		14 09 44.2	
GOG	**Mont Gurugu**	**2.36**	**257**	P	**Pn**	**14 09 11.8**	**-0.9**
GOG	**Mont Gurugu**	**2.36**	**257**	S	**Sn**	**14 09 39.0**	**-2.1**
JBK	**JBK**	**2.44**	**234**	P	**Pn**	**14 09 13.5**	**-0.4**
JBK	**JBK**	**2.44**	**234**	S	**Sn**	**14 09 42.0**	**-1.1**
EBEN2	**Beniarda presa**	**2.87**	**0**	Pn	**Pn**	**14 09 20.4**	**+0.8**
EBEN2				Sn	**Sn**	**14 09 53.1**	**-0.3**
EBEN2				*i* lVmb_Lg		14 10 00.1	
AFON	**Font Roja**	**2.87**	**355**	Pn	**Pn**	**14 09 20.1**	**+0.3**
AFON				Sn	**Sn**	**14 09 52.6**	**-0.9**
AFON				*i* lVmb_Lg		14 10 02.6	
EQUE	**Quentar**	**2.97**	**299**	Pn	**Pn**	**14 09 23.0**	**+1.8**
EQUE				Sn	**Sn**	**14 09 54.9**	**-1.1**
EQUE				*i* lVmb_Lg		14 10 03.4	
ELGU	**Los Guajares,**	**2.97**	**292**	Pn	**Pn**	**14 09 21.4**	**+0.2**
ELGU				Sn	**Sn**	**14 09 55.2**	**-0.8**
ELGU	**Los Guajares,**	**2.97**	**292**	Pn	**Pn**	**14 09 21.4**	**+0.2**
ELGU				Sn	**Sn**	**14 09 56.0**	**0.0**
ELGU				*i* lVmb_Lg		14 09 59.6	
EQTA	**Presa de Quent**	**2.97**	**299**	Pn	**Pn**	**14 09 23.0**	**+1.9**
EQES	**Quesada**	**3.05**	**312**	Pn	**Pn**	**14 09 23.8**	**+1.5**
EQES				Sn	**Sn**	**14 09 57.0**	**-1.2**
EQES				*i* lVmb_Lg		14 10 08.7	
AKLM	**AKL**	**3.27**	**248**	P	**Pn**	**14 09 26.1**	**+0.7**
AKLM	**AKL**	**3.27**	**248**	S	**Sn**	**14 10 01.7**	**-1.9**
E0803	**Jimena (Jaen)**	**3.32**	**309**	Pn	**Pn**	**14 09 27.7**	**+1.7**
E0803				Sn	**Sn**	**14 10 02.2**	**-1.4**
E0802	**Ubeda,Jaen**	**3.38**	**312**	Sn	**Sn**	**14 10 04.6**	**-1.5**
EGOR	**Sierra Gorda,**	**3.42**	**294**	Pn	**Pn**	**14 09 28.8**	**+1.5**
EGOR				Sn	**Sn**	**14 10 06.1**	**-1.0**
EGOR	**Sierra Gorda,**	**3.42**	**294**	Pn	**Pn**	**14 09 29.4**	**+2.0**
EGOR				Sn	**Sn**	**14 10 06.7**	**-0.5**
EGOR				*i* lVmb_Lg		14 10 14.4	
EIBI	**Ibiza**	**3.44**	**20**	Pn	**Pn**	**14 09 28.8**	**+1.2**
EIBI				Sn	**Sn**	**14 10 08.4**	**+0.8**
EIBI	**Ibiza**	**3.44**	**20**	Pn	**Pn**	**14 09 28.7**	**+1.2**
EIBI				Sn	**Sn**	**14 10 07.1**	**-0.5**
EIBI				*i* lVmb_Lg		14 10 11.7	
EMAL	**Malaga-Limoner**	**3.55**	**287**	Sn	**Sn**	**14 10 07.0**	**-3.3**
ECHE	**Chera**	**3.83**	**351**	Pn	**Pn**	**14 09 35.5**	**+2.6**
ECHE				Sn	**Sn**	**14 10 16.3**	**-0.9**
ECHE	**Chera**	**3.83**	**351**	Pn	**Pn**	**14 09 33.7**	**+0.8**
ECHE				Sn	**Sn**	**14 10 15.2**	**-2.0**
ECHE				*i* lVmb_Lg		14 10 23.4	
PSIM	**Granatula de C**	**4.14**	**318**	Pn	**Pn**	**14 09 38.3**	**+1.1**
PSIM				Sn	**Sn**	**14 10 23.4**	**-1.4**
ECOL	**Islas Columbre**	**4.14**	**9**	Pn	**Pn**	**14 09 38.1**	**+0.9**
ECOL				Sn	**Sn**	**14 10 22.6**	**-2.3**
EADA	**Adamuz**	**4.23**	**305**	Pn	**Pn**	**14 09 41.6**	**+3.2**
EADA	**Adamuz**	**4.23**	**305**	Pn	**Pn**	**14 09 39.9**	**+1.5**
EADA				Sn	**Sn**	**14 10 25.0**	**-2.0**
EADA				*i* lVmb_Lg		14 10 44.7	
EJIF	**Jimena Fronter**	**4.32**	**280**	Sn	**Sn**	**14 10 29.1**	**-0.2**
EMOS	**Mosqueruela**	**4.56**	**357**	Pn	**Pn**	**14 09 44.0**	**+1.0**
EMOS				Sn	**Sn**	**14 10 32.5**	**-2.8**
EMOS				*i* lVmb_Lg		14 10 39.0	
ETOS	**Mallorca**	**4.62**	**30**	Pn	**Pn**	**14 09 44.7**	**+1.0**
ETOS				Sn	**Sn**	**14 10 35.5**	**-1.1**
ETOS	**Mallorca**	**4.62**	**30**	Pn	**Pn**	**14 09 44.9**	**+1.1**
ETOS				Sn	**Sn**	**14 10 35.1**	**-1.5**
ETOS				*i* lVmb_Lg		14 10 38.6	
ESPR	**Espera**	**4.69**	**285**	Sn	**Sn**	**14 10 36.7**	**-1.8**
ESPR				*i* lVmb_Lg		14 11 00.1	
E0901	**Celadas (Terue**	**4.72**	**351**	Pn	**Pn**	**14 09 46.0**	**+0.7**
E0901				Sn	**Sn**	**14 10 36.1**	**-3.3**
E0901				*i* lVmb_Lg		14 10 55.2	
ECAB	**El Cabril**	**4.76**	**300**	Pn	**Pn**	**14 09 46.5**	**+0.8**
ECAB	**El Cabril**	**4.76**	**300**	Pn	**Pn**	**14 09 46.6**	**+0.8**
ECAB				Sn	**Sn**	**14 10 37.9**	**-2.2**
ECAB				*i* lVmb_Lg		14 10 55.2	
ESBB	**Sonseca Array**	**4.88**	**323**	Pn	**Pn**	**14 09 48.5**	**+1.0**
ESBB				Sn	**Sn**	**14 10 40.6**	**-2.6**
ESDC	**Sonseca Array**	**4.88**	**323**	Pn	**Pn**	**14 09 48.3**	**+0.9**
ESDC				Sn	**Sn**	**14 10 40.3**	**-2.9**
ESDC				*i* lVmb_Lg		14 11 00.2	
ESDC	**Sonseca Array**	**4.88**	**323**	Pn	**Pn**	**14 09 49.4**	**+1.9**
	0.6nm,0.3s,baz=137,slow=13,SNR=23						
ESDC				Sn	**Sn**	**14 10 42.0**	**-1.2**
	0.8nm,0.3s,baz=137,slow=23,SNR=6.6						
ESDC				Lg	Lg	14 10 56.2	
	1.2nm,0.3s,baz=138,slow=28,SNR=6.7						
ESDC				LR	LR	14 11 38.6	
	comp=Z,77nm,18.3s,baz=58,slow=37						
	3.8nm,0.6s						
PAB	**San Pablo**	**4.98**	**320**	Pn	**Pn**	**14 09 50.0**	**+1.2**
PAB				Sn	**Sn**	**14 10 42.9**	**-2.7**
PAB				*i* lVmb_Lg		14 10 56.1	
ERTA	**Horta de San J**	**5.16**	**4**	Pn	**Pn**	**14 09 52.1**	**+0.9**
ERTA				Sn	**Sn**	**14 10 46.6**	**-3.3**
ERTA				*i* lVmb_Lg		14 11 17.3	
ETOR	**Torete**	**5.22**	**344**	Pn	**Pn**	**14 09 52.8**	**+0.8**
ETOR				Sn	**Sn**	**14 10 48.1**	**-3.3**
ETOR				*i* lVmb_Lg		14 11 35.2	
EMIN	**Mina Concepcio**	**5.56**	**293**	Pn	**Pn**	**14 09 58.4**	**+1.7**
EMIN				*i* lVmb_Lg		14 11 42.7	
EPOB	**Poblet**	**5.63**	**10**	Pn	**Pn**	**14 09 58.7**	**+1.0**
EPOB				Sn	**Sn**	**14 10 58.0**	**-3.5**
EPOB				*i* lVmb_Lg		14 11 00.9	
GUD	**Guadarrama**	**5.75**	**328**	Pn	**Pn**	**14 10 00.6**	**+1.2**
GUD				Sn	**Sn**	**14 11 00.7**	**-3.9**
GUD				*i* lVmb_Lg		14 11 40.9	
PBAR	**Barrancos**	**5.97**	**295**	*e*P	**Pn**	**14 10 03.6**	**+1.3**
PBAR				*e*S	**Sn**	**14 11 08.8**	**-1.1**
PBAR				*i* IAML		14 11 13.8	
PBAR				*i* IAML		14 11 20.1	
PBAR				*i* IAML		14 11 42.2	
EGRO	**El Granado**	**6.11**	**289**	Pn	**Pn**	**14 10 06.0**	**+1.8**
EGRO				Sn	**Sn**	**14 11 10.8**	**-2.5**
EGRO				*i* lVmb_Lg		14 11 20.4	
EBAD	**Badajoz**	**6.18**	**300**	Pn	**Pn**	**14 10 07.1**	**+1.8**
EBAD				Sn	**Sn**	**14 11 12.0**	**-3.1**
EBAD				*i* lVmb_Lg		14 11 17.8	
PVAQ	**Vaqueiros**	**6.26**	**287**	*e*P	**Pn**	**14 10 07.1**	**+0.8**
PVAQ				*e*S	**Sn**	**14 11 14.6**	**-2.4**
PBEJ	**Beja**	**6.54**	**292**	*e*P	**Pn**	**14 10 10.5**	**+0.4**
MESJ	**Messejana**	**6.75**	**290**	*e*P	**Pn**	**14 10 13.6**	**+0.6**
EVO	**Evora**	**6.81**	**296**	*e*P	**Pn**	**14 10 14.8**	**+1.0**
PSARD	**Sardoal**	**7.37**	**303**	*e*P	**Pn**	**14 10 23.2**	**+1.7**
PSARD				*e*S	**Sn**	**14 11 41.8**	**-2.5**
PSARD				*i* IAML		14 11 49.4	
PSARD				*i* IAML		14 11 50.6	
PSARD				*i* IAML		14 12 09.7	
EALK	**Alkurruntz**	**7.47**	**353**	Pn	**Pn**	**14 10 24.0**	**+0.9**
EALK				Sn	**Sn**	**14 11 42.0**	**-5.0**
KEST	**Kesra**	**7.75**	**88**	Pn	**Pn**	**14 10 27.4**	**+0.5**
	0.4nm,0.3s,baz=270,slow=5.1,SNR=4.3						
KEST				Sn	**Sn**	**14 11 53.7**	**-0.2**
	0.1nm,0.3s,baz=294,slow=19,SNR=1.1						
	2.6nm,0.6s						
ECAL	**Calabor**	**7.97**	**322**	Pn	**Pn**	**14 10 31.1**	**+1.3**
ECAL				*i* lVmb_Lg		14 12 06.6	
EARI	**Arriondas**	**8.43**	**334**	Pn	**Pn**	**14 10 37.1**	**+1.0**
VSL	**Villasalto**	**8.44**	**61**	Sn	**Sn**	**14 12 07.2**	**-3.4**
TORD	**Torodi Ar. Bea**	**22.62**	**175**	P	**P**	**14 13 35.0**	**+0.4**
	0.6nm,0.8s,baz=347,slow=12,SNR=4.4						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**60.25**	**52**	P	**P**	**14 18 43.9**	**+2.2**
	0.3nm,0.7s,baz=276,slow=5.1,SNR=2.3						
	0.3nm,0.7s						

JMA ***02*** *14:12:13.5±0.7, 45°N±6°×15°0E±°, h30km, MV3.9/13, SE OFF ETOROFU*

SKHL ***02*** *14:12:14.1±0.5, 44°.70N×149°.80E, h51km±4km, mb4.4/4*

ISC 02 14:12:10.8±4.2, 44°.5N±0°.1×150°.1E±0°.2, h34km, n17, σ2s44/28, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.74**	**296**	*e*P	**Pn**	**14 12 37.9**	**-0.7**
KUR				AMB	AMB	14 12 39.5	
	130nm,0.2s						
KUR				*e*S	**Sn**	**14 12 56.1**	**-3.5**
KUR				A	A	14 12 58.1	
	390nm,0.2s						
KUR				A	A	14 12 58.1	
	330nm,0.2s						
SHO	**Shikotan**	**2.42**	**256**	*e*P	**Pn**	**14 12 49.8**	**+1.9**
SHO				AMB	AMB	14 12 55.1	
	30nm,0.2s						
SHO				*e*S	**Sn**	**14 13 15.4**	**-0.9**
SHO				A	A	14 13 22.5	
	170nm,0.3s						
SHO				A	A	14 13 22.5	
	110nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.07**	**263**	*e*P	**Pn**	**14 12 57.6**	**+0.8**
YUK				AMB	AMB	14 13 02.2	
	80nm,0.7s						
YUK				*i* S	**Sn**	**14 13 32.3**	**0.0**
YUK				A	A	14 13 35.2	
	220nm,0.6s						
YUK				A	A	14 13 35.2	
	250nm,0.6s						
NEM2	**Nemuro 2**	**3.33**	**252**	*e*P	**Pn**	**14 13 01.5**	**+1.1**
NEM2				*e*S	**Sn**	**14 13 38.6**	**-0.2**
NMR	**Nemuro--Hokkai**	**3.34**	**252**	*e*P	**Pn**	**14 13 02.2**	**+1.7**
NMR				*i* S	**Sn**	**14 13 38.9**	**-0.1**
GLVR	**Golovnino**	**3.37**	**259**	*e*P	**Pn**	**14 13 02.8**	**+1.8**
GLVR				AMB	AMB	14 13 05.9	
	30nm,0.2s						
GLVR				*i* S	**Sn**	**14 13 39.5**	**-0.3**
GLVR				A	A	14 13 45.1	
	280nm,0.2s						
GLVR				A	A	14 13 45.1	
	130nm,0.2s						
JRA	**Rausu**	**3.61**	**263**	*e*S	**Sn**	**14 13 46.2**	**+0.6**
JNK	**Nakash**	**3.97**	**259**	*e*P	**Pn**	**14 13 11.4**	**+2.1**
JNK				*e*S	**Sn**	**14 13 53.5**	**-1.1**
AKK	**Akkeshi**	**4.07**	**251**	*e*P	**Pn**	**14 13 12.8**	**+2.2**
JAK	**Akkeshi**	**4.18**	**251**	*e*P	**Pn**	**14 13 13.5**	**+1.5**
JAK				*e*S	**Sn**	**14 13 58.8**	**-0.9**
JAR	**Ashorobuto**	**4.72**	**258**	*e*P	**Pn**	**14 13 22.3**	**+2.8**
JAR				*e*S	**Sn**	**14 14 13.8**	**+0.8**
JOB	**Onbets**	**4.80**	**253**	*e*P	**Pn**	**14 13 22.8**	**+2.2**
JOB				*e*S	**Sn**	**14 14 14.8**	**-0.2**
JCH	**Churui**	**5.

TNOU				*e*S		**Sb**	**14 19 23.3**	**-0.5**
TWE	**Neicheng**	**0.55**	**257**	P		**Pg**	**14 19 16.0**	**0.0**
TWE				*e*S		**Sg**	**14 19 23.3**	**0.0**
EOS3	**EOS3**	**0.56**	**174**	*i* P		**Pb**	**14 19 16.9**	**+0.3**
FUSB	**Fushanzhiwuyua**	**0.61**	**262**	*e*P		**Pg**	**14 19 17.4**	**+0.2**
FUSB				*e*S		**Sb**	**14 19 25.7**	**-0.4**
TWA	**Mucha**	**0.62**	**283**	P		**Pb**	**14 19 18.4**	**+0.6**
TWA				S		**Sb**	**14 19 26.9**	**+0.5**
ENA	**Nanau**	**0.63**	**229**	*i* P		**Pg**	**14 19 17.2**	**-0.2**
ENA				S		**Sg**	**14 19 25.2**	**-0.6**
ENTT	**Nioudou**	**0.66**	**252**	*i* P		**Pg**	**14 19 18.2**	**+0.2**
ENTT				S		**Sg**	**14 19 26.7**	**-0.1**
NWLT	**Wulai**	**0.69**	**265**	*e*P		**Pb**	**14 19 19.0**	**+0.1**
YM01	**YM01**	**0.69**	**296**	P		**Pb**	**14 19 19.5**	**+0.5**
YM08	**YM08**	**0.69**	**300**	*e*P		**Pb**	**14 19 19.3**	**+0.3**
EAHA	**Aohua**	**0.70**	**223**	P		**Pg**	**14 19 18.8**	**0.0**
EAHA				*e*S		**Sb**	**14 19 28.3**	**-0.2**
ZUZH	**Zhuzihu**	**0.72**	**296**	*e*P		**Pb**	**14 19 19.8**	**+0.4**
EOS4	**EOS4**	**0.72**	**175**	P		**Pb**	**14 19 20.0**	**+0.7**
LATG	**Datong**	**0.73**	**245**	*e*P		**Pb**	**14 19 19.9**	**+0.2**
LATG				*e*S		**Sb**	**14 19 29.4**	**-0.2**
TWY	**Chenhua**	**0.73**	**306**	P		**Pb**	**14 19 20.2**	**+0.6**
TWY				*e*S		**Sn**	**14 19 30.7**	**-1.2**
JYNG	**Yonagunijimaku**	**0.74**	**122**	*e*P		**Pg**	**14 19 19.3**	**-0.2**
JYNG				*e*S		**Sb**	**14 19 30.3**	**+0.6**
ANP	**Anpu**	**0.75**	**297**	*e*P		**Pb**	**14 19 20.3**	**+0.3**
ANP				*e*S		**Sb**	**14 19 30.8**	**+0.7**
YOJ	**Yonaguni jima**	**0.79**	**119**	*e*P		**Pg**	**14 19 20.2**	**-0.3**
YOJ				*e*S		**Sg**	**14 19 31.0**	**+0.2**
YOJ	**Yonaguni jima**	**0.79**	**119**	*e*P		**Pg**	**14 19 20.6**	**+0.1**
YOJ				*e*S		**Sg**	**14 19 30.9**	**+0.1**
PCYT	**Pengchaiyu**	**0.80**	**348**	P		**Pg**	**14 19 20.4**	**-0.3**
PCYT				*e*S		**Sn**	**14 19 32.8**	**-0.8**
TWS1	**Kuangyinshan**	**0.80**	**289**	*e*P		**Pb**	**14 19 21.4**	**+0.6**
YHNB	**Yeheng**	**0.82**	**258**	P		**Pg**	**14 19 20.9**	**-0.2**
YHNB				*e*S		**Sg**	**14 19 31.8**	**-0.1**
NSK	**Sanguang**	**0.83**	**259**	P		**Pg**	**14 19 21.2**	**-0.2**
ETL	**Fush Village**	**0.89**	**220**	P		**Pb**	**14 19 22.3**	**-0.2**
ETL				*e*S		**Sg**	**14 19 34.1**	**-0.2**
NNSB	**Datong**	**0.90**	**243**	P		**Pb**	**14 19 22.3**	**-0.2**
NNSB				*e*S		**Sb**	**14 19 34.3**	**-0.1**
NNS	**Nan Shan**	**0.90**	**244**	P		**Pb**	**14 19 22.3**	**-0.3**
NNS				*e*S		**Sg**	**14 19 34.1**	**-0.4**
NACB	**Ninganchiao**	**0.90**	**222**	*e*P		**Pb**	**14 19 22.2**	**-0.3**
NACB				S		**Sb**	**14 19 33.8**	**-0.5**
ETLH	**Xiulin Townshi**	**0.95**	**228**	P		**Pb**	**14 19 23.3**	**-0.1**
ETLH				*e*S		**Sg**	**14 19 36.0**	**-0.1**
TWD	**Chiawan**	**0.97**	**218**	*e*P		**Pb**	**14 19 23.6**	**-0.1**
TWD				*e*S		**Sg**	**14 19 36.6**	**0.0**
KSHI	**Guanxi Townshi**	**0.98**	**266**	*e*P		**Pn**	**14 19 24.8**	**+0.3**
NFF	**Wufeng Townshi**	**1.06**	**259**	*e*P		**Pn**	**14 19 25.7**	**+0.2**
NFF				*e*S		**Sn**	**14 19 40.0**	**0.0**
FUSS	**Fushou**	**1.10**	**237**	*e*P		**Pb**	**14 19 26.1**	**+0.1**
FUSS				*e*S		**Sn**	**14 19 41.6**	**+0.3**
ETM	**Tongmen**	**1.12**	**219**	P		**Pb**	**14 19 26.1**	**-0.2**
LXIB	**Xiulin Townshi**	**1.12**	**223**	*e*P		**Pb**	**14 19 26.1**	**-0.3**
LXIB				*e*S		**Sn**	**14 19 42.0**	**+0.2**
WHF	**Hehuan Shan**	**1.14**	**233**	P		**Pn**	**14 19 27.1**	**+0.1**
WHF				S		**Sb**	**14 19 41.8**	**+0.1**
TEYL	**Yanliau Villag**	**1.14**	**212**	*e*P		**Pg**	**14 19 27.9**	**+0.7**
TEYL				*e*S		**Sn**	**14 19 44.3**	**+2.2**
LIOB	**Emei**	**1.15**	**260**	*e*P		**Pg**	**14 19 28.2**	**+1.0**
NSTT	**Nanjuang**	**1.16**	**260**	*e*P		**Pg**	**14 19 28.4**	**+0.9**
NSTT				*e*S		**Sg**	**14 19 44.5**	**+1.8**
SHUL	**Shoufeng**	**1.23**	**211**	*e*P		**Pg**	**14 19 29.3**	**+0.5**
ESL	**Shilin**	**1.27**	**216**	*e*P		**Pb**	**14 19 29.3**	**+0.4**
WHP	**Taichung City**	**1.32**	**245**	*e*P		**Pg**	**14 19 30.5**	**+0.2**
WHP				*e*S		**Sg**	**14 19 47.4**	**-0.4**
OWD	**Renai**	**1.32**	**228**	P		**Pb**	**14 19 30.1**	**+0.3**
OWD				*e*S		**Sg**	**14 19 47.6**	**-0.4**
WUSB	**Renai**	**1.34**	**231**	*i* P		**Pg**	**14 19 30.9**	**-0.1**
WUSB				*e*S		**Sg**	**14 19 48.0**	**-0.5**
WARBT	**Fenglin Townsh**	**1.37**	**215**	P		**Pb**	**14 19 30.4**	**-0.2**
WARBT				*e*S		**Sg**	**14 19 49.5**	**0.0**
IRIF	**Iriomote-Funau**	**1.44**	**110**	*e*P		**Pb**	**14 19 32.4**	**+0.8**
IRIF				*e*S		**Sb**	**14 19 50.1**	**+0.4**
WCS	**Beigang Elemen**	**1.45**	**238**	*e*P		**Pg**	**14 19 33.0**	**-0.1**
HGSD	**Ruisui**	**1.55**	**210**	*e*P		**Pb**	**14 19 33.8**	**+0.2**
SMLT	**Sun Moon Lake**	**1.56**	**233**	*e*P		**Pg**	**14 19 35.1**	**-0.2**
TYC	**Yuchr**	**1.58**	**234**	*e*P		**Pg**	**14 19 35.2**	**-0.4**
TYC				*e*S		**Sg**	**14 19 55.7**	**-0.5**
SSLB	**Suanglung**	**1.59**	**229**	*e*P		**Pb**	**14 19 34.7**	**+0.5**
SSLB				*e*S		**Sg**	**14 19 55.6**	**-0.8**
WHYT	**Xinyi Township**	**1.72**	**228**	*e*P		**Pg**	**14 19 37.5**	**-0.7**
WJS	**Zhushan**	**1.73**	**234**	*e*P		**Pg**	**14 19 38.7**	**+0.4**
WJS				*e*S		**Sg**	**14 20 03.1**	**+2.4**
JIJ	**Ishigaki jima**	**1.78**	**105**	*e*P		**Pn**	**14 19 34.8**	**-0.7**
ALS	**Alishan**	**1.88**	**225**	P		**Pb**	**14 19 40.0**	**+0.6**
ALS				*e*S		**Sg**	**14 20 06.0**	**+0.3**
JISG	**Ishigakijimahi**	**1.89**	**97**	*e*P		**Pb**	**14 19 39.2**	**-0.1**
CHN5	**Tsauling**	**1.90**	**230**	P		**Pb**	**14 19 40.7**	**+1.0**
CHN5				*e*S		**Sg**	**14 20 05.8**	**-0.7**
WCKO	**Fanlu**	**2.06**	**227**	*e*P		**Pb**	**14 19 42.9**	**+0.6**
WCKO				*e*S		**Sg**	**14 20 10.0**	**-1.4**
TPUB	**Ta-pu**	**2.14**	**224**	P		**Pb**	**14 19 43.7**	**+0.1**
TPUB				*e*S		**Sg**	**14 20 12.2**	**-1.7**
TWK	**Hsinying**	**2.25**	**226**	*e*P		**Pb**	**14 19 45.6**	**-0.1**
TWK				*e*S		**Sg**	**14 20 16.1**	**-1.5**
CHN1	**Nanshi**	**2.29**	**224**	*e*P		**Pb**	**14 19 46.2**	**0.0**
CHN1				*e*S		**Sb**	**14 20 15.5**	**+1.2**
MASBT	**Mashibuluo**	**2.67**	**214**	*e*P		**Pb**	**14 19 51.1**	**-1.7**
MASBT				*e*S		**Sb**	**14 20 23.8**	**-1.7**

AFAD ***02*** *14:36:41.7, 41.67N×43.21E, h7km±1km, ML2.3*
NORS ***02*** *14:36:42.8, 41.84N×43.30E, h1km, MPVA3.4*
ISC 02 14:36:41.6±2.0, 41.66N±0.08×43.18E±0.06, h9km±25km, n13, σ0.69/25, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EPOS	**Posof**	**0.37**	**246**	P		**Pb**	**14 36 49.9**	**-0.6**
EPOS				S		**Sb**	**14 36 56.2**	**-0.2**
EPOS				*i* IAML			14 36 57.0	
	comp=N,218nm,0.3s							
EPOS				*i* IAML			14 36 57.0	
	comp=E,150nm,0.4s							
AHAN	**Ardahan-Merkez**	**0.64**	**220**	P		**Pb**	**14 36 55.0**	**-0.1**
AHAN				*i* IAML			14 37 05.0	
	comp=N,289nm,0.3s							
AHAN				S		**Sb**	**14 37 05.1**	**+0.7**
AHAN				*i* IAML			14 37 06.0	
	comp=E,505nm,0.4s							
GOLE	**Ardahan-G¶le**	**0.93**	**208**	P		**Pn**	**14 37 00.4**	**-0.7**
GOLE				S		**Sb**	**14 37 13.9**	**+1.3**
GOLE				*i* IAML			14 37 16.0	
	comp=N,82nm,0.2s							
GOLE				*i* IAML			14 37 16.0	
	comp=E,83nm,0.2s							
DBOC	**Borcka**	**1.18**	**255**	P		**Pn**	**14 37 04.0**	**-0.3**
DBOC				S		**Sn**	**14 37 19.7**	**-0.7**
DBOC				*i* IAML			14 37 21.0	
	comp=E,66nm,0.1s							
DIGO	**Kars**	**1.25**	**173**	P		**Pn**	**14 37 05.3**	**-0.2**
DIGO				S		**Sn**	**14 37 22.4**	**-0.2**
DIGO				*i* IAML			14 37 26.0	
	comp=N,40nm,0.4s							
DIGO				*i* IAML			14 37 26.0	
	comp=E,46nm,0.4s							
DIGR	**Digorskoe uzhe**	**1.28**	**13**	*e*Pg		**Pg**	**14 37 05.8**	**-0.4**
DIGR				*e*Sg		**Sg**	**14 37 23.1**	**+0.3**
DBAD	**Bademkaya**	**1.28**	**241**	P		**Pn**	**14 37 06.2**	**+0.3**
DDEM	**Demirkent**	**1.32**	**235**	P		**Pn**	**14 37 06.7**	**+0.3**
DDEM				S		**Sn**	**14 37 24.9**	**+0.8**
DDEM				*i* IAML			14 37 27.0	
	comp=N,184nm,0.5s							
DDEM				*i* IAML			14 37 27.0	
	comp=E,93nm,0.4s							
LACR	**Lac**	**1.44**	**35**	*e*Pg		**Pg**	**14 37 08.6**	**-0.6**
LACR				*e*Sg		**Sg**	**14 37 28.4**	**+0.6**
KORR	**Kora**	**1.57**	**25**	*e*Pg		**Pg**	**14 37 10.8**	**-1.0**
KORR				*e*Sg		**Sg**	**14 37 33.3**	**+1.1**
LSNR	**Lesken**	**1.69**	**16**	*e*Pg		**Pg**	**14 37 13.7**	**-0.3**
LSNR				*e*Sg		**Sg**	**14 37 37.3**	**+1.3**
STDR	**Stavd-Durt**	**1.83**	**21**	*e*Pg		**Pg**	**14 37 17.1**	**+0.3**
STDR				*e*Sg		**Sg**	**14 37 40.5**	**0.0**
SHA1	**Shidzhatmaz**	**2.12**	**350**	*e*Pg		**Pg**	**14 37 21.9**	**-0.3**
SHA1				*e*Sg		**Sg**	**14 37 50.1**	**+0.4**

IDC ***02*** *15:02:56.1±1.3, 1.39S×121.10E, h0km, mb3.3/5, mbtmp3.3/5, Error ellipse: s-maj=105.1km s-min=22.0km az=58.0*
DJA ***02*** *15:02:57.9±0.2, 2.2°S±2.2°×12.1E±.°, h10km, M3.8/13, mb4.2/1, MLv3.5/13*
ISC 02 15:03:00.5±0.8, 1.88S±0.04×120.44E±0.06, h33km, n15, σ1.9/12, mb3.4/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCI	**Palu**	**1.14**	**328**	P		**Pn**	**15 03 18.7**	**-1.5**
PCI				S		**Sb**	**15 03 37.3**	**+1.0**
TTSI	**Tana Toraja**	**1.31**	**208**	P		**Pn**	**15 03 21.4**	**-1.1**
TTSI				S		**Sn**	**15 03 38.4**	**-0.5**
APSI	**Ampana**	**1.54**	**51**	P		**Pn**	**15 03 23.2**	**-2.5**
SPSI	**Sidrap Palu**	**2.18**	**198**	P		**Pn**	**15 03 35.2**	**+0.8**
SPSI				S		**Sn**	**15 04 00.4**	**+0.2**
LUWI	**Luwuk**	**2.48**	**70**	P		**Pn**	**15 03 39.4**	**+0.9**
BNSI	**Bone**	**2.52**	**188**	P		**Pn**	**15 03 38.6**	**-0.6**
BNSI				S		**Sn**	**15 04 08.8**	**-0.1**
MRSI	**Marisa**	**2.78**	**33**	P		**Pn**	**15 03 43.6**	**+0.9**
KDI	**Kendari**	**3.00**	**134**	P		**Pn**	**15 03 44.2**	**-1.5**
BKSI	**Bulukumba**	**3.43**	**185**	P		**Pn**	**15 03 51.4**	**-0.3**
KMSI	**Cibinong**	**4.30**	**55**	P		**Pn**	**15 04 03.6**	**0.0**
WRA	**Warramunga Arr**	**22.51**	**144**	P		**P**	**15 07 57.4**	**-0.2**
	0.3nm,0.8s,baz=327,slow=10,SNR=2.5							
	0.3nm,0.8s							
ASAR	**Alice Springs**	**25.28**	**150**	P		**P**	**15 08 25.6**	**+1.5**
	0.1nm,0.9s,baz=333,slow=9.1,SNR=1.2							
	0.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**29.26**	**315**	P		**P**	**15 09 00.7**	**+0.9**
	0.5nm,0.6s,baz=131,slow=8.1,SNR=4.9							
	0.5nm,0.6s							
SONM	**Songino Array**	**51.01**	**348**	P		**P**	**15 11 58.5**	**-0.9**
	0.6nm,0.6s,baz=168,slow=7.4,SNR=2.4							
	0.6nm,0.6s							
MKAR	**Makanchi Array**	**58.91**	**330**	P		**P**	**15 12 56.2**	**-0.2**
	0.3nm,0.5s,baz=137,slow=7.4,SNR=4.5							
	0.3nm,0.5s							

BEO ***02*** *15:27:55.9±0.2, 42.94N×23.31E, h9km±1km, ML2.6/11*
SOF ***02*** *15:27:55.6, 42.94N×23.38E±0.01, h14km±2km, MD2.7/6*
THE ***02*** *15:28:00.7, 43.N±30.×2.3E±2.2, h8km, M2.4/5, MLh2.4/5*
ISC 02 15:27:55.1±1.0, 42.94N±0.02×23.32E±0.02, h9km±9km, n55, σ0.63/95, 15C-14D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VTS	**Vitosha**	**0.32**	**191**	⇑ *i* Pg		**Pb**	**15 28 02.8**	**-0.3**
VTS				Sg		**Sb**	**15 28 07.6**	**-0.8**
VTS	**Vitosha**	**0.32**	**191**	P		**Pb**	**15 28 02.9**	**-0.3**
VTS				S		**Sb**	**15 28 07.7**	**-0.8**
VTS	**Vitosha**	**0.32**	**191**	*e*Pg		**Pb**	**15 28 02.8**	**-0.3**
VTS				*e*Sg		**Sb**	**15 28 07.7**	**-0.8**
PLNA	**Plana**	**0.47**	**170**	⇑ *i* Pg		**Pb**	**15 28 05.3**	**-0.2**
PLNA				Sg		**Sb**	**15 28 11.6**	**-1.0**
MPEP	**Malo Peshtene**	**0.52**	**36**	Pg		**Pb**	**15 28 05.9**	**-0.6**
MPEP				Sg		**Sb**	**15 28 13.2**	**-0.9**
BOSS	**Bosilegrad**	**0.76**	**235**	*e*Pg		**Pb**	**15 28 10.6**	**+0.2**
BOSS				*e*Sg		**Sb**	**15 28 20.8**	**-0.1**
PGB	**Panagyurishte**	**0.76**	**123**	Pg		**Pb**	**15 28 10.1**	**-0.4**
PGB				Sg		**Sg**	**15 28 19.2**	**-0.4**
VALD	**Valchedram**	**0.76**	**6**	Pg		**Pb**	**15 28 10.6**	**+0.1**
BLKB	**Belogradchik**	**0.83**	**326**	⇓ S		**Sg**	**15 28 21.8**	**-0.2**
BLKB	**Belogradchik**	**0.83**	**326**	*e*Pg		**Pg**	**15 28 10.8**	**-0.3**
BLKB				*e*Sg		**Sg**	**15 28 22.0**	**0.0**
BLKB				*e*Rg		Rg	15 28 26.4	
PLVB	**Pleven**	**1.05**	**64**	⇓ P		**Pn**	**15 28 16.7**	**+0.7**
PLVB				⇓ S		**Sn**	**15 28 30.7**	**-0.2**
KKB	**Krupnik**	**1.10**	**187**	Pg		**Pn**	**15 28 18.2**	**+1.5**
KKB				Sg		**Sn**	**15 28 32.7**	**+0.7**
KKB	**Krupnik**	**1.10**	**187**	P		**Pn**	**15 28 16.7**	**0.0**
KKB				S		**Sn**	**15 28 31.9**	**-0.2**
BARS	**Barje**	**1.11**	**264**	*e*Pg		**Pg**	**15 28 16.4**	**0.0**
BARS				*e*Sg		**Sb**	**15 28 30.8**	**-0.2**
ZAGS	**Zajecar**	**1.18**	**318**	*e*Pg		**Pb**	**15 28 17.1**	**-0.6**
ZAGS				*e*Sg		**Sg**	**15 28 33.3**	**+0.2**
PLD	**Plovdiv**	**1.32**	**126**	*e*Pg		**Pg**	**15 28 20.2**	**-0.2**
PLD				*e*Sg		**Sg**	**15 28 37.4**	**-0.1**
VLAD	**Vladila**	**1.32**	**36**	⇓ P		**Pg**	**15 28 21.1**	**+0.6**
VLAD				⇓ S		**Sg**	**15 28 38.4**	**+0.6**
BOVS	**Bovan**	**1.37**	**301**	⇑ P		**Pb**	**15 28 20.6**	**-0.2**
BOVS				⇑ S		**Sg**	**15 28 39.5**	**+0.4**
BOVS	**Bovan**	**1.37**	**301**	*e*Pg		**Pb**	**15 28 20.8**	**-0.1**
BOVS				*e*Sg		**Sg**	**15 28 39.8**	**+0.7**
PUNG	**Punghina**	**1.37**	**348**	⇑ P		**Pg**	**15 28 21.4**	**0.0**
PUNG				⇓ S		**Sn**	**15 28 38.3**	**-0.4**
PUNG	**Punghina**	**1.37**	**348**	*e*Pg		**Pg**	**15 28 21.6**	**+0.2**
PUNG				*e*Sg		**Sg**	**15 28 40.4**	**+1.2**
MMB	**Musomishta**	**1.42**	**167**	P		**Pg**	**15 28 22.5**	**+0.1**
MMB				S		**Sg**	**15 28 40.7**	**-0.1**
MMB	**Musomishta**	**1.42**	**167**	P		**Pg**	**15 28 22.7**	**+0.3**
MMB				S		**Sg**	**15 28 42.2**	**+1.3**
SELS	**Selova**	**1.64**	**281**	*e*Pg		**Sb**	**15 28 25.3**	**-0.1**
SELS				*e*Sg		**Sb**	**15 28 45.8**	**-0.4**
VAY	**Valandovo**	**1.71**	**199**	*e*Pn		**Pb**	**15 28 25.7**	**-0.9**
VAY				*e*Sn		**Sg**	**15 28 49.0**	**-0.9**
SRE	**Strehaia**	**1.73**	**357**	⇑ P		**Pn**	**15 28 25.3**	**-0.1**
KNT	**Kendrikon**	**1.80**	**190**	P		**Pb**	**15 28 27.9**	**-0.3**
SRS	**Serrai**	**1.83**	**173**	P		**Pg**	**15 28 30.0**	**-0.1**
SRS	**Serrai**	**1.83**	**173**	*e*Pn		**Pb**	**15 28 29.0**	**+0.3**
SRS				*e*Sg		**Sg**	**15 28 54.7**	**+0.9**
ELND	**Elena**	**1.88**	**89**	⇓ P		**Pg**	**15 28 30.4**	**-0.7**
ELND				⇓ S		**Sg**	**15 28 55.0**	**-0.5**
GOCS	**Kraljevo Serbi**	**1.89**	**290**	*e*Pn		**Pb**	**15 28 28.6**	**-1.3**
GOCS				*e*Sn		**Sb**	**15 28 52.4**	**-1.3**
KUBS	**Kucevo**	**1.90**	**322**	*e*Pn		**Pn**	**15 28 28.5**	**+0.8**
KUBS				*e*Sn		**Sb**	**15 28 52.8**	**-0.9**
HERR	**Herculane**	**2.05**	**342**	⇑ P		**Pn**	**15 28 29.4**	**-0.4**
GRUS	**Gruza**	**2.12**	**298**	*e*Pn		**Pn**	**15 28 31.7**	**+1.0**
GRUS				*e*Sn		**Sg**	**15 28 53.3**	**-0.9**
KAVA	**Kavala**	**2.13**	**155**	P		**Pg**	**15 28 35.2**	**-0.7**
MDVR	**Moldovita**	**2.18**	**328**	⇑ P		**Pn**	**15 28 31.9**	**+0.3**
MDVR				⇑ S		**Sn**	**15 28 59.1**	**+0.3**
MDVR	**Moldovita**	**2.18**	**328**	*e*Pn		**Pn**	**15 28 31.5**	**-0.1**
MDVR				*e*Sn		**Sn**	**15 28 59.1**	**+0.3**
IVAS	**Ivanjica**	**2.40**	**287**	*e*Pn		**Pn**	**15 28 35.1**	**+0.5**
IVAS				*e*Sn		**Sn**	**15 29 04.1**	**-0.1**
IVAS				*e*Sg		**Sg**	**15 29 11.6**	**-0.6**
TRUS	**Trudelj**	**2.48**	**302**	*e*Pn		**Pn**	**15 28 36.3**	**+0.7**
TRUS				*e*Sn		**Sn**	**15 29 07.2**	**+1.2**
TRUS				*e*Sg		**Sg**	**15 29 15.2**	**+0.6**
GZR	**Gura Zlata**	**2.49**	**351**	⇑ P		**Pn**	**15 28 36.1**	**+0.3**
GZR				⇓ S		**Sn**	**15 29 06.3**	**-0.1**
GZR	**Gura Zlata**	**2.49**	**351**	*e*Pn		**Pn**	**15 28 35.8**	**0.0**
GZR	**Gura Zlata**	**2.49**	**351**	*e*Pg		**Pb**	**15 28 41.2**	**+1.2**
GZR				*e*Sn		**Sn**	**15 29 06.5**	**+0.1**
LOT	**Lotru**	**2.53**	**7**	⇓ P		**Pn**	**15 28 36.2**	**-0.3**
LOT				⇓ S		**Sn**	**15 29 07.4**	**-0.2**
ARR	**Arges**	**2.61**	**21**	⇑ P		**Pn**	**15 28 37.4**	**-0.1**
VRSS	**Vrsac**	**2.62**	**327**	*e*Pn		**Pn**	**15 28 37.7**	**+0.1**
VRSS				*e*Sg		**Sg**	**15 29 18.6**	**-0.5**
ALN	**Alexandroupoli**	**2.88**	**134**	P		**Pn**	**15 28 42.8**	**+1.7**
BZS	**Buzias**	**2.95**	**336**	⇑ P		**Pn**	**15 28 42.3**	**+0.3**
BZS				⇓ S		**Sn**	**15 29 17.8**	**+0.3**
BZS	**Buzias**	**2.95**	**336**	*e*Pn		**Pn**	**15 28 41.9**	**-0.2**
BZS	**Buzias**	**2.95**	**336**	*e*Pg		**Pb**	**15 28 48.4**	**+0.6**
SURR	**Surduc**	**2.95**	**344**	⇑ P		**Pn**	**15 28 42.2**	**+0.2**
MLR	**Muntele Rosu**	**3.18**	**36**	⇓ P		**Pn**	**15 28 44.9**	**-0.5**
TEKS	**Tekeris**	**3.19**	**302**	*e*Pn		**Pn**	**15 28 45.3**	**-0.1**
TEKS				*e*Sg		**Sg**	**15 29 37.8**	**+0.5**
SIRR	**Siria**	**3.54**	**341**	⇓ P		**Pn**	**15 28 50.0**	**-0.2**
DRGR		**3.88**	**354**	⇓ P		**Pn**	**15 28 55.1**	**+0.1**
CFR	**Carcaliu**	**4.13**	**56**	⇓ P		**Pn**	**15 29 00.1**	**+1.8**

AFAD ***02*** *15:46:34.7, 39.14N×40.19E, h11km±4km, MW4.0*
ISK ***02*** *15:46:34.7, 39.18N×40.21E, h5km, ML3.8/19*
IDC ***02*** *15:46:35.1±1.0, 39.23N×40.13E, h0km, mb3.9/7, mbtmp3.8/10, ML2.9/3, MS3.0/11, Error ellipse: s-maj=21.1km s-min=10.3km az=163.0*
NEIC ***02*** *15:46:36.5±1.5, 39.25N±0.03×40.14E±0.06, h10km±1km, mb4.3/8, Error ellipse: s-maj=8.0km s-min=5.0km az=276.0*
ISC 02 15:46:35.0±1.1, 39.20N±0.02×40.19E±0.02, h5km±8km, n107, σ1.5/54/136, mb4.1/9, MS2.9/7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YEDI	**Yedisu-Bingol**	**0.37**	**49**	Pg		**Pb**	**15 46 43.2**	**-0.9**
YEDI				Sg		**Sb**	**15 46 49.3**	**-0.9**
TNCL	**Tunceli-Merkez**	**0.51**	**261**	P		**Pg**	**15 46 45.9**	**+1.1**
TNCL				S		**Sg**	**15 46 52.1**	**+0.6**
TNCL				*i* IAML			15 46 54.0	
	comp=E,9μm,0.7s							
TNCL				*i* IAML			15 46 56.0	
	comp=N,9μm,0.8s							
KOVA	**Elazig, Kovanc**	**0.57**	**211**	P		**Pg**	**15 46 45.8**	**-0.1**
KOVA				S		**Sg**	**15 46 53.0**	**-0.4**
KOVA				*i* IAML			15 46 54.0	
	comp=N,4μm,0.3s							
KOVA				*i* IAML			15 46 54.0	
	comp=E,6μm,0.4s							
KARO	**Karliova-Bingo**	**0.68**	**80**	Pg		**Pg**	**15 46 47.7**	**-0.3**
KARO				Sg		**Sb**	**15 46 59.0**	**-0.2**
SLHN	**Bingol, Solhan**	**0.69**	**110**	P		**Pg**	**15 46 48.0**	**-0.3**
SLHN				S		**Sg**	**15 46 58.0**	**+0.7**
SLHN				*i* IAML			15 47 03.0	
	comp=N,4μm,0.8s							
SLHN				*i* IAML			15 47 04.0	
	comp=E,8μm,0.9s							
ECAT	**Cat-ERZURUM**	**0.73**	**56**	P		**Pg**	**15 46 48.9**	**-0.2**
ECAT				S		**Sb**	**15 47 00.8**	**0.0**
ECAT				*i* IAML			15 47 08.0	
	comp=E,2.2nm,0.4s							
ECAT				*i* IAML			15 47 08.0	
	comp=N,4μm,0.4s							
KOPT	**Kop Dagi**	**0.85**	**16**			**Pb**	**15 46 52.2**	**-0.3**
KOPT				Sn		**Sn**	**15 47 06.2**	**-0.9**
KOPT	**Kop Dagi**	**0.85**	**16**	P		**Pb**	**15 46 52.5**	**0.0**
KOPT				S		**Sb**	**15 47 03.1**	**-1.3**
KOPT				*i* IAML			15 47 13.0	
	comp=N,4μm,1.0s							
KOPT				*i* IAML			15 47 16.0	
	comp=E,3μm,0.5s							
BAYB	**BAYBURT**	**1.06**	**3**	P		**Pb**	**15 46 55.8**	**-0.3**
BAYB				S		**Sb**	**15 47 10.7**	**+0.4**
BAYB				*i* IAML			15 47 17.0	
	comp=E,2μm,0.8s							
BAYB				*i* IAML			15 47 18.0	
	comp=N,1μm,0.5s							
MUSM	**Mu-Merkez**	**1.13**	**114**	P		**Pg**	**15 46 55.0**	**-1.8**
MUSM				S		**Sg**	**15 47 10.9**	**-0.5**
MUSM				*i* IAML			15 47 17.0	
	comp=N,664nm,1.1s							
MUSM				*i* IAML			15 47 17.0	
	comp=E,502nm,0.5s							
ELZG	**Elazig**	**1.17**	**234**	P		**Pg**	**15 46 56.7**	**-0.7**
ELZG				S		**Sg**	**15 47 11.8**	**-0.8**
ELZG				*i* IAML			15 47 16.0	
	comp=N,2μm,0.6s							
ELZG				*i* IAML			15 47 17.0	
	comp=E,2μm,0.9s							
KELT	**Kelkit**	**1.19**	**323**	P		**Pn**	**15 46 59.3**	**+0.7**
KEL

SANL	**SANLIURFA_Merk**	**2.23**	**205**	P	**Pn**	**15 47 13.1**	**+0.5**
ATAB	**Bozova**	**2.28**	**221**	P	**Pg**	**15 47 19.1**	**+0.5**
AKDM	**Akdamar-Van**	**2.35**	**111**	Pn	**Pn**	**15 47 15.6**	**+1.2**
AKCA	**Adyaman/G¶l**	**2.41**	**235**	P	**Pb**	**15 47 19.7**	**+0.8**
GEVA	**Gevas**	**2.41**	**111**		**Pb**	**15 47 17.2**	**-1.8**
GEVA	**Gevas**	**2.41**	**111**	P	**Pb**	**15 47 19.1**	**+0.2**
SIRN	**Sirnak**	**2.44**	**133**	P	**Pb**	**15 47 17.6**	**-1.8**
SCER	**sogukcermik**	**2.46**	**287**	P	**Pg**	**15 47 21.9**	**-0.2**
SCER				*i* IAML		15 48 12.0	
	comp=E,364nm,0.7s						
SCER				*i* IAML		15 48 15.0	
	comp=N,307nm,0.5s						
BCA	**Borcka**	**2.50**	**26**	Pn	**Pn**	**15 47 18.2**	**+1.9**
SVSK	**Karacayir**	**2.57**	**287**	Pn	**Pn**	**15 47 19.6**	**+2.4**
SURC	**SANLIURFA_SURC**	**2.63**	**209**	P	**Pn**	**15 47 18.9**	**+0.8**
SURC				S	**Sb**	**15 47 56.3**	**+1.2**
SURC				*i* IAML		15 48 07.0	
	comp=E,354nm,1.2s						
SURC				*i* IAML		15 48 09.0	
	comp=N,468nm,0.9s						
CUAYA	**Sivas-Altinyay**	**2.67**	**273**	P	**Pg**	**15 47 25.4**	**-0.9**
GZT	**Gaziantep**	**2.77**	**229**	P	**Pg**	**15 47 28.3**	**+0.4**
NZIP	**Nizip/Gaziante**	**2.92**	**223**	P	**Pg**	**15 47 33.1**	**+2.1**
TOKT	**Tokat**	**3.02**	**293**	Pn	**Pn**	**15 47 26.1**	**+2.5**
TOKA	**Tokat**	**3.07**	**293**		**Pn**	**15 47 24.8**	**+0.6**
GAZ	**Gaziantep**	**3.10**	**230**		**Pn**	**15 47 24.9**	**+0.3**
GAZ	**Gaziantep**	**3.10**	**230**	Pn	**Pn**	**15 47 26.5**	**+1.9**
TASB	**TASBURUN-IGDIR**	**3.23**	**75**	Pn	**Pn**	**15 47 28.6**	**+2.2**
CUKT	**Cukurca**	**3.32**	**125**	Pn	**Pn**	**15 47 29.4**	**+1.7**
AKH	**Akhalkalaki**	**3.36**	**48**	Pn	**Pn**	**15 47 30.4**	**+2.1**
BNN	**Bunyan**	**3.40**	**266**		**Pn**	**15 47 25.9**	**-2.9**
GNI	**Garni**	**3.64**	**73**		**Pn**	**15 47 33.1**	**+0.9**
GNI	**Garni**	**3.64**	**73**	Pn	**Pn**	**15 47 34.2**	**+2.1**
GNI	**Garni**	**3.64**	**73**	Pg	**Pb**	**15 47 41.7**	**+1.8**
	0.6nm,0.3s,baz=278,slow=7.1,SNR=4.4						
KBZ	**Khabaz**	**4.96**	**23**	Pn	**Pn**	**15 47 53.6**	**+3.5**
	0.4nm,0.3s,baz=201,slow=8.6,SNR=4.7						
	1.8nm,0.6s						
BRTR	**Keskin Array B**	**5.10**	**278**		**Pn**	**15 47 52.9**	**+0.8**
BRTR	**Keskin Array B**	**5.10**	**278**	Pn	**Pn**	**15 47 53.3**	**+1.2**
	0.6nm,0.3s,baz=100,slow=15,SNR=14						
BRTR				Lg	Lg	15 49 13.8	
	0.3nm,0.3s,baz=111,slow=30,SNR=3.5						
	2.8nm,0.5s						
KIV	**Kislovodsk**	**5.11**	**21**	Pn	**Pn**	**15 47 50.5**	**-1.8**
BZK	**Bozkurt**	**5.46**	**302**		**Pn**	**15 47 52.9**	**-4.0**
ANTO	**Ankara**	**5.76**	**279**	Pn	**Pn**	**15 47 59.1**	**-2.0**
MMAI	**Mount Meron Ar**	**7.28**	**214**	Pn	**Pn**	**15 48 26.9**	**+4.8**
	0.6nm,0.3s,baz=42,slow=9.7,SNR=2.2						
MMAI				Lg	Lg	15 50 24.7	
	0.5nm,0.3s,baz=24,slow=36,SNR=1.5						
MMAI				LR	LR	15 50 56.9	
	comp=Z,43nm,21.7s,baz=11,slow=36						
ASF	**Jabal al Asfar**	**7.50**	**202**	Pn	**Pn**	**15 48 27.3**	**+2.2**
	0.3nm,0.3s,baz=36,slow=19,SNR=5.7						
ASF				Lg	Lg	15 50 34.3	
	0.7nm,0.3s,baz=16,slow=18,SNR=4.4						
	3.2nm,0.7s						
MANT	**Manisa**	**9.10**	**269**	Pn	**Pn**	**15 48 44.4**	**-2.8**
MANT				Sn	**Sn**	**15 50 26.8**	**-3.4**
EIL	**Elat**	**10.44**	**206**	Lg	Lg	15 52 10.7	
	0.2nm,0.3s,baz=135,slow=19,SNR=2.0						
EIL				LR	LR	15 53 18.7	
	comp=Z,32nm,21.5s,baz=175,slow=39						
MLR	**Muntele Rosu**	**12.27**	**305**	Pn	**Pn**	**15 49 26.6**	**-3.7**
MLR	**Muntele Rosu**	**12.27**	**305**	LR	LR	15 54 26.0	
	comp=Z,32nm,21.9s,baz=160,slow=39						
BURAR	**Bucovina Array**	**13.74**	**313**	Pn	**Pn**	**15 49 46.4**	**-4.1**
AKASG	**Malin Array Be**	**13.86**	**330**	Pn	**Pn**	**15 49 55.4**	**+3.4**
	0.6nm,0.3s,baz=131,slow=13,SNR=2.6						
PDG	**Podgorica**	**16.17**	**288**	Pn	**Pn**	**15 50 18.9**	**-4.0**
AKTO	**Aktyubinsk**	**16.87**	**42**	Pn	**P**	**15 50 33.3**	**-0.6**
	0.1nm,0.3s,baz=240,slow=13,SNR=7.5						
AKTO				LR	LR	15 59 00.5	
	comp=Z,76nm,18.3s,baz=198,slow=44						
ABKAR	**Akbulak array**	**17.32**	**48**	Pn	**Pn**	**15 50 34.1**	**-3.2**
ARTI	**Arti**	**20.99**	**29**	P	**P**	**15 51 19.9**	**+0.9**
	3.3nm,0.6s,baz=225,slow=8.6,SNR=5.1						
ARTI				LR	LR	16 01 34.6	
	comp=Z,32nm,19.5s,baz=226,slow=43						
	3.3nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**23.04**	**299**	P	**P**	**15 51 38.0**	**-3.3**
GRFO	**Grafenberg**	**23.05**	**307**	P	**P**	**15 51 38.6**	**-2.5**
GRFO				IAmb	IAmb	15 51 47.9	
	comp=Z,6.3nm,0.9s						
KKAR	**Karatay Array**	**23.10**	**70**	P	**P**	**15 51 42.5**	**+0.8**
GAR	**Garm**	**23.34**	**81**		**P**	**15 51 45.2**	**+1.1**
VSL	**Villasalto**	**23.78**	**281**	P	**P**	**15 51 48.2**	**-0.2**
FINES	**FINESS Array B**	**23.92**	**343**	P	**P**	**15 51 50.8**	**+1.3**
FINES	**FINESS Array B**	**23.92**	**343**	P	**P**	**15 51 50.4**	**+0.9**
	comp=Z,2.9nm,0.6s,baz=149,slow=9.3,SNR=9.4						
	comp=Z,2.9nm,0.6s						
KEST	**Kesra**	**24.66**	**272**	P	**P**	**15 51 58.6**	**+1.8**
	comp=Z,4.7nm,0.5s,baz=56,slow=6.2,SNR=8.7						
	comp=Z,4.7nm,0.5s						
BVAR	**Borovoye Array**	**24.87**	**46**	LR	LR	16 03 25.9	
	comp=Z,24nm,21.3s,baz=249,slow=41						
SENIN	**Lac Senin/Sane**	**25.05**	**297**	P	**P**	**15 51 59.0**	**-1.3**
SENIN				IAmb	IAmb	15 52 21.3	
	comp=Z,3.3nm,0.8s						
KDJ	**Kajisay**	**28.07**	**72**	P	**P**	**15 52 28.0**	**+0.4**
KDJ				IAmb	IAmb	15 52 57.4	
	comp=Z,12nm,1.5s						
KURBB	**Kurchatov Arra**	**29.14**	**54**	LR	LR	16 06 35.3	
	comp=Z,80nm,19.1s,baz=176,slow=41						
ARCES	**ARCESS Array B**	**31.40**	**350**	P	**P**	**15 52 56.5**	**0.0**
ARCES				IAmb	IAmb	15 52 59.9	
	comp=Z,11nm,1.4s						
ARCES	**ARCESS Array B**	**31.40**	**350**	P	**P**	**15 52 56.3**	**-0.2**
	comp=Z,4.1nm,1.2s,baz=162,slow=8.4,SNR=1.3						
	comp=Z,4.1nm,1.2s						
MKAR	**Makanchi Array**	**31.41**	**62**	P	**P**	**15 52 58.1**	**+1.2**
	comp=Z,0.9nm,0.9s,baz=266,slow=5.0,SNR=5.5						
MKAR				LR	LR	16 07 50.8	
	comp=Z,25nm,19.4s,baz=202,slow=41						
	comp=Z,0.9nm,0.9s						
ZALV	**Zalesovo Beam**	**33.43**	**49**	P	**P**	**15 53 16.4**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=262,slow=8.6,SNR=2.3						
ZALV				LR	LR	16 08 33.8	
	comp=Z,26nm,18.5s,baz=134,slow=39						
	comp=Z,0.4nm,0.3s						
ESDC	**Sonseca Array**	**33.85**	**285**	P	**P**	**15 53 17.8**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=88,slow=8.4,SNR=2.6						
ESDC				LR	LR	16 06 58.8	
	comp=Z,25nm,20.4s,baz=328,slow=36						
	comp=Z,0.7nm,0.9s						
SONM	**Songino Array**	**47.44**	**57**	LR	LR	16 17 35.2	
	comp=Z,97nm,18.8s,baz=256,slow=39						

NEIC ***02*** *15:50:54.6±1.3, 14.°41S±0.°08×167.°4E±0.°1, h174km±8km, mb4.3/12, Error ellipse: s-maj=17.7km s-min=9.0km az=62.0*

IDC ***02*** *15:50:55.7±3.6, 14.°41S×167.°25E, h182km±33km, mb3.6/9, mbtmp4.1/10, Error ellipse: s-maj=26.1km s-min=21.6km az=140.0*

ISC 02 15:50:53.9±0.6, 14.°38S±0.°08×167.°3E±0.°1, h170km, n30, σ1§09/33, mb4.1/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.06**	**187**		**Pn**	**15 51 22.3**	**+1.2**
DZM	**Mont Dzumac**	**7.69**	**186**	Pn	**Pn**	**15 52 45.6**	**+2.3**
DZM	**Mont Dzumac**	**7.69**	**186**	P	**Pn**	**15 52 45.3**	**+2.0**
	5.8nm,0.4s,baz=342,slow=20,SNR=34						
DZM				S	**Sn**	**15 54 10.3**	**+0.7**
	5.2nm,0.8s,baz=323,slow=20,SNR=1.3						
PINNC	**Pines Island,**	**8.19**	**179**	Pn	**Pn**	**15 52 49.4**	**-0.3**
FUNA	**Funafuti**	**13.00**	**65**	P	**Pn**	**15 53 53.0**	**+0.5**
BKZ	**Black Stump Fm**	**25.98**	**164**	P	**P**	**15 56 10.2**	**-0.6**
LTZ	**Lake Taylor**	**28.62**	**172**	P	**P**	**15 56 34.4**	**0.0**
LTZ				IAmb	IAmb	15 56 56.3	
	comp=Z,13nm,1.3s						
STKA	**Stephens Creek**	**29.26**	**229**	P	**P**	**15 56 41.0**	**+0.9**
STKA	**Stephens Creek**	**29.26**	**229**	P	**P**	**15 56 41.2**	**+1.0**
	comp=Z,1.8nm,0.4s,baz=53,slow=11,SNR=7.3						
	comp=Z,1.8nm,0.4s						
WR8	**Warramunga Arr**	**31.82**	**255**	P	**P**	**15 57 02.2**	**-0.6**
WR8				IAmb	IAmb	15 57 20.4	
	comp=Z,8.8nm,1.5s						
WB0	**Warramunga Arr**	**31.90**	**256**	P	**P**	**15 57 03.1**	**-0.5**
WB0				IAmb	IAmb	15 57 11.1	
	comp=Z,8.4nm,1.4s						
WRAB	**Tennant Creek**	**31.95**	**255**	P	**P**	**15 57 03.1**	**-0.9**
WRA	**Warramunga Arr**	**31.97**	**255**	P	**P**	**15 57 03.1**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=84,slow=9.1,SNR=8.8						
WRA				PcP	**PcP**	**15 59 50.4**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=89,slow=3.2,SNR=1.4						
	comp=Z,0.4nm,0.5s						
AS31	**Alice Springs**	**32.85**	**249**	P	**P**	**15 57 10.9**	**-0.9**
ASAR	**Alice Springs**	**32.85**	**249**	P	**P**	**15 57 10.7**	**-1.1**
ASAR	**Alice Springs**	**32.85**	**249**	P	**P**	**15 57 11.0**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=84,slow=8.7,SNR=95						
ASAR				PcP	**PcP**	**15 59 51.8**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=84,slow=2.5,SNR=2.2						
	comp=Z,0.8nm,0.3s						
BBOO	**Buckleboo**	**33.84**	**232**	P	**P**	**15 57 20.8**	**+0.6**
KNRA	**Kununurra**	**37.24**	**263**	P	**P**	**15 57 49.1**	**-0.2**
KNRA				IAmb	IAmb	15 57 50.1	
	comp=Z,10nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.14**	**259**	P	**P**	**15 58 13.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**40.14**	**259**	P	**P**	**15 58 13.6**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=104,slow=9.6,SNR=5.6						
	comp=Z,2.2nm,0.9s						
CASY	**Casey**	**63.87**	**202**	P	**P**	**16 01 05.5**	**-2.5**
CASY				IAmb	IAmb	16 01 45.2	
	comp=Z,5.7nm,1.2s						
PETK	**Petropavlovsk-**	**67.72**	**354**	P	**P**	**16 01 34.3**	**+1.5**
	comp=Z,2.2nm,0.8s,baz=162,slow=5.2,SNR=5.4						
	comp=Z,2.2nm,0.8s						
QSPA	**South Pole Qui**	**75.64**	**180**	P	**P**	**16 02 18.7**	**-1.4**
QSPA				IAmb	IAmb	16 02 27.2	
	comp=Z,8.9nm,1.5s						
QSPA	**South Pole Qui**	**75.64**	**180**	P	**P**	**16 02 21.4**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=90,slow=1.0,SNR=2.3						
	comp=Z,1.2nm,0.9s						
ILAR	**Eielson Array**	**86.18**	**18**	P	**P**	**16 03 14.5**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=231,slow=6.0,SNR=7.4						
	comp=Z,0.7nm,0.8s						
SNAA	**Sanae**	**93.89**	**183**	P	**P**	**16 03 50.5**	**-1.3**
	comp=Z,0.8nm,1.0s,baz=197,slow=7.7,SNR=1.8						
	comp=Z,0.8nm,1.0s						
MKAR	**Makanchi Array**	**96.99**	**316**	P	**P**	**16 04 07.0**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=103,slow=6.5,SNR=7.2						
	comp=Z,0.7nm,0.7s						
ARCES	**ARCESS Array B**	**119.93**	**345**	PKP	**PKPdf**	**16 09 23.6**	**0.0**
	comp=Z,1.2nm,0.3s,baz=50,slow=2.3,SNR=42						
FINES	**FINESS Array B**	**125.42**	**338**	PKP	**PKPdf**	**16 09 34.2**	**-0.1**
	comp=Z,3.5nm,1.0s,baz=37,slow=0.7,SNR=4.9						
KEST	**Kesra**	**150.98**	**321**	PKPbc	**PKiKP**	**16 10 28.2**	**+0.6**
	comp=Z,3.8nm,0.6s,baz=282,slow=2.3,SNR=4.6						

IDC 02 16:24:17.8±1.5, 10.°51N×91.°67E, h0km, mb3.1/3, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=49.4km s-min=29.7km az=45.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.30**	**254**	Pn	Pn	16 27 00.6	-0.1
	0.3nm,0.3s,baz=162,slow=22,SNR=2.2						
PALK				Sn	Sn	16 28 55.8	-12
	1.1nm,0.3s,baz=135,slow=16,SNR=7.0						
	9.7nm,0.9s						
H08S3	**Diego Garcia H**	**26.25**	**227**	T	T	16 57 15.6	
	baz=46,slow=75,SNR=165						
H08S2	**Diego Garcia H**	**26.26**	**227**	T	T	16 57 20.1	
	baz=46,slow=75,SNR=58						
H08S1	**Diego Garcia H**	**26.27**	**227**	T	T	16 57 22.3	
	baz=46,slow=75,SNR=21						
MKAR	**Makanchi Array**	**37.03**	**349**	P	P	16 31 29.3	0.0
	0.1nm,0.3s,baz=171,slow=10,SNR=1.8						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**51.77**	**126**	P	P	16 33 27.6	-0.1
	0.1nm,0.5s,baz=307,slow=8.2,SNR=6.4						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**53.47**	**130**	P	P	16 33 40.0	-0.2
	0.3nm,0.9s,baz=305,slow=7.2,SNR=6.7						
	0.3nm,0.9s						
H04N2	**CROZET ISLANDS**	**66.78**	**209**	T	T	17 47 58.0	
	baz=44,slow=74,SNR=95						
H04N1	**CROZET ISLANDS**	**66.78**	**209**	T	T	17 48 01.5	
	baz=44,slow=74,SNR=116						
H04N3	**CROZET ISLANDS**	**66.79**	**209**	T	T	17 47 55.8	
	baz=44,slow=74,SNR=98						

NEIC ***02*** *16:24:37.5±1.2, 19.°40N±0.°01×155.°289W±0.°009, h5km, Error ellipse: s-maj=2.0km s-min=1.5km az=159.0*

HVO 02 16:24:37.0±0.7, 19.°42N±0.°01×155.°275W±0.°005, h0km±3km, ML2.6/20, ML2.0/34(NEIC), Error ellipse: s-maj=1.6km s-min=0.7km az=180.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UWB	**Uwekahuna Bluf**	**0.00**	**311**		Pg	16 24 37.4	+0.1
SBLHI	**Steaming Bluff**	**0.01**	**52**		Pg	16 24 37.6	+0.4
OBL	**Observatory Le**	**0.01**	**243**		Pg	16 24 37.7	+0.4
HATHI	**Halema'uma'u T**	**0.01**	**86**		Pg	16 24 37.8	+0.5
BYL	**Byron's Ledge**	**0.02**	**126**		Pg	16 24 37.9	+0.5
UWE	**Uwekahuna**	**0.02**	**267**		Pg	16 24 37.9	+0.5
KKO	**Keanakako'i**	**0.03**	**161**		Pg	16 24 38.3	+0.8
KKO					Sg	16 24 38.7	+0.8
RIM	**Rim**	**0.03**	**179**		Pg	16 24 38.3	+0.8
RIM					Sg	16 24 39.2	+1.3
WRMHI	**West Rim**	**0.03**	**237**		Pg	16 24 38.2	+0.7
WRMHI					Sg	16 24 39.1	+1.2
SDHHI	**Sand Hill**	**0.04**	**209**		Pg	16 24 38.5	+0.8
SDHHI					Sg	16 24 39.7	+1.5
RSD	**Rainshed**	**0.04**	**356**		Pg	16 24 38.6	+0.7
RSD					Sg	16 24 39.8	+1.4
PUH	**Pauahi**	**0.07**	**131**		Pg	16 24 39.5	+1.0
KNHH	**Kane Nui o Ham**	**0.11**	**113**		Pg	16 24 40.1	+1.1
MLH	**Mauna Loa**	**0.13**	**304**		Pg	16 24 40.7	+1.2
MLH				IAML		16 24 43.9	
	comp=N,607nm,0.3s						
HLP	**Hilina Pali**	**0.13**	**194**		Pg	16 24 40.5	+1.1
HLP				IAML		16 24 43.6	
	comp=E,567nm,0.9s						
STCH	**Steam Cracks**	**0.15**	**104**		Pg	16 24 40.6	+0.8
STCH				IAML		16 24 43.7	
	comp=E,341nm,0.5s						
STCH				IAML		16 24 44.3	
	comp=N,373nm,0.3s						
NPOC	**North of Pu'u**	**0.16**	**100**		Pg	16 24 41.0	+0.9
NPOC					Sg	16 24 44.2	+2.1
JCUZ	**Jacuzzi**	**0.17**	**103**		Pg	16 24 41.1	+0.9
AIN	**Ainahou**	**0.18**	**254**		Pg	16 24 41.5	+1.0
AIN				IAML		16 24 46.4	
	comp=N,427nm,0.5s						
HTC	**Hot Caves**	**0.22**	**212**		Pg	16 24 42.1	+0.9
JOKA	**Jonika Flow**	**0.26**	**87**	Pg	Pg	16 24 42.3	+0.4
JOKA				IAML		16 24 48.4	
	comp=E,134nm,1.1s						
JOKA				IAML		16 24 49.7	
	comp=N,216nm,1.3s						
HMH	**Humu'ula Sheep**	**0.27**	**312**		Pg	16 24 43.0	+0.9
HMH				IAML		16 24 51.4	
	comp=E,250nm,0.5s						
HMH				IAML		16 24 51.6	
	comp=N,266nm,0.5s						
MWH	**Mokuaweoweo**	**0.31**	**282**		Pg	16 24 44.0	+1.0
MWH				IAML		16 24 52.1	
	comp=N,221nm,0.6s						
MWH				IAML		16 24 53.5	
	comp=E,319nm,0.7s						
MWH	**Mokuaweoweo**	**0.31**	**282**		Sg	16 24 49.0	+2.0
KHU	**Kahuku**	**0.37**	**241**		Pg	16 24 44.4	+0.4
ALEP	**Alea Permanent**	**0.37**	**289**		Pg	16 24 44.7	+0.6
POHA	**Pohakuloa**	**0.41**	**324**	Pg	Pg	16 24 45.8	+0.9
POHA				IAML		16 24 54.5	
	comp=E,143nm,1.1s						
POHA				IAML		16 24 59.7	
	comp=E,134nm,0.4s						
POHA	**Pohakuloa**	**0.41**	**324**		Sg	16 24 52.3	+2.0
HUH	**Hualalai**	**0.59**	**296**		Pg	16 24 48.5	+0.2
HPAH	**Hawaii Prepara**	**0.72**	**327**	Pg	Pg	16 24 50.2	-0.7
HPAH				IAML		16 25 00.1	
	comp=N,82nm,3.7s						
MHA	**Mahukona**	**0.96**	**322**	Pg	Pg	16 24 53.3	-2.2
KHLH	**Kahului Airpor**	**1.82**	**324**	Pn	Pn	16 25 07.7	-1.9

VAO ***02*** *16:35:22.6±0.7, 14.°23S×72.°80W, h48km±5km, mb5.7*

IDC ***02*** *16:35:25.4±1.9, 14.°04S×72.°51W, h60km±17km, mb4.5/21, mbtmp4.8/25, MS3.5/26, Error ellipse: s-maj=13.9km s-min=9.9km az=54.0*

BJI ***02*** *16:35:26.0, 14.°10S×72.°60W, h60km, mB5.2/5, Ms5.1/3, Ms7 4.9/1*

NEIC ***02*** *16:35:27.8, 14.°05S×72.°55W, h70km*

NEIC ***02*** *16:35:27.8±1.7, 14.°05S±0.°07×72.°55W±0.°02, h80km±1km, mb5.0/349, Mww5.0/12, Error ellipse: s-maj=11.8km s-min=3.1km az=187.0*

NEIC ***02*** *16:35:27.8, 14.°15S×72.°86W, h70km, Moment Tensor Solution. Duration: 1§6 Moment tensor: Scale 10¹⁶Nm; Mrr=3.49; Mθθ=0.04; Mϕϕ3.54; Mrθ=0.22; Mrϕ=-1.80; Mθϕ1.00; Fault plane solution: M₀4.08000×10¹⁶ NP1: ϕs333.49000°, δ37.85000°, λ-95.94000°. NP2: ϕs161.00000°, δ52.39000°, λ-85.40000°. Principal axes: T 4.4135, Plg7.0000°, Azm248.0000°; N -0.7785, Plg4.0000°, Azm338.0000°; P -3.6351, Plg82.0000°, Azm95.0000°;*

GCMT ***02*** *16:35:30.8±0.2, 14.°18S±0.°02×72.°77W±0.°02, h95km±2km, MW5.0/105, Moment Tensor Solution. s74,c86; s105,c149; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=3.04±.09; Mθθ0.27±.10; Mϕϕ2.77±.12; Mrθ-0.14±.07; Mθϕ-2.58±.09; Mrϕ1.79±.08; Best double couple: M₀4.18600×10¹⁶ NP1:ϕs307.00000°, δ37.00000°, λ-122.00000°. NP2:ϕs165.00000°, δ59.00000°, λ-68.00000°. Principal axes: T 4.7190, Plg12.0000°, Azm240.0000°; N -1.0650, Plg19.0000°, Azm334.0000°; P -3.6530, Plg68.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 16:35:25.6±0.4, 14.°14S±0.°04×72.°56W±0.°05, h65km±3km, h65km:pP-P, n457, σ1§33/320, mb5.0/194, 6C-1D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB18	**Visviri**	**4.54**	**140**	Pn	Pn	16 36 37.7	+5.4
NNA	**Nana**	**4.69**	**297**		**Pn**	**16 36 33.6**	**-0.4**
NNA				Sn	**Sn**	**16 37 25.6**	**-1.5**
NNA	**Nana**	**4.69**	**297**	P	**Pn**	**16 36 35.2**	**+1.2**
	177nm,0.3s,baz=129,slow=12,SNR=32						
NNA				S	**Sn**	**16 37 26.3**	**-0.8**
	401nm,0.7s,baz=190,slow=17,SNR=5.9						
AP01	**Chacalluta**	**4.72**	**153**		**Pn**	**16 36 35.5**	**+1.2**
AP01				Sn	**Sn**	**16 37 27.6**	**-0.1**
LPAZ	**La Paz**	**4.78**	**117**	P	Pn	16 36 41.4	+5.7
	88nm,0.3s,baz=300,slow=10.0,SNR=469						
LPAZ				S	**Sn**	**16 37 35.6**	**+5.5**
	239nm,0.6s,baz=26,slow=20,SNR=8.9						
LPAZ				LR	LR	16 38 59.0	
	comp=Z,620nm,20.9s,baz=298,slow=45						
PB12	**IPOC Station P**	**4.94**	**155**		**Pn**	**16 36 38.2**	**+0.8**
PB16	**IPOC Station P**	**5.10**	**145**		**Pn**	**16 36 42.9**	**+2.9**
PB11	**IPOC Station P**	**6.24**	**154**		**Pn**	**16 36 55.1**	**-0.3**
PB11				Sn	**Sn**	**16 38 02.5**	**-2.9**
CZSB	**Cruzeiro do Su**	**6.37**	**359**		**Pn**	**16 36 57.7**	**+0.7**
CZSB	**Cruzeiro do Su**	**6.37**	**359**	*e*P	**Pn**	**16 36 56.2**	**-0.7**
CZSB				*e*S	**Sn**	**16 38 08.2**	**-0.1**
GO01	**Chusmiza**	**6.37**	**150**		**Pn**	**16 36 59.1**	**+1.7**
TA01	**Diego Aracena**	**6.78**	**161**		**Pn**	**16 37 01.9**	**-0.7**
PB08	**IPOC Station P**	**6.80**	**152**		**Pn**	**16 37 04.1**	**+0.9**
PATCX	**Punta Patache**	**7.03**	**161**	Pn	**Pn**	**16 37 05.3**	**-0.6**
PB01	**IPOC Station P**	**7.47**	**157**		**Pn**	**16 37 11.4**	**-0.6**
PB02	**IPOC Station P**	**7.58**	**161**		**Pn**	**16 37 12.7**	**-0.8**
PB09	**IPOC Station P**	**8.24**	**158**		**Pn**	**16 37 22.4**	**-0.3**
PB03	**IPOC Station P**	**8.31**	**162**		**Pn**	**16 37 22.6**	**-1.0**
PB05	**IPOC Station P**	**8.95**	**166**		**Pn**	**16 37 30.1**	**-2.3**
PB06	**IPOC Station P**	**8.98**	**162**		**Pn**	**16 37 30.8**	**-2.0**
ATAH	**Atahualpa**	**9.02**	**320**	P	**Pn**	**16 37 36.3**	**+2.8**
	12nm,0.3s,baz=165,slow=16,SNR=12						
ATAH				S	**Sn**	**16 39 19.9**	**+6.2**
	27nm,0.7s,baz=112,slow=22,SNR=1.3						
PB10	**IPOC Station P**	**9.52**	**169**	Pn	Pn	16 37 36.8	-3.1
AF01	**San Pedro de A**	**9.70**	**155**	Pn	**Pn**	**16 37 42.3**	**-0.5**
TBTG	**Tabatinga, AM**	**10.23**	**15**		**Pn**	**16 37 48.6**	**-1.2**
TBTG	**Tabatinga, AM**	**10.23**	**15**	*e*P	**Pn**	**16 37 49.3**	**-0.5**
SAML	**Samuel**	**10.54**	**62**		**Pn**	**16 37 54.1**	**+0.2**
SAML	**Samuel**	**10.54**	**62**	*e*P	**Pn**	**16 37 54.5**	**+0.5**
PB14	**IPOC Station P**	**10.63**	**169**		Pn	16 37 52.4	-3.0
SIV	**San Ignacio**	**11.25**	**101**	P	**Pn**	**16 38 04.7**	**+1.0**
	38nm,0.5s,baz=285,slow=9.0,SNR=101						
SIV				S	**Sn**	**16 40 01.4**	**-6.5**
	102nm,0.7s,baz=195,slow=15,SNR=7.2

FRTB **Fartura** 23.60 116 *e*P P **16 40 30.0 -0.9**
IPMB **Ipameri, GO** 23.70 103 *e*P P **16 40 30.9 -1.1**
PRPB **Parauapebas** 23.73 73 *e*P P **16 40 33.0 +0.8**
BDFB **Brasilia** 23.77 97 P P **16 40 31.9 -0.7**
24nm,1.1s,baz=263,slow=10,SNR=16
BDFB LR LR 16 50 53.0
comp=Z,84nm,20.2s,baz=247,slow=39
24nm,1.1s
BB19B **Bebedouro** 23.90 110 *e*P P **16 40 33.0 -0.7**
CPSB **Cacapava Do Su** 23.92 136 *e*P P **16 40 33.6 -0.1**
PLTB **Pedras Altas** 24.68 138 P P **16 40 40.6 0.0**
PLTB IAmb IAmb 16 40 42.1
comp=Z,100nm,1.2s
PLTB **Pedras Altas** 24.68 138 *e*P P **16 40 40.1 -0.4**
SMTB **Santa Maria do** 25.02 81 *e*P P **16 40 45.3 +1.5**
RCLB **Rio Claro- Sao** 25.12 113 *e*P P **16 40 44.9 +0.1**
CNLB **Canela** 25.13 130 *e*P P **16 40 44.5 -0.2**
PCRV **Puerto La Cruz** 25.40 18 P P **16 40 47.7 +0.4**
comp=Z,12nm,0.6s,baz=182,slow=5.8,SNR=9.4
PCRV LR LR 16 51 29.8
comp=Z,241nm,18.6s,slow=38
comp=Z,12nm,0.6s
PMNB **Patos De Minas** 25.43 103 *e*P P **16 40 47.4 -0.3**
SPB **Sao Paulo** 25.53 115 P P **16 40 48.2 -0.2**
SPB IAmb IAmb 16 40 49.4
comp=Z,38nm,0.7s
SPB **Sao Paulo** 25.53 115 *e*P P **16 40 48.7 +0.3**
TRQA **Tornquist** 25.61 160 P P **16 40 48.9 0.0**
TRQA IAmb IAmb 16 40 50.2
comp=Z,57nm,1.6s
MAJ01 **Sao Joao Batis** 25.61 125 *e*P P **16 40 49.1 0.0**
VAO **Valinhos** 25.78 114 P P **16 40 50.6 -0.2**
VAO IAmb IAmb 16 40 52.5
comp=Z,42nm,1.0s
VAO **Valinhos** 25.78 114 *e*P P **16 40 50.8 +0.1**
PET01 **Itanhaem-SP** 25.88 117 *e*P P **16 40 51.7 +0.2**
LR05 **Currie** 26.00 179 P P **16 40 52.8 +0.4**
LR05 IAmb IAmb 16 41 19.9
comp=Z,49nm,1.1s
LCR2 **La Lucha 2** 26.30 334 P P **16 40 53.1 -2.5**
PLCA **Paso Flores** 26.55 177 P P **16 40 58.2 +0.7**
comp=Z,6.8nm,0.9s,baz=358,slow=11,SNR=7.8
comp=Z,6.8nm,0.9s
TMAB **Tom-Au,PA,Br** 26.85 66 *e*P P **16 41 02.6 +2.3**
SDBA **SAO DESIDERIO** 26.97 90 *e*P P **16 41 01.4 -0.2**
PARB **Paraibuna** 27.06 114 *e*P P **16 41 02.3 0.0**
BSCB **Bom Sucesso** 27.33 108 *e*P P **16 41 04.1 -0.6**
JANB **Januaria** 27.35 95 *e*P P **16 41 03.6 -1.3**
SLP01 **Ubatuba-SP** 27.47 113 *e*P P **16 41 06.1 0.0**
MDP **Montagnes des** 27.50 47 P P **16 41 06.1 0.0**
comp=Z,2.9nm,0.6s,baz=213,slow=11,SNR=4.4
comp=Z,2.9nm,0.6s
DIAM **Diamantina, MG** 28.03 102 *e*P P **16 41 10.8 -0.3**
LL01 **San Ignacio de** 28.14 180 P P **16 41 11.0 -0.6**
MAN01 **Angra dos Reis** 28.43 112 *e*P P **16 41 15.0 +0.5**
ESPN **Las Esperanzas** 28.63 335 IAmb IAmb 16 41 20.1
comp=Z,32nm,0.5s
VAS01 **Vassouras-RJ** 28.78 111 *e*P P **16 41 17.8 +0.2**
DUB01 **Friburgo-RJ** 29.72 110 *e*P P **16 41 26.3 +0.4**
HERN **Volcan Telica** 30.10 331 IAmb IAmb 16 41 43.6
comp=Z,876nm,0.5s
SIUN **Universidad Ur** 30.20 336 P P **16 41 29.0 -1.1**
SIUN IAmb IAmb 16 41 46.9
comp=Z,3.8nm,0.8s
CRIN **San Cristobal** 30.28 331 P P **16 41 30.2 -0.8**
SJMB **Sao Joao De Ma** 30.41 103 *e*P P **16 41 31.8 -0.3**
RIB01 **Linhares ES** 31.20 104 *e*P P **16 41 38.4 -0.6**
GUA01 **Guaratinga, BA** 31.66 99 *e*P P **16 41 43.3 +0.2**
CMC01 **Camacan, BA** 31.96 96 *e*P P **16 41 45.9 +0.2**
OBIP **Obispado Ponce** 32.51 11 P P **16 41 49.4 -1.0**
OBIP IAmb IAmb 16 41 55.6
comp=Z,29nm,1.0s
CELP **Cerrillos** 32.55 11 P P **16 41 49.5 -1.3**
CELP IAmb IAmb 16 41 53.4
comp=Z,34nm,1.1s
PRSN **Puerto Rico Se** 32.59 10 P P **16 41 47.7 -3.3**
PDPR **Patillas Dam,** 32.60 12 P P **16 41 50.1 -1.0**
PDPR IAmb IAmb 16 41 53.1
comp=Z,13nm,0.5s
SJG **San Juan** 32.66 11 LR LR 16 56 58.4
comp=Z,42nm,21.6s,baz=154,slow=40
GCPR **Guaynabo City** 32.87 11 P P **16 41 52.9 -0.6**
GCPR IAmb IAmb 16 41 57.4
comp=Z,12nm,0.6s
MTO3 **Montecristo** 32.87 329 P P **16 41 54.9 +1.0**
SMRT **St. Maarten** 33.33 17 P P **16 41 56.1 -1.4**
ANWB **Willy Bob** 33.35 19 P P **16 41 56.1 -1.5**
NBCL **Cascavel-CE** 35.19 77 *e*P P **16 42 15.1 +1.4**
NBAN **Anadia - AL** 35.76 87 *e*P P **16 42 18.8 +0.1**
RPN **Rapa Nui** 36.62 243 LR LR 16 53 55.0
comp=Z,246nm,19.5s,baz=132,slow=30
RCBR **Riachuelo** 36.99 81 LR LR 16 57 49.2
comp=Z,59nm,20.0s,baz=257,slow=36
RCBR **Riachuelo** 36.99 81 *e*P P **16 42 30.4 +1.1**
CMIG **Matias Romero** 38.06 324 LR LR 16 58 03.0
comp=Z,27nm,18.6s,baz=166,slow=36
LRAL **Lakeview Retre** 48.89 344 P P **16 44 04.4 -0.6**
LRAL IAmb IAmb 16 45 20.9
comp=Z,56nm,2.0s
Y52A **Lilburn** 48.98 347 P P **16 44 03.4 -2.3**
HODGE **Hodges** 48.98 349 P P **16 44 04.8 -0.9**
HODGE IAmb IAmb 16 44 15.5
comp=Z,18nm,1.2s
Y49A **Blount Mountai** 49.52 345 P P **16 44 08.9 -1.0**
833A **Chaparral WMA,** 49.56 328 P P **16 44 10.1 -0.2**
833A IAmb IAmb 16 44 48.0
comp=Z,9.8nm,0.8s
KMSC **Kings Mountain** 49.71 351 P P **16 44 12.4 +1.1**
KMSC IAmb IAmb 16 44 36.1
comp=Z,19nm,1.1s
FPAL **Fort Paine** 49.97 346 P P **16 44 12.7 -0.6**
FPAL IAmb IAmb 16 44 37.1
comp=Z,19nm,1.4s
V58A **Windy Hill, Pi** 50.05 353 P P **16 44 14.7 +1.0**
V58A IAmb IAmb 16 44 22.1
comp=Z,31nm,1.3s
X48A **Hartselle** 50.25 344 P P **16 44 14.8 -0.5**
X48A IAmb IAmb 16 44 39.2
comp=Z,16nm,1.2s
ESPZ **Base Esperanza** 50.40 171 P P **16 44 16.2 +0.2**
HNDO **Hondo** 50.49 329 P P **16 44 17.0 -0.3**
HNDO IAmb IAmb 16 44 55.5
comp=Z,29nm,1.1s
SWET **Sewanee** 50.70 346 IAmb IAmb 16 44 42.5
comp=Z,14nm,1.0s
PMSA **Palmer Station** 50.92 175 *e*P P 16 44 07.4 -13
comp=Z,58nm,25.0s
PMSA *e*S **S** **16 51 26.4 -5.1**
comp=Z,66nm,30.0s
PMSA *e*SS SS 16 54 57.7 -9.2
comp=Z,72nm,26.0s
PMSA *e*LR LR 16 58 59.8
comp=Z,225nm,33.0s
PLAL **Pickwick Lake** 51.02 344 IAmb IAmb 16 44 21.0
comp=Z,10nm,0.9s
DRIO **Del Rio** 51.08 328 IAmb IAmb 16 44 22.9
comp=Z,12nm,1.1s
T57A **Hurt** 51.25 353 IAmb IAmb 16 44 47.7
comp=Z,23nm,0.9s
V48A **Smith Brothers** 51.41 345 IAmb IAmb 16 44 47.9
comp=Z,23nm,1.1s
U49A **Red Boiling Sp** 51.90 346 IAmb IAmb 16 45 41.2
comp=Z,26nm,1.4s
S57A **Dark Hollow, R** 51.97 354 IAmb IAmb 16 44 53.3
comp=Z,21nm,1.0s
WVT **Waverly** 52.04 344 P P **16 44 26.7 -2.0**
WVT IAmb IAmb 16 44 28.2
comp=Z,7.6nm,0.7s
WVT **Waverly** 52.04 344 P P **16 44 27.4 -1.3**
WVT pP **sP** **16 44 51.1 -3.6**
UALR **University of** 52.15 339 P P **16 44 27.9 -1.6**
UALR IAmb IAmb 16 45 00.4
comp=Z,26nm,1.1s
CBN **Corbin Frederi** 52.26 355 P P **16 44 30.1 -0.2**
CBN IAmb IAmb 16 44 31.6
comp=Z,20nm,0.8s
OZNA **Ozona** 52.55 329 IAmb IAmb 16 44 33.9
comp=Z,15nm,1.3s
TXAR **Lajitas Array** 52.63 325 P P **16 44 33.1 -0.2**
TXAR **Lajitas Array** 52.63 325 P P **16 44 33.2 -0.1**
comp=Z,2.8nm,0.9s,baz=151,slow=8.6,SNR=24
comp=Z,2.8nm,0.9s
LCAR **Lake Charles** 52.94 341 IAmb IAmb 16 45 10.0
comp=Z,40nm,1.7s
FCAR **Ozark Folk Cen** 53.09 340 IAmb IAmb 16 44 36.6
comp=Z,8.3nm,0.8s
Q56A **Snyder Ridge,** 53.26 354 IAmb IAmb 16 45 14.1
comp=Z,18nm,0.9s
PBMO **Poplar Bluff** 53.37 342 IAmb IAmb 16 44 38.7
comp=Z,15nm,0.6s
SDMD **Soldier's Deli** 53.42 356 IAmb IAmb 16 44 40.5
comp=Z,16nm,1.2s
ALPN **Alpine** 53.42 326 IAmb IAmb 16 44 40.6
comp=Z,13nm,1.2s
P57A **Homestead Farm** 53.59 355 IAmb IAmb 16 44 43.4
comp=Z,33nm,1.3s
CGM3 **Cape Girardeau** 53.63 343 IAmb IAmb 16 45 05.0
comp=Z,23nm,1.2s
WCI **Wyandotte Cave** 53.66 347 P **P** **16 44 39.6 -1.0**
WCI **Wyandotte Cave** 53.66 347 P **P** **16 44 40.1 -0.6**
MNHN **Monahans** 53.72 328 IAmb IAmb 16 44 42.7
comp=Z,13nm,1.0s
S44A **Carbondale** 53.89 344 IAmb IAmb 16 44 42.7
comp=Z,21nm,0.8s
APMT **Aspermont** 54.03 331 IAmb IAmb 16 44 44.9
comp=Z,16nm,0.9s
HHAR **Hobbs** 54.06 339 IAmb IAmb 16 45 15.6
comp=Z,26nm,1.2s
SN07 **Snyder 07** 54.20 331 IAmb IAmb 16 44 46.7
comp=Z,29nm,1.5s
ODSA **Odessa** 54.23 328 IAmb IAmb 16 44 46.0
comp=Z,23nm,1.1s
MGMO **Mountain Grove** 54.29 341 IAmb IAmb 16 45 16.0
comp=Z,27nm,1.1s
TUL3 **Leonard** 54.41 337 IAmb IAmb 16 45 18.8
comp=Z,16nm,0.9s
VHRN **Van Horn** 54.47 325 IAmb IAmb 16 44 48.3
comp=Z,13nm,1.2s
WMOK **Wichita Mounta** 54.62 333 IAmb IAmb 16 45 51.4
comp=Z,9.6nm,0.8s
DKNS **Dickens** 54.69 331 IAmb IAmb 16 44 48.9
comp=Z,3.3nm,0.8s
SSPA **Standing Stone** 54.72 355 P **P** **16 44 47.9 -0.4**
SSPA **Standing Stone** 54.72 355 P **P** **16 44 49.0 +0.7**
SSPA PcP **PcP** **16 45 50.5 +0.3**
CCM **Cathedral Cave** 54.80 342 P **P** **16 44 47.5 -1.5**
N58A **Sunbury** 54.83 356 IAmb IAmb 16 44 50.9
comp=Z,26nm,1.0s
R40A **Maddies Statio** 55.33 341 IAmb IAmb 16 45 53.5
comp=Z,14nm,1.0s
T35A **Sooner Cattle** 55.57 337 IAmb IAmb 16 45 27.9
comp=Z,22nm,1.1s
P43A **Skaggs, Pawnee** 55.79 344 IAmb IAmb 16 44 55.6
comp=Z,20nm,0.8s
MSTX **Muleshoe** 55.83 330 IAmb IAmb 16 44 57.5
comp=Z,15nm,1.1s
N49A **Columbus Grove** 55.83 349 IAmb IAmb 16 45 04.8
comp=Z,20nm,0.9s
L59A **Walton** 56.09 358 IAmb IAmb 16 44 59.9
comp=Z,30nm,1.2s
P40A **Paris** 56.40 342 IAmb IAmb 16 45 34.3
comp=Z,15nm,1.0s
TRY **Troy** 56.60 359 IAmb IAmb 16 45 03.4
comp=Z,27nm,1.2s
P38A **Dawn** 56.95 341 IAmb IAmb 16 45 34.5
comp=Z,8.9nm,0.8s
121A **Cookes Peak, D** 57.35 325 IAmb IAmb 16 45 09.7
comp=Z,15nm,1.0s
J57A **Williamstown** 57.35 357 IAmb IAmb 16 45 08.3
comp=Z,24nm,1.2s
319A **Douglas** 57.36 323 IAmb IAmb 16 45 09.5
comp=Z,20nm,1.1s
ANMO **Albuquerque** 58.46 327 P **P** **16 45 14.4 -0.8**
LONY **Lake Ozonia** 58.50 358 IAmb IAmb 16 45 16.6
comp=Z,17nm,1.2s
DELO **Deloro Mine** 58.55 356 IAmb IAmb 16 45 16.2
comp=Z,14nm,0.9s
WBO **Williamsburg** 58.91 358 IAmb IAmb 16 45 19.2
comp=Z,16nm,1.0s
G62A **West of Eustis** 59.10 2 P **P** **16 45 19.2 -0.1**
T25A **Trinidad** 59.16 331 IAmb IAmb 16 45 21.9
comp=Z,12nm,1.0s
G65A **Princeton** 59.23 4 P **P** **16 45 20.0 -0.1**
F64A **Sherman** 59.84 3 P **P** **16 45 24.8 +0.5**
214A **Organ Pipe Nat** 59.90 321 IAmb IAmb 16 45 27.2
comp=Z,19nm,1.4s
TRQ **Mont Tremblant** 60.10 358 P **P** **16 45 25.8 -0.4**
TRQ IAmb IAmb 16 45 27.3
comp=Z,16nm,0.9s
BGNE **Belgrade** 60.12 338 P **P** **16 45 26.2 -0.1**
SDCO **Great Sand Dun** 60.17 330 IAmb IAmb 16 45 28.9
comp=Z,26nm,1.3s
X16A **Lo Mia Camp, P** 60.81 324 IAmb IAmb 16 45 33.7
comp=Z,13nm,1.0s
S22A **4UR Ranch, Cre** 60.82 329 P **P** **16 45 31.7 +0.2**
MVCO **Mesa Verde** 61.26 328 P **P** **16 45 33.7 -0.8**
MVCO IAmb IAmb 16 45 36.2
comp=Z,22nm,1.3s
Y14A **Wickenburg** 61.39 322 IAmb IAmb 16 45 37.2
comp=Z,9.3nm,1.0s
BATG **Bathurst New B** 61.41 5 IAmb IAmb 16 45 36.4
comp=Z,16nm,0.8s
LMQ **La Malbaie** 61.44 2 P **P** **16 45 35.0 -0.1**
LMQ IAmb IAmb 16 45 36.0
comp=Z,10nm,0.8s
WUAZ **Wupatki** 61.56 324 IAmb IAmb 16 45 38.7
comp=Z,21nm,0.9s
ECSD **EROS Data Cent** 61.65 340 IAmb IAmb 16 45 37.3
comp=Z,12nm,1.1s
PV01 **Paradox Valley** 61.99 328 IAmb IAmb 16 45 41.4
comp=Z,19nm,1.1s
PV13 **Rarlum Mtn., P** 62.14 328 IAmb IAmb 16 45 42.0
comp=Z,12nm,0.9s
PV05 **Paradox Valley** 62.22 328 IAmb IAmb 16 45 42.4
comp=Z,22nm,1.5s
PV03 **Paradox Valley** 62.23 328 IAmb IAmb 16 45 42.4
comp=Z,38nm,1.9s
PV12 **Saucer Basin,** 62.25 328 IAmb IAmb 16 45 43.8
comp=Z,26nm,1.4s
PV18 **Skein Mesa, Pa** 62.25 328 IAmb IAmb 16 45 42.0
comp=Z,7.8nm,0.8s
PV10 **Paradox Valley** 62.42 328 IAmb IAmb 16 47 01.0
comp=Z,17nm,1.2s
PV21 **Cone Mtn., Par** 62.52 328 IAmb IAmb 16 46 09.8
comp=Z,20nm,1.6s
BAR **Barrett** 62.81 319 IAmb IAmb 16 45 46.9
comp=Z,14nm,1.4s
HMU **Henry Mountain** 62.98 327 IAmb IAmb 16 46 51.1
comp=Z,16nm,1.2s
HAYD **Hayden** 63.20 331 IAmb IAmb 16 46 14.5
comp=Z,21nm,1.3s
PFO **Pinyon Flats O** 63.28 320 P **P** **16 45 48.2 +0.2**
O20A **White River Ci** 63.37 330 IAmb IAmb 16 45 50.1
comp=Z,13nm,0.9s
F33A **5 Mile Ranch,** 63.43 342 IAmb IAmb 16 45 49.0
comp=Z,12nm,0.9s
KNB **Kanab** 63.45 325 IAmb IAmb 16 45 51.6
comp=Z,18nm,1.1s
PKCU **Pink Cliffs** 63.47 325 IAmb IAmb 16 46 15.9
comp=Z,23nm,1.4s
ICQ **Pointe Anglais** 63.55 4 P **P** **16 45 48.9 -0.2**
SRU **San Rafael Swe** 63.73 328 IAmb IAmb 16 45 52.5
comp=Z,14nm,1.1s
EYMN **Ely** 64.07 346 IAmb IAmb 16 46 23.0
comp=Z,61nm,1.9s
P17A **Butcher Ranch,** 64.12 328 IAmb IAmb 16 45 55.1
comp=Z,14nm,0.9s
TCRU **Three Creeks R** 64.38 326 IAmb IAmb 16 45 57.5
comp=Z,15nm,1.1s
BSUT **Blindstream Ca** 64.92 329 IAmb IAmb 16 46 00.9
comp=Z,16nm,1.2s
CCCA **Chr Cany lake** 65.10 321 IAmb IAmb 16 46 37.5
comp=Z,46nm,1.5s
WSHM **Spangler Hills** 65.23 321 IAmb IAmb 16 46 02.7
comp=Z,14nm,1.0s
JLU **Jordanelle** 65.32 328 IAmb IAmb 16 46 27.6
comp=Z,14nm,1.0s
FURC **Furnace Creek,** 65.42 322 IAmb IAmb 16 46 04.2
comp=Z,20nm,0.9s
WCT **Wildcat Mounta** 65.49 322 IAmb IAmb 16 46 04.9
comp=Z,12nm,0.9s
AGMN **Agassiz Nation** 65.53 343 IAmb IAmb 16 46 02.8
comp=Z,21nm,0.7s
S11A **Rachel** 65.55 323 IAmb IAmb 16 47 54.9
comp=Z,11nm,0.5s
TCUT **Toone Canyon** 65.68 329 IAmb IAmb 16 46 29.7
comp=Z,21nm,1.0s
PDAR **Pinedale Array** 66.03 331 P **P** **16 46 05.6 -0.2**
comp=Z,2.0nm,0.8s,baz=139,slow=7.0,SNR=16
PDAR LR LR 17 17 22.7
comp=Z,27nm,18.1s,baz=122,slow=38
comp=Z,2.0nm,0.8s
HWUT **Hardware Ranch** 66.12 329 IAmb IAmb 16 46 07.7
comp=Z,19nm,1.4s
EPLO **Experimental L** 66.22 345 IAmb IAmb 16 46 07.0
comp=Z,44nm,1.3s
TAOE **Nuku Hiva Isla** 66.26 266 *e*S **S** **16 54 46.5 -6.1**
comp=Z,97nm,24.5s
TAOE *e*SS SS 16 58 57.7 -12
comp=Z,114nm,34.8s
TAOE *e*LR LR 17 06 03.8
comp=Z,380nm,27.5s
VES **Vestal, Richgr** 66.37 320 P **P** **16 46 07.6 -0.2**
VES IAmb IAmb 16 46 10.2
comp=Z,19nm,1.0s
BELA **Belgrano 2** 66.48 172 IAmb IAmb 16 46 10.4
comp=Z,21nm,1.3s
TPAW **Teton Pass** 67.24 331 IAmb IAmb 16 47 03.4
comp=Z,23nm,1.7s
ULM **Lac du Bonnet** 67.31 344 P **P** **16 46 12.6 -0.8**
comp=Z,14nm,0.8s,baz=152,slow=6.8,SNR=20
comp=Z,14nm,0.8s
NVAR **Mina Array Bea** 67.58 323 P **P** **16 46 16.2 +0.6**
comp=Z,3.4nm,0.8s,baz=151,slow=4.7,SNR=21
comp=Z,3.4nm,0.8s
LHV **Little Huntoon** 67.58 322 IAmb IAmb 16 46 18.2
comp=Z,14nm,1.1s
RLMT **Red Lodge** 67.72 333 IAmb IAmb 16 46 43.2
comp=Z,45nm,1.9s
YNE **Yellowstone No** 67.96 332 IAmb IAmb 16 46 19.8
comp=Z,28nm,0.9s
YNR **Norris Junctio** 68.04 332 IAmb IAmb 16 46 55.6
comp=Z,31nm,1.7s
VNA3 **Neumayer Olymp** 68.12 162 ⇑P **P** **16 46 19.2 +0.8**
comp=Z,17nm,0.9s
YHB **Horse Butte** 68.31 331 IAmb IAmb 16 46 22.5
comp=Z,15nm,0.9s
VNA1 **Neumayer--Stat** 68.34 161 ⇑P **P** **16 46 21.5 +1.8**
comp=Z,34nm,1.0s
DGMT **Dagmar** 68.38 338 IAmb IAmb 16 46 22.3
comp=Z,24nm,0.8s
YHL **Hebgen Lake** 68.38 331 IAmb IAmb 16 46 23.4
comp=Z,22nm,1.0s
SCHQ **Schefferville** 68.87 4 P **P** **16 46 22.9 -0.2**
SCHQ **Schefferville** 68.87 4 P **P** **16 46 23.1 0.0**
comp=Z,148nm,0.9s,baz=189,slow=4.6,SNR=11
HLID **Hailey** 68.99 329 IAmb IAmb 16 46 51.7
comp=Z,36nm,2.0s
PAHR **Pah Rah Range** 69.05 323 IAmb IAmb 16 46 27.4
comp=Z,24nm,0.9s
DLMT **Dillon** 69.42 331 IAmb IAmb 16 46 54.1
comp=Z,41nm,1.8s
MFID **Camas Ranch** 69.60 328 IAmb IAmb 16 46 30.4
comp=Z,21nm,1.0s
ORV **Oroville** 70.20 322 IAmb IAmb 16 46 59.3
comp=Z,24nm,1.1s
DBIC **Dimbokro** 70.27 78 P **P** **16 46 31.5 -1.1**
comp=Z,14nm,1.0s,baz=265,slow=5.8,SNR=5.5
DBIC LR LR 17 15 11.3
comp=Z,53nm,21.2s,baz=265,slow=34
comp=Z,14nm,1.0s
DBIC **Dimbokro** 70.27 78 P **P** **16 46 32.0 -0.6**
DBIC sP **sP** **16 47 01.3 +2.1**
SNAA **Sanae** 70.33 162 ⇑P **P** **16 46 32.9 +0.8**
comp=Z,719nm,0.7s
SNAA **Sanae** 70.33 162 P **P** **16 46 32.2 +0.1**
SNAA **Sanae** 70.33 162 P **P** **16 46 32.5 +0.4**
comp=Z,25nm,0.7s,baz=279,slow=6.4,SNR=192
comp=Z,25nm,0.7s
HATC **Hat Creek Radi** 70.98 323 IAmb IAmb 16 46 37.9
comp=Z,13nm,0.8s
MSO **Missoula** 71.14 331 IAmb IAmb 16 47 04.8
comp=Z,32nm,1.5s
K05A **Summer Lake** 71.87 325 IAmb IAmb 16 47 20.6
comp=Z,59nm,1.5s
TROLL **Troll, Antarti** 72.05 162 ⇑P **P** **16 46 43.7 +1.1**
comp=Z,581nm,0.6s
F10A **Beach Ranch, E** 72.11 329 IAmb IAmb 16 46 44.7
comp=Z,38nm,1.9s
KHMM **Horse Mountain** 72.36 322 IAmb IAmb 16 46 47.4
comp=Z,17nm,1.2s
J05D **Fort Rock, OR** 72.42 325 IAmb IAmb 16 47 12.5
comp=Z,20nm,1.3s
PINE **Pine Mountain** 72.59 325 IAmb IAmb 16 47 14.0
comp=Z,18nm,1.2s
TBI **Tubuai** 72.68 250 *e*S S 16 55 57.8 -10
comp=Z,505nm,29.8s
TBI *e*SS **SS** **17 00 48.4 +0.2**
comp=Z,611nm,23.8s
TBI *e*LR LR 17 08 58.8
comp=Z,879nm,24.8s
TBI *e*LR LR 17 09 06.3
comp=Z,806nm,28.0s
KRMB **Red Mountain** 72.86 322 IAmb IAmb 16 47 15.4
comp=Z,21nm,1.2s
J04A **Umpqua Nationa** 72.89 324 IAmb IAmb 16 46 49.9
comp=Z,22nm,0.8s
FFC **Flin Flon** 72.99 343 P **P** **16 46 47.9 -0.2**
FFC IAmb IAmb 16 46 49.0
comp=Z,14nm,0.9s
KSXB **Camp Six Broad** 73.03 322 IAmb IAmb 16 47 16.5
comp=Z,26nm,1.2s
G06A **Carlson Farm,** 73.37 327 IAmb IAmb 16 48 27.5
comp=Z,7.9nm,0.6s
PPT **Papeete** 73.69 256 LR LR 17 13 17.6
comp=Z,112nm,20.2s,baz=294,slow=31
G05A **Wamic** 73.74 326 IAmb IAmb 16 47 01.4
comp=Z,30nm,1.3s
KEBM **Edson Butte** 73.93 323 IAmb IAmb 16 46 56.6
comp=Z,24nm,1.1s
HOOD **Mount Hood Mea** 73.97 326 IAmb IAmb 16 46 59.1
comp=Z,13nm,0.9s
BUCK **Buck Mountain** 73.98 325 IAmb IAmb 16 46 56.1
comp=Z,14nm,1.0s
ACRG **Accra** 74.40 80 P **P** **16 46 55.6 -1.7**
D05A **Enumclaw** 75.36 328 IAmb IAmb 16 47 03.9
comp=Z,26nm,0.8s
E03A **Lebam** 75.78 326 IAmb IAmb 16 47 07.0
comp=Z,20nm,1.1s
QSPA **South Pole Qui** 76.01 180 P **P** **16 47 08.0 +2.2**
QSPA IAmb IAmb 16 47 08.9
comp=Z,13nm,0.7s
QSPA **South Pole Qui** 76.01 180 P **P** **16 47 07.8 +2.0**
comp=Z,12nm,0.7s,baz=202,slow=0.5,SNR=92
comp=Z,12nm,0.7s
QSPA **South Pole Qui** 76.01 180 P **P** **16 47 08.7 +2.9**
NLWA **Neilton Lookou** 76.47 327 IAmb IAmb 16 47 11.1
comp=Z,14nm,0.9s
IVI **Ivigtut** 77.56 12 *i* P **P** **16 47 14.7 +0.5**
AVE **Averroes** 77.95 51 P **P** **16 47 16.8 -0.3**
TORD **Torodi Ar. Bea** 78.37 73 P **P** **16 47 18.0 -1.7**
TORD IAmb IAmb 16 47 20.0
comp=Z,22nm,0.9s
TORD **Torodi Ar. Bea** 78.37 73 P **P** **16 47 18.4 -1.3**
comp=Z,24nm,0.8s,baz=272,slow=5.1,SNR=109
comp=Z,24nm,0.8s
PFVI **Vila Bisbo** 78.63 47 *e*P **P** **16 47 22.3 +1.6**
MORF **Marmelete** 78.83 47 *e*P **P** **16 47 22.8 +0.9**
MORF IAmb IAmb 16 47 24.1
comp=Z,30nm,1.0s
MORF **Marmelete** 78.83 47 P **P** **16 47 22.7 +0.9**
MORF IAmb IAmb 16 47 24.4
comp=Z,27nm,0.9s
MORF **Marmelete** 78.83 47 *e*P **P** **16 47 23.2 +1.4**
PTEO **Sao Teotonio** 78.89 47 *e*P **P** **16 47 23.9 +1.8**
PARRA **Arraiolos** 79.26 45 *e*P **P** **16 47 28.6 +4.5**
MESJ **Messejana** 79.38 47 *e*P **P** **16 47 25.8 +1.0**
MESJ IAmb IAmb 16 47 26.9
comp=Z,12nm,0.9s
MESJ **Messejana** 79.38 47 *e*P **P** **16 47 26.2 +1.4**
PCVE **Castro Verde** 79.41 47 *e*P **P** **16 47 26.3 +1.3**
PVAQ **Vaqueiros** 79.54 47 *e*P **P** **16 47 26.8 +1.1**
PVAQ *i* IAmb IAmb 16 47 30.6
comp=Z,20nm,1.6s
NUUK **Nuuk** 79.70 9 *i* P **P** **16 47 27.0 +1.2**
NUUK IAmb IAmb 16 47 27.3
comp=Z,60nm,1.2s
PBEJ **Beja** 79.71 47 *e*P **P** **16 47 27.7 +1.1**
EVO **Evora** 79.84 46 *e*P **P** **16 47 28.4 +1.1**
PMTG **Montargil** 79.94 45 *e*P **P** **16 47 28.6 +0.8**
PSARD **Sardoal** 80.23 45 *e*P **P** **16 47 30.2 +0.8**
PSARD *i* IAmb IAmb 16 48 11.4
comp=Z,36nm,1.6s
PBAR **Barrancos** 80.36 47 *e*P **P** **16 47 31.2 +1.1**
PCBR **Castelo Branco** 80.81 45 *e*P **P** **16 47 33.6 +1.2**
PCAB **Cabril** 81.29 43 *e*P **P** **16 47 35.6 +0.6**
POLO **Lamas de Olo** 81.29 44 *e*P **P** **16 47 36.2 +1.1**
BBB **Bella Bella** 81.57 329 IAmb IAmb 16 48 03.1
comp=Z,20nm,1.4s
MVO **Moncorvo** 81.71 44 *e*P **P** **16 47 37.4 +0.1**

PBRG Braganca 82.19 44 *e*P **P 16 47 40.6 +0.8**
SBA Scott Base 82.39 191 P **P 16 47 42.1 +1.9**
SBA Scott Base 82.39 191 P **P 16 47 42.4 +2.2**
RAR Rarotonga 82.45 250 *e*LR LR 17 13 36.1
comp=Z,223nm,24.0s
SFJD Kangerlussuaq 82.50 9 *i* P **P 16 47 40.4 -0.3**
SFJD IAmb IAmb 16 47 40.8
comp=Z,19nm,0.8s
DY2G Dye2 82.72 10 *i* P **P 16 47 42.5 +0.3**
DY2G IAmb IAmb 16 47 43.1
comp=Z,100nm,0.6s
PAB San Pablo 82.85 46 P **P 16 47 43.6 +0.3**
PAB IAmb IAmb 16 47 45.2
comp=Z,16nm,0.8s
PAB San Pablo 82.85 46 P **P 16 47 44.4 +1.1**
YKA Yellowknife Ar 83.14 342 P **P 16 47 43.5 -0.6**
YKA Yellowknife Ar 83.14 342 P **P 16 47 43.6 -0.5**
comp=Z,14nm,0.8s,baz=135,slow=4.9,SNR=29
comp=Z,14nm,0.8s
ESDC Sonseca Array 83.17 46 P **P 16 47 45.0 +0.1**
ESDC IAmb IAmb 16 47 46.9
comp=Z,13nm,0.9s
ESDC Sonseca Array 83.17 46 P **P 16 47 45.4 +0.5**
comp=Z,12nm,0.8s,baz=252,slow=5.1,SNR=50
ESDC LR LR 17 22 02.5
comp=Z,28nm,20.9s,baz=252,slow=34
comp=Z,12nm,0.8s
ISOG Isortoq, Green 83.36 13 *i* P **P 16 47 45.4 +0.3**
ISOG IAmb IAmb 16 47 45.9
comp=Z,41nm,0.8s
VNDA Vanda 83.45 190 P **P 16 47 47.1 +1.5**
comp=Z,4.9nm,0.9s,baz=126,slow=5.7,SNR=31
comp=Z,4.9nm,0.9s
VNDA Vanda 83.45 190 P **P 16 47 47.3 +1.7**
VNDA sP **sP 16 48 12.6 -0.2**
ANGG Ammassalik, Gr 83.72 14 *i* P **P 16 47 46.7 -0.3**
ANGG IAmb IAmb 16 47 47.6
comp=Z,34nm,1.1s
GDH Godhavn 84.26 7 *i* P **P 16 47 49.3 -0.4**
GDH IAmb IAmb 16 47 49.9
comp=Z,16nm,0.9s
ILULI Ilulissat 84.52 8 *i* P **P 16 47 51.3 +0.3**
ILULI IAmb IAmb 16 47 52.3
comp=Z,39nm,1.1s
SYO Syowa Base 84.57 160‖ *e*P **P 16 47 52.0 +0.5**
SAQQ Saqqaq 85.16 7 *i* P **P 16 47 54.5 +0.3**
SAQQ IAmb IAmb 16 47 54.7
comp=Z,28nm,0.8s
T35M Bob Quinn 85.37 332 IAmb IAmb 16 47 57.7
comp=Z,14nm,0.8s
XMAS Kiritimati 85.53 273 *e*SS SS 17 03 58.7 -3.0
comp=Z,6.8nm,23.0s
XMAS Kiritimati 85.53 273 *e*LR LR 17 14 54.9
comp=Z,9.0nm,23.0s
TSUM Tsumeb 85.58 109 P **P 16 47 57.2 -0.5**
TSUM IAmb IAmb 16 47 59.5
comp=Z,14nm,0.9s
TSUM Tsumeb 85.58 109 P **P 16 47 58.3 +0.6**
SAATT Saattut 85.96 7 *i* P **P 16 47 58.4 +0.3**
SAATT IAmb IAmb 16 47 59.1
comp=Z,11nm,0.7s
R33M Jennings River 87.05 334 IAmb IAmb 16 48 06.0
comp=Z,10nm,1.0s
KOOLE Kule 87.06 113 *i* P **P 16 48 05.9 +0.9**
BORG Borgarnes 87.63 20 P **P 16 48 06.0 -0.5**
BORG Borgarnes 87.63 20 LR LR 17 24 59.6
comp=Z,12nm,21.9s,baz=284,slow=34
POHA Pohakuloa 88.27 291 *e*S **SKSac 16 58 38.4 +3.7**
comp=Z,2.7nm,24.0s
POHA Pohakuloa 88.27 291 *e*LR LR 17 16 12.9
comp=Z,6.2nm,30.6s
GRTLG Ghanzi 88.38 111 *i* P **P 16 48 11.9 +0.6**
QNGWA Qangwa 88.79 110 *i* P **P 16 48 13.8 +0.6**
KGCAE Kacgae 88.89 113 *i* P **P 16 48 14.3 +0.7**
KULLO Kullorsuaq 89.06 4 *i* P **P 16 48 13.3 +0.3**
KULLO IAmb IAmb 16 48 14.3
comp=Z,25nm,1.0s
SUMG Summit 89.40 10 IAmb IAmb 16 48 17.5
comp=Z,64nm,0.9s
SUMG Summit 89.40 10 *i* P **P 16 48 16.6 +1.4**
SUMG IAmb IAmb 16 48 17.3
comp=Z,76nm,1.0s
RES Resolute Bay 89.75 354 LR LR 17 33 43.0
comp=Z,32nm,18.0s,baz=11,slow=39
SKOMA Sekoma 89.99 115 *i* P **P 16 48 19.5 +0.8**
BOSA Boshof 90.02 119 P **P 16 48 18.9 +0.1**
comp=Z,17nm,0.9s,baz=282,slow=3.3,SNR=19
BOSA LR LR 17 24 59.9
comp=Z,30nm,21.9s,baz=224,slow=33
comp=Z,17nm,0.9s
EKA Eskdalemuir Ar 90.24 32 P **P 16 48 18.3 -0.6**
comp=Z,2.0nm,0.7s,baz=255,slow=4.3,SNR=4.3
comp=Z,2.0nm,0.7s
MAKGR Makgori 90.40 117 *i* P **P 16 48 21.5 +0.8**
TULEG Thule 90.53 1 *i* P **P 16 48 20.9 +1.0**
TULEG IAmb IAmb 16 48 21.6
comp=Z,67nm,1.0s
CKGRV CKGRV 90.67 112 *i* P **P 16 48 22.7 +0.8**
SCO Scoresbysund 91.25 15 *i* P **P 16 48 24.8 +1.6**
SCO IAmb IAmb 16 48 25.8
comp=Z,31nm,0.9s
LBTB Lobatse 91.31 116 LR LR 17 27 12.8
comp=Z,17nm,19.1s,baz=214,slow=34
J30M Hart River 91.94 337 IAmb IAmb 16 48 28.4
comp=Z,7.6nm,0.9s
LPHEP Lephephe 92.00 115 *i* P **P 16 48 28.8 +0.7**
LPHEP Lephephe 92.00 115 P **P 16 48 27.3 -0.8**
K29M Barlow Dome 92.04 336 IAmb IAmb 16 48 28.0
comp=Z,15nm,1.4s
NEEM North Greenlan 92.26 5 *i* P **P 16 48 29.4 +1.1**
NEEM IAmb IAmb 16 48 30.3
comp=Z,24nm,0.9s
I30M Mount Dempster 92.28 338 IAmb IAmb 16 48 29.8
comp=Z,8.0nm,0.9s
MAW Mawson 92.33 164 P **P 16 48 29.2 +0.7**
comp=Z,9.0nm,0.8s,baz=198,slow=5.8,SNR=8.8
comp=Z,9.0nm,0.8s
DAWY Dawson 92.88 336 IAmb IAmb 16 48 31.9
comp=Z,4.4nm,0.8s
BCAR Beaver Creek A 93.41 335 P **P 16 48 33.2 -0.3**
L27K Beaver Creek, 93.42 335 IAmb IAmb 16 48 34.4
comp=Z,5.0nm,0.8s
BROLN Tlhalogang 93.94 113 *i* P **P 16 48 38.0 +0.9**
J26L Joseph Creek 94.71 336 IAmb IAmb 16 48 40.4
comp=Z,7.3nm,0.7s
PAX Paxson 94.91 334 IAmb IAmb 16 48 40.9
comp=Z,6.3nm,0.9s
MATP Matopo 95.18 112 LR LR 17 28 27.2
comp=Z,29nm,21.3s,baz=240,slow=33
VAE Valguarnera 96.10 53 LR LR 17 33 41.8
comp=Z,26nm,18.4s,baz=310,slow=36
ILAR Eielson Array 96.14 335 P **P 16 48 45.1 -0.8**
comp=Z,1.1nm,0.7s,baz=133,slow=2.5,SNR=17
comp=Z,1.1nm,0.7s
LSZ Lusaka 96.38 107 LR LR 17 29 57.3
comp=Z,31nm,20.5s,baz=154,slow=34
KDAK Kodiak Island 96.60 328 LR LR 17 32 51.7
comp=Z,48nm,20.7s,baz=102,slow=36
NEA2 Nenana 96.97 335 IAmb IAmb 16 48 50.0
comp=Z,5.3nm,0.6s
SNZO South Karori 97.05 224 *e*LR LR 17 20 27.5
comp=Z,7.2nm,30.0s
GERES GERESS Array B 98.07 42 P **P 16 48 54.5 -0.6**
comp=Z,0.7nm,0.6s,baz=257,slow=5.3,SNR=6.2
GERES LR LR 17 27 36.0
comp=Z,18nm,18.7s,baz=308,slow=32
comp=Z,0.7nm,0.6s
NOA NORSAR Array B 99.26 29 LR LR 17 32 41.7
comp=Z,16nm,18.2s,baz=275,slow=35
CASY Casey 99.78 181 *e*LR LR 17 21 38.9
comp=Z,44nm,26.0s
ARCES ARCESS Array B 105.97 21 Pdiff **Pdif 16 49 30.1 +0.4**
comp=Z,3.0nm,0.9s,baz=273,slow=5.0,SNR=8.0
BRTR Keskin Array B 111.30 53 PKiKP **PKiKP 16 53 53.1 +0.5**
comp=Z,1.1nm,0.9s,baz=272,slow=3.2,SNR=3.9
DZM Mont Dzumac 111.88 239 *e*LR LR 17 27 14.3
comp=Z,103nm,23.2s
KBZ Khabaz 118.00 48 PKP **PKiKP 16 54 05.9 +0.7**
comp=Z,5.9nm,0.8s,baz=238,slow=1.4,SNR=12
ARTI Arti 123.73 30 **PKPdf 16 54 15.5 -0.3**
STKA Stephens Creek 123.74 215 PKP **PKPdf 16 54 16.3 -0.4**
comp=Z,2.4nm,0.7s,baz=99,slow=5.9,SNR=4.8
PETK Petropavlovsk- 124.58 326 PKP **PKPdf 16 54 17.4 -0.2**
comp=Z,2.2nm,0.6s,baz=87,slow=5.5,SNR=5.0
ABKAR Akbulak array 127.79 38 **PKiKP 16 54 24.5 +0.2**
YAK Yakutsk 129.60 347 **PKPdf 16 54 26.3 -0.5**
YAK Yakutsk 129.60 347 PKP **PKPdf 16 54 26.7 -0.1**
comp=Z,7.7nm,0.6s,baz=65,slow=0.7,SNR=7.5
BVAR Borovoye Array 131.38 29 PKP **PKiKP 16 54 31.6 +0.1**
comp=Z,4.2nm,0.9s,baz=228,slow=1.7,SNR=14
ASAR Alice Springs 134.38 215 PKhKP PKPpre 16 54 23.8
comp=Z,0.5nm,1.0s,baz=136,slow=2.0,SNR=7.4
ASAR PKP **PKPdf 16 54 37.0 -0.2**
comp=Z,2.6nm,0.7s,baz=127,slow=1.9,SNR=35
ZALV Zalesovo Beam 136.48 19 PKhKP PKPpre 16 54 34.1
comp=Z,2.2nm,0.6s,baz=270,slow=0.8,SNR=8.1
ZALV PKP **PKPdf 16 54 40.6 +0.6**
comp=Z,16nm,0.8s,baz=276,slow=1.7,SNR=7.7
KURBB Kurchatov Arra 136.72 27 PKP **PKPdf 16 54 41.6 +1.0**
comp=Z,3.2nm,0.2s,baz=303,slow=2.6,SNR=4.4
WRA Warramunga Arr 137.02 219 PKhKP PKPpre 16 54 31.9
comp=Z,0.4nm,0.7s,baz=139,slow=2.7,SNR=5.4
WRA PKP **PKPdf 16 54 42.3 +0.2**
comp=Z,9.4nm,1.0s,baz=132,slow=1.8,SNR=44
MKAR Makanchi Array 141.23 28 PKPpre 16 54 42.8
MKAR Makanchi Array 141.23 28 PKhKP PKPpre 16 54 42.5
comp=Z,3.4nm,0.7s,baz=324,slow=3.6,SNR=27
KSH Kashi 142.55 42 PKP **PKPdf 16 54 50.4 -1.3**
USRK Ussuriysk Ar. 143.45 330 PKP PKPbc 16 54 50.4 +0.1
comp=Z,3.4nm,0.7s,baz=27,slow=5.3,SNR=10
MDJ Mudanjiang 144.25 333 PKP **PKPab 16 54 52.5 +0.2**
MTN Manton Dam 144.37 222 **PKPab 16 54 54.0 +0.4**
MAJO Matsushiro 144.60 315 **PKPab 16 54 53.2 -0.7**
MJAR Matsushiro Arr 144.60 315 **PKPab 16 54 53.2 -0.7**
MJAR Matsushiro Arr 144.60 315 PKP **PKPab 16 54 53.5 -0.5**
comp=Z,13nm,0.9s,baz=72,slow=1.1,SNR=40
WMQ Urumqi 145.93 26 *e*PKPbc **PKPdf 16 54 55.9 -1.5**
WMQ PKPab **PKPab 16 54 59.8 +1.1**
WMQ LR LR
comp=Z,470nm,24.0s
WMQ LR LR
comp=Z,330nm,24.9s
WMQ LR LR
comp=Z,200nm,24.2s
INU Inuyama 146.05 314 **PKPdf 16 54 57.6 -0.2**
SONM Songino Array 146.39 1 **PKPdf 16 54 58.5 +0.3**
SONM Songino Array 146.39 1 PKPbc **PKPbc 16 54 59.1 -0.4**
comp=Z,24nm,0.7s,baz=330,slow=2.0,SNR=121
XLT XiLinHaoTe 149.43 348 *e*PKPbc **PKPbc 16 55 07.7 0.0**
XLT sPKP 16 55 29.6
KSRS Korea Array 150.48 326 PKP **PKPdf 16 55 05.5 +0.6**
comp=Z,3.1nm,0.9s,baz=36,slow=1.9,SNR=12
KSRS PKPbc **PKPbc 16 55 10.8 +0.5**
comp=Z,21nm,0.8s,baz=52,slow=1.9,SNR=20
HYB Hyderabad 152.03 79 *e*PKPbc **PKPbc 16 55 13.5 -1.0**
HYB *e*PKiKP **PKiKP 16 55 14.0 -0.8**
HHC Hu-ho-hao-te 153.15 353‖ *i*PKPbc **PKiKP 16 55 17.6 +1.0**
BTO Baotou 153.54 356 *e*PKPbc **PKPbc 16 55 17.1 -0.2**
BTO pPKP **PKPab 16 55 29.3 -0.4**
BTO PKPab **sPKPdf 16 55 37.9 +0.5**
BTO PP PP 16 58 53.0 -10
GTA Gaotai 153.94 14 PKPbc **PKPdf 16 55 11.0 +0.8**
GTA PKPab **pPKPdf 16 55 30.6 0.0**
NJ2 Nanjing 159.34 332 *e*PKP **PKPdf 16 55 16.4 -0.8**
XAN Xi'an 160.14 356⇑ PKP **PKPdf 16 55 19.3 +1.2**
CD2 Chengdu 162.97 11 PKP **PKPdf 16 55 19.0 -2.2**
PZH PanZhiHua 166.59 23 PKP **PKPdf 16 55 24.8 +0.3**
PZH PKPab **PKPab 16 56 27.0 +0.2**
CMAR Chiang Mai Arr 170.78 61 PKP **PKPdf 16 55 26.5 -0.8**
comp=Z,1.5nm,0.8s,baz=49,slow=1.1,SNR=9.1
CMAR PKPab **PKPab 16 56 45.8 +0.1**
comp=Z,1.1nm,0.7s,baz=282,slow=4.2,SNR=5.7

KRSC ***02*** *16:41:15.4±1.4,51°.49N×160°.13E, h66km±23km, Ml4.4*
MOS ***02*** *16:41:19.2±0.9,51°.63N×159°.88E, h55km, mb4.3/6, Error ellipse: s-maj=11.4km s-min=4.6km az=106.4*
NEIC ***02*** *16:41:21.1±1.2,51°.70N±0°.09×159°.4E±0°.1, h35km±2km, mb4.5/16, Error ellipse: s-maj=15.3km s-min=14.3km az=138.0*
IDC ***02*** *16:41:23.6±4.1,51°.74N×159°.34E, h56km±29km, mb3.7/17, mbtmp3.9/19, ML4.0/2, MS3.2/3, Error ellipse: s-maj=37.5km s-min=16.2km az=107.0*

ISC 02 16:41:18.3±1.3, 51°.61N±0°.04×159°.71E±0°.04, h20km±5km, n11, σ1$27/117, mb4.3/22, 1C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.11**	**319**	PN	**Pg**	**16 41 39.3**	**-0.5**
RUS	**Russkaya**	**1.11**	**319**	*e*P	**Pg**	**16 41 39.4**	**-0.5**
MTVR	**Mutnovka**	**1.29**	**314**	PN	**Pg**	**16 41 42.4**	**-0.9**
MTVR				S	**Sg**	**16 42 01.3**	**+1.2**
MTVR	**Mutnovka**	**1.29**	**314**	*e*P	**Pg**	**16 41 42.4**	**-0.9**
MTVR				*e*S	**Sg**	**16 42 01.4**	**+1.2**
ASAK	**Asacha**	**1.36**	**306**	PN	**Pg**	**16 41 44.0**	**-0.6**
ASAK	**Asacha**	**1.36**	**306**	*e*P	**Pg**	**16 41 44.1**	**-0.6**
GRL	**Gorelyy**	**1.39**	**314**	PN	**Pg**	**16 41 44.3**	**-0.8**
GRL				S	**Sg**	**16 42 04.6**	**+1.4**
GRL	**Gorelyy**	**1.39**	**314**	*e*P	**Pg**	**16 41 44.3**	**-0.8**
GRL				*e*S	**Sg**	**16 42 04.7**	**+1.4**
SPN	**Mys Shipunski**	**1.51**	**7**	PN	**Pn**	**16 41 43.0**	**-1.2**
SPN	**Mys Shipunski**	**1.51**	**7**	*e*P	**Pn**	**16 41 43.0**	**-1.2**
DALK	**Dalny**	**1.54**	**338**	PN	**Pn**	**16 41 44.8**	**+0.2**
DALK	**Dalny**	**1.54**	**338**	*e*P	**Pn**	**16 41 44.9**	**+0.2**
PET	**Petropavlovsk**	**1.56**	**336**		**Pn**	**16 41 45.0**	**+0.1**
PET	**Petropavlovsk**	**1.56**	**336**	*e*PN	**Pn**	**16 41 45.2**	**+0.3**
PET				*e*S	**Sb**	**16 42 07.4**	**+1.6**
PET				pmax	pmax		
	comp=Z,505nm,0.5s						
PET				smax	smax		
	comp=N,1μm,0.4s						
PET	**Petropavlovsk**	**1.56**	**336**	*e*P	**Pb**	**16 41 45.8**	**-0.7**
PET				*e*S	**Sg**	**16 42 08.9**	**+0.1**
KRMR	**Karymshinskiy**	**1.56**	**322**	PN	**Pb**	**16 41 45.8**	**-0.7**
KRMR				S	**Sg**	**16 42 09.2**	**+0.4**
KRMR	**Karymshinskiy**	**1.56**	**322**	*e*P	**Pb**	**16 41 45.9**	**-0.7**
KRMR				*e*S	**Sg**	**16 42 09.2**	**+0.4**
NLC	**Nalytchevo**	**1.58**	**352**	PN	**Pb**	**16 41 45.6**	**-1.3**
NLC	**Nalytchevo**	**1.58**	**352**	*e*P	**Pb**	**16 41 45.7**	**-1.3**
INSR	**Institute**	**1.61**	**336**	PN	**Pb**	**16 41 46.7**	**-0.7**
INSR	**Institute**	**1.61**	**336**	*e*P	**Pb**	**16 41 46.7**	**-0.7**
UGLR	**Uglovaya**	**1.69**	**342**	PN	**Pb**	**16 41 47.6**	**-1.3**
UGLR	**Uglovaya**	**1.69**	**342**	*e*P	**Pb**	**16 41 47.6**	**-1.3**
SDLR	**Sedlovina**	**1.75**	**344**	PN	**Pn**	**16 41 47.9**	**+0.3**
SDLR	**Sedlovina**	**1.75**	**344**	*e*P	**Pn**	**16 41 48.0**	**+0.3**
SMAR	**Somma**	**1.75**	**342**	PN	**Pb**	**16 41 48.8**	**-1.1**
SMAR	**Somma**	**1.75**	**342**	*e*P	**Pb**	**16 41 48.8**	**-1.1**
AVH	**Avacha**	**1.77**	**341**	PN	**Pb**	**16 41 48.9**	**-1.1**
AVH	**Avacha**	**1.77**	**341**	*e*P	**Pb**	**16 41 49.0**	**-1.1**
KRER	**Koryakskii**	**1.80**	**341**	PN	**Pb**	**16 41 50.0**	**-0.7**
KRER	**Koryakskii**	**1.80**	**341**	*e*P	**Pb**	**16 41 50.0**	**-0.7**
KOK	**Koryaka**	**1.81**	**339**	PN	**Pb**	**16 41 49.6**	**-1.2**
KOK	**Koryaka**	**1.81**	**339**	*e*P	**Pb**	**16 41 49.7**	**-1.2**
PAU	**Pauzhetka**	**1.82**	**267**	PN	**Pb**	**16 41 50.1**	**-0.7**
PAU	**Pauzhetka**	**1.82**	**267**	*e*P	**Pb**	**16 41 50.2**	**-0.7**
KRX	**Arik**	**1.87**	**340**	PN	**Pb**	**16 41 50.2**	**-1.7**
KRX	**Arik**	**1.87**	**340**	*e*P	**Pb**	**16 41 50.2**	**-1.7**
PEA0B	**Petropavlovsk-**	**1.95**	**321**	*c i*PN	**Pb**	**16 41 51.9**	**-1.2**
PETK	**Petropavlovsk-**	**1.95**	**321**		**Pn**	**16 41 50.5**	**+0.2**
PETK	**Petropavlovsk-**	**1.95**	**321**	P	**Pn**	**16 41 51.1**	**+0.8**
PETK	comp=N,64nm,0.4s,baz=176,slow=7.0,SNR=60			S	**Sb**	**16 42 18.5**	**+1.6**
PETK	comp=N,96nm,0.6s,baz=158,slow=23,SNR=8.1			LR	LR	16 42 24.9	
	comp=N,78nm,19.6s,baz=88,slow=36						
MIPR	**Malaya Ipel'ka**	**1.95**	**291**	PN	**Pb**	**16 41 52.7**	**-0.3**
MIPR	**Malaya Ipel'ka**	**1.95**	**291**	*e*P	**Pb**	**16 41 52.8**	**-0.3**
APC	**Apacha**	**2.05**	**311**	PN	**Pg**	**16 41 55.8**	**-1.9**
APC	**Apacha**	**2.05**	**311**	*e*P	**Pg**	**16 41 55.9**	**-1.9**
GNL	**Ganaly**	**2.35**	**333**	PN	**Pn**	**16 41 57.5**	**+1.6**
GNL	**Ganaly**	**2.35**	**333**	*e*P	**Pn**	**16 41 57.6**	**+1.6**
KII	**Karymskiy**	**2.44**	**356**	PN	**Pn**	**16 41 57.7**	**+0.6**
KII	**Karymskiy**	**2.44**	**356**	*e*P	**Pn**	**16 41 57.7**	**+0.6**
SKR	**Severo-Kuril's**	**2.44**	**249**	*e*PN	**Pb**	**16 41 58.7**	**-2.8**
SKR				*e*S	**Sb**	**16 42 32.1**	**+0.9**
SKR				pmax	pmax		
	comp=Z,32nm,0.5s						
SKR				smax	smax		
	comp=N,372nm,0.6s						
SKR				smax	smax		
	comp=E,821nm,0.4s						
SKR				MLR	MLR		
	comp=Z,500nm,12.0s						
SKR	**Severo-Kuril's**	**2.44**	**249**	*e*P	**Pn**	**16 41 58.3**	**+1.3**
SKR				*e*S	**Sb**	**16 42 28.4**	**-2.7**
MKZ	**Mys Kozlova**	**3.20**	**22**	PN	**Pn**	**16 42 05.7**	**-1.7**
MKZ	**Mys Kozlova**	**3.20**	**22**	*e*P	**Pn**	**16 42 05.7**	**-1.7**
TUMD	**Tumrok D**	**3.63**	**6**	PN	**Pn**	**16 42 13.0**	**-0.3**
TUMD	**Tumrok D**	**3.63**	**6**	*e*P	**Pn**	**16 42 13.1**	**-0.3**
MA2	**Magadan**	**9.45**	**331**	LR	LR	16 47 49.9	
	comp=Z,54nm,18.1s,baz=222,slow=42						
JKA	**Kamikawa-asahi**	**13.69**	**244**	Pn	**Pn**	**16 44 33.0**	**+1.8**
ASAJ	**Asahikawa**	**13.70**	**244**	P	**Pn**	**16 44 33.0**	**+1.8**
P08K	**Saint George I**	**18.61**	**62**	Pn	**Pn**	**16 45 37.6**	**+3.2**
YAK	**Yakutsk**	**19.28**	**314**	P	**P**	**16 45 39.5**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=11,slow=1.4,SNR=5.4						
	comp=Z,5.4nm,0.6s						
YAK	**Yakutsk**	**19.28**	**314**	*e*P	**P**	**16 45 38.8**	**-2.6**
YAK				pmax	pmax		
	comp=Z,9.0nm,1.4s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.6s						
USRK	**Ussuriysk Ar.**	**19.92**	**259**	P	**P**	**16 45 47.6**	**-1.0**
USRK	**Ussuriysk Ar.**	**19.92**	**259**	P	**P**	**16 45 47.4**	**-1.2**
	comp=E,0.2nm,0.3s,baz=79,slow=7.5,SNR=4.9						
	comp=E,1.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**19.92**	**259**	P	**P**	**16 45 47.6**	**-1.0**
MJA0	**Matsu Arr-Jizo**	**21.43**	**234**	*e*P	**P**	**16 46 08.5**	**+3.4**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MJAR	**Matsushiro Arr**	**21.45**	**234**	P	**P**	**16 46 06.0**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=27,slow=8.3,SNR=6.0						
	comp=Z,1.1nm,0.5s						
FALS	**False Pass**	**22.14**	**67**	P	**P**	**16 46 14.8**	**+2.4**
KSRS	**Korea Array**	**26.46**	**250**	P	**P**	**16 46 54.3**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=39,slow=10,SNR=4.2						
	comp=Z,0.4nm,0.6s						
D20K	**Etivluk River**	**26.82**	**34**	P	**P**	**16 46 57.0**	**+0.2**
D20K				IAmb	IAmb	16 47 14.6	
	comp=Z,13nm,1.3s						
JNU	**Nakatsue**	**27.92**	**240**	LR	LR	16 59 31.3	
	comp=Z,52nm,18.6s,baz=286,slow=39						
H11N2	**WAKE ISLAND Hy**	**32.31**	**167**	T	T	17 23 04.8	
	baz=350,slow=76						
H11N3	**WAKE ISLAND Hy**	**32.32**	**167**	T	T	17 22 10.0	
	baz=350,slow=76						
H11N1	**WAKE ISLAND Hy**	**32.32**	**167**	T	T	17 22 53.8	
	baz=350,slow=76						
BCAR	**Beaver Creek A**	**32.40**	**46**	P	**P**	**16 47 47.9**	**+1.5**
H11S1	**WAKE ISLAND Hy**	**33.48**	**168**	T	T	17 23 46.1	
	baz=351,slow=76						
H11S3	**WAKE ISLAND Hy**	**33.50**	**168**	T	T	17 23 46.4	
	baz=351,slow=76						
H11S2	**WAKE ISLAND Hy**	**33.50**	**168**	T	T	17 23 47.4	
	baz=351,slow=76						
SONM	**Songino Array**	**34.04**	**285**	P	**P**	**16 47 59.6**	**-1.3**
SONM	**Songino Array**	**34.04**	**285**	P	**P**	**16 48 01.3**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=46,slow=4.8,SNR=2.3						
	comp=Z,0.2nm,0.4s						
SONM	**Songino Array**	**34.04**	**285**	P	**P**	**16 47 59.6**	**-1.3**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.4s						
M31M	**Drury Creek, Y**	**35.92**	**47**	P	**P**	**16 48 17.9**	**+1.1**
M31M				IAmb	IAmb	16 48 60.0	
	comp=Z,14nm,1.5s						
A36M	**Sachs Harbour**	**37.53**	**30**	P	**P**	**16 48 30.7**	**+0.3**
ZALV	**Zalesovo Beam**	**43.40**	**304**	P	**P**	**16 49 17.0**	**-2.1**
	comp=Z,0.6nm,0.4s,baz=52,slow=8.7,SNR=2.4						
	comp=Z,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**43.40**	**304**	P	**P**	**16 49 17.0**	**-2.1**
KURK	**Kurchatov**	**48.33**	**303**	P	**P**	**16 49 56.2**	**-1.9**
KURK				IAmb	IAmb	16 49 57.5	
	comp=Z,5.5nm,0.8s						
KURK	**Kurchatov**	**48.33**	**303**	P	**P**	**16 49 56.2**	**-1.9**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KURBB	**Kurchatov Arra**	**48.43**	**303**	P	**P**	**16 49 57.0**	**-1.8**
	comp=Z,1.9nm,0.2s,baz=61,slow=7.7,SNR=16						
	comp=Z,1.9nm,0.2s						
SPITS	**Spitsbergen Ar**	**48.57**	**351**	P	**P**	**16 49 59.4**	**-0.1**
	comp=Z,4.3nm,0.5s,baz=64,slow=8.5,SNR=9.1						
	comp=Z,4.3nm,0.5s						
SPB2	**Spitsbergen Ar**	**48.57**	**351**	P	**P**	**16 49 59.4**	**-0.1**
MK31	**Makanchi Array**	**48.60**	**297**‖ *i*P	P	**P**	**16 49 58.7**	**-1.5**
MKAR	**Makanchi Array**	**48.60**	**297**	P	**P**	**16 49 58.4**	**-1.9**
MKAR	**Makanchi Array**	**48.60**	**297**	P	**P**	**16 49 58.8**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=56,slow=7.7,SNR=14						
	comp=Z,0.9nm,0.5s						
BVAR	**Borovoye Array**	**51.14**	**309**	P	**P**	**16 50 17.6**	**-1.8**
	comp=Z,2.3nm,0.4s,baz=58,slow=6.9,SNR=22						
	comp=Z,2.3nm,0.4s						
BVAR				LR	LR	17 14 15.9	
	comp=Z,44nm,18.3s,baz=52,slow=39						
	comp=Z,2.3nm,0.4s						
JCC	**Jacoby Creek,**	**51.58**	**70**	P	**P**	**16 50 24.8**	**+2.0**
ARCES	**ARCESS Array B**	**54.63**	**342**	P	**P**	**16 50 44.3**	**-0.6**
ARCES				IAmb	IAmb	16 50 47.0	
	comp=Z,5.9nm,1.1s						
ARCES	**ARCESS Array B**	**54.63**	**342**	P	**P**	**16 50 44.1**	**-0.9**
	comp=Z,2.6nm,0.8s,baz=36,slow=6.8,SNR=8.2						
	comp=Z,2.6nm,0.8s						
ARCES	**ARCESS Array B**	**54.63**	**342**	P	**P**	**16 50 44.3**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**57.65**	**259**	P	**P**	**16 51 08.1**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=36,slow=6.6,SNR=4.5						
	comp=Z,0.5nm,0.7s						
ABKAR	**Akbulak array**	**58.59**	**311**	P	**P**	**16 51 12.2**	**-1.1**
FIA1	**FINESS Array S**	**61.39**	**337**	P	**P**	**16 51 32.0**	**-0.4**
FINES	**FINESS Array B**	**61.39**	**337**	P	**P**	**16 51 31.9**	**-0.4**
FINES	**FINESS Array B**	**61.39**	**337**	P	**P**	**16 51 31.8**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=46,slow=8.2,SNR=8.4						
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**61.39**	**337**	*e*P	**P**	**16 51 32.0**	**-0.4**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NB201	**NORSAR Array S**	**64.88**	**344**	P	**P**	**16 51 54.8**	**-0.8**
NOA	**NORSAR Array B**	**64.91**	**344**	P	**P**	**16 51 55.5**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=15,slow=5.4,SNR=3.4						
	comp=Z,0.7nm,0.7s						
NOA	**NORSAR Array B**	**64.91**	**344**	*e*P	**P**	**16 51 56.4**	**+0.6**
HFS	**Hagfors**	**65.30**	**342**	P	**P**	**16 51 57.9**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=54,slow=7.5,SNR=15						
	comp=Z,1.8nm,0.4s						
AKASG	**Malin Array Be**	**69.77**	**329**	P	**P**	**16 52 25.9**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=31,slow=6.2,SNR=12						
	comp=Z,2.4nm,0.5s						
BURAR	**

PETK **Petropavlovsk-** **2.09 317** Pn **Pb** **16 45 14.1 -2.3**
8.9nm,0.3s,baz=125,slow=17,SNR=8.1
PETK Sn **Sb** **16 45 41.4 -0.5**
5.8nm,0.3s,baz=114,slow=14,SNR=4.3
23nm,0.5s
APC Apacha **2.22 308** *eP* **Pb** **16 45 19.2 +0.6**
GNL Ganaly **2.46 329** *eP* **Pn** **16 45 20.1 +2.5**
KII Karymskiy **2.47 352** *eP* **Pb** **16 45 21.1 -1.7**
SKR Severo-Kuril's **2.65 251** *eP* **Pn** **16 45 20.8 +0.7**
KURBB **Kurchatov Arra** **48.62 303** P **P** **16 53 19.1 -1.1**
2.7nm,0.2s,baz=60,slow=7.7,SNR=5.1
2.7nm,0.2s
MKAR Makanchi Array **48.80 297** P **P** **16 53 20.7 -1.0**
0.2nm,0.5s,baz=56,slow=8.7,SNR=3.2
0.2nm,0.5s
BVAR Borovoye Array **51.31 309** P **P** **16 53 39.7 -0.9**
0.6nm,0.4s,baz=54,slow=7.8,SNR=7.6
0.6nm,0.4s
AKASG **Malin Array Be** **69.88 329** P **P** **16 55 48.0 +0.8**
0.7nm,0.5s,baz=33,slow=6.7,SNR=2.8
0.7nm,0.5s

*IDC **02** 16:49:56.3±0.6,22.46S×175.05W,h0km,mb4.3/15, mbtmp4.3/16,ML4.4/1,MS3.4/4, Error ellipse: s-maj=23.0km s-min=17.6km az=121.0*
*NEIC **02** 16:49:57.9±1.2,22.5S±0.1×175.1W±0.2,h10km±1km, mb4.7/40, Error ellipse: s-maj=26.3km s-min=21.1km az=122.0*
ISC 02 16:50:01.4±0.5,22°49S±0'09×175°2W±0'.1,h33km,n67, σ0995/65,mb4.6/34,MS3.4/4,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.06**	**201**	P	**Pn**	**16 53 56.7**	**-0.6**
	1.3nm,0.3s,baz=21,slow=8.6,SNR=1.6						
URZ				S	Sn	16 56 49.5	-16
	4.4nm,0.4s,baz=194,slow=15,SNR=1.1						
	5.6nm,0.4s						
MRZ	**Mangatainoka R**	**19.73**	**201**	P	**P**	**16 54 26.4**	**-1.8**
TCW	**Tory Channel**	**20.68**	**203**	P	**P**	**16 54 37.1**	**-1.4**
KHZ	**Kahutara**	**22.00**	**203**	P	**P**	**16 54 51.1**	**-1.5**
KHZ				IAmb	IAmb	16 55 19.4	
	comp=Z,58nm,1.4s						
FOZ	**Fox Glacier**	**24.40**	**207**	P	**P**	**16 55 16.2**	**-0.4**
FOZ				IAmb	IAmb	16 56 00.5	
	comp=Z,27nm,1.2s						
HNR	**Honiara**	**27.16**	**295**	LR	LR	17 05 46.1	
	comp=Z,55nm,18.1s,baz=173,slow=35						
ARMA	**Armidale**	**30.68**	**248**	P	**P**	**16 56 13.9**	**+0.7**
ARMA				IAmb	IAmb	16 56 33.0	
	comp=Z,13nm,1.1s						
EIDS	**Eidsvold**	**30.94**	**258**	P	**P**	**16 56 16.0**	**+0.6**
CTAO	**Charters Tower**	**35.96**	**266**	P	**P**	**16 56 59.1**	**-0.1**
TOO	**Toolangi**	**36.94**	**237**	P	**P**	**16 57 07.2**	**-0.2**
TAU	**Tasmania Unive**	**37.16**	**228**	P	**P**	**16 57 08.8**	**-0.3**
STKA	**Stephens Creek**	**39.37**	**247**	P	**P**	**16 57 28.2**	**+0.3**
STKA				IAmb	IAmb	16 57 29.6	
	comp=Z,17nm,0.8s						
STKA	**Stephens Creek**	**39.37**	**247**	P	**P**	**16 57 28.5**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=94,slow=7.9,SNR=5.1						
	comp=Z,2.6nm,0.7s						
INKA	**Innaminka**	**40.10**	**253**	P	**P**	**16 57 35.4**	**+1.3**
BBOO	**Buckleboo**	**44.08**	**246**	P	**P**	**16 58 05.7**	**-0.7**
BBOO				IAmb	IAmb	16 58 40.5	
	comp=Z,16nm,1.3s						
AS31	**Alice Springs**	**46.66**	**258**	P	**P**	**16 58 26.5**	**-0.6**
AS31				IAmb	IAmb	16 58 27.7	
	comp=Z,2.4nm,0.6s						
ASAR	**Alice Springs**	**46.66**	**258**	P	**P**	**16 58 26.4**	**-0.7**
ASAR	**Alice Springs**	**46.66**	**258**	P	**P**	**16 58 26.9**	**-0.3**
	comp=Z,7.5nm,0.7s,baz=94,slow=7.9,SNR=38						
ASAR				PcP	**PcP**	**17 00 00.9**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=92,slow=3.6,SNR=4.4						
	comp=Z,7.5nm,0.7s						
WR8	**Warramunga Arr**	**46.81**	**263**	P	**P**	**16 58 27.4**	**-1.0**
WR8				IAmb	IAmb	16 58 46.9	
	comp=Z,13nm,1.5s						
WB0	**Warramunga Arr**	**46.95**	**263**	P	**P**	**16 58 28.7**	**-0.7**
WB0				IAmb	IAmb	16 58 29.2	
	comp=Z,6.3nm,0.6s						
WRAB	**Tennant Creek**	**46.96**	**263**	P	**P**	**16 58 28.4**	**-1.0**
WRAB				IAmb	IAmb	16 58 29.1	
	comp=Z,4.7nm,0.8s						
WRA	**Warramunga Arr**	**46.97**	**263**		**P**	**16 58 28.7**	**-0.8**
WRA	**Warramunga Arr**	**46.97**	**263**	P	**P**	**16 58 28.7**	**-0.8**
	comp=Z,4.3nm,0.7s,baz=102,slow=8.0,SNR=20						
WRA				PcP	**PcP**	**17 00 01.6**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=97,slow=3.5,SNR=5.4						
	comp=Z,4.3nm,0.7s						
MTN	**Manton Dam**	**51.83**	**271**	P	**P**	**16 59 05.4**	**-1.3**
MTN				IAmb	IAmb	16 59 09.7	
	comp=Z,9.1nm,0.8s						
KNRA	**Kununurra**	**53.17**	**267**		**P**	**16 59 16.5**	**-0.1**
KNRA				IAmb	IAmb	16 59 17.1	
	comp=Z,9.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**55.39**	**263**	P	**P**	**16 59 32.9**	**+0.2**
SBA	**Scott Base**	**56.09**	**185**	P	**P**	**16 59 38.2**	**+1.3**
SBA				IAmb	IAmb	17 00 03.8	
	comp=Z,8.2nm,1.2s						
VNDA	**Vanda**	**56.19**	**186**	P	**P**	**16 59 39.1**	**+1.5**
VNDA	**Vanda**	**56.19**	**186**	P	**P**	**16 59 39.2**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=33,slow=9.7,SNR=5.8						
VNDA				LR	LR	17 18 54.9	
	comp=Z,20nm,21.7s,baz=124,slow=31						
	comp=Z,1.0nm,0.8s						
SOEI	**Soe**	**59.20**	**272**	P	**P**	**17 00 01.2**	**+1.4**
MBWA	**Marble Bar**	**60.01**	**258**	P	**P**	**17 00 04.4**	**-0.8**
MBWA				IAmb	IAmb	17 00 40.7	
	comp=Z,11nm,1.1s						
MORW	**Morawa**	**61.53**	**248**	P	**P**	**17 00 15.2**	**-0.2**
QSPA	**South Pole Qui**	**67.59**	**180**	P	**P**	**17 00 55.6**	**+1.1**
	comp=Z,2.4nm,0.9s,baz=58,slow=5.8,SNR=3.0						
	comp=Z,2.4nm,0.9s						
MJAR	**Matsushiro Arr**	**73.38**	**322**	P	**P**	**17 01 29.6**	**-0.5**
MJAR	**Matsushiro Arr**	**73.38**	**322**	P	**P**	**17 01 30.0**	**-0.1**
	comp=Z,3.6nm,0.8s,baz=155,slow=5.8,SNR=12						
	comp=Z,3.6nm,0.8s						
MAJO	**Matsushiro**	**73.38**	**322**	P	**P**	**17 01 29.7**	**-0.4**
MAJO				IAmb	IAmb	17 01 37.6	
	comp=Z,4.3nm,0.8s						
KIWB	**Kanaga Island**	**74.04**	**359**	P	**P**	**17 01 33.3**	**-0.3**
TPUB	**Ta-pu**	**77.27**	**302**	P	**P**	**17 01 52.2**	**-0.5**
YSS	**Yuzhno-Sakhali**	**78.86**	**332**	P	**P**	**17 02 00.4**	**-0.6**
PEA0B	**Petropavlovsk-**	**78.89**	**344**	P	**P**	**17 02 01.1**	**+0.1**
PETK	**Petropavlovsk-**	**78.89**	**344**	P	**P**	**17 02 00.8**	**-0.2**
PETK	**Petropavlovsk-**	**78.89**	**344**	P	**P**	**17 02 01.5**	**+0.5**
	comp=Z,6.7nm,0.8s,baz=136,slow=8.0,SNR=17						
	comp=Z,6.7nm,0.8s						
MPMC	**Manual Prospec**	**79.76**	**44**	IAmb	IAmb	17 02 14.6	
	comp=Z,3.4nm,0.5s						
KSRS	**Korea Array**	**80.12**	**317**	P	**P**	**17 02 10.0**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=136,slow=6.1,SNR=7.3						
	comp=Z,1.4nm,0.8s						
NVAR	**Mina Array Bea**	**80.70**	**42**	P	**P**	**17 02 11.1**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=244,slow=9.8,SNR=8.5						
	comp=Z,1.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**82.10**	**325**	P	**P**	**17 02 20.9**	**+2.5**
USRK	**Ussuriysk Ar.**	**82.10**	**325**	P	**P**	**17 02 20.6**	**+2.2**
	comp=Z,6.5nm,0.8s,baz=127,slow=2.2,SNR=11						
	comp=Z,6.5nm,0.8s						
ELK	**Elko**	**83.98**	**41**		**P**	**17 02 28.1**	**-0.6**
ELK				IAmb	IAmb	17 02 31.2	
	comp=Z,5.1nm,1.4s						
G08A	**Pilot Rock**	**84.62**	**36**		**P**	**17 02 31.5**	**-0.1**
G08A				IAmb	IAmb	17 02 34.6	
	comp=Z,6.0nm,1.0s						
TMUT	**Trail Mountain**	**85.69**	**44**	IAmb	IAmb	17 02 40.7	
	comp=Z,5.3nm,1.0s						
TXAR	**Lajitas Array**	**85.94**	**56**	P	**P**	**17 02 38.0**	**-0.6**
	comp=Z,2.7nm,1.1s,baz=215,slow=6.1,SNR=13						
TXAR				LR	LR	17 36 51.8	
	comp=Z,20nm,18.9s,baz=230,slow=33						
	comp=Z,2.7nm,1.1s						
SNAA	**Sanae**	**85.94**	**178**	P	**P**	**17 02 37.8**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=188,slow=1.7,SNR=6.3						
	comp=Z,1.8nm,0.9s						
ANMO	**Albuquerque**	**86.62**	**50**		**P**	**17 02 42.4**	**+0.6**
ANMO				IAmb	IAmb	17 02 44.7	
	comp=Z,3.9nm,1.1s						
PDAR	**Pinedale Array**	**88.63**	**42**	P	**P**	**17 02 50.4**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=235,slow=5.9,SNR=6.6						
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**89.69**	**12**	P	**P**	**17 02 54.6**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=224,slow=3.8,SNR=5.6						
	comp=Z,0.9nm,0.9s						

J26L Joseph Creek **90.11 13** P **P** **17 02 57.8 +0.2**
J26L IAmb IAmb 17 03 17.0
comp=Z,4.7nm,0.9s
CMAR Chiang Mai Arr **93.26 289** **P** **17 03 12.7 -0.5**
CMAR Chiang Mai Arr **93.26 289** P **P** **17 03 15.4 +2.2**
comp=Z,3.3nm,0.8s,baz=115,slow=4.7,SNR=20
comp=Z,3.3nm,0.8s
YKA Yellowknife Ar **97.23 24** LR LR 17 41 43.1
comp=Z,41nm,18.1s,baz=289,slow=32
MKAR Makanchi Array **114.48 313** PKP PKPdf 17 08 36.9 -1.0
comp=Z,0.3nm,0.6s,baz=162,slow=0.5,SNR=2.3
KURBB **Kurchatov Arra** **117.30 317** PKP **PKPdf** **17 08 42.1 -1.0**
comp=Z,0.2nm,0.3s,baz=98,slow=1.9,SNR=4.8
ARCES **ARCESS Array B** **131.33 350** PKP **PKPdf** **17 09 09.0 -0.5**
comp=Z,2.3nm,1.0s,baz=39,slow=2.2,SNR=6.3
AKASG **Malin Array Be** **146.01 332** PKPbc **PKPdf** **17 09 36.6 -0.1**
comp=Z,3.6nm,0.6s,baz=42,slow=4.1,SNR=21
BRTR Keskin Array B **150.13 312** PKPbc **PKPbc** **17 09 48.9 -0.3**
comp=Z,2.1nm,0.9s,baz=132,slow=2.1,SNR=8.7
CLL Collm **150.54 350** *i* PKPbc **PKPbc** **17 09 49.1 -0.4**
comp=Z,4.0nm,0.9s
CLL *i* (PKiKP) 17 09 52.4
CLL *i* PKPab **PKPab** **17 09 56.5 +0.3**
BRG Berggiesshubel **150.79 348** *eP* **PKiKP** **17 09 51.4 +0.6**
BRG Amp 17 09 52.5
comp=Z,2.8nm,0.7s
MMAI Mount Meron Ar **151.08 298** PKPbc **PKiKP** **17 09 52.4 +0.4**
comp=Z,5.4nm,0.7s,baz=111,slow=2.0,SNR=4.2

*IDC **02** 16:50:03.1±1.9,23.32S×179.89W,h496km±19km,mb3.4/8, mbtmp4.3/8, Error ellipse: s-maj=22.8km s-min=16.3km az=46.0*
*NEIC **02** 16:50:04.8±1.1,23.5S±0.1×179.8W±0.2,h524km±12km, mb4.3/30, Error ellipse: s-maj=26.8km s-min=18.1km az=74.0*
ISC 02 16:50:05.6±0.7,23°55S±0'07×179°8W±0'.1,h532km,n87, σ1988/100,mb4.1/24,3C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**5.92**	**164**	P	**P**	**16 51 42.5**	**0.0**
RIZ				S	**S**	**16 53 02.1**	**+0.3**
RAO	**Raoul Island**	**5.93**	**164**	P	**P**	**16 51 41.5**	**-1.0**
RAO	**Raoul Island**	**5.93**	**164**	P	**P**	**16 51 42.1**	**-0.5**
	266nm,0.3s,baz=36,slow=17,SNR=4.1						
RAO				S	**S**	**16 52 59.8**	**-2.1**
	223nm,0.3s,baz=94,slow=23,SNR=2.5						
GLKZ	**Green Lake**	**5.94**	**164**	P	**P**	**16 51 42.3**	**-0.3**
GLKZ				S	**S**	**16 52 59.7**	**-2.4**
MSVF	**Nonsavu**	**6.12**	**340**	P	**P**	**16 51 43.6**	**-1.2**
OUZ	**Omahuta**	**12.97**	**205**	P	**P**	**16 52 55.9**	**+1.8**
WCZ	**Waipu Caves**	**13.35**	**201**	P	**P**	**16 53 00.2**	**+2.2**
KUZ	**Kuaotunu**	**13.71**	**195**	P	**P**	**16 53 02.0**	**+0.2**
MXZ	**Matakaoa Point**	**14.07**	**186**	P	**P**	**16 53 05.9**	**+0.5**
MXZ	**Matakaoa Point**	**14.07**	**186**	P	**P**	**16 53 06.0**	**+0.5**
MXZ				S	**S**	**16 55 32.9**	**-0.7**
MKAZ	**Moumakai**	**14.19**	**197**	P	**P**	**16 53 04.6**	**-2.2**
WMGZ	**Waiomatatini S**	**14.31**	**186**	P	**P**	**16 53 09.1**	**+1.1**
WMGZ				S	**S**	**16 55 37.6**	**-0.7**
HAZ	**Te Kaha**	**14.32**	**188**	P	**P**	**16 53 07.4**	**-0.6**
HAZ				S	**S**	**16 55 38.3**	**-0.2**
RUGZ	**Raukumara Rang**	**14.54**	**188**	P	**P**	**16 53 12.0**	**+1.5**
RUGZ				S	**S**	**16 55 38.2**	**-4.7**
TGRZ	**Tauranga**	**14.54**	**193**	P	**P**	**16 53 14.0**	**+3.7**
PUZ	**Puketiti**	**14.57**	**186**	P	**P**	**16 53 12.5**	**+1.8**
PUZ				S	**S**	**16 55 41.7**	**-1.8**
TOZ	**Tahuroa Road**	**14.70**	**195**		**P**	**16 53 11.7**	**-0.3**
KMRZ	**Kaimai**	**14.71**	**193**	P	**P**	**16 53 15.6**	**+3.3**
KARZ	**Kaharoa**	**14.82**	**192**	P	**P**	**16 53 16.6**	**+3.2**
URZ	**Urewera**	**14.90**	**189**	P	**P**	**16 53 11.3**	**-2.8**
	19nm,0.4s,baz=298,slow=2.6,SNR=48						
URZ				S	**S**	**16 55 45.5**	**-4.1**
	4.9nm,0.4s,baz=192,slow=23,SNR=15						
URZ	**Urewera**	**14.90**	**189**	P	**P**	**16 53 11.1**	**-3.0**
URZ				S	**S**	**16 55 44.1**	**-5.5**
TKGZ	**Te Karaka**	**14.98**	**187**	P	**P**	**16 53 15.8**	**+0.8**
TKGZ				S	**S**	**16 55 47.4**	**-3.7**
RAGZ	**Rawiri**	**15.09**	**188**	P	**P**	**16 53 17.5**	**+1.3**
HSRZ	**Hossack Road**	**15.10**	**192**	P	**P**	**16 53 19.1**	**+2.9**
MUGZ	**Murupara**	**15.17**	**190**	P	**P**	**16 53 16.9**	**-0.1**
TLZ	**Tolley Road**	**15.27**	**194**	P	**P**	**16 53 20.9**	**+2.9**
RTZ	**Ruatahuna**	**15.27**	**190**		**P**	**16 53 16.6**	**-1.5**
SNGZ	**Shannon Statio**	**15.38**	**188**	P	**P**	**16 53 18.7**	**-0.5**
SNGZ				S	**S**	**16 55 56.2**	**-2.2**
RAHZ	**Arahi**	**15.55**	**189**	P	**P**	**16 53 20.1**	**-0.8**
RAHZ				S	**S**	**16 55 58.7**	**-2.7**
HIZ	**Hauiti**	**15.60**	**196**	P	**P**	**16 53 24.4**	**+3.0**
BKZ	**Black Stump Fm**	**15.89**	**191**	P	**P**	**16 53 21.2**	**-3.1**
VRZ	**Vera Road**	**16.20**	**195**	P	**P**	**16 53 29.6**	**+2.1**
MRZ	**Mangatainoka R**	**17.50**	**192**		**P**	**16 53 36.7**	**-2.9**
QRZ	**Quartz Range**	**18.40**	**199**	P	**P**	**16 53 48.4**	**+0.6**
TKNZ	**Takaka Hill**	**18.47**	**198**	P	**P**	**16 53 48.1**	**-0.3**
TUWZ	**Tuamarina**	**18.59**	**195**	P	**P**	**16 53 48.2**	**-1.3**
THZ	**Tophouse**	**19.16**	**197**		**P**	**16 53 54.6**	**-0.2**
AMCZ	**Amberley**	**20.55**	**196**	P	**P**	**16 54 08.1**	**+0.7**
RPZ	**Rata Peaks**	**21.48**	**198**	P	**P**	**16 54 15.5**	**-0.3**
	4.1nm,0.4s,baz=37,slow=10,SNR=7.6						
	4.1nm,0.4s						
ARMA	**Armidale**	**26.32**	**249**	P	**P**	**16 55 00.2**	**+1.1**
ARMA				IAmb	IAmb	16 55 16.3	
	comp=Z,22nm,1.4s						
EIDS	**Eidsvold**	**26.55**	**260**	P	**P**	**16 55 01.6**	**+0.5**
EIDS				IAmb	IAmb	16 55 20.6	
	comp=Z,11nm,1.4s						
CAN	**Canberra**	**29.48**	**239**	P	**P**	**16 55 27.2**	**+0.7**
CAN				IAmb	IAmb	16 55 27.5	
	comp=Z,24nm,1.5s						
CTAO	**Charters Tower**	**31.66**	**270**	P	**P**	**16 55 45.5**	**0.0**
TOO	**Toolangi**	**32.79**	**237**	P	**P**	**16 55 55.7**	**+0.7**
TOO				IAmb	IAmb	16 56 10.0	
	comp=Z,5.7nm,1.3s						
STKA	**Stephens Creek**	**35.02**	**248**	P	**P**	**16 56 14.0**	**+0.3**
STKA	**Stephens Creek**	**35.02**	**248**	P	**P**	**16 56 13.9**	**+0.1**
	comp=Z,1.9nm,0.4s,baz=97,slow=10,SNR=9.8						
	comp=Z,1.9nm,0.4s						
INKA	**Innaminka**	**35.71**	**255**	P	**P**	**16 56 20.4**	**+1.0**
INKA				IAmb	IAmb	16 56 51.4	
	comp=Z,6.5nm,1.5s						
BBOO	**Buckleboo**	**39.75**	**247**	P	**P**	**16 56 51.7**	**-0.7**
BBOO				IAmb	IAmb	16 57 26.6	
	comp=Z,20nm,1.4s						
AS31	**Alice Springs**	**42.27**	**260**	P	**P**	**16 57 12.0**	**-0.6**
ASAR	**Alice Springs**	**42.27**	**260**	P	**P**	**16 57 11.7**	**-1.0**
ASAR	**Alice Springs**	**42.27**	**260**	P	**P**	**16 57 12.2**	**-0.4**
	comp=Z,2.1nm,0.4s,baz=97,slow=7.0,SNR=109						
ASAR				ScP	**ScP**	**17 01 57.7**	**+3.4**
	comp=Z,0.8nm,0.9s,baz=95,slow=5.1,SNR=4.0						
	comp=Z,2.1nm,0.4s						
WR8	**Warramunga Arr**	**42.46**	**266**	P	**P**	**16 57 13.2**	**-1.0**
WR8				IAmb	IAmb	16 57 36.5	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**42.60**	**266**	P	**P**	**16 57 14.2**	**-1.0**
WB0				IAmb	IAmb	16 57 14.9	
	comp=Z,6.5nm,0.6s						
WRAB	**Tennant Creek**	**42.60**	**266**	P	**P**	**16 57 14.3**	**-0.9**
WRAB				IAmb	IAmb	16 57 26.0	
	comp=Z,6.9nm,1.4s						
WRA	**Warramunga Arr**	**42.61**	**266**	P	**P**	**16 57 14.3**	**-1.0**
WRA	**Warramunga Arr**	**42.61**	**266**	P	**P**	**16 57 14.3**	**-1.0**
	comp=Z,3.0nm,0.4s,baz=90,slow=5.9,SNR=198						
	comp=Z,3.0nm,0.4s						
MTN	**Manton Dam**	**47.61**	**274**	P	**P**	**16 57 52.5**	**-1.1**
MTN				IAmb	IAmb	16 58 19.1	
	comp=Z,21nm,1.4s						
KNRA	**Kununurra**	**48.87**	**269**	P	**P**	**16 58 02.5**	**-0.5**
KNRA				IAmb	IAmb	16 58 07.6	
	comp=Z,18nm,1.5s						
FITZ	**Fitzroy Crossi**	**51.04**	**265**	P	**P**	**16 58 18.9**	**0.0**
SBA	**Scott Base**	**54.74**	**183**		**P**	**16 58 48.1**	**+3.7**
VNDA	**Vanda**	**54.75**	**185**	P	**P**	**16 58 47.3**	**+2.9**
VNDA	**Vanda**	**54.75**	**185**	P	**P**	**16 58 47.1**	**+2.7**
	comp=Z,0.7nm,0.7s,baz=326,slow=2.4,SNR=6.5						
	comp=Z,0.7nm,0.7s						
PSA00	**Pilbara Seismi**	**55.41**	**259**	P	**P**	**16 58 49.2**	**-0.7**
PSA00				IAmb	IAmb	16 58 55.5	
	comp=Z,11nm,1.1s						
MBWA	**Marble Bar**	**55.61**	**260**	P	**P**	**16 58 50.7**	**-0.7**
MBWA				IAmb	IAmb	16 59 18.1	
	comp=Z,15nm,1.4s						
MORW	**Morawa**	**57.17**	**250**	P	**P**	**16 59 01.6**	**-0.4**
MORW				IAmb	IAmb	16 59 26.4	
	comp=Z,30nm,1.4s						
CASY	**Casey**	**60.51**	**206**	P	**P**	**16 59 23.9**	**+0.1**

QSPA South Pole Qui **66.54 180** P **P** **17 00 05.5 +3.0**
QSPA IAmb IAmb 17 00 06.8
comp=Z,8.1nm,0.8s
QSPA South Pole Qui **66.54 180** P **P** **17 00 05.5 +3.0**
comp=Z,7.2nm,0.8s,baz=43,slow=1.0,SNR=33
comp=Z,7.2nm,0.8s
BELA Belgrano 2 **76.76 173** P **P** **17 01 02.3 +0.6**
BELA IAmb IAmb 17 01 03.5
comp=Z,4.9nm,0.8s
PETK Petropavlovsk- **78.80 346** P **P** **17 01 12.6 -0.3**
comp=Z,2.1nm,0.8s,baz=183,slow=6.9,SNR=4.9
comp=Z,2.1nm,0.8s
TROLL Troll, Antarti **84.69 181** ⇑P **P** **17 01 43.5 +0.4**
comp=Z,148nm,0.3s
SNAA Sanae **85.02 179** ⇑P **P** **17 01 44.9 +0.3**
comp=Z,22nm,0.4s
SNAA Sanae **85.02 179** P **P** **17 01 44.7 +0.1**
SNAA Sanae **85.02 179** P **P** **17 01 44.7 +0.1**
comp=Z,0.7nm,0.4s,baz=221,slow=7.8,SNR=22
comp=Z,0.7nm,0.4s
VNA3 Neumayer Olymp **85.22 177** ⇑P **P** **17 01 45.4 -0.1**
comp=Z,1.2nm,0.4s
BVAR Borovoye Array **120.29 319** PKP **PKPdf** **17 07 55.6 -0.4**
comp=Z,1.4nm,0.6s,baz=120,slow=2.0,SNR=9.4
ARCES **ARCESS Array B** **131.58 348** PKP **PKPdf** **17 08 16.3 -0.8**
comp=Z,0.5nm,0.6s,baz=39,slow=1.8,SNR=4.1
HFS Hagfors **142.24 349** PKhKP PKPpre 17 08 32.9
comp=Z,1.4nm,0.3s,baz=64,slow=2.6,SNR=19
AK03 Malin Array Si **144.76 328** PKP **PKPdf** **17 08 39.8 -1.8**
AK03 PKP PKPbc 17 08 41.1 -0.9
AKASG **Malin Array Be** **144.77 328** PKP **PKPdf** **17 08 41.4 -0.2**
comp=Z,0.6nm,0.3s,baz=46,slow=3.8,SNR=5.1
AK23 Malin Array Si **144.78 328** PKP **PKPdf** **17 08 39.2 -2.4**
AK21 Malin Array Si **144.81 328** PKP **PKPdf** **17 08 39.0 -2.7**
AK16 Malin Array Si **144.85 328** PKP **PKPdf** **17 08 41.5 -0.2**
LUBAR **Lubar, Ukraine** **145.99 328** PKP **PKPdf** **17 08 40.9 -2.8**
BR106 Keskin Array S **147.52 308** PKP **PKPdf** **17 08 45.1 -1.7**
MMAI Mount Meron Ar **147.72 295** PKPbc **PKPbc** **17 08 51.8 +0.9**
comp=Z,0.3nm,0.3s,baz=82,slow=5.0,SNR=4.5
EKA Eskdalemuir Ar **148.15 4** PKPbc **PKPbc** **17 08 51.3 +0.1**
comp=Z,0.4nm,0.4s,baz=330,slow=3.3,SNR=1.5

*NOU **02** 16:59:07.5,32.47S×176.81W,h191km,mb4.2/10, South of Kermadec Islands*
*WEL **02** 16:59:10.2±0.9,33°S±.5'×17°8W±1°,3,h12km,mB4.9/10, ML4.9/18,MLv4.8/14,Mw(mB)4.2/10, Error ellipse: s-maj=17.6km s-min=4.0km az=106.7,confirmed*
*IDC **02** 16:59:12.7±0.8,32.32S×178.25W,h0km,mb4.2/6, mbtmp4.2/8,ML4.1/2,MS3.2/2, Error ellipse: s-maj=28.2km s-min=21.2km az=95.0*
*NEIC **02** 16:59:13.6±1.3,32.40S±0.08×178.1W±0.2,h10km±1km, mb4.6/15, Error ellipse: s-maj=25.8km s-min=11.9km az=109.0*
ISC 02 16:59:11.6±0.7,32°51S±0'06×177°7W±0'.1,h10km,n81, σ2922/88,mb4.6/15,4C-1D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.25**	**357**	P	**Pn**	**17 00 00.6**	**-2.0**
GLKZ				S	**Sn**	**17 00 36.5**	**-4.8**
RAO	**Raoul Island**	**3.26**	**357**	Pn	**Pn**	**17 00 01.2**	**-1.6**
RAO	**Raoul Island**	**3.26**	**357**	Pn	**Pn**	**17 00 01.0**	**-1.8**
	31nm,0.3s,baz=65,slow=22,SNR=1.4						
RAO				Sn	**Sn**	**17 00 33.3**	**-8.3**
	78nm,0.3s,baz=304,slow=16,SNR=2.1						
	143nm,0.3s						
MXZ	**Matakaoa Point**	**6.00**	**212**	Pn	**Pn**	**17 00 39.2**	**-1.3**
MXZ	**Matakaoa Point**	**6.00**	**212**	P	**Pn**	**17 00 40.0**	**-0.5**
MXZ	**Matakaoa Point**	**6.00**	**212**	P	**Pn**	**17 00 38.4**	**-2.2**
MXZ				S	**Sn**	**17 01 48.5**	**-0.9**
WMGZ	**Waiomatatini S**	**6.17**	**210**	P	**Pn**	**17 00 40.8**	**-2.0**
WMGZ				S	**Sn**	**17 01 53.5**	**0.0**
PKGZ	**Pakihiroa**	**6.36**	**212**	P	**Pn**	**17 00 43.6**	**-1.8**
PKGZ				S	**Sn**	**17 01 56.8**	**-1.2**
HAZ	**Te Kaha**	**6.40**	**214**	P	**Pn**	**17 00 46.1**	**+0.1**
HAZ				S	**Sn**	**17 01 59.8**	**+0.7**
PUZ	**Puketiti**	**6.45**	**210**	P	**Pn**	**17 00 45.5**	**-1.2**
PUZ				S	**Sn**	**17 01 58.1**	**-2.3**
RUGZ	**Raukumara Rang**	**6.62**	**213**	P	**Pn**	**17 00 49.3**	**+0.2**
RUGZ				S	**Sn**	**17 02 03.2**	**-1.5**
TWGZ	**Tauwhareparae**	**6.66**	**211**	P	**Pn**	**17 00 48.6**	**-1.0**
GRZ	**Great Barrier**	**6.77**	**235**	P	Pn	17 00 55.2	+4.2
CNGZ	**Carnagh Statio**	**6.82**	**208**	P	**Pn**	**17 00 50.4**	**-1.4**
CNGZ				S	**Sn**	**17 02 06.1**	**-3.4**
KUZ	**Kuaotunu**	**6.87**	**230**	P	**Pn**	**17 00 53.2**	**+0.9**
KUZ	**Kuaotunu**	**6.87**	**230**	P	**Pn**	**17 00 53.2**	**+0.9**
WHRZ	**Whale Island**	**6.88**	**218**	P	**Pn**	**17 00 55.5**	**+2.9**
WHRZ				S	**Sn**	**17 02 11

KNRA					IAmb	IAmb	17 08 43.8	
	comp=Z,14nm,1.3s							
FITZ	**Fitzroy Crossi**	**52.63**	**271**		P	**P**	**17 08 24.8**	**-1.3**
CASY	**Casey**	**53.40**	**209**		P	**P**	**17 08 32.9**	**+1.8**
CASY					IAmb	IAmb	17 08 52.8	
	comp=Z,8.6nm,1.2s							
QSPA	**South Pole Qui**	**57.60**	**180**		P	P	17 09 07.2	+5.7
	comp=Z,1.1nm,0.7s,baz=316,slow=0.8,SNR=6.6							
	comp=Z,1.1nm,0.7s							
SYO	**Syowa Base**	**75.12**	**193**	⇓	*eP*	**P**	**17 10 56.0**	**+2.6**
TROLL	**Troll, Antarti**	**75.77**	**180**	⇑	P	P	17 11 00.5	+3.2
	comp=Z,83nm,0.6s							
SNAA	**Sanae**	**76.04**	**178**	⇑	P	P	17 11 01.8	+2.9
	comp=Z,25nm,0.6s							
SNAA	**Sanae**	**76.04**	**178**		P	**P**	**17 11 01.6**	**+2.7**
SNAA					IAmb	IAmb	17 11 08.5	
	comp=Z,4.8nm,1.3s							
SNAA	**Sanae**	**76.04**	**178**		P	**P**	**17 11 01.5**	**+2.7**
	comp=Z,1.4nm,0.9s,baz=200,slow=7.8,SNR=8.5							
	comp=Z,1.4nm,0.9s							
VNA3	**Neumayer Olymp**	**76.19**	**176**	⇑	P	P	17 11 02.5	+2.9
	comp=Z,8.9nm,0.8s							
VNA1	**Neumayer--Stat**	**76.85**	**176**	⇑	P	P	17 11 06.8	+3.5
	comp=Z,4.7nm,0.9s							
PETK	**Petropavlovsk-**	**87.91**	**345**		P	**P**	**17 12 02.8**	**+1.8**
	comp=Z,0.9nm,0.6s,baz=156,slow=5.0,SNR=2.3							
	comp=Z,0.9nm,0.6s							
NVAR	**Mina Array Bea**	**89.62**	**43**		LR	LR	17 47 58.2	
	comp=Z,17nm,18.3s,baz=268,slow=32							
KURBB	**Kurchatov Arra**	**122.71**	**313**		PKP	**PKiKP**	**17 18 07.5**	**0.0**
	comp=Z,0.8nm,0.8s,baz=108,slow=2.1,SNR=6.6							
BVAR	**Borovoye Array**	**128.07**	**315**		PKP	**PKiKP**	**17 18 18.8**	**+0.8**
	comp=Z,1.5nm,1.0s,baz=116,slow=3.4,SNR=4.2							
ARCES	**ARCESS Array B**	**140.70**	**347**		PKhKP	PKPpre	17 18 35.4	
	comp=Z,2.0nm,1.0s,baz=94,slow=2.9,SNR=2.0							
KBZ	**Khabaz**	**146.46**	**301**		PKPbc	**PKiKP**	**17 18 54.9**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=90,slow=4.0,SNR=2.3							
FINES	**FINESS Array B**	**147.21**	**339**		PKPbc	**PKiKP**	**17 18 55.6**	**-1.2**
	comp=Z,5.4nm,0.6s,baz=48,slow=4.1,SNR=39							
NOA	**NORSAR Array B**	**150.87**	**351**		PKPbc	**PKiKP**	**17 19 06.5**	**+2.1**
	comp=Z,0.6nm,0.5s,baz=14,slow=2.5,SNR=5.0							
HFS	**Hagfors**	**151.36**	**348**		PKPbc	**PKiKP**	**17 19 06.9**	**+1.5**
	comp=Z,1.5nm,0.4s,baz=46,slow=6.6,SNR=10							
MMAI	**Mount Meron Ar**	**152.21**	**280**		PKPbc	**PKiKP**	**17 19 10.0**	**+1.9**
	comp=Z,1.5nm,0.5s,baz=131,slow=7.9,SNR=2.1							
AKASG	**Malin Array Be**	**153.11**	**320**		PKPbc	**PKiKP**	**17 19 09.8**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=61,slow=2.3,SNR=9.1							
BRTR	**Keskin Array B**	**153.77**	**295**		PKPbc	**PKiKP**	**17 19 13.7**	**+2.5**
	comp=Z,0.7nm,0.6s,baz=137,slow=5.0,SNR=4.2							
TORD	**Torodi Ar. Bea**	**160.72**	**178**		PKPab	**PKPab**	**17 19 57.2**	**+3.1**
	comp=Z,0.8nm,0.7s,baz=160,slow=2.2,SNR=4.7							

*ISK **02** 17:00:15.1,35°.93N×31°.79E,h55km, ML2.6/20*
*NIC **02** 17:00:18.6,36°.05N×32°.17E,h40km±16km, MlI2.0/7*
*AFAD **02** 17:00:18.0,36°.26N×31°.87E,h45km±1km, ML2.1*
ISC 02 17:00:16.5±1.3,36°.04N±0°.03×31°.90E±0°.04,h66km±9km, n36,σ1°31/58,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZI	**Gazipasa**	**0.39**	**60**	Pg	**Pn**	**17 00 27.4**	**-0.6**
GAZI				Sg	**Sn**	**17 00 36.4**	**0.0**
GAZI	**Gazipasa**	**0.39**	**60**	P	**Pn**	**17 00 27.8**	**-0.2**
GAZI				S	**Sn**	**17 00 35.1**	**-1.2**
GAZI				*i* IAML		17 00 37.0	
	comp=N,136nm,0.2s						
GAZI				*i* IAML		17 00 38.0	
	comp=E,98nm,0.4s						
ALAN	**Alanya-ANTALYA**	**0.53**	**12**	Pg	**Pn**	**17 00 28.9**	**-0.4**
ALAN				Sg	**Sn**	**17 00 39.2**	**+0.6**
MNVG	**Manavgat-Antal**	**0.85**	**333**	Pg	**Pn**	**17 00 32.4**	**-0.5**
BOZY	**Bozyazi-Mersin**	**0.88**	**85**	Pg	**Pn**	**17 00 33.3**	**+0.1**
BOZY				Sg	**Sn**	**17 00 46.6**	**+1.0**
TEKE	**Tekeli-Mersin**	**0.99**	**84**	Pn	**Pn**	**17 00 34.9**	**+0.3**
TEKE				Sn	**Sn**	**17 00 49.3**	**+1.2**
ERMK	**Ermenek**	**1.02**	**53**	P	**Pn**	**17 00 36.3**	**+1.1**
ERMK				S	**Sn**	**17 00 49.4**	**+0.3**
ERMK				*i* IAML		17 00 52.0	
	comp=N,83nm,0.5s						
ERMK				*i* IAML		17 00 52.0	
	comp=E,116nm,0.4s						
HDMB	**Hadim**	**1.04**	**27**	Pn	**Pn**	**17 00 35.9**	**+0.4**
HDMB				Sn	**Sn**	**17 00 51.2**	**+1.6**
ALFC	**Alefka**	**1.05**	**147**	P	**Pn**	**17 00 35.3**	**-0.2**
ALFC				S	**Sn**	**17 00 49.0**	**-0.6**
ALFC				AML	AML	17 00 50.8	
	0.2nm,0.1s						
ALFC				AML	AML	17 00 51.8	
	0.3nm,0.2s						
AKMS	**Akamas**	**1.08**	**161**	P	**Pn**	**17 00 36.0**	**+0.1**
AKMS				S	**Sn**	**17 00 50.9**	**+0.7**
AKMS				AML	AML	17 00 52.0	
	0.1nm,0.1s						
AKMS				AML	AML	17 00 57.7	
	0.2nm,0.4s						
BERE	**Bereket-Mersin**	**1.11**	**74**	Pn	**Pn**	**17 00 36.9**	**+0.5**
BERE				Sn	**Sn**	**17 00 52.8**	**+1.6**
YORU	**Yoruktepe-Mers**	**1.23**	**84**	Pn	**Pn**	**17 00 38.2**	**+0.5**
AKUM	**Antalya-Kumluc**	**1.29**	**283**	P	**Pn**	**17 00 41.0**	**+2.5**
AKUM				S	**Sn**	**17 00 57.9**	**+2.8**
AKUM				*i* IAML		17 01 04.0	
	comp=E,27nm,0.4s						
AKK1	**Akkuyu-Mersin**	**1.33**	**85**	Pn	**Pn**	**17 00 39.6**	**+0.5**
GULN	**MERSIN_Gulnar**	**1.34**	**83**	P	**Pn**	**17 00 39.9**	**+0.7**
GULN				S	**Sn**	**17 00 55.6**	**-0.6**
GULN				*i* IAML		17 01 02.0	
	comp=N,30nm,0.4s						
TROD	**Troodos**	**1.34**	**144**	P	**Pn**	**17 00 39.5**	**0.0**
TROD				S	**Sn**	**17 00 55.9**	**-0.8**
TROD				AML	AML	17 00 59.5	
TROD				AML	AML	17 01 03.4	
	0.1nm,0.3s						
TEPK	**Tepekoy-MERSIN**	**1.35**	**82**	Pn	**Pn**	**17 00 39.9**	**+0.6**
BECE	**Buyukeceli-Mer**	**1.35**	**85**	Pn	**Pn**	**17 00 39.9**	**+0.6**
SEYD	**Seydisehir-KON**	**1.36**	**358**	Pn	**Pn**	**17 00 40.3**	**+0.6**
XYLS	**Xyliatos**	**1.39**	**137**	P	**Pn**	**17 00 39.8**	**-0.1**
XYLS				S	**Sn**	**17 00 57.1**	**-0.3**
XYLS				AML	AML	17 00 58.9	
	0.1nm,0.2s						
XYLS				AML	AML	17 01 00.4	
	0.1nm,0.2s						
SEDI	**Konya, Seydise**	**1.41**	**355**	P	**Pn**	**17 00 40.5**	**+0.2**
SEDI				S	**Sn**	**17 00 56.4**	**-1.8**
SEDI				*i* IAML		17 01 02.0	
	comp=N,45nm,0.4s						
SEDI				*i* IAML		17 01 02.0	
	comp=E,40nm,0.4s						
KKBE	**Karaman, Kazim**	**1.45**	**35**	P	**Pn**	**17 00 41.0**	**+0.3**
KKBE				S	**Sn**	**17 00 58.1**	**-0.8**
TISA	**Tisan-Mersin**	**1.45**	**85**	Pn	**Pn**	**17 00 41.2**	**+0.6**
KEBE	**Keben-Mersin**	**1.52**	**74**	Pn	**Pn**	**17 00 42.5**	**+0.8**
KRMN	**Karaman**	**1.58**	**44**	Pn	**Pn**	**17 00 43.6**	**+1.1**
CSS	**Mathiatis**	**1.59**	**132**	Pn	**Pn**	**17 00 41.8**	**-0.7**
CSS	**Mathiatis**	**1.59**	**132**	P	**Pn**	**17 00 42.5**	**0.0**
CSS				S	**Sn**	**17 01 00.7**	**-1.5**
CSS				AML	AML	17 01 00.9	
CSS				AML	AML	17 01 08.1	
ASGA	**Asgata**	**1.67**	**138**	P	**Pn**	**17 00 44.1**	**+0.6**
ASGA				S	**Sn**	**17 01 03.3**	**-0.7**
ASGA				AML	AML	17 01 14.3	
	0.1nm,0.7s						
ASGA				AML	AML	17 01 16.1	
SILI	**Silifke-Mersin**	**1.67**	**78**	Pn	**Pn**	**17 00 44.5**	**+0.9**
MVOU	**Mavrovouni**	**1.74**	**125**	P	**Pn**	**17 00 44.2**	**-0.3**
MVOU				S	**Sn**	**17 01 04.4**	**-1.5**
MVOU				AML	AML	17 01 06.4	
MVOU				AML	AML	17 01 07.8	
BAGO	**Egridir - ISPA**	**2.14**	**336**	P	**Pn**	**17 00 51.1**	**+1.1**
BAGO				S	**Sn**	**17 01 11.4**	**-4.2**
KERG	**Konya-Eregli**	**2.25**	**52**	P	**Pn**	**17 00 52.1**	**+0.5**
KERG				*i* IAML		17 00 57.0	
	comp=N,30nm,0.9s						
KERG				S	**Sn**	**17 01 15.4**	**-3.0**
KERG				*i* IAML		17 01 20.0	
	comp=E,39nm,0.3s						
MERS	**Mersin**	**2.27**	**68**	Pn	**Pn**	**17 00 53.1**	**+1.3**
CAME	**Cameli-Denizli**	**2.28**	**294**	Pn	**Pn**	**17 00 51.1**	**-0.9**
YVAC	**Isparta, Yalva**	**2.29**	**347**	P	**Pn**	**17 00 51.5**	**-0.6**
DED	**Mersin**	**2.51**	**68**	P	**Pn**	**17 00 59.0**	**+3.9**
DED				S	**Sn**	**17 01 22.7**	**-1.8**
DED				*i* IAML		17 01 41.0	
	comp=E,11nm,1.5s						
DED				*i* IAML		17 01 44.0	
	comp=N,12nm,2.1s						

*IDC **02** 17:01:06.5±1.4,31°.09S×178°.36W,h0km,mb3.9/3, mbtmp3.9/3,Error ellipse: s-maj=47.0km s-min=41.8km az=31.0*
ISC 02 17:01:17.9±1.5,31°.2S±0°.3×178°.5W±0°.3,h87km,n6, σ0°73/6,mb4.0/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.62**	**268**	P	**P**	**17 09 05.8**	**0.0**
	1.0nm,0.7s,baz=108,slow=7.3,SNR=5.2						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**43.67**	**273**	P	**P**	**17 09 14.6**	**+0.2**
	0.9nm,0.3s,baz=113,slow=8.0,SNR=5.7						
	0.9nm,0.3s						
QSPA	**South Pole Qui**	**58.95**	**180**	P	**P**	**17 11 08.1**	**+0.2**
	0.6nm,0.5s,baz=305,slow=6.0,SNR=1.1						
	0.6nm,0.5s						
FINES	**FINESS Array B**	**145.70**	**339**	PKPbc	**PKPab**	**17 20 47.0**	**+0.6**
	1.4nm,0.5s,baz=41,slow=4.4,SNR=6.2						
HFS	**Hagfors**	**149.89**	**348**	PKPbc	**PKPbc**	**17 20 57.4**	**0.0**
	2.5nm,1.0s,baz=89,slow=9.2,SNR=5.8						
MMAI	**Mount Meron Ar**	**151.26**	**283**	PKPbc	**PKPbc**	**17 21 00.5**	**-1.1**
	1.2nm,0.6s,baz=86,slow=6.5,SNR=2.3						

TRN 02 17:14:41.0,13°.57N×60°.16W,h49km,MD3.6,North-west of Barbados.,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBGH	**Gun Hill**	**0.72**	**126**	*eP*	Pn	17 14 56.1	+1.1
BBGH				*eS*	Sn	17 15 07.4	+2.3
SVB	**Belmont**	**1.10**	**255**	*eP*	Pn	17 15 01.0	+0.9
SVB				*eS*	Sn	17 15 16.4	+2.1
BIM	**Bigot**	**1.29**	**317**	*eP*	Pn	17 15 03.3	+0.5
BIM				*eS*	Sn	17 15 21.4	+2.4
BIM	**Bigot**	**1.29**	**317**	*e*	Pn	17 15 05.4	+2.6
BIM				*eS*	Sn	17 15 21.4	+2.4
ILAM	**Ilet Lapin Mar**	**1.39**	**330**	*eS*	Sn	17 15 23.1	+2.0
SVN	**Savane Anatole**	**1.60**	**323**	x	Sn	17 15 30.5	+4.0
GCMP	**Grenada, Carri**	**1.64**	**229**	*eP*	Pn	17 15 08.3	+1.0
GCMP				x	Sn	17 15 26.2	-1.0
GCMP				*eS*	Sn	17 15 28.4	+1.1
GCMP	**Grenada, Carri**	**1.64**	**229**	*e*	Pn	17 15 26.2	+19
GCMP				*eS*	Sn	17 15 28.4	+1.1
GRSS	**Sisters**	**1.90**	**229**	*eP*	Pn	17 15 12.9	+2.0
GRSS				*eS*	Sn	17 15 34.6	+1.0
GRW	**Mount Saint Ca**	**2.02**	**227**	*eP*	Pn	17 15 15.4	+2.6
GRW				*eS*	Sn	17 15 38.7	+1.8
GRGR	**Grenville**	**2.04**	**226**	*eP*	Pn	17 15 14.0	+1.1
GRGR				*eS*	Sn	17 15 38.9	+1.8
DSLB	**Salisbury**	**2.23**	**327**	*eP*	Pn	17 15 16.6	+1.2
DSLB				*eS*	Sn	17 15 43.2	+1.4

*NIC **02** 17:16:11.6,35°.41N×31°.53E,h15km,MlI2.7/8*
*AFAD **02** 17:16:14.0,35°.32N×31°.72E,h10km±15km,ML2.5*
*ISK **02** 17:16:15.2,35°.45N×31°.95E,h5km, ML2.6/20*
ISC 02 17:16:13.4±1.1,35°.38N±0°.03×31°.67E±0°.03,h14km±9km, n49,σ1°48/75,1C-2D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKMS	**Akamas**	**0.66**	**123**	⇓*iP*	**Pg**	**17 16 25.9**	**-0.3**
AKMS				S	**Sn**	**17 16 38.0**	**-0.4**
AKMS				AML	AML	17 16 39.9	
	1.5nm,0.5s						
AKMS				AML	AML	17 16 42.8	
	0.9nm,0.5s						
ALFC	**Alefka**	**0.80**	**106**	P	**Pg**	**17 16 28.6**	**-0.2**
ALFC				S	**Sn**	**17 16 42.8**	**+0.8**
ALFC				AML	AML	17 16 44.1	
	1.1nm,0.2s						
ALFC				AML	AML	17 16 48.9	
	1.3nm,0.5s						
NATA	**Nata**	**0.95**	**129**	P	**Pg**	**17 16 31.8**	**0.0**
NATA				S	**Sn**	**17 16 47.0**	**+1.2**
NATA				AML	AML	17 16 56.0	
	2.6nm,0.6s						
NATA				AML	AML	17 16 58.4	
	2.5nm,0.6s						
GAZI	**Gazipasa**	**1.00**	**31**	Pg	**Pg**	**17 16 32.4**	**-0.4**
GAZI				Sg	**Sg**	**17 16 44.9**	**-1.1**
GAZI	**Gazipasa**	**1.00**	**31**	P	**Pb**	**17 16 32.9**	**+0.3**
GAZI				S	**Sn**	**17 16 47.9**	**+0.7**
GAZI				*i* IAML		17 16 50.0	
	comp=E,121nm,0.5s						
GAZI				*i* IAML		17 16 50.0	
	comp=N,113nm,0.8s						
TROD	**Troodos**	**1.07**	**113**	⇑*iP*	**Pg**	**17 16 33.6**	**-0.6**
TROD				S	**Sn**	**17 16 50.4**	**+1.3**
TROD				AML	AML	17 16 59.1	
	0.3nm,0.4s						
TROD				AML	AML	17 17 03.0	
	0.3nm,0.3s						
XYLS	**Xyliatos**	**1.19**	**107**	P	**Pb**	**17 16 34.8**	**-1.0**
XYLS				S	**Sn**	**17 16 53.3**	**+1.5**
XYLS				AML	AML	17 17 02.5	
	0.3nm,0.3s						
XYLS				AML	AML	17 17 07.0	
	0.4nm,0.4s						
APOL	**The Sanctuary**	**1.21**	**125**	P	**Pb**	**17 16 35.3**	**-0.8**
APOL				S	**Sn**	**17 16 52.6**	**+0.5**
APOL				AML	AML	17 17 06.4	
	0.3nm,0.6s						
APOL				AML	AML	17 17 07.6	
	0.3nm,0.6s						
ALAN	**Alanya-ANTALYA**	**1.21**	**14**	Pn	**Pg**	**17 16 37.2**	**+0.4**
TEKE	**Tekeli-Mersin**	**1.40**	**57**	Pn	**Pn**	**17 16 38.2**	**-0.4**
ASGA	**Asgata**	**1.43**	**114**	⇓*iP*	**Pn**	**17 16 39.0**	**+0.1**
ASGA				S	**Sg**	**17 16 59.2**	**-0.1**
ASGA				AML	AML	17 17 11.2	
	0.4nm,0.5s						
ASGA				AML	AML	17 17 11.6	
	0.6nm,0.7s						
CSS	**Mathiatis**	**1.43**	**106**	Pn	**Pn**	**17 16 39.4**	**+0.5**
CSS				Sn	**Sn**	**17 16 58.1**	**+0.6**
CSS	**Mathiatis**	**1.43**	**106**	P	**Pn**	**17 16 39.2**	**+0.3**
CSS				S	**Sg**	**17 17 00.8**	**+1.4**
CSS				AML	AML	17 17 10.4	
	0.2nm,0.6s						
CSS				AML	AML	17 17 16.1	
	0.2nm,0.6s						
AKUM	**Antalya-Kumluc**	**1.43**	**312**	P	**Pg**	**17 16 41.5**	**+0.6**
AKUM				S	**Sg**	**17 17 00.8**	**+1.2**
AKUM				*i* IAML		17 17 08.0	
	comp=N,55nm,0.4s						
AKUM				*i* IAML		17 17 09.0	
	comp=E,52nm,0.5s						
BERE	**Bereket-Mersin**	**1.59**	**52**	Pn	**Pn**	**17 16 41.6**	**+0.2**
BERE				Sn	**Sb**	**17 17 02.2**	**-0.6**
YORU	**Yoruktepe-Mers**	**1.61**	**61**	Pn	**Pb**	**17 16 42.6**	**-0.4**
ERMK	**Ermenek**	**1.62**	**38**	P	**Pg**	**17 16 43.9**	**-0.6**
ERMK				S	**Sg**	**17 17 05.5**	**0.0**
ERMK				*i* IAML		17 17 11.0	
	comp=E,81nm,0.6s						
ERMK				*i* IAML		17 17 16.0	
	comp=N,77nm,0.3s						
MVOU	**Mavrovouni**	**1.65**	**102**	P	**Pn**	**17 16 41.4**	**-0.6**
OREN	**Orenkoy-Mersin**	**1.68**	**60**	Pn	**Pb**	**17 16 43.4**	**-0.7**
AKK1	**Akkuyu-Mersin**	**1.71**	**63**	Pn	**Pb**	**17 16 43.8**	**-0.8**
HDMB	**Hadim**	**1.72**	**22**	Pn	**Pb**	**17 16 45.2**	**+0.3**
HDMB				Sn	**Sg**	**17 17 07.2**	**-1.5**
BECE	**Buyukeceli-Mer**	**1.72**	**63**	Pn	**Pb**	**17 16 44.1**	**-0.8**
GULN	**MERSIN_Gulnar**	**1.73**	**62**	P	**Pn**	**17 16 44.0**	**+0.9**
GULN				S	**Sb**	**17 17 05.9**	**-0.6**
TEPK	**Tepekoy-MERSIN**	**1.75**	**61**	Pn	**Pn**	**17 16 44.4**	**+1.0**
YESI	**Yesilovacik-Me**	**1.80**	**62**	Pn	**Pb**	**17 16 45.4**	**-0.8**
TISA	**Tisan-Mersin**	**1.81**	**64**	Pn	**Pn**	**17 16 45.3**	**+1.0**
KARG	**Kargicak-Mersi**	**1.85**	**63**	Pn	**Pb**	**17 16 46.1**	**-1.0**
KORT	**Korkueli**	**1.94**	**327**	Pn	**Pg**	**17 16 51.9**	**+1.3**
KORT	**Korkueli**	**1.94**	**327**	P	**Pg**	**17 16 53.3**	**+2.7**
KORT				S	**Sg**	**17 17 18.1**	**+2.3**
KEBE	**Keben-Mersin**	**1.98**	**57**	Pn	**Pn**	**17 16 47.9**	**+1.3**
PARAL	**Paralimni**	**1.98**	**100**	P	**Pg**	**17 16 52.6**	**+1.1**
SEYD	**Seydisehir-KON**	**2.03**	**4**	Pn	**Pb**	**17 16 50.6**	**+0.4**
SEDI	**Konya, Seydise**	**2.07**	**2**	P	**Pb**	**17 16 51.1**	**+0.2**
SEDI				S	**Sg**	**17 17 18.8**	**-1.3**
SEDI				*i* IAML		17 17 26.0	
	comp=E,74nm,0.7s						
SEDI				*i* IAML		17 17 27.0	
	comp=N,44nm,0.6s						
SILI	**Silifke-Mersin**	**2.08**	**61**	Pn	**Pn**	**17 16 49.4**	**+1.4**
KKBE	**Karaman, Kazim**	**2.11**	**29**	P	**Pb**	**17 16 51.3**	**-0.2**
KKBE				S	**Sn**	**17 17 15.7**	**+1.2**
KKBE				*i* IAML		17 17 24.0	
	comp=N,49nm,0.6s						
KKBE				*i* IAML		17 17 25.0	
	comp=E,32nm,0.4s						
SLFK	**Silifke-Mersin**	**2.11**	**61**	Pn	**Pn**	**17 16 49.8**	**+1.5**
KRMN	**Karaman**	**2.21**	**35**	Pn	**Pb**	**17 16 51.7**	**-1.5**
IZZE	**Mula-Seydike**	**2.25**	**299**	P	**Pn**	**17 16 50.1**	**-0.1**
IZZE				S	**Sn**	**17 17 12.5**	**-5.3**
GOLH	**Golhisar**	**2.52**	**318**	P	**Pn**	**17 16 55.9**	**+1.8**
BAGO	**Egridir - ISPA**	**2.70**	**345**	P	**Pb**	**17 17 01.9**	**+0.3**
BAGO				S	**Sn**	**17 17 26.3**	**-2.8**
DOGA	**KONYA_Doganhis**	**2.72**	**0**	P	**Pb**	**17 17 00.1**	**-2.0**
KERG	**Konya-Eregli**	**2.84**	**44**	P	**Pb**	**17 17 01.7**	**-2.3**
KERG				S	**Sb**	**17 17 37.1**	**-1.6**
KERG				*i* IAML		17 17 46.0	
	comp=N,21nm,0.4s						
KERG				*i* IAML		17 17 48.0	
	comp=E,24nm,0.5s						
LADK	**Ladik-KONYA**	**2.87**	**11**	Pn	**Pb**	**17 17 02.2**	**-2.3**
YVAC	**Isparta, Yalva**	**2.91**	**353**	P	**Pn**	**17 17 02.1**	**+2.7**
YVAC				S	**Sb**	**17 17 39.9**	**-0.8**
DED	**Mersin**	**2.99**	**57**	P	**Pn**	**17 17 03.1**	**+2.7**
DED				S	**Sn**	**17 17 38.6**	**+2.5**
DED				*i* IAML		17 17 46.0	
	comp=E,14nm,0.6s						
GULE	**Gulek**	**3.15**	**52**	P	**Pn**	**17 17 04.7**	**+1.8**
GULE				S	**Sb**	**17 17 46.5**	**-1.2**
GULE				*i* IAML		17 18 00.0	
	comp=N,23nm,0.4s						
GULE				*i* IAML		17 18 07.0	
	comp=E,30nm,0.7s						
UCKU	**Afyonkarahisar**	**3.26**	**357**	P	**Pb**	**17 17 08.3**	**-2.8**
UCKU				S	**Sn**	**17 17 41.3**	**-1.6**
CMRD	**Camardi-Nigde**	**3.52**	**49**	Pn	**Pn**	**17 17 09.9**	**+2.1**
TAHT	**Tahtakopru-Hat**	**3.80**	**74**	Pn	**Pn**	**17 17 13.6**	**+2.0**

IDC 02 17:21:32.0±3.7,10°.93S×118°.04E,h0km,mb3.3/1, mbtmp3.3/3,ML3.4/2,Error ellipse: s-maj=255.2km s-min=29.5km az=47.0,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.07**	**122**	P	Pn	17 25 43.8	-0.9
	0.1nm,0.3s,baz=288,slow=14,SNR=7.9						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**19.71**	**132**	P	Pn	17 26 04.1	-0.5
	0.1nm,0.3s,baz=312,slow=12,SNR=12						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**65.75**	**334**	P	P	17 32 18.6	-0.1
	0.2nm,0.5s,baz=126,slow=6.2,SNR=4.0						
	0.2nm,0.5s						

IDC 02 17:37:27.1±2.9,6°.25S×131°.98E,h0km,mb3.4/1, mbtmp3.3/4,ML3.2/3,Error ellipse: s-maj=112.5km s-min=31.8km az=81.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.30**	**207**	Pn	Pn	17 40 37.0	-0.3
	0.1nm,0.3s,baz=26,slow=12,SNR=13						
FITZ				Sn	Sn	17 42 56.4	-10
	0.3nm,0.3s,baz=181,slow=20,SNR=6.7						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**13.80**	**171**	Pn	Pn	17 40 43.9	-0.3
	0.1nm,0.3s,baz=353,slow=13,SNR=6.8						
WRA				Sn	Sn	17 43 08.6	-10
	0.2nm,0.3s,baz=346,slow=24,SNR=5.8						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**17.41**	**174**	Pn	Pn	17 41 32.1	+0.5
	0.1nm,0.3s,baz=348,slow=8.7,SNR=8.7						
ASAR				Sn	Sn	17 44 35.5	-11
	0.1nm,0.3s,baz=358,slow=28,SNR=4.0						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**68.70**	**326**	P	P	17 48 32.6	0.0
	0.2nm,0.6s,baz=109,slow=6.6,SNR=2.6						
	0.2nm,0.6s						

*SOME **02** 17:43:59.8,38°.93N×73°.33E,h5km*
*NNC **02** 17:44:01.7±1.7,38°.96N×73°.25E,h6km±5km,mb3.8, mpv3.5,Error ellipse: s-maj=12.5km s-min=7.4km az=169.0*
ISC 02 17:44:04.0±2.2,39°.2N±0°.1×73°.16E±0°.04,h10km,n22, σ2°77/29,4C,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRKS	**Merke**	**3.59**	**1**	Pg	**Pb**	**17 45 09.1**	**+1.5**
MRKS				Lg	Lg	17 45 59.4	
MRKS	**Merke**	**3.59**	**1**	*eP*	**Pb**	**17 45 09.1**	**+1.5**
MRKS				*eS*	**Sg**	**17 45 59.4**	**+0.1**
AAK	**Ala-Archa**	**3.62**	**16**	⇑Pn	**Pn**	**17 45 00.7**	**+0.3**
	2.9nm,0.6s						
AAK				⇑Sn	**Sn**	**17 45 47.8**	**+4.5**
	9.3nm,0.8s					

BTLS **Baital** 5.92 6 *e*P Pg 17 45 53.7 -3.7
1.9nm,0.3s
BTLS *e*S Sg 17 47 15.5 +1.4
3.6nm,0.9s
ARXS **Arharly** 6.14 33 Pg Pb 17 45 55.3 +4.2
1.6nm,0.3s
ARXS Lg Lg 17 47 18.4
3.5nm,0.5s

IDC ***02*** *17:49:33.8±2.1,2˚26S×133˚96E, h0km, mb3.6/3, mbtmp3.7/5, ML3.7/2, MS3.3/2, Error ellipse: s-maj=89.2km s-min=23.2km az=82.0*
DJA ***02*** *17:49:35.3±0.2,2˚S±2˚×13˚4E±˚, h10km, M3.8/9, mb3.9/3, MLv3.7/9*
ISC 02 17:49:34.5±2.1,2˚28S±0˙05×134˚16E±0˙04, h6km±14km, n15,σ1°13/19, mb3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.76**	**1**	P	**Pg**	**17 49 49.5**	**+0.4**
RKPI				S	**Sb**	**17 49 59.5**	**-1.2**
KMPI	**Kaimana, Papua**	**1.45**	**198**	P	**Pn**	**17 50 00.6**	**-0.6**
KMPI				S	**Sn**	**17 50 22.0**	**+1.4**
FAKI	**Fak Fak**	**2.01**	**251**	P	**Pn**	**17 50 09.0**	**0.0**
FAKI				S	**Sn**	**17 50 35.5**	**+1.0**
SRPI	**Serui, Papua**	**2.12**	**79**	P	**Pn**	**17 50 08.6**	**-1.8**
SRPI				S	**Sn**	**17 50 37.9**	**+0.8**
BAKI	**Biak**	**2.23**	**61**	P	**Pn**	**17 50 13.4**	**+1.5**
BAKI				S	**Sn**	**17 50 40.5**	**+0.8**
SWI	**Sorong**	**3.22**	**296**	P	**Pn**	**17 50 25.6**	**0.0**
SWI				S	**Sn**	**17 51 04.7**	**+0.5**
SMPI	**Sarmi**	**4.56**	**87**	P	**Pn**	**17 50 43.7**	**-0.3**
AAI	**Ambon**	**6.12**	**257**	P	**Pn**	**17 51 05.2**	**-0.3**
	55nm,1.1s						
WRA	**Warramunga Arr**	**17.56**	**179**	P	**Pn**	**17 53 40.9**	**+0.8**
	0.2nm,0.3s,baz=359,slow=11,SNR=14						
	0.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**17.81**	**207**	P	**Pn**	**17 53 40.9**	**-2.2**
	0.3nm,0.3s,baz=44,slow=13,SNR=13						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**21.27**	**181**	P	**P**	**17 54 22.5**	**+0.8**
	2.6nm,1.0s,baz=3.4,slow=10,SNR=22						
	2.6nm,1.0s						
ASAJ	**Asahikawa**	**46.80**	**8**	LR	LR	18 16 52.0	
	comp=Z,29nm,19.6s,baz=173,slow=35						
MKAR	**Makanchi Array**	**66.72**	**324**	P	**P**	**18 00 26.2**	**-0.3**
	0.3nm,0.3s,baz=109,slow=7.8,SNR=7.0						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**70.80**	**326**	P	**P**	**18 00 51.4**	**-0.4**
	0.4nm,0.8s,baz=124,slow=5.6,SNR=5.6						
	0.4nm,0.8s						
ARTI	**Arti**	**84.04**	**327**	LR	LR	18 43 30.6	
	comp=Z,21nm,19.1s,baz=82,slow=39						

NEIC ***02*** *17:55:39.8±2.0, 12˚33N±0˙08×144˚7E±0˙2, h10km±1km, mb4.7/23, Error ellipse: s-maj=27.3km s-min=13.1km az=100.0*
IDC ***02*** *17:55:44.0±1.7, 12˚36N×144˚99E, h58km±13km, mb3.7/15, mbtmp4.0/15, MS3.2/9, Error ellipse: s-maj=26.0km s-min=13.1km az=94.0*
ISC 02 17:55:42.7±0.6, 12˚37N±0˙07×144˚6E±0˙1, h35km, n55, σ1°75/46, mb4.2/20, MS3.1/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.25**	**14**		**Pn**	**17 56 04.3**	**+0.5**
GUMO	**Guam**	**1.25**	**14**	P	**Pn**	**17 56 03.9**	**+0.1**
	338nm,0.3s,baz=165,slow=12,SNR=163						
GUMO				S	**Sn**	**17 56 20.8**	**+1.4**
	1µm,0.3s,baz=346,slow=22,SNR=7.4						
GUMO				LR	LR	17 56 43.2	
	comp=Z,438nm,20.8s,baz=252,slow=48						
JOW	**Kunigami**	**20.99**	**316**	P	**P**	**18 00 25.1**	**+2.0**
JOW				IAmb	IAmb	18 00 28.4	
	comp=Z,60nm,1.6s						
JOW	**Kunigami**	**20.99**	**316**	P	**P**	**18 00 25.2**	**+2.1**
	comp=Z,6.9nm,0.4s,baz=172,slow=7.1,SNR=1.7						
JOW				S	**S**	**18 04 07.1**	**-8.1**
	comp=Z,2.3nm,0.3s,baz=94,slow=26,SNR=1.2						
	comp=Z,6.9nm,0.4s						
JHJ	**Hachijo jima 2**	**21.11**	**349**	LR	LR	18 06 42.7	
	comp=Z,53nm,19.6s,baz=47,slow=31						
H11S3	**WAKE ISLAND Hy**	**22.18**	**71**	T	T	18 23 48.9	
	baz=254,slow=76						
H11S1	**WAKE ISLAND Hy**	**22.20**	**71**	T	T	18 23 54.0	
	baz=254,slow=76						
H11S2	**WAKE ISLAND Hy**	**22.20**	**71**	T	T	18 23 53.6	
	baz=254,slow=76						
H11N1	**WAKE ISLAND Hy**	**22.66**	**68**	T	T	18 24 19.8	
	baz=255,slow=75,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**22.67**	**68**	T	T	18 24 18.8	
	baz=255,slow=75,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**22.68**	**68**	T	T	18 24 34.3	
	baz=255,slow=75,SNR=8.9						
JNU	**Nakatsue**	**24.15**	**331**	P	**P**	**18 00 55.6**	**-0.1**
JNU	**Nakatsue**	**24.15**	**331**	LR	LR	18 08 52.1	
	comp=Z,24nm,21.6s,baz=218,slow=32						
MJAR	**Matsushiro Arr**	**24.74**	**348**	P	**P**	**18 00 59.2**	**-1.8**
	comp=Z,1.5nm,0.8s,baz=158,slow=8.0,SNR=4.1						
	comp=Z,1.5nm,0.8s						
SSLB	**Suanglung**	**25.10**	**300**	P	**P**	**18 01 05.4**	**+1.0**
YHNB	**Yeheng**	**25.10**	**302**	P	**P**	**18 01 03.6**	**-0.9**
TPUB	**Ta-pu**	**25.19**	**299**	P	**P**	**18 01 05.2**	**0.0**
COEN	**Coen**	**26.19**	**183**	P	**P**	**18 01 16.5**	**+2.2**
KNRA	**Kununurra**	**31.95**	**210**	P	**P**	**18 02 06.0**	**+0.6**
KNRA				IAmb	IAmb	18 02 18.9	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**33.46**	**198**	P	**P**	**18 02 18.0**	**-0.7**
WR8	**Warramunga Arr**	**33.61**	**197**	P	**P**	**18 02 19.7**	**-0.3**
WR8				IAmb	IAmb	18 02 20.5	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**33.63**	**198**	P	**P**	**18 02 18.7**	**-1.5**
WRAB				IAmb	IAmb	18 02 38.7	
	comp=Z,22nm,1.8s						
WRA	**Warramunga Arr**	**33.64**	**198**	P	**P**	**18 02 18.4**	**-1.9**
WRA	**Warramunga Arr**	**33.64**	**198**	P	**P**	**18 02 20.2**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=21,slow=9.8,SNR=48						
	comp=Z,2.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**35.56**	**212**	P	**P**	**18 02 37.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**35.56**	**212**	P	**P**	**18 02 38.3**	**+1.4**
	comp=Z,2.0nm,0.9s,baz=54,slow=9.9,SNR=5.7						
	comp=Z,2.0nm,0.9s						
AS31	**Alice Springs**	**37.29**	**196**	P	**P**	**18 02 51.7**	**0.0**
ASAR	**Alice Springs**	**37.30**	**196**	P	**P**	**18 02 52.3**	**+0.6**
ASAR	**Alice Springs**	**37.30**	**196**	P	**P**	**18 02 51.7**	**0.0**
	comp=Z,0.5nm,0.5s,baz=12,slow=11,SNR=26						
ASAR				LR	LR	18 19 14.8	
	comp=Z,61nm,18.4s,baz=352,slow=38						
	comp=Z,0.5nm,0.5s						
PETK	**Petropavlovsk-**	**41.98**	**12**	P	**P**	**18 03 32.2**	**+1.9**
	comp=Z,0.2nm,0.4s,baz=203,slow=14,SNR=6.5						
PETK				LR	LR	18 23 08.1	
	comp=Z,20nm,18.4s,baz=159,slow=39						
CMAR	**Chiang Mai Arr**	**44.29**	**284**	P	**P**	**18 03 52.0**	**+2.5**
	comp=Z,2.1nm,0.6s,baz=79,slow=7.0,SNR=13						
CMAR				LR	LR	18 21 53.2	
	comp=Z,15nm,19.1s,baz=130,slow=35						
	comp=Z,2.1nm,0.6s						
BBOO	**Buckleboo**	**45.65**	**190**	P	**P**	**18 03 59.8**	**-0.2**
MA2	**Magadan**	**47.35**	**4**	LR	LR	18 22 24.2	
	comp=Z,26nm,21.7s,baz=168,slow=34						
SONM	**Songino Array**	**47.55**	**326**	P	**P**	**18 04 15.9**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=166,slow=7.3,SNR=2.6						
	comp=Z,0.3nm,0.4s						
GTA	**Gaotai**	**47.76**	**313**	*e*P	**P**	**18 04 18.4**	**+1.7**
GTA				sP	sP	18 04 30.1	+0.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MORW	**Morawa**	**49.55**	**213**	P	**P**	**18 04 29.1**	**-1.3**
YAK	**Yakutsk**	**50.73**	**351**	LR	LR	18 25 49.0	
	comp=Z,40nm,18.1s,baz=138,slow=36						
SEY	**Seymchan**	**50.80**	**5**	LR	LR	18 26 24.2	
	comp=Z,27nm,19.3s,baz=358,slow=36						
MKAR	**Makanchi Array**	**62.15**	**317**	P	**P**	**18 06 01.1**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=94,slow=8.0,SNR=6.1						
	comp=Z,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**62.43**	**325**	P	**P**	**18 06 02.6**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=100,slow=7.7,SNR=2.1						
ZALV				PcP	**PcP**	**18 06 41.4**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=104,slow=4.1,SNR=5.4						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**65.35**	**320**	P	**P**	**18 06 21.2**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=103,slow=6.6,SNR=9.7						
	comp=Z,0.7nm,0.6s						
NIL	**Nilore**	**67.75**	**301**	P	**P**	**18 06 38.1**	**+1.0**
ILAR	**Eielson Array**	**69.80**	**25**	P	**P**	**18 06 47.6**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=253,slow=6.0,SNR=7.3						
	comp=Z,0.4nm,0.6s						
GAR	**Garm**	**70.11**	**307**	P	**P**	**18 06 52.8**	**+0.9**
BVAR	**Borovoye Array**	**70.69**	**322**	P	**P**	**18 06 55.6**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=113,slow=6.9,SNR=7.8						
	comp=Z,1.0nm,0.4s						
CHGR	**Chuyangaron**	**71.01**	**307**		**P**	**18 06 58.3**	**+0.9**
SIMJ	**Simiganj**	**71.13**	**307**		**P**	**18 06 59.0**	**+0.9**
SIMJ				IAmb	IAmb	18 07 13.4	
	comp=Z,3.5nm,0.7s						
H27K	**Steamboat Moun**	**72.29**	**24**	P	**P**	**18 07 03.8**	**-0.6**
M29M	**Somme Creek**	**73.10**	**28**	P	**P**	**18 07 09.6**	**+0.2**
NVAR	**Mina Array Bea**	**87.92**	**51**	P	**P**	**18 08 26.9**	**-2.6**
	comp=Z,1.3nm,0.3s,baz=278,slow=6.4,SNR=3.8						
	comp=Z,1.3nm,0.3s						
ARCES	**ARCESS Array B**	**88.14**	**342**	P	**P**	**18 08 29.4**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=54,slow=6.2,SNR=7.0						
	comp=Z,1.7nm,0.9s						
FINES	**FINESS Array B**	**92.13**	**335**	P	**P**	**18 08 47.6**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=54,slow=4.9,SNR=4.8						
	comp=Z,1.8nm,0.8s						
NOA	**NORSAR Array B**	**98.07**	**339**	LR	LR	18 55 21.5	
	comp=Z,14nm,20.2s,baz=250,slow=36						
DBIC	**Dimbokro**	**144.19**	**300**	PKP	**PKPdf**	**18 15 15.1**	**-0.9**
	comp=Z,2.8nm,0.6s,baz=81,slow=5.0,SNR=4.8						
LPAZ	**La Paz**	**148.12**	**101**	PKPbc	**PKPdf**	**18 15 21.3**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=304,slow=3.6,SNR=1.3						

IDC 02 18:26:46.4±2.1,0˚40N×126˚62E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=169.6km s-min=27.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.59**	**160**	P	P	18 31 37.5	-0.5
	0.4nm,0.5s,baz=338,slow=11,SNR=10.0						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**24.95**	**164**	P	P	18 32 12.0	+0.3
	0.1nm,0.3s,baz=342,slow=9.4,SNR=8.2						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**60.23**	**326**	P	P	18 36 56.4	-0.1
	0.2nm,0.5s,baz=123,slow=7.7,SNR=4.0						
	0.2nm,0.5s						

IDC ***02*** *18:26:58.4±8.7,21˚94S×177˚42W, h365km±71km, mb3.8/6, mbtmp4.5/8, Error ellipse: s-maj=107.4km s-min=28.9km az=77.0*
NEIC ***02*** *18:27:00.5±1.7,22˚0S±0˙1×177˚4W±0˙1, h383km±18km, mb4.1/20, Error ellipse: s-maj=20.6km s-min=18.3km az=219.0*
ISC 02 18:26:58.8±0.7,21˚99S±0˙09×177˚57W±0˙08, h350km, n35,σ1°54/37, mb3.8/6, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.91**	**315**		**Pn**	**18 28 32.2**	**+3.4**
RAO	**Raoul Island**	**7.24**	**182**	Pn	**Pn**	**18 28 45.5**	**+1.7**
NIUE	**Niue**	**7.72**	**69**		**Pn**	**18 28 50.0**	**+0.2**
NIUE				Sn	**S**	**18 30 20.1**	**-0.1**
PINNC	**Pines Island,**	**13.89**	**265**	P	**P**	**18 30 03.3**	**+2.0**
DZM	**Mont Dzumac**	**14.83**	**267**	P	**P**	**18 30 10.9**	**-0.9**
DZM	**Mont Dzumac**	**14.83**	**267**	P	**P**	**18 30 12.8**	**+1.1**
	5.0nm,0.6s,baz=65,slow=17						
URZ	**Urewera**	**16.85**	**195**	P	**P**	**18 30 32.7**	**-0.6**
	4.8nm,0.7s,baz=264,slow=3.5,SNR=6.3						
URZ				S	**S**	**18 33 30.3**	**-0.9**
	7.5nm,0.6s,baz=278,slow=23,SNR=7.8						
RTZ	**Ruatahuna**	**17.22**	**195**	P	**P**	**18 30 38.7**	**+1.3**
HIZ	**Hauiti**	**17.71**	**200**	P	**P**	**18 30 43.8**	**+1.2**
BKZ	**Black Stump Fm**	**17.86**	**195**	P	**P**	**18 30 45.0**	**+0.8**
ARMA	**Armidale**	**28.81**	**247**	P	**P**	**18 32 27.1**	**+1.0**
EIDS	**Eidsvold**	**28.87**	**257**	P	**P**	**18 32 26.2**	**-0.3**
CAN	**Canberra**	**32.04**	**238**	P	**P**	**18 32 53.8**	**-0.3**
CTAO	**Charters Tower**	**33.77**	**266**	P	**P**	**18 33 08.9**	**-0.3**
TOO	**Toolangi**	**35.37**	**236**	P	**P**	**18 33 21.4**	**-1.2**
PMG	**Port Moresby**	**36.09**	**285**	P	**P**	**18 33 28.4**	**-0.4**
	21nm,1.0s,baz=234,slow=8.0,SNR=2.9						
	21nm,1.0s						
STKA	**Stephens Creek**	**37.53**	**246**	P	**P**	**18 33 40.6**	**0.0**
	2.9nm,0.6s,baz=74,slow=8.6,SNR=6.9						
	2.9nm,0.6s						
INKA	**Innaminka**	**38.12**	**253**	P	**P**	**18 33 45.8**	**+0.2**
BBOO	**Buckleboo**	**42.27**	**245**	P	**P**	**18 34 17.9**	**-1.4**
ASAR	**Alice Springs**	**44.59**	**258**	P	**P**	**18 34 36.9**	**-0.9**
ASAR	**Alice Springs**	**44.59**	**258**	P	**P**	**18 34 37.2**	**-0.6**
	8.3nm,0.7s,baz=99,slow=7.9,SNR=109						
	8.3nm,0.7s						
WR8	**Warramunga Arr**	**44.66**	**263**	P	**P**	**18 34 36.9**	**-1.5**
WB0	**Warramunga Arr**	**44.80**	**264**	P	**P**	**18 34 38.1**	**-1.4**
WRAB	**Tennant Creek**	**44.80**	**263**	P	**P**	**18 34 37.9**	**-1.5**
WRA	**Warramunga Arr**	**44.81**	**263**	P	**P**	**18 34 37.8**	**-1.8**
	4.8nm,0.8s,baz=94,slow=8.0,SNR=45						
	4.8nm,0.8s						
JAY	**Jayapura**	**44.91**	**290**	P	**P**	**18 34 39.3**	**-1.0**
	2.6nm,0.4s,baz=162,slow=6.4,SNR=5.3						
	2.6nm,0.4s						
MTN	**Manton Dam**	**49.59**	**272**	P	**P**	**18 35 14.8**	**-1.3**
KNRA	**Kununurra**	**50.98**	**267**	P	**P**	**18 35 24.8**	**-1.6**
FITZ	**Fitzroy Crossi**	**53.24**	**263**	P	**P**	**18 35 42.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**53.24**	**263**	P	**P**	**18 35 42.4**	**-0.4**
	1.8nm,0.5s,baz=87,slow=5.8,SNR=21						
	1.8nm,0.5s						
PSA00	**Pilbara Seismi**	**57.73**	**258**	P	**P**	**18 36 12.7**	**-1.8**
MBWA	**Marble Bar**	**57.93**	**258**	P	**P**	**18 36 14.5**	**-1.4**
MEM	**Membach**	**151.30**	**355**	*d*PKP	**PKPdf**	**18 46 08.2**	**+3.5**
BMRD	**Maredsous**	**151.68**	**357**	*d*PKP	**PKPab**	**18 46 18.9**	**-3.3**
WLF	**Walferdange**	**152.23**	**355**	*d*PKP	**PKPbc**	**18 46 10.7**	**-2.5**

FUNV ***02*** *18:28:56.3, 10˚93N×62˚34W, h24km, MW3.2*
TRN ***02*** *18:28:57.1, 10˚90N×62˚36W, h75km, MD3.0, North of the Paria peninsula.*
ISC 02 18:28:54.8±2.3,10˚86N±0˙07×62˚35W±0˙09, h103km±28km, n14,σ1°41/24, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DMDM	**Guralp CMG5TDE**	**0.80**	**101**	*e*P	**Pn**	**18 29 14.4**	**+1.0**
DMDM				*e*S	**Sn**	**18 29 26.4**	**-1.0**
TRN	**Trinidad (W)**	**0.95**	**103**	*e*P	**Pn**	**18 29 15.8**	**+0.8**
TRN				*e*S	**Sn**	**18 29 29.0**	**-1.0**
GRFF	**Grenada Fort F**	**1.33**	**27**	*e*P	**Pn**	**18 29 19.7**	**+0.5**
GRFF				*e*S	**Sn**	**18 29 36.3**	**-1.3**
GRGR	**Grenville**	**1.44**	**28**	*e*P	**Pn**	**18 29 21.4**	**+0.9**
GRGR				*e*S	**Sn**	**18 29 38.6**	**-1.3**
GRW	**Mount Saint Ca**	**1.46**	**27**	*e*P	**Pn**	**18 29 22.1**	**+1.2**
GRW				*e*S	**Sn**	**18 29 39.8**	**-0.8**
GRHS	**Sauteurs**	**1.52**	**27**	*e*S	**Sn**	**18 29 40.8**	**-1.1**
GRSS	**Sisters**	**1.60**	**27**	*e*P	**Pn**	**18 29 23.0**	**+0.5**
GRSS				*e*S	**Sn**	**18 29 42.7**	**-0.8**
GCMP	**Grenada, Carri**	**1.85**	**29**	*e*P	**Pn**	**18 29 25.9**	**+0.2**
GCMP				*e*S	**Sn**	**18 29 47.6**	**-1.5**
PCRV	**Puerto La Cruz**	**2.35**	**253**	*e*P	**Pn**	**18 29 34.4**	**+2.3**
PCRV				*e*S	**Sn**	**18 30 00.5**	**-0.2**
PCRV	**Puerto La Cruz**	**2.35**	**253**	*e*P	**Pn**	**18 29 34.7**	**+2.6**
SVB	**Belmont**	**2.63**	**24**	*e*P	**Pn**	**18 29 37.5**	**+1.7**
SVB				*e*S	**Sn**	**18 30 07.8**	**+0.6**
TACV	**Tcata**	**4.66**	**262**	*e*P	**Pn**	**18 30 03.4**	**+0.3**
TACV				*e*S	**Sn**	**18 30 54.5**	**-1.6**
CACV	**CAICARA DEL OR**	**5.28**	**232**	*e*P	Pn	18 30 07.4	-3.9
CACV				*e*S	Sn	18 30 59.5	-11
BAUV	**El Baul**	**5.93**	**252**	*e*P	**Pn**	**18 30 20.1**	**0.0**
BAUV				*e*S	**Sn**	**18 31 24.1**	**-2.7**

IDC 02 18:51:56.9±4.4,20˚76S×175˚47W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=122.1km s-min=77.9km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**46.37**	**287**	P	P	19 00 25.4	0.0
	2.6nm,0.5s,baz=160,slow=12,SNR=4.4						
	2.6nm,0.5s						
ASAR	**Alice Springs**	**46.76**	**257**	P	P	19 00 28.6	+0.3
	1.4nm,0.5s,baz=94,slow=8.2,SNR=12						
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**46.91**	**262**	P	P	19 00 28.8	-0.7
	0.5nm,0.3s,baz=98,slow=8.3,SNR=6.2						
	0.5nm,0.3s						
AKASG	**Malin Array Be**	**144.35**	**333**	PKP	PKPdf	19 11 34.2	-0.6
	0.8nm,0.5s,baz=57,slow=2.5,SNR=8.1						

DJA ***02*** *18:54:20.6±0.4,6˚N±4˚×12˚4E±˚, h517km±5km, M4.3/15, mb4.3/15, mB4.6/7, MLv4.8/12, Mw(mB)3.9/7*
NEIC ***02*** *18:54:22.7±1.9,6˚06N±0˙09×123˚9E±0˙1, h531km±12km, mb4.4/24, Error ellipse: s-maj=20.5km s-min=7.3km az=57.0*
IDC ***02*** *18:54:23.4±0.7,5˚99N×123˚98E, h547km±7km, mb3.3/16, mbtmp4.3/19, Error ellipse: s-maj=18.3km s-min=7.8km az=68.0*
ISC 02 18:54:23.1±0.4,5˚93N±0˙05×123˚92E±0˙07, h550km, n70, σ1°28/84, mb4.2/26, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.00**	**55**	P	P	18 55 26.4	-6.4
DAV	**Davao City (W)**	**2.00**	**55**	P	**P**	**18 55 32.5**	**-0.2**
	161nm,0.3s,baz=263,slow=14,SNR=2.0						
DAV				S	**S**	**18 56 28.8**	**-0.6**
	108nm,0.5s,baz=118,slow=23,SNR=0.6						
SGSI	**Sangihe**	**2.74**	**144**	P	**P**	**18 55 36.2**	**-0.4**
SGSI				S	**S**	**18 56 32.3**	**-4.0**
KMSI	**Cibinong**	**5.32**	**179**	P	**P**	**18 55 54.2**	**-1.5**
	0.8nm145nm,1.0s						
KMSI				S	**S**	**18 57 09.6**	**-1.6**
	0.8nm145nm,1.0s						
MYLDM	**Lahad Datu**	**5.45**	**262**	P	**P**	**18 55 56.6**	**-0.2**
TOLI2	**Tolitoli**	**5.72**	**213**	P	**P**	**18 55 57.5**	**-1.7**
MRSI	**Marisa**	**5.76**	**200**	P	**P**	**18 55 57.2**	**-2.4**
	30nm,0.5s						
MRSI				S	**S**	**18 57 17.2**	**-1.2**
	30nm,0.5s						
TNTI	**Ternate**	**6.17**	**146**	P	**P**	**18 56 01.7**	**-1.6**
TNTI				S	**S**	**18 57 21.0**	**-4.2**
TNTI	**Ternate**	**6.17**	**146**	P	**P**	**18 56 01.2**	**-2.1**
	0.4nm957nm39nm,0.8s						
TNTI				S	**S**	**18 57 23.7**	**-1.4**
	0.4nm957nm39nm,0.8s						
LUWI	**Luwuk**	**7.02**	**189**	P	**P**	**18 56 09.6**	**-1.7**
LUWI	**Luwuk**	**7.02**	**189**	P	**P**	**18 56 09.7**	**-1.6**
	0.4nm993nm64nm,0.7s						
LUWI				S	**S**	**18 57 39.3**	**-0.5**
	0.4nm993nm64nm,0.7s						
APSI	**Ampana**	**7.16**	**199**	P	**P**	**18 56 10.8**	**-1.8**
KKM	**Kota Kinabalu**	**7.67**	**271**	P	**P**	**18 56 16.3**	**-1.4**
SANI	**Sanana**	**8.19**	**165**	P	**P**	**18 56 21.9**	**-0.8**
	32nm,0.6s						
NLAI	**Namlea**	**9.64**	**161**	P	**P**	**18 56 37.0**	**-0.4**
	59nm,0.8s						
TTSI	**Tana Toraja**	**9.81**	**205**	P	**P**	**18 56 38.3**	**-0.8**
	36nm,0.8s						
SWI	**Sorong**	**9.96**	**132**	P	**P**	**18 56 39.7**	**-0.9**
KAPI	**Kappang**	**11.64**	**201**	P	**P**	**18 56 59.4**	**+1.4**
	16nm,0.9s,baz=35,slow=12,SNR=2.0						
FAKI	**Fak Fak**	**12.10**	**136**	P	**P**	**18 57 03.4**	**+0.7**
FAKI	**Fak Fak**	**12.10**	**136**	P	**P**	**18 57 02.1**	**-0.6**
	45nm,0.9s						
SBUM	**Sibu**	**12.17**	**254**	P	**P**	**18 57 03.8**	**+0.3**
RKPI	**Ransiki, Papua**	**12.62**	**126**	P	**P**	**18 57 07.6**	**-0.6**
MMRI	**Maumere**	**14.56**	**187**	P	**P**	**18 57 28.5**	**+0.4**
BATI	**Baumata**	**16.03**	**181**	P	**P**	**18 57 43.3**	**+0.3**
	58nm,0.7s,baz=109,slow=0.9,SNR=7.5						
DLV	**Lat**	**16.38**	**292**	P	**P**	**18 57 45.5**	**-1.0**
JAGI	**Jajag, Banyuwa**	**17.30**	**214**	P	**P**	**18 57 55.3**	**+0.6**
SSLB	**Suanglung**	**17.99**	**351**	P	**P**	**18 58 00.1**	**-0.8**
SSLB				IAmb	IAmb	18 58 09.4	
	comp=Z,8.3nm,0.9s						
JAY	**Jayapura**	**18.74**	**116**	P	**P**	**18 58 09.6**	**+1.7**
	comp=Z,18nm,0.6s,baz=251,slow=2.9,SNR=18						
YHNB	**Yeheng**	**18.80**	**353**	P	**P**	**18 58 07.5**	**-0.8**
QIZ	**Qiongzhong**	**18.92**	**315**	P	**P**	**18 58 09.6**	**+0.2**
MTN	**Manton Dam**	**19.98**	**159**	P	**P**	**18 58 19.5**	**+0.5**
MTN				IAmb	IAmb	18 58 56.1	
	comp=Z,24nm,1.4s						
KNRA	**Kununurra**	**21.99**	**167**	P	**P**	**18 58 39.6**	**+2.5**
KNRA				IAmb	IAmb	18 59 16.5	
	comp=Z,15nm,1.4s						
IPM	**Ipoh**	**22.85**	**267**	P	**P**	**18 58 43.6**	**-1.4**
IPM				IAmb	IAmb	18 58 48.2	
	comp=Z,6.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**23.93**	**176**	P	**P**	**18 58 54.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**27.36**	**299**	P	**P**	**18 59 25.2**	**+0.5**
	comp=Z,3.1nm,0.6s,baz=118,slow=7.6,SNR=13						
CMAR				ScP	**ScP**	**19 05 15.2**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=145,slow=0.9,SNR=7.1						
	comp=Z,3.1nm,0.6s			

AB31	**Akbulak array**	**68.69**	**321**	P	**P**	**19 04 31.2**	**-0.6**
ABKAR	**Akbulak array**	**68.69**	**321**	P	**P**	**19 04 31.0**	**-0.8**
ILAR	**Eielson Array**	**84.34**	**26**	P	**P**	**19 05 56.5**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=259,slow=5.0,SNR=6.8						
	comp=Z,0.2nm,0.5s						
VNDA	**Vanda**	**85.95**	**172**	P	**P**	**19 06 05.8**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=316,slow=6.5,SNR=2.1						
	comp=Z,0.2nm,0.4s						
BRTR	**Keskin Array B**	**86.48**	**309**	P	**P**	**19 06 09.9**	**+1.8**
	comp=Z,0.6nm,0.4s,baz=110,slow=6.0,SNR=5.8						
	comp=Z,0.6nm,0.4s						
ARCES	**ARCESS Array B**	**87.43**	**340**	P	**P**	**19 06 13.4**	**+1.5**
	comp=Z,1.2nm,0.8s,baz=84,slow=3.8,SNR=3.8						
	comp=Z,1.2nm,0.8s						
FINES	**FINESS Array B**	**88.59**	**332**	P	**P**	**19 06 16.6**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=72,slow=6.2,SNR=5.0						
	comp=Z,2.0nm,0.9s						

FUNV ***02*** *19:00:59.9, 10˚.39N×62˚.79W, h26km, MW3.1*
ISC 02 19:00:53.9±1.4, 9˚.8N±0˚.1×62˚.73W±0˚.06, h10km, n6, σ1§89/10, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DMDM	**Guralp CMG5TDE**	**1.48**	**52**	*eP*	**Pn**	**19 01 20.8**	**+0.2**
DMDM				*eS*	**Sn**	**19 01 37.8**	**-2.2**
TRN	**Trinidad (W)**	**1.57**	**57**	*eP*	**Pn**	**19 01 22.8**	**+1.0**
TRN				*eS*	**Sn**	**19 01 41.2**	**-1.0**
PCRV	**Puerto La Cruz**	**1.91**	**282**	*eP*	**Pb**	**19 01 29.8**	**+0.8**
PCRV				*eS*	**Sn**	**19 01 49.2**	**-1.7**
PCRV	**Puerto La Cruz**	**1.91**	**282**	*eP*	**Pg**	**19 01 31.2**	**+0.5**
CACV	**CAICARA DEL OR**	**4.36**	**240**	*eP*	**Pn**	**19 02 01.8**	**+1.5**
CACV				*eS*	**Sn**	**19 02 47.7**	**-3.5**
JACV	**Jacura**	**6.13**	**283**	*eP*	**Pn**	**19 02 24.8**	**+0.1**

IDC ***02*** *19:02:54.0±1.0, 28˚.49N×105˚.32E, h0km, mb3.7/5, mbtmp3.5/7, ML3.8/1, Error ellipse: s-maj=50.6km s-min=18.6km az=65.0*
NEIC ***02*** *19:02:55.4±2.4, 28˚.4N±0˚.1×105˚.3E±0˚.2, h10km±2km, mb4.2/6, Error ellipse: s-maj=40.5km s-min=4.5km az=236.0*
ISC 02 19:02:56.6±0.8, 28˚.5N±0˚.1×105˚.23E±0˚.08, h19km, n17, σ1§16/19, mb3.8/9, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PZH	**PanZhiHua**	**3.67**	**238**	Pg	**Pn**	**19 03 50.4**	**-2.0**
PZH				Sg	**Sn**	**19 04 36.7**	**+1.5**
PZH				smax	smax		
	comp=N,30nm,0.8s						
PZH				smax	smax		
	comp=E,30nm,0.8s						
ENH	**Enshi**	**4.12**	**63**		**Pb**	**19 04 08.4**	**-0.2**
ENH					**Sb**	**19 04 58.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**11.52**	**211**	Pn	**Pn**	**19 05 41.2**	**+1.1**
	comp=E,0.3nm,0.5s,baz=39,slow=15,SNR=1.8						
SONM	**Songino Array**	**19.35**	**2**	P	**P**	**19 07 21.9**	**+0.9**
	comp=E,0.3nm,0.3s,baz=192,slow=12,SNR=4.0						
	comp=E,0.2nm,0.4s						
MK31	**Makanchi Array**	**25.62**	**322**	P	**P**	**19 08 25.0**	**+0.2**
MK31				IAmb	IAmb	19 08 34.0	
	comp=Z,3.9nm,1.1s						
MKAR	**Makanchi Array**	**25.62**	**322**	P	**P**	**19 08 23.8**	**-1.0**
MKAR	**Makanchi Array**	**25.62**	**322**	P	**P**	**19 08 25.4**	**+0.6**
	comp=Z,2.3nm,1.0s,baz=123,slow=11,SNR=4.7						
	comp=Z,2.3nm,1.0s						
ZALV	**Zalesovo Beam**	**29.51**	**335**	P	**P**	**19 08 59.2**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=140,slow=9.1,SNR=1.6						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**29.93**	**325**	P	**P**	**19 09 04.0**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=129,slow=10,SNR=6.4						
	comp=Z,0.5nm,0.6s						
KURK	**Kurchatov**	**29.95**	**325**	P	**P**	**19 09 04.0**	**+0.6**
KURK				IAmb	IAmb	19 09 22.0	
	comp=Z,3.1nm,1.3s						
FITZ	**Fitzroy Crossi**	**50.33**	**154**	P	**P**	**19 11 53.0**	**+0.7**
WB0	**Warramunga Arr**	**55.63**	**146**	P	**P**	**19 12 30.0**	**-1.4**
WB0				IAmb	IAmb	19 12 57.4	
	comp=Z,6.8nm,1.2s						
WRA	**Warramunga Arr**	**55.75**	**146**	P	**P**	**19 12 32.2**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=327,slow=7.4,SNR=6.3						
	comp=Z,0.6nm,0.8s						
WB2	**Warramunga Arr**	**55.76**	**146**	P	**P**	**19 12 30.3**	**-2.0**
WR8	**Warramunga Arr**	**55.84**	**146**	P	**P**	**19 12 31.2**	**-1.8**
WR8				IAmb	IAmb	19 12 56.8	
	comp=Z,5.8nm,1.2s						
ASAR	**Alice Springs**	**58.74**	**149**	P	**P**	**19 12 54.2**	**+0.9**
ASAR	**Alice Springs**	**58.74**	**149**	P	**P**	**19 12 53.8**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=330,slow=6.4,SNR=9.0						
	comp=Z,0.6nm,0.7s						

IDC 02 19:03:11.0±6.4, 6˚.40S×148˚.21E, h84km±37km, mb2.8/1, mbtmp3.3/4, Error ellipse: s-maj=87.3km s-min=24.8km az=82.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.17**	**199**	P	Pn	19 03 58.4	-0.3
	5.7nm,0.3s,baz=341,slow=4.4,SNR=6.7						
PMG				S	Sn	19 04 36.2	+0.7
	5.1nm,0.4s,baz=181,slow=22,SNR=1.6						
JAY	**Jayapura**	**8.42**	**297**	P	Pn	19 05 10.5	+0.2
	1.2nm,0.3s,baz=138,slow=20,SNR=7.5						
WRA	**Warramunga Arr**	**19.05**	**224**	P	P	19 07 25.9	-0.8
	0.5nm,0.7s,baz=48,slow=11,SNR=1.9						
ASAR	**Alice Springs**	**22.00**	**217**	P	P	19 07 59.0	+0.4
	0.5nm,0.6s,baz=51,slow=9.2,SNR=9.8						
	0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**146.35**	**284**	PKPbc	PKPdf	19 22 42.5	+0.5
	0.3nm,0.7s,baz=70,slow=3.6,SNR=2.1						

NEIC ***02*** *19:26:30.6±2.0, 43˚.60N±0˚.08×105˚.2W±0˚.1, h0km±1km, ML3.2/38, Error ellipse: s-maj=19.7km s-min=2.6km az=45.0*
IDC ***02*** *19:26:33.9±2.3, 43˚.76N×105˚.46W, h0km, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=54.8km s-min=10.4km az=150.0*
ISC 02 19:26:29.8±1.0, 43˚.45N±0˚.06×105˚.10W±0˚.06, h0km, n20, σ1§68/19, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.02**	**49**		**Pg**	**19 26 49.6**	**+0.2**
K22A	**Casper**	**1.31**	**233**		**Pn**	**19 26 56.8**	**+1.2**
PDAR	**Pinedale Array**	**3.33**	**260**	Pn	**Pb**	**19 27 27.4**	**-2.5**
	1.2nm,0.3s,baz=71,slow=14,SNR=5.7						
PDAR				Lg	Lg	19 28 12.9	
	13nm,0.3s,baz=71,slow=33,SNR=7.7						
	1.5nm,0.3s						
HAYD	**Hayden**	**3.34**	**210**		**Pb**	**19 27 28.5**	**-1.5**
OGNE	**Ogallala**	**3.39**	**137**		**Pb**	**19 27 28.3**	**-2.5**
RLMT	**Red Lodge**	**3.43**	**301**	Pn	**Pn**	**19 27 24.8**	**+0.1**
RLMT				IAML		19 28 25.5	
	33nm,0.4s						
ISCO	**Idaho Springs**	**3.67**	**186**		**Pb**	**19 27 33.5**	**-2.2**
ISCO				IAML		19 29 19.8	
	27nm,4.7s						
ISCO				IAML		19 29 43.1	
	31nm,4.0s						
YNE	**Yellowstone No**	**3.85**	**296**	Pn	**Pn**	**19 27 31.3**	**+0.7**
YNE				IAML		19 29 57.5	
	comp=E,48nm,1.9s						
YNE				IAML		19 29 57.9	
	comp=N,48nm,0.8s						
YMP	**Mirror Lake Pl**	**3.86**	**291**	Pn	**Pn**	**19 27 33.0**	**+2.2**
LOHW	**Long Hollow**	**4.00**	**274**		**Pn**	**19 27 32.3**	**-0.3**
O20A	**White River Ci**	**4.06**	**216**		**Pn**	**19 27 33.8**	**+0.4**
O20A				IAML		19 30 18.4	
	comp=N,35nm,4.9s						
SNOW	**Snow King Moun**	**4.12**	**272**		**Pn**	**19 27 34.4**	**+0.2**
SNOW				IAML		19 28 57.3	
	comp=N,37nm,1.6s						
SNOW				IAML		19 29 06.4	
	comp=N,30nm,1.4s						
YPP	**Pitchstone Pla**	**4.20**	**283**		**Pn**	**19 27 35.3**	**-0.1**
YPP				IAML		19 28 40.7	
	comp=N,24nm,0.0s						
TPAW	**Teton Pass**	**4.26**	**273**		**Pn**	**19 27 36.2**	**0.0**
TPAW				IAML		19 28 58.0	
	comp=N,24nm,1.0s						
DGMT	**Dagmar**	**5.06**	**7**		**Pn**	**19 27 46.0**	**-1.0**

HWUT	**Hardware Ranch**	**5.12**	**251**	Pn	**Pn**	**19 27 49.9**	**+2.0**
HWUT				IAML		19 29 27.0	
	comp=N,18nm,1.4s						
HWUT				IAML		19 29 33.8	
	comp=N,14nm,1.2s						
BSUT	**Blindstream Ca**	**5.12**	**237**	Pn	**Pn**	**19 27 49.7**	**+1.5**
BSUT				IAML		19 29 23.7	
	comp=E,12nm,3.9s						
BSUT				IAML		19 29 33.2	
	comp=N,11nm,2.5s						
P18A	**Preston Nutter**	**5.43**	**227**	Pn	**Pn**	**19 27 55.2**	**+2.9**
ULM	**Lac du Bonnet**	**9.28**	**40**	Pn	**Pn**	**19 28 46.3**	**+1.5**
	comp=N,0.2nm,0.3s,baz=228,slow=12,SNR=1.2						
ULM				Lg	Lg	19 31 17.2	
	comp=N,0.2nm,0.3s,baz=310,slow=19,SNR=3.1						
	comp=N,1.2nm,0.6s						
I56US	**NEWPORT INFRAS**	**9.67**	**304**	I	I	20 26 40.0	
	baz=114,slow=314,SNR=3.2						

IDC ***02*** *19:33:39.5±3.9, 27˚.65N×141˚.81E, h45km±34km, mb3.8/11, mbtmp4.0/14, ML3.3/3, MS2.7/1, Error ellipse: s-maj=42.1km s-min=21.4km az=84.0*
JMA ***02*** *19:33:40.4±0.1, 27˚.5N±0˚.8×14˚2E±˚, h41km, MD3.9/12, MV4.1/12, NEAR CHICHIJIMA ISLAND*
JMA Felt I J1 at NEAR CHICHIJIMA ISLAND .
ISC 02 19:33:38.4±0.6, 27˚.64N±0˚.07×142˚.0E±0˚.2, h39km, n32, σ0§99/30, mb4.1/11, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.58**	**159**	*eP*	**Pn**	**19 33 50.7**	**+0.5**
CBIJ				*eS*	**Sn**	**19 33 58.1**	**-0.4**
CBIJ	**Chichi jima**	**0.58**	**159**	A	A	19 33 50.7	
	comp=N,19nm,0.5s,comp=E,15nm,0.3s						
JHH2	**Haha-jima-NKT2**	**1.02**	**169**	*eP*	**Pn**	**19 33 56.9**	**+0.7**
JHH2				*eS*	**Sn**	**19 34 08.8**	**-0.4**
JHH2	**Haha-jima-NKT2**	**1.02**	**169**	A	A	19 33 56.9	
	comp=N,6.0nm,0.3s,comp=E,6.0nm,0.4s						
JHJ2	**Mitsune**	**5.76**	**342**	*eP*	**Pn**	**19 35 02.5**	**+1.2**
JHJ2				*eS*	**Sn**	**19 36 06.3**	**+0.1**
BSO1	**Boso 1**	**7.04**	**353**	*eP*	**Pn**	**19 35 19.9**	**+1.5**
BSO1				*eS*	**Sn**	**19 36 35.3**	**-1.7**
JOD2	**Odawara 2**	**7.99**	**343**	*eP*	**Pn**	**19 35 33.8**	**+1.9**
JRY	**Ryogami san**	**8.75**	**344**	*eP*	**Pn**	**19 35 44.6**	**+2.2**
JAG	**Ashikaga**	**9.02**	**347**	*eP*	**Pn**	**19 35 46.5**	**+0.5**
JAG				*eS*	**Sn**	**19 37 24.8**	**-1.4**
MJAR	**Matsushiro Arr**	**9.43**	**341**	P	**Pn**	**19 35 53.2**	**+1.6**
	comp=E,0.2nm,0.3s,baz=159,slow=12,SNR=9.2						
	comp=E,1.2nm,0.3s						
ASAJ	**Asahikawa**	**16.45**	**2**	P	**Pn**	**19 37 26.4**	**+0.1**
	comp=E,0.3nm,0.3s,baz=286,slow=15,SNR=2.0						
	comp=E,7.7nm,1.0s						
USRK	**Ussuriysk Ar.**	**18.37**	**337**	P	**P**	**19 37 49.0**	**-0.6**
	comp=E,0.1nm,0.3s,baz=134,slow=10,SNR=2.3						
	comp=E,2.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**24.13**	**104**	T	T	20 03 43.2	
	baz=294,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**24.13**	**104**	T	T	20 03 42.3	
	baz=294,slow=75,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**24.14**	**104**	T	T	20 03 45.0	
	baz=294,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**24.47**	**107**	T	T	20 04 09.6	
	baz=297,slow=75,SNR=46						
H11S1	**WAKE ISLAND Hy**	**24.48**	**107**	T	T	20 04 07.5	
	baz=297,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**24.49**	**107**	T	T	20 04 11.0	
	baz=297,slow=75,SNR=26						
CMAR	**Chiang Mai Arr**	**40.45**	**266**	LR	LR	19 57 34.9	
	comp=E,10nm,20.1s,baz=225,slow=36						
WRA	**Warramunga Arr**	**47.87**	**190**	P	**P**	**19 42 12.8**	**+0.1**
	comp=E,1.1nm,0.4s,baz=10,slow=8.2,SNR=13						
WRA				PcP	**PcP**	**19 43 41.2**	**+0.4**
	comp=E,0.4nm,0.7s,baz=8.6,slow=3.9,SNR=2.0						
	comp=E,1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**48.95**	**319**	PcP	**PcP**	**19 43 44.0**	**-0.3**
	comp=E,0.4nm,0.3s,baz=111,slow=3.3,SNR=4.1						
MKAR	**Makanchi Array**	**49.97**	**309**	P	**P**	**19 42 27.7**	**-0.9**
	comp=E,0.8nm,1.1s,baz=77,slow=9.9,SNR=1.7						
MKAR				PcP	**PcP**	**19 43 48.7**	**+0.5**
	comp=E,0.7nm,0.7s,baz=78,slow=9.5,SNR=5.3						
	comp=E,0.8nm,1.1s						
KURBB	**Kurchatov Arra**	**52.52**	**314**	P	**P**	**19 42 46.3**	**-1.2**
	comp=E,1.3nm,0.2s,baz=111,slow=5.1,SNR=4.2						
	comp=E,1.3nm,0.2s						
ILAR	**Eielson Array**	**57.34**	**29**	P	**P**	**19 43 22.1**	**-0.1**
	comp=E,0.3nm,0.7s,baz=267,slow=6.2,SNR=4.1						
	comp=E,0.3nm,0.7s						
BVAR	**Borovoye Array**	**57.51**	**317**	P	**P**	**19 43 22.8**	**-0.7**
	comp=E,0.7nm,0.5s,baz=92,slow=7.4,SNR=5.9						
	comp=E,0.7nm,0.5s						
ARCES	**ARCESS Array B**	**72.96**	**341**	P	**P**	**19 45 04.5**	**+1.1**
	comp=E,1.3nm,0.8s,baz=56,slow=5.7,SNR=8.3						
	comp=E,1.3nm,0.8s						
FINES	**FINESS Array B**	**77.37**	**334**	P	**P**	**19 45 29.5**	**+0.6**
	comp=E,2.4nm,0.4s,baz=74,slow=5.7,SNR=32						
	comp=E,2.4nm,0.4s						
AKASG	**Malin Array Be**	**82.06**	**324**	P	**P**	**19 45 54.1**	**-0.4**
	comp=E,0.4nm,0.4s,baz=57,slow=4.3,SNR=2.5						
	comp=E,0.4nm,0.4s						
HFS	**Hagfors**	**82.85**	**337**	P	**P**	**19 45 58.8**	**+0.3**
	comp=E,1.7nm,0.5s,baz=72,slow=3.5,SNR=12						
	comp=E,1.7nm,0.5s						
NB2	**NORSAR Subarra**	**83.03**	**338**	P	**P**	**19 45 59.6**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=46,slow=5.1						
NOA	**NORSAR Array B**	**83.03**	**338**	P	**P**	**19 45 59.7**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=44,slow=5.3,SNR=4.0						
	comp=Z,1.4nm,0.8s						
GERES	**GERESS Array B**	**90.94**	**329**	P	**P**	**19 46 38.0**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=29,slow=3.0,SNR=6.4						
	comp=Z,0.5nm,0.6s						

NOU ***02*** *19:49:26.0, 21˚.46S×176˚.82W, h641km, mb4.8/5, Fiji Islands Region*
IDC ***02*** *19:49:38.5±3.2, 20˚.39S×177˚.86W, h444km±33km, mb3.5/13, mbtmp4.3/15, Error ellipse: s-maj=18.4km s-min=12.3km az=91.0*
NEIC ***02*** *19:49:44.7±2.0, 20˚.62S±0˚.07×178˚.0W±0˚.1, h505km±6km, mb4.4/38, Error ellipse: s-maj=19.1km s-min=8.4km az=67.0*
ISC 02 19:49:43.7±0.4, 20˚.55S±0˚.06×177˚.96W±0˚.07, h500km, n138, σ1§69/149, mb4.3/29, 7C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**2.44**	**341**	P	**P**	**19 50 52.6**	**+1.3**
TAVE	**Taveuni**	**4.24**	**334**	P	**P**	**19 51 06.0**	**+1.7**
MSVF	**Nonsavu**	**4.70**	**306**		**P**	**19 51 09.8**	**+1.6**
MSVF	**Nonsavu**	**4.70**	**306**	P	**P**	**19 51 10.0**	**+1.8**
DGTI	**Dogotuki**	**4.76**	**332**	P	**P**	**19 51 09.9**	**+1.2**
YSA	**Yasawairara**	**5.70**	**311**	P	**P**	**19 51 18.9**	**+1.6**
FUTU	**Fugatoga**	**6.21**	**359**	P	**P**	**19 51 22.9**	**+0.6**
NIUE	**Niue**	**7.71**	**80**	P	**P**	**19 51 35.3**	**-1.9**
NIUE				S	**S**	**19 53 12.5**	**+2.3**
GLKZ	**Green Lake**	**8.68**	**180**	P	**P**	**19 51 44.1**	**-3.0**
GLKZ				S	**S**	**19 53 26.6**	**-1.8**
PINNC	**Pines Island,**	**13.73**	**259**	P	**P**	**19 52 40.8**	**+0.2**
DZM	**Mont Dzumac**	**14.61**	**261**	P	**P**	**19 52 46.6**	**-3.5**
	6.7nm,1.0s,baz=63,slow=16,SNR=1.8						
OUZ	**Omahuta**	**16.40**	**205**	P	**P**	**19 53 10.8**	**+2.4**
WCZ	**Waipu Caves**	**16.75**	**202**	P	**P**	**19 53 14.0**	**+2.0**
KUZ	**Kuaotunu**	**17.05**	**198**	P	**P**	**19 53 16.6**	**+1.5**
MXZ	**Matakaoa Point**	**17.26**	**190**	P	**P**	**19 53 16.4**	**-0.7**
HAZ	**Te Kaha**	**17.54**	**191**	P	**P**	**19 53 19.1**	**-0.6**
MKAZ	**Moumakai**	**17.55**	**199**	P	**P**	**19 53 20.8**	**+1.0**
PKGZ	**Pakihiroa**	**17.59**	**190**	P	**P**	**19 53 19.1**	**-1.1**
PKGZ				S	**S**	**19 56 26.8**	**+10**
AWAZ	**Awhitu Peninsu**	**17.67**	**200**	P	**P**	**19 53 22.5**	**+1.6**
RUGZ	**Raukumara Rang**	**17.76**	**191**	P	**P**	**19 53 22.0**	**+0.1**
RUGZ				S	**S**	**19 56 21.0**	**+0.9**
TWGZ	**Tauwhareparae**	**17.91**	**190**	P	**P**	**19 53 22.5**	**-0.7**
TOZ	**Tahuroa Road**	**18.04**	**197**	P	**P**	**19 53 24.6**	**+0.4**
TOZ				IAmb	IAmb	19 53 33.1	
	comp=Z,20nm,1.2s						
TOZ	**Tahuroa Road**	**18.04**	**197**	P	**P**	**19 53 24.8**	**+0.5**
URZ	**Urewera**	**18.16**	**193**	P	**P**	**19 53 23.4**	**-1.9**
	comp=Z,6.0nm,0.3s,baz=30,slow=1.5,SNR=6.9						
URZ				S	**S**	**19 56 32.2**	**+6.1**
	comp=Z,5.7nm,0.8s,baz=258,slow=12,SNR=2.3						
URZ	**Urewera**	**18.16**	**193**	P	**P**	**19 53 23.3**	**-2.1**
CNGZ	**Carnagh Statio**	**18.18**	**190**	P	**P**	**19 53 26.9**	**+1.3**
RTZ	**Ruatahuna**	**18.53**	**193**	P	**P**	**19 53 26.8**	**-2.0**
RTZ				IAmb	IAmb	19 53 46.9	
	comp=Z,26nm,1.5s						

RTZ	**Ruatahuna**	**18.53**	**193**	P	**P**	**19 53 29.8**	**+0.9**
TLZ	**Tolley Road**	**18.59**	**196**	P	**P**	**19 53 32.5**	**+3.1**
BKZ	**Black Stump Fm**	**19.16**	**193**	P	**P**	**19 53 32.2**	**-2.4**
TMVZ	**Te Maari**	**19.29**	**195**	P	**P**	**19 53 36.0**	**+0.1**
ETVZ	**East Tongariro**	**19.31**	**195**	P	**P**	**19 53 35.0**	**-1.0**
OTVZ	**Oturere**	**19.34**	**195**	P	**P**	**19 53 35.7**	**-0.8**
NGZ	**Ngauruhoe**	**19.37**	**195**	P	**P**	**19 53 38.8**	**+2.1**
WNVZ	**Wahianoa**	**19.52**	**195**	P	**P**	**19 53 38.1**	**+0.1**
VRZ	**Vera Road**	**19.55**	**197**	P	**P**	**19 53 40.1**	**+2.1**
KRHZ	**Kereru**	**19.64**	**193**	P	**P**	**19 53 38.9**	**-0.1**
KAHZ	**Kahuranaki**	**19.68**	**192**	P	**P**	**19 53 45.8**	**+6.4**
DVHZ	**Dannevirke**	**20.32**	**193**	P	**P**	**19 53 42.7**	**-2.4**
BFZ	**Birch Farm**	**20.67**	**193**	P	**P**	**19 53 47.7**	**-0.6**
MRZ	**Mangatainoka R**	**20.79**	**194**	P	**P**	**19 53 46.3**	**-3.0**
MRZ				IAmb	IAmb	19 53 55.4	
	comp=Z,23nm,1.3s						
MRZ	**Mangatainoka R**	**20.79**	**194**	P	**P**	**19 53 46.5**	**-2.9**
OGWZ	**Otaki Gorge**	**21.03**	**195**	P	**P**	**19 53 50.9**	**-0.6**
QRZ	**Quartz Range**	**21.77**	**200**	P	**P**	**19 53 56.7**	**-1.5**
QRZ	**Quartz Range**	**21.77**	**200**	P	**P**	**19 53 57.3**	**-1.0**
NNZ	**Nelson**	**21.88**	**198**	P	**P**	**19 53 58.8**	**-0.4**
THZ	**Tophouse**	**22.52**	**198**	P	**P**	**19 54 03.5**	**-1.5**
THZ				IAmb	IAmb	19 54 10.3	
	comp=Z,8.8nm,0.5s						
THZ	**Tophouse**	**22.52**	**198**	P	**P**	**19 54 05.0**	**-0.1**
DSZ	**Denniston Nort**	**22.84**	**200**	P	**P**	**19 54 06.5**	**-1.3**
DSZ	**Denniston Nort**	**22.84**	**200**	P	**P**	**19 54 09.3**	**+1.4**
KHZ	**Kahutara**	**22.95**	**196**	P	**P**	**19 54 06.7**	**-2.1**
GVZ	**Greta Valley S**	**23.60**	**197**	P	**P**	**19 54 14.0**	**-0.6**
LTZ	**Lake Taylor**	**23.64**	**198**	P	**P**	**19 54 12.4**	**-2.6**
LTZ				IAmb	IAmb	19 54 27.6	
	comp=Z,7.4nm,0.6s						
LTZ	**Lake Taylor**	**23.64**	**198**	P	**P**	**19 54 14.0**	**-1.0**
EIDS	**Eidsvold**	**28.87**	**255**	P	**P**	**19 55 01.7**	**+0.3**
EIDS				IAmb	IAmb	19 55 24.4	
	comp=Z,14nm,1.4s						
CAN	**Canberra**	**32.51**	**236**		**P**	**19 55 33.5**	**+0.8**
CTAO	**Charters Tower**	**33.52**	**264**	P	**P**	**19 55 40.3**	**-1.1**
TOO	**Toolangi**	**35.90**	**234**		**P**	**19 56 01.0**	**-0.1**
TOO				IAmb	IAmb	19 56 02.7	
	comp=Z,10nm,0.8s						
TAU	**Tasmania Unive**	**36.61**	**225**	P	**P**	**19 56 07.4**	**+0.5**
TAU				IAmb	IAmb	19 56 32.1	
	comp=Z,26nm,1.1s						
STKA	**Stephens Creek**	**37.80**	**244**		**P**	**19 56 17.2**	**+0.4**
STKA	**Stephens Creek**	**37.80**	**244**	P	**P**	**19 56 16.3**	**-0.5**
	comp=Z,14nm,1.0s,baz=96,slow=9.6,SNR=21						
	comp=Z,14nm,1.0s						
INKA	**Innaminka**	**38.22**	**251**	P	**P**	**19 56 19.7**	**-0.6**
BBOO	**Buckleboo**	**42.55**	**244**		**P**	**19 56 53.9**	**-1.2**
ASAR	**Alice Springs**	**44.54**	**257**		**P**	**19 57 09.5**	**-1.2**
ASAR	**Alice Springs**	**44.54**	**257**	P	**P**	**19 57 10.8**	**+0.1**
	comp=Z,14nm,0.9s,baz=97,slow=7.7,SNR=104						
ASAR				PcP	**pP**	**19 58 43.4**	**+1.1**
	comp=Z,1.7nm,0.5s,baz=106,slow=4.0,SNR=7.9						
ASAR				S	**S**	**20 03 08.6**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=95,slow=15,SNR=7.8						
	comp=Z,14nm,0.9s						
WRAB	**Tennant Creek**	**44.62**	**262**	P	**P**	**19 57 10.5**	**-0.8**
WRAB				IAmb	IAmb	19 57 11.8	
	comp=Z,20nm,1.4s						
WRA	**Warramunga Arr**	**44.63**	**262**		**P**	**19 57 10.5**	**-0.9**
WRA	**Warramunga Arr**	**44.63**	**262**	P	**P**	**19 57 10.8**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=98,slow=8.4,SNR=47						
WRA				PcP	**pP**	**19 58 43.6**	**+0.4**
	comp=Z,1.1nm,1.0s,baz=88,slow=4.2,SNR=4.5						
	comp=Z,3.1nm,0.6s						
MTN	**Manton Dam**	**49.20**	**271**	P	**P**	**19 57 46.3**	**+0.3**
MTN				IAmb	IAmb	19 58 07.4	
	comp=Z,19nm,1.4s						
KNRA	**Kununurra**	**50.69**	**266**	P	**P**	**19 57 56.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**53.05**	**262**	P	**P**	**19 58 13.9**	**-0.1**
SOEI	**Soe**	**56.54**	**272**		**P**	**19 58 39.1**	**+0.4**
PSA00	**Pilbara Seismi**	**57.69**	**257**		**P**	**19 58 45.4**	**-1.0**
PSA00				IAmb	IAmb	19 58 47.3	
	comp=Z,20nm,0.8s						
PSA00	**Pilbara Seismi**	**57.69**	**257**	P

comp=Z,2.2nm,0.7s,baz=132,slow=4.7,SNR=13
OJC Ojcow 147.22 339 PKPdf PKPdf 20 08 26.9 -0.3
ANTO Ankara 147.42 313 PKPdf PKPdf 20 08 28.9 +0.9
MMAI Mount Meron Ar 147.87 300 PKPbc PKPbc 20 08 33.0 +0.3
comp=Z,6.8nm,0.7s,baz=69,slow=4.6,SNR=11
OSTC Ostas 148.03 343 ePKP PKPbc 20 08 32.8 +0.3
CHVC Chvalec 148.04 343 ePKP PKPbc 20 08 33.1 +0.6
CLL Collm 148.12 347 PKPbc PKPbc 20 08 32.5 -0.1
UPC Upice 148.13 343 ePKP PKPbc 20 08 32.8 +0.1
DPC Dobruska-Polom 148.18 343 ePKP PKPbc 20 08 33.3 +0.4
DPC ePKPAB **PKPab 20 08 38.2 +0.5**
MDUB Mudurnu 148.20 315 PKPbc PKPbc 20 08 33.1 -0.3
MLR Muntele Rosu 148.28 327 PKPdf PKPdf 20 08 32.4 +3.1
KRLC Kraliky 148.30 342 ePKP PKPbc 20 08 33.4 +0.2
KRLC ePKPAB **PKPab 20 08 38.5 +0.4**
PRU Pruhonice 148.99 344 ePKP PKPbc 20 08 34.9 +0.1
MEM Membach 149.84 355 dPKPbc PKPbc 20 08 36.4 -0.4
BTNL Ternell 149.85 355 dPKPdf PKPdf 20 08 31.1 -0.4
BTNL dPKP **PKPbc 20 08 36.4 -0.5**
BSTI Sart Tilman 149.90 356 dPKP PKPbc 20 08 36.2 -0.8
KHC Kasperske Hory 150.02 345 ePKP PKPbc 20 08 37.3 -0.1
KHC ePKPAB **PKPab 20 08 45.7 +0.4**
BGES Gesves 150.13 356 dPKPbc PKPbc 20 08 37.5 0.0
BMRD Maredsous 150.23 356 dPKPbc PKPbc 20 08 37.1 -0.6
GERES GERESS Array B 150.26 344 PKPbc PKPbc 20 08 37.5 -0.5
comp=Z,1.1nm,0.7s,baz=323,slow=2.0,SNR=9.6
RCHB Rochefort 150.35 356 dPKPab PKPab 20 08 46.6 +0.1
DOU Dourbes 150.45 357 dPKPab PKPab 20 08 45.4 -1.5
WLF Walferdange 150.76 355 dPKP PKPbc 20 08 38.2 -0.8
TORD Torodi Ar. Bea 172.63 177 PKP PKPdf 20 08 54.5 -1.3
comp=Z,0.4nm,0.8s,baz=222,slow=1.9,SNR=4.3
TORD PKPab **PKPab 20 10 23.8 -0.7**
comp=Z,0.6nm,0.8s,baz=166,slow=1.9,SNR=2.8

MCSM ***02*** *20:01:02.7±1.3,52°N±6°×1°6E±°, h9km±9km, mb3.6, MLv3.2*
IPEC ***02*** *20:01:03.2±0.2,51°51N×16°15E, h1km, ML2.9/6, Error ellipse: s-maj=1.6km s-min=1.3km az=61.0*
BGR ***02*** *20:01:03.7±0.5,51°48N×16°17E, h1km, ML3.0/15, Error ellipse: s-maj=6.7km s-min=3.3km az=24.0*
PRU ***02*** *20:01:04.3,51°48N×16°15E, h0km*
IDC ***02*** *20:01:04.1±0.7,51°48N×15°89E, h0km, mb3.2/1, mbtmp3.3/8, ML2.7/7, Error ellipse: s-maj=13.5km s-min=7.0km az=103.0*
DNK ***02*** *20:01:05.5±2.0,51°75N×15°82E, h0km±103km, ML2.2*
VIE ***02*** *20:01:05.2±0.4,51°35N×15°99E, h0km, mb2.6/12, ml2.9/11, ms3.2/1, Error ellipse: s-maj=3.2km s-min=2.5km az=30.0 76 km WNW of Wroclaw Suspected Mining induced.*
UPP ***02*** *20:01:09.6±3.4,51°96N×15°43E, h0km, ML1.9, Presumed earthquake*

ISC 02 20:01:01.6±0.7,51°58N±0°03×16°15E±0°02, h0km, n82, σ1s24/145, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.74**	**173**	*e*Pg		**Pg**	**20 01 16.4**	**+0.6**
KSP				*e*Sg		**Sg**	**20 01 25.4**	**-0.1**
KSP	**Ksiaz**	**0.74**	**173**	*e*Pg		**Pg**	**20 01 16.4**	**+0.6**
KSP				*e*Sg		**Sg**	**20 01 25.2**	**-0.3**
KSP	**Ksiaz**	**0.74**	**173**	Pg		**Pg**	**20 01 16.4**	**+0.6**
KSP				Sg		**Sg**	**20 01 25.5**	**+0.1**
CHVC	**Chvalec**	**1.00**	**183**	*e*PG		**Pg**	**20 01 21.1**	**+0.5**
CHVC				*e*SG		**Sg**	**20 01 33.5**	**0.0**
	122nm,0.6s							
OSTC	**Ostas**	**1.03**	**178**	*e*PG		**Pb**	**20 01 21.9**	**-0.3**
OSTC				*e*SG		**Sg**	**20 01 34.6**	**+0.1**
	186nm,0.3s							
UPC	**Upice**	**1.08**	**185**	*e*PG		**Pg**	**20 01 22.5**	**+0.3**
UPC				*e*SG		**Sg**	**20 01 36.3**	**+0.1**
	308nm,0.3s							
DPC	**Dobruska-Polom**	**1.24**	**175**	*e*PG		**Pg**	**20 01 25.2**	**-0.1**
DPC				*e*SG		**Sg**	**20 01 40.3**	**-1.0**
	135nm,0.6s							
DPC	**Dobruska-Polom**	**1.24**	**175**	*e*Pn		**Pg**	**20 01 25.1**	**-0.1**
DPC				*e*Sg		**Sg**	**20 01 40.0**	**-1.3**
DPC	**Dobruska-Polom**	**1.24**	**175**	Pg		**Pg**	**20 01 25.0**	**-0.3**
DPC				Sg		**Sg**	**20 01 40.4**	**-0.9**
PIVO	**Bartosovice** baz=349	**1.42**	**170**	*e*Pg		**Pn**	**20 01 28.5**	**-0.1**
PIVO				*e*Sg		**Sg**	**20 01 45.4**	**-1.7**
	156nm,0.4s,baz=349							
PVCC	**Panska Ves**	**1.45**	**224**	*e*PG		**Pn**	**20 01 29.1**	**+0.1**
PVCC				*e*SG		**Sn**	**20 01 49.0**	**+0.3**
	212nm,0.3s							
BRG	**Berggiesshubel**	**1.56**	**244**	*e*Pn		**Pg**	**20 01 31.9**	**+0.6**
BRG				*e*Sg		**Sg**	**20 01 52.5**	**+1.0**
BRG	**Berggiesshubel**	**1.56**	**244**	Pn		**Pg**	**20 01 31.8**	**+0.4**
BRG				Pg		**Pb**	**20 01 33.5**	**+2.3**
BRG				Sg		**Sg**	**20 01 53.1**	**+1.6**
BRG				Amp			20 01 57.3	
	comp=Z,119nm,0.4s							
KRLC	**Kraliky**	**1.56**	**165**	*e*PG		**Pn**	**20 01 30.7**	**+0.1**
KRLC				*e*SG		**Sn**	**20 01 50.5**	**-1.0**
	comp=Z,106nm,0.6s							
RICC	**Richard**	**1.66**	**232**	*e*PG		**Pb**	**20 01 32.6**	**-0.4**
RICC				*e*SG		**Sg**	**20 01 54.8**	**0.0**
	comp=Z,114nm,0.3s							
RYBC	**Ceska Rybna** baz=1.7	**1.78**	**182**	*e*Pn		**Pn**	**20 01 34.1**	**+0.6**
RYBC				*e*Sg		**Sn**	**20 01 56.3**	**-0.5**
	comp=Z,118nm,0.3s,baz=1.7							
PRA	**Prague**	**1.86**	**216**	*e*PG		**Pn**	**20 01 34.7**	**0.0**
PRA				*e*SG		**Sb**	**20 02 00.0**	**-0.2**
	comp=Z,49nm,0.6s							
FBE	**Freiberg**	**1.88**	**250**	*e*Pn		**Pb**	**20 01 36.4**	**-0.3**
FBE				*e*Sg		**Sb**	**20 02 00.7**	**+0.1**
CLL	**Collm**	**1.99**	**263**	*e*Pn		**Pn**	**20 01 36.4**	**0.0**
CLL	**Collm**	**1.99**	**263**	Pn		**Pn**	**20 01 35.9**	**-0.5**
CLL	**Collm**	**1.99**	**263**	*e*Pn		**Pn**	**20 01 36.0**	**-0.4**
CLL				*e*Pg		**Pb**	**20 01 39.0**	**+0.5**
CLL				*ex*		x	20 01 43.0	
CLL				*e*Sg		**Sg**	**20 02 05.0**	**-0.3**
	comp=Z,46nm,0.6s							
MORC	**Moravsky Berou** baz=333	**2.01**	**153**	*e*Pn		**Pn**	**20 01 37.1**	**+0.3**
MORC				*e*Sg		**Sb**	**20 02 04.2**	**-0.4**
	comp=Z,74nm,0.5s,baz=333							
MORC	**Moravsky Berou**	**2.01**	**153**	*e*Pn		**Pn**	**20 01 37.1**	**+0.3**
MORC				*e*Sg		**Sn**	**20 02 02.9**	**+0.2**
OKC	**Ostrava-Krasne**	**2.16**	**143**	*e*PG		**Pg**	**20 01 43.2**	**+0.3**
OKC				*e*SG		**Sb**	**20 02 09.3**	**+0.5**
	comp=Z,76nm,0.6s							
OKC	**Ostrava-Krasne**	**2.16**	**143**	*e*Sg		**Sb**	**20 02 08.8**	**0.0**
VRAC	**Vranov**	**2.29**	**173**	Pn		**Pn**	**20 01 41.5**	**+0.9**
VRAC				Sn		**Sn**	**20 02 09.8**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=336,slow=14,SNR=20							
VRAC				Sn		**Sn**	**20 02 09.8**	**+0.3**
	comp=Z,3.0nm,0.3s,baz=138,slow=18,SNR=3.3							
VRAC				Lg		Lg	20 02 14.3	
	comp=Z,9.3nm,0.3s,baz=59,slow=14,SNR=12							
	comp=Z,4.3nm,0.3s							
VRAC	**Vranov** baz=353	**2.29**	**173**	*e*Pn		**Pn**	**20 01 41.2**	**+0.6**
VRAC				*e*Sg		**Sb**	**20 02 12.7**	**0.0**
	comp=Z,41nm,0.4s,baz=353							
TREC	**Trest**	**2.33**	**191**	*e*PN		**Pn**	**20 01 41.7**	**+0.6**
TREC				*e*PG		**Pb**	**20 01 45.1**	**+0.7**
TREC				*e*SG		**Sb**	**20 02 14.2**	**+0.5**
	comp=Z,50nm,0.5s							
KRUC	**Moravsky** baz=356	**2.53**	**176**	*e*Pn		**Pn**	**20 01 44.3**	**+0.5**
KRUC	**Moravsky** baz=356	**2.53**	**176**	*e*Pg		**Pb**	**20 01 48.1**	**+0.3**
KRUC				*e*Sg		**Sb**	**20 02 20.2**	**+0.8**
	comp=Z,43nm,0.7s,baz=356							
TANN	**Tannenbergstha**	**2.60**	**245**	*e*Pn		**Pn**	**20 01 45.6**	**+0.7**
WERD	**Werda**	**2.68**	**246**	*e*Pn		**Pn**	**20 01 46.0**	**+0.1**
OJC	**Ojcow**	**2.68**	**119**	*e*Pn		**Pn**	**20 01 45.4**	**-0.6**
OJC				*e*Pg		**Pg**	**20 01 54.5**	**+1.5**
OJC				*e*Sg		**Sg**	**20 02 29.3**	**+1.6**
OJC	**Ojcow**	**2.68**	**119**	*e*Pn		**Pn**	**20 01 45.4**	**-0.6**
OJC	**Ojcow**	**2.68**	**119**	Pn		**Pn**	**20 01 45.9**	**-0.1**
JAVC	**Velka Javorina** baz=340	**2.90**	**160**	*e*Pn		**Pn**	**20 01 49.5**	**+0.6**
JAVC	**Velka Javorina**	**2.90**	**160**	*e*PN		**Pn**	**20 01 49.6**	**+0.6**
KHC	**Kasperske Hory**	**2.95**	**215**	*e*PN		**Pn**	**20 01 49.6**	**-0.1**
KHC				*e*PG		**Pb**	**20 01 56.1**	**+1.0**
KHC				*e*SN		**Sn**	**20 02 27.7**	**+1.8**
KHC				*e*SG		**Sg**	**20 02 35.4**	**-1.0**
	comp=Z,15nm,0.4s							
KHC	**Kasperske Hory**	**2.95**	**215**	Pn		**Pn**	**20 01 49.6**	**-0.1**
MOX	**Moxa**	**3.00**	**254**	*e*Pn		**Pn**	**20 01 50.7**	**+0.3**
MOX				*e*Sg		**Sg**	**20 02 38.2**	**+0.1**
MANZ	**Manzenberg**	**3.02**	**240**	*e*Pn		**Pn**	**20 01 51.6**	**+1.0**
ROTZ	**Rotzenmuhle**	**3.10**	**236**	*e*Pn		**Pn**	**20 01 52.2**	**+0.5**
GEC2	**GERESS Array S**	**3.16**	**211**	*e*Pn		**Pn**	**20 01 53.5**	**+0.9**
GERES	**GERESS Array B**	**3.16**	**211**	Pn		**Pn**	**20 01 53.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=32,slow=13,SNR=32							
GERES				Sn		**Sn**	**20 02 30.1**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=39,slow=28,SNR=6.8							
GERES				Lg		Lg	20 02 38.4	
	comp=Z,0.6nm,0.3s,baz=24,slow=28,SNR=5.6							
	comp=Z,2.7nm,0.5s							
WET	**Wettzell**	**3.21**	**222**	*e*Pn		**Pn**	**20 01 53.2**	**-0.1**
NIE	**Niedzica**	**3.42**	**128**	*e*Pg		**Pg**	**20 02 08.0**	**+0.9**
NIE				*e*Sg		**Sg**	**20 02 53.0**	**+1.5**
NIE	**Niedzica**	**3.42**	**128**	Pn		**Pn**	**20 01 55.2**	**-1.0**
BSD	**Bornholm Skovb**	**3.62**	**349**	*e*P		**Pn**	**20 02 00.3**	**+1.5**
BSD				*e*S		**Sn**	**20 02 41.0**	**-1.1**
BSD				IAML			20 02 44.3	
	comp=Z,2.6nm,0.3s							
CONA	**Conrad Observa**	**3.66**	**183**	*i* Pn		**Pn**	**20 02 00.5**	**+0.9**
	comp=Z,1.5nm,0.2s,SNR=6.8							
CONA				*e*Pg		**Pg**	**20 02 10.3**	**-1.4**
	comp=Z,8.2nm,0.4s							
CONA				Sg		**Sg**	**20 02 56.7**	**-2.4**
	comp=Z,22nm,0.4s							
GRF	**Grafenberg Arr**	**3.66**	**241**	*e*Pn		**Pn**	**20 02 00.1**	**+0.6**
GRF				*e*Sg		**Sg**	**20 02 58.3**	**-0.8**
RONA	**Rosalia, Austr**	**3.89**	**179**	*i* Pn		**Pn**	**20 02 03.4**	**+0.8**
	comp=Z,1.4nm,0.3s							
RONA				*e*Sg		**Sg**	**20 03 05.8**	**-0.5**
	comp=Z,5.8nm,0.2s							
MOA	**Molln**	**3.93**	**199**	*i* Pn		**Pn**	**20 02 03.9**	**+0.7**
	comp=Z,3.2nm,0.2s,SNR=12							
MOA				*e*Sg		**Sg**	**20 03 07.4**	**-0.4**
	comp=Z,15nm,0.3s							
BIOA	**Bad Ischl, Aus**	**4.22**	**204**	*i* Pn		**Pn**	**20 02 07.3**	**+0.1**
	comp=Z,1.9nm,0.2s							
BIOA				Sg		**Sg**	**20 03 15.1**	**-2.0**
	comp=Z,38nm,0.5s							
ARSA	**Arzberg**	**4.35**	**186**	*i* Pn		**Pn**	**20 02 08.4**	**-0.5**
	comp=Z,1.2nm,0.2s							
ARSA				*e*Sg		**Sg**	**20 03 21.7**	**+0.4**
	comp=Z,23nm,0.8s							
LUNU	**Lund**	**4.37**	**339**	*e*P		**Pn**	**20 02 10.2**	**+1.2**
LUNU				*e*S		**Sn**	**20 02 59.0**	**-1.6**
KWP	**Kalwaria Pacla**	**4.61**	**112**	Pn		**Pn**	**20 02 11.7**	**-0.8**
LESA	**Schwarzleotal**	**4.74**	**210**	*i* Pn		**Pn**	**20 02 14.8**	**+0.5**
	comp=Z,0.7nm,0.2s,SNR=5.4							
LESA				Sg		**Sg**	**20 03 33.9**	**+0.3**
	comp=Z,6.8nm,0.4s							
BLEU	**Blekinge**	**4.74**	**358**	P		**Pn**	**20 02 16.1**	**+1.9**
BLEU	**Blekinge**	**4.74**	**358**	P		**Pn**	**20 02 16.1**	**+1.9**
BLEU				*e*P		**Pn**	**20 02 16.2**	**+2.0**
BLEU				*e*S		**Sn**	**20 03 07.2**	**-2.5**
UZHM	**Uzhgorod**	**4.94**	**124**	Pn		**Pn**	**20 02 16.1**	**-0.8**
DEL	**Delary**	**5.08**	**346**	P		**Pn**	**20 02 19.9**	**+1.0**
DEL				S		**Sn**	**20 03 13.4**	**-4.7**
DEL	**Delary**	**5.08**	**346**	P		**Pn**	**20 02 19.9**	**+1.0**
DEL				*e*P		**Pn**	**20 02 20.1**	**+1.2**
DEL				S		**Sn**	**20 03 13.4**	**-4.7**
DEL				*e*S		**Sn**	**20 03 13.6**	**-4.5**
WATA	**Walderalm**	**5.19**	**217**	*i* Pn		**Pn**	**20 02 21.5**	**+0.9**
	comp=Z,1.4nm,0.2s							
WATA				*i* Sn		**Sn**	**20 03 20.4**	**-0.7**
	comp=Z,2.9nm,0.3s							
WTTA	**Wattenberg**	**5.23**	**216**	*i* Pn		**Pn**	**20 02 22.0**	**+0.8**
	comp=Z,0.5nm,0.2s							
WTTA				*e*Sg		**Sg**	**20 03 48.3**	**-1.1**
	comp=Z,5.5nm,0.4s							
MOTA	**Moosalm**	**5.37**	**220**	*i* Pn		**Pn**	**20 02 23.5**	**+0.5**
	comp=Z,0.8nm,0.2s							
MOTA				*e*Sn		**Sn**	**20 03 23.5**	**-1.9**
	comp=Z,2.3nm,0.3s							
MOTA				*e*Sg		**Sg**	**20 03 55.0**	**+1.2**
	comp=Z,4.9nm,0.4s							
ABTA	**Abfaltersbach**	**5.39**	**208**	*i* Pn		**Pn**	**20 02 24.0**	**+0.7**
	comp=Z,0.5nm,0.2s							
ABTA				Sg		**Sg**	**20 03 56.4**	**+1.7**
	comp=Z,3.7nm,0.4s							
VXJU	**Vaexsjoe**	**5.40**	**353**	P		**Pn**	**20 02 24.9**	**+1.7**
VXJU	**Vaexsjoe**	**5.40**	**353**	P		**Pn**	**20 02 24.9**	**+1.7**
SQTA	**Sankt Quirin**	**5.42**	**218**	*i* Pn		**Pn**	**20 02 23.7**	**-0.1**
	comp=Z,1.5nm,0.2s							
SQTA				*i* Sn		**Sn**	**20 03 25.5**	**-1.4**
	comp=Z,2.5nm,0.3s							
SQTA				*e*Sg		**Sg**	**20 03 54.4**	**-1.4**
	comp=Z,2.6nm,0.2s							
OSKU	**Oskarshamn**	**5.63**	**360**	P		**Pn**	**20 02 28.3**	**+2.0**
OSKU	**Oskarshamn**	**5.63**	**360**	P		**Pn**	**20 02 28.3**	**+2.0**
BYXU	**Byxelkrok**	**5.74**	**5**	P		**Pn**	**20 02 30.8**	**+2.9**
BYXU	**Byxelkrok**	**5.74**	**5**	P		**Pn**	**20 02 30.8**	**+2.9**
DAVA	**Damuels**	**5.93**	**226**	*i* Pn		**Pn**	**20 02 31.0**	**+0.2**
	comp=Z,1.1nm,0.2s							
DAVA				*e*Sg		**Sg**	**20 04 13.5**	**+1.5**
	comp=Z,2.4nm,0.3s							
DAVOX	**Davos/Dischmat**	**6.32**	**223**	Pn		**Pn**	**20 02 37.5**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=168,slow=21,SNR=3.7							
DAVOX				Sn		**Sn**	**20 03 47.8**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=187,slow=23,SNR=1.3							
DAVOX				Lg		Lg	20 04 18.4	
	comp=Z,0.4nm,0.3s,baz=216,slow=19,SNR=2.1							
	comp=Z,1.3nm,0.4s							
MI29	**MI29, Kamyanyy**	**7.48**	**94**	Pn		**Pn**	**20 02 53.4**	**+1.6**
LUBAR	**Lubar, Ukraine**	**7.55**	**98**	Pn		**Pn**	**20 02 51.8**	**-1.0**
AKASG	**Malin Array Be**	**8.27**	**91**	Pn		**Pn**	**20 03 04.4**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=282,slow=12,SNR=7.0							
	comp=Z,0.2nm,0.2s							
HFS	**Hagfors**	**8.68**	**352**	Pn		**Pn**	**20 03 09.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=173,slow=13,SNR=1.1							
HFS				Sn		**Sn**	**20 04 45.0**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=173,slow=24,SNR=1.1							
	comp=Z,0.9nm,0.7s							
FINES	**FINESS Array B**	**11.29**	**25**	Pn		**Pn**	**20 03 44.2**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=206,slow=12,SNR=9.7							
	comp=Z,4.8nm,1.1s							
ARCES	**ARCESS Array B**	**18.55**	**10**	Pn		**P**	**20 05 17.9**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=192,slow=14,SNR=8.3							
	comp=Z,0.7nm,0.5s							
TORD	**Torodi Ar. Bea**	**40.07**	**202**	P		**P**	**20 08 39.2**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=16,slow=9.7,SNR=1.7							
	comp=Z,0.2nm,0.6s							

IDC 02 20:14:14.9±71.0, 18°82S×175°74W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=1327.0km s-min=186.3km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**40.44**	**243**	P		P	20 21 55.5	+0.2
	1.3nm,0.8s,baz=90,slow=6.1,SNR=2.3							
	1.3nm,0.8s							
WRA	**Warramunga Arr**	**46.97**	**260**	P		P	20 22 48.7	+0.7
	0.2nm,0.3s,baz=95,slow=8.1,SNR=10							
	0.2nm,0.3s							
ASAR	**Alice Springs**	**46.99**	**255**	P		P	20 22 46.8	-1.4
	0.2nm,0.7s,baz=94,slow=7.7,SNR=4.6							
	0.2nm,0.7s							

TIF ***02*** *20:25:15.5, 40°95N×47°86E, h5km±1km*
NSSP ***02*** *20:25:15.3, 41°15N×47°68E, h10km, Ms3.1*
AZER ***02*** *20:25:16.0, 41°11N×47°92E, h13km, ml3.2*
MOS ***02*** *20:25:17.1±1.1, 41°03N×47°94E, h10km, mb3.7/1, Error ellipse: s-maj=9.4km s-min=5.0km az=112.4*
DRS ***02*** *20:25:18.5, 41°23N×48°04E, h9km*

ISC 02 20:25:17.2±0.8, 41°11N±0°01×47°91E±0°02, h16km±6km, n83, σ1s43/153, 1C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
QBL	**Gabala**	**0.17**	**198**	P		**Pg**	**20 25 21.8**	**+0.2**
QBL				S		**Sg**	**20 25 25.5**	**+0.9**
XNQ	**Khinaliq**	**0.19**	**70**	P		**Pg**	**20 25 21.8**	**-0.1**
XNQ				S		**Sg**	**20 25 25.2**	**0.0**
IML	**Ismayilli**	**0.38**	**147**	P		**Pb**	**20 25 25.4**	**-0.2**
IML				S		**Sb**	**20 25 32.3**	**+1.1**
AKT	**Akhty**	**0.39**	**340**	*d*iPG		**Pb**	**20 25 25.1**	**-0.8**
AKT				pmax		pmax		
	comp=Z,1μm,0.2s							
AKT	**Akhty**	**0.39**	**340**	*e*Pg		**Pb**	**20 25 25.4**	**-0.5**
	comp=Z,820nm,0.1s							
AKT				*e*Sg		**Sb**	**20 25 31.2**	**-0.5**
	comp=Z,3μm,0.4s							
QSAR	**Qusar**	**0.48**	**33**	P		**Pb**	**20 25 27.3**	**-0.1**
QSAR				S		**Sb**	**20 25 33.9**	**-0.4**
QUBA	**Quba, Azerbaij**	**0.51**	**61**	P		**Pb**	**20 25 27.9**	**+0.1**
QUBA				S		**Sb**	**20 25 34.6**	**-0.2**
KSMR	**Kasumkent**	**0.52**	**18**	*e*PG		**Pb**	**20 25 27.8**	**-0.2**
KSMR				*e*S		**Sb**	**20 25 34.0**	**-1.3**
KSMR				pmax		pmax		
	comp=Z,390nm,0.2s							
KSMR	**Kasumkent**	**0.52**	**18**	*e*Pg		**Pb**	**20 25 27.8**	**-0.2**
	comp=Z,390nm,0.2s							
KSMR				*e*Sg		**Sb**	**20 25 34.1**	**-1.3**
	comp=Z,6μm,0.4s							
SEKA	**Sheki**	**0.55**	**281**	P		**Pb**	**20 25 27.7**	**-0.8**
SEKA				S		**Sb**	**20 25 36.1**	**0.0**
SEKA	**Sheki**	**0.55**	**281**	PG		**Pb**	**20 25 27.6**	**-0.8**
PQL	**Pirkuli**	**0.61**	**121**	P		**Pb**	**20 25 29.5**	**-0.1**
PQL				S		**Sn**	**20 25 40.6**	**-0.3**
MNGR	**Mingechevir, A**	**0.71**	**242**	P		**Pn**	**20 25 31.9**	**-0.6**
MNGR				S		**Sn**	**20 25 44.1**	**+1.1**
MNGR	**Mingechevir, A**	**0.71**	**242**	PG		**Pn**	**20 25 31.9**	**-0.6**
SIZA	**Siyzn**	**0.75**	**92**	P		**Pn**	**20 25 32.1**	**-1.1**
SIZA				S		**Sn**	**20 25 43.7**	**-0.6**
KDMR	**Kurdemir**	**0.76**	**164**	P		**Pn**	**20 25 32.3**	**-0.9**
KDMR				S		**Sn**	**20 25 44.9**	**+0.5**
ATGJ	**Altiaghaj**	**0.82**	**107**	P		**Pn**	**20 25 33.1**	**-1.0**
ATGJ				S		**Sn**	**20 25 45.5**	**-0.5**
ZRD	**Zardab**	**0.85**	**192**	P		**Pn**	**20 25 34.4**	**0.0**
ZRD				S		**Sn**	**20 25 47.5**	**+1.0**
GBS	**Qobustan**	**0.97**	**126**	P		**Pn**	**20 25 37.0**	**+0.8**
GBS				S		**Sn**	**20 25 53.5**	**+3.8**
DRN	**Derbent**	**0.97**	**19**	*e*PG		**Pn**	**20 25 36.0**	**-0.1**
DRN				*e*S		**Sb**	**20 25 48.2**	**0.0**
DRN				pmax		pmax		
	comp=Z,148nm,0.3s							
DRN	**Derbent**	**0.97**	**19**	*e*Pg		**Pn**	**20 25 36.0**	**-0.1**
	comp=Z,148nm,0.3s							
DRN				*e*Sg		**Sb**	**20 25 48.2**	**0.0**
	comp=Z,971nm,0.2s							
BRDA	**Brd**	**1.01**	**214**	P		**Pn**	**20 25 37.3**	**+0.6**
BRDA				S		**Sn**	**20 25 53.5**	**+3.0**
URKR	**Urkarakh**	**1.07**	**349**	*e*PG		**Pn**	**20 25 38.5**	**+0.8**
URKR				*e*S		**Sn**	**20 25 53.0**	**+0.6**
URKR				pmax		pmax		
	comp=Z,98nm,0.5s							
URKR	**Urkarakh**	**1.07**	**349**	*e*Pg		**Pn**	**20 25 38.6**	**+0.8**
	comp=Z,98nm,0.5s							
URKR				*e*Sg		**Sn**	**20 25 53.0**	**+0.6**
	comp=Z,238nm,0.2s							
ZKTA	**Zakatala**	**1.10**	**299**	P		**Pn**	**20 25 38.0**	**0.0**
ZKTA				S		**Sn**	**20 25 55.1**	**+2.2**
VSHL	**Vashlovani**	**1.15**	**277**	P		**Pn**	**20 25 39.7**	**+1.1**
VSHL				S		**Sn**	**20 25 57.5**	**+3.5**
AGDM	**Agdam**	**1.17**	**212**	P		**Pn**	**20 25 39.0**	**-0.9**
AGDM				S		**Sn**	**20 25 56.7**	**+2.2**
KMKR	**Kumukh**	**1.19**	**330**	*e*PG		**Pn**	**20 25 40.6**	**+1.3**
KMKR				*e*S		**Sn**	**20 25 57.1**	**+1.9**
KMKR				pmax		pmax		
	comp=Z,61nm,0.4s							
KMKR	**Kumukh**	**1.19**	**330**	*e*Pg		**Pn**	**20 25 40.6**	**+1.3**
	comp=Z,61nm,0.4s							
KMKR				*e*Sg		**Sn**	**20 25 57.2**	**+1.9**
	comp=Z,308nm,0.3s							
GANJ	**Ganja**	**1.29**	**249**	P		**Pn**	**20 25 40.0**	**-0.6**
GANJ				S		**Sb**	**20 25 57.4**	**0.0**
GANJ	**Ganja**	**1.29**	**249**	PG		**Pn**	**20 25 39.9**	**-0.6**
SAAT	**Saatly**	**1.31**	**162**	P		**Pb**	**20 25 40.5**	**-0.8**
SAAT				S		**Sg**	**20 25 59.0**	**-0.4**
BLQ	**Beylaqan**	**1.41**	**191**	Pn		**Pb**	**20 25 42.5**	**-0.6**
BLQ				Sn		**Sg**	**20 26 02.0**	**-0.8**
ALIB	**&Aumlli-Bayram**	**1.42**	**144**	Pn		**Pg**	**20 25 45.7**	**+1.1**
ALIB				Sn		**Sg**	**20 26 06.2**	**+3.0**
GNBR	**Gunib**	**1.46**	**331**	*e*PG		**Pg**	**20 25 45.8**	**+0.4**
GNBR				*e*S		**Sg**	**20 26 05.3**	**+0.9**
GNB

TBLG				S	Sb	20 26 30.3	-0.9	
SBZ	**Shahbuz**	**2.48**	**227**	Pn	Pb	20 25 59.2	-2.3	
SBZ				Sn	Sb	20 26 32.7	+0.8	
LRK	**Lerik**	**2.49**	**172**	Pn	Pn	20 25 57.6	+0.5	
LRK				Sg	Sb	20 26 30.9	-1.0	
LKRN	**Lenkeran, Azer**	**2.49**	**164**	Pn	Pn	20 25 58.6	+1.5	
LKRN				Sn	Sn	20 26 28.8	+1.8	
LKRN	**Lenkeran, Azer**	**2.49**	**164**	PN	Pn	20 25 58.5	+1.5	
GNI	**Garni**	**2.59**	**249**	*e*P	Pb	20 26 02.2	-1.2	
GNI				*e*S	Sb	20 26 36.2	+1.1	
GNI	**Garni**	**2.59**	**249**	*de*PN	Pb	20 26 01.4	-2.0	
GNI				*e*S	Sg	20 26 37.6	-3.0	
GNI				pmax	pmax			
	comp=Z,20nm,1.4s							
ORD	**Ordubad**	**2.63**	**215**	Pn	Pn	20 26 00.5	+1.5	
ORD				Sn	Sb	20 26 35.1	-0.9	
ASTR	**Astara**	**2.63**	**165**	Pn	Pb	20 26 01.1	-2.9	
ASTR				Sn	Sb	20 26 34.4	-1.7	
SRTK	**Saratovka**	**2.71**	**270**	*e*P	Pn	20 26 02.1	+1.9	
SRTK				*e*S	Sb	20 26 36.7	-1.7	
HYR	**Heyderabad**	**2.71**	**240**	Pg	Pb	20 26 05.2	-0.3	
HYR				Sg	Sg	20 26 41.8	-2.6	
TRLG	**Trialeti**	**2.90**	**280**	P	Pn	20 26 04.3	+1.5	
TRLG				S	Sn	20 26 39.8	+2.4	
TRLG	**Trialeti**	**2.90**	**280**	PN	Pn	20 26 04.3	+1.5	
TRLG				S	Sn	20 26 39.8	+2.4	
KMOZ	**Kamo**	**3.01**	**266**	*e*P	Pb	20 26 07.9	-2.7	
KMOZ				*e*S	Sb	20 26 46.4	-0.8	
IGDI	**IGDIR**	**3.17**	**248**	Pg	Pb	20 26 13.9	+0.7	
IGDI				Sg	Sg	20 26 55.1	-4.0	
ALJG	**Mtskhetisjvari**	**3.34**	**289**	PN	Pn	20 26 10.9	+2.0	
GARIG	**Gari**	**3.64**	**296**	P	Pn	20 26 16.2	+3.3	
NCK	**Nalchik**	**3.99**	**308**	*c i*PN	Pb	20 26 23.2	-3.9	
SOC	**Sochi**	**6.55**	**295**	*e*P	Pn	20 26 55.8	+2.9	
SOC				*e*		20 28 13.0		
SOC				pmax	pmax			
	comp=Z,8.0nm,0.7s							
SOC				MLR	MLR			
	comp=Z,19nm,13.0s							

SJA **02** *20:53:27.8±0.7,24˚.09S×67˚.17W,h205km±5km, ML5.0, MW4.7*

GUC **02** *20:53:28.8±0.7,24˚.20S×67˚.13W,h197km±6km, ML5.1*

VAO **02** *20:53:28.6±0.7,24˚.00S×67˚.05W,h160km±5km, mb5.0*

IDC **02** *20:53:30.4±1.6,24˚.00S×66˚.86W,h170km±14km, mb4.5/19, mbtmp4.9/26, Error ellipse: s-maj=13.5km s-min=8.4km az=64.0*

NEIC **02** *20:53:30.1,24˚.08S×66˚.99W,h170km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.68; $M_{\theta\theta}$=0.06; $M_{\phi\phi}$1.74; $M_{r\theta}$0.41; $M_{\theta\phi}$-0.80; $M_{\phi r}$-2.12; Fault plane solution: M_o2.87000×10^{16} NP1: ϕ_s147.86000°,δ21.24000°,λ-108.37000°. NP2: ϕ_s347.47000°,δ69.89000°,λ-83.01000°. Principal axes: T 3.0182, Plg25.0000°, Azm72.0000°; N -0.3238, Plg7.0000°, Azm165.0000°; P -2.6944, Plg64.0000°, Azm269.0000°;*

NEIC **02** *20:53:30.0±2.8,24˚.08S±0˚.07×67˚.0W±0˚.1,h167km±4km, mb4.9/362, Mww4.9/23, Mwr4.9(GUC) Error ellipse: s-maj=14.8km s-min=9.7km az=87.0*

NEIC **02** *20:53:30.1,24˚.08S×66˚.99W,h170km*

GCMT **02** *20:53:35.0±0.3,24˚.05S±0˚.02×67˚.04W±0˚.02,h195km±2km, MW5.0/95, Moment Tensor Solution. s35,c43; s95,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.49±.12; $M_{\theta\theta}$-0.25±.14; $M_{\phi\phi}$2.74±.18; $M_{r\theta}$0.09±.09; $M_{\theta\phi}$-0.21±.13; $M_{\phi r}$-3.20±.12; Best double couple: M_o4.13800×10^{16} NP1:ϕs174.00000°,δ20.00000°,λ-94.00000°. NP2: ϕ_s358.00000°,δ70.00000°,λ-89.00000°. Principal axes: T 4.2690, Plg25.0000°, Azm87.0000°; N -0.2570, Plg1.0000°, Azm177.0000°; P -4.0080, Plg65.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 20:53:29.4±0.4,24˚07S±0˚03×67˚13W±0˚04,h170km±4km, n417,σ1s63/315,mb4.9/177,9C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	±	Res ISC
SALTA		**0.73**	**102**	*e*P		Pn	**20 53 57.1**	**+2.2**	
SALTA		**0.73**	**102**	*e*P		Pn	**20 53 57.0**	**+2.2**	
SALTA				*e*P		P	**20 53 57.3**	**+2.5**	
SALTA				*e*P		P	**20 53 57.3**	**+2.5**	
AF01	**San Pedro de A**	**1.47**	**319**			Pn	**20 54 03.1**	**+2.5**	
AF01					Sn	Sn	**20 54 28.5**	**+3.9**	
AF01	**San Pedro de A**	**1.47**	**319**	↑*e*P		Pn	**20 54 03.4**	**+2.8**	
AF01				*e*S		Sn	**20 54 28.6**	**+4.1**	
AF01				IAML			20 54 30.6		
	comp=N,10μm,0.4s								
AF01	**San Pedro de A**	**1.47**	**319**	*e*P		Pn	**20 53 58.0**	**-2.5**	
AF01				*e*P			20 54 03.3		
AF01				*e*P			20 54 03.5		
AF01				*e*S		Sn	**20 54 28.1**	**+3.5**	
AF01				IAML			20 54 47.8		
	comp=Z,6μm,1.2s								
HJA	**Humahuaca**	**1.79**	**62**	*e*P		Pn	**20 54 06.7**	**+2.7**	
AZAP	**Zapla**	**1.89**	**95**	*e*P		Pn	**20 54 06.8**	**+2.0**	
AZAP				IAML			20 54 38.3		
	comp=Z,4μm,1.0s								
FSA	**Cafayete**	**2.29**	**153**	*e*P		Pn	**20 54 10.9**	**+1.7**	
YJA	**Yavi**	**2.40**	**39**	*e*P		Pn	**20 54 12.9**	**+2.1**	
YJA	**Yavi**	**2.40**	**39**	*e*P		Pn	**20 54 13.1**	**+2.3**	
YJA				*e*S		Sn	**20 54 46.1**	**+3.4**	
GO02	**Mina Guanaco**	**2.50**	**244**			Pn	**20 54 12.8**	**+1.1**	
GO02					Sn	Sn	**20 54 45.8**	**+1.2**	
GO02	**Mina Guanaco**	**2.50**	**244**	↑*e*P		Pn	**20 54 12.9**	**+1.1**	
GO02				*e*S		Sn	**20 54 45.5**	**+0.9**	
GO02	**Mina Guanaco**	**2.50**	**244**	*e*P		Pn	**20 54 12.2**	**+0.4**	
GO02				*e*S		Sn	**20 54 46.0**	**+1.5**	
PB06	**IPOC Station P**	**2.62**	**301**			Pn	**20 54 14.4**	**+1.2**	
PB06					Sn	Sn	**20 54 46.2**	**-0.9**	
PB06	**IPOC Station P**	**2.62**	**301**	↑*e*P		Pn	**20 54 14.5**	**+1.4**	
PB06				*e*S		Sn	**20 54 47.4**	**+0.3**	
PB06	**IPOC Station P**	**2.62**	**301**	*e*P		Pn	**20 54 13.9**	**+0.7**	
PB06				*e*S		Sn	**20 54 48.0**	**+0.9**	
PB06				IAML			20 54 53.5		
	comp=Z,7μm,0.3s								
ALOL	**LOMAS DE OLMED**	**2.89**	**86**	*e*P		Pn	**20 54 18.6**	**+2.3**	
PB09	**IPOC Station P**	**2.98**	**319**			Pn	**20 54 19.1**	**+1.6**	
PB09					Sn	Sn	**20 54 55.9**	**+0.9**	
PB09	**IPOC Station P**	**2.98**	**319**	↑*e*P		Pn	**20 54 19.3**	**+1.7**	
PB09				*e*S		Sn	**20 54 55.6**	**+0.6**	
PB09	**IPOC Station P**	**2.98**	**319**	*e*P		Pn	**20 54 19.0**	**+1.4**	
PB09				*e*S		Sn	**20 54 56.5**	**+1.5**	
PB09				IAML			20 54 57.2		
	comp=Z,4μm,0.5s								
PB14	**IPOC Station P**	**3.04**	**259**			Pn	**20 54 18.1**	**-0.3**	
PB14	**IPOC Station P**	**3.04**	**259**	*e*P		Pn	**20 54 18.8**	**+0.4**	
PB14				*e*S		Sn	**20 54 55.6**	**-0.8**	
PB14				IAML			20 54 59.1		
	comp=E,2μm,0.2s								
PB14	**IPOC Station P**	**3.04**	**259**	*e*P		Pn	**20 54 18.8**	**+0.4**	
PB14				*e*S		Sn	**20 54 56.0**	**-0.4**	
PB14				IAML			20 54 58.7		
	comp=Z,3μm,0.2s								
PB05	**IPOC Station P**	**3.07**	**293**			Pn	**20 54 18.6**	**-0.1**	
PB05	**IPOC Station P**	**3.07**	**293**	↑*e*P		Pn	**20 54 19.1**	**+0.5**	
PB05				*e*S		Sn	**20 54 55.4**	**-1.4**	
PB05	**IPOC Station P**	**3.07**	**293**	*e*P		Pn	**20 54 19.2**	**+0.6**	
PB05				*e*S		Sn	**20 54 56.2**	**-0.6**	
PB05				IAML			20 55 06.8		
	comp=Z,2μm,0.4s								
PB03	**IPOC Station P**	**3.15**	**309**			Pn	**20 54 19.9**	**+0.3**	
PB03	**IPOC Station P**	**3.15**	**309**	*e*P		Pn	**20 54 20.2**	**+0.7**	
PB03	**IPOC Station P**	**3.15**	**309**	*e*P		Pn	**20 54 19.8**	**+0.2**	
PB03				*e*S		Sn	**20 54 58.0**	**-0.5**	
PB10	**IPOC Station P**	**3.19**	**279**			Pn	**20 54 20.7**	**+0.8**	
PB10	**IPOC Station P**	**3.19**	**279**	*e*P		Pn	**20 54 20.7**	**+0.8**	
PB10	**IPOC Station P**	**3.19**	**279**	*e*P		Pn	**20 54 20.1**	**+0.2**	
PB10				*e*S		Sn	**20 54 59.6**	**+0.4**	
PB10				IAML			20 55 03.9		
	comp=Z,3μm,0.5s								
AC02	**Maricunga**	**3.30**	**213**			Pn	**20 54 22.6**	**+0.9**	
AC02	**Maricunga**	**3.30**	**213**	*e*P		Pn	**20 54 22.8**	**+1.1**	
AC02				*e*S		Sn	**20 55 03.7**	**+1.2**	
AC02	**Maricunga**	**3.30**	**213**	*e*P		Pn	**20 54 22.2**	**+0.4**	
AC02				*e*S		Sn	**20 55 03.5**	**+1.0**	
PB01	**IPOC Station P**	**3.72**	**324**			Pn	**20 54 27.1**	**+0.4**	
PB02	**IPOC Station P**	**3.74**	**316**			Pn	**20 54 27.3**	**+0.2**	
AC01	**Pan de Azucar**	**3.77**	**236**			Pn	**20 54 26.6**	**-0.6**	
AC01	**Pan de Azucar**	**3.77**	**236**	*e*P		Pn	**20 54 26.6**	**-0.6**	
AC01	**Pan de Azucar**	**3.77**	**236**	*e*P		Pn	**20 54 26.6**	**-0.6**	
AC01				*e*S		Sn	**20 55 10.8**	**-1.5**	
AC01				IAML			20 55 12.5		
	comp=Z,2μm,0.6s								
PATCX	**Punta Patache**	**4.28**	**318**			Pn	**20 54 33.3**	**-0.5**	
PATCX					Sn	Sn	**20 55 18.1**	**-6.1**	
PB08	**IPOC Station P**	**4.33**	**334**			Pn	**20 54 36.1**	**+1.2**	
AC06	**Mina Casimiro**	**4.38**	**221**			Pn	**20 54 34.1**	**-1.0**	
AC06					Sn	Sn	**20 55 20.3**	**-6.3**	
AC06	**Mina Casimiro**	**4.38**	**221**	*e*P		Pn	**20 54 34.2**	**-1.0**	
AC06				*e*S		Sn	**20 55 24.5**	**-2.1**	
TA01	**Diego Aracena**	**4.49**	**320**			Pn	**20 54 35.6**	**-0.9**	
TA01	**Diego Aracena**	**4.49**	**320**	*e*P		Pn	**20 54 36.2**	**-0.3**	
TA01				*e*S		Sn	**20 55 27.8**	**-1.2**	
TA01				IAML			20 55 31.5		
	comp=Z,1μm,0.8s								
GO03	**Copiapo**	**4.49**	**218**			Pn	**20 54 35.6**	**-1.0**	
GO03	**Copiapo**	**4.49**	**218**	*e*P		Pn	**20 54 35.4**	**-1.2**	
GO03				*e*S		Sn	**20 55 27.3**	**-1.9**	
GO03	**Copiapo**	**4.49**	**218**	*e*P		Pn	**20 54 35.7**	**-0.9**	
GO03				*e*S		Sn	**20 55 26.9**	**-2.2**	
GO03				IAML			20 55 30.9		
	comp=Z,2μm,1.0s								
CYA	**Choya**	**4.52**	**165**	*e*P		Pn	**20 54 33.5**	**-3.3**	
CYA				*e*P			20 54 37.8		
CYA				*e*S		Sn	**20 55 29.3**	**-0.4**	
HMBC	**Humberstone**	**4.56**	**325**			Pn	**20 54 36.5**	**-1.1**	
TA02	**Huaiquique**	**4.69**	**323**	*e*P		Pn	20 54 33.5	-5.6	
TA02				*e*P			20 54 38.9		
TA02				*e*S		Sn	20 55 20.6	-13	
TA02				IAML			20 55 52.6		
	comp=Z,822nm,0.8s								
VCA	**Vinchina**	**4.75**	**192**	*e*P		Pn	**20 54 41.4**	**+1.4**	
VCA				*e*S		Sn	**20 55 33.5**	**-1.8**	
GO01	**Chusmiza**	**4.78**	**336**	*e*P		Pn	**20 54 41.5**	**+0.7**	
GO01				*e*S		Sn	**20 55 37.5**	**+1.0**	
GO01				IAML			20 56 11.6		
	comp=Z,537nm,0.5s								
LCO	**Las Campanas**	**5.87**	**212**			Pn	**20 54 52.7**	**-2.1**	
CFA	**Coronel Fontan**	**7.57**	**187**	P		Pn	**20 55 17.4**	**+0.4**	
	comp=Z,14nm,0.7s,baz=35,slow=16,SNR=62								
CFA				S		Sn	**20 56 36.6**	**-5.4**	
	comp=Z,24nm,0.3s,baz=228,slow=22,SNR=7.0								
LPAZ	**La Paz**	**7.80**	**353**	P		Pn	**20 55 22.0**	**+1.3**	
	comp=Z,26nm,0.4s,baz=151,slow=7.2,SNR=92								
LPAZ				S		Sn	**20 56 45.1**	**-3.3**	
	comp=Z,28nm,0.8s,baz=330,slow=21,SNR=4.1								
MURT	**Porto Murtinho**	**9.10**	**77**	*e*P		Pn	**20 55 35.8**	**-1.5**	
CPUP	**Villa Florida**	**9.15**	**106**	P		Pn	**20 55 35.9**	**-2.1**	
	comp=Z,12nm,0.9s,baz=148,slow=12,SNR=60								
CPUP				S		Sn	20 57 07.1	-13	
	comp=Z,2.8nm,0.7s,baz=55,slow=12,SNR=1.1								
BBSD	**Serra de San D**	**9.17**	**43**	*e*P		Pn	**20 55 36.8**	**-1.5**	
BBSD				*e*S		Sn	**20 57 16.9**	**-3.4**	
VA03	**San Esteban**	**9.17**	**198**			Pn	**20 55 34.7**	**-3.6**	
MT08	**Bocatoma Ro**	**9.68**	**195**			Pn	**20 55 43.8**	**-1.3**	
MT16	**CCHEN**	**9.79**	**197**	Pn		Pn	**20 55 44.0**	**-2.4**	
MT02	**Curacav**	**9.81**	**200**			Pn	**20 55 42.5**	**-4.1**	
SIV	**San Ignacio**	**9.84**	**36**	P		Pn	**20 55 45.4**	**-1.7**	
	comp=Z,56nm,0.5s,baz=214,slow=11,SNR=257								
SIV				S		Sn	20 57 25.3	-11	
	comp=Z,29nm,0.9s,baz=213,slow=16,SNR=7.9								
MT03	**Universidad Ad**	**9.85**	**197**	Pn		Pn	**20 55 45.5**	**-1.6**	
SJPY	**San Joaquin**	**10.08**	**98**	*e*P		Pn	**20 55 47.7**	**-2.4**	
BDQN	**Bodoquena, MS**	**10.26**	**71**	*e*P		Pn	**20 55 51.1**	**-1.5**	
MT01	**Popeta**	**10.41**	**199**			Pn	20 55 50.1	-4.3	
BO01	**Tunca**	**10.85**	**198**			Pn	**20 55 56.4**	**-3.8**	
PSAL	**Palomas, Salto**	**10.96**	**132**	*e*P		Pn	**20 56 01.3**	**-0.2**	
BO02	**Sierra Bellavi**	**11.15**	**196**			Pn	**20 56 00.0**	**-4.1**	
AQDB	**Aquidauana**	**11.17**	**74**			Pn	**20 56 02.3**	**-2.0**	
AQDB	**Aquidauana**	**11.17**	**74**	*e*P		Pn	**20 56 02.8**	**-1.6**	
AMBA	**Amambai (Brazi**	**11.20**	**87**	*e*P		Pn	**20 56 02.7**	**-2.0**	
PTLB	**Pontes e Lacer**	**11.40**	**43**			Pn	**20 56 05.3**	**-2.1**	
PTLB	**Pontes e Lacer**	**11.40**	**43**	*e*P		Pn	**20 56 06.0**	**-1.4**	
ML02	**Panimavida**	**12.23**	**197**	Pn		Pn	**20 56 16.5**	**-1.6**	
VILB	**Vilhena**	**12.85**	**32**			Pn	**20 56 23.3**	**-2.9**	
VILB	**Vilhena**	**12.85**	**32**	*e*P		Pn	**20 56 24.9**	**-1.2**	
RPRD	**Ribas do Rio P**	**12.93**	**77**	*e*P		Pn	**20 56 26.5**	**-0.6**	
BI02	**San Fabin de**	**13.05**	**195**			Pn	**20 56 25.3**	**-3.3**	
PP1B	**Ponte de Pedra**	**13.13**	**63**	*e*P		Pn	**20 56 27.5**	**-2.1**	
TRCB	**Terra Rica**	**13.37**	**87**			Pn	**20 56 30.4**	**-2.2**	
TRCB	**Terra Rica**	**13.37**	**87**	*e*P		Pn	**20 56 31.2**	**-1.5**	
SALV	**Santo Antonio**	**13.46**	**55**	*e*P		Pn	**20 56 32.4**	**-1.5**	
BI05	**Punta Hualpn**	**13.67**	**201**			Pn	**20 56 33.4**	**-2.9**	
CPSB	**Cacapava Do Su**	**13.71**	**120**	*e*P		Pn	**20 56 36.0**	**-0.9**	
PTGB	**Pitanga**	**13.74**	**96**	*e*P		Pn	**20 56 37.4**	**0.0**	
ITAB	**Concordia**	**13.89**	**106**	P		Pn	**20 56 38.0**	**-1.1**	
ITAB	**Concordia**	**13.89**	**106**	*e*P		Pn	**20 56 38.3**	**-0.8**	
VA04	**Juan Fernndez**	**14.00**	**224**	Pn		Pn	20 56 36.1	-4.3	
PLTB	**Pedras Altas**	**14.19**	**126**	P		Pn	**20 56 41.2**	**-1.7**	
PLTB	**Pedras Altas**	**14.19**	**126**	*e*P		Pn	**20 56 41.7**	**-1.2**	
C2SB	**Chapadao do Su**	**14.31**	**71**	*e*P		Pn	**20 56 40.4**	**-4.0**	
TRQA	**Tornquist**	**14.62**	**164**	P		Pn	**20 56 46.2**	**-2.0**	
LDASE	**Londrina, Braz**	**14.68**	**91**	*e*P		Pn	**20 56 48.3**	**-0.7**	
PCMB	**Pacaembu**	**14.83**	**84**	*e*P		Pn	**20 56 49.2**	**-1.7**	
NNA	**Nana**	**15.14**	**321**	P		P	**20 56 55.9**	**-0.1**	
NNA	**Nana**	**15.14**	**321**	P		P	**20 56 57.2**	**+1.1**	
	comp=Z,23nm,0.5s,baz=161,slow=11,SNR=12								
NNA				S		Sn	**20 59 41.8**	**-2.1**	
	comp=Z,5.0nm,0.3s,baz=262,slow=15,SNR=1.3								
CNLB	**Canela**	**15.45**	**113**	*e*P		Pn	**20 56 57.4**	**-1.1**	
PDRB	**Porto dos Gac**	**15.84**	**40**	*e*P		Pn	**20 57 01.5**	**-1.9**	
FRTB	**Fartura**	**16.10**	**91**	*e*P		P	**20 57 05.8**	**-0.8**	
ITRB	**Iturama**	**16.15**	**78**	*e*P		P	**20 57 06.6**	**-0.5**	
ARAG	**Araguaiana, MT**	**16.62**	**63**	*e*P		P	**20 57 11.1**	**-1.2**	
PLCA	**Paso Flores**	**16.87**	**189**	P		P	**20 57 15.3**	**+0.5**	
	comp=Z,15nm,0.8s,baz=11,slow=13,SNR=25								
CLDB	**Colider**	**16.98**	**41**	*e*P		P	**20 57 15.4**	**-0.8**	
CZSB	**Cruzeiro do Su**	**17.10**	**341**	P		P	**20 57 15.9**	**-1.7**	
BB19B	**Bebedouro**	**17.43**	**84**	*e*P		P	**20 57 20.5**	**-0.7**	
SPB	**Sao Paulo**	**18.03**	**93**	P		P	**20 57 26.4**	**-1.2**	
SPB	**Sao Paulo**	**18.03**	**93**	*e*P		P	**20 57 27.4**	**-0.2**	
RCLB	**Rio Claro- Sao**	**18.08**	**89**	*e*P		P	**20 57 27.7**	**-0.6**	
PET01	**Itanhaem-SP**	**18.11**	**95**	*e*P		P	**20 57 28.4**	**-0.2**	
VAO	**Valinhos**	**18.52**	**91**	P		P	**20 57 31.9**	**-1.2**	
VAO	**Valinhos**	**18.52**	**91**	*e*P		P	**20 57 32.5**	**-0.5**	
IPMB	**Ipameri, GO**	**18.66**	**75**	*e*P		P	**20 57 34.3**	**-0.3**	
SNDB	**Serra Nova Dou**	**19.24**	**54**	*e*P		P	**20 57 39.7**	**-1.2**	
PARB	**Paraibuna**	**19.71**	**92**	*e*P		P	**20 57 45.5**	**-0.5**	
BDFB	**Brasilia**	**19.82**	**69**	P		P	**20 57 46.6**	**-0.6**	
	comp=Z,424nm,0.7s,baz=243,slow=11,SNR=470								
TBTG	**Tabatinga, AM**	**19.95**	**352**	P		P	**20 57 48.0**	**-0.4**	
TBTG	**Tabatinga, AM**	**19.95**	**352**	*e*P		P	**20 57 48.6**	**+0.1**	
ATAH	**Atahualpa**	**20.01**	**325**	P		Pn	20 57 52.4	-0.9	
	comp=Z,15nm,0.8s,baz=157,slow=9.2,SNR=12								
	comp=Z,15nm,0.8s								
PMNB	**Patos De Minas**	**20.04**	**78**	*e*P		P	**20 57 48.7**	**-0.9**	
SLP01	**Ubatuba-SP**	**20.13**	**92**	*e*P		P	**20 57 49.2**	**-1.3**	
NPGB	**Novo Progresso**	**20.34**	**36**	*e*P		P	**20 57 50.5**	**-2.2**	
TEFE	**Tefe**	**20.58**	**7**	*e*P		P	**20 57 54.8**	**-0.4**	
BSCB	**Bom Sucesso**	**20.87**	**86**	*e*P		P	**20 57 57.3**	**-1.0**	
MAN01	**Angra dos Reis**	**21.28**	**91**	*e*P		P	**20 58 01.7**	**-1.0**	
MACA	**Manacapuru-AM**	**21.70**	**18**			S	**21 01 53.2**	**-2.7**	
MACA	**Manacapuru-AM**	**21.70**	**18**	*e*P		P	**20 58 05.2**	**-1.8**	
COYC	**Coyhaique**	**21.83**	**189**	P		P	**20 58 07.8**	**-0.4**	
VAS01	**Vassouras-RJ**	**21.84**	**90**	*e*P		P	**20 58 08.3**	**-0.3**	
ITTB	**Itaituba**	**22.45**	**31**	*e*P		P	**20 58 10.7**	**-3.8**	
DIAM	**Diamantina, MG**	**22.60**	**80**	*e*P		P	**20 58 14.8**	**-1.2**	
DUB01	**Friburgo-RJ**	**22.85**	**90**	*e*P		P	**20 58 17.4**	**-0.9**	
JANB	**Januaria**	**23.26**	**72**	*e*P		P	**20 58 20.2**	**-1.8**	
CAM01	**Campos-RJ**	**23.55**	**90**	*e*P		P	**20 58 23.5**	**-1.0**	
SMTB	**Santa Maria do**	**24.02**	**54**	*e*P		P	**20 58 28.1**	**-0.8**	
SDBA	**SAO DESIDERIO**	**24.04**	**65**	*e*P		P	**20 58 27.8**	**-1.3**	
PRPB	**Paraiapebas**	**24.36**	**46**	*e*P		P	**20 58 29.7**	**-2.2**	
COHC	**Cochancay**	**24.47**	**330**			P	**20 58 35.3**	**+2.5**	
COHC					IAmb	IAmb	20 58 38.4		
	comp=Z,22nm,0.9s								
SJMB	**Sao Joao De Ma**	**24.72**	**83**	*e*P		P	**20 58 33.8**	**-1.3**	
MAL2	**Monte Alegre,**	**25.24**	**32**	P		P	**20 58 38.3**	**-1.6**	
RIB01	**Linhares ES**	**25.27**	**84**	*e*P		P	**20 58 38.8**	**-1.3**	
GUA01	**Guaratinga, BA**	**26.65**	**79**	*e*P		P	**20 58 51.5**	**-1.1**	
FLOC	**Florencia**	**26.81**	**341**	P		P	**20 58 54.5**	**+0.6**	
BOAV	**Boa Vista**	**27.08**	**15**	P		P	**20 58 56.0**	**-0.3**	
BOAV	**Boa Vista**	**27.08**	**15**	*e*P		P	**20 58 56.2**	**-0.2**	
CMC01	**Camacan, BA**	**27.35**	**77**	*e*P		P	**20 58 57.6**	**-1.2**	
ROSC	**El Rosal**	**29.57**	**345**	P		P	**20 59 21.6**	**+2.7**	
	comp=Z,15nm,0.6s,baz=162,slow=17,SNR=4.3								
	comp=Z,15nm,0.6s								
RUSC	**La Rusia**	**30.34**	**348**	P		P	**20 59 25.1**	**-0.7**	
MPGF	**Montagnes des**	**32.25**	**28**	P		P	**20 59 40.9**	**-1.1**	
NBAN	**Anadia - AL**	**32.71**	**69**	*e*P		P	**20 59 44.6**	**-1.5**	
NBCL	**Cascavel-CE**	**34.08**	**59**	*e*P		P	**20 59 58.0**	**+0.1**	
RCBR	**Riachuelo**	**35.06**	**64**	P		P	**21 00 05.4**	**-1.0**	
RCBR	**Riachuelo**	**35.06**	**64**	*e*P		P	**21 00 06.2**	**-0.2**	
LCR2	**La Lucha 2**	**37.43**	**332**			P	**21 00 29.0**	**+2.4**	
HDC	**Heredia**	**37.71**	**332**	*e*P		P	**21 00 28.8**	**-0.1**	
SOCE	**Pocosol**	**38.27**	**331**	P		P	**21 00 36.4**	**+3.0**	
JTS	**Las Juntas de**	**38.33**	**331**	P		P	**21 00 36.3**	**+2.3**	
JTS				IAmb		IAmb	21 00 37.8		
	comp=Z,53nm,1.2s								
ESPN	**Las Esperanzas**	**39.76**	**333**	P		P	**21 00 47.5**	**+1.8**	
ESPN				IAmb		IAmb	21 00 52.1		
	comp=Z,23nm,0.9s								
BOAB	**BOACO BROADBAN**	**40.56**	**331**	P		P	**21 00 52.1**	**-0.3**	
BOAB				IAmb		IAmb	21 00 54.4		
	comp=Z,30nm,0.8s								
CELP	**Cerrillos**	**41.89**	**1**	P		P	**21 01 01.6**	**-1.5**	
CELP				IAmb		IAmb	21 01 03.1		
	comp=Z,15nm,0.7s								
SJG	**San Juan**	**41.93**	**1**	P		P	**21 01 01.6**	**-1.8**	
SJG				IAmb		IAmb	21 01 08.4		
	comp=Z,40nm,1.6s								
TGUH	**Tegucigalpa,Un**	**42.70**	**330**	P		P	**21 01 09.4**	**-0.5**	
MTO3	**Montecristo**	**43.97**	**328**	IAmb		IAmb	21 01 22.5		
	comp=Z,34nm,0.8s								
TEIG	**Tepich**	**48.61**	**333**			P	**21 01 56.1**	**+0.1**	
TEIG				IAmb		IAmb	21 01 57.1		
	comp=Z,57nm,1.3s								
TEIG	**Tepich**	**48.61**	**333**	P		P	**21 01 56.2**	**+0.2**	
SOR	**Soroa**	**49.07**	**340**	IAmb		IAmb	21 02 01.0		
	comp=Z,39nm,0.9s								
TLIG	**Tlapa**	**51.51**	**321**	IAmb		IAmb	21 02 21.1		
	comp=Z,20nm,1.0s								
VNA3	**Neumayer Olymp**	**57.13**	**161**	⇑P		P	**21 02 58.5**	**+0.7**	
	comp=Z,13nm,0.8s								
VNA1	**Neumayer--Stat**	**57.33**	**160**	⇑P		P	**21 03 00.3**	**+1.2**	
	comp=Z,4.9nm,0.4s								
ZAIG	**Zacatecas**	**57.91**	**321**	IAmb		IAmb	21 03 07.4		
	comp=Z,26nm,1.0s								
152A	**Waverly Hall**	**58.86**	**343**	IAmb		IAmb	21 03 10.5		
	comp=Z,12nm,0.7s								
SNAA	**Sanae

BINY	**Binghamton**	**66.44 353**	IAmb	IAmb	21 04 02.2	
	comp=Z,16nm,1.1s					
N49A	**Columbus Grove**	**66.57 346**	IAmb	IAmb	21 04 01.7	
	comp=Z,22nm,0.9s					
T35A	**Sooner Cattle**	**66.68 335**	IAmb	IAmb	21 04 03.4	
	comp=Z,39nm,1.2s					
P43A	**Skaggs, Pawnee**	**66.74 341**	IAmb	IAmb	21 04 02.4	
	comp=Z,19nm,0.8s					
SFIN	**Lafayette**	**66.76 344**	IAmb	IAmb	21 04 02.0	
	comp=Z,15nm,0.8s					
N47A	**Urbana**	**66.88 345**	IAmb	IAmb	21 04 03.2	
	comp=Z,21nm,1.0s					
P40A	**Paris**	**67.42 339**	IAmb	IAmb	21 04 07.4	
	comp=Z,25nm,1.0s					
J59A	**Piesco**	**67.54 354**	IAmb	IAmb	21 04 09.7	
	comp=Z,55nm,1.7s					
DBIC	**Dimbokro**	**67.93 72**	P	**P**	**21 04 09.2 -1.1**	
	comp=Z,10nm,0.7s,baz=249,slow=6.5,SNR=8.5					
	comp=Z,10nm,0.7s					
DBIC	**Dimbokro**	**67.93 72**	P	**P**	**21 04 09.3 -1.0**	
P38A	**Dawn**	**67.99 338**	IAmb	IAmb	21 04 11.0	
	comp=Z,42nm,1.2s					
121A	**Cookes Peak, D**	**68.36 324**	IAmb	IAmb	21 04 15.9	
	comp=Z,32nm,1.0s					
RTBA	**Rita Blanca**	**68.93 330**	IAmb	IAmb	21 04 19.5	
	comp=Z,18nm,0.9s					
ANMO	**Albuquerque**	**69.54 326**	P	**P**	**21 04 21.1 +1.1**	
ANMO			IAmb	IAmb	21 04 22.6	
	comp=Z,27nm,1.0s					
ANMO	**Albuquerque**	**69.54 326**	P	**P**	**21 04 21.7 +1.7**	
	comp=Z,20nm,0.8s,baz=228,slow=6.6,SNR=55					
	comp=Z,20nm,0.8s					
ANMO	**Albuquerque**	**69.54 326**	P	**P**	**21 04 21.5 +1.5**	
TUC	**Tucson**	**69.86 321**	P	**P**	**21 04 22.7 +0.8**	
TUC			IAmb	IAmb	21 04 24.7	
	comp=Z,22nm,1.1s					
TUC	**Tucson**	**69.86 321**	P	**P**	**21 04 23.6 +1.7**	
I42A	**Draeger Farm,**	**70.52 343**	IAmb	IAmb	21 04 26.1	
	comp=Z,20nm,0.7s					
214A	**Organ Pipe Nat**	**70.78 320**	IAmb	IAmb	21 04 30.6	
	comp=Z,36nm,1.3s					
SDCO	**Great Sand Dun**	**71.28 329**	IAmb	IAmb	21 04 33.3	
	comp=Z,17nm,0.9s					
X16A	**Lo Mia Camp, P**	**71.79 323**	IAmb	IAmb	21 04 36.8	
	comp=Z,23nm,1.1s					
E46A	**Sault Ste Mari**	**71.81 348**	IAmb	IAmb	21 04 34.0	
	comp=Z,29nm,0.9s					
I37A	**Lemond, Waseca**	**71.91 340**	IAmb	IAmb	21 04 34.8	
	comp=Z,31nm,0.9s					
VTX	**Valle De La Tr**	**72.17 318**	IAmb	IAmb	21 05 58.6	
	comp=Z,21nm,0.9s					
MVCO	**Mesa Verde**	**72.33 326**	IAmb	IAmb	21 04 39.6	
	comp=Z,20nm,0.9s					
WUAZ	**Wupatki**	**72.56 323**	IAmb	IAmb	21 04 41.4	
	comp=Z,27nm,0.9s					
ECSD	**EROS Data Cent**	**72.70 338**	IAmb	IAmb	21 04 39.8	
	comp=Z,25nm,1.2s					
GLA	**Glamis**	**72.75 319**	IAmb	IAmb	21 04 42.0	
	comp=Z,16nm,0.8s					
SPMN	**Marine on St.**	**72.83 341**	IAmb	IAmb	21 04 40.0	
	comp=Z,18nm,0.9s					
YUH	**Yuha Desert**	**73.13 318**	P	**P**	**21 04 42.4 +1.1**	
PV15	**Paradox Valley**	**73.20 327**	IAmb	IAmb	21 04 45.1	
	comp=Z,25nm,1.0s					
PV02	**Paradox Valley**	**73.22 327**	IAmb	IAmb	21 04 44.9	
	comp=Z,34nm,1.2s					
PV13	**Radium Mtn., P**	**73.23 327**	IAmb	IAmb	21 04 44.8	
	comp=Z,21nm,1.0s					
PV05	**Paradox Valley**	**73.31 327**	IAmb	IAmb	21 04 45.1	
	comp=Z,18nm,0.9s					
PV18	**Skein Mesa, Pa**	**73.34 327**	IAmb	IAmb	21 04 45.3	
	comp=Z,22nm,1.0s					
PV12	**Saucer Basin,**	**73.34 327**	IAmb	IAmb	21 04 45.5	
	comp=Z,18nm,0.9s					
CBX	**Cerro Bola**	**73.35 318**	P	**P**	**21 04 43.8 +1.0**	
CBX			IAmb	IAmb	21 04 45.9	
	comp=Z,21nm,0.9s					
PV11	**David Mesa, Pa**	**73.36 327**	IAmb	IAmb	21 04 46.2	
	comp=Z,22nm,1.3s					
PV19	**Morning Glory**	**73.43 327**	IAmb	IAmb	21 04 45.9	
	comp=Z,24nm,1.2s					
PV20	**West Nyswonger**	**73.44 327**	IAmb	IAmb	21 04 45.8	
	comp=Z,19nm,1.0s					
PV22	**Blue Mesa, Par**	**73.50 327**	IAmb	IAmb	21 04 46.4	
	comp=Z,23nm,1.0s					
PV10	**Paradox Valley**	**73.51 327**	IAmb	IAmb	21 04 45.9	
	comp=Z,25nm,0.9s					
SYO	**Syowa Base**	**73.53 159**	*iP*	**P**	**21 04 44.0 +0.9**	
SYO	**Syowa Base**	**73.53 159**	*iPcP*	**PcP**	**21 04 59.0 +0.7**	
BC3	**Big Chuckawall**	**73.55 319**	IAmb	IAmb	21 04 46.8	
	comp=Z,21nm,0.9s					
PV23	**Carpenter Ridg**	**73.55 327**	IAmb	IAmb	21 04 46.6	
	comp=Z,23nm,1.0s					
BAR	**Barrett**	**73.61 318**	IAmb	IAmb	21 04 47.0	
	comp=Z,22nm,0.9s					
SBA	**Scott Base**	**73.61 190**	P	**P**	**21 04 45.4 +1.9**	
SBA			IAmb	IAmb	21 04 47.0	
	comp=Z,32nm,1.4s					
SBA	**Scott Base**	**73.61 190**	P	**P**	**21 04 46.1 +2.5**	
IRM	**Iron Mountain**	**73.72 320**	IAmb	IAmb	21 04 47.8	
	comp=Z,34nm,1.4s					
U15A	**North Rim**	**73.74 323**	IAmb	IAmb	21 04 48.6	
	comp=Z,22nm,0.9s					
HMU	**Henry Mountain**	**74.04 325**	IAmb	IAmb	21 04 50.1	
	comp=Z,22nm,1.1s					
PFO	**Pinyon Flats O**	**74.12 319**	P	**P**	**21 04 48.3 +1.1**	
PFO	**Pinyon Flats O**	**74.12 319**	P	**P**	**21 04 49.3 +2.0**	
	comp=Z,13nm,1.0s,baz=120,slow=5.3,SNR=21					
	comp=Z,13nm,1.0s					
PFO	**Pinyon Flats O**	**74.12 319**	P	**P**	**21 04 49.4 +2.2**	
DNR	**Dunn Ranch,Anz**	**74.19 319**	IAmb	IAmb	21 04 50.9	
	comp=Z,29nm,0.8s					
O20A	**White River Ci**	**74.48 328**	IAmb	IAmb	21 04 52.1	
	comp=Z,32nm,0.9s					
VNDA	**Vanda**	**74.61 190**	P	**P**	**21 04 51.6 +2.3**	
	comp=Z,8.5nm,0.9s,baz=127,slow=5.7,SNR=36					
	comp=Z,8.5nm,0.9s					
VNDA	**Vanda**	**74.61 190**	P	**P**	**21 04 51.6 +2.3**	
V12A	**Nelson**	**74.66 321**	IAmb	IAmb	21 04 53.1	
	comp=Z,20nm,1.0s					
ELS	**Elsinore Mount**	**74.73 318**	IAmb	IAmb	21 04 53.6	
	comp=Z,22nm,0.9s					
SRU	**San Rafael Swe**	**74.81 326**	IAmb	IAmb	21 04 53.7	
	comp=Z,22nm,0.7s					
MTPU	**Mount Pierson**	**74.87 325**	IAmb	IAmb	21 04 54.6	
	comp=Z,15nm,0.9s					
Q16A	**Castle Valley**	**75.00 326**	IAmb	IAmb	21 04 55.4	
	comp=Z,38nm,1.5s					
P18A	**Preston Nutter**	**75.07 327**	IAmb	IAmb	21 04 55.7	
	comp=Z,21nm,0.8s					
TBO	**Thunder Bay**	**75.08 345**	IAmb	IAmb	21 04 53.4	
	comp=Z,22nm,0.9s					
P17A	**Butcher Ranch,**	**75.20 326**	IAmb	IAmb	21 04 56.1	
	comp=Z,24nm,0.9s					
GSC	**Goldstone, Bar**	**75.49 320**	IAmb	IAmb	21 04 58.1	
	comp=Z,28nm,1.4s					
MWC	**Mount Wilson**	**75.50 318**	IAmb	IAmb	21 04 58.1	
	comp=Z,50nm,1.5s					
PASC	**Pasadena Art C**	**75.55 318**	IAmb	IAmb	21 04 58.2	
	comp=Z,37nm,1.2s					
RSSD	**Black Hills**	**75.81 334**	P	**P**	**21 04 57.7 +0.8**	
RSSD	**Black Hills**	**75.81 334**	P	**P**	**21 04 58.2 +1.3**	
PRN	**Pahroc Range**	**75.97 322**	P	**P**	**21 04 59.7 +1.9**	
PRN			IAmb	IAmb	21 05 01.2	
	comp=Z,24nm,1.1s					
CCCA	**Chr Cany lake**	**75.98 320**	IAmb	IAmb	21 05 00.9	
	comp=Z,41nm,1.1s					
BSUT	**Blindstream Ca**	**76.02 327**	IAmb	IAmb	21 05 01.2	
	comp=Z,21nm,0.9s					
GWY	**Greenwater Val**	**76.03 321**	IAmb	IAmb	21 05 00.8	
	comp=Z,22nm,0.9s					
TPO	**Tropico Hills**	**76.05 319**	IAmb	IAmb	21 05 00.7	
	comp=Z,29nm,1.5s					
PSUT	**Pine Spring**	**76.12 324**	IAmb	IAmb	21 05 01.8	
	comp=Z,20nm,0.8s					
TPNV	**Topopah Spring**	**76.32 321**	IAmb	IAmb	21 05 03.1	
	comp=Z,26nm,1.1s					
JLU	**Jordanelle**	**76.41 327**	IAmb	IAmb	21 05 03.1	
	comp=Z,37nm,1.5s					
WCT	**Wildcat Mounta**	**76.42 321**	IAmb	IAmb	21 05 03.7	
	comp=Z,22nm,1.0s					
TORD	**Torodi Ar. Bea**	**76.70 69**	P	**P**	**21 05 00.5 -1.7**	
TORD			IAmb	IAmb	21 05 02.6	
	comp=Z,16nm,0.8s					
TORD	**Torodi Ar. Bea**	**76.70 69**	P	**P**	**21 05 01.0 -1.2**	
	comp=Z,23nm,0.8s,baz=263,slow=5.2,SNR=91					
	comp=Z,23nm,0.8s					
SPR3	**Spring Creek 3**	**76.72 324**	IAmb	IAmb	21 05 04.8	
	comp=Z,16nm,0.9s					
ISA	**Isabella, Lake**	**76.73 319**	IAmb	IAmb	21 05 05.1	
	comp=Z,20nm,1.0s					
R11B	**Troy Canyon, C**	**76.94 323**	IAmb	IAmb	21 05 06.5	
	comp=Z,26nm,1.3s					
EPLO	**Experimental L**	**77.13 343**	IAmb	IAmb	21 05 04.9	
	comp=Z,21nm,0.9s					
PDAR	**Pinedale Array**	**77.15 329**	P	**P**	**21 05 05.2 +0.7**	
	comp=Z,3.2nm,0.8s,baz=140,slow=7.2,SNR=22					
	comp=Z,3.2nm,0.8s					
BGU	**Big Grassy Mou**	**77.45 326**	IAmb	IAmb	21 05 08.6	
	comp=Z,24nm,1.3s					
TPH	**Tonopah**	**77.66 322**	IAmb	IAmb	21 05 10.2	
	comp=Z,22nm,1.1s					
TSUM	**Tsumeb**	**77.75 106**	P	**P**	**21 05 07.4 -0.8**	
TSUM	**Tsumeb**	**77.75 106**	P	**P**	**21 05 08.0 -0.2**	
AHID	**Auburn Hatcher**	**77.87 328**	IAmb	IAmb	21 05 10.8	
	comp=Z,27nm,0.9s					
ULM	**Lac du Bonnet**	**78.25 342**	P	**P**	**21 05 10.2 +0.1**	
	comp=Z,14nm,0.8s,baz=151,slow=7.3,SNR=14					
	comp=Z,14nm,0.8s					
LOHW	**Long Hollow**	**78.28 329**	IAmb	IAmb	21 05 13.2	
	comp=Z,49nm,1.8s					
ELK	**Elko**	**78.46 325**	IAmb	IAmb	21 05 32.4	
	comp=Z,20nm,0.5s					
ELK	**Elko**	**78.46 325**	P	**P**	**21 05 13.1 +1.3**	
	comp=Z,10nm,0.9s,baz=153,slow=4.9,SNR=40					
	comp=Z,10nm,0.9s					
NVAR	**Mina Array Bea**	**78.52 321**	P	**P**	**21 05 13.8 +1.7**	
	comp=Z,7.0nm,1.0s,baz=153,slow=6.3,SNR=30					
	comp=Z,7.0nm,1.0s					
KOOLE	**Kule**	**78.65 110**	*iP*	**P**	**21 05 13.2 +0.1**	
KOOLE	**Kule**	**78.65 110**	IAmb	IAmb	21 05 13.6	
	comp=Z,14nm,0.6s					
DGMT	**Dagmar**	**79.47 336**	IAmb	IAmb	21 05 19.2	
	comp=Z,34nm,0.9s					
PAHR	**Pah Rah Range**	**80.00 322**	IAmb	IAmb	21 05 23.0	
	comp=Z,33nm,0.9s					
HLID	**Hailey**	**80.08 327**	IAmb	IAmb	21 05 23.5	
	comp=Z,27nm,0.9s					
GRTLG	**Ghanzi**	**80.12 109**	*i* P	**P**	**21 05 20.8 -0.4**	
DLMT	**Dillon**	**80.54 329**	IAmb	IAmb	21 05 25.5	
	comp=Z,32nm,1.4s					
BOSA	**Boshof**	**80.81 117**	P	**P**	**21 05 24.6 0.0**	
	comp=Z,7.1nm,0.5s,baz=258,slow=3.4,SNR=34					
	comp=Z,7.1nm,0.5s					
BOSA	**Boshof**	**80.81 117**	P	**P**	**21 05 24.5 -0.1**	
CVS	**Carmenet Viney**	**80.89 319**	IAmb	IAmb	21 05 26.9	
	comp=Z,39nm,1.1s					
ORV	**Oroville**	**81.12 321**	IAmb	IAmb	21 05 28.4	
	comp=Z,30nm,1.2s					
MAW	**Mawson**	**81.41 163**	P	**P**	**21 05 27.9 +1.0**	
	comp=Z,6.2nm,1.9s					
MAW	**Mawson**	**81.41 163**	P	**P**	**21 05 27.8 +1.0**	
	comp=Z,17nm,0.9s,baz=215,slow=6.6,SNR=12					
	comp=Z,17nm,0.9s					
MAKGR	**Makgori**	**81.49 114**	*i* P	**P**	**21 05 28.9 +0.6**	
HATC	**Hat Creek Radi**	**81.93 321**	IAmb	IAmb	21 05 32.2	
	comp=Z,27nm,1.1s					
PLID	**Pearl Lake**	**81.97 327**	IAmb	IAmb	21 05 32.7	
	comp=Z,25nm,0.9s					
J08A	**Circle Bar Ran**	**82.01 325**	IAmb	IAmb	21 05 33.1	
	comp=Z,40nm,1.2s					
CKGRV	**CKGRV**	**82.31 110**	*i* P	**P**	**21 05 32.8 +0.1**	
BMO	**Blue Mountains**	**82.45 327**	IAmb	IAmb	21 05 35.1	
	comp=Z,28nm,1.7s					
LBTB	**Lobatse**	**82.47 114**	P	**P**	**21 05 33.4 0.0**	
K05A	**Summer Lake**	**82.88 323**	IAmb	IAmb	21 05 37.9	
	comp=Z,31nm,0.9s					
LPHEP	**Lephephe**	**83.33 112**	*i* P	**P**	**21 05 38.2 +0.4**	
LPHEP	**Lephephe**	**83.33 112**	P	**P**	**21 05 36.4 -1.4**	
LPHEP			IAmb	IAmb	21 05 39.8	
	comp=Z,31nm,1.2s					
J05D	**Fort Rock, OR**	**83.44 323**	IAmb	IAmb	21 05 40.3	
	comp=Z,19nm,1.1s					
PINE	**Pine Mountain**	**83.62 324**	IAmb	IAmb	21 05 41.6	
	comp=Z,23nm,0.9s					
TAM	**Tamanrasset**	**84.53 62**		**P**	**21 05 43.5 -0.4**	
TAM			IAmb	IAmb	21 05 48.7	
	comp=Z,12nm,0.6s					
G05A	**Wamic**	**84.79 325**	IAmb	IAmb	21 05 55.1	
	comp=Z,16nm,1.0s					
I03D	**Drain, OR**	**84.87 323**	IAmb	IAmb	21 05 47.7	
	comp=Z,22nm,1.2s					
KSANE	**Kasane**	**84.92 107**		**P**	**21 05 46.3 +0.3**	
MREMI	**Moremi**	**84.99 112**	*i* P	**P**	**21 05 47.3 +1.1**	
MREMI	**Moremi**	**84.99 112**	IAmb	IAmb	21 05 47.7	
	comp=Z,27nm,0.8s					
BUCK	**Buck Mountain**	**84.99 323**	IAmb	IAmb	21 05 47.6	
	comp=Z,19nm,0.9s					
HOOD	**Mount Hood Mea**	**85.02 325**	IAmb	IAmb	21 05 48.1	
	comp=Z,24nm,1.3s					
G04A	**Mulino**	**85.38 324**	IAmb	IAmb	21 05 49.8	
	comp=Z,26nm,0.9s					
COR	**Corvallis**	**85.42 323**	P	**P**	**21 05 49.4 +1.8**	
COR			IAmb	IAmb	21 05 50.2	
	comp=Z,21nm,0.8s					
BROLN	**Tlhalogang**	**85.48 111**	*i* P	**P**	**21 05 49.6 +0.9**	
PAB	**San Pablo**	**86.21 44**		**P**	**21 05 52.1 +0.4**	
PAB			IAmb	IAmb	21 05 53.3	
	comp=Z,15nm,1.1s					
D05A	**Enumclaw**	**86.43 326**	IAmb	IAmb	21 05 54.2	
	comp=Z,19nm,1.0s					
ESDC	**Sonseca Array**	**86.52 44**	P	**P**	**21 05 53.8 +0.6**	
ESDC	**Sonseca Array**	**86.52 44**	P	**P**	**21 05 53.8 +0.6**	
	comp=Z,2.8nm,1.0s,baz=251,slow=4.7,SNR=10					
	comp=Z,2.8nm,1.0s					
E03A	**Lebam**	**86.83 325**	IAmb	IAmb	21 05 56.5	
	comp=Z,27nm,1.0s					
WISH	**Wishkah**	**87.30 325**	IAmb	IAmb	21 05 59.2	
	comp=Z,19nm,1.0s					
NLWA	**Neilton Lookou**	**87.53 325**	IAmb	IAmb	21 06 00.1	
	comp=Z,13nm,1.0s					
B04A	**Pogeles**	**87.78 326**	IAmb	IAmb	21 06 01.2	
	comp=Z,16nm,1.1s					
PGC	**Sidney**	**88.13 326**	IAmb	IAmb	21 06 02.6	
	comp=Z,16nm,1.0s					
LSZ	**Lusaka**	**88.60 106**		**P**	**21 06 05.7 +1.8**	
LLLB	**Lillooet**	**88.65 329**	IAmb	IAmb	21 06 04.4	
	comp=Z,27nm,1.6s					
CASY	**Casey**	**89.92 179**		**P**	**21 06 09.7 +0.8**	
CBB	**Campbell River**	**89.98 327**	IAmb	IAmb	21 06 11.2	
	comp=Z,10nm,1.0s					
YKA	**Yellowknife Ar**	**94.15 340**	P	**P**	**21 06 28.9 +0.7**	
	comp=Z,5.1nm,0.8s,baz=127,slow=4.3,SNR=16					
	comp=Z,5.1nm,0.8s					
ASAR	**Alice Springs**	**128.35 205**		**PKPdf**	**21 12 16.2 -0.3**	
ASAR	**Alice Springs**	**128.35 205**	PKP	**PKPdf**	**21 12 16.6 +0.1**	
	comp=Z,6.8nm,0.7s,baz=143,slow=2.1,SNR=56					
WRA	**Warramunga Arr**	**131.51 207**	PKP	**PKPdf**	**21 12 22.9 +0.4**	
	comp=Z,3.9nm,0.5s,baz=159,slow=1.6,SNR=42					
ABKAR	**Akbulak array**	**131.86 45**		**PKiKP**	**21 12 23.3 +0.1**	
PETK	**Petropavlovsk-**	**135.59 323**	PKP	**PKiKP**	**21 12 30.5 -0.2**	
	comp=Z,4.4nm,0.8s,baz=108,slow=4.8,SNR=8.6					
BVAR	**Borovoye Array**	**136.92 37**	PKP	**PKPdf**	**21 12 32.0 +0.4**	
	comp=Z,2.0nm,0.7s,baz=326,slow=3.2,SNR=4.4					
MTN	**Manton Dam**	**139.21 208**		**PKiKP**	**21 12 42.1 +2.9**	
KURBB	**Kurchatov Arra**	**142.50 36**	PKhKP	PKPpre	21 12 39.0	
	comp=Z,0.7nm,0.3s,baz=302,slow=3.1,SNR=6.2					
ZALV	**Zalesovo Beam**	**143.51 28**		PKPbc	21 12 41.4 +0.2	
ZALV	**Zalesovo Beam**	**143.51 28**	PKP	PKPbc	21 12 42.0 +0.7	
	comp=Z,5.3nm,0.6s,baz=299,slow=4.5,SNR=30					
NIL	**Nilore**	**144.19 65**		**PKPdf**	**21 12 44.5 -0.9**	
BATI	**Baumata**	**144.34 198**	PKP	**PKPdf**	**21 12 46.4 +0.2**	
	comp=Z,39nm,0.5s,baz=208,slow=1.0,SNR=11					
SOEI	**Soe**	**144.59 200**		**PKPdf**	**21 12 47.5 +0.7**	
KSH	**Kashi**	**145.33 55**	PKPbc	**PKPab**	**21 12 47.8 0.0**	
KSH			pPKP	pPKPdf	21 13 35.8 +2.5	
KSH			sPKP		21 13 41.6	
KDJ	**Kajisay**	**145.41 50**		**PKPab**	**21 12 49.2 +1.2**	
PRZ	**Przheval'sk**	**146.13 49**		**PKPab**	**21 12 51.1 +0.3**	
MKAR	**Makanchi Array**	**146.65 39**		**PKPdf**	**21 12 49.7 +0.6**	
MKAR	**Makanchi Array**	**146.65 39**	PKPbc	**PKPbc**	**21 12 50.0 -1.0**	
	comp=Z,6.6nm,0.8s,baz=314,slow=1.6,SNR=34					
LEM	**Lembang**	**148.87 170**	PKPbc	**PKPbc**	**21 12 58.6 +0.6**	
	comp=Z,61nm,0.7s,baz=135,slow=22,SNR=5.7					
KAPI	**Kappang**	**150.33 194**	PKPbc	**PKiKP**	**21 13 02.7 +0.6**	
	comp=Z,11nm,0.4s,baz=215,slow=7.3,SNR=4.7					
HEH	**HeiHe**	**151.51 340**	*eP*	**PKPbc**	**21 13 02.3 -0.7**	
HEH			pmax	pmax		
	comp=Z,23nm,0.8s					
USRK	**Ussuriysk Ar.**	**154.55 327**	PKP	**PKPdf**	**21 13 02.1 +0.8**	
	comp=Z,1.8nm,0.8s,baz=356,slow=5.7,SNR=5.7					
USRK			PKPbc	**PKiKP**	**21 13 10.7 +0.7**	
	comp=Z,3.5nm,1.0s,baz=35,slow=4.5,SNR=4.3					
MJAR	**Matsushiro Arr**	**154.92 306**		**PKPab**	**21 13 28.4 +1.4**	
MJAR	**Matsushiro Arr**	**154.92 306**	PKP	**PKPdf**	**21 13 02.5 +0.3**	
	comp=Z,0.6nm,0.4s,baz=96,slow=5.8,SNR=5.6					
MJAR			PKPab	**PKPab**	**21 13 28.1 +1.0**	
	comp=Z,9.4nm,0.9s,baz=76,slow=1.7,SNR=19					
MAJO	**Matsushiro**	**154.93 306**		**PKPab**	**21 13 28.5 +1.5**	
SONM	**Songino Array**	**155.73 11**	PKP	**PKPdf**	**21 13 03.1 +0.1**	
	comp=Z,1.7nm,0.9s,baz=316,slow=1.5,SNR=9.4					
SONM			PKPab	**PKPab**	**21 13 30.3 +0.2**	
	comp=Z,1.0nm,0.6s,baz=296,slow=2.1,SNR=4.6					
GTA	**Gaotai**	**161.13 33**	PKP	**PKPdf**	**21 13 10.4 +0.6**	
GTA			PKPab	**pPKPdf**	**21 13 55.3 -0.7**	
KSRS	**Korea Array**	**161.45 319**	PKP	**PKPdf**	**21 13 10.8 +0.9**	
	comp=Z,2.4nm,1.0s,baz=98,slow=1.6,SNR=12					
KSRS			PKPab	**pPKPdf**	**21 13 56.5 +0.4**	
	comp=Z,1.5nm,0.8s,baz=55,slow=4.2,SNR=5.6					
KSAR	**Wonju Array Be**	**161.48 320**		**PKPdf**	**21 13 10.2 +0.2**	
HHC	**Hu-ho-hao-te**	**163.23 3**	*eP*	**PKPdf**	**21 13 12.2 +0.4**	
CMAR	**Chiang Mai Arr**	**165.87 111**	PKPab	**PKPab**	**21 14 16.1 +0.8**	
	comp=Z,2.6nm,0.8s,baz=257,slow=5.4,SNR=13					
PZH	**PanZhiHua**	**169.64 74**	P	**PKPdf**	**21 13 15.5 -1.7**	
NJ2	**Nanjing**	**170.45 328**	*eP*	**PKPdf**	**21 13 17.4 +0.1**	
NJ2			pmax	pmax		
	comp=Z,5.0nm,0.7s					

*IDC **02** 21:05:49.4±3.5, 3.°04S×67.°70E, h0km, mb3.9/6, mbtmp3.9/6, MS3.6/34, Error ellipse: s-maj=98.0km s-min=29.4km az=68.0*

ISC 02 21:05:51.1±3.5, 3.°0S±0.°3×67.°7E±0.°6, h10km, n39, σ0s41/6, mb4.1/6, MS3.7/33, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**6.59**	**134**	T	T	T	21 13 59.1	
	baz=324							
H08S1	**Diego Carcia H**	**6.60**	**134**	T	T	T	21 14 04.7	
	baz=324							
H08S2	**Diego Garcia H**	**6.61**	**134**	T	T	T	21 14 00.5	
	baz=324							
PALK	**Pallekele**	**16.50**	**52**	LR	LR	LR	21 14 26.7	
	comp=Z,445nm,20.1s,baz=220,slow=31							
OPO	**Ambohidratompo**	**25.36**	**231**	LR	LR	LR	21 19 32.2	
	comp=Z,146nm,18.1s,baz=182,slow=32							
KMBO	**Kilima Mbogo**	**30.51**	**273**	LR	LR	LR	21 22 07.9	
	comp=Z,56nm,21.6s,baz=111,slow=32							
FURI	**Furi**	**31.28**	**292**	LR	LR	LR	21 23 33.2	
	comp=Z,54nm,19.5s,baz=117,slow=34							
PSI	**Prapat**	**31.72**	**80**	LR	LR	LR	21 22 30.4	
	comp=Z,203nm,19.7s,baz=224,slow=32							
BRDH	**Bariadhala**	**34.60**	**41**	LR	LR	LR	21 28 20.0	
	comp=Z,135nm,18.7s,baz=275,slow=39							
CMAR	**Chiang Mai Arr**	**37.42**	**54**	P	**P**	**21 13 04.8**	**0.0**	
	0.3nm,0.4s,baz=247,slow=8.7,SNR=4.6							
CMAR				LR	LR	LR	21 27 53.2	
	comp=Z,83nm,18.0s,baz=245,slow=35							
	0.3nm,0.4s							
LEM	**Lembang**	**39.91**	**97**	LR	LR	LR	21 25 32.9	
	comp=Z,134nm,21.7s,baz=210,slow=30							
LSZ	**Lusaka**	**40.80**	**250**	LR	LR	LR	21 28 07.3	
	comp=Z,113nm,18.5s,baz=150,slow=33							
AAK	**Ala-Archa**	**45.85**	**7**	LR	LR	LR	21 33 18.8	
	comp=Z,65nm,18.9s,baz=184,slow=36							
LBTB	**Lobatse**	**46.06**	**238**	LR	LR	LR	21 31 30.2	
	comp=Z,114nm,19.5s,baz=70,slow=34							
BOSA	**Boshof**	**47.73**	**233**	LR	LR	LR	21 32 20.3	
	comp=Z,37nm,18.4s,baz=56,slow=33							
GNI	**Garni**	**47.84**	**336**	LR	LR	LR	21 33 51.6	
	comp=Z,37nm,20.6s,baz=115,slow=35							
MKAR	**Makanchi Array**	**51.23**	**13**	LR	LR	LR	21 36 56.7	
	comp=Z,36nm,18.2s,baz=172,slow=36							
TSUM	**Tsumeb**	**51.54**	**248**	LR	LR	LR	21 34 40.5	
	comp=Z,82nm,21.1s,baz=140,slow=34							
KAPI	**Kappang**	**51.93**	**94**	LR	LR	LR	21 34 07.5	
	comp=Z,51nm,21.8s,baz=303,slow=33							
AKTO	**Aktyubinsk**	**53.89**	**352**	LR	LR	LR	21 38 41.2	
	comp=Z,29nm,19.7s,baz=254,slow=37							
KURBB	**Kurchatov Arra**	**54.23**	**8**	P	**P**	**21 15 17.2**	**+0.3**	
	1.4nm,0.2s,baz=203,slow=8.1,SNR=4.4							
KURBB				LR	LR	LR	21 36 58.7	
	comp=Z,77nm,21.4s,baz=173,slow=34							
	1.4nm,0.2s							
BVAR	**Borovoye Array**	**55.88**	**2**	LR	LR	LR	21 39 16.5	
	comp=Z,31nm,21.8s,baz=192,slow=36							
ZALV	**Zalesovo Beam**	**58.53**	**12**	P	**P**	**21 15 47.0**	**-0.6**	
	0.8nm,0.6s,baz=201,slow=6.2,SNR=2.1							
ZALV				LR	LR	LR	21 39 58.8	
	comp=Z,42nm,20.5s,baz=179,slow=35							
	0.8nm,0.6s							
ARTI	**Arti**	**59.69**	**354**	LR	LR	LR	21 42 17.6	
	comp=Z,32nm,19.3s,baz=128,slow=37							
SONM	**Songino Array**	**60.88**	**29**	P	**P**	**21 16 04.3**	**+0.2**	
	1.1nm,0.6s,baz=218,slow=6.4,SNR=6.1							
SONM				LR	LR	LR	21 42 08.2	
	comp=Z,198nm,18.8s,baz=216,slow=36							
	1.

OBN	**Obninsk**	**34.01 328**	LR	LR	22 17 42.5	
	comp=Z,52nm,21.9s,baz=166,slow=38					
FINES	**FINESS Array B**	**42.12 332**	P	**P**	**22 04 07.3**	**+0.1**
	1.5nm,0.8s,baz=96,slow=7.6,SNR=6.1					
	1.5nm,0.8s					
ARCES	**ARCESS Array B**	**46.81 341**	P	**P**	**22 04 44.9**	**+0.3**
	2.2nm,1.0s,baz=126,slow=6.2,SNR=4.5					
	2.2nm,1.0s					
JOW	**Kunigami**	**53.06 77**	LR	LR	22 29 01.4	
	comp=Z,89nm,18.4s,baz=260,slow=37					
ESDC	**Sonseca Array**	**58.45 301**	P	**P**	**22 06 11.4**	**+0.2**
	0.3nm,0.5s,baz=79,slow=7.3,SNR=4.9					
	0.3nm,0.5s					
TORD	**Torodi Ar. Bea**	**62.78 270**	P	**P**	**22 06 41.3**	**+0.3**
	0.5nm,0.6s,baz=53,slow=6.5,SNR=5.3					
	0.5nm,0.6s					

NEIC ***02*** *22:08:39.9±0.6, 36.93°N±0.01°×97.48°W±0.01, h8km±2km, Error ellipse: s-maj=1.9km s-min=1.2km az=223.0*

NEIC 02 22:08:39.1±0.6, 36.92°N±0.01°×97.477°W±0.009, h5km±1km, mb_Lg3.0/101, ML3.4/36, ML3.2/25, Error ellipse: s-maj=2.6km s-min=2.2km az=16.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.09**	**359**		Pg	22 08 41.5	+0.4
KAN13					Sg	22 08 43.1	+0.6
BLOK	**Blackwell**	**0.26**	**127**		Pg	22 08 44.7	+0.5
BLOK					Sg	22 08 48.5	+0.7
KAN01	**Argonia South**	**0.32**	**316**		Pg	22 08 45.7	+0.3
KAN01				Sg	Sg	22 08 50.2	+0.5
KAN01				IAML		22 08 50.4	
	comp=N,4μm,0.2s						
KAN14	**Manchester OK**	**0.39**	**275**		Pg	22 08 46.8	+0.2
KAN14				Sg	Sg	22 08 52.0	+0.3
KAN14				IAML		22 08 54.4	
	comp=E,3μm,0.2s						
KAN14				IAML		22 08 55.6	
	comp=N,4μm,0.2s						
KAN08	**Anthony NE Sta**	**0.50**	**308**		Pg	22 08 48.9	+0.2
KAN08				Sg	Sg	22 08 55.7	+0.5
KAN08				IAML		22 08 57.5	
	comp=N,2μm,0.5s						
CROK	**Carrier**	**0.58**	**225**		Pg	22 08 50.5	+0.2
CROK				Sg	Sg	22 08 58.4	+0.6
CROK				IAML		22 08 58.8	
	comp=E,3μm,0.3s						
CROK				IAML		22 09 04.2	
	comp=N,3μm,0.3s						
T35A	**Sooner Cattle**	**0.77**	**90**		Pg	22 08 54.0	+0.1
T35A				Sg	Sg	22 09 04.3	+0.3
QUOK	**Quay**	**0.97**	**140**		Pg	22 08 57.6	-0.1
QUOK				Sg	Sg	22 09 10.3	0.0
QUOK				IAML		22 09 16.7	
	comp=E,1μm,0.3s						
QUOK				IAML		22 09 18.8	
	comp=N,917nm,0.2s						
OK052	**Battle Ridge R**	**1.07**	**149**		Pg	22 08 59.5	-0.2
OK052				Sg	Sg	22 09 13.5	-0.1
OK038	**West end E0370**	**1.11**	**247**		Pg	22 08 59.9	-0.4
OK029	**Liberty Lake**	**1.12**	**179**		Pg	22 09 00.3	-0.3
OK029				Sg	Sg	22 09 15.4	+0.2
OK029				IAML		22 09 21.8	
	comp=N,610nm,0.4s						
NOKA	**Waynoka**	**1.20**	**257**		Pg	22 09 01.5	-0.6
NOKA				Sg	Sg	22 09 17.9	+0.2
NOKA				IAML		22 09 23.6	
	comp=N,942nm,0.2s						
NOKA				IAML		22 09 27.8	
	comp=E,861nm,0.3s						
ADOK	**Arcadia Dam**	**1.27**	**176**	Pg	Pg	22 09 02.9	-0.6
DEOK	**Depew**	**1.33**	**143**		Pn	22 09 03.7	-0.7
OKCSW	**OKLAHOMA CITY**	**1.51**	**179**		Pn	22 09 06.9	0.0
CSTR	**Hydro, Custer**	**1.61**	**218**		Pn	22 09 08.6	+0.4
TUL3	**Leonard**	**1.69**	**126**		Pn	22 09 09.6	+0.3
TUL3				IAmb_Lg		22 09 33.2	
	comp=Z,65nm,0.8s						
ELIS	**Ellis County**	**1.78**	**242**	Pn	Pn	22 09 11.3	+0.7
RLO	**Rose Lookout**	**2.12**	**110**	Pn	Pn	22 09 15.4	+0.3
KSU1	**Kansas State U**	**2.28**	**17**	Pn	Pn	22 09 17.0	-0.4
X34A	**Smith Ranch, M**	**2.33**	**187**	Pn	Pn	22 09 19.1	+1.0
X34A				IAmb_Lg		22 09 58.3	
	comp=Z,45nm,0.7s						
WMOK	**Wichita Mounta**	**2.42**	**206**		Pn	22 09 19.4	0.0
WMOK	**Wichita Mounta**	**2.42**	**206**	Pn	Pn	22 09 19.2	-0.2
U38A	**Gravette**	**2.53**	**100**	Pn	Pn	22 09 21.5	+0.7
CBKS	**Cedar Bluff**	**2.60**	**317**	Pn	Pn	22 09 21.9	0.0
SMWD	**Samnorwood**	**2.88**	**232**	Pn	Pn	22 09 26.5	+0.7
HHAR	**Hobbs**	**2.92**	**102**	Pn	Pn	22 09 27.0	+0.8
LOOK	**Love County**	**2.93**	**175**	Pn	Pn	22 09 26.8	+0.4
WTFS	**Witchita Falls**	**3.25**	**195**	Pn	Pn	22 09 31.7	+0.9
Z35A	**Perchaven, San**	**3.59**	**177**	Pn	Pn	22 09 36.4	+1.1
FW06	**Azle**	**3.94**	**181**	Pn	Pn	22 09 41.2	+1.0
FW06				IAmb_Lg		22 10 47.4	
	comp=Z,23nm,1.0s						
MIAR	**Mount Ida**	**3.96**	**126**	Pn	Pn	22 09 41.4	+0.9
AMTX	**Amarillo**	**3.97**	**240**	Pn	Pn	22 09 42.0	+1.2
P38A	**Dawn**	**4.11**	**48**	Pn	Pn	22 09 43.0	+0.4
P38A				IAmb_Lg		22 10 50.5	
	comp=Z,52nm,0.9s						
PLPT	**Palo Pinto**	**4.16**	**190**	Pn	Pn	22 09 43.7	+0.5
MGMO	**Mountain Grove**	**4.17**	**85**	Pn	Pn	22 09 44.3	+0.8
MGMO				IAmb_Lg		22 10 52.0	
	comp=Z,36nm,0.8s						
Z38A	**Mt. Pleasant**	**4.18**	**150**	Pn	Pn	22 09 44.2	+0.7
Z38A				IAmb_Lg		22 10 56.1	
	comp=Z,50nm,0.9s						
N35A	**Tabor**	**4.19**	**19**	Pn	Pn	22 09 44.0	+0.4
APMT	**Aspermont**	**4.19**	**212**	Pn	Pn	22 09 44.1	+0.4
RTBA	**Rita Blanca**	**4.26**	**265**	Pn	Pn	22 09 45.3	+0.6
DKNS	**Dickens**	**4.30**	**222**	Pn	Pn	22 09 47.1	+1.9
TREL	**Terrell**	**4.33**	**164**	Pn	Pn	22 09 45.4	-0.2
R40A	**Maddies Statio**	**4.36**	**70**	Pn	Pn	22 09 45.6	-0.3
FCAR	**Ozark Folk Cen**	**4.44**	**102**	Pn	Pn	22 09 47.1	+0.1
X40A	**Basin Creek Fa**	**4.49**	**121**	Pn	Pn	22 09 48.4	+0.6
X40A				IAmb_Lg		22 11 05.3	
	comp=Z,42nm,0.8s						
WHAR	**Wooly Hollow**	**4.50**	**110**	Pn	Pn	22 09 47.8	-0.1
WHAR				IAmb_Lg		22 11 13.7	
	comp=Z,53nm,0.7s						
BGNE	**Belgrade**	**4.51**	**354**	Pn	Pn	22 09 48.0	-0.1
FW13	**Cleburne**	**4.56**	**180**	IAmb_Lg		22 11 08.1	
	comp=Z,24nm,1.1s						
KSCO	**Kaye Shedlock'**	**4.57**	**299**	IAmb_Lg		22 11 07.6	
	comp=Z,37nm,0.8s						
ABTX	**Abilene, Hawle**	**4.64**	**203**	Pn	Pn	22 09 49.6	-0.3
ABTX				IAmb_Lg		22 11 05.6	
	comp=Z,31nm,0.9s						
UALR	**University of**	**4.69**	**116**	Pn	Pn	22 09 51.2	+0.7
UALR				IAmb_Lg		22 11 17.8	
	comp=Z,28nm,0.8s						
SN07	**Snyder 07**	**4.74**	**217**	IAmb_Lg		22 11 18.8	
	comp=Z,27nm,1.0s						
WLAR	**White Oak Lake**	**4.81**	**131**	IAmb_Lg		22 11 23.6	
	comp=Z,26nm,0.7s						
WHTX	**Lake Whitney,**	**4.92**	**180**	Pn	Pn	22 09 53.6	0.0
P40A	**Paris**	**5.00**	**57**	Pn	Pn	22 09 55.0	+0.2
P40A				IAmb_Lg		22 11 25.4	
	comp=Z,37nm,0.9s						
POST	**Post**	**5.07**	**222**	Pn	Pn	22 09 56.2	+0.4
CCM	**Cathedral Cave**	**5.08**	**75**		Pn	22 09 56.6	+0.7
CCM				IAmb_Lg		22 11 25.7	
	comp=Z,22nm,0.9s						
CCM	**Cathedral Cave**	**5.08**	**75**	Pn	Pn	22 09 56.1	+0.2
237A	**Washetta, Mont**	**5.10**	**164**	Pn	Pn	22 09 55.3	-0.8
LCAR	**Lake Charles**	**5.16**	**98**	Pn	Pn	22 09 57.2	+0.2
LCAR				IAmb_Lg		22 11 20.8	
	comp=Z,17nm,0.8s						
MSTX	**Muleshoe**	**5.23**	**237**	Pn	Pn	22 09 57.8	-0.3
Z41A	**Richland Creek**	**5.29**	**132**	Pn	Pn	22 09 59.4	+0.6
Z41A				IAmb_Lg		22 11 37.2	
	comp=Z,38nm,0.7s						
OGNE	**Ogallala**	**5.36**	**320**	Pn	Pn	22 10 00.6	+0.7
CCAR	**Cane Creek**	**5.54**	**121**	IAmb_Lg		22 11 37.0	
	comp=Z,31nm,0.8s						
T25A	**Trinidad**	**5.55**	**274**	Pn	Pn	22 10 02.3	-0.3
T25A				IAmb_Lg		22 11 41.2	
	comp=Z,28nm,0.8s						
NATX	**Nacogdoches**	**5.65**	**155**	IAmb_Lg		22 11 52.5	
	comp=Z,16nm,0.9s						
PBMO	**Poplar Bluff**	**5.65**	**89**	IAmb_Lg		22 11 43.3	
	comp=Z,30nm,0.8s						
FVM	**French Village**	**5.71**	**77**	Pn	Pn	22 10 04.9	+0.4
FVM				IAmb_Lg		22 11 39.0	
	comp=Z,21nm,0.9s						
BRDY	**Brady**	**5.76**	**193**	Pn	Pn	22 10 04.4	-0.9
BRDY				IAmb_Lg		22 11 48.8	
	comp=Z,20nm,0.7s						
SGCY	**Sterling City**	**5.83**	**212**	IAmb_Lg		22 11 59.1	
	comp=Z,29nm,0.9s						
K30B	**Basset**	**5.98**	**345**	Pn	Pn	22 10 08.8	+0.6
K30B				IAmb_Lg		22 11 52.8	
	comp=Z,22nm,0.8s						
SLM	**Saint Louis**	**5.99**	**71**	IAmb_Lg		22 11 57.6	
	comp=Z,16nm,1.0s						
435B	**Jarrell**	**6.12**	**181**	IAmb_Lg		22 11 58.3	
	comp=Z,25nm,0.9s						
CGM3	**Cape Girardeau**	**6.26**	**84**	IAmb_Lg		22 12 06.8	
	comp=Z,20nm,1.0s						
Q24A	**Divide**	**6.40**	**291**	IAmb_Lg		22 12 01.3	
	comp=Z,14nm,0.8s						
SDCO	**Great Sand Dun**	**6.45**	**280**	Pn	Pn	22 10 15.5	+0.6
SDCO				IAmb_Lg		22 12 17.0	
	comp=Z,18nm,1.2s						
S44A	**Carbondale**	**6.60**	**81**	Pn	Pn	22 10 16.5	-0.3
S44A				IAmb_Lg		22 12 09.4	
	comp=Z,32nm,0.8s						
HALT	**Halls**	**6.64**	**96**	IAmb_Lg		22 12 18.4	
	comp=Z,33nm,0.8s						
JCT	**Junction City**	**6.71**	**197**	IAmb_Lg		22 12 26.0	
	comp=Z,27nm,0.8s						
ECSD	**EROS Data Cent**	**6.84**	**5**	Pn	Pn	22 10 18.6	-1.4
ISCO	**Idaho Springs**	**7.01**	**297**	Pn	Pn	22 10 22.4	-0.3
ISCO				IAmb_Lg		22 12 23.3	
	comp=Z,15nm,0.9s						
L40A	**Anamosa**	**7.05**	**41**	Pn	Pn	22 10 22.8	-0.2
L40A				IAmb_Lg		22 12 24.2	
	comp=Z,28nm,0.8s						
Y45A	**Yeager Farm, C**	**7.16**	**113**	IAmb_Lg		22 12 30.4	
	comp=Z,30nm,0.8s						
HDIL	**Hopedale**	**7.35**	**58**	IAmb_Lg		22 12 34.9	
	comp=Z,25nm,0.7s						
HNDO	**Hondo**	**7.53**	**192**	Pn	Pn	22 10 27.8	-1.7
HNDO				IAmb_Lg		22 12 51.2	
	comp=Z,18nm,1.1s						
OLIL	**Olney**	**7.64**	**73**	IAmb_Lg		22 12 45.4	
	comp=Z,20nm,1.0s						
EF04	**Eagle Ford 04**	**7.70**	**182**	IAmb_Lg		22 12 59.2	
	comp=Z,18nm,0.7s						
WVT	**Waverly**	**7.81**	**93**	Pn	Pn	22 10 32.7	-0.6
PLAL	**Pickwick Lake**	**7.87**	**101**	Pn	Pn	22 10 32.8	-1.4
USIN	**University of**	**7.87**	**79**	IAmb_Lg		22 13 01.4	
	comp=Z,23nm,1.0s						
DRIO	**Del Rio**	**7.93**	**200**	IAmb_Lg		22 13 07.4	
	comp=Z,12nm,0.9s						
SAND	**Sanderson**	**7.96**	**211**	IAmb_Lg		22 13 08.8	
	comp=Z,15nm,1.1s						
HAYD	**Hayden**	**8.45**	**298**	IAmb_Lg		22 13 30.3	
	comp=Z,9.3nm,0.8s						
I40A	**Norwalk**	**8.71**	**35**	IAmb_Lg		22 13 15.0	
	comp=Z,12nm,0.8s						
F33A	**5 Mile Ranch,**	**8.96**	**5**	IAmb_Lg		22 13 17.6	
	comp=Z,8.9nm,0.9s						
SPMN	**Marine on St.**	**9.01**	**22**	IAmb_Lg		22 13 25.5	
	comp=Z,10nm,0.8s						

CATAC 02 22:18:52.6±0.9, 12°N±5°×87°W±°, h24km±6km, M3.3/16, MLv3.3/16, Error ellipse: s-maj=14.4km s-min=4.0km az=47.7, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.10**	**54**	P	Pn	22 19 12.3	-0.2
QUEN	**Al S del Volca**	**1.23**	**31**	P	Pn	22 19 12.8	-1.6
CNGA	**Al SSO del Vol**	**1.24**	**39**	P	Pn	22 19 14.8	+0.3
PKGN	**Cerro Pekin**	**1.25**	**24**	P	Pn	22 19 14.7	+0.1
CNGN	**Cerro Negro**	**1.25**	**39**	P	Pn	22 19 14.3	-0.3
CRIN	**San Cristobal**	**1.25**	**21**	P	Pn	22 19 14.8	+0.2
HOYN	**Al Sur del Vol**	**1.25**	**32**	P	Pb	22 19 15.3	-0.4
PLRN	**Geotermica Pol**	**1.27**	**34**	P	Pn	22 19 14.4	-0.5
APQ3	**Volcan Apoyequ**	**1.33**	**56**	P	Pn	22 19 16.3	+0.5
MOM2	**El Cardon**	**1.35**	**48**	P	Pn	22 19 15.3	-0.6
MOM3	**MOM3**	**1.37**	**45**	P	Pn	22 19 16.6	+0.4
MAS3	**Al N del Volca**	**1.39**	**69**	P	Pn	22 19 15.3	-1.2
NANN	**Nandasmo**	**1.41**	**73**	P	Pn	22 19 17.2	+0.4
CSGN	**Cosiguina Volc**	**1.44**	**358**	P	Pn	22 19 17.1	-0.2
CSGN				S	Sb	22 19 36.8	0.0
POTN	**Potosi Cosigui**	**1.46**	**360**	P	Pn	22 19 17.1	-0.4
POTN				S	Sn	22 19 36.1	+0.2
CNCH	**Conchagua**	**1.77**	**350**	P	Pn	22 19 21.9	+0.1
CNCH	**Conchagua**	**1.77**	**350**	S	Sn	22 19 43.9	+0.3
CHOHN	**Orocuina**	**1.97**	**10**	P	Pn	22 19 24.9	+0.3
CHOHN	**Orocuina**	**1.97**	**10**	S	Sn	22 19 48.3	-0.3
CARN	**Rivas**	**1.97**	**100**	S	Sb	22 19 50.3	-1.7
BOAB	**BOACO BROADBAN**	**2.02**	**63**	P	Pn	22 19 24.8	-0.3
PACA	**Pacayal**	**2.09**	**338**	P	Pn	22 19 26.3	+0.1
PACA	**Pacayal**	**2.09**	**338**	S	Sn	22 19 52.0	+0.4
RCVN	**Varillal2**	**2.41**	**32**	P	Pn	22 19 31.3	+0.6
YUSH	**Yuscaran**	**2.50**	**15**	P	Pn	22 19 32.6	+0.8
JTS	**Las Juntas de**	**2.79**	**116**	S	Sn	22 20 08.7	0.0

NOU ***02*** *22:41:23.2, 37.49°S×176.75°E, h238km, MLv4.1/14, North Island, New Zealand*

WEL ***02*** *22:41:29.3±0.7, 37°S±5°×17°7E±°, h173km±6km, M4.0/97, MLv4.0/97, Error ellipse: s-maj=7.1km s-min=4.7km az=38.9, confirmed*

ISC 02 22:41:23.1±2.1, 37.53S±0.09°×176.64E±0.07, h224km±11km, n162, σ2.04/169, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.33**	**191**	P	**Pn**	**22 41 53.2**	**+0.8**
OPRZ				S	**S**	**22 42 13.3**	**-2.3**
TGRZ	**Tauranga**	**0.36**	**236**	P	**Pn**	**22 41 53.5**	**+0.9**
WHRZ	**Whale Island**	**0.43**	**141**	P	**Pn**	**22 41 55.0**	**+2.2**
MARZ	**Manawahe**	**0.46**	**176**	P	**Pn**	**22 41 54.0**	**+1.2**
KARZ	**Kaharoa**	**0.58**	**212**	P	**Pn**	**22 41 54.6**	**+1.3**
EDRZ	**Edgecumbe**	**0.59**	**172**	P	**Pn**	**22 41 55.6**	**+2.2**
KMRZ	**Kaimai**	**0.64**	**240**	P	**Pn**	**22 41 54.8**	**+1.3**
NGRZ	**Ngongotaha**	**0.68**	**212**	P	**Pn**	**22 41 55.3**	**+1.6**
TARZ	**Mount Tarawera**	**0.72**	**188**	P	**Pn**	**22 41 55.7**	**+1.8**
UTU	**Utuhina**	**0.74**	**208**	P	**Pn**	**22 41 55.5**	**+1.5**
RRRZ	**Republican Roa**	**0.82**	**187**	P	**Pn**	**22 41 56.0**	**+1.6**
URZ	**Urewera**	**0.82**	**153**	P	**Pn**	**22 41 55.3**	**+1.0**
URZ	**Urewera**	**0.82**	**153**	P	**Pn**	**22 41 55.4**	**+1.0**
URZ				S	**S**	**22 42 15.8**	**-3.0**
HSRZ	**Hossack Road**	**0.84**	**201**	P	**Pn**	**22 41 56.3**	**+1.9**
HRRZ	**Handcock Road**	**0.91**	**198**	P	**Pn**	**22 41 56.7**	**+1.8**
GRRZ	**Galatos Road**	**0.92**	**207**	P	**Pn**	**22 41 56.9**	**+2.0**
TOZ	**Tahuroa Road**	**0.92**	**257**	P	**Pn**	**22 41 56.3**	**+1.4**
RUGZ	**Raukumara Rang**	**0.94**	**118**	P	**Pn**	**22 41 55.6**	**+0.5**
HAZ	**Te Kaha**	**0.94**	**105**	P	**Pn**	**22 41 56.0**	**+1.1**
HAZ				S	**S**	**22 42 17.1**	**-2.6**
MUGZ	**Murupara**	**0.96**	**174**	P	**Pn**	**22 41 56.6**	**+1.5**
MUGZ				S	**S**	**22 42 17.3**	**-2.9**
PRRZ	**Plateau Road**	**0.99**	**191**	P	**Pn**	**22 41 57.1**	**+1.8**
ALRZ	**Allen Road**	**1.06**	**192**	P	**Pn**	**22 41 57.6**	**+1.9**
WPRZ	**Whakapapatarin**	**1.06**	**200**	P	**Pn**	**22 41 57.9**	**+2.1**
KUZ	**Kuaotunu**	**1.07**	**317**	P	**Pn**	**22 41 56.3**	**+0.5**
KUZ	**Kuaotunu**	**1.07**	**317**	P	**Pn**	**22 41 56.5**	**+0.7**
RTZ	**Ruatahuna**	**1.12**	**166**	P	**Pn**	**22 41 57.8**	**+1.6**
RTZ				S	**S**	**22 42 20.4**	**-1.8**
RAGZ	**Rawiri**	**1.15**	**148**	P	**Pn**	**22 41 58.5**	**+2.1**
KUTZ	**Kaahu Road**	**1.16**	**213**	P	**Pn**	**22 41 58.3**	**+1.9**
TLZ	**Tolley Road**	**1.18**	**227**	P	**Pn**	**22 41 58.6**	**+2.0**
PKGZ	**Pakihiroa**	**1.20**	**107**	P	**Pn**	**22 41 58.5**	**+1.9**
MKAZ	**Moumakai**	**1.25**	**289**	P	**Pn**	**22 41 58.4**	**+1.4**
MKAZ				S	**S**	**22 42 22.4**	**-0.9**
MRHZ	**Matea Rd**	**1.32**	**187**	P	**Pn**	**22 41 59.4**	**+1.8**
TKGZ	**Te Karaka**	**1.32**	**134**	P	**Pn**	**22 41 59.6**	**+2.1**
TKGZ				S	**S**	**22 42 22.9**	**-1.5**
MXZ	**Matakaoa Point**	**1.33**	**92**	P	**Pn**	**22 41 59.4**	**+1.8**
MXZ	**Matakaoa Point**	**1.33**	**92**	P	**Pn**	**22 41 59.3**	**+1.8**
MTHZ	**Maungataniwha**	**1.33**	**173**	P	**Pn**	**22 41 59.7**	**+2.0**
SNGZ	**Shannon Statio**	**1.37**	**156**	P	**Pn**	**22 42 00.2**	**+2.3**
WATZ	**Wairara**	**1.38**	**211**	P	**Pn**	**22 42 00.6**	**+2.6**
PUZ	**Puketiti**	**1.40**	**114**	P	**Pn**	**22 42 00.0**	**+1.9**
WIAZ	**Waiheke Island**	**1.41**	**301**	P	**Pn**	**22 41 59.5**	**+1.3**
HATZ	**Hinemaiaia**	**1.43**	**197**	P	**Pn**	**22 42 00.6**	**+2.2**
RAHZ	**Arahi**	**1.43**	**166**	P	**Pn**	**22 42 01.0**	**+2.5**
WMGZ	**Waiomatatini S**	**1.44**	**102**	P	**Pn**	**22 42 00.5**	**+2.1**
RIGZ	**Rimuhau**	**1.48**	**143**	P	**Pn**	**22 42 01.4**	**+2.6**
ETAZ	**East Tamaki Re**	**1.48**	**292**	P	**Pn**	**22 42 00.4**	**+1.7**
RATZ	**Rangitukua**	**1.50**	**207**	P	**Pn**	**22 42 01.6**	**+2.6**
CNGZ	**Carnagh Statio**	**1.57**	**128**	P	**Pn**	**22 42 02.5**	**+3.0**
RITZ	**Rihia Road**	**1.57**	**203**	P	**Pn**	**22 42 02.3**	**+2.7**
NMHZ	**Naumai**	**1.57**	**175**	P	**Pn**	**22 42 02.5**	**+2.9**
MBAZ	**Motutapu North**	**1.58**	**298**	P	**Pn**	**22 42 01.3**	**+1.7**
GRZ	**Great Barrier**	**1.58**	**323**	P	**Pn**	**22 42 00.9**	**+1.2**
WHHZ	**Waihua**	**1.62**	**163**	P	**Pn**	**22 42 02.7**	**+2.8**
KATZ	**Kakaramea**	**1.63**	**207**	P	**Pn**	**22 42 03.7**	**+3.5**
BKZ	**Black Stump Fm**	**1.64**	**184**	P	**Pn**	**22 42 02.1**	**+1.9**
BKZ	**Black Stump Fm**	**1.64**	**184**	P	**Pn**	**22 42 02.0**	**+1.8**
AWAZ	**Awhitu Peninsu**	**1.65**	**286**	P	**Pn**	**22 42 01.8**	**+1.5**
KNZ	**Kokohu**	**1.70**	**152**	P	**Pn**	**22 42 03.2**	**+2.6**
PRGZ	**Paritu Road**	**1.71**	**145**	P	**Pn**	**22 42 03.3**	**+2.6**
HIZ	**Hauiti**	**1.72**	**234**	P	**Pn**	**22 42 03.4**	**+2.6**
HIZ	**Hauiti**	**1.72**	**234**	P	**Pn**	**22 42 03.4**	**+2.6**
TMVZ	**Te Maari**	**1.75**	**204**	P	**Pn**	**22 42 03.6**	**+2.4**
WTAZ	**Waiatarua**	**1.75**	**289**	P	**Pn**	**22 42 02.8**	**+1.7**
ARHZ	**Aropaoanui**	**1.76**	**171**	P	**Pn**	**22 42 03.9**	**+2.7**
ETVZ	**East Tongariro**	**1.77**	**204**	P	**Pn**	**22 42 03.8**	**+2.5**
WTVZ	**West Tongariro**	**1.79**	**207**	P	**Pn**	**22 42 04.1**	**+2.5**
NNVZ	**North Ngauruho**	**1.79**	**206**	P	**Pn**	**22 42 04.2**	**+2.6**
OTVZ	**Oturere**	**1.81**	**205**	P	**Pn**	**22 42 04.3**	**+2.6**
TWVZ	**Taurewa**	**1.81**	**211**	P	**Pn**	**22 42 04.3**	**+2.6**
NGZ	**Ngauruhoe**	**1.84**	**206**	P	**Pn**	**22 42 04.8**	**+2.7**
COVZ	**Chateau Observ**	**1.88**	**207**	P	**Pn**	**22 42 04.8**	**+2.4**
KWHZ	**Kaweka Forest**	**1.90**	**185**	P	**Pn**	**22 42 05.0**	**+2.4**
TUVZ	**Tukino**	**1.90**	**204**	P	**Pn**	**22 42 05.1**	**+2.4**
MHGZ	**Mahia Peninsul**	**1.91**	**149**	P	**Pn**	**22 42 05.5**	**+2.9**
MCHZ	**McNeill Hill**	**1.92**	**179**	P	**Pn**	**22 42 05.4**	**+2.8**
FWVZ	**Far West T-bar**	**1.93**	**206**	P	**Pn**	**22 42 05.3**	**+2.4**
MAVZ	**Matarangi**	**1.93**	**206**	P	**Pn**	**22 42 05.5**	**+2.4**
WHVZ	**Whangaehu Hut**	**1.94**	**205**	P	**Pn**	**22 42 05.4**	**+2.3**
TRVZ	**Turoa**	**1.97**	**205**	P	**Pn**	**22 42 05.9**	**+2.5**
WNVZ	**Wahianoa**	**1.98**	**204**	P	**Pn**	**22 42 05.7**	**+2.3**
MOVZ	**Moawhango**	**2.00**	**200**	P	**Pn**	**22 42 05.3**	**+1.8**
PKVZ	**Pokaka**	**2.03**	**210**	P	**Pn**	**22 42 06.3**	**+2.5**
MTVZ	**Mangateitei**	**2.07**	**206**	P	**Pn**	**22 42 06.7**	**+2.5**
KRHZ	**Kereru**	**2.12**	**186**	P	**Pn**	**22 42 07.0**	**+2.3**
CKHZ	**Cape Kidnapper**	**2.16**	**171**	P	**Pn**	**22 42 07.8**	**+2.9**
VRZ	**Vera Road**	**2.17**	**222**	P	**Pn**	**22 42 08.5**	**+3.4**
KAHZ	**Kahuranaki**	**2.27**	**175**	P	**Pn**	**22 42 09.1**	**+2.9**
PNHZ	**Pukenui**	**2.41**	**188**	P	**Pn**	**22 42 09.5**	**+1.9**
WCZ	**Waipu Caves**	**2.43**	**310**	P	**Pn**	**22 42 09.7**	**+1.9**
PXZ	**Pawanui**	**2.51**	**176**	P	**Pn**	**22 42 11.0**	**+2.5**
WPHZ	**Waipukurau**	**2.54**	**183**	P	**Pn**	**22 42 11.2**	**+2.3**
WAZ	**Wanganui**	**2.57**	**210**	P	**Pn**	**22 42 11.9**	**+2.6**
TSZ	**Takapari Road**	**2.58**	**192**	P	**Pn**	**22 42 11.5**	**+2.1**
LREZ	**Lake Rotokare**	**2.61**	**222**	P	**Pn**	**22 42 13.3**	**+3.7**
NEZ	**North Egmont**	**2.65**	**228**	P	**Pn**	**22 42 14.3**	**+4.1**
PREZ	**Palmer Road**	**2.66**	**226**	P	**Pn**	**22 42 14.2**	**+3.9**
PKE	**Pukeiti**	**2.67**	**231**	P	**Pn**	**22 42 14.2**	**+3.9**
KHEZ	**Kahui Hut**	**2.71**	**229**	P	**Pn**	**22 42 14.8**	**+3.9**
KHEZ	**Kahui Hut**	**2.71**	**229**	P	**Pn**	**22 42 14.9**	**+4.0**
PRHZ	**Porangahau**	**2.74**	**180**	P	**Pn**	**22 42 13.3**	**+2.2**
NBEZ	**Newall Road No**	**2.79**	**230**	P	**Pn**	**22 42 15.6**	**+4.0**
DVHZ	**Dannevirke**	**2.79**	**187**	P	**Pn**	**22 42 13.5**	**+1.

λ170.60000°. NP2:φ₀204.70000°,δ81.70000°,λ28.90000°.
INMG **02** 22:45:49.0±0.6.6,23°.71N×45°.15W,h10km,mb5.3,Ms5.6, MW5.6,#DIST_RANGE: DISTANT
GCMT **02** 22:45:50.8±0.1,23°.75N×45°.06W,h12km,MW5.9/168, Moment Tensor Solution. s149,c298; s168,c587; Duration: 2ₛ2 Moment tensor: Scale 10¹⁷Nm; Mrr-0.54±.05; Mθθ-2.79±.06; Mφφ3.33±.05; Mrθ0.73±.14; Mθφ-8.40±.04; Mφr-0.18±.13; Best double couple: M₀8.97100×10¹⁷ NP1:φₛ190.00000°,δ85.00000°, λ0.00000°. NP2:φₛ280.00000°,δ90.00000°,λ-175.00000°. Principal axes: T 9.2430, Plg3.0000°, Azm55.0000°; N -0.5430, Plg85.0000°, Azm281.0000°; P -8.7000, Plg3.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function
BGR **02** 22:45:51.8,23°.87N×44°.41W,h10km,mb5.5,Ms5.7
ISC 02 22:45:48.4±0.2,23°.69N±0°.04×45°.24W±0°.03,h15km, n1748,σ1ˢ53/1339,**mb5.6**/320,**MS5.7**/647,**118C-38D, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H05N1	**Guadeloupe/Mar** SNR=153	**16.57**	**247**	T	T	23 07 09.8	
GDSD	**La Dsirade Is**	**16.57**	**247**		**Pn**	**22 49 39.2**	**-1.3**
GDSD				IAmb	IAmb	22 49 45.1	
	comp=Z,537nm,1.1s						
ANWB	**Willy Bob**	**16.59**	**252**		**Pn**	**22 49 40.3**	**-0.3**
ANWB				IAmb	IAmb	22 49 48.0	
	comp=Z,2μm,1.7s						
ABD	**La Joyeuse, An**	**16.86**	**248**		**Pn**	**22 49 44.1**	**+0.1**
MAGL	**Barre de l'ile**	**16.93**	**246**		**Pn**	**22 49 45.0**	**0.0**
CBE	**Ff, Capester**	**17.15**	**247**		**Pn**	**22 49 48.3**	**+0.6**
CBE				IAmb	IAmb	22 49 56.5	
	comp=Z,880nm,1.2s						
BBGH	**Gun Hill**	**17.15**	**235**	Pn	**Pn**	**22 49 48.3**	**+0.6**
GDHS	**Morne Mazeau,**	**17.18**	**248**	Pn	**Pn**	**22 49 48.6**	**+0.4**
ILAM	**Ilet Lapin Mar**	**17.21**	**242**	Pn	**P**	**22 49 49.5**	**-0.4**
ILAM				IAmb	IAmb	22 49 53.3	
	comp=Z,1μm,1.3s						
H05S1	**Guadeloupe/Mar** SNR=258	**17.37**	**241**	T	T	23 07 27.4	
MPOM	**Morne Pois Mar**	**17.38**	**241**	Pn	**P**	**22 49 51.5**	**-0.2**
MPOM				IAmb	IAmb	22 49 55.4	
	comp=Z,1μm,1.4s						
SVN	**Savane Anatole**	**17.41**	**242**	Pn	**Pn**	**22 49 51.5**	**+0.6**
FDF	**Fort de France**	**17.45**	**242**		**P**	**22 49 52.6**	**-0.1**
FDF				IAmb	IAmb	22 49 56.4	
	comp=Z,2μm,1.4s						
FDF	**Fort de France**	**17.45**	**242**	P	**P**	**22 49 52.6**	**-0.1**
FDF				pmax	pmax		
	comp=Z,2μm,1.4s						
BIM	**Bigot**	**17.51**	**241**	Pn	**Pn**	**22 49 52.5**	**+0.3**
BIM				IAmb	IAmb	22 49 57.9	
	comp=Z,1μm,1.0s						
SMRT	**St. Maarten**	**17.58**	**255**		**P**	**22 49 54.0**	**0.0**
SMRT				IAmb	IAmb	22 49 56.3	
	comp=Z,655nm,1.4s						
SEUS	**St. Eustatius**	**17.71**	**253**		**P**	**22 49 55.4**	**-0.1**
SEUS				IAmb	IAmb	22 49 57.8	
	comp=Z,484nm,1.1s						
SABA	**Saba**	**17.89**	**254**		**P**	**22 49 57.8**	**+0.4**
BBSR	**BB Station**	**19.21**	**301**	P	**Pn**	**22 50 12.6**	**-0.1**
BBSR				IAmb	IAmb	22 50 18.2	
	comp=Z,1μm,1.9s						
GRGR	**Grenville**	**19.37**	**236**		**Pn**	**22 50 14.4**	**-0.5**
MDP	**Montagnes des** comp=Z,60nm,1.1s	**19.81**	**202**	P	**P**	**22 50 19.3**	**+0.7**
MDP				S	**S**	**22 54 00.3**	**-1.2**
	comp=Z,9.4nm,1.2s,baz=218,slow=15,SNR=1.2						
MDP				LR	LR	22 56 11.5	
	comp=Z,12μm,20.0s,baz=26,slow=31						
HUMP	**Col San Antoni**	**20.02**	**258**		**P**	**22 50 20.9**	**+0.1**
GCPR	**Guaynabo City**	**20.17**	**259**	P	**P**	**22 50 23.1**	**+0.6**
PDPR	**Patillas Dam,**	**20.21**	**258**		**P**	**22 50 23.9**	**+0.9**
SJG	**San Juan**	**20.30**	**258**	P	**P**	**22 50 24.3**	**+0.4**
SJG				IAmb	IAmb	22 50 33.0	
	comp=Z,1μm,1.6s						
SJG	**San Juan**	**20.30**	**258**	P	**P**	**22 50 24.7**	**+0.9**
	comp=Z,282nm,1.4s,baz=57,slow=7.7,SNR=42						
SJG				S	**S**	**22 54 10.7**	**-0.5**
	comp=Z,28nm,1.0s,baz=193,slow=16,SNR=2.7						
SJG				LR	LR	22 56 30.8	
	comp=Z,13μm,21.5s,baz=70,slow=32						
	comp=Z,282nm,1.4s						
SJG	**San Juan**	**20.30**	**258**	P	**P**	**22 50 24.3**	**+0.4**
SJG				pmax	pmax		
	comp=Z,1μm,1.6s						
SJG				MLR	MLR		
	comp=Z,18μm,22.0s						
CALA	**Caldeira**	**20.46**	**40**	eP	Pn	22 50 28.5	+0.7
CALA				*i* IAmb	IAmb	22 50 32.4	
	comp=Z,516nm,2.4s						
CALA				eS	Sn	22 54 27.1	+8.9
CALA				eLQ	LQ	22 54 28.4	
CALA				eLR	LR	22 55 19.6	
CALA				*i* IAMs_20	IAMs_20	22 56 10.3	
	comp=Z,27μm,18.0s						
HOR	**Horta**	**20.47**	**40**	eP	Pn	22 50 27.6	-0.2
HOR				*i* IAmb	IAmb	22 50 33.4	
	comp=Z,494nm,1.5s						
PCED	**Cedros**	**20.49**	**40**	eP	Pn	22 50 28.3	+0.2
PCED				*i* IAmb	IAmb	22 50 33.1	
	comp=Z,323nm,1.0s						
PCED				eS	Sn	22 54 29.8	+11
PCAN	**Candelaria**	**20.51**	**40**	eP	Pn	22 50 29.0	+0.7
PCAN				*i* IAmb	IAmb	22 50 32.9	
	comp=Z,412nm,1.6s						
PCAN				eS	Sn	22 54 31.9	+13
EMPR	**Esperanza - Ma**	**20.52**	**259**	P	**P**	**22 50 27.3**	**+1.1**
PICO	**Pico**	**20.57**	**40**	eP	Pn	22 50 28.5	-0.5
PICO				*i* IAmb	IAmb	22 50 33.8	
	comp=Z,438nm,1.6s						
PICO				eLQ	LQ	22 54 29.9	
PICO				eS	Sn	22 54 32.5	+12
PICO				eLR	LR	22 55 15.8	
PICO				*i* IAMs_20	IAMs_20	22 56 14.2	
	comp=Z,33μm,18.0s						
PPNO	**Prainha do Nor**	**20.65**	**41**	eP	**P**	**22 50 28.0**	**+0.4**
PPNO				*i* IAmb	IAmb	22 50 34.4	
	comp=Z,353nm,2.5s						
PPNO				eS	Sn	22 54 43.3	+21
CELP	**Cerrillos**	**20.70**	**258**	P	**P**	**22 50 28.6**	**+0.4**
PID	**Ribeirinha**	**20.72**	**41**	eP	**P**	**22 50 29.4**	**+1.1**
PID				*i* IAmb	IAmb	22 50 32.7	
	comp=Z,482nm,2.4s						
OBIP	**Obispado Ponce**	**20.73**	**258**	P	**P**	**22 50 29.4**	**+0.9**
UUPR	**Utuado, UPR, P**	**20.76**	**259**	P	**P**	**22 50 29.7**	**+0.8**
ROSA	**Rosais**	**20.82**	**40**	eP	**P**	**22 50 29.9**	**+0.5**
ROSA				*i* IAmb	IAmb	22 50 33.7	
	comp=Z,364nm,1.4s						
ROSA				eLQ	LQ	22 54 38.7	
ROSA				eS	Sn	22 54 39.3	+12
ROSA				eLR	LR	22 55 20.2	
ROSA				*i* IAMs_20	IAMs_20	22 56 21.8	
	comp=Z,32μm,18.0s						
PMAN	**Manadas**	**20.86**	**40**	eP	**P**	**22 50 29.2**	**-0.6**
PMAN				*i* IAmb	IAmb	22 50 34.1	
	comp=Z,232nm,2.0s						
PMAN				eS	Sn	22 54 58.2	+31
SRBC	**Serra Branca**	**21.15**	**40**	eP	**P**	**22 50 30.9**	**-2.1**
PRSN	**Puerto Rico Se**	**21.16**	**259**	P	**P**	**22 50 33.9**	**+0.7**
PGRA	**Graciosa**	**21.18**	**40**	eP	P	22 50 42.7	+9.5
PGRA				*i* IAmb	IAmb	22 50 50.4	
	comp=Z,250nm,2.5s						
PGRA				eS	Sn	22 54 52.8	+17
PGRA				eLQ	LQ	22 54 57.4	
PGRA				eLR	LR	22 55 47.2	
PGRA				*i* IAMs_20	IAMs_20	22 56 46.2	
	comp=Z,31μm,18.0s						
CRPR	**Cabo Rojo, PR**	**21.19**	**259**	P	**P**	**22 50 34.5**	**+0.9**
ADH	**Angra Heroismo**	**21.39**	**42**	eP	**P**	**22 50 34.2**	**-1.2**
ADH				*i* IAmb	IAmb	22 50 38.6	
	comp=Z,836nm,1.8s						
ADH				eS	Sn	22 55 06.9	+27
PSBA	**Serra de Santa**	**21.40**	**41**	eP	**P**	**22 50 34.2**	**-1.5**
PSBA				*i* IAmb	IAmb	22 50 40.0	
	comp=Z,1μm,1.0s						
PSBA				eS	Sn	22 55 13.0	+32
PSCM	**Serra do Cume**	**21.49**	**42**	eP	**P**	**22 50 36.4**	**-0.2**
PSCM				*i* IAmb	IAmb	22 50 42.0	
	comp=Z,728nm,1.5s						
PSCM				eS	Sn	22 55 07.6	+25
PAGU	**Agualva, Azore**	**21.49**	**41**	eP	**P**	**22 50 36.1**	**-0.4**
PAGU				*i* IAmb	IAmb	22 50 40.9	
	comp=Z,1μm,1.4s						
PAGU				eS	Sn	22 54 49.4	+6.7
PAGU				eLQ	LQ	22 55 08.6	
PAGU				eLR	LR	22 55 37.9	
PAGU				*i* IAMs_20	IAMs_20	22 56 38.6	
	comp=Z,26μm,20.0s						
PSMN	**Pico do Norte,**	**21.83**	**48**	eP	**P**	**22 50 37.8**	**-2.5**
PSMN				*i* IAmb	IAmb	22 50 42.5	
	comp=Z,492nm,2.0s						
PSMN				eS	Sn	22 55 07.6	+17
PSMN				eLR	LR	22 55 39.3	
PSMN				*i* IAMs_20	IAMs_20	22 56 43.1	
	comp=Z,24μm,18.0s						
PSET	**Sete Cidades**	**21.84**	**45**	eP	**P**	**22 50 39.9**	**-0.5**
PSET				*i* IAmb	IAmb	22 50 45.5	
	comp=Z,1μm,1.7s						
PSET				eS	Sn	22 55 10.3	+19
PSET				eLR	LR	22 55 42.4	
PSET				*i* IAMs_20	IAMs_20	22 56 45.9	
	comp=Z,30μm,18.0s						
CMLA	**Cha da Macela**	**21.94**	**46**	P	**P**	**22 50 41.0**	**-0.5**
CMLA				IAmb	IAmb	22 50 46.0	
	comp=Z,273nm,0.8s						
CMLA	**Cha da Macela**	**21.94**	**46**	IAMs_20	IAMs_20	22 56 39.2	
	comp=Z,24μm,18.0s						
CMLA	**Cha da Macela**	**21.94**	**46**	eP	**P**	**22 50 41.1**	**-0.3**
CMLA				*i* IAmb	IAmb	22 50 44.6	
	comp=Z,727nm,2.3s						
CMLA				eS	Sn	22 55 08.3	+15
CMLA				eLQ	LQ	22 55 14.2	
CMLA				eLR	LR	22 55 46.3	
CMLA				*i* IAMs_20	IAMs_20	22 56 48.2	
	comp=Z,26μm,18.0s						
CMLA	**Cha da Macela**	**21.94**	**46**	P	**P**	**22 50 41.0**	**-0.5**
CMLA				pmax	pmax		
	comp=Z,273nm,0.9s						
CMLA				MLR	MLR		
	comp=Z,24μm,18.0s						
PCALD	**Caldeiras da R**	**21.98**	**46**	eP	**P**	**22 50 40.7**	**-1.2**
PGRON	**Lagoa das Cont**	**22.04**	**46**	eP	**P**	**22 50 43.0**	**+0.5**
PGRON				*i* IAmb	IAmb	22 50 47.5	
	comp=Z,762nm,1.2s						
PGRON				eS	Sn	22 54 58.2	+2.1
SACV	**Santiago Islan**	**22.16**	**109**	P	**P**	**22 50 44.1**	**+0.1**
SACV				IAmb	IAmb	22 50 50.8	
	comp=Z,340nm,1.1s						
BART	**Pico Bartolome**	**22.18**	**46**	eP	**P**	**22 50 43.5**	**-0.6**
BART				*i* IAmb	IAmb	22 50 47.4	
	comp=Z,231nm,1.2s						
BART				eS	Sn	22 55 09.0	+9.5
PCRV	**Puerto La Cruz**	**22.87**	**237**	LR	LR	22 58 34.7	
	comp=Z,15μm,21.9s,slow=34						
GRTK	**Grand Turk**	**23.99**	**270**	eP	**P**	**22 51 05.2**	**+2.5**
BANI	**BANI**	**24.01**	**262**	P	**P**	**22 51 03.4**	**+0.4**
SC01	**Santiago de Io**	**24.07**	**265**	P	**P**	**22 51 03.2**	**-0.2**
SC01				IAmb	IAmb	22 51 07.8	
	comp=Z,594nm,1.6s						
SDDR	**Presa de Saban**	**24.69**	**264**		**P**	**22 51 09.5**	**+0.3**
SDDR	**Presa de Saban**	**24.69**	**264**	eP	**P**	**22 51 11.8**	**+2.7**
GBN	**Guysborough**	**25.38**	**333**		**P**	**22 51 15.0**	**0.0**
GBN				IAmb	IAmb	22 51 18.1	
	comp=Z,300nm,1.5s						
HAL	**Halifax**	**25.72**	**329**		**P**	**22 51 18.1**	**0.0**
HAL				IAmb	IAmb	22 51 21.6	
	comp=Z,296nm,1.2s						
HAL	**Halifax**	**25.72**	**329**	P	**P**	**22 51 18.1**	**0.0**
HAL				pmax	pmax		
	comp=Z,296nm,1.2s						
PAPH	**Port-au-Prince**	**25.74**	**264**	eP	**P**	**22 51 20.6**	**+2.0**
BOAV	**Boa Vista**	**25.82**	**217**		**P**	**22 51 20.0**	**+0.7**
BOAV	**Boa Vista**	**25.82**	**217**	eP	**P**	**22 51 20.4**	**+1.1**
LGNH	**Logne**	**26.02**	**264**	eP	**P**	**22 51 15.9**	**-5.2**
TMAB	**Tom-Au,PA,Br**	**26.05**	**187**	eP	**P**	**22 51 24.3**	**+2.9**
MACI	**Morro de la Ar**	**26.20**	**74**		**P**	**22 51 22.4**	**-0.4**
MACI				IAmb	IAmb	22 51 24.9	
	comp=Z,230nm,0.9s						
MACI				IAMs_20	IAMs_20	22 58 38.2	
	comp=Z,17μm,20.0s						
PMOZ	**Porto Moniz, M**	**26.26**	**63**	P	**P**	**22 51 21.5**	**-1.9**
PMOZ	**Porto Moniz, M**	**26.26**	**63**	P	**P**	**22 51 22.4**	**-1.0**
PMOZ	**Porto Moniz, M**	**26.26**	**63**	eP	**P**	**22 51 21.9**	**-1.5**
PMOZ				*i* IAmb	IAmb	22 51 46.2	
	comp=Z,296nm,1.5s						
PMOZ				eLQ	LQ	22 57 07.0	
PMOZ				eLR	LR	22 57 26.2	
PMOZ				*i* IAMs_20	IAMs_20	22 58 47.1	
	comp=Z,11μm,22.0s						
BAUV	**El Baul**	**26.28**	**240**	P	**P**	**22 51 24.0**	**+0.6**
PMAR	**Madeira**	**26.47**	**64**	eP	**P**	**22 51 23.9**	**-1.4**
PMAR				*i* IAmb	IAmb	22 51 27.7	
	comp=Z,276nm,1.4s						
FUL	**Funchal**	**26.47**	**64**	eP	**P**	**22 51 24.5**	**-0.6**
MAL2	**Monte Alegre,**	**27.00**	**200**		**P**	**22 51 30.9**	**+1.0**
MAL2				IAmb	IAmb	22 52 10.8	
	comp=Z,424nm,1.5s						
EOSO	**Osorio**	**27.03**	**74**	P	**P**	**22 51 28.6**	**-1.7**
MASC	**Masc**	**27.10**	**268**	eP	**P**	**22 51 31.5**	**+0.7**
LMN	**Caledonia Moun**	**27.19**	**329**	P	**P**	**22 51 31.4**	**-0.1**
DRLN	**Deer Lake**	**27.28**	**342**	P	**P**	**22 51 31.4**	**-0.7**
QMBU	**Quimbuelo**	**27.62**	**269**	eP	**P**	**22 51 37.5**	**+1.9**
MOAC	**Moa**	**27.66**	**270**	eP	**P**	**22 51 33.9**	**-2.0**
GGN	**Saint George**	**27.67**	**326**	P	**P**	**22 51 36.4**	**+0.7**
GGN				IAmb	IAmb	22 51 37.9	
	comp=Z,220nm,1.4s						
M65A	**Busby, Falmout** baz=122	**27.69**	**316**	P	**P**	**22 51 36.6**	**+0.7**
NMDO	**Nuevo Mundo**	**27.70**	**269**	P	**P**	**22 51 37.0**	**+0.8**
NMDO				IAmb	IAmb	22 51 44.0	
	comp=Z,256nm,1.5s						
NMDO				IAMs_20	IAMs_20	23 02 01.4	
	comp=Z,15μm,19.0s						
NMDO	**Nuevo Mundo**	**27.70**	**269**	eP	**P**	**22 51 36.2**	**0.0**
EMMW	**East Machias**	**27.71**	**325**		**P**	**22 51 37.0**	**+0.9**
EMMW				IAmb	IAmb	22 51 38.6	
	comp=Z,370nm,1.6s						
EMMW				IAMs_20	IAMs_20	23 00 18.6	
	comp=Z,17μm,20.0s						
GTBY	**Guantanamo Bay**	**27.96**	**268**	eP	**P**	**22 51 33.9**	**-4.7**
L64A	**Middleborough**	**28.01**	**317**	P	**P**	**22 51 39.2**	**+0.4**
L64A				IAmb	IAmb	22 51 40.9	
	comp=Z,107nm,1.1s						
G65A	**Princeton**	**28.10**	**325**	P	**P**	**22 51 40.5**	**+1.0**
G65A				IAMs_20	IAMs_20	23 00 21.8	
	comp=Z,21μm,21.0s						
MBO	**M'Bour**	**28.25**	**104**	P	**P**	**22 51 40.4**	**-0.8**
SDV	**Santo Domingo**	**28.40**	**243**	P	**P**	**22 51 43.9**	**+1.2**
SDV				IAmb	IAmb	22 51 46.9	
	comp=Z,258nm,1.3s						
SDV	**Santo Domingo**	**28.40**	**243**	LR	LR	23 01 38.2	
	comp=Z,15μm,21.6s,baz=60,slow=33						
SDV	**Santo Domingo**	**28.40**	**243**	eP	**P**	**22 51 44.0**	**+1.2**
PINC	**Pinares de May**	**28.46**	**270**	eP	**P**	**22 51 43.4**	**+0.4**
RCC	**Rio Carpintero**	**28.48**	**269**	eP	**P**	**22 51 45.3**	**+2.1**
WES	**Weston**	**28.55**	**317**	P	**P**	**22 51 44.0**	**+0.4**
WES	**Weston**	**28.55**	**317**	P	**P**	**22 51 44.0**	**+0.4**
WES				pmax	pmax		
	comp=Z,74nm,1.0s						
WES				MLR	MLR		
	comp=Z,12μm,20.0s						
HLGC	**Holguin**	**28.62**	**270**	eP	**P**	**22 51 43.4**	**-1.1**
MARVS	**Santiago de Cu**	**28.66**	**269**	eP	**P**	**22 51 42.2**	**-2.6**
HRV	**Adam Dziewonsk**	**28.77**	**317**	P	**P**	**22 51 46.2**	**+0.7**
HRV				IAmb	IAmb	22 51 53.7	
	comp=Z,313nm,1.8s						
HRV	**Adam Dziewonsk**	**28.77**	**317**	P	**P**	**22 51 46.2**	**+0.7**
HRV				pmax	pmax		
	comp=Z,313nm,1.8s						
HRV				MLR	MLR		
	comp=Z,14μm,22.0s						
UCCT	**U. Connecticut**	**28.82**	**315**		**P**	**22 51 46.3**	**+0.3**
UCCT				IAmb	IAmb	22 51 54.6	
	comp=Z,150nm,1.4s						
WVL	**Waterville**	**28.83**	**322**	P	**P**	**22 51 46.4**	**+0.4**
WVL				IAmb	IAmb	22 51 48.3	
	comp=Z,130nm,1.3s						
WVL				IAMs_20	IAMs_20	23 00 17.1	
	comp=Z,19μm,22.0s						
BATG	**Bathurst New B**	**28.83**	**330**	P	**P**	**22 51 45.8**	**-0.2**
BATG				IAmb	IAmb	22 51 47.6	
	comp=Z,130nm,1.1s						
F64A	**Sherman**	**28.95**	**325**		**P**	**22 51 47.7**	**+0.6**
F64A				IAmb	IAmb	22 51 49.3	
	comp=Z,155nm,1.4s						
F64A				IAMs_20	IAMs_20	23 00 36.4	
	comp=Z,23μm,22.0s						
I63A	**Otisfield**	**29.04**	**321**	P	**P**	**22 51 49.1**	**+1.1**
I63A				IAMs_20	IAMs_20	23 00 54.9	
	comp=Z,18μm,20.0s						
PKME	**Peaks-Kenny Pk**	**29.06**	**324**	P	**P**	**22 51 48.8**	**+0.7**
PKME				IAmb	IAmb	22 51 50.4	
	comp=Z,228nm,1.4s						
PKME				IAMs_20	IAMs_20	23 00 25.3	
	comp=Z,16μm,22.0s						
CHIV	**Chivirico**	**29.14**	**269**	P	**P**	**22 51 50.9**	**+1.8**
CHIV				IAmb	IAmb	22 51 53.4	
	comp=Z,385nm,1.5s						
CHIV				IAMs_20	IAMs_20	23 00 36.5	
	comp=Z,9μm,21.0s						
CHIV	**Chivirico**	**29.14**	**269**	eP	**P**	**22 51 50.6**	**+1.5**
K62A	**Royalston**	**29.27**	**317**	P	**P**	**22 51 50.6**	**+0.5**
K62A				IAmb	IAmb	22 51 52.6	
	comp=Z,184nm,1.2s						
I62A	**Tamworth**	**29.39**	**320**		**P**	**22 51 51.3**	**+0.3**
I62A				IAmb	IAmb	22 52 57.0	
	comp=Z,187nm,1.6s						
I62A				IAMs_20	IAMs_20	23 01 05.0	
	comp=Z,21μm,20.0s						
L61B	**Northampton**	**29.44**	**316**	P	**P**	**22 51 52.3**	**+0.8**
CPNY	**Central Park**	**29.49**	**312**	P	**P**	**22 51 52.1**	**+0.2**
CPNY				IAmb	IAmb	22 51 55.9	
	comp=Z,145nm,1.5s						
S61A	**Accomac**	**29.50**	**305**	IAMs_20	IAMs_20	23 00 30.6	
	comp=Z,16μm,21.0s						
PAL	**Palisades**	**29.55**	**313**		**P**	**22 51 53.1**	**+0.6**
PAL	**Palisades**	**29.55**	**313**	P	**P**	**22 51 53.1**	**+0.6**
PAL				pmax	pmax		
	comp=Z,83nm,1.2s						
PAL				MLR	MLR		
	comp=Z,13μm,21.0s						
P61A	**Hammonton**	**29.59**	**310**	IAMs_20	IAMs_20	23 00 32.8	
	comp=Z,16μm,22.0s						
KSCT	**Kent School, K**	**29.61**	**314**	P	**P**	**22 51 53.3**	**+0.3**
KSCT				IAmb	IAmb	22 52 02.0	
	comp=Z,172nm,1.0s						
V61A	**Roper**	**29.63**	**301**	P	**P**	**22 51 52.6**	**-0.7**
V61A				IAMs_20	IAMs_20	23 00 23.2	
	comp=Z,17μm,22.0s						
LMGC	**Las Mercedes**	**29.66**	**269**	eP	**P**	**22 51 54.2**	**+0.5**
H62A	**Milan**	**29.69**	**321**		**P**	**22 51 54.2**	**+0.5**
H62A				IAMs_20	IAMs_20	23 01 14.9	
	comp=Z,17μm,20.0s						
ITTB	**Itaituba**	**29.71**	**201**	eP	**P**	**22 51 54.8**	**+0.7**
G62A	**West of Eustis**	**29.72**	**322**		**P**	**22 51 53.8**	**-0.2**
G62A				IAMs_20	IAMs_20	23 01 06.7	
	comp=Z,17μm,22.0s						
J61A	**Chester**	**29.83**	**318**		**P**	**22 51 55.3**	**+0.3**
BRNJ	**Basking Ridge**	**29.86**	**312**	P	**P**	**22 51 56.0**	**+0.8**
BRNJ				IAmb	IAmb	22 51 58.2	
	comp=Z,174nm,1.5s						
BRNJ				IAMs_20	IAMs_20	23 01 01.7	
	comp=Z,14μm,20.0s						
HNH	**Hanover**	**29.86**	**319**	IAmb	IAmb	22 51 58.1	
	comp=Z,172nm,1.2s						
HNH				IAMs_20	IAMs_20	23 00 57.6	
	comp=Z,16μm,21.0s						
LBNH	**Lisbon**	**29.94**	**320**	IAmb	IAmb	22 51 59.3	
	comp=Z,313nm,1.6s						
LBNH				IAMs_20	IAMs_20	23 01 30.8	
	comp=Z,21μm,20.0s						
PRPB	**Parauapebas**	**30.02**	**189**	eP	**P**	**22 51 57.5**	**+0.6**
PILO	**Pilon**	**30.06**	**269**	eP	**P**	**22 51 57.1**	**-0.2**
D62A	**Allapoint, All**	**30.13**	**327**	IAmb	IAmb	22 51 60.0	
	comp=Z,213nm,1.5s						
D62A				IAMs_20	IAMs_20	23 01 45.5	
	comp=Z,19μm,20.0s						
TRY	**Troy**	**30.21**	**316**	IAMs_20	IAMs_20	23 01 17.0	
	comp=Z,16μm,21.0s						
SMRC	**Santa Marta, M**	**30.25**	**251**	IAmb	IAmb	22 52 03.1	
	comp=Z,353nm,1.7s						
VT1	**Waterbury**	**30.49**	**319**	IAMs_20	IAMs_20	23 01 48.0	
	comp=Z,18μm,20.0s						
MTDJ	**Mount Denham**	**30.60**	**266**	eP	**P**	**22 52 02.6**	**+0.4**
MACA	**Manacapuru-AM**	**30.64**	**211**	eP	**P**	**22 52 03.9**	**+1.6**
T59A	**Double "B" Far**	**30.71**	**303**	IAMs_20	IAMs_20	23 01 06.7	
	comp=Z,16μm,22.0s						
RCBR	**Riachuelo**	**30.72**	**162**	P	**P**	**22 52 04.3**	**+1.2**
RCBR	**Riachuelo**	**30.72**	**162**	LR	LR	23 01 00.3	
	comp=Z,5μm,21.5s,baz=330,slow=30						
RCBR	**Riachuelo**	**30.72**	**162**	P	**P**	**22 52 04.3**	**+1.2**
RCBR				pmax	pmax		
	comp=Z,87nm,1.4s						
RCBR				MLR	MLR		
	comp=Z,10μm,20.0s						
L59A	**Walton**	**30.85**	**314**	IAmb	IAmb	22 52 06.6	
	comp=Z,112nm,1.3s						
W59A	**Clinton**	**30.96**	**299**	IAmb	IAmb	22 52 09.3	
	comp=Z,140nm,1.0s						
ICQ	**Pointe Anglais**	**31.04**	**332**	IAmb	IAmb	22 52 14.7	
	comp=Z,113nm,1.2s						
LMQ	**La Malbaie**	**31.09**	**326**	IAmb	IAmb	22 52 08.0	
	comp=Z,114nm,1.1s						
NCB	**Newcomb**	**31.19**	**318**	IAmb	IAmb	22 52 10.0	
	comp=Z,185nm,1.3s						
NCB				IAMs_20	IAMs_20	23 01 37.9	
	comp=Z,14μm,22.0s						
R58B	**Mineral**	**31.25**	**305**	IAmb	IAmb	22 52 11.8	
	comp=Z,111nm,1.2s						
R58B				IAMs_20	IAMs_20	23 01 33.8	
	comp=Z,15μm,21.0s						
FRNY	**Flat Rock**	**31.26**	**319**	IAmb	IAmb	22 52 10.4	
	comp=Z,226nm,1.2s						
FRNY				IAMs_20	IAMs_20	23 02 31.7	
	comp=Z,17μm,20.0s						
N58A	**Sunbury**	**31.41**	**311**	IAmb	IAmb	22 52 18.9	
	comp=Z,81nm,1.1s						
N58A				IAMs_20	IAMs_20	23 02 00.8	
	comp=Z,14μm,21.0s						
BINY	**Binghamton**	**31.48**	**313**	IAmb	IAmb	22 52 12.6	
	comp=

DELO Deloro Mine 33.59 316 IAMs_20 IAMs_20 23 03 22.3
comp=Z,14µm,21.0s
ROSC El Rosal 33.71 241 IAMs_20 IAMs_20 23 05 51.5
comp=Z,12µm,20.0s
ROSC El Rosal 33.71 241 P P 22 52 31.5 +1.7
comp=Z,17nm,0.5s,baz=43,slow=5.7,SNR=22
ROSC LR LR 23 06 03.1
comp=Z,11µm,21.6s,baz=31,slow=36
comp=Z,17nm,0.5s
Q54A Coxs Mills 33.76 305 IAMs_20 IAMs_20 23 03 13.4
comp=Z,13µm,20.0s
S54A Dingess, Beckl 33.82 303 IAMs_20 IAMs_20 23 03 02.9
comp=Z,14µm,21.0s
PAMR Moraine State 33.83 309 IAmb IAmb 22 52 33.3
comp=Z,89nm,1.2s
U54A Nelsons Funny 33.93 301 IAMs_20 IAMs_20 23 03 27.9
comp=Z,14µm,20.0s
PFVI Vila Bisbo 33.93 58 P P 22 52 29.4 -1.7
PFVI Vila Bisbo 33.93 58 *e*P P 22 52 29.7 -1.4
PFVI *i* IAmb IAmb 22 53 35.1
comp=Z,100nm,1.5s
PMAFR Mafra 34.03 55 P P 22 52 30.3 -1.6
PMAFR Mafra 34.03 55 *e*P P 22 52 31.5 -0.5
LIS Lisbon 34.07 55 *e*P P 22 52 31.3 -0.9
LIS IAMs_20 IAMs_20 23 02 50.4
comp=Z,17µm,18.7s
PTEO Sao Teotonio 34.10 58 *e*P P 22 52 31.4 -1.2
PTEO *i* IAmb IAmb 22 53 20.3
comp=Z,84nm,1.7s
MORF Marmelete 34.10 58 *e*P P 22 52 31.6 -1.0
MORF *e*S S 22 57 57.9 -0.2
MORF IAMs_20 IAMs_20 23 02 11.1
comp=Z,15µm,22.3s
MORF Marmelete 34.10 58 IAMs_20 IAMs_20 23 02 47.6
comp=Z,14µm,20.0s
MORF Marmelete 34.10 58⇑ *e*P P 22 52 31.5 -1.2
MORF *i* IAmb IAmb 22 52 36.1
comp=Z,82nm,1.6s
PARRA Arraiolos 34.18 55 *e*P P 22 52 37.8 +4.6
PARRA *i* IAmb IAmb 22 52 41.9
comp=Z,54nm,2.0s
NBAN Anadia - AL 34.30 164 *e*P P 22 52 34.3 -0.1
P53A Whipple 34.32 306 IAMs_20 IAMs_20 23 03 30.1
comp=Z,11µm,20.0s
TIO Tiouine 34.38 69 P P 22 52 33.9 -1.3
O53A New Philadelph 34.41 307 IAMs_20 IAMs_20 23 03 23.5
comp=Z,12µm,21.0s
AVE Averroes 34.44 65 P P 22 52 33.9 -1.6
AVE Averroes 34.44 65 IAMs_20 IAMs_20 23 03 02.8
comp=Z,12µm,20.0s
V53A Saluda 34.56 299 IAmb IAmb 22 52 41.3
comp=Z,199nm,1.1s
V53A IAMs_20 IAMs_20 23 03 15.6
comp=Z,13µm,22.0s
MESJ Messejana 34.56 57 *e*P P 22 52 35.4 -1.2
MESJ *e*S S 22 58 04.9 -0.2
MESJ IAMs_20 IAMs_20 23 02 56.8
comp=Z,17µm,18.6s
MESJ Messejana 34.56 57 IAMs_20 IAMs_20 23 03 01.7
comp=Z,18µm,20.0s
MESJ Messejana 34.56 57⇑ *e*P P 22 52 35.2 -1.3
MESJ *i* IAmb IAmb 22 52 39.1
comp=Z,58nm,1.8s
PBDV Barranco-do-Ve 34.65 58 P P 22 52 35.9 -1.5
PBDV Barranco-do-Ve 34.65 58 *e*P P 22 52 36.8 -0.5
PBDV *i* IAmb IAmb 22 53 09.6
comp=Z,132nm,1.6s
PCVE Castro Verde 34.65 58 P P 22 52 35.9 -1.5
PCVE Castro Verde 34.65 58⇑ *e*P P 22 52 36.1 -1.2
PCVE *i* IAmb IAmb 22 53 21.6
comp=Z,88nm,1.6s
SADO Sadowa 34.67 316 LR LR 23 04 05.0
comp=Z,134µm,21.1s,baz=122,slow=32
Q52A Bidwell 34.83 305 IAMs_20 IAMs_20 23 03 45.8
comp=Z,14µm,21.0s
PVAQ Vaqueiros 34.85 58 IAMs_20 IAMs_20 23 03 29.5
comp=Z,20µm,20.0s
PVAQ Vaqueiros 34.85 58⇑ *e*P P 22 52 38.2 -0.8
PVAQ *i* IAmb IAmb 22 54 16.6
comp=Z,122nm,1.8s
PMTG Montargil 34.86 55⇑ *e*P P 22 52 37.6 -1.5
PMTG *i* IAmb IAmb 22 53 11.4
comp=Z,92nm,1.6s
PBEJ Beja 34.87 57 *e*P P 22 52 38.2 -1.0
PBEJ *i* IAmb IAmb 22 52 42.0
comp=Z,96nm,1.6s
EVO Evora 34.88 56 P P 22 52 37.3 -2.0
EVO Evora 34.88 56⇑ *e*P P 22 52 38.0 -1.3
EVO *i* IAmb IAmb 22 52 41.7
comp=Z,77nm,2.0s
P52A Corning 34.91 306 IAmb IAmb 22 52 44.5
comp=Z,136nm,1.2s
P52A IAMs_20 IAMs_20 23 03 48.8
comp=Z,12µm,21.0s
M52A Chesterland 34.93 309 IAMs_20 IAMs_20 23 04 20.0
comp=Z,11µm,20.0s
RTC Rabat Centre 34.98 64 P P 22 52 37.3 -2.8
SCHQ Schefferville 35.01 338 P P 22 52 40.0 -0.2
comp=Z,184nm,0.8s,baz=159,slow=8.6,SNR=13
SCHQ PcP PcP 22 55 11.9 -0.2
comp=Z,91nm,0.6s,baz=175,slow=4.9,SNR=3.5
SCHQ LR LR 23 04 58.2
comp=Z,125µm,21.8s,baz=146,slow=33
comp=Z,184nm,0.8s
COI Coimbra 35.03 53 IAMs_20 IAMs_20 23 02 45.0
comp=Z,16µm,22.0s
PSARD Sardoal 35.04 54 *e*P P 22 52 39.4 -1.3
PSARD *i* IAmb IAmb 22 53 12.4
comp=Z,65nm,1.6s
EGRO El Granado 35.06 58 P P 22 52 39.4 -1.4
BUKO Buck Lake 35.13 317 IAMs_20 IAMs_20 23 04 29.2
comp=Z,13µm,20.0s
VLDQ Val d'Or 35.28 322 P P 22 52 44.8 +2.2
VLDQ IAmb IAmb 22 52 46.5
comp=Z,153nm,1.3s
PESTR Estremoz 35.28 56 P P 22 52 41.1 -1.7
PESTR Estremoz 35.28 56 IAMs_20 IAMs_20 23 03 23.8
comp=Z,17µm,20.0s
PESTR Estremoz 35.28 56 *e*P P 22 52 40.1 -2.7
PESTR *i* IAmb IAmb 22 53 46.5
comp=Z,53nm,1.7s
TZTN Tazewell 35.30 300 IAMs_20 IAMs_20 23 03 50.2
comp=Z,15µm,22.0s
TKL Tuckaleechee C 35.33 299 IAMs_20 IAMs_20 23 03 40.1
comp=Z,12µm,22.0s
TKL Tuckaleechee C 35.33 299 LR LR 23 04 23.0
comp=Z,11µm,20.1s,baz=104,slow=32
N51A Ashland 35.46 308 IAMs_20 IAMs_20 23 03 54.1
comp=Z,11µm,22.0s
PBAR Barrancos 35.54 57 P P 22 52 42.7 -2.3
PBAR Barrancos 35.54 57⇑ *e*P P 22 52 43.7 -1.3
PBAR *i* IAmb IAmb 22 53 32.8
comp=Z,80nm,1.6s
S51A Beattyville 35.54 302 IAMs_20 IAMs_20 23 03 57.6
comp=Z,12µm,21.0s
PMRV Marv??o 35.57 55⇑ *e*P P 22 52 43.4 -1.9
PMRV *i* IAmb IAmb 22 52 47.5
comp=Z,58nm,1.9s
PMRV *e*LR LR 23 01 49.8
PMRV *i* IAMs_20 IAMs_20 23 03 46.6
comp=Z,10µm,20.0s
Q51A Peebles 35.66 304 IAMs_20 IAMs_20 23 04 12.7
comp=Z,13µm,21.0s
EBAD Badajoz 35.70 56 P P 22 52 45.1 -1.2
MTE Manteigas 35.72 53 IAMs_20 IAMs_20 23 03 06.3
comp=Z,17µm,22.0s
MTE Manteigas 35.72 53⇑ *e*P P 22 52 45.0 -1.6
MTE *i* IAmb IAmb 22 52 49.1
comp=Z,131nm,1.4s
MTE *e*LR LR 23 01 53.6
MTE *i* IAMs_20 IAMs_20 23 03 51.3
comp=Z,14µm,20.0s
EMIN Mina Concepcio 35.74 58 P P 22 52 45.1 -1.6
PCAB Cabril 35.76 51 *e*P P 22 52 45.6 -1.3
PCAB *i* IAmb IAmb 22 53 10.4
comp=Z,86nm,2.2s
POLO Lamas de Olo 35.82 51 *e*P P 22 52 46.6 -0.9
POLO *i* IAmb IAmb 22 53 08.0
comp=Z,52nm,1.5s
PVRL Vila Real 35.85 52 *e*P P 22 52 46.8 -0.9
PVRL *i* IAmb IAmb 22 53 08.1
comp=Z,91nm,1.7s
SFS San Fernando 35.86 60 P P 22 52 46.6 -1.1
SFS San Fernando 35.86 60 IAMs_20 IAMs_20 23 04 22.3
comp=Z,14µm,21.0s
CLDB Colider 35.87 198 *e*P P 22 52 48.2 +0.2
comp=Z,313nm,1.1s
SIUC Southern Illin 39.95 301 IAMs_20 IAMs_20 23 06 35.4
comp=Z,15µm,21.0s
Q44A Meyer Farm, Va 39.97 303 IAMs_20 IAMs_20 23 07 07.8
comp=Z,12µm,20.0s
S44A Carbondale 39.98 301 IAMs_20 IAMs_20 23 06 36.2
comp=Z,14µm,22.0s
LNXT Lenox 39.99 298 IAMs_20 IAMs_20 23 06 23.5
comp=Z,9µm,22.0s
JTS Las Juntas de 40.10 257 P 22 53 24.5 +0.7
JTS Las Juntas de 40.10 257 P P 22 53 25.3 +1.5
comp=Z,15nm,0.9s,baz=74,slow=5.8,SNR=4.7
JTS LR LR 23 06 17.9
comp=Z,4µm,20.7s,baz=65,slow=31
comp=Z,15nm,0.9s
JTS Las Juntas de 40.10 257 *c*eP P 22 53 24.2 +0.4
JTS pmax pmax
comp=Z,104nm,1.6s
JTS MLR MLR
comp=Z,2µm,12.0s
IGLA Glengowla, Co 40.12 33 P P 22 53 22.8 -0.6
PVMO Portageville 40.19 299 IAMs_20 IAMs_20 23 06 52.7
comp=Z,12µm,21.0s
K43A Burlington 40.23 309 P 22 53 24.8 +0.3
K43A IAmb IAmb 22 53 26.9
comp=Z,184nm,1.2s
K43A IAMs_20 IAMs_20 23 07 33.3
comp=Z,9µm,20.0s
CGM3 Cape Girardeau 40.25 300 IAMs_20 IAMs_20 23 07 05.3
comp=Z,13µm,20.0s
PARMO Parma 40.25 299 IAMs_20 IAMs_20 23 07 04.5
comp=Z,12µm,20.0s
H43A Windswept, Lux 40.30 312 IAMs_20 IAMs_20 23 07 15.2
comp=Z,9µm,20.0s
GUA01 Guaratinga, BA 40.38 172 *e*P P 22 53 26.8 +0.8
GNAR Gosnell 40.40 298 IAMs_20 IAMs_20 23 08 33.4
comp=Z,8µm,18.0s
HDIL Hopedale 40.47 305 IAMs_20 IAMs_20 23 07 12.4
comp=Z,10µm,21.0s
P43A Skaggs, Pawnee 40.48 304 IAMs_20 IAMs_20 23 07 12.2
comp=Z,12µm,21.0s
SALV Santo Antonio 40.66 196 *e*P P 22 53 28.9 +0.7
NUUK Nuuk 40.70 356 *i* P P 22 53 29.7 +1.6
NUUK IAmb IAmb 22 53 30.9
comp=Z,130nm,1.4s
PBMO Poplar Bluff 40.81 299 IAMs_20 IAMs_20 23 07 22.1
comp=Z,14µm,20.0s
SLM Saint Louis 40.87 302 IAMs_20 IAMs_20 23 07 35.7
comp=Z,13µm,20.0s
HERN Volcan Telica 40.89 262 IAMs_20 IAMs_20 23 08 08.0
comp=Z,9µm,20.0s
IWEX Carrickbyrne, 40.91 36 P P 22 53 28.8 -1.2
F42A Maple Grove Fa 40.93 313 IAMs_20 IAMs_20 23 07 34.7
comp=Z,10µm,21.0s
FVM French Village 40.94 301 IAMs_20 IAMs_20 23 07 05.5
comp=Z,15µm,22.0s
I42A Draeger Farm, 40.94 310 IAMs_20 IAMs_20 23 08 24.0
comp=Z,10µm,19.0s
L42A Oliver, Polo 41.03 307 IAMs_20 IAMs_20 23 07 16.7
comp=Z,11µm,21.0s
CRIN San Cristobal 41.05 262 IAMs_20 IAMs_20 23 08 12.8
comp=Z,10µm,21.0s
CZSB Cruzeiro do Su 41.17 224 *e*P P 22 53 32.1 -0.5
PTLB Pontes e Lacer 41.20 201 P 22 53 33.6 +0.9
PTLB Pontes e Lacer 41.20 201 *e*P P 22 53 33.9 +1.2
LCAR Lake Charles 41.33 298 IAmb IAmb 22 53 38.3
comp=Z,215nm,1.7s
IPMB Ipameri, GO 41.52 184 *e*P P 22 53 36.7 +1.3
DSB Dublin 41.56 35 P P 22 53 36.2 +0.9
CCM Cathedral Cave 41.59 301 IAMs_20 IAMs_20 23 07 24.7
comp=Z,16µm,22.0s
JFWS Jewell Farm 41.65 309 IAMs_20 IAMs_20 23 08 17.9
comp=Z,10µm,20.0s
N41A Harden Midland 41.66 305 IAMs_20 IAMs_20 23 07 48.5
comp=Z,12µm,21.0s
COWI Conover 41.70 314 IAMs_20 IAMs_20 23 07 58.1
comp=Z,11µm,21.0s
DIAM Diamantina, MG 41.76 178 *e*P P 22 53 38.2 +0.7
IDGL Inch Island, C 41.94 32 P P 22 53 37.9 -0.5
ILTH Belurgan, Co L 41.97 34 P P 22 53 37.6 -1.1
PMNB Patos De Minas 41.99 182 *e*P P 22 53 40.7 +1.5
ISOG Isortoq, Green 42.05 4 *i* P P 22 53 40.9 +1.8
ISOG IAmb IAmb 22 53 42.1
comp=Z,60nm,1.1s
I40A Norwalk 42.13 310 IAMs_20 IAMs_20 23 09 18.7
comp=Z,9µm,19.0s
L40A Anamosa 42.18 307 IAMs_20 IAMs_20 23 08 03.0
comp=Z,11µm,21.0s
G40A Rib Lake 42.19 312 IAMs_20 IAMs_20 23 08 13.0
comp=Z,10µm,21.0s
WHAR Wooly Hollow 42.20 297 IAmb IAmb 22 53 49.9
comp=Z,211nm,0.9s
ANGG Ammassalik, Gr 42.21 5 *i* P P 22 53 41.6 +1.2
ANGG IAmb IAmb 22 53 45.3
comp=Z,19nm,0.8s
UALR University of 42.22 296 IAmb IAmb 22 53 45.0
comp=Z,428nm,1.5s
PETF Flores 42.26 269 IAMs_20 IAMs_20 23 07 28.0
comp=Z,8µm,22.0s
DBIC Dimbokro 42.29 107 P P 22 53 41.0 -0.8
comp=Z,64nm,0.8s,baz=314,slow=8.7,SNR=60
DBIC LR LR 23 08 58.9
comp=Z,1µm,21.8s,baz=309,slow=33
comp=Z,64nm,0.8s
DBIC Dimbokro 42.29 107 P P 22 53 41.0 -0.8
MGMO Mountain Grove 42.31 300 IAMs_20 IAMs_20 23 08 18.8
comp=Z,15µm,20.0s
SJMB Sao Joao De Ma 42.32 174 *e*P P 22 53 42.2 +0.4
SIV San Ignacio 42.37 203 LR LR 23 09 51.0
comp=Z,8µm,21.9s,baz=48,slow=34
P40A Paris 42.39 303 IAmb IAmb 22 53 44.7
comp=Z,239nm,1.4s
P40A IAMs_20 IAMs_20 23 08 32.9
comp=Z,14µm,20.0s
R40A Maddies Statio 42.41 301 IAMs_20 IAMs_20 23 08 22.6
comp=Z,13µm,20.0s
MTO3 Montecristo 42.57 266 IAMs_20 IAMs_20 23 09 14.5
comp=Z,8µm,19.0s
CEST Esterri de Car 42.66 52 IAMs_20 IAMs_20 23 09 06.9
comp=Z,9µm,18.0s
TBO Thunder Bay 42.68 317 IAmb IAmb 22 53 47.0
comp=Z,159nm,0.9s
DY2G Dye2 42.79 359 *i* P P 22 53 46.3 +0.8
DY2G IAmb IAmb 22 53 49.6
comp=Z,72nm,1.0s
C2SB Chapadao do Su 42.85 191 *e*P P 22 53 47.1 +0.9
FRB Frobisher Bay 42.92 345 LR LR 23 09 38.1
comp=Z,14µm,21.2s,baz=140,slow=33
RIB01 Linhares ES 43.01 173 *e*P P 22 53 47.0 -0.4
CORI Orista 43.12 53 IAmb IAmb 22 53 51.1
comp=Z,383nm,1.8s
S39A Bolivar 43.19 300 IAMs_20 IAMs_20 23 08 56.2
comp=Z,13µm,20.0s
MIAR Mount Ida 43.23 296 IAmb IAmb 22 53 53.7
comp=Z,278nm,1.4s
H10N2 ASCENSION HYDR 43.41 132 T T 23 39 46.3
baz=317,slow=75,SNR=8869
H10N3 ASCENSION HYDR 43.41 133 T T 23 39 56.5
baz=317,slow=75,SNR=4669
ITRB Iturama 43.42 187 *e*P P 22 53 51.7 +0.9
H10N1 ASCENSION HYDR 43.42 133 T T 23 39 51.3
baz=317,slow=75,SNR=6466
SFJD Kangerlussuaq 43.44 357 P 22 53 51.3 +0.9
SFJD Kangerlussuaq 43.44 357 LR LR 23 08 50.8
comp=Z,6µm,18.3s,baz=178,slow=32
SFJD Kangerlussuaq 43.44 357 P P 22 53 51.3 +0.9
SFJD pmax pmax
comp=Z,54nm,1.1s
SFJD MLR MLR
comp=Z,6µm,19.0s
SFJD Kangerlussuaq 43.44 357 *i* P P 22 53 51.6 +1.3
SFJD IAmb IAmb 22 53 55.8
comp=Z,35nm,1.1s
E38A The Farm, Brul 43.45 314 IAMs_20 IAMs_20 23 09 13.4
comp=Z,9µm,20.0s
N38A Joes South For 43.46 305 IAMs_20 IAMs_20 23 10 04.1
comp=Z,10µm,18.0s
P38A Dawn 43.54 303 IAMs_20 IAMs_20 23 09 09.3
comp=Z,13µm,21.0s
HHAR Hobbs 43.59 298 IAmb IAmb 22 53 55.5
comp=Z,173nm,1.2s
SCIA State Center 43.62 307 IAMs_20 IAMs_20 23 09 09.1
comp=Z,11µm,21.0s
EYMN Ely 43.78 315 IAmb IAmb 22 53 55.6
comp=Z,289nm,1.9s
EYMN Ely 43.78 315 IAMs_20 IAMs_20 23 09 15.1
comp=Z,10µm,21.0s
SDBA SAO DESIDERIO 35.88 179 *e*P P 22 52 49.0 +1.0
CPCT Cooper Cave 35.90 298 IAmb IAmb 22 52 52.4
comp=Z,147nm,1.2s
CPCT IAMs_20 IAMs_20 23 04 30.2
comp=Z,10µm,19.0s
SNDB Serra Nova Dou 35.94 190 *e*P P 22 52 50.4 +1.9
CNIL Conil 35.97 60 P P 22 52 49.0 +0.4
ESPR Espera 36.21 59 P P 22 52 50.0 -0.7
K50A Casco 36.23 311 IAMs_20 IAMs_20 23 05 30.3
comp=Z,10µm,20.0s
R50A Paris 36.24 303 IAMs_20 IAMs_20 23 04 30.2
comp=Z,13µm,22.0s
MVO Moncorvo 36.31 52⇑ *e*P P 22 52 50.5 -1.1
MVO *i* IAmb IAmb 22 52 54.1
comp=Z,87nm,1.5s
MVO *e*LR LR 23 02 11.9
MVO *i* IAMs_20 IAMs_20 23 04 05.1
comp=Z,11µm,20.0s
T50A Nancy 36.40 301 IAMs_20 IAMs_20 23 04 46.4
comp=Z,14µm,21.0s
ECEU Ceuta 36.44 61 P P 22 52 51.0 -1.7
TBTG Tabatinga, AM 36.69 224 *e*P P 22 52 56.4 +1.4
O49A Covington 36.69 306 IAmb IAmb 22 52 57.3
comp=Z,128nm,1.3s
O49A IAMs_20 IAMs_20 23 04 54.9
comp=Z,11µm,20.0s
PBRG Braganca 36.71 51⇑ *e*P P 22 52 54.0 -1.0
PBRG *i* IAmb IAmb 22 53 15.8
comp=Z,87nm,1.6s
MDT Midelt 36.74 66 LR LR 23 04 37.4
comp=Z,9µm,20.7s,baz=289,slow=31
ECAL Calabor 36.75 51 P P 22 52 54.1 -1.3
FLOC Florencia 36.75 238 P P 22 52 54.6 -1.0
I49A Point Hope 36.77 313 IAmb IAmb 22 52 57.9
comp=Z,253nm,1.2s
I49A IAMs_20 IAMs_20 23 04 56.6
comp=Z,12µm,21.0s
ECAB El Cabril 36.77 58 P P 22 52 53.6 -2.0
N49A Columbus Grove 36.77 307 IAMs_20 IAMs_20 23 04 45.9
comp=Z,12µm,22.0s
AAM Ann Arbor 36.80 310 IAMs_20 IAMs_20 23 05 18.4
comp=Z,12µm,20.0s
PDRB Porto dos Gac 36.84 199 *e*P P 22 52 57.6 +1.3
R49A Shelbyville 36.90 303 P P 22 52 57.1 +0.5
R49A IAmb IAmb 22 53 01.1
comp=Z,241nm,1.1s
R49A IAMs_20 IAMs_20 23 04 50.4
comp=Z,12µm,22.0s
SWET Sewanee 37.01 298 IAMs_20 IAMs_20 23 06 31.7
comp=Z,10µm,18.0s
U49A Red Boiling Sp 37.06 300 IAMs_20 IAMs_20 23 04 44.0
comp=Z,15µm,22.0s
BILN Bilwi Airport 37.23 262 IAMs_20 IAMs_20 23 05 01.2
comp=Z,6µm,21.0s
Y49A Blount Mountai 37.27 295 IAmb IAmb 22 53 04.6
comp=Z,240nm,1.3s
O48B Farmland 37.32 306 IAMs_20 IAMs_20 23 05 24.4
comp=Z,11µm,20.0s
P48A Milroy 37.34 305 IAMs_20 IAMs_20 23 05 14.0
comp=Z,14µm,20.0s
NRS Nanarsuaq 37.45 360 *i* P P 22 53 03.3 +2.4
IVI Ivigtut 37.55 358 IAMs_20 IAMs_20 23 05 29.9
comp=Z,9µm,18.0s
IVI Ivigtut 37.55 358 *i* P P 22 53 04.3 +2.5
LRAL Lakeview Retre 37.70 294 IAmb IAmb 22 53 08.3
comp=Z,228nm,1.2s
WCI Wyandotte Cave 37.75 302 P 22 53 04.0 +0.2
WCI IAmb IAmb 22 53 08.5
comp=Z,277nm,1.1s
WCI Wyandotte Cave 37.75 302 IAMs_20 IAMs_20 23 05 48.1
comp=Z,11µm,20.0s
WCI Wyandotte Cave 37.75 302 P P 22 53 04.0 +0.2
WCI pmax pmax
comp=Z,277nm,1.1s
WCI MLR MLR
comp=Z,11µm,20.0s
V48A Smith Brothers 37.80 298 IAMs_20 IAMs_20 23 06 57.4
comp=Z,10µm,18.0s
X48A Hartselle 37.84 296 P 22 53 06.0 +1.3
X48A IAmb IAmb 22 53 09.4
comp=Z,327nm,1.2s
N47A Urbana 37.87 307 IAMs_20 IAMs_20 23 05 30.0
comp=Z,11µm,21.0s
PAB San Pablo 37.89 56 P P 22 53 04.1 -1.0
PAB San Pablo 37.89 56 IAMs_20 IAMs_20 23 05 01.8
comp=Z,11µm,20.0s
PAB San Pablo 37.89 56 P P 22 53 04.1 -1.0
PAB pmax pmax
comp=Z,30nm,1.1s
PAB MLR MLR
comp=Z,11µm,20.0s
J47A Sumner 37.90 311 IAMs_20 IAMs_20 23 06 31.6
comp=Z,10µm,20.0s
BLO Bloomington 38.11 304 IAMs_20 IAMs_20 23 05 49.4
comp=Z,14µm,21.0s
KUQ Kuujjuuaa 38.19 340 IAmb IAmb 22 53 17.0
comp=Z,108nm,0.9s
T47A Sharon Grove 38.19 300 IAmb IAmb 22 53 12.0
comp=Z,212nm,1.1s
T47A IAMs_20 IAMs_20 23 05 30.7
comp=Z,15µm,22.0s
ESDC Sonseca Array 38.21 55 IAMs_20 IAMs_20 23 05 56.5
comp=Z,10µm,20.0s
ESDC Sonseca Array 38.21 55 P P 22 53 06.2 -1.6
comp=Z,12nm,0.9s,baz=250,slow=4.8,SNR=23
ESDC PcP PcP 22 55 21.4 -0.7
comp=Z,4.8nm,1.0s,baz=265,slow=3.6,SNR=4.1
ESDC LR LR 23 05 23.3
comp=Z,9µm,19.5s,baz=230,slow=31
comp=Z,12nm,0.9s
GLMI Grayling 38.28 313 IAMs_20 IAMs_20 23 05 53.6
comp=Z,11µm,21.0s
JANB Januaria 38.52 179 *e*P P 22 53 10.2 -0.3
SIUN Universidad Ur 38.62 262 IAMs_20 IAMs_20 23 06 37.0
comp=Z,6µm,21.0s
E46A Sault Ste Mari 38.64 316 IAmb IAmb 22 53 13.8
comp=Z,183nm,1.3s
E46A IAMs_20 IAMs_20 23 06 13.9
comp=Z,11µm,20.0s
WVT Waverly 38.65 299 P 22 53 12.0 +0.6
WVT IAmb IAmb 22 53 21.0
comp=Z,165nm,0.8s
WVT Waverly 38.65 299 IAMs_20 IAMs_20 23 06 06.1
comp=Z,11µm,20.0s
WVT Waverly 38.65 299 P P 22 53 12.0 +0.6
WVT pmax pmax
comp=Z,165nm,0.8s
WVT MLR MLR
comp=Z,11µm,20.0s
P46A Rosedale 38.72 304 IAMs_20 IAMs_20 23 06 27.5
comp=Z,12µm,20.0s
USIN University of 38.77 302 IAMs_20 IAMs_20 23 06 20.2
comp=Z,12µm,20.0s
SFIN Lafayette 38.79 306 IAmb IAmb 22 53 16.9
comp=Z,196nm,1.1s
SFIN IAMs_20 IAMs_20 23 06 09.4
comp=Z,11µm,21.0s
VAL Valentia 38.86 34 P P 22 53 11.8 -1.1
BDFB Brasilia 39.19 184 P P 22 53 17.1 +0.9
comp=Z,28nm,0.9s,baz=3.1,slow=8.9,SNR=27
BDFB LR LR 23 09 01.7
comp=Z,9µm,18.0s,baz=0.8,slow=36
comp=Z,28nm,0.9s
OLIL Olney 39.24 303 IAMs_20 IAMs_20 23 06 46.3
comp=Z,12µm,20.0s
VILB Vilhena 39.25 203 P 22 53 17.2 +0.6
VILB Vilhena 39.25 203 *e*P P 22 53 17.4 +0.8
T45A Paducah 39.41 300 IAMs_20 IAMs_20 23 06 39.2
comp=Z,13µm,20.0s
UTMT University of 39.51 299 IAMs_20 IAMs_20 23 06 31.8
comp=Z,12µm,20.0s
HQIL Hanson Quary C 39.67 308 IAMs_20 IAMs_20 23 06 35.5
comp=Z,11µm,21.0s
ARAG Araguaiana, MT 39.68 190 *e*P P 22 53 21.3 +1.2
M44A Midewin, Midew 39.71 307 IAMs_20 IAMs_20 23 06 36.8
comp=Z,11µm,20.0s
L44A Lake County Fo 39.80 308 IAMs_20 IAMs_20 23 07 11.0
comp=Z,11µm,20.0s
HICK Hickman 39.82 299 IAMs_20 IAMs_20 23 06 52.0
comp=Z,12µm,19.0s
GLAT Glass 39.84 299 IAMs_20 IAMs_20 23 06 41.6
comp=Z,10µm,20.0s
HALT Halls 39.85 298 IAMs_20 IAMs_20 23 08 17.8
comp=Z,9µm,18.0s
BOAB BOACO BROADBAN 39.89 261 P P 22 53 24.3 +2.3
TEIG Tepich 39.95 274 P 22 53 23.0 +0.5
TEIG IAmb IAmb 22 53 27.3

BORG Borgarnes 43.91 15 P P 22 53 54.7 +0.5
BORG IAmb IAmb 22 54 06.6
comp=Z,360nm,1.9s
BORG Borgarnes 43.91 15 P P 22 53 54.7 +0.5
BORG pmax pmax
comp=Z,360nm,1.9s
BORG MLR MLR
comp=Z,4µm,20.0s
U38A Gravette 43.96 299 P 22 53 55.3 +0.3
U38A IAmb IAmb 22 53 59.3
comp=Z,313nm,1.6s
U38A IAMs_20 IAMs_20 23 09 39.5
comp=Z,8µm,20.0s
SPMN Marine on St. 43.96 311 IAMs_20 IAMs_20 23 09 17.9
comp=Z,9µm,20.0s
H10S3 ASCENSION HYDR 44.11 134 T T 23 40 41.9
baz=314,slow=74
I37A Lemond, Waseca 44.12 309 IAMs_20 IAMs_20 23 09 23.3
comp=Z,8µm,21.0s
H10S2 ASCENSION HYDR 44.13 134 T T 23 40 42.0
baz=266,slow=74
ESK Eskdalemuir 44.19 33 P 22 53 56.1 -0.5
ESK Eskdalemuir 44.19 33 IAMs_20 IAMs_20 23 07 53.8
comp=Z,11µm,21.0s
ESK Eskdalemuir 44.19 33 P P 22 53 56.1 -0.5
ESK pmax pmax
comp=Z,62nm,1.2s
ESK MLR MLR
comp=Z,11µm,21.0s
EKA Eskdalemuir Ar 44.22 33 P P 22 53 55.5 -1.3
comp=Z,12nm,0.8s,baz=244,slow=9.4,SNR=14
EKA PcP **PcP 22 55 40.6 -0.7**
comp=Z,7.8nm,0.9s,baz=256,slow=3.4,SNR=3.7
comp=Z,12nm,0.8s
Z38A Mt. Pleasant 44.40 294 IAMs_20 IAMs_20 23 09 33.6
comp=Z,8µm,22.0s
BSCB Bom Sucesso 44.42 179 *eP* **P 22 53 60.0 +1.1**
RLO Rose Lookout 44.46 298 IAmb IAmb 22 54 07.8
comp=Z,121nm,0.7s
CCIG Comitan 44.52 269 IAMs_20 IAMs_20 23 11 06.1
comp=Z,9µm,19.0s
ATAH Atahualpa 44.58 231 LR LR 23 14 24.9
comp=Z,4µm,19.0s,baz=28,slow=38
BB19B Bebedouro 44.60 184 *eP* **P 22 54 01.1 +0.8**
CLF Chambon-Foret 44.61 45 IAMs_20 IAMs_20 23 07 57.3
comp=Z,11µm,22.0s
RPRD Ribas do Rio P 44.67 191 *eP* **P 22 54 01.6 +0.8**
BDQN Bodoquena, MS 45.28 195 *eP* **P 22 54 06.7 +1.0**
N35A Tabor 45.28 305 IAMs_20 IAMs_20 23 11 11.4
comp=Z,9µm,19.0s
HKT Hockley 45.29 289 **P 22 54 06.5 +0.8**
HKT Hockley 45.29 289 *d iP* **P 22 54 06.8 +1.1**
HKT pmax pmax
comp=Z,216nm,1.4s
SOEG Soedalen 45.33 7 *i* P **P 22 54 06.8 +1.3**
SOEG IAmb IAmb 22 54 07.5
comp=Z,22nm,1.1s
CAM01 Campos-RJ 45.38 175 *eP* **P 22 54 07.5 +1.1**
PCMB Pacaembu 45.41 188 *eP* **P 22 54 08.8 +2.2**
SSB Saint Sauveur 45.51 49 IAMs_20 IAMs_20 23 11 16.1
comp=Z,10µm,18.0s
TOA0 Torodi Ar. Sit 45.57 95 P **P 22 54 06.9 -1.3**
SNR=13
TOA0 S **S 23 00 49.7 -0.5**
TORD Torodi Ar. Bea 45.57 95 P **P 22 54 06.3 -1.8**
comp=Z,83nm,1.0s,baz=306,slow=8.0,SNR=216
TORD LR LR 23 10 13.7
comp=Z,6µm,21.3s,baz=284,slow=32
comp=Z,83nm,1.0s
DUB01 Friburgo-RJ 45.58 176 *eP* **P 22 54 09.7 +1.6**
LPAZ La Paz 45.60 212 P **P 22 54 09.1 +0.2**
comp=Z,42nm,0.9s,baz=16,slow=9.3,SNR=49
LPAZ S **S 23 00 48.0 -3.5**
comp=Z,0.4nm,0.5s,baz=292,slow=8.8,SNR=0.9
LPAZ LR LR 23 12 11.9
comp=Z,15µm,21.5s,baz=28,slow=35
comp=Z,42nm,0.9s
T35A Sooner Cattle 45.68 299 IAmb IAmb 22 54 17.5
comp=Z,61nm,0.9s
T35A IAMs_20 IAMs_20 23 11 31.2
comp=Z,11µm,18.0s
EPLO Experimental L 45.69 317 IAmb IAmb 22 54 10.6
comp=Z,148nm,1.0s
VAS01 Vassouras-RJ 45.73 178 *eP* **P 22 54 10.3 +1.1**
RCLB Rio Claro- Sao 45.89 183 *eP* **P 22 54 11.9 +1.4**
L34A Svendsen Farm, 45.96 306 IAMs_20 IAMs_20 23 10 22.1
comp=Z,11µm,22.0s
ECSD EROS Data Cent 46.37 309 IAMs_20 IAMs_20 23 11 01.7
comp=Z,8µm,21.0s
VAO Valinhos 46.44 182 P **P 22 54 16.0 +1.1**
VAO IAmb IAmb 22 54 19.3
comp=Z,112nm,1.3s
VAO IAMs_20 IAMs_20 23 11 08.4
comp=Z,8µm,20.0s
VAO Valinhos 46.44 182 *eP* **P 22 54 16.4 +1.5**
TAM Tamanrasset 46.45 80 P 22 54 15.3 +0.1
TAM IAmb IAmb 22 54 19.0
comp=Z,133nm,1.1s
TAM IAMs_20 IAMs_20 23 10 28.7
comp=Z,8µm,22.0s
TAM Tamanrasset 46.45 80 P P 22 54 15.3 +0.1
TAM pmax pmax
comp=Z,133nm,1.1s
TAM MLR MLR
comp=Z,8µm,22.0s
F33A 5 Mile Ranch, 46.48 311 IAmb IAmb 22 54 43.1
comp=Z,111nm,1.7s
F33A IAMs_20 IAMs_20 23 11 16.7
comp=Z,9µm,20.0s
SAQQ Saqqaq 46.51 357 *i* P **P 22 54 15.3 +0.6**
SAQQ IAmb IAmb 22 54 17.5
comp=Z,44nm,1.0s
DOU Dourbes 46.65 43 *d*P **P 22 54 14.7 -1.5**
comp=Z,19nm,1.1s
DOU *d*PP **PP 22 56 03.5 -2.3**
MURT Porto Murtinho 46.66 196 *eP* **P 22 54 17.9 +1.4**
UCC Uccle 46.70 42 IAMs_20 IAMs_20 23 09 58.4
comp=Z,11µm,20.0s
UCC Uccle 46.70 42 *d*P **P 22 54 15.4 -1.2**
comp=Z,28nm,0.8s
AGMN Agassiz Nation 46.70 315 IAmb IAmb 22 54 21.3
comp=Z,129nm,1.3s
AGMN IAMs_20 IAMs_20 23 11 04.3
comp=Z,9µm,20.0s
PARB Paraibuna 46.75 180 *eP* **P 22 54 17.6 +0.4**
TRCB Terra Rica 46.76 189 *eP* **P 22 54 19.1 +1.7**
CMIG Matias Romero 46.81 272 P **P 22 54 17.9 0.0**
comp=Z,4.3nm,0.7s,baz=42,slow=5.2,SNR=4.5
CMIG LR LR 23 11 30.0
comp=Z,6µm,21.7s,baz=79,slow=33
comp=Z,4.3nm,0.7s
FRTB Fartura 46.94 185 *eP* **P 22 54 20.3 +1.5**
BNI Bardonecchia 46.95 50 P 22 54 18.7 -0.1
BNI IAmb IAmb 22 54 36.3
comp=Z,133nm,1.3s
BNI IAMs_20 IAMs_20 23 10 22.4
comp=Z,13µm,20.0s
BNI Bardonecchia 46.95 50 P P 22 54 18.7 -0.1
BNI pmax pmax
comp=Z,133nm,1.3s
BNI MLR MLR
comp=Z,13µm,20.0s
BGES Gesves 47.03 42 *d*P **P 22 54 18.0 -1.2**
comp=Z,19nm,1.3s
NNA Nana 47.04 224 P 22 54 19.8 +0.1
NNA Nana 47.04 224 LR LR 23 13 29.5
comp=Z,6µm,21.1s,baz=14,slow=35
NNA Nana 47.04 224 *d iP* **P 22 54 20.0 +0.3**
NNA pmax pmax
comp=Z,296nm,1.8s
NNA MLR MLR
comp=Z,10µm,19.0s
SPB Sao Paulo 47.05 183 IAMs_20 IAMs_20 23 11 27.5
comp=Z,9µm,21.0s
RCHB Rochefort 47.06 43 *d*P **P 22 54 18.2 -1.2**
comp=Z,16nm,1.0s
BCLA Clavier 47.17 42 *d*P **P 22 54 19.7 -0.6**
comp=Z,20nm,1.1s
ULM Lac du Bonnet 47.19 317 P **P 22 54 19.8 -0.6**
comp=Z,96nm,1.0s,baz=95,slow=7.5,SNR=52
ULM S **S 23 01 09.8 -2.7**
comp=Z,2.1nm,0.7s,baz=19,slow=8.2,SNR=1.7
ULM LR LR 23 12 36.1
comp=Z,11µm,19.0s,baz=108,slow=34
comp=Z,96nm,1.0s
BGNE Belgrade 47.22 305 IAMs_20 IAMs_20 23 11 12.6
comp=Z,12µm,21.0s

SAATT Saattut 47.29 357 *i* P **P 22 54 22.4 +1.6**
SAATT IAmb IAmb 22 54 25.8
comp=Z,54nm,1.1s
AMBA Amambai (Brazi 47.30 192 *eP* **P 22 54 22.9 +1.4**
PB18 Visviri 47.37 212 P 22 54 23.1 +0.3
PB18 IAMs_20 IAMs_20 23 13 52.9
comp=Z,12µm,19.0s
BSTI Sart Tilman 47.38 42 *d*P **P 22 54 21.8 -0.1**
comp=Z,6.7nm,1.2s
BSTI *d*PP **PP 22 56 11.7 -1.3**
OK038 West end E0370 47.47 298 IAMs_20 IAMs_20 23 11 28.5
comp=Z,8µm,21.0s
R32A Long Quarter, 47.48 301 IAMs_20 IAMs_20 23 11 08.6
comp=Z,13µm,21.0s
BEBN Eben Emael 47.50 42 *d*P **P 22 54 21.8 -1.0**
comp=Z,50nm,0.5s
WLF Walferdange 47.52 44 P **P 22 54 20.8 -2.2**
WLF Walferdange 47.52 44 IAmb IAmb 22 54 25.5
comp=Z,188nm,1.7s
WLF Walferdange 47.52 44 *d*P **P 22 54 22.0 -1.0**
comp=Z,29nm,1.1s
WLF Walferdange 47.52 44 *eP* **P 22 54 21.8 -1.2**
comp=Z,82nm,1.3s,baz=259,slow=7.6
BHOU Houvegnez 47.59 43 *d*P **P 22 54 23.1 -0.5**
comp=Z,29nm,1.2s
SENIN Lac Senin/Sane 47.60 48 IAMs_20 IAMs_20 23 11 27.4
comp=Z,11µm,19.0s
BTNL Ternell 47.73 42 *d*P **P 22 54 24.2 -0.5**
comp=Z,26nm,1.4s
PET01 Itaimaem-SP 47.74 183 *eP* **P 22 54 26.6 +1.7**
ECH Echery 47.85 46 P **P 22 54 24.6 -1.0**
ECH IAMs_20 IAMs_20 23 09 44.9
comp=Z,8µm,22.0s
ECH Echery 47.85 46 P **P 22 54 24.6 -1.0**
ECH pmax pmax
comp=Z,38nm,1.2s
ECH MLR MLR
comp=Z,8µm,22.0s
SUSD Miller 48.13 309 IAMs_20 IAMs_20 23 12 07.5
comp=Z,7µm,20.0s
ABTX Abilene, Hawle 48.34 293 IAMs_20 IAMs_20 23 13 46.9
comp=Z,6µm,19.0s
KEST Kesra 48.36 63 P **P 22 54 29.3 -0.5**
comp=Z,136nm,0.8s,baz=272,slow=1.9,SNR=110
KEST S **S 23 01 31.8 +2.0**
comp=Z,1.9nm,0.8s,baz=180,slow=9.4,SNR=1.8
KEST LR LR 23 12 04.5
comp=Z,8µm,21.9s,baz=275,slow=33
comp=Z,136nm,0.8s
KEST Kesra 48.36 63 P **P 22 54 29.9 0.0**
SNR=20
KEST P **P 22 54 29.9 0.0**
SNR=20
KEST S **S 23 01 34.5 +4.7**
KEST S **S 23 01 34.5 +4.7**
VSL Villasalto 48.41 58 IAMs_20 IAMs_20 23 12 13.3
comp=Z,9µm,19.0s
K30B Basset 48.42 307 IAMs_20 IAMs_20 23 12 41.2
comp=Z,10µm,19.0s
AP01 Chacalluta 48.46 213 IAMs_20 IAMs_20 23 14 39.8
comp=Z,9µm,20.0s
PTGB Pitanga 48.57 188 *eP* **P 22 54 33.1 +1.7**
BFO Black Forest 48.64 46 IAMs_20 IAMs_20 23 10 18.8
comp=Z,6µm,20.0s
BFO Black Forest 48.64 46 *eP* **P 22 54 30.4 -1.3**
comp=Z,50nm,0.9s,baz=259,slow=7.6
BUG Bochum--Univer 48.64 41 *eP* **P 22 54 30.8 -0.8**
comp=Z,78nm,1.3s,baz=259,slow=7.6
PB12 IPOC Station P 48.66 212 IAMs_20 IAMs_20 23 14 45.1
comp=Z,8µm,21.0s
TUE Stuetta 49.01 48 P 22 54 34.3 -0.6
TUE IAmb IAmb 22 54 47.7
comp=Z,240nm,1.9s
TUE IAMs_20 IAMs_20 23 11 46.9
comp=Z,12µm,20.0s
TUE Stuetta 49.01 48 P **P 22 54 34.3 -0.6**
comp=Z,6µmcomp=Z,253nm,1.8s
GO01 Chusmiza 49.02 210 IAMs_20 IAMs_20 23 14 06.7
comp=Z,9µm,21.0s
SUMG Summit 49.06 3 *i* P **P 22 54 34.6 -0.4**
SUMG IAmb IAmb 22 54 39.4
comp=Z,51nm,1.1s
MDND Maddock 49.07 314 IAMs_20 IAMs_20 23 12 25.1
comp=Z,8µm,20.0s
TNS Taunus Mts 49.09 43 *eP* **P 22 54 34.4 -0.8**
comp=Z,43nm,0.9s,baz=259,slow=7.6
IBBN Ibbenburen 49.15 40 *eP* **P 22 54 34.6 -0.9**
comp=Z,49nm,0.9s,baz=259,slow=7.6
KASTN Kahler Asten 49.28 42 *eP* **P 22 54 35.7 -0.9**
comp=Z,88nm,1.6s,baz=259,slow=7.6
STU Stuttgart 49.28 45 P 22 54 35.4 -1.2
STU IAmb IAmb 22 54 37.2
comp=Z,55nm,0.7s
STU Stuttgart 49.28 45 P **P 22 54 35.4 -1.2**
STU pmax pmax
comp=Z,55nm,0.7s
STU MLR MLR
comp=Z,5µm,19.0s
STU Stuttgart 49.28 45 *eP* **P 22 54 35.0 -1.6**
comp=Z,143nm,0.8s,baz=259,slow=7.6
PB11 IPOC Station P 49.31 211 IAMs_20 IAMs_20 23 14 53.5
comp=Z,11µm,20.0s
DAVOX Davos/Dischmat 49.42 48 LR LR 23 12 11.8
comp=Z,11µm,20.2s,baz=258,slow=32
DAVA Damuels 49.49 47 *i* P **P 22 54 38.1 -0.4**
comp=Z,78nm,0.8s,SNR=24
UPNV Upernavik 49.50 356 *i* P **P 22 54 42.5 +4.6**
UPNV IAmb IAmb 22 54 45.1
comp=Z,26nm,1.1s
SJPY San Joaquin 49.53 193 *eP* **P 22 54 39.0 +0.3**
E28A Huff 49.62 312 IAMs_20 IAMs_20 23 13 40.6
comp=Z,9µm,18.0s
FUORN Ofenpass-Fuorn 49.66 48 IAMs_20 IAMs_20 23 12 09.0
comp=Z,11µm,20.0s
CASP Castiglione de 49.70 53 IAMs_20 IAMs_20 23 11 27.4
comp=Z,6µm,21.0s
HMBC Humberstone 49.87 211 IAMs_20 IAMs_20 23 14 41.2
comp=Z,11µm,20.0s
FETA Feichten 50.03 48 *eP* **P 22 54 42.0 -0.6**
comp=Z,56nm,0.9s,SNR=32
OSSC Osservatorio P 50.03 52 IAMs_20 IAMs_20 23 12 07.1
comp=Z,10µm,20.0s
RETA Reutte 50.12 47 *eP* **P 22 54 42.4 -0.7**
comp=Z,51nm,1.4s,SNR=20
OGNE Ogallala 50.12 304 IAMs_20 IAMs_20 23 13 16.4
comp=Z,11µm,20.0s
UBBA Unterbreizbach 50.18 43 *eP* **P 22 54 42.6 -0.7**
comp=Z,40nm,1.3s,baz=259,slow=7.6
RETH Rethem/Aller, 50.20 40 *eP* **P 22 54 43.0 -0.5**
comp=Z,390nm,2.3s,baz=259,slow=7.6
TA01 Diego Aracena 50.26 211 IAMs_20 IAMs_20 23 15 30.4
comp=Z,10µm,19.0s
GTTG Gottingen 50.30 42 *eP* **P 22 54 43.6 -0.8**
comp=Z,40nm,1.1s,baz=259,slow=7.6
MOTA Moosalm 50.33 47 *i* P **P 22 54 43.9 -0.9**
comp=Z,82nm,1.6s,SNR=24
PB01 IPOC Station P 50.35 210 IAMs_20 IAMs_20 23 15 00.8
comp=Z,12µm,21.0s
SQTA Sankt Quirin 50.38 48 *i* P **P 22 54 44.5 -0.7**
comp=Z,69nm,0.8s,SNR=32
PATCX Punta Patache 50.46 211 IAMs_20 IAMs_20 23 15 28.9
comp=Z,9µm,19.0s
FUR Furstenfeldbru 50.55 46 *eP* **P 22 54 45.2 -1.1**
comp=Z,44nm,0.9s,baz=259,slow=7.6
WATA Walderalm 50.64 47 *i* P **P 22 54 46.2 -1.0**
comp=Z,70nm,1.1s,SNR=23
SNART Snartemo 50.65 33 *i* P **P 22 54 46.3 -0.5**
WTTA Wattenberg 50.67 48 *eP* **P 22 54 46.7 -0.8**
comp=Z,79nm,0.8s,SNR=41
GRFO Grafenberg 50.75 44 IAMs_20 IAMs_20 23 11 24.6
comp=Z,7µm,22.0s
GRA1 Grafenberg Arr 50.75 44 IAMs_20 IAMs_20 23 11 24.6
comp=Z,7µm,22.0s
GRF Grafenberg Arr 50.75 44 *eP* **P 22 54 46.5 -1.3**
comp=Z,43nm,0.9s,baz=259,slow=7.6
GRF *eL* L 23 11 46.8
comp=Z,6µm,21.4s
ASSE Asse, Remlinge 50.85 41 *eP* **P 22 54 48.1 -0.3**
comp=Z,617nm,2.3s,baz=259,slow=7.6
PB09 IPOC Station P 50.89 209 IAMs_20 IAMs_20 23 15 32.3
comp=Z,12µm,21.0s
CESX Cesi 50.96 54 IAMs_20 IAMs_20 23 12 02.7
comp=Z,7µm,22.0s
SSRD Sdr. Stenderup 51.04 37 *i* P **P 22 54 45.8 -4.0**
SSRD IAmb IAmb 22 54 48.3
comp=Z,73nm,0.7s
MUD Monsted U'grnd 51.06 35 *i* P **P 22 54 49.5 -0.4**
MUD IAmb IAmb 22 54 52.1
comp=Z,70nm,1.1s
ITAB Concordia 51.06 188 *eP* **P 22 54 51.0 +0.7**
CPUP Villa Florida 51.08 194 P **P 22 54 51.3 +0.9**
comp=Z,7.0nm,1.0s,baz=235,slow=6.7,SNR=28
CPUP LR LR 23 15 05.5
comp=Z,1µm,21.0s,baz=231,slow=34
comp=Z,7.0nm,1.0s
MOX Moxa 51.16 43 *eP* **P 22 54 49.7 -1.1**
comp=Z,25nm,0.9s,baz=259,slow=7.6
MOX *eL* L 23 12 13.6
comp=Z,12µm,21.7s
ABTA Abfaltersbach 51.21 48 *i* P **P 22 54 50.2 -1.2**
comp=Z,48nm,0.8s,SNR=24
FLTG Flechtingen 51.23 41 *eP* **P 22 54 50.2 -1.1**
comp=Z,241nm,1.9s,baz=259,slow=7.6
HOMB Homborsund 51.27 33 *i* P **P 22 54 53.1 +1.6**
STAL STALIGIAL 51.30 49 IAMs_20 IAMs_20 23 12 37.5
comp=Z,9µm,20.0s
KULLO Kullorsuaq 51.33 356 *i* P **P 22 54 53.5 +1.8**
KULLO IAmb IAmb 22 55 00.5
comp=Z,67nm,1.1s
PB03 IPOC Station P 51.34 210 IAMs_20 IAMs_20 23 15 33.2
comp=Z,10µm,21.0s
FDMO Fiordimonte 51.35 53 IAMs_20 IAMs_20 23 12 39.9
comp=Z,11µm,21.0s
NEUB Neuenburg 51.35 43 *eP* **P 22 54 51.1 -1.2**
comp=Z,32nm,0.8s,baz=259,slow=7.6
NRCA Norcia 51.36 53 IAMs_20 IAMs_20 23 12 29.2
comp=Z,10µm,22.0s
MANZ Manzenberg 51.36 44 *eP* **P 22 54 51.8 -0.6**
comp=Z,12nm,1.1s,baz=259,slow=7.6
ROTZ Rotzenmuhle 51.39 44 *eP* **P 22 54 51.3 -1.3**
comp=Z,93nm,2.7s,baz=259,slow=7.6
LESA Schwarzleotal 51.40 47 *eP* **P 22 54 51.6 -1.2**
comp=Z,44nm,0.8s,SNR=34
GORT1 Trebel 51.41 40 *eP* **P 22 54 51.8 -0.7**
comp=Z,615nm,2.3s,baz=259,slow=7.6
AF01 San Pedro de A 51.45 207 IAMs_20 IAMs_20 23 15 44.0
comp=Z,11µm,22.0s
PLN Plauen 51.47 43 *eP* **P 22 54 52.0 -1.2**
comp=Z,63nm,2.0s,baz=259,slow=7.6
RJOB Jochberg 51.51 47 *eP* **P 22 54 52.6 -1.0**
comp=Z,31nm,0.9s,baz=259,slow=7.6
GUMA Gualdo di Mace 51.53 53 IAMs_20 IAMs_20 23 12 55.7
comp=Z,13µm,22.0s
AQU L'Aquila 51.55 54 P **P 22 54 53.5 -0.5**
comp=Z,2µmcomp=Z,111nm,1.0s
TANN Tannenbergstha 51.65 44 *eP* **P 22 54 53.5 -1.1**
comp=Z,189nm,1.8s,baz=259,slow=7.6
RSSD Black Hills 51.74 308 IAMs_20 IAMs_20 23 14 22.9
comp=Z,7µm,20.0s
WET Wettzell 51.74 45 *eP* **P 22 54 53.8 -1.5**
comp=Z,28nm,0.9s,baz=259,slow=7.6
JMIC Jan Mayen 51.81 14 LR LR 23 11 35.8
comp=Z,2µm,19.3s,baz=230,slow=30
KBA Koelnbreinsper 51.81 48 *i* P **P 22 54 54.7 -1.3**
comp=Z,48nm,0.7s
FFC Flin Flon 51.89 322 IAMs_20 IAMs_20 23 13 55.3
comp=Z,9µm,21.0s
SABO M.te Sabotino 51.89 49 IAMs_20 IAMs_20 23 15 04.8
comp=Z,7µm,18.0s
INTR Introdacqua 51.92 54 IAMs_20 IAMs_20 23 14 09.1
comp=Z,8µm,20.0s
MYKA Terra Mystica 51.98 48 *i* P **P 22 54 55.8 -1.3**
comp=Z,37nm,1.0s,SNR=22
T25A Trinidad 52.00 299 IAMs_20 IAMs_20 23 14 13.4
comp=Z,8µm,20.0s
CADS Cadrg 52.01 49 *i* P **P 22 54 56.2 -1.1**
CADS *eS* **S 23 02 20.7 +0.4**
BIOA Bad Ischl, Aus 52.07 47 *i* P **P 22 54 56.0 -1.8**
comp=Z,44nm,0.9s,SNR=29
CLL Collm 52.13 43 IAMs_20 IAMs_20 23 12 43.1
comp=Z,11µm,20.0s
CLL Collm 52.13 43 ⇑ *iP* **P 22 54 57.2 -0.8**
CLL *eS* **S 23 02 23.0 +1.3**
CLL pmax pmax
comp=Z,42nm,0.9s
CLL MLR MLR
comp=Z,10µm,18.6s
CLL Collm 52.13 43 P **P 22 54 57.0 -1.0**
comp=Z,1µmcomp=Z,55nm,1.7s
CLL Collm 52.13 43 *eP* **P 22 54 56.9 -1.2**
comp=Z,35nm,0.9s,baz=259,slow=7.6
CLL Collm 52.13 43 ⇑ *iP* **P 22 54 57.2 -0.8**
comp=Z,42nm,0.9s
CLL *eP*max 22 55 04.0
CLL *i* x x 22 55 08.4
CLL *i* PcP **PcP 22 56 10.3 +0.5**
CLL *eP*P **PP 22 56 53.0 -3.2**
CLL *eP*PP PPP 22 57 56.0
CLL *eS* **S 23 02 23.0 +1.3**
comp=N,1µm,22.2s
CLL *eS* **S 23 02 23.0 +1.3**
comp=E,3µm,24.4s
CLL *eS* **S 23 02 23.0 +1.3**
comp=Z,2µm,17.9s
CLL *ex* x 23 02 51.0
CLL *eS* **SS 23 05 54.0 -4.8**
CLL *eSSSS 23 08 00.0
CLL LmH 23 12 00.0
comp=N,3µm,20.7s
CLL LmH 23 12 00.0
comp=E,9µm,21.2s
CLL LmH 23 12 00.0
comp=Z,11µm,21.0s
CLL Lmax 23 13 00.0
CLL LmV 23 13 00.0
comp=Z,10µm,18.6s
TXAR Lajitas Array 52.13 290 P **P 22 54 58.6 +0.1**
comp=Z,35nm,1.0s,baz=97,slow=6.5,SNR=82
TXAR S **S 23 02 26.2 +3.6**
comp=Z,0.2nm,0.5s,baz=333,slow=10,SNR=1.1
TXAR LR LR 23 17 02.5
comp=Z,1µm,20.5s,baz=78,slow=36
comp=Z,35nm,1.0s
KHC Kasperske Hory 52.19 45 *eP* **P 22 54 57.7 -0.9**
KHC *eS* **S 23 02 24.7 +2.0**
KHC MLR MLR
comp=Z,6µm,21.2s
KHC Kasperske Hory 52.19 45 *eP* **P 22 54 57.7 -0.9**
KHC *eS* **S 23 02 24.7 +2.0**
KHC AMS AMS 23 11 40.0
comp=Z,6µm,21.2s
KHC Kasperske Hory 52.19 45 P **P 22 54 57.3 -1.3**
comp=Z,1µmcomp=Z,59nm,1.8s
DGMT Dagmar 52.20 314 IAMs_20 IAMs_20 23 14 25.9
comp=Z,9µm,21.0s
GEC2 GERESS Array S 52.24 46 *eP* **P 22 54 57.6 -1.5**
comp=Z,357nm,2.3s,baz=259,slow=7.6
GERES GERESS Array B 52.24 46 P **P 22 54 57.6 -1.5**
comp=Z,8.5nm,0.7s,baz=262,slow=9.3,SNR=70
GERES LR LR 23 14 40.9
comp=Z,4µm,18.9s,baz=246,slow=33
comp=Z,8.5nm,0.7s
PB05 IPOC Station P 52.24 209 IAMs_20 IAMs_20 23 16 11.1
comp=Z,7µm,20.0s
KONO Kongsberg 52.25 32 IAMs_20 IAMs_20 23 12 58.7
comp=Z,11µm,20.0s
KONO Kongsberg 52.25 32 P **P 22 54 58.2 -0.6**
VAE Valguarnera 52.37 60 LR LR 23 14 29.0
comp=Z,10µm,20.0s,baz=322,slow=33
PAOL Paolisi 52.41 56 IAMs_20 IAMs_20 23 12 41.1
comp=Z,7µm,22.0s
MOA Molln 52.51 47 *i* P **P 22 54 59.4 -1.6**
comp=Z,41nm,1.1s,SNR=16
LJU Ljubljana 52.54 49 *eP* **P 22 55 00.5 -0.8**
LJU *eS* **S 23 02 27.4 -0.1**
OBKA Obir 52.59 49 *eP* **P 22 55 00.6 -1.1**
comp=Z,74nm,0.7s,SNR=30
COP Copenhagen 52.63 37 *i* P **P 22 55 01.4 -0.2**
COP IAmb IAmb 22 55 02.7
comp=Z,117nm,0.8s
BRG Berggiesshubel 52.65 43 ⇑ *iP* **P 22 55 02.8 +0.8**
BRG Amp 22 55 04.2
comp=Z,35nm,0.9s
BRG Berggiesshubel 52.65 43 PP PP 22 57 01.0 0.0
BRG Berggiesshubel 52.65 43 S **S 23 02 36.0 +7.1**
BRG Berggiesshubel 52.65 43 S **SKiKP 23 06 28.0 +5.3**
RICC Richard 52.70 44 *eP* **P 22 55 02.2 -0.1**
RICC *eS* **S 23 02 34.7 +5.1**
RICC AMS AMS 23 12 50.0
comp=Z,9µm,20.5s
ONAU Onsala 52.77 35 *i* P **P 22 55 02.1 -0.5**
RUE Ruedersdorf 52.79 41 *eP* **P 22 55 02.0 -0.9**
comp=Z,69nm,0.9s,baz=259,slow=7.6
STRU Stroemstad 52.83 33 *i* P **P 22 55 02.8 -0.3**

SDCO Great Sand Dun 52.84 300 IAms_20 IAms_20 23 14 18.6
comp=Z,11µm,22.0s
PRA Prague 52.86 44 eP P 22 55 04.5 +1.0
PRA eS S 23 02 36.7 +5.0
PRA MLR MLR
comp=Z,6µm,23.8s
PRA Prague 52.86 44 eP P 22 55 04.5 +1.0
PRA eS S 23 02 36.7 +5.0
PRA AMS AMS 23 12 00.0
comp=Z,6µm,23.8s
PRU Pruhonice 52.92 44 eP P 22 55 03.9 0.0
PRU eS S 23 02 40.3 +7.8
PRU MLR MLR
comp=Z,6µm,24.2s
PRU Pruhonice 52.92 44 eP P 22 55 03.9 0.0
PRU eS S 23 02 40.3 +7.8
PRU AMS AMS 23 12 10.0
comp=Z,6µm,24.2s
SOKA Soboth 52.94 49 eP P 22 55 02.3 -1.9
comp=Z,31nm,1.2s,SNR=11
PB10 IPOC Station P 52.97 209 IAms_20 IAms_20 23 16 43.5
comp=Z,10µm,21.0s
CNLB Canela 52.98 186 eP P 22 55 05.7 +1.2
PVCC Panska Ves 53.00 44 eP P 22 55 04.4 -0.1
PVCC eS S 23 02 39.1 +5.5
PVCC MLR MLR
comp=Z,8µm,21.5s
PVCC Panska Ves 53.00 44 eP P 22 55 04.4 -0.1
PVCC eS S 23 02 39.1 +5.5
PVCC AMS AMS 23 12 50.0
comp=Z,8µm,21.5s
OZLJ Ozalj 53.17 50 eP P 22 55 04.4 -1.4
LUNU Lund 53.18 37 iP P 22 55 05.2 -0.6
BORU Boraas 53.27 35 iP P 22 55 05.3 -1.0
SGRT San Giovanni R 53.29 55 IAms_20 IAms_20 23 16 25.4
comp=Z,7µm,19.0s
ARSA Arzberg 53.31 48 IAms_20 IAms_20 23 17 06.5
comp=Z,7µm,18.0s
ARSA Arzberg 53.31 48 iP P 22 55 05.3 -1.6
comp=Z,48nm,0.8s,SNR=26
CUC Castrocucco 53.37 57 IAms_20 IAms_20 23 14 48.7
comp=Z,7µm,19.0s
LAO LASA Array 53.42 311 IAms_20 IAms_20 23 16 39.3
comp=Z,9µm,18.0s
NB2 NORSAR Subarra 53.45 30 P P 22 55 07.3 -0.4
comp=Z,71nm,1.0s,baz=251,slow=7.9
NB2 NORSAR Subarra 53.45 30 P P 22 55 07.3 -0.4
comp=Z,71nm,1.0s,baz=251,slow=7.9
NOA NORSAR Array B 53.45 30 P P 22 55 07.2 -0.5
comp=Z,25nm,0.8s,baz=252,slow=7.7,SNR=58
NOA LR LR 23 13 38.6
comp=Z,7µm,22.0s,baz=250,slow=31
comp=Z,25nm,0.8s
ACER Acerenza 53.45 56 IAms_20 IAms_20 23 13 11.7
comp=Z,7µm,22.0s
TREC Trest 53.45 45 eP P 22 55 07.2 -0.7
TREC eS S 23 02 37.3 -2.6
TREC MLR MLR
comp=Z,5µm,21.8s
TREC Trest 53.45 45 eP P 22 55 07.2 -0.7
TREC eS S 23 02 37.3 -2.6
TREC AMS AMS 23 12 20.0
comp=Z,5µm,21.8s
CEL Celeste 53.51 59 IAms_20 IAms_20 23 16 12.3
comp=Z,6µm,19.0s
K22A Casper 53.51 306 IAms_20 IAms_20 23 15 51.9
comp=Z,9µm,20.0s
CONA Conrad Observa 53.59 47 eP P 22 55 07.6 -1.4
comp=Z,32nm,0.8s,SNR=22
DEL Delary 53.59 36 iP P 22 55 08.4 -0.3
KOGS Kog 53.76 49 eP P 22 55 08.6 -1.6
ANMO Albuquerque 53.81 297 IAms_20 IAms_20 23 15 57.5
comp=Z,5µm,18.0s
ANMO Albuquerque 53.81 297 LR LR 23 15 47.7
comp=Z,6µm,21.3s,baz=182,slow=34
ANMO Albuquerque 53.81 297 *d* iP P 22 55 11.9 +0.9
ANMO pmax pmax
comp=Z,118nm,1.3s
ANMO MLR MLR
comp=Z,2µm,13.0s
RONA Rosalia, Austr 53.86 47 iP P 22 55 09.6 -1.4
comp=Z,49nm,0.9s,SNR=26
PB14 IPOC Station P 53.87 209 IAms_20 IAms_20 23 17 41.3
comp=Z,11µm,20.0s
NEEM North Greenlan 53.89 358 iP P 22 55 13.7 +2.7
NEEM IAmb IAmb 22 55 19.6
comp=Z,50nm,0.9s
BSD Bornholm Skovb 53.91 38 iP P 22 55 10.3 -0.8
BSD IAmb IAmb 22 55 11.5
comp=Z,26nm,0.9s
UPC Upice 53.91 44 eP P 22 55 10.7 -0.5
UPC eS S 23 02 49.6 +3.5
UPC MLR MLR
comp=Z,6µm,20.0s
UPC Upice 53.91 44 eP P 22 55 10.7 -0.5
UPC eS S 23 02 49.6 +3.5
UPC AMS AMS 23 13 50.0
comp=Z,6µm,20.0s
CHVC Chvalec 53.95 44 eP P 22 55 10.7 -0.8
CHVC eS S 23 02 50.9 +4.3
CHVC MLR MLR
comp=Z,7µm,20.9s
CHVC Chvalec 53.95 44 eP P 22 55 10.7 -0.8
CHVC eS S 23 02 50.9 +4.3
CHVC AMS AMS 23 13 40.0
comp=Z,7µm,20.9s
KRUC Moravsky 54.03 46 eP P 22 55 10.8 -1.3
KRUC eS S 23 02 47.4 -0.2
MATE Matera 54.03 56 ⇑P P 22 55 11.2 -1.1
OSTC Ostas 54.05 44 eP P 22 55 11.6 -0.6
OSTC eS S 23 02 51.2 +3.3
OSTC MLR MLR
comp=Z,7µm,20.6s
OSTC Ostas 54.05 44 eP P 22 55 11.6 -0.6
OSTC eS S 23 02 51.2 +3.3
OSTC AMS AMS 23 13 40.0
comp=Z,7µm,20.6s
MOSL Moslavina 54.08 50 eP P 22 55 10.5 -2.0
HAYD Hayden 54.09 304 IAms_20 IAms_20 23 16 52.6
comp=Z,5µm,18.0s
DPC Dobruska-Polom 54.09 44 eP P 22 55 11.8 -0.8
DPC eS S 23 02 53.0 +4.4
DPC MLR MLR
comp=Z,6µm,34.0s
DPC Dobruska-Polom 54.09 44 eP P 22 55 11.8 -0.8
DPC eS S 23 02 53.0 +4.4
DPC AMS AMS 23 11 10.0
comp=Z,6µm,34.0s
BEHE Becsehely 54.12 49 eP P 22 55 11.1 -1.7
KSP Ksiaz 54.13 43 eP P 22 55 12.0 -0.8
KSP eS S 23 02 54.9 +6.0
KSP eL L 23 13 45.7
comp=Z,11µm,21.4s
KSP Ksiaz 54.13 43 P P 22 55 11.6 -1.2
comp=Z,1µmcomp=Z,33nm,1.9s
TIP Timpagrande 54.13 58 IAms_20 IAms_20 23 17 14.9
comp=Z,8µm,20.0s
TIP Timpagrande 54.13 58 P P 22 55 11.0 -2.1
comp=Z,453nmcomp=Z,16nm,1.2s
A051A Mrakovica 54.17 51 eP P 22 55 12.0 -1.3
VRAC Vranov 54.18 45 LR LR 23 16 21.2
comp=Z,3µm,19.0s,baz=256,slow=34
VRAC Vranov 54.18 45 eP P 22 55 12.0 -1.2
VRAC eS S 23 02 50.0 +0.3
VRAC Vranov 54.18 45 ⇑P P 22 55 12.2 -1.0
VRAC Vranov 54.18 45 P P 22 55 12.5 -0.7
TULEG Thule 54.18 353 iP P 22 55 14.7 +2.0
TULEG IAmb IAmb 22 55 20.0
comp=Z,140nm,1.4s
EPT El Paso 54.22 293 IAms_20 IAms_20 23 18 33.5
comp=Z,5µm,20.0s
Y22D IRIS PASSCAL I 54.28 296 P P 22 55 16.1 +1.8
baz=84
BLY Banja Luka 54.36 51 eP P 22 55 13.0 -1.5
BLY Banja Luka 54.36 51 ⇓P P 22 55 13.1 -1.5
CPSB Cacapava Do Su 54.36 189 eP P 22 55 15.4 +0.8
HFS Hagfors 54.36 32 P P 22 55 13.6 -0.8
comp=Z,68nm,0.7s,baz=243,slow=6.5,SNR=81
HFS LR LR 23 14 14.9
comp=Z,11µm,20.3s,baz=252,slow=32
comp=Z,68nm,0.7s
KRLC Kraliky 54.36 44 eP P 22 55 14.4 -0.2
KRLC eS S 23 02 56.3 +4.1
KRLC MLR MLR
comp=Z,4µm,23.1s
KRLC Kraliky 54.36 44 eP P 22 55 14.4 -0.2
KRLC eS S 23 02 56.3 +4.1
KRLC AMS AMS 23 13 00.0
comp=Z,4µm,23.1s
ZST Bratislava 54.44 47 eP P 22 55 13.9 -1.2
ZST pmax pmax
comp=Z,105nm,2.4s
SMOL Smolenice 54.67 46 eP P 22 55 16.0 -0.8
SMOL pmax pmax
comp=Z,123nm,2.3s
STON Ston 54.73 53 eP P 22 55 15.2 -2.1
MORC Moravsky Berou 54.83 45 eP P 22 55 16.7 -1.3
MORC eS S 23 03 01.4 +2.9
MORC Moravsky Berou 54.83 45 ⇑P P 22 55 17.2 -0.8
MORC Moravsky Berou 54.83 45 P P 22 55 18.3 +0.3
JAVC Velka Javorina 54.85 46 eP P 22 55 17.5 -0.7
O20A White River Ci 54.86 303 IAms_20 IAms_20 23 16 20.8
comp=Z,9µm,20.0s
GKP Gorka Klasztor 54.98 41 eP P 22 55 18.0 -0.9
GKP eS S 23 03 03.5 +3.3
GKP eL L 23 12 55.6
comp=Z,10µm,26.7s
PV15 Paradox Valley 55.15 301 IAms_20 IAms_20 23 15 58.7
comp=Z,11µm,22.0s
121A Cookes Peak, D 55.19 294 IAms_20 IAms_20 23 17 10.1
comp=Z,5µm,18.0s
TREB Trebinje 55.21 53 eP P 22 55 18.8 -2.0
OKC Ostrava-Krasne 55.23 45 eP P 22 55 20.8 0.0
OKC eS S 23 03 08.5 +4.8
OKC MLR MLR
comp=Z,3µm,18.5s
OKC Ostrava-Krasne 55.23 45 eP P 22 55 20.8 0.0
OKC eS S 23 03 08.5 +4.8
OKC AMS AMS 23 16 10.0
comp=Z,3µm,18.5s
SRO Srobarova 55.23 47 eP P 22 55 20.1 -0.7
SRO pmax pmax
comp=Z,4.0nm,0.8s
MVCO Mesa Verde 55.25 300 IAms_20 IAms_20 23 15 50.4
comp=Z,6µm,20.0s
PV07 Paradox Valley 55.27 301 IAms_20 IAms_20 23 16 45.9
comp=Z,10µm,20.0s
AC02 Maricunga 55.28 206 IAms_20 IAms_20 23 18 25.6
comp=Z,7µm,21.0s
BRY Brogogost 55.35 53 ⇑iP P 22 55 20.7 -1.2
KLINJ Klinje 55.38 53 eP P 22 55 19.3 -2.8
MORH Mrgy, Hungar 55.41 49 eP P 22 55 20.8 -1.3
MORH Mrgy, Hungar 55.41 49 ⇑P P 22 55 21.3 -0.9
MORH Mrgy, Hungar 55.41 49 P P 22 55 20.9 -1.2
comp=Z,1µmcomp=Z,56nm,1.0s
PV13 Radium Mtn., P 55.43 301 IAms_20 IAms_20 23 16 19.1
comp=Z,11µm,21.0s
PV03 Paradox Valley 55.45 301 IAms_20 IAms_20 23 16 50.5
comp=Z,10µm,20.0s
PV16 Nyswonger Mesa 55.49 301 IAms_20 IAms_20 23 16 52.8
comp=Z,10µm,20.0s
RLMT Red Lodge 55.50 309 IAms_20 IAms_20 23 16 19.4
comp=Z,6µm,21.0s
PV17 East Wray Mesa 55.53 301 IAms_20 IAms_20 23 16 22.8
comp=Z,11µm,21.0s
VYHS Vyhne 55.60 46 eP P 22 55 22.5 -1.1
VYHS pmax pmax
comp=Z,386nm,2.6s
CEME Cevo 55.63 54 ⇑iP P 22 55 22.8 -1.1
NKME Niksic 55.66 53 ⇑iP P 22 55 23.2 -0.8
PLTB Pedras Altas 55.72 189 eP P 22 55 25.9 +1.5
PSAL Palmas, Salto 55.74 193 eP P 22 55 26.6 +2.1
BW06 Boulder Array 55.74 307 IAms_20 IAms_20 23 16 53.8
comp=Z,9µm,20.0s
PDAR Pinedale Array 55.74 307 P P 22 55 24.6 -0.3
comp=Z,63nm,1.0s,baz=97,slow=7.6,SNR=158
PDAR LR LR 23 17 05.5
comp=Z,6µm,21.0s,baz=82,slow=34
comp=Z,63nm,1.0s
DRME Dracevica, Mon 55.85 54 ⇑iP P 22 55 25.1 -0.3
EGMT Eagleton 55.88 313 IAms_20 IAms_20 23 16 33.2
comp=Z,8µm,20.0s
PDG Podgorica 55.89 54 ⇑P P 22 55 25.1 -0.5
PDG Podgorica 55.89 54 ⇑iP P 22 55 25.3 -0.3
RUDO Rudo 55.94 52 eP P 22 55 22.9 -3.1
LANS Liptovska Anna 56.05 46 eP P 22 55 28.1 +1.3
LANS pmax pmax
comp=Z,19nm,1.6s
KOME Kolasin 56.07 53 ⇑iP P 22 55 26.7 -0.3
AC06 Mina Casimiro 56.25 207 IAms_20 IAms_20 23 19 14.1
comp=Z,6µm,20.0s
PSZ Piszkesteto 56.30 47 IAms_20 IAms_20 23 17 13.5
comp=Z,7µm,19.0s
PSZ Piszkesteto 56.30 47 ⇑P P 22 55 27.4 -1.2
PSZ Piszkesteto 56.30 47 P P 22 55 27.4 -1.2
LKWY Lake 56.31 309 IAms_20 IAms_20 23 17 58.9
comp=Z,10µm,20.0s
OJC Ojcow 56.31 44 eP P 22 55 27.9 -0.6
OJC eS S 23 03 21.8 +3.6
OJC eL L 23 12 31.5
comp=Z,5µm,32.3s
OJC Ojcow 56.31 44 P P 22 55 27.8 -0.8
comp=Z,1µmcomp=Z,53nm,1.7s
IVA Berane 56.34 53 ⇑iP P 22 55 27.3 -1.7
KEK Kerkira 56.45 57 IAms_20 IAms_20 23 17 59.1
comp=Z,6µm,20.0s
LOHW Long Hollow 56.48 308 IAms_20 IAms_20 23 17 18.5
comp=Z,9µm,20.0s
SNOW Snow King Moun 56.60 307 IAms_20 IAms_20 23 17 22.5
comp=Z,10µm,20.0s
NIE Niedzica 56.60 45 eP P 22 55 30.2 -0.5
NIE eS S 23 03 26.9 +4.7
NIE eL L 23 12 29.8
comp=Z,2µm,34.8s
NIE Niedzica 56.60 45 P P 22 55 30.8 +0.1
comp=Z,777nmcomp=Z,25nm,1.2s
319A Douglas 56.62 293 IAms_20 IAms_20 23 19 33.0
comp=Z,4µm,18.0s
TPAW Teton Pass 56.74 308 IAms_20 IAms_20 23 17 16.4
comp=Z,9µm,21.0s
AHID Auburn Hatcher 56.88 307 IAms_20 IAms_20 23 18 29.1
comp=Z,7µm,19.0s
BEL Belsk 57.02 43 eP P 22 55 32.7 -0.8
BEL eS S 23 03 31.1 +3.7
BEL eL L 23 13 03.7
comp=Z,154µm,32.4s
OHR Ohrid 57.11 55 iP P 22 55 35.8 +1.3
RES Resolute Bay 57.12 346 LR LR 23 18 59.7
comp=Z,7µm,18.9s,baz=122,slow=35
BANR Banloc 57.16 50 ⇑P P 22 55 34.4 -0.2
TIM Timisoara 57.21 50 ⇓P P 22 55 34.8 -0.2
TIM Timisoara 57.21 50 P P 22 55 34.7 -0.2
STHS Stebnicka Huta 57.22 45 eP P 22 55 35.3 +0.3
STHS pmax pmax
comp=Z,33nm,1.2s
R9F13 Warsaw-Wawer 57.25 42 eP P 22 55 36.4 +1.2
BZS Buzias 57.49 50 ⇓P P 22 55 36.5 -0.5
BZS Buzias 57.49 50 P P 22 55 36.4 -0.5
SIRR Siria 57.50 49 ⇑P P 22 55 36.4 -0.7
SKO Skopje 57.53 54 iP P 22 55 37.1 -0.3
FNA Florina 57.57 56 IAms_20 IAms_20 23 19 05.9
comp=Z,5µm,19.0s
MDVR Moldovita 57.59 51 ⇑P P 22 55 37.4 -0.3
BOVS Bovan 57.63 52 ⇑P P 22 55 37.6 -0.5
TUC Tucson 57.73 294 IAms_20 IAms_20 23 19 38.4
comp=Z,6µm,18.0s
WUAZ Wupatki 57.74 298 IAms_20 IAms_20 23 17 40.6
comp=Z,6µm,20.0s
SURR Surduc 57.84 50 ⇑P P 22 55 39.0 -0.5
DLMT Dillon 57.85 310 IAms_20 IAms_20 23 19 02.0
comp=Z,5µm,19.0s
LCO Las Campanas 57.85 206 IAms_20 IAms_20 23 22 10.5
comp=Z,5µm,18.0s
KOLS Kolonicke sedl 57.89 46 eP P 22 55 39.9 +0.1
KOLS pmax pmax
comp=Z,31nm,0.8s
UZHM Uzhgorod 57.90 46 P P 22 55 39.4 -0.4
PBUR Paburge 57.97 38 eP P 22 55 40.1 0.0
HERR Herculane 58.08 51 ⇑P P 22 55 40.6 -0.5
DJES Djerdap 58.16 51 ⇑P P 22 55 41.2 -0.5
KWP Kalwaria Pacla 58.17 45 eP P 22 55 41.5 -0.2
KWP eS S 23 03 52.2 +9.4
KWP eL L 23 13 32.3
comp=Z,4µm,31.5s
KWP Kalwaria Pacla 58.17 45 P P 22 55 41.8 0.0
comp=Z,2µmcomp=Z,71nm,1.3s
DRGR 58.22 49 ⇓P P 22 55 41.4 -0.8
DRGR 58.22 49 P P 22 55 41.3 -0.8
GZR Gura Zlata 58.31 50 ⇑P P 22 55 42.1 -0.8
GZR Gura Zlata 58.31 50 P P 22 55 42.1 -0.8
U15A North Rim 58.36 299 IAms_20 IAms_20 23 18 13.5
comp=Z,5µm,21.0s
MESR Meseseni 58.37 48 ⇓P P 22 55 42.4 -0.7
DEV Deva 58.38 50 ⇑P P 22 55 42.6 -0.7
DEV Deva 58.38 50 P P 22 55 43.4 +0.2
VAY Valandovo 58.43 55 *i* P P 22 55 43.3 -0.4
RAF Rauma 58.44 32 eP P 22 55 43.2 -0.1
CO01 Juntas del Tor 58.46 205 IAms_20 IAms_20 23 20 31.1
comp=Z,6µm,20.0s
PUNG Punghina 58.48 51 ⇑P P 22 55 43.4 -0.6
MARR Marisel-Cluj 58.50 49 ⇑P P 22 55 43.6 -0.5
SUW Suwalki 58.57 40 eP P 22 55 42.8 -1.5
SUW eS S 23 03 49.5 +1.9
SUW eL L 23 15 09.6
comp=Z,10µm,27.4s
SUW Suwalki 58.57 40 IAms_20 IAms_20 23 16 20.8
comp=Z,7µm,22.0s
SUW Suwalki 58.57 40 eP P 22 55 43.9 -0.4
SRE Strehaia 58.65 51 ⇓P P 22 55 44.8 -0.4
SRE Strehaia 58.65 51 P P 22 55 44.7 -0.4
BMR Baia Mare 58.72 47 ⇑P P 22 55 44.2 -1.4
BMR Baia Mare 58.72 47 P P 22 55 44.2 -1.4
CBBR Cluj-Babes-Bol 58.79 49 ⇑P P 22 55 45.4 -0.7
VTS Vitosha 58.81 53 P P 22 55 46.3 -0.2
CJR Cluj-Napoca 58.83 49 ⇑P P 22 55 45.7 -0.7
CJR Cluj-Napoca 58.83 49 P P 22 55 45.7 -0.7
CO05 La Serena 58.86 206 IAms_20 IAms_20 23 20 52.8
comp=Z,7µm,19.0s
VALD Valchedram 58.88 52 P P 22 55 46.2 -0.5
GO04 Tololo Observa 58.91 206 IAms_20 IAms_20 23 20 51.1
comp=Z,8µm,20.0s
PLNA Plana 58.97 54 P P 22 55 47.8 +0.3
LPIG La Paz 58.98 285 LR LR 23 21 57.2
comp=Z,2µm,19.6s,baz=79,slow=37
PABE Paberze 59.09 38 eP P 22 55 47.4 -0.6
NOR Nord 59.10 5 *i* P P 22 55 48.2 +0.5
NOR IAmb IAmb 22 55 52.7
comp=Z,34nm,1.1s
SJUU Sjulsmark 59.11 27 eP P 22 55 47.7 -0.2
MPEP Malo Peshtene 59.13 52 P P 22 55 47.8 -0.7
CFA Coronel Fontan 59.23 203 LR LR 23 21 51.0
comp=Z,4µm,21.1s,baz=10.0,slow=36
HLID Hailey 59.25 308 IAms_20 IAms_20 23 18 59.2
comp=Z,8µm,21.0s
MMB Musomishta 59.29 55 P P 22 55 49.7 0.0
Y14A Wickenburg 59.31 297 IAms_20 IAms_20 23 20 12.6
comp=Z,5µm,19.0s
ARCR ARCALIA 59.33 48 ⇑P P 22 55 48.4 -1.5
CO03 El Pedregal 59.46 205 IAms_20 IAms_20 23 22 55.5
comp=Z,5µm,18.0s
PGB Panagyurishte 59.51 53 P P 22 55 46.3 -4.9
VLAD Vladila 59.56 52 ⇑P P 22 55 50.9 -0.5
ARR Arges 59.62 50 ⇓P P 22 55 51.3 -0.7
MEF Metsahovi 59.64 33 eP P 22 55 51.3 -0.4
CO06 Fray Jorge 59.69 206 IAms_20 IAms_20 23 21 16.7
comp=Z,7µm,20.0s
YKA Yellowknife An 59.74 330 P P 22 55 51.2 -1.1
comp=Z,29nm,1.0s,baz=95,slow=7.5,SNR=67
YKA LR LR 23 20 49.3
comp=Z,7µm,19.8s,baz=85,slow=35
comp=Z,29nm,1.0s
YKA Yellowknife Ar 59.74 330 *i* P P 22 55 51.5 -0.9
YKA pmax pmax
comp=Z,29nm,1.0s
PLVB Pleven 59.76 52 ⇓P P 22 55 51.8 -1.1
W13A Hualapai Mount 59.84 298 IAms_20 IAms_20 23 20 36.8
comp=Z,8µm,18.0s
BURAR Bucovina Array 59.89 47 ⇑P P 22 55 53.4 -0.5
BURAR Bucovina Array 59.89 47 P P 22 55 53.3 -0.5
CO02 Combarbal 59.90 205 IAms_20 IAms_20 23 21 31.3
comp=Z,7µm,21.0s
HUMR Humele 59.93 51 ⇑P P 22 55 53.5 -0.5
PLD Plovdiv 59.97 54 P P 22 55 53.3 -1.0
RZN Rozhen 60.01 54 P P 22 55 54.7 -0.2
KEF Keuruu 60.05 31 eP P 22 55 54.5 -0.1
DOPR Dopca 60.11 49 ⇑P P 22 55 54.2 -1.0
ELK Elko 60.13 305 LR LR 23 21 34.0
comp=Z,7µm,18.0s,baz=85,slow=36
113A Mohawk Valley, 60.13 295 IAms_20 IAms_20 23 20 45.6
comp=Z,4µm,18.0s
RNPP8 Varash 60.17 43 P P 22 55 54.5 -1.0
RNPP9 Sopashiv 60.19 43 P P 22 55 54.7 -0.9
PLID Pearl Lake 60.26 310 IAms_20 IAms_20 23 19 22.9
comp=Z,5µm,21.0s
ZIMR 60.28 52 ⇑P P 22 55 56.3 -0.1
ZIMR 60.28 52 P P 22 55 56.2 -0.1
MFID Camas Ranch 60.29 308 IAms_20 IAms_20 23 19 40.7
comp=Z,7µm,20.0s
OZUR 60.37 49 ⇑P P 22 55 56.0 -1.1
ARBE Arbavere 60.38 34 eP P 22 55 56.6 -0.1
KDZ Kurdzhali 60.47 54 P P 22 55 57.5 -0.3
NEE2 Needles Airpor 60.49 298 IAms_20 IAms_20 23 21 13.8
comp=Z,5µm,18.0s
MLR Muntele Rosu 60.53 50 IAms_20 IAms_20 23 18 28.5
comp=Z,10µm,22.0s
MLR Muntele Rosu 60.53 50 LR LR 23 20 58.1
comp=Z,7µm,18.2s,baz=260,slow=35
MLR Muntele Rosu 60.53 50 ⇑P P 22 55 57.7 -0.6
MLR Muntele Rosu 60.53 50 P P 22 55 57.7 -0.6
FINES FINESS Array B 60.56 32 P P 22 55 57.5 -0.5
comp=Z,23nm,0.8s,baz=266,slow=5.0,SNR=38
FINES LR LR 23 17 36.1
comp=Z,11µm,21.9s,baz=262,slow=32
comp=Z,23nm,0.8s
PRAR RASCA 60.59 48 ⇓P P 22 55 58.4 -0.1
SGRR Singureni 60.66 51 ⇓P P 22 55 58.2 -0.8
KMPD K-Podol'skiy 60.67 46 P P 22 55 56.4 -2.6
RDO Rodhopi 60.67 55 IAms_20 IAms_20 23 19 04.5
comp=Z,6µm,21.0s
COVR Voineasa-Covas 60.68 49 ⇑P P 22 55 59.0 -0.2
ELND Elena 60.72 53 ⇑P P 22 55 59.2 -0.3
VSU Vasula 60.73 35 eP P 22 55 57.8 -1.4
VSU Vasula 60.73 35 *d* iP P 22 55 57.2 -2.0
VSU pmax pmax
comp=Z,85nm,0.8s
VSU MLR MLR
comp=Z,2µm,14.0s
NEHR Nehoiu 60.78 50 ⇑P P 22 55 59.7 -0.2
SULR 60.82 51 ⇑P P 22 55 59.2 -0.9
TESR Tescani 60.94 49 ⇑P P 22 55 59.7 -1.2
GLA Glamis 60.96 296 IAms_20 IAms_20 23 20 32.4
comp=Z,5µm,21.0s
ISR Istrita 60.98 50 ⇓P P 22 56 00.7 -0.6
ISR Istrita 60.98 50 P P 22 56 00.7 -0.6
PLOR Plostina 60.99 49 ⇑P P 22 56 00.2 -1.1
PLOR Plostina 60.99 49 P P 22 56 00.2 -1.1
IDI Anoyia 61.01 62 LR LR 23 20 30.9
comp=Z,1µm,21.5s,baz=280,slow=34
IRM Iron Mountain 61.02 297 IAms_20 IAms_20 23 20 18.9
comp=Z,7µm,20.0s
VRI Vrincioaia 61.05 49 ⇑P P 22 56 00.4 -1.2
VRI Vrincioaia 61.05 49 P P 22 56 00.4 -1.2
BISRR Bisoca 61.06 50 ⇑P P 22 56 01.0 -0.8
ALN Alexandroupoli 61.08 55 IAms_20 IAms_20 23 19 05.5
comp=Z,5µm,22.0s
RAZG Razgrad 61.11 52 ⇓P P 22 56 01.7 -0.4
VA03 San Esteban 61.12 204 IAms_20 IAms_20 23 22 15.4
comp=Z,6µm,22.0s
DANC Danby, Needles 61.13 298 IAms_20 IAms_20 23 21 43.8
comp=Z,5µm,19.0s
LOZB Loznitsa 61.20 52 ⇑P P 22 56 01.8 -0.9
BMO Blue Mountains 61.21 309 IAms_20 IAms_20 23 21 22.9
comp=Z,5µm,19.0s
VA06 Catapilco 61.22 205 IAms_20 IAms_20 23 22 24.2
comp=Z,6µm,20.0s
SPITS Spitsbergen Ar 61.26 12 P P 22 56 02.9 +0.4
comp=Z,13nm,0.8s,baz=224,slow=4.0,SNR=4.6
SPITS LR LR 23 16 14.7
comp=Z,3µm,21.1s,baz=240,slow=30
comp=Z,13nm,0.8s
GRER 61.26 50 ⇑P P 22 56 02.6 -0.5
ODBI Odobesti 61.28 49 ⇑P P 22 56 03.2 0.0
ARCES ARCESS Array B 61.29 22 P P 22 56 01.9 -1.0
comp=Z,39nm,0.9s,baz=261,slow=6.0,SNR=34
ARCES LR LR 23 17 11.0
comp=Z,4µm,21.5s,baz=262,slow=31
comp=Z,39nm,0.9s
MI28 MI28,Pidlybu 61.33 44 iP P 22 56 02.6 -0.8
MNK Minsk 61.33 40 *i* P P 22 56 02.5 -0.9
MNK *i* 22 58 19.2
MNK *i* S S 23 04 23.1 -0.1
MNK *i* SS SS 23 08 24.4 +1.1
MNK pmax pmax
comp=E,11nm,0.8s

MNK pmax pmax
comp=Z,52nm,0.9s
MNK pmax pmax
comp=N,45nm,1.1s
MNK MLR MLR
comp=E,1µm,17.0s
MNK MLR MLR
comp=Z,3µm,16.0s
MNK MLR MLR
comp=N,2µm,16.0s
PANC Panciu 61.34 49 ⇑P **P 22 56 03.3 -0.3**
SFX San Felipe 61.37 294 IAMs_20 IAMs_20 23 22 00.5
comp=Z,4µm,18.0s
CICN Ciocanesti 61.42 51 ⇑P **P 22 56 02.8 -1.3**
TPNV Topopah Spring 61.44 300 IAMs_20 IAMs_20 23 20 04.7
comp=Z,7µm,22.0s
LUBAR Lubar, Ukraine 61.44 45 P **P 22 56 03.2 -1.0**
EZN Ezine 61.44 56 ⇑P **P 22 56 03.6 -0.7**
EZN Ezine 61.44 56 P **P 22 56 03.6 -0.7**
EZN Ezine 61.44 56 P **P 22 56 03.9 -0.4**
comp=Z,1µmcomp=Z,39nm,0.8s
GHRR 61.50 49 ⇑P **P 22 56 03.7 -1.0**
PEL Peldehue 61.51 204 IAMs_20 IAMs_20 23 22 25.6
comp=Z,6µm,21.0s
MT08 Bocatoma Ro 61.53 203 IAMs_20 IAMs_20 23 23 04.5
comp=Z,4µm,20.0s
SHOC Shoshone, Teco 61.63 299 IAMs_20 IAMs_20 23 20 06.9
comp=Z,5µm,21.0s
E09A Wood Farm, Sta 61.63 311 IAMs_20 IAMs_20 23 21 29.1
comp=Z,6µm,19.0s
MT16 CCHEN 61.70 204 IAMs_20 IAMs_20 23 22 34.9
comp=Z,7µm,21.0s
NEF NEVSHA 61.70 52 P **P 22 56 05.4 -0.7**
VASR Vaslui 61.71 48 ⇑P **P 22 56 05.0 -1.1**
TUDR 61.73 50 ⇑P **P 22 56 04.6 -1.6**
BELC Belle Mtn. Jos 61.74 297 IAMs_20 IAMs_20 23 20 39.1
comp=Z,6µm,21.0s
MT05 Renca 61.75 204 IAMs_20 IAMs_20 23 22 35.1
comp=Z,5µm,21.0s
MT03 Universidad Ad 61.75 204 IAMs_20 IAMs_20 23 22 36.3
comp=Z,4µm,22.0s
MT02 Curacav 61.78 205 IAMs_20 IAMs_20 23 22 55.0
comp=Z,5µm,20.0s
IZVR Izvoarele 61.80 50 ⇑P **P 22 56 05.0 -1.7**
KEV Kevo 61.85 22 IAMs_20 IAMs_20 23 17 26.7
comp=Z,5µm,22.0s
SCHLR Schela 61.85 50 ⇑P **P 22 56 05.6 -1.5**
YUH Yuha Desert 61.94 296 IAMs_20 IAMs_20 23 20 52.5
comp=Z,4µm,21.0s
SORM Soroca 61.96 47 ⇑P **P 22 56 06.1 -1.6**
SORM Soroca 61.96 47 P **P 22 56 06.1 -1.6**
SORM Soroca 61.96 47 P **P 22 56 04.8 -2.9**
comp=Z,1µmcomp=Z,78nm,0.8s
ICOR Ion Corvin 61.98 51 ⇑P **P 22 56 06.9 -1.0**
VLDR Vladesti 61.99 49 ⇑P **P 22 56 06.5 -1.5**
FURC Furnace Creek, 62.00 300 IAMs_20 IAMs_20 23 19 47.7
comp=Z,6µm,22.0s
HARR Harsova 62.01 51 ⇑P **P 22 56 06.8 -1.4**
HARR Harsova 62.01 51 P **P 22 56 06.7 -1.4**
ESJX Sierra Juarez 62.09 295 IAMs_20 IAMs_20 23 22 12.5
comp=Z,4µm,19.0s
PHSR Pinarhisar 62.09 54 ⇓P **P 22 56 08.7 0.0**
CFR Carcaliu 62.10 50 ⇑P **P 22 56 07.6 -1.1**
CFR Carcaliu 62.10 50 P **P 22 56 07.6 -1.1**
D08A Wollman Farm, 62.12 312 IAMs_20 IAMs_20 23 20 27.8
comp=Z,9µm,21.0s
GSC Goldstone, Bar 62.16 299 IAMs_20 IAMs_20 23 21 58.0
comp=Z,4µm,18.0s
MT09 Talagante 62.18 204 IAMs_20 IAMs_20 23 22 34.7
comp=Z,4µm,22.0s
AK20 Malin Array Si 62.19 44 P **P 22 56 07.6 -1.6**
AK19 Malin Array Si 62.19 44 P **P 22 56 07.6 -1.6**
PFO Pinyon Flats O 62.20 297 LR LR 23 21 04.8
comp=Z,4µm,21.9s,baz=88,slow=34
PFO Pinyon Flats O 62.20 297 *d* iP **P 22 56 10.4 +0.7**
PFO pmax pmax
comp=Z,124nm,1.5s
PFO MLR MLR
comp=Z,3µm,14.0s
J08A Circle Bar Ran 62.21 308 IAMs_20 IAMs_20 23 23 01.6
comp=Z,6µm,18.0s
BO04 La Punta 62.23 204 IAMs_20 IAMs_20 23 23 20.0
comp=Z,5µm,21.0s
E08A Dider Farm, El 62.27 311 IAMs_20 IAMs_20 23 22 59.8
comp=Z,5µm,18.0s
B08A Colville Reser 62.27 314 IAMs_20 IAMs_20 23 20 41.8
comp=Z,8µm,20.0s
KIEV Kiev 62.31 44 IAMs_20 IAMs_20 23 19 09.5
comp=Z,5µm,21.0s
KIEV Kiev 62.31 44 ⇑P **P 22 56 08.8 -1.3**
KIEV Kiev 62.31 44 *i* P **P 22 56 08.4 -1.6**
SNR=7.8
KIEV Kiev 62.31 44 P **P 22 56 08.7 -1.3**
KIEV Kiev 62.31 44 P **P 22 56 08.6 -1.4**
comp=Z,5µmcomp=Z,276nm,0.9s
AKASG Malin Array Be 62.32 44 P **P 22 56 08.4 -1.7**
comp=Z,32nm,0.7s,baz=274,slow=6.2,SNR=52
AKASG LR LR 23 19 31.2
comp=Z,5µm,21.6s,baz=275,slow=33
comp=Z,32nm,0.7s
AKASG Malin Array Be 62.32 44 *ce* P **P 22 56 06.3 -3.8**
AKASG pmax pmax
comp=Z,34nm,0.7s
AKBB Malin Array Si 62.32 44 *c i* P **P 22 56 08.3 -1.8**
AKBB pmax pmax
comp=Z,50nm,0.9s
AKBB MLR MLR
comp=Z,3µm,15.0s
AKBB Malin Array Si 62.32 44 P **P 22 56 08.4 -1.7**
G08A Pilot Rock 62.33 310 IAMs_20 IAMs_20 23 21 37.5
comp=Z,7µm,19.0s
TPGR Topolog 62.34 50 ⇑P **P 22 56 08.8 -1.6**
AK10 Malin Array Si 62.35 44 P **P 22 56 08.6 -1.7**
MT01 Popeta 62.36 204 IAMs_20 IAMs_20 23 23 13.4
comp=Z,5µm,20.0s
TIRR Tirgusor 62.38 51 IAMs_20 IAMs_20 23 19 27.4
comp=Z,5µm,21.0s
TIRR Tirgusor 62.38 51 ⇑P **P 22 56 09.4 -1.2**
TIRR Tirgusor 62.38 51 P **P 22 56 09.4 -1.2**
TIRR Tirgusor 62.38 51 P **P 22 56 09.3 -1.3**
comp=Z,995nmcomp=Z,46nm,1.8s
KIS Kishinev 62.38 48 ⇑P **P 22 56 09.4 -1.2**
KIS Kishinev 62.38 48 ⇑*i* P **P 22 56 08.0 -2.6**
comp=Z,210nm,2.0s
KIS Kishinev 62.38 48 *i* PcP **PcP 22 56 44.0 -6.0**
KIS *i* S **S 23 04 34.0 -2.7**
KIS *eL* L 23 18 43.0
KIS LRM MLR 23 20 09.0
comp=Z,1µm,21.0s
KIS Kishinev 62.38 48 *c i* P **P 22 56 08.0 -2.6**
KIS *i* 22 56 44.0
KIS *e* S **S 23 04 34.0 -2.7**
KIS pmax pmax
comp=Z,210nm,2.0s
MILM Milestii Mici 62.38 48 ⇑P **P 22 56 08.7 -1.9**
MILM Milestii Mici 62.38 48 ⇑*i* P **P 22 56 07.8 -2.8**
comp=Z,460nm,2.1s
MILM Milestii Mici 62.38 48 ⇑*i* PcP **PcP 22 56 51.0 +0.9**
MILM *i* S **S 23 04 31.0 -5.8**
MILM Milestii Mici 62.38 48 *c i* P **P 22 56 08.0 -2.6**
MILM *i* 22 56 54.0
MILM *i* S **S 23 04 31.0 -5.8**
MILM pmax pmax
comp=Z,460nm,2.1s
MFTR Murfatlar 62.42 51 ⇑P **P 22 56 09.9 -0.9**
WVOR Wild Horse Val 62.45 307 IAMs_20 IAMs_20 23 21 33.0
comp=Z,7µm,19.0s
BAR Barrett 62.55 296 IAMs_20 IAMs_20 23 22 09.7
comp=Z,5µm,20.0s
TLCR 62.58 50 ⇓P **P 22 56 10.3 -1.6**
TLCR 62.58 50 P **P 22 56 10.3 -1.6**
WAH2 Wahluke Slope 62.59 312 IAMs_20 IAMs_20 23 20 43.2
comp=Z,7µm,21.0s
PUL Pulkovo 62.60 33 ⇑*e* P **P 22 56 12.8 +1.1**
PUL pmax pmax
comp=Z,72nm,1.0s
PUL MLR MLR
comp=Z,2µm,14.0s
HAWA Hanford 62.60 311 IAMs_20 IAMs_20 23 22 18.7
comp=Z,5µm,20.0s
CBX Cerro Bola 62.62 295 IAMs_20 IAMs_20 23 21 12.5
comp=Z,5µm,21.0s
JURR Jurilovca 62.67 50 ⇑P **P 22 56 11.8 -0.7**
CLC China Lake 62.70 299 IAMs_20 IAMs_20 23 21 22.3
comp=Z,4µm,20.0s
BO01 Tunca 62.77 204 IAMs_20 IAMs_20 23 22 41.2
comp=Z,5µm,22.0s
KARP Karpathos 62.79 61 *e* P **P 22 56 12.9 -0.6**
KARP Karpathos 62.79 61 P **P 22 56 13.1 -0.5**
comp=Z,3µmcomp=Z,244nm,0.9s
NVAR Mina Array Bea 62.80 302 P **P 22 56 14.1 +0.2**
comp=Z,28nm,1.1s,baz=83,slow=6.0,SNR=48
NVAR LR LR 23 21 19.8
comp=Z,11µm,21.2s,baz=84,slow=34
comp=Z,28nm,1.1s
E07A Sunnyside 62.80 312 IAMs_20 IAMs_20 23 20 50.0
comp=Z,4µm,20.0s
BAL3X Bal3x, Balta 62.81 47 P **P 22 56 10.8 -2.6**
TJX Tijuana 62.90 296 IAMs_20 IAMs_20 23 21 45.0
comp=Z,5µm,21.0s
CWC Cottonwood Cre 62.97 300 IAMs_20 IAMs_20 23 21 05.4
comp=Z,6µm,22.0s
ELS Elsinore Mount 62.98 297 IAMs_20 IAMs_20 23 21 26.8
comp=Z,6µm,21.0s
BO02 Sierra Bellavi 63.01 203 IAMs_20 IAMs_20 23 23 43.7
comp=Z,8µm,22.0s
BFSC Mount Baldy Ra 63.05 298 IAMs_20 IAMs_20 23 20 59.7
comp=Z,5µm,20.0s
JOF Joensuu 63.08 30 *e* P **P 22 56 14.7 -0.2**
MXC Moxie City 63.10 312 IAMs_20 IAMs_20 23 20 59.0
comp=Z,5µm,21.0s
PURM Purcari 63.15 48 ⇑P **P 22 56 14.8 -0.9**
PURM Purcari 63.15 48 P **P 22 56 14.6 -1.1**
comp=Z,83nm,1.0s
MANT Manisa 63.36 57 IAMs_20 IAMs_20 23 21 58.9
comp=Z,5µm,20.0s
MWC Mount Wilson 63.38 298 IAMs_20 IAMs_20 23 21 20.4
comp=Z,5µm,20.0s
TPO Tropico Hills 63.39 298 IAMs_20 IAMs_20 23 23 30.5
comp=Z,4µm,19.0s
TRQA Tornquist 63.40 195 IAMs_20 IAMs_20 23 22 48.0
comp=Z,6µm,19.0s
ISA Isalla, Lake 63.43 299 IAMs_20 IAMs_20 23 21 54.6
comp=Z,4µm,19.0s
PASC Pasadena Art C 63.49 298 IAMs_20 IAMs_20 23 21 12.4
comp=Z,5µm,20.0s
G06A Carlson Farm, 63.51 310 IAMs_20 IAMs_20 23 22 31.8
comp=Z,6µm,18.0s
WRGLY Wrigley 63.83 330 IAMs_20 IAMs_20 23 21 38.9
comp=Z,7µm,22.0s
WRGLY Wrigley 63.83 330 P **P 22 56 19.9 0.0**
baz=89,SNR=28
NE56 Odesa 63.84 48 P **P 22 56 19.4 -0.8**
PINE Pine Mountain 63.93 309 IAMs_20 IAMs_20 23 21 46.0
comp=Z,5µm,22.0s
G05A Wamic 63.98 310 IAMs_20 IAMs_20 23 22 46.3
comp=Z,5µm,18.0s
APA Apatity 64.01 25 *e* P **P 22 56 18.9 -2.1**
APA *e* S **S 23 04 57.5 +1.0**
APA *e* 23 06 13.4
APA MLR MLR
comp=Z,5µm,24.8s
K05A Summer Lake 64.06 307 IAMs_20 IAMs_20 23 22 52.5
comp=Z,6µm,19.0s
ML02 Panimavida 64.11 204 IAMs_20 IAMs_20 23 24 25.8
comp=Z,5µm,21.0s
C36M Paulatuk 64.11 337 P **P 22 56 21.5 -0.1**
baz=92
I05D Terrebonne, OR 64.13 309 IAMs_20 IAMs_20 23 22 46.3
comp=Z,4µm,20.0s
D05A Enumclaw 64.18 312 IAMs_20 IAMs_20 23 21 51.4
comp=Z,8µm,21.0s
HOOD Mount Hood Mea 64.21 310 IAMs_20 IAMs_20 23 23 30.2
comp=Z,5µm,18.0s
J05D Fort Rock, OR 64.22 308 IAMs_20 IAMs_20 23 23 23.6
comp=Z,4µm,19.0s
KOTAN Kotaneelee Air 64.22 327 P **P 22 56 22.7 +0.1**
baz=87,SNR=18
LVZ Lovozero 64.49 24 IAMs_20 IAMs_20 23 19 34.6
comp=Z,5µm,21.0s
LVZ Lovozero 64.49 24 *ce* P **P 22 56 24.1 -0.1**
LVZ pmax pmax
comp=Z,19nm,0.9s
LVZ MLR MLR
comp=Z,2µm,17.0s
A36M Sachs Harbour 64.58 340 P **P 22 56 25.5 +0.8**
baz=92,SNR=8.6
TULE Intermountain 64.60 307 IAMs_20 IAMs_20 23 21 50.9
comp=Z,5µm,21.0s
H04A Detroit Lake 64.68 310 IAMs_20 IAMs_20 23 23 10.7
comp=Z,6µm,19.0s
GNW Green Mountain 64.69 313 IAMs_20 IAMs_20 23 22 49.9
comp=Z,6µm,20.0s
K04D Chiloquin, OR 64.70 307 IAMs_20 IAMs_20 23 25 33.5
comp=Z,5µm,19.0s
AFDM Forest Hills D 64.76 303 IAMs_20 IAMs_20 23 22 31.5
comp=Z,6µm,20.0s
HATC Hat Creek Radi 64.79 305 IAMs_20 IAMs_20 23 25 06.2
comp=Z,6µm,18.0s
G04A Mudno 64.80 310 IAMs_20 IAMs_20 23 23 50.0
comp=Z,4µm,19.0s
J04A Umpqua Nationa 64.85 308 IAMs_20 IAMs_20 23 22 19.5
comp=Z,5µm,22.0s
BI02 San Fabin de 64.86 203 IAMs_20 IAMs_20 23 26 25.7
comp=Z,5µm,19.0s
TOAD Toad River Com 64.90 326 P **P 22 56 26.9 -0.1**
baz=85,SNR=14
ISP Isparta 65.01 58 *c i* P **P 22 56 27.7 -0.5**
ISP pmax pmax
comp=Z,20nm,0.9s
ISP MLR MLR
comp=Z,1µm,15.0s
F04D Rainier, OR 65.03 311 IAMs_20 IAMs_20 23 24 32.1
comp=Z,5µm,18.0s
ORV Oroville 65.05 304 IAMs_20 IAMs_20 23 22 29.2
comp=Z,6µm,21.0s
H04D Lebanon 65.09 310 IAMs_20 IAMs_20 23 23 23.7
comp=Z,6µm,19.0s
O03E Paws Creek 65.14 305 IAMs_20 IAMs_20 23 23 51.5
comp=Z,6µm,19.0s
PMPB Monarch Peak 65.17 300 IAMs_20 IAMs_20 23 22 35.6
comp=Z,7µm,20.0s
BBGB Big Mountain B 65.28 301 IAMs_20 IAMs_20 23 22 47.6
comp=Z,8µm,19.0s
LIRD Liard River Hi 65.30 326 P **P 22 56 30.0 +0.4**
baz=85
BUCK Buck Mountain 65.32 309 IAMs_20 IAMs_20 23 23 32.8
comp=Z,4µm,20.0s
SUTB Sutter Butte 65.33 304 IAMs_20 IAMs_20 23 22 36.6
comp=Z,5µm,21.0s
E03A Lebam 65.34 312 IAMs_20 IAMs_20 23 22 52.2
comp=Z,8µm,20.0s
G03D McMinnville, O 65.35 310 IAMs_20 IAMs_20 23 24 15.4
comp=Z,4µm,18.0s
VA04 Juan Fernndez 65.37 211 IAMs_20 IAMs_20 23 22 18.1
comp=Z,5µm,20.0s
F03A Seaside 65.44 311 IAMs_20 IAMs_20 23 24 44.7
comp=Z,6µm,19.0s
COR Corvallis 65.48 310 IAMs_20 IAMs_20 23 23 37.0
comp=Z,6µm,19.0s
RUSS Russell Ranch 65.53 303 IAMs_20 IAMs_20 23 23 45.9
comp=Z,5µm,20.0s
YBH Yreka Blue Hor 65.55 307 LR LR 23 23 27.2
comp=Z,491nm,20.8s,baz=82,slow=34
HULI Fort Hunter Li 65.56 300 IAMs_20 IAMs_20 23 22 45.8
comp=Z,7µm,21.0s
SAO San Andreas Ge 65.57 301 IAMs_20 IAMs_20 23 23 27.0
comp=Z,6µm,19.0s
SCZ Santa Cruz 65.57 301 IAMs_20 IAMs_20 23 23 17.0
comp=Z,7µm,20.0s
BI05 Punta Hualpn 65.64 204 IAMs_20 IAMs_20 23 25 27.3
comp=Z,5µm,20.0s
N02D Trinity Center 65.69 306 IAMs_20 IAMs_20 23 24 34.9
comp=Z,4µm,19.0s
MNRC McLaughlin Min 65.90 304 IAMs_20 IAMs_20 23 23 36.7
comp=Z,4µm,20.0s
O02D Mt. Diablo Mer 65.91 305 IAMs_20 IAMs_20 23 26 27.7
comp=Z,6µm,19.0s
I02E Swisshome, OR 65.95 309 IAMs_20 IAMs_20 23 25 15.4
comp=Z,5µm,18.0s
CVS Carmenet Viney 66.02 303 IAMs_20 IAMs_20 23 23 14.0
comp=Z,6µm,20.0s
L02F Cave Junction 66.11 307 IAMs_20 IAMs_20 23 25 30.9
comp=Z,6µm,18.0s
TGTN Hyland Airport 66.17 329 P **P 22 56 35.8 +0.6**
baz=84,SNR=25
OBN Obninsk 66.29 38 LR LR 23 22 21.3
comp=Z,14µm,20.4s,baz=224,slow=33
OBN Obninsk 66.29 38 ⇑P **P 22 56 35.7 -0.3**
OBN Obninsk 66.29 38 *c i* P **P 22 56 35.5 -0.5**
OBN *e* 22 59 01.1
OBN *i* S **S 23 05 25.0 +0.2**
OBN *i* SS **SS 23 09 32.7 -7.9**
OBN pmax pmax
comp=Z,321nm,1.9s
OBN MLR MLR
comp=Z,2µm,15.0s
OBN Obninsk 66.29 38 P **P 22 56 35.8 -0.3**
comp=Z,2µmcomp=Z,182nm,1.3s
SIM Simferopol' 66.33 50 *e* P **P 22 56 36.7 +0.2**
SIM *e* S **S 23 05 25.0 -0.6**
SIM pmax pmax
comp=Z,44nm,1.5s
SIM smax smax
comp=N,38nm,9.3s
SIM MLR MLR
comp=Z,3µm,18.6s
ANTO Ankara 66.34 55 P **P 22 56 36.6 -0.1**
ANTO P **P 22 56 36.6 -0.1**
ANTO S **S 23 05 30.7 +4.6**
ANTO S **S 23 05 30.7 +4.6**
ANTO Ankara 66.34 55 ⇑P **P 22 56 36.3 -0.5**
ANTO Ankara 66.34 55 P **P 22 56 36.2 -0.5**
ANTO Ankara 66.34 55 P **P 22 56 36.2 -0.5**
comp=Z,779nmcomp=Z,38nm,0.8s
HOPS Hopland Field 66.36 304 IAMs_20 IAMs_20 23 23 10.8
comp=Z,5µm,21.0s
KSXB Camp Six Broad 66.39 307 IAMs_20 IAMs_20 23 23 33.3
comp=Z,7µm,20.0s
KHMM Horse Mountain 66.47 306 IAMs_20 IAMs_20 23 23 34.6
comp=Z,7µm,20.0s
KEBM Edson Butte 66.52 308 IAMs_20 IAMs_20 23 24 01.7
comp=Z,6µm,20.0s
KBO Bosley Butte 66.57 307 IAMs_20 IAMs_20 23 26 11.1
comp=Z,6µm,18.0s
WTLY Watson Lake, Y 66.59 327 P **P 22 56 38.6 +0.7**
baz=83
KMRM Mail Ridge 66.59 305 IAMs_20 IAMs_20 23 26 48.8
comp=Z,6µm,18.0s
KCPM Cahto Peak 66.60 305 IAMs_20 IAMs_20 23 24 40.2
comp=Z,7µm,20.0s
JCC Jacoby Creek, 66.71 306 IAMs_20 IAMs_20 23 25 35.8
comp=Z,6µm,18.0s
MOS Moscow 66.80 38 *e* P **P 22 56 37.4 -1.9**
MOS *e* 22 57 07.2
MOS *e* S **S 23 05 27.8 -3.2**
MOS pmax pmax
comp=Z,219nm,1.8s
MOS pmax pmax
comp=Z,500nm,2.0s
KMPM Mount Pierce 66.86 305 IAMs_20 IAMs_20 23 27 46.8
comp=Z,4µm,18.0s
KHAM Kharkiv 66.87 44 P **P 22 56 39.8 -0.1**
BR106 Keskin Array S 66.98 55 P **P 22 56 40.5 -0.5**
comp=Z,337nmcomp=Z,29nm,0.9s
BR105 Keskin Array S 66.99 55 P **P 22 56 40.8 -0.2**
comp=Z,378nmcomp=Z,43nm,1.3s
BR131 Keskin Array S 67.00 55 P **P 22 56 40.6 -0.4**
SNR=31
BR131 P **P 22 56 40.6 -0.4**
SNR=31
BR131 S **S 23 05 34.9 +0.6**
BR131 S **S 23 05 34.9 +0.6**
BR131 Keskin Array S 67.00 55 *c i* P **P 22 56 40.5 -0.6**
BRTR Keskin Array B 67.00 55 P **P 22 56 40.7 -0.4**
comp=Z,19nm,0.7s,baz=263,slow=5.6,SNR=101
BRTR LR LR 23 25 39.4
comp=Z,2µm,18.3s,baz=286,slow=36
comp=Z,19nm,0.7s
BR104 Keskin Array S 67.01 55 P **P 22 56 40.7 -0.4**
comp=Z,353nmcomp=Z,42nm,1.0s
KLMR Klimovskoe 67.08 32 *e* P **P 22 56 38.0 -3.0**
KLMR *e* 22 57 08.7
KLMR S **S 23 05 32.6 -1.6**
KLMR pmax pmax
comp=Z,114nm,1.4s
KIRS Kirsehir-Merke 67.34 56 ⇑P **P 22 56 42.9 -0.2**
BBB Bella Bella 67.36 319 LR LR 23 25 05.3
comp=Z,7µm,18.7s,baz=75,slow=35
MMPY Sheldon Lake, 67.44 330 IAMs_20 IAMs_20 23 23 30.2
comp=Z,7µm,22.0s
MMPY Sheldon Lake, 67.44 330 P **P 22 56 44.2 +0.9**
baz=82,SNR=23
DLBC Dease Lake 67.44 325 LR LR 23 24 54.1
comp=Z,19um,19.3s,baz=44,slow=35
DLBC Dease Lake 67.44 325 P **P 22 56 44.2 +0.8**
baz=81,SNR=16
INK Inuvik 67.60 336 LR LR 23 24 18.1
comp=Z,8µm,21.7s,baz=78,slow=34
INK Inuvik 67.60 336 P **P 22 56 43.9 -0.2**
baz=82,SNR=25
R33M Jennings River 67.78 327 IAMs_20 IAMs_20 23 25 21.4
comp=Z,7µm,19.0s
R33M Jennings River 67.78 327 P **P 22 56 46.3 +0.7**
baz=81,SNR=37
T35M Bob Quinn 67.79 324 P **P 22 56 46.9 +1.3**
baz=80,SNR=9.0
F31M Tsiigehtchic 67.80 335 P **P 22 56 44.9 -0.5**
baz=82,SNR=9.7
U35K Hyder 67.84 323 P **P 22 56 46.2 +0.4**
baz=80
LR03 Panguipulli 67.89 202 IAMs_20 IAMs_20 23 24 54.8
comp=Z,4µm,22.0s
H09N1 TRISTAN DA CUN 67.94 152 T T 00 10 34.6
SNR=65
H09W1 TRISTAN DA CUN 67.95 152 T T 00 10 37.0
SNR=50
LPSR Galich'ya Gora 68.07 41 *eP* **P 22 56 45.9 -1.5**
LPSR pmax pmax
comp=Z,40nm,0.9s
G31M Satah River 68.08 335 P **P 22 56 46.6 -0.6**
baz=81,SNR=46
S34M Telegraph Cree 68.10 325 IAMs_20 IAMs_20 23 24 45.2
comp=Z,6µm,20.0s
S34M Telegraph Cree 68.10 325 P **P 22 56 48.1 +0.6**
baz=80,SNR=9.1
PLCA Paso Flores 68.28 200 P **P 22 56 50.0 +1.2**
comp=Z,14nm,0.8s,baz=20,slow=7.1,SNR=20
PLCA LR LR 23 26 05.8
comp=Z,4µm,21.4s,baz=24,slow=35
comp=Z,14nm,0.8s
H31M Peel River 68.29 334 P **P 22 56 48.4 -0.2**
baz=80,SNR=40
LR05 Currie 68.31 202 IAMs_20 IAMs_20 23 26 51.9
comp=Z,6µm,20.0s
VORR Voronezh 68.42 42 *eP* **P 22 56 47.5 -2.1**
VORR pmax pmax
comp=Z,30nm,0.9s
VSR Storozhevoye 68.48 42 *eP* **P 22 56 47.3 -2.7**
VSR pmax pmax
comp=Z,30nm,0.9s
Q32M Nakina River 68.51 326 P **P 22 56 50.5 +0.2**
baz=80,SNR=16
N32M Quiet Lake 68.52 329 P **P 22 56 49.8 -0.3**
baz=80,SNR=6.1
F30M Barrier River 68.55 336 P **P 22 56 50.1 0.0**
baz=80,SNR=20
P33M Teslin, Yukon 68.56 328 P **P 22 56 50.2 -0.2**
baz=80,SNR=14
ANN Anapa 68.67 49 *eP* **P 22 56 50.2 -1.0**
ANN *eS* **S 23 05 52.7 -1.0**
ANN pmax pmax
comp=Z,95nm,1.5s
ANN MLR MLR
comp=Z,3µm,16.0s
G30M tAoh Zraii Nji 68.83 335 P **P 22 56 51.5 -0.4**
baz=79
V35K Ketchikan 68.84 322 IAMs_20 IAMs_20 23 27 03.8
comp=Z,6µm,19.0s
V35K Ketchikan 68.84 322 P **P 22 56 52.9 +0.8**
baz=79,SNR=9.6
M31M Drury Creek, Y 68.94 330 P **P 22 56 53.4 +0.7**
baz=79,SNR=16
WRAK Wrangell Islan 69.03 324 P **P 22 56 54.4 +1.1**
baz=79,SNR=6.9
P32M Atlin 69.12 327 IAMs_20 IAMs_20 23 24 34.9
comp=Z,7µm,22.0s
P32M Atlin 69.12 327 P **P 22 56 54.5 +0.6**
baz=79,SNR=7.8
EPYK Eagle Plains 69.14 334 P **P 22 56 53.5 -0.4**
baz=79,SNR=21
E29M Blow River 69.18 337 IAMs_20 IAMs_20 23 25 20.9
comp=Z,5µm,22.0s
E29M Blow River 69.18 337 P **P 22 56 53.9 -0.2**
baz=78
I30M Mount Dempster 69.23 333 P **P 22 56 54.2 -0.3**
baz=78,SNR=57
LL03 Petrohue 69.26 202 IAMs_20 IAMs_20 23 27 10.9
comp=Z,4µm,20.0s
T33K Petersburg 69.28 324 P **P 22 56 55.1 +0.3**
baz=78

D28M **Stokes Point** 69.29 338 P P 22 56 55.0 +0.3
baz=78
J30M **Hart River** 69.34 333 P P 22 56 55.5 +0.2
baz=78,SNR=61
MAYO **Mayo, Yukon** 69.34 331 P P 22 56 56.2 +1.0
baz=78
WHY **Whitehorse** 69.48 328 P P 22 56 56.5 +0.3
baz=78,SNR=6.4
U33K **Whale Pass** 69.51 323 IAms_20 IAms_20 23 25 35.6
comp=Z,7µm,20.0s
U33K **Whale Pass** 69.51 323 P P 22 56 57.2 +1.0
baz=78,SNR=5.0
G29M **Pine Creek** 69.53 335 P P 22 56 56.3 0.0
baz=78,SNR=16
CRAG **Craig** 69.65 323 IAms_20 IAms_20 23 26 35.3
comp=Z,6µm,19.0s
CRAG **Craig** 69.65 323 P P 22 56 57.9 +0.8
baz=78
E28M **Babbage River** 69.73 337 IAms_20 IAms_20 23 25 17.3
comp=Z,6µm,22.0s
E28M **Babbage River** 69.73 337 P P 22 56 57.9 +0.5
baz=77,SNR=12
N31M **Braeburn, Yuko** 69.73 329 P P 22 56 57.9 +0.3
baz=78,SNR=38
R32K **Eaglecrest** 69.80 326 IAms_20 IAms_20 23 26 25.9
comp=Z,5µm,20.0s
R32K **Eaglecrest** 69.80 326 P P 22 56 58.0 0.0
baz=78
H29M **Whitestone** 69.82 334 P P 22 56 58.3 +0.2
baz=77,SNR=37
SKAG **Skagway** 69.95 327 IAms_20 IAms_20 23 25 00.9
comp=Z,7µm,22.0s
SKAG **Skagway** 69.95 327 P P 22 56 59.5 +0.6
baz=77
M30M **Minto, Yukon** 69.96 330 P P 22 56 59.2 +0.2
baz=77,SNR=26
BHL **Bhannes** 69.97 61 *e*P P 22 56 58.3 -1.4
I29M **Ogilvie Camp,** 69.99 334 P P 22 56 59.0 -0.1
baz=77,SNR=36
K29M **Barlow Dome** 70.00 332 P P 22 56 59.6 +0.3
baz=77,SNR=24
MMAI **Mount Meron Ar** 70.01 62 P P 22 57 00.3 +0.4
comp=Z,9.8nm,0.7s,baz=270,slow=7.2,SNR=19
MMAI LR LR 23 26 12.6
comp=Z,632nm,21.8s,baz=290,slow=35
comp=Z,9.8nm,0.7s
O30N **Mendenhall** 70.03 329 P P 22 56 59.9 +0.4
baz=77,SNR=32
VRH **Novokhopyorsk** 70.06 42 *e*P P 22 56 58.3 -1.4
VRH pmax pmax
comp=Z,30nm,0.9s
F28M **Old Crow** 70.08 336 IAMs_20 IAMs_20 23 25 33.7
comp=Z,8µm,22.0s
F28M **Old Crow** 70.08 336 P P 22 56 60.0 +0.3
baz=76,SNR=37
D27M **Malcolm River** 70.08 338 IAMs_20 IAMs_20 23 26 31.6
comp=Z,6µm,22.0s
D27M **Malcolm River** 70.08 338 P P 22 57 00.4 +0.8
baz=76,SNR=14
HWQ **Hawqa** 70.11 60 *e*P P 22 56 59.0 -1.5
J29N **Klondike Camp** 70.16 333 P P 22 57 01.0 +0.7
baz=77,SNR=8.9
N30M **Aishikik Lake** 70.35 329 P P 22 57 01.6 +0.1
baz=76,SNR=19
LL01 **San Ignacio de** 70.37 201 IAMs_20 IAMs_20 23 27 25.4
comp=Z,5µm,22.0s
R31K **City Hall, Gus** 70.39 326 P P 22 57 01.7 0.0
baz=77
L29M **L29M** 70.44 331 P P 22 57 02.2 +0.3
baz=76,SNR=35
PLBC **Pleasant Camp** 70.47 327 P P 22 57 03.1 +1.0
baz=76,SNR=5.6
SIT **Sitka** 70.49 325 P P 22 57 02.5 +0.2
baz=76
SOC **Sochi** 70.55 50 *c i*P P 22 57 02.5 -0.4
SOC *e* 22 59 34.4
SOC *e*PPP PPP 23 01 23.3
SOC *e*S **S** **23 06 16.1 +0.2**
SOC *e*SS **SS** **23 10 47.6 +0.7**
SOC *e*SSS SSS 23 13 58.7
SOC pmax pmax
comp=Z,73nm,1.0s
SOC MLR MLR
comp=Z,2µm,17.0s
ERBR **Yeremizino-Bor** 70.55 48 *e*P P 22 57 02.5 -0.4
ERBR *e*S **S** **23 06 15.8 -0.1**
ERBR pmax pmax
comp=Z,75nm,1.0s
ERBR MLR MLR
comp=Z,4µm,17.0s
E27K **Coleen River** 70.57 337 IAMs_20 IAMs_20 23 29 20.6
comp=Z,5µm,18.0s
E27K **Coleen River** 70.57 337 P P 22 57 03.1 +0.4
baz=75,SNR=15
EIL **Elat** 70.57 65 LR LR 23 27 52.9
comp=Z,5µm,20.6s,baz=280,slow=36
P30M **Million Dollar** 70.60 328 P P 22 57 03.8 +0.8
baz=76,SNR=12
GHAJ **Ghor Haditha** 70.61 64 P P 22 57 04.5 +1.0
GHAJ IAMs_20 IAMs_20 23 30 13.4
comp=Z,3µm,19.0s
I28M **Miner Creek** 70.63 334 P P 22 57 03.1 0.0
baz=76,SNR=18
HYT **Haines Junctio** 70.70 329 P P 22 57 04.0 +0.4
baz=76,SNR=16
M29M **Somme Creek** 70.75 331 P P 22 57 03.6 -0.3
baz=76,SNR=22
DAWY **Dawson** 70.75 332 P P 22 57 03.7 -0.1
baz=76,SNR=57
S31K **Pelican** 70.75 326 IAMs_20 IAMs_20 23 27 04.2
comp=Z,7µm,19.0s
S31K **Pelican** 70.75 326 P P 22 57 03.6 -0.2
baz=76
VSLR **Vesyoloye** 70.80 50 *c i*P P 22 57 04.7 +0.2
VSLR pmax pmax
comp=Z,132nm,1.2s
VSLR MLR MLR
comp=Z,1µm,17.0s
C27K **Jago River** 70.92 338 P P 22 57 05.4 +0.7
baz=74,SNR=12
LL02 **Futaleuf** 70.92 200 IAMs_20 IAMs_20 23 28 27.8
comp=Z,6µm,21.0s
G27K **Doyon Strip** 70.95 335 P P 22 57 05.3 +0.2
baz=74,SNR=14
H27K **Steamboat Moun** 71.06 335 P P 22 57 05.6 -0.1
baz=74,SNR=21
YUK6 **Outpost Mounta** 71.07 329 P P 22 57 06.5 +0.4
baz=75,SNR=21
P29M **Windy Craggy** 71.10 328 P P 22 57 07.0 +0.9
baz=75,SNR=9.5
YUK4 **Talbot Arm** 71.11 329 P P 22 57 06.0 -0.3
baz=75,SNR=14
C26K **Camden Bay** 71.23 339 P P 22 57 07.2 +0.6
baz=73
I27K **Kandik River** 71.27 334 P P 22 57 07.1 +0.2
baz=74,SNR=42
O29M **Mount Kennedy** 71.34 328 P P 22 57 08.2 +0.7
baz=75,SNR=5.1
GO07 **Milladeo Hill,** 71.44 202 IAMs_20 IAMs_20 23 30 28.8
comp=Z,4µm,19.0s
ASF **Jabal al Asfar** 71.45 62 LR LR 23 27 19.9
comp=Z,886nm,21.6s,baz=321,slow=35
F26K **Sheenjek River** 71.63 337 IAMs_20 IAMs_20 23 26 44.7
comp=Z,7µm,22.0s
F26K **Sheenjek River** 71.63 337 P P 22 57 10.1 +1.0
baz=72,SNR=27
YUK8 **Steele Glacier** 71.64 330 P P 22 57 09.8 +0.2
baz=74,SNR=6.2
G26K **Porcupine Rive** 71.72 336 P P 22 57 10.3 +0.8
baz=73,SNR=25
YUK3 **Moose Creek** 71.83 330 P P 22 57 10.7 +0.1
baz=74,SNR=18
BVCY **Beaver Creek** 71.83 331 P P 22 57 10.4 0.0
baz=74
BMAR **Burnt Mountain** 71.87 336 P P 22 57 11.6 +1.0
K27K **Chicken** 71.90 333 P P 22 57 11.1 +0.4
baz=73
D25K **Kavik River** 71.90 338 P P 22 57 11.6 +0.9
baz=71,SNR=10
PNL **Peninsula** 71.91 328 P P 22 57 12.2 +1.3
baz=74
I26K **Coal Creek Min** 71.97 334 P P 22 57 11.5 +0.4
baz=73
O28M **Mount Upton** 71.98 329 P P 22 57 12.1 +0.5
baz=74,SNR=22
E25K **Arctic Village** 72.01 337 IAMs_20 IAMs_20 23 28 33.7
comp=Z,4µm,19.0s
E25K **Arctic Village** 72.01 337 P P 22 57 12.3 +1.0
baz=71,SNR=20
L27K **Beaver Creek,** 72.07 332 P P 22 57 12.1 +0.2
baz=73,SNR=49
PINM **Pinnacle** 72.20 328 P P 22 57 12.5 -0.2
baz=74
F25K **Christian Rive** 72.21 337 IAMs_20 IAMs_20 23 27 46.9
comp=Z,6µm,21.0s
F25K **Christian Rive** 72.21 337 P P 22 57 13.3 +0.7
baz=71,SNR=23
M27K **Edge Creek, AK** 72.30 331 P P 22 57 13.4 +0.1
baz=73,SNR=26
J26L **Joseph Creek** 72.38 333 P P 22 57 13.6 -0.1
baz=72,SNR=35
KIRV **Kirov** 72.46 33 LR LR 23 25 36.9
comp=Z,7µm,20.5s,baz=288,slow=33
KIRV **Kirov** 72.46 33 *c i*P P 22 57 13.4 -0.7
GOF **Gofitskoye** 72.46 48 *ce*P P 22 57 14.6 +0.2
GOF *e*S S 23 06 42.9 +4.8
CTG **Chitna Glacier** 72.47 329 P P 22 57 14.9 +0.6
baz=73,SNR=12
KIV **Kislovodsk** 72.53 49 IAMs_20 IAMs_20 23 30 26.8
comp=Z,3µm,18.0s
KIV **Kislovodsk** 72.53 49 P P 22 57 15.3 +0.4
KIV P P 22 57 15.3 +0.4
KIV S S 23 06 39.2 +0.2
KIV S S 23 06 39.2 +0.2
KIV **Kislovodsk** 72.53 49 ⇓P P 22 57 14.4 -0.6
KIV **Kislovodsk** 72.53 49 *i*P P 22 57 14.7 -0.2
SNR=21
KIV **Kislovodsk** 72.53 49 *e*P P 22 57 15.2 +0.2
KIV *e* 22 59 54.8
KIV *e*PPP PPP 23 01 40.5
KIV *e*S **S** **23 06 38.8 -0.2**
KIV *e*SS **SS** **23 11 18.6 +1.2**
KIV pmax pmax
comp=Z,48nm,1.0s
KIV pmax pmax
comp=Z,147nm,4.1s
KIV MLR MLR
comp=Z,2µm,18.0s
KIV **Kislovodsk** 72.53 49 P P 22 57 15.3 +0.4
comp=Z,1µmcomp=Z,78nm,1.1s
KVAR **Kislovodsk Arr** 72.53 49 LR LR 23 28 37.3
comp=Z,842nm,18.1s,baz=215,slow=36
C24K **Franklin Bluff** 72.54 339 P P 22 57 15.4 +1.0
baz=69
SHA1 **Shidzhatmaz** 72.56 49 *c i*P P 22 57 16.1 +0.7
G25K **Bearman Lake** 72.65 336 P P 22 57 16.5 +1.4
baz=70,SNR=22
H25L **Birch Creek** 72.71 335 P P 22 57 16.2 +0.8
baz=71,SNR=28
SCRK **Sand Creek** 72.72 333 P P 22 57 15.6 -0.1
baz=72,SNR=10
KBZ **Khabaz** 72.73 49 P P 22 57 16.1 +0.1
comp=Z,20nm,0.8s,baz=265,slow=5.8,SNR=55
KBZ LR LR 23 29 55.7
comp=Z,2µm,18.2s,baz=296,slow=36
comp=Z,20nm,0.8s
KBZ **Khabaz** 72.73 49 *c i*P P 22 57 16.9 +0.9
KBZ pmax pmax
comp=Z,39nm,0.9s
KBZ MLR MLR
comp=Z,2µm,16.0s
L26K **Log Cabin Wild** 72.74 332 P P 22 57 16.1 +0.3
baz=72,SNR=7.9
D24K **Happy Valley** 72.78 339 IAMs_20 IAMs_20 23 29 03.0
comp=Z,6µm,20.0s
D24K **Happy Valley** 72.78 339 P P 22 57 16.0 +0.1
baz=69
M26K **Nabesna, AK** 72.78 331 P P 22 57 16.6 +0.5
baz=72,SNR=12
PRP **Porcupine Dome** 72.84 335 P P 22 57 17.1 +0.6
baz=71,SNR=23
MESA **MESA** 72.99 329 P P 22 57 17.7 +0.1
baz=72
MARD **Mardin** 73.03 56 P P 22 57 18.3 +0.2
MARD IAmb IAmb 22 57 36.1
comp=Z,68nm,1.0s
F24K **Squaw Lake** 73.04 337 IAMs_20 IAMs_20 23 28 56.0
comp=Z,6µm,20.0s
F24K **Squaw Lake** 73.04 337 P P 22 57 18.5 +0.9
baz=69,SNR=22
E24K **Your Creek** 73.06 338 IAMs_20 IAMs_20 23 29 39.3
comp=Z,5µm,21.0s
E24K **Your Creek** 73.06 338 P P 22 57 18.6 +0.9
baz=69
J25K **Salcha River,** 73.08 334 P P 22 57 17.8 0.0
baz=70,SNR=14
C23K **Itkillik River** 73.11 340 P P 22 57 19.0 +1.2
baz=67,SNR=5.5
MCARA **McCarthy VSAT** 73.12 330 P P 22 57 19.0 +1.0
baz=72,SNR=21
COYC **Coyhaique** 73.13 199 IAMs_20 IAMs_20 23 29 13.6
comp=Z,6µm,22.0s
RIDG **Independent Ri** 73.15 333 P P 22 57 18.3 0.0
baz=71,SNR=13
G24K **Hadweenzic Riv** 73.18 336 IAMs_20 IAMs_20 23 28 04.7
comp=Z,6µm,21.0s
G24K **Hadweenzic Riv** 73.18 336 P P 22 57 19.1 +0.8
baz=69,SNR=33
TOLK **Toolik Lake Re** 73.22 338 P P 22 57 19.4 +0.8
baz=68
BELG **Belogornoye** 73.28 40 LR LR 23 27 02.4
comp=Z,6µm,20.5s,baz=295,slow=34
BELG **Belogornoye** 73.28 40 *c i*P P 22 57 18.8 -0.3
BELG pmax pmax
comp=Z,26nm,1.6s
BELG MLR MLR
comp=Z,392nm,15.0s
NCK **Nalchik** 73.29 49 *c i*P P 22 57 20.0 +0.6
NCK pmax pmax
comp=Z,86nm,1.2s
NCK MLR MLR
comp=Z,2µm,18.0s
CRQE **Cirque** 73.35 329 P P 22 57 20.4 +0.8
baz=71,SNR=8.4
E23K **Chandalar** 73.46 338 IAMs_20 IAMs_20 23 30 00.9
comp=Z,6µm,20.0s
E23K **Chandalar** 73.46 338 P P 22 57 21.2 +1.2
baz=68,SNR=21
D23K **Nanushuk River** 73.47 339 IAMs_20 IAMs_20 23 29 34.2
comp=Z,6µm,20.0s
D23K **Nanushuk River** 73.47 339 P P 22 57 21.1 +1.2
baz=67
K24K **Donnelly Dome** 73.52 333 P P 22 57 20.8 +0.3
baz=70
GURO **Guroymak-BITLI** 73.61 55 P P 22 57 21.5 0.0
GURO IAmb IAmb 22 57 39.9
comp=Z,70nm,1.1s
ILAR **Eielson Array** 73.64 334 P P 22 57 21.2 +0.2
ILAR **Eielson Array** 73.64 334 P P 22 57 20.8 -0.3
comp=Z,54nm,1.0s,baz=70,slow=4.5,SNR=150
ILAR LR LR 23 30 11.8
comp=Z,14µm,18.1s,baz=58,slow=36
comp=Z,54nm,1.0s
ILAR **Eielson Array** 73.64 334 P P 22 57 21.2 +0.2
BGLC **Bering Glacier** 73.64 329 P P 22 57 21.7 +0.6
baz=71
H24K **Noodor Dome** 73.64 335 P P 22 57 22.1 +1.0
baz=69,SNR=20
PAX **Paxson** 73.68 332 P P 22 57 21.2 -0.2
baz=70,SNR=21
POKR **Poker Plat Res** 73.73 334 P P 22 57 21.5 -0.1
baz=69
HARP **HAARP** 73.74 331 P P 22 57 22.4 +0.8
baz=70,SNR=12
N25K **Chitina, Valde** 73.76 331 P P 22 57 22.1 +0.2
baz=70,SNR=12
B22K **Teshekpuk Lake** 73.79 340 IAMs_20 IAMs_20 23 28 30.5
comp=Z,5µm,22.0s
B22K **Teshekpuk Lake** 73.79 340 P P 22 57 22.7 +0.9
baz=65
HDA **Harding Lake** 73.79 334 P P 22 57 22.2 +0.3
baz=69,SNR=11
A22K **Sinclair Lake** 73.97 341 P P 22 57 23.6 +0.8
baz=64
BMRM **Bremner River** 73.98 330 P P 22 57 23.6 +0.5
baz=70,SNR=8.2
COLD **Coldfoot** 73.98 337 IAMs_20 IAMs_20 23 29 34.9
comp=Z,5µm,20.0s
COLD **Coldfoot** 73.98 337 P P 22 57 23.9 +0.8
baz=67,SNR=18
COLA **College** 73.99 334 *d i*P P 22 57 23.6 +0.6
COLA pmax pmax
comp=Z,96nm,0.9s
COLA MLR MLR
comp=Z,6µm,16.0s
COLA **College** 73.99 334 P P 22 57 23.6 +0.6
baz=68
G23K **Bananza Creek** 74.12 336 IAMs_20 IAMs_20 23 30 19.5
comp=Z,4µm,18.0s
G23K **Bananza Creek** 74.12 336 P P 22 57 25.1 +1.2
baz=67,SNR=28
D22K **Ayikyak River** 74.17 339 IAMs_20 IAMs_20 23 30 02.6
comp=Z,5µm,20.0s
D22K **Ayikyak River** 74.17 339 P P 22 57 25.4 +1.3
baz=65
KAIM **Kayak Island** 74.24 329 P P 22 57 25.6 +1.0
baz=70
H23K **Yukon River** 74.29 336 P P 22 57 25.9 +1.0
baz=67,SNR=86
M24K **Tolsona, Glenn** 74.29 331 P P 22 57 24.8 -0.2
baz=69
A21K **Barrow** 74.30 342 P P 22 57 25.2 +0.5
baz=62
KLU **Klutina** 74.39 331 P P 22 57 26.2 +0.6
baz=69,SNR=13
DHY **Denali Highway** 74.45 332 P P 22 57 26.2 +0.2
baz=68,SNR=12
B21K **Ikpikpuk River** 74.47 340 IAMs_20 IAMs_20 23 29 48.5
comp=Z,4µm,21.0s
B21K **Ikpikpuk River** 74.47 340 P P 22 57 26.9 +1.1
baz=64,SNR=5.5
I23K **Minto, Yukon-K** 74.48 335 P P 22 57 26.3 +0.4
baz=67,SNR=38
F22K **John River** 74.57 338 P P 22 57 27.2 +0.7
baz=65
G22K **Bettles** 74.58 337 P P 22 57 27.0 +0.6
baz=66
NEA2 **Nenana** 74.58 334 P P 22 57 27.2 +0.7
baz=67,SNR=14
TSUM **Tsumeb** 74.63 119 P P 22 57 28.2 +0.5
TSUM IAmb IAmb 22 57 32.7
comp=Z,134nm,1.9s
TSUM **Tsumeb** 74.63 119 LR LR 23 24 40.2
comp=Z,2µm,19.9s,baz=311,slow=31
EYAK **Cordova Ski Ar** 74.65 330 P P 22 57 26.5 -0.5
baz=69
C21K **Knifeblade Rid** 74.73 340 P P 22 57 27.9 +0.5
baz=64,SNR=6.0
E21K **Killik River** 74.78 339 IAMs_20 IAMs_20 23 29 14.9
comp=Z,4µm,22.0s
E21K **Killik River** 74.78 339 P P 22 57 28.5 +0.8
baz=64
WAT6 **Susitna Watana** 74.79 332 P P 22 57 28.0 0.0
baz=68,SNR=7.9
AY03 **Cochrane** 74.80 199 IAMs_20 IAMs_20 23 31 00.7
comp=Z,5µm,18.0s
MCK **McKinley** 74.86 333 P P 22 57 28.3 +0.2
baz=67,SNR=24
SCM **Sheep Creek Mo** 74.89 331 P P 22 57 28.8 +0.3
baz=68
H22K **Ishtalitna Cre** 74.95 336 P P 22 57 29.7 +1.0
baz=66,SNR=45
WAT1 **Susitna Watana** 75.04 332 P P 22 57 29.6 +0.3
baz=67
MLY **Manley** 75.06 335 P P 22 57 29.5 +0.1
MLY IAmb IAmb 22 57 39.0
comp=Z,58nm,0.9s
MLY **Manley** 75.06 335 P P 22 57 29.8 +0.4
baz=68,SNR=33
B20K **Meade River** 75.08 341 IAMs_20 IAMs_20 23 31 14.5
comp=Z,3µm,20.0s
B20K **Meade River** 75.08 341 P P 22 57 30.4 +1.2
baz=62
M23K **Glacier View** 75.08 331 P P 22 57 30.0 +0.5
baz=68
GNI **Garni** 75.12 52 LR LR 23 29 14.6
comp=Z,1µm,20.6s,baz=296,slow=35
GNI **Garni** 75.12 52 P P 22 57 30.8 +0.5
GNI S S 23 07 09.5 +0.9
GNI **Garni** 75.12 52 P P 22 57 30.5 +0.2
GNI **Garni** 75.12 52 *c i*P P 22 57 30.6 +0.2
GNI pmax pmax
comp=Z,197nm,2.0s
GNI MLR MLR
comp=Z,664nm,15.0s
GNI **Garni** 75.12 52 P P 22 57 30.8 +0.5
comp=Z,2µmcomp=Z,143nm,1.0s
GLI **Glacier Island** 75.14 330 P P 22 57 30.3 +0.4
baz=68
F21K **Alatna River** 75.15 338 P P 22 57 30.7 +0.8
baz=64,SNR=6.2
Q23K **Middleton Isla** 75.34 329 P P 22 57 31.6 +0.7
baz=68
G21K **Allakaket** 75.47 337 IAMs_20 IAMs_20 23 31 49.0
comp=Z,4µm,19.0s
G21K **Allakaket** 75.47 337 P P 22 57 32.7 +1.1
baz=64,SNR=35
I21K **Tanana** 75.48 335 P P 22 57 32.5 +0.8
baz=65,SNR=29
TRF **Thorofare Moun** 75.52 333 P P 22 57 32.6 +0.4
baz=66,SNR=12
D20K **Etivluk River** 75.52 339 P P 22 57 32.5 +0.6
baz=62,SNR=13
BPAW **Bear Paw Mtn.** 75.54 334 P P 22 57 32.3 +0.2
baz=66,SNR=17
KNK **Knik Glacier** 75.55 331 P P 22 57 32.9 +0.6
baz=67,SNR=7.6
H21K **Melozitna Rive** 75.58 336 P P 22 57 33.3 +1.0
baz=64,SNR=30
E20K **Nigu River** 75.60 339 P P 22 57 33.6 +1.2
baz=62,SNR=7.9
PWL **Port Wells** 75.71 331 P P 22 57 33.7 +0.6
baz=67
PMR **Palmer** 75.78 331 P P 22 57 34.3 +0.8
baz=67,SNR=10
IMAR **Indian Mountai** 75.79 336 P P 22 57 34.4 +0.9
EFI **East Falkland** 75.88 188 IAMs_20 IAMs_20 23 33 35.1
comp=Z,5µm,20.0s
EFI **East Falkland** 75.88 188 ⇑*i*P P 22 57 36.3 +2.4
EFI pmax pmax
comp=Z,204nm,1.5s
EFI MLR MLR
comp=Z,5µm,20.0s
CUT **Chulitna** 75.94 332 P P 22 57 35.3 +0.9
baz=66,SNR=6.0
F20K **Avaraart Lake** 76.01 338 P P 22 57 35.7 +1.0
baz=62
D19K **Kuna River** 76.11 340 P P 22 57 36.4 +1.0
baz=60,SNR=12
A19K **Wainwright** 76.14 342 P P 22 57 35.3 0.0
baz=58
M22K **Willow** 76.15 332 P P 22 57 35.7 +0.2
baz=66
CHUM **Lake Minchumin** 76.16 334 P P 22 57 35.8 +0.2
baz=64,SNR=39
MAK **Makhachkala** 76.17 49 *e*P P 22 57 32.8 -3.2
MAK *e*S S 23 07 17.5 -2.1
MAK *e*SS SS 23 12 08.7 -3.9
MAK *e*SSS SSS 23 15 26.1
MAK pmax pmax
comp=Z,72nm,1.8s
MAK MLR MLR
comp=Z,4µm,15.0s
RC01 **Rabbit Creek A** 76.25 331 P P 22 57 36.4 +0.3
baz=66,SNR=5.9
C19K **Lookout Ridge** 76.27 340 P P 22 57 36.5 +0.3
baz=59,SNR=7.8
CAST **Castle Rocks** 76.27 334 P P 22 57 36.2 0.0
baz=64,SNR=15
E19K **Redstone River** 76.33 338 P P 22 57 37.1 +0.5
baz=61,SNR=10
H20K **Anotleneega Mo** 76.43 336 P P 22 57 37.6 +0.5
baz=63,SNR=29
O22K **Cooper Landing** 76.49 330 P P 22 57 38.1 +0.6
baz=66
SEW **Seward** 76.52 330 P P 22 57 37.7 0.0
baz=66
SUA **Susitna One** 76.54 332 P P 22 57 38.6 +0.6
baz=65,SNR=5.8
PPLA **Purkeypile** 76.54 333 P P 22 57 38.3 +0.3
baz=64,SNR=9.0
I20K **Naaghedeneel** 76.60 335 P P 22 57 38.7 +0.7
baz=63
SKT **Skwentna** 76.66 332 P P 22 57 38.6 +0.1
baz=65,SNR=14
SLKM **Skilak Lake** 76.70 331 P P 22 57 38.9 +0.1
SLKM IAmb IAmb 22 57 48.4
comp=Z,94nm,1.2s
J20K **Nowinta River** 76.75 335 P P 22 57 39.3 +0.3
baz=63,SNR=20
B18K **Kokolik River** 76.80 341 P P 22 57 39.3 +0.2
baz=57,SNR=8.6
F19K **Shaleruckik Mo** 76.82 338 IAMs_20 IAMs_20 23 32 13.8

comp=Z,4µm,20.0s
F19K Shaleruckik Mo 76.82 338 P **P** **22 57 39.9 +0.6**
baz=60,SNR=11
AKT Akhty 76.83 50 *e*P **P** **22 57 39.8 -0.2**
AKT *e* 22 57 50.9
AKT *e*S **S** **23 07 28.5 +1.3**
AKT *e* 23 07 57.6
AKT pmax pmax
comp=Z,113nm,2.2s
AKT MLR MLR
comp=Z,3µm,18.0s
G19K Purcell Mounta 76.92 337 IAMs_20 IAMs_20 23 32 54.5
comp=Z,4µm,20.0s
G19K Purcell Mounta 76.92 337 P **P** **22 57 40.6 +0.7**
baz=61,SNR=21
H19K Roundabout Mou 76.99 337 IAMs_20 IAMs_20 23 30 35.3
comp=Z,6µm,21.0s
H19K Roundabout Mou 76.99 337 P **P** **22 57 41.1 +0.8**
baz=61,SNR=11
STLK Strandline Lak 77.00 332 IAMs_20 IAMs_20 23 30 47.8
comp=Z,5µm,20.0s
C18K Utukok River 77.00 340 P **P** **22 57 41.0 +0.6**
baz=58,SNR=6.8
CAPN Captain Cook N 77.01 331 P **P** **22 57 41.3 +0.9**
baz=65
K20K Telida 77.10 334 P **P** **22 57 41.2 +0.3**
baz=63,SNR=14
SPU Mount Spurr 77.23 332 P **P** **22 57 41.2 -0.6**
SPU IAMs_20 IAMs_20 23 30 25.0
comp=Z,4µm,21.0s
N20K Mount Spurr 77.29 332 P **P** **22 57 42.6 +0.5**
baz=64,SNR=8.5
SPCR Spurr Chakacha 77.29 332 P **P** **22 57 42.6 +0.4**
baz=64,SNR=5.2
XAUDM Khaudum 77.33 117 *i*P **P** **22 57 44.4 +1.4**
XAUDM Khaudum 77.33 117 P **P** **22 57 43.4 +0.3**
M20K Styx River 77.38 332 P **P** **22 57 42.5 -0.1**
baz=63,SNR=11
MBAR Mbarara 77.41 96 P **P** **22 57 43.7 0.0**
MBAR IAMs_20 IAMs_20 23 28 16.1
comp=Z,4µm,21.0s
MBAR Mbarara 77.41 96*c i*P **P** **22 57 43.9 +0.1**
MBAR pmax pmax
comp=Z,37nm,1.1s
MBAR MLR MLR
comp=Z,3µm,15.0s
J19K Poorman 77.42 335 P **P** **22 57 42.9 +0.2**
baz=62,SNR=14
L20K Farewell, AK 77.42 333 P **P** **22 57 42.9 +0.1**
baz=63,SNR=13
E18K Tukpahlearik C 77.47 339 P **P** **22 57 43.3 +0.4**
baz=58,SNR=6.7
GCSA Galena City Sc 77.53 336 P **P** **22 57 43.3 0.0**
baz=61
F18K Selawik 77.58 338 P **P** **22 57 44.0 +0.4**
baz=59
G18K Tagagawik 77.60 337 IAMs_20 IAMs_20 23 31 59.4
comp=Z,5µm,21.0s
G18K Tagagawik 77.60 337 P **P** **22 57 43.6 -0.1**
baz=59
C17K DeLong Mountai 77.71 341 P **P** **22 57 43.2 -1.1**
baz=56,SNR=8.6
HOM Homer 77.71 330 P **P** **22 57 44.3 -0.1**
baz=64
ARTI Arti 77.76 34 P **P** **22 57 44.8 0.0**
ARTI IAmb IAmb 22 58 27.0
comp=Z,192nm,1.9s
ARTI IAMs_20 IAMs_20 23 29 19.1
comp=Z,6µm,20.0s
ARTI Arti 77.76 34 P **P** **22 57 44.4 -0.4**
comp=Z,6.2nm,0.9s,baz=294,slow=5.3,SNR=12
ARTI LR LR 23 29 21.3
comp=Z,6µm,19.6s,baz=296,slow=34
comp=Z,6.2nm,0.9s
ARTI Arti 77.76 34*c i*P **P** **22 57 44.8 0.0**
ARTI 23 00 40.4
ARTI PPP PPP 23 02 2.6
ARTI S **S** **23 07 37.8 +1.2**
ARTI SS **SS** **23 12 31.6 -4.4**
ARTI SSS SSS 23 15 59.2
ARTI pmax pmax
comp=Z,89nm,2.2s
RDOG Red Dog Mine 77.86 340 IAMs_20 IAMs_20 23 33 44.2
comp=Z,4µm,20.0s
RDOG Red Dog Mine 77.86 340 P **P** **22 57 44.9 -0.2**
baz=56
H18K Honhosa River 77.88 337 IAMs_20 IAMs_20 23 30 51.7
comp=Z,5µm,21.0s
H18K Honhosa River 77.88 337 P **P** **22 57 44.9 -0.4**
baz=60,SNR=8.0
M19K Big River Lodg 77.90 333 P **P** **22 57 44.9 -0.6**
baz=62,SNR=9.4
L19K White Mountain 77.97 333 P **P** **22 57 46.0 +0.1**
L19K IAmb IAmb 22 57 55.0
comp=Z,110nm,1.4s
L19K White Mountain 77.97 333 P **P** **22 57 44.3 -1.5**
baz=62,SNR=15
O20K Slope Mountain 77.97 331 P **P** **22 57 46.1 +0.1**
baz=63
HOPE Hope Point 78.02 175 IAMs_20 IAMs_20 23 25 10.6
comp=Z,3µm,22.0s
E17K Hotham Inlet 78.06 339 P **P** **22 57 45.9 -0.3**
baz=57
J18K Innoko River 78.10 335 P **P** **22 57 45.9 -0.6**
baz=61
D17K Noatak River 78.12 340 P **P** **22 57 45.8 -0.7**
baz=56
F17K Baldwin Pennin 78.21 338 P **P** **22 57 46.5 -0.5**
baz=57
GO09 Cerro Castillo 78.36 197 IAMs_20 IAMs_20 23 33 00.7
comp=Z,5µm,20.0s
GMARE Gumare 78.43 117 P **P** **22 57 49.5 +0.3**
GMARE IAmb IAmb 22 59 38.7
comp=Z,44nm,0.4s
P19K Oil Pt 78.44 330 P **P** **22 57 47.1 -1.4**
baz=63
N19K Bonanza Creek 78.45 332 P **P** **22 57 47.9 -0.7**
baz=62
C16K Lisburne Hills 78.48 341 IAMs_20 IAMs_20 23 34 04.5
comp=Z,3µm,21.0s
C16K Lisburne Hills 78.48 341 P **P** **22 57 48.4 -0.2**
baz=54
G17K Kiwalik Mounta 78.51 337 P **P** **22 57 48.0 -0.8**
baz=58,SNR=7.7
Q20K Shuyak Island 78.53 329 P **P** **22 57 49.4 +0.5**
baz=63
H17K Granite Mounta 78.55 337 IAMs_20 IAMs_20 23 32 16.5
comp=Z,6µm,21.0s
H17K Granite Mounta 78.55 337 P **P** **22 57 48.9 -0.1**
baz=58,SNR=17
GRTLG Ghanzi 78.66 119 *i*P **P** **22 57 51.2 +0.8**
GRTLG Ghanzi 78.66 119 P **P** **22 57 51.2 +0.8**
O19K Port Alsworth 78.67 331 P **P** **22 57 49.3 -0.4**
baz=62
KOOLE Kule 78.70 121 *e*P **P** **22 57 51.6 +1.0**
KOOLE Kule 78.70 121 P **P** **22 57 51.5 +0.8**
KOOLE IAMs_20 IAMs_20 23 27 25.2
comp=Z,3µm,19.0s
M18K Stony River 78.70 333 P **P** **22 57 49.8 -0.1**
baz=61,SNR=12
L18K Granite Mounta 78.70 334 IAMs_20 IAMs_20 23 34 41.7
comp=Z,4µm,18.0s
L18K Granite Mounta 78.70 334 P **P** **22 57 48.5 -1.3**
baz=60
SVE Sverdlovsk 78.70 33*de*P **P** **22 57 50.3 +0.3**
SVE *e*S **S** **23 07 46.7 0.0**
SVE pmax pmax
comp=Z,87nm,1.5s
MG05 Puerto Natales 78.77 197 IAMs_20 IAMs_20 23 34 12.7
comp=Z,5µm,20.0s
Q19K Cape Douglas, 78.96 330 IAMs_20 IAMs_20 23 35 12.8
comp=Z,4µm,18.0s
Q19K Cape Douglas, 78.96 330 P **P** **22 57 51.4 0.0**
baz=62
KDAK Kodiak Island 78.99 329 LR LR 23 32 59.7
comp=Z,7µm,19.2s,baz=51,slow=36
KDAK Kodiak Island 78.99 329‖ *e*P **P** **22 57 51.8 +0.3**
KDAK pmax pmax
comp=Z,167nm,1.8s
KDAK MLR MLR
comp=Z,6µm,18.0s
KDAK Kodiak Island 78.99 329 P **P** **22 57 51.4 -0.1**
baz=63
J17K VABM Dome 79.05 335 P **P** **22 57 52.4 +0.6**
J17K VABM Dome 79.05 335 P **P** **22 57 52.3 +0.6**
baz=59,SNR=7.9
K17K Iditarod 79.10 334 P **P** **22 57 52.7 +0.6**
K17K IAmb IAmb 22 58 02.2
comp=Z,95nm,1.1s
K17K Iditarod 79.10 334 P **P** **22 57 51.6 -0.4**
baz=59,SNR=8.0
N18K Kilae Creek 79.12 332 P **P** **22 57 51.9 -0.3**
N18K Kilae Creek 79.12 332 P **P** **22 57 51.4 -0.8**
baz=61,SNR=5.5
G16K Koyuk River 79.17 338 P **P** **22 57 51.8 -0.6**
baz=56,SNR=5.5
L17K Donlin 79.40 334 P **P** **22 57 53.4 -0.3**
baz=59,SNR=10
I17K Unalakleet 79.40 336 P **P** **22 57 53.9 +0.2**
baz=57
M17K Holitna River 79.42 333 P **P** **22 57 53.6 -0.3**
baz=60
P18K Big Mountain, 79.46 331 P **P** **22 57 54.4 +0.2**
baz=61
H16K Elim 79.55 337 P **P** **22 57 54.3 -0.1**
baz=56
OHAK Old Harbor 79.58 328 IAMs_20 IAMs_20 23 34 48.5
comp=Z,4µm,19.0s
OHAK Old Harbor 79.58 328 P **P** **22 57 55.0 +0.2**
baz=62
J16K Anvik River 79.69 335 P **P** **22 57 55.1 -0.1**
baz=57
Q18K Katmai Hardscr 79.72 330 P **P** **22 57 55.4 -0.2**
baz=61,SNR=7.5
N17K Nushagak Hills 79.75 332 P **P** **22 57 55.8 +0.2**
baz=60
F15K North Star Dit 79.77 339 P **P** **22 57 57.2 +1.6**
F15K IAmb IAmb 22 57 59.0
comp=Z,102nm,1.3s
F15K North Star Dit 79.77 339 P **P** **22 57 56.3 +0.6**
baz=54,SNR=7.6
RPN Rapa Nui 79.88 235 LR LR 23 32 05.5
comp=Z,827nm,19.3s,baz=64,slow=35
R18K Kaiuk 79.98 329 P **P** **22 57 57.9 +1.0**
baz=61
G15K Niukluk 79.98 338 P **P** **22 57 57.1 +0.3**
baz=55,SNR=5.8
LODK Lodwar 80.03 91 P **P** **22 57 58.8 +0.7**
LODK IAMs_20 IAMs_20 23 35 31.2
comp=Z,5µm,18.0s
LODK Lodwar 80.03 91 P **P** **22 57 59.5 +1.4**
SNR=24
AKTO Aktyubinsk 80.05 39 P **P** **22 57 57.1 -0.4**
comp=Z,16nm,0.8s,baz=296,slow=5.6,SNR=47
AKTO LR LR 23 30 10.4
comp=Z,8µm,21.9s,baz=288,slow=33
comp=Z,16nm,0.8s
ACHA Angle Creek He 80.08 330 P **P** **22 57 58.0 +0.5**
ACHA IAMs_20 IAMs_20 23 34 45.4
comp=Z,4µm,19.0s
L16K Owhat River 80.09 334 IAMs_20 IAMs_20 23 32 36.5
comp=Z,5µm,21.0s
L16K Owhat River 80.09 334 P **P** **22 57 57.7 +0.3**
baz=58
O17K Koliganek Bris 80.10 332 P **P** **22 57 57.1 -0.4**
baz=60
P17K Kvichak River 80.10 331 P **P** **22 57 57.6 +0.1**
baz=60
KSANE Kasane 80.12 114 *i*P **P** **22 57 59.0 +0.5**
KSANE Kasane 80.12 114 P **P** **22 57 59.2 +0.7**
KGCAE Kacgae 80.21 120 *i*P **P** **22 57 59.5 +0.7**
KGCAE Kacgae 80.21 120 P **P** **22 57 59.7 +0.8**
KGCAE IAmb IAmb 22 58 02.3
comp=Z,86nm,1.2s
KGCAE IAMs_20 IAMs_20 23 27 56.3
comp=Z,4µm,20.0s
M16K Timber Creek 80.25 333 P **P** **22 57 59.4 +1.0**
M16K IAmb IAmb 22 58 09.3
comp=Z,90nm,1.1s
M16K Timber Creek 80.25 333 P **P** **22 57 58.9 +0.6**
baz=58,SNR=9.8
Q17K Contact Creek 80.31 330 P **P** **22 57 58.8 -0.1**
baz=60,SNR=9.3
SII Sitkinak Islan 80.33 328 P **P** **22 57 59.6 +0.8**
baz=62
Q16K King Salmon 80.45 330 P **P** **22 57 59.9 +0.4**
baz=60
N16K Nishlik Lake 80.45 333 P **P** **22 58 00.2 +0.7**
baz=58,SNR=14
F14K Arctic Creek 80.47 339 P **P** **22 57 59.7 +0.3**
baz=53
K15K Wolf Creek Mou 80.59 335 P **P** **22 58 00.4 +0.3**
baz=56
O16K Kokwok River B 80.62 332 P **P** **22 58 00.6 +0.3**
baz=59
MG01 Puerto William 80.62 193 IAMs_20 IAMs_20 23 34 12.7
comp=Z,5µm,20.0s
ANM Nome 80.70 338 P **P** **22 58 01.1 +0.5**
baz=53
USHA Ushuaia 80.70 193 LR LR 23 32 45.3
comp=Z,4µm,21.9s,baz=28,slow=35
CKGRV CKGRV 80.74 118 *i*P **P** **22 58 02.3 +0.6**
PLK4 Peulik 4 80.84 329 IAMs_20 IAMs_20 23 33 02.7
comp=Z,4µm,21.0s
R17L Mt. Peulik Vol 80.84 329 P **P** **22 58 01.6 0.0**
baz=60
L15K Ungalak Mounta 80.92 334 P **P** **22 58 03.2 +1.4**
baz=56
TNA Tin City 80.94 339 IAMs_20 IAMs_20 23 34 40.7
comp=Z,6µm,20.0s
TNA Tin City 80.94 339 P **P** **22 58 02.2 +0.3**
baz=51
FURI Furi 80.95 84 P **P** **22 58 03.7 +0.4**
FURI Furi 80.95 84 LR LR 23 33 39.7
comp=Z,5µm,19.1s,baz=297,slow=36
J14K Nanvaranak Lak 81.11 336 P **P** **22 58 03.5 +0.7**
J14K IAmb IAmb 22 58 06.2
comp=Z,99nm,1.5s
J14K Nanvaranak Lak 81.11 336 P **P** **22 58 03.3 +0.5**
baz=55
M15K Kasigluk River 81.14 333 P **P** **22 58 03.1 +0.1**
baz=57
N15K Kwethluk River 81.17 333 P **P** **22 58 03.8 +0.5**
baz=57
CHIR Chirikof Islan 81.39 328 P **P** **22 58 05.4 +0.8**
baz=60
LSZ Lusaka 81.51 111 P **P** **22 58 06.8 +0.9**
LSZ Lusaka 81.51 111 LR LR 23 31 33.3
comp=Z,744nm,18.6s,baz=311,slow=34
LSZ Lusaka 81.51 111 P **P** **22 58 07.0 +1.1**
LSZ P **P** **22 58 07.0 +1.1**
LSZ S **S** **23 08 21.9 +4.3**
LSZ S **S** **23 08 21.9 +4.3**
LSZ Lusaka 81.51 111 P **P** **22 58 06.8 +0.9**
LSZ pmax pmax
comp=Z,45nm,1.4s
LSZ MLR MLR
comp=Z,2µm,19.0s
RAYN Ar Rayn 81.51 68 P **P** **22 58 06.4 +0.5**
RAYN Ar Rayn 81.51 68 P **P** **22 58 05.9 +0.1**
RAYN S **S** **23 08 22.3 +4.8**
RAYN Ar Rayn 81.51 68 *i*P **P** **22 58 05.8 -0.1**
SNR=13
RAYN Ar Rayn 81.51 68 P **P** **22 58 06.4 +0.5**
RAYN pmax pmax
comp=Z,18nm,1.2s
RAYN MLR MLR
comp=Z,9µm,19.0s
L14K Kuka Creek 81.58 334 P **P** **22 58 05.5 +0.1**
baz=55
O15K Ungalikthiuk R 81.60 332 P **P** **22 58 05.5 -0.1**
baz=57
M14K Bethel 81.63 334 P **P** **22 58 06.7 +1.1**
M14K IAmb IAmb 22 58 16.3
comp=Z,72nm,0.8s
M14K Bethel 81.63 334 P **P** **22 58 05.8 +0.2**
baz=56
ABKAR Akbulak array 81.69 40 P **P** **22 58 05.7 -0.6**
N14K Kuskokwak Cree 81.98 333 P **P** **22 58 07.5 0.0**
baz=56
K13K Kusilvak Mount 82.00 335 P **P** **22 58 08.7 +1.1**
K13K IAmb IAmb 22 58 17.9
comp=Z,60nm,0.8s
K13K Kusilvak Mount 82.00 335 P **P** **22 58 08.4 +0.8**
baz=54,SNR=7.1
PHPEN Phepeng 82.06 122 P **P** **22 58 09.1 +0.4**
O14K Tigyukauivet M 82.17 332 P **P** **22 58 09.2 +0.6**
baz=56
SOOWA Sowa 82.32 116 *i*P **P** **22 58 10.9 +0.9**
M13K Dall Lake 82.38 334 P **P** **22 58 09.8 +0.2**
baz=55
SKOMA Sekoma 82.42 121 *i*P **P** **22 58 10.6 +0.1**
KDWAN Kaudwane 82.43 119 P **P** **22 58 10.8 +0.2**
KDWAN IAmb IAmb 22 58 16.6
comp=Z,78nm,1.1s
KDWAN IAMs_20 IAMs_20 23 27 03.0
comp=Z,3µm,22.0s
CHGN Chignik 82.49 329 P **P** **22 58 11.0 +0.7**
baz=58
S14K Fog Glacier 83.04 329 P **P** **22 58 13.6 +0.3**
baz=57
GAMB Gambell 83.34 339 IAMs_20 IAMs_20 23 35 42.1
comp=Z,3µm,22.0s
GAMB Gambell 83.34 339 P **P** **22 58 15.2 +0.6**
baz=48
LPHEP Lephephe 83.38 119 *i*P **P** **22 58 15.6 0.0**
LPHEP Lephephe 83.38 119 P **P** **22 58 17.0 +1.5**
LPHEP IAmb IAmb 22 58 19.1
comp=Z,61nm,1.2s
BROLN Tlhalogang 83.49 116 *i*P **P** **22 58 16.3 +0.2**
M11K Mekoryuk 83.54 335 P **P** **22 58 15.0 -0.6**
baz=52
KMBO Kilima Mbogo 83.57 94 P **P** **22 58 17.3 +0.3**
comp=Z,9.3nm,0.9s,baz=287,slow=3.8,SNR=18
KMBO LR LR 23 36 55.1
comp=Z,3µm,18.0s,baz=298,slow=37
comp=Z,9.3nm,0.9s
KMBO Kilima Mbogo 83.57 94*c i*P **P** **22 58 18.5 +1.5**
KMBO pmax pmax
comp=Z,11nm,0.9s
ATD Arta Tunnel 83.72 80 IAMs_20 IAMs_20 23 33 12.2
comp=Z,5µm,21.0s
ATD Arta Tunnel 83.72 80 LR LR 23 33 23.4
comp=Z,228nm,21.9s,baz=290,slow=34
ATD Arta Tunnel 83.72 80 P **P** **22 58 18.8 +1.2**
MAKGR Makgori 83.74 122 *i*P **P** **22 58 17.6 +0.2**
MAKGR Makgori 83.74 122 P **P** **22 58 17.4 0.0**
MAKGR IAmb IAmb 22 58 22.4
comp=Z,170nm,1.9s
MAKGR IAMs_20 IAMs_20 23 27 59.8
comp=Z,3µm,22.0s
CHNA Chernabura Isl 83.84 328 P **P** **22 58 17.1 -0.2**
baz=57
LBTB Lobatse 83.97 120 LR LR 23 28 21.5
comp=Z,4µm,21.9s,baz=298,slow=30
SDPT Sand Point 83.99 329 P **P** **22 58 17.7 -0.3**
SDPT IAMs_20 IAMs_20 23 34 18.9
comp=Z,4µm,21.0s
SDPT Sand Point 83.99 329 P **P** **22 58 18.3 +0.2**
baz=56
MATP Matopo 84.14 115 LR LR 23 31 37.1
comp=Z,1µm,19.2s,baz=303,slow=33
SUR Sutherland 84.15 129 IAMs_20 IAMs_20 23 27 50.8
comp=Z,4µm,22.0s
MREMI Moremi 84.28 118 *i*P **P** **22 58 21.5 +1.4**
MREMI Moremi 84.28 118 P **P** **22 58 21.0 +0.8**
S12K Black Hills 84.53 330 P **P** **22 58 20.7 -0.2**
baz=55
SAKB Bahrain 84.78 64 P **P** **22 58 23.1 +0.5**
SAKB S **SKSac** **23 08 47.2 +0.3**
KIBK Kibwezi 84.79 95 P **P** **22 58 22.9 -0.1**
KIBK Kibwezi 84.79 95 P **P** **22 58 23.9 +1.0**
KIBK IAmb IAmb 22 58 55.2
comp=Z,57nm,1.4s
KIBK IAMs_20 IAMs_20 23 38 42.6
comp=Z,3µm,18.0s
KIBK Kibwezi 84.79 95 P **P** **22 58 23.8 +0.9**
SNR=6.6
TIXI Tiksi 84.83 2 P **P** **22 58 22.3 +0.4**
comp=Z,7.4nm,0.9s,baz=344,slow=4.5,SNR=4.7
comp=Z,7.4nm,0.9s
TIXI Tiksi 84.83 2‖ *e*P **P** **22 58 24.2 +2.2**
TIXI pmax pmax
comp=Z,68nm,1.6s
TIXI MLR MLR
comp=Z,827nm,17.0s
SHMA Al-Shehemyia 85.18 64 P **P** **22 58 24.6 0.0**
SHMA S **SKSac** **23 08 50.1 +0.7**
BVAR Borovoye Array 85.47 33 P **P** **22 58 26.0 +0.4**
comp=Z,6.3nm,0.7s,baz=289,slow=4.5,SNR=23
BVAR LR LR 23 33 45.0
comp=Z,6µm,20.3s,baz=302,slow=34
comp=Z,6.3nm,0.7s
BVAR Borovoye Array 85.47 33 P **P** **22 58 26.0 +0.4**
BOSA Boshof 85.48 124 P **P** **22 58 26.7 +0.5**
comp=Z,18nm,1.1s,baz=278,slow=3.6,SNR=8.7
BOSA LR LR 23 33 17.8
comp=Z,1µm,18.0s,baz=300,slow=33
comp=Z,18nm,1.1s
BILL Bilibino 85.63 349 P **P** **22 58 27.2 +1.1**
BILL IAmb IAmb 22 58 41.7
comp=Z,75nm,1.4s
BILL IAMs_20 IAMs_20 23 40 35.4
comp=Z,3µm,19.0s
BILL Bilibino 85.63 349‖ *e*P **P** **22 58 26.7 +0.6**
BILL pmax pmax
comp=Z,70nm,1.5s
BILL MLR MLR
comp=Z,2µm,18.0s
FALS False Pass 85.66 329 IAMs_20 IAMs_20 23 36 13.0
comp=Z,4µm,20.0s
FALS False Pass 85.66 329 P **P** **22 58 25.5 -0.9**
baz=54
TRNA Turayna 85.84 65 P **P** **22 58 27.6 -0.4**
SNR=5.8
JRN Qarnain Island 87.11 64 P **P** **22 58 34.5 +0.4**
JRN P **P** **22 58 34.5 +0.4**
SPIA Saint Paul Isl 87.21 333 IAMs_20 IAMs_20 23 39 32.7
comp=Z,4µm,20.0s
SPIA Saint Paul Isl 87.21 333 P **P** **22 58 34.1 +0.1**
baz=49
P08K Saint George I 87.30 333 P **P** **22 58 34.2 -0.3**
baz=49
GHWR Ruwais 87.54 65 P **P** **22 58 36.1 -0.2**
GHWR P **P** **22 58 36.1 -0.2**
UNV Unalaska Valle 87.71 330 P **P** **22 58 36.0 -0.5**
baz=52
BRZS Berezniki 88.39 35 *e*P **P** **22 58 39.7 -0.3**
BRZS Berezniki 88.39 35 *e*P **P** **22 58 39.6 -0.3**
MZR Muzera 88.44 66 P **P** **22 58 41.4 +0.7**
SNR=12
MZR P **P** **22 58 41.4 +0.7**
SNR=12
MZR Muzera 88.44 66 *i*P **P** **22 58 40.4 -0.2**
SNR=12
MZWR Madinat Zayed 88.46 65 P **P** **22 58 41.3 +0.6**
MZWR P **P** **22 58 41.3 +0.6**
GRHM Grahamstown, E 88.63 127 IAMs_20 IAMs_20 23 30 02.3
comp=Z,4µm,22.0s
AJN Ajban 89.03 64 P **P** **22 58 43.9 +0.6**
AJN P **P** **22 58 43.9 +0.6**
AJN S **SKSac** **23 09 14.2 +1.2**
AJN S **SKSac** **23 09 14.2 +1.2**
AJN Ajban 89.03 64 *i*P **P** **22 58 44.1 +0.8**
SNR=5.3
ASUD Al Ashush, Dub 89.28 63 P **P** **22 58 44.8 +0.3**
ASUD P **P** **22 58 44.8 +0.3**
ASUD Al Ashush, Dub 89.28 63 *i*P **P** **22 58 44.8 +0.3**
SNR=5.3
SHME Shamm 89.33 62 P **P** **22 58 44.7 0.0**
SNR=6.5
SHME P **P** **22 58 44.7 0.0**
SNR=6.5
SHME S **SKSac** **23 09 15.5 +0.7**
SHME S **SKSac** **23 09 15.5 +0.7**
SHME Shamm 89.33 62 *i*P **P** **22 58 44.4 -0.3**
SNR=7.9
PMSA Palmer Station 89.38 188 *e*P **P** **22 58 45.1 +1.3**
comp=Z,55nm,24.0s
PMSA Palmer Station 89.38 188 *e*S **S** **23 09 26.3 -6.6**
comp=Z,215nm,27.0s
PMSA *e*SS **SS** **23 15 26.2 -2.4**
comp=Z,240nm,28.0s
PMSA Palmer Station 89.38 188 *e*LR LR 23 27 07.7
comp=Z,3µm,23.0s
PMSA Palmer Station 89.38 188 LR LR 23 38 57.1
comp=Z,1µm,20.1s,baz=358,slow=36
NAZ Nazwa, Dubai 89.40 63 P **P** **22 58 45.7 +0.6**
SNR=5.3
NAZ P **P** **22 58 45.7 +0.6**
SNR=5.3
FAQ Al Faqa, Dubai 89.45 63 P **P** **22 58 45.7 +0.4**
SNR=6.2
FAQ P **P** **22 58 45.7 +0.4**
SNR=6.2
FAQ Al Faqa, Dubai 89.45 63 *i*P **P** **22 58 45.4 +0.1**
SNR=6.1
MASF Masafi 89.64 62 P **P** **22 58 46.4 +0.1**
SNR=7.8
MASF P **P** **22 58 46.4 +0.1**
SNR=7.8

MASF S **SKSac** **23 09 16.1 -0.6**
MASF S **SKSac** **23 09 16.1 -0.6**
MSFE Esma-Masafi **89.64 62** *i* P **P** **22 58 45.9 -0.4**
SNR=10
MDH Madha **89.78 62** P **P** **22 58 46.9 0.0**
SNR=6.7
MDH P **P** **22 58 46.9 0.0**
SNR=6.7
MDH Madha **89.78 62** *i* P **P** **22 58 46.6 -0.3**
SNR=11
HATD Hatta, Dubai **89.85 63** P **P** **22 58 47.2 -0.1**
SNR=12
HATD P **P** **22 58 47.2 -0.1**
SNR=12
HATD S **SKSac** **23 09 18.0 +0.1**
HATD S **SKSac** **23 09 18.0 +0.1**
HATD Hatta, Dubai **89.85 63** *i* P **P** **22 58 47.3 0.0**
SNR=11
ASHO Ashiyiah **89.86 63** P **P** **22 58 47.4 +0.1**
SNR=8.3
ASHO P **P** **22 58 47.4 +0.1**
SNR=8.3
ASHO S **SKSac** **23 09 18.0 0.0**
ASHO S **SKSac** **23 09 18.0 0.0**
ASHO Ashiyiah **89.86 63** *i* P **P** **22 58 46.9 -0.4**
SNR=8.6
UOSS Minazif **89.86 63** P **P** **22 58 47.2 -0.1**
UOSS IAmb IAmb 22 58 57.1
comp=Z,33nm,0.8s
UOSS Minazif **89.86 63** P **P** **22 58 47.8 +0.5**
UOSS P **P** **22 58 47.8 +0.5**
UOSS Minazif **89.86 63** *i* P **P** **22 58 47.1 -0.1**
SNR=8.3
ALNE Al Ain **89.88 64** P **P** **22 58 47.8 +0.4**
SNR=7.0
ALNE P **P** **22 58 47.8 +0.4**
SNR=7.0
ALNE S **SKSac** **23 09 19.0 +0.9**
ALNE S **SKSac** **23 09 19.0 +0.9**
ALNE Al Ain **89.88 64** *i* P **P** **22 58 47.4 0.0**
SNR=6.5
POGA Pongola **89.91 120** IAMs_20 IAMs_20 23 32 01.2
comp=Z,4μm,21.0s
SOHO SOHO **90.48 63** P **P** **22 58 50.0 -0.1**
SOHO P **P** **22 58 50.0 -0.1**
SOHO SOHO **90.48 63** *i* P **P** **22 58 49.7 -0.5**
SNR=7.4
ABTO Aybut **90.66 71** P **P** **22 58 51.8 +0.7**
BRLS Boroldayy **90.76 42** *e*P **P** **22 58 50.7 -0.4**
BRLS Boroldayy **90.76 42** *e*P **P** **22 58 50.6 -0.5**
ARQ Araqi **90.83 64** P **P** **22 58 52.4 +0.6**
ARQ P **P** **22 58 52.4 +0.6**
KURK Kurchatov **90.93 32** P **P** **22 58 51.9 +0.2**
KURK Kurchatov **90.93 32** P **P** **22 58 52.2 +0.5**
KURK P **P** **22 58 52.2 +0.5**
KURK Kurchatov **90.93 32** P **P** **22 58 51.9 +0.2**
KURK pmax pmax
comp=Z,20nm,1.0s
KURK MLR MLR
comp=Z,6μm,22.0s
KURBB Kurchatov Arra **90.95 32** P **P** **22 58 51.6 -0.2**
comp=Z,8.9nm,0.7s,baz=311,slow=5.1,SNR=32
KURBB PKKPbc **PKKPbc** **23 16 18.8 +2.0**
comp=Z,0.6nm,0.2s,baz=108,slow=1.5,SNR=1.8
KURBB LR LR 23 35 55.8
comp=Z,5μm,21.0s,baz=328,slow=33
comp=Z,8.9nm,0.7s
CHM Chimkent **91.01 42** *e*P **P** **22 58 51.6 -0.7**
CHM LR LR 23 42 11.5
comp=Z,2μm,18.0s
CHM Chimkent **91.01 42** *e*P **P** **22 58 51.6 -0.7**
CHM MLR MLR
comp=Z,2μm,18.0s
KKAR Karatay Array **91.13 41** P **P** **22 58 52.8 0.0**
KKAR Karatay Array **91.13 41** P **P** **22 58 52.8 0.0**
IUG luzhnay **91.37 42** *e*P **P** **22 58 53.5 -0.7**
comp=Z,40nm,1.6s
IUG luzhnay **91.37 42** *e*P **P** **22 58 53.4 -0.7**
IUG pmax pmax
comp=Z,40nm,1.6s
ZALV Zalesovo Beam **91.52 27** P **P** **22 58 54.1 -0.3**
comp=Z,8.2nm,0.8s,baz=304,slow=3.4,SNR=23
ZALV LR LR 23 38 07.6
comp=Z,3μm,20.6s,baz=312,slow=34
comp=Z,8.2nm,0.8s
ZALV Zalesovo Beam **91.52 27** *i* P **P** **22 58 54.2 -0.1**
ZALV pmax pmax
comp=Z,8.0nm,0.8s
DZA Taraz **91.74 41** *e*P **P** **22 58 55.5 -0.3**
DZA Taraz **91.74 41** *e*P **P** **22 58 55.4 -0.3**
BIDO Bidbid **92.06 63** P **P** **22 58 57.6 +0.1**
BIDO P **P** **22 58 57.6 +0.1**
BTLS Baital **92.07 38** *e*P **P** **22 58 57.1 0.0**
BTLS *e*S **SKSac** **23 09 29.8 -0.1**
BTLS Baital **92.07 38** *e*P **P** **22 58 57.1 0.0**
BTLS *e*S **SKSac** **23 09 29.8 -0.1**
SMDO Samad **92.21 64** P **P** **22 58 58.5 +0.2**
SNR=5.0
SMDO P **P** **22 58 58.5 +0.2**
SNR=5.0
SEY Seymchan **92.54 352** P **P** **22 58 59.5 +0.5**
comp=Z,5.2nm,0.9s,baz=49,slow=5.5,SNR=10
comp=Z,5.2nm,0.9s
SEY Seymchan **92.54 352**⇑ *e*P **P** **22 59 00.2 +1.3**
SEY pmax pmax
comp=Z,35nm,1.7s
SEY MLR MLR
comp=Z,2μm,18.0s
JMDO Jabal Madar **92.56 64** P **P** **22 58 59.4 -0.4**
WSAR Wadi Sarin **92.60 63** LR LR 23 43 23.1
comp=Z,16nm,18.8s,baz=314,slow=37
WSAR Wadi Sarin **92.60 63** P **P** **22 59 00.6 +0.6**
SIMJ Simiganj **92.65 46** P **P** **22 59 00.3 +0.2**
CHGR Chuyangaron **92.75 46** P **P** **22 59 00.8 +0.3**
CHGR IAmb IAmb 22 59 21.7
comp=Z,52nm,1.0s
CHGR Chuyangaron **92.75 46** P **P** **22 59 00.8 +0.3**
CHGR pmax pmax
comp=Z,52nm,1.0s
CHGR MLR MLR
comp=Z,13μm,18.0s
MHTO MHTO **93.07 66** P **P** **22 59 02.3 +0.2**
MHTO P **P** **22 59 02.3 +0.2**
GSTR Great Sitkin T **93.17 332** IAMs_20 IAMs_20 23 42 14.3
comp=Z,3μm,20.0s
GAR Garm **93.31 45** P **P** **22 59 03.4 +0.2**
SGDS Sogindy **93.36 39** *e*P **P** **22 59 02.8 -0.4**
ARSB Arslanbob **93.65 42** P **P** **22 59 04.9 +0.2**
ARSB Arslanbob **93.65 42** P **P** **22 59 04.9 +0.2**
ARSB pmax pmax
comp=Z,25nm,1.2s
JLN Jalan Bani Buh **93.74 64** P **P** **22 59 05.5 +0.2**
JLN P **P** **22 59 05.5 +0.2**
AAK Ala-Archa **93.78 40** P **P** **22 59 05.0 -0.2**
AAK Ala-Archa **93.78 40** IAMs_20 IAMs_20 23 40 35.3
comp=Z,4μm,18.0s
AAK Ala-Archa **93.78 40** P **P** **22 59 06.0 +0.7**
comp=Z,3.6nm,0.7s,baz=270,slow=5.6,SNR=5.8
AAK LR LR 23 40 37.2
comp=Z,3μm,18.1s,baz=322,slow=35
comp=Z,3.6nm,0.7s
AAK Ala-Archa **93.78 40***c i* P **P** **22 59 06.7 +1.4**
AAK pmax pmax
comp=Z,16nm,1.8s
AAK MLR MLR
comp=Z,3μm,17.0s
KIWB Kanaga Island **93.81 332** IAMs_20 IAMs_20 23 42 53.3
comp=Z,4μm,19.0s
YAK Yakutsk **94.48 2** P **P** **22 59 08.5 +0.7**
YAK Yakutsk **94.48 2** P **P** **22 59 09.0 +1.2**
comp=Z,12nm,0.4s,baz=18,slow=1.9,SNR=4.9
comp=Z,12nm,0.4s
YAK Yakutsk **94.48 2** *e*P **P** **22 59 09.0 +1.2**
YAK *e* 23 02 56.0
YAK *e*PPP PPP 23 04 57.4
YAK *e*S **SKSac** **23 09 43.9 +1.5**
YAK *e**SS **SKKSac** **23 10 09.3 +5.5**
YAK *e*SS **SS** **23 16 44.4 +4.3**
YAK *e*SSS SSS 23 20 22.0
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.7s
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK pmax pmax
comp=Z,130nm,4.4s
YAK pmax pmax
comp=N,71nm,3.7s
YAK pmax pmax
comp=E,49nm,3.5s
YAK smax smax
comp=E,131nm,3.7s
YAK smax smax
comp=N,69nm,3.8s
YAK MLR MLR
comp=Z,1μm,20.0s
YAK MLR MLR
comp=N,1μm,21.0s
YAK MLR MLR
comp=E,610nm,19.0s
TDK Taldyqorghan **94.52 36** *e*P **P** **22 59 08.1 -0.4**
comp=E,53nm,1.6s
TDK LR LR 23 43 19.3
comp=E,2μm,17.6s
TDK Taldyqorghan **94.52 36** *e*P **P** **22 59 08.0 -0.4**
TDK pmax pmax
comp=Z,53nm,1.6s
TDK MLR MLR
comp=Z,2μm,18.0s
AAA Alma-Ata **94.83 38** *e*P **P** **22 59 09.7 -0.3**
AAA Alma-Ata **94.83 38** *e*P **P** **22 59 09.7 -0.3**
KBL Kabul **94.92 49** P **P** **22 59 10.1 -0.7**
KBL IAMs_20 IAMs_20 23 44 30.4
comp=Z,3μm,20.0s
KBL Kabul **94.92 49** P **P** **22 59 10.1 -0.7**
MDOK Medeo **94.93 38** *e*P **P** **22 59 10.0 -0.5**
MDOK *e*S **SKSac** **23 09 45.3 -0.7**
MDOK LR LR 23 43 16.6
MDOK Medeo **94.93 38** *e*P **P** **22 59 10.0 -0.5**
MDOK *e*S **SKSac** **23 09 45.3 -0.7**
KBU Kabul Universi **95.00 49** PP **PP** **23 02 58.1 -1.7**
MK31 Makanchi Array **95.36 33***d i* P **P** **22 59 12.5 +0.2**
MKAR Makanchi Array **95.36 33** P **P** **22 59 12.4 +0.1**
MKAR Makanchi Array **95.36 33** P **P** **22 59 12.6 +0.4**
comp=Z,1.4nm,1.0s,baz=0.0,slow=6.2,SNR=6.5
MKAR PKKPbc **PKKPbc** **23 16 08.8 +3.3**
comp=Z,0.9nm,0.8s,baz=116,slow=3.4,SNR=6.8
MKAR LR LR 23 41 12.2
comp=Z,4μm,18.0s,baz=318,slow=35
comp=Z,1.4nm,1.0s
MKAR Makanchi Array **95.36 33***c e* P **P** **22 59 15.3 +3.0**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
SATY Saty **95.77 38** *e*P **P** **22 59 13.8 -0.5**
SATY Saty **95.77 38** *e*P **P** **22 59 13.8 -0.5**
MA2 Magadan **96.00 352** P **P** **22 59 14.8 -0.1**
MA2 IAmb IAmb 22 59 34.2
comp=Z,25nm,1.2s
MA2 IAMs_20 IAMs_20 23 41 57.0
comp=Z,2μm,22.0s
MA2 Magadan **96.00 352** P **P** **22 59 16.4 +1.5**
comp=Z,3.9nm,0.4s,baz=18,slow=9.6,SNR=3.8
comp=Z,3.9nm,0.4s
MA2 Magadan **96.00 352**⇓ *e*P **P** **22 59 16.2 +1.4**
MA2 pmax pmax
comp=Z,27nm,1.4s
MA2 MLR MLR
comp=Z,2μm,19.0s
UZB Uzynbulak **96.06 37** *e*P **P** **22 59 15.1 -0.6**
UZB Uzynbulak **96.06 37** *e*P **P** **22 59 15.0 -0.6**
ZSN Zaisan **96.16 31** *e*P **P** **22 59 15.6 -0.4**
ZSN Zaisan **96.16 31** *e*P **P** **22 59 15.5 -0.4**
SHLS Shalkode **96.29 37** *e*P **P** **22 59 17.4 +0.6**
SHLS Shalkode **96.29 37** *e*P **P** **22 59 17.3 +0.6**
SHEM Shemya Is, Ala **96.55 337** LR LR 23 44 30.3
comp=Z,3μm,18.6s,baz=38,slow=36
SMY Shemya **96.55 337** IAMs_20 IAMs_20 23 41 38.2
comp=Z,4μm,21.0s
KSH Kashi **96.56 42** P **P** **22 59 19.2 +1.2**
KSH pP sP 22 59 22.5 -0.5
KSH PP **PP** **23 03 12.6 +1.0**
KSH SKS **SKSac** **23 09 54.0 -0.7**
KSH SS **SS** **23 17 09.5 -2.0**
KSH pmax pmax
comp=Z,12nm,1.7s
KSH LR LR
comp=Z,3μm,20.1s
KSH LR LR
comp=Z,5μm,20.8s
BOD Bodaibo **96.96 11** *e*P P 22 59 14.1 -5.1
BOD pmax pmax
comp=Z,27nm,1.5s
TAOE Nuku Hiva Isla **97.97 264** *e*S **S** **23 10 49.7 -1.8**
comp=Z,782nm,25.9s
TAOE *e*SS **SS** **23 17 31.0 -2.5**
comp=Z,685nm,25.6s
TAOE *e*LQ LQ 23 26 58.1
TAOE comp=Z,4μm,28.6s *e*LR LR 23 31 00.3
comp=Z,2μm,31.7s
NIL Nilore **98.30 48** IAMs_20 IAMs_20 23 47 05.3
comp=Z,3μm,19.0s
STCH Steam Cracks **99.35 296** IAMs_20 IAMs_20 23 34 19.3
comp=Z,3μm,19.0s
BYL Byron's Ledge **99.45 296** IAMs_20 IAMs_20 23 29 57.9
comp=Z,2μm,19.0s
SNAA Sanae **99.49 168** P **Pdif** **22 59 31.1 +1.0**
SNAA Sanae **99.49 168** P **Pdif** **22 59 32.1 +1.9**
comp=Z,1.6nm,0.9s,baz=313,slow=5.3,SNR=5.7
SNAA LR LR 23 34 32.3
comp=Z,1μm,21.4s,baz=314,slow=29
comp=Z,1.6nm,0.9s
SNAA Sanae **99.49 168** P **Pdif** **22 59 31.1 +1.0**
SNAA pmax pmax
comp=Z,6.0nm,1.2s
SNAA MLR MLR
comp=Z,2μm,22.0s
POHA Pohakuloa **99.51 296** *e*S **S** **23 11 00.3 -4.4**
comp=Z,12nm,26.7s
POHA *e*SS **SS** **23 17 55.8 +1.4**
comp=Z,28nm,28.2s
POHA Pohakuloa **99.51 296** *e*LR LR 23 31 50.7
comp=Z,111nm,21.5s
HMH Humu'ula Sheep **99.54 296** IAMs_20 IAMs_20 23 34 18.3
comp=Z,3μm,20.0s
ABPO Ambohimpanom **99.60 107** IAMs_20 IAMs_20 23 50 38.6
comp=Z,3μm,18.0s
WMQ Urumqi **100.16 33** *e*P **Pdif** **22 59 36.3 +2.3**
WMQ LR LR
comp=Z,4μm,18.9s
WMQ LR LR
comp=Z,5μm,24.1s
VOI Vohitsoka **100.28 109** IAMs_20 IAMs_20 23 44 47.6
comp=Z,2μm,20.0s
PET Petropavlovsk **100.83 346** IAMs_20 IAMs_20 23 45 17.0
comp=Z,2μm,22.0s
BELA Belgrano 2 **101.54 178** IAMs_20 IAMs_20 23 37 30.3
comp=Z,2μm,22.0s
MSEY Mahe Island **101.67 90** IAMs_20 IAMs_20 23 45 39.7
comp=Z,2μm,20.0s
SONM Songino Array **104.37 19** PP **PKiKP** **23 04 10.3 +1.2**
comp=Z,1.1nm,0.8s,baz=324,slow=7.7,SNR=4.7
ULN Ulaanbaatar **104.54 19** IAMs_20 IAMs_20 23 47 33.3
comp=Z,3μm,21.0s
HEH HeiHe **106.10 5** SS SS 23 19 22.8 +0.7
HEH AMB AMB
comp=Z,220nm,5.3s
HEH LR LR
comp=N,980nm,17.9s
HEH LR LR
comp=E,760nm,18.4s
HEH LR LR
comp=Z,3μm,20.5s
HIA Hailar **106.15 10** IAMs_20 IAMs_20 23 53 00.2
comp=Z,2μm,19.0s
YSS Yuzhno-Sakhali **109.32 354** IAMs_20 IAMs_20 23 54 14.0
comp=Z,2μm,20.0s
XMAS Kiritimati **109.39 281** *e*S Sdif 23 12 06.3 -21
comp=Z,12nm,24.0s
XMAS *e*SS **SS** **23 20 10.8 +0.4**
comp=Z,22nm,31.0s
XMAS Kiritimati **109.39 281** *e*LQ LQ 23 31 51.3
comp=Z,25nm,28.0s
XMAS *e*LR LR 23 36 24.4
comp=Z,148nm,24.0s
GOMU GeErMu **109.48 33** Pdif **Pdif** **23 00 14.0 -2.0**
GOMU SS SS 23 20 13.5 +3.7
GOMU AMB AMB
comp=Z,310nm,8.8s
GOMU LR LR
comp=Z,3μm,19.5s
GOMU LR LR
comp=Z,5μm,19.5s
PPT2 Papeete2 **109.66 259** *e*PKIKP **PKiKP** **23 04 17.8 -1.7**
comp=Z,137nm,21.5s
PPT2 *e*S Sdif 23 12 00.9 -28
comp=Z,616nm,27.8s
PPT2 *e*SS **SS** **23 20 07.7 -6.7**
comp=Z,604nm,32.0s
PPT2 Papeete2 **109.66 259** *e*LQ LQ 23 31 53.9
comp=Z,1μm,28.5s
PPT2 *e*LR LR 23 36 30.4
comp=Z,1μm,29.2s
PPT2 *e*LR LR 23 36 37.4
comp=Z,2μm,25.8s
SYO Syowa Base **110.06 158**⇑ *e*PP **PP** **23 04 54.0 +1.6**
TBI Tubuai **111.37 253** *e*PKIKP **PKiKP** **23 04 14.7 -7.8**
comp=Z,586nm,27.5s
TBI *e*S Sdif 23 12 07.6 -35
comp=Z,3μm,29.0s
TBI *e*SS **SS** **23 20 26.8 -10**
comp=Z,8μm,32.2s
TBI Tubuai **111.37 253** *e*LQ LQ 23 32 39.9
comp=Z,3μm,39.2s
TBI *e*LR LR 23 37 16.3
comp=Z,2μm,29.2s
TBI *e*LR LR 23 37 22.2
comp=Z,11μm,30.5s
HYB Hyderabad **111.59 59** *e*PKiKP **PKiKP** **23 04 23.3 +0.1**
HYB *e*PP **PP** **23 05 05.0 +0.9**
HYB *e*SKSac **SKSac** **23 11 04.3 -0.2**
HYB *e*SKSdf **SKSdf** **23 11 35.5 +0.3**
HYB *e*PKKSbc PKKSbc 23 19 02.3 -0.1
BTO Baotou **112.02 20** *e*PKP **PKiKP** **23 04 17.8 -5.7**
BTO PP **PP** **23 05 05.9 -0.1**
BTO SS SS 23 20 42.3 -0.2
BTO LR LR
comp=Z,5μm,15.5s
JKA Kamikawa-asahi **112.14 354** IAMs_20 IAMs_20 23 55 51.9
comp=Z,2μm,21.0s
HHC Hu-ho-hao-te **112.26 19** *e*PKP **PKiKP** **23 04 18.8 -5.2**
HHC PP **PP** **23 05 14.2 +6.4**
HHC SS SS 23 20 47.5 +1.8
HHC AMB AMB
comp=Z,130nm,9.4s
HHC LR LR
comp=Z,3μm,17.7s
HHC LR LR
comp=Z,4μm,17.7s
CN2 Changchun **112.30 7** PKP **PKiKP** **23 04 26.2 +2.4**
CN2 PP **PP** **23 05 08.4 +0.7**
CN2 SS SS 23 20 50.2 +4.6
CN2 AMB AMB
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,1μm,20.0s
CN2 LR LR
comp=Z,1μm,20.0s
CN2 LR LR
comp=Z,1μm,21.6s
JOHN Johnston Islan **112.36 301** *e*SS SS 23 20 48.6 -0.6
comp=Z,725nm,32.0s
JOHN Johnston Islan **112.36 301** *e*LQ LQ 23 32 42.8
comp=Z,369nm,30.0s
JOHN *e*LR LR 23 37 45.9
comp=Z,3μm,25.5s
LSA Lhasa **112.37 40** IAMs_20 IAMs_20 23 50 38.1
comp=Z,3μm,22.0s
LSA Lhasa **112.37 40** PKP **PKiKP** **23 04 21.7 -3.3**
QSPA South Pole Qui **113.62 180** IAMs_20 IAMs_20 23 54 38.5
comp=Z,2μm,21.0s
QSPA South Pole Qui **113.62 180** PKKPbc PKKPbc 23 15 10.4 -1.4
comp=Z,2.2nm,0.9s,baz=269,slow=2.0,SNR=6.5
SNY Shenyang **114.00 9** Pdif **Pdif** **23 00 41.4 +6.0**
SNY PP PP 23 04 59.2 -21
SNY Shenyang **114.00 9** SS SS 23 21 02.4 -5.7
SNY LR LR
comp=N,710nm,16.6s
SNY LR LR
comp=E,900nm,18.2s
SNY LR LR
comp=Z,1μm,18.9s
ERM Erimo **114.17 353** IAMs_20 IAMs_20 23 57 21.4
comp=Z,2μm,19.0s
BJI Beijing **114.27 16** PKP **PKiKP** **23 04 26.7 -1.0**
BJI PP **PP** **23 05 24.4 +2.6**
BJI SS SS 23 21 09.6 -2.3
BJI AMB AMB
comp=Z,82nm,5.1s
BJI LR LR
comp=Z,1μm,17.1s
BJI LR LR
comp=Z,680nm,17.5s
BJI LR LR
comp=Z,1μm,18.0s
BJT Baijiatuau **114.29 16** IAMs_20 IAMs_20 23 55 33.0
comp=Z,3μm,18.0s
JTM Tenmabayashi **115.58 355** IAMs_20 IAMs_20 23 53 06.9
comp=Z,3μm,22.0s
DL2 Dalian **116.53 11** PKP **PKiKP** **23 04 26.3 -5.8**
DL2 AMB AMB
comp=Z,110nm,6.7s
DL2 LR LR
comp=Z,2μm,18.8s
DL2 LR LR
comp=Z,1μm,25.6s
DL2 LR LR
comp=Z,2μm,18.6s
XAN Xi'an **117.55 24**⇑ PKP **PKiKP** **23 04 35.4 +1.1**
XAN PP **PP** **23 05 45.4 +0.3**
XAN SS SS 23 21 58.2 +2.8
XAN AMB AMB
comp=Z,320nm,10.0s
XAN LR LR
comp=Z,3μm,19.9s
CD2 Chengdu **118.11 30** PKP **PKPdf** **23 04 34.7 -0.7**
CD2 SS SS 23 22 07.0 +4.1
CD2 AMB AMB
comp=Z,360nm,5.9s
CD2 LR LR
comp=Z,2μm,19.2s
CD2 LR LR
comp=Z,4μm,19.2s
TIA Tai'an **118.13 16** SS SS 23 22 11.1 +8.6
TIA AMB AMB
comp=Z,210nm,5.0s
TIA LR LR
comp=N,2μm,15.5s
TIA LR LR
comp=E,2μm,15.6s
TIA LR LR
comp=Z,4μm,17.1s
LYN LuoYang **118.33 21** *e*PKP **PKPdf** **23 04 30.7 -5.0**
LYN PP **PP** **23 05 51.4 +1.0**
LYN SS SS 23 22 04.0 -1.2
LYN AMB AMB
comp=Z,380nm,5.0s
LYN LR LR
comp=Z,4μm,23.6s
LYN LR LR
comp=Z,2μm,21.1s
LYN LR LR
comp=Z,4μm,24.0s
KSRS Korea Array **118.84 6** PKP **PKiKP** **23 04 37.6 +1.0**
comp=Z,0.4nm,0.3s,baz=330,slow=1.7,SNR=4.6
PALK Pallekele **118.92 67** IAMs_20 IAMs_20 23 54 12.5
comp=Z,2μm,21.0s
RAR Rarotonga **119.92 258** *e*SS SS 23 22 25.5 -3.8
comp=Z,297μm,25.0s
RAR Rarotonga **119.92 258** *e*LQ LQ 23 36 09.3
comp=Z,580μm,28.0s
RAR *e*LR LR 23 41 19.2
comp=Z,1μm,27.0s
MAJO Matsushiro **120.00 357** PKPdf **PKiKP** **23 04 39.2 +0.2**
MAJO Matsushiro **120.00 357** IAMs_20 IAMs_20 23 56 46.8
comp=Z,1μm,20.0s
MAJO Matsushiro **120.00 357***d i* PKIKP **PKiKP** **23 04 39.0 0.0**
MAJO MLR MLR
comp=Z,1μm,20.0s
MJAR Matsushiro Arr **120.00 357** PKP **PKPdf** **23 04 38.8 -0.1**
comp=Z,1.1nm,0.5s,baz=2.4,slow=0.5,SNR=5.8
TNCH TengChong **120.17 38** *e*Pdif **Pdif** **23 01 02.7 -0.8**
TNCH PP **PP** **23 06 03.9 0.0**
TNCH S **Sdif** **23 13 50.8 -6.1**
TNCH SS **SKKSdf** **23 22 28.9 -1.3**
TNCH LR LR
comp=Z,2μm,22.7s

TNCH				LR	LR			
	comp=Z,1μm,20.0s							
TNCH				LR	LR			
	comp=Z,6μm,23.2s							
PZH	**PanZhiHua**	**120.76**	**35**	PKP	**PKPdf**	**23 04 40.2**	**-0.5**	
PZH				PP	**PP**	**23 06 10.7**	**+3.0**	
PZH				SS	SS	23 22 39.6	+2.0	
PZH				AMB	AMB			
	comp=Z,210nm,7.5s							
PZH				LR	LR			
	comp=Z,750nm,22.2s							
PZH				LR	LR			
	comp=Z,2μm,20.1s							
ENH	**Enshi**	**121.11**	**26**	IAMs_20	IAMs_20	23 56 05.4		
	comp=Z,2μm,20.0s							
JSG	**Sagara**	**121.86**	**357**	IAMs_20	IAMs_20	23 59 49.1		
	comp=Z,1μm,19.0s							
NJ2	**Nanjing**	**122.52**	**16**	*e*PKP	**PKiKP**	**23 04 44.0**	**0.0**	
NJ2				PP	**PP**	**23 06 25.6**	**+6.6**	
NJ2				PKS	**PKSdf**	**23 08 20.1**	**-0.4**	
NJ2				SS	SS	23 23 05.1	+6.2	
NJ2				AMB	AMB			
	comp=Z,390nm,4.1s							
NJ2				LR	LR			
	comp=Z,3μm,19.4s							
JMN	**Monobe**	**122.89**	**1**	IAMs_20	IAMs_20	23 59 03.3		
	comp=Z,2μm,20.0s							
GYA	**Guiyang**	**123.22**	**30**	⇑PKP	**PKiKP**	**23 04 46.2**	**+0.5**	
GYA				PP	**PP**	**23 06 23.9**	**-0.4**	
GYA				SS	SS	23 23 06.2	-2.5	
GYA				LR	LR			
	comp=Z,2μm,19.2s							
JHJ2	**Mitsune**	**123.31**	**355**	*e*PP	**PP**	**23 06 18.1**	**-6.1**	
	comp=Z,6.6nm,25.0s							
JHJ2	**Mitsune**	**123.31**	**355**	*e*SS	SS	23 23 08.1	-0.5	
	comp=Z,37nm,24.8s							
JHJ2	**Mitsune**	**123.31**	**355**	*e*LQ	LQ	23 37 37.0		
	comp=Z,35nm,26.9s							
JHJ2				*e*LR	LR	23 42 50.1		
	comp=Z,247nm,31.0s							
JNU	**Nakatsue**	**123.38**	**4**	IAMs_20	IAMs_20	00 02 35.2		
	comp=Z,2μm,21.0s							
SSE	**Sheshan**	**123.99**	**14**	PKP	**PKPdf**	**23 04 46.0**	**-0.6**	
SSE				SS	SS	23 23 19.7	+2.2	
SSE				LR	LR			
	comp=Z,930nm,20.4s							
SSE				LR	LR			
	comp=Z,830nm,19.0s							
SSE				LR	LR			
	comp=Z,1μm,19.4s							
VNDA	**Vanda**	**124.58**	**187**	PKP	**PKiKP**	**23 04 48.0**	**+1.4**	
	comp=Z,3.2nm,0.9s,baz=289,slow=2.6,SNR=14							
VNDA	**Vanda**	**124.58**	**187**	PKIKP	**PKiKP**	**23 04 48.0**	**+1.4**	
CHTO	**Chiang Mai**	**125.17**	**43**	IAMs_20	IAMs_20	23 59 42.0		
	comp=Z,2μm,21.0s							
CMAR	**Chiang Mai Arr**	**125.44**	**43**	PKPdf	**PKiKP**	**23 04 50.4**	**+0.3**	
CMAR	**Chiang Mai Arr**	**125.44**	**43**	PKP	**PKiKP**	**23 04 50.2**	**+0.1**	
	comp=Z,2.9nm,0.8s,baz=295,slow=2.9,SNR=13							
CMAR	**Chiang Mai Arr**	**125.44**	**43**	PKIKP	**PKiKP**	**23 04 50.4**	**+0.3**	
SLVN	**Son La**	**126.10**	**36**	IAMs_20	IAMs_20	23 59 12.9		
	comp=Z,2μm,22.0s							
NIUE	**Niue**	**128.55**	**264**	*e*SS	SS	23 24 18.4	+0.1	
	comp=Z,343nm,23.0s							
NIUE	**Niue**	**128.55**	**264**	*e*LR	LR	23 45 16.0		
	comp=Z,2μm,30.9s							
JOW	**Kunigami**	**129.38**	**8**	IAMs_20	IAMs_20	00 06 54.2		
	comp=Z,2μm,20.0s							
JOW	**Kunigami**	**129.38**	**8**	*e*S	**SKSac**	**23 12 00.9**	**-4.6**	
	comp=Z,114nm,22.8s							
JOW	**Kunigami**	**129.38**	**8**	*e*SS	SS	23 24 27.1	+2.4	
	comp=Z,356nm,26.0s							
JOW	**Kunigami**	**129.38**	**8**	*e*LQ	LQ	23 39 55.7		
	comp=Z,512nm,28.2s							
JOW				*e*LR	LR	23 45 41.7		
	comp=Z,3μm,25.9s							
KNMB	**Chin-men Tao**	**129.57**	**19**	IAMs_20	IAMs_20	00 03 34.8		
	comp=Z,2μm,19.0s							
SSLB	**Suanglung**	**130.94**	**17**	IAMs_20	IAMs_20	00 05 00.9		
	comp=Z,1μm,19.0s							
QIZ	**Qiongzhong**	**131.07**	**32**	PKP	**PKPdf**	**23 04 59.2**	**-1.3**	
QIZ				PP	**PP**	**23 07 14.9**	**-1.2**	
QIZ				SS	SS	23 24 47.9	+1.4	
QIZ				LR	LR			
	comp=Z,2μm,18.8s							
TPUB	**Ta-pu**	**131.31**	**17**	IAMs_20	IAMs_20	00 05 27.9		
	comp=Z,2μm,20.0s							
TWG	**Pinlang**	**131.89**	**17**	IAMs_20	IAMs_20	00 05 21.3		
	comp=Z,2μm,20.0s							
LHMI	**Lhok Sumawe**	**133.24**	**57**	IAMs_20	IAMs_20	00 03 34.8		
	comp=Z,2μm,21.0s							
CASY	**Casey**	**134.72**	**166**	IAMs_20	IAMs_20	00 02 06.0		
	comp=Z,2μm,20.0s							
CASY	**Casey**	**134.72**	**166**	*e*PP	**PP**	**23 07 35.2**	**-4.0**	
	comp=Z,142nm,29.0s							
CASY	**Casey**	**134.72**	**166**	*e*SS	SS	23 25 39.7	+9.5	
	comp=Z,225nm,29.0s							
CASY	**Casey**	**134.72**	**166**	*e*LR	LR	23 48 13.7		
	comp=Z,2μm,24.0s							
TARA	**Tarawa**	**135.33**	**299**	IAMs_20	IAMs_20	23 59 12.4		
	comp=Z,2μm,21.0s							
KULM	**Kulim**	**135.99**	**53**	PKPdf	**PKPdf**	**23 05 08.1**	**-1.8**	
KULM				IAMs_20	IAMs_20	00 09 36.2		
	comp=Z,2μm,20.0s							
DLV	**Lat**	**136.25**	**39**	IAMs_20	IAMs_20	00 08 02.6		
	comp=Z,2μm,20.0s							
IPM	**Ipoh**	**136.81**	**54**	IAMs_20	IAMs_20	00 10 08.9		
	comp=Z,2μm,19.0s							
MXZ	**Matakaoa Point**	**140.40**	**239**	IAMs_20	IAMs_20	23 56 27.6		
	comp=Z,1μm,20.0s							
GUMO	**Guam**	**141.65**	**344**	IAMs_20	IAMs_20	00 06 32.9		
	comp=Z,2μm,22.0s							
SNZO	**South Karori**	**142.39**	**232**	*e*SS	SS	23 27 11.1	+8.2	
	comp=Z,105nm,29.0s							
SNZO	**South Karori**	**142.39**	**232**	*e*LR	LR	23 51 46.1		
	comp=Z,125nm,26.0s							
LHSI	**Lahat**	**143.96**	**62**	PKP	PKPab	23 05 21.1	-0.4	
LHSI				PKP	**PKPdf**	**23 05 25.7**	**+1.5**	
RPZ	**Rata Peaks**	**144.18**	**227**	PKP	**PKPdf**	**23 05 23.1**	**-0.6**	
	comp=Z,12nm,0.7s,baz=127,slow=7.8,SNR=7.0							
INZ	**Inchbonnie**	**144.27**	**229**	PKPdf	PKPbc	23 05 23.0	+0.8	
PMBI	**Palembang**	**144.41**	**59**	IAMs_20	IAMs_20	00 10 51.3		
	comp=Z,1μm,20.0s							
LBZ	**Lake Benmore**	**144.50**	**226**	PKPdf	**PKPdf**	**23 05 24.5**	**+0.2**	
MDSI	**Maura Dua**	**144.87**	**62**	PKP	**PKPab**	**23 05 21.9**	**-3.0**	
MDSI				PKP	PKPbc	23 05 23.3	-1.6	
LWLI	**Liwa**	**145.08**	**63**	PKP	**PKPbc**	**23 05 24.2**	**-1.5**	
LWLI				PKP	**PKPdf**	**23 05 26.3**	**0.0**	
FOZ	**Fox Glacier**	**145.08**	**227**	PKPbc	**PKPbc**	**23 05 24.3**	**-0.4**	
WHZ	**Wether Hill Ro**	**145.26**	**222**	PKPbc	**PKPdf**	**23 05 26.0**	**+0.5**	
KKM	**Kota Kinabalu**	**145.34**	**34**	PKPbc	**PKPbc**	**23 05 24.9**	**-1.7**	
KKM				IAMs_20	IAMs_20	00 12 46.3		
	comp=Z,1μm,22.0s							
MLZ	**Mavora Lakes**	**145.40**	**223**		**PKPab**	**23 05 26.2**	**+0.3**	
KLI	**Kotabumi**	**145.64**	**62**	PKP	**PKPdf**	**23 05 25.6**	**-1.5**	
KLI				PKP	**PKPab**	**23 05 27.9**	**+0.2**	
SBUM	**Sibu**	**145.99**	**43**	IAMs_20	IAMs_20	00 12 10.6		
	comp=Z,1μm,21.0s							
TPI	**Tanjungpandan**	**146.53**	**56**	PKP	**PKPdf**	**23 05 26.6**	**-2.1**	
TPI				PKP	sPKPab	23 05 40.3	+4.2	
MYLDM	**Lahad Datu**	**147.21**	**31**	IAMs_20	IAMs_20	00 25 44.5		
	comp=Z,2μm,19.0s							
STKI	**Sintang**	**147.31**	**47**	PKP	**PKPdf**	**23 05 29.9**	**-0.1**	
STKI				PKP	**PKiKP**	**23 05 34.6**	**-0.1**	
CGJI	**Cibinong**	**147.32**	**63**	PKP	**PKPdf**	**23 05 27.1**	**-2.9**	
CGJI				PKP	**pPKPbc**	**23 05 35.8**	**-0.3**	
NFK	**Norfolk Island**	**149.86**	**253**	*e*LR	LR	23 55 18.5		
DZM	**Mont Dzumac**	**150.79**	**267**	IAMs_20	IAMs_20	00 11 52.1		
	comp=Z,2μm,18.0s							
DZM	**Mont Dzumac**	**150.79**	**267**	*e*SS	SS	23 28 42.3	+2.4	
	comp=Z,1μm,30.9s							
DZM	**Mont Dzumac**	**150.79**	**267**	*e*LR	LR	23 55 44.8		
	comp=Z,2μm,22.6s							
DZM	**Mont Dzumac**	**150.79**	**267**	PKPbc	**PKiKP**	**23 05 43.0**	**+1.3**	
	comp=Z,51nm,0.9s,baz=82,slow=7.8,SNR=11							
SMKI	**Samarinda**	**151.29**	**39**	PKP	**PKPdf**	**23 05 33.2**	**-3.2**	
SMKI				PKP	**sPKPbc**	**23 05 48.5**	**+1.1**	
HNR	**Honiara**	**152.07**	**296**	IAMs_20	IAMs_20	00 12 45.4		
	comp=Z,2μm,21.0s							
RABL	**Rabaul**	**154.35**	**316**	IAMs_20	IAMs_20	00 12 27.7		
	comp=Z,2μm,20.0s							
LUWI	**Luwuk**	**154.66**	**29**	IAMs_20	IAMs_20	00 19 42.7		
	comp=Z,1μm,21.0s							
MANU	**Manus Island**	**155.26**	**329**	IAMs_20	IAMs_20	00 09 13.1		
	comp=Z,2μm,22.0s							
FAKI	**Fak Fak**	**159.21**	**7**	IAMs_20	IAMs_20	00 21 19.6		
	comp=Z,1μm,20.0s							

BATI	**Baumata**	**162.91**	**40**	PKPab	**PKPab**	**23 06 39.6**	**-0.5**	
	comp=Z,44nm,0.5s,baz=274,slow=6.0,SNR=8.5							
STKA	**Stephens Creek**	**169.85**	**215**	PKP	**PKPdf**	**23 05 56.3**	**+0.4**	
	comp=Z,4.3nm,0.8s,baz=38,slow=2.7,SNR=7.0							
WRA	**Warramunga Arr**	**176.25**	**6**	PKP	**PKPdf**	**23 05 58.6**	**-0.2**	
	comp=Z,1.6nm,0.9s,baz=324,slow=1.1,SNR=6.3							
WRA				PKPab	**PKPab**	**23 07 39.2**	**+0.4**	
	comp=Z,2.9nm,0.8s,baz=4.2,slow=4.7,SNR=11							
WRA				PP	**PP**	**23 11 35.3**	**+5.0**	
	comp=Z,2.8nm,1.0s,baz=2.6,slow=4.3,SNR=5.7							
ASAR	**Alice Springs**	**179.22**	**88**	PKP	**PKPdf**	**23 05 58.9**	**-0.2**	
	comp=Z,2.8nm,0.8s,baz=238,slow=0.2,SNR=21							
ASAR				PKPab	pPKPab	23 07 52.4	-3.7	
	comp=Z,12nm,1.2s,baz=290,slow=3.7,SNR=11							

*IDC **02** 22:53:31.5±7.7,9.70N×125.79E,h115km±71km,mb3.7/14, mbtmp4.1/14,Error ellipse: s-maj=47.3km s-min=14.2km az=72.0*

ISC 02 22:53:29.8±0.7,9.7N±0.1×125.7E±0.3,h100km,n15, σ0.57/16,mb4.0/14,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.64**	**164**	P	**P**	**22 59 34.1**	**-0.8**
	0.2nm,0.3s,baz=343,slow=8.8,SNR=3.0						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**34.10**	**167**	P	**P**	**23 00 05.2**	**+0.1**
	0.5nm,0.3s,baz=346,slow=7.0,SNR=9.1						
	0.5nm,0.3s						
USRK	**Ussuriysk Ar.**	**34.80**	**8**	P	**P**	**23 00 11.0**	**+0.1**
	1.5nm,0.7s,baz=163,slow=5.9,SNR=4.9						
	1.5nm,0.7s						
STKA	**Stephens Creek**	**44.03**	**160**	P	**P**	**23 01 27.9**	**+0.2**
	4.0nm,0.3s,baz=347,slow=7.7,SNR=12						
	4.0nm,0.3s						
MKAR	**Makanchi Array**	**52.17**	**323**	P	**P**	**23 02 30.8**	**+0.5**
	0.6nm,0.6s,baz=127,slow=7.9,SNR=8.7						
MKAR				PcP	**PcP**	**23 03 40.7**	**0.0**
	0.8nm,0.9s,baz=122,slow=4.7,SNR=1.3						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**54.88**	**332**	P	**P**	**23 02 49.5**	**-0.4**
	0.5nm,0.3s,baz=127,slow=8.4,SNR=1.4						
	0.5nm,0.3s						
KURBB	**Kurtov Arra**	**56.25**	**326**	P	**P**	**23 03 00.5**	**+0.8**
	1.2nm,0.4s,baz=124,slow=7.3,SNR=4.1						
	1.2nm,0.4s						
BVAR	**Borovoye Array**	**61.84**	**326**	P	**P**	**23 03 39.2**	**+0.9**
	1.1nm,0.5s,baz=122,slow=6.3,SNR=2.9						
	1.1nm,0.5s						
ARTI	**Arti**	**69.51**	**327**	P	**P**	**23 04 27.0**	**-0.6**
	1.1nm,0.4s,baz=76,slow=6.8,SNR=5.1						
	1.1nm,0.4s						
ILAR	**Eielson Array**	**80.18**	**26**	P	**P**	**23 05 29.0**	**+0.1**
	0.2nm,0.6s,baz=322,slow=5.4,SNR=1.1						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**84.55**	**340**	P	**P**	**23 05 51.4**	**-0.2**
	0.4nm,0.3s,baz=78,slow=6.6,SNR=14						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**86.15**	**332**	P	**P**	**23 05 59.5**	**-0.2**
	1.3nm,0.5s,baz=73,slow=4.0,SNR=18						
	1.3nm,0.5s						
VNDA	**Vanda**	**89.43**	**173**	P	**P**	**23 06 15.6**	**+0.7**
	1.4nm,0.7s,baz=314,slow=5.9,SNR=1.5						
	1.4nm,0.7s						
HFS	**Hagfors**	**92.32**	**332**	P	**P**	**23 06 28.2**	**-0.5**
	2.4nm,0.9s,baz=104,slow=6.1,SNR=1.9						
	2.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**120.00**	**291**	PKP	**PKPdf**	**23 12 09.1**	**-0.7**
	0.2nm,0.3s,baz=24,slow=2.7,SNR=5.8						

*IDC **02** 22:54:59.0±0.7,30.46S×177.65W,h0km,mb4.4/6, mbtmp4.4/7,ML3.5/1,Error ellipse: s-maj=27.4km s-min=18.1km az=93.0*

*NEIC **02** 22:55:06.0±1.5,30.4S±0.1×177.8W±0.1,h38km±8km, mb4.6/16,Error ellipse: s-maj=17.4km s-min=13.3km az=212.0*

ISC 02 22:55:05.7±0.6,30.51S±0.06×177.9W±0.1,h46km,n80, σ2.52/78,mb4.6/14,3C,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.24**	**359**	P	**Pn**	**22 55 24.7**	**-2.0**
GLKZ				S	**Sn**	**22 55 38.0**	**-4.3**
RAO	**Raoul Island**	**1.25**	**359**		**Sn**	**22 55 25.3**	**-1.6**
RAO	**Raoul Island**	**1.25**	**359**	Pn	**Pn**	**22 55 24.5**	**-2.3**
	275nm,0.3s,baz=214,slow=23,SNR=13						
RAO				Sn	**Sn**	**22 55 39.2**	**-3.3**
	2μm,0.3s,baz=165,slow=21,SNR=18						
RIZ	**Raoul Island**	**1.26**	**358**	P	**Pn**	**22 55 25.6**	**-1.4**
RIZ				S	**Sn**	**22 55 39.0**	**-3.8**
MXZ	**Matakaoa Point**	**7.71**	**203**	P	**Pn**	**22 56 51.2**	**-4.2**
MXZ				S	**Sn**	**22 58 19.6**	**-1.7**
WMGZ	**Waiomatatini S**	**7.91**	**202**	P	**Pn**	**22 56 56.2**	**-1.9**
WMGZ				S	**Sn**	**22 58 24.5**	**-1.7**
PKGZ	**Pakihiroa**	**8.06**	**203**	P	**Pn**	**22 56 57.1**	**-3.1**
HAZ	**Te Kaha**	**8.07**	**205**	P	**Pn**	**22 56 58.3**	**-2.0**
HAZ				S	**Sn**	**22 58 31.6**	**+1.4**
RUGZ	**Raukumara Rang**	**8.29**	**205**	P	**Pn**	**22 57 00.2**	**-3.3**
WCZ	**Waipu Caves**	**8.46**	**228**	P	Pn	22 57 13.6	+7.9
OUZ	**Omahuta**	**8.56**	**235**	P	Pn	22 57 14.4	+7.3
URZ	**Urewera**	**8.76**	**207**	Pn	**Pn**	**22 57 06.8**	**-3.0**
	0.5nm,0.3s,baz=263,slow=4.9,SNR=12						
URZ				Sn	**Sn**	**22 58 46.5**	**-0.8**
	4.2nm,0.3s,baz=208,slow=21,SNR=11						
	2.9nm,0.3s						
URZ	**Urewera**	**8.76**	**207**	P	**Pn**	**22 57 06.7**	**-3.1**
URZ				S	**Sn**	**22 58 46.2**	**-1.0**
ARHZ	**Aropaoanui**	**9.69**	**204**	S	**Sn**	**22 59 08.1**	**-1.8**
BKZ	**Black Stump Fm**	**9.79**	**207**	Pn	**Pn**	**22 57 24.6**	**+0.6**
MCHZ	**McNeill Hill**	**9.96**	**205**	P	**Pn**	**22 57 23.8**	**-2.4**
MCHZ				S	**Sn**	**22 59 15.0**	**-1.5**
KWHZ	**Kaweka Forest**	**10.04**	**206**	P	**Pn**	**22 57 23.2**	**-4.2**
KWHZ				S	**Sn**	**22 59 16.1**	**-2.6**
ETVZ	**East Tongariro**	**10.08**	**210**	P	**Pn**	**22 57 26.4**	**-1.6**
ETVZ				S	**Sn**	**22 59 18.8**	**-1.0**
KRHZ	**Kereru**	**10.25**	**206**	P	Pn	22 57 24.2	-6.0
KRHZ				S	**Sn**	**22 59 18.9**	**-4.9**
PXZ	**Pawanui**	**10.42**	**203**	S	**Sn**	**22 59 23.2**	**-4.7**
PNHZ	**Pukenui**	**10.55**	**206**	P	Pn	22 57 28.9	-5.4
PNHZ				S	**Sn**	**22 59 25.1**	**-6.0**
PRHZ	**Porangahau**	**10.71**	**203**	P	Pn	22 57 31.2	-5.2
DVHZ	**Dannevirke**	**10.90**	**205**	S	**Sn**	**22 59 32.0**	**-7.7**
PRWZ	**Pori Road**	**11.20**	**205**	S	**Sn**	**22 59 40.4**	**-6.5**
BFZ	**Birch Farm**	**11.21**	**204**	P	Pn	22 57 34.7	-8.6
BFZ				S	**Sn**	**22 59 40.2**	**-7.1**
MRZ	**Mangatainoka R**	**11.44**	**206**	P	Pn	22 57 37.2	-9.2
MRZ				S	Sn	22 59 42.8	-10
EIDS	**Eidsvold**	**27.84**	**273**	P	**P**	**23 00 52.9**	**+1.9**
CAN	**Canberra**	**28.13**	**251**	P	**P**	**23 00 56.0**	**+2.5**
CAN				IAmb	IAmb	23 00 57.6	
	comp=Z,8.6nm,0.9s						
CTAO	**Charters Tower**	**33.91**	**279**	P	**P**	**23 01 47.3**	**+2.8**
STKA	**Stephens Creek**	**34.55**	**257**	P	**P**	**23 01 52.6**	**+2.6**
STKA	**Stephens Creek**	**34.55**	**257**	P	**P**	**23 01 52.5**	**+2.5**
	comp=Z,24nm,0.7s,baz=98,slow=10,SNR=41						
	comp=Z,24nm,0.7s						
BBOO	**Buckleboo**	**39.03**	**254**	P	**P**	**23 02 28.9**	**+0.8**
BBOO				IAmb	IAmb	23 02 31.7	
	comp=Z,14nm,0.8s						
COEN	**Coen**	**39.40**	**286**	P	**P**	**23 02 33.2**	**+2.0**
COEN				IAmb	IAmb	23 02 34.5	
	comp=Z,15nm,1.2s						
AS31	**Alice Springs**	**43.20**	**267**	P	**P**	**23 03 03.5**	**+1.1**
AS31				IAmb	IAmb	23 03 04.0	
	comp=Z,2.8nm,0.5s						
ASAR	**Alice Springs**	**43.20**	**267**	P	**P**	**23 03 02.5**	**0.0**
ASAR	**Alice Springs**	**43.20**	**267**	P	**P**	**23 03 03.5**	**+1.0**
	comp=Z,5.8nm,0.5s,baz=104,slow=7.4,SNR=97						
ASAR				PcP	**PcP**	**23 04 52.5**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=108,slow=3.7,SNR=2.1						
	comp=Z,5.8nm,0.5s						
WR8	**Warramunga Arr**	**44.06**	**272**	P	**P**	**23 03 09.7**	**+0.3**
WR8				IAmb	IAmb	23 03 12.0	
	comp=Z,8.0nm,0.7s						
WRAB	**Tennant Creek**	**44.19**	**272**	P	**P**	**23 03 11.3**	**+0.8**
WRAB				IAmb	IAmb	23 03 12.0	
	comp=Z,9.1nm,0.7s						
WRA	**Warramunga Arr**	**44.20**	**272**	P	**P**	**23 03 10.2**	**-0.4**
WRA	**Warramunga Arr**	**44.20**	**272**	P	**P**	**23 03 10.9**	**+0.4**
	comp=Z,13nm,0.4s,baz=111,slow=7.9,SNR=131						
	comp=Z,13nm,0.4s						
WB0	**Warramunga Arr**	**44.22**	**272**	P	**P**	**23 03 11.1**	**+0.4**
VNDA	**Vanda**	**48.00**	**186**	P	**P**	**23 03 39.4**	**-0.1**

VNDA	**Vanda**	**48.00**	**186**	P	**P**	**23 03 39.1**	**-0.5**	
	comp=Z,0.3nm,0.5s,baz=9.1,slow=4.2,SNR=5.4							
	comp=Z,0.3nm,0.5s							
KNRA	**Kununurra**	**50.81**	**274**	P	**P**	**23 04 02.0**	**+0.2**	
KNRA				IAmb	IAmb	23 04 04.3		
	comp=Z,7.4nm,0.5s							
FITZ	**Fitzroy Crossi**	**52.46**	**270**	P	**P**	**23 04 14.9**	**+0.8**	
QSPA	**South Pole Qui**	**59.60**	**180**	P	**P**	**23 05 08.8**	**+4.1**	
TROLL	**Troll, Antarti**	**77.76**	**180**	⇑P	**P**	**23 06 59.4**	**+1.8**	
	comp=Z,70nm,0.3s							
SNAA	**Sanae**	**78.04**	**178**	⇑P	**P**	**23 07 00.5**	**+1.4**	
	comp=Z,20nm,0.4s							
SNAA	**Sanae**	**78.04**	**178**	P	**P**	**23 07 00.7**	**+1.6**	
SNAA				IAmb	IAmb	23 07 01.1		
	comp=Z,6.7nm,1.5s							
SNAA	**Sanae**	**78.04**	**178**	P	**P**	**23 07 00.2**	**+1.1**	
	comp=Z,0.4nm,0.5s,baz=175,slow=11,SNR=12							
	comp=Z,0.4nm,0.5s							
VNA3	**Neumayer Olymp**	**78.19**	**176**	⇑P	**P**	**23 07 01.0**	**+1.2**	
	comp=Z,4.8nm,0.6s							
H03S2	**Juan Fernandez**	**80.32**	**123**	T	T	00 36 20.3		
	baz=238,slow=74,SNR=29							
H03S1	**Juan Fernandez**	**80.32**	**123**	T	T	00 36 27.7		
	baz=238,slow=74,SNR=28							
H03S3	**Juan Fernandez**	**80.34**	**123**	T	T	00 36 26.5		
	baz=238,slow=74,SNR=32							
H03N3	**Juan Fernandez**	**80.52**	**123**	T	T	00 36 34.6		
	baz=241,slow=72,SNR=22							
H03N2	**Juan Fernandez**	**80.52**	**123**	T	T	00 36 40.5		
	baz=241,slow=72,SNR=24							
H03N1	**Juan Fernandez**	**80.53**	**123**	T	T	00 36 36.5		
	baz=241,slow=72,SNR=27							
PETK	**Petropavlovsk-**	**85.94**	**346**	P	**P**	**23 07 40.2**	**-0.3**	
	comp=Z,2.0nm,0.9s,baz=123,slow=7.3,SNR=4.8							
	comp=Z,2.0nm,0.9s							
MKAR	**Makanchi Array**	**117.92**	**310**	PKP	**PKPdf**	**23 13 46.4**	**-0.7**	
	comp=Z,0.4nm,0.5s,baz=118,slow=1.7,SNR=6.4							
KURBB	**Kurchatov Arra**	**121.23**	**314**	PKP	**PKPdf**	**23 13 52.8**	**-0.4**	
	comp=Z,1.3nm,0.6s,baz=110,slow=2.0,SNR=8.6							
MREMI	**Moremi**	**121.89**	**208**	PKPdf	**PKiKP**	**23 13 56.6**	**+0.9**	
KKAR	**Karatay Array**	**125.22**	**304**	PKPdf	**PKPdf**	**23 14 00.9**	**-0.3**	
BVAR	**Borovoye Array**	**126.55**	**316**	PKP	**PKiKP**	**23 14 03.7**	**-0.1**	
	comp=Z,1.7nm,0.5s,baz=95,slow=1.2,SNR=8.7							
H10N3	**ASCENSION HYDR**	**138.67**	**155**	T	T	01 50 17.0		
	baz=202,slow=75,SNR=35							
H10N1	**ASCENSION HYDR**	**138.67**	**155**	T	T	01 50 14.0		
	baz=202,slow=75,SNR=32							
H10N2	**ASCENSION HYDR**	**138.69**	**155**	T	T	01 50 11.7		
	baz=202,slow=75,SNR=35							
ARCES	**ARCESS Array B**	**138.72**	**348**	PKhKP	PKPpre	23 14 18.1		
	comp=Z,1.4nm,0.9s,baz=50,slow=1.9,SNR=5.1							
ARCES				PKP	**PKiKP**	**23 14 27.4**	**-0.6**	
	comp=Z,4.1nm,1.1s,baz=5.7,slow=2.4,SNR=4.8							
KBZ	**Khabaz**	**145.25**	**304**	PKPbc	**PKPbc**	**23 14 37.5**	**-0.4**	
	comp=Z,2.4nm,0.9s,baz=117,slow=2.3,SNR=3.7							
FIA1	**FINESS Array S**	**145.28**	**340**		**PKPbc**	**23 14 37.2**	**-0.2**	
FINES	**FINESS Array B**	**145.28**	**340**		**PKPdf**	**23 14 37.5**	**-0.2**	
FINES	**FINESS Array B**	**145.28**	**340**	PKPbc	**PKPbc**	**23 14 36.8**	**-0.6**	
	comp=Z,4.6nm,0.3s,baz=63,slow=3.6,SNR=36							
NC303	**NORSAR Array S**	**148.68**	**351**	PKPbc	**PKPbc**	**23 14 47.2**	**0.0**	
NOA	**NORSAR Array B**	**148.87**	**351**	PKPbc	**PKPbc**	**23 14 47.3**	**-0.5**	
	comp=Z,2.1nm,0.7s,baz=16,slow=4.2,SNR=7.0							
NC602	**NORSAR Array S**	**149.13**	**351**	PKPbc	**PKPbc**	**23 14 48.1**	**-0.2**	
HFS	**Hagfors**

TA01				*e*S	**Sn**	**23 03 29.9**	**+1.0**
TA01				IAML		23 03 33.2	
	comp=Z,798nm,0.3s						
PB03	**IPOC Station P**	**1.33**	**218**	⇑*i*P	**Pn**	**23 03 11.0**	**-0.5**
PB03				*e*S	**Sn**	**23 03 29.9**	**-0.1**
PB03				IAML		23 03 31.1	
	comp=N,1μm,0.3s						
PB03	**IPOC Station P**	**1.33**	**218**	*e*P	**Pn**	**23 03 10.7**	**-0.7**
PB03				*e*S	**Sn**	**23 03 30.7**	**+0.8**
PB03				IAML		23 03 33.7	
	comp=Z,2μm,0.4s						
GO01	**Chusmiza**	**1.35**	**347**	*e*P	**Pn**	**23 03 12.0**	**0.0**
GO01				*e*S	**Sn**	**23 03 31.7**	**+0.8**
GO01				IAML		23 03 37.4	
	comp=E,2μm,0.2s						
GO01	**Chusmiza**	**1.35**	**347**	*e*P	**Pn**	**23 03 12.0**	**0.0**
GO01				*e*S	**Sn**	**23 03 33.4**	**+2.5**
GO01				IAML		23 03 36.2	
	comp=Z,331nm,0.1s						
TA02	**Huaiquique**	**1.38**	**301**	*e*P	**Pn**	**23 03 11.8**	**0.0**
TA02				*e*S	**Sn**	**23 03 30.5**	**-0.2**
TA02	**Huaiquique**	**1.38**	**301**	*e*P	**Pn**	**23 03 12.1**	**+0.3**
TA02				*e*S	**Sn**	**23 03 32.7**	**+2.0**
TA02				IAML		23 03 37.6	
	comp=Z,2μm,0.1s						
PB11	**IPOC Station P**	**1.43**	**329**	*e*P	**Pn**	**23 03 12.1**	**-0.5**
PB11				*e*S	**Sn**	**23 03 32.3**	**+0.4**
PB11				IAML		23 03 35.3	
	comp=E,2μm,0.7s						
PB11	**IPOC Station P**	**1.43**	**329**	*e*P	**Pn**	**23 03 12.3**	**-0.3**
PB11				*e*S	**Sn**	**23 03 33.4**	**+1.4**
PB11				IAML		23 03 38.4	
	comp=Z,587nm,0.3s						
PB06	**IPOC Station P**	**1.82**	**201**	⇑*i*P	**Pn**	**23 03 17.1**	**-0.4**
PB06				*e*S	**Sn**	**23 03 40.5**	**-0.3**
PB06				IAML		23 03 45.1	
	comp=E,806nm,0.3s						
PB06	**IPOC Station P**	**1.82**	**201**	*e*P	**Pn**	**23 03 17.1**	**-0.4**
PB06				*e*S	**Sn**	**23 03 41.6**	**+0.8**
PB06				IAML		23 03 44.5	
	comp=Z,620nm,0.4s						
AF01	**San Pedro de A**	**2.05**	**162**	*e*P	Pn	23 03 31.3	+11
AF01				*e*S	Sn	23 03 58.3	+12
AF01				IAML		23 04 23.7	
	comp=Z,216nm,0.7s						
PB05	**IPOC Station P**	**2.23**	**213**	*e*P	**Pn**	**23 03 22.5**	**-0.1**
PB05				*e*S	**Sn**	**23 03 52.1**	**+2.2**
PB05				IAML		23 03 58.6	
	comp=E,519nm,0.4s						
PB05	**IPOC Station P**	**2.23**	**213**	*e*P	**Pn**	**23 03 21.7**	**-0.9**
PB05				*e*S	**Sn**	**23 03 49.4**	**-0.5**
PB05				IAML		23 03 58.8	
	comp=Z,264nm,0.4s						
PB16	**IPOC Station P**	**2.71**	**347**	*e*P	**Pn**	**23 03 30.2**	**+0.7**
PB16				*e*S	Sn	23 04 14.2	+12
PB12	**IPOC Station P**	**2.73**	**330**	*e*P	**Pn**	**23 03 27.9**	**-1.4**
PB12				*e*S	**Sn**	**23 03 58.3**	**-3.6**
PB12				IAML		23 04 11.6	
	comp=Z,152nm,0.4s						
AP01	**Chacalluta**	**2.95**	**332**	*e*P	**Pn**	**23 03 31.6**	**-0.5**
AP01				*e*S	Sn	23 04 17.0	+10
AP01				IAML		23 04 19.9	
	comp=Z,286nm,0.1s						
PB10	**IPOC Station P**	**2.95**	**212**	*e*P	**Pn**	**23 03 32.7**	**+0.6**
PB10				*e*S	**Sn**	**23 04 06.0**	**-0.9**
PB10				IAML		23 04 18.0	
	comp=Z,125nm,0.7s						
YJA	**Yavi**	**3.34**	**111**	*e*P	**Pn**	**23 03 33.7**	**-3.9**
YJA				*e*S	**Sn**	**23 04 20.3**	**+3.5**
PB14	**IPOC Station P**	**3.88**	**201**	*e*P	**Pn**	**23 03 45.8**	**+0.9**
PB14				*e*S	Sn	23 04 38.9	+9.2
PB14				IAML		23 04 40.5	
	comp=Z,170nm,0.5s						
AZAP	**Zapla**	**4.77**	**133**	*e*P	**Pn**	**23 03 57.0**	**+0.2**

NEIC 02 23:08:04.8±0.6, 38°02N×0°02×98°00W±0°03, h1km±5km, mb_Lg2.1/3, ML2.4/8, Error ellipse: s-maj=3.7km s-min=0.8km az=51.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R32A	**Long Quarter,**	**0.69**	**306**	Pg	Pg	23 08 17.6	-0.4
R32A				Sg	Sg	23 08 26.8	-0.1
R32A				IAML		23 08 29.7	
	198nm,0.5s						
R32A				IAML		23 08 31.9	
	211nm,0.3s						
KAN08	**Anthony NE Sta**	**0.79**	**178**	Pg	Pg	23 08 18.8	-1.3
KAN08				IAML		23 08 35.5	
	comp=N,108nm,0.1s						
KAN01	**Argonia South**	**0.89**	**167**	Pg	Pg	23 08 20.9	-0.9
KAN01				IAML		23 08 43.1	
	comp=N,95nm,0.1s						
KAN14	**Manchester OK**	**1.06**	**178**	Pg	Pg	23 08 24.4	-0.8
BLOK	**Blackwell**	**1.41**	**153**		Pn	23 08 30.3	-1.2
BLOK					Sg	23 08 48.8	-1.2
CROK	**Carrier**	**1.51**	**179**	Pg	Pn	23 08 31.8	-1.2
CBKS	**Cedar Bluff**	**1.58**	**301**	Pg	Pn	23 08 33.1	-0.8
T35A	**Sooner Cattle**	**1.62**	**133**		Pn	23 08 33.8	-0.7
OK038	**West end E0370**	**1.65**	**201**		Pn	23 08 34.5	-0.4
OK038					Sn	23 08 56.8	0.0
ELIS	**Ellis County**	**2.26**	**211**	IAmb_Lg		23 09 15.1	
	comp=Z,9.1nm,0.7s						
SMWD	**Samnorwood**	**3.42**	**212**	IAmb_Lg		23 09 57.4	
	comp=Z,6.3nm,0.8s						
P38A	**Dawn**	**3.84**	**64**	Pn	Pn	23 09 04.6	-0.4

*PDG **02** 23:08:11.4±0.5, 44°92N×15°08E, h3km±4km, ML3.2/8, Error ellipse: s-maj=2.2km s-min=2.5km az=0.0*
*RHSSO **02** 23:08:13.6±0.3, 45°04N×15°12E, h6km±2km, ML2.9/12*
*VIE **02** 23:08:14.1±0.5, 45°12N×15°14E, h7km±2km, mb2.5/16, ml2.8/17, Error ellipse: s-maj=3.8km s-min=2.4km az=158.0 52 km SW of Karlovac*

ISC 02 23:08:12.8±1.1, 45°03N±0°01×15°11E±0°02, h5km±9km, n80, σ0°89/152, 6C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABC	**Rab**	**0.36**	**219**	*e*Pg	**Pg**	**23 08 19.7**	**-0.2**
RABC				Sg	**Sg**	**23 08 24.6**	**-0.1**
PLIT	**Plitvice**	**0.40**	**113**	*e*Pg	**Pg**	**23 08 20.7**	**+0.2**
PLIT				Sg	**Sg**	**23 08 26.1**	**+0.4**
BOJS	**Bojanci**	**0.48**	**12**	⇓*i*Pg	**Pg**	**23 08 22.3**	**+0.1**
BOJS				*i* Sg	**Sg**	**23 08 29.1**	**+0.7**
BOJS				IAML		23 08 31.2	
	comp=Z,119nm,0.2s						
NVLJ	**Novalja**	**0.50**	**200**	*e*Pg	**Pg**	**23 08 22.0**	**-0.5**
NVLJ				Sg	**Sg**	**23 08 29.1**	**+0.2**
RIY	**Rijeka**	**0.53**	**304**	*e*Pg	**Pg**	**23 08 22.6**	**-0.5**
RIY				Sg	**Sg**	**23 08 30.3**	**+0.3**
GBRS	**Gornja Briga**	**0.54**	**337**	*i* Pg	**Pg**	**23 08 23.0**	**-0.3**
GBRS				*i* Sg	**Sg**	**23 08 31.5**	**+1.2**
GBRS				IAML		23 08 32.8	
	comp=Z,92nm,0.1s						
OZLJ	**Ozalj**	**0.64**	**23**	⇑*i*Pg	**Pg**	**23 08 25.5**	**+0.5**
OZLJ				*e*Sg	**Sg**	**23 08 34.0**	**+0.7**
OZLJ	**Ozalj**	**0.64**	**23**	*e*Pg	**Pg**	**23 08 25.6**	**+0.5**
OZLJ				Sg	**Sg**	**23 08 33.5**	**+0.2**
UDBI	**Udbina**	**0.69**	**137**	*e*Pg	**Pg**	**23 08 26.1**	**0.0**
UDBI				Sg	**Sg**	**23 08 35.5**	**+0.5**
KNDS	**Knezji Dol**	**0.71**	**314**	*i* Pg	**Pg**	**23 08 25.9**	**-0.7**
KNDS				*e*Sg	**Sb**	**23 08 37.2**	**-0.7**
KNDS				IAML		23 08 39.9	
	comp=Z,83nm,0.2s						
VIRC	**Vir**	**0.74**	**183**	*e*Pg	**Pg**	**23 08 26.1**	**-0.9**
VIRC				Sg	**Sg**	**23 08 37.3**	**+0.6**
VISS	**Visnje**	**0.79**	**346**	*i* Pg	**Pg**	**23 08 27.4**	**-0.7**
VISS				*e*Sg	**Sg**	**23 08 38.4**	**+0.1**
VISS				IAML		23 08 39.9	
	comp=Z,90nm,0.2s						
CRES	**Cresnjevec Ost**	**0.83**	**17**	*e*Pg	**Pg**	**23 08 28.5**	**-0.3**
CRES				*e*Sg	**Sg**	**23 08 40.2**	**+0.6**
CRES				IAML		23 08 43.5	
	comp=Z,148nm,0.5s						
CEY	**Cerknica**	**0.85**	**326**	*i* Pg	**Pg**	**23 08 28.5**	**-0.7**
CEY				*e*Sg	**Sg**	**23 08 41.3**	**+1.0**
CEY				IAML		23 08 43.0	
	comp=Z,166nm,0.3s						
GCIS	**Gornji Cirnik**	**0.91**	**23**	*i* Pg	**Pg**	**23 08 30.3**	**0.0**
GCIS				IAML		23 08 48.4	
	comp=Z,36nm,0.2s						
SKDS	**Skadanscina**	**0.93**	**304**	*i* Pg	**Pg**	**23 08 29.3**	**-1.3**
SKDS				*e*Sg	**Sb**	**23 08 43.6**	**-0.4**
SKDS				IAML		23 08 46.2	
	comp=Z,107nm,0.2s						
LEGS	**Legarje**	**0.93**	**9**	*e*Pg	**Pg**	**23 08 30.3**	**-0.3**
LEGS				*e*Sg	**Sg**	**23 08 43.0**	**+0.3**
BRJN	**Brijuni**	**0.97**	**263**	⇑*i*Pg	**Pg**	**23 08 31.3**	**-0.2**
BRJN				*e*Sg	**Sg**	**23 08 44.4**	**+0.3**
BRJN	**Brijuni**	**0.97**	**263**	*e*Pg	**Pg**	**23 08 31.4**	**-0.2**
BRJN				Sg	**Sg**	**23 08 44.5**	**+0.4**
ZAG	**Zagreb**	**1.01**	**38**	*e*Pg	**Pg**	**23 08 32.5**	**+0.4**
ZAG				Sg	**Sb**	**23 08 43.3**	**+0.1**
GBAS	**Gorenja Brezov**	**1.02**	**333**	*i* Pg	**Pg**	**23 08 32.0**	**-0.4**
GBAS				*e*Sg	**Sb**	**23 08 46.5**	**-0.1**
GBAS				IAML		23 08 48.6	
	comp=Z,37nm,0.2s						
PDKS	**Podkum**	**1.03**	**356**	*e*Pg	**Pg**	**23 08 32.3**	**-0.4**
PDKS				*e*Sg	**Sb**	**23 08 47.2**	**+0.2**
PDKS				IAML		23 08 49.9	
	comp=Z,52nm,0.2s						
DUGI	**Dugi Otok**	**1.04**	**182**	*e*Pg	**Pg**	**23 08 31.7**	**-1.1**
DUGI				Sg	**Sb**	**23 08 46.9**	**-0.4**
GOLS	**Golise**	**1.04**	**20**	*e*Pg	**Pg**	**23 08 33.1**	**+0.2**
GOLS				IAML		23 08 53.8	
	comp=Z,69nm,0.3s						
PTJ	**Puntijarka**	**1.06**	**34**	*e*Pg	**Pg**	**23 08 33.1**	**-0.2**
PTJ				Sg	**Sg**	**23 08 46.7**	**-0.4**
LJU	**Ljubljana**	**1.09**	**338**	*e*Pg	**Pg**	**23 08 33.6**	**-0.1**
LJU				*e*Sg	**Sg**	**23 08 48.1**	**+0.2**
LJU				IAML		23 08 54.3	
	comp=Z,46nm,0.2s						
VNDS	**Vrh nad Dolski**	**1.11**	**345**	*e*Pg	**Pg**	**23 08 33.5**	**-0.6**
VNDS				IAML		23 08 53.2	
	comp=Z,53nm,0.2s						
JAVS	**Javornik**	**1.13**	**320**	*i* Pg	**Pg**	**23 08 33.0**	**-1.5**
JAVS				*e*Sg	**Sb**	**23 08 50.3**	**+0.4**
JAVS				IAML		23 08 53.1	
	comp=Z,87nm,0.3s						
CRNS	**Crni Vrh**	**1.21**	**331**	*i* Pg	**Pg**	**23 08 35.7**	**-0.2**
CRNS				*e*Sg	**Sb**	**23 08 52.6**	**+0.5**
CRNS				IAML		23 08 57.7	
	comp=Z,120nm,0.3s						
MORI	**Morici**	**1.24**	**160**	*e*Pg	**Pg**	**23 08 35.9**	**-0.8**
MORI				Sg	**Sg**	**23 08 51.7**	**-1.0**
A051A	**Mrakovica**	**1.28**	**90**	⇑*i*Pg	**Pg**	**23 08 36.2**	**-1.1**
A051A				*e*Sg	**Sb**	**23 08 54.4**	**+0.3**
MOSL	**Moslavina**	**1.30**	**63**	⇑*i*Pg	**Pg**	**23 08 36.9**	**-0.8**
MOSL				*e*Sg	**Sg**	**23 08 54.3**	**-0.3**
MOSL	**Moslavina**	**1.30**	**63**	*e*Pg	**Pg**	**23 08 37.6**	**-0.2**
MOSL				Sg	**Sg**	**23 08 54.1**	**-0.4**
ZIRJ	**Zirje**	**1.43**	**164**	*e*Pg	**Pn**	**23 08 39.2**	**-0.2**
ZIRJ				Sg	**Sb**	**23 08 58.0**	**-0.4**
KALN	**Kalnik**	**1.45**	**40**	*e*Pn	**Pn**	**23 08 40.0**	**+0.3**
KALN				Sg	**Sg**	**23 08 59.4**	**0.0**
GORS	**Gorjuse**	**1.50**	**329**	*e*Pg	**Pn**	**23 08 40.5**	**0.0**
GORS				*e*Sg	**Sb**	**23 09 01.1**	**+0.4**
GORS				IAML		23 09 03.7	
	comp=Z,85nm,0.3s						
BLY	**Banja Luka**	**1.50**	**100**	⇑*i*Pg	**Pn**	**23 08 40.0**	**-0.4**
BLY				*e*Sg	**Sn**	**23 09 00.5**	**+0.2**
OBKA	**Obir**	**1.53**	**345**	*e*Pn	**Pn**	**23 08 41.1**	**+0.3**
	comp=Z,22nm,0.2s,SNR=38						
OBKA				*e*Sn	**Sg**	**23 09 02.0**	**+0.1**
	comp=Z,42nm,0.2s						
CADS	**Cadrg**	**1.53**	**322**	*e*Pg	**Pn**	**23 08 41.2**	**+0.3**
CADS				IAML		23 09 04.2	
	comp=Z,277nm,0.4s						
SOKA	**Soboth**	**1.65**	**358**	*e*Pn	**Pn**	**23 08 42.2**	**-0.2**
	comp=Z,6.4nm,0.3s,SNR=13						
SOKA				*e*Sn	**Sn**	**23 09 04.3**	**+0.3**
	comp=Z,15nm,0.4s						
ROBS	**Robic**	**1.65**	**318**	*i* Pg	**Pn**	**23 08 42.4**	**0.0**
ROBS				*e*Sg	**Sn**	**23 09 04.3**	**+0.3**
ROBS				IAML		23 09 10.2	
	comp=Z,85nm,0.4s						
BEHE	**Becsehely**	**1.85**	**38**	*e*Pn	**Pn**	**23 08 45.4**	**+0.2**
BEHE				*e*Sn	**Sn**	**23 09 09.3**	**+0.3**
MYKA	**Terra Mystica**	**1.90**	**328**	*e*Pn	**Pn**	**23 08 46.8**	**+0.9**
	comp=Z,7.5nm,0.2s,SNR=20						
MYKA				*e*Sn	**Sb**	**23 09 11.8**	**-0.2**
	comp=Z,52nm,0.5s						
RICI	**Ricice**	**2.12**	**136**	*e*Pn	**Pn**	**23 08 50.1**	**+1.2**
RICI				Sn	**Sb**	**23 09 17.2**	**-1.0**
DOB	**Doboj**	**2.15**	**97**	*e*Pn	**Pn**	**23 08 50.1**	**+0.9**
DOB				*e*Sn	**Sn**	**23 09 16.5**	**+0.3**
MAKA	**Makarska**	**2.22**	**141**	*e*Pn	**Pn**	**23 08 51.4**	**+1.1**
MAKA				Sn	**Sn**	**23 09 19.0**	**+0.9**
ARSA	**Arzberg**	**2.24**	**7**	*e*Pn	**Pn**	**23 08 49.9**	**-0.6**
	comp=Z,2.2nm,0.3s						
ARSA				*e*Sn	**Sn**	**23 09 17.6**	**-0.9**
	comp=Z,2.1nm,0.3s						
ABTA	**Abfaltersbach**	**2.50**	**314**	*e*Pn	**Pn**	**23 08 54.2**	**+0.1**
	comp=Z,3.1nm,0.2s,SNR=7.7						
ABTA				*e*Sn	**Sn**	**23 09 25.8**	**+0.8**
	comp=Z,24nm,0.6s						
LSTV	**Lastovo**	**2.60**	**150**	*e*Pn	**Pn**	**23 08 55.7**	**+0.2**
LSTV				Sn	**Sn**	**23 09 27.5**	**0.0**
MORH	**Mrgy, Hungar**	**2.75**	**63**	*e*Pn	**Pn**	**23 08 58.3**	**+0.8**
MORH				*e*Sn	**Sn**	**23 09 31.0**	**0.0**
RONA	**Rosalia, Austr**	**2.79**	**17**	*e*Pn	**Pn**	**23 08 58.2**	**+0.1**
	comp=Z,1.1nm,0.1s						
RONA				*e*Sg	**Sg**	**23 09 43.8**	**+1.3**
	comp=Z,7.7nm,0.5s						
BIOA	**Bad Ischl, Aus**	**2.85**	**340**	*e*Pn	**Pn**	**23 09 00.1**	**+1.2**
	comp=Z,2.0nm,0.3s						
BIOA				Sn	**Sn**	**23 09 34.2**	**+0.7**
	comp=Z,6.7nm,0.3s						
STON	**Ston**	**2.86**	**138**	⇑*i*Pn	**Pn**	**23 08 59.7**	**+0.7**
STON				*e*Sn	**Sn**	**23 09 34.7**	**+1.0**
STON	**Ston**	**2.86**	**138**	*e*Pn	**Pn**	**23 08 59.9**	**+0.9**
STON				Sn	**Sn**	**23 09 34.9**	**+1.2**
MOA	**Molln**	**2.88**	**349**	*e*Pn	**Pn**	**23 09 00.1**	**+0.8**
	comp=Z,0.9nm,0.1s						
MOA				*e*Sn	**Sn**	**23 09 33.3**	**-0.9**
	comp=Z,7.4nm,0.4s						
LESA	**Schwarzleotal**	**2.93**	**326**	Pn	**Pn**	**23 09 01.2**	**+1.1**
	comp=Z,7.1nm,0.4s,SNR=7.7						
LESA				*e*Sn	**Sn**	**23 09 36.6**	**+1.0**
	comp=Z,7.1nm,0.4s						
CONA	**Conrad Observa**	**2.94**	**10**	*e*Pn	**Pn**	**23 09 00.3**	**0.0**
	comp=Z,1.6nm,0.2s,SNR=6.6						
CONA				*e*Sn	**Sn**	**23 09 36.6**	**+0.6**
	comp=Z,5.9nm,0.5s						
KLINJ	**Klinje**	**3.12**	**125**	*e*Sn	**Sn**	**23 09 40.3**	**-0.1**
DBRK	**Dubrovnik**	**3.23**	**136**	*e*Pn	**Pn**	**23 09 04.6**	**+0.5**
DBRK				Sn	**Sn**	**23 09 43.2**	**+0.3**
BRY	**Bratogost**	**3.27**	**130**	⇓*i*Pn	**Pn**	**23 09 06.2**	**+1.4**
BRY				*i* Sn	**Sn**	**23 09 44.6**	**+0.5**
WTTA	**Wattenberg**	**3.29**	**314**	*i* Pn	**Pn**	**23 09 05.8**	**+0.7**
	comp=Z,6.3nm,0.3s,SNR=16						
WTTA				*i* Sn	**Sn**	**23 09 44.5**	**-0.1**
	comp=Z,10nm,0.5s						
TREB	**Trebinje**	**3.29**	**134**	*e*Pn	**Pn**	**23 09 05.6**	**+0.6**
TREB				*e*Sn	**Sn**	**23 09 45.1**	**+0.6**
WATA	**Walderalm**	**3.37**	**314**	*i* Pn	**Pn**	**23 09 06.9**	**+0.8**
	comp=Z,6.2nm,0.2s,SNR=12						
WATA				*i* Sn	**Sn**	**23 09 47.8**	**+1.3**
	comp=Z,8.5nm,0.5s						
RUDO	**Rudo**	**3.37**	**113**	*e*Pn	**Pn**	**23 09 07.4**	**+1.3**
RUDO				*e*Sn	**Sn**	**23 09 46.7**	**+0.3**
SQTA	**Sankt Quirin**	**3.48**	**310**	*i* Pn	**Pn**	**23 09 09.2**	**+1.4**
	comp=Z,2.6nm,0.2s						
SQTA				*i* Sn	**Sn**	**23 09 50.2**	**+0.8**
	comp=Z,7.5nm,0.5s						
HCY	**Herceg Novi**	**3.56**	**135**	⇓*i*Pn	**Pn**	**23 09 09.3**	**+0.6**
HCY				*i* Sn	**Sn**	**23 09 51.5**	**+0.3**
NKME	**Niksic**	**3.58**	**128**	*e*Pn	**Pn**	**23 09 09.0**	**-0.1**
NKME				*i* Sn	**Sn**	**23 09 52.6**	**+0.8**
MOTA	**Moosalm**	**3.62**	**311**	*e*Pn	**Pn**	**23 09 10.6**	**+1.0**
	comp=Z,1.8nm,0.2s,SNR=5.6						
MOTA				*i* Sn	**Sn**	**23 09 53.5**	**+0.8**
	comp=Z,4.2nm,0.3s						
FETA	**Feichten**	**3.64**	**305**	*e*Pn	**Pn**	**23 09 10.5**	**+0.6**
	comp=Z,1.9nm,0.3s						
FETA				*i* Sn	**Sn**	**23 09 55.4**	**+2.0**
	comp=Z,8.7nm,0.5s						
CEME	**Cevo**	**3.71**	**131**	*e*Pn	**Pn**	**23 09 11.7**	**+0.9**
CEME				*i* Sn	**Sn**	**23 09 54.9**	**0.0**
KOME	**Kolasin**	**3.86**	**123**	*e*Pn	**Pn**	**23 09 13.2**	**+0.3**
KOME				*i* Sn	**Sn**	**23 09 58.9**	**+0.3**
RETA	**Reutte**	**3.89**	**311**	*i* Pn	**Pn**	**23 09 13.7**	**+0.5**
	comp=Z,0.7nm,0.2s						
RETA				*e*Sn	**Sn**	**23 10 01.1**	**+1.8**
	comp=Z,6.1nm,0.3s						
PDG	**Podgorica**	**3.98**	**129**	⇓*i*Pn	**Pn**	**23 09 12.9**	**-1.5**
PDG				*i* Sn	**Sn**	**23 10 01.5**	**+0.2**
IVA	**Berane**	**4.08**	**120**	*e*Pn	**Pn**	**23 09 16.0**	**+0.2**
DRME	**Dracevica, Mon**	**4.11**	**132**	⇓*i*Pn	**Pn**	**23 09 17.1**	**+0.9**
DRME				*i* Sn	**Sn**	**23 10 04.8**	**+0.3**
KRUC	**Moravsky**	**4.12**	**12**	*e*PN	**Pn**	**23 09 15.9**	**-0.5**
KHC	**Kasperske Hory**	**4.23**	**346**	*e*PN	**Pn**	**23 09 17.5**	**-0.4**
KHC				*e*SN	**Sn**	**23 10 05.0**	**-2.7**
DAVA	**Damuels**	**4.28**	**304**	*i* Pn	**Pn**	**23 09 19.2**	**+0.5**
	comp=Z,1.0nm,0.2s						
ULC	**Ulcinj**	**4.30**	**134**	*e*Pn	**Pn**	**23 09 18.6**	**-0.2**
ULC				*i* Sn	**Sn**	**23 10 08.7**	**-0.6**
CLL	**Collm**	**6.43**	**348**	*e*Pn	**Pn**	**23 09 49.0**	**+0.9**
CLL				*e*Sn	Sn	23 10 46.0	-16
CLL				*ex*	x	23 10 59.0	
CLL				*e*Sb	Sb	23 11 10.0	-12
CLL				*e*Sg	**Sg**	**23 11 33.0**	**-6.3**
	comp=Z,9.0nm,1.2s						

*IDC **02** 23:24:02.6±7.7, 11°95S×166°96E, h236km±79km, mb3.7/6, mbtmp4.2/7, Error ellipse: s-maj=59.4km s-min=22.3km az=159.0*
*NEIC **02** 23:24:03.7±1.4, 12°0S±0°1×167°1E±0°1, h241km±7km, mb4.5/29, Error ellipse: s-maj=16.6km s-min=14.9km az=120.0*

ISC 02 23:24:01.0±0.6, 11°88S±0°08×167°1E±0°1, h220km, n38, σ1°20/40, mb4.4/20, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.55**	**178**		**Pn**	**23 25 01.0**	**+2.8**
SANVU				Sn	**S**	**23 25 42.7**	**-0.3**
DZM	**Mont Dzumac**	**10.16**	**183**	Pn	**Pn**	**23 26 23.4**	**+1.3**
DZM	**Mont Dzumac**	**10.16**	**183**	P	**Pn**	**23 26 22.6**	**+0.5**
	2.4nm,0.5s,baz=346,slow=19,SNR=5.8						
DZM				S	**S**	**23 28 16.2**	**0.0**
	9.5nm,1.1s,baz=273,slow=19,SNR=2.2						
EIDS	**Eidsvold**	**20.22**	**226**	P	**P**	**23 28 19.8**	**+0.4**
CTAO	**Charters Tower**	**21.61**	**245**	P	**P**	**23 28 35.0**	**+1.1**
ARMA	**Armidale**	**23.36**	**215**	P	**P**	**23 28 49.6**	**-0.5**
ARMA				IAmb	IAmb	23 28 51.8	
	comp=Z,7.0nm,0.8s						
COEN	**Coen**	**23.39**	**262**	P	**P**	**23 28 52.3**	**+1.9**
COEN				IAmb	IAmb	23 29 15.4	
	comp=Z,14nm,1.1s						
THZ	**Tophouse**	**30.20**	**171**	P	**P**	**23 29 49.3**	**-1.8**
THZ				IAmb	IAmb	23 29 53.6	
	comp=Z,34nm,1.4s						
STKA	**Stephens Creek**	**30.77**	**226**	P	**P**	**23 29 55.8**	**-0.3**
STKA	**Stephens Creek**	**30.77**	**226**	P	**P**	**23 29 55.4**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=41,slow=9.3,SNR=7.4						
	comp=Z,3.0nm,0.7s						
WR8	**Warramunga Arr**	**32.30**	**251**	P	**P**	**23 30 08.9**	**-0.7**
WR8				IAmb	IAmb	23 30 25.6	
	comp=Z,11nm,1.5s						
WB0	**Warramunga Arr**	**32.37**	**252**	P	**P**	**23 30 09.6**	**-0.6**
WRA	**Warramunga Arr**	**32.45**	**252**	P	**P**	**23 30 10.1**	**-0.8**
WRA	**Warramunga Arr**	**32.45**	**252**	P	**P**	**23 30 09.7**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=85,slow=8.9,SNR=18						
	comp=Z,1.3nm,0.5s						
RAR	**Rarotonga**	**33.04**	**111**	P	**P**	**23 30 15.7**	**-0.2**
ASAR	**Alice Springs**	**33.61**	**245**	P	**P**	**23 30 19.6**	**-1.4**
	comp=Z,2.3nm,0.6s,baz=70,slow=9.6,SNR=21						
	comp=Z,2.3nm,0.6s						
MTN	**Manton Dam**	**35.12**	**265**	P	**P**	**23 30 34.4**	**+0.5**
MTN				IAmb	IAmb	23 30 55.5	
	comp=Z,13nm,1.1s						
BBOO	**Buckleboo**	**35.25**	**229**	P	**P**	**23 30 34.0**	**-0.9**
BBOO				IAmb	IAmb	23 30 34.7	
	comp=Z,9.6nm,0.7s						
KNRA	**Kununurra**	**37.38**	**260**	P	**P**	**23 30 53.1**	**0.0**
KNRA				IAmb	IAmb	23 30 54.4	
	comp=Z,11nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.44**	**256**	P	**P**	**23 31 18.5**	**0.0**
PSA00	**Pilbara Seismi**	**46.10**	**252**	P	**P**	**23 32 03.0**	**-0.7**
PSA00				IAmb	IAmb	23 32 15.2	
	comp=Z,26nm,1.4s						
MBWA	**Marble Bar**	**46.18**	**252**	P	**P**	**23 32 03.6**	**-0.7**
MBWA				IAmb	IAmb	23 32 28.9	
	comp=Z,30nm,1.3s						
MORW	**Morawa**	**50.39**	**242**	P	**P**	**23 32 35.2**	**-1.0**
MORW				IAmb	IAmb	23 33 14.3	
	comp=Z,30nm,1.4s						
K13K	**Kusilvak Mount**	**76.84**	**13**	P	**P**	**23 35 27.4**	**-0.9

AMAZ	**Amatzia**	**2.59**	**16**	P	**Pn**	**23 29 25.8**	**+0.9**
GHAJ	**Ghor Haditha**	**2.60**	**30**	P	**Pg**	**23 29 31.9**	**-0.9**
URD07	**Al Anba**	**2.62**	**120**	P	**Pn**	**23 29 26.4**	**+1.1**
DSI	**Dead Sea**	**2.77**	**24**	P	**Pn**	**23 29 28.2**	**+1.0**
DSI	**Dead Sea**	**2.77**	**24**	P	**Pn**	**23 29 28.0**	**+0.7**
URD06	**Shuwaq**	**2.87**	**123**	P	**Pn**	**23 29 29.7**	**+1.0**
SALP	**Salfit**	**3.17**	**18**	P	**Pn**	**23 29 34.0**	**+1.2**
BIDS	**Bi'r al Bayda'**	**3.36**	**129**	P	**Pn**	**23 29 36.4**	**+1.1**
HMDT	**Nahal Hemdat**	**3.44**	**21**	P	**Pn**	**23 29 38.2**	**+1.7**

NEIC 02 23:32:25.7±1.7,**43.65N**±0.07×**127.4W**±0.1,**h10**km±2km,
ML3.0/72,**Error ellipse: s-maj=15.7km s-min=11.0km
az=242.0,Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.38**	**108**	Pn	Pn	23 33 02.4	-2.4
KEBM					Sn	23 33 31.6	-2.6
KEBM				IAML		23 33 37.8	
	comp=E,115nm,0.6s						
KEBM				IAML		23 33 38.4	
	comp=N,109nm,0.7s						
I02E	**Swisshome, OR**	**2.62**	**79**		Pn	23 33 06.9	-1.2
K02D	**Willamette Mer**	**2.91**	**108**	Pn	Pn	23 33 09.9	-2.2
K02D				IAML		23 33 50.2	
	comp=N,29nm,0.4s						
K02D				IAML		23 33 50.4	
	comp=E,37nm,0.5s						
I03D	**Drain, OR**	**2.96**	**88**		Pn	23 33 11.7	-0.9
I03D				IAML		23 33 53.5	
	comp=N,33nm,0.4s						
COR	**Corvallis**	**3.11**	**71**	Pn	Pn	23 33 14.2	-0.6
BUCK	**Buck Mountain**	**3.25**	**79**		Pn	23 33 16.8	0.0
G03D	**McMinnville, O**	**3.36**	**61**		Pn	23 33 18.1	-0.1
G03D				IAML		23 34 05.7	
	comp=N,46nm,0.6s						
G03D				IAML		23 34 07.9	
	comp=E,24nm,1.9s						
H04D	**Lebanon**	**3.48**	**74**		Pn	23 33 20.2	+0.3
BBOR	**Butler Butte**	**3.55**	**101**		Pn	23 33 20.6	-0.3
BBOR				IAML		23 34 09.4	
	comp=E,24nm,0.5s						
BBOR				IAML		23 34 10.3	
	comp=N,25nm,0.6s						
F03A	**Seaside**	**3.57**	**49**		Pn	23 33 21.1	0.0
RADR	**Rader Ridge**	**3.78**	**42**	Pn	Pn	23 33 23.2	-0.8
RADR				IAML		23 34 16.8	
	comp=N,28nm,0.9s						
RADR				IAML		23 34 17.1	
	comp=E,27nm,1.2s						
JCC	**Jacoby Creek,**	**3.79**	**137**	Pn	Pn	23 33 24.1	+0.1
JCC				IAML		23 34 14.5	
	comp=E,23nm,3.3s						
G04A	**Mulino**	**3.87**	**65**		Pn	23 33 25.6	+0.4
G04A				IAML		23 33 56.4	
	comp=N,29nm,0.6s						
G04A				IAML		23 34 01.5	
	comp=E,25nm,0.7s						
J04A	**Umpqua Nationa**	**3.89**	**94**		Pn	23 33 26.4	+0.8
H04A	**Detroit Lake**	**3.91**	**73**		Pn	23 33 26.2	+0.4
F04D	**Rainier, OR**	**3.97**	**51**		Pn	23 33 26.6	+0.1
E03A	**Lebam**	**3.98**	**42**		Pn	23 33 25.8	-0.9
KMRM	**Mail Ridge**	**4.41**	**140**	Pn	Pn	23 33 32.8	+0.2
KMRM				IAML		23 35 51.8	
	comp=N,19nm,2.9s						
KMRM				IAML		23 36 15.2	
	comp=E,23nm,3.8s						
HOOD	**Mount Hood Mea**	**4.45**	**66**		Pn	23 33 34.2	+0.8
HOOD				IAML		23 34 13.5	
	comp=N,14nm,0.7s						
HOOD				IAML		23 34 42.4	
	comp=E,13nm,1.5s						
NLWA	**Neilton Lookou**	**4.50**	**32**		Pn	23 33 33.1	-0.7
NLWA				IAML		23 34 27.6	
	comp=E,18nm,0.4s						
J05D	**Fort Rock, OR**	**4.52**	**93**		Pn	23 33 35.3	+1.0
J05D				IAML		23 34 37.9	
	comp=E,9.3nm,3.9s						
J05D				IAML		23 36 18.4	
	comp=N,7.7nm,4.9s						
G05A	**Wamic**	**4.65**	**68**		Pn	23 33 36.4	+0.5
G05A				IAML		23 34 39.4	
	comp=E,12nm,4.5s						
G05A				IAML		23 34 56.3	
	comp=N,18nm,4.3s						
TULE	**Intermountain**	**4.69**	**109**		Pn	23 33 40.0	+3.3
PINE	**Pine Mountain**	**4.70**	**86**		Pn	23 33 36.6	-0.2
PINE				IAML		23 35 15.0	
	comp=N,8.8nm,4.6s						
PINE				IAML		23 36 00.8	
	comp=E,6.3nm,4.0s						
C03A	**Quillayute Air**	**4.74**	**24**	Pn	Pn	23 33 36.9	-0.2
K05A	**Summer Lake**	**4.86**	**99**	Pn	Pn	23 33 38.9	-0.2
K05A				IAML		23 34 18.4	
	comp=N,6.5nm,4.3s						
K05A				IAML		23 35 40.7	
	comp=E,17nm,3.0s						
LON	**Longmire**	**5.03**	**50**		Pn	23 33 41.7	+0.4
LON				IAML		23 34 46.9	
	comp=E,8.8nm,1.1s						
LON				IAML		23 34 54.9	
	comp=N,7.4nm,1.0s						
GNW	**Green Mountain**	**5.07**	**38**		Pn	23 33 41.3	-0.4
G06A	**Carlson Farm,**	**5.11**	**70**		Pn	23 33 42.2	-0.1
G06A				IAML		23 35 46.6	
	comp=E,5.4nm,3.5s						
G06A				IAML		23 36 10.8	
	comp=N,7.6nm,4.8s						
B04A	**Port Angeles**	**5.19**	**30**		Pn	23 33 43.0	-0.3
B04A				IAML		23 34 29.7	
	comp=E,12nm,0.1s						
D05A	**Enumclaw**	**5.21**	**45**		Pn	23 33 44.1	+0.6
OZB	**Mount Ozzard**	**5.48**	**13**	Pn	Pn	23 33 46.0	-1.3
MXC	**Moxie City**	**5.83**	**57**		Pn	23 33 52.4	+0.2
HAWA	**Hanford**	**6.23**	**61**		Pn	23 33 57.4	-0.2
G08A	**Pilot Rock**	**6.27**	**72**		Pn	23 33 57.9	-0.4
WAH2	**Wahluke Slope**	**6.36**	**58**	Pn	Pn	23 33 59.2	-0.1
CBB	**Campbell River**	**6.54**	**12**	Pn	Pn	23 34 02.1	+0.3
D08A	**Wollman Farm,**	**6.89**	**57**		Pn	23 34 07.3	+0.6
WELL	**Weller Preserv**	**7.26**	**134**		Pn	23 34 13.2	+1.4
B08A	**Colville Reser**	**7.34**	**47**	Pn	Pn	23 34 11.8	-1.1
MBO	**Blue Mountains**	**7.36**	**77**	Pn	Pn	23 34 12.7	-0.5
LLLB	**Lillooet**	**7.92**	**27**	Pn	Pn	23 34 19.5	-1.3
BUCR	**Buckhorn Ranch**	**8.13**	**135**	Pn	Pn	23 34 23.9	+0.1
SCZ	**Santa Cruz**	**8.42**	**145**	Pn	Pn	23 34 26.4	-1.2
NEW	**Newport**	**8.53**	**54**	Pn	Pn	23 34 29.3	+0.1

*NIC **03** 00:09:05.1,35°.27N×29°.77E,h35km±36km,Ml2.8/10*
*ISK **03** 00:09:06.9,35°.87N×30°.42E,h14km,ML3.0/11*
*AFAD **03** 00:09:11.1,36°.08N×30°.37E,h9km±1km,ML3.0*
ISC 03 00:09:07.8±1.2,**35.92N**±0.03×**30.44E**±0.03,**h13**km±9km,
n43,σ1§43/68,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.41**	**349**	P	**Pb**	**00 09 16.4**	**-0.5**
AKUM				S	**Sg**	**00 09 19.9**	**-1.6**
DEMR	**Demre-Antalya**	**0.53**	**306**	Pg	**Pb**	**00 09 18.5**	**-0.5**
DEMR				Sg	**Sb**	**00 09 26.8**	**+0.2**
KEMT	**Kemer-ANTALYA**	**0.69**	**8**	Pg	**Pg**	**00 09 20.9**	**-0.3**
KEMT				Sg	**Sb**	**00 09 32.5**	**+1.5**
KSL	**Kastellorizon**	**0.73**	**288**	P	**Pb**	**00 09 22.4**	**0.0**
KSL				S	**Sb**	**00 09 33.6**	**+1.4**
KSL				AML	AML	00 09 37.9	
	1.1nm,0.6s						
KSL				AML	AML	00 09 38.7	
	1.2nm,0.5s						
ANTB	**Antalya**	**0.99**	**10**	Pg	**Pb**	**00 09 27.5**	**+0.7**
ANTB				Sg	Sn	**00 09 42.3**	**+1.1**
KORT	**Korkueli**	**1.08**	**356**	Pn	**Pb**	**00 09 28.9**	**+0.5**
KORT				Sn	**Sn**	**00 09 45.1**	**+1.5**
KORT	**Korkueli**	**1.08**	**356**	P	**Pb**	**00 09 28.7**	**+0.2**
KORT				S	**Sn**	**00 09 44.7**	**+1.1**
KNIK	**Mula-Seydike**	**1.16**	**323**	P	**Pb**	**00 09 29.9**	**+0.1**
KNIK				S	**Sg**	**00 09 44.5**	**-0.7**
CAME	**Cameli-Denizli**	**1.37**	**318**	Pn	**Pn**	**00 09 32.3**	**-0.5**
BUCA	**Burdur, Bucak-**	**1.41**	**4**	P	**Pb**	**00 09 34.3**	**+0.4**
BUCA				S	**Sg**	**00 09 53.0**	**-0.1**
ALAN	**Alanya-ANTALYA**	**1.44**	**63**	Pn	**Pn**	**00 09 33.9**	**+0.4**
GOLH	**Golhisar**	**1.49**	**332**	P	**Pb**	**00 09 35.5**	**+0.1**
CAEL	**Denizli, Camel**	**1.50**	**323**	P	**Pg**	**00 09 38.3**	**+1.6**
GAZI	**Gazipasa**	**1.55**	**78**	Pn	**Pn**	**00 09 35.5**	**+0.3**
GAZI	**Gazipasa**	**1.55**	**78**	P	**Pn**	**00 09 35.9**	**+0.7**
GAZI				S	**Sn**	**00 09 52.0**	**-3.1**
DNZT	**Denizli-Tavas-**	**1.77**	**320**	P	**Pb**	**00 09 40.5**	**+0.3**
DNZT				S	**Sn**	**00 10 02.2**	**+1.6**
AKMS	**Akamas**	**1.79**	**120**	P	**Pn**	**00 09 38.6**	**+0.1**
AKMS				S	**Sg**	**00 10 05.0**	**-0.5**
AKMS				AML	AML	00 10 12.5	
	0.2nm,0.4s						
AKMS				AML	AML	00 10 16.6	
	0.2nm,0.4s						
APMY	**Acipayam-Deniz**	**1.80**	**330**	Pn	**Pn**	**00 09 38.6**	**0.0**
BRDR	**BURDUR-Merkez**	**1.80**	**350**	P	**Pn**	**00 09 39.9**	**+1.4**
SEDI	**Konya, Seydise**	**1.86**	**34**	P	**Pn**	**00 09 40.4**	**+1.0**
SEDI				S	**Sn**	**00 10 01.0**	**-1.8**
SEYD	**Seydisehir-KON**	**1.86**	**37**	Pn	**Pn**	**00 09 40.2**	**+0.7**
ARG	**Arkhangelos**	**1.90**	**280**	Pn	**Pn**	**00 09 39.6**	**-0.3**
ISP	**Isparta**	**1.90**	**2**	Pn	**Pn**	**00 09 40.7**	**+0.7**
INCE	**Denizli-Bozkur**	**1.91**	**339**	P	**Pn**	**00 09 40.5**	**+0.3**
INCE				S	**Sn**	**00 10 01.7**	**-2.5**
ALFC	**Alefka**	**1.92**	**113**	P	**Pn**	**00 09 40.9**	**+0.6**
ALFC				S	**Sg**	**00 10 09.7**	**+0.1**
ALFC				AML	AML	00 10 20.9	
	0.2nm,0.5s						
ALFC				AML	AML	00 10 21.8	
	0.2nm,0.4s						
HDMB	**Hadim**	**1.95**	**57**	Pn	**Pn**	**00 09 41.5**	**+0.7**
TAVA	**DENIZLI_Tavas**	**1.97**	**322**	P	**Pb**	**00 09 43.8**	**+0.2**
TAVA				S	**Sn**	**00 10 06.6**	**+1.0**
BASM	**Basmaki-Afyon**	**2.02**	**351**	Pn	**Pn**	**00 09 42.1**	**+0.5**
BAGO	**Egridir - ISPA**	**2.08**	**8**	P	**Pn**	**00 09 44.0**	**+1.5**
NATA	**Nata**	**2.08**	**123**	P	**Pn**	**00 09 42.2**	**-0.2**
NATA				S	**Sn**	**00 10 09.4**	**+1.2**
NATA				AML	AML	00 10 34.4	
	0.6nm,0.6s						
NATA				AML	AML	00 10 34.9	
	0.8nm,0.8s						
ERMK	**Ermenek**	**2.12**	**70**	P	**Pn**	**00 09 44.8**	**+1.6**
ERMK				S	**Sb**	**00 10 12.6**	**-0.1**
ERMK				*i* IAML		00 10 27.0	
	comp=N,122nm,0.6s						
MULA	**Mugla, Merkez-**	**2.16**	**309**	P	**Pn**	**00 09 44.8**	**+1.2**
MULA				S	**Sn**	**00 10 06.0**	**-4.3**
TROD	**Troodos**	**2.21**	**115**	P	**Pn**	**00 09 44.8**	**+0.4**
TROD				S	**Sb**	**00 10 14.5**	**-0.6**
TROD				AML	AML	00 10 35.2	
	0.1nm,0.7s						
TROD				AML	AML	00 10 44.6	
	0.1nm,0.7s						
XYLS	**Xyliatos**	**2.32**	**112**	P	**Pn**	**00 09 45.4**	**-0.3**
XYLS				S	**Sb**	**00 10 19.3**	**+1.4**
XYLS				AML	AML	00 10 28.3	
	0.1nm,0.6s						
XYLS				AML	AML	00 10 29.1	
	0.1nm,0.3s						
KZIL	**AFYON_Kizioren**	**2.34**	**354**	P	**Pn**	**00 09 46.5**	**+0.3**
APOL	**The Sanctuary**	**2.34**	**121**	S	**Sn**	**00 10 16.7**	**+2.1**
APOL				AML	AML	00 10 42.8	
	0.1nm,0.8s						
APOL				AML	AML	00 10 48.5	
	0.1nm,0.9s						
AFYN	**Afyon-Dinar-K**	**2.34**	**1**	P	**Pn**	**00 09 46.5**	**+0.3**
KKBE	**Karaman, Kazim**	**2.39**	**57**	P	**Pb**	**00 09 49.5**	**-1.4**
KKBE				S	**Sn**	**00 10 15.5**	**-0.5**
YVAC	**Isparta, Yalva**	**2.43**	**15**	P	**Pn**	**00 09 49.2**	**+1.9**
PASA	**Karahalli, USA**	**2.54**	**343**	P	**Pn**	**00 09 48.4**	**-0.4**
PASA				S	**Sn**	**00 10 13.1**	**-6.5**
CSS	**Mathiatis**	**2.55**	**111**	P	**Pn**	**00 09 50.0**	**+1.1**
CSS				S	**Sb**	**00 10 23.6**	**-1.1**
CSS				AML	AML	00 10 48.2	
	0.1nm,0.6s						
CSS				AML	AML	00 10 49.6	
	0.1nm,0.8s						
ASGA	**Asgata**	**2.56**	**115**	P	**Pn**	**00 09 49.1**	**+0.1**
ASGA				S	**Sb**	**00 10 23.8**	**-1.2**
ASGA				AML	AML	00 10 47.2	
	0.1nm,0.7s						
ASGA				AML	AML	00 10 52.1	
	0.1nm,0.9s						
MVOU	**Mavrovouni**	**2.76**	**108**	P	**Pn**	**00 09 52.8**	**+1.1**
MVOU				AML	AML	00 10 48.6	
	0.1nm,0.8s						
MVOU				AML	AML	00 10 49.2	
	0.1nm,0.5s						
TURN	**Turunc**	**1.98**	**295**	Pn	**Pn**	**00 15 05.7**	**+0.8**
TURN	**Turunc**	**1.98**	**295**	P	**Pn**	**00 15 03.3**	**-1.6**
BASM	**Basmaki-Afyon**	**2.00**	**350**	Pn	**Pn**	**00 15 06.0**	**+0.7**
DNIZ	**Denizli-Tavas-**	**2.04**	**326**	P	**Pn**	**00 15 05.9**	**+0.2**
DNIZ				S	**Sn**	**00 15 32.2**	**+1.0**
DNIZ				*i* IAML		00 15 43.0	
	comp=N,209nm,0.3s						
DNIZ				*i* IAML		00 15 49.0	
	comp=E,184nm,0.4s						
BAGO	**Egridir - ISPA**	**2.06**	**7**	P	**Pn**	**00 15 07.7**	**+1.6**
NATA	**Nata**	**2.07**	**124**	P	**Pn**	**00 15 07.0**	**+0.9**
NATA				S	**Sn**	**00 15 33.2**	**+1.3**
NATA				AML	AML	00 15 58.5	
	0.7nm,1.0s						
NATA				AML	AML	00 15 59.1	
	0.8nm,0.9s						
ERMK	**Ermenek**	**2.09**	**70**	P	**Pb**	**00 15 09.0**	**-0.5**
ERMK				S	**Sg**	**00 15 37.8**	**-1.0**
ERMK				*i* IAML		00 15 52.0	
	comp=N,151nm,0.5s						
ERMK				*i* IAML		00 15 58.0	
	comp=E,92nm,0.9s						
MULA	**Mugla, Merkez-**	**2.17**	**308**	P	**Pn**	**00 15 08.5**	**+0.8**
MULA				S	**Sn**	**00 15 30.2**	**-4.3**
TROD	**Troodos**	**2.19**	**116**	P	**Pn**	**00 15 08.5**	**+0.5**
TROD				S	**Sb**	**00 15 38.0**	**-0.4**
TROD				AML	AML	00 16 03.2	
	0.1nm,0.7s						
TROD				AML	AML	00 16 08.8	
	0.1nm,0.7s						
XYLS	**Xyliatos**	**2.29**	**113**	P	**Pn**	**00 15 10.0**	**+0.7**
XYLS				S	**Sn**	**00 15 39.1**	**+1.6**
XYLS				AML	AML	00 15 53.2	
	0.1nm,0.4s						
XYLS				AML	AML	00 15 58.9	
	0.1nm,0.8s						
AFYN	**Afyon-Dinar-K**	**2.32**	**1**	P	**Pn**	**00 15 11.2**	**+1.5**
KZIL	**AFYON_Kizioren**	**2.33**	**353**	P	**Pn**	**00 15 10.1**	**+0.4**
KZIL				S	**Sn**	**00 15 33.2**	**-5.1**
KKBE	**Karaman, Kazim**	**2.36**	**57**	P	**Pb**	**00 15 13.4**	**-0.7**
KKBE				S	**Sn**	**00 15 38.4**	**-0.7**
YVAC	**Isparta, Yalva**	**2.40**	**14**	P	**Pn**	**00 15 13.1**	**+2.3**
YVAC				S	**Sn**	**00 15 37.3**	**-2.9**
ESEN	**Aydn-Nazilli**	**2.52**	**318**	P	**Pn**	**00 15 12.6**	**+0.3**
ESEN				S	**Sn**	**00 15 43.8**	**+1.0**
PASA	**Karahalli, USA**	**2.53**	**342**	P	**Pn**	**00 15 11.8**	**-0.8**
PASA				S	**Sn**	**00 15 39.2**	**-4.0**
CSS	**Mathiatis**	**2.53**	**112**	P	**Pn**	**00 15 14.1**	**+1.6**
CSS				S	**Sn**	**00 15 44.8**	**+1.7**
CSS				AML	AML	00 16 09.5	
	0.1nm,0.6s						
CSS				AML	AML	00 16 12.5	
	0.1nm,0.7s						
ASGA	**Asgata**	**2.54**	**116**	S	**Sb**	**00 15 46.4**	**-2.0**
ASGA				AML	AML	00 16 16.8	
	0.1nm,0.8s						
ASGA				AML	AML	00 16 21.5	
	0.1nm,1.0s						
YAZI	**Mula-Dat§a-**	**2.55**	**288**	P	**Pn**	**00 15 13.7**	**+0.9**
YAZI				S	Sn	00 15 36.2	-7.5
MVOU	**Mavrovouni**	**2.74**	**109**	P	**Pn**	**00 15 15.6**	**+0.3**
MVOU				S	**Sn**	**00 15 49.5**	**+1.3**
MVOU				AML	AML	00 16 11.2	
	0.1nm,0.8s						
MVOU				AML	AML	00 16 12.8	
	0.1nm,0.6s						
MMC7	**Mount Meron ar**	**5.00**	**124**	P	**Pn**	**00 15 47.9**	**+1.4**
MMA0	**Mount Meron ar**	**5.01**	**124**	P	**Pn**	**00 15 47.9**	**+1.2**
MMA0B	**Mount Meron ar**	**5.01**	**124**	P	**Pn**	**00 15 47.4**	**+0.8**
MMA0B	**Mount Meron ar**	**5.01**	**124**	S	**Sn**	**00 16 43.3**	**-1.1**
NATI	**Neve Ativ**	**5.10**	**120**	P	**Pn**	**00 15 48.9**	**+1.2**
NATI	**Neve Ativ**	**5.10**	**120**	S	**Sn**	**00 16 45.2**	**-1.2**
MMLI	**Mount Malkishu**	**5.39**	**129**	P	**Pn**	**00 15 52.9**	**+1.1**
MMLI	**Mount Malkishu**	**5.39**	**129**	S	**Sn**	**00 16 52.7**	**-1.0**
YTIR	**Yattir**	**5.99**	**138**	P	**Pn**	**00 16 01.6**	**+1.6**
YTIR	**Yattir**	**5.99**	**138**	S	**Sn**	**00 17 07.9**	**-0.6**
KZIT	**Kziot**	**6.00**	**146**	P	**Pn**	**00 16 02.0**	**+1.9**
KZIT	**Kziot**	**6.00**	**146**	S	**Sn**	**00 17 08.8**	**0.0**
PRNI	**Paran**	**6.75**	**144**	P	**Pn**	**00 16 11.8**	**+1.4**
PRNI	**Paran**	**6.75**	**144**	S	**Sn**	**00 17 26.9**	**-0.3**
KRMI	**Paran Flat**	**6.82**	**147**	P	**Pn**	**00 16 13.7**	**+2.3**
KRMI	**Paran Flat**	**6.82**	**147**	S	**Sn**	**00 17 29.0**	**0.0**
MBRI	**Mt Berech**	**7.18**	**147**	P	**Pn**	**00 16 18.3**	**+1.9**
MBRI	**Mt Berech**	**7.18**	**147**	S	**Sn**	**00 17 38.6**	**+0.7**

*ISK **03** 00:14:31.6,35°.91N×30°.51E,h19km,ML3.0/10*
*NIC **03** 00:14:33.1,36°.01N×30°.38E,h54km±7km,Ml2.8/10*
*AFAD **03** 00:14:34.9,36°.09N×30°.38E,h17km,ML3.0*
*GII **03** 00:14:36.1±0.0,35°.976N±0°.003×30°.693E±0°.001,h40km,
Mws2.9,confirmed*
ISC 03 00:14:31.6±1.1,**35.94N**±0.03×**30.48E**±0.02,**h13**km±9km,
n66,σ1§53/98,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.39**	**344**	P	**Pb**	**00 14 40.4**	**-0.1**
AKUM				S	**Sg**	**00 14 44.4**	**-0.4**
DEMR	**Demre-Antalya**	**0.55**	**302**	Pg	**Pb**	**00 14 43.8**	**+0.7**
DEMR				Sg	**Sb**	**00 14 52.7**	**+1.8**
KEMT	**Kemer-ANTALYA**	**0.66**	**6**	Pg	**Pb**	**00 14 45.5**	**+0.4**
KSL	**Kastellorizon**	**0.75**	**286**	P	**Pg**	**00 14 46.5**	**+0.2**
KSL				S	**Sg**	**00 14 57.4**	**+1.2**
KSL				AML	AML	00 15 01.6	
	1.1nm,0.7s						
KSL				AML	AML	00 15 02.8	
	1.0nm,0.4s						
ANTB	**Antalya**	**0.96**	**8**	Pg	**Pb**	**00 14 51.1**	**+0.9**
ANTB				Sg	**Sn**	**00 15 05.3**	**+0.8**
KORT	**Korkueli**	**1.06**	**355**	Pn	**Pb**	**00 14 52.6**	**+0.6**
KORT				Sn	**Sb**	**00 15 07.8**	**+2.0**
KORT	**Korkueli**	**1.06**	**355**	P	**Pn**	**00 14 55.2**	**+2.8**
KORT				S	**Sn**	**00 15 08.5**	**+1.4**
IZZE	**Mula-Seydike**	**1.12**	**296**	P	**Pg**	**00 14 52.4**	**-0.9**
IZZE				S	**Sg**	**00 15 08.7**	**+0.7**
IZZE				*i* IAML		00 15 18.0	
	comp=N,390nm,0.5s						
KNIK	**Mula-Seydike**	**1.16**	**321**	P	**Pg**	**00 14 53.8**	**-0.2**
KNIK				S	**Sg**	**00 15 08.0**	**-1.0**
CAME	**Cameli-Denizli**	**1.38**	**317**	Pn	**Pn**	**00 14 56.7**	**0.0**
BUCA	**Burdur, Bucak-**	**1.38**	**3**	P	**Pb**	**00 14 58.6**	**+1.2**
BUCA				S	**Sn**	**00 15 18.0**	**+3.0**
ALAN	**Alanya-ANTALYA**	**1.40**	**64**	Pn	**Pn**	**00 14 56.9**	**0.0**
GOLH	**Golhisar**	**1.49**	**331**	P	**Pn**	**00 14 59.5**	**+1.2**
GOLH				S	**Sn**	**00 15 18.8**	**+1.2**
GOLH				*i* IAML		00 15 39.0	
	comp=E,226nm,1.0s						
SABU	**Mula-Dalaman**	**1.50**	**306**	P	**Pn**	**00 14 57.6**	**-0.7**
SABU				S	**Sn**	**00 15 14.8**	**-3.1**
CAEL	**Denizli, Camel**	**1.50**	**322**	P	**Pn**	**00 14 59.3**	**+0.8**
GAZI	**Gazipasa**	**1.52**	**78**	P	**Pg**	**00 15 00.1**	**-0.7**
GAZI				S	**Sb**	**00 15 14.8**	**-4.1**
DNZT	**Denizli-Tavas-**	**1.77**	**319**	P	**Pn**	**00 15 01.7**	**-0.4**
DNZT				S	**Sn**	**00 15 22.6**	**-2.0**
AKMS	**Akamas**	**1.78**	**121**	P	**Pb**	**00 15 04.2**	**+0.1**
AKMS				S	**Sb**	**00 15 26.0**	**-0.3**
AKMS				AML	AML	00 15 46.1	
	0.2nm,0.6s						
AKMS				AML	AML	00 15 50.8	
	0.3nm,0.7s						
BRDR	**BURDUR-Merkez**	**1.78**	**349**	P	**Pn**	**00 15 03.3**	**+1.1**
APMY	**Acipayam-Deniz**	**1.79**	**329**	Pn	**Pn**	**00 15 02.9**	**+0.5**
SEDI	**Konya, Seydise**	**1.82**	**34**	P	**Pb**	**00 15 05.0**	**0.0**
SEDI				S	**Sn**	**00 15 25.6**	**-0.3**
ISP	**Isparta**	**1.88**	**1**	Pn	**Pn**	**00 15 04.1**	**+0.5**
ISP	**Isparta**	**1.88**	**1**	P	**Pn**	**00 15 05.2**	**+1.6**
ALFC	**Alefka**	**1.90**	**114**	P	**Pn**	**00 15 05.0**	**+1.2**
ALFC				S	**Sb**	**00 15 30.4**	**+0.5**
ALFC				AML	AML	00 15 44.4	
	0.2nm,0.8s						
ALFC				AML	AML	00 15 46.0	
	0.2nm,0.5s						
INCE	**Denizli-Bozkur**	**1.90**	**338**	P	**Pn**	**00 15 04.7**	**+0.7**
INCE				S	**Sn**	**00 15 27.0**	**-0.9**
ARG	**Arkhangelos**	**1.92**	**279**	Pn	**Pn**	**00 15 04.7**	**+0.6**
ARG	**Arkhangelos**	**1.92**	**279**	P	**Pn**	**00 15 03.2**	**-0.9**
ARG				S	**Sn**	**00 15 25.3**	**-2.9**
ARG				AML	AML	00 15 27.4	
	0.1nm,0.8s						
ARG				AML	AML	00 15 28.5	
	0.2nm,0.4s						
TAVA	**DENIZLI_Tavas**	**1.97**	**321**	P	**Pn**	**00 15 04.8**	**-0.1**
TAVA				S	**Sn**	**00 15 29.5**	**-0.1**

*ISK **03** 00:17:36.7,35°.67N×30°.45E,h32km,ML2.7/10*
*NIC **03** 00:17:40.3,35°.85N×30°.33E,h32km±39km,Ml2.5/11*
*AFAD **03** 00:17:41.5,36°.03N×30°.27E,h50km±5km,ML2.9*
ISC 03 00:17:36.2±1.1,**35.83N**±0.03×**30.44E**±0.02,**h18**km±6km,
n41,σ1§09/69,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.50**	**351**	P	**Pb**	**00 17 47.3**	**+0.8**
AKUM				S	**Sg**	**00 17 51.3**	**-1.7**
DEMR	**Demre-Antalya**	**0.59**	**313**	Pg	**Pn**	**00 17 50.3**	**+0.5**
KSL	**Kastellorizon**	**0.77**	**295**	P	**Pn**	**00 17 53.1**	**+1.0**
KSL				S	**Sn**	**00 18 03.6**	**+0.4**
KSL				AML	AML	00 18 07.9	
	0.9nm,0.5s						
KSL				AML	AML	00 18 09.7	
	0.8nm,0.5s						
ANTB	**Antalya**	**1.08**	**9**	Pn	**Pg**	**00

	0.4nm,0.9s						
NATA				AML	AML	00 19 15.3	
	0.3nm,0.6s						
TAVA	**DENIZLI_Tavas**	**2.04**	**324**	P	**Pb**	**00 18 12.0**	**-0.8**
TAVA				S	**Sn**	**00 18 34.3**	**-0.6**
BASM	**Basmaki-Afyon**	**2.11**	**352**	Pn	**Pb**	**00 18 12.9**	**-1.1**
BASM				Sn	**Sb**	**00 18 39.3**	**-0.6**
DNIZ	**Denizli-Tavas-**	**2.12**	**328**	P	**Pb**	**00 18 12.8**	**-1.3**
DNIZ				S	**Sn**	**00 18 36.5**	**-0.3**
DNIZ				*i* IAML		00 18 47.0	
	comp=N,169nm,0.3s						
DNIZ				*i* IAML		00 18 49.0	
	comp=E,176nm,0.3s						
TROD	**Troodos**	**2.17**	**113**	P	**Pb**	**00 18 16.0**	**+1.0**
TROD				S	**Sg**	**00 18 44.2**	**-1.8**
TROD				AML	AML	00 19 09.9	
	0.1nm,0.8s						
TROD				AML	AML	00 19 17.1	
	0.1nm,1.2s						
BAGO	**Egridir - ISPA**	**2.18**	**7**	P	**Pb**	**00 18 13.9**	**-1.2**
MULA	**Mugla, Merkez-**	**2.22**	**311**	P	**Pb**	**00 18 15.8**	**-0.1**
MULA				S	**Sn**	**00 18 35.9**	**-3.4**
XYLS	**Xyliatos**	**2.28**	**110**	P	**Pb**	**00 18 16.2**	**-0.6**
XYLS				S	**Sb**	**00 18 45.4**	**+0.6**
XYLS				AML	AML	00 18 60.0	
	0.1nm,0.4s						
XYLS				AML	AML	00 19 06.5	
	0.1nm,0.6s						
APOL	**The Sanctuary**	**2.29**	**119**	P	**Pb**	**00 18 17.4**	**+0.3**
APOL				S	**Sb**	**00 18 45.7**	**+0.6**
APOL				AML	AML	00 18 59.1	
	0.1nm,0.7s						
APOL				AML	AML	00 19 17.3	
	0.1nm,0.8s						
KZIL	**AFYON_Kizioren**	**2.44**	**354**	P	**Pn**	**00 18 16.9**	**+1.7**
ASGA	**Asgata**	**2.52**	**114**	P	**Pb**	**00 18 20.9**	**0.0**
ASGA				S	**Sb**	**00 18 51.7**	**+0.1**
ASGA				AML	AML	00 19 14.6	
	0.1nm,0.4s						
ASGA				AML	AML	00 19 28.4	
	0.1nm,0.7s						
MVOU	**Mavrovouni**	**2.73**	**106**	P	**Pb**	**00 18 23.4**	**-1.1**
MVOU				S	**Sb**	**00 18 56.6**	**-1.0**
MVOU				AML	AML	00 19 19.1	
	0.1nm,0.5s						
MVOU				AML	AML	00 19 19.5	
	0.1nm,0.6s						
ZKR	**Zakros**	**3.52**	**260**	P	**Pn**	**00 18 31.8**	**+1.8**
ZKR				S	**Sn**	**00 19 12.1**	**+0.9**
ZKR				AML	AML	00 19 14.5	
	0.1nm,0.9s						
ZKR				AML	AML	00 19 15.8	
	0.2nm,1.2s						

IDC 03 00:30:49.1±2.4,3°.10N×129°.04E,h0km,mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=121.3km s-min=26.3km az=72.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.33**	**189**	P	P	00 35 38.4	+0.5
	1.4nm,0.9s,baz=18,slow=11,SNR=2.1 1.4nm,0.9s						
WRA	**Warramunga Arr**	**23.48**	**167**	P	P	00 36 00.4	-0.3
	0.3nm,0.3s,baz=344,slow=9.8,SNR=5.5 0.3nm,0.3s						
ASAR	**Alice Springs**	**27.02**	**170**	P	P	00 36 31.9	-1.3
	0.3nm,0.4s,baz=356,slow=8.0,SNR=7.2 0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.40**	**324**	P	P	00 40 54.8	+1.3
	0.2nm,0.4s,baz=124,slow=8.1,SNR=2.4 0.2nm,0.4s						

*IDC **03** 00:34:41.2±1.2,7°.36S×146°.07E,h167km±16km,mb3.6/10, mbtmp4.0/13,MS3.7/1, Error ellipse: s-maj=24.8km s-min=10.6km az=105.0*

ISC 03 00:34:40.1±0.8,7°.28S±0°.08×145°.9E±0°.1,h150km,n16, σ1§19/19,mb3.8/10, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.45**	**150**	P	**Pn**	**00 35 20.9**	**+0.3**
	113nm,0.4s,baz=49,slow=5.8,SNR=38						
PMG				S	**Sn**	**00 35 51.6**	**-0.2**
	86nm,0.6s,baz=311,slow=20,SNR=15						
WRA	**Warramunga Arr**	**16.87**	**221**	P	**P**	**00 38 27.9**	**+0.8**
	1.1nm,0.5s,baz=43,slow=12,SNR=10						
WRA				S	**S**	**00 41 34.1**	**-1.1**
	0.3nm,0.5s,baz=39,slow=18,SNR=2.4						
ASAR	**Alice Springs**	**19.96**	**214**	P	**P**	**00 39 02.2**	**+1.4**
	1.4nm,0.6s,baz=49,slow=9.1,SNR=11						
ASAR				S	**S**	**00 42 38.3**	**+1.0**
	1.3nm,0.5s,baz=29,slow=21,SNR=7.6						
FITZ	**Fitzroy Crossi**	**22.49**	**240**	P	**P**	**00 39 27.3**	**+0.1**
	2.7nm,0.5s,baz=60,slow=8.0,SNR=19						
FITZ				S	**S**	**00 43 20.1**	**-2.8**
	1.5nm,0.7s,baz=27,slow=8.4,SNR=2.3 2.7nm,0.5s						
STKA	**Stephens Creek**	**24.80**	**189**	P	**P**	**00 39 48.6**	**+0.3**
	1.0nm,0.4s,baz=354,slow=11,SNR=3.3 1.0nm,0.4s						
TGY	**Tagaytay City**	**32.65**	**311**	LR	LR	00 55 20.4	
	comp=Z,120nm,20.1s,baz=188,slow=38						
KSRS	**Korea Array**	**47.57**	**341**	P	**P**	**00 43 00.2**	**-0.4**
	1.5nm,0.7s,baz=160,slow=8.0,SNR=5.6 1.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**52.92**	**300**	P	**P**	**00 43 43.3**	**+2.1**
	3.6nm,0.7s,baz=120,slow=6.1,SNR=18 3.6nm,0.7s						
SONM	**Songino Array**	**65.00**	**332**	P	**P**	**00 45 04.6**	**+0.5**
	0.6nm,0.4s,baz=158,slow=4.1,SNR=2.6 0.6nm,0.4s						
MKAR	**Makanchi Array**	**77.80**	**321**	P	**P**	**00 46 21.2**	**+0.4**
	1.1nm,0.5s,baz=100,slow=7.4,SNR=14 1.1nm,0.5s						
ZALV	**Zalesovo Beam**	**79.52**	**328**	P	**P**	**00 46 28.7**	**-1.3**
	1.1nm,0.4s,baz=106,slow=5.4,SNR=6.1 1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**81.61**	**324**	P	**P**	**00 46 41.1**	**-0.1**
	0.5nm,0.5s,baz=118,slow=3.9,SNR=5.8 0.5nm,0.5s						
QSPA	**South Pole Qui**	**82.70**	**180**	P	**P**	**00 46 46.2**	**-0.6**
	1.1nm,0.5s,baz=270,slow=6.1,SNR=12 1.1nm,0.5s						
BVAR	**Borovoye Array**	**87.16**	**324**	P	**P**	**00 47 08.0**	**-1.2**
	0.3nm,0.5s,baz=95,slow=4.5,SNR=2.5 0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**144.34**	**282**	PKP	**PKPab**	**00 53 56.9**	**-0.9**
	5.0nm,0.6s,baz=60,slow=3.8,SNR=56						
DBIC	**Dimbokro**	**150.98**	**271**	PKPbc	**PKPbc**	**00 54 15.6**	**-0.7**
	4.4nm,0.5s,baz=117,slow=1.4,SNR=9.6						

IDC 03 00:39:16.4±1.8,0°.02N×126°.06E,h0km,mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=179.2km s-min=24.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.44**	**158**	P	P	00 44 05.7	-0.6
	0.5nm,0.5s,baz=336,slow=11,SNR=1.6 0.5nm,0.5s						
ASAR	**Alice Springs**	**24.75**	**163**	P	P	00 44 40.3	+0.4
	0.9nm,1.0s,baz=347,slow=10,SNR=5.0 0.9nm,1.0s						
MKAR	**Makanchi Array**	**60.24**	**327**	P	P	00 49 26.9	+0.4
	0.2nm,0.3s,baz=132,slow=8.0,SNR=2.8 0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**64.51**	**329**	P	P	00 49 54.5	-0.5
	0.3nm,0.6s,baz=114,slow=5.8,SNR=2.8 0.3nm,0.6s						

*NEIC **03** 00:42:41.0±1.5,35°.075N±0°.008×97°.68W±0°.01,h5km±1km, mb_Lg2.1/12,ML2.1/14,ML2.1/45, Error ellipse: s-maj=2.3km s-min=1.5km az=300.0*

NEIC 03 00:42:41.2±1.4,35°.063N±0°.009×97°.66W±0°.01,h7km±2km, Error ellipse: s-maj=1.3km s-min=1.2km az=53.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCSW	**OKLAHOMA CITY**	**0.39**	**28**		Pg	00 42 48.0	-0.8
OKCSW				IAML		00 43 01.2	
	comp=E,116nm,0.4s						

X34A	**Smith Ranch, M**	**0.48**	**197**		Pg	00 42 50.9	+0.3
X34A					Sb	00 42 58.2	-1.2
ADOK	**Arcadia Dam**	**0.63**	**22**	Pg	Pg	00 42 52.1	-1.3
OK029	**Liberty Lake**	**0.75**	**13**		Pg	00 42 55.6	-0.1
WMOK	**Wichita Mounta**	**0.98**	**251**		Pg	00 42 58.6	-1.4
WMOK					Sg	00 43 11.9	-0.8
WMOK	**Wichita Mounta**	**0.98**	**251**		Pg	00 42 59.0	-1.1
WMOK				IAML		00 43 19.6	
	comp=E,8.8nm,0.2s						
WMOK				IAML		00 43 25.6	
	comp=E,14nm,0.6s						
CSTR	**Hydro, Custer**	**1.02**	**305**		Pg	00 43 00.7	-0.2
LOOK	**Love County**	**1.14**	**160**		Pg	00 43 02.3	-0.8
LOOK					Sb	00 43 18.6	+0.3
LOOK				IAML		00 43 24.3	
	comp=E,44nm,0.5s						
LOOK				IAML		00 43 27.5	
	comp=N,38nm,0.3s						
OK052	**Battle Ridge R**	**1.16**	**37**		Pg	00 43 01.8	-1.8
OK052					Sg	00 43 18.6	0.0
DEOK	**Depew**	**1.23**	**50**		Pg	00 43 03.7	-1.1
DEOK					Sg	00 43 20.3	-0.4
DEOK				IAML		00 43 24.6	
	comp=N,47nm,0.2s						
QUOK	**Quay**	**1.35**	**35**		Pn	00 43 05.8	-0.8
WTFS	**Witchita Falls**	**1.46**	**207**		Pn	00 43 06.2	-1.8
CROK	**Carrier**	**1.46**	**350**		Pn	00 43 07.9	-0.2
TUL3	**Leonard**	**1.74**	**60**		Pn	00 43 12.3	+0.3
Z35A	**Perchaven, San**	**1.76**	**169**	Pn	Pn	00 43 10.7	-1.5
NOKA	**Waynoka**	**1.88**	**327**	Pn	Pn	00 43 12.9	-1.0
T35A	**Sooner Cattle**	**2.07**	**26**		Pn	00 43 16.6	+0.1
T35A				IAmb_Lg		00 43 47.5	
	comp=Z,7.0nm,0.8s						
FW06	**Azle**	**2.09**	**178**		Pn	00 43 15.6	-1.1
SMWD	**Samnorwood**	**2.12**	**272**		Pn	00 43 16.4	-0.8
PLPT	**Palo Pinto**	**2.31**	**194**	Pn	Pn	00 43 19.8	0.0
RLO	**Rose Lookout**	**2.41**	**62**		Pn	00 43 20.8	-0.4
APMT	**Aspermont**	**2.68**	**230**	Pn	Pn	00 43 25.1	+0.3
DKNS	**Dickens**	**3.04**	**244**	IAmb_Lg		00 44 22.8	
	comp=Z,5.3nm,0.7s						
435B	**Jarrell**	**4.27**	**179**	IAmb_Lg		00 45 06.6	
	comp=Z,6.4nm,0.9s						
JCT	**Junction City**	**4.91**	**202**	IAmb_Lg		00 45 24.0	
	comp=Z,4.3nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.60**	**316**	IAmb_Lg		00 45 41.4	
	comp=Z,4.2nm,0.8s						

*JMA **03** 00:44:50.7±0.2,24°.1N×122°.9E±0°.7,h27km±4km, MV2.5/10,NEAR ISHIGAKIJIMA ISLAND*
*TAP **03** 00:44:50.5,24°.02N×122°.88E,h28km,ML2.9,D*

ISC 03 00:44:49.5±1.2,23°.90N±0°.04×122°.91E±0°.02,h23km±14km, n53,σ1§10/81, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jima**	**0.55**	**4**	*e*P	**Pb**	**00 45 00.4**	**-0.1**
JYNG				*e*S	**Sb**	**00 45 07.0**	**-0.9**
YOJ	**Yonaguni jima**	**0.56**	**10**	*i* P	**Pb**	**00 45 00.6**	**-0.2**
YOJ				*i* S	**Sb**	**00 45 07.5**	**-0.9**
YOJ	**Yonaguni jima**	**0.56**	**10**	*e*P	**Pb**	**00 45 00.6**	**-0.2**
YOJ				*e*S	**Sb**	**00 45 07.5**	**-0.9**
EOS4	**EOS4**	**0.58**	**292**	*e*P	**Pb**	**00 45 00.9**	**+0.1**
EOS4				S	**Sb**	**00 45 08.8**	**+0.3**
EOS3	**EOS3**	**0.66**	**305**	*e*P	**Pb**	**00 45 02.6**	**+0.3**
EOS3				S	**Sn**	**00 45 11.7**	**-1.3**
EOS2	**EOS2**	**0.80**	**310**	P	**Pn**	**00 45 05.2**	**-0.1**
EOS2				S	**Sn**	**00 45 16.7**	**+0.2**
HATJ	**Hateruma jima**	**0.83**	**79**	*e*P	**Pb**	**00 45 05.4**	**0.0**
HATJ				*e*S	**Sb**	**00 45 16.7**	**+0.6**
IRIF	**Iriomote-Funau**	**0.87**	**60**	*e*P	**Pb**	**00 45 05.5**	**-0.4**
JKRS	**Kuro-shima**	**1.06**	**72**	*e*P	**Pn**	**00 45 09.4**	**+0.4**
JKRS				*e*S	**Sb**	**00 45 24.1**	**+1.4**
EWUT	**Wuta**	**1.16**	**298**	*e*P	**Pn**	**00 45 10.9**	**+0.5**
ENA	**Nanau**	**1.19**	**296**	*e*P	**Pb**	**00 45 11.4**	**0.0**
TWC	**Suao**	**1.19**	**306**	P	**Pn**	**00 45 11.1**	**+0.2**
TWC				S	**Sn**	**00 45 25.6**	**-0.8**
JIJ	**Ishigaki jima**	**1.22**	**68**	*e*P	**Pn**	**00 45 11.1**	**-0.1**
JIJ				*e*S	**Sb**	**00 45 27.5**	**+0.3**
NACB	**Ninganchiao**	**1.23**	**283**	*e*P	**Pb**	**00 45 12.1**	**+0.8**
SHUL	**Shoufeng**	**1.24**	**265**	*e*P	**Pb**	**00 45 13.5**	**+1.3**
EGS		**1.29**	**317**	*e*P	**Pb**	**00 45 13.4**	**+0.2**
ETM	**Tongmen**	**1.30**	**273**	*e*P	**Pn**	**00 45 12.3**	**0.0**
ETLH	**Xiulin Townshi**	**1.34**	**283**	*e*P	**Pn**	**00 45 12.1**	**-0.8**
TWE	**Neicheng**	**1.39**	**306**	*e*P	**Pb**	**00 45 14.9**	**+0.1**
WARBT	**Fenglin Townsh**	**1.41**	**263**	*e*P	**Pn**	**00 45 12.5**	**-1.2**
WARBT				*e*S	**Sn**	**00 45 31.0**	**-0.6**
LATG	**Datong**	**1.41**	**297**	*e*P	**Pb**	**00 45 15.4**	**+0.2**
LATG				*e*S	**Sb**	**00 45 33.3**	**+0.5**
HGSD	**Ruisui**	**1.42**	**254**	*e*P	**Pn**	**00 45 12.8**	**-1.1**
HGSD				*e*S	**Sn**	**00 45 31.3**	**-0.6**
ENTT	**Nioudou**	**1.43**	**301**	*e*P	**Pb**	**00 45 15.2**	**-0.3**
JISG	**Ishigakijimahi**	**1.45**	**62**	*e*P	**Pn**	**00 45 14.8**	**+0.5**
JISG				*e*S	**Sb**	**00 45 34.7**	**+0.9**
TIPB	**Shuangxi**	**1.45**	**317**	*e*P	**Pb**	**00 45 15.0**	**-0.9**
FUSB	**Fushanzhiwuyua**	**1.48**	**306**	*e*P	**Pb**	**00 45 16.6**	**+0.3**
FUSB				*e*S	**Sb**	**00 45 35.2**	**+0.6**
NNSB	**Datong**	**1.49**	**291**	*e*P	**Pn**	**00 45 16.0**	**+1.0**
EHY	**Hungye**	**1.51**	**255**	*e*P	**Pn**	**00 45 14.5**	**-0.7**
SXI1	**Grass Mountain**	**1.51**	**322**	*e*P	**Pb**	**00 45 16.1**	**-0.8**
SXI1				*e*S	**Sb**	**00 45 35.4**	**-0.4**
WHF	**Hehuan Shan**	**1.52**	**279**	*e*P	**Pn**	**00 45 15.5**	**-0.2**
NWLT	**Wulai**	**1.55**	**304**	*e*P	**Pb**	**00 45 17.8**	**+0.2**
NWLT				*e*S	**Sb**	**00 45 36.1**	**-0.7**
CHKH	**Chenggong**	**1.56**	**243**	*e*P	**Pn**	**00 45 14.6**	**-1.3**
CHKH				*e*S	**Sn**	**00 45 33.4**	**-2.0**
TWF1	**Yuli**	**1.58**	**250**	*e*P	**Pn**	**00 45 15.9**	**-0.2**
TWF1				*e*S	**Sn**	**00 45 35.0**	**-0.8**
OWD	**Renai**	**1.58**	**272**	*e*P	**Pn**	**00 45 16.9**	**+0.6**
YHNB	**Yeheng**	**1.59**	**299**	*e*P	**Pb**	**00 45 17.8**	**-0.6**
NSK	**Sanguang**	**1.61**	**299**	*e*P	**Pb**	**00 45 18.1**	**-0.5**
FULB	**Fuli**	**1.64**	**245**	*e*P	**Pn**	**00 45 15.8**	**-1.2**
FULB				*e*S	**Sn**	**00 45 35.6**	**-1.8**
WUSB	**Renai**	**1.64**	**273**	*e*P	**Pn**	**00 45 17.7**	**+0.6**
WUSB				*e*S	**Sn**	**00 45 38.2**	**+0.6**
EHD	**Haiduan**	**1.73**	**245**	*e*P	**Pn**	**00 45 17.7**	**-0.6**
EHD				*e*S	**Sn**	**00 45 38.4**	**-1.3**
EDH	**Donghe**	**1.74**	**238**	*e*P	**Pn**	**00 45 18.1**	**-0.3**
EDH				*e*S	**Sn**	**00 45 37.6**	**-2.3**
NFF	**Wufeng Townshi**	**1.79**	**294**	*e*P	**Pn**	**00 45 20.5**	**+1.4**
SSLB	**Suanglung**	**1.79**	**267**	*e*P	**Pn**	**00 45 20.1**	**+1.0**
LDUT	**Ludao**	**1.80**	**227**	*e*P	**Pn**	**00 45 17.9**	**-1.3**
LDUT				*e*S	**Sn**	**00 45 39.3**	**-2.1**
WHP	**Taichung City**	**1.83**	**282**	*e*P	**Pb**	**00 45 22.0**	**-0.4**
WCS	**Beigang Elemen**	**1.83**	**275**	*e*P	**Pn**	**00 45 20.9**	**+1.3**
SMLT	**Sun Moon Lake**	**1.84**	**270**	*e*P	**Pb**	**00 45 22.4**	**-0.2**
ELDTW	**Lidau**	**1.88**	**248**	*e*P	**Pn**	**00 45 19.6**	**-0.8**
ELDTW				*e*S	**Sn**	**00 45 40.9**	**-2.4**
TYC	**Yuchr**	**1.88**	**270**	*e*P	**Pn**	**00 45 22.0**	**+1.8**
ALS	**Alishan**	**1.97**	**259**	*e*P	**Pn**	**00 45 22.7**	**+0.9**
TPUB	**Ta-pu**	**2.17**	**254**	*e*P	**Pn**	**00 45 26.0**	**+1.7**
TPUB				*e*S	**Sn**	**00 45 52.4**	**+1.8**
WTP	**Ta-pu**	**2.20**	**253**	*e*P	**Pn**	**00 45 26.8**	**+2.0**
WTP				*e*S	**Sn**	**00 45 54.6**	**+3.2**
CHN1	**Nanshi**	**2.30**	**252**	*e*P	**Pn**	**00 45 28.6**	**+2.5**
MASBT	**Mashibuluo**	**2.46**	**239**	*e*P	**Pn**	**00 45 30.1**	**+1.9**
MASBT				*e*S	**Sn**	**00 45 59.0**	**+1.4**

*IDC **03** 00:47:28.6±0.6,23°.70N×121°.73E,h0km,mb4.0/20, mbtmp4.0/24,ML3.8/4,MS3.5/3, Error ellipse: s-maj=17.7km s-min=13.6km az=62.0*
*JMA **03** 00:47:29.9±0.2,23°.7N±0°.2×121°.6E±0°.7,h3km±2km, MV4.1/13,TAIWAN REGION*
*TAP **03** 00:47:31.0,23°.75N×121°.51E,h7km,ML4.6,C*
*BJI **03** 00:47:30.5,23°.70N×121°.62E,h7km,mB4.6/9,mb4.3/35, ML4.7/10,Ms4.3/31,Ms7 4.2/26*
*NEIC **03** 00:47:31.7±1.7,23°.8N±0°.1×121°.55E±0°.06,h10km±1km, mb4.7/67,Mwr4.3/20, Error ellipse: s-maj=17.2km s-min=8.6km az=175.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr3.72; Mθθ-0.61; Mφφ-3.11; Mrθ 0.11; Mrφ-1.45; Mθφ 1.47; Fault plane solution: M₀4.03000×10¹⁵ NP1:φs17.26000°,δ55.57000°, λ81.55000°. NP2:φs211.98000°,δ35.33000°,λ102.10000°. Principal axes: T 4.0351, Plg78.0000°, Azm258.0000°; N -0.0107, Plg7.0000°, Azm22.0000°; P -4.0245, Plg10.0000°, Azm113.0000°;*
*NEIC **03** 00:47:31.8,23°.76N×121°.55E,h10km*

ISC 03 00:47:31.5±0.6,23°.72N±0°.01×121°.57E±0°.02,h12km±3km, n299,σ1§18/410,mb4.6/57,MS3.3/3,3C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUL	**Shoufeng**	**0.07**	**355**	*i* P	**Pg**	**00 47 33.3**	**-0.7**
SHUL				*i* S	**Sg**	**00 47 35.2**	**-0.6**
EGFH	**Guangfu**	**0.14**	**250**	P	**Pg**	**00 47 33.6**	**-1.2**
EGFH				S	**Sg**	**00 47 35.5**	**-1.7**
TEYL	**Yanliau Villag**	**0.15**	**10**	*e*P	**Pg**	**00 47 35.6**	**+0.6**
TEYL				S	**Sg**	**00 47 39.7**	**+2.1**
ESL	**Shilin**	**0.16**	**308**	⇓*i*P	**Pg**	**00 47 33.4**	**-1.7**
ESL				*i* S	**Sg**	**00 47 35.0**	**-2.7**
WARBT	**Fenglin Townsh**	**0.17**	**270**	⇓*i*P	**Pg**	**00 47 33.6**	**-1.6**
WARBT				*i* S	**Sg**	**00 47 35.5**	**-2.5**
ETM	**Tongmen**	**0.26**	**344**	⇓*i*P	**Pg**	**00 47 35.6**	**-1.2**
ETM				*i* S	**Sg**	**00 47 38.6**	**-1.8**
HGSD	**Ruisui**	**0.26**	**211**	⇓*i*P	**Pg**	**00 47 37.3**	**+0.4**
HGSD				*e*S	**Sb**	**00 47 43.2**	**+0.6**
HWA	**Hwalien**	**0.26**	**7**	*e*P	**Pb**	**00 47 36.8**	**-0.1**
HWA				S	**Sb**	**00 47 41.9**	**-0.8**
EHYH	**Wanrong**	**0.30**	**223**	P	**Pg**	**00 47 37.0**	**-0.6**
EHYH				*e*S	**Sg**	**00 47 41.7**	**-0.1**
EHY	**Hungye**	**0.31**	**227**	*i* P	**Pg**	**00 47 36.8**	**-0.9**
TWD	**Chiawan**	**0.36**	**4**	*e*P	**Pg**	**00 47 38.0**	**-0.8**
TWD				S	**Sg**	**00 47 43.5**	**-0.1**
ECBN	**Changbin**	**0.41**	**195**	P	**Pb**	**00 47 40.8**	**0.0**
ECBN				*e*S	**Sb**	**00 47 48.1**	**+1.1**
OWD	**Renai**	**0.43**	**303**	⇓*i*P	**Pg**	**00 47 38.6**	**-1.4**
EYUL	**Yuli**	**0.43**	**212**	*e*P	**Pg**	**00 47 40.3**	**+0.2**
TWF1	**Yuli**	**0.44**	**215**	*e*P	**Pg**	**00 47 39.8**	**-0.4**
TWF1				*e*S	**Sb**	**00 47 47.0**	**-0.9**
ETL	**Fush Village**	**0.44**	**6**	*e*P	**Pg**	**00 47 39.4**	**-0.9**
ETL				*e*S	**Sg**	**00 47 44.9**	**-1.2**
NACB	**Ninganchiao**	**0.46**	**3**		**Pg**	**00 47 39.3**	**-1.2**
NACB	**Ninganchiao**	**0.46**	**3**	P	**Pg**	**00 47 39.3**	**-1.2**
NACB	**Ninganchiao**	**0.46**	**3**	⇓*i*P	**Pg**	**00 47 39.7**	**-1.2**
NACB				S	**Sg**	**00 47 45.5**	**-1.1**
ETLH	**Xiulin Townshi**	**0.49**	**351**	*e*P	**Pg**	**00 47 40.1**	**-1.1**
ETLH				*e*S	**Sg**	**00 47 48.2**	**+0.4**
WUSB	**Renai**	**0.50**	**304**	⇓*i*P	**Pg**	**00 47 40.2**	**-1.1**
WUSB				*e*S	**Sg**	**00 47 46.3**	**-1.6**
WHF	**Hehuan Shan**	**0.51**	**327**	P	**Pg**	**00 47 40.2**	**-1.3**
WHF				*e*S	**Sg**	**00 47 47.8**	**-0.6**
CHKH	**Chenggong**	**0.55**	**197**	*e*P	**Pb**	**00 47 42.8**	**-0.2**
CHKH				*e*S	**Sn**	**00 47 52.9**	**-1.3**
SSLB	**Suanglung**	**0.57**	**277**		**Pg**	**00 47 41.2**	**-1.3**
SSLB	**Suanglung**	**0.57**	**277**	P	**Pg**	**00 47 41.3**	**-1.3**
SSLB	**Suanglung**	**0.57**	**277**	*i* P	**Pg**	**00 47 41.4**	**-1.2**
SSLB				S	**Sg**	**00 47 48.2**	**-1.9**
FULB	**Fuli**	**0.57**	**206**	*e*P	**Pb**	**00 47 43.6**	**+0.1**
FUSS	**Fushou**	**0.61**	**331**	*i* P	**Pg**	**00 47 42.3**	**-1.1**
FUSS				*e*S	**Sg**	**00 47 51.7**	**+0.3**
EHP	**Heping Village**	**0.61**	**15**	*e*P	**Pg**	**00 47 42.4**	**-1.0**
EAHA	**Aohua**	**0.63**	**14**	*e*P	**Pg**	**00 47 42.9**	**-0.8**
EAHA				*e*S	**Sb**	**00 47 53.1**	**-0.2**
SMLT	**Sun Moon Lake**	**0.64**	**285**	⇓*i*P	**Pg**	**00 47 42.8**	**-1.1**
SMLT				*e*S	**Sg**	**00 47 50.6**	**-1.7**
CHKT	**Chengkung**	**0.64**	**197**	*e*P	**Pb**	**00 47 44.5**	**-0.1**
CHKT				*e*S	**Sn**	**00 47 56.7**	**+0.1**
TWT	**Tachien**	**0.64**	**326**	*e*P	**Pg**	**00 47 43.2**	**-0.9**
TDCB	**Techi**	**0.65**	**325**	*e*P	**Pg**	**00 47 43.4**	**-0.8**
TDCB				*e*S	**Sg**	**00 47 51.0**	**-1.8**
EHD	**Haiduan**	**0.66**	**211**	P	**Pg**	**00 47 43.5**	**-0.7**
EHD				*e*S	**Sb**	**00 47 54.1**	**0.0**
WHYT	**Xinyi Township**	**0.66**	**268**	P	**Pg**	**00 47 43.5**	**-0.8**
WHYT				S	**Sg**	**00 47 52.3**	**-0.6**
DPDB	**Guoxing**	**0.67**	**298**	⇓*i*P	**Pg**	**00 47 43.7**	**-0.8**
DPDB				*i* S	**Sg**	**00 47 52.7**	**-0.5**
TYC	**Yuchr**	**0.68**	**286**	⇓*i*P	**Pg**	**00 47 43.4**	**-1.3**
TYC				*e*S	**Sg**	**00 47 51.7**	**-1.9**
ECS	**Chishang**	**0.70**	**208**	*e*P	**Pb**	**00 47 45.6**	**0.0**
ECS				*e*S	**Sn**	**00 47 56.3**	**-1.7**
ENA	**Nanau**	**0.72**	**12**	P	**Pg**	**00 47 44.8**	**-0.8**
ENA				*e*S	**Sg**	**00 47 55.2**	**+0.1**
NNSB	**Datong**	**0.73**	**347**	*i* P	**Pg**	**00 47 44.6**	**-1.0**
NNSB				*e*S	**Sg**	**00 47 55.7**	**+0.5**
ALS	**Alishan**	**0.73**	**254**	*e*P	**Pg**	**00 47 45.1**	**-0.6**
ALS				S	**Sg**	**00 47 55.0**	**-0.3**
ELDTW	**Lidau**	**0.73**	**224**	P	**Pg**	**00 47 44.6**	**-1.1**
NNS	**Nan Shan**	**0.74**	**346**	*i* P	**Pg**	**00 47 44.9**	**-1.0**
NNS				*e*S	**Sg**	**00 47 56.2**	**+0.5**
EWUT	**Wuta**	**0.75**	**15**	*i* P	**Pg**	**00 47 45.2**	**-0.8**
EWUT				*e*S	**Sg**	**00 47 55.8**	**0.0**
WJS	**

NWLT				S	Sb	00 48 03.9	-1.7		
CHY	**Chiayi**	**1.07**	**258**	P	Pg	00 47 52.1	0.0		
CHY				S	Sn	00 48 07.6	+0.4		
WTK	**Tuku**	**1.08**	**269**	P	Pn	00 47 52.4	-0.1		
WTK				S	Sn	00 48 07.6	+0.1		
TWK	**Hsinying**	**1.09**	**246**	*e*P	Pb	00 47 52.3	0.0		
TWK				S	Sn	00 48 07.3	-0.5		
CHN1	**Nanshi**	**1.09**	**241**	*i* P	Pb	00 47 52.4	0.0		
CHN1				S	Sn	00 48 07.9	+0.1		
KSHI	**Guanxi Townshi**	**1.11**	**341**	P	Pb	00 47 52.6	-0.2		
KSHI				*e*S	Sb	00 48 06.7	-0.5		
EGS		**1.17**	**16**	P	Pn	00 47 53.2	-0.6		
EGS				*e*S	Sb	00 48 08.3	-0.6		
WTCT	**Ta-ch'eng**	**1.19**	**277**	*e*P	Pn	00 47 52.4	-1.6		
WTCT				*e*S	Sn	00 48 10.2	+0.1		
SBCB	**Hsinchu**	**1.20**	**334**	*i* P	Pb	00 47 54.5	+0.3		
SBCB				*e*S	Sn	00 48 10.6	+0.3		
HSN	**Hsinchu**	**1.21**	**333**	P	Pg	00 47 55.0	+0.2		
HSN				*e*S	Sg	00 48 12.8	+2.2		
ICHU	**Yijhu**	**1.24**	**254**	P	Pg	00 47 55.1	-0.2		
WSF	**Szhu**	**1.24**	**267**	P	Pn	00 47 54.6	0.0		
WSF				*e*S	Sg	00 48 11.9	+0.5		
WSL	**Shuilin Townsh**	**1.25**	**261**	*e*P	Pn	00 47 54.7	-0.1		
WSL				*e*S	Sg	00 48 12.1	+0.5		
ECL	**Taimali**	**1.25**	**207**	P	Pn	00 47 53.5	-1.3		
ECL				S	Sb	00 48 10.3	-0.8		
TWA	**Mucha**	**1.26**	**1**	*e*P	Pn	00 47 54.7	-0.2		
TIPB	**Shuangxi**	**1.27**	**11**	*e*P	Pn	00 47 54.4	-0.8		
CHN3	**Shinhua**	**1.28**	**240**	*e*P	Pg	00 47 56.8	+0.7		
CHN3				*e*S	Sg	00 48 16.1	+3.4		
SCST	**Cishan**	**1.29**	**230**	*e*P	Pg	00 47 56.7	+0.4		
SCST				*e*S	Sg	00 48 15.2	+2.2		
NCUH	**Zhongli**	**1.29**	**344**	P	Pb	00 47 56.0	+0.1		
NCUH				S	Sg	00 48 14.8	+1.6		
SSD	**Sandimen**	**1.29**	**222**	*e*P	Pn	00 47 55.3	-0.2		
SSD				*e*S	Sg	00 48 13.5	+0.3		
CHN8	**Yiju**	**1.30**	**254**	*e*P	Pn	00 47 55.0	-0.5		
CHN8				*e*S	Sg	00 48 14.5	+1.1		
TAP	**Taipei**	**1.32**	**358**	*e*P	Pn	00 47 55.4	-0.4		
SHHT	**Tainan City**	**1.32**	**239**	P	Pg	00 47 57.0	+0.2		
SHHT				*e*S	Sg	00 48 17.7	+3.7		
TWB1	**Santiao Chiao**	**1.34**	**16**	*e*P	Pn	00 47 56.3	+0.2		
TWB1				S	Sg	00 48 15.7	+1.0		
NWF	**Wu-fen Shan**	**1.36**	**8**	*e*P	Pn	00 47 56.0	-0.4		
NWF				*e*S	Sb	00 48 15.0	+0.5		
WFSB	**Wu-fen Shan**	**1.36**	**8**	*e*P	Pn	00 47 56.3	-0.1		
WFSB				*e*S	Sg	00 48 15.3	-0.1		
SCLT	**Jiali**	**1.37**	**247**	*e*P	Pn	00 47 54.5	-2.1		
SCLT				*e*S	Sg	00 48 16.9	+1.2		
TWM1	**Shoushan**	**1.38**	**230**	*e*P	Pg	00 47 58.8	+0.8		
TWS1	**Kuangyinshan**	**1.39**	**354**	*e*P	Pn	00 47 56.5	-0.2		
TWS1				*e*S	Sg	00 48 16.0	-0.1		
MASBT	**Mashibuluo**	**1.40**	**218**	*e*P	Pn	00 47 56.2	-0.7		
SGLT	**Jiouru**	**1.40**	**225**	*e*P	Pg	00 47 58.2	-0.2		
SXI1	**Grass Mountain**	**1.40**	**11**	*e*P	Pn	00 47 56.8	-0.2		
TAI1	**Yung-k'ang**	**1.40**	**242**	*e*P	Pn	00 47 55.9	-1.1		
YM01	**YM01**	**1.42**	**0**	*e*P	Pn	00 47 56.5	-0.8		
TNOU	**National Taiwa**	**1.44**	**7**	*e*P	Pn	00 47 56.7	-0.7		
ZUZH	**Zhuzihu**	**1.44**	**359**	*e*P	Pn	00 47 56.8	-0.7		
ZUZH				*e*S	Sn	00 48 16.6	+0.2		
NTST	**Danshui**	**1.45**	**356**	*e*P	Pn	00 47 57.3	-0.2		
JYNG	**Yonagunijimaku**	**1.46**	**60**	*e*P	Pn	00 47 57.3	-0.3		
YM08	**YM08**	**1.47**	**1**	*e*P	Pn	00 47 56.4	-1.4		
TSCK	**Chigu Township**	**1.48**	**248**	*e*P	Pn	00 47 58.2	+0.3		
TSCK				*e*S	Sg	00 48 18.3	-0.7		
TAW	**Tawu**	**1.49**	**205**	*e*P	Pb	00 47 58.6	-0.5		
TAWH	**Dawu Township**	**1.51**	**205**	*e*P	Pn	00 47 56.1	-2.3		
YOJ	**Yonaguni jima**	**1.51**	**60**		Pn	00 47 58.1	-0.4		
YOJ	**Yonaguni jima**	**1.51**	**60**	P	Pn	00 47 58.3	-0.1		
YOJ	**Yonaguni jima**	**1.51**	**60**	*e*P	Pn	00 47 57.4	-1.0		
YOJ	**Yonaguni jima**	**1.51**	**60**	*e*P	Pn	00 47 58.4	0.0		
YOJ				*e*S	Sn	00 48 18.4	+0.3		
TWY	**Chenhua**	**1.55**	**1**	*e*P	Pn	00 47 59.1	+0.1		
SCZT	**Fangliau**	**1.60**	**213**	P	Pb	00 48 00.7	-0.3		
SCZT				*e*S	Sg	00 48 22.6	-0.4		
SLIU	**Shizi**	**1.65**	**206**	*e*P	Pb	00 48 01.1	-0.9		
LAY	**Lan-yu**	**1.67**	**181**	*e*P	Pn	00 47 58.6	-2.0		
LAY				*e*S	Sn	00 48 21.2	-0.9		
LYUB	**Lan-yu**	**1.71**	**180**	*e*P	Pn	00 47 58.6	-2.5		
LYUB				*e*S	Sn	00 48 19.6	-3.3		
TWP	**Hsiaoliuchiu**	**1.76**	**219**	*e*P	Pg	00 48 05.0	-0.3		
WDGT	**Dungji**	**1.81**	**256**	*e*P	Pn	00 48 02.2	-0.3		
WDGT				*e*S	Sn	00 48 25.1	-0.4		
SMST	**Manzhou Townsh**	**1.82**	**202**	*e*P	Pb	00 48 03.6	-1.1		
PHUB	**P'eng-hu**	**1.84**	**264**	*e*P	Pn	00 48 01.7	-1.3		
PHUB				*e*S	Sn	00 48 25.9	-0.4		
PNG	**Penghu**	**1.85**	**266**	P	Pn	00 48 03.1	0.0		
PNG				*e*S	Sb	00 48 27.8	-0.7		
HEN	**Hengchun**	**1.87**	**204**	*e*P	Pb	00 48 05.5	-0.1		
TWK1	**Hengchun**	**1.90**	**202**	*e*P	Pn	00 48 02.7	-1.1		
TWKBT	**Hengchun**	**1.90**	**202**	*e*P	Pn	00 48 04.2	+0.5		
TSEB	**Hengchuen, Pin**	**1.91**	**199**	*e*P	Pb	00 48 05.5	-0.8		
TSEB				*e*S	Sb	00 48 29.7	-0.5		
PCYT	**Pengchaiyu**	**1.96**	**13**	*e*P	Pn	00 48 04.5	-0.1		
VCHM	**Qimei**	**2.03**	**256**	*e*P	Pn	00 48 05.4	-0.1		
VCHM				*e*S	Sn	00 48 31.2	+0.4		
IRIF	**Iriomote-Funau**	**2.07**	**72**	*e*P	Pn	00 48 05.9	-0.2		
IRIF				*e*S	Sn	00 48 32.1	+0.2		
HATJ	**Hateruma jima**	**2.07**	**80**	*e*S	Sn	00 48 32.1	+0.2		
JKRS	**Kuro-shima**	**2.29**	**76**	*e*S	Sn	00 48 38.5	+1.1		
VWUC	**VWUC**	**2.31**	**304**	*e*P	Pn	00 48 08.3	-1.2		
VWUC				*e*S	Sn	00 48 36.3	-1.6		
JIJ	**Ishigaki jima**	**2.44**	**74**	*e*P	Pn	00 48 10.3	-0.9		
JIJ				*e*S	Sn	00 48 41.3	+0.3		
PTMZ	**Houxiangcun**	**2.59**	**301**	*e*P	Pn	00 48 12.8	-0.5		
PTMZ				*e*S	Sn	00 48 43.7	-1.0		
JISG	**Ishigakijimahi**	**2.65**	**70**	*e*P	Pn	00 48 13.4	-0.7		
JISG				*e*S	Sn	00 48 45.9	-0.3		
MATB	**Ma-tsu**	**2.84**	**329**	*e*P	Pn	00 48 15.9	-0.7		
MATB				*e*S	Sn	00 48 49.6	-1.2		
KNM	**Kinmen**	**2.95**	**284**	*e*P	Pn	00 48 19.1	+0.9		
KNM				*e*S	Sn	00 48 55.6	+2.0		
QZH	**Quanzhou**	**2.98**	**295**	⇑*i* Pn	Pn	00 48 18.2	-0.4		
QZH				Pg	Pg	00 48 28.2	-0.4		
QZH				Sn	Sn	00 48 53.6	-0.7		
QZH				smax	smax				
	comp=N,2μm,0.9s								
QZH				smax	smax				
	comp=E,2μm,1.0s								
KNMB	**Chin-men Tao**	**3.00**	**285**		Pn	00 48 18.4	-0.6		
KNMB	**Chin-men Tao**	**3.00**	**285**	*e*P	Pn	00 48 18.6	-0.3		
KNMB				*e*S	Sn	00 48 55.4	+0.6		
JTJ	**Tarama**	**3.00**	**72**	*e*S	Sn	00 48 56.0	+1.1		
MHZQ	**Yeshan**	**3.31**	**316**	*e*P	Pn	00 48 23.2	0.0		
MHZQ				*e*S	Sn	00 49 02.4	0.0		
XPSS	**Dashiqiu**	**3.43**	**339**	*e*P	Pn	00 48 24.4	-0.5		
XPSS				*e*S	Sn	00 49 04.1	-1.4		
AXDP	**Jialang**	**3.49**	**290**	*e*P	Pn	00 48 25.6	0.0		
AXDP				*e*S	Sn	00 49 06.7	-0.2		
ZPLA	**Ao Xicun**	**3.50**	**274**	*e*P	Pn	00 48 25.8	0.0		
ZPLA				*e*S	Sn	00 49 06.4	-0.8		
JMJ2	**Miyako jima3**	**3.58**	**73**	*e*S	Sn	00 49 10.9	+1.7		
DSXP	**Dongshan**	**3.80**	**271**	*e*P	Pn	00 48 30.4	+0.6		
DSXP				*e*S	Sn	00 49 15.5	+1.0		
SXFK	**Yanhouchang**	**4.45**	**308**	*e*P	Pn	00 48 38.1	-0.8		
JOW	**Kunigami**	**6.82**	**62**	Pn	Pn	00 49 10.0	-1.3		
JOW	**Kunigami**	**6.82**	**62**	Pn	Pn	00 49 09.3	-2.1		
	4.3nm,0.3s,baz=148,slow=15,SNR=21								
JOW				Sn	Sn	00 50 25.4	-3.6		
	baz=277,slow=27 11nm,0.3s								
JOW	**Kunigami**	**6.82**	**62**	P	Pn	00 49 10.6	-0.8		
GZH	**Guangzhou**	**7.58**	**267**	Pn	Pn	00 49 18.3	-3.6		
GZH				Sn	Sn	00 50 41.1	-6.7		
GZH				smax	smax				
	comp=N,350nm,1.0s								
GZH				smax	smax				
	comp=E,320nm,0.8s								
NJ2	**Nanjing**	**8.64**	**344**	*e*P	Pn	00 49 36.2	-0.2		
NJ2				pmax	pmax				
	comp=Z,28nm,0.7s								
NJ2				smax	smax				
	comp=N,170nm,1.0s								
NJ2				smax	smax				
	comp=E,120nm,1.2s								
NJ2				LR	LR				
	comp=N,1μm,9.5s								
NJ2				LR	LR				
	comp=E,830nm,9.5s								
NJ2				LR	LR				
	comp=Z,2μm,8.5s								

CNSH	**ChangSha**	**8.95**	**302**	P	Pn	00 49 48.7	+8.0		
CNSH				S	Sn	00 51 41.0	+19		
CNSH				smax	smax				
	comp=N,610nm,1.1s								
CNSH				smax	smax				
	comp=E,500nm,1.1s								
QIZ	**Qiongzhong**	**11.88**	**249**	P	Pn	00 50 08.7	-12		
QIZ				S	Sn	00 52 10.1	-23		
QIZ				pmax	pmax				
	comp=Z,190nm,2.6s								
QIZ				pmax	pmax				
	comp=Z,1μm,3.6s								
QIZ				LR	LR				
	comp=N,610nm,5.1s								
QIZ				LR	LR				
	comp=E,560nm,5.5s								
QIZ				LR	LR				
	comp=Z,450nm,9.9s								
KSAR	**Wonju Array Be**	**14.71**	**20**		Pn	00 50 59.5	0.0		
KSRS	**Korea Array**	**14.74**	**20**	Pn	Pn	00 50 58.5	-1.3		
	comp=Z,0.3nm,0.3s,baz=199,slow=12,SNR=27								
	comp=Z,0.4nm,0.3s								
KS19	**Wonju Array Si**	**14.76**	**20**	Pn	Pn	00 50 59.0	-1.2		
HNS	**HongShan**	**14.86**	**338**	⇑P	P	00 51 08.8	+1.6		
HNS				pmax	pmax				
	comp=Z,10.0nm,1.0s								
HNS				LR	LR				
	comp=N,560nm,10.4s								
HNS				LR	LR				
	comp=E,370nm,7.2s								
HNS				LR	LR				
	comp=Z,580nm,10.2s								
XAN	**Xi'an**	**15.10**	**316**	⇑P	P	00 51 08.5	-1.6		
XAN				pmax	pmax				
	comp=Z,6.0nm,0.9s								
XAN				LR	LR				
	comp=Z,600nm,4.5s								
XAN				LR	LR				
	comp=Z,650nm,6.9s								
XAN				LR	LR				
	comp=Z,650nm,7.6s								
BJI	**Beijing**	**16.90**	**346**	P	Pn	00 51 27.3	-0.6		
BJI				S	Sn	00 54 38.0	+2.4		
BJI				pmax	pmax				
	comp=Z,2.0nm,0.8s								
BJI				pmax	pmax				
	comp=Z,57nm,4.2s								
BJI				LR	LR				
	comp=Z,140nm,10.4s								
BJI				LR	LR				
	comp=Z,99nm,9.5s								
BJI				LR	LR				
	comp=Z,240nm,16.6s								
DAV	**Davao City (W)**	**16.99**	**166**	LR	LR	00 57 22.2			
	comp=Z,251nm,19.8s,baz=340,slow=35								
CD2	**Chengdu**	**17.36**	**298**	P	Pn	00 51 33.7	-0.1		
CD2				S	Sn	00 54 46.6	-0.5		
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				LR	LR				
	comp=Z,1μm,7.3s								
CD2				LR	LR				
	comp=Z,1μm,9.0s								
CD2				LR	LR				
	comp=Z,2μm,10.0s								
PZH	**PanZhiHua**	**18.17**	**283**	P	P	00 51 48.2	+4.0		
PZH				pmax	pmax				
	comp=Z,10.0nm,0.6s								
PZH				pmax	pmax				
	comp=Z,100nm,5.1s								
HHC	**Hu-ho-hao-te**	**19.04**	**336**	*e*P	P	00 51 53.8	+0.2		
HHC				sS	sS	00 55 33.5	-1.4		
HHC				pmax	pmax				
	comp=Z,7.0nm,0.8s								
HHC				pmax	pmax				
	comp=Z,180nm,5.1s								
HHC				LR	LR				
	comp=Z,280nm,10.8s								
HHC				LR	LR				
	comp=Z,200nm,12.0s								
HHC				LR	LR				
	comp=Z,340nm,15.3s								
MJAR	**Matsushiro Arr**	**19.21**	**44**	P	P	00 51 51.9	-3.6		
	baz=232,slow=9.3,SNR=5.3								
	comp=Z,0.7nm,0.3s								
BTO	**Baotou**	**19.44**	**333**	*e*P	Pn	00 51 59.6	+0.4		
BTO				sP	sP	00 52 06.3	+3.5		
BTO				PP	PnPn	00 52 17.9	+5.4		
BTO				pmax	pmax				
	comp=Z,15nm,0.5s								
BTO				pmax	pmax				
	comp=Z,220nm,4.5s								
BTO				LR	LR				
	comp=Z,700nm,10.6s								
BTO				LR	LR				
	comp=Z,620nm,11.0s								
BTO				LR	LR				
	comp=Z,730nm,9.3s								
LZH	**Lanzhou**	**19.66**	**313**	*e*P	Pn	00 52 07.8	+5.9		
LZH				pP	sP	00 52 12.4	+7.1		
LZH				pmax	pmax				
	comp=Z,18nm,1.3s								
LZH				LR	LR				
	comp=Z,200nm,11.7s								
LZH				LR	LR				
	comp=Z,360nm,10.7s								
LZH				LR	LR				
	comp=Z,500nm,11.3s								
LZDM	**Lanzhou Array**	**19.69**	**312**	P	P	00 52 00.7	-0.3		
	baz=141,slow=9.6								
	comp=Z,1.0nm,0.3s								
CHTO	**Chiang Mai**	**21.63**	**261**		P	00 52 21.6	-0.2		
CMAR	**Chiang Mai Arr**	**21.74**	**260**	P	P	00 52 23.5	+0.5		
CMAR	**Chiang Mai Arr**	**21.74**	**260**	P	P	00 52 23.0	0.0		
	comp=Z,3.2nm,0.8s,baz=65,slow=8.9,SNR=17								
CMAR				LR	LR	01 00 58.7			
	comp=Z,121nm,18.9s,baz=290,slow=37								
	comp=Z,3.2nm,0.8s								
USRK	**Ussuriysk Ar.**	**22.15**	**20**	P	P	00 52 26.3	-0.9		
	comp=Z,1.9nm,0.8s,baz=210,slow=8.3,SNR=2.6								
	comp=Z,1.9nm,0.8s								
TOLI2	**Tolitoli**	**22.48**	**182**	P	P	00 52 31.7	+0.8		
TOLI2				IAmb	IAmb	00 52 33.5			
	comp=Z,14nm,0.9s								
GTA	**Gaotai**	**24.16**	**315**	*e*P	P	00 52 53.3	+5.5		
GTA				pP	sP	00 52 58.9	+6.1		
GTA				pmax	pmax				
	comp=Z,7.0nm,1.0s								
GTA				LR	LR				
	comp=Z,360nm,16.3s								
GTA				LR	LR				
	comp=Z,260nm,19.1s								
GTA				LR	LR				
	comp=Z,340nm,19.9s								
GUMO	**Guam**	**24.23**	**110**	LR	LR	01 03 15.9			
	comp=Z,49nm,18.0s,baz=96,slow=39								
ULN	**Ulaanbaatar**	**26.73**	**338**	P	P	00 53 11.6	+0.5		
SONM	**Songino Array**	**26.93**	**337**	P	P	00 53 13.2	+0.4		
SONM	**Songino Array**	**26.93**	**337**	P	P	00 53 12.5	-0.3		
	comp=Z,2.2nm,0.8s,baz=159,slow=9.2,SNR=8.7								
	comp=Z,2.2nm,0.8s								
WMQ	**Urumqi**	**34.23**	**314**	*e*P	P	00 54 18.7	+1.4		
MKAR	**Makanchi Array**	**38.92**	**316**	P	P	00 54 57.1	-0.1		
	comp=Z,5.5nm,0.9s,baz=111,slow=9.2,SNR=19								
	comp=Z,5.5nm,0.9s								
ZALV	**Zalesovo Beam**	**40.83**	**327**		P	00 55 12.1	-0.8		
ZALV	**Zalesovo Beam**	**40.83**	**327**	P	P	00 55 12.5	-0.4		
	comp=Z,1.5nm,0.6s,baz=119,slow=8.3,SNR=9.8								
	comp=Z,1.5nm,0.6s								
KSH	**Kashi**	**41.45**	**303**	P	P	00 55 22.2	+3.8		
KSH				sP	sP	00 55 27.2	+3.7		
KSH				pmax	pmax				
	comp=Z,2.0nm,0.9s								
H11N1	**WAKE ISLAND Hy**	**42.16**	**86**	T	T	01 40 19.9			
	baz=283,slow=75,SNR=68								
H11N2	**WAKE ISLAND Hy**	**42.16**	**86**	T	T	01 40 20.1			
	baz=283,slow=75,SNR=81								
H11N3	**WAKE ISLAND Hy**	**42.18**	**86**	T	T	01 40 20.6			
	baz=283,slow=75,SNR=75								
H11S3	**WAKE ISLAND Hy**	**42.28**	**88**	T	T	01 40 29.9			
	baz=284,slow=74,SNR=221								
H11S1	**WAKE ISLAND Hy**	**42.29**	**88**	T	T	01 40 30.6			
	baz=284,slow=74,SNR=110								
H11S2	**WAKE ISLAND Hy**	**42.30**	**88**	T	T	01 40 31.3			
	baz=284,slow=74,SNR=148								
KURK	**Kurchatov**	**42.67**	**320**		P	00 55 27.8	-0.2		
KURBB	**Kurchatov Arra**	**42.69**	**320**	P	P	00 55 27.9	-0.2		

	comp=Z,1.9nm,0.8s,baz=109,slow=7.9,SNR=12								
	comp=Z,1.9nm,0.8s								
COEN	**Coen**	**42.99**	**148**	P	P	00 55 32.0	+1.1		
COEN				IAmb	IAmb	00 55 33.3			
	comp=Z,9.7nm,0.9s								
MBWA	**Marble Bar**	**44.64**	**182**	P	P	00 55 42.8	-1.4		
MBWA				IAmb	IAmb	00 55 43.5			
	comp=Z,6.6nm,0.8s								
PSA00	**Pilbara Seismi**	**45.05**	**182**	P	P	00 55 45.3	-2.1		
PSA00	**Pilbara Seismi**	**45.05**	**182**	P	P	00 55 46.1	-1.2		
PSA00				IAmb	IAmb	00 55 46.4			
	comp=Z,8.3nm,0.8s								
WRA	**Warramunga Arr**	**45.15**	**163**	P	P	00 55 46.8	-1.4		
WRA	**Warramunga Arr**	**45.15**	**163**	P	P	00 55 46.2	-2.0		
	comp=Z,3.8nm,0.7s,baz=344,slow=8.8,SNR=32								
	comp=Z,3.8nm,0.7s								
KKAR	**Karatay Array**	**46.03**	**308**	P	P	00 55 55.3	+0.2		
BVAR	**Borovoye Array**	**48.26**	**321**	P	P	00 56 12.3	+0.1		
	comp=Z,1.2nm,0.7s,baz=94,slow=7.7,SNR=9.5								
	comp=Z,1.2nm,0.7s								
ASAR	**Alice Springs**	**48.60**	**165**	P	P	00 56 13.8	-1.5		
	comp=Z,3.5nm,0.9s,baz=336,slow=5.0,SNR=17								
	comp=Z,3.5nm,0.9s								
ABKAR	**Akbulak array**	**54.02**	**315**		P	00 56 55.9	+0.3		
BBOO	**Buckleboo**	**57.89**	**166**	P	P	00 57 22.4	-1.0		
STKA	**Stephens Creek**	**58.51**	**160**		P	00 57 26.7	-1.0		
STKA	**Stephens Creek**	**58.51**	**160**	P	P	00 57 26.4	-1.4		
	comp=Z,4.0nm,0.6s,baz=332,slow=7.4,SNR=11								
	comp=Z,4.0nm,0.6s								
L16K	**Owhat River**	**64.20**	**31**	P	P	00 58 06.7	+0.8		
L16K				IAmb	IAmb	00 58 19.7			
	comp=Z,7.9nm,1.1s								
J17K	**VABM Dome**	**64.32**	**29**	P	P	00 58 08.0	+1.3		
M16K	**Timber Creek**	**64.48**	**32**	P	P	00 58 09.1	+1.3		
H19K	**Roundabout Mou**	**65.36**	**27**	P	P	00 58 13.7	+0.2		
KBZ	**Khabaz**	**66.05**	**309**	P	P	00 58 18.0	-0.3		
	comp=Z,2.4nm,0.9s,baz=88,slow=5.5,SNR=8.2								
	comp=Z,2.4nm,0.9s								
H21K	**Melozitna Rive**	**66.86**	**27**	P	P	00 58 23.6	+0.4		
H21K				IAmb	IAmb	00 58 26.6			
	comp=Z,7.8nm,1.1s								
M20K	**Styx River**	**67.18**	**31**	P	P	00 58 25.4	0.0		
I21K	**Tanana**	**67.26**	**27**	P	P	00 58 26.6	+1.0		
I21K				IAmb	IAmb	00 58 30.6			
	comp=Z,4.9nm,1.1s								
D23K	**Nanushuk River**	**67.30**	**23**	P	P	00 58 26.4	+0.6		
RED	**Redoubt Volcan**	**67.56**	**32**	P	P	00 58 27.6	-0.2		
MLY	**Manley**	**67.80**	**27**		P	00 58 29.4	+0.3		
MLY				IAmb	IAmb	00 58 34.0			
	comp=Z,3.2nm,0.8s								
G23K	**Bananza Creek**	**67.84**	**25**	P	P	00 58 29.2	-0.2		
G23K				IAmb	IAmb	00 58 41.7			
	comp=Z,4.9nm,1.1s								
H23K	**Yukon River**	**68.17**	**26**	P	P	00 58 32.6	+1.1		
H23K				IAmb	IAmb	00 58 33.3			
	comp=Z,5.2nm,0.8s								
E24K	**Your Creek**	**68.22**	**24**	P	P	00 58 32.4	+0.6		
E24K				IAmb	IAmb	00 58 39.8			
	comp=Z,6.3nm,1.0s								
I23K	**Minto, Yukon-K**	**68.36**	**27**	P	P	00 58 32.6	+0.1		
F24K	**Squaw Lake**	**68.54**	**24**	P	P	00 58 34.0	+0.3		
F24K				IAmb	IAmb	00 58 42.5			
	comp=Z,6.9nm,0.9s								
NEA2	**Nenana**	**68.58**	**28**	P	P	00 58 34.4	+0.4		
D25K	**Kavik River**	**68.77**	**22**	P	P	00 58 34.8	-0.4		
G24K	**Hadweenzic Riv**	**68.85**	**25**	P	P	00 58 36.4	+0.7		
G24K				IAmb	IAmb	00 58 38.4			
	comp=Z,4.2nm,0.8s								
H24K	**Noodor Dome**	**68.85**	**26**	P	P	00 58 36.0	+0.3		
RND	**Reindeer**	**68.89**	**29**	P	P	00 58 36.0	0.0		
WRH	**Wood River Hil**	**69.02**	**28**	P	P	00 58 37.4	+0.7		
WRH				IAmb	IAmb	00 58 50.5			
	comp=Z,4.0nm,1.1s								
F25K	**Christian Rive**	**69.37**	**24**	P	P	00 58 39.9	+1.0		
F25K				IAmb	IAmb	00 58 40.9			
	comp=Z,5.1nm,0.8s								
ILAR	**Eielson Array**	**69.47**	**27**	P	P	00 58 38.7	-0.8		
ILAR	**Eielson Array**	**69.47**	**27**	P	P	00 58 37.7	-1.7		
	comp=Z,0.7nm,0.6s,baz=293,slow=7.6,SNR=8.0								
	comp=Z,0.7nm,0.6s								
DHY	**Denali Highway**	**69.61**	**29**	P	P	00 58 40.3	-0.3		
BMAR	**Burnt Mountain**	**69.81**	**24**	P	P	00 58 42.7	+1.1		
SCM	**Sheep Creek Mo**	**69.90**	**30**	P	P	00 58 42.3	0.0		
F26K	**Sheenjek River**	**69.91**	**

HFS	**Hagfors**	**78.14**	**331**	P		**P**	**00 59 30.2**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=90,slow=7.4,SNR=3.1							
	comp=Z,2.7nm,0.8s							
NOA	**NORSAR Array B**	**78.80**	**332**	P		**P**	**00 59 33.5**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=62,slow=5.1,SNR=2.4							
	comp=Z,0.8nm,0.7s							
CLL	**Collm**	**82.64**	**323**	*i* Px		Px	00 59 58.9	
YKA	**Yellowknife Ar**	**83.26**	**23**	P		**P**	**00 59 56.7**	**-1.0**
	comp=Z,2.1nm,1.0s,baz=320,slow=5.4,SNR=7.2							
	comp=Z,2.1nm,1.0s							
GERES	**GERESS Array B**	**83.42**	**321**	P		**P**	**00 59 59.5**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=75,slow=7.9,SNR=5.5							
	comp=Z,0.7nm,0.8s							
K05A	**Summer Lake**	**92.40**	**41**	P		**P**	**01 00 43.1**	**+0.5**
NVAR	**Mina Array Bea**	**96.53**	**43**	P		**P**	**01 01 00.2**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=305,slow=5.8,SNR=4.1							
	comp=Z,0.1nm,0.3s							
BAUV	**El Baul**	**146.21**	**17**			**PKPdf**	**01 07 11.6**	**-0.2**

*JMA **03** 00:51:10.8±0.2,23.9N±0.7×123.0E±0.7,h19km, MV2.6/9, NEAR ISHIGAKIJIMA ISLAND*
*TAP **03** 00:51:11.0,23.96N×122.89E,h10km±1km, ML2.9,D*
ISC 03 00:51:10.0±1.2,24.01N±0.05×122.93E±0.02,h18km±8km, n30,σ0.79/48,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.44**	**2**	P		Pn	**00 51 20.8**	**-0.7**
JYNG				*e*S		Sn	**00 51 27.7**	**-1.3**
YOJ	**Yonaguni jima**	**0.46**	**9**	*i* P		Pn	**00 51 21.1**	**-0.6**
YOJ				S		Sn	**00 51 27.7**	**-1.6**
YOJ	**Yonaguni jima**	**0.46**	**9**	P		Pn	**00 51 21.2**	**-0.5**
YOJ				*e*S		Sn	**00 51 28.4**	**-1.0**
EOS4	**EOS4**	**0.57**	**281**	*i* P		Pg	**00 51 21.2**	**0.0**
EOS4				*i* S		Sg	**00 51 29.1**	**+0.3**
EOS3	**EOS3**	**0.62**	**297**	P		Pb	**00 51 22.9**	**+0.7**
EOS3				*e*S		Sb	**00 51 32.1**	**+1.5**
EOS2	**EOS2**	**0.76**	**303**	P		Pn	**00 51 26.0**	**+0.4**
EOS2				*e*S		Sn	**00 51 37.0**	**+0.4**
IRIF	**Iriomote-Funau**	**0.80**	**66**	*e*P		Pb	**00 51 25.6**	**+0.2**
HATJ	**Hateruma jima**	**0.80**	**86**	*e*P		Pb	**00 51 25.7**	**+0.3**
HATJ				*e*S		Sb	**00 51 36.6**	**+0.7**
JKRS	**Kuro-shima**	**1.01**	**77**	*e*P		Pn	**00 51 29.9**	**+0.6**
JKRS				*e*S		Sn	**00 51 43.8**	**+0.7**
EWUT	**Wuta**	**1.14**	**293**	P		Pn	**00 51 31.4**	**+0.4**
EWUT				*e*S		Sb	**00 51 45.7**	**+0.1**
TWC	**Suao**	**1.15**	**301**	*e*P		Pg	**00 51 32.2**	**-0.1**
TWC				*e*S		Sb	**00 51 45.3**	**-0.7**
ENA	**Nanau**	**1.16**	**291**	P		Pn	**00 51 31.7**	**+0.4**
ENA				S		Sb	**00 51 46.5**	**+0.2**
JIJ	**Ishigaki jima**	**1.16**	**72**	*e*P		Pg	**00 51 32.0**	**-0.5**
TWD	**Chiawan**	**1.22**	**274**	*e*P		Pn	**00 51 31.3**	**-0.8**
TWD				*e*S		Sb	**00 51 47.6**	**-0.3**
NACB	**Ninganchiao**	**1.23**	**278**	*e*P		Pn	**00 51 31.1**	**-1.2**
ETM	**Tongmen**	**1.31**	**268**	*e*P		Pn	**00 51 32.4**	**-1.0**
TWB1	**Santiao Chiao**	**1.31**	**319**	*e*S		Sg	**00 51 52.6**	**+0.1**
ETLH	**Xiulin Townshi**	**1.34**	**279**	*e*P		Pn	**00 51 33.0**	**-0.9**
TWE	**Neicheng**	**1.35**	**302**	*e*P		Pg	**00 51 36.5**	**+0.4**
TWE				*e*S		Sb	**00 51 52.6**	**+0.9**
LATG	**Datong**	**1.38**	**293**	*e*P		Pb	**00 51 36.0**	**+0.6**
LATG				*e*S		Sn	**00 51 52.8**	**+0.4**
JISG	**Ishigakijimahi**	**1.39**	**65**	*e*S		Sg	**00 51 54.7**	**-0.1**
FUSB	**Fushanzhiwuyua**	**1.43**	**302**	*e*P		Pg	**00 51 37.5**	**-0.1**
FUSB				*e*S		Sg	**00 51 55.5**	**-0.8**
WARBT	**Fenglin Townsh**	**1.44**	**259**	*e*P		Pn	**00 51 33.1**	**-2.1**
SXI1	**Grass Mountain**	**1.45**	**319**	*e*P		Pb	**00 51 36.3**	**-0.1**
SXI1				*e*S		Sg	**00 51 57.5**	**+0.8**
NNSB	**Datong**	**1.47**	**287**	*e*P		Pn	**00 51 36.0**	**+0.2**
NWLT	**Wulai**	**1.51**	**301**	*e*P		Pg	**00 51 38.4**	**-0.7**
NWLT				*e*S		Sb	**00 51 57.3**	**+1.0**
NSK	**Sanguang**	**1.58**	**295**	*e*P		Pb	**00 51 39.2**	**+0.5**
NSK				*e*S		Sb	**00 51 59.9**	**+1.5**
WUSB	**Renai**	**1.66**	**270**	*e*P		Pn	**00 51 38.1**	**-0.1**
FULB	**Fuli**	**1.70**	**242**	*e*P		Pn	**00 51 38.6**	**-0.2**
WHP	**Taichung City**	**1.83**	**279**	*e*P		Pb	**00 51 42.5**	**-0.5**

*IDC **03** 00:51:37.2±2.0,33.47S×179.37E,h0km,mb4.1/5, mbtmp4.1/6,ML4.3/1,MS3.7/3,Error ellipse: s-maj=55.8km s-min=26.6km az=38.0*
*WEL **03** 00:51:42.0±0.7,34.S±4.×17.9E±.,h12km,M4.3/19, mB4.8/7,ML4.5/21,MLv4.4/19,Mw(mB)4.1/7,Error ellipse: s-maj=9.4km s-min=5.5km az=102.5,confirmed*
ISC 03 00:51:43.3±1.0,33.68S±0.07×179.22E±0.09,h35km,n51, σ1.55/54,mb3.9/7,MS3.5/3,4C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.95**	**191**	P		**Pn**	**00 52 40.6**	**-0.8**
MXZ				S		**Sn**	**00 53 25.0**	**-1.5**
WMGZ	**Waiomatatini S**	**4.19**	**189**	P		**Pn**	**00 52 44.3**	**-0.4**
WMGZ				S		**Sn**	**00 53 31.6**	**-0.7**
HAZ	**Te Kaha**	**4.24**	**196**	P		**Pn**	**00 52 46.7**	**+1.4**
PKGZ	**Pakihiroa**	**4.28**	**192**	P		**Pn**	**00 52 45.9**	**-0.2**
PKGZ				S		**Sn**	**00 53 34.9**	**+0.1**
PUZ	**Puketiti**	**4.46**	**190**	P		**Pn**	**00 52 46.3**	**-2.1**
PUZ				S		**Sn**	**00 53 37.4**	**-1.7**
RUGZ	**Raukumara Rang**	**4.46**	**196**	P		**Pn**	**00 52 48.2**	**-0.3**
TWGZ	**Tauwhareparae**	**4.60**	**192**	P		**Pn**	**00 52 49.2**	**-1.2**
TWGZ				S		**Sn**	**00 53 41.5**	**-1.1**
CNGZ	**Carnagh Statio**	**4.87**	**189**	P		**Pn**	**00 52 52.5**	**-1.5**
TKGZ	**Te Karaka**	**4.88**	**193**	P		**Pn**	**00 52 53.1**	**-1.2**
URZ	**Urewera**	**4.88**	**200**	Pn		**Pn**	**00 52 54.5**	**+0.3**
	11nm,0.3s,baz=27,slow=4.5,SNR=43							
URZ				Sn		**Sn**	**00 53 47.9**	**-1.6**
	1.5nm,0.3s,baz=308,slow=16,SNR=1.5							
	66nm,0.5s							
URZ	**Urewera**	**4.88**	**200**	P		**Pn**	**00 52 55.0**	**+0.8**
URZ				S		**Sn**	**00 53 52.2**	**+2.6**
OUZ	**Omahuta**	**4.90**	**250**	P		**Pn**	**00 52 53.7**	**-0.7**
OUZ				S		**Sn**	**00 53 46.1**	**-3.7**
RAGZ	**Rawiri**	**5.03**	**196**	P		**Pn**	**00 52 55.9**	**-0.4**
GLKZ	**Green Lake**	**5.03**	**30**	P		**Pn**	**00 52 58.2**	**+1.9**
TOZ	**Tahuroa Road**	**5.05**	**216**	P		Pn	00 53 01.1	+4.5
RIGZ	**Rimuhau**	**5.16**	**193**	P		**Pn**	**00 52 56.1**	**-1.9**
RIGZ				S		**Sn**	**00 53 54.2**	**-2.2**
MUGZ	**Murupara**	**5.19**	**202**	P		**Pn**	**00 52 57.5**	**-0.9**
MUGZ				S		**Sn**	**00 53 56.7**	**-0.4**
RTZ	**Ruatahuna**	**5.25**	**200**	P		**Pn**	**00 52 59.8**	**+0.4**
SNGZ	**Shannon Statio**	**5.32**	**196**	P		**Pn**	**00 52 59.6**	**-0.7**
RAHZ	**Arahi**	**5.51**	**198**	P		**Pn**	**00 53 02.6**	**-0.2**
RAHZ				S		**Sn**	**00 54 04.3**	**-0.7**
MTHZ	**Maungataniwha**	**5.51**	**200**	P		**Pn**	**00 53 03.3**	**+0.3**
MTHZ				S		**Sn**	**00 54 09.3**	**+4.2**
MHGZ	**Mahia Peninsul**	**5.57**	**191**	P		**Pn**	**00 53 01.1**	**-2.5**
NMHZ	**Naumai**	**5.75**	**199**	P		**Pn**	**00 53 05.3**	**-0.9**
ARHZ	**Aropaoanui**	**5.86**	**197**	P		**Pn**	**00 53 08.2**	**+0.6**
BKZ	**Black Stump Fm**	**5.90**	**201**	P		**Pn**	**00 53 07.1**	**-1.2**
MCHZ	**McNeill Hill**	**6.11**	**199**	P		**Pn**	**00 53 10.2**	**-0.8**
TMVZ	**Te Maari**	**6.12**	**207**	P		**Pn**	**00 53 12.2**	**+0.8**
ETVZ	**East Tongariro**	**6.14**	**206**	P		**Pn**	**00 53 12.4**	**+0.7**
OTVZ	**Oturere**	**6.18**	**207**	P		**Pn**	**00 53 13.0**	**+0.8**
OTVZ				S		**Sn**	**00 54 25.9**	**+4.2**
NGZ	**Ngauruhoe**	**6.22**	**207**	P		**Pn**	**00 53 14.2**	**+1.5**
WHVZ	**Whangaehu Hut**	**6.32**	**207**	P		**Pn**	**00 53 15.9**	**+1.8**
WNVZ	**Wahianoa**	**6.35**	**206**	P		**Pn**	**00 53 15.5**	**+1.0**
KAHZ	**Kahuranaki**	**6.39**	**196**	P		**Pn**	**00 53 13.6**	**-1.4**
RAR	**Rarotonga**	**22.34**	**62**	LR		LR	01 06 18.3	
	comp=Z,165nm,18.2s,baz=276,slow=40							
STKA	**Stephens Creek**	**31.58**	**263**	LR		LR	01 09 00.2	
	comp=Z,222nm,20.7s,baz=35,slow=33							
ASAR	**Alice Springs**	**40.72**	**272**	P		**P**	**00 59 20.4**	**-0.4**
	1.4nm,0.8s,baz=114,slow=7.5,SNR=13							
	1.4nm,0.8s							
WRA	**Warramunga Arr**	**42.01**	**277**	P		**P**	**00 59 31.6**	**+0.1**
	1.6nm,0.9s,baz=120,slow=8.0,SNR=5.1							
	1.6nm,0.9s							
QSPA	**South Pole Qui**	**56.44**	**180**	P		**P**	**01 01 23.3**	**+2.0**
	7.6nm,1.0s,baz=49,slow=1.0,SNR=21							
	7.6nm,1.0s							
GUMO	**Guam**	**57.28**	**319**	LR		LR	01 21 44.1	
	comp=Z,43nm,21.0s,baz=110,slow=32							
TROLL	**Troll, Antarti**	**74.58**	**181**	⇑P		**P**	**01 03 16.7**	**-1.6**
	comp=Z,32nm,0.7s							
SNAA	**Sanae**	**74.94**	**179**	⇑P		**P**	**01 03 19.4**	**-0.9**
	comp=Z,27nm,0.8s							
SNAA	**Sanae**	**74.94**	**179**	P		**P**	**01 03 19.4**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=211,slow=6.3,SNR=5.6							
	comp=Z,1.1nm,0.9s							
VNA3	**Neumayer Olymp**	**75.19**	**177**	⇑P		**P**	**01 03 21.5**	**-0.2**
	comp=Z,6.9nm,0.7s							
VNA1	**Neumayer--Stat**	**75.83**	**177**	⇑P		**P**	**01 03 24.7**	**-0.6**
	comp=Z,3.2nm,0.8s							
H03S2	**Juan Fernandez**	**80.60**	**124**	T		T	02 32 14.0	
	baz=234,slow=74,SNR=48							
H03S1	**Juan Fernandez**	**80.61**	**124**	T		T	02 32 15.2	
	baz=234,slow=74,SNR=41							
H03S3	**Juan Fernandez**	**80.62**	**124**	T		T	02 32 14.2	
	baz=234,slow=74,SNR=42							
H03N3	**Juan Fernandez**	**80.81**	**124**	T		T	02 32 29.0	
	baz=238,slow=72,SNR=324							
H03N2	**Juan Fernandez**	**80.82**	**124**	T		T	02 32 28.3	
	baz=238,slow=72,SNR=222							
H03N1	**Juan Fernandez**	**80.83**	**124**	T		T	02 32 29.1	
	baz=238,slow=72,SNR=236							
PLCA	**Paso Flores**	**81.97**	**134**	P		**P**	**01 03 59.5**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=225,slow=13,SNR=3.2							
	comp=Z,1.3nm,0.9s							

*IDC **03** 01:03:39.8±0.8,6.68S×130.06E,h0km,mb4.0/7, mbtmp4.2/11,ML4.6/4,Error ellipse: s-maj=39.5km s-min=17.3km az=69.0*
ISC 03 01:03:53.1±0.7,7.26S±0.07×129.54E±0.07,h100km,n24, σ2.77/27,mb3.7/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**1.88**	**113**	P		**Pn**	**01 04 27.7**	**+3.5**
FAKI	**Fak Fak**	**5.08**	**32**	P		**Pn**	**01 05 06.4**	**-0.6**
DRS	**Darwin Rock St**	**5.31**	**166**	P		**Pn**	**01 05 13.0**	**+2.9**
MTN	**Manton Dam**	**5.77**	**164**	P		**Pn**	**01 05 18.7**	**+2.4**
KDU	**Kakadu**	**6.12**	**152**	P		**Pn**	**01 05 23.1**	**+2.0**
BATI	**Baumata**	**6.51**	**243**	Pn		**Pn**	**01 05 28.9**	**+2.4**
	5.7nm,0.3s,baz=63,slow=9.0,SNR=2.2							
BATI				Sn		**Sn**	**01 06 43.0**	**+3.8**
	15nm,0.3s,baz=84,slow=20,SNR=6.5							
	19nm,0.4s							
FITZ	**Fitzroy Crossi**	**11.43**	**199**	Pn		**Pn**	**01 06 32.9**	**-0.4**
	3.5nm,0.3s,baz=33,slow=11,SNR=97							
FITZ				Sn		**Sn**	**01 08 32.8**	**-6.2**
	9.7nm,0.3s,baz=65,slow=16,SNR=6.8							
	7.7nm,0.3s							
WRA	**Warramunga Arr**	**13.44**	**160**	Pn		**Pn**	**01 06 58.1**	**-1.8**
	4.4nm,0.3s,baz=340,slow=13,SNR=61							
WRA				Sn		Sn	01 09 19.9	-8.0
	3.6nm,0.3s,baz=336,slow=21,SNR=8.1							
	7.6nm,0.5s							
COEN	**Coen**	**14.96**	**118**	P		**Pn**	**01 07 21.0**	**+1.6**
QIS	**Mount Isa**	**16.43**	**145**	P		**Pn**	**01 07 38.6**	**+0.8**
ASAR	**Alice Springs**	**16.84**	**166**	P		**Pn**	**01 07 43.3**	**+0.3**
	1.9nm,0.3s,baz=339,slow=9.8,SNR=62							
ASAR				S		**Sn**	**01 10 43.4**	**-6.8**
	2.7nm,0.7s,baz=323,slow=19,SNR=9.1							
	6.2nm,0.5s							
PSA00	**Pilbara Seismi**	**17.04**	**212**	P		**P**	**01 07 48.6**	**+3.1**
MTSU	**Mount Surprise**	**18.00**	**128**	P		**Pn**	**01 07 59.6**	**+2.6**
STKA	**Stephens Creek**	**26.95**	**157**	P		**P**	**01 09 26.9**	**+1.5**
	1.7nm,0.4s,baz=335,slow=7.8,SNR=3.1							
	1.7nm,0.4s							
CMAR	**Chiang Mai Arr**	**39.55**	**311**	P		**P**	**01 11 12.8**	**-2.0**
	1.2nm,0.3s,baz=140,slow=8.3,SNR=4.6							
	1.2nm,0.3s							
MKAR	**Makanchi Array**	**68.19**	**327**	P		**P**	**01 14 41.6**	**-1.2**
	1.3nm,0.4s,baz=114,slow=8.9,SNR=23							
	1.3nm,0.4s							
ZALV	**Zalesovo Beam**	**71.61**	**334**	P		**P**	**01 15 01.1**	**-2.4**
	0.4nm,0.4s,baz=118,slow=6.4,SNR=2.3							
	0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**72.49**	**329**	P		**P**	**01 15 06.8**	**-2.1**
	0.4nm,0.4s,baz=128,slow=4.9,SNR=11							
	0.4nm,0.4s							
BVAR	**Borovoye Array**	**78.04**	**328**	P		**P**	**01 15 38.7**	**-2.0**
	0.3nm,0.5s,baz=122,slow=7.0,SNR=3.0							
	0.3nm,0.5s							
QSPA	**South Pole Qui**	**82.72**	**180**	P		**P**	**01 16 07.5**	**+1.8**
	1.0nm,0.8s,baz=321,slow=2.8,SNR=2.5							
	1.0nm,0.8s							
TXAR	**Lajitas Array**	**125.45**	**59**	PKP		**PKPdf**	**01 22 42.8**	**-0.6**
	0.2nm,0.4s,baz=56,slow=0.6,SNR=4.5							
TORD	**Torodi Ar. Bea**	**128.41**	**281**	PKP		**PKPdf**	**01 22 48.6**	**-0.6**
	0.4nm,0.7s,baz=62,slow=4.3,SNR=2.7							
CPUP	**Villa Florida**	**145.95**	**169**	PKPbc		**PKPbc**	**01 23 22.5**	**+0.6**
	0.5nm,0.5s,baz=267,slow=0.7,SNR=4.6							
LPAZ	**La Paz**	**150.79**	**143**	PKPbc		**PKPbc**	**01 23 36.1**	**+0.5**
	1.2nm,0.4s,baz=210,slow=3.1,SNR=12							

*IDC **03** 01:11:08.1±2.1,9.37N×90.17E,h0km,mb3.5/6, mbtmp3.5/7,ML4.2/1,Error ellipse: s-maj=70.7km s-min=23.0km az=63.0*
ISC 03 01:11:13.5±1.8,9.4N±0.2×90.2E±0.3,h35km,n7,σ1.11/7, mb3.5/6,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.33**	**42**	Pn		**Pn**	**01 14 07.0**	**+0.3**
	0.5nm,0.3s,baz=238,slow=14,SNR=2.1							
	0.6nm,0.3s							
MKAR	**Makanchi Array**	**37.86**	**351**	P		**P**	**01 18 28.0**	**+1.0**
	0.3nm,0.5s,baz=172,slow=9.6,SNR=4.2							
	0.3nm,0.5s							
SONM	**Songino Array**	**40.66**	**17**	P		**P**	**01 18 50.2**	**-0.2**
	0.2nm,0.4s,baz=191,slow=6.8,SNR=1.6							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**42.21**	**349**	P		**P**	**01 19 03.4**	**+0.5**
	0.8nm,1.0s,baz=160,slow=8.1,SNR=6.0							
	0.8nm,1.0s							
ZALV	**Zalesovo Beam**	**44.63**	**355**	P		**P**	**01 19 20.6**	**-1.8**
	1.0nm,0.6s,baz=182,slow=8.9,SNR=5.7							
	1.0nm,0.6s							
WRA	**Warramunga Arr**	**52.30**	**124**	P		**P**	**01 20 21.6**	**-0.4**
	0.6nm,0.7s,baz=312,slow=8.1,SNR=4.6							
	0.6nm,0.7s							
ASAR	**Alice Springs**	**53.87**	**128**	P		**P**	**01 20 34.1**	**+0.5**
	0.3nm,0.6s,baz=323,slow=7.9,SNR=1.8							
	0.3nm,0.6s							

IDC 03 01:18:13.8±7.1,18.66N×146.32E,h0km,mb3.5/4, mbtmp3.6/5,ML2.8/1,Error ellipse: s-maj=279.1km s-min=30.6km az=83.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**19.19**	**340**	P		Pn	01 22 40.7	+0.7
	baz=169,slow=6.1,SNR=2.0							
	1.7nm,0.9s							
WRA	**Warramunga Arr**	**40.12**	**198**	P		P	01 25 51.9	+0.4
	0.4nm,0.8s,baz=20,slow=8.4,SNR=1.7							
	0.4nm,0.8s							
SONM	**Songino Array**	**43.54**	**321**	P		P	01 26 20.6	+1.2
	0.2nm,0.3s,baz=116,slow=9.8,SNR=1.8							
	0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**61.74**	**318**	P		P	01 28 33.3	-0.7
	0.6nm,0.8s,baz=92,slow=7.6,SNR=6.6							
	0.6nm,0.8s							
BVAR	**Borovoye Array**	**66.88**	**320**	P		P	01 29 06.8	-0.9
	1.0nm,0.7s,baz=101,slow=7.5,SNR=6.6							
	1.0nm,0.7s							

IDC 03 01:20:22.6±2.9,6.59N×123.47E,h0km,mb3.5/4, mbtmp3.5/4,MS3.3/2,Error ellipse: s-maj=402.2km s-min=24.4km az=64.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**26.65**	**299**	LR		LR	01 39 04.6	
	comp=Z,18nm,18.6s,baz=175,slow=42							
WRA	**Warramunga Arr**	**28.45**	**158**	P		P	01 26 19.3	-0.2
	0.3nm,0.3s,baz=336,slow=9.0,SNR=2.6							
	0.3nm,0.3s							
ASAR	**Alice Springs**	**31.75**	**162**	P		P	01 26 48.8	+0.1
	0.4nm,0.7s,baz=345,slow=8.5,SNR=2.5							
	0.4nm,0.7s							
PALK	**Pallekele**	**42.45**	**274**	LR		LR	01 46 46.4	
	comp=Z,103nm,18.9s,baz=142,slow=37							
MKAR	**Makanchi Array**	**53.37**	**326**	P		P	01 29 44.8	+0.8
	0.3nm,0.5s,baz=121,slow=7.0,SNR=4.9							
	0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**57.60**	**328**	P		P	01 30 13.4	-0.9
	0.3nm,0.6s,baz=137,slow=6.0,SNR=4.2							
	0.3nm,0.6s							

*ISK **03** 01:27:53.8,38.17N×37.80E,h5km,ML2.6/8*
*AFAD **03** 01:27:54.3,38.12N×37.82E,h7km±4km,ML2.8*

ISC 03 01:27:54.4±0.9,38.14N±0.02×37.82E±0.02,h11km±8km, n23,σ0.78/40,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKCD	**Akcadag**	**0.18**	**27**	P		**Pg**	**01 27 58.8**	**+0.4**
AKCD				S		**Sg**	**01 28 01.6**	**+0.3**
AKCD				*i* IAML			01 28 03.0	
	comp=N,5μm,0.2s							
AKCD				*i* IAML			01 28 03.0	
	comp=E,3μm,0.2s							
AKCA	**Adyaman/G¶l**	**0.36**	**197**	P		**Pg**	**01 28 01.1**	**-0.4**
AKCA				S		**Sg**	**01 28 05.3**	**-1.0**
AKCA				*i* IAML			01 28 07.0	
	comp=E,941nm,0.4s							
AKCA				*i* IAML			01 28 08.0	
	comp=N,992nm,1.0s							
AZEY	**Adyaman-Merk**	**0.47**	**133**	P		**Pg**	**01 28 04.1**	**+0.5**
AZEY				S		**Sg**	**01 28 10.7**	**+0.8**
AZEY				*i* IAML			01 28 12.0	
	comp=E,605nm,0.2s							
MAYA	**Malatya/Merkez**	**0.51**	**68**	P		**Pb**	**01 28 04.8**	**-0.7**
MAYA				S		**Sg**	**01 28 11.1**	**-0.3**
MAYA				*i* IAML			01 28 13.0	
	comp=N,833nm,0.4s							
MAYA				*i* IAML			01 28 13.0	
	comp=E,768nm,0.2s							
HEKM	**Malatya_Hekimh**	**0.75**	**8**	P		**Pb**	**01 28 09.1**	**-0.5**
HEKM				S		**Sg**	**01 28 18.8**	**-0.1**
HEKM				*i* IAML			01 28 23.0	
	comp=E,554nm,0.2s							
HEKM				*i* IAML			01 28 24.0	
	comp=N,410nm,0.2s							
ATAB	**Bozova**	**0.76**	**150**	P		**Pb**	**01 28 09.7**	**0.0**
ATAB				S		**Sg**	**01 28 19.8**	**+0.6**
ATAB				*i* IAML			01 28 25.0	
	comp=N,311nm,0.5s							
NARI	**Adyaman-Kaht**	**0.79**	**108**	P		**Pb**	**01 28 09.9**	**-0.2**
NARI				S		**Sg**	**01 28 20.3**	**+0.4**
GZT	**Gaziantep**	**0.80**	**195**	P		**Pg**	**01 28 09.6**	**-0.3**
GZT				S		**Sg**	**01 28 19.5**	**-0.9**
KHMN	**Narli-Kahraman**	**0.91**	**215**	Pg		**Pb**	**01 28 12.9**	**+0.7**
KHMN				Sg		**Sn**	**01 28 26.6**	**+0.4**
ELZG	**Elazig**	**0.99**	**68**	P		**Pg**	**01 28 13.3**	**-0.1**
ELZG				S		**Sg**	**01 28 24.7**	**-1.6**
ELZG				*i* IAML			01 28 29.0	
	comp=E,289nm,0.2s							
ELZG				*i* IAML			01 28 29.0	
	comp=N,325nm,0.7s							
HANM	**anlurfa/Hi**	**1.01**	**123**	P		**Pb**	**01 28 14.0**	**+0.1**
HANM				S		**Sg**	**01 28 26.9**	**0.0**
HANM				*i* IAML			01 28 31.0	
	comp=N,276nm,0.3s							
ARPR	**Arapgir-MALATY**	**1.04**	**23**	Pg		**Pg**	**01 28 13.8**	**-0.6**
ARPR				Sg		**Sn**	**01 28 29.3**	**-0.3**
GAZ	**Gaziantep**	**1.07**	**207**	Pn		**Pb**	**01 28 15.5**	**+0.5**
NZIP	**Nizip/Gaziante**	**1.10**	**186**	P		**Pb**	**01 28 15.8**	**+0.4**
NZIP				S		**Sg**	**01 28 28.3**	**-1.4**
NZIP				*i* IAML			01 28 32.0	
	comp=N,209nm,0.6s							
NZIP				*i* IAML			01 28 46.0	
	comp=E,202nm,0.3s							
SANL	**SANLIURFA_Merk**	**1.34**	**136**	P		**Pg**	**01 28 20.2**	**+0.1**
SANL				S		**Sb**	**01 28 34.6**	**-2.0**
SANL				*i* IAML			01 28 40.0	
	comp=N,199nm,0.3s							
SANL				*i* IAML			01 28 42.0	
	comp=E,198nm,0.3s							
CUAYA	**Sivas-Altinyay**	**1.41**	**324**	P		**Pg**	**01 28 22.0**	**+0.6**
CUAYA				S		**Sn**	**01 28 39.3**	**+0.6**
ILIC	**ilic-Erzincan**	**1.44**	**24**	Pn		**Pg**	**01 28 21.9**	**-0.2**
ILIC				Sn		**Sg**	**01 28 42.0**	**+1.2**
BNN	**Bunyan**	**1.71**	**295**	Pn		**Pb**	**01 28 25.8**	**0.0**
BNN				Sn		**Sg**	**01 28 48.3**	**-1.0**
DYBB	**Diyarbakir**	**1.84**	**95**	Pn		**Pb**	**01 28 28.4**	**+0.3**
SVSK	**Karacayir**	**1.89**	**341**	Pn		**Pb**	**01 28 27.8**	**-1.1**

HMBC Humberstone 1.24 279 *i* P **Pn 01 36 00.4 +0.1**
HMBC ⇓*e*S **Sn 01 36 21.5 +1.2**
HMBC IAML 01 36 23.7
comp=Z,764nm,0.2s
HMBC Humberstone 1.24 279 Pg **Pn 01 36 01.1 +0.8**
PB09 IPOC Station P 1.45 205 *i* P **Pn 01 36 04.4 +1.9**
PB09 *i* S **Sn 01 36 25.6 +1.4**
PB09 IAML 01 36 31.6
comp=E,398nm,0.5s
PB09 IPOC Station P 1.45 205 *i* P **Pn 01 36 04.0 +1.5**
PB09 IAML 01 36 32.0
comp=Z,374nm,0.4s
PB09 IPOC Station P 1.45 205 Pg **Pn 01 36 04.9 +2.4**
TA02 Huaiquique 1.47 278 *e*P **Pn 01 36 03.4 +0.8**
TA02 *e*S **Sn 01 36 24.5 +0.2**
TA02 Huaiquique 1.47 278 *i* P **Pn 01 36 03.7 +1.2**
TA02 IAML 01 36 27.0
comp=Z,661nm,0.6s
PB02 IPOC Station P 1.49 236 *i* P **Pn 01 36 04.2 +1.3**
PB02 *i* S **Sn 01 36 25.2 +0.4**
PB02 IAML 01 36 31.4
comp=E,1µm,0.5s
PB02 IPOC Station P 1.49 236 *i* P **Pn 01 36 03.7 +0.8**
PB02 IAML 01 36 39.1
comp=Z,787nm,0.3s
PB02 IPOC Station P 1.49 236 Pg **Pn 01 36 04.4 +1.5**
TA01 Diego Aracena 1.50 266 *i* P **Pn 01 36 03.8 +0.9**
TA01 *i* S **Sn 01 36 25.4 +0.5**
TA01 IAML 01 36 33.3
comp=E,355nm,0.3s
TA01 Diego Aracena 1.50 266 *i* P **Pn 01 36 03.2 +0.3**
TA01 IAML 01 36 31.8
comp=Z,230nm,0.6s
PB03 IPOC Station P 1.91 215 *i* P **Pn 01 36 09.2 +1.5**
PB03 *i* S **Sn 01 36 34.0 +0.6**
PB03 IAML 01 36 39.2
comp=E,364nm,0.4s
PB03 IPOC Station P 1.91 215 *i* P **Pn 01 36 08.8 +1.1**
PB03 IAML 01 36 41.8
comp=Z,474nm,0.2s
PB03 IPOC Station P 1.91 215 Pg **Pn 01 36 09.4 +1.7**
SOEO Opoqueri 2.01 19 Pg **Pn 01 36 10.1 +0.8**
PB16 IPOC Station P 2.30 337 ⇑*i*P **Pn 01 36 14.6 +1.7**
PB16 *i* S **Sn 01 36 44.3 +1.7**
PB16 IAML 01 36 51.8
comp=N,146nm,0.5s
PB16 IPOC Station P 2.30 337 *i* P **Pn 01 36 14.1 +1.2**
PB16 IAML 01 36 55.9
comp=Z,124nm,0.5s
PB16 IPOC Station P 2.30 337 Pg **Pn 01 36 14.9 +2.0**
PB06 IPOC Station P 2.40 202 *i* P **Pn 01 36 15.0 +1.3**
PB06 *i* S **Sn 01 36 44.9 +0.7**
PB06 IAML 01 36 49.6
comp=E,477nm,0.7s
PB06 IPOC Station P 2.40 202 *i* P **Pn 01 36 14.6 +0.9**
PB06 IAML 01 36 52.9
comp=Z,218nm,0.3s
PB06 IPOC Station P 2.40 202 Pg **Pn 01 36 15.4 +1.7**
PB12 IPOC Station P 2.48 318 ⇑*i*P **Pn 01 36 15.1 +0.5**
PB12 *i* S **Sn 01 36 45.9 +0.1**
PB12 IAML 01 36 54.6
comp=N,374nm,0.5s
PB12 IPOC Station P 2.48 318 *i* P **Pn 01 36 15.0 +0.3**
PB12 IAML 01 36 52.7
comp=Z,179nm,0.4s
PB12 IPOC Station P 2.48 318 Pg **Pn 01 36 15.3 +0.7**
AF01 San Pedro de A 2.49 171 *i* P **Pn 01 36 17.9 +3.0**
AF01 IAML 01 37 06.7
comp=Z,180nm,1.1s
AF01 San Pedro de A 2.49 171 Pg **Pn 01 36 16.9 +2.0**
AP01 Chacalluta 2.68 321 *i* P **Pn 01 36 17.5 +0.5**
AP01 IAML 01 37 03.2
comp=Z,290nm,0.2s
PB05 IPOC Station P 2.81 212 *e*P **Pn 01 36 20.0 +1.3**
PB05 *e*S **Sn 01 36 51.3 -1.8**
PB05 IPOC Station P 2.81 212 *i* P **Pn 01 36 19.6 +0.9**
PB05 IAML 01 37 07.4
comp=Z,101nm,0.7s
PB05 IPOC Station P 2.81 212 Pg **Pn 01 36 20.4 +1.7**
MOCB Mochara 2.86 106 Pg **Pn 01 36 20.6 +1.0**
MOCB Sg **Sn 01 36 56.1 +1.4**
MOCB IAML 01 36 58.3
comp=Z,42nm,0.8s
YJA Yavi 3.32 121 *i* P **Pn 01 36 27.7 +2.1**
YJA IAML 01 37 09.5
comp=Z,8.5nm,0.8s
YJA Yavi 3.32 121 Pg **Pn 01 36 27.0 +1.4**
BBOJ La Paz, Jacaqu 3.50 6 Pg **Pn 01 36 30.5 +2.4**
SOET ToroToro 3.52 49 Pg **Pn 01 36 28.8 +0.7**
PB10 IPOC Station P 3.53 211 *i* P **Pn 01 36 29.8 +1.8**
PB10 IAML 01 37 26.6
comp=Z,66nm,0.5s
BBOE La Paz, Chanca 3.69 9 Pg **Pn 01 36 33.1 +2.5**
BBOD La Paz, Gloria 3.82 360 Pg **Pn 01 36 34.5 +2.2**
HJA Humahuaca 4.01 133 *i* P **Pn 01 36 36.6 +2.0**
HJA IAML 01 37 30.3
comp=Z,11nm,1.2s
LPAZ La Paz 4.19 6 P **Pn 01 36 38.8 +1.6**
comp=Z,20nm,0.4s,baz=178,slow=7.7,SNR=130
LPAZ S **Sn 01 37 26.4 +0.3**
comp=Z,4.7nm,0.8s,baz=210,slow=8.1,SNR=1.0
BBOB La Paz, Bander 4.33 6 Pg **Pn 01 36 40.9 +1.9**
GO02 Mina Guanaco 4.75 191 *i* P **Pn 01 36 44.9 +0.6**
GO02 IAML 01 38 11.7
comp=Z,73nm,0.7s
AZAP Zapla 4.95 140 *i* P **Pn 01 36 47.4 +0.6**
AZAP IAML 01 37 55.8
comp=Z,18nm,0.7s
CPUP Villa Florida 11.86 122 P **Pn 01 38 17.6 -1.2**
comp=Z,0.9nm,0.7s,baz=280,slow=14,SNR=8.0
CPUP S **Sn 01 40 24.6 -5.0**
comp=Z,0.2nm,0.4s,baz=349,slow=17,SNR=2.2
QSPA South Pole Qui 69.71 180 P P 01 46 34.0 +5.4
comp=Z,0.4nm,0.5s,baz=240,slow=3.8,SNR=7.1
comp=Z,0.4nm,0.5s
TORD Torodi Ar. Bea 76.72 70 P **P 01 47 10.7 +0.2**
comp=Z,1.2nm,0.4s,baz=254,slow=5.0,SNR=26
comp=Z,1.2nm,0.4s
BOSA Boshof 83.65 118 P **P 01 47 47.1 -0.6**
comp=Z,2.2nm,1.0s,baz=277,slow=8.1,SNR=2.2
comp=Z,2.2nm,1.0s
YKA Yellowknife Ar 90.33 340 P P 01 48 21.4 +2.6
comp=Z,0.9nm,0.8s,baz=139,slow=4.1,SNR=6.1
comp=Z,0.9nm,0.8s
ASAR Alice Springs 130.96 208 PKP **PKiKP 01 54 32.1 +1.3**
comp=Z,0.2nm,0.5s,baz=129,slow=1.3,SNR=2.0
WRA Warramunga Arr 133.99 211 PKP **PKiKP 01 54 38.7 +1.7**
comp=Z,0.6nm,0.7s,baz=147,slow=1.8,SNR=2.0
MKAR Makanchi Array 144.63 35 PKP **PKiKP 01 54 55.5 -2.4**
comp=Z,0.3nm,0.5s,baz=323,slow=2.6,SNR=2.5

IDC ***03*** *01:59:03.3±0.3, 14°.05N×144°.88E, h189km±3km, mb3.7/21, mbtmp4.2/22, Error ellipse: s-maj=17.5km s-min=12.4km az=62.0*
NEIC ***03*** *01:59:04.3±1.0, 14°.1N±0°.1×144°.6E±0°.2, h188km±9km, mb4.4/59, Error ellipse: s-maj=25.3km s-min=17.0km az=118.0*
ISC 03 01:59:04.3±0.5, 14°.02N±0°.09×144°.8E±0°.1, h200km, n94, σ1§19/96, mb4.3/54, 1C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.44**	**170**	Pn	**Pn**	**01 59 30.2**	**-1.1**
GUMO				Sn	**Sn**	**01 59 50.2**	**-2.0**
GUMO	**Guam**	**0.44**	**170**	P	**Pn**	**01 59 30.4**	**-0.9**
GUMO	483nm,0.3s,baz=315,slow=5.7,SNR=16			S	**Sn**	**01 59 49.9**	**-2.2**
JCJ	**Chichijima**	**13.23**	**350**	Pn	**Pn**	**02 02 02.4**	**-2.3**
JHJ	**Hachijo jima 2**	**19.55**	**347**	P	**Pn**	**02 03 18.2**	**-2.4**
JOW	28nm,0.4s,baz=237,slow=19,SNR=2.3 **Kunigami** 20nm,0.6s,baz=138,slow=14,SNR=4.9 20nm,0.6s	**20.02**	**312**	P	**Pn**	**02 03 23.5**	**-2.9**
JMN	**Monobe**	**21.98**	**335**		**P**	**02 03 41.0**	**-1.3**
JGF	**Kuroka**	**22.50**	**344**		**P**	**02 03 46.3**	**-0.9**
JNU	**Nakatsue**	**22.84**	**329**		**P**	**02 03 50.4**	**+0.1**
JNU	**Nakatsue** 22nm,0.8s,baz=88,slow=3.1,SNR=16 22nm,0.8s	**22.84**	**329**	P	**P**	**02 03 49.9**	**-0.5**
MJAR	**Matsushiro Arr**	**23.18**	**346**		**P**	**02 03 51.6**	**-1.8**
MJAR	comp=Z,8.4nm,1.0s			IAmb	IAmb	02 03 54.7	
MJAR	**Matsushiro Arr**	**23.18**	**346**	P	**P**	**02 03 52.2**	**-1.2**
	comp=Z,6.4nm,0.7s,baz=172,slow=11,SNR=17						
	comp=Z,6.4nm,0.7s						
MAJO	**Matsushiro**	**23.19**	**346**		**P**	**02 03 50.9**	**-2.5**
KSRS	**Korea Array**	**27.75**	**330**	P	**P**	**02 04 34.3**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=146,slow=9.7,SNR=12						
KSRS				PcP	**PcP**	**02 07 47.4**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=143,slow=4.3,SNR=4.9						
	comp=Z,2.6nm,0.7s						
USRK	**Ussuriysk Ar.**	**32.00**	**343**	P	**P**	**02 05 11.1**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=120,slow=8.5,SNR=2.0						
	comp=Z,1.1nm,0.5s						
BNX	**BinXian**	**34.86**	**339**	⇑P	**P**	**02 05 37.9**	**+1.5**
BNX				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WRA	**Warramunga Arr**	**35.28**	**197**	P	**P**	**02 05 40.1**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=16,slow=9.2,SNR=2.1						
	comp=Z,1.0nm,0.7s						
HNS	**HongShan**	**35.46**	**317**	⇓P	**P**	**02 05 42.8**	**+1.1**
HNS				pmax	pmax		
	comp=Z,18nm,0.8s						
HEH	**HeiHe**	**38.81**	**342**	*e*P	**P**	**02 06 09.9**	**+0.3**
HEH				pmax	pmax		
	comp=Z,16nm,0.9s						
ASAR	**Alice Springs**	**38.94**	**196**	P	**P**	**02 06 10.5**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=19,slow=12,SNR=1.8						
	comp=Z,0.2nm,0.4s						
HHC	**Hu-ho-hao-te**	**39.39**	**319**	*e*P	**P**	**02 06 16.3**	**+1.5**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,89nm,4.0s						
PZH	**PanZhiHua**	**42.06**	**294**	P	**P**	**02 06 37.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**44.15**	**282**	P	**P**	**02 06 54.2**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=88,slow=6.0,SNR=4.7						
	comp=Z,0.5nm,0.3s						
SONM	**Songino Array**	**46.33**	**325**	P	**P**	**02 07 11.3**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=138,slow=6.1,SNR=5.6						
	comp=Z,0.7nm,0.6s						
GTA	**Gaotai**	**46.83**	**311**	*e*P	**P**	**02 07 16.0**	**+1.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MKAR	**Makanchi Array**	**61.12**	**316**	P	**P**	**02 08 57.1**	**-0.4**
MKAR	**Makanchi Array**	**61.12**	**316**	P	**P**	**02 08 58.1**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=90,slow=9.1,SNR=21						
	comp=Z,2.1nm,0.6s						
ZALV	**Zalesovo Beam**	**61.23**	**324**	P	**P**	**02 08 58.1**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=79,slow=7.7,SNR=1.9						
	comp=Z,0.4nm,0.3s						
KURK	**Kurchatov**	**64.20**	**320**		**P**	**02 09 17.3**	**-0.4**
KURK				IAmb	IAmb	02 09 18.6	
	comp=Z,6.0nm,0.8s						
KURBB	**Kurchatov Arra**	**64.25**	**320**	P	**P**	**02 09 18.1**	**+0.1**
	comp=Z,6.0nm,0.7s,baz=102,slow=6.7,SNR=44						
	comp=Z,6.0nm,0.7s						
ILAR	**Eielson Array**	**68.21**	**25**	P	**P**	**02 09 41.3**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=247,slow=5.8,SNR=14						
	comp=Z,0.9nm,0.5s						
BVAR	**Borovoye Array**	**69.54**	**322**	P	**P**	**02 09 51.4**	**0.0**
	comp=Z,4.3nm,0.5s,baz=101,slow=7.4,SNR=20						
	comp=Z,4.3nm,0.5s						
H27K	**Steamboat Moun**	**70.69**	**24**	P	**P**	**02 09 58.7**	**+0.5**
H27K				IAmb	IAmb	02 10 02.7	
	comp=Z,7.3nm,1.4s						
M29M	**Somme Creek**	**71.54**	**29**	P	**P**	**02 10 03.9**	**+0.5**
L29M	**L29M**	**71.75**	**28**	P	**P**	**02 10 05.3**	**+0.7**
K29M	**Barlow Dome**	**72.09**	**27**	P	**P**	**02 10 07.7**	**+1.1**
G29M	**Pine Creek**	**72.17**	**24**	P	**P**	**02 10 08.3**	**+1.4**
G29M				IAmb	IAmb	02 10 10.9	
	comp=Z,16nm,1.5s						
M30M	**Minto, Yukon**	**72.32**	**28**	P	**P**	**02 10 08.3**	**+0.3**
M31M	**Drury Creek, Y**	**73.42**	**29**	P	**P**	**02 10 14.6**	**+0.2**
H31M	**Peel River**	**73.57**	**25**	P	**P**	**02 10 15.6**	**+0.4**
H31M				IAmb	IAmb	02 10 19.6	
	comp=Z,8.0nm,1.3s						
G31M	**Satah River**	**73.65**	**24**	P	**P**	**02 10 15.7**	**+0.2**
G31M				IAmb	IAmb	02 10 36.3	
	comp=Z,11nm,1.5s						
MMPY	**Sheldon Lake,**	**74.88**	**28**	P	**P**	**02 10 24.1**	**+1.2**
HG4B	**Hotspring**	**75.39**	**39**	P	**P**	**02 10 26.6**	**+0.7**
ABKAR	**Akbulak array**	**76.17**	**318**	P	**P**	**02 10 29.8**	**-0.6**
A36M	**Sachs Harbour**	**76.76**	**19**	P	**P**	**02 10 33.5**	**+0.3**
A36M				IAmb	IAmb	02 10 39.8	
	comp=Z,11nm,1.1s						
YKA	**Yellowknife Ar**	**82.51**	**27**	P	**P**	**02 11 04.0**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=291,slow=5.7,SNR=7.2						
	comp=Z,0.3nm,0.6s						
YBH	**Yreka Blue Hor**	**82.65**	**49**		**P**	**02 11 05.7**	**+0.1**
PINE	**Pine Mountain**	**83.47**	**47**		**P**	**02 11 11.0**	**+1.1**
PINE				IAmb	IAmb	02 11 12.9	
	comp=Z,4.0nm,0.7s						
B08A	**Colville Reser**	**83.50**	**42**	P	**P**	**02 11 10.5**	**+0.7**
SPITS	**Spitsbergen Ar**	**83.61**	**351**	P	**P**	**02 11 10.9**	**+1.1**
	comp=Z,14nm,1.0s,baz=317,slow=3.4,SNR=2.2						
	comp=Z,14nm,1.0s						
BEKR	**Beckworth**	**84.80**	**50**	P	**P**	**02 11 17.8**	**+1.0**
BEKR				IAmb	IAmb	02 11 18.7	
	comp=Z,8.8nm,1.5s						
NEW	**Newport**	**84.96**	**42**		**P**	**02 11 17.0**	**-0.2**
BMO	**Blue Mountains**	**85.74**	**45**		**P**	**02 11 22.1**	**+0.9**
BMO				IAmb	IAmb	02 11 23.6	
	comp=Z,3.6nm,0.9s						
PLID	**Pearl Lake**	**86.57**	**44**		**P**	**02 11 25.2**	**-0.2**
ARCES	**ARCESS Array B**	**86.65**	**342**	P	**P**	**02 11 25.0**	**+0.1**
	comp=Z,3.0nm,0.9s,baz=60,slow=7.2,SNR=4.9						
	comp=Z,3.0nm,0.9s						
NVAR	**Mina Array B**	**86.71**	**51**	P	**P**	**02 11 27.6**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=266,slow=6.0,SNR=15						
	comp=Z,1.4nm,0.6s						
MFID	**Camas Ranch**	**87.16**	**46**		**P**	**02 11 29.3**	**+1.1**
MFID				IAmb	IAmb	02 11 30.8	
	comp=Z,7.5nm,1.2s						
DSP	**Deep Springs**	**87.25**	**52**	P	**P**	**02 11 30.1**	**+1.7**
DSP				IAmb	IAmb	02 11 31.2	
	comp=Z,3.6nm,0.9s						
TPH	**Tonopah**	**87.63**	**51**		**P**	**02 11 32.1**	**+1.5**
TPH				IAmb	IAmb	02 11 33.1	
	comp=Z,3.7nm,0.7s						
GMN	**Gold Mountain**	**87.81**	**52**	P	**P**	**02 11 32.7**	**+1.2**
LRMC	**Laurel Mtn Rad**	**87.97**	**54**	P	**P**	**02 11 33.7**	**+1.5**
LRMC				IAmb	IAmb	02 11 34.5	
	comp=Z,4.1nm,0.7s						
HLID	**Hailey**	**88.10**	**46**		**P**	**02 11 34.0**	**+1.3**
FURC	**Furnace Creek,**	**88.34**	**53**	P	**P**	**02 11 35.1**	**+1.4**
ELK	**Elko**	**88.35**	**48**		**P**	**02 11 35.0**	**+1.1**
ELK				IAmb	IAmb	02 11 36.7	
	comp=Z,4.3nm,0.7s						
QSM	**Queen of Sheba**	**88.48**	**53**	P	**P**	**02 11 35.7**	**+1.3**
QSM				IAmb	IAmb	02 11 36.6	
	comp=Z,5.0nm,0.8s						
GWY	**Greenwater Val**	**88.57**	**53**		**P**	**02 11 36.3**	**+1.2**
GWY				IAmb	IAmb	02 11 37.1	
	comp=Z,3.7nm,0.8s						
TPNV	**Topopah Spring**	**88.68**	**52**		**P**	**02 11 37.1**	**+1.6**
GSC	**Goldstone, Bar**	**88.71**	**54**	P	**P**	**02 11 37.3**	**+1.7**
GSC				IAmb	IAmb	02 11 37.9	
	comp=Z,4.9nm,0.8s						
R11B	**Troy Canyon, C**	**88.79**	**51**		**P**	**02 11 37.2**	**+1.2**
DPP	**Dos Picos Cty**	**89.24**	**56**	P	**P**	**02 11 39.6**	**+1.6**
DPP				IAmb	IAmb	02 11 40.1	
	comp=Z,5.0nm,0.8s						
PFO	**Pinyon Flats O**	**89.46**	**56**		**P**	**02 11 40.5**	**+1.3**
PFO				IAmb	IAmb	02 11 41.4	
	comp=Z,7.1nm,1.4s						
PMD	**Palm Desert**	**89.51**	**56**	P	**P**	**02 11 40.6**	**+1.3**
PMD				IAmb	IAmb	02 11 42.0	
	comp=Z,3.9nm,0.9s						
SPR3	**Spring Creek 3**	**89.53**	**50**		**P**	**02 11 40.6**	**+0.9**
SPR3				IAmb	IAmb	02 11 42.7	
	comp=Z,4.3nm,1.1s						
BAR	**Barrett**	**89.55**	**57**	P	**P**	**02 11 40.4**	**+0.9**
BAR				IAmb	IAmb	02 11 41.5	
	comp=Z,4.9nm,0.8s						
SHPR	**Sheep Range**	**89.65**	**52**		**P**	**02 11 40.9**	**+0.8**
BELC	**Belle Mtn. Jos**	**89.72**	**55**		**P**	**02 11 41.9**	**+1.5**
BELC				IAmb	IAmb	02 11 42.7	
	comp=Z,4.6nm,0.8s						
HVU	**Hansel Valley**	**89.80**	**47**		**P**	**02 11 41.8**	**+1.2**
HVU				IAmb	IAmb	02 11 43.6	
	comp=Z,4.0nm,1.1s						
PSUT	**Pine Spring**	**90.03**	**50**		**P**	**02 11 42.8**	**+0.9**
PSUT				IAmb	IAmb	02 11 44.0	
	comp=Z,2.4nm,0.8s						
V12A	**Nelson**	**90.12**	**53**		**P**	**02 11 43.5**	**+1.3**
BC3	**Big Chuckawall**	**90.25**	**55**		**P**	**02 11 44.3**	**+1.4**
BC3				IAmb	IAmb	02 11 45.3	
	comp=Z,3.7nm,0.9s						
IRM	**Iron Mountain**	**90.35**	**55**		**P**	**02 11 44.7**	**+1.5**
HWUT	**Hardware Ranch**	**90.71**	**47**		**P**	**02 11 45.8**	**+0.9**
HWUT				IAmb	IAmb	02 11 46.8	
	comp=Z,3.2nm,0.7s						
FINES	**FINESS Array B**	**90.74**	**335**	P	**P**	**02 11 42.8**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=54,slow=3.3,SNR=6.4						
	comp=Z,0.8nm,0.5s						
KNB	**Kanab**	**91.28**	**51**		**P**	**02 11 48.6**	**+1.0**
KNB				IAmb	IAmb	02 11 50.3	
	comp=Z,5.3nm,1.0s						
PDAR	**Pinedale Array**	**91.72**	**45**	P	**P**	**02 11 49.7**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=249,slow=3.4,SNR=5.6						
	comp=Z,0.4nm,0.6s						
Y14A	**Wickenburg**	**92.11**	**54**		**P**	**02 11 51.2**	**-0.2**
Y14A				IAmb	IAmb	02 11 53.8	
	comp=Z,4.1nm,0.8s						
PV20	**West Nyswonger**	**93.71**	**49**		**P**	**02 11 59.9**	**+1.0**
PV18	**Skein Mesa, Pa**	**93.79**	**49**		**P**	**02 12 00.0**	**+0.8**
BRTR	**Keskin Array B**	**96.71**	**314**	P	**P**	**02 12 14.0**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=47,slow=5.7,SNR=1.8						
	comp=Z,0.2nm,0.3s						
SNAA	**Sanae**	**119.19**	**191**	PKP	**PKiKP**	**02 17 29.0**	**0.0**
	comp=Z,0.4nm,0.5s,baz=125,slow=5.6,SNR=9.6						
BOSA	**Boshof**	**122.37**	**245**	PKP	**PKiKP**	**02 17 36.2**	**-0.4**
	comp=Z,1.7nm,1.0s,baz=66,slow=12,SNR=1.4						
TORD	**Torodi Ar. Bea**	**134.56**	**305**	PKP	**PKPdf**	**02 17 59.2**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=23,slow=3.4,SNR=5.7						
DBIC	**Dimbokro**	**143.53**	**302**	PKP	PKPbc	02 18 14.1	0.0
	comp=Z,3.2nm,1.1s,baz=77,slow=6.7,SNR=3.8						
LPAZ	**La Paz**	**148.16**	**98**	PKPbc	**PKPbc**	**02 18 28.9**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=265,slow=3.0,SNR=9.9						
BDFB	**Brasilia**	**167.52**	**99**	PKPab	**PKPab**	**02 19 52.6**	**-1.9**
	comp=Z,2.9nm,0.8s,baz=180,slow=6.1,SNR=3.7						

IDC ***03*** *02:21:01.4±3.4, 21°.31N×107°.36W, h0km, mb3.3/3, mbtmp3.7/8, ML3.9/4, MS3.5/9, Error ellipse: s-maj=59.8km s-min=29.0km az=28.0*
NEIC ***03*** *02:21:03.0±1.7, 21°.72N±0°.08×107°.93W±0°.10, h10km±2km, mb4.2/54, Md4.3/23(MEX), Error ellipse: s-maj=16.9km s-min=11.3km az=236.0*
MEX ***03*** *02:21:08.9±0.6, 21°.93N×107°.63W, h16km±13km, MD4.2*
ISC 03 02:21:03.2±0.8, 21°.86N±0°.06×107°.86W±0°.06, h10km, n101, σ1§87/93, mb4.1/5, MS3.5/4, Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAIG	**Mazatlaan**	**1.87**	**45**		**Pn**	**02 21 34.2**	**-1.1**
MAIG	**Mazatlaan**	**1.87**	**45**	*e*P	**Pn**	**02 21 34.2**	**-1.1**
MAIG				*e*S	**Sn**	**02 21 53.4**	**-5.6**
SLBS	**Sierra La Lagu**	**2.65**	**314**		**Pn**	**02 21 47.7**	**+1.6**
SLBS	**Sierra La Lagu**	**2.65**	**314**	*e*P	**Pb**	**02 21 48.9**	**-1.9**
PUVA	**Puert Vallarta**	**2.75**	**116**	*e*S	**Sn**	**02 22 17.2**	**-3.5**
SSIG	**Sanalona**	**3.02**	**12**		**Pn**	**02 21 52.8**	**+1.7**
SSIG	**Sanalona**	**3.02**	**12**	*e*P	**Pn**	**02 21 52.8**	**+1.7**
SSIG				*e*S	**Sn**	**02 22 23.6**	**-3.7**
LPIG	**La Paz** 8.1nm,0.3s,baz=133,slow=3.9,SNR=1.7	**3.17**	**315**	Pn	**Pg**	**02 22 02.0**	**-2.1**
LPIG				LR	LR	02 23 07.1	
	comp=Z,589nm,18.7s,baz=78,slow=32 25nm,0.3s						
ANIG	**Ahuacatlan**	**3.21**	**104**		**Pn**	**02 21 53.4**	**-0.5**
ANIG	**Ahuacatlan**	**3.21**	**104**	*e*P	**Pn**	**02 21 53.4**	**-0.5**
ANIG				*e*S	**Sn**	**02 22 28.3**	**-4.0**
CJM	**Chamela**	**3.53**	**131**	*i* P	**Pn**	**02 21 58.6**	**+0.4**
CJM				*e*S	**Sn**	**02 22 36.9**	**-3.1**
PDIG	**Papasquiaro**	**3.89**	**35**		**Pn**	**02 22 05.7**	**+2.4**
PDIG	**Papasquiaro**	**3.89**	**35**	*e*P	**Pn**	**02 22 05.7**	**+2.4**
H06N1	**SOCORRO T-PHAS** SNR=33	**4.19**	**225**	T	T	02 26 35.6	
H06E1	**SOCORRO T-PHAS** SNR=26	**4.21**	**224**	T	T	02 26 36.7	
H06S1	**SOCORRO T**	**4.26**	**224**	T	T	02 26 39.5	
ZAIG	**Zacatecas**	**4.98**	**79**	Pn	**Pn**	**02 22 19.1**	**+0.7**
ZAIG	**Zacatecas**	**4.98**	**79**	*e*P	**Pn**	**02 22 20.1**	**+1.6**
ZAIG				*e*S	**Sn**	**02 23 18.4**	**+2.2**
HPIG		**5.43**	**21**		**Pn**	**02 22 26.3**	**+1.8**
HPIG		**5.43**	**21**	*e*P	**Pn**	**02 22 24.8**	**+0.3**
HPIG				*e*S	**Sn**	**02 23 24.4**	**-2.8**
MMIG	**Aquila**	**5.54**	**129**		**Pn**	**02 22 26.0**	**+0.2**
MMIG					**Sn**	**02 23 26.8**	**-2.7**
MMIG	**Aquila**	**5.54**	**129**	*e*P	**Pn**	**02 22 26.0**	**+0.2**
MMIG				*e*S	**Sn**	**02 23 26.8**	**-2.7**
BCIG	**La Boquilla**	**6.08**	**21**		**Pn**	**02 22 37.1**	**+3.8**
BCIG	**La Boquilla**	**6.08**	**21**	*e*P	**Pn**	**02 22 37.1**	**+3.8**
TXAR	**Lajitas Array**	**8.34**	**26**		**Pn**	**02 23 06.8**	**+2.4**
TXAR	**Lajitas Array** 1.0nm,0.3s,baz=206,slow=12,SNR=82	**8.34**	**26**	Pn	**Pn**	**02 23 07.7**	**+3.3**
TXAR				Lg	Lg	02 25 23.0	
	baz=217,slow=20						
TXAR				LR	LR	02 26 22.3	
	comp=Z,328nm,18.5s,baz=200,slow=37 7.9nm,0.6s						
VHRN	**Van Horn**	**9.25**	**16**		**Pn**	**02 23 19.3**	**+2.4**
ALPN	**Alpine**	**9.28**	**23**		**Pn**	**02 23 20.0**	**+2.7**
TLIG	**Tlapa**	**9.74**	**114**		**Pn**	**02 23 24.9**	**+1.3**
DRIO	**Del Rio**	**9.96**	**39**		**Pn**	**02 23 28.4**	**+1.9**
PECS	**Pecos**	**10.12**	**20**		**Pn**	**02 23 30.1**	**+1.3**
121A	**Cookes Peak, D**	**10.63**	**0**	Pn	**Pn**	**02 23 37.9**	**+2.1**
TUC	**Tucson**	**10.73**	**347**	Pn	**Pn**	**02 23 37.4**	**+0.4**
OZNA	**Ozona**	**10.85**	**32**		**Pn**	**02 23 40.9**	**+2.1**
CLNB	**Carlsbad**	**10.95**	**18**	Pn	**Pn**	**02 23 42.1**	**+2.0**
CLN7	**Carlsbad 7**	**11.11**	**18**		**Pn**	**02 23 44.2**	**+1.9**
HTMS	**Hat Mesa**	**11.21**	**19**		**Pn**	**02 23 45.2**	**+1.4**
ODSA	**Odessa**	**11.26**	**24**		**Pn**	**02 23 46.0**	**+1.6**
VTX	**Valle De La Tr**	**11.84**	**325**		**Pn**	**02 23 52.4**	**+0.1**
113A	**Mohawk Valley,**	**12.06**	**335**	Pn	**Pn**	**02 23 55.1**	**-0.1**
BRDY	**Brady**	**12.28**	**38**		**Pn**	**02 23 58.9**	**+0.6**
MSTX	**Muleshoe**	**12.87**	**19**		**Pn**	**02 24 07.7**	**+1.3**
ABTX	**Abilene, Hawle**	**12

TUL3	**Leonard**	**17.51**	**34**			**P**		02 25 09.9	**+1.2**
WLAR	**White Oak Lake**	**17.55**	**45**			**P**		02 25 10.0	**+0.9**
WLAR					IAmb	IAmb		02 25 20.5	
	comp=Z,30nm,1.1s								
TMUT	**Trail Mountain**	**17.61**	**351**			**P**		02 25 10.6	**+0.5**
P17A	**Butcher Ranch,**	**17.73**	**353**			**P**		02 25 11.2	**-0.1**
T35A	**Sooner Cattle**	**17.94**	**31**			**P**		02 25 14.6	**+1.1**
T35A					IAmb	IAmb		02 25 24.0	
	comp=Z,11nm,0.8s								
ISCO	**Idaho Springs**	**17.98**	**6**			**P**		02 25 15.2	**+1.0**
X40A	**Basin Creek Fa**	**18.24**	**43**			**P**		02 25 18.6	**+2.0**
X40A					IAmb	IAmb		02 25 32.4	
	comp=Z,16nm,1.4s								
HHAR	**Hobbs**	**18.79**	**37**	Pn		**Pn**		02 25 25.3	**+2.0**
NVAR	**Mina Array Bea**	**18.80**	**334**	P		Pn		02 25 31.6	+8.0
	comp=Z,2.1nm,0.8s,baz=162,slow=8.6,SNR=1.6								
NVAR					LR	LR		02 32 42.5	
	comp=Z,118nm,19.9s,baz=129,slow=36								
LCAR	**Lake Charles**	**20.30**	**42**			Pn		02 25 41.3	0.0
LCAR					IAmb	IAmb		02 25 48.0	
	comp=Z,14nm,1.3s								
MGMO	**Mountain Grove**	**20.36**	**38**	P		Pn		02 25 41.6	-0.4
MGMO					IAmb	IAmb		02 25 50.5	
	comp=Z,14nm,0.8s								
K22A	**Casper**	**20.76**	**3**	P		**P**		**02 25 45.5**	**+1.1**
K22A					IAmb	IAmb		02 26 02.2	
	comp=Z,12nm,1.2s								
PDAR	**Pinedale Array**	**20.89**	**356**	P		Pn		02 25 52.2	+3.8
	comp=Z,0.4nm,0.7s,baz=178,slow=9.3,SNR=9.2								
	comp=Z,0.4nm,0.7s								
BGNE	**Belgrade**	**21.14**	**21**	P		**P**		**02 25 49.7**	**+1.3**
R40A	**Maddies Statio**	**21.16**	**36**			**P**		**02 25 49.9**	**+1.2**
R40A					IAmb	IAmb		02 26 02.9	
	comp=Z,8.9nm,0.8s								
P38A	**Dawn**	**21.52**	**31**	P		**P**		**02 25 53.5**	**+1.1**
P38A					IAmb	IAmb		02 26 02.6	
	comp=Z,7.5nm,0.9s								
N35A	**Tabor**	**21.58**	**26**	P		**P**		**02 25 52.8**	**-0.3**
FVM	**French Village**	**21.99**	**39**	P		**P**		**02 25 58.3**	**+0.8**
FVM					IAmb	IAmb		02 26 11.9	
	comp=Z,23nm,1.1s								
P40A	**Paris**	**22.19**	**34**			**P**		**02 26 01.2**	**+1.6**
Q44A	**Meyer Farm, Va**	**23.43**	**39**	P		**P**		**02 26 14.5**	**+1.9**
TKL	**Tuckaleechee C**	**25.11**	**52**	P		**P**		**02 26 28.7**	**+0.4**
	comp=Z,2.7nm,0.9s,baz=247,slow=13,SNR=2.2								
	comp=Z,2.7nm,0.9s								
L42A	**Oliver, Polo**	**25.23**	**33**	P		**P**		**02 26 29.0**	**-0.3**
ULM	**Lac du Bonnet**	**29.86**	**16**	LR		LR		02 39 49.2	
	comp=Z,100nm,19.5s,baz=212,slow=37								
SJG	**San Juan**	**39.29**	**88**	LR		LR		02 45 33.0	
	comp=Z,14nm,20.1s,baz=240,slow=38								
FRB	**Frobisher Bay**	**49.36**	**22**	LR		LR		02 51 35.0	
	comp=Z,86nm,18.5s,baz=200,slow=37								
ILAR	**Eielson Array**	**49.92**	**339**	P		**P**		**02 30 00.8**	**+3.9**
	comp=Z,0.3nm,0.9s,baz=128,slow=11,SNR=1.9								
	comp=Z,0.3nm,0.9s								
RES	**Resolute Bay**	**53.31**	**4**	LR		LR		02 54 27.0	
	comp=Z,49nm,19.5s,baz=34,slow=37								
H03N2	**Juan Fernandez**	**61.53**	**153**	T		T		03 38 03.7	
	baz=331,slow=77,SNR=17								
H03N1	**Juan Fernandez**	**61.53**	**153**	T		T		03 38 04.8	
	baz=331,slow=77,SNR=25								
H03N3	**Juan Fernandez**	**61.54**	**153**	T		T		03 37 56.3	
	baz=331,slow=77,SNR=18								

*NEIC **03** 02:23:08.8±1.5,35°.526N±0°.009×117°.40W±0°.01, h12km±2km, Error ellipse: s-maj=1.5km s-min=1.4km az=100.0*

PAS 03 02:23:09.5±1.1,35°.516N±0°.008×117°.415W±0°.009, h8km±5km, ML3.2/294, **ML2.9**/152(NEIC), **Error ellipse: s-maj=1.3km s-min=0.9km az=145.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.04**	**78**	Pg	Pg	02 23 11.4	+0.2
CCCA				Sg	Sg	02 23 12.8	+0.3
CCCA				IAML		02 23 13.4	
	comp=N,13μm,0.6s						
WSHM	**Spangler Hills**	**0.10**	**323**	Pg	Pg	02 23 12.0	0.0
WSHM				Sg	Sg	02 23 13.9	+0.1
LRMC	**Laurel Mtn Rad**	**0.22**	**261**		Pg	02 23 14.0	0.0
LRMC					Sg	02 23 17.4	+0.4
LRMC	**Laurel Mtn Rad**	**0.22**	**261**	IAML		02 23 17.9	
	comp=N,7μm,0.2s						
LRMC				IAML		02 23 18.5	
	comp=E,4μm,0.3s						
SRTC	**Snort**	**0.32**	**303**		Pg	02 23 16.1	+0.2
SRTC					Sg	02 23 21.4	+1.2
CLC	**China Lake**	**0.33**	**334**		Pg	02 23 15.8	-0.2
CLC					Sg	02 23 20.6	0.0
CLC	**China Lake**	**0.33**	**334**	IAML		02 23 20.8	
	comp=N,2μm,0.3s						
CLC				IAML		02 23 20.9	
	comp=E,3μm,0.4s						
TOW	**Tower One**	**0.41**	**316**		Pg	02 23 17.6	+0.1
TOW					Sg	02 23 23.9	+1.1
DTP	**Desert Tortois**	**0.43**	**235**		Pg	02 23 17.6	-0.3
DTP					Sg	02 23 23.5	-0.1
WNMM	**Nine Mile Cany**	**0.52**	**309**		Pg	02 23 19.2	-0.3
WNMM					Sg	02 23 26.1	-0.1
GSC	**Goldstone, Bar**	**0.54**	**113**	Pg	Pg	02 23 19.7	-0.2
GSC				Sg	Sg	02 23 27.0	-0.1
GSC				IAML		02 23 28.6	
	comp=N,545nm,0.5s						
GSC				IAML		02 23 28.9	
	comp=E,923nm,0.4s						
WVPM	**Volcano Peak E**	**0.54**	**323**		Pg	02 23 19.6	-0.4
WVPM					Sg	02 23 27.0	-0.2
MPMC	**Manual Prospec**	**0.54**	**354**		Pg	02 23 19.5	-0.5
MPMC					Sg	02 23 27.2	0.0
MPMC	**Manual Prospec**	**0.54**	**354**	IAML		02 23 30.0	
	comp=E,542nm,0.3s						
JRC2	**Joshua Ridge**	**0.56**	**326**		Pg	02 23 20.1	-0.4
JRC2					Sg	02 23 27.8	-0.1
WCSM	**Coso Springs S**	**0.58**	**331**		Pg	02 23 20.4	-0.4
WCSM					Sg	02 23 28.3	-0.2
WBSM	**Bird Springs**	**0.59**	**272**		Pg	02 23 20.5	-0.4
WBSM					Sg	02 23 28.5	-0.3
CCAC	**Calif City Air**	**0.61**	**234**		Pg	02 23 21.0	-0.3
CCAC					Sg	02 23 29.3	0.0
WRVM	**Rose V. Centra**	**0.62**	**322**		Pg	02 23 21.0	-0.5
WRVM					Sg	02 23 29.6	-0.2
QSM	**Queen of Sheba**	**0.63**	**45**		Pg	02 23 21.4	-0.2
QSM					Sg	02 23 29.8	-0.1
QSM	**Queen of Sheba**	**0.63**	**45**	IAML		02 23 30.0	
	comp=E,883nm,0.6s						
QSM				IAML		02 23 33.4	
	comp=N,1μm,0.5s						
HYS	**Haystack Butte**	**0.66**	**191**		Pg	02 23 21.7	-0.6
HYS					Sg	02 23 30.7	-0.2
MFS	**McCloud Flat S**	**0.70**	**329**		Pg	02 23 22.5	-0.4
MFS					Sg	02 23 32.3	+0.2
WORM	**Onyx Ranch**	**0.70**	**285**		Pg	02 23 22.3	-0.7
WORM					Sg	02 23 31.2	-0.8
RRX	**Edison Barstow**	**0.72**	**152**		Pg	02 23 23.1	-0.3
WHFM	**Hanning Flat**	**0.78**	**284**		Pg	02 23 23.8	-0.7
WHFM					Sg	02 23 33.9	-0.8
EDW2	**Edwards Air Fo**	**0.79**	**217**		Pg	02 23 24.0	-0.7
EDW2					Sg	02 23 35.0	0.0
ISA	**Isabella, Lake**	**0.88**	**280**		Pg	02 23 25.6	-0.8
ISA				IAML		02 23 37.7	
	comp=E,711nm,0.3s						
ISA				IAML		02 23 38.5	
	comp=N,469nm,0.2s						
ISA	**Isabella, Lake**	**0.88**	**280**		Sg	02 23 37.1	-0.6
SBB	**Saddle Back Bu**	**0.89**	**202**		Pg	02 23 25.9	-0.8
SBB					Sg	02 23 37.4	-0.8
GWY	**Greenwater Val**	**0.90**	**42**		Pg	02 23 26.3	-0.6
GWY					Sg	02 23 38.1	-0.4
TPO	**Tropico Hills**	**0.92**	**227**		Pg	02 23 26.9	-0.2
TPO				IAML		02 23 40.9	
	comp=E,570nm,0.5s						
TPO				IAML		02 23 41.6	
	comp=N,642nm,0.4s						
VTV	**Victorville**	**0.96**	**176**		Pg	02 23 27.1	-0.8
VTV					Sb	02 23 41.4	+0.3
WASM	**Alta Sierra Ca**	**0.96**	**284**		Pg	02 23 27.0	-0.8
WASM					Sg	02 23 39.8	-0.5
ADO	**Adelanto Recei**	**0.96**	**181**		Pg	02 23 27.4	-0.5
SHOC	**Shoshone, Teco**	**1.00**	**67**		Pg	02 23 28.0	-0.7
CWC	**Cottonwood Cre**	**1.07**	**330**		Pg	02 23 29.3	-0.7
CWC				IAML		02 23 46.2	
	comp=E,295nm,0.2s						
CWC				IAML		02 23 46.3	
	comp=N,210nm,0.2s						
CGO	**Cerro Gordo**	**1.08**	**343**		Pg	02 23 29.2	-1.1
ALPC	**Antelope**	**1.10**	**222**		Sb	02 23 45.7	+0.4
LRRC	**Littlerock Res**	**1.11**	**207**		Pg	02 23 29.9	-0.9
LRRC					Sb	02 23 45.5	+0.1
HOLC	**Holcomb Ridge**	**1.11**	**199**		Pg	02 23 29.9	-0.9
HOLC					Sb	02 23 45.9	+0.2
HEC	**Hector,Ludlow**	**1.12**	**127**		Pg	02 23 29.9	-1.1
DSCC	**Desert Studies**	**1.14**	**109**		Pg	02 23 29.6	-1.6
LEOC	**Leona Valley**	**1.15**	**220**		Pg	02 23 31.3	-0.2
CJV	**Casa Juvan**	**1.15**	**212**		Pg	02 23 31.0	-0.6
CJV					Sg	02 23 46.4	+0.1
JNH	**Juniper Hills**	**1.16**	**203**		Pg	02 23 30.7	-0.9
TUQ	**Turquoise Moun**	**1.22**	**93**		Pb	02 23 31.1	-1.8
ARVC	**Arvin**	**1.22**	**252**		Pb	02 23 32.0	-0.8
SIL	**Silver Peak**	**1.26**	**157**		Pn	02 23 32.8	-0.8
CHFC	**Chilao Flat St**	**1.28**	**203**		Pn	02 23 32.7	-1.1
CHFC					Sb	02 23 50.7	0.0
BFSC	**Mount Baldy Ra**	**1.29**	**189**		Pn	02 23 32.6	-1.3
AMDNV	**Amargosa**	**1.31**	**44**		Pn	02 23 32.4	-1.6
AMDNV					Sb	02 23 51.3	0.0
BBRC	**Big Bear Solar**	**1.31**	**162**		Pn	02 23 33.5	-0.9
SSK	**Sunset Peak**	**1.32**	**190**		Pn	02 23 33.4	-1.0
MWC	**Mount Wilson**	**1.39**	**202**		Pn	02 23 35.2	-0.1
MWC	**Mount Wilson**	**1.39**	**202**	IAML		02 23 56.1	
	comp=E,234nm,0.5s						
MWC				IAML		02 24 00.2	
	comp=N,243nm,0.4s						
VES	**Vestal, Richgr**	**1.40**	**284**		Pn	02 23 34.6	-0.6
VES				IAML		02 23 53.9	
	comp=E,164nm,0.6s						
VES				IAML		02 23 55.7	
	comp=N,296nm,0.7s						
OSI	**Osito Audit: C**	**1.40**	**230**		Pn	02 23 35.2	-0.2
OSI				IAML		02 23 57.2	
	comp=N,313nm,0.4s						
OSI	**Osito Audit: C**	**1.40**	**230**		Sg	02 23 54.4	-0.1
WCT	**Wildcat Mounta**	**1.43**	**26**		Pn	02 23 34.6	-1.1
WCT	**Wildcat Mounta**	**1.43**	**26**	IAML		02 24 01.3	
	comp=E,146nm,0.4s						
PSRC	**Puddingstone R**	**1.46**	**193**		Pb	02 23 36.5	-0.4
DECC	**Green Verdugo**	**1.47**	**211**		Pg	02 23 37.4	-0.3
PASC	**Pasadena Art C**	**1.48**	**206**		Pn	02 23 35.6	-0.9
PASC				IAML		02 23 58.9	
	comp=E,117nm,0.3s						
PASC				IAML		02 23 59.2	
	comp=N,127nm,0.5s						
SGV	**South Grapevin**	**1.49**	**12**		Pb	02 23 37.2	-0.3
GTM	**Goat Mountain**	**1.50**	**144**		Pn	02 23 37.1	+0.4
GTM					Sb	02 23 56.8	0.0
MTPC	**Mountain Pass**	**1.52**	**91**		Pn	02 23 35.3	-1.8
GVRC	**Garvey Reservo**	**1.57**	**202**		Pg	02 23 39.4	-0.3
GMRC	**Granite Mounta**	**1.61**	**116**		Pn	02 23 36.1	-2.3
DJJ	**Donna J Jenkin**	**1.65**	**212**		Pn	02 23 38.0	-0.7
TIN	**Tinemaha, Big**	**1.67**	**337**	Pn	Pn	02 23 38.3	-0.8
TIN				IAML		02 24 10.0	
	comp=E,145nm,1.0s						
TIN				IAML		02 24 12.9	
	comp=N,114nm,0.9s						
BLAC	**Blackrock camp**	**1.67**	**149**		Pn	02 23 38.2	-0.9
TPNV	**Topopah Spring**	**1.71**	**33**		Pn	02 23 38.8	-1.0
TPNV				IAML		02 24 07.3	
	comp=N,185nm,0.9s						
GMN	**Gold Mountain**	**1.79**	**4**		Pn	02 23 40.2	-0.6
TPC	**Twentynine Pal**	**1.80**	**141**		Pn	02 23 40.1	-0.7
HMTC	**Hemet**	**1.83**	**169**		Pn	02 23 40.4	-0.9
ELS	**Elsinore Mount**	**1.86**	**180**		Pn	02 23 40.8	-0.9
ELS	**Elsinore Mount**	**1.86**	**180**		Sn	02 24 04.4	-1.1
POB	**Polly Butte**	**1.87**	**167**		Pn	02 23 41.2	-0.7
DANC	**Danby, Needles**	**1.88**	**117**	Pn	Pn	02 23 41.4	-0.5
BELC	**Belle Mtn. Jos**	**1.91**	**142**		Pn	02 23 41.1	-1.3
BELC				IAML		02 24 11.8	
	comp=E,115nm,0.3s						
BELC				IAML		02 24 14.0	
	comp=N,111nm,0.7s						
DNR	**Dunn Ranch,Anz**	**2.05**	**161**	Pn	Pn	02 23 43.4	-0.9
PMD	**Palm Desert**	**2.05**	**155**		Pn	02 23 43.5	-0.7
PMD				IAML		02 24 14.3	
	comp=E,83nm,0.5s						
PMD				IAML		02 24 16.1	
	comp=N,82nm,0.6s						
PFO	**Pinyon Flats O**	**2.06**	**157**		Pn	02 23 43.3	-1.1
SNDA	**J Saunders Pla**	**2.07**	**161**		Pb	02 23 47.4	0.0
SHPR	**Sheep Range**	**2.08**	**61**		Pn	02 23 43.8	-1.0
V12A	**Nelson**	**2.10**	**84**		Pn	02 23 43.4	-1.7
PLM	**Palomar**	**2.21**	**168**		Pn	02 23 45.8	-0.7
IRM	**Iron Mountain**	**2.31**	**125**		Pn	02 23 45.5	-2.3
IRM				IAML		02 24 23.6	
	comp=E,106nm,0.5s						
IRM				IAML		02 24 24.2	
	comp=N,57nm,0.5s						
BORC	**Borrego Spring**	**2.39**	**160**	Pn	Pn	02 23 48.5	-0.4
BORC				IAML		02 24 26.1	
	comp=E,54nm,0.7s						
BORC				IAML		02 24 27.4	
	comp=N,62nm,0.6s						
NEE2	**Needles Airpor**	**2.41**	**107**		Pn	02 23 46.7	-2.5
BC3	**Big Chuckawall**	**2.46**	**138**		Pn	02 23 48.3	-1.7
BC3				IAML		02 24 32.6	
	comp=E,59nm,0.7s						
BC3				IAML		02 24 34.1	
	comp=N,86nm,0.8s						
S11A	**Rachel**	**2.51**	**32**	Pn	Pn	02 23 49.6	-1.1
S11A				IAML		02 24 33.1	
	comp=N,82nm,0.7s						
S11A				IAML		02 24 38.7	
	comp=E,97nm,0.6s						
DPP	**Dos Picos Cty**	**2.54**	**171**	Pn	Pn	02 23 50.1	-0.9
DPP				IAML		02 24 29.6	
	comp=E,50nm,0.5s						
TPH	**Tonopah**	**2.56**	**3**	Pn	Pn	02 23 51.0	-0.4
CPE	**Camp Elliot**	**2.63**	**174**	Pn	Pn	02 23 51.6	-0.6
CPE				IAML		02 24 33.1	
	comp=E,44nm,0.3s						
CPE				IAML		02 24 33.8	
	comp=N,46nm,0.3s						
PRN	**Pahroc Range**	**2.68**	**45**		Pn	02 23 52.2	-0.8
EFD	**Emergency Oper**	**2.71**	**267**		Pn	02 23 51.2	-2.1
LHV	**Little Huntoon**	**2.87**	**343**		Pn	02 23 54.4	-1.1
BAR	**Barrett**	**2.90**	**168**		Pn	02 23 54.8	-1.1
BAR				IAML		02 24 40.4	
	comp=E,43nm,0.3s						
BAR				IAML		02 24 40.6	
	comp=N,36nm,0.3s						
W13A	**Hualapai Mount**	**2.92**	**97**		Pn	02 23 54.8	-1.5
BUCR	**Buckhorn Ranch**	**3.08**	**315**	IAML		02 24 47.4	
	comp=N,46nm,0.6s						
BUCR				IAML		02 24 50.4	
	comp=E,34nm,0.9s						
R11B	**Troy Canyon, C**	**3.18**	**27**	IAML		02 24 54.3	
	comp=E,21nm,0.6s						
CMB	**Columbia Colle**	**3.46**	**317**	IAML		02 25 02.6	
	comp=N,20nm,0.8s						
CMB				IAML		02 25 03.9	
	comp=E,18nm,0.6s						
Y14A	**Wickenburg**	**3.96**	**112**	IAML		02 25 16.9	
	comp=E,22nm,0.4s						
PSUT	**Pine Spring**	**4.14**	**42**	IAML		02 25 29.2	
	comp=N,15nm,1.1s						
PSUT				IAML		02 25 30.0	
	comp=E,16nm,0.9s						
U15A	**North Rim**	**4.25**	**76**	IAML		02 25 31.8	
	comp=E,9.8nm,0.9s						
U15A				IAML		02 25 32.2	
	comp=N,9.9nm,1.1s						
SPR3	**Spring Creek 3**	**4.26**	**34**	IAML		02 25 28.2	
	comp=E,12nm,0.9s						
SPR3				IAML		02 25 32.3	
	comp=N,10nm,1.0s						
MTPU	**Mount Pierson**	**4.90**	**57**	IAML		02 25 53.5	
	comp=N,6.8nm,2.9s						
MTPU				IAML		02 25 57.4	
	comp=E,7.2nm,4.3s						
WUAZ	**Wupatki**	**4.93**	**88**	IAML		02 25 53.5	
	comp=E,7.7nm,0.7s						
WUAZ				IAML		02 25 55.8	
	comp=E,8.7nm,1.2s						
TCRU	**Three Creeks R**	**5.03**	**51**	IAML		02 25 51.3	
	comp=N,7.8nm,1.7s						
TCRU				IAML		02 25 57.6	
	comp=E,10nm,1.4s						

MEX 03 02:23:56.0±0.8, 16°.67N×94°.96W, h30km±106km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.42**	**10**	*eP*	Pb	02 24 00.2	-5.1
CMIG				*eS*	Sb	02 24 05.6	-6.0
CMIG	**Matias Romero**	**0.42**	**10**	Pn	Pb	02 24 00.2	-5.1
	1.2nm,0.3s,baz=212,slow=8.3,SNR=10.0						
UXUV	**UXUV**	**1.01**	**50**	*eP*	Pn	02 24 11.4	-2.7
UXUV				*eS*	Sn	02 24 24.9	-2.4
NEUV	**Arroyo Zacate**	**1.31**	**322**	*eP*	Pn	02 24 15.8	-2.5
NEUV				*eS*	Sn	02 24 32.3	-2.4

*NEIC **03** 02:32:13.6±2.4,35°.65N±0°.01×117°.48W±0°.02, h10km±1km, Error ellipse: s-maj=3.2km s-min=2.9km az=301.0*

*PAS **03** 02:32:14.9±2.1,35°.67N±0°.01×117°.52W±0°.02, h10km±3km, ML3.2/291, ML2.9/155(NEIC), Error ellipse: s-maj=2.8km s-min=1.5km az=120.0*

*IDC **03** 02:32:14.9±2.0,35°.70N×117°.46W, h0km, mbtmp2.6/4, ML3.1/4, Error ellipse: s-maj=26.7km s-min=12.5km az=57.0*

ISC 03 02:32:13.8±0.8, 35°.66N±0°.02×117°.50W±0°.02, h17km±5km, n73, σ0°.86/72, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.06**	**172**		**Pg**	**02 32 17.1**	**+0.1**
WSHM				Sg	**Sg**	**02 32 18.6**	**-0.6**
CLC	**China Lake**	**0.17**	**334**		**Pg**	**02 32 18.3**	**0.0**
CLC				Sg	**Sg**	**02 32 20.8**	**-0.4**
CCCA	**Chr Cany lake**	**0.18**	**140**	Pg	**Pb**	**02 32 18.9**	**+0.1**
CCCA				Sg	**Sb**	**02 32 22.7**	**+0.7**
SRTC	**Snort**	**0.20**	**278**		**Pb**	**02 32 19.1**	**0.0**
SRTC					**Sb**	**02 32 22.8**	**+0.1**
LRMC	**Laurel Mtn Rad**	**0.23**	**219**		**Pg**	**02 32 19.4**	**+0.2**
LRMC				Sg	**Sg**	**02 32 22.8**	**-0.1**
TOW	**Tower One**	**0.26**	**305**		**Pn**	**02 32 24.3**	**+1.4**
WNMM	**Nine Mile Cany**	**0.37**	**299**		**Pg**	**02 32 21.7**	**+0.2**
WNMM					**Sg**	**02 32 26.8**	**+0.1**
MPMC	**Manual Prospec**	**0.40**	**2**	Sg	**Sg**	**02 32 27.5**	**-0.1**
MPMC	**Manual Prospec**	**0.40**	**2**		**Pg**	**02 32 22.2**	**+0.2**
JRC2	**Joshua Ridge**	**0.40**	**322**		**Pg**	**02 32 22.4**	**+0.2**
JRC2					**Sg**	**02 32 27.8**	**0.0**
WCSM	**Coso Springs S**	**0.42**	**330**		**Sg**	**02 32 28.2**	**-0.1**
WRVM	**Rose V. Centra**	**0.47**	**318**		**Sg**	**02 32 29.6**	**0.0**
QSM	**Queen of Sheba**	**0.60**	**60**		**Pb**	**02 32 26.3**	**+0.4**
QSM				IAML		02 32 35.1	
	comp=E,663nm,0.2s						
WORM	**Onyx Ranch**	**0.60**	**273**		**Sg**	**02 32 33.4**	**-0.4**
GSC	**Goldstone, Bar**	**0.67**	**122**		**Pb**	**02 32 27.8**	**+0.5**
GSC				IAML		02 32 37.5	
	comp=N,583nm,0.4s						
GSC				IAML		02 32 41.4	
	comp=E,866nm,0.4s						
GSC	**Goldstone, Bar**	**0.67**	**122**		**Sb**	**02 32 37.1**	**+0.7**
ISA	**Isabella, Lake**	**0.79**	**270**		**Pb**	**02 32 28.6**	**-0.5**
ISA				IAML		02 32 42.3	
	comp=N,304nm,0.2s						
ISA	**Isabella, Lake**	**0.79**	**270**		**Sb**	**02 32 39.4**	**-0.2**
HYS	**Haystack Butte**	**0.80**	**184**		**Pg**	**02 32 29.6**	**+0.2**
GWY	**Greenwater Val**	**0.86**	**52**	Pg	**Pg**	**02 32 30.8**	**+0.3**
GWY				IAML		02 32 44.9	
	comp=N,449nm,0.3s						
GWY				IAML		02 32 45.9	
	comp=E,545nm,0.3s						
WASM	**Alta Sierra Ca**	**0.86**	**275**		**Pb**	**02 32 30.4**	**0.0**
WASM					**Sg**	**02 32 41.7**	**-0.3**
CWC	**Cottonwood Cre**	**0.91**	**329**		**Pb**	**02 32 31.4**	**+0.1**
CWC				IAML		02 32 44.6	
	comp=E,219nm,0.2s						
CWC				IAML		02 32 48.0	
	comp=N,246nm,0.2s						
FURC	**Furnace Creek,**	**0.96**	**33**		**Pn**	**02 32 33.0**	**+0.4**
FURC				IAML		02 32 50.9	
	comp=E,461nm,0.7s						
FURC				IAML		02 32 51.9	
	comp=N,551nm,0.7s						
TPO	**Tropico Hills**	**0.98**	**217**		**Pn**	**02 32 32.8**	**-0.1**
SHOC	**Shoshone, Teco**	**1.03**	**76**		**Pg**	**02 32 34.1**	**+0.4**
LRRC	**Littlerock Res**	**1.21**	**201**		**Pb**	**02 32 36.6**	**+0.3**
LEOC	**Leona Valley**	**1.22**	**213**		**Pb**	**02 32 36.7**	**+0.2**
DSCC	**Desert Studies**	**1.26**	**114**		**Pb**	**02 32 36.8**	**-0.3**
VES	**Vestal, Richgr**	**1.30**	**278**	Pn	**Pb**	**02 32 38.4**	**+0.6**
VES				IAML		02 32 56.6	
	comp=E,173nm,0.3s						
VES				IAML		02 32 58.0	
	comp=N,220nm,0.3s						
WCT	**Wildcat Mounta**	**1.33**	**32**	Pn	**Pb**	**02 32 38.6**	**+0.2**
WCT				IAML		02 33 00.1	
	comp=E,115nm,0.3s						
BFSC	**Mount Baldy Ra**	**1.43**	**185**		**Pb**	**02 32 40.2**	**+0.1**
BFSC				IAML		02 33 01.4	
	comp=E,154nm,0.6s						
BFSC				IAML		02 33 01.7	
	comp=N,153nm,0.6s						
OSI	**Osito Audit: C**	**1.45**	**224**		**Pb**	**02 32 40.8**	**+0.4**
OSI				IAML		02 33 03.3	
	comp=N,189nm,0.5s						
OSI				IAML		02 33 03.3	
	comp=E,190nm,0.5s						
MWC	**Mount Wilson**	**1.51**	**198**		**Pb**	**02 32 41.6**	**+0.1**
TIN	**Tinemaha, Big**	**1.51**	**337**		**Pb**	**02 32 41.5**	**0.0**
TIN				IAML		02 33 10.3	
	comp=E,184nm,0.6s						
TIN				IAML		02 33 17.4	
	comp=N,144nm,1.1s						
PASC	**Pasadena Art C**	**1.59**	**201**		**Pb**	**02 32 42.8**	**+0.1**
PASC				IAML		02 33 09.0	
	comp=E,146nm,0.3s

NEE2				IAML		02 33 45.8		
	comp=E,66nm,0.7s							
BORC	**Borrego Spring**	**2.55**	**159**	Pn	**Pn**	**02 32 55.1**	**+0.6**	
BORC				IAML		02 33 36.8		
	comp=E,64nm,0.8s							
BORC				IAML		02 33 38.8		
	comp=N,50nm,0.8s							
BC3	**Big Chuckawall**	**2.62**	**139**		**Pn**	**02 32 55.2**	**-0.3**	
BC3				IAML		02 33 40.7		
	comp=E,45nm,0.6s							
BC3				IAML		02 33 41.1		
	comp=N,76nm,0.6s							
PRN	**Pahroc Range**	**2.63**	**48**	Pn	**Pn**	**02 32 56.7**	**+0.9**	
PRN				IAML		02 33 46.6		
	comp=N,40nm,0.5s							
PRN				IAML		02 33 47.0		
	comp=E,41nm,1.2s							
DPP	**Dos Picos Cty**	**2.70**	**170**		**Pn**	**02 32 57.3**	**+0.7**	
DPP				IAML		02 33 39.5		
	comp=E,58nm,0.4s							
LHV	**Little Huntoon**	**2.71**	**343**		**Pn**	**02 32 58.2**	**+1.6**	
LHV				IAML		02 33 45.9		
	comp=E,32nm,0.7s							
LHV				IAML		02 33 52.9		
	comp=N,32nm,1.8s							
CPE	**Camp Elliot**	**2.79**	**173**	Pn	**Pn**	**02 32 58.9**	**+1.2**	
CPE				IAML		02 33 44.1		
	comp=E,49nm,0.6s							
CPE				IAML		02 33 50.8		
	comp=N,42nm,0.4s							
NVAR	**Mina Array Bea**	**2.83**	**347**	Pn	**Pn**	**02 33 00.2**	**+1.6**	
	comp=N,0.9nm,0.3s,baz=168,slow=12,SNR=23							
NVAR				Pg	**Pg**	**02 33 07.1**	**-1.1**	
	comp=N,6.2nm,0.3s,baz=166,slow=15,SNR=43							
NVAR				Lg	Lg	02 33 44.7		
	comp=N,2.4nm,0.3s,baz=164,slow=32,SNR=4.4							
	comp=N,1.2nm,0.5s							
BUCR	**Buckhorn Ranch**	**2.92**	**314**	Pn	**Pn**	**02 33 00.8**	**+1.1**	
BUCR				IAML		02 33 50.3		
	comp=E,30nm,0.8s							
BUCR				IAML		02 33 51.7		
	comp=N,33nm,0.6s							
BAR	**Barrett**	**3.05**	**167**	IAML		02 33 50.6		
	comp=N,46nm,0.5s							
YUH	**Yuha Desert**	**3.28**	**156**	IAML		02 34 55.6		
	comp=E,21nm,0.1s							
YUH				IAML		02 34 58.6		
	comp=N,22nm,0.1s							
CMB	**Columbia Colle**	**3.31**	**317**	IAML		02 34 04.4		
	comp=E,15nm,0.5s							
WELL	**Weller Preserv**	**3.78**	**318**	IAML		02 34 18.5		
	comp=E,15nm,0.7s							
WELL				IAML		02 34 19.3		
	comp=N,14nm,0.5s							
ESJX	**Sierra Juarez**	**3.87**	**160**	IAML		02 35 13.3		
	comp=N,26nm,0.1s							
Y14A	**Wickenburg**	**4.08**	**114**	IAML		02 34 29.7		
	comp=N,21nm,0.7s							
Y14A				IAML		02 34 31.9		
	comp=E,16nm,0.7s							
PSUT	**Pine Spring**	**4.09**	**44**	IAML		02 34 40.5		
	comp=N,8.5nm,1.3s							
SPR3	**Spring Creek 3**	**4.18**	**36**	IAML		02 34 31.4		
	comp=N,9.1nm,0.7s							
ELK	**Elko**	**5.38**	**19**	IAML		02 35 06.5		
	comp=N,3.5nm,0.8s							
ELK	**Elko**	**5.38**	**19**	Pn	**Pn**	**02 33 35.6**	**+2.1**	
	comp=N,0.1nm,0.3s,baz=202,slow=11,SNR=1.6							
ELK				Lg	Lg	02 35 03.3		
	comp=N,0.6nm,0.3s,baz=230,slow=18,SNR=14							
	comp=N,0.3nm,0.3s							
PDAR	**Pinedale Array**	**9.39**	**39**	Pn	**Pn**	**02 34 32.2**	**+3.5**	
	comp=N,0.1nm,0.3s,baz=210,slow=13,SNR=1.5							
	comp=N,0.1nm,0.4s							
TXAR	**Lajitas Array**	**13.27**	**115**	Pn	**P**	**02 35 29.1**	**-2.2**	
	baz=300,slow=13,SNR=1.7							
	comp=N,0.1nm,0.6s							

*IDC **03** 02:36:01.0±3.9, 35°.28S×178°.43E, h192km±27km, mb3.5/5, mbtmp4.1/6, Error ellipse: s-maj=49.2km s-min=17.0km az=50.0*

*WEL **03** 02:36:07.7±0.8, 36°.S±6'×17°.8E±°, h224km±6km, M4.3/48, ML4.6/24, MLv4.3/48, Error ellipse: s-maj=10.2km s-min=7.1km az=52.0, confirmed*

*NOU **03** 02:36:41.5, 38°.48S×176°.37E, h131km, ML3.9/8, North Island, New Zealand*

ISC 03 02:36:05.1±0.8, 35°.80S±0'.06×178°.20E±0'.07, h228km±6km, n131, σ2°.92/150, mb3.8/7, 4C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.77**	**177**	P	**S**	**02 37 13.1**	**-0.6**
MXZ	**Matakaoa Point**	**1.77**	**177**	P	**Pn**	**02 36 44.7**	**+1.2**
MXZ				S	**S**	**02 37 12.1**	**-1.7**
HAZ	**Te Kaha**	**1.98**	**189**	P	**Pn**	**02 36 46.0**	**+0.5**
HAZ				S	**S**	**02 37 15.5**	**-1.8**
WMGZ	**Waiomatatini S**	**2.03**	**175**	P	**Pn**	**02 36 47.4**	**+1.4**
WMGZ				S	**S**	**02 37 17.6**	**-0.5**
PKGZ	**Pakihiroa**	**2.07**	**183**	P	**Pn**	**02 36 47.5**	**+1.1**
PKGZ				S	**S**	**02 37 16.5**	**-2.3**
RUGZ	**Raukumara Rang**	**2.21**	**191**	P	**Pn**	**02 36 47.6**	**-0.3**
RUGZ				S	**S**	**02 37 18.5**	**-3.0**
KUZ	**Kuaotunu**	**2.21**	**244**	P	**Pn**	**02 36 47.6**	**-0.3**
GRZ	**Great Barrier**	**2.27**	**258**	P	**Pn**	**02 36 48.0**	**-0.4**
PUZ	**Puketiti**	**2.27**	**179**	P	**Pn**	**02 36 49.2**	**+0.8**
PUZ				S	**S**	**02 37 20.7**	**-1.8**
WHRZ	**Whale Island**	**2.28**	**205**	P	**Pn**	**02 36 50.0**	**+1.6**
WHRZ				S	**S**	**02 37 24.2**	**+1.7**
TWGZ	**Tauwhareparae**	**2.38**	**184**	P	**Pn**	**02 36 51.2**	**+1.6**
TWGZ				S	**S**	**02 37 28.4**	**+0.9**
OPRZ	**Ohinepanea**	**2.43**	**212**	P	**Pn**	**02 36 50.1**	**+0.1**
MARZ	**Manawahe**	**2.50**	**209**	P	**Pn**	**02 36 51.8**	**+1.0**
EDRZ	**Edgecumbe**	**2.58**	**206**	P	**Pn**	**02 36 52.3**	**+0.6**
URZ	**Urewera**	**2.61**	**199**	P	**Pn**	**02 36 51.7**	**-0.2**
	207nm,0.5s,baz=340,slow=3.2,SNR=234						
URZ				S	**S**	**02 37 25.4**	**-3.2**
	131nm,0.3s,baz=252,slow=20,SNR=9.9						
URZ	**Urewera**	**2.61**	**199**	P	**Pn**	**02 36 51.8**	**0.0**
URZ				S	**S**	**02 37 25.9**	**-2.7**
TKGZ	**Te Karaka**	**2.65**	**186**	P	**Pn**	**02 36 52.9**	**+0.6**
TKGZ				S	**S**	**02 37 27.9**	**-1.6**
WIAZ	**Waiheke Island**	**2.67**	**247**	P	**Pn**	**02 36 52.2**	**-0.4**
CNGZ	**Carnagh Statio**	**2.68**	**180**	P	**Pn**	**02 36 53.8**	**+1.1**
RAGZ	**Rawiri**	**2.77**	**193**	P	**Pn**	**02 36 53.6**	**-0.1**
RAGZ				S	**S**	**02 37 31.3**	**-0.6**
MKAZ	**Moumakai**	**2.77**	**241**	P	**Pn**	**02 36 53.6**	**-0.1**
MBAZ	**Motutapu North**	**2.84**	**249**	P	**Pn**	**02 36 54.3**	**0.0**
UTU	**Utuhina**	**2.87**	**213**	P	**Pn**	**02 36 55.8**	**+1.1**
RRRZ	**Republican Roa**	**2.87**	**207**	P	**Pn**	**02 36 56.6**	**+1.7**
MUGZ	**Murupara**	**2.91**	**203**	P	**Pn**	**02 36 55.2**	**0.0**
MUGZ				S	**S**	**02 37 31.6**	**-3.0**
RIGZ	**Rimuhau**	**2.93**	**187**	P	**Pn**	**02 36 55.2**	**-0.2**
RIGZ				S	**S**	**02 37 34.6**	**-0.4**
HSRZ	**Hossack Road**	**2.96**	**211**	P	**Pn**	**02 36 54.6**	**-1.2**
RTZ	**Ruatahuna**	**2.98**	**199**	P	**Pn**	**02 36 55.4**	**-0.6**
RTZ				S	**S**	**02 37 32.8**	**-3.3**
GRRZ	**Galatos Road**	**3.05**	**213**	P	**Pn**	**02 36 57.4**	**+0.6**
SNGZ	**Shannon Statio**	**3.06**	**193**	P	**Pn**	**02 36 56.8**	**-0.1**
SNGZ				S	**S**	**02 37 35.9**	**-1.8**
PRRZ	**Plateau Road**	**3.06**	**208**	P	**Pn**	**02 36 57.0**	**+0.1**
WCZ	**Waipu Caves**	**3.13**	**266**	P	**Pn**	**02 36 57.4**	**-0.3**
AWAZ	**Awhitu Peninsu**	**3.13**	**245**	P	**Pn**	**02 36 57.9**	**+0.2**
PRGZ	**Paritu Road**	**3.13**	**184**	P	**Pn**	**02 36 58.0**	**+0.3**
WTAZ	**Waiatarua**	**3.14**	**248**	P	**Pn**	**02 36 57.7**	**-0.1**
WPRZ	**Whakapapatarin**	**3.17**	**210**	P	**Pn**	**02 36 58.5**	**+0.4**
MTHZ	**Maungataniwha**	**3.24**	**199**	P	**Pn**	**02 36 58.1**	**-0.8**
RAHZ	**Arahi**	**3.24**	**196**	P	**Pn**	**02 36 58.9**	**-0.1**
RAHZ				S	**S**	**02 37 39.6**	**-1.7**
KNZ	**Kokohu**	**3.25**	**187**	P	**Pn**	**02 36 58.7**	**-0.3**
KUTZ	**Kaahu Road**	**3.29**	**214**	P	**Pn**	**02 37 00.5**	**+1.0**
TLZ	**Tolley Road**	**3.30**	**219**	P	**Pn**	**02 37 00.7**	**+1.0**
MRHZ	**Matea Rd**	**3.35**	**205**	P	**Pn**	**02 36 59.5**	**-0.7**
MHGZ	**Mahia Peninsul**	**3.36**	**184**	P	**Pn**	**02 37 00.5**	**+0.2**
WHHZ	**Waihua**	**3.36**	**193**	P	**Pn**	**02 37 00.2**	**-0.1**
WHHZ				S	**S**	**02 37 42.1**	**-1.8**
NMHZ	**Naumai**	**3.48**	**198**	P	**Pn**	**02 37 01.7**	**0.0**
WATZ	**Wairara**	**3.51**	**213**	P	**Pn**	**02 37 03.0**	**+0.9**
ARHZ	**Aropaoanui**	**3.59**	**195**	P	**Pn**	**02 37 02.5**	**-0.5**
RATZ	**Rangitukua**	**3.62**	**211**	P	**Pn**	**02 37 03.6**	**+0.2**
BKZ	**Black Stump Fm**	**3.63**	**201**	P	**Pn**	**02 37 02.0**	**-1.5**
BKZ	**Black Stump Fm**	**3.63**	**201**	P	**Pn**	**02 37 02.2**	**-1.3**
RITZ	**Rihia Road**	**3.68**	**210**	P	**Pn**	**02 37 04.2**	**+0.1**
HIZ	**Hauiti**	**3.81**	**224**	P	**Pn**	**02 37 06.3**	**+0.8**
HIZ	**Hauiti**	**3.81**	**224**	P	**Pn**	**02 37 06.5**	**+0.9**
MCHZ	**McNeill Hill**	**3.83**	**198**	P	**Pn**	**02 37 05.1**	**-0.7**
TMVZ	**Te Maari**	**3.86**	**210**	P	**Pn**	**02 37 05.5**	**-0.8**
ETVZ	**East Tongariro**	**3.88**	**210**	P	**Pn**	**02 37 05.7**	**-0.9**
KWHZ	**Kaweka Forest**	**3.89**	**201**	P	**Pn**	**02 37 05.3**	**-1.2**
WTVZ	**West Tongariro**	**3.91**	**211**	P	**Pn**	**02 37 06.5**	**-0.5**
NNVZ	**North Ngauruho**	**3.91**	**211**	P	**Pn**	**02 37 06.6**	**-0.4**
OTVZ	**Oturere**	**3.92**	**210**	P	**Pn**	**02 37 06.5**	**-0.5**
NGZ	**Ngauruhoe**	**3.96**	**211**	P	**Pn**	**02 37 06.8**	**-0.7**
CKHZ	**Cape Kidnapper**	**3.96**	**193**	P	**Pn**	**02 37 06.4**	**-0.9**
COVZ	**Chateau Observ**	**4.00**	**211**	P	**Pn**	**02 37 08.4**	**+0.4**
TUVZ	**Tukino**	**4.01**	**209**	P	**Pn**	**02 37 06.9**	**-1.3**
FWVZ	**Far West T-bar**	**4.04**	**211**	P	**Pn**	**02 37 07.6**	**-1.0**
MAVZ	**Matarangi**	**4.05**	**210**	P	**Pn**	**02 37 07.6**	**-1.2**
WHVZ	**Whangaehu Hut**	**4.05**	**210**	P	**Pn**	**02 37 07.4**	**-1.4**
WNVZ	**Wahianoa**	**4.08**	**210**	P	**Pn**	**02 37 07.6**	**-1.5**
MOVZ	**Moawhango**	**4.09**	**208**	P	**Pn**	**02 37 07.1**	**-2.0**
KRHZ	**Kereru**	**4.11**	**200**	P	**Pn**	**02 37 07.4**	**-1.7**
KAHZ	**Kahuranaki**	**4.13**	**194**	P	**Pn**	**02 37 08.2**	**-1.2**
PKVZ	**Pokaka**	**4.16**	**212**	P	**Pn**	**02 37 08.9**	**-0.9**
MTVZ	**Mangateitei**	**4.19**	**210**	P	**Pn**	**02 37 09.0**	**-1.2**
VRZ	**Vera Road**	**4.30**	**218**	P	**Pn**	**02 37 11.5**	**-0.1**
PXZ	**Pawanui**	**4.36**	**194**	P	**Pn**	**02 37 10.4**	**-1.8**
PNHZ	**Pukenui**	**4.40**	**200**	P	**Pn**	**02 37 10.8**	**-2.1**
WPHZ	**Waipukurau**	**4.48**	**198**	P	**Pn**	**02 37 11.9**	**-1.9**
TSZ	**Takapari Road**	**4.61**	**202**	P	**Pn**	**02 37 12.9**	**-2.4**
PRHZ	**Porangahau**	**4.63**	**195**	P	**Pn**	**02 37 13.8**	**-1.7**
DREZ	**Durham Road**	**4.64**	**222**	P	**Pn**	**02 37 18.2**	**+2.5**
WAZ	**Wanganui**	**4.70**	**212**	P	**Pn**	**02 37 14.9**	**-1.5**
LREZ	**Lake Rotokare**	**4.72**	**218**	P	**Pn**	**02 37 14.9**	**-2.0**
NEZ	**North Egmont**	**4.76**	**222**	P	**Pn**	**02 37 17.8**	**+0.6**
PKE	**Pukeiti**	**4.76**	**223**	P	**Pn**	**02 37 18.2**	**+0.9**
DVHZ	**Dannevirke**	**4.77**	**199**	P	**Pn**	**02 37 14.7**	**-2.6**
PREZ	**Palmer Road**	**4.78**	**221**	P	**Pn**	**02 37 18.8**	**+1.3**
KHEZ	**Kahui Hut**	**4.82**	**222**	P	**Pn**	**02 37 18.6**	**+0.6**
ANWZ	**Angora Road**	**4.85**	**196**	P	**Pn**	**02 37 16.4**	**-1.8**
NBEZ	**Newall Road No**	**4.88**	**223**	P	**Pn**	**02 37 21.1**	**+2.4**
POWZ	**Post Office Ro**	**4.97**	**202**	P	**Pn**	**02 37 17.3**	**-2.5**
PRWZ	**Pori Road**	**5.07**	**200**	P	**Pn**	**02 37 18.4**	**-2.5**
BFZ	**Birch Farm**	**5.11**	**197**	P	**Pn**	**02 37 18.7**	**-2.9**
BFZ	**Birch Farm**	**5.11**	**197**	P	**Pn**	**02 37 18.8**	**-2.7**
MRZ	**Mangatainoka R**	**5.28**	**202**	P	**Pn**	**02 37 20.3**	**-3.3**
TIWZ	**Tintock**	**5.29**	**199**	P	**Pn**	**02 37 21.1**	**-2.7**
CPWZ	**Castlepoint**	**5.34**	**196**	P	**Pn**	**02 37 22.4**	**-1.9**
HOWZ	**Holdsworth Sta**	**5.51**	**202**	P	**Pn**	**02 37 22.9**	**-3.6**
OGWZ	**Otaki Gorge**	**5.55**	**204**	P	**Pn**	**02 37 23.6**	**-3.4**
TMWZ	**Te Maipa**	**5.60**	**198**	P	**Pn**	**02 37 24.9**	**-2.8**
KIW	**Kapiti Island**	**5.68**	**206**	P	**Pn**	**02 37 25.0**	**-3.7**
CAW	**Cannon Point**	**5.84**	**204**	P	**Pn**	**02 37 26.9**	**-3.8**
TRWZ	**Traveller**	**5.93**	**199**	P	**Pn**	**02 37 28.7**	**-3.1**
PAWZ	**Paruwai Farm**	**5.98**	**200**	P	**Pn**	**02 37 28.4**	**-4.1**
DUWZ	**D'Urville Isla**	**6.02**	**213**	P	**Pn**	**02 37 29.2**	**-3.8**
MSWZ	**Moikau Station**	**6.07**	**201**	P	**Pn**	**02 37 29.4**	**-4.2**
WEL	**Wellington**	**6.10**	**205**	P	**Pn**	**02 37 30.0**	**-4.0**
BHW	**Baring Head**	**6.18**	**204**	P	**Pn**	**02 37 30.6**	**-4.4**
PLWZ	**Palliser**	**6.21**	**201**	P	**Pn**	**02 37 31.1**	**-4.3**
TCW	**Tory Channel**	**6.22**	**208**	P	**Pn**	**02 37 31.0**	**-4.5**
NNZ	**Nelson**	**6.60**	**213**	P	**Pn**	**02 37 36.0**	**-4.3**
QRZ	**Quartz Range**	**6.71**	**220**	P	**Pn**	**02 37 39.2**	**-2.6**
GLKZ	**Green Lake**	**7.29**	**28**	P	**Pn**	**02 37 46.2**	**-3.1**
GLKZ				S	**S**	**02 39 06.5**	**-6.1**
RIZ	**Raoul Island**	**7.30**	**28**	S	**S**	**02 39 10.6**	**-2.3**
KHZ	**Kahutara**	**7.54**	**207**	P	**Pn**	**02 37 47.6**	**-4.7**
RPZ	**Rata Peaks**	**9.63**	**213**	P	**Pn**	**02 38 15.9**	**-3.2**
ODZ	**Otahua Downs**	**10.88**	**210**	P	**Pn**	**02 38 31.1**	**-3.8**
ASAR	**Alice Springs**	**40.01**	**275**	P	**P**	**02 43 18.2**	**+0.2**
	2.0nm,0.6s,baz=118,slow=8.4,SNR=18						
	2.0nm,0.6s						
WRA	**Warramunga Arr**	**41.50**	**280**	P	**P**	**02 43 30.4**	**+0.2**
	1.9nm,0.5s,baz=120,slow=8.1,SNR=19						
	1.9nm,0.5s						
VNDA	**Vanda**	**42.43**	**185**	P	**P**	**02 43 40.5**	**+3.6**
	0.5nm,0.7s,baz=25,slow=6.2,SNR=2.5						
	0.5nm,0.7s						
QSPA	**South Pole Qui**	**54.33**	**180**	P	**P**	**02 45 12.4**	**+4.6**
	4.3nm,0.6s,baz=12,slow=2.9,SNR=30						
	4.3nm,0.6s						
TROLL	**Troll, Antarti**	**72.45**	**181**	⇑P	**P**	**02 47 04.5**	**-1.7**
	comp=Z,55nm,0.4s						
SNAA	**Sanae**	**72.83**	**180**	⇑P	**P**	**02 47 09.2**	**+0.8**
	comp=Z,6.7nm,0.3s						
SNAA	**Sanae**	**72.83**	**180**	P	**P**	**02 47 09.8**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=195,slow=12,SNR=8.8						
	comp=Z,0.6nm,0.6s						
VNA3	**Neumayer Olymp**	**73.11**	**177**	⇑P	**P**	**02 47 11.2**	**+1.2**
	comp=Z,4.4nm,0.8s						
VNA1	**Neumayer--Stat**	**73.75**	**178**	⇑P	**P**	**02 47 15.2**	**+1.6**
	comp=Z,3.3nm,0.8s						
KURBB	**Kurchatov Arra**	**122.40**	**312**	PKP	**PKPdf**	**02 54 31.7**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=134,slow=2.7,SNR=2.1						
FINES	**FINESS Array B**	**148.87**	**334**	PKPbc	**PKPbc**	**02 55 24.1**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=35,slow=5.1,SNR=3.8						
MMAI	**Mount Meron Ar**	**149.29**	**276**	PKPbc	**PKPbc**	**02 55 27.0**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=98,slow=2.2,SNR=1.7						
BRTR	**Keskin Array B**	**151.82**	**289**	PKPbc	**PKPbc**	**02 55 32.8**	**0.0**
	comp=Z,0.9nm,1.0s,baz=81,slow=6.0,SNR=4.0						
AKASG	**Malin Array Be**	**153.18**	**313**	PKPbc	**PKiKP**	**02 55 35.3**	**0.0**
	comp=Z,0.5nm,0.5s,baz=72,slow=1.4,SNR=1.7						
TORD	**Torodi Ar. Bea**	**157.23**	**189**	PKPab	**PKPab**	**02 56 06.7**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=169,slow=3.7,SNR=6.7						

*IDC **03** 02:48:45.2±1.7, 32°.55S×178°.24W, h0km, mb3.8/4, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=39.7km s-min=30.3km az=74.0*

*NEIC **03** 02:48:45.1±1.7, 32°.56S±0'.08×178°.1W±0°.2, h10km±2km, mb4.3/10, Error ellipse: s-maj=22.9km s-min=12.1km az=110.0*

ISC 03 02:48:47.1±1.0, 32°.51S±0'.08×178°.3W±0°.2, h20km, n22, σ1°.08/24, mb4.2/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.26**	**5**	Pn	**Pn**	**02 49 36.5**	**-0.5**
URZ	**Urewera**	**6.88**	**212**	Pn	**Pn**	**02 50 26.0**	**-0.7**
	1.4nm,0.3s,baz=45,slow=1.4,SNR=9.7						
URZ				Sn	**Sn**	**02 51 43.8**	**-0.6**
	3.3nm,0.3s,baz=104,slow=19,SNR=12						
	2.9nm,0.3s						
RTZ	**Ruatahuna**	**7.23**	**211**	Pn	**Pn**	**02 50 30.6**	**-1.1**
RTZ					**Sn**	**02 51 54.7**	**+1.5**
BKZ	**Black Stump Fm**	**7.90**	**211**	Pn	**Pn**	**02 50 39.4**	**-1.4**
MSWZ	**Moikau Station**	**10.30**	**208**	Pn	**Pn**	**02 51 12.3**	**-1.3**
PLWZ	**Palliser**	**10.43**	**208**	Pn	**Pn**	**02 51 14.3**	**-1.1**
THZ	**Tophouse**	**11.62**	**215**	Pn	**Pn**	**02 51 30.7**	**-1.1**
CTAO	**Charters Tower**	**33.98**	**282**	P	**P**	**02 55 29.9**	**+0.3**
CTAO				IAmb	IAmb	02 56 07.3	
	comp=Z,7.1nm,1.3s						
COEN	**Coen**	**39.69**	**289**	P	**P**	**02 56 17.0**	**-1.1**
COEN				IAmb	IAmb	02 56 32.7	
	comp=Z,8.5nm,1.1s						
AS31	**Alice Springs**	**42.83**	**269**	P	**P**	**02 56 43.9**	**0.0**
ASAR	**Alice Springs**	**42.83**	**269**	P	**P**	**02 56 45.1**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=114,slow=8.3,SNR=13						
	comp=Z,1.5nm,0.8s						
WR8	**Warramunga Arr**	**43.87**	**275**	P	**P**	**02 56 52.8**	**+0.5**
WR8				IAmb	IAmb	02 57 07.2	
	comp=Z,4.0nm,1.1s						
WRA	**Warramunga Arr**	**44.01**	**274**	P	**P**	**02 56 55.0**	**+1.6**
	comp=Z,2.0nm,0.4s,baz=116,slow=8.0,SNR=19						
	comp=Z,2.0nm,0.4s						
WB0	**Warramunga Arr**	**44.04**	**275**	P	**P**	**02 56 54.6**	**+0.9**
SBA	**Scott Base**	**45.93**	**184**	P	**P**	**02 57 06.2**	**-1.7**
SBA				IAmb	IAmb	02 57 27.5	
	comp=Z,4.1nm,1.1s						
VNDA	**Vanda**	**45.98**	**186**	P	**P**	**02 57 09.0**	**+0.7**
VNDA				IAmb	IAmb	02 57 32.5	
	comp=Z,2.7nm,1.2s						
VNDA	**Vanda**	**45.98**	**186**	P	**P**	**02 57 10.1**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=39,slow=16,SNR=1.9						
	comp=Z,0.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**52.18**	**272**	P	**P**	**02 57 57.3**	**+0.7**
MBWA	**Marble Bar**	**55.81**	**265**	P	**P**	**02 58 23.1**	**-0.1**
QSPA	**South Pole Qui**	**57.61**	**180**	P	**P**	**02 58 35.2**	**-0.2**
QSPA				IAmb	IAmb	02 59 03.6	
	comp=Z,3.0nm,1.1s						
SNAA	**Sanae**	**76.06**	**179**	P	**P**	**03 00 33.9**	**+1.2**
	comp=Z,0.9nm,1.1s,baz=182,slow=17,SNR=1.8						
	comp=Z,0.9nm,1.1s						
FINES	**FINESS Array B**	**147.03**	**339**	PKPbc	**PKPbc**	**03 08 27.7**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=35,slow=3.4,SNR=8.2						

*NEIC **03** 02:49:33.0±1.1, 60°.85S±0°.05×34°.1W±0°.2, h10km±1km, mb4.7/13, Error ellipse: s-maj=19.4km s-min=7.8km az=264.0*

*IDC **03** 02:49:32.7±0.7, 60°.53S×33°.94W, h0km, mb4.2/10, mbtmp4.1/12, ML3.7/2, MS3.4/13, Error ellipse: s-maj=21.7km s-min=19.0km az=100.0*

ISC 03 02:49:32.6±0.5, 60°.95S±0°.07×33°.96W±0°.08, h10km, n58, σ2°.18/42, mb4.5/14, MS3.5/11, 8C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.82**	**347**	Pn	**Pn**	**02 51 10.2**	**-2.5**
VNA3	**Neumayer Olymp**	**14.12**	**147**	⇑P	**Pn**	**02 52 54.3**	**+2.0**
	comp=Z,2.3nm,0.2s						
VNA3				⇑S	**Sn**	**02 55 24.9**	**-4.0**
	comp=N,0.7nm,0.2s						
PMSA	**Palmer Station**	**14.17**	**241**	Pn	**Pn**	**02 52 53.3**	**+0.3**
PMSA	**Palmer Station**	**14.17**	**241**	Pn	**Pn**	**02 52 55.0**	**+2.0**
	comp=N,0.4nm,0.3s,baz=64,slow=9.2,SNR=2.0						
PMSA				LR	LR	02 57 26.4	
	comp=N,120nm,21.2s,baz=74,slow=33						
	comp=N,3.1nm,0.7s						
VNA1	**Neumayer--Stat**	**14.19**	**144**	⇑P	**Pn**	**02 52 54.3**	**+1.1**
	comp=Z,9.5nm,0.5s						
VNA1				⇑S	**Sn**	**02 55 25.7**	**-4.8**
	comp=E,0.6nm,0.2s						
EFI	**East Falkland**	**16.19**	**294**	Pn	**Pn**	**02 53 19.1**	**-0.8**
EFI				IAmb	IAmb	02 53 42.6	
	comp=Z,118nm,1.4s						
SNAA	**Sanae**	**16.23**	**144**	⇑P	**P**	**02 53 23.1**	**-0.4**
	comp=Z,64nm,0.7s						
SNAA				⇑S	**Sn**	**02 56 12.6**	**-7.5**
	comp=E,7.9nm,0.3s						
SNAA	**Sanae**	**16.23**	**144**	Pn	**P**	**02 53 22.2**	**-1.2**
SNAA	**Sanae**	**16.23**	**144**	Pn	**P**	**02 53 23.9**	**+0.4**
	comp=E,0.3nm,0.3s,baz=290,slow=12,SNR=16						
SNAA				Sn	**Sn**	**02 56 16.7**	**-3.4**
	comp=E,0.1nm,0.3s,baz=302,slow=19,SNR=1.8						
SNAA				LR	LR	02 58 28.0	
	comp=E,210nm,19.2s,baz=284,slow=32						
	comp=E,1.5nm,0.5s						
BELA	**Belgrano 2**	**17.01**	**180**	Pn	**P**	**02 53 31.4**	**-0.6**
TROLL	**Troll, Antarti**	**17.91**	**143**	⇑P	**P**	**02 53 44.6**	**+2.4**
	comp=Z,154nm,0.8s						
TRQA	**Tornquist**	**28.85**	**310**	P	**P**	**02 55 30.2**	**-0.8**
QSPA	**South Pole Qui**	**29.28**	**180**	P	**P**	**02 55 34.3**	**-0.5**
QSPA				IAmb	IAmb	02 55 50.6	
	comp=Z,18nm,1.5s						
QSPA	**South Pole Qui**	**29.28**	**180**	P	P	02 55 41.5	+6.8
	comp=Z,2.4nm,0.8s,baz=170,slow=2.6,SNR=7.9						
QSPA				PcP	**PcP**	**02 58 44.3**	**+3.3**
	comp=Z,1.0nm,0.6s,baz=161,slow=0.7,SNR=3.0						
QSPA				LR	LR	03 07 10.8	
	comp=Z,124nm,18.6s,baz=194,slow=36						
	comp=Z,2.4nm,0.8s						
PLCA	**Paso Flores**	**30.10**	**295**	P	**P**	**02 55 40.1**	**-2.1**
PLCA	**Paso Flores**	**30.10**	**295**	LR	LR	03 07 06.2	

mbtmp3.6/12,ML3.1/1,MS3.1/3,Error ellipse: s-maj=25.5km s-min=20.1km az=168.0
*PDG **03** 03:02:53.4±0.4,38°.33N×21°.76E,h15km,ML3.4/9,Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*
*ATH **03** 03:02:53.1,38°.33N×21°.79E,h19km,ML3.3/11,Manual Solution by A.Moschou First location: 2019/09/03 03:03:42, This location: 2019/09/03 03:15:37 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **03** 03:02:53.6,38°.3N±0°.6×21°.8E±0°.7,h14km±1km,M3.4/23,MLh3.4/23*
*UPSL **03** 03:02:53.1,38°.33N×21°.79E,h19km,Mw3.4,Moment Tensor Solution. s5 Moment tensor: Mrr=0.39; Mθθ=1.03; Mϕϕ=0.64; Mrθ=0.90; Mθϕ=0.83; Mϕr=0.51; Fault plane solution: NP1:φs=108.00000°,δ=80.00000°,λ=-43.00000°. NP2:φs=207.00000°,δ=48.00000°,λ=-166.00000°.*

ISC 03 03:02:54.0±0.7,38°.34N±0°.02×21°.77E±0°.02,h12km±4km, n80,σ1§01/118,mb3.7/10,MS3.0/3,8C-8D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.06**	**163**	P	**Pg**	**03 02 55.5**	**-0.8**
UPR				S	**Sg**	**03 02 57.3**	**-0.7**
EFP	**Efpalio**	**0.14**	**52**	P	**Pg**	**03 02 57.1**	**-0.3**
EFP				S	**Sg**	**03 02 59.9**	**+0.1**
EFP	**Efpalio**	**0.14**	**52**	P	**Pg**	**03 02 57.0**	**-0.3**
EFP				S	**Sg**	**03 02 59.4**	**-0.4**
SERG	**Sergoula**	**0.24**	**72**	P	**Pg**	**03 02 58.8**	**-0.2**
SERG				S	**Sg**	**03 02 02.8**	**+0.3**
SERG	**Sergoula**	**0.24**	**72**	P	**Pg**	**03 02 58.8**	**-0.2**
SERG				S	**Sg**	**03 03 02.4**	**0.0**
MSL1	**Messolongi**	**0.27**	**277**	P	**Pg**	**03 02 59.6**	**0.0**
ANX	**Ano Chora**	**0.28**	**26**	P	**Pg**	**03 02 59.7**	**-0.1**
ANX				S	**Sg**	**03 03 04.5**	**+0.8**
ANX	**Ano Chora**	**0.28**	**26**	P	**Pg**	**03 02 59.7**	**-0.1**
ANX				S	**Sg**	**03 03 03.9**	**+0.2**
KALE	**Kalithea**	**0.30**	**80**	P	**Pg**	**03 02 59.8**	**-0.4**
KALE				S	**Sg**	**03 03 04.5**	**+0.2**
KALE	**Kalithea**	**0.30**	**80**	P	**Pg**	**03 02 59.7**	**-0.4**
KALE				S	**Sg**	**03 03 04.4**	**+0.2**
PVO	**Paravola**	**0.33**	**326**	P	**Pg**	**03 03 00.6**	**-0.2**
PVO				S	**Sb**	**03 03 06.7**	**-0.6**
PVO	**Paravola**	**0.33**	**326**	P	**Pg**	**03 03 00.5**	**-0.2**
PVO				S	**Sb**	**03 03 06.6**	**-0.6**
RLS	**Riolos of Patr**	**0.37**	**220**	P	**Pg**	**03 03 01.1**	**-0.2**
RLS				S	**Sg**	**03 03 06.9**	**+0.7**
RLS	**Riolos of Patr**	**0.37**	**220**	P	**Pg**	**03 03 01.1**	**-0.2**
RLS				S	**Sg**	**03 03 06.5**	**+0.3**
DRO	**Drossia**	**0.39**	**186**	P	**Pg**	**03 03 01.1**	**-0.6**
DRO				S	**Sg**	**03 03 07.5**	**+0.6**
DRO	**Drossia**	**0.39**	**186**	P	**Pg**	**03 03 01.0**	**-0.7**
DRO				S	**Sg**	**03 03 07.6**	**+0.7**
KLV1	**Kalavrita**	**0.41**	**139**	P	**Pg**	**03 03 01.5**	**-0.6**
KLV	**Kalavryta, Ach**	**0.42**	**134**	P	**Pg**	**03 03 01.6**	**-0.8**
KLV				S	**Sg**	**03 03 07.3**	**-0.8**
KLV	**Kalavryta, Ach**	**0.42**	**134**	P	**Pg**	**03 03 01.5**	**-0.8**
KLV				S	**Sg**	**03 03 07.4**	**-0.6**
EVR	**Evrytania**	**0.58**	**3**	P	**Pg**	**03 03 04.9**	**-0.4**
EVR				S	**Sg**	**03 03 12.7**	**-0.2**
DLFA	**Delphi**	**0.59**	**76**	P	**Pg**	**03 03 04.5**	**-1.0**
DLFA				S	**Sg**	**03 03 13.5**	**+0.2**
GUR	**Goura**	**0.61**	**131**	P	**Pg**	**03 03 04.7**	**-1.1**
GUR	**Goura**	**0.61**	**131**	P	**Pg**	**03 03 04.8**	**-1.1**
GUR				S	**Sg**	**03 03 13.1**	**-0.8**
MAKR	**Makrakomi, Fth**	**0.73**	**23**	P	**Pg**	**03 03 08.0**	**-0.2**
MAKR				S	**Sb**	**03 03 18.9**	**+0.3**
AGG	**Agios Georgios**	**0.81**	**33**	P	**Pg**	**03 03 08.5**	**-1.2**
AGG				S	**Sb**	**03 03 21.0**	**-0.1**
AGG	**Agios Georgios**	**0.81**	**33**	P	**Pg**	**03 03 09.0**	**-0.7**
AGG				S	**Sg**	**03 03 19.4**	**-1.0**
AXAR	**Agios Charalam**	**0.82**	**58**	P	**Pg**	**03 03 08.8**	**-1.0**
AXAR				S	**Sb**	**03 03 21.5**	**+0.3**
AXAR	**Agios Charalam**	**0.82**	**58**	P	**Pg**	**03 03 08.8**	**-1.0**
AXAR				S	**Sg**	**03 03 19.6**	**-1.0**
RTZL	**Ratzakli, Kefa**	**0.83**	**252**	P	**Pg**	**03 03 09.6**	**-0.3**
EVGI	**Lefkada island**	**0.91**	**288**	P	**Pg**	**03 03 10.8**	**-0.8**
EVGI				S	**Sg**	**03 03 22.4**	**-1.2**
NYDR	**Nydri-Lefkada**	**0.92**	**294**	P	**Pg**	**03 03 10.6**	**-1.0**
NYDR	**Nydri-Lefkada**	**0.92**	**294**	P	**Pg**	**03 03 10.7**	**-1.0**
NYDR				S	**Sg**	**03 03 22.3**	**-1.3**
VLS	**Valsamata**	**0.94**	**260**	P	**Pg**	**03 03 10.9**	**-1.1**
VLS				S	**Sg**	**03 03 23.7**	**-0.6**
FSK	**Fiskardo**	**0.95**	**278**	P	**Pg**	**03 03 11.4**	**-0.9**
FSK				S	**Sb**	**03 03 26.2**	**+1.2**
FSK	**Fiskardo**	**0.95**	**278**	P	**Pg**	**03 03 11.2**	**-1.1**
FSK				S	**Sg**	**03 03 24.5**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.96**	**257**	P	**Pg**	**03 03 11.2**	**-1.2**
PSDA				S	**Sb**	**03 03 26.3**	**+1.2**
PSDA	**Pessada-Kefalo**	**0.96**	**257**	P	**Pg**	**03 03 11.2**	**-1.2**
PSDA				S	**Sg**	**03 03 23.6**	**-1.3**
LTHK	**Lithakia**	**0.97**	**230**	P	**Pg**	**03 03 11.8**	**-0.8**
LTHK	**Lithakia**	**0.97**	**230**	P	**Pg**	**03 03 11.8**	**-0.8**
ORTH	**Orthonies,Zaky**	**0.97**	**240**	P	**Pg**	**03 03 11.6**	**-1.2**
ORTH				S	**Sb**	**03 03 26.4**	**+0.7**
LKD2	**Lefkada island**	**0.98**	**298**	P	**Pg**	**03 03 11.7**	**-1.1**
TSLK	**Tsoukalades, L**	**0.99**	**299**	P	**Pg**	**03 03 12.3**	**-0.8**
VLX	**Vlachokerasia**	**1.08**	**153**	P	**Pg**	**03 03 13.0**	**-1.9**
DMLN	**Damoulianata-K**	**1.10**	**265**	P	**Pg**	**03 03 13.8**	**-1.3**
ITM	**Ithomi**	**1.17**	**174**	P	**Pg**	**03 03 15.1**	**-1.3**
OHR	**Ohrid**	**2.87**	**345**	*i* Pn	**Pb**	**03 03 43.6**	**-1.5**
OHR				*e*Sn	**Sg**	**03 04 24.2**	**-1.9**
VAY	**Valandovo**	**3.04**	**12**	*i* Pn	**Pn**	**03 03 42.5**	**+0.6**
VAY				*e*Sn	**Sb**	**03 04 24.1**	**-1.0**
TIR	**Tirane**	**3.34**	**335**	⇓P	**Pg**	**03 03 57.2**	**-0.7**
SKO	**Skopje**	**3.64**	**356**	*i* Pn	**Pb**	**03 03 56.4**	**-1.8**
SKO				*e*Sn	**Sn**	**03 04 37.1**	**+4.2**
ULC	**Ulcinj**	**4.10**	**333**	*e*Pn	**Pn**	**03 03 57.5**	**+1.0**
ULC				*i* Sn	**Sn**	**03 04 45.4**	**+0.9**
DRME	**Dracevica, Mon**	**4.32**	**334**	⇑*i*Pn	**Pn**	**03 04 00.1**	**+0.6**
DRME				*i* Sn	**Sn**	**03 04 51.2**	**+1.4**
PDG	**Podgorica**	**4.51**	**336**	⇑P	**Pn**	**03 04 05.5**	**+3.4**
PDG	**Podgorica**	**4.51**	**336**	⇓*i*Pn	**Pn**	**03 04 04.0**	**+1.9**
PDG				*i* Sn	**Sn**	**03 04 55.4**	**+0.9**
MATE	**Matera**	**4.54**	**302**	⇑P	**Pn**	**03 04 04.6**	**+2.0**
CEME	**Cevo**	**4.73**	**334**	⇑*i*Pn	**Pn**	**03 04 05.8**	**+0.6**
CEME				*i* Sn	**Sn**	**03 05 00.7**	**+0.7**
IVA	**Berane**	**4.75**	**343**	⇓*i*Pn	**Pn**	**03 04 05.7**	**+0.3**
IVA				*i* Sn	**Sn**	**03 05 01.3**	**+0.9**
HCY	**Herceg Novi**	**4.80**	**330**	⇓*i*Pn	**Pn**	**03 04 07.0**	**+0.9**
HCY				*i* Sn	**Sn**	**03 05 02.0**	**+0.3**
KOME	**Kolasin**	**4.82**	**340**	⇓*i*Pn	**Pn**	**03 04 06.8**	**+0.4**
KOME				*i* Sn	**Sn**	**03 05 02.5**	**+0.3**
NKME	**Niksic**	**4.91**	**335**	⇑*i*Pn	**Pn**	**03 04 08.5**	**+0.8**
NKME				*i* Sn	**Sn**	**03 05 05.1**	**+0.6**
BRY	**Bratogost**	**5.17**	**333**	⇓*i*Pn	**Pn**	**03 04 10.9**	**-0.5**
BRY				*i* Sn	**Sn**	**03 05 10.7**	**-0.4**
LOZB	**Loznitsa**	**6.21**	**35**	⇑P	Pn	03 04 33.5	+8.0
GZR	**Gura Zlata**	**7.09**	**6**	⇑P	Pn	03 04 42.8	+5.2
MLR	**Muntele Rosu**	**7.79**	**22**	⇓P	Pn	03 04 54.3	+7.0
PLOR	**Plostina**	**8.34**	**24**	⇓P	Pn	03 05 01.4	+6.7
VRI	**Vrincioaia**	**8.37**	**25**	⇑P	Pn	03 05 01.9	+6.8
BRTR	**Keskin Array B**	**9.34**	**78**	Pn	**Pn**	**03 05 10.9**	**+2.3**
	2.0nm,0.3s,baz=260,slow=12,SNR=5.1 0.5nm,0.5s						
ESDC	**Sonseca Array**	**20.02**	**282**	P	**P**	**03 07 27.7**	**+1.0**
	0.6nm,0.8s,baz=81,slow=11,SNR=2.8 0.6nm,0.8s						
HFS	**Hagfors**	**22.41**	**349**	P	**P**	**03 07 52.1**	**-0.1**
	0.9nm,0.5s,baz=152,slow=13,SNR=6.7 0.9nm,0.5s						
FINES	**FINESS Array B**	**23.28**	**5**	P	**P**	**03 08 00.1**	**-1.1**
	2.1nm,0.9s,baz=187,slow=8.3,SNR=3.6 2.1nm,0.9s						
NOA	**NORSAR Array B**	**23.66**	**347**	P	**P**	**03 08 04.6**	**-0.5**
	0.7nm,0.8s,baz=161,slow=10,SNR=2.2						
NOA				LR	LR	03 19 21.8	
	comp=Z,8.9nm,20.3s,baz=275,slow=42 0.7nm,0.8s						
EKA	**Eskdalemuir Ar**	**23.87**	**323**	P	**P**	**03 08 07.3**	**+0.2**
	1.3nm,0.7s,baz=124,slow=10,SNR=1.5 1.3nm,0.7s						
ARTI	**Arti**	**30.18**	**41**	LR	LR	03 22 18.4	
	comp=Z,35nm,21.2s,baz=337,slow=39						
TORD	**Torodi Ar. Bea**	**30.78**	**221**	P	**P**	**03 09 10.5**	**+1.0**
	0.2nm,0.6s,baz=32,slow=10,SNR=5.0 0.2nm,0.6s						
ARCES	**ARCESS Array B**	**31.32**	**3**	P	**P**	**03 09 13.4**	**-0.4**
	1.5nm,0.8s,baz=195,slow=9.9,SNR=1.4 1.5nm,0.8s						
SPITS	**Spitsbergen Ar**	**40.01**	**358**	P	**P**	**03 10 28.9**	**+0.7**
	2.9nm,0.7s,baz=163,slow=20,SNR=8.9						
KURBB	**Kurchatov Arra**	**41.34**	**54**	P	**P**	**03 10 39.4**	**-0.1**
	0.7nm,0.6s,baz=279,slow=8.9,SNR=5.3 0.7nm,0.6s						
MKAR	**Makanchi Array**	**44.38**	**59**	P	**P**	**03 11 04.3**	**+0.1**
	2.4nm,0.5s,baz=281,slow=7.5,SNR=27 2.4nm,0.5s						
ZALV	**Zalesovo Beam**	**44.85**	**48**	P	**P**	**03 11 07.4**	**-0.4**
	1.7nm,0.4s,baz=275,slow=8.8,SNR=6.7 1.7nm,0.4s						
SONM	**Songino Array**	**59.60**	**51**	P	**P**	**03 12 55.8**	**-1.9**
	0.2nm,0.4s,baz=279,slow=2.8,SNR=2.1 0.2nm,0.4s						
TKL	**Tuckaleechee C**	**79.22**	**307**	LR	LR	03 50 05.7	
	comp=Z,46nm,18.1s,baz=296,slow=36						

*IDC **03** 03:10:50.2±0.9,29°.57N×143°.03E,h0km,mb3.8/9, mbtmp3.8/12,ML3.6/3,MS3.2/2,Error ellipse: s-maj=27.5km s-min=21.5km az=44.0*
*JMA **03** 03:10:52.4±0.2,29°.5N±0°.4×14°.3E±°,h54km,MV3.9/23, NEAR TORISHIMA IS*

ISC 03 03:10:53.2±0.7,29°.55N±0°.06×142°.9E±0°.1,h22km,n24, σ1§47/28,mb3.8/9,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.51**	**194**	*e*P	**Pn**	**03 11 31.4**	**-1.3**
CBIJ				*e*S	**Sn**	**03 11 59.8**	**-2.9**
JHJ2	**Mitsune**	**4.40**	**325**	*e*P	**Pn**	**03 11 57.6**	**-1.1**
JHJ2				*e*S	**Sn**	**03 12 46.9**	**-2.4**
JHJ	**Hachijo jima 2**	**4.42**	**324**	Pn	**Pn**	**03 11 57.8**	**-1.2**
	6.9nm,0.3s,baz=146,slow=20,SNR=8.5						
JHJ				Sn	**Sn**	**03 12 46.7**	**-3.1**
	6.1nm,0.3s,baz=162,slow=24,SNR=7.3 14nm,0.3s						
JMKN	**Mikurajimanish**	**5.15**	**328**	*e*P	**Pn**	**03 12 10.2**	**+1.2**
JMKN				*e*S	**Sn**	**03 13 08.0**	**+0.3**
BSO1	**Boso 1**	**5.33**	**343**	*e*P	**Pn**	**03 12 10.3**	**-0.7**
BSO1				*e*S	**Sn**	**03 13 08.8**	**-2.7**
BSO3	**Boso 3**	**5.60**	**340**	*e*P	**Pn**	**03 12 14.3**	**-0.7**
JOD2	**Odawara 2**	**6.53**	**332**	*e*P	**Pn**	**03 12 27.9**	**-0.1**
JHO	**Hitachi**	**7.30**	**345**	*e*P	**Pn**	**03 12 37.2**	**-1.3**
JAG	**Ashikaga**	**7.43**	**338**	*e*P	**Pn**	**03 12 39.4**	**-0.9**
MJAR	**Matsushiro Arr**	**7.99**	**332**	Pn	**Pn**	**03 12 47.9**	**-0.1**
	0.3nm,0.3s,baz=155,slow=11,SNR=17 3.0nm,0.7s						
ASAJ	**Asahikawa**	**14.54**	**359**	Pn	**Pn**	**03 14 17.4**	**-0.3**
	0.6nm,0.3s,baz=196,slow=13,SNR=2.0 1.8nm,0.3s						
PETK	**Petropavlovsk-**	**25.94**	**21**	LR	LR	03 28 38.5	
	comp=Z,26nm,18.3s,baz=135,slow=41						
SONM	**Songino Array**	**33.41**	**313**	P	**P**	**03 17 32.2**	**+1.9**
	0.5nm,0.5s,baz=104,slow=6.1,SNR=7.2						
SONM				PcP	**PcP**	**03 20 10.6**	**-0.8**
	0.2nm,0.3s,baz=129,slow=3.9,SNR=2.0 0.5nm,0.5s						
MKAR	**Makanchi Array**	**49.40**	**308**	P	**P**	**03 19 43.1**	**+1.9**
	1.3nm,0.7s,baz=89,slow=9.2,SNR=9.7 1.3nm,0.7s						
WRA	**Warramunga Arr**	**49.88**	**190**	P	**P**	**03 19 45.2**	**+0.1**
	0.7nm,0.7s,baz=7.4,slow=7.6,SNR=4.4 0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**51.78**	**313**	P	**P**	**03 20 00.2**	**+1.1**
	0.6nm,0.6s,baz=91,slow=7.6,SNR=5.7 0.6nm,0.6s						
ILAR	**Eielson Array**	**55.29**	**29**	P	**P**	**03 20 23.4**	**-1.2**
	0.6nm,0.8s,baz=262,slow=6.7,SNR=9.0 0.6nm,0.8s						
NVAR	**Mina Array Bea**	**78.55**	**52**	P	**P**	**03 22 53.9**	**+0.5**
	0.5nm,0.6s,baz=308,slow=7.1,SNR=4.4 0.5nm,0.6s						
AKASG	**Malin Array Be**	**80.99**	**324**	P	**P**	**03 23 06.5**	**+0.4**
	1.1nm,0.7s,baz=52,slow=6.1,SNR=4.2 1.1nm,0.7s						
PDAR	**Pinedale Array**	**82.07**	**45**	P	**P**	**03 23 12.2**	**-0.1**
	0.2nm,0.4s,baz=320,slow=6.3,SNR=3.7 0.2nm,0.4s						
LPIG	**La Paz**	**91.80**	**61**	LR	LR	03 54 49.2	
	comp=Z,21nm,20.4s,baz=284,slow=29						
TXAR	**Lajitas Array**	**93.67**	**53**	P	**P**	**03 24 09.2**	**+0.7**
	0.4nm,0.8s,baz=323,slow=6.1,SNR=4.6 0.4nm,0.8s						
QSPA	**South Pole Qui**	**119.31**	**180**	PKP	**PKiKP**	**03 29 41.2**	**+1.2**
	0.7nm,0.6s,baz=13,slow=3.2,SNR=2.3						
LPAZ	**La Paz**	**148.67**	**72**	PKPbc	**PKPbc**	**03 30 40.3**	**+0.2**
	0.6nm,0.7s,baz=310,slow=7.9,SNR=4.0						

*IDC **03** 03:11:20.9±3.2,25°.53N×127°.91E,h0km,mb3.8/6, mbtmp3.8/6,Error ellipse: s-maj=61.7km s-min=26.0km az=138.0*
*JMA **03** 03:11:22.2±0.4,25°.N±2°.×12°.8E±°,h75km±4km,MV3.0/17, NEAR OKINAWAJIMA ISLAND*

ISC 03 03:11:19.5±2.0,25°.20N±0°.07×128°.23E±0°.05,h14km±11km, n21,σ1§66/28,mb3.7/6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT3	**Tamagusuku3**	**1.03**	**337**	*e*P	**Pg**	**03 11 39.4**	**0.0**
JJT3				*e*S	**Sg**	**03 11 51.8**	**-1.0**
JOW	**Kunigami**	**1.63**	**1**	Pn	**Pn**	**03 11 47.4**	**-0.4**
	13nm,0.3s,baz=177,slow=12,SNR=24						
JOW				Sn	**Sn**	**03 12 05.0**	**-3.7**
	18nm,0.3s,baz=156,slow=19,SNR=20						
JOW	**Kunigami**	**1.63**	**1**	*e*P	**Pn**	**03 11 47.4**	**-0.4**
JAGN	**Aguni-jima**	**1.65**	**328**	*e*P	**Pn**	**03 11 47.8**	**-0.2**
JAGN				*e*S	**Sn**	**03 12 06.0**	**-3.0**
JKE	**Kume jima 2**	**1.72**	**311**	P	**Pn**	**03 11 48.5**	**-0.5**
JYRO	**Yoronjima**	**1.83**	**6**	*e*P	**Pn**	**03 11 50.1**	**-0.4**
JIH	**Iheya**	**1.85**	**353**	*e*P	**Pn**	**03 11 50.4**	**-0.3**
JIH				*e*S	**Sn**	**03 12 11.4**	**-2.5**
JOKE	**Okinoerabujima**	**2.18**	**8**	*e*P	**Pn**	**03 11 55.9**	**+0.5**
JTK	**Tokunoshima**	**2.66**	**14**	*e*P	**Pn**	**03 12 02.3**	**+0.3**
JMZ	**Minamidaito 2**	**2.78**	**76**	*e*P	**Pn**	**03 12 02.7**	**-0.9**
JMZ				*e*S	**Sn**	**03 12 33.6**	**-3.3**
JKDJ	**Kitadaitoujima**	**2.87**	**74**	*e*P	**Pn**	**03 12 04.1**	**-0.7**
JKDJ				*e*S	**Sn**	**03 12 36.1**	**-3.0**
JAMN	**Amaminishikomi**	**3.15**	**15**	*e*P	**Pn**	**03 12 09.9**	**+1.2**
JTJ	**Tarama**	**3.25**	**261**	*e*P	**Pn**	**03 12 09.6**	**-0.5**
JAM	**Amami Oshima**	**3.43**	**21**	*e*P	**Pn**	**03 12 13.7**	**+1.2**
JAM				*e*S	**Sn**	**03 12 52.8**	**-0.2**
JZK	**Kikaishima**	**3.48**	**26**	*e*P	**Pn**	**03 12 14.4**	**+1.3**
PETK	**Petropavlovsk-**	**35.58**	**31**	P	**P**	**03 18 18.8**	**+2.5**
	1.3nm,0.5s,baz=236,slow=7.6,SNR=4.9 1.3nm,0.5s						
MKAR	**Makanchi Array**	**42.23**	**313**	P	**P**	**03 19 11.9**	**-0.2**
	0.7nm,0.6s,baz=100,slow=9.8,SNR=6.7 0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**43.07**	**324**	P	**P**	**03 19 19.0**	**+0.2**
	0.5nm,0.4s,baz=112,slow=9.5,SNR=1.9 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**45.60**	**317**	P	**P**	**03 19 39.2**	**+0.1**
	0.8nm,0.9s,baz=105,slow=8.0,SNR=4.8 0.8nm,0.9s						
BVAR	**Borovoye Array**	**51.05**	**319**	P	**P**	**03 20 22.9**	**+1.7**
	0.7nm,0.5s,baz=67,slow=8.0,SNR=1.6 0.7nm,0.5s						
BRTR	**Keskin Array B**	**77.67**	**308**	P	**P**	**03 23 16.1**	**+0.1**
	0.6nm,0.8s,baz=69,slow=4.8,SNR=2.3 0.6nm,0.8s						

*IDC **03** 03:30:03.6±0.5,34°.92N×26°.41E,h0km,mb4.2/23, mbtmp4.1/29,ML3.0/6,MS3.1/13,Error ellipse: s-maj=13.8km s-min=11.8km az=161.0*
*HLW **03** 03:30:08.4,34°.75N×26°.48E,h20km±5km,Ml4.3*
*ATH **03** 03:30:08.9,34°.85N×26°.75E,h32km±3km,ML3.9/3, Manual Solution by A.Moschou First location: 2019/09/03 03:31:22, This location: 2019/09/03 03:40:18 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
*NEIC **03** 03:30:09.5±1.9,34°.73N±0°.08×26°.52E±0°.06,h42km±8km, mb4.5/26,Error ellipse: s-maj=11.4km s-min=7.6km az=179.0*
*GII **03** 03:30:10.2±0.0,34°.394N±0°.001×26°.646E±0°.001,h40km, Mws4.2,confirmed*
*ISK **03** 03:30:10.1,34°.91N×26°.42E,h58km±1km,ML3.7/16*
*MCSM **03** 03:30:11.1±0.4,35°N±5°×2°6E±°,h51km±4km,mB4.5, mb4.1,MLv4.0,Mw(mB)3.6*
*AFAD **03** 03:30:13.7,35°.31N×26°.70E,h19km±3km,MW3.7*
*THE **03** 03:30:14.1,35°N±26°×2°6E±1°8,h29km±15km,M3.5/11, MLh3.5/11*

ISC 03 03:30:08.4±0.6,34°.72N±0°.03×26°.58E±0°.04,h37km±1km, n237,σ1§67/265,mb4.3/34,MS3.1/7,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.49**	**323**	Pg	**Pn**	**03 30 19.8**	**+1.0**
ZKR				Sg	**Sn**	**03 30 27.7**	**+1.5**
ZKR	**Zakros**	**0.49**	**323**	P	**Pn**	**03 30 19.8**	**+1.0**
ZKR	**Zakros**	**0.49**	**323**	P	**Pn**	**03 30 19.6**	**+0.8**
ZKR				S	**Sn**	**03 30 27.3**	**+1.1**
SIT2	**Siteia**	**0.62**	**322**	P	**Pn**	**03 30 21.7**	**+1.0**
SIT2				S	**Sn**	**03 30 30.1**	**+0.7**
KARP	**Karpathos**	**0.95**	**30**		**Pn**	**03 30 28.3**	**+3.0**
KARP	**Karpathos**	**0.95**	**30**	Pg	**Pn**	**03 30 27.6**	**+2.3**
KARP				Sg	**Sn**	**03 30 39.6**	**+1.9**
KARP	**Karpathos**	**0.95**	**30**	P	**Pn**	**03 30 28.2**	**+2.9**
KARP				S	**Sn**	**03 30 38.6**	**+0.9**
KARP	**Karpathos**	**0.95**	**30**	Pn	**Pn**	**03 30 27.8**	**+2.5**
NPS	**Neapolis**	**0.96**	**305**	P	**Pn**	**03 30 27.0**	**+1.8**
NPS	**Neapolis**	**0.96**	**305**	P	**Pn**	**03 30 27.1**	**+1.8**
NPS				S	**Sn**	**03 30 40.4**	**+2.7**
IDI	**Anoyia**	**1.49**	**293**		**Pn**	**03 30 35.0**	**+2.3**
IDI	**Anoyia**	**1.49**	**293**	Pn	**Pn**	**03 30 34.5**	**+1.8**
IDI					**Sn**	**03 30 49.9**	**-1.1**
IDI	**Anoyia**	**1.49**	**293**	P	**Pn**	**03 30 34.7**	**+2.0**
IDI	**Anoyia**	**1.49**	**293**	Pg	**Pn**	**03 30 34.9**	**+2.2**
	25nm,0.3s,baz=104,slow=16,SNR=91						
IDI				Lg	Lg	03 30 53.4	
	116nm,0.3s,baz=6.8,slow=19,SNR=7.9						
IDI	**Anoyia**	**1.49**	**293**	P	**Pn**	**03 30 34.9**	**+2.2**
THERA	**Ancient Thera,**	**1.87**	**332**	P	**Pn**	**03 30 38.0**	**+0.1**
THERA	**Ancient Thera,**	**1.87**	**332**	P	**Pn**	**03 30 38.1**	**+0.3**
THR6	**Thira Island,**	**1.89**	**330**	P	**Pn**	**03 30 38.8**	**+0.6**
SNT5	**Nea Kammeni, S**	**1.94**	**331**	P	**Pn**	**03 30 38.8**	**+0.1**
SNT5	**Nea Kammeni, S**	**1.94**	**331**	P	**Pn**	**03 30 38.8**	**+0.1**
THR3	**Thira Island,**	**1.94**	**331**	P	**Pn**	**03 30 39.4**	**+0.6**
THR3	**Thira Island,**	**1.94**	**331**	P	**Pn**	**03 30 39.4**	**+0.6**
ARG	**Arkhangelos**	**1.96**	**40**		**Pn**	**03 30 42.5**	**+3.5**
ARG	**Arkhangelos**	**1.96**	**40**	Pn	**Pn**	**03 30 41.4**	**+2.4**
ARG	**Arkhangelos**	**1.96**	**40**	P	**Pn**	**03 30 42.4**	**+3.5**
SAP3	**Santorini-Thir**	**1.98**	**330**	P	**Pn**	**03 30 40.0**	**+0.7**
GVD	**Gavdhos**	**2.05**	**274**	Pn	**Pn**	**03 30 41.7**	**+1.4**
YAZI	**Mula-Dat§a-**	**2.08**	**20**	P	**Pn**	**03 30 42.1**	**+1.4**
DAT	**Datca**	**2.16**	**22**	Pn	**Pn**	**03 30 43.3**	**+1.3**
BDRM	**Kayabasi**	**2.44**	**17**	P	**Pn**	**03 30 47.4**	**+1.7**
TURN	**Turunc**	**2.46**	**33**	Pn	**Pn**	**03 30 47.9**	**+2.0**
TURN	**Turunc**	**2.46**	**33**	P	**Pn**	**03 30 48.6**	**+2.7**
TURN				S	**Sn**	**03 31 15.4**	**+0.7**
MHLO	**Agia Marina, M**	**2.64**	**319**	P	**Pn**	**03 30 49.7**	**+1.3**
MHLO	**Agia Marina, M**	**2.64**	**319**	P	**Pn**	**03 30 49.9**	**+1.4**
IZZE	**Mula-Seydike**	**2.76**	**51**	P	**Pn**	**03 30 52.1**	**+2.1**
IZZE				S	**Sn**	**03 31 19.1**	**-3.0**
IZZE				*i* IAML		03 31 24.0	
	comp=N,983nm,0.4s						
IZZE				*i* IAML		03 31 24.0	
	comp=E,571nm,0.4s						
DDIM	**Aydin, Didim**	**2.78**	**11**	P	**Pn**	**03 30 51.8**	**+1.4**
SABU	**Mula-Dalaman**	**2.86**	**42**	P	**Pn**	**03 30 54.1**	**+2.6**
MULA	**Mugla, Merkez-**	**2.90**	**29**	P	**Pn**	**03 30 54.4**	**+2.3**
MULA				S	**Sn**	**03 31 23.6**	**-2.0**
SMG	**Samos**	**2.99**	**4**	P	**Pn**	**03 30 53.9**	**+0.7**
SMG	**Samos**	**2.99**	**4**	P	**Pn**	**03 30 52.6**	**-0.6**
GCAM	**G?zelcaml?**	**3.02**	**10**	Pn	**Pn**	**03 30 54.9**	**+1.3**
GCAM	**G?zelcaml?**	**3.02**	**10**	P	**Pn**	**03 30 56.5**	**+2.9**
AYDN	**Tasoluk**	**3.12**	**19**	P	**Pn**	**03 30 57.1**	**+2.1**
AYDN				S	**Sn**	**03 31 29.1**	**-1.9**
CAME	**Cameli-Denizli**	**3.13**	**44**	Pn	**Pn**	**03 30 58.2**	**+2.9**
KNIK	**Mula-Seydike**	**3.23**	**48**	P	**Pn**	**03 30 59.3**

HMDT Nahal Hemdat 7.87 106 S **Sn** **03 33 27.5 -0.6**
YTIR Yattir 7.91 113 P **Pn** **03 32 01.1 +0.2**
YTIR Yattir 7.91 113 S **Sn** **03 33 28.1 -1.1**
UJAP Al Uja 7.93 108 P **Pn** **03 32 01.1 +0.1**
UJAP Al Uja 7.93 108 S **Sn** **03 33 28.7 -0.8**
DSI Dead Sea 8.02 111 P **Pn** **03 32 02.5 +0.1**
DSI Dead Sea 8.02 111 S **Sn** **03 33 30.6 -1.2**
MDBI Mazsada 8.12 112 P **Pn** **03 32 03.0 -0.6**
MDBI Mazsada 8.12 112 S **Sn** **03 33 32.1 -2.1**
MSBI Mazada 8.12 112 P **Pn** **03 32 03.6 0.0**
MSBI Mazada 8.12 112 S **Sn** **03 33 32.1 -2.1**
KRMI Paran Flat 8.28 121 P **Pn** **03 32 05.3 -0.6**
KRMI Paran Flat 8.28 121 S **Sn** **03 33 35.6 -2.5**
GHAJ Ghor Haditha 8.28 112 **Pn** **03 32 07.8 +1.9**
GHAJ Ghor Haditha 8.28 112 P **Pn** **03 32 05.7 -0.2**
GHAJ Ghor Haditha 8.28 112 S **Sn** **03 33 36.7 -1.5**
PRNI Paran 8.34 119 P **Pn** **03 32 06.2 -0.5**
PRNI Paran 8.34 119 S **Sn** **03 33 37.3 -2.4**
ZFRI Zfri 8.36 117 P **Pn** **03 32 06.6 -0.4**
ZFRI Zfri 8.36 117 S **Sn** **03 33 37.5 -2.5**
MBRI Mt Berech 8.60 123 P **Pn** **03 32 09.9 -0.4**
MBRI Mt Berech 8.60 123 S **Sn** **03 33 43.7 -2.4**
EIL Elat 8.70 123 Pn **Pn** **03 32 13.4 +1.7**
1.4nm,0.3s,baz=319,slow=19,SNR=20
EIL Sn **Sn** **03 33 41.4 -7.0**
7.5nm,0.3s,baz=310,slow=16,SNR=13
3.2nm,0.2s
EIL Elat 8.70 123 P **Pn** **03 32 11.6 -0.1**
EIL Elat 8.70 123 S **Sn** **03 33 45.4 -3.1**
NUB Nuweibaa 8.90 127 P **Pn** **03 32 17.4 +2.9**
ASF Jabal al Asfar 8.99 104 Pn **Pn** **03 32 18.6 +2.8**
0.2nm,0.3s,baz=253,slow=19,SNR=3.1
ASF Sn **Sn** **03 33 53.6 -2.2**
0.9nm,0.3s,baz=0.0,slow=19,SNR=5.1
1.2nm,0.3s
TIP Timpagrande 9.03 302 **Pn** **03 32 14.4 -1.8**
CEL Celeste 9.30 295 Pn **Pn** **03 32 20.6 +0.8**
17nm,0.7s
HDK1 Dakhla 9.47 164 P **Pn** **03 32 25.2 +3.0**
AKRG Al Kharijah 9.79 159 P **Pn** **03 32 28.7 +2.1**
GTR Jabal at Tayr 9.81 158 P **Pn** **03 32 28.4 +1.6**
TIRR Tirgusor 9.83 8 Pn **Pn** **03 32 28.8 +1.8**
9.7nm,1.1s
CUC Castrococco 10.05 305 **Pn** **03 32 28.6 -1.5**
RAFF Raffo Rosso 10.21 288 **Pn** **03 32 31.5 -0.7**
VAE Valguarnera 10.22 289 Pn **Pn** **03 32 31.5 -1.0**
1.3nm,0.3s,baz=127,slow=15,SNR=2.3
VAE Sn Sn 03 34 15.0 -11
4.9nm,0.3s,baz=21,slow=14,SNR=7.6
8.3nm,0.5s
ACER Acerenza 10.37 309 Pn **Pn** **03 32 31.7 -2.7**
MLR Muntele Rosu 10.77 358 LR LR 03 37 40.2
comp=Z,34nm,21.7s,baz=155,slow=43
SGRT San Giovanni R 11.03 313 Pn **Pn** **03 32 39.4 -4.2**
INTR Introdacqua 12.31 310 Pn **Pn** **03 33 00.5 -0.7**
KEST Kesra 14.12 279 Pn **P** **03 33 30.4 -2.6**
0.4nm,0.3s,baz=80,slow=6.0,SNR=7.9
KEST Sn Sn 03 35 50.8 -10
0.1nm,0.3s,baz=90,slow=19,SNR=2.4
OBKA Obir 14.88 326 *e*Pn **Pn** **03 33 37.0 +0.9**
1.0nm,0.3s
KBZ Khabaz 15.50 50 Pn **P** **03 33 48.3 +0.3**
0.2nm,0.3s,baz=248,slow=11,SNR=8.6
2.9nm,0.8s
STAL STALIGIAL 15.60 322 Pn **Pn** **03 33 45.9 +0.6**
STAL IAmb IAmb 03 34 16.4
comp=Z,14nm,1.2s
AK07 Malin Array Si 15.94 6 P **Pn** **03 33 51.2 +1.5**
AK06 Malin Array Si 15.97 6 P **Pn** **03 33 51.6 +1.5**
AK13 Malin Array Si 15.99 6 P **Pn** **03 33 51.8 +1.5**
AK10 Malin Array Si 15.99 6 P **Pn** **03 33 51.8 +1.5**
AK08 Malin Array Si 16.02 6 P **Pn** **03 33 52.2 +1.4**
AK16 Malin Array Si 16.05 6 P **Pn** **03 33 52.6 +1.5**
AK17 Malin Array Si 16.06 6 P **P** **03 33 53.0 -1.2**
KIEV Kiev 16.08 6 Pn **P** **03 33 53.1 -1.3**
KIEV Kiev 16.08 6 P **P** **03 33 53.1 -1.3**
comp=Z,27nm,0.8s
AKASG Malin Array Be 16.09 6 Pn **Pn** **03 33 52.5 +0.9**
comp=Z,1.9nm,0.3s,baz=195,slow=10,SNR=13
AKASG Sn **Sn** **03 36 50.1 +1.4**
baz=186,slow=21
AKASG LR LR 03 39 54.6
comp=Z,36nm,20.2s,baz=198,slow=37
AKBB Malin Array Si 16.09 6 P **P** **03 33 53.2 -1.3**
MI28 Mi28,Pidlybu 16.22 2 P **Pn** **03 33 54.5 +1.2**
VRAC Vranov 16.33 336 Pn **P** **03 33 56.1 -1.2**
comp=Z,0.3nm,0.3s,baz=157,slow=13,SNR=1.8
VRAC LR LR 03 40 08.6
comp=Z,44nm,21.0s,baz=139,slow=38
LESA Schwarzleotal 16.43 325 *i* Pn **P** **03 33 58.5 +0.1**
comp=Z,4.3nm,0.9s
RNPP5 Staryi Chortor 16.51 358 P **Pn** **03 33 57.2 +0.3**
WTTA Wattenberg 16.82 323 *i* Pn **P** **03 34 03.7 +0.8**
comp=Z,1.4nm,0.3s
WATA Walderalm 16.90 323 *i* Pn **P** **03 34 03.9 +0.2**
comp=Z,0.9nm,0.2s
SQTA Sankt Quirin 17.01 322 *i* Pn **P** **03 34 05.4 +0.5**
comp=Z,0.5nm,0.2s
GERES GERESS Array B 17.03 330 Pn **Pn** **03 34 02.1 -1.6**
baz=140,slow=13,SNR=10
GERES LR LR 03 41 40.2
comp=Z,28nm,18.4s,baz=104,slow=42
comp=Z,1.9nm,0.8s
FETA Feichten 17.12 321 *i* Pn **P** **03 34 06.4 +0.2**
comp=Z,0.9nm,0.4s
MOTA Moosalm 17.14 322 *i* Pn **P** **03 34 05.9 -0.5**
comp=Z,0.7nm,0.3s
KHC Kasperske Hory 17.31 330 P **P** **03 34 07.7 -0.4**
comp=Z,3.2nm,1.0s
DPC Dobruska-Polom 17.32 337 P **Pn** **03 34 06.9 -0.3**
comp=Z,2.7nm,0.7s
RETA Reutte 17.41 322 *i* Pn **Pn** **03 34 08.7 +0.3**
comp=Z,1.8nm,0.4s
DAVOX Davos/Dischmat 17.43 319 P **P** **03 34 10.3 +0.7**
comp=Z,1.1nm,0.4s,baz=177,slow=17,SNR=2.5
DAVOX LR LR 03 42 21.8
comp=Z,56nm,20.3s,baz=77,slow=43
TUE Stuetta 17.53 317 **Pn** **03 34 10.1 +0.1**
TUE Stuetta 17.53 317 P **Pn** **03 34 10.1 +0.1**
comp=Z,25nm,2.5s
DAVA Damuels 17.74 320 *i* Pn **Pn** **03 34 12.0 -0.5**
comp=Z,1.3nm,0.4s
SENIN Lac Senin/Sane 18.65 314 **P** **03 34 21.8 -1.3**
MNK Minsk 19.80 2 *i* P **P** **03 34 34.8 -0.5**
MNK *i* P **P** **03 34 34.8 -0.5**
MNK *i* P **P** **03 34 34.8 -0.5**
comp=Z,9.0nm,0.8s,baz=183
MNK *i* S **S** **03 38 14.3 -1.9**
MNK *i* SS **SnSn** **03 38 33.8 +0.8**
MNK *i* LQ LQ 03 40 49.6
MNK *i* LR LR 03 43 10.1
MNK *i* LRM MLR 03 45 00.5
comp=N,582nm,20.6s
MNK *i* LRM MLR 03 45 02.5
comp=E,903nm,20.5s
MNK *i* LRM MLR 03 45 09.2
comp=Z,76nm,24.1s
OBN Obninsk 21.54 16 P **P** **03 34 54.5 +0.4**
comp=Z,26nm,0.4s,baz=207,slow=2.3,SNR=3.7
comp=Z,26nm,0.4s
CLF Chambon-Foret 22.46 314 P **P** **03 35 03.8 -0.2**
CLF IAmb IAmb 03 35 43.5
comp=Z,23nm,1.4s
ESDC Sonseca Array 24.76 291 P **P** **03 35 26.0 -0.5**
comp=Z,1.6nm,0.5s,baz=90,slow=9.2,SNR=24
ESDC LR LR 03 44 58.1
comp=Z,28nm,20.2s,baz=146,slow=36
comp=Z,1.6nm,0.5s
PAB San Pablo 25.05 290 P **P** **03 35 27.6 -1.6**
MDT Midelt 25.94 275 LR LR 03 47 52.1
comp=Z,51nm,19.8s,baz=88,slow=41
FINES FINESS Array B 26.74 359 P **P** **03 35 41.9 -2.3**
comp=Z,0.9nm,0.4s,baz=188,slow=9.6,SNR=6.0
FINES PcP **PcP** **03 39 07.0 +0.5**
comp=Z,1.8nm,0.8s,baz=163,slow=5.2,SNR=5.2
comp=Z,0.9nm,0.4s
HFS Hagfors 26.78 346 P **P** **03 35 42.2 -2.3**
comp=Z,2.0nm,0.6s,baz=152,slow=9.6,SNR=9.1
HFS LR LR 03 47 42.0
comp=Z,51nm,18.9s,baz=194,slow=40
comp=Z,2.0nm,0.6s
PVAQ Vaqueiros 27.76 286 P **P** **03 35 52.7 -0.8**
NC602 NORSAR Array S 27.78 344 P **P** **03 35 52.6 -0.9**
NC602 IAmb IAmb 03 35 53.6
comp=Z,27nm,1.4s
FURI Furi 28.00 154 LR LR 03 47 07.7
comp=Z,48nm,19.2s,baz=334,slow=36
NB201 NORSAR Array S 28.12 344 P **P** **03 35 56.6 0.0**
NB201 IAmb IAmb 03 36 01.9
comp=Z,31nm,1.4s
NOA NORSAR Array B 28.13 344 P **P** **03 35 54.3 -2.3**
comp=Z,0.6nm,0.7s,baz=155,slow=8.3,SNR=1.3
comp=Z,0.6nm,0.7s
AB31 Akbulak array 28.47 49 P **P** **03 36 00.9 +1.2**
AB31 IAmb IAmb 03 36 38.4
comp=Z,5.8nm,1.4s
ABKAR Akbulak array 28.47 49 P **P** **03 36 00.6 +0.8**
EKA Eskdalemuir Ar 29.07 324 P **P** **03 36 04.0 -1.0**
comp=Z,0.7nm,0.3s,baz=121,slow=8.7,SNR=10.0
comp=Z,0.7nm,0.3s
ESK Eskdalemuir 29.08 324 P **P** **03 36 04.2 -0.9**
ESK IAmb IAmb 03 36 10.6
comp=Z,20nm,1.1s
ARTI Arti 30.62 35 P **P** **03 36 20.0 +1.2**
ARTI IAmb IAmb 03 36 33.9
comp=Z,4.3nm,0.7s
TORD Torodi Ar. Bea 31.12 232 **P** **03 36 23.6 0.0**
TORD Torodi Ar. Bea 31.12 232 P **P** **03 36 24.2 +0.7**
comp=Z,3.6nm,0.6s,baz=37,slow=7.9,SNR=28
TORD PcP **PcP** **03 39 19.0 +0.8**
comp=Z,0.4nm,0.6s,baz=50,slow=2.3,SNR=2.5
comp=Z,3.6nm,0.6s
ARCES ARCESS Array B 34.87 359 P **P** **03 36 54.0 -1.7**
ARCES IAmb IAmb 03 37 25.4
comp=Z,15nm,1.4s
ARCES PcP **PcP** **03 39 28.2 +0.4**
ARCES ARCESS Array B 34.87 359 P **P** **03 36 54.1 -1.7**
comp=Z,1.2nm,0.4s,baz=177,slow=8.8,SNR=28
ARCES PcP **PcP** **03 39 27.5 -0.4**
comp=Z,2.0nm,0.9s,baz=176,slow=3.4,SNR=5.1
comp=Z,1.2nm,0.4s
BVAR Borovoye Array 35.82 46 P **P** **03 37 05.2 +1.2**
comp=Z,0.6nm,0.3s,baz=257,slow=5.8,SNR=6.9
comp=Z,0.6nm,0.3s
DBIC Dimbokro 40.22 233 P **P** **03 37 41.9 +0.4**
DBIC IAmb IAmb 03 38 14.2
comp=Z,13nm,1.2s
DBIC Dimbokro 40.22 233 P **P** **03 37 41.9 +0.4**
comp=Z,1.9nm,0.4s,baz=42,slow=8.7,SNR=6.3
comp=Z,1.9nm,0.4s
KURBB Kurchatov Arra 40.50 51 P **P** **03 37 45.0 +1.5**
comp=Z,2.1nm,0.4s,baz=277,slow=8.8,SNR=24
KURBB PcP **PcP** **03 39 46.5 +1.0**
comp=Z,0.3nm,0.3s,baz=276,slow=3.6,SNR=1.7
comp=Z,2.1nm,0.4s
MK31 Makanchi Array 43.05 56 P **P** **03 38 06.0 +1.6**
MK31 IAmb IAmb 03 38 06.7
comp=Z,2.3nm,0.6s
MKAR Makanchi Array 43.05 56 **P** **03 38 05.1 +0.7**
MKAR Makanchi Array 43.05 56 P **P** **03 38 05.9 +1.5**
comp=Z,2.3nm,0.5s,baz=273,slow=7.3,SNR=29
MKAR PcP **PcP** **03 39 55.0 +1.0**
comp=Z,0.3nm,0.6s,baz=294,slow=4.9,SNR=1.4
comp=Z,2.3nm,0.5s
SPITS Spitsbergen Ar 43.78 357 P **P** **03 38 09.0 -0.9**
comp=Z,4.1nm,0.8s,baz=156,slow=11,SNR=1.3
comp=Z,4.1nm,0.8s
ZAA0 Zalesovo Array 44.47 46 P **P** **03 38 16.4 +0.7**
ZAA0 IAmb IAmb 03 38 17.0
comp=Z,6.6nm,0.6s
ZALV Zalesovo Beam 44.47 46 **P** **03 38 15.8 +0.1**
ZALV Zalesovo Beam 44.47 46 P **P** **03 38 16.2 +0.5**
comp=Z,7.9nm,0.5s,baz=268,slow=8.4,SNR=37
comp=Z,7.9nm,0.5s
EVN Everest 51.24 80 **P** **03 39 09.1 -0.1**
EVN IAmb IAmb 03 39 11.7
comp=Z,4.6nm,0.7s
TSUM Tsumeb 54.30 190 LR LR 04 03 19.5
comp=Z,37nm,18.6s,baz=152,slow=37
MATP Matopo 54.87 178 LR LR 04 06 24.5
comp=Z,58nm,18.5s,baz=282,slow=40
SONM Songino Array 58.86 51 P **P** **03 40 03.7 +0.3**
SONM Songino Array 58.86 51 P **P** **03 40 03.8 +0.4**
comp=Z,1.1nm,0.7s,baz=286,slow=8.4,SNR=6.5
comp=Z,1.1nm,0.7s
BOSA Boshof 63.01 181 P **P** **03 40 34.0 +2.5**
comp=Z,2.1nm,0.7s,baz=4.6,slow=9.4,SNR=6.3
comp=Z,2.1nm,0.7s
KUQ Kuujjuaa 63.74 324 P **P** **03 40 35.6 -0.3**
SCHQ Schefferville 64.27 320 P **P** **03 40 39.0 -0.6**
SCHQ Schefferville 64.27 320 P **P** **03 40 39.2 -0.4**
comp=Z,42nm,0.5s,baz=64,slow=9.7,SNR=14
CMAR Chiang Mai Arr 65.47 84 P **P** **03 40 48.0 0.0**
comp=Z,1.4nm,0.4s,baz=300,slow=8.1,SNR=6.8
comp=Z,1.4nm,0.4s
BATG Bathurst New B 67.08 312 P **P** **03 40 58.2 +0.4**
GGN Saint George 68.55 311 P **P** **03 41 07.2 +0.1**
GGN IAmb IAmb 03 41 11.3
comp=Z,7.7nm,1.0s
D62A Allapoint, All 68.98 313 P **P** **03 41 09.9 +0.1**
I63A Otisfield 71.41 311 P **P** **03 41 24.9 +0.2**
I63A IAmb IAmb 03 41 39.9
comp=Z,11nm,1.1s
A36M Sachs Harbour 71.76 351 P **P** **03 41 26.5 +0.2**
USRK Ussuriysk Ar. 76.32 46 P **P** **03 41 53.3 -0.2**
comp=Z,2.6nm,0.6s,baz=289,slow=4.4,SNR=7.0
comp=Z,2.6nm,0.6s
KSRS Korea Array 77.62 53 P **P** **03 42 01.8 +0.9**
comp=Z,1.3nm,0.7s,baz=308,slow=4.8,SNR=3.3
comp=Z,1.3nm,0.7s
YKA Yellowknife Ar 78.22 343 P **P** **03 42 03.0 -0.7**
comp=Z,0.6nm,0.8s,baz=36,slow=6.3,SNR=3.5
comp=Z,0.6nm,0.8s
ILAR Eielson Array 80.70 357 P **P** **03 42 16.7 -0.6**
comp=Z,0.5nm,0.6s,baz=352,slow=3.9,SNR=12
comp=Z,0.5nm,0.6s
ASAJ Asahikawa 82.36 41 LR LR 04 26 48.7
comp=Z,26nm,19.9s,baz=145,slow=41
MJAR Matsushiro Arr 84.75 49 P **P** **03 42 39.6 +0.8**
comp=Z,2.0nm,0.8s,baz=316,slow=4.1,SNR=5.1
comp=Z,2.0nm,0.8s
PDAR Pinedale Array 93.08 329 P **P** **03 43 16.6 -2.0**
comp=Z,0.2nm,0.6s,baz=27,slow=7.9,SNR=1.9
comp=Z,0.2nm,0.6s
ASAR Alice Springs 116.83 101 PKP **PKiKP** **03 48 49.6 +0.4**
comp=Z,0.3nm,0.7s,baz=327,slow=2.4,SNR=1.8
QSPA South Pole Qui 124.58 180 PKP **PKiKP** **03 49 05.0 +1.8**
comp=Z,0.6nm,0.7s,baz=240,slow=1.5,SNR=11

NEIC ***03*** *03:41:28.4±2.0,35.703N±0.007×117.574W±0.007, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.2km az=69.0*

PAS 03 03:41:29.2±2.0,35.703N±0.008×117.59W±0.01, h7km±1km,Mwr3.5/6,ML3.5/194(NEIC)**,Error ellipse: s-maj=1.2km s-min=1.1km az=159.0,California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.11**	**356**		Pg	03 41 31.8	0.0
CLC				Sg	Sg	03 41 33.8	+0.3
CLC				IAML		03 41 34.1	
comp=E,11μm,0.1s							
WSHM	**Spangler Hills**	**0.13**	**143**		Pg	03 41 31.9	-0.1
WSHM				Sg	Sg	03 41 34.2	+0.3
SRTC	**Snort**	**0.13**	**265**		Pg	03 41 32.4	+0.4
SRTC					Sg	03 41 35.4	+1.4
TOW	**Tower One**	**0.18**	**307**		Pg	03 41 33.2	+0.4
TOW					Sg	03 41 36.9	+1.6
LRMC	**Laurel Mtn Rad**	**0.24**	**199**		Pg	03 41 33.9	0.0
LRMC				IAML		03 41 38.4	
comp=N,12μm,0.3s							
CCCA	**Chr Cany lake**	**0.26**	**134**		Pg	03 41 34.6	+0.4
WVPM	**Volcano Peak E**	**0.31**	**323**		Pg	03 41 35.2	-0.1
WVPM					Sg	03 41 39.6	+0.2
JRC2	**Joshua Ridge**	**0.33**	**327**		Pg	03 41 35.7	-0.1
JRC2					Sg	03 41 40.3	+0.2
WCSM	**Coso Springs S**	**0.35**	**336**		Pg	03 41 36.0	-0.2
WCSM					Sg	03 41 41.0	+0.1
MPMC	**Manual Prospec**	**0.36**	**13**		Pg	03 41 36.1	-0.3
MPMC				IAML		03 41 41.7	
comp=E,8μm,0.6s							
MPMC	**Manual Prospec**	**0.36**	**13**		Sg	03 41 41.5	+0.3
WRVM	**Rose V. Centra**	**0.39**	**321**		Pg	03 41 36.5	-0.3
WRVM					Sg	03 41 41.9	-0.1
MFS	**McCloud Flat S**	**0.47**	**332**		Pg	03 41 38.0	-0.2
MFS					Sg	03 41 44.5	+0.1
WBSM	**Bird Springs**	**0.48**	**250**		Pg	03 41 38.2	-0.3
WBSM					Sg	03 41 44.9	+0.2
DTP	**Desert Tortois**	**0.48**	**206**		Pg	03 41 38.1	-0.4
DTP					Sg	03 41 44.6	-0.2
WORM	**Onyx Ranch**	**0.53**	**269**		Pg	03 41 39.1	-0.4
WORM					Sg	03 41 46.1	-0.4
WHFM	**Hanning Flat**	**0.62**	**270**		Pg	03 41 40.7	-0.4
WHFM					Sg	03 41 49.2	0.0
QSM	**Queen of Sheba**	**0.64**	**66**		Pg	03 41 41.0	-0.5
QSM				IAML		03 41 50.1	
comp=E,3μm,0.3s							
QSM				IAML		03 41 50.4	
comp=N,2μm,0.4s							
QSM	**Queen of Sheba**	**0.64**	**66**		Sg	03 41 49.8	-0.2
CCAC	**Calif City Air**	**0.65**	**213**		Pg	03 41 41.4	-0.3
CCAC					Sg	03 41 50.4	+0.2
ISA	**Isabella, Lake**	**0.72**	**267**		Pg	03 41 42.6	-0.5
ISA				IAML		03 41 52.8	
comp=E,2μm,0.4s							
ISA				IAML		03 41 56.2	
comp=N,2μm,0.4s							
GSC	**Goldstone, Bar**	**0.75**	**122**		Pg	03 41 43.3	-0.4
GSC				IAML		03 41 54.7	
comp=N,2μm,0.5s							
GSC				IAML		03 41 57.3	
comp=E,3μm,0.5s							
WASM	**Alta Sierra Ca**	**0.79**	**273**		Pg	03 41 43.9	-0.5
WASM					Sg	03 41 54.4	-0.2
CWC	**Cottonwood Cre**	**0.84**	**332**		Pg	03 41 45.0	-0.3
CWC				IAML		03 42 00.7	
comp=E,928nm,0.2s							
CWC	**Cottonwood Cre**	**0.84**	**332**		Sg	03 41 56.4	+0.2
HYS	**Haystack Butte**	**0.84**	**179**		Pg	03 41 44.6	-0.7
CGO	**Cerro Gordo**	**0.86**	**348**		Pg	03 41 45.1	-0.7
CGO					Sg	03 41 57.6	+0.5
EDW2	**Edwards Air Fo**	**0.89**	**202**		Pg	03 41 45.5	-0.7
EDW2					Sg	03 41 57.6	-0.1
GWY	**Greenwater Val**	**0.89**	**57**		Pg	03 41 45.7	-0.6
GWY	**Greenwater Val**	**0.89**	**57**		Sg	03 41 57.5	-0.3
RRX	**Edison Barstow**	**0.96**	**149**		Pg	03 41 47.0	-0.5
RRX					Sg	03 42 00.5	+0.5
FURC	**Furnace Creek,**	**0.96**	**37**		Pg	03 41 47.5	-0.2
FURC				IAML		03 42 09.5	
comp=N,2μm,0.5s							
FURC	**Furnace Creek,**	**0.96**	**37**		Sb	03 42 00.8	-0.2
TPO	**Tropico Hills**	**0.97**	**213**		Pg	03 41 47.3	-0.6
TPO				IAML		03 42 04.2	
comp=N,2μm,0.4s							
TPO				IAML		03 42 07.7	
comp=E,2μm,0.7s							
TEJ	**El Tejon**	**1.01**	**243**		Pg	03 41 47.3	-1.3
SBB	**Saddle Back Bu**	**1.03**	**191**		Pg	03 41 48.1	-0.9
SBB					Sb	03 42 03.2	+0.1
SPG2	**Springville 2**	**1.08**	**298**		Pg	03 41 48.9	-1.0
SPG2					Sg	03 42 03.0	-0.8
SHOC	**Shoshone, Teco**	**1.09**	**79**		Pg	03 41 49.4	-0.6
MAGC	**SCE Magundon P**	**1.14**	**253**		Pg	03 41 50.3	-0.7
ADO	**Adelanto Recei**	**1.16**	**174**		Pb	03 41 51.5	0.0
TJR	**Tejon Ranch**	**1.16**	**235**		Pg	03 41 50.1	-1.4
TJR					Sg	03 42 05.4	-1.1
VTV	**Victorville**	**1.16**	**169**		Sb	03 42 07.0	+0.1
ARVC	**Arvin**	**1.17**	**241**		Pg	03 41 50.4	-1.2
THC	**Tehachapi Micr**	**1.18**	**228**		Pg	03 41 50.5	-1.4
VES	**Vestal, Richgr**	**1.22**	**277**		Pb	03 41 51.7	-0.9
VES				IAML		03 42 13.5	
comp=E,1μm,0.6s							
LRRC	**Littlerock Res**	**1.23**	**197**		Pb	03 41 52.2	-0.4
CJV	**Casa Juvan**	**1.25**	**201**		Pb	03 41 52.9	-0.4
HOLC	**Holcomb Ridge**	**1.26**	**190**		Pn	03 41 51.8	-1.5
JNH	**Juniper Hills**	**1.29**	**194**		Pn	03 41 52.3	-1.4
AMDNV	**Amargosa**	**1.30**	**54**		Pn	03 41 52.0	-1.6
BTPC	**Burnt Peak**	**1.30**	**219**		Pn	03 41 53.8	-0.1
DSCC	**Desert Studies**	**1.33**	**114**		Pn	03 41 52.2	-2.0
WCT	**Wildcat Mounta**	**1.34**	**35**		Pn	03 41 53.0	-1.4
WCT				IAML		03 42 13.7	
comp=N,915nm,0.7s							
WCT				IAML		03 42 14.1	
comp=E,957nm,0.4s							
HEC	**Hector,Ludlow**	**1.35**	**130**		Pn	03 41 52.8	-1.6
SGV	**South Grapevin**	**1.35**	**19**		Pn	03 41 53.5	-1.1
TUQ	**Turquoise Moun**	**1.38**	**101**		Pn	03 41 53.1	-1.9
CHFC	**Chilao Flat St**	**1.41**	**195**		Pn	03 41 54.0	-1.4
OSI	**Osito Audit: C**	**1.43**	**221**		Pn	03 41 55.3	-0.3
OSI				IAML		03 42 17.2	
comp=E,930nm,0.7s							
OSI				IAML		03 42 23.8	
comp=N,643nm,0.6s							
TIN	**Tinemaha, Big**	**1.44**	**339**		Pn	03 41 55.3	-0.6
TIN				IAML		03 42 18.9	
comp=E,778nm,0.5s							
TIN				IAML		03 42 23.8	
comp=N,892nm,0.7s							
BFSC	**Mount Baldy Ra**	**1.46**	**182**		Pn	03 41 54.7	-1.4
BFSC				IAML		03 42 16.2	
comp=N,671nm,0.3s							
BFSC				IAML		03 42 16.5	
comp=E,895nm,0.3s							
SIL	**Silver Peak**	**1.49**	**155**		Pn	03 41 56.9	+0.3
SSK	**Sunset Peak**	**1.49**	**183**		Pn	03 41 55.5	-1.0
MWC	**Mount Wilson**	**1.52**	**195**		Pn	03 41 56.0	-1.0
LCH	**Last Change Ra**	**1.53**	**358**		Pn	03 41 56.2	-0.8
BBRC	**Big Bear Solar**	**1.54**	**159**		Pn	03 41 57.6	+0.3
MPI	**Mount Pinos, F**	**1.55**	**236**		Pn	03 41 57.9	+0.4
OAT	**Oat Mountain**	**1.60**	**212**		Pn	03 41 57.5	-0.4
PASC	**Pasadena Art C**	**1.60**	**198**		Pn	03 41 57.1	-0.9
PASC				IAML		03 42 22.0	
comp=N,622nm,0.5s							
PASC				IAML		03 42 24.0	
comp=E,734nm,0.4s							
GMN	**Gold Mountain**	**1.62**	**9**		Pn	03 41 57.5	-0.8
CLTC	**Calectric**	**1.62**	**172**		Pn	03 41 56.7	-1.5
SVD	**Seven Oaks Dam**	**1.64**	**166**		Pb	03 42 00.2	+0.4
TPNV	**Topopah Spring**	**1.65**	**41**		Pn	03 41 57.4	-1.3
TPNV				IAML		03 42 23.5	
comp=E,548nm,0.4s							
MTPC	**Mountain Pass**	**1.67**	**97**		Pn	03 41 57.3	-1.7
MTPC				IAML		03 42 22.2	
comp=E,356nm,0.3s							
DSP	**Deep Springs**	**1.69**	**350**		Pn	03 41 58.5	-0.7
DSP				IAML		03 42 24.1	
comp=E,370nm,0.8s							
BLCC	**Black Canyon**	**1.71**	**212**		Pn	03 41 58.7	-0.7
GTM	**Goat Mountain**	**1.73**	**144**		Pb	03 42 01.1	-0.2
DJJ	**Donna J Jenkin**	**1.75**	**204**		Pn	03 41 58.8	-1.1
CRGC	**Crocker Grade**	**1.80**	**256**		Pn	03 42 00.0	-0.7
GMRC	**Granite Mounta**	**1.82**	**120**		Pn	03 41 58.8	-2.3
MTUM	**Tungsten Hills**	**1.82**	**335**		Pb	03 42 02.9	-0.1
BLAC	**Blackrock camp**	**1.91**	**148**		Pn	03 42 01.2	-0.9
EW2	**E Wide Canyon**	**2.01**	**151**		Pn	03 42 02.4	-1.1
TPC	**Twentynine Pal**	**2.04**	**141**		Pn	03 42 02.5	-1.4
HMTC	**Hemet**	**2.05**	**166**		Pn	03 42 03.0	-1.0
ELS	**Elsinore Mount**	**2.06**	**176**		Pn	03 42 03.2	-1.0
ELS				IAML		03 42 41.3	
comp=E,229nm,0.6s							
ELS				IAML		03 42 42.1	
comp=N,211nm,0.6s							
POB	**Polly Butte**	**2.08**	**165**		Pn	03 42 03.8	-0.9
DANC	**Danby, Needles**	**2.10**	**120**	Pn	Pn	03 42 04.1	-0.6
DANC				IAML		03 42 44.1	
comp=N,498nm,0.8s							
DGR	**Domenigoni Val**	**2.10**	**167**		Pn	03 42 04.0	-0.8
MURC	**Murrieta**	**2.12**	**171**		Pn	03 42 04.3	-0.8
SHPR	**Sheep Range**	**2.12**	**67**	Pn	Pn	03 42 04.1	-1.1
BELC	**Belle Mtn. Jos**	**2.14**	**142**	Pn	Pn	03 42 03.9	-1.6
BELC				IAML		03 42 38.8	
comp=N,237nm,0.7s							
BELC				IAML		03 42 47.1	
comp=E,274nm,0.7s							
V12A	**Nelson**	**2.23**	**89**	Pn	Pn	03 42 05.0	-1.6
DNR	**Dunn Ranch,Anz**	**2.27**	**159**		Pn	03 42 06.2	-1.1
PMD	**Palm Desert**	**2.28**	**154**		Pn	03 42 05.6	-1.7
PMD				IAML		03 42 42.7	
comp=E,156nm,0.3s							
PFO	**Pinyon Flats O**	**2.29**	**156**		Pn	03 42 06.0	-1.4
XPFO	**Pinon Flat**	**2.29**	**156**		Pn	03 42 06.1	-1.3
SNDA	**J Saunders Pla**	**2.29**	**159**		Pn

NEE2	**Needles Airpor**	**2.60**	**110**		Pn		03 42 09.6	-2.1
NEE2				IAML			03 42 53.9	
	comp=E,274nm,0.3s							
BORC	**Borrego Spring**	**2.62**	**158**		Pn		03 42 10.4	-1.4
BORC				IAML			03 42 55.2	
	comp=N,217nm,0.8s							
BORC				IAML			03 42 55.4	
	comp=E,209nm,0.7s							
LHV	**Little Huntoon**	**2.65**	**344**		Pn		03 42 12.3	+0.1
LHV				IAML			03 42 59.5	
	comp=N,120nm,0.7s							
PMPB	**Monarch Peak**	**2.66**	**282**	Pn	Pn		03 42 12.1	-0.3
PMPB				IAML			03 42 57.7	
	comp=N,271nm,0.9s							
PMPB				IAML			03 43 09.6	
	comp=E,266nm,0.7s							
PRN	**Pahroc Range**	**2.66**	**49**		Pn		03 42 11.9	-0.7
PRN				IAML			03 43 01.1	
	comp=N,310nm,0.6s							
PRN				IAML			03 43 01.1	
	comp=E,235nm,0.7s							
RAMR	**Ramage Ranch**	**2.67**	**270**	Pn	Pn		03 42 11.3	-1.3
RAMR				IAML			03 42 57.7	
	comp=N,299nm,0.6s							
RAMR				IAML			03 43 03.5	
	comp=E,270nm,1.0s							
BC3	**Big Chuckawall**	**2.70**	**139**		Pn		03 42 11.0	-2.0
BC3				IAML			03 43 02.6	
	comp=N,170nm,0.8s							
BC3				IAML			03 43 04.4	
	comp=E,130nm,0.9s							
SALN	**Salton City**	**2.76**	**151**	Pn	Pn		03 42 12.6	-1.1
CPE	**Camp Elliot**	**2.84**	**172**		Pn		03 42 14.1	-0.8
CPE				IAML			03 42 58.2	
	comp=N,135nm,0.3s							
CPE				IAML			03 42 59.8	
	comp=E,185nm,0.5s							
BUCR	**Buckhorn Ranch**	**2.85**	**314**		Pn		03 42 14.6	-0.5
BUCR				IAML			03 42 58.6	
	comp=N,158nm,0.5s							
BUCR				IAML			03 43 02.9	
	comp=E,129nm,0.7s							
BBGB	**Big Mountain B**	**2.93**	**288**	Pn	Pn		03 42 15.9	-0.3
RYN	**Ryan**	**3.01**	**346**		Pn		03 42 17.0	-0.5
W13A	**Hualapai Mount**	**3.08**	**100**		Pn		03 42 17.1	-1.4
R11B	**Troy Canyon, C**	**3.09**	**31**		Pn		03 42 17.6	-1.0
BAR	**Barrett**	**3.11**	**166**		Pn		03 42 17.8	-0.9
BAR				IAML			03 43 06.2	
	comp=E,187nm,0.3s							
BAR				IAML			03 43 07.2	
	comp=N,118nm,0.2s							
Q09A	**Carvers**	**3.14**	**6**	Pn	Pn		03 42 19.6	+0.3
WAKR	**Walker**	**3.16**	**333**	Pn	Pn		03 42 19.8	+0.2
SCZ	**Santa Cruz**	**3.21**	**287**	Pn	Pn		03 42 19.6	-0.5
TJX	**Tijuana**	**3.22**	**172**	Pn	Pn		03 42 19.7	-0.4
CMB	**Columbia Colle**	**3.23**	**317**		Pn		03 42 20.0	-0.4
CMB				IAML			03 43 15.4	
	comp=E,89nm,0.8s							
CMB				IAML			03 43 16.9	
	comp=N,87nm,0.6s							
SAO	**San Andreas Ge**	**3.29**	**290**		Pn		03 42 21.3	+0.1
YUH	**Yuha Desert**	**3.35**	**155**		Pn		03 42 19.2	-2.6
CBX	**Cerro Bola**	**3.47**	**167**		Pn		03 42 23.1	-0.6
GLA	**Glamis**	**3.49**	**138**		Pn		03 42 21.7	-2.2
GLA				IAML			03 43 22.2	
	comp=E,145nm,0.5s							
GLA				IAML			03 43 29.2	
	comp=N,131nm,0.7s							
MTOS	**Mt Oso, Westle**	**3.50**	**302**		Pn		03 42 21.7	-2.4
MTOS				IAML			03 43 19.8	
	comp=E,83nm,0.7s							
MTOS				IAML			03 43 20.0	
	comp=N,101nm,0.5s							
WELL	**Weller Preserv**	**3.71**	**318**		Pn		03 42 26.2	-0.7
WELL				IAML			03 43 30.1	
	comp=E,50nm,0.6s							
WELL				IAML			03 43 30.3	
	comp=N,53nm,0.5s							
LCMT	**Little Creek M**	**3.74**	**68**		Pn		03 42 26.9	-0.6
ESJX	**Sierra Juarez**	**3.93**	**159**		Pn		03 42 29.4	-0.7
ESJX				IAML			03 43 32.8	
	comp=E,43nm,0.7s							
KNB	**Kanab**	**4.06**	**70**		Pn		03 42 31.1	-0.9
PSUT	**Pine Spring**	**4.11**	**45**		Pn		03 42 31.6	-1.0
PSUT				IAML			03 43 43.1	
	comp=E,53nm,0.8s							
PSUT				IAML			03 43 44.2	
	comp=N,54nm,0.8s							
Y14A	**Wickenburg**	**4.16**	**114**		Pn		03 42 31.7	-1.4
Y14A				IAML			03 43 44.5	
	comp=N,57nm,0.4s							
Y14A				IAML			03 43 49.7	
	comp=E,48nm,0.7s							
SPR3	**Spring Creek 3**	**4.19**	**37**		Pn		03 42 32.2	-1.5
SPR3				IAML			03 43 44.0	
	comp=N,34nm,0.6s							
SPR3				IAML			03 43 44.1	
	comp=E,49nm,0.8s							
AFDM	**Forest Hills D**	**4.21**	**321**		Pn		03 42 33.5	-0.4
AFDM				IAML			03 43 52.6	
	comp=E,48nm,1.5s							
AFDM				IAML			03 43 54.9	
	comp=N,43nm,1.2s							
PAHR	**Pah Rah Range**	**4.24**	**341**	Pn	Pn		03 42 34.1	-0.3
113A	**Mohawk Valley,**	**4.31**	**132**	Pn	Pn		03 42 32.5	-2.6
U15A	**North Rim**	**4.35**	**79**		Pn		03 42 35.7	-0.3
VTX	**Valle De La Tr**	**4.56**	**160**		Pn		03 42 35.9	-2.7
VTX				IAML			03 44 00.0	
	comp=E,25nm,1.0s							
PKCU	**Pink Cliffs**	**4.59**	**66**		Pn		03 42 38.3	-0.9
PKCU				IAML			03 43 55.1	
	comp=N,29nm,0.9s							
PKCU				IAML			03 44 07.9	
	comp=E,32nm,1.9s							
BEKR	**Beckworth**	**4.70**	**333**	Pn	Pn		03 42 38.8	-1.9
BEKR				IAML			03 44 12.0	
	comp=E,52nm,0.8s							
SUTB	**Sutter Butte**	**4.85**	**318**	Pn	Pn		03 42 43.0	+0.4
MTPU	**Mount Pierson**	**4.92**	**60**		Pn		03 42 44.1	+0.2
ORV	**Oroville**	**4.94**	**322**	Pn	Pn		03 42 43.6	-0.2
ORV				IAML			03 44 14.0	
	comp=E,24nm,0.9s							
WUAZ	**Wupatki**	**5.07**	**90**	Pn	Pn		03 42 43.6	-2.1
WUAZ				IAML			03 44 10.7	
	comp=E,23nm,0.6s							
WUAZ				IAML			03 44 13.1	
	comp=E,17nm,1.1s							
ELK	**Elko**	**5.36**	**19**		Pn		03 42 49.5	-0.3
ELK				IAML			03 44 22.4	
	comp=E,18nm,0.7s							
O03E	**Paynes Creek**	**5.66**	**325**	Pn	Pn		03 42 53.8	0.0
TMUT	**Trail Mountain**	**6.21**	**53**	Pn	Pn		03 43 03.0	+1.4
BGU	**Big Grassy Mou**	**6.33**	**33**	Pn	Pn		03 43 02.2	-0.8
X18A	**Snowflake**	**6.37**	**98**		Pn		03 43 03.9	+0.3
SRU	**San Rafael Swe**	**6.57**	**57**	Pn	Pn		03 43 05.4	-1.0

IDC 03 03:45:39.4±11.0, 18°14S×177°02W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=519.7km s-min=36.7km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.89**	**260**	P	P	03 54 02.8	-1.2
	1.7nm,1.0s,baz=99,slow=7.9,SNR=3.3 1.7nm,1.0s						
ASAR	**Alice Springs**	**46.00**	**254**	P	P	03 54 05.5	+0.6
	1.7nm,0.5s,baz=95,slow=7.9,SNR=21 1.7nm,0.5s						
ILAR	**Eielson Array**	**85.82**	**12**	P	P	03 58 20.4	0.0
	0.2nm,0.4s,baz=209,slow=4.6,SNR=8.0 0.2nm,0.4s						

SJA 03 03:53:27.5±0.7, 31°67S×67°09W, h119km±3km, ML3.4, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACAN	**Cantantal**	**0.61**	**188**	*e*P	Pn	03 53 46.6	+0.4
ACAN				IAML		03 54 02.0	
	comp=Z,1μm,0.2s						
ACHE	**Chepes**	**0.62**	**36**	*e*P	Pn	03 53 47.1	+0.8
ACHE				*e*S	Sn	03 54 05.0	+4.5
CFA	**Coronel Fontan**	**0.98**	**273**	*e*P	Pn	03 53 48.8	-0.5
CFA				*e*S	Sn	03 54 06.2	+0.4
AVFE	**Valle Fertil**	**1.05**	**343**	*e*P	Pn	03 53 47.4	-2.6
AVFE				*e*S	Sn	03 54 08.2	+1.2
AVFE				IAML		03 54 08.6	
	comp=Z,860nm,0.3s						
RTLL	**Cerro Villicun**	**1.23**	**285**	*e*P	Pn	03 53 52.5	+0.6
RTLL				*e*S	Sn	03 54 11.3	+1.0
RTLL				IAML		03 54 11.4	
	comp=Z,531nm,0.2s						
SJA	**San Juan**	**1.26**	**276**	*e*P	Pn	03 53 53.0	+0.8
SJA				*e*S	Sn	03 54 12.6	+1.6
APLL	**PUNTA DE LOS L**	**1.36**	**21**	*e*P	Pn	03 53 54.4	+1.1
APLL				*e*S	Sn	03 54 14.4	+1.6
MRA	**San Martin**	**1.39**	**123**	*e*P	Pn	03 53 54.6	+1.0
MRA				*e*S	Sn	03 54 14.8	+1.3
MRA				IAML		03 54 15.3	
	comp=Z,423nm,0.7s						
RTLS	**Leoncito**	**1.89**	**265**	*e*P	Pn	03 54 00.5	+0.7
RTLS				*e*S	Sn	03 54 24.6	+0.2
RTLS				IAML		03 54 24.7	
	comp=Z,452nm,1.1s						
ARCO	**CERRO ARCO**	**1.95**	**233**	*e*P	Pn	03 54 01.0	+0.5
ARCO				*e*S	Sn	03 54 23.0	-2.6
ARCO				IAML		03 54 26.8	
	comp=Z,402nm,0.7s						
ACCO	**Cerro Coronel**	**2.01**	**302**	*e*P	Pn	03 54 02.2	+0.9
AAGR	**Agrelo**	**2.04**	**226**	*e*P	Pn	03 54 02.2	+0.7
AAGR				*e*S	Sn	03 54 27.4	-0.2
TCA	**Tanti**	**2.16**	**82**	*e*P	Pn	03 54 03.9	+0.9
TCA				*e*S	Sn	03 54 31.0	+0.9
TCA				IAML		03 54 31.5	
	comp=Z,278nm,0.4s						
AVIZ	**Vizcacheras**	**2.17**	**213**	*e*P	Pn	03 54 04.2	+1.1
AVIZ				*e*S	Sn	03 54 30.3	0.0
ACLC	**CERRO LA CRUZ**	**2.24**	**3**	*e*P	Pn	03 54 04.8	+0.7
ACLC				*e*S	Sn	03 54 32.8	+0.7
ACLC				IAML		03 54 33.2	
	comp=Z,147nm,0.3s						
ACDV	**Cuesta del Vie**	**2.29**	**310**	*e*P	Pn	03 54 05.8	+1.0
ACDV				IAML		03 54 35.9	
	comp=Z,86nm,1.1s						
AGUA	**GUANDACOL**	**2.48**	**331**	*e*P	Pn	03 53 52.0	-15
AGUA				*e*S	Sn	03 54 37.7	+0.1
AGUA				IAML		03 54 39.7	
	comp=Z,373nm,0.2s						
PIL	**Pilar**	**2.73**	**91**	*e*S	Sn	03 54 35.4	-7.8
MT08	**Bocatoma Ro**	**3.04**	**234**	*e*P	Pn	03 54 15.6	+1.1
MT08				*e*S	Sn	03 54 51.6	+0.9
MT08				IAML		03 54 55.0	
	comp=Z,57nm,0.6s						
VCA	**Vinchina**	**3.08**	**341**	*e*P	Pn	03 54 16.3	+1.3
VCA				*e*P		03 54 16.4	
VCA				*e*S	Sn	03 54 52.2	+0.7
VCA				IAML		03 54 57.6	
	comp=Z,175nm,0.6s						
CO01	**Juntas del Tor**	**3.08**	**302**	*e*P	Pn	03 54 16.7	+1.6
CO01				*e*S	Sn	03 54 52.5	+0.7
CO01				IAML		03 54 55.3	
	comp=Z,46nm,0.4s						
MT04	**Ro Olivares**	**3.10**	**235**	*e*P	Pn	03 54 16.6	+1.3
MT04				*e*S	Sn	03 54 53.1	+0.9
MT04				IAML		03 54 53.5	
	comp=Z,50nm,0.5s						
VA03	**San Esteban**	**3.13**	**249**	*e*S	Sn	03 54 55.1	+2.5
VA03				IAML		03 54 58.0	
	comp=Z,107nm,0.7s						
CO03	**El Pedregal**	**3.19**	**284**	*e*P	Pn	03 53 59.1	-17
CO03				*e*S	Sn	03 54 54.7	+0.7
CO03				IAML		03 54 58.0	
	comp=Z,103nm,0.3s						
RFA	**San Rafael**	**3.30**	**200**	*e*P	Pn	03 54 07.7	-10
RFA				*e*S	Sn	03 55 10.1	+13
RFA				IAML		03 55 18.8	
	comp=Z,37nm,0.3s						
CO02	**Combarbal**	**3.37**	**277**	*e*S	Sn	03 54 59.0	+0.6
CO02				IAML		03 55 00.2	
	comp=Z,196nm,0.4s						
PEL	**Peldehue**	**3.38**	**243**	*e*S	Sn	03 54 58.4	0.0
PEL				IAML		03 55 02.8	
	comp=Z,64nm,1.3s						
MT13	**San Alfonso**	**3.40**	**232**	*e*P	Pn	03 54 20.1	+1.0
MT13				*e*S	Sn	03 54 54.7	-4.3
MT13				*e*S		03 54 58.0	
MT13				IAML		03 55 27.9	
	comp=Z,36nm,0.5s						
CYA	**Choya**	**3.40**	**19**	*e*P	Pn	03 54 13.3	-5.8
CYA				*e*P		03 54 19.1	
CYA				*e*S	Sn	03 54 59.1	+0.1
CYA				IAML		03 54 59.3	
	comp=Z,70nm,0.4s						
LMEL	**Las Melosas**	**3.41**	**230**	*e*P	Pn	03 54 15.2	-4.1
LMEL				*e*P		03 54 20.2	
LMEL				*e*S	Sn	03 55 13.3	+14
LMEL				IAML		03 55 27.0	
	comp=Z,28nm,1.1s						
MT03	**Universidad Ad**	**3.41**	**237**	*e*P	Pn	03 54 20.3	+1.0
MT03				*e*S	Sn	03 54 45.4	-14
MT03				IAML		03 55 03.0	
	comp=Z,57nm,0.7s						
GO04	**Tololo Observa**	**3.52**	**294**	*e*S	Sn	03 55 04.1	+2.1
GO04				IAML		03 55 07.4	
	comp=Z,134nm,0.3s						
MT05	**Renca**	**3.53**	**240**	*e*P	Pn	03 54 22.3	+1.5
MT05				*e*S	Sn	03 55 03.7	+1.7
MT05				IAML		03 55 34.8	
	comp=Z,55nm,0.6s						
ROC1	**El Roble**	**3.57**	**248**	*e*P	Pn	03 54 13.1	-8.4
ROC1				*e*S	Sn	03 54 48.4	-15
LCO	**Las Campanas**	**4.09**	**309**	*e*P	Pn	03 54 29.1	+0.6
LCO				*e*S	Sn	03 55 15.2	-0.6
LCO				IAML		03 55 15.7	
	comp=Z,125nm,0.2s						
MT01	**Popeta**	**4.13**	**237**	*e*S	Sn	03 55 16.4	0.0
MT01				IAML		03 55 16.7	
	comp=Z,31nm,0.4s						
BO01	**Tunca**	**4.32**	**230**	*e*P	Pn	03 54 30.0	-1.2
BO01				*e*S	Sn	03 55 20.6	-0.1
BO01				IAML		03 55 56.5	
	comp=Z,20nm,3.0s						
BO02	**Sierra Bellavi**	**4.39**	**224**	*e*S	Sn	03 55 27.0	+4.4
BO02				IAML		03 55 32.1	
	comp=Z,24nm,0.5s						
AC04	**Llanos de Chal**	**4.88**	**314**	*e*S	Sn	03 55 31.9	-2.5
AC04				IAML		03 56 00.2	
	comp=Z,46nm,3.9s						
GO03	**Copiapo**	**4.89**	**325**	*e*P	Pn	03 54 40.0	+0.9
GO03				*e*S	Sn	03 55 34.5	-0.2
GO03				IAML		03 55 37.0	
	comp=Z,35nm,1.1s						
AC02	**Maricunga**	**5.13**	**339**	*e*P	Pn	03 54 44.6	+1.9
AC02				*e*S	Sn	03 55 40.5	-0.6
AC02				IAML		03 55 51.9	
	comp=Z,12nm,2.5s						

NEIC 03 04:09:57.7±1.1, 43°82N±0°05×129°0W±0°2, h10km±2km, ML3.1/48, Error ellipse: s-maj=22.8km s-min=3.1km az=250.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.50**	**104**	Pn	Pn	04 10 50.7	-1.6
KEBM				IAML		04 12 21.3	
	comp=E,27nm,2.2s						
I02E	**Swisshome, OR**	**3.70**	**84**	Pn	Pn	04 10 54.6	-0.3
K02D	**Willamette Mer**	**4.02**	**104**	Pn	Pn	04 10 58.2	-1.2
I03D	**Drain, OR**	**4.06**	**90**		Pn	04 10 58.7	-1.2
COR	**Corvallis**	**4.13**	**77**		Pn	04 11 01.0	+0.2
COR				IAML		04 11 52.0	
	comp=E,25nm,0.9s						
COR				IAML		04 11 54.4	
	comp=E,18nm,2.9s						
G03D	**McMinnville, O**	**4.30**	**69**		Pn	04 11 02.6	-0.5
G03D				IAML		04 11 53.3	
	comp=N,24nm,0.7s						
G03D				IAML		04 11 55.8	
	comp=E,23nm,0.9s						
BUCK	**Buck Mountain**	**4.32**	**83**		Pn	04 11 04.4	+0.8
BUCK				IAML		04 11 59.8	
	comp=N,17nm,2.8s						
BUCK				IAML		04 12 01.6	
	comp=E,14nm,1.5s						
F03A	**Seaside**	**4.37**	**59**		Pn	04 11 03.6	-0.6
F03A				IAML		04 12 01.4	
	comp=N,34nm,0.5s						
RADR	**Rader Ridge**	**4.48**	**53**	Pn	Pn	04 11 04.9	-0.8
H04D	**Lebanon**	**4.53**	**79**		Pn	04 11 06.7	+0.4
H04D				IAML		04 12 01.9	
	comp=N,16nm,0.9s						
H04D				IAML		04 12 03.6	
	comp=E,19nm,0.6s						
BBOR	**Butler Butte**	**4.67**	**99**		Pn	04 11 08.7	+0.3
E03A	**Lebam**	**4.68**	**53**		Pn	04 11 08.1	-0.3
E03A				IAML		04 11 42.8	
	comp=E,20nm,1.6s						
E03A				IAML		04 13 12.2	
	comp=N,22nm,1.9s						
G04A	**Mulino**	**4.83**	**71**		Pn	04 11 10.3	-0.1
KHMM	**Horse Mountain**	**4.86**	**126**	Pn	Pn	04 11 11.2	+0.1
KHMM				IAML		04 13 20.1	
	comp=E,16nm,4.3s						
KHMM				IAML		04 13 36.9	
	comp=N,13nm,3.4s						
WISH	**Wishkah**	**4.91**	**46**	Pn	Pn	04 11 11.9	+0.4
H04A	**Detroit Lake**	**4.94**	**78**		Pn	04 11 12.5	+0.5
H04A				IAML		04 12 13.3	
	comp=N,23nm,0.4s						
H04A				IAML		04 12 15.1	
	comp=E,16nm,0.3s						
J04A	**Umpqua Nationa**	**5.01**	**94**		Pn	04 11 15.2	+2.1
NLWA	**Neilton Lookou**	**5.04**	**43**	Pn	Pn	04 11 13.0	-0.4
NLWA				IAML		04 12 46.2	
	comp=E,9.3nm,1.8s						
NLWA				IAML		04 14 30.7	
	comp=E,9.4nm,1.9s						
C03A	**Quillayute Air**	**5.14**	**35**	Pn	Pn	04 11 14.3	-0.3
HOOD	**Mount Hood Mea**	**5.43**	**71**		Pn	04 11 18.7	-0.1
G05A	**Wamic**	**5.64**	**73**		Pn	04 11 22.2	+0.6
OZB	**Mount Ozzard**	**5.67**	**24**	Pn	Pn	04 11 22.7	+0.7
GNW	**Green Mountain**	**5.69**	**47**		Pn	04 11 21.7	-0.6
PINE	**Pine Mountain**	**5.80**	**88**		Pn	04 11 24.0	+0.1
LON	**Longmire**	**5.83**	**57**		Pn	04 11 24.1	-0.2
O02D	**Mt. Diablo Mer**	**5.86**	**126**	Pn	Pn	04 11 22.8	-1.9
D05A	**Enumclaw**	**5.94**	**53**		Pn	04 11 25.9	+0.3
K05A	**Summer Lake**	**5.98**	**98**	Pn	Pn	04 11 26.8	+0.3
CLRS	**Cowichan Lake**	**6.01**	**32**		Pn	04 11 25.6	-1.0
G06A	**Carlson Farm,**	**6.11**	**74**		Pn	04 11 28.4	+0.3
CBB	**Campbell River**	**6.68**	**20**		Pn	04 11 36.0	+0.2
MXC	**Moxie City**	**6.71**	**63**		Pn	04 11 36.0	-0.3
F07A	**Phinny Hill Vi**	**6.74**	**69**		Pn	04 11 35.7	-1.0
LTY	**Liberty**	**6.75**	**57**		Pn	04 11 36.9	0.0
WAH2	**Wahluke Slope**	**7.24**	**63**		Pn	04 11 44.1	+0.6
G08A	**Pilot Rock**	**7.29**	**75**		Pn	04 11 44.2	-0.1
D08A	**Wollman Farm,**	**7.76**	**62**		Pn	04 11 50.9	+0.2

*SDD **03** 04:16:55.7±2.3, 18°59N×69°38W, h103km±13km, MD3.5, ML3.5, MW3.4*
*OSPL **03** 04:16:56.3±2.4, 18°67N×69°39W, h104km±12km, ML3.0*
ISC 03 04:16:55.4±1.5, 18°66N±0°05×69°42W±0°04, h96km±9km, n24, σ0°91/40, 19C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIDR	**Miches**	**0.48**	**47**	⇑*e*Pg	Pn	04 17 10.5	-0.1
MIDR				⇑*e*Sg	Sn	04 17 22.0	+0.1
MIDR				IAML		04 17 24.1	
	comp=N,1μm,0.2s						
SDD	**Santo Domingo**	**0.51**	**247**	⇑*e*Pg	Pn	04 17 09.8	-1.0
SDD				⇑*e*Sg	Sn	04 17 22.7	+0.4
SDD				IAML		04 17 24.0	
	comp=N,176nm,0.2s						
SDD	**Santo Domingo**	**0.51**	**247**	*i* P	Pn	04 17 10.9	+0.1
SDD				*e*S	Sn	04 17 22.9	+0.7
DR08	**Loma La Naviza**	**0.65**	**298**	⇑*e*Pg	Pn	04 17 11.9	-0.1
DR08				⇑*e*Sg	Sn	04 17 24.7	+0.2
DR08				IAML		04 17 25.7	
	comp=N,18μm,0.2s						
HIDR	**Higuey Centro**	**0.67**	**96**	⇑*e*Pg	Pn	04 17 12.3	+0.1
HIDR				⇑*e*Sg	Sn	04 17 24.8	+0.1
HIDR				IAML		04 17 27.7	
	comp=N,978nm,0.1s						
LOSC1	**San Cristbal**	**0.70**	**249**	*i* P	Pn	04 17 10.7	-1.8
LOSC1				*e*S	Sn	04 17 24.0	-1.2
LOSC1				IAML		04 17 28.2	
	comp=Z,1μm,0.6s						
NADR	**Nagua**	**0.81**	**329**	⇑*e*Pg	Pn	04 17 13.1	-0.4
NADR				⇑*e*Sg	Sn	04 17 27.1	+0.1
NADR				IAML		04 17 33.4	
	comp=N,1μm,0.4s						
LONA1	**Toro Cenizo, N**	**0.83**	**330**	*i* P	Pn	04 17 13.6	-0.2
LONA1				*e*S	Sn	04 17 28.1	+0.6
LONA1				IAML		04 17 30.2	
	comp=Z,4μm,3.1s						
SFDR	**San Fco. de Ma**	**1.00**	**309**	⇑*e*Pg	Pn	04 17 15.4	-0.1
SFDR				⇑*e*Sg	Sn	04 17 32.6	+2.0
SFDR				IAML		04 17 37.1	
	comp=N,1μm,0.2s						
ABDR	**Alto Bandera**	**1.16**	**278**	⇑*e*Pg	Pn	04 17 18.2	+0.5
ABDR				⇑*e*Sg	Sn	04 17 33.7	-0.7
ABDR				IAML		04 17 39.5	
	comp=N,506nm,0.2s						
SC01	**Santiago de lo**	**1.46**	**302**	⇑*e*Pg	Pn	04 17 22.0	+1.1
SC01				⇑*e*Sg	Sn	04 17 41.8	+1.6
SC01				IAML		04 17 51.1	
	comp=N,214nm,0.3s						
SC01	**Santiago de lo**	**1.46**	**302**	*i* P	Pn	04 17 21.2	+0.3
SC01				*e*S	Sn	04 17 40.1	-0.1
SDDR	**Presa de Saban**	**1.80**	**281**	⇑*e*Pg	Pn	04 17 26.4	+1.1
SDDR				IAML		04 17 56.3	
	comp=N,93nm,0.6s						
SDDR	**Presa de Saban**	**1.80**	**281**	*i* P	Pn	04 17 26.3	+1.1
SDDR				IAML		04 17 57.3	
	comp=Z,75nm,0.3s						
PODR	**Polo**	**1.83**	**255**	*i* P	Pn	04 17 26.1	+0.2
PODR				*e*S	Sn	04 17 51.1	+2.1
LUDR	**Luperon**	**1.90**	**311**	⇑*e*Pg	Pn	04 17 25.9	-0.6
LUDR				⇑*e*Sg	Sn	04 17 49.5	-0.7
LODU1	**El Espartillar**	**1.97**	**261**	*i* P	Pn	04 17 28.4	+0.9
LODU1				IAML		04 17 56.0	
	comp=Z,142nm,0.3s						
LOVI	**El Cajuil, Ovi**	**2.04**	**246**	*i* P	Pn	04 17 28.1	-0.2
LOVI				*e*S	Sn	04 17 51.9	-1.6
LOVI				IAML		04 17 55.0	
	comp=Z,74nm,1.0s						
LOPP1	**Punta Rusia, P**	**2.06**	**306**	*i* P	Pn	04 17 28.1	-0.6
LOPP1				*e*S	Sn	04 17 53.5	-0.5
LOPP1				IAML		04 18 05.4	
	comp=Z,98nm,0.6s						
AGPR	**Aguadilla, PR**	**2.20**	**95**	*i* P	Pn	04 17 30.6	+0.2
AGPR				IAML		04 18 04.6	
	comp=Z,69nm,0.5s						
CRPR	**Cabo Rojo, PR**	**2.29**	**106**	*i* P	Pn	04 17 32.3	+0.7
CRPR				IAML		04 18 06.2	
	comp=Z,28nm,0.7s						
PAPH	**Port-au-Prince**	**2.74**	**268**

comp=E,258nm,0.6s
STLK Strandline Lak 0.67 170 Pn 04 30 35.0 -1.3
STLK Strandline Lak 0.67 170 Sn 04 30 48.4 -2.1
PPLA Purkeypile 0.75 356 Pn 04 30 36.2 -0.8
PPLA IAML 04 30 51.1
comp=E,472nm,0.9s
PPLA IAML 04 30 51.4
comp=N,380nm,0.8s
PPLA Purkeypile 0.75 356 Sn 04 30 50.1 -1.7
SPNN North Nagishla 0.84 201 Pn 04 30 37.0 -0.9
SPCG Spurr Capps Gl 0.87 178 Pn 04 30 36.9 -1.1
SPCG Sn 04 30 51.9 -1.6
CUT Chulitna 0.88 73 Pn 04 30 37.3 -0.6
CUT Chulitna 0.88 73 Sn 04 30 52.8 -0.7
SPCP Crater Peak Br 0.89 182 Pn 04 30 37.3 -1.0
SPCP Sn 04 30 52.6 -1.4
L20K Farewell, AK 0.91 292 Pn 04 30 36.9 -1.4
SPBG Spurr Blockage 0.91 189 Pn 04 30 37.6 -0.8
SPWE Spurr West 0.91 195 Pn 04 30 37.6 -0.9
SPCN Chakachatna No 0.93 183 Pn 04 30 37.9 -0.7
SUA Susitna One 0.94 137 Pn 04 30 37.9 -0.8
SUA IAML 04 30 56.7
comp=N,165nm,0.6s
SUA IAML 04 30 57.0
comp=E,151nm,0.5s
SPCR Spurr Chakacha 0.96 184 Pn 04 30 37.8 -1.1
SPCR Sn 04 30 53.4 -1.6
SPCR Spurr Chakacha 0.96 184 Pn 04 30 37.8 -1.1
CKL Chakachamna La 0.97 188 Pn 04 30 38.1 -0.9
SPU Mount Spurr 0.98 179 Pn 04 30 37.6 -1.4
M22K Willow 1.01 113 Pn 04 30 38.3 -0.9
M22K IAML 04 31 00.2
comp=E,427nm,0.5s
M19K Big River Lodg 1.12 258 Pn 04 30 39.2 -1.2
L19K White Mountain 1.31 272 Pn 04 30 41.4 -1.0
KTH Kantishna Hill 1.50 20 Pn 04 30 44.0 -0.7
KTH IAML 04 31 06.1
comp=E,116nm,0.4s
KTH IAML 04 31 07.9
comp=N,78nm,0.5s
PMR Palmer 1.50 111 Pn 04 30 43.3 -1.3
PMR IAML 04 31 05.6
comp=N,118nm,0.2s
PMR IAML 04 31 08.0
comp=E,92nm,0.4s
K20K Telida 1.52 324 Pn 04 30 43.9 -1.0
K20K Telida 1.52 324 IAML 04 31 03.9
comp=E,163nm,0.6s
K20K IAML 04 31 04.2
comp=N,127nm,0.9s
GHO Glory Hole Cre 1.54 103 Pn 04 30 44.4 -0.7
GHO IAML 04 31 07.0
comp=N,222nm,0.3s
TRF Thorofare Moun 1.54 31 Pn 04 30 44.6 -0.6
TRF IAML 04 31 08.3
comp=E,158nm,0.7s
TRF IAML 04 31 11.2
comp=N,131nm,0.6s
RC01 Rabbit Creek A 1.54 133 Pn 04 30 44.6 -0.6
RC01 IAML 04 31 09.2
comp=N,199nm,0.3s
RC01 IAML 04 31 09.9
comp=E,163nm,0.6s
RDT Redoubt 1.59 186 Pn 04 30 45.0 -0.8
DFR Drift River 1.59 191 Pn 04 30 45.3 -0.5
RDJH Redoubt Jeurge 1.61 193 Pn 04 30 45.5 -0.5
WAT7 Susitna Watana 1.65 64 Pn 04 30 46.0 -0.5
NCT North Crescent 1.65 195 Pn 04 30 45.9 -0.6
RDWB Redoubt West 1.71 193 Pn 04 30 46.8 -0.5
CHUM Lake Minchumin 1.74 356 Pn 04 30 46.8 -0.6
WAT1 Susitna Watana 1.77 66 Pn 04 30 47.3 -0.6
N19K Bonanza Creek 1.77 222 Pn 04 30 47.3 -0.7
KNK Knik Glacier 1.87 112 Pn 04 30 48.0 -1.2
SLKM Skilak Lake 1.88 151 Pn 04 30 49.0 -0.3
SLKM IAML 04 31 17.4
comp=E,135nm,0.5s
SLKM IAML 04 31 18.2
comp=N,195nm,0.3s
M18K Stony River 1.90 251 Pn 04 30 48.5 -1.0
RND Reindeer 1.94 48 Pn 04 30 49.6 -0.4
RND IAML 04 31 15.2
comp=E,92nm,0.9s
RND IAML 04 31 16.8
comp=N,94nm,0.4s
BPAW Bear Paw Mtn. 2.02 14 Pn 04 30 49.9 -1.0
BPAW IAML 04 31 15.7
comp=E,65nm,0.6s
BPAW IAML 04 31 18.0
comp=N,69nm,0.5s
O22K Cooper Landing 2.02 145 Pn 04 30 50.7 -0.2
WAT6 Susitna Watana 2.06 76 Pn 04 30 50.7 -0.9
M23K Glacier View 2.08 98 Pn 04 30 50.7 -1.0
O20K Slope Mountain 2.10 188 Pn 04 30 52.0 0.0
MCK McKinley 2.14 41 Pn 04 30 52.3 -0.1
MCK IAML 04 31 20.8
comp=N,57nm,0.9s
MCK IAML 04 31 22.6
comp=E,50nm,0.6s
L18K Granite Mounta 2.17 274 Pn 04 30 51.9 -0.9
PWL Port Wells 2.21 124 Pn 04 30 51.9 -1.5
J20K Nowinta River 2.24 336 Pn 04 30 52.9 -0.8
J20K IAML 04 31 21.6
comp=N,64nm,0.8s
J20K IAML 04 31 23.1
comp=E,63nm,0.6s
ILSW Iliamna Southw 2.24 194 Pn 04 30 53.4 -0.4
ILSW IAML 04 31 26.0
comp=E,42nm,1.0s
O19K Port Alsworth 2.25 210 Pn 04 30 53.0 -0.7
O19K IAML 04 31 40.6
comp=N,65nm,0.5s
O19K IAML 04 31 51.5
comp=E,54nm,0.4s
ILS Iliamna Low So 2.26 193 Pn 04 30 53.9 -0.2
SCM Sheep Creek Mo 2.26 96 Pn 04 30 53.0 -1.1
N18K Kilae Creek 2.36 233 Pn 04 30 54.4 -0.9
DHY Denali Highway 2.36 65 Pn 04 30 54.9 -0.4
DHY IAML 04 31 26.2
comp=N,87nm,0.6s
DHY IAML 04 31 26.2
comp=E,93nm,0.6s
SEW Seward 2.42 147 Pn 04 30 55.3 -0.7
SEW Seward 2.42 147 IAML 04 31 32.8
comp=N,82nm,0.4s
SEW IAML 04 31 33.0
comp=E,96nm,0.5s
J19K Poorman 2.45 320 Pn 04 30 55.6 -0.8
J19K IAML 04 31 24.7
comp=E,32nm,0.9s
BRLK Bradley Lake 2.47 166 Pn 04 30 57.0 +0.3
J18K Innoko River 2.50 304 Pn 04 30 56.3 -0.8
P19K Oil Pt 2.57 193 Pn 04 30 57.9 -0.1
P19K Oil Pt 2.57 193 IAML 04 31 32.6
comp=N,95nm,0.7s
P19K IAML 04 31 32.7
comp=E,83nm,0.9s
M17K Holitna River 2.66 256 Pn 04 30 58.0 -1.1
M17K IAML 04 31 31.4
comp=N,30nm,0.6s
M17K IAML 04 31 48.7
comp=E,44nm,1.0s
CNPM China Poot 2.67 171 Pn 04 30 57.3 -1.9
CNPM IAML 04 31 36.5
comp=E,83nm,0.4s
CNPM IAML 04 31 38.2
comp=N,82nm,0.4s
GLI Glacier Island 2.71 116 Pn 04 30 57.7 -2.0
O18K Koktuh Hills 2.77 215 Pn 04 31 00.1 -0.4
M24K Tolsona, Glenn 2.77 88 Pn 04 31 00.1 -0.5
NEA2 Nenana 2.80 28 Pn 04 31 00.1 -0.8
I20K Naaghedeneel 2.86 339 Pn 04 31 01.4 -0.2
AUW Augustine West 2.88 194 Pn 04 31 02.1 +0.2
L17K Donlin 2.92 272 Pn 04 31 01.9 -0.6
WRH Wood River Hil 2.94 36 Pn 04 31 02.1 -0.6
MLY Manley 2.95 11 Pn 04 31 02.2 -0.7
K17K Iditarod 2.95 284 Pn 04 31 02.3 -0.6
N17K Nushagak Hills 2.96 239 Pn 04 31 02.4 -0.6
N17K Nushagak Hills 2.96 239 IAML 04 31 50.5
comp=E,22nm,0.9s
KLU Klutina 2.99 100 Pn 04 31 02.1 -1.5
KLU IAML 04 31 38.9
comp=N,66nm,0.3s
KLU IAML 04 31 40.8
comp=E,37nm,0.4s

FID Port Fidalgo 3.03 115 Pn 04 31 01.8 -2.2
FID IAML 04 31 38.9
comp=N,69nm,0.3s
I21K Tanana 3.04 1 Pn 04 31 03.7 -0.3
I21K IAML 04 31 39.6
comp=N,38nm,0.8s
I21K IAML 04 31 41.1
comp=E,39nm,0.8s
CCB Clear Creek Bu 3.15 36 Pn 04 31 04.9 -0.6
PAX Paxson 3.17 72 Pn 04 31 05.8 0.0
PAX IAML 04 31 52.9
comp=N,46nm,0.9s
PAX IAML 04 31 53.2
comp=E,52nm,0.7s
DIV Divide 3.18 106 Pn 04 31 04.5 -1.4
DIV Divide 3.18 106 IAML 04 31 44.7
comp=E,30nm,0.2s
DIV IAML 04 31 44.8
comp=N,52nm,0.4s
HDA Harding Lake 3.24 43 Pn 04 31 06.0 -0.7
HDA IAML 04 31 48.7
comp=N,48nm,0.4s
HDA IAML 04 31 48.8
comp=E,42nm,0.3s
I23K Minto, Yukon-K 3.24 21 Pn 04 31 06.4 -0.3
COLA College 3.32 33 Pn 04 31 08.1 +0.3
COLA IAML 04 31 50.3
comp=E,48nm,0.6s
COLA IAML 04 32 01.6
comp=E,37nm,0.3s
Q19K Cape Douglas, 3.33 194 Pn 04 31 07.9 -0.1
J17K VABM Dome 3.45 294 Pn 04 31 07.1 -2.4
ILAR Eielson Array 3.51 39 Pn 04 31 09.8 -0.5
ILAR Eielson Array 3.51 39 P **Pn 04 31 09.2 -1.1**
comp=E,11nm,0.4s,baz=225,slow=14,SNR=182
ILAR S **Sn 04 31 45.1 -6.1**
comp=E,2.6nm,0.3s,baz=220,slow=15,SNR=6.4
L16K Owhat River 3.53 266 Pn 04 31 09.8 -0.7
H21K Melozitna Rive 3.53 355 Pn 04 31 10.4 -0.2
H21K IAML 04 31 51.3
comp=E,13nm,0.8s
H21K IAML 04 31 51.7
comp=N,25nm,0.8s
SYI Shuyak Island 3.56 183 Pn 04 31 10.9 0.0
SYI Shuyak Island 3.56 183 IAML 04 31 53.4
comp=E,36nm,0.9s
SYI IAML 04 31 58.2
comp=N,36nm,1.0s
N25K Chitina, Valde 3.58 96 Pn 04 31 10.2 -1.1
N25K IAML 04 31 53.4
comp=E,34nm,0.7s
N25K IAML 04 31 53.9
comp=N,32nm,0.5s
POKR Poker Plat Res 3.62 33 Pn 04 31 11.3 -0.5
POKR Poker Plat Res 3.62 33 IAML 04 32 09.3
comp=N,14nm,1.1s
RIDG Independent Ri 3.67 61 Pn 04 31 12.7 +0.3
H22K Ishtalitna Cre 3.77 4 Pn 04 31 13.6 -0.1
H23K Yukon River 3.85 16 Pn 04 31 14.9 +0.1
H23K IAML 04 31 60.0
comp=N,16nm,0.9s
H23K IAML 04 32 00.7
comp=E,24nm,1.0s
KAHG Katmai Hook Gl 3.87 200 Pn 04 31 15.4 +0.2
J25K Salcha River, 3.90 48 Pn 04 31 14.9 -0.6
J25K IAML 04 32 03.4
comp=N,31nm,0.4s
J25K IAML 04 32 04.0
comp=E,36nm,0.4s
DOT Dot Lake 3.96 64 Pn 04 31 15.8 -0.4
GLB Gilahina Butte 3.99 97 Pn 04 31 15.6 -1.1
GLB Gilahina Butte 3.99 97 IAML 04 32 19.9
comp=N,23nm,0.6s
GLB IAML 04 32 20.8
comp=E,20nm,0.8s
J16K Anvik River 4.09 290 Pn 04 31 17.4 -0.6
SCRK Sand Creek 4.11 60 Pn 04 31 18.0 -0.4
H24K Noodor Dome 4.13 25 Pn 04 31 18.7 +0.1
HMT Hamilton 4.19 112 Pn 04 31 18.6 -0.8
M26K Nabesna, AK 4.25 83 Pn 04 31 20.0 -0.2
M26K IAML 04 32 34.1
comp=N,18nm,0.6s
M26K IAML 04 32 34.9
comp=E,17nm,0.5s
KDAK Kodiak Island 4.39 184 P **Pn 04 31 20.1 -2.0**
comp=E,6.8nm,0.3s,baz=2.0,slow=6.9,SNR=23
KDAK S **Sn 04 32 08.8 -3.4**
comp=E,5.7nm,0.3s,baz=326,slow=15,SNR=8.2
G21K Allakaket 4.42 353 Pn 04 31 22.1 -0.4
G21K Allakaket 4.42 353 IAML 04 32 37.0
comp=E,19nm,1.0s
G21K IAML 04 32 37.3
comp=N,17nm,0.3s
K15K Wolf Creek Mou 4.43 276 Pn 04 31 22.3 -0.2
K15K Wolf Creek Mou 4.43 276 IAML 04 34 02.6
comp=E,7.3nm,1.1s
PRP Porcupine Dome 4.45 38 Pn 04 31 22.8 -0.1
PRP Porcupine Dome 4.45 38 IAML 04 32 16.6
comp=E,9.1nm,0.8s
PRP IAML 04 32 18.1
comp=N,10.0nm,0.9s
J26L Joseph Creek 4.50 55 Pn 04 31 23.7 +0.1
TGL Tana Glacier 4.65 103 Pn 04 31 25.5 -0.1
TGL Tana Glacier 4.65 103 IAML 04 32 43.5
comp=E,20nm,0.8s
G23K Bananza Creek 4.66 10 Pn 04 31 25.8 +0.1
G23K IAML 04 32 11.5
comp=N,20nm,0.6s
PTPK Patty Peak 4.68 98 Pn 04 31 25.5 -0.6
WAX Waxell Ridge 4.76 107 Pn 04 31 26.4 -0.7
KIAG Kiagna River 4.81 101 Pn 04 31 26.8 -1.1
L27K Beaver Creek, 4.82 75 Pn 04 31 27.1 -0.8
K27K Chicken 4.92 63 Pn 04 31 28.8 -0.3
K27K IAML 04 32 26.2
comp=E,8.8nm,0.8s
K27K IAML 04 32 26.6
comp=N,9.5nm,0.7s
ISLE Juniper Island 4.93 104 Pn 04 31 29.0 -0.5
ISLE Juniper Island 4.93 104 IAML 04 32 51.1
comp=E,16nm,1.1s
G24K Hadweenzic Riv 4.98 22 Pn 04 31 29.6 -0.3
F21K Alatna River 5.12 354 Pn 04 31 30.7 -1.2
F21K Alatna River 5.12 354 IAML 04 32 26.0
comp=E,12nm,0.6s
COLD Coldfoot 5.16 8 Pn 04 31 32.8 +0.5
COLD IAML 04 32 20.0
comp=N,6.5nm,0.5s
COLD IAML 04 32 23.3
comp=E,6.4nm,0.8s
G25K Bearman Lake 5.30 27 Pn 04 31 33.5 -0.7
YUK2 White River 5.31 89 Pn 04 31 34.1 -0.4
FYU Fort Yukon 5.33 31 Pn 04 31 34.7 +0.1
FYU IAML 04 32 34.5
comp=N,14nm,0.8s
YUK3 Moose Creek 5.49 89 Pn 04 31 36.5 -0.6
F24K Squaw Lake 5.67 16 Pn 04 31 39.7 +0.4
I27K Kandik River 5.77 49 Pn 04 31 40.5 -0.2
O28M Mount Upton 5.86 98 Pn 04 31 41.8 -0.3
DAWY Dawson 6.07 66 Pn 04 31 44.1 -0.5
F25K Christian Rive 6.11 24 Pn 04 31 45.2 +0.1
H27K Steamboat Moun 6.16 44 Pn 04 31 45.2 -0.6
I28M Miner Creek 6.31 53 Pn 04 31 47.7 -0.2
F26K Sheenjek River 6.50 28 Pn 04 31 50.1 -0.3
E25K Arctic Village 6.58 22 Pn 04 31 51.9 +0.4
I29M Ogilvie Camp, 6.90 56 Pn 04 31 55.9 +0.1
INK Inuvik 9.90 43 P **Pn 04 32 37.2 +0.9**
comp=N,0.9nm,0.6s,baz=244,slow=11,SNR=1.3
YKA Yellowknife Ar 17.25 72 P **P 04 34 11.1 +0.6**
comp=N,0.8nm,0.9s,baz=286,slow=11,SNR=4.9
TXAR Lajitas Array 45.37 113 P **P 04 38 26.8 +2.9**
comp=N,0.3nm,0.7s,baz=332,slow=7.8,SNR=4.8
comp=N,0.3nm,0.7s
BVAR Borovoye Array 60.37 332 P **P 04 40 14.9 +1.3**
comp=N,0.5nm,0.4s,baz=34,slow=10,SNR=2.8
comp=N,0.5nm,0.4s

*SNET **03** 04:31:34.0±1.0, 12.49N×88.30W, h13km±999km, ML1.6*
*CATAC **03** 04:31:36.8±0.8, 13.3N×8.8W±, h84km±7km, M2.7/4, MLv2.7/4, Error ellipse: s-maj=11.5km s-min=5.7km az=60.8, confirmed*
ISC 03 04:31:36.6±2.8, 13.10N±0.08×88.16W±0.09, h105km±17km, n16, σ0.86/21, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LCND	**La Caada**	**0.33**	**52**	*eS*		**Sn**	**04 32 03.1**	**-0.3**
CNCH	**Conchagua**	**0.36**	**61**	S		**Sn**	**04 32 03.9**	**0.0**
CNCH	**Conchagua**	**0.36**	**61**	P		**Pn**	**04 31 51.8**	**-0.4**
PACA	**Pacayal**	**0.40**	**336**	*eP*		**Pn**	**04 31 52.6**	**+0.2**
TECA	**Tecapa**	**0.52**	**319**	*eP*		**Pn**	**04 31 52.3**	**-0.9**
TECA				*eP*			04 31 52.7	
TECA				*eS*		**Sn**	**04 32 07.6**	**+1.9**
TECA				IAML			04 32 11.6	
	comp=Z,16nm,0.2s							
CHOHN	**Orocuina**	**1.04**	**69**	P		**Pn**	**04 31 57.6**	**-0.3**
CHOHN	**Orocuina**	**1.04**	**69**	S		**Sn**	**04 32 13.6**	**-0.4**
MARCA	**Marcala la Paz**	**1.05**	**6**	P		**Pn**	**04 31 58.5**	**+0.3**
INTHN	**La Esperanza I**	**1.20**	**2**	P		**Pn**	**04 32 00.3**	**+0.4**
INTHN	**La Esperanza I**	**1.20**	**2**	S		**Sn**	**04 32 15.5**	**-2.0**
PKGN	**Cerro Pekin**	**1.23**	**110**	P		**Pn**	**04 31 59.5**	**-0.3**
PKGN				S		**Sn**	**04 32 18.1**	**+0.6**
TGUH	**Tegucigalpa,Un**	**1.28**	**42**	P		**Pn**	**04 32 00.5**	**-0.1**
TGUH				S		**Sn**	**04 32 19.0**	**+0.2**
PLRN	**Geotermica Pol**	**1.45**	**111**	P		**Pn**	**04 32 02.0**	**-0.5**
PLRN				S		**Sn**	**04 32 23.2**	**+1.1**
YUSH	**Yuscaran**	**1.53**	**56**	P		**Pn**	**04 32 03.5**	**-0.1**
YUSH	**Yuscaran**	**1.53**	**56**	S		**Sn**	**04 32 25.2**	**+1.1**
CNGA	**Al SSO del Vol**	**1.54**	**113**	P		**Pn**	**04 32 03.2**	**-0.5**
CNGA				S		**Sn**	**04 32 24.4**	**+0.2**

UPA 03 04:48:49.3±0.8, 8.73N×82.73W, h16km±1km, MW2.3, 1C-6D, Fault plane solution: NP1:↑↑δ43.00000°, δ58.00000°, λ-136.00000°, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRU2	**Volcan**	**0.08**	**32**	*↓iP*		Pg	04 48 53.6	+0.9
BRU2				AMP			04 48 53.7	
	comp=Z,2μm,0.1s							
BRU2				*i*	S	Sg	04 48 57.6	+2.7
BRU2	**Volcan**	**0.08**	**32**	*↓iP*		Pg	04 48 53.6	+0.9
BRU2				*eS*		Sg	04 48 57.6	+2.7
CLLRA	**Cordillera,**	**0.12**	**82**	*↓iP*		Pb	04 48 54.1	+0.7
BC3P	**Paso Ancho**	**0.15**	**54**	*eP*		Pb	04 48 54.4	+0.5
BC3P				*eS*		Sb	04 48 59.0	+2.0
RSRNO	**Rio Sereno**	**0.15**	**305**	*↓iP*		Pb	04 48 54.0	+0.1
RSRNO				*eS*		Sg	04 48 56.5	+0.2
BQTLY	**Boquete Panama**	**0.27**	**83**	*↓iP*		Pb	04 48 56.0	+0.1
BQTLY				*eS*		Sb	04 49 01.2	+0.9
BQSF3	**Alto Boquete,**	**0.30**	**87**	*eP*		Pb	04 48 56.3	0.0
BQSF3				*eS*		Sb	04 49 02.3	+1.2
LNBQ3	**Los Naranjos,**	**0.30**	**78**	*eP*		Pb	04 48 56.2	-0.1
LNBQ3				*eS*		Sb	04 49 01.8	+0.8
LESP3	**La Esperanza,**	**0.32**	**190**	*eP*		Pg	04 48 54.4	-1.7
LESP3				*eS*		Sg	04 48 59.3	-1.5
DVD	**David**	**0.40**	**136**	*eP*		Pg	04 48 57.7	+0.3
DVD				*eS*		Sg	04 49 03.3	+0.2
PEDE3	**Pedregal, Chir**	**0.46**	**138**	*eP*		Pg	04 48 56.1	-2.5
PEDE3				*eS*		Sg	04 49 02.9	-1.9
CGUAY	**Guayabal, Coch**	**0.46**	**125**	*eP*		Pg	04 48 58.5	-0.1
PTPM	**Petroterminale**	**0.54**	**196**	*eP*		Pg	04 48 58.9	-1.1
PTPM				*eS*		Sg	04 49 05.7	-1.6
RBALA	**Bur**	**0.59**	**75**	*↓iP*		Pg	04 49 01.0	0.0
RBALA				*eS*		Sb	04 49 10.2	+0.7
KKNTU	**Kakint²**	**0.92**	**83**	*↑iP*		Pb	04 49 06.0	-1.0
KKNTU				*eS*		Sb	04 49 18.8	-0.2

*IDC **03** 04:59:07.0±1.6, 1.54S×77.88W, h132km±15km, mb3.7/16, mbtmp4.2/22, MS2.7/2, Error ellipse: s-maj=17.1km s-min=9.4km az=72.0*
*IGQ **03** 04:59:09.3±0.3, 2.2S×7.8W±, h157km±2km, MLv3.8/48*
*NEIC **03** 04:59:09.8±1.3, 1.64S±0.06×77.94W±0.07, h145km±6km, mb4.5/97, Error ellipse: s-maj=10.3km s-min=8.8km az=80.0*
ISC 03 04:59:09.5±0.6, 1.70S±0.04×78.06W±0.05, h158km±5km, n271, σ1.32/265, mb4.5/54, 17C-48D, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PUYO	**Puyo, Santa Ro**	**0.20**	**11**	*↓*P		**Pn**	**04 59 30.7**	**-0.2**
PUYO				S		**Sn**	**04 59 47.3**	**0.0**
APUY	**Puyo**	**0.24**	**16**	*↓*P		**Pn**	**04 59 30.7**	**-0.4**
BPAT	**Tungurahua Vol**	**0.42**	**297**	*↓*P		**Pn**	**04 59 31.8**	**-0.2**
BPAT				S		**Sn**	**04 59 48.9**	**-0.2**
JUI6	**Juive**	**0.49**	**304**	*↓*P		**Pn**	**04 59 31.7**	**-0.4**
AAM2	**Ambato 2 (Merc**	**0.69**	**308**	P		**Pn**	**04 59 33.5**	**+0.2**
PIS1	**Pisayambo**	**0.71**	**333**	*↓*P		**Pn**	**04 59 33.5**	**-0.1**
PIAT	**Ana Tenorio**	**0.72**	**344**	*↓*P		**Pn**	**04 59 33.4**	**-0.2**
PIAT	**Ana Tenorio**	**0.72**	**344**	P		**Pn**	**04 59 33.3**	**-0.2**
ARDO	**Archidona, Ten**	**0.74**	**21**	*↓*P		**Pn**	**04 59 32.6**	**-0.6**
ARDO				S		**Sn**	**04 59 50.1**	**-1.4**
CHSH	**Refugio Sur-Vo**	**0.83**	**284**	*↓*P		**Pn**	**04 59 34.0**	**-0.4**
ASLC	**Ecuador-Salced**	**0.84**	**321**	*↓*P		**Pn**	**04 59 34.4**	**+0.2**
TAIS	**Taisha**	**0.88**	**140**	S		**Sn**	**04 59 53.7**	**+0.6**
TAIS				*↑*P		**Pn**	**04 59 34.4**	**+0.2**
JSCH	**Cashca Tororas**	**0.91**	**269**	P		**Pn**	**04 59 34.9**	**+0.1**
AGRD	**Ecuador-Guaran**	**0.95**	**277**	P		**Pn**	**04 59 35.6**	**+0.5**
VCES	**Cotopaxi**	**0.95**	**340**	*↓*P		**Pn**	**04 59 35.4**	**+0.1**
BRRN	**Barrancas-Volc**	**0.99**	**336**	*↓*P		**Pn**	**04 59 35.4**	**-0.2**
BMOR	**Cotopaxi Volca**	**1.04**	**338**	*↓*P		**Pn**	**04 59 35.8**	**-0.2**
TAMB	**Tambo**	**1.04**	**343**	*↓*P		**Pn**	**04 59 36.0**	**0.0**
SRAM	**San Ramn-Vol**	**1.06**	**332**	*↓*P		**Pn**	**04 59 36.2**	**+0.1**
BTAM	**Cotopaxi Volca**	**1.07**	**342**	*↓*P		**Pn**	**04 59 36.3**	**+0.1**
BREF	**Cotopaxi Volca**	**1.09**	**340**	*↓*P		**Pn**	**04 59 36.7**	**+0.2**
BVC2	**Cotopaxi Volca**	**1.09**	**341**	*↓*P		**Pn**	**04 59 36.6**	**+0.1**
VC1	**Cotopaxi 1**	**1.10**	**342**	*↓*P		**Pn**	**04 59 36.7**	**+0.2**
SUCR	**Mariscal Sucre**	**1.13**	**338**	*↓*P		**Pn**	**04 59 37.2**	**+0.4**
ANTM	**Antisana-La Mi**	**1.16**	**352**	*↓*P		**Pn**	**04 59 37.0**	**-0.1**
ILLI	**Illinizas Sur**	**1.18**	**326**	*↓*P		**Pn**	**04 59 37.0**	**-0.2**
PITA	**Cotopaxi Volc**	**1.19**	**342**	P		**Pn**	**04 59 37.3**	**0.0**
ANTS	**Antisana-Sarah**	**1.20**	**355**	*↓*P		**Pn**	**04 59 37.4**	**-0.1**
ANTG	**Antisana-Guama**	**1.20**	**351**	*↓*P		**Pn**	**04 59 37.2**	**-0.2**
ANTI	**Antisana**	**1.24**	**356**	*↓*P		**Pn**	**04 59 37.7**	**-0.2**
TOMA	**Boca Toma-Volc**	**1.25**	**343**	*↓*P		**Pn**	**04 59 37.9**	**+0.2**
AZOG	**Ecuador-Azogue**	**1.31**	**217**	P		**Pn**	**04 59 38.9**	**+0.7**
COHC	**Cochancay**	**1.42**	**237**			**Pn**	**04 59 38.0**	**-0.8**
COHC				Sn		**Sn**	**05 00 00.3**	**-1.0**
COHC	**Cochancay**	**1.42**	**237**	P		**Pn**	**04 59 38.1**	**-0.8**
COHC	**Cochancay**	**1.42**	**237**	P		**Pn**	**04 59 38.0**	**-0.8**
TING	**Casa Alexandra**	**1.46**	**345**	*↓*P		**Pn**	**04 59 40.1**	**+0.5**
ACUE	**Ecuador-Cuenca**	**1.50**	**217**	P		**Pn**	**04 59 40.9**	**+0.8**
BOSC	**San Juan Bosco**	**1.51**	**197**	*↑*P		**Pn**	**04 59 40.4**	**+0.4**
PU07	**PU07**	**1.52**	**245**	*↑*P		**Pn**	**04 59 38.4**	**-1.4**
C24MA	**Colegio 24 de**	**1.56**	**345**	P		**Pn**	**04 59 41.4**	**+0.6**
GGPT	**Toaza - Volcan**	**1.56**	**339**	*↓*P		**Pn**	**04 59 40.5**	**-0.3**
JUA2	**San Juan 2**	**1.57**	**340**	*↓*P		**Pn**	**04 59 40.6**	**-0.3**
FENY	**Casa Vinicio C**	**1.59**	**345**	P		**Pn**	**04 59 41.1**	**0.0**
AIMS	**Ecuador-Tababe**	**1.60**	**349**	P		**Pn**	**04 59 41.9**	**+0.8**
GGPC	**Guagua Pichinc**	**1.60**	**341**	*↓*P		**Pn**	**04 59 41.0**	**-0.4**
MILO	**Milagro-Astudi**	**1.60**	**249**	*↑*P		**Pn**	**04 59 38.9**	**-1.8**
TERV	**Terraza Guagua**	**1.60**	**340**	*↓*P		**Pn**	**04 59 41.2**	**-0.2**
REVS	**Reventador Sur**	**1.64**	**16**	*↓*P		**Pn**	**04 59 41.1**	**-0.3**
YANA	**Yana**	**1.65**	**342**	*↓*P		**Pn**	**04 59 41.4**	**-0.4**
LAV4	**Lava4-Reventad**	**1.65**	**15**	*↓*P		**Pn**	**04 59 41.3**	**-0.3**
REVN	**San Rafael**	**1.67**	**15**	*↓*P		**Pn**	**04 59 41.4**	**-0.4**
CAYR	**Refugio Cayamb**	**1.70**	**2**	P		**Pn**	**04 59 42.6**	**+0.1**
PU06	**PU06**	**1.72**	**245**	*↑*P		**Pn**	**04 59 40.3**	**-1.7**
ANGU	**Angureal**	**1.73**	**2**	*↓*P		**Pn**	**04 59 42.9**	**0.0**
PULU	**Pululahua**	**1.76**	**346**	*↓*P		**Pn**	**04 59 42.5**	**-0.4**
ASDO	**Santo Domingo**	**1.77**	**323**	P		**Pn**	**04 59 42.4**	**-0.3**
PU04	**PU04**	**1.81**	**237**	*↑*P		**Pn**	**04 59 41.5**	**-1.5**
GYE3	**Ecuador-Guayaq**	**1.89**	**256**	P		**Pn**	**04 59 41.1**	**-2.8**
AGUAY	**Guayaquil**	**1.92**	**259**	P		**Pn**	**04 59 42.4**	**-1.9**
GYE1	**Ecuador-Trinit**	**1.93**	**253**	P		**Pn**	**04 59 42.6**	**-1.6**
CASC	**Dorado de Casc**	**1.96**	**22**	P		**Pn**	**04 59 44.4**	**-0.4**
OTAV	**Otavalo**	**1.96**	**349**			**Pn**	**04 59 44.2**	**-1.0**
IMBA	**Imbabura, San**	**1.96**	**356**	*↓*P		**Pn**	**04 59 45.8**	**+0.6**
AC07	**Ecuador-Guayaq**	**1.97**	**257**	P		**Pn**	**04 59 43.0**	**-1.9**
APR2	**Miler**	**1.98**	**333**	P		**Pn**	**04 59 44.0**	**-1.0**
ACOT	**Cotacachi (Cas**	**1.99**	**354**	P		**Pn**	**04 59 45.9**	**+0.6**
CUSW	**Cuicocha Oeste**	**1.99**	**352**	*↓*P		Pn	04 59 49.7	+4.3
CUIC	**Cuicocha-Domo**	**2.01**	**351**	*↓*P		**Pn**	**04 59 45.4**	**-0.2**
CUSE	**Cuicocha Este**	**2.02**	**350**	*↓*P		**Pn**	**04 59 46.1**	**+0.4**
CUSE	**Cuicocha Este**	**2.02**	**350**	P		**Pn**	**04 59 45.4**	**-0.4**
COTA	**Cotacachi**	**2.04**	**352**	*↓*P		**Pn**	**04 59 46.1**	**0.0**
YAHU	**Yahuarcocha**	**2.05**	**360**	P		**Pn**	**04 59 46.0**	**-0.1**
PCRA	**Pucara 2**	**2.08**	**224**	*↑*P		**Pn**	**04 59 44.7**	**-1.9**
PAC1	**Pacto, Paraso**	**2.08**	**340**	*↓*P		**Pn**	**04 59 45.7**	**-0.6**
PAC1	**Pacto, Paraso**	**2.08**	**340**	P		**Pn**	**04 59 45.6**	**-0.6**

URCU	Urcuqui	2.13	355	⇓P		Pn	04 59 47.1	0.0	
BV15	Puerto Quito-O	2.18	328	⇓P		Pn	04 59 45.7	-1.5	
BONI	La Bonita	2.20	14	P		Pn	04 59 47.5	-0.2	
BONI	La Bonita	2.20	14	P		Pn	04 59 47.5	-0.2	
ACH2	Ecuador-Machal	2.34	228	P		Pn	04 59 47.2	-1.9	
AV18	Acelerografo,	2.44	325	P		Pn	04 59 49.6	-0.8	
ISPG	Isla Puna-Puer	2.46	239	P		Pn	04 59 49.7	-0.9	
MORR	Playas El Morr	2.46	248	⇑P		Pn	04 59 49.0	-1.6	
CHL1	Volc¡n Chiles	2.47	3	⇓P		Pn	04 59 51.9	+0.6	
ATUL	Tulcn	2.48	8	P		Pn	04 59 50.3	-0.7	
CHL2	Volc¡n Chiles	2.48	3	⇓P		Pn	04 59 52.2	+0.8	
LITE1	Lita	2.49	353	⇓P		Pn	04 59 50.0	-1.1	
ECEN	Cerro Negro	2.50	2	P		Pn	04 59 51.8	+0.1	
AZAM	Ecuador-Zamora	2.52	201	P		Pn	04 59 51.0	-0.4	
CHMA	Chilma	2.54	0	⇓P		Pn	04 59 51.3	-0.6	
CMBC	Cumbal	2.63	5	P		Pn	04 59 53.8	+0.7	
CMBC	Cumbal	2.63	5	P		Pn	04 59 53.7	+0.7	
PPLP	Puerto Lpez	2.71	273	P		Pn	04 59 51.2	-2.5	
PPLP	Puerto Lpez	2.71	273	P		Pn	04 59 51.6	-2.1	
PPLP	Puerto Lpez	2.71	273	P		Pn	04 59 51.4	-2.3	
ARNL	Arenillas	2.72	227	⇑P		Pn	04 59 51.0	-2.8	
AV21	Acelerografo,	2.77	328	P		Pn	04 59 54.0	-0.4	
SALI	Salinas	2.96	260	P		Pn	04 59 55.0	-1.8	
GCUF	Volcan Galeras	2.99	14	P		Pn	04 59 58.0	+0.4	
ISPT	Isla de la Pla	3.04	278	P		Pn	04 59 56.0	-1.7	
SNLR	San Lorenzo-Es	3.07	345	P		Pn	04 59 58.0	-0.1	
AMCR	Ecuador-Macara	3.26	215	P		Pn	04 59 58.2	-2.4	
MCRA	Macar, Loja	3.26	215	⇑P		Pn	04 59 58.1	-2.4	
MCRA	Macar, Loja	3.26	215	P		Pn	04 59 58.0	-2.5	
ZUMB	Zumba	3.33	199	⇑P		Pn	05 00 01.1	-0.4	
CRUC	La Cruz	3.43	19	P		Pn	05 00 03.3	+0.3	
PTLC	Puerto Leguiza	3.76	60	⇑P		Pn	05 00 04.2	-2.7	
PTLC	Puerto Leguiza	3.76	60	P		Pn	05 00 04.2	-2.7	
BBAC	Balboa, Cauca	3.78	12	⇑P		Pn	05 00 06.4	-0.9	
BBAC	Balboa, Cauca	3.78	12	P		Pn	05 00 06.5	-0.9	
FLOC	Florencia	4.05	37			Pn	05 00 09.5	-1.3	
FLOC	Florencia	4.05	37	⇑P		Pn	05 00 09.7	-1.1	
FLOC	Florencia	4.05	37	P		Pn	05 00 09.6	-1.1	
POPC	Popayan, Colom	4.43	18	P		Pn	05 00 14.7	-1.2	
GARC	Garzon, Huila	4.63	34	P		Pn	05 00 18.1	-0.5	
GR1C	Gorgona, Isla	4.67	359	P		Pn	05 00 18.3	-0.4	
JAMC	Jamundi, Valle 1µm59nm,0.5s	5.07	16	P		Pn	05 00 22.8	-1.5	
BETC	Betania	5.08	31	P		Pn	05 00 25.1	+0.9	
ATAH	Atahualpa 123nm,0.6s,baz=7.3,slow=11,SNR=58	5.41	183	P		Pn	05 00 29.6	+0.6	
ATAH				S		Sn	05 01 28.0	-3.0	
	147nm,0.7s,baz=0.0,slow=20,SNR=10								
MACC	Macarena, Meta 1µm151nm,0.6s	5.69	48	P		Pn	05 00 31.1	-1.1	
YOTC	Yotoco, Valle	5.90	17	P		Pn	05 00 31.5	-3.6	
URMC	La Uribe, Meta 3µm378nm,0.8s	6.14	37	P		Pn	05 00 37.9	-0.4	
ORTC	Ortega, Tolima 1µm137nm,1.1s	6.24	27	P		Pn	05 00 37.9	-1.7	
PRAC	Prado 778nm53nm,1.0s	6.24	31	P		Pn	05 00 37.9	-1.7	
MAPC	Malpelo 2µm135nm,0.7s	6.68	328	P		Pn	05 00 44.5	-0.9	
ANIL	Santa Ana	6.70	23	P		Pn	05 00 42.2	-3.7	
GUVC	San Jose del G	6.88	52	P		Pn	05 00 45.1	-2.9	
VILC	Villavicencio, 1µm201nm,0.8s	7.24	37	P		Pn	05 00 53.3	+0.4	
GUY2C	Guyana, Caldas	7.38	21	P		Pn	05 00 51.6	-3.6	
ROSC	El Rosal	7.49	30			Pn	05 00 55.4	-1.2	
ROSC	El Rosal 4.1nm,0.4s,baz=237,slow=17,SNR=7.3	7.49	30	P		Pn	05 00 52.5	-4.1	
ROSC	El Rosal 40nm,1.0s	7.49	30	P		Pn	05 00 54.9	-1.7	
CBOC	Ciudad Bolivar	7.78	15	P		Pn	05 00 56.2	-4.0	
NORC	Norcasia 19nm,1.0s	7.88	24	P		Pn	05 00 58.6	-2.9	
SOLC	Bahia Solano	7.90	5	P		Pn	05 00 59.1	-2.5	
CZSB	Cruzeiro do Su	8.03	138			Pn	05 01 01.9	-1.4	
CZSB	Cruzeiro do Su 2µm187nm,0.7s	8.03	138	P		Pn	05 01 02.1	-1.2	
HELC	Santa Helena 18nm,0.5s	8.23	18	P		Pn	05 01 03.4	-3.0	
TBTG	Tabatinga, AM	8.51	107			Pn	05 01 07.2	-2.5	
TBTG	Tabatinga, AM 1µm112nm,0.5s	8.51	107	P		Pn	05 01 07.1	-2.7	
PTAC	Punta Ardita, 4µm46nm,1.0s	8.79	2	P		Pn	05 01 11.9	-1.5	
DBBC	Dabeiba	8.85	12	P		Pn	05 01 15.7	+1.3	
PTBC	PUERTO BERRIO,	8.94	24	P		Pn	05 01 11.5	-4.0	
RUSC	La Rusia	9.03	33			Pn	05 01 16.4	-0.7	
RUSC	La Rusia	9.03	33	P		Pn	05 01 17.9	+0.8	
BARC	Barichara	9.57	31	P		Pn	05 01 22.0	-2.0	
APAC	Apartado, Choc 84.5nm75nm,1.1s	9.65	9	P		Pn	05 01 25.4	+0.6	
CAPC	Capurgana 51nm,0.6s	10.29	4	P		Pn	05 01 33.1	-0.2	
NNA	Nana 9.4nm,0.4s,baz=344,slow=6.4,SNR=9.5	10.30	173	P		Pn	05 01 34.7	+1.2	
NNA				S		Sn	05 03 16.4	-11	
	12nm,0.4s,baz=297,slow=9.0,SNR=7.7								
NNA	Nana	10.30	173	P		Pn	05 01 36.3	+2.8	
PAMC	Pamplona, Colo	10.45	31	P		Pn	05 01 36.3	+0.4	
LCBC	Los crdobas,	10.62	9	P		Pn	05 01 38.2	+0.6	
BCIP	Isla Barro Col	10.93	351	Pn		Pn	05 01 41.6	-0.1	
BCIP	Isla Barro Col	10.93	351	P		Pn	05 01 38.3	-3.5	
OCAC	Ocana	10.94	26	P		Pn	05 01 36.4	-5.7	
SJCC	San Jacinto, C 34nm,0.7s	11.87	14	P		Pn	05 01 53.9	-0.1	
LCR2	La Lucha 2	12.81	333	Pn		Pn	05 02 07.9	+1.6	
SDV	Santo Domingo 4.9nm,0.3s,baz=234,slow=10,SNR=5.4	12.86	35	P		Pn	05 02 00.9	-6.0	
CRJC	Cerrejon, Guaj 897nm39nm,0.8s	13.64	22	P		Pn	05 02 14.0	-2.8	
JTS	Las Juntas de	13.74	330	Pn		Pn	05 02 19.0	+1.0	
JTS	Las Juntas de 2.2nm,0.8s,baz=136,slow=14,SNR=8.2	13.74	330	P		Pn	05 02 17.7	-0.3	
JTS				LR		LR	05 07 07.5		
	comp=Z,29nm,21.7s,baz=114,slow=35								
JTS	Las Juntas de	13.74	330	P		P	05 02 20.8	-0.5	
BAUV	El Baul	14.54	43			Pn	05 02 24.7	-3.3	
URIC	Uribia, Colomb	14.61	24	P		Pn	05 02 25.7	-3.2	
ESPN	Las Esperanzas	15.13	336	P		P	05 02 36.8	+0.1	
ESPN				IAmb	IAmb		05 02 40.5		
	comp=Z,29nm,1.1s								
ESPN	Las Esperanzas	15.13	336	P		P	05 02 37.0	+0.3	
LPAZ	La Paz comp=Z,15nm,0.6s,baz=328,slow=11,SNR=67	17.49	147	P		Pn	05 03 04.9	+0.2	
LPAZ				LR		LR	05 11 32.4		
	comp=Z,24nm,19.4s,baz=233,slow=43								
PCRV	Puerto La Cruz comp=Z,13nm,1.0s,baz=202,slow=5.4,SNR=2.0	17.83	48	P		P	05 03 06.7	+0.1	
PB18	Visviri	17.91	152	P		P	05 03 07.2	-0.7	
PB12	IPOC Station P	18.45	156			P	05 03 14.0	+0.7	
PB12				IAmb	IAmb		05 03 15.1		
	comp=Z,22nm,0.6s								
PB16	IPOC Station P	18.55	154			P	05 03 15.7	+0.8	
MTO3	Montecristo	19.52	325			P	05 03 26.9	+1.9	
MTO3				IAmb	IAmb		05 03 27.9		
	comp=Z,17nm,0.8s								
PB11	IPOC Station P	19.75	156			P	05 03 28.2	+0.7	
PB11				IAmb	IAmb		05 03 32.5		
	comp=Z,25nm,0.8s								
MTDJ	Mount Denham	19.80	1			P	05 03 29.3	+1.3	
GO01	Chusmiza	19.86	155	P		P	05 03 29.9	+0.8	
PB08	IPOC Station P	20.30	155	P		P	05 03 34.8	+1.2	
PB08				IAmb	IAmb		05 03 40.6		
	comp=Z,18nm,0.9s								
VILB	Vilhena	20.93	123			P	05 03 39.6	-0.4	
VILB				IAmb	IAmb		05 03 44.2		
	comp=Z,21nm,0.8s								
PB01	IPOC Station P	20.97	157	P		P	05 03 42.4	+1.9	
PB01				IAmb	IAmb		05 03 44.3		
	comp=Z,23nm,1.1s								
RTAL	Retalhuleu	21.02	320	P		P	05 03 43.0	+2.0	
GTBY	Guantanamo Bay	21.68	8			P	05 03 48.9	+0.9	
PB09	IPOC Station P	21.75	157	P		P	05 03 50.1	+1.2	
PB09				IAmb	IAmb		05 04 06.3		
	comp=Z,33nm,1.4s								
PB03	IPOC Station P	21.79	159	P		P	05 03 50.4	+1.2	
PB03				IAmb	IAmb		05 04 06.2		
	comp=Z,19nm,0.8s								
PETF	Flores	21.86	328	P		P	05 03 52.1	+2.4	
PETF				IAmb	IAmb		05 03 54.0		
	comp=Z,13nm,0.9s								
SIV	San Ignacio comp=Z,18nm,0.9s,baz=307,slow=12,SNR=63	21.96	131	P		P	05 03 50.3	-0.7	
	comp=Z,18nm,0.9s								
PTLB	Pontes e Lacer	23.14	127			P	05 04 02.0	+0.1	
PTLB				IAmb	IAmb		05 04 03.6		
	comp=Z,18nm,0.8s								
AF01	San Pedro de A	23.21	156			P	05 04 04.0	+1.1	
AF01				IAmb	IAmb		05 04 06.9		
	comp=Z,26nm,0.9s								
GO02	Mina Guanaco	24.72	161	P		P	05 04 17.4	+0.7	
GO02				IAmb	IAmb		05 04 44.7		
	comp=Z,16nm,0.8s								
AQDB	Aquidauana	28.73	132			P	05 04 52.8	+0.5	
AQDB				IAmb	IAmb		05 04 53.2		
	comp=Z,6.4nm,0.7s								
CPUP	Villa Florida	31.58	143	P		P	05 05 17.4	0.0	
	comp=Z,0.4nm,0.6s,baz=325,slow=0.6,SNR=2.9 comp=Z,0.4nm,0.6s								
MT08	Bocatoma Ro	32.47	167	P		P	05 05 27.1	+1.8	
BDFB	Brasilia	32.71	117	P		P	05 05 27.0	-0.5	
	comp=Z,5.4nm,0.5s,baz=287,slow=11,SNR=20 comp=Z,5.4nm,0.5s								
BO04	La Punta	32.88	169	P		P	05 05 30.3	+1.7	
DRIO	Del Rio	37.72	327			P	05 06 11.3	+1.2	
DRIO				IAmb	IAmb		05 06 11.9		
	comp=Z,7.3nm,0.8s								
V48A	Smith Brothers	38.13	348	P		P	05 06 12.7	-0.7	
BRDY	Brady	38.36	330			P	05 06 16.0	+0.5	
T57A	Hurt	38.51	358	P		P	05 06 16.7	+0.1	
SAND	Sanderson	38.97	326	P		P	05 06 21.1	+0.6	
PLPT	Palo Pinto	39.30	333			P	05 06 23.4	+0.2	
TXAR	Lajitas Array comp=Z,0.5nm,0.7s,baz=136,slow=5.8,SNR=12 comp=Z,0.5nm,0.7s	39.40	324	P		P	05 06 25.1	+1.0	
PLCA	Paso Flores comp=Z,4.3nm,0.7s,baz=342,slow=10,SNR=14 comp=Z,4.3nm,0.7s	39.45	171	P		P	05 06 26.0	+1.6	
LCAR	Lake Charles	39.51	343			P	05 06 23.6	-1.1	
LCAR				IAmb	IAmb		05 06 24.2		
	comp=Z,7.9nm,0.7s								
ABTX	Abilene, Hawle	39.77	331			P	05 06 27.8	+0.7	
ABTX				IAmb	IAmb		05 06 28.7		
	comp=Z,6.8nm,0.9s								
SGCY	Sterling City	39.95	329	P		P	05 06 29.2	+0.6	
SGCY				IAmb	IAmb		05 06 30.2		
	comp=Z,9.7nm,0.8s								
PBMO	Poplar Bluff	39.97	344	IAmb	IAmb		05 06 27.9		
	comp=Z,8.7nm,0.6s								
ALPN	Alpine	40.14	325			P	05 06 30.6	+0.3	
MNHN	Monahans	40.38	327			P	05 06 32.9	+0.7	
APMT	Aspermont	40.57	331			P	05 06 35.1	+1.4	
APMT				IAmb	IAmb		05 06 35.5		
	comp=Z,5.4nm,0.7s								
HHAR	Hobbs	40.58	340			P	05 06 33.0	-0.6	
MGMO	Mountain Grove	40.84	343	P		P	05 06 34.9	-0.9	
MGMO				IAmb	IAmb		05 06 35.5		
	comp=Z,12nm,0.8s								
FVM	French Village comp=Z,11nm,0.7s	41.10	345	IAmb	IAmb		05 06 37.4		
VHRN	Van Horn	41.23	324	P		P	05 06 40.2	+0.9	
DKNS	Dickens	41.24	331	IAmb	IAmb		05 06 41.1		
	comp=Z,10nm,0.8s								
CCM	Cathedral Cave	41.39	344	P		P	05 06 38.9	-1.4	
CCM				IAmb	IAmb		05 06 40.0		
	comp=Z,6.6nm,0.6s								
MVL	Millersville	41.52	2	P		P	05 06 42.0	+0.7	
MVL				IAmb	IAmb		05 06 42.8		
	comp=Z,12nm,0.7s								
Q44A	Meyer Farm, Va	41.64	347	IAmb	IAmb		05 06 41.5		
	comp=Z,15nm,1.0s								
SMWD	Samnorwood	42.09	332			P	05 06 46.8	+0.7	
O48B	Farmland comp=Z,7.7nm,0.6s	42.25	352	IAmb	IAmb		05 06 45.9		
PAOC	Oil Creek Stat comp=Z,28nm,1.5s	43.03	358	IAmb	IAmb		05 07 18.2		
BINY	Binghamton comp=Z,14nm,0.8s	43.73	2			P	05 06 59.3	+0.2	
BINY				IAmb	IAmb		05 07 00.5		
K57A	Scipio Center	44.25	2	P		P	05 07 03.2	+0.1	
J59A	Piesco	45.07	4	P		P	05 07 10.3	+0.6	
J59A				IAmb	IAmb		05 07 10.7		
	comp=Z,11nm,0.8s								
ANMO	Albuquerque	45.12	327			P	05 07 11.7	+1.2	
FRNY	Flat Rock	46.50	4			P	05 07 21.2	+0.4	
FRNY				IAmb	IAmb		05 07 22.0		
	comp=Z,11nm,0.8s								
SDCO	Great Sand Dun	46.74	330			P	05 07 24.5	+1.3	
214A	Organ Pipe Nat	46.95	318	P		P	05 07 25.8	+1.2	
MNTQ	Montreal, Queb	47.16	4	IAmb	IAmb		05 07 27.0		
	comp=Z,18nm,1.1s								
X16A	Lo Mia Camp, P	47.66	322			P	05 07 32.1	+1.8	
E62A	Clayton Lake	48.70	8	P		P	05 07 38.4	+0.6	
PV02	Paradox Valley	48.76	328	P		P	05 07 40.0	+1.2	
PV02				IAmb	IAmb		05 07 40.7		
	comp=Z,9.6nm,0.8s								
PV13	Radium Mtn., P	48.77	328	P		P	05 07 39.9	+1.1	
PV13				IAmb	IAmb		05 07 41.3		
	comp=Z,11nm,1.1s								
PV03	Paradox Valley	48.86	328	P		P	05 07 40.0	+0.6	
PV05	Paradox Valley	48.86	327	P		P	05 07 40.1	+0.6	
PV05				IAmb	IAmb		05 07 41.1		
	comp=Z,6.0nm,0.9s								
PV12	Saucer Basin,	48.88	328	P		P	05 07 41.2	+1.6	
PV12				IAmb	IAmb		05 07 41.7		
	comp=Z,7.6nm,0.8s								
PV18	Skein Mesa, Pa	48.88	328			P	05 07 40.7	+1.0	
PV18				IAmb	IAmb		05 07 41.8		
	comp=Z,12nm,1.0s								
E28A	Huff	52.03	340			P	05 08 02.9	0.0	
AGMN	Agassiz Nation	52.15	345			P	05 08 02.9	-0.8	
TCUT	Toone Canyon	52.29	328	P		P	05 08 06.3	+1.1	
TCUT				IAmb	IAmb		05 08 06.9		
	comp=Z,8.1nm,0.6s								
PDAR	Pinedale Array comp=Z,0.5nm,0.6s,baz=140,slow=7.5,SNR=9.0 comp=Z,0.5nm,0.6s	52.57	331	P		P	05 08 06.4	-0.8	
HWUT	Hardware Ranch	52.73	329			P	05 08 08.8	+0.5	
GMN	Gold Mountain	53.13	321	P		P	05 08 12.8	+1.4	
LOHW	Long Hollow	53.71	331	P		P	05 08 15.8	+0.3	
ULM	Lac du Bonnet comp=Z,5.0nm,0.5s,baz=158,slow=9.3,SNR=15 comp=Z,5.0nm,0.5s	53.95	346	P		P	05 08 15.1	-1.7	
NVAR	Mina Array Bea comp=Z,0.5nm,0.5s,baz=110,slow=5.3,SNR=4.9 comp=Z,0.5nm,0.5s	54.47	321	P		P	05 08 22.1	+0.9	
YHL	Hebgen Lake	54.91	332			P	05 08 25.3	+1.1	
YHL				IAmb	IAmb		05 08 27.8		
	comp=Z,9.1nm,1.1s								
BOZ	Bozeman (W)	55.68	332	P		P	05 08 30.3	+0.7	
BOZ				IAmb	IAmb		05 08 31.0		
	comp=Z,5.0nm,1.1s								
MFID	Camas Ranch	56.24	328			P	05 08 34.4	+0.8	
MFID				IAmb	IAmb		05 08 35.5		
	comp=Z,3.6nm,0.8s								
BEKR	Beckworth	56.61	322	P		P	05 08 37.4	+1.1	
SCHQ	Schefferville comp=Z,19nm,0.5s,baz=198,slow=9.6,SNR=6.4	57.09	8	P		P	05 08 38.4	-0.8	
G08A	Pilot Rock comp=Z,3.1nm,0.8s	59.17	327	IAmb	IAmb		05 08 55.6		
LNOR	Lincton Mounta	59.19	328	P		P	05 08 54.7	+0.7	
PINE	Pine Mountain	59.32	325			P	05 08 56.2	+1.1	
PINE				IAmb	IAmb		05 08 57.5		
	comp=Z,4.5nm,0.9s								
YKA	Yellowknife Ar comp=Z,0.8nm,0.7s,baz=138,slow=4.9,SNR=6.8 comp=Z,0.8nm,0.7s	69.71	343	P		P	05 10 01.3	-0.5	
S34M	Telegraph Cree	72.80	333	P		P	05 10 21.9	+1.3	
S34M				IAmb	IAmb		05 11 05.4		
	comp=Z,14nm,1.5s								
DBIC	Dimbokro	73.53	83	P		P	05 10 24.8	-1.0	
DBIC				IAmb	IAmb		05 10 58.7		
	comp=Z,19nm,1.4s								
DBIC	Dimbokro comp=Z,3.3nm,0.7s,baz=292,slow=6.1,SNR=7.9 comp=Z,3.3nm,0.7s	73.53	83	P		P	05 10 24.7	-1.0	
ESDC	Sonseca Array comp=Z,0.5nm,0.7s,baz=249,slow=5.0,SNR=2.3 comp=Z,0.5nm,0.7s	78.89	49	P		P	05 10 55.4	-0.3	
I28M	Miner Creek	80.20	338	P		P	05 11 02.5	+0.3	
EGAK	Eagle	80.37	337	P		P	05 11 03.5	+0.5	
TORD	Torodi Ar. Bea comp=Z,1.0nm,0.4s,baz=278,slow=5.8,SNR=8.7 comp=Z,1.0nm,0.4s	80.42	76	P		P	05 11 02.4	-1.9	
VNA1	Neumayer--Stat comp=Z,3.1nm,0.7s	81.79	162	⇑P		P	05 11 11.4	+1.1	
ILAR	Eielson Array comp=Z,0.8nm,0.8s,baz=117,slow=6.4,SNR=8.3 comp=Z,0.8nm,0.8s	82.63	336	P		P	05 11 13.9	-1.0	
EKA	Eskdalemuir Ar comp=Z,1.2nm,0.5s,baz=252,slow=3.7,SNR=6.1	82.84	34	P		P	05 11 14.9	-1.2	
	comp=Z,1.2nm,0.5s								
SNAA	Sanae comp=Z,41nm,0.6s	83.77	162	⇑P		P	05 11 21.1	+0.5	
SNAA	Sanae comp=Z,1.6nm,0.6s,baz=300,slow=8.1,SNR=18 comp=Z,1.6nm,0.6s	83.77	162	P		P	05 11 21.2	+0.5	
TAM	Tamanrasset	84.74	67			P	05 11 27.1	+0.4	
TROLL	Troll, Antarti comp=Z,284nm,0.9s	85.49	162	⇑P		P	05 11 30.2	+0.8	
QSPA	South Pole Qui comp=Z,4.7nm,1.0s,baz=166,slow=3.9,SNR=15 comp=Z,4.7nm,1.0s	88.37	180	P		P	05 11 45.7	+2.3	
ASAR	Alice Springs	139.97	229	PKhKP	PKPpre		05 18 13.0		
ASAR				PKP		PKPdf	05 18 20.4	+0.3	
	comp=Z,0.6nm,0.7s,baz=123,slow=2.0,SNR=3.2								
WRA	Warramunga Arr comp=Z,0.7nm,0.8s,baz=115,slow=2.1,SNR=5.2	141.63	234	PKhKP	PKPpre		05 18 17.9		
LZDM	Lanzhou Array comp=Z,1.8nm,0.5s,baz=353,slow=4.9,SNR=1.8	145.87	357	PKPbc	PKPdf		05 18 30.7	+0.2	
CMAR	Chiang Mai Arr comp=Z,0.6nm,0.3s,baz=0.7,slow=3.3,SNR=1.5	163.09	10	PKPab	PKPab		05 19 43.5	-0.9	

IDC 03 05:03:00.4±3.6, 60°04'S×26°40'W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=128.8km s-min=59.3km az=175.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz 0.7nm,0.5s,baz=144,slow=5.9,SNR=4.8 0.7nm,0.5s	53.07	307	P	P	05 12 19.8	-0.1
TORD	Torodi Ar. Bea 0.6nm,0.9s,baz=192,slow=5.6,SNR=2.2 0.6nm,0.9s	76.36	28	P	P	05 14 51.1	+0.1
ILAR	Eielson Array 0.5nm,0.6s,baz=115,slow=2.4,SNR=5.6	152.94	306	PKPbc	PKPbc	05 22 57.8	-0.1

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*IDC **03** 05:15:42.4±13.0, 47°.56N×146°.26E, h407km±133km, mb3.1/7, mbtmp3.8/8, Error ellipse: s-maj=94.3km s-min=19.2km az=80.0*

ISC 03 05:15:41.8±1.8, 47°.6N±0°.2×146°.3E±0°.3, h400km, n8, σ0°72/8, mb3.4/7, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array 0.8nm,0.5s,baz=59,slow=10.0,SNR=4.2	16.89	240	P	P	05 19 14.8	+0.3
KURBB	Kurchatov Arra 1.1nm,0.6s,baz=70,slow=8.9,SNR=9.3 1.1nm,0.6s	43.09	300	P	P	05 23 03.5	-0.6
BVAR	Borovoye Array 0.5nm,0.9s,baz=79,slow=7.5,SNR=2.1 0.5nm,0.4s	46.69	306	P	P	05 23 32.4	+0.3
FINES	FINESS Array B 0.7nm,0.5s,baz=57,slow=5.1,SNR=4.6 0.7nm,0.5s	61.21	332	P	P	05 25 15.2	-0.2
NOA	NORSAR Array B 0.3nm,0.4s,baz=26,slow=6.9,SNR=1.2 0.3nm,0.4s	65.83	338	P	P	05 25 45.8	+0.5
HFS	Hagfors 2.4nm,0.9s,baz=74,slow=11,SNR=4.9 2.4nm,0.9s	65.94	336	P	P	05 25 45.7	-0.2
WRA	Warramunga Arr 1.0nm,0.8s,baz=8.1,slow=6.4,SNR=4.9 1.0nm,0.8s	68.07	192	P	P	05 25 58.7	-1.0
ASAR	Alice Springs 0.4nm,0.6s,baz=4.9,slow=5.3,SNR=2.5 0.4nm,0.6s	71.80	192	P	P	05 26 22.8	+0.8

ZUR 03 05:30:21.0, 46°21N×7°.56E, h6km±2km, MLh3.3/14, 16C-4D, Error ellipse: s-maj=4619.7km s-min=1147.7km az=243.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANNI	Vissoie, Val d	0.03	83	⇓Pg	Pg	05 30 22.4	0.0
VANNI	Vissoie, Val d	0.03	83	⇓Pg	Pg	05 30 22.4	0.0
VANNI				Sg	Sg	05 30 23.2	-0.2
ILL16	Illgraben, For	0.07	25	⇑Pg	Pg	05 30 23.1	+0.2
ILL16	Illgraben, For	0.07	25	⇑Pg	Pg	05 30 23.1	+0.2
ILL16				Sg	Sg	05 30 24.5	+0.2
ILL17	Plaine Madelei	0.07	21	⇑Pg	Pg	05 30 23.1	+0.1
ILL17	Plaine Madelei	0.07	21	⇑Pg	Pg	05 30 23.1	+0.1
ILL17				Sg	Sg	05 30 24.4	0.0
SIE01	Sierre, Farmho	0.07	326	Pg	Pg	05 30 23.0	+0.1
SIE01	Sierre, Farmho	0.07	326	Pg	Pg	05 30 23.0	+0.1
ILL14	Mittler Illalp	0.08	40	⇑Pg	Pg	05 30 23.3	+0.2
ILL14	Mittler Illalp	0.08	40	⇑Pg	Pg	05 30 23.3	+0.2
ILL14				Sg	Sg

AGA01	**Agarn, Footbal**	**0.13**	**38**	⇑Pg	**Pg**	05 30 29.2	0.0
AGA01				Sg	**Sg**	05 30 31.3	+0.1
SAYF2	**Ayent-Fortunoz**	**0.13**	**315**	⇑Pg	**Pg**	05 30 29.2	0.0
SAYF2	**Ayent-Fortunoz**	**0.13**	**315**	⇑Pg	**Pg**	05 30 29.2	0.0
SAYF2				Sg	**Sg**	05 30 30.9	-0.4
SIOV	**Sion-Valere**	**0.14**	**287**	⇑Pg	**Pg**	05 30 29.3	0.0
SIOV	**Sion-Valere**	**0.14**	**287**	⇓Pg	**Pg**	05 30 29.2	0.0
SIOV				Sg	**Sg**	05 30 31.0	-0.3
DIX	**Grande Dixence**	**0.15**	**221**	⇑Pg	**Pg**	05 30 29.8	+0.2
DIX	**Grande Dixence**	**0.15**	**221**	⇑Pg	**Pg**	05 30 29.8	+0.2
DIX				Sg	**Sg**	05 30 31.9	-0.1
DIX	**Grande Dixence**	**0.15**	**221**	P	**Pg**	05 30 29.8	+0.2
DIX				S	**Sg**	05 30 32.0	+0.1
DIX	**Grande Dixence**	**0.15**	**221**	⇑P	**Pg**	05 30 29.8	+0.2
DIX				S	**Sg**	05 30 31.9	-0.1
STSW2	**Zeuzier, Staus**	**0.17**	**331**	⇑Pg	**Pg**	05 30 29.8	-0.2
STSW2				Sg	**Sg**	05 30 32.1	-0.4
STSW2	**Zeuzier, Staus**	**0.17**	**331**	⇑Pg	**Pg**	05 30 29.8	-0.2
STSW2				Sg	**Sg**	05 30 32.1	-0.4
CON01	**Conthey, Agros**	**0.17**	**276**	Pg	**Pg**	05 30 30.2	+0.3
SNIB	**St. Niklaus Ba**	**0.17**	**96**	⇓Pg	**Pg**	05 30 30.1	+0.2
SNIB	**St. Niklaus Ba**	**0.17**	**96**	⇓Pg	**Pg**	05 30 30.1	+0.2
SNIB				Sg	**Sg**	05 30 32.4	0.0
SGAK	**Gampel Kirche,**	**0.18**	**47**	Pg	**Pg**	05 30 30.0	0.0
SGAK				Sg	**Sg**	05 30 32.4	-0.1
LKBD2	**Leukerbad 2**	**0.19**	**19**	⇑Pg	**Pg**	05 30 30.1	-0.1
LKBD2	**Leukerbad 2**	**0.19**	**19**	⇑Pg	**Pg**	05 30 30.1	-0.1
VET03	**Vtroz, Le Bot**	**0.19**	**275**	Pg	**Pg**	05 30 30.6	+0.5
VET03	**Vtroz, Le Bot**	**0.19**	**275**	Pg	**Pg**	05 30 30.6	+0.5
EMBD	**Embd, Matterta**	**0.20**	**83**	⇓Pg	**Pg**	05 30 30.4	+0.1
EMBD	**Embd, Matterta**	**0.20**	**83**	⇓Pg	**Pg**	05 30 30.4	+0.1
EMBD				Sg	**Sg**	05 30 32.9	-0.2
EMBD	**Embd, Matterta**	**0.20**	**83**	P	**Pg**	05 30 30.4	+0.1
EMBD				S	**Sg**	05 30 32.9	-0.2
VET02	**Vtroz, Route**	**0.20**	**277**	Pg	**Pg**	05 30 30.6	+0.3
VET02	**Vtroz, Route**	**0.20**	**277**	⇓Pg	**Pg**	05 30 30.5	+0.3
SGRA	**Graechen Ausbl**	**0.20**	**90**	⇓Pg	**Pg**	05 30 30.6	+0.2
SGRA	**Graechen Ausbl**	**0.20**	**90**	⇓Pg	**Pg**	05 30 30.6	+0.2
SGRA				Sg	**Sg**	05 30 33.3	+0.2
VET01	**Vtroz, Route**	**0.20**	**278**	⇓Pg	**Pg**	05 30 30.4	+0.1
VET01	**Vtroz, Route**	**0.20**	**278**	⇓Pg	**Pg**	05 30 30.4	+0.1
VET01				Sg	**Sg**	05 30 33.1	0.0
NIE01	**Niedergesteln,**	**0.20**	**54**	⇑Pg	**Pg**	05 30 30.3	-0.1
NIE01				Sg	**Sg**	05 30 32.8	-0.3
NIE01	**Niedergesteln,**	**0.20**	**54**	⇑Pg	**Pg**	05 30 30.3	-0.1
NIE01				Sg	**Sg**	05 30 32.8	-0.3
RAW2	**Sanetsch, VS**	**0.20**	**306**	Pg	**Pg**	05 30 30.5	0.0
RAW2				Sg	**Sg**	05 30 33.3	-0.1
SARC	**Ardon Commune,**	**0.21**	**274**	Pg	**Pg**	05 30 30.6	+0.1
SZEK	**Zermatt, Kirch**	**0.22**	**142**	Pg	**Pg**	05 30 31.0	+0.3
SZEK				Sg	**Sg**	05 30 33.9	+0.1
SZEK	**Zermatt, Kirch**	**0.22**	**142**	⇑Pg	**Pg**	05 30 31.0	+0.3
SZEK				Sg	**Sg**	05 30 33.9	+0.1
MH44	**Zermatt, Posit**	**0.23**	**159**	⇑Pg	**Pg**	05 30 31.3	+0.3
MH44	**Zermatt, Posit**	**0.23**	**159**	Sg	**Sg**	05 30 34.5	+0.3
MH36	**Zermatt, Posit**	**0.23**	**159**	⇑Pg	**Pg**	05 30 31.3	+0.3
MH36	**Zermatt, Posit**	**0.23**	**159**	⇑Pg	**Pg**	05 30 31.3	+0.3
MH36				Sg	**Sg**	05 30 34.4	+0.2
RAW1	**Lenk, BE**	**0.24**	**341**	⇑Pg	**Pg**	05 30 31.0	-0.2
RAW1	**Lenk, BE**	**0.24**	**341**	⇑Pg	**Pg**	05 30 30.9	-0.2
RAW1				Sg	**Sg**	05 30 34.1	-0.3
SENIN	**Lac Senin/Sane**	**0.24**	**314**	Pg	**Pg**	05 30 31.2	-0.1
SENIN				Sg	**Sg**	05 30 34.5	-0.1
SENIN	**Lac Senin/Sane**	**0.24**	**314**	Pg	**Pg**	05 30 31.1	-0.1
SENIN				Sg	**Sg**	05 30 34.4	-0.1
SENIN	**Lac Senin/Sane**	**0.24**	**314**	P	**Pg**	05 30 31.2	-0.1
SENIN				S	**Sg**	05 30 34.5	-0.1
SVIO	**Visp Obere Sta**	**0.25**	**67**	Pg	**Pg**	05 30 31.2	0.0
SVIO				Sg	**Sg**	05 30 34.4	-0.2
RAW4	**Former Reservo**	**0.26**	**273**	⇓Pg	**Pg**	05 30 31.7	+0.2
RAW4	**Former Reservo**	**0.26**	**273**	⇓Pg	**Pg**	05 30 31.7	+0.2
RAW4				Sg	**Sg**	05 30 35.5	+0.5
LAUCH	**Lauchernalp**	**0.27**	**34**	Pg	**Pg**	05 30 31.6	-0.1
LAUCH	**Lauchernalp**	**0.27**	**34**	⇑Pg	**Pg**	05 30 31.6	-0.1
LAUCH				Sg	**Sg**	05 30 35.0	-0.3
LAUCH	**Lauchernalp**	**0.27**	**34**	P	**Pg**	05 30 31.6	-0.1
LAUCH				S	**Sg**	05 30 35.1	-0.3
BIBA	**Brigerbad**	**0.28**	**67**	⇓Pg	**Pg**	05 30 31.9	0.0
BIBA	**Brigerbad**	**0.28**	**67**	Pg	**Pg**	05 30 31.9	0.0
BIBA				Sg	**Sg**	05 30 35.5	-0.2
FULLY	**Reservoir Maze**	**0.29**	**263**	⇓Pg	**Pg**	05 30 32.2	+0.1
FULLY				Sg	**Sg**	05 30 35.9	-0.1
FULLY	**Reservoir Maze**	**0.29**	**263**	⇓Pg	**Pg**	05 30 32.2	+0.1
FULLY				Sg	**Sg**	05 30 35.8	-0.1
GRYON	**Gryon**	**0.31**	**281**	⇓Pg	**Pg**	05 30 32.5	0.0
GRYON	**Gryon**	**0.31**	**281**	⇓Pg	**Pg**	05 30 32.5	0.0
GRYON				Sg	**Sg**	05 30 36.9	+0.3
RAW3	**Les Diablerets**	**0.32**	**302**	Sg	**Sg**	05 30 37.1	+0.3
RAW3	**Les Diablerets**	**0.32**	**302**	Sg	**Sg**	05 30 37.0	+0.3
MMK	**Mattmark**	**0.32**	**117**	Sg	**Sg**	05 30 36.5	-0.4
MMK	**Mattmark**	**0.32**	**117**	P	**Pg**	05 30 31.4	-1.2
MMK				S	**Sg**	05 30 36.6	-0.4
MMK	**Mattmark**	**0.32**	**117**	P	**Pg**	05 30 32.3	-0.4
MMK				S	**Sg**	05 30 37.0	+0.1
MMK				AML	AML		
	comp=E,86µm,1.0s						
MMK				AML	AML		
	comp=E,86µm,1.0s						
MMK				AML	AML		
	comp=N,98µm,0.1s						
MMK				AML	AML		
	comp=N,98µm,0.1s						
MMK				AML	AML		
	comp=E,83µm,0.3s						
SIMPL	**Simplonpass**	**0.33**	**82**	⇓Pg	**Pg**	05 30 32.8	0.0
SIMPL	**Simplonpass**	**0.33**	**82**	⇓Pg	**Pg**	05 30 32.8	0.0
SIMPL	**Simplonpass**	**0.33**	**82**	P	**Pg**	05 30 32.7	0.0
SIMPL				S	**Sg**	05 30 37.0	-0.2
SZWD2	**Zweisimmen Kir**	**0.38**	**341**	⇑Pg	**Pg**	05 30 33.7	0.0
SZWD2				Sg	**Sg**	05 30 38.9	+0.2
SATI	**Passo dei Sala**	**0.39**	**145**	⇑Pg	**Pg**	05 30 34.0	+0.1
SATI				Sg	**Sg**	05 30 38.9	-0.2
SATI	**Passo dei Sala**	**0.39**	**145**	P	**Pg**	05 30 34.0	+0.1
SATI				S	**Sg**	05 30 38.9	-0.2
SATI	**Passo dei Sala**	**0.39**	**145**	P	**Pg**	05 30 34.0	+0.1
SATI				S	**Sg**	05 30 38.9	-0.2
MFERR	**Prayon, Val Fe**	**0.39**	**232**	⇑Pg	**Pg**	05 30 34.0	0.0
MFERR				Sg	**Sg**	05 30 38.8	-0.3
MFERR	**Prayon, Val Fe**	**0.39**	**232**	⇑Pg	**Pg**	05 30 34.0	0.0
MFERR				Sg	**Sg**	05 30 38.7	-0.3
SFRS	**Frutigen, Schu**	**0.40**	**10**	⇓Pg	**Pg**	05 30 34.0	0.0
SFRS	**Frutigen, Schu**	**0.40**	**10**	Pg	**Pg**	05 30 33.9	0.0
SFRS				Sg	**Sg**	05 30 39.3	+0.1
SCOD	**Chɕteau-dO**	**0.40**	**313**	Pg	**Pg**	05 30 34.4	+0.2
SCOD				Sg	**Sg**	05 30 39.9	+0.4
SALAN	**Lac Salanfe**	**0.41**	**263**	⇓Pg	**Pg**	05 30 34.4	+0.1
SALAN	**Lac Salanfe**	**0.41**	**263**	⇓Pg	**Pg**	05 30 34.4	+0.1
SALAN				Sg	**Sg**	05 30 39.9	+0.3
ILLEZ	**Chalet Vouargn**	**0.43**	**274**	⇓Pg	**Pg**	05 30 34.7	+0.1
ILLEZ	**Chalet Vouargn**	**0.43**	**274**	⇓Pg	**Pg**	05 30 34.7	+0.1
ILLEZ				Sg	**Sg**	05 30 40.4	+0.2
SEMOS	**Emosson Stauma**	**0.45**	**254**	⇑Pg	**Pg**	05 30 35.2	+0.2
SEMOS				Sg	**Sg**	05 30 40.8	0.0
REMY	**Saint-Rhmy-en**	**0.45**	**218**	⇑Pg	**Pg**	05 30 35.1	0.0
REMY	**Saint-Rhmy-en**	**0.45**	**218**	⇑Pg	**Pg**	05 30 35.1	0.0
REMY				Sg	**Sg**	05 30 40.8	-0.1
REMY	**Saint-Rhmy-en**	**0.45**	**218**	P	**Pg**	05 30 35.1	0.0
REMY				S	**Sg**	05 30 40.9	-0.1
REMY	**Saint-Rhmy-en**	**0.45**	**218**	⇑P	**Pg**	05 30 35.1	0.0
REMY				S	**Sg**	05 30 40.9	-0.1
FIESA	**Fiescheralp**	**0.46**	**58**	⇑Pg	**Pg**	05 30 35.1	0.0
FIESA	**Fiescheralp**	**0.46**	**58**	⇑Pg	**Pg**	05 30 35.1	0.0
FIESA				Sg	**Sg**	05 30 41.3	+0.1
FIESA	**Fiescheralp**	**0.46**	**58**	P	**Pg**	05 30 35.1	0.0
FIESA				S	**Sg**	05 30 41.1	0.0
WIMIS	**Wimmis**	**0.47**	**6**	Pg	**Pg**	05 30 35.4	-0.1
WIMIS	**Wimmis**	**0.47**	**6**	Pg	**Pg**	05 30 35.4	-0.1
JAUN	**Jaun, Euschels**	**0.48**	**338**	⇑Pg	**Pg**	05 30 35.5	0.0
JAUN				Sg	**Sg**	05 30 42.4	+0.6
JAUN	**Jaun, Euschels**	**0.48**	**338**	⇑Pg	**Pg**	05 30 35.5	0.0
JAUN				Sg	**Sg**	05 30 42.3	+0.5
MRGE	**Morge**	**0.55**	**219**	⇑Pg	**Pg**	05 30 36.7	-0.1
MRGE	**Morge**	**0.55**	**219**	⇑Pg	**Pg**	05 30 36.7	-0.1
MRGE				Sg	**Sg**	05 30 43.6	-0.3
MRGE	**Morge**	**0.55**	**219**	P	**Pg**	05 30 36.8	-0.1
MRGE				S	**Sg**	05 30 43.7	-0.3
MRGE	**Morge**	**0.55**	**219**	P	**Pg**	05 30 36.7	-0.1
MRGE				S	**Sg**	05 30 43.7	-0.3
MRGE				AML	AML		
	comp=E,495µm,0.7s						
MRGE				AML	AML		
	comp=N,392µm,0.6s						
MRGE				AML	AML		
	comp=E,495µm,1.3s						
MRGE				AML	AML		
	comp=E,273µm,0.2s						
MRGE				AML	AML		
	comp=N,329µm,0.1s						
OGSI	**Sixt**	**0.57**	**257**	⇓Pg	**Pg**	05 30 37.4	+0.1
OGSI	**Sixt**	**0.57**	**257**	⇓Pg	**Pg**	05 30 37.4	+0.1
OGSI				Sg	**Sg**	05 30 44.6	-0.1
A173A	**Vacheresse, 74**	**0.62**	**283**	Pg	**Pg**	05 30 38.6	+0.4
GRIMS	**Grimsel Gerste**	**0.66**	**54**	Pg	**Pg**	05 30 38.7	-0.2
GRIMS	**Grimsel Gerste**	**0.66**	**54**	⇑Pg	**Pg**	05 30 38.7	-0.2
GRIMS				Sg	**Sg**	05 30 46.8	-0.7
GSF03	**Obergoms, Fort**	**0.69**	**56**	Pg	**Pg**	05 30 39.5	-0.2
GSF03				Sg	**Sg**	05 30 48.4	-0.4
TRAV	**Traversella**	**0.69**	**169**	⇑Pg	**Pg**	05 30 39.1	-0.5
TRAV	**Traversella**	**0.69**	**169**	⇑Pg	**Pg**	05 30 39.1	-0.5
TRAV	**Traversella**	**0.69**	**169**	P	**Pg**	05 30 39.1	-0.5
TRAV	**Traversella**	**0.69**	**169**	P	**Pg**	05 30 39.1	-0.5
TRAV				AML	AML		
	comp=E,202µm,0.8s						
TRAV				AML	AML		
	comp=N,200µm,1.5s						
TRAV				AML	AML		
	comp=N,190µm,0.1s						
TRAV				AML	AML		
	comp=E,192µm,0.2s						
HASLI	**Hasliberg/Brie**	**0.70**	**36**	Pg	**Pg**	05 30 39.5	-0.2
HASLI				Sg	**Sg**	05 30 48.3	-0.5
RA41	**Rhonegletscher**	**0.70**	**55**	⇑Pg	**Pg**	05 30 39.7	-0.1
RA41				Sg	**Sg**	05 30 48.5	-0.6
LSD	**Lago del Serru**	**0.79**	**202**	P	**Pg**	05 30 40.9	-0.6
LSD				S	**Sg**	05 30 51.0	-0.8
FUSIO	**Fusio**	**0.81**	**71**	Pg	**Pg**	05 30 41.4	-0.5
FUSIO	**Fusio**	**0.81**	**71**	P	**Pg**	05 30 41.5	-0.4
FUSIO	**Fusio**	**0.81**	**71**	P	**Pg**	05 30 41.4	-0.5
FUSIO				S	**Sg**	05 30 52.9	+0.4
FUSIO				AML	AML		
	comp=N,58µm,0.8s						
FUSIO				AML	AML		
	comp=E,56µm,1.0s						
FUSIO				AML	AML		
	comp=E,51µm,0.3s						
FUSIO				AML	AML		
	comp=N,53µm,0.3s						
RSL	**Roselend**	**0.82**	**232**	⇑Pg	**Pg**	05 30 41.2	-0.8
RSL	**Roselend**	**0.82**	**232**	⇑Pg	**Pg**	05 30 41.3	-0.8
RSL	**Roselend**	**0.82**	**232**	P	**Pg**	05 30 41.3	-0.8
RSL				S	**Sg**	05 30 52.2	-0.6
GMS01	**Gemsstock NE-G**	**0.84**	**60**	Pg	**Pg**	05 30 42.4	-0.1
GMS01	**Gemsstock NE-G**	**0.84**	**60**	Pg	**Pg**	05 30 42.4	-0.1
A060B	**Romoos, Napf,**	**0.85**	**20**	⇑Pg	**Pb**	05 30 43.1	-0.3
A060B	**Romoos, Napf,**	**0.85**	**20**	⇑Pg	**Pb**	05 30 43.1	-0.3
LPL	**La Plagne**	**0.89**	**221**	*e*Pg	**Pg**	05 30 42.9	-0.4
LPL				*e*Sg	**Sg**	05 30 53.6	-1.3
	comp=N,60nm,0.4s						
LPG	**La Plagne**	**0.89**	**219**	*e*Pg	**Pg**	05 30 43.0	-0.4
LPG				*e*Sg	**Sg**	05 30 53.9	-1.2
	comp=N,26nm,0.3s						
BNALP	**Bannalp**	**0.91**	**41**	⇑Pg	**Pg**	05 30 43.3	-0.3
BNALP	**Bannalp**	**0.91**	**41**	⇑Pg	**Pg**	05 30 43.3	-0.3
BNALP				Sg	**Sg**	05 30 54.8	-0.7
BNALP				SmS		05 31 01.8	
BNALP	**Bannalp**	**0.91**	**41**	P	**Pg**	05 30 43.7	+0.1
BNALP				AML	AML		
	comp=E,138µm,0.6s						
BNALP				AML	AML		
	comp=N,210µm,0.3s						
BNALP				AML	AML		
	comp=E,138µm,0.6s						
BNALP				AML	AML		
	comp=N,211µm,0.3s						
VARE	**Varese**	**0.91**	**111**	P	**Pg**	05 30 43.4	-0.3
VARE				S	**Sg**	05 30 55.1	-0.4
VARE				AML	AML		
	comp=N,85µm,0.8s						
VARE				AML	AML		
	comp=E,63µm,0.5s						
VARE				AML	AML		
	comp=E,58µm,0.2s						
VARE				AML	AML		
	comp=N,85µm,0.2s						
GIMEL	**St. Georges /**	**0.95**	**291**	⇓Pg	**Pb**	05 30 45.3	+0.2
GIMEL	**St. Georges /**	**0.95**	**291**	P	**Pb**	05 30 45.9	+0.8
GIMEL				AML	AML		
	comp=E,67µm,0.6s						
GIMEL				AML	AML		
	comp=N,79µm,0.7s						
GIMEL				AML	AML		
	comp=E,67µm,1.4s						
RSP	**Reno Superiore**	**1.06**	**191**	P	**Pg**	05 30 45.9	-0.8
RSP	**Reno Superiore**	**1.06**	**191**	P	**Pg**	05 30 46.0	-0.7
RSP				AML	AML		
	comp=E,121µm,0.5s						
RSP				AML	AML		
	comp=N,104µm,1.5s						
RSP				AML	AML		
	comp=E,89µm,0.2s						
RSP				AML	AML		
	comp=E,89µm,0.2s						
RSP				AML	AML		
	comp=N,102µm,0.2s						
MUGIO	**Muggio**	**1.07**	**104**	P	**Pg**	05 30 46.5	-0.3
MUGIO	**Muggio**	**1.07**	**104**	P	**Pg**	05 30 46.6	-0.3
MUGIO				AML	AML		
	comp=N,50µm,0.3s						
MUGIO				AML	AML		
	comp=E,46µm,0.5s						
MUGIO				AML	AML		
	comp=E,34µm,0.2s						
MUGIO				AML	AML		
	comp=N,50µm,0.3s						
MUO	**Muotathal**	**1.08**	**44**	Pg	**Pg**	05 30 46.9	0.0
CABF	**La Chapelle**	**1.10**	**293**	*e*Pg	**Pg**	05 30 47.4	+0.1
CABF				*e*Sg	**Sb**	05 31 02.7	+0.7
	comp=N,22nm,0.2s						
CHMF	**Charmoille**	**1.22**	**330**	Pg	**Pn**	05 30 50.2	+0.5
PANIX	**Pigniu (Panix)**	**1.25**	**59**	Pg	**Pg**	05 30 49.7	-0.5
TUE	**Stuetta**	**1.27**	**77**	P	**Pg**	05 30 50.4	-0.3
TUE	**Stuetta**	**1.27**	**77**	P	**Pg**	05 30 50.4	-0.3
TUE				S	**Sg**	05 31 06.8	-0.5
BNI	**Bardonecchia**	**1.30**	**209**	P	**Pg**	05 30 50.5	-0.6
ROTHE	**Rothenfluh**	**1.31**	**11**	Pg	**Pb**	05 30 51.5	+0.4
VDL	**Val di Lei**	**1.35**	**77**	P	**Pn**	05 30 51.5	0.0
BHB	**Bricherasio**	**1.37**	**189**	P	**Pn**	05 30 51.0	-0.7
BHB	**Bricherasio**	**1.37**	**189**	P	**Pn**	05 30 50.9	-0.7
BHB				AML	AML		
	comp=E,48µm,0.7s						
BHB				AML	AML		
	comp=N,46µm,0.7s						
BHB				AML	AML		
	comp=E,48µm,1.3s						
BOUC	**Bouclans**	**1.38**	**320**	⇓Pg	**Pb**	05 30 52.5	+0.2
RRL	**Rocca Remolon**	**1.38**	**203**	P	**Pn**	05 30 51.8	-0.3
RRL	**Rocca Remolon**	**1.38**	**203**	P	**Pn**	05 30 51.7	-0.3
RRL				AML	AML		
	comp=E,61µm,0.6s						
RRL				AML	AML		
	comp=N,55µm,0.9s						
PLONS	**Plons/SG**	**1.52**	**55**	P	**Pb**	05 30 54.7	-0.1
MBDF	**Montbardon**	**1.57**	**201**	*e*Pg	**Pn**	05 30 55.0	+0.5
MBDF				*e*Sg	**Sb**	05 31 16.2	+0.6
	comp=N,40nm,0.5s						
HINF	**Hinteralfeld**	**1.69**	**344**	*e*Pg	**Pg**	05 30 58.3	-0.4
HINF				*e*Sg	**Sg**	05 31 20.0	-0.6
	comp=N,50nm,0.4s						
SLE	**Schleitheim**	**1.70**	**22**	Pn	**Pn**	05 30 56.0	-0.2
PZZ	**Stroppo**	**1.71**	**190**	P	**Pn**	05 30 56.1	-0.5
PZZ				AML	AML		
	comp=N,68µm,1.2s						
PZZ				AML	AML		
	comp=E,70µm,0.6s						
ORIF	**Oris-en-Rattie**	**1.73**	**223**	*e*Pg	**Pb**	05 30 58.7	+0.3
ORIF				*e*Sg	**Sb**	05 31 21.4	+1.1
	comp=E,23nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.73**	**223**	AML	AML		
	comp=E,41µm,0.8s						
ORIF				AML	AML		
	comp=N,36µm,0.4s						
ORIF				AML	AML		
	comp=E,41µm,1.2s						
ORIF				AML	AML		
	comp=N,36µm,1.6s						
HAU	**Haudompre**	**1.99**	**336**	*e*Pn	**Pn**	05 31 00.2	0.0
HAU	**Haudompre**	**1.99**	**336**	*e*Pg	**Pb**	05 31 03.4	+0.7
HAU				*e*Sn	**Sn**	05 31 24.1	-1.2
HAU				*e*Sg	**Sg**	05 31 29.1	-1.1
	comp=N,42nm,0.3s						
CDF	**Champ du Feu**	**2.23**	**355**	*e*Pn	**Pn**	05 31 03.3	-0.2
CDF	**Champ du Feu**	**2.23**	**355**	*e*Pg	**Pg**	05 31 08.0	-0.9
CDF				*e*Sn	**Sn**	05 31 29.9	-1.4
CDF				*e*Sg	**Sb**	05 31 36.1	+1.6
	comp=N,17nm,0.4s						
SBF	**Sospel**	**2.33**	**182**	*e*Pn	**Pn**	05 31 05.4	+0.5
SBF	**Sospel**	**2.33**	**182**	*e*Pg	**Pb**	05 31 08.9	+0.3
SBF				*e*Sn	**Sn**	05 31 31.4	-2.4
SBF				*e*Sg	**Sb**	05 31 38.3	+0.8
	comp=N,7.8nm,0.2s						
FETA	**Feichten**	**2.34**	**68**	*e*Pg	**Pg**	05 31 11.5	+0.4
	comp=N,3.0nm,0.5s						
FETA				*i* Sg	**Sg**	05 31 43.2	+1.8
	comp=N,1.5nm,0.2s						
VIVF	**Saint-Julien-l**	**2.43**	**238**	*e*Pn	**Pn**	05 31 07.5	+1.3
VIVF	**Saint-Julien-l**	**2.43**	**238**	*e*Pg	**Pb**	05 31 11.6	+1.5
VIVF				*e*Sn	**Sn**	05 31 35.1	-1.0
VIVF				*e*Sg	**Sb**	05 31 42.2	+2.0
	comp=N,4.9nm,0.2s						
RETA	**Reutte**	**2.56**	**58**	*i* Pg	**Pg**	05 31 14.6	-0.6
	comp=N,1.1nm,0.2s						
RETA				*e*Sg	**Sg**	05 31 49.1	+0.8
	comp=N,4.5nm,0.3s						
SMF	**Signal de Mont**	**2.61**	**281**	*e*Pn	**Pn**	05 31 09.3	+0.6
SMF	**Signal de Mont**	**2.61**	**281**	*e*Pg	**Pg**	05 31 15.4	-0.8
SMF				*e*Sg	**Sg**	05 31 48.8	-1.1
	comp=N,6.6nm,0.2s						
SMRF	**Simiane la Rot**	**2.62**	**213**	*e*Pn	**Pn**	05 31 07.3	-1.6
SMRF	**Simiane la Rot**	**2.62**	**213**	*e*Pg	**Pb**	05 31 14.1	+0.6
SMRF				*e*Sn	**Sn**	05 31 38.1	-2.9
	comp=N,3.2nm,0.3s						
SBPO	**S.Benedetto Po**	**2.62**	**115**	AML	AML		
	comp=E,4540µm,0.1s						
SBPO				AML	AML		
	comp=N,656µm,0.5s						
SFTF	**Sexfontaines**	**2.64**	**320**	*e*P	**Pn**	05 31 11.1	+1.9
SFTF				*e*Sn	**Sn**	05 31 40.7	-0.7
SFTF				*e*Sg	**Sg**	05 31 48.9	-2.2
	comp=N,29nm,0.4s						
PAGF	**Fort de Pagny**	**2.67**	**333**	*e*Pn	**Pn**	05 31 10.5	+1.0
PAGF	**Fort de Pagny**	**2.67**	**333**	*e*Pg	**Pg**	05 31 17.7	+0.3
PAGF				*e*Sg	**Sg**	05 31 50.6	-1.3
	comp=N,9.3nm,0.2s						
MOTA	**Moosalm**	**2.70**	**63**	*e*Pg	**Pb**	05 31 15.5	+0.6
	comp=N,0.8nm,0.2s						
MOTA				*e*Sg	**Sg**	05 31 53.4	+0.5
	comp=N,1.2nm,0.3s						
LOR	**Lormes**	**2.76**	**294**	*e*Pn	**Pn**	05 31 11.5	+0.7
LOR	**Lormes**	**2.76**	**294**	*e*Pg	**Pg**	05 31 18.1	-1.0
LOR				*e*Sg	**Sb**	05 31 52.0	+2.3
	comp=N,8.1nm,0.2s						
SSF	**Saint Saulge**	**2.92**	**289**	*e*Pn	**Pn**	05 31 13.7	+0.7
SSF	**Saint Saulge**	**2.92**	**289**	*e*Pg	**Pg**	05 31 21.5	-0.7
SSF				*e*Sg	**Sg**	05 31 57.8	-2.2
	comp=N,6.0nm,0.3s						
SAVF	**Savonnieres en**	**2.93**	**327**	*e*P	**Pn**	05 31 15.5	+2.4
SAVF				*e*Sg	**Sg**	05 31 58.0	-2.3
	comp=N,6.0nm,0.2s						
LMR	**La Mourre**	**2.96**	**195**	*e*Pn	**Pn**	05 31 11.6	-1.8
LMR	**La Mourre**	**2.96**	**195**	*e*Pg	**Pb**	05 31 20.8	+1.7
LMR				*e*Sg	**Sb**	05 31 57.9	+2.5
	comp=N,3.3nm,0.3s						
AVF	**Avril sur Loir**	**2.96**	**283**	*e*Pn	**Pn**	05 31 14.2	+0.7
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n696,σ1$07/548,mb4.7/170,MS3.7/46,1C-7D,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNA	Chernabura Isl	0.29	196	P	Pb	05 39 35.5	-0.1
CHNA	Chernabura Isl	0.29	196	S	Sb	05 39 40.5	+0.1
CHNA	Chernabura Isl	0.29	196	P	Pb	05 39 35.6	0.0
	baz=30,SNR=1000						
CHNA				S	Sb	05 39 40.3	0.0
	baz=30						
CNBA	Chernabura Isl	0.30	196		Pb	05 39 35.6	-0.1
SDPT	Sand Point	0.64	292		Pb	05 39 41.2	+0.1
SDPT				IAML		05 39 51.1	
	comp=E,61µm,0.7s						
SDPT	Sand Point	0.64	292		Sb	05 39 49.8	+0.2
SDPT	Sand Point	0.64	292	P	Pb	05 39 41.2	+0.1
SDPT	Sand Point	0.64	292	S	Sb	05 39 50.1	+0.5
SDPT	Sand Point	0.64	292	P	Pb	05 39 41.0	-0.1
	baz=115,SNR=325						
SDPT				S	Sb	05 39 50.0	+0.3
	baz=115						
VNKR	Veniaminof 5	0.92	3		Pb	05 39 46.1	+0.1
VNSG	Veniaminof 6	1.03	11		Pn	05 39 47.7	+0.1
VNHG	Veniaminof 1	1.12	8		Pb	05 39 49.6	+0.2
VNNF	Veniaminof 3	1.18	4		Pb	05 39 50.5	+0.2
S14K	Fog Glacier	1.18	357	P	Pb	05 39 50.5	+0.1
	baz=175,SNR=205						
VNFG	Fog Glacier, M	1.18	357		Pb	05 39 50.1	-0.2
VNFG					Pb	05 39 51.0	+0.7
VNFG	Fog Glacier, M	1.18	357		Pb	05 39 51.1	+0.7
VNFG					Sb	05 40 07.2	+2.0
CHGN	Chignik	1.33	26		Pn	05 39 51.8	+0.3
CHGN				IAML		05 40 12.9	
	comp=N,22µm,0.6s						
CHGN	Chignik	1.33	26		Sb	05 40 08.9	-0.4
CHGN	Chignik	1.33	26	P	Pn	05 39 51.6	+0.1
	baz=204,SNR=300						
CHGN				S	Sn	05 40 08.7	+0.4
	baz=204						
PS1A	Pavlof South-1	1.35	284		Pn	05 39 52.0	+0.2
PS1A					Sb	05 40 09.6	-0.4
DOL	Dolgoi Island	1.39	272		Pn	05 39 52.1	-0.3
DOL					Sn	05 40 09.6	-0.3
PS4A	Pavlof South-4	1.40	281		Sn	05 40 10.7	+0.6
HAG	Hague Volcano	1.42	279		Pn	05 39 53.0	+0.1
S12K	Black Hills	1.60	293		Pn	05 39 55.5	+0.2
S12K				IAML		05 40 20.2	
	comp=N,21µm,0.4s						
S12K				IAML		05 40 25.9	
	comp=E,23µm,0.7s						
S12K	Black Hills	1.60	293		Sb	05 40 17.2	-0.2
S12K	Black Hills	1.60	293	P	Pn	05 39 55.5	+0.2
	baz=112,SNR=174						
S12K				S	Sb	05 40 17.4	0.0
	baz=112						
DT1	Dutton Round H	1.63	271		Pn	05 39 55.3	-0.3
DT1					Sn	05 40 15.6	-0.1
ANPB	Aniakchak Plen	1.82	21		Pn	05 39 59.5	+1.2
AZAC	Aniakchak	1.91	20		Pn	05 40 00.9	+1.2
CHIR	Chirikof Islan	2.29	70		Pn	05 40 05.1	+0.4
CHIR				IAML		05 40 43.8	
	comp=E,4µm,0.6s						
CHIR	Chirikof Islan	2.29	70	P	Pn	05 40 04.9	+0.2
CHIR	Chirikof Islan	2.29	70	P	Pn	05 40 05.2	+0.4
	baz=252,SNR=35						
CHIR				S	Sn	05 40 32.7	+0.6
	baz=252						
FALS	False Pass	2.30	265		Pn	05 40 05.3	+0.4
FALS	False Pass	2.30	265		Sn	05 40 34.1	+1.8
FALS	False Pass	2.30	265	P	Pn	05 40 05.4	+0.5
FALS	False Pass	2.30	265	P	Pn	05 40 05.3	+0.4
	baz=84,SNR=272						
FALS				S	Sn	05 40 34.8	+2.5
	baz=84						
ISNN	Isanotski Nort	2.51	265		Pn	05 40 08.7	+0.9
SSLN	Shishaldin Nor	2.64	265		Pn	05 40 09.3	-0.3
R16K	Pilot Point	2.67	22		Pn	05 40 11.9	+1.9
R16K				IAML		05 40 55.9	
	comp=N,6µm,0.9s						
R16K				IAML		05 40 57.5	
	comp=E,6µm,0.9s						
R16K	Pilot Point	2.67	22	P	Pn	05 40 10.5	+0.5
	baz=202						
R16K				S	Sn	05 40 43.2	+1.8
	baz=202						
SSBA	Shishaldin	2.72	265		Pn	05 40 11.3	+0.6
PLBL	Peulik Blue Cr	2.98	28		Pn	05 40 16.1	+1.9
R17L	Mt. Peulik Vol	3.05	33	P	Pn	05 40 16.5	+1.3
	baz=214,SNR=242						
R17L				S	Sn	05 40 53.3	+2.4
	baz=214						
PLK4	Peulik 4	3.05	33		Pn	05 40 16.8	+1.4
PLK4				IAML		05 41 08.4	
	comp=E,5µm,0.8s						
WEBT	Westdahl Beart	3.11	262		Pn	05 40 16.8	+0.7
PLK1	Peulik 1	3.12	29		Pn	05 40 17.8	+1.7
PLK2	Peulik 2	3.17	32		Pn	05 40 18.5	+1.6
PLK5	Peulik 5	3.22	25		Pn	05 40 18.7	+1.2
SII	Sitkinak Islan	3.30	62		Pn	05 40 19.1	+0.4
SII				IAML		05 41 25.9	
	comp=N,3µm,1.0s						
SII				IAML		05 41 28.7	
	comp=E,2µm,0.7s						
SII	Sitkinak Islan	3.30	62	P	Pn	05 40 19.1	+0.4
SII	Sitkinak Islan	3.30	62	P	Pn	05 40 19.0	+0.4
	baz=245,SNR=35						
R18K	Karluk	3.71	46		Pn	05 40 26.0	+1.8
R18K	Karluk	3.71	46	IAML		05 41 23.4	
	comp=N,2µm,0.6s						
R18K				IAML		05 41 26.2	
	comp=E,1µm,0.5s						
R18K	Karluk	3.71	46	P	Pn	05 40 24.7	+0.5
	baz=229						
Q17K	Contact Creek	3.72	30	P	Pn	05 40 25.1	+0.6
	baz=212						
CNTC	Contact Creek	3.72	30		Pn	05 40 25.7	+1.2
AKSA	Akutan Strait	3.76	257		Pn	05 40 26.2	+1.2
AKUT	Akutan	3.81	258		Pn	05 40 26.9	+1.4
AKUT				IAML		05 41 27.1	
	comp=N,1µm,1.2s						
AKUT	Akutan	3.81	258	P	Pn	05 40 26.7	+1.2
AHB	Akutan Harbor	3.84	257		Pn	05 40 26.8	+0.8
MGLS	Mageik Landsli	3.84	36		Pn	05 40 27.6	+1.5
ACHA	Angle Creek He	3.85	35		Pn	05 40 27.6	+1.4
Q16K	King Salmon	3.89	22	P	Pn	05 40 27.7	+1.0
	baz=203,SNR=83						
Q16K				S	Sn	05 41 13.7	+2.3
	baz=203						
KABU	Katmai Buttres	3.91	34		Pn	05 40 29.0	+1.9
KABU					Pn	05 40 29.2	+2.1
LVA	Lava Point	3.94	259		Pn	05 40 28.2	+0.7
LVA				IAML		05 41 47.0	
	comp=N,2µm,0.8s						
KVTA	Katmai Vly 10	4.00	33		Pn	05 40 30.1	+1.9
P16K	Nushagak River	4.01	11		Pn	05 40 29.9	+1.6
P16K				IAML		05 41 49.5	
	comp=N,2µm,1.1s						
P16K	Nushagak River	4.01	11	P	Pn	05 40 29.6	+1.3
	baz=197,SNR=9.1						
OHAK	Old Harbor	4.04	56		Pn	05 40 28.8	0.0
OHAK	Old Harbor	4.04	56	P	Pn	05 40 28.6	-0.1
OHAK	Old Harbor	4.04	56	P	Pn	05 40 28.8	0.0
	baz=240,SNR=26						
O15K	Ungalikthiuk R	4.08	357		Pn	05 40 30.8	+1.5
O15K				IAML		05 41 49.7	
	comp=E,751nm,0.9s						
O15K	Ungalikthiuk R	4.08	357	P	Pn	05 40 30.0	+0.7
	baz=176,SNR=13						
O14K	Tigyukauivet M	4.27	347		Pn	05 40 33.1	+1.2
O14K				IAML		05 42 04.2	
	comp=N,827nm,0.8s						
O14K	Tigyukauivet M	4.27	347	P	Pn	05 40 32.4	+0.5
	baz=166,SNR=15						
KAHC	Katmai Hardscr	4.30	33		Pn	05 40 33.8	+1.3
Q18K	Katmai Hardscr	4.30	33	P	Pn	05 40 33.7	+1.3
	baz=215,SNR=130						
UNV	Unalaska Valle	4.31	256		Pn	05 40 32.9	+0.5
UNV	Unalaska Valle	4.31	256	P	Pn	05 40 32.9	+0.5
UNV	Unalaska Valle	4.31	256	P	Pn	05 40 33.0	+0.6
	baz=71,SNR=38						
MTBL	Makushin Table	4.37	258		Pn	05 40 34.0	+0.7
P17K	Kvichak River	4.41	21	P	Pn	05 40 34.7	+0.9
	baz=202,SNR=26						
MREP	Makushin Rep't	4.45	256		Pn	05 40 35.1	+0.5
O16K	Kokwok River B	4.55	9	IAML		05 42 03.0	
	comp=N,598nm,0.8s						
O16K				IAML		05 42 06.8	
	comp=E,718nm,1.1s						
O16K	Kokwok River B	4.55	9	P	Pn	05 40 37.5	+1.7
	baz=189,SNR=31						
KDAK	Kodiak Island	4.65	52		Pn	05 40 37.1	-0.1
KDAK				IAML		05 42 02.9	
	comp=E,527nm,0.7s						
KDAK	Kodiak Island	4.65	52	Pn	Pn	05 40 36.0	-1.2
	comp=E,17nm,0.3s,baz=207,slow=5.1,SNR=259						
KDAK				Sn	Sn	05 41 27.6	-2.7
	comp=E,17nm,0.3s,baz=228,slow=9.1,SNR=3.6						
KDAK				Lg	Lg	05 41 47.3	
	comp=E,29nm,0.3s,baz=0.1,slow=20,SNR=3.7						
	comp=E,50nm,0.5s						
KDAK	Kodiak Island	4.65	52	P	Pn	05 40 36.9	-0.2
	baz=237						
O17K	Koliganek Bris	4.84	14	P	Pn	05 40 40.8	+1.1
	baz=196,SNR=23						
P18K	Big Mountain,	4.86	26	P	Pn	05 40 40.9	+0.8
	baz=209,SNR=21						
Q19K	Cape Douglas,	4.97	37		Pn	05 40 43.0	+1.5
Q19K	Cape Douglas,	4.97	37	P	Pn	05 40 42.7	+1.2
	baz=221,SNR=95						
N14K	Kuskokwak Cree	4.97	347		Pn	05 40 42.4	+0.9
N14K				IAML		05 42 17.1	
	comp=N,1µm,1.5s						
N14K				IAML		05 42 37.6	
	comp=E,1µm,1.8s						
N14K	Kuskokwak Cree	4.97	347	P	Pn	05 40 42.3	+0.7
	baz=165,SNR=11						
N15K	Kwethluk River	5.08	356		Pn	05 40 44.7	+1.6
N15K	Kwethluk River	5.08	356	IAML		05 42 15.2	
	comp=E,703nm,0.7s						
N15K				IAML		05 42 20.8	
	comp=N,783nm,0.7s						
N15K	Kwethluk River	5.08	356	P	Pn	05 40 44.8	+1.6
	baz=175,SNR=30						
Q20K	Shuyak Island	5.22	45	P	Pn	05 40 45.5	+0.6
	baz=230						
SYI	Shuyak Island	5.22	45	IAML		05 42 02.3	
	comp=N,989nm,0.8s						
SYI				IAML		05 42 04.2	
	comp=E,696nm,0.8s						
O18K	Koktuh Hills	5.27	24		Pn	05 40 47.4	+1.7
OKTU	Okmok Mt. Tuli	5.33	255		Pn	05 40 47.0	+0.5
AUCH	Augustine Cone	5.36	35		Pn	05 40 48.8	+1.8
AUCH					Pn	05 40 49.0	+2.0
AGU	Augustine-Summ	5.37	35		Pn	05 40 48.9	+1.9
N16K	Nishlik Lake	5.39	4	P	Pn	05 40 49.2	+1.9
	baz=184,SNR=61						
AU22	Augustine Moun	5.40	35		Pn	05 40 49.1	+1.7
OKSP	Okmok Steeple	5.52	254		Pn	05 40 49.7	+0.6
N17K	Nushagak Hills	5.56	12		Pn	05 40 51.2	+1.6
N17K	Nushagak Hills	5.56	12	P	Pn	05 40 50.7	+1.0
	baz=193,SNR=26						
M15K	Kasigluk River	5.64	354	P	Pn	05 40 52.0	+1.3
	baz=172,SNR=26						
P19K	Oil Pt	5.66	34		Pn	05 40 52.7	+1.7
P19K	Oil Pt	5.66	34	P	Pn	05 40 52.6	+1.7
	baz=218,SNR=15						
M13K	Dall Lake	5.71	340	P	Pn	05 40 52.8	+1.2
	baz=157,SNR=7.9						
O19K	Port Alsworth	5.79	26		Pn	05 40 54.1	+1.3
O19K					Pn	05 40 54.2	+1.5
O19K	Port Alsworth	5.79	26	P	Pn	05 40 53.8	+1.0
	baz=210,SNR=47						
M14K	Bethel	5.81	348		Pn	05 40 53.6	+0.6
M14K	Bethel	5.81	348	P	Pn	05 40 53.6	+0.6
	baz=165,SNR=21						
N18K	Kilae Creek	5.89	17		Pn	05 40 55.9	+1.6
N18K	Kilae Creek	5.89	17	P	Pn	05 40 55.9	+1.6
	baz=200,SNR=37						
M16K	Timber Creek	5.93	2		Pn	05 40 56.0	+1.3
M16K					Pn	05 40 56.5	+1.7
M16K	Timber Creek	5.93	2	P	Pn	05 40 56.8	+2.1
	baz=182,SNR=38						
ILSW	Iliamna Southw	5.94	32		Pn	05 40 56.7	+1.7
ILS	Iliamna Low So	5.95	33		Pn	05 40 56.7	+1.7
O20K	Slope Mountain	6.18	34		Pn	05 40 59.8	+1.5
O20K	Slope Mountain	6.18	34	P	Pn	05 40 59.7	+1.4
	baz=219,SNR=23						
HOM	Homer	6.21	40	Pn	Pn	05 41 01.8	+3.3
HOM	Homer	6.21	40	P	Pn	05 40 59.7	+1.2
	baz=225						
CNPM	China Poot	6.27	42		Pn	05 40 59.9	+0.5
N19K	Bonanza Creek	6.29	23		Pn	05 41 01.5	+1.7
N19K	Bonanza Creek	6.29	23	P	Pn	05 41 01.4	+1.6
	baz=206,SNR=44						
SPIA	Saint Paul Isl	6.38	293	Pn	Pn	05 41 02.0	+1.1
SPIA	Saint Paul Isl	6.38	293	P	Pn	05 41 01.3	+0.5
	baz=105						
M17K	Holitna River	6.39	9	P	Pn	05 41 02.5	+1.4
	baz=190,SNR=23						
M11K	Mekoryuk	6.40	328		Pn	05 41 02.2	+1.1
M11K	Mekoryuk	6.40	328	P	Pn	05 41 01.7	+0.6
	baz=143						
RED	Redoubt Volcan	6.41	31		Pn	05 41 02.2	+1.0
RDWB	Redoubt West	6.44	31		Pn	05 41 03.4	+1.6
RDWB					Pn	05 41 03.9	+2.1
RDSO	Redoubt South	6.44	31		Pn	05 41 03.3	+1.4
RDSO					Pn	05 41 03.9	+2.0
L14K	Kuka Creek	6.47	346	P	Pn	05 41 02.8	+0.6
	baz=163,SNR=31						
RDJH	Redoubt Jeurge	6.54	30		Pn	05 41 04.7	+1.6
RDJH					Pn	05 41 05.1	+2.0
BRLK	Bradley Lake	6.56	41		Pn	05 41 03.1	-0.3
L16K	Owhat River	6.62	360		Pn	05 41 05.0	+0.9
L16K	Owhat River	6.62	360	P	Pn	05 41 04.8	+0.6
	baz=180,SNR=30						
RDT	Redoubt	6.64	32		Pn	05 41 05.0	+0.5
L15K	Ungalak Mounta	6.67	352	P	Pn	05 41 05.1	+0.2
	baz=170,SNR=15						
M18K	Stony River	6.67	15		Pn	05 41 06.4	+1.5
M18K	Stony River	6.67	15	P	Pn	05 41 06.8	+1.9
	baz=198,SNR=119						
L17K	Donlin	7.07	4		Pn	05 41 10.9	+0.6
L17K	Donlin	7.07	4	P	Pn	05 41 11.8	+1.5
	baz=185,SNR=24						
CKL	Chakachamna La	7.16	29		Pn	05 41 13.8	+2.1
SPWE	Spurr West	7.17	28		Pn	05 41 11.7	0.0
N20K	Mount Spurr	7.20	29	P	Pn	05 41 13.2	+1.0
	baz=215,SNR=18						
SPCR	Spurr Chakacha	7.20	29		Pn	05 41 13.0	+0.8
SPCR	Spurr Chakacha	7.20	29		Pn	05 41 13.4	+1.2
SPCR	Spurr Chakacha	7.20	29	P	Pn	05 41 13.2	+1.0
	baz=215,SNR=16						
SPBG	Spurr Blockage	7.21	28		Pn	05 41 14.3	+2.1
SPNN	North Nagishla	7.21	27		Pn	05 41 14.3	+1.9
SPU	Mount Spurr	7.23	30		Pn	05 41 14.3	+1.7
L18K	Granite Mounta	7.27	10	P	Pn	05 41 14.6	+1.5
	baz=192,SNR=26						
K15K	Wolf Creek Mou	7.28	352	P	Pn	05 41 14.8	+1.5
	baz=170,SNR=18						
M19K	Big River Lodg	7.30	19		Pn	05 41 15.1	+1.5
M19K	Big River Lodg	7.30	19	P	Pn	05 41 15.1	+1.5
	baz=203,SNR=85						
SLKM	Skilak Lake	7.31	39		Pn	05 41 14.8	+1.2
SPCG	Spurr Capps Gl	7.33	29		Pn	05 41 15.5	+1.5
SEW	Seward	7.33	43		Pn	05 41 14.5	+0.6
SEW	Seward	7.33	43	P	Pn	05 41 14.5	+0.6
	baz=231						
K13K	Kusilvak Mount	7.36	340		Pn	05 41 15.5	+1.2
K13K	Kusilvak Mount	7.36	340	P	Pn	05 41 15.2	+1.0
	baz=156,SNR=55						
O22K	Cooper Landing	7.47	40		Pn	05 41 17.5	+1.7
O22K	Cooper Landing	7.47	40	P	Pn	05 41 17.6	+1.7
	baz=228,SNR=16						
L19K	White Mountain	7.48	17	P	Pn	05 41 17.6	+1.6
	baz=200,SNR=43						
M20K	Styx River	7.55	23		Pn	05 41 18.6	+1.7
M20K	Styx River	7.55	23	P	Pn	05 41 18.2	+1.2
	baz=208						
STLK	Strandline Lak	7.55	29		Pn	05 41 17.7	+0.7
K17K	Iditarod	7.65	4	P	Pn	05 41 19.6	+1.3
	baz=185,SNR=28						
SUA	Susitna One	7.84	32	P	Pn	05 41 21.4	+0.4
	baz=219,SNR=30						
RC01	Rabbit Creek A	7.89	37		Pn	05 41 22.4	+0.8
RC01	Rabbit Creek A	7.89	37	P	Pn	05 41 22.6	+1.0
	baz=224,SNR=6.8						
L20K	Farewell, AK	7.93	19		Pn	05 41 23.6	+1.5
L20K	Farewell, AK	7.93	19	P	Pn	05 41 23.4	+1.2
	baz=203,SNR=47						
J14K	Nanvaranak Lak	7.95	346		Pn	05 41 22.9	+0.6
J14K	Nanvaranak Lak	7.95	346	P	Pn	05 41 23.4	+1.1
	baz=162						
SKT	Skwentna	8.03	28		Pn	05 41 25.0	+1.5
SKT	Skwentna	8.03	28	P	Pn	05 41 24.8	+1.3
	baz=214,SNR=18						
P23K	Montague Islan	8.11	48		Pn	05 41 25.3	+0.7
J16K	Anvik River	8.22	356	P	Pn	05 41 27.0	+0.9
	baz=175,SNR=38						
PWL	Port Wells	8.24	41	P	Pn	05 41 27.1	+0.7
	baz=230,SNR=36						
M22K	Willow	8.26	32	P	Pn	05 41 27.1	+0.6
	baz=220,SNR=17						
J17K	VABM Dome	8.31	1	P	Pn	05 41 28.1	+0.7
	baz=181,SNR=16						
PMR	Palmer	8.45	36		Pn	05 41 30.0	+0.7
PMR	Palmer	8.45	36	P	Pn	05 41 30.1	+0.8
PMR	Palmer	8.45	36	P	Pn	05 41 29.9	+0.6
	baz=224,SNR=8.9						
J18K	Innoko River	8.49	8		Pn	05 41 30.8	+1.0
J18K	Innoko River	8.49	8	P	Pn	05 41 31.3	+1.4
	baz=190						
KNK	Knik Glacier	8.56	38	P	Pn	05 41 30.8	0.0
	baz=227,SNR=21						
PPLA	Purkeypile	8.65	23		Pn	05 41 34.1	+1.9
PPLA	Purkeypile	8.65	23	P	Pn	05 41 33.9	+1.8
	baz=208,SNR=22						
GHO	Glory Hole Cre	8.65	35		Pn	05 41 32.5	+0.4
K20K	Telida	8.71	16		Pn	05 41 33.4	+0.6
K20K	Telida	8.71	16	P	Pn	05 41 34.0	+1.2
	baz=200,SNR=9.9						
CUT	Chulitna	8.72	29		Pn	05 41 33.8	+0.8
CUT	Chulitna	8.72	29	P	Pn	05 41 33.5	+0.5
	baz=217						
GLI	Glacier Island	8.73	44	Pn	Pn	05 41 33.3	+0.2
GLI	Glacier Island	8.73	44	P	Pn	05 41 32.8	-0.3
	baz=234						
I17K	Unalakleet	8.82	356		Pn	05 41 35.4	+1.1
I17K	Unalakleet	8.82	356	P	Pn	05 41 35.8	+1.5
	baz=175,SNR=17						
FID	Port Fidalgo	8.91	45		Pn	05 41 35.0	-0.5
M23K	Glacier View	9.08	38	P	Pn	05 41 38.6	+0.8
	baz=227,SNR=24						
EYAK	Cordova Ski Ar	9.10	48	P	Pn	05 41 38.6	+0.4
EYAK	Cordova Ski Ar	9.10	48	P	Pn	05 41 38.1	-0.1
	baz=239,SNR=12						
J19K	Poorman	9.12	11		Pn	05 41 38.4	+0.1
J19K	Poorman	9.12	11	P	Pn	05 41 39.5	+1.2
	baz=194,SNR=16						
ATKA	Atka Island	9.23	258		Pn	05 41 39.7	-0.2
ATKA	Atka Island	9.23	258	P	Pn	05 41 40.3	+0.4
SCM	Sheep Creek Mo	9.24	38	P	Pn	05 41 40.8	+0.6
	baz=228,SNR=46						
KAIM	Kayak Island	9.40	53		Pn	05 41 42.8	+0.5
KAIM	Kayak Island	9.40	53	P	Pn	05 41 42.5	+0.1
	baz=245,SNR=12						
DIV	Divide	9.41	45		Pn	05 41 41.8	-0.6
J20K	Nowinta River	9.47	14		Pn	05 41 44.6	+1.3
J20K	Nowinta River	9.47	14	P	Pn	05 41 45.4	+2.1
	baz=198,SNR=15						
RAGM	Ragged Mountai	9.49	50		Pn	05 41 44.0	+0.4
CHUM	Lake Minchumin	9.51	19		Pn	05 41 44.7	+1.0
CHUM	Lake Minchumin	9.51	19	P	Pn	05 41 45.1	+1.4
	baz=205,SNR=20						
KTH	Kantishna Hill	9.51	24		Pn	05 41 44.1	+0.3
WAT1	Susitna Watana	9.55	32	P	Pn	05 41 43.2	-1.2
	baz=220						
KLU	Klutina	9.55	43	P	Pn	05 41 44.8	+0.4
	baz=234,SNR=94						
TRF	Thorofare Moun	9.57	25	P	Pn	05 41 44.8	0.0
	baz=213,SNR=21						
WAT6	Susitna Watana	9.62	34		Pn	05 41 44.9	-0.6
WAT6	Susitna Watana	9.62	34	P	Pn	05 41 44.5	-1.0
	baz=224,SNR=12						
H16K	Elim	9.66	353	P	Pn	05 41 46.3	+0.5
	baz=170						
GCSA	Galena City Sc	9.75	7		Pn	05 41 47.7	+0.7
GCSA	Galena City Sc	9.75	7	P	Pn	05 41 48.0	+1.1
	baz=188,SNR=20						
BMRM	Bremner River	9.80	47		Pn	05 41 48.0	+0.2
BMRM	Bremner River	9.80	47	P	Pn	05 41 47.4	-0.4
	baz=239						
M24K	Tolsona, Glenn	9.84	39		Pn	05 41 48.2	-0.1
M24K	Tolsona, Glenn	9.84	39	P	Pn	05 41 48.2	-0.1
	baz=230,SNR=17						
H17K	Granite Mounta	9.86	359		Pn	05 41 49.2	+0.7
H17K	Granite Mounta	9.86	359	P	Pn	05 41 49.3	+0.8
	baz=178,SNR=16						
BERG	Berg Lake	9.93	51		Pn	05 41 49.3	-0.2
BPAW	Bear Paw Mtn.	9.97	22		Pn	05 41 51.2	+1.2
BPAW	Bear Paw Mtn.	9.97	22	P	Pn	05 41 51.0	+1.0
	baz=209,SNR=11						
I20K	Naaghedeneel	10.02	12	P	Pn	05 41 52.0	+1.2
	baz=196						
H18K	Honhosa River	10.09	3	P	Pn	05 41 53.0	+1.3
	baz=185						
DHY	Denali Highway	10.10	33	P	Pn	05 41 51.0	-0.9
	baz=223,SNR=16						
N25K	Chitina, Valde	10.14	44	P	Pn	05 41 52.9	+0.4
	baz=236,SNR=17						
MCK	McKinley	10.15	27	P	Pn	05 41 52.3	-0.2
	baz=216,SNR=25						
G15K	Niukluk	10.17	349	P	Pn	05 41 53.2	+0.5
	baz=165						
CRQE	Cirque	10.35	50	P	Pn	05 41 54.9	-0.5
	baz=244,SNR=8.6						
HARP	HAARP	10.39	40	P	Pn	05 41 55.9	0.0
	baz=231,SNR=11						
G16K	Koyuk River	10.41	353		Pn	05 41 59.1	+3.1
G16K	Koyuk River	10.41	353	P	Pn	05 41 56.9	+0.9
	baz=170						
VRDI	Verde Repeater	10.42	48	Pn	Pn	05 41 56.8	+0.5
G17K	Kiwalik Mounta	10.44	357	P	Pn	05 41 57.8	+1.4
	baz=176						
TGL	Tana Glacier	10.47	51	Pn	Pn	05 41 57.4	+0.3
H19K	Roundabout Mou	10.55	7	P	Pn	05 41 59.4	+1.4
	baz=189,SNR=30						
MESA	MESA	10.65	54	P	Pn	05 41 59.5	0.0

baz=252,SNR=8.0
L26K **Log Cabin Wild** 11.44 40 P Pn 05 42 10.7 +0.5
baz=233,SNR=15
H22K **Ishtalitna Cre** 11.51 17 P Pn 05 42 11.5 +0.4
baz=204,SNR=5.5
ILAR **Eielson Array** 11.52 28 Pn Pn 05 42 09.1 -2.2
comp=E,1.2nm,0.3s,baz=218,slow=13,SNR=35
ILAR Sn Sn 05 44 13.6 -5.4
comp=E,0.5nm,0.3s,baz=216,slow=23,SNR=4.5
ILAR LR LR 05 46 54.0
comp=E,472nm,20.1s,baz=224,slow=39
F18K **Selawik** 11.53 360 P Pn 05 42 11.7 +0.4
baz=179
DOT **Dot Lake** 11.57 36 Pn Pn 05 42 12.8 +0.7
M27K **Edge Creek, AK** 11.63 44 P Pn 05 42 12.4 -0.5
baz=239,SNR=7.3
POKR **Poker Plat Res** 11.66 26 Pn Pn 05 42 14.2 +1.0
POKR **Poker Plat Res** 11.66 26 P Pn 05 42 13.5 +0.4
baz=216,SNR=7.2
O28M **Mount Upton** 11.67 53 P Pn 05 42 13.7 +0.1
baz=249,SNR=28
PNL **Peninsula** 11.72 59 P Pn 05 42 13.6 -0.4
PNL **Peninsula** 11.72 59 P Pn 05 42 12.7 -1.3
baz=255,SNR=22
H23K **Yukon River** 11.78 20 P Pn 05 42 14.0 -0.8
baz=209,SNR=11
F19K **Shaleruckik Mo** 11.79 3 P Pn 05 42 15.7 +0.8
baz=184
G21K **Allakaket** 11.79 12 P Pn 05 42 16.3 +1.3
baz=197,SNR=7.1
SCRK **Sand Creek** 11.82 35 P Pn 05 42 14.5 -0.9
baz=228,SNR=10
J25K **Salcha River,** 11.83 31 P Pn 05 42 13.9 -1.6
baz=223,SNR=16
YUK3 **Moose Creek** 11.95 48 P Pn 05 42 17.5 +0.3
baz=244,SNR=11
L27K **Beaver Creek,** 12.03 41 P Pn 05 42 17.8 -0.3
baz=236,SNR=26
BCAR **Beaver Creek A** 12.04 41 Pn 05 42 18.4 0.0
YUK8 **Steele Glacier** 12.05 51 P Pn 05 42 18.4 -0.3
baz=248,SNR=13
E17K **Hotham Inlet** 12.06 356 P Pn 05 42 18.9 +0.3
baz=173
F20K **Avaraart Lake** 12.11 7 P Pn 05 42 20.7 +1.5
baz=190
H24K **Noodoo Dome** 12.15 23 P Pn 05 42 19.7 -0.1
baz=213,SNR=11
O29M **Mount Kennedy** 12.28 56 P Pn 05 42 22.0 +0.2
baz=254
J26L **Joseph Creek** 12.31 34 P Pn 05 42 21.2 -0.8
baz=227,SNR=20
E18K **Tukpahlearik C** 12.36 358 Pn 05 42 25.5 +2.7
E18K **Tukpahlearik C** 12.36 358 P Pn 05 42 23.1 +0.4
baz=177
E19K **Redstone River** 12.43 4 P Pn 05 42 24.8 +1.1
baz=186
G22K **Bettles** 12.44 15 P Pn 05 42 24.7 +0.9
baz=201
PRP **Porcupine Dome** 12.47 28 P Pn 05 42 24.5 +0.2
baz=220,SNR=13
F21K **Alatna River** 12.48 11 P Pn 05 42 25.6 +1.3
baz=196
G23K **Bananza Creek** 12.48 18 P Pn 05 42 25.0 +0.6
baz=206
K27K **Chicken** 12.50 37 P Pn 05 42 23.9 -0.7
baz=232
P29M **Windy Craggy** 12.53 60 P Pn 05 42 25.4 +0.3
baz=258,SNR=26
YUK6 **Outpost Mounta** 12.57 54 P Pn 05 42 25.5 -0.3
baz=251
F22K **John River** 12.90 13 P Pn 05 42 30.3 +0.1
baz=199
COLD **Coldfoot** 12.92 16 P Pn 05 42 30.1 -0.3
baz=204
HYT **Haines Junctio** 12.94 55 P Pn 05 42 29.6 -1.1
baz=253
G24K **Hadweenzic Riv** 12.96 22 P Pn 05 42 31.0 +0.1
baz=212,SNR=7.7
H25L **Birch Creek** 12.98 25 P Pn 05 42 30.9 -0.2
baz=217
I26K **Coal Creek Min** 12.99 32 P Pn 05 42 30.7 -0.5
baz=226,SNR=9.0
P30M **Million Dollar** 13.02 58 P Pn 05 42 30.7 -1.1
baz=257,SNR=9.4
M29M **Somme Creek** 13.08 47 P Pn 05 42 32.3 -0.3
baz=245,SNR=60
S31K **Pelican** 13.10 68 P Pn 05 42 32.0 -0.8
baz=267,SNR=8.2
PLBC **Pleasant Camp** 13.19 61 P Pn 05 42 34.0 0.0
baz=260,SNR=19
AMKA **Amchitka** 13.25 262 Pn 05 42 34.5 -0.3
E20K **Nigu River** 13.28 5 P Pn 05 42 36.5 +1.3
baz=188,SNR=17
N30M **Ashikik Lake** 13.32 52 P Pn 05 42 35.2 -0.7
baz=251
DAWY **Dawson** 13.49 40 P Pn 05 42 38.0 -0.1
baz=237,SNR=18
L29M **L29M** 13.51 45 P Pn 05 42 38.7 +0.3
baz=243,SNR=12
SIT **Sitka** 13.59 72 P Pn 05 42 38.8 -0.7
SIT **Sitka** 13.59 72 P Pn 05 42 38.3 -1.2
baz=272
F24K **Squaw Lake** 13.59 19 P Pn 05 42 39.8 +0.3
baz=209
O30N **Mendenhall** 13.59 56 P Pn 05 42 39.5 0.0
baz=255,SNR=6.2
C18K **Utukok River** 13.61 357 Pn 05 42 43.1 +3.4
C18K **Utukok River** 13.61 357 P Pn 05 42 41.0 +1.2
baz=176
E21K **Killik River** 13.62 9 P Pn 05 42 40.4 +0.6
baz=193
I27K **Kandik River** 13.66 33 P Pn 05 42 41.0 +0.5
baz=228
D20K **Etivluk River** 13.71 4 P Pn 05 42 42.9 +1.8
baz=187
SKAG **Skagway** 13.71 62 P Pn 05 42 42.1 +1.0
SKAG **Skagway** 13.71 62 P Pn 05 42 42.1 +1.0
baz=262,SNR=6.5
E23K **Chandalar** 13.78 16 P Pn 05 42 42.7 +0.6
baz=204
M30M **Minto, Yukon** 13.84 48 P Pn 05 42 43.2 +0.2
baz=247,SNR=11
N31M **Braeburn, Yuko** 13.93 53 P Pn 05 42 44.2 +0.1
baz=253,SNR=7.1
E24K **Your Creek** 13.97 17 P Pn 05 42 45.3 +0.5
baz=207
G26K **Porcupine Rive** 14.03 26 P Pn 05 42 44.5 -0.9
baz=220
R32K **Eaglecrest** 14.03 67 P Pn 05 42 45.4 -0.1
baz=267
C19K **Lookout Ridge** 14.04 360 P Pn 05 42 46.7 +1.0
baz=180
K29M **Barlow Dome** 14.09 43 P Pn 05 42 46.7 +0.3
baz=242,SNR=6.7
I28M **Miner Creek** 14.10 35 P Pn 05 42 46.3 -0.2
baz=232,SNR=18
F25K **Christian Rive** 14.11 22 P Pn 05 42 46.8 +0.2
baz=214
H27K **Steamboat Moun** 14.12 31 P Pn 05 42 46.7 0.0
baz=226
J29N **Klondike Camp** 14.13 40 P Pn 05 42 47.0 +0.1
baz=238,SNR=7.7
WHY **Whitehorse** 14.15 57 P Pn 05 42 47.2 0.0
baz=257,SNR=13
D22K **Ayikyak River** 14.16 10 P Pn 05 42 47.7 +0.4
baz=196
BMAR **Burnt Mountain** 14.21 24 Pn Pn 05 42 49.1 +1.2
C21K **Knifeblade Rid** 14.26 7 P Pn 05 42 50.1 +1.5
baz=191,SNR=8.2
TOLK **Toolik Lake Re** 14.32 15 P Pn 05 42 49.6 +0.2
baz=203,SNR=5.5
B18K **Kokolik River** 14.34 357 P Pn 05 42 51.9 +2.2
baz=174
D23K **Nanushuk River** 14.47 13 P Pn 05 42 52.8 +1.3
baz=200
G27K **Doyon Strip** 14.49 29 P Pn 05 42 51.6 -0.1
baz=224
F26K **Sheenjek River** 14.52 24 P Pn 05 42 53.5 +1.3
baz=217
P32M **Atlin** 14.55 62 P Pn 05 42 52.7 +0.1
baz=263
E25K **Arctic Village** 14.56 21 P Pn 05 42 54.2 +1.5
baz=213
I29M **Ogilvie Camp,** 14.60 37 P Pn 05 42 54.2 +1.0
baz=235,SNR=52
MAYO **Mayo, Yukon** 14.63 45 P Pn 05 42 54.5 +0.8
baz=245,SNR=11
B21K **Ikpikpuk River** 14.72 7 P Pn 05 42 55.9 +1.0
baz=191
M31M **Drury Creek, Y** 14.77 51 P Pn 05 42 55.7 +0.1
baz=252,SNR=38
U33K **Whale Pass** 14.88 75 P Pn 05 42 56.5 -0.5
baz=277
J30M **Hart River** 14.90 41 P Pn 05 42 58.1 +0.7
baz=241,SNR=28
D24K **Happy Valley** 14.90 15 P Pn 05 42 58.4 +1.2
baz=204
CRAG **Craig** 14.97 78 P Pn 05 42 59.0 +0.7
CRAG **Craig** 14.97 78 P Pn 05 42 58.2 -0.1
baz=279
B20K **Meade River** 14.99 3 P Pn 05 42 59.0 +0.6
baz=185
P33M **Teslin, Yukon** 15.07 59 IAmb IAmb 05 43 18.2
comp=Z,35nm,0.8s
P33M **Teslin, Yukon** 15.07 59 P Pn 05 42 59.3 -0.5
baz=262,SNR=9.1
H29M **Whitestone** 15.08 34 P Pn 05 42 59.6 -0.1
baz=232,SNR=17
N32M **Quiet Lake** 15.11 56 P Pn 05 43 00.1 0.0
baz=258
I30M **Mount Dempster** 15.20 39 P Pn 05 43 01.7 +0.3
baz=239,SNR=25
Q32M **Nakina River** 15.23 64 IAmb IAmb 05 43 10.4
comp=Z,40nm,0.8s
Q32M **Nakina River** 15.23 64 P Pn 05 43 00.6 -1.3
baz=267,SNR=14
WRAK **Wrangell Islan** 15.27 74 IAmb IAmb 05 43 14.6
comp=Z,50nm,1.1s
WRAK **Wrangell Islan** 15.27 74 P Pn 05 43 01.1 -1.1
baz=276,SNR=6.3
C23K **Itkillik River** 15.30 12 P Pn 05 43 02.4 -0.2
baz=199,SNR=6.3
D25K **Kavik River** 15.44 18 P Pn 05 43 03.8 -0.7
baz=209
E27K **Coleen River** 15.52 25 P Pn 05 43 05.2 -0.2
baz=221
B22K **Teshekpuk Lake** 15.52 8 P Pn 05 43 05.1 -0.3
baz=193
F28M **Old Crow** 15.55 29 P Pn 05 43 05.3 -0.5
baz=226
G29M **Pine Creek** 15.62 32 IAmb IAmb 05 43 21.9
comp=Z,38nm,0.6s
G29M **Pine Creek** 15.62 32 P Pn 05 43 06.1 -0.6
baz=231,SNR=8.2
EPYK **Eagle Plains** 15.71 35 P Pn 05 43 08.2 +0.3
baz=235,SNR=42
SHEM **Shemya Is, Ala** 15.73 272 Pn Pn 05 43 06.2 -2.0
comp=Z,0.3nm,0.3s,baz=270,slow=20,SNR=1.4
SHEM LR LR 05 49 15.9
comp=Z,208nm,20.0s,baz=70,slow=38
comp=Z,19nm,0.9s
S34M **Telegraph Cree** 15.82 68 IAmb IAmb 05 43 17.1
comp=Z,75nm,0.9s
S34M **Telegraph Cree** 15.82 68 P Pn 05 43 09.5 +0.1
baz=272
V35K **Ketchikan** 15.84 78 IAmb IAmb 05 43 17.1
comp=Z,74nm,1.1s
V35K **Ketchikan** 15.84 78 P Pn 05 43 10.1 +0.4
baz=280,SNR=7.9
R33M **Jennings River** 15.93 63 IAmb IAmb 05 43 19.0
comp=Z,71nm,1.1s
R33M **Jennings River** 15.93 63 P Pn 05 43 11.9 +1.0
baz=267,SNR=31
MOBC **Moresby Island** 16.19 86 P Pn 05 43 12.4 -1.7
MOBC IAmb IAmb 05 43 23.2
comp=Z,105nm,1.4s
C27K **Jago River** 16.20 20 P Pn 05 43 15.2 +1.1
baz=214
G30M **tAoh Zraii Nji** 16.23 34 IAmb IAmb 05 43 19.8
comp=Z,59nm,0.8s
G30M **tAoh Zraii Nji** 16.23 34 P Pn 05 43 13.6 -1.0
baz=234,SNR=14
H31M **Peel River** 16.23 39 IAmb IAmb 05 43 39.0
comp=Z,81nm,0.9s
H31M **Peel River** 16.23 39 P Pn 05 43 14.3 -0.2
baz=240,SNR=8.4
MMPY **Sheldon Lake,** 16.28 51 IAmb IAmb 05 43 20.8
comp=Z,50nm,0.8s
MMPY **Sheldon Lake,** 16.28 51 P Pn 05 43 15.4 +0.1
baz=255,SNR=45
E28M **Babbage River** 16.34 26 P Pn 05 43 16.5 +0.5
baz=224
T35M **Bob Quinn** 16.36 71 P Pn 05 43 15.7 -0.6
baz=276,SNR=13
DLBC **Dease Lake** 16.39 66 Pn Pn 05 43 17.6 +0.8
comp=Z,6.2nm,0.3s,baz=249,slow=14,SNR=15
DLBC LR LR 05 48 54.7
comp=Z,3µm,19.4s,baz=230,slow=35
DLBC **Dease Lake** 16.39 66 P Pn 05 43 16.4 -0.4
baz=271,SNR=16
D27M **Malcolm River** 16.47 23 P Pn 05 43 18.3 +0.6
baz=220
E29M **Blow River** 16.62 28 P Pn 05 43 19.0 -0.5
baz=227
U35K **Hyder** 16.63 75 P Pn 05 43 19.5 -0.1
baz=279
F30M **Barrier River** 16.74 32 IAmb IAmb 05 43 36.2
comp=Z,30nm,0.6s
F30M **Barrier River** 16.74 32 P Pn 05 43 21.5 +0.5
baz=233
G31M **Satah River** 16.83 35 IAmb IAmb 05 43 39.6
comp=Z,42nm,0.6s
G31M **Satah River** 16.83 35 P Pn 05 43 21.8 -0.3
baz=237,SNR=10
WTLY **Watson Lake, Y** 17.07 60 P Pn 05 43 25.2 0.0
baz=266
F31M **Tsiigehtchic** 17.29 34 P Pn 05 43 26.2 -1.6
baz=237
TGTN **Hyland Airport** 17.46 56 P Pn 05 43 29.9 -0.2
baz=262,SNR=30
INK **Inuvik** 17.84 32 P Pn 05 43 33.7 -1.0
comp=Z,2.1nm,0.3s,baz=246,slow=16,SNR=57
INK LR LR 05 51 22.7
comp=Z,450nm,18.6s,baz=236,slow=40
comp=Z,15nm,0.7s
INK **Inuvik** 17.84 32 P Pn 05 43 33.9 -0.7
baz=235,SNR=9.1
LIRD **Liard River Hi** 18.41 63 P Pn 05 43 42.8 +1.0
baz=271,SNR=5.2
BBB **Bella Bella** 18.72 86 P Pn 05 43 47.4 +1.8
BBB **Bella Bella** 18.72 86 P Pn 05 43 45.5 0.0
comp=Z,0.1nm,0.3s,baz=170,slow=7.6,SNR=3.0
BBB LR LR 05 49 51.2
comp=Z,253nm,19.2s,baz=317,slow=33
comp=Z,24nm,1.0s
TOAD **Toad River Com** 18.88 65 P Pn 05 43 49.0 +1.5
baz=273,SNR=34
KOTAN **Kotaneelee Air** 19.44 61 P Pn 05 43 53.7 -0.4
baz=270,SNR=16
WRGLY **Wrigley** 19.90 51 P P 05 43 58.4 +0.6
baz=262,SNR=22
C36M **Paulatuk** 21.34 34 P P 05 44 12.3 -1.0
C36M **Paulatuk** 21.34 34 P P 05 44 12.1 -1.2
baz=246
OZB **Mount Ozzard** 21.62 92 IAmb IAmb 05 44 40.9
comp=Z,47nm,1.2s
A36M **Sachs Harbour** 22.23 28 P P 05 44 21.7 -1.1
A36M IAmb IAmb 05 44 39.0
comp=Z,33nm,0.8s
A36M **Sachs Harbour** 22.23 28 P P 05 44 21.3 -1.5
baz=238
CLRS **Cowichan Lake** 22.47 92 IAmb IAmb 05 44 31.0
comp=Z,30nm,1.4s
LLLB **Lillooet** 22.93 86 P P 05 44 32.4 +1.9
LLLB IAmb IAmb 05 44 35.3
comp=Z,35nm,1.1s
NLWA **Neilton Lookou** 23.36 94 P P 05 44 36.7 +1.8
NLWA IAmb IAmb 05 44 40.5
comp=Z,32nm,1.2s
GNW **Green Mountain** 23.87 93 P P 05 44 42.0 +2.3
YKA **Yellowknife Ar** 23.93 54 P P 05 44 40.3 +0.1
YKA **Yellowknife Ar** 23.93 54 P P 05 44 40.0 -0.2
comp=Z,12nm,0.9s,baz=268,slow=16,SNR=34
comp=Z,12nm,0.9s
E03A **Lebam** 24.00 96 IAmb IAmb 05 44 45.8
comp=Z,37nm,1.1s
F03A **Seaside** 24.35 97 IAmb IAmb 05 44 48.2
comp=Z,29nm,1.0s
PET **Petropavlovsk** 24.41 283 P P 05 44 45.1 +0.4
PET **Petropavlovsk** 24.41 283 P P 05 44 44.8 +0.1
comp=Z,57nm,1.0s
PET pP pP 05 44 51.5 -0.8
comp=Z,57nm,1.0s
PETK **Petropavlovsk-** 24.91 283 P P 05 44 49.2 -0.1
PETK **Petropavlovsk-** 24.91 283 P P 05 44 48.4 -0.9
comp=Z,7.1nm,0.5s,baz=78,slow=13,SNR=21
PETK LR LR 05 54 17.0
comp=Z,130nm,20.4s,baz=79,slow=36
comp=Z,7.1nm,0.5s
LTY **Liberty** 25.27 92 IAmb IAmb 05 44 57.2
comp=Z,21nm,1.3s
SEY **Seymchan** 25.43 307 LR LR 05 56 01.1
comp=Z,220nm,18.8s,baz=95,slow=39
B08A **Colville Reser** 25.46 89 IAmb IAmb 05 44 59.9
comp=Z,18nm,0.9s
H04D **Lebanon** 25.65 99 IAmb IAmb 05 45 02.0
comp=Z,20nm,1.0s
BUCK **Buck Mountain** 25.71 100 IAmb IAmb 05 45 03.1
comp=Z,20nm,1.1s
HOOD **Mount Hood Mea** 25.79 96 IAmb IAmb 05 45 03.4
comp=Z,31nm,1.0s
H04A **Detroit Lake** 25.87 98 IAmb IAmb 05 45 04.0
comp=Z,31nm,1.0s
G05A **Wamic** 26.03 96 IAmb IAmb 05 45 08.5
comp=Z,24nm,1.0s
E07A **Sunnyside** 26.12 93 IAmb IAmb 05 45 05.8
comp=Z,9.1nm,0.7s
WAH2 **Wahluke Slope** 26.17 92 IAmb IAmb 05 45 03.5
comp=Z,30nm,1.3s
F07A **Phinny Hill Vi** 26.45 94 IAmb IAmb 05 45 09.4
comp=Z,19nm,0.9s
MA2 **Magadan** 26.70 300 LR LR 05 56 31.2
comp=Z,122nm,19.1s,baz=112,slow=39
BBOR **Butler Butte** 26.71 102 IAmb IAmb 05 45 13.5
comp=Z,14nm,0.9s
NEW **Newport** 26.78 87 IAmb IAmb 05 45 08.8
comp=Z,21nm,1.1s
E09A **Wood Farm, Sta** 27.12 91 IAmb IAmb 05 45 16.1
comp=Z,18nm,1.1s
YBH **Yreka Blue Hor** 27.45 104 LR LR 05 53 37.2
comp=Z,15nm,20.9s,baz=293,slow=31
KHMM **Horse Mountain** 27.46 106 IAmb IAmb 05 45 16.2
comp=Z,15nm,1.2s
HATC **Hat Creek Radi** 28.76 104 IAmb IAmb 05 45 39.3
comp=Z,9.4nm,0.8s
O03E **Paynes Creek** 28.93 105 IAmb IAmb 05 45 28.7
comp=Z,14nm,0.9s
MFID **Camas Ranch** 30.27 94 IAmb IAmb 05 45 40.1
comp=Z,7.7nm,1.0s
PAHR **Pah Rah Range** 30.68 103 IAmb IAmb 05 45 44.0
comp=Z,11nm,1.2s
DLMT **Dillon** 30.96 89 IAmb IAmb 05 45 46.1
comp=Z,14nm,1.4s
HLID **Hailey** 31.00 93 P P 05 45 45.1 +1.2
EGMT **Eagleton** 31.11 82 IAmb IAmb 05 45 46.6
comp=Z,9.1nm,1.0s
RES **Resolute Bay** 31.28 28 LR LR 05 59 50.1
comp=Z,152nm,21.3s,baz=293,slow=39
WAKR **Walker** 31.49 105 IAmb IAmb 05 45 51.7
comp=Z,11nm,1.1s
BUCR **Buckhorn Ranch** 31.69 107 IAmb IAmb 05 45 53.6
comp=Z,10nm,1.1s
RYN **Ryan** 31.91 104 IAmb IAmb 05 45 54.9
comp=Z,8.7nm,1.1s
YHL **Hebgen Lake** 32.08 88 IAmb IAmb 05 45 56.1
comp=Z,9.5nm,0.9s
YHB **Horse Butte** 32.13 88 IAmb IAmb 05 45 56.5
comp=Z,11nm,0.9s
NVAR **Mina Array Bea** 32.17 104 P P 05 45 56.6 +2.2
comp=Z,3.7nm,0.8s,baz=300,slow=8.4,SNR=28
NVAR PcP PcP 05 48 43.4 +0.7
comp=Z,0.7nm,0.7s,baz=303,slow=2.0,SNR=4.2
NVAR LR LR 05 56 09.6
comp=Z,160nm,21.9s,baz=306,slow=31
comp=Z,3.7nm,0.8s
LHV **Little Huntoon** 32.19 104 IAmb IAmb 05 46 05.9
comp=Z,8.4nm,1.1s
ELK **Elko** 32.32 98 IAmb IAmb 05 45 59.2
comp=Z,7.0nm,1.1s
YNE **Yellowstone No** 32.66 87 IAmb IAmb 05 46 01.0
comp=Z,13nm,1.0s
YMP **Mirror Lake Pl** 32.73 88 IAmb IAmb 05 46 02.6
comp=Z,11nm,1.1s
RLMT **Red Lodge** 33.02 86 IAmb IAmb 05 46 05.1
comp=Z,14nm,1.0s
TPH **Tonopah** 33.03 103 IAmb IAmb 05 46 04.7
comp=Z,8.2nm,1.1s
HVU **Hansel Valley** 33.05 94 IAmb IAmb 05 46 05.4
comp=Z,8.2nm,0.9s
DSP **Deep Springs** 33.11 105 IAmb IAmb 05 46 06.5
comp=Z,7.2nm,0.9s
BGU **Big Grassy Mou** 33.46 95 IAmb IAmb 05 46 21.1
comp=Z,7.8nm,1.3s
TIXI **Tiksi** 33.54 327 LR LR 06 01 44.1
comp=Z,159nm,19.0s,baz=174,slow=40
VES **Vestal, Richgr** 33.61 108 IAmb IAmb 05 46 10.0
comp=Z,19nm,1.2s
R11B **Troy Canyon, C** 33.75 101 IAmb IAmb 05 46 10.8
comp=Z,8.2nm,1.1s
LAO **LASA Array** 33.85 82 IAmb IAmb 05 46 11.3
comp=Z,8.8nm,0.9s
HWUT **Hardware Ranch** 33.86 93 IAmb IAmb 05 46 28.1
comp=Z,10nm,1.4s
SPR3 **Spring Creek 3** 34.01 99 IAmb IAmb 05 46 14.1
comp=Z,8.3nm,1.2s
TCUT **Toone Canyon** 34.27 94 IAmb IAmb 05 46 15.3
comp=Z,11nm,1.3s
PDAR **Pinedale Array** 34.28 90 P P 05 46 13.9 +1.2
comp=Z,1.4nm,0.7s,baz=313,slow=5.2,SNR=19
comp=Z,1.4nm,0.7s
MPMC **Manual Prospec** 34.33 106 IAmb IAmb 05 46 16.7
comp=Z,7.2nm,0.9s
TPNV **Topopah Spring** 34.37 104 IAmb IAmb 05 46 16.5
comp=Z,15nm,1.1s
FURC **Furnace Creek,** 34.38 105 IAmb IAmb 05 46 17.0
comp=Z,7.4nm,0.9s
CLC **China Lake** 34.44 107 IAmb IAmb 05 46 17.5
comp=Z,9.4nm,1.0s
GWY **Greenwater Val** 34.69 105 IAmb IAmb 05 46 31.0
comp=Z,6.2nm,0.8s
PRN **Pahroc Range** 34.72 102 IAmb IAmb 05 46 20.0
comp=Z,16nm,1.2s
QSM **Queen of Sheba** 34.74 106 IAmb IAmb 05 46 19.9
comp=Z,7.3nm,0.8s
BSUT **Blindstream Ca** 35.02 94 IAmb IAmb 05 46 33.0
comp=Z,9.8nm,1.0s
SHOC **Shoshone, Teco** 35.11 105 IAmb IAmb 05 46 34.2
comp=Z,9.8nm,0.9s
GSC **Goldstone, Bar** 35.26 106 IAmb IAmb 05 46 23.9
comp=Z,7.1nm,1.1s
MWC **Mount Wilson** 35.38 109 IAmb IAmb 05 46 25.6
comp=Z,12nm,1.2s
POHA **Pohakuloa** 35.42 174 eLR LR 05 55 46.8
comp=Z,6.7nm,28.9s
TMUT **Trail Mountain** 35.59 96 IAmb IAmb 05 46 26.9
comp=Z,12nm,1.3s
YAK **Yakutsk** 35.85 310 LR LR 06 02 13.4
comp=Z,125nm,19.6s,baz=74,slow=38
Q16A **Castle Valley** 35.87 96 IAmb IAmb 05 46 29.4
comp=Z,17nm,1.3s
P18A **Preston Nutter** 35.92 95 IAmb IAmb 05 46 43.6
comp=Z,7.3nm,1.0s
ILON **Igloolik, Nuna** 36.00 36 P P 05 46 27.6 +0.7
V12A **Nelson** 36.03 104 IAmb IAmb 05 46 30.9
comp=Z,13nm,1.2s
K22A **Casper** 36.09 88 IAmb IAmb 05 46 30.5
comp=Z,16nm,1.2s
PKCU **Pink Cliffs** 36.24 99 IAmb IAmb 05 46 37.5
comp=Z,7.5nm,0.8s
RSSD **Black Hills** 36.61 84 P P 05 46 33.9 +1.2
RSSD IAmb IAmb 05 46 34.6
comp=Z,8.7nm,0.9s
DNR **Dunn Ranch,Anz** 36.65 108 IAmb IAmb 05 46 36.3
comp=Z,14nm,0.8s
PFO **Pinyon Flats O** 36.71 108 P P 05 46 35.1 +1.6
PFO **Pinyon Flats O** 36.71 108 LR LR 05 58 51.3
comp=Z,102nm,20.3s,baz=308,slow=32
O20A **White River Ci** 36.73 92 IAmb IAmb 05 46 47.9
comp=Z,12nm,0.6s
HMU **Henry Mountain** 36.78 97 IAmb IAmb 05 46 36.9
comp=Z,15nm,0.8s
DPP **Dos Picos Cty** 36.91 109 IAmb IAmb 05 46 38.5
comp=Z,8.2nm,0.9s
IRM **Iron Mountain** 37.02 106 IAmb IAmb 05 46 39.0
comp=Z,14nm,1.1s
PV23 **Carpenter Ridg** 37.42 95 IAmb IAmb 05 46 55.3
comp=Z,8.4nm,0.9s
PV10 **Paradox Valley** 37.45 95 IAmb IAmb 05 46 54.1
comp=Z,11nm,0.9s
PV22 **Blue Mesa, Par** 37.49 95 IAmb IAmb 05 46 59.8
comp=Z,12nm,1.4s
PV04 **Paradox Valley** 37.52 95 IAmb IAmb 05 46 59.6
comp=Z,15nm,1.4s
PV20 **West Nyswonger** 37.52 95 IAmb IAmb 05 47 06.6

comp=Z,10nm,0.7s
PV19 Morning Glory 37.53 95 lAmb lAmb 05 46 43.4
comp=Z,21nm,1.4s
PV17 East Wray Mesa 37.57 95 lAmb lAmb 05 46 44.4
comp=Z,14nm,1.4s
PV16 Nyswonger Mesa 37.57 95 lAmb lAmb 05 46 54.4
comp=Z,8.4nm,0.9s
CBX Cerro Bola 37.58 109 lAmb lAmb 05 46 44.6
comp=Z,12nm,0.9s
PV18 Skein Mesa, Pa 37.62 95 lAmb lAmb 05 46 55.2
comp=Z,11nm,0.9s
PV05 Paradox Valley 37.63 96 lAmb lAmb 05 46 43.4
comp=Z,5.6nm,0.7s
PV12 Saucer Basin, 37.63 95 lAmb lAmb 05 46 59.8
comp=Z,8.3nm,0.8s
ULM Lac du Bonnet 37.66 70 P **P** **05 46 41.6 +0.4**
comp=Z,5.0nm,0.6s,baz=268,slow=8.4,SNR=9.7
ULM LR LR 06 01 45.1
comp=Z,163nm,18.4s,baz=328,slow=36
comp=Z,5.0nm,0.6s
PV13 Radium Mtn., P 37.73 95 lAmb lAmb 05 46 53.8
comp=Z,10nm,0.8s
PV02 Paradox Valley 37.74 95 lAmb lAmb 05 46 56.9
comp=Z,12nm,0.8s
PV15 Paradox Valley 37.80 95 lAmb lAmb 05 46 55.4
comp=Z,10nm,0.7s
PV01 Paradox Valley 37.89 95 lAmb lAmb 05 47 02.7
comp=Z,7.2nm,0.8s
ASAJ Asahikawa 38.06 278 LR LR 06 01 40.4
comp=Z,94nm,21.8s,baz=82,slow=35
WUAZ Wupatki 38.14 101 lAmb lAmb 05 46 48.9
comp=Z,9.7nm,0.8s
AGMN Agassiz Nation 38.74 73 lAmb lAmb 05 46 51.4
comp=Z,13nm,0.8s
X16A Lo Mia Camp, P 38.90 102 lAmb lAmb 05 46 55.7
comp=Z,10nm,1.1s
JOHN Johnston Islan 39.09 195 *e*LR LR 05 57 28.5
comp=Z,245nm,23.2s
EPLO Experimental L 39.13 70 lAmb lAmb 05 46 54.9
comp=Z,32nm,1.4s
X18A Snowflake 39.66 100 lAmb lAmb 05 47 01.8
comp=Z,11nm,1.0s
F33A 5 Mile Ranch, 39.95 76 lAmb lAmb 05 47 01.3
comp=Z,13nm,1.3s
TUC Tucson 40.83 103 P **P** **05 47 09.7 +1.7**
T25A Trinidad 40.96 93 lAmb lAmb 05 47 11.6
comp=Z,13nm,1.3s
EYMN Ely 41.33 71 lAmb lAmb 05 47 32.4
comp=Z,17nm,1.1s
ANMO Albuquerque 41.34 97 P **P** **05 47 13.2 +0.9**
DUN6 Lazy B Ranch 41.59 102 lAmb lAmb 05 47 17.6
comp=Z,18nm,0.9s
BGNE Belgrade 41.68 83 P **P** **05 47 15.7 +0.8**
SPMN Marine on St. 42.26 75 lAmb lAmb 05 47 20.8
comp=Z,16nm,1.3s
FRB Frobisher Bay 43.19 41 LR LR 06 07 10.7
comp=Z,246nm,18.8s,baz=286,slow=39
H11N2 WAKE ISLAND Hy 43.52 229 T T 06 33 41.8
baz=28,slow=76,SNR=211
H11N3 WAKE ISLAND Hy 43.52 229 T T 06 33 45.5
baz=28,slow=76,SNR=16
H11N1 WAKE ISLAND Hy 43.53 229 T T 06 33 44.1
baz=28,slow=76,SNR=20
EPT El Paso 43.63 100 lAmb lAmb 05 47 33.6
comp=Z,12nm,1.0s
USRK Ussuriysk Ar. 43.97 285 LR LR 06 07 37.0
comp=Z,72nm,18.9s,baz=72,slow=39
H11S1 WAKE ISLAND Hy 44.68 229 T T 06 35 10.4
baz=28,slow=76,SNR=338
H11S2 WAKE ISLAND Hy 44.70 229 T T 06 35 11.5
baz=28,slow=76,SNR=267
H11S3 WAKE ISLAND Hy 44.70 229 T T 06 35 20.9
baz=28,slow=76,SNR=102
N38A Joes South For 44.88 80 P **P** **05 47 40.9 +0.2**
JFWS Jewell Farm 45.16 76 P **P** **05 47 42.2 -0.6**
JFWS lAmb lAmb 05 48 17.7
comp=Z,11nm,0.8s
VHRN Van Horn 45.23 99 lAmb lAmb 05 47 46.9
comp=Z,6.6nm,0.9s
MAJO Matsushiro 45.58 273 P **P** **05 47 46.2 0.0**
MJAR Matsushiro Arr 45.58 273 **P** **05 47 45.6 -0.6**
MJAR lAmb lAmb 05 47 58.2
comp=Z,5.5nm,0.7s
MJAR Matsushiro Arr 45.58 273 P **P** **05 47 45.3 -0.9**
comp=Z,3.8nm,0.6s,baz=28,slow=5.9,SNR=10
MJAR LR LR 06 04 02.6
comp=Z,36nm,21.8s,baz=63,slow=32
comp=Z,3.8nm,0.6s
OK052 Battle Ridge R 46.13 88 lAmb lAmb 05 47 51.4
comp=Z,17nm,1.1s
JGF Kuroka 46.73 273 P **P** **05 47 55.3 -0.1**
TUL3 Leonard 46.77 87 lAmb lAmb 05 47 56.3
comp=Z,12nm,1.1s
SPITS Spitsbergen Ar 46.94 1 P **P** **05 47 55.6 -0.9**
comp=Z,0.9nm,0.4s,baz=344,slow=4.7,SNR=5.9
SPITS LR LR 06 08 30.2
comp=Z,56nm,19.7s,baz=341,slow=37
comp=Z,0.9nm,0.4s
RLO Rose Lookout 47.03 86 lAmb lAmb 05 47 58.7
comp=Z,9.8nm,0.9s
TXAR Lajitas Array 47.07 100 **P** **05 47 59.0 +0.8**
TXAR Lajitas Array 47.07 100 P **P** **05 47 58.9 +0.7**
comp=Z,3.6nm,0.8s,baz=306,slow=5.9,SNR=44
TXAR PcP **PcP** **05 49 30.2 +0.4**
comp=Z,0.4nm,0.5s,baz=259,slow=1.1,SNR=3.7
TXAR LR LR 06 05 45.9
comp=Z,61nm,21.5s,baz=298,slow=34
comp=Z,3.6nm,0.8s
JHJ2 Mitsune 47.10 268 *e*LR LR 06 01 12.5
comp=Z,5.2nm,26.8s
R40A Maddies Statio 47.12 82 lAmb lAmb 05 47 58.7
comp=Z,5.6nm,0.7s
SFJD Kangerlussuaq 47.18 30 LR LR 06 09 29.4
comp=Z,87nm,18.5s,baz=311,slow=38
HDIL Hopedale 47.26 77 P **P** **05 47 58.9 -0.4**
HHAR Hobbs 47.57 85 lAmb lAmb 05 48 01.8
comp=Z,7.3nm,1.0s
CCM Cathedral Cave 47.87 81 P **P** **05 48 03.3 -0.8**
CCM lAmb lAmb 05 48 03.9
comp=Z,10.0nm,1.1s
MGMO Mountain Grove 47.91 83 lAmb lAmb 05 48 04.0
comp=Z,9.4nm,1.1s
JCT Junction City 48.41 95 lAmb lAmb 05 48 42.0
comp=Z,7.0nm,0.7s
VLDQ Val d'Or 48.62 62 lAmb lAmb 05 48 08.6
comp=Z,9.1nm,1.0s
FCAR Ozark Folk Cen 48.89 84 lAmb lAmb 05 48 12.0
comp=Z,11nm,1.1s
MIAR Mount Ida 49.01 86 lAmb lAmb 05 48 13.9
comp=Z,9.7nm,1.1s
PBMO Poplar Bluff 49.22 82 lAmb lAmb 05 48 17.2
comp=Z,6.8nm,0.9s
SCHQ Schefferville 49.27 50 P **P** **05 48 14.6 -0.2**
comp=Z,58nm,0.9s,baz=340,slow=11,SNR=3.9
SCHQ LR LR 06 10 50.5
comp=Z,1μm,21.6s,baz=265,slow=38
SADO Sadowa 49.96 67 LR LR 06 08 53.6
comp=Z,711nm,18.5s,baz=304,slow=35
KSRS Korea Array 50.79 281 P **P** **05 48 26.3 -0.1**
comp=Z,3.4nm,1.0s,baz=57,slow=7.2,SNR=10.0
comp=Z,3.4nm,1.0s
KSAR Wonju Array Be 50.82 281 **P** **05 48 25.3 -1.3**
WVT Waverly 51.16 81 **P** **05 48 29.1 -0.1**
R50A Paris 51.60 76 lAmb lAmb 05 48 33.0
comp=Z,13nm,0.9s
PLAL Pickwick Lake 51.84 82 lAmb lAmb 05 48 34.9
comp=Z,14nm,0.9s
V48A Smith Brothers 52.01 80 lAmb lAmb 05 48 38.5
comp=Z,8.9nm,1.1s
CLTN Cedars of Leba 52.03 79 lAmb lAmb 05 48 36.8
comp=Z,12nm,0.8s
T50A Nancy 52.21 78 lAmb lAmb 05 48 37.5
comp=Z,12nm,1.0s
XLT XiLinHaoTe 52.73 295 *e*P **P** **05 48 40.6 -0.4**
XLT pmax pmax
comp=Z,14nm,0.6s
XMAS Kiritimati 52.93 177 *e*LR LR 06 03 40.0
comp=Z,3.5nm,21.0s
J59A Piesco 53.28 65 lAmb lAmb 05 48 45.2
comp=Z,11nm,0.8s
SSPA Standing Stone 53.48 70 P **P** **05 48 46.0 -0.4**
FPAL Fort Paine 53.56 80 lAmb lAmb 05 48 47.1
comp=Z,11nm,1.2s
Y49A Blount Mountai 53.60 81 lAmb lAmb 05 48 51.1
comp=Z,14nm,1.0s
TKL Tuckaleechee C 53.79 78 LR LR 06 11 47.6
comp=Z,94nm,18.1s,baz=330,slow=36
W52A Murphy 54.11 79 lAmb lAmb 05 49 02.6
comp=Z,13nm,1.0s
SONM Songino Array 54.78 305 P **P** **05 48 55.6 -0.4**
comp=Z,1.4nm,0.6s,baz=46,slow=7.1,SNR=6.3
SONM LR LR 06 14 24.0
comp=Z,108nm,18.4s,baz=32,slow=38
comp=Z,1.4nm,0.6s
ARCES ARCESS Array B 55.61 358 P **P** **05 49 00.7 -0.7**
comp=Z,3.8nm,0.8s,baz=19,slow=6.2,SNR=8.8
ARCES LR LR 06 14 46.8
comp=Z,41nm,18.4s,baz=8.5,slow=38
comp=Z,3.8nm,0.8s
BORG Borgarnes 56.23 20 LR LR 06 16 05.3
comp=Z,40nm,18.5s,baz=337,slow=39
HHC Hu-ho-hao-te 57.25 296 *e*P **P** **05 49 16.2 +2.5**
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,87nm,5.8s
HHC LR LR
comp=N,86nm,14.7s
HHC LR LR
comp=E,120nm,13.2s
HHC LR LR
comp=Z,130nm,19.6s
HNS HongShan 58.12 291 ⇓P **P** **05 49 19.7 0.0**
HNS pmax pmax
comp=Z,14nm,0.6s
ZALV Zalesovo Beam 59.16 322 P **P** **05 49 26.0 -0.6**
comp=Z,0.8nm,0.6s,baz=20,slow=4.7,SNR=4.4
ZALV LR LR 06 17 02.7
comp=Z,60nm,19.3s,baz=42,slow=38
comp=Z,0.8nm,0.6s
NJ2 Nanjing 59.82 284 *e*P **P** **05 49 33.2 +1.6**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
FINES FINESS Array B 63.70 357 P **P** **05 49 56.6 -0.7**
comp=Z,1.9nm,0.5s,baz=28,slow=8.6,SNR=9.6
comp=Z,1.9nm,0.5s
XAN Xi'an 63.74 292 ⇓P **P** **05 49 57.4 -0.6**
XAN sP pP 05 50 07.2 +1.1
XAN pmax pmax
comp=Z,9.0nm,0.8s
NB2 NORSAR Subarra 63.95 5 P **P** **05 49 58.2 -0.8**
comp=Z,8.2nm,1.0s,baz=356,slow=6.9
NOA NORSAR Array B 63.95 5 P **P** **05 49 58.0 -1.0**
comp=Z,0.8nm,0.6s,baz=353,slow=6.6,SNR=3.9
NOA LR LR 06 19 17.8
comp=Z,18nm,18.0s,baz=355,slow=38
comp=Z,0.8nm,0.6s
KURBB Kurchatov Arra 64.09 323 P **P** **05 49 59.5 -0.5**
comp=Z,1.5nm,0.8s,baz=26,slow=6.3,SNR=12
KURBB LR LR 06 19 45.1
comp=Z,56nm,20.0s,baz=174,slow=38
comp=Z,1.5nm,0.8s
GTA Gaotai 64.24 302 *e*P **P** **05 50 00.0 -1.3**
GTA pP pP 05 50 09.4 0.0
GTA sP sP 05 50 13.4 +0.9
GTA PcP **PcP** **05 50 34.4 -1.6**
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA LR LR
comp=N,130nm,20.3s
GTA LR LR
comp=E,140nm,23.1s
GTA LR LR
comp=Z,100nm,19.9s
BVAR Borovoye Array 64.63 329 P **P** **05 50 03.2 -0.3**
comp=Z,3.2nm,0.8s,baz=41,slow=7.9,SNR=15
BVAR LR LR 06 19 35.3
comp=Z,74nm,18.9s,baz=47,slow=37
comp=Z,3.2nm,0.8s
ARTI Arti 64.67 338 **P** **05 50 02.9 -0.8**
ARTI Arti 64.67 338 LR LR 06 21 37.0
comp=Z,58nm,18.6s,baz=28,slow=39
HFS Hagfors 64.97 4 P **P** **05 50 04.9 -0.7**
comp=Z,3.1nm,0.5s,baz=20,slow=2.6,SNR=11
comp=Z,3.1nm,0.5s
LZDM Lanzhou Array 64.99 297 LR LR 06 21 55.6
comp=Z,83nm,18.8s,baz=70,slow=39
MKAR Makanchi Array 65.93 318 **P** **05 50 11.0 -1.1**
MKAR Makanchi Array 65.93 318 P **P** **05 50 10.7 -1.4**
comp=Z,0.6nm,0.4s,baz=46,slow=6.9,SNR=9.2
MKAR LR LR 06 22 02.7
comp=Z,77nm,20.1s,baz=21,slow=39
comp=Z,0.6nm,0.4s
WMQ Urumqi 66.22 313 *e*P **P** **05 50 16.1 +2.1**
WMQ LR LR
comp=N,360nm,20.9s
WMQ LR LR
comp=E,480nm,23.9s
WMQ LR LR
comp=Z,180nm,22.7s
EKA Eskdalemuir Ar 68.21 14 P **P** **05 50 26.4 0.0**
comp=Z,2.7nm,0.5s,baz=335,slow=5.0,SNR=8.7
comp=Z,2.7nm,0.5s
OBN Obninsk 69.35 350 LR LR 06 24 13.1
comp=Z,59nm,20.7s,baz=116,slow=39
SIUN Universidad Ur 70.10 95 P **P** **05 50 39.0 +0.4**
SIUN lAmb lAmb 05 50 40.0
comp=Z,5.2nm,0.8s
AKTO Aktyubinsk 70.27 336 LR LR 06 27 50.2
comp=Z,29nm,18.1s,baz=126,slow=42
ABKAR Akbulak array 70.89 334 **P** **05 50 42.4 -0.6**
AAK Ala-Archa 72.37 321 LR LR 06 25 35.9
comp=Z,92nm,18.8s,baz=24,slow=38
HNR Honiara 72.72 222 LR LR 06 15 38.0
comp=Z,58nm,20.9s,baz=302,slow=30
KKAR Karatay Array 73.35 324 **P** **05 50 57.4 -0.5**
PZH PanZhiHua 73.47 293 P **P** **05 51 00.5 +1.6**
CLL Collm 73.76 5 *e*P **P** **05 50 59.0 -1.0**
RNPP1 Kostyukhnivka 73.82 357 P **P** **05 51 01.0 +0.6**
AK21 Malin Array Si 74.24 354 P **P** **05 51 01.7 -1.1**
AKASG Malin Array Be 74.31 354 P **P** **05 51 02.3 -0.9**
comp=Z,2.0nm,0.4s,baz=9.4,slow=5.8,SNR=9.2
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 74.31 354 P **P** **05 51 02.4 -0.8**
KIEV Kiev 74.31 354 P **P** **05 51 02.9 -0.3**
KIEV Kiev 74.31 354 ⇓P **P** **05 51 02.7 -0.5**
NIUE Niue 74.43 190 *e*LR LR 06 13 52.3
comp=Z,115nm,22.3s
KHC Kasperske Hory 75.96 5 *e*P **P** **05 51 12.0 -0.9**
KHC *ex* x 05 51 26.0
GERES GERESS Array B 76.25 5 P **P** **05 51 14.2 -0.4**
comp=Z,0.9nm,0.6s,baz=311,slow=8.1,SNR=5.5
comp=Z,0.9nm,0.6s
SORM Soroca 76.91 355 ⇑P **P** **05 51 18.2 0.0**
SJG San Juan 77.20 77 LR LR 06 26 13.3
comp=Z,21nm,19.1s,baz=326,slow=36
CONA Conrad Observa 77.25 3 *i* P **P** **05 51 20.6 +0.3**
comp=Z,5.2nm,1.0s
BURAR Bucovina Array 77.57 357 ⇓P **P** **05 51 21.4 -0.6**
MOTA Moosalm 77.60 7 *i* P **P** **05 51 22.9 +0.6**
comp=Z,5.5nm,1.3s
LESA Schwarzleotal 77.62 5 *e*P **P** **05 51 22.8 +0.5**
comp=Z,3.3nm,0.6s
WATA Walderalm 77.64 6 *i* P **P** **05 51 23.3 +0.7**
comp=Z,7.1nm,0.7s
WTTA Wattenberg 77.72 6 *i* P **P** **05 51 23.4 +0.4**
comp=Z,8.3nm,1.0s
SQTA Sankt Quirin 77.73 7 *e*P **P** **05 51 23.7 +0.7**
comp=Z,8.2nm,1.1s
SIMJ Simiganj 77.83 323 **P** **05 51 23.2 -0.5**
SIMJ lAmb lAmb 05 51 36.1
comp=Z,10.0nm,0.8s
FETA Feichten 77.90 7 *i* P **P** **05 51 24.5 +0.5**
comp=Z,8.7nm,1.1s
KBA Koelnbreinsper 78.00 5 *e*P **P** **05 51 25.8 +1.2**
comp=Z,7.7nm,0.6s
PMG Port Moresby 78.16 234 LR LR 06 19 21.0
comp=Z,47nm,20.9s,baz=186,slow=31
ABTA Abfaltersbach 78.28 6 *i* P **P** **05 51 24.5 -1.5**
comp=Z,5.9nm,1.0s
MYKA Terra Mystica 78.46 5 *i* P **P** **05 51 28.0 +1.0**
comp=Z,1.8nm,0.5s
SOKA Soboth 78.47 4 *i* P **P** **05 51 28.5 +1.4**
comp=Z,4.8nm,0.8s
TBI Tubuai 78.61 171 *e*LR LR 06 15 42.9
comp=Z,510nm,28.5s
OBKA Obir 78.62 4 *i* P **P** **05 51 27.9 0.0**
comp=Z,11nm,0.7s
SURR Surduc 79.50 359 ⇓P **P** **05 51 32.9 +0.3**
KBZ Khabaz 79.72 344 P **P** **05 51 34.0 +0.3**
comp=Z,4.1nm,0.9s,baz=343,slow=3.5,SNR=7.9
KBZ LR LR 06 30 17.9
comp=Z,38nm,20.6s,baz=354,slow=38
comp=Z,4.1nm,0.9s
ARR Arges 79.83 357 ⇓P **P** **05 51 34.2 -0.3**
GZR Gura Zlata 79.85 358 ⇓P **P** **05 51 34.8 +0.2**
NIL Nilore 80.73 318 P **P** **05 51 40.1 +0.6**
CMAR Chiang Mai Arr 81.50 290 P **P** **05 51 43.4 -0.4**
comp=Z,3.3nm,0.6s,baz=11,slow=5.5,SNR=12
CMAR LR LR 06 32 48.8
comp=Z,30nm,18.2s,baz=45,slow=39
comp=Z,3.3nm,0.6s
DZM Mont Dzumac 82.21 212 *e*LR LR 06 17 26.3
comp=Z,111nm,28.0s
GNI Garni 82.88 342 LR LR 06 33 12.0
comp=Z,27nm,20.6s,baz=12,slow=39
RUSC La Rusia 83.12 90 **P** **05 51 52.0 -0.9**
RUSC lAmb lAmb 05 52 08.5
comp=Z,7.3nm,0.9s
ESDC Sonseca Array 83.28 19 P **P** **05 51 52.6 -0.2**
ESDC lAmb lAmb 05 52 05.1
comp=Z,4.5nm,0.9s
ESDC Sonseca Array 83.28 19 P **P** **05 51 53.3 +0.5**
comp=Z,3.4nm,1.0s,baz=350,slow=3.4,SNR=13
comp=Z,3.4nm,1.0s
BRTR Keskin Array B 84.87 350 P **P** **05 52 01.3 +0.3**
comp=Z,0.9nm,0.6s,baz=321,slow=0.8,SNR=3.7
comp=Z,0.9nm,0.6s
FLOC Florencia 85.15 94 **P** **05 52 01.7 -0.9**
MDT Midelt 89.80 21 LR LR 06 35 55.0
comp=Z,18nm,18.2s,baz=328,slow=38
MMAI Mount Meron Ar 91.30 348 LR LR 06 40 06.0
comp=Z,23nm,18.4s,baz=15,slow=40
ASF Jabal al Asfar 91.94 346 LR LR 06 37 27.3
comp=Z,27nm,21.2s,baz=156,slow=38
WRA Warramunga Ar 93.41 240 P **P** **05 52 42.3 +0.9**
comp=Z,0.8nm,0.8s,baz=30,slow=6.1,SNR=3.2
comp=Z,0.8nm,0.8s
ASAR Alice Springs 96.77 238 P **P** **05 52 56.4 -0.4**
comp=Z,0.3nm,0.7s,baz=28,slow=4.4,SNR=1.8
ASAR LR LR 06 30 13.5
comp=Z,82nm,21.6s,baz=22,slow=32
comp=Z,0.3nm,0.7s
H03N2 Juan Fernandez 111.70 117 T T 07 59 03.1
baz=323,slow=77,SNR=19
H03N1 Juan Fernandez 111.71 117 T T 07 59 08.6
baz=323,slow=77,SNR=17
H03N3 Juan Fernandez 111.72 117 T T 07 59 07.1
baz=323,slow=77,SNR=15
CASY Casey 138.47 218 *e*LR LR 06 43 34.2
comp=Z,46nm,23.0s
PMSA Palmer Station 139.70 139 *e*LR LR 06 44 02.4
comp=Z,47nm,27.0s
QNGWA Qangwa 144.47 359 *i* P PKPbc 05 59 01.1 0.0
QSPA South Pole Qui 144.89 180 PKPbc **PKPdf** **05 59 01.9 +0.2**
comp=Z,4.5nm,0.6s,baz=24,slow=1.0,SNR=46
KGCAE Kacgae 147.76 357 *i* P **PKPbc** **05 59 10.5 -0.5**
LPHEP Lephephe 148.04 351 *i* P **PKPbc** **05 59 11.2 -0.5**
KDWAN Kaudwane 148.16 353 *i* P **PKPbc** **05 59 11.9 -0.1**
SKOMA Sekoma 149.34 354 *i* P **PKPbc** **05 59 13.1 -1.9**
BOSA Boshof 153.30 351 PKPbc **PKPbc** **05 59 24.0 -0.1**
comp=Z,3.1nm,0.6s,baz=323,slow=3.1,SNR=6.1

IDC 03 05:42:15.2±2.6, 2.76S×68.01E, h0km, mb3.8/4, mbtmp3.8/4, MS3.2/3, Error ellipse: s-maj=92.0km s-min=34.4km az=62.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FURI	**Furi**	**31.45**	**292**	LR		LR	LR	06 00 14.8	
	comp=Z,36nm,18.5s,baz=146,slow=34								
CMAR	**Chiang Mai Arr**	**37.04**	**54**	LR		LR	LR	06 02 51.3	
	comp=Z,19nm,19.3s,baz=280,slow=33								
LBTB	**Lobatse**	**46.44**	**238**	LR		LR	LR	06 07 47.5	
	comp=Z,60nm,18.5s,baz=104,slow=33								
ZALV	**Zalesovo Beam**	**58.22**	**12**	P		P		05 52 09.3	-1.9
	0.3nm,0.4s,baz=191,slow=6.8,SNR=2.2								
	0.3nm,0.4s								
SONM	**Songino Array**	**60.51**	**29**	P		P		05 52 28.5	+1.2
	0.5nm,0.5s,baz=212,slow=5.3,SNR=4.2								
	0.5nm,0.5s								
WRA	**Warramunga Arr**	**66.83**	**110**	P		P		05 53 09.6	+0.1
	1.7nm,0.9s,baz=280,slow=6.4,SNR=4.7								
	1.7nm,0.9s								
ASAR	**Alice Springs**	**66.85**	**114**	P		P		05 53 09.4	-0.3
	0.9nm,0.8s,baz=264,slow=6.8,SNR=7.1								
	0.9nm,0.8s								
TXAR	**Lajitas Array**	**152.41**	**344**	PKPbc		PKiKP		06 02 14.8	+0.2
	0.7nm,1.1s,baz=48,slow=1.8,SNR=4.0								

ASRS ***03*** *06:00:05.0±0.7, 54.18N×86.39E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 03 06:00:07.5±2.7, 54.19N×86.38E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=20.7km s-min=13.3km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**256**	I		I		06 07 10.0	
	baz=73,slow=316,SNR=3.1								
ZALV	**Zalesovo Beam**	**0.95**	**256**	Pg		Pg		06 00 24.4	-1.2
	1.3nm,0.3s,baz=77,slow=18,SNR=16								
ZALV						Lg	Lg	06 00 39.4	
	8.1nm,0.3s,baz=76,slow=30,SNR=46								
KURBB	**Kurchatov Arra**	**5.98**	**237**	Pn		Pn		06 01 38.6	+1.4
	0.1nm,0.3s,baz=52,slow=13,SNR=6.1								
KURBB						Lg	Lg	06 03 16.9	
	baz=50,slow=29,SNR=1.9								
	0.4nm,0.4s								
MKAR	**Makanchi Array**	**7.85**	**201**	Pn		Pn		06 02 03.7	+0.8
	0.2nm,0.3s,baz=16,slow=11,SNR=6.3								
	0.2nm,0.4s								

IDC ***03*** *06:02:12.4±11.0, 48.27N×152.72E, h131km±79km, mb3.1/5, mbtmp3.4/6, Error ellipse: s-maj=155.0km s-min=21.7km az=173.0*

ISC 03 06:02:07.8±1.9, 47.9N±0.3×152.8E±0.2, h100km, n6, σ1s05/6, mb3.3/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.10**	**29**	P		P	**Pn**	**06 03 35.7**	**+0.3**
	1.1nm,0.4s,baz=249,slow=11,SNR=3.8								
SONM	**Songino Array**	**30.78**	**288**	P		P	**P**	**06 08 14.9**	**+1.2**
	0.2nm,0.3s,baz=74,slow=11,SNR=1.6								
	0.2nm,0.3s								
ILAR	**Eielson Array**	**35.81**	**40**	P		P	**P**	**06 08 56.6**	**-0.5**
	0.2nm,0.7s,baz=276,slow=7.1,SNR=2.9								
	0.2nm,0.7s								
MKAR	**Makanchi Array**	**46.25**	**296**	P		P	**P**	**06 10 21.6**	**-1.3**
	0.6nm,0.6s,baz=54,slow=7.3,SNR=5.5								
	0.6nm,0.6s								
PDAR	**Pinedale Array**	**64.26**	**54**	P		P	**P**	**06 12 32.6**	**+0.3**
	0.3nm,0.6s,baz=338,slow=1.6,SNR=4.2								
	0.3nm,0.6s								
TXAR	**Lajitas Array**	**77.12**	**61**	P		P	**P**	**06 13 50.5**	**0.0**
	0.3nm,0.6s,baz=292,slow=3.6,SNR=6.2								
	0.3nm,0.6s								

AFAD ***03*** *06:43:22.1, 38.73N×26.47E, h6km±3km, MW3.8*
ATH ***03*** *06:43:23.7, 38.72N×26.57E, h14km±1km, ML3.5/19, Manual Solution by M.Charalampakis First location: 2019/09/03 06:44:40, This location: 2019/09/03 06:57:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
ISK ***03*** *06:43:23.2, 38.73N×26.55E, h10km, ML3.7/39*
THE ***03*** *06:43:24.1, 39°N±1°×2°E±°, h9km±2km, M3.5/19, MLh3.5/19*

ISC 03 06:43:23.8±0.9, 38.72N±0.02×26.56E±0.02, h10km±7km, n149, σ06.71/182, 17C-9D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FOCM	**Foa**	**0.13**	**94**	Pg		**Pg**		**06 43 26.7**	**-0.2**
FOCM				Sg		**Sg**		**06 43 29.4**	**+0.3**
IZMD	**zmir-Dikili-**	**0.39**	**48**	P		**Pg**		**06 43 30.3**	**-1.2**
IZMD				S		**Sg**		**06 43 36.8**	**+0.1**
IZMD				*i* IAML				06 43 39.0	
	comp=N,2μm,0.7s								
IZMD				*i* IAML				06 43 44.0	
	comp=E,1μm,0.7s								
EAG2	**Marmaro, Chios**	**0.40**	**243**	P		**Pb**		**06 43 32.1**	**-0.8**
EAG2				S		**Sg**		**06 43 37.5**	**+0.6**
CESE	**eme**	**0.44**	**208**	Pg		**Pg**		**06 43 32.3**	**-0.2**
CESE				Sg		**Sg**		**06 43 39.1**	**+0.8**
ZEDA	**zmir-Bergama**	**0.47**	**59**	P		**Pg**		**06 43 31.9**	**-1.1**

ZEDA				*i* IAML			06 43 40.0	
	comp=N,3μm,0.4s							
ZEDA				*i* IAML			06 43 40.0	
	comp=E,2μm,0.6s							
ZEDA				S	**Sb**		**06 43 40.9**	**-0.3**
BLCB	**Balcova**	**0.51**	**132**	Pg	**Pg**		**06 43 33.7**	**0.0**
BLCB				Sg	**Sg**		**06 43 41.4**	**+1.1**
BLCB	**Balcova**	**0.51**	**132**	P	**Pg**		**06 43 33.8**	**+0.2**
CHOS	**Chios island**	**0.52**	**230**	P	**Pg**		**06 43 34.2**	**+0.3**
CHOS				S	**Sg**		**06 43 41.5**	**+0.7**
CHOS	**Chios island**	**0.52**	**230**	P	**Pb**		**06 43 34.4**	**-0.7**
CHOS				S	**Sg**		**06 43 41.1**	**+0.3**
PRK	**Paraskevi**	**0.57**	**337**	P	**Pg**		**06 43 34.8**	**0.0**
PRK				S	**Sb**		**06 43 42.9**	**-1.1**
PRK	**Paraskevi**	**0.57**	**337**	P	**Pg**		**06 43 34.9**	**0.0**
PRK				S	**Sg**		**06 43 42.4**	**0.0**
AYVA	**Ayvalik**	**0.59**	**10**	P	**Pg**		**06 43 33.6**	**-1.8**
AYVA				S	**Sb**		**06 43 45.0**	**+0.2**
AYVA				*i* IAML			06 43 51.0	
	comp=E,2μm,0.7s							
AYVA				*i* IAML			06 43 52.0	
	comp=N,3μm,0.4s							
GMLD	**Gumuldur**	**0.70**	**157**	Pg	**Pg**		**06 43 37.1**	**-0.3**
GMLD				Sg	**Sb**		**06 43 47.4**	**-0.4**
DGB	**zmir**	**0.72**	**159**	P	**Pg**		**06 43 36.8**	**-0.8**
DGB				S	**Sg**		**06 43 47.4**	**+0.5**
DGB				*i* IAML			06 43 48.0	
	comp=E,824nm,0.4s							
DGB				*i* IAML			06 43 50.0	
	comp=N,2μm,0.5s							
SIGR	**SIGRI**	**0.73**	**312**	Pg	**Pb**		**06 43 38.1**	**-0.6**
SIGR				Sg	**Sb**		**06 43 48.1**	**-0.7**
SIGR	**SIGRI**	**0.73**	**312**	P	**Pb**		**06 43 38.1**	**-0.6**
SIGR				S	**Sg**		**06 43 47.7**	**+0.1**
SIGR	**SIGRI**	**0.73**	**312**	P	**Pb**		**06 43 38.2**	**-0.6**
SIGR				S	**Sg**		**06 43 47.6**	**-0.1**
SOMA	**Soma-Manisa**	**0.87**	**60**	Pg	**Pg**		**06 43 40.8**	**+0.1**
BUHA	**Balikesir, Bur**	**0.88**	**27**	P	**Pg**		**06 43 41.1**	**-0.6**
BUHA				S	**Sb**		**06 43 53.1**	**+0.3**
BUHA				*i* IAML			06 43 56.0	
	comp=E,3μm,0.5s							
BUHA				*i* IAML			06 43 57.0	
	comp=N,2μm,0.7s							
YAYO	**Edremit-Balk**	**0.97**	**24**	Pg	**Pg**		**06 43 42.3**	**-0.3**
AKHS	**Akhisar**	**0.99**	**81**	P	**Pb**		**06 43 43.4**	**+0.3**
AKHS				S	**Sg**		**06 43 54.8**	**-1.0**
AKHS				*i* IAML			06 43 59.0	
	comp=E,844nm,0.4s							
AKS	**Akhisar**	**0.99**	**81**	Pg	**Pg**		**06 43 42.6**	**-0.3**
SMG	**Samos**	**1.03**	**168**	P	**Pg**		**06 43 43.1**	**-0.6**
SMG				S	**Sn**		**06 43 59.6**	**+0.6**
SMG	**Samos**	**1.03**	**168**	P	**Pg**		**06 43 43.0**	**-0.8**
SMG				S	**Sg**		**06 43 57.4**	**+0.2**
EZNE	**Ezine-Canakkal**	**1.04**	**352**	Pg	**Pg**		**06 43 43.5**	**-0.4**
GOMA	**Golmarmara-Man**	**1.06**	**90**	Pg	**Pg**		**06 43 44.2**	**0.0**
STEP	**BALIKESIR_Sava**	**1.11**	**54**	P	**Pb**		**06 43 44.2**	**-1.0**
STEP				S	**Sn**		**06 44 00.5**	**-0.4**
STEP				*i* IAML			06 44 03.0	
	comp=N,3μm,0.6s							
STEP				*i* IAML			06 44 05.0	
	comp=E,4μm,0.7s							
EZN	**Ezine**	**1.12**	**351**	P	**Pb**		**06 43 44.5**	**-0.7**
EZN	**Ezine**	**1.12**	**351**	P	**Pb**		**06 43 44.8**	**-0.5**
EZN				S	**Sn**		**06 44 00.5**	**-0.4**
GCAM	**G?zelcaml?**	**1.15**	**152**	Pn	**Pb**		**06 43 45.6**	**-0.2**
BOZC	**Bozcaada**	**1.19**	**341**	Pn	**Pb**		**06 43 46.0**	**-0.4**
IZMR	**zmir-demi**	**1.24**	**118**	S	**Sb**		**06 44 01.3**	**-2.0**
ODEM	**Odemis-Izmir**	**1.27**	**110**	Pn	**Pb**		**06 43 47.9**	**0.0**
GORD	**Gordes-Manisa**	**1.28**	**81**	Pn	**Pn**		**06 43 47.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.30**	**126**	Pn	**Pn**		**06 43 47.9**	**-0.3**
BALY	**Balya**	**1.31**	**39**	P	**Pg**		**06 43 49.1**	**+0.1**
BALY				*i* IAML			06 44 22.0	
	comp=N,2μm,0.9s							
BALY				*i* IAML			06 44 22.0	
	comp=E,1μm,0.9s							
YENI	**Yenice-Canakka**	**1.32**	**23**	Pn	**Pb**		**06 43 48.7**	**0.0**
CANM	**Can-anakkale**	**1.34**	**16**	Pn	**Pn**		**06 43 48.2**	**-0.4**
COMU	**Canakkale**	**1.38**	**357**	Pn	**Pn**		**06 43 48.8**	**-0.3**
DIDI	**Didim-Aydin**	**1.45**	**158**	Pn	**Pn**		**06 43 48.9**	**-0.1**
BKES	**Balkesir-Mer**	**1.47**	**46**	P	**Pn**		**06 43 49.1**	**-1.3**
BKES				S	**Sb**		**06 44 10.3**	**+0.4**
BKES				*i* IAML			06 44 23.0	
	comp=N,700nm,1.0s							
BKES				*i* IAML			06 44 26.0	
	comp=E,818nm,1.0s							
KIRA	**zmir-Kiraz**	**1.54**	**109**	P	**Pb**		**06 43 52.3**	**-0.1**
KIRA				S	**Sg**		**06 44 13.5**	**+0.3**
KIRA				*i* IAML			06 44 17.0	
	comp=N,395nm,0.6s							
KIRA				*i* IAML			06 44 18.0	
	comp=E,280nm,0.8s							
GADA	**Gvkgeada**	**1.55**	**341**	Pn	**Pn**		**06 43 51.6**	**+0.1**
NAZL	**Nazilli-Aydin**	**1.56**	**119**	Pn	**Pn**		**06 43 51.9**	**+0.3**
MANT	**Manisa**	**1.58**	**98**	P	**Pg**		**06 43 54.0**	**-0.2**
MANT				S	**Sb**		**06 44 13.5**	**+0.1**
MANT				*i* IAML			06 44 18.0	
	comp=N,164nm,0.4s							
MANT				*i* IAML			06 44 25.0	
	comp=E,222nm,0.5s							
GONE	**Gonen-Balikesi**	**1.58**	**33**	Pn	**Pn**		**06 43 51.9**	**0.0**
LIA	**Limnos Island**	**1.59**	**318**	P	**Pn**		**06 43 51.7**	**-0.3**
LIA				S	**Sn**		**06 44 12.2**	**-0.4**
LIA	**Limnos Island**	**1.59**	**318**	P	**Pn**		**06 43 51.5**	**-0.4**
LIA				S	**Sn**		**06 44 11.2**	**-1.4**
KULA	**Kula-Manisa**	**1.66**	**97**	Pn	**Pn**		**06 43 53.7**	**+0.7**
GELI	**Tayfur-Gelibol**	**1.68**	**358**	Pn	**Pn**		**06 43 52.7**	**-0.5**
YKAV	**Yalikavak-Bodr**	**1.69**	**160**	Pn	**Pn**		**06 43 53.5**	**+0.1**
DEMI	**Demirci**	**1.71**	**79**	P	**Pg**		**06 43 56.4**	**-0.3**
DEMI				S	**Sg**		**06 44 19.2**	**+0.3**
DEMI				*i* IAML			06 44 23.0	
	comp=E,374nm,0.5s							
DEMI				*i* IAML			06 44 28.0	
	comp=N,191nm,0.5s							
DURS	**Dursunbey**	**1.73**	**59**	P	**Pn**		**06 43 53.1**	**-0.9**
DURS				*i* IAML			06 44 23.0	
	comp=N,286nm,0.3s							
DURS				*i* IAML			06 44 25.0	
	comp=E,514nm,0.4s							
KRBG	**Karabiga-Canak**	**1.76**	**19**	Pn	**Pn**		**06 43 54.1**	**-0.3**
KARY	**Karystos**	**1.81**	**248**	P	**Pn**		**06 43 54.1**	**-0.9**
KARY	**Karystos**	**1.81**	**248**	P	**Pn**		**06 43 54.0**	**-0.9**
DST	**Dursunbey**	**1.83**	**61**	Pn	**Pn**		**06 43 55.7**	**+0.4**
EDC	**Edincik**	**1.91**	**31**	Pn	**Pn**		**06 43 55.7**	**-0.7**
ENZZ	**Sultanice-Enez**	**1.91**	**350**	Pn	**Pn**		**06 43 56.9**	**+0.5**
SMTH	**Samothraki Isl**	**1.92**	**336**	P	**Pn**		**06 43 56.2**	**-0.4**
SMTH	**Samothraki Isl**	**1.92**	**336**	P	**Pn**		**06 43 56.1**	**-0.4**
KYMI	**Kymi, Euboea I**	**1.93**	**268**	P	**Pn**		**06 43 55.8**	**-0.9**
KYMI	**Kymi, Euboea I**	**1.93**	**268**	P	**Pn**		**06 43 56.0**	**-0.7**
ERIK	**Erikli-Kesan**	**1.95**	**359**	Pn	**Pn**		**06 43 57.1**	**+0.2**
CAVK	**Edirne/Enez-Ca**	**1.99**	**351**	P	**Pn**		**06 43 58.1**	**+0.6**
BAND	**Balkesir-Ban**	**2.02**	**36**	P	**Pn**		**06 43 57.3**	**-0.7**
SHAP	**Saphane-Kutahy**	**2.10**	**81**	Pn	**Pn**		**06 43 59.7**	**+0.6**
DAT	**Datca**	**2.15**	**158**	Pn	**Pn**		**06 43 59.7**	**-0.1**
DION	**Dionisos Attik**	**2.16**	**254**	P	**Pn**		**06 43 59.2**	**-0.7**
DION	**Dionisos Attik**	**2.16**	**254**	P	**Pn**		**06 43 59.0**	**-0.9**
ALN	**Alexandroupoli**	**2.21**	**350**	Pn	**Pn**		**06 44 00.8**	**+0.3**
ALN	**Alexandroupoli**	**2.21**	**350**	P	**Pn**		**06 44 00.1**	**-0.4**
ALN				S	**Sn**		**06 44 28.1**	**+0.2**
ALN	**Alexandroupoli**	**2.21**	**350**	P	**Pn**		**06 44 00.3**	**-0.2**
ORLT	**Orhaneli**	**2.24**	**53**	Pn	**Pn**		**06 44 01.5**	**+0.5**
GEDZ	**Gediz**	**2.25**	**81**	Pn	**Pn**		**06 44 01.7**	**+0.6**
FILI	**Fyli**	**2.34**	**256**	P	**Pn**		**06 44 01.9**	**-0.5**
VLY	**Voula,Athens**	**2.34**	**249**	P	**Pn**		**06 44 01.9**	**-0.5**
VLY	**Voula,Athens**	**2.34**	**249**	P	**Pn**		**06 44 01.7**	**-0.7**
PARN1	**Fyli,Attica,Gr**	**2.35**	**256**	P	**Pn**		**06 44 02.1**	**-0.4**
THAS	**Thassos island**	**2.36**	**324**	P	**Pn**		**06 44 02.0**	**-0.6**
THAS	**Thassos island**	**2.36**	**324**	P	**Pn**		**06 44 01.9**	**-0.6**
TURN	**Turunc**	**2.36**	**145**	Pn	**Pn**		**06 44 03.1**	**+0.5**
TVSB	**Tavsanli**	**2.37**	**71**	Pn	**Pn**		**06 44 03.4**	**+0.5**
STFN	**Stefani**	**2.43**	**258**	P	**Pn**		**06 44 03.4**	**-0.2**
MDNY	**Mudanya-Bursa**	**2.44**	**47**	Pn	**Pn**		**06 44 04.4**	**+0.8**
APMY	**Acipayam-Deniz**	**2.50**	**119**	Pn	**Pn**		**06 44 05.4**	**+0.8**
THERA	**Ancient Thera,**	**2.50**	**200**	P	**Pn**		**06 44 03.8**	**-0.8**
RDO	**Rodhopi**	**2.54**	**342**	P	**Pn**		**06 44 05.3**	**+0.1**
RDO	**Rodhopi**	**2.54**	**342**	P	**Pn**		**06 44 05.2**	**+0.1**
ARMT	**Armutlu**	**2.56**	**43**	Pn	**Pn**		**06 44 05.9**	**+0.5**
OUR	**Ouranopolis**	**2.56**	**310**	P	**Pn**		**06 44 05.2**	**-0.2**
OUR	**Ouranopolis**	**2.56**	**310**	P	**Pn**		**06 44 05.1**	**-0.2**
VILL	**Villia**	**2.61**	**259**	P	**Pn**		**06 44 05.9**	**-0.3**
VIL2	**Platees**	**2.63**	**260**	P	**Pn**		**06 44 05.7**	**-0.7**
KAVA	**Kavala**	**2.76**	**326**	P	**Pn**		**06 44 07.9**	**-0.3**
KAVA	**Kavala**	**2.76**	**326**	P	**Pn**		**06 44 07.8**	**-0.3**
ATAL	**Atalanti**	**2.77**	**270**	P	**Pn**		**06 44 07.7**	**-0.5**
MET2	**Kameni Chora,**	**2.78**	**247**	P	**Pn**		**06 44 07.8**	**-0.6**
ARG	**Arkhangelos**	**2.79**	**153**	Pn	**Pn**		**06 44 08.2**	**-0.4**
ARG	**Arkhangelos**	**2.79**	**153**	P	**Pn**		**06 44 08.4**	**-0.1**
CAME	**Cameli-Denizli**	**2.80**	**128**	Pn	**Pn**		**06 44 09.6**	**+0.7**
LTK	**Loutraki**	**2.91**	**257**	P	**Pn**		**06 44 09.9**	**-0.3**
LTK	**Loutraki**	**2.91**	**257**	P	**Pn**		**06 44 09.8**	**-0.3**
PHSR	**Pinarhisar**	**3.00**	**14**	⇑P	**Pn**		**06 44 10.8**	**-0.6**
KDZ	**Kurdzhali**	**3.05**	**343**	P	**Pn**		**06 44 12.2**	**+0.1**
KDZ				S	**Sb**		**06 44 58.1**	**+2.6**
KDZ	**Kurdzhali**	**3.05**	**343**	P	**Pn**		**06 44 12.2**	**+0.1**
CTYL	**Yalikoy Yolu**	**3.05**	**25**	⇓P	**Pn**		**06 44 12.5**	**+0.4**
KLYT	**Kilyos**	**3.17**	**36**	⇑P	**Pn**		**06 44 14.0**	**+0.3**
KARP	**Karpathos**	**3.21**	**171**	P	**Pn**		**06 44 13.9**	**-0.4**
KARP	**Karpathos**	**3.21**	**171**	P	**Pn**		**06 44 13.6**	**-0.7**
HORT	**Hortiatis**	**3.26**	**306**	P	**Pn**		**06 44 15.2**	**+0.1**
RZN	**Rozhen**	**3.28**	**335**	P	**Pn**		**06 44 15.9**	**+0.5**
RZN				S	**Sb**		**06 45 04.8**	**+2.5**
SRS	**Serrai**	**3.31**	**317**	P	**Pn**		**06 44 15.7**	**0.0**
GUR	**Goura**	**3.41**	**258**	P	**Pn**		**06 44 17.2**	**0.0**
MAKR	**Makrakomi, Fth**	**3.47**	**276**	P	**Pn**		**06 44 17.9**	**0.0**
KALE	**Kalithea**	**3.48**	**266**	P	**Pn**		**06 44 18.3**	**+0.2**
VLI	**Veliai**	**3.50**	**236**	P	**Pn**		**06 44 17.1**	**-1.3**
TYRN	**Tyrnavos**	**3.50**	**288**	P	**Pn**		**06 44 18.0**	**-0.4**
KLV	**Kalavryta, Ach**	**3.53**	**260**	P	**Pn**		**06 44 18.6**	**-0.2**
MMB	**Musomishta**	**3.55**	**324**	P	**Pn**		**06 44 20.8**	**+1.8**
MMB				S	**Sb**		**06 45 12.1**	**+2.2**
THL	**Klokotos Trika**	**3.63**	**285**	P	**Pn**		**06 44 20.4**	**+0.3**
ANX	**Ano Chora**	**3.63**	**269**	P	**Pn**		**06 44 20.6**	**+0.3**
EFP	**Efpalio**	**3.66**	**267**	P	**Pn**		**06 44 20.4**	**0.0**
IDI	**Anoyia**	**3.68**	**202**	P	**Pn**		**06 44 19.8**	**-1.0**
PLD	**Plovdiv**	**3.69**	**339**	P	**Pn**		**06 44 21.1**	**+0.2**
PLD				S	**Sb**		**06 45 15.2**	**+1.3**
DRO	**Drossia**	**3.89**	**260**	P	**Pn**		**06 44 23.1**	**-0.6**
KKB	**Krupnik**	**4.07**	**321**	P	**Pn**		**06 44 27.8**	**+1.6**
LOZB	**Loznitsa**	**4.64**	**0**	⇑P	**Pn**		**06 44 34.2**	**+0.2**
MPEP	**Malo Peshtene**	**5.10**	**336**	P	**Pn**		**06 44 42.8**	**+2.6**
HARR	**Harsova**	**6.05**	**9**	⇑P	**Pn**		**06 44 52.2**	**-1.1**
BOVS	**Bovan**	**6.12**	**325**	⇓P	**Pn**		**06 44 55.2**	**+0.9**
TPGR	**Topolog**	**6.28**	**12**	⇓P	**Pn**		**06 44 56.4**	**-0.2**
CFR	**Carcaliu**	**6.56**	**10**	⇓P	**Pn**		**06 44 59.7**	**-0.6**
MLR	**Muntele Rosu**	**6.78**	**356**	⇑P	**Pn**		**06 45 03.4**	**0.0**
ARR	**Arges**	**6.79**	**348**	⇓P	**Pn**		**06 45 03.7**	**+0.2**
BISRR	**Bisoca**	**6.82**	**1**	⇑P	**Pn**		**06 45 04.5**	**+0.6**
MDVR	**Moldovita**	**7.05**	**331**	⇑P	**Pn**		**06 45 07.6**	**+0.4**
COVR	**Voineasa-Covas**	**7.12**	**358**	⇑P	**Pn**		**06 45 07.8**	**-0.3**
PLOR	**Plostina**	**7.12**	**0**	⇑P	**Pn**		**06 45 08.9**	**+0.8**
VRI	**Vrincioaia**	**7.14**	**1**	⇑P	**Pn**		**06 45 08.0**	**-0.3**
TURR	**Turia**	**7.34**	**357**	⇑P	**Pn**		**06 45 11.3**	**+0.2**
OZUR		**7.39**	**356**	⇑P	**Pn**		**06 45 11.7**	**0.0**
ONER	**Baraj Valea Uz**	**7.61**	**359**	⇑P	**Pn**		**06 45 15.4**	**+0.7**
SURR	**Surduc**	**7.76**	**336**	⇓P	**Pn**		**06 45 17.4**	**+0.7**
TESR	**Tescani**	**7.79**	**0**	⇓P	**Pn**		**06 45 17.9**	**+0.8**
BZS	**Buzias**	**7.80**	**334**	⇑P	**Pn**		**06 45 17.8**	**+0.4**
MARR	**Marisel-Cluj**	**8.34**	**343**	⇓P	**Pn**		**06 45 24.7**	**-0.1**
DRGR		**8.55**	**342**	⇑P	**Pn**		**06 45 28.3**	**+0.7**
BURAR	**Bucovina Array**	**8.94**	**354**	⇑P	**Pn**		**06 45 33.8**	**+0.7**

IDC 03 06:55:32.8±3.5, 23°29N×94°81E, h236km±30km, mb3.0/3, mbtmp3.5/4, Error ellipse: s-maj=131.4km s-min=19.0km az=60.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.17**	**140**	P		P	Pn	06 57 02.9	+0.1
	0.9nm,0.3s,baz=316,slow=13,SNR=4.8								
MKAR	**Makanchi Array**	**25.53**	**340**	P		P		07 00 39.8	0.0
	0.4nm,0.5s,baz=149,slow=10,SNR=6.7								
	0.4nm,0.5s								
WRA	**Warramunga Arr**	**57.73**	**135**	P		P		07 04 59.1	-0.2
	0.3nm,0.4s,baz=322,slow=7.4,SNR=14								
	0.3nm,0.4s								
ASAR	**Alice Springs**	**60.17**	**138**	P		P		07 05 16.2	+0.2
	0.3nm,0.5s,baz=319,slow=6.9,SNR=5.8								
	0.3nm,0.5s								

IDC 03 07:10:24.4±3.4, 54°06N×86°92E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=31.1km s-min=17.8km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**266**	I		I		07 17 50.0	
	baz=84,slow=327,SNR=2.8								
ZALV	**Zalesovo Beam**	**1.25**	**266**	Pg		Pg		07 10 47.2	-1.1
	0.7nm,0.3s,baz=86,slow=18,SNR=6.1								
ZALV				Lg		Lg		07 11 04.4	
	1.0nm,0.3s,baz=94,slow=30,SNR=6.8								
KURBB	**Kurchatov Arra**	**6.19**	**240**	Pn		Pn		07 11 59.1	+2.2
	0.1nm,0.3s,baz=56,slow=13,SNR=1.7								
	0.3nm,0.3s								
MKAR	**Makanchi Array**	**7.85**	**204**	Pn		Pn		07 12 20.4	+0.6
	0.1nm,0.3s,baz=26,slow=14,SNR=6.5								
	0.2nm,0.3s								

*UCR **03** 07:14:45.1±1.4, 10°28N×86°34W, h15km±5km, MW4.1*
*CATAC **03** 07:14:46.3±0.7, 10°N±4°×8°6W±°, h16km±6km, M3.3/16, MLv3.3/16, Error ellipse: s-maj=8.9km s-min=5.3km az=39.3, confirmed*

ISC 03 07:14:47.0±1.7, 10°31N±0°04×86°25W±0°06, h17km±9km, n85, σ0°93/113, 30C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.66**	**94**	⇑*eP*		**Pg**		**07 14 59.6**	**-0.4**
SACU				*eS*		**Sg**		**07 15 09.0**	**+0.2**
DELF	**Filadelfia**	**0.70**	**78**	⇑*iP*		**Pg**		**07 15 00.5**	**-0.4**
DELF				*eS*		**Sb**		**07 15 10.9**	**+0.6**
JUD3	**Juan Diaz 3**	**0.72**	**101**	⇑*iP*		**Pg**		**07 15 00.5**	**-0.6**
JUD3				*eS*		**Sg**		**07 15 10.5**	**-0.1**
ALIBA	**Liberia Airpor**	**0.75**	**68**	⇑*iP*		**Pg**		**07 15 01.8**	**+0.1**
ALIBA				*eS*		**Sn**		**07 15 13.8**	**-0.1**
ELI1	**Hacienda Flor**	**0.77**	**64**	⇑*eP*		**Pg**		**07 15 02.3**	**+0.3**
ELI1				*eS*		**Sn**		**07 15 14.8**	**+0.5**
ELI1	**Hacienda Flor**	**0.77**	**64**	P		**Pg**		**07 15 02.3**	**+0.3**
ELI1	**Hacienda Flor**	**0.77**	**64**	S		**Sn**		**07 15 13.8**	**-0.5**
INDI	**Punta indio, G**	**0.86**	**121**	P		**Pb**		**07 15 02.5**	**-1.0**
INDI	**Punta indio, G**	**0.86**	**121**	S		**Sb**		**07 15 14.1**	**-0.7**
CMARA	**Lajas Hojancha**	**0.86**	**109**	P		**Pb**		**07 15 03.4**	**-0.3**
CMARA	**Lajas Hojancha**	**0.86**	**109**	S		**Sb**		**07 15 14.9**	**-0.1**
PLVR	**Palo Verde**	**0.89**	**87**	*eP*		**Pb**		**07 15 03.2**	**-0.9**
PLVR				*eS*		**Sg**		**07 15 16.5**	**+0.4**
LAPC	**Finca la Perla**	**0.93**	**60**	⇑*eP*		**Pb**		**07 15 03.8**	**-0.9**
LAPC				*eS*		**Sg**		**07 15 17.4**	**+0.1**
GPS3	**Bodega del ICE**	**0.98**	**63**	⇑*eP*		**Pb**		**07 15 05.2**	**-0.4**
GPS3				*eS*		**Sn**		**07 15 20.2**	**+0.5**
LCRUZ	**La Cruz**	**0.98**	**38**	⇑*iP*		**Pb**		**07 15 02.2**	**-0.5**
LCRUZ				*eS*		**Sn**		**07 15 20.2**	**+0.6**
GPS2	**Hotel Rincn d**	**0.99**	**63**	⇑*eP*		**Pb**		**07 15 05.0**	**-0.8**
GPS2				*eS*		**Sg**		**07 15 19.7**	**+0.4**
VRLE	**La Escondida,**	**0.99**	**61**	⇑*eP*		**Pb**		**07 15 04.9**	**-1.0**
BAGA	**Bagaces**	**1.00**	**77**	*eP*		**Pb**		**07 15 05.3**	**-0.7**
BAGA				*eS*		**Sn**		**07 15 20.5**	**+0.4**
GPS1	**Guardaparques**	**1.00**	**62**	⇓*eP*		**Pb**		**07 15 05.3**	**-0.7**
GPS1				*eS*		**Sg**		**07 15 20.0**	**+0.3**
VORI	**VORI**	**1.02**	**60**	⇑*iP*		**Pb**		**07 15 05.4**	**-1.1**
VORI				*eS*		**Sb**		**07 15 18.6**	**-1.1**
NYURE	**Nandayure**	**1.03**	**107**	*eP*		**Pb**		**07 15 04.8**	**-1.7**
NYURE				*eS*		**Sb**		**07 15 19.3**	**-0.4**
BUAI	**Buenos Aires**	**1.07**	**58**	*eP*		**Pb**		**07 15 06.9**	**-0.3**
BUAI				*eS*		**Sn**		**07 15 24.7**	**+2.9**
COLC	**Colonia**	**1.09**	**71**	⇓*eP*		**Pb**		**07 15 06.6**	**-1.0**
COLC				*eS*		**Sg**		**07 15 22.5**	**0.0**
CUI	**Cuipilapa**	**1.13**	**72**	⇑*iP*		**Pb**		**07 15 07.0**	**-1.1**
CUI				*eS*		**Sb**		**07 15 23.0**	**+0.5**
MESS	**Mesas**	**1.13**	**67**	⇑*iP*		**Pb**		**07 15 07.0**	**-1.1**
MESS				*eS*		**Sb**		**07 15 22.9**	**+0.3**
HORNC	**Hornillas**	**1.13**	**69**	⇑*iP*		**Pb**		**07 15 07.0**	**-1.3**
HORNC				*eS*		**Sb**		**07 15 22.9**	**+0.2**
CARN	**Rivas**	**1.13**	**39**	⇑*iP*		**Pb**		**07 15 07.6**	**-0.6**
CARN				*eS*		**Sg**		**07 15 25.5**	**+1.8**
CARN	**Rivas**	**1.13**	**39**	P		**Pb**		**07 15 07.5**	**-0.7**
CNAS	**Canas**	**1.15**	**84**	⇑*eP*		**Pn**		**07 15 08.6**	**+0.2**
CNAS				*eS*		**Sg**		**07 15 26.3**	**+2.0**
INVE	**Universidad In**	**1.18**	**82**	⇑*iP*		**Pn**		**07 15 07.9**	**-1.0**
INVE				*eS*		**Sg**		**07 15 26.2**	**+0.8**
MOTZ	**Rio Naranjo**	**1.22**	**72**	⇑*eP*		**Pn**		**07 15 08.6**	**-0.8**
MOTZ				*eS*		**Sg**		**07 15 27.8**	**+1.2**
VMAR	**Armenia, Volca**	**1.23**	**66**	⇑*eP*		**Pn**		**07 15 08.7**	**-0.8**
VMAR				*eS*		**Sg**		**07 15 26.7**	**-0.1**
TIMP	**Tierras Morena**	**1.24**	**77**	⇑*eP*		**Pn**		**07 15 08.6**	**-1.2**
TIMP				*eS*		**Sb**		**07 15 25.2**	**-0.8**
TILA	**Tilaran**	**1.27**	**83**	⇑*eP*		**Pn**		**07 15 09.1**	**-1.0**
TILA				*eS*		**Sn**		**07 15 27.3**	**+0.4**
JUNT	**Juntas**	**1.27**	**91**	*eP*		**Pn**		**07 15 08.9**	**-1.2**
JTS	**Las Juntas de**	**1.28**	**91**	⇑*eP*		**Pn**		**07 15 08.9**	**-1.4**
TENO	**El Achiote**	**1.31**	**72**	⇑*eP*		**Pn**		**07 15 09.2**	**-1.6**
TENO				*eS*		**Sb**		**07 15 27.3**	**-0.7**
CHIK	**Chiripa**	**1.33**	**84**	*eP*		**Pn**		**07 15 10.7**	**-0.3**
OMEN	**AI SSO del Vol**	**1.34**	**27**	P		**Pn**		**07 15 08.5**	**-2.6**
MORN	**AI O del Volca**	**1.37**	**26**	P		**Pn**		**07 15 11.1**	**-0.4**
QUEB	**Quebradon, Cot**	**1.37**	**77**	⇑*eP*		**Pn**		**07 15 10.8**	**-0.7**
MTEVE	**Monteverde**	**1.40**	**89**	⇑*eP*		**Pn**		**07 15 11.1**	**-0.9**
NADN	**Granada**	**1.45**	**9**	*iP*		**Sn**		**07 15 31.5**	**+0.3**
TABAC	**Tabacon**	**1.47**	**82**	*eP*		**Pn**		**07 15 12.7**	**-0.2**
CASO	**Castillo**	**1.50**	**85**	*eP*		**Pn**		**07 15 12.8**	**-0.4**
VARE2	**V. Arenal**	**1.52**	**84**	⇑*iP*		**Pn**		**07 15 13.5**	**-0.1**
ARE1	**Arenal 1**	**1.52**	**84**	⇑*eP*		**Pn**		**07 15 13.3**	**-0.2**
CEDE	**Laguna Cedeo**	**1.53**	**83**	⇑*eP*		**Pn**		**07 15 13.8**	**+0.1**
VACR	**Volcan Arenal**	**1.56**	**84**	⇑*iP*		**Pn**		**07 15 13.8**	**-0.2**
SOCE	**Pocosol**	**1.61**	**87**	*eP*		**Pn**		**07 15 14.2**	**-0.6**
SOCE	**Pocosol**	**1.61**	**87**	P		**Pn**		**07 15 14.7**	**-0.1**
NANN	**Nandasmo**	**1.63**	**5**	P		**Pn**		**07 15 15.6**	**+0.6**
LCHIL	**Los

BOZC	**Bozcaada**	**1.19**	**341**	Pn	**Pb**	**07 17 54.3**	**0.0**	
IZMR	**zmir-demi**	**1.24**	**118**	P	**Pg**	**07 17 55.7**	**0.0**	
IZMR				*i* IAML		07 18 14.0		
	comp=N,97nm,0.4s							
IZMR				*i* IAML		07 18 24.0		
	comp=E,118nm,0.5s							
ODEM	**Odemis-Izmir**	**1.27**	**110**	Pn	**Pg**	**07 17 55.8**	**-0.5**	
GORD	**Gordes-Manisa**	**1.27**	**81**	Pn	**Pb**	**07 17 55.8**	**+0.1**	
AYDB	**Zeytinkoy-Aydi**	**1.30**	**126**	Pn	**Pb**	**07 17 56.1**	**-0.1**	
YENI	**Yenice-Canakka**	**1.32**	**23**	Pn	**Pn**	**07 17 55.8**	**-0.2**	
CANM	**Can-anakkale**	**1.35**	**16**	Pn	**Pn**	**07 17 56.6**	**+0.3**	
CNKL	**anakkale-Mer**	**1.35**	**354**	P	**Pn**	**07 17 56.5**	**+0.1**	
CNKL				S	**Sg**	**07 18 15.8**	**+0.2**	
CNKL				*i* IAML		07 18 19.0		
	comp=N,388nm,0.2s							
CNKL				*i* IAML		07 18 22.0		
	comp=E,609nm,1.1s							
ECEA	**Canakkale, Ece**	**1.36**	**347**	P	**Pb**	**07 17 57.1**	**0.0**	
ECEA				S	**Sg**	**07 18 15.8**	**+0.1**	
ECEA				*i* IAML		07 18 18.0		
	comp=E,1μm,0.4s							
ECEA				*i* IAML		07 18 24.0		
	comp=N,1μm,0.6s							
COMU	**Canakkale**	**1.38**	**357**	Pn	**Pb**	**07 17 57.4**	**-0.1**	
DIDI	**Didim-Aydin**	**1.44**	**158**	Pn	**Pb**	**07 17 58.6**	**+0.1**	
BKES	**Balkesir-Mer**	**1.47**	**46**	P	**Pb**	**07 17 58.6**	**-0.4**	
BKES				S	**Sg**	**07 18 18.9**	**-0.2**	
BKES				*i* IAML		07 18 21.0		
	comp=N,253nm,0.5s							
BKES				*i* IAML		07 18 25.0		
	comp=E,269nm,0.9s							
EFSA	**Agios Efstrati**	**1.47**	**304**	P	**Pn**	**07 17 57.7**	**-0.4**	
GOAD	**anakkale-G¶**	**1.53**	**341**	P	**Pb**	**07 18 00.3**	**+0.3**	
GOAD				S	**Sg**	**07 18 20.4**	**-0.7**	
GOAD				*i* IAML		07 18 22.0		
	comp=N,754nm,0.3s							
GOAD				*i* IAML		07 18 22.0		
	comp=E,842nm,0.4s							
KIRA	**zmir-Kiraz**	**1.53**	**109**	P	**Pb**	**07 17 59.5**	**-0.7**	
KIRA				*i* IAML		07 18 25.0		
	comp=N,112nm,0.5s							
KIRA				*i* IAML		07 18 26.0		
	comp=E,132nm,0.2s							
NAZL	**Nazilli-Aydin**	**1.55**	**118**	Pn	**Pn**	**07 17 59.2**	**0.0**	
GADA	**Gvkgeada**	**1.56**	**341**	Pn	**Pn**	**07 17 59.7**	**+0.5**	
GADA	**Gvkgeada**	**1.56**	**341**	P	**Pn**	**07 17 59.2**	**0.0**	
GADA				S	**Sg**	**07 18 21.1**	**-0.9**	
GONE	**Gonen-Balikesi**	**1.59**	**33**	Pn	**Pn**	**07 17 59.9**	**+0.3**	
LIA	**Limnos Island**	**1.59**	**318**	P	**Pn**	**07 17 59.7**	**0.0**	
LIA	**Limnos Island**	**1.59**	**318**	P	**Pn**	**07 17 59.4**	**-0.3**	
TNSA	**Tinos**	**1.61**	**224**	P	**Pn**	**07 17 59.6**	**-0.3**	
KULA	**Kula-Manisa**	**1.66**	**96**	Pn	**Pn**	**07 18 01.1**	**+0.5**	
GELI	**Tayfur-Gelibol**	**1.68**	**358**	Pn	**Pn**	**07 18 01.5**	**+0.6**	
KRBG	**Karabiga-Canak**	**1.77**	**19**	Pn	**Pn**	**07 18 01.9**	**-0.2**	
KARY	**Karystos**	**1.81**	**248**	P	**Pn**	**07 18 02.2**	**-0.4**	
KARY	**Karystos**	**1.81**	**248**	P	**Pn**	**07 18 02.1**	**-0.4**	
DST	**Dursunbey**	**1.83**	**60**	Pn	**Pn**	**07 18 03.9**	**+0.9**	
EDC	**Edincik**	**1.91**	**31**	Pn	**Pn**	**07 18 04.4**	**+0.3**	
SMTH	**Samothraki Isl**	**1.92**	**336**	P	**Pn**	**07 18 04.2**	**-0.1**	
SMTH	**Samothraki Isl**	**1.92**	**336**	P	**Pn**	**07 18 04.1**	**-0.2**	
KYMI	**Kymi, Euboea I**	**1.93**	**268**	P	**Pn**	**07 18 04.5**	**+0.2**	
KYMI	**Kymi, Euboea I**	**1.93**	**268**	P	**Pn**	**07 18 03.8**	**-0.6**	
ERIK	**Erikli-Kesan**	**1.95**	**359**	Pn	**Pn**	**07 18 05.7**	**+1.1**	
CAVK	**EdirneEnez-Ca**	**1.99**	**351**	⇓P	**Pn**	**07 18 04.9**	**-0.3**	
BAND	**Balkesir-Ban**	**2.02**	**36**	⇓P	**Pn**	**07 18 05.6**	**+0.1**	
SHAP	**Saphane-Kutahy**	**2.10**	**81**	Pn	**Pn**	**07 18 07.3**	**+0.6**	
DAT	**Datca**	**2.14**	**158**	Pn	**Pn**	**07 18 07.5**	**+0.1**	
DION	**Dionisos Attik**	**2.16**	**254**	P	**Pn**	**07 18 07.1**	**-0.5**	
ALN	**Alexandroupoli**	**2.21**	**350**	Pn	**Pn**	**07 18 09.3**	**+1.1**	
ALN	**Alexandroupoli**	**2.21**	**350**	P	**Pn**	**07 18 08.6**	**+0.4**	
ALN				S	**Sn**	**07 18 36.5**	**+1.1**	
ALN	**Alexandroupoli**	**2.21**	**350**	P	**Pn**	**07 18 08.8**	**+0.6**	
TURN	**Turunc**	**2.35**	**145**	Pn	**Pn**	**07 18 10.9**	**+0.8**	
THAS	**Thassos island**	**2.36**	**324**	P	**Pn**	**07 18 09.9**	**-0.4**	
TVSB	**Tavsanli**	**2.37**	**71**	Pn	**Pn**	**07 18 11.3**	**+0.8**	
APMY	**Acipayam-Deniz**	**2.49**	**119**	Pn	**Pn**	**07 18 13.3**	**+1.1**	
THERA	**Ancient Thera,**	**2.50**	**201**	P	**Pn**	**07 18 11.8**	**-0.4**	
RDO	**Rodhopi**	**2.55**	**342**	P	**Pn**	**07 18 13.3**	**+0.5**	
ARMT	**Armutlu**	**2.56**	**43**	Pn	**Pn**	**07 18 13.9**	**+0.9**	
OUR	**Ouranopolis**	**2.57**	**310**	P	**Pn**	**07 18 13.2**	**+0.2**	
VIL2	**Platees**	**2.64**	**260**	P	**Pn**	**07 18 13.4**	**-0.6**	
KAVA	**Kavala**	**2.77**	**326**	P	**Pn**	**07 18 15.7**	**-0.2**	
ATAL	**Atalanti**	**2.77**	**271**	P	**Pn**	**07 18 15.8**	**-0.1**	
MET2	**Kameni Chora,**	**2.78**	**248**	P	**Pn**	**07 18 16.0**	**0.0**	
ARG	**Arkhangelos**	**2.79**	**153**	Pn	**Pn**	**07 18 17.3**	**+1.1**	
CAME	**Cameli-Denizli**	**2.80**	**128**	Pn	**Pn**	**07 18 18.0**	**+1.6**	
LTK	**Loutraki**	**2.91**	**257**	P	**Pn**	**07 18 17.6**	**-0.2**	
SRS	**Serrai**	**3.31**	**317**	P	**Pn**	**07 18 23.8**	**+0.4**	
GUR	**Goura**	**3.41**	**258**	P	**Pn**	**07 18 24.8**	**0.0**	
KALE	**Kalithea**	**3.48**	**266**	P	**Pn**	**07 18 25.9**	**+0.1**	
VLI	**Veliai**	**3.50**	**236**	P	**Pn**	**07 18 26.0**	**+0.1**	
KLV	**Kalavryta, Ach**	**3.53**	**260**	P	**Pn**	**07 18 26.7**	**+0.3**	
ZKR	**Zakros**	**3.61**	**185**	P	**Pn**	**07 18 27.4**	**0.0**	
ANX	**Ano Chora**	**3.64**	**269**	P	**Pn**	**07 18 28.7**	**+0.8**	
THL	**Klokotos Trika**	**3.64**	**285**	P	**Pn**	**07 18 27.8**	**+0.1**	
KNT	**Kendrikon**	**3.73**	**312**	P	**Pn**	**07 18 28.7**	**-0.3**	
ITM	**Ithomi**	**3.97**	**249**	P	**Pn**	**07 18 33.1**	**+0.6**	
MLR	**Muntele Rosu**	**6.78**	**356**	⇓P	**Pn**	**07 19 11.0**	**-0.2**	
ARR	**Arges**	**6.80**	**348**	⇑P	**Pn**	**07 19 11.1**	**-0.2**	
BISRR	**Bisoca**	**6.83**	**1**	⇑P	**Pn**	**07 19 10.5**	**-1.1**	
SCHL	**Schela**	**6.84**	**8**	⇑P	**Pn**	**07 19 11.1**	**-0.7**	
PLOR	**Plostina**	**7.13**	**0**	⇑P	**Pn**	**07 19 15.5**	**-0.3**	
GZR	**Gura Zlata**	**7.24**	**338**	⇑P	**Pn**	**07 19 17.0**	**-0.4**	
BURAR	**Bucovina Array**	**8.95**	**354**	⇑P	**Pn**	**07 19 40.9**	**+0.1**	

*ASRS **03** 07:30:08.0±0.7,55°.83N×86°.10E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 03 07:30:15.4±3.9,55°.61N×86°.08E,h0km,mbtmp2.7/2, ML2.4/2,Error ellipse: s-maj=31.2km s-min=26.5km az=42.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.82**	**204**	I	I	07 42 50.0	
	baz=22,slow=324,SNR=0.8						
ZALV	**Zalesovo Beam**	**1.82**	**204**	Pg	Pn	07 30 46.7	-1.2
	2.4nm,0.3s,baz=25,slow=17,SNR=22						
ZALV				Lg	Lg	07 31 13.6	
	1.9nm,0.3s,baz=25,slow=26,SNR=7.7						
KURBB	**Kurchatov Arra**	**6.75**	**225**	Pn	Pn	07 31 55.8	+0.1
	baz=42,slow=14,SNR=1.2						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**9.14**	**197**	Pn	Pn	07 32 29.0	+0.5
	0.1nm,0.3s,baz=12,slow=14,SNR=2.2						
	0.1nm,0.3s						

*IDC **03** 07:30:35.8±0.4, 18°.33S×132°.98W, h0km, mb4.5/21, mbtmp4.5/21, ML6.0/1, MS3.8/29, Error ellipse: s-maj=19.3km s-min=14.2km az=99.0*

*NEIC **03** 07:30:38.5±1.1, 18°.5S±0°.1×132°.88W±0°.08, h10km±1km, mb5.0/330, Error ellipse: s-maj=18.6km s-min=11.8km az=200.0*

ISC 03 07:30:37.2±0.3,18°39S±0°06×133°02W±0°06,h10km, n545,σ1s00/392,mb5.0/171,MS3.9/29,7C-9D,Tuamotu Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKT	**Rikitea**	**5.04**	**201**	*e*Pn	**Pn**	**07 31 50.4**	**-2.5**
	14nm,0.1s						
RKT				*e*Sn	Sn	07 32 40.7	-11
	20nm,0.1s						
RKT				*e*T	T	07 36 05.4	
	4.0nm,0.2s						
TAOE	**Nuku Hiva Isla**	**11.74**	**323**		**Pn**	**07 33 26.9**	**+2.0**
TAOE	**Nuku Hiva Isla**	**11.74**	**323**	*e*Pn	**Pn**	**07 33 26.7**	**+1.8**
	56nm,0.1s						
TAOE				*e*Sn	Sn	07 35 23.5	-13
	80nm,0.1s						
TAOE				*e*LR	LR	07 36 02.0	
	550nm,22.8s						
TAOE				*e*T	T	07 45 15.4	
	18nm,0.2s						
VAH	**Vaihoa**	**14.33**	**280**	*e*Pn	**Pn**	**07 34 04.5**	**+4.2**
	61nm,0.2s						
PMOR	**Pomariorio Ree**	**14.64**	**281**	*e*Pn	**Pn**	**07 34 07.0**	**+2.5**
	79nm,0.2s						
PMOR				*e*Sn	Sn	07 36 37.2	-10
	7.5nm,0.2s						

PPTF	**Pamatai, Papee**	**15.76**	**270**		**Pn**	**07 34 21.4**	**+1.9**
PPTF				IAmb	IAmb	07 34 26.0	
	comp=Z,155nm,1.1s						
PAE	**Paea**	**15.77**	**270**	*e*Pn	**Pn**	**07 34 21.9**	**+2.4**
	comp=Z,4.2nm,0.2s						
PPT2	**Papeete2**	**15.77**	**270**	*e*Pn	**P**	**07 34 22.4**	**-1.1**
	comp=Z,7.2nm,0.2s						
PPT2				*e*Sn	Sn	07 37 03.1	-11
	comp=Z,1.6nm,0.2s						
PPT2				*e*LR	LR	07 37 49.0	
	comp=Z,645nm,25.0s						
PPT2				*e*LR	LR	07 37 55.8	
	comp=Z,417nm,23.5s						
PPT	**Papeete**	**15.77**	**270**	Pn	**Pn**	**07 34 20.8**	**+1.3**
	comp=Z,5.6nm,0.3s,baz=146,slow=10.0,SNR=14						
PPT				Sn	**Sn**	**07 37 09.1**	**-5.4**
	comp=Z,0.4nm,0.3s,baz=201,slow=19,SNR=1.6						
PPT				LR	LR	07 38 30.2	
	comp=Z,382nm,21.0s,baz=112,slow=30						
TBI	**Tubuai**	**16.13**	**249**	*e*Pn	**P**	**07 34 27.8**	**+0.4**
	comp=Z,0.5nm,0.1s						
TBI				*e*LR	LR	07 38 04.0	
	comp=Z,2μm,24.5s						
TBI	**Tubuai**	**16.13**	**249**	*e*T	T	07 50 34.3	
	comp=Z,2.0nm,0.2s						
RPN	**Rapa Nui**	**23.48**	**116**	LR	LR	07 42 22.9	
	comp=Z,232nm,21.7s,baz=298,slow=30						
RAR	**Rarotonga**	**25.32**	**259**	*e*LR	LR	07 42 11.4	
RAR	**Rarotonga**	**25.32**	**259**	LR	LR	07 43 02.3	
	comp=Z,489nm,18.3s,baz=107,slow=29						
XMAS	**Kiritimati**	**31.47**	**308**	*e*S	**S**	**07 42 03.9**	**-3.6**
XMAS				*e*LR	LR	07 44 59.6	
NIUE	**Niue**	**34.92**	**263**	*e*LR	LR	07 46 37.1	
	comp=Z,261nm,25.9s						
KNHH	**Kane Nui o Ham**	**43.38**	**329**	P	**P**	**07 38 41.5**	**+1.4**
PUH	**Pauahi**	**43.40**	**329**	P	**P**	**07 38 42.6**	**+2.3**
POHA	**Pohakuloa**	**43.88**	**329**	*e*S	**S**	**07 45 10.9**	**-5.0**
	comp=Z,2.9nm,27.6s						
POHA				*e*LR	LR	07 50 58.5	
	comp=Z,11nm,22.2s						
SLBS	**Sierra La Lagu**	**47.50**	**29**	P	**P**	**07 39 14.2**	**+1.4**
SLBS				IAmb	IAmb	07 39 19.9	
	comp=Z,14nm,1.1s						
LPIG	**La Paz**	**47.70**	**28**	LR	LR	07 53 29.3	
	comp=Z,106nm,20.3s,baz=201,slow=29						
SNZO	**South Karori**	**49.91**	**231**	*e*LR	LR	07 54 02.1	
JOHN	**Johnston Islan**	**50.09**	**312**	*e*S	**S**	**07 46 41.9**	**-2.4**
	comp=Z,64nm,22.9s						
JOHN				*e*LR	LR	07 53 57.7	
	comp=Z,129nm,21.6s						
H03N1	**Juan Fernandez**	**50.40**	**118**	*e*T	T	08 32 26.9	
	comp=Z,357μm,0.1s						
ZAIG	**Zacatecas**	**50.59**	**37**		**P**	**07 39 37.3**	**+0.5**
TKNZ	**Takaka Hill**	**51.16**	**232**	P	**P**	**07 39 41.3**	**+0.7**
CMIG	**Matias Romero**	**51.49**	**49**	LR	LR	07 55 46.7	
	comp=Z,65nm,20.9s,baz=165,slow=29						
HPIG		**52.30**	**31**		**P**	**07 39 50.4**	**+1.1**
CCX	**Cicese**	**52.38**	**18**	P	**P**	**07 39 50.8**	**+1.2**
CCX				IAmb	IAmb	07 39 52.1	
	comp=Z,9.4nm,0.9s						
BAR	**Barrett**	**53.14**	**17**	P	**P**	**07 39 56.7**	**+1.5**
YUH	**Yuha Desert**	**53.33**	**18**		**P**	**07 39 56.6**	**0.0**
DPP	**Dos Picos Cty**	**53.36**	**17**	P	**P**	**07 39 58.2**	**+1.3**
DNR	**Dunn Ranch,Anz**	**53.98**	**17**	P	**P**	**07 40 02.9**	**+1.3**
DNR				IAmb	IAmb	07 40 04.1	
	comp=Z,12nm,0.9s						
PFO	**Pinyon Flats O**	**54.08**	**17**		**P**	**07 40 03.6**	**+1.3**
PFO	**Pinyon Flats O**	**54.08**	**17**	LR	LR	07 57 10.9	
	comp=Z,89nm,18.7s,baz=222,slow=30						
113A	**Mohawk Valley,**	**54.10**	**20**		**P**	**07 40 03.6**	**+1.3**
113A				IAmb	IAmb	07 40 04.7	
	comp=Z,11nm,1.2s						
PMD	**Palm Desert**	**54.13**	**17**	P	**P**	**07 40 03.5**	**+1.1**
PASC	**Pasadena Art C**	**54.15**	**15**		**P**	**07 40 04.7**	**+2.1**
PASC				IAmb	IAmb	07 40 05.2	
	comp=Z,25nm,1.3s						
MWC	**Mount Wilson**	**54.23**	**15**	P	**P**	**07 40 04.9**	**+1.5**
MWC				IAmb	IAmb	07 40 06.0	
	comp=Z,20nm,1.1s						
ATAH	**Atahualpa**	**54.25**	**86**	LR	LR	07 57 35.2	
	comp=Z,114nm,19.5s,baz=216,slow=30						
BFSC	**Mount Baldy Ra**	**54.35**	**16**	P	**P**	**07 40 05.7**	**+1.5**
BFSC				IAmb	IAmb	07 40 06.7	
	comp=Z,12nm,1.3s						
BC3	**Big Chuckawall**	**54.40**	**18**		**P**	**07 40 04.9**	**+0.3**
319A	**Douglas**	**54.48**	**25**	IAmb	IAmb	07 40 07.5	
	comp=Z,9.0nm,0.8s						
BELC	**Belle Mtn. Jos**	**54.57**	**17**		**P**	**07 40 07.7**	**+1.8**
BELC				IAmb	IAmb	07 40 08.4	
	comp=Z,8.8nm,0.9s						
TUC	**Tucson**	**54.73**	**23**	P	**P**	**07 40 07.8**	**+0.9**
TXAR	**Lajitas Array**	**55.26**	**31**		**P**	**07 40 11.7**	**+0.8**
TXAR	**Lajitas Array**	**55.26**	**31**	P	**P**	**07 40 11.4**	**+0.5**
	comp=Z,9nm,0.8s,baz=202,slow=9.8,SNR=30						
	comp=Z,2.9nm,0.8s						
ISA	**Isabella, Lake**	**55.50**	**14**	P	**P**	**07 40 14.0**	**+1.6**
VES	**Vestal, Richgr**	**55.53**	**14**	P	**P**	**07 40 14.0**	**+1.4**
CCCA	**Chr Cany lake**	**55.64**	**15**	IAmb	IAmb	07 40 18.3	
	comp=Z,22nm,1.4s						
WSHM	**Spangler Hills**	**55.68**	**15**	P	**P**	**07 40 15.2**	**+1.4**
SCZ	**Santa Cruz**	**55.78**	**11**		**P**	**07 40 16.1**	**+1.7**
SCZ				IAmb	IAmb	07 40 16.9	
	comp=Z,21nm,1.2s						
VHRN	**Van Horn**	**55.84**	**29**		**P**	**07 40 16.2**	**+1.1**
ALPN	**Alpine**	**56.13**	**31**		**P**	**07 40 17.8**	**+0.6**
ALPN				IAmb	IAmb	07 40 24.2	
	comp=Z,9.9nm,0.9s						
QSM	**Queen of Sheba**	**56.18**	**16**	IAmb	IAmb	07 40 19.0	
	comp=Z,7.2nm,0.8s						
GWY	**Greenwater Val**	**56.45**	**16**		**P**	**07 40 20.4**	**+1.1**
V12A	**Nelson**	**56.51**	**18**		**P**	**07 40 21.1**	**+1.4**
SAND	**Sanderson**	**56.54**	**32**		**P**	**07 40 20.6**	**+0.5**
DZM	**Mont Dzumac**	**56.60**	**255**	*e*LR	LR	07 56 51.0	
	comp=Z,187nm,27.6s						
FURC	**Furnace Creek,**	**56.66**	**16**	IAmb	IAmb	07 40 23.1	
	comp=Z,20nm,1.4s						
MTOS	**Mt Oso, Westle**	**56.68**	**11**	IAmb	IAmb	07 40 23.7	
	comp=Z,16nm,1.1s						
X18A	**Snowflake**	**57.02**	**23**	IAmb	IAmb	07 40 25.7	
	comp=Z,8.1nm,0.9s						
WCT	**Wildcat Mounta**	**57.03**	**16**	IAmb	IAmb	07 40 26.0	
	comp=Z,10nm,1.0s						
BUCR	**Buckhorn Ranch**	**57.07**	**12**		**P**	**07 40 24.9**	**+1.2**
SHPR	**Sheep Range**	**57.15**	**17**		**P**	**07 40 25.7**	**+1.3**
DSP	**Deep Springs**	**57.25**	**14**	IAmb	IAmb	07 40 27.5	
	comp=Z,19nm,1.3s						
TPNV	**Topopah Spring**	**57.27**	**16**		**P**	**07 40 26.8**	**+1.6**
TPNV				IAmb	IAmb	07 40 27.9	
	comp=Z,19nm,1.3s						
MNHN	**Monahans**	**57.35**	**31**	IAmb	IAmb	07 40 44.0	
	comp=Z,7.2nm,0.8s						
WUAZ	**Wupatki**	**57.41**	**21**	IAmb	IAmb	07 40 28.6	
	comp=Z,7.8nm,0.8s						
PLCA	**Paso Flores**	**57.49**	**127**	P	**P**	**07 40 26.8**	**0.0**
	comp=Z,2.5nm,1.0s,baz=282,slow=7.5,SNR=3.5						
PLCA				LR	LR	07 59 01.4	
	comp=Z,63nm,20.0s,baz=247,slow=30						
	comp=Z,2.5nm,1.0s						
HNDO	**Hondo**	**57.70**	**35**	IAmb	IAmb	07 40 40.3	
	comp=Z,7.5nm,0.8s						
Y22D	**IRIS PASSCAL I**	**57.80**	**26**	P	**P**	**07 40 29.9**	**+0.9**
	baz=209						
OZNA	**Ozona**	**57.83**	**32**	IAmb	IAmb	07 40 35.7	
	comp=Z,29nm,1.4s						
LHV	**Little Huntoon**	**57.97**	**13**	IAmb	IAmb	07 40 33.0	
	comp=Z,18nm,1.2s						
S11A	**Rachel**	**58.06**	**16**	IAmb	IAmb	07 40 33.4	
	comp=Z,13nm,0.9s						
AFDM	**Forest Hills D**	**58.15**	**11**	IAmb	IAmb	07 40 33.5	
	comp=Z,11nm,1.2s						
JCT	**Junction City**	**58.16**	**34**	IAmb	IAmb	07 40 38.4	
	comp=Z,24nm,1.5s						
NVAR	**Mina Array Bea**	**58.19**	**14**	P	**P**	**07 40 33.0**	**+1.4**
	comp=Z,3.2nm,0.8s,baz=205,slow=4.3,SNR=24						
NVAR				PcP	**PcP**	**07 41 23.6**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=229,slow=3.7,SNR=2.2						
	comp=Z,3.2nm,0.8s						
SGCY	**Sterling City**	**58.63**	**32**	IAmb	IAmb	07 40 52.2	
	comp=Z,5.4nm,0.7s						
MPK	**Martis Peak**	**58.66**	**12**	IAmb	IAmb	07 40 37.5	
	comp=Z,24nm,1.4s						
ANMO	**Albuquerque**	**58.74**	**25**		**P**	**07 40 36.2**	**+0.6**
ANMO				IAmb	IAmb	07 40 37.3	
	comp=Z,6.4nm,0.9s						
ANMO	**Albuquerque**	**58.74**	**25**	LR	LR	08 00 56.1	
	comp=Z,79nm,18.9s,baz=327,slow=31						

O02D	**Mt. Diablo Mer**	**59.04**	**9**	IAmb	IAmb	07 40 40.5	
	comp=Z,13nm,1.0s						
AC02	**Maricunga**	**59.06**	**111**		**P**	**07 40 37.5**	**-1.0**
AC02				IAmb	IAmb	07 40 45.0	
	comp=Z,8.7nm,0.9s						
PAHR	**Pah Rah Range**	**59.18**	**12**	IAmb	IAmb	07 40 40.6	
	comp=Z,11nm,1.1s						
BRDY	**Brady**	**59.22**	**34**	IAmb	IAmb	07 40 44.4	
	comp=Z,7.9nm,0.9s						
PSUT	**Pine Spring**	**59.41**	**17**	IAmb	IAmb	07 40 42.6	
	comp=Z,10nm,1.1s						
CZSB	**Cruzeiro do Su**	**59.47**	**88**		**P**	**07 40 40.1**	**-0.8**
FLOC	**Florencia**	**59.78**	**77**	P	**P**	**07 40 43.0**	**-0.1**
FLOC				IAmb	IAmb	07 41 00.7	
	comp=Z,14nm,1.0s						
HMU	**Henry Mountain**	**59.82**	**20**	IAmb	IAmb	07 40 45.0	
	comp=Z,10nm,1.1s						
N02D	**Trinity Center**	**59.84**	**9**	IAmb	IAmb	07 40 45.4	
	comp=Z,16nm,1.0s						
TCRU	**Three Creeks R**	**59.90**	**19**	IAmb	IAmb	07 40 51.8	
	comp=Z,7.4nm,1.1s						
ABTX	**Abilene, Hawle**	**59.94**	**32**	IAmb	IAmb	07 40 55.8	
	comp=Z,8.0nm,0.6s						
M02C	**Callahan**	**60.22**	**9**	IAmb	IAmb	07 40 47.6	
	comp=Z,7.7nm,1.0s						
APMT	**Aspermont**	**60.26**	**32**	P	**P**	**07 40 45.5**	**-0.4**
APMT				IAmb	IAmb	07 40 51.8	
	comp=Z,9.0nm,0.9s						
PV05	**Paradox Valley**	**60.50**	**22**	IAmb	IAmb	07 40 50.3	
	comp=Z,15nm,1.0s						
YBH	**Yreka Blue Hor**	**60.58**	**9**	LR	LR	08 01 01.3	
	comp=Z,6.6nm,18.1s,baz=208,slow=30						
WHTX	**Lake Whitney,**	**60.59**	**35**	IAmb	IAmb	07 40 56.0	
	comp=Z,9.7nm,1.0s						
PV13	**Radium Mtn., P**	**60.67**	**22**	IAmb	IAmb	07 40 50.6	
	comp=Z,9.2nm,1.0s						
PV17	**East Wray Mesa**	**60.73**	**22**	IAmb	IAmb	07 40 51.1	
	comp=Z,9.3nm,0.9s						
PV03	**Paradox Valley**	**60.75**	**22**	IAmb	IAmb	07 40 50.5	
	comp=Z,7.4nm,0.8s						
PV16	**Nyswonger Mesa**	**60.78**	**22**	IAmb	IAmb	07 40 50.8	
	comp=Z,6.0nm,0.8s						
PLPT	**Palo Pinto**	**60.78**	**33**		**P**	**07 40 49.5**	**0.0**
PLPT				IAmb	IAmb	07 41 01.2	
	comp=Z,6.5nm,0.7s						
L02F	**Cave Junction**	**60.84**	**8**	IAmb	IAmb	07 40 51.8	
	comp=Z,12nm,1.0s						
PV04	**Paradox Valley**	**60.85**	**22**	IAmb	IAmb	07 40 52.0	
	comp=Z,13nm,0.9s						
SRU	**San Rafael Swe**	**60.96**	**20**	IAmb	IAmb	07 40 52.4	
	comp=Z,9.8nm,0.9s						
PV21	**Cone Mtn., Par**	**60.98**	**21**	IAmb	IAmb	07 40 52.9	
	comp=Z,14nm,0.9s						
ELK	**Elko**	**61.11**	**15**	IAmb	IAmb	07 40 53.9	
	comp=Z,9.0nm,0.8s						
P17A	**Butcher Ranch,**	**61.22**	**20**	IAmb	IAmb	07 40 54.6	
	comp=Z,14nm,1.1s						
K02D	**Willamette Mer**	**61.39**	**8**	IAmb	IAmb	07 40 55.7	
	comp=Z,12nm,1.1s						
MPU	**Maple Canyon**	**61.44**	**19**	IAmb	IAmb	07 40 56.5	
	comp=Z,9.9nm,1.1s						
T25A	**Trinidad**	**61.47**	**26**	IAmb	IAmb	07 40 55.9	
	comp=Z,8.9nm,0.9s						
P18A	**Preston Nutter**	**61.52**	**20**	IAmb	IAmb	07 40 56.0	
	comp=Z,6.4nm,0.8s						
RTBA	**Rita Blanca**	**61.59**	**28**	IAmb	IAmb	07 40 56.1	
	comp=Z,11nm,0.9s						
LPAZ	**La Paz**	**61.68**	**99**	P	**P**	**07 40 56.2**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=294,slow=3.0,SNR=11						
LPAZ				LR	LR	08 01 13.4	
	comp=Z,105nm,20.9s,baz=244,slow=30						
	comp=Z,2.5nm,0.7s						
WVOR	**Wild Horse Val**	**61.96**	**12**	IAmb	IAmb	07 40 59.6	
	comp=Z,13nm,1.1s						
CTU	**Camp Tracy**	**62

comp=Z,578µm,0.1s
H11S1 WAKE ISLAND Hy 69.65 298 T T 08 57 54.9
baz=119,slow=74,SNR=12
H11S3 WAKE ISLAND Hy 69.66 298 T T 08 57 53.7
baz=119,slow=74,SNR=4.8
VILB Vilhena 69.92 97 P 07 41 48.4 -0.8
H11N3 WAKE ISLAND Hy 70.05 300 T T 08 58 23.5
baz=115,slow=78
T47A Sharon Grove 70.06 38 IAmb IAmb 07 41 55.6
comp=Z,10nm,0.8s
H11N1 WAKE ISLAND Hy 70.07 300 *e*T T 08 57 57.2
comp=Z,286µm,0.1s
H11N1 WAKE ISLAND Hy 70.07 300 T T 08 58 25.8
baz=115,slow=78
H11N2 WAKE ISLAND Hy 70.07 300 T T 08 58 19.5
baz=115,slow=78
PTLB Pontes e Lacer 70.29 100 P 07 41 50.3 -1.1
PTLB IAmb IAmb 07 42 02.3
comp=Z,5.9nm,0.6s
BBB Bella Bella 70.41 3 P **P 07 41 51.1 -0.1**
comp=Z,7.3nm,0.9s,baz=187,slow=5.3,SNR=3.5
comp=Z,7.3nm,0.9s
N41A Harden Midland 70.65 33 IAmb IAmb 07 41 53.1
comp=Z,16nm,1.0s
SDDR Presa de Saban 71.09 62 P 07 41 56.1 0.0
SDDR IAmb IAmb 07 41 57.1
comp=Z,15nm,0.9s
TKL Tuckaleechee C 71.17 41 LR LR 08 11 10.7
comp=Z,32nm,19.5s,baz=233,slow=34
WCI Wyandotte Cave 71.38 37 P 07 41 56.8 -0.6
WCI IAmb IAmb 07 42 04.1
comp=Z,12nm,0.9s
L40A Anamosa 71.47 32 IAmb IAmb 07 41 58.1
comp=Z,14nm,0.8s
QSPA South Pole Qui 71.71 180 P **P 07 42 01.2 +1.9**
comp=Z,2.0nm,0.7s,baz=84,slow=0.4,SNR=23
comp=Z,2.0nm,0.7s
R49A Shelbyville 72.07 38 IAmb IAmb 07 42 01.5
comp=Z,19nm,1.2s
SFIN Lafayette 72.41 35 IAmb IAmb 07 42 03.9
comp=Z,15nm,0.9s
R50A Paris 72.56 38 IAmb IAmb 07 42 04.1
comp=Z,20nm,1.1s
P48A Milroy 72.71 37 IAmb IAmb 07 42 05.2
comp=Z,11nm,0.8s
O48B Farmland 73.40 36 IAmb IAmb 07 42 09.6
comp=Z,12nm,0.9s
V35K Ketchikan 73.44 1 P **P 07 42 10.2 +0.9**
baz=181
CRAG Craig 73.57 360 P **P 07 42 10.4 +0.3**
baz=180
Q51A Peebles 73.62 38 IAmb IAmb 07 42 10.7
comp=Z,15nm,1.1s
BELA Belgrano 2 73.90 167 P **P 07 42 12.3 +0.3**
BELA IAmb IAmb 07 42 13.4
comp=Z,13nm,1.2s
U33K Whale Pass 74.22 360 P **P 07 42 14.0 +0.2**
baz=180
AGMN Agassiz Nation 74.22 25 IAmb IAmb 07 42 14.4
comp=Z,14nm,0.9s
WRAK Wrangell Islan 74.52 0 P **P 07 42 16.7 +1.1**
baz=180
T57A Hurt 74.85 42 IAmb IAmb 07 42 18.7
comp=Z,10nm,0.9s
SJG San Juan 75.06 65 LR LR 08 10 32.9
comp=Z,26nm,18.0s,baz=222,slow=32
Q54A Coxs Mills 75.09 40 IAmb IAmb 07 42 20.1
comp=Z,19nm,0.9s
T35M Bob Quinn 75.12 2 P **P 07 42 19.8 +0.6**
baz=183
SIT Sitka 75.18 359 P **P 07 42 19.7 +0.3**
baz=178
O52A Adamsville 75.22 38 IAmb IAmb 07 42 20.2
comp=Z,23nm,1.3s
CTAO Charters Tower 75.47 253 P 07 42 23.0 +0.9
CTAO IAmb IAmb 07 42 24.1
comp=Z,10nm,0.9s
ULM Lac du Bonnet 75.79 24 P **P 07 42 22.0 -1.1**
comp=Z,8.3nm,0.9s,baz=22,slow=18,SNR=6.2
ULM LR LR 08 11 20.8
comp=Z,93nm,18.4s,baz=252,slow=32
comp=Z,8.3nm,0.9s
S34M Telegraph Cree 76.03 1 P **P 07 42 24.5 +0.2**
baz=182
S31K Pelican 76.11 358 P **P 07 42 25.6 +0.8**
baz=177
R58B Mineral 76.30 42 IAmb IAmb 07 42 26.9
comp=Z,13nm,1.0s
CHIR Chirikof Islan 76.36 347 P **P 07 42 27.3 +1.0**
baz=158
CHNA Chernabura Isl 76.38 345 P **P 07 42 26.8 +0.5**
baz=154
R32K Eaglecrest 76.39 359 P **P 07 42 26.9 +0.5**
baz=178
DLBC Dease Lake 76.58 2 P **P 07 42 28.3 +0.7**
comp=Z,63nm,0.8s,baz=164,slow=18,SNR=3.2
DLBC Dease Lake 76.58 2 P **P 07 42 28.1 +0.5**
baz=183
STKA Stephens Creek 76.71 241 LR LR 08 12 37.8
comp=Z,75nm,18.8s,baz=28,slow=33
SDPT Sand Point 77.07 344 P **P 07 42 30.3 +0.1**
baz=153
Q32M Nakina River 77.07 0 P **P 07 42 30.7 +0.2**
baz=181
P57A Homestead Farm 77.13 41 IAmb IAmb 07 42 31.9
comp=Z,21nm,1.2s
TBO Thunder Bay 77.22 28 IAmb IAmb 07 42 31.5
comp=Z,16nm,1.0s
TOAD Toad River Com 77.22 4 P **P 07 42 31.6 +0.5**
baz=187
PAOC Oil Creek Stat 77.37 38 IAmb IAmb 07 42 32.7
comp=Z,16nm,0.8s
CHGN Chignik 77.42 346 P **P 07 42 32.8 +0.6**
baz=155
FALS False Pass 77.43 343 P **P 07 42 32.6 +0.3**
baz=150
UNV Unalaska Valle 77.49 340 P **P 07 42 32.9 +0.3**
baz=148
R33M Jennings River 77.52 1 IAmb IAmb 07 42 34.9
comp=Z,9.0nm,1.1s
R33M Jennings River 77.52 1 P **P 07 42 32.8 -0.1**
baz=182
KDAK Kodiak Island 77.62 349 LR LR 08 11 44.5
comp=Z,89nm,18.2s,baz=154,slow=32
KDAK Kodiak Island 77.62 349 P **P 07 42 33.2 0.0**
baz=161
P32M Atlin 77.70 360 P **P 07 42 33.3 -0.5**
baz=179
LIRD Liard River Hi 77.73 4 P **P 07 42 33.7 -0.2**
baz=187
R18K Karluk 77.75 348 P **P 07 42 34.6 +0.6**
baz=159
S12K Black Hills 77.80 344 P **P 07 42 33.8 -0.6**
baz=152
P29M Windy Craggy 77.84 358 P **P 07 42 34.6 +0.1**
baz=175
PNL Peninsula 77.95 357 P **P 07 42 35.4 +0.2**
baz=174
R17L Mt. Peulik Vol 78.19 347 P **P 07 42 36.4 -0.1**
baz=157
P30M Million Dollar 78.30 358 P **P 07 42 37.5 +0.4**
baz=176
WTLY Watson Lake, Y 78.30 2 P **P 07 42 37.0 -0.1**
baz=184
Q23K Middleton Isla 78.31 353 P **P 07 42 37.0 0.0**
baz=167
P33M Teslin, Yukon 78.32 0 IAmb IAmb 07 42 38.9
comp=Z,13nm,1.1s
P33M Teslin, Yukon 78.32 0 P **P 07 42 37.3 0.0**
baz=180
Q20K Shuyak Island 78.37 350 P **P 07 42 36.4 -1.1**
baz=161
PINM Pinnacle 78.43 356 P **P 07 42 35.7 -2.1**
baz=173
O29M Mount Kennedy 78.55 357 P **P 07 42 36.9 -1.6**
baz=174
KOTAN Kotaneelee Air 78.58 5 P **P 07 42 37.2 -1.4**
baz=188
KAIM Kayak Island 78.59 354 P **P 07 42 37.2 -1.4**
baz=169
MESA MESA 78.63 355 P **P 07 42 39.2 +0.1**
baz=171
N58A Sunbury 78.73 40 P **P 07 42 39.5 -0.4**
N58A IAmb IAmb 07 42 40.1
comp=Z,14nm,0.9s
M57A Sunshine Farm, 78.78 39 IAmb IAmb 07 42 40.6
comp=Z,13nm,0.9s
WHY Whitehorse 78.79 359 P **P 07 42 39.8 -0.1**
baz=178
Q18K Katmai Hardscr 78.87 348 P **P 07 42 39.7 -0.7**
baz=159
Q19K Cape Douglas, 78.89 349 P **P 07 42 39.9 -0.5**
baz=160
O30N Mendenhall 78.92 358 IAmb IAmb 07 42 42.1
comp=Z,10nm,1.1s
O30N Mendenhall 78.92 358 P **P 07 42 39.8 -0.8**
baz=177
HYT Haines Junctio 79.02 358 P **P 07 42 40.9 -0.3**
baz=176
O28M Mount Upton 79.10 356 P **P 07 42 40.6 -1.2**
baz=173
YUK6 Outpost Mounta 79.17 357 P **P 07 42 41.3 -0.9**
baz=175
Q16K King Salmon 79.22 348 P **P 07 42 41.6 -0.5**
baz=157
HOM Homer 79.24 351 P **P 07 42 41.6 -0.6**
baz=162
N32M Quiet Lake 79.27 360 P **P 07 42 41.8 -0.6**
baz=180
CRQE Cirque 79.29 355 P **P 07 42 42.3 -0.3**
baz=170
EYAK Cordova Ski Ar 79.33 354 P **P 07 42 42.8 +0.2**
baz=168
SEW Seward 79.35 352 P **P 07 42 42.9 +0.2**
baz=164
CTG Chitna Glacier 79.36 356 P **P 07 42 43.0 -0.1**
baz=172
P19K Oil Pt 79.50 350 P **P 07 42 43.5 -0.2**
baz=160
YUK8 Steele Glacier 79.58 357 P **P 07 42 44.2 -0.3**
baz=173
YUK4 Talbot Arm 79.59 357 P **P 07 42 44.1 -0.3**
baz=174
P18K Big Mountain, 79.61 349 P **P 07 42 44.7 +0.4**
baz=158
BMRM Bremner River 79.63 354 P **P 07 42 44.9 +0.5**
baz=169
N31M Braeburn, Yuko 79.63 359 P **P 07 42 44.4 0.0**
baz=177
N30M Aishikik Lake 79.64 358 P **P 07 42 43.9 -0.6**
baz=176
P17K Kvichak River 79.66 348 P **P 07 42 43.9 -0.5**
baz=157
SADO Sadowa 79.71 36 IAmb IAmb 07 42 45.3
comp=Z,16nm,0.9s
TGTN Hyland Airport 79.73 2 P **P 07 42 44.3 -0.6**
baz=184
O20K Slope Mountain 79.80 350 P **P 07 42 45.2 -0.2**
baz=161
GLI Glacier Island 79.81 353 P **P 07 42 44.6 -0.7**
baz=166
MCARA McCarthy VSAT 79.91 355 P **P 07 42 45.1 -0.7**
baz=170
PWL Port Wells 79.94 352 P **P 07 42 45.7 -0.3**
baz=165
YUK3 Moose Creek 80.11 356 P **P 07 42 47.1 -0.1**
baz=173
O19K Port Alsworth 80.20 349 P **P 07 42 47.3 -0.1**
baz=159
CAPN Captain Cook N 80.23 351 P **P 07 42 47.5 0.0**
baz=162
N25K Chitina, Valde 80.26 354 P **P 07 42 47.7 -0.2**
baz=169
KLU Klutina 80.28 354 P **P 07 42 47.4 -0.5**
baz=168
O17K Koliganek Bris 80.32 348 P **P 07 42 46.7 -1.4**
baz=157
M31M Drury Creek, Y 80.33 359 P **P 07 42 47.2 -0.9**
baz=178
RC01 Rabbit Creek A 80.34 352 P **P 07 42 46.3 -1.9**
baz=164
O16K Kokwok River B 80.36 347 P **P 07 42 46.3 -2.0**
baz=156
KNK Knik Glacier 80.49 353 P **P 07 42 47.1 -1.9**
baz=165
BDFB Brasilia 80.58 103 P **P 07 42 50.2 -0.5**
comp=Z,1.5nm,0.5s,baz=329,slow=7.4,SNR=4.4
BDFB LR LR 08 14 25.5
comp=Z,38nm,21.4s,baz=180,slow=33
comp=Z,1.5nm,0.5s
M29M Somme Creek 80.68 357 P **P 07 42 48.4 -1.7**
baz=175
PMR Palmer 80.75 352 P **P 07 42 50.0 -0.2**
baz=164
M30M Minto, Yukon 80.75 358 P **P 07 42 50.0 -0.4**
baz=176
MMPY Sheldon Lake, 80.75 1 P **P 07 42 50.2 -0.2**
baz=182
P08K Saint George I 80.75 341 P **P 07 42 49.6 -0.9**
baz=145
SCM Sheep Creek Mo 80.76 353 P **P 07 42 49.9 -0.6**
baz=166
M23K Glacier View 80.77 353 P **P 07 42 50.2 -0.3**
baz=166
BVCY Beaver Creek 80.77 356 P **P 07 42 50.4 -0.1**
baz=172
M27K Edge Creek, AK 80.78 356 P **P 07 42 50.2 -0.5**
baz=171
N20K Mount Spurr 80.80 351 P **P 07 42 50.2 -0.5**
baz=162
SPCR Spurr Chakacha 80.80 351 P **P 07 42 50.2 -0.5**
baz=162
N19K Bonanza Creek 80.81 350 P **P 07 42 50.0 -0.8**
baz=159
SUA Susitna One 80.84 351 P **P 07 42 50.2 -0.8**
baz=163
M24K Tolsona, Glenn 80.91 354 P **P 07 42 50.7 -0.6**
baz=167
M26K Nabesna, AK 80.91 355 P **P 07 42 50.5 -0.7**
baz=170
N18K Kilae Creek 80.93 349 P **P 07 42 50.4 -1.0**
baz=158
M22K Willow 81.03 352 P **P 07 42 51.1 -0.7**
baz=164
N17K Nushagak Hills 81.04 348 P **P 07 42 51.0 -0.9**
baz=157
HARP HAARP 81.09 354 P **P 07 42 51.7 -0.5**
baz=168
N16K Nishlik Lake 81.31 347 P **P 07 42 52.6 -0.8**
baz=155
N15K Kwethluk River 81.31 347 P **P 07 42 52.4 -1.0**
baz=154
L29M L29M 81.33 358 IAmb IAmb 07 42 54.9
comp=Z,18nm,1.1s
L29M L29M 81.33 358 P **P 07 42 52.5 -1.0**
baz=175
SKT Skwentna 81.44 351 P **P 07 42 53.1 -1.0**
baz=162
SPIA Saint Paul Isl 81.45 341 P **P 07 42 52.3 -1.8**
baz=144
N14K Kuskokwak Cree 81.45 346 P **P 07 42 52.3 -1.8**
baz=152
L27K Beaver Creek, 81.48 356 P **P 07 42 52.7 -1.5**
baz=171
MENT Mentasta 81.50 355 IAmb IAmb 07 42 55.6
comp=Z,17nm,0.9s
WAT6 Susitna Watana 81.54 353 P **P 07 42 53.1 -1.7**
baz=166
L26K Log Cabin Wild 81.56 355 P **P 07 42 53.6 -1.1**
baz=170
J59A Piesco 81.60 39 IAmb IAmb 07 42 55.2
comp=Z,9.9nm,0.8s
M18K Stony River 81.67 349 P **P 07 42 53.8 -1.5**
baz=158
CUT Chulitna 81.68 352 P **P 07 42 54.5 -0.7**
baz=163
PAX Paxson 81.68 354 P **P 07 42 54.4 -1.0**
baz=168
WRGLY Wrigley 81.70 4 P **P 07 42 54.1 -1.2**
baz=189
MAYO Mayo, Yukon 81.75 359 P **P 07 42 54.9 -0.7**
baz=177
M19K Big River Lodg 81.82 350 P **P 07 42 55.0 -1.0**
baz=159
M16K Timber Creek 81.84 348 P **P 07 42 54.9 -1.3**
baz=155
WAT1 Susitna Watana 81.87 353 P **P 07 42 54.5 -1.9**
baz=165
M17K Holitna River 81.89 348 P **P 07 42 54.8 -1.6**
baz=157
M15K Kasigluk River 81.91 347 P **P 07 42 54.8 -1.7**
baz=154
YKA Yellowknife Ar 81.92 9 P **P 07 42 56.0 -0.5**
comp=Z,3.9nm,0.8s,baz=194,slow=4.6,SNR=18
comp=Z,3.9nm,0.8s
DHY Denali Highway 81.98 353 P **P 07 42 54.6 -2.5**
baz=166
K29M Barlow Dome 82.04 358 P **P 07 42 56.8 -0.5**
baz=176
L19K White Mountain 82.15 350 P **P 07 42 56.7 -1.1**
baz=159
M14K Bethel 82.25 346 P **P 07 42 57.4 -0.9**
baz=152
L20K Farewell, AK 82.27 350 P **P 07 42 57.9 -0.5**
baz=160
M13K Dall Lake 82.28 345 P **P 07 42 57.4 -1.0**
baz=151
DAWY Dawson 82.34 357 P **P 07 42 57.9 -0.9**
baz=174
RIDG Independent Ri 82.38 355 P **P 07 42 57.3 -1.7**
baz=169
PPLA Purkeypile 82.42 351 P **P 07 42 58.0 -1.3**
baz=162,SNR=6.6
K27K Chicken 82.46 356 P **P 07 42 58.5 -0.8**
baz=171
RND Reindeer 82.47 353 IAmb IAmb 07 42 59.6
comp=Z,6.6nm,0.9s
L18K Granite Mounta 82.51 349 P **P 07 42 58.9 -0.7**
baz=157
MDP Montagnes des 82.51 82 LR LR 08 15 22.4
comp=Z,158nm,18.0s,baz=257,slow=33
K24K Donnelly Dome 82.53 354 P **P 07 42 58.1 -1.7**
baz=168
SCRK Sand Creek 82.55 355 P 07 43 00.0 +0.1
SCRK IAmb IAmb 07 43 00.9
comp=Z,13nm,0.8s
SCRK Sand Creek 82.55 355 P **P 07 42 58.6 -1.3**
baz=169,SNR=11
L16K Owhat River 82.58 348 P **P 07 42 58.8 -1.1**
baz=155
VNA3 Neumayer Olymp 82.65 164 P **P 07 42 59.8 -0.7**
TRF Thorofare Moun 82.69 352 P **P 07 42 59.1 -1.6**
baz=163
L17K Donlin 82.73 348 P **P 07 42 59.8 -0.9**
baz=156
J30M Hart River 82.74 359 P **P 07 43 00.1 -0.9**
baz=177
MCK McKinley 82.79 353 P **P 07 43 00.1 -1.0**
baz=165
L14K Kuka Creek 82.94 346 P **P 07 43 01.1 -0.7**
baz=152
M11K Mekoryuk 82.96 344 P **P 07 43 01.3 -0.7**
baz=148
L15K Ungalak Mounta 82.97 347 P **P 07 43 01.2 -0.8**
baz=153
J26L Joseph Creek 83.03 355 IAmb IAmb 07 43 03.5
comp=Z,9.5nm,0.8s
J26L Joseph Creek 83.03 355 P **P 07 43 01.8 -0.6**
baz=170,SNR=13
K20K Telida 83.13 351 P **P 07 43 01.4 -1.4**
baz=160
HDA Harding Lake 83.24 354 IAmb IAmb 07 43 09.7
comp=Z,9.3nm,0.8s
HDA Harding Lake 83.24 354 P **P 07 43 02.4 -1.0**
baz=167,SNR=6.3
K17K Iditarod 83.26 349 P **P 07 43 02.7 -0.9**
baz=156
J25K Salcha River, 83.29 355 IAmb IAmb 07 43 04.2
comp=Z,8.5nm,0.8s
J25K Salcha River, 83.29 355 P **P 07 43 02.5 -1.2**
baz=168,SNR=11
CHUM Lake Minchumin 83.37 352 P **P 07 43 02.8 -1.3**
baz=162
VNA1 Neumayer--Stat 83.38 164 P **P 07 43 04.3 +0.1**
I30M Mount Dempster 83.39 359 P **P 07 43 03.3 -1.1**
baz=177,SNR=16
BPAW Bear Paw Mtn. 83.40 352 IAmb IAmb 07 43 03.8
comp=Z,5.3nm,0.8s
BPAW Bear Paw Mtn. 83.40 352 P **P 07 43 03.4 -0.9**
baz=163,SNR=5.7
WRH Wood River Hil 83.42 353 IAmb IAmb 07 43 05.0
comp=Z,16nm,1.2s
K15K Wolf Creek Mou 83.53 347 P **P 07 43 03.7 -1.2**
baz=153
ILAR Eielson Array 83.58 354 P **P 07 43 04.5 -0.6**
comp=Z,5.0nm,0.8s,baz=179,slow=5.4,SNR=48
comp=Z,5.0nm,0.8s
I29M Ogilvie Camp, 83.59 358 IAmb IAmb 07 43 05.6
comp=Z,10nm,1.1s
I29M Ogilvie Camp, 83.59 358 P **P 07 43 04.0 -1.2**
baz=175
NEA2 Nenana 83.64 353 IAmb IAmb 07 43 05.3
comp=Z,7.7nm,0.8s
NEA2 Nenana 83.64 353 P **P 07 43 04.9 -0.6**
baz=165,SNR=8.8
J18K Innoko River 83.67 350 P **P 07 43 04.3 -1.4**
baz=157
I28M Miner Creek 83.75 357 IAmb IAmb 07 43 06.6
comp=Z,7.7nm,0.8s
I28M Miner Creek 83.75 357 P **P 07 43 05.3 -0.8**
baz=173,SNR=8.9
COLA College 83.78 354 P **P 07 43 05.6 -0.5**
baz=166
I26K Coal Creek Min 83.80 356 P **P 07 43 05.0 -1.2**
baz=170
K13K Kusilvak Mount 83.91 346 P **P 07 43 06.2 -0.7**
baz=150
J20K Nowita River 83.92 351 P **P 07 43 06.0 -0.9**
baz=160
H31M Peel River 83.94 359 IAmb IAmb 07 43 08.2
comp=Z,17nm,1.4s
H31M Peel River 83.94 359 P **P 07 43 06.4 -0.6**
baz=179
J19K Poorman 83.98 350 P **P 07 43 06.0 -1.1**
baz=158
POKR Poker Plat Res 83.98 354 P **P 07 43 06.8 -0.4**
baz=166
I27K Kandik River 83.99 356 P **P 07 43 06.4 -0.9**
baz=172,SNR=9.9
J17K VABM Dome 84.03 349 P **P 07 43 06.8 -0.7**
baz=155
SNAA Sanae 84.05 166 P **P 07 43 07.6 -0.2**
SNAA Sanae 84.05 166 P 07 43 07.7 -0.1
SNAA Sanae 84.05 166 P **P 07 43 07.8 +0.1**
comp=Z,14nm,0.8s,baz=230,slow=5.3,SNR=60
SNAA LR LR 08 14 48.6
comp=Z,73nm,21.3s,baz=289,slow=32
comp=Z,14nm,0.8s
PRP Porcupine Dome 84.19 355 P 07 43 08.4 0.0
PRP IAmb IAmb 07 43 09.6
comp=Z,12nm,1.3s
PRP Porcupine Dome 84.19 355 P **P 07 43 07.8 -0.7**
baz=168
I23K Minto, Yukon-K 84.21 353 IAmb IAmb 07 43 08.5
comp=Z,9.2nm,0.8s
I23K Minto, Yukon-K 84.21 353 P **P 07 43 08.2 -0.2**
baz=164,SNR=6.8
J16K Anvik River 84.22 348 P **P 07 43 07.8 -0.7**
baz=154
MLY Manley 84.26 353 P **P 07 43 08.2 -0.5**
baz=163,SNR=19
SHEM Shemya Is, Ala 84.29 331 LR LR 08 13 24.7
comp=Z,61nm,19.4s,baz=111,slow=30
J14K Nanvaranak Lak 84.37 346 P **P 07 43 08.5 -0.6**
baz=151
H29M Whitestone 84.45 358 IAmb IAmb 07 43 10.3
comp=Z,13nm,1.1s
H29M Whitestone 84.45 358 P **P 07 43 08.1 -1.4**
baz=175
I20K Naaghedeneel 84.55 351 P **P 07 43 09.5 -0.5**
baz=160
EPYK Eagle Plains 84.55 359 P **P 07 43 09.1 -1.0**
baz=176
I21K Tanana 84.56 352 P **P 07 43 09.8 -0.4**
baz=162,SNR=6.4
H27K Steamboat Moun 84.61 357 P **P 07 43 10.0 -0.5**
baz=172,SNR=11
H24K Noodor Dome 84.72 354 P **P 07 43 10.6 -0.4**
baz=166,SNR=11
I17K Unalakleet 84.78 348 P **P 07 43 10.7 -0.6**
baz=154
GCSA Galena City Sc 84.88 350 P **P 07 43 11.2 -0.5**
baz=157
H23K Yukon River 84.89 353 P **P 07 43 10.5 -1.3**
baz=164
H25L Birch Creek 84.95 355 P **P 07 43 11.2 -0.8**
baz=168
TROLL Troll, Antarti 84.98 167 ⇑P **P 07 43 12.4 -0.2**
comp=Z,571nm,0.8s
G31M Satah River 85.07 360 IAmb IAmb 07 43 12.7
comp=Z,12nm,0.8s
G31M Satah River 85.07 360 P **P 07 43 12.0 -0.6**
baz=179,SNR=6.1
H21K Melozitna Rive 85.13 352 P **P 07 43 12.5 -0.5**
baz=161

G29M	Pine Creek	85.13 358	P	P	07 43 12.4	-0.6	
	baz=175						
G30M	tAoh Zraii Nji	85.15 359	P	P	07 43 12.5	-0.6	
	baz=177						
H22K	Ishtalitna Cre	85.17 353	P	P	07 43 12.9	-0.3	
	baz=162						
G27K	Doyon Strip	85.19 357	IAmb	IAmb	07 43 14.0		
	comp=Z,5.1nm,0.8s						
G27K	Doyon Strip	85.19 357	P	P	07 43 13.6	+0.2	
	baz=172,SNR=5.6						
H20K	Anotleneega Mo	85.27 351	P	P	07 43 12.8	-0.9	
	baz=159						
G25K	Bearman Lake	85.47 355	P	P	07 43 13.4	-1.2	
	baz=167						
G26K	Porcupine Rive	85.47 356	P	P	07 43 13.6	-1.1	
	baz=170,SNR=5.4						
ASAR	Alice Springs	85.50 247	P	P	07 43 16.3	+0.3	
ASAR	Alice Springs	85.50 247	P	P	07 43 16.4	+0.4	
	comp=Z,3.3nm,0.8s,baz=117,slow=4.4,SNR=18						
ASAR			LR	LR	08 20 18.9		
	comp=Z,45nm,18.6s,baz=126,slow=35						
	comp=Z,3.3nm,0.8s						
H18K	Honhosa River	85.51 350	P	P	07 43 14.5	-0.4	
	baz=156						
G24K	Hadweenzic Riv	85.53 354	P	P	07 43 14.0	-1.0	
	baz=166						
H19K	Roundabout Mou	85.54 350	P	P	07 43 14.2	-0.8	
	baz=158						
F31M	Tsiigehtchic	85.58 360	IAmb	IAmb	07 43 15.7		
	comp=Z,14nm,1.0s						
F31M	Tsiigehtchic	85.58 360	P	P	07 43 15.0	-0.2	
	baz=179,SNR=6.6						
H17K	Granite Mounta	85.59 349	P	P	07 43 14.8	-0.5	
	baz=154						
JAY	Jayapura	85.68 269	P	P	07 43 17.3	+0.3	
	comp=Z,8.2nm,0.9s,baz=325,slow=8.7,SNR=1.9						
	comp=Z,8.2nm,0.9s						
H16K	Elim	85.76 348	P	P	07 43 15.9	-0.3	
	baz=152						
F30M	Barrier River	85.78 359	P	P	07 43 16.1	-0.1	
	baz=177						
G23K	Bananza Creek	85.80 353	P	P	07 43 16.3	0.0	
	baz=164						
F28M	Old Crow	85.91 357	IAmb	IAmb	07 43 17.8		
	comp=Z,8.0nm,0.8s						
F28M	Old Crow	85.91 357	P	P	07 43 16.3	-0.6	
	baz=173,SNR=5.9						
BMAR	Burnt Mountain	86.00 356	P	P	07 43 17.5	+0.2	
G21K	Allakaket	86.04 352	IAmb	IAmb	07 43 18.6		
	comp=Z,10nm,0.9s						
G21K	Allakaket	86.04 352	P	P	07 43 16.9	-0.6	
	baz=160						
G22K	Bettles	86.17 353	P	P	07 43 17.8	-0.3	
	baz=162						
G19K	Purcell Mounta	86.21 350	P	P	07 43 18.1	-0.2	
	baz=157						
F26K	Sheenjek River	86.23 356	IAmb	IAmb	07 43 20.4		
	comp=Z,15nm,1.1s						
F26K	Sheenjek River	86.23 356	P	P	07 43 17.5	-1.0	
	baz=169,SNR=7.1						
G17K	Kiwalik Mounta	86.23 349	P	P	07 43 17.7	-0.8	
	baz=154						
G18K	Tagagawik	86.24 350	P	P	07 43 18.1	-0.4	
	baz=156						
F25K	Christian Rive	86.24 355	P	P	07 43 17.7	-0.9	
	baz=168						
WRAB	Tennant Creek	86.26 250	P	P	07 43 20.7	+0.9	
WRAB			IAmb	IAmb	07 43 20.9		
	comp=Z,6.2nm,0.9s						
WRA	Warramunga Arr	86.26 250	P	P	07 43 20.6	+0.8	
WRA	Warramunga Arr	86.26 250	P	P	07 43 20.4	+0.6	
	comp=Z,5.1nm,0.9s,baz=108,slow=4.2,SNR=18						
	comp=Z,5.1nm,0.9s						
COLD	Coldfoot	86.32 353	IAmb	IAmb	07 43 20.5		
	comp=Z,12nm,1.1s						
COLD	Coldfoot	86.32 353	P	P	07 43 18.6	-0.2	
	baz=164						
F24K	Squaw Lake	86.36 354	P	P	07 43 18.6	-0.5	
	baz=166						
G15K	Niukluk	86.45 347	P	P	07 43 19.9	+0.3	
	baz=151						
INK	Inuvik	86.45 360	P	P	07 43 18.5	-0.9	
	comp=Z,10.0nm,1.0s,baz=213,slow=5.0,SNR=8.6						
	comp=Z,10.0nm,1.0s						
INK	Inuvik	86.45 360	P	P	07 43 18.8	-0.7	
	baz=179,SNR=7.1						
G16K	Koyuk River	86.46 348	P	P	07 43 19.7	+0.1	
	baz=152						
E27K	Coleen River	86.56 357	P	P	07 43 20.2	+0.1	
	baz=172,SNR=6.3						
E29M	Blow River	86.61 358	IAmb	IAmb	07 43 21.5		
	comp=Z,14nm,1.1s						
E29M	Blow River	86.61 358	P	P	07 43 20.1	-0.1	
	baz=175,SNR=5.7						
F21K	Alatna River	86.70 352	P	P	07 43 20.8	+0.1	
	baz=160,SNR=5.7						
E25K	Arctic Village	86.75 355	P	P	07 43 20.6	-0.4	
	baz=168						
F22K	John River	86.81 353	P	P	07 43 20.8	-0.5	
	baz=162						
F20K	Avaraart Lake	86.85 351	P	P	07 43 20.6	-0.8	
	baz=158						
E28M	Babbage River	86.88 358	P	P	07 43 21.1	-0.5	
	baz=174						
F19K	Shaleruckik Mo	86.95 350	P	P	07 43 21.7	-0.2	
	baz=156						
E24K	Your Creek	86.96 354	P	P	07 43 21.8	-0.2	
	baz=165						
F18K	Selawik	87.05 350	P	P	07 43 22.3	-0.1	
	baz=155						
E23K	Chandalar	87.06 354	P	P	07 43 22.4	-0.2	
	baz=164						
GAMB	Gambell	87.23 344	P	P	07 43 23.3	0.0	
	baz=144						
F14K	Arctic Creek	87.35 347	P	P	07 43 24.1	+0.2	
	baz=148						
E19K	Redstone River	87.45 351	P	P	07 43 25.1	+0.7	
	baz=157						
D28M	Stokes Point	87.58 358	P	P	07 43 25.1	+0.2	
	baz=174						
D27M	Malcolm River	87.58 357	P	P	07 43 24.6	-0.4	
	baz=172						
TOLK	Toolik Lake Re	87.61 354	P	P	07 43 24.8	-0.4	
	baz=164						
C36M	Paulatuk	87.73 3	P	P	07 43 25.4	-0.2	
	baz=188						
TNA	Tin City	87.78 346	P	P	07 43 25.9	-0.1	
	baz=147						
E17K	Hotham Inlet	87.86 349	P	P	07 43 26.5	+0.1	
	baz=153						
E21K	Killik River	87.92 352	P	P	07 43 26.5	-0.2	
	baz=160						
E18K	Tukpahlearik C	87.95 350	P	P	07 43 26.8	0.0	
	baz=154						
D25K	Kavik River	88.00 355	P	P	07 43 26.5	-0.5	
	baz=167						
D24K	Happy Valley	88.04 354	P	P	07 43 26.9	-0.2	
	baz=165						
E20K	Nigu River	88.04 352	P	P	07 43 27.3	0.0	
	baz=158						
D23K	Nanushuk River	88.04 354	P	P	07 43 27.2	0.0	
	baz=163						
C27K	Jago River	88.11 356	P	P	07 43 27.5	0.0	
	baz=170						
D22K	Ayikyak River	88.18 353	P	P	07 43 28.2	+0.3	
	baz=161						
C26K	Camden Bay	88.47 356	P	P	07 43 29.8	+0.6	
	baz=169						
D20K	Etivluk River	88.52 352	P	P	07 43 29.6	+0.1	
	baz=158						
D19K	Kuna River	88.54 351	P	P	07 43 30.2	+0.6	
	baz=156						
C24K	Franklin Bluff	88.58 355	P	P	07 43 30.7	+1.1	
	baz=165						
D17K	Noatak River	88.64 349	P	P	07 43 30.7	+0.7	
	baz=152						
C21K	Knifeblade Rid	88.69 352	P	P	07 43 31.0	+0.8	
	baz=159						
C23K	Itkillik River	88.87 354	P	P	07 43 32.1	+1.0	
	baz=163						
B21K	Ikpikpuk River	89.11 353	P	P	07 43 33.0	+0.8	
	baz=159						
C18K	Utukok River	89.16 350	P	P	07 43 32.8	+0.2	
	baz=153						
C19K	Lookout Ridge	89.32 351	P	P	07 43 34.5	+1.3	
	baz=155						
C17K	DeLong Mountai	89.34 349	P	P	07 43 34.3	+1.0	
	baz=151						
C16K	Lisburne Hills	89.56 349	P	P	07 43 35.4	+1.1	
	baz=149						
B22K	Teshekpuk Lake	89.65 353	P	P	07 43 35.8	+1.1	
	baz=161						
B20K	Meade River	89.80 352	P	P	07 43 36.8	+1.4	
	baz=157						
B18K	Kokolik River	89.90 350	P	P	07 43 37.0	+1.1	
	baz=153						
A36M	Sachs Harbour	90.31 2	P	P	07 43 37.8	+0.1	
	baz=187						
A22K	Sinclair Lake	90.45 353	P	P	07 43 39.2	+0.8	
	baz=159						
A19K	Wainwright	90.54 351	P	P	07 43 39.2	+0.4	
	baz=153						
PETK	Petropavlovsk-	92.73 326	P	P	07 43 50.3	+0.9	
	comp=Z,0.9nm,0.6s,baz=156,slow=5.4,SNR=2.1						
	comp=Z,0.9nm,0.6s						
MAW	Mawson	93.45 186	P	P	07 43 52.5	-0.2	
	comp=Z,2.6nm,0.5s,baz=186,slow=5.6,SNR=4.9						
	comp=Z,2.6nm,0.5s						
FITZ	Fitzroy Crossi	94.63 249	P	P	07 43 59.1	0.0	
	comp=Z,2.2nm,0.9s,baz=69,slow=12,SNR=3.0						
	comp=Z,2.2nm,0.9s						
FRB	Frobisher Bay	95.68 24	LR	LR	08 22 06.1		
	comp=Z,66nm,20.7s,baz=281,slow=32						
ASAJ	Asahikawa	98.66 314	LR	LR	08 26 17.2		
	comp=Z,25nm,18.3s,baz=175,slow=34						
MA2	Magadan	98.91 330	LR	LR	08 20 38.8		
	comp=Z,49nm,21.8s,baz=132,slow=30						
SEY	Seymchan	99.41 333	LR	LR	08 20 40.7		
	comp=Z,36nm,21.6s,baz=152,slow=30						
NJ2	Nanjing	114.61 297	*e*P	PKiKP	07 49 19.2	+1.1	
NJ2			pmax	pmax			
	comp=Z,7.0nm,0.5s						
HHC	Hu-ho-hao-te	120.90 307	*e*P	PKPdf	07 49 30.3	+0.1	
SONM	Songino Array	123.87 316	PKP	PKPdf	07 49 35.2	-0.5	
	comp=Z,2.3nm,0.8s,baz=80,slow=1.8,SNR=9.1						
CD2	Chengdu	127.41 295	PKP	PKPdf	07 49 43.0	+0.1	
PZH	PanZhiHua	129.06 290	PKP	PKPdf	07 49 46.6	+0.4	
GTA	Gaotai	130.00 306	PKP	PKiKP	07 49 48.6	+0.2	
ZALV	Zalesovo Beam	134.13 330	PKP	PKPdf	07 49 53.9	-0.8	
	comp=Z,1.6nm,0.7s,baz=42,slow=2.3,SNR=6.2						
BTNL	Ternell	134.39 36	*d*PKPdf	PKPdf	07 49 55.0	-0.4	
FINES	FINESS Array B	134.53 14	PKP	PKPdf	07 49 54.4	-0.9	
	comp=Z,1.5nm,0.8s,baz=66,slow=4.8,SNR=4.7						
TORD	Torodi Ar. Bea	136.19 90	PKP	PKPdf	07 49 60.0	+0.2	
	comp=Z,2.1nm,0.9s,baz=323,slow=2.8,SNR=7.4						
MKAR	Makanchi Array	139.49 322	PKhKP	PKPpre	07 49 59.7		
	comp=Z,1.1nm,0.8s,baz=18,slow=4.2,SNR=2.2						
MKAR			PKP	PKPdf	07 50 04.5	-0.5	
	comp=Z,1.8nm,0.7s,baz=48,slow=1.8,SNR=9.6						
BVAR	Borovoye Array	140.92 338	PKhKP	PKPpre	07 49 59.2		
	comp=Z,1.5nm,0.6s,baz=100,slow=5.0,SNR=6.1						
BVAR			PKP	PKPdf	07 50 07.4	0.0	
	comp=Z,2.8nm,0.8s,baz=32,slow=3.6,SNR=5.2						
RNPP9	Sopachiv	143.07 22	PKP	PKPdf	07 50 11.3	+0.1	
RNPP1	Kostyukhnivka	143.07 22	PKP	PKPdf	07 50 11.3	+0.1	
AKASG	Malin Array Be	144.80 20	PKP	PKPab	07 50 12.1	-1.0	
	comp=Z,11nm,0.7s,baz=326,slow=3.3,SNR=50						
KIEV	Kiev	144.80 20		PKPab	07 50 11.9	-1.2	
KIEV	Kiev	144.80 20	⇓P	PKPab	07 50 11.8	-1.4	
TARG	Taragay, Kyrgy	144.92 318	PKPbc	PKPbc	07 50 14.6	+0.1	
DRGR		145.35 30	⇑P	PKPbc	07 50 14.4	-0.9	
TKM2	Tokmak 2	145.60 321	P	PKPdf	07 50 16.0	-0.2	
	SNR=43						
MARR	Marisel-Cluj	145.63 30	⇓P	PKPdf	07 50 15.3	-0.7	
BZS	Buzias	145.65 32	⇓P	PKPdf	07 50 15.3	-0.6	
SURR	Turduc	145.81 32	⇓P	PKPdf	07 50 15.5	-0.7	
RAFF	Raffo Rosso	145.83 30		PKPdf	07 50 16.6	+0.1	
BURAR	Bucovina Array	145.85 27	PKPdf	PKPdf	07 50 16.5	+0.2	
BURAR	Bucovina Array	145.85 27	⇑P	PKPbc	07 50 17.0	+0.1	
USP	Ospenovka	146.03 323	P	PKPdf	07 50 16.7	0.0	
	SNR=21						
KBK	Karagaybulak	146.14 322	P	PKPdf	07 50 17.6	+0.5	
	SNR=9.7						
MDVR	Moldovita	146.28 33	⇓P	PKPdf	07 50 17.0	-0.1	
TIP	Timpagrande	146.62 45	⇑P	PKPdf	07 50 18.0	+0.2	
UCH	Uchtor	146.66 321	P	PKPbc	07 50 20.2	+0.2	
	SNR=24						
EKS2	Erkin-Say	146.82 323	P	PKPbc	07 50 20.0	0.0	
	SNR=17						
BOVS	Bovan	147.04 35	⇑P	PKPdf	07 50 18.8	+0.4	
KSH	Kashi	147.27 316	PKPbc	PKPab	07 50 22.6	-0.5	
KSH			pPKP	sPKPab	07 50 29.2	+3.4	
KSH			sPKP		07 50 33.7		
ARR	Arges	147.31 30	⇓P	PKPbc	07 50 20.3	-0.9	
ABKAR	Akbulak array	147.48 344	PKPdf	PKPdf	07 50 18.9	0.0	
MLR	Muntele Rosu	147.82 28		PKPdf	07 50 19.7	-0.1	
MLR	Muntele Rosu	147.82 28	⇓P	PKPdf	07 50 19.7	-0.1	
KKAR	Karatay Array	148.34 326		PKPbc	07 50 23.1	-0.9	
CFR	Carcaliu	149.02 26	⇓P	PKPbc	07 50 24.8	-0.8	
TPGR	Topolog	149.40 26	⇑P	PKPbc	07 50 25.6	-1.0	
TIRR	Tirgusor	149.71 27	⇑P	PKPdf	07 50 22.5	-0.1	
GAR	Garm	151.16 320		PKPbc	07 50 31.3	+0.1	
CHGR	Chuyangaron	152.07 321		PKPbc	07 50 32.8	-0.5	
SIMJ	Simiganj	152.16 321		PKPbc	07 50 33.0	-0.5	
BRTR	Keskin Array B	155.81 26	PKP	PKPdf	07 50 31.1	-0.9	
	comp=Z,0.9nm,0.7s,baz=347,slow=5.0,SNR=2.8						
BRTR			PKPab	PKPab	07 50 57.4	-1.1	
	comp=Z,0.3nm,0.4s,baz=326,slow=24,SNR=1.8						

*IDC **03** 07:33:31.3±0.8,0.°11S×125.°90E,h0km,mb4.2/10, mbtmp4.1/11,ML3.3/1,MS3.2/3,Error ellipse: s-maj=69.5km s-min=14.7km az=70.0*

*NEIC **03** 07:33:35.7±1.8,0.°22S±0.°09×125.°98E±0.°04,h35km±2km, mb4.1/12,Error ellipse: s-maj=16.9km s-min=4.3km az=157.0*

ISC 03 07:33:36.2±0.6,0.°22S±0.°08×125.°97E±0.°09,h44km,n33, σ1§25/31,mb4.1/14,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	1.71	55		Pn	07 34 03.5	-0.1
TOLI2	Tolitoli	5.36	284	Pn	Pn	07 34 53.9	+0.1
JAY	Jayapura	14.90	99	LR	LR	07 44 32.8	
	comp=Z,74nm,19.4s,baz=354,slow=44						
KNRA	Kununurra	15.60	170	Pn	Pn	07 37 12.6	-0.6
KNRA				IAmb	IAmb	07 37 20.7	
	comp=Z,17nm,1.4s						
FITZ	Fitzroy Crossi	17.77	181	P	Pn	07 37 39.5	-0.9
FITZ	Fitzroy Crossi	17.77	181	P	P	07 37 40.8	0.0
	comp=Z,0.1nm,0.3s,baz=3.9,slow=9.7,SNR=5.3						
	comp=Z,2.7nm,0.8s						
WB0	Warramunga Arr	21.10	157	P	P	07 38 16.7	-0.5
WB0				IAmb	IAmb	07 38 23.0	
	comp=Z,9.0nm,1.0s						
WRA	Warramunga Arr	21.24	158	P	P	07 38 14.5	-4.2
WRA	Warramunga Arr	21.24	158	P	P	07 38 19.9	+1.2
	comp=Z,4.9nm,0.6s,baz=337,slow=11,SNR=75						
	comp=Z,4.9nm,0.6s						
WB2	Warramunga Arr	21.25	158	P	P	07 38 19.5	+0.7
WB2				IAmb	IAmb	07 38 24.1	
	comp=Z,9.4nm,0.9s						
WR8	Warramunga Arr	21.31	157	P	P	07 38 19.5	0.0
WR8				IAmb	IAmb	07 38 22.1	
	comp=Z,5.9nm,0.8s						
AS31	Alice Springs	24.54	162	P	P	07 38 50.7	-1.3
ASAR	Alice Springs	24.54	162	P	P	07 38 50.7	-1.3
ASAR	Alice Springs	24.54	162	P	P	07 38 54.4	+2.4
	comp=Z,1.5nm,0.5s,baz=346,slow=10,SNR=34						
	comp=Z,1.5nm,0.5s						
CMAR	Chiang Mai Arr	32.41	306	LR	LR	07 55 36.9	
	comp=Z,25nm,18.1s,baz=230,slow=41						
BBOO	Buckleboo	33.78	165	P	P	07 40 13.7	-0.3
STKA	Stephens Creek	34.78	156	P	P	07 40 25.1	+2.4
	comp=Z,1.4nm,0.5s,baz=336,slow=10,SNR=4.6						
	comp=Z,1.4nm,0.5s						
KSRS	Korea Array	37.53	3	P	P	07 40 45.8	-0.3
	comp=Z,0.9nm,0.4s,baz=182,slow=9.4,SNR=4.7						
	comp=Z,0.9nm,0.4s						
SONM	Songino Array	50.81	343	P	P	07 42 33.0	+0.6
SONM				IAmb	IAmb	07 42 34.2	
	comp=Z,1.1nm,0.8s						
SONM	Songino Array	50.81	343	P	P	07 42 32.8	+0.4
	comp=Z,1.3nm,0.6s,baz=163,slow=8.8,SNR=5.0						
	comp=Z,1.3nm,0.6s						
MK31	Makanchi Array	60.39	327	P	P	07 43 40.5	-0.6
MKAR	Makanchi Array	60.39	327	P	P	07 43 40.3	-0.8
MKAR				PcP	PcP	07 44 25.5	-0.2
MKAR	Makanchi Array	60.39	327	P	P	07 43 41.4	+0.3
	comp=Z,2.4nm,0.6s,baz=119,slow=8.4,SNR=23						
	comp=Z,2.4nm,0.6s						
ZALV	Zalesovo Beam	63.77	334	P	P	07 44 03.2	-0.4
ZALV	Zalesovo Beam	63.77	334	P	P	07 44 03.5	-0.1
	comp=Z,0.7nm,0.3s,baz=120,slow=5.3,SNR=5.2						
	comp=Z,0.7nm,0.3s						
KURBB	Kurchatov Arra	64.67 329	P	P	07 44 10.1	+0.5	
	comp=Z,2.2nm,0.8s,baz=131,slow=6.0,SNR=17						
	comp=Z,2.2nm,0.8s						
KURK	Kurchatov	64.68 329	P	P	07 44 09.6	0.0	
KKAR	Karatay Array	65.63 319	P	P	07 44 15.9	-0.1	
BVAR	Borovoye Array	70.23 328	P	P	07 44 45.6	+1.0	
	comp=Z,1.3nm,0.6s,baz=140,slow=9.4,SNR=7.4						
	comp=Z,1.3nm,0.6s						
AB31	Akbulak array	74.74 322	P	P	07 45 10.4	-1.2	
AB31			IAmb	IAmb	07 45 13.3		
	comp=Z,2.0nm,0.8s						
ABKAR	Akbulak array	74.74 322	P	P	07 45 10.4	-1.2	
AKTO	Aktyubinsk	76.29 322	P	P	07 45 21.6	+1.1	
	comp=Z,5.7nm,0.8s,baz=124,slow=6.0,SNR=14						
	comp=Z,5.7nm,0.8s						
SPITS	Spitsbergen Ar	94.19 349	LR	LR	08 36 47.7		
	comp=Z,24nm,18.0s,baz=322,slow=40						

*ASRS **03** 07:35:20.0±0.7,54.°31N×86.°13E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 03 07:35:22.1±2.5,54.°33N×86.°19E,h0km,mbtmp3.3/2, ML2.9/2,Error ellipse: s-maj=19.4km s-min=12.3km az=50.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.89	245	I	I	07 41 00.0	
	baz=64,slow=321,SNR=2.6						
ZALV	Zalesovo Beam	0.89	245	Pg	Pg	07 35 37.6	-1.6
	1.5nm,0.3s,baz=62,slow=18,SNR=17						
ZALV				Lg	Lg	07 35 52.0	
	5.0nm,0.3s,baz=67,slow=28,SNR=13						
KURBB	Kurchatov Arra	5.97	235	Pn	Pn	07 36 52.5	+0.9
	0.2nm,0.3s,baz=50,slow=14,SNR=7.9						
KURBB				Lg	Lg	07 38 33.9	
	0.1nm,0.3s,baz=52,slow=32,SNR=4.5						
	1.8nm,0.2s						
MKAR	Makanchi Array	7.94	200	Pn	Pn	07 37 19.8	+1.1
	0.3nm,0.3s,baz=22,slow=15,SNR=16						
MKAR				Lg	Lg	07 39 34.6	
	0.1nm,0.3s,baz=225,slow=17,SNR=1.2						
	0.4nm,0.3s						

*TAP **03** 07:52:15.9,24.°67N×122.°39E,h12km,ML4.2,C*
*JMA **03** 07:52:16.7±0.1,25.°1N×122.°4E±0.°3,h32km±2km, MV3.7/12,NW OFF ISHIGAKIJIMA IS*
*IDC **03** 07:52:17.3±1.4,24.°14N×121.°68E,h0km,mb4.0/3, mbtmp3.9/4,ML3.5/1,MS3.3/5,Error ellipse: s-maj=94.9km s-min=23.8km az=76.0*

ISC 03 07:52:16.2±1.0,24.°64N±0.°02×122.°41E±0.°02,h10km±7km, n142,σ1§01/230,mb4.0/3,MS3.5/5,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	EOS2	0.27	217	*i* P	Pb	07 52 22.7	-0.4
EOS2				*i* S	Sg	07 52 28.0	+2.6
EOS3	EOS3	0.36	194	*i* P	Pb	07 52 24.4	-0.2
EGS		0.48	295	*i* P	Pg	07 52 25.2	-0.5
EGS				*i* S	Sg	07 52 32.3	+0.2
TWC	Suao	0.52	267	*i* P	Pg	07 52 25.4	-0.9
TWC				*i* S	Sg	07 52 33.5	+0.4
JYNG	Yonagunijimaku	0.52	111	P	Pg	07 52 27.0	+0.6
JYNG				S	Sg	07 52 34.1	+0.9
EOS4	EOS4	0.52	190	*i* P	Pb	07 52 27.4	+0.1
ESAO	Su ao	0.52	263	*i* P	Pg	07 52 25.7	-0.7
ESAO				S	Sb	07 52 33.8	-1.2
TWB1	Santiao Chiao	0.53	314	*i* P	Pg	07 52 26.1	-0.6
TWB1				*i* S	Sg	07 52 33.3	-0.4
YOJ	Yonaguni jima	0.57	108	P	Pg	07 52 27.7	+0.4
YOJ	Yonaguni jima	0.57	108	*i* P	Pg	07 52 27.9	+0.6
YOJ				S	Sg	07 52 35.6	+0.8
YOJ	Yonaguni jima	0.57	108	P	Pg	07 52 27.9	+0.6
YOJ				S	Sg	07 52 35.2	+0.4
EWUT	Wuta	0.61	252	P	Pg	07 52 28.0	-0.1
EWUT				S	Sb	07 52 36.7	-0.9
ILA	Ilan	0.62	282	*e*S	Sb	07 52 37.1	-0.7
TIPB	Shuangxi	0.63	302	*e*P	Pg	07 52 28.1	-0.4
TIPB				*e*S	Sg	07 52 36.7	0.0
ENA	Nanau	0.65	251	*i* P	Pg	07 52 28.0	-0.8
ENA				S	Sb	07 52 37.6	-1.1
SXI1	Grass Mountain	0.67	313	P	Pg	07 52 29.1	-0.1
SXI1				S	Sg	07 52 38.4	+0.4
TWE	Neicheng	0.68	277	*i* P	Pg	07 52 28.6	-0.9
TWE				*i* S	Sg	07 52 38.4	-0.1
EAHA	Aohua	0.69	244	*i* P	Pg	07 52 29.2	-0.4
EAHA				S	Sb	07 52 39.2	-0.6
WFSB	Wu-fen Shan	0.72	307	*i* P	Pg	07 52 30.5	+0.4
WFSB				*i* S	Sg	07 52 39.8	+0.3
FUSB	Fushanzhiwuyua	0.76	279	*i* P	Pg	07 52 30.1	-0.8
FUSB				S	Sg	07 52 41.4	+0.5
ENTT	Nioudou	0.77	270	*i* P	Pg	07 52 30.3	-0.8
ENTT				S	Sb	07 52 41.5	-0.7
TNOU	National Taiwa	0.77	311	*i* P	Pg	07 52 30.8	-0.4
TNOU				*i* S	Sg	07 52 41.0	-0.3
LATG	Datong	0.81	263	P	Pg	07 52 31.2	-0.7
LATG				S	Sb	07 52 43.3	-0.3
TWA	Mucha	0.83	294	P	Pg	07 52 32.2	0.0
TWA				S	Sg	07 52 43.0	0.0
NWLT	Wulai	0.84	280	*e*P	Pg	07 52 31.8	-0.7
NWLT				*e*S	Sg	07 52 43.4	0.0
ETL	Fush Village	0.86	237	*e*P	Pg	07 52 32.6	-0.3
ETL				*e*S	Sn	07 52 45.1	-2.0
NHY	Taipei	0.86	298	*e*S	Sb	07 52 45.5	+0.6
NHDH	Xindian Distri	0.87	292	P	Pg	07 52 33.0	0.0
NHDH				S	Sg	07 52 44.4	+0.1
NACB	Ninganchiao	0.88	238	P	Pg	07 52 32.3	-0.9
NACB	Ninganchiao	0.88	238	S	Sb	07 52 44.0	-1.3
NACB	Ninganchiao	0.88	238	*i* P	Pg	07 52 32.5	-0.7
NACB				*e*S	Sb	07 52 45.2	-0.1
NWRT	Kuosheng	0.89	310	*e*P	Pg	07 52 32.9	-0.4
NWRT				*e*S	Sg	07 52 44.3	-0.6
TAP	Taipei	0.92

NCUH	**Zhongli**	**1.16 287**	*e*P	**Pb**	**07 52 37.2**	**-1.3**
NCUH			eS	**Sg**	**07 52 53.8**	**0.0**
NFF	**Wufeng Townshi**	**1.18 270**	*e*P	**Pb**	**07 52 38.2**	**-0.5**
NFF			eS	**Sg**	**07 52 54.1**	**-0.1**
TWT	**Tachien**	**1.19 251**	*e*P	**Pg**	**07 52 38.9**	**-0.2**
TWT			eS	**Sn**	**07 52 54.4**	**-1.0**
TDCB	**Techi**	**1.21 252**	*e*P	**Pn**	**07 52 39.0**	**-0.2**
TDCB			eS	**Sn**	**07 52 54.8**	**-1.0**
NJD	**Zhudong**	**1.21 275**	*e*P	**Pg**	**07 52 39.9**	**+0.4**
ESL	**Shilin**	**1.21 228**	*e*P	**Pg**	**07 52 39.1**	**-0.5**
ESL			eS	**Sn**	**07 52 55.5**	**-0.2**
IRIF	**Iriomote-Funau**	**1.24 104**	P	**Pn**	**07 52 37.8**	**-1.7**
IRIF			eS	**Sb**	**07 52 53.5**	**-2.1**
LIOB	**Emei**	**1.27 271**	*e*P	**Pb**	**07 52 40.3**	**0.0**
LIOB			eS	**Sn**	**07 52 56.6**	**-0.6**
NSTT	**Nanjuang**	**1.29 270**	*e*P	**Pb**	**07 52 40.5**	**0.0**
SBCB	**Hsinchu**	**1.31 277**	*e*P	**Pn**	**07 52 40.6**	**+0.1**
SBCB			eS	**Sb**	**07 52 57.2**	**-0.5**
WARBT	**Fenglin Townsh**	**1.31 226**	*e*P	**Pn**	**07 52 40.2**	**-0.4**
WARBT			eS	**Sg**	**07 52 57.7**	**-0.8**
OWD	**Renai**	**1.32 239**	*e*P	**Pg**	**07 52 41.1**	**-0.5**
OWD			eS	**Sg**	**07 52 59.5**	**+0.8**
EGFH	**Guangfu**	**1.32 223**	*e*P	**Pn**	**07 52 40.2**	**-0.5**
EGFH			eS	**Sn**	**07 52 57.3**	**-1.1**
HSN	**Hsinchu**	**1.32 277**	*e*P	**Pn**	**07 52 40.0**	**-0.8**
HSN			eS	**Sb**	**07 52 56.5**	**-1.6**
WUSB	**Renai**	**1.35 242**	P	**Pg**	**07 52 41.5**	**-0.6**
WUSB			eS	**Sg**	**07 52 59.5**	**-0.1**
WHP	**Taichung City**	**1.39 255**	P	**Pb**	**07 52 42.2**	**0.0**
WHP			eS	**Sg**	**07 53 00.5**	**-0.4**
HATJ	**Hateruma jima**	**1.40 114**	*e*P	**Pn**	**07 52 40.6**	**-1.1**
HGSD	**Ruisui**	**1.46 219**	*e*P	**Pn**	**07 52 41.6**	**-1.0**
HGSD			eS	**Sg**	**07 53 03.2**	**+0.1**
WPL	**Puli Township**	**1.47 245**	*e*P	**Pn**	**07 52 42.7**	**0.0**
WPL			eS	**Sb**	**07 53 01.2**	**-1.1**
DPDB	**Guoxing**	**1.48 246**	*e*P	**Pb**	**07 52 43.3**	**-0.6**
EHYH	**Wanrong**	**1.50 221**	*e*P	**Pn**	**07 52 42.9**	**-0.3**
EHYH			eS	**Sb**	**07 53 02.6**	**-0.7**
EHY	**Hungye**	**1.50 222**	*e*P	**Pn**	**07 52 43.1**	**-0.2**
EHY			eS	**Sb**	**07 53 02.2**	**-1.2**
JKRS	**Kuro-shima**	**1.51 105**	P	**Pn**	**07 52 42.2**	**-1.1**
JKRS			eS	**Sn**	**07 53 00.9**	**-2.1**
NSY	**Sanyi**	**1.52 262**	*e*P	**Pg**	**07 52 45.5**	**+0.1**
TWQ1	**Liyutan**	**1.52 259**	*e*P	**Pg**	**07 52 45.8**	**+0.3**
SMLT	**Sun Moon Lake**	**1.57 242**	*e*P	**Pb**	**07 52 45.1**	**-0.4**
SMLT			eS	**Sg**	**07 53 05.4**	**-1.4**
SSLB	**Suanglung**	**1.58 238**	P	**Pb**	**07 52 45.4**	**-0.1**
SSLB	**Suanglung**	**1.58 238**	*e*P	**Pb**	**07 52 45.5**	**-0.1**
SSLB			eS	**Sb**	**07 53 04.6**	**-0.7**
TYC	**Yuchr**	**1.60 243**	*e*P	**Pb**	**07 52 45.3**	**-0.5**
JIJ	**Ishigaki jima**	**1.60 99**	P	**Pn**	**07 52 43.0**	**-1.6**
JIJ			S	**Sn**	**07 53 02.4**	**-2.8**
YULB	**Yu-li**	**1.61 220**	P	**Pn**	**07 52 44.5**	**-0.2**
YULB	**Yu-li**	**1.61 220**	*e*P	**Pn**	**07 52 43.8**	**-0.9**
YULB			eS	**Sn**	**07 53 04.2**	**-1.3**
TWF1	**Yuli**	**1.64 219**	*e*P	**Pn**	**07 52 44.5**	**-0.6**
TWF1			eS	**Sn**	**07 53 04.9**	**-1.3**
WHYT	**Xinyi Township**	**1.71 237**	*e*P	**Pb**	**07 52 47.6**	**-0.1**
WHYT			eS	**Sg**	**07 53 09.7**	**-1.4**
CHKH	**Chenggong**	**1.71 213**	*e*P	**Pb**	**07 52 46.6**	**-1.2**
CHKH			eS	**Sn**	**07 53 07.1**	**-0.9**
JISG	**Ishigakijimahi**	**1.73 91**	P	**Pn**	**07 52 44.6**	**-1.7**
WJS	**Zhushan**	**1.74 243**	*e*P	**Pg**	**07 52 48.6**	**-1.0**
WJS			eS	**Sg**	**07 53 13.3**	**+1.1**
WNT	**Mingjian**	**1.75 245**	*e*P	**Pg**	**07 52 49.0**	**-0.8**
YUS	**Yu-Shan**	**1.76 230**	eS	**Sn**	**07 53 08.8**	**-1.1**
FULB	**Fuli**	**1.76 216**	*e*P	**Pn**	**07 52 46.6**	**-0.2**
FULB			eS	**Sb**	**07 53 09.1**	**-1.7**
WCHH	**Zhanghua**	**1.78 252**	*e*P	**Pn**	**07 52 47.0**	**0.0**
CHKT	**Chengkung**	**1.81 212**	eS	**Sn**	**07 53 08.7**	**-1.6**
EHD	**Haiduan**	**1.85 217**	P	**Pn**	**07 52 47.6**	**-0.4**
EHD			eS	**Sn**	**07 53 10.4**	**-1.0**
ALS	**Alishan**	**1.85 233**	P	**Pb**	**07 52 49.0**	**-1.3**
CHN5	**Tsauling**	**1.89 237**	*e*P	**Pb**	**07 52 51.2**	**+0.3**
ELDTW	**Lidau**	**1.93 222**	P	**Pn**	**07 52 48.6**	**-0.5**
WGK	**Gukeng**	**1.94 241**	eS	**Sg**	**07 53 16.2**	**-2.4**
EDH	**Donghe**	**1.94 212**	*e*P	**Pn**	**07 52 48.1**	**-1.1**
EDH			eS	**Sn**	**07 53 11.7**	**-2.0**
WDLH	**Douliu**	**1.96 242**	*e*P	**Pb**	**07 52 52.0**	**0.0**
WCKO	**Fanlu**	**2.04 235**	*e*P	**Pb**	**07 52 52.2**	**-1.1**
WCKO			eS	**Sb**	**07 53 18.7**	**-0.1**
JTJ	**Tarama**	**2.08 89**	*e*P	**Pn**	**07 52 50.8**	**-0.4**
LONT	**Longtian**	**2.09 215**	*e*P	**Pn**	**07 52 50.9**	**-0.4**
LONT			eS	**Sn**	**07 53 16.4**	**-0.9**
STYH	**Taoyuan**	**2.09 226**	*e*P	**Pb**	**07 52 52.6**	**-1.7**
STYH			eS	**Sb**	**07 53 18.5**	**-1.8**
TPUB	**Ta-pu**	**2.11 231**	P	**Pn**	**07 52 52.5**	**+1.0**
TPUB	**Ta-pu**	**2.11 231**	*e*P	**Pb**	**07 52 54.4**	**-0.1**
TPUB			eS	**Sb**	**07 53 19.3**	**-1.4**
STYT	**Tauyuan**	**2.11 226**	*e*P	**Pn**	**07 52 52.0**	**+0.3**
LDUT	**Ludao**	**2.14 204**	*e*P	**Pn**	**07 52 51.3**	**-0.6**
LDUT			eS	**Sn**	**07 53 16.2**	**-2.3**
CHY	**Chiayi**	**2.14 238**	*e*P	**Pn**	**07 52 52.5**	**+0.5**
WTP	**Ta-pu**	**2.15 230**	*e*P	**Pb**	**07 52 55.2**	**-0.1**
WTP			eS	**Sb**	**07 53 22.1**	**0.0**
TWGBT	**Beinan**	**2.19 214**	P	**Pn**	**07 52 52.9**	**+0.3**
TWGBT	**Beinan**	**2.19 214**	*e*P	**Pn**	**07 52 51.6**	**-1.0**
TWGBT			eS	**Sn**	**07 53 19.0**	**-0.7**
TWG	**Pinlang**	**2.19 214**	*e*P	**Pn**	**07 52 52.2**	**-0.4**
TWG			eS	**Sn**	**07 53 18.6**	**-1.2**
TWK	**Hsinying**	**2.23 233**	*e*P	**Pb**	**07 52 55.6**	**-1.0**
TWK			eS	**Sb**	**07 53 23.5**	**-0.8**
SNST	**Tainan City**	**2.25 232**	eS	**Sb**	**07 53 24.6**	**-0.3**
WSL	**Shuilin Townsh**	**2.29 241**	*e*P	**Pb**	**07 52 55.9**	**-1.7**
WSL			eS	**Sb**	**07 53 25.8**	**0.0**
ECL	**Taimali**	**2.43 214**	eS	**Sn**	**07 53 25.0**	**-0.8**
SCST	**Cishan**	**2.48 226**	*e*P	**Pb**	**07 52 58.6**	**-2.3**
SSD	**Sandimen**	**2.49 221**	*e*P	**Pn**	**07 52 58.0**	**+1.2**
SSD			eS	**Sb**	**07 53 29.4**	**-2.5**
MASBT	**Mashibuluo**	**2.59 219**	*e*P	**Pn**	**07 52 59.6**	**+1.3**
MASBT			eS	**Sb**	**07 53 32.2**	**-2.6**
SGLT	**Jiouru**	**2.59 223**	*e*P	**Pn**	**07 52 59.6**	**+1.4**
MATB	**Ma-tsu**	**2.69 305**	*e*P	**Pn**	**07 52 58.1**	**-1.5**
MATB			eS	**Sn**	**07 53 30.9**	**-1.3**
VWUC	**VWUC**	**2.72 278**	*e*P	**Pn**	**07 52 58.8**	**-1.1**
VWUC			eS	**Sn**	**07 53 32.0**	**-0.8**
SCZT	**Fangliau**	**2.79 216**	*e*P	**Pb**	**07 53 04.3**	**-1.9**
SCZT			eS	**Sn**	**07 53 36.1**	**+1.4**
PNG	**Penghu**	**2.82 248**	*e*P	**Pn**	**07 53 01.7**	**+0.3**
PNG			eS	**Sn**	**07 53 36.5**	**+1.1**
PHUB	**P'eng-hu**	**2.83 247**	*e*P	**Sn**	**07 53 01.6**	**+0.1**
PHUB			eS	**Sn**	**07 53 37.2**	**+1.6**
WDGT	**Dungji**	**2.87 242**	*e*P	**Pn**	**07 53 02.9**	**+0.9**
WDGT			eS	**Sn**	**07 53 37.3**	**+0.7**
KSRS	**Korea Array**	**13.62 19**	Pn	**P**	**07 55 41.3**	**+2.9**
	0.2nm,0.3s,baz=198,slow=11,SNR=4.5 1.0nm,0.6s					
MJAR	**Matsushiro Arr**	**18.02 45**	LR	LR	08 03 55.7	
	comp=Z,31nm,20.4s,baz=220,slow=37					
SONM	**Songino Array**	**26.41 335**	P	**P**	**07 57 57.2**	**+4.2**
	2.6nm,0.9s,baz=148,slow=8.5,SNR=7.4 2.6nm,0.9s					
ZALV	**Zalesovo Beam**	**40.48 326**	LR	LR	08 16 10.8	
	comp=Z,24nm,19.6s,baz=124,slow=35					
AAK	**Ala-Archa**	**43.13 307**	LR	LR	08 18 05.5	
	comp=Z,38nm,18.8s,baz=328,slow=36					
WRA	**Warramunga Arr**	**45.81 164**	P	**P**	**08 00 38.4**	**0.0**
	1.3nm,0.7s,baz=346,slow=8.6,SNR=9.9 1.3nm,0.7s					
ASAR	**Alice Springs**	**49.29 166**	P	**P**	**08 01 06.0**	**+0.5**
	0.9nm,0.5s,baz=345,slow=8.4,SNR=8.5 0.9nm,0.5s					
KVAR	**Kislovodsk Arr**	**66.17 309**	LR	LR	08 33 45.5	
	comp=Z,385nm,20.6s,slow=38					
ARCES	**ARCESS Array B**	**69.54 338**	LR	LR	08 39 42.1	
	comp=Z,30nm,18.8s,baz=273,slow=41					
HFS	**Hagfors**	**77.72 331**	LR	LR	08 44 39.3	
	comp=Z,41nm,18.7s,baz=339,slow=40					

*MDD **03** 08:11:06.6±0.4, 42.˚18N×9.˚40W, h0km, mb_Lg3.4/28, Error ellipse: s-maj=3.1km s-min=1.9km az=111.0*
*SFS **03** 08:11:07.5, 42.˚12N×9.˚37W, h0km, ML3.9/11,ML3.6/14, MLv3.5/14*
*INMG **03** 08:11:07.7±1.9, 42.˚20N×9.˚35W, h0km±3km, ML3.0, Error ellipse: s-maj=5.1km s-min=2.4km az=91.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Costa da Galiza (ESP)*
*LDG **03** 08:11:07.6±0.3, 42.˚28N×9.˚42W, h10km, Ml3.3/14, Error ellipse: s-maj=5.5km s-min=2.6km az=91.0*
*IGIL **03** 08:11:08.4, 42.˚25N×9.˚36W, h17km, ML2.5*

ISC 03 08:11:06.8±1.2, **42.˚21N**±0.˚02×**9.˚34W**±0.˚04, **h17**km±3km, **n81**, σ1s**52**/175, **1C-1D**, **Spain**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EZAM	**Zamans**	**0.48**	**97**	Pg	**Pg**		**08 11 17.0**	**+0.5**
EZAM				Sg	**Sg**		**08 11 23.5**	**+0.5**
EZAM				*i* lVmb_Lg			08 11 29.7	
EMAZ	**Mazaricos**	**0.79**	**20**	Pg	**Pg**		**08 11 21.9**	**-0.3**
EMAZ				Sg	**Sg**		**08 11 32.7**	**+0.1**
EMAZ				*i* lVmb_Lg			08 11 34.2	
ELOB	**Lobios**	**1.01**	**109**	Pg	**Pg**		**08 11 26.8**	**+0.4**
ELOB				Sg	**Sg**		**08 11 40.5**	**+0.8**
ELOB				*i* lVmb_Lg			08 11 43.0	
PCAB	**Cabril**	**1.10**	**116**	*e*P	**Pg**		**08 11 28.4**	**+0.3**
PCAB				*e*S	**Sb**		**08 11 43.5**	**+2.1**
PCAB				*i* IAML			08 11 45.2	
PCAB				*i* IAML			08 11 45.3	
PCAB				*i* IAML			08 11 45.4	
EAGO	**Agolada(Pontev**	**1.10**	**57**	Pg	**Pg**		**08 11 27.4**	**-0.7**
EAGO				Sg	**Sg**		**08 11 41.6**	**-0.9**
EAGO				*i* lVmb_Lg			08 11 43.7	
PTO	**Porto**	**1.20**	**152**	*e*P	**Pg**		**08 11 29.8**	**-0.2**
PTO				*e*S	**Sg**		**08 11 45.3**	**-0.4**
PTO				*i* IAML			08 11 47.2	
PTO				*i* IAML			08 11 48.8	
PTO				*i* IAML			08 11 49.8	
POLO	**Lamas de Olo**	**1.42**	**125**	*e*Pn	**Pn**		**08 11 32.8**	**+0.8**
POLO				*e*Pg	**Pg**		**08 11 34.0**	**-0.2**
POLO				*e*Sg	**Sg**		**08 11 53.1**	**+0.3**
POLO				*i* IAML			08 11 55.9	
POLO				*i* IAML			08 11 56.6	
POLO				*i* IAML			08 11 58.2	
PVRL	**Vila Real**	**1.53**	**127**	*e*Pn	**Pn**		**08 11 34.7**	**+1.2**
PVRL				*e*Pg	**Pb**		**08 11 35.8**	**+1.1**
PVRL				*e*Sg	**Sg**		**08 11 56.5**	**+0.3**
PVRL				*i* IAML			08 11 58.6	
PVRL				*i* IAML			08 12 00.1	
PVRL				*i* IAML			08 12 00.9	
PVIS	**Viseu**	**1.84**	**143**	*e*Pn	**Pn**		**08 11 39.0**	**+1.2**
PVIS				*e*Pg	**Pb**		**08 11 41.3**	**+1.2**
PVIS				*e*Sg	**Sb**		**08 12 05.0**	**+2.1**
ECAL	**Calabor**	**1.96**	**97**	Pn	**Pn**		**08 11 40.0**	**+0.7**
ECAL				Sn	**Sn**		**08 12 04.3**	**+0.9**
ECAL	**Calabor**	**1.96**	**97**	Pn	**Pn**		**08 11 40.2**	**+0.9**
ECAL				Pg	**Pb**		**08 11 43.8**	**+1.8**
ECAL				Sg	**Sb**		**08 12 09.1**	**+3.0**
ECAL				*i* lVmb_Lg			08 12 11.8	
EPON	**Pontenova**	**1.96**	**54**	Pn	**Pn**		**08 11 39.1**	**-0.3**
EPON				Pg	**Pb**		**08 11 43.4**	**+1.3**
EPON				Sg	**Sb**		**08 12 09.4**	**+3.1**
EPON				*i* lVmb_Lg			08 12 11.8	
PBRG	**Braganca**	**1.98**	**101**	*e*Pn	**Pn**		**08 11 40.5**	**+0.9**
PBRG				*e*Pg	**Pb**		**08 11 44.1**	**+1.7**
PBRG				*e*Sn	**Sn**		**08 12 04.7**	**+0.7**
PBRG				*e*Sg	**Sb**		**08 12 08.8**	**+2.1**
PBRG				*i* IAML			08 12 10.0	
PBRG				*i* IAML			08 12 10.0	
PBRG				*i* IAML			08 12 10.5	
MVO	**Moncorvo**	**2.02**	**120**	*e*Pn	**Pn**		**08 11 40.8**	**+0.7**
MVO				*e*Pg	**Pb**		**08 11 43.6**	**+0.4**
MVO				*e*Sg	**Sb**		**08 12 10.8**	**+2.8**
MVO				*i* IAML			08 12 14.3	
MVO				*i* IAML			08 12 15.3	
MVO				*i* IAML			08 12 17.9	
COI	**Coimbra**	**2.12**	**160**	*e*Pn	**Pn**		**08 11 42.1**	**+0.7**
COI				*e*Sg	**Sg**		**08 12 14.4**	**-0.5**
COI				*i* IAML			08 12 17.5	
COI				*i* IAML			08 12 19.6	
COI				*i* IAML			08 12 20.3	
PCAS	**Casmilo, Conde**	**2.24**	**163**	*e*Pn	**Pn**		**08 11 44.0**	**+0.8**
PCAS				*e*Sn	**Sn**		**08 12 11.1**	**+0.6**
PCAS				*e*Sg	**Sg**		**08 12 17.9**	**-1.1**
PCAS				*i* IAML			08 12 23.6	
PCAS				*i* IAML			08 12 23.8	
PCAS				*i* IAML			08 12 26.4	
MTE	**Manteigas**	**2.26**	**143**	*e*Pn	**Pn**		**08 11 44.6**	**+1.2**
MTE				*e*Pg	**Pb**		**08 11 49.1**	**+2.0**
MTE				*e*Sg	**Sg**		**08 12 18.9**	**-0.5**
MTE				*i* IAML			08 12 22.7	
MTE				*i* IAML			08 12 26.9	
MTE				*i* IAML			08 12 29.2	
PCBR	**Castelo Branco**	**2.75**	**149**	*e*Pn	**Pn**		**08 11 51.3**	**+1.2**
PCBR				*e*Pg	**Pg**		**08 11 59.0**	**-0.5**
PCBR				*e*Sn	**Sn**		**08 12 23.5**	**+0.5**
PCBR				*e*Sg	**Sg**		**08 12 34.9**	**-0.4**
PCBR				*i* IAML			08 12 39.7	
PCBR				*i* IAML			08 12 39.8	
PCBR				*i* IAML			08 12 40.9	
PSARD	**Sardoal**	**2.75**	**161**	*e*Pn	**Pn**		**08 11 50.9**	**+0.7**
PSARD				*e*Pg	**Pg**		**08 11 59.8**	**0.0**
PSARD				*e*Sn	**Sn**		**08 12 24.4**	**+1.4**
PSARD				*e*Sg	**Sg**		**08 12 32.6**	**-2.6**
PSARD				*i* IAML			08 12 37.6	
PSARD				*i* IAML			08 12 40.8	
PSARD				*i* IAML			08 12 42.5	
PMRV	**Marv??o**	**3.15**	**151**	*e*Pn	**Pn**		**08 11 56.7**	**+1.1**
PMRV				*e*Sn	**Sn**		**08 12 32.4**	**-0.4**
PMRV				*e*Sg	**Sg**		**08 12 46.3**	**-1.5**
PMRV				*i* IAML			08 12 50.8	
PMRV				*i* IAML			08 12 53.0	
PMRV				*i* IAML			08 12 53.3	
EARI	**Arriondas**	**3.23**	**69**	Pn	**Pn**		**08 11 58.3**	**+1.5**
EARI				Sn	**Sn**		**08 12 36.2**	**+1.3**
EARI				Sg	**Sg**		**08 12 50.4**	**-0.2**
EARI				*i* lVmb_Lg			08 12 52.7	
PMTG	**Montargil**	**3.25**	**165**	*e*Pn	**Pn**		**08 11 57.4**	**+0.4**
PMTG				*e*Sn	**Sn**		**08 12 33.7**	**-1.5**
PMTG				*e*Sg	**Sg**		**08 12 50.8**	**-0.4**
PMTG				*i* IAML			08 12 52.6	
PMTG				*i* IAML			08 12 53.5	
PMTG				*i* IAML			08 12 59.1	
PMAFR	**Mafra**	**3.25**	**179**	Sn	**Sn**		**08 12 33.1**	**-2.1**
PMAFR	**Mafra**	**3.25**	**179**	*e*Pn	**Pn**		**08 11 57.9**	**+0.9**
PMAFR				*e*Sn	**Sn**		**08 12 34.0**	**-1.3**
PMAFR				*i* IAML			08 13 03.7	
PMAFR				*i* IAML			08 13 04.2	
PMAFR				*i* IAML			08 13 08.5	
EPLA	**Plasencia**	**3.26**	**130**	Pn	**Pn**		**08 11 58.2**	**+1.0**
EPLA				Sn	**Sn**		**08 12 35.3**	**-0.4**
EPLA				Sg	**Sg**		**08 12 52.6**	**+1.0**
EPLA				*i* lVmb_Lg			08 12 59.2	
PARRA	**Arraiolos**	**3.40**	**176**	*e*Pn	**Pn**		**08 12 01.3**	**+2.2**
PARRA				*e*Sn	**Sn**		**08 12 40.6**	**+1.7**
PARRA				*i* IAML			08 12 42.9	
PARRA				*e*Sg	**Sg**		**08 12 57.7**	**+1.9**
PARRA				*i* IAML			08 12 58.4	
PARRA				*i* IAML			08 12 59.6	
PESTR	**Estremoz**	**3.59**	**158**	Pn	**Pn**		**08 12 02.3**	**+0.5**
PESTR				Sn	**Sn**		**08 12 42.1**	**-1.6**
PESTR	**Estremoz**	**3.59**	**158**	*e*Pn	**Pn**		**08 12 02.5**	**+0.8**
PESTR				*e*Sn	**Sn**		**08 12 42.2**	**-1.6**
PESTR				*e*Sg	**Sg**		**08 13 00.6**	**-1.5**
PESTR				*i* IAML			08 13 07.7	
PESTR				*i* IAML			08 13 07.8	
PESTR				*i* IAML			08 13 08.0	
PESTR	**Estremoz**	**3.59**	**158**	P	**Pn**		**08 12 02.5**	**+0.8**
PESTR	**Estremoz**	**3.59**	**158**	S	**Sn**		**08 12 44.3**	**+0.5**
EVO	**Evora**	**3.81**	**164**	Pn	**Pn**		**08 12 05.1**	**+0.5**
EVO				Sn	**Sn**		**08 12 46.4**	**-2.7**
EVO	**Evora**	**3.81**	**164**	*e*Pn	**Pn**		**08 12 05.2**	**+0.5**
EVO				*e*Sn	**Sn**		**08 12 47.3**	**-1.8**
EVO				*i* IAML			08 12 49.5	
EVO				*i* IAML			08 12 50.9	
EVO				*i* IAML			08 13 10.7	
EBAD	**Badajoz**	**3.88**	**152**	Pn	**Pn**		**08 12 06.4**	**+0.7**
EBAD				Sn	**Sn**		**08 12 49.8**	**-1.0**
EBAD	**Badajoz**	**3.88**	**152**	Pn	**Pn**		**08 12 06.6**	**+0.9**
EBAD				Sn	**Sn**		**08 12 48.9**	**-1.9**
EBAD				Sg	**Sg**		**08 13 09.8**	**-1.5**
EBAD				*i* lVmb_Lg			08 13 14.6	
GUD	**Guadarrama**	**4.20**	**110**	Pn	**Pn**		**08 12 11.5**	**+1.3**
GUD				Sn	**Sn**		**08 12 59.3**	**+0.4**
GUD				Sg	**Sg**		**08 13 19.2**	**-2.5**
PBEJ	**Beja**	**4.33**	**164**	*e*Pn	**Pn**		**08 12 12.6**	**+0.8**
PBEJ				*e*Sn	**Sn**		**08 12 59.6**	**-2.2**
PBEJ				*i* IAML			08 13 30.0	
PBEJ				*i* IAML			08 13 34.4	
PBEJ				*i* IAML			08 13 36.0	
PBAR	**Barrancos**	**4.40**	**156**	Pn	**Pn**		**08 12 13.7**	**+0.9**
PBAR				Sn	**Sn**		**08 13 02.6**	**-1.0**
PBAR	**Barrancos**	**4.40**	**156**	*e*Pn	**Pn**		**08 12 13.7**	**+0.9**
PBAR				*e*Sn	**Sn**		**08 13 02.7**	**-0.9**
PBAR				*e*Sg	**Sg**		**08 13 29.6**	**+1.6**
PBAR				*i* IAML			08 13 36.9	
PBAR				*i* IAML			08 13 38.5	
PBAR				*i* IAML			08 13 38.6	
MESJ	**Messejana**	**4.45**	**168**	*e*P	**Pn**		**08 12 14.1**	**+0.6**
MESJ				*e*S	**Sn**		**08 13 01.6**	**-3.2**
MESJ				IAML			08 13 04.9	
	comp=N,9.0nm,0.4s							
MESJ	**Messejana**	**4.45**	**168**	*e*Pn	**Pn**		**08 12 14.1**	**+0.6**
MESJ				*e*Sn	**Sn**		**08 13 03.2**	**-1.6**
MESJ				*i* IAML			08 13 04.8	
MESJ				*i* IAML			08 13 37.4	
MESJ				*i* IAML			08 13 38.7	
ELAN	**Lanestosa**	**4.47**	**75**	Pn	**Pn**		**08 12 15.6**	**+1.8**
ELAN				Sn	**Sn**		**08 13 05.0**	**-0.5**
ELAN				Sg	**Sg**		**08 13 29.4**	**-0.9**
ELAN				*i* lVmb_Lg			08 13 33.6	
PAB	**San Pablo**	**4.62**	**123**	Pn	**Pn**		**08 12 17.2**	**+1.2**
PAB				Sn	**Sn**		**08 13 07.4**	**-1.9**
PAB				Sg	**Sg**		**08 13 32.2**	**-3.0**
PAB				*i* lVmb_Lg			08 13 40.7	
PCVE	**Castro Verde**	**4.68**	**167**	Pn	**Pn**		**08 12 17.0**	**+0.4**
PCVE	**Castro Verde**	**4.68**	**167**	*e*Pn	**Pn**		**08 12 17.1**	**+0.4**
PCVE				*e*Sn	**Sn**		**08 13 08.4**	**-2.1**
PCVE				*i* IAML			08 13 40.5	
PCVE				*i* IAML			08 13 41.8	
PCVE				*i* IAML			08 13 49.7	
PTEO	**Sao Teotonio**	**4.68**	**174**	*e*Pn	**Pn**		**08 12 17.4**	**+0.7**
PTEO				*e*Sn	**Sn**		**08 13 09.7**	**-0.9**
PTEO				*e*Sg	**Sg**		**08 13 39.4**	**+2.4**
PTEO				*i* IAML			08 13 47.4	
PTEO				*i* IAML			08 13 49.0	
PTEO				*i* IAML			08 13 52.1	
EGRO	**El Granado**	**4.88**	**162**	Pn	**Pn**		**08 12 20.0**	**+0.6**
EGRO	**El Granado**	**4.88**	**162**	Pn	**Pn**		**08 12 20.2**	**+0.8**
EGRO				Sn	**Sn**		**08 13 12.6**	**-2.9**
EGRO				Sg	**Sg**		**08 13 41.8**	**-1.6**
EGRO				*i* lVmb_Lg			08 13 49.5	
EMIN	**Mina Concepcio**	**4.88**	**154**	Pn	**Pn**		**08 12 20.3**	**+0.8**
EMIN				Sn	**Sn**		**08 13 14.3**	**-1.3**
EMIN	**Mina Concepcio**	**4.88**	**154**	Pn	**Pn**		**08 12 20.3**	**+0.8**
EMIN				Sn	**Sn**		**08 13 15.6**	**0.0**
EMIN				Sg	**Sg**		**08 13 42.5**	**-1.0**
EMIN				*i* lVmb_Lg			08 13 52.3	
PVAQ	**Vaqueiros**	**4.96**	**165**	*e*Pn	**Pn**		**08 12 21.1**	**+0.6**
PVAQ				*e*Sn	**Sn**		**08 13 13.1**	**-4.3**
PVAQ				*i* IAML			08 13 51.3	
PVAQ				*i* IAML			08 13 55.3	
PVAQ				*i* IAML			08 13 58.8	
PVAQ	**Vaqueiros**	**4.96**	**165**	P	**Pn**		**08 12 20.9**	**+0.4**
PVAQ	**Vaqueiros**	**4.96**	**165**	S	**Sn**		**08 13 17.4**	**0.0**
PBDV	**Barranco-do-Ve**	**5.08**	**167**	Pn	**Pn**		**08 12 22.9**	**+0.7**
PBDV				Sn	**Sn**		**08 13 16.9**	**-3.5**
PBDV	**Barranco-do-Ve**	**5.08**	**167**	*e*Pn	**Pn**		**08 12 23.0**	**+0.9**
PBDV				*e*Sn	**Sn**		**08 13 17.4**	**-2.9**
PBDV				*e*Sg	**Sg**		**08 13 49.5**	**-0.2**
PBDV				*i* IAML			08 13 55.9	
PBDV				*i* IAML			08 14 01.3	
PBDV				*i* IAML			08 14 01.8	
PFVI	**Vila Bisbo**	**5.08**	**175**	Pn	**Pn**		**08 12 22.8**	**+0.5**
PFVI				Sn	**Sn**		**08 13 16.0**	**-4.5**
PFVI	**Vila Bisbo**	**5.08**	**175**	*e*Pn	**Pn**		**08 12 22.7**	**+0.5**
PFVI				*e*Sn	**Sn**		**08 13 17.3**

	12nm,0.7s,baz=141,slow=18,SNR=1.9 12nm,0.7s							
H11S3	WAKE ISLAND Hy	21.62	75	T		T	08 40 57.6	
	baz=264							
H11S1	WAKE ISLAND Hy	21.64	75	T		T	08 41 02.0	
	baz=264,slow=74							
H11S2	WAKE ISLAND Hy	21.64	75	T		T	08 40 58.8	
	baz=264,slow=74							
H11N1	WAKE ISLAND Hy	22.03	72	T		T	08 41 44.1	
	baz=257,slow=75,SNR=9.0							
H11N2	WAKE ISLAND Hy	22.04	72	T		T	08 41 42.8	
	baz=257,slow=75,SNR=5.4							
H11N3	WAKE ISLAND Hy	22.05	72	T		T	08 41 46.7	
	baz=257,slow=75,SNR=12							
JNU	Nakatsue	22.92	329	P		P	08 18 37.1	-1.5
	3.1nm,0.6s,baz=112,slow=17,SNR=1.8 3.1nm,0.6s							
MJAR	Matsushiro Arr	23.31	347	P		P	08 18 40.2	-2.0
	1.6nm,0.9s,baz=166,slow=10.0,SNR=4.1 1.6nm,0.9s							
KSRS	Korea Array	27.83	331	P		P	08 19 22.2	-0.7
	0.8nm,0.5s,baz=149,slow=10,SNR=3.3 0.8nm,0.5s							
MTN	Manton Dam	29.75	207	P		P	08 19 41.0	+1.0
MTN				IAmb		IAmb	08 20 18.4	
	comp=Z,11nm,1.1s							
WB0	Warramunga Arr	34.93	197	P		P	08 20 25.4	+0.2
WB0				IAmb		IAmb	08 20 25.8	
	comp=Z,7.1nm,0.5s							
WR8	Warramunga Arr	35.08	197	P		P	08 20 26.7	+0.2
WR8				IAmb		IAmb	08 20 27.2	
	comp=Z,5.4nm,0.6s							
WRA	Warramunga Arr	35.11	197	P		P	08 20 25.6	-1.2
WRA	Warramunga Arr	35.11	197	P		P	08 20 26.8	+0.1
	comp=Z,4.6nm,0.5s,baz=18,slow=9.3,SNR=62							
WRA				PcP		PcP	08 22 56.3	+1.1
	comp=Z,0.5nm,0.8s,baz=24,slow=2.5,SNR=2.6							
WRA				ScP		ScP	08 26 26.9	-0.7
	comp=Z,0.6nm,0.9s,baz=25,slow=3.4,SNR=3.2 comp=Z,4.6nm,0.5s							
FITZ	Fitzroy Crossi	36.90	211	P		P	08 20 42.7	+0.7
AS31	Alice Springs	38.77	196	P		P	08 20 57.7	+0.1
ASAR	Alice Springs	38.77	196	P		P	08 20 57.9	+0.3
ASAR	Alice Springs	38.77	196	P		P	08 20 57.8	+0.1
	comp=Z,1.0nm,0.4s,baz=17,slow=13,SNR=33 comp=Z,1.0nm,0.4s							
DZM	Mont Dzumac	41.61	149	P		P	08 21 22.3	+1.1
PINNC	Pines Island,	42.57	148	P		P	08 21 30.4	+1.6
LZDM	Lanzhou Array	42.77	308	P		P	08 21 32.1	+1.3
	comp=Z,1.2nm,0.3s,baz=125,slow=7.2,SNR=1.9 comp=Z,1.2nm,0.3s							
CMAR	Chiang Mai Arr	44.08	282	P		P	08 21 39.7	-1.4
	comp=Z,1.3nm,0.3s,baz=111,slow=8.5,SNR=2.2 comp=Z,1.3nm,0.3s							
STKA	Stephens Creek	45.58	184	P		P	08 21 52.2	-0.4
STKA	Stephens Creek	45.58	184	P		P	08 21 52.0	-0.7
	comp=Z,1.1nm,0.5s,baz=15,slow=6.1,SNR=5.5 comp=Z,1.1nm,0.5s							
BBOO	Buckleboo	47.14	190	P		P	08 22 05.2	+0.3
BBOO				IAmb		IAmb	08 22 05.4	
	comp=Z,6.4nm,0.6s							
KIWB	Kanaga Island	48.66	31	P		P	08 22 16.9	+0.5
MKAR	Makanchi Array	61.16	316	P		P	08 23 47.7	+1.4
MKAR	Makanchi Array	61.16	316	P		P	08 23 47.5	+1.2
	comp=Z,1.0nm,0.4s,baz=93,slow=9.1,SNR=14 comp=Z,1.0nm,0.4s							
ZALV	Zalesovo Beam	61.29	324	P		P	08 23 46.6	-0.4
	comp=Z,0.5nm,0.4s,baz=108,slow=8.0,SNR=1.6 comp=Z,0.5nm,0.4s							
N17K	Nushagak Hills	62.57	28	P		P	08 23 55.5	0.0
N19K	Bonanza Creek	63.92	28	P		P	08 24 04.5	0.0
KDAK	Kodiak Island	63.93	32	P		P	08 24 04.8	+0.4
KURBB	Kurchatov Arra	64.30	320	P		P	08 24 07.1	+0.2
	comp=Z,1.6nm,0.3s,baz=102,slow=7.2,SNR=6.5 comp=Z,1.6nm,0.3s							
J19K	Poorman	64.54	25	P		P	08 24 08.0	-0.3
J19K				IAmb		IAmb	08 24 24.6	
	comp=Z,10nm,1.4s							
D20K	Etivluk River	66.05	20	P		P	08 24 17.4	-0.6
D20K				IAmb		IAmb	08 24 17.7	
	comp=Z,14nm,1.2s							
I23K	Minto, Yukon-K	67.47	25	P		P	08 24 26.6	-0.4
I23K				IAmb		IAmb	08 24 26.7	
	comp=Z,9.3nm,1.4s							
IL31		68.39	25	P		P	08 24 30.3	-2.4
IL31				IAmb		IAmb	08 24 32.0	
	comp=Z,3.2nm,0.5s							
ILAR	Eielson Array	68.39	25	P		P	08 24 30.6	-2.2
ILAR	Eielson Array	68.39	25	P		P	08 24 30.1	-2.8
	comp=Z,1.9nm,0.4s,baz=252,slow=5.6,SNR=42 comp=Z,1.9nm,0.4s							
BVAR	Borovoye Array	69.60	322	P		P	08 24 40.5	+0.1
	comp=Z,1.8nm,0.3s,baz=102,slow=7.8,SNR=10 comp=Z,1.8nm,0.3s							
BMAR	Burnt Mountain	69.91	23	P		P	08 24 42.0	-0.2
L27K	Beaver Creek,	70.26	28	P		P	08 24 43.3	-1.1
BCAR	Beaver Creek A	70.28	28	P		P	08 24 43.4	-1.1
LOGN	Logan Glacier	70.35	30	P		P	08 24 45.3	+0.2
LOGN				IAmb		IAmb	08 25 24.9	
	comp=Z,14nm,1.3s							
I28M	Miner Creek	71.41	25	P		P	08 24 50.6	-0.8
INK	Inuvik	74.18	22	P		P	08 25 06.9	-0.5
	comp=Z,2.8nm,0.8s,baz=280,slow=6.8,SNR=3.9 comp=Z,2.8nm,0.8s							
DLBC	Dease Lake	75.84	33	P		P	08 25 17.8	+0.4
	comp=Z,18nm,0.5s,baz=229,slow=5.4,SNR=3.7							
AB31	Akbulak array	76.21	318	P		P	08 25 20.1	+0.6
OZB	Mount Ozzard	79.56	42	P		P	08 25 39.1	+1.0
OZB				IAmb		IAmb	08 25 56.1	
	comp=Z,22nm,1.2s							
NLWA	Neilton Lookou	80.90	43	P		P	08 25 46.3	+1.0
NLWA				IAmb		IAmb	08 26 11.1	
	comp=Z,14nm,1.2s							
I02E	Swisshome, OR	81.53	47	P		P	08 25 49.5	+0.9
K02D	Willamette Mer	81.93	48	P		P	08 25 51.4	+0.5
H04A	Detroit Lake	82.58	46			P	08 25 54.3	+0.2
H04A				IAmb		IAmb	08 25 54.7	
	comp=Z,9.0nm,1.3s							
O02D	Mt. Diablo Mer	83.09	50	P		P	08 25 58.3	+1.3
O02D				IAmb		IAmb	08 25 58.7	
	comp=Z,15nm,1.4s							
J05D	Fort Rock, OR	83.56	47	P		P	08 26 00.1	+0.8
J05D				IAmb		IAmb	08 26 00.5	
	comp=Z,5.1nm,0.9s							
PINE	Pine Mountain	83.65	47			P	08 26 00.6	+0.7
PINE				IAmb		IAmb	08 26 01.2	
	comp=Z,6.0nm,0.9s							
NEW	Newport	85.14	42			P	08 26 07.3	+0.2
NEW				IAmb		IAmb	08 26 09.1	
	comp=Z,6.8nm,1.4s							
NVAR	Mina Array Bea	86.89	51	P		P	08 26 16.6	+0.4
	comp=Z,1.9nm,0.6s,baz=272,slow=5.2,SNR=5.8 comp=Z,1.9nm,0.6s							
MFID	Camas Ranch	87.34	46	IAmb		IAmb	08 26 19.7	
	comp=Z,7.1nm,1.1s							
MPMC	Manual Prospec	88.14	53	IAmb		IAmb	08 26 23.3	
	comp=Z,4.5nm,1.0s							
BELC	Belle Mtn. Jos	89.89	55	IAmb		IAmb	08 26 31.1	
	comp=Z,4.7nm,0.8s							
V12A	Nelson	90.29	53	IAmb		IAmb	08 26 33.5	
	comp=Z,6.8nm,0.8s							
FINES	FINESS Array B	90.83	335	P		P	08 26 34.5	+0.6
FINES	FINESS Array B	90.83	335	P		P	08 26 32.4	-1.5
	comp=Z,0.8nm,0.5s,baz=62,slow=4.8,SNR=4.6 comp=Z,0.8nm,0.5s							
HWUT	Hardware Ranch	90.89	47	IAmb		IAmb	08 26 35.5	
	comp=Z,2.5nm,0.8s							
PDAR	Pinedale Array	91.90	45	P		P	08 26 38.9	-0.7
	comp=Z,0.4nm,0.6s,baz=242,slow=2.8,SNR=5.9 comp=Z,0.4nm,0.6s							
PV16	Nyswonger Mesa	93.94	49	IAmb		IAmb	08 26 49.4	
	comp=Z,3.4nm,0.8s							
TXAR	Lajitas Array	101.35	56	P		Pdif	08 27 21.6	-0.8
	comp=Z,0.3nm,0.8s,baz=287,slow=4.2,SNR=4.0							
SNAA	Sanae	119.03	191	PKP		PKPdf	08 32 17.9	-0.2
	comp=Z,0.8nm,0.7s,baz=173,slow=4.3,SNR=7.7							
TORD	Torodi Ar. Bea	134.56	305	PKP		PKPdf	08 32 49.4	+0.1
	comp=Z,0.8nm,0.6s,baz=19,slow=2.6,SNR=8.6							
DBIC	Dimbokro	143.52	302	PKP	PKPbc		08 33 03.3	0.0
	comp=Z,1.4nm,0.3s,baz=116,slow=4.0,SNR=4.2							
PB11	IPOC Station P	146.65	105	PKPab		PKPbc	08 33 13.8	+0.9
PB08	IPOC Station P	147.09	106	PKPab		PKPab	08 33 15.9	-0.4
LPAZ	La Paz	148.24	99	PKPab		PKiKP	08 33 19.1	-0.3
LPAZ	La Paz	148.24	99	PKPbc		PKPbc	08 33 18.2	+0.4
	comp=Z,4.4nm,0.7s,baz=272,slow=2.8,SNR=17							
BOAV	Boa Vista	150.24	59	PKPbc		PKiKP	08 33 23.1	+0.2

ASRS ***03*** *08:40:08.0±1.3, 53.°70N×88.°19E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 03 08:40:07.2±4.0, 53.°59N×88.°24E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=39.1km s-min=19.8km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.06	281	I	I	08 53 10.0	
	baz=94,slow=328,SNR=5.1						
ZALV	Zalesovo Beam	2.06	281	Pg	Pg	08 40 46.5	-0.3
	0.8nm,0.3s,baz=100,slow=13,SNR=13						
ZALV				Lg	Lg	08 41 11.4	
	1.2nm,0.3s,baz=103,slow=24,SNR=9.6						
KURBB	Kurchatov Arra	6.68	248	Pn	Pn	08 41 47.2	+0.8
	0.1nm,0.3s,baz=65,slow=14,SNR=2.6 1.3nm,0.8s						
MKAR	Makanchi Array	7.80	212	Pn	Pn	08 42 02.3	+0.5
	0.1nm,0.3s,baz=26,slow=19,SNR=2.0 0.1nm,0.4s						

CRAAG ***03*** *08:42:06.3, 35.°72N×0.°08W, Ml2.7, Algerie 11km SE Mers-El-Hadjadj*

MDD ***03*** *08:42:09.7±1.3, 36.°00N×0.°21W, h15km±26km, mb_Lg2.4/6, Error ellipse: s-maj=21.8km s-min=8.7km az=153.0*

ISC 03 08:42:03.9±1.6, 35.°84N±0.°06×0.°13W±0.°06, h14km±14km, n12, σ1s33/19, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFRG	Douar Fergoug	0.35	157	P	Pb	08 42 11.5	-0.4
ODJA	Bouhanifia	0.51	182	P	Pg	08 42 14.1	+0.1
ESMB	Sidi M'hamed B	0.64	115	P	Pn	08 42 18.4	-0.1
EKMS	Oued Kramis	0.78	53	P	Pn	08 42 22.3	+1.8
CART	Cartagena	1.88	338	Pn	Pb	08 42 37.8	-0.2
CART				Sn	Sn	08 42 58.0	-1.0
ENIJ	Nijar	2.02	305	Pn	Pb	08 42 39.2	-1.2
ENIJ				Sn	Sn	08 43 01.1	-1.5
ENIJ	Nijar	2.02	305	Pn	Pn	08 42 39.0	+1.5
ENIJ				Sn	Sn	08 43 01.2	-1.5
ENIJ				*i* IVmb_Lg		08 43 04.8	
EMUR	La Murta	2.19	336	Pn	Pb	08 42 42.5	-0.7
EMUR				Sn	Sn	08 43 05.5	-1.2
EMUR	La Murta	2.19	336	Pn	Pb	08 42 43.0	-0.2
EMUR				Sn	Sn	08 43 06.2	-0.5
ELGU	Los Guajares,	3.00	291	Pn	Pn	08 42 52.4	+1.3
ELGU	Los Guajares,	3.00	291	Pn	Pn	08 42 53.2	+2.1
ELGU				Sn	Sn	08 43 28.0	+1.1
ELGU				*i* IVmb_Lg		08 43 29.6	
EQES	Quesada	3.07	311	Pn	Pb	08 42 56.2	-2.1
EQES				Sn	Sn	08 43 29.2	+0.7
EQES				*i* IVmb_Lg		08 43 35.2	

NEIC ***03*** *09:23:02.0±1.3, 14.°60N±0.°06×92.°70W±0.°04, h35km±2km, mb4.2/54, Md4.5/70(MEX), Error ellipse: s-maj=10.5km s-min=6.3km az=185.0*

SNET ***03*** *09:23:02.6±1.4, 14.°61N×92.°62W, h47km, ML4.4*

GCG ***03*** *09:23:03.0±1.1, 14.°59N×92.°57W, h57km±8km, MD3.9, ML4.4*

CATAC ***03*** *09:23:03.0±0.5, 15.°N±3.°×9.°3W±.°, h38km±4km, M4.4/18, mb4.1/1, mB4.5/1, MLv4.6/18, Mw(mB)3.7/1, Error ellipse: s-maj=7.8km s-min=4.2km az=37.5, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=1.12; Mθθ0.64; Mθθ0.48; Mrθ-0.15; Mθθ-0.21; Mθθ0.10; Fault plane solution: M0 1.01195×10^15 NP1:θ=124.66793°, δ50.30689°, λ-90.09804°. NP2:θ=304.82144°, δ39.69322°, λ-89.88188°. Principal axes: T 0.8008, Plg5.3068°, Azm214.7376°; N 0.3366, Plg0.0754°, Azm124.7305°; P -1.1373, Plg84.6926°, Azm33.9185°; confirmed*

MEX ***03*** *09:23:03.0±1.1, 14.°53N×92.°72W, h37km±40km, MD4.5*

IDC ***03*** *09:23:04.5±2.7, 14.°99N×92.°55W, h57km±21km, mb3.4/4, mbtmp3.7/7, ML3.6/3, MS2.8/7, Error ellipse: s-maj=28.5km s-min=14.4km az=15.0*

ISC 03 09:23:02.3±0.8, 14.°58N±0.°04×92.°71W±0.°03, h47km±8km, n207, σ1s83/275, mb4.2/17, MS3.2/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.54	53		Pn	09 23 13.4	-0.4
THIG					Sn	09 23 22.0	-0.1
THIG		0.54	53	*e*P	Pn	09 23 13.4	-0.4
THIG				*i* S	Sn	09 23 22.0	-0.1
THIG		0.54	53	*i* P	Pn	09 23 13.0	-0.8
THIG				*i* S	Sn	09 23 22.7	+0.7
THIG				IAML		09 23 23.0	
	comp=N,17μm,0.4s						
SMCA	Catarina	0.67	66	*i* P	Pn	09 23 14.9	-0.6
SMCA				*i* S	Sn	09 23 25.1	0.0
PATR	El Naranjo	0.70	40		Pn	09 23 14.2	-1.2
PATR					Sn	09 23 25.0	-1.2
PATR	El Naranjo	0.70	40	*e*P	Pn	09 23 14.9	-1.2
PATR				*e*S	Sn	09 23 25.0	-1.2
CHUJ	Union Juarez	0.77	48	*e*P	Pn	09 23 15.8	-1.3
CHUJ				*e*S	Sn	09 23 26.6	-1.2
PAVE	Pavencul	0.80	40		Pn	09 23 16.2	-1.2
PAVE					Sn	09 23 26.9	-1.5
PAVE	Pavencul	0.80	40	*e*P	Pn	09 23 16.2	-1.2
PAVE				*e*S	Sn	09 23 26.9	-1.5
RTAL	Retalhuleu	0.98	93		Pn	09 23 19.0	-0.7
RTAL				Sn	Sn	09 23 31.2	-1.3
RTAL	Retalhuleu	0.98	93	*e*P	Pn	09 23 19.0	-0.7
RTAL				*e*S	Sn	09 23 31.1	-1.4
RTAL	Retalhuleu	0.98	93	*e*P	Pn	09 23 18.9	-0.8
RTAL				*i* S	Sn	09 23 31.2	-1.3
RTAL	Retalhuleu	0.98	93	P	Pn	09 23 19.0	-0.7
RTAL	Retalhuleu	0.98	93	S	Sn	09 23 30.9	-1.6
QUEO	Labor Ovalle	1.19	76	*i* P	Pn	09 23 27.2	-0.6
QUEO				*i* S	Sn	09 23 37.9	-0.1
PCIG		1.22	336		Pn	09 23 22.6	-0.4
PCIG					Sn	09 23 37.9	-0.5
PCIG		1.22	336	*e*P	Pn	09 23 22.6	-0.4
PCIG				*e*S	Sn	09 23 37.9	-0.5
SOKI	Kika Raxquin	1.28	79	*i* P	Pn	09 23 24.3	+0.2
HUEH	Huehuetenango	1.38	58		Pn	09 23 25.3	0.0
HUEH				Sn	Sn	09 23 43.4	+0.9
HUEH	Huehuetenango	1.38	58	*e*P	Pn	09 23 25.4	+0.1
HUEH				*e*S	Sn	09 23 43.2	+0.7
HUEH	Huehuetenango	1.38	58	*e*P	Pn	09 23 25.3	0.0
HUEH				*e*S	Sn	09 23 42.9	+0.5
HUEH	Huehuetenango	1.38	58	*i* P	Pn	09 23 25.4	+0.1
HUEH				*i* S	Sn	09 23 43.4	+0.9
HUEH				IAML		09 23 49.0	
	comp=E,35μm,0.7s						
HUEH	Huehuetenango	1.38	58	P	Pn	09 23 25.3	0.0
QUIS	Sacapulas	1.71	65	*i* P	Pn	09 23 30.0	+0.2
QUIS				*i* S	Sn	09 23 52.9	+2.3
QUIS				IAML		09 23 55.2	
	comp=E,6μm,0.5s						
CCIG	Comitan	1.78	18		Pn	09 23 31.3	+0.6
CCIG	Comitan	1.78	18	*e*P	Pn	09 23 31.4	+0.6
CCIG				*i* S	Sn	09 23 53.0	+0.7
CCIG	Comitan	1.78	18	*i* P	Pn	09 23 31.4	+0.6
CCIG				*i* S	Sn	09 23 53.7	+1.4
CCIG				IAML		09 23 58.4	
	comp=E,3μm,0.4s						
ESSG	Sabana Grande	1.83	96	*i* P	Pn	09 23 30.5	-0.8
ESSG				IAML		09 23 56.0	
	comp=N,2μm,0.2s						
FG8	Yepocapa, Chim	2.10	98	*i* P	Pn	09 23 29.2	-6.0
FG8				*i* S	Sn	09 23 49.1	-11
TGIG		2.22	350		Pn	09 23 36.0	-0.8
TGIG					Sn	09 24 02.2	-0.8
TGIG		2.22	350	*e*P	Pn	09 23 36.0	-0.8
TGIG				*i* S	Sn	09 24 02.2	-0.8
TGIG		2.22	350	*i* P	Pn	09 23 37.8	+1.0
TGIG				IAML		09 24 14.0	
	comp=E,2μm,0.7s						
ESSJ	San Jos, E	2.37	115	*i* P	Pn	09 23 32.7	-6.0
NUBE	Las Nubes	2.92	103	*e*P	Pn	09 23 45.8	-0.5
NUBE				*e*S	Sn	09 24 18.1	-2.1
NUBE	Las Nubes	2.92	103	*i* P	Pn	09 23 46.2	-0.1
NUBE				*i* S	Sn	09 24 18.6	-1.6
NUBE	Las Nubes	2.92	103	P	Pn	09 23 46.2	-0.1
RTR	El Retiro	3.04	102	*e*P	Pn	09 23 48.3	+0.2

UXUV	UXUV	3.06	333			Pn	09 23 48.6	+0.5
UXUV						Sn	09 24 23.4	0.0
UXUV	UXUV	3.06	333	*e*P		Pn	09 23 48.6	+0.5
UXUV				*i* S		Sn	09 24 23.4	0.0
SBLS	San Blas	3.08	103	*e*P		Pn	09 23 49.2	+0.6
CEVE	Cerro Verde	3.08	104	*e*P		Pn	09 23 48.9	+0.2
CEVE				*e*S		Sn	09 24 23.8	-0.6
CEVE	Cerro Verde	3.08	104	P		Pn	09 23 49.4	+0.7
SNJE	San Jose	3.09	103	*e*P		Pn	09 23 48.4	-0.4
UNIC	Universidad Ca	3.12	101	*e*P		Pn	09 23 49.6	+0.6
UNIC	Universidad Ca	3.12	101	P		Pn	09 23 49.7	+0.6
UNIC	Universidad Ca	3.12	101	S		Sn	09 24 23.8	-1.3
MTO3	Montecristo	3.25	93			Pn	09 23 50.4	-0.6
MTO3	Montecristo	3.25	93	*i* P		Pn	09 23 50.3	-0.6
MTO3	Montecristo	3.25	93	P		Pn	09 23 50.1	-0.8
ESQI	Esquipulas	3.26	90			Pn	09 23 50.2	-0.8
CMIG	Matias Romero	3.26	320			Pn	09 23 50.9	0.0
CMIG						Sn	09 24 26.9	-1.6
CMIG	Matias Romero	3.26	320	P		Pn	09 23 51.2	+0.2
	comp=E,4.4nm,0.3s,baz=137,slow=12,SNR=44							
CMIG				S		Sn	09 24 26.2	-2.3
	comp=E,167nm,0.7s,baz=101,slow=14,SNR=9.4							
CMIG				LR		LR	09 24 46.7	
	comp=E,24nm,21.6s,baz=140,slow=33 comp=E,11nm,0.3s							
CMIG	Matias Romero	3.26	320	*e*P		Pn	09 23 50.9	0.0
CMIG				*e*S		Sn	09 24 26.9	-1.6
JAYA	Jayaque - finc	3.29	106	*e*P		Pn	09 23 50.9	-0.6
JAYA	Jayaque - finc	3.29	106	*i* P		Pn	09 23 51.0	-0.5
JAYA				*i* S		Sn	09 24 27.7	-1.8
JAYA	Jayaque - finc	3.29	106	P		Pn	09 23 50.9	-0.6
PMON	Piamonte	3.40	104	*e*P		Pn	09 23 53.5	+0.6
PMON				*e*S		Sn	09 24 31.1	-1.0
PMON	Piamonte	3.40	104	P		Pn	09 23 53.6	+0.6
BOQS	Boqueron	3.43	104	*e*P		Pn	09 23 53.3	-0.1
UEES	Universidad Ev	3.47	104	P		Pn	09 23 54.5	+0.6
UEES	Universidad Ev	3.47	104	S		Sn	09 24 33.6	-0.2
HUIG	Huatulco	3.49	290			Pn	09 23 53.8	-0.3
HUIG						Sn	09 24 29.4	-4.8
HUIG	Huatulco	3.49	290	*e*P		Pn	09 23 53.8	-0.3
HUIG				*i* S		Sn	09 24 29.4	-4.8
HUIG	Huatulco	3.49	290	*i* P		Pn	09 23 57.2	+3.1
LOMA	Loma Larga	3.55	105	*e*P		Pn	09 23 55.9	+0.8
LOMA	Loma Larga	3.55	105	P		Pn	09 23 55.5	+0.4
LOMA	Loma Larga	3.55	105	S		Sn	09 24 34.4	-1.6
PETF	Flores	3.59	49			Pn	09 23 54.5	-0.9
PETF	Flores	3.59	49	*e*P		Pn	09 23 55.3	-0.1
PETF	Flores	3.59	49	*e*P		Pn	09 23 54.8	-0.7
PETF				*i* S		Sn	09 24 31.4	-5.2
PETF	Flores	3.59	49	*i* P		Pn	09 23 55.3	-0.1
PETF				IAML			09 24 57.5	
	comp=E,907nm,0.6s							
PETF	Flores	3.59	49	P		Pn	09 23 54.7	-0.7
LFRS	El Faro	3.66	105	*e*P		Pn	09 23 57.0	+0.5
PAVA	Las Pavas	3.76	103	*e*P		Pn	09 23 58.3	+0.5
PAVA	Las Pavas	3.76	103	P		Pn	09 23 58.6	+0.8
TUIG	Tuzandepetl	3.81	335	*e*P		Pn	09 23 58.3	-0.2
TUIG				*i* S		Sn	09 24 39.9	-3.0
SARH	Santa Rosa de	3.82	87	*i* P		Pn	09 23 58.2	-0.5
NEUV	Arroyo Zacate	4.31	317			Pn	09 24 05.6	+0.3
NEUV						Sn	09 24 56.1	+1.8
NEUV	Arroyo Zacate	4.31	317	*e*P		Pn	09 24 05.6	+0.3
NEUV				*i* S		Sn	09 24 56.1	+1.8
PACA	Pacayal	4.39	104	S		Sn	09 24 56.2	-0.5
PACA	Pacayal	4.39	104	P		Pn	09 24 08.8	+2.2
PEIG	Puerto Escondi	4.51	289			Pn	09 24 08.0	-0.1
PEIG						Sn	09 24 52.9	-6.5
PEIG	Puerto Escondi	4.51	289	*e*P		Pn	09 24 08.0	-0.1
PEIG				*e*S		Sn	09 24 52.9	-6.5
PMUV	Sontecomapan	4.57	330			Pn	09 24 10.3	+1.3
PMUV						Sn	09 24 57.2	-3.8
PMUV	Sontecomapan	4.57	330	*e*P		Pn	09 24 10.3	+1.3
PMUV				*e*S		Sn	09 24 57.2	-3.8
OXIG	Oaxaca	4.60	303			Pn	09 24 08.5	-1.0
OXIG						Sn	09 24 55.3	-6.5
VHO	Vista Hermosa	4.60	303	*e*P		Pn	09 24 08.5	-1.0
VHO				*e*S		Sn	09 24 55.3	-6.5
SCIG	Sabancuy	4.60	18	*e*P		Pn	09 24 07.8	-1.5
SCIG				*i* S		Sn	09 24 56.5	-5.0
CNCH	Conchagua	4.91	105	*e*P		Pn	09 24 14.6	+0.9
CNCH	Conchagua	4.91	105	S		Sn	09 25 10.0	+0.8
CNCH	Conchagua	4.91	105	P		Pn	09 24 15.0	+1.3
YOIG	Yosondua	5.18	297			Pn	09 24 19.5	+1.9
YOIG						Sn	09 25 16.5	+0.3
YOIG	Yosondua	5.18	297	*e*P		Pn	09 24 19.5	+1.9
YOIG				*e*S		Sn	09 25 16.5	+0.3
CSGN	Cosiguina Volc	5.25	107	P		Pn	09 24 20.0	+1.7
CSGN				S		Sn	09 25 16.3	-1.3
TGUH	Tegucigalpa,Un	5.29	95	Pn		Pn	09 24 17.7	-1.2
TOIG	Toxpalan	5.45	310			Pn	09 24 22.9	+1.8
TOIG						Sn	09 25 23.2	+0.

JTS			S	Sn	09 26 42.4	+0.2	
	comp=E,4.6nm,0.4s,baz=329,slow=22,SNR=2.2						
JTS			LR	LR	09 27 58.6		
	comp=E,30nm,20.1s,baz=317,slow=34						
	comp=E,4.8nm,0.3s						
SOCE	**Pocosol**	**8.93**	**117**	Pn	**Pn**	**09 25 08.0**	**-0.9**
BILN	**Bilwi Airport**	**9.06**	**92**	Pn	**Pn**	**09 25 09.8**	**-0.7**
MOIG	**Morelia**	**9.56**	**303**	Pn	**Pn**	**09 25 16.4**	**-1.2**
LCR2	**La Lucha 2**	**9.77**	**119**		**Pn**	**09 25 19.9**	**-0.6**
PIRO	**Carate, Puerto**	**11.04**	**123**	Pn	**Pn**	**09 25 35.5**	**-2.2**
BRU2	**Volcan**	**11.37**	**119**		**Pn**	**09 25 40.0**	**-2.3**
ZAIG	**Zacatecas**	**12.39**	**313**	Pn	**Pn**	**09 25 54.4**	**-2.0**
833A	**Chaparral WMA,**	**15.02**	**337**	Pn	**Pn**	**09 26 31.4**	**-0.2**
833A				IAmb	IAmb	09 26 44.2	
	comp=Z,6.7nm,0.7s						
MLDN	**Muldoon**	**15.66**	**346**	Pn	**Pn**	**09 26 39.9**	**+0.1**
MLDN				IAmb	IAmb	09 26 53.5	
	comp=Z,12nm,0.8s						
346A	**Big Creek Wild**	**16.99**	**10**		**Pn**	**09 26 56.5**	**-0.2**
346A				IAmb	IAmb	09 27 17.2	
	comp=Z,51nm,1.4s						
HPIG		**17.24**	**318**	Pn	**Pn**	**09 26 58.8**	**-1.2**
BRAL	**Brewton**	**17.31**	**16**		**Pn**	**09 27 00.1**	**-0.5**
BRAL				IAmb	IAmb	09 27 21.1	
	comp=Z,41nm,1.1s						
656A	**Willston**	**17.46**	**31**	Pn	**Pn**	**09 27 01.3**	**-1.2**
SAND	**Sanderson**	**17.59**	**332**		**Pn**	**09 27 03.4**	**-0.8**
TXAR	**Lajitas Array**	**17.84**	**327**		**Pn**	**09 27 07.7**	**+0.5**
TXAR	**Lajitas Array**	**17.84**	**327**	P	**Pn**	**09 27 07.6**	**+0.3**
	baz=155,slow=12,SNR=20						
	comp=Z,2.1nm,0.9s						
TX31	**Lajitas Ar. Si**	**17.84**	**327**		**Pn**	**09 27 07.7**	**+0.4**
WHTX	**Lake Whitney,**	**17.87**	**347**		**Pn**	**09 27 08.1**	**+0.7**
352A	**Blakely**	**18.27**	**22**	P	**P**	**09 27 11.9**	**-0.2**
352A				IAmb	IAmb	09 27 13.0	
	comp=Z,55nm,1.3s						
250A	**Grady**	**18.29**	**18**		**P**	**09 27 12.4**	**+0.1**
250A				IAmb	IAmb	09 27 43.4	
	comp=Z,32nm,1.5s						
ALPN	**Alpine**	**18.66**	**329**		**P**	**09 27 16.5**	**-0.1**
PLPT	**Palo Pinto**	**18.86**	**345**	P	**P**	**09 27 17.5**	**-1.0**
SGCY	**Sterling City**	**18.89**	**337**	P	**P**	**09 27 18.3**	**-0.7**
Z47A	**Carrollton**	**19.01**	**12**	P	**P**	**09 27 19.8**	**-0.3**
Z47A				IAmb	IAmb	09 27 35.6	
	comp=Z,12nm,0.9s						
WLAR	**White Oak Lake**	**19.03**	**359**	P	**P**	**09 27 20.7**	**+0.3**
WLAR				IAmb	IAmb	09 27 23.7	
	comp=Z,15nm,0.9s						
MNHN	**Monahans**	**19.06**	**333**		**P**	**09 27 21.5**	**+0.7**
LRAL	**Lakeview Retre**	**19.09**	**15**	P	**P**	**09 27 20.7**	**-0.4**
LRAL				IAmb	IAmb	09 27 20.9	
	comp=Z,7.9nm,1.1s						
PECS	**Pecos**	**19.59**	**330**	P	**P**	**09 27 26.4**	**-0.3**
ODSA	**Odessa**	**19.64**	**334**	P	**P**	**09 27 26.8**	**-0.4**
ODSA				IAmb	IAmb	09 27 31.1	
	comp=Z,8.2nm,0.9s						
MIAR	**Mount Ida**	**19.90**	**358**		**P**	**09 27 30.8**	**+1.0**
MIAR				IAmb	IAmb	09 27 33.4	
	comp=Z,17nm,0.9s						
Y49A	**Blount Mountai**	**20.02**	**15**	P	**P**	**09 27 32.2**	**+0.9**
Y49A				IAmb	IAmb	09 28 05.7	
	comp=Z,6.6nm,1.0s						
OXF	**Oxford**	**20.07**	**8**	P	**P**	**09 27 31.9**	**+0.1**
OXF				IAmb	IAmb	09 27 35.0	
	comp=Z,25nm,1.1s						
SMWD	**Samnorwood**	**21.54**	**343**	P	**P**	**09 27 47.2**	**-0.4**
SMWD				IAmb	IAmb	09 28 30.7	
	comp=Z,6.2nm,0.9s						
OK052	**Battle Ridge R**	**21.64**	**351**	P	**P**	**09 27 47.1**	**-1.5**
OK052				IAmb	IAmb	09 28 03.2	
	comp=Z,34nm,1.5s						
PBMO	**Poplar Bluff**	**22.20**	**5**	P	**P**	**09 27 54.5**	**-0.2**
PBMO				IAmb	IAmb	09 27 60.0	
	comp=Z,4.2nm,0.8s						
Y57A	**Sumter**	**22.33**	**28**	P	**P**	**09 27 56.2**	**+0.1**
Y57A				IAmb	IAmb	09 28 01.1	
	comp=Z,15nm,0.9s						
CROK	**Carrier**	**22.34**	**349**	P	**P**	**09 27 54.5**	**-1.7**
CROK				IAmb	IAmb	09 28 10.0	
	comp=Z,8.6nm,0.8s						
TKL	**Tuckaleechee C**	**22.47**	**19**	LR	LR	09 36 43.3	
	comp=Z,49nm,19.3s,baz=214,slow=37						
T35A	**Sooner Cattle**	**22.50**	**352**	P	**P**	**09 27 57.2**	**-0.8**
T35A				IAmb	IAmb	09 28 11.6	
	comp=Z,5.9nm,1.0s						
121A	**Cookes Peak, D**	**22.54**	**325**	P	**P**	**09 27 58.4**	**-0.2**
121A				IAmb	IAmb	09 28 14.6	
	comp=Z,7.5nm,1.0s						
CRNM	**Carthage**	**23.09**	**329**	P	**P**	**09 28 03.6**	**-0.7**
Y22A	**Socorro**	**23.20**	**329**	P	**P**	**09 28 05.0**	**-0.3**
Y22A				IAmb	IAmb	09 28 24.3	
	comp=Z,3.8nm,0.9s						
LENM	**Lemitar**	**23.38**	**329**	P	**P**	**09 28 06.7**	**-0.4**
R32A	**Long Quarter,**	**24.34**	**348**	P	**P**	**09 28 16.3**	**+0.6**
R32A				IAmb	IAmb	09 28 48.2	
	comp=Z,7.1nm,1.0s						
SJG	**San Juan**	**25.71**	**79**	LR	LR	09 39 38.6	
	comp=Z,21nm,18.2s,baz=204,slow=39						
PDAR	**Pinedale Array**	**31.61**	**336**	P	**P**	**09 29 19.9**	**-1.1**
	comp=Z,0.3nm,0.9s,baz=174,slow=12,SNR=2.3						
	comp=Z,0.3nm,0.9s						
SADO	**Sadowa**	**32.22**	**18**	LR	LR	09 42 22.6	
	comp=Z,574nm,19.1s,baz=274,slow=36						
NVAR	**Mina Array Bea**	**32.79**	**321**	P	**P**	**09 29 31.4**	**0.0**
	comp=Z,0.6nm,0.7s,baz=127,slow=8.6,SNR=6.1						
	comp=Z,0.6nm,0.7s						
YHH	**Holmes Hill**	**33.82**	**337**	P	**P**	**09 29 40.7**	**+0.3**
CMB	**Columbia Colle**	**33.85**	**319**	P	**P**	**09 29 39.6**	**-0.8**
ULM	**Lac du Bonnet**	**35.67**	**357**	P	**P**	**09 29 53.0**	**-2.9**
	comp=Z,2.8nm,0.8s,baz=197,slow=3.4,SNR=3.6						
	comp=Z,2.8nm,0.8s						
YKA	**Yellowknife Ar**	**50.31**	**347**	P	**P**	**09 31 51.4**	**-2.5**
	comp=Z,0.5nm,0.6s,baz=160,slow=6.5,SNR=2.3						
	comp=Z,0.5nm,0.6s						
BDFB	**Brasilia**	**53.41**	**122**	LR	LR	09 56 56.9	
	comp=Z,23nm,18.6s,baz=113,slow=38						
MMPY	**Sheldon Lake,**	**55.12**	**339**	P	**P**	**09 32 29.1**	**-0.5**
MMPY				IAmb	IAmb	09 32 29.3	
	comp=Z,3.0nm,1.0s						
M29M	**Somme Creek**	**57.62**	**337**	P	**P**	**09 32 46.9**	**-0.6**
M29M				IAmb	IAmb	09 32 47.4	
	comp=Z,3.7nm,1.0s						
ISLE	**Juniper Island**	**58.20**	**334**	P	**P**	**09 32 52.0**	**+0.4**
A36M	**Sachs Harbour**	**60.55**	**349**	P	**P**	**09 33 07.5**	**+0.1**
J26L	**Joseph Creek**	**60.66**	**337**	P	**P**	**09 33 09.4**	**+1.0**
J26L				IAmb	IAmb	09 33 13.7	
	comp=Z,2.1nm,1.1s						
F28M	**Old Crow**	**61.10**	**341**	P	**P**	**09 33 10.5**	**-0.8**
F28M				IAmb	IAmb	09 33 10.6	
	comp=Z,4.7nm,0.9s						
DHH	**Diamond Head**	**61.93**	**287**	P	**P**	**09 33 18.3**	**+0.6**
BMAR	**Burnt Mountain**	**62.52**	**340**	P	**P**	**09 33 19.4**	**-1.5**
Q19K	**Cape Douglas,**	**62.76**	**329**	P	**P**	**09 33 23.2**	**+0.6**
ANGG	**Ammassalik, Gr**	**62.76**	**23**	P	**P**	**09 33 23.1**	**+0.7**
I20K	**Naaghedeneel**	**65.03**	**335**	P	**P**	**09 33 38.1**	**+0.7**
O16K	**Kokwok River B**	**65.14**	**329**	P	**P**	**09 33 39.0**	**+0.8**
IMAR	**Indian Mountai**	**65.16**	**337**	P	**P**	**09 33 38.4**	**+0.2**
F21K	**Alatna River**	**65.52**	**338**	P	**P**	**09 33 39.6**	**-0.9**
SACV	**Santiago Islan**	**66.54**	**80**	P	**P**	**09 33 48.1**	**+0.1**
BORG	**Borgarnes**	**68.99**	**26**	LR	LR	10 04 38.5	
	comp=Z,18nm,18.7s,baz=313,slow=36						
MG03	**Isla Dawson**	**70.76**	**166**	P	**P**	**09 34 14.4**	**+1.0**
RAR	**Rarotonga**	**74.81**	**243**	P	**P**	**09 34 38.3**	**+0.2**
NAO01	**NORSAR Array S**	**83.88**	**29**	P	**P**	**09 35 29.1**	**+2.2**
NOA	**NORSAR Array B**	**83.97**	**28**	LR	LR	10 10 44.8	
	comp=Z,8.5nm,20.9s,baz=350,slow=34						
GRFO	**Grafenberg**	**87.77**	**39**	P	**P**	**09 35 47.5**	**+1.0**

*ASRS **03** 09:25:10.0ₛ1.3,53°.55N×87°.90E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 03 09:25:12.6±3.2, 53°.59N×87°.95E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=28.2km s-min=18.6km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**282**	I	I	09 37 20.0	
	0.1nm,0.8s,baz=97,slow=330,SNR=3.6						
ZALV	**Zalesovo Beam**	**1.89**	**282**	Pn	Pn	09 25 46.8	+0.7
	0.9nm,0.3s,baz=100,slow=14,SNR=8.2						
ZALV				Lg	Lg	09 26 13.0	
	1.9nm,0.3s,baz=99,slow=24,SNR=8.4						
KURBB	**Kurchatov Arra**	**6.52**	**247**	Pn	Pn	09 26 49.4	-0.3
	0.1nm,0.3s,baz=61,slow=14,SNR=3.3						
KURBB				Lg	Lg	09 28 38.2	
	baz=64,slow=30						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**7.71**	**210**	Pn	Pn	09 27 07.8	+1.7
	0.1nm,0.3s,baz=28,slow=13,SNR=1.9						
MKAR				Lg	Lg	09 29 16.6	
	0.3nm,0.3s,baz=31,slow=25,SNR=4.1						
	0.2nm,0.4s						

*SNET **03** 09:28:28.6±2.7, 12°.86N×88°.34W, h22km, ML3.3*
*CATAC **03** 09:28:28.2±0.3, 13°.N±3°.8′8W±1°, h39km±6km, M3.8/25, MLv3.8/25, Error ellipse: s-maj=7.1km s-min=2.4km az=29.7, confirmed*

ISC 03 09:28:25.5±1.2, 12°.76N±0°.05×88°.35W±0°.03, h14km±10km, n63, σ0s70/77, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCY	**Lacayo**	**0.66**	**4**	*e*P	**Pn**	**09 28 41.2**	**+0.6**
VSM	**San Miguel**	**0.67**	**6**	*e*P	**Pn**	**09 28 41.6**	**+0.8**
BLLM	**Bellamira**	**0.69**	**9**	*e*P	**Pn**	**09 28 41.3**	**+0.5**
BLLM				*e*S	**Sn**	**09 28 51.1**	**-0.3**
PACA	**Pacayal**	**0.71**	**2**	*e*P	**Pn**	**09 28 42.0**	**+0.8**
PACA				*e*S	**Sn**	**09 28 52.1**	**+0.2**
PACA	**Pacayal**	**0.71**	**2**	P	**Pn**	**09 28 42.1**	**+0.9**
CNCH	**Conchagua**	**0.72**	**44**	P	**Pn**	**09 28 41.8**	**+0.4**
CNCH	**Conchagua**	**0.72**	**44**	S	**Sn**	**09 28 52.5**	**+0.3**
CNRM	**Centro Naciona**	**0.73**	**14**	*e*P	**Pn**	**09 28 42.0**	**+0.5**
CNRM	**Centro Naciona**	**0.73**	**14**	P	**Pn**	**09 28 41.9**	**+0.5**
CNRM	**Centro Naciona**	**0.73**	**14**	S	**Sn**	**09 28 52.6**	**+0.2**
TECA	**Tecapa**	**0.75**	**348**	*e*P	**Pn**	**09 28 42.0**	**+0.2**
TECA				*e*P	**Pb**	**09 28 42.2**	**+1.7**
TECA				*e*S	**Sn**	**09 28 51.6**	**-1.4**
CSGN	**Cosiguina Volc**	**0.80**	**74**	P	**Pn**	**09 28 43.0**	**+0.6**
CSGN				S	**Sn**	**09 28 54.1**	**0.0**
POTN	**Potosi Cosigui**	**0.85**	**74**	P	**Pn**	**09 28 43.8**	**+0.8**
POTN				S	**Sn**	**09 28 55.5**	**+0.2**
PQSS	**Presa 15 de Se**	**0.89**	**346**	*e*P	**Pn**	**09 28 44.1**	**+0.5**
PQSS				*e*S	**Sn**	**09 28 54.8**	**-1.4**
UESV	**Universidad de**	**0.97**	**334**	*e*P	**Pn**	**09 28 45.0**	**+0.3**
UESV	**Universidad de**	**0.97**	**334**	P	**Pn**	**09 28 45.3**	**+0.5**
UESV	**Universidad de**	**0.97**	**334**	S	**Sn**	**09 28 58.2**	**-0.2**
LFRS	**El Faro**	**1.11**	**321**	*e*P	**Pn**	**09 28 46.9**	**+0.2**
LFRS				*e*S	**Sg**	**09 29 00.9**	**-0.5**
PAVA	**Las Pavas**	**1.11**	**329**	*e*P	**Pn**	**09 28 47.0**	**+0.3**
PAVA				*e*S	**Sg**	**09 29 00.8**	**-0.7**
PAVA	**Las Pavas**	**1.11**	**329**	P	**Pn**	**09 28 47.1**	**+0.4**
PAVA	**Las Pavas**	**1.11**	**329**	S	**Sn**	**09 29 01.9**	**+0.1**
LBRS	**Las Brisas**	**1.19**	**325**	*e*P	**Pg**	**09 28 48.4**	**-0.1**
LOMA	**Loma Larga**	**1.19**	**318**	*e*P	**Pn**	**09 28 48.1**	**+0.3**
LOMA	**Loma Larga**	**1.19**	**318**	P	**Pb**	**09 28 47.8**	**-0.2**
LOMA	**Loma Larga**	**1.19**	**318**	S	**Sg**	**09 29 03.5**	**-0.6**
LFU	**La Fuente**	**1.24**	**323**	*e*P	**Pg**	**09 28 49.6**	**+0.2**
CRIN	**San Cristobal**	**1.27**	**92**	P	**Pg**	**09 28 49.8**	**-0.1**
CRIN	**San Cristobal**	**1.27**	**92**	S	**Sg**	**09 29 06.6**	**+0.2**
BOQS	**Boqueron**	**1.33**	**317**	*e*P	**Pn**	**09 28 50.2**	**+0.4**
PMON	**Piamonte**	**1.34**	**315**	*e*P	**Pn**	**09 28 50.3**	**+0.5**
PKGN	**Cerro Pekin**	**1.34**	**94**	P	**Pn**	**09 28 50.3**	**+0.6**
PKGN				S	**Sb**	**09 29 07.0**	**-0.4**
JAYA	**Jayaque - finc**	**1.40**	**310**	*e*P	**Pn**	**09 28 50.7**	**0.0**
JAYA	**Jayaque - finc**	**1.40**	**310**	P	**Pn**	**09 28 50.7**	**0.0**
PLRN	**Geotermica Pol**	**1.55**	**96**	P	**Pn**	**09 28 52.0**	**-0.7**
CNGA	**AI SSO del Vol**	**1.63**	**99**	P	**Pn**	**09 28 54.1**	**+0.3**
CNGA				S	**Sn**	**09 29 14.0**	**-0.5**
CNGN	**Cerro Negro**	**1.63**	**99**	P	**Pn**	**09 28 54.2**	**+0.4**
CNGN	**Cerro Negro**	**1.63**	**99**	S	**Sn**	**09 29 14.3**	**-0.3**
CEVE	**Cerro Verde**	**1.64**	**311**	*e*P	**Pn**	**09 28 54.6**	**+0.5**
CEVE				*e*S	**Sn**	**09 29 15.5**	**+0.4**
SNJE	**San Jose**	**1.65**	**312**	*e*P	**Pb**	**09 28 55.4**	**-0.4**
RTR	**El Retiro**	**1.70**	**312**	*e*P	**Pn**	**09 28 55.9**	**+1.1**
NUBE	**Las Nubes**	**1.80**	**309**	*e*P	**Pn**	**09 28 56.5**	**+0.3**
NUBE	**Las Nubes**	**1.80**	**309**	P	**Pn**	**09 28 56.8**	**+0.6**
NUBE	**Las Nubes**	**1.80**	**309**	S	**Sn**	**09 29 18.5**	**-0.5**
COPN	**Copaltepe**	**1.81**	**108**	P	**Pn**	**09 28 55.9**	**-0.4**
MOM2	**El Cardon**	**1.85**	**100**	P	**Pn**	**09 28 57.3**	**+0.5**
MOM2				S	**Sn**	**09 29 19.7**	**-0.1**
YUSH	**Yuscaran**	**1.89**	**51**	P	**Pn**	**09 28 57.4**	**0.0**
YUSH	**Yuscaran**	**1.89**	**51**	S	**Sn**	**09 29 19.7**	**-1.3**
MTO3	**Montecristo**	**1.91**	**329**	*e*P	**Pn**	**09 28 58.3**	**+0.5**
MTO3	**Montecristo**	**1.91**	**329**	P	**Pn**	**09 28 57.9**	**+0.1**
SAPS	**Ciudad Sandino**	**1.98**	**107**	P	**Pn**	**09 28 59.1**	**+0.5**
SAPS	**Ciudad Sandino**	**1.98**	**107**	S	**Sn**	**09 29 22.5**	**-0.8**
ESQI	**Esquipulas**	**2.04**	**332**	*e*P	**Pn**	**09 29 00.0**	**+0.6**
TISN	**Laguna Tiscapa**	**2.12**	**107**	P	**Pn**	**09 28 59.9**	**-0.6**
UNAN	**Cigeo UNAN**	**2.13**	**107**	P	**Pn**	**09 29 01.4**	**+0.8**
UNAN				S	**Sn**	**09 29 25.8**	**-1.1**
RCVN	**Varilla2**	**2.25**	**68**	P	**Pn**	**09 29 02.6**	**+0.2**
NANN	**Nandasmo**	**2.32**	**110**	P	**Pn**	**09 29 05.0**	**+1.7**
NANN	**Nandasmo**	**2.32**	**110**	S	**Sn**	**09 29 31.9**	**+0.3**
RCPN	**Sur Rio San Ju**	**2.32**	**71**	P	**Pn**	**09 29 04.0**	**+0.6**
MATN	**Matagalpa**	**2.37**	**86**	P	**Pn**	**09 29 03.1**	**-0.9**
MATN	**Matagalpa**	**2.37**	**86**	S	**Sn**	**09 29 30.6**	**-2.3**
BOAB	**BOACO BROADBAN**	**2.63**	**96**	P	**Pn**	**09 29 07.4**	**-0.2**
SIUN	**Universidad Ur**	**3.61**	**74**	P	**Pn**	**09 29 21.2**	**+0.2**
CMARA	**Lajas Hojancha**	**3.95**	**133**	P	**Pn**	**09 29 27.2**	**+1.4**

IDC 03 09:40:01.1±9.6, 5°.80S×129°.14E, h265km±105km, mb2.8/1, mbtmp3.5/4, Error ellipse: s-maj=98.0km s-min=34.8km az=57.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.70**	**195**	P	Pn	09 42 52.1	-0.9
	2.7nm,1.2s,baz=29,slow=12,SNR=7.1						
FITZ				S	S	09 45 07.8	-6.4
	0.4nm,0.4s,baz=329,slow=19,SNR=1.0						
WRA	**Warramunga Arr**	**14.94**	**161**	P	P	09 43 19.0	-0.5
	0.3nm,0.4s,baz=340,slow=11,SNR=16						
WRA				S	S	09 46 07.9	+3.5
	0.4nm,1.1s,baz=343,slow=21,SNR=1.8						
ASAR	**Alice Springs**	**18.35**	**166**	P	P	09 43 56.7	0.0
	0.5nm,0.5s,baz=344,slow=11,SNR=13						
MKAR	**Makanchi Array**	**66.76**	**327**	P	P	09 50 24.4	+0.2
	0.2nm,0.5s,baz=117,slow=8.1,SNR=1.9						
	0.2nm,0.5s						

*IDC **03** 09:50:45.7±4.5, 41°.40S×85°.14E, h0km, mb3.8/5, mbtmp3.8/5, MS3.6/24, Error ellipse: s-maj=134.9km s-min=25.9km az=139.0*
*NEIC **03** 09:50:46.6±1.8, 41°.4S±0°.2×85°.0E±0°.2, h10km±2km, mb4.5/12, Error ellipse: s-maj=33.7km s-min=22.0km az=341.0*

ISC 03 09:50:46.4±0.8, 41°.4S±0°.2×85°.0E±0°.1, h10km, n51, σ0s70/19, mb4.2/11, MS3.7/24, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AIS	**Amsterdam Isla**	**6.77**	**299**	Pn	**Pn**	**09 52 26.2**	**+0.5**
H01W2	**Cape Leeuwin H**	**23.72**	**84**	T	T	10 20 14.7	
	baz=245,slow=74,SNR=353						
H01W3	**Cape Leeuwin H**	**23.73**	**84**	T	T	10 20 15.4	
	baz=245,slow=74,SNR=266						
H01W1	**Cape Leeuwin H**	**23.73**	**84**	T	T	10 20 16.0	
	baz=245,slow=74,SNR=231						
H04S1	**CROZET ISLANDS**	**24.29**	**246**	T	T	10 21 34.6	
	baz=89,slow=75,SNR=33						
H04S2	**CROZET ISLANDS**	**24.30**	**246**	T	T	10 21 39.4	
	baz=89,slow=75,SNR=78						
H04S3	**CROZET ISLANDS**	**24.30**	**246**	T	T	10 21 34.7	
	baz=89,slow=75,SNR=85						
H04N2	**CROZET ISLANDS**	**24.36**	**247**	T	T	10 21 49.7	
	baz=91,slow=74,SNR=392						
H04N3	**CROZET ISLANDS**	**24.38**	**247**	T	T	10 21 48.2	
	baz=91,slow=74,SNR=300						
H04N1	**CROZET ISLANDS**	**24.38**	**247**	T	T	10 21 49.4	
	baz=91,slow=74,SNR=207						
NWAO	**Narrogin (SRO)**	**26.90**	**82**	P	**P**	**09 56 26.6**	**-0.8**
NWAO	**Narrogin (SRO)**	**26.90**	**82**	LR	LR	10 04 32.9	
	comp=Z,62nm,18.2s,baz=274,slow=31						
MAW	**Mawson**	**28.93**	**197**	LR	LR	10 06 30.2	
	comp=Z,80nm,18.5s,baz=40,slow=33						
H08S2	**Diego Garcia H**	**35.37**	**338**	T	T	10 35 25.8	
	baz=163,slow=76,SNR=133						
H08S1	**Diego Garcia H**	**35.38**	**338**	T	T	10 35 26.7	
	baz=163,slow=76,SNR=67						
H08S3	**Diego Garcia H**	**35.39**	**338**	T	T	10 35 28.4	
	baz=163,slow=76,SNR=253						
ASAR	**Alice Springs**	**44.22**	**82**	P	**P**	**09 58 56.1**	**+0.3**
ASAR	**Alice Springs**	**44.22**	**82**	P	**P**	**09 58 56.0**	**+0.1**
	1.2nm,0.9s,baz=222,slow=6.9,SNR=12						
ASAR				LR	LR	10 15 22.7	
	comp=Z,62nm,20.6s,baz=242,slow=34						
	1.2nm,0.9s						
AS31	**Alice Springs**	**44.22**	**82**	P	**P**	**09 58 55.7**	**-0.2**
KNRA	**Kununurra**	**45.52**	**69**	P	**P**	**09 59 05.6**	**-0.5**
KNRA				IAmb	IAmb	09 59 27.2	
	comp=Z,7.4nm,1.1s						
STKA	**Stephens Creek**	**45.67**	**97**	P	**P**	**09 59 07.5**	**+0.2**
STKA	**Stephens Creek**	**45.67**	**97**	P	**P**	**09 59 07.4**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=239,slow=7.4,SNR=5.3						
	comp=Z,1.6nm,0.6s						
PSI	**Prapat**	**45.74**	**20**	LR	LR	10 14 35.7	
	comp=Z,173nm,18.4s,baz=161,slow=31						
WRA	**Warramunga Arr**	**46.77**	**78**	P	**P**	**09 59 16.2**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=232,slow=7.8,SNR=8.3						
WRA				LR	LR	10 18 14.6	
	comp=Z,80nm,18.0s,baz=235,slow=35						
	comp=Z,1.2nm,0.8s						
WRAB	**Tennant Creek**	**46.79**	**78**	P	**P**	**09 59 17.1**	**+1.0**
WRAB				IAmb	IAmb	09 59 29.4	
	comp=Z,7.3nm,1.3s						
WR8	**Warramunga Arr**	**46.88**	**78**	P	**P**	**09 59 17.7**	**+0.8**
WR8				IAmb	IAmb	10 00 01.5	
	comp=Z,6.5nm,1.2s						
WB0	**Warramunga Arr**	**46.92**	**78**	P	**P**	**09 59 18.4**	**+1.1**
WB0				IAmb	IAmb	09 59 44.4	
	comp=Z,4.4nm,1.1s						
VNDA	**Vanda**	**47.17**	**163**	LR	LR	10 16 53.8	
	comp=Z,44nm,20.3s,baz=278,slow=33						
PALK	**Pallekele**	**48.56**	**354**	LR	LR	10 14 54.2	
	comp=Z,145nm,21.8s,baz=153,slow=30						
QSPA	**South Pole Qui**	**48.80**	**180**	P	**P**	**09 59 32.1**	**+0.7**
QSPA				IAmb	IAmb	09 59 46.0	
	comp=Z,3.5nm,1.1s						
QSPA	**South Pole Qui**	**48.80**	**180**	P	**P**	**09 59 31.9**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=269,slow=2.7,SNR=8.0						
QSPA				LR	LR	10 18 08.8	
	comp=Z,66nm,19.4s,baz=335,slow=34						
	comp=Z,1.2nm,0.9s						
BOSA	**Boshof**	**49.70**	**265**	LR	LR	10 15 44.4	
	comp=Z,61nm,21.8s,baz=203,slow=30						
SNAA	**Sanae**	**50.70**	**204**	P	**P**	**09 59 46.0**	**+0.3**
SNAA	**Sanae**	**50.70**	**204**	P	**P**	**09 59 46.6**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=108,slow=7.2,SNR=3.7						
SNAA				LR	LR	10 18 23.2	
	comp=Z,26nm,20.4s,baz=304,slow=33						
	comp=Z,0.8nm,0.8s						
MREMI	**Moremi**	**51.37**	**273**	P	**P**	**09 59 50.5**	**-0.9**
MREMI				IAmb	IAmb	09 59 59.7	
	comp=Z,7.9nm,1.1s						
LBTB	**Lobatse**	**51.38**	**269**	LR	LR	10 17 07.8	
	comp=Z,51nm,20.4s,baz=152,slow=31						
MATP	**Matopo**	**51.85**	**276**	LR	LR	10 17 58.8	
	comp=Z,47nm,21.1s,baz=157,slow=31						
LSZ	**Lusaka**	**55.27**	**281**	LR	LR	10 19 46.8	
	comp=Z,37nm,20.2s,baz=177,slow=32						
BELA	**Belgrano 2**	**55.62**	**193**	P	**P**	**10 00 20.7**	**-1.0**
BELA				IAmb	IAmb	10 00 33.4	
	comp=Z,2.7nm,1.1s						
EIDS	**Eidsvold**	**56.16**	**95**	P	**P**	**10 00 25.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**60.90**	**15**	LR	LR	10 25 50.1	
	comp=Z,21nm,18.7s,baz=200,slow=35						
PMG	**Port Moresby**	**62.99**	**78**	LR	LR	10 27 38.3	
	comp=Z,46nm,18.4s,baz=138,slow=35						
BRDH	**Bariadhala**	**64.00**	**7**	LR	LR	10 25 28.5	
	comp=Z,107nm,18.3s,baz=257,slow=32						
PMSA	**Palmer Station**	**71.46**	**193**	LR	LR	10 32 02.0	
	comp=Z,64nm,20.5s,baz=132,slow=35						
HNR	**Honiara**	**72.52**	**87**	LR	LR	10 31 11

IDE	**Isla Desecheo**	**3.37 255**			**Pb**	**09 57 46.4**	**-2.5**
IDE					**Sn**	**09 58 21.6**	**+0.4**
IDE	**Isla Desecheo**	**3.37 255**	*eP*		**Pb**	**09 57 46.4**	**-2.5**
IDE	**Isla Desecheo**	**3.37 255**	*eS*		**Sn**	**09 58 21.6**	**+0.4**
DHSZ	**Broadband at M**	**3.69 144**	*eP*		**Pn**	**09 57 46.8**	**+0.9**
GDHS	**Morne Mazeau,**	**3.69 144**	Pn		**Pn**	**09 57 46.0**	**0.0**
GDHS			IAML			09 58 42.7	
	comp=N,94nm,0.5s						
ATGZ	**Broadband at L**	**3.85 145**	*eP*		**Pn**	**09 57 50.3**	**+2.2**
CBE	**Ff, Capester**	**3.94 144**	Pn		**Pn**	**09 57 50.3**	**+0.9**
DSDZ	**La Diserade, G**	**4.09 136**	*eP*		**Pn**	**09 57 52.9**	**+1.5**
DSLB	**Salisbury**	**4.56 146**	*eP*		**Pn**	**09 58 00.5**	**+2.5**

*UPP **03** 10:00:33.5±3.2, 64°.39N×30°.89E, h0km, ML1.9, Presumed earthquake*
*HEL **03** 10:00:33.4±0.2, 64°.68N×30°.72E, h0km, ML1.9, Explosion KOLA*
*KOLA **03** 10:00:35.6, 64°.79N×30°.84E, h0km, ML1.9, Error ellipse: s-maj=16.3km s-min=10.7km az=150.0, Kostomuksha, Karelia*
*IDC **03** 10:00:36.0±2.5, 64°.62N×30°.29E, h0km, mbtmp3.1/3, ML1.9/3, Error ellipse: s-maj=41.3km s-min=8.8km az=102.0*

ISC 03 10:00:31.7±0.8, **64°.69N**±0°.02×**31°.08E**±0°.04, **h0**km, **n42,** σ1**91**/**56**, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RMF	**Romuvaara**	**0.69**	**227**	PG		**Pg**	**10 00 44.0**	**-0.9**
	baz=33							
RMF				MSG			10 00 51.8	
	comp=Z,22nm,0.2s							
KU1	**Kurvinen**	**1.09**	**324**	PG		**Pg**	**10 00 51.9**	**-0.5**
KU6	**Riekki**	**1.43**	**340**	PG		**Pn**	**10 00 58.8**	**-0.1**
	baz=166							
KU6				MSG			10 01 15.4	
	comp=Z,13nm,0.2s							
KU6				SB		**Sg**	**10 01 17.2**	**-0.3**
MSF	**Maaselka**	**1.49**	**326**	PG		**Pn**	**10 00 59.0**	**-0.8**
	baz=152							
MSF				SG		**Sn**	**10 01 18.0**	**-1.9**
KU2	**Taivalkoski**	**1.58**	**312**	PN		**Pn**	**10 01 00.3**	**-0.6**
OLKF	**Oulanka, Finla**	**1.78**	**338**	PG		**Pn**	**10 01 04.7**	**+1.0**
OLKF				MSG			10 01 25.2	
	comp=Z,8.6nm,0.2s							
OLKF				SN		**Sb**	**10 01 28.9**	**+1.0**
JOF	**Joensuu**	**1.79**	**177**	PG		**Pg**	**10 01 05.4**	**-0.5**
JOF				SN		**Sg**	**10 01 28.6**	**-0.3**
NIF	**Nilsia**	**1.94**	**229**	PG		**Pn**	**10 01 06.3**	**+0.4**
NIF				MSG			10 01 27.6	
	comp=Z,10nm,0.2s							
KVDA	**Kovda**	**2.14**	**19**	P		**Pb**	**10 01 11.2**	**0.0**
KVDA				S		**Sb**	**10 01 38.6**	**+0.3**
RANF	**Ranua**	**2.23**	**308**	PG		**Pn**	**10 01 10.9**	**+1.0**
RANF				SG		**Sn**	**10 01 39.5**	**+1.3**
OUL	**Oulu**	**2.25**	**282**	PG		**Pn**	**10 01 11.4**	**+1.3**
OUL				SG		**Sn**	**10 01 38.3**	**-0.1**
OBF4	**Vikkela, Lumij**	**2.56**	**275**	PG		**Pn**	**10 01 15.9**	**+1.4**
OBF4				MSG			10 01 44.7	
	comp=Z,5.7nm,0.2s							
OUF	**Merijarvi**	**2.76**	**266**	PN		**Pn**	**10 01 17.3**	**+0.2**
	baz=85							
OUF				MSG			10 01 50.4	
	comp=Z,8.2nm,0.2s							
OUF				SG		**Sn**	**10 01 52.9**	**+1.8**
OBF0	**Syolatti, Pyha**	**2.96**	**269**	PG		**Pn**	**10 01 22.8**	**+3.0**
OBF0				MSG			10 01 55.8	
	comp=Z,9.0nm,0.2s							
SUF	**Sumiainen**	**2.96**	**230**	PG		**Pb**	**10 01 22.9**	**-2.3**
SUF				MSG			10 01 56.6	
	comp=Z,2.7nm,0.2s							
APA0	**Apatity Array**	**3.03**	**14**	S		**Sn**	**10 01 59.3**	**+1.6**
TOF	**Tornio**	**3.15**	**299**	PG		**Pb**	**10 01 27.4**	**-1.1**
TOF				MSG			10 02 02.0	
	comp=Z,2.1nm,0.2s							
TOF				SG		**Sn**	**10 02 05.3**	**+4.6**
OBF8	**Ulkokalla**	**3.32**	**267**	PN		**Pn**	**10 01 25.1**	**+0.3**
KAF	**Kangasniemi**	**3.36**	**222**	PG		**Pb**	**10 01 31.0**	**-1.2**
RUF	**Ruokolahti**	**3.42**	**197**	PB		**Pn**	**10 01 28.6**	**+2.4**
KALU	**Kalix**	**3.45**	**293**	P		**Pn**	**10 01 28.1**	**+1.5**
KALU				S		**Sn**	**10 02 11.9**	**+3.8**
KALU	**Kalix**	**3.45**	**293**	PG		**Pb**	**10 01 31.4**	**-2.2**
LVZ	**Lovozero**	**3.53**	**23**	S		**Sn**	**10 02 12.1**	**+2.0**
LVZ	**Lovozero**	**3.53**	**23**	PB		**Pb**	**10 01 34.1**	**-0.8**
LVZ				SB		**Sb**	**10 02 16.4**	**-1.9**
KEF	**Keuruu**	**3.77**	**231**	PB		**Pn**	**10 01 33.1**	**+2.1**
RAJF	**Raja-Jooseppi**	**3.96**	**345**	PN		**Pn**	**10 01 35.5**	**+1.9**
FIA0	**FINESS Array S**	**3.98**	**217**	PB		**Pn**	**10 01 37.6**	**+3.8**
FIA0				SG		**Sb**	**10 02 30.7**	**-0.4**
FINES	**FINESS Array B**	**3.98**	**217**	Pn		**Pn**	**10 01 34.5**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=30,slow=17,SNR=4.4							
FINES				Pg		**Pb**	**10 01 42.2**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=31,slow=15,SNR=6.0							
FINES				Lg		Lg	10 02 29.8	
	comp=Z,0.9nm,0.3s,baz=32,slow=25,SNR=9.6 comp=Z,1.8nm,0.8s							
PAJU	**Pajala**	**4.02**	**309**	P		**Pn**	**10 01 38.2**	**+3.7**
PAJU	**Pajala**	**4.02**	**309**	PG		**Pb**	**10 01 41.2**	**-2.1**
SJUU	**Sjulsmark**	**4.09**	**286**	P		**Pn**	**10 01 38.0**	**+2.6**
ERTU	**Ertsjaerv**	**4.13**	**301**	P		**Pn**	**10 01 38.6**	**+2.6**
ERTU	**Ertsjaerv**	**4.13**	**301**	PG		**Pb**	**10 01 45.9**	**+0.7**
HARU	**Harads**	**4.47**	**294**	P		**Pn**	**10 01 42.5**	**+1.9**
UMAU	**Umeaa**	**4.60**	**265**	PN		**Pn**	**10 01 41.5**	**-1.0**
	baz=71							
TERR	**Teriberka**	**4.80**	**17**	S		**Sn**	**10 02 38.5**	**-2.7**
ARCES	**ARCESS Array B**	**5.33**	**338**	Pn		**Pn**	**10 01 53.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=154,slow=13,SNR=15							
ARCES				Sn		**Sn**	**10 02 53.2**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=156,slow=24,SNR=1.5							
ARCES				Lg		Lg	10 03 13.9	
	comp=Z,0.3nm,0.3s,baz=157,slow=25,SNR=5.8 comp=Z,1.8nm,0.8s							
ARCES	**ARCESS Array B**	**5.33**	**338**	P		**Pn**	**10 01 54.1**	**+1.7**
ARCES				S		**Sn**	**10 02 51.4**	**-2.9**
RATU	**Laukkuluspa**	**5.60**	**309**	P		**Pn**	**10 01 59.2**	**+3.0**
SALU	**Saltoluokta**	**5.79**	**303**	P		**Pn**	**10 01 59.8**	**+1.1**
I37NO	**I37NO**	**6.58**	**317**	I		I	10 39 10.0	
	baz=125,slow=322,SNR=1.2							
HFS	**Hagfors**	**9.25**	**248**	Pn		**Pn**	**10 02 43.5**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=45,slow=16,SNR=2.0							
HFS				Lg		Lg	10 05 10.2	
	comp=Z,0.1nm,0.3s,baz=57,slow=29,SNR=1.6 comp=Z,3.1nm,1.0s							

*ATH **03** 10:04:07.9, 40°.34N×20°.36E, h2km, ML2.9/7, Manual Solution by S.Koutrakis First location: 2019/09/03 10:05:25, This location: 2019/09/03 10:23:16 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
*TIR **03** 10:04:08.7, 40°.33N×20°.44E, h0km±1km, Md1.9/4, Ml2.8/2*
*SKO **03** 10:04:10.9, 40°.24N×20°.61E, h0km, ML2.6*
*THE **03** 10:04:11.2, 40°N±2°×2°1E±°, h0km±1km, M2.6/12, MLh2.6/12*

ISC 03 10:04:09.0±1.2, **40°.33N**±0°.02×**20°.43E**±0°.03, **h4**km±10km, **n41,** σ1**06**/**63**, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KBN	**Korca**	**0.40**	**42**	P		**Pg**	**10 04 17.0**	**+0.2**
KBN				S		**Sg**	**10 04 23.2**	**+1.2**
KBN				AML		AML	10 04 32.7	
	7.4nm,0.6s							
KBN				AMd			10 04 52.4	
PENT	**Pentalofos**	**0.56**	**104**	P		**Pg**	**10 04 19.6**	**-0.1**
PENT				S		**Sg**	**10 04 25.2**	**-1.7**
PENT	**Pentalofos**	**0.56**	**104**	P		**Pg**	**10 04 19.7**	**-0.1**
PENT				S		**Sg**	**10 04 28.1**	**+1.1**
SRN	**Sarande**	**0.56**	**217**	P		**Pb**	**10 04 20.7**	**-0.6**
SRN				S		**Sb**	**10 04 28.3**	**-1.3**
SRN				AML		AML	10 04 30.5	
	2.2nm,0.3s							
SRN				AMd			10 05 02.3	
VLO	**Vlora**	**0.73**	**281**	P		**Pb**	**10 04 23.3**	**-0.9**
JAN	**Janina**	**0.74**	**154**	P		**Pg**	**10 04 22.9**	**-0.4**
JAN	**Janina**	**0.74**	**154**	P		**Pg**	**10 04 23.0**	**-0.3**
JAN				S		**Sg**	**10 04 33.8**	**+0.8**
KEK	**Kerkira**	**0.78**	**219**	P		**Pn**	**10 04 27.6**	**+0.8**
IGT	**Igoumenitsa**	**0.80**	**186**	P		**Pb**	**10 04 25.2**	**-0.2**
IGT				S		**Sn**	**10 04 37.7**	**-1.6**
IGT				AMd			10 05 00.0	
IGT	**Igoumenitsa**	**0.80**	**186**	P		**Pb**	**10 04 24.6**	**-0.8**
IGT				S		**Sb**	**10 04 36.9**	**+0.3**
OHR	**Ohrid**	**0.83**	**20**	*i* Pg		**Pn**	**10 04 26.7**	**-0.8**
OHR				*i* Sg		**Sn**	**10 04 39.5**	**-0.7**
OHR				*e*Lg		Lg	10 04 40.6	
	comp=E,215nm,0.6s							
OHR				*e*Lg		Lg	10 04 43.8	
	comp=N,91nm,0.3s							
FNA	**Florina**	**0.85**	**57**	P		**Pg**	**10 04 25.6**	**+0.2**
FNA				S		**Sb**	**10 04 39.2**	**+1.0**
FNA				AMd			10 05 15.3	
FNA	**Florina**	**0.85**	**57**	P		**Pg**	**10 04 25.1**	**-0.2**
FNA				S		**Sg**	**10 04 37.4**	**+1.0**
FNA	**Florina**	**0.85**	**57**	*i* Pg		**Pg**	**10 04 25.2**	**-0.2**
FNA				*i* Sg		**Sb**	**10 04 38.8**	**+0.7**
FNA	**Florina**	**0.85**	**57**	P		**Pg**	**10 04 25.3**	**-0.1**
FNA				S		**Sg**	**10 04 37.4**	**+1.0**
PRMD	**Pramanda**	**0.95**	**147**	P		**Pg**	**10 04 26.4**	**-0.7**
KZN	**Kozani**	**1.02**	**91**	P		**Pg**	**10 04 27.8**	**-0.8**
KZN				S		**Sg**	**10 04 40.4**	**-1.5**
KZN	**Kozani**	**1.02**	**91**	P		**Pg**	**10 04 28.1**	**-0.5**
KZN				S		**Sb**	**10 04 43.8**	**+0.7**
TETR	**Tetrakomo, Epi**	**1.18**	**146**	P		**Pg**	**10 04 31.0**	**-0.6**
TETR	**Tetrakomo, Epi**	**1.18**	**146**	P		**Pb**	**10 04 31.5**	**-0.4**
TETR				S		**Sg**	**10 04 46.8**	**0.0**
THL	**Klokotos Trika**	**1.44**	**122**	P		**Pn**	**10 04 34.7**	**-1.1**
THL	**Klokotos Trika**	**1.44**	**122**	P		**Pn**	**10 04 35.5**	**-0.2**
THL				S		**Sb**	**10 04 55.4**	**+0.6**
AMPL	**Ampelaki**	**1.53**	**156**	P		**Pn**	**10 04 36.8**	**-0.2**
LKD2	**Lefkada island**	**1.55**	**173**	P		**Pg**	**10 04 39.3**	**+0.6**
LKD2				S		**Sg**	**10 05 02.2**	**+3.5**
LKD2	**Lefkada island**	**1.55**	**173**	P		**Pg**	**10 04 38.8**	**+0.1**
EVGl	**Lefkada island**	**1.71**	**174**	P		**Pg**	**10 04 40.9**	**-1.0**
EVGl	**Lefkada island**	**1.71**	**174**	P		**Pb**	**10 04 40.3**	**-0.7**
PUK	**Puka**	**1.76**	**347**	P		**Pg**	**10 04 42.9**	**+0.2**
EVR	**Evrytania**	**1.77**	**143**	P		**Pn**	**10 04 40.7**	**+0.3**
SKO	**Skopje**	**1.81**	**25**	*e*Pn		**Pn**	**10 04 40.3**	**-0.7**
SKO				*e*Sn		**Sg**	**10 05 08.7**	**+1.6**
VAY	**Valandovo**	**1.90**	**58**	*e*Pn		**Pg**	**10 04 45.2**	**-0.3**
VAY				*e*Sn		**Sg**	**10 05 11.4**	**+1.3**
VAY				*e*Lg		Lg	10 05 12.6	
	comp=N,58nm,0.6s							
VAY				*e*Lg		Lg	10 05 15.1	
	comp=E,38nm,0.5s							
KNT	**Kendrikon**	**2.05**	**65**	P		**Pn**	**10 04 45.0**	**+0.8**
KNT	**Kendrikon**	**2.05**	**65**	*i* Pn		**Pn**	**10 04 45.1**	**+0.9**
KNT				*e*Sn		**Sb**	**10 05 12.5**	**-0.1**
KNT	**Kendrikon**	**2.05**	**65**	P		**Pn**	**10 04 45.1**	**+0.9**
HORT	**Hortiatis**	**2.05**	**82**	P		**Pn**	**10 04 44.6**	**+0.3**
HORT	**Hortiatis**	**2.05**	**82**	P		**Pn**	**10 04 44.5**	**+0.1**
SOH	**Sokhos**	**2.28**	**77**	*i* Pn		**Pn**	**10 04 48.5**	**+1.0**
SOH				*e*Sn		**Sn**	**10 05 17.7**	**+1.8**
SRS	**Serrai**	**2.53**	**71**	*e*Pn		**Pn**	**10 04 51.1**	**+0.3**
KKB	**Krupnik**	**2.54**	**53**	*i* Pn		**Pb**	**10 04 53.0**	**-2.1**
KKB				*e*Sn		**Sn**	**10 05 24.1**	**+1.8**
BARS	**Barje**	**2.69**	**22**	*i* Pn		**Pb**	**10 04 55.3**	**-2.5**
MMB	**Musomishta**	**2.79**	**63**	*i* Pn		**Pn**	**10 04 56.1**	**+1.6**

*IDC **03** 10:07:01.7±8.2, 20°.96S×178°.42W, h569km±87km, mb3.0/7, mbtmp3.9/7, Error ellipse: s-maj=45.8km s-min=30.3km az=89.0*

ISC 03 10:07:02.4±1.1, **21°.0S**±0°.2×**178°.4W**±0°.3, **h579**km, **n10,** σ1**36**/**11**, **mb3.5/7**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ASAR	**Alice Springs**	**44.08**	**257**	P		**P**	**10 14 19.8**	**-0.5**
	1.3nm,0.5s,baz=98,slow=7.7,SNR=30							
ASAR				PcP		**PcP**	**10 15 53.0**	**+0.3**
	0.3nm,0.6s,baz=100,slow=4.4,SNR=5.4 1.3nm,0.5s							
WRA	**Warramunga Arr**	**44.20**	**263**	P		**P**	**10 14 20.1**	**-1.2**
	0.6nm,0.5s,baz=97,slow=7.3,SNR=27 0.6nm,0.5s							
QSPA	**South Pole Qui**	**69.12**	**180**	P		**P**	**10 17 12.0**	**+0.9**
	0.9nm,0.9s,baz=90,slow=2.0,SNR=1.8 0.9nm,0.9s							
PETK	**Petropavlovsk-**	**76.62**	**345**	P		**P**	**10 17 54.3**	**+0.4**
	1.2nm,0.7s,baz=160,slow=5.6,SNR=2.3 1.2nm,0.7s							
USRK	**Ussuriysk Ar.**	**79.14**	**326**	P		**P**	**10 18 09.1**	**+1.5**
	0.8nm,0.6s,baz=66,slow=5.7,SNR=4.0 0.8nm,0.6s							
ILAR	**Eielson Array**	**88.83**	**13**	P		**P**	**10 18 54.5**	**-0.4**
	0.6nm,1.0s,baz=207,slow=5.1,SNR=4.2 0.6nm,1.0s							
CMAR	**Chiang Mai Arr**	**89.94**	**290**	P		**P**	**10 19 02.4**	**+1.3**
	0.4nm,0.3s,baz=112,slow=3.1,SNR=4.4 0.4nm,0.3s							
BVAR	**Borovoye Array**	**119.20**	**320**	PKP		**PKPdf**	**10 24 44.6**	**-1.4**
	0.6nm,0.3s,baz=115,slow=2.1,SNR=3.0							
AKASG	**Malin Array Be**	**143.24**	**331**	PKP		**PKPdf**	**10 25 28.6**	**-2.5**
	2.1nm,0.5s,baz=45,slow=4.3,SNR=9.8							
BRTR	**Keskin Array B**	**146.88**	**312**	PKPbc		**PKPbc**	**10 25 40.6**	**-0.2**
	0.6nm,0.6s,baz=93,slow=3.3,SNR=2.9							

*VAO **03** 10:10:12.7±1.4, 8°.90S×76°.02W, h99km±11km, mb4.8*
*NEIC **03** 10:10:14.1±1.9, 8°.89S±0°.05×76°.20W±0°.06, h118km±4km, mb4.8/396, Error ellipse: s-maj=8.4km s-min=7.6km az=71.0*
*IDC **03** 10:10:14.1±0.4, 8°.83S×76°.22W, h124km±3km, mb4.3/19, mbtmp4.7/25, MS3.5/4, Error ellipse: s-maj=13.3km s-min=7.2km az=53.0*
*GCMT **03** 10:10:16.1±0.5, 8°.81S±0°.03×75°.94W±0°.03, h143km±5km, MW4.8/78, Moment Tensor Solution. s15,c17; s78,c101; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.41±. 10; Mθθ-0.48±.11; Mϕϕ 1.90±. 16; Mrθ-0.48±.06; Mrϕ 0.82±. 12; Mθϕ 1.28±. 11; Best double couple: Mo2.32200×10^16 NP1:ϕs47.00000°, δ37.00000°, λ-41.00000°. NP2: ϕs171.00000°, δ67.00000°, λ-120.00000°. Principal axes: T 2.4740, Plg16.0000°, Azm283.0000°; N -0.2950, Plg27.0000°, Azm184.0000°; P -2.1700, Plg58.0000°, Azm40.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 10:10:13.8±0.3, **8°.88S**±0°.04×**76°.19W**±0°.04, **h123**km±2km, **h123**km:**pP-P**, **n675,** σ0**82**/**676**, **mb4.7**/197, **6C**, **Central Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ATAH	**Atahualpa**	**2.79**	**308**	P		**Pn**	**10 10 58.0**	**+0.2**
	869nm,0.3s,baz=138,slow=5.7,SNR=787							
ATAH				S		**Sn**	**10 11 30.4**	**-1.3**
	626nm,0.4s,baz=68,slow=16,SNR=5.3							
NNA	**Nana**	**3.16**	**192**			**Pn**	**10 11 02.6**	**+0.3**
NNA				Sn		**Sn**	**10 11 37.7**	**-2.1**
NNA	**Nana**	**3.16**	**192**	P		**Pn**	**10 11 02.5**	**+0.1**
	159nm,0.3s,baz=340,slow=7.4,SNR=116							
NNA				S		**Sn**	**10 11 36.5**	**-3.2**
	554nm,0.3s,baz=1.9,slow=10.0,SNR=20							
CZSB	**Cruzeiro do Su**	**3.63**	**72**			**Pn**	**10 11 09.0**	**+0.4**
CZSB				Sn		**Sn**	**10 11 51.8**	**+0.8**
COHC	**Cochancay**	**7.06**	**334**			**Pn**	**10 11 53.8**	**-0.9**
TBTG	**Tabatinga, AM**	**7.79**	**54**			**Pn**	**10 12 03.5**	**-1.0**
FLOC	**Florencia**	**10.41**	**3**			**Pn**	**10 12 38.9**	**-1.0**
LPAZ	**La Paz**	**10.77**	**134**	Pn		**Pn**	**10 12 44.0**	**-1.2**
LPAZ	**La Paz**	**10.77**	**134**	P		**Pn**	**10 12 44.6**	**-0.7**
	8.9nm,0.5s,baz=323,slow=10.0,SNR=23							
LPAZ				LR		LR	10 17 06.9	
	comp=Z,94nm,18.9s,baz=266,slow=38							
PB18	**Viaviri**	**10.84**	**144**			**Pn**	**10 12 44.6**	**-1.5**
PB12	**IPOC Station P**	**11.23**	**150**			**Pn**	**10 12 49.8**	**-1.0**
PB16	**IPOC Station P**	**11.42**	**146**			**Pn**	**10 12 54.0**	**+0.1**
PB11	**IPOC Station P**	**12.53**	**150**	Pn		**Pn**	**10 13 06.8**	**-1.2**
TEFE	**Tefe**	**12.66**	**66**	*e*P		**Pn**	**10 13 07.3**	**-2.4**
GO01	**Chusmiza**	**12.69**	**148**			**Pn**	**10 13 10.1**	**-0.3**
TA01	**Diego Aracena**	**12.99**	**154**	Pn		**Pn**	**10 13 12.8**	**-1.0**
PB08	**IPOC Station P**	**13.10**	**149**	Pn		**Pn**	**10 13 15.1**	**-0.6**
PB01	**IPOC Station P**	**13.71**	**153**			**Pn**	**10 13 23.8**	**+0.4**
ROSC	**El Rosal**	**13.75**	**8**	Pn		**Pn**	**10 13 24.2**	**0.0**
ROSC	**El Rosal**	**13.75**	**8**	P		**Pn**	**10 13 25.7**	**+1.5**
	4.4nm,0.3s,baz=213,slow=17,SNR=2.2							
PB02	**IPOC Station P**	**13.78**	**155**	Pn		**Pn**	**10 13 24.1**	**-0.1**
PB09	**IPOC Station P**	**14.48**	**153**	Pn		**Pn**	**10 13 32.3**	**-0.9**
PB03	**IPOC Station P**	**14.48**	**155**	Pn		**Pn**	**10 13 31.4**	**-1.8**
RUSC	**La Rusia**	**15.00**	**12**	Pn		**Pn**	**10 13 38.9**	**-1.1**
PB05	**IPOC Station P**	**15.04**	**158**	Pn		**Pn**	**10 13 39.7**	**-0.5**

VILB	**Vilhena**	**16.21**	**106**			**Pn**	**10 13 53.5**	**-1.3**
VILB	**Vilhena**	**16.21**	**106**	*e*P		**Pn**	**10 13 53.4**	**-1.3**
PAYG	**Puerto Ayora**	**16.23**	**299**			**Pn**	**10 13 54.2**	**-0.8**
PAYG				IAmb		IAmb	10 13 58.6	
	comp=Z,58nm,1.2s							
SIV	**San Ignacio**	**16.36**	**117**	P		**P**	**10 13 55.6**	**-1.6**
	comp=Z,16nm,0.6s,baz=297,slow=10,SNR=93							
PB14	**IPOC Station P**	**16.61**	**161**			**Pn**	**10 13 58.6**	**-1.1**
PB14				IAmb		IAmb	10 14 14.9	
	comp=Z,21nm,0.4s							
GO02	**Mina Guanaco**	**17.37**	**160**			**P**	**10 14 08.1**	**-0.4**
PTLB	**Pontes e Lacer**	**17.90**	**113**			**Pn**	**10 14 14.2**	**-0.9**
PTLB				IAmb		IAmb	10 14 16.1	
	comp=Z,40nm,0.8s							
PTLB	**Pontes e Lacer**	**17.90**	**113**	*e*P		**Pn**	**10 14 13.2**	**-1.9**
AC01	**Pan de Azucar**	**17.98**	**164**	P		**P**	**10 14 15.4**	**+0.6**
BCIP	**Isla Barro Col**	**18.29**	**348**	P		**Pn**	**10 14 19.6**	**-0.1**
BCIP				IAmb		IAmb	10 14 20.7	
	comp=Z,38nm,1.1s							
SDV	**Santo Domingo**	**18.50**	**18**			**Pn**	**10 14 21.8**	**-0.6**
SDV				IAmb		IAmb	10 14 24.1	
	comp=Z,38nm,0.9s							
SDV	**Santo Domingo**	**18.50**	**18**	P		**Pn**	**10 14 21.8**	**-0.6**
	comp=Z,26nm,0.7s,baz=198,slow=12,SNR=11							
SDV	**Santo Domingo**	**18.50**	**18**	*e*P		**Pn**	**10 14 22.4**	**0.0**
BRU2	**Volcan**	**18.71**	**340**	P		**P**	**10 14 21.6**	**-1.5**
AC02	**Maricunga**	**19.07**	**160**			**P**	**10 14 27.7**	**+0.4**
AC06	**Mina Casimiro**	**19.19**	**164**	P		**P**	**10 14 28.3**	**+0.2**
BOAV	**Boa Vista**	**19.22**	**55**			**Pn**	**10 14 29.2**	**-1.5**
BOAV				IAmb		IAmb	10 14 56.4	
	comp=Z,22nm,0.7s							
BOAV	**Boa Vista**	**19.22**	**55**	*e*P		**Pn**	**10 14 28.8**	**-1.9**
PDRB	**Porto dos Gac**	**19.34**	**100**	*e*P		**P**	**10 14 28.5**	**-1.4**
BAUV	**El Baul**	**19.48**	**25**	P		**Pn**	**10 14 32.5**	**-1.2**
SMRC	**Santa Marta, M**	**20.01**	**6**	P		**P**	**10 14 37.0**	**0.0**
SMRC				IAmb		IAmb	10 14 38.1	
	comp=Z,25nm,0.6s							
LCR2	**La Lucha 2**	**20.07**	**337**			**P**	**10 14 38.5**	**+0.6**
CLDB	**Colider**	**20.19**	**97**	*e*P		**P**	**10 14 37.4**	**-1.6**
LCO	**Las Campanas**	**20.68**	**166**			**P**	**10 14 45.0**	**+0.6**
LCO				IAmb		IAmb	10 14 46.7	
	comp=Z,35nm,0.7s							
NPGB	**Novo Progresso**	**20.71**	**86**	*e*P		**P**	**10 14 43.4**	**-1.2**
ITTB	**Itaituba**	**20.80**	**79**	*e*P		**P**	**10 14 45.0**	**-0.6**
JTS	**Las Juntas de**	**20.95**	**335**			**P**	**10 14 46.5**	**-0.6**
JTS	**Las Juntas de**	**20.95**	**335**	P		**P**	**10 14 46.2**	**-0.9**
	comp=Z,11nm,1.0s,baz=173,slow=18,SNR=6.3							
SALV	**Santo Antonio**	**21.19**	**111**	*e*P		**P**	**10 14 48.0**	**-1.7**
CO05	**La Serena**	**21.44**	**168**	P		**P**	**10 14 50.7**	**-1.6**
CO05				IAmb		IAmb	10 14 59.3	
	comp=Z,61nm,1.4s							
CO01	**Juntas del Tor**	**21.75**	**166**	P		**P**	**10 14 55.1**	**-0.7**
GO04	**Tololo Observa**	**21.78**	**167**			**P**	**10 14 55.8**	**-0.4**
GO04				IAmb		IAmb	10 14 59.4	
	comp=Z,24nm,0.9s							
MURT	**Porto Murtinho**	**21.94**	**127**	*e*P		**P**	**10 14 57.1**	**-0.5**
BDQN	**Bodoquena, MS**	**22.02**	**124**	*e*P		**P**	**10 14 57.8**	**-0.6**
CO06	**Fray Jorge**	**22.10**	**170**	P		**P**	**10 14 59.6**	**+0.4**
CO06				IAmb		IAmb	10 15 01.5	
	comp=Z,67nm,1.5s							
CO03	**El Pedregal**	**22.45**	**168**	P		**P**	**10 15 03.8**	**+1.0**
ACON	**Acoyapa**	**22.55**	**337**	P		**P**	**10 15 04.7**	**+0.8**
CO02	**Combarbal**	**22.73**	**168**	P		**P**	**10 15 06.2**	**+0.6**
CO02				IAmb		IAmb	10 15 08.4	
	comp=Z,38nm,0.9s							
AQDB	**Aquidauana**	**22.90**	**122**			**P**	**10 15 06.7**	**-0.6**
AQDB	**Aquidauana**	**22.90**	**122**	*e*P		**P**	**10 15 06.8**	**-0.4**
MAL2	**Monte Alegre,**	**22.93**	**74**	P		**P**	**10 15 08.2**	**+0.6**
SIUN	**Universidad Ur**	**24.01**	**339**	P		**P**	**10 15 17.2**	**-0.2**
SIUN				IAmb		IAmb	10 15

GUA01 **Guaratinga, BA** 36.26 106 *e*P P **10 17 05.1 -0.4**
COYC **Coyhaique** 36.73 175 P P **10 17 09.3 +0.1**
AY03 **Cochrane** 38.36 176 P P **10 17 21.9 -0.9**
AY03 IAmb IAmb 10 17 34.3
comp=Z,17nm,1.2s
NBAN **Anadia - AL** 39.39 94 *e*P P **10 17 31.7 -0.2**
553A **Crawfordville** 39.64 349 P P **10 17 33.2 -0.5**
RCBR **Riachuelo** 40.06 89 *e*P P **10 17 36.8 -0.7**
154A **Montrose** 41.78 351 P P **10 17 51.2 0.0**
152A **Waverly Hall** 42.11 349 P P **10 17 53.8 0.0**
152A IAmb IAmb 10 17 54.2
comp=Z,12nm,1.0s
GOGA **Godfrey** 42.62 351 P P **10 17 57.7 -0.3**
Y57A **Sumter** 42.84 355 P P **10 17 60.0 +0.2**
735A **Kenedy** 42.92 332 P P **10 17 59.9 -0.7**
LRAL **Lakeview Retre** 42.93 347 P P **10 18 00.1 -0.5**
LRAL IAmb IAmb 10 18 00.6
comp=Z,16nm,1.2s
146A **Union** 43.07 344 P P **10 18 01.0 -0.6**
Y52A **Lilburn** 43.16 350 P P **10 18 01.9 -0.4**
Y52A IAmb IAmb 10 18 01.9
comp=Z,21nm,1.4s
HODGE **Hodges** 43.26 353 P P **10 18 02.8 -0.3**
Z47A **Carrollton** 43.34 345 P P **10 18 03.4 -0.4**
Z47A IAmb IAmb 10 18 03.9
comp=Z,16nm,0.7s
PAULI **Pauline** 43.79 353 P P **10 18 07.2 -0.2**
FPAL **Fort Paine** 44.09 349 P P **10 18 09.2 -0.7**
W50A **Signal Mountai** 44.68 349 IAmb IAmb 10 18 14.6
comp=Z,13nm,0.8s
DRIO **Del Rio** 44.77 329 P **10 18 16.1 +0.8**
DRIO IAmb IAmb 10 18 16.6
comp=Z,16nm,0.8s
CPCT **Cooper Cave** 44.78 350 P P **10 18 14.8 -0.5**
SWET **Sewanee** 44.81 349 P P **10 18 14.6 -0.9**
SWET IAmb IAmb 10 18 15.2
comp=Z,9.3nm,0.7s
OXF **Oxford** 44.93 344 IAmb IAmb 10 18 16.6
comp=Z,32nm,1.3s
PLAL **Pickwick Lake** 45.05 346 P **10 18 16.2 -1.2**
V48A **Smith Brothers** 45.50 348 P P **10 18 20.1 -0.8**
TREL **Terrell** 45.52 336 IAmb IAmb 10 18 23.3
comp=Z,20nm,0.9s
Z38A **Mt. Pleasant** 45.56 338 IAmb IAmb 10 18 23.4
comp=Z,30nm,1.1s
T59A **Double "B" Far** 45.62 358 P **10 18 22.1 +0.2**
T59A IAmb IAmb 10 18 23.1
comp=Z,15nm,0.9s
HPIG 45.66 322 P **10 18 22.6 0.0**
T57A **Hurt** 45.72 357 IAmb IAmb 10 18 23.5
comp=Z,17nm,0.7s
UALR **University of** 46.03 341 IAmb IAmb 10 18 25.6
comp=Z,11nm,0.7s
WVT **Waverly** 46.09 347 P **10 18 23.9 -1.7**
WVT **Waverly** 46.09 347 P P **10 18 23.6 -2.0**
WVT PcP PcP **10 19 58.3 -1.6**
MIAR **Mount Ida** 46.22 340 P **10 18 26.4 -0.2**
OZNA **Ozona** 46.24 330 P **10 18 27.1 +0.2**
HBAR **Harrisburg** 46.26 344 P P **10 18 26.8 -0.1**
TXAR **Lajitas Array** 46.31 326 P **10 18 28.3 +0.8**
TXAR PcP PcP **10 20 01.2 +0.3**
TXAR **Lajitas Array** 46.31 326 P **10 18 27.9 +0.4**
comp=Z,2.6nm,0.7s,baz=148,slow=9.0,SNR=40
TXAR pP pP **10 18 54.5 -1.6**
comp=Z,0.6nm,0.4s,baz=143,slow=6.9,SNR=3.0
TXAR PcP PcP **10 19 59.8 -1.1**
comp=Z,1.1nm,0.5s,baz=144,slow=4.7,SNR=4.9
comp=Z,2.6nm,0.7s
S57A **Dark Hollow, R** 46.47 357 P P **10 18 29.2 +0.7**
S57A IAmb IAmb 10 18 29.6
comp=Z,13nm,0.9s
S57A PcP PcP **10 20 01.6 +0.5**
WHAR **Wooly Hollow** 46.49 342 P P **10 18 28.3 -0.4**
WHAR IAmb IAmb 10 18 29.1
comp=Z,13nm,0.9s
PLPT **Palo Pinto** 46.52 334 P **10 18 29.6 +0.6**
PLPT IAmb IAmb 10 18 30.4
comp=Z,16nm,0.6s
Z35A **Perchaven, San** 46.52 335 P P **10 18 29.6 +0.6**
R58B **Mineral** 46.62 358 P P **10 18 30.0 +0.3**
R58B IAmb IAmb 10 18 30.8
comp=Z,14nm,0.7s
S51A **Beattyville** 46.79 352 P P **10 18 30.6 -0.4**
S51A IAmb IAmb 10 18 59.1
comp=Z,16nm,1.2s
LCAR **Lake Charles** 46.88 343 P **10 18 30.9 -0.8**
LCAR IAmb IAmb 10 18 31.6
comp=Z,14nm,0.9s
LCAR PcP PcP **10 20 02.6 0.0**
ABTX **Abilene, Hawle** 46.94 333 P **10 18 33.0 +0.7**
FCAR **Ozark Folk Cen** 46.99 342 P P **10 18 32.4 -0.2**
FCAR IAmb IAmb 10 18 32.5
comp=Z,9.4nm,0.7s
FCAR PcP PcP **10 20 03.0 0.0**
SGCY **Sterling City** 47.05 331 IAmb IAmb 10 18 34.4
comp=Z,14nm,0.7s
R55A **Marlinton** 47.06 356 P P **10 18 33.7 +0.5**
R55A IAmb IAmb 10 18 40.8
comp=Z,23nm,1.5s
R55A PcP PcP **10 20 03.9 +0.6**
PBMO **Poplar Bluff** 47.34 344 P P **10 18 34.4 -1.0**
PBMO IAmb IAmb 10 18 35.0
comp=Z,18nm,0.8s
WTFS **Witchita Falls** 47.40 335 P P **10 18 35.5 -0.3**
WTFS IAmb IAmb 10 18 37.2
comp=Z,29nm,1.3s
MNHN **Monahans** 47.40 329 P **10 18 35.7 -0.3**
MNHN IAmb IAmb 10 18 37.3
comp=Z,15nm,0.7s
R50A **Paris** 47.53 351 P P **10 18 35.9 -0.9**
R50A IAmb IAmb 10 18 36.2
comp=Z,7.7nm,0.7s
CGM3 **Cape Girardeau** 47.64 345 P P **10 18 36.6 -1.0**
CGM3 IAmb IAmb 10 18 37.1
comp=Z,13nm,1.0s
CGM3 PcP PcP **10 20 04.8 -0.5**
APMT **Aspermont** 47.75 333 P **10 18 39.3 +0.7**
Q56A **Snyder Ridge,** 47.75 357 P **10 18 39.5 +1.0**
Q56A IAmb IAmb 10 18 40.0
comp=Z,15nm,0.8s
S44A **Carbondale** 47.91 346 IAmb IAmb 10 18 39.2
comp=Z,22nm,0.9s
ODSA **Odessa** 47.92 329 IAmb IAmb 10 18 41.4
comp=Z,9.4nm,0.6s
HHAR **Hobbs** 47.92 341 P **10 18 39.5 -0.3**
HHAR IAmb IAmb 10 18 41.1
comp=Z,23nm,1.4s
SIUC **Southern Illin** 47.92 346 P P **10 18 38.7 -1.1**
RLO **Rose Lookout** 48.18 339 IAmb IAmb 10 18 42.9
comp=Z,18nm,0.8s
MGMO **Mountain Grove** 48.21 343 P P **10 18 41.5 -0.5**
MGMO IAmb IAmb 10 18 41.8
comp=Z,14nm,0.7s
TUL3 **Leonard** 48.23 339 IAmb IAmb 10 18 43.1
comp=Z,16nm,0.8s
FVM **French Village** 48.48 345 P P **10 18 43.2 -0.9**
OK052 **Battle Ridge R** 48.67 338 P P **10 18 45.6 0.0**
OK052 IAmb IAmb 10 18 46.6
comp=Z,13nm,0.6s
OK029 **Liberty Lake** 48.75 337 P P **10 18 45.7 -0.5**
CCM **Cathedral Cave** 48.76 344 P P **10 18 45.8 -0.4**
CCM IAmb IAmb 10 18 47.0
comp=Z,8.7nm,0.7s
QUOK **Quay** 48.80 338 P P **10 18 46.7 +0.2**
QUOK IAmb IAmb 10 19 11.4
comp=Z,11nm,1.2s
R40A **Maddies Statio** 49.27 343 IAmb IAmb 10 18 50.3
comp=Z,7.8nm,0.9s
SSPA **Standing Stone** 49.29 358 P P **10 18 50.7 +0.5**
SSPA IAmb IAmb 10 18 51.1
comp=Z,13nm,0.7s
SSPA **Standing Stone** 49.29 358 P P **10 18 50.7 +0.5**
P46A **Rosedale** 49.32 349 IAmb IAmb 10 18 49.7
comp=Z,11nm,0.7s
O48B **Farmland** 49.59 351 P P **10 18 51.5 -1.0**
O48B pP pP **10 19 21.4 -0.1**
M57A **Sunshine Farm,** 49.97 359 P **10 18 55.4 0.0**
M57A IAmb IAmb 10 18 57.0
comp=Z,14nm,0.9s
SFIN **Lafayette** 50.04 349 P **10 18 54.5 -1.4**
N49A **Columbus Grove** 50.10 352 P **10 18 55.6 -0.7**
N49A pP pP **10 19 24.2 -1.1**
PAOC **Oil Creek Stat** 50.25 357 IAmb IAmb 10 18 58.0
comp=Z,12nm,0.7s

P40A **Paris** 50.36 344 P P **10 18 57.4 -1.0**
P40A IAmb IAmb 10 18 58.4
comp=Z,15nm,1.4s
P40A pP pP **10 19 29.7 +2.3**
121A **Cookes Peak, D** 51.03 325 IAmb IAmb 10 19 05.8
comp=Z,8.9nm,1.0s
N41A **Harden Midland** 51.16 346 P P **10 19 03.2 -1.1**
ANMO **Albuquerque** 52.14 328 P **10 19 12.6 +0.6**
ANMO pP **10 19 43.0 +2.0**
ANMO **Albuquerque** 52.14 328 P P **10 19 12.3 +0.3**
ANMO sP **sP 10 19 52.8 -2.0**
TUC **Tucson** 52.61 323 P P **10 19 15.5 +0.2**
TUC pP pP **10 19 46.4 +1.6**
NCB **Newcomb** 52.63 2 P P **10 19 15.8 +0.6**
NCB IAmb IAmb 10 19 17.4
comp=Z,22nm,1.4s
DELO **Deloro Mine** 53.16 359 P P **10 19 18.7 -0.3**
DELO IAmb IAmb 10 19 19.4
comp=Z,14nm,1.0s
214A **Organ Pipe Nat** 53.60 321 P **10 19 23.6 +1.0**
214A IAmb IAmb 10 19 24.5
comp=Z,7.1nm,1.0s
214A pP **10 19 53.0 +0.9**
KSCO **Kaye Shedlock'** 53.61 334 IAmb IAmb 10 19 23.6
comp=Z,9.1nm,0.7s
X18A **Snowflake** 53.72 325 P P **10 19 24.1 +0.6**
X18A IAmb IAmb 10 19 25.4
comp=Z,6.6nm,1.0s
X18A pP **10 19 53.4 +0.6**
SDCO **Great Sand Dun** 53.87 331 P **10 19 25.1 +0.4**
SDCO pP pP **10 19 56.4 +2.4**
SDCO sP sP **10 20 08.6 +1.0**
L34A **Svendsen Farm,** 53.88 341 P P **10 19 23.5 -0.8**
W18A **Petrified Fore** 54.03 326 IAmb IAmb 10 19 27.6
comp=Z,13nm,0.9s
G62A **West of Eustis** 54.09 5 IAmb IAmb 10 19 27.5
comp=Z,11nm,0.8s
G65A **Princeton** 54.39 7 P P **10 19 29.0 +1.1**
X16A **Lo Mia Camp, P** 54.49 324 P **10 19 29.9 +0.7**
X16A IAmb IAmb 10 19 31.0
comp=Z,6.5nm,0.9s
X16A pP **10 19 59.4 +0.9**
WUAZ **Wupatki** 55.24 325 IAmb IAmb 10 19 36.5
comp=Z,9.6nm,1.0s
LMN **Caledonia Moun** 55.43 10 P **10 19 35.5 0.0**
ECSD **EROS Data Cent** 55.55 342 IAmb IAmb 10 19 36.3
comp=Z,8.5nm,0.8s
PV15 **Paradox Valley** 55.80 329 P P **10 19 38.9 +0.4**
PV15 pP **10 20 09.6 +1.6**
PV13 **Radium Mtn., P** 55.83 329 P P **10 19 39.0 +0.2**
PV13 pP **10 20 09.4 +1.3**
PV05 **Paradox Valley** 55.91 329 P P **10 19 38.8 -0.5**
PV05 IAmb IAmb 10 19 40.3
comp=Z,13nm,0.9s
PV11 **David Mesa, Pa** 55.96 329 IAmb IAmb 10 19 40.3
comp=Z,6.3nm,0.7s
PV19 **Morning Glory** 56.02 329 IAmb IAmb 10 19 41.9
comp=Z,11nm,0.7s
PV20 **West Nyswonger** 56.04 329 IAmb IAmb 10 19 41.0
comp=Z,6.0nm,0.6s
PV04 **Paradox Valley** 56.05 329 IAmb IAmb 10 19 42.3
comp=Z,9.2nm,1.2s
PV22 **Blue Mesa, Par** 56.10 329 IAmb IAmb 10 19 41.7
comp=Z,7.3nm,0.8s
PV23 **Carpenter Ridg** 56.15 329 IAmb IAmb 10 19 43.2
comp=Z,8.6nm,0.7s
BC3 **Big Chuckawall** 56.39 321 P **10 19 43.0 +0.4**
W13A **Hualapai Mount** 56.40 323 P **10 19 44.3 +1.4**
W13A IAmb IAmb 10 19 45.0
comp=Z,6.0nm,1.0s
W13A pP **10 20 14.2 +1.9**
U15A **North Rim** 56.41 325 P **10 19 43.8 +0.8**
U15A IAmb IAmb 10 19 45.0
comp=Z,5.5nm,0.9s
PMSA **Palmer Station** 56.46 174 *e*P P **10 19 44.4 +1.9**
IRM **Iron Mountain** 56.53 321 P **10 19 44.2 +0.6**
IRM IAmb IAmb 10 19 45.5
comp=Z,9.8nm,1.0s
IRM pP pP **10 20 14.5 +1.2**
BATG **Bathurst New B** 56.63 8 P P **10 19 44.7 +0.8**
BATG IAmb IAmb 10 19 45.5
comp=Z,12nm,0.8s
HMU **Henry Mountain** 56.66 328 P **10 19 45.5 +0.8**
HMU IAmb IAmb 10 19 47.4
comp=Z,8.0nm,0.9s
BORC **Borrego Spring** 56.74 320 P P **10 19 46.1 +1.1**
LDAQ **Lac Daran** 56.76 4 P **10 19 44.7 -0.3**
BELC **Belle Mtn. Jos** 56.95 321 P P **10 19 45.6 -1.1**
BELC pP **10 20 14.9 -1.6**
DANC **Danby, Needles** 56.99 322 P P **10 19 47.5 +0.7**
DANC IAmb IAmb 10 19 48.8
comp=Z,14nm,1.0s
DANC pP **10 20 16.1 -0.3**
DANC sP **sP 10 20 30.7 +0.8**
O20A **White River Ci** 57.07 331 P **10 19 48.2 +0.7**
O20A IAmb IAmb 10 19 48.7
comp=Z,8.9nm,0.8s
KNB **Kanab** 57.13 325 IAmb IAmb 10 19 50.0
comp=Z,12nm,0.8s
PKCU **Pink Cliffs** 57.15 326 P **10 19 49.5 +1.3**
PKCU IAmb IAmb 10 19 50.3
comp=Z,12nm,0.9s
LCMT **Little Creek M** 57.36 325 P P **10 19 50.1 +0.6**
LCMT IAmb IAmb 10 19 51.3
comp=Z,6.4nm,0.9s
LCMT pP **10 20 20.0 +0.9**
F33A **5 Mile Ranch,** 57.38 343 P **10 19 47.7 -1.6**
F33A IAmb IAmb 10 19 48.6
comp=Z,8.9nm,0.6s
SRU **San Rafael Swe** 57.42 329 P P **10 19 50.3 +0.4**
SRU IAmb IAmb 10 19 51.0
comp=Z,7.2nm,0.7s
P18A **Preston Nutter** 57.66 329 IAmb IAmb 10 19 53.1
comp=Z,5.7nm,0.9s
P17A **Butcher Ranch,** 57.80 329 IAmb IAmb 10 19 53.8
comp=Z,11nm,0.9s
TMUT **Trail Mountain** 57.91 328 IAmb IAmb 10 19 54.6
comp=Z,3.9nm,0.6s
SHPR **Sheep Range** 58.12 323 P **10 19 55.4 +0.5**
SHPR pP **10 20 23.5 -1.0**
RSSD **Black Hills** 58.47 337 P **10 19 57.4 +0.1**
RSSD IAmb IAmb 10 19 58.5
comp=Z,14nm,1.4s
BSUT **Blindstream Ca** 58.61 330 IAmb IAmb 10 19 59.8
comp=Z,9.3nm,0.8s
MPU **Maple Canyon** 58.66 329 IAmb IAmb 10 19 59.8
comp=Z,6.9nm,1.2s
PSUT **Pine Spring** 58.78 326 IAmb IAmb 10 20 01.1
comp=Z,7.1nm,0.7s
JLU **Jordanelle** 59.01 329 IAmb IAmb 10 20 02.3
comp=Z,8.0nm,0.6s
TPNV **Topopah Spring** 59.06 323 IAmb IAmb 10 20 03.4
comp=Z,6.0nm,1.0s
FURC **Furnace Creek,** 59.11 322 P P **10 20 02.0 +0.5**
FURC IAmb IAmb 10 20 03.3
comp=Z,7.3nm,0.8s
WCT **Wildcat Mounta** 59.18 323 P P **10 20 03.1 +1.0**
WCT IAmb IAmb 10 20 04.1
comp=Z,5.0nm,0.8s
WCT pP **10 20 33.0 +1.2**
CTU **Camp Tracy** 59.23 329 IAmb IAmb 10 20 03.6
comp=Z,5.7nm,0.9s
S11A **Rachel** 59.23 324 IAmb IAmb 10 20 04.3
comp=Z,5.6nm,0.7s
TCUT **Toone Canyon** 59.37 330 P P **10 20 03.6 +0.1**
SPR3 **Spring Creek 3** 59.37 326 P **10 20 03.5 -0.2**
SPR3 IAmb IAmb 10 20 04.8
comp=Z,7.5nm,0.8s
R11B **Troy Canyon, C** 59.62 325 IAmb IAmb 10 20 07.1
comp=Z,4.8nm,0.8s
PDAR **Pinedale Array** 59.73 332 P P **10 20 05.4 -0.6**
comp=Z,2.3nm,0.5s,baz=126,slow=9.4,SNR=33
PDAR pP pP **10 20 35.7 0.0**
comp=Z,0.9nm,0.8s,baz=132,slow=4.2,SNR=2.6
comp=Z,2.3nm,0.5s
BGU **Big Grassy Mou** 60.05 328 P **10 20 07.7 -0.4**
BGU IAmb IAmb 10 20 09.1
comp=Z,4.5nm,0.7s
MDND **Maddock** 60.17 342 P **10 20 08.6 0.0**
AHID **Auburn Hatcher** 60.46 331 P P **10 20 10.6 -0.3**
AHID IAmb IAmb 10 20 11.4
comp=Z,8.3nm,0.7s
HVU **Hansel Valley** 60.55 329 P **10 20 11.6 +0.2**
HVU IAmb IAmb 10 20 12.3
comp=Z,5.8nm,0.8s

SNOW **Snow King Moun** 60.83 332 P P **10 20 13.6 +0.1**
SNOW IAmb IAmb 10 20 14.2
comp=Z,4.3nm,0.7s
TPAW **Teton Pass** 60.94 332 IAmb IAmb 10 20 14.9
comp=Z,3.8nm,0.6s
ELK **Elko** 61.09 327 IAmb IAmb 10 20 16.5
comp=Z,9.4nm,1.2s
NVAR **Mina Array Bea** 61.26 323 P P **10 20 17.0 +0.6**
comp=Z,1.8nm,0.7s,baz=148,slow=7.8,SNR=19
NVAR pP pP **10 20 47.0 +0.6**
comp=Z,1.2nm,0.7s,baz=140,slow=7.8,SNR=3.9
comp=Z,1.8nm,0.7s
ULM **Lac du Bonnet** 61.33 346 P P **10 20 15.6 -0.8**
comp=Z,27nm,0.7s,baz=158,slow=7.2,SNR=45
ULM pP pP **10 20 46.0 -0.2**
comp=Z,6.4nm,0.6s,baz=159,slow=5.3,SNR=2.2
comp=Z,27nm,0.7s
RLMT **Red Lodge** 61.45 334 P **10 20 16.5 -1.0**
LAO **LASA Array** 61.46 337 P P **10 20 17.1 -0.3**
LAO IAmb IAmb 10 20 19.0
comp=Z,8.6nm,1.2s
YPP **Pitchstone Pla** 61.47 332 P P **10 20 17.0 -0.9**
LKWY **Lake** 61.52 333 P P **10 20 17.6 -0.4**
LKWY IAmb IAmb 10 20 19.6
comp=Z,4.1nm,0.7s
YNE **Yellowstone No** 61.69 333 P P **10 20 18.3 -0.9**
YNE IAmb IAmb 10 20 20.1
comp=Z,7.3nm,0.9s
YNE pP **10 20 49.7 +0.6**
YMR **Madison River** 61.85 333 P P **10 20 21.0 +0.7**
YMR IAmb IAmb 10 20 22.1
comp=Z,7.9nm,0.9s
YHH **Holmes Hill** 61.89 333 P **10 20 21.1 +0.5**
YHH pP pP **10 20 50.8 +0.2**
WAKR **Walker** 61.99 322 P P **10 20 22.3 +1.1**
WAKR pP **10 20 51.5 +0.2**
YHB **Horse Butte** 62.02 332 P P **10 20 22.0 +0.6**
YHB IAmb IAmb 10 20 23.1
comp=Z,10nm,0.9s
PAHR **Pah Rah Range** 62.73 324 IAmb IAmb 10 20 28.0
comp=Z,7.2nm,1.0s
BOZ **Bozeman (W)** 62.87 333 P P **10 20 26.8 -0.1**
BOZ IAmb IAmb 10 20 28.1
comp=Z,19nm,1.5s
BOZ pP **10 20 55.9 -1.0**
DLMT **Dillon** 63.13 332 IAmb IAmb 10 20 30.5
comp=Z,14nm,1.4s
MFID **Camas Ranch** 63.29 329 P **10 20 29.5 -0.2**
MFID IAmb IAmb 10 20 31.3
comp=Z,14nm,0.8s
MFID pP **10 21 00.6 +0.8**
LRM **Limekiln Ridge** 63.41 332 P P **10 20 30.9 +0.3**
SCHQ **Schefferville** 63.96 6 P P **10 20 33.4 -0.3**
comp=Z,85nm,0.7s,baz=203,slow=6.6,SNR=10
J08A **Circle Bar Ran** 64.64 327 P P **10 20 38.5 -0.1**
MSO **Missoula** 64.85 332 P **10 20 39.9 +0.1**
MSO IAmb IAmb 10 20 41.3
comp=Z,17nm,1.2s
MSO PcP **10 21 11.7 -0.5**
BMO **Blue Mountains** 65.05 329 P **10 20 39.9 -1.2**
K05A **Summer Lake** 65.55 325 IAmb IAmb 10 20 46.1
comp=Z,15nm,1.3s
KHMM **Horse Mountain** 66.05 322 IAmb IAmb 10 20 49.5
comp=Z,6.1nm,0.9s
LNOR **Lincton Mounta** 66.26 329 P P **10 20 48.9 +0.1**
KSXB **Camp Six Broad** 66.72 323 IAmb IAmb 10 20 54.6
comp=Z,7.9nm,1.0s
I05D **Terrebonne, OR** 66.84 326 IAmb IAmb 10 20 54.3
comp=Z,9.2nm,0.6s
NEW **Newport** 67.37 332 P P **10 20 56.0 +0.2**
NEW pP **10 21 27.0 +0.7**
E07A **Sunnyside** 67.52 329 IAmb IAmb 10 20 58.6
comp=Z,9.5nm,0.9s
I03D **Brain, OR** 67.56 325 IAmb IAmb 10 20 58.2
comp=Z,4.6nm,0.6s
BUCK **Buck Mountain** 67.66 325 IAmb IAmb 10 20 58.4
comp=Z,9.1nm,0.6s
LTY **Liberty** 68.41 329 P P **10 21 02.8 +0.4**
B08A **Colville Reser** 68.49 331 P **10 21 02.7 -0.1**
B08A pP pP **10 21 33.9 +0.6**
LON **Longmire** 68.66 328 P P **10 21 03.6 -0.4**
D05A **Enumclaw** 69.04 328 IAmb IAmb 10 21 07.4
comp=Z,9.3nm,0.8s
NLWA **Neilton Lookou** 70.15 328 IAmb IAmb 10 21 15.1
comp=Z,7.8nm,0.8s
BELA **Belgrano 2** 72.17 172 P **10 21 25.9 +1.2**
DBIC **Dimbokro** 72.75 80 P P **10 21 30.0 +0.7**
comp=Z,15nm,0.5s,baz=283,slow=5.1,SNR=32
DBIC pP pP **10 22 00.6 +0.4**
comp=Z,13nm,0.7s,baz=265,slow=5.3,SNR=4.6
comp=Z,15nm,0.5s
DBIC **Dimbokro** 72.75 80 P P **10 21 30.0 +0.7**
DBIC pP pP **10 22 00.6 +0.4**
VNA3 **Neumayer Olymp** 74.19 162 ⇑P P **10 21 37.4 +0.6**
comp=Z,8.6nm,1.0s
VNA1 **Neumayer--Stat** 74.44 161 ⇑P P **10 21 36.1 -2.0**
comp=Z,14nm,0.9s
VNA2 **Neumayer--Watz** 74.79 161 ⇑P P **10 21 40.7 +0.4**
comp=Z,8.4nm,0.6s,baz=296,slow=6.0
SNAA **Sanae** 76.41 162 ⇑P P **10 21 49.9 +0.4**
comp=Z,201nm,0.6s
SNAA **Sanae** 76.41 162 P **10 21 50.4 +0.9**
SNAA IAmb IAmb 10 21 51.3
comp=Z,25nm,1.2s
SNAA **Sanae** 76.41 162 P P **10 21 50.1 +0.6**
comp=Z,8.3nm,0.6s,baz=276,slow=7.0,SNR=100
comp=Z,8.3nm,0.6s
YKA **Yellowknife Ar** 77.07 343 P P **10 21 52.7 -0.5**
comp=Z,2.3nm,0.6s,baz=156,slow=11,SNR=16
comp=Z,2.3nm,0.6s
ACRG **Accra** 77.10 82 P P **10 21 54.5 +0.2**
SFJD **Kangerlussuaq** 77.92 10 *i* P P **10 21 57.2 -0.5**
SFJD IAmb IAmb 10 21 57.6
comp=Z,8.3nm,0.5s
MORF **Marmelete** 77.96 49 *e*P P **10 22 01.8 +3.0**
MORF *i* IAmb IAmb 10 22 03.4
comp=Z,69nm,1.9s
PTEO **Sao Teotonio** 78.00 49 *e*P P **10 22 00.2 +1.3**
TROLL **Troll, Antarti** 78.12 162 ⇑P P **10 21 59.8 +0.7**
comp=Z,836nm,0.6s
TOAD **Toad River Com** 78.13 336 P P **10 21 58.7 -0.4**
baz=130
PARRA **Arraiolos** 78.22 47 *e*P P 10 22 04.3 +4.2
DY2G **Dye2** 78.27 12 *i* P P **10 21 59.6 -0.4**
DY2G IAmb IAmb 10 22 00.8
comp=Z,22nm,0.8s
KOTAN **Kotaneelee Air** 78.52 338 P P **10 22 01.8 +0.6**
baz=132
PCVE **Castro Verde** 78.54 49 *e*P P **10 22 03.8 +1.9**
V35K **Ketchikan** 78.78 331 P P **10 22 03.6 +0.9**
baz=124
PBEJ **Beja** 78.80 48 *e*P P **10 22 05.1 +1.9**
LIRD **Liard River Hi** 78.83 336 P P **10 22 03.4 +0.4**
baz=130
PMTG **Montargil** 78.91 47 *e*P P **10 22 05.0 +1.2**
PMTG *i* IAmb IAmb 10 22 06.8
comp=Z,16nm,1.8s
T35M **Bob Quinn** 79.09 333 P P **10 22 05.6 +1.2**
baz=126
PSARD **Sardoal** 79.14 47 *e*P P **10 22 06.1 +1.0**
ISOG **Isortoq, Green** 79.16 15 *i* P P **10 22 03.8 -0.7**
ISOG IAmb IAmb 10 22 04.5
comp=Z,9.5nm,0.6s
PESTR **Estremoz** 79.30 48 P P **10 22 06.9 +0.9**
PESTR **Estremoz** 79.30 48 *e*P P **10 22 07.9 +1.9**
PTO **Porto** 79.39 45 *e*P P **10 22 07.4 +1.0**
PMRV **Marv??o** 79.64 47 *e*P P **10 22 08.4 +0.6**
PCBR **Castelo Branco** 79.72 47 *e*P P **10 22 09.2 +0.9**
WRAK **Wrangell Islan** 79.73 332 P P **10 22 08.9 +1.1**
baz=124
PVIS **Viseu** 79.74 46 *e*P P **10 22 09.3 +0.9**
DLBC **Dease Lake** 79.85 334 P P **10 22 09.5 +0.9**
baz=126
MTE **Manteigas** 79.87 46 *e*P P **10 22 09.5 +0.4**
U33K **Whale Pass** 79.92 332 P P **10 22 09.6 +0.7**
baz=123
PCAB **Cabril** 80.00 45 *e*P P **10 22 10.5 +0.7**
PCAB *i* IAmb IAmb 10 22 13.0
comp=Z,39nm,1.7s
S34M **Telegraph Cree** 80.02 334 P P **10 22 10.2 +0.8**
baz=125
POLO **Lamas de Olo** 80.05 45 *e*P P **10 22 10.7 +0.6**
T33K **Petersburg** 80.22 332 P P **10 22 10.7 +0.2**
baz=123
WTLY **Watson Lake, Y** 80.34 336 P P **10 22 11.2 +0.1**
baz=127

TORD Torodi Ar. Bea 80.36 75 P P 10 22 11.8 -0.4
TORD IAmb IAmb 10 22 13.6
comp=Z,11nm,0.9s
TORD Torodi Ar. Bea 80.36 75 P P 10 22 12.2 -0.1
comp=Z,10nm,0.6s,baz=280,slow=4.5,SNR=77
TORD pP pP 10 22 43.1 -0.6
comp=Z,5.0nm,0.6s,baz=271,slow=4.5,SNR=4.1
comp=Z,10nm,0.6s
WRGLY Wrigley 80.39 340 P P 10 22 12.3 +1.1
baz=133
SAQQ Saqqaq 80.45 8 *i* P P 10 22 11.2 -0.3
SAQQ IAmb IAmb 10 22 11.7
comp=Z,16nm,0.5s
MVO Moncorvo 80.51 46 *e*P P 10 22 13.4 +0.9
MVO *i* IAmb IAmb 10 22 14.2
comp=Z,18nm,0.8s
R33M Jennings River 80.80 335 P P 10 22 14.5 +0.7
R33M Jennings River 80.80 335 P P 10 22 14.9 +1.1
baz=125
PBRG Braganca 80.94 45 *e*P P 10 22 15.4 +0.7
TGTN Hyland Airport 81.00 337 P P 10 22 15.7 +1.1
baz=128
Q32M Nakina River 81.11 334 P P 10 22 17.0 +1.5
baz=124
QSPA South Pole Qui 81.23 180 P P 10 22 17.8 +1.8
comp=Z,11nm,0.9s,baz=157,slow=1.5,SNR=38
QSPA pP pP 10 22 48.9 +1.3
comp=Z,3.5nm,0.6s,baz=224,slow=1.4,SNR=4.0
comp=Z,11nm,0.9s
QSPA South Pole Qui 81.23 180 P P 10 22 18.6 +2.5
QSPA pP pP 10 22 50.5 +2.8
SIT Sitka 81.46 332 P P 10 22 17.6 +0.6
baz=121
R32K Eaglecrest 81.72 333 P P 10 22 19.6 +1.1
baz=122
PAB San Pablo 81.90 48 P P 10 22 20.8 +0.8
PAB IAmb IAmb 10 22 21.8
comp=Z,8.3nm,0.7s
PAB San Pablo 81.90 48 P P 10 22 21.6 +1.6
PAB pP pP 10 22 52.7 +1.1
P33M Teslin, Yukon 82.03 335 P P 10 22 20.7 +0.5
baz=124
ESDC Sonseca Array 82.22 48 P P 10 22 22.8 +1.2
ESDC IAmb IAmb 10 22 24.3
comp=Z,13nm,1.2s
ESDC Sonseca Array 82.22 48 P P 10 22 22.8 +1.2
comp=Z,6.3nm,0.9s,baz=257,slow=5.7,SNR=28
ESDC pP pP 10 22 54.1 +0.9
comp=Z,1.7nm,0.8s,baz=259,slow=5.2,SNR=3.0
comp=Z,6.3nm,0.9s
S31K Pelican 82.34 332 P P 10 22 22.0 +0.3
baz=120
UPNV Upernavik 82.53 6 *i* P P 10 22 23.8 +1.4
UPNV IAmb IAmb 10 22 25.9
comp=Z,17nm,0.7s
MMPY Sheldon Lake, 82.78 338 P P 10 22 25.0 +1.0
baz=125
WHY Whitehorse 83.14 335 P P 10 22 26.7 +0.8
baz=122
PLBC Pleasant Camp 83.16 333 P P 10 22 26.5 +0.7
baz=120
O30N Mendenhall 83.70 335 IAmb IAmb 10 22 31.3
comp=Z,17nm,1.4s
O30N Mendenhall 83.70 335 P P 10 22 29.9 +1.1
baz=121
P30M Million Dollar 83.75 334 P P 10 22 29.9 +0.9
baz=120
M31M Drury Creek, Y 83.76 336 P P 10 22 29.4 +0.4
baz=122
P29M Windy Craggy 83.85 333 P P 10 22 30.4 +0.9
baz=119
N31M Braeburn, Yuko 83.94 335 IAmb IAmb 10 22 31.5
comp=Z,17nm,1.0s
N31M Braeburn, Yuko 83.94 335 P P 10 22 30.8 +0.8
baz=121
HYT Haines Junctio 84.33 334 P P 10 22 32.7 +0.7
baz=120
N30M Aishikik Lake 84.47 335 IAmb IAmb 10 22 34.6
comp=Z,16nm,1.1s
N30M Aishikik Lake 84.47 335 P P 10 22 33.3 +0.7
baz=120
O29M Mount Kennedy 84.54 334 P P 10 22 33.9 +0.8
baz=118
PNL Peninsula 84.61 333 P P 10 22 34.1 +0.8
baz=118
C36M Paulatuk 84.73 345 P P 10 22 34.0 +0.3
baz=133
SUMG Summit 84.88 11 P P 10 22 35.1 +0.2
SUMG Summit 84.88 11 *i* P P 10 22 35.3 +0.4
SUMG IAmb IAmb 10 22 36.1
comp=Z,21nm,0.5s
M30M Minto, Yukon 84.91 336 P P 10 22 35.3 +0.5
baz=120
YUK4 Talbot Arm 85.07 335 P P 10 22 36.8 +1.0
baz=119
MAYO Mayo, Yukon 85.08 337 P P 10 22 36.3 +0.8
MAYO IAmb IAmb 10 22 37.5
comp=Z,11nm,1.1s
MAYO Mayo, Yukon 85.08 337 P P 10 22 37.2 +1.7
baz=121
PINM Pinnacle 85.19 333 P P 10 22 37.6 +1.4
baz=117
O28M Mount Upton 85.47 334 P P 10 22 39.0 +1.1
baz=117
YUK8 Steele Glacier 85.52 334 P P 10 22 39.0 +0.9
baz=118
M29M Somme Creek 85.52 336 P P 10 22 38.6 +0.7
M29M IAmb IAmb 10 22 39.5
comp=Z,12nm,0.9s
M29M Somme Creek 85.52 336 P P 10 22 39.1 +1.1
baz=119
H31M Peel River 85.69 339 P 10 22 38.6 0.0
H31M IAmb IAmb 10 22 39.8
comp=Z,9.9nm,1.0s
H31M Peel River 85.69 339 P P 10 22 38.4 -0.1
baz=123,SNR=7.5
L29M L29M 85.71 336 P 10 22 39.2 +0.4
L29M L29M 85.71 336 P P 10 22 39.6 +0.9
baz=119
J30M Hart River 85.75 338 P 10 22 39.1 +0.1
J30M IAmb IAmb 10 22 40.5
comp=Z,6.5nm,0.9s
J30M Hart River 85.75 338 P P 10 22 40.0 +0.9
baz=121
K29M Barlow Dome 85.83 337 P P 10 22 40.3 +0.8
baz=120
TAM Tamanrasset 85.85 66 P 10 22 41.8 +1.3
MESA MESA 85.99 333 P P 10 22 41.0 +0.6
baz=116
YUK3 Moose Creek 86.04 335 P P 10 22 41.0 +0.4
baz=117
CTG Chitna Glacier 86.06 334 P P 10 22 41.6 +0.9
baz=116
I30M Mount Dempster 86.10 338 P 10 22 41.1 +0.3
I30M IAmb IAmb 10 22 42.0
comp=Z,9.1nm,0.8s
I30M Mount Dempster 86.10 338 P P 10 22 41.2 +0.5
baz=121,SNR=9.6
G31M Satah River 86.27 340 P 10 22 41.4 +0.1
G31M IAmb IAmb 10 22 42.1
comp=Z,12nm,0.8s
G31M Satah River 86.27 340 P P 10 22 41.6 +0.3
baz=123,SNR=5.5
F31M Tsiigehtchic 86.38 341 P 10 22 42.0 +0.2
F31M Tsiigehtchic 86.38 341 P P 10 22 42.0 +0.2
baz=123
BVCY Beaver Creek 86.50 335 P P 10 22 42.8 +0.2
baz=117
BGLC Bering Glacier 86.57 332 P P 10 22 43.4 +0.4
baz=114
DAWY Dawson 86.66 337 P P 10 22 43.3 -0.1
DAWY IAmb IAmb 10 22 44.2
comp=Z,14nm,1.2s
DAWY Dawson 86.66 337 P P 10 22 42.5 -0.9
baz=118,SNR=6.9
CRQE Cirque 86.74 333 P P 10 22 43.5 -0.5
baz=114
INK Inuvik 86.79 342 P 10 22 43.8 -0.1
INK IAmb IAmb 10 22 44.8
comp=Z,12nm,0.9s
INK Inuvik 86.79 342 P P 10 22 43.9 +0.1
baz=124,SNR=5.5
A36M Sachs Harbour 86.80 346 P P 10 22 43.5 -0.3
baz=132
EPYK Eagle Plains 86.81 339 P P 10 22 44.1 +0.1
baz=120,SNR=6.1
I29M Ogilvie Camp, 86.87 338 IAmb IAmb 10 22 45.4
comp=Z,9.7nm,0.8s
I29M Ogilvie Camp, 86.87 338 P P 10 22 44.8 +0.4
baz=119,SNR=9.3
M27K Edge Creek, AK 86.90 335 P P 10 22 44.8 +0.1
baz=116
G30M tAoh Zraii Nji 86.95 340 P P 10 22 45.7 +0.9
baz=121
MCARA McCarthy VSAT 86.98 334 P P 10 22 45.8 +0.8
baz=115
KAIM Kayak Island 87.01 332 P P 10 22 45.5 +0.4
baz=113
F30M Barrier River 87.14 341 IAmb IAmb 10 22 47.0
comp=Z,13nm,0.9s
F30M Barrier River 87.14 341 P P 10 22 46.0 +0.4
baz=122
SCO Scoresbysund 87.15 16 *i* P P 10 22 42.8 -2.7
SCO IAmb IAmb 10 22 45.6
comp=Z,136nm,1.6s
BCAR Beaver Creek A 87.17 335 P 10 22 46.0 +0.2
BCAR pP 10 23 18.1 +0.4
L27K Beaver Creek, 87.18 335 P P 10 22 46.5 +0.6
baz=116
H29M Whitestone 87.31 339 P 10 22 46.3 -0.1
H29M pP pP 10 23 18.9 +0.5
H29M Whitestone 87.31 339 P P 10 22 46.8 +0.3
baz=119,SNR=8.6
NEEM North Greenlan 87.36 5 *i* P P 10 22 47.6 +0.7
NEEM IAmb IAmb 10 22 48.2
comp=Z,38nm,1.2s
M26K Nabesna, AK 87.39 335 P P 10 22 46.9 0.0
baz=115
BMRM Bremner River 87.51 333 P P 10 22 47.6 0.0
baz=113
I28M Miner Creek 87.52 338 IAmb IAmb 10 22 50.7
comp=Z,7.1nm,0.8s
I28M Miner Creek 87.52 338 P P 10 22 47.6 0.0
baz=118,SNR=8.1
G29M Pine Creek 87.53 340 P P 10 22 47.5 0.0
baz=119,SNR=15
K27K Chicken 87.70 336 P P 10 22 49.3 +1.0
baz=116
Q23K Middleton Isla 87.73 331 P P 10 22 48.8 +0.3
baz=112
N25K Chitina, Valde 87.76 334 P P 10 22 48.9 +0.1
baz=113
EKA Eskdalemuir Ar 87.77 33 P P 10 22 48.6 -0.2
comp=Z,4.0nm,0.7s,baz=241,slow=5.2,SNR=10
comp=Z,4.0nm,0.7s
L26K Log Cabin Wild 87.80 335 IAmb IAmb 10 22 49.7
comp=Z,9.9nm,1.2s
L26K Log Cabin Wild 87.80 335 P P 10 22 49.4 +0.6
baz=114
EYAK Cordova Ski Ar 87.87 332 P P 10 22 48.6 -0.5
baz=112
VNDA Vanda 87.94 191 P P 10 22 50.8 +1.4
comp=Z,2.1nm,0.8s,baz=141,slow=3.7,SNR=12
VNDA pP pP 10 23 21.8 +0.1
comp=Z,0.8nm,0.7s,baz=155,slow=3.9,SNR=3.1
comp=Z,2.1nm,0.8s
VNDA Vanda 87.94 191 P P 10 22 50.9 +1.4
I27K Kandik River 88.21 338 P P 10 22 51.1 +0.3
baz=116,SNR=6.6
E29M Blow River 88.22 341 P P 10 22 50.7 0.0
baz=120,SNR=14
KLU Klutina 88.30 333 P P 10 22 51.5 +0.2
baz=112
DOT Dot Lake 88.34 336 IAmb IAmb 10 22 52.3
comp=Z,6.9nm,0.8s
SCRK Sand Creek 88.45 336 IAmb IAmb 10 22 52.9
comp=Z,6.6nm,1.0s
SCRK Sand Creek 88.45 336 P P 10 22 51.9 -0.1
baz=114,SNR=5.7
H27K Steamboat Moun 88.45 338 IAmb IAmb 10 22 52.6
comp=Z,7.3nm,0.8s
H27K Steamboat Moun 88.45 338 P P 10 22 52.0 +0.1
baz=116,SNR=8.3
J26L Joseph Creek 88.49 336 P P 10 22 52.5 +0.3
J26L pP 10 23 24.4 +0.3
J26L sP sP 10 23 35.3 -1.9
J26L Joseph Creek 88.49 336 P P 10 22 52.6 +0.4
baz=114,SNR=20
F28M Old Crow 88.50 340 P P 10 22 52.2 +0.1
F28M Old Crow 88.50 340 P P 10 22 51.9 -0.2
baz=118,SNR=7.2
M24K Tolsona, Glenn 88.64 334 P P 10 22 51.9 -1.0
baz=112
PAX Paxson 88.66 335 P 10 22 52.9 -0.1
PAX IAmb IAmb 10 22 53.5
comp=Z,8.4nm,0.8s
PAX Paxson 88.66 335 P P 10 22 52.5 -0.6
baz=112,SNR=6.9
I26K Coal Creek Min 88.67 337 IAmb IAmb 10 22 53.4
comp=Z,8.5nm,0.8s
I26K Coal Creek Min 88.67 337 P P 10 22 52.6 -0.2
baz=115,SNR=7.2
RIDG Independent Ri 88.70 336 P P 10 22 52.8 -0.4
baz=113
G27K Doyon Strip 88.75 339 IAmb IAmb 10 22 53.8
comp=Z,7.9nm,0.8s
G27K Doyon Strip 88.75 339 P P 10 22 52.3 -1.0
baz=116,SNR=6.8
E28M Babbage River 88.85 341 P P 10 22 53.4 -0.3
baz=118
SCM Sheep Creek Mo 89.05 333 P P 10 22 54.5 -0.4
baz=111
K24K Donnelly Dome 89.11 335 P P 10 22 54.7 -0.4
baz=112
PWL Port Wells 89.16 332 P P 10 22 55.0 -0.3
baz=110
J25K Salcha River, 89.25 336 IAmb IAmb 10 22 56.6
comp=Z,9.1nm,0.8s
J25K Salcha River, 89.25 336 P P 10 22 55.9 +0.2
baz=113,SNR=8.3
E27K Coleen River 89.34 340 P P 10 22 56.2 +0.2
baz=116
KNK Knik Glacier 89.41 333 P P 10 22 55.7 -0.8
baz=110
SEW Seward 89.44 331 P P 10 22 55.6 -1.0
baz=109
WAT6 Susitna Watana 89.49 334 P P 10 22 56.1 -0.9
baz=110,SNR=6.0
DHY Denali Highway 89.51 334 P P 10 22 56.2 -0.9
baz=111
G26K Porcupine Rive 89.58 339 P P 10 22 56.8 -0.2
baz=114
D27M Malcolm River 89.61 341 P P 10 22 57.1 -0.2
baz=117
PRP Porcupine Dome 89.66 337 IAmb IAmb 10 22 58.2
comp=Z,6.2nm,0.8s
PRP Porcupine Dome 89.66 337 P P 10 22 57.4 -0.3
baz=112,SNR=5.0
O22K Cooper Landing 89.69 332 P P 10 22 57.9 +0.2
baz=109
PMR Palmer 89.77 333 P P 10 22 58.1 0.0
baz=109
HDA Harding Lake 89.81 336 P P 10 22 58.2 0.0
baz=111
RC01 Rabbit Creek A 89.89 332 P P 10 22 58.0 -0.6
baz=109
ILAR Eielson Array 89.92 336 P 10 22 57.3 -1.4
ILAR pP pP 10 23 31.0 +0.3
ILAR Eielson Array 89.92 336 P P 10 22 58.2 -0.5
comp=Z,1.5nm,0.8s,baz=151,slow=3.8,SNR=20
ILAR pP pP 10 23 30.6 -0.2
comp=Z,1.1nm,0.7s,baz=146,slow=3.3,SNR=5.0
ILAR PP PP 10 26 30.9 -2.4
comp=Z,0.3nm,0.9s,baz=111,slow=8.2,SNR=5.0
comp=Z,1.5nm,0.8s
WAT1 Susitna Watana 89.93 334 P P 10 22 58.6 -0.3
baz=110
FYU Fort Yukon 89.95 338 P P 10 22 59.5 +0.7
F26K Sheenjek River 90.01 339 P P 10 22 58.6 -0.5
F26K IAmb IAmb 10 23 00.5
comp=Z,7.8nm,0.8s
F26K Sheenjek River 90.01 339 P P 10 22 59.5 +0.4
baz=114
BMAR Burnt Mountain 90.06 339 P P 10 22 59.6 +0.2
BMAR pP pP 10 23 32.0 +0.6
H25L 90.06 338 P P 10 22 59.6 +0.3
Birch Creek
baz=112,SNR=7.3
CCB Clear Creek Bu 90.24 336 P P 10 22 59.7 -0.5
CCB IAmb IAmb 10 23 00.9
comp=Z,5.4nm,1.0s
RND Reindeer 90.25 335 P P 10 23 00.9 +0.5
POKR Poker Plat Res 90.26 336 P P 10 23 00.2 -0.1
baz=111
M22K Willow 90.27 333 P P 10 23 00.1 -0.3
baz=108
KDAK Kodiak Island 90.28 329 P P 10 22 59.8 -0.7
baz=106
COLA College 90.34 336 P P 10 23 00.4 -0.3
COLA IAmb IAmb 10 23 02.0
comp=Z,8.0nm,0.8s
COLA College 90.34 336 P P 10 23 00.5 -0.2
baz=110
G25K Bearman Lake 90.35 338 P P 10 23 00.8 +0.1
baz=112,SNR=5.3
HOM Homer 90.35 331 P P 10 23 00.6 -0.2
baz=107
MCK McKinley 90.39 335 P P 10 23 01.0 -0.1
baz=109
Q20K Shuyak Island 90.42 329 P P 10 23 01.5 +0.3
baz=106
SUA Susitna One 90.47 332 P P 10 23 01.2 -0.4
baz=108
OHAK Old Harbor 90.50 328 P P 10 23 01.8 +0.3
baz=106
F25K Christian Rive 90.50 339 P P 10 23 01.8 +0.3
baz=112
CUT Chulitna 90.54 333 P P 10 23 00.8 -0.8
baz=108
C27K Jago River 90.65 341 P P 10 23 01.8 -0.2
baz=114
TSUM Tsumeb 90.65 109 P P 10 23 04.0 +0.6
E25K Arctic Village 90.67 339 P P 10 23 02.1 -0.1
baz=112
SYO Syowa Base 90.68 161⇑ *e*PcP PcP 10 23 03.0 -0.3
H24K Noodor Dome 90.68 337 P 10 23 02.8 +0.4
H24K IAmb IAmb 10 23 03.4
comp=Z,6.2nm,0.8s
H24K Noodor Dome 90.68 337 P P 10 23 02.1 -0.3
baz=110,SNR=5.9
NEA2 Nenana 90.73 336 P P 10 23 02.0 -0.6
baz=109,SNR=5.9
SII Sitkinak Islan 90.80 327 P P 10 23 02.3 -0.7
baz=105
G24K Hadweenzic Riv 90.83 338 P P 10 23 03.2 +0.2
G24K Hadweenzic Riv 90.83 338 P P 10 23 02.8 -0.2
baz=111,SNR=5.5
TRF Thorofare Moun 90.88 334 P P 10 23 02.5 -1.0
baz=108
O20K Slope Mountain 90.94 331 P P 10 23 02.9 -0.8
baz=106
SKT Skwentna 90.98 333 P P 10 23 03.5 -0.2
SKT IAmb IAmb 10 23 04.4
comp=Z,7.0nm,0.8s
SKT Skwentna 90.98 333 P P 10 23 03.6 -0.1
baz=107
I23K Minto, Yukon-K 91.03 336 P P 10 23 04.0 +0.1
I23K IAmb IAmb 10 23 04.2
comp=Z,5.1nm,0.8s
I23K Minto, Yukon-K 91.03 336 P P 10 23 04.0 +0.1
baz=109,SNR=5.8
N20K Mount Spurr 91.06 332 P P 10 23 03.0 -1.2
baz=106
SPCR Spurr Chakacha 91.06 332 P P 10 23 03.0 -1.2
baz=106
RED Redoubt Volcan 91.11 331 P P 10 23 03.8 -0.7
P19K Oil Pt 91.12 330 P P 10 23 03.7 -0.8
baz=106
Q19K Cape Douglas, 91.13 330 P P 10 23 04.1 -0.5
baz=105
C26K Camden Bay 91.15 341 P P 10 23 04.6 +0.2
baz=113
R18K Karluk 91.19 328 P P 10 23 04.5 -0.3
baz=105
F24K Squaw Lake 91.27 339 P P 10 23 05.3 +0.3
baz=110
H23K Yukon River 91.33 337 P P 10 23 05.6 +0.3
baz=109
BPAW Bear Paw Mtn. 91.37 335 P P 10 23 05.2 -0.3
BPAW Bear Paw Mtn. 91.37 335 P P 10 23 05.5 -0.1
baz=108,SNR=6.5
CHIR Chirikof Islan 91.39 326 P P 10 23 05.0 -0.7
baz=104
D25K Kavik River 91.39 340 P P 10 23 06.0 +0.4
D25K Kavik River 91.39 340 P P 10 23 05.1 -0.5
baz=112
KEST Kesra 91.52 54 P P 10 23 08.6 +1.6
comp=Z,5.4nm,0.8s,baz=292,slow=5.4,SNR=3.2
KEST LR LR 11 04 07.4
comp=Z,20nm,18.4s,baz=345,slow=35
comp=Z,5.4nm,0.8s
PPLA Purkeypile 91.54 334 P P 10 23 05.5 -1.0
baz=106
MLY Manley 91.55 336 P 10 23 06.2 -0.2
MLY IAmb IAmb 10 23 07.2
comp=Z,7.9nm,1.1s
MLY Manley 91.55 336 P P 10 23 05.7 -0.7
baz=108,SNR=5.5
E24K Your Creek 91.68 339 P P 10 23 07.3 +0.4
E24K IAmb IAmb 10 23 08.3
comp=Z,9.4nm,1.1s
E24K Your Creek 91.68 339 P P 10 23 06.6 -0.3
baz=110
M20K Styx River 91.68 333 P P 10 23 07.2 +0.1
baz=106
Q18K Katmai Hardscr 91.75 329 P P 10 23 06.7 -0.8
baz=104
G23K Bananza Creek 91.79 338 P P 10 23 08.0 +0.6
G23K IAmb IAmb 10 23 08.9
comp=Z,6.2nm,0.8s
G23K Bananza Creek 91.79 338 P P 10 23 07.5 0.0
baz=108
O19K Port Alsworth 91.79 331 P P 10 23 07.5 0.0
baz=105
CHUM Lake Minchumin 91.87 335 P P 10 23 07.8 +0.1
baz=106
COLD Coldfoot 92.02 338 P P 10 23 09.5 +1.0
COLD IAmb IAmb 10 23 10.5
comp=Z,6.4nm,1.0s
COLD Coldfoot 92.02 338 P P 10 23 08.8 +0.3
baz=108
N19K Bonanza Creek 92.03 331 P P 10 23 08.4 -0.3
baz=104
P18K Big Mountain, 92.04 330 P P 10 23 08.3 -0.5
baz=104
H22K Ishtalitna Cre 92.06 337 P P 10 23 08.5 -0.2
baz=107
E23K Chandalar 92.07 339 P P 10 23 08.2 -0.6
baz=109
I21K Tanana 92.10 336 P P 10 23 08.3 -0.5
baz=107
Q17K Contact Creek 92.11 329 P P 10 23 08.3 -0.8
baz=103
D24K Happy Valley 92.15 340 P P 10 23 08.6 -0.4
baz=109
L20K Farewell, AK 92.17 333 P P 10 23 08.8 -0.5
baz=105
R17L Mt. Peulik Vol 92.21 328 P P 10 23 08.6 -1.0
baz=103
TOLK Toolik Lake Re 92.24 339 P P 10 23 09.3 -0.2
baz=109
M19K Big River Lodg 92.26 332 P P 10 23 08.9 -0.7
baz=105
C24K Franklin Bluff 92.30 341 P P 10 23 08.9 -0.7
baz=109
K20K Telida 92.48 334 P P 10 23 09.4 -1.3
baz=105
L19K White Mountain 92.54 333 P P 10 23 09.6 -1.3
baz=104
H21K Melozitna Rive 92.56 336 P P 10 23 09.7 -1.4
baz=106
Q16K King Salmon 92.59 329 P P 10 23 10.0 -1.2
baz=103
P17K Kvichak River 92.60 329 P P 10 23 09.9 -1.3
baz=103
N18K Kilae Creek 92.67 331 P P 10 23 10.7 -0.9
baz=103
J20K Nowinta River 92.72 335 P P 10 23 10.8 -0.9
baz=105
D23K Nanushuk River 92.73 340 P P 10 23 11.1 -0.6
baz=108
M18K Stony River 92.82 332 P P 10 23 11.7 -0.5
baz=103
R16K Pilot Point 92.83 328 P P 10 23 11.3 -1.0
baz=102
F22K John River 92.84 338 P P 10 23 11.9 -0.3
baz=106
C23K Itkillik River 92.97 340 P P 10 23 12.6 -0.2
baz=108
I20K Naaghedeneel 93.02 335 P P 10 23 12.7 -0.4
baz=104
CHGN Chignik 93.03 326 P P 10 23 12.6 -0.6
baz=101
IMAR Indian Mountai 93.03 336 P P 10 23 12.6 -0.5

O17K	**Koliganek Bris**	**93.05**	**330**	P		**P**	10 23 13.0	-0.3
	baz=102							
G21K	**Allakaket**	**93.07**	**337**	P		**P**	10 23 12.7	-0.7
	baz=105							
F21K	**Alatna River**	**93.24**	**338**	P		**P**	10 23 14.4	+0.2
	baz=105							
N17K	**Nushagak Hills**	**93.26**	**331**	P		**P**	10 23 13.7	-0.6
	baz=102							
J19K	**Poorman**	**93.31**	**334**	P		**P**	10 23 13.5	-0.9
	baz=103							
H20K	**Anotleneega Mo**	**93.36**	**336**	P		**P**	10 23 13.8	-0.8
	baz=104							
L18K	**Granite Mounta**	**93.38**	**332**	P		**P**	10 23 13.6	-1.2
	baz=102							
D22K	**Ayikyak River**	**93.40**	**339**	P		**P**	10 23 14.4	-0.4
	baz=106							
CHNA	**Chernabura Isl**	**93.40**	**325**	P		**P**	10 23 14.4	-0.7
	baz=100							
O16K	**Kokwok River B**	**93.51**	**330**	P		**P**	10 23 15.3	-0.1
	baz=102							
M17K	**Holitna River**	**93.56**	**332**	P		**P**	10 23 15.4	-0.2
	baz=102							
S14K	**Fog Glacier**	**93.65**	**326**	P		**P**	10 23 15.7	-0.6
	baz=100							
J18K	**Innoko River**	**93.67**	**334**	P		**P**	10 23 16.3	+0.1
	baz=102							
E21K	**Kilik River**	**93.74**	**339**	P		**P**	10 23 16.2	-0.2
	baz=105							
SDPT	**Sand Point**	**94.00**	**325**	P		**P**	10 23 17.2	-0.6
	baz=100							
H19K	**Roundabout Mou**	**94.00**	**336**	P		**P**	10 23 17.3	-0.2
	baz=102							
GCSA	**Galena City Sc**	**94.01**	**335**	P		**P**	10 23 17.2	-0.5
	baz=102							
N16K	**Nishlik Lake**	**94.01**	**331**	P		**P**	10 23 17.3	-0.5
	baz=101							
B22K	**Teshekpuk Lake**	**94.03**	**341**	P		**P**	10 23 17.3	-0.3
	baz=105							
F20K	**Avaraart Lake**	**94.05**	**337**	P		**P**	10 23 17.4	-0.4
	baz=103							
L17K	**Donlin**	**94.11**	**332**	P		**P**	10 23 17.2	-0.9
	baz=101							
C21K	**Knifeblade Rid**	**94.20**	**339**	P		**P**	10 23 18.1	-0.3
	baz=104							
M16K	**Timber Creek**	**94.21**	**331**	P		**P**	10 23 17.8	-0.8
	baz=101							
K17K	**Iditarod**	**94.22**	**333**	P		**P**	10 23 18.2	-0.4
	baz=101							
B21K	**Ikpikpuk River**	**94.25**	**340**	P		**P**	10 23 18.2	-0.5
	baz=104							
O15K	**Ungalikthiuk R**	**94.30**	**329**	P		**P**	10 23 18.1	-1.0
	baz=100							
G19K	**Purcell Mounta**	**94.39**	**336**	P		**P**	10 23 19.0	-0.4
	baz=102							
E20K	**Nigu River**	**94.49**	**338**	P		**P**	10 23 19.4	-0.5
	baz=103							
L16K	**Owhat River**	**94.58**	**332**	P		**P**	10 23 19.7	-0.6
	baz=100							
N15K	**Kwethluk River**	**94.61**	**330**	P		**P**	10 23 20.2	-0.3
	baz=100							
J17K	**VABM Dome**	**94.69**	**333**	P		**P**	10 23 20.4	-0.5
	baz=100							
A22K	**Sinclair Lake**	**94.70**	**341**	P		**P**	10 23 20.9	+0.2
	baz=104							
H18K	**Honhosa River**	**94.71**	**335**	P		**P**	10 23 20.6	-0.3
	baz=101							
E19K	**Redstone River**	**94.71**	**338**	P		**P**	10 23 19.9	-1.0
	baz=102							
D20K	**Etivluk River**	**94.74**	**339**	P		**P**	10 23 20.0	-0.9
	baz=102							
F19K	**Shaleruckik Mo**	**94.80**	**337**	P		**P**	10 23 20.4	-0.8
	baz=101							
S12K	**Black Hills**	**94.94**	**325**	P		**P**	10 23 21.1	-1.0
	baz=98							
G18K	**Tagagawik**	**94.97**	**336**	P		**P**	10 23 22.2	+0.1
	baz=100							
M15K	**Kasigluk River**	**94.98**	**331**	P		**P**	10 23 22.1	-0.1
	baz=99							
O14K	**Tigyukauivet M**	**95.05**	**329**	P		**P**	10 23 22.6	+0.1
	baz=99							
B20K	**Meade River**	**95.20**	**340**	P		**P**	10 23 23.0	0.0
	baz=102							
D19K	**Kuna River**	**95.24**	**338**	P		**P**	10 23 22.8	-0.4
	baz=101							
H17K	**Granite Mounta**	**95.32**	**335**	P		**P**	10 23 24.0	+0.3
	baz=100							
J16K	**Anvik River**	**95.35**	**333**	P		**P**	10 23 23.7	-0.2
	baz=99							
N14K	**Kuskokwak Cree**	**95.36**	**330**	P		**P**	10 23 23.0	-0.9
	baz=98							
F18K	**Selawik**	**95.49**	**337**	P		**P**	10 23 24.1	-0.3
	baz=100							
I17K	**Unalakleet**	**95.49**	**334**	P		**P**	10 23 23.9	-0.5
	baz=99							
L15K	**Ungalak Mounta**	**95.52**	**331**	P		**P**	10 23 24.2	-0.4
	baz=98							
FALS	**False Pass**	**95.59**	**325**	P		**P**	10 23 24.7	-0.3
	baz=97							
M14K	**Bethel**	**95.61**	**331**	P		**P**	10 23 24.6	-0.4
	baz=98							
K15K	**Wolf Creek Mou**	**95.63**	**332**	P		**P**	10 23 24.3	-0.8
	baz=98							
BOSA	**Boshof**	**95.70**	**120**	P		**P**	10 23 26.2	-0.2
	comp=Z,2.1nm,0.8s,baz=214,slow=3.6,SNR=4.1							
	comp=Z,2.1nm,0.8s							
G17K	**Kiwalik Mounta**	**95.72**	**335**	P		**P**	10 23 24.6	-0.8
	baz=99							
C19K	**Lookout Ridge**	**95.88**	**339**	P		**P**	10 23 25.8	-0.4
	baz=99							
E18K	**Tukpahlearik C**	**95.99**	**337**	P		**P**	10 23 26.0	-0.7
	baz=99							
L14K	**Kuka Creek**	**96.04**	**331**	P		**P**	10 23 25.7	-1.2
	baz=97							
M13K	**Dall Lake**	**96.25**	**330**	P		**P**	10 23 26.1	-1.8
	baz=97							
H16K	**Elim**	**96.26**	**334**	P		**P**	10 23 27.2	-0.7
	baz=97							
C18K	**Utukok River**	**96.38**	**338**	P		**P**	10 23 27.7	-0.8
	baz=98							
G16K	**Koyuk River**	**96.41**	**335**	P		**P**	10 23 27.8	-0.7
	baz=97							
E17K	**Hotham Inlet**	**96.41**	**337**	P		**P**	10 23 28.1	-0.5
	baz=98							
A19K	**Wainwright**	**96.55**	**340**	P		**P**	10 23 28.5	-0.6
	baz=98							
J14K	**Nanvaranak Lak**	**96.61**	**332**	P		**P**	10 23 28.7	-0.9
	baz=96							
B18K	**Kokolik River**	**96.69**	**339**	P		**P**	10 23 29.6	-0.2
	baz=97							
D17K	**Noatak River**	**96.97**	**337**	P		**P**	10 23 30.3	-0.7
	baz=96							
K13K	**Kusilvak Mount**	**97.04**	**332**	P		**P**	10 23 30.7	-0.8
	baz=96							
G15K	**Niukluk**	**97.07**	**335**	P		**P**	10 23 31.4	-0.2
	baz=96							
UNV	**Unalaska Valle**	**97.28**	**323**	P		**P**	10 23 32.5	-0.2
	baz=95							
F15K	**North Star Dit**	**97.39**	**335**	P		**P**	10 23 32.7	-0.4
	baz=95							
HFS	**Hagfors**	**97.57**	**30**	P		**P**	10 23 33.2	-0.8
	comp=Z,3.0nm,0.9s,baz=289,slow=4.4,SNR=2.1							
	comp=Z,3.0nm,0.9s							
ANM	**Nome**	**97.60**	**334**	P		**P**	10 23 32.9	-1.1
	baz=95							
M11K	**Mekoryuk**	**97.65**	**330**	P		**P**	10 23 33.0	-1.2
	baz=94							
C16K	**Lisburne Hills**	**97.87**	**338**	P		**P**	10 23 34.1	-1.0
	baz=94							
F14K	**Arctic Creek**	**98.07**	**335**	P		**P**	10 23 35.0	-1.1
	baz=94							
TNA	**Tin City**	**98.73**	**335**	P		**P**	10 23 38.3	-0.7
	baz=92							
KBZ	**Khabaz**	**116.99**	**45**	PKP		**PKiKP**	10 28 44.2	-0.1
	comp=Z,3.6nm,0.8s,baz=232,slow=2.6,SNR=7.3							
STKA	**Stephens Creek**	**125.72**	**220**	PKP		**PKPdf**	10 29 01.4	-0.1
	comp=Z,3.7nm,0.6s,baz=56,slow=1.8,SNR=9.5							
BVAR	**Borovoye Array**	**128.34**	**25**	PKP		**PKPdf**	10 29 05.8	-0.1
	comp=Z,3.2nm,0.8s,baz=273,slow=2.7,SNR=9.3							
ZALV	**Zalesovo Beam**	**132.53**	**15**	PKP		**PKPdf**	10 29 13.8	+0.1
	comp=Z,8.0nm,0.7s,baz=250,slow=2.4,SNR=26							
KURBB	**Kurchatov Arra**	**133.42**	**22**	PKP		**PKPdf**	10 29 16.1	+0.5
	comp=Z,2.6nm,0.6s,baz=308,slow=2.5,SNR=16							
ASAR	**Alice Springs**	**136.28**	**222**	PKiKP	PKPpre		10 29 10.0	
	comp=Z,0.3nm,0.8s,baz=140,slow=3.0,SNR=4.5							
ASAR				PKP		**PKPdf**	10 29 21.6	-0.2
	comp=Z,3.1nm,0.5s,baz=124,slow=1.8,SNR=36							
ASAR				pPKP	pPKPdf		10 29 55.0	-0.4
	comp=Z,1.8nm,0.8s,baz=138,slow=2.0,SNR=4.6							
USRK	**Ussuriysk Ar.**	**137.14**	**330**	PKP		**PKPdf**	10 29 22.9	+0.2
	comp=Z,2.1nm,0.8s,baz=18,slow=1.4,SNR=10							
MKAR	**Makanchi Array**	**137.99**	**22**	PKhKP	PKPpre		10 29 13.2	
	comp=Z,0.3nm,0.6s,baz=333,slow=1.4,SNR=4.0							
MKAR				PKP		**PKPdf**	**10 29 24.2**	**0.0**
	comp=Z,2.3nm,0.8s,baz=330,slow=2.2,SNR=13							
MJAR	**Matsushiro Arr**	**138.38**	**317**	PKhKP	PKPpre		10 29 14.6	
	comp=Z,0.4nm,0.4s,baz=71,slow=0.4,SNR=2.0							
MJAR				PKP		**PKPdf**	**10 29 24.8**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=122,slow=2.0,SNR=4.5							
MJAR				SKPbc		**SKPbc**	**10 32 46.3**	**-2.2**
	comp=Z,0.5nm,0.4s,baz=90,slow=0.5,SNR=4.7							
WRA	**Warramunga Arr**	**138.49**	**226**	PKhKP	PKPpre		10 29 16.5	
	comp=Z,0.6nm,0.9s,baz=134,slow=2.3,SNR=6.9							
WRA				PKP		**PKPdf**	**10 29 26.1**	**+0.1**
	comp=Z,5.6nm,0.4s,baz=117,slow=1.9,SNR=24							
SONM	**Songino Array**	**141.12**	**357**	PKhKP	PKPpre		10 29 23.1	
	comp=Z,1.3nm,0.6s,baz=267,slow=1.2,SNR=4.5							
KSRS	**Korea Array**	**144.16**	**326**	PKP		**PKPab**	**10 29 33.3**	**-0.1**
	comp=Z,4.6nm,0.8s,baz=48,slow=3.2,SNR=17							
KSAR	**Wonju Array Be**	**144.19**	**326**	PKPdf		**PKPab**	**10 29 33.9**	**+0.3**
TJN	**Taejon**	**145.24**	**326**	PKPbc		**PKPbc**	**10 29 36.9**	**-0.4**
JNU	**Nakatsue**	**145.27**	**318**	PKPbc		**PKPdf**	**10 29 36.5**	**-1.1**
KNRA	**Kununurra**	**145.27**	**226**	PKPbc		**PKPdf**	**10 29 38.1**	**0.0**
FITZ	**Fitzroy Crossi**	**145.60**	**219**	PKPbc		**PKPbc**	**10 29 39.4**	**+0.4**
PSA00	**Pilbara Seismi**	**145.89**	**207**	PKPbc		**PKPdf**	**10 29 39.4**	**+0.4**
MBWA	**Marble Bar**	**146.30**	**207**	PKPbc		**PKPdf**	**10 29 40.6**	**+0.8**
LZDM	**Lanzhou Array**	**153.05**	**0**	PKPbc		**PKPbc**	**10 29 56.7**	**-1.1**
	comp=Z,2.1nm,0.4s,baz=279,slow=2.8,SNR=4.6							
LZDM				PKPab		**PKPab**	**10 30 09.2**	**-0.2**
	comp=Z,3.5nm,0.5s,baz=299,slow=3.0,SNR=6.3							
CMAR	**Chiang Mai Arr**	**169.37**	**26**	PKP		**PKPdf**	**10 30 06.7**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=67,slow=0.3,SNR=5.2							
CMAR				PKPab		**PKPab**	**10 31 20.3**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=336,slow=4.8,SNR=5.2							
CMAR				pPKPab		**pPKPab**	**10 31 51.7**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=14,slow=17,SNR=1.6							

*IDC **03** 10:15:19.6±4.3,31°.90S×179°.96E,h279km±37km,mb3.6/5, mbtmp4.3/5,Error ellipse: s-maj=36.9km s-min=19.6km az=49.0*
*NOU **03** 10:15:20.4,32°.34S×179°.34W,h340km,mb4.4/30,South of Kermadec Islands*
*WEL **03** 10:15:28.8±0.4,33°.5±.5°×18°.0W±1°.0,h12km,M5.5/12, mB5.9/11,ML5.3/15,MLv5.5/12,Mw(mB)5.5/11,Error ellipse: s-maj=14.7km s-min=2.8km az=112.6,confirmed*
ISC 03 10:15:21.9±0.5,32°.10S±0°.02×179°.54E±0°.06,h250km,n97,
σ2.29/87,mb3.9/7,3C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.58**	**38**	P		**Pn**	**10 16 24.1**	**+3.2**
GLKZ				S		**S**	**10 17 11.3**	**+3.7**
RAO	**Raoul Island**	**3.58**	**38**	S		**S**	**10 17 06.8**	**-0.9**
	590nm,0.4s,baz=117,slow=22,SNR=4.9							
RIZ	**Raoul Island**	**3.58**	**38**	P		Pn	10 16 27.0	+6.0
RIZ				S		**S**	**10 17 14.9**	**+7.1**
MXZ	**Matakaoa Point**	**5.54**	**190**	P		**Pn**	**10 16 47.3**	**+3.0**
MXZ	**Matakaoa Point**	**5.54**	**190**	P		Pn	10 16 47.7	+3.5
MXZ				S		**S**	**10 17 50.6**	**+0.5**
KUZ	**Kuaotunu**	**5.61**	**213**	P		Pn	10 16 51.3	+6.2
WCZ	**Waipu Caves**	**5.77**	**227**	P		Pn	10 16 55.0	+7.9
WMGZ	**Waiomatatini S**	**5.78**	**189**	P		**Pn**	**10 16 49.5**	**+2.2**
WMGZ				S		**S**	**10 17 55.4**	**-0.1**
HAZ	**Te Kaha**	**5.83**	**194**	P		**Pn**	**10 16 49.3**	**+1.6**
HAZ				S		**S**	**10 17 59.1**	**+2.6**
OUZ	**Omahuta**	**5.85**	**236**	P		Pn	10 16 56.0	+7.9
OUZ	**Omahuta**	**5.85**	**236**	P		Pn	10 16 56.1	+8.0
PKGZ	**Pakihiroa**	**5.88**	**191**	P		**Pn**	**10 16 50.4**	**+1.9**
RUGZ	**Raukumara Rang**	**6.05**	**194**	P		**Pn**	**10 16 52.8**	**+2.1**
RUGZ				S		**S**	**10 18 01.3**	**-0.4**
PUZ	**Puketiti**	**6.05**	**190**	P		**Pn**	**10 16 51.9**	**+1.3**
PUZ				S		**S**	**10 18 01.7**	**+0.1**
WHRZ	**Whale Island**	**6.12**	**199**	P		Pn	10 16 59.0	+7.5
OPRZ	**Ohinepanea**	**6.23**	**202**	P		Pn	10 16 59.5	+6.6
MARZ	**Manawahe**	**6.33**	**201**	P		Pn	10 17 00.0	+6.0
EDRZ	**Edgecumbe**	**6.42**	**200**	P		Pn	10 17 01.1	+5.9
LIRZ	**Lichensteins R**	**6.43**	**203**	P		Pn	10 17 03.4	+8.0
URZ	**Urewera**	**6.46**	**197**	P		**Pn**	**10 16 57.2**	**+1.5**
	281nm,0.3s,baz=352,slow=2.2,SNR=233							
URZ				S		**S**	**10 18 11.2**	**+0.4**
	190nm,0.3s,baz=80,slow=21,SNR=18							
URZ	**Urewera**	**6.46**	**197**	P		**Pn**	**10 16 58.0**	**+2.3**
URZ	**Urewera**	**6.46**	**197**	P		**Pn**	**10 16 56.9**	**+1.2**
URZ				S		**S**	**10 18 08.7**	**-2.2**
CNGZ	**Carnagh Statio**	**6.46**	**189**	P		**Pn**	**10 16 57.2**	**+1.4**
TKGZ	**Te Karaka**	**6.48**	**192**	P		**Pn**	**10 16 56.7**	**+0.8**
TKGZ				S		**S**	**10 18 11.4**	**+0.1**
KARZ	**Kaharoa**	**6.50**	**204**	P		Pn	10 17 02.4	+6.2
TOZ	**Tahuroa Road**	**6.52**	**209**	P		Pn	10 17 03.0	+6.5
OMRZ	**Omania**	**6.53**	**203**	P		Pn	10 17 03.5	+6.8
RAGZ	**Rawiri**	**6.62**	**195**	P		**Pn**	**10 16 59.8**	**+2.0**
RAGZ				S		**S**	**10 18 15.5**	**+0.9**
UTU	**Utuhina**	**6.66**	**203**	P		Pn	10 17 05.7	+7.5
HLRZ	**Highlands Stat**	**6.67**	**202**	P		Pn	10 17 05.1	+6.7
RRRZ	**Republican Roa**	**6.70**	**201**	P		Pn	10 17 04.3	+5.6
RRRZ				S		**S**	**10 18 20.1**	**+3.6**
RIGZ	**Rimuhau**	**6.75**	**192**	P		**Pn**	**10 16 59.6**	**+0.2**
RIGZ				S		**S**	**10 18 17.5**	**-0.1**
MUGZ	**Murupara**	**6.75**	**199**	P		Pn	10 17 03.7	+4.2
MUGZ				S		**S**	**10 18 16.9**	**-0.7**
HSRZ	**Hossack Road**	**6.76**	**203**	P		Pn	10 17 06.3	+6.8
HRRZ	**Handcock Road**	**6.82**	**202**	P		Pn	10 17 05.9	+5.6
RTZ	**Ruatahuna**	**6.83**	**197**	P		Pn	10 17 04.4	+4.0
RTZ				S		**S**	**10 18 21.1**	**+1.6**
GRRZ	**Galatos Road**	**6.84**	**203**	P		Pn	10 17 07.0	+6.5
PRRZ	**Plateau Road**	**6.88**	**201**	P		Pn	10 17 05.8	+4.7
PRRZ				S		**S**	**10 18 24.9**	**+4.3**
SNGZ	**Shannon Statio**	**6.91**	**194**	P		**Pn**	**10 17 02.0**	**+0.7**
SNGZ				S		**S**	**10 18 21.2**	**0.0**
PRGZ	**Paritu Road**	**6.94**	**191**	P		**Pn**	**10 17 04.8**	**+3.0**
ALRZ	**Allen Road**	**6.96**	**201**	P		Pn	10 17 05.9	+3.9
ALRZ				S		**S**	**10 18 24.9**	**+2.6**
WPRZ	**Whakapapatarin**	**6.98**	**202**	P		Pn	10 17 07.9	+5.7
TLZ	**Tolley Road**	**7.03**	**207**	P		Pn	10 17 07.6	+4.8
KNZ	**Kokohu**	**7.07**	**192**	P		**Pn**	**10 17 03.8**	**+0.4**
KNZ				S		**S**	**10 18 21.7**	**-3.2**
MTHZ	**Maungataniwha**	**7.09**	**197**	P		**Pn**	**10 17 05.1**	**+1.5**
MTHZ				S		**S**	**10 18 23.5**	**-1.9**
RAHZ	**Arahi**	**7.09**	**196**	P		**Pn**	**10 17 04.5**	**+0.8**
RAHZ				S		**S**	**10 18 23.6**	**-1.8**
MHGZ	**Mahia Peninsul**	**7.16**	**190**	P		Pn	10 17 08.1	+3.5
MHGZ				S		**S**	**10 18 23.5**	**-3.5**
MRHZ	**Matea Rd**	**7.19**	**200**	P		**Pn**	**10 17 07.6**	**+2.7**
MRHZ				S		**S**	**10 18 27.0**	**-0.6**
NMHZ	**Naumai**	**7.33**	**197**	P		**Pn**	**10 17 07.3**	**+0.6**
NMHZ				S		**S**	**10 18 30.6**	**-0.4**
ARHZ	**Aropaoanui**	**7.44**	**195**	P		**Pn**	**10 17 09.7**	**+1.7**
ARHZ				S		**S**	**10 18 32.5**	**-0.9**
HIZ	**Hauiti**	**7.46**	**210**	P		Pn	10 17 13.6	+5.4
HIZ	**Hauiti**	**7.46**	**210**	P		Pn	10 17 15.3	+7.1
BKZ	**Black Stump Fm**	**7.47**	**199**	P		**Pn**	**10 17 09.4**	**+0.9**
RITZ	**Rihia Road**	**7.49**	**203**	P		Pn	10 17 12.7	+4.0
RITZ				S		**S**	**10 18 40.3**	**+5.7**
MCHZ	**McNeill Hill**	**7.69**	**197**	P		**Pn**	**10 17 11.3**	**+0.2**
MCHZ				S		**S**	**10 18 39.3**	**+0.3**
NGZ	**Ngauruhoe**	**7.75**	**203**	P		Pn	10 17 15.8	+3.7
VRZ	**Vera Road**	**8.02**	**208**	P		Pn	10 17 20.2	+4.8
PWZ	**Pawanui**	**8.21**	**195**	P		**Pn**	**10 17 19.5**	**+1.8**
PXZ	**Pawanui**	**8.21**	**195**	P		**Pn**	**10 17 18.9**	**+1.2**
PXZ				S		**S**	**10 18 50.2**	**-0.8**
KHEZ	**Kahui Hut**	**8.47**	**210**	P		**Pn**	**10 17 24.9**	**+3.8**
BFZ	**Birch Farm**	**8.97**	**196**	P		**Pn**	**10 17 25.4**	**-1.9**
SNZO	**South Karori**	**9.98**	**201**	P		**Pn**	**10 17 38.5**	**-1.5**
QRZ	**Quartz Range**	**10.37**	**211**	P		**Pn**	**10 17 44.5**	**-0.6**
KHZ	**Kahutara**	**11.35**	**203**	P		**Pn**	**10 17 54.7**	**-2.5**
RPZ	**Rata Peaks**	**13.38**	**208**	P		**Pn**	**10 18 19.7**	**-2.7**
	42nm,0.3s,baz=35,slow=4.1,SNR=35							
RPZ				S		S	10 20 38.6	-12
	13nm,0.4s,baz=307,slow=23,SNR=9.3							
RPZ	**Rata Peaks**	**13.38**	**208**	P		**Pn**	**10 18 19.8**	**-2.6**
LKBA	**Tubou, Lakemba**	**13.88**	**7**	P		Pn	10 18 23.8	-4.9
PINNC	**Pines Island,**	**14.29**	**308**	P		**P**	**10 18 36.4**	**+2.4**
MSVF	**Nonsavu**	**14.37**	**354**	P		**Pn**	**10 18 32.9**	**-1.8**
JCZ	**Jackson Bay**	**14.63**	**212**	P		**P**	**10 18 33.9**	**-3.7**
ODZ	**Otahua Downs**	**14.66**	**206**	P		**P**	**10 18 34.8**	**-3.1**
OUENC	**Ouen Island, N**	**14.83**	**307**	P		**Pn**	**10 18 43.3**	**+3.1**
DZM	**Mont Dzumac**	**15.34**	**307**	P		**P**	**10 18 48.0**	**+2.4**
	27nm,0.7s,baz=128,slow=13,SNR=8.4							
DGTI	**Dogotuki**	**15.73**	**1**	P		**P**	**10 18 47.6**	**-2.3**
SYZ	**Scrubby Hill**	**16.49**	**206**	P		**P**	**10 18 54.4**	**-3.5**
SANVU	**Saraoutou**	**20.02**	**323**	P		**P**	**10 19 37.4**	**+1.1**
CMSA	**Cobar Meteorol**	**28.70**	**262**	P		**P**	**10 20 56.5**	**+0.4**
CTA	**Charters Tower**	**32.07**	**284**	P		**P**	**10 21 25.2**	**-0.6**
CTAO	**Charters Tower**	**32.07**	**284**	P		**P**	**10 21 24.9**	**-0.9**
HTT	**Hallett**	**34.03**	**257**	P		**P**	**10 21 41.7**	**-0.9**
BBOO	**Buckleboo**	**36.50**	**257**	P		**P**	**10 22 01.0**	**-2.6**
QIS	**Mount Isa**	**37.39**	**278**	P		**P**	**10 22 09.9**	**-1.4**
COEN	**Coen**	**37.79**	**290**	P		**P**	**10 22 13.0**	**-1.5**
AS01	**Alice Springs**	**40.92**	**270**	P		**P**	**10 22 38.5**	**-1.8**
ASAR	**Alice Springs**	**40.95**	**270**	P		**P**	**10 22 38.5**	**-2.2**
	1.5nm,0.5s,baz=105,slow=7.3,SNR=33							
	1.5nm,0.5s							
WRA	**Warramunga Arr**	**42.10**	**275**	P		**P**	**10 22 47.5**	**-2.4**
	5.1nm,0.4s,baz=112,slow=8.0,SNR=157							
	5.1nm,0.4s							
FITZ	**Fitzroy Cossi**	**50.29**	**273**	P		**P**	**10 23 50.8**	**-2.6**
QSPA	**South Pole Qui**	**58.02**	**180**	P		**P**	**10 24 46.0**	**-2.5**
	1.4nm,0.4s,baz=18,slow=3.2,SNR=7.9							
	1.4nm,0.4s							
SNAA	**Sanae**	**76.51**	**179**	⇑P		P	10 26 38.0	-6.0
	comp=Z,14nm,0.4s							
SNAA	**Sanae**	**76.51**	**179**	P		P	10 26 38.3	-5.7
	comp=Z,1.1nm,0.8s,baz=187,slow=8.1,SNR=7.4							
	comp=Z,1.1nm,0.8s							
VNA3	**Neumayer Olymp**	**76.74**	**177**	⇑P		P	10 26 39.8	-5.5
	comp=Z,4.6nm,0.7s							
VNA2	**Neumayer--Watz**	**77.15**	**178**	⇑P		P	10 26 42.1	-5.4
	comp=Z,0.8nm,0.3s,baz=183,slow=5.0							
PETK	**Petropavlovsk-**	**86.96**	**347**	P		P	10 27 33.2	-5.1
	comp=Z,2.3nm,1.0s,baz=149,slow=5.8,SNR=2.4							
	comp=Z,2.3nm,1.0s							
FINES	**FINESS Array B**	**145.96**	**337**	PKPbc		**PKPdf**	**10 34 25.2**	**-4.9**
	comp=Z,2.1nm,0.6s,baz=35,slow=4.8,SNR=9.8							
NB2	**NORSAR Subarra**	**150.05**	**349**	PKP		**PKPdf**	**10 34 36.0**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=12,slow=2.5							
NOA	**NORSAR Array B**	**150.05**	**349**	PKPbc		**PKPdf**	**10 34 35.5**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=14,slow=2.5,SNR=4.1							
HFS	**Hagfors**	**150.42**	**346**	PKPbc		**PKPdf**	**10 34 36.0**	**-1.5**
	comp=Z,2.1nm,0.8s,baz=70,slow=4.7,SNR=1.9							

*IDC **03** 10:32:46.5±6.4,29°.42N×142°.59E,h0km,mb3.5/3, mbtmp3.5/5,ML3.0/2,Error ellipse: s-maj=240.8km s-min=28.5km az=73.0*
*JMA **03** 10:32:48.0±0.3,29°.5N±0°.7×14°.3E±°,h55km,MV3.6/22, NEAR TORISHIMA IS*
ISC 03 10:32:46.0±1.5,29°.54N±0°.06×142°.8E±0°.2,h10km,n12,
σ1.77/16,mb3.4/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.49**	**192**	*e*P		**Pn**	**10 33 25.9**	**-0.7**
CBIJ				*e*S		**Sn**	**10 33 54.5**	**-2.5**
JHJ2	**Mitsune**	**4.37**	**325**	*e*P		**Pn**	**10 33 52.7**	**+0.2**
JHJ2				*e*S		**Sn**	**10 34 41.7**	**-1.8**
JHJ	**Hachijo jima 2**	**4.39**	**325**	P		**Pn**	**10 33 52.5**	**-0.3**
	2.4nm,0.3s,baz=240,slow=20,SNR=9.0							
JHJ					Sn	**Sn**	**10 34 42.3**	**-1.8**
	2.7nm,0.3s,baz=77,slow=17,SNR=1.9							
	15nm,0.5s							
BSO1	**Boso 1**	**5.33**	**344**	*e*P		**Pn**	**10 34 04.6**	**-0.5**
BSO1				*e*S		**Sn**	**10 35 04.6**	**-1.7**
JOD2	**Odawara 2**	**6.51**	**332**	*e*P		**Pn**	**10 34 22.9**	**+1.0**
JHO	**Hitachi**	**7.29**	**346**	*e*P		**Pn**	**10 34 31.9**	**-0.7**
JAG	**Ashikaga**	**7.42**	**339**	*e*P		**Pn**	**10 34 34.4**	**+0.1**
JAG				*e*S		**Sn**	**10 35 55.1**	**-3.4**
MJAR	**Matsushiro Arr**	**7.97**	**332**	Pn		**Pn**	**10 34 43.0**	**+1.1**
	0.2nm,0.3s,baz=158,slow=11,SNR=10							
	1.5nm,0.5s							
JF

AKRB	Akutan Reef Bi	0.46	290			Pn		11 25 08.4	-0.5
UNV	Unalaska Valle	0.70	260			Pn		11 25 10.1	-1.3
UNV						Sn		11 25 20.8	-1.6
UNV					IAML			11 25 23.6	
	comp=E,957nm,0.3s								
UNV	Unalaska Valle	0.70	260	P		Pn		11 25 10.2	-1.1
UNV	Unalaska Valle	0.70	260	S		Sn		11 25 21.3	-1.1
WEBT	Westdahl Beart	0.71	28			Pn		11 25 12.1	+0.6
WEBT						Sn		11 25 24.3	+1.8
MTBL	Makushin Table	0.80	270			Pn		11 25 12.2	-0.3
MNAT	Makushin Natee	0.80	264			Pn		11 25 11.7	-0.8
MREP	Makushin Rep't	0.85	260			Pn		11 25 12.4	-0.7
MSW	Makushin Switc	0.86	267			Pn		11 25 12.4	-0.8
MGOD	Makushin Gods	0.93	260			Pn		11 25 13.4	-0.7
MAPS	Pakushin South	0.97	261			Pn		11 25 13.8	-0.7
SSBA	Shishaldin	1.07	41			Pn		11 25 16.5	+0.6
SSLN	Shishaldin Nor	1.15	42			Pn		11 25 18.0	+1.2
ISNN	Isanotski Nort	1.25	46			Pn		11 25 19.3	+1.2
FALS	False Pass	1.43	51			Pn		11 25 21.2	+0.8
FALS	False Pass	1.43	51	P		Pn		11 25 19.9	-0.5
OKFG	Magazine Ridge	1.63	251			Pn		11 25 23.1	0.0
OKTU	Okmok Mt. Tuli	1.72	251			Pn		11 25 24.3	0.0
OKCE	Okmok Cone E	1.77	253			Pn		11 25 25.0	0.0
OKSP	Okmok Steeple	1.90	249			Pn		11 25 26.8	+0.1
DT1	Dutton Round H	2.11	56			Pn		11 25 30.4	+0.9
DOL	Dolgoi Island	2.34	58			Pn		11 25 33.6	+1.0
PS1A	Pavlof South-1	2.54	54			Pn		11 25 36.8	+1.5
S12K	Black Hills	2.57	46	Pn		Pn		11 25 36.6	+0.9
S12K					IAML			11 26 16.3	
	comp=N,162nm,0.6s								
S12K					IAML			11 26 18.2	
	comp=E,188nm,0.9s								
SDPT	Sand Point	3.14	62			Pn		11 25 44.6	+1.2
SDPT					IAML			11 26 32.9	
	comp=E,164nm,0.9s								
SDPT					IAML			11 26 38.0	
	comp=N,224nm,0.8s								
SDPT	Sand Point	3.14	62	P		Pn		11 25 43.9	+0.5
CNBA	Chernabura Isl	3.46	73	Pn		Pn		11 25 47.5	-0.4
P08K	Saint George I	3.57	319	Pn		Pn		11 25 45.6	-3.7
P08K					IAML			11 26 33.9	
	comp=N,125nm,1.0s								
P08K					IAML			11 26 37.6	
	comp=E,108nm,1.2s								
SPIA	Saint Paul Isl	4.25	321	Pn		Pn		11 25 55.1	-3.5
CHGN	Chignik	4.61	57	Pn		Pn		11 26 04.6	+1.2
ATKA	Atka Island	5.63	255	Pn		Pn		11 26 16.5	-0.9
ATKA	Atka Island	5.63	255	P		Pn		11 26 19.1	+1.7
O14K	Tigyukauivet M	5.75	21	Pn		Pn		11 26 21.2	+2.1
O15K	Ungalikthiuk R	6.04	28	Pn		Pn		11 26 24.1	+1.1
PLK4	Peulik 4	6.25	50	Pn		Pn		11 26 29.2	+3.3
N14K	Kuskokwak Cree	6.29	17	Pn		Pn		11 26 26.9	+0.5
M11K	Mekoryuk	6.45	356	Pn		Pn		11 26 28.6	0.0
N15K	Kwethluk River	6.84	23	Pn		Pn		11 26 35.7	+1.9
O16K	Kokwok River B	6.89	32	Pn		Pn		11 26 34.7	0.0
M14K	Bethel	7.04	14	Pn		Pn		11 26 35.7	-0.9
ADK	Adak	7.17	258	Pn		Pn		11 26 39.3	+0.7
ADK	Adak	7.17	258	P		Pn		11 26 39.5	+1.0
KIWB	Kanaga Island	7.46	258	Pn		Pn		11 26 41.7	-0.7
L14K	Kuka Creek	7.53	10	Pn		Pn		11 26 41.0	-2.2
OHAK	Old Harbor	7.56	60	Pn		Pn		11 26 43.5	-0.2
OHAK	Old Harbor	7.56	60	P		Pn		11 26 43.0	-0.8
P18K	Big Mountain,	7.77	42	Pn		Pn		11 26 45.3	-1.4
M16K	Timber Creek	7.85	23	Pn		Pn		11 26 48.4	+0.6
N17K	Nushagak Hills	7.91	31	Pn		Pn		11 26 49.0	+0.4
K13K	Kusilvak Mount	7.99	2	Pn		Pn		11 26 46.9	-2.8
KDAK	Kodiak Island	8.12	57	Pn		Pn		11 26 50.8	-0.6
KDAK	Kodiak Island	8.12	57	Pn		Pn		11 26 50.3	-1.1
	comp=E,0.5nm,0.3s,baz=306,slow=17,SNR=10								
KDAK					Sn	Sn		11 28 17.6	-3.9
	comp=E,0.3nm,0.3s,baz=337,slow=20,SNR=1.0								
	comp=E,11nm,1.1s								
Q19K	Cape Douglas,	8.15	48	Pn		Pn		11 26 52.4	+0.4
L16K	Owhat River	8.36	20	Pn		Pn		11 26 53.3	-1.4
N18K	Kilae Creek	8.44	33	Pn		Pn		11 26 55.6	-0.2
M17K	Holitna River	8.56	26	Pn		Pn		11 26 57.0	-0.4
SYI	Shuyak Island	8.56	52	Pn		Pn		11 26 56.5	-1.0
K15K	Wolf Creek Mou	8.58	12	Pn		Pn		11 26 57.0	-0.7
N19K	Bonanza Creek	9.01	36	Pn		Pn		11 27 04.4	+0.8
L18K	Granite Mounta	9.44	25	Pn		Pn		11 27 09.1	-0.4
K17K	Iditarod	9.51	20	Pn		Pn		11 27 09.4	-0.9
CNPM	China Poot	9.53	49	Pn		Pn		11 27 10.2	-0.4
J16K	Anvik River	9.66	13	Pn		Pn		11 27 11.6	-0.7
L19K	White Mountain	9.91	30	Pn		Pn		11 27 16.2	-0.7
J17K	VABM Dome	9.99	16	Pn		Pn		11 27 16.6	-0.4
M20K	Styx River	10.23	34	Pn		Pn		11 27 19.0	-1.3
GAMB	Gambell	10.36	344	Pn		Pn		11 27 21.0	-1.0
J18K	Innoko River	10.51	22	Pn		Pn		11 27 23.0	-1.0
SEW	Seward	10.59	48	Pn		Pn		11 27 24.8	-0.3
O22K	Cooper Landing	10.66	46	Pn		Pn		11 27 25.5	-0.6
K20K	Telida	11.07	27	Pn		Pn		11 27 31.0	-0.6
J19K	Poorman	11.21	22	Pn		Pn		11 27 33.6	0.0
PWL	Port Wells	11.45	46	Pn		Pn		11 27 36.7	-0.1
PMR	Palmer	11.51	42	P		Pn		11 27 36.7	-0.9
HIN	Hinchinbrook I	12.04	50	Pn		Pn		11 27 43.9	-1.1
SCM	Sheep Creek Mo	12.36	43	Pn		Pn		11 27 48.3	-1.0
BPAW	Bear Paw Mtn.	12.52	30	Pn		Pn		11 27 51.2	-0.2
KLU	Klutina	12.78	46	Pn		Pn		11 27 53.6	-1.4
M24K	Tolsona, Glenn	12.97	43	Pn		Pn		11 27 57.9	+0.3
HMT	Hamilton	13.05	52	Pn		Pn		11 27 57.8	-0.9
BMRM	Bremner River	13.13	49	Pn		Pn		11 27 58.8	-0.9
H21K	Melozitna River	13.27	23	Pn		Pn		11 27 59.2	-2.0
N25K	Chitina, Valde	13.39	47	Pn		Pn		11 28 02.2	-1.1
GLB	Gilahina Butte	13.67	48	Pn		Pn		11 28 06.7	-0.2
WRH	Wood River Hil	13.68	33	Pn		Pn		11 28 06.1	-0.8
G21K	Allakaket	13.85	20	Pn		Pn		11 28 08.9	-0.2
CCB	Clear Creek Bu	13.89	33	Pn		Pn		11 28 10.2	+0.5
MCARA	McCarthy VSAT	14.00	49	Pn		Pn		11 28 10.4	-0.7
COLA	College	14.03	32	P		Pn		11 28 10.0	-1.5
IL31		14.27	33	Pn		Pn		11 28 14.9	+0.3
ILAR	Eielson Array	14.27	33	Pn		Pn		11 28 13.3	-1.3
	comp=E,0.1nm,0.3s,baz=232,slow=13,SNR=4.7								
	comp=E,0.2nm,0.5s								
RIDG	Independent Ri	14.35	39	Pn		Pn		11 28 16.7	+0.9
GRNC	Granite Creek	14.36	52	Pn		Pn		11 28 15.6	-0.4
M26K	Nabesna, AK	14.42	45	Pn		Pn		11 28 15.4	-1.4
L26K	Log Cabin Wild	14.56	43	Pn		Pn		11 28 19.0	+0.5
DOT	Dot Lake	14.60	40	Pn		Pn		11 28 19.2	+0.2
H24K	Noodor Dome	14.69	29	Pn		Pn		11 28 21.0	+0.8
G23K	Bananza Creek	14.79	24	Pn		Pn		11 28 22.0	+0.6
SCRK	Sand Creek	14.80	39	Pn		Pn		11 28 20.6	-1.1
M27K	Edge Creek, AK	14.88	46	Pn		Pn		11 28 21.9	-0.8
L27K	Beaver Creek,	15.20	44	Pn		Pn		11 28 27.6	+0.9
L27K					IAmb	IAmb		11 28 28.7	
	comp=Z,4.6nm,1.3s								
BCAR	Beaver Creek A	15.21	44	Pn		Pn		11 28 26.0	-0.9
J26L	Joseph Creek	15.24	38	Pn		Pn		11 28 26.5	-0.8
J26L					IAmb	IAmb		11 28 55.6	
	comp=Z,7.8nm,1.4s								
D20K	Etivluk River	15.34	12	Pn		Pn		11 28 27.2	-1.3
G24K	Hadweenzic Riv	15.43	27			Pn		11 28 29.8	+0.1
G24K					IAmb	IAmb		11 28 33.0	
	comp=Z,9.3nm,1.5s								
K27K	Chicken	15.55	40	Pn		Pn		11 28 30.6	-0.6
EGAK	Eagle	16.27	39	Pn		Pn		11 28 39.3	-0.9
M29M	Somme Creek	16.39	48	Pn		Pn		11 28 40.7	-1.1
M29M					IAmb	IAmb		11 28 44.3	
	comp=Z,8.8nm,1.3s								
DAWY	Dawson	16.61	42	Pn		Pn		11 28 42.7	-1.8
N30M	Aishikik Lake	16.73	52	Pn		Pn		11 28 45.6	-0.5
N30M					IAmb	IAmb		11 28 52.8	
	comp=Z,2.3nm,0.7s								
L29M	L29M	16.76	46	Pn		Pn		11 28 45.0	-1.4
I28M	Miner Creek	17.05	38			Pn		11 28 49.1	-0.9
I28M					IAmb	IAmb		11 28 49.4	
	comp=Z,4.6nm,1.4s								
O30N	Mendenhall	17.06	55	Pn		Pn		11 28 49.1	-1.1
O30N					IAmb	IAmb		11 28 50.4	
	comp=Z,4.1nm,0.8s								
G27K	Doyon Strip	17.23	32			Pn		11 28 50.2	-1.9
G27K					IAmb	IAmb		11 29 12.0	
	comp=Z,4.5nm,1.4s								
K29M	Barlow Dome	17.28	44			Pn		11 28 52.4	-0.5
I29M	Ogilvie Camp,	17.61	39			P		11 28 56.4	-0.5
I29M					IAmb	IAmb		11 28 59.2	
	comp=Z,7.0nm,1.5s								
H29M	Whitestone	18.00	37	P		P		11 29 00.5	-0.6
J30M	Hart River	18.04	43	P		P		11 29 01.0	-0.7
J30M					IAmb	IAmb		11 29 08.2	
	comp=Z,5.3nm,1.4s								
M31M	Drury Creek, Y	18.15	51	P		P		11 29 01.6	-1.3
M31M					IAmb	IAmb		11 29 29.9	
	comp=Z,6.8nm,1.4s								
I30M	Mount Dempster	18.28	41	P		P		11 29 03.9	-0.4
G29M	Pine Creek	18.48	35	P		P		11 29 05.7	-0.6
G30M	tAoh Zraii Nji	19.12	36	P		P		11 29 12.7	-0.8
H31M	Peel River	19.29	40	P		P		11 29 14.7	-0.6
H31M					IAmb	IAmb		11 29 38.7	
	comp=Z,9.5nm,1.4s								
F30M	Barrier River	19.58	34	P		P		11 29 17.3	-1.1
MMPY	Sheldon Lake,	19.66	50	P		P		11 29 19.0	-0.4
MMPY					IAmb	IAmb		11 29 24.3	
	comp=Z,4.0nm,0.7s								
G31M	Satah River	19.78	37	P		P		11 29 19.7	-0.8
G31M					IAmb	IAmb		11 29 26.7	
	comp=Z,6.2nm,1.2s								
INK	Inuvik	20.66	34	P		P		11 29 29.0	-1.0
INK	Inuvik	20.66	34	P		P		11 29 30.3	+0.2
	comp=Z,1.9nm,0.7s,baz=235,slow=13,SNR=5.6								
	comp=Z,1.9nm,0.7s								
PETK	Petropavlovsk-	21.83	283	P		P		11 29 45.0	+2.2
	comp=Z,0.5nm,0.5s,baz=81,slow=13,SNR=5.4								
	comp=Z,0.5nm,0.5s								
H11N2	WAKE ISLAND Hy	40.26	223	T		T		12 15 12.5	
	baz=25,slow=74								
H11N3	WAKE ISLAND Hy	40.26	223	T		T		12 15 14.4	
	baz=25,slow=74								
H11N1	WAKE ISLAND Hy	40.27	223	T		T		12 15 12.4	
	baz=25								
H11S1	WAKE ISLAND Hy	41.44	222	T		T		12 16 41.3	
	baz=25,slow=74								
H11S2	WAKE ISLAND Hy	41.45	222	T		T		12 16 43.7	
	baz=25,slow=74								
H11S3	WAKE ISLAND Hy	41.45	222	T		T		12 16 43.0	
	baz=25								
TXAR	Lajitas Array	50.35	93	P		P		11 33 45.2	-1.0
TXAR	Lajitas Array	50.35	93	P		P		11 33 47.2	+0.9
	comp=Z,0.1nm,0.4s,baz=292,slow=6.6,SNR=4.4								
	comp=Z,0.1nm,0.4s								
KIF	Kilpisjarvi	57.25	357	eP		P		11 34 38.8	+3.0
HEF	Hetta	57.75	356	eP		P		11 34 40.4	+0.9
HFS	Hagfors	66.24	1	P		P		11 35 37.8	+1.4
	comp=Z,2.0nm,0.8s,baz=343,slow=4.5,SNR=4.5								
	comp=Z,2.0nm,0.8s								
H03N2	Juan Fernandez	114.30	114	T		T		13 48 17.2	
	baz=322,slow=77,SNR=6.3								
H03N1	Juan Fernandez	114.31	114	T		T		13 48 21.1	
	baz=322,slow=77,SNR=4.9								
H03N3	Juan Fernandez	114.32	114	T		T		13 48 17.5	
	baz=322,slow=77,SNR=5.4								

PRU **03** *11:52:42.6, 45°.33N×27°.61E, h80km, M4.6*

MED_RC **03** *11:52:51.0±0.3, 45°.53N×26°.44E, h122km±5km, MW4.4/24, Moment Tensor Solution.Mantle waves: s24,c26; Duration: 1s0 Moment tensor: Scale 10^15Nm; Mrr0.98±.37; Mθθ0.89±.93; Mϕϕ-1.87±1.00; Mrθ-3.09±.26; Mθϕ-1.88±.45; Mϕr-4.37±.30; Best double couple: M≈5.71000×10^15 NP1:ϕs356.00000°, δ12.00000°, λ49.00000°. NP2:ϕs218.00000°, δ81.00000°, λ98.00000°. Principal axes: T 4.8400, Plg54.0000°, Azm138.0000°; N 1.7300, Plg8.0000°, Azm36.0000°; P -6.5700, Plg35.0000°, Azm301.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

MOS **03** *11:52:51.8±0.9, 45°.52N×26°.29E, h125km, mb4.6/23 Error ellipse: s-maj=4.6km s-min=3.6km az=121.7*

NEIC **03** *11:52:52.4±1.7, 45°.51N±0°.05×26°.22E±0°.09, h113km±6km, mb4.6/79, Error ellipse: s-maj=9.2km s-min=7.6km az=73.0*

IDC **03** *11:52:52.7±0.3, 45°.51N×26°.15E, h117km±2km, mb4.0/23, mbtmp4.4/38, MS2.9/8, Error ellipse: s-maj=10.3km s-min=7.8km az=160.0*

SIGU **03** *11:52:52.4, 45°.50N×26°.33E, h128km*

MCSM **03** *11:52:52.5±0.2, 46°N±2°×2°6E±°, h134km±6km, mb4.5, mB4.7, MLv4.8, Mw(mB)4.0*

PDG **03** *11:52:52.9±3.9, 45°.40N×25°.99E, h13km±3km, ML4.5/10, Error ellipse: s-maj=2.0km s-min=2.8km az=0.0*

NAO **03** *11:52:52.2, 45°.51N×26°.14E, h117km, MB4.4*

BJI **03** *11:52:53.0, 45°.50N×26°.30E, h140km, mB4.7/5, mb4.7/28*

BUC **03** *11:52:53.1±0.1, 45°.48N×26°.30E, h119km±1km, mL4.6/90, Error ellipse: s-maj=1.1km s-min=1.0km az=25.0*

CFUSG **03** *11:52:53.9, 45°.50N×26°.50E, h100km, mb4.4/8, MD4.0/7, Romania Magtype MSH 4.4 from 8 stations*

SOF **03** *11:52:54.2, 45°.43N±0°.02×26°.19E±0°.02, h100km±2km, MD4.4/7*

BEO **03** *11:52:56.4±0.6, 45°.37N×25°.99E, h102km±5km, ML4.5/8*

ISC 03 11:52:52.2±0.4, **45°.50N**±0°.03×**26°.28E**±0°.03, **h117**km±3km, **h117**km**:pP-P, n878,** σ1**59**/1020**, mb4.5**/78**, 100C-106D, Romania**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEHR	Nehoiu	0.07	171	↑P		Pn	11 53 10.2	+2.0
NEHR				↑S		Sn	11 53 22.6	+2.3
MLR	Muntele Rosu	0.23	268	↑P		Pn	11 53 10.5	+1.9
MLR				↓S		Sn	11 53 23.1	+2.1
MLR	Muntele Rosu	0.23	268			Pn	11 53 10.2	+1.5
MLR					Sn	Sn	11 53 23.1	+2.1
MLR	Muntele Rosu	0.23	268	eP		Pn	11 53 10.8	+2.2
MLR				eS		Sn	11 53 23.2	+2.1
MLR	Muntele Rosu	0.23	268	P		Pn	11 53 10.5	+1.9
	9μm,0.7s,baz=143,slow=0.8,SNR=7699							
MLR					S	Sn	11 53 22.3	+1.3
	7μm,0.3s,baz=11,slow=19,SNR=30							
MLR	Muntele Rosu	0.23	268	P		Pn	11 53 10.2	+1.5
MLR							11 53 23.2	
MLR	Muntele Rosu	0.23	268	eP		Pn	11 53 10.5	+1.9
MLR				eS		Sn	11 53 23.1	+2.1
BISRR	Bisoca	0.31	81	↓P		Pn	11 53 10.9	+2.1
BISRR				↓S		Sn	11 53 23.5	+2.1
COVR	Voineasa-Covas	0.35	352	↑P		Pn	11 53 10.4	+1.5
COVR				↑S		Sn	11 53 22.8	+1.2
ISR	Istrita	0.42	154	↑P		Pn	11 53 11.2	+1.7
ISR				↑S		Sn	11 53 23.8	+1.5
ISR	Istrita	0.42	154	P		Pn	11 53 11.1	+1.7
PLOR	Plostina	0.44	37	↑P		Pn	11 53 11.0	+1.5
PLOR				↓S		Sn	11 53 24.1	+1.7
PLOR	Plostina	0.44	37	P		Pn	11 53 10.9	+1.5
VRI	Vrincioaia	0.48	41	↑P		Pn	11 53 11.4	+1.7
VRI				↑S		Sn	11 53 25.0	+2.2
VRI	Vrincioaia	0.48	41	eP		Pn	11 53 11.7	+2.1
VRI	Vrincioaia	0.48	41	P		Pn	11 53 11.3	+1.7
TURR	Turia	0.58	342	↑P		Pn	11 53 11.9	+1.6
TURR				↑S		Sn	11 53 25.7	+1.6
OZUR		0.69	330	↑P		Pn	11 53 12.4	+1.3
OZUR				↑S		Sn	11 53 26.5	+1.1
PANC	Panciu	0.71	58	↓P		Pn	11 53 13.2	+2.0
PANC				↑S		Sn	11 53 27.5	+1.8
DOPR	Dopca	0.78	307	↑P		Pn	11 53 13.3	+1.4
COSR	Cosmesti PH	0.81	64	↓P		Pn	11 53 13.6	+1.5
COSR				↓S		Sn	11 53 29.1	+2.1
SULR		0.82	181	↓P		Pn	11 53 14.1	+2.0
SULR				↑S		Sn	11 53 29.3	+2.0
ONER	Baraj Valea Uz	0.84	6	↑P		Pn	11 53 14.0	+1.6
ONER				↓S		Sn	11 53 29.1	+1.4
MTUR	Matau	0.90	253	↓P		Pn	11 53 14.8	+1.8
MTUR	Matau	0.90	253	P		Pn	11 53 14.8	+1.8
GHRR		0.97	54	↓P		Pn	11 53 15.4	+1.9
GHRR				↑S		Sn	11 53 31.7	+2.0
TUDR		0.98	84	↓P		Pn	11 53 14.7	+1.1
TUDR				↓S		Sn	11 53 31.1	+1.2
TESR	Tescani	1.04	14	↑P		Pn	11 53 15.7	+1.4
IZVR	Izvoarele	1.05	87	↓P		Pn	11 53 15.1	+0.8
IZVR				↑S		Sn	11 53 31.6	+0.5
INCR	INCERC-Sediu C	1.06	185	↓P		Pn	11 53 16.1	+1.6
INCR				↑S		Sn	11 53 33.0	+1.6
CIOR	Ciorogarla	1.09	195	↓P		Pn	11 53 16.3	+1.6
CIOR				↑S		Sn	11 53 33.7	+1.8
SCHL	Schela	1.09	89	↓P		Pn	11 53 15.7	+0.9
SCHLR	Schela	1.09	91	↓P		Pn	11 53 15.7	+0.9
BUC	Bucharest	1.09	187	↓P		Pn	11 53 16.5	+1.7
BUC				↓S		Sn	11 53 33.8	+1.8
BUC	Bucharest	1.09	187	P		Pn	11 53 16.6	+1.8
LEHL	Lehliu	1.10	159	↓P		Pn	11 53 16.6	+1.8
LEHL				↓S		Sn	11 53 33.9	+1.9
NEGRR	Negrea	1.12	88	↓P		Pn	11 53 16.3	+1.2
NEGRR				↓S		Sn	11 53 33.0	+0.5
AMRR	Amara	1.16	140	↓P		Pn	11 53 17.2	+1.7
AMRR				↑S		Sn	11 53 34.7	+1.5
AMRR	Amara	1.16	140	P		Pn	11 53 17.0	+1.5
ARR	Arges	1.17	264	↑P		Pn	11 53 17.4	+1.8
ARR				↓S		Sn	11 53 35.4	+1.9
BUC1	Bucharest	1.17	189	↓P		Pn	11 53 17.3	+1.7
BUC1				↑S		Sn	11 53 34.9	+1.6
BUC1	Bucharest	1.17	189	↓P		Pn	11 53 17.3	+1.7
BUC1				↑S		Sn	11 53 34.9	+1.6
BUC1	Bucharest	1.17	189	P		Pn	11 53 17.2	+1.7
VARL	Varlezi	1.17	70	↓P		Pn	11 53 17.2	+1.6
VARL				↓S		Sn	11 53 34.9	+1.5
BIR	Birlad	1.21	50	↓P		Pn	11 53 17.7	+1.6
BIR				↓S		Sn	11 53 35.0	+0.8
BIR	Birlad	1.21	50	P		Pn	11 53 17.7	+1.6
SCTR	Scanteiesti	1.22	81	↓P		Pn	11 53 17.8	+1.7
SCTR				↓S		Sn	11 53 35.5	+1.2
TATR	Tatarca	1.25	85	↓P		Pn	11 53 18.1	+1.7
TATR				↓S		Sn	11 53 36.3	+1.4
GISR	Galati	1.25	92	↓P		Pn	11 53 17.7	+1.2
GISR				↓S		Sn	11 53 35.8	+0.9
SGRR	Singureni	1.30	190	↓P		Pn	11 53 18.4	+1.4
SGRR				↓S		Sn	11 53 37.1	+1.2
VLDR	Vladesti	1.31	74	↓P		Pn	11 53 18.7	+1.6
JOSR	Joseni	1.32	337	↑P		Pn	11 53 18.4	+1.1
HUMR	Humele	1.34	224	↑P		Pn	11 53 18.8	+1.3
HUMR				↓S		Sn	11 53 38.1	+1.4
CFR	Carcaliu	1.35	103	↓P		Pn	11 53 18.3	+0.7
CFR	Carcaliu	1.35	103	P		Pn	11 53 18.2	+0.6
GIUM	Giurgiulesti	1.36	90	↓P		Pn	11 53 19.2	+1.5
GIUM				↓S		Sn	11 53 38.3	+1.2
GIUM	Giurgiulesti	1.36	90	P		Pn	11 53 19.2	+1.5
CICN	Ciocanesti	1.41	158	↓P		Pn	11 53 19.6	+1.3
CICN				↓S		Sn	11 53 38.8	+0.8
TNR	Turnu Rosu	1.42	277	↑P		Pn	11 53 19.7	+1.3
TNR				↑S		Sn	11 53 39.5	+1.1
TNR	Turnu Rosu	1.42	277	P		Pn	11 53 19.6	+1.2
HARR	Harsova	1.42	124	↓P		Pn	11 53 19.6	+1.1
HARR	Harsova	1.42	124	P		Pn	11 53 19.5	+1.1
BIZ	Bicaz	1.44	355	↑S		Sn	11 53 42.1	+3.2
GIRR	Girov	1.46	6	↑P		Pn	11 53 20.7	+1.8
MDB	Medias	1.47	296	↓P		Pn	11 53 21.2	+2.2
MDB	Medias	1.47	296	P		Pn	11 53 21.2	+2.2
COPA	Copaceanca	1.56	209	↑P		Pn	11 53 21.2	+1.2
COPA				↑S		Sn	11 53 42.3	+1.0
TLBR	Topalu	1.58	127	↓P		Pn	11 53 21.3	+1.1
TGMR	Targu Mures	1.60	311	↑P		Pn	11 53 22.6	+2.1
TGMR				↑S		Sn	11 53 44.9	+2.9
TPGR	Topolog	1.65	112	↓P		Pn	11 53 21.9	+0.8
TPGR				↓S		Sn	11 53 43.3	+0.2
CVDA	Cernavoda	1.71	132	↓P		Pn	11 53 23.2	+1.4
CVDA				↓S		Sn	11 53 44.8	+0.4
ICOR	Ion Corvin	1.76	141	↓P		Pn	11 53 23.9	+1.5
ICOR				↓S		Sn	11 53 45.7	+0.2
LOT	Lotru	1.77	269	↑P		Pn	11 53 23.7	+1.1
LOT	Lotru	1.77	269	eP		Pn	11 53 23.8	+1.1
TLCR		1.82	99	↓P		Pn	11 53 24.1	+0.9
TLCR				↓S		Sn	11 53 47.7	+1.0
TLCR		1.82	99	P		Pn	11 53 24.2	+1.1
TIRR	Tirgusor	1.84	124		Pn	Pn	11 53 24.5	+1.1
TIRR	Tirgusor	1.84	124	P		Pn	11 53 24.5	+1.1
PRAR	RASCA	1.86	359	↑P		Pn	11 53 25.8	+2.1
IASR	Iasi	1.90	28	↑P		Pn	11 53 25.3	+1.1
RAZG	Razgrad	1.94	175	↓P		Pn	11 53 25.9	+1.2
RAZG				↓S	

SORM	**Soroca**	**3.00**	**28**	P		**Pn**	**11 53 38.5**	**+0.3**
SORM	**Soroca**	**3.00**	**28**	P		**Pn**	**11 53 37.9**	**-0.3**
JMB	**Yambol**	**3.01**	**176**	*e*P		**Pn**	**11 53 39.4**	**+0.9**
JMB	**Yambol**	**3.01**	**176**	*e*P		**Pn**	**11 53 39.8**	**+1.3**
KMPD	**K-Podol'skiy**	**3.07**	**2**	*e*P		**Pn**	**11 53 40.8**	**+1.7**
KMPD				*i* S		**Sn**	**11 54 15.8**	**+0.4**
KMPD	**K-Podol'skiy**	**3.07**	**2**	P		**Pn**	**11 53 39.3**	**+0.2**
BLKB	**Belogradchik**	**3.19**	**235**	*e*P		**Pn**	**11 53 40.9**	**+0.1**
BZS	**Buzias**	**3.28**	**274**	⇑P		**Pn**	**11 53 42.5**	**+0.5**
BZS	**Buzias**	**3.28**	**274**	*e*P		**Pn**	**11 53 42.6**	**+0.7**
BZS	**Buzias**	**3.28**	**274**	P		**Pn**	**11 53 42.4**	**+0.5**
BZS	**Buzias**	**3.28**	**274**	*e*P		**Pn**	**11 53 42.6**	**+0.7**
MDVR	**Moldovita**	**3.31**	**259**	⇓P		**Pn**	**11 53 43.0**	**+0.6**
MDVR	**Moldovita**	**3.31**	**259**	*e*P		**Pn**	**11 53 43.0**	**+0.6**
MDVR				*e*S		**Sn**	**11 54 19.2**	**-2.1**
SIRR	**Siria**	**3.31**	**285**	⇓P		**Pn**	**11 53 44.1**	**+1.6**
SIRR	**Siria**	**3.31**	**285**	*e*P		**Pn**	**11 53 44.0**	**+1.6**
ZAGS	**Zajecar**	**3.34**	**241**	*e*P		**Pn**	**11 53 42.9**	**+0.1**
KORU	**Korolevo**	**3.42**	**322**	*e*P		**Pn**	**11 53 45.8**	**+2.0**
KORU				*i* S		**Sn**	**11 54 26.9**	**+3.1**
NE56	**Odesa**	**3.42**	**68**	P		**Pn**	**11 53 43.2**	**-0.6**
ZAPS	**Zavoj**	**3.43**	**231**	*e*P		**Pn**	**11 53 44.4**	**+0.3**
STNU	**Starunia**	**3.43**	**340**	⇓*i*P		**Pn**	**11 53 46.0**	**+2.0**
STNU				*i* S		**Sn**	**11 54 27.3**	**+3.2**
TRSU	**Trosnyk**	**3.46**	**320**	*e*P		**Pn**	**11 53 46.4**	**+2.1**
TRSU				Pm			11 54 00.7	
TRSU				*i* S		**Sn**	**11 54 27.6**	**+3.0**
TRSU				Sm			11 54 45.3	
VRSS	**Vrsac**	**3.52**	**266**	*e*P		**Pn**	**11 53 45.7**	**+0.6**
PLD	**Plovdiv**	**3.53**	**199**	*e*P		**Pn**	**11 53 45.9**	**+0.6**
PLD	**Plovdiv**	**3.53**	**199**	*e*P		**Pn**	**11 53 47.0**	**+1.7**
MEZ	**Mezhgor'ye**	**3.56**	**329**	⇑*i*P		**Pn**	**11 53 47.5**	**+1.8**
MEZ				*i* S		**Sn**	**11 54 29.8**	**+2.7**
BRIU	**Brid**	**3.61**	**323**	*e*P		**Pn**	**11 53 47.8**	**+1.5**
BRIU				Pm			11 53 59.4	
BRIU				*i* S		**Sn**	**11 54 31.2**	**+2.9**
BRIU				Sm			11 54 54.5	
VTS	**Vitosha**	**3.62**	**218**	P		**Pn**	**11 53 47.9**	**+1.3**
VTS	**Vitosha**	**3.62**	**218**	*e*P		**Pn**	**11 53 48.0**	**+1.3**
EDRB	**Edirne**	**3.67**	**175**	*e*P		**Pn**	**11 53 48.5**	**+1.3**
BERU	**Beregovo**	**3.70**	**319**	*e*P		**Pn**	**11 53 49.5**	**+2.0**
BERU				Pm			11 54 09.0	
BERU				*e*S		**Sn**	**11 54 33.2**	**+2.8**
BERU				Sm			11 55 06.3	
HORU	**Horodok**	**3.72**	**2**	*i* P		**Pn**	**11 53 49.7**	**+1.9**
HORU				Pm			11 53 50.8	
HORU				*i* S		**Sn**	**11 54 34.0**	**+3.2**
HORU				Sm			11 54 41.3	
BOVS	**Bovan**	**3.76**	**242**	⇑P		**Pn**	**11 53 49.0**	**+0.6**
BOVS	**Bovan**	**3.76**	**242**	*e*P		**Pn**	**11 53 49.0**	**+0.6**
SVIS	**Svilajnac**	**3.80**	**253**	*e*P		**Pn**	**11 53 50.3**	**+1.4**
MUKU	**Mukachevo**	**3.84**	**322**	⇑*i*P		**Pn**	**11 53 51.2**	**+1.8**
MUKU				*i* S		**Sn**	**11 54 37.0**	**+3.2**
KDZ	**Kurdzhali**	**3.93**	**190**	*e*P		**Pn**	**11 53 51.1**	**+0.4**
RZN	**Rozhen**	**3.97**	**197**	P		**Pn**	**11 53 52.3**	**+1.0**
PHSR	**Pinarhisar**	**3.97**	**166**	⇓P		**Pn**	**11 53 52.3**	**+1.0**
PHSR	**Pinarhisar**	**3.97**	**166**	*e*P		**Pn**	**11 53 52.8**	**+1.6**
MORS	**Morshin**	**3.98**	**337**	⇑*i*P		**Pn**	**11 53 53.2**	**+1.9**
MORS				*i* S		**Sn**	**11 54 40.4**	**+3.3**
HOLU	**Holmets**	**4.03**	**320**	⇓*i*P		**Pn**	**11 53 53.7**	**+1.8**
BOSS	**Bosilegrad**	**4.07**	**224**	*e*P		**Pn**	**11 53 54.0**	**+1.5**
UZH	**Uzhgorod**	**4.15**	**320**	*e*P		**Pn**	**11 53 55.7**	**+2.2**
UZH				Pm			11 54 15.8	
UZH				*i* S		**Sn**	**11 54 44.3**	**+3.1**
UZH				Sm			11 55 31.3	
AVAS	**Avala Beograd**	**4.16**	**261**	*e*P		**Pn**	**11 53 54.0**	**+0.3**
BARS	**Barje**	**4.18**	**232**	*e*P		**Pn**	**11 53 55.0**	**+0.9**
SHIU	**Shidnytsya**	**4.22**	**333**	*e*P		**Pn**	**11 53 56.9**	**+2.4**
SHIU				Pm			11 54 29.5	
SHIU				*i* S		**Sn**	**11 54 46.2**	**+3.3**
SHIU				Sm			11 55 05.0	
PNT3S	**Drohobych**	**4.23**	**335**	⇑*i*P		**Pn**	**11 53 57.0**	**+2.4**
PNT4	**Drohobych**	**4.24**	**335**	⇓*i*P		**Pn**	**11 53 57.2**	**+2.5**
PNT4				*i* S		**Sn**	**11 54 46.2**	**+2.9**
GRUS	**Gruza**	**4.28**	**250**	*e*P		**Pn**	**11 53 55.8**	**+0.5**
CTYL	**Yalikoy Yolu**	**4.28**	**159**	*e*P		**Pn**	**11 53 57.3**	**+1.9**
CTYL	**Yalikoy Yolu**	**4.28**	**159**	P		**Pn**	**11 53 56.2**	**+0.8**
STZU	**Stuzhytsa**	**4.31**	**326**	⇑*i*P		**Pn**	**11 53 57.8**	**+2.1**
STZU				*i* S		**Sn**	**11 54 47.8**	**+2.8**
KKB	**Krupnik**	**4.31**	**213**	P		**Pn**	**11 53 57.3**	**+1.5**
GOCS	**Kraljevo Serbi**	**4.32**	**245**	*e*P		**Pn**	**11 53 56.6**	**+0.6**
SELS	**Selova**	**4.34**	**240**	*e*P		**Pn**	**11 53 57.2**	**+1.0**
TRUS	**Trudelj**	**4.37**	**255**	*e*P		**Pn**	**11 53 57.0**	**+0.5**
UKOP	**Uzunkopru-Edir**	**4.38**	**176**	*e*P		**Pn**	**11 53 57.5**	**+0.9**
KOS	**Kolonicke sedl**	**4.39**	**323**	*e*P		**Pn**	**11 53 58.7**	**+2.0**
RDO	**Rodhopi**	**4.39**	**187**			**Pn**	**11 53 57.5**	**+0.7**
RDO				Sn		**Sn**	**11 54 45.0**	**-1.9**
RDO	**Rodhopi**	**4.39**	**187**	*e*P		**Pn**	**11 53 57.2**	**+0.4**
TARU	**Tarkhankut**	**4.40**	**89**	⇓*e*P		**Pn**	**11 53 57.7**	**+0.8**
TARU				Pm			11 53 58.2	
	comp=Z,595nm,0.4s							
TARU				*ex*		x	11 54 07.5	
TARU				*e*S		**Sn**	**11 54 45.9**	**-1.4**
TARU				Sm			11 54 47.2	
	comp=N,1μm,1.0s							
TARU				Sm			11 54 47.2	
	comp=E,408nm,0.6s							
LVV	**L'vov**	**4.58**	**341**	*i* P		**Pn**	**11 54 01.2**	**+1.9**
LVV				Pm			11 54 14.9	
LVV				⇓*i*S		**Sn**	**11 54 54.2**	**+2.7**
LVV				Sm			11 55 10.6	
ALN	**Alexandroupoli**	**4.60**	**182**			**Pn**	**11 54 00.2**	**+0.5**
ALN	**Alexandroupoli**	**4.60**	**182**	*e*P		**Pn**	**11 54 00.6**	**+0.9**
ALN	**Alexandroupoli**	**4.60**	**182**	P		**Pn**	**11 54 00.2**	**+0.5**
BGKT	**Bogazkoy**	**4.69**	**156**	*e*P		**Pn**	**11 54 03.3**	**+2.5**
KLYT	**Kilyos**	**4.70**	**154**	⇑P		**Pn**	**11 54 02.0**	**+1.0**
IVAS	**Ivanjica**	**4.78**	**248**	*e*P		**Pn**	**11 54 02.1**	**0.0**
SRS	**Serrai**	**4.80**	**205**	*e*P		**Pn**	**11 53 03.8**	**+1.5**
CAVK	**Edirne/Enez-Ca**	**4.81**	**181**	⇑P		**Pn**	**11 54 02.8**	**+0.4**
ERIK	**Erikli-Kesan**	**4.83**	**178**	*e*P		**Pn**	**11 54 03.7**	**+1.0**
ISK	**Istanbul-Kandi**	**4.88**	**154**	*e*P		**Pn**	**11 54 03.3**	**0.0**
KAVV	**Kandilli-Istan**	**4.88**	**154**	*e*P		**Pn**	**11 54 03.1**	**-0.3**
TEKS	**Tekeris**	**4.88**	**261**	*e*P		**Pn**	**11 54 03.3**	**-0.1**
DNZ2	**Donuzlav2**	**4.88**	**89**	⇓*e*P		**Pn**	**11 54 03.7**	**+0.3**
DNZ2				Pm			11 54 04.7	
	comp=Z,355nm,0.4s							
DNZ2				*ex*		x	11 54 13.9	
DNZ2				*e*S		**Sn**	**11 54 56.8**	**-2.0**
DNZ2				Sm			11 54 59.0	
	comp=N,1μm,0.8s							
DNZ2				Sm			11 54 59.0	
	comp=E,3μm,1.0s							
KECS	**Kecovo**	**4.96**	**309**	*e*P		**Pn**	**11 54 05.9**	**+1.5**
SKO	**Skopje**	**4.97**	**227**	*e*Pn		Pn	11 54 10.8	+6.1
VAY	**Valandovo**	**4.97**	**214**	*i* Pn		**Pn**	**11 54 06.4**	**+1.8**
VAY				*i* Sg		Sn	11 54 46.3	-15
SILT	**Sile**	**4.99**	**149**	⇑P		**Pn**	**11 54 05.3**	**+0.3**
SILT	**Sile**	**4.99**	**149**	*e*P		**Pn**	**11 54 05.4**	**+0.5**
PSZ	**Piszkesteto**	**5.01**	**301**	⇑P		**Pn**	**11 54 06.3**	**+1.1**
PSZ	**Piszkesteto**	**5.01**	**301**			**Pn**	**11 54 05.2**	**+0.1**
PSZ	**Piszkesteto**	**5.01**	**301**	P		**Pn**	**11 54 05.3**	**+0.1**
GELI	**Tayfur-Gelibol**	**5.10**	**178**	*e*P		**Pn**	**11 54 07.2**	**+0.8**
KRBG	**Karabiga-Canak**	**5.16**	**171**	*e*P		**Pn**	**11 54 08.4**	**+1.2**
BBLS	**Lazi&#263i**	**5.17**	**254**	*e*P		**Pn**	**11 54 07.9**	**+0.6**
STHS	**Stebnicka Huta**	**5.20**	**321**	*e*P		**Pn**	**11 54 08.6**	**+1.0**
EDC	**Edincik**	**5.28**	**167**	*e*P		**Pn**	**11 54 10.7**	**+1.9**
ARMT	**Armutlu**	**5.28**	**158**	*e*P		**Pn**	**11 54 05.1**	**-3.8**
RUDO	**Rudo**	**5.28**	**252**	*e*Pn		**Pn**	**11 54 09.2**	**+0.4**
IVA	**Berane**	**5.29**	**242**	⇑*i*Pn		**Pn**	**11 54 10.0**	**+1.0**
HRT	**Hereke**	**5.29**	**151**	*e*P		**Pn**	**11 54 09.9**	**+0.9**
BAND	**Balkesir-Ban**	**5.31**	**165**	⇑P		**Pn**	**11 54 10.2**	**+1.0**
BAND				⇓S		**Sn**	**11 55 09.1**	**-0.2**
GADA	**Gvkgeada**	**5.31**	**183**	*e*P		**Pn**	**11 54 09.9**	**+0.6**
SEV	**Sevastopol'**	**5.33**	**98**	⇑*e*P		**Pn**	**11 54 09.7**	**+0.4**
SEV				Pm			11 54 11.2	
SEV				*e*S		**Sn**	**11 55 07.8**	**-1.7**
SEV				Sm			11 55 11.6	
SEV	**Sevastopol'**	**5.33**	**98**	⇓*e*P		**Pn**	**11 54 09.7**	**+0.4**
SEV				*e*S		**Sn**	**11 55 07.8**	**-1.7**
SEV				pmax	pmax			
	comp=Z,103nm,0.4s							
SEV				smax	smax			
	comp=N,530nm,1.0s							
SEV				smax	smax			
	comp=E,504nm,1.0s							
SEV	**Sevastopol'**	**5.33**	**98**	⇓*e*P		**Pn**	**11 54 09.7**	**+0.4**
SEV				Pm			11 54 11.2	
	comp=Z,103nm,0.4s							
SEV				*e*S		**Sn**	**11 55 07.8**	**-1.7**
SEV				Sm			11 55 11.6	
	comp=N,530nm,1.0s							
SEV				Sm			11 55 11.6	
	comp=N,504nm,0.9s							
MORH	**Mrgy, Hungar**	**5.38**	**280**	⇑P		**Pn**	**11 54 11.9**	**+1.8**
MORH	**Mrgy, Hungar**	**5.38**	**280**	*e*Pn		**Pn**	**11 54 11.7**	**+1.6**
MORH	**Mrgy, Hungar**	**5.38**	**280**	P		**Pn**	**11 54 11.7**	**+1.6**
	comp=E,0.1nmcomp=E,304nmcomp=E,20nm,0.6s							
COMU	**Canakkale**	**5.40**	**178**	*e*P		**Pn**	**11 54 10.9**	**+0.4**
YLV	**Yalova**	**5.43**	**154**	*e*P		**Pn**	**11 54 12.7**	**+1.8**
YLV	**Yalova**	**5.43**	**154**	P		**Pn**	**11 54 11.5**	**+0.6**
	comp=E,0.5nmcomp=E,805nmcomp=E,67nm,0.7s							
OUR	**Ouranopolis**	**5.43**	**199**	*e*P		**Pn**	**11 54 10.8**	**0.0**
KOME	**Kolasin**	**5.54**	**244**	⇓*i*Pn		**Pn**	**11 54 14.2**	**+1.9**
KOME				*i* Sn		**Sn**	**11 55 14.4**	**-0.4**
KIEV	**Kiev**	**5.55**	**20**			**Pn**	**11 54 12.7**	**+0.3**
KIEV	**Kiev**	**5.55**	**20**	P		**Pn**	**11 54 12.7**	**+0.3**
KIEV	**Kiev**	**5.55**	**20**	P		**Pn**	**11 54 12.0**	**-0.4**
	comp=E,2.0nmcomp=E,4μmcomp=E,203nm,0.8s							
SIM	**Simferopol'**	**5.56**	**93**	⇑*e*P		**Pn**	**11 54 13.1**	**+0.5**
SIM				Pm			11 54 17.3	
SIM				*e*S		**Sn**	**11 55 13.6**	**-1.7**
SIM				Sm			11 55 21.6	
SIM	**Simferopol'**	**5.56**	**93**	*e*P		**Pn**	**11 54 13.0**	**+0.5**
SIM				*e*			11 55 13.3	
SIM				pmax	pmax			
	comp=Z,116nm,0.4s							
SIM				smax	smax			
	comp=E,1μm,1.2s							
SIM				smax	smax			
	comp=N,700nm,1.0s							
SIM	**Simferopol'**	**5.56**	**93**	⇓*e*P		**Pn**	**11 54 13.1**	**+0.5**
SIM				Pm			11 54 17.3	
	comp=Z,336nm,0.6s							
SIM				*e*S		**Sn**	**11 55 13.6**	**-1.7**
SIM				Sm			11 55 21.6	
	comp=N,733nm,0.9s,comp=E,926nm,0.9s							
AKASG	**Malin Array Be**	**5.56**	**20**			**Pn**	**11 54 11.7**	**-0.8**
AKASG	**Malin Array Be**	**5.56**	**20**	P		**Pn**	**11 54 12.3**	**-0.2**
	comp=E,7.2nm,0.4s,baz=208,slow=12,SNR=26							
AKASG				S		**Sn**	**11 55 11.7**	**-3.6**
	comp=E,7.3nm,0.4s,baz=202,slow=24,SNR=5.3							
AKASG	**Malin Array Be**	**5.56**	**20**	*i* P		**Pn**	**11 54 12.3**	**-0.2**
AKASG				pmax	pmax			
	comp=Z,4.0nm,0.3s							
AKBB	**Malin Array Si**	**5.56**	**20**	Pn		**Pn**	**11 54 12.9**	**+0.3**
AKBB	**Malin Array Si**	**5.56**	**20**	P		**Pn**	**11 54 12.9**	**+0.3**
AKBB	**Malin Array Si**	**5.56**	**20**	P		**Pn**	**11 54 12.1**	**-0.4**
AK03	**Malin Array Si**	**5.59**	**20**	P		**Pn**	**11 54 12.3**	**-0.6**
AK21	**Malin Array Si**	**5.59**	**18**	P		**Pn**	**11 54 12.4**	**-0.5**
AK23	**Malin Array Si**	**5.60**	**19**	P		**Pn**	**11 54 12.5**	**-0.5**
SAUV	**Serdivan-Sakar**	**5.61**	**147**	*e*P		**Pn**	**11 54 14.4**	**+1.2**
NIE	**Niedzica**	**5.64**	**316**	P		**Pn**	**11 54 15.0**	**+1.4**
	comp=Z,0.1nmcomp=Z,20nm,1.0s							
ADVT	**Abdulvahap**	**5.67**	**152**	*e*P		Pn	11 54 01.1	-13
EZN	**Ezine**	**5.67**	**180**	⇓P		**Pn**	**11 54 15.4**	**+1.4**
EZN	**Ezine**	**5.67**	**180**	*e*P		**Pn**	**11 54 15.8**	**+1.7**
EZN	**Ezine**	**5.67**	**180**	P		**Pn**	**11 54 15.2**	**+1.1**
YAL	**Yalta**	**5.68**	**97**	*e*P		**Pn**	**11 54 14.2**	**+0.1**
YAL				Pm			11 54 17.6	
YAL				*e*S		**Sn**	**11 55 15.8**	**-2.2**
YAL				Sm			11 55 29.8	
YAL	**Yalta**	**5.68**	**97**	*e*P		**Pn**	**11 54 14.2**	**+0.1**
YAL				*e*S		**Sn**	**11 55 15.8**	**-2.2**
YAL				pmax	pmax			
	comp=Z,74nm,0.6s							
YAL				smax	smax			
	comp=N,198nm,0.8s							
YAL				smax	smax			
	comp=E,190nm,0.8s							
YAL	**Yalta**	**5.68**	**97**	*e*P		**Pn**	**11 54 14.2**	**+0.1**
YAL				Pm			11 54 17.6	
	comp=Z,74nm,0.6s							
YAL				*e*S		**Sn**	**11 55 15.8**	**-2.2**
YAL				Sm			11 55 29.8	
	comp=N,198nm,0.8s,comp=E,190nm,0.8s							
SAHE	**Sakarya_HENDEK**	**5.72**	**143**	⇑P		**Pn**	**11 54 15.0**	**+0.2**
RNPP5	**Staryi Chortor**	**5.74**	**358**	P		**Pn**	**11 54 14.9**	**0.0**
ALU	**Alushta**	**5.81**	**95**	⇑*e*P		**Pn**	**11 54 14.4**	**-1.5**
ALU				Pm			11 54 15.8	
ALU				*e*S		**Sn**	**11 55 18.5**	**-2.7**
ALU				Sm			11 55 23.9	
ALU	**Alushta**	**5.81**	**95**	⇓*e*P		**Pn**	**11 54 14.4**	**-1.5**
ALU				*e*S		**Sn**	**11 55 18.5**	**-2.7**
ALU				pmax	pmax			
	comp=Z,50nm,0.4s							
ALU				smax	smax			
	comp=N,118nm,0.4s							
ALU				smax	smax			
	comp=E,61nm,0.5s							
ALU	**Alushta**	**5.81**	**95**	⇓*e*P		**Pn**	**11 54 14.4**	**-1.5**
ALU				Pm			11 54 15.8	
	comp=Z,50nm,0.4s							
ALU				*e*S		**Sn**	**11 55 18.5**	**-2.7**
ALU				Sm			11 55 23.9	
	comp=N,118nm,0.4s							
ALU				Sm			11 55 23.9	
	comp=E,61nm,0.5s							
RNPP8	**Varash**	**5.85**	**357**	P		**Pn**	**11 54 16.3**	**0.0**
LANS	**Liptovska Anna**	**5.89**	**311**	*e*P		**Pn**	**11 54 19.1**	**+2.0**
VYHS	**Vyhne**	**5.91**	**303**	*e*P		**Pn**	**11 54 18.9**	**+1.7**
YAYO	**Edremit-Balk**	**5.92**	**174**	*e*P		**Pn**	**11 54 18.3**	**+0.9**
FNA	**Florina**	**5.92**	**219**			**Pn**	**11 54 18.0**	**+0.5**
FNA	**Florina**	**5.92**	**219**	P		**Pn**	**11 54 18.0**	**+0.5**
PDG	**Podgorica**	**5.92**	**241**	⇓S		**Sn**	**11 55 26.0**	**+2.0**
PDG	**Podgorica**	**5.92**	**241**	Pn		**Pn**	**11 54 18.0**	**+0.6**
PDG	**Podgorica**	**5.92**	**241**	⇑*i*Pn		**Pn**	**11 54 18.6**	**+1.1**
PDG				*i* Sn		**Sn**	**11 55 24.0**	**0.0**
OHR	**Ohrid**	**5.93**	**224**	*i* Pn		**Pn**	**11 54 19.1**	**+1.4**
OHR				*i* Sg		Sn	11 55 04.9	-19
NKME	**Niksic**	**5.94**	**245**	*e*Pn		**Pn**	**11 54 19.1**	**+1.4**
NKME				*i* Sn		**Sn**	**11 55 24.0**	**-0.4**
GULT	**Gulveren**	**5.94**	**147**	*e*P		**Pn**	**11 54 19.3**	**+1.5**
CIDE	**Kastamonu/Cide**	**6.04**	**124**	⇑P		**Pn**	**11 54 18.5**	**-0.5**
CEME	**Cevo**	**6.07**	**244**	⇓*i*Pn		**Pn**	**11 54 20.6**	**+1.1**
CEME				*i* Sn		**Sn**	**11 55 27.3**	**-0.4**
DRME	**Dracevica, Mon**	**6.11**	**240**	⇓*i*Pn		**Pn**	**11 54 21.6**	**+1.7**
DRME				*i* Sn		**Sn**	**11 55 28.5**	**+0.1**
BRY	**Bratogost**	**6.14**	**248**	⇑*i*Pn		**Pn**	**11 54 21.6**	**+1.1**
BRY				*i* Sn		**Sn**	**11 55 28.2**	**-1.2**
MDUB	**Mudurnu**	**6.19**	**143**			**Pn**	**11 54 22.1**	**+0.9**
SUDU	**Sudak**	**6.19**	**93**	⇑P		**Pn**	**11 54 20.9**	**-0.2**
SUDU				Pm			11 54 32.9	
SUDU				*e*S		**Sn**	**11 55 29.1**	**-1.4**
SUDU				Sm			11 55 35.5	
SUDU	**Sudak**	**6.19**	**93**	⇓*e*P		**Pn**	**11 54 20.9**	**-0.2**
SUDU				*e*S		**Sn**	**11 55 29.1**	**-1.4**
SUDU				pmax	pmax			
	comp=Z,234nm,0.5s							
SUDU				smax	smax			
	comp=N,445nm,0.6s							
SUDU				smax	smax			
	comp=E,229nm,0.5s							
SUDU	**Sudak**	**6.19**	**93**	⇓*e*P		**Pn**	**11 54 20.9**	**-0.2**
SUDU				Pm			11 54 32.9	
	comp=Z,234nm,0.5s							
SUDU				*e*S		**Sn**	**11 55 29.1**	**-1.4**
SUDU				Sm			11 55 35.5	
	comp=N,445nm,0.6s							
SUDU				Sm			11 55 35.5	
	comp=E,229nm,0.5s							
ULC	**Ulcinj**	**6.20**	**238**	⇓*i*Pn		**Pn**	**11 54 22.8**	**+1.6**
ULC				*i* Sn		**Sn**	**11 55 31.1**	**+0.3**
BUM	**Brajici-Budva**	**6.22**	**242**	⇓*i*Pn		**Pn**	**11 54 25.4**	**+3.9**
BUM				*i* Sn		**Sn**	**11 55 31.2**	**-0.1**
SIGR	**SIGRI**	**6.29**	**183**	*e*P		**Pn**	**11 54 22.7**	**+0.2**
TREB	**Trebinje**	**6.35**	**247**	*e*Pn		**Pn**	**11 54 26.9**	**+3.7**
HCY	**Herceg Novi**	**6.39**	**244**	⇑*i*Pn		**Pn**	**11 54 24.8**	**+1.0**
HCY				*i* Sn		**Sn**	**11 55 34.8**	**-0.6**
OJC	**Ojcow**	**6.42**	**320**			**Pn**	**11 54 24.5**	**+0.3**
OJC	**Ojcow**	**6.42**	**320**	P		**Pn**	**11 54 24.5**	**+0.3**
FEO	**Feodosiya**	**6.45**	**91**	*e*P		**Pn**	**11 54 26.9**	**+2.4**
FEO				Pm			11 54 36.8	
FEO				*e*S		**Sn**	**11 55 39.4**	**+2.7**
FEO				Sm			11 55 43.2	
FEO	**Feodosiya**	**6.45**	**91**	*e*P		**Pn**	**11 54 26.9**	**+2.4**
FEO				*e*S		**Sn**	**11 55 39.4**	**+2.7**
FEO				pmax	pmax			
	comp=Z,159nm,0.5s							
FEO				smax	smax			
	comp=N,181nm,0.4s							
FEO				smax	smax			
	comp=E,101nm,0.4s							
FEO	**Feodosiya**	**6.45**	**91**	*e*P		**Pn**	**11 54 26.9**	**+2.4**
FEO				Pm			11 54 36.8	
FEO				*e*S		**Sn**	**11 55 39.4**	**+2.7**
FEO				Sm			11 55 43.2	
	comp=Z,159nm,0.5s							
FEO				*e*S		**Sn**	**11 55 39.4**	**+2.7**
FEO				Sm			11 55 43.2	
	comp=N,181nm,0.4s							
FEO				Sm			11 55 43.2	
	comp=E,101nm,0.4s							
BLY	**Banja Luka**	**6.48**	**267**	*e*Pn		**Pn**	**11 54 24.6**	**-0.3**
TVSB	**Tavsanli**	**6.49**	**158**	*e*P		**Pn**	**11 54 25.5**	**+0.3**
BZK	**Bozkurt**	**6.62**	**120**			**Pn**	**11 54 26.1**	**-0.8**
BZK	**Bozkurt**	**6.62**	**120**	P		**Pn**	**11 54 25.6**	**-1.3**
	comp=E,1.9nmcomp=E,2μmcomp=E,276nm,0.6s							
A051A	**Mrakovica**	**6.63**	**269**	*e*Pn		**Pn**	**11 54 26.3**	**-0.8**
MOSL	**Moslavina**	**6.69**	**274**	*e*Pn		**Pn**	**11 54 29.0**	**+1.2**
BEHE	**Becsehely**	**6.69**	**282**	Pn		**Pn**	**11 54 26.2**	**-1.6**
BEHE	**Becsehely**	**6.69**	**282**	*e*Pn		**Pn**	**11 54 32.0**	**+4.2**
STON	**Ston**	**6.70**	**250**	*e*Pn		**Pn**	**11 54 29.9**	**+1.9**
JAVC	**Velka Javorina**	**6.76**	**303**	*e*P		**Pn**	**11 54 30.8**	**+2.0**
MAUC	**Maruska**	**6.91**	**307**	*e*P		**Pn**	**11 54 32.3**	**+1.5**
MAUC				*e*S		**Sn**	**11 55 53.8**	**+5.9**
OKC	**Ostrava-Krasne**	**7.00**	**311**	*e*P		**Pn**	**11 54 32.9**	**+1.0**
OKC	**Ostrava-Krasne**	**7.00**	**311**	*e*P		**Pn**	**11 54 32.9**	**+1.0**
KULA	**Kula-Manisa**	**7.20**	**165**	*e*P		**Pn**	**11 54 36.1**	**+1.2**
MANT	**Manisa**	**7.21**	**166**			**Pn**	**11 54 34.1**	**-1.0**
RONA	**Rosalia, Austr**	**7.22**	**291**	*i* Pn		**Pn**	**11 54 37.7**	**+2.7**
	comp=E,5.8nm,0.4s							
RONA				*e*Sn		**Sn**	**11 55 56.1**	**+0.7**
	comp=E,61nm,0.8s							
MORC	**Moravsky Berou**	**7.29**	**309**	⇑P		**Pn**	**11 54 36.1**	**+0.2**
MORC	**Moravsky Berou**	**7.29**	**309**			**Pn**	**11 54 33.5**	**-2.4**
MORC	**Moravsky Berou**	**7.29**	**309**	*e*P		**Pn**	**11 54 35.9**	**0.0**
MORC	**Moravsky Berou**	**7.29**	**309**	P		**Pn**	**11 54 33.5**	**-2.4**
ODEM	**Odemis-Izmir**	**7.34**	**169**	*e*P		**Pn**	**11 54 37.9**	**+1.2**
ANTO	**Ankara**	**7.39**	**137**	Pn		**Pn**	**11 54 37.0**	**-0.5**
ANTO	**Ankara**	**7.39**	**137**	P		**Pn**	**11 54 36.3**	**-1.2**
ANTO	**Ankara**	**7.39**	**137**	P		**Pn**	**11 54 37.0**	**-0.5**
GOLS	**Golise**	**7.47**	**278**	*i* P		**Pn**	**11 54 40.1**	**+1.7**
KEK	**Kerkira**	**7.50**	**222**	Pn		**Pn**	**11 54 38.0**	**-0.9**
CONA	**Conrad Observa**	**7.56**	**292**	*i* Pn		**Pn**	**11 54 41.9**	**

WET Wettzell 9.80 297 *e*Pn **Pn** **11 55 11.2 +1.3**
WET *e*Sn Sn 11 57 11.1 +13
NRCA Norcia 9.83 259 **Pn** **11 55 09.2 -1.1**
BRG Berggiesshubel 9.83 308 *e*P **Pn** **11 55 12.3 +2.1**
BRG Amp 11 55 14.6
comp=Z,14nm,1.3s
ERBR Yeremizino-Bor 9.96 84 *e*P **Pn** **11 55 11.5 -0.5**
ERBR *e*S **Sn** **11 57 01.1 -0.7**
ERBR pmax pmax
comp=Z,26nm,0.7s
VSLR Vesyoloye 10.04 97 *i* P **Pn** **11 55 11.0 -2.1**
PABE Paberze 10.12 353 **Pn** **11 55 12.9 -1.2**
CTI Castel Tesino 10.24 278 **Pn** **11 55 15.2 -0.7**
CTI Castel Tesino 10.24 278 P **Pn** **11 55 15.2 -0.7**
IDI Anoyia 10.26 186 Pn **Pn** **11 55 15.7 -0.4**
IDI Anoyia 10.26 186 P **Pn** **11 55 17.0 +0.8**
comp=Z,7.1nm,0.8s,baz=344,slow=6.0,SNR=3.0
VORD Divnogorie 10.26 53 *e*P **Pn** **11 55 15.2 -0.7**
VORD *e*S **Sn** **11 57 04.7 -4.2**
VORD pmax pmax
comp=Z,30nm,0.9s
VORD smax smax
comp=E,60nm,0.7s
WTTA Wattenberg 10.27 285 *i* Pn **Pn** **11 55 20.2 +3.8**
comp=E,6.2nm,0.5s,SNR=4.8
WTTA Wattenberg 10.27 285 *e*Pn **Pn** **11 55 18.2 +1.8**
CESX Cesi 10.28 259 **Pn** **11 55 15.1 -1.2**
VSR Storozhevoye 10.30 52 *e*P **Pn** **11 55 15.2 -1.4**
VSR *e*S **Sn** **11 57 07.2 -2.8**
VSR pmax pmax
comp=Z,10.0nm,0.4s
VSR smax smax
comp=N,270nm,0.9s
WATA Walderalm 10.32 285 *i* Pn **Pn** **11 55 19.8 +2.8**
comp=N,2.7nm,0.4s
TANN Tannenbergstha 10.49 303 *e*Pn **Pn** **11 55 20.1 +1.0**
MANZ Manzenberg 10.54 300 *e*Pn **Pn** **11 55 20.8 +0.9**
CLL Collm 10.56 308 Pn **Pn** **11 55 18.8 -1.3**
CLL Collm 10.56 308 *e*P **Pn** **11 55 21.0 +0.9**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 10.56 308 *e*Pn **Pn** **11 55 19.5 -0.6**
CLL Collm 10.56 308 *e*P **Pn** **11 55 21.0 +0.9**
comp=Z,7.0nm,0.8s
CLL *i* x x 11 55 26.7
SQTA Sankt Quirin 10.56 285 Pn **Pn** **11 55 23.8 +3.6**
comp=Z,0.9nm,0.2s,SNR=5.3
CEL Celeste 10.59 231 Pn **Pn** **11 55 20.1 -0.5**
FUR Furstenfeldbru 10.62 290 *e*Pn **Pn** **11 55 22.5 +1.5**
MOTA Moosalm 10.64 285 *i* Pn **Pn** **11 55 22.1 +0.8**
comp=Z,0.8nm,0.3s
PLN Plauen 10.69 303 *e*Pn **Pn** **11 55 23.7 +1.8**
FETA Feichten 10.88 284 *i* Pn **Pn** **11 55 25.3 +0.7**
comp=Z,5.6nm,0.9s
RETA Reutte 10.88 286 *e*Pn **Pn** **11 55 25.0 +0.4**
comp=Z,1.4nm,0.2s
OSSC Osservatorio P 10.92 265 Pn **Pn** **11 55 24.1 -0.8**
ARPR Arapgir-MALATY 10.98 121 Pn **Pn** **11 55 26.7 +0.7**
GRA1 Grafenberg Arr 10.99 298 Pn **Pn** **11 55 27.1 +1.1**
GRF Grafenberg Arr 10.99 298 P **Pn** **11 55 27.1 +1.1**
GRF Grafenberg Arr 10.99 298 *e*Pn **Pn** **11 55 27.0 +1.1**
GRFO Grafenberg 11.00 298 Pn **Pn** **11 55 26.9 +1.0**
GRFO Grafenberg 11.00 298 P **Pn** **11 55 27.0 +1.0**
MOX Moxa 11.07 303 *e*Pn **Pn** **11 55 28.8 +1.8**
FUORN Ofenpass-Fuorn 11.19 281 **Pn** **11 55 29.0 +0.2**
NEUB Neuenburg 11.21 306 *e*Pn **Pn** **11 55 29.2 +0.5**
DAVOX Davos/Dischmat 11.45 282 P **Pn** **11 55 32.3 +0.1**
comp=Z,1.2nm,0.3s,baz=94,slow=15,SNR=3.7
DAVOX LR LR 12 00 11.6
comp=Z,66nm,19.7s,baz=83,slow=39
DAVA Damuels 11.47 285 *i* Pn **Pn** **11 55 33.7 +1.3**
comp=Z,11nm,0.8s,SNR=4.0
DAVA Damuels 11.47 285 *e*Pn **Pn** **11 55 34.3 +1.9**
OBN Obninsk 11.64 31 *e*P **Pn** **11 55 31.9 -2.6**
OBN *e*S **Sn** **11 57 34.6 -7.8**
OBN pmax pmax
comp=Z,7.0nm,0.6s
VRH Novokhopyorsk 11.74 55 *e*P **Pn** **11 55 32.0 -3.8**
VRH *e*S **Sn** **11 57 37.8 -7.1**
VRH pmax pmax
comp=Z,60nm,0.6s
VRH smax smax
comp=E,160nm,0.7s
KIV Kislovodsk 11.78 92 Pn **Pn** **11 55 36.7 +0.2**
KIV Kislovodsk 11.78 92 *e*P **Pn** **11 55 33.9 -2.6**
KIV *e*S **Sn** **11 57 43.4 -2.6**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,18nm,13.0s
SHA1 Shidzhatmaz 11.81 93 *i* P **Pn** **11 55 33.8 -3.2**
TUE Stuetta 11.82 281 **Pn** **11 55 36.9 -0.2**
NEUR Neytrino 11.96 95 *i* P **Pn** **11 55 36.0 -3.0**
NEUR pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 11.98 93 P **Pn** **11 55 39.8 +0.8**
comp=Z,0.8nm,0.3s,baz=289,slow=16,SNR=4.4
KBZ S **Sn** **11 57 46.9 -3.8**
comp=Z,3.9nm,0.6s,baz=293,slow=15,SNR=1.8
KBZ Khabaz 11.98 93 *i* P **Pn** **11 55 38.8 -0.2**
KBZ pmax pmax
comp=Z,6.0nm,0.7s
BSD Bornholm Skovb 12.04 327 *i* P **Pn** **11 55 39.9 +0.2**
BSD IAML 11 56 10.9
comp=Z,4.5nm,0.3s
STU Stuttgart 12.08 292 Pn **Pn** **11 55 40.8 +0.4**
STU Stuttgart 12.08 292 P **Pn** **11 55 40.8 +0.4**
MOS Moscow 12.51 31 *e*P Pn 11 55 38.1 -7.7
MOS *e* 11 57 56.2
BFO Black Forest 12.59 289 **Pn** **11 55 47.2 +0.1**
BFO Black Forest 12.59 289 P **Pn** **11 55 47.2 +0.1**
BFO Black Forest 12.59 289 *e*Pn **Pn** **11 55 47.4 +0.3**
VSU Vasula 12.98 1 *e*P **Pn** **11 55 48.4 -3.5**
VSU Vasula 12.98 1 *i* P **Pn** **11 55 48.5 -3.5**
VSU pmax pmax
comp=Z,27nm,0.6s
SENIN Lac Senin/Sane 13.24 281 Pn **Pn** **11 55 54.5 -1.2**
ECH Echery 13.36 289 **Pn** **11 55 56.7 -0.4**
ECH Echery 13.36 289 P **Pn** **11 55 56.7 -0.4**
DEL Delary 13.45 329 *i* P **Pn** **11 55 54.7 -3.4**
MARD Mardin 13.60 122 Pn **Pn** **11 56 00.9 +0.6**
BNI Bardonecchia 13.81 275 **Pn** **11 56 01.4 -1.6**
BNI Bardonecchia 13.81 275 P **Pn** **11 56 01.4 -1.6**
ARBE Arbavere 13.96 359 *e*P **Pn** **11 56 04.0 -0.6**
WLF Walferdange 14.20 294 *d*P **P** **11 56 12.8 +1.2**
comp=Z,15nm,0.9s
MMAI Mount Meron Ar 14.32 147 P **P** **11 56 11.9 -1.2**
comp=Z,7.0nm,0.7s,baz=299,slow=13,SNR=9.2
BTNL Ternell 14.39 298 *d*P **P** **11 56 16.5 +2.8**
comp=Z,26nm,1.1s
GEVA Gevas 14.40 114 Pn **Pn** **11 56 10.5 -0.1**
BHOU Houvegnez 14.42 297 *d*P **P** **11 56 16.9 +2.9**
MEM Membach 14.47 298 *d*P **P** **11 56 15.4 +0.8**
comp=Z,42nm,1.0s
GNI Garni 14.56 105 **Pn** **11 56 13.1 +0.6**
GNI Garni 14.56 105 P **P** **11 56 14.5 -1.4**
comp=Z,6.0nm,0.4s,baz=345,slow=4.8,SNR=9.9
GNI Garni 14.56 105 P **P** **11 56 14.8 -1.0**
GNI S **S** **11 59 01.4 -3.3**
GNI Garni 14.56 105 *i* P **Pn** **11 56 10.0 -2.6**
GNI pmax pmax
comp=Z,31nm,1.2s
BEBN Eben Emael 14.72 298 *d*P **P** **11 56 20.4 +3.0**
comp=Z,42nm,1.0s
BORU Boraas 14.73 330 *i* P **P** **11 56 17.1 -0.3**
BSTI Sart Tilman 14.74 298 *d*P **P** **11 56 21.3 +3.7**
MEF Metsahovi 14.79 356 *e*P **Pn** **11 56 12.1 -2.9**
RCHB Rochefort 14.87 296 *d*P **P** **11 56 21.4 +2.3**
comp=Z,21nm,1.0s
BCLA Clavier 14.87 297 *d*P **P** **11 56 21.7 +2.7**
comp=Z,24nm,1.1s
BGES Gesves 15.00 297 *d*P **P** **11 56 23.6 +3.1**
comp=Z,30nm,1.2s
BMRD Maredsous 15.19 296 *d*P **P** **11 56 25.2 +2.6**
comp=Z,50nm,1.0s
DOU Dourbes 15.26 295 *d*P **P** **11 56 25.9 +2.5**
comp=Z,15nm,0.9s
SSB Saint Sauveur 15.27 277 Pn **Pn** **11 56 21.2 -0.2**
SSB Saint Sauveur 15.27 277 P **Pn** **11 56 21.2 -0.2**
SSB pmax pmax
comp=Z,6.0nm,0.8s
UPP Uppsala 15.29 343 *e*P **Pn** **11 56 19.1 -2.2**
TJOU Tjoern 15.44 330 *i* P **P** **11 56 26.1 +0.9**
BELG Belogornoye 15.59 56 P **P** **11 56 27.4 +0.4**
comp=Z,119nm,0.7s,baz=289,slow=1.9,SNR=30
BELG S **Sn** **11 59 07.8 -10**
comp=Z,15nm,0.7s,baz=316,slow=20,SNR=1.8
BELG Belogornoye 15.59 56 *i* P **Pn** **11 56 20.6 -4.7**
BELG pmax pmax
comp=Z,19nm,0.7s
ASF Jabal al Asfar 15.65 145 P **P** **11 56 28.2 +0.3**
comp=Z,15nm,1.0s,baz=5.6,slow=8.3,SNR=10
RAF Rauma 15.78 352 *e*P **Pn** **11 56 24.0 -3.5**
FINES FINESS Array B 15.97 360 P **Pn** **11 56 26.3 -3.6**
comp=Z,6.2nm,0.7s,baz=190,slow=9.5,SNR=11
FINES S Sn 11 59 10.2 -17
comp=Z,9.8nm,1.2s,baz=198,slow=24,SNR=1.7
AKT Akhty 16.07 97 *e*P **P** **11 56 34.7 +2.2**
AKT pmax pmax
comp=Z,52nm,1.0s
KEST Kesra 16.11 239 P **Pn** **11 56 31.6 -0.3**
comp=Z,4.8nm,0.7s,baz=35,slow=18,SNR=4.7
KEST Kesra 16.11 239 P Pn 11 56 20.0 -12
KEST S Sn 11 59 11.5 -19
STRU Stroemstad 16.34 331 *e*P **P** **11 56 35.4 +0.1**
STRU Stroemstad 16.34 331 *i* P **P** **11 56 36.5 +1.3**
HFS Hagfors 16.46 337 P **Pn** **11 56 34.0 -2.0**
comp=Z,38nm,0.6s,baz=143,slow=12,SNR=49
HFS Hagfors 16.46 337 P **Pn** **11 56 34.0 -2.0**
CLF Chambon-Foret 16.63 287 **Pn** **11 56 37.8 -0.3**
CLF IAmb IAmb 11 56 42.0
comp=Z,67nm,1.4s
KEF Keuruu 16.72 358 *e*P **Pn** **11 56 36.5 -2.5**
EIL Elat 17.21 154 P **Pn** **11 56 45.5 +0.1**
comp=Z,23nm,0.8s,baz=35,slow=9.7,SNR=12
KLMR Klimovskoe 17.25 22 *e*P **P** **11 56 41.2 -4.0**
KLMR *e* 11 59 53.5
KLMR pmax pmax
comp=Z,17nm,1.1s
KONO Kongsberg 17.34 331 P **P** **11 56 45.9 -0.4**
KONO IAmb IAmb 11 57 00.3
comp=Z,67nm,1.4s
KONO Kongsberg 17.34 331 P **P** **11 56 45.9 -0.4**
KONO pmax pmax
comp=Z,67nm,1.5s
NC602 NORSAR Array S 17.57 336 *e*P **P** **11 56 47.8 -1.0**
JOF Joensuu 17.69 8 *e*P **P** **11 56 49.9 -0.1**
NC405 NORSAR Array S 17.82 336 P **P** **11 56 50.6 -1.0**
NC405 IAmb IAmb 11 56 54.2
comp=Z,61nm,1.0s
NAO01 NORSAR Array S 17.85 335 P **P** **11 56 51.6 -0.2**
NB2 NORSAR Subarra 17.91 336 P **P** **11 56 51.5 -1.0**
comp=Z,19nm,0.6s,baz=144,slow=11
NB2 NORSAR Subarra 17.91 336 P **P** **11 56 51.5 -1.0**
comp=Z,19nm,0.6s,baz=144,slow=11
NOA NORSAR Array B 17.91 336 P **P** **11 56 51.4 -1.0**
comp=Z,20nm,0.7s,baz=144,slow=9.9,SNR=43
NOA LR LR 12 04 10.5
comp=Z,43nm,20.7s,baz=145,slow=38
CEST Esterri de Car 18.20 270 **P** **11 56 54.4 -1.6**
NC204 NORSAR Array S 18.23 336 P **P** **11 56 55.0 -1.0**
NC204 IAmb IAmb 11 56 59.5
comp=Z,32nm,0.7s
SKAR Skarslia 18.54 331 *e*P **P** **11 56 59.7 +0.2**
KIRV Kirov 19.21 39 P **P** **11 57 06.8 +0.1**
comp=Z,13nm,0.5s,baz=279,slow=6.4,SNR=4.5
DOMB Dombas 19.33 335 *e*P **P** **11 57 08.8 +0.8**
HYA Hoyanger 19.61 330 *e*P **Pn** **11 57 12.8 -0.7**
MOL Molde 20.20 334 *e*P **P** **11 57 18.6 +1.4**
FOO Floro 20.31 330 *e*P **P** **11 57 18.9 +0.4**
NSS Namsos 20.66 342 *e*P **P** **11 57 22.4 +0.1**
EKA Eskdalemuir Ar 21.03 309 P **P** **11 57 26.4 +0.1**
comp=Z,14nm,0.8s,baz=104,slow=12,SNR=24
comp=Z,14nm,0.8s
ESK Eskdalemuir 21.05 308 P **P** **11 57 26.9 +0.4**
ESK IAmb IAmb 11 57 35.4
comp=Z,46nm,1.4s
ESK Eskdalemuir 21.05 308 P **P** **11 57 26.9 +0.4**
ESK pmax pmax
comp=Z,46nm,1.4s
MOR8 Moi Rana 21.68 347 *e*P **P** **11 57 35.2 +2.0**
AKTO Aktyubinsk 21.72 65 P **P** **11 57 34.2 +0.6**
comp=Z,10nm,0.8s,baz=273,slow=9.1,SNR=17
AKTO S **S** **12 01 23.6 -3.1**
comp=Z,1.4nm,0.4s,baz=201,slow=13,SNR=1.7
comp=Z,10nm,0.8s
APA Apatity 22.44 7 *e*P **P** **11 57 35.6 -5.4**
APA *e**PP **pP** **11 58 00.4 -2.9**
APA MLR MLR
comp=Z,564nm,4.2s
DSB Dublin 22.47 302 P **P** **11 57 41.6 +0.1**
DSB IAmb IAmb 11 58 10.3
comp=Z,29nm,1.1s
ARTI Arti 22.76 50 **P** **11 57 44.2 0.0**
ARTI Arti 22.76 50 P **P** **11 57 44.2 0.0**
comp=Z,30nm,0.4s,baz=256,slow=7.3,SNR=60
ARTI S **S** **12 01 42.5 -1.5**
comp=Z,2.2nm,0.5s,baz=266,slow=19,SNR=5.8
comp=Z,30nm,0.4s
ARTI Arti 22.76 50 *d*P **P** **11 57 44.5 +0.2**
ARTI *PP **pP** **11 58 07.6 +0.8**
ARTI **11 58 19.6**
ARTI S **S** **12 01 46.3 +2.3**
ARTI pmax pmax
comp=Z,19nm,0.5s
LVZ Lovozero 22.88 8 **P** **11 57 45.8 +0.5**
LVZ Lovozero 22.88 8 P **P** **11 57 45.8 +0.5**
LVZ pmax pmax
comp=Z,63nm,0.8s
LVZ Lovozero 22.88 8 P **P** **11 57 43.4 -1.9**
comp=Z,107nm,1.1s
ESDC Sonseca Array 22.93 266 **P** **11 57 46.2 0.0**
ESDC Sonseca Array 22.93 266 P **P** **11 57 45.4 -0.8**
comp=Z,13nm,0.9s,baz=61,slow=9.7,SNR=76
ESDC LR LR 12 06 11.9
comp=Z,23nm,19.8s,baz=354,slow=35
comp=Z,13nm,0.9s
AB31 Akbulak array 22.99 68 *e*P **P** **11 57 47.3 +0.7**
ABKAR Akbulak array 22.99 68 P **P** **11 57 47.6 +1.1**
PAB San Pablo 23.25 266 **P** **11 57 48.9 -0.3**
PAB San Pablo 23.25 266 P **P** **11 57 48.9 -0.3**
PAB pmax pmax
comp=Z,18nm,1.1s
PBRG Braganca 24.08 273 *e*P **P** **11 57 57.0 +0.4**
PBRG *i* IAmb IAmb 11 57 57.7
comp=Z,16nm,1.0s
ARCES ARCESS Array B 24.10 359 P **P** **11 57 57.1 +0.6**
ARCES IAmb IAmb 11 58 22.6
comp=Z,27nm,1.2s
ARCES ARCESS Array B 24.10 359 P **P** **11 57 56.6 +0.1**
comp=Z,1.9nm,0.5s,baz=177,slow=9.4,SNR=29
ARCES LR LR 12 07 39.7
comp=Z,37nm,18.9s,baz=200,slow=37
comp=Z,1.9nm,0.5s
ARCES ARCESS Array B 24.10 359 P **P** **11 57 57.1 +0.6**
ARCES pmax pmax
comp=Z,27nm,1.3s
KEV Kevo 24.32 1 P **P** **11 57 58.3 -0.2**
KEV IAmb IAmb 11 58 01.5
comp=Z,33nm,1.3s
KEV Kevo 24.32 1 P **P** **11 57 58.3 -0.2**
KEV pmax pmax
comp=Z,33nm,1.3s
MVO Moncorvo 24.51 272 *e*P **P** **11 58 00.2 -0.3**
MVO *i* IAmb IAmb 11 58 02.9
comp=Z,24nm,1.5s
PVRL Vila Real 24.95 272 *e*P **P** **11 58 04.3 -0.2**
MTE Manteigas 25.16 270 **P** **11 58 06.2 -0.2**
MTE IAmb IAmb 11 58 07.3
comp=Z,14nm,0.9s
MTE Manteigas 25.16 270 *e*P **P** **11 58 06.5 0.0**
MTE *i* IAmb IAmb 11 58 18.5
comp=Z,23nm,2.1s
PVIS Viseu 25.28 271 *e*P **P** **11 58 07.4 -0.2**
PCBR Castelo Branco 25.33 269 *e*P **P** **11 58 07.4 -0.6**
PCBR *i* IAmb IAmb 11 58 10.3
comp=Z,20nm,1.9s
PMRV Marv??o 25.44 268 *e*P **P** **11 58 08.3 -0.7**
PBAR Barrancos 25.74 265 *e*P **P** **11 58 10.8 -0.8**
PBAR *i* IAmb IAmb 11 58 13.1
comp=Z,22nm,2.3s
PESTR Estremoz 25.82 267 **P** **11 58 11.8 -0.6**
PESTR IAmb IAmb 11 58 12.4
comp=Z,11nm,0.7s
PESTR Estremoz 25.82 267 *e*P **P** **11 58 11.4 -1.0**
PESTR *i* IAmb IAmb 11 58 13.0
comp=Z,12nm,1.0s
PCAS Casmilo, Conde 25.96 270 *e*P **P** **11 58 15.1 +1.4**
PMTG Montargil 26.18 268 *e*P **P** **11 58 14.8 -0.8**

EVO Evora 26.27 267 *e*P **P** **11 58 15.7 -0.7**
PVAQ Vaqueiros 26.58 264 *e*P **P** **11 58 19.4 +0.2**
PCVE Castro Verde 26.70 265 *e*P **P** **11 58 20.8 +0.6**
PARRA Arraiolos 26.86 268 *e*P P 11 58 14.5 -7.3
PARRA *i* IAmb IAmb 11 58 19.5
comp=Z,10nm,1.7s
RAYN Ar Rayn 26.92 138 **P** **11 58 23.7 +1.3**
RAYN Ar Rayn 26.92 138 P **P** **11 58 23.7 +1.3**
RAYN pmax pmax
comp=Z,7.0nm,0.9s
PFVI Vila Bisbo 27.48 265 P **P** **11 58 27.3 0.0**
SHMA Al-Shehemyia 27.86 126 P **P** **11 58 31.3 +0.6**
TRNA Turayna 28.87 127 P **P** **11 58 40.3 +0.6**
BVAR Borovoye Array 29.36 59 P **P** **11 58 45.4 +1.6**
comp=Z,1.9nm,0.4s,baz=280,slow=8.9,SNR=11
comp=Z,1.9nm,0.4s
JRN Qarnain Island 29.64 125 P **P** **11 58 47.4 +0.9**
SHME Shamm 30.78 119 P **P** **11 58 57.6 +1.0**
BANOM Banah 30.97 119 P **P** **11 58 59.8 +1.5**
NAZ Nazwa, Dubai 31.27 121 P **P** **11 59 02.3 +1.5**
MASF Masafi 31.29 120 P **P** **11 59 02.3 +1.3**
FAQ Al Faqa, Dubai 31.41 121 P **P** **11 59 03.2 +1.1**
MDH Madha 31.42 120 P **P** **11 59 03.5 +1.3**
KK31 Karatay Array 31.45 78 P **P** **11 59 04.3 +1.9**
KK31 IAmb IAmb 11 59 05.4
comp=Z,11nm,0.7s
KK31 Karatay Array 31.45 78 P **P** **11 59 04.3 +1.9**
KK31 pmax pmax
comp=Z,11nm,0.7s
KKAR Karatay Array 31.45 78 P **P** **11 59 04.5 +2.2**
KKAR Karatay Array 31.45 78 P **P** **11 59 04.5 +2.2**
UOSS Minazif 31.63 120 P **P** **11 59 04.7 +0.6**
UOSS IAmb IAmb 11 59 05.5
comp=Z,14nm,0.6s
UOSS Minazif 31.63 120 P **P** **11 59 05.0 +1.0**
UOSS S **S** **12 04 07.7 +3.2**
HATD Hatta, Dubai 31.67 121 P **P** **11 59 05.7 +1.2**
HATD S **S** **12 04 09.1 +3.9**
ASHO Ashiyiah 31.73 121 P **P** **11 59 06.1 +1.1**
SNR=5.4
ALNE Al Ain 32.02 122 P **P** **11 59 08.5 +1.1**
SIMJ Simiganj 32.14 87 P **P** **11 59 09.0 +0.4**
CHGR Chuyangaron 32.25 87 P **P** **11 59 08.6 -0.9**
CHGR IAmb IAmb 11 59 12.8
comp=Z,24nm,1.0s
CHGR Chuyangaron 32.25 87 P **P** **11 59 08.6 -0.9**
CHGR pmax pmax
comp=Z,25nm,1.0s
SOHO SOHO 32.43 121 P **P** **11 59 12.3 +1.3**
GAR Garm 32.91 86 P **P** **11 59 16.4 +1.1**
SPITS Spitsbergen Ar 33.02 356 P **P** **11 59 15.4 -0.3**
SPITS pmax pmax
comp=Z,32nm,1.1s
ARQ Araqi 33.02 122 P **P** **11 59 17.5 +1.2**
SNR=17
HOQ Hoqain 33.31 121 P **P** **11 59 19.3 +0.6**
ARSB Arslanbob 33.81 80 P **P** **11 59 25.0 +1.9**
ARSB Arslanbob 33.81 80 P **P** **11 59 25.0 +1.9**
ARSB pmax pmax
comp=Z,22nm,0.5s
EKS2 ErKin-Say 33.85 77 P **P** **11 59 26.2 +2.8**
SNR=17
BIDO Bidbid 33.85 120 P **P** **11 59 24.8 +1.4**
KBS Kingsbay 33.98 355 P **P** **11 59 23.7 -0.2**
KBS Kingsbay 33.98 355 P **P** **11 59 23.7 -0.2**
KBS pmax pmax
comp=Z,46nm,1.5s
USP Ospenovka 34.13 76 P **P** **11 59 27.8 +2.1**
SNR=6.3
SMDO Samad 34.15 120 P **P** **11 59 26.9 +0.7**
KBL Kabul 34.16 93 P **P** **11 59 26.9 +0.6**
KBL Kabul 34.16 93 P **P** **11 59 26.9 +0.6**
KBL pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 34.35 77 P **P** **11 59 30.6 +2.8**
SNR=6.3
AAK Ala-Archa 34.35 77 P **P** **11 59 30.0 +2.2**
AAK IAmb IAmb 11 59 31.0
comp=Z,11nm,0.7s
AAK Ala-Archa 34.35 77 *i* P **P** **11 59 25.0 -2.8**
AAK pmax pmax
comp=Z,12nm,0.7s
WSAR Wadi Sarin 34.37 119 P **P** **11 59 29.5 +1.6**
UCH Uchtor 34.52 78 P **P** **11 59 32.0 +2.5**
SNR=7.5
KURBB Kurchatov Arra 34.69 62 P **P** **11 59 31.6 +1.3**
comp=Z,4.4nm,0.6s,baz=287,slow=9.0,SNR=26
comp=Z,4.4nm,0.6s
JMDO Jabal Madar 34.70 121 P **P** **11 59 31.6 +0.8**
KURK Kurchatov 34.72 62 P **P** **11 59 31.9 +1.2**
KURK IAmb IAmb 11 59 32.3
comp=Z,4.7nm,0.5s
KURK Kurchatov 34.72 62 P **P** **11 59 32.1 +1.5**
KURK Kurchatov 34.72 62 P **P** **11 59 31.9 +1.2**
KURK pmax pmax
comp=Z,5.0nm,0.5s
TKM2 Tokmak 2 35.00 76 P **P** **11 59 36.3 +2.9**
SNR=6.9
WBK Wadi Bani Khal 35.05 120 P **P** **11 59 35.3 +1.5**
PMOZ Porto Moniz, M 35.59 265 P **P** **11 59 37.7 -0.7**
JLN Jalan Bani Buh 35.66 120 P **P** **11 59 40.0 +1.0**
MHTO MHTO 35.67 123 P **P** **11 59 40.3 +1.2**
WHFO Wadi Hawf 35.77 131 P **P** **11 59 41.3 +1.3**
NRN Naryn 35.85 78 P **P** **11 59 41.4 +0.5**
NRN IAmb IAmb 11 59 44.6
comp=Z,5.3nm,1.0s
NRN Naryn 35.85 78 P **P** **11 59 41.4 +0.5**
NRN pmax pmax
comp=Z,5.0nm,1.0s
KDJ Kajisay 36.39 77 P **P** **11 59 44.3 -0.9**
KDJ IAmb IAmb 11 59 48.6
comp=Z,6.1nm,0.8s
KDJ Kajisay 36.39 77 P **P** **11 59 44.3 -0.9**
KDJ pmax pmax
comp=Z,6.0nm,0.8s
KSH Kashi 36.64 81 P **P** **11 59 49.6 +2.3**
KSH pmax pmax
comp=Z,10.0nm,1.0s
TARG Taragay, Kyrgy 36.97 77 P **P** **11 59 50.0 -0.4**
TARG IAmb IAmb 11 59 54.8
comp=Z,6.6nm,0.8s
TARG Taragay, Kyrgy 36.97 77 P **P** **11 59 50.1 -0.4**
TARG pmax pmax
comp=Z,7.0nm,0.8s
NIL Nilore 37.59 92 P **P** **11 59 56.1 +0.8**
NIL IAmb IAmb 11 59 59.3
comp=Z,19nm,1.0s
NIL Nilore 37.59 92 P **P** **11 59 56.1 +0.8**
NIL pmax pmax
comp=Z,19nm,1.0s
ZAA0 Zalesovo Array 37.78 55 P **P** **11 59 57.9 +1.3**
ZAA0 IAmb IAmb 11 59 58.8
comp=Z,9.2nm,0.7s
ZALV Zalesovo Beam 37.78 55 P **P** **11 59 57.8 +1.2**
ZALV Zalesovo Beam 37.78 55 P **P** **11 59 58.0 +1.4**
comp=Z,8.1nm,0.4s,baz=282,slow=9.1,SNR=45
ZALV pP **pP** **12 00 25.0 +2.3**
comp=Z,4.1nm,0.7s,baz=280,slow=8.9,SNR=4.8
comp=Z,8.1nm,0.4s
MAKZ Makanchi 37.92 67 P **P** **11 59 57.9 0.0**
MAKZ Makanchi 37.92 67 P **P** **11 59 57.9 0.0**
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 38.13 67 *i* P **P** **11 59 57.1 -2.6**
MKAR Makanchi Array 38.13 67 **P** **12 00 01.0 +1.4**
MKAR Makanchi Array 38.13 67 P **P** **12 00 01.3 +1.6**
comp=Z,3.4nm,0.5s,baz=273,slow=7.9,SNR=32
MKAR pP **pP** **12 00 27.9 +2.1**
comp=Z,1.4nm,0.6s,baz=289,slow=8.5,SNR=3.8
comp=Z,3.4nm,0.5s
TORD Torodi Ar. Bea 38.40 221 **P** **12 00 02.0 -0.2**
TORD Torodi Ar. Bea 38.40 221 P **P** **12 00 02.8 +0.5**
comp=Z,10nm,0.6s,baz=26,slow=9.7,SNR=68
TORD pP **pP** **12 00 29.2 +0.7**
comp=Z,2.1nm,0.7s,baz=28,slow=8.7,SNR=2.2
comp=Z,10nm,0.6s
ANGG Ammassalik, Gr 39.18 324 P **P** **12 00 06.8 -1.3**
SUMG Summit 39.80 335 P **P** **12 00 12.7 -1.0**
SUMG IAmb IAmb 12 00 30.7
comp=Z,16nm,1.5s
SUMG Summit 39.80 335 P **P** **12 00 12.7 -1.0**
SUMG pmax pmax
comp=Z,16nm,1.5s
LODK Lodwar 42.66 167 **P** **12 00 38.8 +1.5**

LODK **Lodwar** 42.66 167 P P 12 00 38.7 +1.5
WMQ **Urumqi** 42.77 69 eP P 12 00 42.0 +4.0
WMQ pmax pmax
comp=Z,28nm,0.7s
MBAR **Mbarara** 46.08 174 P P 12 01 04.2 -0.4
MBAR IAmb IAmb 12 01 06.4
comp=Z,6.0nm,0.8s
MBAR **Mbarara** 46.08 174 P P 12 01 04.2 -0.4
MBAR pmax pmax
comp=Z,6.0nm,0.8s
DBIC **Dimbokro** 47.16 224 P P 12 01 12.8 0.0
DBIC IAmb IAmb 12 01 35.1
comp=Z,22nm,1.2s
DBIC **Dimbokro** 47.16 224 P P 12 01 12.7 0.0
comp=Z,5.8nm,0.3s,baz=60,slow=5.0,SNR=27
comp=Z,5.8nm,0.3s
DBIC **Dimbokro** 47.16 224 P P 12 01 12.8 0.0
DBIC pmax pmax
comp=Z,22nm,1.3s
LSA **Lhasa** 52.39 84 P P 12 01 54.9 +2.0
LSA **Lhasa** 52.39 84 P P 12 01 53.2 +0.3
LSA pmax pmax
comp=Z,18nm,0.7s
LSA **Lhasa** 52.39 84 P P 12 01 54.9 +2.0
LSA pmax pmax
comp=Z,13nm,0.6s
SONM **Songino Array** 52.65 57 P P 12 01 55.2 +1.0
SONM **Songino Array** 52.65 57 P P 12 01 55.9 +1.7
comp=Z,5.6nm,0.8s,baz=292,slow=8.5,SNR=21
SONM pP pP 12 02 22.9 +1.1
comp=Z,1.1nm,0.6s,baz=298,slow=9.5,SNR=2.8
comp=Z,5.6nm,0.8s
SONM **Songino Array** 52.65 57 P P 12 01 55.2 +1.0
SONM pmax pmax
comp=Z,3.0nm,0.8s
GTA **Gaotai** 52.85 69 eP P 12 01 56.8 +1.0
GTA pmax pmax
comp=Z,4.0nm,1.0s
DRLN **Deer Lake** 54.06 306 P P 12 02 04.9 +0.7
LZH **Lanzhou** 57.35 70 eP P 12 02 30.1 +1.9
LZH pmax pmax
comp=Z,21nm,1.2s
HHC **Hu-ho-hao-te** 59.53 61 eP P 12 02 46.7 +3.5
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,66nm,5.2s
PALK **Pallekele** 60.31 112 P P 12 02 50.0 +1.3
PALK **Pallekele** 60.31 112 P P 12 02 49.9 +1.2
PALK **Pallekele** 60.31 112 P P 12 02 50.0 +1.3
PALK pmax pmax
comp=Z,24nm,1.1s
LSZ **Lusaka** 60.51 178 P P 12 02 50.5 +0.5
LSZ IAmb IAmb 12 02 52.5
comp=Z,8.5nm,1.1s
LSZ **Lusaka** 60.51 178 P P 12 02 50.5 +0.5
LSZ pmax pmax
comp=Z,9.0nm,1.1s
A36M **Sachs Harbour** 61.10 350 P P 12 02 53.5 +0.4
A36M IAmb IAmb 12 03 34.9
comp=Z,11nm,0.9s
A36M **Sachs Harbour** 61.10 350 P P 12 02 52.7 -0.5
baz=22
GGN **Saint George** 61.65 307 P P 12 02 58.5 +1.3
PZH **PanZhiHua** 61.73 80 P P 12 03 00.2 +1.9
SEY **Seymchan** 63.73 24 P P 12 03 11.8 +1.0
comp=Z,2.0nm,0.5s,baz=306,slow=7.6,SNR=20
comp=Z,2.0nm,0.5s
A19K **Wainwright** 64.49 3 P P 12 03 15.0 -0.6
baz=354
C26K **Camden Bay** 64.72 357 P P 12 03 16.6 -0.5
baz=6.8
CHTO **Chiang Mai** 64.76 88 P 12 03 19.1 +0.9
CHTO **Chiang Mai** 64.76 88 P P 12 03 19.5 +1.2
CHTO **Chiang Mai** 64.76 88 P P 12 03 19.1 +0.9
CHTO pmax pmax
comp=Z,16nm,0.8s
QNGWA **Qangwa** 64.88 185 P P 12 03 19.3 +0.3
C27K **Jago River** 64.95 356 P P 12 03 18.0 -0.8
baz=7.8
C23K **Itkillik River** 64.96 359 P P 12 03 18.7 -0.1
CM31 **Chiang Mai Arr** 65.00 89 P P 12 03 21.3 +1.5
CMAR **Chiang Mai Arr** 65.00 89 P 12 03 20.5 +0.7
CMAR **Chiang Mai Arr** 65.00 89 P P 12 03 20.8 +1.0
comp=Z,9.5nm,0.6s,baz=306,slow=7.8,SNR=52
comp=Z,9.5nm,0.6s
C24K **Franklin Bluff** 65.04 358 P P 12 03 17.9 -1.3
baz=3.9
GYA **Guiyang** 65.14 77 ⇓P P 12 03 19.7 -1.1
GYA pmax pmax
comp=Z,57nm,0.8s
D27M **Malcolm River** 65.19 355 P P 12 03 19.0 -1.3
baz=9.9
B21K **Ikpikpuk River** 65.19 0 P P 12 03 19.5 -0.7
baz=359
B18K **Kokolik River** 65.30 3 P P 12 03 20.1 -0.8
baz=354
D25K **Kavik River** 65.37 357 P P 12 03 20.6 -0.8
baz=5.7
PHDHD **Phuduhudu** 65.40 182 P P 12 03 23.4 +1.2
INK **Inuvik** 65.51 352 P P 12 03 21.3 -1.0
baz=16
D24K **Happy Valley** 65.61 358 P P 12 03 22.0 -1.0
baz=3.8
C21K **Knifeblade Rid** 65.66 0 P P 12 03 22.4 -0.9
baz=359
E28M **Babbage River** 65.72 354 P P 12 03 23.2 -0.6
baz=11
E29M **Blow River** 65.82 354 P 12 03 25.3 +1.0
E29M IAmb IAmb 12 03 26.2
comp=Z,9.4nm,0.6s
E29M **Blow River** 65.82 354 P P 12 03 24.0 -0.3
baz=12,SNR=18
D23K **Nanushuk River** 65.83 359 P P 12 03 23.3 -1.1
baz=2.4
D22K **Ayikyak River** 65.94 360 P P 12 03 24.1 -1.0
baz=0.8
C18K **Utukok River** 66.04 3 P P 12 03 24.8 -1.0
baz=354
D20K **Etivluk River** 66.09 1 P P 12 03 25.3 -0.8
baz=358
C17K **DeLong Mountai** 66.13 4 P P 12 03 25.5 -0.8
baz=353
TOLK **Toolik Lake Re** 66.14 358 P P 12 03 25.2 -1.2
baz=3.2
E27K **Coleen River** 66.27 355 P P 12 03 26.1 -1.2
baz=9.3
D19K **Kuna River** 66.28 2 P P 12 03 26.5 -0.8
baz=357
F31M **Tsiigehtchic** 66.37 352 P P 12 03 27.1 -0.7
baz=15,SNR=14
E21K **Killik River** 66.38 0 P P 12 03 26.7 -1.3
baz=360
F30M **Barrier River** 66.40 353 P P 12 03 26.7 -1.4
baz=14
E25K **Arctic Village** 66.54 357 P P 12 03 27.9 -1.1
baz=6.2
E24K **Your Creek** 66.68 358 P P 12 03 28.9 -1.0
baz=4.0
E23K **Chandalar** 66.72 358 P P 12 03 29.8 -0.5
baz=3.1
F28M **Old Crow** 66.73 354 P P 12 03 29.5 -0.6
baz=11
F26K **Sheenjek River** 66.90 356 P P 12 03 30.9 -0.4
baz=7.3
G31M **Satah River** 66.93 352 P P 12 03 30.8 -0.5
baz=15,SNR=6.6
G30M **tAoh Zraii Nji** 67.06 353 P P 12 03 31.9 -0.4
baz=13
F25K **Christian Rive** 67.07 357 P P 12 03 31.6 -0.8
baz=6.2
F24K **Squaw Lake** 67.22 358 P P 12 03 33.0 -0.3
baz=4.5
G29M **Pine Creek** 67.28 353 P P 12 03 34.0 +0.3
baz=12
F22K **John River** 67.31 359 P P 12 03 33.5 -0.4
baz=1.2
E19K **Redstone River** 67.34 1 P P 12 03 33.8 -0.2
baz=357
COLD **Coldfoot** 67.57 359 P P 12 03 35.2 -0.2
baz=2.7
E17K **Hotham Inlet** 67.58 3 P P 12 03 35.5 0.0
baz=354
F21K **Alatna River** 67.61 360 P P 12 03 35.2 -0.5
baz=0.2
G26K **Porcupine Rive** 67.62 356 P P 12 03 35.4 -0.3
baz=7.5

G27K **Doyon Strip** 67.64 355 P P 12 03 35.2 -0.7
baz=9.2,SNR=6.5
EPYK **Eagle Plains** 67.70 353 P P 12 03 35.3 -1.0
baz=13
YKA **Yellowknife Ar** 67.90 342 P P 12 03 37.2 -0.4
comp=Z,1.4nm,0.9s,baz=33,slow=3.7,SNR=3.1
comp=Z,1.4nm,0.9s
G22K **Bettles** 67.90 359 P P 12 03 36.8 -0.7
baz=1.7
G25K **Bearman Lake** 67.91 357 P P 12 03 37.3 -0.3
baz=5.8
F19K **Shaleruckik Mo** 67.95 2 P P 12 03 37.6 -0.2
baz=357
H29M **Whitestone** 67.99 353 P P 12 03 37.7 -0.4
baz=12
H31M **Peel River** 68.02 352 P P 12 03 37.8 -0.5
baz=15
G24K **Hadweenzic Riv** 68.03 357 P P 12 03 37.6 -0.7
baz=4.7
G23K **Bananza Creek** 68.08 358 P P 12 03 38.4 -0.3
baz=2.8
F18K **Selawik** 68.14 3 P P 12 03 39.0 0.0
baz=356
H27K **Steamboat Moun** 68.21 355 P P 12 03 39.1 -0.4
baz=9.2,SNR=5.4
G21K **Allakaket** 68.32 360 P P 12 03 39.9 -0.2
baz=0.2
H25L **Birch Creek** 68.40 357 P P 12 03 39.8 -0.8
baz=6.0
I30M **Mount Dempster** 68.79 352 P P 12 03 42.7 -0.5
baz=13,SNR=8.0
I29M **Ogilvie Camp,** 68.83 353 IAmb IAmb 12 03 44.5
comp=Z,5.0nm,0.6s
I29M **Ogilvie Camp,** 68.83 353 P P 12 03 43.2 -0.2
baz=12
I27K **Kandik River** 68.83 355 P P 12 03 43.2 -0.2
baz=9.1
I28M **Miner Creek** 68.87 354 P P 12 03 43.2 -0.5
baz=10,SNR=7.9
G18K **Tagagawik** 68.88 2 P P 12 03 42.7 -0.9
baz=356
H24K **Noodor Dome** 68.91 357 P P 12 03 42.6 -1.2
baz=4.4
H22K **Ishtalitna Cre** 68.93 359 P P 12 03 43.1 -0.8
baz=1.8
H23K **Yukon River** 68.96 358 P P 12 03 43.7 -0.5
baz=3.2
WRGLY **Wrigley** 68.98 346 P P 12 03 43.3 -0.9
baz=22
USRK **Ussuriysk Ar.** 69.09 48 P P 12 03 44.9 -0.4
comp=Z,0.8nm,0.4s,baz=299,slow=6.5,SNR=1.8
comp=Z,0.8nm,0.4s
PRP **Porcupine Dome** 69.14 356 P P 12 03 44.2 -1.2
baz=6.2
H21K **Melozitna Rive** 69.18 360 P P 12 03 45.1 -0.4
baz=0.7
G17K **Kiwalik Mounta** 69.20 3 P P 12 03 44.1 -1.5
baz=355
I26K **Coal Creek Min** 69.22 355 P P 12 03 45.1 -0.7
baz=7.9
G16K **Koyuk River** 69.24 4 P P 12 03 45.2 -0.7
baz=354
H19K **Roundabout Mou** 69.29 1 P P 12 03 45.2 -0.9
baz=358
H20K **Anotleneega Mo** 69.34 1 P P 12 03 46.0 -0.5
baz=359
J30M **Hart River** 69.42 352 P 12 03 48.2 +1.0
J30M IAmb IAmb 12 03 49.0
comp=Z,4.6nm,0.7s
J30M **Hart River** 69.42 352 P P 12 03 46.2 -1.0
baz=13
NJ2 **Nanjing** 69.60 65 eP P 12 03 48.8 +0.2
NJ2 pmax pmax
comp=Z,11nm,0.5s
EGAK **Eagle** 69.62 354 P P 12 03 48.2 0.0
EGAK IAmb IAmb 12 04 01.0
comp=Z,8.6nm,1.4s
VOI **Vohitsoka** 69.64 160 P P 12 03 48.9 0.0
I23K **Minto, Yukon-K** 69.64 358 P P 12 03 47.4 -0.9
baz=3.3
I21K **Tanana** 69.65 359 P P 12 03 46.2 -2.2
baz=1.3
MLY **Manley** 69.78 359 P P 12 03 47.9 -1.3
baz=2.2
H17K **Granite Mounta** 69.80 3 P P 12 03 48.4 -0.9
baz=355
COLA **College** 69.87 357 P P 12 03 48.9 -0.8
baz=4.4
ILAR **Eielson Array** 69.94 357 P P 12 03 51.0 +0.8
comp=Z,0.5nm,0.6s,baz=0.3,slow=5.8,SNR=13
comp=Z,0.5nm,0.6s
ILAR **Eielson Array** 69.94 357 P P 12 03 51.0 +0.8
H16K **Elim** 70.00 4 P P 12 03 49.8 -0.7
baz=354
J25K **Salcha River,** 70.03 356 P P 12 03 50.1 -0.7
baz=6.2
I20K **Naaghedeneel** 70.04 0 P P 12 03 51.0 +0.3
baz=359
J26L **Joseph Creek** 70.05 355 IAmb IAmb 12 03 52.6
comp=Z,4.6nm,0.6s
J26L **Joseph Creek** 70.05 355 P P 12 03 50.4 -0.6
baz=7.6
GCSA **Galena City Sc** 70.07 1 P P 12 03 50.7 -0.2
baz=358
NEA2 **Nenana** 70.19 358 P P 12 03 51.0 -0.7
baz=3.5
DAWY **Dawson** 70.19 353 IAmb IAmb 12 03 53.2
comp=Z,4.1nm,0.6s
DAWY **Dawson** 70.19 353 P P 12 03 51.6 -0.2
baz=1
K29M **Barlow Dome** 70.25 352 P P 12 03 51.9 -0.3
baz=12
HDA **Harding Lake** 70.30 357 P P 12 03 52.0 -0.4
baz=5.1
MAYO **Mayo, Yukon** 70.33 352 P P 12 03 51.9 -0.7
baz=13
K27K **Chicken** 70.43 355 P P 12 03 52.4 -0.7
baz=8.7
SCRK **Sand Creek** 70.60 355 P P 12 03 53.6 -0.8
baz=7.2
J20K **Nowinta River** 70.67 0 P P 12 03 53.5 -1.0
baz=360
BPAW **Bear Paw Mtn.** 70.72 359 P P 12 03 54.0 -1.0
baz=2.0
MMPY **Sheldon Lake,** 70.74 349 P P 12 03 54.0 -1.1
baz=16
K24K **Donnelly Dome** 70.86 356 P P 12 03 54.7 -1.1
baz=5.9
RIDG **Independent Ri** 70.88 356 P P 12 03 54.4 -1.6
baz=6.6
CHUM **Lake Minchumin** 70.96 359 P P 12 03 54.8 -1.5
baz=1.1
L29M **L29M** 71.03 353 P P 12 03 55.2 -1.7
baz=12
MCK **McKinley** 71.05 358 P P 12 03 54.9 -2.0
baz=3.6
TRF **Thorofare Moun** 71.36 358 P P 12 03 57.8 -1.3
baz=2.6
L27K **Beaver Creek,** 71.37 354 P P 12 03 58.1 -0.8
baz=8.8
M30M **Minto, Yukon** 71.42 352 P P 12 03 58.2 -1.0
baz=12
J16K **Anvik River** 71.42 3 P P 12 03 58.0 -1.1
baz=355
KSRS **Korea Array** 71.49 55 P P 12 03 60.0 0.0
comp=Z,0.8nm,0.6s,baz=313,slow=5.4,SNR=2.4
comp=Z,0.8nm,0.6s
KSRS **Korea Array** 71.49 55 P P 12 04 00.0 0.0
K20K **Telida** 71.49 0 P P 12 03 58.5 -1.1
baz=360
M31M **Drury Creek, Y** 71.53 351 P P 12 03 59.4 -0.4
baz=14
DHY **Denali Highway** 71.65 357 P P 12 03 59.8 -0.9
baz=4.7
PAX **Paxson** 71.68 356 P P 12 04 00.1 -0.7
baz=5.1
M29M **Somme Creek** 71.71 353 IAmb IAmb 12 04 03.8
comp=Z,5.8nm,0.6s
M29M **Somme Creek** 71.71 353 P P 12 04 00.4 -0.6
baz=11
BVCY **Beaver Creek** 71.94 354 P P 12 04 01.8 -0.5
baz=9.5
M27K **Edge Creek, AK** 72.07 354 P P 12 04 02.1 -1.1
baz=8.7
M26K **Nabesna, AK** 72.11 355 P P 12 04 02.8 -0.6
baz=7.9
L20K **Farewell, AK** 72.37 0 P P 12 04 04.0 -0.8
baz=360

N31M **Braeburn, Yuko** 72.38 351 P P 12 04 04.1 -0.9
baz=13
CUT **Chulitna** 72.41 358 P P 12 04 04.2 -0.8
baz=2.6
YUK3 **Moose Creek** 72.54 353 P P 12 04 05.7 -0.4
baz=9.7
N30M **Aishikik Lake** 72.55 352 P P 12 04 05.5 -0.5
baz=12
K13K **Kusilvak Mount** 72.56 5 P P 12 04 05.6 -0.3
baz=352
M24K **Tolsona, Glenn** 72.57 356 P P 12 04 05.4 -0.7
baz=5.6
L18K **Granite Mounta** 72.61 1 P P 12 04 05.9 -0.4
baz=358
L17K **Donlin** 72.65 2 P P 12 04 04.2 -2.3
baz=357
L19K **White Mountain** 72.67 1 P P 12 04 04.6 -2.0
baz=359
WTLY **Watson Lake, Y** 72.79 347 P P 12 04 06.4 -1.0
baz=18
YUK4 **Talbot Arm** 72.81 352 P P 12 04 05.4 -2.4
baz=11
SKT **Skwentna** 72.86 359 P P 12 04 06.4 -1.3
baz=1.6
SCM **Sheep Creek Mo** 72.89 357 P P 12 04 06.0 -2.1
baz=4.7
M19K **Big River Lodg** 72.95 0 P P 12 04 06.7 -1.5
baz=360
M23K **Glacier View** 72.95 357 P P 12 04 06.8 -1.6
baz=4.4
M20K **Styx River** 72.97 360 P P 12 04 06.5 -2.0
baz=0.5
YUK8 **Steele Glacier** 72.97 353 P P 12 04 07.1 -1.6
baz=10
L15K **Ungalak Mounta** 72.99 4 P P 12 04 07.9 -0.6
baz=354
N25K **Chitina, Valde** 72.99 355 P P 12 04 07.1 -1.5
baz=6.7
L16K **Owhat River** 73.04 3 P P 12 04 07.5 -1.3
baz=356
WHY **Whitehorse** 73.09 350 P P 12 04 08.2 -1.1
baz=14
O30N **Mendenhall** 73.12 351 P P 12 04 08.4 -0.9
baz=13
YUK6 **Outpost Mounta** 73.18 352 P P 12 04 07.7 -2.3
baz=11
PMR **Palmer** 73.20 358 P P 12 04 08.4 -1.2
baz=3.4
HYT **Haines Junctio** 73.21 352 P P 12 04 08.3 -1.7
baz=12
L14K **Kuka Creek** 73.27 4 P P 12 04 08.6 -1.5
baz=354
P33M **Teslin, Yukon** 73.27 349 P P 12 04 09.0 -1.3
baz=15
M18K **Stony River** 73.35 1 P P 12 04 09.7 -0.9
baz=358
KNK **Knik Glacier** 73.36 357 P P 12 04 10.9 +0.2
KNK IAmb IAmb 12 04 11.5
comp=Z,12nm,0.6s
KNK **Knik Glacier** 73.36 357 P P 12 04 09.8 -0.9
baz=3.9
SUA **Susitna One** 73.36 359 P P 12 04 09.8 -1.1
baz=2.2
TOAD **Toad River Com** 73.38 345 P P 12 04 10.4 -0.6
baz=20
CTG **Chitna Glacier** 73.41 354 P P 12 04 10.1 -1.1
baz=9.1
O28M **Mount Upton** 73.51 353 P P 12 04 12.2 +0.2
O28M IAmb IAmb 12 04 43.7
comp=Z,12nm,1.4s
O28M **Mount Upton** 73.51 353 P P 12 04 10.9 -1.1
baz=9.9
BMRM **Bremner River** 73.63 355 P P 12 04 11.9 -0.5
baz=6.7
N20K **Mount Spurr** 73.65 359 P P 12 04 11.9 -0.6
baz=1.1
RC01 **Rabbit Creek A** 73.72 358 P P 12 04 12.9 +0.1
baz=2.9
M16K **Timber Creek** 73.75 3 P P 12 04 12.4 -0.6
baz=356
BOSA **Boshof** 73.77 181 P P 12 04 14.0 +0.5
comp=Z,2.5nm,0.7s,baz=11,slow=6.4,SNR=5.4
comp=Z,2.5nm,0.7s
BOSA **Boshof** 73.77 181 P P 12 04 14.0 +0.5
R33M **Jennings River** 73.80 348 P P 12 04 12.4 -1.1
baz=16
O29M **Mount Kennedy** 73.83 352 P P 12 04 12.2 -1.5
baz=11
GLI **Glacier Island** 73.84 357 P P 12 04 12.2 -1.3
baz=4.8
P30M **Million Dollar** 73.85 351 P P 12 04 13.1 -0.6
baz=12
PWL **Port Wells** 73.91 357 P P 12 04 13.1 -0.9
baz=4.0
M11K **Mekoryuk** 73.98 6 P P 12 04 14.2 -0.1
baz=351
N19K **Bonanza Creek** 74.04 0 P P 12 04 14.6 -0.2
baz=360
EYAK **Cordova Ski Ar** 74.11 356 P P 12 04 15.0 0.0
baz=5.8
M13K **Dall Lake** 74.15 5 P P 12 04 15.3 0.0
baz=353
MESA **MESA** 74.24 354 P P 12 04 15.5 -0.6
baz=8.6
Q32M **Nakina River** 74.41 349 P P 12 04 16.3 -0.8
baz=16
P29M **Windy Craggy** 74.41 352 P P 12 04 16.6 -0.2
baz=12
ASAJ **Asahikawa** 74.42 42 P P 12 04 17.5 +0.3
comp=Z,2.8nm,0.7s,baz=0.0,slow=9.1,SNR=1.5
comp=Z,2.8nm,0.7s
PLBC **Pleasant Camp** 74.43 351 P P 12 04 16.7 -0.3
baz=13
PNL **Peninsula** 74.53 353 P P 12 04 17.6 0.0
baz=10
DLBC **Dease Lake** 74.58 347 P P 12 04 17.7 -0.3
baz=17
KAIM **Kayak Island** 74.66 355 P P 12 04 18.3 +0.1
baz=6.8
SEW **Seward** 74.70 358 P P 12 04 19.2 +0.7
baz=3.1
N14K **Kuskokwak Cree** 74.73 4 P P 12 04 19.3 +0.6
baz=354
O17K **Koliganek Bris** 75.05 2 P P 12 04 20.6 +0.1
baz=358
O16K **Kokwok River B** 75.20 2 P P 12 04 20.2 -1.2
baz=357
P19K **Oil Pt** 75.21 360 P P 12 04 20.9 -0.5
baz=0.4
O14K **Tigyukauivet M** 75.42 4 P P 12 04 21.9 -0.8
baz=355
O15K **Ungalikthiuk R** 75.56 3 P P 12 04 23.1 -0.4
baz=356
P17K **Kvichak River** 75.64 1 P P 12 04 23.5 -0.3
baz=358
R18K **Karluk** 77.30 0 P P 12 04 32.9 -0.3
baz=360
TKL **Tuckaleechee C** 77.51 308 LR LR 12 37 40.4
comp=Z,28nm,18.4s,baz=3.5,slow=35
JOW **Kunigami** 79.13 63 LR LR 12 41 37.0
comp=Z,94nm,18.4s,baz=112,slow=37
LAO **LASA Array** 79.13 329 P 12 04 43.8 +0.1
LAO IAmb IAmb 12 04 47.5
comp=Z,8.3nm,1.1s
EGMT **Eagleton** 79.22 332 P 12 04 44.1 -0.1
EGMT IAmb IAmb 12 05 16.7
comp=Z,12nm,1.1s
PDAR **Pinedale Array** 83.72 329 P P 12 05 08.1 -0.1
comp=Z,0.5nm,0.7s,baz=66,slow=4.7,SNR=6.2
comp=Z,0.5nm,0.7s
BMO **Blue Mountains** 84.43 335 P 12 05 11.2 -0.2
BMO **Blue Mountains** 84.43 335 P P 12 05 11.3 -0.2
BMO pmax pmax
comp=Z,3.0nm,0.7s
HLID **Hailey** 84.69 332 P P 12 05 14.3 +1.3
COR **Corvallis** 86.33 339 P P 12 05 19.5 -1.3
COR **Corvallis** 86.33 339 P P 12 05 19.5 -1.3
COR pmax pmax
comp=Z,22nm,1.3s
J05D **Fort Rock, OR** 86.99 337 P P 12 05 25.2 +0.9
PV14 **Lion Creek, Pa** 87.33 326 P P 12 05 27.2 +1.1
PV14 IAmb IAmb 12 05 27.2
comp=Z,6.8nm,1.3s
BBOR **Butler Butte** 87.75 338 P P 12 05 28.0 0.0
K02D **Willamette Mer** 88.19 338 P P 12 05 30.6 +0.6
K02D IAmb IAmb 12 06 14.0
comp=Z,6.1nm,1.3s
KBO **Bosley Butte** 88.79 339 P P 12 05 33.0 +0.2

NVAR	**Mina Array Bea**	**90.58**	**333**	P	**P**	**12 05 42.4**	**+1.0**	
	comp=Z,0.3nm,0.7s,baz=348,slow=4.3,SNR=2.5							
	comp=Z,0.3nm,0.7s							
TXAR	**Lajitas Array**	**92.74**	**318**	P	**P**	**12 05 51.9**	**+0.6**	
	comp=Z,0.2nm,0.8s,baz=8.7,slow=3.0,SNR=3.0							
	comp=Z,0.2nm,0.8s							
WRA	**Warramunga Arr**	**116.50**	**92**	PKP	**PKPdf**	**12 11 21.4**	**-0.9**	
	comp=Z,0.7nm,0.6s,baz=312,slow=1.9,SNR=10							
ASAR	**Alice Springs**	**118.62**	**95**	PKP	**PKPdf**	**12 11 26.0**	**-0.3**	
	comp=Z,0.7nm,0.4s,baz=321,slow=1.5,SNR=17							
SNAA	**Sanae**	**118.68**	**190**	PKP	**PKPdf**	**12 11 24.3**	**-0.7**	
	comp=Z,0.7nm,1.1s,baz=56,slow=7.8,SNR=1.9							
PLCA	**Paso Flores**	**121.71**	**242**	PKP	**PKPdf**	**12 11 31.3**	**-0.5**	
	comp=Z,0.9nm,0.9s,baz=117,slow=2.3,SNR=0.8							
STKA	**Stephens Creek**	**129.01**	**98**	PKP	**PKPdf**	**12 11 45.6**	**-0.4**	
	comp=Z,1.1nm,0.4s,baz=297,slow=2.3,SNR=3.7							
QSPA	**South Pole Qui**	**135.34**	**180**	PKP	**PKPdf**	**12 11 57.1**	**+0.2**	
	comp=Z,0.7nm,0.8s,baz=284,slow=0.6,SNR=6.2							
VNDA	**Vanda**	**143.43**	**165**	PKhKP	PKPpre	12 12 08.3		
	comp=Z,0.4nm,0.5s,baz=274,slow=1.1,SNR=2.6							

IDC 03 11:54:06.7±15.0, **19°44.S**×**177°.57W, h324**km±127km, **mb3.3/3, mbtmp4.1/4, Error ellipse: s-maj=111.0km s-min=25.9km az=37.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.32**	**193**	P	P	11 58 08.9	0.0
	5.7nm,0.7s,baz=20,slow=12,SNR=6.3						
WRA	**Warramunga Arr**	**45.16**	**261**	P	P	12 01 52.5	+0.1
	0.9nm,0.3s,baz=97,slow=7.4,SNR=56						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**45.16**	**256**	P	P	12 01 52.0	-0.4
	1.8nm,0.5s,baz=96,slow=7.5,SNR=30						
	1.8nm,0.5s						
QSPA	**South Pole Qui**	**70.63**	**180**	P	P	12 04 47.5	+0.1
	0.5nm,0.4s,baz=51,slow=6.4,SNR=6.8						
	0.5nm,0.4s						
AKASG	**Malin Array Be**	**142.27**	**332**	PKP	PKPdf	12 12 59.9	-0.7
	0.8nm,0.4s,baz=43,slow=3.6,SNR=5.5						

*SFS **03** 12:04:51.8, 37°.07N×5°.22W, h8km, ML3.6/19, ML3.5/27, MLv3.3/27*
*IGIL **03** 12:04:51.8, 37°.04N×5°.08W, h19km, ML3.2*
*MDD **03** 12:04:51.5±0.3, 37°.15N×5°.25W, h0km±1km, mb_Lg3.5/37, Error ellipse: s-maj=2.1km s-min=1.4km az=175.0*
*INMG **03** 12:04:52.4±1.6, 37°.09N×5°.24W, h11km±3km, ML3.3, Error ellipse: s-maj=2.7km s-min=2.0km az=169.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
*LDG **03** 12:04:53.7±0.4, 37°.21N×5°.30W, h2km, Ml3.0/2, Error ellipse: s-maj=7.3km s-min=5.4km az=176.0*
*CNRM **03** 12:04:54.2, 36°.87N×5°.57W, h100km, ML2.8*

ISC 03 12:04:50.7±1.0, **37°.12N**±0°.02×**5°.25W**±0°.01, **h12**km±9km, **n112**,σ1°**50**/212, **1C-1D, Spain**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESPR	**Espera**	**0.55**	**244**	Pg	**Pb**	**12 05 02.7**	**+0.5**
ESPR				Sg	**Sb**	**12 05 10.2**	**+0.2**
ESPR				*i* IVmb_Lg		12 05 19.4	
EJIF	**Jimena Fronter**	**0.69**	**195**	Pg	**Pg**	**12 05 03.6**	**-0.5**
EMAL	**Malaga-Limoner**	**0.74**	**118**	Pg	**Pg**	**12 05 03.8**	**-1.3**
EMAL				Sg	**Sg**	**12 05 14.9**	**+0.1**
EGOR	**Sierra Gorda,**	**0.91**	**90**	Pg	**Pg**	**12 05 08.0**	**-0.3**
EGOR	**Sierra Gorda,**	**0.91**	**90**	↓Pg	**Pg**	**12 05 08.0**	**-0.3**
EGOR				Sg	**Sb**	**12 05 21.5**	**+1.0**
EGOR				*i* IVmb_Lg		12 05 26.8	
ECAB	**El Cabril**	**0.97**	**352**	Sg	**Sb**	**12 05 23.9**	**+1.6**
ECAB				Pg	**Pb**	**12 05 10.1**	**0.0**
ECAB	**El Cabril**	**0.97**	**352**	Pg	**Pb**	**12 05 09.9**	**+0.5**
ECAB				Sg	**Sb**	**12 05 23.5**	**+1.3**
ECAB				*i* IVmb_Lg		12 05 26.7	
CNIL	**Conil**	**0.99**	**221**	Pg	**Pb**	**12 05 09.5**	**-0.2**
SFS	**San Fernando**	**1.01**	**230**	Sg	**Sn**	**12 05 24.2**	**-0.5**
EADA	**Adamuz**	**1.18**	**27**	Sn	**Sn**	**12 05 30.3**	**+1.3**
EADA				Pn	**Pn**	**12 05 13.7**	**+0.7**
EADA	**Adamuz**	**1.18**	**27**	Pg	**Pn**	**12 05 13.6**	**+0.6**
EADA				Sg	**Sb**	**12 05 29.7**	**+1.4**
EADA				*i* IVmb_Lg		12 05 31.9	
ARNO	**Arenosillo**	**1.19**	**270**	Pn	**Pn**	**12 05 14.3**	**+1.2**
ARNO				Sn	**Sn**	**12 05 29.0**	**-0.2**
EMIN	**Mina Concepcio**	**1.31**	**300**	Sn	**Sn**	**12 05 34.5**	**+2.3**
EMIN				Pn	**Pn**	**12 05 15.4**	**+0.5**
EMIN	**Mina Concepcio**	**1.31**	**300**	Pn	**Pn**	**12 05 15.3**	**+0.5**
EMIN				Sg	**Sn**	**12 05 33.4**	**+1.2**
EMIN				*i* IVmb_Lg		12 05 36.1	
ELGU	**Los Guajares,**	**1.32**	**100**	Sn	**Sg**	**12 05 32.7**	**-0.5**
ELGU				Pn	**Pn**	**12 05 15.3**	**+0.3**
ELGU	**Los Guajares,**	**1.32**	**100**	Pn	**Pn**	**12 05 15.4**	**+0.4**
ELGU				Sg	**Sn**	**12 05 35.6**	**+3.0**
ELGU				*i* IVmb_Lg		12 05 40.8	
SMIR	**Smir Dam**	**1.43**	**184**	P	**Pn**	**12 05 16.0**	**-0.5**
SMIR	**Smir Dam**	**1.43**	**184**	S	**Sb**	**12 05 34.2**	**-1.3**
EQTA	**Presa de Quent**	**1.44**	**86**	Pn	**Pb**	**12 05 18.2**	**+0.6**
EQUE	**Quentar**	**1.45**	**86**	Pg	**Pb**	**12 05 18.0**	**+0.4**
EQUE				Sg	**Sg**	**12 05 38.9**	**+1.7**
E0803	**Jimena (Jaen)**	**1.58**	**62**	Pn	**Pn**	**12 05 19.4**	**+0.8**
E0803				Sn	**Sn**	**12 05 39.5**	**+0.5**
E0802	**Ubeda,Jaen**	**1.74**	**58**	Pg	**Pg**	**12 05 23.8**	**-0.4**
E0802				Sn	**Sn**	**12 05 43.5**	**+0.6**
E0802				Sg	**Sg**	**12 05 47.2**	**+0.5**
PBAR	**Barrancos**	**1.77**	**307**	Pn	**Pn**	**12 05 21.6**	**+0.4**
PBAR	**Barrancos**	**1.77**	**307**	*e*Pn	**Pn**	**12 05 21.8**	**+0.6**
PBAR				*e*Pg	**Pg**	**12 05 24.9**	**+0.1**
PBAR				*e*Sn	**Sn**	**12 05 43.2**	**-0.5**
PBAR				*e*Sg	**Sg**	**12 05 49.9**	**+2.1**
PBAR				*i* IAML		12 05 51.6	
PBAR				*i* IAML		12 05 52.3	
PBAR				*i* IAML		12 05 52.5	
EGRO	**El Granado**	**1.83**	**284**	Pn	**Pn**	**12 05 22.5**	**+0.5**
EGRO	**El Granado**	**1.83**	**284**	Pn	**Pn**	**12 05 22.3**	**+0.3**
EGRO				Sg	**Sg**	**12 05 49.8**	**+0.1**
EGRO				*i* IVmb_Lg		12 05 53.9	
EQES	**Quesada**	**1.86**	**68**	Pn	**Pn**	**12 05 23.2**	**+0.7**
EQES				Sn	**Sn**	**12 05 46.4**	**+0.4**
EQES				Sg	**Sg**	**12 05 53.1**	**+2.5**
EQES				*i* IVmb_Lg		12 05 55.8	
PVAQ	**Vaqueiros**	**1.99**	**279**	*e*Pn	**Pn**	**12 05 24.7**	**+0.5**
PVAQ				*e*Sn	**Sn**	**12 05 49.2**	**+0.1**
PVAQ				*e*Sg	**Sg**	**12 05 56.5**	**+1.7**
PVAQ				*i* IAML		12 05 59.1	
PVAQ				*i* IAML		12 06 02.4	
PVAQ				*i* IAML		12 06 03.4	
PVAQ	**Vaqueiros**	**1.99**	**279**	P	**Pn**	**12 05 24.7**	**+0.5**
PVAQ	**Vaqueiros**	**1.99**	**279**	S	**Sn**	**12 05 47.8**	**-1.3**
PSIM	**Granatula de C**	**2.07**	**34**	Pn	**Pn**	**12 05 25.9**	**+0.6**
PSIM				Sn	**Sn**	**12 05 51.7**	**+0.6**
PSIM				Sg	**Sb**	**12 05 56.1**	**+2.2**
PBDV	**Barranco-do-Ve**	**2.15**	**274**	Sn	**Sn**	**12 05 52.4**	**-0.6**
PBDV				Pn	**Pn**	**12 05 27.0**	**+0.6**
PBDV	**Barranco-do-Ve**	**2.15**	**274**	*e*Pn	**Pn**	**12 05 27.0**	**+0.6**
PBDV				*e*Sn	**Sn**	**12 05 53.1**	**+0.2**
PBDV				*e*Sg	**Sg**	**12 06 00.6**	**+0.8**
PBDV				*i* IAML		12 06 07.1	
PBDV				*i* IAML		12 06 08.0	
PBDV				*i* IAML		12 06 12.3	
EBAD	**Badajoz**	**2.15**	**320**	Sn	**Sn**	**12 05 53.8**	**+0.8**
EBAD				Pn	**Pn**	**12 05 27.0**	**+0.6**
EBAD	**Badajoz**	**2.15**	**320**	Pn	**Pn**	**12 05 27.0**	**+0.6**
EBAD				Sn	**Sn**	**12 05 53.9**	**+0.8**
EBAD				*i* IVmb_Lg		12 06 04.2	
PALE	**Palemas**	**2.17**	**150**	P	**Pn**	**12 05 27.4**	**+0.8**
PALE	**Palemas**	**2.17**	**150**	S	**Sn**	**12 05 54.9**	**+1.4**
PBEJ	**Beja**	**2.27**	**294**	*e*Pn	**Pn**	**12 05 28.8**	**+0.8**
PBEJ				*e*Sn	**Sn**	**12 05 54.4**	**-1.6**
PBEJ				*e*Sg	**Sg**	**12 06 03.2**	**-0.5**
PBEJ				*i* IAML		12 06 09.9	
PBEJ				*i* IAML		12 06 10.3	
PBEJ				*i* IAML		12 06 10.6	
PCVE	**Castro Verde**	**2.29**	**284**	Pn	**Pn**	**12 05 28.7**	**+0.5**
PCVE	**Castro Verde**	**2.29**	**284**	*e*Pn	**Pn**	**12 05 28.7**	**+0.5**
PCVE				*e*Sg	**Sg**	**12 06 05.3**	**+1.2**
PCVE				*i* IAML		12 06 13.5	
PCVE				*i* IAML		12 06 14.4	
PCVE				*i* IAML		12 06 17.7	
ENIJ	**Nijar**	**2.44**	**92**	Pn	**Pn**	**12 05 31.2**	**+0.9**
MESJ	**Messejana**	**2.48**	**288**	*e*P	**Pn**	**12 05 31.5**	**+0.7**
MESJ				*e*S	**Sn**	**12 06 00.9**	**-0.1**
MESJ				*i* IAML		12 06 02.6	
	comp=N,51nm,0.3s						
MESJ	**Messejana**	**2.48**	**288**	*e*Pn	**Pn**	**12 05 31.5**	**+0.7**
MESJ				*e*Sn	**Sn**	**12 06 01.9**	**+1.0**
MESJ				*e*Sg	**Sg**	**12 06 12.5**	**+2.3**
MESJ				*i* IAML		12 06 15.0	
MESJ				*i* IAML		12 06 18.6	
MESJ				*i* IAML		12 06 22.9	
PAB	**San Pablo**	**2.53**	**16**	Pn	**Pn**	**12 05 33.2**	**+1.6**
PAB				Sn	**Sn**	**12 06 01.5**	**-0.9**
PAB				Sg	**Sg**	**12 06 11.2**	**-0.7**
PAB				*i* IVmb_Lg		12 06 18.7	
PESTR	**Estremoz**	**2.55**	**314**	Pn	**Pn**	**12 05 32.6**	**+0.7**
PESTR				Sn	**Sn**	**12 06 02.9**	**+0.1**
PESTR	**Estremoz**	**2.55**	**314**	*e*Pn	**Pn**	**12 05 32.7**	**+0.9**
PESTR				*e*Pg	**Pg**	**12 05 38.9**	**-0.6**
PESTR				*e*Sn	**Sn**	**12 06 03.1**	**+0.3**
PESTR				*e*Sg	**Sg**	**12 06 11.2**	**-1.4**
PESTR				*i* IAML		12 06 18.1	
PESTR				*i* IAML		12 06 20.3	
PESTR				*i* IAML		12 06 20.9	
PESTR	**Estremoz**	**2.55**	**314**	P	**Pn**	**12 05 33.2**	**+1.3**
PESTR	**Estremoz**	**2.55**	**314**	S	**Sb**	**12 06 05.5**	**-2.2**
EVO	**Evora**	**2.61**	**304**	Pn	**Pn**	**12 05 33.6**	**+1.0**
EVO				Sn	**Sn**	**12 06 05.9**	**+1.7**
EVO	**Evora**	**2.61**	**304**	*e*Pn	**Pn**	**12 05 33.7**	**+1.0**
EVO				*e*Pg	**Pg**	**12 05 41.4**	**+0.7**
EVO				*e*Sn	**Sn**	**12 06 05.1**	**+0.8**
EVO				*e*Sg	**Sg**	**12 06 13.4**	**-1.2**
EVO				*i* IAML		12 06 19.4	
EVO				*i* IAML		12 06 20.6	
EVO				*i* IAML		12 06 21.8	
GOG	**Mont Gurugu**	**2.62**	**135**	P	**Pn**	**12 05 34.7**	**+1.8**
GOG	**Mont Gurugu**	**2.62**	**135**	S	**Sn**	**12 06 08.1**	**+3.4**
MORF	**Marmelete**	**2.73**	**275**	*e*P	**Pn**	**12 05 35.0**	**+0.7**
MORF				*e*S	**Sn**	**12 06 06.8**	**-0.5**
MORF				*i* IAML		12 06 26.7	
	comp=N,163nm,0.3s						
MORF	**Marmelete**	**2.73**	**275**	*e*Pn	**Pn**	**12 05 35.0**	**+0.7**
MORF				*e*Pg	**Pg**	**12 05 42.4**	**-0.6**
MORF				*e*Sn	**Sn**	**12 06 08.2**	**+1.0**
MORF				*e*Sg	**Sg**	**12 06 19.4**	**+1.1**
MORF				*i* IAML		12 06 22.4	
MORF				*i* IAML		12 06 26.8	
MORF				*i* IAML		12 06 27.6	
ESDC	**Sonseca Array**	**2.75**	**21**	Pn	**Pn**	**12 05 36.2**	**+1.7**
ESDC				Sn	**Sn**	**12 06 06.8**	**-1.0**
ESDC				Sg	**Sg**	**12 06 17.5**	**-1.5**
ESDC				*i* IVmb_Lg		12 06 23.8	
ESBB	**Sonseca Array**	**2.75**	**21**	Pn	**Pn**	**12 05 36.3**	**+1.7**
ESBB				Sn	**Sn**	**12 06 06.4**	**-1.4**
ESBB				Sg	**Sg**	**12 06 17.8**	**-1.3**
ESBB				*i* IVmb_Lg		12 06 23.8	
PTEO	**Sao Teotonio**	**2.81**	**280**	*e*Pn	**Pn**	**12 05 36.0**	**+0.7**
PTEO				*e*Pg	**Pg**	**12 05 45.5**	**+1.0**
PTEO				*e*Sn	**Sn**	**12 06 10.6**	**+1.5**
PTEO				*e*Sg	**Sg**	**12 06 22.7**	**+1.9**
PTEO				*i* IAML		12 06 31.8	
PTEO				*i* IAML		12 06 32.8	
PTEO				*i* IAML		12 06 33.0	
AKLM	**AKL**	**2.83**	**156**	P	**Pn**	**12 05 35.1**	**-0.8**
AKLM	**AKL**	**2.83**	**156**	S	**Sn**	**12 06 06.9**	**-3.0**
PMRV	**Marv??o**	**2.86**	**324**	*e*Pn	**Pn**	**12 05 36.8**	**+0.6**
PMRV				*e*Sn	**Sn**	**12 06 10.7**	**+0.1**
PMRV				*e*Sg	**Sg**	**12 06 21.5**	**-1.2**
PMRV				*i* IAML		12 06 29.2	
PMRV				*i* IAML		12 06 30.4	
PMRV				*i* IAML		12 06 32.6	
PFVI	**Vila Bisbo**	**2.86**	**271**	Pn	**Pn**	**12 05 36.5**	**+0.3**
PFVI				Sn	**Sn**	**12 06 10.2**	**-0.3**
PFVI	**Vila Bisbo**	**2.86**	**271**	*e*Pn	**Pn**	**12 05 36.5**	**+0.3**
PFVI				*e*Sn	**Sn**	**12 06 10.4**	**-0.1**
PFVI				*i* IAML		12 06 34.6	
PFVI				*i* IAML		12 06 35.2	
PFVI				*i* IAML		12 06 36.2	
PFVI	**Vila Bisbo**	**2.86**	**271**	P	**Pn**	**12 05 36.4**	**+0.3**
PFVI	**Vila Bisbo**	**2.86**	**271**	S	**Sn**	**12 06 10.7**	**+0.2**
EPLA	**Plasencia**	**3.02**	**348**	Pn	**Pn**	**12 05 38.6**	**+0.3**
EPLA				Sn	**Sn**	**12 06 14.7**	**+0.3**
EPLA				Sg	**Sg**	**12 06 25.0**	**-2.7**
PMTG	**Montargil**	**3.06**	**311**	*e*Pn	**Pn**	**12 05 39.4**	**+0.6**
PMTG				Sn	**Sn**	**12 06 17.0**	**+1.7**
PMTG				*e*Sg	**Sg**	**12 06 26.1**	**-2.8**
PMTG				*i* IAML		12 06 33.7	
PMTG				*i* IAML		12 06 37.1	
PMTG				*i* IAML		12 06 37.5	
PCBR	**Castelo Branco**	**3.24**	**328**	*e*Pn	**Pn**	**12 05 42.0**	**+0.8**
PCBR				*e*Sn	**Sn**	**12 06 20.0**	**+0.2**
PCBR				*e*Sg	**Sg**	**12 06 33.8**	**-0.8**
PCBR				*i* IAML		12 06 38.0	
PCBR				*i* IAML		12 06 39.7	
PCBR				*i* IAML		12 06 41.0	
TAF	**Taforalt**	**3.25**	**134**	P	**Pn**	**12 05 43.4**	**+1.8**
TAF	**Taforalt**	**3.25**	**134**	S	**Sn**	**12 06 22.8**	**+2.7**
EMUR	**La Murta**	**3.27**	**76**	Pn	**Pn**	**12 05 42.3**	**+0.5**
EMUR	**La Murta**	**3.27**	**76**	Pn	**Pn**	**12 05 41.6**	**-0.1**
EMUR				Sn	**Sn**	**12 06 20.3**	**-0.3**
PSARD	**Sardoal**	**3.38**	**318**	*e*Pn	**Pn**	**12 05 44.1**	**+0.8**
PSARD				*e*Pg	**Pg**	**12 05 54.2**	**-1.2**
PSARD				*e*Sn	**Sn**	**12 06 24.0**	**+0.7**
PSARD				*e*Sg	**Sg**	**12 06 38.9**	**-0.3**
PSARD				*i* IAML		12 06 41.4	
PSARD				*i* IAML		12 06 42.2	
PSARD				*i* IAML		12 06 44.3	
CART	**Cartagena**	**3.41**	**81**	Pn	**Pn**	**12 05 43.4**	**-0.3**
CART	**Cartagena**	**3.41**	**81**	S	**Sb**	**12 06 32.6**	**0.0**
PARRA	**Arraiolos**	**3.45**	**301**	*e*Pn	Pn	12 05 35.8	-8.4
PARRA				*e*Sn	Sn	12 06 09.1	-16
PARRA				*e*Sg	Sb	12 06 18.1	-15
PARRA				*i* IAML		12 06 24.5	
PARRA				*i* IAML		12 06 25.6	
PARRA				*i* IAML		12 06 30.2	
GUD	**Guadarrama**	**3.62**	**13**	Pn	**Pn**	**12 05 48.0**	**+1.3**
GUD				Sn	**Sn**	**12 06 27.4**	**-2.1**
GUD				Sg	**Sb**	**12 06 41.7**	**+3.0**
GUD				*i* IVmb_Lg		12 06 49.0	
PMAFR	**Mafra**	**3.68**	**301**	Pn	**Pn**	**12 05 48.5**	**+1.1**
PMAFR				Sn	**Sn**	**12 06 30.6**	**-0.1**
PMAFR	**Mafra**	**3.68**	**301**	*e*Pn	**Pn**	**12 05 48.5**	**+1.1**
PMAFR				*e*Sn	**Sn**	**12 06 31.3**	**+0.6**
PMAFR				*e*Sg	**Sg**	**12 06 49.8**	**+1.0**
PMAFR				*i* IAML		12 06 54.5	
PMAFR				*i* IAML		12 06 57.8	
PMAFR				*i* IAML		12 06 58.3	
MTE	**Manteigas**	**3.74**	**332**	*e*Pn	**Pn**	**12 05 50.8**	**+2.5**
MTE				*e*Sg	**Sg**	**12 06 49.2**	**-1.6**
MTE				*i* IAML		12 06 54.4	
MTE				*i* IAML		12 06 55.2	
MTE				*i* IAML		12 06 56.7	
ZHG	**ZHG**	**3.83**	**198**	P	**Pn**	**12 05 48.8**	**-0.8**
ZHG	**ZHG**	**3.83**	**198**	S	**Sn**	**12 06 32.4**	**-2.2**
PCAS	**Casmilo, Conde**	**3.89**	**320**	*e*Pn	**Pn**	**12 05 51.4**	**+1.1**
PCAS				*e*Sn	**Sn**	**12 06 36.0**	**+0.3**
PCAS				*e*Sg	**Sg**	**12 06 54.7**	**-0.8**
PCAS				*i* IAML		12 06 59.6	
PCAS				*i* IAML		12 07 00.3	
PCAS				*i* IAML		12 07 08.8	
COI	**Coimbra**	**3.96**	**322**	*e*Sg	**Sg**	**12 06 57.2**	**-0.7**
COI				*i* IAML		12 06 59.7	
COI				*i* IAML		12 07 08.8	
COI				*i* IAML		12 07 15.7	
AFON	**Font Roja**	**4.03**	**66**	Pn	**Pn**	**12 05 52.4**	**+0.1**
AFON				Sn	**Sn**	**12 06 40.5**	**+1.0**
AFON				*i* IVmb_Lg		12 07 13.5	
PVIS	**Viseu**	**4.15**	**331**	*e*Pn	**Pn**	**12 05 55.1**	**+1.3**
PVIS				*e*Sn	**Sn**	**12 06 41.8**	**-0.5**
PVIS				*e*Sg	**Sg**	**12 07 01.7**	**-2.2**
ECHE	**Chera**	**4.17**	**52**	Pn	**Pn**	**12 05 55.2**	**+1.0**
MD31	**MD31**	**4.26**	**174**	P	**Pn**	**12 05 54.4**	**-1.0**
MD31	**MD31**	**4.26**	**174**	S	**Sn**	**12 06 41.3**	**-3.8**
MVO	**Moncorvo**	**4.28**	**342**	*e*Pn	**Pn**	**12 05 56.3**	**+0.6**
MVO				*e*Sn	**Sn**	**12 06 44.8**	**-0.6**
MVO				*e*Sg	**Sg**	**12 07 05.7**	**-2.2**
MVO				*i* IAML		12 07 12.8	
MVO				*i* IAML		12 07 12.9	
MVO				*i* IAML		12 07 15.3	
MDT	**Midelt**	**4.32**	**173**	P	**Pn**	**12 05 55.4**	**-0.9**
MDT	**Midelt**	**4.32**	**173**	S	**Sn**	**12 06 43.3**	**-3.4**
ETOR	**Torete**	**4.46**	**33**	Pn	**Pn**	**12 05 59.0**	**+0.9**
ETOR				Sn	**Sn**	**12 06 46.8**	**-3.2**
ETOR				Sg	**Sg**	**12 07 10.6**	**-3.2**
ETOR				*i* IVmb_Lg		12 07 27.9	
POLO	**Lamas de Olo**	**4.69**	**336**	*e*Pn	**Pn**	**12 06 02.5**	**+1.2**
POLO				*e*Sn	**Sn**	**12 06 55.1**	**-0.6**
POLO				*e*Sg	**Sg**	**12 07 19.9**	**-1.4**
POLO				*i* IAML		12 07 23.6	
POLO				*i* IAML		12 07 30.5	
POLO				*i* IAML		12 07 30.7	
PBRG	**Braganca**	**4.83**	**347**	*e*Pn	**Pn**	**12 06 03.9**	**+0.7**
PBRG				*e*Sn	**Sn**	**12 06 57.1**	**-1.9**
PBRG				*e*Sg	**Sg**	**12 07 24.4**	**-1.2**
PBRG				*i* IAML		12 07 29.5	
PBRG				*i* IAML		12 07 29.9	
PBRG				*i* IAML		12 07 30.1	
ECAL	**Calabor**	**4.96**	**347**	Pn	**Pn**	**12 06 05.9**	**+0.9**
ECAL				Sn	**Sn**	**12 07 01.2**	**-1.1**
ECAL	**Calabor**	**4.96**	**347**	Pn	**Pn**	**12 06 05.7**	**+0.7**
ECAL				Sn	**Sn**	**12 07 00.9**	**-1.4**
PCAB	**Cabril**	**5.07**	**336**	*e*Pn	**Pn**	**12 06 07.8**	**+1.3**
PCAB				*e*Sn	**Sn**	**12 07 03.4**	**-1.6**
PCAB				*e*Sg	**Sg**	**12 07 30.3**	**-3.1**
PCAB				*i* IAML		12 07 41.6	
PCAB				*i* IAML		12 07 42.0	
PCAB				*i* IAML		12 07 42.6	
SRHM	**Skhour des Reh**	**5.12**	**206**	P	**Pn**	**12 06 08.3**	**+1.0**
SRHM	**Skhour des Reh**	**5.12**	**206**	S	**Sn**	**12 07 05.9**	**-0.4**
ELOB	**Lobios**	**5.22**	**336**	Pn	**Pn**	**12 06 08.3**	**-0.3**
ELOB				Sn	**Sn**	**12 07 06.1**	**-2.7**
ELOB				*i* IVmb_Lg		12 07 47.1	
EIBI	**Ibiza**	**5.54**	**68**	Pn	**Pn**	**12 06 11.8**	**-1.2**
EARI	**Arriondas**	**6.18**	**0**	Pn	**Pn**	**12 06 22.7**	**+1.0**
EARI				*i* IVmb_Lg		12 10 05.7	
ELAN	**Lanestosa**	**6.26**	**12**	Pn	**Pn**	**12 06 23.4**	**+0.5**
ELAN				Sn	**Sn**	**12 07 31.1**	**-3.4**
ELAN				*i* IVmb_Lg		12 07 51.0	
OUK	**Oukaimeden**	**6.28**	**201**	P	**Pn**	**12 06 20.5**	**-3.0**
OUZM	**OUZ**	**6.32**	**192**	P	**Pn**	**12 06 23.3**	**-0.5**
TIO	**Tiouine**	**6.39**	**196**	Pn	**Pn**	**12 06 22.1**	**-2.7**
TIO				Sn	**Sn**	**12 07 33.1**	**-4.7**
TIO	**Tiouine**	**6.39**	**196**	P	**Pn**	**12 06 22.5**	**-2.4**
TIO	**Tiouine**	**6.39**	**196**	S	**Sn**	**12 07 30.4**	**-7.5**
EALK	**Alkurruntz**	**6.74**	**24**	Pn	**Pn**	**12 06 30.1**	**+0.6**
EALK				Sn	**Sn**	**12 07 43.4**	**-2.7**
SJPF	**Ste Jean**	**6.74**	**26**	*e*Pn	**Pn**	**12 06 31.0**	**+1.6**
SJPF				*e*Sn	**Sn**	**12 07 42.6**	**-3.4**
	comp=N,4.3nm,0.4s						
ETSF	**Etsaut**	**6.80**	**30**	*e*Pn	**Pn**	**12 06 31.3**	**+0.9**
ETSF				*e*Sn	**Sn**	**12 07 44.5**	**-3.3**
	comp=N,1.1nm,0.2s						
EPF	**Esparros**	**7.29**	**34**	*e*Pn	**Pn**	**12 06 38.6**	**+1.5**

*SNET **03** 12:13:06.1±1.3, 12°.87N×88°.52W, h73km, ML4.0*
*CATAC **03** 12:13:07.0±0.3, 13°.N±2°.×8°.9W±°, h39km±5km, M4.0/25, MLv4.0/25, Error ellipse: s-maj=5.6km s-min=1.7km az=28.7, confirmed*
*GCG **03** 12:13:08.2±0.9, 12°.93N×88°.66W, h25km±12km, MD4.1*
*UCR **03** 12:13:12.4±1.1, 12°.48N×88°.47W, h35km±999km, MW3.9*

ISC 03 12:13:08.8±1.2, **12°.88N**±0°.06×**88°.52W**±0°.04, **h45**km±27km, **n98**,σ1°**20**/63, **2D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCY	**Lacayo**	**0.58**	**22**	*e*P	**Pn**	**12 13 20.2**	**-0.7**
PACA	**Pacayal**	**0.62**	**18**	*e*P	**Pn**	**12 13 20.8**	**-0.6**
PACA	**Pacayal**	**0.62**	**18**	P	**Pn**	**12 13 20.8**	**-0.6**
PACA	**Pacayal**	**0.62**	**18**	S	**Sn**	**12 13 31.2**	**+0.7**
BLLM	**Bellamira**	**0.62**	**26**	*i* P	**Pn**	**12 13 20.8**	**-0.6**
CNRM	**Centro Naciona**	**0.68**	**30**	*e*S	**Sn**	**12 13 32.2**	**+0.4**
CNRM	**Centro Naciona**	**0.68**	**30**	P	Pn	12 13 21.3	-0.9
CNRM	**Centro Naciona**	**0.68**	**30**

LAPC	Finca la Perla	3.68	124	*e*P		Pn	12 14 04.0	+0.8
VORI	VORI	3.72	123	*e*P		Pn	12 14 06.8	+2.8
VMAR	Armenia, Volca	3.92	121	*e*P		Pn	12 14 06.8	+0.3
CUI	Cuipilapa	3.96	124	*e*P		Pn	12 14 07.4	+0.3
JUD3	Juan Diaz 3	3.97	132	*e*P		Pn	12 14 05.8	-1.6
INVE	Universidad In	4.14	125	*e*P		Pn	12 14 10.7	+1.1
CMARA	Lajas Hojancha	4.16	133	*e*P		Pn	12 14 09.5	-0.4
JTS	Las Juntas de	4.34	126	*e*P		Pn	12 14 15.0	+2.7
TABAC	Tabacon	4.37	122	*e*P		Pn	12 14 15.8	+3.0
CASO	Castillo	4.43	123	*e*P		Pn	12 14 16.9	+3.3
PAR1A	Puntarenas Pro	5.30	128	⇓*i*P		Pn	12 14 26.7	+1.2
PICV	PH. Pirrs	5.33	127	*e*P		Pn	12 14 26.3	+0.3
LCR2	La Lucha 2	5.41	125	*e*P		Pn	12 14 27.8	+0.6
PIEC	Cerro El Cedra	5.52	125	*e*P		Pn	12 14 29.1	+0.4
BUS1	Rivas	5.73	125	⇓*i*P		Pn	12 14 32.6	+0.8
VERH	Veragua Rainfo	5.99	119	*e*P		Pn	12 14 37.1	+2.1
EDPE	Pejibaye, P	6.10	127	*e*P		Pn	12 14 37.4	+0.9
DRK0	Durika	6.30	124	*e*P		Pn	12 14 39.9	+0.5

AFAD ***03*** *12:13:40.0,38˚.72N×26˚.56E,h28km±3km,MW3.7*
ISK ***03*** *12:13:41.1,38˚.72N×26˚.55E,h10km,ML3.7/41*
THE ***03*** *12:13:41.9,39˚N±1˚×2˚7E±˚,h9km±2km,M3.2/32, ML3.2/32*
ATH ***03*** *12:13:41.7,38˚.72N×26˚.58E,h14km±1km,ML3.3/23, Manual Solution by A.Andreou First location: 2019/09/03 12:15:01, This location: 2019/09/03 12:59:20 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*

ISC 03 12:13:41.8±0.8,38˚.72N±0˚.01×26˚.56E±0˚.01,h13km±5km, n156,σ0.64/198,11C-6D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	0.13	243	P	Pg	12 13 45.1	0.0
KARB				S	Sg	12 13 47.6	+0.1
KARB				*i* IAML		12 13 48.0	
	comp=E,9μm,0.5s						
KARB				*i* IAML		12 13 49.0	
	comp=N,10μm,0.4s						
FOCM	**Foa**	0.14	94	Pg	Pg	12 13 45.0	-0.2
FOCM				Sg	Sg	12 13 47.4	-0.2
EAG2	**Marmaro, Chios**	0.40	243	P	Pb	12 13 50.1	-0.5
EAG2				S	Sg	12 13 55.6	+0.6
CESE	**eme**	0.44	208	Pg	Pg	12 13 50.5	0.0
CESE				Sg	Sg	12 13 56.5	+0.1
ZEDA	**zmir-Bergama**	0.47	59	P	Pg	12 13 50.5	-0.6
ZEDA				S	Sg	12 13 58.0	+0.5
ZEDA				*i* IAML		12 13 58.0	
	comp=N,4μm,0.4s						
ZEDA				*i* IAML		12 13 58.0	
	comp=E,2μm,0.5s						
ZEYE	**Izmir, Urla-Ze**	0.48	185	P	Pg	12 13 50.9	-0.4
ZEYE				S	Sb	12 13 59.9	+0.8
ZEYE				*i* IAML		14 00.0	
	comp=N,6μm,0.3s						
ZEYE				*i* IAML		12 14 04.0	
	comp=E,6μm,0.2s						
BLCB	**Balcova**	0.51	131	Pg	Pg	12 13 51.5	-0.2
BLCB				Sg	Sb	12 13 59.1	-0.7
BLCB	**Balcova**	0.51	131	P	Pg	12 13 51.8	+0.1
BLCB				S	Sg	12 13 58.7	+0.2
CHOS	**Chios island**	0.52	230	Pg	Pg	12 13 51.8	-0.2
CHOS				Sg	Sg	12 13 59.1	+0.2
CHOS	**Chios island**	0.52	230	P	Pb	12 13 52.3	-0.5
CHOS				S	Sg	12 13 59.2	+0.4
CHOS	**Chios island**	0.52	230	P	Pb	12 13 52.3	-0.5
CHOS				S	Sg	12 13 59.2	+0.4
PRK	**Paraskevi**	0.57	337	P	Pg	12 13 52.9	0.0
PRK				S	Sb	12 14 01.2	-0.4
PRK	**Paraskevi**	0.57	337	P	Pg	12 13 52.9	0.0
PRK				S	Sg	12 14 01.1	+0.6
AYVA	**Ayvalik**	0.59	10	P	Pg	12 13 52.7	-0.7
AYVA				S	Sb	12 14 03.8	+1.5
AYVA				*i* IAML		12 14 04.0	
	comp=N,2μm,0.4s						
AYVA				*i* IAML		12 14 08.0	
	comp=E,1μm,0.3s						
GMLD	**Gumuldur**	0.70	156	Pg	Pg	12 13 54.9	-0.5
DGB	**zmir**	0.72	159	P	Pg	12 13 55.2	-0.5
DGB				S	Sb	12 14 05.9	+0.2
DGB				*i* IAML		12 14 08.0	
	comp=N,2μm,0.4s						
DGB				*i* IAML		12 14 09.0	
	comp=E,2μm,0.2s						
SIGR	**SIGRI**	0.73	312	Pg	Pg	12 13 55.7	-0.3
SIGR				Sg	Sb	12 14 06.4	0.0
SIGR	**SIGRI**	0.73	312	P	Pg	12 13 56.0	0.0
SIGR				S	Sb	12 14 06.8	+0.4
SIGR	**SIGRI**	0.73	312	P	Pg	12 13 56.2	+0.2
SIGR				S	Sb	12 14 06.4	0.0
GPNR	**Gulpinar-Canak**	0.80	336	Pg	Pg	12 13 57.1	-0.3
BUHA	**Balikesir, Bur**	0.88	27	P	Pg	12 13 57.1	-1.6
BUHA				*i* IAML		12 14 12.0	
	comp=E,3μm,0.3s						
BUHA				S	Sn	12 14 12.1	-0.3
BUHA				*i* IAML		12 14 15.0	
	comp=N,2μm,0.5s						
SOMA	**Soma-Manisa**	0.88	60	Pg	Pg	12 13 58.6	-0.1
YAYO	**Edremit-Balk**	0.97	24	Pg	Pb	12 13 59.7	-0.8
AKHS	**Akhisar**	0.99	81	P	Pb	12 14 00.8	-0.1
AKHS				S	Sn	12 14 14.5	-0.8
AKHS				*i* IAML		12 14 17.0	
	comp=E,2μm,0.3s						
BAYC	**CANAKKALE_Bayr**	1.02	359	P	Pb	12 13 60.0	-1.3
BAYC				*i* IAML		12 14 15.0	
	comp=N,2μm,0.3s						
BAYC				*i* IAML		12 14 15.0	
	comp=E,2μm,0.4s						
BAYC				S	Sn	12 14 15.5	-0.5
SMG	**Samos**	1.03	168	P	Pb	12 14 01.2	-0.3
SMG				S	Sn	12 14 15.6	-0.7
SMG	**Samos**	1.03	168	P	Pb	12 14 01.2	-0.3
SMG				S	Sg	12 14 15.5	+0.2
EZNE	**Ezine-Canakkal**	1.04	352	Pg	Pb	12 14 01.7	0.0
GOMA	**Golmarmara-Man**	1.06	90	Pg	Pg	12 14 02.1	-0.2
STEP	**BALIKESIR_Sava**	1.11	54	P	Pb	12 14 02.5	-0.4
STEP				S	Sn	12 14 19.3	+0.9
STEP				*i* IAML		12 14 21.0	
	comp=E,2μm,0.3s						
STEP				*i* IAML		12 14 27.0	
	comp=N,2μm,0.7s						
EZN	**Ezine**	1.12	351	Pn	Pn	12 14 03.1	0.0
EZN	**Ezine**	1.12	351	P	Pb	12 14 02.7	-0.2
EZN				S	Sg	12 14 17.7	-0.2
EZN	**Ezine**	1.12	351	⇓P	Pb	12 14 02.5	-0.4
EZN				⇓S	Sg	12 14 17.9	0.0
GCAM	**G?zelcaml?**	1.15	152	Pn	Pn	12 14 03.5	0.0
GCAM	**G?zelcaml?**	1.15	152	P	Pb	12 14 03.3	-0.2
GCAM				S	Sn	12 14 20.2	+1.1
GCAM				*i* IAML		12 14 22.0	
	comp=N,1μm,0.3s						
GCAM				*i* IAML		12 14 25.0	
	comp=E,762nm,0.5s						
BOZC	**Bozcaada**	1.19	341	Pn	Pn	12 14 03.9	-0.1
IZMR	**zmir-demi**	1.24	118	P	Pn	12 14 04.5	-0.3
IZMR				S	Sn	12 14 21.1	-0.2
IZMR				*i* IAML		12 14 24.0	
	comp=E,281nm,0.8s						
IZMR				*i* IAML		12 14 25.0	
	comp=N,274nm,0.4s						
ODEM	**Odemis-Izmir**	1.27	110	Pn	Pg	12 14 05.8	-0.4
GORD	**Gordes-Manisa**	1.28	81	Pn	Pb	12 14 05.9	+0.2
AYDB	**Zeytinkoy-Aydi**	1.30	126	Pn	Pb	12 14 05.9	-0.3
BALY	**Balya**	1.31	39	P	Pn	12 14 05.2	-0.5
BALY				S	Sg	12 14 25.4	+1.4
BALY				*i* IAML		12 14 26.0	
	comp=N,2μm,0.6s						
BALY				*i* IAML		12 14 27.0	
	comp=E,912nm,0.5s						
YENI	**Yenice-Canakka**	1.32	23	Pn	Pb	12 14 06.2	-0.3
CANM	**Can-anakkale**	1.34	16	Pn	Pn	12 14 06.3	+0.1
COMU	**Canakkale**	1.38	357	Pn	Pn	12 14 06.7	0.0
BKES	**Balkesir-Mer**	1.47	46	P	Pn	12 14 07.6	-0.4
BKES				S	Sg	12 14 29.8	+0.7
BKES				*i* IAML		12 14 31.0	
	comp=N,527nm,0.7s						
BKES				*i* IAML		12 14 31.0	
	comp=E,588nm,0.8s						
AYDN	**Tasoluk**	1.48	135	P	Pn	12 14 08.0	-0.2
AYDN				S	Sb	12 14 28.2	+0.1
AYDN				*i* IAML		12 14 32.0	
	comp=N,297nm,0.8s						
AYDN				*i* IAML		12 14 34.0	
	comp=E,557nm,0.5s						
KIRA	**zmir-Kiraz**	1.54	109	P	Pb	12 14 09.5	-0.7
KIRA				S	Sg	12 14 32.3	+1.0
KIRA				*i* IAML		12 14 33.0	
	comp=N,450nm,0.2s						
KIRA				*i* IAML		12 14 33.0	
	comp=E,379nm,0.5s						
GADA	**Gvkgeada**	1.55	341	Pn	Pb	12 14 10.0	-0.4
GADA	**Gvkgeada**	1.55	341	P	Pn	12 14 09.2	+0.1
GADA				S	Sg	12 14 31.2	-0.6
NAZL	**Nazilli-Aydin**	1.56	118	Pn	Pb	12 14 09.8	-0.7
SKY	**Skiros Island**	1.58	276	S	Sb	12 14 31.1	+0.5
MANT	**Manisa**	1.58	98	P	Pb	12 14 10.4	-0.6
MANT				S	Sg	12 14 32.0	-0.8
MANT				*i* IAML		12 14 34.0	
	comp=N,294nm,0.6s						
MANT				*i* IAML		12 14 34.0	
	comp=E,282nm,0.3s						
GONE	**Gonen-Balikesi**	1.58	33	Pn	Pn	12 14 09.8	+0.3
LIA	**Limnos Island**	1.59	318	P	Pn	12 14 09.5	0.0
LIA				S	Sg	12 14 32.0	-0.8
LIA	**Limnos Island**	1.59	318	P	Pn	12 14 09.3	-0.3
LIA				S	Sn	12 14 30.0	+0.1
BLKS	**Balkesir-Sus**	1.59	43	P	Pn	12 14 08.6	-1.0
BLKS				S	Sg	12 14 32.4	-0.5
BLKS				*i* IAML		12 14 36.0	
	comp=N,376nm,0.9s						
BLKS				*i* IAML		12 14 36.0	
	comp=E,350nm,0.7s						
KULA	**Kula-Manisa**	1.66	97	Pn	Pb	12 14 11.4	-0.8
GELI	**Tayfur-Gelibol**	1.68	358	Pn	Pn	12 14 11.1	+0.3
ESEN	**Aydn-Nazilli**	1.68	123	P	Pn	12 14 10.5	-0.4
ESEN				S	Sn	12 14 31.7	-0.6
DEMI	**Demirci**	1.71	79	P	Pb	12 14 12.3	-0.8
DEMI				S	Sb	12 14 34.6	-0.1
DEMI				*i* IAML		12 14 40.0	
	comp=E,326nm,0.3s						
DEMI				*i* IAML		12 14 45.0	
	comp=N,221nm,0.5s						
DURS	**Dursunbey**	1.73	59	P	Pn	12 14 11.3	-0.3
DURS				S	Sb	12 14 34.7	-0.4
DURS				*i* IAML		12 14 39.0	
	comp=E,468nm,0.3s						
DURS				*i* IAML		12 14 41.0	
	comp=N,414nm,0.4s						
KRBG	**Karabiga-Canak**	1.76	19	Pn	Pn	12 14 11.8	-0.2
KARY	**Karystos**	1.80	248	P	Pn	12 14 12.2	-0.3
KARY				S	Sb	12 14 36.4	-0.7
KARY	**Karystos**	1.80	248	P	Pn	12 14 12.2	-0.3
DST	**Dursunbey**	1.83	61	Pn	Pn	12 14 13.9	+1.0
EDC	**Edincik**	1.91	31	Pn	Pn	12 14 14.2	+0.2
SMTH	**Samothraki Isl**	1.92	336	P	Pn	12 14 14.0	-0.1
SMTH	**Samothraki Isl**	1.92	336	P	Pn	12 14 14.8	+0.7
USAK	**Uak-Merkez**	1.92	89	P	Pn	12 14 15.3	+1.0
KYMI	**Kymi, Euboea I**	1.93	268	P	Pn	12 14 13.8	-0.5
KYMI	**Kymi, Euboea I**	1.93	268	P	Pn	12 14 14.0	-0.2
ERIK	**Erikli-Kesan**	1.95	359	Pn	Pn	12 14 14.7	+0.2
CAVK	**Edirne/Enez-Ca**	1.99	351	⇑P	Pn	12 14 16.2	+1.1
BAND	**Balkesir-Dan**	2.02	36	⇑P	Pn	12 14 15.6	0.0
AOS	**Atomnisos**	2.14	283	P	Pn	12 14 17.3	+0.2
DAT	**Datca**	2.15	158	Pn	Pn	12 14 17.8	+0.4
DION	**Dionisos Attik**	2.16	254	P	Pn	12 14 16.8	-0.7
DION	**Dionisos Attik**	2.16	254	P	Pn	12 14 17.1	-0.4
ALN	**Alexandroupoli**	2.21	350	Pn	Pn	12 14 19.1	+1.0
ALN	**Alexandroupoli**	2.21	350	P	Pn	12 14 18.4	+0.3
ALN	**Alexandroupoli**	2.21	350	P	Pn	12 14 18.7	+0.6
ALN				S	Sn	12 14 45.7	+0.5
PTL	**Penteli**	2.22	253	P	Pn	12 14 18.5	+0.2
ORLT	**Orhaneli**	2.24	53	Pn	Pn	12 14 19.9	+1.3
GEDZ	**Gediz**	2.25	81	Pn	Pn	12 14 19.9	+1.2
FILI	**Fyli**	2.34	256	P	Pn	12 14 19.9	-0.1
VLY	**Voula,Athens**	2.34	249	P	Pn	12 14 19.7	-0.2
THAS	**Thassos island**	2.36	324	P	Pn	12 14 19.8	-0.3
THAS	**Thassos island**	2.36	324	P	Pn	12 14 19.9	-0.2
TURN	**Turunc**	2.36	145	Pn	Pn	12 14 20.2	+0.1
TVSB	**Tavsanli**	2.37	71	Pn	Pn	12 14 21.8	+1.3
UKOP	**Ukopmkopru-Edir**	2.41	1	Pn	Pn	12 14 21.4	+0.8
STFN	**Stefani**	2.43	258	P	Pn	12 14 21.1	-0.1
STFN	**Stefani**	2.43	258	P	Pn	12 14 21.5	+0.3
MDNY	**Mudanya-Bursa**	2.44	47	Pn	Pn	12 14 22.4	+1.2
APMY	**Acipayam-Deniz**	2.50	119	Pn	Pn	12 14 23.3	+1.1
THERA	**Ancient Thera,**	2.50	200	P	Pn	12 14 21.9	-0.2
RDO	**Rodhopi**	2.54	342	Pn	Pn	12 14 23.5	+0.8
RDO	**Rodhopi**	2.54	342	P	Pn	12 14 23.3	+0.5
RDO	**Rodhopi**	2.54	342	P	Pn	12 14 23.2	+0.5
ARMT	**Armutlu**	2.56	43	Pn	Pn	12 14 24.2	+1.2
OUR	**Ouranopolis**	2.56	310	P	Pn	12 14 23.3	+0.3
OUR	**Ouranopolis**	2.56	310	P	Pn	12 14 23.1	+0.2
VILL	**Villia**	2.61	259	P	Pn	12 14 23.4	-0.2
VIL2	**Platees**	2.63	260	P	Pn	12 14 23.8	-0.2
MHLO	**Agia Marina, M**	2.65	221	P	Pn	12 14 25.1	+0.9
MET5	**Makryloggos,Me**	2.75	247	P	Pn	12 14 26.9	+1.3
KAVA	**Kavala**	2.76	326	P	Pn	12 14 25.5	-0.3
MET6	**Megalochori,Me**	2.77	247	P	Pn	12 14 25.6	+0.1
ATAL	**Atalanti**	2.77	270	P	Pn	12 14 25.7	-0.1
ATAL	**Atalanti**	2.77	270	P	Pn	12 14 25.9	+0.1
MET2	**Kameni Chora,**	2.77	247	P	Pn	12 14 25.7	-0.2
LKR	**Lokris**	2.79	270	P	Pn	12 14 25.6	-0.5
ARG	**Arkhangelos**	2.79	153	Pn	Pn	12 14 26.6	+0.4
ARG	**Arkhangelos**	2.79	153	P	Pn	12 14 26.6	+0.4
CAME	**Cameli-Denizli**	2.81	128	Pn	Pn	12 14 27.8	+1.3
YLV	**Yalova**	2.85	49	Pn	Pn	12 14 28.5	+1.5
LTK	**Loutraki**	2.91	257	P	Pn	12 14 28.4	+0.6
ADVT	**Abdulvahap**	2.99	54	Pn	Pn	12 14 30.5	+1.6
KDZ	**Kurdzhali**	3.05	343	P	Pn	12 14 30.1	+0.4
CTYL	**Yalikoy Yolu**	3.05	25	⇑P	Pn	12 14 30.3	+0.6
KARP	**Karpathos**	3.21	171	P	Pn	12 14 31.5	-0.4
KARP	**Karpathos**	3.21	171	P	Pn	12 14 31.8	-0.1
HORT	**Hortiatis**	3.26	306	P	Pn	12 14 33.1	+0.5
RZN	**Rozhen**	3.28	335	P	Pn	12 14 33.6	+0.6
SRS	**Serrai**	3.31	317	P	Pn	12 14 33.2	0.0
KORT	**Korkueli**	3.46	119	Pn	Pn	12 14 36.9	+1.5
VLI	**Veliai**	3.50	236	P	Pn	12 14 35.4	-0.4
VLI	**Veliai**	3.50	236	P	Pn	12 14 35.9	0.0
KLV	**Kalavryta, Ach**	3.53	260	P	Pn	12 14 36.4	+0.1
KLV	**Kalavryta, Ach**	3.53	260	P	Pn	12 14 36.7	+0.4
MMB	**Musomishta**	3.55	324	P	Pn	12 14 37.1	+0.5
THL	**Klokotos Trika**	3.63	285	P	Pn	12 14 38.4	+0.8
THL	**Klokotos Trika**	3.63	285	P	Pn	12 14 38.3	+0.6
ANX	**Ano Chora**	3.63	269	P	Pn	12 14 38.6	+0.8
ANX	**Ano Chora**	3.63	269	P	Pn	12 14 38.6	+0.8
IDI	**Anoyia**	3.68	202	P	Pn	12 14 37.7	-0.7
IDI	**Anoyia**	3.68	202	P	Pn	12 14 37.7	-0.7
ANKY	**Antikythira Is**	3.86	223	P	Pn	12 14 41.0	+0.2
ANKY	**Antikythira Is**	3.86	223	P	Pn	12 14 42.3	+1.5
DRO	**Drossia**	3.89	260	P	Pn	12 14 42.2	+0.9
DRO	**Drossia**	3.89	260	P	Pn	12 14 42.1	+0.9
ITM	**Ithomi**	3.97	249	P	Pn	12 14 43.5	+1.1
ITM	**Ithomi**	3.97	249	P	Pn	12 14 43.5	+1.1
TETR	**Tetrakomo, Epi**	4.16	280	P	Pn	12 14 45.9	+0.9
ELND	**Elena**	4.23	353	⇑P	Pn	12 14 47.0	+1.0
LOZB	**Loznitsa**	4.64	0	⇑P	Pn	12 14 51.8	+0.2
PLVB	**Pleven**	4.88	343	⇑P	Pn	12 14 55.1	+0.3
HARR	**Harsova**	6.05	9	⇑P	Pn	12 15 11.5	+0.7
BOVS	**Bovan**	6.12	325	⇑P	Pn	12 15 13.1	+1.2
TPGR	**Topolog**	6.29	12	⇑P	Pn	12 15 13.9	-0.2
MLR	**Muntele Rosu**	6.78	356	⇑P	Pn	12 15 21.6	+0.6
MDVR	**Moldovita**	7.05	331	⇓P	Pn	12 15 25.6	+0.9
PLOR	**Plostina**	7.12	1	⇓P	Pn	12 15 25.4	-0.3
GZR	**Gura Zlata**	7.24	338	⇓P	Pn	12 15 27.4	+0.1
BZS	**Buzias**	7.80	334	⇓P	Pn	12 15 35.0	0.0
MARR	**Marisel-Cluj**	8.34	343	⇓P	Pn	12 15 43.4	+1.0

IDC ***03*** *12:32:59.8±0.9,30˚.31S×177˚.98W,h0km,mb3.9/6, mbtmp3.9/6,Error ellipse: s-maj=27.4km s-min=16.9km az=101.0*

ISC 03 12:33:05.9±0.8,30˚.31S±0˚.09×178˚.1W±0˚.2,h46km,n14, σ1.63/12,mb3.9/6,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	1.07	8	Pn	Pn	12 33 23.7	-0.7
	113nm,0.3s,baz=252,slow=20,SNR=7.7						
RAO				Sn	Sn	12 33 36.6	-1.5
	694nm,0.3s,baz=107,slow=20,SNR=15						
URZ	**Urewera**	8.87	205	Pn	Pn	12 35 06.4	-4.9
	0.2nm,0.3s,baz=58,slow=19,SNR=6.6						
URZ				Sn	Sn	12 36 46.2	-3.7
	1.4nm,0.3s,baz=30,slow=15,SNR=14						
STKA	**Stephens Creek**	34.43	257	P	P	12 39 50.3	+1.3
	4.2nm,0.7s,baz=89,slow=9.0,SNR=10						
	4.2nm,0.7s						
ASAR	**Alice Springs**	43.04	267	P	P	12 41 02.1	+0.8
	0.7nm,0.5s,baz=107,slow=7.2,SNR=17						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	44.02	272	P	P	12 41 09.8	+0.6
	1.7nm,0.4s,baz=111,slow=8.1,SNR=31						
	1.7nm,0.4s						
QSPA	**South Pole Qui**	59.80	180	P	P	12 43 08.2	+2.1
	1.2nm,0.8s,baz=34,slow=3.6,SNR=7.7						
	1.2nm,0.8s						
SNAA	**Sanae**	78.24	178	P	P	12 44 60.0	-0.4
	0.2nm,0.3s,baz=218,slow=17,SNR=1.2						
	0.2nm,0.3s						
H03S2	**Juan Fernandez**	80.57	124	T	T	14 14 21.2	
	baz=238,slow=74,SNR=13						
H03S1	**Juan Fernandez**	80.58	124	T	T	14 14 26.2	
	baz=238,slow=74,SNR=12						
H03S3	**Juan Fernandez**	80.59	124	T	T	14 14 25.7	
	baz=238,slow=74,SNR=16						
NVAR	**Mina Array Bea**	88.22	43	P	P	12 45 52.6	+0.3
	0.2nm,0.5s,baz=245,slow=5.2,SNR=2.4						
	0.2nm,0.5s						
FINES	**FINESS Array B**	145.04	340	PKPbc	PKPbc	12 52 36.2	-0.6
	2.8nm,0.6s,baz=34,slow=3.6,SNR=13						
AKASG	**Malin Array Be**	151.19	323	PKPbc	PKPbc	12 52 53.3	-0.4
	0.4nm,0.3s,baz=49,slow=3.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	162.92	179	PKPab	PKPab	12 53 52.7	-0.2
	0.2nm,0.5s,baz=186,slow=2.2,SNR=2.0						

MOS ***03*** *12:34:30.2±0.9,36˚.47N×70˚.75E,h207km,mb4.9/35,Error ellipse: s-maj=5.0km s-min=3.2km az=83.7*
BJI ***03*** *12:34:30.2,36˚.58N×70˚.70E,h200km,mB5.0/20,mb5.0/68*
NEIC ***03*** *12:34:31.6±1.6,36˚.45N±0˚.05×70˚.65E±0˚.07,h202km±5km, mb5.0/197,Mww4.8/19,Error ellipse: s-maj=8.4km s-min=7.5km az=110.0*
IDC ***03*** *12:34:32.3±0.5,36˚.38N×70˚.79E,h214km±4km,mb4.3/38, mbtmp4.9/43,Error ellipse: s-maj=7.8km s-min=5.8km az=15.0*
GCMT ***03*** *12:34:34.6±0.3,36˚.43N±0˚.02×70˚.57E±0˚.03,h200km±3km, MW4.9/79,Moment Tensor Solution. s13,c15; s79,c104; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.90±.10; Mθθ-1.33±.11; Mϕϕ-0.56±.11; Mrθ0.75±.09; Mrϕ1.20±.10; Mθr-1.48±.09; Best double couple: Mo2.65300×10¹⁶ NP1:ϕs288.00000°,δ30.00000°,λ.58.00000°. NP2: ϕs143.00000°,δ65.00000°,λ.107.00000°. Principal axes: T 2.6020, Plg66.0000°, Azm83.0000°; N 0.1050, Plg15.0000°, Azm316.0000°; P -2.7040, Plg18.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NNC ***03*** *12:34:35.3±4.6,36˚.88N×70˚.67E,h213km±51km,mb4.5, mpv6.1 Error ellipse: s-maj=42.2km s-min=23.4km az=6.0*

ISC 03 12:34:30.6±0.3,36.36N±0˚.03×70.79E±0.03,h202km±2km, h202km:pP-P,n903,σ1936/974,mb5.0/222,20C-18D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	2.31	219		Pn	12 35 13.5	+0.7
KBL				Sn	S	12 35 45.3	+0.4
KBL	**Kabul**	2.31	219	PN	Pn	12 35 13.5	+0.7
KBL						12 35 45.3	
CHGR	**Chuyangaron**	2.63	331		Pn	12 35 15.4	-0.7
CHGR	**Chuyangaron**	2.63	331	PN	Pn	12 35 15.4	-0.7
GAR	**Garm**	2.66	352		Pn	12 35 16.1	-0.4
SIMJ	**Simiganj**	2.69	329		Pn	12 35 16.1	-0.8
NIL	**Nilore**	3.38	142		Pn	12 35 28.0	+3.1
NIL	**Nilore**	3.38	142	PN	Pn	12 35 28.0	+3.1
SRNI	**Srinagar**	4.02	123	*e*P	Pn	12 35 29.8	-2.9
SRNI				*e*S	S	12 36 15.8	-5.0
SRNI				IAML		12 36 24.0	
	comp=N,5μm,0.6s						
SRNI				IAML		12 36 27.0	
	comp=E,5μm,0.5s						
JMU	**Jammu**	4.97	136	*e*P	Pn	12 35 40.6	-4.1
JMU				*e*S	S	12 36 34.5	-8.2
JMU				IAML		12 36 45.2	
	comp=N,1μm,0.4s						
JMU				IAML		12 36 45.7	
	comp=E,1μm,0.7s						
TRKS	**Terek-Say**	5.17	3	PN	Pn	12 35 46.0	-1.3
TRKS				pmax	pmax		
	comp=Z,68nm,0.9s						
KSH	**Kashi**	5.17	51	P	Pn	12 35 43.1	-4.2
KSH				S	S	12 36 35.9	-12
ARSB	**Arslanbob**	5.24	18	Pn	Pn	12 35 47.8	-0.5

SMLA IAML 12 37 43.7
comp=N,595nm,0.5s
USP Ospenovka 7.46 21 P **Pn** 12 36 16.1 -0.7
SNR=41
TKM2 Tokmak 2 7.53 28 P **Pn** 12 36 17.5 -0.3
SNR=1921
KDJ Kajisay 7.60 39 Pn **Pn** 12 36 18.4 -0.3
KDJ Kajisay 7.60 39 PN **Pn** 12 36 18.4 -0.3
TARG Taragay, Kyrgy 7.65 43 P **Pn** 12 36 19.4 -0.2
TARG Taragay, Kyrgy 7.65 43 PN **Pn** 12 36 19.4 -0.2
SGDS Sogindy 7.67 21 ⇓*i*P **Pn** 12 36 18.1 -1.4
KLP Kalpa 7.85 126 *e*P **Pn** 12 36 19.1 -3.2
KLP *e*S S 12 37 41.7 -9.2
KLP IAML 12 37 49.5
comp=E,1μm,0.6s
KLP IAML 12 37 50.5
comp=N,866nm,0.6s
TNSS Tian-Shan 8.18 34 *e*P **Pn** 12 36 25.6 -1.0
TNSS Tian-Shan 8.18 34 *e*PN **Pn** 12 36 25.5 -1.0
AAA Alma-Ata 8.31 33 *e*P **Pn** 12 36 27.7 -0.1
AAA Alma-Ata 8.31 33 *e*PN **Pn** 12 36 28.6 +0.8
MDOK Medeo 8.33 33 *e*P **Pn** 12 36 27.7 -0.5
MDOK *e*S **S** 12 38 00.8 -1.1
MDOK Medeo 8.33 33 *e*PN **Pn** 12 36 27.7 -0.5
MDOK *e*S **S** 12 38 00.8 -1.1
KNDC Almaty 8.34 33 ⇓P **Pn** 12 36 28.5 +0.3
comp=N,1μm,0.6s
KNDC ⇑S **S** 12 38 00.5 -1.5
comp=N,314nm,1.0s
KNDC Almaty 8.34 33 PN **Pn** 12 36 28.4 +0.3
PRZ Przheval'sk 8.49 42 Pn **Pn** 12 36 30.9 +0.6
PRZ Przheval'sk 8.49 42 PN **Pn** 12 36 30.9 +0.6
BKNR BIKANER 8.58 165 *e*P Pn 12 36 26.4 -5.0
BKNR *e*S S 12 37 53.9 -14
BKNR IAML 12 38 06.2
comp=N,2μm,1.1s
BKNR IAML 12 38 06.8
comp=E,2μm,0.8s
KUU Kurty 8.64 28 *e*P **Pn** 12 36 31.7 -0.4
KUU Kurty 8.64 28 *e*PN **Pn** 12 36 31.7 -0.4
CHKK Chushkaly 8.86 30 *e*P **Pn** 12 36 34.0 -1.0
CHKK Chushkaly 8.86 30 *e*PN **Pn** 12 36 33.9 -1.0
SATY Saty 8.90 39 ⇓*i*P **Pn** 12 36 34.5 -1.1
SATY *e*S **S** 12 38 13.6 -2.0
SATY Saty 8.90 39 *d i*PN **Pn** 12 36 34.4 -1.1
SATY *e*S **S** 12 38 13.5 -2.0
BTLS Baital 9.02 15 ⇓*i*P **Pn** 12 36 35.9 -1.1
BTLS Baital 9.02 15 *d i*PN **Pn** 12 36 35.8 -1.1
UZB Uzynbulak 9.28 41 ⇓*i*P **Pn** 12 36 39.6 -0.9
UZB Uzynbulak 9.28 41 *d i*P **Pn** 12 36 39.6 -0.9
ARXS Arharly 9.51 32 *e*P **Pn** 12 36 41.9 -1.5
SHLS Shalkode 9.52 42 *e*P **Pn** 12 36 45.8 +2.1
SHLS Shalkode 9.52 42 *e*P **Pn** 12 36 45.7 +2.1
PDGK Podgornoye 9.65 41 ⇓P **Pn** 12 36 43.9 -1.4
comp=E,115nm,0.8s
PDGK ⇑S **S** 12 38 28.6 -4.9
comp=E,208nm,1.1s
PDGK Podgornoye 9.65 41 P **Pn** 12 36 43.9 -1.4
TDK Taldyqorghan 10.39 31 *e*P **Pn** 12 36 53.6 -1.2
TDK Taldyqorghan 10.39 31 *e*P **Pn** 12 36 53.5 -1.2
UDPR Udaipur 12.01 167 *e*P **Pn** 12 37 14.0 -1.6
UDPR *e*S S 12 39 16.7 -13
UDPR IAML 12 39 28.5
comp=N,122nm,0.5s
UDPR IAML 12 39 29.3
comp=E,302nm,0.9s
MAKZ Makanchi 13.37 35 Pn **Pn** 12 37 32.5 0.0
MAKZ Makanchi 13.37 35 P **Pn** 12 37 32.5 0.0
MK31 Makanchi Array 13.50 36 P **Pn** 12 37 33.0 -1.3
comp=E,46nm,0.6s,baz=201,slow=9.4,SNR=250
MK31 Makanchi Array 13.50 36 *i*P **Pn** 12 37 32.9 -1.3
MK31 pmax pmax
comp=Z,46nm,0.6s
MKAR Makanchi Array 13.50 36 **Pn** 12 37 33.5 -0.7
MKAR Makanchi Array 13.50 36 P **Pn** 12 37 34.1 -0.1
comp=Z,37nm,0.6s,baz=230,slow=7.5,SNR=98
MKAR S **S** 12 40 00.7 -3.7
comp=Z,1.9nm,0.6s,baz=248,slow=14,SNR=1.3
MKAR ScP **ScP** 12 45 56.7 -2.0
comp=Z,2.9nm,0.8s,baz=270,slow=2.1,SNR=4.3
MKAR Makanchi Array 13.50 36 *i*P **Pn** 12 37 32.9 -1.3
MKAR pmax pmax
comp=Z,25nm,0.7s
BRZS Berezniki 13.68 5 *e*P **Pn** 12 37 35.4 -1.0
BRZS Berezniki 13.68 5 *e*P **Pn** 12 37 35.4 -1.0
WMQ Urumqi 14.92 55 *e*P **P** 12 37 53.7 +1.3
WMQ sP Pn 12 38 47.0 +55
WMQ S **S** 12 40 35.3 -1.9
WMQ pmax pmax
comp=Z,40nm,0.7s
WMQ pmax pmax
comp=Z,200nm,3.7s
AB31 Akbulak array 15.12 332 **Pn** 12 37 52.6 -1.5
AB31 Akbulak array 15.12 332 P **Pn** 12 37 52.2 -1.8
comp=Z,16nm,0.6s,baz=142,slow=10,SNR=258
AB31 Akbulak array 15.12 332 *e*P **Pn** 12 37 52.2 -1.8
ABKAR Akbulak array 15.12 332 **Pn** 12 37 52.6 -1.5
ZSN Zaisan 15.23 39 *e*P **Pn** 12 37 54.6 -0.8
ZSN Zaisan 15.23 39 *e*P **Pn** 12 37 54.6 -0.8
KURBB Kurchatov Arra 15.31 19 ⇓P **Pn** 12 37 53.7 -2.6
comp=Z,35nm,0.5s
KURBB Kurchatov Arra 15.31 19 P **Pn** 12 37 55.1 -1.1
comp=Z,34nm,0.6s,baz=208,slow=11,SNR=88
KURBB S **S** 12 40 43.4 -2.6
comp=Z,19nm,1.0s,baz=200,slow=19,SNR=7.2
KURBB PKiKP **PKiKP** 12 50 40.0 -1.2
comp=Z,0.6nm,0.4s,baz=221,slow=1.1,SNR=4.5
KURBB Kurchatov Arra 15.31 19 P **Pn** 12 37 53.6 -2.6
KURK Kurchatov 15.42 19 **Pn** 12 37 55.9 -1.7
KURK Kurchatov 15.42 19 P **Pn** 12 37 55.2 -2.4
BANOM Banah 16.17 234 P **Pn** 12 38 06.7 -0.3
BANOM Banah 16.17 234 *i*P **P** 12 38 06.5 +0.1
SNR=34
SHME Shamm 16.19 235 P **Pn** 12 38 07.3 +0.2
SNR=6.3
SHME Shamm 16.19 235 *i*P **P** 12 38 06.5 0.0
SNR=38
MDH Madha 16.60 232 P **P** 12 38 10.7 -0.4
SNR=8.6
MDH Madha 16.60 232 *i*P **P** 12 38 10.3 -0.8
SNR=22
MASF Masafi 16.64 233 P **Pn** 12 38 12.6 0.0
SNR=12
MSFE Esma-Masafi 16.65 233 *i*P **P** 12 38 11.9 +0.3
SNR=46
BVA0 Borovoye Array 16.66 359 ⇑P **P** 12 38 11.5 0.0
comp=Z,21nm,0.6s
BVA0 Borovoye Array 16.66 359 P **P** 12 38 11.5 0.0
BVAR Borovoye Array 16.66 359 P **Pn** 12 38 12.0 -0.6
comp=Z,22nm,0.4s,baz=163,slow=12,SNR=68
BVAR S **S** 12 41 10.3 -4.8
comp=Z,16nm,0.9s,baz=164,slow=17,SNR=5.4
BVAR ScP **ScP** 12 46 02.5 -1.8
comp=Z,6.4nm,1.1s,baz=180,slow=1.4,SNR=2.7
BVAR Borovoye Array 16.66 359 P **Pn** 12 38 12.0 -0.6
WSAR Wadi Sarin 16.78 222 P **Pn** 12 38 15.1 +0.9
comp=Z,0.7nm,0.8s,baz=52,slow=20,SNR=57
WSAR Wadi Sarin 16.78 222 P **Pn** 12 38 15.4 +1.2
SNR=10
AKTO Aktyubinsk 16.82 331 ⇑P **P** 12 38 13.4 +0.2
comp=Z,28nm,0.9s
AKTO Aktyubinsk 16.82 331 P **Pn** 12 38 13.8 -0.6
comp=Z,28nm,0.4s,baz=141,slow=8.3,SNR=69
AKTO S **S** 12 41 17.7 -0.5
comp=Z,24nm,0.9s,baz=139,slow=6.2,SNR=4.3
BIDO Bidbid 16.83 224 P **Pn** 12 38 15.5 +0.6
UMQ Umm Al-Quwin 16.86 234 P **Pn** 12 38 17.1 +1.9
SNR=5.4
UMQ Umm Al-Quwin 16.86 234 *i*P **Pn** 12 38 15.9 +0.7
SNR=5.5
UOSS Minazif 16.91 232 **P** 12 38 13.9 -0.6
UOSS Minazif 16.91 232 P **P** 12 38 15.1 +0.6
UOSS Minazif 16.91 232 *i*P **P** 12 38 13.7 -0.8
SNR=8.2
HATD Hatta, Dubai 17.05 232 P **P** 12 38 16.2 +0.3
SNR=14
HATD Hatta, Dubai 17.05 232 *i*P **P** 12 38 15.8 -0.2
SNR=41
WBK Wadi Bani Khal 17.11 220 P **Pn** 12 38 19.8 +1.6
SNR=9.6
ASHO Ashiyiah 17.19 231 P **Pn** 12 38 18.7 -0.4
SNR=38
ASHO Ashiyiah 17.19 231 *i*P **Pn** 12 38 19.0 -0.2
SNR=98
NAZ Nazwa, Dubai 17.23 233 P **Pn** 12 38 19.0 -0.5
SNR=22
NAZ Nazwa, Dubai 17.23 233 *i*P **Pn** 12 38 19.0 -0.5
SNR=47
SMDO Samad 17.24 223 P **Pn** 12 38 19.9 +0.1
SNR=9.0
HOQ Hoqain 17.25 226 P **Pn** 12 38 19.2 -0.6
SNR=6.9
JLN Jalan Bani Buh 17.27 218 P **Pn** 12 38 21.0 +1.0
SNR=13
JLN S **S** 12 41 25.9 -1.8
SOHO SOHO 17.30 229 *i*P **P** 12 38 19.2 +0.5
SNR=11
FAQ Al Faqa, Dubai 17.45 233 P **P** 12 38 21.1 +0.7
SNR=12
FAQ Al Faqa, Dubai 17.45 233 *i*P **P** 12 38 21.0 +0.7
SNR=6.9
LKRN Lenkeran, Azer 17.61 284 P **Pn** 12 38 23.6 -0.2
ASUD Al Ashush, Dub 17.70 233 P **Pn** 12 38 24.5 -0.6
SNR=9.2
ASUD Al Ashush, Dub 17.70 233 *i*P **Pn** 12 38 24.4 -0.6
SNR=17
JMDO Jabal Madar 17.77 222 P **Pn** 12 38 26.0 +0.1
SNR=8.5
ALNE Al Ain 17.84 231 P **Pn** 12 38 25.8 -0.9
SNR=27
ALNE Al Ain 17.84 231 *i*P **P** 12 38 25.6 +1.0
SNR=51
ARQ Araqi 17.90 227 P **Pn** 12 38 27.0 -0.5
SNR=31
AJN Ajban 17.97 233 P **P** 12 38 26.7 +0.7
SNR=20
AJN Ajban 17.97 233 *i*P **P** 12 38 26.5 +0.6
SNR=10
LSA Lhasa 18.31 105 **Pn** 12 38 33.1 +0.5
LSA Lhasa 18.31 105 P **Pn** 12 38 32.4 -0.2
LSA pmax pmax
comp=Z,100nm,0.9s
LSA Lhasa 18.31 105 *i*P **Pn** 12 38 33.6 +0.9
SNR=24
LSA Lhasa 18.31 105 P **Pn** 12 38 33.1 +0.5
AKT Akhty 18.63 293 *e*P **P** 12 38 34.0 +0.8
AKT *e*S **S** 12 41 55.1 +0.3
AKT pmax pmax
comp=Z,46nm,1.2s
MHTO MHTO 18.97 220 P **Pn** 12 38 39.2 -0.8
SNR=16
SEKA Sheki 19.00 292 P **P** 12 38 38.4 +1.3
MAK Makhachkala 19.07 297 *e*P **P** 12 38 36.6 -1.1
MAK *e*S **S** 12 42 02.5 -0.5
MAK pmax pmax
comp=Z,36nm,0.4s
MAK MLR MLR
comp=Z,166nm,17.0s
JRN Qarnain Island 19.14 239 P **P** 12 38 38.2 -0.5
SNR=10
JRN S **S** 12 41 59.2 -5.7
UMZA Um Al Zommool 19.19 229 P **P** 12 38 39.8 +0.5
UMZA S **S** 12 42 02.8 -3.1
MZWR Madinat Zayed 19.25 234 P **P** 12 38 39.5 -0.3
MZWR S **S** 12 42 02.1 -4.8
GOMU GeErMu 19.37 83 P **Pn** 12 38 43.6 -1.4
GOMU pP P 12 38 47.0 +5.6
GOMU pmax pmax
comp=Z,41nm,1.0s
GOMU LR LR
comp=Z,63nm,8.7s
GOMU LR LR
comp=Z,82nm,8.8s
GOMU LR LR
comp=Z,63nm,8.5s
GANJ Ganja 19.60 290 P **P** 12 38 44.6 +1.1
GHWR Ruwais 19.77 236 P **P** 12 38 45.2 -0.3
GHWR S **S** 12 42 11.7 -5.5
SHMA Al-Shehemyia 19.91 244 P **P** 12 38 47.1 +0.2
SNR=15
SHMA S **S** 12 42 14.9 -4.8
MZR Muzera 20.04 233 P **P** 12 38 47.7 -0.7
SNR=15
MZR S **S** 12 42 17.0 -5.5
MZR Muzera 20.04 233 *i*P **P** 12 38 47.9 -0.5
SNR=6.0
ZAA0 Zalesovo Array 20.11 25 P **P** 12 38 49.2 +0.4
ZALV Zalesovo Beam 20.11 25 P **P** 12 38 49.0 +0.3
ZALV Zalesovo Beam 20.11 25 P **P** 12 38 48.9 +0.1
comp=Z,127nm,0.3s,baz=217,slow=11,SNR=590
ZALV S **S** 12 42 20.7 -2.6
comp=Z,39nm,1.0s,baz=201,slow=24,SNR=7.2
ZALV ScP **ScP** 12 46 09.4 -2.4
comp=Z,2.2nm,0.7s,baz=194,slow=2.7,SNR=2.6
comp=Z,127nm,0.3s
ZALV Zalesovo Beam 20.11 25 *i*P **P** 12 38 48.9 +0.1
ZALV pmax pmax
comp=Z,125nm,0.3s
NAX Nakhchivan 20.17 286 P **P** 12 38 51.5 +1.8
TRNA Turayna 20.41 241 P **P** 12 38 51.3 -1.0
SNR=7.5
TRNA S **S** 12 42 22.9 -6.7
SMRA Abu-Samra 20.68 242 P **P** 12 38 54.3 -0.8
SNR=17
SMRA S **S** 12 42 30.4 -4.3
GNI Garni 20.77 288 P **P** 12 38 55.1 -1.0
GNI Garni 20.77 288 P **P** 12 38 57.8 +1.7
comp=Z,8.6nm,0.3s,baz=138,slow=1.1,SNR=11
comp=Z,8.6nm,0.3s
GNI Garni 20.77 288 *i*P **P** 12 38 58.4 +2.2
SHL Shillong 21.00 115 **P** 12 39 00.1 +1.3
SHL Shillong 21.00 115 P **P** 12 39 00.1 +1.3
SVE Sverdlovsk 21.58 345 *e*P **P** 12 39 04.5 +0.3
SVE *e*S **S** 12 42 53.1 +3.6
SVE pmax pmax
comp=Z,73nm,1.4s
ARTI Arti 21.72 341 **P** 12 39 05.8 +0.2
ARTI Arti 21.72 341 P **P** 12 39 06.1 +0.5
comp=Z,63nm,0.5s,baz=153,slow=8.4,SNR=75
ARTI S **S** 12 42 52.3 +0.6
comp=Z,2.4nm,0.4s,baz=184,slow=22,SNR=1.6
comp=Z,63nm,0.5s
ARTI Arti 21.72 341 *c i*P **P** 12 39 05.4 -0.2
ARTI *PP **pP** 12 39 40.4 0.0
ARTI S **S** 12 42 52.7 +1.0
ARTI pmax pmax
comp=Z,82nm,0.7s
GEVA Gevas 22.10 283 P **P** 12 39 09.5 -0.3
KBZ Khabaz 22.51 298 P **P** 12 39 14.2 +1.0
comp=Z,3.8nm,0.8s,baz=105,slow=7.8,SNR=7.9
KBZ S **S** 12 43 10.2 +5.5
comp=Z,2.0nm,0.7s,baz=49,slow=19,SNR=1.1
comp=Z,3.8nm,0.8s
KBZ Khabaz 22.51 298 *i*P **P** 12 39 14.8 +1.6
KBZ pmax pmax
comp=Z,6.0nm,0.9s
SHA1 Shidzhatmaz 22.68 298 *i*P **P** 12 39 17.2 +2.1
KIV Kislovodsk 22.70 298 P **P** 12 39 13.2 -1.8
KIV Kislovodsk 22.70 298 *e*P **P** 12 39 15.5 +0.4
KIV *e*S **S** 12 43 09.4 +1.4
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,26nm,14.0s
BELG Belogornoye 22.89 322 P **P** 12 39 17.6 +1.1
comp=Z,84nm,0.6s,baz=70,slow=0.7,SNR=28
BELG S **S** 12 43 11.7 +1.1
comp=Z,52nm,0.8s,baz=186,slow=14,SNR=12
comp=Z,84nm,0.6s
BELG Belogornoye 22.89 322 *c i*P **P** 12 39 16.9 +0.4
BELG pmax pmax
comp=Z,16nm,0.8s
DOK Doka 22.98 224 P **P** 12 39 18.4 +0.7
GTA Gaotai 23.07 74 P **P** 12 39 20.0 +1.5
GTA pP pP 12 39 59.6 +3.3
GTA PcP **PcP** 12 43 01.2 +0.1
GTA SS SS 12 44 22.8 -35
GTA ScS **ScS** 12 50 03.0 -3.1
GTA pmax pmax
comp=Z,62nm,0.9s
GTA LR LR
comp=Z,260nm,8.8s
GTA LR LR
comp=Z,320nm,10.8s
GTA LR LR
comp=Z,190nm,15.9s
WHFO Wadi Hawf 23.74 224 P **P** 12 39 25.3 +0.7
MARD Mardin 23.99 281 P **P** 12 39 25.8 -1.1
KOPT Kop Dagi 24.03 288 P **P** 12 39 26.3 -1.1
ABTO Aybut 24.46 224 P **P** 12 39 31.8 +0.6
ERBR Yeremizino-Bor 24.57 302 *e*P **P** 12 39 29.0 -2.9
ERBR *e*PP **pP** 12 40 08.0 -3.1
ERBR *e*S **S** 12 43 38.0 +0.4
ERBR pmax pmax
comp=Z,20nm,0.5s
RAYN Ar Rayn 25.29 247 **P** 12 39 39.1 +0.5
RAYN Ar Rayn 25.29 247 P **P** 12 39 39.2 +0.5
RAYN Ar Rayn 25.29 247 *i*P **P** 12 39 38.7 +0.1
SNR=8.0
RAYN Ar Rayn 25.29 247 P **P** 12 39 39.1 +0.5
RAYN pmax pmax
comp=Z,98nm,1.1s
VRH Novokhopyorsk 25.48 315 *e*P **P** 12 39 39.3 -0.7
VRH pmax pmax
comp=Z,10.0nm,0.9s
KIRV Kirov 26.29 334 P **P** 12 39 48.1 +1.0
comp=Z,127nm,0.5s,baz=133,slow=3.6,SNR=41
TNCH TengChong 26.30 108 P **P** 12 39 50.2 +2.3
TNCH pmax pmax
comp=Z,27nm,0.6s
LZDM Lanzhou Array 26.51 81 P **P** 12 39 50.9 +1.1
comp=Z,2.4nm,0.4s,baz=260,slow=8.6,SNR=3.9
LZDM PcP **PcP** 12 43 09.4 +0.3
comp=Z,9.8nm,0.5s,baz=276,slow=5.5,SNR=6.6
comp=Z,2.4nm,0.4s
ANN Anapa 26.55 299 *e*P **P** 12 39 45.9 -3.8
ANN *e*PP **pP** 12 40 28.8 -1.6
ANN *e*S **S** 12 44 08.9 +0.1
ANN pmax pmax
comp=Z,22nm,0.8s
LZH Lanzhou 26.60 81 *e*P **P** 12 39 53.0 +2.5
LZH pP pP 12 40 27.5 -5.0
LZH sP PP 12 40 53.7 -1.0
LZH pmax pmax
comp=Z,33nm,1.3s
VORD Divnogorie 26.81 313 *e*P **P** 12 39 51.5 -0.4
VORD pmax pmax
comp=Z,3.0nm,1.0s
VSR Storozhevoye 26.97 313 *e*P **P** 12 39 52.1 -1.3
VSR pmax pmax
comp=Z,5.0nm,1.0s
PZH PanZhiHua 28.08 102 P **P** 12 40 07.3 +3.7
SONM Songino Array 28.56 55 P **P** 12 40 09.2 +1.6
SONM IAmb IAmb 12 40 10.5
comp=Z,22nm,1.1s
SONM Songino Array 28.56 55 P **P** 12 40 09.4 +1.8
comp=Z,13nm,0.9s,baz=258,slow=9.7,SNR=63
SONM pP **pP** 12 40 52.5 +2.5
comp=Z,6.5nm,0.7s,baz=260,slow=10,SNR=3.3
SONM PcP **PcP** 12 43 13.3 -0.3
comp=Z,2.6nm,0.9s,baz=254,slow=3.7,SNR=3.1
SONM ScP **ScP** 12 46 34.4 -1.1
comp=Z,0.6nm,0.5s,baz=236,slow=3.3,SNR=3.8
comp=Z,13nm,0.9s
SONM Songino Array 28.56 55 P **P** 12 40 09.2 +1.6
SONM pmax pmax
comp=Z,22nm,1.1s
ULN Ulaanbaatar 29.00 55 P **P** 12 40 13.2 +1.6
ULN Ulaanbaatar 29.00 55 *i*P **P** 12 40 12.8 +1.2
ULN pmax pmax
comp=Z,7.0nm,0.5s
MMAI Mount Meron Ar 29.19 274 P **P** 12 40 15.8 +2.5
comp=Z,1.4nm,0.5s,baz=97,slow=3.3,SNR=1.3
MMAI PcP **PcP** 12 43 14.9 -0.5
comp=Z,1.2nm,0.4s,baz=70,slow=4.7,SNR=3.5
MMAI ScP **ScP** 12 46 37.0 -0.7
comp=Z,2.9nm,0.6s,baz=58,slow=5.4,SNR=4.6
comp=Z,1.4nm,0.5s
BR104 Keskin Array S 29.31 288 P **P** 12 40 14.5 +0.1
comp=Z,74nmcomp=Z,2.9nm,0.8s
BR131 Keskin Array S 29.31 288 *i*P **P** 12 40 15.8 +1.4
BRTR Keskin Array B 29.31 288 P **P** 12 40 15.1 +0.7
BRTR Keskin Array B 29.31 288 P **P** 12 40 16.1 +1.6
comp=Z,1.9nm,0.7s,baz=103,slow=9.1,SNR=10
BRTR pP **pP** 12 40 58.3 +2.7
comp=Z,4.5nm,0.8s,baz=96,slow=7.7,SNR=4.7
BRTR ScP **ScP** 12 46 36.7 -1.4
comp=Z,1.6nm,0.8s,baz=119,slow=4.6,SNR=5.6
comp=Z,1.9nm,0.7s
BR106 Keskin Array S 29.33 288 P **P** 12 40 14.5 -0.1
comp=Z,71nmcomp=Z,4.7nm,0.8s
BR105 Keskin Array S 29.33 288 P **P** 12 40 14.7 +0.1
comp=Z,91nmcomp=Z,3.6nm,0.6s
HMDM Hanimaadhoo 29.53 175 P **P** 12 40 16.6 +0.2
KMI Kunming 29.53 103 P **P** 12 40 20.0 +3.4
KMI pmax pmax
comp=Z,17nm,0.6s
MOS Moscow 29.66 321 *e*P **P** 12 40 16.5 -0.6
MOS *e* 12 41 19.3
MOS *e* 12 44 57.8
MOS pmax pmax
comp=Z,48nm,0.8s
OBN Obninsk 29.93 320 P **P** 12 40 20.0 +0.5
OBN Obninsk 29.93 320 P **P** 12 40 19.8 +0.3
comp=Z,37nm,0.5s,baz=79,slow=5.2,SNR=7.1
comp=Z,37nm,0.5s
OBN Obninsk 29.93 320 *e*P **P** 12 40 20.3 +0.8
OBN *e*PP **pP** 12 41 01.5 +0.8
OBN *e* 12 41 27.2
OBN *e* 12 43 18.1
OBN *e*S **S** 12 45 01.0 -0.6
OBN pmax pmax
comp=Z,29nm,0.9s
OBN Obninsk 29.93 320 P **P** 12 40 19.3 -0.2
comp=Z,60nm,0.7s
CHTO Chiang Mai 30.31 118 **P** 12 40 24.0 +0.7
CHTO IAmb IAmb 12 40 27.9
comp=Z,48nm,1.6s
CHTO Chiang Mai 30.31 118 P **P** 12 40 25.9 +2.7
CHTO Chiang Mai 30.31 118 P **P** 12 40 24.0 +0.7
CHTO pmax pmax
comp=Z,47nm,1.6s
CRAI Chiangrai 30.45 114 P **P** 12 40 26.2 +1.7
CM31 Chiang Mai Arr 30.54 118 P **P** 12 40 26.7 +1.4
CM31 IAmb IAmb 12 40 29.2
comp=Z,36nm,0.9s
CMAR Chiang Mai Arr 30.54 118 P **P** 12 40 27.1 +1.8
comp=Z,25nm,0.9s,baz=298,slow=8.1,SNR=88
CMAR PcP **PcP** 12 43 19.4 +0.3
comp=Z,4.9nm,0.8s,baz=291,slow=3.8,SNR=9.8
CMAR ScP **ScP** 12 46 40.8 -1.5
comp=Z,2.7nm,0.8s,baz=290,slow=4.7,SNR=8.4
comp=Z,25nm,0.9s
CMAR Chiang Mai Arr 30.54 118 *i*P **P** 12 40 27.1 +1.8
CMAR pmax pmax
comp=Z,28nm,1.0s
BTO Baotou 30.83 70 *e*P **P** 12 40 28.9 +1.2
BTO pP **pP** 12 41 10.8 +0.5
BTO sP **sP** 12 41 34.6 +0.4
BTO PP **PnPn** 12 41 38.2 +0.7
BTO pmax pmax
comp=Z,71nm,0.8s
BTO pmax pmax
comp=Z,260nm,5.2s
XAN Xi'an 31.12 83 ⇑P **P** 12 40 31.8 +1.5
XAN pmax pmax
comp=Z,53nm,0.9s
KLMR Klimovskoe 31.52 331 *e*P **P** 12 40 31.7 -1.6
KLMR *e*PP **pP** 12 41 13.4 -1.6
KLMR *e*SP **sP** 12 41 35.1 -3.4
KLMR pmax pmax
comp=Z,34nm,0.6s
HHC Hu-ho-hao-te 31.97 69 *e*P **P** 12 40 41.9 +4.1
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,140nm,4.2s
GYA Guiyang 32.02 98 ⇓P **P** 12 40 40.5 +2.2
GYA pmax pmax
comp=Z,64nm,1.0s
SLVN Son La 32.46 108 **P** 12 40 43.2 +1.1
SLVN IAmb IAmb 12 40 45.9
comp=Z,29nm,1.2s
SLVN Son La 32.46 108 P **P** 12 40 45.1 +3.0
ENH Enshi 32.75 89 **P** 12 40 46.7 +2.1
ENH Enshi 32.75 89 P **P** 12 40 46.9 +2.4
AK09 Malin Array Si 32.85 309 P **P** 12 40 44.9 -0.1
AK10 Malin Array Si 32.86 309 P **P** 12 40 45.1 -0.1
AK08 Malin Array Si 32.87 309 P **P** 12 40 45.1 -0.1
AK07 Malin Array Si 32.89 309 P **P** 12 40 45.3 -0.1
AK06 Malin Array Si 32.90 309 P **P** 12 40 45.3 -0.2
AK05 Malin Array Si 32.90 309 P **P** 12 40 45.5 0.0
AKASG Malin Array Be 32.90 309 P **P** 12 40 45.9 +0.4
AKASG Malin Array Be 32.90 309 P **P** 12 40 45.7 +0.2
comp=Z,3.1nm,0.6s,baz=83,slow=7.0,SNR=18
AKASG pP **pP** 12 41 28.4 +1.2

AKASG comp=Z,11nm,0.8s,baz=90,slow=7.3,SNR=3.6
ScP **ScP** **12 46 47.7 -2.0**
comp=Z,6.5nm,0.8s,baz=78,slow=3.5,SNR=15
comp=Z,3.1nm,0.6s
AKASG Malin Array Be **32.90 309** *i* P **P** **12 40 45.7 +0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKBB Malin Array Si **32.90 309** P **P** **12 40 45.4 -0.1**
AKBB Malin Array Si **32.90 309** *ce* P **P** **12 40 45.6 +0.1**
AKBB pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si **32.90 309** P **P** **12 40 45.4 -0.1**
AK02 Malin Array Si **32.90 309** P **P** **12 40 45.4 -0.1**
KIEV Kiev **32.91 309** **P** **12 40 45.4 -0.2**
KIEV Kiev **32.91 309** P **P** **12 40 45.4 -0.2**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
TIRR Tirgusor **32.96 297** P **P** **12 40 45.9 -0.2**
TIRR Tirgusor **32.96 297** P **P** **12 40 45.9 -0.2**
TIRR pmax pmax
comp=Z,8.0nm,1.2s
AK23 Malin Array Si **32.97 309** P **P** **12 40 46.1 0.0**
AK13 Malin Array Si **32.99 309** P **P** **12 40 46.2 -0.1**
LYN LuoYang **33.81 81** P **P** **12 40 56.2 +2.6**
LYN pmax pmax
comp=Z,64nm,1.2s
CIT Chita **33.87 49** *e* P **P** **12 40 54.8 +0.8**
CIT *e* 12 41 39.8
CIT *e* 12 42 01.8
CIT pmax pmax
comp=Z,92nm,1.4s
PLOR5 Plostina Array **34.19 300** P **P** **12 40 56.7 -0.1**
comp=Z,10nm,2.1s
MNK Minsk **34.48 315** *i* P **P** **12 40 57.1 -2.0**
comp=E,26nm,0.8s
MNK *i* P **P** **12 40 57.1 -2.0**
comp=N,25nm,1.0s
MNK *i* P **P** **12 40 57.1 -2.0**
comp=Z,10.0nm,0.8s,baz=104
MNK *i* pP **pP** **12 41 37.7 -3.1**
MNK *i* PP **PnPn** **12 42 23.1 +1.2**
MNK *i* S **S** **12 46 11.3 -0.8**
MNK *i* SS **SS** **12 48 48.9 +0.4**
MNK *i* LRM MLR 12 56 54.6
comp=N,692nm,23.9s
MNK *i* LRM MLR 12 56 58.4
comp=E,1μm,24.4s
MNK *i* LRM MLR 12 58 00.6
comp=Z,30nm,11.3s
MNK Minsk **34.48 315** *i* P **P** **12 40 57.0 -2.0**
MNK *i* *PP **pP** **12 41 37.7 -3.1**
MNK *i* 12 42 23.1
MNK *i* S **S** **12 46 11.3 -0.8**
MNK pmax pmax
comp=N,25nm,1.0s
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK pmax pmax
comp=E,26nm,0.8s
MNK MLR MLR
comp=N,692nm,24.0s
MNK MLR MLR
comp=E,1μm,24.0s
MNK MLR MLR
comp=Z,30nm,11.0s
MLR Muntele Rosu **34.70 299** **P** **12 41 02.4 +1.2**
MLR IAmb IAmb 12 41 48.6
comp=Z,72nm,1.5s
MLR Muntele Rosu **34.70 299** P **P** **12 41 02.5 +1.3**
comp=Z,11nm,0.8s,baz=58,slow=6.7,SNR=9.7
comp=Z,11nm,0.8s
MLR Muntele Rosu **34.70 299** P **P** **12 41 02.4 +1.2**
MLR pmax pmax
comp=Z,72nm,1.5s
MLR Muntele Rosu **34.70 299** P **P** **12 41 01.2 -0.1**
comp=Z,16nm,0.8s
HNS HongShan **34.91 75** ⇓P **P** **12 41 05.7 +2.7**
HNS pmax pmax
comp=Z,14nm,0.9s
ALN Alexandroupoli **34.95 291** P **P** **12 41 02.3 -1.0**
ALN Alexandroupoli **34.95 291** P **P** **12 41 02.3 -1.0**
ALN pmax pmax
comp=Z,7.0nm,1.0s
RNPP5 Staryi Chortor **35.06 309** P **P** **12 41 04.0 -0.1**
XLT XiLinHaoTe **35.08 63** *e* P **P** **12 41 06.5 +2.0**
XLT pmax pmax
comp=Z,11nm,1.2s
RNPP9 Sopachiv **35.09 310** P **P** **12 41 04.2 -0.1**
NACGM Naroch **35.19 316** *e* P **P** **12 41 05.9 +0.7**
comp=Z,13nm,0.9s,baz=103
BURAR Bucovina Array **35.22 303** P **P** **12 41 05.2 -0.4**
BUR08 Bucovina Ar. S **35.23 303** P **P** **12 41 04.4 -1.3**
BJI Beijing **35.56 70** P **P** **12 41 10.6 +2.1**
BJI pP **pP** **12 41 52.9 +1.1**
BJI sP **sP** **12 42 14.9 -0.5**
BJI PcP **PcP** **12 43 33.5 +0.7**
BJI S **S** **12 46 30.4 +1.3**
BJI ScP **ScP** **12 46 57.2 -2.2**
BJI pmax pmax
comp=Z,41nm,5.1s
BOD Bodaibo **35.56 39** *e* P **P** **12 41 08.4 +0.1**
BOD pmax pmax
comp=Z,40nm,1.1s
JOF Joensuu **35.90 330** *e* P **P** **12 41 12.0 +0.9**
VSU Vasula **36.19 322** *ce* P **P** **12 41 12.3 -1.2**
VSU pmax pmax
comp=Z,28nm,0.8s
WHN Wuhan **36.57 86** P **P** **12 41 19.5 +2.3**
WHN pmax pmax
comp=Z,110nm,1.0s
ARBE Arbavere **36.86 323** *e* P **P** **12 41 19.6 +0.3**
KOLS Kolonicke sedl **37.22 305** *e* P **P** **12 41 21.8 -0.6**
FIA1 FINESS Array S **37.50 326** P **P** **12 41 24.6 +0.1**
FINES FINESS Array B **37.50 326** **P** **12 41 24.5 -0.1**
FINES FINESS Array B **37.50 326** P **P** **12 41 25.1 +0.5**
comp=Z,28nm,0.6s,baz=116,slow=9.7,SNR=133
comp=Z,28nm,0.6s
HIA Hailar **37.51 54** P **P** **12 41 26.1 +1.2**
HIA Hailar **37.51 54** P **P** **12 41 26.2 +1.2**
HIA pmax pmax
comp=Z,7.0nm,0.6s
LVZ Lovozero **37.52 339** **P** **12 41 24.6 -0.1**
LVZ IAmb IAmb 12 41 26.0
comp=Z,32nm,0.8s
LVZ Lovozero **37.52 339** P **P** **12 41 24.7 -0.1**
LVZ pmax pmax
comp=Z,33nm,0.8s
LVZ Lovozero **37.52 339** P **P** **12 41 25.1 +0.3**
LVZ sP **sP** **12 42 28.9 -2.1**
SURA Surathani **37.67 129** P **P** **12 41 29.0 +2.5**
APA Apatity **37.70 338** *e* P **P** **12 41 25.0 -1.2**
APA *e* *PP **pP** **12 42 06.2 -2.8**
APA MLR MLR
comp=Z,620nm,5.0s
STHS Stebnicka Huta **37.90 306** *e* P **P** **12 41 28.3 +0.1**
KEF Keuruu **38.30 327** *e* P **P** **12 41 32.0 +0.8**
OJC Ojcow **38.85 307** P **P** **12 41 36.5 +0.5**
OJC Ojcow **38.85 307** P **P** **12 41 36.5 +0.5**
RAF Rauma **39.35 325** *e* P **P** **12 41 39.9 0.0**
NJ2 Nanjing **39.66 82** *e* P **P** **12 41 45.0 +2.0**
NJ2 pmax pmax
comp=Z,12nm,0.6s
DL2 Dalian **39.92 71** P **P** **12 41 46.4 +1.4**
DL2 pmax pmax
comp=Z,41nm,0.7s
MORC Moravsky Berou **40.31 307** P **P** **12 41 46.9 -1.2**
MORC Moravsky Berou **40.31 307** P **P** **12 41 46.9 -1.2**
MORC pmax pmax
comp=Z,26nm,1.8s
VADS Vadso **40.38 340** *e* P **P** **12 41 49.1 +0.7**
SJUU Sjulsmark **40.84 331** *e* P **P** **12 41 52.5 +0.3**
KEV Kevo **40.87 338** **P** **12 41 52.9 +0.6**
KEV Kevo **40.87 338** P **P** **12 41 52.9 +0.6**
KEV pmax pmax
comp=Z,221nm,2.0s
KEV Kevo **40.87 338** P **P** **12 41 53.2 +0.9**
VRAC Vranov **40.94 306** P **P** **12 41 54.4 +1.2**
comp=Z,4.2nm,0.7s,baz=86,slow=8.6,SNR=3.3
comp=Z,4.2nm,0.7s
KCSI Kotacane, Aceh **41.06 136** P **P** **12 41 53.7 -0.9**
comp=Z,1μmcomp=Z,14nm,0.6s
ARA0 ARCESS Array S **41.21 338** *e* P **P** **12 41 55.1 0.0**
ARCES ARCESS Array B **41.21 338** **P** **12 41 55.9 +0.8**
ARCES IAmb IAmb 12 41 56.9
comp=Z,49nm,0.9s

ARCES ARCESS Array B **41.21 338** P **P** **12 41 55.9 +0.8**
comp=Z,41nm,0.6s,baz=112,slow=7.6,SNR=355
comp=Z,41nm,0.6s
KULM Kulim **41.31 131** **P** **12 41 58.3 +1.7**
KULM IAmb IAmb 12 41 59.5
comp=Z,68nm,1.6s
KULM Kulim **41.31 131** P **P** **12 41 58.4 +1.8**
CONA Conrad Observa **41.51 304** *e* P **P** **12 41 58.0 0.0**
comp=Z,6.3nm,1.0s
BLEU Blekinge **41.55 317** *e* P **P** **12 41 58.4 +0.3**
KTK1 Kautokeino **41.67 336** *e* P **P** **12 41 59.0 +0.1**
CN2 Changchun **41.82 62** P **P** **12 41 59.9 -0.6**
CN2 PcP **PcP** **12 43 53.5 +1.0**
CN2 S **S** **12 48 00.3 -2.4**
IPM Ipoh **42.18 132** P **P** **12 42 05.1 +1.4**
IPM IAmb IAmb 12 42 05.9
comp=Z,42nm,0.8s
IPM Ipoh **42.18 132** P **P** **12 42 04.6 +0.9**
SOKA Soboth **42.20 302** *e* P **P** **12 42 02.6 -0.9**
comp=Z,4.0nm,0.6s
ZEA Zeya **42.29 47** *e* P **P** **12 42 06.2 +2.1**
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=Z,30nm,0.8s
HAMF Hammerfest **42.29 339** *e* P **P** **12 42 04.7 +0.8**
PSI Prapat **42.30 136** P **P** **12 42 06.9 +2.1**
PSI Prapat **42.30 136** P **P** **12 42 05.8 +1.0**
PSI pmax pmax
comp=Z,19nm,0.8s
KNMB Chin-men Tao **42.35 93** P **P** **12 42 06.7 +1.7**
KNMB IAmb IAmb 12 42 07.3
comp=Z,85nm,1.1s
RPSI Rantau Prapat **42.39 136** **P** **12 42 05.8 +0.4**
HEH HeiHe **42.47 53** *e* P **P** **12 42 06.7 +1.1**
HEH pmax pmax
comp=Z,84nm,0.8s
DEL Delary **42.64 317** *e* P **P** **12 42 07.2 +0.4**
CUC Castrocucco **42.79 292** **P** **12 42 08.3 -0.1**
GSI Gunungsitoli **42.80 138** P **P** **12 42 10.0 +1.3**
JETT Jettan, Norway **42.82 337** *e* P **P** **12 42 09.0 +0.8**
LUNU Lund **42.84 315** *e* P **P** **12 42 09.2 +0.7**
GERES GERESS Array B **42.87 305** P **P** **12 42 08.6 -0.3**
comp=Z,0.4nm,0.4s,baz=59,slow=6.5,SNR=3.6
GERES ScP **ScP** **12 47 25.9 -1.7**
comp=Z,0.4nm,0.3s,baz=78,slow=5.7,SNR=4.4
BNX BinXian **42.91 59** ⇓P **P** **12 42 10.7 +1.5**
BNX pmax pmax
comp=Z,6.0nm,1.0s
HFS Hagfors **43.07 322** P **P** **12 42 10.5 +0.3**
comp=Z,13nm,0.5s,baz=99,slow=9.5,SNR=47
HFS pP **pP** **12 42 56.4 +2.6**
comp=Z,9.5nm,0.6s,baz=92,slow=10,SNR=2.7
comp=Z,13nm,0.5s
CLL Collm **43.14 309** *i* P **P** **12 42 10.9 -0.1**
CLL *i* *PP **pP** **12 42 56.1 +1.8**
CLL Collm **43.14 309** *i* P **P** **12 42 10.9 -0.1**
CLL *i* pP **pP** **12 42 56.1 +1.8**
CLL *i* x x 12 44 42.1
MSEY Mahe Island **43.26 203** P **P** **12 42 12.8 +0.4**
MSEY IAmb IAmb 12 43 24.8
comp=Z,68nm,1.1s
MSEY Mahe Island **43.26 203** P **P** **12 42 12.8 +0.4**
MSEY pmax pmax
comp=Z,68nm,1.2s
BORU Boraas **43.31 318** *e* P **P** **12 42 12.6 +0.3**
TRO Tromso **43.33 336** *e* P **P** **12 42 12.8 +0.7**
LESA Schwarzleotal **43.70 303** *e* P **P** **12 42 15.5 -0.2**
comp=Z,4.3nm,0.4s
FAUS Fauske **43.85 333** *e* P **P** **12 42 16.6 +0.3**
MOR8 Moi Rana **43.85 331** *e* P **P** **12 42 15.8 -0.6**
STEI Steigen **44.02 333** *e* P **P** **12 42 17.6 -0.1**
NC405 NORSAR Array S **44.15 323** P **P** **12 42 18.9 0.0**
NC405 IAmb IAmb 12 42 19.9
comp=Z,69nm,1.4s
YAK Yakutsk **44.18 35** **P** **12 42 19.4 +0.3**
YAK Yakutsk **44.18 35** *c* *i* P **P** **12 42 18.7 -0.3**
YAK *e* *PP **pP** **12 43 01.3 -2.2**
YAK *e* 12 43 56.3
YAK *e* 12 44 10.0
YAK *e* PPP PPP 12 44 49.3
YAK eS **S** **12 48 36.6 +0.2**
YAK *e* *SS **sS** **12 49 52.7 -1.6**
YAK *e* 12 51 52.4
YAK pmax pmax
comp=Z,109nm,1.0s
YAK pmax pmax
comp=N,12nm,1.5s
YAK pmax pmax
comp=E,23nm,1.7s
YAK pmax pmax
comp=Z,66nm,3.4s
YAK pmax pmax
comp=N,45nm,4.2s
YAK pmax pmax
comp=E,58nm,3.7s
YAK smax smax
comp=E,101nm,2.2s
YAK smax smax
comp=N,40nm,2.0s
YAK Yakutsk **44.18 35** P **P** **12 42 19.6 +0.6**
STRU Stroemstad **44.24 320** *i* P **P** **12 42 19.8 +0.2**
MNSI Mandailing Nat **44.32 136** P **P** **12 42 22.0 +1.3**
comp=N,39nm,0.6s
NC303 NORSAR Array S **44.33 323** P **P** **12 42 20.7 +0.4**
NC303 IAmb IAmb 12 42 21.2
comp=Z,68nm,1.4s
NB201 NORSAR Array S **44.35 323** P **P** **12 42 20.5 0.0**
NB201 IAmb IAmb 12 42 21.3
comp=Z,120nm,1.6s
LEIR Leirfjorden **44.36 331** *e* P **P** **12 42 20.3 -0.2**
NB2 NORSAR Subarra **44.39 323** P **P** **12 42 20.2 -0.6**
comp=Z,13nm,0.6s,baz=96,slow=7.9
NB2 NORSAR Subarra **44.39 323** P **P** **12 42 20.2 -0.6**
comp=Z,13nm,0.6s,baz=96,slow=7.9
NOA NORSAR Array B **44.39 323** P **P** **12 42 20.5 -0.3**
comp=Z,9.9nm,0.6s,baz=97,slow=7.7,SNR=45
NOA pP **pP** **12 43 06.1 +1.6**
comp=Z,1.8nm,0.6s,baz=97,slow=8.2,SNR=1.8
comp=Z,9.9nm,0.6s
GRA1 Grafenberg Arr **44.40 307** P **P** **12 42 20.6 -0.5**
GRA1 IAmb IAmb 12 43 22.3
comp=Z,15nm,0.5s
GRF Grafenberg Arr **44.40 307** P **P** **12 42 20.6 -0.5**
GRF pmax pmax
comp=Z,15nm,0.5s
GRFO Grafenberg **44.41 307** P **P** **12 42 20.3 -0.8**
GRFO Grafenberg **44.41 307** P **P** **12 42 20.3 -0.8**
GRFO pmax pmax
comp=Z,13nm,0.6s
WTTA Wattenberg **44.43 303** *e* P **P** **12 42 20.8 -0.7**
comp=Z,2.1nm,0.5s
VAGH Vaagaholmen **44.44 331** *e* P **P** **12 42 21.6 +0.6**
KONS Konsvik **44.45 331** *e* P **P** **12 42 21.3 +0.2**
STOK Stokkvaagen **44.45 331** *e* P **P** **12 42 20.0 -1.2**
NBO00 NORSAR Array S **44.60 323** P **P** **12 42 22.0 -0.4**
YHNB Yeheng **44.66 90** P **P** **12 42 26.4 +2.8**
YHNB IAmb IAmb 12 42 26.9
comp=Z,76nm,1.1s
LOF Lofoten **44.69 333** *e* P **P** **12 42 21.9 -1.1**
TPUB Ta-pu **44.70 93** P **P** **12 42 25.0 +1.2**
SQTA Sankt Quirin **44.72 303** *e* P **P** **12 42 23.1 -0.6**
comp=Z,3.1nm,0.4s
MOTA Moosalm **44.77 304** *e* P **P** **12 42 23.1 -1.1**
comp=Z,4.1nm,0.6s
KSAR Wonju Array Be **45.06 71** **P** **12 42 27.0 +0.6**
KSAR Wonju Array Be **45.06 71** P **P** **12 42 27.0 +0.6**
FETA Feichten **45.08 303** *e* P **P** **12 42 26.1 -0.5**
comp=Z,2.8nm,0.5s
KSRS Korea Array **45.09 71** P **P** **12 42 27.5 +0.9**
comp=Z,4.1nm,0.6s,baz=273,slow=7.0,SNR=32
KSRS pP **pP** **12 43 14.0 +2.4**
comp=Z,2.2nm,0.8s,baz=274,slow=7.0,SNR=2.5
KSRS PcP **PcP** **12 44 03.6 0.0**
comp=Z,5.4nm,0.8s,baz=290,slow=3.9,SNR=9.2
KSRS ScP **ScP** **12 47 34.4 -2.4**
comp=Z,1.8nm,0.8s,baz=288,slow=4.3,SNR=4.8
comp=Z,4.1nm,0.6s
YULB Yu-li **45.20 92** P **P** **12 42 28.7 +1.0**
YULB IAmb IAmb 12 42 31.5
comp=Z,41nm,0.7s
DAVA Damuels **45.61 304** *e* P **P** **12 42 30.5 -0.3**
comp=Z,8.6nm,0.8s
PPI Padang Panjang **45.81 136** P **P** **12 42 34.2 +1.7**
comp=Z,51nm,0.8s

TIXI Tiksi **45.97 22** **P** **12 42 33.6 +0.6**
TIXI Tiksi **45.97 22** *i* P **P** **12 42 32.4 -0.6**
TIXI pmax pmax
comp=Z,93nm,0.9s
TIXI Tiksi **45.97 22** P **P** **12 42 33.6 +0.6**
TUE Stuetta **46.10 303** P **P** **12 42 33.8 -0.9**
PDSI Padang **46.22 137** P **P** **12 42 35.8 +0.1**
comp=Z,54nm,0.4s
LODK Lodwar **46.24 233** **P** **12 42 36.7 +0.8**
USA0B Ussuriysk Arra **46.39 61** P **P** **12 42 37.3 +0.6**
USA0B Ussuriysk Arra **46.39 61** P **P** **12 42 37.3 +0.6**
USA0B pmax pmax
comp=Z,4.0nm,0.8s
USRK Ussuriysk Ar. **46.39 61** P **P** **12 42 37.4 +0.7**
comp=Z,2.2nm,0.6s,baz=307,slow=7.0,SNR=5.3
comp=Z,2.2nm,0.6s
SENIN Lac Senin/Sane **47.52 303** **P** **12 42 45.0 -0.7**
SPB2 Spitsbergen Ar **47.58 347** P **P** **12 42 46.1 +0.7**
SPITS Spitsbergen Ar **47.59 347** P **P** **12 42 47.1 +1.6**
comp=Z,12nm,0.4s,baz=121,slow=11,SNR=98
comp=Z,12nm,0.4s
SPITS Spitsbergen Ar **47.59 347** P **P** **12 42 46.6 +1.1**
SPITS pmax pmax
comp=Z,34nm,0.9s
KMBO Kilima Mbogo **48.61 227** P **P** **12 42 56.3 +1.9**
comp=Z,10nm,0.6s,baz=42,slow=12,SNR=19
comp=Z,10nm,0.6s
KBS Kingsbay **48.71 347** P **P** **12 42 54.9 +0.9**
KBS IAmb IAmb 12 42 56.3
comp=Z,41nm,0.7s
KBS Kingsbay **48.71 347** P **P** **12 42 54.9 +0.9**
KBS pmax pmax
comp=Z,41nm,0.7s
KBS Kingsbay **48.71 347** P **P** **12 42 54.9 +0.9**
JNU Nakatsue **48.79 75** P **P** **12 42 56.1 +0.7**
KEST Kesra **48.91 289** P **P** **12 42 55.5 -0.8**
KEST Kesra **48.91 289** P **P** **12 42 56.5 +0.2**
comp=Z,4.9nm,1.0s,baz=54,slow=5.8,SNR=4.5
KEST pP **pP** **12 43 43.6 +2.7**
comp=Z,7.7nm,0.9s,baz=78,slow=6.2,SNR=3.0
comp=Z,4.9nm,1.0s
KIBK Kibwezi **49.12 226** P **P** **12 42 58.3 +0.2**
JOW Kunigami **49.26 84** P **P** **12 42 59.5 +0.5**
JOW IAmb IAmb 12 44 25.4
comp=Z,41nm,1.1s
JOW Kunigami **49.26 84** P **P** **12 42 59.1 +0.2**
comp=Z,20nm,0.4s,baz=284,slow=8.3,SNR=16
comp=Z,20nm,0.4s
SSB Saint Sauveur **49.64 302** P **P** **12 43 01.6 0.0**
SSB Saint Sauveur **49.64 302** P **P** **12 43 01.6 0.0**
SSB pmax pmax
comp=Z,10.0nm,1.0s
KSI Kapahiang **49.66 136** P **P** **12 43 03.4 +1.3**
KSM Kuching **50.39 124** P **P** **12 43 09.3 +1.8**
JMN Monobe **50.90 73** P **P** **12 43 12.9 +1.7**
JMN IAmb IAmb 12 44 26.9
comp=Z,74nm,2.0s
SBUM Sibu **50.97 122** **P** **12 43 13.9 +2.0**
KKM Kota Kinabalu **51.31 115** **P** **12 43 16.4 +1.8**
KKM IAmb IAmb 12 43 17.4
comp=Z,26nm,0.7s
EKA Eskdalemuir Ar **52.27 316** P **P** **12 43 20.5 -0.5**
comp=Z,1.1nm,0.5s,baz=101,slow=7.2,SNR=8.7
EKA pP **pP** **12 44 07.1 +0.9**
comp=Z,5.6nm,0.8s,baz=84,slow=8.5,SNR=4.6
comp=Z,1.1nm,0.5s
INU Inuyama **52.70 70** P **P** **12 43 24.9 +0.4**
JGF Kuroka **52.87 70** P **P** **12 43 26.2 +0.5**
YSS Yuzhno-Sakhali **53.05 55** **P** **12 43 27.8 +1.0**
YSS IAmb IAmb 12 43 29.2
comp=Z,60nm,1.4s
YSS Yuzhno-Sakhali **53.05 55** P **P** **12 43 28.4 +1.6**
YSS Yuzhno-Sakhali **53.05 55** *i* P **P** **12 43 27.4 +0.6**
YSS pmax pmax
comp=Z,36nm,1.3s
MJB9 Matsu-Tunnel **53.16 68** P **P** **12 43 27.9 0.0**
MAJO Matsushiro **53.16 68** **P** **12 43 27.8 -0.1**
MAJO Matsushiro **53.16 68** P **P** **12 43 28.3 +0.4**
MAJO Matsushiro **53.16 68** P **P** **12 43 27.8 -0.1**
MAJO pmax pmax
comp=Z,9.0nm,0.7s
MAJO Matsushiro **53.16 68** P **P** **12 43 28.4 +0.6**
MJAR Matsushiro Arr **53.16 68** P **P** **12 43 28.7 +0.8**
MJAR Matsushiro Arr **53.16 68** P **P** **12 43 28.5 +0.7**
comp=Z,6.8nm,0.9s,baz=292,slow=8.9,SNR=9.6
MJAR PcP **PcP** **12 44 32.2 -1.0**
comp=Z,3.6nm,0.9s,baz=269,slow=4.3,SNR=4.2
comp=Z,6.8nm,0.9s
MJAR Matsushiro Arr **53.16 68** P **P** **12 43 28.7 +0.8**
MJAR pmax pmax
comp=Z,7.0nm,1.3s
MYLDM Lahad Datu **53.57 114** **P** **12 43 31.8 +0.8**
MYLDM IAmb IAmb 12 43 42.1
comp=Z,16nm,0.7s
ASAJ Asahikawa **53.77 58** P **P** **12 43 32.6 +0.5**
comp=Z,4.8nm,0.8s,baz=291,slow=8.8,SNR=6.3
comp=Z,4.8nm,0.8s
EBR Ebro Roquetas **53.77 298** P **P** **12 43 31.2 -1.0**
EBR Ebro Roquetas **53.77 298** P **P** **12 43 31.2 -1.0**
NOR Nord **53.91 350** *i* P **P** **12 43 32.7 +0.2**
NOR IAmb IAmb 12 43 34.0
comp=Z,8.4nm,0.7s
MA2 Magadan **54.58 38** P **P** **12 43 38.1 +0.4**
MA2 IAmb IAmb 12 43 39.5
comp=Z,26nm,1.1s
MA2 Magadan **54.58 38** *ce* P **P** **12 43 37.3 -0.4**
MA2 pmax pmax
comp=Z,20nm,1.1s
JMM Marumori **54.60 66** **P** **12 43 38.5 +0.3**
JMM IAmb IAmb 12 43 40.2
comp=Z,20nm,0.7s
SEY Seymchan **54.63 34** *i* P **P** **12 43 38.9 +0.9**
SEY pmax pmax
comp=Z,42nm,1.0s
ERM Erimo **54.84 60** P **P** **12 43 39.9 +0.1**
ERM IAmb IAmb 12 43 59.6
comp=Z,54nm,1.4s
ERM Erimo **54.84 60** P **P** **12 43 39.9 +0.1**
ERM pmax pmax
comp=Z,54nm,1.4s
ESBB Sonseca Array **57.37 298** P **P** **12 43 58.3 +0.4**
ESDC Sonseca Array **57.37 298** P **P** **12 43 58.1 +0.3**
ESDC Sonseca Array **57.37 298** P **P** **12 43 57.8 -0.1**
comp=Z,3.0nm,0.6s,baz=54,slow=7.7,SNR=27
ESDC pP **pP** **12 44 45.0 +1.1**
comp=Z,3.5nm,0.8s,baz=59,slow=7.7,SNR=5.6
comp=Z,3.0nm,0.6s
TAM Tamanrasset **57.38 276** P **P** **12 43 58.3 0.0**
TAM Tamanrasset **57.38 276** P **P** **12 43 58.3 0.0**
TAM pmax pmax
comp=Z,42nm,0.3s
PAB San Pablo **57.69 298** P **P** **12 44 00.2 0.0**
PAB San Pablo **57.69 298** P **P** **12 44 00.2 0.0**
PAB pmax pmax
comp=Z,14nm,1.3s
TOLI2 Tolitoli **57.98 115** P **P** **12 44 02.7 +0.3**
BILL Bilibino **58.81 26** P **P** **12 44 08.7 +1.4**
MRSI Marisa **59.26 115** P **P** **12 44 12.8 +1.7**
comp=Z,2μmcomp=Z,115nm,1.0s
ABPO Ambohimpanom **59.41 206** P **P** **12 44 13.8 +1.6**
ABPO Ambohimpanom **59.41 206** P **P** **12 44 13.8 +1.6**
ABPO pmax pmax
comp=Z,9.0nm,1.0s
TTSI Tana Toraja **60.18 120** P **P** **12 44 17.7 +0.3**
comp=Z,25nm,0.7s
PEA0B Petropavlovsk- **60.19 44** P **P** **12 44 17.2 +0.2**
PEA0B IAmb IAmb 12 44 39.2
comp=Z,40nm,1.5s
PEA0B Petropavlovsk- **60.19 44** P **P** **12 44 17.2 +0.2**
PETK Petropavlovsk- **60.19 44** P **P** **12 44 16.6 -0.3**
PETK Petropavlovsk- **60.19 44** P **P** **12 44 16.8 -0.1**
comp=Z,3.1nm,0.7s,baz=353,slow=7.4,SNR=17
comp=Z,3.1nm,0.7s
SFS San Fernando **60.28 295** P **P** **12 44 17.3 -0.5**
SFS San Fernando **60.28 295** P **P** **12 44 17.3 -0.5**
SFS pmax pmax
comp=Z,266nm,1.1s
KMSI Cibinong **60.70 113** P **P** **12 44 21.9 +1.0**
comp=Z,3μmcomp=Z,160nm,0.9s
PET Petropavlovsk **60.75 44** P **P** **12 44 21.0 +0.2**
PET IAmb IAmb 12 46 25.0
comp=Z,64nm,1.6s
PVAQ Vaqueiros **60.98 297** P **P** **12 44 22.7 +0.1**
NEEM North Greenlan **61.13 348** *i* P **P** **12 44 24.3 +0.9**
NEEM IAmb IAmb 12 44 24.8

comp=Z,30nm,0.8s
SUMG Summit 61.14 341 P P 12 44 24.7 +1.2
SUMG IAmb IAmb 12 44 25.7
comp=Z,40nm,1.0s
SUMG Summit 61.14 341 P P 12 44 24.7 +1.2
SUMG pmax pmax
comp=Z,40nm,1.0s
SUMG Summit 61.14 341 *i* P P 12 44 24.7 +1.2
SUMG IAmb IAmb 12 44 25.5
comp=Z,40nm,1.0s
VOI Vohitsoka 62.23 205 P 12 44 32.6 +1.5
VOI IAmb IAmb 12 45 22.7
comp=Z,34nm,1.3s
TNTI Ternate 63.10 111 P 12 44 37.9 +0.9
TNTI Ternate 63.10 111 P P 12 44 38.8 +1.9
TNTI Ternate 63.10 111 P P 12 44 37.3 +0.4
comp=Z,53nm,0.8s
SANI Sanana 63.94 114 P P 12 44 42.8 +0.4
SANI Sanana 63.94 114 P P 12 44 42.9 +0.5
comp=Z,56nm,1.1s
EDA Edea 64.30 255 P 12 44 44.2 -0.6
EDA IAmb IAmb 12 44 47.1
comp=Z,11nm,0.6s
ANGG Ammassalik, Gr 64.46 334 P P 12 44 45.2 +0.2
ANGG IAmb IAmb 12 44 46.6
comp=Z,47nm,1.4s
TULEG Thule 64.54 350 *i* P P 12 44 46.2 +0.8
TULEG IAmb IAmb 12 44 46.4
comp=Z,155nm,1.6s
FOMA Nahampoana Res 65.02 204 P P 12 44 48.9 -0.2
FOMA IAmb IAmb 12 44 56.0
comp=Z,25nm,0.7s
UPNV Upernavik 65.22 345 *i* P P 12 44 51.0 +1.1
UPNV IAmb IAmb 12 44 51.2
comp=Z,25nm,0.8s
LSZ Lusaka 65.23 226 P 12 44 51.8 +1.0
LSZ Lusaka 65.23 226 P P 12 44 51.8 +1.0
LSZ pmax pmax
comp=Z,262nm,1.4s
TORD Torodi Ar. Bea 65.54 269 P 12 44 51.7 -1.1
TORD Torodi Ar. Bea 65.54 269 P P 12 44 51.4 -1.4
comp=Z,3.0nm,0.3s,baz=48,slow=6.3,SNR=37
comp=Z,3.0nm,0.3s
EDFI Ende, Flores 65.55 123 P P 12 44 49.7 -3.2
ILULI Ilulissat 66.47 341 P P 12 44 57.9 +0.1
ILULI IAmb IAmb 12 44 59.4
comp=Z,50nm,1.1s
ILULI Ilulissat 66.47 341 P P 12 44 57.9 +0.1
ILULI pmax pmax
comp=Z,49nm,1.1s
ILULI Ilulissat 66.47 341 *i* P P 12 44 58.5 +0.7
ILULI IAmb IAmb 12 44 59.2
comp=Z,46nm,1.1s
DY2G Dye2 66.84 337 *i* P P 12 45 01.2 +0.6
DY2G IAmb IAmb 12 45 02.1
comp=Z,50nm,1.1s
SWI Sorong 67.11 109 P P 12 45 03.5 +0.7
comp=Z,954nmcomp=Z,103nm,1.0s
A19K Wainwright 67.35 17 P P 12 45 03.4 +0.1
baz=317
A21K Barrow 67.49 15 P P 12 45 03.7 -0.5
baz=320
C16K Lisburne Hills 67.64 20 P P 12 45 05.9 +0.6
C16K Lisburne Hills 67.64 20 P P 12 45 05.1 -0.1
baz=314
B18K Kokolik River 67.78 18 P P 12 45 06.8 +0.7
baz=316,SNR=9.7
BATI Baumata 67.94 122 P P 12 45 08.7 +0.8
comp=Z,90nm,0.7s
SOEI Soe 68.03 121 P P 12 45 08.5 -0.1
SOEI Soe 68.03 121 P P 12 45 08.0 -0.6
comp=Z,68nm,0.8s
C17K DeLong Mountai 68.08 19 P P 12 45 08.5 +0.5
baz=316,SNR=5.5
A22K Sinclair Lake 68.08 15 P P 12 45 07.6 -0.3
baz=322
B20K Meade River 68.39 16 P 12 45 11.0 +1.1
B20K IAmb IAmb 12 45 11.9
comp=Z,40nm,0.8s
B20K Meade River 68.39 16 P P 12 45 10.1 +0.3
baz=320,SNR=7.3
RDOG Red Dog Mine 68.45 19 P P 12 45 10.3 0.0
baz=316
C18K Utukok River 68.46 18 IAmb IAmb 12 45 12.1
comp=Z,37nm,0.8s
C18K Utukok River 68.46 18 P P 12 45 10.7 +0.3
baz=317,SNR=8.1
C19K Lookout Ridge 68.51 17 P P 12 45 11.6 +0.9
baz=318,SNR=9.1
D17K Noatak River 68.66 19 P P 12 45 12.0 +0.4
baz=316,SNR=9.0
GAMB Gambell 68.70 25 P P 12 45 12.1 +0.3
baz=310
TNA Tin City 68.75 22 P P 12 45 11.8 -0.3
baz=312
B22K Teshekpuk Lake 68.92 15 P P 12 45 12.7 -0.4
baz=323
FAKI Fak Fak 69.19 110 P 12 45 16.4 +0.7
B21K Ikpikpuk River 69.25 15 P P 12 45 15.6 +0.5
baz=322,SNR=8.6
F14K Arctic Creek 69.30 22 P P 12 45 16.3 +0.8
baz=314
D19K Kuna River 69.33 17 P P 12 45 16.0 +0.3
baz=320
E17K Hotham Inlet 69.44 19 P P 12 45 16.9 +0.5
baz=317,SNR=5.5
D20K Etivluk River 69.51 17 P P 12 45 16.9 +0.1
baz=321
E18K Tukpahlearik C 69.51 19 P P 12 45 17.1 +0.3
baz=318
C21K Knifeblade Rid 69.58 16 P P 12 45 17.8 +0.5
baz=322,SNR=6.7
F15K North Star Dit 69.64 21 P P 12 45 18.4 +0.7
baz=315,SNR=8.8
C23K Itkillik River 69.90 14 P P 12 45 20.2 +1.1
baz=326,SNR=7.6
E20K Nigu River 69.97 17 P P 12 45 20.4 +0.7
baz=321
F17K Baldwin Pennin 70.07 20 P P 12 45 21.1 +0.9
baz=318
ANM Nome 70.23 22 P P 12 45 21.6 +0.4
baz=315
D22K Ayikyak River 70.25 15 IAmb IAmb 12 45 23.5
comp=Z,52nm,1.2s
D22K Ayikyak River 70.25 15 P P 12 45 22.2 +0.9
baz=324,SNR=11
G15K Niukluk 70.33 22 P P 12 45 22.1 +0.3
baz=316
E21K Killik River 70.33 16 P P 12 45 22.0 +0.2
baz=323,SNR=13
E19K Redstone River 70.34 18 P P 12 45 21.7 -0.1
baz=321
C24K Franklin Bluff 70.36 14 P P 12 45 22.5 +0.6
baz=327,SNR=6.2
BROLN Tlhalogang 70.37 223 *i* P P 12 45 22.3 -0.5
F18K Selawik 70.38 19 P P 12 45 22.5 +0.4
baz=319,SNR=15
G16K Koyuk River 70.53 21 P P 12 45 23.7 +0.6
baz=317
SOOWA Sowa 70.56 224 *i* P P 12 45 24.4 +0.4
SOOWA IAML 12 50 14.1
comp=N,32nm,0.6s
D23K Nanushuk River 70.60 15 IAmb IAmb 12 45 25.5
comp=Z,35nm,1.1s
D23K Nanushuk River 70.60 15 P P 12 45 24.2 +0.7
baz=326,SNR=5.3
F19K Shaleruckik Mo 70.69 18 P P 12 45 23.7 -0.2
baz=320
D24K Happy Valley 70.82 14 P P 12 45 24.7 0.0
baz=327
C26K Camden Bay 70.88 12 P P 12 45 25.3 +0.2
baz=330
G17K Kiwalik Mounta 70.93 20 P P 12 45 25.8 +0.4
baz=318,SNR=8.8
F20K Avaraart Lake 71.03 18 P P 12 45 25.8 -0.2
baz=322,SNR=8.8
BAKI Biak 71.05 106 P P 12 45 28.0 +1.0
comp=Z,49nm,1.2s
TOLK Toolik Lake Re 71.10 15 P 12 45 27.2 +0.7
TOLK Toolik Lake Re 71.10 15 P P 12 45 27.1 +0.6
baz=327,SNR=22
H16K Elim 71.12 21 P P 12 45 27.2 +0.6
baz=317
D25K Kavik River 71.14 13 P P 12 45 27.6 +0.9
baz=329,SNR=11
G18K Tagagawik 71.18 19 P P 12 45 27.9 +0.9
baz=320

C27K Jago River 71.34 12 P P 12 45 29.3 +1.4
baz=331,SNR=7.1
A36M Sachs Harbour 71.36 5 P 12 45 28.9 +1.0
A36M Sachs Harbour 71.36 5 P P 12 45 28.5 +0.6
baz=346,SNR=18
G19K Purcell Mounta 71.39 19 P P 12 45 29.0 +0.7
baz=321,SNR=20
F21K Alatna River 71.42 17 IAmb IAmb 12 45 30.1
comp=Z,36nm,1.1s
F21K Alatna River 71.42 17 P P 12 45 28.7 +0.3
baz=324,SNR=16
F22K John River 71.48 16 P P 12 45 29.9 +1.1
baz=325,SNR=20
H17K Granite Mounta 71.56 20 IAmb IAmb 12 45 31.2
comp=Z,30nm,0.9s
H17K Granite Mounta 71.56 20 P P 12 45 30.3 +1.0
baz=319,SNR=8.1
E23K Chandalar 71.58 15 P P 12 45 29.9 +0.5
baz=327,SNR=10
E24K Your Creek 71.80 14 P P 12 45 31.3 +0.7
baz=328,SNR=21
H18K Honhosa River 71.83 20 P P 12 45 31.2 +0.3
baz=320
G21K Allakaket 71.98 17 P P 12 45 32.1 +0.3
baz=324
H19K Roundabout Mou 72.04 19 IAmb IAmb 12 45 33.8
comp=Z,36nm,1.0s
H19K Roundabout Mou 72.04 19 P P 12 45 32.4 +0.4
baz=322,SNR=18
J14K Nanvaranak Lak 72.10 23 P P 12 45 33.7 +1.2
baz=317
G22K Bettles 72.12 16 P P 12 45 32.8 +0.3
baz=325
I17K Unalakleet 72.13 21 P P 12 45 33.7 +1.1
baz=319
D27M Malcolm River 72.13 11 IAmb IAmb 12 45 37.2
comp=Z,18nm,1.1s
D27M Malcolm River 72.13 11 P P 12 45 33.9 +1.2
baz=334
COLD Coldfoot 72.15 16 P P 12 45 33.7 +1.0
baz=326,SNR=32
E25K Arctic Village 72.33 13 P P 12 45 34.5 +0.7
baz=330,SNR=6.6
K13K Kusilvak Mount 72.33 24 P P 12 45 34.6 +0.8
baz=316
F24K Squaw Lake 72.39 15 P P 12 45 34.6 +0.4
baz=328,SNR=5.3
H20K Anotleneega Mo 72.47 18 P P 12 45 34.6 0.0
baz=323,SNR=23
GCSA Galena City Sc 72.54 19 P P 12 45 35.7 +0.7
baz=322,SNR=12
J16K Anvik River 72.61 22 P P 12 45 36.4 +0.9
baz=319,SNR=12
G23K Bananza Creek 72.62 16 IAmb IAmb 12 45 37.4
comp=Z,23nm,0.9s
G23K Bananza Creek 72.62 16 P P 12 45 36.3 +0.7
baz=327,SNR=16
QNGWA Qangwa 72.71 229 *i* P P 12 45 36.4 -0.5
QNGWA IAML 12 51 15.2
comp=N,19nm,1.1s
F25K Christian Rive 72.77 14 P P 12 45 37.7 +1.2
baz=330,SNR=26
H21K Melozitna Rive 72.85 17 P P 12 45 37.2 +0.3
baz=325,SNR=28
M11K Mekoryuk 72.91 26 P P 12 45 38.9 +1.6
baz=315
E28M Babbage River 72.94 11 IAmb IAmb 12 45 39.9
comp=Z,58nm,1.4s
E28M Babbage River 72.94 11 P P 12 45 38.0 +0.7
baz=335,SNR=12
F26K Sheenjek River 72.96 13 P P 12 45 38.5 +0.9
baz=331,SNR=10
J17K VABM Dome 72.97 21 IAmb IAmb 12 45 39.5
comp=Z,17nm,0.8s
J17K VABM Dome 72.97 21 P P 12 45 38.4 +0.8
baz=320,SNR=5.3
E27K Coleen River 72.98 12 IAmb IAmb 12 45 39.9
comp=Z,46nm,1.2s
E27K Coleen River 72.98 12 P P 12 45 38.6 +1.0
baz=333,SNR=12
H22K Ishtalitna Cre 73.00 17 P P 12 45 38.2 +0.5
baz=326,SNR=12
K15K Wolf Creek Mou 73.07 23 P P 12 45 39.0 +0.8
baz=318
BMAR Burnt Mountain 73.12 14 P 12 45 39.7 +1.2
I20K Naaghedeneel 73.13 19 P P 12 45 39.2 +0.7
baz=323,SNR=13
G24K Hadweenzic Riv 73.17 15 P P 12 45 39.8 +1.0
baz=329,SNR=12
POGA Pongola 73.28 216 P 12 45 40.1 +0.3
POGA IAmb IAmb 12 45 45.1
comp=Z,32nm,1.2s
E29M Blow River 73.38 11 P 12 45 41.3 +1.4
E29M Blow River 73.38 11 P P 12 45 40.9 +0.9
baz=336,SNR=19
G25K Bearman Lake 73.40 14 P P 12 45 41.1 +1.1
baz=330,SNR=12
L14K Kuka Creek 73.41 24 P P 12 45 41.3 +1.1
baz=318
I21K Tanana 73.44 17 P P 12 45 41.1 +0.8
baz=325,SNR=13
H23K Yukon River 73.47 16 P P 12 45 41.5 +0.9
baz=327,SNR=20
J19K Poorman 73.47 19 P P 12 45 41.2 +0.7
baz=323,SNR=28
L15K Ungalak Mounta 73.54 23 P P 12 45 41.5 +0.5
baz=318
MBWA Marble Bar 73.56 133 P P 12 45 41.9 +0.3
comp=Z,18nm,1.5s
SMPI Sarmi 73.57 105 P P 12 45 42.9 +1.0
comp=Z,93nm,0.7s
J18K Innoko River 73.59 20 P P 12 45 41.6 +0.3
baz=322,SNR=24
G26K Porcupine Rive 73.69 13 P P 12 45 42.3 +0.6
baz=332,SNR=8.0
J20K Nowinta River 73.72 19 IAmb IAmb 12 45 43.9
comp=Z,40nm,0.8s
J20K Nowinta River 73.72 19 P P 12 45 42.6 +0.7
baz=324,SNR=21
K17K Iditarod 73.72 21 P P 12 45 42.6 +0.6
baz=331
F28M Old Crow 73.78 12 P P 12 45 43.0 +0.7
baz=335,SNR=13
H24K Noodor Dome 73.83 16 IAmb IAmb 12 45 44.8
comp=Z,26nm,1.0s
H24K Noodor Dome 73.83 16 P P 12 45 43.3 +0.7
baz=328,SNR=22
MLY Manley 73.86 17 IAmb IAmb 12 45 44.6
comp=Z,27nm,1.0s
MLY Manley 73.86 17 P P 12 45 43.5 +0.7
baz=326,SNR=25
M13K Dall Lake 73.87 25 P P 12 45 44.1 +1.2
baz=317
H25L Birch Creek 73.89 15 P P 12 45 43.9 +1.0
baz=330,SNR=7.9
PSA00 Pilbara Seismi 73.95 133 P P 12 45 44.1 +0.3
comp=Z,21nm,1.0s
C36M Paulatuk 74.03 5 P P 12 45 43.6 0.0
baz=348,SNR=22
INK Inuvik 74.07 9 P P 12 45 44.7 +0.8
baz=340,SNR=32
M14K Bethel 74.08 24 P P 12 45 45.2 +1.1
baz=318,SNR=14
I23K Minto, Yukon-K 74.08 16 P P 12 45 45.1 +1.1
baz=327,SNR=24
L16K Owhat River 74.15 22 P P 12 45 45.9 +1.4
baz=320,SNR=16
L17K Donlin 74.18 22 P P 12 45 45.8 +1.2
baz=321,SNR=9.4
G27K Doyon Strip 74.20 13 IAmb IAmb 12 45 47.1
comp=Z,34nm,0.9s
G27K Doyon Strip 74.20 13 P P 12 45 45.8 +1.0
baz=333,SNR=38
K20K Telida 74.40 19 P P 12 45 46.7 +0.7
baz=324
F30M Barrier River 74.41 10 P P 12 45 46.8 +0.9
baz=338,SNR=19
CHUM Lake Minchumin 74.43 18 P P 12 45 47.1 +1.0
baz=325,SNR=16
LBTB Lobatse 74.46 222 P P 12 45 48.3 +1.4
DBIC Dimbokro 74.52 267 P P 12 45 46.7 -0.7
comp=Z,3.6nm,0.5s,baz=70,slow=6.1,SNR=9.6
comp=Z,3.6nm,0.5s
DRS Darwin Rock St 74.53 119 P P 12 45 48.0 +0.6
M15K Kasigluk River 74.54 24 P P 12 45 48.1 +1.3
baz=319,SNR=8.0
POKR Poker Flat Res 74.54 16 P P 12 45 47.4 +0.7
baz=329,SNR=20

BPAW Bear Paw Mtn. 74.58 18 P P 12 45 47.3 +0.4
baz=326,SNR=21
L18K Granite Mounta 74.58 21 IAmb IAmb 12 45 48.9
comp=Z,19nm,0.7s
L18K Granite Mounta 74.58 21 P P 12 45 47.6 +0.6
baz=322,SNR=7.8
PRP Porcupine Dome 74.60 15 P P 12 45 47.7 +0.4
baz=330,SNR=11
NEA2 Nenana 74.62 17 P P 12 45 47.3 +0.2
baz=328,SNR=48
KGCAE Kacgae 74.65 226 P 12 45 48.9 +0.9
KGCAE IAmb IAmb 12 45 53.5
comp=Z,85nm,1.8s
COLA College 74.66 16 P P 12 45 48.3 +0.9
COLA College 74.66 16 P P 12 45 48.2 +0.9
baz=329
COLA College 74.66 16 P P 12 45 47.9 +0.6
TSUM Tsumeb 74.70 232 P 12 45 48.8 +0.4
TSUM Tsumeb 74.70 232 P P 12 45 49.2 +0.9
TSUM pP pP 12 46 36.5 -1.4
G29M Pine Creek 74.72 11 IAmb IAmb 12 45 49.8
comp=Z,26nm,0.9s
G29M Pine Creek 74.72 11 P P 12 45 48.6 +0.9
baz=336,SNR=9.6
H27K Steamboat Moun 74.75 13 P 12 45 49.1 +1.2
H27K IAmb IAmb 12 45 50.2
comp=Z,44nm,0.9s
H27K Steamboat Moun 74.75 13 P P 12 45 48.9 +1.0
baz=334,SNR=37
N14K Kuskokwak Cree 74.79 24 P P 12 45 48.6 +0.4
N14K Kuskokwak Cree 74.79 24 P P 12 45 48.5 +0.3
baz=319
M16K Timber Creek 74.84 23 P 12 45 49.9 +1.4
M16K IAmb IAmb 12 45 51.1
comp=Z,35nm,0.8s
M16K Timber Creek 74.84 23 P P 12 45 49.7 +1.3
baz=320,SNR=5.8
F31M Tsiigehtchic 74.86 10 P P 12 45 49.1 +0.7
baz=340,SNR=28
G30M tAoh Zraii Nji 74.94 11 IAmb IAmb 12 45 51.2
comp=Z,43nm,0.8s
G30M tAoh Zraii Nji 74.94 11 P P 12 45 49.6 +0.6
baz=338,SNR=28
FITZ Fitzroy Crossi 74.95 126 P P 12 45 50.3 +0.6
comp=Z,4.7nm,0.8s
FITZ Fitzroy Crossi 74.95 126 P 12 45 50.2 +0.6
FITZ Fitzroy Crossi 74.95 126 P P 12 45 50.7 +1.0
ILAR Eielson Array 74.96 16 P 12 45 48.9 -0.2
ILAR Eielson Array 74.96 16 P P 12 45 48.8 -0.4
comp=Z,16nm,0.8s,baz=320,slow=4.4,SNR=95
ILAR PP PP 12 48 38.7 -0.2
comp=Z,1.8nm,0.6s,baz=319,slow=7.1,SNR=8.7
comp=Z,16nm,0.8s
ILAR Eielson Array 74.96 16 P P 12 45 48.9 -0.2
MTN Manton Dam 74.98 119 P P 12 45 49.6 -0.3
comp=Z,18nm,0.6s
MTN Manton Dam 74.98 119 P 12 45 49.8 -0.1
MTN IAmb IAmb 12 45 50.6
comp=Z,25nm,1.1s
M17K Holitna River 75.01 22 P P 12 45 51.0 +1.6
baz=322,SNR=12
GENI Genyem 75.08 105 P P 12 45 51.9 +1.3
GENI Genyem 75.08 105 P P 12 45 51.5 +0.9
comp=Z,142nm,0.9s
N15K Kwethluk River 75.13 24 P P 12 45 51.5 +1.3
baz=320
L19K White Mountain 75.14 20 P P 12 45 51.0 +0.8
baz=324,SNR=8.7
L20K Farewell, AK 75.16 20 P P 12 45 51.2 +0.8
baz=324,SNR=11
HDA Harding Lake 75.26 16 P P 12 45 50.0 -0.9
baz=330,SNR=8.2
I26K Coal Creek Min 75.26 14 P P 12 45 51.4 +0.6
baz=332
G31M Satah River 75.27 10 IAmb IAmb 12 45 52.4
comp=Z,47nm,0.9s
G31M Satah River 75.27 10 P P 12 45 50.8 0.0
baz=339,SNR=17
PPLA Purkeypile 75.27 19 P P 12 45 51.3 +0.2
baz=326,SNR=7.4
I27K Kandik River 75.29 13 P P 12 45 51.8 +0.7
baz=334,SNR=19
TRF Thorofare Moun 75.29 18 P P 12 45 51.4 +0.2
baz=327,SNR=5.5
KNRA Kununurra 75.30 122 P P 12 45 52.2 +0.5
comp=Z,94nm,0.8s
KNRA Kununurra 75.30 122 P 12 45 52.0 +0.3
H29M Whitestone 75.30 12 P P 12 45 51.8 +0.8
baz=336,SNR=27
N16K Nishlik Lake 75.32 23 P P 12 45 53.1 +1.8
baz=321,SNR=8.1
MCK McKinley 75.38 17 IAmb IAmb 12 45 53.3
comp=Z,26nm,1.1s
MCK McKinley 75.38 17 P P 12 45 52.0 +0.5
baz=328,SNR=11
M18K Stony River 75.41 21 P P 12 45 52.6 +0.9
baz=323,SNR=5.3
J25K Salcha River, 75.42 15 IAmb IAmb 12 45 53.3
comp=Z,23nm,0.8s
J25K Salcha River, 75.42 15 P P 12 45 52.0 +0.2
baz=331,SNR=33
EPYK Eagle Plains 75.43 11 P P 12 45 52.2 +0.4
baz=338,SNR=16
O14K Tigyukauivet M 75.44 25 P P 12 45 52.4 +0.5
baz=319
M19K Big River Lodg 75.49 20 P P 12 45 53.2 +1.0
baz=324
I28M Miner Creek 75.74 13 IAmb IAmb 12 45 55.1
comp=Z,32nm,0.8s
I28M Miner Creek 75.74 13 P P 12 45 54.1 +0.5
baz=335,SNR=30
N17K Nushagak Hills 75.77 22 IAmb IAmb 12 45 56.5
comp=Z,34nm,1.1s
N17K Nushagak Hills 75.77 22 P P 12 45 55.2 +1.4
baz=322,SNR=6.0
KDU Kakadu 75.83 118 P P 12 45 55.1 +0.4
comp=Z,55nm,1.1s
KDU Kakadu 75.83 118 P P 12 45 55.3 +0.5
M20K Styx River 75.86 20 P P 12 45 55.1 +0.8
baz=325
J26L Joseph Creek 75.90 15 P P 12 45 55.0 +0.5
baz=332,SNR=50
O15K Ungalikthiuk R 75.98 24 P P 12 45 55.6 +0.6
baz=320
N18K Kilae Creek 76.04 22 P P 12 45 56.1 +0.8
baz=325
K24K Donnelly Dome 76.04 16 P P 12 45 55.1 -0.2
baz=330,SNR=16
I29M Ogilvie Camp, 76.10 12 P P 12 45 55.5 -0.2
baz=336,SNR=16
CUT Chulitna 76.18 18 P P 12 45 55.7 -0.3
baz=327,SNR=5.2
SKT Skwentna 76.20 19 P P 12 45 56.1 -0.2
baz=326,SNR=27
O16K Kokwok River B 76.22 23 IAmb IAmb 12 45 59.0
comp=Z,34nm,0.9s
O16K Kokwok River B 76.22 23 P P 12 45 57.5 +1.2
baz=321,SNR=9.8
WAT1 Susitna Watana 76.24 17 P P 12 45 55.8 -0.7
baz=328
SCRK Sand Creek 76.27 15 IAmb IAmb 12 45 58.3
comp=Z,30nm,0.8s
SCRK Sand Creek 76.27 15 P P 12 45 57.3 +0.6
baz=332,SNR=37
RIDG Independent Ri 76.30 15 P P 12 45 56.4 -0.4
baz=331,SNR=16
DHY Denali Highway 76.31 17 P P 12 45 57.2 +0.2
baz=329,SNR=25
H31M Peel River 76.31 10 P P 12 45 57.1 +0.3
baz=340,SNR=23
N19K Bonanza Creek 76.34 21 P P 12 45 58.0 +0.9
baz=324
O17K Koliganek Bris 76.39 23 P P 12 45 58.5 +1.2
baz=322
I30M Mount Dempster 76.55 11 P P 12 45 58.8 +0.5
baz=338,SNR=42
K27K Chicken 76.62 14 P P 12 45 59.7 +1.1
baz=333
WAT6 Susitna Watana 76.65 17 P P 12 45 58.5 -0.4
baz=329,SNR=15
N20K Mount Spurr 76.67 20 P P 12 45 58.6 -0.4
baz=326
SPCR Spurr Chakacha 76.67 20 P P 12 45 58.5 -0.5
baz=326
M22K Willow 76.76 19 P P 12 45 58.9 -0.5
baz=327
PAX Paxson 76.84 16 IAmb IAmb 12 46 01.0
comp=Z,34nm,0.7s

PAX	**Paxson**	**76.84**	**16**	P	**P**	**12 45 59.8**	**-0.1**
	baz=331,SNR=35						
SUA	**Susitna One**	**76.84**	**19**	P	**P**	**12 45 59.8**	**-0.2**
	baz=327,SNR=6.9						
O19K	**Port Alsworth**	**76.89**	**21**	P	**P**	**12 46 00.9**	**+0.8**
	baz=324						
J29N	**Klondike Camp**	**76.95**	**12**	P	**P**	**12 46 01.0**	**+0.6**
	baz=336						
P17K	**Kvichak River**	**77.06**	**23**	P	**P**	**12 46 02.2**	**+1.2**
	baz=323,SNR=15						
DAWY	**Dawson**	**77.10**	**13**	P	**P**	**12 46 01.6**	**+0.4**
	baz=336,SNR=33						
PMR	**Palmer**	**77.15**	**18**	P	**P**	**12 46 02.1**	**+0.6**
PMR	**Palmer**	**77.15**	**18**	P	**P**	**12 46 01.6**	**+0.1**
	baz=328,SNR=9.5						
J30M	**Hart River**	**77.16**	**12**	IAmb	IAmb	12 46 03.5	
	comp=Z,23nm,0.8s						
J30M	**Hart River**	**77.16**	**12**	P	**P**	**12 46 02.2**	**+0.5**
	baz=338,SNR=29						
MENT	**Mentasta**	**77.25**	**15**	P	**P**	**12 46 03.1**	**+1.0**
L26K	**Log Cabin Wild**	**77.25**	**15**	P	**P**	**12 46 02.5**	**+0.4**
	baz=332,SNR=16						
P18K	**Big Mountain,**	**77.27**	**22**	P	**P**	**12 46 02.8**	**+0.5**
	baz=324						
M23K	**Glacier View**	**77.33**	**18**	P	**P**	**12 46 02.7**	**+0.1**
	baz=329,SNR=25						
SCM	**Sheep Creek Mo**	**77.39**	**17**	P	**P**	**12 46 03.3**	**+0.3**
	baz=330,SNR=12						
Q16K	**King Salmon**	**77.40**	**23**	P	**P**	**12 46 03.8**	**+0.9**
	baz=323,SNR=6.5						
HARP	**HAARP**	**77.41**	**16**	P	**P**	**12 46 04.1**	**+1.1**
	baz=331,SNR=31						
RC01	**Rabbit Creek A**	**77.42**	**19**	IAmb	IAmb	12 46 04.0	
	comp=Z,25nm,0.6s						
RC01	**Rabbit Creek A**	**77.42**	**19**	P	**P**	**12 46 03.0**	**-0.1**
	baz=328,SNR=7.4						
M24K	**Tolsona, Glenn**	**77.43**	**17**	P	**P**	**12 46 04.1**	**+1.0**
	baz=330,SNR=21						
UNV	**Unalaska Valle**	**77.47**	**31**	P	**P**	**12 46 03.7**	**+0.4**
	baz=316						
KNK	**Knik Glacier**	**77.47**	**18**	P	**P**	**12 46 03.8**	**+0.5**
	baz=329,SNR=11						
O20K	**Slope Mountain**	**77.48**	**21**	P	**P**	**12 46 03.7**	**+0.2**
	baz=326						
BOSA	**Boshof**	**77.53**	**220**	P	**P**	**12 46 04.8**	**+0.7**
	comp=Z,11nm,0.7s,baz=24,slow=3.9,SNR=19						
	comp=Z,11nm,0.7s						
BOSA	**Boshof**	**77.53**	**220**	P	**P**	**12 46 04.8**	**+0.7**
BOSA				PcP	**PcP**	**12 46 14.6**	**+1.0**
BOSA				pP	**pP**	**12 46 55.3**	**+1.5**
L27K	**Beaver Creek,**	**77.53**	**15**	IAmb	IAmb	12 46 05.8	
	comp=Z,26nm,0.8s						
L27K	**Beaver Creek,**	**77.53**	**15**	P	**P**	**12 46 04.5**	**+0.9**
	baz=334,SNR=26						
BCAR	**Beaver Creek A**	**77.54**	**15**		**P**	**12 46 04.5**	**+0.8**
K29M	**Barlow Dome**	**77.63**	**12**		**P**	**12 46 05.2**	**+0.8**
K29M				IAmb	IAmb	12 46 06.2	
	comp=Z,31nm,0.9s						
K29M	**Barlow Dome**	**77.63**	**12**	P	**P**	**12 46 05.2**	**+0.8**
	baz=337,SNR=26						
P19K	**Oil Pt**	**77.66**	**21**	P	**P**	**12 46 04.2**	**-0.2**
	baz=325						
S12K	**Black Hills**	**77.84**	**27**	P	**P**	**12 46 05.6**	**+0.2**
	baz=319						
M26K	**Nabesna, AK**	**77.88**	**15**	P	**P**	**12 46 06.0**	**+0.4**
	baz=333,SNR=10						
Q18K	**Katmai Hardscr**	**77.94**	**23**	P	**P**	**12 46 05.6**	**-0.5**
	baz=324						
O22K	**Cooper Landing**	**77.94**	**19**	P	**P**	**12 46 05.7**	**-0.1**
	baz=328						
FALS	**False Pass**	**77.96**	**29**	P	**P**	**12 46 06.2**	**+0.1**
	baz=318						
Q17K	**Contact Creek**	**77.97**	**23**	P	**P**	**12 46 05.7**	**-0.6**
	baz=323						
PWL	**Port Wells**	**77.98**	**18**	P	**P**	**12 46 06.0**	**-0.2**
	baz=329						
KLU	**Klutina**	**78.03**	**17**	P	**P**	**12 46 07.0**	**+0.5**
	baz=331,SNR=12						
HOM	**Homer**	**78.11**	**20**	P	**P**	**12 46 06.0**	**-0.8**
	baz=326						
Q19K	**Cape Douglas,**	**78.13**	**22**	P	**P**	**12 46 07.1**	**0.0**
	baz=325						
MAYO	**Mayo, Yukon**	**78.14**	**12**	P	**P**	**12 46 07.8**	**+0.9**
	baz=338,SNR=8.3						
M27K	**Edge Creek, AK**	**78.16**	**15**	P	**P**	**12 46 08.0**	**+0.7**
	baz=334,SNR=20						
L29M	**L29M**	**78.20**	**13**	IAmb	IAmb	12 46 09.5	
	comp=Z,35nm,1.1s						
L29M	**L29M**	**78.20**	**13**	P	**P**	**12 46 08.0**	**+0.6**
	baz=337,SNR=22						
N25K	**Chitina, Valde**	**78.23**	**16**	IAmb	IAmb	12 46 09.5	
	comp=Z,81nm,1.9s						
N25K	**Chitina, Valde**	**78.23**	**16**	P	**P**	**12 46 08.2**	**+0.6**
	baz=332,SNR=7.8						
GLI	**Glacier Island**	**78.28**	**18**	P	**P**	**12 46 07.6**	**-0.2**
	baz=330						
S14K	**Fog Glacier**	**78.31**	**26**	P	**P**	**12 46 07.2**	**-0.9**
	baz=321						
BVCY	**Beaver Creek**	**78.31**	**14**	P	**P**	**12 46 09.2**	**+1.2**
	baz=335,SNR=26						
R17L	**Mt. Peulik Vol**	**78.33**	**24**	P	**P**	**12 46 08.2**	**+0.1**
	baz=323						
SEW	**Seward**	**78.33**	**19**	P	**P**	**12 46 08.1**	**+0.1**
	baz=328						
CHGN	**Chignik**	**78.69**	**25**	P	**P**	**12 46 10.1**	**+0.1**
	baz=322						
SDPT	**Sand Point**	**78.69**	**27**	P	**P**	**12 46 09.7**	**-0.4**
	baz=320						
M29M	**Somme Creek**	**78.75**	**13**	P	**P**	**12 46 11.2**	**+0.7**
	baz=336,SNR=24						
Q20K	**Shuyak Island**	**78.76**	**21**	P	**P**	**12 46 10.2**	**-0.2**
	baz=326						
MCARA	**McCarthy VSAT**	**78.78**	**16**		**P**	**12 46 11.8**	**+1.2**
MCARA				IAmb	IAmb	12 46 12.7	
	comp=Z,20nm,0.8s						
MCARA	**McCarthy VSAT**	**78.78**	**16**	P	**P**	**12 46 11.2**	**+0.7**
	baz=333,SNR=6.6						
BMRM	**Bremner River**	**78.80**	**17**	IAmb	IAmb	12 46 12.5	
	comp=Z,46nm,1.0s						
BMRM	**Bremner River**	**78.80**	**17**	P	**P**	**12 46 11.4**	**+0.7**
	baz=332,SNR=13						
VRDI	**Verde Repeater**	**78.83**	**16**	IAmb	IAmb	12 46 13.1	
	comp=Z,26nm,0.9s						
EYAK	**Cordova Ski Ar**	**78.89**	**17**	P	**P**	**12 46 12.7**	**+1.6**
EYAK	**Cordova Ski Ar**	**78.89**	**17**	P	**P**	**12 46 12.2**	**+1.1**
	baz=331,SNR=7.1						
M30M	**Minto, Yukon**	**78.93**	**13**	IAmb	IAmb	12 46 12.9	
	comp=Z,27nm,1.5s						
M30M	**Minto, Yukon**	**78.93**	**13**	P	**P**	**12 46 12.1**	**+0.7**
	baz=338,SNR=8.5						
YUK3	**Moose Creek**	**78.97**	**15**	P	**P**	**12 46 12.4**	**+0.6**
	baz=335,SNR=17						
R18K	**Karluk**	**78.99**	**23**	P	**P**	**12 46 12.0**	**+0.4**
	baz=324						
BLKN	**Baker Lake**	**79.11**	**354**		**P**	**12 46 12.6**	**+0.4**
CRQE	**Cirque**	**79.33**	**16**	P	**P**	**12 46 14.2**	**+0.5**
	baz=333,SNR=5.4						
KDAK	**Kodiak Island**	**79.39**	**22**	P	**P**	**12 46 14.2**	**+0.3**
	baz=326						
KDAK	**Kodiak Island**	**79.39**	**22**	P	**P**	**12 46 14.6**	**+0.7**
CHNA	**Chernabura Isl**	**79.42**	**27**	P	**P**	**12 46 14.6**	**+0.5**
	baz=321						
CTG	**Chitna Glacier**	**79.53**	**15**	P	**P**	**12 46 15.4**	**+0.7**
	baz=334,SNR=12						
YUK8	**Steele Glacier**	**79.56**	**14**	P	**P**	**12 46 15.7**	**+0.7**
	baz=336,SNR=6.4						
OHAK	**Old Harbor**	**79.64**	**23**	P	**P**	**12 46 16.8**	**+1.6**
OHAK	**Old Harbor**	**79.64**	**23**	P	**P**	**12 46 16.2**	**+1.0**
	baz=325,SNR=5.6						
M31M	**Drury Creek, Y**	**79.69**	**12**	P	**P**	**12 46 16.2**	**+0.7**
	baz=340,SNR=19						
Q23K	**Middleton Isla**	**79.72**	**18**	P	**P**	**12 46 16.3**	**+0.8**
	baz=330						
YUK4	**Talbot Arm**	**79.73**	**14**	P	**P**	**12 46 16.5**	**+0.6**
	baz=336,SNR=25						
KAIM	**Kayak Island**	**79.76**	**17**	P	**P**	**12 46 16.0**	**+0.2**
	baz=332						
MMPY	**Sheldon Lake,**	**79.78**	**10**	P	**P**	**12 46 16.6**	**+0.6**
	baz=342,SNR=12						
SII	**Sitkinak Islan**	**79.90**	**23**	P	**P**	**12 46 17.6**	**+1.0**
	baz=325						
N30M	**Aishikik Lake**	**79.92**	**13**	P	**P**	**12 46 17.6**	**+0.9**
	baz=338,SNR=11						
O28M	**Mount Upton**	**79.94**	**15**	P	**P**	**12 46 17.9**	**+0.7**
	baz=335,SNR=8.1						
CHIR	**Chirikof Islan**	**80.03**	**25**	P	**P**	**12 46 18.7**	**+1.4**
	baz=324						
WRGLY	**Wrigley**	**80.10**	**6**	P	**P**	**12 46 18.8**	**+1.3**
	baz=348,SNR=13						
MESA	**MESA**	**80.10**	**16**	P	**P**	**12 46 18.7**	**+0.8**
	baz=334						
N31M	**Braeburn, Yuko**	**80.13**	**13**	IAmb	IAmb	12 46 19.9	
	comp=Z,41nm,0.8s						
N31M	**Braeburn, Yuko**	**80.13**	**13**	P	**P**	**12 46 18.6**	**+0.7**
	baz=339,SNR=15						
YUK6	**Outpost Mounta**	**80.15**	**14**	P	**P**	**12 46 19.1**	**+0.9**
	baz=337,SNR=6.9						
HYT	**Haines Junctio**	**80.43**	**14**	IAmb	IAmb	12 46 21.6	
	comp=Z,32nm,0.8s						
HYT	**Haines Junctio**	**80.43**	**14**	P	**P**	**12 46 20.6**	**+1.0**
	baz=337,SNR=25						
PINM	**Pinnacle**	**80.54**	**15**	P	**P**	**12 46 21.0**	**+0.9**
	baz=335,SNR=6.6						
O29M	**Mount Kennedy**	**80.70**	**14**	P	**P**	**12 46 21.5**	**+0.5**
	baz=336						
O30N	**Mendenhall**	**80.74**	**13**	P	**P**	**12 46 21.8**	**+0.7**
	baz=338,SNR=18						
WHY	**Whitehorse**	**81.06**	**12**	P	**P**	**12 46 23.0**	**+0.2**
	baz=339,SNR=14						
PNL	**Peninsula**	**81.11**	**15**	P	**P**	**12 46 23.9**	**+0.8**
	baz=336						
P30M	**Million Dollar**	**81.18**	**14**	P	**P**	**12 46 24.3**	**+0.9**
	baz=338,SNR=8.5						
TGTN	**Hyland Airport**	**81.23**	**9**	P	**P**	**12 46 24.6**	**+1.0**
	baz=345,SNR=13						
YKAW3	**Yellowknife Wh**	**81.32**	**3**	P	**P**	**12 46 24.5**	**+0.4**
YKAW3				IAmb	IAmb	12 46 25.4	
	comp=Z,27nm,0.8s						
YKA	**Yellowknife Ar**	**81.39**	**3**		**P**	**12 46 24.6**	**+0.2**
YKA	**Yellowknife Ar**	**81.39**	**3**	P	**P**	**12 46 24.3**	**-0.1**
	comp=Z,17nm,0.7s,baz=356,slow=5.6,SNR=103						
	comp=Z,17nm,0.7s						
YKA	**Yellowknife Ar**	**81.39**	**3**	*i* P	**P**	**12 46 24.8**	**+0.4**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
YKAW1	**Yellowknife Wh**	**81.41**	**2**	P	**P**	**12 46 25.0**	**+0.5**
YKAW1				IAmb	IAmb	12 46 25.9	
	comp=Z,31nm,0.8s						
P29M	**Windy Craggy**	**81.48**	**14**	P	**P**	**12 46 25.5**	**+0.5**
	baz=337						
WRKA	**Warakurna**	**81.67**	**129**	P	**P**	**12 46 26.0**	**-0.4**
P33M	**Teslin, Yukon**	**81.83**	**12**	P	**P**	**12 46 27.2**	**+0.4**
	baz=341,SNR=50						
PLBC	**Pleasant Camp**	**81.91**	**14**	P	**P**	**12 46 28.3**	**+1.1**
	baz=338,SNR=22						
WB0	**Warramunga Arr**	**81.98**	**122**	P	**P**	**12 46 27.5**	**-0.6**
WB0				IAmb	IAmb	12 46 28.6	
	comp=Z,21nm,0.8s						
WRA	**Warramunga Arr**	**82.06**	**122**		**P**	**12 46 28.1**	**-0.4**
WRA	**Warramunga Arr**	**82.06**	**122**	P	**P**	**12 46 28.2**	**-0.4**
	comp=Z,24nm,0.7s,baz=324,slow=4.9,SNR=212						
	comp=Z,24nm,0.7s						
WRAB	**Tennant Creek**	**82.07**	**122**	P	**P**	**12 46 28.2**	**-0.3**
WRAB				IAmb	IAmb	12 46 29.2	
	comp=Z,36nm,0.9s						
WRAB	**Tennant Creek**	**82.07**	**122**	P	**P**	**12 46 28.2**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,36nm,1.0s						
SKAG	**Skagway**	**82.10**	**13**		**P**	**12 46 29.4**	**+1.2**
SKAG				IAmb	IAmb	12 46 30.3	
	comp=Z,25nm,0.8s						
SKAG	**Skagway**	**82.10**	**13**	P	**P**	**12 46 30.0**	**+1.8**
SKAG	**Skagway**	**82.10**	**13**	P	**P**	**12 46 29.3**	**+1.1**
	baz=339,SNR=7.1						
SCHQ	**Schefferville**	**82.16**	**337**	P	**P**	**12 46 28.4**	**-0.2**
	comp=Z,44nm,0.6s,baz=24,slow=7.9,SNR=4.0						
	comp=Z,44nm,0.6s						
WR8	**Warramunga Arr**	**82.18**	**122**	P	**P**	**12 46 28.8**	**-0.4**
WR8				IAmb	IAmb	12 46 29.6	
	comp=Z,31nm,0.9s						
P32M	**Atlin**	**82.27**	**12**	IAmb	IAmb	12 46 30.6	
	comp=Z,15nm,0.8s						
P32M	**Atlin**	**82.27**	**12**	P	**P**	**12 46 30.0**	**+0.9**
	baz=340,SNR=6.3						
WTLY	**Watson Lake, Y**	**82.53**	**10**	P	**P**	**12 46 31.1**	**+0.7**
	baz=344,SNR=35						
R33M	**Jennings River**	**82.90**	**11**		**P**	**12 46 33.2**	**+0.7**
R33M				IAmb	IAmb	12 46 34.1	
	comp=Z,26nm,0.9s						
R33M	**Jennings River**	**82.90**	**11**	P	**P**	**12 46 33.3**	**+0.8**
	baz=343,SNR=16						
R31K	**City Hall, Gus**	**83.01**	**14**	P	**P**	**12 46 34.3**	**+1.5**
	baz=339						
KOTAN	**Kotaneelee Air**	**83.08**	**7**	P	**P**	**12 46 34.4**	**+1.1**
	baz=348						
Q32M	**Nakina River**	**83.11**	**12**	P	**P**	**12 46 34.2**	**+0.6**
	baz=342,SNR=20						
S31K	**Pelican**	**83.33**	**14**	P	**P**	**12 46 35.9**	**+1.4**
	baz=338						
R32K	**Eaglecrest**	**83.36**	**13**	P	**P**	**12 46 36.2**	**+1.5**
	baz=340,SNR=5.0						
JIS	**Juneau Island**	**83.39**	**13**	P	**P**	**12 46 36.7**	**+1.9**
LIRD	**Liard River Hi**	**83.56**	**9**	P	**P**	**12 46 36.7**	**+1.0**
	baz=346,SNR=9.8						
DLBC	**Dease Lake**	**83.96**	**11**	P	**P**	**12 46 38.9**	**+1.1**
	comp=Z,128nm,0.6s,baz=324,slow=3.1,SNR=39						
DLBC	**Dease Lake**	**83.96**	**11**	P	**P**	**12 46 38.5**	**+0.7**
	baz=343,SNR=14						
TOAD	**Toad River Com**	**84.20**	**8**	P	**P**	**12 46 39.6**	**+0.6**
	baz=347,SNR=23						
S34M	**Telegraph Cree**	**84.29**	**12**	P	**P**	**12 46 40.0**	**+0.6**
	baz=342,SNR=32						
AS31	**Alice Springs**	**84.32**	**125**	P	**P**	**12 46 39.7**	**-0.3**
ASAR	**Alice Springs**	**84.32**	**125**	P	**P**	**12 46 39.6**	**-0.4**
	comp=Z,20nm,0.7s,baz=311,slow=4.9,SNR=392						
	comp=Z,20nm,0.7s						
AS01	**Alice Springs**	**84.35**	**125**	P	**P**	**12 46 40.0**	**-0.2**
SIT	**Sitka**	**84.36**	**14**	P	**P**	**12 46 40.6**	**+0.9**
	baz=339						
COEN	**Coen**	**84.51**	**112**	P	**P**	**12 46 40.7**	**-0.4**
	comp=Z,29nm,0.8s						
COEN	**Coen**	**84.51**	**112**	P	**P**	**12 46 40.8**	**-0.4**
COEN				IAmb	IAmb	12 46 41.8	
	comp=Z,20nm,0.7s						
PMG	**Port Moresby**	**84.73**	**106**	P	**P**	**12 46 42.6**	**+0.3**
PMG				IAmb	IAmb	12 46 43.9	
	comp=Z,29nm,0.9s						
PMG	**Port Moresby**	**84.73**	**106**	P	**P**	**12 46 42.6**	**+0.3**
PMG				pmax	pmax		
	comp=Z,29nm,0.9s						
T35M	**Bob Quinn**	**85.33**	**11**	IAmb	IAmb	12 46 46.9	
	comp=Z,16nm,0.8s						
T35M	**Bob Quinn**	**85.33**	**11**	P	**P**	**12 46 45.0**	**+0.4**
	baz=343,SNR=6.9						
WRAK	**Wrangell Islan**	**85.51**	**13**	P	**P**	**12 46 46.5**	**+1.0**
WRAK				IAmb	IAmb	12 46 47.5	
	comp=Z,20nm,0.8s						
WRAK	**Wrangell Islan**	**85.51**	**13**	P	**P**	**12 46 46.7**	**+1.2**
	baz=342,SNR=6.3						
U33K	**Whale Pass**	**85.66**	**13**	P	**P**	**12 46 47.0**	**+0.8**
	baz=341						
QIS	**Mount Isa**	**86.14**	**119**	P	**P**	**12 46 48.3**	**-0.9**
	comp=Z,23nm,0.9s						
QIS	**Mount Isa**	**86.14**	**119**	P	**P**	**12 46 49.0**	**-0.1**
CRAG	**Craig**	**86.27**	**13**	P	**P**	**12 46 49.7**	**+0.5**
	baz=341						
MTSU	**Mount Surprise**	**87.99**	**114**	P	**P**	**12 46 58.1**	**0.0**
	comp=Z,7.5nm,1.0s						
MTSU	**Mount Surprise**	**87.99**	**114**	P	**P**	**12 46 58.4**	**+0.3**
FFC	**Flin Flon**	**89.06**	**356**		**P**	**12 47 03.1**	**+0.6**
FFC				IAmb	IAmb	12 47 03.8	
	comp=Z,12nm,0.9s						
FFC	**Flin Flon**	**89.06**	**356**	P	**P**	**12 47 03.1**	**+0.6**
FFC				pmax	pmax		
	comp=Z,12nm,1.0s						
CTA	**Charters Tower**	**90.64**	**115**	P	**P**	**12 47 10.5**	**+0.1**
CTAO	**Charters Tower**	**90.64**	**115**		**P**	**12 47 10.1**	**-0.3**
CTAO				IAmb	IAmb	12 47 11.0	
	comp=Z,18nm,0.7s						
CTAO	**Charters Tower**	**90.64**	**115**	P	**P**	**12 47 10.4**	**+0.1**
CTAO	**Charters Tower**	**90.64**	**115**	P	**P**	**12 47 10.1**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,18nm,0.7s						
INKA	**Innaminka**	**91.61**	**124**	P	**P**	**12 47 14.7**	**0.0**
LLLB	**Lillooet**	**92.68**	**8**	IAmb	IAmb	12 47 21.4	
	comp=Z,19nm,1.2s						
CBB	**Campbell River**	**92.80**	**10**	IAmb	IAmb	12 47 22.0	
	comp=Z,19nm,1.5s						
QLP	**Quilpie**	**93.26**	**121**	P	**P**	**12 47 22.3**	**0.0**
	comp=Z,22nm,1.0s						
QLP	**Quilpie**	**93.26**	**121**	P	**P**	**12 47 22.5**	**+0.2**
STKA	**Stephens Creek**	**94.85**	**126**	P	**P**	**12 47 29.4**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=345,slow=9.1,SNR=4.9						
	comp=Z,1.4nm,0.5s						
NEW	**Newport**	**95.45**	**5**	IAmb	IAmb	12 47 34.2	
	comp=Z,9.2nm,1.2s						
GNW	**Green Mountain**	**95.56**	**9**	IAmb	IAmb	12 47 34.8	
	comp=Z,5.7nm,0.9s						
PDAR	**Pinedale Array**	**101.25**	**0**	P	**Pdif**	**12 47 58.9**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=36,slow=2.8,SNR=4.4						
PDAR				PKKPbc	**PKKPbc**	**13 04 05.7**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=258,slow=6.1,SNR=2.3						
NVAR	**Mina Array Bea**	**105.11**	**7**	Pdiff	**Pdif**	**12 48 17.5**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=350,slow=3.2,SNR=5.5						
NVAR				PKKPbc	**PKKPbc**	**13 03 55.0**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=186,slow=6.2,SNR=3.8						
TXAR	**Lajitas Array**	**114.44**	**355**	PKiKP	**PKiKP**	**12 52 46.7**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=318,slow=1.7,SNR=5.0						
TXAR				PKKPbc	**PKKPbc**	**13 03 25.3**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=197,slow=3.8,SNR=4.2						
TROLL	**Troll, Antarti**	**117.91**	**199**	⇑P	**PKiKP**	**12 52 52.2**	**+0.1**
	comp=Z,407nm,0.5s						
TROLL				⇓SKPdf	**SKPdf**	**12 56 06.8**	**-1.3**
	comp=Z,221nm,1.3s						
SNAA	**Sanae**	**119.21**	**200**	⇑P	**PKPdf**	**12 52 53.8**	**-0.6**
	comp=Z,65nm,0.7s						
SNAA				⇑SKPdf	**SKPdf**	**12 56 09.5**	**-1.0**
	comp=Z,19nm,0.7s						
SNAA	**Sanae**	**119.21**	**200**		**PKPdf**	**12 52 54.1**	**-0.4**
SNAA	**Sanae**	**119.21**	**200**	PKP	**PKPdf**	**12 52 53.9**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=96,slow=2.1,SNR=12						
SNAA				PKKPbc	**PKKPab**	**13 03 07.9**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=211,slow=9.2,SNR=12						
SNAA	**Sanae**	**119.21**	**200**	PKiKP	**PKPdf**	**12 52 54.1**	**-0.4**
VNA2	**Neumayer--Watz**	**120.21**	**202**	⇑P	**PKiKP**	**12 52 56.5**	**+0.1**
	comp=Z,11nm,0.6s,baz=26,slow=3.4						
VNA2				⇑SKPdf	**SKPdf**	**12 56 11.5**	**-0.9**
	comp=Z,3.0nm,0.9s,baz=342,slow=8.6						
VNA1	**Neumayer--Stat**	**120.36**	**202**	⇑P	**PKiKP**	**12 52 56.9**	**+0.2**
	comp=Z,8.0nm,1.0s						
VNA3	**Neumayer Olymp**	**121.01**	**202**	⇑P	**PKPdf**	**12 52 57.0**	**-0.9**
	comp=Z,4.0nm,0.3s						
VNA3				⇑SKPdf	**SKPdf**	**12 56 12.8**	**-1.1**
	comp=Z,3.0nm,0.7s						
URZ	**Urewera**	**122.86**	**116**	PKP	**PKPdf**	**12 52 59.9**	**-2.5**
	comp=Z,11nm,0.6s,baz=270,slow=3.0,SNR=2.7						
VNDA	**Vanda**	**125.41**	**165**	PKP	**PKPdf**	**12 53 05.6**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=301,slow=5.1,SNR=7.5						
QSPA	**South Pole Qui**	**126.16**	**180**	PKP	**PKPdf**	**12 53 07.9**	**-0.1**
	comp=Z,6.3nm,0.7s,baz=260,slow=1.1,SNR=45						
CPUP	**Villa Florida**	**135.03**	**268**	PKP	**PKPdf**	**12 53 25.5**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=84,slow=16,SNR=5.2						
CPUP				SKPbc	**SKPbc**	**12 56 34.4**	**-3.0**
	comp=Z,0.6nm,0.8s,baz=325,slow=3.5,SNR=3.6						
LPAZ	**La Paz**	**138.49**	**288**	PKP	**PKPdf**	**12 53 33.2**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=56,slow=3.6,SNR=2.6						
AC02	**Maricunga**	**144.77**	**274**		**PKPdf**	**12 53 44.1**	**0.0**
AC01	**Pan de Azucar**	**145.65**	**276**	PKPbc	**PKPab**	**12 53 46.1**	**-0.3**
GO03	**Copiapo**	**145.99**	**274**	PKPbc	**PKPab**	**12 53 47.3**	**-0.4**
CO01	**Juntas del Tor**	**146.81**	**270**	PKPbc	**PKPbc**	**12 53 48.9**	**-0.5**
AC04	**Llanos de Chal**	**146.91**	**273**	PKPbc	**PKPbc**	**12 53 49.0**	**-0.4**
PLCA	**Paso Flores**	**149.62**	**250**	PKPbc	**PKPbc**	**12 53 56.5**	**+0.4**
	comp=Z,8.1nm,0.8s,baz=37,slow=0.9,SNR=19						
LR05	**Currie**	**150.68**	**251**		**PKPbc**	**12 53 58.5**	**0.0**

NEIC ***03*** *12:39:42.5±1.0,32.°75N±0.°09×140.°0E±0.°1,h95km±7km, mb4.6/60,Error ellipse: s-maj=14.7km s-min=11.5km az=128.0*

IDC ***03*** *12:39:44.6±2.6,32.°74N×140.°04E,h121km±23km,mb3.8/8, mbtmp4.1/8,Error ellipse: s-maj=23.0km s-min=16.3km az=79.0*

JMA ***03*** *12:39:46.3±0.1,32.°9N±0.°3×14°0E±.°,h137km±1km, MV3.5/31,E OFF HACHIJOJIMA ISLAND*

ISC 03 12:39:46.5±0.7,32.87N±0.°05×140.06E±0.°06,h139km±5km, n104,σ1ŝ45/106,mb4.5/37,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JHCJ	**Hachijojimakas**	**0.30**	**312**	P	**Pn**	**12 40 05.7**	**0.0**
JHCJ				S	**Sn**	**12 40 20.2**	**-0.1**
JHJ2	**Mitsune**	**0.31**	**319**	P	**Pn**	**12 40 05.8**	**+0.1**
JHJ2				S	**Sn**	**12 40 20.6**	**+0.1**
JAOM	**Aogashimamukai**	**0.48**	**212**	P	**Pn**	**12 40 06.9**	**+0.4**
JAOM				S	**Sn**	**12 40 22.7**	**+1.0**
JMKN	**Mikurajimanish**	**1.09**	**339**	P	**Pn**	**12 40 10.8**	**-0.3**
JMKN				S	**Sn**	**12 40 29.5**	**-0.3**
JMYK	**Miyake Tsubota**	**1.26**	**340**	P	**Pn**	**12 40 12.6**	**0.0**
JMYK				S	**Sn**	**12 40 32.5**	**-0.2**
JKO	**Kozu shima**	**1.52**	**330**	P	**Pn**	**12 40 16.1**	**+0.7**
JIM2	**Oshima 3**	**1.91**	**344**	*i* P	**Pn**	**12 40 19.8**	**-0.1**
JIM2				S	**Sn**	**12 40 44.6**	**-1.0**
BSO1	**Boso 1**	**1.93**	**23**	*i* P	**Pn**	**12 40 19.0**	**-0.6**
BSO1				S	**Sn**	**12 40 44.4**	**-0.7**
BSO3	**Boso 3**	**1.96**	**11**	*i* P	**Pn**	**12 40 19.7**	**-0.5**
BSO3				S	**Sn**	**12 40 45.5**	**-0.6**
JIZS	**Izushimoda**	**2.09**	**332**	*e*P	**Pn**	**12 40 22.4**	**+0.4**
TK02	**Tokai 2**	**2.20**	**300**	P	**Pn**	**12 40 24.6**	**+1.5**
JSG	**Sagara**	**2.38**	**320**	Pn	Pn	12 40 16.8	-8.7

TRF	**Thorofare Moun**	**52.11**	**32**			**P**		**12 48 44.2**	**+2.0**
TRF				IAmb		IAmb		12 48 54.6	
	comp=Z,17nm,1.4s								
G23K	**Bananza Creek**	**52.37**	**28**	P		**P**		**12 48 45.3**	**+1.4**
G23K				IAmb		IAmb		12 49 07.6	
	comp=Z,9.0nm,1.4s								
BVAR	**Borovoye Array**	**52.62**	**315**	P		**P**		**12 48 47.0**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=100,slow=9.0,SNR=8.7								
	comp=Z,1.1nm,0.3s								
WB0	**Warramunga Arr**	**52.62**	**187**	P		**P**		**12 48 45.4**	**-0.7**
WB0				IAmb		IAmb		12 48 45.8	
	comp=Z,11nm,1.2s								
GHO	**Glory Hole Cre**	**52.74**	**34**	P		**P**		**12 48 48.1**	**+1.4**
WRAB	**Tennant Creek**	**52.79**	**187**	P		**P**		**12 48 46.5**	**-0.8**
WRAB				IAmb		IAmb		12 49 06.6	
	comp=Z,3.9nm,1.1s								
WR8	**Warramunga Arr**	**52.80**	**187**	P		**P**		**12 48 46.7**	**-0.8**
WR8				IAmb		IAmb		12 48 50.6	
	comp=Z,8.8nm,1.2s								
WRA	**Warramunga Arr**	**52.80**	**187**	P		**P**		**12 48 46.4**	**-1.0**
WRA	**Warramunga Arr**	**52.80**	**187**	P		**P**		**12 48 46.1**	**-1.3**
	comp=Z,1.8nm,0.3s,baz=0.7,slow=7.7,SNR=20								
	comp=Z,1.8nm,0.3s								
DHY	**Denali Highway**	**53.43**	**33**	P		**P**		**12 48 52.3**	**+0.4**
DHY				IAmb		IAmb		12 49 17.1	
	comp=Z,8.5nm,1.2s								
SCM	**Sheep Creek Mo**	**53.50**	**34**	P		**P**		**12 48 53.2**	**+1.0**
HDA	**Harding Lake**	**53.59**	**31**	P		**P**		**12 48 54.3**	**+1.5**
GLI	**Glacier Island**	**53.66**	**35**	P		**P**		**12 48 54.8**	**+1.5**
M24K	**Tolsona, Glenn**	**54.03**	**34**	P		**P**		**12 48 57.2**	**+1.1**
K24K	**Donnelly Dome**	**54.12**	**32**	P		**P**		**12 48 58.1**	**+1.4**
E25K	**Arctic Village**	**54.14**	**26**	P		**P**		**12 48 58.6**	**+1.8**
E25K				IAmb		IAmb		12 49 06.0	
	comp=Z,14nm,1.4s								
KK31	**Karatay Array**	**54.33**	**302**	P		**P**		**12 48 59.0**	**+0.5**
KK31				IAmb		IAmb		12 48 59.5	
	comp=Z,4.8nm,1.4s								
KKAR	**Karatay Array**	**54.33**	**302**	P		**P**		**12 48 59.0**	**+0.5**
F26K	**Sheenjek River**	**54.68**	**27**	P		**P**		**12 49 02.6**	**+1.9**
F26K				IAmb		IAmb		12 49 41.8	
	comp=Z,9.3nm,1.3s								
N25K	**Chitina, Valde**	**54.81**	**34**	P		**P**		**12 49 03.3**	**+1.6**
N25K				IAmb		IAmb		12 49 08.4	
	comp=Z,8.0nm,1.1s								
KAIM	**Kayak Island**	**55.06**	**36**	P		**P**		**12 49 04.9**	**+1.4**
CHGR	**Chuyangaron**	**56.52**	**297**	P		**P**		**12 49 13.9**	**-0.4**
AS31	**Alice Springs**	**56.53**	**187**	P		**P**		**12 49 13.7**	**-0.6**
ASAR	**Alice Springs**	**56.53**	**187**	P		**P**		**12 49 12.3**	**-2.1**
ASAR	**Alice Springs**	**56.53**	**187**	P		**P**		**12 49 13.3**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=2.1,slow=6.1,SNR=18								
	comp=Z,1.4nm,0.3s								
G29M	**Pine Creek**	**57.11**	**28**	P		**P**		**12 49 19.4**	**+1.5**
G29M				IAmb		IAmb		12 49 21.3	
	comp=Z,19nm,1.4s								
L29M	**L29M**	**57.61**	**32**	P		**P**		**12 49 23.5**	**+2.0**
L29M				IAmb		IAmb		12 49 25.3	
	comp=Z,4.1nm,0.9s								
EPYK	**Eagle Plains**	**57.70**	**28**	P		**P**		**12 49 23.2**	**+1.1**
EPYK				IAmb		IAmb		12 49 30.4	
	comp=Z,14nm,1.5s								
G30M	**tAoh Zraii Nji**	**57.80**	**28**	P		**P**		**12 49 23.7**	**+0.9**
G30M				IAmb		IAmb		12 49 24.1	
	comp=Z,11nm,1.4s								
I30M	**Mount Dempster**	**58.02**	**30**	P		**P**		**12 49 25.4**	**+1.0**
I30M				IAmb		IAmb		12 49 26.6	
	comp=Z,4.3nm,1.4s								
HYT	**Haines Junctio**	**58.32**	**35**	P		**P**		**12 49 27.2**	**+0.6**
HYT				IAmb		IAmb		12 49 28.5	
	comp=Z,6.2nm,1.1s								
G31M	**Satah River**	**58.57**	**27**	P		**P**		**12 49 28.5**	**+0.5**
G31M				IAmb		IAmb		12 49 47.0	
	comp=Z,5.3nm,1.1s								
H31M	**Peel River**	**58.75**	**29**	P		**P**		**12 49 30.8**	**+1.4**
H31M				IAmb		IAmb		12 50 05.8	
	comp=Z,8.2nm,1.3s								
AB31	**Akbulak array**	**59.82**	**312**	P		**P**		**12 49 36.8**	**-0.2**
AB31				IAmb		IAmb		12 49 37.1	
	comp=Z,1.5nm,0.5s								
ABKAR	**Akbulak array**	**59.82**	**312**	P		**P**		**12 49 36.9**	**-0.1**
I02E	**Swisshome, ÖR**	**71.92**	**49**	P		**P**		**12 50 56.4**	**+1.9**
I02E				IAmb		IAmb		12 51 22.4	
	comp=Z,21nm,1.4s								
KBO	**Bosley Butte**	**72.58**	**51**	P		**P**		**12 51 00.5**	**+1.9**
KBO				IAmb		IAmb		12 51 32.5	
	comp=Z,28nm,1.5s								
K02D	**Willamette Mer**	**72.71**	**50**	P		**P**		**12 51 00.8**	**+1.4**
YBH	**Yreka Blue Hor**	**73.80**	**51**	P		**P**		**12 51 06.6**	**+0.9**
	baz=342,slow=3.1,SNR=3.8								
M02C	**Callahan**	**73.88**	**51**	P		**P**		**12 51 07.8**	**+1.6**
PINE	**Pine Mountain**	**73.91**	**48**	P		**P**		**12 51 08.6**	**+2.2**
J05D	**Fort Rock, OR**	**73.98**	**49**	P		**P**		**12 51 08.1**	**+1.3**
K05A	**Summer Lake**	**74.47**	**49**	P		**P**		**12 51 11.2**	**+1.4**
K05A				IAmb		IAmb		12 51 45.1	
	comp=Z,7.3nm,1.4s								
BEKR	**Beckworth**	**76.28**	**51**	P		**P**		**12 51 21.0**	**+0.9**
BBGB	**Big Mountain B**	**77.54**	**55**	P		**P**		**12 51 29.6**	**+2.4**
BBGB				IAmb		IAmb		12 52 13.5	
	comp=Z,18nm,1.0s								
LRM	**Limekiln Ridge**	**77.92**	**43**	P		**P**		**12 51 30.4**	**+1.2**
LHV	**Little Huntoon**	**78.36**	**52**	P		**P**		**12 51 33.3**	**+1.8**
NVAR	**Mina Array Bea**	**78.40**	**52**	P		**P**		**12 51 32.8**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=298,slow=5.8,SNR=6.4								
	comp=Z,0.5nm,0.6s								
ELK	**Elko**	**79.11**	**48**	P		**P**		**12 51 37.2**	**+1.4**
ELK	**Elko**	**79.11**	**48**	P		**P**		**12 51 36.5**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=236,slow=7.3,SNR=3.1								
	comp=Z,0.6nm,0.5s								
MPMC	**Manual Prospec**	**80.24**	**53**	P		**P**		**12 51 43.2**	**+1.2**
INZ	**Inchbonnie**	**80.55**	**157**	P		**P**		**12 51 43.2**	**+0.3**
INZ				IAmb		IAmb		12 52 11.6	
	comp=Z,13nm,1.0s								

IDC 03 12:42:54.5±999.0, 54°43N×41°41E, h0km, Error ellipse: s-maj=406.1km s-min=77.4km az=134.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.31**	**316**	I	I	13 01 30.0	
	0.1nm,0.9s,baz=133,slow=311,SNR=4.7						
I26DE	**FREYUNG INFRAS**	**18.00**	**263**	I	I	14 33 10.0	
	baz=62,slow=328,SNR=0.9						
I37NO	**I37NO**	**18.03**	**333**	I	I	14 35 20.0	
	baz=131,slow=319,SNR=1.4						

*NNC **03** 12:48:04.7±1.3, 43°.19N×81°.78E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=11.7km s-min=6.1km az=152.0, Suspected Mining explosion.*
*SOME **03** 12:48:04.2, 43°.12N×81°.82E, h20km*

ISC 03 12:47:59.8±2.6, 42°.8N±0°.2×81°.80E±0°.09, h0km, n13, σ2°.8, s13/22, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.76**	**283**	P	**Pn**	**12 48 30.9**	**-0.7**
SHLS	8.5nm,0.2s			S	**Sn**	**12 48 50.6**	**-4.1**
	38nm,0.6s						
SHLS	**Shalkode**	**1.76**	**283**	*e*P	**Pn**	**12 48 30.9**	**-0.7**
SHLS	12nm,0.1s			*e*S	**Sn**	**12 48 50.6**	**-4.1**
	37nm,0.2s						
PDGK	**Podgornoye**	**1.78**	**289**	⇑Pn	**Pg**	**12 48 35.6**	**+1.7**
PDGK	3.0nm,0.3s			⇓Sn	**Sg**	**12 48 59.2**	**+2.2**
	6.7nm,0.2s						
UZB	**Uzynbulak**	**2.07**	**281**	Pg	**Pg**	**12 48 41.1**	**+1.6**
UZB	11nm,0.3s			Lg	Lg	12 49 08.7	
	40nm,0.4s						
UZB	**Uzynbulak**	**2.07**	**281**	*e*P	**Pg**	**12 48 41.8**	**+2.3**
UZB	13nm,0.2s			*e*S	**Sg**	**12 49 09.4**	**+3.0**
	40nm,0.2s						
KPKS	**Kokpek**	**2.38**	**288**	Pg	**Pg**	**12 48 46.6**	**+1.2**
KPKS	0.3nm,0.3s			Lg	Lg	12 49 17.8	
	29nm,0.4s						
KNOS	**Konyrlen**	**2.47**	**310**	Pg	**Pb**	**12 48 45.1**	**-0.1**
KNOS	5.3nm,0.3s			Lg	Lg	12 49 15.3	
	5.3nm,0.3s						
SATY	**Saty**	**2.51**	**277**	Pg	**Pg**	**12 48 48.8**	**+0.9**
	6.2nm,0.2s						
SATY				Lg	Lg	12 49 21.4	
	29nm,0.5s						
TNSS	**Tian-Shan**	**3.58**	**276**	*e*P	**Pg**	**12 49 09.1**	**+0.8**
	0.2nm,0.1s						
TNSS				*e*S	**Sg**	**12 49 56.0**	**+1.3**
	0.6nm,0.1s						
KTBS	**Karatobe**	**3.85**	**286**	Pg	**Pg**	**12 49 12.2**	**-1.4**
	2.0nm,0.8s						
KTBS				Lg	Lg	12 50 01.7	
	3.8nm,0.8s						
MTBS	**Maitube**	**3.96**	**277**	*e*P	**Pg**	**12 49 16.3**	**+0.6**
	0.5nm,0.1s						
MTBS				*e*S	**Sg**	**12 50 08.4**	**+1.4**
	2.9nm,0.1s						
MK31	**Makanchi Array**	**4.02**	**5**	⇓Pn	**Pn**	**12 49 02.7**	**0.0**
	0.3nm,0.3s,baz=194,slow=14,SNR=8.3			Pg	**Pb**	**12 49 12.7**	**+1.1**
MK31	0.3nm,0.2s,baz=178,slow=16,SNR=7.3			⇑Sn	**Sn**	**12 49 46.5**	**-4.0**
MK31	0.6nm,0.3s,baz=190,slow=22,SNR=5.3			⇓Lg	Lg	12 49 57.5	
	3.3nm,0.6s,baz=186,slow=29,SNR=2.7						
ZSN	**Zaisan**	**5.14**	**24**	*e*P	**Pb**	**12 49 31.0**	**+0.5**
	1.6nm,0.1s						
ZSN				*e*S	**Sb**	**12 50 33.5**	**+0.6**
	2.3nm,0.2s						

*UCR **03** 12:52:33.4±1.0, 10°.31N×86°.35W, h8km±10km, MW4.0*
*CATAC **03** 12:52:34.1±0.8, 10°.N±5°.×8°.6W±°., h21km±8km, M2.9/8, MLv2.9/8, Error ellipse: s-maj=10.5km s-min=8.1km az=31.1, confirmed*

ISC 03 12:52:35.3±2.0, 10°.31N±0°.06×86°.29W±0°.09, h22km±6km, n45, σ0°.88/65, 18C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUD3	**Juan Diaz 3**	**0.76**	**101**	⇑*e*P	**Pb**	**12 52 49.0**	**-0.8**
ALIBA	**Liberia Airpor**	**0.79**	**69**	⇑*i*P	**Pb**	**12 52 50.4**	**+0.1**
ALIBA				*e*S	**Sn**	**12 53 02.7**	**+0.4**
ELI1	**Hacienda Flor**	**0.80**	**65**	*e*P	**Pn**	**12 52 51.0**	**-0.4**
ELI1				*e*S	**Sn**	**12 53 03.5**	**+0.8**
ELI1	**Hacienda Flor**	**0.80**	**65**	P	**Pb**	**12 52 50.7**	**+0.1**
INDI	**Punta indio, G**	**0.89**	**119**	P	**Pb**	**12 52 52.0**	**-0.2**
PLVR	**Palo Verde**	**0.93**	**87**	*e*P	**Pb**	**12 52 51.7**	**-1.2**
LAPC	**Finca la Perla**	**0.96**	**62**	⇑*i*P	**Pb**	**12 52 52.4**	**-1.0**
LAPC				*e*S	**Sb**	**12 53 06.0**	**+0.3**
LCRUZ	**La Cruz**	**1.01**	**40**	*e*P	**Pb**	**12 52 53.7**	**-0.4**
LCRUZ				*e*S	**Sn**	**12 53 08.4**	**+0.6**
GPS3	**Bodega del ICE**	**1.01**	**64**	⇑*i*P	**Pn**	**12 52 55.8**	**+1.4**
GPS2	**Hotel Rincn d**	**1.03**	**64**	⇑*i*P	**Pb**	**12 52 53.5**	**-1.0**
GPS2				*e*S	**Sn**	**12 53 08.1**	**-0.2**
VRLE	**La Escondida,**	**1.03**	**62**	⇑*e*P	**Pb**	**12 52 53.5**	**-1.1**
VRLE				*e*S	**Sb**	**12 53 07.9**	**+0.2**
GPS1	**Guardaparques**	**1.04**	**63**	⇑*e*P	**Pb**	**12 52 53.7**	**-0.9**
GPS1				*e*S	**Sb**	**12 53 08.1**	**+0.3**
BAGA	**Bagaces**	**1.04**	**78**	*e*P	**Sb**	**12 53 09.2**	**+1.4**
VORI	**VORI**	**1.06**	**61**	⇑*e*P	**Pb**	**12 52 54.0**	**-1.1**
VORI				*e*S	**Sb**	**12 53 08.7**	**+0.1**
BUAI	**Buenos Aires**	**1.10**	**59**	*e*P	**Pn**	**12 52 55.1**	**-0.4**
BUAI				*e*S	**Sn**	**12 53 13.3**	**+3.2**
PEJA	**Penjamo Buenos**	**1.13**	**59**	⇑*i*P	**Pb**	**12 52 56.1**	**0.0**
COLC	**Colonia**	**1.13**	**72**	*e*P	**Pn**	**12 52 54.8**	**-1.1**
COLC				*e*S	**Sn**	**12 53 11.3**	**+0.5**
CARN	**Rivas**	**1.16**	**41**	⇑*e*P	**Pn**	**12 52 55.5**	**-0.7**
CARN				*e*S	**Sn**	**12 53 13.3**	**+1.8**
CARN	**Rivas**	**1.16**	**41**	P	**Pn**	**12 52 55.6**	**-0.7**
CARN				S	**Sn**	**12 53 11.5**	**+0.1**
MESS	**Mesas**	**1.16**	**68**	⇑*e*P	**Pn**	**12 52 55.6**	**-0.8**
MESS				*e*S	**Sn**	**12 53 11.8**	**+0.1**
CUI	**Cuipilapa**	**1.16**	**72**	⇑*i*P	**Pn**	**12 52 55.6**	**-0.8**
CUI				*e*S	**Sn**	**12 53 11.9**	**+0.2**
HORNC	**Hornillas**	**1.17**	**70**	⇑*i*P	**Pn**	**12 52 55.5**	**-1.0**
HORNC				*e*S	**Sb**	**12 53 11.7**	**+0.1**
INVE	**Universidad In**	**1.22**	**82**	⇑*i*P	**Pn**	**12 52 56.5**	**-0.7**
INVE				*e*S	**Sb**	**12 53 13.8**	**+0.7**
MOTZ	**Rio Naranjo**	**1.26**	**73**	⇓*e*P	**Pn**	**12 52 57.4**	**-0.3**
VMAR	**Armenia, Volca**	**1.26**	**66**	⇑*e*P	**Pn**	**12 52 57.2**	**-0.6**
VMAR				*e*S	**Sb**	**12 53 15.3**	**+0.9**
TIMP	**Tierras Morena**	**1.28**	**78**	⇑*e*P	**Pn**	**12 52 57.1**	**-1.0**
JTS	**Las Juntas de**	**1.32**	**91**	*e*P	**Pn**	**12 52 57.4**	**-1.1**
JTS	**Las Juntas de**	**1.32**	**91**	P	**Pn**	**12 52 57.5**	**-1.1**
JTS				S	**Sb**	**12 53 16.3**	**+0.4**
TENO	**El Achiote**	**1.35**	**73**	⇑*e*P	**Pn**	**12 52 57.7**	**-1.3**
TENO				*e*S	**Sn**	**12 53 15.7**	**-0.6**
OMEN	**Al SSO del Vol**	**1.36**	**29**	P	**Pn**	**12 52 57.4**	**-1.7**
MORN	**Al O del Volca**	**1.39**	**27**	P	**Pn**	**12 52 59.9**	**+0.4**
QUEB	**Quebradon, Cot**	**1.41**	**77**	*e*P	**Pn**	**12 52 59.4**	**-0.4**
TABAC	**Tabacon**	**1.51**	**83**	*e*P	**Pn**	**12 53 01.2**	**-0.1**
ARE1	**Arenal 1**	**1.56**	**84**	*e*P	**Pn**	**12 53 01.9**	**+0.1**
VARE2	**V. Arenal**	**1.56**	**84**	*e*P	**Pn**	**12 53 02.5**	**+0.7**
CEDE	**Laguna Cedeo**	**1.57**	**83**	*e*P	**Pn**	**12 53 02.8**	**+0.7**
SOCE	**Pocosol**	**1.65**	**87**	*e*P	**Pn**	**12 53 03.2**	**+0.1**
COPI	**Copaltepe**	**1.88**	**351**	P	**Pn**	**12 53 03.6**	**+0.1**
ACON	**Acoyapa**	**1.98**	**34**		**Pn**	**12 53 06.9**	**-0.7**
ACON	**Acoyapa**	**1.98**	**34**	⇑*i*P	**Pn**	**12 53 06.8**	**-0.8**
ACON				*e*S	**Sb**	**12 53 34.2**	**-0.8**
ACON	**Acoyapa**	**1.98**	**34**	P	**Pn**	**12 53 06.8**	**-0.8**
ACON	**Acoyapa**	**1.98**	**34**	S	**Sn**	**12 53 33.0**	**+1.2**
PICV	**PH. Pirrs**	**2.17**	**108**	*e*P	**Pn**	**12 53 10.6**	**+0.2**
BOAB	**BOACO BROADBAN**	**2.21**	**16**		**Pn**	**12 53 11.1**	**+0.3**
BOAB	**BOACO BROADBAN**	**2.21**	**16**	P	**Pn**	**12 53 10.7**	**-0.1**

GCMT 03 12:53:10.0±0.1, 35°.47S±0°.01×17°.05W±0°.01, h24km, MW5.2/132, 4C, Moment Tensor Solution. s66, c80; s132, c219; Duration: 0 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.63±.18; $M_{\theta\theta}$-2.32±.14; $M_{\phi\phi}$2.95±.15; $M_{r\theta}$-1.35±.20; $M_{r\phi}$6.37±.12; $M_{\theta\phi}$0.77±.20; Best double couple: $M_0$7.08400×10^{16} NP1: ϕ_s170.00000°, δ80.00000°, λ-171.00000°. NP2: ϕ_s78.00000°, δ81.00000°, λ-10.00000°. Principal axes: T 7.2100, Plg1.0000°, Azm124.0000°; N -0.2560, Plg76.0000°, Azm217.0000°; P -6.9570, Plg14.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**35.89**	**175**	⇑P	P	13 00 09.5	+1.8
	comp=Z,3.6nm,0.9s,baz=343,slow=7.2						
VNA3	**Neumayer Olymp**	**36.05**	**176**	⇑P	P	13 00 10.4	+1.3
	comp=Z,5.1nm,1.0s						
SNAA	**Sanae**	**37.03**	**173**	⇑P	P	13 00 20.0	+2.5
	comp=Z,26nm,0.8s						
TROLL	**Troll, Antarti**	**37.99**	**170**	⇑P	P	13 00 28.9	+3.2
	comp=Z,315nm,0.9s						

*KOLA **03** 12:53:30.6, 64°.56N×31°.54E, h0km, ML1.6, Karelia*

HEL 03 12:53:27.9±0.1, 64°.11N×28°.16E, h0km, ML1.4, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.74**	**192**	PG	Pg	12 53 41.2	-0.9
NIF				SG	Sg	12 53 50.4	-1.2
NIF				MSG		12 53 51.0	
	comp=Z,3.0nm,0.2s						
RMF	**Romuvaara**	**0.78**	**81**	PB	Pg	12 53 43.0	+0.1
RMF				MSG		12 53 52.3	
	comp=Z,3.3nm,0.2s						
RMF				SB	Sg	12 53 53.5	+0.4
OUL	**Oulu**	**1.38**	**316**	PN	Pg	12 53 53.2	-1.1
	baz=133						
OUL				SG	Sg	12 54 11.0	-1.2
OBF4	**Vikkela, Lumij**	**1.50**	**299**	PG	Pn	12 53 55.2	-0.8
OBF4				MSG		12 54 13.0	
	comp=Z,1.8nm,0.2s						
OBF4				SN	Sn	12 54 17.6	+1.4
OUF	**Merijarvi**	**1.52**	**281**	PG	Pn	12 53 54.8	-1.5
OUF				MSG		12 54 13.5	
	comp=Z,3.1nm,0.2s						
OUF				SG	Sg	12 54 14.2	-2.5
KU1	**Kurvinen**	**1.58**	**22**	PG	Pn	12 53 56.6	-0.5
KU1				SN	Sg	12 54 18.9	+0.4
KU2	**Taivalkoski**	**1.61**	**1**	PN	Pn	12 53 57.3	-0.2
KU2				SN	Sg	12 54 20.0	+0.6
SUF	**Sumiainen**	**1.66**	**214**	PN	Pn	12 53 57.9	-0.4
SUF				MSG		12 54 17.7	
	comp=Z,1.0nm,0.2s						
OBF0	**Syolatti, Pyha**	**1.75**	**285**	PG	Pn	12 53 59.8	+0.3
OBF0				MSG		12 54 20.2	
	comp=Z,2.9nm,0.2s						
OBF0				SG	Sn	12 54 21.3	-1.1
MSF	**Maaselka**	**1.85**	**11**	PG	Pn	12 54 00.6	-0.2
	baz=195						
MSF				SG	Sn	12 54 24.7	-0.2
JOF	**Joensuu**	**1.85**	**129**	*e*P	Pn	12 54 01.4	+0.5
JOF	**Joensuu**	**1.85**	**129**	PG	Pn	12 54 01.4	+0.5
JOF				SG	Sn	12 54 23.8	-1.2
RANF	**Ranua**	**2.00**	**344**	PG	Pn	12 54 03.6	+0.7
RANF				SG	Sb	12 54 29.6	-0.9
KU6	**Riekki**	**2.06**	**20**	PG	Pn	12 54 04.7	+1.0
	baz=202						
KU6				MSG		12 54 29.1	
	comp=Z,1.2nm,0.2s						
KU6				SG	Sb	12 54 31.2	-1.0
OBF8	**Ulkokalla**	**2.07**	**278**	PG	Pb	12 54 06.0	-0.3
OBF8				MSG		12 54 29.3	
	comp=Z,1.8nm,0.2s						
OBF8				SG	Sb	12 54 31.9	-0.6
KAF	**Kangasniemi**	**2.18**	**204**	PG	Pn	12 54 06.6	+1.3
KAF				MSG		12 54 32.4	
	comp=Z,3.8nm,0.2s						
KAF				SG	Sb	12 54 34.8	-0.7
OLKF	**Oulanka, Finla**	**2.28**	**13**	PG	Pb	12 54 08.8	-1.1
	baz=191						
OLKF				MSG		12 54 35.3	
	comp=Z,1.3nm,0.2s						
OLKF				SG	Sb	12 54 37.5	-1.1
KEF	**Keuruu**	**2.46**	**219**	*e*P	Pn	12 54 10.8	+1.6
KEF	**Keuruu**	**2.46**	**219**	PG	Pn	12 54 10.7	+1.5
KEF				MSG		12 54 40.5	
	comp=Z,2.8nm,0.2s						
KEF				SG	Sb	12 54 42.2	-1.4
TOF	**Tornio**	**2.56**	**322**	MSG		12 54 43.3	
	comp=Z,0.7nm,0.2s						
TOF				SB	Sn	12 54 43.9	+1.6
KALU	**Kalix**	**2.69**	**313**	SG	Sb	12 54 49.9	-0.5
FIA0	**FINESS Array S**	**2.84**	**201**	SB	Sn	12 54 51.3	+1.9
FIA0				MSG		12 54 51.6	
	comp=Z,2.4nm,0.2s						
VJF	**Virojoki**	**3.60**	**185**	PB	Pb	12 54 29.6	-2.6
NUR	**Nurmijarvi**	**3.97**	**206**	PB	Pn	12 54 33.8	+3.9
MEF	**Metsahovi**	**4.29**	**206**	*e*P	Pn	12 54 33.4	-0.9
HEF	**Hetta**	**4.68**	**339**	PG	Pb	12 54 52.7	+2.0
ARCES	**ARCESS Array B**	**5.55**	**350**	P	Pn	12 54 52.5	+0.9
ARCES				S	Sn	12 55 54.2	-1.8

*IDC **03** 12:53:27.0±0.4, 21°.31S×174°.28W, h0km, mb4.5/19, mbtmp4.5/21, ML4.3/2, MS3.9/14, Error ellipse: s-maj=19.8km s-min=13.4km az=132.0*
*NEIC **03** 12:53:28.2±1.6, 21°.3S±0°.1×173°.82W±0°.09, h10km±1km, mb4.9/228, Error ellipse: s-maj=17.2km s-min=13.7km az=180.0*
*BJI **03** 12:53:28.4, 20°.84S×173°.78W, h11km, mB5.2/6, mb5.0/23*
*NOU **03** 12:53:30.8, 21°.18S×173°.51W, h30km, mb4.8/12, Tonga Islands*

ISC 03 12:53:27.6±0.9, 21°.32S±0°.05×173°.77W±0°.05, h13km±5km, n591, σ2°.24/548, mb4.9/131, MS3.9/13, 6C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.25**	**59**	Pn	**Pn**	**12 54 30.4**	**-1.7**
NIUE				Sn	**Sn**	**12 55 14.9**	**-6.7**
NIUE	**Niue**	**4.25**	**59**	*e*Pn	**Pn**	**12 54 27.3**	**-4.8**
	1μm,1.1s						
NIUE				*e*Sn	**Sn**	**12 55 14.7**	**-6.8**
	1μm,0.9s						
NIUE				*e*LR	LR	12 55 35.3	
	765nm,20.9s						
NIUE	**Niue**	**4.25**	**59**	P	**Pn**	**12 54 30.0**	**-2.1**
NIUE	**Niue**	**4.25**	**59**	S	**Sn**	**12 55 15.6**	**-5.9**
FUTU	**Fugatoga**	**8.11**	**329**	Pn	**Pn**	**12 55 23.5**	**-1.6**
MSVF	**Nonsavu**	**8.49**	**293**		**Pn**	**12 55 33.9**	**+3.3**
MSVF	**Nonsavu**	**8.49**	**293**	P	**Pn**	**12 55 34.2**	**+3.7**
GLKZ	**Green Lake**	**8.75**	**205**	P	**Pn**	**12 55 32.0**	**-2.0**
GLKZ				S	**Sn**	**12 57 07.7**	**-4.8**
RAR	**Rarotonga**	**13.05**	**92**	Pn	**Pn**	**12 56 30.8**	**-2.1**
RAR	**Rarotonga**	**13.05**	**92**	eLR	LR	12 59 24.4	
	396nm,22.0s						
RAR	**Rarotonga**	**13.05**	**92**	Pn	**Pn**	**12 56 30.6**	**-2.2**
	8.5nm,0.3s,baz=218,slow=4.0,SNR=7.2						
RAR				Sn	Sn	12 58 45.9	-12
	5.8nm,0.3s,baz=226,slow=22,SNR=3.0						
RAR				LR	LR	13 01 09.6	
	comp=Z,471nm,19.4s,baz=277,slow=34						
RAR	**Rarotonga**	**13.05**	**92**	P	**Pn**	**12 56 30.7**	**-2.2**
WCZ	**Waipu Caves**	**17.89**	**213**	P	**P**	**12 57 36.8**	**-0.1**
PUZ	**Puketiti**	**18.06**	**201**	P	**P**	**12 57 40.1**	**+1.4**
NFK	**Norfolk Island**	**18.24**	**241**	e

XMAS eLR LR 13 06 41.7
comp=Z,12nm,22.0s
MLZ Mavora Lakes 28.23 208 P **P** **12 59 24.1 +3.9**
WHZ Wether Hill Ro 28.71 207 P **P** **12 59 27.5 +2.9**
APZ The Paps 29.45 206 P **P** **12 59 32.4 +1.3**
ARMA Armidale 32.32 247 P **P** **12 59 55.5 -1.3**
EIDS Eidsvold 32.46 256 P **P** **12 59 56.6 -1.3**
TAOE Nuku Hiva Isla 34.66 74 P **P** **13 00 17.2 -0.1**
TAOE Nuku Hiva Isla 34.66 74 eLR LR 13 09 20.4
comp=Z,183nm,20.8s
CAN Canberra 35.40 239 P **P** **13 00 21.4 -2.0**
RKT Rikitea 35.90 100 eLR LR 13 09 53.5
comp=Z,12µm,33.5s
CTAO Charters Tower 37.34 265 P **P** **13 00 37.8 -2.3**
JOHN Johnston Islan 38.04 7 eLR LR 13 11 01.8
comp=Z,208nm,21.3s
TAU Tasmania Unive 38.90 227 P **P** **13 00 52.2 -0.7**
TAU IAmb IAmb 13 00 53.9
comp=Z,47nm,1.2s
PMG Port Moresby 39.38 281 P **P** **13 00 55.0 -2.3**
PMG IAmb IAmb 13 01 14.5
comp=Z,20nm,1.0s
PMG Port Moresby 39.38 281 LR LR 13 15 59.0
comp=Z,273nm,18.3s,baz=124,slow=35
STKA Stephens Creek 41.02 246 P **P** **13 01 08.9 -1.9**
STKA IAmb IAmb 13 01 09.7
comp=Z,31nm,0.9s
STKA Stephens Creek 41.02 246 P **P** **13 01 08.1 -2.7**
comp=Z,5.3nm,0.8s,baz=87,slow=8.5,SNR=12
STKA LR LR 13 17 33.1
comp=Z,144nm,18.4s,baz=58,slow=36
comp=Z,5.3nm,0.8s
COEN Coen 41.57 273 P **P** **13 01 13.5 -2.0**
COEN IAmb IAmb 13 01 37.4
comp=Z,25nm,1.4s
INKA Innaminka 41.69 252 P **P** **13 01 15.0 -1.3**
MANU Manus Island 42.41 292 P **P** **13 01 22.0 -0.3**
MANU IAmb IAmb 13 01 48.6
comp=Z,24nm,1.1s
POHA Pohakuloa 44.55 25 eLR LR 13 14 02.9
comp=Z,2.8nm,23.0s
BBOO Buckleboo 45.74 245 P **P** **13 01 47.3 -1.6**
BBOO IAmb IAmb 13 01 59.4
comp=Z,25nm,1.4s
AS31 Alice Springs 48.18 257 P **P** **13 02 05.7 -2.4**
ASAR Alice Springs 48.18 257 **P** **13 02 05.7 -2.4**
ASAR Alice Springs 48.18 257 P **P** **13 02 05.5 -2.6**
comp=Z,14nm,0.9s,baz=105,slow=7.4,SNR=99
ASAR PcP **PcP** **13 03 36.0 +0.5**
comp=Z,2.0nm,0.8s,baz=99,slow=2.9,SNR=2.6
ASAR S **S** **13 08 59.1 -8.2**
comp=Z,0.3nm,0.8s,baz=101,slow=12,SNR=2.3
ASAR LR LR 13 19 39.7
comp=Z,92nm,19.3s,baz=122,slow=33
comp=Z,14nm,0.9s
WR0 Warramunga Arr 48.21 262 P **P** **13 02 05.4 -2.9**
WR0 IAmb IAmb 13 02 07.7
comp=Z,17nm,1.4s
WR8 Warramunga Arr 48.25 262 P **P** **13 02 05.6 -3.1**
WR8 IAmb IAmb 13 02 07.9
comp=Z,20nm,1.4s
WR8 PcP **PcP** **13 03 34.9 -0.8**
WB0 Warramunga Arr 48.38 262 P **P** **13 02 06.7 -3.0**
WB0 IAmb IAmb 13 02 07.3
comp=Z,9.5nm,0.9s
WB0 PcP **PcP** **13 03 36.5 +0.3**
WB2 Warramunga Arr 48.39 262 P **P** **13 02 06.8 -2.9**
WB2 IAmb IAmb 13 02 07.4
comp=Z,16nm,1.1s
WB2 PcP **PcP** **13 03 36.8 +0.5**
WRAB Tennant Creek 48.39 262 P **P** **13 02 06.9 -2.8**
WRAB IAmb IAmb 13 02 07.3
comp=Z,13nm,1.1s
WRA Warramunga Arr 48.40 262 **P** **13 02 06.6 -3.2**
WRA Warramunga Arr 48.40 262 P **P** **13 02 06.7 -3.2**
comp=Z,11nm,1.1s,baz=98,slow=7.6,SNR=38
WRA PcP **PcP** **13 03 36.9 +0.6**
comp=Z,2.9nm,0.8s,baz=98,slow=3.4,SNR=6.2
comp=Z,11nm,1.1s
GUMO Guam 53.41 307 LR LR 13 23 24.5
comp=Z,32nm,20.4s,baz=136,slow=34
KNRA Kununurra 54.54 266 P **P** **13 02 53.5 -2.4**
KNRA IAmb IAmb 13 03 00.8
comp=Z,8.1nm,0.9s
FITZ Fitzroy Crossi 56.83 262 P **P** **13 03 10.5 -1.8**
VNDA Vanda 57.48 186 P **P** **13 03 17.9 +1.8**
comp=Z,2.6nm,1.0s,baz=356,slow=7.2,SNR=9.5
comp=Z,2.6nm,1.0s
RPN Rapa Nui 58.50 109 LR LR 13 24 45.1
comp=Z,174nm,18.3s,baz=184,slow=32
PSA00 Pilbara Seismi 61.33 256 P **P** **13 03 41.9 -1.6**
PSA00 IAmb IAmb 13 03 42.8
comp=Z,11nm,1.2s
MBWA Marble Bar 61.52 257 P **P** **13 03 42.6 -2.2**
MBWA IAmb IAmb 13 03 45.8
comp=Z,8.4nm,0.8s
MORW Morawa 63.17 247 P **P** **13 03 54.5 -1.2**
CASY Casey 64.93 206 P **P** **13 04 07.7 +1.1**
CASY IAmb IAmb 13 04 09.0
comp=Z,11nm,0.9s
CASY Casey 64.93 206 eS **S** **13 12 47.3 -0.3**
comp=Z,102nm,36.0s
CASY eSS **SS** **13 17 03.9 +5.1**
comp=Z,107nm,30.0s
CASY eLR LR 13 23 30.6
comp=Z,296nm,23.0s
LUWI Luwuk 64.97 279 P **P** **13 04 06.4 -1.3**
QSPA South Pole Qui 68.76 180 P **P** **13 04 31.0 -0.2**
QSPA IAmb IAmb 13 04 37.5
comp=Z,14nm,1.1s
QSPA South Pole Qui 68.76 180 P **P** **13 04 34.3 +3.1**
comp=Z,6.4nm,1.0s,baz=12,slow=1.9,SNR=4.6
comp=Z,6.4nm,1.0s
JHJ2 Mitsune 69.94 320 P **P** **13 04 38.9 +0.2**
JHJ2 Mitsune 69.94 320 eLR LR 13 25 53.6
comp=Z,4.1nm,23.4s
MJAR Matsushiro Arr 73.26 321 P **P** **13 04 57.3 -1.5**
MJAR Matsushiro Arr 73.26 321 P **P** **13 04 58.3 -0.4**
comp=Z,5.8nm,1.0s,baz=162,slow=6.4,SNR=10
MJAR LR LR 13 33 09.4
comp=Z,40nm,20.0s,baz=133,slow=33
comp=Z,5.8nm,1.0s
MAJO Matsushiro 73.26 321 P **P** **13 04 58.5 -0.2**
MAJO IAmb IAmb 13 04 60.0
comp=Z,15nm,1.2s
MJB9 Matsu-Tunnel 73.27 321 P **P** **13 04 58.5 -0.3**
MJB9 IAmb IAmb 13 04 60.0
comp=Z,14nm,1.2s
JOW Kunigami 73.75 308 eLR LR 13 27 33.3
comp=Z,129nm,30.1s
JMN Monobe 74.04 317 P **P** **13 05 01.9 -1.5**
UNV Unalaska Valle 75.11 4 P **P** **13 05 12.8 +3.8**
baz=187
AKUT Akutan 75.46 5 P **P** **13 05 11.2 +0.2**
SAO San Andreas Ge 75.98 41 P **P** **13 05 15.3 +0.8**
SAO IAmb IAmb 13 05 20.9
comp=Z,10nm,0.9s
FALS False Pass 76.38 6 P **P** **13 05 20.5 +4.2**
baz=190
ASAJ Asahikawa 76.39 329 LR LR 13 33 12.7
comp=Z,47nm,21.6s,baz=163,slow=31
MWC Mount Wilson 76.53 45 P **P** **13 05 18.8 +0.9**
MTOS Mt Oso, Westle 76.54 40 P **P** **13 05 18.2 +0.6**
SLBS Sierra La Lagu 76.55 58 P **P** **13 05 19.4 +1.2**
SLBS IAmb IAmb 13 05 48.5
comp=Z,14nm,1.4s
ESJX Sierra Juarez 76.63 48 P **P** **13 05 18.0 -0.5**
DCMP DeCamp, Califo 76.65 38 P **P** **13 05 17.9 -0.4**
MNRC McLaughlin Min 76.78 39 P **P** **13 05 18.7 -0.3**
BFSC Mount Baldy Ra 76.81 45 P **P** **13 05 19.0 -0.4**
CHNA Chernabura Isl 76.81 8 P **P** **13 05 22.5 +3.8**
baz=194
VES Vestal, Richgr 76.87 43 P **P** **13 05 19.9 +0.3**
VES IAmb IAmb 13 05 25.5
comp=Z,22nm,1.2s
KMRM Mail Ridge 76.95 37 **P** **13 05 20.7 +0.6**
BORC Borrego Spring 77.05 46 P **P** **13 05 20.6 0.0**
ISA Isabella, Lake 77.15 43 P **P** **13 05 20.8 -0.5**
TWG Pinlang 77.17 301 P **P** **13 05 20.4 -1.1**
SDPT Sand Point 77.20 8 P **P** **13 05 25.0 +4.1**
baz=193
PFO Pinyon Flats O 77.23 46 P **P** **13 05 21.4 -0.4**
PFO Pinyon Flats O 77.23 46 P **P** **13 05 25.4 +3.6**
comp=Z,2.3nm,0.9s,baz=276,slow=6.0,SNR=4.1
comp=Z,2.3nm,0.9s
YULB Yu-li 77.27 301 P **P** **13 05 20.2 -2.0**

PMD Palm Desert 77.31 46 P **P** **13 05 21.6 -0.5**
BUCR Buckhorn Ranch 77.36 41 **P** **13 05 23.6 +1.2**
BUCR IAmb IAmb 13 05 28.4
comp=Z,12nm,1.1s
S12K Black Hills 77.36 7 P **P** **13 05 24.9 +3.1**
baz=191
KHMM Horse Mountain 77.38 37 **P** **13 05 22.9 +0.4**
KHMM IAmb IAmb 13 05 29.0
comp=Z,12nm,1.0s
KSM Kuching 77.44 277 P **P** **13 05 21.4 -1.9**
KSM IAmb IAmb 13 05 37.8
comp=Z,12nm,1.0s
O02D Mt. Diablo Mer 77.44 38 P **P** **13 05 22.8 0.0**
O02D IAmb IAmb 13 05 29.0
comp=Z,15nm,1.1s
CMB Columbia Colle 77.45 40 **P** **13 05 23.7 +0.8**
CMB IAmb IAmb 13 05 28.9
comp=Z,7.4nm,0.9s
WELL Weller Preserv 77.50 40 P **P** **13 05 23.9 +0.7**
KHBM Hayfork Bally 77.52 37 P **P** **13 05 23.4 0.0**
AFDM Forest Hills D 77.69 39 **P** **13 05 24.3 +0.2**
AFDM IAmb IAmb 13 05 29.5
comp=Z,12nm,1.1s
P08K Saint George I 77.69 2 P **P** **13 05 27.3 +3.7**
baz=184
KRMB Red Mountain 77.73 36 P **P** **13 05 24.5 +0.1**
KRMB IAmb IAmb 13 05 30.5
comp=Z,14nm,1.0s
TPUB Ta-pu 77.76 301 P **P** **13 05 23.7 -1.2**
BELC Belle Mtn. Jos 77.77 46 **P** **13 05 23.9 -0.9**
CLC China Lake 77.80 44 P **P** **13 05 24.5 -0.4**
CWC Cottonwood Cre 77.88 43 P **P** **13 05 26.7 +1.3**
KSXB Camp Six Broad 77.95 36 P **P** **13 05 26.4 +0.8**
KSXB IAmb IAmb 13 05 31.6
comp=Z,15nm,1.1s
MDPB Devils Postpil 77.99 41 P **P** **13 05 26.5 +0.3**
MDPB IAmb IAmb 13 05 32.3
comp=Z,14nm,1.0s
GSC Goldstone, Bar 78.01 45 P **P** **13 05 26.7 +0.7**
MPMC Manual Prospec 78.02 44 P **P** **13 05 27.4 +1.1**
N02D Trinity Center 78.02 37 **P** **13 05 26.7 +0.7**
N02D IAmb IAmb 13 05 32.6
comp=Z,19nm,1.4s
O03E Paynes Creek 78.08 38 P **P** **13 05 27.2 +0.8**
O03E IAmb IAmb 13 05 32.4
comp=Z,28nm,1.5s
PEA0B Petropavlovsk- 78.14 343 P **P** **13 05 26.9 +0.7**
PETK Petropavlovsk- 78.14 343 P **P** **13 05 26.6 +0.3**
PETK Petropavlovsk- 78.14 343 P **P** **13 05 26.9 +0.6**
comp=Z,3.6nm,0.8s,baz=124,slow=7.9,SNR=5.8
comp=Z,3.6nm,0.8s
BELA Belgrano 2 78.22 172 P **P** **13 05 27.9 +1.3**
M02C Callahan 78.22 37 **P** **13 05 27.1 0.0**
M02C IAmb IAmb 13 05 33.3
comp=Z,8.2nm,1.0s
S14K Fog Glacier 78.23 8 P **P** **13 05 29.6 +2.8**
baz=194
SPIA Saint Paul Isl 78.25 2 P **P** **13 05 29.7 +3.0**
baz=184
L02F Cave Junction 78.32 36 P **P** **13 05 27.6 +0.1**
L02F IAmb IAmb 13 05 33.5
comp=Z,9.9nm,1.2s
WAKR Walker 78.32 41 P **P** **13 05 27.8 -0.1**
WAKR IAmb IAmb 13 05 34.3
comp=Z,15nm,1.0s
QSM Queen of Sheba 78.36 44 P **P** **13 05 28.6 +0.6**
CHIR Chikkola Islan 78.37 10 P **P** **13 05 30.7 +3.3**
baz=197
CHGN Chignik 78.40 9 P **P** **13 05 30.5 +3.0**
baz=195
IRM Iron Mountain 78.43 46 **P** **13 05 28.5 +0.1**
MPK Martis Peak 78.47 40 P **P** **13 05 28.5 -0.3**
DSP Deep Springs 78.52 42 P **P** **13 05 29.8 +1.1**
DSP IAmb IAmb 13 05 34.8
comp=Z,11nm,1.1s
YBH Yreka Blue Hor 78.53 36 **P** **13 05 28.9 +0.1**
YBH IAmb IAmb 13 05 34.7
comp=Z,11nm,1.1s
YBH Yreka Blue Hor 78.53 36 P **P** **13 05 32.4 +3.6**
comp=Z,0.5nm,0.9s,baz=180,slow=3.5,SNR=19
M03C McCloud 78.55 37 P **P** **13 05 29.4 +0.5**
M03C IAmb IAmb 13 05 34.5
comp=Z,14nm,1.0s
HATC Hat Creek Radi 78.62 38 P **P** **13 05 30.1 +0.8**
HATC IAmb IAmb 13 05 35.7
comp=Z,20nm,1.1s
GWY Greenwater Val 78.63 44 P **P** **13 05 30.2 +0.7**
BEKR Beckworth 78.64 39 P **P** **13 05 30.3 +0.7**
BEKR IAmb IAmb 13 05 35.0
comp=Z,9.0nm,1.0s
LHV Little Huntoon 78.73 41 IAmb IAmb 13 05 36.6
comp=Z,15nm,1.1s
PMSA Palmer Station 78.95 156 eLR LR 13 30 02.6
comp=Z,63nm,23.0s
RYN Ryan 78.96 41 **P** **13 05 32.8 +1.4**
RYN IAmb IAmb 13 05 36.9
comp=Z,11nm,1.1s
NVAR Mina Array Bea 78.97 41 P **P** **13 05 34.9 +3.4**
comp=Z,9.4nm,0.9s,baz=225,slow=6.6,SNR=46
comp=Z,9.4nm,0.9s
PAHR Pah Rah Range 79.12 40 **P** **13 05 33.2 +1.1**
PAHR IAmb IAmb 13 05 37.7
comp=Z,12nm,1.1s
SII Sitkinak Islan 79.32 11 P **P** **13 05 35.6 +2.9**
baz=199
TPNV Topopah Spring 79.35 43 **P** **13 05 34.4 +0.8**
I03D Drain, OR 79.51 35 IAmb IAmb 13 05 58.8
comp=Z,16nm,1.4s
R16K Pilot Point 79.75 9 P **P** **13 05 38.2 +3.2**
baz=196
SHPR Sheep Range 79.80 44 P **P** **13 05 36.4 +0.4**
J04A Umpqua Nationa 79.87 36 IAmb IAmb 13 05 42.3
comp=Z,20nm,0.8s
R17L Mt. Peulik Vol 79.99 9 P **P** **13 05 39.1 +2.8**
baz=197
OHAK Old Harbor 80.11 11 P **P** **13 05 39.8 +2.9**
baz=200
KSRS Ko Array 80.16 317 P **P** **13 05 38.6 +1.0**
comp=Z,4.3nm,0.9s,baz=139,slow=6.0,SNR=12
comp=Z,4.3nm,0.9s
KSAR Wonju Array Be 80.17 317 P **P** **13 05 38.0 +0.3**
K05A Summer Lake 80.20 37 P **P** **13 05 39.8 +1.7**
K05A IAmb IAmb 13 05 44.3
comp=Z,22nm,1.0s
R18K Karluk 80.23 10 P **P** **13 05 40.7 +3.1**
baz=198
J05D Fort Rock, OR 80.38 36 P **P** **13 05 40.6 +1.7**
J05D IAmb IAmb 13 05 45.1
comp=Z,18nm,0.9s
TUC Tucson 80.43 50 P **P** **13 05 39.9 +0.5**
WIFE Three Sisters- 80.57 35 P **P** **13 05 40.6 +0.6**
WIFE IAmb IAmb 13 05 45.5
comp=Z,13nm,1.0s
R11B Troy Canyon, C 80.61 43 P **P** **13 05 41.4 +1.0**
Q17K Contact Creek 80.67 9 P **P** **13 05 42.5 +2.4**
baz=197
KDAK Kodiak Island 80.76 11 P **P** **13 05 42.8 +2.4**
baz=200
PINE Pine Mountain 80.87 36 IAmb IAmb 13 05 47.9
comp=Z,18nm,0.9s
O14K Tigyukauivet M 80.93 6 P **P** **13 05 44.1 +2.9**
baz=192
Q16K King Salmon 80.95 9 P **P** **13 05 43.9 +2.6**
baz=196
I05D Terrebonne, OR 81.02 35 IAmb IAmb 13 05 47.7
comp=Z,12nm,1.1s
O15K Unglaliktiuk R 81.02 7 P **P** **13 05 44.3 +2.5**
baz=193
P16K Nushagak River 81.11 8 P **P** **13 05 44.6 +2.4**
baz=195
Q18K Katmai Hardscr 81.17 10 P **P** **13 05 45.2 +2.5**
baz=198
WVOR Wild Horse Val 81.28 38 P **P** **13 05 44.7 +1.0**
WVOR IAmb IAmb 13 05 49.1
comp=Z,10nm,1.1s
LCMT Little Creek M 81.34 45 P **P** **13 05 45.3 +1.0**
P17K Kvichak River 81.48 9 P **P** **13 05 46.9 +2.8**
baz=196
N14K Kuskokwak Cree 81.55 6 P **P** **13 05 47.7 +3.2**
baz=192
Q20K Shuyak Island 81.58 11 P **P** **13 05 47.6 +2.9**
baz=200
KNB Kanab 81.62 45 P **P** **13 05 46.6 +0.8**
G05A Wamic 81.63 34 P **P** **13 05 46.0 +0.6**
G05A IAmb IAmb 13 05 55.7
comp=Z,11nm,0.9s

O16K Kokwok River B 81.64 8 P **P** **13 05 47.5 +2.5**
baz=195
M11K Mekoryuk 81.64 4 P **P** **13 05 47.4 +2.4**
baz=187
Q19K Cape Douglas, 81.66 10 P **P** **13 05 47.5 +2.2**
baz=199
SPR3 Spring Creek 3 81.79 43 **P** **13 05 47.3 +0.5**
PSUT Pine Spring 81.82 43 P **P** **13 05 46.3 -0.5**
P18K Big Mountain, 81.85 9 P **P** **13 05 47.7 +1.5**
baz=198
M13K Dall Lake 81.88 5 P **P** **13 05 47.5 +1.3**
baz=190
O17K Koliganek Bris 81.94 8 P **P** **13 05 48.1 +1.4**
baz=196
N15K Kwethluk River 81.96 7 P **P** **13 05 49.0 +2.2**
baz=193
G06A Carlson Farm, 81.98 35 **P** **13 05 48.7 +1.3**
G06A IAmb IAmb 13 05 52.5
comp=Z,11nm,1.1s
MAW Mawson 82.10 199 P **P** **13 05 47.3 -0.3**
comp=Z,5.0nm,1.0s,baz=67,slow=4.3,SNR=4.2
comp=Z,5.0nm,1.0s
ELK Elko 82.25 41 **P** **13 05 49.7 +0.6**
ELK Elko 82.25 41 P **P** **13 05 51.9 +2.8**
comp=Z,2.2nm,1.0s,baz=244,slow=5.0,SNR=6.6
comp=Z,2.2nm,1.0s
M14K Bethel 82.34 6 P **P** **13 05 50.7 +2.0**
baz=191
LON Longmire 82.38 33 IAmb IAmb 13 05 54.3
comp=Z,7.3nm,1.0s
M15K Kasigluk River 82.41 6 P **P** **13 05 51.0 +1.9**
baz=192
N16K Nishlik Lake 82.41 7 P **P** **13 05 51.3 +2.2**
baz=194
P19K Oil Pt 82.42 10 P **P** **13 05 51.7 +2.5**
baz=199
GNW Green Mountain 82.42 32 P **P** **13 05 50.1 +0.7**
GNW IAmb IAmb 13 05 55.4
comp=Z,11nm,1.1s
D05A Enumclaw 82.58 33 P **P** **13 05 51.4 +1.1**
CLRS Cowichan Lake 82.66 31 IAmb IAmb 13 05 56.1
comp=Z,10nm,1.0s
N17K Nushagak Hills 82.66 8 P **P** **13 05 53.2 +2.8**
baz=196
HOM Homer 82.70 11 P **P** **13 05 53.4 +2.8**
baz=201
O19K Port Alsworth 82.76 10 P **P** **13 05 51.0 +0.1**
O19K Port Alsworth 82.76 10 P **P** **13 05 53.9 +3.0**
baz=198
L14K Kuka Creek 82.85 5 P **P** **13 05 52.3 +0.9**
L14K Kuka Creek 82.85 5 P **P** **13 05 54.6 +3.3**
baz=191
MSU Marysvale 82.89 44 **P** **13 05 53.6 +1.2**
G08A Pilot Rock 82.92 36 **P** **13 05 53.1 +0.8**
M16K Timber Creek 82.92 7 P **P** **13 05 53.2 +1.4**
M16K Timber Creek 82.92 7 P **P** **13 05 54.8 +3.1**
baz=194
O20K Slope Mountain 82.92 11 P **P** **13 05 55.5 +3.6**
baz=200
CBB Campbell River 82.94 29 **P** **13 05 52.3 +0.2**
CBB IAmb IAmb 13 05 57.7
comp=Z,7.3nm,0.9s
N18K Kilae Creek 82.99 9 P **P** **13 05 54.9 +2.7**
baz=197
MXC Moxie City 83.05 34 P **P** **13 05 54.4 +1.6**
MXC IAmb IAmb 13 05 58.1
comp=Z,10nm,1.1s
E07A Sunnyside 83.26 34 P **P** **13 05 55.2 +1.3**
K13K Kusilvak Mount 83.28 4 P **P** **13 05 56.5 +2.9**
baz=189
L15K Ungalak Mounta 83.29 6 P **P** **13 05 56.7 +3.1**
baz=192
LTY Liberty 83.30 33 P **P** **13 05 55.9 +1.8**
LTY IAmb IAmb 13 05 59.1
comp=Z,10.0nm,1.0s
N19K Bonanza Creek 83.32 9 P **P** **13 05 56.9 +3.0**
baz=198
HAWA Hanford 83.32 34 **P** **13 05 56.1 +1.9**
HAWA IAmb IAmb 13 05 59.6
comp=Z,11nm,0.9s
NJ2 Nanjing 83.47 308 eP **P** **13 05 57.1 +1.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
M17K Holitna River 83.47 8 P **P** **13 05 57.4 +2.8**
baz=196
MDJ Mudanjiang 83.50 323 **P** **13 05 55.4 +0.3**
MDJ IAmb IAmb 13 05 58.7
comp=Z,12nm,1.0s
MDJ Mudanjiang 83.50 323 P **P** **13 05 57.1 +2.0**
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MFID Camas Ranch 83.51 38 **P** **13 05 56.3 +0.9**
MFID IAmb IAmb 13 06 01.1
comp=Z,8.6nm,1.0s
HMU Henry Mountain 83.51 45 **P** **13 05 57.4 +1.7**
HMU IAmb IAmb 13 06 01.1
comp=Z,7.2nm,1.3s
SEW Seward 83.52 12 P **P** **13 05 57.6 +2.8**
baz=203
L16K Owhat River 83.53 7 P **P** **13 05 57.6 +2.8**
baz=194
Q23K Middleton Isla 83.55 14 P **P** **13 05 57.8 +2.8**
baz=206
BMO Blue Mountains 83.55 37 **P** **13 05 56.2 +0.7**
BMO IAmb IAmb 13 06 00.5
comp=Z,6.0nm,0.9s
E08A Dider Farm, El 83.64 35 P **P** **13 05 56.5 +0.7**
E08A IAmb IAmb 13 06 01.0
comp=Z,17nm,1.3s
LNOR Lincton Mounta 83.66 35 P **P** **13 05 56.4 +0.4**
M18K Stony River 83.77 9 P **P** **13 05 58.7 +2.6**
baz=197
O22K Cooper Landing 83.82 12 P **P** **13 05 59.6 +3.3**
baz=203
K15K Wolf Creek Mou 83.89 6 P **P** **13 05 59.6 +2.8**
baz=192,SNR=9.8
CRAG Craig 83.93 22 P **P** **13 05 59.8 +2.8**
baz=218
TMUT Trail Mountain 83.95 44 IAmb IAmb 13 06 04.1
comp=Z,9.5nm,1.1s
N20K Mount Spurr 84.05 10 P **P** **13 05 59.6 +2.0**
baz=200
SPCR Spurr Chakacha 84.05 10 P **P** **13 05 59.4 +1.7**
baz=200
SPU Mount Spurr 84.06 10 IAmb IAmb 13 06 01.6
comp=Z,7.3nm,1.0s
D08A Wollman Farm, 84.08 34 IAmb IAmb 13 06 03.9
comp=Z,12nm,0.9s
L17K Donlin 84.08 7 P **P** **13 06 00.4 +2.7**
baz=195
Y22D IRIS PASSCAL I 84.11 50 P **P** **13 06 00.2 +1.5**
baz=240
LENM Lemitar 84.12 50 P **P** **13 06 00.4 +1.6**
E09A Wood Farm, Sta 84.14 35 P **P** **13 06 00.2 +1.8**
E09A IAmb IAmb 13 06 03.2
comp=Z,10.0nm,1.0s
J14K Nanvaranak Lak 84.17 5 P **P** **13 06 00.4 +2.3**
baz=190
TXAR Lajitas Array 84.21 56 P **P** **13 06 00.0 +0.7**
TXAR Lajitas Array 84.21 56 P **P** **13 06 02.3 +3.0**
comp=Z,2.0nm,1.0s,baz=212,slow=5.9,SNR=10
comp=Z,2.0nm,1.0s
SRU San Rafael Swe 84.29 44 P **P** **13 06 00.3 +0.7**
SRU IAmb IAmb 13 06 05.8
comp=Z,14nm,1.4s
V35K Ketchikan 84.36 23 P **P** **13 06 01.5 +2.3**
baz=219
L18K Granite Mounta 84.36 8 P **P** **13 06 01.3 +2.2**
baz=196
HVU Hansel Valley 84.36 41 **P** **13 06 00.7 +0.8**
M19K Big River Lodg 84.38 9 P **P** **13 06 01.6 +2.4**
baz=198
RC01 Rabbit Creek A 84.38 11 P **P** **13 06 01.6 +2.4**
baz=203
STLK Strandline Lak 84.39 10 P **P** **13 06 00.4 +1.0**
STLK IAmb IAmb 13 06 03.2
comp=Z,9.6nm,1.0s
HLID Hailey 84.42 39 IAmb IAmb 13 06 05.6
comp=Z,5.8nm,1.0s
PLID Pearl Lake 84.43 37 IAmb IAmb 13 06 05.0
comp=Z,6.3nm,0.9s
KAIM Kayak Island 84.43 14 P **P** **13 06 00.4 +0.9**
baz=208
PWL Port Wells 84.44 12 P **P** **13 06 00.9 +1.3**
baz=204
U33K Whale Pass 84.45 22 P **P** **13 06 01.3 +1.7**
baz=218

SIT	Sitka baz=216	84.48	20	P	P	13 06 02.0 +2.2
M20K	Styx River baz=199	84.55	10	P	P	13 06 01.9 +1.7
SUA	Susitna One baz=202	84.55	11	P	P	13 06 02.5 +2.3
L19K	White Mountain baz=198	84.57	9	P	P	13 06 02.1 +1.9
K17K	Iditarod baz=195	84.64	7	P	P	13 06 02.3 +1.8
EYAK	Cordova Ski Ar baz=206	84.69	13	P	P	13 06 02.4 +1.7
B08A	Colville Reser	84.70	33		P	13 06 01.9 +0.6
B08A	comp=Z,10.0nm,1.1s			IAmb	IAmb	13 06 05.7
GLI	Glacier Island baz=205	84.70	13	P	P	13 06 02.5 +1.6
P18A	Preston Nutter	84.76	44	P	P	13 06 02.6 +0.5
P18A	comp=Z,6.5nm,1.2s			IAmb	IAmb	13 06 22.6
GAMB	Gambell baz=182	84.83	1	P	P	13 06 02.8 +1.4
TCUT	Toone Canyon comp=Z,19nm,1.5s	84.84	42	IAmb	IAmb	13 06 07.8
BGLC	Bering Glacier baz=208	84.87	15	P	P	13 06 03.7 +2.0
ANMO	Albuquerque	84.88	50	P	P	13 06 04.1 +1.5
ANMO	comp=Z,8.0nm,1.1s			IAmb	IAmb	13 06 08.8
ANMO	Albuquerque comp=Z,7.2nm,1.0s,baz=301,slow=4.6,SNR=7.9	84.88	50	P	P	13 06 06.4 +3.7
PV19	comp=Z,7.2nm,1.0s Morning Glory	84.88	46	P	P	13 06 03.4 +0.8
PV19	comp=Z,14nm,1.4s			IAmb	IAmb	13 06 26.7
SKT	Skwentna comp=Z,7.9nm,1.0s	84.90	10	IAmb	IAmb	13 06 05.1
SKT	Skwentna baz=201	84.90	10	P	P	13 06 03.8 +1.9
KNK	Knik Glacier baz=204	84.92	12	P	P	13 06 03.7 +1.7
BSUT	Blindstream Ca	84.92	43		P	13 06 03.2 +0.3
BSUT	comp=Z,9.3nm,1.4s			IAmb	IAmb	13 06 09.1
M22K	Willow baz=202	84.93	11	P	P	13 06 03.8 +1.9
S31K	Pelican baz=215	84.94	19	P	P	13 06 04.5 +2.4
WRAK	Wrangell Islan baz=218	84.95	22	P	P	13 06 04.6 +2.4
J16K	Anvik River	84.96	6	P	P	13 06 04.0 +1.9
J16K	Anvik River baz=192	84.96	6	P	P	13 06 04.9 +2.9
PMR	Palmer baz=203	84.96	12	P	P	13 06 04.2 +2.1
L20K	Farewell, AK baz=199	85.00	9	P	P	13 06 04.2 +1.9
J17K	VABM Dome baz=194	85.22	7	P	P	13 06 06.1 +2.7
MESA	MESA baz=210	85.24	15	P	P	13 06 06.3 +2.5
BMRM	Bremner River baz=207	85.32	14	P	P	13 06 06.6 +2.5
CN2	Changchun	85.40	321	P	P	13 06 06.8 +2.1
BNX	BinXian	85.41	323	⇓P	P	13 06 05.9 +1.1
BNX	comp=Z,12nm,1.0s			pmax	pmax	
M23K	Glacier View baz=204	85.41	12	P	P	13 06 07.7 +3.2
PNL	Peninsula baz=212	85.46	17	P	P	13 06 07.8 +3.1
CRQE	Cirque baz=209	85.47	15	P	P	13 06 07.3 +2.4
KLU	Klutina baz=206	85.50	13	P	P	13 06 07.6 +2.6
CUT	Chulitna baz=202	85.51	11	P	P	13 06 07.6 +2.7
SCM	Sheep Creek Mo	85.53	12	P	P	13 06 05.9 +0.8
SCM	Sheep Creek Mo baz=205	85.53	12	P	P	13 06 07.5 +2.4
I17K	Unalakleet baz=192	85.54	6	P	P	13 06 07.4 +2.5
J18K	Innoko River comp=Z,15nm,1.1s	85.56	8	IAmb	IAmb	13 06 08.6
J18K	Innoko River baz=196,SNR=8.5	85.56	8	P	P	13 06 07.3 +2.2
PINM	Pinnacle baz=211	85.60	16	P	P	13 06 07.3 +1.8
PPLA	Purkeypile baz=200	85.65	10	P	P	13 06 07.3 +1.6
R32K	Eaglecrest baz=216	85.72	20	P	P	13 06 08.4 +2.3
K20K	Telida baz=198	85.81	9	P	P	13 06 08.6 +2.2
VRDI	Verde Repeater comp=Z,12nm,0.9s	85.81	14	IAmb	IAmb	13 06 11.3
PLCA	Paso Flores comp=Z,63nm,18.0s,baz=234,slow=33	85.82	132	LR	LR	13 40 48.6
ANM	Nome baz=188	85.85	4	P	P	13 06 08.9 +2.3
P29M	Windy Craggy baz=214	85.88	17	P	P	13 06 09.1 +2.3
N25K	Chitina, Valde	85.89	14	P	P	13 06 08.8 +1.9
N25K	comp=Z,12nm,0.9s			IAmb	IAmb	13 06 12.1
N25K	Chitina, Valde baz=207	85.89	14	P	P	13 06 09.4 +2.5
GLB	Gilahina Butte	85.92	14	P	P	13 06 08.3 +1.3
GLB	comp=Z,11nm,1.0s			IAmb	IAmb	13 06 11.6
M24K	Tolsona, Glenn baz=206	86.01	13	P	P	13 06 09.7 +2.3
MCARA	McCarthy VSAT baz=209	86.05	14	P	P	13 06 10.2 +2.7
CTG	Chitna Glacier baz=210	86.08	15	P	P	13 06 10.2 +2.3
T35M	Bob Quinn baz=220	86.12	22	P	P	13 06 10.8 +2.7
PLBC	Pleasant Camp baz=215	86.13	18	P	P	13 06 10.4 +2.4
WAT6	Susitna Watana baz=204	86.13	12	P	P	13 06 10.6 +2.5
H16K	Elim baz=191	86.14	5	P	P	13 06 10.6 +2.7
O28M	Mount Upton baz=211	86.20	16	P	P	13 06 10.9 +2.1
J19K	Poorman comp=Z,10nm,1.1s	86.21	8	IAmb	IAmb	13 06 13.4
J19K	Poorman baz=197	86.21	8	P	P	13 06 10.8 +2.5
WAT1	Susitna Watana baz=204	86.21	11	P	P	13 06 10.7 +2.3
O29M	Mount Kennedy baz=213	86.22	17	P	P	13 06 11.2 +2.6
G15K	Niukluk baz=189	86.36	4	P	P	13 06 11.6 +2.5
SKAG	Skagway baz=216	86.44	19	P	P	13 06 11.6 +2.1
KTH	Kantishna Hill	86.47	10	P	P	13 06 10.0 +0.3
KTH	comp=Z,10.0nm,0.9s			IAmb	IAmb	13 06 13.7
TRF	Thorofare Moun	86.48	10		P	13 06 11.6 +1.8
TRF	Thorofare Moun baz=202,SNR=11	86.48	10	P	P	13 06 11.7 +1.8
HARP	HAARP baz=207	86.48	13	P	P	13 06 12.5 +2.8
P30M	Million Dollar baz=214	86.51	17	P	P	13 06 13.2 +3.2
S34M	Telegraph Cree	86.53	21		P	13 06 11.3 +1.3
S34M	comp=Z,12nm,1.1s			IAmb	IAmb	13 06 15.8
S34M	Telegraph Cree baz=219	86.53	21	P	P	13 06 13.3 +3.3
CHUM	Lake Minchumin baz=200	86.56	9	P	P	13 06 12.2 +2.2
J20K	Nowinta River baz=198,SNR=6.8	86.58	8	P	P	13 06 12.7 +2.6
H17K	Granite Mounta baz=193	86.64	6	P	P	13 06 13.1 +2.6
DHY	Denali Highway baz=205	86.65	12	P	P	13 06 13.3 +2.6
F14K	Arctic Creek baz=187	86.71	3	P	P	13 06 13.6 +2.9
TNA	Tin City baz=186	86.72	2	P	P	13 06 13.4 +2.6
YUK8	Steele Glacier baz=212	86.75	16	P	P	13 06 13.9 +2.5
SYO	Syowa Base	86.76	191	⇑eP	P	13 06 12.0 +0.8
SYO	Syowa Base	86.76	191	⇓esP	sP	13 06 16.9 +3.1
GCSA	Galena City Sc baz=196	86.78	7	P	P	13 06 14.0 +2.9
YUK6	Outpost Mounta baz=213	86.82	16	P	P	13 06 14.8 +3.1
TROLL	Troll, Antarti comp=Z,134nm,0.8s	86.88	179	⇑P	P	13 06 14.0 +2.0
PDAR	Pinedale Array comp=Z,1.1nm,0.8s,baz=193,slow=4.6,SNR=8.6	86.90	42	P	P	13 06 14.4 +1.9
PAX	comp=Z,1.1nm,0.8s Paxson baz=206	86.93	13	P	P	13 06 14.7 +2.7
HYT	Haines Junctio baz=214	86.95	17	P	P	13 06 14.4 +2.2
M26K	Nabesna, AK	86.95	14	P	P	13 06 13.1 +1.0
M26K	Nabesna, AK baz=209,SNR=12	86.95	14	P	P	13 06 14.9 +2.8
BPAW	Bear Paw Mtn.	86.97	10	P	P	13 06 12.5 +0.4
BPAW	comp=Z,6.8nm,1.2s			IAmb	IAmb	13 06 15.3
BPAW	Bear Paw Mtn. baz=201	86.97	10	P	P	13 06 14.0 +1.9
MCK	McKinley baz=203,SNR=13	86.97	11	P	P	13 06 14.0 +1.9
Q32M	Nakina River baz=218	86.98	20	P	P	13 06 14.5 +2.0
YUK3	Moose Creek baz=211,SNR=10	87.00	15	P	P	13 06 14.5 +2.0
H18K	Honhosa River baz=194	87.01	6	P	P	13 06 14.4 +2.1
VNA3	Neumayer Olymp comp=Z,5.1nm,1.0s	87.02	175	⇑P	P	13 06 13.7 +1.2
F15K	North Star Dit baz=189	87.03	4	P	P	13 06 15.2 +2.9
SNAA	Sanae comp=Z,79nm,1.0s	87.04	177	⇑P	P	13 06 14.1 +1.4
SNAA	Sanae	87.04	177	P	P	13 06 13.4 +0.8
SNAA	Sanae comp=Z,4.3nm,1.0s,baz=190,slow=4.2,SNR=9.0	87.04	177	P	P	13 06 13.0 +0.3
SNAA	comp=Z,91nm,19.8s,baz=215,slow=34			LR	LR	13 42 09.8
YUK4	comp=Z,4.3nm,1.0s Talbot Arm baz=213	87.08	16	P	P	13 06 16.0 +3.1
I20K	Naaghedeneel baz=198	87.12	8	P	P	13 06 15.1 +2.3
G17K	Kiwalik Mounta baz=192	87.13	5	P	P	13 06 15.2 +2.4
IPM	Ipoh	87.15	276	P	P	13 06 13.6 -0.5
M27K	Edge Creek, AK baz=210,SNR=10.0	87.16	14	P	P	13 06 15.8 +2.6
MENT	Mentasta comp=Z,12nm,1.0s	87.27	13	IAmb	IAmb	13 06 19.5
O30N	Mendenhall comp=Z,12nm,1.1s	87.29	17	IAmb	IAmb	13 06 19.6
O30N	Mendenhall baz=215	87.29	17	P	P	13 06 16.2 +2.4
DLBC	Dease Lake baz=220	87.31	21	P	P	13 06 16.1 +2.2
L26K	Log Cabin Wild comp=Z,6.7nm,1.0s	87.42	13	IAmb	IAmb	13 06 19.3
L26K	Log Cabin Wild baz=208	87.42	13	P	P	13 06 16.8 +2.5
BVCY	Beaver Creek baz=211,SNR=8.3	87.45	15	P	P	13 06 16.7 +2.2
WHY	Whitehorse baz=216	87.55	18	P	P	13 06 17.4 +2.3
H19K	Roundabout Mou baz=196	87.58	7	P	P	13 06 17.9 +3.0
N30M	Aishikik Lake baz=214	87.59	17	P	P	13 06 18.0 +2.9
K24K	Donnelly Dome baz=206	87.62	12	P	P	13 06 17.6 +2.3
G18K	Tagagawik baz=194	87.70	6	P	P	13 06 17.7 +2.1
VNA1	Neumayer--Stat comp=Z,6.8nm,0.9s	87.72	175	⇑P	P	13 06 15.4 -0.4
H20K	Anotleneega Mo baz=198	87.74	8	P	P	13 06 17.8 +2.1
R33M	Jennings River comp=Z,7.1nm,1.1s	87.74	20	IAmb	IAmb	13 06 21.6
R33M	Jennings River baz=220	87.74	20	P	P	13 06 18.0 +1.9
NEA2	Nenana baz=203	87.75	10	P	P	13 06 17.4 +1.6
RIDG	Independent Ri baz=207	87.75	12	P	P	13 06 18.2 +2.3
L27K	Beaver Creek,	87.79	14	P	P	13 06 17.1 +1.0
L27K	comp=Z,5.4nm,0.9s			IAmb	IAmb	13 06 21.0
L27K	Beaver Creek, baz=210	87.79	14	P	P	13 06 18.1 +2.0
P33M	Teslin, Yukon baz=218	87.80	19	P	P	13 06 17.8 +1.6
WRH	Wood River Hil	87.80	11	P	P	13 06 17.2 +1.2
BCAR	Beaver Creek A	87.80	14		P	13 06 17.9 +1.8
DOT	Dot Lake	87.83	13	P	P	13 06 18.1 +1.9
DOT	comp=Z,10nm,0.9s			IAmb	IAmb	13 06 21.0
I21K	Tanana baz=200	87.83	9	P	P	13 06 17.7 +1.5
I21K	comp=Z,12nm,1.4s			IAmb	IAmb	13 06 22.3
I21K	Tanana baz=200	87.83	9	P	P	13 06 17.9 +1.7
MLY	Manley baz=202	87.88	10	P	P	13 06 18.7 +2.2
HDA	Harding Lake baz=205,SNR=7.7	87.95	11	P	P	13 06 19.4 +2.6
N31M	Braeburn, Yuko baz=215	87.97	17	P	P	13 06 19.6 +2.6
F17K	Baldwin Pennin baz=192	88.00	5	P	P	13 06 19.5 +2.6
CCB	Clear Creek Bu comp=Z,7.6nm,1.0s	88.01	11	IAmb	IAmb	13 06 21.2
M29M	Somme Creek comp=Z,11nm,1.1s	88.06	16	IAmb	IAmb	13 06 22.4
M29M	Somme Creek baz=213,SNR=8.0	88.06	16	P	P	13 06 20.4 +2.9
G19K	Purcell Mounta baz=196	88.11	7	P	P	13 06 20.3 +2.9
SCRK	Sand Creek comp=Z,10nm,1.1s	88.13	13	IAmb	IAmb	13 06 22.6
SCRK	Sand Creek baz=208,SNR=7.0	88.13	13	P	P	13 06 20.1 +2.3
H21K	Melozitna Rive baz=200	88.17	9	P	P	13 06 19.8 +2.0
I23K	Minto, Yukon-K baz=203	88.21	10	P	P	13 06 20.6 +2.6
COLA	College	88.21	11	P	P	13 06 19.6 +1.6
COLA	College baz=204	88.21	11	P	P	13 06 20.6 +2.6
ILAR	Eielson Array	88.29	11	P	P	13 06 18.8 +0.5
ILAR	Eielson Array comp=Z,4.0nm,1.0s,baz=215,slow=5.8,SNR=20	88.29	11	P	P	13 06 20.1 +1.8
F18K	comp=Z,4.0nm,1.0s Selawik baz=193	88.29	6	P	P	13 06 21.1 +2.8
IMAR	Indian Mountai	88.35	8	P	P	13 06 20.2 +1.5
J25K	Salcha River, comp=Z,12nm,1.1s	88.43	12	IAmb	IAmb	13 06 23.7
J25K	Salcha River, baz=206,SNR=12	88.43	12	P	P	13 06 21.6 +2.5
RPSI	Rantau Prapat	88.46	273	P	P	13 06 20.4 0.0
POKR	Poker Plat Res baz=205	88.51	11	P	P	13 06 22.4 +3.0
K27K	Chicken baz=210	88.58	13	P	P	13 06 22.8 +3.0
E17K	Hotham Inlet baz=191	88.59	5	P	P	13 06 22.3 +2.6
H22K	Ishtalitna Cre baz=201	88.59	9	P	P	13 06 22.4 +2.5
M30M	Minto, Yukon baz=214	88.60	16	P	P	13 06 22.6 +2.7
J26L	Joseph Creek baz=208,SNR=30	88.69	13	P	P	13 06 23.2 +2.9
F19K	Shaleruckik Mo baz=195	88.70	6	P	P	13 06 23.0 +2.7
L29M	L29M baz=213,SNR=11	88.70	15	P	P	13 06 23.7 +3.3
H23K	Yukon River baz=203	88.81	10	P	P	13 06 23.7 +2.8
G21K	Allakaket baz=199	88.89	8	P	P	13 06 23.7 +2.5
M31M	Drury Creek, Y baz=216	88.94	17	P	P	13 06 24.5 +3.0
WTLY	Watson Lake, Y baz=221	89.00	21	P	P	13 06 25.1 +3.3
E18K	Tukpahlearik C	89.02	5	P	P	13 06 24.1 +2.4
H24K	Noodor Dome baz=204	89.09	10	P	P	13 06 25.0 +2.8
D17K	Noatak River baz=190	89.11	4	P	P	13 06 25.0 +2.9
F20K	Avaraart Lake baz=197	89.13	7	P	P	13 06 25.3 +3.0
DAWY	Dawson	89.21	14	P	P	13 06 24.4 +1.6
DAWY	comp=Z,8.7nm,0.9s			IAmb	IAmb	13 06 28.0
DAWY	Dawson baz=212,SNR=11	89.21	14	P	P	13 06 25.5 +2.7
PRP	Porcupine Dome comp=Z,12nm,1.1s	89.21	11	IAmb	IAmb	13 06 28.2
PRP	Porcupine Dome baz=206	89.21	11	P	P	13 06 25.7 +2.8
TOAD	Toad River Com baz=224,SNR=18	89.31	23	P	P	13 06 26.6 +3.3
E19K	Redstone River baz=196	89.36	6	P	P	13 06 26.4 +3.0
K29M	Barlow Dome baz=214,SNR=11	89.47	15	P	P	13 06 27.2 +3.1
I26K	Coal Creek Min baz=208	89.48	12	P	P	13 06 26.8 +2.9
G22K	Bettles baz=201	89.54	9	P	P	13 06 27.4 +3.2
C16K	Lisburne Hills baz=188	89.55	3	P	P	13 06 26.7 +2.5
G23K	Bananza Creek baz=202	89.56	9	P	P	13 06 26.5 +2.2
F21K	Alatna River baz=199	89.56	8	P	P	13 06 26.5 +2.2
J29N	Klondike Camp comp=Z,10.0nm,0.8s	89.81	15	IAmb	IAmb	13 06 31.3
J29N	Klondike Camp baz=213	89.81	15	P	P	13 06 27.8 +2.1
H25L	Birch Creek baz=206	89.84	11	P	P	13 06 28.7 +3.2
C17K	DeLong Mountai baz=190	89.87	4	P	P	13 06 28.6 +2.8
G24K	Hadweenzic Riv baz=205	89.95	10	P	P	13 06 28.7 +2.5
COLD	Coldfoot baz=202	90.01	9	P	P	13 06 29.1 +2.6
I27K	Kandik River baz=210	90.05	13	P	P	13 06 29.6 +2.9
MMPY	Sheldon Lake, comp=Z,7.8nm,1.0s	90.16	18	IAmb	IAmb	13 06 32.7
MMPY	Sheldon Lake, baz=219	90.16	18	P	P	13 06 29.8 +2.6
C18K	Utukok River baz=192	90.18	5	P	P	13 06 30.1 +2.9
TGTN	Hyland Airport baz=222	90.23	20	P	P	13 06 30.3 +2.7
G25K	Bearman Lake baz=206	90.24	11	P	P	13 06 30.8 +3.4
E20K	Nigu River baz=196	90.24	6	P	P	13 06 30.1 +2.6
I28M	Miner Creek comp=Z,11nm,1.1s	90.27	13	IAmb	IAmb	13 06 32.4
I28M	Miner Creek baz=211	90.27	13	P	P	13 06 30.3 +2.5
D19K	Kuna River baz=195	90.28	6	P	P	13 06 30.6 +2.9
J30M	Hart River	90.37	15	P	P	13 06 29.9 +1.6
J30M	comp=Z,6.6nm,1.0s			IAmb	IAmb	13 06 33.4
J30M	Hart River baz=215,SNR=6.5	90.37	15	P	P	13 06 30.7 +2.4
I29M	Ogilvie Camp,	90.56	14	P	P	13 06 30.7 +1.7
I29M	comp=Z,4.9nm,1.0s			IAmb	IAmb	13 06 33.7
I29M	Ogilvie Camp, baz=213	90.56	14	P	P	13 06 31.7 +2.7
H27K	Steamboat Moun baz=210	90.62	12	P	P	13 06 31.8 +2.5
F24K	Squaw Lake baz=204	90.63	10	P	P	13 06 32.0 +2.6
D20K	Etivluk River baz=196	90.64	6	P	P	13 06 31.7 +2.3
KOTAN	Kotaneelee Air baz=226	90.64	22	P	P	13 06 31.5 +2.0
E21K	Killik River baz=199	90.67	7	P	P	13 06 31.9 +2.5
C19K	Lookout Ridge baz=193	90.75	5	P	P	13 06 32.3 +2.4
G26K	Porcupine Rive comp=Z,9.1nm,1.1s	90.82	11	IAmb	IAmb	13 06 50.2
G26K	Porcupine Rive baz=208	90.82	11	P	P	13 06 32.5 +2.3
B18K	Kokolik River baz=191	90.84	4	P	P	13 06 32.5 +2.3
E23K	Chandalar baz=203	90.87	9	P	P	13 06 32.8 +2.2
I30M	Mount Dempster comp=Z,10nm,1.0s	90.89	15	IAmb	IAmb	13 06 36.2
I30M	Mount Dempster baz=215	90.89	15	P	P	13 06 33.0 +2.2
E24K	Your Creek baz=204	91.05	9	P	P	13 06 33.5 +2.2
F25K	Christian Rive baz=206	91.07	10	P	P	13 06 33.4 +2.0
G27K	Doyon Strip baz=210	91.10	12	P	P	13 06 33.7 +2.1
BMAR	Burnt Mountain	91.10	11	P	P	13 06 32.8 +1.3
D22K	Ayikyak River baz=200	91.24	7	P	P	13 06 34.7 +2.6
C21K	Knifeblade Rid baz=198	91.26	7	P	P	13 06 34.7 +2.5
H29M	Whitestone baz=213	91.27	14	P	P	13 06 34.8 +2.5
F26K	Sheenjek River baz=208	91.42	11	P	P	13 06 35.2 +2.2
TOLK	Toolik Lake Re baz=203	91.42	9	P	P	13 06 34.7 +1.7
E25K	Arctic Village baz=206	91.55	10	P	P	13 06 36.5 +2.9
D23K	Nanushuk River baz=202	91.57	8	P	P	13 06 36.1 +2.5
A19K	Wainwright baz=192	91.72	4	P	P	13 06 36.9 +2.6
B21K	Ikpikpuk River baz=198	91.72	7	P	P	13 06 37.0 +2.8
EPYK	Eagle Plains baz=214	91.77	14	P	P	13 06 37.5 +2.9
XAN	Xi'an	91.79	306	⇑P	P	13 06 38.1 +2.6
XAN	comp=Z,14nm,1.0s			pmax	pmax	
B20K	Meade River baz=196	91.84	6	P	P	13 06 37.3 +2.5
H31M	Peel River baz=216	91.86	15	P	P	13 06 38.3 +3.2
G29M	Pine Creek baz=213	91.93	13	P	P	13 06 38.1 +2.7
D24K	Happy Valley baz=203	92.00	9	P	P	13 06 38.0 +2.4
NNA	Nana comp=Z,88nm,19.7s,baz=136,slow=30	92.03	104	LR	LR	13 39 49.8
F28M	Old Crow baz=212	92.15	12	P	P	13 06 39.4 +3.0
E27K	Coleen River baz=210	92.31	11	P	P	13 06 39.8 +2.7
G30M	tAoh Zraii Nji baz=215	92.39	14	P	P	13 06 40.4 +2.9
C23K	Itkillik River baz=202	92.39	8	P	P	13 06 40.1 +2.7
D25K	Kavik River baz=206	92.51	9	P	P	13 06 41.3 +3.2
B22K	Teshekpuk Lake baz=199	92.54	7	P	P	13 06 41.0 +3.0
C24K	Franklin Bluff baz=204	92.54	9	P	P	13 06 41.0 +3.0
HHC	Hu-ho-hao-te	92.78	313	eP	P	13 06 41.8 +1.8
HHC	comp=Z,15nm,0.7s			pmax	pmax	
HHC	comp=Z,47nm,5.3s			pmax	pmax	
G31M	Satah River baz=217	92.78	15	P	P	13 06 42.1 +2.9
E28M	Babbage River baz=212	93.06	12	P	P	13 06 43.6 +3.0
E29M	Blow River baz=213	93.20	13	P	P	13 06 43.8 +2.6
C27K	Jago River baz=208	93.21	10	P	P	13 06 44.1 +2.9
C26K	Camden Bay baz=207	93.28	10	P	P	13 06 43.9 +2.5
F31M	Tsiigehtchic	93.33	14	P	P	13 06 44.4 +2.7

	baz=217								
D27M	**Malcolm River**	**93.34**	**11**	P		**P**	13 06 44.1	**+2.2**	
	baz=211								
D28M	**Stokes Point**	**93.83**	**12**	P		**P**	13 06 45.9	**+1.9**	
	baz=213								
INK	**Inuvik**	**94.07**	**14**	P		**P**	13 06 46.7	**+1.5**	
	baz=217								
CMAR	**Chiang Mai Arr**	**94.12**	**288**	P		**P**	13 06 45.2	**-1.4**	
CMAR	**Chiang Mai Arr**	**94.12**	**288**	P		**P**	13 06 45.7	**-0.9**	
	comp=Z,4.3nm,0.9s,baz=124,slow=2.9,SNR=21								
	comp=Z,4.3nm,0.9s								
CHTO	**Chiang Mai**	**94.24**	**288**	P		**P**	13 06 45.9	**-1.3**	
CHTO				IAmb		IAmb	13 06 49.5		
	comp=Z,8.1nm,0.9s								
CD2	**Chengdu**	**94.57**	**301**	*e*P		**P**	13 06 50.0	**+1.5**	
PZH	**PanZhiHua**	**94.59**	**297**	P		**P**	13 06 51.1	**+2.3**	
YKA	**Yellowknife Ar**	**95.64**	**24**	P		**P**	13 06 53.1	**+0.7**	
	comp=Z,1.1nm,0.8s,baz=260,slow=3.6,SNR=4.0								
	comp=Z,1.1nm,0.8s								
C36M	**Paulatuk**	**97.12**	**16**	P		Pdif	13 07 00.9	+1.8	
	baz=226								
LPAZ	**La Paz**	**98.09**	**111**	LR		LR	13 43 18.4		
	comp=Z,101nm,18.9s,baz=290,slow=30								
A36M	**Sachs Harbour**	**98.71**	**14**	P		Pdif	13 07 07.6	+1.4	
	baz=225								
WMQ	**Urumqi**	**110.46**	**310**	*e*PKP		**PKiKP**	13 11 59.6	**-0.3**	
MKAR	**Makanchi Array**	**114.64**	**313**	PKP		PKPdf	13 12 07.5	-0.2	
	comp=Z,0.5nm,0.7s,baz=78,slow=6.7,SNR=3.7								
KURBB	**Kurchatov Arra**	**117.33**	**317**	PKP		**PKPdf**	**13 12 12.4**	**-0.3**	
	comp=Z,0.3nm,0.3s,baz=93,slow=1.9,SNR=6.5								
BVAR	**Borovoye Array**	**122.24**	**320**	PKP		**PKiKP**	**13 12 22.7**	**+0.4**	
	comp=Z,2.1nm,0.7s,baz=64,slow=3.4,SNR=6.9								
BOSA	**Boshof**	**127.07**	**201**	PKP		**PKiKP**	**13 12 33.5**	**+0.6**	
	comp=Z,4.4nm,1.0s,baz=128,slow=7.6,SNR=3.7								
SUW	**Suwalki**	**144.90**	**343**	*e*PKP		**PKPdf**	**13 13 05.3**	**+1.1**	
EKA	**Eskdalemuir Ar**	**145.31**	**9**	PKPbc		**PKiKP**	**13 13 08.0**	**-0.9**	
	comp=Z,1.5nm,0.7s,baz=3.6,slow=4.0,SNR=2.6								
AKASG	**Malin Array Be**	**145.56**	**334**			**PKPdf**	**13 13 05.7**	**+0.2**	
AKASG	**Malin Array Be**	**145.56**	**334**	PKPbc		**PKPab**	**13 13 06.2**	**+0.3**	
	comp=Z,5.3nm,0.7s,baz=39,slow=3.9,SNR=29								
KIEV	**Kiev**	**145.57**	**334**			**PKPbc**	**13 13 05.8**	**+0.2**	
RNPP9	**Sopachiv**	**146.27**	**338**	PKP		**PKPbc**	**13 13 07.8**	**0.0**	
KMPD	**K-Podol'skiy**	**148.36**	**334**	PKP		**PKPdf**	**13 13 11.2**	**+1.0**	
KWP	**Kalwaria Pacla**	**148.87**	**339**	*e*PKP		**PKPdf**	**13 13 09.9**	**-1.2**	
BNN	**Bunyan**	**149.17**	**311**			**PKiKP**	**13 13 18.2**	**+0.7**	
OJC	**Ojcow**	**149.23**	**343**	*e*PKP		**PKiKP**	**13 13 17.9**	**+0.8**	
KSP	**Ksiaz**	**149.49**	**347**	*e*PKP		**PKiKP**	**13 13 19.6**	**+2.0**	
CLL	**Collm**	**149.60**	**352**	*i* PKPbc		**PKiKP**	**13 13 18.3**	**+0.5**	
	comp=Z,8.0nm,0.8s								
CLL				*i* PKPab		**pPKPab**	**13 13 22.9**	**-0.8**	
	comp=Z,9.0nm,0.9s								
CLL				*i* x		x	13 13 24.7		
	comp=Z,9.0nm,0.9s								
CLL				*e*x		x	13 13 34.0		
BURAR	**Bucovina Array**	**149.62**	**334**			**PKiKP**	**13 13 17.9**	**-0.2**	
NIE	**Niedzica**	**149.81**	**342**	*e*PKP		**PKiKP**	**13 13 18.4**	**0.0**	
BRG	**Berggiesshubel**	**149.89**	**350**	*e*PKP		**PKiKP**	**13 13 20.8**	**+2.3**	
BRG				Amp			13 13 21.5		
	comp=Z,4.4nm,0.9s								
BRG	**Berggiesshubel**	**149.89**	**350**	P		**PKPab**	**13 13 26.3**	**+3.4**	
BRG				Amp			13 13 26.7		
	comp=Z,6.4nm,0.8s								
DPC	**Dobruska-Polom**	**149.95**	**347**	*e*PKP		**PKPab**	**13 13 21.6**	**-1.7**	
DPC				*e*x		x	13 13 25.7		
STEB	**Steborice**	**150.02**	**345**	*e*PKP		**PKiKP**	**13 13 20.6**	**+1.9**	
STEB				*e*x		x	13 13 25.8		
MORC	**Moravsky Berou**	**150.22**	**345**	*e*PKP		**PKiKP**	**13 13 19.8**	**+0.6**	
BRTR	**Keskin Array B**	**150.28**	**314**			**PKiKP**	**13 13 19.6**	**-0.2**	
BRTR	**Keskin Array B**	**150.28**	**314**	PKPbc		**PKPbc**	**13 13 19.5**	**+0.5**	
	comp=Z,4.5nm,1.0s,baz=156,slow=2.6,SNR=15								
MOX	**Moxa**	**150.43**	**353**	*e*L		L	14 21 39.5		
	comp=Z,54nm,18.1s								
BTNL	**Ternell**	**150.79**	**0**	*d*PKP		**PKiKP**	**13 13 21.9**	**+1.6**	
VRAC	**Vranov**	**150.88**	**346**	*e*PKP		**PKiKP**	**13 13 21.8**	**+1.2**	
BMRD	**Maredsous**	**151.05**	**2**	*d*PKP		**PKiKP**	**13 13 22.2**	**+1.4**	
KRUC	**Moravsky**	**151.15**	**346**	*e*PKP		**PKiKP**	**13 13 22.4**	**+1.3**	
GRF	**Grafenberg Arr**	**151.41**	**353**	*e*PKPab		**PKPab**	**13 13 31.4**	**+2.0**	
	baz=10,slow=3.9								
GRF				*e*L		L	14 18 13.2		
	comp=Z,59nm,18.2s								
KHC	**Kasperske Hory**	**151.63**	**350**	*e*PKP		**PKiKP**	**13 13 23.8**	**+1.6**	
KHC				*e*x		x	13 13 28.4		
MMAI	**Mount Meron Ar**	**151.64**	**300**	PKPbc		**PKiKP**	**13 13 22.8**	**0.0**	
	comp=Z,0.7nm,0.4s,baz=116,slow=5.0,SNR=1.7								
GERES	**GERESS Array B**	**151.89**	**349**	PKPbc		**PKiKP**	**13 13 23.9**	**+1.1**	
	comp=Z,0.4nm,0.3s,baz=347,slow=4.1,SNR=5.4								
ESDC	**Sonseca Array**	**159.73**	**23**	PKPab		**PKPab**	**13 14 07.2**	**+1.9**	
	comp=Z,0.4nm,0.6s,baz=335,slow=4.3,SNR=4.3								
TORD	**Torodi Ar. Bea**	**170.79**	**151**	PKP		**PKPdf**	**13 16 36.3**	**-0.2**	
	comp=Z,1.3nm,1.0s,baz=274,slow=4.0,SNR=5.2								
TORD				PKPab		**sPKPab**	**13 14 56.4**	**-0.8**	
	comp=Z,0.7nm,0.7s,baz=182,slow=3.3,SNR=2.8								

HEL 03 12:53:47.5±0.1, 61°16N×29°85E, h0km, ML1.5,
Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUF	**Ruokolahti**	**0.51**	**302**	*e*P	Pg	12 53 56.7	-0.5
VJF	**Virojoki**	**1.28**	**242**	*e*P	Pg	12 54 10.6	-1.5
VJF				*e*S	Sg	12 54 26.9	-1.8
FIA0	**FINESS Array S**	**1.84**	**280**	*e*P	Pn	12 54 20.2	-0.2
FIA0				*e*S	Sn	12 54 43.9	-0.4
FIA0				MSG		12 54 46.0	
	comp=Z,1.5nm,0.1s						
FIA0	**FINESS Array S**	**1.84**	**280**	PG	Pn	12 54 19.9	-0.4
KAF	**Kangasniemi**	**1.94**	**301**	*e*P	Pn	12 54 21.5	-0.2
KAF				*e*S	Sn	12 54 46.5	-0.3
KAF				MSG		12 54 48.5	
	comp=Z,2.6nm,0.1s						
PVF	**Pernaja**	**2.05**	**254**	*e*PB	Pn	12 54 23.3	+0.2
PVF				*e*SG	Sb	12 54 50.5	-0.9
PVF				MSG		12 54 52.5	
	comp=Z,2.8nm,0.1s						
SUF	**Sumiainen**	**2.34**	**313**	*e*SB	Sn	12 54 58.3	+1.6
SUF				MSG		12 55 04.8	
	comp=Z,1.5nm,0.1s						
KEF	**Keuruu**	**2.58**	**295**	*e*SB	Sb	12 55 04.9	-1.8
KEF				MSG		12 55 08.9	
	comp=Z,1.0nm,0.1s						

*IDC **03** 13:19:37.2±16.0, 10°37N×84°72W, h0km, mb3.5/2,*
mbtmp3.5/2, Error ellipse: s-maj=1240.0km
s-min=108.4km az=61.0
*UCR **03** 13:19:43.1±1.2, 10°28N×86°34W, h8km±8km, MW4.3*
*CATAC **03** 13:19:45.5±0.6, 10°N±4°×8°6W±°, h21km±5km, M3.5/13,*
MLv3.5/13, Error ellipse: s-maj=8.3km s-min=4.9km
az=26.3, confirmed

ISC 03 13:19:44.3±1.5, 10°29N±0°04×86°21W±0°04, h11km±9km,
n73, σ1s28/102, 28C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SACU	**Santa Cruz**	**0.61**	**92**	⇑*e*P	**Pn**	**13 19 58.1**	**-0.9**
SACU				*e*S	**Sn**	**13 20 08.1**	**-0.7**
DELF	**Filadelfia**	**0.66**	**76**	⇑*i*P	**Pn**	**13 19 58.9**	**-0.8**
DELF				*e*S	**Sn**	**13 20 09.4**	**-0.7**
JUD3	**Juan Diaz 3**	**0.67**	**100**	⇑*e*P	**Pn**	**13 19 59.0**	**-0.8**
JUD3				*e*S	**Sn**	**13 20 08.9**	**-1.4**
ALIBA	**Liberia Airpor**	**0.72**	**65**	⇑*i*P	**Pn**	**13 20 00.2**	**-0.2**
ALIBA				*e*S	**Sn**	**13 20 12.0**	**+0.6**
ELI1	**Hacienda Flor**	**0.74**	**61**	⇑*i*P	**Pn**	**13 20 00.8**	**+0.2**
ELI1				*e*S	**Sn**	**13 20 12.7**	**+0.8**
ELI1	**Hacienda Flor**	**0.74**	**61**	P	**Pn**	**13 20 00.8**	**+0.2**
INDI	**Punta indio, G**	**0.81**	**121**	P	**Pn**	**13 20 00.9**	**-0.8**
INDI	**Punta indio, G**	**0.81**	**121**	S	**Sb**	**13 20 11.7**	**+0.4**
CMARA	**Lajas Hojancha**	**0.82**	**109**	P	**Pn**	**13 20 01.5**	**-0.3**
CMARA	**Lajas Hojancha**	**0.82**	**109**	S	**Sn**	**13 20 12.5**	**-1.4**
PLVR	**Palo Verde**	**0.84**	**86**	*e*P	**Pn**	**13 20 01.5**	**-0.8**
PLVR				*e*S	**Sn**	**13 20 15.3**	**+0.5**
LAPC	**Finca la Perla**	**0.90**	**58**	⇑*e*P	**Pn**	**13 20 02.2**	**-0.7**
LAPC				*e*S	**Sn**	**13 20 15.8**	**-0.1**
GPS3	**Bodega del ICE**	**0.95**	**61**	⇓*i*P	**Pn**	**13 20 04.0**	**+0.3**
GPS3				*e*S	**Sn**	**13 20 19.3**	**+2.1**
GPS2	**Hotel Rincn d**	**0.96**	**61**	⇑*e*P	**Pn**	**13 20 03.4**	**-0.4**
GPS2				*e*S	**Sn**	**13 20 17.7**	**+0.2**
BAGA	**Bagaces**	**0.96**	**75**	*e*P	**Pn**	**13 20 03.6**	**-0.1**
BAGA				*e*S	**Sn**	**13 20 18.6**	**+1.1**
VRLE	**La Escondida,**	**0.97**	**59**	⇑*e*P	**Pn**	**13 20 03.3**	**-0.6**
LCRUZ	**La Cruz**	**0.97**	**36**	⇑*i*P	**Pn**	**13 20 03.6**	**-0.3**
LCRUZ				*e*S	**Sn**	**13 20 18.1**	**+0.5**
GPS1	**Guardaparques**	**0.97**	**60**	⇑*e*P	**Pn**	**13 20 03.6**	**-0.4**
GPS1				*e*S	**Sn**	**13 20 17.9**	**+0.1**
VORI	**VORI**	**1.00**	**58**	⇑*e*P	**Pn**	**13 20 03.8**	**-0.6**
VORI				*e*S	**Sn**	**13 20 18.1**	**-0.5**
BUAI	**Buenos Aires**	**1.04**	**56**	⇑*e*P	**Pn**	**13 20 04.7**	**-0.2**
BUAI				*e*S	**Sn**	**13 20 23.3**	**+3.9**
COLC	**Colonia**	**1.06**	**69**	⇑*e*P	**Pn**	**13 20 04.8**	**-0.3**
COLC				*e*S	**Sn**	**13 20 21.2**	**+1.4**
PEJA	**Penjamo Buenos**	**1.07**	**55**	⇑*e*P	**Pn**	**13 20 05.3**	**+0.1**
CUI	**Cuipilapa**	**1.09**	**70**	⇑*i*P	**Pn**	**13 20 05.4**	**-0.2**
CUI				*e*S	**Sn**	**13 20 21.7**	**+1.0**
MESS	**Mesas**	**1.09**	**66**	⇑*i*P	**Pn**	**13 20 05.4**	**-0.3**
MESS				*e*S	**Sn**	**13 20 21.5**	**+0.7**
HORNC	**Hornillas**	**1.10**	**67**	⇑*i*P	**Pn**	**13 20 05.5**	**-0.2**
HORNC				*e*S	**Sn**	**13 20 20.0**	**-1.0**
CARN	**Rivas**	**1.12**	**37**	⇑*i*P	**Pn**	**13 20 05.7**	**-0.2**
CARN				*e*S	**Sn**	**13 20 23.9**	**+2.5**
CARN	**Rivas**	**1.12**	**37**	P	**Pn**	**13 20 05.9**	**0.0**
CARN				S	**Sn**	**13 20 20.6**	**-0.8**
INVE	**Universidad In**	**1.14**	**80**	⇑*i*P	**Pn**	**13 20 06.3**	**0.0**
INVE				*e*S	**Sn**	**13 20 23.9**	**+1.9**
MOTZ	**Rio Naranjo**	**1.19**	**70**	⇑*e*P	**Pn**	**13 20 07.0**	**+0.2**
MOTZ				*e*S	**Sn**	**13 20 24.5**	**+1.5**
VMAR	**Armenia, Volca**	**1.20**	**64**	⇑*e*P	**Pn**	**13 20 07.0**	**-0.1**
VMAR				*e*S	**Sn**	**13 20 24.9**	**+1.6**
TIMP	**Tierras Morena**	**1.21**	**76**	*e*P	**Pg**	**13 20 06.8**	**-0.8**
TILA	**Tilaran**	**1.23**	**81**	*e*P	**Pg**	**13 20 07.5**	**-0.5**
JTS	**Las Juntas de**	**1.23**	**90**	⇑*i*P	**Pg**	**13 20 07.4**	**-0.7**
TENO	**El Achiote**	**1.28**	**71**	⇑*e*P	**Pb**	**13 20 07.5**	**-0.9**
TENO				*e*S	**Sn**	**13 20 26.1**	**+0.8**
CBL1	**Cabuya**	**1.30**	**122**	*e*P	**Pg**	**13 20 12.2**	**+2.9**
QUEB	**Quebradon, Cot**	**1.33**	**75**	⇑*e*P	**Pg**	**13 20 09.2**	**-0.7**
QUEB				*e*S	**Sg**	**13 20 28.1**	**+0.9**
OMEN	**AI SSO del Vol**	**1.34**	**25**	P	**Pn**	**13 20 07.1**	**-1.9**
MTEVE	**Monteverde**	**1.36**	**89**	*e*P	**Pg**	**13 20 09.2**	**-1.2**
MORN	**AI O del Volca**	**1.37**	**24**	P	**Pg**	**13 20 09.5**	**-1.1**
TABAC	**Tabacon**	**1.43**	**81**	*e*P	**Pg**	**13 20 11.1**	**-0.8**
CASO	**Castillo**	**1.46**	**84**	*e*P	**Pg**	**13 20 11.7**	**-0.6**
ARE1	**Arenal 1**	**1.48**	**83**	⇑*e*P	**Pg**	**13 20 11.7**	**-0.9**
VARE2	**V. Arenal**	**1.48**	**83**	⇑*e*P	**Pg**	**13 20 11.7**	**-0.9**
CEDE	**Laguna Cedeo**	**1.49**	**82**	⇑*i*P	**Pg**	**13 20 12.1**	**-0.9**
CEDE				*e*S	**Sg**	**13 20 35.0**	**+2.6**
REZ	**Monterrey de S**	**1.50**	**81**	*e*P	**Pg**	**13 20 12.7**	**-0.5**
VACR	**Volcan Arenal**	**1.52**	**83**	*e*P	**Pg**	**13 20 12.1**	**-1.4**
SOCE	**Pocosol**	**1.57**	**86**	*e*P	**Pg**	**13 20 13.2**	**-1.3**
SOCE	**Pocosol**	**1.57**	**86**	P	**Pg**	**13 20 13.0**	**-1.4**
NANN	**Nandasmo**	**1.64**	**3**	P	**Pb**	**13 20 14.0**	**-0.6**
NARAN	**Naranjo de Ala**	**1.81**	**96**	*e*P	**Pn**	**13 20 11.1**	**-4.5**
COVE	**Coope Vega, Sa**	**1.83**	**76**	P	**Pb**	**13 20 17.5**	**-0.2**
COVE	**Coope Vega, Sa**	**1.83**	**76**	S	**Sb**	**13 20 40.0**	**-0.6**
COPN	**Copaltepe**	**1.92**	**346**	P	**Pn**	**13 20 16.7**	**-0.2**
ACON	**Acoyapa**	**1.96**	**31**	⇑*i*P	**Pn**	**13 20 16.7**	**-0.9**
ACON				*e*S	**Sb**	**13 20 43.5**	**-0.8**
ACON	**Acoyapa**	**1.96**	**31**	P	**Pn**	**13 20 16.6**	**-0.8**
PICV	**PH. Pirrs**	**2.09**	**108**	*e*P	**Pg**	**13 20 22.3**	**-2.1**
MOM2	**El Cardon**	**2.15**	**353**	P	**Pn**	**13 20 20.2**	**+0.1**
MOM2				S	**Sb**	**13 20 51.0**	**+0.9**
BOAB	**BOACO BROADBAN**	**2.21**	**14**	P	**Pn**	**13 20 20.9**	**-0.1**
LCR2	**La Lucha 2**	**2.24**	**104**	*e*P	**Pg**	**13 20 27.1**	**-0.1**
CNGA	**AI SSO del Vol**	**2.25**	**348**	P	**Pb**	**13 20 22.7**	**-2.3**
CNGN	**Cerro Negro**	**2.25**	**348**	*e*P	**Pb**	**13 20 23.9**	**-1.1**
CNGN	**Cerro Negro**	**2.25**	**348**	P	**Pb**	**13 20 24.2**	**-0.9**
PIEC	**Cerro El Cedra**	**2.31**	**106**	*e*P	**Pb**	**13 20 26.0**	**-0.2**
VICA	**Volcano Irazu**	**2.35**	**97**	*e*P	**Pb**	**13 20 26.1**	**-0.8**
VTR0	**Volcan Turrial**	**2.42**	**96**	*e*P	**Pg**	**13 20 29.3**	**-1.5**
CVTR	**Volcan Turrial**	**2.42**	**96**	*e*P	**Pb**	**13 20 27.4**	**-0.8**
ABRB	**Las Abras (San**	**2.47**	**96**	*e*P	**Pn**	**13 20 25.4**	**+0.7**
CSGN	**Cosiguina Volc**	**2.98**	**334**	P	**Pn**	**13 20 32.4**	**+0.8**
CSGN				S	**Sn**	**13 21 05.2**	**-2.3**
CHOHN	**Orocuina**	**3.31**	**344**	P	**Pn**	**13 20 37.4**	**+1.3**
CHOHN	**Orocuina**	**3.31**	**344**	S	**Sn**	**13 21 15.1**	**-0.4**
TXAR	**Lajitas Array**	**25.01**	**322**	P	**P**	**13 25 10.0**	**+1.5**
	0.5nm,0.6s,baz=141,slow=9.9,SNR=8.0						
	0.5nm,0.6s						
NVAR	**Mina Array Bea**	**40.13**	**320**	P	**P**	**13 27 23.4**	**+2.8**
	0.6nm,0.7s,baz=126,slow=6.4,SNR=7.4						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**139.54**	**246**	PKP	**PKPdf**	**13 39 09.0**	**-3.9**
	0.3nm,0.9s,baz=90,slow=0.9,SNR=1.4						

IDC 03 13:23:15.6±999.0, 53°85N×42°29E, h0km, Error ellipse:
s-maj=412.8km s-min=89.1km az=135.0, Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**4.09**	**317**	I	I	13 47 40.0	
	baz=133,slow=316,SNR=7.1						
I26DE	**FREYUNG INFRAS**	**18.47**	**266**	I	I	15 12 20.0	
	baz=63,slow=325,SNR=1.1						
I37NO	**I37NO**	**18.79**	**333**	I	I	15 20 40.0	
	baz=130,slow=320,SNR=0.8						

*UCR **03** 13:27:06.5±1.2, 10°31N×86°30W, h5km±7km, MW4.6*
*CATAC **03** 13:27:06.4±0.7, 10°N±3°×8°6W±°, h10km±4km, M4.0/10,*
MLv4.0/10, Error ellipse: s-maj=8.7km s-min=5.4km
az=48.3, confirmed
*IDC **03** 13:27:07.2±2.6, 10°74N×85°70W, h0km, mb3.7/3,*
mbtmp3.7/3, MS4.1/2, Error ellipse: s-maj=229.2km
s-min=50.7km az=57.0

ISC 03 13:27:07.3±1.5, 10°33N±0°03×86°24W±0°04, h3km±9km,
n88, σ0s87/116, mb3.6/3, 31C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SACU	**Santa Cruz**	**0.65**	**96**	*e*P	**Pb**	**13 27 20.8**	**-0.4**
SACU				*e*S	**Sb**	**13 27 30.3**	**-0.3**
DELF	**Filadelfia**	**0.68**	**80**	⇓*e*P	**Pb**	**13 27 21.8**	**0.0**
DELF				*e*S	**Sb**	**13 27 32.2**	**+0.5**
JUD3	**Juan Diaz 3**	**0.71**	**104**	⇑*e*P	**Pb**	**13 27 21.7**	**-0.5**
JUD3				*e*S	**Sg**	**13 27 31.5**	**+1.5**
ALIBA	**Liberia Airpor**	**0.73**	**69**	⇑*i*P	**Pb**	**13 27 23.0**	**+0.4**
ALIBA				*e*S	**Sn**	**13 27 34.8**	**-1.2**
ELI1	**Hacienda Flor**	**0.74**	**65**	⇑*e*P	**Pn**	**13 27 23.6**	**-1.0**
ELI1				*e*S	**Sn**	**13 27 35.8**	**-0.6**
ELI1	**Hacienda Flor**	**0.74**	**65**	P	**Pb**	**13 27 23.5**	**+0.7**
ELI1	**Hacienda Flor**	**0.74**	**65**	S	**Sb**	**13 27 34.9**	**+1.5**
ERIA	**Liberia**	**0.84**	**69**	⇓*e*P	**Pb**	**13 27 24.8**	**+0.3**
ERIA				*e*S	**Sb**	**13 27 37.2**	**+1.1**
CMARA	**Lajas Hojancha**	**0.86**	**111**	P	**Pg**	**13 27 22.4**	**-1.4**
CMARA	**Lajas Hojancha**	**0.86**	**111**	S	**Sg**	**13 27 34.8**	**-0.2**
INDI	**Punta indio, G**	**0.86**	**123**	P	**Pg**	**13 27 23.5**	**-0.3**
INDI				S	**Sg**	**13 27 34.2**	**-0.7**
PLVR	**Palo Verde**	**0.87**	**89**	⇑*e*P	**Pg**	**13 27 24.5**	**+0.5**
PLVR				*e*S	**Sb**	**13 27 37.9**	**+0.6**
LAPC	**Finca la Perla**	**0.90**	**61**	⇑*i*P	**Pg**	**13 27 25.0**	**+0.4**
LAPC				*e*S	**Sb**	**13 27 38.4**	**+0.4**
LCRUZ	**La Cruz**	**0.95**	**39**	⇑*i*P	**Pb**	**13 27 26.4**	**0.0**
LCRUZ				*e*S	**Sn**	**13 27 41.0**	**-0.7**
GPS2	**Hotel Rincn d**	**0.96**	**64**	⇑*e*P	**Pg**	**13 27 26.2**	**+0.4**
GPS2				*e*S	**Sb**	**13 27 39.9**	**0.0**
VRLE	**La Escondida,**	**0.97**	**62**	⇑*i*P	**Pg**	**13 27 26.1**	**+0.2**
GPS1	**Guardaparques**	**0.98**	**63**	⇑*e*P	**Pg**	**13 27 26.4**	**+0.4**
GPS1				*e*S	**Sb**	**13 27 41.0**	**+0.7**
BAGA	**Bagaces**	**0.98**	**78**	⇑*e*P	**Pg**	**13 27 26.4**	**+0.4**
BAGA				*e*S	**Sn**	**13 27 41.6**	**-0.7**
VORI	**VORI**	**1.00**	**61**	⇑*e*P	**Pg**	**13 27 26.7**	**+0.2**
VORI				*e*S	**Sb**	**13 27 41.2**	**+0.2**
NYURE	**Nandayure**	**1.02**	**109**	*e*P	**Pn**	**13 27 28.2**	**-0.3**
BUAI	**Buenos Aires**	**1.04**	**59**	⇑*e*P	**Pg**	**13 27 27.6**	**+0.3**
BUAI				*e*S	**Sb**	**13 27 42.9**	**+0.8**
PEJA	**Penjamo Buenos**	**1.07**	**58**	*e*P	**Pn**	**13 27 28.6**	**-0.5**
PEJA				*e*S	**Sb**	**13 27 43.6**	**+0.8**
COLC	**Colonia**	**1.07**	**72**	⇑*e*P	**Pg**	**13 27 27.6**	**-0.2**
COLC				*e*S	**Sb**	**13 27 43.9**	**+1.1**
CARN	**Rivas**	**1.10**	**40**	⇑*i*P	**Pb**	**13 27 28.8**	**-0.2**
CARN	**Rivas**	**1.10**	**40**	P	**Pb**	**13 27 28.8**	**-0.2**
CARN				S	**Sn**	**13 27 45.6**	**+0.3**
MESS	**Mesas**	**1.10**	**68**	⇑*i*P	**Pg**	**13 27 28.2**	**-0.2**
MESS				*e*S	**Sb**	**13 27 44.3**	**+0.4**
CUI	**Cuipilapa**	**1.10**	**73**	⇑*i*P	**Pg**	**13 27 28.2**	**-0.3**
CUI				*e*S	**Sb**	**13 27 44.0**	**+0.2**
HORNC	**Hornillas**	**1.11**	**70**	⇑*i*P	**Pg**	**13 27 28.2**	**-0.3**
HORNC				*e*S	**Sb**	**13 27 44.1**	**+0.2**
CNAS	**Canas**	**1.13**	**85**	*e*P	**Pn**	**13 27 30.0**	**0.0**
INVE	**Universidad In**	**1.16**	**83**	⇑*i*P	**Pg**	**13 27 29.1**	**-0.5**
INVE				*e*S	**Sn**	**13 27 47.1**	**+0.2**
MOTZ	**Rio Naranjo**	**1.20**	**73**	⇑*e*P	**Pg**	**13 27 29.9**	**-0.4**
MOTZ				*e*S	**Sb**	**13 27 46.9**	**+0.4**
VMAR	**Armenia, Volca**	**1.20**	**67**	⇑*i*P	**Pg**	**13 27 30.0**	**-0.4**
VMAR				*e*S	**Sn**	**13 27 47.8**	**-0.1**
TIMP	**Tierras Morena**	**1.22**	**78**	⇑*e*P	**Pg**	**13 27 29.8**	**-1.0**
TIMP				*e*S	**Sg**	**13 27 47.2**	**+0.5**
TILA	**Tilaran**	**1.25**	**84**	⇑*e*P	**Pn**	**13 27 30.4**	**-1.4**
TILA				*e*S	**Sb**	**13 27 48.8**	**+0.6**
JTS	**Las Juntas de**	**1.27**	**92**	LR	LR	13 27 28.0	
	comp=Z,52nm,18.5s,baz=35,slow=24						
JTS	**Las Juntas de**	**1.27**	**92**	⇑*e*P	**Pn**	**13 27 30.2**	**-1.7**
JTS	**Las Juntas de**	**1.27**	**92**	P	**Pn**	**13 27 29.4**	**-2.4**
JTS				S	**Sn**	**13 27 49.8**	**+0.4**
TENO	**El Achiote**	**1.29**	**73**	⇑*e*P	**Pn**	**13 27 30.1**	**-1.9**
TENO				*e*S	**Sb**	**13 27 48.7**	**-0.6**
CHIK	**Chiripa**	**1.31**	**85**	*e*P	**Pn**	**13 27 31.7**	**-0.9**
OMEN	**AI SSO del Vol**	**1.31**	**27**	P	**Pn**	**13 27 29.9**	**-2.6**
MORN	**AI O del Volca**	**1.34**	**26**	P	**Pn**	**13 27 32.3**	**-0.6**
CBL1	**Cabuya**	**1.35**	**123**	*e*P	**Pg**	**13 27 34.8**	**+1.6**
QUEB	**Quebradon, Cot**	**1.35**	**78**	⇑*e*P	**Pn**	**13 27 32.0**	**-1.0**
MTEVE	**Monteverde**	**1.39**	**90**	*e*P	**Pn**	**13 27 32.2**	**-1.5**
NADN	**Granada**	**1.42**	**8**	*e*P	**Pb**	**13 27 33.9**	**-0.6**
TABAC	**Tabacon**	**1.46**	**83**	*e*P	**Pn**	**13 27 34.0**	**-0.6**
CASO	**Castillo**	**1.48**	**86**	*e*P	**Pn**	**13 27 34.6**	**-0.2**
ARE1	**Arenal 1**	**1.50**	**85**	⇑*i*P	**Pn**	**13 27 34.4**	**-0.7**
VARE2	**V. Arenal**	**1.50**	**85**	⇑*i*P	**Pn**	**13 27 34.6**	**-0.5**
CEDE	**Laguna Cedeo**	**1.52**	**84**	⇑*i*P	**Pn**	**13 27 35.0**	**-0.4**
REZ	**Monterrey de S**	**1.52**	**83**	*e*P	**Pn**	**13 27 35.4**	**-0.1**
VACR	**Volcan Arenal**	**1.

IDC 03 13:43:30.1±3.1, 9°96N×124°08E, h0km, mb3.4/3, mbtmp3.4/5, MS3.1/2, Error ellipse: s-maj=280.9km s-min=29.3km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.24**	**153**	LR	LR	13 46 01.6	
	comp=Z,326nm,19.6s,baz=36,slow=47						
KAPI	**Kappang**	**15.49**	**196**	LR	LR	13 54 34.9	
	comp=Z,52nm,18.3s,baz=250,slow=43						
WRA	**Warramunga Arr**	**31.39**	**161**	P	P	13 49 53.3	+0.3
	0.3nm,1.0s,baz=342,slow=8.6,SNR=1.2						
	0.3nm,1.0s						
ASAR	**Alice Springs**	**34.78**	**164**	P	P	13 50 22.3	-0.4
	0.5nm,0.8s,baz=340,slow=7.1,SNR=6.0						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**50.98**	**324**	P	P	13 52 33.6	-0.1
	1.5nm,1.1s,baz=126,slow=6.2,SNR=3.7						
	1.5nm,1.1s						

*AFAD **03** 14:19:22.1, 35°10N×28°05E, h8km±3km, ML2.6*
*IDC **03** 14:19:22.8±1.6, 35°19N×27°82E, h0km, mb3.6/3, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=36.6km s-min=25.7km az=154.0*
*THE **03** 14:19:24.3, 35°N±121″×2°8E±8°2, h3km±52km, M2.9/7, MLh2.9/7*
*ATH **03** 14:19:27.7, 35°27N×28°06E, h24km±11km, ML3.1/8, Manual Solution by A.Andreou First location: 2019/09/03 14:21:04, This location: 2020/08/24 08:25:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*

ISC 03 14:19:25.7±1.2, 35°16N±0°04×27°98E±0°03, h20km±4km, n37, σ1§45/50, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.77**	**301**	P	**Pn**	**14 19 42.9**	**+1.3**
ARG	**Arkhangelos**	**1.07**	**7**	P	**Pb**	**14 19 45.2**	**-0.3**
ARG				S	**Sn**	**14 20 00.5**	**+0.7**
ARG	**Arkhangelos**	**1.07**	**7**	P	**Pn**	**14 19 45.5**	**-0.1**
ZKR	**Zakros**	**1.44**	**269**	P	**Pn**	**14 19 50.6**	**-0.1**
ZKR	**Zakros**	**1.44**	**269**	P	**Pg**	**14 19 53.2**	**-0.3**
ZKR				S	**Sg**	**14 20 13.1**	**+0.7**
YAZI	**Mula-Dat§a-**	**1.58**	**345**	P	**Pb**	**14 19 53.5**	**-0.8**
YAZI				S	**Sn**	**14 20 13.0**	**+0.5**
YAZI				*i*	IAML	14 20 24.0	
	comp=E,106nm,0.7s						
YAZI				*i*	IAML	14 20 26.0	
	comp=N,110nm,0.6s						
DAT	**Datca**	**1.60**	**349**	P	**Pb**	**14 19 54.1**	**-0.6**
DAT				S	**Sb**	**14 20 15.9**	**+1.3**
NISR	**Nisiros**	**1.61**	**335**	P	**Pn**	**14 19 53.7**	**+0.8**
NISR				S	**Sg**	**14 20 16.4**	**-1.2**
NISR	**Nisiros**	**1.61**	**335**	P	**Pn**	**14 19 53.6**	**+0.6**
TURN	**Turunc**	**1.63**	**8**	P	**Pg**	**14 19 55.9**	**-1.2**
TURN				S	**Sg**	**14 20 17.1**	**-1.3**
IZZE	**Mula-Seydike**	**1.63**	**38**	P	**Pn**	**14 19 53.5**	**+0.1**
IZZE				*i*	IAML	14 20 22.0	
	comp=N,125nm,0.6s						
IZZE				*i*	IAML	14 20 23.0	
	comp=E,71nm,0.4s						
KSL	**Kastellorizon**	**1.64**	**52**	P	**Pn**	**14 19 53.4**	**-0.1**
KSL				S	**Sb**	**14 20 15.5**	**-0.2**
KSL	**Kastellorizon**	**1.64**	**52**	P	**Pn**	**14 19 53.6**	**+0.1**
SABU	**Mula-Dalaman**	**1.85**	**26**	P	**Pn**	**14 19 55.9**	**-0.4**
SABU				S	**Sg**	**14 20 31.0**	**+5.6**
SABU				*i*	IAML	14 20 38.0	
	comp=E,44nm,0.6s						
SABU				*i*	IAML	14 20 41.0	
	comp=N,68nm,0.9s						
NPS	**Neapolis**	**1.94**	**274**	P	**Pb**	**14 19 59.8**	**-0.5**
NPS				S	**Sb**	**14 20 24.4**	**+0.3**
NPS	**Neapolis**	**1.94**	**274**	P	**Pb**	**14 20 00.1**	**-0.2**
BDRM	**Kayabasi**	**1.96**	**347**	P	**Pn**	**14 19 55.9**	**-1.9**
DNZT	**Denizli-Tavas-**	**2.28**	**22**	P	**Pb**	**14 20 04.1**	**-2.2**
DNZT				*i*	IAML	14 20 50.0	
	comp=E,29nm,0.7s						
DNZT				*i*	IAML	14 20 56.0	
	comp=N,27nm,1.0s						
THERA	**Ancient Thera,**	**2.37**	**301**	P	**Pn**	**14 20 03.6**	**+0.2**
THERA				S	**Sb**	**14 20 36.0**	**-0.5**
THERA	**Ancient Thera,**	**2.37**	**301**	P	**Pn**	**14 20 05.1**	**+1.7**
TAVA	**DENIZLI_Tavas**	**2.43**	**18**	P	**Pn**	**14 20 04.9**	**+0.5**
TAVA				S	**Sn**	**14 20 32.6**	**-1.0**
TAVA				*i*	IAML	14 20 53.0	
	comp=N,34nm,0.9s						
TAVA				*i*	IAML	14 20 54.0	
	comp=E,40nm,0.5s						
GOLH	**Golhisar**	**2.44**	**31**	P	**Pn**	**14 20 05.7**	**+1.1**
GOLH				*i*	IAML	14 20 58.0	
	comp=E,38nm,1.0s						
GOLH				*i*	IAML	14 21 06.0	
	comp=N,48nm,0.6s						
AYDN	**Tasoluk**	**2.50**	**358**	P	**Pn**	**14 20 06.5**	**+1.2**
AYDN				*i*	IAML	14 20 45.0	
	comp=N,49nm,0.6s						
AYDN				*i*	IAML	14 20 53.0	
	comp=E,48nm,0.6s						
IDI	**Anoyia**	**2.53**	**274**	P	**Pn**	**14 20 08.1**	**+2.4**
ESEN	**Aydn-Nazilli**	**2.66**	**6**	P	**Pn**	**14 20 08.1**	**+0.8**
ESEN				S	**Sn**	**14 20 40.8**	**+1.8**
ESEN				*i*	IAML	14 20 53.0	
	comp=N,23nm,0.9s						
ESEN				*i*	IAML	14 20 54.0	
	comp=E,27nm,0.5s						
SMG	**Samos**	**2.71**	**341**	P	**Pn**	**14 20 09.6**	**+1.4**
SMG	**Samos**	**2.71**	**341**	P	**Pn**	**14 20 08.9**	**+0.8**
AKMS	**Akamas**	**3.58**	**91**	P	**Pn**	**14 20 20.8**	**+0.7**
NATA	**Nata**	**3.79**	**94**	P	**Pn**	**14 20 23.8**	**+0.8**
ASGA	**Asgata**	**4.34**	**93**	P	**Pn**	**14 20 31.3**	**+0.7**
VLI	**Veliai**	**4.38**	**292**	P	**Pn**	**14 20 32.7**	**+1.6**
CSS	**Mathiatis**	**4.40**	**91**	P	**Pn**	**14 20 32.1**	**+0.8**
BRTR	**Keskin Array B**	**6.41**	**43**	Pn	**Pn**	**14 21 03.3**	**+4.2**
	0.1nm,0.3s,baz=224,slow=12,SNR=1.6						
	0.3nm,0.5s						
MMAI	**Mount Meron Ar**	**6.52**	**107**	Pn	**Pn**	**14 21 00.7**	**0.0**
	1.9nm,0.3s,baz=296,slow=13,SNR=6.2						
MMAI				Sn	**Sn**	**14 22 14.5**	**0.0**
	0.7nm,0.3s,baz=314,slow=18,SNR=2.1						
	0.8nm,0.3s						
ESDC	**Sonseca Array**	**25.69**	**290**	P	**P**	**14 24 53.1**	**-1.4**
	0.4nm,0.6s,baz=79,slow=9.3,SNR=4.3						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**26.34**	**358**	P	**P**	**14 24 59.1**	**-0.9**
	2.2nm,0.9s,baz=193,slow=10.0,SNR=2.1						
	2.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**32.30**	**234**	P	**P**	**14 25 53.4**	**0.0**
	0.4nm,0.4s,baz=28,slow=9.0,SNR=4.5						
	0.4nm,0.4s						

*NOU **03** 14:23:18.3, 38°11S×176°94E, h142km, MLv4.8/23, North Island, New Zealand*
*NEIC **03** 14:23:19.1±1.6, 37°97S±0°07×176°96E±0°09, h140km±6km, mb4.5/10, Error ellipse: s-maj=10.9km s-min=9.4km az=147.0*
*WEL **03** 14:23:20.4±0.9, 38°S±7°×17°7E±°, h112km±6km, M4.5/54, ML4.6/18, MLv4.5/54, Error ellipse: s-maj=8.7km s-min=6.5km az=174.4, confirmed*
*WEL **03** 14:23:20.4, 37°88S×177°02E, h128km, ML4.5, Mw4.5, Moment Tensor Solution. s5 Moment tensor: Scale 10¹⁵ Nm; Mrr=0.49; Mθθ2.54; Mϕϕ-2.05; Mrθ4.48; Mθϕ-2.86; Mϕr1.65; Fault plane solution: Mo6.04000×10¹⁵ NP1: ϕs252.00000°, δ87.00000°, λ-127.00000°. NP2: ϕs159.00000°, δ37.00000°, λ-5.00000°. Principal axes: T 6.0173, Plg32.0000°, Azm12.0000°; N -6.0595, Plg37.0000°, Azm254.0000°; P 0.0422, Plg37.0000°, Azm130.0000°; Stations used: KNZ BKZ WHVZ HIZ WCZ OBLIQUE FAULTING*
*IDC **03** 14:23:22.8±3.0, 37°63S×176°86E, h171km±24km, mb3.7/9, mbtmp4.1/9 Error ellipse: s-maj=30.3km s-min=15.1km az=54.0*

ISC 03 14:23:18.9±0.6, 37°98S±0°05×176°89E±0°05, h139km±4km, n170, σ1§77/184, mb4.3/16, 5C, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WKHS	**Whakatane High**	**0.08**	**76**	P	**Pn**	**14 23 36.8**	**-0.8**
WKHS				S	**Sn**	**14 23 49.9**	**-2.0**
WHRZ	**Whale Island**	**0.14**	**29**	P	**Pn**	**14 23 37.1**	**-0.8**
MARZ	**Manawahe**	**0.17**	**269**	P	**Pn**	**14 23 37.6**	**-0.3**
EDRZ	**Edgecumbe**	**0.17**	**223**	P	**Pn**	**14 23 37.9**	**-0.1**
MWFS	**Matata Watchor**	**0.21**	**305**	P	**Pn**	**14 23 37.2**	**-0.7**
OPRZ	**Ohinepanea**	**0.30**	**298**	P	**Pn**	**14 23 37.6**	**-0.6**
OPRZ				S	**Sn**	**14 23 51.2**	**-1.5**
OPCS	**Opotiki Colleg**	**0.32**	**96**	P	**Pn**	**14 23 37.3**	**-0.9**
OPCS				S	**Sn**	**14 23 50.9**	**-1.9**
URZ	**Urewera**	**0.33**	**147**	P	**Pn**	**14 23 37.6**	**-0.7**
	2μm,0.4s,baz=264,slow=2.4,SNR=4448						
URZ				S	**Sn**	**14 23 51.4**	**-1.6**
	15μm,0.4s,baz=285,slow=16,SNR=55						
URZ				LR	LR	14 24 07.8	
	comp=Z,807nm,18.1s,baz=277,slow=68						
URZ	**Urewera**	**0.33**	**147**	P	**Pn**	**14 23 37.4**	**-0.9**
URZ	**Urewera**	**0.33**	**147**	P	**Pn**	**14 23 37.6**	**-0.7**
URZ				S	**Sn**	**14 23 51.0**	**-2.0**
MKRZ	**Makatiti**	**0.37**	**245**	P	**Pn**	**14 23 39.3**	**+0.8**
LIRZ	**Lichensteins R**	**0.40**	**267**	P	**Pn**	**14 23 38.6**	**+0.1**
LIRZ				S	**Sn**	**14 23 53.2**	**-0.3**
OMRZ	**Omania**	**0.42**	**253**	P	**Pn**	**14 23 38.9**	**+0.2**
OMRZ				S	**Sn**	**14 23 53.8**	**+0.1**
RRRZ	**Republican Roa**	**0.46**	**219**	P	**Pn**	**14 23 39.0**	**+0.2**
RRRZ				S	**Sn**	**14 23 53.4**	**-0.7**
HLRZ	**Highlands Stat**	**0.50**	**237**	P	**Pn**	**14 23 39.6**	**+0.5**
MURZ	**Murupara**	**0.50**	**190**	P	**Pn**	**14 23 39.0**	**-0.1**
KARZ	**Kaharoa**	**0.51**	**265**	P	**Pn**	**14 23 39.3**	**+0.2**
WIZ	**White Island**	**0.51**	**28**	P	**Pn**	**14 23 37.6**	**-1.5**
WIZ				S	**Sn**	**14 23 51.4**	**-3.0**
WSRZ	**White Island S**	**0.52**	**27**	P	**Pn**	**14 23 38.2**	**-1.0**
TGRZ	**Tauranga**	**0.56**	**297**	P	**Pn**	**14 23 39.1**	**-0.3**
NGRZ	**Ngongotaha**	**0.56**	**258**	P	**Pn**	**14 23 40.1**	**+0.6**
UTU	**Utuhina**	**0.58**	**250**	P	**Pn**	**14 23 40.4**	**+0.8**
HSRZ	**Hossack Road**	**0.60**	**237**	P	**Pn**	**14 23 40.3**	**+0.7**
HRRZ	**Handcock Road**	**0.63**	**229**	P	**Pn**	**14 23 40.3**	**+0.5**
RUGZ	**Raukumara Rang**	**0.63**	**89**	P	**Pn**	**14 23 38.2**	**-1.7**
RUGZ				S	**Sn**	**14 23 52.4**	**-3.5**
RTZ	**Ruatahuna**	**0.64**	**173**		**Pn**	**14 23 39.9**	**0.0**
RTZ				Sn	**Sn**	**14 23 56.1**	**+0.1**
RTZ	**Ruatahuna**	**0.64**	**173**	P	**Pn**	**14 23 40.0**	**0.0**
PRRZ	**Plateau Road**	**0.65**	**217**	P	**Pn**	**14 23 40.3**	**+0.4**
RAGZ	**Rawiri**	**0.66**	**141**	P	**Pn**	**14 23 40.0**	**-0.2**
GRRZ	**Galatos Road**	**0.71**	**239**	P	**Pn**	**14 23 41.3**	**+0.8**
ALRZ	**Allen Road**	**0.72**	**216**	P	**Pn**	**14 23 40.9**	**+0.4**
HAZ	**Te Kaha**	**0.74**	**73**	P	**Pn**	**14 23 39.1**	**-1.5**
KMRZ	**Kaimai**	**0.76**	**280**	P	**Pn**	**14 23 41.1**	**+0.3**
WPRZ	**Whakapapatarin**	**0.78**	**226**	P	**Pn**	**14 23 41.6**	**+0.7**
MTHZ	**Maungatapiri**	**0.87**	**182**	P	**Pn**	**14 23 41.9**	**+0.3**
SNGZ	**Shannon Statio**	**0.88**	**156**	P	**Pn**	**14 23 42.1**	**+0.4**
TKGZ	**Te Karaka**	**0.89**	**121**	P	**Pn**	**14 23 41.6**	**-0.1**
MRHZ	**Matea Rd**	**0.93**	**203**	P	**Pn**	**14 23 42.5**	**+0.4**
RAHZ	**Arahi**	**0.95**	**170**	P	**Pn**	**14 23 43.0**	**+0.8**
PKGZ	**Pakihiroa**	**0.95**	**83**	P	**Pn**	**14 23 41.5**	**-0.8**
KUTZ	**Kaahu Road**	**0.98**	**238**	P	**Pn**	**14 23 43.6**	**+1.1**
RIGZ	**Rimuhau**	**1.00**	**137**	P	**Pn**	**14 23 43.2**	**+0.5**
PUZ	**Puketiti**	**1.09**	**95**	P	**Pn**	**14 23 42.7**	**-0.8**
HATZ	**Hinemaiaia**	**1.10**	**214**	P	**Pn**	**14 23 44.4**	**+0.8**
NMHZ	**Naumai**	**1.11**	**183**	P	**Pn**	**14 23 44.9**	**+1.1**
TLZ	**Tolley Road**	**1.12**	**252**	P	**Pn**	**14 23 44.9**	**+1.1**
TOZ	**Tahuroa Road**	**1.12**	**282**		**Pn**	**14 23 44.3**	**+0.6**
TOZ	**Kaharoa Road**	**1.12**	**282**	P	**Pn**	**14 23 44.4**	**+0.6**
WHHZ	**Waihua**	**1.13**	**166**	P	**Pn**	**14 23 44.6**	**+0.8**
CNGZ	**Carnagh Statio**	**1.16**	**116**	P	**Pn**	**14 23 44.6**	**+0.5**
WATZ	**Wairara**	**1.16**	**231**	P	**Pn**	**14 23 45.3**	**+1.1**
MXZ	**Matakaoa Point**	**1.20**	**70**		**Pn**	**14 23 43.8**	**-0.8**
MXZ	**Matakaoa Point**	**1.20**	**70**	P	**Pn**	**14 23 43.4**	**-1.2**
MXZ	**Matakaoa Point**	**1.20**	**70**	P	**Pn**	**14 23 43.9**	**-0.6**
KNZ	**Kokohu**	**1.21**	**149**	P	**Pn**	**14 23 45.0**	**+0.4**
WMGZ	**Waiomatatini S**	**1.22**	**83**	P	**Pn**	**14 23 44.1**	**-0.7**
BKZ	**Black Stump Fm**	**1.22**	**194**		**Pn**	**14 23 45.1**	**+0.3**
BKZ	**Black Stump Fm**	**1.22**	**194**	P	**Pn**	**14 23 45.3**	**+0.5**
BKZ	**Black Stump Fm**	**1.22**	**194**	P	**Pn**	**14 23 45.2**	**+0.3**
PRGZ	**Paritu Road**	**1.22**	**140**	P	**Pn**	**14 23 45.1**	**+0.3**
RATZ	**Rangitukua**	**1.24**	**224**	P	**Pn**	**14 23 46.0**	**+1.0**
RITZ	**Rihia Road**	**1.28**	**219**	P	**Pn**	**14 23 46.6**	**+1.2**
ARHZ	**Aropaoanui**	**1.28**	**176**	P	**Pn**	**14 23 46.3**	**+0.9**
KATZ	**Kakaramea**	**1.36**	**223**	P	**Pn**	**14 23 47.4**	**+1.0**
MHGZ	**Mahia Peninsul**	**1.42**	**146**	P	**Pn**	**14 23 47.5**	**+0.7**
TMVZ	**Te Maari**	**1.46**	**219**	P	**Pn**	**14 23 48.3**	**+0.9**
MCHZ	**McNeill Hill**	**1.47**	**186**	P	**Pn**	**14 23 48.3**	**+1.0**
ETVZ	**East Tongariro**	**1.48**	**218**	P	**Pn**	**14 23 48.5**	**+1.0**
KWHZ	**Kaweka Forest**	**1.48**	**194**	P	**Pn**	**14 23 48.2**	**+0.7**
OTVZ	**Oturere**	**1.52**	**219**	P	**Pn**	**14 23 49.1**	**+1.1**
NNVZ	**North Ngauruho**	**1.52**	**221**	P	**Pn**	**14 23 49.2**	**+1.2**
KUZ	**Kuaotunu**	**1.54**	**323**	P	**Pn**	**14 23 47.5**	**-0.7**
KUZ	**Kuaotunu**	**1.54**	**323**	P	**Pn**	**14 23 47.7**	**-0.5**
NGZ	**Ngauruhoe**	**1.56**	**220**	P	**Pn**	**14 23 49.7**	**+1.2**
TUVZ	**Tukino**	**1.61**	**217**	P	**Pn**	**14 23 49.9**	**+0.9**
COVZ	**Chateau Observ**	**1.61**	**220**	P	**Pn**	**14 23 49.7**	**+0.7**
FWVZ	**Far West T-bar**	**1.65**	**219**	P	**Pn**	**14 23 50.2**	**+0.7**
WHVZ	**Whangaehu Hut**	**1.65**	**218**	P	**Pn**	**14 23 50.3**	**+0.8**
MAVZ	**Matarangi**	**1.65**	**219**	P	**Pn**	**14 23 50.4**	**+0.7**
CKHZ	**Cape Kidnapper**	**1.68**	**175**	P	**Pn**	**14 23 50.5**	**+0.8**
HIZ	**Hauiti**	**1.68**	**251**		**Pn**	**14 23 50.8**	**+1.1**
HIZ	**Hauiti**	**1.68**	**251**	P	**Pn**	**14 23 50.9**	**+1.1**
KRHZ	**Kereru**	**1.71**	**193**	P	**Pn**	**14 23 50.3**	**+0.3**
MTVZ	**Mangateitei**	**1.79**	**218**	P	**Pn**	**14 23 51.8**	**+0.8**
KHEZ	**Kahui Hut**	**2.60**	**239**	P	**Pn**	**14 24 02.0**	**+1.1**
BFZ	**Birch Farm**	**2.74**	**190**		**Pn**	**14 24 01.8**	**-0.8**
BFZ	**Birch Farm**	**2.74**	**190**	P	**Pn**	**14 24 01.9**	**-0.6**
MRZ	**Mangatainoka R**	**2.86**	**200**		**Pn**	**14 24 03.1**	**-1.0**
MSWZ	**Moikau Station**	**3.65**	**200**		**Pn**	**14 24 12.2**	**-2.1**
SNZO	**South Karori**	**3.73**	**206**		**Pn**	**14 24 13.3**	**-1.9**
SNZO	**South Karori**	**3.73**	**206**	P	**Pn**	**14 24 13.4**	**-1.9**
BHW	**Baring Head**	**3.76**	**204**		**Pn**	**14 24 13.6**	**-2.1**
PLWZ	**Palliser**	**3.80**	**199**		**Pn**	**14 24 14.0**	**-2.2**
TCW	**Tory Channel**	**3.80**	**211**		**Pn**	**14 24 13.9**	**-2.4**
OUZ	**Omahuta**	**3.82**	**315**	P	**Pn**	**14 24 17.3**	**+0.8**
TUWZ	**Tuamarina**	**4.12**	**212**		**Pn**	**14 24 18.1**	**-2.3**
NNZ	**Nelson**	**4.22**	**219**		**Pn**	**14 24 19.6**	**-2.1**
CMWZ	**Cape Campbell**	**4.29**	**208**		**Pn**	**14 24 20.7**	**-1.9**
TKNZ	**Takaka Hill**	**4.30**	**224**		**Pn**	**14 24 20.4**	**-2.4**
BSWZ	**Blackbirch Sta**	**4.39**	**211**		**Pn**	**14 24 21.3**	**-2.7**
QRZ	**Quartz Range**	**4.41**	**229**		**Pn**	**14 24 22.2**	**-2.0**
QRZ	**Quartz Range**	**4.41**	**229**	P	**Pn**	**14 24 22.3**	**-2.0**
MRNZ	**Matariki Terra**	**4.67**	**222**		**Pn**	**14 24 25.5**	**-2.2**
THZ	**Tophouse**	**4.86**	**218**		**Pn**	**14 24 28.0**	**-2.3**
KHZ	**Kahutara**	**5.12**	**209**		**Pn**	**14 24 30.8**	**-2.8**
KHZ	**Kahutara**	**5.12**	**209**	P	**Pn**	**14 24 30.8**	**-2.8**
DSZ	**Denniston Nort**	**5.42**	**225**		**Pn**	**14 24 35.1**	**-2.7**
GVZ	**Greta Valley S**	**5.78**	**209**		**Pn**	**14 24 39.6**	**-2.9**
LTZ	**Lake Taylor**	**5.95**	**215**		**Pn**	**14 24 41.4**	**-3.4**
AMCZ	**Amberley**	**6.11**	**211**		**Pn**	**14 24 44.4**	**-2.5**
INZ	**Inchbonnie**	**6.30**	**220**		**Pn**	**14 24 45.9**	**-3.6**
OXZ	**Oxford**	**6.49**	**213**		**Pn**	**14 24 47.5**	**-4.4**
MQZ	**McQueen's Vall**	**6.56**	**208**		**Pn**	**14 24 48.9**	**-4.0**
RPZ	**Rata Peaks**	**7.23**	**216**		**Pn**	**14 24 59.6**	**-2.4**
RPZ	**Rata Peaks**	**7.23**	**216**	P	**Pn**	**14 24 59.3**	**-2.7**
	347nm,0.4s,baz=33,slow=6.0,SNR=427						
RPZ				S	**Sn**	**14 26 15.9**	**-6.9**
	115nm,0.5s,baz=320,slow=23,SNR=19						
RPZ	**Rata Peaks**	**7.23**	**216**	P	**Pn**	**14 24 59.3**	**-2.7**
CTZ	**Chatham Island**	**7.57**	**141**	P	**Pn**	**14 25 04.6**	**-1.8**
FOZ	**Fox Glacier**	**7.71**	**222**		**Pn**	**14 25 05.1**	**-3.3**
LBZ	**Lake Benmore**	**8.15**	**216**		**Pn**	**14 25 11.8**	**-2.5**
ODZ	**Otahua Downs**	**8.46**	**212**		**Pn**	**14 25 15.5**	**-3.0**
ODZ	**Otahua Downs**	**8.46**	**212**	P	**Pn**	**14 25 15.1**	**-3.4**
JCZ	**Jackson Bay**	**8.63**	**223**	P	**Pn**	**14 25 17.4**	**-3.4**
WKZ	**Wanaka**	**9.04**	**218**		**Pn**	**14 25 23.3**	**-2.9**
MLZ	**Mavora Lakes**	**9.87**	**219**		**Pn**	**14 25 35.2**	**-2.0**
SYZ	**Scrubby Hill**	**10.29**	**211**	P	**Pn**	**14 25 40.6**	**-2.2**
WHZ	**Wether Hill Ro**	**10.33**	**217**		**Pn**	**14 25 39.3**	**-4.1**
DCZ	**Deep Cove**	**10.43**	**221**		**Pn**	**14 25 40.2**	**-4.4**
PYZ	**Puysegur Point**	**11.14**	**220**		**Pn**	**14 25 49.8**	**-4.4**
PYZ	**Puysegur Point**	**11.14**	**220**	P	**Pn**	**14 25 52.4**	**-1.8**
DZM	**Mont Dzumac**	**18.23**	**327**	P	**Pn**	**14 27 23.1**	**-0.1**
	7.3nm,0.5s,baz=177,slow=9.9,SNR=12						
DZM	**Mont Dzumac**	**18.23**	**327**	P	**Pn**	**14 27 22.6**	**-0.6**
LKBA	**Tubou, Lakemba**	**20.03**	**12**	P	**P**	**14 27 41.7**	**+0.7**
MSVF	**Nonsavu**	**20.20**	**3**	P	**P**	**14 27 42.7**	**-0.2**
MSVF				IAmb	IAmb	14 27 48.2	
	comp=Z,19nm,0.7s						
MSVF	**Nonsavu**	**20.20**	**3**	P	**P**	**14 27 43.7**	**+0.8**
SANVU	**Saraoutou**	**24.02**	**337**	P	**P**	**14 28 21.8**	**+0.8**
CMSA	**Cobar Meteorol**	**26.34**	**275**	P	**P**	**14 28 41.1**	**-0.8**
LUES	**Luesalemba Tem**	**28.93**	**337**	P	**P**	**14 29 05.6**	**+0.6**
ASAR	**Alice Springs**	**39.23**	**279**	P	**P**	**14 30 34.5**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=115,slow=6.1,SNR=5.7						
ASAR				PcP	**PcP**	**14 32 38.7**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=125,slow=4.2,SNR=1.6						
ASAR				ScP	**ScP**	**14 36 11.8**	**-3.7**
	comp=Z,1.2nm,0.8s,baz=125,slow=4.1,SNR=11						
	comp=Z,0.6nm,0.5s						
VNDA	**Vanda**	**40.17**	**185**	P	**P**	**14 30 44.3**	**+3.5**
	comp=Z,1.2nm,0.8s,baz=15,slow=7.4,SNR=6.9						
	comp=Z,1.2nm,0.8s						
WRA	**Warramunga Arr**	**40.93**	**284**	P	**P**	**14 30 46.7**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=123,slow=8.1,SNR=6.5						
WRA				ScP	**ScP**	**14 36 19.8**	**-2.4**
	comp=Z,0.5nm,0.8s,baz=126,slow=3.8,SNR=2.9						
	comp=Z,0.3nm,0.3s						
MTN	**Manton Dam**	**47.69**	**289**	P	**P**	**14 31 40.4**	**-1.2**
MTN				IAmb	IAmb	14 31 56.4	
	comp=Z,17nm,1.4s						
KNRA	**Kununurra**	**47.73**	**284**	P	**P**	**14 31 41.7**	**-0.1**
KNRA				IAmb	IAmb	14 32 21.6	
	comp=Z,6.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**48.72**	**279**	P	**P**	**14 31 49.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**48.72**	**279**	P	**P**	**14 31 50.5**	**+1.0**
	comp=Z,2.6nm,0.8s,baz=141,slow=8.2,SNR=2.5						
	comp=Z,2.6nm,0.8s						
MORW	**Morawa**	**50.71**	**261**	P	**P**	**14 32 04.3**	**-0.1**
PSA00	**Pilbara Seismi**	**51.38**	**272**	P	**P**	**14 32 08.1**	**-1.4**
QSPA	**South Pole Qui**	**52.14**	**180**	P	**P**	**14 32 19.4**	**+4.7**
	comp=Z,10nm,0.9s,baz=5.0,slow=0.3,SNR=71						
	comp=Z,10nm,0.9s						
SOEI	**Soe**	**54.83**	**287**	P	**P**	**14 32 34.0**	**-0.9**
BELA	**Belgrano 2**	**62.83**	**173**	P	**P**	**14 33 28.1**	**-1.1**
BELA				IAmb	IAmb	14 33 31.9	
	comp=Z,4.7nm,0.8s						
TROLL	**Troll, Antarti**	**70.24**	**182**	⇑P	**P**	**14 34 17.6**	**+1.2**
	comp=Z,124nm,0.5s						
SNAA	**Sanae**	**70.65**	**180**	⇑P	**P**	**14 34 20.3**	**+1.4**
	comp=Z,40nm,0.4s						
SNAA	**Sanae**	**70.65**	**180**	P	**P**	**14 34 20.2**	**+1.4**
SNAA				IAmb	IAmb	14 34 21.5	
	comp=Z,7.8nm,1.1s						
SNAA	**Sanae**	**70.65**	**180**	P	**P**	**14 34 20.4**	**+1.4**
	comp=Z,4.1nm,0.8s,baz=206,slow=9.7,SNR=24						
	comp=Z,4.1nm,0.8s						
VNA3	**Neumayer Olymp**	**70.98**	**178**	⇑P	**P**	**14 34 22.3**	**+1.5**
	comp=Z,9.8nm,0.8s						
KKM	**Kota Kinabalu**	**71.29**	**294**	P	**P**	**14 34 23.3**	**-0.3**
VNA2	**Neumayer--Watz**	**71.36**	**179**	⇑P	**P**	**14 34 24.7**	**+1.7**
	comp=Z,17nm,0.9s,baz=173,slow=5.2						
VNA1	**Neumayer--Stat**	**71.61**	**178**	⇑P	**P**	**14 34 26.4**	**+1.9**
	comp=Z,6.2nm,0.5s						
PLCA	**Paso Flores**	**80.33**	**135**	P	**P**	**14 35 17.0**	**+2.3**
	comp=Z,4.2nm,0.8s,baz=250,slow=4.9,SNR=11						
	comp=Z,4.2nm,0.8s						
KSRS	**Korea Array**	**87.61**	**323**	P	**P**	**14 35 51.8**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=135,slow=4.7,SNR=4.9						
	comp=Z,1.1nm,0.7s						
NJ2	**Nanjing**	**88.19**	**314**	*e*P	**P**	**14 35 55.0**	**+1.

	comp=Z,1.6nm,0.6s							
CAN	**Canberra**	**42.39**	**153**	P	**P**	**14 31 24.6**	**+2.1**
CAN				IAmb	IAmb	14 31 33.2	
	comp=Z,5.0nm,1.2s							
MKAR	**Makanchi Array**	**59.14**	**326**	P	**P**	**14 33 27.0**	**-1.4**
MKAR	**Makanchi Array**	**59.14**	**326**	P	**P**	**14 33 27.6**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=120,slow=8.2,SNR=21							
	comp=Z,0.9nm,0.3s							
ODZ	**Otahua Downs**	**60.76**	**146**	P	**P**	**14 33 39.8**	**+0.3**
AAK	**Ala-Archa**	**61.78**	**319**	LR	LR	15 04 43.5	
	comp=Z,48nm,18.5s,baz=99,slow=40							
ZALV	**Zalesovo Beam**	**62.31**	**334**	P	**P**	**14 33 48.1**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=130,slow=4.7,SNR=2.6							
	comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**63.36**	**328**	P	**P**	**14 33 55.9**	**-1.0**
	comp=Z,1.0nm,0.2s,baz=128,slow=6.2,SNR=10.0							
	comp=Z,1.0nm,0.2s							
KURK	**Kurchatov**	**63.37**	**328**	P	**P**	**14 33 55.0**	**-1.9**
BVAR	**Borovoye Array**	**68.94**	**327**	P	**P**	**14 34 32.2**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=155,slow=8.9,SNR=5.8							
	comp=Z,0.5nm,0.4s							
ABKAR	**Akbulak array**	**73.63**	**321**	P	**P**	**14 34 58.9**	**-2.2**
AKTO	**Aktyubinsk**	**75.16**	**322**	P	**P**	**14 35 08.6**	**-1.3**
	comp=Z,0.8nm,0.2s,baz=112,slow=6.3,SNR=1.9							
	comp=Z,0.8nm,0.2s							
VNDA	**Vanda**	**81.48**	**173**	P	**P**	**14 35 44.1**	**-0.1**
VNDA				IAmb	IAmb	14 36 09.8	
	comp=Z,4.8nm,1.5s							
VNDA	**Vanda**	**81.48**	**173**	P	**P**	**14 35 43.7**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=338,slow=6.6,SNR=2.3							
	comp=Z,0.4nm,0.6s							
QSPA	**South Pole Qui**	**91.67**	**180**	P	**P**	**14 36 36.1**	**+1.5**
	comp=Z,0.7nm,1.0s,baz=335,slow=1.3,SNR=3.7							
	comp=Z,0.7nm,1.0s							

*IDC **03** 14:30:53.3±5.6,36°.12N×70°.85E,h186km±50km,mb3.3/7, mbtmp3.8/9,Error ellipse: s-maj=42.1km s-min=20.5km az=34.0*

*NEIC **03** 14:30:56.9±1.8,36°.42N±0°.04×70°.7E±0°.1,h204km±6km, mb4.5/9,Error ellipse: s-maj=12.0km s-min=6.5km az=94.0*

*NNC **03** 14:30:58.5±10.0,37°.01N×70°.26E,h0km,mb3.9,mpv3.8, Error ellipse: s-maj=104.0km s-min=58.9km az=158.0*

ISC 03 14:30:55.3±0.7,36°.38N±0°.07×70°.90E±0°.07,h188km,n48, σ1§86/52,mb4.1/11,3C,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.38**	**220**		**Pn**	**14 31 38.9**	**+1.6**
GAR	**Garm**	**2.66**	**350**		**Pn**	**14 31 41.6**	**+1.3**
CHGR	**Chuyangaron**	**2.66**	**329**		**Pn**	**14 31 40.9**	**+0.5**
SIMJ	**Simiganj**	**2.73**	**327**		**Pn**	**14 31 41.6**	**+0.4**
NIL	**Nilore**	**3.34**	**144**	Pn	**Pn**	**14 31 51.5**	**+3.1**
KSH	**Kashi**	**5.09**	**50**	Pn	**Pn**	**14 32 09.0**	**-1.6**
KSH				Sn	**Sn**	**14 33 02.1**	**-7.7**
KSH				smax	smax		
	comp=N,86nm,0.6s						
KSH				smax	smax		
	comp=E,54nm,0.4s						
ARSB	**Arslanbob**	**5.20**	**18**		**Pn**	**14 32 12.3**	**+0.3**
UCH	**Uchtor**	**6.48**	**25**	P	**Pn**	**14 32 30.4**	**+1.5**
	SNR=48						
EKS2	**Erkin-Say**	**6.66**	**19**	P	**Pn**	**14 32 32.4**	**+1.4**
	SNR=28						
KK31	**Karatay Array**	**6.72**	**358**	P	**Pn**	**14 32 31.9**	**+0.2**
	comp=E,2.8nm,0.2s,baz=180,slow=14,SNR=146						
KK31				⇑S	**Sn**	**14 33 43.1**	**-5.0**
	comp=E,15nm,0.5s,baz=186,slow=22,SNR=5.0						
KKAR	**Karatay Array**	**6.72**	**358**		**Pn**	**14 32 31.8**	**+0.1**
AAK	**Ala-Archa**	**6.84**	**23**	P	**Pn**	**14 32 34.9**	**+1.6**
	SNR=7.6						
AAK	**Ala-Archa**	**6.84**	**23**	⇑P	**Pn**	**14 32 34.5**	**+1.2**
	comp=E,3.0nm,0.5s						
AAK				⇑S	**Sn**	**14 33 50.5**	**-0.5**
	comp=E,6.5nm,0.6s						
AAK	**Ala-Archa**	**6.84**	**23**	P	**Pn**	**14 32 34.8**	**+1.4**
	comp=E,6.9nm,0.3s,baz=184,slow=6.9,SNR=15						
AAK				S	**Sn**	**14 33 50.3**	**-0.7**
	comp=E,11nm,0.6s,baz=232,slow=20,SNR=7.4						
KBK	**Karagaybulak**	**7.00**	**25**	P	**Pn**	**14 32 37.7**	**+2.1**
	SNR=7.9						
FRU1	**Bishkek**	**7.04**	**23**	Pn	**Pn**	**14 32 37.9**	**+2.0**
CHMS	**Chumysh**	**7.25**	**23**	P	**Pn**	**14 32 40.0**	**+1.4**
	SNR=9.7						
USP	**Ospenovka**	**7.42**	**21**	P	**Pn**	**14 32 41.8**	**+1.0**
	SNR=6.1						
TKM2	**Tokmak 2**	**7.47**	**28**	P	**Pn**	**14 32 43.2**	**+1.5**
	SNR=28						
KDJ	**Kajisay**	**7.53**	**38**	Pn	**Pn**	**14 32 43.8**	**+1.3**
MKAR	**Makanchi Array**	**13.44**	**36**	P	**Pn**	**14 33 59.7**	**+1.2**
	comp=E,0.5nm,0.4s,baz=220,slow=11,SNR=4.6						
WMQ	**Urumqi**	**14.83**	**55**	*eP*	**P**	**14 34 18.9**	**+1.9**
AB31	**Akbulak array**	**15.15**	**332**	P	**P**	**14 34 20.7**	**+0.3**
	comp=E,0.2nm,0.3s,baz=144,slow=12,SNR=12						
ABKAR	**Akbulak array**	**15.15**	**332**		**P**	**14 34 20.1**	**-0.3**
ZALV	**Zalesovo Beam**	**20.06**	**24**		**P**	**14 35 14.5**	**+0.7**
ZALV	**Zalesovo Beam**	**20.06**	**24**	P	**P**	**14 35 14.7**	**+0.9**
	comp=E,3.0nm,0.3s,baz=215,slow=11,SNR=18						
	comp=E,3.0nm,0.3s						
PZH	**PanZhiHua**	**27.99**	**102**	P	**P**	**14 36 27.3**	**-1.4**
PZH	**PanZhiHua**	**27.99**	**102**	P	**P**	**14 36 30.4**	**+1.7**
HHC	**Hu-ho-hao-te**	**31.88**	**69**	*eP*	**P**	**14 37 05.5**	**+2.7**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,76nm,3.5s						
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,69nm,4.6s						
FINES	**FINESS Array B**	**37.54**	**326**	P	**P**	**14 37 50.8**	**-0.1**
FINES	**FINESS Array B**	**37.54**	**326**	P	**P**	**14 37 50.9**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=138,slow=6.9,SNR=4.1						
	comp=Z,2.7nm,0.8s						
NJ2	**Nanjing**	**39.57**	**82**	*eP*	**P**	**14 38 09.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KEV	**Kevo**	**40.88**	**338**	P	**P**	**14 38 18.6**	**+0.2**
KEV				IAmb	IAmb	14 38 37.5	
	comp=Z,57nm,1.5s						
ARCES	**ARCESS Array B**	**41.23**	**338**	P	**P**	**14 38 21.4**	**+0.1**
ARCES				IAmb	IAmb	14 38 57.6	
	comp=Z,30nm,1.5s						
ARCES	**ARCESS Array B**	**41.23**	**338**	P	**P**	**14 38 21.2**	**0.0**
	comp=Z,0.8nm,0.4s,baz=115,slow=8.2,SNR=8.1						
	comp=Z,0.8nm,0.4s						
HFS	**Hagfors**	**43.11**	**322**	P	**P**	**14 38 35.5**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=90,slow=16,SNR=2.3						
	comp=Z,2.2nm,0.8s						
TIXI	**Tiksi**	**45.91**	**22**	P	**P**	**14 38 59.1**	**+0.6**
COCO	**West Island**	**54.15**	**148**	P	**P**	**14 40 00.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**65.64**	**269**	P	**P**	**14 41 17.5**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=45,slow=6.2,SNR=1.6						
	comp=Z,0.2nm,0.4s						
C27K	**Jago River**	**71.30**	**12**	P	**P**	**14 41 54.5**	**+0.7**
C27K				IAmb	IAmb	14 42 20.3	
	comp=Z,19nm,1.4s						
E24K	**Your Creek**	**71.75**	**15**	P	**P**	**14 41 57.3**	**+0.7**
BMAR	**Burnt Mountain**	**73.08**	**14**	P	**P**	**14 42 05.7**	**+1.3**
C36M	**Paulatuk**	**74.01**	**5**	P	**P**	**14 42 09.2**	**-0.4**
H29M	**Whitestone**	**75.27**	**12**	P	**P**	**14 42 17.5**	**+0.5**
H29M				IAmb	IAmb	14 42 59.5	
	comp=Z,6.2nm,1.4s						
BCAR	**Beaver Creek A**	**77.50**	**15**	P	**P**	**14 42 29.7**	**0.0**
P33M	**Teslin, Yukon**	**81.79**	**12**	P	**P**	**14 42 53.0**	**+0.1**
P33M				IAmb	IAmb	14 43 23.6	
	comp=Z,9.3nm,1.5s						
WRA	**Warramunga Arr**	**81.99**	**122**	P	**P**	**14 42 51.1**	**-3.2**
	comp=Z,0.4nm,0.9s,baz=312,slow=5.4,SNR=5.3						
	comp=Z,0.4nm,0.9s						
ASAR	**Alice Springs**	**84.25**	**125**	P	**P**	**14 43 04.7**	**-1.2**
	comp=Z,0.2nm,0.8s,baz=315,slow=4.6,SNR=5.7						
	comp=Z,0.2nm,0.8s						

*NEIC **03** 15:05:01.5±1.4,39°.14N±0°.01×123°.609W±0°.006, h8km±5km,Error ellipse: s-maj=1.7km s-min=0.6km az=177.0*

NCEDC 03 15:05:01.8±1.6,39°.13N±0°.01×123°.58W±0°.02,h5km±1km, ML3.2/31,ML2.8/85(NEIC),Error ellipse: s-maj=2.5km s-min=1.6km az=81.0,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.36**	**44**		**Pn**	**15 47 29.3**	**+0.6**
PNIG					**Sn**	**15 47 35.7**	**+0.1**
PNIG	**Pinotepa**	**0.36**	**44**	*eP*	**Pn**	**15 47 29.3**	**+0.6**
PNIG					*eS*	**Sn**	**15 47 35.7**	**+0.1**
CRIG	**Cruz Grande**	**0.93**	**310**		**Pn**	**15 47 37.2**	**+0.7**
CRIG					**Sn**	**15 47 49.7**	**0.0**
CRIG	**Cruz Grande**	**0.93**	**310**	*eP*	**Pn**	**15 47 37.2**	**+0.7**
CRIG					*eS*	**Sn**	**15 47 49.7**	**0.0**
YOIG	**Yosondua**	**1.08**	**48**		**Pn**	**15 47 40.6**	**+1.7**
YOIG					**Sn**	**15 47 55.2**	**+1.5**
YOIG	**Yosondua**	**1.08**	**48**	*eP*	**Pn**	**15 47 40.6**	**+1.7**
YOIG					*eS*	**Sn**	**15 47 55.2**	**+1.5**
MGIG	**Malinaltepec**	**1.12**	**348**		**Pg**	**15 47 41.4**	**+1.8**
MGIG					**Sn**	**15 47 56.7**	**+2.1**
MGIG	**Malinaltepec**	**1.12**	**348**	*eP*	**Pg**	**15 47 41.4**	**+1.8**
MGIG					*eS*	**Sn**	**15 47 56.7**	**+2.1**
PEIG	**Puerto Escondi**	**1.20**	**96**		**Pn**	**15 47 40.0**	**-0.2**
PEIG					**Sb**	**15 47 54.3**	**-1.5**
PEIG	**Puerto Escondi**	**1.20**	**96**	*eP*	**Pn**	**15 47 40.0**	**-0.2**
PEIG					*eS*	**Sb**	**15 47 54.3**	**-1.5**
TXIG	**Tlaxiaco**	**1.26**	**28**		**Pg**	**15 47 43.9**	**+1.6**
TXIG					**Sg**	**15 47 59.1**	**+0.3**
TXIG	**Tlaxiaco**	**1.26**	**28**	*eP*	**Pg**	**15 47 43.9**	**+1.6**
TXIG					*eS*	**Sg**	**15 47 59.1**	**+0.3**
TLIG	**Tlapa**	**1.43**	**353**		**Pg**	**15 47 45.5**	**0.0**
TLIG	**Tlapa**	**1.43**	**353**	*eP*	**Pg**	**15 47 46.2**	**+0.6**
TLIG					*eS*	**Sg**	**15 48 03.7**	**-0.6**
DAIG	**Los Arroyos**	**1.50**	**306**		**Pg**	**15 47 47.3**	**+0.4**
DAIG					**Sg**	**15 48 06.7**	**+0.3**
DAIG	**Los Arroyos**	**1.50**	**306**	*eP*	**Pg**	**15 47 47.3**	**+0.4**
DAIG					*i* S	**Sg**	**15 48 06.7**	**+0.3**
HLIG	**Huajuapan de L**	**1.78**	**18**		**Pg**	**15 47 51.1**	**-1.0**
HLIG					**Sg**	**15 48 13.5**	**-1.8**
HLIG	**Huajuapan de L**	**1.78**	**18**	*eP*	**Pg**	**15 47 51.1**	**-1.0**
HLIG					*eS*	**Sg**	**15 48 13.5**	**-1.8**
FTIG	**Fresnillo de T**	**1.78**	**8**		**Pg**	**15 47 51.4**	**-0.8**
FTIG					**Sg**	**15 48 16.0**	**+0.6**
FTIG	**Fresnillo de T**	**1.78**	**8**	*eP*	**Pg**	**15 47 51.4**	**-0.8**
FTIG					*eS*	**Sg**	**15 48 16.0**	**+0.6**
VHO	**Vista Hermosa**	**1.84**	**59**	*eP*	**Pn**	**15 47 50.5**	**+1.2**
VHO					*eS*	**Sb**	**15 48 15.1**	**+0.7**
OXIG	**Oaxaca**	**1.84**	**59**		**Pn**	**15 47 50.5**	**+1.2**
OXIG					**Sb**	**15 48 15.1**	**+0.7**
OXBJ	**Oaxaca**	**1.84**	**60**		**Pg**	**15 47 54.4**	**+1.0**
OXBJ					**Sg**	**15 48 16.9**	**-0.6**
OXBJ	**Oaxaca**	**1.84**	**60**	*eP*	**Pg**	**15 47 54.4**	**+1.0**
OXBJ					*eS*	**Sg**	**15 48 16.9**	**-0.6**
OXLC	**Oaxaca**	**1.86**	**60**		**Pg**	**15 47 54.2**	**+0.4**
OXLC					**Sg**	**15 48 18.3**	**+0.4**
OXLC	**Oaxaca**	**1.86**	**60**	*i* P	**Pg**	**15 47 54.2**	**+0.4**
OXLC					*eS*	**Sg**	**15 48 18.3**	**+0.4**
CAIG	**El Cayaco**	**2.02**	**297**		**Pn**	**15 47 52.8**	**+1.2**
CAIG					**Sn**	**15 48 15.2**	**-1.4**
CAIG	**El Cayaco**	**2.02**	**297**	*eP*	**Pn**	**15 47 52.8**	**+1.2**
CAIG					*i* S	**Sn**	**15 48 15.2**	**-1.4**
MEIG	**Mezcala**	**2.14**	**327**		**Pb**	**15 47 56.3**	**-0.2**
MEIG					**Sb**	**15 48 23.0**	**+0.1**
MEIG	**Mezcala**	**2.14**	**327**	*eP*	**Pb**	**15 47 56.3**	**-0.2**
MEIG					*eS*	**Sb**	**15 48 23.0**	**+0.1**
HUIG	**Huatulco**	**2.22**	**99**		**Pn**	**15 47 54.3**	**0.0**
HUIG					**Sn**	**15 48 18.1**	**-3.4**
HUIG	**Huatulco**	**2.22**	**99**	*eP*	**Pn**	**15 47 54.3**	**0.0**
HUIG					*eS*	**Sn**	**15 48 18.1**	**-3.4**
TOIG	**Toxpalan**	**2.32**	**33**		**Pb**	**15 47 59.0**	**-0.7**
TOIG					**Sg**	**15 48 30.9**	**-1.9**
TOIG	**Toxpalan**	**2.32**	**33**	*eP*	**Pb**	**15 47 59.0**	**-0.7**
TOIG					*eS*	**Sg**	**15 48 30.9**	**-1.9**
TPIG	**Tehuac#an**	**2.47**	**23**		**Pg**	**15 48 07.3**	**+1.8**
TPIG					**Sg**	**15 48 34.9**	**-2.8**
TPIG	**Tehuac#an**	**2.47**	**23**	*eP*	**Pg**	**15 48 07.3**	**+1.8**
TPIG					*eS*	**Sg**	**15 48 34.9**	**-2.8**
YAIG	**Yautepec**	**2.79**	**347**		**Pg**	**15 48 10.3**	**-1.2**
YAIG					**Sg**	**15 48 44.2**	**-3.5**
YAIG	**Yautepec**	**2.79**	**347**	*eP*	**Pg**	**15 48 10.3**	**-1.2**
YAIG					*eS*	**Sg**	**15 48 44.2**	**-3.5**
ARIG	**Puente Sto Nin**	**2.84**	**319**		**Pb**	**15 48 08.7**	**+0.3**
ARIG					**Sn**	**15 48 39.0**	**+2.1**
ARIG	**Puente Sto Nin**	**2.84**	**319**	*eP*	**Pb**	**15 48 08.7**	**+0.3**
ARIG					*eS*	**Sn**	**15 48 39.0**	**+2.1**
PPM	**Popocatepetl**	**2.92**	**356**	*eP*	**Pb**	**15 48 09.0**	**-1.2**
PPM					*eS*	**Sb**	**15 48 45.5**	**-0.5**
PPIG	**Popocatepetl**	**2.93**	**355**		**Pb**	**15 48 09.0**	**-1.2**
PPIG					**Sb**	**15 48 45.5**	**-0.6**
NEUV	**Arroyo Zacate**	**2.93**	**57**		**Pn**	**15 48 06.3**	**+2.2**
NEUV					**Sb**	**15 48 42.4**	**-3.2**
NEUV	**Arroyo Zacate**	**2.93**	**57**	*eP*	**Pn**	**15 48 06.3**	**+2.2**
NEUV					*eS*	**Sb**	**15 48 42.4**	**-3.2**
MAVM	**Malinalco, Edo**	**3.00**	**340**		**Pb**	**15 48 12.4**	**+1.1**
MAVM					**Sb**	**15 48 44.2**	**-3.6**
MAVM	**Malinalco, Edo**	**3.00**	**340**	*eP*	**Pb**	**15 48 12.4**	**+1.1**
MAVM					*eS*	**Sb**	**15 48 44.2**	**-3.6**
AMVM	**AMECAMECA**	**3.00**	**353**		**Pn**	**15 48 01.6**	**-3.8**
AMVM					**Sn**	**15 48 40.2**	**-1.1**
AMVM	**AMECAMECA**	**3.00**	**353**	*eP*	**Pn**	**15 48 01.6**	**-3.8**
AMVM					*eS*	**Sn**	**15 48 40.2**	**-1.1**
MPVM	**San Francisco**	**3.11**	**349**		**Pg**	**15 48 15.8**	**-1.8**
MPVM					**Sn**	**15 48 44.0**	**+0.2**
MPVM	**San Francisco**	**3.11**	**349**	*eP*	**Pg**	**15 48 15.8**	**-1.8**
MPVM					*eS*	**Sn**	**15 48 44.0**	**+0.2**
TLVM	**San Miguel Top**	**3.15**	**347**		**Pb**	**15 48 15.0**	**+1.1**
TLVM					**Sb**	**15 48 51.9**	**-0.3**
TLVM	**San Miguel Top**	**3.15**	**347**	*eP*	**Pb**	**15 48 15.0**	**+1.1**
TLVM					*eS*	**Sb**	**15 48 51.9**	**-0.3**
THVM	**De Xico**	**3.21**	**350**		**Pn**	**15 48 08.8**	**+0.6**
THVM					**Sb**	**15 48 49.9**	**-4.0**
THVM	**De Xico**	**3.21**	**350**	*eP*	**Pn**	**15 48 08.8**	**+0.6**
THVM					*eS*	**Sb**	**15 48 49.9**	**-4.0**
AOVM	**Tlapan**	**3.24**	**344**		**Pb**	**15 48 16.1**	**+0.5**
AOVM					**Sb**	**15 48 51.9**	**-3.1**
AOVM	**Tlapan**	**3.24**	**344**	*eP*	**Pb**	**15 48 16.1**	**+0.5**
AOVM					*eS*	**Sb**	**15 48 51.9**	**-3.1**
UNM	**Universidad Na**	**3.27**	**347**	Pn	**Pn**	**15 48 10.5**	**+1.6**
UNM	**Universidad Na**	**3.27**	**347**	*eS*	**Sb**	**15 48 52.0**	**-3.5**
INVM	**La Marquesa**	**3.28**	**343**		**Pb**	**15 48 15.4**	**-0.8**
INVM					**Sb**	**15 48 52.2**	**-3.9**
INVM	**La Marquesa**	**3.28**	**343**	*eP*	**Pb**	**15 48 15.4**	**-0.8**
INVM					*eS*	**Sb**	**15 48 52.2**	**-3.9**
ZIIG	**Zihuatanejo**	**3.29**	**297**		**Sn**	**15 48 48.4**	**+0.5**
ZIIG	**Zihuatanejo**	**3.29**	**297**	*eP*	**Pg**	**15 48 24.1**	**+3.0**
ZIIG					*eS*	**Sn**	**15 48 48.4**	**+0.5**
CJVM	**Cuajimalpa**	**3.32**	**345**		**Pb**	**15 48 17.8**	**+1.0**
CJVM					**Sn**	**15 48 51.4**	**+2.3**
CJVM	**Cuajimalpa**	**3.32**	**345**	*eP*	**Pb**	**15 48 17.8**	**+1.0**
CJVM					*eS*	**Sn**	**15 48 51.4**	**+2.3**
MHVM	**Bosque de Chap**	**3.35**	**347**		**Pg**	**15 48 20.5**	**-1.8**
MHVM					**Sn**	**15 48 52.2**	**+2.4**
MHVM	**Bosque de Chap**	**3.35**	**347**	*eP*	**Pg**	**15 48 20.5**	**-1.8**
MHVM					*eS*	**Sn**	**15 48 52.2**	**+2.4**
PBVM	**Pinon**	**3.35**	**349**		**Pn**	**15 48 13.4**	**+3.5**
PBVM					**Sb**	**15 48 53.4**	**-4.5**
PBVM	**Pinon**	**3.35**	**349**	*eP*	**Pn**	**15 48 13.4**	**+3.5**
PBVM					*eS*	**Sb**	**15 48 53.4**	**-4.5**
CMIG	**Matias Romero**	**3.49**	**74**		**Pn**	**15 48 12.8**	**+1.1**
CMIG					**Sn**	**15 48 52.0**	**-0.8**
CMIG	**Matias Romero**	**3.49**	**74**	*eP*	**Pn**	**15 48 12.8**	**+1.1**
CMIG					*eS*	**Sn**	**15 48 52.0**	**-0.8**
AZVM	**Cuida Lopez Ma**	**3.54**	**346**		**Pb**	**15 48 20.6**	**+0.1**
AZVM					**Sn**	**15 48 57.9**	**+3.5**
AZVM	**Cuida Lopez Ma**	**3.54**	**346**	*eP*	**Pb**	**15 48 20.6**	**+0.1**
AZVM					*eS*	**Sn**	**15 48 57.9**	**+3.5**
JAUV	**Jalcomulco**	**3.55**	**25**		**Pb**	**15 48 15.7**	**+3.0**
JAUV					**Sb**	**15 49 03.2**	**-0.3**
JAUV	**Jalcomulco**	**3.55**	**25**	*eP*	**Pn**	**15 48 15.7**	**+3.0**
JAUV					*eS*	**Sb**	**15 49 03.2**	**-0.3**
LVIG	**Laguna Verde**	**4.03**	**27**	*eP*	**Pb**	**15 48 28.8**	**+0.1**
LVIG					*eS*	**Sb**	**15 49 14.7**	**-2.6**
ACIG	**Acambay**	**4.08**	**340**		**Sn**	**15 49 05.6**	**-2.1**
ACIG	**Acambay**	**4.08**	**340**	*eS*	**Sn**	**15 49 05.6**	**-2.1**
CXUV	**Coxquihui**	**4.09**	**11**		**Pb**	**15 48 29.2**	**-0.5**
CXUV					**Sn**	**15 49 11.8**	**+4.1**
CXUV	**Coxquihui**	**4.09**	**11**	*eP*	**Pb**	**15 48 29.2**	**-0.5**
CXUV					*i* S	**Sn**	**15 49 11.8**	**+4.1**
UXUV	**UXUV**	**4.23**	**73**		**Pn**	**15 48 22.3**	**+0.3**
UXUV					**Sn**	**15 49 15.7**	**+4.5**
UXUV	**UXUV**	**4.23**	**73**	*eP*	**Pn**	**15 48 22.3**	**+0.3**
UXUV					*eS*	**Sn**	**15 49 15.7**	**+4.5**
TEIG	**Tepich**	**10.43**	**66**	Pn	**Pn**	**15 49 47.8**	**+0.6**
JCT	**Junction City**	**14.34**	**355**	Pn	**Pn**	**15 50 41.6**	**+1.0**
WHTX	**Lake Whitney,**	**15.81**	**3**	Pn	**Pn**	**15 51 01.7**	**+1.6**
PIRO	**Carate, Puerto**	**16.58**	**116**		**Pn**	**15 51 09.7**	**-0.4**
Z35A	**Perchaven, San**	**17.15**	**3**	Pn	**P**	**15 51 18.3**	**-0.5**
Z35A				IAmb	IAmb	15 51 28.8	

IDC 03 15:35:34.8±3.7,15°.92S×176°.73W,h0km,mb4.3/3, mbtmp4.3/3,Error ellipse: s-maj=157.9km s-min=76.2km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.01**	**240**	P	P	15 43 20.2	+0.3
	1.5nm,0.4s,baz=85,slow=7.9,SNR=7.2						
	1.5nm,0.4s						
WRA	**Warramunga Arr**	**46.60**	**257**	P	P	15 44 04.7	-0.4
	0.4nm,0.3s,baz=93,slow=7.7,SNR=18						
WRA				PcP	PcP	15 45 39.1	-0.1
	0.4nm,0.6s,baz=92,slow=3.1,SNR=2.7						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**46.90**	**252**	P	P	15 44 07.2	-0.2
	7.2nm,0.4s,baz=90,slow=7.6,SNR=350						
ASAR				PcP	PcP	15 45 39.8	-0.5
	0.5nm,0.5s,baz=105,slow=3.9,SNR=5.5						
	7.2nm,0.4s						

*NEIC **03** 15:47:16.3±1.9,15°.87N±0°.04×98°.43W±0°.02,h10km±1km, mb4.4/4,Md4.3/83(MEX),Error ellipse: s-maj=7.2km s-min=3.7km az=19.0*

*MEX **03** 15:47:21.8±0.8,15°.99N×98°.38W,h17km±4km,MD4.3*

ISC 03 15:47:18.0±1.2,16°.13N±0°.03×98°.39W±0°.02,h15km±8km, n87,σ1§95/162,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.36**	**44**		**Pn**	**15 47 29.3**	**+0.6**
PNIG					**Sn**	**15 47 35.7**	**+0.1**
PNIG	**Pinotepa**	**0.36**	**44**	*eP*	**Pn**	**15 47 29.3**	**+0.6**
PNIG					*eS*	**Sn**	**15 47 35.7**	**+0.1**
CRIG	**Cruz Grande**	**0.93**	**310**		**Pn**	**15 47 37.2**	**+0.7**
CRIG					**Sn**	**15 47 49.7**	**0.0**
CRIG	**Cruz Grande**	**0.93**	**310**	*eP*	**Pn**	**15 47 37.2**	**+0.7**
CRIG					*eS*	**Sn**	**15 47 49.7**	**0.0**
YOIG	**Yosondua**	**1.08**	**48**		**Pn**	**15 47 40.6**	**+1.7**
YOIG					**Sn**	**15 47 55.2**	**+1.5**
YOIG	**Yosondua**	**1.08**	**48**	*eP*	**Pn**	**15 47 40.6**	**+1.7**
YOIG					*eS*	**Sn**	**15 47 55.2**	**+1.5**
MGIG	**Malinaltepec**	**1.12**	**348**		**Pg**	**15 47 41.4**	**+1.8**
MGIG					**Sn**	**15 47 56.7**	**+2.1**
MGIG	**Malinaltepec**	**1.12**	**348**	*eP*	**Pg**	**15 47 41.4**	**+1.8**
MGIG					*eS*	**Sn**	**15 47 56.7**	**+2.1**
PEIG	**Puerto Escondi**	**1.20**	**96**		**Pn**	**15 47 40.0**	**-0.2**
PEIG					**Sb**	**15 47 54.3**	**-1.5**
PEIG	**Puerto Escondi**	**1.20**	**96**	*eP*	**Pn**	**15 47 40.0**	**-0.2**
PEIG					*eS*	**Sb**	**15 47 54.3**	**-1.5**
TXIG	**Tlaxiaco**	**1.26**	**28**		**Pg**	**15 47 43.9**	**+1.6**
TXIG					**Sg**	**15 47 59.1**	**+0.3**
TXIG	**Tlaxiaco**	**1.26**	**28**	*eP*	**Pg**	**15 47 43.9**	**+1.6**
TXIG					*eS*	**Sg**	**15 47 59.1**	**+0.3**
TLIG	**Tlapa**	**1.43**	**353**		**Pg**	**15 47 45.5**	**0.0**
TLIG	**Tlapa**	**1.43**	**353**	*eP*	**Pg**	**15 47 46.2**	**+0.6**
TLIG					*eS*	**Sg**	**15 48 03.7**	**-0.6**
DAIG	**Los Arroyos**	**1.50**	**306**		**Pg**	**15 47 47.3**	**+0.4**
DAIG					**Sg**	**15 48 06.7**	**+0.3**
DAIG	**Los Arro

comp=Z,14nm,0.5s
HYT **Haines Junctio** **52.69 337** P **P** 15 56 31.8 **-0.1**
HYT IAmb IAmb 15 56 59.9
comp=Z,8.5nm,1.4s

UCR 03 15:54:06.7±1.2, 10°32N×86°36W, h12km±14km, MW3.6, 5C-6D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DELF	**Filadelfia**	**0.80**	**81**↓	*e*P	Pg	15 54 22.1	-0.2
DELF				*e*S	Sg	15 54 32.5	-0.2
JUD3	**Juan Diaz 3**	**0.82**	**101**↑	*e*P	Pg	15 54 21.9	-0.7
JUD3				*e*S	Sg	15 54 32.5	-0.9
ALIBA	**Liberia Airpor**	**0.84**	**71**↑	*i*P	Pb	15 54 23.2	0.0
ALIBA				*e*S	Sb	15 54 35.3	+0.8
ELI1	**Hacienda Flor**	**0.85**	**68**↑	*e*P	Pb	15 54 23.9	+0.4
ELI1				*e*S	Sn	15 54 36.1	-0.7
LAPC	**Finca la Perla**	**1.01**	**64**↑	*i*P	Pb	15 54 25.3	-0.8
LAPC				*e*S	Sb	15 54 38.8	-0.6
LCRUZ	**La Cruz**	**1.04**	**44**	*e*P	Pb	15 54 26.3	-0.3
GPS3	**Bodega del ICE**	**1.06**	**66**	*e*P	Pg	15 54 27.4	+0.1
GPS3				*e*S	Sg	15 54 41.3	+0.1
GPS2	**Hotel Rincn d**	**1.08**	**67**	*e*P	Pb	15 54 26.6	-0.7
VRLE	**La Escondida,**	**1.08**	**65**	*e*P	Pb	15 54 26.9	-0.4
GPS1	**Guardaparques**	**1.09**	**66**↓	*i*P	Pb	15 54 26.7	-0.8
GPS1				*e*S	Sb	15 54 41.2	-0.5
BAGA	**Bagaces**	**1.10**	**79**	*e*P	Pg	15 54 29.1	+1.2
BAGA				*e*S	Sg	15 54 42.4	+0.2
VORI	**VORI**	**1.11**	**64**↑	*e*P	Pb	15 54 26.9	-1.0
VORI				*e*S	Sb	15 54 41.6	-0.8
NYURE	**Nandayure**	**1.14**	**107**	*e*P	Pb	15 54 27.4	-0.8
MESS	**Mesas**	**1.22**	**70**	*e*P	Pn	15 54 28.4	-1.2
CUI	**Cuipilapa**	**1.22**	**74**	*e*P	Pn	15 54 28.4	-1.2
CUI				*e*S	Sb	15 54 45.3	-0.1
HORNC	**Hornillas**	**1.22**	**71**	*e*P	Pn	15 54 28.5	-1.1
HORNC				*e*S	Sb	15 54 44.1	-1.4
INVE	**Universidad In**	**1.28**	**83**↓	*e*P	Pn	15 54 29.6	-0.8
INVE				*e*S	Sn	15 54 47.4	-0.1
MOTZ	**Rio Naranjo**	**1.31**	**74**	*e*P	Pn	15 54 29.9	-1.0
MOTZ				*e*S	Sb	15 54 48.2	+0.1
VMAR	**Armenia, Volca**	**1.31**	**68**↓	*e*P	Pn	15 54 30.5	-0.4
TIMP	**Tierras Morena**	**1.34**	**79**	*e*P	Pn	15 54 30.2	-1.1
TIMP				*e*S	Sb	15 54 47.7	-1.3
JTS	**Las Juntas de**	**1.38**	**91**	*e*P	Pg	15 54 33.2	-0.1
TENO	**El Achiote**	**1.41**	**74**↓	*e*P	Pn	15 54 30.8	-1.4
TENO				*e*S	Sn	15 54 48.9	-1.8
QUEB	**Quebradon, Cot**	**1.47**	**78**	*e*P	Pn	15 54 30.5	-2.5
TABAC	**Tabacon**	**1.57**	**84**	*e*P	Pn	15 54 34.7	+0.2
ARE1	**Arenal 1**	**1.62**	**85**	*e*P	Pn	15 54 32.5	-2.5
VARE2	**V. Arenal**	**1.62**	**85**	*e*P	Pn	15 54 35.7	+0.6
CEDE	**Laguna Cedeo**	**1.64**	**84**	*e*P	Pn	15 54 35.6	+0.3
SOCE	**Pocosol**	**1.71**	**88**	*e*P	Pn	15 54 36.0	-0.4
ACON	**Acoyapa**	**2.00**	**35**↓	*e*P	Pn	15 54 40.0	-0.3
ACON				*e*S	Sb	15 55 07.1	-0.9

KOLA 03 15:58:48.5, 69°42N×30°77E, h0km, ML1.5, Error ellipse: s-maj=5.2km s-min=2.3km az=20.0, Zapolyarny City, Mines, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VADS	**Vadso**	**0.86**	**326**	P	Pg	15 59 04.0	-0.9
VADS				S	Sg	15 59 15.0	-1.0
TERR	**Teriberka**	**1.56**	**96**	P	Pn	15 59 16.8	-0.7
TERR				S	Sn	15 59 36.3	-2.0
ARCES	**ARCESS Array B**	**1.86**	**276**	P	Pn	15 59 20.6	-1.0
ARCES				S	Sn	15 59 45.1	-0.6
APA0	**Apatity Array**	**2.00**	**155**	S	Sn	15 59 49.0	-0.1
FAUS	**Fauske**	**6.07**	**258**	S	Sn	16 01 24.1	-5.3

BER 03 15:58:52.9±2.0, 66°38N×14°61E, h0km, ML1.0, Suspected explosion, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOR8	**Moi Rana**	**0.22**	**198**	*e*P	Pg	15 58 54.1	-3.1
MOR8				*e*S	Sg	15 58 56.1	-3.9
MOR8				IAML		15 58 58.2	
comp=Z,82nm,0.6s							
KONS	**Konsvik**	**0.61**	**282**	*e*P	Pg	15 59 03.1	-1.4
KONS				IAML		15 59 15.1	
comp=Z,5.7nm,0.7s							
VAGH	**Vaagaholmen**	**0.64**	**304**	*e*P	Pg	15 59 03.6	-1.6
STOK	**Stokkvaagen**	**0.65**	**266**	*e*P	Pg	15 59 04.1	-1.1
STOK				IAML		15 59 21.6	
comp=Z,7.9nm,0.9s							
LEIR	**Leirfjorden**	**0.67**	**246**	*e*P	Pg	15 59 04.4	-1.2
LEIR				*e*S	Sg	15 59 15.5	+1.3
LEIR				IAML		15 59 16.9	
comp=Z,7.9nm,0.4s							
STEI	**Steigen**	**1.57**	**9**	*e*P	Pn	15 59 19.3	-2.7
SALU	**Saltoluokta**	**1.83**	**55**	*e*P	Pn	15 59 24.0	-1.6
SALU				*e*S	Sn	15 59 47.9	-1.7

*MOS **03** 16:08:58.9±1.1, 42°52N×144°40E, h90km, mb4.6/1, Error ellipse: s-maj=17.0km s-min=9.6km az=82.2*
*JMA **03** 16:09:00.9±0.1, 42°7N±0°4×144°4E±0°5, h92km±1km, MV3.4/39, SE OFF TOKACHI*
*SKHL **03** 16:09:01.6±0.6, 42°70N×144°40E, h93km±6km, mb4.8/3, msha5.5/3*
*IDC **03** 16:09:01.9±3.4, 42°53N×144°10E, h86km±20km, mb3.3/9, mbtmp3.6/10, Error ellipse: s-maj=49.2km s-min=18.2km az=82.0*
ISC 03 16:09:01.3±0.9, 42°66N±0°05×144°37E±0°03, h86km±6km, n49, σ0$94/66, mb3.5/9, 1C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.41**	**35**	*i*P	**Pn**	**16 09 15.1**	**+0.2**
JAK				S	**Sn**	**16 09 25.3**	**+0.3**
JOB	**Onbets**	**0.46**	**302**	*i*P	**Pn**	**16 09 15.8**	**+0.5**
JOB				S	**Sn**	**16 09 26.6**	**+0.9**
AKK	**Akkeshi**	**0.50**	**44**	*e*P	**Pn**	**16 09 15.7**	**+0.1**
JKHN	**Kushirohamanak**	**0.72**	**54**	*i*P	**Pn**	**16 09 17.8**	**+0.2**
JKHN				S	**Sn**	**16 09 29.8**	**0.0**
JCH	**Churui**	**0.74**	**267**	*i*P	**Pn**	**16 09 17.9**	**+0.1**
JCH				S	**Sn**	**16 09 30.1**	**-0.1**
JAR	**Ashorobuto**	**0.78**	**326**	*i*P	**Pn**	**16 09 18.2**	**0.0**
JAR				S	**Sn**	**16 09 30.9**	**0.0**
JNK	**Nakash**	**0.96**	**15**	*e*P	**Pn**	**16 09 19.9**	**-0.4**
JNK				S	**Sn**	**16 09 33.6**	**-0.9**
JEM	**Erimo**	**1.10**	**235**	*i*P	**Pn**	**16 09 22.9**	**+0.9**
NMR	**Nemuro--Hokkai**	**1.22**	**54**↓	*i*PN	**Pn**	**16 09 22.7**	**-0.6**
NMR				*i*S	**Sn**	**16 09 38.2**	**-1.7**
NMR	**Nemuro--Hokkai**	**1.22**	**54**	*i*P	**Pn**	**16 09 22.7**	**-0.6**
NMR				*i*S	**Sn**	**16 09 38.2**	**-1.7**
NEM2	**Nemuro 2**	**1.23**	**54**	*i*P	**Pn**	**16 09 22.7**	**-0.7**
NEM2				S	**Sn**	**16 09 38.3**	**-1.8**
JNBK	**Urakawa-nobuka**	**1.25**	**253**	*i*P	**Pn**	**16 09 23.2**	**-0.6**
JTKR	**Abashiri--Toko**	**1.35**	**346**	*e*P	**Pn**	**16 09 25.1**	**+0.2**
GLVR	**Golovnino**	**1.37**	**38**	*e*PN	**Pn**	**16 09 25.1**	**0.0**
GLVR				*i*S	**Sn**	**16 09 43.0**	**-0.1**
GLVR				pmax	pmax		
comp=N,83nm,0.1s							
GLVR				pmax	pmax		
comp=Z,82nm,0.1s							
GLVR				smax	smax		
comp=E,2μm,0.3s							
GLVR				smax	smax		
comp=N,2μm,0.1s							
GLVR	**Golovnino**	**1.37**	**38**	*e*P	**Pn**	**16 09 25.1**	**0.0**
GLVR				AMB	AMB	16 09 29.0	
comp=N,80nm,0.2s							
GLVR				*i*S	**Sn**	**16 09 43.0**	**-0.1**
GLVR				A	A	16 09 44.5	
comp=N,2μm,0.2s							
GLVR				A	A	16 09 44.5	
comp=N,2μm,0.2s							
JRA	**Rausu**	**1.39**	**23**	*i*P	**Pn**	**16 09 25.5**	**+0.1**
JRA				*e*S	**Sn**	**16 09 43.7**	**0.0**
JFR	**Furan**	**1.40**	**292**	*i*P	**Pn**	**16 09 25.1**	**-0.4**
JBT2	**Biratori 2**	**1.48**	**275**	*i*P	**Pn**	**16 09 25.9**	**-0.7**
JBT2				*e*S	**Sn**	**16 09 45.1**	**-0.7**
JMP	**Maruseppu**	**1.54**	**332**	P	**Pn**	**16 09 27.1**	**-0.3**
JMP				S	**Sn**	**16 09 46.3**	**-0.7**
RUSJ	**Misakicho**	**1.58**	**24**	*e*PN	**Pn**	**16 09 27.9**	**+0.1**
RUSJ				*i*S	**Sn**	**16 09 48.7**	**+0.7**
JKK2	**Kamakawa 2**	**1.70**	**316**	P	**Pn**	**16 09 29.4**	**+0.1**
JKK2				S	**Sn**	**16 09 50.1**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**1.75**	**38**	*ce*PN	**Pn**	**16 09 30.0**	**0.0**
YUK				*i*S	**Sn**	**16 09 51.5**	**-0.5**
YUK				pmax	pmax		
comp=Z,182nm,0.2s							
YUK				pmax	pmax		
comp=N,40nm,0.1s							
YUK				pmax	pmax		
comp=E,30nm,0.2s							
YUK				smax	smax		
comp=N,1μm,0.4s							
YUK				smax	smax		
comp=E,568nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.75**	**38**	*e*P	**Pn**	**16 09 30.1**	**0.0**
YUK				AMB	AMB	16 09 30.5	
comp=E,150nm,0.2s							
YUK				*i*S	**Sn**	**16 09 51.5**	**-0.5**
YUK				A	A	16 09 52.3	
comp=E,1μm,0.5s							
YUK				A	A	16 09 52.3	
comp=E,570nm,0.5s							
JAB	**Ashibetsu**	**1.79**	**299**	*e*P	**Pn**	**16 09 31.5**	**+1.0**
JKA	**Kamikawa-asahi**	**1.95**	**319**	*e*P	**Pn**	**16 09 33.3**	**+0.7**
ASAJ	**Asahikawa**	**1.95**	**319**	P	**Pn**	**16 09 33.3**	**+0.6**
comp=E,19nm,0.3s,baz=184,slow=18,SNR=84							
ASAJ				S	**Sn**	**16 09 57.0**	**+0.4**
comp=E,24nm,0.4s,baz=292,slow=30,SNR=31							
SHO	**Shikotan**	**2.17**	**55**	*e*P	**Pn**	**16 09 38.2**	**+2.7**
SHO				AMB	AMB	16 09 39.4	
comp=E,60nm,0.2s							
SHO				*e*S	**Sn**	**16 10 02.6**	**+0.9**
SHO				A	A	16 10 04.9	
comp=E,600nm,0.4s							
SHO				A	A	16 10 04.9	
comp=E,220nm,0.4s							
KUR	**Kuril'sk**	**3.61**	**43**	*e*PN	**Pn**	**16 09 54.8**	**0.0**
KUR				*i*S	**Sn**	**16 10 36.3**	**0.0**
KUR	**Kuril'sk**	**3.61**	**43**	*e*P	**Pn**	**16 09 56.3**	**+1.5**
KUR				*i*S	**Sn**	**16 10 37.3**	**+1.0**
KUR				A	A	16 10 39.7	
comp=E,60nm,0.3s							
KUR				A	A	16 10 39.7	
comp=E,70nm,0.3s							
YSS	**Yuzhno-Sakhali**	**4.45**	**346**	*e*PN	**Pn**	**16 10 06.6**	**+0.4**
YSS				*e*S	**Sn**	**16 10 54.4**	**-2.3**
YSS				pmax	pmax		
comp=Z,10.0nm,1.1s							
YSS				smax	smax		
comp=N,10.0nm,0.9s							
YSS				smax	smax		
comp=E,10.0nm,0.7s							
YSS	**Yuzhno-Sakhali**	**4.45**	**346**	*e*P	**Pn**	**16 10 06.6**	**+0.4**
MJAR	**Matsushiro Arr**	**7.74**	**220**	P	**Pn**	**16 10 49.6**	**-1.6**
comp=E,1.0nm,0.5s,baz=28,slow=14,SNR=5.1							
SONM	**Songino Array**	**27.04**	**294**	P	**P**	**16 14 35.9**	**+0.4**
comp=E,1.4nm,0.8s,baz=86,slow=9.0,SNR=6.0							
comp=E,1.4nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**29.72**	**133**	T	T	16 46 24.6	
baz=326,slow=75,SNR=11							
H11N1	**WAKE ISLAND Hy**	**29.73**	**133**	T	T	16 46 29.3	
baz=326,slow=75,SNR=7.2							
H11N3	**WAKE ISLAND Hy**	**29.74**	**133**	T	T	16 46 23.8	
baz=326,slow=75,SNR=8.4							
H11S1	**WAKE ISLAND Hy**	**30.62**	**135**	T	T	16 47 37.0	
baz=327,slow=76,SNR=12							
H11S3	**WAKE ISLAND Hy**	**30.63**	**135**	T	T	16 47 34.2	
baz=327,slow=76,SNR=11							
H11S2	**WAKE ISLAND Hy**	**30.64**	**135**	T	T	16 47 33.1	
baz=327,slow=76,SNR=8.6							
ZALV	**Zalesovo Beam**	**40.04**	**308**	P	**P**	**16 16 27.0**	**-0.6**
comp=E,0.8nm,0.6s,baz=99,slow=8.9,SNR=2.6							
comp=E,0.8nm,0.6s							
MKAR	**Makanchi Array**	**43.29**	**298**	P	**P**	**16 16 53.0**	**-1.3**
comp=E,0.2nm,0.6s,baz=89,slow=9.4,SNR=2.1							
comp=E,0.2nm,0.6s							
KURK	**Kurchatov**	**44.46**	**304**	P	**P**	**16 17 05.0**	**+1.5**
KURK	**Kurchatov**	**44.46**	**304**	*e*P	**P**	**16 17 05.0**	**+1.5**
KURBB	**Kurchatov Arra**	**44.54**	**304**	P	**P**	**16 17 05.0**	**+0.8**
comp=E,0.3nm,0.5s,baz=71,slow=9.1,SNR=3.2							
comp=E,0.3nm,0.5s							
BVAR	**Borovoye Array**	**48.62**	**309**	P	**P**	**16 17 34.2**	**-1.8**
comp=E,0.3nm,0.4s,baz=72,slow=10,SNR=2.8							
comp=E,0.3nm,0.4s							
WRA	**Warramunga Arr**	**62.97**	**191**	P	**P**	**16 19 17.5**	**-1.3**
comp=E,0.4nm,0.9s,baz=8.3,slow=7.0,SNR=2.5							
comp=E,0.4nm,0.9s							
FINES	**FINESS Array B**	**64.91**	**332**	P	**P**	**16 19 31.6**	**+0.6**
comp=E,0.7nm,0.4s,baz=60,slow=7.7,SNR=8.8							
comp=E,0.7nm,0.4s							
NOA	**NORSAR Array B**	**69.86**	**338**	P	**P**	**16 20 03.7**	**+1.3**
comp=E,0.7nm,0.7s,baz=42,slow=7.4,SNR=2.0							
comp=E,0.7nm,0.7s							
HFS	**Hagfors**	**69.89**	**336**	P	**P**	**16 20 03.9**	**+1.4**
comp=E,0.7nm,0.5s,baz=46,slow=6.2,SNR=4.8							
comp=E,0.7nm,0.5s							

*IDC **03** 16:10:22.7±2.0, 4°41N×127°40E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=165.2km s-min=23.5km az=67.0*
*DJA **03** 16:10:28.1±1.1, 4°N±9°×12°7E±°, h22km±3km, M3.4/6, MLv3.4/6*
ISC 03 16:10:28.7±1.5, 4°1N±0°2×126°8E±0°1, h36km, n5, σ0$37/6, mb3.4/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.38**	**251**	P	**Pn**	**16 10 51.3**	**-0.1**
SGSI				S	**Sn**	**16 11 08.6**	**+0.2**
WRA	**Warramunga Arr**	**25.04**	**163**	P	**P**	**16 15 50.1**	**+0.4**
0.4nm,0.6s,baz=345,slow=11,SNR=8.3							
0.4nm,0.6s							
ASAR	**Alice Springs**	**28.48**	**166**	P	**P**	**16 16 20.5**	**-0.2**
0.9nm,1.2s,baz=339,slow=9.3,SNR=1.8							
0.9nm,1.2s							
MKAR	**Makanchi Array**	**57.28**	**325**	P	**P**	**16 20 12.7**	**-0.2**
0.2nm,0.4s,baz=116,slow=6.6,SNR=5.6							
0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**61.46**	**327**	P	**P**	**16 20 41.9**	**+0.3**
0.2nm,0.4s,baz=128,slow=7.3,SNR=2.8							
0.2nm,0.4s							

*IDC **03** 16:22:54.2±1.8, 54°09N×169°52E, h0km, mb3.0/2, mbtmp3.4/4, ML3.6/2, Error ellipse: s-maj=50.3km s-min=23.0km az=11.0*
*KRSC **03** 16:22:58.9±1.6, 53°87N×168°74E, h35km±39km, Ml4.0*
ISC 03 16:22:58.2±1.4, 53°9N±0°1×169°22E±0°08, h35km, n26, σ1$71/22, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.31**	**306**	*e*P	**Pn**	**16 23 33.1**	**-0.5**
BKI				*e*S	**Sn**	**16 24 00.2**	**-0.5**
SHEM	**Shemya Is, Ala**	**3.15**	**110**	Pn	Pn	16 23 44.5	-0.7
9.0nm,0.3s,baz=326,slow=7.9,SNR=11							
SHEM				Sn	**Sn**	**16 24 20.2**	**-1.4**
10nm,0.3s,baz=312,slow=20,SNR=10							
41nm,0.5s							
TUMD	**Tumrok D**	**5.30**	**288**	*e*P	**Pn**	**16 24 16.5**	**+1.7**
TUMD				*e*S	**Sn**	**16 25 13.2**	**-1.4**
KMNR	**Kamenistaya**	**5.52**	**293**	*e*P	**Pn**	**16 24 19.6**	**+1.7**
KMNR				*e*S	**Sn**	**16 25 20.3**	**+0.2**
SPN	**Mys Shipunski**	**5.55**	**265**	*e*P	**Pn**	**16 24 19.2**	**+1.0**
SPN				*e*S	**Sn**	**16 25 18.7**	**-2.0**
SDLR	**Sedlovina**	**6.19**	**268**	*e*P	**Pn**	**16 24 28.4**	**+1.3**
SDLR				*e*S	**Sn**	**16 25 33.3**	**-3.3**
UGLR	**Uglovaya**	**6.24**	**268**	*e*P	Pn	16 24 29.5	+1.8
SMAR	**Somma**	**6.24**	**268**	*e*P	**Pn**	**16 24 29.4**	**+1.5**
KRER	**Koryakskii**	**6.26**	**269**	*e*P	Pn	16 24 30.1	+1.9
KRER				*e*S	**Sn**	**16 25 37.0**	**-1.6**
AVH	**Avacha**	**6.28**	**268**	*e*P	Pn	16 24 30.3	+2.0
AVH				*e*S	**Sn**	**16 25 38.8**	**+0.1**
KRX	**Arik**	**6.31**	**269**	*e*P	Pn	16 24 30.5	+1.7
KRX				*e*S	**Sn**	**16 25 37.7**	**-2.0**
KOK	**Koryaka**	**6.33**	**269**	*e*P	**Pn**	**16 24 30.6**	**+1.6**
PET	**Petropavlovsk**	**6.37**	**266**	*e*P	Pn	16 24 31.2	+1.7
PET				*e*S	**Sn**	**16 25 40.6**	**-0.3**
KRMR	**Karymshinskiy**	**6.72**	**265**	*e*P	Pn	16 24 36.3	+1.9
KRMR				*e*S	**Sn**	**16 25 48.3**	**-1.4**
MTVR	**Mutnovka**	**6.78**	**262**	*e*P	Pn	16 24 37.0	+1.7
MTVR				*e*S	**Sn**	**16 25 48.0**	**-3.3**
GRL	**Gorelyy**	**6.83**	**263**	*e*P	Pn	16 24 38.4	+2.5
PETK	**Petropavlovsk-**	**6.92**	**268**	Pn	Pn	16 24 39.4	+2.3
3.9nm,0.3s,baz=96,slow=20,SNR=60							
PETK				Sn	Sn	16 25 57.4	+3.0
0.4nm,0.3s,baz=95,slow=30,SNR=1.5							
4.2nm,0.4s							
ASAK	**Asacha**	**6.98**	**262**	*e*P	Pn	16 24 39.9	+2.0
ASAK				*e*S	**Sn**	**16 25 56.0**	**0.0**
ILAR	**Eielson Array**	**24.35**	**46**	P	**P**	**16 28 11.1**	**-1.4**
0.2nm,0.6s,baz=256,slow=11,SNR=5.1							
0.2nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**34.15**	**184**	T	T	17 06 04.8	
baz=2.8,slow=76,SNR=53							
H11N3	**WAKE ISLAND Hy**	**34.16**	**184**	T	T	17 06 05.8	
baz=2.8,slow=76,SNR=50							
H11N1	**WAKE ISLAND Hy**	**34.16**	**184**	T	T	17 06 06.2	
baz=2.8,slow=76,SNR=52							
H11S1	**WAKE ISLAND Hy**	**35.37**	**184**	T	T	17 07 31.6	
baz=2.8,slow=76,SNR=30							
H11S3	**WAKE ISLAND Hy**	**35.38**	**184**	T	T	17 07 29.0	
baz=2.8,slow=76,SNR=27							
H11S2	**WAKE ISLAND Hy**	**35.39**	**184**	T	T	17 07 32.3	
baz=2.8,slow=76,SNR=48							
MKAR	**Makanchi Array**	**52.60**	**300**	P	**P**	**16 32 09.5**	**+1.3**
0.1nm,0.4s,baz=51,slow=6.6,SNR=1.8							
0.1nm,0.4s							

*IDC **03** 16:34:30.9±1.4, 38°65N×70°96E, h0km, mb3.7/5, mbtmp3.7/11, ML3.1/6, MS3.2/5, Error ellipse: s-maj=25.0km s-min=14.2km az=145.0*
*NNC **03** 16:34:34.9±3.0, 38°84N×70°65E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=25.9km s-min=19.1km az=168.0*
*NEIC **03** 16:34:35.3±1.3, 38°95N±0°06×70°53E±0°06, h12km±4km, mb4.2/8, Error ellipse: s-maj=8.4km s-min=7.0km az=179.0*
ISC 03 16:34:34.3±0.6, 38°87N±0°06×70°56E±0°05, h10km, n55, σ1$85/51, mb4.0/10, MS3.0/3, 2C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.23**	**305**		**Pg**	**16 34 39.5**	**+0.3**
CHGR	**Chuyangaron**	**1.12**	**260**		**Pb**	**16 34 55.7**	**0.0**
SIMJ	**Simiganj**	**1.23**	**261**		**Pn**	**16 34 57.9**	**+0.2**
ARSB	**Arslanbob**	**3.08**	**36**		**Pn**	**16 35 23.5**	**+0.4**
KK31	**Karatay Array**	**4.23**	**359**	↑Pn	**Pn**	**16 35 41.8**	**+2.9**
6.5nm,0.3s,baz=192,slow=15,SNR=188							
KK31				↓Pg	**Pg**	**16 35 53.4**	**-2.0**
9.8nm,0.5s,baz=184,slow=14,SNR=3.9							
KK31				↓Sn	**Sn**	**16 36 33.2**	**+4.9**
12nm,0.5s,baz=164,slow=28,SNR=4.5							
KK31				↑Lg	Lg	16 36 47.3	
22nm,0.5s,baz=164,slow=28,SNR=4.5							
KKAR	**Karatay Array**	**4.23**	**359**		**Pn**	**16 35 39.2**	**+0.3**
KSH	**Kashi**	**4.25**	**80**	Pn	Pn	16 35 34.8	-4.4
KSH				Sn	**Sn**	**16 36 32.1**	**+3.1**
KSH				smax	smax		
comp=N,140nm,0.9s							
KSH				smax	smax		
comp=E,130nm,0.8s							
KBL	**Kabul**	**4.49**	**196**		**Pn**	**16 35 44.7**	**+2.1**
EKS2	**Erkin-Say**	**4.51**	**32**	P	**Pn**	**16 35 45.0**	**+2.2**
SNR=29							
UCH	**Uchtor**	**4.51**	**41**	P	**Pn**	**16 35 44.0**	**+0.9**
SNR=38							
AAK	**Ala-Archa**	**4.81**	**37**	P	**Pn**	**16 35 50.2**	**+3.3**
SNR=9.5							
AAK	**Ala-Archa**	**4.81**	**37**		**Pn**	**16 35 47.1**	**+0.3**
AAK	**Ala-Archa**	**4.81**	**37**	↓Pn	**Pn**	**16 35 48.3**	**+1.5**
comp=E,6.6nm,0.6s							
AAK				↓Sn	**Sn**	**16 36 45.4**	**+2.8**
comp=E,13nm,0.7s							
AAK	**Ala-Archa**	**4.81**	**37**	Pn	**Pn**	**16 35 47.7**	**+0.9**
comp=E,4.2nm,0.3s,baz=198,slow=4.8,SNR=16							
AAK				Sn	**Sn**	**16 36 43.2**	**+0.5**
comp=E,2.4nm,0.3s,baz=308,slow=24,SNR=5.8							
comp=E,8.4nm,0.3s							
NRN	**Naryn**	**4.89**	**57**		**Pn**	**16 35 47.1**	**-1.1**
KBK	**Karagaybulak**	**5.04**	**40**	P	**Pn**	**16 35 52.3**	**+2.2**
SNR=29							
CHMS	**Chumysh**	**5.21**	**36**	P	**Pn**	**16 35 56.1**	**+3.9**
SNR=5.5							
USP	**Ospenovka**	**5.31**	**33**	P	**Pn**	**16 35 55.7**	**+2.0**
SNR=10							
TKM2	**Tokmak 2**	**5.56**	**42**	P	**Pn**	**16 35 58.0**	**+0.7**
SNR=33							
NIL	**Nilore**	**5.64**	**157**		**Pn**	**16 35 59.6**	**+1.4**
KDJ	**Kajisay**	**6.00**	**55**	Pn	**Pn**	**16 36 03.7**	**+0.3**
JMU	**Jammu**	**7.08**	**149**	*e*P	Pn	16 36 03.5	-14
JMU				*e*S	Sn	16 37 17.3	-21
JMU				IAML		16 38 00.2	
comp=E,96nm,3.0s							
JMU				IAML		16 38 00.6	
comp=N,88nm,1.9s							
TSSA	**Tissa**	**7.53**	**141**	*e*P	Pn	16 36 11.1	-13
TSSA				*e*S	Sn	16 37 31.7	-18
TSSA				IAML		16 37 57.2	
comp=N,53nm,0.8s							
TSSA				IAML		16 37 59.8	
comp=E,44nm,0.9s							
DHRM	**DHARAMSHALA**	**8.09**	**143**	*e*P	Pn	16 36 18.2	-14
DHRM				*e*S	Sn	16 37 44.4	-19
DHRM				IAML		16 38 05.8	
comp=N,50nm,0.7s							
DHRM				IAML		16 38 06.1	
comp=E,62nm,0.8s							
SMLA	**Simla**	**9.43**	**143**	*ex*	x	16 36 36.6	
SMLA				*e*P		16 36 36.6	
SMLA				*e*S	Sn	16 38 15.5	-21
SMLA				IAML		16 38 37.5	
comp=E,44nm,1.1s							
SMLA				IAML		16 38 43.

comp=Z,0.4nm,0.6s
ARCES **ARCESS Array B 38.83 337** P **P** **16 41 59.3 +0.3**
comp=Z,3.9nm,1.1s,baz=112,slow=9.0,SNR=4.4
ARCES LR LR 16 59 06.8
comp=Z,67nm,18.7s,baz=193,slow=38
comp=Z,3.9nm,1.1s
HFS Hagfors 41.01 320 P **P** **16 42 17.4 +0.2**
comp=Z,3.0nm,0.7s,baz=98,slow=6.5,SNR=6.6
comp=Z,3.0nm,0.7s
MTE Manteigas 58.24 298 P **P** **16 44 28.7 -0.2**
TORD Torodi Ar. Bea 65.45 267 P **P** **16 45 17.8 0.0**
TORD IAmb IAmb 16 45 28.6
comp=Z,1.6nm,1.4s
TORD Torodi Ar. Bea 65.45 267 P **P** **16 45 17.0 -0.7**
comp=Z,0.6nm,0.7s,baz=44,slow=8.4,SNR=3.6
comp=Z,0.6nm,0.7s
IMAR Indian Mountai 70.03 18 P **P** **16 45 44.2 -1.6**
MLY Manley 71.52 17 P **P** **16 45 54.6 -0.4**
MLY IAmb IAmb 16 46 38.0
comp=Z,4.2nm,1.4s
BPAW Bear Paw Mtn. 72.25 18 P **P** **16 45 59.8 +0.4**
BPAW IAmb IAmb 16 46 16.8
comp=Z,6.4nm,1.2s
SCM Sheep Creek Mo 75.06 18 P **P** **16 46 14.9 -1.1**
ASAR Alice Springs 85.89 125 P **P** **16 47 11.3 -3.2**
comp=Z,0.2nm,0.8s,baz=307,slow=5.2,SNR=1.3
comp=Z,0.2nm,0.8s

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*IDC **03** 16:39:22.7±0.8, 55°.82S×144°.44W, h0km, mb4.0/6, mbtmp4.0/6, MS4.1/39, Error ellipse: s-maj=29.0km s-min=23.9km az=22.0*
*NEIC **03** 16:39:25.4±2.4, 56°.1S±0°.2×144°.43W±0°.08, h10km±1km, mb4.5/11, Error ellipse: s-maj=26.3km s-min=7.5km az=359.0*
*GCMT **03** 16:39:26.4±0.2, 56°.08S±0°.01×143°.84W±0°.03, h12km, MW5.0/98, Moment Tensor Solution. s32,c41; s98,c141; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.62±.10; Mθθ=3.51±.09; Mϕϕ=-1.88±.09; Mrθ=0.75±.28; Mϕθ=1.46±.09; Mϕr=1.00±.29; Best double couple: Mo=3.43900×10^16 NP1:ϕs=117.00000°, δ57.00000°, λ=-21.00000°. NP2: ϕs=218.00000°, δ73.00000°, λ=-146.00000°. Principal axes: T 4.0510, Plg10.0000°, Azm345.0000°; N -1.2140, Plg52.0000°, Azm242.0000°; P -2.8270, Plg36.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 16:39:24.7±0.7, 55°.9S±0°.2×144°.5W±0°.1, h10km±n89, σ1§27/30, mb4.5/11, MS4.2/39, 5C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTZ	**Chatham Island**	**23.80**	**287**	P	**P**	**16 44 39.0**	**+1.7**
SBA	**Scott Base**	**27.61**	**200**	P	**P**	**16 45 12.2**	**+0.6**
SBA				IAmb	IAmb	16 45 33.9	
	comp=Z,11nm,1.3s						
VNDA	**Vanda**	**28.47**	**202**	P	**P**	**16 45 20.8**	**+1.5**
VNDA	**Vanda**	**28.47**	**202**	P	**P**	**16 45 19.8**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=63,slow=6.8,SNR=2.4						
VNDA				LR	LR	16 53 52.0	
	comp=Z,482nm,19.1s,baz=72,slow=30						
	comp=Z,0.7nm,0.8s						
BHW	**Baring Head**	**30.01**	**282**	P	**P**	**16 45 34.2**	**+0.9**
SNZO	**South Karori**	**30.17**	**282**	eLR	LR	16 53 27.0	
	comp=Z,28nm,23.0s						
URZ	**Urewera**	**31.02**	**288**	LR	LR	16 55 20.5	
	comp=Z,312nm,21.6s,baz=243,slow=31						
TKNZ	**Takaka Hill**	**31.32**	**280**	P	**P**	**16 45 43.2**	**-1.7**
TBI	**Tubuai**	**32.71**	**352**	eLR	LR	16 54 09.0	
	comp=Z,7μm,28.5s						
TBI				eLR	LR	16 54 11.6	
	comp=Z,1μm,26.2s						
QSPA	**South Pole Qui**	**34.27**	**180**	P	**P**	**16 46 11.2**	**+0.6**
QSPA				IAmb	IAmb	16 46 13.5	
	comp=Z,19nm,1.5s						
QSPA	**South Pole Qui**	**34.27**	**180**	P	**P**	**16 46 12.3**	**+1.7**
	comp=Z,3.1nm,1.0s,baz=70,slow=2.3,SNR=8.0						
QSPA				LR	LR	16 58 13.7	
	comp=Z,760nm,18.7s,baz=62,slow=33						
	comp=Z,3.1nm,1.0s						
RAR	**Rarotonga**	**36.46**	**336**	eLR	LR	16 55 49.0	
	comp=Z,1μm,27.0s						
RAR	**Rarotonga**	**36.46**	**336**	LR	LR	16 56 49.5	
	comp=Z,791nm,21.1s,baz=133,slow=29						
PMSA	**Palmer Station**	**38.13**	**137**	eS	S	16 52 14.9	-21
	comp=Z,66nm,27.0s						
PMSA				eLR	LR	16 56 25.7	
	comp=Z,530nm,27.0s						
PMSA	**Palmer Station**	**38.13**	**137**	LR	LR	16 58 18.1	
	comp=Z,229nm,19.7s,baz=250,slow=30						
RPN	**Rapa Nui**	**38.26**	**56**	LR	LR	16 59 33.6	
	comp=Z,85nm,18.1s,baz=166,slow=32						
PPT2	**Papeete2**	**38.43**	**352**	eS	S	16 52 24.8	-17
	comp=Z,114nm,24.0s						
PPT2				eLR	LR	16 56 43.5	
	comp=Z,1μm,24.8s						
PPT2				eLR	LR	16 56 53.3	
	comp=Z,1μm,27.0s						
PPT	**Papeete**	**38.45**	**352**	LR	LR	16 58 44.7	
	comp=Z,432nm,18.4s,baz=132,slow=30						
NIUE	**Niue**	**41.45**	**322**	eS	S	16 53 11.3	-15
	comp=Z,98nm,26.6s						
NIUE				eSS	SS	16 56 19.3	-11
	comp=Z,115nm,25.6s						
NIUE				eLR	LR	16 58 08.7	
	comp=Z,990nm,26.6s						
NFK	**Norfolk Island**	**42.96**	**288**	eLR	LR	16 59 06.2	
CASY	**Casey**	**45.84**	**213**	eSS	SS	16 57 52.2	-1.3
CASY	comp=Z,69nm,23.0s			eLR	LR	17 00 45.7	
	comp=Z,846nm,23.0s						
TAOE	**Nuku Hiva Isla**	**47.04**	**6**	eLR	LR	17 01 01.1	
	comp=Z,997nm,27.5s						
PLCA	**Paso Flores**	**49.04**	**105**	LR	LR	17 04 19.6	
	comp=Z,120nm,18.0s,baz=219,slow=30						
VNA3	**Neumayer Olymp**	**49.21**	**162**	⇑P	**P**	**16 48 11.2**	**-1.2**
	comp=Z,5.4nm,0.7s						
H03S2	**Juan Fernandez**	**49.31**	**92**	T	T	17 41 01.4	
	baz=220,slow=74,SNR=75						
H03S1	**Juan Fernandez**	**49.32**	**92**	T	T	17 41 02.7	
	baz=220,slow=74,SNR=78						
H03S3	**Juan Fernandez**	**49.33**	**92**	T	T	17 41 01.8	
	baz=220,slow=74,SNR=76						
DZM	**Mont Dzumac**	**49.38**	**293**	eLR	LR	17 02 05.9	
	comp=Z,317nm,23.2s						
DZM	**Mont Dzumac**	**49.38**	**293**	LR	LR	17 06 21.9	
	comp=Z,216nm,18.0s,baz=175,slow=33						
H03N3	**Juan Fernandez**	**49.59**	**92**	T	T	17 41 20.4	
	baz=223,slow=72,SNR=220						
H03N2	**Juan Fernandez**	**49.60**	**92**	T	T	17 41 20.9	
	baz=223,slow=72,SNR=335						
H03N1	**Juan Fernandez**	**49.61**	**92**	T	T	17 41 24.2	
	baz=223,slow=72,SNR=372						
VNA2	**Neumayer--Watz**	**49.86**	**163**	⇑P	**P**	**16 48 15.6**	**-1.8**
	comp=Z,5.6nm,0.6s,baz=209,slow=7.0						
SNAA	**Sanae**	**49.91**	**165**	⇑P	**P**	**16 48 15.1**	**-2.8**
	comp=Z,39nm,0.4s						
SNAA	**Sanae**	**49.91**	**165**	P	**P**	**16 48 15.7**	**-2.1**
SNAA				IAmb	IAmb	16 48 20.8	
	comp=Z,5.7nm,1.1s						
SNAA	**Sanae**	**49.91**	**165**	P	**P**	**16 48 16.2**	**-1.7**
	comp=Z,1.7nm,0.5s,baz=214,slow=10,SNR=21						
SNAA				LR	LR	17 08 08.3	
	comp=Z,202nm,19.3s,baz=256,slow=34						
	comp=Z,1.7nm,0.5s						
VNA1	**Neumayer--Stat**	**49.96**	**162**	⇑P	**P**	**16 48 16.5**	**-1.5**
	comp=Z,8.9nm,0.8s						
TROLL	**Troll, Antarti**	**50.32**	**167**	⇑P	**P**	**16 48 20.0**	**-1.1**
	comp=Z,68nm,0.5s						
MAW	**Mawson**	**55.15**	**192**	LR	LR	17 10 25.1	
	comp=Z,436nm,18.2s,baz=150,slow=34						
STKA	**Stephens Creek**	**55.46**	**263**	LR	LR	17 09 23.5	
	comp=Z,186nm,19.1s,baz=186,slow=32						
XMAS	**Kiritimati**	**58.71**	**345**	eS	S	16 57 00.1	-27
	comp=Z,5.4nm,24.0s						
XMAS				eSS	SS	17 00 58.3	-22
	comp=Z,5.5nm,26.0s						
XMAS				eLR	LR	17 06 01.1	
	comp=Z,35nm,26.0s						
ASAR	**Alice Springs**	**66.10**	**263**	P	**P**	**16 50 11.8**	**-0.2**
ASAR	**Alice Springs**	**66.10**	**263**	P	**P**	**16 50 11.6**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=144,slow=6.3,SNR=22						
ASAR				LR	LR	17 14 48.0	
	comp=Z,226nm,21.2s,baz=148,slow=32						
	comp=Z,0.9nm,0.7s						
AS31	**Alice Springs**	**66.10**	**263**	P	**P**	**16 50 12.0**	**+0.1**
CPUP	**Villa Florida**	**67.07**	**103**	P	**P**	**16 50 18.9**	**+0.8**
CPUP				IAmb	IAmb	16 50 44.5	
	comp=Z,2.4nm,1.4s						
CPUP	**Villa Florida**	**67.07**	**103**	LR	LR	17 15 27.2	
	comp=Z,43nm,18.4s,baz=57,slow=32						
NNA	**Nana**	**67.65**	**78**	LR	LR	17 12 50.2	
	comp=Z,281nm,19.2s,baz=213,slow=30						
H01W1	**Cape Leeuwin H**	**67.71**	**241**	T	T	18 05 14.3	
	baz=143,slow=75,SNR=1118						
H01W2	**Cape Leeuwin H**	**67.72**	**241**	T	T	18 05 16.9	
	baz=143,slow=75,SNR=1243						
H01W3	**Cape Leeuwin H**	**67.73**	**241**	T	T	18 04 59.9	
	baz=143,slow=75,SNR=1199						
WRA	**Warramunga Arr**	**68.81**	**266**	P	**P**	**16 50 29.3**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=148,slow=5.5,SNR=8.4						
WRA				LR	LR	17 17 36.0	
	comp=Z,110nm,19.8s,baz=7.5,slow=33						
	comp=Z,0.6nm,0.5s						
LPAZ	**La Paz**	**69.03**	**88**	P	**P**	**16 50 30.6**	**-0.6**
LPAZ	**La Paz**	**69.03**	**88**	P	**P**	**16 50 31.0**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=207,slow=3.9,SNR=7.3						
LPAZ				LR	LR	17 12 43.7	
	comp=Z,64nm,21.3s,baz=219,slow=29						
	comp=Z,1.9nm,0.4s						
PMG	**Port Moresby**	**70.17**	**283**	LR	LR	17 17 21.8	
	comp=Z,115nm,20.0s,baz=204,slow=32						
ATAH	**Atahualpa**	**70.82**	**74**	LR	LR	17 15 07.1	
	comp=Z,129nm,18.3s,baz=234,slow=30						
FITZ	**Fitzroy Crossi**	**75.15**	**260**	LR	LR	17 21 24.5	
	comp=Z,245nm,18.4s,baz=166,slow=34						
JOHN	**Johnston Islan**	**75.37**	**335**	eLR	LR	17 13 27.3	
	comp=Z,551nm,28.3s						
POHA	**Pohakuloa**	**75.93**	**349**	eLR	LR	17 14 03.4	
	comp=Z,23nm,29.5s						
VILB	**Vilhena**	**76.19**	**93**	P	**P**	**16 51 12.9**	**-0.2**
BDFB	**Brasilia**	**80.78**	**104**	LR	LR	17 25 03.3	
	comp=Z,86nm,18.4s,baz=160,slow=34						
BATI	**Baumata**	**82.67**	**263**	LR	LR	17 25 35.8	
	comp=Z,222nm,19.8s,baz=202,slow=34						
ROSC	**El Rosal**	**83.03**	**71**	LR	LR	17 21 35.4	
	comp=Z,55nm,19.2s,baz=242,slow=30						
CMIG	**Matias Romero**	**83.81**	**47**	LR	LR	17 20 42.6	
	comp=Z,37nm,20.7s,baz=193,slow=30						
LPIG	**La Paz**	**84.81**	**31**	LR	LR	17 21 35.2	
	comp=Z,117nm,19.2s,baz=222,slow=30						
SDV	**Santo Domingo**	**88.39**	**72**	LR	LR	17 25 29.2	
	comp=Z,26nm,20.1s,baz=250,slow=31						
KAPI	**Kappang**	**89.12**	**262**	LR	LR	17 30 22.8	
	comp=Z,156nm,19.3s,baz=158,slow=34						
BAUV	**El Baul**	**89.83**	**74**	P	**P**	**16 52 24.9**	**+1.3**
GUMO	**Guam**	**90.65**	**293**	LR	LR	17 27 08.3	
	comp=Z,20nm,20.9s,baz=127,slow=32						
TXAR	**Lajitas Array**	**91.77**	**35**	LR	LR	17 24 46.6	
	comp=Z,32nm,20.9s,baz=214,slow=30						
PFO	**Pinyon Flats O**	**92.30**	**23**	LR	LR	17 24 00.4	
	comp=Z,187nm,21.5s,baz=198,slow=29						
PCRV	**Puerto La Cruz**	**92.71**	**76**	LR	LR	17 28 36.0	
	comp=Z,81nm,20.2s,slow=32						
MDP	**Montagnes des**	**95.22**	**89**	LR	LR	17 30 51.9	
	comp=Z,56nm,18.5s,baz=297,slow=32						
BOSA	**Boshof**	**95.38**	**171**	LR	LR	17 33 06.9	
	comp=Z,169nm,19.1s,baz=196,slow=34						
DAV	**Davao City (W)**	**95.76**	**274**	LR	LR	17 34 20.8	
	comp=Z,30nm,20.5s,baz=152,slow=34						
ANMO	**Albuquerque**	**96.12**	**31**	LR	LR	17 28 30.9	
	comp=Z,129nm,19.8s,baz=296,slow=31						
NVAR	**Mina Array Bea**	**96.56**	**20**	LR	LR	17 29 04.7	
	comp=Z,114nm,18.1s,baz=244,slow=31						
LBTB	**Lobatse**	**98.98**	**171**	LR	LR	17 32 53.5	
	comp=Z,170nm,21.7s,baz=177,slow=32						
YBH	**Yreka Blue Hor**	**98.99**	**16**	LR	LR	17 28 40.9	
	comp=Z,16nm,18.8s,baz=163,slow=30						
ELK	**Elko**	**99.42**	**22**	LR	LR	17 28 16.2	
	comp=Z,167nm,21.2s,baz=212,slow=30						
H10N3	**ASCENSION HYDR**	**104.28**	**128**	T	T	18 50 21.4	
	baz=206,slow=75,SNR=87						
H10N1	**ASCENSION HYDR**	**104.29**	**128**	T	T	18 50 19.0	
	baz=206,slow=75,SNR=91						
H10N2	**ASCENSION HYDR**	**104.30**	**128**	T	T	18 50 22.3	
	baz=206,slow=75,SNR=100						
JHJ2	**Mitsune**	**109.42**	**300**	eLR	LR	17 30 06.5	
	comp=Z,16nm,25.4s						
ILAR	**Eielson Array**	**120.35**	**359**	PKP	**PKPdf**	**16 58 13.7**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=202,slow=3.7,SNR=4.2						
ESDC	**Sonseca Array**	**149.43**	**105**	PKPbc	**PKPbc**	**16 59 13.0**	**-0.3**
	comp=Z,2.6nm,1.1s,baz=222,slow=1.7,SNR=8.6						
MKAR	**Makanchi Array**	**149.93**	**272**	PKPbc	**PKPbc**	**16 59 13.2**	**-1.0**
	comp=Z,2.8nm,1.1s,baz=139,slow=2.6,SNR=14						
ZALV	**Zalesovo Beam**	**152.07**	**287**	PKPbc	**PKPbc**	**16 59 17.5**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=128,slow=3.8,SNR=2.3						
KURBB	**Kurchatov Arra**	**154.07**	**276**	PKPbc	**PKPbc**	**16 59 23.9**	**+0.4**
	comp=Z,0.1nm,0.2s,baz=103,slow=2.0,SNR=2.3						
BVAR	**Borovoye Array**	**159.66**	**277**	PKPab	**PKPab**	**17 00 01.1**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=114,slow=3.7,SNR=4.5						

IDC 03 16:51:44.0±22.0, 20°.48S×178°.36W, h488km±217km, mb2.9/3, mbtmp3.8/3, Error ellipse: s-maj=149.7km s-min=41.8km az=50.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.19**	**257**	P	P	16 59 09.0	-0.1
	1.2nm,0.5s,baz=94,slow=7.7,SNR=43						
ASAR				PcP	PcP	17 00 42.8	-0.8
	0.3nm,0.7s,baz=106,slow=4.0,SNR=7.1						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**44.27**	**262**	P	P	16 59 09.5	-0.2
	0.3nm,0.3s,baz=97,slow=7.7,SNR=9.1						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**69.59**	**180**	P	P	17 02 03.4	+0.1
	0.5nm,0.5s,baz=9.5,slow=6.1,SNR=2.2						
	0.5nm,0.5s						
AKASG	**Malin Array Be**	**142.83**	**331**	PKP	PKPdf	17 10 19.3	-1.9
	1.2nm,0.4s,baz=46,slow=3.7,SNR=9.6						
MMAI	**Mount Meron Ar**	**147.51**	**300**	PKPbc	PKiKP	17 10 34.2	-0.7
	1.1nm,0.6s,baz=94,slow=5.8,SNR=2.5						

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*CATAC **03** 16:52:33.5±0.8, 14°.N±4°.9°.2W±°, h28km±4km, M3.4/10, MLv3.4/10, Error ellipse: s-maj=10.4km s-min=3.6km az=29.7, confirmed*
*GCG **03** 16:52:35.0±0.7, 14°.03N×91°.64W, h32km±4km, MD3.7, ML3.7*
*SNET **03** 16:52:36.1±0.7, 14°.27N×91°.57W, h35km±553km, ML3.5*
ISC 03 16:52:36.6±1.9, 14°.2N±0°.1×91°.5W±0°.1, h25km±17km, n19, σ1§81/24, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.40**	**333**	P	**Pb**	**16 52 45.3**	**+0.2**
RTAL				eS	Sn	16 52 54.3	+0.7
ESSG	**Sabana Grande**	**0.69**	**72**	*i* P	**Pn**	**16 52 50.7**	**-0.2**
ESSG				*i* S	Sn	16 53 03.3	+2.4
FG8	**Yepocapa, Chim**	**0.93**	**84**	*i* P	Pn	16 52 50.0	-4.1
FG8				*i* S	**Sn**	**16 53 02.0**	**-4.7**
FG16	**Alotenango, Sa**	**0.97**	**84**	*eP*	Pn	16 52 51.4	-3.5
FG16				*i* S	**Sn**	**16 53 04.5**	**-3.6**
FG16				IAML		16 53 07.8	
	comp=N,7μm,0.2s						
QUIS	**Sacapulas**	**1.19**	**20**	*i* P	**Pn**	**16 52 58.9**	**+1.1**
QUIS				IAML		16 53 18.7	
	comp=E,402nm,0.3s						
NUBE	**Las Nubes**	**1.70**	**99**	*eP*	**Pn**	**16 53 04.1**	**-0.7**
NUBE				eS	Sn	16 53 26.6	+0.7
NUBE	**Las Nubes**	**1.70**	**99**	*i* P	**Pn**	**16 53 04.2**	**-0.6**
NUBE	**Las Nubes**	**1.70**	**99**	P	Pn	16 53 04.4	-0.4
CEVE	**Cerro Verde**	**1.86**	**100**	eS	**Sn**	**16 53 31.7**	**+1.7**
CEVE				IAML		16 53 38.9	
	comp=Z,420nm,0.2s						
CEVE	**Cerro Verde**	**1.86**	**100**	S	**Sn**	**16 53 32.3**	**+2.2**
JAYA	**Jayaque - finc**	**2.06**	**104**	*eP*	**Pn**	**16 53 09.2**	**-0.6**
JAYA				*eS*	**Sn**	**16 53 35.4**	**+0.4**
JAYA				IAML		16 53 40.6	
	comp=Z,288nm,0.2s						
JAYA	**Jayaque - finc**	**2.06**	**104**	*i* P	**Pn**	**16 53 09.5**	**-0.4**
JAYA				*i* S	**Sn**	**16 53 35.0**	**+0.1**
JAYA	**Jayaque - finc**	**2.06**	**104**	P	Pn	16 53 09.4	-0.4
MTO3	**Montecristo**	**2.10**	**83**	*eP*	**Pn**	**16 53 10.2**	**-0.2**
PMON	**Piamonte**	**2.18**	**102**	S	**Sn**	**16 53 39.2**	**+1.6**
PMON	**Piamonte**	**2.18**	**102**	P	Pn	16 53 12.1	+0.7
CCIG	**Comitan**	**2.19**	**344**	*i* S	**Sn**	**16 53 39.8**	**+1.7**
CCIG	**Comitan**	**2.19**	**344**	P	Pn	16 53 09.1	-2.5
LFRS	**El Faro**	**2.44**	**102**	*eP*	**Pn**	**16 53 15.6**	**+0.6**

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*NEIC **03** 17:07:38.9±0.8, 6°.0S±0°.1×147°.45E±0°.09, h77km±17km, mb4.0/10, Error ellipse: s-maj=20.8km s-min=6.7km az=148.0*
*IDC **03** 17:07:39.2±2.3, 5°.97S×147°.68E, h102km±20km, mb3.5/5, mbtmp4.0/8, MS4.0/1, Error ellipse: s-maj=34.7km s-min=14.6km az=115.0*
ISC 03 17:07:37.1±0.8, 5°.91S±0°.08×147°.5E±0°.1, h77km, n24, σ1§63/25, mb3.8/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.49**	**186**		**Pn**	**17 08 30.9**	**+1.8**
PMG				Sn	**Sn**	**17 09 07.6**	**-1.7**
PMG	**Port Moresby**	**3.49**	**186**	P	**Pn**	**17 08 30.6**	**+1.6**
	14nm,0.6s,baz=12,slow=9.9,SNR=15						
PMG				S	**Sn**	**17 09 11.9**	**+2.7**
	45nm,0.7s,baz=52,slow=23,SNR=9.6						
RABL	**Rabaul**	**4.94**	**70**		**Pn**	**17 08 51.4**	**+2.5**
COEN	**Coen**	**9.06**	**208**	Pn	**Pn**	**17 09 46.0**	**+0.8**
COEN				Sn	**Sn**	**17 11 22.9**	**-2.7**
HNR	**Honiara**	**12.81**	**107**	P	**Pn**	**17 10 33.5**	**-2.8**
	55nm,0.5s,baz=193,slow=20,SNR=5.7						
FAKI	**Fak Fak**	**15.50**	**280**	Pn	Pn	17 11 02.3	-9.1
MTN	**Manton Dam**	**17.55**	**246**		P	17 11 27.6	-9.3
WR8	**Warramunga Arr**	**18.83**	**221**	P	**P**	**17 11 51.4**	**+0.4**
WRAB	**Tennant Creek**	**18.91**	**221**	P	**P**	**17 11 52.2**	**+0.3**
WRA	**Warramunga Arr**	**18.93**	**221**	P	**P**	**17 11 52.6**	**+0.6**
	3.1nm,0.8s,baz=41,slow=12,SNR=16						
KNRA	**Kununurra**	**20.79**	**241**		**P**	**17 12 12.5**	**+0.2**
KNRA				IAmb	IAmb	17 12 17.3	
	comp=Z,19nm,1.3s						
AS31	**Alice Springs**	**21.97**	**215**	P	**P**	**17 12 25.8**	**+0.9**
AS31				IAmb	IAmb	17 12 28.5	
	comp=Z,2.6nm,0.6s						
ASAR	**Alice Springs**	**21.98**	**215**	P	**P**	**17 12 25.2**	**+0.3**
ASAR	**Alice Springs**	**21.98**	**215**	P	**P**	**17 12 25.9**	**+0.9**
	comp=Z,6.6nm,0.8s,baz=58,slow=8.7,SNR=90						
ASAR				S	**S**	**17 16 22.3**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=35,slow=21,SNR=4.5						
	comp=Z,6.6nm,0.8s						
INKA	**Innaminka**	**22.64**	**196**	P	**P**	**17 12 32.1**	**+0.2**
INKA				IAmb	IAmb	17 12 34.7	
	comp=Z,4.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.54**	**239**	P	**P**	**17 12 50.0**	**+0.2**
FITZ				IAmb	IAmb	17 12 53.2	
	comp=Z,2.4nm,0.6s						
STKA	**Stephens Creek**	**26.41**	**191**	P	**P**	**17 13 10.1**	**+3.4**
STKA	**Stephens Creek**	**26.41**	**191**	P	**P**	**17 13 07.4**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=25,slow=10,SNR=3.5						
	comp=Z,0.8nm,0.5s						
INZ	**Inchbonnie**	**42.34**	**154**	P	**P**	**17 15 23.6**	**+0.1**
PETK	**Petropavlovsk-**	**59.43**	**7**	LR	LR	17 39 39.4	
	comp=Z,128nm,20.9s,baz=141,slow=32						
SONM	**Songino Array**	**64.58**	**331**	P	**P**	**17 18 07.1**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=104,slow=6.1,SNR=3.8						
	comp=Z,0.4nm,0.8s						
QSPA	**South Pole Qui**	**84.05**	**180**	P	**P**	**17 19 59.1**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=334,slow=2.3,SNR=10						
	comp=Z,0.7nm,0.6s						
ILAR	**Eielson Array**	**85.20**	**23**	P	**P**	**17 20 03.0**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=229,slow=5.9,SNR=4.3						
	comp=Z,0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**145.56**	**285**	PKPbc	**PKPdf**	**17 27 06.3**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=68,slow=3.0,SNR=2.6						

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*IDC **03** 17:22:31.6±1.3, 33°.67S×179°.47W, h0km, mb3.8/3, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=37.5km s-min=30.2km az=86.0*
*NEIC **03** 17:22:34.1±0.7, 34°.20S±0°.09×179°.7W±0°.2, h10km±2km, mb4.3/9, Error ellipse: s-maj=27.6km s-min=5.2km az=120.0*
*WEL **03** 17:22:34.9±1.0, 34°S±8°×17°9W±1°4, h124km±54km, M4.2/10, mB4.6/6, ML4.7/9, MLv4.4/10, Mw(mB)3.9/6, Error ellipse: s-maj=19.4km s-min=7.3km az=114.6, confirmed*
ISC 03 17:22:35.9±0.8, 34°.04S±0°.07×179°.1W±0°.1, h50km, n49, σ1§79/57, mb4.1/8, 3C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**4.29**	**208**	P	**Pn**	**17 23 39.2**	**+0.7**
WMGZ				S	**Sn**	**17 24 30.9**	**+3.7**
PKGZ	**Pakihiroa**	**4.46**	**210**	P	**Pn**	**17 23 41.0**	**+0.1**
PKGZ				S	**Sn**	**17 24 32.6**	**+1.0**
HAZ	**Te Kaha**	**4.50**	**214**	P	**Pn**	**17 23 42.4**	**+0.9**
HAZ				S	**Sn**	**17 24 35.7**	**+3.2**
PUZ	**Puketiti**	**4.57**	**208**	P	**Pn**	**17 23 42.1**	**-0.3**
PUZ				S	**Sn**	**17 24 35.4**	**+1.2**
RUGZ	**Raukumara Rang**	**4.72**	**213**	P	**Pn**	**17 23 44.3**	**-0.3**
GLKZ	**Green Lake**	**4.87**	**12**	P	**Pn**	**17 23 45.3**	**-1.2**
CNGZ	**Carnagh Station**	**4.95**	**206**	P	**Pn**	**17 23 47.2**	**-0.4**
TKGZ	**Te Karaka**	**5.04**	**209**	P	**Pn**	**17 23 47.4**	**-1.6**
TKGZ				S	**Sn**	**17 24 45.4**	**-0.5**
URZ	**Urewera**	**5.22**	**215**	Pn	**Pn**	**17 23 51.3**	**-0.1**
	2.5nm,0.3s,baz=266,slow=5.0,SNR=56						
URZ				Sn	**Sn**	**17 24 51.6**	**+1.4**
	4.4nm,0.3s,baz=289,slow=9.8,SNR=6.6						
	8.9nm,0.3s						
URZ	**Urewera**	**5.22**	**215**	P	**Pn**	**17 23

baz=233,slow=74
FINES FINESS Array B 148.20 337 PKPbc **PKPbc** 17 42 15.7 +0.3
comp=Z,1.0nm,0.5s,baz=30,slow=3.6,SNR=9.9
MMAI Mount Meron Ar 151.33 278 PKPbc **PKiKP** 17 42 25.9 +1.3
comp=Z,0.4nm,0.3s,baz=116,slow=6.7,SNR=1.7
HFS Hagfors 152.59 346 PKPbc **PKiKP** 17 42 26.9 +0.7
comp=Z,2.0nm,0.8s,baz=23,slow=8.1,SNR=1.9
HFS PKPab **pPKPbc** 17 42 39.9 +0.2
comp=Z,3.3nm,0.8s,baz=12,slow=7.4,SNR=4.1

IDC 03 17:29:56.9±329.0**, 57.88N×30.03E, h0km, Error ellipse: s-maj=128.5km s-min=89.4km az=103.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.07**	**104**	I	I	17 56 03.3	
	0.2nm,0.6s,baz=287,slow=321,SNR=3.2						
I37NO	**I37NO**	**12.31**	**341**	I	I	18 41 40.0	
	baz=146,slow=320,SNR=0.6						
I26DE	**FREYUNG INFRAS**	**13.26**	**234**	I	I	18 50 00.0	
	baz=38,slow=328,SNR=2.2						

*NEIC **03** 17:39:27.5±2.4, 8.26S±0.07×118.54E±0.06, h155km±6km, mb4.5/44, Error ellipse: s-maj=11.1km s-min=7.7km az=195.0*
*IDC **03** 17:39:28.4±1.5, 8.27S×118.53E, h166km±12km, mb3.9/15, mbtmp4.4/19, MS3.6/2, Error ellipse: s-maj=23.2km s-min=9.2km az=66.0*
*DJA **03** 17:39:28.5±0.1, 8°S±2°×11°9E±°, h159km±2km, M4.6/29, mb4.6/24, mB5.0/6, MLv4.7/29, Mw(mB)4.3/6*
ISC 03 17:39:28.1±0.6**, 8.37S**±0.04×**118.60E**±0.04**, h166**km±5km**, n165**, σ1°s47**/182**, mb4.4**/36**, 2C, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.93**	**240**	P	**Pn**	**17 39 53.6**	**-0.2**
PLAI	**Plampang**	**0.93**	**240**	P	**Pn**	**17 39 53.6**	**-0.2**
PLAI				S	**Sn**	**17 40 12.3**	**-1.3**
WBSI	**Waikabubak, Su**	**1.49**	**148**	P	**Pn**	**17 39 58.3**	**-0.6**
WBSI				S	**Sn**	**17 40 21.8**	**-0.8**
TWSI	**Taliwang, Sumb**	**1.73**	**258**	P	**Pn**	**17 40 00.7**	**-0.6**
TWSI				S	**Sn**	**17 40 26.1**	**-0.8**
WSI	**Waingapu**	**2.12**	**128**	P	**Pn**	**17 40 05.6**	**0.0**
WSI				S	**Sn**	**17 40 33.7**	**-0.9**
BASI	**Baing, Sumba**	**2.69**	**133**	P	**Pn**	**17 40 13.0**	**+0.7**
BASI				S	**Sn**	**17 40 45.9**	**-0.7**
BSSI	**Bau Bau, Buton**	**2.90**	**41**	P	**Pn**	**17 40 15.7**	**+0.8**
BSSI				S	**Sn**	**17 40 52.3**	**+1.1**
EDFI	**Ende, Flores**	**3.08**	**97**	P	**Pn**	**17 40 17.9**	**+0.6**
EDFI				S	**Sn**	**17 40 55.7**	**+0.3**
SRBI	**Singaraja**	**3.36**	**275**	P	**Pn**	**17 40 20.6**	**0.0**
DNP	**Denpasar**	**3.36**	**264**	P	**Pn**	**17 40 20.0**	**-0.6**
DNP				S	**Sn**	**17 41 05.0**	**+3.5**
BKSI	**Bulukumba**	**3.38**	**27**	P	**Pn**	**17 40 21.8**	**+0.9**
KAPI	**Kappang**	**3.52**	**19**		**Pn**	**17 40 20.9**	**-1.8**
KAPI	**Kappang**	**3.52**	**19**	P	**Pn**	**17 40 22.8**	**+0.2**
	93nm,0.9s,baz=197,slow=7.7,SNR=33						
KAPI	**Kappang**	**3.52**	**19**	P	**Pn**	**17 40 24.1**	**+1.4**
MMRI	**Maumere**	**3.61**	**95**		**Pn**	**17 40 23.9**	**+0.1**
MMRI					**Sn**	**17 41 05.6**	**-1.6**
MMRI	**Maumere**	**3.61**	**95**	P	**Pn**	**17 40 25.2**	**+1.4**
MMRI	**Maumere**	**3.61**	**95**	P	**Pn**	**17 40 24.4**	**+0.6**
BNSI	**Bone**	**4.21**	**21**	P	**Pn**	**17 40 33.8**	**+2.2**
ABJI	**Asem Bagus**	**4.36**	**277**	P	**Pn**	**17 40 33.1**	**-0.3**
JAGI	**Jajag, Banyuwa**	**4.40**	**268**		**Pn**	**17 40 32.2**	**-1.8**
JAGI	**Jajag, Banyuwa**	**4.40**	**268**	P	**Pn**	**17 40 32.6**	**-1.3**
JAGI	**Jajag, Banyuwa**	**4.40**	**268**	P	**Pn**	**17 40 32.3**	**-1.6**
SPSI	**Sidrap Palu**	**4.53**	**15**	P	**Pn**	**17 40 36.4**	**+0.8**
KMMI	**Kalianget**	**4.77**	**286**	P	**Pn**	**17 40 39.9**	**+1.1**
BBSI	**Bau Bau**	**4.87**	**54**	P	**Pn**	**17 40 42.7**	**+2.5**
BLJI	**Banyuglugur**	**4.99**	**277**	P	**Pn**	**17 40 43.0**	**+1.3**
GMJI	**Gumukmas**	**5.10**	**271**	P	**Pn**	**17 40 41.6**	**-1.5**
	0.7nm2μm46nm,0.8s						
BATI	**Baumata**	**5.33**	**110**	P	**Pn**	**17 40 47.1**	**+1.0**
	222nm,0.4s,baz=328,slow=1.8,SNR=66						
BATI				S	**Sn**	**17 41 40.6**	**-6.7**
	90nm,0.3s,baz=116,slow=22,SNR=3.9						
BATI	**Baumata**	**5.33**	**110**	P	**Pn**	**17 40 46.6**	**+0.5**
TTSI	**Tana Toraja**	**5.42**	**13**	P	**Pn**	**17 40 50.1**	**+2.7**
	0.6nm2μm194nm,1.1s						
SOEI	**Soe**	**5.77**	**104**		**Pn**	**17 40 51.9**	**-0.2**
SOEI				Sn	**Sn**	**17 41 56.5**	**-1.4**
SOEI	**Soe**	**5.77**	**104**	P	**Pn**	**17 40 52.8**	**+0.7**
SOEI	**Soe**	**5.77**	**104**	S	**Sn**	**17 41 58.5**	**+0.6**
SOEI	**Soe**	**5.77**	**104**	P	**Pn**	**17 40 52.2**	**+0.1**
PCJI	**Pacitan**	**7.34**	**271**	P	**Pn**	**17 41 12.0**	**-0.8**
	69nm,1.2s						
WOJI	**Wonogiri, Jawa**	**7.61**	**273**	P	**Pn**	**17 41 16.9**	**+0.5**
	0.5nm42nm,0.8s						
UGM	**Wanagama**	**8.00**	**273**	Pn	**Pn**	**17 41 19.7**	**-1.9**
UGM	**Wanagama**	**8.00**	**273**	P	**Pn**	**17 41 21.3**	**-0.3**
UGM	**Wanagama**	**8.00**	**273**	P	**Pn**	**17 41 20.8**	**-0.8**
	88nm,1.5s						
KPJI	**Karang Pucung**	**9.63**	**275**	P	**Pn**	**17 41 43.0**	**-0.1**
	24nm,0.6s						
BBJI	**Bungbulang**	**10.88**	**274**	P	**Pn**	**17 41 58.7**	**-0.8**
CNJI	**Cibinong**	**11.41**	**274**	P	**Pn**	**17 42 03.9**	**-2.5**
	29nm,1.3s						
FITZ	**Fitzroy Crossi**	**11.86**	**145**		**Pn**	**17 42 12.1**	**0.0**
FITZ	**Fitzroy Crossi**	**11.86**	**145**	P	**Pn**	**17 42 12.3**	**+0.2**
	7.9nm,0.4s,baz=330,slow=9.1,SNR=39						
FITZ				S	Sn	17 44 14.4	-9.1
	42nm,0.6s,baz=180,slow=21,SNR=12						
FITZ				LR	LR	17 47 12.0	
	comp=Z,68nm,20.2s,baz=18,slow=39						
FITZ	**Fitzroy Crossi**	**11.86**	**145**	P	**Pn**	**17 42 12.8**	**+0.7**
KNRA	**Kununurra**	**12.31**	**127**		**Pn**	**17 42 16.9**	**-1.2**
SBUM	**Sibu**	**12.48**	**329**		**Pn**	**17 42 18.8**	**-1.4**
DRS	**Darwin Rock St**	**12.76**	**109**	P	**Pn**	**17 42 23.6**	**-0.2**
MBWA	**Marble Bar**	**12.77**	**175**	Pn	**Pn**	**17 42 23.1**	**-0.8**
MBWA	**Marble Bar**	**12.77**	**175**	P	**Pn**	**17 42 23.8**	**0.0**
MTN	**Manton Dam**	**13.10**	**111**		**Pn**	**17 42 27.1**	**-1.0**
MTN	**Manton Dam**	**13.10**	**111**	P	**Pn**	**17 42 28.1**	**0.0**
PSA00	**Pilbara Seismi**	**13.19**	**175**		**Pn**	**17 42 27.1**	**-2.1**
PSA00	**Pilbara Seismi**	**13.19**	**175**		**Pn**	**17 42 27.5**	**-1.7**
PSA00	**Pilbara Seismi**	**13.19**	**175**	P	**Pn**	**17 42 29.6**	**+0.4**
MYLDM	**Lahad Datu**	**13.46**	**360**		**P**	**17 42 34.4**	**-1.8**
KASI	**Kota Agung**	**14.28**	**280**	P	**P**	**17 42 44.6**	**-0.7**
	35nm,0.9s						
KKM	**Kota Kinabalu**	**14.51**	**351**		**P**	**17 42 46.6**	**-1.4**
KKM	**Kota Kinabalu**	**14.51**	**351**	P	**P**	**17 42 48.2**	**+0.2**
FAKI	**Fak Fak**	**14.62**	**69**		**Pn**	**17 42 45.7**	**-1.5**
FAKI	**Fak Fak**	**14.62**	**69**	P	**Pn**	**17 42 47.4**	**+0.1**
FAKI	**Fak Fak**	**14.62**	**69**	P	**Pn**	**17 42 46.1**	**-1.2**
	48nm,0.6s						
SWI	**Sorong**	**14.65**	**60**	P	**P**	**17 42 49.6**	**+0.1**
	40nm,1.1s						
LHSI	**Lahat**	**15.65**	**286**	P	**P**	**17 43 01.7**	**+1.2**
	43nm,0.8s						
MNAI	**Manna**	**16.04**	**283**	P	**P**	**17 43 06.1**	**+1.2**
MNAI	**Manna**	**16.04**	**283**	P	**P**	**17 43 05.5**	**+0.6**
RKPI	**Ransiki, Papua**	**16.94**	**67**	P	**Pn**	**17 43 16.0**	**+0.4**
	49nm,0.7s						
MEEK	**Meekatharra**	**18.17**	**180**	P	**P**	**17 43 29.3**	**+1.1**
BAKI	**Biak**	**18.84**	**69**	P	**Pn**	**17 43 37.1**	**-0.9**
WRA	**Warramunga Arr**	**19.10**	**129**		**P**	**17 43 37.9**	**-0.4**
WRA	**Warramunga Arr**	**19.10**	**129**	P	**P**	**17 43 38.9**	**+0.5**
	8.5nm,0.4s,baz=302,slow=12,SNR=230						
WRA				S	**S**	**17 47 03.2**	**-3.0**
	4.1nm,0.6s,baz=301,slow=24,SNR=8.4						
WRA				ScP	**ScP**	**17 51 15.8**	**-0.3**
	2.3nm,0.8s,baz=316,slow=2.7,SNR=6.5						
WRAB	**Tennant Creek**	**19.10**	**129**	P	**P**	**17 43 38.1**	**-0.3**
WRAB				IAmb	IAmb	17 43 40.0	
	comp=Z,15nm,0.6s						
MORW	**Morawa**	**20.73**	**186**	P	**P**	**17 43 55.5**	**-0.3**
MORW				IAmb	IAmb	17 43 59.6	
	comp=Z,16nm,0.8s						
MORW	**Morawa**	**20.73**	**186**	P	**P**	**17 43 57.0**	**+1.2**
MORW	**Morawa**	**20.73**	**186**	S	**S**	**17 47 40.4**	**+2.2**
ASAR	**Alice Springs**	**21.13**	**138**		**P**	**17 44 00.7**	**+0.5**
ASAR	**Alice Springs**	**21.13**	**138**	P	**P**	**17 44 01.2**	**+1.1**
	comp=Z,33nm,0.5s,baz=315,slow=8.8,SNR=439						
ASAR				S	**S**	**17 47 41.9**	**-3.9**
	comp=Z,1.2nm,0.7s,baz=317,slow=20,SNR=3.1						
ASAR				ScP	**ScP**	**17 51 20.9**	**0.0**
	comp=Z,3.9nm,0.7s,baz=334,slow=2.1,SNR=11						
	comp=Z,33nm,0.5s						
AS01	**Alice Springs**	**21.16**	**138**	P	**P**	**17 44 02.0**	**+1.5**
BLDU	**Ballidu**	**22.21**	**184**	P	**P**	**17 44 12.0**	**+0.9**
KULM	**Kulim**	**22.46**	**307**	P	**P**	**17 44 13.0**	**-0.6**
QIS	**Mount Isa**	**23.64**	**123**	P	**P**	**17 44 26.2**	**+1.7**
NWAO	**Narrogin (SRO)**	**24.48**	**183**	P	**P**	**17 44 32.9**	**+1.0**
NWAO	**Narrogin (SRO)**	**24.48**	**183**	P	**P**	**17 44 33.5**	**+1.6**
COEN	**Coen**	**24.74**	**105**		**P**	**17 44 34.3**	**-0.2**
COEN				IAmb	IAmb	17 44 36.1	
	comp=Z,15nm,0.7s						
MTSU	**Mount Surprise**	**26.82**	**114**	P	**P**	**17 44 55.1**	**+1.9**
INKA	**Innaminka**	**28.45**	**135**		**P**	**17 45 07.6**	**0.0**
INKA				IAmb	IAmb	17 45 10.4	
	comp=Z,5.0nm,0.7s						
CTAO	**Charters Tower**	**29.18**	**116**	P	**P**	**17 45 15.7**	**+1.5**
BBOO	**Buckleboo**	**29.21**	**149**		**P**	**17 45 15.1**	**+0.8**
BBOO	**Buckleboo**	**29.21**	**149**	P	**P**	**17 45 16.0**	**+1.7**
TWG	**Pinlang**	**31.09**	**4**	P	**P**	**17 45 33.1**	**+2.2**
HTT	**Hallett**	**31.22**	**146**	P	**P**	**17 45 34.4**	**+2.4**
STKA	**Stephens Creek**	**31.69**	**141**		**P**	**17 45 37.8**	**+1.6**
STKA	**Stephens Creek**	**31.69**	**141**	P	**P**	**17 45 37.8**	**+1.6**
	comp=Z,8.7nm,0.7s,baz=318,slow=10,SNR=25						
STKA				ScP	**ScP**	**17 51 51.2**	**-0.7**
	comp=Z,3.8nm,0.9s,baz=352,slow=18,SNR=4.5						
	comp=Z,8.7nm,0.7s						
STKA	**Stephens Creek**	**31.69**	**141**	P	**P**	**17 45 38.5**	**+2.3**
GHSS	**Governmenn Hou**	**32.18**	**148**	P	**P**	**17 45 42.1**	**+1.8**
CMAR	**Chiang Mai Arr**	**32.96**	**324**	P	**P**	**17 45 47.9**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=153,slow=6.7,SNR=13						
CMAR				PcP	**PcP**	**17 48 28.2**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=195,slow=2.5,SNR=4.5						
CMAR				ScP	**ScP**	**17 51 56.5**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=165,slow=2.6,SNR=4.7						
	comp=Z,1.5nm,0.6s						
CMSA	**Cobar Meteorol**	**34.17**	**136**	P	**P**	**17 45 59.6**	**+1.9**
ARMA	**Armidale**	**37.87**	**130**	P	**P**	**17 46 31.8**	**+2.5**
ARMA				IAmb	IAmb	17 46 41.1	
	comp=Z,18nm,1.4s						
TOO	**Toolangi**	**37.91**	**144**		**P**	**17 46 31.1**	**+1.7**
TOO				IAmb	IAmb	17 46 34.1	
	comp=Z,8.7nm,1.3s						
PZH	**PanZhiHua**	**38.33**	**335**	P	**P**	**17 46 35.6**	**+2.5**
CAN	**Canberra**	**38.64**	**138**	P	**P**	**17 46 37.5**	**+1.9**
CAN				IAmb	IAmb	17 46 39.1	
	comp=Z,7.1nm,0.9s						
ENH	**Enshi**	**39.40**	**348**		**P**	**17 46 42.7**	**+0.8**
ENH				IAmb	IAmb	17 46 43.4	
	comp=Z,12nm,0.7s						
LHI	**Lord Howe Isla**	**44.10**	**127**	P	**P**	**17 47 20.9**	**+0.9**
LSA	**Lhasa**	**46.15**	**326**		**P**	**17 47 35.2**	**-1.5**
LSA	**Lhasa**	**46.15**	**326**	P	**P**	17 47 31.7	-5.0
KSAR	**Wonju Array Be**	**46.39**	**10**	P	**P**	**17 47 37.1**	**-0.8**
KSRS	**Korea Array**	**46.41**	**10**	P	**P**	**17 47 38.9**	**+0.9**
	comp=Z,2.2nm,0.6s,baz=190,slow=10.0,SNR=9.9						
	comp=Z,2.2nm,0.6s						
EVN	**Everest**	**47.41**	**321**	P	**P**	**17 47 45.7**	**-1.1**
DZM	**Mont Dzumac**	**47.94**	**112**	P	**P**	**17 47 51.4**	**+1.1**
SANVU	**Saraoutou**	**48.00**	**103**	P	**P**	**17 47 50.4**	**-0.3**
MJAR	**Matsushiro Arr**	**48.32**	**21**	P	**P**	**17 47 52.1**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=195,slow=8.7,SNR=5.2						
	comp=Z,2.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**49.40**	**353**	*e*P	**P**	**17 48 03.7**	**+2.6**
HHC				pmax	pmax		
	comp=Z,16nm,0.5s						
HHC				pmax	pmax		
	comp=Z,71nm,3.5s						
GTA	**Gaotai**	**50.63**	**341**	*e*P	**P**	**17 48 12.1**	**+1.7**
GTA				sP	pP	17 48 50.8	+3.2
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
XLT	**XiLinHaoTe**	**52.07**	**358**	*e*P	**P**	**17 48 21.5**	**+0.5**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MDJ	**Mudanjiang**	**53.66**	**10**	P	**P**	**17 48 30.3**	**-2.2**
MDJ				IAmb	IAmb	17 48 33.9	
	comp=Z,7.0nm,0.6s						
MDJ	**Mudanjiang**	**53.66**	**10**	P	**P**	**17 48 32.9**	**+0.4**
MDJ				pmax	pmax		
	comp=Z,11nm,0.7s						
USRK	**Ussuriysk Ar.**	**53.71**	**12**	P	**P**	**17 48 32.6**	**-0.2**
USRK	**Ussuriysk Ar.**	**53.71**	**12**	P	**P**	**17 48 32.9**	**+0.1**
	comp=Z,3.9nm,0.6s,baz=188,slow=6.2,SNR=11						
	comp=Z,3.9nm,0.6s						
JCZ	**Jackson Bay**	**56.16**	**138**	P	**P**	**17 48 53.1**	**+2.3**
WHZ	**Wether Hill Ro**	**56.38**	**140**	P	**P**	**17 48 53.6**	**+1.4**
WHZ				IAmb	IAmb	17 49 11.5	
	comp=Z,12nm,1.3s						
ULN	**Ulaanbaatar**	**56.91**	**351**	P	**P**	**17 48 55.8**	**-0.2**
SONM	**Songino Array**	**56.99**	**350**		**P**	**17 48 56.1**	**-0.3**
SONM				IAmb	IAmb	17 48 57.8	
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**56.99**	**350**	P	**P**	**17 48 56.5**	**+0.1**
	comp=Z,5.2nm,0.7s,baz=168,slow=9.2,SNR=28						
	comp=Z,5.2nm,0.7s						
LBZ	**Lake Benmore**	**57.21**	**138**	P	**P**	**17 48 59.1**	**+1.0**
LBZ				IAmb	IAmb	17 48 59.8	
	comp=Z,7.2nm,0.7s						
LBZ				PcP	**PcP**	**17 49 46.6**	**-4.0**
RPZ	**Rata Peaks**	**57.54**	**137**	P	**P**	**17 49 02.8**	**+2.5**
HEH	**HeiHe**	**58.88**	**7**	*e*P	**P**	**17 49 08.5**	**-0.9**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BKZ	**Black Stump Fm**	**60.02**	**131**	P	**P**	**17 49 18.8**	**+1.2**
BKZ	**Black Stump Fm**	**60.02**	**131**	P	**P**	**17 49 19.9**	**+2.3**
URZ	**Urewera**	**60.27**	**129**	P	**P**	**17 49 21.7**	**+2.5**
KSH	**Kashi**	**61.86**	**324**	P	**P**	**17 49 29.7**	**-0.3**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TARG	**Taragay, Kyrgy**	**62.30**	**326**	P	**P**	**17 49 33.4**	**+0.2**
KDJ	**Kajisay**	**62.91**	**326**	P	**P**	**17 49 36.7**	**-0.3**
KDJ				IAmb	IAmb	17 49 38.0	
	comp=Z,4.2nm,0.6s						
NRN	**Naryn**	**63.10**	**325**	P	**P**	**17 49 37.1**	**-1.3**
MKAR	**Makanchi Array**	**63.71**	**333**	P	**P**	**17 49 41.1**	**-0.8**
	comp=Z,4.4nm,0.8s,baz=154,slow=6.9,SNR=50						
	comp=Z,4.4nm,0.6s						
MAKZ	**Makanchi**	**63.87**	**333**	P	**P**	**17 49 42.4**	**-0.6**
ARSB	**Arslanbob**	**64.77**	**323**		**P**	**17 49 48.4**	**-0.7**
GAR	**Garm**	**65.00**	**320**	P	**P**	**17 49 48.7**	**-1.9**
CHGR	**Chuyangaron**	**65.55**	**319**		**P**	**17 49 52.4**	**-1.8**
SIMJ	**Simiganj**	**65.65**	**319**	P	**P**	**17 49 51.8**	**-3.1**
SIMJ				IAmb	IAmb	17 49 55.2	
	comp=Z,6.9nm,1.4s						
KKAR	**Karatay Array**	**67.31**	**324**	P	**P**	**17 50 03.2**	**-2.0**
KURBB	**Kurchatov Arra**	**68.22**	**334**	P	**P**	**17 50 09.4**	**-1.3**
	comp=Z,1.9nm,0.5s,baz=140,slow=5.5,SNR=35						
	comp=Z,1.9nm,0.5s						
KURK	**Kurchatov**	**68.25**	**334**		**P**	**17 50 09.1**	**-1.7**
KURK				IAmb	IAmb	17 50 10.7	
	comp=Z,11nm,1.4s						
ZALV	**Zalesovo Beam**	**68.31**	**339**		**P**	**17 50 09.3**	**-1.8**
ZALV	**Zalesovo Beam**	**68.31**	**339**	P	**P**	**17 50 09.4**	**-1.7**
	comp=Z,7.5nm,0.5s,baz=143,slow=5.4,SNR=39						
	comp=Z,7.5nm,0.5s						
PETK	**Petropavlovsk-**	**69.66**	**24**	P	**P**	**17 50 18.9**	**-0.5**
PETK	**Petropavlovsk-**	**69.66**	**24**	P	**P**	**17 50 19.4**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=253,slow=5.5,SNR=6.1						
	comp=Z,2.0nm,0.9s						
VOI	**Vohitsoka**	**70.09**	**250**	P	**P**	**17 50 22.6**	**-0.4**
VOI				IAmb	IAmb	17 50 57.2	
	comp=Z,20nm,1.5s						
VNDA	**Vanda**	**72.67**	**171**	P	**P**	**17 50 39.1**	**+1.8**
	comp=Z,1.0nm,0.5s,baz=310,slow=7.6,SNR=15						
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**73.55**	**332**	P	**P**	**17 50 42.1**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=126,slow=6.3,SNR=6.7						
	comp=Z,0.9nm,0.6s						
ABKAR	**Akbulak array**	**76.81**	**325**	P	**P**	**17 50 60.0**	**-1.5**
TIXI	**Tiksi**	**80.14**	**3**	P	**P**	**17 51 17.7**	**-1.5**
TIXI				IAmb	IAmb	17 51 32.4	
	comp=Z,11nm,1.4s						
ARTI	**Arti**	**81.18**	**331**	P	**P**	**17 51 23.1**	**-2.0**
ARTI				IAmb	IAmb	17 51 24.9	
	comp=Z,9.8nm,1.4s						
QSPA	**South Pole Qui**	**81.62**	**180**	P	**P**	**17 51 29.7**	**+2.2**
QSPA	**South Pole Qui**	**81.62**	**180**	P	**P**	**17 51 29.9**	**+2.4**
	comp=Z,2.0nm,1.0s,baz=308,slow=2.8,SNR=3.7						
	comp=Z,2.0nm,1.0s						
KBZ	**Khabaz**	**85.55**	**315**	P	**P**	**17 51 46.6**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=79,slow=5.2,SNR=4.3						
	comp=Z,1.2nm,0.8s						
MBAR	**Mbarara**	**87.79**	**270**	P	**P**	**17 51 57.9**	**-1.6**
MBAR				IAmb	IAmb	17 52 01.9	
	comp=Z,3.7nm,0.8s						
TROLL	**Troll, Antarti**	**89.87**	**196**	⇑P	**P**	**17 52 07.8**	**-0.2**
	comp=Z,101nm,0.6s						
SNAA	**Sanae**	**91.50**	**196**	⇑P	**P**	**17 52 17.0**	**+1.5**
	comp=Z,19nm,0.8s						
SNAA	**Sanae**	**91.50**	**196**	LR	LR	18 29 08.1	
	comp=Z,143nm,21.9s,baz=74,slow=32						
TORD	**Torodi Ar. Bea**	**117.95**	**280**	PKP	**PKPdf**	**17 57 55.7**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=74,slow=1.4,SNR=9.9						
ESDC	**Sonseca Array**	**120.19**	**311**	PKP	**PKPdf**	**17 57 59.3**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=46,slow=2.2,SNR=2.2						
NVAR	**Mina Array Bea**	**120.92**	**50**	PKP	**PKPdf**	**17 58 01.7**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=307,slow=5.4,SNR=3.6						
DBIC	**Dimbokro**	**123.95**	**272**	PKP	**PKPdf**	**17 58 07.7**	**0.0**
	comp=Z,3.8nm,1.0s,baz=90,slow=2.0,SNR=4.4						
U49A	**Red Boiling Sp**	**144.27**	**35**	PKPdf	**PKPab**	**17 58 43.2**	**+0.1**
Y49A	**Blount Mountai**	**145.73**	**39**	PKPbc	**PKPdf**	**17 58 47.8**	**+0.4**

*NEIC **03** 18:02:18.9±1.1, 41.95S±0.07×84.7E±0.2, h10km±1km, mb4.9/29, Error ellipse: s-maj=21.8km s-min=11.2km az=103.0*
*IDC **03** 18:02:18.9±0.7, 42.04S×84.80E, h0km, mb4.0/14, mbtmp3.9/14, MS4.3/38, Error ellipse: s-maj=24.8km s-min=20.1km az=94.0*
*GCMT **03** 18:02:23.9±0.2, 41.95S±0.01×84.55E±0.01, h19km, MW5.2/120, Moment Tensor Solution. s67,c100; s120,c202; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.70±.13; Mθθ=6.93±.14; Mϕϕ=-6.23±.12; Mrθ=0.07±.26; Mθϕ=0.15±.11; Mϕr=1.13±.25; Best double couple: M=6.69300×10^16 NP1=φ134.00000°, δ82.00000°, λ=-7.00000°. NP2=φ=225.00000°, δ83.00000°, λ=-172.00000°. Principal axes: T 6.9330, Plg1.0000°, Azm359.0000°; N -0.4780, Plg79.0000°, Azm266.0000°; P -6.4530, Plg11.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 18:02:19.2±0.4**, 41.99S**±0.09×**84.75E**±0.10**, h10**km**, n93, σ1°s21**/55**, mb4.3**/26**, MS4.4**/38**, 4C-1D, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S1	**CROZET ISLANDS**	**23.84**	**247**	T	T	18 32 30.1	
	baz=89,slow=76,SNR=43						
H04S2	**CROZET ISLANDS**	**23.86**	**247**	T	T	18 32 30.5	
	baz=89,slow=76,SNR=114						
H04S3	**CROZET ISLANDS**	**23.86**	**247**	T	T	18 32 31.4	
	baz=89,slow=76,SNR=81						
H04N2	**CROZET ISLANDS**	**23.93**	**249**	T	T	18 32 41.0	
	baz=91,slow=75,SNR=330						
H04N3	**CROZET ISLANDS**	**23.95**	**249**	T	T	18 32 26.0	
	baz=91,slow=75,SNR=258						
H04N1	**CROZET ISLANDS**	**23.95**	**249**	T	T	18 32 37.2	
	baz=91,slow=75,SNR=180						
H01W2	**Cape Leeuwin H**	**24.00**	**83**	T	T	18 32 24.9	
	baz=244,slow=74,SNR=311						
H01W3	**Cape Leeuwin H**	**24.01**	**83**	T	T	18 32 24.7	
	baz=244,slow=74,SNR=308						
H01W1	**Cape Leeuwin H**	**24.02**	**83**	T	T	18 32 26.2	
	baz=244,slow=74,SNR=234						
NWAO	**Narrogin (SRO)**	**27.19**	**81**	LR	LR	18 16 34.6	
	comp=Z,611nm,20.9s,baz=226,slow=32						
MAW	**Mawson**	**28.27**	**198**	LR	LR	18 16 52.1	
	comp=Z,497nm,21.7s,baz=32,slow=31						
MORW	**Morawa**	**28.38**	**73**	P	**P**	**18 08 15.4**	**+1.8**
SYO	**Syowa Base**	**35.79**	**206**	*e*P	**P**	**18 09 18.7**	**+0.6**
H08S2	**Diego Garcia H**	**35.88**	**339**	T	T	18 46 57.7	
	baz=164,slow=76,SNR=99						
H08S1	**Diego Garcia H**	**35.89**	**339**	T	T	18 46 59.6	
	baz=164,slow=76,SNR=53						
H08S3	**Diego Garcia H**	**35.91**	**339**	T	T	18 47 02.9	
	baz=164,slow=76,SNR=771						
LEM	**Lembang**	**40.47**	**36**	LR	LR	18 23 30.2	
	comp=Z,297nm,19.7s,baz=208,slow=31						
FITZ	**Fitzroy Crossi**	**

PMG	**Port Moresby**	**63.33**	**78**	LR	LR	18 39 28.5		
	comp=Z,400nm,18.2s,baz=220,slow=35							
JAY	**Jayapura**	**63.51**	**68**	LR	LR	18 39 32.9		
	comp=Z,318nm,20.2s,baz=226,slow=35							
LODK	**Lodwar**	**63.58**	**302**	P	**P**	**18 12 49.3**	**-1.1**	
BRDH	**Bariadhala**	**64.66**	**7**	LR	LR	18 36 12.8		
	comp=Z,497nm,21.4s,baz=156,slow=31							
TGY	**Tagaytay City**	**65.01**	**39**	LR	LR	18 37 46.7		
	comp=Z,107nm,21.9s,baz=58,slow=33							
URZ	**Urewera**	**67.24**	**121**	LR	LR	18 37 24.0		
	comp=Z,142nm,20.6s,baz=236,slow=31							
EVN	**Everest**	**69.62**	**2**	P	**P**	**18 13 27.6**	**-1.7**	
EVN				IAmb	IAmb	18 13 55.1		
	comp=Z,6.3nm,0.9s							
PMSA	**Palmer Station**	**70.79**	**194**	LR	LR	18 44 14.7		
	comp=Z,433nm,19.9s,baz=136,slow=36							
LSA	**Lhasa**	**71.58**	**6**	P	**P**	**18 13 40.2**	**-0.8**	
LSA				IAmb	IAmb	18 13 49.2		
	comp=Z,7.6nm,1.1s							
HNR	**Honiara**	**72.76**	**87**	LR	LR	18 44 07.9		
	comp=Z,88nm,18.1s,baz=201,slow=34							
NIL	**Nilore**	**76.01**	**350**	P	**P**	**18 14 05.7**	**-0.7**	
KBL	**Kabul**	**77.51**	**347**	P	**P**	**18 14 14.5**	**-0.5**	
JOW	**Kunigami**	**79.41**	**39**	LR	LR	18 46 14.6		
	comp=Z,54nm,22.0s,baz=142,slow=33							
CHGR	**Chuyangaron**	**81.52**	**348**	P	**P**	**18 14 36.0**	**-0.6**	
CHGR				IAmb	IAmb	18 14 45.1		
	comp=Z,14nm,1.2s							
SIMJ	**Simiganj**	**81.54**	**348**	P	**P**	**18 14 36.1**	**-0.7**	
GAR	**Garm**	**81.67**	**349**	P	**P**	**18 14 36.5**	**-1.0**	
GAR				IAmb	IAmb	18 14 45.1		
	comp=Z,20nm,1.3s							
ARSB	**Arslanbob**	**83.61**	**351**	P	**P**	**18 14 47.2**	**-0.4**	
ARSB				IAmb	IAmb	18 17 35.0		
	comp=Z,19nm,1.6s							
AAK	**Ala-Archa**	**84.75**	**352**	LR	LR	18 49 28.5		
	comp=Z,284nm,19.2s,baz=229,slow=33							
KK31	**Karatay Array**	**85.67**	**350**	P	**P**	**18 14 57.0**	**-0.7**	
KK31				IAmb	IAmb	18 15 06.3		
	comp=Z,12nm,1.1s							
KKAR	**Karatay Array**	**85.67**	**350**	P	**P**	**18 14 57.1**	**-0.6**	
MKAR	**Makanchi Array**	**88.43**	**358**	P	**P**	**18 15 10.1**	**-0.9**	
MKAR	**Makanchi Array**	**88.43**	**358**	P	**P**	**18 15 12.0**	**+0.9**	
	comp=Z,0.8nm,1.0s,baz=191,slow=4.4,SNR=3.9							
MKAR				LR	LR	18 52 29.6		
	comp=Z,219nm,20.1s,baz=216,slow=34							
	comp=Z,0.8nm,1.0s							
MAKZ	**Makanchi**	**88.45**	**358**	P	**P**	**18 15 10.4**	**-0.7**	
SONM	**Songino Array**	**91.47**	**14**	P	**P**	**18 15 24.7**	**-0.7**	
SONM	**Songino Array**	**91.47**	**14**	P	**P**	**18 15 26.8**	**+1.4**	
	comp=Z,0.9nm,1.0s,baz=198,slow=4.4,SNR=6.9							
	comp=Z,0.9nm,1.0s							
KURBB	**Kurchatov Arra**	**92.39**	**356**	P	**P**	**18 15 30.6**	**+1.3**	
	comp=Z,0.6nm,0.9s,baz=188,slow=4.7,SNR=5.7							
KURBB				LR	LR	18 54 18.3		
	comp=Z,206nm,19.8s,baz=178,slow=34							
	comp=Z,0.6nm,0.9s							
TORD	**Torodi Ar. Bea**	**93.60**	**284**	P	**P**	**18 15 37.7**	**+1.9**	
	comp=Z,0.3nm,0.9s,baz=115,slow=4.6,SNR=1.5							
TORD				LR	LR	18 55 10.0		
	comp=Z,138nm,19.6s,baz=122,slow=34							
	comp=Z,0.3nm,0.9s							
BRTR	**Keskin Array B**	**93.63**	**323**	P	**P**	**18 15 36.5**	**+0.9**	
	comp=Z,0.4nm,0.8s,baz=143,slow=5.0,SNR=4.5							
	comp=Z,0.4nm,0.8s							
DBIC	**Dimbokro**	**94.12**	**275**	LR	LR	18 52 07.8		
	comp=Z,214nm,20.7s,baz=187,slow=32							
PLCA	**Paso Flores**	**94.67**	**199**	LR	LR	18 57 56.6		
	comp=Z,143nm,20.5s,baz=180,slow=35							
AKTO	**Aktyubinsk**	**94.97**	**343**	LR	LR	18 57 38.0		
	comp=Z,86nm,18.6s,baz=226,slow=35							
BVAR	**Borovoye Array**	**95.45**	**351**	P	**P**	**18 15 46.1**	**+2.7**	
	comp=Z,0.2nm,0.7s,baz=138,slow=8.9,SNR=1.9							
BVAR				LR	LR	18 55 17.8		
	comp=Z,271nm,20.2s,baz=186,slow=33							
	comp=Z,0.2nm,0.7s							
ZALV	**Zalesovo Beam**	**95.56**	**0**	P	**P**	**18 15 46.4**	**+2.6**	
	comp=Z,0.3nm,0.4s,baz=186,slow=1.4,SNR=1.7							
ZALV				LR	LR	18 56 26.0		
	comp=Z,123nm,20.9s,baz=197,slow=34							
	comp=Z,0.3nm,0.4s							
M26K	**Nabesna, AK**	**145.41**	**37**	PKPbc	**PKPbc**	**18 21 54.9**	**-1.5**	
VRDI	**Verde Repeater**	**145.46**	**40**		**PKPdf**	**18 21 54.5**	**-2.2**	
L27K	**Beaver Creek,**	**145.77**	**36**	PKPbc	**PKPbc**	**18 21 57.1**	**-0.4**	
BCAR	**Beaver Creek A**	**145.79**	**36**	PKPbc	**PKPbc**	**18 21 57.0**	**-0.6**	
I28M	**Miner Creek**	**145.79**	**32**		**PKPab**	**18 21 58.4**	**+0.4**	
H29M	**Whitestone**	**146.09**	**30**	PKPdf	**PKPdf**	**18 21 55.1**	**-2.3**	

JMA 03 18:04:35.5±0.3, 30°2.N±0.1′ × 14°3.E±.′, h52km, MV3.7/25, FAR E OFF IZU ISLANDS, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.22**	**196**	*eP*	Pn	18 05 25.1	+1.6
CBIJ				*eS*	Sn	18 06 00.3	-0.3
JHJ2	**Mitsune**	**4.07**	**316**	*eP*	Pn	18 05 37.4	+2.1
JHJ2				*eS*	Sn	18 06 24.2	+2.5
BSO1	**Boso 1**	**4.81**	**338**	*eP*	Pn	18 05 47.2	+2.4
BSO1				*eS*	Sn	18 06 40.3	+1.3
BSO2	**Boso 2**	**4.97**	**336**	*eS*	Sn	18 06 45.1	+1.8
BSO3	**Boso 3**	**5.11**	**335**	*eS*	Sn	18 06 48.6	+1.9
JKUC	**kamogawauchiur**	**5.54**	**334**	*eP*	Pn	18 05 57.6	+2.2
JOD2	**Odawara 2**	**6.11**	**327**	*eP*	Pn	18 06 05.5	+2.3
JYT	**Yasato**	**6.50**	**338**	*eP*	Pn	18 06 10.8	+2.2
JYT				*eS*	Sn	18 07 23.6	+2.2
JHO	**Hitachi**	**6.75**	**342**	*eP*	Pn	18 06 13.1	+1.1
JAG	**Ashikaga**	**6.94**	**334**	*eP*	Pn	18 06 17.3	+2.7
JAG				*eS*	Sn	18 07 29.8	-2.3

IDC 03 18:31:39.8±4.9, 0°.54S × 131°.00E, h0km, mb3.4/2, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=344.2km s-min=28.8km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.55**	**171**	P	P	18 36 09.2	-0.1
	0.1nm,0.3s,baz=351,slow=11,SNR=6.3						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**23.16**	**173**	P	P	18 36 48.2	+0.1
	1.9nm,0.7s,baz=353,slow=11,SNR=25						
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**63.48**	**325**	P	P	18 42 11.7	0.0
	0.1nm,0.4s,baz=125,slow=7.6,SNR=2.1						
	0.1nm,0.4s						

DJA 03 18:31:48.6±0.3, 2°S±2′ × 12°1E±′, h10km, M3.6/10, MLv3.6/10, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**1.40**	**242**	P	Pn	18 32 13.1	-1.1
TTSI				S	Sg	18 32 34.7	+1.1
APSI	**Ampana**	**1.58**	**22**	P	Pn	18 32 14.7	-2.0
PCI	**Palu**	**1.90**	**320**	P	Pn	18 32 21.6	+0.5
PCI				S	Sb	18 32 46.8	-0.5
SPSI	**Sidrap Palu**	**2.03**	**219**	P	Pn	18 32 23.0	+0.1
SPSI				S	Sb	18 32 50.6	-0.3
LUWI	**Luwuk**	**2.17**	**52**	P	Pn	18 32 24.7	-0.2
BNSI	**Bone**	**2.22**	**205**	P	Pn	18 32 25.6	+0.1
BNSI				S	Sn	18 32 54.3	+1.4
MRSI	**Marisa**	**2.97**	**17**	P	Pn	18 32 34.5	-1.4
BKSI	**Bulukumba**	**3.06**	**198**	P	Pn	18 32 38.2	+1.1
BBSI	**Bau Bau**	**3.44**	**154**	P	Pn	18 32 43.8	+1.5

*NEIC **03** 18:34:29.1±1.2, 58°.3S±0°.1 × 26°.1W±0°.2, h10km±1km, mb4.9/33, Error ellipse: s-maj=18.3km s-min=14.0km az=28.0*

*IDC **03** 18:34:40.4±5.0, 58°.42S × 25°.53W, h94km±44km, mb4.2/10, mbtmp4.6/11, MS3.5/10, Error ellipse: s-maj=19.8km s-min=16.5km az=80.0*

ISC 03 18:34:29.1±0.4, 58°29S±0°.08 × 26°.08W±0°.08, h10km, n75, σ0.9⁴/62, mb4.8/22, MS3.5/9, 10C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.05**	**300**	Pn	**Pn**	**18 36 12.2**	**0.0**
VNA1	**Neumayer--Stat**	**14.49**	**156**	⇑P	**Pn**	**18 37 54.2**	**+0.3**
	comp=Z,33nm,0.2s						
VNA3	**Neumayer Olymp**	**14.67**	**159**	⇑P	**Pn**	**18 37 56.0**	**-0.4**
	comp=Z,32nm,0.2s						
VNA3				⇑S	Sn	18 40 19.9	-19
	comp=N,17nm,0.3s						
VNA2	**Neumayer--Watz**	**14.89**	**156**	⇑P	**Pn**	**18 37 58.9**	**-0.4**
	comp=Z,13nm,0.2s,baz=317,slow=13						
VNA2				⇑S	Sn	18 40 26.7	-17
	comp=E,5.8nm,0.2s,baz=342,slow=15						
ESPZ	**Base Esperanza**	**15.80**	**238**		**Pn**	**18 38 11.9**	**+0.6**
SNAA	**Sanae**	**16.45**	**154**	⇑P	**Pn**	**18 38 20.3**	**+0.6**
	comp=Z,951nm,0.6s						
SNAA				⇑S	Sn	18 41 04.5	-18
	comp=E,252nm,0.6s						
SNAA	**Sanae**	**16.45**	**154**		**Pn**	**18 38 19.8**	**+0.1**
SNAA	**Sanae**	**16.45**	**154**	P	**Pn**	**18 38 20.3**	**+0.6**
	comp=E,28nm,0.5s,baz=320,slow=14,SNR=149						
SNAA				S	Sn	18 41 08.2	-14
	comp=E,9.2nm,0.8s,baz=312,slow=18,SNR=5.8						
SNAA				LR	LR	18 43 11.3	
	comp=E,209nm,21.8s,baz=266,slow=32						
TROLL	**Troll, Antarti**	**17.97**	**151**	⇑P	**P**	**18 38 40.0**	**+0.7**
	comp=Z,804nm,0.7s						
TROLL				⇑S	Sn	18 41 39.9	-19
	comp=E,148nm,0.2s						
PMSA	**Palmer Station**	**18.98**	**234**	P	**P**	**18 38 48.7**	**-1.5**
EFI	**East Falkland**	**19.37**	**276**	P	**P**	**18 38 53.7**	**-0.9**
BELA	**Belgrano 2**	**19.89**	**185**	P	**P**	**18 38 59.8**	**-0.3**
SYO	**Syowa Base**	**29.48**	**138**	⇑*ep*P	**P**	**18 40 33.6**	**+0.9**
QSPA	**South Pole Qui**	**31.95**	**180**		**P**	**18 40 55.8**	**+1.0**
QSPA				IAmb	IAmb	18 41 59.9	
	comp=Z,12nm,1.2s						
QSPA	**South Pole Qui**	**31.95**	**180**	P	**P**	**18 40 56.2**	**+1.4**
	comp=Z,2.2nm,0.6s,baz=219,slow=2.0,SNR=26						
QSPA				LR	LR	18 53 14.9	
	comp=Z,102nm,19.8s,baz=194,slow=35						
	comp=Z,2.2nm,0.6s						
PLTB	**Pedras Altas**	**32.46**	**313**	P	**P**	**18 40 59.1**	**-0.2**
PLCA	**Paso Flores**	**33.03**	**282**	P	P	18 41 09.7	+5.3
	comp=Z,3.7nm,1.0s,baz=147,slow=10,SNR=5.1						
	comp=Z,3.7nm,1.0s						
BI05	**Punta Hualpn**	**37.39**	**284**	P	**P**	**18 41 41.3**	**-0.5**
BO02	**Sierra Bellavi**	**37.69**	**289**	P	**P**	**18 41 45.0**	**+0.5**
MAW	**Mawson**	**38.00**	**142**	P	**P**	**18 41 46.1**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=42,slow=4.5,SNR=4.0						
MAW				LR	LR	18 56 08.6	
	comp=Z,72nm,18.3s,baz=287,slow=34						
	comp=Z,2.6nm,0.6s						
BO04	**La Punta**	**38.25**	**290**	P	**P**	**18 41 48.3**	**-0.8**
BO04				IAmb	IAmb	18 42 06.8	
	comp=Z,21nm,1.4s						
MT09	**Talagante**	**38.60**	**290**	P	**P**	**18 41 52.2**	**-0.1**
MT09				IAmb	IAmb	18 42 11.1	
	comp=Z,66nm,1.8s						
CPUP	**Villa Florida**	**38.76**	**312**	LR	LR	18 55 27.5	
	comp=Z,12nm,21.6s,baz=27,slow=32						
MT02	**Curacav**	**39.09**	**290**	P	**P**	**18 41 56.3**	**+0.1**
MT02				IAmb	IAmb	18 42 48.5	
	comp=Z,52nm,1.6s						
VNDA	**Vanda**	**44.35**	**182**	P	**P**	**18 42 39.9**	**+1.1**
VNDA	**Vanda**	**44.35**	**182**	P	**P**	**18 42 40.2**	**+1.4**
	comp=Z,2.0nm,0.8s,baz=196,slow=6.3,SNR=5.9						
VNDA				LR	LR	19 01 04.1	
	comp=Z,59nm,18.2s,baz=170,slow=36						
	comp=Z,2.0nm,0.8s						
BOSA	**Boshof**	**46.00**	**73**	P	**P**	**18 42 51.8**	**-0.8**
BOSA				IAmb	IAmb	18 42 53.2	
	comp=Z,11nm,0.8s						
BOSA	**Boshof**	**46.00**	**73**	P	**P**	**18 42 52.2**	**-0.3**
	comp=Z,12nm,0.9s,baz=212,slow=7.2,SNR=19						
BOSA				LR	LR	19 00 09.3	
	comp=Z,32nm,18.0s,baz=229,slow=33						
	comp=Z,12nm,0.9s						
H04S2	**CROZET ISLANDS**	**46.12**	**111**	T	T	19 33 20.0	
	baz=226,slow=75,SNR=40						
H04S3	**CROZET ISLANDS**	**46.13**	**111**	T	T	19 33 23.6	
	baz=226,slow=75,SNR=40						
H04S1	**CROZET ISLANDS**	**46.14**	**111**	T	T	19 33 18.7	
	baz=226,slow=75,SNR=42						
PB03	**IPOC Station P**	**47.83**	**300**	P	**P**	**18 43 05.3**	**-1.7**
MAKGR	**Makgori**	**48.08**	**70**	P	**P**	**18 43 08.0**	**-0.8**
MAKGR				IAmb	IAmb	18 43 09.9	
	comp=Z,12nm,1.1s						
KOOLE	**Kule**	**48.23**	**63**		**P**	**18 43 09.1**	**-0.9**
LBTB	**Lobatse**	**49.14**	**70**	P	**P**	**18 43 15.9**	**-1.0**
LBTB	**Lobatse**	**49.14**	**70**	LR	LR	19 00 16.8	
	comp=Z,45nm,18.8s,baz=216,slow=31						
KGCAE	**Kacgae**	**49.30**	**65**		**P**	**18 43 17.4**	**-0.8**
GRTLG	**Ghanzi**	**50.10**	**63**		**P**	**18 43 23.5**	**-0.8**
GRTLG				IAmb	IAmb	18 43 25.1	
	comp=Z,8.6nm,0.8s						
TSUM	**Tsumeb**	**50.31**	**58**	P	**P**	**18 43 24.3**	**-1.7**
TSUM				IAmb	IAmb	18 43 27.4	
	comp=Z,7.5nm,0.8s						
POGA	**Pongola**	**50.33**	**78**	P	**P**	**18 43 24.3**	**-1.5**
POGA				IAmb	IAmb	18 43 42.5	
	comp=Z,31nm,1.5s						
LPHEP	**Lephephe**	**50.65**	**69**	P	**P**	**18 43 27.6**	**-0.8**
H10N1	**ASCENSION HYDR**	**51.12**	**15**	T	T	19 39 15.6	
	baz=181,slow=72,SNR=17						
H10N3	**ASCENSION HYDR**	**51.12**	**15**	T	T	19 39 23.3	
	baz=181,slow=72,SNR=34						
H10N2	**ASCENSION HYDR**	**51.13**	**15**	T	T	19 39 16.8	
	baz=181,slow=72,SNR=21						
QNGWA	**Qangwa**	**51.66**	**62**		**P**	**18 43 36.2**	**+0.1**
QNGWA				IAmb	IAmb	18 43 37.8	
	comp=Z,13nm,0.9s						
LPAZ	**La Paz**	**52.17**	**305**	P	**P**	**18 43 43.5**	**+3.1**
	comp=Z,2.2nm,0.4s,baz=200,slow=2.1,SNR=6.9						
	comp=Z,2.2nm,0.4s						
GMARE	**Gumare**	**52.25**	**63**	P	**P**	**18 43 40.8**	**+0.4**
GMARE				IAmb	IAmb	18 43 42.3	
	comp=Z,18nm,0.7s						
XAUDM	**Khaudum**	**52.60**	**62**	P	**P**	**18 43 42.8**	**-0.2**
XAUDM				IAmb	IAmb	18 43 45.3	
	comp=Z,14nm,1.1s						
PHDHD	**Phuduhudu**	**52.69**	**66**	P	**P**	**18 43 43.7**	**0.0**
MATP	**Matopo**	**54.43**	**70**	LR	LR	19 02 41.1	
	comp=Z,81nm,20.6s,baz=279,slow=31						
KSANE	**Kasane**	**55.04**	**65**		**P**	**18 44 00.1**	**-0.8**
KSANE				IAmb	IAmb	18 44 02.1	
	comp=Z,16nm,0.8s						
LSZ	**Lusaka**	**58.67**	**67**		**P**	**18 44 25.8**	**-0.9**
LSZ				IAmb	IAmb	18 44 27.7	
	comp=Z,6.2nm,0.8s						
BOAV	**Boa Vista**	**66.43**	**322**	P	**P**	**18 45 18.7**	**+0.4**
DBIC	**Dimbokro**	**66.98**	**23**	P	**P**	**18 45 23.2**	**+1.4**
DBIC				IAmb	IAmb	18 45 24.3	
	comp=Z,10nm,0.8s						
DBIC	**Dimbokro**	**66.98**	**23**	P	**P**	**18 45 23.2**	**+1.4**
	comp=Z,11nm,0.7s,baz=204,slow=6.4,SNR=14						
	comp=Z,11nm,0.7s						
ROSC	**El Rosal**	**73.78**	**309**	LR	LR	19 19 13.6	
	comp=Z,78nm,21.3s,baz=250,slow=36						
TORD	**Torodi Ar. Bea**	**74.74**	**28**		**P**	**18 46 09.6**	**+0.7**
TORD				IAmb	IAmb	18 46 11.4	
	comp=Z,8.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**74.74**	**28**	P	**P**	**18 46 09.9**	**+1.0**
	comp=Z,10nm,0.6s,baz=200,slow=6.0,SNR=77						
	comp=Z,10nm,0.6s						
STKA	**Stephens Creek**	**89.58**	**170**	P	**P**	**18 47 26.5**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=175,slow=16,SNR=3.7						
	comp=Z,1.7nm,0.8s						
CMIG	**Matias Romero**	**93.75**	**297**	LR	LR	19 23 26.5	
	comp=Z,49nm,20.8s,baz=171,slow=31						
ASAR	**Alice Springs**	**96.66**	**162**	P	**P**	**18 47 57.8**	**-1.6**
	comp=Z,1.9nm,0.7s,baz=183,slow=3.9,SNR=29						
	comp=Z,1.9nm,0.7s						
ULM	**Lac du Bonnet**	**122.27**	**315**	PKP	**PKPdf**	**18 53 21.9**	**-1.1**
	comp=Z,2.2nm,0.5s,baz=167,slow=2.6,SNR=5.1						
NVAR	**Mina Arroyo Bea**	**122.80**	**291**	PKP	**PKiKP**	**18 53 25.6**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=355,slow=1.5,SNR=2.4						
CMAR	**Chiang Mai Arr**	**123.71**	**111**	PKP	**PKPdf**	**18 53 26.0**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=226,slow=3.6,SNR=11						
YKA	**Yellowknife Ar**	**138.22**	**316**	PKP	**PKPdf**	**18 53 53.7**	**+0.9**
	comp=Z,3.4nm,0.6s,baz=122,slow=2.1,SNR=6.8						
P33M	**Teslin, Yukon**	**144.26**	**305**		**PKPdf**	**18 54 03.3**	**-0.6**
MMPY	**Sheldon Lake,**	**144.78**	**309**	PKPdf	PKPbc	18 54 04.1	+0.3
A36M	**Sachs Harbour**	**146.43**	**326**		**PKPdf**	**18 54 07.7**	**+0.6**
M30M	**Minto, Yukon**	**147.05**	**307**	PKPdf	**PKPdf**	**18 54 08.5**	**0.0**
H31M	**Peel River**	**147.34**	**314**	PKPdf	**PKPdf**	**18 54 08.5**	**-0.4**
I30M	**Mount Dempster**	**147.92**	**312**		**PKPbc**	**18 54 12.6**	**-0.4**
G30M	**tAoh Zrail Nji**	**148.46**	**315**		**PKPbc**	**18 54 14.2**	**-0.1**
SONM	**Songino Array**	**150.20**	**90**	PKPbc	**PKPbc**	**18 54 18.4**	**-1.0**
	comp=Z,4.0nm,0.6s,baz=224,slow=3.2,SNR=26						
ILAR	**Eielson Array**	**152.02**	**308**	PKPbc	**PKiKP**	**18 54 23.6**	**+0.4**
	comp=Z,5.0nm,0.9s,baz=121,slow=1.3,SNR=27						
KSRS	**Korea Array**	**153.12**	**130**	PKPbc	**PKPbc**	**18 54 25.1**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=232,slow=1.4,SNR=3.9						

JMA 03 18:36:56.5±0.2, 26°N±1′ × 14°1E±′, h103km, MV3.8/12, W OFF OGASAWARA, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.24**	**59**	P	Pn	18 37 20.0	+0.2
JHH2				S	Sn	18 37 37.7	+0.3
CBIJ	**Chichi jima**	**1.53**	**44**	P	Pn	18 37 23.6	+0.3
CBIJ				S	Sn	18 37 44.3	+0.7
JHJ2	**Mitsune**	**7.16**	**352**	*eP*	Pn	18 38 37.4	-1.0
JHO	**Hitachi**	**10.58**	**358**	*eP*	Pn	18 39 21.3	-3.7

*IDC **03** 18:42:33.3±0.6, 39°.38N × 143°.21E, h0km, mb4.3/21, mbtmp4.4/24, ML3.7/3, MS3.7/12, Error ellipse: s-maj=16.9km s-min=14.8km az=111.0*

*NIED **03** 18:42:35.2, 39°.44N × 143°.39E, h35km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}2.23; $M_{\theta\theta}$0.58; $M_{\phi\phi}$-2.81; $M_{r\theta}$2.13; $M_{\theta\phi}$-0.88; $M_{\phi r}$1.74; Fault plane solution: $M_0$3.87000×10¹⁵ NP1: ϕ_s167.00000°, δ31.00000°, λ41.00000°. NP2:ϕ_s40.00000°, δ70.00000°, λ114.00000°.*

*JMA **03** 18:42:35.2±0.2, 39°.4N±0°.5 × 143°.4E±0°.9, h35km±4km, MD4.6/34, MV4.6/34, FAR E OFF SANRIKU*

JMA Felt I J1 at FAR E OFF SANRIKU .

*NEIC **03** 18:42:36.6±1.6, 39°.39N±0°.05 × 143°.22E±0°.09, h23km±5km, mb4.6/60, Error ellipse: s-maj=10.2km s-min=6.2km az=111.0*

*BGR **03** 18:42:41.6, 39°.94N × 143°.48E, h33km, mb4.6*

ISC 03 18:42:37.6±0.8, 39°.36N±0°.04 × 143°.33E±0°.05, h35km±3km, n193, σ1⁹47/163, mb4.5/63, MS3.9/14, 1C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.19**	**281**	P	**Pn**	**18 42 56.5**	**-1.2**
MIYJ				S	**Sn**	**18 42 13.2**	**-0.4**
MIYJ	**Miyakonagasawa**	**1.19**	**281**	A	A	18 42 56.5	
	comp=N,9.0nm,1.4s,comp=E,15nm,1.9s						
JTH	**Tanohata**	**1.27**	**297**	*i* P	**Pn**	**18 42 57.5**	**-1.3**
JTH				S	**Sn**	**18 43 14.1**	**-0.6**
JTH	**Tanohata**	**1.27**	**297**	A	A	18 42 57.5	
	comp=N,12nm,2.3s,comp=E,9.0nm,4.6s						
OFUJ	**Ofunato**	**1.32**	**258**	P	**Pn**	**18 42 58.8**	**-0.8**
OFUJ				S	**Sn**	**18 43 15.4**	**-0.5**
OFUJ	**Ofunato**	**1.32**	**258**	A	A	18 42 58.8	
	comp=N,6.0nm,3.3s,comp=E,6.0nm,4.1s						
JKEN	**Kujiedanarisaw**	**1.51**	**304**	A	A	18 43 00.6	
	comp=N,11nm,1.0s,comp=E,17nm,0.9s						
JKMT	**Kesennumamotoy**	**1.55**	**250**	A	A	18 43 02.3	
	comp=N,13nm,1.8s,comp=E,6.0nm,1.9s						
JOM	**Ohasama**	**1.58**	**275**	*i* P	**Pn**	**18 43 03.0**	**-0.2**
JOM	**Ohasama**	**1.58**	**275**	A	A	18 43 03.0	
	comp=N,11nm,2.9s,comp=E,10.0nm,0.3s						
JMK	**Ichinoseki**	**1.69**	**257**	P	**Pn**	**18 43 04.5**	**-0.1**
JMK	**Ichinoseki**	**1.69**	**257**	A	A	18 43 04.5	
	comp=N,8.0nm,2.2s,comp=E,5.0nm,2.7s						
JANG	**Nango**	**1.73**	**306**	P	**Pn**	**18 43 03.2**	**-1.9**
JIO	**Ouri**	**1.79**	**240**	*i* P	**Pn**	**18 43 05.7**	**-0.3**
JIO				S	**Sn**	**18 43 28.0**	**+0.4**
JSZI	**Iwateshizukuis**	**1.88**	**282**	A	A	18 43 06.5	
	comp=N,27nm,1.2s,comp=E,21nm,1.4s						
JOFO	**Osakifurukawao**	**2.04**	**249**	A	A	18 43 09.3	
	comp=N,38nm,4.1s,comp=E,36nm,2.3s						
JRG	**Rokugo**	**2.09**	**272**	P	**Pn**	**18 43 10.2**	**0.0**
JRG	**Rokugo**	**2.09**	**272**	A	A	18 43 10.2	
	comp=N,9.0nm,0.8s,comp=E,11nm,1.0s						
JAH	**Hinai**	**2.24**	**292**	A	A	18 43 11.5	
	comp=N,7.0nm,1.4s,comp=E,8.0nm,2.6s						
JTM	**Tenmabayashi**	**2.25**	**310**		**Pn**	**18 43 10.8**	**-1.4**
JTM				Sn	**Sn**	**18 43 37.2**	**-1.5**
JTM	**Tenmabayashi**	**2.25**	**310**	P	**Pn**	**18 43 11.8**	**-0.4**
JTM	**Tenmabayashi**	**2.25**	**310**	P	**Pn**	**18 43 10.9**	**-1.4**
JTM				S	**Sn**	**18 43 38.4**	**-0.3**
JOU	**Okura**	**2.31**	**245**	A	A	18 43 13.3	
	comp=N,9.0nm,1.1s,comp=E,9.0

comp=Z,0.1nm,0.3s,baz=222,slow=5.8,SNR=11
comp=Z,8.1nm,0.9s
HIA Hailar 19.50 308 P **P** **18 46 58.7 -2.8**
MA2 Magadan 20.77 11 P **P** **18 47 14.9 -0.4**
MA2 IAmb IAmb 18 47 16.9
comp=Z,13nm,0.7s
MA2 Magadan 20.77 11 P **P** **18 47 15.6 +0.3**
comp=Z,13nm,0.7s,baz=200,slow=13,SNR=6.7
comp=Z,13nm,0.7s
BJT Baijiatuau 20.89 280 P **P** **18 47 12.7 -4.1**
YHNB Yeheng 23.61 238 P **P** **18 47 42.8 -2.6**
YAK Yakutsk 24.18 344 **P** **18 47 48.3 -2.1**
HHC Hu-ho-hao-te 24.28 284 *eP* **P** **18 47 50.6 -1.0**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,90nm,4.0s
HHC LR LR
comp=N,130nm,12.2s
HHC LR LR
comp=E,330nm,16.6s
HHC LR LR
comp=Z,530nm,16.6s
YULB Yu-li 24.55 236 P **P** **18 47 52.6 -1.5**
WHN Wuhan 25.25 259 ⇓P **P** **18 48 00.9 +0.6**
WHN pmax pmax
comp=Z,78nm,0.9s
BTO Baotou 25.47 284 *eP* **P** **18 48 04.2 +1.7**
BTO pP **pwP** **18 48 13.6 -0.7**
BTO sP **sP** **18 48 17.4 +1.9**
BTO PP **PnPn** **18 48 43.4 +4.9**
BTO S **S** **18 52 24.9 -2.4**
BTO sS **sS** **18 52 41.1 -1.9**
BTO SS **SnSn** **18 53 28.2 +6.7**
BTO pmax pmax
comp=Z,43nm,0.7s
BTO pmax pmax
comp=Z,350nm,6.7s
BTO LR LR
comp=N,340nm,11.7s
BTO LR LR
comp=E,780nm,15.7s
BTO LR LR
comp=Z,820nm,17.1s
GUMO Guam 25.71 177 LR LR 18 56 56.5
comp=Z,67nm,21.8s,baz=9.0,slow=34
ULN Ulaanbaatar 27.40 300 P **P** **18 48 19.7 -0.1**
SONM Songino Array 27.84 300 **P** **18 48 23.7 0.0**
SONM Songino Array 27.84 300 P **P** **18 48 23.9 +0.1**
comp=Z,5.0nm,0.7s,baz=94,slow=9.5,SNR=30
comp=Z,5.0nm,0.7s
H11N2 WAKE ISLAND Hy 28.19 127 T T 19 19 11.3
baz=318,slow=76,SNR=98
H11N1 WAKE ISLAND Hy 28.20 127 T T 19 19 17.5
baz=318,slow=76,SNR=96
H11N3 WAKE ISLAND Hy 28.21 127 T T 19 19 20.1
baz=318,slow=76,SNR=123
H11S1 WAKE ISLAND Hy 29.00 129 T T 19 20 19.0
baz=328,slow=76,SNR=5.0
H11S3 WAKE ISLAND Hy 29.00 129 T T 19 20 19.4
baz=328,slow=76,SNR=4.8
H11S2 WAKE ISLAND Hy 29.02 129 T T 19 20 20.7
baz=328,slow=76,SNR=7.4
ENH Enshi 29.09 262 **P** **18 48 34.0 -0.9**
ENH IAmb IAmb 18 48 51.6
comp=Z,13nm,0.8s
GTA Gaotai 33.39 284 P **P** **18 49 13.8 +1.0**
GTA pP pP 18 49 21.2 -1.1
GTA PcP **PcP** **18 51 55.2 +1.4**
GTA pmax pmax
comp=Z,15nm,0.9s
GTA LR LR
comp=N,210nm,13.1s
GTA LR LR
comp=E,420nm,19.1s
GTA LR LR
comp=Z,510nm,17.9s
DAV Davao City (W) 35.91 211 LR LR 19 02 29.5
comp=Z,48nm,19.9s,baz=35,slow=33
PZH PanZhiHua 36.88 262 P **P** **18 49 43.6 +0.7**
GOMU GeErMu 38.12 281 P **P** **18 49 54.7 +1.1**
GOMU pP pP 18 49 58.2 -5.0
GOMU sP pwP 18 50 01.8 -3.9
GOMU pmax pmax
comp=Z,16nm,0.9s
TNCH TengChong 40.12 263 *eP* **P** **18 50 12.9 +2.6**
TNCH pP pP 18 50 18.8 -1.1
TNCH pmax pmax
comp=Z,12nm,0.9s
L16K Owhat River 40.93 38 P **P** **18 50 17.6 +1.4**
L16K IAmb IAmb 18 50 20.3
comp=Z,11nm,1.2s
ZALV Zalesovo Beam 41.51 310 **P** **18 50 20.8 -0.4**
ZALV Zalesovo Beam 41.51 310 P **P** **18 50 21.4 +0.3**
comp=Z,6.9nm,0.7s,baz=87,slow=8.0,SNR=29
ZALV PcP **PcP** **18 52 19.2 +1.1**
comp=Z,2.6nm,0.8s,baz=80,slow=1.8,SNR=5.3
comp=Z,6.9nm,0.7s
C18K Utukok River 41.52 27 P **P** **18 50 21.4 +0.3**
G18K Tagagawik 41.87 31 P **P** **18 50 25.2 +1.2**
M17K Holitna River 41.88 38 P **P** **18 50 25.3 +1.2**
ZSN Zaisan 42.35 301 *eP* **P** **18 50 27.8 -0.4**
comp=Z,10nm,1.0s
E19K Redstone River 42.71 29 P **P** **18 50 31.7 +1.0**
E19K IAmb IAmb 18 51 13.7
comp=Z,9.6nm,1.1s
H19K Roundabout Mou 42.72 32 **P** **18 50 31.9 +1.1**
H19K IAmb IAmb 18 50 34.2
comp=Z,18nm,1.2s
J19K Poorman 42.91 35 P **P** **18 50 33.7 +1.3**
CHTO Chiang Mai 43.34 255 P **P** **18 50 35.9 -0.6**
LSA Lhasa 43.54 274 P **P** **18 50 38.4 -0.1**
LSA pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 43.56 254 P **P** **18 50 39.1 +0.9**
comp=Z,1.3nm,0.7s,baz=47,slow=7.2,SNR=11
comp=Z,1.3nm,0.7s
MKAR Makanchi Array 44.20 300 **P** **18 50 42.7 -0.4**
MKAR Makanchi Array 44.20 300 P **P** **18 50 43.2 +0.1**
comp=Z,7.1nm,0.8s,baz=83,slow=9.5,SNR=68
comp=Z,7.1nm,0.8s
D22K Ayikyak River 44.60 28 P **P** **18 50 46.9 +0.9**
D22K IAmb IAmb 18 50 48.9
comp=Z,10nm,0.9s
MLY Manley 45.08 33 **P** **18 50 51.5 +1.7**
MLY IAmb IAmb 18 50 52.6
comp=Z,5.3nm,1.1s
H23K Yukon River 45.59 32 IAmb IAmb 18 50 56.7
comp=Z,5.7nm,0.9s
E23K Chandalar 45.65 29 IAmb IAmb 18 51 10.0
comp=Z,10.0nm,1.1s
KURK Kurchatov 45.72 307 **P** **18 50 54.9 -0.2**
NEA2 Nenana 45.78 34 IAmb IAmb 18 51 11.4
comp=Z,5.7nm,1.0s
KURBB Kurchatov Arra 45.80 306 P **P** **18 50 55.5 -0.2**
comp=Z,15nm,0.7s,baz=80,slow=8.2,SNR=120
comp=Z,15nm,0.7s
H24K Noodor Dome 46.28 32 P **P** **18 51 00.8 +1.5**
ILAR Eielson Array 46.72 34 P **P** **18 51 03.8 +1.0**
comp=Z,2.3nm,0.7s,baz=263,slow=6.5,SNR=24
comp=Z,2.3nm,0.7s
SHLS Shalkode 47.13 296 *eP* **P** **18 51 03.8 -2.6**
E25K Arctic Village 47.17 29 P **P** **18 51 08.4 +2.1**
E25K IAmb IAmb 18 51 44.2
comp=Z,8.2nm,1.2s
PRP Porcupine Dome 47.26 32 IAmb IAmb 18 51 22.1
comp=Z,5.3nm,0.9s
TDK Taldyqorghan 47.29 299 *eP* **P** **18 51 07.2 -0.3**
comp=Z,6.2nm,0.8s
UZB Uzynbulak 47.44 296 *eP* **P** **18 51 08.4 -0.4**
BMAR Burnt Mountain 47.56 30 P **P** **18 51 10.2 +0.9**
KPKS Kokpek 47.57 297 *eP* **P** **18 51 09.6 -0.2**
EVN Everest 47.71 274 P **P** **18 51 09.9 -1.8**
F26K Sheenjek River 47.72 29 IAmb IAmb 18 51 24.2
comp=Z,4.3nm,0.8s
SATY Saty 47.89 297 *eP* **P** **18 51 11.1 -1.3**
SCRK Sand Creek 48.03 34 IAmb IAmb 18 51 27.6
comp=Z,4.5nm,0.8s
TARG Taragay, Kyrgy 48.76 295 P **P** **18 51 19.2 -0.1**
TARG IAmb IAmb 18 51 53.9
comp=Z,6.4nm,0.8s
MDOK Medeo 48.80 297 *eP* **P** **18 51 19.0 -0.3**
AAA Alma-Ata 48.88 297 *eP* **P** **18 51 19.5 -0.4**
comp=Z,6.4nm,0.5s
L27K Beaver Creek, 49.10 36 IAmb IAmb 18 51 24.3
comp=Z,5.4nm,1.1s

I28M Miner Creek 49.59 32 P **P** **18 51 26.3 +1.3**
I28M IAmb IAmb 18 51 40.1
comp=Z,4.2nm,0.9s
BOOM Boomskoye usch 49.79 297 P **P** **18 51 26.8 -0.2**
BVAR Borovoye Array 50.15 311 P **P** **18 51 29.4 0.0**
comp=Z,7.2nm,0.7s,baz=74,slow=8.7,SNR=9.8
comp=Z,7.2nm,0.7s
BTLS Baital 50.22 300 *eP* **P** **18 51 29.8 -0.2**
I29M Ogilvie Camp, 50.28 32 IAmb IAmb 18 51 32.7
comp=Z,4.2nm,0.8s
SGDS Sogindy 50.36 298 *eP* **P** **18 51 31.0 -0.2**
L29M L29M 50.75 35 IAmb IAmb 18 51 57.5
comp=Z,8.0nm,1.3s
HNR Honiara 50.94 159 LR LR 19 10 55.6
comp=Z,52nm,22.0s,baz=202,slow=33
I30M Mount Dempster 51.10 32 IAmb IAmb 18 51 39.2
comp=Z,7.8nm,0.7s
HYT Haines Junctio 51.53 38 IAmb IAmb 18 51 44.4
comp=Z,10.0nm,0.9s
H31M Peel River 51.81 31 **P** **18 51 43.5 +1.9**
H31M IAmb IAmb 18 51 44.5
comp=Z,7.1nm,0.7s
MTN Manton Dam 53.17 195 P **P** **18 51 52.1 0.0**
ARTI Arti 55.74 318 **P** **18 52 09.8 -0.7**
ARTI Arti 55.74 318 LR LR 19 18 24.6
comp=Z,108nm,20.1s,baz=86,slow=39
KNRA Kununurra 56.42 197 P **P** **18 52 16.3 +0.6**
KNRA IAmb IAmb 18 52 40.3
comp=Z,8.7nm,1.1s
AKTO Aktyubinsk 58.26 311 LR LR 19 18 52.8
comp=Z,81nm,18.1s,baz=62,slow=38
WRAB Tennant Creek 59.58 190 P **P** **18 52 38.0 +0.3**
WRAB IAmb IAmb 18 53 04.6
comp=Z,5.2nm,1.1s
WRA Warramunga Arr 59.59 190 P **P** **18 52 37.5 -0.4**
WRA Warramunga Arr 59.59 190 P **P** **18 52 37.7 -0.1**
comp=Z,2.0nm,0.7s,baz=8.2,slow=7.1,SNR=8.3
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 62.35 339 P **P** **18 52 56.6 +0.5**
ARCES ARCESS Array B 62.35 339 P **P** **18 52 56.7 +0.6**
comp=Z,8.1nm,1.1s,baz=55,slow=9.2,SNR=5.4
comp=Z,8.1nm,1.1s
ASAR Alice Springs 63.32 190 P **P** **18 53 01.6 -1.4**
ASAR Alice Springs 63.32 190 P **P** **18 53 04.1 +1.1**
comp=Z,1.0nm,0.7s,baz=14,slow=5.7,SNR=14
comp=Z,1.0nm,0.7s
ILON Igloolik, Nuna 66.61 16 P **P** **18 53 23.4 -0.4**
BLKN Baker Lake 66.65 24 P **P** **18 53 24.2 0.0**
FINES FINESS Array B 67.45 332 P **P** **18 53 29.2 -0.1**
FINES FINESS Array B 67.45 332 P **P** **18 53 29.5 +0.2**
comp=Z,5.9nm,0.6s,baz=46,slow=5.5,SNR=12
comp=Z,5.9nm,0.6s
PINE Pine Mountain 67.69 51 **P** **18 53 32.4 +0.9**
PINE IAmb IAmb 18 53 34.9
comp=Z,5.5nm,0.9s
YBH Yreka Blue Hor 67.74 54 P **P** **18 53 34.0 +2.3**
comp=Z,0.1nm,0.6s,baz=304,slow=3.6,SNR=3.2
G08A Pilot Rock 68.03 49 **P** **18 53 34.6 +1.2**
G08A IAmb IAmb 18 53 37.5
comp=Z,3.8nm,1.2s
SUMG Summit 68.35 1 P **P** **18 53 35.9 +0.5**
PLID Pearl Lake 69.87 48 P **P** **18 53 45.5 +0.5**
KBZ Khabaz 70.53 311 P **P** **18 53 50.3 +1.6**
comp=Z,5.2nm,0.8s,baz=97,slow=0.9,SNR=3.7
KBZ LR LR 19 27 18.3
comp=Z,51nm,18.0s,baz=5.0,slow=38
comp=Z,5.2nm,0.8s
LRM Limekiln Ridge 71.43 46 P **P** **18 53 55.1 +0.6**
GNI Garni 71.52 307 LR LR 19 28 19.8
comp=Z,51nm,18.6s,baz=82,slow=38
NACGM Naroch 71.61 327 *eP* **P** **18 53 56.1 +1.0**
comp=Z,6.0nm,0.8s,baz=47
BOZ Bozeman (W) 72.02 45 P **P** **18 53 58.8 +0.8**
NVAR Mina Array Bea 72.39 55 P **P** **18 54 02.5 +2.1**
comp=Z,1.0nm,0.6s,baz=282,slow=6.9,SNR=6.6
comp=Z,1.0nm,0.6s
HFS Hagfors 72.58 336 P **P** **18 54 01.1 +0.3**
comp=Z,5.7nm,0.7s,baz=46,slow=8.5,SNR=13
comp=Z,5.7nm,0.7s
NB2 NORSAR Subarra 72.61 338 P **P** **18 54 01.4 +0.3**
comp=Z,2.9nm,0.7s,baz=38,slow=6.2
NOA NORSAR Array B 72.61 338 P **P** **18 54 01.3 +0.2**
comp=Z,4.6nm,0.8s,baz=38,slow=6.0,SNR=19
NOA LR LR 19 29 55.5
comp=Z,36nm,18.9s,baz=110,slow=39
comp=Z,4.6nm,0.8s
AKASG Malin Array Be 73.37 323 P **P** **18 54 05.7 0.0**
comp=Z,1.7nm,0.6s,baz=47,slow=6.0,SNR=9.4
comp=Z,1.7nm,0.6s
SFJD Kangerlussuaq 73.43 6 LR LR 19 28 11.2
comp=Z,53nm,20.3s,baz=20,slow=37
R11B Troy Canyon, C 74.15 53 P **P** **18 54 10.2 -0.5**
PDAR Pinedale Array 74.96 47 P **P** **18 54 16.7 +1.2**
comp=Z,0.6nm,0.5s,baz=300,slow=5.5,SNR=3.2
comp=Z,0.6nm,0.5s
SRU San Rafael Swe 76.75 50 P **P** **18 54 26.0 +0.3**
SRU IAmb IAmb 18 54 33.8
comp=Z,3.2nm,0.8s
HMU Henry Mountain 77.38 51 **P** **18 54 29.6 +0.4**
HMU IAmb IAmb 18 54 44.4
comp=Z,3.2nm,0.7s
OJC Ojcow 77.94 327 P **P** **18 54 30.8 -1.0**
PV10 Paradox Valley 78.11 50 P **P** **18 54 34.0 +0.7**
PV18 Skein Mesa, Pa 78.27 50 P **P** **18 54 34.9 +0.7**
PV18 IAmb IAmb 18 54 38.2
comp=Z,4.2nm,0.7s
BRTR Keskin Array B 78.43 312 P **P** **18 54 35.6 +0.7**
comp=Z,1.6nm,1.0s,baz=46,slow=6.2,SNR=1.9
comp=Z,1.6nm,1.0s
MLR Muntele Rosu 78.57 320 LR LR 19 33 35.8
comp=Z,81nm,18.1s,baz=68,slow=39
STEB Steborice 79.00 328 *eP* **P** **18 54 39.0 +1.3**
CLL Collm 79.81 331 P **P** **18 54 40.6 -1.5**
CLL IAmb IAmb 18 54 43.5
comp=Z,5.6nm,0.7s
CLL Collm 79.81 331 *eP* **P** **18 54 42.6 +0.4**
comp=Z,5.6nm,0.7s,baz=34,slow=3.8
CLL Collm 79.81 331 *i* P **P** **18 54 42.5 +0.4**
comp=Z,7.0nm,0.8s
WET Wettzell 81.60 330 *eP* **P** **18 54 52.5 +0.8**
comp=Z,3.2nm,0.8s,baz=34,slow=3.8
GRF Grafenberg Arr 81.79 331 *eP* **P** **18 54 53.6 +0.8**
comp=Z,9.7nm,1.1s,baz=34,slow=3.8
MMAI Mount Meron Ar 81.83 306 P **P** **18 54 55.0 +1.6**
comp=Z,0.6nm,0.4s,baz=49,slow=15,SNR=3.0
MMAI LR LR 19 35 30.0
comp=Z,68nm,18.3s,baz=100,slow=39
comp=Z,0.6nm,0.4s
TXAR Lajitas Array 87.51 54 P **P** **18 55 23.2 +1.1**
comp=Z,0.3nm,0.6s,baz=323,slow=3.3,SNR=3.9
comp=Z,0.3nm,0.6s

IDC ***03*** *18:46:59.0±0.5,27.07N×59.82E,h0km,mb4.4/30, mbtmp4.4/32,ML4.0/3,MS3.7/22,Error ellipse: s-maj=12.8km s-min=10.7km az=176.0*
MOS ***03*** *18:46:59.1±1.0,27.14N×59.87E,h13km,mb4.8/33,Error ellipse: s-maj=6.6km s-min=4.6km az=107.7*
NEIC ***03*** *18:47:00.0±2.0,27.16N±0.07×59.69E±0.08,h10km±1km, mb4.9/118,Error ellipse: s-maj=12.2km s-min=10.4km az=313.0*
DSN ***03*** *18:47:01.1±1.7,26.89N×60.18E,h30km,ML4.1/14,Error ellipse: s-maj=32.2km s-min=15.8km az=153.0*
TEH ***03*** *18:47:02.9,26.96N×59.84E,h40km*
OMAN ***03*** *18:47:04.0±0.1,26.83N×60.05E,h37km±1km,mb4.8/10, ml4.6/18,Error ellipse: s-maj=1.7km s-min=1.4km az=234.0*

ISC 03 18:47:00.2±0.3,27.02N±0.04×59.80E±0.04,h10km,n423,
σ1s91/434,mb4.7/129,MS3.6/24,15C-13D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**2.04**	**144**	Pn		**Pn**	**18 47 35.0**		**+0.3**
KHNJ	**Kahnooj**	**2.08**	**297**	Pn		**Pn**	**18 47 36.0**		**+0.8**
SRVN	**Saravan**	**2.34**	**80**	Pn		**Pn**	**18 47 39.8**		**+0.9**
KBAM	**BAM**	**2.42**	**331**	Pn		**Pn**	**18 47 41.8**		**+1.8**
ZHSF	**Zahedan**	**2.72**	**18**	Pn		**Pn**	**18 47 45.9**		**+1.8**
IBND	**Bandar-abas**	**2.94**	**279**	Pn		**Pn**	**18 47 49.2**		**+2.2**
GENO	**Geno**	**3.25**	**277**	Pn		**Pn**	**18 47 53.7**		**+2.2**
BANOM	**Banah** SNR=33	**3.33**	**252**	*i* P		**Pn**	**18 47 54.0**		**+1.7**
SHME	**Shamm** SNR=105	**3.42**	**254**	P		**Pn**	**18 47 56.4**		**+2.9**
SHME	**Shamm** SNR=105	**3.42**	**254**	*i* P		**Pn**	**18 47 56.4**		**+2.9**
CHMN	**Cheshme madani**	**3.46**	**325**	Pn		**Pn**	**18 47 57.1**		**+2.6**
MDH	**Madha** SNR=22	**3.59**	**242**	P		**Pn**	**18 47 57.2**		**+1.4**
MDH	**Madha** SNR=40	**3.59**	**242**	*i* P		**Pn**	**18 47 57.0**		**+1.2**
MASF	**Masafi** SNR=22	**3.66**	**244**	P		**Pn**	**18 47 59.3**		**+2.4**
MSFE	**Esma-Masafi** SNR=66	**3.67**	**244**	*i* P		**Pn**	**18 47 58.6**		**+1.5**
NGRK	**Negar Kerman**	**3.76**	**315**	Pn		**Pn**	**18 48 01.5**		**+2.8**
BIDO	**Bidbid** SNR=9.3	**3.80**	**204**	P		**Pn**	**18 47 58.4**		**-0.4**
BIDO				S		**Sn**	**18 48 42.3**		**-1.4**
UOSS	**Minazif**	**3.84**	**238**			**Pn**	**18 47 59.2**		**-0.2**
UOSS				Sn		**Sn**	**18 48 42.5**		**-2.1**
UOSS	**Minazif**	**3.84**	**238**	P		**Pn**	**18 47 60.0**		**+0.6**
UOSS				S		**Sn**	**18 48 47.5**		**+2.8**
UOSS	**Minazif**	**3.84**	**238**	Pn		**Pn**	**18 48 00.1**		**+0.7**
UOSS	**Minazif** SNR=54	**3.84**	**238**	*i* P		**Pn**	**18 47 59.9**		**+0.4**
WSAR	**Wadi Sarin** 1.2nm,0.3s,baz=231,slow=20,SNR=543	**3.91**	**196**	Pn		**Pn**	**18 48 00.7**		**+0.3**
WSAR	0.4nm,0.3s,baz=13,slow=24,SNR=14			Sn		**Sn**	**18 48 45.1**		**-1.3**
WSAR	**Wadi Sarin** SNR=11	**3.91**	**196**	P		**Pn**	**18 48 00.4**		**+0.1**
WSAR				S		**Sn**	**18 48 44.3**		**-2.1**
HATD	**Hatta, Dubai**	**3.96**	**237**	P		**Pn**	**18 48 01.8**		**+0.8**
HATD	**Hatta, Dubai** SNR=39	**3.96**	**237**	*i* P		**Pn**	**18 48 01.7**		**+0.7**
KRBR	**Kerman**	**3.98**	**318**	Pn		**Pn**	**18 48 04.3**		**+2.7**
UMQ	**Umm Al-Quwin**	**4.00**	**249**	P		**Pn**	**18 48 05.3**		**+3.7**
UMQ				S		**Sn**	**18 48 52.8**		**+4.2**
UMQ	**Umm Al-Quwin** SNR=16	**4.00**	**249**	*i* P		**Pn**	**18 48 04.3**		**+2.6**
ASHO	**Ashiyiah** SNR=44	**4.10**	**236**	P		**Pn**	**18 48 04.5**		**+1.5**
ASHO				S		**Sn**	**18 48 53.4**		**+2.3**
ASHO	**Ashiyiah** SNR=45	**4.10**	**236**	*i* P		**Pn**	**18 48 04.1**		**+1.2**
KRM1	**Kerman Provinc**	**4.12**	**328**	Pn		**Pn**	**18 48 06.0**		**+2.6**
SOHO	**SOHO**	**4.12**	**226**	P		**Pn**	**18 48 03.3**		**+0.1**
SOHO	**SOHO** SNR=50	**4.12**	**226**	*i* P		**Pn**	**18 48 03.3**		**+0.1**
NAZ	**Nazwa, Dubai** SNR=93	**4.24**	**242**	P		**Pn**	**18 48 09.1**		**+4.3**
NAZ	**Nazwa, Dubai** SNR=95	**4.24**	**242**	*i* P		**Pn**	**18 48 08.6**		**+3.7**
SMDO	**Samad** SNR=42	**4.25**	**202**	P		**Pn**	**18 48 05.4**		**+0.3**
SMDO				S		**Sn**	**18 48 52.5**		**-2.4**
NHDN	**Nehbandan**	**4.36**	**3**	Pn		**Pn**	**18 48 08.5**		**+1.8**
FAQ	**Al Faqa, Dubai** SNR=12	**4.42**	**240**	P		**Pn**	**18 48 11.4**		**+4.0**
FAQ				S		**Sn**	**18 49 01.7**		**+2.9**
FAQ	**Al Faqa, Dubai** SNR=67	**4.42**	**240**	*i* P		**Pn**	**18 48 11.1**		**+3.7**
FAQ				S		**Sn**	**18 49 03.0**		**+4.2**
KHGB	**Koh Gabri**	**4.44**	**320**	Pn		**Pn**	**18 48 10.7**		**+2.8**
ASUD	**Al Ashush, Dub** SNR=78	**4.68**	**240**	P		**Pn**	**18 48 15.2**		**+4.2**
ASUD	**Al Ashush, Dub** SNR=78	**4.68**	**240**	*i* P		**Pn**	**18 48 14.5**		**+3.5**
ALNE	**Al Ain** SNR=66	**4.70**	**232**	P		**Pn**	**18 48 14.5**		**+3.2**
ALNE				S		**Sn**	**18 49 08.1**		**+2.2**
ALNE	**Al Ain** SNR=16	**4.70**	**232**	*i* P		**Pn**	**18 48 13.7**		**+2.5**
ARQ	**Araqi** SNR=100	**4.72**	**220**	P		**Pn**	**18 48 14.5**		**+3.0**
ARQ				S		**Sn**	**18 49 07.3**		**+1.0**
JLN	**Jalan Bani Buh** SNR=15	**4.86**	**184**	P		**Pn**	**18 48 11.7**		**-1.7**
JLN				S		**Sn**	**18 49 06.8**		**-3.0**
ZRDN	**Zarand Kerman**	**4.86**	**325**	Pn		**Pn**	**18 48 16.9**		**+3.2**
JMDO	**Jabal Madar** SNR=39	**4.88**	**199**	P		**Pn**	**18 48 14.7**		**+1.0**
JMDO				S		**Sn**	**18 49 08.7**		**-1.6**
BSRN	**Basiran**	**4.96**	**353**	Pn		**Pn**	**18 48 16.6**		**+1.7**
AJN	**Ajban** SNR=32	**4.98**	**242**	P		**Pn**	**18 48 18.5**		**+3.4**
AJN	**Ajban** SNR=32	**4.98**	**242**	*i* P		**Pn**	**18 48 18.0**		**+3.0**
IKOO	**Kooshah**	**5.43**	**353**	Pn		**Pn**	**18 48 23.5**		**+2.1**
ITEG	**Tejag**	**5.93**	**351**	Pn		**Pn**	**18 48 30.4**		**+2.2**
UMZA	**Um Al Zommool**	**6.01**	**226**	P		**Pn**	**18 48 31.3**		**+2.1**
UMZA				S		**Sn**	**18 49 39.7**		**+1.6**
MHTO	**MHTO** SNR=33	**6.24**	**196**	P		**Pn**	**18 48 33.1**		**+0.8**
MZWR	**Madinat Zayed**	**6.26**	**240**	P		**Pn**	**18 48 34.8**		**+2.1**
IMEH	**Mehriz**	**6.29**	**315**	Pn		**Pn**	**18 48 35.5**		**+2.3**
TPRV	**Parvadeh(Tabas**	**6.57**	**336**	Pn		**Pn**	**18 48 40.5**		**+3.6**
JRN	**Qarnain Island**	**6.59**	**253**	P		**Pn**	**18 48 40.5**		**+3.3**
SHRT	**Shahrakht**	**6.62**	**4**	Pn		**Pn**	**18 48 39.9**		**+2.3**
GHWR	**Ruwais**	**6.96**	**246**	P		**Pn**	**18 48 43.5**		**+1.2**
TKDS	**Koohdasht(Taba**	**6.97**	**341**	Pn		**Pn**	**18 48 44.8**		**+2.4**
MZR	**Muzera** SNR=9.3	**6.99**	**236**	P		**Pn**	**18 48 45.1**		**+2.4**
ICHK	**Chekchek**	**7.01**	**319**	Pn		**Pn**	**18 48 45.9**		**+2.8**
DQM	**DQM**	**7.36**	**197**	P		**Pn**	**18 48 47.8**		**+0.1**
TNSJ	**Nastanj**	**7.45**	**339**	Pn		**Pn**	**18 48 52.6**		**+3.6**
DSBU	**Dashti - Bushe**	**7.69**	**282**	Pn		**Pn**	**18 48 54.3**		**+2.0**
IRAM	**Ramesheh**	**8.04**	**308**	Pn		**Pn**	**18 48 59.5**		**+2.2**
TRNA	**Turayna** SNR=15	**8.06**	**256**	P		**Pn**	**18 48 59.7**		**+2.3**
TAPT	**Tabas- Tapeh t**	**8.16**	**345**	Pn		**Pn**	**18 49 03.0**		**+4.2**
KLNJ	**Kolanjah**	**8.21**	**301**	Pn		**Pn**	**18 49 02.0**		**+2.3**
TBJM	**Torbat-e-JAM**	**8.23**	**3**	Pn		**Pn**	**18 49 03.9**		**+4.0**
SAKB	**Bahrain**	**8.37**	**265**	P		**Pn**	**18 49 04.1**		**+2.5**
JRKH	**Jarkhoshk**	**8.87**	**3**	Pn		**Pn**	**18 49 12.3**		**+3.7**
IBRJ	**Brojen**	**8.90**	**305**	Pn		**Pn**	**18 49 11.6**		**+2.5**
IMOG	**Moghan**	**9.07**	**358**	Pn		**Pn**	**18 49 13.9**		**+2.5**
IMYA	**Miami**	**9.30**	**1**	Pn		**Pn**	**18 49 16.1**		**+1.6**
JHBN	**Jahan bin**	**9.49**	**305**	Pn		**Pn**	**18 49 19.2**		**+1.9**
SBZV	**Sabzevar**	**9.52**	**349**	Pn		**Pn**	**18 49 21.4**		**+3.8**
IKRD	**Kardeh**	**9.73**	**359**	Pn		**Pn**	**18 49 22.7**		**+3.3**
ISFB	**Sefidab**	**9.78**	**320**	Pn		**Pn**	**18 49 23.9**		**+2.9**
DOK	**Doka**	**9.86**	**213**	P		**Pn**	**18 49 23.3**		**+1.2**
ISFR	**Sfrayin**	**10.12**	**352**	Pn		**Pn**	**18 49 29.9**		**+4.0**
DMTO	**DMTO** SNR=7.0	**10.29**	**207**	P		**Pn**	**18 49 28.1**		**+0.2**
IEMG	**Emamgholi**	**10.41**	**355**	Pn		**Pn**	**18 49 33.6**		**+3.8**
WHFO	**Wadi Hawf**	**10.63**	**213**	P		**Pn**	**18 49 32.5**		**-0.3**
IGLO	**Ghaloghah**	**10.73**	**333**	Pn		**Pn**	**18 49 37.9**		**+3.8**
RBK	**Rabkut**	**10.79**	**210**	P		**Pn**	**18 49 35.7**		**+0.8**
IDMV	**Damavand**	**10.81**	**324**	Pn		**Pn**	**18 49 39.7**		**+4.4**
KBL	**Kabul**	**10.92**	**44**	Pn		**Pn**	**18 49 34.6**		**-2.1**
KBL	**Kabul**	**10.92**	**44**	P		**Pn**	**18 49 34.6**		**-2.1**
MRVT	**Maraveh tapeh**	**11.06**	**344**	Pn		**Pn**	**18 49 41.6**		**+3.1**
ABTO	**Aybut**	**11.35**	**213**	P		**Pn**	**18 49 42.8**		**+0.3**
NIL	**Nilore**	**13.36**	**57**			**Pn**	**18 50 08.5**		**-1.4**
NIL	**Nilore**	**13.36**	**57**	P		**Pn**	**18 50 08.5**		**-1.4**
RAYN	**Ar Rayn**	**13.40**	**258**			**Pn**	**18 50 07.4**		**-3.1**
RAYN	**Ar Rayn**	**13.40**	**258**	P		**Pn**	**18 50 07.4**		**-3.1**
SIMJ	**Simiganj**	**13.94**	**31**			**Pn**	**18 50 17.4**		**-0.4**
CHGR	**Chuyangaron**	**14.01**	**32**			**Pn**	**18 50 18.8**		**0.0**
CHGR	**Chuyangaron**	**14.01**	**32**	P		**Pn**	**18 50 18.8**		**0.0**
GAR	**Garni**	**14.83**	**34**			**Pn**	**18 50 30.3**		**+0.1**
LKRN	**Lenkeran, Azer**	**14.87**	**324**	P		**Pn**	**18 50 31.3**		**+0.8**
AKT	**Akhty**	**17.51**	**329**	*eP*		**Pn**	**18 51 03.1**		**-1.5**
AKT	comp=Z,10.0nm,0.5s			pmax	pmax				
SEKA	**Sheki**	**17.56**	**327**	P		**Pn**	**18 51 04.9**		**-0.2**
GANJ	**Ganja**	**17.58**	**324**	P		**Pn**	**18 51 04.2**		**-1.1**
ARSB	**Arslanbob**	**17.93**	**34**			**Pn**	**18 51 08.2**		**-1.5**
ARSB	**Arslanbob**	**17.93**	**34**	P		**Pn**	**18 51 08.2**		**-1.5**
ARSB	comp=Z,35nm,1.1s			pmax	pmax				
GEVA	**Gevas**	**18.01**	**313**			**Pn**	**18 51 06.9**		**-3.9**
GNI	**Garni**	**18.10**	**320**	P		**Pn**	**18 51 09.3**		**-2.6**
GNI	**Garni** comp=Z,0.7nm,0.3s,baz=226,slow=8.5,SNR=5.3	**18.10**	**320**	P		**Pn**	**18 51 11.9**		**0.0**
GNI				LR	LR	18 58 56.1			
	comp=Z,333nm,18.8s,baz=133,slow=40 comp=Z,18nm,1.0s								
GNI	**Garni**	**18.10**	**320**	P		**Pn**	**18 51 09.3**		**-2.6**
GNI	comp=Z,22nm,0.9s			pmax	pmax				
GNI	**Garni** comp=Z,31nm,1.0s	**18.10**	**320**	P		**P**	**18 51 14.7**		**+2.4**
KKAR	**Kar

KSH pP pP 18 51 17.2 -0.8
KSH PP **sP** **18 51 22.3 +2.9**
KSH S Sn 18 54 27.7 -12
KSH pmax pmax
comp=Z,35nm,0.6s
KSH LR LR
comp=N,590nm,11.1s
KSH LR LR
comp=E,530nm,11.4s
KSH LR LR
comp=Z,650nm,13.0s
MAK Makhachkala 18.79 331 *e*P **P** **18 51 15.3 -4.3**
MAK *e*S **Sn** **18 54 46.5 -3.8**
MAK pmax pmax
comp=Z,72nm,1.3s
MAK MLR MLR
comp=Z,361nm,18.0s
GURO Guroymak-BITLI 18.82 312 P **P** **18 51 19.6 -0.6**
MARD Mardin 19.06 307 **P** **18 51 20.2 -2.7**
NRN Naryn 19.60 39 P **P** **18 51 27.5 -1.4**
NRN Naryn 19.60 39 P **P** **18 51 27.5 -1.4**
NRN pmax pmax
comp=Z,9.0nm,0.6s
AAK Ala-Archa 19.66 34 **P** **18 51 28.2 -1.2**
AAK Ala-Archa 19.66 34 P **Pn** **18 51 30.0 -0.7**
comp=Z,2.2nm,0.3s,baz=223,slow=14,SNR=9.2
AAK LR LR 18 59 33.5
comp=Z,310nm,21.4s,baz=233,slow=38
comp=Z,7.8nm,0.5s
AAK Ala-Archa 19.66 34 *i*P **P** **18 51 29.7 +0.4**
AAK pmax pmax
comp=Z,13nm,0.7s
HYB Hyderabad 19.79 115 *e*P **Pn** **18 51 32.1 -0.3**
HYB *e*S **Sn** **18 55 17.6 +2.6**
ASF Jabal al Asfar 20.55 290 P Pn 18 51 40.9 -0.5
comp=Z,39nm,0.9s,baz=120,slow=6.2,SNR=50
ASF LR LR 19 01 42.7
comp=Z,452nm,18.7s,baz=153,slow=43
comp=Z,39nm,0.9s
KOPT Kop Dagi 20.61 314 **P** **18 51 37.5 -2.4**
KDJ Kajisay 20.72 39 **P** **18 51 41.0 0.0**
KDJ IAmb IAmb 18 51 49.1
comp=Z,30nm,0.6s
KDJ Kajisay 20.72 39 P **P** **18 51 41.0 0.0**
KDJ pmax pmax
comp=Z,30nm,0.6s
TARG Taragay, Kyrgy 20.82 41 P **P** **18 51 43.0 +0.7**
TARG Taragay, Kyrgy 20.82 41 P **P** **18 51 43.0 +0.7**
TARG pmax pmax
comp=Z,6.0nm,0.8s
NCK Nalchik 21.04 326 *i*P **P** **18 51 46.0 +1.8**
NCK pmax pmax
comp=Z,11nm,0.6s
KBZ Khabaz 21.56 325 P **P** **18 51 50.6 +0.9**
comp=Z,1.9nm,0.7s,baz=137,slow=10,SNR=7.6
comp=Z,1.9nm,0.7s
KBZ Khabaz 21.56 325 *i*P **P** **18 51 50.3 +0.6**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
GHAJ Ghor Haditha 21.58 287 P **P** **18 51 47.3 -2.7**
GHAJ IAmb IAmb 18 52 06.4
comp=Z,32nm,0.9s
ARPR Arapgir-MALATY 21.59 309 P **P** **18 51 48.3 -2.0**
GAZ Gaziantep 21.60 304 **P** **18 51 47.6 -2.8**
GAZ IAmb IAmb 18 52 03.5
comp=Z,24nm,0.8s
PRZ Przheval'sk 21.64 40 **P** **18 51 49.4 -1.4**
PRZ Przheval'sk 21.64 40 P **P** **18 51 49.4 -1.4**
PRZ pmax pmax
comp=Z,22nm,1.0s
SHA1 Shidzhatmaz 21.69 325 *i*P **P** **18 51 52.3 +0.9**
KVAR Kislovodsk Arr 21.83 325 P **P** **18 51 53.8 +1.1**
comp=Z,2.5nm,0.7s,baz=104,slow=19,SNR=8.2
comp=Z,2.5nm,0.7s
KIV Kislovodsk 21.83 325 **P** **18 51 49.2 -3.6**
KIV IAmb IAmb 18 52 03.3
comp=Z,22nm,0.6s
KIV Kislovodsk 21.83 325 P **P** **18 51 56.0 +3.3**
KIV Kislovodsk 21.83 325 ⇑P **P** **18 51 55.0 +2.2**
KIV Kislovodsk 21.83 325 *e*P **P** **18 51 51.6 -1.2**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV Kislovodsk 21.83 325 P **P** **18 51 55.0 +2.2**
comp=Z,20nm,0.9s
MMAI Mount Meron Ar 21.93 292 P **P** **18 51 55.8 +1.9**
comp=Z,14nm,1.1s,baz=93,slow=14,SNR=12
MMAI LR LR 19 02 36.6
comp=Z,467nm,18.4s,baz=99,slow=43
comp=Z,14nm,1.1s
EIL Elat 22.02 283 P **P** **18 51 56.8 +1.9**
comp=Z,17nm,0.9s,baz=108,slow=6.4,SNR=11
EIL LR LR 19 01 47.9
comp=Z,125nm,18.7s,baz=54,slow=40
comp=Z,17nm,0.9s
ATD Arta Tunnel 22.18 229 **P** **18 51 56.5 -0.1**
ATD IAmb IAmb 18 52 10.6
comp=Z,94nm,1.2s
ABKAR Akbulak array 22.20 0 P **P** **18 51 54.1 -2.5**
SOC Sochi 23.18 321 *e*P **P** **18 52 07.0 0.0**
SOC *e*PPP PPP 18 52 40.4
SOC *e*S **S** **18 56 20.9 +2.2**
SOC *e*SS **SnSn** **18 56 53.0 +1.0**
SOC *e*SSS SSS 18 57 05.7
SOC MLR MLR
comp=Z,136nm,15.0s
BNN Bunyan 23.24 307 **P** **18 52 04.9 -2.9**
EVN Everest 23.97 82 P **P** **18 52 14.9 -0.7**
KIRS Kirsehir-Merke 24.74 306 ⇓P **P** **18 52 23.1 +1.2**
BR104 Keskin Array S 25.15 307 P **P** **18 52 27.5 +1.8**
comp=Z,177nmcomp=Z,25nm,0.9s
BR131 Keskin Array S 25.16 307 P **P** **18 52 28.1 +2.4**
BR131 Keskin Array S 25.16 307 *i*P **P** **18 52 25.4 -0.4**
BRTR Keskin Array B 25.16 307 **P** **18 52 22.5 -3.3**
BRTR Keskin Array B 25.16 307 P **P** **18 52 27.1 +1.3**
comp=Z,16nm,0.8s,baz=121,slow=11,SNR=80
BRTR PcP **PcP** **18 55 59.9 +0.2**
comp=Z,0.8nm,0.8s,baz=115,slow=2.1,SNR=2.9
BRTR LR LR 19 04 38.3
comp=Z,186nm,19.3s,baz=124,slow=42
comp=Z,16nm,0.8s
BRTR Keskin Array B 25.16 307 *e*P **P** **18 52 27.4 +1.6**
BRTR pmax pmax
comp=Z,16nm,0.8s
BR105 Keskin Array S 25.17 307 P **P** **18 52 27.7 +1.8**
comp=Z,194nmcomp=Z,28nm,0.9s
BR106 Keskin Array S 25.17 307 P **P** **18 52 27.7 +1.8**
comp=Z,176nmcomp=Z,26nm,0.9s
ANN Anapa 25.23 321 *e*P **P** **18 52 24.7 -1.4**
ANN pmax pmax
comp=Z,8.0nm,0.7s
ANTO Ankara 25.81 307 P **P** **18 52 33.5 +1.8**
comp=Z,7.7nm,0.7s
MK31 Makanchi Array 26.54 36 *i*P **P** **18 52 37.6 -0.5**
MKAR Makanchi Array 26.54 36 **P** **18 52 36.7 -1.4**
MKAR Makanchi Array 26.54 36 P **P** **18 52 38.2 +0.1**
comp=Z,9.3nm,0.7s,baz=218,slow=8.1,SNR=20
MKAR PcP **PcP** **18 56 01.7 -0.8**
comp=Z,0.3nm,0.5s,baz=226,slow=4.2,SNR=2.4
MKAR LR LR 19 03 50.5
comp=Z,146nm,21.4s,baz=238,slow=38
comp=Z,9.3nm,0.7s
MKAR Makanchi Array 26.54 36 *e*P **P** **18 52 38.5 +0.4**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
FURI Furi 26.92 232 LR LR 19 05 38.2
comp=Z,122nm,20.2s,baz=77,slow=42
BELG Belogornoye 26.94 343 *i*P **P** **18 52 41.0 -0.6**
BELG pmax pmax
comp=Z,4.0nm,0.9s
BVAR Borovoye Array 27.15 14 P **P** **18 52 43.2 -0.2**
comp=Z,11nm,0.8s,baz=199,slow=10,SNR=15
BVAR PcP **PcP** **18 56 04.0 +0.2**
comp=Z,0.7nm,0.5s,baz=213,slow=1.9,SNR=3.1
comp=Z,11nm,0.8s
KURBB Kurchatov Arra 27.56 26 P **P** **18 52 47.4 +0.2**
comp=Z,5.8nm,1.0s,baz=223,slow=8.5,SNR=13
comp=Z,5.8nm,1.0s
KURK Kurchatov 27.67 26 P **P** **18 52 47.1 -1.1**
KURK Kurchatov 27.67 26 P **P** **18 52 47.4 -0.8**
PALK Pallekele 27.92 131 LR LR 19 03 21.2
comp=Z,125nm,20.4s,baz=318,slow=35
MANT Manisa 28.53 302 P **P** **18 52 52.3 -3.9**
MANT IAmb IAmb 18 52 59.1
comp=Z,35nm,1.7s
BRDH Bariadhala 29.17 91 LR LR 19 07 22.2
comp=Z,254nm,18.7s,baz=330,slow=42

TPGR Topolog 30.76 314 ⇓P **P** **18 53 16.3 +0.5**
IDI Anoyia 30.87 294 LR LR 19 11 17.3
comp=Z,89nm,19.9s,baz=46,slow=47
RDO Rodhopi 31.46 305 P **P** **18 53 17.8 -4.1**
RDO IAmb IAmb 18 53 24.1
comp=Z,11nm,1.2s
VRI Vrincioaia 32.26 314 ⇓P **P** **18 53 29.9 +1.0**
VRI Vrincioaia 32.26 314 ⇓P **P** **18 53 29.9 +1.0**
SORM Soroca 32.30 319 ⇑P **P** **18 53 29.5 +0.4**
SORM Soroca 32.30 319 ⇑P **P** **18 53 29.5 +0.4**
PLOR Plostina 32.31 314 ⇑P **P** **18 53 30.1 +0.8**
PLOR Plostina 32.31 314 ⇑P **P** **18 53 30.1 +0.8**
KIRV Kirov 32.38 350 *i*P **P** **18 53 29.9 +0.2**
TESR Tescani 32.58 315 P **P** **18 53 32.5 +0.8**
comp=Z,8.7nm,0.8s
COVR Voineasa-Covas 32.59 314 ⇑P **P** **18 53 32.5 +0.7**
ZALV Zalesovo Beam 32.61 28 **P** **18 53 30.1 -1.7**
ZALV Zalesovo Beam 32.61 28 P **P** **18 53 31.3 -0.6**
comp=Z,7.7nm,0.4s,baz=237,slow=10,SNR=23
ZALV PcP **PcP** **18 56 17.3 -0.5**
comp=Z,0.7nm,0.5s,baz=238,slow=3.7,SNR=2.3
comp=Z,7.7nm,0.4s
MLR Muntele Rosu 32.62 313 P **P** **18 53 28.7 -3.5**
MLR Muntele Rosu 32.62 313 LR LR 19 09 45.8
comp=Z,81nm,20.6s,baz=104,slow=42
MLR Muntele Rosu 32.62 313 ⇑P **P** **18 53 33.1 +0.9**
MLR Muntele Rosu 32.62 313 ⇑P **P** **18 53 33.1 +0.9**
OBN Obninsk 32.77 335 P **P** **18 53 29.8 -3.4**
OBN Obninsk 32.77 335 *e*P **P** **18 53 33.3 +0.1**
OBN *e**PP **sP** **18 53 37.4 -0.3**
OBN *e* 18 54 40.1
OBN *e* 18 56 19.3
OBN pmax pmax
comp=Z,12nm,1.0s
OBN MLR MLR
comp=Z,125nm,18.0s
LODK Lodwar 33.12 229 **P** **18 53 35.1 -1.7**
LODK IAmb IAmb 18 53 45.7
comp=Z,9.1nm,1.1s
AKASG Malin Array Be 33.16 324 P **P** **18 53 35.9 -0.8**
comp=Z,0.8nm,0.5s,baz=127,slow=8.1,SNR=9.3
AKASG PcP **PcP** **18 56 19.2 -0.3**
comp=Z,1.5nm,0.7s,baz=104,slow=2.7,SNR=2.5
comp=Z,0.8nm,0.5s
AKASG Malin Array Be 33.16 324 *e*P **P** **18 53 36.4 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 33.16 324 *i*P **P** **18 53 36.4 -0.3**
AKBB pmax pmax
comp=Z,9.0nm,1.4s
AKBB Malin Array Si 33.16 324 P **P** **18 53 36.4 -0.3**
DOPR Dopca 33.16 314 ⇓P **P** **18 53 36.5 -0.3**
KIEV Kiev 33.16 324 P **P** **18 53 33.2 -3.5**
KIEV IAmb IAmb 18 53 49.0
comp=Z,12nm,1.2s
KIEV Kiev 33.16 324 ⇑P **P** **18 53 37.0 +0.3**
KIEV Kiev 33.16 324 ⇑P **P** **18 53 37.0 +0.3**
AK13 Malin Array Si 33.20 324 P **P** **18 53 39.2 +2.2**
AK15 Malin Array Si 33.21 324 P **P** **18 53 39.8 +2.7**
ARR Arges 33.43 313 ⇑P **P** **18 53 39.6 +0.4**
BURAR Bucovina Array 33.94 317 P **P** **18 53 41.3 -2.4**
BURAR Bucovina Array 33.94 317 ⇑P **P** **18 53 43.6 0.0**
BURAR Bucovina Array 33.94 317 ⇑P **P** **18 53 43.6 0.0**
LOT Lotru 34.03 312 ⇑P **P** **18 53 44.7 +0.3**
FNA Florina 34.44 303 **P** **18 53 45.3 -2.7**
FNA IAmb IAmb 18 53 51.6
comp=Z,8.0nm,0.7s
FNA Florina 34.44 303 P **P** **18 53 45.3 -2.7**
FNA pmax pmax
comp=Z,8.0nm,0.7s
MARR Marisel-Cluj 34.89 314 ⇓P **P** **18 53 51.9 0.0**
DRGR 35.19 314 ⇓P **P** **18 53 54.9 +0.5**
DRGR 35.19 314 ⇓P **P** **18 53 54.9 +0.5**
GTA Gaotai 35.41 59 *e*P **P** **18 53 58.0 +1.5**
GTA pP sP 18 54 01.3 +0.3
GTA pmax pmax
comp=Z,9.0nm,0.8s
GTA LR LR
comp=N,200nm,13.5s
GTA LR LR
comp=E,120nm,15.5s
GTA LR LR
comp=Z,140nm,20.3s
KMBO Kilima Mbogo 35.42 221 P **P** **18 53 58.0 +1.1**
comp=Z,3.1nm,0.7s,baz=40,slow=13,SNR=5.4
KMBO LR LR 19 08 34.0
comp=Z,113nm,21.9s,baz=100,slow=36
comp=Z,3.1nm,0.7s
KMBO Kilima Mbogo 35.42 221 *e*P **P** **18 54 00.8 +3.9**
KMBO pmax pmax
comp=Z,4.0nm,0.8s
BZS Buzias 35.51 312 ⇓P **P** **18 53 57.6 +0.5**
BZS Buzias 35.51 312 ⇓P **P** **18 53 57.6 +0.5**
SIRR Siria 35.69 313 ⇓P **P** **18 53 59.5 +0.8**
KIBK Kibwezi 35.95 219 P **P** **18 54 00.2 -1.1**
MNK Minsk 36.03 328 *i*P **P** **18 54 01.0 -0.4**
comp=E,12nm,0.9s
MNK *i*P **P** **18 54 01.0 -0.4**
comp=N,12nm,1.0s
MNK *i*P **P** **18 54 01.0 -0.4**
comp=Z,5.0nm,0.7s,baz=127
MNK *i*PP **PP** **18 55 24.0 +0.7**
MNK *i*PPP PPP 18 55 36.6
MNK *i*S **S** **18 59 41.7 +1.4**
MNK *i*SS **SnSn** **19 02 09.0 +4.4**
MNK *i*SSS SSS 19 02 24.9
MNK *i*LQ LQ 19 05 56.1
MNK *i*LR LR 19 08 38.9
MNK *i*LRM MLR 19 09 50.9
comp=Z,87nm,16.6s
MNK *i*LRM MLR 19 11 20.2
comp=N,199nm,24.9s
MNK *i*LRM MLR 19 11 21.7
comp=E,240nm,25.2s
MNK Minsk 36.03 328 *i*P **P** **18 54 01.0 -0.4**
MNK *i* 18 55 23.9
MNK *i*PPP PPP 18 55 36.5
MNK *i*S **S** **18 59 41.6 +1.4**
MNK *i*SSS SSS 19 02 24.9
MNK pmax pmax
comp=E,12nm,0.9s
MNK pmax pmax
comp=N,12nm,1.0s
MNK pmax pmax
comp=Z,5.0nm,0.7s
MNK MLR MLR
comp=Z,87nm,17.0s
MNK MLR MLR
comp=N,199nm,25.0s
MNK MLR MLR
comp=E,240nm,25.0s
UZHM Uzhgorod 36.14 317 P **P** **18 54 04.0 +1.5**
KOLS Kolonicke sedl 36.27 317 *e*P **P** **18 54 04.3 +0.7**
KOLS pmax pmax
comp=Z,7.0nm,0.7s
KLMR Klimovskoe 36.52 343 *e*P **P** **18 54 05.0 -0.5**
KLMR pmax pmax
comp=Z,19nm,1.3s
CHTO Chiang Mai 36.85 94 P **P** **18 54 08.8 -0.1**
CHTO Chiang Mai 36.85 94 P **P** **18 54 08.8 -0.1**
CHTO pmax pmax
comp=Z,12nm,1.4s
CMAR Chiang Mai Arr 36.97 95 P **P** **18 54 11.0 +1.1**
comp=Z,0.8nm,0.7s,baz=280,slow=11,SNR=7.7
CMAR PcP **PcP** **18 56 31.2 +0.1**
comp=Z,0.5nm,0.4s,baz=293,slow=4.0,SNR=4.3
CMAR LR LR 19 11 12.6
comp=Z,42nm,21.5s,baz=280,slow=39
comp=Z,0.8nm,0.7s
PZH PanZhiHua 37.33 81 P **P** **18 54 14.4 +1.4**
TIP Timpagrande 37.72 300 P **P** **18 54 12.4 -3.7**
TIP IAmb IAmb 18 54 18.6
comp=Z,23nm,1.1s
TIP Timpagrande 37.72 300 ⇓P **P** **18 54 17.3 +1.2**
TIP Timpagrande 37.72 300 P **P** **18 54 17.2 +1.1**
comp=Z,18nm,1.1s
LZDM Lanzhou Array 38.21 65 P **P** **18 54 21.4 +0.8**
comp=Z,3.5nm,0.4s,baz=259,slow=6.8,SNR=4.1
comp=Z,3.5nm,0.4s
VYHS Vyhne 38.23 315 *e*P **P** **18 54 20.7 +0.4**
OJC Ojcow 38.25 318 P **P** **18 54 17.3 -3.1**
OJC Ojcow 38.25 318 P **P** **18 54 17.3 -3.1**
CEL Celeste 38.32 298 P **P** **18 54 18.8 -2.4**
CEL IAmb IAmb 18 54 23.8
comp=Z,22nm,1.1s

CEL Celeste 38.32 298 P **P** **18 54 21.8 +0.6**
comp=Z,18nm,1.1s
CUC Castrocucco 38.52 301 **P** **18 54 22.5 -0.4**
VSU Vasula 38.98 333 *i*P **P** **18 54 24.8 -1.5**
BEHE Becsehely 38.98 311 P **P** **18 54 25.4 -1.2**
MORC Moravsky Berou 39.46 317 *e*P **P** **18 54 30.4 -0.2**
MOY Mondy 39.50 40 *e*P **P** **18 54 35.4 +4.4**
MOY pmax pmax
comp=Z,15nm,1.5s
RONA Rosalia, Austr 39.62 313 *e*P **P** **18 54 32.1 +0.1**
comp=Z,5.4nm,0.8s
VRAC Vranov 39.90 316 LR LR 19 15 20.7
comp=Z,31nm,18.7s,baz=105,slow=43
VRAC Vranov 39.90 316 *e*P **P** **18 54 34.3 +0.1**
VRAC *e* 18 54 44.3
KRUC Moravsky 39.95 315 *e*P **P** **18 54 35.2 +0.6**
KRUC *e* 18 54 45.5
DPC Dobruska-Polom 40.39 317 *e*P **P** **18 54 40.0 +1.7**
DPC Dobruska-Polom 40.39 317 *e*P **P** **18 54 40.0 +1.7**
TRI Trieste 40.86 310 P **P** **18 54 41.3 -0.9**
TRI Trieste 40.86 310 P **P** **18 54 41.3 -0.9**
TRI pmax pmax
comp=Z,74nm,1.5s
NRCA Norcia 40.87 305 P **P** **18 54 41.0 -1.3**
NRCA IAmb IAmb 18 55 44.8
comp=Z,89nm,2.0s
FDMO Fiordimonte 40.91 305 P **P** **18 54 41.2 -1.5**
MOA Molln 40.98 313 *e*P **P** **18 54 43.5 +0.2**
comp=Z,3.1nm,0.6s
FINES FINESS Array B 41.16 336 P **P** **18 54 44.0 -0.5**
FINES FINESS Array B 41.16 336 P **P** **18 54 43.8 -0.7**
comp=Z,2.3nm,0.6s,baz=132,slow=7.6,SNR=5.8
comp=Z,2.3nm,0.6s
FINES FINESS Array B 41.16 336 *e*P **P** **18 54 44.0 -0.5**
FINES pmax pmax
comp=Z,2.0nm,0.5s
BIOA Bad Ischl, Aus 41.36 312 *e*P **P** **18 54 46.6 +0.3**
comp=Z,3.7nm,0.6s
GERES GERESS Array B 41.59 314 P **P** **18 54 47.5 -0.8**
comp=Z,2.1nm,0.7s,baz=104,slow=9.8,SNR=19
comp=Z,2.1nm,0.7s
GERES GERESS Array B 41.59 314 *e*P **P** **18 54 48.2 -0.1**
GERES pmax pmax
comp=Z,2.0nm,0.6s
MLSI Meulaboh, Aceh 41.62 116 P **P** **18 54 50.9 +2.1**
SONM Songino Array 41.67 47 **P** **18 54 48.9 -0.1**
SONM Songino Array 41.67 47 P **P** **18 54 49.6 +0.6**
comp=Z,6.3nm,0.8s,baz=257,slow=9.0,SNR=12
SONM LR LR 19 14 42.0
comp=Z,180nm,18.8s,baz=260,slow=40
comp=Z,6.3nm,0.8s
SONM Songino Array 41.67 47 P **P** **18 54 48.9 -0.1**
SONM pmax pmax
comp=Z,7.0nm,1.0s
KHC Kasperske Hory 41.74 315 *e*P **P** **18 54 49.5 0.0**
KHC Kasperske Hory 41.74 315 *e*P **P** **18 54 49.5 0.0**
KHC Kasperske Hory 41.74 315 P **P** **18 54 49.4 0.0**
comp=Z,5.9nm,1.0s
ABTA Abfaltersbach 41.91 311 *e*P **P** **18 54 51.2 +0.3**
comp=Z,8.8nm,1.2s
LESA Schwarzleotal 41.94 312 *e*P **P** **18 54 50.9 -0.2**
comp=Z,4.5nm,0.7s
ULN Ulaanbaatar 42.11 48 P **P** **18 54 51.8 -0.8**
ULN IAmb IAmb 18 54 58.4
comp=Z,18nm,1.1s
ULN Ulaanbaatar 42.11 48 *i*P **P** **18 54 52.7 0.0**
ULN pmax pmax
comp=Z,15nm,1.1s
XAN Xi'an 42.56 68 ⇑P **P** **18 55 00.4 +4.1**
XAN pmax pmax
comp=Z,16nm,0.8s
ZCCA Zocca 42.60 307 P **P** **18 54 55.5 -1.1**
ZCCA IAmb IAmb 18 55 21.6
comp=Z,34nm,1.3s
WTTA Wattenberg 42.60 311 *e*P **P** **18 54 56.3 -0.4**
comp=Z,4.4nm,0.6s
WATA Walderalm 42.65 312 *e*P **P** **18 54 57.5 +0.5**
comp=Z,3.2nm,0.6s
CLL Collm 42.69 318 *e*P **P** **18 54 57.0 -0.1**
CLL Collm 42.69 318 *e*P **P** **18 54 57.0 -0.1**
SQTA Sankt Quirin 42.88 311 *e*P **P** **18 54 58.5 -0.3**
comp=Z,2.6nm,0.5s
MOTA Moosalm 42.97 311 *e*P **P** **18 54 59.3 -0.3**
comp=Z,7.7nm,0.9s
PRMA PARMA 43.12 308 P **P** **18 54 57.6 -3.0**
PRMA IAmb IAmb 18 55 53.4
comp=Z,26nm,0.6s
KCSI Kotacane, Aceh 43.15 116 P **P** **18 55 01.9 +0.6**
comp=Z,12nm,0.9s
FETA Feichten 43.16 311 *e*P **P** **18 55 01.2 0.0**
comp=Z,5.1nm,0.7s
RETA Reutte 43.22 312 *e*P **P** **18 55 00.9 -0.7**
comp=Z,4.0nm,0.6s
GRFO Grafenberg 43.37 315 P **P** **18 54 59.8 -2.9**
GRFO Grafenberg 43.37 315 P **P** **18 54 59.8 -2.9**
GRFO pmax pmax
comp=Z,8.0nm,0.8s
FUORN Ofenpass-Fuorn 43.41 310 **P** **18 55 01.1 -2.3**
FUORN IAmb IAmb 18 55 09.9
comp=Z,8.8nm,0.7s
VSL Villasalto 43.45 300 P **P** **18 55 01.9 -1.5**
VSL IAmb IAmb 18 55 04.7
comp=Z,49nm,1.5s
MSSA Maissana 43.63 307 P **P** **18 55 03.2 -1.7**
MSSA IAmb IAmb 18 55 29.2
comp=Z,25nm,1.1s
DAVOX Davos/Dischmat 43.70 310 LR LR 19 16 58.1
comp=Z,67nm,19.6s,baz=86,slow=41
DAVA Damuels 43.78 311 *e*P **P** **18 55 05.7 -0.4**
comp=Z,9.3nm,0.6s
TUE Stuetta 44.02 310 **P** **18 55 07.0 -1.1**
KULM Kulim 44.49 112 P **P** **18 55 10.5 -1.5**
KULM IAmb IAmb 18 55 18.0
comp=Z,11nm,0.9s
HHC Hu-ho-hao-te 44.50 58 *e*P **P** **18 55 12.5 +0.5**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,85nm,4.7s
PSI Prapat 44.50 116 P **P** **18 55 12.4 +0.1**
PSI pmax pmax
comp=Z,14nm,0.8s
RPSI Rantau Prapat 44.57 116 **P** **18 55 12.4 -0.2**
RPSI IAmb IAmb 18 55 16.1
comp=Z,14nm,0.8s
IPM Ipoh 45.25 112 **P** **18 55 17.3 -0.8**
SENIN Lac Senin/Sane 45.41 310 **P** **18 55 14.8 -4.5**
HFS Hagfors 45.51 330 P **P** **18 55 18.9 -0.7**
comp=Z,2.3nm,0.5s,baz=126,slow=9.3,SNR=13
comp=Z,2.3nm,0.5s
BNI Bardonecchia 45.72 308 **P** **18 55 18.1 -3.5**
BNI IAmb IAmb 18 55 22.4
comp=Z,8.9nm,0.8s
BNI Bardonecchia 45.72 308 P **P** **18 55 18.1 -3.5**
BNI pmax pmax
comp=Z,9.0nm,0.9s
ECH Echery 45.74 312 **P** **18 55 18.0 -3.6**
ECH Echery 45.74 312 P **P** **18 55 18.0 -3.6**
ECH pmax pmax
comp=Z,4.0nm,0.8s
QIZ Qiongzhong 46.49 89 P **P** **18 55 27.5 -0.4**
ARCES ARCESS Array B 46.98 344 P **P** **18 55 29.1 -2.0**
ARCES ARCESS Array B 46.98 344 P **P** **18 55 30.4 -0.7**
comp=Z,2.0nm,0.7s,baz=140,slow=8.4,SNR=9.1
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 46.98 344 P **P** **18 55 29.1 -2.0**
ARCES pmax pmax
comp=Z,82nm,1.9s
NB2 NORSAR Subarra 47.00 330 P **P** **18 55 30.4 -0.9**
comp=Z,7.6nm,1.2s,baz=112,slow=7.9
NOA NORSAR Array B 47.00 330 P **P** **18 55 30.5 -0.9**
comp=Z,1.9nm,0.9s,baz=118,slow=7.5,SNR=6.0
comp=Z,1.9nm,0.9s
NOA NORSAR Array B 47.00 330 *e*P **P** **18 55 31.0 -0.4**
NOA pmax pmax
comp=Z,1.0nm,0.6s
KONO Kongsberg 47.22 328 *i*P **P** **18 55 32.2 -0.8**
SSB Saint Sauveur 47.24 308 **P** **18 55 31.6 -1.9**
SSB IAmb IAmb 18 55 34.0
comp=Z,9.6nm,0.8s
SSB Saint Sauveur 47.24 308 P **P** **18 55 31.6 -1.9**
SSB pmax pmax
comp=Z,10.0nm,0.8s
ABPO Ambohimpanom 47.36 196 P **P** **18 55 35.6 +0.9**
ABPO IAmb IAmb 18 57 04.2
comp=Z,11nm,1.2s

ABPO	**Ambohimpanom**	**47.36**	**196**	P	**P**	**18 55 35.6**	**+0.9**		
ABPO				pmax	pmax				
	comp=Z,11nm,1.3s								
WHN	**Wuhan**	**47.55**	**72**	P	**P**	**18 55 40.5**	**+4.5**		
XLT	**XiLinHaoTe**	**47.91**	**54**	*e*P	**P**	**18 55 39.7**	**+0.9**		
XLT				pmax	pmax				
	comp=Z,16nm,1.0s								
BOD	**Bodaibo**	**48.62**	**35**	*e*P	**P**	**18 55 43.6**	**-0.3**		
BOD				pmax	pmax				
	comp=Z,21nm,1.2s								
CORI	**Orista**	**49.00**	**303**	P	**P**	**18 55 46.1**	**-1.0**		
TAM	**Tamanrasset**	**49.10**	**278**		**P**	**18 55 47.4**	**-0.9**		
TAM	**Tamanrasset**	**49.10**	**278**	P	**P**	**18 55 47.4**	**-0.9**		
TAM				pmax	pmax				
	comp=Z,34nm,0.9s								
KRJI	**Kerinci**	**49.48**	**119**	P	**P**	**18 55 54.5**	**+3.3**		
CEST	**Esterri de Car**	**49.58**	**304**	P	**P**	**18 55 50.3**	**-1.4**		
CEST				IAmb	IAmb	18 56 03.0			
	comp=Z,34nm,1.9s								
VOI	**Vohitsoka**	**50.24**	**196**	P	**P**	**18 55 57.4**	**+0.6**		
HIA	**Hailar**	**50.64**	**47**	P	**P**	**18 55 59.2**	**-0.3**		
HIA				IAmb	IAmb	18 56 04.9			
	comp=Z,8.7nm,0.7s								
HIA	**Hailar**	**50.64**	**47**	P	**P**	**18 55 59.2**	**-0.3**		
HIA				pmax	pmax				
	comp=Z,9.0nm,0.7s								
LSZ	**Lusaka**	**52.06**	**220**		**P**	**18 56 10.7**	**+0.1**		
LSZ				IAmb	IAmb	18 56 17.5			
	comp=Z,25nm,1.7s								
LSZ	**Lusaka**	**52.06**	**220**	P	**P**	**18 56 10.7**	**+0.1**		
LSZ				pmax	pmax				
	comp=Z,25nm,1.7s								
EKA	**Eskdalemuir Ar**	**52.95**	**320**	P	**P**	**18 56 15.4**	**-1.2**		
	comp=Z,0.3nm,0.3s,baz=96,slow=4.5,SNR=4.2								
	comp=Z,0.3nm,0.3s								
MDSI	**Maura Dua**	**53.09**	**119**	P	**P**	**18 56 18.9**	**+0.8**		
	comp=Z,14nm,1.1s								
ESDC	**Sonseca Array**	**53.72**	**301**	P	**P**	**18 56 20.3**	**-2.3**		
ESDC	**Sonseca Array**	**53.72**	**301**	P	**P**	**18 56 22.5**	**-0.1**		
	comp=Z,2.9nm,0.8s,baz=76,slow=6.1,SNR=9.5								
	comp=Z,2.9nm,0.8s								
PAB	**San Pablo**	**54.03**	**301**	P	**P**	**18 56 23.4**	**-1.5**		
PAB	**San Pablo**	**54.03**	**301**	P	**P**	**18 56 23.4**	**-1.5**		
PAB				pmax	pmax				
	comp=Z,12nm,0.5s								
ZEA	**Zeya**	**55.48**	**42**	*e*P	**P**	**18 56 38.3**	**+3.3**		
ZEA				pmax	pmax				
	comp=N,10.0nm,1.1s								
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
HEH	**HeiHe**	**55.62**	**46**	*e*P	**P**	**18 56 35.6**	**-0.5**		
HEH				pmax	pmax				
	comp=Z,13nm,0.8s								
KSANE	**Kasane**	**55.81**	**221**	P	**P**	**18 56 38.4**	**+0.4**		
KSANE				IAmb	IAmb	18 56 44.4			
	comp=Z,14nm,0.9s								
TORD	**Torodi Ar. Bea**	**55.86**	**268**		**P**	**18 56 36.6**	**-1.8**		
TORD				IAmb	IAmb	18 56 39.9			
	comp=Z,5.7nm,0.8s								
TORD	**Torodi Ar. Bea**	**55.86**	**268**	P	**P**	**18 56 38.2**	**-0.1**		
	comp=Z,8.6nm,0.7s,baz=54,slow=7.9,SNR=65								
	comp=Z,8.6nm,0.7s								
BNX	**BinXian**	**55.90**	**51**	⇓P	**P**	**18 56 42.9**	**+4.7**		
BNX				pmax	pmax				
	comp=Z,7.0nm,0.7s								
YAK	**Yakutsk**	**57.10**	**32**	P	**P**	**18 56 45.5**	**-0.9**		
YAK				IAmb	IAmb	18 56 49.9			
	comp=Z,12nm,0.8s								
YAK	**Yakutsk**	**57.10**	**32**	*e*P	**P**	**18 56 45.0**	**-1.4**		
YAK				pmax	pmax				
	comp=Z,12nm,0.9s								
YAK				pmax	pmax				
	comp=N,1.0nm,0.8s								
YAK				pmax	pmax				
	comp=E,10.0nm,2.0s								
KSAR	**Wonju Array Be**	**57.41**	**61**	P	**P**	**18 56 48.0**	**-1.0**		
KSAR	**Wonju Array Be**	**57.41**	**61**	P	**P**	**18 56 48.1**	**-1.0**		
KSRS	**Korea Array**	**57.44**	**61**	P	**P**	**18 56 49.6**	**+0.3**		
	comp=E,2.8nm,0.6s,baz=277,slow=6.9,SNR=9.8								
	comp=E,2.8nm,0.6s								
KSRS	**Korea Array**	**57.44**	**61**	*e*P	**P**	**18 56 52.6**	**+3.3**		
KSRS				pmax	pmax				
	comp=Z,3.0nm,0.7s								
TIXI	**Tiksi**	**58.02**	**20**	*i* P	**P**	**18 56 53.3**	**+0.5**		
TIXI				pmax	pmax				
	comp=Z,8.0nm,1.0s								
MREMI	**Moremi**	**58.39**	**216**	P	**P**	**18 56 55.5**	**-0.6**		
MREMI				IAmb	IAmb	18 56 59.2			
	comp=Z,12nm,1.2s								
XAUDM	**Khaudum**	**58.68**	**224**	P	**P**	**18 56 57.1**	**-1.1**		
XAUDM				IAmb	IAmb	18 57 01.8			
	comp=Z,11nm,1.2s								
USRK	**Ussuriysk Ar.**	**59.32**	**53**	P	**P**	**18 57 02.0**	**-0.3**		
	comp=Z,1.9nm,0.9s,baz=274,slow=4.2,SNR=4.3								
USRK				LR	LR	19 25 12.2			
	comp=Z,110nm,19.2s,baz=303,slow=39								
	comp=Z,1.9nm,0.9s								
CKGRV	**CKGRV**	**59.45**	**220**	*i* P	**P**	**18 57 05.5**	**+1.9**		
QNGWA	**Qangwa**	**59.53**	**223**	*i* P	**P**	**18 57 06.2**	**+2.1**		
QNGWA	**Qangwa**	**59.53**	**223**		**P**	**18 57 03.1**	**-1.0**		
QNGWA				IAmb	IAmb	18 57 10.5			
	comp=Z,12nm,1.1s								
MYLDM	**Lahad Datu**	**59.86**	**100**	P	**P**	**18 57 07.9**	**+1.5**		
LPHEP	**Lephephe**	**59.87**	**216**	P	**P**	**18 57 05.5**	**-0.9**		
POA	**Pongola**	**60.43**	**209**	P	**P**	**18 57 10.4**	**+0.4**		
GRTLG	**Ghanzi**	**60.90**	**222**	*i* P	**P**	**18 57 15.7**	**+2.2**		
GRTLG	**Ghanzi**	**60.90**	**222**		**P**	**18 57 13.5**	**0.0**		
GRTLG				IAmb	IAmb	18 57 17.0			
	comp=Z,17nm,1.1s								
KGCAE	**Kacgae**	**61.48**	**220**	*i* P	**P**	**18 57 19.4**	**+2.0**		
KGCAE	**Kacgae**	**61.48**	**220**		**P**	**18 57 18.5**	**+1.1**		
TSUM	**Tsumeb**	**61.54**	**226**		**P**	**18 57 18.4**	**+0.5**		
TSUM				IAmb	IAmb	18 57 20.7			
	comp=Z,14nm,1.4s								
SKOMA	**Sekoma**	**61.84**	**217**	*i* P	**P**	**18 57 21.4**	**+1.6**		
MAKGR	**Makgori**	**62.42**	**216**	*i* P	**P**	**18 57 25.2**	**+1.5**		
MAKGR	**Makgori**	**62.42**	**216**	P	**P**	**18 57 24.7**	**+1.0**		
KOOLE	**Kule**	**62.76**	**221**	*i* P	**P**	**18 57 28.3**	**+2.3**		
KOOLE	**Kule**	**62.76**	**221**		**P**	**18 57 26.3**	**+0.3**		
LKGWB	**Lokgwabe**	**63.03**	**220**		**P**	**18 57 26.4**	**-1.4**		
PHPEN	**Phepeng**	**63.19**	**217**	P	**P**	**18 57 29.0**	**+0.2**		
DBIC	**Dimbokro**	**64.44**	**264**	P	**P**	**18 57 37.6**	**+0.4**		
	comp=Z,7.4nm,0.8s,baz=74,slow=7.3,SNR=6.7								
DBIC				LR	LR	19 29 59.3			
	comp=Z,81nm,18.1s,baz=95,slow=40								
	comp=Z,7.4nm,0.8s								
BOSA	**Boshof**	**64.49**	**214**	P	**P**	**18 57 38.2**	**+0.9**		
	comp=Z,6.8nm,0.6s,baz=29,slow=5.9,SNR=23								
	comp=Z,6.8nm,0.6s								
INU	**Inuyama**	**65.06**	**62**	P	**P**	**18 57 41.1**	**+0.1**		
INU				IAmb	IAmb	18 57 45.3			
	comp=Z,16nm,1.2s								
MJAR	**Matsushiro Ar**	**65.65**	**60**	LR	LR	19 29 25.9			
	comp=Z,52nm,19.9s,baz=290,slow=39								
ASAJ	**Asahikawa**	**66.79**	**51**	LR	LR	19 30 09.2			
	comp=Z,86nm,18.1s,baz=320,slow=39								
ASAJ	**Asahikawa**	**66.79**	**51**	P	**P**	**18 57 50.9**	**-1.1**		
ASAJ				pmax	pmax				
	comp=Z,32nm,1.5s								
JKA	**Kamikawa-asahi**	**66.79**	**51**	P	**P**	**18 57 50.9**	**-1.1**		
SUMG	**Summit**	**66.90**	**341**	P	**P**	**18 57 50.0**	**-2.7**		
SUMG	**Summit**	**66.90**	**341**	P	**P**	**18 57 50.0**	**-2.7**		
SUMG				pmax	pmax				
	comp=Z,26nm,1.4s								
SEY	**Seymchan**	**67.45**	**30**	*e*P	**P**	**18 57 55.5**	**-0.3**		
SEY				pmax	pmax				
	comp=Z,7.0nm,0.9s								
GRHM	**Grahamstown, E**	**67.86**	**210**	P	**P**	**18 57 58.4**	**-0.3**		
TULEG	**Thule**	**72.01**	**349**	P	**P**	**18 58 23.0**	**-0.7**		
PETK	**Petropavlovsk-**	**73.34**	**39**	LR	LR	19 33 26.2			
	comp=Z,75nm,18.2s,baz=283,slow=38								
FITZ	**Fitzroy Crossi**	**78.01**	**117**		**P**	**18 58 58.8**	**-0.4**		
KNRA	**Kununurra**	**79.21**	**114**	P	**P**	**18 59 06.0**	**+0.1**		
KNRA				IAmb	IAmb	19 00 51.7			
	comp=Z,13nm,1.2s								
B20K	**Meade River**	**79.68**	**12**	P	**P**	**18 59 06.4**	**-1.2**		
ILON	**Igloolik, Nuna**	**79.94**	**347**	P	**P**	**18 59 07.9**	**-1.1**		
C19K	**Lookout Ridge**	**79.95**	**13**	P	**P**	**18 59 08.8**	**-0.3**		
C18K	**Utukok River**	**79.98**	**14**	P	**P**	**18 59 08.3**	**-1.1**		
E18K	**Tukpahlearik C**	**81.11**	**15**	P	**P**	**18 59 14.7**	**-0.6**		
E19K	**Redstone River**	**81.81**	**14**		**P**	**18 59 18.1**	**-1.0**		
TOLK	**Toolik Lake Re**	**82.20**	**10**	IAmb	IAmb	18 59 31.7			
	comp=Z,29nm,1.6s								
F20K	**Avaraart Lake**	**82.47**	**13**	P	**P**	**18 59 22.1**	**-0.4**		
F20K				IAmb	IAmb	19 01 01.5			
	comp=Z,11nm,1.4s								
E24K	**Your Creek**	**82.89**	**10**	IAmb	IAmb	18 59 26.4			
	comp=Z,6.7nm,0.8s								
IMAR	**Indian Mountai**	**83.80**	**13**	P	**P**	**18 59 28.3**	**-1.2**		
BMAR	**Burnt Mountain**	**84.08**	**9**	P	**P**	**18 59 31.7**	**+0.8**		
MLY	**Manley**	**85.24**	**13**	IAmb	IAmb	19 02 47.6			
	comp=Z,22nm,2.0s								
H27K	**Steamboat Moun**	**85.62**	**9**		**P**	**18 59 39.2**	**+0.5**		
H27K				IAmb	IAmb	18 59 44.9			
	comp=Z,24nm,1.8s								
WRA	**Warramunga Arr**	**85.95**	**115**		**P**	**18 59 41.4**	**+0.4**		
WRA	**Warramunga Arr**	**85.95**	**115**	P	**P**	**18 59 40.8**	**-0.2**		
	comp=Z,6.3nm,0.8s,baz=309,slow=4.3,SNR=21								
	comp=Z,6.3nm,0.8s								
WRA	**Warramunga Arr**	**85.95**	**115**	P	**P**	**18 59 41.4**	**+0.4**		
WRAB	**Tennant Creek**	**85.96**	**115**	P	**P**	**18 59 41.1**	**0.0**		
WRAB				IAmb	IAmb	18 59 44.9			
	comp=Z,8.4nm,0.7s								
WRAB	**Tennant Creek**	**85.96**	**115**	P	**P**	**18 59 41.1**	**0.0**		
WRAB				pmax	pmax				
	comp=Z,8.0nm,0.7s								
ILAR	**Eielson Array**	**86.17**	**11**	P	**P**	**18 59 40.8**	**-0.6**		
	comp=Z,1.2nm,0.8s,baz=332,slow=4.6,SNR=8.2								
	comp=Z,1.2nm,0.8s								
ILAR	**Eielson Array**	**86.17**	**11**	*e*P	**P**	**18 59 43.5**	**+2.1**		
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
I28M	**Miner Creek**	**86.58**	**8**		**P**	**18 59 41.6**	**-1.8**		
I28M				IAmb	IAmb	18 59 47.6			
	comp=Z,5.4nm,0.9s								
J25K	**Salcha River,**	**86.58**	**11**	IAmb	IAmb	18 59 47.4			
	comp=Z,4.7nm,0.9s								
I29M	**Ogilvie Camp,**	**86.86**	**7**	IAmb	IAmb	18 59 48.5			
	comp=Z,4.4nm,0.8s								
J26L	**Joseph Creek**	**86.97**	**10**	P	**P**	**18 59 44.8**	**-0.6**		
J26L				IAmb	IAmb	18 59 49.5			
	comp=Z,5.2nm,0.8s								
I30M	**Mount Dempster**	**87.20**	**7**	IAmb	IAmb	18 59 50.4			
	comp=Z,4.9nm,0.7s								
SCRK	**Sand Creek**	**87.39**	**10**		**P**	**18 59 46.9**	**-0.7**		
SCRK				IAmb	IAmb	18 59 52.5			
	comp=Z,17nm,1.5s								
ASAR	**Alice Springs**	**87.50**	**118**		**P**	**18 59 48.6**	**+0.1**		
ASAR	**Alice Springs**	**87.50**	**118**	P	**P**	**18 59 48.4**	**-0.1**		
	comp=Z,7.6nm,0.8s,baz=306,slow=5.1,SNR=40								
	comp=Z,7.6nm,0.8s								
ASAR	**Alice Springs**	**87.50**	**118**	P	**P**	**18 59 48.6**	**+0.1**		
K27K	**Chicken**	**87.64**	**9**	IAmb	IAmb	18 59 53.8			
	comp=Z,8.7nm,1.0s								
DOT	**Dot Lake**	**87.69**	**10**	IAmb	IAmb	18 59 49.8			
	comp=Z,4.5nm,0.8s								
J30M	**Hart River**	**87.84**	**7**	IAmb	IAmb	18 59 54.0			
	comp=Z,12nm,1.5s								
DAWY	**Dawson**	**87.97**	**8**	IAmb	IAmb	18 59 54.4			
	comp=Z,5.6nm,1.0s								
K29M	**Barlow Dome**	**88.42**	**8**	IAmb	IAmb	18 59 57.3			
	comp=Z,3.3nm,0.8s								
L29M	**L29M**	**89.05**	**8**	P	**P**	**18 59 52.6**	**-2.7**		
L29M				IAmb	IAmb	19 00 01.2			
	comp=Z,18nm,1.8s								
QSPA	**South Pole Qui**	**116.86**	**180**	PKP	**PKiKP**	**19 05 45.1**	**+0.8**		
	comp=Z,1.1nm,0.8s,baz=222,slow=0.4,SNR=5.0								
TXAR	**Lajitas Array**	**121.77**	**343**	PKP	**PKiKP**	**19 05 55.4**	**+0.1**		
	comp=Z,0.2nm,0.5s,baz=33,slow=2.3,SNR=2.7								

*SJA **03** 18:52:28.6±0.6, 19°.24S×70°.15W, h60km±6km, ML3.5, MW3.5*
*GUC **03** 18:52:30.9±0.8, 19°.24S×70°.13W, h55km±8km, ML3.5*
ISC 03 18:52:31.0±1.9, **19°.25S**±0°.03×**70°.16W**±0°.05, **h34**km±4km, **n26**, σ0°.**80**/40, **1C-1D**, **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
					Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**0.65**	**346**	*e*P	**Pn**	**18 52 43.5**	**-0.3**	
PB12				*e*S	**Sn**	**18 52 53.5**	**+0.5**	
PB12	**IPOC Station P**	**0.65**	**346**	*e*P	**Pn**	**18 52 43.2**	**-0.6**	
PB12				*e*S	**Sb**	**18 52 54.0**	**+0.9**	
PB12				IAML		18 52 54.0		
	comp=Z,2μm,0.3s							
PB11	**IPOC Station P**	**0.70**	**137**	*e*P	**Pn**	**18 52 44.2**	**-0.3**	
PB11				*e*S	**Sn**	**18 52 55.0**	**+0.7**	
PB11	**IPOC Station P**	**0.70**	**137**	*e*P	**Pn**	**18 52 44.1**	**-0.5**	
PB11				*e*S	**Sb**	**18 52 55.1**	**+0.6**	
PB11				IAML		18 52 55.5		
	comp=Z,2μm,0.2s							
AP01	**Chacalluta**	**0.89**	**349**	*e*P	**Pn**	**18 52 46.5**	**-0.5**	
AP01				*e*S	**Sn**	**18 52 59.1**	**+0.4**	
AP01				IAML		18 53 01.9		
	comp=N,7μm,0.4s							
AP01	**Chacalluta**	**0.89**	**349**	*e*P	**Pn**	**18 52 46.4**	**-0.7**	
AP01				*e*S	**Sn**	**18 52 59.1**	**+0.4**	
AP01				IAML		18 53 02.6		
	comp=Z,2μm,0.3s							
GO01	**Chusmiza**	**1.00**	**115**	*e*P	**Pn**	**18 52 48.7**	**-0.4**	
GO01				*e*S	**Sn**	**18 53 02.7**	**+0.4**	
GO01				IAML		18 53 04.0		
	comp=N,2μm,0.1s							
GO01	**Chusmiza**	**1.00**	**115**	*e*P	**Pn**	**18 52 48.5**	**-0.6**	
GO01				IAML		18 53 03.1		
	comp=Z,838nm,0.2s							
GO01				*e*S	**Sn**	**18 53 03.1**	**+0.8**	
TA02	**Huaiquique**	**1.02**	**178**	*e*P	**Pn**	**18 52 48.4**	**-0.4**	
TA02	**Huaiquique**	**1.02**	**178**	*e*P	**Pn**	**18 52 48.0**	**-0.9**	
TA02				*e*S	**Sn**	**18 53 02.2**	**+0.3**	
TA02				IAML		18 53 05.7		
	comp=Z,1μm,0.1s							
HMBC	**Humberstone**	**1.06**	**166**	⇑*i*P	**Pn**	**18 52 48.9**	**-0.6**	
HMBC				IAML		18 53 05.6		
	comp=E,2μm,0.3s							
HMBC	**Humberstone**	**1.06**	**166**	*e*P	Pn	18 52 43.2	-6.3	
HMBC				*e*P		18 52 48.9		
HMBC				*e*S	**Sn**	**18 53 03.7**	**+0.6**	
HMBC				IAML		18 53 05.0		
	comp=Z,673nm,0.2s							
PB16	**IPOC Station P**	**1.10**	**34**	⇓*i*P	**Pn**	**18 52 49.5**	**-1.0**	
PB16				*e*S	**Sn**	**18 53 03.6**	**-1.2**	
PB16	**IPOC Station P**	**1.10**	**34**	*e*P	**Pn**	**18 52 49.5**	**-1.0**	
PB16				IAML		18 53 04.1		
	comp=Z,748nm,0.5s							
PB16				*e*S	**Sn**	**18 53 04.2**	**-0.6**	
TA01	**Diego Aracena**	**1.31**	**181**	*e*P	**Pn**	**18 52 52.4**	**-0.5**	
TA01	**Diego Aracena**	**1.31**	**181**	*e*P	**Pn**	**18 52 52.4**	**-0.5**	
TA01				*e*S	**Sn**	**18 53 08.8**	**-0.4**	
PB18	**Visviri**	**1.77**	**22**	*e*P	**Pn**	**18 53 01.3**	**+1.6**	
PB01	**IPOC Station P**	**1.90**	**161**	*e*P	**Pn**	**18 53 00.6**	**-0.4**	
PB01				IAML		18 53 38.8		
	comp=N,301nm,0.2s							
PB01	**IPOC Station P**	**1.90**	**161**	*e*P	**Pn**	**18 53 00.7**	**-0.3**	
PB01				*e*S	**Sn**	**18 53 25.2**	**+1.5**	
PB01				IAML		18 53 38.3		
	comp=Z,181nm,0.2s							
PB02	**IPOC Station P**	**2.08**	**173**	*e*P	**Pn**	**18 53 03.4**	**-0.2**	
PB02				IAML		18 53 48.2		
	comp=E,512nm,0.3s							
PB02	**IPOC Station P**	**2.08**	**173**	*e*P	**Pn**	**18 53 03.8**	**+0.3**	
PB02				*e*S	**Sb**	**18 53 32.1**	**-1.4**	
PB02				IAML		18 53 37.0		
	comp=Z,366nm,0.3s							
PB09	**IPOC Station P**	**2.68**	**161**	*e*P	**Pn**	**18 53 13.1**	**+1.2**	
PB09				IAML		18 54 02.3		
	comp=E,141nm,0.4s							
PB03	**IPOC Station P**	**2.81**	**172**	*e*P	**Pn**	**18 53 13.7**	**0.0**	
PB03				IAML		18 54 04.8		
	comp=E,146nm,0.7s							
PB06	**IPOC Station P**	**3.48**	**171**	*e*P	**Pn**	**18 53 21.8**	**-1.1**	
PB06	**IPOC Station P**	**3.48**	**171**	*e*P	**Pn**	**18 53 21.6**	**-1.3**	
PB05	**IPOC Station P**	**3.59**	**181**	*e*P	**Pn**	**18 53 24.8**	**+0.5**	

*CNRM **03** 18:53:02.1, 36°.51N×5°.61W, h0km*
*MDD **03** 18:53:04.0±0.2, 37°.15N×5°.28W, h0km, mb_Lg2.3/20, Error ellipse: s-maj=2.2km s-min=1.4km az=0.0*
*IGIL **03** 18:53:03.7, 37°.15N×5°.28W, h0km*
*INMG **03** 18:53:04.1±1.8, 37°.16N×5°.27W, h0km±3km, ML2.1, Error ellipse: s-maj=2.2km s-min=1.9km az=173.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
*SFS **03** 18:53:04.4, 37°.16N×5°.25W, h4km, ML2.5/6, ML2.4/9, MLv2.4/9*
ISC 03 18:53:03.4±1.0, **37°.13N**±0°.02×**5°.26W**±0°.02, **h12**km±9km, **n56**, σ0°.**91**/111, **Spain**

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
					Op	ISC	h m s	ISC
ESPR	**Espera**	**0.55**	**242**	Pg	**Pb**	**18 53 15.2**	**+0.3**	
ESPR				Sg	**Sg**	**18 53 21.9**	**+0.6**	
ESPR	**Espera**	**0.55**	**242**	Pg	**Pb**	**18 53 14.8**	**0.0**	
ESPR				Sg	**Sg**	**18 53 21.7**	**+0.4**	
ESPR				*i* lVmb_Lg		18 53 32.2		
EJIF	**Jimena Fronter**	**0.70**	**194**	Pg	**Pg**	**18 53 16.7**	**-0.2**	
EJIF				Sg	**Sb**	**18 53 26.9**	**-0.1**	
EGOR	**Sierra Gorda,**	**0.92**	**91**	Pg	**Pg**	**18 53 21.3**	**+0.2**	
EGOR				Sg	**Sb**	**18 53 33.6**	**+0.1**	
EGOR	**Sierra Gorda,**	**0.92**	**91**	Pg	**Pg**	**18 53 21.0**	**-0.1**	
EGOR				Sg	**Sb**	**18 53 34.0**	**+0.4**	
EGOR				*i* lVmb_Lg		18 53 39.3		
ECAB	**El Cabril**	**0.95**	**352**	Pg	**Pb**	**18 53 21.9**	**+0.1**	
ECAB				Sg	**Sg**	**18 53 33.1**	**-1.1**	
ECAB	**El Cabril**	**0.95**	**352**	Pg	**Pb**	**18 53 21.9**	**+0.1**	
ECAB				Sg	**Sg**	**18 53 33.8**	**-0.5**	
ECAB				*i* lVmb_Lg		18 53 38.3		
EADA	**Adamuz**	**1.17**	**27**	Pg	**Pb**	**18 53 25.6**	**+0.1**	
EADA				Sg	**Sb**	**18 53 39.9**	**-0.8**	
EADA	**Adamuz**	**1.17**	**27**	Pg	**Pb**	**18 53 25.6**	**+0.1**	
EADA				Sg	**Sb**	**18 53 40.6**	**-0.1**	
EADA				*i* lVmb_Lg		18 53 43.8		
EMIN	**Mina Concepcio**	**1.29**	**300**	Pn	**Pn**	**18 53 27.2**	**0.0**	
EMIN				Sg	**Sg**	**18 53 46.4**	**+1.3**	
EMIN	**Mina Concepcio**	**1.29**	**300**	Pg	**Pn**	**18 53 27.3**	**0.0**	
EMIN				Sg	**Sg**	**18 53 45.2**	**+0.2**	
EMIN				*i* lVmb_Lg		18 53 48.3		
ELGU	**Los Guajares,**	**1.33**	**101**	Pn	**Pb**	**18 53 28.5**	**+0.2**	
ELGU	**Los Guajares,**	**1.33**	**101**	Pg	**Pg**	**18 53 29.4**	**+0.4**	
ELGU				Sg	**Sg**	**18 53 47.3**	**+0.9**	
ELGU				*i* lVmb_Lg		18 53 54.5		
SMIR	**Smir Dam**	**1.45**	**184**	P	Pn	18 53 16.4	-13	
SMIR	**Smir Dam**	**1.45**	**184**	S	Sn	18 53 30.6	-18	
EQUE	**Quentar**	**1.45**	**86**	Pg	**Pn**	**18 53 30.0**	**+0.4**	
EQUE				Sg	**Sg**	**18 53 50.7**	**+0.4**	
EQUE				*i* lVmb_Lg		18 53 55.0		
E0803	**Jimena (Jaen)**	**1.59**	**63**	Pg	**Pn**	**18 53 32.1**	**+0.7**	
E0803				Sg	**Sg**	**18 53 54.1**	**-0.3**	
E0802	**Ubeda,Jaen**	**1.74**	**59**	Sg	**Sg**	**18 53 59.2**	**-0.3**	
PBAR	**Barrancos**	**1.76**	**307**	Pn	**Pn**	**18 53 33.9**	**+0.3**	
PBAR				Sn	**Sb**	**18 53 57.5**	**0.0**	
PBAR	**Barrancos**	**1.76**	**307**	*e*Pn	**Pn**	**18 53 33.9**	**+0.3**	
PBAR				*e*Sn	**Sb**	**18 53 57.7**	**+0.1**	
PBAR				*e*Sg	**Sg**	**18 54 01.8**	**+1.9**	
PBAR				*i* IAML		18 54 03.3		
PBAR				*i* IAML		18 54 07.2		
EGRO	**El Granado**	**1.82**	**284**	Pn	**Pn**	**18 53 35.0**	**+0.5**	
EGRO				Pg	**Pg**	**18 53 37.4**	**-0.8**	
EGRO				Sn	**Sn**	**18 53 57.9**	**+0.5**	
EGRO				Sg	**Sg**	**18 54 01.4**	**-0.5**	
EGRO				*i* lVmb_Lg		18 54 08.4		
EQES	**Quesada**	**1.87**	**68**	Pn	**Pn**	**18 53 35.9**	**+0.7**	
EQES				Pg	**Pb**	**18 53 38.4**	**+0.9**	
EQES				Sn	**Sb**	**18 54 00.1**	**-0.6**	
EQES				Sg	**Sg**	**18 54 03.4**	**0.0**	
EQES				*i* lVmb_Lg		18 54 07.7		
PVAQ	**Vaqueiros**	**1.98**	**279**	*e*Pn	**Pn**	**18 53 36.5**	**-0.2**	
PVAQ				*e*Sn	**Sn**	**18 54 01.2**	**-0.3**	
PVAQ				*e*Sg	**Sg**	**18 54 08.7**	**+1.6**	
PVAQ				*i* IAML		18 54 10.6		
PVAQ				*i* IAML		18 54 10.9		
PVAQ				*i* IAML		18 54 12.4		
PVAQ	**Vaqueiros**	**1.98**	**279**	P	**Pn**	**18 53 35.6**	**-1.1**	
PVAQ	**Vaqueiros**	**1.98**	**279**	S	**Sn**	**18 54 01.6**	**+0.1**	
PSIM	**Granatula de C**	**2.06**	**35**	Pn	**Pn**	**18 53 38.5**	**+0.6**	
PSIM				Pg	**Pg**	**18 53 42.1**	**-0.9**	
PSIM				Sn	**Sn**	**18 54 04.3**	**+0.7**	
PSIM				Sg	**Sg**	**18 54 09.1**	**-0.6**	
EBAD	**Badajoz**	**2.14**	**320**	Pn	**Pn**	**18 53 38.

PCBR				*i* IAML			18 54 52.7	
PSARD	**Sardoal**	**3.36**	**318**	*e*Pn	**Pn**		**18 53 57.2**	**+1.5**
PSARD				*e*Sn	**Sn**		**18 54 36.2**	**+0.6**
PSARD				*i* IAML			18 54 51.2	
PSARD				*i* IAML			18 54 55.4	
PSARD				*i* IAML			18 55 01.5	
PARRA	**Arraiolos**	**3.43**	**301**	*e*Pn	Pn		18 53 47.6	-9.1
PARRA				*e*Sn	Sn		18 54 20.8	-16
PARRA				*e*Sg	Sb		18 54 30.3	-15
PARRA				*i* IAML			18 54 36.1	
PARRA				*i* IAML			18 54 36.2	
PARRA				*i* IAML			18 54 37.3	
JBK	**JBK**	**3.54**	**141**	P	**Pn**		**18 53 56.1**	**-2.3**
MTE	**Manteigas**	**3.72**	**332**	*e*Sg	**Sg**		**18 55 01.3**	**-1.6**
MTE				*i* IAML			18 55 06.2	
MTE				*i* IAML			18 55 06.8	
MTE				*i* IAML			18 55 07.0	
PCAS	**Casmilo, Conde**	**3.87**	**320**	*e*Sn	**Sn**		**18 54 48.0**	**-0.1**
PCAS				*i* IAML			18 55 11.7	
PCAS				*i* IAML			18 55 14.2	
PCAS				*i* IAML			18 55 20.2	

*CNRM **03** 18:54:04.7, 36˚.50N×5˚.45W, h0km, ML2.1*
*SFS **03** 18:54:07.3, 37˚.15N×5˚.27W, h1km, ML2.8/13, ML2.7/17, MLv2.6/17*
*IGIL **03** 18:54:07.7, 37˚.17N×5˚.24W, h2km*
*MDD **03** 18:54:07.6±0.2, 37˚.17N×5˚.24W, h3km±1km, mb_Lg2.8/40, Error ellipse: s-maj=1.7km s-min=1.3km az=177.0*
*INMG **03** 18:54:07.6±1.6, 37˚.17N×5˚.25W, h4km±2km, ML2.6, Error ellipse: s-maj=1.7km s-min=1.5km az=158.0, #DIST_RANGE: REGIONAL #IPMA_REGION: E Sevilha (ESP)*

ISC 03 18:54:07.1±1.0, **37˚.17N**±0˚.02×**5˚.24W**±0˚.02, **h11**km±9km, **n77**, σ0s**86**/137, **1D**, **Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.57**	**239**	Pg	**Pg**	**18 54 18.3**	**0.0**
ESPR	**Espera**	**0.57**	**239**	Pg	**Pg**	**18 54 18.1**	**-0.2**
ESPR				Sg	**Sg**	**18 54 26.0**	**+0.1**
ESPR				*i* IVmb_Lg		18 54 35.2	
EJIF	**Jimena Fronter**	**0.74**	**194**	Pg	**Pg**	**18 54 21.2**	**-0.2**
EJIF				Sg	**Sg**	**18 54 31.6**	**+0.6**
EMAL	**Malaga-Limoner**	**0.77**	**122**	Pg	**Pg**	**18 54 20.0**	**-1.9**
EMAL				Sg	**Sg**	**18 54 31.5**	**-0.5**
EGOR	**Sierra Gorda,**	**0.91**	**93**	Pg	**Pg**	**18 54 24.5**	**-0.1**
EGOR	**Sierra Gorda,**	**0.91**	**93**	Pg	**Pg**	**18 54 23.9**	**-0.7**
EGOR				Sg	**Sg**	**18 54 36.8**	**+0.3**
EGOR				*i* IVmb_Lg		18 54 43.5	
ECAB	**El Cabril**	**0.92**	**351**	Sg	**Sg**	**18 54 36.9**	**+0.1**
ECAB	**El Cabril**	**0.92**	**351**	Pg	**Pb**	**18 54 25.5**	**+0.4**
ECAB				Sg	**Sg**	**18 54 37.1**	**+0.3**
ECAB				*i* IVmb_Lg		18 54 42.7	
CNIL	**Conil**	**1.03**	**220**	Pg	**Pg**	**18 54 26.2**	**-0.7**
EADA	**Adamuz**	**1.13**	**28**	Pg	**Pb**	**18 54 28.9**	**+0.2**
EADA				Sg	**Sb**	**18 54 43.9**	**+0.4**
EADA	**Adamuz**	**1.13**	**28**	Pg	**Pb**	**18 54 28.8**	**+0.1**
EADA				Sg	**Sg**	**18 54 43.7**	**+0.1**
EADA				*i* IVmb_Lg		18 54 47.5	
ECEU	**Ceuta**	**1.27**	**185**	Pg	**Pn**	**18 54 30.4**	**-0.4**
EMIN	**Mina Concepcio**	**1.29**	**298**	Pg	**Pn**	**18 54 30.7**	**-0.4**
EMIN				Sg	**Sb**	**18 54 48.3**	**+0.4**
EMIN	**Mina Concepcio**	**1.29**	**298**	Pg	**Pn**	**18 54 30.6**	**-0.5**
EMIN				Sg	**Sb**	**18 54 48.0**	**+0.1**
EMIN				*i* IVmb_Lg		18 54 50.7	
ELGU	**Los Guajares,**	**1.33**	**102**	Pn	**Pn**	**18 54 32.3**	**+0.6**
ELGU	**Los Guajares,**	**1.33**	**102**	Pg	**Pn**	**18 54 31.6**	**-0.1**
ELGU				Sg	**Sg**	**18 54 50.3**	**+0.4**
ELGU				*i* IVmb_Lg		18 54 56.3	
EQTA	**Presa de Quent**	**1.44**	**88**	Pn	**Pn**	**18 54 33.9**	**+0.7**
EQTA				Sn	**Sg**	**18 54 53.6**	**+0.2**
EQUE	**Quentar**	**1.44**	**88**	Pg	**Pn**	**18 54 33.7**	**+0.4**
EQUE				Sg	**Sg**	**18 54 53.9**	**+0.4**
EQUE				*i* IVmb_Lg		18 54 59.2	
SMIR	**Smir Dam**	**1.48**	**184**	P	Pn	18 54 18.0	-16
SMIR	**Smir Dam**	**1.48**	**184**	S	Sn	18 54 33.4	-20
E0803	**Jimena (Jaen)**	**1.56**	**64**	Pg	**Pb**	**18 54 36.0**	**0.0**
E0803				Sg	**Sg**	**18 54 57.1**	**-0.2**
E0802	**Ubeda,Jaen**	**1.71**	**59**	Pg	**Pb**	**18 54 38.8**	**+0.1**
E0802				Sg	**Sg**	**18 55 01.8**	**-0.4**
PBAR	**Barrancos**	**1.75**	**306**	Pn	**Pn**	**18 54 36.8**	**-0.6**
PBAR				Sn	**Sn**	**18 54 59.0**	**-0.6**
PBAR	**Barrancos**	**1.75**	**306**	*e*Pn	**Pn**	**18 54 37.1**	**-0.2**
PBAR				*e*Sn	**Sn**	**18 54 59.8**	**+0.2**
PBAR				*i* IAML		18 55 06.0	
PBAR				*i* IAML		18 55 07.6	
PBAR				*i* IAML		18 55 07.8	
EGRO	**El Granado**	**1.82**	**282**	Pn	**Pn**	**18 54 37.7**	**-0.7**
EGRO	**El Granado**	**1.82**	**282**	Pn	**Pn**	**18 54 38.1**	**-0.3**
EGRO				Sn	**Sn**	**18 55 01.6**	**+0.1**
EGRO				*i* IVmb_Lg		18 55 10.1	
EQES	**Quesada**	**1.84**	**69**	Pn	**Pn**	**18 54 39.2**	**+0.4**
EQES				Pg	**Pb**	**18 54 41.6**	**+0.8**
EQES				Sn	**Sn**	**18 55 02.2**	**0.0**
EQES				Sg	**Sg**	**18 55 06.7**	**+0.3**
EQES				*i* IVmb_Lg		18 55 12.4	
PVAQ	**Vaqueiros**	**1.99**	**278**	*e*Pn	**Pn**	**18 54 40.1**	**-0.6**
PVAQ				*e*Sn	**Sn**	**18 55 05.0**	**-0.6**
PVAQ				*e*Sg	**Sg**	**18 55 11.3**	**+0.2**
PVAQ				*i* IAML		18 55 16.6	
PVAQ				*i* IAML		18 55 19.3	
PVAQ				*i* IAML		18 55 22.3	
PVAQ	**Vaqueiros**	**1.99**	**278**	P	**Pn**	**18 54 39.8**	**-0.9**
PVAQ	**Vaqueiros**	**1.99**	**278**	S	**Sn**	**18 55 06.4**	**+0.8**
PSIM	**Granatula de C**	**2.03**	**35**	Pn	**Pn**	**18 54 41.1**	**-0.2**
PSIM				Pg	**Pb**	**18 54 44.3**	**+0.2**
PSIM				Sn	**Sn**	**18 55 05.6**	**-1.0**
PSIM				Sg	**Sg**	**18 55 12.0**	**-0.3**
EBAD	**Badajoz**	**2.12**	**319**	Pn	**Pn**	**18 54 42.4**	**-0.1**
EBAD				Sn	**Sn**	**18 55 09.8**	**+1.1**
EBAD	**Badajoz**	**2.12**	**319**	Pn	**Pn**	**18 54 42.2**	**-0.3**
EBAD				Sn	**Sn**	**18 55 08.0**	**-0.8**
EBAD				Sg	**Sg**	**18 55 15.2**	**+0.1**
EBAD				*i* IVmb_Lg		18 55 19.3	
PBDV	**Barranco-do-Ve**	**2.15**	**273**	Pn	**Pn**	**18 54 42.5**	**-0.4**
PBDV				Sn	**Sn**	**18 55 08.1**	**-1.5**
PBDV	**Barranco-do-Ve**	**2.15**	**273**	*e*Pn	**Pn**	**18 54 42.5**	**-0.4**
PBDV				*e*Sn	**Sn**	**18 55 08.3**	**-1.3**
PBDV				*e*Sg	**Sg**	**18 55 16.9**	**+0.8**
PBDV				*i* IAML		18 55 19.6	
PBDV				*i* IAML		18 55 23.1	
PBDV				*i* IAML		18 55 27.7	
PBEJ	**Beja**	**2.25**	**293**	*e*Sg	**Sg**	**18 55 20.2**	**+0.6**
PBEJ				*i* IAML		18 55 25.4	
PBEJ				*i* IAML		18 55 26.1	
PBEJ				*i* IAML		18 55 28.0	
PCVE	**Castro Verde**	**2.27**	**283**	Pn	**Pn**	**18 54 44.1**	**-0.5**
PCVE				Sg	**Sg**	**18 55 19.3**	**-0.7**
PCVE	**Castro Verde**	**2.27**	**283**	*e*Pn	**Pn**	**18 54 44.3**	**-0.3**
PCVE				*e*Sg	**Sg**	**18 55 19.9**	**-0.4**
PCVE				*i* IAML		18 55 28.8	
PCVE				*i* IAML		18 55 29.7	
PCVE				*i* IAML		18 55 29.7	
MESJ	**Messejana**	**2.46**	**287**	*e*P	**Pn**	**18 54 47.0**	**-0.2**
MESJ	**Messejana**	**2.46**	**287**	*e*Pn	**Pn**	**18 54 47.1**	**-0.2**
MESJ				*e*Sn	**Sn**	**18 55 17.5**	**+0.2**
MESJ				*e*Sg	**Sg**	**18 55 25.9**	**-0.3**
MESJ				*i* IAML		18 55 33.5	
MESJ				*i* IAML		18 55 33.6	
MESJ				*i* IAML		18 55 33.8	
PAB	**San Pablo**	**2.48**	**16**	Pn	**Pn**	**18 54 47.6**	**+0.1**
PAB				Sn	**Sn**	**18 55 16.6**	**-1.2**
PAB				Sg	**Sg**	**18 55 26.1**	**-0.7**
PAB				*i* IVmb_Lg		18 55 32.9	
PESTR	**Estremoz**	**2.52**	**313**	Pn	**Pn**	**18 54 48.0**	**+0.1**
PESTR	**Estremoz**	**2.52**	**313**	*e*Pn	**Pn**	**18 54 48.2**	**+0.2**
PESTR				*e*Sn	**Sn**	**18 55 20.0**	**+1.3**
PESTR				*e*Sg	**Sg**	**18 55 27.1**	**-0.8**
PESTR				*i* IAML		18 55 33.4	
PESTR				*i* IAML		18 55 35.6	
PESTR				*i* IAML		18 55 36.9	
PESTR	**Estremoz**	**2.52**	**313**	P	**Pb**	**18 54 53.0**	**+0.7**
PESTR	**Estremoz**	**2.52**	**313**	S	**Sg**	**18 55 28.6**	**+0.7**
EVO	**Evora**	**2.58**	**303**	Sn	**Sn**	**18 55 19.9**	**-0.4**
EVO				Pn	**Pn**	**18 54 48.6**	**-0.3**
EVO	**Evora**	**2.58**	**303**	*e*Sn	**Sn**	**18 55 19.9**	**-0.4**
EVO				*e*Sg	**Sg**	**18 55 31.1**	**+0.9**
EVO				*i* IAML		18 55 33.5	
EVO				*i* IAML		18 55 33.9	
EVO				*i* IAML		18 55 35.1	
ESDC	**Sonseca Array**	**2.70**	**21**	Pn	**Pn**	**18 54 51.2**	**+0.7**
ESDC				Sn	**Sn**	**18 55 21.6**	**-1.6**
ESDC				Sg	**Sg**	**18 55 33.3**	**-0.5**
ESDC				*i* IVmb_Lg		18 55 37.9	
ESBB	**Sonseca Array**	**2.70**	**21**	Pn	**Pn**	**18 54 51.0**	**+0.4**
ESBB				Sn	**Sn**	**18 55 22.1**	**-1.2**
ESBB				Sg	**Sg**	**18 55 33.6**	**-0.3**
MORF	**Marmelete**	**2.73**	**274**	*e*Sn	**Sn**	**18 55 23.7**	**-0.2**
MORF				*e*Sg	**Sg**	**18 55 37.3**	**+2.6**
MORF				*i* IAML		18 55 39.5	
MORF				*i* IAML		18 55 41.2	
MORF				*i* IAML		18 55 47.8	
PTEO	**Sao Teotonio**	**2.80**	**279**	*e*Pn	**Pn**	**18 54 51.6**	**-0.2**
PTEO				*e*Sn	**Sn**	**18 55 25.1**	**-0.6**
PTEO				*e*Sg	**Sg**	**18 55 38.4**	**+1.3**
PTEO				*i* IAML		18 55 45.8	
PTEO				*i* IAML		18 55 46.8	
PTEO				*i* IAML		18 55 49.3	
PMRV	**Marv??o**	**2.82**	**324**	*e*Pn	**Pn**	**18 54 54.0**	**+1.8**
PMRV				*e*Sn	**Sn**	**18 55 27.2**	**+1.0**
PMRV				*e*Sg	**Sg**	**18 55 37.1**	**-0.7**
PMRV				*i* IAML		18 55 41.3	
PMRV				*i* IAML		18 55 41.4	
PMRV				*i* IAML		18 55 47.2	
PFVI	**Vila Bisbo**	**2.86**	**270**	Sn	**Sn**	**18 55 25.6**	**-1.6**
PFVI				Pn	**Pn**	**18 54 51.9**	**-0.8**
PFVI	**Vila Bisbo**	**2.86**	**270**	*e*Pn	**Pn**	**18 54 52.2**	**-0.6**
PFVI				*e*Sn	**Sn**	**18 55 26.0**	**-1.2**
PFVI				*i* IAML		18 55 27.2	
PFVI				*i* IAML		18 55 27.3	
PFVI				*i* IAML		18 55 27.3	
PFVI	**Vila Bisbo**	**2.86**	**270**	P	**Pn**	**18 54 50.1**	**-2.7**
PFVI	**Vila Bisbo**	**2.86**	**270**	S	**Sn**	**18 55 26.4**	**-0.8**
EPLA	**Plasencia**	**2.97**	**347**	Sn	**Sn**	**18 55 27.9**	**-2.0**
EPLA				Sg	**Sg**	**18 55 42.2**	**-0.2**
EPLA				*i* IVmb_Lg		18 55 46.4	
PMTG	**Montargil**	**3.02**	**310**	*e*Sn	**Sn**	**18 55 31.9**	**+0.7**
PMTG				*e*Sg	**Sg**	**18 55 42.2**	**-2.1**
PMTG				*i* IAML		18 55 47.5	
PMTG				*i* IAML		18 55 50.3	
PMTG				*i* IAML		18 55 58.4	
PCBR	**Castelo Branco**	**3.19**	**327**	*e*Pn	**Pn**	**18 54 59.0**	**+1.7**
PCBR				*e*Sg	**Sg**	**18 55 48.8**	**-0.9**
PCBR				*i* IAML		18 55 58.8	
PCBR				*i* IAML		18 56 03.4	
PSARD	**Sardoal**	**3.34**	**318**	*e*Sn	**Sn**	**18 55 39.5**	**+0.5**
PSARD				*e*Sg	**Sg**	**18 55 51.9**	**-2.5**
PSARD				*i* IAML		18 55 57.0	
PSARD				*i* IAML		18 55 59.2	
PSARD				*i* IAML		18 56 01.7	
PARRA	**Arraiolos**	**3.42**	**300**	*e*Pn	Pn	18 54 51.1	-9.3
PARRA				*e*Sn	Sn	18 55 25.1	-16
PARRA				*e*Sg	Sb	18 55 33.9	-16
PARRA				*i* IAML		18 55 39.8	
PARRA				*i* IAML		18 55 40.5	
PARRA				*i* IAML		18 55 45.5	
GUD	**Guadarrama**	**3.57**	**13**	Sg	**Sg**	**18 56 01.7**	**-0.2**
PMAFR	**Mafra**	**3.66**	**300**	*e*Sn	**Sn**	**18 55 47.2**	**+0.5**
PMAFR				*i* IAML		18 56 13.9	
PMAFR				*i* IAML		18 56 16.6	
PMAFR				*i* IAML		18 56 16.7	
MTE	**Manteigas**	**3.70**	**332**	*e*Sn	**Sn**	**18 55 48.1**	**+0.2**
MTE				*e*Sg	**Sg**	**18 56 04.0**	**-1.8**
MTE				*i* IAML		18 56 08.4	
MTE				*i* IAML		18 56 10.3	
MTE				*i* IAML		18 56 11.3	
PCAS	**Casmilo, Conde**	**3.85**	**319**	*e*Sn	**Sn**	**18 55 51.1**	**-0.4**
PCAS				*e*Sg	**Sg**	**18 56 10.3**	**-0.4**
PCAS				*i* IAML		18 56 15.2	
PCAS				*i* IAML		18 56 15.3	
PCAS				*i* IAML		18 56 17.3	
EJUZ	**Juzbado, Salam**	**3.95**	**353**	Sg	**Sg**	**18 56 14.4**	**+0.5**
PVIS	**Viseu**	**4.10**	**331**	*e*Pn	**Pn**	**18 55 11.1**	**+1.3**
PVIS				*e*Sn	**Sn**	**18 55 57.6**	**-0.3**
PVIS				*e*Sg	**Sg**	**18 56 17.9**	**-1.0**
ECHE	**Chera**	**4.14**	**53**	Sg	**Sg**	**18 56 20.1**	**0.0**
ECHE				*i* IVmb_Lg		18 56 37.6	
MVO	**Moncorvo**	**4.23**	**341**	*e*Pn	**Pn**	**18 55 11.7**	**+0.2**
MVO				*e*Sn	**Sn**	**18 56 00.7**	**-0.3**
MVO				*e*Sg	**Sg**	**18 56 22.3**	**-0.6**
MVO				*i* IAML		18 56 27.3	
MVO				*i* IAML		18 56 27.8	
MVO				*i* IAML		18 56 28.3	
MD31	**MD31**	**4.31**	**175**	P	Pn	18 55 03.6	-9.1
MDT	**Midelt**	**4.37**	**173**	P	Pn	18 55 05.0	-8.6
ETOR	**Torete**	**4.41**	**33**	Pn	**Pn**	**18 55 14.5**	**+0.4**
ETOR				Pg	**Pb**	**18 55 27.8**	**+3.1**
ETOR				Sg	**Sg**	**18 56 28.4**	**-0.4**
ETOR				*i* IVmb_Lg		18 56 38.7	
PVRL	**Vila Real**	**4.53**	**336**	*e*Sn	**Sn**	**18 56 08.9**	**+0.5**
POLO	**Lamas de Olo**	**4.64**	**336**	*e*Sn	**Sn**	**18 56 11.1**	**-0.2**
POLO				*e*Sg	**Sg**	**18 56 35.6**	**-0.7**
POLO				*i* IAML		18 56 43.8	
POLO				*i* IAML		18 56 44.0	
POLO				*i* IAML		18 56 45.0	
PBRG	**Braganca**	**4.78**	**346**	*e*Sg	**Sg**	**18 56 39.9**	**-0.6**
PBRG				*i* IAML		18 56 43.9	
PBRG				*i* IAML		18 56 44.3	
PBRG				*i* IAML		18 56 44.4	
ECAL	**Calabor**	**4.91**	**347**	Sg	**Sg**	**18 56 44.3**	**-0.3**
ECAL				*i* IVmb_Lg		18 56 54.0	
ELOB	**Lobios**	**5.18**	**336**	Sg	**Sg**	**18 56 52.4**	**-0.9**
ELOB				*i* IVmb_Lg		18 57 01.0	

*IDC **03** 18:56:31.6±2.4, 27˚.85N×143˚.49E, h0km, mb3.8/9, mbtmp3.7/11, ML3.2/2, Error ellipse: s-maj=99.6km s-min=20.2km az=74.0*
*JMA **03** 18:56:38.8±0.1, 28˚.N±1˚×14˚.3E±˚, h49km, MV3.4/10, NEAR CHICHIJIMA ISLAND*

ISC 03 18:56:39.2±1.5, **27˚.90N**±0˚.05×**142˚.8E**±0˚.2, **h35**km, **n15**, σ2s**06**/**18**, **mb3.9**/9, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.95**	**213**	P	**Pn**	**18 56 54.9**	**-1.2**
CBIJ				*e*S	**Sn**	**18 57 06.6**	**-1.8**
JHJ2	**Haha-jima-NKT2**	**1.36**	**203**	*e*S	**Sn**	**18 57 16.2**	**-2.5**
JHJ2	**Mitsune**	**5.79**	**335**	*e*P	**Pn**	**18 57 59.7**	**-2.9**
JHJ2				*e*S	**Sn**	**18 59 03.5**	**-4.2**
JNG	**Nsakai**	**9.36**	**336**	*e*P	**Pn**	**18 58 54.0**	**+2.3**
MJAR	**Matsushiro Arr**	**9.44**	**337**	Pn	**Pn**	**18 58 52.6**	**-0.1**
	0.1nm,0.3s,baz=238,slow=37,SNR=3.5						
MJAR				Sn	**Sn**	**19 00 37.9**	**+0.2**
	baz=166,slow=36,SNR=1.7 0.6nm,0.4s						
KSRS	**Korea Array**	**15.70**	**311**	Pn	**P**	**19 00 21.2**	**-0.2**
	0.2nm,0.3s,baz=129,slow=9.7,SNR=2.1 0.9nm,0.8s						
SONM	**Songino Array**	**34.50**	**315**	P	**P**	**19 03 26.5**	**+2.4**
	0.2nm,0.4s,baz=119,slow=5.3,SNR=1.4 0.2nm,0.4s						
WRA	**Warramunga Arr**	**48.25**	**191**	P	**P**	**19 05 15.5**	**-1.3**
	0.6nm,0.3s,baz=12,slow=8.5,SNR=13 0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**49.23**	**319**	P	**P**	**19 05 24.8**	**+0.8**
	0.4nm,0.4s,baz=100,slow=12,SNR=2.4 0.4nm,0.4s						
MKAR	**Makanchi Array**	**50.37**	**309**	P	**P**	**19 05 33.2**	**+0.4**
	0.3nm,0.6s,baz=96,slow=11,SNR=4.2 0.3nm,0.6s						
ASAR	**Alice Springs**	**51.97**	**190**	P	**P**	**19 05 42.1**	**-2.9**
	0.1nm,0.4s,baz=9.3,slow=6.8,SNR=1.6 0.1nm,0.4s						
KURBB	**Kurbatov Arra**	**52.85**	**314**	P	**P**	**19 05 51.8**	**+0.5**
	1.5nm,0.2s,baz=89,slow=7.0,SNR=7.8 1.5nm,0.2s						
BVAR	**Borovoye Array**	**57.81**	**317**	P	**P**	**19 06 28.4**	**+1.5**
	1.2nm,0.5s,baz=88,slow=7.0,SNR=10 1.2nm,0.5s						
FINES	**FINESS Array B**	**77.46**	**334**	P	**P**	**19 08 30.1**	**-0.5**
	1.6nm,0.9s,baz=46,slow=5.5,SNR=7.0 1.6nm,0.9s						
KBZ	**Khabaz**	**77.84**	**313**	P	**P**	**19 08 34.5**	**+1.4**
	0.8nm,0.6s,baz=60,slow=8.1,SNR=1.6 0.8nm,0.6s						

*PRU **03** 19:07:09.0, 50˚.07N×18˚.46E, h0km, M4.6*

ISC 03 19:07:06.3±3.0, **50˚.10N**±0˚.07×**18˚.6E**±0˚.1, **h0**km, **n10**, σ0s**58**/**17**, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.37**	**225**	*e*PG	**Pb**	**19 07 14.8**	**-0.9**
OKC				*e*SG	**Sg**	**19 07 18.6**	**+0.4**
	13nm,0.8s						
STEB	**Steborice**	**0.53**	**252**	*e*PG	**Pb**	**19 07 17.7**	**-0.8**
STEB				*e*SG	**Sg**	**19 07 24.3**	**+1.0**
	11nm,0.4s						
MORC	**Moravsky Berou**	**0.73**	**244**	*e*PG	**Pg**	**19 07 20.8**	**+0.6**
MORC				*e*SG	**Sg**	**19 07 29.2**	**-0.5**
KRLC	**Kraliky**	**1.14**	**270**	*e*PG	**Pg**	**19 07 28.4**	**+0.2**
KRLC				*e*SG	**Sg**	**19 07 42.7**	**-0.3**
	4.2nm,0.3s						
JAVC	**Velka Javorina**	**1.37**	**205**	*e*PG	**Pb**	**19 07 32.9**	**+0.1**
DPC	**Dobruska-Polom**	**1.46**	**281**	*e*PG	**Pb**	**19 07 34.1**	**-0.2**
DPC				*e*SG	**Sb**	**19 07 53.4**	**0.0**
	4.4nm,0.6s						
VRAC	**Vranov**	**1.50**	**239**	*e*PG	**Pb**	**19 07 34.8**	**-0.2**
VRAC				*e*SG	**Sg**	**19 07 53.6**	**-0.8**
OSTC	**Ostas**	**1.57**	**288**	*e*PG	**Pg**	**19 07 36.3**	**0.0**
OSTC				*e*SG	**Sg**	**19 07 57.2**	**+0.6**
KRUC	**Moravsky**	**1.75**	**234**	*e*PN	**Pb**	**19 07 39.0**	**-0.2**
KHC	**Kasperske Hory**	**3.38**	**255**	*e*SG	**Sg**	**19 08 55.2**	**+0.5**

*IDC **03** 19:17:24.6±2.3, 2˚.83N×127˚.57E, h0km, mb3.7/4, mbtmp3.7/4, MS3.0/1, Error ellipse: s-maj=130.1km s-min=27.1km az=70.0*
*DJA **03** 19:17:49.2±0.7, 0˚N±2˚×12˚7E±˚, h21km±6km, M3.6/13, mb3.8/4, MLv3.5/13*

ISC 03 19:17:50.7±1.1, **0˚.29N**±0˚.05×**126˚.89E**±0˚.05, **h35**km, **n15**, σ1s**49**/**16**, **mb3.6**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.68**	**45**	P	**Pn**	**19 18 03.2**	**-0.6**
TNTI				S	**Sn**	**19 18 13.5**	**+0.3**
SANI	**Sanana**	**2.49**	**201**	P	**Pn**	**19 18 27.2**	**-1.6**
SANI				S	**Sn**	**19 19 02.2**	**+4.2**
KMSI	**Cibinong**	**2.92**	**276**	P	**Pn**	**19 18 34.5**	**-0.2**
KMSI				S	**Sn**	**19 19 08.6**	**+0.1**
NLAI	**Namlea**	**3.51**	**177**	P	**Pn**	**19 18 42.5**	**-0.3**
NLAI				S	**Sn**	**19 19 22.0**	**-1.2**
SGSI	**Sangihe**	**3.63**	**338**	S	**Sn**	**19 19 27.5**	**+1.3**
LUWI	**Luwuk**	**4.32**	**252**	P	**Pn**	**19 18 52.3**	**-1.7**
SWI	**Sorong**	**4.52**	**105**	P	**Pn**	**19 18 57.0**	**+0.3**
TTSI	**Tana Toraja**	**7.80**	**245**	P	**Pn**	**19 19 41.4**	**-0.4**
	7.9nm,1.4s						
BNSI	**Bone**	**8.22**	**235**	P	**Pn**	**19 19 47.4**	**-0.2**
	19nm,1.4s						
SPSI	**Sidrap Palu**	**8.27**	**239**	P	**Pn**	**19 19 47.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**18.31**	**184**	P	Pn	19 22 10.2	+8.1
	1.6nm,0.3s,baz=29,slow=10,SNR=2.6 1.6nm,0.3s						
WRA	**Warramunga Arr**	**21.39**	**160**	P	**P**	**19 22 36.2**	**+0.6**
	0.7nm,0.5s,baz=339,slow=10,SNR=5.8 0.7nm,0.5s						
ASAR	**Alice Springs**	**24.77**	**164**	P	**P**	**19 23 08.9**	**-0.5**
	0.6nm,0.3s,baz=342,slow=9.9,SNR=14 0.6nm,0.3s						
ASAJ	**Asahikawa**	**45.83**	**16**	LR	LR	19 42 55.5	
	comp=Z,17nm,19.0s,baz=327,slow=35						
MKAR	**Makanchi Array**	**60.47**	**326**	P	P	19 27 24.7	-32
	0.3nm,0.6s,baz=116,slow=6.6,SNR=2.4 0.3nm,0.6s						

*NDI **03** 19:18:30.6±2.5, 25˚.19N×95˚.61E, h34km±23km, ML4.1, MW4.2, mb4.5(NEIC)*
*NEIC **03** 19:18:39.7±1.7, 25˚.09N±0˚.07×95˚.04E±0˚.07, h88km±6km, mb4.5/24, Error ellipse: s-maj=10.9km s-min=7.9km az=222.0*
*IDC **03** 19:18:41.1±3.3, 25˚.01N×95˚.01E, h104km±31km, mb3.8/17, mbtmp4.1/18, MS2.3/1, Error ellipse: s-maj=31.4km s-min=13.2km az=59.0*

ISC 03 19:18:39.5±0.9, **25˚.12N**±0˚.05×**94˚.96E**±0˚.05, **h86**km±8km, **n84**, σ1s**55**/106, **mb4.2**/28, **Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.96**	**253**	*e*P	**Pn**	**19 18 56.6**	**-2.0**
IMP				*e*S	**Sn**	**19 19 16.6**	**+3.8**
IMP				IAML		19 19 17.5	
	comp=N,2μm,0.4s						
KOHI	**KOHIMA**	**0.98**	**308**	*e*P	**Pn**	**19 18 55.1**	**-3.7**
KOHI				*e*S	**Sn**	**19 19 13.9**	**+0.7**
KOHI				IAML		19 19 19.7	
	comp=N,4μm,0.6s						
SILR	**SILCHAR**	**1.99**	**261**	*e*P	**Pn**	**19 19 10.0**	**-1.4**
SILR				*e*S	**Sn**	**19 19 39.1**	**+3.5**
SILR				IAML		19 19 42.0	
	comp=E,1μm,0.6s						
SILR				IAML		19 19 44.4	
	comp=N,1μm,0.5s						
DIBR	**DIBRUGARH**	**2.34**	**359**	*e*P	Pn	19 19 35.4	+19
LKP	**Lekhapani**	**2.35**	**20

baz=282,slow=0.0
DMN Sn **Sn** 19 22 29.5 -1.5
comp=N,50nm,0.6s,baz=282,slow=0.0
GKN Gorkha 9.68 290 Pn **Pn** 19 20 55.5 -0.5
baz=284,slow=0.0
GKN Sn **Sn** 19 22 40.3 -2.8
baz=284,slow=0.0
DANN Dangsing 10.52 290 Pn **Pn** 19 21 06.2 -1.4
baz=285,slow=0.0
DANN Sn **Sn** 19 22 59.8 -3.9
comp=N,47nm,0.5s,baz=285,slow=0.0
KOLN Koldanda 10.52 287 Pn **Pn** 19 21 05.9 -1.6
baz=282,slow=0.0
KOLN Sn **Sn** 19 22 59.7 -3.9
comp=N,36nm,0.4s,baz=282,slow=0.0
PYUN Piuthan 11.12 288 Pn **Pn** 19 21 13.4 -2.2
baz=283,slow=0.0
PYUN Sn **Sn** 19 23 13.4 -4.7
comp=N,49nm,0.7s,baz=283,slow=0.0
ENH Enshi 13.85 65 **Pn** 19 21 49.7 -2.4
GTA Gaotai 14.83 15 P **P** 19 22 09.9 +1.5
GTA pmax pmax
comp=Z,10.0nm,1.0s
HYB Hyderabad 17.09 247 *e*P **Pn** 19 22 33.8 +0.7
HYB *e*S **S** 19 25 49.9 +2.7
WMQ Urumqi 19.58 344 *e*P **Pn** 19 23 05.3 +2.5
HHC Hu-ho-hao-te 20.92 37 *e*P **P** 19 23 16.4 +1.2
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,5.6s
KSH Kashi 21.47 317 P **P** 19 23 23.2 +2.1
KSH pmax pmax
comp=Z,3.0nm,0.9s
TARG Taragay, Kyrgy 21.83 324 P **P** 19 23 25.3 0.0
KDJ Kajisay 22.45 323 P **P** 19 23 32.2 +0.6
MKAR Makanchi Array 23.88 338 **P** 19 23 45.5 +0.5
MKAR Makanchi Array 23.88 338 P **P** 19 23 46.9 +1.9
comp=Z,3.5nm,0.4s,baz=149,slow=9.0,SNR=45
comp=Z,3.5nm,0.4s
ARSB Arslanbob 24.38 317 P **P** 19 23 50.4 +0.6
SONM Songino Array 24.41 19 P **P** 19 23 50.0 +0.1
SONM Songino Array 24.41 19 P **P** 19 23 50.2 +0.2
comp=Z,2.7nm,0.7s,baz=202,slow=9.6,SNR=23
comp=Z,2.7nm,0.7s
ULN Ulaanbaatar 24.64 20 P **P** 19 23 51.5 -0.5
GAR Garm 24.96 310 **P** 19 23 55.7 +0.6
GAR IAmb IAmb 19 23 59.0
comp=Z,16nm,1.0s
KKAR Karatay Array 26.90 318 P **P** 19 24 12.7 +0.4
KURBB Kurchatov Arra 28.45 338 P **P** 19 24 27.2 +1.1
comp=Z,2.3nm,0.4s,baz=146,slow=9.4,SNR=9.8
KURBB PcP **PcP** 19 27 35.8 -0.3
comp=Z,0.8nm,0.2s,baz=165,slow=2.2,SNR=1.8
comp=Z,2.3nm,0.4s
KURK Kurchatov 28.50 338 **P** 19 24 27.1 +0.7
KURK IAmb IAmb 19 24 28.6
comp=Z,3.8nm,0.6s
ZALV Zalesovo Beam 29.78 348 **P** 19 24 38.3 +0.5
ZALV Zalesovo Beam 29.78 348 P **P** 19 24 38.7 +0.9
comp=Z,2.4nm,0.4s,baz=157,slow=7.9,SNR=16
ZALV PcP **PcP** 19 27 37.4 -1.9
comp=Z,0.4nm,0.4s,baz=208,slow=5.2,SNR=1.9
comp=Z,2.4nm,0.4s
BVAR Borovoye Array 33.45 333 P **P** 19 25 11.2 +1.2
comp=Z,1.3nm,0.5s,baz=138,slow=10,SNR=14
BVAR PcP **PcP** 19 27 49.2 -0.2
comp=Z,1.3nm,0.6s,baz=142,slow=2.0,SNR=7.5
comp=Z,1.3nm,0.5s
ABKAR Akbulak array 36.36 321 P **P** 19 25 36.3 +1.2
ARTI Arti 40.91 330 P **P** 19 26 14.3 +1.2
TIXI Tiksi 50.31 13 P **P** 19 27 26.5 -0.4
TIXI IAmb IAmb 19 27 26.8
comp=Z,5.4nm,0.6s
KNRA Kununurra 52.24 137 P **P** 19 27 40.3 -1.8
KNRA IAmb IAmb 19 28 22.4
comp=Z,11nm,1.2s
BRTR Keskin Array B 52.83 302 P **P** 19 27 45.2 -1.2
BRTR Keskin Array B 52.83 302 P **P** 19 27 47.2 +0.8
comp=Z,0.8nm,0.6s,baz=121,slow=5.3,SNR=6.3
comp=Z,0.8nm,0.6s
AKASG Malin Array Be 55.76 315 P **P** 19 28 06.8 -0.5
comp=Z,0.4nm,0.3s,baz=82,slow=6.5,SNR=5.9
comp=Z,0.4nm,0.3s
MLR Muntele Rosu 58.10 309 P **P** 19 28 25.2 +1.1
MLR IAmb IAmb 19 28 26.5
comp=Z,3.8nm,0.7s
FINES FINESS Array B 58.19 328 P **P** 19 28 24.6 +0.4
comp=Z,2.1nm,0.7s,baz=117,slow=8.7,SNR=8.9
comp=Z,2.1nm,0.7s
BURAR Bucovina Array 58.45 312 P **P** 19 28 26.9 +0.4
ALN Alexandroupoli 58.50 304 P **P** 19 28 27.5 +0.7
ALN IAmb IAmb 19 28 32.2
comp=Z,10nm,1.5s
WRA Warramunga Arr 58.93 136 P **P** 19 28 29.5 -0.5
comp=Z,0.5nm,0.5s,baz=322,slow=7.4,SNR=6.6
comp=Z,0.5nm,0.5s
ARCES ARCESS Array B 59.53 338 P **P** 19 28 34.0 +0.6
ARCES ARCESS Array B 59.53 338 P **P** 19 28 34.1 +0.6
comp=Z,1.4nm,0.7s,baz=108,slow=4.0,SNR=7.1
comp=Z,1.4nm,0.7s
IDI Anoyia 60.29 298 P **P** 19 28 39.7 +0.4
ASAR Alice Springs 61.45 139 P **P** 19 28 46.0 -1.1
comp=Z,0.3nm,0.5s,baz=321,slow=6.5,SNR=7.4
comp=Z,0.3nm,0.5s
ITM Ithomi 62.27 300 P **P** 19 28 51.7 -0.9
HFS Hagfors 64.26 327 P **P** 19 29 05.5 +0.2
comp=Z,3.9nm,0.5s,baz=98,slow=8.9,SNR=24
comp=Z,3.9nm,0.5s
NB2 NORSAR Subarra 65.37 328 P **P** 19 29 12.8 +0.3
comp=Z,0.9nm,0.5s,baz=83,slow=6.5
NOA NORSAR Array B 65.37 328 P **P** 19 29 12.3 -0.2
comp=Z,1.4nm,0.6s,baz=83,slow=6.4,SNR=5.8
comp=Z,1.4nm,0.6s
GERES GERESS Array B 65.93 314 P **P** 19 29 16.8 +0.4
comp=Z,1.0nm,0.5s,baz=65,slow=6.7,SNR=7.6
comp=Z,1.0nm,0.5s
B21K Ikpikpuk River 73.47 20 P **P** 19 30 01.7 -0.5
EKA Eskdalemuir Ar 74.14 324 P **P** 19 30 07.0 +0.6
comp=Z,1.3nm,0.4s,baz=71,slow=5.6,SNR=4.0
comp=Z,1.3nm,0.4s
C23K Itkillik River 74.58 19 P **P** 19 30 08.8 +0.1
F21K Alatna River 74.98 22 P **P** 19 30 10.4 -0.7
F21K IAmb IAmb 19 30 33.9
comp=Z,6.8nm,1.4s
G21K Allakaket 75.32 23 P **P** 19 30 12.2 -0.8
G21K IAmb IAmb 19 30 40.1
comp=Z,8.2nm,1.4s
E24K Your Creek 76.17 20 P **P** 19 30 16.9 -1.0
E24K IAmb IAmb 19 30 58.3
comp=Z,12nm,1.5s
BMAR Burnt Mountain 77.76 20 P **P** 19 30 27.0 +0.2
H29M Whitestone 80.43 19 P **P** 19 30 40.7 -0.6
H29M IAmb IAmb 19 31 12.6
comp=Z,6.4nm,1.3s
ESDC Sonseca Array 80.80 309 P **P** 19 30 43.6 -0.4
comp=Z,0.4nm,0.6s,baz=63,slow=4.8,SNR=3.1
comp=Z,0.4nm,0.6s
BCAR Beaver Creek A 81.41 23 P **P** 19 30 46.5 -0.2
H31M Peel River 81.90 18 P **P** 19 30 48.2 -1.0
H31M IAmb IAmb 19 31 10.9
comp=Z,8.5nm,1.4s
TORD Torodi Ar. Bea 87.42 283 P **P** 19 31 17.3 -0.6
comp=Z,1.0nm,0.7s,baz=54,slow=5.3,SNR=2.5
comp=Z,1.0nm,0.7s

*IDC **03** 19:21:33.2±0.6,3°.17S×28°.32E,h0km,mb4.0/16, mbtmp4.1/20,ML2.2/1,MS3.3/5,Error ellipse: s-maj=24.1km s-min=13.5km az=100.0*
*NEIC **03** 19:21:34.3±2.2,3°.36S±0°.07×28°.54E±0°.09,h10km±1km, mb4.3/26,Error ellipse: s-maj=16.4km s-min=10.4km az=290.0*
ISC 03 19:21:33.9±0.4,3°32S±0°.05×28°48E±0°.07,h10km,n67, σ1s74/71,mb4.2/24,MS3.3/3,Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
MBAR	**Mbarara**	**3.52**	**40**				**Pn**	**19 22 30.0**	**+1.2**
MBAR					Sn		**Sn**	**19 23 09.7**	**-1.0**
KMBO	**Kilima Mbogo**	**9.03**	**76**	Pn			**Pn**	**19 23 45.5**	**+0.8**
	14nm,0.5s,baz=232,slow=16,SNR=14								
KMBO					Sn		**Sn**	**19 25 26.4**	**-0.2**
	7.2nm,0.3s,baz=343,slow=22,SNR=8.6								
LODK	**Lodwar**	**9.60**	**46**				**Pn**	**19 23 51.3**	**-1.0**
LODK					Sn		**Sn**	**19 25 34.3**	**-6.0**
KIBK	**Kibwezi**	**9.60**	**84**				**Pn**	**19 23 51.0**	**-1.4**
KIBK					Sn		**Sn**	**19 25 37.1**	**-3.3**
LSZ	**Lusaka**	**11.88**	**181**				**Pn**	**19 24 23.2**	**-0.5**
LSZ	**Lusaka**	**11.88**	**181**	Pn			**Pn**	**19 24 24.3**	**+0.7**
	7.3nm,0.5s,baz=4.6,slow=15,SNR=13								
LSZ					Sn		**Sn**	**19 26 31.3**	**-5.2**
	1.7nm,0.3s,baz=128,slow=12,SNR=3.6								
LSZ					LR		LR	19 29 15.4	
	comp=Z,122nm,20.6s,baz=22,slow=38								
KSANE	**Kasane**	**14.75**	**193**	Pn			**Pn**	**19 25 03.2**	**+0.3**
FURI	**Furi**	**15.83**	**40**	LR			LR	19 30 47.3	
	comp=Z,101nm,19.5s,baz=84,slow=35								
XAUDM	**Khaudum**	**16.66**	**204**	*i* P			**Pn**	**19 25 25.4**	**-2.4**
XAUDM				*i* S			Sn	19 28 18.7	-14
XAUDM	**Khaudum**	**16.66**	**204**				**Pn**	**19 25 27.2**	**-0.6**
MATP	**Matopo**	**17.00**	**180**	P			**Pn**	**19 25 33.2**	**+1.1**
	1.1nm,0.5s,baz=357,slow=13,SNR=18								
MATP				S			**Sn**	**19 28 36.1**	**-5.2**
	2.8nm,0.6s,baz=254,slow=22,SNR=2.1								
GMARE	**Gumare**	**17.12**	**201**	Pn			**Pn**	**19 25 33.4**	**-0.2**
PHDHD	**Phuduhudu**	**17.21**	**193**	P			**Pn**	**19 25 34.5**	**-0.1**
PHDHD				IAmb			IAmb	19 25 40.3	
	comp=Z,20nm,1.2s								
QNGWA	**Qangwa**	**17.62**	**203**	*i* P			**Pn**	**19 25 37.4**	**-2.4**
QNGWA				*i* S			Sn	19 28 40.4	-16
QNGWA	**Qangwa**	**17.62**	**203**				**Pn**	**19 25 38.3**	**-1.5**
BROLN	**Tlhalogang**	**17.71**	**184**	*i* P			**Pn**	**19 25 42.0**	**+1.2**
BROLN				*i* S			Sn	19 28 48.1	-10
CKGRV	**CKGRV**	**18.55**	**194**	*i* P			**P**	**19 25 50.6**	**-0.4**
CKGRV				*i* S			Sn	19 29 05.3	-13
TSUM	**Tsumeb**	**19.04**	**213**	P			**P**	**19 25 55.9**	**-0.6**
TSUM	**Tsumeb**	**19.04**	**213**	P			**Pn**	**19 25 57.6**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=36,slow=14,SNR=4.1								
TSUM				S			Sn	19 29 17.0	-14
	comp=Z,3.7nm,0.6s,baz=284,slow=20,SNR=3.8								
	comp=Z,1.1nm,0.3s								
MREMI	**Moremi**	**19.16**	**183**	P			**P**	**19 25 57.3**	**-0.4**
GRTLG	**Ghanzi**	**19.27**	**201**	P			**P**	**19 25 58.4**	**-0.7**
EDA	**Edea**	**19.63**	**291**	P			**P**	**19 26 00.4**	**-2.5**
EDA				IAmb			IAmb	19 26 24.0	
	comp=Z,12nm,0.7s								
LPHEP	**Lephephe**	**20.09**	**187**	P			**P**	**19 26 09.0**	**+1.1**
LPHEP				IAmb			IAmb	19 26 28.6	
	comp=Z,26nm,1.4s								
KGCAE	**Kacgae**	**20.35**	**197**	*i* P			**P**	**19 26 11.3**	**+0.6**
KGCAE	**Kacgae**	**20.35**	**197**				**P**	**19 26 10.9**	**+0.2**
KGCAE				IAmb			IAmb	19 26 39.1	
	comp=Z,13nm,0.9s								
KOOLE	**Kule**	**21.14**	**202**	*i* P			**P**	**19 26 20.0**	**+0.7**
KOOLE				*i* S			S	19 30 00.7	-14
KOOLE	**Kule**	**21.14**	**202**	P			**P**	**19 26 18.8**	**-0.5**
LBTB	**Lobatse**	**21.75**	**187**	P			**P**	**19 26 28.9**	**+3.1**
	comp=Z,4.0nm,0.7s,baz=3.5,slow=14,SNR=4.4								
	comp=Z,4.0nm,0.7s								
MAKGR	**Makgori**	**22.64**	**189**	P			**P**	**19 26 36.3**	**+0.9**
MAKGR				IAmb			IAmb	19 26 42.2	
	comp=Z,11nm,1.1s								
BOSA	**Boshof**	**25.34**	**187**	P			**P**	**19 27 02.0**	**+0.7**
	comp=Z,3.0nm,0.6s,baz=6.2,slow=7.7,SNR=6.3								
BOSA				LR			LR	19 37 55.1	
	comp=Z,22nm,20.6s,baz=5.0,slow=39								
	comp=Z,3.0nm,0.6s								
TORD	**Torodi Ar. Bea**	**31.23**	**302**	P			**P**	**19 27 52.4**	**-1.5**
TORD				IAmb			IAmb	19 27 59.1	
	comp=Z,2.4nm,0.9s								
TORD	**Torodi Ar. Bea**	**31.23**	**302**	P			**P**	**19 27 52.4**	**-1.5**
	comp=Z,2.6nm,0.7s,baz=106,slow=7.3,SNR=17								
	comp=Z,2.6nm,0.7s								
EIL	**Elat**	**33.38**	**10**	LR			LR	19 42 12.5	
	comp=Z,62nm,19.8s,baz=171,slow=37								
MMAI	**Mount Meron Ar**	**36.73**	**10**	P			**P**	**19 28 42.2**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=180,slow=13,SNR=2.2								
	comp=Z,0.4nm,0.5s								
BRTR	**Keskin Array B**	**43.10**	**6**	P			**P**	**19 29 32.9**	**-1.6**
BRTR	**Keskin Array B**	**43.10**	**6**	P			**P**	**19 29 34.9**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=183,slow=9.1,SNR=17								
BRTR				PcP			**PcP**	**19 31 25.8**	**+1.4**
	comp=Z,0.7nm,0.9s,baz=186,slow=5.0,SNR=2.7								
	comp=Z,2.8nm,0.8s								
GEVA	**Gevas**	**43.57**	**17**	P			**P**	**19 29 37.7**	**-0.6**
GEVA				IAmb			IAmb	19 29 41.6	
	comp=Z,7.2nm,1.4s								
BURAR	**Bucovina Array**	**50.80**	**357**	P			**P**	**19 30 34.3**	**-0.3**
BURAR				IAmb			IAmb	19 30 36.8	
	comp=Z,2.4nm,0.9s								
TUE	**Stuetta**	**52.39**	**343**	P			**P**	**19 30 45.9**	**-0.7**
TUE				IAmb			IAmb	19 30 50.7	
	comp=Z,6.5nm,1.3s								
PVAQ	**Vaqueiros**	**52.65**	**324**	P			**P**	**19 30 48.4**	**0.0**
SENIN	**Lac Senin/Sane**	**52.91**	**342**	P			**P**	**19 30 48.9**	**-1.5**
SENIN				IAmb			IAmb	19 31 28.9	
	comp=Z,4.6nm,1.1s								
GERES	**GERESS Array B**	**53.52**	**348**	P			**P**	**19 30 53.5**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=161,slow=9.3,SNR=6.8								
	comp=Z,0.7nm,0.7s								
AKASG	**Malin Array Be**	**53.81**	**1**	P			**P**	**19 30 55.6**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=183,slow=6.1,SNR=5.0								
	comp=Z,0.3nm,0.3s								
ABKAR	**Akbulak array**	**59.04**	**24**	P			**P**	**19 31 33.6**	**-0.4**
KKAR	**Karatay Array**	**59.74**	**35**	P			**P**	**19 31 39.1**	**+0.1**
TARG	**Taragay, Kyrgy**	**63.33**	**39**	P			**P**	**19 32 03.6**	**-0.2**
ARTI	**Arti**	**64.31**	**18**	P			**P**	**19 32 09.7**	**+0.3**
FINES	**FINESS Array B**	**64.61**	**359**	P			**P**	**19 32 11.2**	**0.0**
FINES	**FINESS Array B**	**64.61**	**359**	P			**P**	**19 32 10.8**	**-0.5**
	comp=Z,3.0nm,0.9s,baz=217,slow=4.4,SNR=3.8								
	comp=Z,3.0nm,0.9s								
NOA	**NORSAR Array B**	**65.56**	**351**	P			**P**	**19 32 17.2**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=162,slow=6.2,SNR=3.6								
	comp=Z,1.6nm,0.8s								
BVAR	**Borovoye Array**	**66.24**	**26**	P			**P**	**19 32 22.0**	**0.0**
	comp=Z,1.7nm,0.8s,baz=242,slow=6.4,SNR=11								
	comp=Z,1.7nm,0.8s								
KURBB	**Kurchatov Arra**	**68.65**	**32**	P			**P**	**19 32 38.8**	**+1.4**
	comp=Z,2.0nm,0.5s,baz=241,slow=6.7,SNR=13								
	comp=Z,2.0nm,0.5s								
MKAR	**Makanchi Array**	**68.70**	**37**	P			**P**	**19 32 38.3**	**+0.5**
MKAR	**Makanchi Array**	**68.70**	**37**	P			**P**	**19 32 38.8**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=244,slow=5.7,SNR=25								
	comp=Z,2.2nm,0.7s								
KURK	**Kurchatov**	**68.75**	**32**	P			**P**	**19 32 38.4**	**+0.4**
SNAA	**Sanae**	**71.07**	**190**	P			**P**	**19 32 53.4**	**+1.4**
SNAA				IAmb			IAmb	19 33 22.8	
	comp=Z,2.6nm,1.2s								
CMAR	**Chiang Mai Arr**	**72.61**	**70**	P			**P**	**19 33 02.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=261,slow=6.7,SNR=4.3								
CMAR				LR			LR	20 06 42.5	
	comp=Z,17nm,18.2s,baz=215,slow=37								
	comp=Z,0.3nm,0.3s								
ZALV	**Zalesovo Beam**	**73.70**	**31**				**P**	**19 33 07.3**	**-0.5**
ZALV	**Zalesovo Beam**	**73.70**	**31**	P			**P**	**19 33 08.0**	**+0.1**
	comp=Z,3.4nm,0.9s,baz=253,slow=4.5,SNR=12								
	comp=Z,3.4nm,0.9s								
PZH	**PanZhiHua**	**76.58**	**62**	P			**P**	**19 33 25.6**	**+0.4**
GTA	**Gaotai**	**77.81**	**49**	*e*P			**P**	**19 33 34.1**	**+2.2**
GTA				sP			PcP	19 33 46.2	+4.3
GTA				pmax			pmax		
	comp=Z,3.0nm,1.0s								
SONM	**Songino Array**	**84.36**	**41**	P			**P**	**19 34 07.8**	**+1.1**
SONM				IAmb			IAmb	19 34 09.6	
	comp=Z,1.9nm,1.0s								
SONM	**Songino Array**	**84.36**	**41**	P			**P**	**19 34 09.4**	**+2.8**
	comp=Z,1.2nm,0.9s,baz=260,slow=5.4,SNR=6.9								
	comp=Z,1.2nm,0.9s								
QSPA	**South Pole Qui**	**86.73**	**180**	P			**P**	**19 34 20.8**	**+2.7**
QSPA	**South Pole Qui**	**86.73**	**180**	P			**P**	**19 34 21.7**	**+3.7**
	comp=Z,1.1nm,0.8s,baz=263,slow=1.1,SNR=10								
	comp=Z,1.1nm,0.8s								
HHC	**Hu-ho-hao-te**	**86.92**	**49**	*e*P			P	19 34 24.8	+5.3
HHC				pmax			pmax		
	comp=Z,8.0nm,0.5s								
HHC				pmax			pmax		
	comp=Z,85nm,5.3s								
PMSA	**Palmer Station**	**88.10**	**205**	P			**P**	**19 34 26.1**	**+1.6**

*SNET **03** 19:26:38.9±2.0,14°.61N×92°.74W,h48km,ML3.9*
*CATAC **03** 19:26:39.5±0.6,15°N±4°×9°.3W±°,h32km±4km,M4.0/10, MLv4.0/10,Error ellipse: s-maj=8.6km s-min=3.5km az=32.0,confirmed*
*MEX **03** 19:26:40.9±1.1,14°.64N×92°.76W,h56km±15km,MD4.3*
*GCG **03** 19:26:40.6±1.3,14°.79N×92°.65W,h60km±12km,MD3.8, ML4.0*
ISC 03 19:26:38.7±1.2,14°64N±0°.05×92°77W±0°.03,h63km±11km, n54,σ1s78/81,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
THIG		**0.55**	**62**	*e*P			**Pn**	**19 26 51.8**	**+0.3**
THIG				*e*S			**Sn**	**19 26 60.0**	**-0.8**
THIG		**0.55**	**62**	*i* P			**Pn**	**19 26 51.5**	**+0.1**
THIG				IAML				19 27 01.6	
	comp=N,10μm,0.2s								
PATR	**El Naranjo**	**0.70**	**48**	*e*P			**Pn**	**19 26 53.1**	**-0.2**
PATR				*e*S			**Sn**	**19 27 03.2**	**-0.9**
SMCA	**Catarina**	**0.70**	**72**	*i* P			**Pn**	**19 26 53.4**	**+0.2**
SMCA				*i* S			**Sn**	**19 27 03.2**	**-0.6**
SMCA				IAML				19 27 05.0	
	comp=N,7μm,0.2s								
CHUJ	**Union Juarez**	**0.78**	**55**	*e*P			**Pn**	**19 26 54.0**	**-0.4**
CHUJ				*e*S			**Sn**	**19 27 05.1**	**-0.7**
PAVE	**Pavencul**	**0.79**	**46**	*e*P			**Pn**	**19 26 54.4**	**-0.1**
PAVE				*e*S			**Sn**	**19 27 05.4**	**-0.7**
RTAL	**Retalhuleu**	**1.05**	**96**	*e*P			**Pn**	**19 26 58.3**	**+0.8**
RTAL				*e*S			**Sn**	**19 27 11.8**	**+0.4**
RTAL	**Retalhuleu**	**1.05**	**96**	*e*P			**Pn**	**19 26 57.9**	**+0.5**
RTAL				*e*S			**Sn**	**19 27 10.5**	**-0.9**
RTAL	**Retalhuleu**	**1.05**	**96**	P			**Pn**	**19 26 58.1**	**+0.7**
PCIG		**1.14**	**338**	*i* P			**Pn**	**19 26 59.3**	**+0.6**
PCIG				*i* S			**Sn**	**19 27 13.8**	**+0.2**
QUEO	**Labor Ovalle**	**1.23**	**79**	*i* P			**Pn**	**19 27 01.1**	**+0.9**
QUEO				*e*S			**Sn**	**19 27 17.1**	**+0.9**
QUEO				IAML				19 27 18.1	
	comp=N,15μm,0.2s								
SOKI	**Kika Raxquin**	**1.33**	**82**	*e*P			**Pn**	**19 27 02.7**	**+1.2**
SOKI				*i* S			**Sn**	**19 27 19.8**	**+1.1**
SOKI				IAML				19 27 25.1	
	comp=E,1μm,0.5s								
HUEH	**Huehuetenango**	**1.40**	**61**	*e*P			**Pn**	**19 27 03.6**	**+1.3**
HUEH				*e*S			**Sn**	**19 27 21.5**	**+1.6**
HUEH	**Huehuetenango**	**1.40**	**61**	*e*P			**Pn**	**19 27 03.1**	**+0.9**
HUEH				*e*S			**Sn**	**19 27 21.4**	**+1.4**
HUEH	**Huehuetenango**	**1.40**	**61**	*i* P			**Pn**	**19 27 03.3**	**+1.1**
HUEH				IAML				19 27 26.6	
	comp=E,4μm,0.5s								
HUEH	**Huehuetenango**	**1.40**	**61**	P			**Pn**	**19 27 03.3**	**+1.1**
CCIG	**Comitan**	**1.74**	**20**	*e*P			**Pn**	**19 27 08.2**	**+1.3**
CCIG				*e*S			**Sn**	**19 27 30.7**	**+2.6**
CCIG	**Comitan**	**1.74**	**20**	*i* P			**Pn**	**19 27 08.3**	**+1.4**
CCIG				IAML				19 27 39.2	
	comp=N,464nm,0.5s								
CCIG	**Comitan**	**1.74**	**20**	P			**Pn**	**19 27 08.2**	**+1.3**
QUIS	**Sacapulas**	**1.74**	**68**	*i* P			**Pn**	**19 27 08.1**	**+1.2**
ESSG	**Sabana Grande**	**1.89**	**98**	*i* P			**Pn**	**19 27 09.8**	**+0.9**
ESSG				IAML				19 27 32.6	
	comp=N,466nm,0.2s								
TGIG		**2.15**	**351**	*e*P			**Pn**	**19 27 12.2**	**-0.1**
TGIG				*e*S			**Sn**	**19 27 35.5**	**-2.4**
TGIG		**2.15**	**351**	*i* P			**Pn**	**19 27 12.2**	**-0.1**
TGIG				*i* S			**Sn**	**19 27 36.9**	**-1.1**
TGIG				IAML				19 27 49.3	
	comp=E,256nm,0.5s								
FG8	**Yepocapa, Chim**	**2.17**	**100**	*i* S			Sn	19 27 28.9	-10
FG16	**Alotenango, Sa**	**2.22**	**99**	*e*P			**Pn**	**19 27 09.6**	**-3.7**
FG16				IAML				19 27 35.7	
	comp=E,3μm,0.2s								
UXUV	**UXUV**	**2.97**	**334**	*e*P			**Pn**	**19 27 24.7**	**+1.3**
UXUV				*e*S			**Sn**	**19 28 01.3**	**+3.4**
NUBE	**Las Nubes**	**2.99**	**104**	*e*P			**Pn**	**19 27 24.1**	**+0.3**
NUBE				*e*S			**Sn**	**19 27 57.4**	**-1.2**
NUBE	**Las Nubes**	**2.99**	**104**	*i* P			**Pn**	**19 27 25.4**	**+1.5**
SBLS	**San Blas**	**3.15**	**104**	*e*P			**Pn**	**19 27 27.6**	**+1.5**
SNJE	**San Jose**	**3.16**	**104**	*e*P			**Pn**	**19 27 26.0**	**-0.2**
SNJE				*e*P				19 27 27.7	
CMIG	**Matias Romero**	**3.17**	**320**	*e*P			**Pn**	**19 27 27.2**	**+1.0**
CMIG				*e*S			**Sn**	**19 28 02.9**	**0.0**
MTO3	**Montecristo**	**3.31**	**94**	*e*P			**Pn**	**19 27 27.9**	**-0.4**
JAYA	**Jayaque - finc**	**3.37**	**107**	*e*S			**Sn**	**19 28 06.3**	**-1.6**
HUIG	**Huatulco**	**3.41**	**290**	*e*P			**Pn**	**19 27 29.2**	**-0.3**
HUIG				*e*S			**Sn**	**19 28 03.9**	**-4.8**
PMON	**Piamonte**	**3.48**	**105**	P			**Pn**	**19 27 32.8**	**+2.3**
PMON				S			**Sn**	**19 28 12.7**	**+2.2**
PETF	**Flores**	**3.59**	**51**	*e*P			**Pn**	**19 27 32.1**	**+0.1**
PETF	**Flores**	**3.59**	**51**	*e*P			**Pn**	**19 27 31.9**	**0.0**
PETF				*e*S			**Sn**	**19 28 12.3**	**-0.8**
PETF	**Flores**	**3.59**	**51**	*e*P			**Pn**	**19 27 31.9**	**0.0**
PETF	**Flores**	**3.59**	**51**	P			**Pn**	**19 27 32.0**	**+0.1**
TUIG	**Tuzandepetl**	**3.73**	**335**	*e*S			**Sn**	**19 28 16.3**	**-0.2**
NEUV	**Arroyo Zacate**	**4.22**	**317**	*e*P			**Pn**	**19 27 42.0**	**+1.4**
NEUV				*e*S			**Sn**	**19 28 29.4**	**+0.9**
PEIG	**Puerto Escondi**	**4.43**	**288**	*e*P			**Pn**	**19 27 42.9**	**-0.5**
PEIG				*e*S			Sn	19 28 27.9	-5.9
PMUV	**Sontecomapan**	**4.49**	**330**	*e*S			**Sn**	**19 28 32.8**	**-2.5**
VHO	**Vista Hermosa**	**4.52**	**303**	*e*S			Sn	19 28 29.5	-6.6
SCIG	**Sabancuy**	**4.56**	**19**	*e*P			**Pn**	**19 27 42.9**	**-2.2**
SCIG				*e*S			**Sn**	**19 28 31.0**	**-5.8**
YOIG	**Yosondua**	**5.10**	**296**	*e*P			**Pn**	**19 27 55.7**	**+2.9**
YOIG				*e*S			**Sn**	**19 28 49.4**	**-1.1**
TOIG	**Toxpalan**	**5.37**	**310**	*e*P			**Pn**	**19 27 57.5**	**+1.2**
TOIG				*e*S			**Sn**	**19 28 58.0**	**+1.1**
PNIG	**

*SJA **03** 19:28:48.3±0.7,24°.10S×66°.88W,h206^{km}±5^{km},ML3.6, MW3.6*
*GUC **03** 19:28:50.6±0.7,23°.98S×67°.25W,h238^{km}±12^{km},ML4.0*
ISC 03 19:28:47.0±1.9,**24°.11S**±0°.04×**66°.90W**±0°.05, **h217**^{km}±16^{km},**n32**,σ1^{s}61/57,**4C**,**Salta Province**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SALTA		**0.52**	**103**	*e*P		**Pn**	**19 29 17.3**	**+0.5**
HJA	**Humahuaca**	**1.63**	**57**	*e*P		**Pn**	**19 29 24.9**	**+1.1**
AF01	**San Pedro de A**	**1.65**	**314**	*e*S		**S**	**19 29 50.9**	**-1.4**
AF01				IAML			19 30 00.1	
	comp=E,154nm,0.3s							
AZAP	**Zapla**	**1.67**	**94**	*e*P		**Pn**	**19 29 24.5**	**+0.5**
FSA	**Cafayete**	**2.16**	**158**	*e*P		**Pn**	**19 29 29.7**	**+1.2**
FSA				*e*S		**S**	**19 30 00.6**	**-0.3**
YJA	**Yavi**	**2.31**	**34**	*e*P		**Pn**	**19 29 32.1**	**+1.7**
GO02	**Mina Guanaco**	**2.67**	**246**	*i*P		**Pn**	**19 29 35.5**	**+1.4**
GO02				*e*S		**S**	**19 30 10.6**	**0.0**
GO02				IAML			19 30 13.1	
	comp=E,693nm,0.1s							
GO02	**Mina Guanaco**	**2.67**	**246**	*e*P		**Pn**	**19 29 35.7**	**+1.6**
GO02				*e*S		**S**	**19 30 11.1**	**+0.4**
GO02				IAML			19 30 11.9	
	comp=Z,339nm,0.1s							
ALOL	**LOMAS DE OLMED**	**2.68**	**84**	*e*P		**Pn**	**19 29 35.0**	**+1.0**
PB06	**IPOC Station P**	**2.83**	**299**	*i*P		**Pn**	**19 29 37.2**	**+1.4**
PB06				*e*S		**S**	**19 30 12.6**	**-1.1**
PB06				IAML			19 30 16.9	
	comp=E,498nm,0.1s							
PB06	**IPOC Station P**	**2.83**	**299**	*e*P		**Pn**	**19 29 37.2**	**+1.4**
PB06				*e*S		**S**	**19 30 13.3**	**-0.3**
PB06				IAML			19 30 16.0	
	comp=Z,198nm,0.1s							
PB09	**IPOC Station P**	**3.16**	**316**	*e*P		**Pn**	**19 29 41.7**	**+2.1**
PB09				*e*S		**S**	**19 30 19.3**	**-1.2**
PB09				IAML			19 30 22.0	
	comp=N,118nm,0.4s							
PB09	**IPOC Station P**	**3.16**	**316**	*e*P		**Pn**	**19 29 41.5**	**+1.9**
PB09				*e*S		**S**	**19 30 20.8**	**+0.2**
PB09				IAML			19 30 22.2	
	comp=Z,98nm,0.2s							
PB14	**IPOC Station P**	**3.24**	**260**	*e*P		**Pn**	**19 29 41.9**	**+1.3**
PB14				*e*S		**S**	**19 30 22.8**	**+0.4**
PB14				IAML			19 30 24.4	
	comp=Z,62nm,0.4s							
PB05	**IPOC Station P**	**3.29**	**292**	*i*P		**Pn**	**19 29 42.2**	**+1.2**
PB05				*e*S		**S**	**19 30 20.8**	**-2.3**
PB05				IAML			19 30 23.5	
	comp=E,138nm,0.4s							
PB05	**IPOC Station P**	**3.29**	**292**	*e*P		**Pn**	**19 29 42.2**	**+1.2**
PB05				*e*S		**S**	**19 30 22.2**	**-0.8**
PB05				IAML			19 30 25.9	
	comp=Z,81nm,0.4s							
PB03	**IPOC Station P**	**3.34**	**307**	*e*P		**Pn**	**19 29 42.9**	**+1.2**
PB03				*e*S		**S**	**19 30 22.6**	**-1.6**
PB03	**IPOC Station P**	**3.34**	**307**	*e*P		**Pn**	**19 29 42.9**	**+1.2**
PB03				*e*S		**S**	**19 30 22.7**	**-1.5**
PB03				IAML			19 30 23.9	
	comp=Z,219nm,0.2s							
AC02	**Maricunga**	**3.38**	**216**	*e*P		**Pn**	**19 29 44.8**	**+2.3**
AC02				*e*S		**S**	**19 30 23.3**	**-2.4**
PB10	**IPOC Station P**	**3.40**	**279**	*e*P		**Pn**	**19 29 43.5**	**+1.2**
PB10				*e*S		**S**	**19 30 22.8**	**-2.5**
PB10	**IPOC Station P**	**3.40**	**279**	*e*P		**Pn**	**19 29 43.6**	**+1.4**
PB10				*e*S		**S**	**19 30 24.7**	**-0.6**
PB10				IAML			19 30 26.3	
	comp=E,104nm,0.3s							
PB01	**IPOC Station P**	**3.88**	**321**	*e*P		**Pn**	**19 29 49.0**	**+0.9**
PB01				*e*S		**S**	**19 30 33.5**	**-2.4**
PB01	**IPOC Station P**	**3.88**	**321**	*e*P		**Pn**	**19 29 49.3**	**+1.2**
PB01				*e*S		**S**	**19 30 35.1**	**-0.8**
PB01				IAML			19 30 39.4	
	comp=Z,104nm,0.2s							
AC01	**Pan de Azucar**	**3.92**	**238**	*e*P		**Pn**	**19 29 48.8**	**+0.4**
AC01				*e*S		**S**	**19 30 35.6**	**-1.0**
AC01				IAML			19 30 37.2	
	comp=Z,50nm,0.2s							
PB02	**IPOC Station P**	**3.92**	**314**	*e*P		**Pn**	**19 29 49.6**	**+0.9**
PB02				*e*S		**S**	**19 30 33.3**	**-3.5**
PB02	**IPOC Station P**	**3.92**	**314**	*e*P		**Pn**	**19 29 49.7**	**+1.0**
PB02				*e*S		**S**	**19 30 35.2**	**-1.7**
PB08	**IPOC Station P**	**4.47**	**332**	*e*P		**Pn**	**19 29 57.6**	**+1.9**
PB08				*e*S		**S**	**19 30 48.2**	**-1.3**
PB08	**IPOC Station P**	**4.47**	**332**	*e*P		**Pn**	**19 29 57.8**	**+2.1**
PB08				*e*S		**S**	**19 30 49.5**	**+0.1**
PB08				IAML			19 30 52.1	
	comp=Z,40nm,0.3s							
GO03	**Copiapo**	**4.59**	**220**	*e*P		**Pn**	**19 29 57.4**	**+0.7**
GO03				*e*S		**S**	**19 30 50.3**	**-1.4**
GO03				IAML			19 30 52.5	
	comp=Z,37nm,0.3s							
TA01	**Diego Aracena**	**4.66**	**319**	*e*P		**Pn**	**19 29 59.6**	**+2.1**
TA01				*e*S		**S**	**19 30 50.6**	**-2.4**
TA01				IAML			19 30 56.2	
	comp=Z,48nm,0.5s							
HMBC	**Humberstone**	**4.71**	**323**	*e*P		**Pn**	**19 29 59.5**	**+1.1**
ACLC	**CERRO LA CRUZ**	**5.29**	**181**	*e*P		**Pn**	**19 30 01.6**	**-4.1**
ACLC				*e*S		**S**	**19 31 09.0**	**+1.1**

*SKHL **03** 19:31:24.0±0.3,47°.70N×146°.50E,h490^{km}±9^{km},mb4.5/5, msha5.1/5*
*JMA **03** 19:31:24.7±0.5,47°.N±3°×14°.7E±°,h493^{km},MV3.6/28, SOUTHERN SEA OF OKHOTSK*
*MOS **03** 19:31:24.8±1.4,47°.78N×145°.86E,h464^{km},mb4.1/2,Error ellipse: s-maj=16.1km s-min=8.2km az=75.4*
*NEIC **03** 19:31:25.3±1.7,47°.8N±0°.1×146°.0E±0°.1,h455^{km}±9^{km}, mb4.1/22,Error ellipse: s-maj=18.5km s-min=11.1km az=146.0*
*IDC **03** 19:31:26.0±1.4,47°.89N×145°.87E,h459^{km}±19^{km}, mb2.9/10,mbtmp4.0/17,Error ellipse: s-maj=19.4km s-min=15.1km az=115.0*
ISC 03 19:31:24.7±0.6,**47°.64N**±0°.05×**146°.12E**±0°.08,**h450**^{km}, **n119**,σ2^{s}00/143,**mb3.9**/21,**2D**,**Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YSS	**Yuzhno-Sakhali**	**2.39**	**255**	P		**P**	**19 32 28.4**	**+1.0**
YSS	**Yuzhno-Sakhali**	**2.39**	**255**	P		**P**	**19 32 30.8**	**+3.3**
YSS	**Yuzhno-Sakhali**	**2.39**	**255**	*e*PN		**P**	**19 32 30.6**	**+3.1**
YSS				*e*S		**S**	**19 33 21.5**	**+3.0**
YSS				pmax	pmax			
	comp=Z,40nm,1.0s							
YSS				smax	smax			
	comp=N,30nm,1.1s							
YSS				smax	smax			
	comp=E,30nm,1.0s							
YSS	**Yuzhno-Sakhali**	**2.39**	**255**	*e*P		**P**	**19 32 30.6**	**+3.1**
YSS				AMB	AMB		19 32 30.9	
	comp=E,50nm,0.3s							
YSS				*e*S		**S**	**19 33 22.3**	**+3.8**
YSS				A	A		19 33 23.0	
	comp=E,30nm,1.1s							
YSS				A	A		19 33 23.0	
	comp=E,30nm,1.1s							
YUK	**Yuzh-Kuril'sk**	**3.61**	**183**	PN		**P**	**19 32 39.4**	**+2.8**
YUK				*i* S		**S**	**19 33 37.4**	**+2.5**
YUK				pmax	pmax			
	comp=Z,31nm,0.2s							
YUK				pmax	pmax			
	comp=N,5.0nm,0.1s							
YUK				pmax	pmax			
	comp=E,16nm,0.2s							
YUK				smax	smax			
	comp=N,148nm,0.4s							
YUK				smax	smax			
	comp=E,284nm,0.8s							
YUK	**Yuzh-Kuril'sk**	**3.61**	**183**	*e*P		**P**	**19 32 38.0**	**+1.4**
YUK				AMB	AMB		19 32 39.2	
	comp=E,60nm,0.6s							
YUK				*i* S		**S**	**19 33 37.4**	**+2.5**
YUK				A	A		19 33 41.2	
	comp=E,360nm,0.7s							
YUK				A	A		19 33 41.2	
	comp=E,530nm,0.7s							
JRA	**Rausu**	**3.76**	**191**	*e*P		**P**	**19 32 40.0**	**+2.1**
SHO	**Shikotan**	**3.80**	**172**	*e*P		**P**	**19 32 41.0**	**+2.8**
SHO				AMB	AMB		19 32 42.7	
	comp=E,30nm,0.2s							
SHO				*e*S		**S**	**19 33 39.5**	**+1.6**
SHO				A	A		19 33 41.6	
	comp=E,160nm,0.4s							
SHO				A	A		19 33 41.6	
	comp=E,250nm,0.4s							
GLVR	**Golovnino**	**3.92**	**186**	PN		**P**	**19 32 42.9**	**+3.7**
GLVR				*i* S		**S**	**19 33 44.1**	**+4.3**
GLVR				pmax	pmax			
	comp=Z,52nm,0.3s							
GLVR				pmax	pmax			
	comp=N,36nm,0.2s							
GLVR				pmax	pmax			
	comp=E,32nm,0.2s							
GLVR				smax	smax			
	comp=N,316nm,0.3s							
GLVR				smax	smax			
	comp=E,160nm,0.4s							
GLVR	**Golovnino**	**3.92**	**186**	*e*P		**P**	**19 32 42.9**	**+3.7**
GLVR				AMB	AMB		19 32 45.5	
	comp=E,50nm,0.3s							
GLVR				*i* S		**S**	**19 33 44.1**	**+4.3**
GLVR				A	A		19 33 48.4	
	comp=E,320nm,0.4s							
GLVR				A	A		19 33 48.4	
	comp=E,160nm,0.4s							
TYV	**Tymovskoe**	**3.95**	**326**	*e*PN		**P**	**19 32 40.1**	**+0.9**
TYV				*e*S		**S**	**19 33 39.6**	**-0.4**
TYV				pmax	pmax			
	comp=Z,9.0nm,0.7s							
TYV				smax	smax			
	comp=N,11nm,1.2s							
TYV				smax	smax			
	comp=E,6.0nm,1.2s							
TYV	**Tymovskoe**	**3.95**	**326**	*e*P		**P**	**19 32 40.6**	**+1.4**
TYV				AMB	AMB		19 32 40.8	
	comp=E,10.0nm,0.7s							
JTKR	**Abashiri--Toko**	**3.98**	**204**	*e*S		**S**	**19 33 42.3**	**+1.6**
JMP	**Maruseppu**	**4.11**	**209**	*e*P		**P**	**19 32 43.1**	**+2.2**
JMP				*e*S		**S**	**19 33 46.3**	**+3.4**
JRBN	**Rebuntou**	**4.13**	**239**	*e*P		**P**	**19 32 44.8**	**+3.9**
JNK	**Nakash**	**4.17**	**194**	*e*P		**P**	**19 32 43.0**	**+1.6**
JNK				*e*S		**S**	**19 33 44.7**	**+0.9**
NMR	**Nemuro--Hokkai**	**4.28**	**184**	*e*PN		**P**	**19 32 42.3**	**-0.1**
NMR				*i* S		**S**	**19 33 43.8**	**-1.7**
NMR	**Nemuro--Hokkai**	**4.28**	**184**	*e*P		**P**	**19 32 42.3**	**-0.1**
NMR				*i* S		**S**	**19 33 44.3**	**-1.2**
NEM2	**Nemuro 2**	**4.28**	**184**	P		**P**	**19 32 42.3**	**-0.1**
NEM2				*e*S		**S**	**19 33 43.6**	**-1.9**
JKA	**Kamikawa-asahi**	**4.29**	**216**	P		**P**	**19 32 44.9**	**+2.4**
JKA	**Kamikawa-asahi**	**4.29**	**216**	*e*P		**P**	**19 32 44.9**	**+2.4**
ASAJ	**Asahikawa**	**4.29**	**216**	P		**P**	**19 32 44.9**	**+2.4**
	comp=E,7.4nm,0.5s,baz=9.5,slow=6.1,SNR=14							
JKK2	**Kamakawa 2**	**4.44**	**213**	*e*P		**P**	**19 32 46.9**	**+3.0**
JAR	**Ashorobuto**	**4.64**	**202**	P		**P**	**19 32 47.6**	**+1.9**
JAR				*e*S		**S**	**19 33 52.7**	**+1.0**
AKK	**Akkeshi**	**4.71**	**191**	*e*P		**P**	**19 32 46.8**	**+0.5**
JAK	**Akkeshi**	**4.75**	**193**	*e*P		**P**	**19 32 46.8**	**+0.1**
JAK				*e*S		**S**	**19 33 51.6**	**-1.8**
JFR	**Furan**	**5.11**	**210**	*e*P		**P**	**19 32 52.8**	**+2.5**
JFR				*e*S		**S**	**19 34 02.1**	**+2.1**
JCH	**Churui**	**5.39**	**202**	P		**P**	**19 32 53.1**	**+0.2**
JCH				*e*S		**S**	**19 34 01.6**	**-3.2**
JBT2	**Biratori 2**	**5.53**	**210**	P		**P**	**19 32 55.9**	**+1.6**
JBT2				*e*S		**S**	**19 34 07.3**	**-0.2**
JEW	**Eniwo**	**5.82**	**216**	P		**P**	**19 32 59.1**	**+1.9**
JEW				*e*S		**S**	**19 34 14.1**	**+1.4**
JNBK	**Urakawa-nobuka**	**5.86**	**205**	*e*P		**P**	**19 32 58.1**	**+0.5**
JNBK				*e*S		**S**	**19 34 10.0**	**-3.5**
JEM	**Erimo**	**6.00**	**202**	P		**P**	**19 33 00.7**	**+1.6**
JEM	**Erimo**	**6.00**	**202**	S		S	19 34 10.0	-6.1
ERM	**Erimo**	**6.00**	**202**	P		**P**	**19 33 00.4**	**+1.3**
ERM						**S**	**19 34 14.1**	**-2.0**
ERM	**Erimo**	**6.00**	**202**	P		**P**	**19 33 00.6**	**+1.5**
ERM	**Erimo**	**6.00**	**202**	S		S	19 34 10.0	-6.1
ERM	**Erimo**	**6.00**	**202**	PN		**P**	**19 33 00.4**	**+1.3**
ERM				S		**S**	**19 34 14.1**	**-2.0**
NKL	**Nikolayevsk**	**6.52**	**330**	*e*P		**P**	**19 33 05.1**	**+0.9**
NKL				AMB	AMB		19 33 05.4	
	comp=E,20nm,0.5s							
JOT	**Ohata**	**7.22**	**212**	*e*P		**P**	**19 33 12.7**	**+0.8**
JOT				*e*S		**S**	**19 34 34.9**	**-4.6**
JSI2	**Shiura 2**	**7.74**	**214**	*e*P		**P**	**19 33 17.9**	**+0.5**
JSI2				*e*S		**S**	**19 34 46.8**	**-2.9**
JTM	**Tenmabayashi**	**7.75**	**210**	P		**P**	**19 33 17.6**	**+0.2**
JTM						**S**	**19 34 45.1**	**-4.7**
JTM	**Tenmabayashi**	**7.75**	**210**	P		**P**	**19 33 18.1**	**+0.7**
JTM	**Tenmabayashi**	**7.75**	**210**	S		S	**19 34 46.9**	**-2.9**
JANG	**Nango**	**7.98**	**206**	*e*P		**P**	**19 33 20.7**	**+0.7**
JANG				*e*S		**S**	**19 34 52.6**	**-1.9**
JIW	**Iwasaki**	**8.30**	**214**	*e*P		**P**	**19 33 23.9**	**+0.5**
USA0B	**Ussuriysk Arra**	**10.43**	**256**	P		**P**	**19 33 44.9**	**-1.5**
USA0B	**Ussuriysk Arra**	**10.43**	**256**	PN		**P**	**19 33 44.9**	**-1.5**
USRK	**Ussuriysk Ar.**	**10.43**	**256**	P		**P**	**19 33 45.5**	**-0.9**
USRK	**Ussuriysk Ar.**	**10.43**	**256**	P		**P**	**19 33 46.5**	**0.0**
	comp=E,1.9nm,0.4s,baz=60,slow=11,SNR=12							
JMM	**Marumori**	**10.52**	**204**			**P**	**19 33 50.1**	**+2.6**
JMM	**Marumori**	**10.52**	**204**	P		**P**	**19 33 50.4**	**+2.9**
JMM	**Marumori**	**10.52**	**204**	P		**P**	**19 33 50.3**	**+2.8**
JSD	**Sado**	**11.19**	**214**	P		**P**	**19 33 57.8**	**+3.0**
JSD	**Sado**	**11.19**	**214**	P		**P**	**19 33 57.9**	**+3.1**
MDJ	**Mudanjiang**	**11.86**	**261**			**P**	**19 34 02.6**	**+0.6**
MA2	**Magadan**	**12.27**	**11**	P		**P**	**19 34 05.2**	**-1.0**
MA2	**Magadan**	**12.27**	**11**	P		**P**	**19 34 06.5**	**+0.3**
	comp=E,15nm,0.7s,baz=187,slow=7.6,SNR=7.3							
MA2	**Magadan**	**12.27**	**11**	PN		**P**	**19 34 05.2**	**-1.0**
MA2	**Magadan**	**12.27**	**11**	*e*P		**P**	**19 34 05.2**	**-1.0**
MJB9	**Matsu-Tunnel**	**12.53**	**211**	P		**P**	**19 34 10.6**	**+1.2**
MAJO	**Matsushiro**	**12.54**	**211**			**P**	**19 34 10.2**	**+0.8**
MAJO	**Matsushiro**	**12.54**	**211**	P		**P**	**19 34 12.4**	**+2.9**
MAJO	**Matsushiro**	**12.54**	**211**	P		**P**	**19 34 12.2**	**+2.7**
MAJO	**Matsushiro**	**12.54**	**211**	PN		**P**	**19 34 10.3**	**+0.8**
MJAR	**Matsushiro Arr**	**12.54**	**211**	P		**P**	**19 34 11.7**	**+2.3**
	comp=E,7.1nm,0.8s,baz=13,slow=11,SNR=18							
JGF	**Kuroka**	**13.68**	**212**			**P**	**19 34 23.2**	**+1.4**
JGF	**Kuroka**	**13.68**	**212**	P		**P**	**19 34 24.6**	**+2.8**
JGF	**Kuroka**	**13.68**	**212**	P		**P**	**19 34 24.4**	**+2.6**
INU	**Inuyama**	**14.03**	**212**			**P**	**19 34 27.2**	**+1.7**
INU	**Inuyama**	**14.03**	**212**	P		**P**	**19 34 28.0**	**+2.5**
JHJ2	**Mitsune**	**15.27**	**200**	P		**P**	**19 34 41.5**	**+2.7**
JHJ	**Hachijo jima 2**	**15.27**	**201**	P		**P**	**19 34 41.9**	**+3.1**
	comp=E,37nm,1.0s,baz=30,slow=14,SNR=2.6							
SEY	**Seymchan**	**15.73**	**11**	P		**P**	**19 34 42.5**	**-0.7**
	comp=E,5.0nm,0.5s,baz=184,slow=8.9,SNR=22							
SEY	**Seymchan**	**15.73**	**11**	*e*P		**P**	**19 34 42.1**	**-1.1**
SEY				pmax	pmax			
	comp=Z,9.0nm,1.0s							
SEY	**Seymchan**	**15.73**	**11**	*e*P		**P**	**19 34 42.1**	**-1.1**
KSRS	**Korea Array**	**16.79**	**239**	P		**P**	**19 34 56.4**	**+1.6**
	comp=E,1.1nm,0.6s,baz=41,slow=9.9,SNR=4.5							
SONM	**Songino Array**	**26.52**	**285**	P		**P**	**19 36 25.5**	**+1.0**
SONM	**Songino Array**	**26.52**	**285**	P		**P**	**19 36 23.4**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=80,slow=8.7,SNR=8.2							
	comp=Z,0.4nm,0.5s							
SONM	**Songino Array**	**26.52**	**285**	P		**P**	**19 36 25.5**	**+1.0**
SONM				pmax	pmax			
	comp=Z,2.0nm,1.1s							
M14K	**Bethel**	**32.17**	**47**	P		**P**	**19 37 16.3**	**+3.0**
K15K	**Wolf Creek Mou**	**32.41**	**44**	P		**P**	**19 37 15.9**	**+0.4**
G18K	**Tagagawik**	**33.90**	**37**	P		**P**	**19 37 27.5**	**-0.6**
G18K				IAmb	IAmb		19 38 09.3	
	comp=Z,15nm,1.4s							
K17K	**Iditarod**	**33.91**	**43**	P		**P**	**19 37 28.9**	**+0.7**
K17K				IAmb	IAmb		19 37 34.5	
	comp=Z,16nm,1.3s							
E19K	**Redstone River**	**34.61**	**35**	P		**P**	**19 37 33.4**	**-0.7**
E19K				IAmb	IAmb		19 37 34.4	
	comp=Z,4.0nm,0.7s							
B20K	**Meade River**	**34.98**	**30**	P		**P**	**19 37 36.6**	**-0.6**
B21K	**Ikpikpuk River**	**35.81**	**31**	P		**P**	**19 37 43.5**	**-0.5**
B21K				IAmb	IAmb		19 38 16.3	
	comp=Z,12nm,1.3s							
F21K	**Alatna River**	**36.05**	**35**	P		**P**	**19 37 45.2**	**-0.9**
F21K				IAmb	IAmb		19 38 19.8	
	comp=Z,8.6nm,1.4s							
C23K	**Itkillik River**	**37.21**	**31**	P		**P**	**19 37 54.5**	**-1.2**
ZALV	**Zalesovo Beam**	**38.17**	**303**	P		**P**	**19 38 01.9**	**-1.9**
	comp=Z,0.2nm,0.2s,baz=77,slow=6.5,SNR=1.9							
	comp=Z,0.2nm,0.2s							
F24K	**Squaw Lake**	**38.21**	**35**	P		**P**	**19 38 03.2**	**-0.7**
ILAR	**Eielson Array**	**38.85**	**39**	P		**P**	**19 38 08.8**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=266,slow=8.2,SNR=6.9							
	comp=Z,0.6nm,0.6s							
E25K	**Arctic Village**	**39.05**	**34**	P		**P**	**19 38 10.3**	**-0.5**
E25K				IAmb	IAmb		19 38 22.5	
	comp=Z,14nm,1.5s							
SCRK	**Sand Creek**	**40.22**	**40**	P		**P**	**19 38 19.1**	**-1.3**
MKAR	**Makanchi Array**	**42.25**	**294**	P		**P**	**19 38 35.9**	**-0.9**
MKAR	**Makanchi Array**	**42.25**	**294**	P		**P**	**19 38 35.5**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=70,slow=8.6,SNR=6.6							
	comp=Z,0.6nm,0.6s							
MKAR	**Makanchi Array**	**42.25**	**294**	P		**P**	**19 38 35.9**	**-0.9**
MKAR	**Makanchi Array**	**42.25**	**294**	*e*P		**P**	**19 38 35.9**	**-0.9**
KURK	**Kurchatov**	**42.85**	**300**	P		**P**	**19 38 40.7**	**-0.7**
KURK	**Kurchatov**	**42.85**	**300**	*e*P		**P**	**19 38 40.7**	**-0.7**
KURBB	**Kurchatov Arra**	**42.94**	**300**	P		**P**	**19 38 40.7**	**-1.4**
	comp=Z,1.6nm,0.4s,baz=69,slow=8.6,SNR=6.4							
	comp=Z,1.6nm,0.4s							
BVAR	**Borovoye Array**	**46.55**	**306**	P		**P**	**19 39 08.4**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=53,slow=7.6,SNR=3.6							
	comp=Z,0.4nm,0.5s							
KKAR	**Karatay Array**	**51.34**	**295**	P		**P**	**19 39 43.6**	**-2.4**
KKAR	**Karatay Array**	**51.34**	**295**	P		**P**	**19 39 43.6**	**-2.4**
AB31	**Akbulak array**	**54.12**	**306**	P		**P**	**19 40 04.5**	**-1.3**
ABKAR	**Akbulak array**	**54.12**	**306**	P		**P**	**19 40 04.3**	**-1.5**
CHGR	**Chuyangaron**	**54.71**	**291**	P		**P**	**19 40 09.5**	**-0.8**
CHGR	**Chuyangaron**	**54.71**	**291**	P		**P**	**19 40 09.5**	**-0.8**
CHGR				pmax	pmax			
	comp=Z,8.0nm,0.4s							
SIMJ	**Simiganj**	**54.80**	**291**	P		**P**	**19 40 09.8**	**-1.2**
KSXB	**Camp Six Broad**	**60.70**	**59**	P		**P**	**19 40 50.9**	**-0.3**
KSXB				IAmb	IAmb		19 41 21.5	
	comp=Z,8.0nm,1.4s							
FIA1	**FINESS Array S**	**61.10**	**332**	P		**P**	**19 40 51.7**	**-1.6**
FINES	**FINESS Array B**	**61.10**	**332**	P		**P**	**19 40 51.9**	**-1.4**
FINES	**FINESS Array B**	**61.10**	**332**	P		**P**	**19 40 51.6**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=36,slow=7.8,SNR=8.2							
	comp=Z,1.2nm,0.7s							
FINES	**FINESS Array B**	**61.10**	**332**	P		**P**	**19 40 51.9**	**-1.4**
NOA	**NORSAR Array B**	**65.72**	**338**	P		**P**	**19 41 21.2**	**-2.1**
	comp=Z,0.8nm,0.8s,baz=26,slow=11,SNR=1.3							
	comp=Z,0.8nm,0.8s							
HFS	**Hagfors**	**65.83**	**336**	P		**P**	**19 41 22.3**	**-1.6**
	comp=Z,2.0nm,0.8s,baz=45,slow=6.3,SNR=1.5							
	comp=Z,2.0nm,0.8s							
WB0	**Warramunga Arr**	**67.91**	**192**	P		**P**	**19 41 38.2**	**+1.0**
WB0				IAmb	IAmb		19 42 02.3	
	comp=Z,8.7nm,1.4s							
WR8	**Warramunga Arr**	**68.08**	**192**	P		**P**	**19 41 39.1**	**+0.8**
WR8				IAmb	IAmb		19 42 18.0	
	comp=Z,9.1nm,1.4s							
ASAR	**Alice Springs**	**71.82**	**192**	P		**P**	**19 42 02.6**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=2.4,slow=5.1,SNR=7.2							
	comp=Z,0.5nm,0.7s							
BUR08	**Bucovina Ar. S**	**72.08**	**322**	P		**P**	**19 42 01.6**	**-0.4**
BUR08				IAmb	IAmb		19 42 12.6	
	comp=Z,4.9nm,1.4s							

JMA 03 19:32:22.7±0.1,**31°.4N**±0°.2×**130°.6E**±0°.2,**h9**^{km}±1^{km}, **MV0.5**/19,**SATSUMA PENINSULA REGION**,**Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JSU	**Suzuyama**	**0.21**	**318**	P		Pg	19 32 27.1	0.0
JSU				*e*S		Sg	19 32 30.2	+0.2
JTSR	**Tashiro 2**	**0.32**	**125**	P		Pg	19 32 29.0	-0.1
JTSR				*e*S		Sg	19 32 33.3	0.0
JTN	**Tanegashima 3**	**0.76**	**156**	*e*P		Pg	19 32 37.7	+0.3

*JMA **03** 19:51:27.2±0.2,25°.N±3°×122°.3E±0°.6,h29^{km},MV2.8/9, TAIWAN REGION*
*TAP **03** 19:51:28.2,24°.67N×122°.39E,h11^{km},ML3.1,D*
ISC 03 19:51:28.3±0.9,**24°.68N**±0°.03×**122°.43E**±0°.02,**h17**^{km}±8^{km}, **n64**,σ1^{s}00/98,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EOS2	**EOS2**	**0.31**	**215**	*i* P		**Pb**	**19 51 35.2**	**-0.1**
EOS2				*i* S		**Sb**	**19 51 40.1**	**0.0**
EOS3	**EOS3**	**0.40**	**194**	*i* P		**Pg**	**19 51 36.8**	**+0.3**
EOS3				S		**Sg**	**19 51 42.4**	**+0.5**
EGS		**0.48**	**291**	*i* P		**Pg**	**19 51 37.5**	**-0.5**
EGS				S		**Sb**	**19 51 44.8**	**-0.2**
TWB1	**Santiao Chiao**	**0.52**	**310**	P		**Pg**	**19 51 37.7**	**-0.9**
TWB1				S		**Sg**	**19 51 44.8**	**-0.

JKRS	Kuro-shima	1.51 107	eP	Pn	19 51 54.1	-0.4
NSY	Sanyi	1.54 261	eP	Pg	19 51 58.5	+0.6
JIJ	Ishigaki jima	1.59 101	eP	Pn	19 51 55.2	-0.6
JIJ			eS	Sn	19 52 14.5	-1.4
SMLT	Sun Moon Lake	1.60 241	eP	Pg	19 51 58.4	-0.8
SSLB	Suanglung	1.61 237	eP	Pb	19 51 57.8	+0.2
YULB	Yu-li	1.64 219	eP	Pn	19 51 57.0	+0.6
JISG	Ishigakijimahi	1.72 93	eP	Pn	19 51 56.4	-1.1
WHYT	Xinyi Township	1.74 236	eP	Pb	19 51 60.0	+0.2
ALS	Alishan	1.88 232	eP	Pn	19 52 02.0	+2.1
ELDTW	Lidau	1.96 221	eP	Pn	19 52 02.8	+1.9

IDC ***03*** *19:55:47.1±1.2,24°.92N×96°.62E, h0km, mb3.4/5, mbtmp3.4/6, ML3.9/1, MS3.4/1, Error ellipse: s-maj=53.5km s-min=16.6km az=70.0*

ISC 03 19:55:48.9±1.3, 25°.0N±0°.2×96°.8E±0°.5, h10km, n7, σ0s68/6, mb3.3/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.78	162	Pn	Pn	Pn	19 57 28.6	+0.1
	0.6nm,0.3s,baz=334,slow=13,SNR=9.4							
CMAR				Pg	Pg	Pg	19 57 51.3	-7.5
	0.5nm,0.3s,baz=334,slow=16,SNR=10.0							
CMAR				Lg	Lg	Lg	19 59 22.0	
	0.2nm,0.3s,baz=340,slow=29,SNR=4.7							
	0.8nm,0.3s							
SONM	Songino Array	24.05	16	P	P	P	20 01 04.8	+0.5
	0.4nm,0.7s,baz=218,slow=9.1,SNR=2.8							
	0.4nm,0.7s							
MKAR	Makanchi Array	24.67	336	P	P	P	20 01 09.2	-0.7
	1.2nm,0.7s,baz=146,slow=8.6,SNR=10							
	1.2nm,0.7s							
KURBB	Kurchatov Arra	29.23	336	P	P	P	20 01 51.3	+0.6
	0.2nm,0.4s,baz=146,slow=9.3,SNR=1.7							
	0.2nm,0.4s							
ZALV	Zalesovo Beam	30.30	346	P	P	P	20 01 59.6	-0.6
	0.4nm,0.4s,baz=171,slow=10,SNR=1.8							
	0.4nm,0.4s							
JHJ	Hachijo jima 2	38.24	68	LR	LR	LR	20 19 41.8	
	comp=Z,53nm,20.1s,baz=27,slow=37							
ASAR	Alice Springs	60.26	140	P	P	P	20 05 57.5	-0.2
	0.2nm,0.7s,baz=322,slow=7.1,SNR=1.1							
	0.2nm,0.7s							

CATAC ***03*** *20:04:49.9±0.9, 7°N±5°×7°.3W±°, h160km±12km, M4.0/7, MLv4.0/7, confirmed*

RSNC ***03*** *20:04:52.0±0.0, 7°N±1°×7°.3W±°, h146km±1km, M3.7, mB4.7, mb4.2, ML3.4, Mw(mB)3.9*

ISC 03 20:04:49.3±1.3, 6°.86N±0°.03×73°.09W±0°.04, h160km±8km, n46, σ1s57/82, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.28	199	P	Pn	Pn	20 05 11.6	+0.3
BARC				S	Sn	Sn	20 05 25.4	-2.6
PAMC	Pamplona, Colo	0.62	39	P	Pn	Pn	20 05 14.5	+1.6
PAMC				S	Sn	Sn	20 05 31.8	+0.8
BRJC	Barrancabermej	0.66	280	P	Pn	Pn	20 05 13.4	+0.8
BRJC				S	Sn	Sn	20 05 30.6	+0.2
RUSC	La Rusia	0.96	180	P	Pn	Pn	20 05 15.4	+0.2
RUSC	La Rusia	0.96	180	P	Pn	Pn	20 05 15.4	+0.2
RUSC				S	Sn	Sn	20 05 34.2	-0.9
PTBC	PUERTO BERRIO,	1.39	257	P	Pn	Pn	20 05 18.0	-0.5
PTBC				S	Sn	Sn	20 05 39.5	-1.5
OCAC	Ocana	1.39	351	P	Pn	Pn	20 05 19.7	+1.0
OCAC				S	Sn	Sn	20 05 42.2	+0.8
ZARC	Zaragoza, Cauc	1.86	290	P	Pn	Pn	20 05 24.0	+0.5
ZARC				S	Sn	Sn	20 05 49.9	+0.1
NORC	Norcasia	2.18	234	P	Pn	Pn	20 05 27.3	+0.1
NORC				S	Sn	Sn	20 05 55.5	-1.0
ROSC	El Rosal	2.35	211	P	Pn	Pn	20 05 31.3	+1.9
ROSC				S	Sn	Sn	20 06 03.2	+2.8
HELC	Santa Helena	2.51	255	P	Pn	Pn	20 05 33.0	+1.7
HELC	Santa Helena	2.51	255	P	Pn	Pn	20 05 32.3	+0.9
HELC				S	Sn	Sn	20 06 03.4	-0.4
UREC	San Jos de Ur	2.58	290	P	Pn	Pn	20 05 31.5	-0.4
UREC				S	Sn	Sn	20 06 03.0	-1.8
GUY2C	Guyana, Caldas	2.78	234	P	Pn	Pn	20 05 36.0	+1.2
GUY2C				S	Sn	Sn	20 06 10.3	+0.3
VILC	Villavicencio,	2.79	192	P	Pn	Pn	20 05 34.6	0.0
VILC				S	Sn	Sn	20 06 09.3	-0.4
PTGC	Puerto Gaitan,	2.81	160	P	Pn	Pn	20 05 34.5	-0.1
PTGC				S	Sn	Sn	20 06 07.8	-2.0
RECRC	Villamaria, Ca	2.93	230	P	Pn	Pn	20 05 39.5	+2.8
RECRC				S	Sn	Sn	20 06 15.2	+1.8
NIZA	Niza - Manizal	2.96	233	P	Pn	Pn	20 05 40.2	+3.3
NIZA				S	Sn	Sn	20 06 15.2	+1.5
CBOC	Ciudad Bolivar	3.06	251	P	Pn	Pn	20 05 39.3	+1.3
CBOC				S	Sn	Sn	20 06 15.8	0.0
DBBC	Dabeiba	3.10	273	P	Pn	Pn	20 05 39.0	+0.6
DBBC				S	Sn	Sn	20 06 14.2	-2.2
SDV	Santo Domingo	3.16	50	P	Pn	Pn	20 05 40.8	+1.5
SDV				S	Sn	Sn	20 06 17.8	-0.3
ARGC	Ariguani, Magd	3.19	339	P	Pn	Pn	20 05 41.7	+2.2
ARGC				S	Sn	Sn	20 06 20.1	+1.5
ANIL	Santa Ana	3.29	225	P	Pn	Pn	20 05 42.4	+1.4
ANIL				S	Sn	Sn	20 06 23.1	+2.1
PRAC	Prado	3.60	210	P	Pn	Pn	20 05 45.1	+0.5
PRAC	Prado	3.60	210	P	Pn	Pn	20 05 45.0	+0.3
PRAC				S	Sn	Sn	20 06 26.7	-1.0
APAC	Apartado, Choc	3.61	287	P	Pn	Pn	20 05 45.4	+0.6
APAC				S	Sn	Sn	20 06 26.5	-1.5
ORTC	Ortega, Tolima	3.63	216	P	Pn	Pn	20 05 45.6	+0.5
ORTC				S	Sn	Sn	20 06 28.8	+0.3
SJCC	San Jacinto, C	3.66	326	P	Pn	Pn	20 05 45.9	+0.4
SJCC	San Jacinto, C	3.66	326	P	Pn	Pn	20 05 45.7	+0.2
SJCC				S	Sn	Sn	20 06 26.4	-2.8
LCBC	Los crdobas,	3.81	302	P	Pn	Pn	20 05 50.4	+3.1
LCBC				S	Sn	Sn	20 06 33.1	+0.6
URMC	La Uribe, Meta	3.81	200	P	Pn	Pn	20 05 48.1	+0.7
URMC				S	Sn	Sn	20 06 31.5	-1.2
CRJC	Cerrejon, Guaj	4.14	3	P	Pn	Pn	20 05 51.8	0.0
CRJC				S	Sn	Sn	20 06 40.2	-0.3
GUVC	San Jose del G	4.31	174	P	Pn	Pn	20 05 54.7	+0.9
GUVC				S	Sn	Sn	20 06 44.0	-0.2
YOTC	Yotoco, Valle	4.32	229	P	Pn	Pn	20 05 54.1	+0.1
YOTC				S	Sn	Sn	20 06 47.3	+2.8
SMRC	Santa Marta, M	4.42	345	P	Pn	Pn	20 05 56.5	+1.2
SMRC				S	Sn	Sn	20 06 44.6	-2.3
CAPC	Capurgana	4.58	293	P	Pn	Pn	20 05 56.1	-1.2
CAPC				S	Sn	Sn	20 06 44.8	-5.6
PTAC	Punta Ardita,	4.69	274	P	Pn	Pn	20 05 58.6	-0.2
MACC	Macarena, Meta	4.74	189	P	Pn	Pn	20 05 58.2	-1.3
MACC				S	Sn	Sn	20 06 50.6	-3.8
URI	Uribia	4.94	13	P	Pn	Pn	20 06 02.2	+0.1
URIC	Uribia, Colomb	4.94	13	P	Pn	Pn	20 06 01.8	-0.2
	761nm31nm,0.8s							
URIC				S	Sn	Sn	20 06 58.3	-0.6
	761nm31nm,0.8s							
JAMC	Jamundi, Valle	5.08	225	P	Pn	Pn	20 06 04.7	+0.5
JAMC				S	Sn	Sn	20 07 04.0	+1.3
GARC	Garzon, Huila	5.22	207	P	Pn	Pn	20 06 05.1	-0.9
GARC				S	Sn	Sn	20 07 02.9	-3.1
POPC	Popayan, Colom	5.58	220	P	Pn	Pn	20 06 12.1	+1.3
	16nm,0.8s							
FLOC	Florencia	5.83	206	P	Pn	Pn	20 06 14.0	+0.1
	739nm29nm,1.0s							
BBAC	Balboa, Cauca	6.34	221	P	Pn	Pn	20 06 22.0	+1.2
GR1C	Gorgona, Isla	6.34	233	P	Pn	Pn	20 06 20.5	-0.1
	130nm,0.9s							

IDC ***03*** *20:36:12.1±8.2, 6°.22S×131°.09E, h50km±82km, mb3.5/5, mbtmp4.0/9, ML4.4/4, Error ellipse: s-maj=97.2km s-min=24.3km az=53.0*

NEIC ***03*** *20:36:17.3±1.8, 6°.29S±0°.04×130°.80E±0°.10, h140km±8km, mb4.3/8, Error ellipse: s-maj=14.3km s-min=5.5km az=83.0*

ISC 03 20:36:17.0±0.7, 6°.33S±0°.05×130°.85E±0°.07, h150km, n37, σ2s35/39, mb3.5/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.70	165			Pn	20 36 49.0	+0.3
SAUI					Sn	Sn	20 37 10.8	-2.4
SAUI	Saumlaki	1.70	165	P	Pn	Pn	20 36 49.8	+1.0
BNDI	Bandanaira	2.03	332	P	Pn	Pn	20 36 51.7	-0.8
FAKI	Fak Fak	3.67	22			Pn	20 37 12.5	-0.5
FAKI					Sn	Sn	20 37 52.4	-4.0
FAKI	Fak Fak	3.67	22	P		Pn	20 37 12.5	-0.5
FAKI	Fak Fak	3.67	22	S		Sn	20 37 53.2	-3.2
DRS	Darwin Rock St	6.06	180	P		Pn	20 37 45.8	+1.2
MTN	Manton Dam	6.48	178			Pn	20 37 51.2	+1.1
MTN					Sn	Sn	20 39 00.0	-3.0
MTN	Manton Dam	6.48	178	P		Pn	20 37 51.4	+1.3
KDU	Kakadu	6.52	166	P		Pn	20 37 51.3	+0.7
SOEI	Soe	7.35	242	Pn		Pn	20 38 02.7	+0.9
SOEI	Soe	7.35	242	P		Pn	20 38 03.6	+1.7
BATI	Baumata	8.08	241	P		Pn	20 38 12.1	+0.5
	7.8nm,0.3s,baz=76,slow=1.3,SNR=10							
BATI				S		Sn	20 39 37.4	-4.3
	15nm,0.4s,baz=61,slow=10,SNR=1.6							
	16nm,0.3s							
KNRA	Kununurra	9.51	192			Pn	20 38 30.4	-0.2
FITZ	Fitzroy Crossi	12.75	203	P		Pn	20 39 11.8	-1.3
	1.0nm,0.3s,baz=35,slow=12,SNR=33							
FITZ				S		Sn	20 41 22.4	-12
	8.1nm,0.3s,baz=42,slow=23,SNR=9.6							
	2.8nm,0.2s							
PLAI	Plampang	13.19	258	P		Pn	20 39 20.5	+1.8
WB0	Warramunga Arr	13.79	166	Pn		Pn	20 39 24.6	-1.8
WRA	Warramunga Arr	13.95	166	P		Pn	20 39 27.5	-0.8
	2.1nm,0.3s,baz=348,slow=13,SNR=33							
WRA				S		Sn	20 41 56.7	-6.3
	2.3nm,0.4s,baz=355,slow=23,SNR=6.9							
	5.6nm,0.6s							
WR8	Warramunga Arr	14.00	166	Pn		Pn	20 39 26.8	-2.2
COEN	Coen	14.30	123			Pn	20 39 35.0	+2.2
COEN	Coen	14.30	123	P		P	20 39 35.9	+0.3
QIS	Mount Isa	16.50	150	P		Pn	20 40 03.5	+3.6
JAGI	Jajag, Banyuwa	16.69	262			P	20 40 01.8	-0.2
AS31	Alice Springs	17.48	171	P		P	20 40 12.1	+1.3
AS31				IAmb		IAmb	20 40 18.9	
	comp=Z,3.3nm,0.4s							
ASAR	Alice Springs	17.49	171	P		P	20 40 11.9	+1.1
ASAR	Alice Springs	17.49	171	P		Pn	20 40 13.4	+1.6
	comp=Z,1.1nm,0.3s,baz=347,slow=12,SNR=46							
ASAR				S		S	20 43 21.8	-3.4
	comp=Z,1.1nm,0.6s,baz=357,slow=26,SNR=6.4							
	comp=Z,2.8nm,0.7s							
MBWA	Marble Bar	18.25	215	P		P	20 40 19.3	+0.2
MBWA				IAmb		IAmb	20 40 35.4	
	comp=Z,17nm,1.2s							
PSA00	Pilbara Seismi	18.52	214	P		P	20 40 22.3	+0.3
PSA00				IAmb		IAmb	20 40 48.6	
	comp=Z,25nm,1.4s							
PSA00	Pilbara Seismi	18.52	214	P		P	20 40 22.6	+0.6
PSA00				IAmb		IAmb	20 41 04.0	
	comp=Z,4.7nm,1.2s							
BBOO	Buckleboo	26.79	170	P		P	20 41 43.5	+0.4
BBOO				IAmb		IAmb	20 42 13.8	
	comp=Z,29nm,1.4s							
STKA	Stephens Creek	27.33	160	P		P	20 41 49.7	+1.8
STKA	Stephens Creek	27.33	160	P		P	20 41 53.1	+5.2
	comp=Z,0.6nm,0.5s,baz=341,slow=11,SNR=3.8							
	comp=Z,0.6nm,0.5s							
CMAR	Chiang Mai Arr	39.96	309	P		P	20 43 42.6	+5.5
	comp=Z,0.7nm,0.9s,baz=127,slow=8.2,SNR=2.2							
	comp=Z,0.7nm,0.9s							
SONM	Songino Array	58.08	341	P		P	20 46 00.7	+6.0
	comp=Z,0.2nm,0.3s,baz=161,slow=8.2,SNR=2.5							
	comp=Z,0.2nm,0.3s							
MKAR	Makanchi Array	68.13	326	P		P	20 47 07.3	+6.5
	comp=Z,1.4nm,0.4s,baz=113,slow=8.4,SNR=22							
	comp=Z,1.4nm,0.4s							
MAKZ	Makanchi	68.32	326	P		P	20 47 05.0	+3.0
KURBB	Kurchatov Arra	72.39	328	P		P	20 47 32.6	+6.0
	comp=Z,0.5nm,0.7s,baz=129,slow=5.3,SNR=2.9							
	comp=Z,0.5nm,0.7s							

SOME ***03*** *20:38:43.2, 44°.20N×86°.15E, h5km*

NNC ***03*** *20:38:45.5±2.9, 43°.90N×86°.23E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=24.6km s-min=13.5km az=134.0*

ISC 03 20:38:47.2±2.4, 44°.29N±0°.08×86°.0E±0°.1, h10km, n16, σ2s88/22, 7C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ZSN	Zaisan	3.26	346	Pg	Pg	Pb	20 39 45.7	+0.6
ZSN				Lg	Lg	Lg	20 40 31.0	
ZSN	Zaisan	3.26	346	eP		Pb	20 39 45.8	+0.6
	5.1nm,0.2s							
ZSN				eS		Sg	20 40 31.1	-0.8
	15nm,0.3s							
MK31	Makanchi Array	3.62	315	⇑Pn		Pb	20 39 49.7	-1.5
	2.0nm,0.4s,baz=299,slow=32,SNR=51							
MK31				⇑Sn		Sb	20 40 38.6	+3.5
	2.7nm,0.3s,baz=129,slow=27,SNR=3.8							
MK31				Lg	Lg	Lg	20 40 56.1	
	6.0nm,0.3s,baz=132,slow=32,SNR=8.6							
PDGK	Podgornoye	4.81	261	⇑Pn		Pn	20 40 02.3	+2.4
	1.9nm,0.7s							
PDGK				⇓Pg		Pb	20 40 14.7	+3.0
	1.1nm,0.4s							
PDGK				⇓Sn		Sn	20 41 00.1	+4.5
	5.0nm,0.6s							
PDGK				⇑Lg	Lg	Lg	20 41 20.7	
	23nm,0.9s							
SHLS	Shalkode	4.87	259	Pg		Pb	20 40 09.8	-2.9
	7.8nm,0.7s							
SHLS				Lg	Lg	Lg	20 41 12.2	
	33nm,0.5s							
SHLS	Shalkode	4.87	259	eP		Pb	20 40 09.6	-3.1
	1.0nm,0.1s							
SHLS				eS		Sb	20 41 11.8	+0.4
	33nm,0.5s							
KNOS	Konyrlen	4.90	273	Pg		Pg	20 40 18.5	-2.5
	1.6nm,0.5s							
KNOS				Lg	Lg	Lg	20 41 26.6	
	7.3nm,0.4s							
UZB	Uzynbulak	5.19	260	Pg		Pg	20 40 22.4	-4.2
	1.5nm,0.4s							
UZB				Lg	Lg	Lg	20 41 33.6	
	5.6nm,0.9s							
UZB	Uzynbulak	5.19	260	eP		Pb	20 40 20.9	+2.9
	1.3nm,0.1s							
UZB				eS		Sg	20 41 31.2	-2.5
	5.5nm,0.4s							
KPKS	Kokpek	5.35	264	Pg		Pb	20 40 24.3	+3.4
KPKS				Lg	Lg	Lg	20 41 36.7	
TDK	Taldyqorghan	5.47	280	eP		Pg	20 40 27.6	-4.3
	3.4nm,0.1s							
TDK				eS		Sg	20 41 42.4	-0.2
	16nm,0.4s							
SATY	Saty	5.64	260	Pg		Pg	20 40 31.3	-4.0
	2.8nm,1.1s							
SATY				Lg	Lg	Lg	20 41 49.3	
	7.3nm,0.5s							
KURS	Kuram	5.72	265	Pg		Pg	20 40 34.9	-1.8
	2.4nm,0.9s							
KURS				Lg	Lg	Lg	20 41 55.5	
	5.5nm,0.8s							
KOTS	Kotyrbulak	6.52	264	eP		Pg	20 40 46.7	-5.4
	0.3nm,0.1s							
KOTS				eS		Sg	20 42 15.6	-0.9
	11nm,0.4s							
KURBB	Kurchatov Arra	8.11	324	⇓Pn		Pn	20 40 50.7	+5.8
	0.6nm,0.3s							
KURBB				⇑Lg	Lg	Lg	20 43 15.8	
	12nm,0.6s							
KURK	Kurchatov	8.14	325	⇑Pn		Pn	20 40 45.6	+0.3
	0.4nm,0.6s							
KURK				⇑Lg	Lg	Lg	20 43 11.3	
	2.2nm,0.7s							

IDC ***03*** *20:42:55.3±2.4, 23°.57N×88°.28E, h0km, mb3.9/7, mbtmp3.8/8, ML3.9/1, MS3.0/1, Error ellipse: s-maj=59.6km s-min=33.1km az=30.0*

DMN ***03*** *20:43:03.4±0.0, 23°.86N×88°.35E, h10km, Ml4.5/10, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

NDI ***03*** *20:43:09.2±0.7, 23°.90N×88°.67E, h10km, ML4.0, MW4.0*

ISC 03 20:43:06.4±1.3, 24°.30N±0°.08×88°.37E±0°.05, h10km, n27, σ1s99/37, mb3.8/7, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
COBR	COOCHBEHAR	2.22	26	eP	Pg	Pg	20 43 50.0	+1.1
COBR				eS	Sg	Sg	20 44 20.0	+2.4
COBR				IAML			20 44 29.5	
	comp=E,2μm,0.4s							
COBR				IAML			20 44 32.0	
	comp=N,1μm,0.4s							
BOK	Bokaro	2.33	258	eP	Pg	Pg	20 43 51.2	+0.2
BOK				eS		Sg	20 44 20.9	-0.3
BOK				IAML			20 44 24.7	
	comp=N,740nm,0.3s							
ODAN	Odare	2.70	341	Pn		Pn	20 43 50.5	+0.4
	baz=344,slow=0.0							
ODAN				Sn		Sn	20 44 26.7	+3.8
	comp=N,604nm,0.3s,baz=344,slow=0.0							
GAYA	Gaya	2.90	281	eP		Pb	20 44 00.7	+2.5
GAYA				eS		Sg	20 44 38.7	-0.9
GAYA				IAML			20 44 43.0	
	comp=E,1μm,0.1s							
GAYA				IAML			20 44 43.6	
	comp=N,1μm,0.2s							
RAMN	Ramite	3.08	329	Pn		Pn	20 43 55.9	+0.5
	baz=333,slow=0.0							
RAMN				Sn		Sn	20 44 33.8	+1.3
	comp=N,195nm,0.2s,baz=333,slow=0.0							
SILR	SILCHAR	4.06	82	eP		Pn	20 44 08.7	+0.1
SILR				eS		Sn	20 44 52.5	-3.8
PKI	Pulchoki	4.21	321	Pn		Pn	20 44 10.7	-0.2
	baz=325,slow=0.0							
PKI				Sn		Sn	20 45 00.9	+0.5
	comp=N,88nm,0.3s,baz=325,slow=0.0							
PKIN	Phulchoki	4.22	321	Pn		Pn	20 44 10.8	-0.3
	baz=325,slow=0.0							
PKIN				Sn		Sn	20 45 01.1	+0.5
	comp=N,90nm,0.2s,baz=325,slow=0.0							
GUN	Gumba	4.24	329	Pn		Pn	20 44 11.6	+0.3
	baz=332,slow=0.0							
DMN	Daman	4.41	319	Pn		Pn	20 44 13.3	-0.4
	baz=323,slow=0.0							
DMN				Sn		Sn	20 45 04.4	-0.9
	comp=N,62nm,0.2s,baz=323,slow=0.0							
KKN	Kakani	4.45	322	Pn		Pn	20 44 14.1	-0.1
	baz=325,slow=0.0							
KKN				Sn		Sn	20 45 06.4	+0.3
	comp=N,91nm,0.2s,baz=325,slow=0.0							
GKN	Gorkha	4.98	318	Pn		Pn	20 44 20.6	-0.9
	baz=322,slow=0.0							
GKN				Sn		Sn	20 45 18.4	-0.9
	comp=N,88nm,0.2s,baz=322,slow=0.0							
KOLN	Koldanda	5.51	310	Pn		Pn	20 44 27.4	-1.3
	baz=313,slow=0.0							
KOLN				Sn		Sn	20 45 30.6	-1.6
	comp=N,115nm,0.3s,baz=313,slow=0.0							
DANN	Dangsing	5.78	315	Pn		Pn	20 44 31.7	-0.8
	baz=318,slow=0.0							
DANN				Sn		Sn	20 45 36.6	-2.4
	comp=N,67nm,0.2s,baz=318,slow=0.0							
LSA	Lhasa	5.92	24	P		Pn	20 44 33.6	-1.0
LSA	Lhasa	5.92	24	P		Pn	20 44 33.8	-0.8
LSA				pmax		pmax		
	comp=Z,15nm,0.4s							
BLSP	Bilaspur	6.13	251	eP		Pn	20 44 41.2	+4.1
BLSP				eS		Sn	20 45 48.6	+1.2
BLSP				IAML			20 46 18.7	
	comp=E,92nm,0.1s							
BLSP				IAML			20 46 21.6	
	comp=N,130nm,0.4s							
PYUN	Piuthan	6.14	309	Pn		Pn	20 44 35.4	-2.0
	baz=312,slow=0.0							
PYUN				Sn		Sn	20 45 44.2	-3.5
	comp=N,111nm,0.4s,baz=312,slow=0.0							
CMAR	Chiang Mai Arr	11.43	119	Pn		Pn	20 45 36.9	-13
	comp=N,0.2nm,0.3s,baz=292,slow=14,SNR=11							
	comp=N,1.6nm,0.6s							
KSH	Kashi	18.43	328	P		Pn	20 47 25.5	+3.3
KSH				pmax		pmax		
	comp=Z,4.0nm,0.5s							
MKAR	Makanchi Array	22.97	349	P		P	20 48 08.7	-2.3
	comp=Z,1.3nm,0.6s,baz=164,slow=9.3,SNR=8.5							
	comp=Z,1.3nm,0.6s							
KURBB	Kurchatov Arra	27.36	346	P		P	20 48 48.5	-3.1
	comp=Z,0.4nm,0.3s,baz=161,slow=8.8,SNR=1.9							
	comp=Z,0.4nm,0.3s							
SONM	Songino Array	27.50	27	P		P	20 48 49.3	-3.8
	comp=Z,0.5nm,0.5s,baz=216,slow=10,SNR=5.1							
SONM				LR		LR	21 01 10.8	
	comp=Z,30nm,19.9s,baz=248,slow=39							
	comp=Z,0.5nm,0.5s							
FINES	FINESS Array B	55.75	329	P		P	20 52 37.7	-5.4
	comp=Z,1.4nm,0.7s,baz=98,slow=7.9,SNR=7.7							
	comp=Z,1.4nm,0.7s							
ARCES	ARCESS Array B	58.03	338	P		P	20 52 53.7	-5.5
	comp=Z,1.9nm,0.9s,baz=101,slow=6.7,SNR=3.6							
	comp=Z,1.9nm,0.9s							
HFS	Hagfors	61.64	327	P		P	20 53 18.6	-5.5
	comp=Z,1.6nm,0.6s,baz=99,slow=7.7,SNR=8.4							
	comp=Z,1.6nm,0.6s							
NOA	NORSAR Array B	62.86	328	P		P	20 53 26.0	-6.3
	comp=Z,0.4nm,0.6s,baz=89,slow=6.5,SNR=1.5							
	comp=Z,0.4nm,0.6s							

IDC ***03*** *20:55:14.3±1.7, 36°.93N×140°.08E, h244km±18km, mb3.0/3, mbtmp3.6/4, Error ellipse: s-maj=60.6km s-min=22.1km az=99.0*

JMA ***03*** *20:55:14.9±0.0, 37°.1N±0°.1×140°.8E±0°.2, h11km, MV2.4/20, EASTERN FUKUSHIMA PREF*

ISC 03 20:55:10.3±1.9, 36°.90N±0°.04×140°.97E±0°.08, h13km±11km, n12, σ1s45/15, mb3.7/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.24	326	i P	P	Pb	20 55 17.1	+0.5
ONAJ					S	Sb	20 55 18.6	-2.2
JFFD	Fukushimafurud	0.38	300	i P	P	Pg	20 55 18.8	+0.9
JFFD					S	Sg	20 55 21.4	-1.6
JHO	Hitachi	0.43	228	i P	P	Pn	20 55 23.9	+1.8
JHO					S	Sn	20 55 30.2	+0.4
JFK	Kawauchi	0.47	351	i P	P

mb4.4/2,MLv3.7/13
ISC 03 21:11:13.3±1.2,**0°44.5**S±0.07×**98°3E**±0.1,**h35**km,**n27**,
σ1s**53**/17,**mb3.7/4,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.38**	**352**	P	**Pn**	**21 11 21.8**	**-0.5**
PBSI				S	**Sn**	**21 11 30.4**	**+1.9**
SISI	**Saibi**	**1.16**	**140**	P	**Pn**	**21 11 33.2**	**+0.1**
MNSI	**Mandailing Nat**	**1.75**	**46**	P	**Pn**	**21 11 42.2**	**+1.1**
SBSI	**Sibolga**	**2.05**	**16**	P	**Pn**	**21 11 47.1**	**+1.8**
PPI	**Padang Panjang**	**2.06**	**91**	P	**Pn**	**21 11 45.4**	**-0.1**
PDSI	**Padang**	**2.18**	**103**	P	**Pn**	**21 11 47.4**	**+0.3**
PPSI	**Pulau Pagai**	**2.85**	**144**	P	**Pn**	**21 11 55.8**	**-0.6**
PSI	**Prapat**	**3.27**	**10**	Pn	**Pn**	**21 12 01.3**	**-0.9**
	3.9nm,0.3s,baz=174,slow=9.2,SNR=5.4						
PSI				Sn	**Sn**	**21 12 35.3**	**-4.6**
	0.8nm,0.3s,baz=166,slow=19,SNR=1.4						
	7.2nm,0.3s						
KCSI	**Kotacane, Aceh**	**3.97**	**352**	P	**Pn**	**21 12 11.3**	**-0.5**
MNAI	**Manna**	**6.04**	**130**	P	**Pn**	**21 12 39.8**	**-0.4**
	175nm,1.6s						
MDSI	**Maura Dua**	**7.09**	**125**	P	**Pn**	**21 12 54.8**	**+0.2**
LEM	**Lembang**	**11.23**	**125**	LR	LR	21 19 01.3	
	comp=Z,168nm,20.9s,baz=360,slow=40						
CMAR	**Chiang Mai Arr**	**18.79**	**2**	P	**Pn**	**21 15 30.2**	**-0.2**
	0.4nm,0.3s,baz=181,slow=12,SNR=4.1						
	0.7nm,0.4s						
H08S2	**Diego Garcia H**	**26.74**	**254**	T	T	21 44 20.7	
	baz=75,slow=75,SNR=85						
H08S3	**Diego Garcia H**	**26.74**	**254**	T	T	21 44 25.4	
	baz=75,slow=75,SNR=889						
H08S1	**Diego Carcia H**	**26.75**	**254**	T	T	21 44 24.2	
	baz=75,slow=75,SNR=44						
ASAR	**Alice Springs**	**41.51**	**126**	P	P	21 19 03.2	+5.6
	0.7nm,1.1s,baz=295,slow=8.5,SNR=0.8						
	0.7nm,1.1s						
SONM	**Songino Array**	**48.59**	**7**	P	**P**	**21 19 54.0**	**+0.5**
	1.2nm,0.6s,baz=205,slow=6.4,SNR=8.1						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**49.10**	**345**	P	**P**	**21 19 57.3**	**0.0**
	0.4nm,0.6s,baz=152,slow=7.9,SNR=5.2						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**55.35**	**350**	P	**P**	**21 20 44.6**	**+1.1**
	0.3nm,0.3s,baz=154,slow=5.6,SNR=3.8						
	0.3nm,0.3s						
H04N2	**CROZET ISLANDS**	**61.08**	**215**	T	T	22 27 25.8	
	baz=56,slow=75,SNR=60						
H04N1	**CROZET ISLANDS**	**61.09**	**215**	T	T	22 27 24.6	
	baz=56,slow=75,SNR=55						
H04N3	**CROZET ISLANDS**	**61.10**	**215**	T	T	22 27 20.5	
	baz=56,slow=75,SNR=44						
H04S1	**CROZET ISLANDS**	**61.40**	**214**	T	T	22 27 44.2	
	baz=57,slow=75,SNR=8.1						
H04S3	**CROZET ISLANDS**	**61.41**	**215**	T	T	22 27 44.1	
	baz=57,slow=75,SNR=13						
H04S2	**CROZET ISLANDS**	**61.42**	**214**	T	T	22 27 48.7	
	baz=57,slow=75,SNR=6.5						
SHEM	**Shemya Is, Ala**	**81.75**	**37**	LR	LR	22 03 11.6	
	comp=Z,21nm,18.7s,baz=175,slow=38						

*TAP **03** 22:08:00.7,24°.65N×122°.38E,h16km,ML2.7,C*
*JMA **03** 22:08:01.4±0.1,25°.N±1°×122°.4E±0°.4,h30km±3km,*
MV2.0/6,NW OFF ISHIGAKIJIMA IS
ISC 03 22:08:00.7±1.0,**24°.66N**±0°.02×**122°.40E**±0°.02,**h15**km±8km,
n55,σ0s**56**/93,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.28**	**212**	*i* P	**Pb**	**22 08 07.5**	**+0.1**
EOS2				*i* S	**Sb**	**22 08 12.7**	**+0.8**
EOS3	**EOS3**	**0.38**	**191**	P	**Pb**	**22 08 09.2**	**+0.2**
EOS3				S	**Sb**	**22 08 14.8**	**+0.2**
TWC	**Suao**	**0.50**	**264**	*i* P	**Pg**	**22 08 10.2**	**-0.4**
TWC				*e*S	**Sb**	**22 08 18.4**	**+0.1**
TWB1	**Santiao Chiao**	**0.51**	**313**	*e*P	**Pg**	**22 08 10.4**	**-0.4**
TWB1				*e*S	**Sg**	**22 08 17.1**	**-0.4**
EOS4	**EOS4**	**0.54**	**188**	*e*P	**Pb**	**22 08 12.2**	**+0.5**
EOS4				*e*S	**Sb**	**22 08 19.9**	**+0.7**
JYNG	**Yonagunijimaku**	**0.54**	**112**	*e*P	**Pg**	**22 08 11.8**	**+0.4**
JYNG				*e*S	**Sg**	**22 08 18.7**	**+0.1**
YOJ	**Yonaguni jima**	**0.59**	**109**	P	**Pg**	**22 08 12.6**	**+0.3**
YOJ				S	**Sg**	**22 08 20.6**	**+0.4**
YOJ	**Yonaguni jima**	**0.59**	**109**	*e*P	**Pg**	**22 08 12.6**	**+0.3**
YOJ				*e*S	**Sg**	**22 08 20.2**	**0.0**
EWUT	**Wuta**	**0.60**	**249**	P	**Pg**	**22 08 12.4**	**-0.1**
EWUT				S	**Sb**	**22 08 21.5**	**+0.2**
TIPB	**Shuangxi**	**0.60**	**301**	P	**Pb**	**22 08 12.9**	**-0.1**
ENA	**Nanau**	**0.64**	**249**	*e*P	**Pg**	**22 08 12.5**	**-0.7**
ENA				S	**Sb**	**22 08 21.6**	**-0.8**
SXI1	**Grass Mountain**	**0.64**	**313**	P	**Pb**	**22 08 14.1**	**+0.4**
SXI1				S	**Sb**	**22 08 23.2**	**+0.7**
TWE	**Neicheng**	**0.67**	**275**	*i* P	**Pg**	**22 08 13.4**	**-0.2**
TWE				S	**Sb**	**22 08 22.9**	**-0.2**
NWF	**Wu-fen Shan**	**0.69**	**306**	*i* P	**Pb**	**22 08 14.8**	**+0.3**
NWF				S	**Sb**	**22 08 24.9**	**+0.9**
WFSB	**Wu-fen Shan**	**0.69**	**306**	P	**Pn**	**22 08 15.2**	**-0.8**
WFSB				S	**Sb**	**22 08 24.7**	**+0.8**
FUSB	**Fushanzhiwuyua**	**0.74**	**278**	P	**Pb**	**22 08 15.1**	**-0.3**
FUSB				S	**Sb**	**22 08 25.4**	**0.0**
TNOU	**National Taiwa**	**0.75**	**311**	P	**Pb**	**22 08 15.6**	**+0.2**
TNOU				S	**Sb**	**22 08 25.6**	**+0.1**
ENTT	**Nioudou**	**0.76**	**269**	*e*P	**Pg**	**22 08 15.2**	**-0.1**
ENTT				*e*S	**Sb**	**22 08 25.4**	**-0.3**
LATG	**Datong**	**0.80**	**261**	P	**Pb**	**22 08 15.9**	**-0.6**
LATG				*e*S	**Sb**	**22 08 27.5**	**+0.4**
TWA	**Mucha**	**0.80**	**294**	P	**Pn**	**22 08 17.2**	**-0.4**
TWA				S	**Sg**	**22 08 27.1**	**+0.2**
NWLT	**Wulai**	**0.82**	**278**	*e*P	**Pb**	**22 08 16.3**	**-0.4**
NWLT				*e*S	**Sb**	**22 08 26.9**	**-0.7**
ETL	**Fush Village**	**0.86**	**235**	*e*P	**Pb**	**22 08 16.9**	**-0.6**
NACB	**Ninganchiao**	**0.88**	**237**	*e*P	**Pb**	**22 08 17.0**	**-0.6**
NACB				*e*S	**Sg**	**22 08 28.7**	**-0.4**
YM01	**YM01**	**0.89**	**303**	P	**Pn**	**22 08 18.3**	**-0.5**
YM01				*e*S	**Sg**	**22 08 30.4**	**+0.7**
YM08	**YM08**	**0.90**	**306**	*e*P	**Pn**	**22 08 18.7**	**-0.2**
YM08				*e*S	**Sb**	**22 08 29.6**	**-0.3**
ZUZH	**Zhuzihu**	**0.92**	**303**	*e*P	**Pg**	**22 08 18.5**	**0.0**
ZUZH				*e*S	**Sg**	**22 08 30.6**	**0.0**
YHNB	**Yeheng**	**0.93**	**271**	P	**Pb**	**22 08 18.4**	**-0.2**
YHNB				S	**Sg**	**22 08 30.5**	**-0.4**
NSK	**Sanguang**	**0.94**	**271**	P	**Pg**	**22 08 18.9**	**0.0**
NSK				*e*S	**Sb**	**22 08 30.7**	**-0.5**
ETLH	**Xiulin Townshi**	**0.95**	**242**	*e*P	**Pb**	**22 08 18.7**	**-0.2**
ETLH				*e*S	**Sg**	**22 08 31.1**	**-0.4**
TWY	**Chenhua**	**0.95**	**310**	P	**Pn**	**22 08 20.5**	**+1.0**
TWY				S	**Sn**	**22 08 32.3**	**-0.5**
NNSB	**Datong**	**0.95**	**256**	*e*P	**Pg**	**22 08 18.9**	**-0.3**
NNSB				*e*S	**Sn**	**22 08 32.6**	**-0.4**
NNS	**Nan Shan**	**0.96**	**257**	*e*P	**Pg**	**22 08 19.2**	**0.0**
NNS				*e*S	**Sn**	**22 08 32.3**	**-0.9**
TWS1	**Kuangyinshan**	**0.99**	**297**	*e*P	**Pn**	**22 08 20.9**	**+0.8**
ETM	**Tongmen**	**1.07**	**230**	*e*P	**Pg**	**22 08 21.2**	**-0.2**
ETM				*e*S	**Sn**	**22 08 37.4**	**+1.4**
LXIB	**Xiulin Townshi**	**1.10**	**235**	*e*P	**Pg**	**22 08 22.5**	**+0.6**
LXIB				*e*S	**Sn**	**22 08 38.5**	**+1.8**
FUSS	**Fushou**	**1.13**	**249**	*e*P	**Pg**	**22 08 22.1**	**-0.4**
WHF	**Hehuan Shan**	**1.15**	**244**	*e*P	**Pg**	**22 08 22.7**	**-0.3**
WHF				*e*S	**Sb**	**22 08 37.2**	**-0.3**
NFF	**Wufeng Townshi**	**1.16**	**269**	*e*P	**Pg**	**22 08 23.8**	**+0.6**
TWT	**Tachien**	**1.18**	**250**	*e*P	**Pg**	**22 08 23.5**	**0.0**
IRIF	**Iriomote-Funau**	**1.26**	**105**	*e*P	**Pn**	**22 08 22.8**	**-1.0**
IRIF				*e*S	**Sb**	**22 08 38.5**	**-1.6**
NSTT	**Nanjuang**	**1.27**	**269**	*e*P	**Pg**	**22 08 25.7**	**+0.5**
NSTT				*e*S	**Sg**	**22 08 42.8**	**+1.1**
WARBT	**Fenglin Townsh**	**1.31**	**225**	*e*P	**Pn**	**22 08 24.3**	**-0.3**
OWD	**Renai**	**1.32**	**238**	*e*P	**Pg**	**22 08 25.5**	**-0.5**
OWD				*e*S	**Sg**	**22 08 43.9**	**+0.7**
WUSB	**Renai**	**1.34**	**241**	*e*P	**Pg**	**22 08 26.4**	**-0.2**
WUSB				*e*S	**Sg**	**22 08 45.0**	**+1.0**
WHP	**Taichung City**	**1.38**	**254**	*e*P	**Pg**	**22 08 27.1**	**-0.1**
HGSD	**Ruisui**	**1.46**	**218**	*e*P	**Pn**	**22 08 26.2**	**-0.4**
WCS	**Beigang Elemen**	**1.48**	**246**	*e*P	**Pg**	**22 08 29.2**	**+0.1**
EHY	**Hungye**	**1.51**	**221**	*e*P	**Pb**	**22 08 28.6**	**+0.1**
SMLT	**Sun Moon Lake**	**1.57**	**241**	*e*P	**Pg**	**22 08 30.7**	**-0.2**
SSLB	**Suanglung**	**1.58**	**237**	*e*P	**Pg**	**22 08 30.4**	**-0.6**
TYC	**Yuchr**	**1.59**	**242**	*e*P	**Pg**	**22 08 31.1**	**-0.2**
YULB	**Yu-li**	**1.61**	**219**	*e*P	**Pn**	**22 08 28.4**	**-0.3**
YULB				*e*S	**Sn**	**22 08 48.8**	**-0.5**
WHYT	**Xinyi Township**	**1.70**	**236**	*e*P	**Pb**	**22 08 32.0**	**+0.3**
ALS	**Alishan**	**1.85**	**232**	*e*P	**Pb**	**22 08 34.9**	**+0.5**
CHN5	**Tsauling**	**1.89**	**236**	*e*P	**Pb**	**22 08 35.1**	**+0.1**

*NEIC **03** 22:39:01.9±0.8,19°.20N±0°.03×155°.49W±0°.02,h39km±2km,*
Error ellipse: s-maj=3.8km s-min=2.5km az=158.0
HVO 03 22:39:03.5±0.9,**19°.19N**±0°.04×**155°.48W**±0°.05,**h33**km±2km,
ML2.5/30,**ML2.6**/36(NEIC),**Error ellipse: s-maj=6.8km**
s-min=6.1km az=93.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.09**	**56**		Pb	22 39 08.9	-0.4
HPO	**Honuapo**	**0.12**	**216**		Pn	22 39 08.9	+0.1
KHU	**Kahuku**	**0.14**	**295**		Pn	22 39 09.0	-0.3
KHU					Sb	22 39 13.1	-1.0
AIN	**Ainahou**	**0.19**	**6**		Pn	22 39 09.6	-0.5
AIN					Sn	22 39 13.9	+0.4
HLP	**Hilina Pali**	**0.20**	**56**		Pn	22 39 09.5	-0.6
HLP					Sn	22 39 14.0	+0.3
HLP				IAML		22 39 14.3	
	comp=N,632nm,0.4s						
HLP				IAML		22 39 17.6	
	comp=E,434nm,0.3s						
SDHHI	**Sand Hill**	**0.27**	**41**		Pb	22 39 10.1	-0.9
SDHHI					Sb	22 39 14.9	-1.2
WRMHI	**West Rim**	**0.28**	**38**		Pb	22 39 10.1	-1.1
WRMHI					Sb	22 39 15.1	-1.2
RIM	**Rim**	**0.28**	**43**		Pb	22 39 10.2	-1.1
RIM					Sb	22 39 15.1	-1.3
KKO	**Keanakako'i**	**0.29**	**44**		Pb	22 39 10.3	-1.0
KKO					Sb	22 39 15.4	-1.2
UWE	**Uwekahuna**	**0.29**	**37**		Pb	22 39 10.2	-1.2
UWE					Sb	22 39 15.5	-1.1
UWE				IAML		22 39 16.0	
	comp=E,700nm,0.6s						
UWE				IAML		22 39 19.0	
	comp=N,719nm,0.3s						
OBL	**Observatory Le**	**0.29**	**39**		Pb	22 39 10.2	-1.1
OBL					Sb	22 39 15.3	-1.3
UWB	**Uwekahuna Bluf**	**0.30**	**39**		Pb	22 39 10.2	-1.2
UWB					Sb	22 39 15.3	-1.6
BYL	**Byron's Ledge**	**0.31**	**43**		Pb	22 39 10.3	-1.2
PUH	**Pauahi**	**0.31**	**53**		Pb	22 39 10.3	-1.2
PUH					Sb	22 39 15.5	-1.5
PUH				IAML		22 39 15.7	
	comp=E,473nm,0.4s						
PUH				IAML		22 39 15.8	
	comp=N,418nm,0.2s						
SBLHI	**Steaming Bluff**	**0.31**	**40**		Pb	22 39 10.3	-1.3
SBLHI					Sb	22 39 15.5	-1.5
HATHI	**Halema'uma'u T**	**0.31**	**41**		Pb	22 39 10.4	-1.2
HATHI					Sb	22 39 15.4	-1.6
HATHI				IAML		22 39 15.9	
	comp=N,387nm,0.2s						
MWH	**Mokuaweoweo**	**0.32**	**340**		Pb	22 39 10.6	-1.4
MWH					Sb	22 39 16.0	-1.7
MWH				IAML		22 39 16.4	
	comp=E,488nm,0.5s						
MWH				IAML		22 39 18.3	
	comp=N,375nm,0.3s						
MLH	**Mauna Loa**	**0.32**	**16**		Pb	22 39 10.7	-1.0
MLH					Sb	22 39 15.9	-1.5
MLH				IAML		22 39 16.2	
	comp=E,558nm,0.3s						
RSD	**Rainshed**	**0.34**	**35**		Pb	22 39 09.9	-2.0
RSD	**Rainshed**	**0.34**	**35**		Sb	22 39 15.9	-1.6
KNHH	**Kane Nui o Ham**	**0.35**	**57**		Pb	22 39 10.9	-1.2
ALEP	**Alea Permanent**	**0.39**	**336**		Pb	22 39 11.2	-1.6
ALEP					Sb	22 39 16.9	-2.2
STCH	**Steam Cracks**	**0.39**	**59**		Pb	22 39 11.3	-1.3
STCH					Sb	22 39 17.2	-1.5
NPOC	**North of Pu'u**	**0.41**	**59**		Pb	22 39 11.4	-1.3
JCUZ	**Jacuzzi**	**0.41**	**61**		Pb	22 39 11.6	-1.2
HMH	**Humu'ula Sheep**	**0.41**	**360**		Pb	22 39 12.0	-1.1
HMH				IAML		22 39 19.1	
	comp=E,493nm,0.2s						
JOKA	**Jonika Flow**	**0.51**	**61**		Pb	22 39 12.7	-1.7
HUH	**Hualalai**	**0.60**	**326**		Pb	22 39 14.1	-1.8
HUH					Sb	22 39 22.2	-2.3
HUH				IAML		22 39 28.0	
	comp=N,426nm,0.3s						
HUH				IAML		22 39 33.3	
	comp=E,392nm,0.3s						
HPAH	**Hawaii Prepara**	**0.86**	**346**		Pn	22 39 17.2	-2.3
HPAH	**Hawaii Prepara**	**0.86**	**346**	IAML		22 39 27.8	
	comp=N,188nm,0.1s						
MHA	**Mahukona**	**1.07**	**338**		Pn	22 39 20.2	-2.1

*IDC **03** 22:59:26.4±1.2,28°.51N×89°.75E,h0km,mb3.4/5,*
mbtmp3.4/7,ML4.0/2,MS2.8/1,Error ellipse: s-maj=46.4km
s-min=21.1km az=62.0
ISC 03 22:59:31.4±1.1,**28°.5N**±0°.2×**89°.9E**±0°.2,**h35**km,**n7**,σ1s**01**/7,
mb3.5/4,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.02**	**138**	Pn	**Pn**	**23 02 32.9**	**-1.0**
	0.7nm,0.3s,baz=326,slow=14,SNR=1.5						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**19.19**	**344**	P	**P**	**23 03 51.0**	**-1.0**
	0.1nm,0.3s,baz=151,slow=12,SNR=6.0						
	0.2nm,0.4s						
SONM	**Songino Array**	**23.17**	**29**	P	**P**	**23 04 35.4**	**+0.5**
	0.4nm,0.5s,baz=227,slow=7.7,SNR=1.4						
SONM				LR	LR	23 13 38.4	
	comp=Z,23nm,20.0s,baz=193,slow=37						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**23.69**	**342**	P	**P**	**23 04 39.2**	**-0.5**
	0.7nm,0.8s,baz=161,slow=9.2,SNR=6.1						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**64.55**	**133**	P	**P**	**23 10 06.0**	**+0.8**
	0.6nm,0.9s,baz=326,slow=6.7,SNR=6.5						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**67.02**	**136**	P	**P**	**23 10 22.0**	**+1.0**
	0.4nm,0.6s,baz=318,slow=6.2,SNR=4.8						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**82.26**	**281**	P	**P**	**23 11 49.8**	**+0.1**
	0.3nm,0.9s,baz=66,slow=1.7,SNR=1.9						
	0.3nm,0.9s						

*MDD **03** 23:01:49.7±0.3,37°.16N×5°.26W,h2km±2km,mb_Lg2.3/16,*
Error ellipse: s-maj=2.4km s-min=1.5km az=176.0
*CNRM **03** 23:01:49.8,36°.59N×5°.65W,h1km*
*IGIL **03** 23:01:50.1,37°.16N×5°.26W,h2km*
*INMG **03** 23:01:51.0±1.9,37°.12N×5°.28W,h15km±5km,ML2.1,Error*
ellipse: s-maj=3.2km s-min=2.9km az=157.0,
#DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha
(ESP)
*SFS **03** 23:01:51.2,37°.16N×5°.27W,h7km,ML2.5/11,ML2.4/11,*
MLv2.4/11
ISC 03 23:01:49.1±1.1,**37°.12N**±0°.02×**5°.27W**±0°.02,**h20**km±5km,
n60,σ1s**50**/109,**Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.53**	**242**	Sg	**Sn**	**23 02 11.8**	**+1.8**
ESPR				Pg	**Pb**	**23 02 01.0**	**+1.2**
ESPR	**Espera**	**0.53**	**242**	Pg	**Pb**	**23 02 01.0**	**+1.2**
ESPR				Sg	**Sb**	**23 02 07.9**	**+0.9**
ESPR				*i* IVmb_Lg		23 02 19.5	
EJIF	**Jimena Fronter**	**0.69**	**193**	Pg	**Pg**	**23 02 03.0**	**+0.2**
EJIF				Sg	**Sg**	**23 02 11.6**	**-0.4**
EGOR	**Sierra Gorda,**	**0.93**	**90**	Sg	**Sn**	**23 02 22.7**	**+2.7**
EGOR				Pg	**Pb**	**23 02 06.7**	**0.0**
EGOR	**Sierra Gorda,**	**0.93**	**90**	Pg	**Pn**	**23 02 08.3**	**+1.1**
EGOR				Sg	**Sb**	**23 02 19.4**	**+0.8**
ECAB	**El Cabril**	**0.96**	**353**	Pg	**Pn**	**23 02 07.8**	**+0.3**
ECAB				Sg	**Sn**	**23 02 22.6**	**+2.0**
ECAB	**El Cabril**	**0.96**	**353**	Pg	**Pn**	**23 02 07.8**	**+0.3**
ECAB				Sg	**Sn**	**23 02 20.4**	**-0.2**
ECAB				*i* IVmb_Lg		23 02 24.0	
EADA	**Adamuz**	**1.18**	**28**	Pg	**Pb**	**23 02 11.3**	**+0.5**
EADA				Sg	**Sg**	**23 02 27.8**	**+0.3**
EADA	**Adamuz**	**1.18**	**28**	Pg	**Pb**	**23 02 11.5**	**+0.6**
EADA				Sg	**Sg**	**23 02 28.3**	**+0.8**
EADA				*i* IVmb_Lg		23 02 29.5	
EMIN	**Mina Concepcio**	**1.29**	**300**	Pn	**Pb**	**23 02 12.9**	**+0.2**
EMIN				Sn	**Sg**	**23 02 31.8**	**+0.9**
EMIN	**Mina Concepcio**	**1.29**	**300**	Pg	**Pb**	**23 02 12.9**	**+0.2**
EMIN				Sg	**Sg**	**23 02 31.7**	**+0.8**
EMIN				*i* IVmb_Lg		23 02 34.4	
ELGU	**Los Guajares,**	**1.34**	**100**	Pn	**Pn**	**23 02 13.8**	**+1.0**
ELGU				Sn	**Sg**	**23 02 35.6**	**+3.0**
ELGU	**Los Guajares,**	**1.34**	**100**	Pg	**Pb**	**23 02 14.5**	**+0.9**
ELGU				Sg	**Sg**	**23 02 33.2**	**+0.6**
ELGU				*i* IVmb_Lg		23 02 37.6	
SMIR	**Smir Dam**	**1.44**	**184**	P	Pn	23 02 07.3	-6.8
SMIR	**Smir Dam**	**1.44**	**184**	S	Sn	23 02 20.0	-12
EQTA	**Presa de Quent**	**1.46**	**86**	Pn	**Pn**	**23 02 16.1**	**+1.6**
E0803	**Jimena (Jaen)**	**1.60**	**63**	Pg	**Pn**	**23 02 17.8**	**+1.4**
E0803				Sg	**Sn**	**23 02 38.4**	**+2.0**
PBAR	**Barrancos**	**1.75**	**307**	Pn	**Pn**	**23 02 19.4**	**+1.0**
PBAR				Sn	**Sg**	**23 02 44.1**	**-1.6**
PBAR	**Barrancos**	**1.75**	**307**	*e*Pn	**Pb**	**23 02 19.9**	**-0.7**
PBAR				*e*Sg	**Sg**	**23 02 45.0**	**-0.7**
PBAR				*i* IAML		23 02 49.2	
PBAR				*i* IAML		23 02 49.9	
PBAR				*i* IAML		23 02 55.4	
E0802	**Ubeda,Jaen**	**1.75**	**59**	Sn	**Sn**	**23 02 38.1**	**-2.2**
E0802				Sg	**Sg**	**23 02 45.6**	**-0.2**
EGRO	**El Granado**	**1.81**	**284**	Pn	**Pn**	**23 02 19.9**	**+0.7**
EGRO	**El Granado**	**1.81**	**284**	Pn	**Pn**	**23 02 20.1**	**+0.9**
EGRO				Sg	**Sg**	**23 02 48.1**	**+0.6**
EGRO				*i* IVmb_Lg		23 02 52.6	
EQES	**Quesada**	**1.88**	**68**	Pg	**Pn**	**23 02 21.9**	**+1.6**
EQES				Sn	**Sn**	**23 02 45.7**	**+2.3**
EQES				Sg	**Sg**	**23 02 49.9**	**+0.2**
EQES				*i* IVmb_Lg		23 02 53.9	
PVAQ	**Vaqueiros**	**1.97**	**279**	*e*Pn	**Pn**	**23 02 22.3**	**+0.9**
PVAQ				*e*Sn	**Sb**	**23 02 47.9**	**-0.6**
PVAQ				*e*Sg	**Sg**	**23 02 53.8**	**+1.1**
PVAQ				*i* IAML		23 02 56.6	
PVAQ				*i* IAML		23 02 56.6	
PVAQ				*i* IAML		23 02 56.7	
PVAQ	**Vaqueiros**	**1.97**	**279**	P	**Pn**	**23 02 22.8**	**+1.4**
PVAQ	**Vaqueiros**	**1.97**	**279**	S	**Sb**	**23 02 48.2**	**-0.3**
PSIM	**Granatula de C**	**2.07**	**35**	Pg	**Pg**	**23 02 28.0**	**-1.0**
PSIM				Sn	**Sn**	**23 02 47.5**	**-0.7**
PSIM				Sg	**Sg**	**23 02 55.2**	**-0.8**
PBDV	**Barranco-do-Ve**	**2.13**	**274**	Pn	**Pn**	**23 02 24.1**	**+0.5**
PBDV	**Barranco-do-Ve**	**2.13**	**274**	*e*Pn	**Pn**	**23 02 24.6**	**+1.0**
PBDV				*e*Sn	**Sb**	**23 02 52.2**	**-0.9**
PBDV				*i* IAML		23 02 53.5	
PBDV				*e*Sg	**Sg**	**23 02 58.7**	**+1.0**
PBDV				*i* IAML		23 01 01.8	
PBDV				*i* IAML		23 03 06.6	
EBAD	**Badajoz**	**2.13**	**320**	Pn	**Pn**	**23 02 24.5**	**+0.8**
EBAD				Sn	**Sb**	**23 02 52.3**	**-0.9**
EBAD	**Badajoz**	**2.13**	**320**	Pn	**Pn**	**23 02 23.8**	**+0.2**
EBAD				Sn	**Sn**	**23 02 50.1**	**+0.6**
EBAD				Sg	**Sg**	**23 02 58.0**	**+0.1**
EBAD				*i* IVmb_Lg		23 03 00.8	
PBEJ	**Beja**	**2.25**	**294**	*e*Pn	**Pn**	**23 02 27.2**	**+1.9**
PBEJ				*e*Sg	**Sg**	**23 03 00.4**	**-1.2**
PBEJ				*i* IAML		23 03 06.9	
PBEJ				*i* IAML		23 03 07.8	
PBEJ				*i* IAML		23 03 08.2	
PCVE	**Castro Verde**	**2.26**	**284**	Pn	**Pn**	**23 02 26.7**	**+1.3**
PCVE	**Castro Verde**	**2.26**	**284**	*e*Pn	**Pn**	**23 02 26.7**	**+1.3**
PCVE				*e*Sg	**Sg**	**23 03 01.7**	**-0.3**
PCVE				*i* IAML		23 03 08.2	
PCVE				*i* IAML		23 03 11.1	
PCVE				*i* IAML		23 03 12.3	
MESJ	**Messejana**	**2.45**	**288**	*e*P	**Pn**	**23 02 29.1**	**+1.1**
MESJ	**Messejana**	**2.45**	**288**	*e*Pn	**Pn**	**23 02 29.2**	**+1.2**
MESJ				*e*Sn	**Sb**	**23 03 00.0**	**-2.3**
MESJ				*e*Sg	**Sg**	**23 03 09.3**	**+1.3**
MESJ				*i* IAML		23 03 15.7	
MESJ				*i* IAML		23 03 16.1	
MESJ				*i* IAML		23 03 24.1	
ENIJ	**Nijar**	**2.46**	**93**	Pn	**Pn**	**23 02 29.9**	**+1.8**
PAB	**San Pablo**	**2.52**	**16**	Pn	**Pn**	**23 02 29.7**	**+0.5**
PAB				Pg	**Pb**	**23 02 33.9**	**0.0**
PAB				Sn	**Sn**	**23 02 59.7**	**+0.3**
PAB				Sg	**Sg**	**23 03 08.1**	**-2.3**
PAB				*i* IVmb_Lg		23 03 18.8	
PESTR	**Estremoz**	**2.53**	**314**	*e*Pn	**Pn**	**23 02 30.6**	**+1.6**
PESTR				*e*Pg	**Pg**	**23 02 37.3**	**-

σ1^{8}89/192, **3C, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCAS	**Casmilo, Conde**	**1.52**	**94**	*e*P	**Pn**	**23 17 58.2**	**+2.3**
PCAS				*e*S	**Sn**	**23 18 16.1**	**+1.6**
PCAS				*i* IAML		23 18 23.7	
PCAS				*i* IAML		23 18 25.6	
PCAS				*i* IAML		23 18 29.2	
PMAFR	**Mafra**	**1.54**	**143**	P	**Pn**	**23 17 57.9**	**+1.8**
PMAFR				S	**Sn**	**23 18 15.8**	**+1.0**
PMAFR	**Mafra**	**1.54**	**143**↑	*e*P	**Pn**	**23 17 58.0**	**+1.9**
PMAFR				*e*S	**Sn**	**23 18 15.6**	**+0.8**
PMAFR				*i* IAML		23 18 17.0	
PMAFR				*i* IAML		23 18 17.4	
PMAFR				*i* IAML		23 18 28.3	
COI	**Coimbra**	**1.58**	**89**	*e*P	**Pn**	**23 17 59.2**	**+2.5**
COI				*e*S	**Sn**	**23 18 17.9**	**+2.0**
COI				*i* IAML		23 18 25.3	
COI				*i* IAML		23 18 27.7	
COI				*i* IAML		23 18 28.1	
PTO	**Porto**	**1.71**	**56**	*e*P	**Pn**	**23 18 00.5**	**+2.1**
PTO				*e*S	**Sn**	**23 18 20.0**	**+0.9**
PTO				*i* IAML		23 18 20.9	
PTO				*i* IAML		23 18 21.3	
PTO				*i* IAML		23 18 21.3	
PARRA	**Arraiolos**	**1.77**	**141**↑	*e*P	Pn	23 18 08.6	+9.4
PARRA				*e*S	Sn	23 18 34.5	+14
PARRA				*i* IAML		23 18 35.2	
PARRA				*i* IAML		23 18 36.2	
PARRA				*i* IAML		23 18 36.3	
LIS	**Lisbon**	**1.79**	**145**	*e*S	**Sn**	**23 18 20.8**	**-0.2**
LIS				IAML		23 18 23.1	
	comp=N,115nm,0.1s						
LIS	**Lisbon**	**1.79**	**145**	*e*S	**Sn**	**23 18 22.3**	**+1.2**
LIS				*i* IAML		23 18 25.9	
LIS				*i* IAML		23 18 27.4	
LIS				*i* IAML		23 18 27.4	
PSARD	**Sardoal**	**1.88**	**108**	*e*P	**Pn**	**23 18 02.8**	**+2.0**
PSARD				*e*S	**Sn**	**23 18 24.8**	**+1.6**
PSARD				*i* IAML		23 18 38.5	
PSARD				*i* IAML		23 18 38.5	
PSARD				*i* IAML		23 18 39.1	
PVIS	**Viseu**	**2.04**	**74**	*e*P	**Pn**	**23 18 05.2**	**+2.2**
PVIS				*e*S	**Sn**	**23 18 28.4**	**+1.1**
PMTG	**Montargil**	**2.07**	**122**	*e*P	**Pn**	**23 18 05.3**	**+1.9**
PMTG				*e*S	**Sn**	**23 18 28.6**	**+0.7**
PMTG				*i* IAML		23 18 29.7	
PMTG				*i* IAML		23 18 32.2	
PMTG				*i* IAML		23 18 35.8	
MTE	**Manteigas**	**2.25**	**84**	*e*P	**Pn**	**23 18 06.4**	**+2.2**
MTE				*e*S	**Sn**	**23 18 33.6**	**+1.0**
MTE				*i* IAML		23 18 45.9	
MTE				*i* IAML		23 18 47.2	
MTE				*i* IAML		23 18 51.4	
PCBR	**Castelo Branco**	**2.33**	**98**	*e*P	**Pn**	**23 18 09.0**	**+2.1**
PCBR				*e*S	**Sn**	**23 18 35.0**	**+0.6**
PCBR				*i* IAML		23 18 36.8	
PCBR				*i* IAML		23 18 38.4	
PCBR				*i* IAML		23 18 53.1	
POLO	**Lamas de Olo**	**2.36**	**59**	*e*P	**Pn**	**23 18 09.4**	**+2.0**
POLO				*e*S	**Sn**	**23 18 35.6**	**+0.4**
POLO				*i* IAML		23 18 37.1	
POLO				*i* IAML		23 18 37.3	
POLO				*i* IAML		23 18 50.0	
PVRL	**Vila Real**	**2.36**	**62**	*e*P	**Pn**	**23 18 09.6**	**+2.1**
PVRL				*e*S	**Sn**	**23 18 35.8**	**+0.6**
PVRL				*i* IAML		23 18 39.1	
PVRL				*i* IAML		23 18 46.7	
PVRL				*i* IAML		23 18 51.2	
EZAM	**Zamans**	**2.38**	**34**	Pn	**Pn**	**23 18 09.5**	**+1.9**
EZAM				*i* IVmb_Lg		23 18 10.4	
EZAM				Sn	**Sn**	**23 18 35.2**	**-0.3**
PCAB	**Cabril**	**2.40**	**50**	*e*P	**Pn**	**23 18 10.0**	**+2.1**
PCAB				*e*S	**Sn**	**23 18 36.8**	**+0.7**
PCAB				*i* IAML		23 18 38.5	
PCAB				*i* IAML		23 18 38.7	
PCAB				*i* IAML		23 18 38.8	
ELOB	**Lobios**	**2.48**	**47**	Pn	**Pn**	**23 18 11.2**	**+2.0**
ELOB				Sn	**Sn**	**23 18 38.3**	**+0.1**
PMRV	**Marv??o**	**2.50**	**107**↑	*e*P	**Pn**	**23 18 11.0**	**+1.7**
PMRV				*e*S	**Sn**	**23 18 38.9**	**+0.4**
PMRV				*i* IAML		23 18 40.1	
PMRV				*i* IAML		23 18 55.4	
PMRV				*i* IAML		23 19 07.1	
EVO	**Evora**	**2.53**	**130**	P	**Pn**	**23 18 11.2**	**+1.6**
EVO	**Evora**	**2.53**	**130**	*e*P	**Pn**	**23 18 11.4**	**+1.8**
EVO				*e*S	**Sn**	**23 18 39.1**	**-0.1**
EVO				*i* IAML		23 18 40.9	
EVO				*i* IAML		23 18 41.0	
EVO				*i* IAML		23 18 43.8	
PESTR	**Estremoz**	**2.59**	**120**	S	**Sn**	**23 18 40.8**	**-0.1**
PESTR				P	**Pn**	**23 18 12.2**	**+1.6**
PESTR	**Estremoz**	**2.59**	**120**	*e*P	**Pn**	**23 18 12.2**	**+1.6**
PESTR				*e*S	**Sn**	**23 18 41.0**	**+0.1**
PESTR				*i* IAML		23 18 44.2	
PESTR				*i* IAML		23 18 46.5	
PESTR				*i* IAML		23 18 58.5	
PESTR	**Estremoz**	**2.59**	**120**	P	**Pn**	**23 18 14.2**	**+3.6**
PESTR	**Estremoz**	**2.59**	**120**	S	**Sn**	**23 18 37.6**	**-3.3**
MVO	**Moncorvo**	**2.80**	**68**	*e*P	**Pn**	**23 18 15.3**	**+1.8**
MVO				*e*S	**Sn**	**23 18 45.8**	**-0.2**
MVO				*i* IAML		23 19 01.5	
MVO				*i* IAML		23 19 05.8	
MVO				*i* IAML		23 19 06.6	
MESJ	**Messejana**	**2.93**	**142**	*e*P	**Pn**	**23 18 17.2**	**+2.0**
MESJ				*e*S	**Sn**	**23 18 48.2**	**-1.0**
MESJ				IAML		23 18 52.4	
	comp=E,19nm,0.1s						
MESJ	**Messejana**	**2.93**	**142**	*e*P	**Pn**	**23 18 17.3**	**+2.0**
MESJ				*e*S	**Sn**	**23 18 48.3**	**-0.9**
MESJ				*i* IAML		23 18 52.0	
MESJ				*i* IAML		23 18 52.4	
MESJ				*i* IAML		23 18 52.4	
PBEJ	**Beja**	**2.96**	**136**	*e*P	**Pn**	**23 18 17.7**	**+2.0**
PBEJ				*e*S	**Sn**	**23 18 49.5**	**-0.5**
PBEJ				*i* IAML		23 18 51.1	
PBEJ				*i* IAML		23 18 52.8	
PBEJ				*i* IAML		23 18 53.4	
PTEO	**Sao Teotonio**	**2.97**	**152**	*e*P	**Pn**	**23 18 17.9**	**+2.1**
PTEO				*e*S	**Sn**	**23 18 50.1**	**-0.1**
PTEO				*i* IAML		23 18 53.4	
PTEO				*i* IAML		23 18 54.3	
PTEO				*i* IAML		23 18 54.9	
EMAZ	**Mazaricos**	**2.98**	**22**	Pn	**Pn**	**23 18 17.7**	**+1.8**
EMAZ				*i* IVmb_Lg		23 18 17.9	
EMAZ				Sn	**Sn**	**23 18 49.0**	**-1.4**
EBAD	**Badajoz**	**3.04**	**117**	P	**Pn**	**23 18 18.2**	**+1.5**
EBAD				S	**Sn**	**23 18 51.4**	**-0.4**
EBAD	**Badajoz**	**3.04**	**117**	Pn	**Pn**	**23 18 18.2**	**+1.5**
EBAD				Sn	**Sn**	**23 18 51.0**	**-0.9**
EBAD				*i* IVmb_Lg		23 18 54.6	
EAGO	**Agolada(Pontev**	**3.17**	**34**	Pn	**Pn**	**23 18 20.0**	**+1.5**
EAGO				*i* IVmb_Lg		23 18 22.3	
EAGO				Sn	**Sn**	**23 18 53.7**	**-1.4**
PCVE	**Castro Verde**	**3.18**	**143**	P	**Pn**	**23 18 20.6**	**+1.9**
PCVE				S	**Sn**	**23 18 54.1**	**-1.3**
PCVE	**Castro Verde**	**3.18**	**143**	*e*P	**Pn**	**23 18 20.6**	**+1.9**
PCVE				*e*S	**Sn**	**23 18 54.8**	**-0.6**
PCVE				*i* IAML		23 18 56.7	
PCVE				*i* IAML		23 18 57.2	
PCVE				*i* IAML		23 18 57.9	
MORF	**Marmelete**	**3.21**	**153**	*e*P	**Pn**	**23 18 21.0**	**+1.8**
MORF				*e*S	**Sn**	**23 18 54.8**	**-1.4**
MORF				IAML		23 19 01.8	
	comp=N,83nm,0.2s						
MORF	**Marmelete**	**3.21**	**153**	*e*P	**Pn**	**23 18 21.0**	**+1.8**
MORF				*e*S	**Sn**	**23 18 55.6**	**-0.6**
MORF				*i* IAML		23 18 58.8	
MORF				*i* IAML		23 18 59.2	
MORF				*i* IAML		23 19 00.2	
PBRG	**Braganca**	**3.26**	**59**	*e*P	**Pn**	**23 18 21.9**	**+2.2**
PBRG				*e*S	**Sn**	**23 18 57.0**	**-0.3**
PBRG				*i* IAML		23 18 57.7	
PBRG				*i* IAML		23 18 59.1	
PBRG				*i* IAML		23 19 00.4	
PFVI	**Vila Bisbo**	**3.31**	**157**	P	**Pn**	**23 18 21.9**	**+1.5**
PFVI				S	**Sn**	**23 18 57.8**	**-0.9**
PFVI	**Vila Bisbo**	**3.31**	**157**	*e*P	**Pn**	**23 18 22.0**	**+1.5**
PFVI				*e*S	**Sn**	**23 18 57.7**	**-0.9**
PFVI				*i* IAML		23 19 00.2	
PFVI				*i* IAML		23 19 00.7	
PFVI				*i* IAML		23 19 00.7	
PFVI	**Vila Bisbo**	**3.31**	**157**	P	**Pn**	**23 18 21.9**	**+1.5**
PFVI	**Vila Bisbo**	**3.31**	**157**	S	Sn	23 18 48.7	-10
ECAL	**Calabor**	**3.33**	**57**	P	**Pn**	**23 18 22.4**	**+1.7**
ECAL				S	**Sn**	**23 18 59.1**	**0.0**
ECAL	**Calabor**	**3.33**	**57**	Pn	**Pn**	**23 18 22.4**	**+1.7**
ECAL				Sn	**Sn**	**23 18 59.2**	**+0.1**
ECAL				*i* IVmb_Lg		23 19 00.9	
PBAR	**Barrancos**	**3.34**	**126**	P	**Pn**	**23 18 22.6**	**+1.7**
PBAR				S	**Sn**	**23 18 58.5**	**-0.9**
PBAR	**Barrancos**	**3.34**	**126**	*e*P	**Pn**	**23 18 22.8**	**+1.9**
PBAR				*e*S	**Sn**	**23 18 58.5**	**-0.9**
PBAR				*i* IAML		23 19 01.6	
PBAR				*i* IAML		23 19 02.1	
PBAR				*i* IAML		23 19 03.7	
EPLA	**Plasencia**	**3.37**	**91**	Pn	**Pn**	**23 18 23.4**	**+2.1**
EPLA				Sn	**Sn**	**23 18 60.0**	**-0.2**
EPLA				*i* IVmb_Lg		23 19 02.8	
PVAQ	**Vaqueiros**	**3.52**	**141**	*e*P	**Pn**	**23 18 25.4**	**+2.1**
PVAQ				*e*S	**Sn**	**23 19 02.3**	**-1.4**
PVAQ				*i* IAML		23 19 05.4	
PVAQ				*i* IAML		23 19 05.4	
PVAQ				*i* IAML		23 19 06.5	
PVAQ	**Vaqueiros**	**3.52**	**141**	P	**Pn**	**23 18 24.8**	**+1.5**
PVAQ	**Vaqueiros**	**3.52**	**141**	S	Sn	23 18 56.5	-7.1
EGRO	**El Granado**	**3.53**	**138**	P	**Pn**	**23 18 25.4**	**+1.9**
EGRO				S	**Sn**	**23 19 03.1**	**-0.9**
EGRO	**El Granado**	**3.53**	**138**	Pn	**Pn**	**23 18 25.6**	**+2.1**
EGRO				Sn	**Sn**	**23 19 03.5**	**-0.5**
EGRO				*i* IVmb_Lg		23 19 06.3	
PBDV	**Barranco-do-Ve**	**3.55**	**145**	P	**Pn**	**23 18 26.0**	**+2.2**
PBDV	**Barranco-do-Ve**	**3.55**	**145**	*e*P	**Pn**	**23 18 26.3**	**+2.5**
PBDV				*e*S	**Sn**	**23 19 03.2**	**-1.3**
PBDV				*i* IAML		23 19 08.1	
PBDV				*i* IAML		23 19 08.1	
PBDV				*i* IAML		23 19 09.3	
EJUZ	**Juzbado, Salam**	**3.60**	**74**	Pn	**Pn**	**23 18 26.8**	**+2.3**
EJUZ				Sn	**Sn**	**23 19 05.1**	**-0.8**
EMIN	**Mina Concepcio**	**3.83**	**128**	P	**Pn**	**23 18 29.6**	**+2.1**
EMIN				S	**Sn**	**23 19 09.7**	**-1.5**
EMIN	**Mina Concepcio**	**3.83**	**128**	Pn	**Pn**	**23 18 29.6**	**+2.1**
EMIN				Sn	**Sn**	**23 19 10.4**	**-0.9**
EMIN				*i* IVmb_Lg		23 19 12.5	
EPON	**Pontenova**	**4.00**	**37**	Pn	**Pn**	**23 18 31.6**	**+1.6**
EPON				*i* IVmb_Lg		23 18 58.2	
EPON				Sn	**Sn**	**23 19 14.6**	**-1.1**
ARNO	**Arenosillo**	**4.26**	**135**	P	**Pn**	**23 18 35.6**	**+2.2**
ECAB	**El Cabril**	**4.46**	**117**	P	**Pn**	**23 18 37.7**	**+1.4**
ECAB				S	**Sn**	**23 19 25.7**	**-1.4**
ECAB	**El Cabril**	**4.46**	**117**	Pn	**Pn**	**23 18 38.3**	**+2.0**
ECAB				Sn	**Sn**	**23 19 26.4**	**-0.7**
PAB	**San Pablo**	**4.76**	**96**	Pn	**Pn**	**23 18 42.6**	**+2.2**
PAB				Sn	**Sn**	**23 19 33.3**	**-1.1**
PAB				*i* IVmb_Lg		23 19 34.6	
GUD	**Guadarrama**	**4.85**	**83**	Pn	**Pn**	**23 18 43.7**	**+2.0**
GUD				Sn	**Sn**	**23 19 35.5**	**-1.2**
ESPR	**Espera**	**4.91**	**131**	P	**Pn**	**23 18 45.7**	**+3.2**
ESPR	**Espera**	**4.91**	**131**	Pn	**Pn**	**23 18 45.2**	**+2.8**
ESPR				Sn	**Sn**	**23 19 36.0**	**-2.0**
ESPR				*i* IVmb_Lg		23 19 38.2	
EADA	**Adamuz**	**5.01**	**112**	P	**Pn**	**23 18 44.9**	**+1.2**
EADA				S	**Sn**	**23 19 38.7**	**-1.8**
EADA	**Adamuz**	**5.01**	**112**	Pn	**Pn**	**23 18 45.0**	**+1.2**
EADA				Sn	**Sn**	**23 19 38.7**	**-1.8**
EADA				*i* IVmb_Lg		23 19 41.7	
EARI	**Arriondas**	**5.02**	**50**	Pn	**Pn**	**23 18 46.7**	**+2.8**
EARI				Sn	**Sn**	**23 19 40.4**	**-0.3**
EARI				*i* IVmb_Lg		23 21 14.4	
ESBB	**Sonseca Array**	**5.04**	**94**	Pn	**Pn**	**23 18 45.7**	**+1.6**
ESBB				Sn	**Sn**	**23 19 39.5**	**-1.7**
PSIM	**Granatula de C**	**5.38**	**103**	Pn	**Pn**	**23 18 50.9**	**+2.1**
PSIM				Sn	**Sn**	**23 19 48.4**	**-1.1**
EJIF	**Jimena Fronter**	**5.42**	**132**	Sn	**Sn**	**23 19 48.8**	**-1.9**
UCM	**Universidad Co**	**5.54**	**86**	P	**Pn**	**23 18 53.6**	**+2.6**
UCM				S	**Sn**	**23 19 52.5**	**-0.9**
EGOR	**Sierra Gorda,**	**5.86**	**120**	P	**Pn**	**23 18 58.7**	**+3.2**
EGOR				S	**Sn**	**23 20 00.8**	**-0.7**
EGOR	**Sierra Gorda,**	**5.86**	**120**	Pn	**Pn**	**23 18 57.4**	**+1.8**
EGOR				Sn	**Sn**	**23 20 01.0**	**-0.5**
E0803	**Jimena (Jaen)**	**5.94**	**111**	Pn	**Pn**	**23 18 58.6**	**+2.0**
E0803				Sn	**Sn**	**23 20 03.5**	**0.0**
ELAN	**Lanestosa**	**6.08**	**58**	Pn	**Pn**	**23 19 01.5**	**+2.9**
ELAN				Sn	**Sn**	**23 20 05.3**	**-1.2**
ELAN				*i* IVmb_Lg		23 20 28.6	
EQES	**Quesada**	**6.24**	**110**	Pn	**Pn**	**23 19 02.6**	**+1.8**
EQES				Sn	**Sn**	**23 20 10.1**	**-0.8**
EQES				*i* IVmb_Lg		23 20 12.0	
ELGU	**Los Guajares,**	**6.31**	**120**	S	**Sn**	**23 20 11.4**	**-1.2**
ELGU				P	**Pn**	**23 19 04.7**	**+3.0**
ELGU	**Los Guajares,**	**6.31**	**120**	Pn	**Pn**	**23 19 05.2**	**+3.5**
ELGU				Sn	**Sn**	**23 20 12.0**	**-0.6**
ELGU				*i* IVmb_Lg		23 20 14.0	
ETOR	**Torete**	**6.45**	**82**	Pn	**Pn**	**23 19 06.7**	**+3.1**
ETOR				Sn	**Sn**	**23 20 16.6**	**+0.6**
ETOR				*i* IVmb_Lg		23 21 15.8	
E0901	**Celadas (Terue**	**7.15**	**85**	Sn	**Sn**	**23 20 33.0**	**-0.3**
AVE	**Averroes**	**7.30**	**159**	P	**Pn**	**23 19 17.0**	**+1.7**
AVE				S	**Sn**	**23 20 33.9**	**-3.1**
AVE	**Averroes**	**7.30**	**159**	P	**Pn**	**23 19 15.5**	**+0.2**
AVE	**Averroes**	**7.30**	**159**	S	Sn	23 20 25.3	-12
ECHE	**Chera**	**7.34**	**92**	Pn	**Pn**	**23 19 18.8**	**+3.0**
ECHE				*i* IVmb_Lg		23 20 11.8	
ECHE				Sn	**Sn**	**23 20 35.0**	**-2.8**
EALK	**Alkurruntz**	**7.36**	**63**	Pn	**Pn**	**23 19 18.7**	**+2.5**
EALK				Sn	**Sn**	**23 20 36.5**	**-2.0**
SJPF	**Ste Jean**	**7.52**	**64**	*e*Pn	**Pn**	**23 19 21.1**	**+2.9**
SJPF				*e*Sn	**Sn**	**23 20 37.7**	**-4.5**
	comp=N,1.4nm,0.3s						
EMOS	**Mosqueruela**	**7.65**	**85**	Pn	**Pn**	**23 19 23.0**	**+2.8**
EMOS				Sn	**Sn**	**23 20 44.2**	**-1.6**
EMOS				*i* IVmb_Lg		23 21 10.0	
ESAC	**San Caprasio**	**7.73**	**75**	Pn	**Pn**	**23 19 23.4**	**+2.3**
ESAC				Sn	**Sn**	**23 20 46.4**	**-1.0**
AKLM	**AKL**	**7.74**	**135**	P	**Pn**	**23 19 20.6**	**-0.7**
AKLM	**AKL**	**7.74**	**135**	S	Sn	23 20 35.1	-13
ETSF	**Etsaut**	**7.92**	**67**	*e*Pn	**Pn**	**23 19 26.7**	**+2.9**
ETSF				*e*Sn	**Sn**	**23 20 48.5**	**-3.6**
	comp=N,2.7nm,0.5s						
EBEN2	**Beniarda presa**	**8.10**	**97**	Pn	**Pn**	**23 19 28.7**	**+2.4**
ERTA	**Horta de San J**	**8.27**	**81**	Pn	**Pn**	**23 19 30.5**	**+2.0**
ERTA				Sn	**Sn**	**23 20 59.7**	**-0.9**
ERTA				*i* IVmb_Lg		23 21 40.8	
EPF	**Esparros**	**8.59**	**67**	*e*Pn	**Pn**	**23 19 36.4**	**+3.5**
EPF				*e*Sn	**Sn**	**23 21 05.6**	**-2.9**
	comp=N,0.8nm,0.2s						
JBK	**JBK**	**8.59**	**130**	P	**Pn**	**23 19 33.5**	**+0.3**
JBK	**JBK**	**8.59**	**130**	S	Sn	23 21 00.3	-8.6
MD31	**MD31**	**8.63**	**146**	P	**Pn**	**23 19 33.2**	**-0.4**
MD31	**MD31**	**8.63**	**146**	S	Sn	23 20 57.5	-12
MDT	**Midelt**	**8.74**	**145**	P	**Pn**	**23 19 35.3**	**+0.1**
MDT	**Midelt**	**8.74**	**145**	S	Sn	23 21 03.3	-9.2
TISM	**Timmit**	**9.06**	**158**	P	**Pn**	**23 19 38.3**	**-1.1**
TISM	**Timmit**	**9.06**	**158**	S	Sn	23 21 06.8	-13
OUK	**Oukaimeden**	**9.21**	**166**	P	**Pn**	**23 19 40.9**	**-0.8**
OUK	**Oukaimeden**	**9.21**	**166**	S	Sn	23 21 14.5	-10
QUIF	**Quistinic**	**9.34**	**32**	*e*Pn	**Pn**	**23 19 43.8**	**+0.6**
QUIF				*e*Sn	Sn	23 21 19.5	-7.5
LFF	**La Frestale**	**9.54**	**56**	*e*Pn	**Pn**	**23 19 48.3**	**+2.4**
TIO	**Tiouine**	**9.60**	**163**	P	**Pn**	**23 19 47.7**	**+0.7**
TIO	**Tiouine**	**9.60**	**163**	P	**Pn**	**23 19 47.0**	**0.0**
TIO	**Tiouine**	**9.60**	**163**	S	Sn	23 21 25.0	-8.8
ROSF	**Rostrenen**	**9.64**	**30**	*e*Pn	**Pn**	**23 19 47.9**	**+0.6**
ROSF				*e*Sn	Sn	23 21 26.4	-7.9
OUZM	**OUZ**	**9.74**	**161**	P	**Pn**	**23 19 49.6**	**+0.8**
OUZM	**OUZ**	**9.74**	**161**	S	Sn	23 21 29.3	-7.8
SGMF	**Saint Gilles**	**9.86**	**33**	*e*Pn	**Pn**	**23 19 50.9**	**+0.6**
SGMF				*e*Sn	**Sn**	**23 21 34.9**	**-4.7**
	comp=N,1.3nm,0.3s						
MFF	**Saint Martin d** baz=227	**9.88**	**46**	*e*Pn	**Pn**	**23 19 51.7**	**+1.2**
MFF	**Saint Martin d**	**9.88**	**46**	*e*Pn	**Pn**	**23 19 52.0**	**+1.5**
MFF				*e*Sn	**Sn**	**23 21 34.5**	**-5.5**
	comp=N,0.7nm,0.2s						
MFF				*e*Sn	Sn	23 21 34.8	-5.2
	comp=N,0.7nm,0.2s						
RJF	**Les Rejaudoux**	**10.19**	**56**	*e*Pn	**Pn**	**23 19 56.7**	**+1.8**
RJF				*e*Sn	Sn	23 21 41.6	-6.3
	comp=N,0.9nm,0.3s						
CAF	**Calviac**	**10.39**	**59**	*e*Pn	**Pn**	**23 19 59.1**	**+1.5**
CAF				*e*Sn	Sn	23 21 46.6	-6.1
	comp=N,0.4nm,0.2s						
GRR	**Gorron**	**10.70**	**37**	*e*Pn	**Pn**	**23 20 02.9**	**+1.1**
GRR				*e*Sn	**Sn**	**23 21 54.9**	**-5.4**
	comp=N,0.4nm,0.2s						
TCF	**Toulx Ste Croi**	**11.08**	**52**	*e*Pn	**Pn**	**23 20 08.0**	**+1.0**
TCF				*e*Sn	**Sn**	**23 22 05.4**	**-4.1**
	comp=N,0.4nm,0.2s						
FLN	**La Foliniere** baz=223	**11.15**	**36**	*e*Pn	**Pn**	**23 20 08.1**	**+0.2**
LDF	**La Druitiere**	**11.19**	**38**	*e*Pn	**Pn**	**23 20 09.1**	**+0.6**
BGF	**Bois d'Agland**	**11.59**	**52**	*e*Pn	**Pn**	**23 20 15.9**	**+1.9**

IDC 03 23:27:31.6±9.0, 17°21S×174°69W, h0^{km}, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=397.3km s-min=41.3km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=96,slow=7.6,SNR=5.8 0.2nm,0.4s	**48.25**	**258**	P	P	23 36 14.4	-0.3
ASAR	**Alice Springs** 1.3nm,0.4s,baz=89,slow=8.0,SNR=26 1.3nm,0.4s	**48.39**	**253**	P	P	23 36 15.9	+0.1
ILAR	**Eielson Array** 0.3nm,0.6s,baz=206,slow=4.8,SNR=1.7 0.3nm,0.6s	**84.46**	**12**	P	P	23 40 05.7	0.0

*NEIC **03** 23:33:09.1±1.1, 9.°70N±0.°09×126.°9E±0.°2, h10^{km}±1^{km}, mb4.3/21, Error ellipse: s-maj=26.7km s-min=13.5km az=72.0*

*IDC **03** 23:33:24.2±3.3, 9.°42N×126.°46E, h142^{km}±27^{km}, mb3.6/12, mbtmp4.1/14, MS3.1/5, Error ellipse: s-maj=52.5km s-min=13.0km az=69.0*

ISC 03 23:33:08.4±0.7, 9.°71N±0.°06×126.°9E±0.°1, h10^{km}, n47, σ0^{s}84/44, mb4.2/22, MS3.2/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.94**	**207**	Pn	**Pn**	**23 33 55.7**	**+0.5**
DAV	**Davao City (W)** 117nm,0.4s,baz=206,slow=22,SNR=3.9	**2.94**	**207**	P	**Pg**	**23 34 04.9**	**+0.2**
DAV	107nm,0.3s,baz=119,slow=17,SNR=3.7			S	**Sb**	**23 34 37.2**	**+0.3**
LUWI	**Luwuk**	**11.45**	**201**	Pn	**Pn**	**23 35 52.0**	**-0.1**
JOW	**Kunigami** comp=Z,93nm,21.5s,baz=142,slow=32	**17.08**	**4**	LR	LR	23 42 41.9	
GUMO	**Guam** comp=Z,47nm,20.5s,baz=250,slow=32	**18.00**	**76**	LR	LR	23 43 19.5	
BATI	**Baumata** 32nm,0.4s,baz=220,slow=0.8,SNR=8.8	**20.05**	**189**	P	**P**	**23 37 42.5**	**+0.7**
MTN	**Manton Dam**	**22.80**	**169**	P	**P**	**23 38 11.5**	**+0.1**
MTN	comp=Z,22nm,1.1s			IAmb	IAmb	23 38 25.9	
JHJ	**Hachijo jima 2** comp=Z,46nm,20.4s,baz=199,slow=35	**26.15**	**25**	LR	LR	23 48 50.5	
FITZ	**Fitzroy Crossi**	**27.66**	**183**	P	**P**	**23 38 55.9**	**-0.7**
FITZ	**Fitzroy Crossi** comp=Z,5.3nm,0.9s,baz=358,slow=8.5,SNR=6.7 comp=Z,5.3nm,0.9s	**27.66**	**183**	P	**P**	**23 38 56.4**	**-0.2**
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.3s,baz=96,slow=7.5,SNR=5.0 comp=Z,0.8nm,0.3s	**28.45**	**291**	P	**P**	**23 39 02.3**	**-1.5**
WB0	**Warramunga Arr**	**30.20**	**166**	P	**P**	**23 39 17.5**	**-1.7**
WB0	comp=Z,3.0nm,0.9s			IAmb	IAmb	23 39 39.9	
WRAB	**Tennant Creek**	**30.35**	**166**	P	**P**	**23 39 18.4**	**-2.2**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.6s,baz=350,slow=9.6,SNR=4.6 comp=Z,0.4nm,0.6s	**30.36**	**166**	P	**P**	**23 39 19.7**	**-1.0**
WR8	**Warramunga Arr**	**30.41**	**166**	P	**P**	**23 39 20.3**	**-0.8**
ASAR	**Alice Springs** comp=Z,0.2nm,0.4s,baz=354,slow=7.2,SNR=4.6	**33.87**	**168**	P	**P**	**23 39 50.7**	**-0.8**
ASAR	comp=Z,0.2nm,0.6s,baz=354,slow=2.4,SNR=1.8 comp=Z,0.2nm,0.4s			PcP	**PcP**	**23 42 30.4**	**+0.1**
CTAO	**Charters Tower**	**35.21**	**147**	P	**P**	**23 40 03.0**	**-0.1**
CTAO	comp=Z,3.4nm,1.1s			IAmb	IAmb	23 40 26.1	
LSA	**Lhasa**	**38.86**	**306**	P	**P**	**23 40 34.9**	**+0.2**
LSA	comp=Z,3.6nm,0.7s			IAmb	IAmb	23 41 03.2	
MORW	**Morawa**	**39.95**	**195**	P	**P**	**23 40 43.8**	**+0.7**
MORW	comp=Z,6.9nm,1.1s			IAmb	IAmb	23 40 57.7	
ULN	**Ulaanbaatar**	**41.56**	**340**	P	**P**	**23 40 56.8**	**+0.4**
SONM	**Songino Array**	**41.76**	**339**	P	**P**	**23 40 59.7**	**+1.7**
SONM	**Songino Array** comp=Z,0.9nm,0.5s,ba

*TAP **03** 23:36:34.2,24.63N×121.64E,h48km,ML3.5,B*
ISC 03 23:36:34.1±1.2,24°65N±0°02×121°63E±0°02,h52km±4km, n114,σ1s20/205,9C-21D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENTT	**Nioudou**	**0.06**	**257**	⇓*i*P	**Pn**	**23 36 42.4**	**+0.3**
ENTT				S	**Sn**	**23 36 47.3**	**-0.4**
TWE	**Neicheng**	**0.07**	**26**	⇓*i*P	**Pn**	**23 36 42.5**	**+0.5**
TWE				eS	**Sn**	**23 36 47.9**	**+0.2**
FUSB	**Fushanzhiwuyua**	**0.11**	**340**	⇓*i*P	**Pn**	**23 36 42.5**	**+0.3**
FUSB				S	**Sn**	**23 36 48.1**	**0.0**
LATG	**Datong**	**0.15**	**219**	⇑*i*P	**Pn**	**23 36 42.8**	**+0.3**
LATG				S	**Sn**	**23 36 48.5**	**0.0**
ILA	**Ilan**	**0.15**	**44**	⇓P	**Pn**	**23 36 42.9**	**+0.6**
ILA				S	**Sn**	**23 36 49.4**	**+1.1**
NWLT	**Wulai**	**0.17**	**317**	⇓*i*P	**Pn**	**23 36 42.7**	**+0.2**
NWLT				eS	**Sn**	**23 36 47.8**	**-0.7**
TWC	**Suao**	**0.20**	**103**	⇑*i*P	**Pn**	**23 36 42.8**	**+0.2**
TWC				eS	**Sn**	**23 36 48.5**	**-0.3**
ESAO	**Su ao**	**0.21**	**112**	*e*P	**Pn**	**23 36 42.5**	**-0.1**
ESAO				eS	**Sn**	**23 36 47.7**	**-1.1**
YHNB	**Yeheng**	**0.23**	**274**	P	**Pn**	**23 36 43.1**	**+0.2**
YHNB	**Yeheng**	**0.23**	**274**	⇓*i*P	**Pn**	**23 36 43.1**	**+0.2**
YHNB				eS	**Sn**	**23 36 49.1**	**-0.2**
ENA	**Nanau**	**0.25**	**156**	*e*P	**Pn**	**23 36 42.6**	**-0.3**
ENA				eS	**Sn**	**23 36 48.5**	**-0.8**
EWUT	**Wuta**	**0.25**	**147**	*e*P	**Pn**	**23 36 42.6**	**-0.4**
EWUT				eS	**Sn**	**23 36 48.6**	**-0.7**
NSK	**Sanguang**	**0.25**	**275**	⇓*i*P	**Pn**	**23 36 43.2**	**+0.1**
NSK				eS	**Sn**	**23 36 49.1**	**-0.4**
NNS	**Nan Shan**	**0.32**	**228**	⇑*i*P	**Pn**	**23 36 44.0**	**+0.3**
NNS				eS	**Sn**	**23 36 50.4**	**-0.2**
NNSB	**Datong**	**0.32**	**225**	⇑P	**Pn**	**23 36 44.0**	**+0.3**
NNSB				eS	**Sn**	**23 36 50.0**	**-0.6**
NHDH	**Xindian Distri**	**0.32**	**343**	*e*P	**Pn**	**23 36 43.7**	**+0.2**
NHDH				S	**Sn**	**23 36 50.3**	**-0.1**
TWA	**Mucha**	**0.33**	**353**	⇓*i*P	**Pn**	**23 36 44.0**	**+0.3**
TWA				S	**Sn**	**23 36 50.5**	**0.0**
EGS		**0.33**	**55**	*e*P	**Pn**	**23 36 44.7**	**+1.0**
EGS				eS	**Sn**	**23 36 51.2**	**+0.6**
EAHA	**Aohua**	**0.34**	**163**	*e*P	**Pn**	**23 36 43.2**	**-0.6**
EAHA				eS	**Sn**	**23 36 49.8**	**-0.9**
TIPB	**Shuangxi**	**0.36**	**29**	⇓*i*P	**Pn**	**23 36 44.5**	**+0.4**
TIPB				eS	**Sn**	**23 36 51.2**	**0.0**
NHY	**Taipei**	**0.39**	**352**	*e*P	**Pn**	**23 36 44.6**	**+0.4**
NHY				eS	**Sn**	**23 36 51.6**	**+0.2**
KSHI	**Guanxi Townshi**	**0.43**	**287**	⇓P	**Pn**	**23 36 45.4**	**+0.7**
KSHI				eS	**Sn**	**23 36 53.6**	**+1.3**
NWF	**Wu-fen Shan**	**0.44**	**18**	*e*P	**Pn**	**23 36 45.2**	**+0.4**
NWF				eS	**Sn**	**23 36 52.5**	**0.0**
WFSB	**Wu-fen Shan**	**0.44**	**18**	*e*P	**Pn**	**23 36 45.2**	**+0.5**
WFSB				eS	**Sn**	**23 36 52.8**	**+0.4**
ETLH	**Xiulin Townshi**	**0.47**	**197**	⇑P	**Pn**	**23 36 45.0**	**-0.1**
ETLH				eS	**Sn**	**23 36 52.4**	**-0.7**
NFF	**Wufeng Townshi**	**0.47**	**267**	⇓P	**Pn**	**23 36 45.6**	**+0.5**
NFF				S	**Sn**	**23 36 53.6**	**+0.5**
NACB	**Ninganchiao**	**0.48**	**184**	P	**Pn**	**23 36 44.5**	**-0.7**
NACB	**Ninganchiao**	**0.48**	**184**	S	**Sn**	**23 36 53.1**	**-0.1**
NACB	**Ninganchiao**	**0.48**	**184**	⇑*e*P	**Pn**	**23 36 44.2**	**-1.0**
NACB				eS	**Sn**	**23 36 52.2**	**-1.0**
TWB1	**Santiao Chiao**	**0.48**	**43**	*e*P	**Pn**	**23 36 45.7**	**+0.5**
TWB1				eS	**Sn**	**23 36 53.2**	**0.0**
TWS1	**Kuangyinshan**	**0.48**	**337**	⇓*i*P	**Pn**	**23 36 45.8**	**+0.6**
TWS1				S	**Sn**	**23 36 54.3**	**+1.0**
SXI1	**Grass Mountain**	**0.49**	**27**	⇓*i*P	**Pn**	**23 36 45.8**	**+0.3**
SXI1				eS	**Sn**	**23 36 53.8**	**+0.2**
ETL	**Fush Village**	**0.49**	**181**	*e*P	**Pn**	**23 36 44.4**	**-1.0**
ETL				eS	**Sn**	**23 36 52.4**	**-1.1**
YM01	**YM01**	**0.49**	**354**	⇓*i*P	**Pn**	**23 36 45.7**	**+0.2**
YM01				S	**Sn**	**23 36 53.2**	**-0.4**
TNOU	**National Taiwa**	**0.51**	**15**	⇓P	**Pn**	**23 36 45.8**	**+0.2**
TNOU				eS	**Sn**	**23 36 53.6**	**-0.3**
NCUH	**Zhongli**	**0.51**	**308**	⇓P	**Pn**	**23 36 46.1**	**+0.5**
NCUH				eS	**Sn**	**23 36 54.4**	**+0.5**
ZUZH	**Zhuzihu**	**0.51**	**351**	⇓P	**Pn**	**23 36 45.9**	**+0.2**
ZUZH				eS	**Sn**	**23 36 54.0**	**0.0**
YM08	**YM08**	**0.53**	**356**	⇓P	**Pn**	**23 36 45.8**	**-0.1**
YM08				eS	**Sn**	**23 36 53.5**	**-0.8**
NTST	**Danshui**	**0.53**	**342**	*e*P	**Pn**	**23 36 46.4**	**+0.5**
NTST				eS	**Sn**	**23 36 55.3**	**+0.9**
FUSS	**Fushou**	**0.54**	**221**	⇑P	**Pn**	**23 36 46.8**	**+0.7**
FUSS				eS	**Sn**	**23 36 55.4**	**+0.6**
ANP	**Anpu**	**0.54**	**349**	⇓P	**Pn**	**23 36 46.0**	**0.0**
ANP				eS	**Sn**	**23 36 54.1**	**-0.5**
LIOB	**Emei**	**0.56**	**269**	⇓P	**Pn**	**23 36 46.7**	**+0.6**
LIOB				eS	**Sn**	**23 36 55.9**	**+1.0**
TWD	**Chiawan**	**0.57**	**183**	*e*P	**Pn**	**23 36 45.4**	**-0.9**
TWD				eS	**Sn**	**23 36 53.9**	**-1.2**
NSTT	**Nanjuang**	**0.57**	**268**	⇓P	**Pn**	**23 36 46.8**	**+0.5**
NSTT				eS	**Sn**	**23 36 55.9**	**+0.8**
TWT	**Tachien**	**0.57**	**226**	*e*P	**Pn**	**23 36 47.4**	**+0.8**
TWT				eS	**Sn**	**23 36 56.2**	**+0.8**
TDCB	**Techi**	**0.59**	**227**	P	**Pn**	**23 36 47.4**	**+0.7**
TDCB				S	**Sn**	**23 36 56.1**	**+0.4**
EOS2	**EOS2**	**0.60**	**113**	*e*P	**Pn**	**23 36 47.9**	**+1.4**
EOS2				eS	**Sn**	**23 36 56.9**	**+1.5**
SBCB	**Hsinchu**	**0.60**	**283**	*e*P	**Pn**	**23 36 47.2**	**+0.5**
SBCB				eS	**Sn**	**23 36 56.7**	**+0.9**
WHF	**Hehuan Shan**	**0.61**	**213**	*e*P	**Pn**	**23 36 47.5**	**+0.3**
WHF				eS	**Sn**	**23 36 56.7**	**+0.2**
HSN	**Hsinchu**	**0.62**	**284**	*e*P	**Pn**	**23 36 46.8**	**-0.1**
HSN				eS	**Sn**	**23 36 56.0**	**-0.1**
TWY	**Chenhua**	**0.62**	**357**	*e*P	**Pn**	**23 36 47.5**	**+0.6**
TWY				eS	**Sn**	**23 36 56.6**	**+0.4**
LXIB	**Xiulin Townshi**	**0.66**	**197**	⇑P	**Pn**	**23 36 47.0**	**-0.6**
LXIB				eS	**Sn**	**23 36 56.8**	**-0.5**
HWA	**Hwalien**	**0.67**	**182**	*e*P	**Pn**	**23 36 46.9**	**-0.7**
HWA				eS	**Sn**	**23 36 56.8**	**-0.5**
ETM	**Tongmen**	**0.70**	**190**	*e*P	**Pn**	**23 36 46.9**	**-1.0**
ETM				eS	**Sn**	**23 36 56.0**	**-1.9**
EOS3	**EOS3**	**0.72**	**120**	*e*P	**Pn**	**23 36 49.3**	**+1.3**
EOS3				eS	**Sn**	**23 37 01.1**	**+2.8**
WHP	**Taichung City**	**0.73**	**239**	*e*P	**Pn**	**23 36 49.9**	**+1.6**
WHP				S	**Sn**	**23 37 00.5**	**+1.8**
TEYL	**Yanliau Villag**	**0.78**	**182**	*e*P	**Pn**	**23 36 48.0**	**-1.0**
WUSB	**Renai**	**0.81**	**215**	⇑*i*P	**Pn**	**23 36 50.3**	**+0.9**
WUSB				eS	**Sn**	**23 37 01.4**	**+0.7**
OWD	**Renai**	**0.81**	**211**	*e*P	**Pn**	**23 36 50.1**	**+0.6**
OWD				eS	**Sn**	**23 37 00.9**	**+0.2**
EOS4	**EOS4**	**0.82**	**130**	*e*P	**Pn**	**23 36 49.6**	**+0.5**
EOS4				eS	**Sn**	**23 37 01.2**	**+1.1**
NSY	**Sanyi**	**0.83**	**254**	*e*P	**Pn**	**23 36 50.3**	**+0.7**
NSY				eS	**Sn**	**23 37 02.3**	**+1.4**
TWQ1	**Liyutan**	**0.84**	**249**	*e*P	**Pn**	**23 36 50.6**	**+0.9**
TWQ1				eS	**Sn**	**23 37 02.4**	**+1.2**
ESL	**Shilin**	**0.85**	**192**	*e*P	**Pn**	**23 36 48.6**	**-1.3**
ESL				eS	**Sn**	**23 37 00.4**	**-1.2**
SHUL	**Shoufeng**	**0.86**	**184**	*e*P	**Pn**	**23 36 49.3**	**-0.8**
SHUL				eS	**Sn**	**23 37 01.6**	**-0.1**
WCS	**Beigang Elemen**	**0.89**	**228**	*e*P	**Pn**	**23 36 51.5**	**+1.2**
WCS				eS	**Sn**	**23 37 03.2**	**+1.0**
WDJ	**Dajia District**	**0.95**	**252**	*e*P	**Pn**	**23 36 51.8**	**+0.6**
WDJ				eS	**Sn**	**23 37 05.4**	**+1.6**
WARBT	**Fenglin Townsh**	**0.96**	**194**	*e*P	**Pn**	**23 36 49.7**	**-1.6**
WARBT				eS	**Sn**	**23 37 01.7**	**-2.3**
EGFH	**Guangfu**	**1.00**	**191**	*e*P	**Pn**	**23 36 51.7**	**-0.1**
EGFH				eS	**Sn**	**23 37 03.8**	**-1.1**
SMLT	**Sun Moon Lake**	**1.02**	**221**	*e*P	**Pn**	**23 36 53.9**	**+1.7**
SMLT				eS	**Sn**	**23 37 07.5**	**+1.9**
TYC	**Yuchr**	**1.03**	**224**	*e*P	**Pn**	**23 36 54.1**	**+1.9**
TYC				eS	**Sn**	**23 37 06.0**	**+0.4**
SSLB	**Suanglung**	**1.06**	**216**	P	**Pn**	**23 36 54.3**	**+1.6**
SSLB	**Suanglung**	**1.06**	**216**	S	**Sn**	**23 37 09.8**	**+3.3**
SSLB	**Suanglung**	**1.06**	**216**	*e*P	**Pn**	**23 36 53.9**	**+1.2**
SSLB				eS	**Sn**	**23 37 07.7**	**+1.2**
WNT	**Mingjian**	**1.16**	**228**	*e*P	**Pn**	**23 36 55.1**	**+1.1**
WJS	**Zhushan**	**1.17**	**225**	eS	**Sn**	**23 37 09.5**	**+0.5**
HGSD	**Ruisui**	**1.17**	**189**	*e*P	**Pn**	**23 36 54.1**	**-0.1**
HGSD				eS	**Sn**	**23 37 09.2**	**+0.2**
EHY	**Hungye**	**1.18**	**194**	*e*P	**Pn**	**23 36 53.5**	**-0.8**
EHY				eS	**Sn**	**23 37 09.1**	**-0.1**
EHYH	**Wanrong**	**1.18**	**193**	*e*P	**Pn**	**23 36 54.3**	**0.0**
EHYH				eS	**Sn**	**23 37 07.7**	**-1.7**
WHYT	**Xinyi Township**	**1.19**	**217**	*e*P	**Pn**	**23 36 56.6**	**+2.1**
WHYT				eS	**Sn**	**23 37 12.1**	**+2.5**
YOJ	**Yonaguni jima**	**1.27**	**98**	P	**Pn**	**23 36 57.2**	**+1.7**
YULB	**Yu-li**	**1.29**	**194**	P	**Pn**	**23 36 55.9**	**+0.1**
YULB	**Yu-li**	**1.29**	**194**	*e*P	**Pn**	**23 36 54.2**	**-1.6**
TWF1	**Yuli**	**1.33**	**193**	*e*P	**Pn**	**23 36 56.3**	**0.0**
TWF1				eS	**Sn**	**23 37 12.2**	**-0.8**
CHN5	**Tsauling**	**1.36**	**220**	*e*P	**Pn**	**23 36 58.3**	**+1.4**
CHN5				eS	**Sn**	**23 37 16.1**	**+2.2**
ALS	**Alishan**	**1.37**	**214**	*e*P	**Pn**	**23 36 58.5**	**+1.4**
ALS				eS	**Sn**	**23 37 17.0**	**+2.8**
CHKH	**Chenggong**	**1.47**	**188**	*e*S	**Sn**	**23 37 15.2**	**-1.1**
FULB	**Fuli**	**1.48**	**192**	*e*P	**Pn**	**23 36 58.3**	**-0.1**
FULB				eS	**Sn**	**23 37 16.8**	**+0.2**
WCKO	**Fanlu**	**1.53**	**218**	*e*P	**Pn**	**23 37 00.0**	**+1.0**
WCKO				eS	**Sn**	**23 37 19.1**	**+1.3**
EHD	**Haiduan**	**1.55**	**195**	*e*P	**Pn**	**23 36 59.5**	**+0.2**
EHD				eS	**Sn**	**23 37 16.6**	**-1.7**
ELDTW	**Lidau**	**1.56**	**201**	*e*P	**Pn**	**23 36 59.9**	**+0.3**
ELDTW				eS	**Sn**	**23 37 18.2**	**-0.5**
CHY	**Chiayi**	**1.59**	**224**	*e*P	**Pn**	**23 37 00.5**	**+0.6**
CHY				eS	**Sn**	**23 37 20.7**	**+1.3**
TPUB	**Ta-pu**	**1.63**	**214**	P	**Pn**	**23 37 03.1**	**+2.7**
TPUB	**Ta-pu**	**1.63**	**214**	S	**Sn**	**23 37 24.0**	**+3.8**
TPUB	**Ta-pu**	**1.63**	**214**	*e*P	**Pn**	**23 37 01.5**	**+1.1**
TPUB				eS	**Sn**	**23 37 22.5**	**+2.3**
STYH	**Taoyuan**	**1.67**	**208**	*e*P	**Pn**	**23 37 02.5**	**+1.5**
STYH				eS	**Sn**	**23 37 23.3**	**+2.1**
WTP	**Ta-pu**	**1.68**	**214**	*e*P	**Pn**	**23 37 03.3**	**+2.2**
WTP				eS	**Sn**	**23 37 23.7**	**+2.2**
EDH	**Donghe**	**1.70**	**190**	*e*S	**Sn**	**23 37 20.2**	**-1.8**
WSL	**Shuilin Townsh**	**1.71**	**229**	*e*P	**Pn**	**23 37 01.9**	**+0.5**
WSL				eS	**Sn**	**23 37 22.6**	**+0.5**
TWK	**Hsinying**	**1.73**	**217**	*e*P	**Pn**	**23 37 03.4**	**+1.6**
SNST	**Tainan City**	**1.76**	**216**	*e*P	**Pn**	**23 37 02.0**	**-0.2**
LONT	**Longtian**	**1.80**	**195**	*e*P	**Pn**	**23 37 03.0**	**+0.3**
LONT				eS	**Sn**	**23 37 22.1**	**-2.3**
TWG	**Pinlang**	**1.90**	**196**	eS	**Sn**	**23 37 23.8**	**-2.9**
TWGBT	**Beinan**	**1.90**	**196**	P	**Pn**	**23 37 07.2**	**+3.2**
TWGBT	**Beinan**	**1.90**	**196**	*e*P	**Pn**	**23 37 05.1**	**+1.1**
TWGBT				eS	**Sn**	**23 37 23.3**	**-3.5**
MATB	**Ma-tsu**	**2.13**	**315**	*e*P	**Pn**	**23 37 06.5**	**-0.7**
MATB				eS	**Sn**	**23 37 30.8**	**-1.7**
PNG	**Penghu**	**2.18**	**241**	*e*P	**Pn**	**23 37 07.5**	**-0.4**
PNG				eS	**Sn**	**23 37 31.6**	**-2.2**
PHUB	**P'eng-hu**	**2.20**	**239**	*e*S	**Sn**	**23 37 31.7**	**-2.4**
MASBT	**Mashibuluo**	**2.23**	**204**	*e*P	**Pn**	**23 37 10.0**	**+1.4**
WDGT	**Dungji**	**2.27**	**233**	*e*P	**Pn**	**23 37 08.8**	**-0.4**
WDGT				eS	**Sn**	**23 37 34.1**	**-1.9**
PTMZ	**Houxiangcun**	**2.31**	**280**	*e*P	**Pn**	**23 37 09.4**	**-0.3**
PTMZ				eS	**Sn**	**23 37 35.0**	**-2.0**
VCHM	**Qimei**	**2.48**	**235**	*e*S	**Sn**	**23 37 39.4**	**-1.6**
XPSS	**Dashiqiu**	**2.61**	**330**	*e*P	**Pn**	**23 37 13.3**	**-0.5**
XPSS				eS	**Sn**	**23 37 42.5**	**-1.8**
MHZO	**Yeshan**	**2.76**	**302**	*e*S	**Sn**	**23 37 46.1**	**-1.8**
AXDP	**Jialang**	**3.34**	**275**	*e*P	**Pn**	**23 37 23.8**	**+0.1**
AXDP				eS	**Sn**	**23 37 59.1**	**-3.0**

*IDC **03** 23:40:32.8±0.8,56.77S×26.48W,h0km,mb4.2/4, mbtmp4.0/5,ML3.4/1,MS3.1/2,Error ellipse: s-maj=39.9km s-min=22.0km az=82.0*
*NEIC **03** 23:40:42.1±1.2,56.91S±0.10×26.8W±0.3,h70km±5km, mb4.3/11,Error ellipse: s-maj=19.9km s-min=14.3km az=89.0*
ISC 03 23:40:43.5±0.6,56.89S±0.10×26.8W±0.1,h86km,n41, σ0.87/34,mb4.1/8,3C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat** comp=Z,2.1nm,0.5s	**15.93**	**157**	⇑P	**Pn**	**23 44 22.5**	**+0.5**
VNA3	**Neumayer Olymp** comp=Z,2.1nm,0.6s	**16.12**	**160**	⇓P	**Pn**	**23 44 25.4**	**+0.9**
SNAA	**Sanae** comp=Z,53nm,0.8s	**17.88**	**155**	⇑P	**P**	**23 44 45.0**	**-0.7**
SNAA	**Sanae**	**17.88**	**155**		**P**	**23 44 43.7**	**-1.9**
SNAA	**Sanae** comp=Z,0.1nm,0.3s,baz=193,slow=20,SNR=10	**17.88**	**155**	Pn	**P**	**23 44 43.1**	**-2.6**
SNAA	comp=Z,38nm,19.8s,baz=230,slow=33			LR	LR	23 50 19.8	
TROLL	**Troll, Antarti** comp=Z,0.6nm,0.5s	**19.39**	**153**	⇑P	**P**	**23 45 01.8**	**-0.4**
BELA	**Belgrano 2**	**21.26**	**185**	P	**P**	**23 45 21.1**	**-1.1**
BELA	comp=Z,3.7nm,0.7s			IAmb	IAmb	23 45 23.9	
MG02	**Cerro Sombrero**	**24.51**	**261**	P	**P**	**23 45 54.7**	**+0.4**
GO09	**Cerro Castillo**	**26.92**	**262**	P	**P**	**23 46 15.4**	**-0.8**
GO09	comp=Z,8.4nm,1.1s			IAmb	IAmb	23 46 22.2	
PLTB	**Pedras Altas**	**31.24**	**312**	P	**P**	**23 46 54.8**	**+0.1**
QSPA	**South Pole Qui**	**33.36**	**180**	P	**P**	**23 47 14.7**	**+1.5**
QSPA	comp=Z,3.7nm,0.6s			IAmb	IAmb	23 47 15.4	
QSPA	**South Pole Qui** comp=Z,3.3nm,0.6s,baz=207,slow=2.3,SNR=54	**33.36**	**180**	P	**P**	**23 47 14.6**	**+1.5**
	comp=Z,3.3nm,0.6s						
VNDA	**Vanda**	**45.75**	**183**	P	**P**	**23 48 56.1**	**+0.7**
VNDA	**Vanda** comp=Z,0.9nm,0.6s,baz=163,slow=7.3,SNR=6.0	**45.75**	**183**	P	**P**	**23 48 55.7**	**+0.3**
	comp=Z,0.9nm,0.6s						
PB01	**IPOC Station P**	**47.55**	**301**	P	**P**	**23 49 09.8**	**-0.4**
LBTB	**Lobatse**	**49.02**	**72**	P	**P**	**23 49 21.4**	**-0.2**
LBTB	comp=Z,2.2nm,0.9s			IAmb	IAmb	23 49 24.5	
LBTB	**Lobatse** comp=Z,31nm,18.6s,baz=166,slow=32	**49.02**	**72**	LR	LR	00 06 31.2	
H10N1	**ASCENSION HYDR** baz=188,slow=75,SNR=14	**49.85**	**16**	T	T	00 43 23.8	
H10N3	**ASCENSION HYDR** baz=188,slow=75,SNR=34	**49.85**	**16**	T	T	00 43 23.1	
H10N2	**ASCENSION HYDR** baz=188,slow=75,SNR=20	**49.87**	**16**	T	T	00 43 22.7	
LPAZ	**La Paz**	**51.06**	**305**	P	**P**	**23 49 38.5**	**+0.9**
LPAZ	comp=Z,2.2nm,0.4s			IAmb	IAmb	23 49 39.0	
LPAZ	**La Paz** comp=Z,2.4nm,0.4s,baz=155,slow=6.6,SNR=14	**51.06**	**305**	P	**P**	**23 49 38.6**	**+1.0**
	comp=Z,2.4nm,0.4s						
MREMI	**Moremi**	**51.99**	**72**	P	**P**	**23 49 44.2**	**+0.3**
MREMI	comp=Z,4.8nm,0.6s			IAmb	IAmb	23 49 44.6	
BOAV	**Boa Vista**	**65.09**	**322**	P	**P**	**23 51 14.2**	**-0.6**
BOAV	comp=Z,1.7nm,0.7s			IAmb	IAmb	23 51 15.0	
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.3s,baz=204,slow=5.5,SNR=13	**73.67**	**29**	P	**P**	**23 52 08.3**	**+0.8**
	comp=Z,0.4nm,0.3s						
H08S1	**Diego Garcia H** baz=209	**88.67**	**102**	T	T	01 32 08.9	
H08S2	**Diego Garcia H** baz=209	**88.67**	**102**	T	T	01 32 07.2	
H08S3	**Diego Garcia H** baz=209	**88.69**	**102**	T	T	01 32 04.3	
FINES	**FINESS Array B** comp=Z,2.9nm,1.1s,baz=199,slow=7.3,SNR=3.9	**125.01**	**28**	PKP	**PKPdf**	**23 59 31.5**	**-0.5**
OVMT	**Ovando**	**125.84**	**303**	PKPdf	**PKiKP**	**23 59 34.7**	**0.0**
A36M	**Sachs Harbour**	**145.05**	**328**		**PKPdf**	**00 00 08.9**	**+0.1**
H31M	**Peel River**	**146.10**	**315**	PKPdf	**PKPbc**	**00 00 11.7**	**-0.3**
K29M	**Barlow Dome**	**146.68**	**311**	PKPdf	**PKPbc**	**00 00 13.4**	**-0.5**
F30M	**Barrier River**	**147.22**	**318**		**PKPbc**	**00 00 15.3**	**+0.2**
G29M	**Pine Creek**	**147.85**	**316**		**PKPbc**	**00 00 16.9**	**0.0**
BCAR	**Beaver Creek A**	**148.21**	**308**		**PKPbc**	**00 00 17.8**	**-0.2**
H27K	**Steamboat Moun**	**149.03**	**314**	PKPbc	**PKiKP**	**00 00 20.5**	**-0.7**
E27K	**Coleen River**	**149.49**	**318**	PKPbc	**PKPbc**	**00 00 21.0**	**-0.1**
SONM	**Songino Array** comp=Z,1.0nm,0.5s,baz=207,slow=5.0,SNR=5.7	**150.53**	**88**	PKPbc	**PKPbc**	**00 00 23.9**	**-0.4**
ILAR	**Eielson Array**	**150.85**	**310**	PKPbc	**PKPbc**	**00 00 23.9**	**-0.4**
ILAR	**Eielson Array** comp=Z,3.2nm,0.7s,baz=127,slow=2.9,SNR=28	**150.85**	**310**	PKPbc	**PKPbc**	**00 00 23.9**	**-0.5**

*NEIC **04** 00:18:45.7±0.8,33.998N±0.008×116.769W±0.010, h10km±1km,Error ellipse: s-maj=2.6km s-min=1.4km az=111.0*
PAS 04 00:18:46.2±0.6,34.006N±0.009×116.764W±0.010, h13km±2km,ML3.4,ML3.2/124(NEIC),Error ellipse: s-maj=1.3km s-min=1.2km az=195.0,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEVC	**Devers**	**0.17**	**114**		Pg	00 18 50.2	+0.1
DEVC					Sg	00 18 53.6	+0.6
BBSC	**Beaumont Base**	**0.20**	**245**		Pg	00 18 50.7	+0.1
BBSC					Sg	00 18 54.4	+0.7
CFT	**Crafton Hills**	**0.29**	**276**		Pg	00 18 52.0	-0.2
CFT					Sg	00 18 56.4	+0.1
SVD	**Seven Oaks Dam**	**0.29**	**290**		Pg	00 18 52.0	-0.4
SVD					Sg	00 18 56.3	-0.2
EW2	**E Wide Canyon**	**0.30**	**102**		Pg	00 18 52.2	-0.2
EW2					Sg	00 18 57.1	+0.4
BLAC	**Blackrock camp**	**0.32**	**78**		Pg	00 18 52.5	-0.3
GVDA	**Garner Valley**	**0.34**	**167**		Pg	00 18 52.8	-0.4
POB	**Polly Butte**	**0.34**	**203**		Pg	00 18 53.0	-0.2
POB					Sg	00 18 58.0	0.0
HMTC	**Hemet**	**0.36**	**214**		Pg	00 18 53.1	-0.3
HMTC					Sg	00 18 58.1	-0.2
HLNC	**Highland**	**0.40**	**287**		Pg	00 18 53.8	-0.3
HLNC					Sg	00 18 59.7	+0.2
DGR	**Domenigoni Val**	**0.41**	**210**		Sg	00 18 59.6	-0.3
CFSC	**Central Fire S**	**0.44**	**283**		Sg	00 19 01.4	+0.6
CFSC	**Central Fire S**	**0.44**	**283**		Sg	00 18 54.5	-0.4
GTM	**Goat Mountain**	**0.45**	**49**		Pg	00 18 54.3	-0.8
DNR	**Dunn Ranch,Anz**	**0.45**	**166**		Pg	00 18 54.9	-0.3
DNR					Sg	00 19 01.4	+0.1
CLTC	**Calectric**	**0.47**	**281**		Sb	00 19 02.5	-0.6
PFO	**Pinyon Flats O**	**0.47**	**147**		Pg	00 18 55.0	-0.5
PFO					Sg	00 19 01.2	-0.6
PFO					IAML	00 19 02.2	
PFO	2μm,0.5s				IAML	00 19 02.7	
RSBC	**Riverside Bore**	**0.47**	**266**		Pg	00 18 54.8	-0.6
RSBC					Sg	00 19 01.2	-0.5
RSBC	**Riverside Bore**	**0.47**	**266**		Pg	00 18 54.9	-0.5
RSBC					Sg	00 19 01.5	-0.3
SNDA	**J Saunders Pla**	**0.47**	**164**		Sg	00 19 01.9	+0.1
XPFO	**Pinon Flat**	**0.47**	**147**		Sg	00 19 01.1	-0.7
PMD	**Palm Desert**	**0.48**	**138**		Pg	00 18 55.0	-0.7
PMD					Sg	00 19 01.3	-0.8
PMD	comp=N,3μm,0.2s				IAML	00 19 02.0	
RVR	**Riverside**	**0.51**	**269**		Pg	00 18 55.6	-0.6
RVR					Sg	00 19 02.4	-0.6
BZNA	**Buzz No.'s Pla**	**0.52**	**171**		Pg	00 18 56.0	-0.4
FRD	**Ford Ranch, An**	**0.53**	**165**		Pg	00 18 56.1	-0.5
FRD					Sg	00 19 03.3	-0.3
MURC	**Murrieta**	**0.54**	**222**		Pg	00 18 56.2	-0.6
MURC					Sg	00 19 03.7	-0.3
TPC	**Twentynine Pal**	**0.60**	**80**		Pg	00 18 57.3	-0.6
BELC	**Belle Mtn. Jos**	**0.64**	**90**		Pg	00 18 58.0	-0.6
BELC					Sg	00 19 06.6	-0.5
SS2	**San Sevaine**	**0.64**	**288**		Pg	00 18 58.3	-0.4
PLM	**Palomar**	**0.66**	**187**		Pg	00 18 58.4	-0.6
PLM					Sg	00 19 06.8	-0.9
ELS	**Elsinore Mount**	**0.66**	**237**		Pg	00 18 58.1	-0.9
ELS					Sg	00 19 06.8	-0.9
ELS	comp=E,1μm,0.3s				IAML	00 19 07.1	
MLSC	**Mira Loma**	**0.66**	**270**		Pg	00 18 58.2	-0.9
MLSC					Sg	00 19 06.9	-0.9
CRNC	**Corona**	**0.68**	**259**		Pg	00 18 58.4	-0.9
VTV	**Victorville**	**0.72**	**320**		Pg	00 18 59.5	-0.8
VTV					Sg	00 19 09.1	-0.8
CTCC	**Cactus City**	**0.73**	**118**		Pg	00 18 59.8	-0.6
CTCC					Sg	00 19 09.8	-0.3
CHNC	**Chino**	**0.76**	**270**		Pg	00 18 59.9	-1.1
CHNC					Sg	00 19 09.8	-1.1
ADO	**Adelanto Rec

QSM				IAML		00 19 50.6		
	comp=N,150nm,0.2s							
ESJX	**Sierra Juarez**	**2.11**	**161**	Pn	Pn	00 19 20.6	-0.7	
ESJX				IAML		00 19 53.9		
	comp=E,146nm,0.2s							
MPMC	**Manual Prospec**	**2.13**	**344**	Pn	Pn	00 19 21.2	-0.5	
CCX	**Cicese**	**2.13**	**178**	Pn	Pn	00 19 21.1	-0.4	
CCX				IAML		00 19 51.0		
	comp=N,114nm,0.4s							
CCX				IAML		00 19 57.4		
	comp=E,149nm,0.7s							
ISA	**Isabella, Lake**	**2.17**	**320**			00 19 21.3	-0.8	
ISA				IAML		00 19 57.0		
	comp=N,102nm,0.7s							
ISA				IAML		00 19 58.2		
	comp=E,108nm,0.5s							
GWY	**Greenwater Val**	**2.18**	**2**		Pn	00 19 21.6	-0.6	
GWY				IAML		00 19 57.3		
	comp=E,159nm,0.4s							
GWY				IAML		00 19 58.9		
	comp=N,140nm,0.7s							
V12A	**Nelson**	**2.33**	**42**		Pn	00 19 23.6	-0.7	
V12A				IAML		00 20 03.4		
	comp=N,89nm,0.5s							
FURC	**Furnace Creek,**	**2.46**	**358**		Pn	00 19 25.5	-0.4	
FURC				IAML		00 20 13.4		
	comp=E,132nm,0.6s							
FURC				IAML		00 20 22.8		
	comp=N,92nm,0.8s							
W13A	**Hualapai Mount**	**2.61**	**65**	Pn	Pn	00 19 27.7	-0.6	
VES	**Vestal, Richgr**	**2.64**	**314**		Pn	00 19 28.2	-0.3	
VES				IAML		00 20 15.4		
	comp=N,158nm,0.6s							
VES				IAML		00 20 19.8		
	comp=E,139nm,0.9s							
CWC	**Cottonwood Cre**	**2.66**	**336**	Pn	Pn	00 19 28.2	-0.7	
VTX	**Valle De La Tr**	**2.73**	**162**		Pn	00 19 29.5	-0.3	
VTX				IAML		00 20 14.8		
	comp=E,86nm,0.6s							
VTX				IAML		00 20 17.1		
	comp=N,65nm,0.7s							
WCT	**Wildcat Mounta**	**2.78**	**2**	Pn	Pn	00 19 30.1	-0.4	
113A	**Mohawk Valley,**	**2.79**	**115**		Pn	00 19 28.8	-1.7	
SHPR	**Sheep Range**	**2.82**	**27**		Pn	00 19 30.9	-0.1	
TPNV	**Topopah Spring**	**2.97**	**8**		Pn	00 19 33.1	0.0	
TPNV				IAML		00 20 23.8		
	comp=N,67nm,0.6s							
Y14A	**Wickenburg**	**3.12**	**90**	Pn	Pn	00 19 34.1	-1.0	
Y14A				IAML		00 20 26.5		
	comp=N,80nm,0.3s							
Y14A				IAML		00 20 32.9		
	comp=E,75nm,0.5s							
GMN	**Gold Mountain**	**3.31**	**353**	Pn	Pn	00 19 37.9	0.0	
DSP	**Deep Springs**	**3.50**	**344**	Pn	Pn	00 19 40.6	+0.4	
PRN	**Pahroc Range**	**3.67**	**22**	Pn	Pn	00 19 43.0	+0.3	
TPH	**Tonopah**	**4.08**	**355**	Pn	Pn	00 19 48.1	-0.3	
LCMT	**Little Creek M**	**4.15**	**43**	Pn	Pn	00 19 49.3	-0.1	
HULI	**Fort Hunter Li**	**4.18**	**300**	Pn	Pn	00 19 48.0	-1.7	
U15A	**North Rim**	**4.39**	**55**	Pn	Pn	00 19 52.6	-0.1	
KNB	**Kanab**	**4.40**	**46**	Pn	Pn	00 19 53.0	+0.1	
X16A	**Lo Mia Camp, P**	**4.43**	**83**	Pn	Pn	00 19 51.9	-1.4	
R11B	**Troy Canyon, C**	**4.44**	**12**	Pn	Pn	00 19 54.2	+0.8	
LHV	**Little Huntoon**	**4.46**	**342**	Pn	Pn	00 19 52.3	-1.2	
BUCR	**Buckhorn Ranch**	**4.58**	**324**	Pn	Pn	00 19 55.5	+0.3	
BUCR				IAML		00 21 13.7		
	comp=N,16nm,0.9s							
BUCR				IAML		00 21 15.2		
	comp=E,16nm,1.1s							
WUAZ	**Wupatki**	**4.69**	**70**	Pn	Pn	00 19 57.4	+0.6	
WUAZ				IAML		00 21 17.9		
	comp=E,15nm,0.5s							
WUAZ				IAML		00 21 20.2		
	comp=E,18nm,1.0s							
RYN	**Ryan**	**4.83**	**343**	Pn	Pn	00 19 59.9	+1.2	
CMB	**Columbia Colle**	**4.98**	**325**	Pn	Pn	00 20 00.8	+0.2	
PKCU	**Pink Cliffs**	**4.99**	**45**	Pn	Pn	00 20 02.5	+1.5	
SPR3	**Spring Creek 3**	**5.35**	**21**	Pn	Pn	00 20 04.9	-1.1	

CATAC ***04*** *00:31:03.3±0.5, 13°N±3°×8°9W±°, h28km±2km, M3.9/15, MLv3.9/15, Error ellipse: s-maj=6.6km s-min=3.6km az=37.5, confirmed*

SNET ***04*** *00:31:04.0±1.0, 13°.17N×89°.27W, h65km±22km, ML3.7*

ISC 04 00:31:02.9±1.9, 12°.96N±0°.08×89°.30W±0°.06, h32km±11km, n66, σ0s31/72, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PANCS	**Alcalda de**	**0.66**	**10**	*eP*	**Pn**	**00 31 16.1**	**0.0**
PANCS	**Alcalda de**	**0.66**	**10**	P	**Pn**	**00 31 16.2**	**0.0**
PANCS	**Alcalda de**	**0.66**	**10**	S	**Sb**	**00 31 25.0**	**-0.1**
LOMA	**Loma Larga**	**0.69**	**10**	*eP*	**Pn**	**00 31 16.6**	**-0.1**
LOMA	**Loma Larga**	**0.69**	**10**	P	**Pn**	**00 31 16.6**	**-0.1**
LOMA	**Loma Larga**	**0.69**	**10**	S	**Sb**	**00 31 26.2**	**0.0**
LFRS	**El Faro**	**0.70**	**19**	*eP*	**Pn**	**00 31 16.8**	**-0.2**
JAYA	**Jayaque - finc**	**0.71**	**348**	↓*iP*	**Pn**	**00 31 16.9**	**+0.1**
JAYA				*eS*	**Sb**	**00 31 26.4**	**-0.2**
JAYA	**Jayaque - finc**	**0.71**	**348**	P	**Pn**	**00 31 17.0**	**+0.1**
SEMO	**Seminario San**	**0.74**	**6**	S	**Sb**	**00 31 27.8**	**+0.3**
UTEC	**Universidad Te**	**0.74**	**7**	S	**Sb**	**00 31 27.6**	**+0.1**
PMON	**Piamonte**	**0.75**	**359**	*eP*	**Pn**	**00 31 17.4**	**0.0**
PMON				*eS*	**Sb**	**00 31 27.9**	**+0.2**
PMON	**Piamonte**	**0.75**	**359**	P	**Pn**	**00 31 17.4**	**0.0**
AEIL	**Aeropuerto Ilo**	**0.76**	**14**	*eP*	**Pn**	**00 31 17.6**	**+0.1**
UEES	**Universidad Ev**	**0.76**	**5**	*eP*	**Pn**	**00 31 17.3**	**-0.2**
UEES	**Universidad Ev**	**0.76**	**5**	P	**Pn**	**00 31 17.0**	**-0.5**
UEES	**Universidad Ev**	**0.76**	**5**	S	**Sb**	**00 31 28.0**	**+0.2**
IGN	**Direccin Gen**	**0.76**	**10**	S	**Sb**	**00 31 28.3**	**+0.3**
IGN	**Direccin Gen**	**0.76**	**10**	P	**Pb**	**00 31 18.1**	**+0.3**
UDBS	**Universidad Do**	**0.77**	**11**	P	**Sn**	**00 31 28.3**	**+0.2**
BOQS	**Boqueron**	**0.77**	**1**	↓*eP*	**Pn**	**00 31 18.0**	**+0.2**
BOQS				*eS*	**Sn**	**00 31 28.2**	**-0.2**
PIC2	**El Picacho**	**0.78**	**3**	*eP*	**Pb**	**00 31 18.1**	**+0.2**
LFU	**La Fuente**	**0.81**	**13**	*eP*	**Pb**	**00 31 18.5**	**-0.1**
LBRS	**Las Brisas**	**0.81**	**18**	*eP*	**Pb**	**00 31 19.1**	**+0.3**
PAVA	**Las Pavas**	**0.83**	**25**	*eP*	**Pn**	**00 31 18.8**	**+0.3**
PAVA	**Las Pavas**	**0.83**	**25**	S	**Sn**	**00 31 29.5**	**-0.2**
PAVA	**Las Pavas**	**0.83**	**25**	P	**Pn**	**00 31 18.6**	**+0.1**
UESV	**Universidad de**	**0.84**	**37**	P	**Pn**	**00 31 18.3**	**-0.3**
UESV	**Universidad de**	**0.84**	**37**	S	**Sn**	**00 31 29.4**	**-0.4**
CEDA	**San Andres**	**0.84**	**354**	*eP*	**Pn**	**00 31 18.7**	**0.0**
CEDA	**San Andres**	**0.84**	**354**	P	**Pn**	**00 31 18.7**	**0.0**
CEDA	**San Andres**	**0.84**	**354**	S	**Sb**	**00 31 30.2**	**-0.1**
CEVE	**Cerro Verde**	**0.92**	**340**	*eP*	**Pn**	**00 31 20.0**	**+0.1**
CEVE	**Cerro Verde**	**0.92**	**340**	P	**Pn**	**00 31 20.1**	**+0.2**
CEVE	**Cerro Verde**	**0.92**	**340**	S	**Sn**	**00 31 31.5**	**-0.7**
SBLS	**San Blas**	**0.93**	**340**	*eP*	**Pn**	**00 31 20.2**	**+0.2**
TECA	**Tecapa**	**0.94**	**56**	*eP*	**Pn**	**00 31 19.9**	**-0.2**
TECA				*eP*	**Pb**	**00 31 20.0**	**-0.9**
SNJE	**San Jose**	**0.95**	**342**	*eP*	**Pn**	**00 31 20.3**	**0.0**
PQSS	**Presa 15 de Se**	**0.98**	**47**	*eP*	**Pn**	**00 31 20.8**	**+0.4**
PQSS	**Presa 15 de Se**	**0.98**	**47**	S	**Sn**	**00 31 33.2**	**0.0**
PQSS	**Presa 15 de Se**	**0.98**	**47**	P	**Pn**	**00 31 20.9**	**+0.5**
RTR	**El Retiro**	**0.99**	**340**	*eP*	**Pn**	**00 31 21.1**	**+0.3**
NUBE	**Las Nubes**	**1.05**	**334**	*eP*	**Pn**	**00 31 21.5**	**-0.1**
NUBE	**Las Nubes**	**1.05**	**334**	P	**Pn**	**00 31 21.4**	**-0.2**
NUBE	**Las Nubes**	**1.05**	**334**	S	**Sn**	**00 31 35.1**	**-0.1**
PACA	**Pacayal**	**1.08**	**62**	*eP*	**Pn**	**00 31 22.4**	**+0.5**
PACA	**Pacayal**	**1.08**	**62**	P	**Pn**	**00 31 22.5**	**+0.5**
PACA	**Pacayal**	**1.08**	**62**	S	**Sn**	**00 31 36.2**	**+0.3**
BLLM	**Bellamira**	**1.14**	**65**	*eP*	**Pn**	**00 31 23.1**	**+0.4**
LLGN	**La Laguna**	**1.25**	**16**	*eP*	**Pn**	**00 31 24.2**	**0.0**
LLGN	**La Laguna**	**1.25**	**16**	P	**Pn**	**00 31 24.2**	**0.0**
LLGN	**La Laguna**	**1.25**	**16**	S	**Sn**	**00 31 40.3**	**+0.3**
MTO3	**Montecristo**	**1.43**	**358**	*eP*	**Pn**	**00 31 27.0**	**0.0**
MTO3	**Montecristo**	**1.43**	**358**	S	**Sn**	**00 31 44.7**	**-0.1**
MTO3	**Montecristo**	**1.43**	**358**	P	**Pn**	**00 31 27.2**	**+0.3**
CNCH	**Conchagua**	**1.46**	**77**	*eP*	**Pn**	**00 31 27.4**	**+0.2**
CNCH	**Conchagua**	**1.46**	**77**	P	**Pn**	**00 31 27.5**	**+0.2**
CNCH	**Conchagua**	**1.46**	**77**	S	**Sn**	**00 31 45.1**	**-0.3**
ESQI	**Esquipulas**	**1.59**	**359**	P	**Pn**	**00 31 29.5**	**+0.5**
ESQI	**Esquipulas**	**1.59**	**359**	S	**Sn**	**00 31 48.6**	**+0.1**
CSGN	**Cosiguina Volc**	**1.70**	**89**	P	**Pn**	**00 31 30.8**	**+0.4**
CSGN				S	**Sn**	**00 31 51.2**	**+0.1**
SARH	**Santa Rosa de**	**1.88**	**16**	P	**Pn**	**00 31 33.6**	**+0.7**
SARH	**Santa Rosa de**	**1.88**	**16**	S	**Sn**	**00 31 55.5**	**-0.1**
CHOHN	**Orocuina**	**2.15**	**76**	P	**Pn**	**00 31 36.7**	**+0.1**
PKGN	**Cerro Pekin**	**2.29**	**97**	P	**Pn**	**00 31 39.2**	**+0.8**
PKGN				S	**Sn**	**00 32 04.8**	**-0.7**
YUSH	**Yuscaran**	**2.59**	**67**	P	**Pn**	**00 31 42.5**	**-0.2**

AFAD ***04*** *00:51:41.8, 34°.45N×27°.62E, h8km±4km, ML3.2*

IDC ***04*** *00:51:51.9±1.3, 34°.90N×27°.85E, h0km, mb3.3/2, mbtmp3.2/7, ML3.0/4, MS2.2/1, Error ellipse: s-maj=34.9km s-min=16.4km az=12.0*

ATH ***04*** *00:51:54.3, 35°.29N×27°.91E, h5km±2km, ML3.0/7, Manual Solution by E.Daskalaki First location: 2019/09/04 00:53:24, This location: 2019/09/04 07:54:25 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*

ISK ***04*** *00:51:55.1, 35°.25N×27°.80E, h13km, ML3.3/11*

ISC 04 00:51:53.9±1.5, 35°.12N±0°.05×27°.88E±0°.03, h8km±12km, n50, σ2s11/72, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.73**	**306**	Pg	**Pg**	**00 52 07.0**	**-1.0**
KARP				Sg	**Sg**	**00 52 16.1**	**-1.4**
KARP	**Karpathos**	**0.73**	**306**	P	**Pg**	**00 52 07.1**	**-0.9**
KARP				S	**Sg**	**00 52 16.3**	**-1.3**
ARG	**Arkhangelos**	**1.11**	**10**	Pg	**Pg**	**00 52 14.9**	**-0.4**
ARG	**Arkhangelos**	**1.11**	**10**	P	**Pg**	**00 52 12.7**	**-2.7**
ARG				S	**Sg**	**00 52 24.4**	**-5.4**
ZKR	**Zakros**	**1.37**	**270**	Pn	**Pn**	**00 52 19.9**	**+0.5**
ZKR	**Zakros**	**1.37**	**270**	P	**Pb**	**00 52 20.5**	**+0.7**
YAZI	**Mula-Dat§a-**	**1.60**	**348**	P	**Pn**	**00 52 21.5**	**-1.1**
YAZI				S	**Sg**	**00 52 45.8**	**+0.4**
YAZI				*i* IAML		00 52 58.0	
	comp=N,124nm,0.4s						
YAZI				*i* IAML		00 52 59.0	
	comp=E,139nm,0.9s						
DAT	**Datca**	**1.63**	**351**	Pn	**Pn**	**00 52 22.2**	**-0.9**
TURN	**Turunc**	**1.68**	**10**	Pn	**Pn**	**00 52 23.7**	**0.0**
TURN	**Turunc**	**1.68**	**10**	P	**Pn**	**00 52 24.0**	**+0.3**
TURN				S	**Sg**	**00 52 55.6**	**+7.7**
TURN				*i* IAML		00 53 04.0	
	comp=N,158nm,0.4s						
TURN				*i* IAML		00 53 06.0	
	comp=E,194nm,0.6s						
IZZE	**Mula-Seydike**	**1.71**	**39**	P	**Pn**	**00 52 23.5**	**-0.6**
IZZE				S	**Sg**	**00 52 54.0**	**+5.1**
IZZE				*i* IAML		00 52 59.0	
	comp=N,162nm,0.5s						
IZZE				*i* IAML		00 53 05.0	
	comp=E,121nm,0.4s						
KSL	**Kastellorizon**	**1.73**	**53**	P	**Pn**	**00 52 23.6**	**-0.7**
NPS	**Neapolis**	**1.87**	**275**	P	**Pn**	**00 52 27.3**	**+1.1**
SABU	**Mula-Dalaman**	**1.92**	**27**	P	**Pn**	**00 52 26.2**	**-0.8**
SABU				*i* IAML		00 53 20.0	
	comp=N,107nm,0.8s						
BDRM	**Kayabasi**	**1.98**	**350**	P	**Pn**	**00 52 26.1**	**-1.7**
BDRM				*i* IAML		00 53 11.0	
	comp=E,115nm,0.4s						
CAME	**Cameli-Denizli**	**2.15**	**32**	Pn	**Pn**	**00 52 30.7**	**+0.3**
MULA	**Mugla, Merkez-**	**2.16**	**9**	P	**Pn**	**00 52 30.9**	**+0.4**
MULA				S	**Sg**	**00 53 07.5**	**+4.0**
MULA				*i* IAML		00 53 27.0	
	comp=E,107nm,0.7s						
KNIK	**Mula-Seydike**	**2.20**	**38**	P	**Pn**	**00 52 31.2**	**+0.2**
KNIK				S	**Sg**	**00 53 10.4**	**+5.7**
CAEL	**Denizli, Camel**	**2.31**	**30**	P	**Pn**	**00 52 32.2**	**-0.4**
CAEL				S	**Sg**	**00 53 08.1**	**-0.2**
CAEL				*i* IAML		00 53 27.0	
	comp=N,96nm,0.7s						
CAEL				*i* IAML		00 53 28.0	
	comp=E,176nm,0.7s						
AKUM	**Antalya-Kumluc**	**2.33**	**58**	P	**Pn**	**00 52 32.2**	**-0.4**
AKUM				S	**Sg**	**00 53 08.1**	**-0.9**
DNZT	**Denizli-Tavas-**	**2.35**	**23**	P	**Pn**	**00 52 32.8**	**-0.2**
DDIM	**Aydin, Didim**	**2.39**	**348**	P	**Pn**	**00 52 30.5**	**-3.0**
DDIM				S	**Sg**	**00 53 14.0**	**+3.2**
DDIM				*i* IAML		00 53 20.0	
	comp=N,137nm,1.2s						
DDIM				*i* IAML		00 53 27.0	
	comp=E,155nm,0.8s						
IDI	**Anoyia**	**2.46**	**275**	Pn	**Pn**	**00 52 34.9**	**+0.5**
IDI	**Anoyia**	**2.46**	**275**	Pn	**Pn**	**00 52 35.3**	**+0.9**
	8.7nm,0.4s,baz=84,slow=14,SNR=17						
IDI	**Anoyia**	**2.46**	**275**	P	**Pn**	**00 52 35.7**	**+1.3**
TAVA	**DENIZLI_Tavas**	**2.49**	**19**	P	**Pn**	**00 52 34.0**	**-0.9**
TAVA				S	**Sg**	**00 53 19.8**	**+5.9**
TAVA				*i* IAML		00 53 28.0	
	comp=N,58nm,1.0s						
TAVA				*i* IAML		00 53 31.0	
	comp=E,64nm,0.6s						
GOLH	**Golhisar**	**2.51**	**32**	P	**Pn**	**00 52 35.9**	**+0.7**
GOLH				S	**Sb**	**00 53 10.1**	**-0.5**
GOLH				*i* IAML		00 53 43.0	
	comp=N,94nm,1.1s						
GOLH				*i* IAML		00 53 48.0	
	comp=E,73nm,0.6s						
AYDN	**Tasoluk**	**2.54**	**360**	P	**Pn**	**00 52 34.8**	**-0.7**
AYDN				S	**Sb**	**00 53 12.4**	**+1.1**
AYDN				*i* IAML		00 53 22.0	
	comp=N,69nm,0.6s						
AYDN				*i* IAML		00 53 33.0	
	comp=E,65nm,0.6s						
APMY	**Acipayam-Deniz**	**2.61**	**26**	Pn	**Pn**	**00 52 36.1**	**-0.5**
GCAM	**G?zelcami?**	**2.63**	**349**	Pn	**Pn**	**00 52 36.3**	**-0.4**
GCAM	**G?zelcami?**	**2.63**	**349**	P	**Pn**	**00 52 37.0**	**+0.2**
GCAM				S	**Sg**	**00 53 18.1**	**-0.4**
GCAM				*i* IAML		00 53 34.0	
	comp=N,50nm,1.6s						
GCAM				*i* IAML		00 53 36.0	
	comp=E,56nm,1.0s						
DNIZ	**Denizli-Tavas-**	**2.67**	**20**	P	**Pn**	**00 52 37.2**	**-0.2**
DNIZ				S	**Sg**	**00 53 18.8**	**-0.9**
DNIZ				*i* IAML		00 53 28.0	
	comp=E,184nm,0.4s						
DNIZ				*i* IAML		00 53 37.0	
	comp=N,124nm,0.8s						
ESEN	**Aydn-Nazilli**	**2.70**	**8**	P	**Pn**	**00 52 38.5**	**+0.8**
ESEN				S	**Sg**	**00 53 20.3**	**-0.5**
SMG	**Samos**	**2.72**	**342**	P	**Pn**	**00 52 36.8**	**-1.3**
KORT	**Korkueli**	**2.74**	**46**	Pn	**Pn**	**00 52 39.3**	**+0.9**
KORT	**Korkueli**	**2.74**	**46**	P	**Pn**	**00 52 39.5**	**+1.0**
KORT				S	**Sg**	**00 53 20.8**	**-1.3**
KORT				*i* IAML		00 53 28.0	
	comp=E,42nm,0.5s						
INCE	**Denizli-Bozkur**	**2.92**	**27**	P	**Pn**	**00 52 42.2**	**+1.3**
INCE				*i* IAML		00 53 45.0	
	comp=E,41nm,1.2s						
INCE				*i* IAML		00 53 47.0	
	comp=N,58nm,0.6s						
IZMR	**zmir-demi**	**3.01**	**1**	P	**Pn**	**00 52 41.0**	**-1.1**
IZMR				S	**Sb**	**00 53 26.6**	**+1.7**
KIRA	**zmir-Kiraz**	**3.10**	**8**	P	**Pn**	**00 52 42.1**	**-1.3**
KIRA				S	**Sg**	**00 53 30.4**	**-3.2**
BRDR	**BURDUR-Merkez**	**3.12**	**34**	P	**Pn**	**00 52 44.3**	**+0.8**
GVD	**Gavdhos**	**3.13**	**266**	Pn	**Pn**	**00 52 45.1**	**+1.5**
KNDR	**Palaiochora Ch**	**3.44**	**273**	Pn	**Pn**	**00 52 46.6**	**+1.7**
SEYD	**Seydisehir-KON**	**3.93**	**53**	Pn	**Pn**	**00 52 56.4**	**+1.7**
KTHA	**Kythira Island**	**4.09**	**288**	Pn	**Pn**	**00 52 57.4**	**+0.6**
BRTR	**Keskin Array B**	**6.49**	**43**	Pn	**Pn**	**00 53 31.9**	**+2.0**
	0.1nm,0.3s,baz=240,slow=13,SNR=2.0						
	0.4nm,0.7s						
MMAI	**Mount Meron Ar**	**6.58**	**106**	Pn	**Pn**	**00 53 29.4**	**-1.8**
	1.1nm,0.3s,baz=296,slow=14,SNR=9.1						
MMAI				Sn	**Sn**	**00 54 47.2**	**+0.7**
	1.4nm,0.3s,baz=322,slow=16,SNR=3.6						
	0.4nm,0.3s						
ASF	**Jabal al Asfar**	**8.07**	**109**	Pn	**Pn**	**00 53 51.7**	**+0.1**
	0.2nm,0.3s,baz=65,slow=23,SNR=2.0						
ASF				Sn	**Sn**	**00 55 21.4**	**-1.7**
	0.2nm,0.3s,baz=19,slow=17,SNR=1.3						
	0.9nm,0.4s						
EIL	**Elat**	**8.07**	**130**	Pn	**Pn**	**00 53 50.5**	**-1.1**
	0.4nm,0.3s,baz=331,slow=12,SNR=4.7						
EIL				Sn	**Sn**	**00 55 19.8**	**-3.3**
	0.4nm,0.3s,baz=243,slow=18,SNR=1.5						
EIL				LR	LR	00 58 42.3	
	comp=Z,17nm,19.8s,baz=102,slow=52						
	3.5nm,0.6s						
ESDC	**Sonseca Array**	**25.63**	**290**	P	**P**	**00 57 23.9**	**-0.1**
	0.4nm,0.9s,baz=79,slow=9.3,SNR=4.4						
	0.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**32.22**	**234**	P	P	00 58 18.7	-4.1
	0.3nm,0.6s,baz=24,slow=9.8,SNR=4.2						
	0.3nm,0.6s						

IDC ***04*** *01:01:29.7±0.5, 35°.26N×27°.82E, h0km, mb4.3/29, mbtmp4.2/39, ML3.8/9, MS3.8/33, Error ellipse: s-maj=12.9km s-min=10.4km az=161.0*

AFAD ***04*** *01:01:29.2, 35°.03N×27°.88E, h22km±3km, MW4.5*

GII ***04*** *01:01:31.5±0.0, 35°.090N±0°.001×27°.930E±0°.001, h10km, Mws4.6, confirmed*

NIC ***04*** *01:01:31.1, 35°.13N×27°.85E, h18km±1km, Ml4.1/15*

MED_RC ***04*** *01:01:32.0±0.3, 35°.09N×27°.93E, h15km±1km, MW4.7/27, Moment Tensor Solution.Mantle waves: s27,c46; Duration: 1s0 Moment tensor: Scale 10¹⁶Nm; Mrr~0.94±.09; Mθθ0.24±.06; Mϕϕ0.69±.05; Mrθ0.68±.10; Mθϕ0.17±.04; Mϕr~1.12±.10; Best double couple: M₀1.52000×10¹⁶ NP1:ϕs199.00000°,δ19.00000°, λ-51.00000°. NP2:ϕs338.00000°,δ75.00000°, λ-103.00000°. Principal axes: T 1.2900, Plg29.0000°, Azm79.0000°; N 0.4500, Plg12.0000°, Azm342.0000°; P -1.7400, Plg58.0000°, Azm232.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

ATH ***04*** *01:01:32.7, 35°.26N×27°.89E, h8km±2km, ML4.2/12, Manual Solution by M.Papanikolaou First location: 2019/09/04 01:02:56, This location: 2019/09/04 01:10:42 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*

NEIC ***04*** *01:01:32.9±1.9, 35°.17N±0°.05×27°.90E±0°.04, h14km±4km, mb4.6/70, Error ellipse: s-maj=8.2km s-min=2.3km az=212.0*

MCSM ***04*** *01:01:33.5±2.2, 35°N±8°×2°8E±°, h12km±14km, mb4.4, mB4.6, MLv4.3, Mw(mB)3.8*

GCMT ***04*** *01:01:34.9±0.4, 35°.25N±0°.04×27°.67E±0°.04, h23km±1km, MW4.8/65, Moment Tensor Solution. s24,c26; s65,c94; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr~1.73±.15; Mθθ0.72±.09; Mϕϕ1.01±.09; Mrθ0.77±.15; Mθϕ0.69±.06; Mϕr~0.20±.11; Best double couple: M₀1.80700×10¹⁶ NP1:ϕs23.00000°,δ42.00000°,λ-118.00000°. NP2: ϕs238.00000°,δ54.00000°,λ-67.00000°. Principal axes: T 1.6090, Plg6.0000°, Azm312.0000°; N 0.3930, Plg18.0000°, Azm44.0000°; P -2.0040, Plg71.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISK ***04*** *01:01:34.1, 35°.37N×27°.78E, h16km, ML4.3/12*

NAO ***04*** *01:02:17.4, 40°.13N×25°.92E, h10km, MB3.9*

ISC 04 01:01:31.5±0.8, 35°.13N±0°.03×27°.87E±0°.03, h10km±5km, n444, σ1s65/473, mb4.5/65, MS3.8/27, 15C-25D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.71**	**306**		**Pg**	**01 01 44.9**	**-0.4**
KARP				Sg	**Sb**	**01 01 55.9**	**0.0**
KARP	**Karpathos**	**0.71**	**306**	Pg	**Pg**	**01 01 45.2**	**-0.1**
KARP				Sg	**Sg**	**01 01 53.3**	**-1.2**
KARP	**Karpathos**	**0.71**	**306**	P	**Pg**	**01 01 44.7**	**-0.6**
KARP				S	**Sg**	**01 01 54.9**	**+0.4**
KARP				AML	AML	01 02 03.8	
	49nm,0.7s						
KARP				AML	AML	01 02 03.9	
	34nm,0.9s						
KARP	**Karpathos**	**0.71**	**306**	P	**Pg**	**01 01 45.5**	**+0.3**
KARP				S	**Sg**	**01 01 53.9**	**-0.7**
ARG	**Arkhangelos**	**1.10**	**11**		**Pb**	**01 01 51.5**	**-1.2**
ARG					**Sn**	**01 02 07.9**	**-0.5**
ARG	**Arkhangelos**	**1.10**	**11**	Pg	**Pb**	**01 01 51.9**	**-0.8**
ARG	**Arkhangelos**	**1.10**	**11**	P	**Pb**	**01 01 51.3**	**-1.4**
ARG				S	**Sg**	**01 02 07.5**	**+0.5**
ARG				AML	AML	01 02 22.6	
	23nm,1.0s						
ARG				AML	AML	01 02 25.3	
	19nm,0.9s						
ARG	**Arkhangelos**	**1.10**	**11**	P	**Pb**	**01 01 51.3**	**-1.4**
ARG				S	**Sb**	**01 02 03.9**	**-3.2**
ZKR	**Zakros**	**1.35**	**270**	Pn	**Pg**	**01 01 58.4**	**+0.9**
ZKR	**Zakros**	**1.35**	**270**	P	**Pn**	**01 01 54.9**	**-1.6**
ZKR				S	**Sb**	**01 02 13.1**	**-1.2**
ZKR				AML	AML	01 02 31.8	
	12nm,0.7s						
ZKR				AML	AML	01 02 33.6	
	21nm,1.3s						
YAZI	**Mula-Dat§a-**	**1.58**	**348**	P	**Pn**	**01 02 00.2**	**+0.5**
YAZI				S	**Sg**	**01 02 23.8**	**+1.4**
DAT	**Datca**	**1.61**	**352**	Pn	**Pn**	**01 01 59.5**	**-0.7**
TURN	**Turunc**	**1.67**	**10**	Pn	**Pn**	**01 02 00.7**	**-0.1**
TURN	**Turunc**	**1.67**	**10**	P	**Pb**	**01 02 01.6**	**-0.7**
TURN				S	**Sg**	**01 02 25.4**	**+0.3**
IZZE	**Mula-Seydike**	**1.71**	**40**	P	**Pn**	**01 02 01.0**	**-0.4**
KSL	**Kastellorizon**	**1.73**	**54**	P

NATA Nata 3.88 94 P Pn 01 02 31.1 -0.2
NATA S Sn 01 03 16.5 -0.5
NATA AML AML 01 03 25.4
2.8nm,0.6s
NATA AML AML 01 03 25.5
3.0nm,1.2s
TROD Troodos 4.11 91 P Pn 01 02 33.7 -0.9
TROD S Sn 01 03 22.5 -0.4
TROD AML AML 01 03 38.7
0.7nm,0.6s
TROD AML AML 01 03 43.4
0.7nm,0.8s
APOL The Sanctuary 4.13 95 P Pn 01 02 34.2 -0.6
APOL S Sn 01 03 22.6 -0.5
APOL AML AML 01 03 32.3
1.2nm,1.2s
APOL AML AML 01 03 32.7
1.1nm,1.0s
XYLS Xyliatos 4.25 90 P Pn 01 02 35.4 -1.1
XYLS S Sn 01 03 26.0 -0.2
XYLS AML AML 01 03 32.6
0.7nm,0.8s
XYLS AML AML 01 03 47.6
0.5nm,0.6s
PRK Paraskevi 4.30 343 P Pn 01 02 36.7 -0.4
VLI Veliai 4.30 293 P Pn 01 02 37.8 +0.7
PTL Penteli 4.34 313 P Pn 01 02 38.2 +0.6
MET4 Agioi Theodoro 4.38 306 P Pn 01 02 39.7 +1.6
ASGA Asgata 4.43 93 P Pn 01 02 38.4 -0.5
ASGA S Sn 01 03 31.0 +0.4
ASGA AML AML 01 03 39.4
1.5nm,0.7s
ASGA AML AML 01 03 41.6
1.9nm,0.7s
CSS Mathiatis 4.49 91 Pn 01 02 38.8 -0.8
CSS Mathiatis 4.49 91 P Pn 01 02 38.6 -1.1
CSS S Sn 01 03 31.2 -0.7
CSS AML AML 01 03 42.1
0.6nm,0.7s
CSS AML AML 01 03 52.2
0.7nm,0.8s
CSS Mathiatis 4.49 91 S Sn 01 03 32.2 +0.3
CSS Mathiatis 4.49 91 P Pn 01 02 38.8 -0.8
CSS Mathiatis 4.49 91 S Sn 01 03 30.6 -1.3
ATHAL Athalassa 4.53 88 P Pn 01 02 40.0 -0.2
ATHAL S Sn 01 03 33.4 +0.4
ATHAL AML AML 01 03 53.8
1.6nm,1.2s
ATHAL AML AML 01 04 08.6
1.7nm,0.8s
STFN Stefani 4.62 312 P Pn 01 02 42.5 +1.1
KYMI Kymi, Euboea I 4.62 320 P Pn 01 02 41.2 -0.2
LAR1C Larnaka City C 4.72 91 P Pn 01 02 42.9 +0.1
LAR1C S Sn 01 03 37.9 +0.2
MVOU Mavrovouni 4.73 90 P Pn 01 02 41.9 -1.1
MVOU S Sn 01 03 38.3 +0.4
MVOU AML AML 01 03 48.6
0.5nm,0.8s
MVOU AML AML 01 03 48.9
0.6nm,0.8s
VIL2 Platees 4.81 311 P Pn 01 02 44.2 +0.1
EZN Ezine 4.84 346 ⇑P Pn 01 02 46.4 +1.9
EZN Ezine 4.84 346 P Pn 01 02 48.5 +4.0
0.3nm879nm97nm,1.0s
LTK Loutraki 4.88 308 P Pn 01 02 46.4 +1.3
PARAL Paralimni 5.07 90 P Pn 01 02 48.2 +0.6
PARAL AML AML 01 04 02.9
0.8nm,1.2s
PARAL AML AML 01 04 14.0
0.8nm,0.9s
ITM Ithomi 5.22 295 Pn 01 02 51.6 +1.8
NEO Neokhori 5.57 320 P Pn 01 02 55.2 +0.6
CAVK Edirne/Enez-Ca 5.71 347 ⇑P Pn 01 02 57.7 +1.3
ALN Alexandroupoli 5.93 347 Pn 01 03 00.6 +1.1
MDUB Mudurnu 5.94 25 Pn Pn 01 03 01.0 +1.2
ANTO Ankara 6.14 38 Pn 01 03 03.9 +1.5
ANTO Ankara 6.14 38 ⇓P Pn 01 03 05.0 +2.6
ANTO Ankara 6.14 38 P Pn 01 03 05.3 +2.9
0.1nm259nm11nm,0.8s
KIRS Kirsehir-Merke 6.27 49 ⇑P Pn 01 03 05.4 +1.2
RDO Rodhopi 6.28 344 Pn 01 03 04.8 +0.6
CTYL Yalikoy Yolu 6.34 3 P Pn 01 03 09.0 +3.9
0.3nm91nm,0.7s
OFRI `Ofer 6.43 111 P Pn 01 03 05.4 -1.0
OFRI `Ofer 6.43 111 S Sn 01 04 18.4 -1.4
BR105 Keskin Array S 6.47 43 P Pn 01 03 08.0 +1.0
0.1nm213nm31nm,0.9s
BR106 Keskin Array S 6.48 43 P Pn 01 03 08.2 +1.0
0.1nm167nm20nm,1.0s
BRTR Keskin Array B 6.49 43 Pn 01 03 07.3 0.0
BRTR Keskin Array B 6.49 43 Pn Pn 01 03 08.1 +0.8
0.6nm,0.3s,baz=223,slow=15,SNR=30
BRTR Sn Sn 01 04 21.1 -0.4
1.1nm,0.3s,baz=215,slow=26,SNR=7.5
BRTR LR LR 01 06 32.7
comp=Z,1µm,19.6s,baz=234,slow=47
7.8nm,0.8s
DQRL Deir Qamar 6.52 100 eP Pn 01 03 05.7 -2.0
BLGI Bet Lehem HaGe 6.54 109 P Pn 01 03 07.4 -0.5
BLGI Bet Lehem HaGe 6.54 109 S Sn 01 04 21.4 -1.1
BHL Bhannes 6.54 99 eP Pn 01 03 05.5 -2.5
MMC7 Mount Meron ar 6.59 107 P Pn 01 03 07.2 -1.4
MMA0B Mount Meron ar 6.60 107 P Pn 01 03 07.9 -0.9
MMA0B Mount Meron ar 6.60 107 S Sn 01 04 23.4 -0.7
MMAI Mount Meron Ar 6.60 107 Pn Pn 01 03 07.3 -1.4
12nm,0.3s,baz=296,slow=12,SNR=45
MMAI Sn Sn 01 04 20.2 -3.9
18nm,0.3s,baz=324,slow=24,SNR=7.4
7.9nm,0.3s
SLTI Sal'it 6.64 114 P Pn 01 03 08.4 -0.9
SLTI Sal'it 6.64 114 S Sn 01 04 23.7 -1.3
QRWL Qaraoun 6.66 102 eP Pn 01 03 08.3 -1.2
HWQ Hawqa 6.71 95 eP Pn 01 03 09.1 -1.2
GEM Giv'at Ha'Em 6.74 104 P Pn 01 03 10.1 -0.5
GEM Giv'at Ha'Em 6.74 104 S Sn 01 04 26.2 -1.3
ZAHL Zahle 6.74 99 eP Pn 01 03 10.7 -0.1
SHBL Chebaa 6.76 103 eP Pn 01 03 09.4 -1.6
KDZ Kurdzhali 6.78 344 P Pn 01 03 13.7 +2.5
NATI Neve Ativ 6.78 104 P Pn 01 03 09.9 -1.3
NATI Neve Ativ 6.78 104 S Sn 01 04 27.4 -1.0
RCY Rachaya 6.79 102 eP Pn 01 03 10.0 -1.4
SALP Salfit 6.83 115 P Pn 01 03 11.2 -0.7
SALP Salfit 6.83 115 S Sn 01 04 28.4 -1.4
MMLI Mount Malkishu 6.84 111 P Pn 01 03 11.4 -0.6
MMLI Mount Malkishu 6.84 111 S Sn 01 04 28.9 -1.1
BEIL Beino 6.87 93 eP Pn 01 03 11.5 -0.9
AMAZ Amatzia 6.91 119 P Pn 01 03 12.1 -0.8
AMAZ Amatzia 6.91 119 S Sn 01 04 29.7 -1.9
KZIT Kziot 6.92 126 P Pn 01 03 12.1 -0.9
KZIT Kziot 6.92 126 S Sn 01 04 30.2 -1.6
KSHT Keshet 6.93 106 P Pn 01 03 12.8 -0.6
KSHT Keshet 6.93 106 S Sn 01 04 31.4 -0.9
RZN Rozhen 6.99 340 P Pn 01 03 16.8 +2.6
HMDT Nahal Hemdat 7.00 112 P Pn 01 03 13.9 -0.3
HMDT Nahal Hemdat 7.00 112 S Sn 01 04 32.8 -1.1
UJAP Al Uja 7.09 114 P Pn 01 03 14.9 -0.5
UJAP Al Uja 7.09 114 S Sn 01 04 34.9 -1.1
FKH Fakeheh 7.09 95 eP Pn 01 03 05.4 -10
YTIR Yattir 7.14 120 P Pn 01 03 15.4 -0.8
YTIR Yattir 7.14 120 S Sn 01 04 36.2 -1.3
MMB Musomishta 7.17 334 P Pn 01 03 18.7 +2.1
DSI Dead Sea 7.22 117 P Pn 01 03 16.6 -0.6
DSI Dead Sea 7.22 117 S Sn 01 04 38.2 -1.1
MDBI Mazsada 7.34 119 P Pn 01 03 18.4 -0.5
MDBI Mazsada 7.34 119 S Sn 01 04 40.2 -2.0
MSBI Mazada 7.34 119 P Pn 01 03 18.1 -0.7
MSBI Mazada 7.34 119 S Sn 01 04 40.7 -1.5
RMNI Mount Ramon 7.36 126 P Pn 01 03 18.6 -0.5
RMNI Mount Ramon 7.36 126 S Sn 01 04 41.4 -1.3
BNN Bunyan 7.38 57 Pn 01 03 20.4 +0.8
GHAJ Ghor Haditha 7.50 118 Pn 01 03 21.0 0.0
GHAJ Ghor Haditha 7.50 118 P Pn 01 03 20.6 -0.3
GHAJ Ghor Haditha 7.50 118 S Sn 01 04 44.4 -1.6
IDAN Idan 7.56 123 P Pn 01 03 21.4 -0.4
IDAN Idan 7.56 123 S Sn 01 04 45.9 -1.6
FNA Florina 7.62 320 Pn 01 03 24.9 +2.2
KRMI Paran Flat 7.65 129 P Pn 01 03 22.4 -0.7
KRMI Paran Flat 7.65 129 S Sn 01 04 48.7 -1.1
KKB Krupnik 7.66 332 P Pn 01 03 26.5 +3.3
ZFRI Zfri 7.66 125 P Pn 01 03 22.1 -1.1
PRNI Paran 7.67 126 P Pn 01 03 22.6 -0.8
PRNI Paran 7.67 126 S Sn 01 04 49.2 -1.3

GAZ Gaziantep 7.83 72 Pn Pn 01 03 24.4 -1.2
KEK Kerkira 7.88 308 Pn Pn 01 03 29.1 +2.9
HRFI Mount Harif 7.90 128 P Pn 01 03 26.4 -0.2
HRFI Mount Harif 7.90 128 S Sn 01 04 54.6 -1.5
ELND Elena 7.94 349 ⇑P Pn 01 03 28.3 +1.3
MBRI Mt Berech 7.99 130 P Pn 01 03 27.6 -0.2
MBRI Mt Berech 7.99 130 S Sn 01 04 56.5 -1.8
ASF Jabal al Asfar 8.09 109 Pn Pn 01 03 28.6 -0.6
2.6nm,0.3s,baz=311,slow=8.0,SNR=33
ASF Sn Sn 01 05 00.4 -0.4
1.5nm,0.3s,baz=165,slow=22,SNR=7.1
19nm,0.6s
EIL Elat 8.10 130 Pn Pn 01 03 29.2 0.0
5.9nm,0.3s,baz=333,slow=8.7,SNR=61
EIL Sn Sn 01 04 58.9 -1.9
8.0nm,0.3s,baz=297,slow=5.5,SNR=7.0
45nm,0.6s
EIL Elat 8.10 130 P Pn 01 03 28.6 -0.6
EIL Elat 8.10 130 S Sn 01 04 59.5 -1.4
PLNA Plana 8.11 336 P Pn 01 03 34.0 +4.5
LOZB Loznitsa 8.28 354 ⇑P Pn 01 03 34.7 +3.0
VTS Vitosha 8.30 336 P Pn 01 03 35.8 +3.7
TOKA Tokat 8.56 50 Pn 01 03 37.0 +1.3
TRAN Tran 8.69 334 P Pn 01 03 37.3 -0.1
TIR Tirane 8.84 317 Pn Pn 01 03 40.8 +1.5
TIR Tirane 8.84 317 P Pn 01 03 43.0 +3.7
870nm61nm,0.7s
ICOR Ion Corvin 8.97 360 ⇓P Pn 01 03 44.2 +3.0
TIRR Tirgusor 9.32 2 Pn Pn 01 03 48.1 +2.1
BOVS Bovan 9.73 333 ⇓P Pn 01 03 53.6 +2.0
TIP Timpagrande 9.74 298 Pn 01 03 50.0 -1.9
TIP Timpagrande 9.74 298 ⇓P Pn 01 03 52.0 +0.2
PDG Podgorica 9.91 320 Pn Pn 01 03 56.0 +2.0
ISR Istrita 10.02 355 P Pn 01 03 59.7 +4.0
21nm,1.2s
CEL Celeste 10.11 291 Pn Pn 01 03 55.4 -1.4
CEL Celeste 10.11 291 P Pn 01 04 00.3 +3.5
634nm58nm,0.8s
MLR Muntele Rosu 10.45 353 Pn 01 04 01.2 -0.3
MLR Muntele Rosu 10.45 353 Pn Pn 01 04 00.5 -1.0
0.1nm,0.3s,baz=296,slow=17,SNR=6.7
MLR LR LR 01 07 58.8
comp=Z,152nm,18.7s,baz=178,slow=38
4.4nm,1.1s
MLR Muntele Rosu 10.45 353 ⇓P Pn 01 04 03.7 +2.1
HERR Herculane 10.59 338 ⇑P Pn 01 04 05.6 +2.2
MARD Mardin 10.66 74 Pn 01 04 04.4 0.0
CUC Castrocucco 10.72 300 Pn 01 04 04.5 -0.7
MDVR Moldovita 10.73 336 ⇑P Pn 01 04 06.7 +1.4
VRI Vrincioaia 10.76 356 ⇓P Pn 01 04 07.3 +1.6
LOT Lotru 10.77 344 ⇓P Pn 01 04 07.9 +2.1
COVR Voineasa-Covas 10.77 354 ⇑P Pn 01 04 08.1 +2.1
WDD Wied Dalam 10.90 278 Pn Pn 01 04 07.6 -0.1
GZR Gura Zlata 10.96 341 ⇑P Pn 01 04 10.7 +2.3
ACER Acerenza 10.97 304 Pn Pn 01 04 08.2 -0.5
DOPR Dopca 10.98 351 ⇑P Pn 01 04 11.0 +2.2
TURR Turia 11.00 353 ⇓P Pn 01 04 10.6 +1.6
OZUR 11.06 352 ⇓P Pn 01 04 12.4 +2.5
VAE Valguarnera 11.11 286 Pn Pn 01 04 10.8 +0.3
15nm,0.9s,baz=36,slow=13,SNR=6.0
VAE Sn Sn 01 06 10.8 -4.0
2.7nm,0.3s,baz=168,slow=10,SNR=4.4
RAFF Raffo Rosso 11.11 285 Pn 01 04 09.8 -0.7
KOPT Kop Dagi 11.14 60 Pn Pn 01 04 11.1 -0.2
TESR Tescani 11.40 356 ⇑P Pn 01 04 15.9 +1.4
SURR Surduc 11.47 339 ⇑P Pn 01 04 17.9 +2.5
BZS Buzias 11.50 337 ⇓P Pn 01 04 17.8 +2.0
SGRT San Giovanni R 11.57 308 Pn Pn 01 04 16.9 0.0
PAOL Paolisi 12.01 303 Pn Pn 01 04 22.2 -0.7
SIRR Siria 12.07 339 ⇓P Pn 01 04 25.5 +1.8
MARR Marisel-Cluj 12.07 344 ⇓P Pn 01 04 26.0 +2.3
BURAR Bucovina Array 12.63 352 Pn Pn 01 04 31.7 +0.4
BURAR Bucovina Array 12.63 352 ⇑P Pn 01 04 34.2 +2.9
BUR08 Bucovina Ar. S 12.66 352 Pn Pn 01 04 32.5 +0.8
SORM Soroca 13.00 1 ⇑P Pn 01 04 39.1 +2.9
SORM Soroca 13.00 1 P Pn 01 04 40.4 +4.2
MORH Mrgy, Hungar 13.09 331 ⇑P Pn 01 04 39.3 +1.9
MORH Mrgy, Hungar 13.09 331 P Pn 01 04 41.3 +3.9
7.0nm,1.4s
KMPD K-Podol'skiy 13.46 356 P Pn 01 04 46.5 +4.0
NRCA Norcia 13.80 308 Pn Pn 01 04 47.1 -0.2
FDMO Fiordimonte 13.92 309 Pn Pn 01 04 47.6 -1.2
PSZ Piszkesteto 14.09 337 Pn 01 04 52.0 +0.8
GNI Garni 14.27 64 P Pn 01 04 56.0 +2.1
13nm,2.7s
KIV Kislovodsk 14.42 48 Pn 01 04 55.7 -0.1
KIV Kislovodsk 14.42 48 P Pn 01 04 58.6 +2.8
22nm,0.9s
KVAR Kislovodsk Arr 14.42 48 Pn P 01 05 00.1 -2.7
baz=258,slow=20
1.9nm,0.8s
KBZ Khabaz 14.43 49 Pn P 01 05 03.6 +0.9
0.3nm,0.3s,baz=226,slow=6.1,SNR=44
KBZ LR LR 01 11 39.6
comp=Z,175nm,20.1s,baz=237,slow=42
SOKA Soboth 15.05 324 ePn Pn 01 05 05.7 +1.5
15nm,1.6s
KEST Kesra 15.11 278 Pn Pn 01 05 05.3 0.0
KEST IAmb IAmb 01 05 20.4
comp=Z,25nm,0.9s
KEST Kesra 15.11 278 Pn Pn 01 05 06.9 +1.6
comp=Z,0.4nm,0.3s,baz=285,slow=9.4,SNR=5.5
OBKA Obir 15.17 323 ePn Pn 01 05 07.9 +2.0
comp=Z,25nm,1.6s
ARSA Arzberg 15.23 326 Pn 01 05 08.0 +1.3
ARSA Arzberg 15.23 326 ePn P 01 05 09.6 -2.1
comp=Z,4.9nm,0.9s
RONA Rosalia, Austr 15.24 329 ePn Pn 01 05 08.4 +1.6
comp=Z,6.3nm,1.1s
SABO M.te Sabotino 15.30 319 Pn Pn 01 05 06.6 -1.0
SABO IAmb IAmb 01 05 25.2
comp=Z,73nm,1.5s
NIE Niedzica 15.32 341 P P 01 05 11.5 -1.2
VSL Villasalto 15.34 292 Pn Pn 01 05 09.6 +1.5
VSL IAmb IAmb 01 05 12.5
comp=Z,40nm,1.4s
AK07 Malin Array Si 15.44 3 P P 01 05 13.1 -0.8
AK10 Malin Array Si 15.49 3 P P 01 05 13.7 -0.8
AK13 Malin Array Si 15.49 3 P P 01 05 13.8 -0.7
AK05 Malin Array Si 15.51 3 P P 01 05 13.9 -0.8
AK08 Malin Array Si 15.53 3 P P 01 05 14.3 -0.6
AK12 Malin Array Si 15.53 3 P P 01 05 14.4 -0.5
AK02 Malin Array Si 15.55 3 P P 01 05 13.8 -1.3
KIEV Kiev 15.58 3 Pn 01 05 11.3 +0.1
AKASG Malin Array Be 15.59 3 Pn Pn 01 05 12.0 +0.7
comp=Z,0.9nm,0.3s,baz=195,slow=11,SNR=17
AKASG LR LR 01 12 00.3
comp=Z,585nm,18.0s,baz=181,slow=41
AKBB Malin Array Si 15.59 3 Pn Pn 01 05 10.9 -0.4
AKBB Malin Array Si 15.59 3 P P 01 05 14.9 -0.7
CONA Conrad Observa 15.60 329 ePn P 01 05 15.8 -0.1
comp=Z,7.1nm,1.3s
STAL STALIGIAL 15.96 319 Pn 01 05 15.2 -0.9
RNPP5 Staryi Chortor 16.15 356 P P 01 05 22.4 +0.6
KBA Koelnbreinsper 16.16 322 ePn P 01 05 20.6 -1.5
comp=Z,31nm,1.7s
OJC Ojcow 16.18 341 Pn 01 05 20.2 +1.2
MOA Molln 16.25 326 ePn P 01 05 21.7 -1.3
comp=Z,5.5nm,1.7s
RNPP8 Varash 16.26 355 P P 01 05 23.9 +0.9
KRUC Moravsky 16.29 332 ePN Pn 01 05 19.8 -0.5
OKC Ostrava-Krasne 16.33 337 AMS AMS 01 12 50.0
comp=Z,1µm,12.5s
ABTA Abfaltersbach 16.37 320 ePn P 01 05 23.3 -1.1
comp=Z,4.5nm,0.7s
VRAC Vranov 16.41 333 Pn Pn 01 05 22.3 +0.3
comp=Z,0.4nm,0.3s,baz=144,slow=9.0,SNR=6.6
VRAC LR LR 01 12 08.6
comp=Z,323nm,20.3s,baz=152,slow=39
comp=Z,1.4nm,0.5s
VRAC Vranov 16.41 333 ePN Pn 01 05 23.3 +1.3
CTI Castel Tesino 16.42 317 P P 01 05 23.6 -1.3
CTI IAmb IAmb 01 05 45.4
comp=Z,29nm,0.9s
BIOA Bad Ischl, Aus 16.44 324 Pn P 01 05 26.4 +1.3
comp=Z,11nm,1.1s
MORC Moravsky Berou 16.47 336 Pn 01 05 23.4 +0.7
MORC Moravsky Berou 16.47 336 ePN Pn 01 05 23.1 +0.4
LESA Schwarzleotal 16.73 322 ePn P 01 05 27.4 -0.9
comp=Z,1.6nm,0.5s
KRLC Kraliky 16.99 335 eP P 01 05 33.1 +2.0
KRLC AMS AMS 01 13 30.0
comp=Z,400nm,12.3s
WTTA Wattenberg 17.16 320 ePn P 01 05 34.8 +1.6
comp=Z,22nm,1.0s
GEC2 GERESS Array S 17.24 327 Pn Pn 01 05 32.0 -0.5
GERES GERESS Array B 17.24 327 P Pn 01 05 31.9 -0.5
baz=126,slow=13,SNR=14
comp=Z,2.4nm,0.8s
WATA Walderalm 17.24 320 ePn P 01 05 33.4 -0.6
comp=Z,8.0nm,1.1s
SQTA Sankt Quirin 17.36 319 ePn P 01 05 36.5 +1.1
comp=Z,18nm,1.1s
DPC Dobruska-Polom 17.38 335 eP P 01 05 35.2 -0.3
DPC AMS AMS 01 13 20.0
comp=Z,400nm,11.9s
MOTA Moosalm 17.50 319 ePn P 01 05 39.7 +2.8
comp=Z,22nm,1.5s
FETA Feichten 17.50 318 ePn P 01 05 37.3 +0.3
comp=Z,20nm,1.3s
KHC Kasperske Hory 17.50 327 eP Pn 01 05 34.6 -1.1
KHC AMS AMS 01 13 10.0
comp=Z,800nm,11.1s
FUORN Ofenpass-Fuorn 17.53 316 P 01 05 37.2 -0.2
UPC Upice 17.62 334 AMS AMS 01 13 40.0
comp=Z,600nm,12.4s
CHVC Chvalec 17.67 335 eP P 01 05 38.9 +0.2
CHVC AMS AMS 01 13 40.0
comp=Z,500nm,13.7s
PRU Pruhonice 17.75 331 eP P 01 05 42.0 +2.4
PRU AMS AMS 01 14 10.0
comp=Z,400nm,10.1s
RETA Reutte 17.77 319 i Pn P 01 05 40.5 +0.7
comp=Z,4.9nm,0.8s
DAVOX Davos/Dischmat 17.84 316 P Pn 01 05 39.1 -0.9
comp=Z,0.5nm,0.3s,baz=120,slow=12,SNR=8.0
DAVOX LR LR 01 13 58.6
comp=Z,448nm,19.0s,baz=113,slow=42
comp=Z,0.9nm,0.4s
PRA Prague 17.86 331 eP P 01 05 42.7 +2.0
TUE Stuetta 17.98 315 Pn 01 05 41.9 +0.2
DAVA Damuels 18.13 317 ePn P 01 05 44.6 +0.7
comp=Z,8.6nm,1.1s
PVCC Panska Ves 18.17 332 AMS AMS 01 14 10.0
comp=Z,500nm,13.5s
BRG Berggiesshubel 18.69 332 eP Pn 01 05 53.2 +3.0
BRG Amp 01 05 58.8
comp=Z,3.3nm,0.8s
BNI Bardonecchia 18.95 308 Pn 01 05 53.6 +0.1
GRA1 Grafenberg Arr 18.98 325 P Pn 01 05 53.9 +0.1
GRA1 IAmb IAmb 01 06 08.6
comp=Z,25nm,1.1s
GRFO Grafenberg 18.98 325 Pn 01 05 53.6 -0.1
GRFO IAmb IAmb 01 06 08.6
comp=Z,26nm,1.1s
SENIN Lac Senin/Sane 19.14 312 P 01 05 53.2 -1.9
SUW Suwalki 19.16 352 P P 01 05 53.5 -1.4
RAYN Ar Rayn 19.21 122 Pn 01 05 57.4 +0.6
MNK Minsk 19.37 0 i P P 01 05 55.0 -2.3
comp=E,24nm,1.2s
MNK i P P 01 05 55.0 -2.3
comp=N,8.0nm,0.9s
MNK i P P 01 05 55.0 -2.3
comp=Z,15nm,0.9s,baz=180
MNK i PP PnPn 01 06 08.8 -2.6
MNK i PPP PPP 01 06 16.6
MNK i S Sn 01 09 32.2 -3.2
MNK i SS SnSn 01 09 48.0 -1.6
MNK i SSS SSS 01 10 01.0
MNK i LQ LQ 01 11 41.7
MNK i LR LR 01 13 09.5
MNK i LRM MLR 01 14 12.3
comp=Z,228nm,15.8s
MNK i LRM MLR 01 14 16.1
comp=E,165nm,16.4s
MNK i LRM MLR 01 14 34.3
comp=N,109nm,14.1s
CLL Collm 19.40 331 Pn 01 05 58.3 -0.4
CLL Collm 19.40 331 i P Pn 01 06 00.0 +1.3
comp=Z,14nm,1.3s
CLL i sP pwP 01 06 04.3 +2.2
CLL i x x 01 06 10.1
CLL eS S 01 09 38.0 +1.1
CLL eSSS SSS 01 10 12.0
CLL LmV 01 14 00.0
comp=N,300nm,18.2s
CLL LmV 01 14 00.0
comp=E,100nm,21.6s
CLL LmV 01 14 00.0
comp=Z,300nm,20.8s
BFO Black Forest 19.59 318 P P 01 05 59.4 -0.4
NACGM Naroch 19.78 358 eP P 01 06 01.7 -0.1
comp=N,9.0nm,1.2s
ECH Echery 20.17 317 P 01 06 06.4 +0.3
SSB Saint Sauveur 20.43 307 P P 01 06 08.4 -0.6
PABE Paberze 20.55 354 P P 01 06 09.9 -0.2
PABE IAmb IAmb 01 06 23.1
comp=Z,24nm,0.7s
OBN Obninsk 20.87 14 P P 01 06 12.0 -1.5
OBN Obninsk 20.87 14 P P 01 06 12.4 -1.2
comp=Z,9.9nm,0.5s,baz=129,slow=21,SNR=3.9
comp=Z,9.9nm,0.5s
CORI Orista 21.27 296 P P 01 06 18.3 +0.2
CORI IAmb IAmb 01 06 54.2
comp=Z,25nm,1.3s
WLF Walferdange 21.52 319 dP P 01 06 23.4 +2.7
comp=Z,11nm,1.1s
BSD Bornholm Skovb 21.90 340 i P P 01 06 21.4 -3.2
BSD IAmb IAmb 01 06 28.5
comp=Z,72nm,1.2s
CEST Esterri de Car 21.96 298 P 01 06 25.3 -0.4
CEST IAmb IAmb 01 06 47.7
comp=Z,18nm,1.0s
BHOU Houvegnez 22.00 320 dP P 01 06 31.4 +5.6
BTNL Terneli 22.07 321 dP P 01 06 30.2 +3.6
comp=Z,8.5nm,1.0s
MEM Membach 22.14 321 dP P 01 06 28.4 +1.1
comp=Z,13nm,1.0s
BELG Belogornoye 22.27 33 P P 01 06 27.8 -0.8
comp=Z,21nm,0.9s,baz=10,slow=3.6,SNR=4.3
comp=Z,21nm,0.9s
RCHB Rochefort 22.30 319 dP P 01 06 28.7 -0.3
RCHB dpP pwP 01 06 34.0 +0.7
BSTI Sart Tilman 22.36 321 dP P 01 06 30.6 +1.0
BCLA Clavier 22.40 320 dP P 01 06 35.7 +5.6
comp=Z,12nm,1.0s
BGES Gesves 22.50 320 dP P 01 06 36.9 +5.8
comp=Z,8.0nm,1.1s
BGES dPP PnPn 01 06 53.3 -0.9
DOU Dourbes 22.60 319 dP P 01 06 34.4 +2.1
comp=Z,5.9nm,1.4s
BMRD Maredsous 22.62 319 dP P 01 06 35.0 +2.5
comp=Z,5.6nm,1.0s
BLEU Blekinge 22.72 342 i P P 01 06 28.8 -4.6
LUNU Lund 22.77 339 i P P 01 06 32.5 -1.5
CLF Chambon-Foret 22.96 312 P 01 06 36.4 +0.4
CLF IAmb IAmb 01 07 07.2
comp=Z,28nm,1.0s
TAM Tamanrasset 23.04 244 P 01 06 37.7 +0.5
TAM IAmb IAmb 01 06 40.5
comp=Z,18nm,1.0s
UCC Uccle 23.11 320 dP P 01 06 38.4 +0.8
DEL Delary 23.37 340 i P P 01 06 36.0 -4.1
BORU Boraas 24.68 340 i P P 01 06 47.5 -5.0
ESBB Sonseca Array 25.61 290 P P 01 07 01.8 +0.7
ESBB IAmb IAmb 01 07 09.6
comp=Z,22nm,1.4s
ESDC Sonseca Array 25.61 290 P P 01 07 00.2 -0.9
ESDC Sonseca Array 25.61 290 P P 01 07 00.5 -0.7
comp=Z,4.0nm,0.6s,baz=82,slow=8.8,SNR=32
comp=Z,4.0nm,0.6s
PAB San Pablo 25.91 289 P 01 07 03.4 -0.5
PAB IAmb IAmb 01 07 13.8
comp=Z,13nm,0.8s
FINES FINESS Array B 26.35 358 P P 01 07 05.7 -1.9
FINES FINESS Array B 26.35 358 P P 01 07 05.5 -2.1
comp=Z,2.2nm,0.6s,baz=156,slow=10,SNR=14
FINES PcP PcP 01 10 34.5 +1.4
comp=Z,1.9nm,0.8s,baz=186,slow=2.7,SNR=4.0
FINES LR LR 01 18 29.9
comp=Z,183nm,19.8s,baz=188,slow=39
comp=Z,2.2nm,0.6s
FIA1 FINESS Array S 26.35 358 P P 01 07 05.3 -2.3
UOSS Minazif 26.47 105 P P 01 07 10.0 +1.0
UOSS IAmb IAmb 01 07 45.6
comp=Z,9.3nm,0.8s
HFS Hagfors 26.66 344 P P 01 07 08.0 -2.3
comp=Z,3.7nm,0.6s,baz=150,slow=12,SNR=14
HFS LR LR 01 18 11.4
comp=Z,289nm,20.5s,baz=166,slow=38

comp=Z,3.7nm,0.6s
AKTO Aktyubinsk 26.66 46 P **P 01 07 09.7 -0.8**
comp=Z,6.7nm,0.8s,baz=266,slow=11,SNR=15
AKTO LR LR 01 21 53.3
comp=Z,214nm,18.6s,baz=186,slow=46
comp=Z,6.7nm,0.8s
MDT Midelt 26.97 274 P **P 01 07 12.9 -0.7**
comp=Z,1.5nm,0.4s,baz=80,slow=5.0,SNR=1.8
comp=Z,1.5nm,0.4s
AB31 Akbulak array 27.40 49 P **P 01 07 18.1 +1.0**
AB31 IAmb IAmb 01 07 47.4
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 27.40 49 P 01 07 17.8 +0.7
NC602 NORSAR Array S 27.69 343 P **P 01 07 19.1 -0.5**
NC602 IAmb IAmb 01 07 32.8
comp=Z,28nm,1.4s
PBRG Braganca 27.77 294 *eP* **P 01 07 20.2 -0.4**
FURI Furi 27.93 157 LR LR 01 20 00.8
comp=Z,232nm,18.4s,baz=340,slow=40
MVO Moncorvo 27.97 293 *eP* **P 01 07 23.6 +1.3**
MVO *eS* **S 01 12 12.5 +6.1**
NB2 NORSAR Subarra 28.04 343 P **P 01 07 19.3 -3.5**
comp=Z,4.7nm,1.0s,baz=150,slow=10
NOA NORSAR Array B 28.04 343 P **P 01 07 20.6 -2.2**
comp=Z,1.3nm,0.8s,baz=148,slow=9.0,SNR=5.9
NOA LR LR 01 20 44.2
comp=Z,296nm,18.5s,baz=150,slow=41
comp=Z,1.3nm,0.8s
PBAR Barrancos 28.07 287 *eP* **P 01 07 22.6 -0.7**
PBAR *i* IAmb IAmb 01 07 33.7
comp=Z,20nm,1.4s
PMRV Marv??o 28.27 289 *eP* **P 01 07 26.2 +1.2**
PMRV *eS* **S 01 12 17.9 +6.8**
PCBR Castelo Branco 28.32 290 *eP* **P 01 07 24.9 -0.5**
MTE Manteigas 28.36 291 *eP* **P 01 07 24.9 -1.0**
MTE *eS* **S 01 12 17.3 +4.7**
PESTR Estremoz 28.45 288 P **P 01 07 26.8 +0.1**
PESTR IAmb IAmb 01 07 31.3
comp=Z,13nm,1.1s
PESTR Estremoz 28.45 288 *eP* **P 01 07 25.4 -1.3**
PVRL Vila Real 28.49 293 *eP* **P 01 07 27.6 +0.6**
POLO Lamas de Olo 28.55 293 *eP* **P 01 07 29.9 +2.2**
PVIS Viseu 28.62 292 *eP* **P 01 07 30.2 +2.0**
PVAQ Vaqueiros 28.68 285 P **P 01 07 29.3 +0.6**
PVAQ Vaqueiros 28.68 285 *eP* **P 01 07 29.5 +0.8**
PCAB Cabril 28.73 294 *eP* **P 01 07 30.8 +1.6**
PBEJ Beja 28.73 286 *eP* **P 01 07 33.7 +4.5**
PSARD Sardoal 28.86 290 *eP* **P 01 07 31.4 +1.1**
PBDV Barranco-do-Ve 28.86 285 *eP* **P 01 07 31.9 +1.5**
COI Coimbra 29.02 291 P **P 01 07 31.8 +0.1**
COI IAmb IAmb 01 07 40.5
comp=Z,16nm,0.9s
COI Coimbra 29.02 291 *eP* **P 01 07 33.5 +1.8**
MESJ Messejana 29.03 286 *eP* **P 01 07 33.6 +1.8**
EKA Eskdalemuir Ar 29.37 323 P **P 01 07 33.5 -1.1**
comp=Z,1.3nm,0.6s,baz=125,slow=9.1,SNR=2.8
comp=Z,1.3nm,0.6s
PARRA Arraiolos 29.58 288 *eP* P 01 07 31.2 -5.5
ARTI Arti 29.68 35 P **P 01 07 37.8 +0.5**
ARTI IAmb IAmb 01 07 52.3
comp=Z,7.1nm,0.6s
ARTI Arti 29.68 35 P **P 01 07 35.9 -1.4**
comp=Z,2.5nm,0.4s,baz=260,slow=6.0,SNR=4.5
ARTI LR LR 01 22 44.9
comp=Z,203nm,18.6s,baz=237,slow=43
comp=Z,2.5nm,0.4s
TORD Torodi Ar. Bea 32.22 234 P **P 01 07 59.2 -0.9**
TORD IAmb IAmb 01 08 01.6
comp=Z,11nm,1.4s
TORD Torodi Ar. Bea 32.22 234 P **P 01 07 59.9 -0.2**
comp=Z,7.1nm,0.9s,baz=33,slow=11,SNR=36
comp=Z,7.1nm,0.9s
SIMJ Simiganj 32.90 72 P **P 01 08 07.0 +0.9**
SIMJ IAmb IAmb 01 08 22.7
comp=Z,9.3nm,1.4s
KK31 Karatay Array 33.73 63 P **P 01 08 12.8 -0.4**
KK31 IAmb IAmb 01 08 18.7
comp=Z,4.5nm,0.9s
KKAR Karatay Array 33.73 63 P 01 08 12.9 -0.3
ARCES ARCESS Array B 34.48 359 P **P 01 08 19.1 -0.3**
ARCES ARCESS Array B 34.48 359 P **P 01 08 17.5 -1.8**
comp=Z,2.2nm,0.8s,baz=180,slow=7.9,SNR=10
comp=Z,2.2nm,0.8s
KEV Kevo 34.68 359 P **P 01 08 21.1 +0.1**
BVAR Borovoye Array 34.77 46 P **P 01 08 21.9 -0.1**
comp=Z,1.3nm,0.6s,baz=267,slow=6.2,SNR=6.5
BVAR LR LR 01 26 10.4
comp=Z,231nm,20.9s,baz=263,slow=43
comp=Z,1.3nm,0.6s
KMBO Kilima Mbogo 37.13 164 LR LR 01 26 38.0
comp=Z,92nm,19.0s,baz=8.0,slow=40
NIL Nilore 37.23 79 P **P 01 08 44.0 +0.5**
NIL IAmb IAmb 01 08 52.2
comp=Z,7.9nm,0.8s
NRN Naryn 37.91 66 P **P 01 08 49.3 0.0**
NRN IAmb IAmb 01 09 02.1
comp=Z,18nm,1.4s
KURBB Kurchatov Arra 39.41 51 P **P 01 09 00.7 -0.8**
comp=Z,2.1nm,0.6s,baz=276,slow=8.9,SNR=18
KURBB PP **PP 01 10 32.9 +1.1**
comp=Z,2.0nm,0.9s,baz=269,slow=13,SNR=5.8
KURBB PcP **PcP 01 11 09.2 -0.3**
comp=Z,1.3nm,0.7s,baz=268,slow=3.9,SNR=4.5
comp=Z,2.1nm,0.6s
KURK Kurchatov 39.48 51 P **P 01 09 01.6 -0.4**
KURK IAmb IAmb 01 09 07.0
comp=Z,8.8nm,1.1s
DBIC Dimbokro 41.32 234 P **P 01 09 17.2 -0.4**
DBIC IAmb IAmb 01 09 18.4
comp=Z,17nm,1.1s
DBIC Dimbokro 41.32 234 P **P 01 09 17.5 -0.1**
comp=Z,7.1nm,0.9s,baz=69,slow=7.2,SNR=6.5
DBIC LR LR 01 29 04.3
comp=Z,161nm,18.1s,baz=60,slow=40
comp=Z,7.1nm,0.9s
BORG Borgarnes 41.65 331 LR LR 01 26 42.3
comp=Z,41nm,20.1s,baz=247,slow=36
MK31 Makanchi Array 41.94 57 P **P 01 09 22.7 +0.3**
MKAR Makanchi Array 41.94 57 P **P 01 09 22.6 +0.1**
MKAR Makanchi Array 41.94 57 P **P 01 09 22.1 -0.3**
comp=Z,1.7nm,0.6s,baz=279,slow=6.6,SNR=14
MKAR PcP **PcP 01 11 16.3 -1.5**
comp=Z,1.8nm,0.9s,baz=280,slow=4.1,SNR=2.2
comp=Z,1.7nm,0.6s
ZALV Zalesovo Beam 43.42 46 P **P 01 09 33.9 -0.5**
ZALV Zalesovo Beam 43.42 46 P **P 01 09 33.2 -1.1**
comp=Z,1.9nm,0.6s,baz=265,slow=9.0,SNR=9.2
ZALV LR LR 01 31 35.0
comp=Z,134nm,20.5s,baz=290,slow=42
comp=Z,1.9nm,0.6s
SPITS Spitsbergen Ar 43.43 357 P **P 01 09 32.4 -1.7**
comp=Z,12nm,1.0s,baz=120,slow=10,SNR=1.8
SPITS LR LR 01 29 23.1
comp=Z,128nm,18.1s,baz=177,slow=39
comp=Z,12nm,1.0s
EVN Everest 50.12 81 P **P 01 10 27.9 -0.1**
LSZ Lusaka 50.13 180 LR LR 01 31 39.4
comp=Z,87nm,19.8s,baz=3.5,slow=36
TSUM Tsumeb 54.91 192 LR LR 01 37 50.7
comp=Z,119nm,18.0s,baz=352,slow=40
MATP Matopo 55.26 179 LR LR 01 36 00.0
comp=Z,75nm,18.1s,baz=349,slow=37
GTA Gaotai 56.01 63 *eP* **P 01 11 14.8 +4.2**
GTA pP pwP 01 11 22.2 +6.5
GTA pmax pmax
comp=Z,11nm,0.8s
OPO Ambohidratompo 56.47 158 LR LR 01 37 53.0
comp=Z,68nm,18.2s,baz=152,slow=39
MREMI Moremi 57.39 180 P **P 01 11 20.7 +0.4**
SONM Songino Array 57.78 51 **P 01 11 22.8 -0.3**
SONM IAmb IAmb 01 11 29.0
comp=Z,4.4nm,0.8s
SONM Songino Array 57.78 51 P **P 01 11 22.6 -0.4**
comp=Z,1.6nm,0.6s,baz=283,slow=7.8,SNR=15
comp=Z,1.6nm,0.6s
ULN Ulaanbaatar 58.19 51 P **P 01 11 25.8 -0.1**
ULN IAmb IAmb 01 11 31.9
comp=Z,5.4nm,0.8s
LPHEP Lephephe 58.21 182 P 01 11 27.1 +1.0
LKGWB Lokgwabe 59.26 187 P **P 01 11 33.6 +0.2**
LBTB Lobatse 59.86 182 P **P 01 11 39.1 +1.5**
LBTB IAmb IAmb 01 11 49.7
comp=Z,4.5nm,0.8s
LZDM Lanzhou Array 60.15 65 P **P 01 11 40.5 +0.6**
comp=Z,2.2nm,0.5s,baz=286,slow=5.4,SNR=1.2
comp=Z,2.2nm,0.5s

TIXI Tiksi 60.41 21 LR LR 01 40 29.7
comp=Z,102nm,21.3s,baz=352,slow=39
FRB Frobisher Bay 61.81 330 LR LR 01 39 57.3
comp=Z,78nm,18.3s,baz=94,slow=37
BOSA Boshof 63.45 183 P **P 01 12 02.8 +1.0**
BOSA Boshof 63.45 183 P **P 01 12 03.1 +1.4**
comp=Z,2.8nm,0.9s,baz=13,slow=10.0,SNR=4.7
comp=Z,2.8nm,0.9s
CMAR Chiang Mai Arr 64.37 85 P **P 01 12 08.4 +0.4**
comp=Z,0.9nm,0.3s,baz=304,slow=6.1,SNR=1.8
comp=Z,0.9nm,0.3s
SCHQ Schefferville 64.63 320 P **P 01 12 08.4 -0.8**
comp=Z,38nm,0.6s,baz=68,slow=8.1,SNR=9.1
HAL Halifax 67.28 309 P **P 01 12 26.1 -0.3**
LMN Caledonia Moun 67.48 311 P **P 01 12 27.0 -0.7**
SUR Sutherland 67.48 186 P **P 01 12 28.7 +0.9**
BATG Bathurst New B 67.58 313 P **P 01 12 28.3 0.0**
HEH HeiHe 69.39 43 *eP* **P 01 12 43.7 +4.2**
HEH pmax pmax
comp=Z,4.0nm,0.8s
D62A Allapoint, All 69.46 314 P **P 01 12 39.7 -0.3**
MA2 Magadan 74.54 26 LR LR 01 50 37.9
comp=Z,43nm,18.6s,baz=294,slow=40
USRK Ussuriysk Ar. 75.27 46 P **P 01 13 14.2 -0.6**
comp=Z,3.9nm,0.7s,baz=299,slow=5.8,SNR=6.6
comp=Z,3.9nm,0.7s
E29M Blow River 76.24 355 **P 01 13 19.9 0.0**
E29M IAmb IAmb 01 13 29.6
comp=Z,6.7nm,0.9s
KSRS Korea Array 76.53 54 P **P 01 13 21.5 -0.5**
comp=Z,2.4nm,0.6s,baz=302,slow=5.1,SNR=6.8
comp=Z,2.4nm,0.6s
I30M Mount Dempster 79.22 353 P **P 01 13 36.1 -0.5**
I30M IAmb IAmb 01 13 59.2
comp=Z,6.4nm,1.1s
ILAR Eielson Array 80.34 358 P **P 01 13 40.1 -2.5**
comp=Z,0.5nm,0.9s,baz=18,slow=6.5,SNR=5.3
comp=Z,0.5nm,0.9s
K29M Barlow Dome 80.67 353 P **P 01 13 45.2 +0.6**
K29M IAmb IAmb 01 14 17.9
comp=Z,7.3nm,1.4s
HDA Harding Lake 80.70 358 P **P 01 13 44.7 +0.2**
HDA IAmb IAmb 01 13 57.3
comp=Z,4.6nm,0.9s
K27K Chicken 80.85 356 P **P 01 13 45.1 -0.2**
K27K IAmb IAmb 01 13 58.0
comp=Z,8.5nm,1.4s
ASAJ Asahikawa 81.35 41 LR LR 01 55 18.0
comp=Z,97nm,19.7s,baz=22,slow=40
ULM Lac du Bonnet 81.55 327 P **P 01 13 46.5 -2.8**
comp=Z,1.5nm,0.6s,baz=14,slow=8.3,SNR=3.0
ULM LR LR 01 49 30.6
comp=Z,101nm,21.2s,baz=46,slow=35
comp=Z,1.5nm,0.6s
PETK Petropavlovsk- 81.92 28 LR LR 01 56 20.6
comp=Z,63nm,18.3s,baz=301,slow=40
M29M Somme Creek 82.14 354 P **P 01 13 51.9 -0.5**
M29M IAmb IAmb 01 14 05.5
comp=Z,5.2nm,0.8s
PPLA Purkeypile 82.31 0 P **P 01 13 52.9 -0.4**
SJG San Juan 82.97 287 LR LR 01 45 46.8
comp=Z,15nm,21.4s,baz=122,slow=32
SKT Skwentna 83.23 360 P **P 01 13 57.1 -0.8**
SKT IAmb IAmb 01 14 00.8
comp=Z,8.6nm,1.1s
MJAR Matsushiro Arr 83.67 49 P **P 01 13 58.8 -1.9**
comp=Z,1.7nm,0.8s,baz=302,slow=4.9,SNR=4.5
MJAR LR LR 01 53 17.9
comp=Z,35nm,20.0s,baz=344,slow=37
comp=Z,1.7nm,0.8s
DLBC Dease Lake 84.96 349 LR LR 01 54 03.3
comp=Z,1µm,18.3s,baz=74,slow=37
SHEM Shemya Is, Ala 87.68 20 LR LR 01 56 52.9
comp=Z,43nm,18.7s,baz=293,slow=38
BDFB Brasilia 87.76 249 P **P 01 14 20.2 -1.0**
comp=Z,3.9nm,0.8s,baz=37,slow=10,SNR=6.8
BDFB LR LR 01 55 54.8
comp=Z,85nm,18.1s,baz=123,slow=37
comp=Z,3.9nm,0.8s
PDAR Pinedale Array 93.26 330 P **P 01 14 44.7 -2.1**
comp=Z,0.2nm,0.4s,baz=8.6,slow=8.0,SNR=2.6
comp=Z,0.2nm,0.4s
BELA Belgrano 2 118.68 192 PKPdf **PKiKP 01 20 22.5 +3.7**
QSPA South Pole Qui 124.99 180 PKPdf **PKiKP 01 20 32.5 +1.0**
QSPA South Pole Qui 124.99 180 PKP **PKiKP 01 20 31.5 0.0**
comp=Z,1.0nm,0.8s,baz=258,slow=3.3,SNR=5.2

IDC 04 01:06:48.4±2.8**, 30.12S**×**178.27W, h42**km±8km**, mb3.6**/3**, mbtmp3.9**/3**, Error ellipse: s-maj=75.0km s-min=25.0km az=41.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.89**	**267**	P		01 14 42.7	-0.4
	1.0nm,0.7s,baz=105,slow=7.5,SNR=11						
ASAR				pP	pP	01 14 54.5	0.0
	2.2nm,0.6s,baz=105,slow=7.8,SNR=11						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**43.85**	**272**	P		01 14 50.9	0.0
	0.5nm,0.4s,baz=112,slow=7.9,SNR=7.1						
WRA				pP	pP	01 15 02.9	+0.6
	2.2nm,0.6s,baz=114,slow=7.7,SNR=13						
	0.5nm,0.4s						
QSPA	**South Pole Qui**	**59.98**	**180**	P		01 16 50.6	+0.1
	1.5nm,0.6s,baz=79,slow=1.8,SNR=16						
QSPA				pP	pP	01 17 02.4	+0.1
	2.5nm,0.8s,baz=162,slow=0.3,SNR=4.6						
	1.5nm,0.6s						
FINES	**FINESS Array B**	**144.81**	**340**	PKP		PKPab 01 26 19.0	-0.1
	2.2nm,0.7s,baz=47,slow=2.7,SNR=8.2						

*AFAD **04** 01:10:23.0, 35.07N×27.76E, h10km±2km, ML3.1*
*NIC **04** 01:10:23.9, 35.04N×27.85E, h4km±3km, Ml3.1/11*
*IDC **04** 01:10:24.3±1.0, 35.30N×27.81E, h0km, mb3.9/7, mbtmp3.8/13, ML2.7/4, Error ellipse: s-maj=21.6km s-min=15.4km az=173.0*
*ATH **04** 01:10:24.5±0.2, 35.08N×28.05E, h10km, ML3.3/13, Manual Solution by N.Liadopoulou First location: 2019/09/04 01:12:18, This location: 2020/07/03 07:34:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*HLW **04** 01:10:24.7, 35.21N×28.06E, h3km±2km, Md3.2, Ml3.1*
*GII **04** 01:10:26.4±0.0, 35.07N±0.02×27.875E±0.005, h16km, Mws3.9, confirmed*
*ISK **04** 01:10:28.5, 35.45N×27.78E, h14km, ML3.2/14*

ISC 04 01:10:25.7±1.3**, 35.10N**±0.03×**27.88E**±0.03**, h11**km±9km**, n125, σ1s54**/146**, mb3.7**/6**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.74**	**307**	Pg	**Pg**	**01 10 39.3**	**-0.6**
KARP				Sg	**Sg**	**01 10 46.9**	**-2.7**
KARP	**Karpathos**	**0.74**	**307**	P	**Pg**	**01 10 39.0**	**-0.9**
KARP				S	**Sg**	**01 10 50.2**	**+0.5**
KARP				AML	AML	01 10 58.4	
	3.5nm,0.5s						
KARP				AML	AML	01 11 00.1	
	4.5nm,0.7s						
KARP	**Karpathos**	**0.74**	**307**	P	**Pg**	**01 10 40.4**	**+0.4**
RGE1	**Gennadi, Rhode**	**0.92**	**2**	P	**Pg**	**01 10 42.1**	**-1.3**
RGE1				S	**Sg**	**01 10 56.3**	**+0.8**
ARG	**Arkhangelos**	**1.13**	**10**	Pg	**Pb**	**01 10 44.7**	**-2.5**
ARG	**Arkhangelos**	**1.13**	**10**	P	**Pb**	**01 10 46.6**	**-0.6**
ARG				S	**Sn**	**01 11 05.1**	**+2.2**
ARG				AML	AML	01 11 11.7	
	2.9nm,0.9s						
ARG				AML	AML	01 11 14.2	
	3.1nm,0.6s						
ARG	**Arkhangelos**	**1.13**	**10**	P	**Pb**	**01 10 46.3**	**-0.9**
ARG				S	**Sb**	**01 11 01.3**	**-0.6**
ZKR	**Zakros**	**1.36**	**271**	Pn	**Pg**	**01 10 53.2**	**+1.3**
ZKR	**Zakros**	**1.36**	**271**	P	**Pn**	**01 10 49.7**	**-1.0**
ZKR				AML	AML	01 11 25.6	
	1.9nm,0.8s						
ZKR				AML	AML	01 11 26.0	
	0.8nm,1.0s						
ZKR	**Zakros**	**1.36**	**271**	P	**Pn**	**01 10 51.3**	**+0.6**
RODB	**Rodos**	**1.37**	**12**	P	**Pn**	**01 10 49.5**	**-1.2**
RDI1	**Rhodes Town Ha**	**1.37**	**12**	P	**Pn**	**01 10 49.3**	**-1.5**
SIT2	**Siteia**	**1.46**	**275**	P	**Pn**	**01 10 52.7**	**+0.8**
YAZI	**Mula-Dat§a-**	**1.61**	**348**	P	**Pn**	**01 10 53.0**	**-1.1**
YAZI				S	**Sn**	**01 11 15.0**	**+0.1**

DAT Datca 1.64 351 Pn **Pn 01 10 52.7 -1.9**
TURN Turunc 1.69 10 Pn **Pn 01 10 53.9 -1.3**
TURN Turunc 1.69 10 P **Pn 01 10 55.9 +0.7**
TURN S **Sg 01 11 21.3 +1.1**
TURN *i* IAML 01 11 25.0
comp=N,219nm,0.4s
TURN *i* IAML 01 11 26.0
comp=E,219nm,0.9s
KSL Kastellorizon 1.73 53 P **Pn 01 10 54.6 -1.2**
KSL AML AML 01 11 50.6
0.3nm,1.4s
KSL AML AML 01 12 15.4
0.5nm,1.7s
KSL Kastellorizon 1.73 53 P **Pn 01 10 52.8 -3.0**
NPS Neapolis 1.87 276 P **Pn 01 10 58.8 +1.2**
SABU Mula-Dalaman 1.93 27 P **Pn 01 10 59.0 +0.5**
SABU S **Sg 01 11 32.7 +5.0**
SABU *i* IAML 01 11 43.0
comp=N,117nm,0.7s
SABU *i* IAML 01 11 44.0
comp=E,125nm,0.7s
BDRM Kayabasi 1.99 350 P **Pn 01 10 59.7 +0.4**
BDRM S **Sn 01 11 25.9 +1.6**
BDRM *i* IAML 01 11 34.0
comp=E,172nm,0.5s
KLNA Kalymnos 1.99 339 P **Pn 01 10 59.2 -0.1**
CAME Cameli-Denizli 2.17 32 Pn **Pn 01 11 01.9 0.0**
MULA Mugla, Merkez- 2.18 9 P **Pn 01 11 03.2 +1.3**
MULA *i* IAML 01 11 49.0
comp=E,172nm,0.8s
IACM Heraklion 2.31 276 P **Pn 01 11 04.2 +0.5**
DNZT Denizli-Tavas- 2.36 23 P **Pn 01 11 04.6 +0.2**
DNZT *i* IAML 01 11 53.0
comp=N,86nm,0.6s
SNT5 Nea Kammeni, S 2.40 303 P **Pn 01 11 05.7 +0.7**
DDIM Aydin, Didim 2.41 348 P **Pn 01 11 06.7 +1.7**
DDIM S **Sb 01 11 38.3 -0.4**
DDIM *i* IAML 01 11 50.0
comp=N,186nm,0.8s
DDIM *i* IAML 01 12 00.0
comp=E,159nm,0.9s
SAP3 Santorini-Thir 2.45 304 P **Pn 01 11 06.5 +0.8**
IDI Anoyia 2.46 275 Pn **Pn 01 11 08.0 +2.2**
IDI Anoyia 2.46 275 P **Pn 01 11 05.6 -0.2**
6.6nm,0.4s,baz=105,slow=16,SNR=17
IDI Anoyia 2.46 275 P **Pn 01 11 06.2 +0.5**
AYDN Tasoluk 2.55 360 P **Pn 01 11 08.1 +1.0**
AYDN S **Sn 01 11 41.4 +3.2**
AYDN *i* IAML 01 11 53.0
comp=N,117nm,1.0s
AYDN *i* IAML 01 12 06.0
comp=E,74nm,0.7s
TMBK Timbaki Herakl 2.56 270 P **Pn 01 11 08.3 +1.2**
APMY Acipayam-Deniz 2.63 25 Pn **Pn 01 11 07.8 -0.3**
GCAM G?zelcami? 2.64 349 Pn **Pn 01 11 07.1 -1.2**
ESEN Aydn-Nazilli 2.71 8 P **Pn 01 11 09.1 -0.2**
ESEN S **Sn 01 11 44.4 +2.3**
SMG Samos 2.73 342 P **Pn 01 11 09.2 -0.4**
KORT Korkueli 2.75 46 Pn **Pn 01 11 11.2 +1.4**
PRNS Prines Rethymn 2.78 276 P **Pn 01 11 11.7 +1.5**
GVD Gavdhos 3.13 266 Pn **Pn 01 11 18.3 +3.4**
GVD Gavdhos 3.13 266 P **Pn 01 11 16.1 +1.2**
CHAN Chania 3.17 279 P **Pn 01 11 16.2 +0.8**
MHLO Agia Marina, M 3.24 300 P **Pn 01 11 16.9 +0.5**
KNDR Palaiochora Ch 3.44 273 Pn **Pn 01 11 22.7 +3.5**
KNDR Palaiochora Ch 3.44 273 P **Pn 01 11 20.8 +1.6**
ISP Isparta 3.45 37 P **Pn 01 11 17.2 -2.3**
CHOS Chios island 3.59 336 P **Pn 01 11 21.2 -0.2**
AKMS Akamas 3.65 90 P **Pn 01 11 21.7 -0.5**
AKMS S **Sn 01 12 06.5 +1.2**
AKMS AML AML 01 12 18.8
0.1nm,0.5s
AKMS AML AML 01 12 18.8
0.1nm,0.9s
AKMS Akamas 3.65 90 P **Pn 01 11 19.4 -2.8**
ANKY Antikythira Is 3.81 283 P **Pn 01 11 24.7 +0.3**
NATA Nata 3.86 93 P **Pn 01 11 25.9 +0.8**
NATA S **Sn 01 12 11.8 +1.3**
NATA AML AML 01 12 27.4
0.4nm,0.7s
NATA AML AML 01 12 29.7
0.4nm,0.6s
NATA Nata 3.86 93 P **Pn 01 11 22.3 -2.8**
ALFC Alefka 3.87 88 P **Pn 01 11 25.2 +0.1**
ALFC S **Sn 01 12 12.4 +1.8**
ALFC AML AML 01 12 12.6
0.2nm,0.6s
ALFC AML AML 01 12 18.2
0.2nm,0.6s
ALFC Alefka 3.87 88 P Pn 01 11 21.5 -3.6
SEYD Seydisehir-KON 3.94 53 Pn **Pn 01 11 28.9 +2.7**
KTHA Kythira Island 4.09 288 Pn **Pn 01 11 30.1 +1.9**
TROD Troodos 4.09 91 P **Pn 01 11 27.8 -0.6**
TROD S **Sn 01 12 19.0 +2.6**
TROD AML AML 01 12 27.4
0.1nm,0.7s
TROD AML AML 01 12 27.8
0.1nm,0.7s
SLUM Salum 4.24 213 P **Pn 01 11 31.8 +1.6**
XYLS Xyliatos 4.24 90 P **Pn 01 11 30.8 +0.5**
XYLS S **Sn 01 12 21.2 +1.3**
XYLS AML AML 01 12 25.0
0.1nm,0.5s
XYLS AML AML 01 12 43.0
0.1nm,0.6s
VLI Veliai 4.33 293 P **Pn 01 11 32.1 +0.7**
DION Dionisos Attik 4.35 314 P **Pn 01 11 32.6 +0.9**
MET4 Agioi Theodoro 4.41 306 P **Pn 01 11 33.8 +1.4**
MET6 Megalochori,Me 4.42 306 P **Pn 01 11 33.3 +0.7**
ASGA Asgata 4.42 93 P **Pn 01 11 32.5 -0.2**
ASGA S **Sn 01 12 26.6 +2.4**
ASGA AML AML 01 12 30.5
0.2nm,0.6s
ASGA AML AML 01 12 31.7
0.2nm,0.6s
ASGA Asgata 4.42 93 P Pn 01 11 29.6 -3.1
CSS Mathiatis 4.47 90 P **Pn 01 11 34.0 +0.6**
STFN Stefani 4.64 313 P **Pn 01 11 35.8 -0.1**
KYMI Kymi, Euboea I 4.65 320 P **Pn 01 11 36.2 +0.4**
MVOU Mavrovouni 4.72 89 P **Pn 01 11 36.0 -0.8**
MVOU S **Sn 01 12 34.0 +2.5**
MVOU AML AML 01 12 41.2
0.1nm,1.0s
MVOU AML AML 01 12 51.3
0.1nm,0.6s
MVOU Mavrovouni 4.72 89 P **Pn 01 11 34.2 -2.6**
VIL2 Platees 4.83 311 P **Pn 01 11 38.4 0.0**
LTK Loutraki 4.91 308 P **Pn 01 11 39.6 +0.1**
SWA2 6.19 200 P **Pn 01 11 59.2 +2.1**
RYAN Fayoum 6.34 161 P **Pn 01 12 00.2 +1.2**
BRTR Keskin Array B 6.50 43 Pn **Pn 01 12 00.7 -0.7**
0.1nm,0.3s,baz=200,slow=14,SNR=4.5
BRTR Sn **Sn 01 13 10.0 -5.7**
baz=115,slow=26
MMA0B Mount Meron ar 6.58 106 P **Pn 01 12 02.8 +0.3**
MMA0B Mount Meron ar 6.58 106 S **Sn 01 13 17.7 +0.1**
MMAI Mount Meron Ar 6.58 106 Pn **Pn 01 12 02.8 +0.4**
1.1nm,0.3s,baz=316,slow=9.3,SNR=4.4
MMAI Sn **Sn 01 13 14.4 -3.1**
baz=313,slow=15
GEM Giv'at Ha'Em 6.72 104 P **Pn 01 12 04.9 +0.6**
GEM Giv'at Ha'Em 6.72 104 S **Sn 01 13 21.2 +0.3**
NATI Neve Ativ 6.76 104 P **Pn 01 12 05.3 +0.4**
NATI Neve Ativ 6.76 104 S **Sn 01 13 22.1 +0.1**
SALP Salfit 6.81 114 P **Pn 01 12 06.2 +0.6**
SALP Salfit 6.81 114 S **Sn 01 13 23.1 0.0**
AMAZ Amatzia 6.88 119 P **Pn 01 12 07.0 +0.5**
AMAZ Amatzia 6.88 119 S **Sn 01 13 24.8 -0.1**
KZIT Kziot 6.89 126 P **Pn 01 12 06.6 0.0**
KZIT Kziot 6.89 126 S **Sn 01 13 25.0 -0.1**
KSHT Keshet 6.91 106 P **Pn 01 12 07.2 +0.2**
KSHT Keshet 6.91 106 S **Sn 01 13 26.0 +0.3**
HMDT Nahal Hemdat 6.98 112 P **Pn 01 12 08.2 +0.4**
HMDT Nahal Hemdat 6.98 112 S **Sn 01 13 27.3 +0.1**
YTIR Yattir 7.12 120 P **Pn 01 12 10.1 +0.3**
YTIR Yattir 7.12 120 S **Sn 01 13 30.8 +0.1**
DSI Dead Sea 7.20 117 P **Pn 01 12 10.9 +0.1**
DSI Dead Sea 7.20 117 S **Sn 01 13 32.9 +0.3**
MSBI Mazada 7.32 119 P **Pn 01 12 13.0 +0.6**
MSBI Mazada 7.32 119 S **Sn 01 13 35.4 -0.1**
GHAJ Ghor Haditha 7.47 118 P **Pn 01 12 15.1 +0.5**
GHAJ Ghor Haditha 7.47 118 S **Sn 01 13 39.4 0.0**
KRMI Paran Flat 7.62 129 P **Pn 01 12 17.0 +0.3**

KRMI Paran Flat 7.62 129 S **Sn** 01 13 42.5 -0.5
ZFRI Zfri 7.63 124 P **Pn** 01 12 17.0 +0.2
ZFRI Zfri 7.63 124 S **Sn** 01 13 42.7 -0.6
PRNI Paran 7.64 126 P **Pn** 01 12 17.0 0.0
PRNI Paran 7.64 126 S **Sn** 01 13 44.0 +0.3
HRFI Mount Harif 7.87 128 S **Pn** 01 12 20.5 +0.4
HRFI Mount Harif 7.87 128 S **Sn** 01 13 49.0 -0.3
MBRI Mt Berech 7.96 130 P **Pn** 01 12 22.0 +0.6
MBRI Mt Berech 7.96 130 S **Sn** 01 13 51.5 0.0
ASF Jabal al Asfar 8.06 109 Pn **Pn** 01 12 23.7 +0.8
0.5nm,0.3s,baz=65,slow=19,SNR=4.9
ASF Sn **Sn** 01 13 52.0 -2.2
0.2nm,0.3s,baz=242,slow=24,SNR=6.1
2.4nm,0.5s
EIL Elat 8.07 130 Pn **Pn** 01 12 24.1 +1.3
6.1nm,0.5s,baz=257,slow=4.6,SNR=8.4
EIL Sn **Sn** 01 13 48.2 -5.8
1.1nm,0.3s,baz=358,slow=9.7,SNR=4.9
EIL Elat 8.07 130 P **Pn** 01 12 22.6 -0.2
EIL Elat 8.07 130 S **Sn** 01 13 53.8 -0.3
KBZ Khabaz 14.44 49 Pn **Pn** 01 13 52.5 +2.6
0.1nm,0.3s,baz=214,slow=11,SNR=7.1
1.4nm,1.0s
GERES GERESS Array B 17.27 327 P **Pn** 01 14 25.3 -1.5
baz=143,slow=12,SNR=6.6
0.8nm,0.8s
ESDC Sonseca Array 25.63 290 P **P** 01 15 54.0 -1.4
1.0nm,0.8s,baz=79,slow=8.9,SNR=9.5
1.0nm,0.8s
FINES FINESS Array B 26.38 358 P **P** 01 15 59.3 -2.5
16nm,1.4s,baz=166,slow=9.6,SNR=1.9
16nm,1.4s
HFS Hagfors 26.69 344 P **P** 01 16 02.0 -2.6
1.0nm,0.5s,baz=184,slow=16,SNR=5.3
1.0nm,0.5s
TORD Torodi Ar. Bea 32.21 234 P **P** 01 16 54.9 +0.9
1.0nm,0.6s,baz=29,slow=9.9,SNR=11
1.0nm,0.6s
ARCES ARCESS Array B 34.51 359 P **P** 01 17 12.4 -1.1
3.3nm,1.0s,baz=170,slow=9.1,SNR=2.4
3.3nm,1.0s
KURBB Kurchatov Arra 39.42 51 P **P** 01 17 56.1 +0.6
0.4nm,0.5s,baz=274,slow=8.9,SNR=7.8
0.4nm,0.5s
MKAR Makanchi Array 41.94 57 P **P** 01 18 17.4 +1.0
0.3nm,0.5s,baz=271,slow=9.4,SNR=5.2
0.3nm,0.5s

*NEIC **04** 01:38:33.3±1.9,20.5°S±0.1°×178.9°W±0.1,h611km±7km, mb4.2/40,Error ellipse: s-maj=18.1km s-min=14.5km az=50.0*
*IDC **04** 01:38:33.6±4.0,20.52°S×178.95°W,h618km±47km, mb3.3/13,mbtmp4.3/13,Error ellipse: s-maj=19.8km s-min=15.8km az=76.0*
ISC 04 01:38:35.4±0.5,20.5°S±0.1°×179.0°W±0.1,h645km,n85, σ1§11/83,mb4.1/32,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.86**	**314**	P		**P**	**P**	**01 39 59.8**	**-3.7**
FUTU	**Fugatoga**	**6.18**	**8**	P		**P**	**P**	**01 40 16.9**	**-3.7**
NIUE	**Niue**	**6.69**	**82**	P		P	P	01 40 37.8	-5.0
CTAO	**Charters Tower**	**32.52**	**264**	P		**P**	**P**	**01 44 17.1**	**+0.8**
CTAO				IAmb		IAmb	IAmb	01 44 18.1	
	comp=Z,7.5nm,1.2s								
BBOO	**Buckleboo**	**41.69**	**243**	P		**P**	**P**	**01 45 30.1**	**-0.4**
BBOO				IAmb		IAmb	IAmb	01 45 45.6	
	comp=Z,14nm,1.3s								
WR8	**Warramunga Arr**	**43.48**	**262**	P		**P**	**P**	**01 45 44.2**	**-0.4**
WR8				IAmb		IAmb	IAmb	01 45 48.2	
	comp=Z,12nm,1.4s								
AS31	**Alice Springs**	**43.58**	**257**	P		**P**	**P**	**01 45 45.5**	**+0.2**
ASAR	**Alice Springs**	**43.58**	**257**	P		**P**	**P**	**01 45 45.1**	**-0.2**
ASAR	**Alice Springs**	**43.58**	**257**	P		**P**	**P**	**01 45 45.7**	**+0.4**
	comp=Z,3.7nm,0.5s,baz=91,slow=8.1,SNR=38								
ASAR				PcP		**PcP**	**PcP**	**01 47 18.8**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=96,slow=4.5,SNR=5.7								
	comp=Z,3.7nm,0.5s								
WB0	**Warramunga Arr**	**43.61**	**262**	P		**P**	**P**	**01 45 45.2**	**-0.4**
WB0				IAmb		IAmb	IAmb	01 45 50.1	
	comp=Z,12nm,1.4s								
WRAB	**Tennant Creek**	**43.63**	**262**	P		**P**	**P**	**01 45 45.4**	**-0.3**
WRA	**Warramunga Arr**	**43.64**	**262**	P		**P**	**P**	**01 45 45.6**	**-0.1**
WRA	**Warramunga Arr**	**43.64**	**262**	P		**P**	**P**	**01 45 45.9**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=97,slow=8.0,SNR=19								
	comp=Z,1.5nm,0.3s								
FITZ	**Fitzroy Crossi**	**52.06**	**263**	P		**P**	**P**	**01 46 48.9**	**+0.8**
MBWA	**Marble Bar**	**56.91**	**258**	P		**P**	**P**	**01 47 21.3**	**-0.4**
MBWA				IAmb		IAmb	IAmb	01 47 37.9	
	comp=Z,22nm,1.4s								
VNDA	**Vanda**	**57.87**	**185**	P		**P**	**P**	**01 47 27.1**	**-0.1**
VNDA	**Vanda**	**57.87**	**185**	P		**P**	**P**	**01 47 26.8**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=2.6,slow=6.1,SNR=9.0								
	comp=Z,0.7nm,0.5s								
MJAR	**Matsushiro Arr**	**69.60**	**324**	P		**P**	**P**	**01 48 43.4**	**+1.4**
MJAR	**Matsushiro Arr**	**69.60**	**324**	P		**P**	**P**	**01 48 42.7**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=160,slow=5.1,SNR=5.2								
	comp=Z,1.8nm,0.6s								
QSPA	**South Pole Qui**	**69.61**	**180**	P		**P**	**P**	**01 48 42.6**	**+0.9**
QSPA	**South Pole Qui**	**69.61**	**180**	P		**P**	**P**	**01 48 42.3**	**+0.6**
	comp=Z,2.8nm,0.6s,baz=209,slow=1.7,SNR=25								
	comp=Z,2.8nm,0.6s								
KIWB	**Kanaga Island**	**72.02**	**1**	P		**P**	**P**	**01 48 56.4**	**+0.7**
ADK	**Adak**	**72.06**	**2**	P		**P**	**P**	**01 48 55.8**	**-0.1**
UNV	**Unalaska Valle**	**74.78**	**8**	P		**P**	**P**	**01 49 10.9**	**-0.4**
PETK	**Petropavlovsk-**	**75.98**	**346**	P		**P**	**P**	**01 49 18.9**	**+0.9**
PETK	**Petropavlovsk-**	**75.98**	**346**	P		**P**	**P**	**01 49 19.1**	**+1.1**
	comp=Z,2.8nm,0.6s,baz=120,slow=8.8,SNR=6.2								
	comp=Z,2.8nm,0.6s								
KSRS	**Korea Array**	**76.21**	**319**	P		**P**	**P**	**01 49 20.6**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=120,slow=7.4,SNR=2.8								
	comp=Z,1.1nm,0.7s								
S12K	**Black Hills**	**77.22**	**10**	P		**P**	**P**	**01 49 24.1**	**-0.5**
KHMM	**Horse Mountain**	**79.74**	**39**	P		**P**	**P**	**01 49 40.0**	**+1.5**
KHMM				IAmb		IAmb	IAmb	01 49 52.8	
	comp=Z,10nm,1.2s								
O02D	**Mt. Diablo Mer**	**79.87**	**40**	P		**P**	**P**	**01 49 40.6**	**+1.4**
O02D				IAmb		IAmb	IAmb	01 49 41.3	
	comp=Z,3.7nm,0.7s								
PLK4	**Peulik 4**	**80.07**	**12**	P		**P**	**P**	**01 49 40.0**	**+0.3**
PLK4				IAmb		IAmb	IAmb	01 49 41.1	
	comp=Z,10nm,0.7s								
KSXB	**Camp Six Broad**	**80.25**	**38**	P		**P**	**P**	**01 49 41.8**	**+0.8**
KSXB				IAmb		IAmb	IAmb	01 50 07.0	
	comp=Z,13nm,1.4s								
M02C	**Callahan**	**80.58**	**39**	P		**P**	**P**	**01 49 44.1**	**+1.4**
M02C				IAmb		IAmb	IAmb	01 49 45.4	
	comp=Z,4.6nm,0.8s								
YBH	**Yreka Blue Hor**	**80.87**	**39**	P		**P**	**P**	**01 49 45.9**	**+1.6**
YBH				IAmb		IAmb	IAmb	01 49 46.6	
	comp=Z,5.9nm,0.9s								
DSP	**Deep Springs**	**81.29**	**45**	P		**P**	**P**	**01 49 47.4**	**+1.0**
GWY	**Greenwater Val**	**81.52**	**46**	P		**P**	**P**	**01 49 48.1**	**+0.3**
O16K	**Kokwok River B**	**81.59**	**11**	P		**P**	**P**	**01 49 47.0**	**-0.3**
O16K				IAmb		IAmb	IAmb	01 50 23.6	
	comp=Z,14nm,1.2s								
NVAR	**Mina Array Bea**	**81.67**	**44**	P		**P**	**P**	**01 49 49.2**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=222,slow=7.9,SNR=11								
	comp=Z,1.6nm,0.6s								
P18K	**Big Mountain,**	**81.92**	**12**	P		**P**	**P**	**01 49 49.2**	**0.0**
TPNV	**Topopah Spring**	**82.21**	**46**	P		**P**	**P**	**01 49 52.4**	**+1.1**
K05A	**Summer Lake**	**82.55**	**39**	P		**P**	**P**	**01 49 54.2**	**+1.4**
K05A				IAmb		IAmb	IAmb	01 49 55.1	
	comp=Z,9.6nm,1.0s								
J05D	**Fort Rock, OR**	**82.68**	**39**	P		**P**	**P**	**01 49 54.7**	**+1.2**
J05D				IAmb		IAmb	IAmb	01 49 55.6	
	comp=Z,9.2nm,0.7s								
M16K	**Timber Creek**	**82.80**	**10**	P		**P**	**P**	**01 49 54.8**	**+1.4**
PINE	**Pine Mountain**	**83.15**	**38**	P		**P**	**P**	**01 49 56.2**	**+0.4**
PINE				IAmb		IAmb	IAmb	01 49 58.1	
	comp=Z,6.1nm,0.8s								
N19K	**Bonanza Creek**	**83.38**	**12**	P		**P**	**P**	**01 49 56.2**	**-0.2**
N19K				IAmb		IAmb	IAmb	01 50 03.0	
	comp=Z,13nm,1.4s								
L18K	**Granite Mounta**	**84.30**	**10**	P		**P**	**P**	**01 50 01.6**	**+0.9**
L18K				IAmb		IAmb	IAmb	01 50 27.5	
	comp=Z,11nm,1.4s								
U15A	**North Rim**	**84.66**	**48**	P		**P**	**P**	**01 50 04.7**	**+1.2**
U15A				IAmb		IAmb	IAmb	01 50 05.1	
	comp=Z,3.4nm,0.7s								
SCM	**Sheep Creek Mo**	**85.83**	**14**	P		**P**	**P**	**01 50 08.8**	**+0.5**
N25K	**Chitina, Valde**	**86.30**	**16**	P		**P**	**P**	**01 50 11.1**	**+0.6**
TRF	**Thorofare Moun**	**86.61**	**13**	P		**P**	**P**	**01 50 12.1**	**+0.1**
TXAR	**Lajitas Array**	**87.86**	**58**	P		**P**	**P**	**01 50 19.2**	**+0.7**
TXAR	**Lajitas Array**	**87.86**	**58**	P		**P**	**P**	**01 50 19.6**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=215,slow=6.5,SNR=11								
	comp=Z,1.3nm,0.8s								
SNAA	**Sanae**	**88.08**	**179**	P		**P**	**P**	**01 50 17.2**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=196,slow=7.4,SNR=2.2								
	comp=Z,0.4nm,0.6s								
ILAR	**Eielson Array**	**88.49**	**13**	P		**P**	**P**	**01 50 20.1**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=214,slow=5.3,SNR=6.4								
	comp=Z,1.3nm,0.5s								
M29M	**Somme Creek**	**88.65**	**18**	P		**P**	**P**	**01 50 22.4**	**+0.9**
M29M						IAmb	IAmb	01 50 23.2	
	comp=Z,3.3nm,0.7s								
E19K	**Redstone River**	**89.14**	**8**	P		**P**	**P**	**01 50 24.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**89.18**	**290**	P		**P**	**P**	**01 50 26.9**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=116,slow=3.0,SNR=5.0								
	comp=Z,0.8nm,0.3s								
PD31	**Pinedale Array**	**89.60**	**44**	P		**P**	**P**	**01 50 26.9**	**+0.4**
PD31						IAmb	IAmb	01 50 27.4	
	comp=Z,1.4nm,0.7s								
PDAR	**Pinedale Array**	**89.60**	**44**	P		**P**	**P**	**01 50 26.9**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=240,slow=2.9,SNR=8.0								
	comp=Z,1.3nm,0.7s								
BVAR	**Borovoye Array**	**118.42**	**320**	PKP		**PKPdf**	**PKPdf**	**01 56 11.0**	**-0.1**
	comp=Z,1.9nm,0.3s,baz=122,slow=2.1,SNR=15								
ARCES	**ARCESS Array B**	**128.70**	**349**	PKhKP		PKPpre	PKPpre	01 56 27.6	
	comp=Z,1.4nm,0.6s,baz=17,slow=1.3,SNR=8.8								
FINES	**FINESS Array B**	**135.45**	**343**	PKP		**PKPdf**	**PKPdf**	**01 56 41.3**	**-1.9**
	comp=Z,0.9nm,0.6s,baz=111,slow=3.1,SNR=6.6								
HFS	**Hagfors**	**139.34**	**350**	PKhKP		PKPpre	PKPpre	01 56 42.7	
	comp=Z,1.0nm,0.3s,baz=60,slow=3.8,SNR=17								
AKASG	**Malin Array Be**	**142.50**	**330**	PKPdf		**PKPdf**	**PKPdf**	**01 56 54.1**	**-2.2**
AKASG	**Malin Array Be**	**142.50**	**330**	PKhKP		PKPpre	PKPpre	01 56 53.7	
	comp=Z,3.7nm,0.4s,baz=44,slow=4.3,SNR=30								
AKBB	**Malin Array Si**	**142.50**	**330**	PKPdf		**PKPdf**	**PKPdf**	**01 56 53.6**	**-2.7**
KIEV	**Kiev**	**142.51**	**330**	PKPdf		**PKPdf**	**PKPdf**	**01 56 53.4**	**-2.9**
BNN	**Bunyan**	**144.85**	**309**	PKPbc		**PKPab**	**PKPdf**	**01 57 03.4**	**+0.4**
EKA	**Eskdalemuir Ar**	**145.04**	**4**	PKPbc		**PKPbc**	**PKPbc**	**01 57 01.6**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=336,slow=2.6,SNR=6.5								
BRTR	**Keskin Array B**	**146.08**	**312**	PKPbc		**PKPbc**	**PKPbc**	**01 57 05.8**	**+0.5**
BRTR	**Keskin Array B**	**146.08**	**312**	PKPbc		**PKPbc**	**PKPbc**	**01 57 06.0**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=130,slow=3.6,SNR=11								
BUR08	**Bucovina Ar. S**	**146.52**	**330**	PKPbc		**PKiKP**	**PKiKP**	**01 57 07.7**	**-0.5**
BURAR	**Bucovina Array**	**146.54**	**330**	PKPbc		**PKiKP**	**PKiKP**	**01 57 07.6**	**-0.7**
MMAI	**Mount Meron Ar**	**146.94**	**299**	PKPbc		**PKiKP**	**PKiKP**	**01 57 08.9**	**-0.6**
	comp=Z,2.4nm,0.4s,baz=79,slow=4.3,SNR=12								
MLR	**Muntele Rosu**	**147.65**	**326**	PKPbc		**PKPbc**	**PKPbc**	**01 57 09.6**	**+0.3**
CLL	**Collm**	**147.79**	**346**	PKPbc		**PKPbc**	**PKPbc**	**01 57 09.7**	**+0.4**
CLL	**Collm**	**147.79**	**346**	*i* PKPbc		**PKiKP**	**PKiKP**	**01 57 10.1**	**-0.5**
	comp=Z,10.0nm,0.9s								
CLL				*i* PKPab		**PKPab**	**PKPab**	**01 57 14.8**	**+0.7**
	comp=Z,6.0nm,1.2s								
GERES	**GERESS Array B**	**149.88**	**343**	PKPbc		**PKPbc**	**PKPbc**	**01 57 14.8**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=35,slow=4.9,SNR=9.9								
CONA	**Conrad Observa**	**150.06**	**340**	*e*P		**PKiKP**	**PKiKP**	**01 57 15.6**	**+0.1**
	comp=Z,2.0nm,0.6s								
RONA	**Rosalia, Austr**	**150.12**	**339**	*i* P		**PKiKP**	**PKiKP**	**01 57 15.7**	**+0.1**
	comp=Z,3.7nm,0.5s								
RDO	**Rodhopi**	**150.66**	**320**	PKPbc		**PKiKP**	**PKiKP**	**01 57 16.9**	**+0.1**
LESA	**Schwarzleotal**	**151.46**	**343**	*i* P		**PKPbc**	**PKPbc**	**01 57 18.1**	**0.0**
	comp=Z,1.1nm,0.4s								
WTTA	**Wattenberg**	**151.88**	**344**	*i* P		**PKPbc**	**PKPbc**	**01 57 19.0**	**-0.3**
	comp=Z,1.9nm,0.3s								
MYKA	**Terra Mystica**	**151.91**	**341**	*i* P		**PKPbc**	**PKPbc**	**01 57 18.4**	**-0.8**
	comp=Z,1.0nm,0.4s								
ABTA	**Abfaltersbach**	**152.13**	**343**	*i* P		**PKPbc**	**PKPbc**	**01 57 18.8**	**-0.9**
	comp=Z,2.2nm,0.5s								

*SJA **04** 01:46:31.6±0.8,23.31°S×68.79°W,h113km±4km,ML3.5, MW3.5*
*GUC **04** 01:46:33.0±0.8,23.33°S×68.79°W,h100km±4km,ML3.8*
ISC 04 01:46:31.8±1.3,23.33°S±0.03°×68.79°W±0.04°,h120km±9km, n44,σ1§34/64,1C-4D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.67**	**56**	*i* P		**P**	**P**	**01 46 51.0**	**-0.3**
AF01						*e*S	**Sn**	**01 47 04.5**	**-1.5**
AF01				IAML				01 47 05.0	
	comp=N,4μm,0.2s								
AF01	**San Pedro de A**	**0.67**	**56**	*e*P		**Pn**	**Pn**	**01 46 51.4**	**+0.1**
AF01						*e*S	**Sn**	**01 47 04.9**	**-1.1**
AF01				IAML				01 47 06.8	
	comp=Z,2μm,0.1s								
PB06	**IPOC Station P**	**0.95**	**310**	*i* P		**Pn**	**Pn**	**01 46 53.9**	**+0.3**
PB06						*e*S	**Sn**	**01 47 09.1**	**-1.0**
PB06				IAML				01 47 09.7	
	comp=N,5μm,0.1s								
PB06	**IPOC Station P**	**0.95**	**310**	*e*P		**Pn**	**Pn**	**01 46 53.7**	**+0.1**
PB06						*e*S	**Sn**	**01 47 09.3**	**-0.7**
PB06				IAML				01 47 10.5	
	comp=Z,2μm,0.3s								
PB05	**IPOC Station P**	**1.39**	**290**	*e*P		**Pn**	**Pn**	**01 46 58.3**	**+0.2**
PB05						*e*S	**Sn**	**01 47 17.4**	**-0.7**
PB05	**IPOC Station P**	**1.39**	**290**	*e*P		**Pn**	**Pn**	**01 46 58.3**	**+0.2**
PB05						*e*S	**Sn**	**01 47 18.2**	**+0.2**
PB05				IAML				01 47 18.9	
	comp=Z,330nm,0.2s								
PB03	**IPOC Station P**	**1.56**	**325**	*i* P		**Pn**	**Pn**	**01 47 00.6**	**+0.5**
PB03						*e*S	**Sn**	**01 47 21.3**	**-0.3**
PB03				IAML				01 47 22.5	
	comp=E,1μm,0.2s								
PB03	**IPOC Station P**	**1.56**	**325**	*e*P		**Pn**	**Pn**	**01 46 60.0**	**-0.1**
PB03						*e*S	**Sn**	**01 47 21.4**	**-0.3**
PB03				IAML				01 47 22.2	
	comp=Z,955nm,0.3s								
PB09	**IPOC Station P**	**1.58**	**344**	*i* P		**Pn**	**Pn**	**01 47 01.7**	**+1.3**
PB09						*e*S	**Sn**	**01 47 23.0**	**+0.9**
PB09	**IPOC Station P**	**1.58**	**344**	*e*P		**Pn**	**Pn**	**01 47 01.0**	**+0.6**
PB09						*e*S	**Sn**	**01 47 24.3**	**+2.2**
PB09				IAML				01 47 27.4	
	comp=Z,353nm,0.2s								
PB10	**IPOC Station P**	**1.64**	**263**	*e*P		**Pn**	**Pn**	**01 47 01.5**	**+0.7**
PB10						*e*S	**Sn**	**01 47 23.0**	**+0.1**
PB10	**IPOC Station P**	**1.64**	**263**	*e*P		**Pn**	**Pn**	**01 47 01.3**	**+0.5**
PB10						*e*S	**Sn**	**01 47 22.6**	**-0.3**
PB10				IAML				01 47 27.3	
	comp=Z,165nm,0.3s								
PB14	**IPOC Station P**	**1.96**	**229**	*e*P		**Pn**	**Pn**	**01 47 05.9**	**+0.8**
PB14	**IPOC Station P**	**1.96**	**229**	*e*P		**Pn**	**Pn**	**01 47 05.8**	**+0.6**
PB14						*e*S	**Sn**	**01 47 29.5**	**-1.1**
PB14				IAML				01 47 34.6	
	comp=Z,268nm,0.6s								
GO02	**Mina Guanaco**	**1.97**	**202**	*e*P		**Pn**	**Pn**	**01 47 06.4**	**+1.3**
GO02						*e*S	**Sn**	**01 47 31.7**	**+1.1**
GO02				IAML				01 47 36.3	
	comp=E,1μm,0.3s								
GO02	**Mina Guanaco**	**1.97**	**202**	*e*P		**Pn**	**Pn**	**01 47 05.7**	**+0.5**
GO02						*e*S	**Sn**	**01 47 31.8**	**+1.1**
GO02				IAML				01 47 35.5	
	comp=Z,658nm,0.3s								
PB02	**IPOC Station P**	**2.25**	**333**	*i* P		**Pn**	**Pn**	**01 47 09.1**	**+0.6**
PB02						*e*S	**Sn**	**01 47 36.6**	**0.0**
PB02				IAML				01 47 41.9	
	comp=E,694nm,0.6s								
PB02	**IPOC Station P**	**2.25**	**333**	*e*P		**Pn**	**Pn**	**01 47 08.8**	**+0.3**
PB02						*e*S	**Sn**	**01 47 38.0**	**+1.4**
PB02				IAML				01 47 41.4	
	comp=Z,620nm,0.2s								
PB01	**IPOC Station P**	**2.37**	**344**	*i* P		**Pn**	**Pn**	**01 47 10.6**	**+0.6**
PB01						*e*S	**Sn**	**01 47 40.5**	**+1.2**
PB01				IAML				01 47 43.5	
	comp=E,358nm,0.1s								
PB01	**IPOC Station P**	**2.37**	**344**	*e*P		**Pn**	**Pn**	**01 47 10.6**	**+0.6**
PB01						*e*S	**Sn**	**01 47 41.9**	**+2.7**
PB01				IAML				01 47 48.1	
	comp=Z,236nm,0.2s								
SALTA		**2.41**	**112**	*e*P		Pn		01 47 18.3	+7.4
PATCX	**Punta Patache**	**2.80**	**333**	*e*P		**Pn**		**01 47 15.3**	**-0.2**
PATCX	**Punta Patache**	**2.80**	**333**	*e*P		**Pn**		**01 47 15.3**	**-0.2**
PATCX				*e*S		**Sn**		**01 47 44.0**	**-5.3**
PATCX				IAML				01 47 55.8	
	comp=Z,69nm,0.4s								
TA01	**Diego Aracena**	**3.04**	**335**	*e*P		**Pn**		**01 47 18.0**	**-0.6**
TA01	**Diego Aracena**	**3.04**	**335**	*e*P		Pn		01 47 09.0	-10
TA01				IAML				01 48 19.0	
	comp=Z,74nm,0.6s								
HJA	**Humahuaca**	**3.11**	**88**	*e*P		**Pn**		**01 47 17.7**	**-2.2**
HJA				*e*S		**Sn**		**01 47 59.6**	**+2.7**
PB08	**IPOC Station P**	**3.19**	**354**	*i* P		**Pn**		**01 47 21.7**	**+0.7**
PB08	**IPOC Station P**	**3.19**	**354**	*e*P		**Pn**		**01 47 21.7**	**+0.7**
HMBC	**Humberstone**	**3.20**	**341**	*e*P		**Pn**		**01 47 20.3**	**-0.6**
HMBC				IAML				01 48 24.0	
	comp=Z,114nm,0.5s								
YJA	**Yavi**	**3.23**	**70**	*e*P		**Pn**		**01 47 20.9**	**-0.7**
AC01	**Pan de Azucar**	**3.25**	**210**	*e*P		**Pn**		**01 47 21.7**	**+0.2**
AC01	**Pan de Azucar**	**3.25**	**210**	*e*P		**Pn**		**01 47 21.6**	**+0.2**
AC01				*e*S		**Sn**		**01 48 00.2**	**+0.4**
AC01				IAML				01 48 25.3	
	comp=Z,114nm,0.5s								
TA02	**Huaiquique**	**3.29**	**337**	*e*P		**Pn**		**01 47 21.9**	**0.0**
TA02				IAML				01 48 15.5	
	comp=Z,105nm,0.1s								
SLA	**San Lorenzo**	**3.31**	**115**	*e*P		Pn		01 47 26.8	+4.6
AC02	**Maricunga**	**3.50**	**185**	*e*P		**Pn**		**01 47 27.6**	**+2.4**
AC02	**Maricunga**	**3.50**	**185**	*e*P		**Pn**		**01 47 26.9**	**+1.7**
AC02				*e*S		**Sn**		**01 48 06.0**	**-0.4**
AC02				IAML				01 48 38.8	
	comp=Z,65nm,0.7s								
AZAP	**Zapla**	**3.52**	**105**	*e*P		**Pn**		**01 47 28.0**	**+2.8**
PB11	**IPOC Station P**	**3.64**	**347**	*e*P		**Pn**		**01 47 26.3**	**-0.4**
PB11	**IPOC Station P**	**3.64**	**347**	*e*P		**Pn**		**01 47 26.4**	**-0.4**
PB11				IAML				01 48 44.8	
	comp=Z,52nm,1.4s								
GO01	**Chusmiza**	**3.66**	**354**	*e*P		**Pn**		**01 47 27.7**	**+0.4**
GO01	**Chusmiza**	**3.66**	**354**	*e*P		Pn		01 47 16.8	-11
GO01				IAML				01 48 17.0	
	comp=Z,27nm,0.1s								
FSA	**Cafayete**	**3.77**	**138**	*e*P		**Pn**		**01 47 25.6**	**-2.8**
GO03	**Copiapo**	**4.44**	**197**	*e*P		**Pn**		**01 47 37.1**	**-0.2**
GO03				*e*S		**Sn**		**01 48 27.4**	**-0.8**
GO03				IAML				01 48 50.0	
	comp=Z,44nm,0.2s								
AC04	**Llanos de Chal**	**5.28**	**203**	*e*P		**Pn**		**01 47 45.9**	**-2.5**
AC04				IAML				01 48 49.8	
	comp=Z,24nm,2.5s								

*IDC **04** 01:53:30.8±3.0,60.41°S×26.92°W,h0km,mb4.8/1, mbtmp4.3/2,ML3.7/1,Error ellipse: s-maj=149.6km s-min=47.7km az=80.0*
*NEIC **04** 01:53:33.5±1.7,60.3°S±0.1°×26.3°W±0.2,h10km±1km, mb4.6/12,Error ellipse: s-maj=21.0km s-min=18.0km az=147.0*
ISC 04 01:53:34.7±0.6,60.3°S±0.1°×26.3°W±0.1,h20km,n26, σ1§56/24,mb4.6/5,4C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.74**	**152**	⇑P		**Pn**		**01 56 32.4**	**-2.0**
	comp=Z,5.3nm,0.3s								
VNA3	**Neumayer Olymp**	**12.88**	**155**	⇑P		Pn		01 56 33.4	-2.9
	comp=Z,2.0nm,0.2s								
SNAA	**Sanae**	**14.74**	**150**	⇑P		**Pn**		**01 56 59.8**	**-1.9**
	comp=Z,36nm,0.4s								
SNAA	**Sanae**	**14.74**	**150**	Pn		Pn		01 56 58.1	-3.6
SNAA	**Sanae**	**14.74**	**150**	Pn		**Pn**		**01 57 00.6**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=314,slow=18,SNR=14								
	comp=Z,1.1nm,0.5s								
TROLL	**Troll, Antarti**	**16.31**	**148**	⇑P		**Pn**		**01 57 21.4**	**-0.9**
	comp=Z,44nm,0.5s								
BELA	**Belgrano 2**	**17.89**	**186**			**Pn**		**01 57 43.2**	**+1.4**
QSPA	**South Pole Qui**	**29.96**	**180**	P		**P**		**01 59 42.4**	**+1.1**

IZZE	**Mula-Seydike**	**1.57**	**41**	P		**Pb**	**02 13 26.2**	**-0.5**
KSL	**Kastellorizon**	**1.60**	**56**	P		**Pn**	**02 13 25.3**	**-0.8**
KSL				S		**Sn**	**02 13 46.7**	**-0.2**
KSL				AML	AML		02 14 21.5	
	0.1nm,1.4s							
KSL				AML	AML		02 14 22.5	
	0.2nm,0.9s							
KSL	**Kastellorizon**	**1.60**	**56**	P		**Pb**	**02 13 27.3**	**0.0**
SABU	**Mula-Dalaman**	**1.77**	**28**	P		**Pb**	**02 13 29.9**	**-0.3**
SABU				S		Sg	02 13 02.6	+8.2
BDRM	**Kayabasi**	**1.85**	**347**	P		**Pb**	**02 13 31.2**	**-0.3**
BDRM				S		**Sb**	**02 13 54.5**	**-0.3**
KLNA	**Kalymnos**	**1.87**	**335**	P		**Pb**	**02 13 30.8**	**-1.1**
NPS	**Neapolis**	**1.91**	**271**	P		**Pn**	**02 13 31.2**	**+0.9**
CAME	**Cameli-Denizli**	**2.01**	**33**	Pn		**Pb**	**02 13 33.7**	**-0.7**
MULA	**Mugla, Merkez-**	**2.02**	**9**	P		**Pg**	**02 13 35.6**	**-0.6**
MULA				S		**Sg**	**02 14 04.0**	**+1.6**
DNZT	**Denizli-Tavas-**	**2.20**	**23**	P		**Pb**	**02 13 36.0**	**-1.5**
DDIM	**Aydin, Didim**	**2.27**	**346**	P		**Pb**	**02 13 37.1**	**-1.5**
TAVA	**DENIZLI_Tavas**	**2.34**	**19**	P		**Pn**	**02 13 37.7**	**+1.5**
TAVA				S		**Sg**	**02 14 14.8**	**+2.1**
SNT5	**Nea Kammeni, S**	**2.37**	**300**	P		**Pn**	**02 13 37.0**	**+0.5**
AYDN	**Tasoluk**	**2.40**	**359**	P		**Pb**	**02 13 38.8**	**-2.1**
AYDN				S		**Sg**	**02 14 12.7**	**-2.0**
APMY	**Acipayam-Deniz**	**2.47**	**26**	Pn		**Pb**	**02 13 40.0**	**-2.1**
IDI	**Anoyia**	**2.50**	**272**	Pn		**Pn**	**02 13 38.5**	**+0.1**
IDI	**Anoyia**	**2.50**	**272**	P		**Pn**	**02 13 38.8**	**+0.3**
ESEN	**Aydn-Nazilli**	**2.56**	**7**	P		**Pb**	**02 13 41.2**	**-2.4**
ESEN				S		**Sb**	**02 14 14.0**	**-1.2**
SMG	**Samos**	**2.61**	**340**	P		**Pn**	**02 13 41.4**	**+1.6**
KORT	**Korkueli**	**2.61**	**47**	Pn		**Pb**	**02 13 42.9**	**-1.7**
GVD	**Gavdhos**	**3.19**	**264**	Pn		**Pn**	**02 13 47.9**	**0.0**
CHOS	**Chios island**	**3.47**	**335**	P		**Pn**	**02 13 52.6**	**+0.8**
KNDR	**Palaiochora Ch**	**3.49**	**271**	Pn		**Pn**	**02 13 52.7**	**+0.8**
KNDR	**Palaiochora Ch**	**3.49**	**271**	P		**Pn**	**02 13 53.5**	**+1.6**
AKMS	**Akamas**	**3.60**	**93**	P		**Pn**	**02 13 53.6**	**0.0**
AKMS				S		**Sn**	**02 14 37.0**	**+0.6**
AKMS				AML	AML		02 14 37.5	
	0.1nm,0.7s							
AKMS				AML	AML		02 14 40.0	
	0.1nm,0.6s							
AKMS	**Akamas**	**3.60**	**93**	P		**Pn**	**02 13 53.7**	**+0.1**
ALFC	**Alefka**	**3.81**	**90**	P		**Pn**	**02 13 56.4**	**-0.1**
ALFC				S		**Sn**	**02 14 41.2**	**-0.3**
ALFC				AML	AML		02 14 46.4	
	0.1nm,0.9s							
ALFC				AML	AML		02 14 47.9	
	0.1nm,0.5s							
ALFC	**Alefka**	**3.81**	**90**	P		**Pn**	**02 13 56.3**	**-0.1**
NATA	**Nata**	**3.83**	**96**	P		**Pn**	**02 13 56.8**	**+0.2**
NATA				S		**Sn**	**02 14 44.4**	**+2.6**
NATA				AML	AML		02 14 58.1	
	0.2nm,0.8s							
NATA				AML	AML		02 14 59.5	
	0.2nm,0.8s							
NATA	**Nata**	**3.83**	**96**	P		**Pn**	**02 13 57.0**	**+0.3**
TROD	**Troodos**	**4.05**	**93**	P		**Pn**	**02 13 59.2**	**-0.7**
TROD				S		**Sn**	**02 14 47.9**	**+0.4**
TROD				AML	AML		02 14 57.2	
TROD				AML	AML		02 15 00.6	
KTHA	**Kythira Island**	**4.09**	**286**	Pn		**Pn**	**02 14 00.5**	**+0.2**
XYLS	**Xyliatos**	**4.19**	**92**	P		**Pn**	**02 14 01.8**	**+0.1**
XYLS				S		**Sn**	**02 14 51.6**	**+0.8**
XYLS				AML	AML		02 14 59.7	
XYLS				AML	AML		02 15 09.6	
VLI	**Veliai**	**4.32**	**291**	P		**Pn**	**02 14 03.8**	**+0.4**
ASGA	**Asgata**	**4.38**	**95**	P		**Pn**	**02 14 04.0**	**-0.2**
ASGA				S		**Sn**	**02 14 56.4**	**+1.0**
ASGA				AML	AML		02 15 02.4	
	0.1nm,0.7s							
ASGA				AML	AML		02 15 07.6	
ASGA	**Asgata**	**4.38**	**95**	P		**Pn**	**02 14 04.0**	**-0.2**

*NEIC **04** 02:20:08.8±2.8, 17°.8S×0°.2×173°.10W±0°.07, h10km±2km, mb4.7/12, Error ellipse: s-maj=34.4km s-min=6.8km az=14.0*
*IDC **04** 02:20:10.6±0.8, 18°.10S×173°.63W, h0km, mb4.0/10, mbtmp4.0/10, MS3.6/1, Error ellipse: s-maj=31.4km s-min=20.1km az=124.0*
ISC 04 02:20:08.9±1.3, 17°.9S±0°.2×173°.02W±0°.08, h10km, n27, σ2s11/23, mb4.4/15, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**3.17**	**112**			**Pn**	**02 20 59.8**	**+0.9**
NIUE						**Sn**	**02 21 31.7**	**-5.0**
RAR	**Rarotonga**	**12.92**	**107**	Pn		**Pn**	**02 23 13.7**	**+1.0**
URZ	**Urewera**	**22.06**	**201**	P		**P**	**02 25 02.4**	**-1.5**
	12nm,0.4s,baz=331,slow=3.8,SNR=15							
	12nm,0.4s							
TOZ	**Tahuroa Road**	**22.19**	**205**	P		**P**	**02 25 06.4**	**+1.1**
TOZ				IAmb		IAmb	02 25 06.6	
	comp=Z,30nm,0.7s							
RTZ	**Ruatahuna**	**22.42**	**201**	P		**P**	**02 25 05.9**	**-2.0**
RTZ				IAmb		IAmb	02 25 37.6	
	comp=Z,47nm,1.3s							
HIZ	**Hauiti**	**23.12**	**205**	P		**P**	**02 25 15.4**	**+0.3**
MRZ	**Mangatainoka R**	**24.73**	**201**	P		**P**	**02 25 29.1**	**-1.4**
LBZ	**Lake Benmore**	**29.95**	**205**	P		**P**	**02 26 18.6**	**+1.3**
STKA	**Stephens Creek**	**43.16**	**242**	LR		LR	02 43 57.8	
	comp=Z,62nm,18.3s,baz=32,slow=34							
BBOO	**Buckleboo**	**47.92**	**242**	P		**P**	**02 28 45.1**	**-2.6**
BBOO				IAmb		IAmb	02 29 04.9	
	comp=Z,16nm,1.3s							
WR8	**Warramunga Arr**	**49.52**	**259**	P		**P**	**02 28 58.6**	**-1.6**
WR8				IAmb		IAmb	02 29 00.8	
	comp=Z,6.9nm,1.2s							
WB0	**Warramunga Arr**	**49.65**	**259**	P		**P**	**02 28 59.5**	**-1.7**
WB0				IAmb		IAmb	02 29 09.4	
	comp=Z,16nm,1.5s							
WRA	**Warramunga Arr**	**49.67**	**259**	P		**P**	**02 28 58.8**	**-2.6**
WRA	**Warramunga Arr**	**49.67**	**259**	P		**P**	**02 28 59.6**	**-1.7**
	comp=Z,2.3nm,0.4s,baz=98,slow=5.9,SNR=30							
	comp=Z,2.3nm,0.4s							
AS31	**Alice Springs**	**49.73**	**254**	P		**P**	**02 29 00.8**	**-1.0**
ASAR	**Alice Springs**	**49.73**	**254**	P		**P**	**02 28 59.8**	**-2.0**
ASAR	**Alice Springs**	**49.73**	**254**	P		**P**	**02 29 00.7**	**-1.2**
	comp=Z,1.8nm,0.4s,baz=88,slow=8.8,SNR=30							
	comp=Z,1.8nm,0.4s							
FITZ	**Fitzroy Crossi**	**58.08**	**259**	P		**P**	**02 30 02.4**	**-0.5**
VNDA	**Vanda**	**60.95**	**186**	P		**P**	**02 30 22.7**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=0.9,slow=3.1,SNR=4.0							
	comp=Z,0.6nm,0.8s							
QSPA	**South Pole Qui**	**72.17**	**180**	P		**P**	**02 31 36.9**	**+3.0**
QSPA				IAmb		IAmb	02 32 12.5	
	comp=Z,6.2nm,1.4s							
QSPA	**South Pole Qui**	**72.17**	**180**	P		**P**	**02 31 37.2**	**+3.3**
	comp=Z,2.0nm,0.8s,baz=345,slow=0.6,SNR=13							
	comp=Z,2.0nm,0.8s							
NVAR	**Mina Array Bea**	**75.93**	**41**	P		P	02 32 02.4	+6.1
	comp=Z,0.8nm,0.8s,baz=241,slow=8.2,SNR=1.3							
	comp=Z,0.8nm,0.8s							
TXAR	**Lajitas Array**	**81.70**	**56**	P		P	02 32 35.1	+7.1
	comp=Z,0.3nm,0.6s,baz=246,slow=4.4,SNR=3.8							
	comp=Z,0.3nm,0.6s							
PDAR	**Pinedale Array**	**83.87**	**41**	P		P	02 32 44.7	+5.4
	comp=Z,0.2nm,0.4s,baz=276,slow=6.0,SNR=2.2							
	comp=Z,0.2nm,0.4s							
ILAR	**Eielson Array**	**84.80**	**11**	P		P	02 32 48.6	+5.5
	comp=Z,0.6nm,0.7s,baz=224,slow=6.3,SNR=5.0							
	comp=Z,0.6nm,0.7s							
SNAA	**Sanae**	**90.42**	**177**	P		**P**	**02 33 11.8**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=241,slow=4.7,SNR=7.1							
	comp=Z,1.2nm,0.8s							
BRTR	**Keskin Array B**	**148.28**	**319**	PKPbc		**PKiKP**	**02 39 57.8**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=145,slow=4.5,SNR=4.0							

*THE **04** 02:21:25.9, 39°N±2°×2°7E±°, h13km±2km, M2.5/7, MLh2.5/7*
*ATH **04** 02:21:25.1, 38°.70N×26°.58E, h14km±2km, ML2.6/4, Manual Solution by N.Liadopoulou First location: 2019/09/04 02:22:54, This location: 2019/09/04 08:38:53 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
*ISK **04** 02:21:25.1, 38°.74N×26°.55E, h10km, ML2.7/16*
*AFAD **04** 02:21:25.2, 38°.72N×26°.57E, h7km±2km, ML2.4*
ISC 04 02:21:25.3±0.8, 38°.73N±0°.02×26°.57E±0°.02, h14km±5km, n53, σ0s46/79, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
FOCM	**Foa**	**0.12**	**96**	Pg		**Pg**	**02 21 28.8**	**0.0**
FOCM				Sg		**Sg**	**02 21 31.4**	**+0.3**
KARB	**zmir-Karabur**	**0.14**	**244**	P		**Pg**	**02 21 28.9**	**-0.1**
KARB				S		**Sg**	**02 21 31.3**	**-0.2**
KARB				*i*	IAML		02 21 32.0	
	comp=N,1μm,0.2s							
KARB				*i*	IAML		02 21 33.0	
	comp=E,1μm,0.2s							
IZMD	**zmir-Dikili-**	**0.38**	**47**	P		**Pg**	**02 21 33.0**	**0.0**
EAG2	**Marmaro, Chios**	**0.41**	**244**	P		**Pg**	**02 21 33.7**	**+0.2**
EAG2				S		**Sg**	**02 21 38.6**	**-0.4**
CESE	**eme**	**0.45**	**209**	Pg		**Pg**	**02 21 34.2**	**-0.1**
CESE				Sg		**Sb**	**02 21 41.3**	**-0.2**
ZEDA	**zmir-Bergama**	**0.46**	**58**	P		**Pg**	**02 21 34.5**	**0.0**
ZEDA				S		**Sb**	**02 21 41.3**	**-0.6**
ZEDA				*i*	IAML		02 21 42.0	
	comp=N,314nm,0.4s							
ZEYE	**Izmir, Urla-Ze**	**0.49**	**186**	P		**Pg**	**02 21 34.8**	**-0.2**
ZEYE				S		**Sb**	**02 21 42.7**	**0.0**
BLCB	**Balcova**	**0.50**	**133**	Pg		**Pb**	**02 21 35.6**	**-0.2**
BLCB				Sg		**Sb**	**02 21 43.4**	**+0.4**
BLCB	**Balcova**	**0.50**	**133**	P		**Pb**	**02 21 35.7**	**-0.2**
BLCB				S		**Sb**	**02 21 43.4**	**+0.4**
PRK	**Paraskevi**	**0.57**	**336**	P		**Pb**	**02 21 36.6**	**-0.4**
PRK				S		**Sb**	**02 21 44.4**	**-0.6**
AYVA	**Ayvalik**	**0.59**	**9**	P		**Pg**	**02 21 36.7**	**-0.2**
GMLD	**Gumuldur**	**0.70**	**157**	Pg		**Pb**	**02 21 39.4**	**+0.1**
DGB	**zmir**	**0.72**	**160**	P		**Pg**	**02 21 39.1**	**-0.2**
DGB				S		**Sb**	**02 21 49.2**	**0.0**
DGB				*i*	IAML		02 21 53.0	
	comp=E,159nm,0.4s							
SIGR	**SIGRI**	**0.74**	**311**	Pg		**Pb**	**02 21 40.2**	**+0.2**
SIGR				Sg		**Sb**	**02 21 50.1**	**+0.2**
SIGR	**SIGRI**	**0.74**	**311**	P		**Pb**	**02 21 39.8**	**-0.1**
SIGR				S		**Sb**	**02 21 50.7**	**+0.7**
SIGR	**SIGRI**	**0.74**	**311**	P		**Pb**	**02 21 39.9**	**-0.1**
SIGR				S		**Sb**	**02 21 50.5**	**+0.6**
GPNR	**Gulpinar-Canak**	**0.81**	**335**	Pg		**Pb**	**02 21 41.0**	**-0.1**
KOCA	**Canakkale, Ayv**	**0.84**	**337**	P		**Pb**	**02 21 41.6**	**-0.2**
KOCA				S		**Sb**	**02 21 53.0**	**0.0**
SOMA	**Soma-Manisa**	**0.86**	**60**	Pg		**Sn**	**02 22 42.9**	**0.1**
SOMA				Sg		**Sn**	**02 21 54.9**	**-0.5**
BUHA	**Balikesir, Bur**	**0.87**	**27**	P		**Pg**	**02 21 41.6**	**-0.5**
BUHA				S		**Sb**	**02 21 54.4**	**+0.8**
BUHA				*i*	IAML		02 21 59.0	
	comp=N,142nm,0.5s							
KRL1	**Karlovasi Samo**	**0.94**	**174**	P		**Pg**	**02 21 42.5**	**-0.9**
KRL1				S		**Sg**	**02 21 55.1**	**-0.5**
YAYO	**Edremit-Balk**	**0.96**	**24**	Pg		**Pg**	**02 21 43.8**	**-0.2**
YAYO				Sg		**Sn**	**02 21 57.8**	**-0.1**
AKS	**Akhisar**	**0.98**	**81**	Pg		**Pn**	**02 21 44.6**	**-0.1**
SMG	**Samos**	**1.04**	**168**	P		**Pb**	**02 21 44.9**	**-0.1**
SMG				S		**Sn**	**02 22 00.2**	**+0.5**
SMG	**Samos**	**1.04**	**168**	P		**Pb**	**02 21 44.6**	**-0.5**
SMG				S		**Sb**	**02 21 58.6**	**+0.2**
EZNE	**Ezine-Canakkal**	**1.04**	**351**	Pg		**Pg**	**02 21 45.2**	**-0.2**
EZN	**Ezine**	**1.11**	**350**	Pn		**Pg**	**02 21 46.6**	**-0.2**
EZN				Sn		**Sn**	**02 22 02.0**	**+0.4**
EZN	**Ezine**	**1.11**	**350**	P		**Pn**	**02 21 46.4**	**-0.1**
EZN				S		**Sn**	**02 22 01.6**	**0.0**
GCAM	**G?zelcaml?**	**1.15**	**153**	Pn		**Pn**	**02 21 47.2**	**+0.3**
GCAM				Sn		**Sn**	**02 22 04.4**	**+2.0**
BOZC	**Bozcaada**	**1.19**	**340**	Pn		**Pg**	**02 21 47.8**	**-0.4**
BOZC				Sn		**Sn**	**02 22 04.1**	**+0.7**
ODEM	**Odemis-Izmir**	**1.26**	**110**	Pn		**Pg**	**02 21 49.3**	**-0.3**
GORD	**Gordes-Manisa**	**1.27**	**81**	Pn		**Pg**	**02 21 49.8**	**+0.1**
YENI	**Yenice-Canakka**	**1.31**	**23**	Pn		**Pb**	**02 21 50.0**	**+0.2**
CANM	**Can-anakkale**	**1.34**	**16**	Pn		**Pb**	**02 21 50.1**	**0.0**
COMU	**Canakkale**	**1.37**	**357**	Pn		**Pb**	**02 21 50.9**	**+0.1**
NAZL	**Nazilli-Aydin**	**1.55**	**119**	Pn		**Pb**	**02 21 53.3**	**-0.5**
GADA	**Gvkgeada**	**1.55**	**341**	P		**Pb**	**02 21 53.3**	**-0.5**
GADA				S		**Sn**	**02 22 12.6**	**+0.1**
GONE	**Gonen-Balikesi**	**1.58**	**33**	Pn		**Pb**	**02 21 53.6**	**-0.6**
LIA	**Limnos Island**	**1.59**	**318**	P		**Pn**	**02 21 53.4**	**+0.4**
LIA				S		**Sb**	**02 22 14.3**	**+0.2**
LIA	**Limnos Island**	**1.59**	**318**	P		**Pn**	**02 21 53.2**	**+0.2**
KULA	**Kula-Manisa**	**1.65**	**97**	Pn		**Pb**	**02 21 55.4**	**-0.1**
SMTH	**Samothraki Isl**	**1.92**	**336**	P		**Pn**	**02 21 57.9**	**+0.3**
SMTH	**Samothraki Isl**	**1.92**	**336**	P		**Pb**	**02 21 58.9**	**-1.2**
KYMI	**Kymi, Euboea I**	**1.94**	**268**	P		**Pn**	**02 21 57.8**	**-0.1**
DION	**Dionisos Attik**	**2.17**	**253**	P		**Pn**	**02 22 00.8**	**-0.3**
ALN	**Alexandroupoli**	**2.21**	**350**	P		**Pn**	**02 22 01.8**	**+0.3**
VLY	**Voula,Athens**	**2.35**	**249**	P		**Pn**	**02 22 03.6**	**+0.1**
THAS	**Thassos island**	**2.36**	**323**	P		**Pn**	**02 22 04.1**	**+0.5**
RDO	**Rodhopi**	**2.54**	**342**	P		**Pn**	**02 22 06.8**	**+0.7**
OUR	**Ouranopolis**	**2.57**	**310**	P		**Pn**	**02 22 06.9**	**+0.4**
VIL2	**Platees**	**2.65**	**260**	P		**Pn**	**02 22 07.3**	**-0.2**
LTK	**Loutraki**	**2.92**	**257**	P		**Pn**	**02 22 11.0**	**-0.4**
PLG	**Polygyros**	**2.92**	**305**	P		**Pn**	**02 22 12.4**	**+1.0**

*SNET **04** 02:46:46.0±0.7, 14°.60N×89°.09W, h5km±5km, ML2.6*
*GCG **04** 02:46:46.6±1.2, 14°.58N×89°.09W, h6km±11km, MD3.5, ML2.1, MW2.6*
*CATAC **04** 02:46:47.3±0.5, 15°.N±3°×8°9W±°, h4km±2km, M2.5/6, MLv2.5/6, Error ellipse: s-maj=5.5km s-min=4.2km az=20.7, confirmed*
ISC 04 02:46:45.6±1.0, 14°.62N±0°.05×89°.05W±0°.03, h10km, n24, σ0s73/28, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ESQI	**Esquipulas**	**0.29**	**259**	*i*	P	**Pg**	**02 46 52.4**	**+0.9**
ESQI				*e*	S	**Sg**	**02 46 56.2**	**+0.8**
ESQI	**Esquipulas**	**0.29**	**259**	P		**Pg**	**02 46 52.2**	**+0.8**
SARH	**Santa Rosa de**	**0.32**	**60**	*e*	P	**Pn**	**02 46 54.9**	**-1.4**
SARH				*i*	S	**Sb**	**02 46 59.7**	**+1.0**
SARH	**Santa Rosa de**	**0.32**	**60**	P		**Pn**	**02 46 54.9**	**-1.4**
MTO3	**Montecristo**	**0.37**	**235**	*e*	P	**Pg**	**02 46 53.4**	**+0.3**
MTO3				*e*	S	**Sg**	**02 46 57.9**	**-0.1**
MTO3	**Montecristo**	**0.37**	**235**	*i*	P	**Pg**	**02 46 53.0**	**+0.3**
MTO3	**Montecristo**	**0.37**	**235**	P		**Pg**	**02 46 53.3**	**+0.2**
LLGN	**La Laguna**	**0.46**	**168**	*e*	P	**Pg**	**02 46 55.2**	**+0.5**
LLGN	**La Laguna**	**0.46**	**168**	P		**Pg**	**02 46 55.0**	**+0.4**
LLGN	**La Laguna**	**0.46**	**168**	S		**Sg**	**02 47 01.1**	**+0.4**
UNIC	**Universidad Ca**	**0.80**	**218**	P		**Pg**	**02 47 00.7**	**-0.2**
PAVA	**Las Pavas**	**0.90**	**173**	P		**Pg**	**02 47 03.3**	**+0.3**
SNJE	**San Jose**	**0.92**	**216**	*e*	P	**Pg**	**02 47 03.4**	**+0.1**
CEVE	**Cerro Verde**	**0.96**	**216**	P		**Pn**	**02 47 05.7**	**+0.3**
CEVE	**Cerro Verde**	**0.96**	**216**	S		**Sg**	**02 47 16.2**	**-0.5**
NUBE	**Las Nubes**	**1.00**	**225**	*e*	P	**Pg**	**02 47 04.1**	**-0.8**
NUBE	**Las Nubes**	**1.00**	**225**	S		**Sg**	**02 47 17.6**	**-0.4**
NUBE	**Las Nubes**	**1.00**	**225**	P		**Pg**	**02 47 05.3**	**+0.4**
JAYA	**Jayaque - finc**	**1.03**	**202**	*e*	P	**Pg**	**02 47 04.5**	**-1.0**
JAYA	**Jayaque - finc**	**1.03**	**202**	*i*	P	**Pg**	**02 47 05.1**	**-0.4**
JAYA				*i*	S	**Sg**	**02 47 17.8**	**-1.1**
JAYA	**Jayaque - finc**	**1.03**	**202**	P		**Pg**	**02 47 05.2**	**-0.2**
TECA	**Tecapa**	**1.23**	**155**	*e*	P	**Pb**	**02 47 09.3**	**+0.2**
PACA	**Pacayal**	**1.34**	**148**	P		**Pg**	**02 47 12.2**	**+0.9**
PACA	**Pacayal**	**1.34**	**148**	S		**Sg**	**02 47 29.4**	**+0.7**

*SDD **04** 03:18:11.3±1.9, 20°.28N×71°.01W, h15km±10km, MD3.1, ML2.4, MW3.0*
*OSPL **04** 03:18:14.8±1.6, 20°.15N×70°.68W, h12km±7km, ML2.1*
ISC 04 03:18:12.6±1.2, 20°.19N±0°.04×70°.86W±0°.05, h13km±10km, n13, σ1s00/24, 6C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LOPP1	**Punta Rusia, P**	**0.46**	**224**	*i*	P	**Pn**	**03 18 24.9**	**+0.1**
LOPP1				*e*	S	**Sn**	**03 18 33.0**	**+0.1**
LOPP1				IAML			03 18 39.9	
	comp=Z,58nm,2.0s							
SODR	**Sosua Marina B**	**0.51**	**148**	*i*	P	**Pg**	**03 18 22.8**	**+0.2**
SODR				IAML			03 18 37.2	
	comp=N,265nm,0.6s							
SC01	**Santiago de lo**	**0.77**	**170**	⇑*e*	Pg	**Pg**	**03 18 27.3**	**-0.2**
SC01				⇓*e*	Sg	**Sb**	**03 18 40.1**	**+2.0**
SC01				IAML			03 18 43.3	
	comp=N,69nm,1.4s							
SC01	**Santiago de lo**	**0.77**	**170**	*i*	P	**Pg**	**03 18 27.4**	**-0.1**
SC01				*e*	S	**Sg**	**03 18 37.5**	**0.0**
NADR	**Nagua**	**1.26**	**131**	⇑*e*	Pg	**Pn**	**03 18 36.1**	**+0.3**
NADR				⇑*e*	Sg	**Sn**	**03 18 53.1**	**+0.5**
NADR				IAML			03 19 03.4	
	comp=N,117nm,1.1s							
SDDR	**Presa de Saban**	**1.26**	**199**	⇑*e*	Pg	**Pn**	**03 18 33.8**	**-2.2**
SDDR				⇑*e*	Sg	**Sb**	**03 18 50.9**	**-1.6**
SDDR				IAML			03 18 55.9	
	comp=N,29nm,0.5s							
SDDR	**Presa de Saban**	**1.26**	**199**	*i*	P	**Pn**	**03 18 35.6**	**-0.4**
SDDR				*e*	S	**Sb**	**03 18 52.9**	**+0.5**
SDDR				IAML			03 18 53.4	
	comp=Z,17nm,0.6s							
GRTK	**Grand Turk**	**1.34**	**349**	*i*	P	**Pg**	**03 18 38.3**	**-0.1**
GRTK				*e*	S	**Sg**	**03 18 56.5**	**+0.6**
GRTK				IAML			03 19 06.7	
	comp=Z,74nm,2.1s							
ABDR	**Alto Bandera**	**1.39**	**171**	*i*	P	**Pn**	**03 18 37.0**	**-0.9**
ABDR				⇑*e*	Sg	**Sn**	**03 18 56.3**	**0.0**
ABDR				IAML			03 18 58.0	
	comp=N,51nm,1.4s							
LODU1	**El Espartillar**	**1.91**	**198**	*i*	P	**Pb**	**03 18 47.0**	**-0.3**
LODU1				*e*	S	**Sn**	**03 19 09.0**	**+0.2**
LODU1				IAML			03 19 13.9	
	comp=Z,30nm,0.4s							
SDD	**Santo Domingo**	**1.94**	**152**	*i*	P	**Pn**	**03 18 44.4**	**-0.8**
PODR	**Polo**	**2.05**	**191**	*i*	P	**Pn**	**03 18 49.0**	**+2.1**
PODR				*e*	S	**Sn**	**03 19 12.9**	**+0.5**
MIDR	**Miches**	**2.09**	**125**	*i*	P	**Pn**	**03 18 46.1**	**-1.1**
MIDR				*i*	S	**Sn**	**03 19 12.9**	**-0.2**
MIDR				IAML			03 19 18.0	
	comp=N,29nm,2.2s							

*GCG **04** 03:22:41.8±0.9, 14°.33N×88°.98W, h13km±747km, MD3.6, ML2.3*
*CATAC **04** 03:22:41.4±0.3, 14°N±1°×8°9W±°, h6km±3km, M2.9/8, MLv2.9/8, Error ellipse: s-maj=3.2km s-min=3.0km az=141.6, confirmed*
*SNET **04** 03:22:42.0±1.2, 14°.36N×89°.01W, h13km±13km, ML2.9*
ISC 04 03:22:40.9±0.9, 14°.33N±0°.03×88°.93W±0°.03, h16km±7km, n40, σ0s48/47, 2C, Honduras

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LLGN	**La Laguna**	**0.17**	**185**	*e*	P	**Pg**	**03 22 45.2**	**0.0**
LLGN				*e*	S	**Sg**	**03 22 47.7**	**-0.4**
LLGN	**La Laguna**	**0.17**	**185**	P		**Pg**	**03 22 45.3**	**0.0**
LLGN				S		**Sg**	**03 22 47.7**	**-0.4**
MTO3	**Montecristo**	**0.42**	**279**	⇑*e*	P	**Pg**	**03 22 50.1**	**+0.5**
MTO3				*e*	S	**Sg**	**03 22 55.7**	**+0.2**
MTO3	**Montecristo**	**0.42**	**279**	*i*	P	**Pg**	**03 22 50.0**	**+0.5**
MTO3	**Montecristo**	**0.42**	**279**	P		**Pg**	**03 22 50.0**	**+0.5**
ESQI	**Esquipulas**	**0.46**	**300**	*e*	P	**Pb**	**03 22 51.2**	**+0.5**
ESQI	**Esquipulas**	**0.46**	**300**	P		**Pb**	**03 22 51.3**	**+0.5**
ESQI	**Esquipulas**	**0.46**	**300**	S		**Sb**	**03 22 57.8**	**+0.5**
SARH	**Santa Rosa de**	**0.47**	**20**	*i*	P	**Pn**	**03 22 51.7**	**-1.3**
SARH				*i*	S	**Sb**	**03 22 58.7**	**+1.1**
SARH	**Santa Rosa de**	**0.47**	**20**	P		**Pn**	**03 22 51.8**	**-1.3**
LFU	**La Fuente**	**0.60**	**197**	*e*	P	**Pg**	**03 22 52.9**	**+0.1**
PAVA	**Las Pavas**	**0.61**	**181**	P		**Pg**	**03 22 53.1**	**+0.1**
PAVA	**Las Pavas**	**0.61**	**181**	S		**Sg**	**03 23 01.5**	**+0.3**
PIC2	**El Picacho**	**0.66**	**209**	*e*	P	**Pg**	**03 22 54.1**	**+0.2**
BOQS	**Boqueron**	**0.68**	**210**	*e*	P	**Pg**	**03 22 54.2**	**-0.1**
UNIC	**Universidad Ca**	**0.69**	**240**	P		**Pg**	**03 22 54.3**	**-0.2**
UNIC	**Universidad Ca**	**0.69**	**240**	S		**Sg**	**03 23 03.8**	**+0.1**
PMON	**Piamonte**	**0.72**	**211**	P		**Pg**	**03 22 54.9**	**0.0**
PMON	**Piamonte**	**0.72**	**211**	S		**Sg**	**03 23 04.3**	**-0.3**
LOMA	**Loma Larga**	**0.72**	**199**	*e*	P	**Pg**	**03 22 54.8**	**-0.2**
INTHN	**La Esperanza I**	**0.80**

C24K	Franklin Bluff	0.98	334		Pg	03 37 15.5	+0.4
C24K	Franklin Bluff	0.98	334		Sn	03 37 31.1	-0.7
E25K	Arctic Village	1.01	136		Pg	03 37 15.5	-0.2
E25K				IAML		03 37 39.4	
	comp=N,696nm,0.9s						
E25K	Arctic Village	1.01	136		Sb	03 37 30.1	-0.4
E23K	Chandalar	1.13	226		Pb	03 37 17.4	-1.3
E23K				IAML		03 37 39.7	
	comp=E,505nm,0.5s						
E23K				IAML		03 37 41.9	
	comp=N,471nm,0.5s						
E23K	Chandalar	1.13	226		Sb	03 37 33.7	-0.2
D23K	Nanushuk River	1.17	277		Pg	03 37 19.4	+0.5
D23K				IAML		03 37 39.8	
	comp=N,512nm,1.1s						
D23K				IAML		03 37 41.0	
	comp=E,627nm,1.1s						
D23K	Nanushuk River	1.17	277		Sn	03 37 35.8	-0.8
F24K	Squaw Lake	1.35	187		Pn	03 37 20.8	-1.6
F24K				IAML		03 37 44.5	
	comp=N,396nm,0.7s						
F24K	Squaw Lake	1.35	187		Sn	03 37 40.2	-0.8
C26K	Camden Bay	1.40	39		Pg	03 37 23.9	+0.8
C26K					Sg	03 37 42.3	+1.1
C26K	Camden Bay	1.40	39	IAML		03 37 46.1	
	comp=N,585nm,0.9s						
F25K	Christian Rive	1.43	151		Pn	03 37 23.0	-0.5
F25K				IAML		03 37 47.8	
	comp=E,462nm,0.8s						
F25K	Christian Rive	1.43	151		Sg	03 37 42.9	+0.5
C23K	Itkillik River	1.50	313		Pn	03 37 23.9	-0.4
C23K				IAML		03 37 49.8	
	comp=E,463nm,0.6s						
C23K				IAML		03 37 50.0	
	comp=N,572nm,0.9s						
C23K	Itkillik River	1.50	313		Sg	03 37 45.3	+1.0
C27K	Jago River	1.54	58		Pn	03 37 23.6	-1.4
C27K				IAML		03 37 50.6	
	comp=E,473nm,0.8s						
C27K	Jago River	1.54	58		Sg	03 37 46.5	+0.6
F26K	Sheenjek River	1.69	132		Pn	03 37 25.5	-1.6
F26K				IAML		03 37 54.3	
	comp=N,262nm,0.8s						
F26K	Sheenjek River	1.69	132		Sb	03 37 50.3	+0.2
D22K	Ayikyak River	1.90	273		Sg	03 37 57.1	-0.1
D22K	Ayikyak River	1.90	273	Pn	Pn	03 37 29.3	-0.6
D22K				IAML		03 38 01.3	
	comp=E,249nm,1.1s						
COLD	Coldfoot	1.93	214		Sb	03 37 57.2	+0.2
COLD	Coldfoot	1.93	214	Pn	Pn	03 37 30.0	-0.4
COLD				IAML		03 37 59.4	
	comp=E,211nm,1.0s						
G25K	Bearman Lake	2.16	166		Pn	03 37 34.4	+1.0
G25K					Sb	03 38 01.5	-2.0
G24K	Hadweenzic Riv	2.16	180		Pn	03 37 34.4	+0.8
G24K					Sb	03 38 03.6	+0.1
G24K	Hadweenzic Riv	2.16	180	IAML		03 38 15.0	
	comp=E,144nm,0.8s						
F22K	John River	2.22	235		Pb	03 37 35.6	-1.8
F22K					Sb	03 38 05.1	-0.2
E27K	Coleen River	2.26	105		Sb	03 38 05.2	-1.1
E27K	Coleen River	2.26	105	Pn	Pn	03 37 33.0	-1.8
G26K	Porcupine Rive	2.36	142		Pn	03 37 35.1	-1.1
G26K				IAML		03 38 25.3	
	comp=E,249nm,1.1s						
G26K				IAML		03 38 29.1	
	comp=N,163nm,0.9s						
G23K	Bananza Creek	2.36	206	Pn	Pn	03 37 35.1	-1.2
G23K				IAML		03 38 16.2	
	comp=E,139nm,1.0s						
D27M	Malcolm River	2.37	77	Pn	Pn	03 37 35.1	-1.2
D27M				IAML		03 38 13.8	
	comp=N,234nm,0.9s						
D27M				IAML		03 38 14.2	
	comp=E,136nm,0.9s						
E21K	Killik River	2.42	263		Pn	03 37 38.3	+1.2
E21K					Sb	03 38 08.5	-2.5
E21K	Killik River	2.42	263	IAML		03 38 31.2	
	comp=N,178nm,0.8s						
FYU	Fort Yukon	2.45	159		Pn	03 37 35.9	-1.5
FYU				IAML		03 38 25.6	
	comp=E,167nm,1.0s						
FYU				IAML		03 38 39.1	
	comp=N,117nm,1.1s						
B22K	Teshekpuk Lake	2.57	308	Pn	Pn	03 37 39.4	+0.3
B22K				IAML		03 38 28.6	
	comp=E,134nm,1.0s						
B21K	Ikpikpuk River	2.67	290	Pn	Pn	03 37 40.4	0.0
B21K				IAML		03 38 38.0	
	comp=E,123nm,0.8s						
B21K				IAML		03 38 38.2	
	comp=N,109nm,1.1s						
F21K	Alatna River	2.80	237		Pn	03 37 41.9	-0.4
F21K				IAML		03 38 25.4	
	comp=N,117nm,0.7s						
E28M	Babbage River	2.90	91		Pn	03 37 44.5	+0.8
E28M	Babbage River	2.90	91	IAML		03 38 35.6	
	comp=N,105nm,1.1s						
G27K	Doyon Strip	3.01	130		Pn	03 37 43.5	-1.6
G27K				IAML		03 38 51.4	
	comp=E,70nm,1.1s						
H24K	Noodor Dome	3.03	183		Pn	03 37 44.7	-0.8
H24K				IAML		03 38 41.7	
	comp=E,97nm,0.9s						
F28M	Old Crow	3.09	110		Pn	03 37 44.9	-1.4
F28M				IAML		03 38 37.2	
	comp=E,62nm,1.1s						
F28M				IAML		03 38 44.8	
	comp=N,103nm,1.1s						
H23K	Yukon River	3.15	196	Pn	Pn	03 37 46.3	-0.8
H23K				IAML		03 38 44.9	
	comp=N,86nm,0.9s						
H23K				IAML		03 38 48.3	
	comp=E,93nm,0.9s						
G21K	Allakaket	3.29	227		Pn	03 37 48.6	-0.4
G21K				IAML		03 38 50.8	
	comp=E,102nm,1.0s						
G21K				IAML		03 38 51.0	
	comp=N,101nm,0.8s						
D20K	Etivluk River	3.33	272	Pn	Pn	03 37 50.1	+0.5
D20K				IAML		03 38 57.4	
	comp=E,85nm,1.0s						
PRP	Porcupine Rive	3.43	166	Pn	Pn	03 37 50.3	-0.8
H27K	Steamboat Moun	3.48	136		Pn	03 37 51.4	-0.3
H27K				IAML		03 39 00.6	
	comp=E,76nm,1.1s						
E29M	Blow River	3.53	93		Pn	03 37 51.4	-0.9
E29M				IAML		03 38 51.1	
	comp=E,70nm,0.8s						
E29M				IAML		03 38 59.5	
	comp=N,83nm,1.1s						
F20K	Avaraart Lake	3.61	244		Pn	03 37 52.5	-0.8
F20K				IAML		03 39 06.6	
	comp=N,63nm,1.1s						
F20K				IAML		03 39 08.1	
	comp=E,56nm,1.1s						
B20K	Meade River	3.62	293		Pn	03 37 51.6	-1.9
B20K				IAML		03 39 11.3	
	comp=E,66nm,1.1s						
B20K				IAML		03 39 12.7	
	comp=N,49nm,0.8s						
POKR	Poker Plat Res	3.75	180		Pn	03 37 56.0	+0.6
POKR	Poker Plat Res	3.75	180	IAML		03 38 44.0	
	comp=N,59nm,0.7s						
POKR				IAML		03 39 10.9	
	comp=E,45nm,1.0s						
IMAR	Indian Mountai	3.77	223		Pn	03 37 53.6	-2.0
I23K	Minto, Yukon-K	3.80	192		Pn	03 37 54.9	-1.1
I23K				IAML		03 39 07.1	
	comp=N,59nm,0.9s						
I23K				IAML		03 39 07.5	
	comp=E,50nm,1.1s						
H21K	Melozitna Rive	3.82	215		Pn	03 37 54.5	-1.8
H21K				IAML		03 38 58.2	
	comp=E,43nm,1.0s						
D19K	Kuna River	3.91	270		Pn	03 37 57.8	+0.2
D19K				IAML		03 39 19.5	
	comp=N,56nm,1.1s						
E19K	Redstone River	3.91	254		Pn	03 37 56.2	-1.4
I26K	Coal Creek Min	3.94	153		Pn	03 37 57.8	-0.1
COLA	College	4.00	182		Pn	03 37 59.9	+1.1
MLY	Manley	4.05	200		Pn	03 37 58.5	-1.0
G29M	Pine Creek	4.06	114		Pn	03 37 58.6	-1.0
G29M				IAML		03 39 27.2	
	comp=N,53nm,1.1s						
I21K	Tanana	4.09	208		Pn	03 37 59.3	-0.7
ILAR	Eielson Array	4.11	177		Pn	03 37 60.0	-0.2
ILAR	Eielson Array	4.11	177	Pn	Pn	03 38 01.5	+1.3
	comp=N,1.6nm,0.3s,baz=358,slow=14,SNR=96						
ILAR				Sn	Sn	03 38 49.4	+0.5
	comp=N,1.2nm,0.3s,baz=354,slow=25,SNR=9.4						
ILAR				Lg	Lg	03 39 04.9	
	comp=N,1.6nm,0.3s,baz=0.5,slow=31,SNR=5.2						
ILAR				LR	LR	03 39 57.6	
	comp=N,54nm,18.9s,baz=280,slow=44						
	comp=N,9.6nm,0.7s						
CCB	Clear Creek Bu	4.23	182		Pn	03 38 02.8	+1.0
NEA2	Nenana	4.33	189		Pn	03 38 02.1	-1.1
J25K	Salcha River,	4.34	168	Pn	Pn	03 38 02.2	-1.3
J25K				IAML		03 39 20.4	
	comp=E,34nm,0.8s						
J25K				IAML		03 39 29.8	
	comp=N,29nm,0.9s						
H29M	Whitestone	4.37	123	Pn	Pn	03 38 01.9	-2.0
H29M				IAML		03 39 31.5	
	comp=E,36nm,0.8s						
C19K	Lookout Ridge	4.38	279	Pn	Pn	03 38 03.2	-0.8
C19K				IAML		03 39 29.5	
	comp=N,32nm,1.2s						
C19K				IAML		03 39 39.7	
	comp=E,22nm,0.8s						
WRH	Wood River Hil	4.41	184		Pn	03 38 03.9	-0.5
WRH				IAML		03 39 19.6	
	comp=E,26nm,0.9s						
WRH				IAML		03 39 30.0	
	comp=N,24nm,1.0s						
HDA	Harding Lake	4.47	177		Pn	03 38 04.4	-0.7
I28M	Miner Creek	4.50	136		Pn	03 38 05.1	-0.6
I28M				IAML		03 39 29.3	
	comp=N,24nm,1.1s						
I28M				IAML		03 39 29.8	
	comp=E,21nm,0.9s						
F30M	Barrier River	4.52	101		Pn	03 38 07.2	+1.3
F30M	Barrier River	4.52	101	IAML		03 39 15.7	
	comp=E,40nm,0.9s						
G19K	Purcell Mounta	4.59	238		Pn	03 38 06.6	-0.3
G30M	tAoh Zraii Nji	4.63	109		Pn	03 38 07.8	+0.3
G30M	tAoh Zraii Nji	4.63	109	IAML		03 39 28.0	
	comp=E,23nm,0.9s						
G30M				IAML		03 39 52.1	
	comp=N,28nm,1.1s						
J26L	Joseph Creek	4.63	159		Pn	03 38 06.5	-1.1
J26L				IAML		03 39 32.8	
	comp=N,21nm,0.9s						
J26L				IAML		03 39 38.5	
	comp=E,22nm,0.8s						
BWN	Browne	4.77	191		Pn	03 38 08.4	-0.9
EPYK	Eagle Plains	4.80	116		Pn	03 38 09.4	-0.3
H19K	Roundabout Mou	4.83	231	Pn	Pn	03 38 10.7	+0.6
I20K	Naaghedeneel	4.93	218	Pn	Pn	03 38 10.1	-1.4
BPAW	Bear Paw Mtn.	4.98	198		Pn	03 38 11.2	-1.0
BPAW				IAML		03 39 47.3	
	comp=N,18nm,1.2s						
SCRK	Sand Creek	5.09	163		Pn	03 38 11.6	-2.3
SCRK				IAML		03 39 46.4	
	comp=N,15nm,1.1s						
SCRK				IAML		03 39 52.7	
	comp=E,19nm,1.0s						
K24K	Donnelly Dome	5.12	172		Pn	03 38 11.9	-2.2
INK	Inuvik	5.13	90		Pn	03 38 14.3	0.0
INK	Inuvik	5.13	90	Pn	Pn	03 38 15.8	+1.5
	comp=E,0.7nm,0.3s,baz=278,slow=14,SNR=23						
INK				Sn	Sn	03 39 14.4	+0.3
	comp=E,0.8nm,0.3s,baz=182,slow=24,SNR=4.1						
INK				LR	LR	03 40 47.9	
	comp=E,77nm,21.9s,baz=240,slow=44						
	comp=E,4.6nm,0.5s						
MCK	McKinley	5.18	187		Pn	03 38 13.0	-2.0
RIDG	Independent Ri	5.24	167		Pn	03 38 14.2	-1.6
G18K	Tagagawik	5.24	241	Pn	Pn	03 38 15.0	-0.8
G18K				IAML		03 39 43.4	
	comp=N,16nm,0.9s						
G18K				IAML		03 39 49.7	
	comp=E,21nm,1.1s						
K27K	Chicken	5.30	153		Pn	03 38 15.2	-1.4
K27K				IAML		03 40 02.0	
	comp=E,12nm,1.0s						
F31M	Tsiigehtchic	5.31	99		Pn	03 38 15.5	-1.2
F31M				IAML		03 39 26.5	
	comp=N,20nm,0.8s						
F31M				IAML		03 39 49.6	
	comp=E,18nm,1.0s						
G31M	Satah River	5.34	105		Pn	03 38 16.1	-1.0
G31M				IAML		03 39 22.2	
	comp=N,18nm,0.8s						
DOT	Dot Lake	5.40	164		Pn	03 38 17.1	-0.9
DOT				IAML		03 40 06.9	
	comp=N,14nm,1.0s						
J20K	Nowinta River	5.40	213		Pn	03 38 16.7	-1.3
RND	Reindeer	5.50	187		Pn	03 38 21.4	+1.9
KTH	Kantishna Hill	5.50	196		Pn	03 38 20.4	+1.0
TRF	Thorofare Moun	5.55	193		Pn	03 38 21.8	+1.7
I30M	Mount Dempster	5.66	125		Pn	03 38 19.8	-1.9
DHY	Denali Highway	5.80	180		Pn	03 38 25.3	+1.7
PAX	Paxson	5.96	171		Pn	03 38 27.3	+1.6
J30M	Hart River	6.15	129		Pn	03 38 29.0	+0.7
L27K	Beaver Creek,	6.25	156		Pn	03 38 28.0	-1.6
BCAR	Beaver Creek A	6.25	156		Pn	03 38 29.1	-0.7
K29M	Barlow Dome	6.42	137		Pn	03 38 30.6	-1.4
A36M	Sachs Harbour	8.06	57		Pn	03 38 53.1	-1.3
KDAK	Kodiak Island	11.34	194	Pn	Pn	03 39 31.0	-8.3
	comp=N,0.2nm,0.3s,baz=28,slow=17,SNR=12						
	comp=N,3.9nm,0.9s						
PDAR	Pinedale Array	32.72	123	P	P	03 43 31.4	+1.0
	comp=N,0.5nm,0.7s,baz=303,slow=9.3,SNR=4.8						
	comp=N,0.5nm,0.7s						
NVAR	Mina Array Bea	34.34	137	P	P	03 43 46.1	+1.5
	comp=N,1.4nm,0.9s,baz=322,slow=6.4,SNR=6.4						
	comp=N,1.4nm,0.9s						
TXAR	Lajitas Array	46.93	124	P	P	03 45 30.4	+2.0
	comp=N,0.4nm,0.8s,baz=330,slow=5.7,SNR=6.4						
	comp=N,0.4nm,0.8s						
FINES	FINESS Array B	49.91	4	P	P	03 45 50.3	-0.6
	comp=N,1.8nm,0.9s,baz=9.7,slow=12,SNR=2.1						
	comp=N,1.8nm,0.9s						

*NEIC **04** 04:00:46.5±2.0, 19°.91N±0°.01×155°.41W±0°.01, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.2km az=334.0*

HVO 04 04:00:46.1±1.3, 20°.00N±0°.01×155°.38W±0°.02, h10km±5km, ML2.2/14, ML2.3/35(NEIC), Error ellipse: s-maj=2.5km s-min=1.2km az=58.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POHA	Pohakuloa	0.28	211		Pg	04 00 51.3	-0.4
POHA	Pohakuloa	0.28	211		Sg	04 00 54.8	-0.8
HPAH	Hawaii Prepara	0.30	277		Pg	04 00 52.2	+0.1
HPAH					Sg	04 00 56.4	+0.3
HPAH	Hawaii Prepara	0.30	277	IAML		04 00 57.0	
	comp=N,304nm,0.1s						
HPAH				IAML		04 00 57.1	
	comp=E,280nm,0.3s						
HMH	Humu'ula Sheep	0.40	193		Pg	04 00 53.5	-0.6
HMH	Humu'ula Sheep	0.40	193	IAML		04 00 59.1	
	comp=N,148nm,0.3s						
HMH				IAML		04 01 04.0	
	comp=E,144nm,1.8s						
MLH	Mauna Loa	0.50	180		Pg	04 00 55.2	-0.7
MLH					Sg	04 01 01.9	-0.6
MLH	Mauna Loa	0.50	180	IAML		04 01 02.4	
	comp=N,190nm,0.3s						
MLH				IAML		04 01 04.9	
	comp=E,92nm,1.0s						
ALEP	Alea Permanent	0.51	209		Pg	04 00 55.7	-0.5
ALEP					Sg	04 01 02.9	-0.1
MHA	Mahukona	0.52	292		Pg	04 00 55.9	-0.5
MHA					Sg	04 01 03.0	-0.3
HUH	Hualalai	0.53	234		Pg	04 00 55.9	-0.6
HUH					Sg	04 01 03.0	-0.4
RSD	Rainshed	0.54	169		Pg	04 00 55.9	-0.8
RSD					Sg	04 01 03.0	-0.8
MWH	Mokuaweoweo	0.55	202		Pg	04 00 56.0	-0.9
MWH					Sg	04 01 03.1	-1.1
MWH	Mokuaweoweo	0.55	202	IAML		04 01 04.5	
	comp=N,182nm,1.8s						
MWH				IAML		04 01 06.5	
	comp=E,257nm,1.5s						
SBLHI	Steaming Bluff	0.57	169		Pg	04 00 55.6	-1.7
SBLHI					Sg	04 01 03.7	-1.3
UWB	Uwekahuna Bluf	0.58	170		Pg	04 00 56.1	-1.2
UWB					Sg	04 01 03.9	-1.1
UWE	Uwekahuna	0.58	171		Pg	04 00 56.1	-1.3
UWE					Sg	04 01 04.0	-1.0
HATHI	Halema'uma'u T	0.58	168		Pg	04 00 56.0	-1.4
HATHI					Sg	04 01 03.9	-1.2
HATHI	Halema'uma'u T	0.58	168	IAML		04 01 07.1	
	comp=E,166nm,1.9s						
HATHI				IAML		04 01 14.6	
	comp=N,166nm,1.0s						
OBL	Observatory Le	0.58	171		Pg	04 00 56.0	-1.4
OBL					Sg	04 01 04.1	-1.1
WRMHI	West Rim	0.59	172		Pg	04 00 56.1	-1.5
WRMHI					Sg	04 01 04.3	-1.1
KKO	Keanakako'i	0.60	169		Pg	04 00 56.4	-1.5
KKO					Sg	04 01 04.8	-1.1
RIM	Rim	0.60	170		Pg	04 00 56.5	-1.4
SDHHI	Sand Hill	0.61	172		Pg	04 00 56.5	-1.4
SDHHI					Sg	04 01 04.8	-1.1
AIN	Ainahou	0.62	186		Pg	04 00 56.9	-1.3
AIN					Sg	04 01 05.5	-1.0
AIN	Ainahou	0.62	186	IAML		04 01 07.4	
	comp=E,143nm,0.5s						
AIN				IAML		04 01 12.2	
	comp=N,249nm,2.7s						
PUH	Pauahi	0.64	166		Sg	04 01 05.4	-1.5
PUH	Pauahi	0.64	166		Pg	04 00 56.9	-1.6
PUH				IAML		04 01 15.3	
	comp=N,214nm,2.4s						
PUH	Pauahi	0.64	166	IAML		04 01 04.4	
	comp=E,102nm,1.4s						
KNHH	Kane Nui o Ham	0.65	162		Pg	04 00 57.0	-1.6
NPOC	North of Pu'u	0.65	157		Pg	04 00 57.1	-1.7
NPOC					Sg	04 01 05.2	-2.1
STCH	Steam Cracks	0.65	158		Pg	04 00 57.0	-1.8
STCH					Sg	04 01 04.7	-2.7
STCH	Steam Cracks	0.65	158	IAML		04 01 08.0	
	comp=E,180nm,0.1s						
STCH				IAML		04 01 08.2	
	comp=N,134nm,1.2s						
JCUZ	Jacuzzi	0.66	156		Pg	04 00 57.3	-1.7
JOKA	Jonika Flow	0.66	147		Pg	04 00 57.4	-1.5
JOKA	Jonika Flow	0.66	147	IAML		04 01 20.8	
	comp=E,193nm,3.8s						
HLP	Hilina Pali	0.70	174		Pg	04 00 57.6	-2.0
HLP	Hilina Pali	0.70	174		Sg	04 01 07.3	-1.5
HLP	Hilina Pali	0.70	174	IAML		04 01 04.7	
	comp=E,415nm,3.1s						
HTC	Hot Caves	0.75	181		Pg	04 00 58.6	-2.1
KHU	Kahuku	0.78	196		Pg	04 00 58.8	-2.3
KHU					Sg	04 01 08.9	-2.4

*IDC **04** 04:08:01.5±1.0, 38°.72N×22°.34E, h0km, mb3.6/11, mbtmp3.7/14, ML4.0/2, MS2.8/3, Error ellipse: s-maj=20.0km s-min=17.8km az=126.0*

*PDG **04** 04:08:03.3±0.4, 38°.71N×22°.46E, h12km, ML3.5/9, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*

*ATH **04** 04:08:03.3, 38°.70N×22°.44E, h7km, ML3.7/38, Manual Solution by N.Liadopoulou First location: 2019/09/04 04:08:51, This location: 2019/09/04 04:45:38 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

*THE **04** 04:08:03.7, 38°.7N±0°.6×22°.4E±0°.5, h16km±1km, M3.9/18, MLh3.9/18*

*NAO **04** 04:08:20.2, 40°.12N×21°.11E, h10km, MB3.4*

ISC 04 04:08:03.7±0.8, 38°.70N±0°.01×22°.44E±0°.01, h14km±5km, n182, σ0°95/260, mb3.7/9, 13C-6D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AXAR	Agios Charalam	0.18	69	P	Pb	04 08 08.6	-0.3
AXAR				S	Sg	04 08 12.4	+1.6
AXAR	Agios Charalam	0.18	69	P	Pg	04 08 07.7	-0.2
AXAR				S	Sg	04 08 10.3	-0.5
LAM2	Lamia	0.20	358	P	Pg	04 08 08.1	-0.1
LAM2				S	Sg	04 08 10.4	-0.9
DLFA	Delphi	0.23	169	P	Pg	04 08 08.6	0.0
DLFA				S	Sg	04 08 11.6	-0.5
AGG	Agios Georgios	0.33	345	P	Pg	04 08 10.5	0.0
AGG				S	Sb	04 08 15.9	-0.7
KALE	Kalithea	0.39	217	P	Pg	04 08 11.1	-0.3
KALE				S	Sg	04 08 16.8	0.0
KALE	Kalithea	0.39	217	P	Pg	04 08 11.0	-0.5
KALE				S	Sg	04 08 16.1	-0.7
MAKR	Makrakomi, Fth	0.39	323	P	Sb	04 08 11.7	-0.8
MAKR				S	Sb	04 08 17.3	-1.2
MAKR	Makrakomi, Fth	0.39	323	P	Pg	04 08 11.4	-0.2
MAKR				S	Sg	04 08 16.3	-0.7
SERG	Sergoula	0.41	226	P	Pg	04 08 11.6	-0.3
SERG				S	Sg	04 08 17.6	0.0
SERG	Sergoula	0.41	226	P	Pg	04 08 11.2	-0.7
SERG				S	Sg	04 08 17.0	-0.6
ANX	Ano Chora	0.42	255	P	Pg	04 08 11.8	-0.3
ANX				S	Sg	04 08 18.2	+0.5
ANX	Ano Chora	0.42	255	P	Pg	04 08 11.7	-0.3
ANX				S	Sg	04 08 17.4	-0.4
LKR	Lokris	0.44	96	P	Pb	04 08 12.7	-0.5
LKR				S	Sb	04 08 19.6	-0.2
LKR	Lokris	0.44	96	P	Pg	04 08 12.5	0.0
LKR				S	Sg	04 08 17.9	-0.5
ATAL	Atalanti	0.46	91	P	Pb	04 08 13.3	-0.2
ATAL				S	Sb	04 08 20.2	0.0
ATAL	Atalanti	0.46	91	P	Pg	04 08 12.7	0.0
ATAL				S	Sg	04 08 18.3	-0.5
EFP	Efpalio	0.50	237	P	Pg	04 08 13.1	-0.5
EFP				S	Sg	04 08 20.3	+0.2
EFP	Efpalio	0.50	237	P	Pg	04 08 13.0	-0.5
EFP				S	Sg	04 08 20.0	-0.2
AIDA	Aidipsos	0.50	72	P	Pg	04 08 13.5	-0.1
AIDA				S	Sg	04 08 19.9	-0.4
EVR	Evrytania	0.54	294	P	Pg	04 08 13.7	-0.6
EVR				S	Sg	04 08 21.3	-0.1
UPR	University Cam	0.66	231	P	Pg	04 08 15.6	-1.0
UPR				S	Sg	04 08 25.4	+0.2
PATC	Patra C	0.69	231	P	Pg	04 08 16.2	-0.8
PATC				S	Sg	04 08 26.1	+0.1
SOFA	Sofades	0.69	337	P	Pg	04 08 16.8	-0.3
SOFA				S	Sg	04 08 25.8	-0.4
KLV	Kalavryta, Ach	0.69	199	P	Pg	04 08 16.6	-0.6
KLV	Kalavryta, Ach	0.69	199	P	Pg	04 08 16.1	-1.0
KLV				S	Sg	04 08 26.2	-0.2
KLV1	Kalavrita	0.72	201	P	Pg	04 08 16.7	-0.9
KLV1				S	Sg	04 08 26.9	-0.2
PVO	Paravola	0.72	264	P	Pg	04 08 17.0	-0.6
PVO				S	Sg	04 08 27.1	0.0
PATG	Patra B	0.72	231	P	Pg	04 08 16.6	-1.1
PATG				S	Sg	04 08 27.2	-0.1
KIAA	Kiato	0.73	160	P	Pb	04 08 18.1	0.0
KIAA				S	Sg	04 08 26.7	-0.7
GUR	Goura	0.77	186	P	Pg	04 08 17.6	-1.0
GUR	Goura	0.77	186	P	Pg	04 08 18.4	-0.1
GUR				S	Sg	04 08 28.5	-0.2
VOL2	Volos	0.77	31	P	Pb	04 08 18.9	0.0
VOL2				S	Sb	04 08 29.2	-0.1
LTK	Loutraki	0.79	148	S	Sb	04 08 30.6	+0.7
LTK	Loutraki	0.79	148	P	Pg	04 08 18.6	-0.5
LTK				S	Sg	04 08 29.3	-0.2
VIL2	Platees	0.81	127	P	Pb	04

LRSO	Larissa Observ	0.97	358	P	Pb	04 08 22.0	-0.3
LRSO				S	Sn	04 08 36.1	-0.4
LRSO	Larissa Observ	0.97	358	P	Pg	04 08 21.7	-0.7
LRSO				S	Sb	04 08 34.9	-0.1
AMPL	Ampelaki	0.98	283	P	Pg	04 08 20.7	-1.9
RLS	Riolos of Patr	1.00	230	P	Pg	04 08 22.1	-0.8
RLS	Riolos of Patr	1.00	230	P	Pg	04 08 22.2	-0.7
RLS				S	Sb	04 08 36.2	+0.5
TRKA	Trikala	1.00	329	P	Pn	04 08 22.9	-0.4
TRKA				S	Sb	04 08 36.1	+0.3
STFN	Stefani	1.01	121	P	Pg	04 08 22.4	-0.8
STFN				S	Sb	04 08 36.4	+0.1
PARN3	Mandra,Attica,	1.05	127	P	Pb	04 08 23.3	-0.3
PARN3				S	Sg	04 08 37.2	-0.3
ELFA	Athens-Elefsin	1.09	127	P	Pb	04 08 24.1	-0.2
ELFA				S	Sg	04 08 38.5	-0.3
ARS1	Argos	1.09	168	P	Pg	04 08 24.3	-0.3
ARS1				S	Sb	04 08 38.0	-0.3
TETR	Tetrakomo, Epi	1.11	306	P	Pb	04 08 24.5	-0.3
TETR				S	Sg	04 08 39.4	-0.2
PARN1	Fyli,Attica,Gr	1.14	121	P	Pb	04 08 24.7	-0.4
PARN1				S	Sg	04 08 40.1	-0.3
NPLA	Nafplio	1.17	166	P	Pg	04 08 26.4	+0.2
NPLA				S	Sb	04 08 40.7	+0.1
LCHA	Lechaina	1.20	231	P	Pg	04 08 26.7	0.0
LCHA				S	Sg	04 08 42.1	-0.2
ACHAR	Athens-Acharne	1.20	121	P	Pg	04 08 26.5	-0.3
ACHAR				S	Sg	04 08 41.8	-0.6
ARTB	Arta	1.23	292	P	Pn	04 08 26.3	-0.1
ATH	Athens Observa	1.24	126	P	Pg	04 08 27.0	-0.6
ATH				S	Sn	04 08 43.0	-0.2
ATH5	Athens Parliam	1.25	125	P	Pn	04 08 26.6	-0.1
ATH5				S	Sb	04 08 43.0	+0.1
ATHP	Athens-Neo Psi	1.26	123	P	Pg	04 08 27.6	-0.3
ATHP				S	Sn	04 08 43.7	0.0
MET2	Kameni Chora,	1.29	147	P	Pb	04 08 27.5	-0.3
MET2				S	Sn	04 08 44.8	+0.4
PTL	Penteli	1.30	120	P	Pg	04 08 28.3	-0.3
PTL				S	Sg	04 08 45.3	-0.2
MET5	Makryloggos,Me	1.30	146	P	Pg	04 08 28.1	-0.6
MET5				S	Sg	04 08 45.5	0.0
AMT	Artemida-Makis	1.30	206	P	Pn	04 08 27.6	+0.2
AMT				S	Sn	04 08 44.9	+0.2
KYMI	Kymi, Euboea I	1.30	92	P	Pb	04 08 27.8	-0.1
KYMI				S	Sg	04 08 44.9	-0.7
CLEM	Kyllini,Ilia,G	1.31	232	P	Pg	04 08 28.9	+0.1
CLEM				S	Sn	04 08 45.1	+0.3
MET4	Agioi Theodoro	1.32	145	P	Pb	04 08 28.1	-0.1
MET4				S	Sg	04 08 46.0	0.0
MET6	Megalochori,Me	1.32	147	P	Pb	04 08 28.4	+0.1
MET6				S	Sg	04 08 46.5	+0.1
DION	Dionisos Attik	1.33	117	P	Pb	04 08 28.4	0.0
DION				S	Sg	04 08 46.5	-0.1
NYDR	Nydri-Lefkada	1.36	271	P	Pg	04 08 29.4	-0.4
NYDR				S	Sg	04 08 46.9	-0.7
ZARO	Zacharo	1.36	207	P	Pb	04 08 29.1	+0.2
LKD2	Lefkada island	1.40	274	P	Pg	04 08 30.1	-0.3
LKD2				S	Sg	04 08 47.8	-0.8
EVGI	Lefkada island	1.40	267	P	Pb	04 08 29.8	+0.2
EVGI				S	Sb	04 08 47.5	+0.2
TSLK	Tsoukalades, L	1.40	276	P	Pb	04 08 29.7	+0.2
MSVA	Metsovo	1.45	318	P	Pg	04 08 30.7	-0.7
FSK	Fiskardo	1.49	261	P	Pb	04 08 31.3	+0.1
VLS	Valsamata	1.54	251	P	Pb	04 08 31.6	-0.4
KYPS	Kipseli, Zakin	1.55	236	P	Pb	04 08 31.8	-0.3
JAN	Janina	1.56	308	P	Pb	04 08 32.6	+0.2
PLN1	Chaniotis	1.56	34	P	Pn	04 08 31.2	+0.2
PSDA	Pessada-Kefalo	1.57	249	P	Pb	04 08 32.2	+0.3
ITM	Ithomi	1.57	195	P	Pb	04 08 32.7	+0.1
YDRA	Hydra	1.57	149	P	Pn	04 08 31.2	0.0
LTHK	Lithakia	1.60	232	P	Pb	04 08 32.4	-0.7
LVRA	Laurium	1.61	127	P	Pn	04 08 31.5	-0.2
ORTH	Orthonies,Zaky	1.61	239	P	Pb	04 08 32.5	-0.7
ARG2	Argostoli	1.62	252	P	Pn	04 08 32.3	+0.5
KRI1	kERI	1.65	231	P	Pn	04 08 32.9	+0.7
SKY	Skiros Island	1.66	83	P	Pn	04 08 32.5	+0.1
KZN	Kozani	1.69	342	P	Pb	04 08 33.9	-0.6
DMLN	Damoulianata-K	1.69	255	P	Pn	04 08 33.5	+0.8
KARY	Karystos	1.71	112	P	Pn	04 08 33.7	+0.7
PENT	Pentalofos	1.80	326	P	Pb	04 08 35.5	-1.0
IGT	Igoumenitsa	1.84	298	P	Pb	04 08 36.2	-0.9
PLG	Polygyros	1.84	25	P	Pn	04 08 35.1	+0.1
PYL1	Pylos	1.88	198	P	Pb	04 08 36.9	-0.8
PYL2	Kinigos	1.88	198	P	Pn	04 08 36.5	+1.1
HORT	Hortiatis	1.96	15	P	Pn	04 08 36.6	0.0
MTHA	Methoni	1.97	197	P	Pn	04 08 37.5	+1.0
THE	Thessaloniki	1.97	12	P	Pn	04 08 36.4	-0.2
VLI	Veliai	2.02	169	P	Pn	04 08 37.5	+0.2
OUR	Ouranopolis	2.02	36	P	Pn	04 08 37.7	+0.4
MNVA	Monemvasia	2.07	167	P	Pn	04 08 38.5	+0.5
SOH	Sokhos	2.23	18	P	Pn	04 08 41.4	+1.1
FNA	Florina	2.23	339	P	Pn	04 08 41.3	+0.9
LMS2	Laimos Florina	2.35	335	P	Pn	04 08 43.2	+1.2
LIA	Limnos Island	2.44	60	P	Pn	04 08 43.3	+0.2
KNT	Kendrikon	2.48	8	P	Pn	04 08 44.7	+0.9
KTHA	Kythira Island	2.49	168	P	Pn	04 08 44.9	+1.1
MHLO	Agia Marina, M	2.54	142	P	Pn	04 08 45.5	+1.0
SRS	Serrai	2.57	20	P	Pn	04 08 45.4	+0.5
THAS	Thassos island	2.59	42	P	Pn	04 08 44.9	-0.3
THS1	Thassos, Thass	2.62	38	P	Pn	04 08 45.2	-0.3
VAY	Valandovo	2.62	2	*i* Pn	Pn	04 08 47.1	+1.6
VAY				eSn	Sn	04 09 19.0	+1.9
KVLA	Kavala	2.69	33	P	Pn	04 08 36.1	-0.4
SIGR	SIGRI	2.71	78	P	Pn	04 08 47.5	+0.7
OHR	Ohrid	2.72	333	*i* Pn	Pb	04 08 49.4	-2.7
OHR				eSg	Sb	04 09 23.8	-1.6
KAVA	Kavala	2.79	34	P	Pn	04 08 47.8	-0.1
ANKY	Antikythira Is	2.91	166	P	Pn	04 08 50.3	+0.8
SMTH	Samothraki Isl	2.97	53	P	Pn	04 08 50.1	-0.3
EZN	Ezine	3.22	68	⇓P	Pn	04 08 55.1	+1.3
SKO	Skopje	3.35	347	*i* Pn	Pn	04 08 57.9	+2.2
RDO	Rodhopi	3.41	43	P	Pn	04 08 56.4	-0.1
CHAN	Chania	3.42	158	P	Pn	04 08 57.3	+0.6
KNDR	Palaiochora Ch	3.60	164	P	Pn	04 08 59.6	+0.5
IDI	Anoyia	3.93	149	Pn	Pn	04 09 04.5	+0.8
	15nm,0.4s,baz=279,slow=9.8,SNR=28						
IDI				S	Sn	04 09 48.9	-0.8
	5.9nm,0.3s,baz=93,slow=18,SNR=2.6						
IDI	Anoyia	3.93	149	P	Pn	04 09 03.9	+0.2
GVD	Gavdhos	4.08	161	P	Pn	04 09 06.7	+1.1
DRME	Dracevica, Mon	4.28	326	⇑*i* Pn	Pn	04 09 10.0	+1.7
DRME				*i* Sn	Sn	04 09 59.8	+1.8
PDG	Podgorica	4.44	328	⇓*i* Pn	Pn	04 09 12.0	+1.4
PDG				*i* Sn	Sn	04 10 03.9	+1.7
TIP	Timpagrande	4.46	278	⇑P	Pn	04 09 13.6	+2.7
IVA	Berane	4.59	336	*e*Pn	Pn	04 09 14.3	+1.5
IVA				*i* Sn	Sn	04 10 06.7	+0.7
CEME	Cevo	4.68	326	*e*Pn	Pn	04 09 15.4	+1.4
CEME				*i* Sn	Sn	04 10 09.7	+1.5
KOME	Kolasin	4.70	333	*e*Pn	Pn	04 09 15.7	+1.4
KOME				*i* Sn	Sn	04 10 10.4	+1.7
HCY	Herceg Novi	4.80	322	*e*Pn	Pn	04 09 17.3	+1.8
HCY				*i* Sn	Sn	04 10 12.7	+1.8
MATE	Matera	4.83	296	⇓P	Pn	04 09 17.6	+2.7
NKME	Niksic	4.85	328	*e*Pn	Pn	04 09 17.8	+1.6
NKME				*i* Sn	Sn	04 10 14.1	+1.9
BOVS	Bovan	4.96	354	⇑P	Pn	04 09 19.0	+1.3
ELND	Elena	4.96	31	⇑P	Pn	04 09 18.7	+0.9
PLVB	Pleven	4.96	19	⇑P	Pn	04 09 19.8	+2.0
TREB	Trebinje	5.07	324	*e*Pn	Pn	04 09 19.6	+0.3
BRY	Bratogost	5.13	326	⇓*i* Pn	Pn	04 09 22.0	+1.7
BRY				*i* Sn	Sn	04 10 20.9	+1.5
UPM	Unac-Piva	5.23	330	*e*Pn	Pn	04 09 23.2	+1.5
UPM				*i* Sn	Sn	04 10 23.2	+1.3
RUDO	Rudo	5.43	336	*e*Pn	Pn	04 09 24.4	+0.2
STON	Ston	5.50	321	*e*Pn	Pn	04 09 26.2	+1.0
HERR	Herculane	6.17	360	⇑P	Pn	04 09 35.8	+1.4
LOT	Lotru	6.81	8	⇑P	Pn	04 09 44.5	+1.1
BZS	Buzias	6.94	355	⇓P	Pn	04 09 46.4	+1.5
BLY	Banja Luka	7.21	329	*e*Pn	Pn	04 09 49.1	+0.5
BLY	Banja Luka	7.21	329	⇑P	Pn	04 09 51.0	+2.4
MLR	Muntele Rosu	7.27	20	Pn	Pn	04 09 51.4	+1.9
	1.4nm,0.3s,baz=82,slow=2.5,SNR=14						
MLR				LR	LR	04 13 22.2	
	comp=Z,89nm,18.7s,baz=246,slow=44 6.9nm,0.7s						
MLR	Muntele Rosu	7.27	20	⇑P	Pn	04 09 52.0	+2.4
A051A	Mrakovica	7.54	329	*e*Pn	Pn	04 09 54.2	+1.0
COVR	Voineasa-Covas	7.67	20	⇑P	Pn	04 09 57.6	+2.7
PLOR	Plostina	7.80	22	⇑P	Pn	04 09 59.4	+2.7
TURR	Turia	7.81	19	⇑P	Pn	04 09 59.6	+2.7
VRI	Vrincioaia	7.83	23	⇓P	Pn	04 09 59.7	+2.5
MORH	Mrgy, Hungar	8.01	341	*e*Pn	Pn	04 10 00.7	+1.1
MORH	Mrgy, Hungar	8.01	341	⇑P	Pn	04 10 01.6	+1.9
MOSL	Moslavina	8.09	330	*e*Pn	Pn	04 10 01.3	+0.5
BRTR	Keskin Array B	8.76	80	Pn	Pn	04 10 12.9	+2.9
	0.8nm,0.3s,baz=256,slow=12,SNR=26 2.2nm,0.5s						
VRAC	Vranov	11.40	340	LR	LR	04 15 45.1	
	comp=Z,34nm,18.7s,baz=228,slow=41						
GERES	GERESS Array B	11.94	331	Pn	Pn	04 10 56.6	+3.1
	baz=141,slow=13,SNR=2.6						
DAVOX	Davos/Dischmat	12.25	315	LR	LR	04 17 01.1	
	comp=Z,34nm,18.5s,baz=295,slow=44						
ESDC	Sonseca Array	20.47	281	P	P	04 12 40.9	-0.1
	0.7nm,0.6s,baz=85,slow=11,SNR=9.5 0.7nm,0.6s						
HFS	Hagfors	22.16	348	P	P	04 12 57.7	-1.1
	2.2nm,0.8s,baz=154,slow=12,SNR=6.3 2.2nm,0.8s						
FINES	FINESS Array B	22.88	4	P	P	04 13 05.3	-1.3
	1.4nm,0.6s,baz=180,slow=12,SNR=9.5 1.4nm,0.6s						
NB2	NORSAR Subarra	23.43	346	P	P	04 13 11.9	-0.4
	comp=Z,1.0nm,0.6s,baz=159,slow=11						
NOA	NORSAR Array B	23.43	346	P	P	04 13 10.8	-1.5
	comp=Z,0.6nm,0.5s,baz=156,slow=8.7,SNR=4.9 comp=Z,0.6nm,0.5s						
EKA	Eskdalemuir Ar	23.90	322	P	P	04 13 16.1	-0.6
	comp=Z,1.3nm,0.5s,baz=124,slow=9.3,SNR=9.2 comp=Z,1.3nm,0.5s						
TORD	Torodi Ar. Bea	31.40	221	P	P	04 14 24.3	-0.1
	comp=Z,0.2nm,0.4s,baz=36,slow=9.4,SNR=5.9 comp=Z,0.2nm,0.4s						
MKAR	Makarchi Array	43.74	59	P	P	04 16 08.9	+0.5
	comp=Z,0.6nm,0.4s,baz=276,slow=8.2,SNR=5.8 comp=Z,0.6nm,0.4s						
ZALV	Zalesovo Beam	44.22	49	P	P	04 16 12.5	+0.3
	comp=Z,1.4nm,0.4s,baz=275,slow=10,SNR=4.7 comp=Z,1.4nm,0.4s						
ILAR	Eielson Array	76.52	355	P	P	04 19 53.6	+0.8
	comp=Z,0.1nm,0.5s,baz=343,slow=2.9,SNR=4.5 comp=Z,0.1nm,0.5s						
KSRS	Korea Array	77.83	52	P	P	04 19 59.7	-1.0
	comp=Z,0.8nm,0.4s,baz=326,slow=5.7,SNR=2.1 comp=Z,0.8nm,0.4s						
PDAR	Pinedale Array	87.95	327	P	P	04 20 52.7	-0.7
	comp=Z,0.4nm,0.8s,baz=37,slow=8.6,SNR=3.8 comp=Z,0.4nm,0.8s						

NEIC ***04*** *04:57:23.3±0.9, 31.29S±0.08×177.9W±0.2, h10km±1km, mb4.6/16, Error ellipse: s-maj=28.5km s-min=13.5km az=95.0*

IDC ***04*** *04:57:42.3±14.0, 31.22S×178.24W, h170km±129km, mb3.6/7, mbtmp4.1/7, MS3.4/6, Error ellipse: s-maj=52.2km s-min=23.1km az=52.0*

ISC 04 04:57:26.2±0.7, 31.28S±0.09×178.0W±0.1, h35km, n43, σ1s53/37, mb4.4/17, MS3.5/6, 4C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	Raoul Island	2.03	1	Pn		Pn	04 57 56.9	-1.0
RTZ	Ruatahuna	8.40	208	Pn		Pn	04 59 23.1	-2.4
BKZ	Black Stump Fm	9.07	208	Pn		Pn	04 59 29.2	-5.4
BFZ	Birch Farm	10.48	205	Pn		Pn	04 59 51.0	-2.9
MRZ	Mangatainoka R	10.71	207	Pn		Pn	04 59 51.6	-5.5
SNZO	South Karori	11.61	208	Pn		Pn	05 00 08.8	-0.6
THZ	Tophouse	12.76	212	Pn		Pn	05 00 22.3	-2.9
CTAO	Charters Tower	33.97	280	P		P	05 04 08.0	+1.4
CTAO				IAmb		IAmb	05 04 10.5	
	comp=Z,6.1nm,0.7s							
STKA	Stephens Creek	34.31	258	P		P	05 04 10.3	+0.9
STKA	Stephens Creek	34.31	258	P		P	05 04 09.8	+0.3
	comp=Z,2.2nm,0.7s,baz=84,slow=9.7,SNR=5.2							
STKA				LR		LR	05 16 25.5	
	comp=Z,103nm,18.7s,baz=24,slow=33 comp=Z,2.2nm,0.7s							
BBOO	Buckleboo	38.76	255	P		P	05 04 47.9	+0.6
ASAR	Alice Springs	43.09	268	P		P	05 05 23.8	+0.6
ASAR	Alice Springs	43.09	268	P		P	05 05 24.5	+1.3
	comp=Z,3.7nm,0.8s,baz=104,slow=7.5,SNR=33 comp=Z,3.7nm,0.8s							
WR8	Warramunga Arr	44.02	273	P		P	05 05 30.8	+0.2
WR8				IAmb		IAmb	05 05 44.3	
	comp=Z,5.6nm,0.8s							
WB2	Warramunga Arr	44.15	273	P		P	05 05 32.1	+0.4
WB2				IAmb		IAmb	05 05 45.0	
	comp=Z,10.0nm,0.8s							
WRAB	Tennant Creek	44.16	273	P		P	05 05 32.4	+0.6
WRAB				IAmb		IAmb	05 05 45.0	
	comp=Z,7.5nm,0.7s							
WRA	Warramunga Arr	44.16	273	P		P	05 05 31.1	-0.7
WRA	Warramunga Arr	44.16	273	P		P	05 05 32.6	+0.8
	comp=Z,2.4nm,0.6s,baz=113,slow=7.7,SNR=14 comp=Z,2.4nm,0.6s							
WB0	Warramunga Arr	44.19	273	P		P	05 05 32.7	+0.7
WB0				IAmb		IAmb	05 05 45.3	
	comp=Z,10nm,0.8s							
SBA	Scott Base	47.16	184	P		P	05 05 55.7	+1.0
VNDA	Vanda	47.22	186	P		P	05 05 56.7	+1.5
VNDA	Vanda	47.22	186	P		P	05 05 57.6	+2.4
	comp=Z,0.7nm,0.9s,baz=1.2,slow=5.7,SNR=3.1 comp=Z,0.7nm,0.9s							
FITZ	Fitzroy Crossi	52.39	271	P		P	05 06 36.2	+1.0
CASY	Casey	54.37	208	P		P	05 06 49.9	+0.8
CASY				IAmb		IAmb	05 06 52.4	
	comp=Z,3.0nm,0.8s							
GUMO	Guam	57.12	316	LR		LR	05 29 33.5	
	comp=Z,17nm,20.8s,baz=156,slow=34							
QSPA	South Pole Qui	58.83	180	P		P	05 07 22.3	+1.3
QSPA	South Pole Qui	58.83	180	P		P	05 07 23.2	+2.2
	comp=Z,1.1nm,0.8s,baz=7.7,slow=1.5,SNR=6.7							
QSPA				LR		LR	05 31 15.8	
	comp=Z,36nm,18.3s,baz=22,slow=34 comp=Z,1.1nm,0.8s							
RPN	Rapa Nui	59.18	105	LR		LR	05 28 56.5	
	comp=Z,27nm,18.6s,baz=120,slow=32							
TROLL	Troll, Antarti	76.99	180	⇑P		P	05 09 13.8	-1.2
	comp=Z,66nm,0.7s							
SNAA	Sanae	77.27	178	⇑P		P	05 09 14.3	-2.3
	comp=Z,39nm,0.8s							
SNAA	Sanae	77.27	178	P		P	05 09 13.8	-2.8
SNAA				IAmb		IAmb	05 09 26.4	
	comp=Z,3.9nm,1.2s							
VNA3	Neumayer Olymp	77.42	176	⇑P		P	05 09 17.1	-0.2
	comp=Z,8.0nm,0.7s							
VNA1	Neumayer--Stat	78.09	177	⇑P		P	05 09 21.3	+0.3
	comp=Z,4.1nm,0.8s							
MJAR	Matsushiro Arr	78.98	325	LR		LR	05 43 49.8	
	comp=Z,14nm,18.0s,baz=206,slow=35							
MAJO	Matsushiro	78.98	325	P		P	05 09 27.0	+0.7
MAJO				IAmb		IAmb	05 09 33.0	
	comp=Z,2.9nm,0.8s							
JTM	Tenmabayashi	81.10	330	P		P	05 09 38.6	+1.0
SHEM	Shemya Is, Ala	83.94	355	LR		LR	05 42 55.6	
	comp=Z,22nm,21.6s,baz=38,slow=32							
PETK	Petropavlovsk-	86.67	346	P		P	05 10 04.2	-1.6
	comp=Z,2.5nm,0.8s,baz=180,slow=6.9,SNR=2.5 comp=Z,2.5nm,0.8s							
PDAR	Pinedale Array	96.76	44	P		P	05 10 54.6	+1.4
	comp=Z,0.2nm,0.5s,baz=172,slow=12,SNR=4.8 comp=Z,0.2nm,0.5s							
KURBB	Kurchatov Arra	121.71	313	PKP		PKPdf	05 16 15.6	-0.3
	comp=Z,0.3nm,0.4s,baz=105,slow=1.6,SNR=4.0							
FINES	FINESS Array B	145.98	340	PKPbc		PKPbc	05 17 00.9	-0.5
	comp=Z,6.8nm,0.8s,baz=52,slow=3.1,SNR=13							
AKASG	Malin Array Be	152.01	322	PKPbc		PKPbc	05 17 16.1	-1.1
	comp=Z,2.0nm,0.8s,baz=55,slow=2.7,SNR=5.4							
BRTR	Keskin Array B	153.03	297	PKPbc		PKPbc	05 17 17.2	-2.9
	comp=Z,0.7nm,0.8s,baz=98,slow=4.4,SNR=3.6							

SJA ***04*** *04:58:40.0±0.8, 32.30S×70.15W, h130km±3km, ML3.4, MW3.6*

GUC ***04*** *04:58:42.2±0.8, 32.28S×70.25W, h118km±4km, ML3.7*

ISC 04 04:58:41.4±1.3, 32.29S±0.02×70.17W±0.03, h120km±8km, n66, σ1s07/122, 3C-19D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VA03	San Esteban	0.57	214	⇓*i* P		Pn	04 58 59.4	-0.5
VA03				*i* S		Sn	04 59 12.7	-1.2
VA03				IAML			04 59 14.0	
	comp=E,8μm,0.2s							
VA03	San Esteban	0.57	214	*e*P		Pn	04 58 59.4	-0.5
VA03				*e*S		Sn	04 59 13.8	-0.1
VA03				IAML			04 59 15.1	
	comp=Z,2μm,0.2s							
RTLS	Leoncito	0.89	57	*e*P		Pn	04 59 02.3	-0.4
RTLS				*e*S		Sn	04 59 16.8	-1.9
RTLS				IAML			04 59 18.5	
	comp=Z,2μm,0.2s							
PEL	Peldehue	0.96	207	⇓*i* P		Pn	04 59 02.6	-0.4
PEL				*i* S		Sn	04 59 18.5	-0.9
PEL				IAML			04 59 19.5	
	comp=E,1μm,0.5s							
PEL	Peldehue	0.96	207	*e*P		Pn	04 59 02.8	-0.2
PEL				*e*S		Sn	04 59 19.5	+0.1
PEL				IAML			04 59 19.6	
	comp=Z,492nm,0.2s							
ROCH	El Roble	0.98	226	⇓*i* P		Pn	04 59 03.2	-0.3
ROCH				*i* S		Sn	04 59 19.5	-0.7
ROCH				IAML			04 59 21.2	
	comp=N,3μm,0.3s							
ROC1	El Roble	0.99	226	*e*P		Pn	04 59 03.1	-0.4
ROC1				*e*S		Sn	04 59 20.1	-0.2
VA06	Catapilco	0.99	254	⇓*i* P		Pn	04 59 02.8	-0.5
VA06				*i* S		Sn	04 59 18.4	-1.4
VA06				IAML			04 59 19.7	
	comp=E,4μm,0.6s							
MT10	Hacienda Santa	1.03	197	⇓*i* P		Pn	04 59 03.9	0.0
MT10				*i* S		Sn	04 59 20.4	-0.4
MT10				IAML			04 59 24.4	
	comp=N,3μm,0.4s							
FCH	Farellones	1.04	186	⇓*i* P		Pn	04 59 04.3	+0.2
FCH				*i* S		Sn	04 59 21.3	-0.1
MT04	Ro Olivares	1.11	179	⇓*i* P		Pn	04 59 04.9	+0.1
MT04				*i* S		Sn	04 59 23.0	+0.4
MT04	Ro Olivares	1.11	179	*e*P		Pn	04 59 05.0	+0.2
MT04				*e*S		Sn	04 59 23.3	+0.7
MT04				IAML			04 59 28.8	
	comp=Z,275nm,0.9s							
MT14	Cerro Cal¡n	1.15	195	⇓*i* P		Pn	04 59 05.0	+0.1
MT14				*i* S		Sn	04 59 22.7	-0.2
MT14				IAML			04 59 25.9	
	comp=E,2μm,0.3s							
MT08	Bocatoma Ro	1.16	174	⇓*i* P		Pn	04 59 06.0	+0.7
MT08				*i* S		Sn	04 59 23.4	0.0
MT08	Bocatoma Ro	1.16	174	*e*P		Pn	04 59 06.0	+0.7
MT08				*e*S		Sn	04 59 24.3	+0.8
MT08				IAML			04 59 28.5	
	comp=Z,191nm,0.9s							
MT16	CCHEN	1.18	195	⇓*i* P		Pn	04 59 05.4	+0.1
MT16				*i* S		Sn	04 59 23.3	-0.1
ARCO	CERRO ARCO	1.18	118	*e*P		Pn	04 59 05.6	+0.2
ARCO				IAML			04 59 25.6	
	comp=Z,538nm,0.3s							
ARCO				*e*S		Sn	04 59 25.6	+2.0
MT05	Renca	1.20	203	⇓*i* P		Pn	04 59 05.6	+0.1
MT05				*i* S		Sn	04 59 23.6	-0.3
MT05				IAML			04 59 25.8	
	comp=E,4μm,0.3s							
MT05	Renca	1.20	203	*e*P		Pn	04 59 05.7	+0.1
MT05				*e*S		Sn	04 59 24.6	+0.7
MT05				IAML			04 59 25.2	
	comp=Z,942nm,0.5s							
MT03	Universidad Ad	1.24	193	⇓*i* P		Pn	04 59 06.2	+0.3
MT03				*i* S		Sn	04 59 24.7	+0.1
MT03				IAML			04 59 27.8	
	comp=E,2μm,0.2s							
MT03	Universidad Ad	1.24	193	*e*P		Pn	04 59 06.3	+0.3
MT03				*e*S		Sn	04 59 25.5	+0.9
MT03				IAML			04 59 27.6	
	comp=Z,848nm,0.4s							
MT02	Curacav	1.27	220	⇓*i* P		Pn	04 59 05.7	-0.5
MT02				*i* S		Sn	04 59 24.1	-0.9
MT02	Curacav	1.27	220	*e*P		Pn	04 59 05.7	-0.5
MT02				*e*S		Sn	04 59 25.4	+0.4
MT02				IAML			04 59 25.5	
	comp=Z,352nm,0.3s							
CO02	Combarbal	1.29	327	⇑*i* P		Pn	04 59 06.9	+0.3
CO02				*i* S		Sn	04 59 26.8	+1.1
CO02	Combarbal	1.29	327	*e*P		Pn	04 59 07.0	+0.3
CO02				*e*S		Sn	04 59 26.7	+1.1
CO02				IAML			04 59 27.4	
	comp=Z,1μm,0.2s							
MT15	Las Vizcachas	1.34	192	⇓*

BO01					IAML			04 59 53.0	
	comp=Z,92nm,0.2s								
ACDV	**Cuesta del Vie**	**2.29**	**23**	*eS*		**Sn**		**04 59 49.0**	**+1.8**
ACDV					IAML			04 59 51.5	
	comp=Z,94nm,0.5s								
CO01	**Juntas del Tor**	**2.30**	**2**	*eP*		Pn		04 59 07.7	-11
CO01				*eS*		**Sn**		**04 59 50.0**	**+2.3**
ACAN	**Cantantal**	**2.53**	**91**	*eP*		**Pn**		**04 59 20.4**	**-1.1**
BO02	**Sierra Bellavi**	**2.55**	**191**	*eP*		**Pn**		**04 59 22.2**	**+0.3**
BO02				*eS*		**Sn**		**04 59 54.1**	**+1.1**
BO02					IAML			04 59 55.6	
	comp=Z,146nm,0.5s								
AVFE	**Valle Fertil**	**2.83**	**56**	*eP*		**Pn**		**04 59 25.4**	**-0.1**
AVFE				*eS*		**Sn**		**04 59 59.1**	**-0.4**
AVFE					IAML			04 59 59.7	
	comp=Z,91nm,0.8s								
RFA	**San Rafael**	**2.86**	**151**	*eP*		**Pn**		**04 59 25.7**	**-0.2**
RFA				*eS*		**Sn**		**04 59 58.6**	**-1.6**
GO05	**Hualane**	**3.09**	**208**	*eP*		**Pn**		**04 59 28.1**	**-0.7**
GO05				*eS*		**Sn**		**05 00 09.1**	**+3.7**
GO05					IAML			05 00 13.6	
	comp=Z,36nm,1.3s								
AGUA	**GUANDACOL**	**3.14**	**28**	*eP*		**Pn**		**04 59 30.9**	**+1.3**
AGUA					IAML			05 00 11.1	
	comp=Z,77nm,0.9s								
ACHE	**Chepes**	**3.19**	**70**	*eP*		**Pn**		**04 59 30.1**	**-0.2**
ACHE				*eS*		**Sn**		**05 00 06.8**	**-1.3**
LCO	**Las Campanas**	**3.30**	**352**	*eP*		**Pn**		**04 59 32.6**	**+0.7**
LCO				*eS*		**Sn**		**05 00 10.1**	**-0.7**
LCO					IAML			05 00 13.8	
	comp=Z,178nm,0.1s								
EDS3	**Malargue**	**3.53**	**170**	*eP*		**Pn**		**04 59 37.0**	**+2.2**
ML02	**Panimavida**	**3.62**	**196**	*eP*		**Pn**		**04 59 34.1**	**-1.7**
ML02				*eS*		**Sn**		**05 00 16.8**	**-1.1**
ML02					IAML			05 00 25.3	
	comp=Z,34nm,0.5s								
APLL	**PUNTA DE LOS L**	**3.64**	**60**	*eP*		**Pn**		**04 59 36.0**	**-0.3**
APLL				*eS*		Sn		05 00 02.7	-16
MRA	**San Martin**	**3.77**	**93**	*eP*		**Pn**		**04 59 37.3**	**-0.7**
MRA				*eS*		Sn		05 00 07.0	-15
MRA					IAML			05 00 22.1	
	comp=Z,120nm,1.1s								
VCA	**Vinchina**	**3.92**	**26**	*eP*		**Pn**		**04 59 40.9**	**+0.7**
VCA				*eS*		**Sn**		**05 00 27.8**	**+2.3**
VCA					IAML			05 00 28.3	
	comp=Z,50nm,0.3s								
ACLC	**CERRO LA CRUZ**	**3.97**	**45**	*eP*		**Pn**		**04 59 40.6**	**-0.2**
ACLC				*eS*		**Sn**		**05 00 26.0**	**-0.8**
ACLC					IAML			05 00 30.4	
	comp=Z,32nm,1.0s								
AC04	**Llanos de Chal**	**4.14**	**349**	*eP*		**Pn**		**04 59 42.7**	**-0.2**
AC04				*eS*		**Sn**		**05 00 26.0**	**-4.5**
AC04					IAML			05 00 41.5	
	comp=Z,42nm,0.7s								
TCA	**Tanti**	**4.84**	**80**	*eP*		**Pn**		**04 59 51.4**	**-0.9**
TCA				*eS*		Sn		05 00 32.6	-15
TCA					IAML			05 00 45.4	
	comp=Z,44nm,0.7s								

NEIC ***04*** *05:04:54.8±1.9, 39°.877N±0°.004×115°.63W±0°.02, h4km±5km, Error ellipse: s-maj=2.7km s-min=0.7km az=92.0*

REN 04 05:04:56.0±4.8, 39°.85N±0°.02×115°.47W±0°.02, h4km±5km, ML1.9/1, ML2.2/26(NEIC), Error ellipse: s-maj=2.9km s-min=2.4km az=136.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELK	**Elko**	**0.91**	**11**	Pg	Pb	05 05 14.2	-0.3
ELK				Sg	Sb	05 05 26.5	-0.6
ELK				IAML		05 05 27.9	
	40nm,0.3s						
Q12A	**Willow Creek R**	**0.95**	**148**		Pg	05 05 14.6	+0.3
Q12A					Sb	05 05 27.8	-0.4
SPR3	**Spring Creek 3**	**1.23**	**134**		Pn	05 05 21.5	+1.3
SPR3					Sn	05 05 37.2	-0.2
R11B	**Troy Canyon, C**	**1.50**	**183**		Pn	05 05 22.9	-1.1
R11B					Sn	05 05 42.6	-1.4
R11B	**Troy Canyon, C**	**1.50**	**183**	IAML		05 05 44.2	
	comp=E,30nm,0.2s						
R11B				IAML		05 05 45.1	
	comp=N,21nm,0.2s						
FSU	**Fish Springs**	**1.61**	**94**		Pg	05 05 26.7	-0.1
FSU					Sg	05 05 49.6	+2.0
Q09A	**Carvers**	**1.67**	**233**		Pn	05 05 24.1	-2.1
Q09A	**Carvers**	**1.67**	**233**		Sn	05 05 47.5	-0.7
PSUT	**Pine Spring**	**1.82**	**136**		Pb	05 05 30.0	0.0
PSUT					Sg	05 05 55.1	+0.6
PSUT				IAML		05 05 57.9	
	comp=E,36nm,0.5s						
PSUT				IAML		05 05 58.0	
	comp=N,30nm,0.5s						
DUG	**Dugway, Tooele**	**2.07**	**80**		Pb	05 05 33.6	-0.6
DUG					Sg	05 06 02.5	+0.1
DUG				IAML		05 06 04.8	
	comp=N,10nm,0.4s						
BGU	**Big Grassy Mou**	**2.15**	**59**	Pn	Pg	05 05 36.5	-0.7
S11A	**Rachel**	**2.22**	**186**		Pn	05 05 34.5	+0.8
TPH	**Tonopah**	**2.24**	**218**		Pn	05 05 32.9	-1.2
TPH				IAML		05 06 06.8	
	comp=E,14nm,0.3s						
TPH				IAML		05 06 07.4	
	comp=N,10nm,0.4s						
TPH	**Tonopah**	**2.24**	**218**		Sb	05 06 05.8	+0.5
PRN	**Pahroc Range**	**2.46**	**172**		Pn	05 05 37.8	+0.7
PRN				IAML		05 06 22.3	
	comp=E,23nm,0.5s						
LHV	**Little Huntoon**	**2.85**	**237**		Pn	05 05 41.4	-0.8
LHV				IAML		05 06 33.5	
	comp=N,9.2nm,1.9s						
LHV				IAML		05 06 49.0	
	comp=E,12nm,4.7s						

IDC ***04*** *05:07:14.9±3.7, 54°.31N×87°.39E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=32.4km s-min=20.6km az=43.0*

ASRS 04 05:07:15.0±0.8, 54°.22N×87°.06E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**259**	I	I	05 16 10.0	
	baz=76,slow=324,SNR=6.6						
ZALV	**Zalesovo Beam**	**1.35**	**259**	Pg	Pb	05 07 42.9	+1.8
	0.6nm,0.3s,baz=71,slow=14,SNR=7.8						
ZALV				Lg	Lg	05 08 04.5	
	1.2nm,0.3s,baz=76,slow=26,SNR=8.1						
KURBB	**Kurchatov Arra**	**6.34**	**239**	Pn	Pn	05 08 52.8	+3.2
	0.1nm,0.3s,baz=53,slow=14,SNR=4.7						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**8.03**	**204**	Pn	Pn	05 09 16.2	+3.3
	0.1nm,0.3s,baz=22,slow=14,SNR=1.8						
	0.2nm,0.4s						

IDC ***04*** *05:25:38.2±0.9, 9°.19S×125°.48E, h0km, mb3.9/7, mbtmp4.0/11, ML4.2/4, MS3.2/5, Error ellipse: s-maj=35.9km s-min=17.4km az=72.0*

NEIC ***04*** *05:25:42.8±2.0, 9°.45S±0°.08×125°.21E±0°.04, h10km±2km, mb4.3/9, Error ellipse: s-maj=14.1km s-min=3.0km az=23.0*

DJA ***04*** *05:25:42.7±0.3, 10°S±3°×12°5E±°, h10km, M4.4/12, mB5.0/1, mb4.6/7, MLv4.3/12, Mw(mB)4.3/1*

ISC 04 05:25:41.1±0.6, 9.53S±0°.06×125°.26E±0°.06, h10km, n43, σ2s07/44, mb4.1/11, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.00**	**257**		**Pn**	**05 26 02.9**	**+1.5**
SOEI	**Soe**	**1.00**	**257**	P	**Pn**	**05 26 02.4**	**+1.1**
BATI	**Baumata**	**1.71**	**247**	Pn	**Pb**	**05 26 13.4**	**+0.8**
	59nm,0.3s,baz=115,slow=2.8,SNR=24						
BATI				Sn	**Sn**	**05 26 34.4**	**+1.5**
	120nm,0.3s,baz=296,slow=6.3,SNR=6.0						
BATI				LR	LR	05 26 54.1	
	comp=Z,302nm,20.6s,baz=78,slow=37						
	417nm,0.6s						
BATI	**Baumata**	**1.71**	**247**	P	**Pn**	**05 26 12.6**	**+1.6**
MMRI	**Maumere**	**3.11**	**286**		**Pn**	**05 26 30.9**	**+0.6**
MMRI	**Maumere**	**3.11**	**286**	P	**Pn**	**05 26 30.3**	**0.0**
EDFI	**Ende, Flores**	**3.60**	**282**	P	**Pn**	**05 26 37.9**	**+0.7**
BASI	**Baing, Sumba**	**4.66**	**261**	P	**Pn**	**05 26 50.6**	**-1.0**
WBSI	**Waikabubak, Su**	**5.79**	**268**	P	**Pn**	**05 27 05.9**	**-1.2**
	0.3nm38nm,0.4s						
BKSI	**Bulukumba**	**6.59**	**309**	P	**Pn**	**05 27 19.0**	**+0.9**
MTN	**Manton Dam**	**6.64**	**120**		**Pn**	**05 27 21.6**	**+2.8**
KNRA	**Kununurra**	**7.00**	**151**		**Pn**	**05 27 26.4**	**+2.6**
KAPI	**Kappang**	**7.07**	**309**	LR	LR	05 30 16.0	
	comp=Z,258nm,19.6s,baz=106,slow=40						
BNSI	**Bone**	**7.22**	**315**	P	**Pn**	**05 27 26.7**	**-0.1**
	0.1nm24nm,1.0s						
PLAI	**Plampang**	**7.42**	**275**	P	**Pn**	**05 27 29.5**	**0.0**
	0.2nm38nm,0.7s						
SANI	**Sanana**	**7.47**	**6**	P	**Pn**	**05 27 31.6**	**+1.4**
	0.1nm20nm,0.5s						
FITZ	**Fitzroy Crossi**	**8.53**	**178**	Pn	**Pn**	**05 27 46.0**	**+1.3**
FITZ	**Fitzroy Crossi**	**8.53**	**178**	Pn	**Pn**	**05 27 45.6**	**+0.9**
	2.9nm,0.3s,baz=6.5,slow=10,SNR=93						
FITZ				Sn	**Sn**	**05 29 17.3**	**-3.7**
	8.6nm,0.3s,baz=255,slow=7.6,SNR=9.7						
	6.1nm,0.3s						
WB0	**Warramunga Arr**	**13.47**	**140**	Pn	**Pn**	**05 28 51.3**	**-1.2**
WRA	**Warramunga Arr**	**13.57**	**141**		**Pn**	**05 28 52.7**	**-1.1**
WRA	**Warramunga Arr**	**13.57**	**141**	Pn	Pn	05 28 51.9	-1.9
	1.1nm,0.3s,baz=319,slow=13,SNR=52						
WRA				Sn	Sn	05 31 16.8	-8.0
	0.8nm,0.3s,baz=316,slow=24,SNR=11						
WRA				LR	LR	05 34 54.0	
	comp=Z,76nm,18.7s,baz=3.0,slow=41						
	6.4nm,0.7s						
WRAB	**Tennant Creek**	**13.57**	**141**		**Pn**	**05 28 53.5**	**-0.3**
WR8	**Warramunga Arr**	**13.68**	**140**	Pn	**Pn**	**05 28 54.7**	**-0.6**
AS31	**Alice Springs**	**16.31**	**151**	Pn	**Pn**	**05 29 30.2**	**-0.2**
ASAR	**Alice Springs**	**16.31**	**151**	Pn	**Pn**	**05 29 31.1**	**+0.6**
ASAR	**Alice Springs**	**16.31**	**151**	Pn	**Pn**	**05 29 29.8**	**-0.7**
	0.8nm,0.3s,baz=323,slow=12,SNR=29						
ASAR				Sn	**Sn**	**05 32 25.0**	**-6.5**
	0.5nm,0.3s,baz=320,slow=22,SNR=8.0						
ASAR				LR	LR	05 36 49.4	
	comp=Z,132nm,20.9s,baz=306,slow=41						
	3.0nm,0.6s						
COEN	**Coen**	**18.08**	**106**		**Pn**	**05 29 53.9**	**+1.1**
MORW	**Morawa**	**21.27**	**203**	P	**P**	**05 30 28.7**	**+0.9**
CTAO	**Charters Tower**	**22.82**	**120**	P	**P**	**05 30 47.7**	**+3.2**
CTAO				IAmb	IAmb	05 30 57.5	
	comp=Z,3.8nm,0.8s						
BBOO	**Buckleboo**	**25.23**	**158**	P	**P**	**05 31 09.0**	**+1.7**
BBOO				IAmb	IAmb	05 31 18.3	
	comp=Z,19nm,1.4s						
STKA	**Stephens Creek**	**26.91**	**148**	P	**P**	**05 31 24.3**	**+1.7**
STKA	**Stephens Creek**	**26.91**	**148**	P	**P**	**05 31 22.4**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=308,slow=14,SNR=3.3						
STKA				LR	LR	05 44 00.0	
	comp=Z,83nm,20.7s,baz=1.7,slow=41						
	comp=Z,0.4nm,0.4s						
XLT	**XiLinHaoTe**	**53.83**	**352**	*eP*	**P**	**05 35 06.2**	**+2.0**
XLT				sP	sP	05 35 12.7	+4.3
XLT				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SONM	**Songino Array**	**59.51**	**345**	P	**P**	**05 35 42.2**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=146,slow=9.1,SNR=1.8						
	comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**67.89**	**330**	P	**P**	**05 36 37.4**	**-2.5**
	comp=Z,1.1nm,0.6s,baz=132,slow=7.3,SNR=13						
	comp=Z,1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**71.88**	**336**	P	**P**	**05 37 00.7**	**-3.5**
	comp=Z,0.7nm,0.4s,baz=112,slow=3.2,SNR=2.8						
	comp=Z,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**72.31**	**331**	P	**P**	**05 37 03.9**	**-2.9**
	comp=Z,0.4nm,0.4s,baz=143,slow=5.5,SNR=7.6						
	comp=Z,0.4nm,0.4s						
QSPA	**South Pole Qui**	**80.46**	**180**	P	**P**	**05 37 55.6**	**+2.5**
QSPA				IAmb	IAmb	05 38 31.2	
	comp=Z,5.5nm,1.5s						
QSPA	**South Pole Qui**	**80.46**	**180**	P	**P**	**05 37 55.4**	**+2.2**
	comp=Z,1.6nm,0.8s,baz=262,slow=2.1,SNR=7.0						
	comp=Z,1.6nm,0.8s						
AB31	**Akbulak array**	**81.62**	**323**	P	**P**	**05 37 57.4**	**-2.0**
AB31				IAmb	IAmb	05 38 40.3	
	comp=Z,1.4nm,0.9s						
ABKAR	**Akbulak array**	**81.62**	**323**	P	**P**	**05 37 56.7**	**-2.7**
SNAA	**Sanae**	**92.09**	**194**	P	**P**	**05 38 52.0**	**+1.7**
SNAA				IAmb	IAmb	05 38 59.8	
	comp=Z,3.6nm,1.4s						
SNAA	**Sanae**	**92.09**	**194**	P	**P**	**05 38 51.7**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=148,slow=9.5,SNR=5.3						
	comp=Z,0.8nm,0.8s						

SJA ***04*** *05:39:26.8±0.7, 31°.10S×70°.82W, h88km±2km, ML3.5, MW3.5*

GUC ***04*** *05:39:26.7±0.8, 31°.11S×70°.76W, h84km±3km, ML3.4*

ISC 04 05:39:28.0±1.2, 31°.12S±0°.02×70°.87W±0°.03, h87km±6km, n74, σ1s45/136, 8C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.14**	**234**	*i* P	**Pn**	**05 39 40.4**	**-0.1**
CO02				*eS*	**Sn**	**05 39 49.8**	**0.0**
CO02	**Combarbal**	**0.14**	**234**	*eP*	**Pn**	**05 39 40.0**	**-0.5**
CO02				*eS*	**Sn**	**05 39 50.1**	**+0.3**
CO02				IAML		05 39 51.1	
	comp=Z,5μm,0.1s						
CO03	**El Pedregal**	**0.32**	**29**	*i*P	**Pn**	**05 39 40.8**	**-0.4**
CO03				*eS*	**Sn**	**05 39 50.5**	**-0.6**
CO03				IAML		05 39 51.0	
	comp=N,5μm,0.2s						
CO03	**El Pedregal**	**0.32**	**29**	*eP*	Pn	05 39 35.3	-6.0
CO03				*eP*		05 39 40.7	
CO03				*eS*	**Sn**	**05 39 50.9**	**-0.2**
CO03				IAML		05 39 53.1	
	comp=Z,2μm,0.1s						
CO06	**Fray Jorge**	**0.80**	**304**	*i*P	**Pn**	**05 39 45.7**	**+0.6**
CO06				*eS*	**Sn**	**05 39 59.4**	**+1.4**
CO06				IAML		05 40 05.9	
	comp=E,1μm,0.1s						
GO04	**Tololo Observa**	**0.95**	**4**	*i*P	**Pn**	**05 39 46.9**	**-0.3**
GO04				*eS*	**Sn**	**05 40 01.2**	**-0.2**
GO04	**Tololo Observa**	**0.95**	**4**	*eP*	**Pn**	**05 39 46.7**	**-0.5**
GO04				*eS*	**Sn**	**05 40 01.8**	**+0.4**
GO04				IAML		05 40 03.0	
	comp=Z,2μm,0.2s						
CO05	**La Serena**	**1.24**	**345**	*eP*	**Pn**	**05 39 50.5**	**+0.1**
CO05				*eS*	**Sn**	**05 40 07.6**	**+0.5**
CO05				IAML		05 40 12.0	
	comp=N,1μm,0.3s						
CO01	**Juntas del Tor**	**1.32**	**31**	*eP*	**Pn**	**05 39 51.6**	**0.0**
CO01				*eS*	**Sn**	**05 40 09.4**	**+0.1**
CO01	**Juntas del Tor**	**1.32**	**31**	*eP*	**Pn**	**05 39 51.5**	**0.0**
CO01				*eS*	**Sn**	**05 40 09.8**	**+0.4**
CO01				IAML		05 40 10.3	
	comp=Z,333nm,0.1s						
VA06	**Catapilco**	**1.48**	**194**	*eP*	**Pn**	**05 39 53.2**	**-0.1**
VA06				*eS*	**Sn**	**05 40 12.0**	**-0.4**
RTLS	**Leoncito**	**1.50**	**117**	*eP*	**Pn**	**05 39 54.0**	**0.0**
RTLS				*eS*	**Sn**	**05 40 14.1**	**+0.6**
RTLS				IAML		05 40 14.8	
	comp=Z,770nm,0.2s						
AROD	**Rodeo**	**1.54**	**52**	*eP*	**Pn**	**05 39 55.1**	**+0.8**
AROD				*eS*	**Sn**	**05 40 15.6**	**+1.4**
ACCO	**Cerro Coronel**	**1.64**	**72**	*eP*	**Pn**	**05 39 55.9**	**+0.2**
ACCO				*eS*	**Sn**	**05 40 17.9**	**+1.2**
VA03	**San Esteban**	**1.66**	**171**	*i*P	**Pn**	**05 39 55.4**	**-0.3**
VA03				*eS*	**Sn**	**05 40 16.8**	**+0.1**
VA03	**San Esteban**	**1.66**	**171**	*eP*	**Pn**	**05 39 55.4**	**-0.3**
VA03				*eS*	**Sn**	**05 40 18.0**	**+1.3**
VA03				IAML		05 40 20.4	
	comp=Z,645nm,0.3s						
ACDV	**Cuesta del Vie**	**1.78**	**58**	*eP*	**Pn**	**05 39 57.1**	**-0.3**
ACDV				*eS*	**Sn**	**05 40 21.2**	**+1.5**
ROCH	**El Roble**	**1.85**	**184**	*eP*		05 39 57.5	
ROCH				*eP*	**Pn**	**05 39 57.5**	**-0.8**
ROC1	**El Roble**	**1.85**	**184**	*eP*	**Pn**	**05 39 57.4**	**-1.0**
ROC1				*eS*	**Sn**	**05 40 23.0**	**+1.5**
VA01	**Torpederas**	**2.01**	**199**	*eP*	**Pn**	**05 39 59.8**	**-0.3**
SJA	**San Juan**	**2.02**	**102**	*eP*	**Pn**	**05 40 00.2**	**-0.1**
SJA				*eS*	**Sn**	**05 40 28.1**	**+3.1**
PEL	**Peldehue**	**2.02**	**176**	*eP*	**Pn**	**05 39 59.9**	**-0.5**
PEL				*eS*	**Sn**	**05 40 25.1**	**0.0**
PEL				IAML		05 40 29.3	
	comp=N,392nm,0.5s						
PEL	**Peldehue**	**2.02**	**176**	*eP*	**Pn**	**05 40 00.1**	**-0.3**
PEL				*eS*	**Sn**	**05 40 26.8**	**+1.7**
PEL				IAML		05 40 28.8	
	comp=Z,274nm,0.3s						
RTLL	**Cerro Villicun**	**2.06**	**96**	*eP*	**Pn**	**05 40 00.7**	**-0.2**
RTLL				*eS*	**Sn**	**05 40 25.5**	**-0.6**
RTLL				IAML		05 40 28.5	
	comp=Z,195nm,0.4s						
LCO	**Las Campanas**	**2.11**	**4**	*eP*	**Pn**	**05 40 01.5**	**-0.3**
LCO				*eS*	**Sn**	**05 40 27.3**	**-0.2**
LCO	**Las Campanas**	**2.11**	**4**	*eP*	**Pn**	**05 40 01.8**	**0.0**
LCO				*eS*	**Sn**	**05 40 27.4**	**-0.1**
LCO				IAML		05 40 30.3	
	comp=Z,550nm,0.1s						
MT02	**Curacav**	**2.14**	**186**	*i*P	**Pn**	**05 40 01.2**	**-0.7**
MT02				*eS*	**Sn**	**05 40 26.6**	**-1.3**
MT02	**Curacav**	**2.14**	**186**	*eP*	**Pn**	**05 40 01.2**	**-0.7**
MT02				*eS*	**Sn**	**05 40 28.8**	**+0.9**
MT02				IAML		05 40 33.0	
	comp=Z,236nm,0.3s						
MT10	**Hacienda Santa**	**2.16**	**173**	*i*P	**Pn**	**05 40 02.0**	**-0.3**
MT10				*eS*	**Sn**	**05 40 28.8**	**+0.2**
FCH	**Farellones**	**2.25**	**168**	*eP*	**Pn**	**05 40 04.0**	**+0.2**
FCH				*eS*	**Sn**	**05 40 33.0**	**+2.0**
FCH				IAML		05 40 37.2	
	comp=E,307nm,0.2s						
MT05	**Renca**	**2.27**	**177**	*eP*	**Pn**	**05 40 03.5**	**-0.1**
MT05				*eS*	**Sn**	**05 40 30.8**	**-0.1**
MT05	**Renca**	**2.27**	**177**	*eP*	**Pn**	**05 40 03.5**	**-0.1**
MT05				*eS*	**Sn**	**05 40 31.9**	**+0.9**
MT05				IAML		05 40 40.2	
	comp=Z,282nm,0.2s						
ASAL	**Salagasta**	**2.27**	**131**	*eP*	**Pn**	**05 40 04.5**	**+0.8**
ASAL				*eS*	**Sn**	**05 40 33.4**	**+2.4**
MT14	**Cerro Cal¡n**	**2.29**	**173**	*eP*	**Pn**	**05 40 04.0**	**+0.1**
MT14				*eS*	**Sn**	**05 40 31.8**	**+0.4**
CFA	**Coronel Fontan**	**2.30**	**103**	*eP*	**Pn**	**05 40 03.5**	**-0.6**
CFA				*eP*		05 40 03.6	
CFA				*eS*	**Sn**	**05 40 31.5**	**-0.3**
MT04	**Ro Olivares**	**2.36**	**165**	*i*P	**Pn**	**05 40 05.5**	**+0.5**
MT04				*eS*	**Sn**	**05 40 35.2**	**+1.8**
MT04				IAML		05 40 39.8	
	comp=E,294nm,0.5s						
MT04	**Ro Olivares**	**2.36**	**165**	*eP*	**Pn**	**05 40 05.6**	**+0.5**
MT04				*eS*	**Sn**	**05 40 35.0**	**+1.6**
MT04				IAML		05 40 39.2	
	comp=Z,164nm,0.5s						
ARCO	**CERRO ARCO**	**2.38**	**137**	*eP*	**Pn**	**05 40 06.3**	**+1.1**
ARCO				*eS*	**Sn**	**05 40 39.4**	**+5.7**
ARCO				IAML		05 40 42.8	
	comp=Z,116nm,0.3s						
MT03	**Universidad Ad**	**2.38**	**173**	*i*P	**Pn**	**05 40 05.0**	**-0.2**
MT03				*eS*	**Sn**	**05 40 34.5**	**+0.7**
MT03	**Universidad Ad**	**2.38**	**173**	*eP*	**Pn**	**05 40 05.6**	**+0.4**
MT03				*eS*	**Sn**	**05 40 35.3**	**+1.5**
MT03				IAML		05 40 44.4	
	comp=Z,387nm,0.2s						
MT08	**Bocatoma Ro**	**2.43**	**163**	*eP*	**Pn**	**05 40 07.0**	**+1.1**
MT08				*eS*	**Sn**	**05 40 38.5**	**+3.5**
MT08				IAML		05 40 45.7	
	comp=E,152nm,0.3s						
MT08	**Bocatoma Ro**	**2.43**	**163**	*eP*	**Pn**	**05 40 07.1**	**+1.2**
MT08				*eS*	**Sn**	**05 40 36.0**	**+1.0**
MT08				IAML		05 40 44.8	
	comp=Z,122nm,0.5s						
MT15	**Las Vizcachas**	**2.49**	**173**	*eP*	**Pn**	**05 40 06.4**	**-0.3**
MT15				*eS*	**Sn**	**05 40 36.6**	**+0.4**
AAGR	**Agrelo**	**2.61**	**139**	*eP*	**Pn**	**05 40 10.0**	**+1.7**
AAGR				*eS*	Sn	05 40 26.8	-13
AGUA	**GUANDACOL**	**2.63**	**52**	*eP*	**Pn**	**05 40 09.9**	**+1.4**
AGUA				*eS*	**Sn**	**05 40 43.2**	**+3.6**
AGUA				IAML		05 40 45.2	
	comp=Z,265nm,0.4s						
MT09	**Talagante**	**2.65**	**182**	*eP*	**Pn**	**05 40 07.9**	**-0.9**
MT09				*eS*	**Sn**	**05 40 39.4**	**-0.7**
MT13	**San Alfonso**	**2.66**	**169**	*eP*	**Pn**	**05 40 09.2**	**+0.2**
MT13				*eS*	**Sn**	**05 40 41.2**	**+0.7**
MT13	**San Alfonso**	**2.66**	**169**	*eP*	**Pn**	**05 40 09.3**	**+0.3**
MT13				*eS*	**Sn**	**05 40 41.3**	**+0.9**
MT13				IAML		05 40 46.7	
	comp=Z,172nm,0.5s						
MT01	**Popeta**	**2.75**	**187**	*i*P	**Pn**	**05 40 09.0**	**-1.1**
MT01				*eS*	**Sn**	**05 40 41.8**	**-0.7**
MT01	**Popeta**	**2.75**	**187**	*eP*	**Pn**	**05 40 09.0**	**-1.1**
MT01				*eS*	**Sn**	**05 40 46.3**	**+3.8**
MT01				IAML		05 40 52.0	
	comp=Z,186nm,0.3s						
LMEL	**Las Melosas**	**2.77**	**168**	*eP*	**Pn**	**05 40 10.8**	**+0.3**
LMEL				*eS*	**Sn**	**05 40 44.4**	**+1.1**
LMEL				IAML		05 40 52.4	
	comp=N,374nm,0.6s						
LMEL	**Las Melosas**	**2.77**	**168**	*eP*	**Pn**	**05 40 11.1**	**+0.6**
LMEL				*eS*	**Sn**	**05 40 45.0**	**+1.7**
LMEL				IAML		05 40 52.3	
	comp=Z,147nm,0.2s						
BO04	**La Punta**	**2.87**	**176**	*eP*	**Pn**	**05 40 10.6**	**-1.1**
AC04	**Llanos de Chal**	**2.91**	**356**	*eP*	**Pn**	**05 40 12.7**	**+0.4**
AC04	**Llanos de Chal**	**2.91**	**356**	*eP*	**Pn**	**05 40 12.4**	**+0.1**
AC04				*eS*	**Sn**	**05 40 46.0**	**-0.4**
AC04				*eS*		05 40 51.5	
AC04				IAML		05 41 00.5	
	comp=Z,223nm,0.6s						
AVFE	**Valle Fertil**	**2.97**	**82**	*eP*	**Pn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR08	**Loma La Naviza**	**0.16**	**52**	*i* P	**Pn**	**05 42 54.6**	**+0.6**
DR08				*i* S	**Sn**	**05 43 05.9**	**+0.4**
SFDR	**San Fco. de Ma**	**0.43**	**349**	*i* P	**Pn**	**05 42 55.1**	**0.0**
SFDR				IAML		05 43 05.4	
	comp=N,254nm,0.3s						
SFDR				*i* S	**Sn**	**05 43 06.3**	**-1.0**
SDD	**Santo Domingo**	**0.46**	**150**	*i* P	**Pn**	**05 42 56.6**	**+1.4**
SDD				*i* S	**Sn**	**05 43 10.4**	**+2.8**
SDD	**Santo Domingo**	**0.46**	**150**	*i* P	**Pn**	**05 42 53.8**	**-1.4**
SDD				*e*S	**Sn**	**05 43 04.5**	**-3.1**
NADR	**Nagua**	**0.56**	**30**	*i* P	**Pn**	**05 42 55.9**	**-0.1**
NADR				*i* S	**Sn**	**05 43 08.5**	**-0.3**
NADR				IAML		05 43 11.9	
	comp=N,209nm,2.4s						
SC01	**Santiago de lo**	**0.78**	**316**	⇑*e*Pg	**Pn**	**05 42 58.2**	**+0.5**
SC01				⇑*e*Sg	**Sn**	**05 43 12.2**	**+0.2**
SC01				IAML		05 43 12.5	
	comp=N,107nm,0.2s						
SC01	**Santiago de lo**	**0.78**	**316**	*i* P	**Pn**	**05 42 58.1**	**+0.3**
SC01				*e*S	**Sn**	**05 43 12.0**	**0.0**
MIDR	**Miches**	**1.05**	**83**	⇓*e*Pg	**Pn**	**05 43 01.3**	**+0.9**
MIDR				⇑*e*Sg	**Sn**	**05 43 16.5**	**-0.2**
MIDR				IAML		05 43 41.8	
	comp=N,22nm,3.0s						
SDDR	**Presa de Saban**	**1.08**	**277**	*i* P	**Pn**	**05 43 01.3**	**+0.6**
SDDR				*e*S	**Sn**	**05 43 16.8**	**-0.6**
SDDR				IAML		05 43 23.6	
	comp=Z,11nm,0.8s						
PODR	**Polo**	**1.27**	**237**	*i* P	**Pn**	**05 43 03.1**	**+0.1**
PODR				*e*S	**Sn**	**05 43 20.8**	**-0.7**
LODU1	**El Espartillar**	**1.35**	**248**	*i* P	**Pn**	**05 43 04.7**	**+1.0**
LODU1				IAML		05 43 30.5	
	comp=Z,36nm,1.8s						
HIDR	**Higuey Centro**	**1.39**	**101**	⇑*e*Pg	**Pn**	**05 43 03.7**	**-0.4**
HIDR				⇑*e*Sg	**Sn**	**05 43 23.6**	**+0.1**
HIDR				IAML		05 43 28.5	
	comp=N,23nm,0.2s						
LOPP1	**Punta Rusia, P**	**1.39**	**315**	*i* P	**Pn**	**05 43 04.4**	**+0.2**
LOPP1				*e*S	**Sn**	**05 43 22.6**	**-0.9**
LOPP1				IAML		05 43 28.1	
	comp=Z,55nm,2.5s						
LOVI	**El Cajuil, Ovi**	**1.56**	**228**	*i* P	**Pn**	**05 43 06.4**	**+0.1**
LOVI				IAML		05 43 30.1	
	comp=Z,46nm,0.8s						

*IDC **04** 05:53:31.0±2.1,34°.54N×69°.55E, h0km, mb3.5/3, mbtmp3.6/8, ML3.6/5, MS3.0/2, Error ellipse: s-maj=57.0km s-min=22.9km az=88.0*

ISC 04 05:53:33.9±1.6,34°.5N±0°.1×69°.4E±0°.2, h24km, n11, σ1s78/13, mb3.7/3, 2C-1D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**8.65**	**6**	P	**Pn**	**05 55 39.3**	**+1.7**
	12nm,0.6s,baz=188,slow=13,SNR=83						
KK31				⇓S	**Sn**	**05 57 14.5**	**+0.1**
	6.1nm,0.6s,baz=188,slow=20,SNR=6.1						
AAK	**Ala-Archa**	**9.08**	**25**	⇑P	**Pn**	**05 55 45.3**	**+1.7**
	2.3nm,0.5s						
AAK				⇑S	**Sn**	**05 57 28.2**	**+3.1**
	3.8nm,0.6s						
AAK	**Ala-Archa**	**9.08**	**25**	Pn	**Pn**	**05 55 44.7**	**+1.1**
	2.0nm,0.3s,baz=177,slow=4.9,SNR=7.3						
AAK				Sn	**Sn**	**05 57 22.9**	**-2.2**
	0.6nm,0.3s,baz=230,slow=20,SNR=1.8						
	4.5nm,0.5s						
MKAR	**Makanchi Array**	**15.71**	**35**	Pn	**Pn**	**05 57 11.4**	**-2.2**
	0.2nm,0.3s,baz=214,slow=12,SNR=7.1						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**17.47**	**20**	P	**Pn**	**05 57 34.6**	**-1.2**
	0.1nm,0.3s,baz=210,slow=10.0,SNR=5.7						
	0.5nm,0.5s						
AKTO	**Aktyubinsk**	**17.96**	**336**	P	**P**	**05 57 42.6**	**+0.3**
	0.6nm,0.3s,baz=137,slow=13,SNR=3.9						
	0.9nm,0.3s						
BVAR	**Borovoye Array**	**18.55**	**2**	P	**P**	**05 57 47.5**	**-1.2**
	0.1nm,0.3s,baz=177,slow=11,SNR=7.3						
BVAR				LR	LR	06 04 57.4	
	comp=Z,27nm,18.4s,baz=314,slow=37						
	0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**22.30**	**25**	P	**P**	**05 58 28.1**	**-1.3**
	1.1nm,0.3s,baz=229,slow=8.5,SNR=6.0						
	1.1nm,0.3s						
ARTI	**Arti**	**23.16**	**344**	LR	LR	06 08 39.0	
	comp=Z,49nm,18.6s,baz=46,slow=39						
WRA	**Warramunga Arr**	**82.10**	**121**	P	**P**	**06 05 52.8**	**+0.1**
	0.2nm,0.6s,baz=310,slow=5.7,SNR=0.9						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**84.24**	**124**	P	**P**	**06 06 04.5**	**+0.9**
	0.3nm,0.4s,baz=292,slow=5.5,SNR=5.1						
	0.3nm,0.4s						

*DJA **04** 05:55:47.9±4.7,3°.N±20°.×12°.7E±2°.0, h115km±57km, M3.7/5, MLv3.7/5*

IDC 04 05:55:56.7±2.1,1°.19N×126°.76E, h0km, mb3.7/3, mbtmp3.7/3, MS3.6/1, Error ellipse: s-maj=170.5km s-min=25.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.73**	**124**	P	Pn	05 56 19.3	+5.0
WRA	**Warramunga Arr**	**22.27**	**161**	P	P	06 00 54.9	-0.8
	1.2nm,0.4s,baz=339,slow=11,SNR=30						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**25.66**	**165**	P	P	06 01 29.1	+0.6
	0.5nm,0.4s,baz=346,slow=12,SNR=9.9						
	0.5nm,0.4s						
BRDH	**Bariadhala**	**40.25**	**305**	LR	LR	06 24 02.5	
	comp=Z,81nm,18.2s,baz=116,slow=42						
MKAR	**Makanchi Array**	**59.66**	**326**	P	P	06 06 02.8	-0.1
	0.3nm,0.4s,baz=124,slow=7.4,SNR=5.4						
	0.3nm,0.4s						

*NORS **04** 05:58:57.9,41°.79N×42°.57E, h7km, MPVA3.0*
*AFAD **04** 05:58:59.8,41°.87N×42°.28E, h7km±2km, ML2.6*
*ISK **04** 05:59:00.4,41°.74N×42°.38E, h8km, ML2.0/5*

ISC 04 05:59:00.5±1.3,41°.81N±0°.03×42°.35E±0°.04, h11km±11km, n17, σ0s69/32, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPOS	**Posof**	**0.41**	**137**	P	**Pb**	**05 59 09.2**	**-0.7**
EPOS				S	**Sb**	**05 59 17.5**	**+1.2**
BCA	**Borcka**	**0.66**	**237**	Pg	**Pg**	**05 59 13.1**	**-0.1**
AHAN	**Ardahan-Merkez**	**0.67**	**162**	P	**Pb**	**05 59 14.7**	**+0.3**
AHAN				S	**Sn**	**05 59 25.6**	**-1.2**
DBOC	**Borcka**	**0.69**	**228**	P	**Pg**	**05 59 13.9**	**+0.1**
DBOC				S	**Sb**	**05 59 25.1**	**+0.9**
DBOC				*i* IAML		05 59 26.0	
	comp=E,394nm,0.3s						
HOPA	**Hopa-Artvin**	**0.80**	**239**	Pg	**Pg**	**05 59 15.9**	**0.0**
HOPA				Sg	**Sb**	**05 59 27.2**	**0.0**
DBAD	**Bademkaya**	**0.93**	**212**	P	**Pb**	**05 59 18.4**	**-0.3**
DBAD				S	**Sn**	**05 59 32.2**	**-0.8**
GOLE	**Ardahan-G¶le**	**0.99**	**169**	P	**Pn**	**05 59 20.5**	**0.0**
GOLE				S	**Sn**	**05 59 36.5**	**+1.9**
DDEM	**Demirkent**	**1.02**	**207**	P	**Pg**	**05 59 19.8**	**-0.4**
DDEM				S	**Sn**	**05 59 35.0**	**-0.3**
DDEM				*i* IAML		05 59 38.0	
	comp=E,155nm,0.3s						
DDEM				*i* IAML		05 59 39.0	
	comp=N,150nm,0.3s						
SENK	**Senkaya-Erzuru**	**1.24**	**180**	Pn	**Pn**	**05 59 23.4**	**-0.6**
SENK				Sn	**Sg**	**05 59 40.0**	**-0.5**
CHOM	**Cayeli-Rize**	**1.39**	**240**	Pn	**Pb**	**05 59 26.5**	**0.0**
CHOM				Sn	**Sg**	**05 59 45.6**	**+0.4**
IZDR	**Rize**	**1.69**	**234**	P	**Pn**	**05 59 29.7**	**-0.4**
IZDR				S	**Sg**	**05 59 55.7**	**+0.8**
LACR	**Lac**	**1.77**	**54**	*e*Pg	**Pn**	**05 59 31.0**	**-0.2**
LACR				*e*Sg	**Sn**	**05 59 53.5**	**-0.2**
KORR	**Kora**	**1.80**	**44**	*e*Pg	**Pn**	**05 59 31.7**	**+0.2**
KORR				*e*Sg	**Sb**	**05 59 56.0**	**-0.1**
LSNR	**Lesken**	**1.83**	**36**	*e*Pg	**Pn**	**05 59 32.3**	**+0.3**
LSNR				*e*Sg	**Sb**	**05 59 57.0**	**0.0**
KOPR	**Koprukoy-ERZUR**	**1.85**	**192**	Pn	**Pn**	**05 59 32.3**	**-0.1**
SHA1	**Shidzhatmaz**	**1.94**	**6**	*e*Pg	**Pn**	**05 59 34.2**	**+0.5**
SHA1				*e*Sg	**Sb**	**05 59 59.3**	**-1.2**
STDR	**Stavd-Durt**	**2.01**	**38**	*e*Pg	**Pn**	**05 59 34.9**	**+0.5**
STDR				*e*Sg	**Sb**	**06 00 02.7**	**+0.7**

*IDC **04** 06:05:19.0±3.6,54°.46N×87°.19E, h0km, mbtmp3.7/2, ML2.8/2, Error ellipse: s-maj=32.0km s-min=20.6km az=44.0*

ASRS 04 06:05:18.0±0.6,54°.41N×86°.98E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**251**	I	I	06 14 10.0	
	baz=70,slow=330,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.35**	**251**	Pg	Pb	06 05 44.5	+0.4
	1.5nm,0.3s,baz=68,slow=16,SNR=14						
ZALV				Lg	Lg	06 06 06.7	
	1.2nm,0.3s,baz=71,slow=22,SNR=6.3						
KURBB	**Kurchatov Arra**	**6.40**	**237**	Pn	Pn	06 06 57.2	+3.7
	0.2nm,0.3s,baz=59,slow=14,SNR=2.5						
	8.3nm,0.2s						
MKAR	**Makanchi Array**	**8.19**	**203**	Pn	Pn	06 07 21.8	+3.8
	0.2nm,0.3s,baz=23,slow=13,SNR=4.8						
	0.4nm,0.5s						

NEIC 04 06:18:25.2±0.5,38°.014N±0°.008×98°.00W±0°.02, h3km±2km, mb_Lg2.3/5, ML2.3/6, Error ellipse: s-maj=2.5km s-min=1.2km az=82.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R32A	**Long Quarter,**	**0.69**	**306**	Pg	Pg	06 18 37.9	-0.7
R32A				Sg	Sg	06 18 47.2	-0.4
R32A				IAML		06 18 50.0	
	128nm,0.5s						
R32A				IAML		06 18 52.3	
	121nm,0.3s						
KAN01	**Argonia South**	**0.88**	**168**	Pg	Pg	06 18 41.4	-0.6
KAN01				IAML		06 19 01.7	
	comp=N,75nm,0.1s						
KAN14	**Manchester OK**	**1.05**	**179**		Pg	06 18 44.6	-0.8
BLOK	**Blackwell**	**1.40**	**153**		Sg	06 19 09.4	-0.7
BLOK				IAmb_Lg		06 19 10.2	
	comp=Z,27nm,0.8s						
CROK	**Carrier**	**1.51**	**180**		Pn	06 18 52.4	-0.8
KSU1	**Kansas State U**	**1.54**	**45**		Pn	06 18 52.6	-1.0
KSU1	**Kansas State U**	**1.54**	**45**		Sn	06 19 12.8	-1.3
NOKA	**Waynoka**	**1.56**	**209**		Pn	06 18 53.4	-0.6
CBKS	**Cedar Bluff**	**1.58**	**301**		Pn	06 18 54.1	-0.2
T35A	**Sooner Cattle**	**1.61**	**132**		Pn	06 18 54.1	-0.5
OK038	**West end E0370**	**1.64**	**201**		Pn	06 18 54.2	-0.9
E28A	**Huff**	**8.79**	**348**	IAmb_Lg		06 23 23.4	
	comp=Z,3.2nm,1.2s						

*AFAD **04** 06:18:53.4,38°.88N×26°.19E, h7km±2km, MW3.7*
*ATH **04** 06:18:53.3,38°.87N×26°.23E, h17km±1km, ML3.1/18, Manual Solution by E.Daskalaki First location: 2019/09/04 06:20:05, This location: 2019/09/04 07:39:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*ISK **04** 06:18:53.9,38°.92N×26°.24E, h9km, ML3.4/35*
*THE **04** 06:18:54.1,39°.N±2°.×2°.6E±°, h14km±2km, M3.3/8, MLh3.3/8*

ISC 04 06:18:53.8±0.8,38°.88N±0°.02×26°.20E±0°.02, h17km±7km, n115, σ0s79/150, 12C-7D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.27**	**143**	P	**Pg**	**06 18 59.7**	**-0.1**
KARB				S	**Sg**	**06 19 03.6**	**-0.2**
EAG2	**Marmaro, Chios**	**0.34**	**193**	P	**Pg**	**06 19 00.5**	**-0.6**
EAG2				S	**Sg**	**06 19 05.5**	**-0.5**
PRK	**Paraskevi**	**0.37**	**8**	P	**Pg**	**06 19 01.3**	**-0.3**
PRK				S	**Sb**	**06 19 07.1**	**-0.3**
PRK	**Paraskevi**	**0.37**	**8**	P	**Pg**	**06 19 01.1**	**-0.5**
PRK				S	**Sg**	**06 19 06.7**	**0.0**
SIGR	**SIGRI**	**0.43**	**321**	Pg	**Pg**	**06 19 02.7**	**+0.1**
SIGR				Sg	**Sg**	**06 19 08.5**	**+0.1**
SIGR	**SIGRI**	**0.43**	**321**	P	**Pg**	**06 19 02.6**	**+0.1**
SIGR				S	**Sg**	**06 19 08.5**	**+0.1**
SIGR	**SIGRI**	**0.43**	**321**	P	**Pg**	**06 19 02.5**	**-0.1**
SIGR				S	**Sg**	**06 19 08.6**	**+0.1**
FOCM	**Foa**	**0.44**	**112**	Pg	**Pg**	**06 19 02.8**	**0.0**
CESE	**eme**	**0.55**	**172**	Pg	**Pb**	**06 19 06.0**	**+1.0**
AYVA	**Ayvalik**	**0.57**	**41**	P	**Pg**	**06 19 04.8**	**-0.4**
AYVA				S	**Sg**	**06 19 12.5**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.58**	**355**	Pg	**Pg**	**06 19 04.9**	**-0.4**
GPNR				Sg	**Sg**	**06 19 12.8**	**-0.3**
KOCA	**Canakkale, Ayv**	**0.62**	**355**	P	**Pg**	**06 19 05.9**	**-0.3**
KOCA				S	**Sb**	**06 19 15.7**	**+1.0**
ZEYE	**Izmir, Urla-Ze**	**0.68**	**160**	P	**Pg**	**06 19 06.9**	**-0.3**
ZEYE				S	**Sb**	**06 19 16.6**	**+0.3**
ZEDA	**zmir-Bergama**	**0.69**	**82**	P	**Pg**	**06 19 06.9**	**-0.4**
ZEDA				S	**Sb**	**06 19 17.2**	**+0.7**
BLCB	**Balcova**	**0.82**	**127**	Pg	**Pb**	**06 19 08.2**	**+0.6**
BLCB	**Balcova**	**0.82**	**127**	P	**Pg**	**06 19 08.9**	**-0.9**
BLCB				S	**Sn**	**06 19 22.2**	**-0.1**
EZNE	**Ezine-Canakkal**	**0.88**	**8**	Pg	**Pg**	**06 19 11.1**	**+0.1**
EZNE				Sg	**Sb**	**06 19 22.6**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**0.90**	**17**	P	**Pb**	**06 19 11.0**	**0.0**
BAYC				S	**Sb**	**06 19 23.6**	**+1.0**
BUHA	**Balikesir, Bur**	**0.92**	**47**	P	**Pb**	**06 19 10.6**	**-0.7**
BUHA				S	**Sn**	**06 19 24.2**	**-0.5**
EZN	**Ezine**	**0.95**	**6**	Pg	**Pg**	**06 19 12.1**	**-0.2**
EZN				Sg	**Sg**	**06 19 24.9**	**+0.1**
EZN	**Ezine**	**0.95**	**6**	P	**Pb**	**06 19 11.7**	**-0.1**
EZN				S	**Sg**	**06 19 24.7**	**-0.1**
EZN	**Ezine**	**0.95**	**6**	⇑P	**Pg**	**06 19 12.1**	**-0.2**
EZN				⇑S	**Sg**	**06 19 24.6**	**-0.1**
BOZC	**Bozcaada**	**0.97**	**353**	Pg	**Pb**	**06 19 12.2**	**+0.1**
BOZC				Sg	**Sg**	**06 19 25.5**	**+0.1**
BOZC	**Bozcaada**	**0.97**	**353**	P	**Pb**	**06 19 12.0**	**-0.2**
BOZC				S	**Sg**	**06 19 25.1**	**-0.3**
GMLD	**Gumuldur**	**0.98**	**145**	Pg	**Pn**	**06 19 13.2**	**+0.5**
DGB	**zmir**	**0.98**	**147**	P	**Pb**	**06 19 11.9**	**-0.4**
DGB				S	**Sb**	**06 19 25.4**	**+0.4**
YAYO	**Edremit-Balk**	**0.99**	**42**	Pg	**Pb**	**06 19 12.5**	**-0.1**
YAYO				Sg	**Sn**	**06 19 26.1**	**-0.5**
SOMA	**Soma-Manisa**	**1.07**	**75**	Pg	**Pn**	**06 19 14.0**	**0.0**
SOMA				Sg	**Sn**	**06 19 29.0**	**+0.5**
EFSA	**Agios Efstrati**	**1.15**	**305**	P	**Pn**	**06 19 14.9**	**-0.2**
EFSA				S	**Sb**	**06 19 30.8**	**+0.9**
KRL1	**Karlovasi Samo**	**1.15**	**160**	P	**Pn**	**06 19 14.8**	**-0.3**
ECEA	**Canakkale, Ece**	**1.16**	**359**	P	**Pb**	**06 19 15.7**	**+0.3**
ECEA				S	**Sg**	**06 19 31.6**	**0.0**
CNKL	**anakkale-Mer**	**1.19**	**7**	P	**Pn**	**06 19 16.0**	**+0.3**
CNKL				S	**Sg**	**06 19 32.0**	**-0.5**
COMU	**Canakkale**	**1.23**	**10**	Pn	**Pb**	**06 19 16.8**	**+0.1**
AKHS	**Akhisar**	**1.26**	**90**	P	**Pb**	**06 19 17.1**	**+0.1**
AKHS				S	**Sg**	**06 19 35.2**	**+0.7**
AKS	**Akhisar**	**1.26**	**90**	Pn	**Pg**	**06 19 17.9**	**-0.2**
SMG	**Samos**	**1.27**	**157**	P	**Pn**	**06 19 16.3**	**-0.5**
SMG				S	**Sg**	**06 19 35.1**	**+0.1**
SMG	**Samos**	**1.27**	**157**	P	**Pn**	**06 19 16.1**	**-0.7**
SMG				S	**Sn**	**06 19 34.2**	**+0.8**
STEP	**BALIKESIR_Sava**	**1.28**	**67**	P	**Pn**	**06 19 17.0**	**+0.1**
STEP				S	**Sg**	**06 19 35.7**	**+0.5**
LIA	**Limnos Island**	**1.29**	**322**	P	**Pn**	**06 19 17.1**	**+0.1**
LIA	**Limnos Island**	**1.29**	**322**	P	**Pn**	**06 19 17.0**	**0.0**
LIA				S	**Sb**	**06 19 34.3**	**+0.5**
CANM	**Can-anakkale**	**1.31**	**30**	Pn	**Pb**	**06 19 18.2**	**+0.3**
YENI	**Yenice-Canakka**	**1.33**	**37**	Pn	**Pb**	**06 19 18.5**	**+0.3**
GADA	**Gvkgeada**	**1.33**	**350**	Pn	**Pb**	**06 19 18.3**	**0.0**
GADA	**Gvkgeada**	**1.33**	**350**	P	**Pn**	**06 19 17.5**	**-0.1**
GADA				S	**Sb**	**06 19 35.0**	**0.0**
GOMA	**Golmarmara-Man**	**1.35**	**97**	Pn	**Pg**	**06 19 19.2**	**-0.6**
GCAM	**G?zelcami?**	**1.43**	**145**	Pn	**Pg**	**06 19 20.9**	**-0.5**
GCAM	**G?zelcami?**	**1.43**	**145**	P	**Pb**	**06 19 20.8**	**+0.6**
GCAM				S	**Sg**	**06 19 39.4**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.53**	**8**	Pn	**Pb**	**06 19 21.7**	**0.0**
GORD	**Gordes-Manisa**	**1.54**	**88**	Pn	**Pb**	**06 19 21.6**	**-0.3**
IZMR	**zmir-demi**	**1.56**	**118**	P	**Pg**	**06 19 23.3**	**-0.5**
IZMR				S	**Sb**	**06 19 42.2**	**+0.6**
ODEM	**Odemis-Izmir**	**1.58**	**112**	Pn	**Pb**	**06 19 22.8**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.62**	**125**	Pn	**Pn**	**06 19 21.7**	**0.0**
KARY	**Karystos**	**1.62**	**239**	P	**Pn**	**06 19 21.2**	**-0.5**
GONE	**Gonen-Balikesi**	**1.64**	**44**	Pn	**Pb**	**06 19 22.7**	**-0.8**
KYMI	**Kymi, Euboea I**	**1.66**	**262**	P	**Pn**	**06 19 21.9**	**-0.3**
SMTH	**Samothraki Isl**	**1.67**	**342**	P	**Pn**	**06 19 22.1**	**-0.2**
SMTH	**Samothraki Isl**	**1.67**	**342**	P	**Pn**	**06 19 22.0**	**-0.2**
KRBG	**Karabiga-Canak**	**1.73**	**29**	Pn	**Pb**	**06 19 24.4**	**-0.7**
ERIK	**Erikli-Kesan**	**1.80**	**7**	Pn	**Pn**	**06 19 25.0**	**+0.9**
CAVK	**Edirne/Enez-Ca**	**1.81**	**359**	⇓P	**Pn**	**06 19 24.9**	**+0.7**
AOS	**Alonnisos**	**1.83**	**280**	P	**Pn**	**06 19 25.0**	**+0.5**
NAZL	**Nazilli-Aydin**	**1.88**	**118**	Pn	**Pb**	**06 19 27.2**	**-0.4**
EDC	**Edincik**	**1.95**	**41**	Pn	**Pn**	**06 19 26.6**	**+0.6**
DION	**Dionisos Attik**	**1.95**	**247**	P	**Pn**	**06 19 25.7**	**-0.5**
DION	**Dionisos Attik**	**1.95**	**247**	P	**Pn**	**06 19 25.4**	**-0.8**
KULA	**Kula-Manisa**	**1.96**	**100**	Pn	**Pn**	**06 19 27.0**	**+0.7**
DST	**Dursunbey**	**2.01**	**68**	Pn	**Pn**	**06 19 28.4**	**+1.4**
PTL	**Penteli**	**2.02**	**246**	P	**Pn**	**06 19 26.8**	**-0.2**
ALN	**Alexandroupoli**	**2.02**	**357**	Pn	**Pn**	**06 19 28.4**	**+1.4**
ALN	**Alexandroupoli**	**2.02**	**357**	P	**Pn**	**06 19 27.0**	**0.0**
THAS	**Thassos island**	**2.07**	**327**	P	**Pn**	**06 19 27.6**	**-0.1**
BAND	**Balkesir-Ban**	**2.08**	**44**	⇓P	**Pn**	**06 19 28.1**	**+0.2**
VLY	**Voula,Athens**	**2.15**	**242**	P	**Pn**	**06 19 28.5**	**-0.4**
OUR	**Ouranopolis**	**2.25**	**311**	Pn	**Pn**	**06 19 30.2**	**0.0**
OUR	**Ouranopolis**	**2.25**	**311**	P	**Pn**	**06 19 30.4**	**+0.2**
UKOP	**Uzunkopru-Edir**	**2.27**	**8**	Pn	**Pn**	**06 19 32.5**	**+2.0**
RDO	**Rodhopi**	**2.32**	**347**	Pn	**Pn**	**06 19 31.8**	**+0.6**
RDO	**Rodhopi**	**2.32**	**347**	P	**Pn**	**06 19 31.4**	**+0.3**
TKR	**Tekirdag**	**2.34**	**25**	Pn	**Pn**	**06 19 32.7**	**+1.2**
SHAP	**Saphane-Kutahy**	**2.36**	**86**	Pn	**Pn**	**06 19 33.6**	**+1.8**
ORLT	**Orhaneli**	**2.39**	**60**	Pn	**Pn**	**06 19 33.7**	**+1.6**
VIL2	**Platees**	**2.40**	**255**	P	**Pn**	**06 19 32.0**	**-0.3**
KAVA	**Kavala**	**2.48**	**329**	P	**Pn**	**06 19 33.5**	**+0.1**
ATAL	**Atalanti**	**2.49**	**267**	P	**Pn**	**06 19 33.7**	**+0.1**
MDNY	**Mudanya-Bursa**	**2.55**	**53**	Pn	**Pn**	**06 19 35.9**	**+1.6**
THERA	**Ancient Thera,**	**2.58**	**193**	P	**Pn**	**06 19 33.5**	**-1.2**
PLG	**Polygyros**	**2.60**	**306**	P	**Pn**	**06 19 36.0**	**+0.9**
LTK	**Loutraki**	**2.68**	**252**	P	**Pn**	**06 19 36.0**	**-0.2**
SOH	**Sokhos**	**2.93**	**312**	P	**Pn**	**06 19 40.3**	**+0.7**
HORT	**Hortiatis**	**2.94**	**307**	P	**Pn**	**06 19 40.5**	**+0.6**
MAKR	**Makrakomi, Fth**	**3.18**	**274**	P	**Pn**	**06 19 43.0**	**0.0**
KLYT	**Kilyos**	**3.22**	**42**	⇑P	**Pn**	**06 19 42.9**	**-0.6**
KALE	**Kalithea**	**3.22**	**263**	P	**Pn**	**06 19 43.5**	**-0.1**
KLV	**Kalavryta, Ach**	**3.29**	**257**	P	**Pn**	**06 19 44.8**	**+0.3**
ANX	**Ano Chora**	**3.36**	**266**	P	**Pn**	**06 19 46.0**	**+0.4**
VLI	**Veliai**	**3.37**	**231**	P	**Pn**	**06 19 45.1**	**-0.5**
DRO	**Drossia**	**3.65**	**257**	P	**Pn**	**06 19 49.3**	**-0.2**
ODI	**Anoyia**	**3.74**	**197**	P	**Pn**	**06 19 49.9**	**-0.9**
TETR	**Tetrakomo, Epi**	**3.86**	**278**	P	**Pn**	**06 19 52.5**	**0.0**
SAHE	**Sakarya_HENDEK**	**4.08**	**60**	⇓P	**Pn**	**06 19 56.3**	**+0.8**
BOVS	**Bovan**	**5.83**	**326**	⇑P	**Pn**	**06 20 20.9**	**+1.5**
ARR	**Arges**	**6.59**	**350**	⇑P	**Pn**	**06 20 31.2**	**+1.4**
MLR	**Muntele Rosu**	**6.61**	**358**	⇑P	**Pn**	**06 20 31.8**	**+1.6**
HERR	**Herculane**	**6.63**	**336**	⇑P	**Pn**	**06 20 30.6**	**+0.2**
MDVR	**Moldovita**	**6.78**	**332**	⇓P	**Pn**	**06 20 34.0**	**+1.5**
COVR	**Voineasa-Covas**	**6.96**	**0**	⇑P	**Pn**	**06 20 36.1**	**+1.1**
PLOP	**Plostina**	**6.97**	**3**	⇓P	**Pn**	**06 20 35.4**	**+0.2**
DOPR	**Dopca**	**7.11**	**355**	⇓P	**Pn**	**06 20 38.1**	**+1.2**
TURR	**Turia**	**7.17**	**359**	⇑P	**Pn**	**06 20 38.5**	**+0.7**
SURR	**Surduc**	**7.50**	**338**	⇑P	**Pn**	**06 20 44.2**	**+1.8**
TESR	**Tescani**	**7.63**	**2**	⇑P	**Pn**	**06 20 45.8**	**+1.6**
SEV	**Sevastopol'**	**7.95**	**42**	*e*P	**Pn**	**06 20 48.4**	**0.0**
SEV				Pm		06 20 57.6	
	comp=Z,8.0nm,0.8s						
SEV				*e*S	**Sn**	**06 22 12.9**	**-5.0**
SEV				Sm		06 22 13.0	
	comp=N,2.0nm,0.3s						
SEV				Sm		06 22 13.0	
	comp=E,4.0nm,0.3s						
MARR	**Marisel-Cluj**	**8.11**	**345**	⇑P	**Pn**	**06 20 52.1**	**+1.2**
BURAR	**Bucovina Array**	**8.76**	**356**	⇓P	**Pn**	**06 21 01.7**	**+2.0**
SUDU	**Sudak**	**8.89**	**45**	*e*P	Pn	06 21 09.4	+8.0
SUDU				Pm		06 21 16.8	
	comp=Z,6.0nm,0.3s		

KDAK				S		Sn	07 02 55.7	-0.4
	2µm,0.3s,baz=306,slow=21,SNR=63							
KDAK				LR		LR	07 03 01.9	
	comp=Z,102nm,20.6s,baz=91,slow=66							
SYI	**Shuyak Island**	**0.52**	**342**			**Pn**	**07 02 49.3**	**-0.3**
SYI	**Shuyak Island**	**0.52**	**342**			**Sn**	**07 02 57.4**	**-0.4**
SYI	**Shuyak Island**	**0.52**	**342**		IAML		07 02 57.7	
	comp=E,13µm,0.4s							
SYI					IAML		07 02 57.8	
	comp=N,4µm,0.2s							
OHAK	**Old Harbor**	**1.11**	**216**			**Pn**	**07 02 57.0**	**-0.4**
OHAK	**Old Harbor**	**1.11**	**216**			**Sn**	**07 03 10.4**	**-1.2**
OHAK	**Old Harbor**	**1.11**	**216**		IAML		07 03 11.6	
	comp=E,650nm,0.3s							
OHAK					IAML		07 03 11.6	
	comp=N,1µm,0.3s							
Q19K	**Cape Douglas,**	**1.15**	**315**			**Pn**	**07 02 57.9**	**-0.2**
Q19K	**Cape Douglas,**	**1.15**	**315**			**Sn**	**07 03 12.3**	**-0.4**
Q19K	**Cape Douglas,**	**1.15**	**315**		IAML		07 03 17.7	
	comp=E,2µm,1.1s							
Q19K					IAML		07 03 24.2	
	comp=N,2µm,0.9s							
KAPH	**Katmai Pasha**	**1.28**	**293**			**Pn**	**07 02 59.7**	**-0.2**
KAPH						**Sn**	**07 03 15.5**	**-0.5**
KAHG	**Katmai Hook Gl**	**1.35**	**287**			**Pn**	**07 03 00.7**	**-0.1**
KAHG						**Sn**	**07 03 17.2**	**-0.4**
R18K	**Karluk**	**1.39**	**247**			**Pn**	**07 03 00.7**	**-0.5**
R18K						**Sn**	**07 03 17.6**	**-0.7**
R18K	**Karluk**	**1.39**	**247**		IAML		07 03 30.4	
	comp=N,1µm,0.5s							
R18K					IAML		07 03 30.8	
	comp=E,964nm,0.5s							
AUJK	**Augustine Jueg**	**1.41**	**331**			**Pn**	**07 03 02.0**	**+0.5**
AUJK						**Sn**	**07 03 20.0**	**+1.0**
AU22	**Augustine Moun**	**1.42**	**333**			**Sn**	**07 03 19.9**	**+0.8**
AGU	**Augustine-Summ**	**1.43**	**331**			**Pn**	**07 03 02.4**	**+0.5**
AGU						**Sn**	**07 03 19.9**	**+0.4**
AUL	**Augustine Lava**	**1.45**	**331**			**Pn**	**07 03 02.9**	**+0.9**
CNPM	**China Poot**	**1.47**	**17**			**Pn**	**07 03 03.3**	**+0.8**
CNPM	**China Poot**	**1.47**	**17**			**Sn**	**07 03 21.0**	**+0.5**
CNPM	**China Poot**	**1.47**	**17**		IAML		07 03 21.8	
	comp=N,639nm,0.5s							
CNPM					IAML		07 03 22.1	
	comp=E,878nm,0.5s							
HOM	**Homer**	**1.56**	**8**			**Pn**	**07 03 04.7**	**+1.2**
HOM					IAML		07 03 32.6	
	comp=E,1µm,0.5s							
KAKN	**Katmai Knife C**	**1.59**	**278**			**Pn**	**07 03 04.0**	**-0.1**
KAKN						**Sn**	**07 03 22.7**	**-0.7**
P19K	**Oil Pt**	**1.65**	**339**			**Pn**	**07 03 05.5**	**+0.7**
KABU	**Katmai Buttres**	**1.70**	**276**			**Pn**	**07 03 05.7**	**+0.1**
ACHA	**Angle Creek He**	**1.72**	**274**			**Pn**	**07 03 05.6**	**-0.2**
BRLK	**Bradley Lake**	**1.76**	**20**			**Pn**	**07 03 06.7**	**+0.3**
BRLK					IAML		07 03 28.4	
	comp=N,753nm,0.3s							
BRLK					IAML		07 03 28.5	
	comp=E,693nm,0.2s							
ANCK	**Angle Creek**	**1.81**	**274**			**Pn**	**07 03 07.4**	**+0.4**
SII	**Sitkinak Islan**	**1.94**	**217**			**Pn**	**07 03 08.1**	**-0.6**
ILSW	**Iliamna Southw**	**1.94**	**344**			**Pn**	**07 03 08.8**	**-0.1**
ILSW					IAML		07 03 43.5	
	comp=E,343nm,0.7s							
P18K	**Big Mountain,**	**2.08**	**309**			**Pn**	**07 03 10.0**	**-0.7**
RED	**Redoubt Volcan**	**2.33**	**352**			**Pn**	**07 03 14.6**	**+0.4**
RED					IAML		07 03 42.9	
	comp=E,251nm,0.3s							
PLK4	**Peulik 4**	**2.34**	**260**			**Pn**	**07 03 14.4**	**+0.2**
PLK4					IAML		07 03 42.0	
	comp=E,264nm,0.7s							
PLK4					IAML		07 03 42.4	
	comp=N,271nm,0.7s							
O19K	**Port Alsworth**	**2.38**	**332**			**Pn**	**07 03 14.7**	**0.0**
RDWB	**Redoubt West**	**2.40**	**351**			**Pn**	**07 03 15.7**	**+0.5**
SEW	**Seward**	**2.41**	**33**			**Pn**	**07 03 15.1**	**0.0**
SEW					IAML		07 03 41.8	
	comp=E,272nm,0.7s							
SEW					IAML		07 03 42.3	
	comp=N,378nm,0.8s							
PLK1	**Peulik 1**	**2.43**	**264**			**Pn**	**07 03 15.4**	**-0.1**
SLKM	**Skilak Lake**	**2.58**	**21**			**Pn**	**07 03 17.6**	**+0.1**
SLKM					IAML		07 03 47.3	
	comp=E,442nm,0.3s							
N19K	**Bonanza Creek**	**2.96**	**337**		IAML		07 04 15.0	
	comp=N,141nm,0.8s							
SPU	**Mount Spurr**	**3.07**	**0**			**Pn**	**07 03 24.9**	**+0.6**
SPBG	**Spurr Blockage**	**3.15**	**357**			**Pn**	**07 03 26.1**	**+0.7**
RC01	**Rabbit Creek A**	**3.21**	**21**			**Pn**	**07 03 26.5**	**+0.4**
RC01					IAML		07 04 02.2	
	comp=N,198nm,0.3s							
P16K	**Nushagak River**	**3.23**	**289**		IAML		07 04 04.0	
	comp=E,147nm,0.7s							
STLK	**Strandline Lak**	**3.39**	**2**		IAML		07 04 09.3	
	comp=E,87nm,0.4s							
SUA	**Susitna One**	**3.42**	**11**		IAML		07 04 09.7	
	comp=E,124nm,0.7s							
SUA					IAML		07 04 14.3	
	comp=N,86nm,0.7s							
O16K	**Kokwok River B**	**3.45**	**298**			**Pn**	**07 03 29.2**	**-0.3**
ANPK	**Aniakchak Peak**	**3.51**	**251**			**Pn**	**07 03 30.0**	**-0.3**
N17K	**Nushagak Hills**	**3.56**	**315**			**Pn**	**07 03 30.5**	**-0.4**
ANPB	**Aniakchak Plen**	**3.60**	**251**			**Pn**	**07 03 31.4**	**-0.2**
HIN	**Hinchinbrook I**	**3.66**	**49**			**Pn**	**07 03 33.0**	**+0.6**
HIN					IAML		07 04 14.1	
	comp=E,175nm,0.5s							
HIN					IAML		07 04 15.4	
	comp=N,156nm,0.4s							
GLI	**Glacier Island**	**3.75**	**40**			**Pn**	**07 03 33.5**	**-0.1**
KNK	**Knik Glacier**	**3.77**	**27**		IAML		07 04 14.9	
	comp=N,136nm,0.5s							
KNK					IAML		07 04 17.7	
	comp=E,136nm,0.4s							
PMR	**Palmer**	**3.79**	**22**		IAML		07 04 16.0	
	comp=E,68nm,0.5s							
PMR					IAML		07 04 16.9	
	comp=N,88nm,0.3s							
M20K	**Styx River**	**3.81**	**352**			**Pn**	**07 03 34.7**	**+0.3**
SKT	**Skwentna**	**3.88**	**4**		IAML		07 04 20.8	
	comp=N,82nm,0.3s							
SKT					IAML		07 04 22.6	
	comp=E,93nm,0.5s							
FID	**Port Fidalgo**	**3.89**	**45**		IAML		07 04 17.4	
	comp=N,148nm,0.5s							
GHO	**Glory Hole Cre**	**3.99**	**22**		IAML		07 04 22.6	
	comp=N,136nm,0.4s							
GHO					IAML		07 04 24.0	
	comp=E,121nm,0.5s							
EYAK	**Cordova Ski Ar**	**4.05**	**50**			**Pn**	**07 03 38.0**	**+0.4**
EYAK					IAML		07 04 22.6	
	comp=N,72nm,0.4s							
EYAK					IAML		07 04 22.9	
	comp=E,59nm,0.4s							
M17K	**Holitna River**	**4.26**	**323**		IAML		07 05 02.1	
	comp=N,110nm,0.7s							
M17K					IAML		07 05 03.0	
	comp=E,87nm,0.8s							
L19K	**White Mountain**	**4.30**	**342**			**Pn**	**07 03 41.2**	**+0.1**
L19K					IAML		07 04 59.0	
	comp=E,52nm,1.1s							
VNHG	**Veniaminof 1**	**4.30**	**247**			**Pn**	**07 03 40.9**	**-0.3**
DIV	**Divide**	**4.40**	**44**		IAML		07 04 32.0	
	comp=E,70nm,0.5s							
DIV					IAML		07 04 32.8	
	comp=N,100nm,0.5s							
RAGM	**Ragged Mountai**	**4.43**	**56**		IAML		07 04 36.9	
	comp=E,100nm,0.4s							
L20K	**Farewell, AK**	**4.46**	**349**			**Pn**	**07 03 43.7**	**+0.4**
M16K	**Timber Creek**	**4.55**	**313**		IAML		07 05 09.3	
	comp=E,35nm,0.8s							
HMT	**Hamilton**	**4.59**	**58**		IAML		07 04 37.0	
	comp=N,81nm,0.5s							
KLU	**Klutina**	**4.59**	**40**		IAML		07 04 37.8	
	comp=E,62nm,0.3s							
N15K	**Kwethluk River**	**4.61**	**300**			**Pn**	**07 03 46.0**	**+0.8**
N15K					IAML		07 04 38.5	
	comp=N,37nm,0.7s							
N15K					IAML		07 05 09.7	
	comp=E,36nm,1.1s							
NICHA	**Nichawak Mount**	**4.68**	**60**			**Pn**	**07 03 46.5**	**+0.2**
SUCK	**Suckling Hills**	**4.71**	**62**			**Pn**	**07 03 46.7**	**0.0**
SUCK	**Suckling Hills**	**4.71**	**62**		IAML		07 04 43.6	
	comp=N,35nm,0.8s							
BMRM	**Bremner River**	**4.75**	**50**		IAML		07 04 39.9	
	comp=E,74nm,0.5s							
BERG	**Berg Lake**	**4.87**	**59**		IAML		07 04 45.8	
	comp=E,71nm,0.3s							

GRIN	**Grindle Hills**	**5.00**	**61**			**Pn**	**07 03 51.0**	**+0.3**
M15K	**Kasigluk River**	**5.10**	**304**			**Pn**	**07 03 51.9**	**-0.1**
N25K	**Chitina, Valde**	**5.14**	**44**		IAML		07 04 51.8	
	comp=E,45nm,0.4s							
N25K					IAML		07 04 52.7	
	comp=N,38nm,0.4s							
L16K	**Owhat River**	**5.17**	**317**		IAML		07 05 31.9	
	comp=E,38nm,1.1s							
SNH	**Sunshine Point**	**5.18**	**63**			**Pn**	**07 03 54.0**	**+0.7**
SNH	**Sunshine Point**	**5.18**	**63**		IAML		07 04 54.1	
	comp=E,56nm,0.4s							
SNH					IAML		07 04 55.2	
	comp=N,40nm,0.9s							
CRQM	**Cirque**	**5.27**	**56**		IAML		07 04 56.5	
	comp=E,27nm,0.7s							
CRQM					IAML		07 04 58.6	
	comp=N,35nm,0.6s							
WAX	**Waxell Ridge**	**5.28**	**60**			**Pn**	**07 03 54.8**	**+0.3**
GLB	**Gilahina Butte**	**5.34**	**48**		IAML		07 04 54.9	
	comp=E,23nm,0.4s							
GLB					IAML		07 04 56.4	
	comp=N,24nm,0.4s							
K20K	**Telida**	**5.34**	**350**			**Pn**	**07 03 55.5**	**+0.2**
VRDI	**Verde Repeater**	**5.37**	**51**			**Pn**	**07 03 56.1**	**+0.2**
BARK	**Barkley Ridge**	**5.42**	**61**			**Pn**	**07 03 57.2**	**+0.6**
KTH	**Kantishna Hill**	**5.48**	**5**			**Pn**	**07 03 58.1**	**+0.8**
HARP	**HAARP**	**5.50**	**36**			**Pn**	**07 03 57.7**	**+0.1**
MESA	**MESA**	**5.61**	**64**			**Pn**	**07 04 00.2**	**+1.0**
MCARA	**McCarthy VSAT**	**5.62**	**51**			**Pn**	**07 04 00.1**	**+0.9**
BAGL	**Bagley Icefiel**	**5.64**	**61**			**Pn**	**07 04 00.4**	**+1.0**
YAH	**Yahtse**	**5.76**	**63**			**Pn**	**07 04 01.6**	**+0.3**
J18K	**Innoko River**	**5.82**	**339**			**Pn**	**07 04 01.9**	**0.0**
MCK	**McKinley**	**5.83**	**14**			**Pn**	**07 04 02.7**	**+0.6**
RKAV	**Rock Avalanche**	**5.93**	**64**			**Pn**	**07 04 03.9**	**+0.3**
CHX	**Chaix Hills**	**5.98**	**66**			**Pn**	**07 04 04.7**	**+0.6**
BPAW	**Bear Paw Mtn.**	**6.02**	**5**			**Pn**	**07 04 04.5**	**-0.1**
BARN	**Barnard Glacie**	**6.05**	**57**			**Pn**	**07 04 06.0**	**+0.7**
TABL	**Table Mountain**	**6.07**	**63**			**Pn**	**07 04 05.6**	**+0.1**
J19K	**Poorman**	**6.14**	**345**			**Pn**	**07 04 06.0**	**-0.2**
SAMH	**Samovar Hills**	**6.16**	**66**			**Pn**	**07 04 07.1**	**+0.5**
CTGM	**Chitina Glacie**	**6.16**	**58**			**Pn**	**07 04 07.4**	**+0.6**
LOGN	**Logan Glacier**	**6.26**	**60**			**Pn**	**07 04 08.8**	**+0.7**
K15K	**Wolf Creek Mou**	**6.30**	**316**			**Pn**	**07 04 08.9**	**+0.5**
PCA	**Pinnacle**	**6.40**	**67**			**Pn**	**07 04 10.1**	**+0.1**
K24K	**Donnelly Dome**	**6.47**	**26**			**Pn**	**07 04 09.8**	**-1.1**
O28M	**Mount Upton**	**6.62**	**61**			**Pn**	**07 04 13.0**	**-0.1**
BCPM	**Bancas Point**	**6.68**	**69**			**Pn**	**07 04 12.6**	**-1.1**
YUK2	**White River**	**6.73**	**52**			**Pn**	**07 04 14.7**	**+0.2**
PNL	**Peninsula**	**6.75**	**71**			**Pn**	**07 04 14.6**	**-0.1**
HDA	**Harding Lake**	**6.77**	**19**			**Pn**	**07 04 15.3**	**+0.3**
I20K	**Naaghedeneel**	**6.79**	**351**			**Pn**	**07 04 14.5**	**-0.7**
YUK3	**Moose Creek**	**6.89**	**53**			**Pn**	**07 04 17.1**	**+0.4**
MLY	**Manley**	**6.96**	**5**			**Pn**	**07 04 17.7**	**+0.1**
YUK8	**Steele Glacier**	**6.99**	**58**			**Pn**	**07 04 18.2**	**0.0**
GCSA	**Galena City Sc**	**7.03**	**343**			**Pn**	**07 04 18.2**	**-0.2**
COLA	**College**	**7.07**	**15**			**Pn**	**07 04 19.2**	**+0.3**
ILAR	**Eielson Array**	**7.12**	**18**	P		**Pn**	**07 04 19.4**	**-0.2**
	comp=N,0.8nm,0.3s,baz=202,slow=14,SNR=34							
ILAR				S		**Sn**	**07 05 33.8**	**-5.2**
	comp=N,4.4nm,0.4s,baz=210,slow=24,SNR=3.9							
	comp=N,1.8nm,0.3s							
O29M	**Mount Kennedy**	**7.27**	**67**			**Pn**	**07 04 22.1**	**+0.3**
H20K	**Anotleneega Mo**	**7.51**	**351**			**Pn**	**07 04 24.1**	**-1.0**
YUK6	**Ouzel Mounta**	**7.52**	**62**			**Pn**	**07 04 25.3**	**-0.2**
H21K	**Melozitna Rive**	**7.57**	**358**			**Pn**	**07 04 25.4**	**-0.5**
P29M	**Windy Craggy**	**7.59**	**72**			**Pn**	**07 04 25.7**	**-0.5**
H18K	**Honhosa River**	**7.66**	**340**			**Pn**	**07 04 26.9**	**-0.2**
H19K	**Roundabout Mou**	**7.71**	**346**			**Pn**	**07 04 26.7**	**-1.0**
YUK5	**Granite Creek**	**7.81**	**61**			**Pn**	**07 04 30.0**	**+0.6**
M29M	**Somme Creek**	**8.03**	**52**			**Pn**	**07 04 32.1**	**-0.1**
P30M	**Million Dollar**	**8.03**	**69**			**Pn**	**07 04 32.3**	**0.0**
N30M	**Aishikik Lake**	**8.26**	**60**			**Pn**	**07 04 34.4**	**-1.0**
G18K	**Tagagawik**	**8.38**	**341**			**Pn**	**07 04 36.4**	**-0.6**
L29M	**L29M**	**8.48**	**48**			**Pn**	**07 04 37.9**	**-0.5**
O30N	**Mendenhall**	**8.56**	**65**			**Pn**	**07 04 38.7**	**-0.9**
N31M	**Braeburn, Yuko**	**8.87**	**61**			**Pn**	**07 04 42.5**	**-1.3**
F20K	**Avaraart Lake**	**9.11**	**351**			**Pn**	**07 04 47.2**	**+0.3**
E19K	**Redstone River**	**9.66**	**348**			**Pn**	**07 04 53.9**	**-0.5**
E18K	**Tukpahlearik C**	**10.10**	**341**			**Pn**	**07 04 59.9**	**-0.6**
DLBC	**Dease Lake**	**11.60**	**79**	P		**Pn**	**07 05 23.5**	**+2.4**
	comp=N,2.8nm,0.3s,baz=314,slow=25,SNR=3.3							
DLBC				S		**Sn**	**07 07 30.2**	**+1.2**
	comp=N,6.3nm,0.6s,baz=193,slow=26,SNR=1.7							
	comp=N,12nm,0.5s							
SPITS	**Spitsbergen Ar**	**43.77**	**3**	P		**P**	**07 10 38.4**	**+0.2**
	comp=N,15nm,1.0s,baz=343,slow=9.0,SNR=9.6							
	comp=N,15nm,1.0s							
ARCES	**ARCESS Array B**	**52.63**	**1**	P		**P**	**07 11 46.1**	**-0.6**
	comp=N,8.1nm,1.1s,baz=357,slow=7.2,SNR=6.0							
	comp=N,8.1nm,1.1s							
SONM	**Songino Array**	**56.30**	**307**	P		**P**	**07 12 13.3**	**-0.4**
	comp=N,1.0nm,0.7s,baz=45,slow=7.1,SNR=3.1							
	comp=N,1.0nm,0.7s							
ZALV	**Zalesovo Beam**	**59.18**	**325**	P		**P**	**07 12 33.2**	**-0.5**
	comp=N,2.1nm,0.7s,baz=45,slow=6.3,SNR=4.6							
	comp=N,2.1nm,0.7s							
FINES	**FINESS Array B**	**60.76**	**1**	P		**P**	**07 12 44.9**	**+0.6**
	comp=N,0.9nm,0.6s,baz=1.1,slow=9.5,SNR=6.5							
	comp=N,0.9nm,0.6s							
HFS	**Hagfors**	**61.55**	**8**	P		**P**	**07 12 49.7**	**0.0**
	comp=N,0.6nm,0.5s,baz=333,slow=4.8,SNR=1.2							
	comp=N,0.6nm,0.5s							
BVAR	**Borovoye Array**	**63.96**	**333**	P		**P**	**07 13 05.2**	**-0.7**
	comp=N,2.1nm,0.6s,baz=30,slow=7.4,SNR=8.9							
	comp=N,2.1nm,0.6s							
EKA	**Eskdalemuir Ar**	**64.16**	**19**	P		**P**	**07 13 08.1**	**+1.1**
	comp=N,0.3nm,0.4s,baz=355,slow=7.1,SNR=1.9							
	comp=N,0.3nm,0.4s							
MKAR	**Makanchi Array**	**66.20**	**322**	P		**P**	**07 13 20.0**	**-0.5**
	comp=N,0.2nm,0.3s,baz=38,slow=7.4,SNR=3.7							
	comp=N,0.2nm,0.3s							
AKASG	**Malin Array Be**	**71.53**	**359**	P		**P**	**07 13 53.5**	**0.0**
	comp=N,1.1nm,0.5s,baz=4.5,slow=6.0,SNR=4.5							
	comp=N,1.1nm,0.5s							

WEL ***04*** *07:02:52.4,38˚.85S×175˚.91E,h9km,ML5.2,Mw5.1, Moment Tensor Solution. s19 Moment tensor: Scale 10¹⁶Nm; Mrr-4.77; Mθθ2.57; Mθθ2.21; Mrθ-1.49; Mθθ3.29; Mθr0.56; Fault plane solution: M₀5.51000×10¹⁶ NP1: ϕs64.00000°,δ51.00000°,λ-67.00000°. NP2:ϕs209.00000°, δ44.00000°,λ-116.00000°. Principal axes: T 5.7281, Plg4.0000°, Azm138.0000°; N -0.4439, Plg18.0000°, Azm228.0000°; P -5.2842, Plg72.0000°, Azm36.0000°; Stations used: WHVZ BKZ TLZ RTZ HIZ VRZ OPRZ WAZ TOZ TSZ PXZ MRZ MKAZ BFZ PUZ KUZ WEL GRZ NNZ NORMAL FAULTING*

NOU ***04*** *07:02:52.0,38˚.83S×175˚.97E,h12km,MLv5.4/18,North Island, New Zealand*

NEIC ***04*** *07:02:52.6±2.2,38˚.78S±0˚.04×175˚.98E±0˚.03,h10km±1km, mb5.2/28,Mwr5.1/40,Error ellipse: s-maj=7.5km s-min=4.1km az=189.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr-4.47; Mθθ2.10; Mθθ2.38; Mrθ-2.12; Mθθ3.06; Mθr-0.16; Fault plane solution: M₀5.37000×10¹⁶ NP1:ϕs60.57000°,δ56.50000°, λ-69.08000°. NP2:ϕs205.86000°,δ38.84000°, λ-118.35000°. Principal axes: T 5.5531, Plg9.0000°, Azm136.0000°; N -0.3774, Plg17.0000°, Azm229.0000°; P -5.1757, Plg70.0000°, Azm19.0000°;*

WEL ***04*** *07:02:52.4±0.3,39˚S±2˚×17˚6E±˚, h5km,M5.0/26, ML5.3/26,MLv5.0/26 Error ellipse: s-maj=3.3km s-min=1.9km az=134.9,confirmed*

NEIC ***04*** *07:02:52.6,38˚.76S×175˚.99E,h10km*

MOS ***04*** *07:02:53.9±1.0,38˚.70S×176˚.24E,h37km,mb5.2/12, Error ellipse: s-maj=18.3km s-min=12.8km az=133.7*

GCMT ***04*** *07:02:55.6±0.2,38˚.86S±0˚.01×176˚.01E±0˚.02, h13km, MW5.1/107,Moment Tensor Solution. s58,c89; s107,c160; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-4.24±.16; Mθθ2.83±.12; Mθθ1.41±.12; Mrθ-1.16±.28; Mθθ3.87±.08; Mθr0.93±.30; Best double couple: M₀5.49600×10¹⁶ NP1:ϕs207.00000°,δ49.00000°, λ-124.00000°. NP2:ϕs73.00000°,δ52.00000°, λ-57.00000°. Principal axes: T 6.0630, Plg2.0000°, Azm141.0000°; N -1.1340, Plg25.0000°, Azm231.0000°; P -4.9290, Plg65.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***04*** *07:02:57.8±1.0,38˚.60S×176˚.22E,h61km±11km, mb4.5/10, mbtmp4.8/11,MS4.4/15 Error ellipse: s-maj=16.7km s-min=15.0km az=80.0*

ISC 04 07:02:52.6±0.6, 38˚.84S±0˚.02×175˚.91E±0˚.02, h14km±3km, n331,σ1$42/339, mb5.2/33, MS4.4/16, 7C-1D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
RATZ	**Rangitukua**	**0.11**	**258**	P		**Pg 07 02 55.6**	**-0.4**
RATZ				S		**Sg 07 02 58.2**	**0.0**
RITZ	**Rihia Road**	**0.14**	**198**	P		**Pg 07 02 56.0**	**-0.4**
RITZ				S		**Sg 07 02 57.8**	**-1.0**
WATZ	**Wairara**	**0.20**	**314**	P		**Pg 07 02 57.0**	**-0.1**
KATZ	**Kakaramea**	**0.22**	**232**	P		**Pg 07 02 57.2**	**-0.3**
KATZ				S		**Sg 07 03 00.5**	**-0.4**
TMVZ	**Te Maari**	**0.32**	**211**	P		**Pg 07 02 59.0**	**-0.2**
TMVZ				S		**Sg 07 03 03.5**	**-0.2**
KRVZ	**Karewarewa**	**0.33**	**220**	P		**Pg 07 02 59.3**	**-0.2**
KRVZ				S		**Sg 07 03 03.2**	**-0.8**
ETVZ	**East Tongariro**	**0.33**	**208**	P		**Pg 07 02 59.3**	**-0.2**
ETVZ				S		**Sg 07 03 04.3**	**+0.1**
KUTZ	**Kaahu Road**	**0.36**	**349**	P		**Pg 07 03 00.1**	**+0.1**
NNVZ	**North Ngauruho**	**0.37**	**219**	P		**Pg 07 03 00.2**	**0.0**
NNVZ				S		**Sg 07 03 04.7**	**-0.7**
WTVZ	**West Tongariro**	**0.37**	**223**	P		**Pg 07 03 00.0**	**-0.1**
WTVZ				S		**Sg 07 03 04.4**	**-0.9**
OTVZ	**Oturere**	**0.37**	**211**	P		**Pg 07 03 00.1**	**-0.2**
WPRZ	**Whakapapatarin**	**0.38**	**31**	P		**Pg 07 03 00.3**	**+0.1**
MRHZ	**Matea Rd**	**0.39**	**89**	P		**Pg 07 03 00.0**	**-0.5**
MRHZ				S		**Sg 07 03 05.5**	**-0.4**
SNVZ	**South Ngauruho**	**0.40**	**212**	P		**Pg 07 03 00.7**	**-0.1**
NGZ	**Ngauruhoe**	**0.41**	**216**	P		**Pg 07 03 00.8**	**-0.1**
NGZ				S		**Sg 07 03 06.8**	**+0.2**
TWVZ	**Taurewa**	**0.44**	**238**	P		**Pg 07 03 01.2**	**-0.2**
TWVZ				S		**Sg 07 03 06.6**	**-0.7**
ALRZ	**Allen Road**	**0.44**	**50**	P		**Pg 07 03 01.1**	**-0.3**
COVZ	**Chateau Observ**	**0.46**	**219**	P		**Pg 07 03 01.6**	**-0.1**
COVZ				S		**Sg 07 03 07.4**	**-0.6**
TUVZ	**Tukino**	**0.47**	**205**	P		**Pg 07 03 01.8**	**-0.2**
MAVZ	**Matarangi**	**0.51**	**213**	P		**Pg 07 03 02.4**	**-0.3**
WHVZ	**Whangaehu Hut**	**0.51**	**210**	P		**Pg 07 03 02.4**	**-0.3**
PRRZ	**Plateau Road**	**0.51**	**48**	P		**Pg 07 03 02.5**	**-0.2**
GRRZ	**Galatos Road**	**0.52**	**17**	P		**Pb 07 03 03.2**	**-0.3**
HRRZ	**Handcock Road**	**0.54**	**33**	P		**Pb 07 03 03.4**	**-0.4**
TRVZ	**Turoa**	**0.54**	**212**	P		**Pg 07 03 02.9**	**-0.4**
WNVZ	**Wahianoa**	**0.54**	**207**	P		**Pg 07 03 03.0**	**-0.4**
BKZ	**Black Stump Fm**	**0.55**	**126**			**Pg 07 03 03.5**	**-0.1**
BKZ	**Black Stump Fm**	**0.55**	**126**	P		**Pg 07 03 03.0**	**-0.5**
BKZ	**Black Stump Fm**	**0.55**	**126**	P		**Pg 07 03 03.4**	**-0.1**
BKZ				S		**Sb 07 03 12.9**	**+0.9**
MOVZ	**Moawhango**	**0.58**	**193**	P		**Pg 07 03 03.3**	**-0.7**
MOVZ				S		**Sg 07 03 10.2**	**-1.5**
HSRZ	**Hossack Road**	**0.59**	**26**	P		**Pb 07 03 04.7**	**-0.1**
TLZ	**Tolley Road**	**0.59**	**330**	P		**Pg 07 03 03.7**	**-0.5**
PKVZ	**Pokaka**	**0.63**	**225**	P		**Pg 07 03 04.7**	**-0.3**
MTVZ	**Mangateitei**	**0.64**	**212**	P		**Pg 07 03 04.7**	**-0.5**
HLRZ	**Highlands Stat**	**0.68**	**30**	P		**Pb 07 03 06.7**	**+0.4**
RRRZ	**Republican Roa**	**0.69**	**43**	P		**Pg 07 03 06.0**	**-0.1**
UTU	**Utuhina**	**0.70**	**18**	P		**Pg 07 03 06.2**	**-0.2**
KWHZ	**Kaweka Forest**	**0.70**	**146**	P		**Pg 07 03 06.4**	**-0.1**
KWHZ				S		**Sn 07 03 18.8**	**-0.1**
MTHZ	**Maungataniwha**	**0.72**	**91**	P		**Pg 07 03 06.4**	**-0.3**
NMHZ	**Naumai**	**0.74**	**110**	P		**Pb 07 03 07.6**	**+0.3**
MUGZ	**Murupara**	**0.76**	**62**	P		**Pg 07 03 07.0**	**-0.4**
TARZ	**Mount Tarawera**	**0.76**	**38**	P		**Pb 07 03 08.1**	**+0.4**
NGRZ	**Ngongotaha**	**0.77**	**16**	P		**Pb 07 03 07.8**	**0.0**
OMRZ	**Omania**	**0.82**	**26**	P		**Pb 07 03 08.7**	**+0.1**
MKRZ	**Makatiti**	**0.83**	**32**	P		**Pn 07 03 10.0**	**0.0**
MCHZ	**McNeill Hill**	**0.85**	**135**	P		**Pn 07 03 10.4**	**+0.1**
KARZ	**Kaharoa**	**0.86**	**18**	P		**

MXZ	**Matakaoa Point**	**2.28 57**	P	**Pb**	**07 03 33.8**	**+0.3**
RVAZ	**Riverhead Bore**	**2.32 333**	P	**Pn**	**07 03 30.0**	**-0.5**
MTW	**Mount Morrison**	**2.33 188**	P	**Pn**	**07 03 31.2**	**+0.6**
CAW	**Cannon Point**	**2.35 196**	P	**Pn**	**07 03 31.8**	**+1.0**
ABAZ	**Army Bay**	**2.40 339**	P	**Pb**	**07 03 35.1**	**-0.4**
DUWZ	**D'Urville Isla**	**2.49 217**	P	**Pb**	**07 03 35.3**	**-1.8**
TRWZ	**Traveller**	**2.56 184**	P	**Pn**	**07 03 34.0**	**+0.3**
PAWZ	**Paruwai Farm**	**2.56 188**	P	**Pn**	**07 03 33.9**	**+0.1**
WEL	**Wellington**	**2.59 199**	P	**Pn**	**07 03 35.2**	**+1.0**
GRZ	**Great Barrier**	**2.61 352**	P	**Pb**	**07 03 40.3**	**+1.1**
MSWZ	**Moikau Station**	**2.62 191**		**Pn**	**07 03 34.5**	**0.0**
MSWZ	**Moikau Station**	**2.62 191**	P	**Pn**	**07 03 34.6**	**0.0**
SNZO	**South Karori**	**2.63 200**		**Pn**	**07 03 35.5**	**+0.9**
SNZO	**South Karori**	**2.63 200**	P	**Pn**	**07 03 34.5**	**-0.2**
TCW	**Tory Channel**	**2.68 207**		**Pn**	**07 03 36.5**	**+1.1**
TCW	**Tory Channel**	**2.68 207**	P	**Pn**	**07 03 37.2**	**+1.9**
BHW	**Baring Head**	**2.68 197**		**Pn**	**07 03 35.8**	**+0.4**
BHW	**Baring Head**	**2.68 197**	P	**Pn**	**07 03 35.8**	**+0.4**
PLWZ	**Palliser**	**2.77 190**		**Pn**	**07 03 36.4**	**-0.2**
PLWZ	**Palliser**	**2.77 190**	P	**Pn**	**07 03 36.7**	**+0.1**
TUWZ	**Tuamarina**	**2.99 210**		**Pn**	**07 03 41.4**	**+1.7**
TUWZ	**Tuamarina**	**2.99 210**	P	**Pn**	**07 03 41.2**	**+1.5**
NNZ	**Nelson**	**3.07 219**		**Pn**	**07 03 42.8**	**+2.1**
NNZ	**Nelson**	**3.07 219**	P	**Pn**	**07 03 43.5**	**+2.9**
TKNZ	**Takaka Hill**	**3.15 225**		**Pn**	**07 03 44.2**	**+2.3**
TKNZ	**Takaka Hill**	**3.15 225**	P	**Pn**	**07 03 44.7**	**+2.9**
WCZ	**Waipu Caves**	**3.16 336**	P	**Pn**	**07 03 42.1**	**+0.2**
CMWZ	**Cape Campbell**	**3.18 204**		**Pn**	**07 03 45.3**	**+3.1**
CMWZ	**Cape Campbell**	**3.18 204**	P	**Pb**	**07 03 45.9**	**-3.0**
BSWZ	**Blackbirch Sta**	**3.27 208**		**Pn**	**07 03 44.4**	**+1.0**
BSWZ	**Blackbirch Sta**	**3.27 208**	P	**Pn**	**07 03 44.5**	**+1.2**
QRZ	**Quartz Range**	**3.27 232**		**Pn**	**07 03 45.5**	**+2.0**
QRZ	**Quartz Range**	**3.27 232**	P	**Pn**	**07 03 44.3**	**+0.8**
QRZ	**Quartz Range**	**3.27 232**	P	**Pn**	**07 03 45.0**	**+1.5**
MRNZ	**Matariki Terra**	**3.52 222**	P	**Pn**	**07 03 48.9**	**+2.1**
THZ	**Tophouse**	**3.71 217**		**Pn**	**07 03 50.8**	**+1.2**
THZ	**Tophouse**	**3.71 217**	P	**Pn**	**07 03 50.9**	**+1.2**
KHZ	**Kahutara**	**4.00 206**		**Pn**	**07 03 54.2**	**+0.8**
KHZ	**Kahutara**	**4.00 206**	P	**Pn**	**07 03 53.1**	**-0.4**
KHZ	**Kahutara**	**4.00 206**	P	**Pn**	**07 03 53.2**	**-0.3**
OUZ	**Omahuta**	**4.06 332**	P	**Pn**	**07 03 54.5**	**+0.1**
OUZ	**Omahuta**	**4.06 332**	P	**Pn**	**07 03 55.1**	**+0.7**
DSZ	**Denniston Nort**	**4.28 226**	P	**Pn**	**07 03 58.9**	**+1.6**
GVZ	**Greta Valley S**	**4.66 207**	P	**Pn**	**07 04 01.7**	**-0.9**
LTZ	**Lake Taylor**	**4.81 214**	P	**Pn**	**07 04 04.1**	**-0.5**
AMCZ	**Amberley**	**4.98 209**	P	**Pn**	**07 04 08.0**	**+1.1**
INZ	**Inchbonnie**	**5.15 220**	P	**Pn**	**07 04 10.6**	**+1.3**
OKCZ	**Okains Bay**	**5.33 203**	P	**Pn**	**07 04 10.5**	**-1.3**
AKCZ	**Akaroa Harbour**	**5.51 203**	P	**Pn**	**07 04 13.2**	**-1.0**
MHCZ	**Mount Hutt**	**5.72 214**	P	**Pn**	**07 04 16.4**	**-0.7**
WVZ	**Waitaha Valley**	**5.76 221**	P	**Pn**	**07 04 20.8**	**+3.1**
WACZ	**Wakanui South**	**5.95 210**	P	**Pn**	**07 04 19.4**	**-0.8**
RPZ	**Rata Peaks**	**6.09 215**	P	Pn	07 04 29.3	+7.1
RPZ	143nm,0.9s,baz=1.1,slow=1.8,SNR=14		S	**Sn**	**07 05 29.8**	**-1.9**
	348nm,0.8s,baz=340,slow=10.0,SNR=3.7					
RPZ	**Rata Peaks**	**6.09 215**	P	**Pn**	**07 04 22.6**	**+0.4**
RPZ	**Rata Peaks**	**6.09 215**	P	**Pn**	**07 04 22.7**	**+0.4**
GCSZ	**Gaunt Creek Bo**	**6.15 222**	P	**Pn**	**07 04 26.7**	**+3.8**
ARCZ	**Arundel**	**6.22 213**	P	**Pn**	**07 04 24.1**	**+0.1**
FOZ	**Fox Glacier**	**6.56 223**	P	**Pn**	**07 04 31.1**	**+2.4**
TMZ	**Timaru**	**6.64 212**	P	**Pn**	**07 04 28.8**	**-1.0**
LBZ	**Lake Benmore**	**7.00 216**	P	**Pn**	**07 04 34.6**	**-0.2**
ODZ	**Otahua Downs**	**7.33 211**	P	**Pn**	**07 04 37.8**	**-1.5**
CTZ	**Chatham Island**	**7.45 133**		**Pn**	**07 04 40.8**	**0.0**
CTZ	**Chatham Island**	**7.45 133**	P	**Pn**	**07 04 40.3**	**-0.5**
CTZ	**Chatham Island**	**7.45 133**	P	**Pn**	**07 04 40.5**	**-0.4**
JCZ	**Jackson Bay**	**7.48 223**	P	**Pn**	**07 04 41.6**	**+0.2**
JCZ	**Jackson Bay**	**7.48 223**	P	**Pn**	**07 04 43.8**	**+2.5**
WKZ	**Wanaka**	**7.89 219**	P	Pn	07 04 52.1	+5.2
HHSZ	**Highcliff Hill**	**8.06 207**	P	**Pn**	**07 04 49.5**	**+0.2**
MSZ	**Milford Sound**	**8.34 223**	P	**Pn**	**07 04 56.1**	**+3.1**
TUZ	**Tuapeka**	**8.49 211**	P	**Pn**	**07 04 54.5**	**-0.6**
MLZ	**Mavora Lakes**	**8.72 219**	P	Pn	07 05 03.5	+5.2
SYZ	**Scrubby Hill**	**9.16 211**	P	**Pn**	**07 05 03.7**	**-0.6**
SYZ	**Scrubby Hill**	**9.16 211**	P	**Pn**	**07 05 03.7**	**-0.6**
WHZ	**Wether Hill Ro**	**9.18 217**	P	Pn	07 05 12.3	+7.7
APZ	**The Paps**	**9.88 214**	P	**Pn**	**07 05 14.8**	**+0.6**
PYZ	**Puysegur Point**	**10.00 220**		**Pn**	**07 05 15.6**	**-0.1**
RAO	**Raoul Island**	**10.85 30**	LR	LR	07 09 19.9	
DZM	comp=Z,3µm,18.1s,baz=222,slow=36 **Mont Dzumac**	**18.58 331**	*e*P	**P**	**07 07 03.0**	**-6.4**
DZM	146nm,1.4s 5µm,27.8s		*e*LR	LR	07 11 24.8	
ARMA	**Armidale**	**21.63 285**	P	**P**	**07 07 46.5**	**+4.0**
CAN	**Canberra**	**21.73 271**	P	**P**	**07 07 46.8**	**+3.3**
CAN	**Canberra**	**21.73 271**	P	**P**	**07 07 46.8**	**+3.3**
CAN	comp=Z,53nm,1.4s		pmax	pmax		
TOO	**Toolangi**	**23.89 263**	P	**P**	**07 08 07.3**	**+1.4**
TOO	**Toolangi**	**23.89 263**	P	**P**	**07 08 07.3**	**+1.4**
TOO	comp=Z,25nm,1.5s		pmax	pmax		
SANVU	**Saraoutou**	**24.53 339**	P	**P**	**07 08 11.3**	**-0.5**
EIDS	**Eidsvold**	**24.86 295**	P	**P**	**07 08 16.9**	**+2.1**
EIDS	comp=Z,43nm,1.4s		IAmb	IAmb	07 08 26.9	
STKA	**Stephens Creek**	**28.72 273**	P	**P**	**07 08 51.4**	**+1.9**
STKA	**Stephens Creek**	**28.72 273**	P	**P**	**07 08 52.7**	**+3.3**
STKA	comp=Z,9.4nm,1.1s,baz=110,slow=11,SNR=8.8		S	**S**	**07 13 35.8**	**-2.5**
STKA	comp=Z,0.9nm,0.6s,baz=60,slow=20,SNR=1.1		PKiKP	**PKiKP**	**07 19 33.1**	**-1.2**
STKA	comp=Z,2.6nm,0.8s,baz=354,slow=7.5,SNR=5.4		LR	LR	07 20 38.2	
CTAO	comp=Z,566nm,18.4s,baz=112,slow=37 **Charters Tower**	**31.67 298**	P	**P**	**07 09 18.5**	**+2.8**
CTAO	comp=Z,9.4nm,1.1s		IAmb	IAmb	07 09 20.1	
CTAO	comp=Z,36nm,1.4s **Charters Tower**	**31.67 298**	P	**P**	**07 09 18.5**	**+2.8**
CTAO	comp=Z,36nm,1.4s		pmax	pmax		
HNR	**Honiara**	**32.60 330**	LR	LR	07 20 27.8	
BBOO	comp=Z,899nm,20.9s,baz=173,slow=32 **Buckleboo**	**32.68 268**	P	**P**	**07 09 25.8**	**+1.4**
TBI	**Tubuai**	**33.20 72**	*e*P	**P**	**07 09 30.6**	**+1.6**
TBI	comp=Z,1µm,38.0s		*e*S	**S**	**07 14 52.2**	**+3.8**
TBI	comp=Z,886nm,29.0s		*e*SS	**SnSn**	**07 16 46.6**	**-1.5**
TBI	comp=Z,2µm,27.2s		*e*LR	LR	07 18 12.0	
TBI	comp=Z,964nm,24.0s		*e*LR	LR	07 18 14.4	
PPT2	comp=Z,2µm,23.5s **Papeete2**	**36.74 65**	*e*P	**P**	**07 10 01.8**	**+2.1**
PPT2	comp=Z,40nm,20.8s		*e*S	**S**	**07 15 47.1**	**+4.0**
PPT2	comp=Z,97nm,23.8s		*e*SS	**SnSn**	**07 18 17.1**	**+3.0**
PPT2	comp=Z,521nm,26.0s		*e*LR	LR	07 19 51.3	
PPT2	comp=Z,807nm,22.5s		*e*LR	LR	07 19 56.1	
COEN	comp=Z,709nm,23.2s **Coen**	**38.05 302**	IAmb	IAmb	07 10 14.3	
ASAR	comp=Z,68nm,1.2s **Alice Springs**	**38.62 281**	P	**P**	**07 10 16.2**	**+0.6**
ASAR	**Alice Springs**	**38.62 281**	P	**P**	**07 10 17.2**	**+1.7**
ASAR	comp=Z,32nm,1.0s,baz=120,slow=7.3,SNR=86		LR	LR	07 25 20.9	
PMG	comp=Z,585nm,19.1s,baz=126,slow=35 **Port Moresby**	**39.02 311**	*i* P	**P**	**07 10 18.7**	**-0.2**
PMG	comp=Z,32nm,1.0s		pmax	pmax		
VNDA	comp=Z,52nm,1.2s **Vanda**	**39.24 185**	P	**P**	**07 10 22.4**	**+2.3**
	comp=Z,3.0nm,0.9s,baz=358,slow=11,SNR=5.3					
SBA	comp=Z,3.0nm,0.9s **Scott Base**	**39.31 183**	P	**P**	**07 10 22.4**	**+1.8**
SBA	**Scott Base**	**39.31 183**	P	**P**	**07 10 22.4**	**+1.8**
SBA	comp=Z,27nm,1.6s		pmax	pmax		
WRAB	**Tennant Creek**	**40.41 286**	P	**P**	**07 10 30.4**	**-0.1**
WRAB	comp=Z,54nm,1.3s		IAmb	IAmb	07 10 33.0	
WRAB	**Tennant Creek**	**40.41 286**	*i* P	**P**	**07 10 30.1**	**-0.4**
WRAB	comp=Z,52nm,1.3s		pmax	pmax		
WRA	**Warramunga Arr**	**40.41 286**	P	**P**	**07 10 31.2**	**+0.7**
WRA	**Warramunga Arr**	**40.41 286**	P	**P**	**07 10 31.6**	**+1.1**
WRA	comp=Z,17nm,1.0s,baz=124,slow=8.0,SNR=32		LR	LR	07 26 43.8	
CASY	comp=Z,1µm,19.6s,baz=134,slow=35 comp=Z,17nm,1.0s **Casey**	**45.34 211**		**P**	**07 11 08.6**	**-1.3**
CASY	comp=Z,27nm,0.8s		IAmb	IAmb	07 11 13.9	
KNRA	**Kununurra**	**47.21 286**	P	**P**	**07 11 25.6**	**+0.4**
KNRA	comp=Z,31nm,1.1s		IAmb	IAmb	07 11 27.9	
FITZ	**Fitzroy Crossi**	**48.12 281**	LR	LR	07 31 57.0	
JAY	comp=Z,475nm,18.1s,baz=117,slow=36 **Jayapura**	**48.34 310**	LR	LR	07 33 38.7	
JAY	comp=Z,309nm,18.3s,baz=194,slow=38 **Jayapura**	**48.34 310**	P	**P**	**07 11 35.7**	**+1.7**
TAOE	**Nuku Hiva Isla**	**49.36 65**	*e*S	**S**	**07 18 44.1**	**-4.4**
TAOE	comp=Z,130nm,28.2s		*e*SS	**SS**	**07 22 15.5**	**-4.7**
TAOE	comp=Z,94nm,24.1s		*e*LR	LR	07 25 40.8	
QSPA	comp=Z,580nm,22.6s **South Pole Qui**	**51.28 180**	P	**P**	**07 11 59.0**	**+3.1**
QSPA	comp=Z,26nm,0.9s		IAmb	IAmb	07 12 09.2	
QSPA	**South Pole Qui**	**51.28 180**	P	**P**	**07 11 58.4**	**+2.5**
BATI	comp=Z,15nm,1.0s,baz=20,slow=1.6,SNR=30 comp=Z,15nm,1.0s **Banata**	**54.51 287**	LR	LR	07 37 49.4	
SWI	comp=Z,805nm,18.7s,baz=164,slow=38 **Sorong**	**55.61 302**	P	**P**	**07 12 29.5**	**+1.4**
GUMO	**Guam**	**59.69 324**	LR	LR	07 36 42.7	
KAPI	comp=Z,112nm,19.2s,baz=128,slow=34 **Kappang**	**60.83 289**	LR	LR	07 40 56.5	
BELA	comp=Z,522nm,18.2s,baz=132,slow=37 **Belgrano 2**	**62.07 173**	P	**P**	**07 13 11.8**	**-0.5**
BELA	comp=Z,25nm,1.4s		IAmb	IAmb	07 13 17.5	
MAW	**Mawson**	**62.62 203**	P	**P**	**07 13 16.6**	**+0.6**
	comp=Z,25nm,1.1s,baz=107,slow=9.1,SNR=23 comp=Z,25nm,1.1s					
DAV	**Davao City (W)**	**65.27 303**	LR	LR	07 43 45.5	
SYO	comp=Z,81nm,18.1s,baz=148,slow=38 **Syowa Base**	**67.72 196**	*e*P	**P**	**07 13 48.6**	**-0.4**
SYO	**Syowa Base**	**67.72 196**	*e*pP	pP	07 13 51.6	-2.1
LEM	**Lembang**	**68.87 278**	LR	LR	07 44 02.9	
TROLL	comp=Z,402nm,20.6s,baz=152,slow=36 **Troll, Antarti**	**69.35 182**	P	**P**	**07 14 00.2**	**+0.8**
	comp=Z,571nm,1.2s					
ESPZ	**Base Esperanza**	**69.77 157**	P	**P**	**07 14 02.8**	**+0.9**
ESPZ	comp=Z,37nm,1.3s		IAmb	IAmb	07 14 06.3	
SNAA	**Sanae**	**69.79 180**	P	**P**	**07 14 02.5**	**+0.5**
SNAA	comp=Z,267nm,1.4s **Sanae**	**69.79 180**		**P**	**07 14 02.0**	**0.0**
SNAA	comp=Z,34nm,1.3s		IAmb	IAmb	07 14 06.0	
SNAA	**Sanae**	**69.79 180**	P	**P**	**07 14 02.3**	**+0.3**
	comp=Z,19nm,1.2s,baz=182,slow=5.5,SNR=20 comp=Z,19nm,1.2s					
SNAA	**Sanae**	**69.79 180**	*i* P	**P**	**07 14 03.0**	**+1.0**
SNAA	comp=Z,19nm,1.2s		pmax	pmax		
VNA3	**Neumayer Olymp**	**70.15 178**	P	**P**	**07 14 04.6**	**+0.5**
VNA1	comp=Z,10nm,0.8s **Neumayer--Stat**	**70.77 179**	P	**P**	**07 14 08.6**	**+0.7**
EFI	comp=Z,24nm,1.0s **East Falkland**	**78.30 149**	*i* P	**P**	**07 14 51.0**	**-1.0**
EFI	comp=Z,98nm,1.3s		pmax	pmax		
GSI	**Gunungsitoli**	**81.74 278**	P	**P**	**07 15 11.7**	**+0.6**
MJA0	**Matsu &rr-Jizo**	**82.67 330**	*e*P	**P**	**07 15 17.9**	**+2.4**
MJA0	comp=Z,8.0nm,1.2s		pmax	pmax		
MJAR	**Matsushiro Arr**	**82.69 330**	P	**P**	**07 15 14.7**	**-0.8**
MJAR	**Matsushiro Arr**	**82.69 330**	P	**P**	**07 15 15.0**	**-0.5**
	comp=Z,4.8nm,1.1s,baz=166,slow=5.5,SNR=7.2 comp=Z,4.8nm,1.1s					
MJAR	**Matsushiro Arr**	**82.69 330**	P	**P**	**07 15 14.7**	**-0.8**
MJAR	comp=Z,12nm,1.5s		pmax	pmax		
MAJO	**Matsushiro**	**82.69 330**		**P**	**07 15 15.5**	**-0.1**
MAJO	comp=Z,35nm,1.6s		IAmb	IAmb	07 15 24.2	
MAJO	**Matsushiro**	**82.69 330**	P	**P**	**07 15 15.5**	**-0.1**
MAJO	comp=Z,35nm,1.6s		pmax	pmax		
KCSI	**Kotacane, Aceh**	**82.99 280**	P	**P**	**07 15 15.1**	**-2.6**
BO02	**Sierra Bellavi**	**84.23 131**	P	**P**	**07 15 23.5**	**-0.4**
BO02	comp=Z,30nm,1.4s		IAmb	IAmb	07 15 48.7	
KSRS	**Korea Array**	**87.84 324**	P	**P**	**07 15 40.7**	**-0.6**
	comp=Z,7.0nm,1.1s,baz=144,slow=4.7,SNR=4.3 comp=Z,7.0nm,1.1s					
KSAR	**Wonju Array Be**	**87.85 324**	P	**P**	**07 15 42.0**	**+0.7**
KSAR	**Wonju Array Be**	**87.85 324**	P	**P**	**07 15 42.0**	**+0.7**
CO01	**Juntas del Tor**	**87.99 128**	P	**P**	**07 15 44.5**	**+1.7**
NJ2	**Nanjing**	**88.24 315**	*e*P	**P**	**07 15 45.4**	**+2.1**
NJ2	comp=Z,12nm,0.5s		pmax	pmax		
MSHR	**Mys Shultsa**	**90.66 329**	*i* P	**P**	**07 15 55.1**	**+0.7**
MSHR	comp=Z,7.0nm,1.1s		pmax	pmax		
SHEM	**Shemya Is, Ala**	**91.21 359**	LR	LR	07 49 31.8	
CMAR	comp=Z,83nm,20.5s,baz=117,slow=31 **Chiang Mai Arr**	**91.69 292**	P	**P**	**07 15 59.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**91.69 292**	P	**P**	**07 16 00.3**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=134,slow=4.0,SNR=12 comp=Z,1.2nm,0.3s					
PET	**Petropavlovsk**	**92.71 350**	*i* P	**P**	**07 16 03.3**	**-0.3**
PET	comp=Z,20nm,1.1s		pmax	pmax		
CN2	**Changchun**	**94.07 326**	*e*P	**P**	**07 16 12.0**	**+1.9**
CN2	comp=Z,10.0nm,0.6s		pmax	pmax		
PZH	**PanZhiHua**	**94.95 300**	P	**P**	**07 16 16.6**	**+1.8**
PB08	**IPOC Station P**	**95.48 121**	IAmb	IAmb	07 16 21.5	
BC3	comp=Z,17nm,1.3s **Big Chuckawall**	**96.16 51**	P	**P**	**07 16 21.3**	**+1.2**
BC3	comp=Z,21nm,1.9s		IAmb	IAmb	07 16 22.8	
CD2	**Chengdu**	**96.52 305**	*e*P	**P**	**07 16 23.0**	**+1.2**
PB18	**Visviri**	**97.04 119**	P	**P**	**07 16 24.5**	**-0.6**
XLT	**XiLinHaoTe**	**98.51 321**	*e*P	**P**	**07 16 28.8**	**-1.6**
XLT	comp=Z,5.0nm,0.5s		pmax	pmax		
PALK	**Pallekele**	**98.56 272**	LR	LR	07 57 50.8	
HHC	comp=Z,161nm,20.1s,baz=125,slow=33 **Hu-ho-hao-te**	**98.66 316**	*e*P	Pdif	07 16 32.5	+1.3
BRDH	**Bariadhala**	**99.64 291**	LR	LR	08 10 00.1	
MA2	comp=Z,97nm,18.1s,baz=134,slow=40 **Magadan**	**100.25 347**	*i* P	**Pdif**	**07 16 40.0**	**+2.4**
MA2	comp=Z,6.0nm,1.0s		pmax	pmax		
ILAR	**Eielson Array**	**107.32 16**	Pdiff	**Pdif**	**07 17 06.2**	**-2.8**
WMQ	comp=Z,0.2nm,0.5s,baz=221,slow=17,SNR=1.3 **Urumqi**	**114.42 307**	*e*PKP	**PKiKP**	**07 21 33.3**	**+1.6**
WMQ	comp=Z,220nm,21.3s		LR	LR		
MKAR	**Makanchi Array**	**119.19 308**	PKP	**PKPdf**	**07 21 37.9**	**-2.8**
KURK	comp=Z,2.4nm,1.0s,baz=107,slow=1.5,SNR=8.5 **Kurchatov**	**123.04 311**	PKiKP	**PKPdf**	**07 21 45.4**	**-2.5**
KURBB	**Kurchatov Arra**	**123.06 311**	PKP	**PKPdf**	**07 21 45.4**	**-2.6**
BVAR	comp=Z,1.4nm,0.2s,baz=105,slow=1.8,SNR=6.4 **Borovoye Array**	**128.61 312**	PKP	**PKPdf**	**07 21 56.9**	**-1.7**
AKT	comp=Z,1.3nm,0.7s,baz=127,slow=3.8,SNR=6.2 **Akhty**	**140.80 291**	*e*PKiKP	**PKPdf**	**07 22 20.5**	**-1.4**
AKT	comp=Z,10.0nm,1.4s		pmax	pmax		
APA	**Apatity**	**144.55 336**	*i* PKiKP	**PKPab**	**07 22 23.3**	**-2.7**
APA			*e*SS	SS	07 44 27.8	-2.7
KBZ	**Khabaz**	**144.73 293**	PKP	**PKPab**	**07 22 26.3**	**-1.1**
GOF	comp=Z,24nm,1.0s,baz=115,slow=1.8,SNR=24 **Gofitskoye**	**144.81 296**	*c*ePKiKP	**PKPab**	**07 22 26.4**	**-1.3**
SHA1	**Shidzhatmaz**	**144.91 293**	*i* PKP2	**PKPab**	**07 22 26.4**	**-2.0**
KIV	**Kislovodsk**	**144.92 294**		PKPbc	07 22 28.3	0.0
KIV	**Kislovodsk**	**144.92 294**	*i* PKP2	**PKPab**	**07 22 26.7**	**-1.6**
KIV	comp=Z,21nm,1.0s		pmax	pmax		
KIV	comp=Z,60nm,25.0s		MLR	MLR		
KLMR	**Klimovskoe**	**145.23 324**	*e*PKP2	**PKPbc**	**07 22 25.1**	**-3.5**
KLMR	comp=Z,96nm,1.3s		pmax	pmax		
ARCES	**ARCESS Array B**	**145.44 342**		**PKPdf**	**07 22 27.4**	**-1.6**
ARCES	**ARCESS Array B**	**145.44 342**	PKPbc	**PKPdf**	**07 22 27.8**	**-1.2**
	comp=Z,24nm,1.1s,baz=52,slow=1.9,SNR=13					
VRH	**Novokhopyorsk**	**145.89 306**	*e*PKiKP	**PKPdf**	**07 22 27.3**	**-3.0**
VRH	comp=Z,20nm,0.9s		pmax	pmax		
ACRG	**Accra**	**146.76 187**	PKPdf	**PKPdf**	**07 22 33.5**	**+0.5**
VORR	**Voronezh**	**147.43 308**	*e*PKiKP	**PKPdf**	**07 22 32.4**	**-0.5**
VORR	comp=Z,30nm,1.0s		pmax	pmax		
VORD	**Divnogorie**	**147.44 306**	*e*PKiKP	**PKPdf**	**07 22 31.2**	**-1.7**
VORD	comp=Z,10.0nm,1.0s		pmax	pmax		
LPSR	**Galich'ya Gora**	**147.49 309**	*e*PKiKP	**PKPdf**	**07 22 32.1**	**-0.8**
LPSR	comp=Z,10.0nm,1.0s		pmax	pmax		
VSR	**Storozhevoye**	**147.50 307**	*e*PKiKP	**PKPdf**	**07 22 31.0**	**-2.0**
VSR	comp=Z,20nm,1.2s		pmax	pmax		
GAZ	**Gaziantep**	**147.61 280**		**PKPbc**	**07 22 35.9**	**-0.7**
MOS	**Moscow**	**147.66 315**	*e*PKiKP	**PKPdf**	**07 22 32.4**	**-0.7**
DBIC	**Dimbokro**	**147.96 179**	PKPbc	**PKPbc**	**07 22 37.1**	**-0.8**
	comp=Z,30nm,1.0s,baz=183,slow=2.7,SNR=14					
OBN	**Obninsk**	**148.39 314**	*e*PKP2	**PKPbc**	**07 22 36.1**	**-1.7**
OBN			*e*		07 26 07.6	
OBN			*e*PPP	PPP	07 29 26.8	
OBN	comp=Z,24nm,1.2s		pmax	pmax		
BNN	**Bunyan**	**149.07 283**		**PKPbc**	**07 22 39.3**	**-1.1**
FINES	**FINESS Array B**	**150.72 330**	PKPbc	**PKPbc**	**07 22 41.4**	**-2.0**
	comp=Z,10.0nm,0.9s,baz=68,slow=5.9,SNR=14					
BRTR	**Keskin Array B**	**150.93 284**	PKPbc	**PKPbc**	**07 22 42.8**	**-2.1**
	comp=Z,3.9nm,1.0s,baz=149,slow=2.9,SNR=14					
BRTR			PKPab	**sPKPbc**	**07 22 51.5**	**+0.1**
	comp=Z,13nm,1.0s,baz=145,slow=4.5,SNR=18					
MNK	**Minsk**	**153.35 316**	*i* PKiKP	**PKPbc**	**07 22 48.4**	**-1.2**
MNK			*i*		07 26 34.5	
MNK			*i*		07 29 47.1	
MNK			*i* PPP	PPP	07 30 02.2	
MNK			*i* SS	SS	07 46 11.2	+1.3
MNK			*i* SSS	SSS	07 52 01.3	
MNK	comp=Z,11nm,0.8s		pmax	pmax		
MNK	comp=E,41nm,0.9s		pmax	pmax		
MNK	comp=N,14nm,0.9s		pmax	pmax		
AKASG	**Malin Array Be**	**153.78 308**	PKPbc	**PKPbc**	**07 22 48.4**	**-2.2**
	comp=N,3.4nm,1.0s,baz=70,slow=2.1,SNR=5.9					
AK17	**Malin Array Si**	**153.88 308**	PKP	**PKPdf**	**07 22 46.4**	**+3.5**
AK20	**Malin Array Si**	**153.90 308**	PKP	**PKPdf**	**07 22 46.4**	**+3.5**
TORD	**Torodi Ar. Bea**	**153.90 193**	PKPbc	**PKPbc**	**07 22 51.3**	**-0.8**
	comp=N,6.1nm,1.1s,baz=169,slow=3.0,SNR=10					
TORD			PKPab	**PKPab**	**07 23 04.5**	**-0.4**
	comp=N,14nm,1.1s,baz=168,slow=2.4,SNR=15					
LUBAR	**Lubar, Ukraine**	**154.88 307**	PKP	**PKPdf**	**07 22 47.7**	**+3.4**
BURAR	**Bucovina Array**	**157.03 302**	PKPdf	**PKPdf**	**07 22 47.2**	**-0.2**
CLL	**Collm**	**162.71 322**	*i* PKP2	**PKPab**	**07 23 40.7**	**-1.6**
CLL	**Collm**	**162.71 322**	*i* PKPab	**PKPab**	**07 23 40.7**	**-1.6**
CLL			LmV		08 38 00.0	
	comp=Z,100nm,21.7s					

WEL ***04*** *07:04:34.5,38°.86S×175°.93E,h5km,ML4.5,Mw4.5, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M_{rr}-2.51; $M_{\theta\theta}$0.63; $M_{\phi\phi}$1.88; $M_{r\theta}$-4.84; $M_{\theta\phi}$2.29; $M_{\phi r}$-1.55; Fault plane solution: $M_0$6.01000×10^{15} NP1: ϕ_s67.00000°,δ77.00000°,λ-70.00000°. NP2:ϕ_s188.00000°, δ24.00000°,λ-146.00000°. Principal axes: T -6.0281, Plg29.0000°, Azm141.0000°; N 5.9992, Plg20.0000°, Azm242.0000°; P 0.0289, Plg54.0000°, Azm2.0000°; Stations used: WHVZ RTZ HIZ TOZ OBLIQUE FAULTING*

WEL 04 07:04:34.5±0.3,39°S±2°×17°6E±°,h5km,M4.5/33, ML4.7/20,MLv4.5/33 Error ellipse: s-maj=3.3km s-min=2.3km az=128.4,confirmed,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATZ	**Rangitukua**	**0.12**	**266**	P	Pg	07 04 37.8	+0.8
RATZ				S	Sg	07 04 39.6	+0.9
RITZ	**Rihia Road**	**0.13**	**204**	P	Pg	07 04 38.0	+0.9
RITZ				S	Sg	07 04 39.8	+0.9
WATZ	**Wairara**	**0.21**	**315**	P	Pg	07 04 39.1	+0.5
WATZ				S	Sg	07 04 42.4	+1.0
KATZ	**Kakaramea**	**0.21**	**237**	P	Pg	07 04 39.4	+0.7
KATZ				S	Sg	07 04 43.2	+1.6
TMVZ	**Te Maari**	**0.31**	**214**	P	Pg	07 04 41.3	+0.7
TMVZ				S	Sg	07 04 45.0	+0.4
KRVZ	**Karewarewa**	**0.32**	**223**	P	Pg	07 04 41.4	+0.6
KRVZ				S	Sg	07 04 45.8	+0.7
ETVZ	**East Tongariro**	**0.33**	**211**	P	Pg	07 04 41.5	+0.7
ETVZ				S	Sg	07 04 46.1	+1.0
NNVZ	**North Ngauruho**	**0.37**	**221**	P	Pg	07 04 42.2	+0.6
NNVZ				S	Sg	07 04 47.3	+0.9
OTVZ	**Oturere**	**0.37**	**214**	P	Pg	07 04 42.5	+0.9
OTVZ				S	Sg	07 04 47.4	+0.9
WTVZ	**West Tongariro**	**0.

OGWZ	**Otaki Gorge**	**2.04**	**196**	P	Pn	07 05 10.6 +1.1
AWAZ	**Awhitu Peninsu**	**2.06**	**330**	P	Pg	07 05 13.5 -0.4
ETAZ	**East Tamaki Re**	**2.06**	**337**	P	Pg	07 05 13.9 0.0
HOWZ	**Holdsworth Sta**	**2.06**	**189**	P	Pg	07 05 13.2 -0.7
KUZ	**Kuaotunu**	**2.12**	**356**	P	Pg	07 05 15.8 +0.8
WIAZ	**Waiheke Island**	**2.15**	**343**	P	Pb	07 05 13.7 -0.3
WTAZ	**Waiatarua**	**2.20**	**330**	P	Pg	07 05 17.1 +0.5
MBAZ	**Motutapu North**	**2.24**	**338**	P	Pb	07 05 15.1 -0.3

*ISN **04** 07:09:18.4±0.6, 33.74N×45.62E, h8km±3km, ML2.8*
*TEH **04** 07:09:19.0, 33.75N×45.69E, h10km±17km*
ISC 04 07:09:18.9±1.3, 33.74N±0.03×45.67E±0.06, h6km±15km, n11, σ0.92/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.42**	**28**	Pg	**Pg**	**07 09 27.3**	**+0.3**
GLG1				Sg	**Sg**	**07 09 33.4**	**+0.9**
ILBA	**Ilam Banvizeh**	**0.46**	**105**	Pg	**Pg**	**07 09 27.8**	**0.0**
IBDR	**Badra**	**0.67**	**161**	*e*Pg	**Pg**	**07 09 32.0**	**+0.3**
IBDR				*e*Sg	**Sg**	**07 09 41.0**	**+0.6**
IBDR	comp=N,82nm,0.1s			AML	AML	07 09 45.9	
IBDR	comp=E,131nm,0.4s			AML	AML	07 09 47.3	
IGHG	**Ghaleghazi**	**0.94**	**52**	Pg	**Pg**	**07 09 37.4**	**+0.3**
IDHR	**Dehrash**	**1.12**	**32**	Pg	**Pg**	**07 09 40.5**	**0.0**
BHD	**Baghdad**	**1.18**	**247**	*e*Pn	**Pn**	**07 09 42.0**	**+0.1**
BHD				*e*Sn	**Sn**	**07 10 00.0**	**+1.8**
KCHF	**Cheshme Sefid,**	**1.25**	**65**	Pg	**Pg**	**07 09 43.2**	**+0.2**
IBZA	**Bozab**	**1.95**	**68**	Pn	**Pb**	**07 09 54.2**	**-0.8**
SNQR	**Sonqor, Kerman**	**1.96**	**55**	Pn	**Pb**	**07 09 54.4**	**-0.8**
IKRK	**Kirkuk**	**1.98**	**327**	*e*Pn	**Pb**	**07 09 54.0**	**-1.4**
IKRK				*e*Sn	**Sb**	**07 10 20.0**	**-0.4**
RAFI	**Al-Rafai**	**2.05**	**169**	*e*Pn	**Pb**	**07 09 55.0**	**-1.5**
RAFI				*e*Sn	**Sb**	**07 10 22.0**	**-0.2**

KRSC 04 07:12:48.0±1.8, 49.67N×159.16E, h48km±55km, MI3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.20**	**298**	*e*P	Pn	07 13 23.2	+1.2
SKR				*e*S	Sn	07 13 48.6	+0.7
PAU	**Pauzhetka**	**2.34**	**321**	*e*S	Sn	07 13 55.1	+3.8
RUS	**Russkaya**	**2.79**	**352**	*e*P	Pn	07 13 33.6	+3.5
RUS				*e*S	Sn	07 14 05.6	+3.0
ASAK	**Asacha**	**2.83**	**344**	*e*P	Pn	07 13 34.3	+3.6
ASAK				*e*S	Sn	07 14 07.1	+3.6
MTVR	**Mutnovka**	**2.88**	**348**	*e*P	Pn	07 13 35.1	+3.6
MTVR				*e*S	Sn	07 14 08.7	+3.8
GRL	**Gorelyy**	**2.96**	**347**	*e*P	Pn	07 13 36.7	+4.1
GRL				*e*S	Sn	07 14 11.2	+4.3
KRMR	**Karymshinskiy**	**3.23**	**349**	*e*P	Pn	07 13 40.1	+4.1
KRMR				*e*S	Sn	07 14 17.8	+4.6
SPN	**Mys Shipunski**	**3.47**	**9**	*e*P	Pn	07 13 43.6	+4.2
SPN				*e*S	Sn	07 14 23.1	+3.9
SMAR	**Somma**	**3.60**	**357**	*e*P	Pn	07 13 46.4	+5.0
SDLR	**Sedlovina**	**3.61**	**357**	*e*P	Pn	07 13 44.9	+3.4
KOK	**Koryaka**	**3.64**	**355**	*e*P	Pn	07 13 46.3	+4.5
KRX	**Arik**	**3.70**	**355**	*e*P	Pn	07 13 46.8	+4.1
GNL	**Ganaly**	**4.10**	**350**	*e*P	Pn	07 13 52.8	+4.6
MKZ	**Mys Kozlova**	**5.14**	**17**	*e*P	Pn	07 14 04.6	+2.3
TUMD	**Tumrok D**	**5.59**	**7**	*e*S	Sn	07 15 15.4	+4.1

*EST **04** 07:14:34.4±0.1, 59.20N×27.81E, h0km, ML1.6(HEL), Explosion*
*LVSN **04** 07:14:38.9±1.3, 58.60N×25.56E, h0km±10km, ML1.6*
HEL 04 07:14:33.4±0.4, 59.23N×27.97E, h0km, ML1.6, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	**Vaivara Sinima**	**0.16**	**342**	*e*P	Pg	07 14 37.8	+1.4
EE04				*e*S	Sg	07 14 39.0	+0.5
EE03	**Tooma soojaam,**	**0.95**	**249**	*e*P	Pg	07 14 49.8	-1.7
EE03				*e*S	Sg	07 15 01.2	-2.5
VSU	**Vasula**	**1.00**	**221**	*e*P	Pg	07 14 51.5	-1.0
VSU	comp=E,35nm,0.4s			AML	AML	07 15 07.9	
VSU	comp=N,45nm,0.5s			AML	AML	07 15 12.1	
VSU	comp=Z,13nm,1.0s			AML	AML	07 15 18.2	
VSU	**Vasula**	**1.00**	**221**	*e*P	Pg	07 14 51.0	-1.5
ARBE	**Arbavere**	**1.04**	**283**	*e*S	Sg	07 15 07.4	+0.6
VJF	**Virojoki**	**1.33**	**351**	*e*PB	Pg	07 14 58.7	-0.3
VJF	comp=Z,3.8nm,0.2s			MSG		07 15 13.6	
VJF				*e*SB	Sg	07 15 16.2	0.0
EE07	**Piusa Caves, O**	**1.41**	**191**	*e*PN	Pb	07 15 00.6	+0.1
EE07				*e*SN	Sn	07 15 19.7	+0.1
EE08	**Sarghaua, Vand**	**1.53**	**249**	*e*PG	Pn	07 15 00.4	-1.4
EE08				*e*S	Sg	07 15 18.9	-3.5
EE02	**Kiisa, Saku**	**1.69**	**270**	*e*PG	Pn	07 15 03.5	-0.5
EE02				*e*S	Sn	07 15 22.9	-3.4
PVF	**Pernaja**	**1.70**	**322**	*e*PG	Pn	07 15 04.4	+0.1
PVF	comp=Z,2.9nm,0.2s			MSG		07 15 24.2	
PVF				*e*S	Sn	07 15 24.8	-1.8
HEL1	**Helsinki**	**1.83**	**303**	*e*PG	Pn	07 15 06.6	+0.5
HEL1	comp=Z,5.8nm,0.2s			MSG		07 15 28.1	
HEL1				*e*SG	Sn	07 15 29.1	-0.8
HEL5	**Espoo, Suvisaa**	**1.87**	**300**	*e*PG	Pn	07 15 07.1	+0.5
HEL5				*e*S	Sn	07 15 29.5	-1.3
HEL5	comp=Z,5.8nm,0.1s			MSG		07 15 32.0	
MEF	**Metsahovi**	**2.07**	**300**	*e*P	Pn	07 15 08.8	-0.5
MEF	**Metsahovi**	**2.07**	**300**	*e*P	Pn	07 15 10.4	+1.1
MEF				*e*S	Sn	07 15 35.4	-0.3
MEF	comp=Z,7.9nm,0.8s			AML	AML	07 15 37.1	
MEF	comp=N,18nm,0.4s			AML	AML	07 15 37.2	
MEF	comp=E,8.3nm,0.5s			AML	AML	07 15 37.3	
MEF	**Metsahovi**	**2.07**	**300**	*e*PG	Pn	07 15 10.3	+1.0
MEF				*e*SB	Sn	07 15 35.5	-0.2
MEF	comp=Z,2.9nm,0.1s			MSG		07 15 36.9	
NUR	**Nurmijarvi**	**2.11**	**309**	*e*PG	Pb	07 15 11.5	-1.0
NUR	comp=Z,3.9nm,0.2s			MSG		07 15 36.1	
NUR				*e*SG	Sn	07 15 37.8	+0.9
EE01	**Perakula, Nova**	**2.24**	**271**	*e*PG	Pn	07 15 12.8	+1.1
EE01				*e*SG	Sn	07 15 40.4	+0.5
RUF	**Ruokolahti**	**2.26**	**12**	*e*PB	Pb	07 15 14.5	-0.5
RUF	comp=Z,2.1nm,0.2s			MSG		07 15 40.3	
RUF				*e*SG	Sg	07 15 45.0	-1.0
FIA0	**FINESS Array S**	**2.42**	**338**	*e*P	Pn	07 15 15.0	+0.9
FIA0	comp=Z,2.0nm,0.2s			MSG		07 15 44.9	
FIA0				*e*SG	Sb	07 15 48.4	+0.4
FIA1	**FINESS Array S**	**2.42**	**338**	*e*P	Pn	07 15 15.0	+0.8
FIA1				*e*SB	Sb	07 15 46.6	-1.4
FIA1	comp=Z,1.9nm,0.1s			MSG		07 15 50.0	
TVF	**Tvarminne**	**2.48**	**286**	*e*PG	Pb	07 15 17.3	-1.6
TVF	comp=Z,1.0nm,0.2s			MSG		07 15 46.7	
TVF				*e*SB	Sn	07 15 47.2	+1.2
EE06	**Soera, Palade,**	**2.66**	**267**	*e*SB	Sn	07 15 51.6	+1.4
KAF	**Kangasniemi**	**3.01**	**345**	*e*PB	Pb	07 15 26.7	-1.1
KAF	comp=Z,1.7nm,0.2s			MSG		07 16 01.8	
KAF				*e*SG	Sb	07 16 07.0	+1.9
KEF	**Keuruu**	**3.32**	**334**	*e*P	Pn	07 15 26.9	+0.4
RAF	**Rauma**	**3.59**	**303**	*e*P	Pn	07 15 29.9	-0.4
RAF	**Rauma**	**3.59**	**303**	*e*P	Pn	07 15 31.7	+1.5
JOF	**Joensuu**	**4.04**	**22**	*e*P	Pn	07 15 39.1	+2.7
PABE	**Paberze**	**4.31**	**212**	*e*P	Pn	07 15 32.1	-8.0
SJUU	**Sjulsmark**	**6.96**	**338**	*e*P	Pn	07 16 17.1	+0.6

*HEL **04** 07:20:19.2±0.3, 62.19N×17.28E, h0km, ML2.1, Explosion*
*DNK **04** 07:20:20.5±0.4, 62.24N×17.34E, h0km, ML2.7(UPP),*
Explosion
*UPP **04** 07:20:20.1±0.1, 62.24N×17.34E, h0km, ML2.7, Suspected explosion*
ISC 04 07:20:19.7±0.8, 62.25N±0.02×17.34E±0.03, h0km, n26, σ0.77/44, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HASU	**Hassela**	**0.35**	**255**	P	**Pg**	**07 20 26.9**	**+0.4**
HASU				S	**Sg**	**07 20 31.8**	**+0.7**
HASU	**Hassela**	**0.35**	**255**	P	**Pg**	**07 20 26.9**	**+0.4**
HASU				S	**Sg**	**07 20 31.8**	**+0.7**
HUDU	**Hudiksvall**	**0.52**	**192**	P	**Pg**	**07 20 29.9**	**+0.2**
HUDU				S	**Sg**	**07 20 37.0**	**+0.6**
HUDU	**Hudiksvall**	**0.52**	**192**	P	**Pg**	**07 20 29.9**	**+0.2**
HUDU				S	**Sg**	**07 20 37.0**	**+0.6**
HEMU	**Hemsoen**	**0.54**	**37**	P	**Pg**	**07 20 30.5**	**+0.4**
HEMU				S	**Sg**	**07 20 38.0**	**+1.0**
HEMU	**Hemsoen**	**0.54**	**37**	P	**Pg**	**07 20 30.5**	**+0.4**
HEMU				S	**Sg**	**07 20 38.0**	**+1.0**
HEMU	**Hemsoen**	**0.54**	**37**	*e*P	**Pg**	**07 20 30.4**	**+0.4**
HEMU				*e*S	**Sg**	**07 20 37.7**	**+0.6**
ARNU	**Arnoeviken**	**0.56**	**178**	P	**Pg**	**07 20 30.5**	**+0.2**
ARNU				S	**Sg**	**07 20 37.9**	**+0.4**
ARNU	**Arnoeviken**	**0.56**	**178**	P	**Pg**	**07 20 30.5**	**+0.2**
ARNU				S	**Sg**	**07 20 37.9**	**+0.4**
SOLU	**Sollefteaa**	**1.01**	**358**	P	**Pg**	**07 20 39.0**	**0.0**
SOLU				S	**Sg**	**07 20 52.2**	**+0.2**
SOLU	**Sollefteaa**	**1.01**	**358**	P	**Pg**	**07 20 39.0**	**0.0**
SOLU				S	**Sg**	**07 20 52.2**	**+0.2**
ROTU	**Roteberg**	**1.10**	**222**	P	**Pg**	**07 20 40.6**	**-0.2**
ROTU				S	**Sg**	**07 20 55.2**	**+0.2**
ROTU	**Roteberg**	**1.10**	**222**	P	**Pg**	**07 20 40.6**	**-0.2**
ROTU				S	**Sg**	**07 20 55.2**	**+0.2**
IGGU	**Iggoen**	**1.38**	**180**	P	**Pg**	**07 20 45.4**	**-0.7**
IGGU	**Iggoen**	**1.38**	**180**	P	**Pg**	**07 20 45.4**	**-0.7**
HUSU	**Husum**	**1.40**	**37**	P	**Pn**	**07 20 45.6**	**-0.9**
HUSU	**Husum**	**1.40**	**37**	P	**Pn**	**07 20 45.6**	**-0.9**
HUSU	**Husum**	**1.40**	**37**	*e*PG	**Pn**	**07 20 45.4**	**-1.1**
HUSU				*e*S	**Sg**	**07 21 04.1**	**-0.5**
NOD	**Norderasen**	**1.66**	**318**	P	**Pn**	**07 20 50.0**	**0.0**
NOD	**Norderasen**	**1.66**	**318**	P	**Pn**	**07 20 50.0**	**0.0**
BREU	**Bredtraesk**	**1.75**	**18**	P	**Pn**	**07 20 51.9**	**+0.7**
BREU	**Bredtraesk**	**1.75**	**18**	P	**Pn**	**07 20 51.9**	**+0.7**
UMAU	**Umeaa**	**2.24**	**41**	*e*PG	**Pn**	**07 20 59.9**	**+1.9**
UMAU				*e*SG	**Sb**	**07 21 29.2**	**0.0**
UMAU	comp=Z,7.3nm,0.2s			MSG		07 21 31.4	
KPF	**Kankaanpaa**	**2.27**	**98**	*e*PG	**Pb**	**07 21 00.4**	**-1.0**
KPF				*e*SG	**Sb**	**07 21 29.7**	**-0.3**
KPF	comp=Z,14nm,0.3s			MSG		07 21 32.4	
AAL	**Aland**	**2.44**	**147**	*e*PG	**Pn**	**07 21 02.4**	**+1.7**
AAL				*e*SG	**Sb**	**07 21 33.4**	**-1.5**
RAF	**Rauma**	**2.44**	**118**	*e*PG	**Pn**	**07 21 02.6**	**+1.8**
RAF				*e*SG	**Sb**	**07 21 34.1**	**-0.9**
RAF	comp=Z,7.1nm,0.4s			MSG		07 21 35.2	

*WEL **04** 07:40:20.7, 38.85S×175.94E, h6km, ML3.5, Mw3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr=2.15; Mθθ 0.82; Mφφ 1.32; Mrθ -1.73; Mrφ 1.64; Mθφ-1.68; Fault plane solution: M0 3.43000×10^14 NP1: φs=45.00000°, δ67.00000°, λ-86.00000°. NP2: φs 215.00000°, δ23.00000°, λ-100.00000°. Principal axes: T 3.7140, Plg22.0000°, Azm132.0000°; N -0.5700, Plg4.0000°, Azm223.0000°; P -3.1440, Plg68.0000°, Azm323.0000°; Stations used: TLZ HIZ VRZ NORMAL FAULTING*
WEL 04 07:40:20.7±0.3, 39.73S±3.17×177.66E±7.1, h5km, M3.5/69, ML3.6/18, MLv3.5/69 Error ellipse: s-maj=3.7km s-min=2.7km az=154.6, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.13**	**263**	P	Pg	07 40 24.1	+0.6
RATZ				S	Sg	07 40 26.1	+0.8
RITZ	**Rihia Road**	**0.14**	**208**	P	Pg	07 40 24.2	+0.6
RITZ				S	Sg	07 40 27.1	+1.6
WATZ	**Wairara**	**0.22**	**311**	P	Pg	07 40 25.5	+0.6
KATZ	**Kakaramea**	**0.23**	**237**	P	Pg	07 40 26.6	+0.4
MRHZ	**Matea Rd**	**0.37**	**87**	P	Pg	07 40 28.1	+0.3
MRHZ				S	Sg	07 40 33.3	+0.5
OTVZ	**Oturere**	**0.38**	**215**	P	Pg	07 40 28.4	+0.3
SNVZ	**South Ngauruho**	**0.41**	**215**	P	Pg	07 40 29.0	+0.3
NGZ	**Ngauruhoe**	**0.42**	**219**	P	Pg	07 40 29.2	+0.3
ALRZ	**Allen Road**	**0.43**	**47**	P	Pg	07 40 29.2	+0.3
COVZ	**Chateau Observ**	**0.47**	**222**	P	Pg	07 40 30.0	+0.3
PRRZ	**Plateau Road**	**0.50**	**45**	P	Pg	07 40 30.6	+0.3
GRRZ	**Galatos Road**	**0.52**	**15**	P	Pb	07 40 31.9	-0.3
BKZ	**Black Stump Fm**	**0.53**	**126**	P	Pg	07 40 31.6	+0.6
HRRZ	**Handcock Road**	**0.53**	**30**	P	Pb	07 40 32.2	-0.3
HSRZ	**Hossack Road**	**0.59**	**24**	P	Pb	07 40 33.5	0.0
TLZ	**Tolley Road**	**0.61**	**329**	P	Pg	07 40 32.3	-0.1
PKVZ	**Pokaka**	**0.64**	**227**	P	Pg	07 40 33.2	+0.2
MTVZ	**Mangateitei**	**0.65**	**214**	P	Pg	07 40 33.0	-0.1
HLRZ	**Highlands Stat**	**0.68**	**28**	P	Pb	07 40 35.4	+0.4
RRRZ	**Republican Roa**	**0.68**	**41**	P	Pg	07 40 34.3	+0.5
MTHZ	**Maungataniwha**	**0.70**	**90**	P	Pg	07 40 34.5	+0.4
MTHZ				S	Sg	07 40 44.2	+0.9
UTU	**Utuhina**	**0.70**	**16**	P	Pb	07 40 36.2	+0.8
NMHZ	**Naumai**	**0.72**	**110**	P	Pb	07 40 35.7	0.0
MUGZ	**Murupara**	**0.75**	**60**	P	Pg	07 40 35.0	0.0
TARZ	**Mount Tarawera**	**0.76**	**36**	P	Pn	07 40 37.4	-0.8
OMRZ	**Omania**	**0.82**	**24**	P	Pb	07 40 37.3	-0.1
MCHZ	**McNeill Hill**	**0.83**	**136**	P	Pn	07 40 38.5	-0.6
RTZ	**Ruatahuna**	**0.84**	**74**	P	Pg	07 40 37.0	+0.1
KRHZ	**Kereru**	**0.86**	**157**	P	Pg	07 40 37.6	+0.4
KRHZ				S	Sg	07 40 48.9	+0.6
KARZ	**Kaharoa**	**0.86**	**16**	P	Pn	07 40 41.8	+2.3
RAHZ	**Arahi**	**0.90**	**95**	P	Pb	07 40 38.9	+0.2
HIZ	**Hauiti**	**0.92**	**291**	P	Pb	07 40 38.1	-0.2
ARHZ	**Aropaoanui**	**0.92**	**117**	P	Pn	07 40 40.1	-0.1
VRZ	**Vera Road**	**0.96**	**253**	P	Pn	07 40 38.9	-0.3
WHHZ	**Waihua**	**1.03**	**103**	P	Pn	07 40 42.0	+0.2
PNHZ	**Pukenui**	**1.08**	**169**	P	Pg	07 40 41.5	+0.1
URZ	**Urewera**	**1.09**	**58**	P	Pg	07 40 41.1	-0.5
SNGZ	**Shannon Statio**	**1.09**	**87**	P	Pn	07 40 42.5	-0.2
OPRZ	**Ohinepanea**	**1.11**	**26**	P	Pg	07 40 41.8	-0.3
TGRZ	**Tauranga**	**1.15**	**13**	P	Pg	07 40 41.9	-0.8
WAZ	**Wanganui**	**1.17**	**219**	P	Pg	07 40 42.8	-0.3
TOZ	**Tahuroa Road**	**1.17**	**343**	P	Pg	07 40 42.1	-1.0
KAHZ	**Kahuranaki**	**1.19**	**143**	P	Pn	07 40 44.9	+0.9
CKHZ	**Cape Kidnapper**	**1.19**	**133**	P	Pn	07 40 45.6	+1.6
RAGZ	**Rawiri**	**1.21**	**73**	P	Pg	07 40 43.8	0.0
TSZ	**Takapari Road**	**1.21**	**179**	P	Pg	07 40 43.6	-0.2
WPHZ	**Waipukurau**	**1.27**	**163**	P	Pn	07 40 45.8	+0.6
KNZ	**Kokohu**	**1.36**	**98**	P	Pg	07 40 47.4	+0.6
PXZ	**Pawanui**	**1.38**	**149**	P	Pg	07 40 48.5	+1.4
DREZ	**Durham Road**	**1.40**	**256**	P	Pb	07 40 47.2	0.0
RIGZ	**Rimuhau**	**1.43**	**85**	P	Pg	07 40 48.3	+0.2
OHWZ	**Ohakea**	**1.44**	**200**	P	Pn	07 40 47.5	+0.1
DVHZ	**Dannevirke**	**1.46**	**173**	P	Pn	07 40 48.5	-0.1
PREZ	**Palmer Road**	**1.47**	**250**	P	Pb	07 40 48.5	0.0
NEZ	**North Egmont**	**1.50**	**253**	P	Pb	07 40 48.8	-0.2
PRHZ	**Porangahau**	**1.51**	**159**	P	Pg	07 40 50.2	+0.5
PRGZ	**Paritu Road**	**1.52**	**93**	P	Pg	07 40 51.1	+1.4
POWZ	**Post Office Ro**	**1.54**	**185**	P	Pb	07 40 49.6	-0.2
TKGZ	**Te Karaka**	**1.55**	**75**	P	Pg	07 40 50.3	-0.1
MHGZ	**Mahia Peninsul**	**1.56**	**102**	P	Pg	07 40 52.4	+1.8
PKE	**Pukeiti**	**1.56**	**257**	P	Pb	07 40 50.0	-0.1
KHEZ	**Kahui Hut**	**1.56**	**253**	P	Pb	07 40 49.9	-0.2
RUGZ	**Raukumara Rang**	**1.62**	**58**	P	Pn	07 40 49.5	-0.6
ANWZ	**Angora Road**	**1.66**	**166**	P	Pb	07 40 51.3	-0.4
NBEZ	**Newall Road No**	**1.67**	**255**	P	Pb	07 40 51.8	-0.1
PRWZ	**Pori Road**	**1.70**	**179**	P	Pb	07 40 52.8	+0.3
NMEZ	**Namu Road**	**1.70**	**250**	P	Pb	07 40 52.3	-0.2
TWGZ	**Tauwhareparae**	**1.73**	**68**	P	Pb	07 40 52.9	-0.2
CNGZ	**Carnagh Statio**	**1.81**	**79**	P	Pg	07 40 57.6	+2.2
HAZ	**Te Kaha**	**1.81**	**54**	P	Pn	07 40 52.9	+0.3
MRZ	**Mangatainoka R**	**1.83**	**189**	P	Pn	07 40 53.4	+0.6
BFZ	**Birch Farm**	**1.84**	**173**	P	Pn	07 40 53.1	+0.1
MKAZ	**Moumakai**	**1.85**	**340**	P	Pn	07 40 53.8	+0.8
TIWZ	**Tintock**	**1.92**	**181**	P	Pn	07 40 54.0	-0.2
PKGZ	**Pakihiroa**	**1.95**	**60**	P	Pn	07 40 55.2	+0.8
PUZ	**Puketiti**	**1.98**	**68**	P	Pb	07 40 57.8	+0.6
OGWZ	**Otaki Gorge**	**2.05**	**197**	P	Pn	07 40 56.7	+0.9
ETAZ	**East Tamaki Re**	**2.06**	**337**	P	Pb	07 40 57.9	-0.6
AWAZ	**Awhitu Peninsu**	**2.06**	**330**	P	Pn	07 40 55.9	-0.1
CPWZ	**Castlepoint**	**2.07**	**175**	P	Pb	07 40 57.9	-0.8
HOWZ	**Holdsworth Sta**	**2.07**	**189**	P	Pn	07 40 56.3	+0.1
KUZ	**Kuaotunu**	**2.11**	**355**	P	Pg	07 41 01.4	+0.3
KIW	**Kapiti Island**	**2.16**	**201**	P	Pn	07 40 58.3	+0.9
WMGZ	**Waiomatatini S**	**2.20**	**63**	P	Pg	07 41 02.0	-0.9
WTAZ	**Waiatarua**	**2.20**	**330**	P	Pb	07 41 01.4	+0.4
MBAZ	**Motutapu North**	**2.24**	**338**	P	Pb	07 41 01.0	-0.6
TMWZ	**Te Maipa**	**2.25**	**181**	P	Pn	07 41 00.2	+1.5
RVAZ	**Riverhead Bore**	**2.34**	**332**	P	Pn	07 41 01.3	+1.5
CAW	**Cannon Point**	**2.35**	**196**	P	Pn	07 41 00.1	+0.1
DUWZ	**D'Urville Isla**	**2.49**	**218**	P	Pb	07 41 04.0	-2.0
TRWZ	**Traveller**	**2.55**	**184**	P	Pn	07 41 02.3	-0.4
PAWZ	**Paruwai Farm**	**2.56**	**189**	P	Pn	07 41 01.9	-1.0
MSWZ	**Moikau Station**	**2.62**	**192**	P	Pn	07 41 03.0	-0.6
TCW	**Tory Channel**	**2.68**	**208**	P	Pn	07 41 06.3	+1.8
TUWZ	**Tuamarina**	**3.00**	**210**	P	Pn	07 41 10.4	+1.5
NNZ	**Nelson**	**3.08**	**219**	P	Pb	07 41 13.6	-2.3
TKNZ	**Takaka Hill**	**3.16**	**226**	P	Pn	07 41 13.1	+1.9
WCZ	**Waipu Caves**	**3.17**	**336**	P	Pb	07 41 17.2	-0.3
BSWZ	**Blackbirch Sta**	**3.27**	**208**	P	Pb	07 41 18.8	-0.4
QRZ	**Quartz Range**	**3.29**	**232**	P	Pn	07 41 15.0	+2.2
MRNZ	**Matariki Terra**	**3.53**	**223**	P	Pn	07 41 17.9	+1.7
THZ	**Tophouse**	**3.72**	**218**	P	Pn	07 41 19.8	+0.9

CATAC 04 07:42:02.4±0.4, 11.7N±2.2×87.5W±, h8km±2km, M2.0/8, MLv2.0/8, Error ellipse: s-maj=4.3km s-min=3.9km az=70.4, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARN	**Rivas**	**0.20**	**210**	P	Pg	07 42 07.4	+0.9
CARN				S	Sg	07 42 11.3	+2.0
OMEN	**Al SSO del Vol**	**0.25**	**305**	P	Pg	07 42 06.3	-1.1
CONN	**Concepcion**	**0.28**	**314**	P	Pb	07 42 09.4	-0.3
CONN				S	Sb	07 42 14.2	-0.5
MORN	**Al O del Volca**	**0.29**	**309**	P	Pb	07 42 09.4	-0.4
MORN				S	Sb	07 42 14.0	-0.9
JAPN	**Al SSO del Vol**	**0.30**	**302**	P	Pb	07 42 09.8	-0.2
ACON	**Acoyapa**	**0.65**	**22**	P	Pg	07 42 14.7	-0.2
ACON	**Acoyapa**	**0.65**	**22**	S	Sg	07 42 23.8	+0.4
BOAB	**BOACO BROADBAN**	**1.10**	**347**	P	Pg	07 42 23.2	-0.4
BOAB	**BOACO BROADBAN**	**1.10**	**347**	S	Sb	07 42 38.5	+0.2
MATN	**Matagalpa**	**1.63**	**342**	S	Sn	07 42 51.1	-1.7
MATN	**Matagalpa**	**1.63**	**342**	P	Pn	07 42 31.0	-0.5

*IDC **04** 07:41:60.0±1.7, 43.82N×86.88E, h0km, mb3.5/1, mbtmp3.4/4, ML2.7/3, Error ellipse: s-maj=51.1km s-min=17.1km az=46.0*
ISC 04 07:42:03.0±1.6, 43.8N±0.2×86.9E±0.2, h20km, n6, σ1.9/90/9, 1C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.43**	**315**	⇑Pn	**Pn**	**07 43 09.6**	**+0.5**
MK31	0.8nm,0.4s,baz=130,slow=15,SNR=20			⇓Pg	**Pb**	**07 43 20.3**	**+0.2**
MK31	3.6nm,0.6s,baz=129,slow=16,SNR=17			⇓Lg	Lg	07 44 21.7	
MKAR	**Makanchi Array**	**4.43**	**315**	Pn	**Pn**	**07 43 09.6**	**+0.5**
MKAR	0.6nm,0.3s,baz=130,slow=15,SNR=17			Pg	**Pb**	**07 43 20.8**	**+0.6**
MKAR	1.6nm,0.3s,baz=128,slow=18,SNR=21			Sn	**Sn**	**07 44 01.8**	**+1.7**
MKAR	0.5nm,0.3s,baz=129,slow=25,SNR=1.8			Lg	Lg	07 44 19.1	
MAKZ	**Makanchi**	**4.61**	**313**	Pn	**Pn**	**07 43 07.9**	**-3.5**
MAKZ	1.5nm,0.5s			Lg	Lg	07 44 27.1	
KURBB	**Kurchatov Arra**	**8.91**	**323**	Pn	**Pn**	**07 44 08.3**	**-2.0**
KURBB	baz=132,slow=13,SNR=4.7			Lg	Lg	07 46 47.4	
ZALV	**Zalesovo Beam**	**10.29**	**353**	Pn	**Pn**	**07 44 28.4**	**-0.8**
WRA	**Warramunga Arr**	**76.87**	**135**	P	**P**	**07 53 54.2**	**+0.6**

*IDC **04** 07:49:00.8±2.0, 3.15N×99.45E, h102km±31km, mb3.4/5, mbtmp3.7/5, Error ellipse: s-maj=78.9km s-min=17.9km az=53.0*
*DJA **04** 07:49:04.0±0.4, 3.1N±2.9×9.

ISC 04 07:59:46.2±0.9, 23°.95N±0'.02×122°.44E±0'.02, h28km±6km, n158, σ1°03/264, mb3.8/9, 4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.21**	**327**	*iP*	**Pb**	**07 59 52.1**	**+0.2**
EOS4				*i* S	**Sb**	**07 59 55.6**	**-0.2**
EOS3	**EOS3**	**0.36**	**341**	*iP*	**Pn**	**07 59 54.7**	**-0.6**
EOS3				*i* S	**Sn**	**08 00 00.2**	**-1.2**
EOS2	**EOS2**	**0.51**	**338**	*iP*	**Pn**	**07 59 57.5**	**0.0**
EOS2				*i* S	**Sn**	**08 00 04.4**	**-0.8**
JYNG	**Yonagunijimaku**	**0.68**	**42**	*eP*	**Pn**	**07 59 59.8**	**-0.1**
JYNG				*eS*	**Sb**	**08 00 08.1**	**-0.5**
YOJ	**Yonaguni jima**	**0.73**	**45**	*iP*	**Pn**	**08 00 00.6**	**-0.1**
YOJ				*i* S	**Sn**	**08 00 09.7**	**-1.1**
YOJ	**Yonaguni jima**	**0.73**	**45**	*eP*	**Pn**	**08 00 00.5**	**-0.1**
YOJ				*eS*	**Sb**	**08 00 09.5**	**-0.5**
EAHA	**Aohua**	**0.75**	**301**	P	**Pn**	**08 00 01.0**	**+0.1**
EAHA				S	**Sn**	**08 00 10.6**	**-0.7**
HWA	**Hwalien**	**0.77**	**272**	P	**Sn**	**08 00 01.4**	**+0.3**
HWA				*eS*	**Sn**	**08 00 11.5**	**-0.2**
TEYL	**Yanliau Villag**	**0.78**	**264**	P	**Pn**	**08 00 01.3**	**0.0**
TEYL				S	**Sn**	**08 00 12.3**	**+0.3**
ETL	**Fush Village**	**0.78**	**286**	*eP*	**Pn**	**08 00 01.6**	**+0.2**
ETL				S	**Sn**	**08 00 12.4**	**+0.2**
EWUT	**Wuta**	**0.78**	**309**	*i* P	**Pn**	**08 00 01.2**	**-0.1**
EWUT				S	**Sn**	**08 00 11.7**	**-0.4**
TWD	**Chiawan**	**0.79**	**280**	*i* P	**Pn**	**08 00 01.2**	**-0.2**
TWD				S	**Sn**	**08 00 11.8**	**-0.4**
ENA	**Nanau**	**0.80**	**307**	*i* P	**Pn**	**08 00 01.6**	**-0.1**
ENA				S	**Sb**	**08 00 11.6**	**-0.5**
NACB	**Ninganchiao**	**0.81**	**286**	P	**Pn**	**08 00 01.5**	**-0.2**
NACB				S	**Sn**	**08 00 12.3**	**-0.4**
SHUL	**Shoufeng**	**0.82**	**259**	P	**Pn**	**08 00 02.1**	**+0.2**
SHUL				S	**Sn**	**08 00 13.9**	**+0.8**
ESAO	**Su ao**	**0.83**	**319**	*i* P	**Pn**	**08 00 01.8**	**-0.2**
ESAO				S	**Sn**	**08 00 12.3**	**-1.0**
TWC	**Suao**	**0.85**	**321**	P	**Pn**	**08 00 02.1**	**-0.2**
TWC				*i* S	**Sb**	**08 00 12.5**	**-1.1**
ETM	**Tongmen**	**0.87**	**271**	*i* P	**Pn**	**08 00 02.4**	**-0.2**
ETM				*i* S	**Sn**	**08 00 14.0**	**-0.3**
ETLH	**Xiulin Townshi**	**0.92**	**287**	*i* P	**Pn**	**08 00 03.4**	**+0.1**
ETLH				S	**Sn**	**08 00 15.8**	**+0.3**
ESL	**Shilin**	**0.93**	**262**	*eP*	**Pb**	**08 00 03.0**	**-0.8**
ESL				*eS*	**Sb**	**08 00 15.2**	**-0.7**
LXIB	**Xiulin Townshi**	**0.94**	**275**	*eP*	**Pn**	**08 00 03.7**	**-0.1**
LXIB				*i* S	**Sn**	**08 00 16.7**	**+0.3**
EGFH	**Guangfu**	**0.97**	**254**	*eP*	**Pn**	**08 00 04.2**	**+0.3**
EGFH				S	**Sb**	**08 00 16.7**	**-0.1**
WARBT	**Fenglin Townsh**	**0.99**	**257**	P	**Pb**	**08 00 03.9**	**-1.0**
WARBT				S	**Sn**	**08 00 17.6**	**+0.1**
EGS		**1.01**	**333**	P	**Pn**	**08 00 05.3**	**+0.9**
LATG	**Datong**	**1.02**	**305**	P	**Pn**	**08 00 05.3**	**+0.6**
LATG				S	**Sn**	**08 00 17.8**	**-0.5**
HGSD	**Ruisui**	**1.04**	**244**	*eP*	**Pb**	**08 00 04.9**	**-0.6**
TWE	**Neicheng**	**1.05**	**318**	P	**Pn**	**08 00 05.9**	**+0.9**
ENTT	**Nioudou**	**1.06**	**311**	*eP*	**Pn**	**08 00 06.1**	**+0.9**
NNSB	**Datong**	**1.08**	**297**	*eP*	**Pn**	**08 00 06.4**	**+0.8**
NNS	**Nan Shan**	**1.09**	**297**	*eP*	**Pn**	**08 00 06.5**	**+0.7**
NNS				*eS*	**Sn**	**08 00 19.8**	**-0.2**
WHF	**Hehuan Shan**	**1.09**	**281**	*eP*	**Pn**	**08 00 06.2**	**+0.1**
WHF				*eS*	**Sb**	**08 00 19.9**	**-1.0**
EHYH	**Wanrong**	**1.10**	**246**	*eP*	**Pb**	**08 00 06.2**	**-0.5**
EHYH				*eS*	**Sn**	**08 00 20.8**	**+0.8**
ECBN	**Changbin**	**1.10**	**236**	*eP*	**Pb**	**08 00 06.2**	**-0.5**
ECBN				*eS*	**Sb**	**08 00 19.8**	**-0.9**
EHY	**Hungye**	**1.12**	**247**	P	**Pn**	**08 00 06.1**	**+0.1**
EHY				*eS*	**Sb**	**08 00 20.4**	**-0.7**
FUSB	**Fushanzhiwuyua**	**1.12**	**316**	P	**Pb**	**08 00 07.3**	**+0.2**
FUSB				S	**Sn**	**08 00 23.0**	**+2.3**
TWB1	**Santiao Chiao**	**1.14**	**339**	*eP*	**Pb**	**08 00 07.0**	**-0.3**
TWB1				*eS*	**Sn**	**08 00 22.4**	**+1.2**
FUSS	**Fushou**	**1.14**	**286**	*iP*	**Pb**	**08 00 07.2**	**-0.2**
FUSS				S	**Sn**	**08 00 22.2**	**+1.0**
OWD	**Renai**	**1.16**	**271**	*i* P	**Pb**	**08 00 06.9**	**-0.8**
OWD				*i* S	**Sb**	**08 00 21.5**	**-0.9**
TIPB	**Shuangxi**	**1.17**	**331**	*i* P	**Pb**	**08 00 07.8**	**+0.1**
TIPB				*eS*	**Sn**	**08 00 21.5**	**-0.1**
YULB	**Yu-li**	**1.19**	**243**	*i* P	**Pb**	**08 00 07.4**	**-0.7**
YULB				S	**Sb**	**08 00 22.5**	**-0.6**
EYUL	**Yuli**	**1.19**	**240**	*eP*	**Pb**	**08 00 08.2**	**0.0**
EYUL				*eS*	**Sn**	**08 00 23.7**	**+1.4**
NWLT	**Wulai**	**1.19**	**314**	P	**Pb**	**08 00 08.1**	**-0.1**
TWT	**Tachien**	**1.20**	**285**	*eP*	**Pb**	**08 00 08.8**	**+0.4**
TWF1	**Yuli**	**1.21**	**241**	*i* P	**Pb**	**08 00 07.8**	**-0.6**
TWF1				S	**Sn**	**08 00 23.4**	**+0.8**
YHNB	**Yeheng**	**1.21**	**307**	*eP*	**Pb**	**08 00 08.4**	**-0.2**
YHNB				*eS*	**Sb**	**08 00 22.3**	**-1.5**
TDCB	**Techi**	**1.21**	**285**	*eP*	**Pb**	**08 00 08.6**	**0.0**
TDCB				*eS*	**Sn**	**08 00 23.6**	**+0.6**
WUSB	**Renai**	**1.21**	**272**	*i* P	**Pb**	**08 00 08.1**	**-0.5**
WUSB				S	**Sn**	**08 00 24.6**	**+1.6**
CHKH	**Chenggong**	**1.22**	**232**	*eP*	**Pn**	**08 00 06.9**	**-0.5**
CHKH				*eS*	**Sb**	**08 00 21.5**	**-2.5**
NSK	**Sanguang**	**1.23**	**306**	*eP*	**Pb**	**08 00 08.5**	**-0.3**
NSK				S	**Sn**	**08 00 24.4**	**+1.1**
IRIF	**Iriomote-Funau**	**1.24**	**72**	*eP*	**Pb**	**08 00 09.1**	**+0.1**
IRIF				*eS*	**Sn**	**08 00 25.2**	**+1.9**
HATJ	**Hateruma jima**	**1.25**	**85**	*eS*	**Sn**	**08 00 25.6**	**+1.9**
SXI1	**Grass Mountain**	**1.25**	**336**	P	**Pb**	**08 00 08.7**	**-0.6**
SXI1				*eS*	**Sn**	**08 00 26.3**	**+2.3**
NWF	**Wu-fen Shan**	**1.27**	**332**	*iP*	**Pb**	**08 00 09.2**	**-0.4**
NWF				*eS*	**Sn**	**08 00 26.7**	**+2.3**
WFSB	**Wu-fen Shan**	**1.27**	**332**	P	**Pb**	**08 00 09.2**	**-0.4**
WFSB				*eS*	**Sb**	**08 00 26.8**	**+1.3**
FULB	**Fuli**	**1.29**	**235**	*eP*	**Pn**	**08 00 08.7**	**+0.3**
TWA	**Mucha**	**1.29**	**323**	*eP*	**Pb**	**08 00 10.2**	**+0.3**
TWA				*eS*	**Sb**	**08 00 27.0**	**+0.8**
CHKT	**Chengkung**	**1.30**	**230**	*eP*	**Pn**	**08 00 08.3**	**-0.2**
CHKT				*eS*	**Sn**	**08 00 23.6**	**-1.3**
NHDH	**Xindian Distri**	**1.31**	**321**	*eP*	**Pb**	**08 00 10.5**	**+0.3**
TNOU	**National Taiwa**	**1.34**	**333**	*eP*	**Pb**	**08 00 09.7**	**-1.1**
SSLB	**Suanglung**	**1.37**	**264**	P	**Pb**	**08 00 10.3**	**-1.0**
SSLB				S	**Sn**	**08 00 27.2**	**+0.4**
EHD	**Haiduan**	**1.39**	**235**	*eP*	**Pn**	**08 00 10.1**	**+0.4**
EHD				*eS*	**Sn**	**08 00 26.7**	**-0.3**
NFF	**Wufeng Townshi**	**1.39**	**300**	*eP*	**Pb**	**08 00 11.4**	**-0.2**
NFF				*eS*	**Sb**	**08 00 29.3**	**+0.3**
WCS	**Beigang Elemen**	**1.41**	**275**	*eP*	**Pb**	**08 00 11.2**	**-0.6**
ECS	**Chishang**	**1.41**	**233**	*eP*	**Pb**	**08 00 11.2**	**-0.6**
ECS				*eS*	**Sb**	**08 00 28.8**	**-0.6**
WHP	**Taichung City**	**1.41**	**284**	*eP*	**Pb**	**08 00 11.3**	**-0.6**
SMLT	**Sun Moon Lake**	**1.41**	**268**	*eP*	**Pb**	**08 00 11.3**	**-0.7**
SMLT				*eS*	**Sb**	**08 00 28.9**	**-0.8**
KSHI	**Guanxi Townshi**	**1.42**	**306**	*eP*	**Pb**	**08 00 12.5**	**+0.5**
EDH	**Donghe**	**1.43**	**227**	*eP*	**Pn**	**08 00 10.5**	**+0.3**
EDH				*eS*	**Sn**	**08 00 26.7**	**-1.3**
YM01	**YM01**	**1.44**	**327**	*eP*	**Pb**	**08 00 11.9**	**-0.4**
TYC	**Yuchr**	**1.45**	**269**	*iP*	**Pb**	**08 00 11.8**	**-0.7**
TYC				*eS*	**Sb**	**08 00 30.2**	**-0.4**
JKRS	**Kuro-shima**	**1.46**	**78**	*eP*	**Pb**	**08 00 14.4**	**+1.6**
JKRS				*eS*	**Sb**	**08 00 32.3**	**+1.4**
YM08	**YM08**	**1.46**	**328**	*eP*	**Pb**	**08 00 12.1**	**-0.7**
ZUZH	**Zhuzihu**	**1.46**	**326**	*eP*	**Pb**	**08 00 11.9**	**-0.9**
LIOB	**Emei**	**1.48**	**298**	*eP*	**Pb**	**08 00 13.4**	**+0.4**
WHYT	**Xinyi Township**	**1.48**	**261**	*iP*	**Pb**	**08 00 12.5**	**-0.6**
WHYT				*i* S	**Sb**	**08 00 30.7**	**-0.7**
TWS1	**Kuangyinshan**	**1.48**	**321**	*eP*	**Pb**	**08 00 12.9**	**-0.1**
NSTT	**Nanjuang**	**1.48**	**298**	*eP*	**Pb**	**08 00 13.4**	**+0.3**
ANP	**Anpu**	**1.49**	**326**	*eP*	**Pb**	**08 00 13.2**	**-0.2**
ELDTW	**Lidau**	**1.51**	**240**	*eP*	**Pb**	**08 00 11.9**	**+0.4**
ELDTW				*eS*	**Sn**	**08 00 29.7**	**-0.6**
NTST	**Danshui**	**1.51**	**323**	*eP*	**Pb**	**08 00 13.4**	**-0.2**
TWY	**Chenhua**	**1.53**	**330**	*eP*	**Pb**	**08 00 13.9**	**0.0**
LDUT	**Ludao**	**1.55**	**215**	*eP*	**Pn**	**08 00 11.8**	**-0.1**
ALS	**Alishan**	**1.56**	**254**	*eP*	**Pb**	**08 00 13.9**	**-0.8**
ALS				S	**Sb**	**08 00 33.4**	**-0.7**
SBCB	**Hsinchu**	**1.57**	**303**	*eP*	**Pb**	**08 00 13.0**	**-1.6**
WJS	**Zhushan**	**1.57**	**266**	*eP*	**Pb**	**08 00 14.9**	**+0.2**
WJS				S	**Sb**	**08 00 35.0**	**+0.8**
TWQ1	**Liyutan**	**1.58**	**285**	*eP*	**Pb**	**08 00 14.8**	**+0.1**
LONT	**Longtian**	**1.59**	**230**	*eP*	**Pn**	**08 00 12.9**	**+0.5**
LONT				*eS*	**Sn**	**08 00 32.9**	**+0.8**
JIJ	**Ishigaki jima**	**1.61**	**75**	*eP*	**Pb**	**08 00 14.0**	**-1.2**
JIJ				*eS*	**Sb**	**08 00 35.3**	**+0.2**
WNT	**Mingjian**	**1.61**	**268**	*eP*	**Pb**	**08 00 15.1**	**-0.2**
WNT				*eS*	**Sb**	**08 00 35.8**	**+0.5**
NMLH	**Miaoli**	**1.62**	**292**	*eP*	**Pb**	**08 00 15.5**	**+0.1**
TCU	**Taichung**	**1.63**	**277**	*eP*	**Pb**	**08 00 15.7**	**+0.1**
TCU				*eS*	**Sb**	**08 00 36.7**	**+1.0**
CHN5	**Tsauling**	**1.65**	**258**	P	**Pb**	**08 00 15.7**	**-0.4**
CHN5				*eS*	**Sb**	**08 00 36.7**	**+0.1**
TWGBT	**Beinan**	**1.68**	**228**	*eP*	**Pn**	**08 00 14.4**	**+0.7**
TWG	**Pinlang**	**1.69**	**229**	*eP*	**Pn**	**08 00 14.6**	**+0.7**
TWG				*eS*	**Sn**	**08 00 34.3**	**-0.2**
WDJ	**Dajia District**	**1.69**	**284**	*eP*	**Pb**	**08 00 16.5**	**-0.2**
PCYT	**Pengchaiyu**	**1.71**	**349**	*eP*	**Pb**	**08 00 15.6**	**-1.4**
STYH	**Taoyuan**	**1.71**	**244**	P	**Pb**	**08 00 15.8**	**-1.2**
STYH				*eS*	**Sn**	**08 00 36.2**	**+1.1**
WCHH	**Zhanghua**	**1.73**	**275**	*eP*	**Pb**	**08 00 17.1**	**-0.1**
WCHH				*i* S	**Sb**	**08 00 39.5**	**+0.9**
WCH1	**Changhua City**	**1.74**	**274**	P	**Pb**	**08 00 17.2**	**-0.3**
WCH1				S	**Sb**	**08 00 40.1**	**+1.2**
WGK	**Gukeng**	**1.74**	**262**	*eP*	**Pb**	**08 00 17.3**	**-0.2**
WGK				*eS*	**Sb**	**08 00 39.5**	**+0.5**
WCKO	**Fanlu**	**1.76**	**254**	P	**Pb**	**08 00 17.3**	**-0.5**
WCKO				*eS*	**Sb**	**08 00 39.2**	**-0.3**
WDL	**Douliou City**	**1.76**	**263**	*eP*	**Pb**	**08 00 17.5**	**-0.3**
WDLH	**Douliu**	**1.76**	**262**	*eP*	**Pb**	**08 00 17.5**	**-0.4**
WDLH				*i* S	**Sb**	**08 00 39.6**	**0.0**
TPUB	**Ta-pu**	**1.78**	**249**	*eP*	**Pb**	**08 00 17.5**	**-0.7**
TPUB				*eS*	**Sb**	**08 00 39.6**	**-0.6**
WTP	**Ta-pu**	**1.82**	**248**	*eP*	**Pb**	**08 00 18.0**	**-0.8**
WTP				*eS*	**Sb**	**08 00 40.6**	**-0.6**
JISG	**Ishigakijimahi**	**1.82**	**69**	*eP*	**Pb**	**08 00 16.8**	**-2.0**
JISG				*eS*	**Sb**	**08 00 39.6**	**-1.6**
CHN2	**Minshiung**	**1.85**	**257**	*eP*	**Pb**	**08 00 17.6**	**-1.8**
CHN2				*eS*	**Sb**	**08 00 43.3**	**+1.2**
WTK	**Tuku**	**1.90**	**263**	P	**Pb**	**08 00 19.4**	**-0.7**
WTK				*eS*	**Sb**	**08 00 43.5**	**0.0**
CHY	**Chiayi**	**1.90**	**257**	P	**Pb**	**08 00 19.3**	**-1.0**
CHY				S	**Sb**	**08 00 41.0**	**-0.5**
TWK	**Hsinying**	**1.92**	**250**	P	**Pb**	**08 00 19.6**	**-0.9**
TWK				S	**Sb**	**08 00 43.7**	**-0.4**
ECL	**Taimali**	**1.92**	**226**	*eP*	**Pn**	**08 00 17.7**	**+0.7**
ECL				S	**Sn**	**08 00 39.7**	**-0.5**
SNST	**Tainan City**	**1.93**	**268**	*eP*	**Pb**	**08 00 20.3**	**-0.4**
SNST				*i* S	**Sb**	**08 00 44.1**	**-0.2**
WTCT	**Ta-ch'eng**	**1.98**	**268**	*eP*	**Pb**	**08 00 20.2**	**-1.4**
WTCT				S	**Sb**	**08 00 45.8**	**-0.1**
SSD	**Sandimen**	**2.05**	**235**	*eP*	**Pb**	**08 00 21.7**	**-1.1**
SSD				S	**Sn**	**08 00 45.3**	**+1.8**
WSF	**Szhu**	**2.06**	**262**	*eP*	**Pb**	**08 00 20.6**	**-2.3**
WSF				*eS*	**Sb**	**08 00 48.0**	**-0.1**
LAY	**Lan-yu**	**2.07**	**204**	*eP*	**Pn**	**08 00 18.7**	**-0.4**
WSL	**Shuilin Townsh**	**2.07**	**259**	*iP*	**Pb**	**08 00 21.7**	**-1.5**
WSL				*eS*	**Sb**	**08 00 46.9**	**-1.7**
SCST	**Cishan**	**2.08**	**240**	*eP*	**Pb**	**08 00 23.2**	**-0.1**
SCST				*i* S	**Sb**	**08 00 50.2**	**+1.5**
LYUB	**Lan-yu**	**2.09**	**202**	*eP*	**Pn**	**08 00 18.7**	**-0.7**
CHN3	**Shinhua**	**2.10**	**246**	*eP*	**Pb**	**08 00 22.2**	**-1.3**
CHN3				*eS*	**Sb**	**08 00 50.7**	**+1.6**
TAW	**Tawu**	**2.13**	**222**	*eP*	**Pn**	**08 00 20.2**	**+0.3**
TAW				*eS*	**Sn**	**08 00 45.4**	**+0.1**
MASBT	**Mashibuluo**	**2.13**	**232**	*eP*	**Pn**	**08 00 21.4**	**+1.5**
MASBT				*eS*	**Sb**	**08 00 49.8**	**-0.4**
CHN8	**Yiju**	**2.13**	**254**	*eP*	**Pb**	**08 00 22.5**	**-1.6**
CHN8				S	**Sb**	**08 00 49.1**	**-1.1**
SHHT	**Tainan City**	**2.13**	**245**	*eP*	**Pb**	**08 00 23.6**	**-0.6**
SHHT				*eS*	**Sb**	**08 00 52.0**	**+1.8**
TAWH	**Dawu Township**	**2.15**	**222**	*eP*	**Pn**	**08 00 20.6**	**+0.5**
TWM1	**Shoushan**	**2.17**	**239**	*eP*	**Pb**	**08 00 24.6**	**-0.2**
TWM1				*eS*	**Sb**	**08 00 53.8**	**+2.5**
SCLT	**Jiali**	**2.20**	**250**	*eP*	**Pn**	**08 00 22.7**	**+1.8**
SCLT				*eS*	**Sb**	**08 00 51.5**	**-0.7**
SCZT	**Fangliau**	**2.30**	**227**	*eP*	**Pb**	**08 00 25.0**	**-2.0**
SCZT				*eS*	**Sn**	**08 01 51.9**	**+2.4**
TSCK	**Chigu Township**	**2.31**	**250**	*eP*	**Pb**	**08 00 25.0**	**-2.1**
TSCK				*eS*	**Sb**	**08 00 52.8**	**-2.3**
TSEB	**Hengchuen, Pin**	**2.48**	**215**	*eP*	**Pb**	**08 00 28.2**	**-2.0**
TSEB				*eS*	**Sn**	**08 00 56.9**	**+2.7**
HEN	**Hengchun**	**2.49**	**219**	*eP*	**Pb**	**08 00 28.6**	**-1.7**
HEN				*eS*	**Sn**	**08 00 57.3**	**+3.0**
TWKBT	**Hengchun**	**2.50**	**217**	*eP*	**Pn**	**08 00 27.1**	**+2.2**
TWKBT				*eS*	**Sn**	**08 00 55.7**	**+1.2**
TWK1	**Hengchun**	**2.50**	**217**	*eP*	**Pn**	**08 00 26.7**	**+1.7**
TWK1				*eS*	**Sn**	**08 00 55.8**	**+1.2**
WDGT	**Dungji**	**2.64**	**256**	*eP*	**Pn**	**08 00 28.9**	**+2.0**
WDGT				*eS*	**Sn**	**08 00 59.8**	**+1.8**
PHUB	**P'eng-hu**	**2.67**	**261**	*eP*	**Pn**	**08 00 29.4**	**+2.2**
PHUB				S	**Sn**	**08 01 00.1**	**+1.5**
PNG	**Penghu**	**2.67**	**262**	*iP*	**Pn**	**08 00 29.2**	**+1.8**
PNG				*eS*	**Sn**	**08 01 00.2**	**+1.4**
VCHM	**Qimei**	**2.86**	**256**	*eP*	**Pn**	**08 00 31.9**	**+1.9**
VCHM				*eS*	**Sn**	**08 01 04.6**	**+1.2**
VWUC	**VWUC**	**2.92**	**291**	*eP*	**Pn**	**08 00 31.2**	**+0.5**
MATB	**Ma-tsu**	**3.15**	**315**	*eP*	**Pn**	**08 00 34.2**	**+0.2**
PTMZ	**Houxiangcun**	**3.22**	**290**	*eP*	**Pn**	**08 00 35.8**	**+0.9**
XPSS	**Dashiqiu**	**3.60**	**326**	*eP*	**Pn**	**08 00 41.0**	**+0.9**
KNM	**Kinmen**	**3.69**	**278**	*eP*	**Pn**	**08 00 44.1**	**+2.7**
KNM				*eS*	**Sn**	**08 01 26.1**	**+2.2**
KNMB	**Chin-men Tao**	**3.74**	**279**	*iP*	**Pn**	**08 00 43.1**	**+1.1**
KNMB				S	**Sn**	**08 01 24.7**	**-0.4**
MHZQ	**Yeshan**	**3.77**	**305**	*eP*	**Pn**	**08 00 42.7**	**+0.3**
AXDP	**Jialang**	**4.19**	**284**	*eP*	**Pn**	**08 00 49.0**	**+0.8**
ZPLA	**Ao Xicun**	**4.29**	**271**	*eP*	**Pn**	**08 00 50.5**	**+0.9**
ZPLA				*eS*	**Sn**	**08 01 38.7**	**-0.1**
DSXP	**Dongshan**	**4.60**	**268**	*eP*	**Pn**	**08 00 54.9**	**+1.0**
SXFK	**Yanhouchang**	**4.99**	**300**	*eP*	**Pn**	**08 00 59.8**	**+0.6**

KSRS Korea Array 14.26 18 P **P** 08 03 13.4 +0.3
2.3nm,0.6s,baz=195,slow=11,SNR=8.4

SONM Songino Array 27.04 336 P **P** 08 05 26.5 +0.4
0.9nm,0.7s,baz=160,slow=9.3,SNR=4.8
0.9nm,0.7s

MKAR Makanchi Array 39.31 316 P **P** 08 07 13.4 +0.7
1.0nm,0.5s,baz=104,slow=9.5,SNR=7.7
1.0nm,0.5s

ZALV Zalesovo Beam 41.07 327 P **P** 08 07 27.0 -0.2
2.0nm,0.5s,baz=106,slow=8.5,SNR=5.8
2.0nm,0.5s

KURBB Kurchatov Arra 43.03 320 P **P** 08 07 43.0 -0.3
0.4nm,0.4s,baz=113,slow=9.3,SNR=4.1
0.4nm,0.4s

WRA Warramunga Arr 45.14 164 P **P** 08 08 01.5 +1.1
0.6nm,0.8s,baz=344,slow=8.5,SNR=3.8
0.6nm,0.8s

BVAR Bovoye Array 48.59 321 P **P** 08 08 26.1 -0.9
0.9nm,0.4s,baz=112,slow=7.4,SNR=4.5
0.9nm,0.4s

ASAR Alice Springs 48.62 166 P **P** 08 08 30.1 +2.4
0.3nm,0.6s,baz=344,slow=7.3,SNR=5.4
0.3nm,0.6s

FINES FINESS Array B 72.23 330 P **P** 08 11 06.1 -2.3
1.3nm,0.8s,baz=68,slow=7.0,SNR=1.5
1.3nm,0.8s

BRTR Keskin Array B 74.24 307 P **P** 08 11 19.9 -1.1
0.8nm,0.7s,baz=18,slow=5.0,SNR=4.2
0.8nm,0.7s

*GCG **04** 08:02:05.9±3.5, 16°.22N×91°.18W, h0km±13km, MD4.1, ML2.9*

*MEX **04** 08:02:09.8±0.5, 16°.30N×91°.11W, h21km±83km, MD3.8*

ISC 04 08:02:04.0±1.2, 16°.31N±0°.03×91°.15W±0°.03, h9km±11km, n19, σ1°66/35, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.95**	**268**	*eP*	**Pn**	**08 02 25.5**	**+1.8**
CCIG				*eS*	**Sn**	**08 02 37.3**	**-0.1**
CCIG	**Comitan**	**0.95**	**268**	*eP*	**Pn**	**08 02 25.6**	**+1.9**
CCIG				*i* S	**Sn**	**08 02 40.1**	**+2.7**
CCIG				IAML		08 02 44.4	
	comp=N,64nm,0.5s						
QUIS	**Sacapulas**	**1.02**	**177**	*eP*	**Pg**	**08 02 23.4**	**-0.2**
QUIS				*i* S	**Sg**	**08 02 36.4**	**-0.5**
QUIS				IAML		08 02 42.2	
	comp=E,553nm,0.2s						
HUEH	**Huehuetenango**	**1.05**	**199**	*eP*	**Pb**	**08 02 24.6**	**+0.2**
HUEH				*eS*	**Sb**	**08 02 38.2**	**-0.2**
HUEH	**Huehuetenango**	**1.05**	**199**	*eP*	**Pb**	**08 02 24.6**	**+0.2**
HUEH				*i* S	**Sn**	**08 02 40.2**	**+0.3**
HUEH				IAML		08 02 45.9	
	comp=E,436nm,0.5s						
PETF	**Flores**	**1.37**	**64**	*eP*	**Pg**	**08 02 30.2**	**-0.2**
PETF				*eS*	**Sb**	**08 02 46.7**	**-0.8**
PETF	**Flores**	**1.37**	**64**	*eP*	**Pg**	**08 02 30.2**	**-0.2**
PETF				*eS*	**Sn**	**08 02 47.6**	**0.0**
PETF				IAML		08 02 50.4	
	comp=E,307nm,0.2s						
QUEO	**Labor Ovalle**	**1.48**	**194**	*iP*	**Pg**	**08 02 32.9**	**+0.4**
QUEO				IAML		08 02 56.2	
	comp=N,467nm,0.2s						
PAVE	**Pavencul**	**1.49**	**222**	*eP*	**Pg**	**08 02 33.0**	**+0.4**
PAVE				*eS*	**Sb**	**08 02 51.5**	**+0.4**
CHUJ	**Union Juarez**	**1.52**	**217**	*eP*	**Pg**	**08 02 33.3**	**0.0**
CHUJ				*eS*	**Sb**	**08 02 52.1**	**0.0**
PATR	**El Naranjo**	**1.58**	**221**	*eP*	**Pb**	**08 02 33.7**	**+0.1**
PATR				*eS*	**Sb**	**08 02 54.0**	**+0.2**
RTAL	**Retalhuleu**	**1.85**	**196**	*eP*	**Pb**	**08 02 37.8**	**-0.4**
RTAL				*i* S	**Sn**	**08 02 58.3**	**-1.3**
TGIG		**1.94**	**284**	*eP*	**Pb**	**08 02 39.6**	**-0.1**
TGIG				*eS*	**Sn**	**08 03 01.2**	**-0.7**
TGIG		**1.94**	**284**	*i* S	**Sg**	**08 03 06.8**	**+0.2**
PCIG		**2.08**	**253**	*eP*	**Pb**	**08 02 41.3**	**-0.6**
PCIG				*eS*	**Sn**	**08 02 59.7**	**-5.4**
MTO3	**Montecristo**	**2.57**	**138**	*eP*	**Pb**	**08 02 51.4**	**+0.9**
SARH	**Santa Rosa de**	**2.77**	**123**	*eP*	**Pn**	**08 02 50.7**	**+2.1**
SARH				*i* S	**Sg**	**08 03 30.0**	**-3.0**
UXUV	**UXUV**	**3.04**	**290**	*eP*	**Pb**	**08 02 59.7**	**+1.4**
UXUV				*eS*	**Sb**	**08 03 34.7**	**-0.8**
CMIG	**Matias Romero**	**3.66**	**283**	*eP*	**Pb**	**08 03 08.8**	**-0.1**
CMIG				*eS*	**Sn**	**08 03 39.6**	**-4.6**

*NOU **04** 08:05:28.8, 38°.52S×176°.20E, h0km, mb4.4/8, North Island, New Zealand*

*WEL **04** 08:05:32.0±0.2, 39°.5±2°.×17°.6E±°, h5km, M3.5/84, ML3.8/26, MLv3.5/84, Error ellipse: s-maj=3.0km s-min=2.1km az=134.0, confirmed*

*WEL **04** 08:05:32.0, 38°.85S×175°.92E, h8km, ML3.6, Mw3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr=2.74; Mθθ2.10; Mφφ0.65; Mrθ1.69; Mrφ6.84; Mθφ0.10; Fault plane solution: M=4.02000×10^14 NP1: φ=255.00000°, δ61.00000°, λ-60.00000°. NP2:φ=26.00000°, δ41.00000°, λ-131.00000°. Principal axes: T 4.5710, Plg11.0000°, Azm324.0000°; N -1.0990, Plg26.0000°, Azm59.0000°; P -3.4720, Plg62.0000°, Azm214.0000°; Stations used: WHVZ BKZ HIZ NORMAL FAULTING*

ISC 04 08:05:31.5±0.9, 38°.77S±0'.02×175°.96E±0'.02, h9km±7km, n135, σ1°25/141, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.18**	**237**	P	**Pg**	**08 05 35.2**	**0.0**
RATZ				S	**Sg**	**08 05 37.1**	**-0.7**
WATZ	**Wairara**	**0.19**	**290**	P	**Pb**	**08 05 36.5**	**+1.1**
WATZ				S	**Sg**	**08 05 39.9**	**+1.8**
RITZ	**Rihia Road**	**0.22**	**201**	P	**Pg**	**08 05 35.7**	**-0.3**
RITZ				S	**Sg**	**08 05 38.0**	**-1.0**
KATZ	**Kakaramea**	**0.29**	**226**	P	**Pg**	**08 05 36.9**	**-0.5**
KATZ

KIW	Kapiti Island	2.24 201	P		Pn	08 06 09.6	+0.9
RVAZ	Riverhead Bore	2.28 331	P		Pn	08 06 09.7	+0.4
TMWZ	Te Maipa	2.33 181	P		Pn	08 06 09.9	-0.2
MTW	Mount Morrison	2.41 188	P		Pn	08 06 12.8	+1.6
CAW	Cannon Point	2.43 196	P		Pn	08 06 11.4	0.0
DUWZ	D'Urville Isla	2.56 217	P		Pn	08 06 15.6	+2.4
TRWZ	Traveller	2.63 184	P		Pn	08 06 13.9	-0.2
PAWZ	Paruwai Farm	2.64 189	P		Pn	08 06 13.5	-0.8
WEL	Wellington	2.67 200	P		Pn	08 06 17.7	+3.0
MSWZ	Moikau Station	2.70 191	P		Pn	08 06 14.8	-0.3
SNZO	South Karori	2.71 200	P		Pn	08 06 17.2	+2.0
TCW	Tory Channel	2.76 207	P		Pn	08 06 17.2	+1.3
BHW	Baring Head	2.76 197	P		Pn	08 06 17.6	+1.6
PLWZ	Palliser	2.85 191	P		Pn	08 06 16.2	-0.9
TUWZ	Tuamarina	3.07 210	P		Pn	08 06 21.6	+1.4
WCZ	Waipu Caves	3.11 335	P		Pg	08 06 29.6	-1.4
NNZ	Nelson	3.15 218	P		Pn	08 06 23.7	+2.5
TKNZ	Takaka Hill	3.23 225	P		Pn	08 06 25.7	+3.3
BSWZ	Blackbirch Sta	3.34 208	P		Pb	08 06 29.9	-1.1
QRZ	Quartz Range	3.35 231	P		Pn	08 06 26.6	+2.6
QRZ	Quartz Range	3.35 231	P		Pn	08 06 26.3	+2.3
MRNZ	Matariki Terra	3.59 222	P		Pn	08 06 29.1	+1.7
THZ	Tophouse	3.79 217	P		Pn	08 06 31.1	+0.9
KHZ	Kahutara	4.08 206	P		Pn	08 06 37.6	+3.6
KHZ	Kahutara	4.08 206	P		Pn	08 06 40.0	+5.9
DSZ	Denniston Nort	4.35 226	P		Pn	08 06 39.4	+1.6
GVZ	Greta Valley S	4.74 207	P		Pn	08 06 42.6	-0.6
LTZ	Lake Taylor	4.89 214	P		Pn	08 06 46.3	+1.1
JCZ	Jackson Bay	7.56 223	P		Pn	08 07 24.9	+3.0

*NOU **04** 08:28:01.7, 38°.77S×176°.05E, h0km, MLv3.5/7, North Island, New Zealand*
*WEL **04** 08:28:01.2±0.3, 39°.2S×17°.6E±°, h5km, M3.0/52, ML3.1/23, MLv3.0/52, Error ellipse: s-maj=3.2km s-min=2.1km az=141.8, confirmed*
ISC 04 08:28:01.5±0.9, 38°.83S±0°.02×175°.97E±0°.02, h8km±8km, n102, σ0s98/113, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	Rangitukua	0.16	258	P	Pg	08 28 05.0	+0.1
RATZ				S	Sg	08 28 07.8	+0.6
RITZ	Rihia Road	0.17	212	P	Pg	08 28 04.9	-0.2
RITZ				S	Sg	08 28 08.1	+0.5
WATZ	Wairara	0.23	303	P	Pg	08 28 06.4	+0.4
KATZ	Kakaramea	0.26	237	P	Pg	08 28 06.5	-0.2
KATZ				S	Sg	08 28 09.9	-0.4
WPRZ	Whakapapatarin	0.34	25	P	Pg	08 28 08.6	+0.3
MRHZ	Matea Rd	0.35	90	P	Pg	08 28 08.0	-0.3
MRHZ				S	Sg	08 28 13.0	0.0
TMVZ	Te Maari	0.35	216	P	Pg	08 28 08.0	-0.5
TMVZ				S	Sg	08 28 13.1	-0.1
KUTZ	Kaahu Road	0.36	341	P	Pb	08 28 09.5	-0.7
ETVZ	East Tongariro	0.37	214	P	Pg	08 28 08.2	-0.5
KRVZ	Karewarewa	0.37	225	P	Pg	08 28 08.3	-0.5
KRVZ				S	Sg	08 28 13.7	0.0
ALRZ	Allen Road	0.40	47	P	Pg	08 28 09.0	-0.2
NNVZ	North Ngauruho	0.41	223	P	Pg	08 28 09.1	-0.4
OTVZ	Oturere	0.41	216	P	Pg	08 28 09.1	-0.5
OTVZ				S	Sg	08 28 14.9	0.0
WTVZ	West Tongariro	0.41	226	P	Pg	08 28 09.1	-0.5
WTVZ				S	Sg	08 28 15.2	+0.1
SNVZ	South Ngauruho	0.44	216	P	Pg	08 28 09.6	-0.5
NGZ	Ngauruhoe	0.45	220	P	Pg	08 28 09.8	-0.5
NGZ				S	Sg	08 28 16.7	+0.5
PRRZ	Plateau Road	0.47	45	P	Pb	08 28 10.5	-0.1
GRRZ	Galatos Road	0.49	13	P	Pb	08 28 12.8	+0.3
COVZ	Chateau Observ	0.50	222	P	Pg	08 28 10.6	-0.6
TUVZ	Tukino	0.50	210	P	Pg	08 28 10.7	-0.6
HRRZ	Handcock Road	0.50	29	P	Pb	08 28 12.0	-0.7
BKZ	Black Stump Fm	0.52	130	P	Pg	08 28 11.6	0.0
BKZ				S	Sg	08 28 19.2	+0.6
MAVZ	Matarangi	0.54	216	P	Pg	08 28 11.4	-0.7
WHVZ	Whangaehu Hut	0.54	214	P	Pg	08 28 11.3	-0.7
HSRZ	Hossack Road	0.56	22	P	Pb	08 28 13.0	-0.7
TRVZ	Turoa	0.57	215	P	Pg	08 28 11.8	-0.8
WNVZ	Wahianoa	0.57	210	P	Pg	08 28 11.9	-0.8
MOVZ	Moawhango	0.60	197	P	Pg	08 28 12.1	-1.0
MOVZ				S	Sg	08 28 19.1	-1.9
TLZ	Tolley Road	0.61	326	P	Pg	08 28 13.3	+0.1
RRRZ	Republican Roa	0.65	41	P	Pb	08 28 14.9	-0.2
HLRZ	Highlands Stat	0.65	27	P	Pn	08 28 17.1	0.0
PKVZ	Pokaka	0.67	227	P	Pg	08 28 14.3	-0.1
MTKZ	Mangateitei	0.68	215	P	Pg	08 28 13.6	-1.0
MTHZ	Maungataniwha	0.68	92	P	Pg	08 28 14.5	-0.1
KWHZ	Kaweka Forest	0.69	150	P	Pg	08 28 14.8	0.0
NMHZ	Naumai	0.70	112	P	Pb	08 28 15.7	-0.3
MUGZ	Murupara	0.72	61	P	Pg	08 28 14.9	-0.4
OMRZ	Omania	0.79	23	P	Pn	08 28 17.9	-1.0
MCHZ	McNeill Hill	0.83	138	P	Pn	08 28 18.7	-0.8
KRHZ	Kereru	0.87	159	P	Pg	08 28 18.0	-0.1
RAHZ	Arahi	0.87	96	P	Pb	08 28 18.8	-0.1
ARHZ	Aropaoanui	0.91	119	P	Pn	08 28 20.3	-0.3
HIZ	Hauiti	0.93	290	P	Pg	08 28 19.1	-0.3
HIZ	Hauiti	0.93	290	S	Sn	08 28 33.3	-1.2
HIZ	Hauiti	0.93	290	P	Pg	08 28 19.1	-0.3
VRZ	Vera Road	0.99	252	P	Pg	08 28 20.2	-0.3
WHHZ	Waihua	1.01	104	P	Pb	08 28 21.2	-0.1
URZ	Urewera	1.06	58	P	Pg	08 28 20.7	-1.1
URZ	Urewera	1.06	58	P	Pg	08 28 21.2	-0.6
SNGZ	Shannon Statio	1.07	88	P	Pn	08 28 22.4	-0.4
PNHZ	Pukenui	1.09	171	P	Pg	08 28 21.8	-0.6
TGRZ	Tauranga	1.12	12	P	Pb	08 28 22.8	-0.4
TOZ	Tahuroa Road	1.16	341	P	Pb	08 28 23.5	-0.3
RAGZ	Rawiri	1.18	74	P	Pb	08 28 23.8	-0.4
KAHZ	Kahuranaki	1.19	144	P	Pg	08 28 25.5	+1.1
CKHZ	Cape Kidnapper	1.19	134	P	Pg	08 28 26.1	+1.8
WAZ	Wanganui	1.20	219	P	Pn	08 28 23.5	-1.1
TSZ	Takapari Road	1.23	180	P	Pn	08 28 24.2	-0.8
WPHZ	Waipukurau	1.28	164	P	Pg	08 28 26.3	+0.2
KNZ	Kokohu	1.34	99	P	Pg	08 28 28.2	+1.0
PXZ	Pawanui	1.38	150	P	Pg	08 28 28.7	+0.7
RIGZ	Rimuhau	1.40	85	P	Pg	08 28 28.8	+0.4
OHWZ	Ohakea	1.46	200	P	Pn	08 28 28.2	0.0
DVHZ	Dannevirke	1.47	174	P	Pb	08 28 29.1	-0.1
PRGZ	Paritu Road	1.49	94	P	Pg	08 28 31.6	+1.4
PREZ	Palmer Road	1.50	250	P	Pb	08 28 29.9	+0.2
TKGZ	Te Karaka	1.52	76	P	Pg	08 28 30.1	-0.6
PRHZ	Porangahau	1.52	161	P	Pg	08 28 29.5	+0.4
NEZ	North Egmont	1.53	253	P	Pb	08 28 30.3	+0.2
POWZ	Post Office Ro	1.57	186	P	Pb	08 28 30.3	-0.5
KHEZ	Kahui Hut	1.59	253	P	Pg	08 28 32.2	+0.1
RUGZ	Raukumara Rang	1.59	58	P	Pn	08 28 29.8	-0.4
ANWZ	Angora Road	1.67	167	P	Pb	08 28 31.7	-0.9
NBEZ	Newall Road No	1.70	254	P	Pb	08 28 32.6	-0.4
TWGZ	Tauwhareparae	1.71	68	P	Pg	08 28 33.7	-0.5
PRWZ	Pori Road	1.72	180	P	Pb	08 28 33.3	-0.1
HAZ	Te Kaha	1.78	54	P	Pn	08 28 33.1	+0.5
MKAZ	Moumakai	1.84	339	P	Pb	08 28 35.9	+0.5
MRZ	Mangatainoka R	1.85	189	P	Pn	08 28 34.1	+0.5
BFZ	Birch Farm	1.86	174	P	Pn	08 28 33.8	+0.1
BFZ	Birch Farm	1.86	174	P	Pn	08 28 33.9	+0.2
PKGZ	Pakihiroa	1.92	60	P	Pb	08 28 35.8	-0.9
TIWZ	Tintock	1.94	182	P	Pn	08 28 35.5	+0.6
AWAZ	Awhitu Peninsu	2.06	329	P	Pg	08 28 42.2	+1.3
OGWZ	Otaki Gorge	2.08	197	P	Pn	08 28 37.3	+0.6
CPWZ	Castlepoint	2.08	175	P	Pg	08 28 43.6	+2.4
HOWZ	Holdsworth Sta	2.09	190	P	Pn	08 28 37.0	0.0
KIW	Kapiti Island	2.19	202	P	Pn	08 28 39.1	+0.9
TMWZ	Te Maipa	2.27	182	P	Pb	08 28 43.4	+0.6
CAW	Cannon Point	2.38	197	P	Pn	08 28 40.7	-0.1
DUWZ	D'Urville Isla	2.52	218	P	Pb	08 28 45.6	-1.5
TRWZ	Traveller	2.57	185	P	Pn	08 28 45.6	+2.1
PAWZ	Paruwai Farm	2.58	189	P	Pn	08 28 45.1	+1.5
MSWZ	Moikau Station	2.64	192	P	Pb	08 28 49.9	+0.9
SNZO	South Karori	2.66	201	P	Pb	08 28 47.6	-1.8
TCW	Tory Channel	2.71	208	P	Pn	08 28 47.2	+1.8
TUWZ	Tuamarina	3.03	210	P	Pb	08 28 52.9	-2.8
TKNZ	Takaka Hill	3.19	226	P	Pb	08 28 55.3	-3.2
BSWZ	Blackbirch Sta	3.30	208	P	Pb	08 28 59.7	-0.5
QRZ	Quartz Range	3.32	232	P	Pn	08 28 56.6	+2.9
QRZ	Quartz Range	3.32	232	P	Pn	08 28 56.3	+2.6
MRNZ	Matariki Terra	3.56	223	P	Pn	08 29 00.5	+3.5

*IDC **04** 08:36:24.5±7.7, 7°.81S×111°.79E, h92km±72km, mb3.7/9, mbtmp4.1/10, ML4.2/1, Error ellipse: s-maj=79.7km s-min=17.2km az=54.0*

*NEIC **04** 08:36:30.8±2.0, 8°.0S±0°.1×111°.95E±0°.04, h142km±9km, mb4.1/12, Error ellipse: s-maj=16.8km s-min=4.2km az=191.0*
*DJA **04** 08:36:30.9±0.3, 8°.5S±6°.1×111°.2E±°, h136km±4km, M4.2/24, mB5.3/4, mb4.7/7, MLv3.9/24, Mw(mB)4.7/4*
ISC 04 08:36:30.4±0.7, 8°.05S±0°.07×112°.00E±0°.04, h146km±7km, n63, σ1s73/69, mb4.0/14, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	Pacitan	0.83	260	P	Pn	08 36 53.9	+0.6
PCJI				S	Sn	08 37 10.6	-0.1
NGJI	Ngawi	0.86	322	P	Pn	08 36 54.8	+1.2
WOJI	Wonogiri, Jawa	1.09	281	P	Pn	08 36 55.6	+0.1
WOJI				S	Sn	08 37 14.3	-0.3
GRJI	Gresik	1.22	23	P	Pn	08 36 57.1	+0.3
TBJI	Tambak Boyo	1.23	353	P	Pn	08 36 56.8	-0.1
GMJI	Gumukmas	1.45	99	P	Pn	08 36 59.6	+0.6
UGM	Wanagama	1.47	275		Pn	08 36 59.3	-0.1
UGM				Sn	Sn	08 37 19.4	-2.0
UGM	Wanagama	1.47	275	P	Pn	08 36 59.4	+0.1
UGM	Wanagama	1.47	275	P	Pn	08 36 59.4	+0.1
BLJI	Banyuglugur	1.61	79	P	Pn	08 37 02.0	+1.2
SMRI	Semarang	1.84	303		Pn	08 37 02.9	-0.5
SMRI	Semarang	1.84	303	P	Pn	08 37 03.9	+0.5
SMRI	Semarang	1.84	303	P	Pn	08 37 03.8	+0.4
JAGI	Jajag, Banyuwa	2.17	101		Pn	08 37 07.8	+0.5
JAGI				Sn	Sn	08 37 34.8	-0.9
JAGI	Jajag, Banyuwa	2.17	101	P	Pn	08 37 08.0	+0.6
JAGI	Jajag, Banyuwa	2.17	101	P	Pn	08 37 07.9	+0.6
JAGI				S	Sn	08 37 35.6	-0.1
KMMI	Kalianget	2.19	63	P	Pn	08 37 08.2	+0.7
ABJI	Asem Bagus	2.23	84	P	Pn	08 37 10.2	+2.2
KPJI	Karang Pucung	3.12	283	P	Pn	08 37 20.0	+0.8
SRBI	Singaraja	3.18	91	P	Pn	08 37 21.3	+1.4
CMJI	Cimerak	3.53	274	P	Pn	08 37 23.7	-0.7
BBJI	Bungbulang	4.35	277	P	Pn	08 37 35.9	+0.7
BBJI	Bungbulang	4.35	277	S	Sn	08 38 26.5	+0.9
TWSI	Taliwang, Sumb	4.88	98	P	Pn	08 37 42.7	+0.5
CNJI	Cibinong	4.88	278	P	Pn	08 37 43.4	+1.2
PLAI	Plampang	5.77	98	P	Pn	08 37 54.6	+0.6
CGJI	Cibinong	6.42	282	P	Pn	08 38 04.0	+1.4
XMI	Christmas Isla	6.67	249	P	Pn	08 38 04.9	-1.2
WBSI	Waikabubak, Su 35nm,0.9s	7.47	103	P	Pn	08 38 16.3	-0.6
KASI	Kota Agung 30nm,0.5s	7.86	288	P	Pn	08 38 23.3	+1.3
BASI	Baing, Sumba 193nm,1.3s	8.74	105	P	Pn	08 38 33.4	-0.4
EDFI	Ende, Flores	9.61	95	P	Pn	08 38 43.7	-1.8
MNAI	Manna	9.71	292	P	Pn	08 38 48.4	+1.7
BKNI	Bangkinang	13.73	307	P	Pn	08 39 41.7	+2.5
GIRL	Giralia	14.67	172		P	08 39 53.0	-0.2
MBWA	Marble Bar	15.02	151	Pn	Pn	08 39 56.4	+1.0
MBWA	comp=Z,24nm,1.4s			IAmb	IAmb	08 40 10.6	
MBWA	Marble Bar	15.02	151	P	P	08 39 58.1	+0.9
PSA00	Pilbara Seismi	15.43	151	P	P	08 40 02.5	+0.8
PSA00	comp=Z,22nm,1.5s			IAmb	IAmb	08 40 09.5	
PSA00	Pilbara Seismi	15.43	151	P	P	08 40 03.6	+1.9
FITZ	Fitzroy Crossi	16.61	128	P	P	08 40 15.4	+0.6
FITZ	Fitzroy Crossi	16.61	128	P	Pn	08 40 16.4	+1.5
FITZ	comp=Z,0.6nm,0.3s,baz=309,slow=9.3,SNR=18			S	Sn	08 43 10.9	-9.5
WRAB	comp=Z,3.0nm,0.6s,baz=183,slow=21,SNR=6.4 comp=Z,8.5nm,0.8s	24.66	121	P	P	08 41 39.0	+1.2
WRAB	comp=Z,5.8nm,0.6s			IAmb	IAmb	08 41 41.4	
WR8	Warramunga Arr	24.79	121	P	P	08 41 40.9	+1.8
WR8	comp=Z,4.6nm,0.7s			IAmb	IAmb	08 41 42.8	
AS31	Alice Springs	26.11	129	P	P	08 41 52.6	+1.6
AS31	comp=Z,1.6nm,0.4s			IAmb	IAmb	08 41 53.3	
ASAR	Alice Springs	26.11	129	P	P	08 41 52.1	+1.1
ASAR	Alice Springs comp=Z,2.3nm,0.5s,baz=304,slow=8.1,SNR=69	26.11	129	P	P	08 41 52.8	+1.8
ASAR				PcP	PcP	08 45 15.4	+0.6
SONM	Songino Array comp=Z,0.2nm,0.4s,baz=299,slow=2.5,SNR=2.2 comp=Z,2.3nm,0.5s	55.86	355	P	P	08 45 50.7	-2.2
CMAR	Chiang Mai Arr comp=Z,1.3nm,0.3s,baz=111,slow=2.6,SNR=0.7 comp=Z,1.3nm,0.3s	29.32	334	P	P	08 42 15.1	-4.4
COEN	Coen	31.14	104	P	P	08 42 36.8	+1.1
STKA	Stephens Creek	36.32	135	P	P	08 43 22.4	+2.1
STKA	Stephens Creek comp=Z,1.2nm,0.4s,baz=309,slow=8.8,SNR=4.9 comp=Z,1.2nm,0.4s	36.32	135	P	P	08 43 22.6	+2.3
KSAR	Wonju Array Be	47.63	17	P	P	08 44 52.3	+0.5
SONM	Songino Array comp=Z,0.7nm,0.5s,baz=197,slow=3.0,SNR=2.2 comp=Z,0.7nm,0.5s	55.86	355	P	P	08 45 50.7	-2.2
MKAR	Makanchi Array comp=Z,0.7nm,0.6s,baz=149,slow=6.9,SNR=6.5 comp=Z,0.7nm,0.6s	60.67	337	P	P	08 46 24.2	-1.9
KURBB	Kurchatov Arra comp=Z,0.2nm,0.3s,baz=132,slow=4.1,SNR=1.7 comp=Z,0.2nm,0.3s	65.23	337	P	P	08 46 54.8	-1.4
ZALV	Zalesovo Beam comp=Z,1.2nm,0.6s,baz=150,slow=6.0,SNR=1.4 comp=Z,1.2nm,0.6s	65.89	343	P	P	08 46 58.6	-1.7
PETK	Petropavlovsk- comp=Z,1.3nm,0.6s,baz=230,slow=8.2,SNR=2.3 comp=Z,1.3nm,0.6s	72.18	27	P	P	08 47 38.8	-0.4
AB31	Akbulak array	72.91	327	P	P	08 47 41.7	-1.9
AB31	comp=Z,1.2nm,0.6s			IAmb	IAmb	08 47 42.4	
ABKAR	Akbulak array	72.91	327	P	P	08 47 41.4	-2.2

*NOU **04** 08:44:27.9, 38°.18S×176°.55E, h168km, MLv4.2/13, North Island, New Zealand*
*WEL **04** 08:44:31.1±0.7, 38°.5S±5°.7×17°.7E±°, h127km±5km, M4.0/103, MLv4.0/103, Error ellipse: s-maj=7.8km s-min=6.0km az=49.0, confirmed*
ISC 04 08:44:25.6±1.9, 38°.07S±0°.07×176°.66E±0°.06, h173km±9km, n183, σ1s86/196, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDRZ	Edgecumbe	0.08	123	P	Pn	08 44 49.5	+0.9
MARZ	Manawahe	0.08	9	P	Pn	08 44 49.4	+0.8
TARZ	Mount Tarawera	0.21	215	P	Pn	08 44 50.1	+1.3
LIRZ	Lichensteins R	0.23	286	P	Pn	08 44 49.5	+0.8
OMRZ	Omania	0.23	260	P	Pn	08 44 49.7	+0.9
OMRZ				S	Sn	08 45 04.5	-1.9
OPRZ	Ohinepanea	0.24	340	P	Pn	08 44 49.3	+0.5
OPRZ				S	Sn	08 45 03.9	-2.5
RRRZ	Republican Roa	0.29	202	P	Pn	08 44 50.0	+1.1
RRRZ				S	Sn	08 45 04.7	-2.2
HLRZ	Highlands Stat	0.30	232	P	Pn	08 44 50.2	+1.2
KARZ	Kaharoa	0.33	278	P	Pn	08 44 49.9	+0.9
KARZ				S	Sn	08 45 05.2	-1.7
NGRZ	Ngongotaha	0.37	264	P	Pn	08 44 50.5	+1.3
NGRZ				S	Sn	08 45 05.9	-1.2
UTU	Utuhina	0.38	253	P	Pn	08 44 50.6	+1.5
URZ	Urewera	0.41	119	P	Pn	08 44 50.0	+0.8
URZ				S	Sn	08 45 04.8	-2.5
HSRZ	Hossack Road	0.41	233	P	Pn	08 44 50.4	+1.2
HSRZ				S	Sn	08 45 06.9	-0.5
MUGZ	Murupara	0.42	168	P	Pn	08 44 50.3	+1.1
HRRZ	Handcock Road	0.44	222	P	Pn	08 44 50.7	+1.3
HRRZ				S	Sn	08 45 06.6	-1.1
TGRZ	Tauranga	0.46	317	P	Pn	08 44 50.2	+0.8
TGRZ				S	Sn	08 45 05.5	-2.1
PRRZ	Plateau Road	0.48	206	P	Pn	08 44 50.7	+1.2
PRRZ				S	Sn	08 45 06.1	-1.8
GRRZ	Galatos Road	0.52	237	P	Pn	08 44 51.2	+1.5
ALRZ	Allen Road	0.55	206	P	Pn	08 44 51.0	+1.2
WPRZ	Whakapapatarin	0.60	221	P	Pn	08 44 51.6	+1.5
WPRZ				S	Sn	08 45 08.3	-0.7
RTZ	Ruatahuna	0.60	155	P	Pn	08 44 51.7	+1.5
RTZ				S	Sn	08 45 07.7	-1.5
KMRZ	Kaimai	0.61	291	P	Pn	08 44 51.2	+1.1
WIZ	White Island	0.68	38	P	Pn	08 44 51.2	+0.8
RAGZ	Rawiri	0.73	126	P	Pn	08 44 52.7	+1.9
KUTZ	Kaahu Road	0.78	237	P	Pn	08 44 52.8	+1.7
MRHZ	Matea Rd	0.79	194	P	Pn	08 44 52.8	+1.6
MTHZ	Maungataniwha	0.80	170	P	Pn	08 44 53.0	+1.8
RUGZ	Raukumara Rang	0.81	83	P	Pn	08 44 51.9	+0.5
MYRZ	Mayor Island	0.85	337	P	Pn	08 44 52.9	+1.3
SNGZ	Shannon Statio	0.89	143	P	Pn	08 44 54.2	+2.3
RAHZ	Arahi	0.91	159	P	Pn	08 44 54.3	+2.4
TLZ	Tolley Road	0.92	253	P	Pn	08 44 53.9	+1.8
HAZ	Te Kaha	0.94	71	P	Pn	08 44 53.0	+0.8
WATZ	Wairara	0.97	228	P	Pn	08 44 54.3	+1.9
TOZ	Tahuroa Road	0.97	290	P	Pn	08 44 54.0	+1.6
TOZ				S	Sn	08 45 12.1	-0.9
TKGZ	Te Karaka	1.01	112	P	Pn	08 44 55.0	+2.4
NMHZ	Naumai	1.04	174	P	Pn	08 44 55.6	+2.7
TWGZ	Tauwhareparae	1.05	96	P	Pn	08 44 55.4	+2.4
RATZ	Rangitukua	1.06	221	P	Pn	08 44 55.1	+2.0
RIGZ	Rimuhau	1.08	127	P	Pn	08 44 55.8	+2.6
RITZ	Rihia Road	1.10	214	P	Pn	08 44 55.8	+2.3
BKZ	Black Stump Fm	1.11	187	P	Pn	08 44 55.2	+1.7
BKZ	Black Stump Fm	1.11	187	S	Sn	08 45 14.5	-0.6
BKZ	Black Stump Fm	1.11	187	P	Pn	08 44 55.3	+1.9
WHHZ	Waihua	1.11	156	P	Pn	08 44 56.1	+2.7
PKGZ	Pakihiroa	1.14	80	P	Pn	08 44 55.5	+1.8
KATZ	Kakaramea	1.18	219	P	Pn	08 44 56.2	+2.0
ARHZ	Aropaoanui	1.23	168	P	Pn	08 44 57.2	+2.8
KNZ	Kokohu	1.24	140	P	Pn	08 44 57.1	+2.5
PUZ	Puketiti	1.26	91	P	Pn	08 44 56.7	+2.0
PRGZ	Paritu Road	1.29	132	P	Pn	08 44 57.5	+2.6
TMVZ	Te Maari	1.29	215	P	Pn	08 44 57.2	+2.1
CNGZ	Carnagh Statio	1.29	109	P	Pn	08 44 58.3	+3.3
KRVZ	Karewarewa	1.30	217	P	Pn	08 44 57.5	+2.3
ETVZ	East Tongariro	1.30	215	P	Pn	08 44 57.4	+2.2
WTVZ	West Tongariro	1.34	218	P	Pn	08 44 57.7	+2.2
NNVZ	North Ngauruho	1.34	217	P	Pn	08 44 57.9	+2.2
OTVZ	Oturere	1.34	215	P	Pn	08 44 58.1	+2.5
KWHZ	Kaweka Forest	1.37	188	P	Pn	08 44 58.3	+2.5
SNVZ	South Ngauruho	1.37	215	P	Pn	08 44 58.4	+2.5
MCHZ	McNeill Hill	1.38	179	P	Pn	08 44 58.7	+2.9
NGZ	Ngauruhoe	1.38	216	P	Pn	08 44 58.5	+2.5
TWVZ	Taurewa	1.39	223	P	Pn	08 44 58.1	+2.2
MXZ	Matakaoa Point	1.40	69	P	Pn	08 44 58.1	+2.1
WMGZ	Waiomatatini S	1.41	80	P	Pn	08 44 58.3	+2.2
COVZ	Chateau Observ	1.43	217	P	Pn	08 44 58.4	+2.0
TUVZ	Tukino	1.44	213	P	Pn	08 44 58.9	+2.4
MHGZ	Mahia Peninsul	1.46	138	P	Pn	08 44 59.6	+3.1
MAVZ	Matarangi	1.48	215	P	Pn	08 44 59.1	+2.0
WHVZ	Whangaehu Hut	1.48	214	P	Pn	08 44 59.1	+2.1
HIZ	Hauiti	1.49	252	P	Pn	08 44 59.0	+2.2
HIZ	Hauiti	1.49	252	P	Pn	08 44 59.2	+2.4
TRVZ	Turoa	1.51	215	P	Pn	08 44 59.4	+2.1
WNVZ	Wahianoa	1.51	213	P	Pn	08 44 59.5	+2.2
KUZ	Kuaotunu	1.52	330	P	Pn	08 44 58.5	+1.4
KUZ	Kuaotunu	1.52	330	P	Pn	08 44 58.6	+1.5
MOVZ	Moawhango	1.52	208	P	Pn	08 44 59.0	+1.9
MKAZ	Moumakai	1.53	308	P	Pn	08 44 59.2	+2.0
KRHZ	Kereru	1.59	188	P	Pn	08 45 00.1	+2.3
PKVZ	Pokaka	1.60	220	P	Pn	08 45 00.3	+2.4
MTVZ	Mangateitei	1.61	215	P	Pn	08 45 00.5	+2.4
CKHZ	Cape Kidnapper	1.62	168	P	Pn	08 45 01.2	+3.0
KBAZ	Karaka Road Bo	1.71	304	P	Pn	08 45 01.5	+2.5
KAHZ	Kahuranaki	1.73	174	P	Pn	08 45 02.3	+2.9
WIAZ	Waiheke Island	1.76	316	P	Pn	08 45 01.7	+2.1
ETAZ	East Tamaki Re	1.77	308	P	Pn	08 45 02.3	+2.3
VRZ	Vera Road	1.83	234	P	Pn	08 45 02.9	+2.6
PNHZ	Pukenui	1.88	191	P	Pn	08 45 02.8	+2.0
AWAZ	Awhitu Peninsu	1.89	301	P	Pn	08 45 03.2	+2.3
MBAZ	Motutapu North	1.91	312	P	Pn	08 45 03.6	+2.5
EPAZ	Eden Park BICE	1.93	307	P	Pn	08 45 03.7	+2.3
HBAZ	Herne Bay Bore	1.96	308	P	Pn	08 45 04.0	+2.3
PX

MLZ	Mavora Lakes	9.69	218	P	Pn	08 46 41.3	+0.2
SYZ	Scrubby Hill	10.13	211	P	Pn	08 46 48.3	+1.6
WHZ	Wether Hill Ro	10.15	217	P	Pn	08 46 48.0	+0.8
APZ	The Paps	10.85	213	P	Pn	08 46 56.4	+0.2
PYZ	Puysegur Point	10.97	219	P	Pn	08 46 58.5	+0.8

SDD ***04*** *08:54:47.8±1.9, 19°.34N×70°.01W, h19km±8km, MD3.0, ML2.4, MW3.1*
OSPL ***04*** *08:54:48.8±1.6, 19°.32N×69°.92W, h15km±8km, ML2.3*
ISC 04 08:54:47.8±0.9, 19°.29N±0°.04×70°.00W±0°.03, h18km±6km, n13, σ1°10/24, 13C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NADR	**Nagua**	0.15	65	↑*e*Pg		Pb	08 54 51.6	-0.3
NADR				↑*e*			08 54 51.7	
NADR				↑*e*Sg		Sg	08 54 55.4	+0.6
NADR				IAML			08 54 56.1	
	comp=N,1μm,0.3s							
LONA1	**Toro Cenizo, N**	0.15	55	*i* P		Pg	08 54 52.0	-0.1
LONA1				IAML			08 54 56.6	
	comp=Z,1μm,0.6s							
SFDR	**San Fco. de Ma**	0.23	269	↑*e*Pg		Pg	08 54 53.0	-0.2
SFDR				↑*e*Sg		Sg	08 54 57.1	+0.3
SFDR				IAML			08 55 03.7	
	comp=N,629nm,0.3s							
DR08	**Loma La Naviza**	0.33	184	↓*e*Pg		Pg	08 54 54.8	-0.1
DR08				↑*e*Sg		Sg	08 55 00.8	+1.1
DR08				IAML			08 55 01.2	
	comp=N,6μm,0.2s							
SC01	**Santiago de Io**	0.70	281	↑*e*Pg		Pb	08 54 59.2	-2.4
SC01				IAML			08 55 17.0	
	comp=N,70nm,0.2s							
SC01	**Santiago de Io**	0.70	281	*i* P		Pb	08 55 01.5	-0.1
SC01				*e*S		Sg	08 55 13.2	+2.2
ABDR	**Alto Bandera**	0.76	231	↓*e*Pg		Pb	08 55 00.8	-2.0
ABDR				↑*e*Sg		Sb	08 55 12.3	-0.7
ABDR				IAML			08 55 32.4	
	comp=N,122nm,2.6s							
SDD	**Santo Domingo**	0.83	174	*i* P		Pb	08 55 03.9	+0.1
SDD				*e*S		Sb	08 55 15.4	+0.7
MIDR	**Miches**	0.95	109	↑*e*Pg		Pb	08 55 03.9	-1.9
MIDR				↓*e*Sg		Sb	08 55 18.2	+0.2
MIDR				IAML			08 55 24.4	
	comp=N,26nm,0.5s							
SDDR	**Presa de Saban**	1.26	256	↓*e*Pg		Pn	08 55 11.2	+0.5
SDDR				↑*e*Sg		Sn	08 55 27.0	-0.1
SDDR				IAML			08 55 32.6	
	comp=N,25nm,0.3s							
SDDR	**Presa de Saban**	1.26	256	*i* P		Pn	08 55 10.7	+0.1
SDDR				*e*S		Sn	08 55 28.1	+1.0
SDDR				IAML			08 55 31.9	
	comp=Z,16nm,0.8s							
LOPP1	**Punta Rusia, P**	1.26	296	*i* P		Pn	08 55 10.5	-0.1
LOPP1				*e*S		Sn	08 55 28.4	+1.3
LOPP1				IAML			08 55 30.8	
	comp=Z,49nm,1.0s							
HIDR	**Higuey Centro**	1.40	120	↑*e*Pg		Pn	08 55 12.3	-0.3
HIDR				↑*e*Sg		Sn	08 55 31.1	+0.5
HIDR				IAML			08 55 39.9	
	comp=N,48nm,0.2s							

ASRS ***04*** *08:55:17.0±1.1, 54°.33N×86°.13E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 04 08:55:17.8±2.9, 54°.33N×86°.31E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=23.6km s-min=13.7km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	0.96	247	I	I	I	09 01 10.0	
	baz=67,slow=325,SNR=3.4							
ZALV	**Zalesovo Beam**	0.96	247	Pg		Pg	08 55 34.6	-1.6
	1.0nm,0.3s,baz=62,slow=17,SNR=11							
ZALV				Lg		Lg	08 55 50.9	
	4.5nm,0.3s,baz=69,slow=29,SNR=4.6							
KURBB	**Kurchatov Arra**	6.03	235	Pn		Pn	08 56 47.8	-0.4
	0.1nm,0.3s,baz=52,slow=13,SNR=7.0							
	0.4nm,0.2s							
MKAR	**Makanchi Array**	7.97	200	Pn		Pn	08 57 16.8	+1.9
	0.1nm,0.3s,baz=24,slow=13,SNR=9.2							
	0.2nm,0.2s							

SDD ***04*** *09:00:07.4±2.3, 19°.30N×69°.99W, h15km±12km, MD3.4, ML3.0, MW3.2*
OSPL ***04*** *09:00:07.1±2.7, 19°.31N×69°.98W, h0km±13km, ML3.0*
SSNC ***04*** *09:00:08.7±3.3, 19°.20N×70°.30W, h120km±242km, MD4.0*
ISC 04 09:00:05.7±0.9, 19°.32N±0°.03×70°.01W±0°.02, h25km±6km, n31, σ1°68/51, 17C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LONA1	**Toro Cenizo, N**	0.15	68	*i* P		Pb	09 00 10.8	+0.1
LONA1				*e*S		Sb	09 00 15.0	+0.8
LONA1				IAML			09 00 17.8	
	comp=Z,4μm,0.3s							
NADR	**Nagua**	0.15	79	↑*e*Pg		Pb	09 00 10.5	-0.3
NADR				↑*e*Sg		Sb	09 00 13.6	-0.5
NADR				IAML			09 00 14.9	
	comp=N,18μm,0.3s							
SFDR	**San Fco. de Ma**	0.22	260	↓*e*Pg		Pb	09 00 11.8	+0.2
SFDR				IAML			09 00 22.6	
	comp=N,6μm,0.7s							
DR08	**Loma La Naviza**	0.36	181	↓*e*Pg		Pb	09 00 13.6	-0.1
DR08				↓*e*Sg		Sb	09 00 19.6	+0.5
SC01	**Santiago de Io**	0.68	279	↑*e*Pg		Pn	09 00 19.6	-0.3
SC01				IAML			09 00 33.9	
	comp=N,733nm,0.2s							
SC01	**Santiago de Io**	0.68	279	*i* P		Pn	09 00 19.5	-0.3
ABDR	**Alto Bandera**	0.77	229	↓*e*Pg		Pb	09 00 19.7	-1.0
ABDR				↑*e*Sg		Sn	09 00 32.0	-0.3
ABDR				IAML			09 00 34.1	
	comp=N,472nm,0.2s							
SMDR	**Samana, DR**	0.78	92	↑*e*Pg		Pb	09 00 20.1	-0.5
SMDR				IAML			09 00 35.3	
	comp=N,461nm,0.2s							
SDD	**Santo Domingo**	0.87	174	↑*e*Pg		Pn	09 00 22.3	0.0
SDD				↑*e*Sg		Sn	09 00 33.2	-1.0
SDD				IAML			09 00 37.2	
	comp=N,62nm,0.2s							
SDD	**Santo Domingo**	0.87	174	*i* P		Pb	09 00 21.7	-0.4
SDD				*e*S		Sn	09 00 33.4	-0.8
MIDR	**Miches**	0.97	110	↑*e*Pg		Pn	09 00 23.2	-0.5
MIDR				↑*e*Sg		Sn	09 00 36.8	+0.1
MIDR				IAML			09 00 38.7	
	comp=N,186nm,0.6s							
LUDR	**Luperon**	1.05	303	↑*e*Pg		Pb	09 00 27.7	+2.5
LUDR				↑*e*Sg		Sb	09 00 41.6	+3.0
LOPP1	**Punta Rusia, P**	1.24	295	*i* P		Pb	09 00 29.0	+0.6
LOPP1				*e*S		Sb	09 00 47.0	+3.1
LOPP1				IAML			09 00 55.9	
	comp=Z,331nm,0.9s							
SDDR	**Presa de Saban**	1.25	254	↓*e*Pg		Pb	09 00 28.2	-0.5
SDDR				↑*e*Sg		Sb	09 00 46.3	+1.9
SDDR				IAML			09 00 51.5	
	comp=N,245nm,0.3s							
SDDR	**Presa de Saban**	1.25	254	*i* P		Pb	09 00 29.2	+0.5
SDDR				*e*S		Sb	09 00 46.8	+2.4
SDDR				IAML			09 00 49.7	
	comp=Z,149nm,0.3s							
HIDR	**Higuey Centro**	1.43	121	↑*e*Pg		Pb	09 00 31.5	-0.1
HIDR				↑*e*Sg		Sb	09 00 51.1	+1.7
HIDR				IAML			09 00 53.5	
	comp=N,939nm,0.2s							
LODA1	**ITESIL, Dajabo**	1.61	278	*e*S		Sb	09 00 56.5	+1.8
LODA1				IAML			09 01 00.6	
	comp=Z,756nm,2.4s							
PODR	**Polo**	1.67	226	↓*e*Pg		Pb	09 00 36.0	+0.3
PODR				↑*e*Sg		Sb	09 00 58.9	+2.5
PODR				IAML			09 01 02.5	
	comp=N,198nm,0.5s							
PODR	**Polo**	1.67	226	*i* P		Pb	09 00 36.1	+0.3
PODR				*e*S		Sb	09 00 59.6	+3.2
LODU1	**El Espartillar**	1.69	235	*i* P		Pb	09 00 36.8	+0.8
LODU1				IAML			09 01 03.2	
	comp=Z,165nm,0.3s							
LOVI	**El Cajuil, Ovi**	1.99	220	*i* P		Pb	09 00 40.0	-1.2
LOVI				IAML			09 01 09.6	
	comp=Z,79nm,0.9s							

LOBH	**Bahia de las A**	2.12	227	*i* P	Pb	09 00 43.5	+0.1
LOBH				IAML		09 01 16.2	
	comp=Z,78nm,3.2s						
PAPH	**Port-au-Prince**	2.31	250	*i* P	Pb	09 00 46.1	-0.5
GRTK	**Grand Turk**	2.42	334	*i* P	Pn	09 00 45.3	+1.7
GRTK				*e*S	Sb	09 01 15.2	-2.7
GRTK				IAML		09 01 18.9	
	comp=Z,69nm,1.6s						
AGPR	**Aguadilla, PR**	2.88	107	*i* P	Pn	09 00 52.4	+2.4
AGPR				IAML		09 01 42.6	
	comp=Z,62nm,0.5s						
MASC	**Masc**	4.06	283	*e*P	Pn	09 01 05.4	-0.9
MASC				*e*S	Sn	09 01 53.2	+0.1
QMBU	**Quimbuelo**	4.60	282	*e*P	Pn	09 01 13.5	-0.2
QMBU				*e*S	Sn	09 02 05.7	-0.8
NMDO	**Nuevo Mundo**	4.83	286	*e*P	Pn	09 01 15.1	-1.8
MOAC	**Moa**	4.84	287	*e*P	Pn	09 01 16.2	-0.7
MOAC				*e*S	Sn	09 02 09.4	-2.9
GTBY	**Guantanamo Bay**	4.84	278	*e*P	Pn	09 01 17.6	+0.5
GTBY				*e*S	Sn	09 02 08.5	-3.8
RCC	**Rio Carpintero**	5.40	278	*e*P	Pn	09 01 23.2	-1.4
RCC				*e*S	Sn	09 02 21.4	-4.6

NEIC ***04*** *09:13:43.1±1.8, 36°.61S±0°.10×179°.00E±0°.03, h35km±1km, mb4.9/21, Error ellipse: s-maj=16.3km s-min=5.4km az=0.0*
NOU ***04*** *09:13:45.3, 37°.04S×178°.84E, h95km, MLv5.2/18, Off E. Coast of N. Island, N.Z.*
WEL ***04*** *09:13:46.6±0.9, 37°.5S±5°×17°.9E±°, h12km, M5.0/21, ML5.2/21, MLv5.0/21, Error ellipse: s-maj=8.4km s-min=5.5km az=43.6, confirmed*
IDC ***04*** *09:13:50.4±2.4, 37°.14S×178°.76E, h107km±17km, mb3.9/9, mbtmp4.2/9, MS3.8/2, Error ellipse: s-maj=25.9km s-min=17.5km az=22.0*
ISC 04 09:13:43.8±0.7, 36°.73S±0°.05×178°.98E±0°.06, h49km±5km, n209, σ1°89/211, mb4.7/22, 5C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	0.99	213			Pn	09 14 02.4	+1.1
MXZ	**Matakaoa Point**	0.99	213	P		Pn	09 14 01.7	+0.4
MXZ	**Matakaoa Point**	0.99	213	P		Pn	09 14 02.6	+1.3
WMGZ	**Waiomatatini S**	1.18	202	P		Pn	09 14 06.4	+2.5
PKGZ	**Pakihiroa**	1.34	212	P		Pn	09 14 08.4	+2.3
HAZ	**Te Kaha**	1.40	223	P		Pn	09 14 07.9	+1.0
PUZ	**Puketiti**	1.46	203	P		Pn	09 14 09.6	+1.9
PUZ				S		Sn	09 14 31.7	+6.1
RUGZ	**Raukumara Rang**	1.61	220	P		Pn	09 14 11.8	+2.0
WIZ	**White Island**	1.64	240	P		Pn	09 14 10.7	+0.6
WIZ				S		Sn	09 14 29.2	-0.7
WSRZ	**White Island S**	1.64	241	P		Pn	09 14 11.1	+0.9
WSRZ				S		Sn	09 14 29.6	-0.5
TWGZ	**Tauwhareparae**	1.65	209	P		Pn	09 14 12.4	+2.0
CNGZ	**Carnagh Statio**	1.85	199	P		Pn	09 14 15.2	+2.1
CNGZ				S		Sn	09 14 39.2	+3.9
TKGZ	**Te Karaka**	1.93	207	P		Pn	09 14 15.5	+1.4
WHRZ	**Whale Island**	1.95	234	P		Pn	09 14 15.9	+1.4
URZ	**Urewera**	2.13	224	P		Pn	09 14 18.1	+1.3
	4μm,0.5s,baz=260,slow=4.0,SNR=2452							
URZ				S		Sn	09 14 42.6	+0.5
	3μm,0.7s,baz=314,slow=18,SNR=3.9							
URZ				LR		LR	09 15 03.1	
	comp=Z,1μm,18.2s,baz=25,slow=42							
URZ	**Urewera**	2.13	224	P		Pn	09 14 17.6	+0.7
URZ	**Urewera**	2.13	224	P		Pn	09 14 18.2	+1.3
RAGZ	**Rawiri**	2.16	215	P		Pn	09 14 18.9	+1.6
RIGZ	**Rimuhau**	2.20	206	P		Pn	09 14 19.8	+1.0
MARZ	**Manawahe**	2.22	235	P		Pn	09 14 19.1	+1.0
OPRZ	**Ohinepanea**	2.23	239	P		Pn	09 14 19.3	+1.0
OPRZ				S		Sn	09 14 43.7	-0.8
EDRZ	**Edgecumbe**	2.25	232	P		Pn	09 14 19.9	+1.3
MYRZ	**Mayor Island**	2.26	255	P		Pn	09 14 20.0	+1.3
MYRZ				S		Sn	09 14 44.8	-0.5
PRGZ	**Paritu Road**	2.35	201	P		Pn	09 14 20.8	+0.9
TGRZ	**Tauranga**	2.39	245	P		Pn	09 14 21.7	+1.3
TGRZ				S		Sn	09 14 48.2	-0.2
SNGZ	**Shannon Statio**	2.42	212	P		Pn	09 14 22.2	+1.2
LIRZ	**Lichensteins R**	2.43	238	P		Pn	09 14 22.7	+1.7
MKRZ	**Makatiti**	2.44	234	P		Pn	09 14 23.5	+2.3
RTZ	**Ruatahuna**	2.46	220			Pn	09 14 22.2	+0.8
RTZ	**Ruatahuna**	2.46	220	P		Pn	09 14 22.5	+1.0
MUGZ	**Murupara**	2.47	224	P		Pn	09 14 22.8	+1.2
TARZ	**Mount Tarawera**	2.48	232	P		Pn	09 14 23.7	+2.0
OMRZ	**Omania**	2.49	236	P		Pn	09 14 23.6	+1.8
KOKZ	**Kokoha**	2.51	204	P		Pn	09 14 24.0	+2.0
KARZ	**Kaharoa**	2.53	239	P		Pn	09 14 23.9	+1.5
RRRZ	**Republican Roa**	2.53	230	P		Pn	09 14 23.8	+1.3
MHGZ	**Mahia Peninsul**	2.56	199	P		Pn	09 14 23.6	+0.8
HLRZ	**Highlands Stat**	2.58	233	P		Pn	09 14 24.7	+1.6
NGRZ	**Ngongotaha**	2.61	238	P		Pn	09 14 25.2	+1.7
KUZ	**Kuaotunu**	2.62	269	P		Pn	09 14 24.2	+0.7
KUZ	**Kuaotunu**	2.62	269	S		Sn	09 14 53.1	-1.0
KUZ	**Kuaotunu**	2.62	269	P		Pn	09 14 24.8	+1.3
KUZ				S		Sn	09 14 52.6	-1.5
UTU	**Utuhina**	2.65	236	P		Pn	09 14 25.9	+1.9
RAHZ	**Arahi**	2.65	214	P		Pn	09 14 25.0	+1.0
KMRZ	**Kaimai**	2.67	244	P		Pn	09 14 25.5	+1.2
HSRZ	**Hossack Road**	2.69	233	P		Pn	09 14 26.6	+2.1
HRRZ	**Handcock Road**	2.71	231	P		Pn	09 14 26.5	+1.7
PRRZ	**Plateau Road**	2.71	229	P		Pn	09 14 26.1	+1.3
MTHZ	**Maungataniwha**	2.71	218	P		Pn	09 14 25.8	+0.9
WHHZ	**Waihua**	2.72	210	P		Pn	09 14 25.8	+0.9
ALRZ	**Allen Road**	2.78	228	P		Pn	09 14 27.1	+1.9
GRRZ	**Galatos Road**	2.79	234	P		Pn	09 14 28.0	+1.9
WPRZ	**Whakapapatarin**	2.86	231	P		Pn	09 14 28.7	+1.7
GRZ	**Great Barrier**	2.88	279	P		Pn	09 14 28.7	+1.6
MRHZ	**Matea Rd**	2.92	223	P		Pn	09 14 28.8	+1.1
NMHZ	**Naumai**	2.92	215	P		Pn	09 14 28.8	+1.0
TOZ	**Tahuroa Road**	2.95	249			Pn	09 14 29.1	+1.1
TOZ	**Tahuroa Road**	2.95	249	P		Pn	09 14 29.5	+1.5
ARHZ	**Aropaoanui**	2.97	211	P		Pn	09 14 29.2	+0.7
KUTZ	**Kaahu Road**	3.06	234	P		Pn	09 14 31.4	+1.8
MKAZ	**Moumakai**	3.08	262	P		Pn	09 14 31.7	+1.8
WIAZ	**Waiheke Island**	3.09	268	P		Pn	09 14 31.9	+1.9
BKZ	**Black Stump Fm**	3.13	218			Pn	09 14 30.9	+0.3
BKZ	**Black Stump Fm**	3.13	218	P		Pn	09 14 30.8	+0.3
BKZ	**Black Stump Fm**	3.13	218	P		Pn	09 14 31.0	+0.4
TLZ	**Tolley Road**	3.17	239	P		Pn	09 14 32.6	+1.5
WATZ	**Wairara**	3.24	232	P		Pn	09 14 33.7	+1.5
MCHZ	**McNeill Hill**	3.25	213	P		Pn	09 14 32.6	+0.3
ETAZ	**East Tamaki Re**	3.26	265	P		Pn	09 14 34.5	+2.2
MBAZ	**Motutapu North**	3.28	268	P		Pn	09 14 34.7	+2.1
CKHZ	**Cape Kidnapper**	3.29	207	P		Pn	09 14 32.4	-0.3
KBAZ	**Karaka Road Bo**	3.30	262	P		Pn	09 14 35.6	+2.7
RATZ	**Rangitukua**	3.32	229	P		Pn	09 14 34.7	+1.5
ABAZ	**Army Bay**	3.34	271	P		Pn	09 14 35.7	+2.3
RITZ	**Rihia Road**	3.34	227	P		Pn	09 14 34.7	+1.3
KWHZ	**Kaweka Forest**	3.36	216	P		Pn	09 14 33.7	-0.1
EPAZ	**Eden Park BICE**	3.40	266	P		Pn	09 14 36.9	+2.6
HBAZ	**Herne Bay Bore**	3.41	267	P		Pn	09 14 37.0	+2.6
KATZ	**Kakaramea**	3.43	228	P		Pn	09 14 36.7	+1.8
KAHZ	**Kahuranaki**	3.48	208	P		Pn	09 14 35.0	-0.3
AWAZ	**Awhitu Peninsu**	3.49	263	P		Pn	09 14 38.0	+2.4
TMVZ	**Te Maari**	3.52	226	P		Pn	09 14 36.6	+0.6
ETVZ	**East Tongariro**	3.53	226	P		Pn	09 14 36.8	+0.7
RVAZ	**Riverhead Bore**	3.53	268	P		Pn	09 14 38.6	+2.5
WTAZ	**Waiatarua**	3.54	265	P		Pn	09 14 38.7	+2.5
KRVZ	**Karewarewa**	3.54	227	P		Pn	09 14 37.5	+1.2
KRHZ	**Kereru**	3.56	214	P		Pn	09 14 35.9	-0.6
OTVZ	**Oturere**	3.57	226	P		Pn	09 14 37.4	+0.6
NNVZ	**North Ngauruho**	3.58	227	P		Pn	09 14 38.0	+1.1
WTVZ	**West Tongariro**	3.58	227	P		Pn	09 14 38.0	+1.1
SNVZ	**South Ngauruho**	3.60	226	P		Pn	09 14 38.0	+0.8
NGZ	**Ngauruhoe**	3.62	227	P		Pn	09 14 38.1	+0.7
TWVZ	**Taurewa**	3.65	229	P		Pn	09 14 38.9	+1.1
TUVZ	**Tukino**	3.65	225	P		Pn	09 14 38.4	+0.5
COVZ	**Chateau Observ**	3.67	227	P		Pn	09 14 38.5	+0.5
MOVZ	**Moawhango**	3.69	223	P		Pn	09 14 38.0	-0.3
PXZ	**Pawanui**	3.69	206	P		Pn	09 14 36.8	-1.5
WHVZ	**Whangaehu Hut**	3.70	225	P		Pn	09 14 38.7	+0.1
FWVZ	**Far West T-bar**	3.70	226	P		Pn	09 14 38.8	+0.2
MAVZ	**Matarangi**	3.70	226	P		Pn	09 14 38.9	+0.2
WNVZ	**Wahianoa**	3.72	225	P		Pn	09 14 38.9	+0.1
HIZ	**Hauiti**	3.73	240			Pn	09 14 40.6	+1.9
HIZ	**Hauiti**	3.73	240	P		Pn	09 14 40.1	+1.4
HIZ	**Hauiti**	3.73	240	P		Pn	09 14 40.8	+2.0
TRVZ	**Turoa**	3.73	226	P		Pn	09 14 39.2	+0.2

WCZ	**Waipu Caves**	3.82	281	P	Pn	09 14 42.3	+2.2
MTVZ	**Mangateitei**	3.83	225	P	Pn	09 14 40.4	+0.1
PKVZ	**Pokaka**	3.84	227	P	Pn	09 14 41.5	+1.1
PNHZ	**Pukenui**	3.86	214	P	Pn	09 14 39.3	-1.3
WPHZ	**Waipukurau**	3.88	210	P	Pn	09 14 39.7	-1.2
TSZ	**Takapari Road**	4.08	215	P	Pn	09 14 42.2	-1.4
VRZ	**Vera Road**	4.10	233	P	Pn	09 14 45.1	+1.2
WAZ	**Wanganui**	4.36	225	P	Pn	09 14 47.4	-0.1
MHEZ	**Mangahewa**	4.36	236	P	Pn	09 14 51.0	+3.5
PRWZ	**Pori Road**	4.49	211	P	Pn	09 14 47.6	-1.5
BFZ	**Birch Farm**	4.49	208		Pn	09 14 47.2	-2.0
BFZ	**Birch Farm**	4.49	208	P	Pn	09 14 46.1	-3.1
DREZ	**Durham Road**	4.50	236	P	Pn	09 14 51.7	+2.3
OHWZ	**Ohakea**	4.51	219	P	Pn	09 14 49.0	-0.5
LREZ	**Lake Rotokare**	4.52	232	P	Pn	09 14 50.6	+1.0
PREZ	**Palmer Road**	4.61	234	P	Pn	09 14 52.8	+1.9
NEZ	**North Egmont**	4.62	235	P	Pn	09 14 52.8	+1.7
OUZ	**Omahuta**	4.62	287	P	Pn	09 14 53.2	+2.2
OUZ	**Omahuta**	4.62	287	P	Pn	09 14 53.4	+2.4
PKE	**Pukeiti**	4.65	237	P	Pn	09 14 53.8	+2.4
KHEZ	**Kahui Hut**	4.68	235	P	Pn	09 14 52.8	+0.9
KHEZ	**Kahui Hut**	4.68	235	P	Pn	09 14 53.6	+1.7
MRZ	**Mangatainoka R**	4.74	213		Pn	09 14 50.6	-2.0
NBEZ	**Newall Road No**	4.77	236	P	Pn	09 14 54.5	+1.5
NMEZ	**Namu Road**	4.83	235	P	Pn	09 14 56.2	+2.3
MSWZ	**Moikau Station**	5.50	211		Pn	09 14 59.3	-3.8
PLWZ	**Palliser**	5.63	210		Pn	09 15 00.2	-4.7
SNZO	**South Karori**	5.66	215		Pn	09 15 01.2	-4.0
SNZO	**South Karori**	5.66	215	P	Pn	09 15 01.2	-4.0
SNZO	**South Karori**	5.66	215	S	Sn	09 16 03.2	-5.6
BHW	**Baring Head**	5.66	213		Pn	09 15 00.9	-4.4
CMWZ	**Cape Campbell**	6.23	215	Pn	Pn	09 15 10.0	-3.0
CMWZ	**Cape Campbell**	6.23	215	P	Pn	09 15 12.1	-1.0
QRZ	**Quartz Range**	6.49	229	P	Pn	09 15 13.6	-3.0
KHZ	**Kahutara**	7.06	215	P	Pn	09 15 20.7	-3.8
CTZ	**Chatham Island**	7.76	156	P	Pn	09 15 34.7	+0.6
GLKZ	**Green Lake**	7.89	20	P	Pn	09 15 34.2	-1.7
GLKZ				S	Sn	09 17 01.3	-2.4
RPZ	**Rata Peaks**	9.24	219	P	Pn	09 15 50.1	-4.2
	48nm,0.5s,baz=93,slow=2.3,SNR=41						
RPZ				S	Sn	09 17 21.4	-15
	134nm,0.8s,baz=321,slow=20,SNR=10.0						
RPZ	**Rata Peaks**	9.24	219	P	Pn	09 15 50.0	-4.2
ODZ	**Otahua Downs**	10.42	215	P	Pn	09 16 05.6	-4.9
JCZ	**Jackson Bay**	10.68	223	P	Pn	09 16 10.4	-3.7
SYZ	**Scrubby Hill**	12.24	214	P	Pn	09 16 31.7	-3.6
PYZ	**Puysegur Point**	13.18	221	P	Pn	09 16 44.4	-3.6
DZM	**Mont Dzumac**	18.21	320	*e*LR	LR	09 22 06.3	
	347nm,22.6s						
ARMA	**Armidale**	23.59	277	P	P	09 18 49.7	-0.6
ARMA				IAmb	IAmb	09 19 11.8	
	comp=Z,24nm,1.1s						
CAN	**Canberra**	24.25	264	P	P	09 18 57.7	+1.6
TAU	**Tasmania Unive**	24.99	246	P	P	09 19 04.0	+1.2
EIDS	**Eidsvold**	26.35	288	P	P	09 19 14.6	-0.7
TOO	**Toolangi**	26.63	258	P	P	09 19 18.0	+0.3
TBI	**Tubuai**	30.25	73	*e*LR	LR	09 27 35.8	
	comp=Z,556nm,27.8s						
STKA	**Stephens Creek**	31.13	268	P	P	09 19 58.5	+0.8
STKA				IAmb	IAmb	09 20 20.4	
	comp=Z,33nm,0.8s						
STKA	**Stephens Creek**	31.13	268	P	P	09 19 58.7	+1.0
	comp=Z,1.6nm,0.8s,baz=104,slow=8.3,SNR=4.1						
	comp=Z,1.6nm,0.8s						
INKA	**Innaminka**	33.38	274	P	P	09 20 17.9	+0.5
PPT2	**Papeete2**	33.63	64	*e*LR	LR	09 29 18.8	
	comp=Z,121nm,24.8s						
BBOO	**Buckleboo**	35.26	263	P	P	09

PZH	**PanZhiHua**	**96.04 298**	P	**P**	**09 27 07.7 +1.6**
HHC	**Hu-ho-hao-te**	**98.85 315**	*e*P	Pdif	09 27 20.4 +2.0
HHC			pmax	pmax	
	comp=Z,10.0nm,0.7s				
KURBB	**Kurchatov Arra**	**123.49 311**	PKP	**PKPdf**	**09 32 34.9 -0.1**
	comp=Z,0.4nm,0.4s,baz=128,slow=1.8,SNR=4.8				
ARCES	**ARCESS Array B**	**144.12 344**	PKP	**PKPdf**	**09 33 11.8 -1.1**
	comp=Z,1.3nm,0.6s,baz=33,slow=3.1,SNR=2.1				
DBIC	**Dimbokro**	**149.88 172**	PKPbc	**PKPbc**	**09 33 29.0 0.0**
	comp=Z,1.9nm,0.6s,baz=153,slow=4.5,SNR=1.9				
FINES	**FINESS Array B**	**149.98 334**	PKPbc	**PKPbc**	**09 33 27.5 -0.3**
	comp=Z,3.9nm,0.8s,baz=30,slow=3.7,SNR=9.2				
BRTR	**Keskin Array B**	**152.71 287**	PKPbc	**PKPbc**	**09 33 34.7 -0.4**
	comp=Z,0.8nm,0.6s,baz=156,slow=6.2,SNR=5.1				
AKASG	**Malin Array Be**	**154.28 312**	PKPbc	**PKPbc**	**09 33 35.8 -2.0**
	comp=Z,0.3nm,0.3s,baz=86,slow=1.6,SNR=1.3				
TORD	**Torodi Ar. Bea**	**156.39 187**	PKPab	**PKPab**	**09 33 58.8 -3.1**
	comp=Z,0.5nm,0.4s,baz=209,slow=4.8,SNR=4.1				

*IDC **04** 09:15:05.4±4.4, 53.59N×88.10E, h0km, mbtmp3.0/2, ML2.7/1, Error ellipse: s-maj=49.7km s-min=24.0km az=75.0*

ASRS 04 09:15:05.0±1.0, 53°64N×88°00E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**281**	I	I	09 27 10.0	
	baz=97,slow=330,SNR=5.8						
ZALV	**Zalesovo Beam**	**1.91**	**281**	Pn	Pb	09 15 40.6	-0.1
	1.4nm,0.3s,baz=104,slow=14,SNR=13						
ZALV				Sn	Sg	09 16 06.5	+0.1
	2.2nm,0.3s,baz=100,slow=25,SNR=16						
KURBB	**Kurchatov Arra**	**6.57**	**246**	Pn	Pn	09 16 43.8	+1.1
	1.0nm,0.5s,baz=62,slow=14,SNR=0.9						
MKAR	**Makanchi Array**	**7.77**	**210**	Pn	Pn	09 17 00.8	+1.5
	0.1nm,0.3s,baz=28,slow=13,SNR=5.8						
	0.3nm,0.5s						

*SKHL **04** 09:16:59.7±0.8, 45.50N×150.70E, h134km±4km, mb4.9/4, msha5.6/4*
*MOS **04** 09:17:02.8±1.6, 46.15N×149.75E, h161km, mb4.3/1, Error ellipse: s-maj=22.2km s-min=11.8km az=46.4*
*IDC **04** 09:17:04.2±3.4, 46.44N×149.47E, h148km±33km, mb3.2/6, mbtmp3.7/9, Error ellipse: s-maj=38.2km s-min=19.5km az=157.0*
*JMA **04** 09:17:04.4±0.6, 45°N±5°×15°0E±°, h150km, MV3.4/9, KURILE ISLANDS REGION*

ISC 04 09:17:02.5±0.9, 45.95N±0.08×149.96E±0.09, h152km, n35, σ2s39/44, mb3.4/6, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.63**	**245**	*e*PN	**Pn**	**09 17 34.9**	**+1.3**
KUR				*i* S	**Sn**	**09 18 02.5**	**+5.1**
KUR				pmax	pmax		
	comp=Z,146nm,0.5s						
KUR				pmax	pmax		
	comp=E,61nm,0.3s						
KUR				pmax	pmax		
	comp=N,60nm,0.5s						
KUR				smax	smax		
	comp=N,372nm,0.6s						
KUR				smax	smax		
	comp=E,132nm,0.2s						
KUR	**Kuril'sk**	**1.63**	**245**	*e*P	**Pn**	**09 17 34.9**	**+1.3**
KUR				AMB	AMB	09 17 35.8	
	comp=E,170nm,0.4s						
KUR				*e*S	**Sn**	**09 18 01.5**	**+4.1**
KUR				A	A	09 18 03.5	
	comp=E,380nm,0.4s						
KUR				A	A	09 18 03.5	
	comp=E,380nm,0.4s						
SHO	**Shikotan**	**3.04**	**228**	*e*P	**Pn**	**09 17 55.3**	**+4.8**
SHO				AMB	AMB	09 17 55.9	
	comp=E,30nm,0.3s						
SHO				*e*S	**Sn**	**09 18 26.3**	**-1.3**
SHO				A	A	09 18 31.8	
	comp=E,120nm,0.4s						
SHO				A	A	09 18 31.8	
	comp=E,130nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.48**	**238**	*e*PN	**Pn**	**09 17 56.5**	**+0.4**
YUK				*e*S	**Sn**	**09 18 39.8**	**+2.3**
YUK				pmax	pmax		
	comp=E,36nm,0.3s						
YUK				pmax	pmax		
	comp=Z,74nm,0.3s						
YUK				pmax	pmax		
	comp=N,16nm,0.1s						
YUK				smax	smax		
	comp=E,89nm,0.2s						
YUK				smax	smax		
	comp=N,184nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.48**	**238**	*e*P	**Pn**	**09 17 57.7**	**+1.6**
YUK				AMB	AMB	09 17 58.8	
	comp=N,110nm,0.4s						
YUK				*e*S	**Sn**	**09 18 40.5**	**+3.0**
YUK				A	A	09 18 44.9	
	comp=N,180nm,0.2s						
YUK				A	A	09 18 44.9	
	comp=N,90nm,0.2s						
RUSJ	**Misakicho**	**3.82**	**243**	*e*PN	**Pn**	**09 18 03.5**	**+3.1**
RUSJ				*i* S	**Sn**	**09 18 51.5**	**+6.2**
GLVR	**Golovnino**	**3.85**	**237**	PN	**Pn**	**09 18 01.5**	**+0.6**
GLVR				*e*S	**Sn**	**09 18 47.7**	**+1.5**
GLVR				pmax	pmax		
	comp=N,25nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,52nm,0.1s						
GLVR				smax	smax		
	comp=E,227nm,0.4s						
GLVR				smax	smax		
	comp=N,192nm,0.3s						
GLVR	**Golovnino**	**3.85**	**237**	*e*P	**Pn**	**09 18 01.5**	**+0.6**
GLVR				AMB	AMB	09 18 01.8	
	comp=N,50nm,0.2s						
GLVR				*e*S	**Sn**	**09 18 47.7**	**+1.5**
GLVR				A	A	09 18 52.5	
	comp=N,190nm,0.3s						
GLVR				A	A	09 18 52.5	
	comp=N,230nm,0.3s						
NEM2	**Nemuro 2**	**3.97**	**231**	*e*P	**Pn**	**09 18 01.9**	**-0.4**
NEM2				*e*S	**Sn**	**09 18 46.3**	**-2.5**
NMR	**Nemuro--Hokkai**	**3.97**	**231**	‖ *i*PN	**Pn**	**09 18 02.0**	**-0.4**
NMR				*i* S	**Sn**	**09 18 45.9**	**-3.0**
NMR	**Nemuro--Hokkai**	**3.97**	**231**	*i* P	**Pn**	**09 18 02.0**	**-0.4**
NMR				*i* S	**Sn**	**09 18 46.5**	**-2.4**
AKK	**Akkeshi**	**4.69**	**233**	*e*P	**Pn**	**09 18 12.3**	**+0.4**
JAK	**Akkeshi**	**4.79**	**234**	*e*P	**Pn**	**09 18 12.8**	**-0.3**
JAK				*e*S	**Sn**	**09 19 05.5**	**-2.6**
YSS	**Yuzhno-Sakhali**	**5.08**	**284**	*e*PN	**Pn**	**09 18 18.6**	**+1.7**
YSS				*e*S	**Sn**	**09 19 14.4**	**-0.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				smax	smax		
	comp=N,10.0nm,0.4s						
YSS				smax	smax		
	comp=E,10.0nm,0.3s						
YSS	**Yuzhno-Sakhali**	**5.08**	**284**	*e*P	Pn	09 18 23.4	+6.5
JAR	**Ashorobuto**	**5.15**	**241**	*e*P	**Pn**	**09 18 19.6**	**+1.6**
JAR				*e*S	**Sn**	**09 19 17.2**	**+0.4**
JOB	**Onbets**	**5.34**	**237**	*e*P	**Pn**	**09 18 21.2**	**+0.8**
JOB				*e*S	**Sn**	**09 19 19.7**	**-1.5**
ASAJ	**Asahikawa**	**5.53**	**253**	P	**Pn**	**09 18 21.8**	**-1.1**
	comp=E,2.6nm,0.4s,baz=70,slow=15,SNR=6.4						
JCH	**Churui**	**5.79**	**237**	*e*P	**Pn**	**09 18 26.2**	**-0.2**
JCH				*e*S	**Sn**	**09 19 27.4**	**-4.6**
SKR	**Severo-Kuril's**	**6.27**	**39**	*e*P	**Pn**	**09 18 32.3**	**-0.3**
SEY	**Seymchan**	**17.07**	**4**	P	**P**	**09 20 49.2**	**-1.9**
	comp=E,2.7nm,0.8s,baz=168,slow=5.2,SNR=7.1						
KSRS	**Korea Array**	**18.47**	**250**	P	**Pn**	**09 21 08.3**	**-0.3**
	comp=E,2.3nm,0.7s,baz=54,slow=11,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**29.64**	**146**	T	T	09 54 15.2	
	baz=335,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**29.66**	**146**	T	T	09 54 11.1	
	baz=335,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**29.66**	**146**	T	T	09 54 15.3	
	baz=335,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**30.68**	**148**	T	T	09 55 33.8	
	baz=331,slow=77,SNR=11						
H11S3	**WAKE ISLAND Hy**	**30.69**	**148**	T	T	09 55 30.4	
	baz=331,slow=77,SNR=13						
H11S2	**WAKE ISLAND Hy**	**30.70**	**148**	T	T	09 55 34.3	
	baz=331,slow=77,SNR=10						
ILAR	**Eielson Array**	**38.53**	**38**	P	**P**	**09 24 10.7**	**+1.0**
	comp=E,0.4nm,0.7s,baz=266,slow=11,SNR=5.0						
	comp=E,0.4nm,0.7s						
MKAR	**Makanchi Array**	**45.36**	**297**	P	**P**	**09 25 02.6**	**-2.7**
	comp=E,0.6nm,0.7s,baz=81,slow=7.5,SNR=4.3						
	comp=E,0.6nm,0.7s						
KURK	**Kurchatov**	**45.98**	**303**	P	**P**	**09 25 08.0**	**-2.1**
KURBB	**Kurchatov Arra**	**46.06**	**303**	P	**P**	**09 25 08.0**	**-2.8**
	comp=E,0.4nm,0.4s,baz=71,slow=8.9,SNR=5.4						
	comp=E,0.4nm,0.4s						
BVAR	**Borovoye Array**	**49.66**	**309**	P	**P**	**09 25 36.2**	**-2.3**
	comp=E,0.4nm,0.4s,baz=64,slow=9.8,SNR=1.4						
	comp=E,0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**50.05**	**254**	P	**P**	**09 25 43.1**	**+1.3**
	comp=E,1.0nm,0.3s,baz=47,slow=7.7,SNR=4.3						
	comp=E,1.0nm,0.3s						
TXAR	**Lajitas Array**	**79.78**	**58**	P	**P**	**09 28 55.9**	**+2.0**
	comp=E,0.2nm,0.5s,baz=303,slow=5.6,SNR=8.2						
	comp=E,0.2nm,0.5s						

*ASRS **04** 09:21:20.0±0.7, 53.68N×86.80E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 04 09:21:20.8±3.0, 53.72N×86.95E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=28.8km s-min=16.3km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**281**	I	I	09 29 50.0	
	baz=100,slow=320,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.28**	**281**	Pg	Pg	09 21 45.0	-0.3
	0.8nm,0.3s,baz=101,slow=14,SNR=8.1						
ZALV				Lg	Lg	09 22 02.1	
	1.0nm,0.3s,baz=101,slow=27,SNR=6.9						
KURBB	**Kurchatov Arra**	**6.03**	**243**	Pn	Pn	09 22 51.7	+0.5
	baz=55,slow=13,SNR=2.1						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.54**	**205**	Pn	Pn	09 23 13.3	+1.3
	0.1nm,0.3s,baz=26,slow=15,SNR=5.7						
	0.1nm,0.3s						

*ASRS **04** 09:28:05.0±1.1, 54.13N×86.42E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 04 09:28:02.6±2.9, 54.19N×86.83E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=22.9km s-min=15.3km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.21**	**259**	I	I	09 34 50.0	
	baz=80,slow=321,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.21**	**259**	Pg	Pg	09 28 25.0	-0.7
	1.0nm,0.3s,baz=79,slow=17,SNR=12						
ZALV				Lg	Lg	09 28 41.6	
	2.7nm,0.3s,baz=79,slow=30,SNR=11						
KURBB	**Kurchatov Arra**	**6.21**	**238**	Pn	Pn	09 29 35.4	+0.1
	0.1nm,0.3s,baz=55,slow=14,SNR=4.8						
KURBB				Sn	Sn	09 30 48.0	+1.0
	baz=44,slow=29,SNR=1.2						
KURBB				Lg	Lg	09 31 19.9	
	baz=36,slow=28,SNR=1.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.95**	**203**	Pn	Pn	09 30 00.7	+1.4
	0.3nm,0.3s,baz=25,slow=14,SNR=5.7						
MKAR				Lg	Lg	09 32 15.9	
	0.2nm,0.3s,baz=16,slow=23,SNR=2.2						
	0.3nm,0.2s						

*ASRS **04** 09:35:18.0±1.2, 53.67N×87.98E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 04 09:35:20.8±3.0, 53.55N×87.83E, h0km, mbtmp2.5/2, ML2.0/2, Error ellipse: s-maj=24.6km s-min=17.7km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**284**	I	I	09 47 40.0	
	baz=97,slow=326,SNR=14						
ZALV	**Zalesovo Beam**	**1.83**	**284**	Pn	Pn	09 35 53.2	-0.3
	0.6nm,0.3s,baz=102,slow=12,SNR=7.7						
ZALV				Lg	Lg	09 36 19.3	
	1.5nm,0.3s,baz=105,slow=23,SNR=14						
KURBB	**Kurchatov Arra**	**6.44**	**247**	Pn	Pn	09 36 57.2	+0.5
	baz=62,slow=14,SNR=2.7						
KURBB				Sn	Sn	09 38 09.8	-1.0
	baz=56,slow=27,SNR=1.0						
KURBB				Lg	Lg	09 38 43.6	
	baz=64,slow=33,SNR=7.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.64**	**210**	Pn	Pn	09 37 14.8	+1.6
	baz=26,slow=13,SNR=2.0						
MKAR				Lg	Lg	09 39 23.1	
	0.1nm,0.3s,baz=27,slow=29,SNR=1.7						
	0.1nm,0.3s						

*IDC **04** 09:48:21.9±0.4, 18.99S×176.61W, h0km, mb4.6/18, mbtmp4.6/19, MS5.1/54, Error ellipse: s-maj=16.2km s-min=15.2km az=133.0*
*BJI **04** 09:48:21.7, 18.74S×176.19W, h7km, mB5.7/29, mb5.1/46, Ms5.3/54, Ms7 5.1/55*
*NOU **04** 09:48:22.2, 18.96S×176.29W, h0km, mB6.0/63, Fiji Islands Region*
*NEIC **04** 09:48:22.0±1.1, 18.9S±0.1×176.30W±0.03, h10km±1km, mb5.4/68, Ms_20 5.4/741, Mwb5.6/51, Mww5.7/39, Error ellipse: s-maj=18.8km s-min=4.3km az=187.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=0.42; Mθθ=-3.10; Mφφ=2.68; Mrθ=0.31; Mθφ=-0.24; Mφr=1.11; Fault plane solution: M0=3.14000×10^17 NP1: φs=310.64000°, δ=70.10000°, λ=168.25000°. NP2: φs=44.69000°, δ=78.96000°, λ=20.30000°. Principal axes: T 3.1380, Plg=22.0000°, Azm=269.0000°; N 0.0125, Plg=67.0000°, Azm=72.0000°; P -3.1505, Plg=6.0000°, Azm=177.0000°;*
*MOS **04** 09:48:22.7±1.7, 19.02S×176.69W, h10km, mb5.3/28, MS5.3/21 Error ellipse: s-maj=10.5km s-min=9.1km az=35.1*
*NEIC **04** 09:48:22, 18.92S×176.30W, h18km*
*NEIC **04** 09:48:22, 18.94S×176.27W, h10km*
*NEIC **04** 09:48:22, 18.82S×176.09W, h18km, Moment Tensor Solution. Duration: 3s2 Moment tensor: Scale 10^17 Nm; Mrr=0.77; Mθθ-3.84; Mφφ4.61; Mrθ-0.81; Mθφ0.33; Mφr0.19; Fault plane solution: M0=4.37000×10^17 NP1: φs=46.42000°, δ=78.93000°, λ=-8.82000°. NP2: φs=138.13000°, δ=81.34000°, λ=-168.80000°. Principal axes: T 4.6298, Plg2.0000°, Azm=272.0000°; N -0.5707, Plg=76.0000°, Azm=175.0000°; P -4.0591, Plg=14.0000°, Azm2.0000°;*
*GCMT **04** 09:48:28.0±0.1, 18.95S×176.45W, h16km, MW5.7/164, Moment Tensor Solution. s135,c260; s164,c476; Duration: 1s7 Moment tensor: Scale 10^17 Nm; Mrr=0.64±.03; Mθθ-4.03±.03; Mφφ4.67±.04; Mrθ0.21±.10; Mθφ0.37±.03; Mφr1.16±.10; Best double couple: M0=4.49200×10^17 NP1: φs=317.00000°, δ=80.00000°, λ=174.00000°. NP2: φs=48.00000°, δ=84.00000°, λ=10.00000°. Principal axes: T 4.9310, Plg12.0000°, Azm=273.0000°; N -0.8740, Plg=78.0000°, Azm=79.0000°; P -4.0540, Plg=3.0000°, Azm=182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*BGR **04** 09:48:29.2, 18.52S×176.56W, h33km, Ms5.4*

ISC 04 09:48:22.6±0.4, 19.01S±0.05×176.23W±0.04, h12km±2km, h12km: pP-P, n828, σ2s01/496, mb5.3/131, MS5.3/439, 25C-24D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**2.57**	**287**	P	**Pn**	**09 48 59.6**	**-4.6**
TAVE	**Taveuni**	**4.19**	**303**	P	**Pn**	**09 49 21.8**	**-4.6**
DGTI	**Dogotuki**	**4.70**	**304**	P	Pn	09 49 28.5	-4.9
MSVF	**Nonsavu**	**5.58**	**282**		**Pn**	**09 49 44.0**	**-1.6**
MSVF	**Nonsavu**	**5.58**	**282**	P	**Pn**	**09 49 45.0**	**-0.6**
NIUE	**Niue**	**5.96**	**92**	P	**Pn**	**09 49 44.0**	**-1.6**
NIUE	**Niue**	**5.96**	**92**	P	**Pn**	**09 49 50.9**	**+0.2**
	comp=Z,0.0nmcomp=Z,2μm,1.2s						
NIUE	**Niue**	**5.96**	**92**		**Pn**	**09 49 51.1**	**+0.4**
NIUE	**Niue**	**5.96**	**92**	P	**Pn**	**09 49 51.3**	**+0.6**
NIUE	**Niue**	**5.96**	**92**	P	**Pn**	**09 49 50.7**	**-0.1**
RAO	**Raoul Island**	**10.31**	**188**	LR	LR	09 54 21.8	
	comp=Z,55μm,19.6s,baz=19,slow=35						
RAO	**Raoul Island**	**10.31**	**188**	P	**Pn**	**09 50 50.6**	**+0.2**
DVP	**Devils Point**	**14.85**	**272**	P	**P**	**09 51 59.0**	**+0.6**
RAR	**Rarotonga**	**15.61**	**101**		**Pn**	**09 52 01.9**	**-0.7**
RAR				IAmb	IAmb	09 52 07.0	
	comp=Z,281nm,0.9s						
RAR	**Rarotonga**	**15.61**	**101**	Pn	**Pn**	**09 52 03.0**	**+0.4**
	comp=Z,4.2nm,0.3s,baz=257,slow=6.4,SNR=19						
RAR				LR	LR	09 56 57.7	
	comp=Z,6μm,20.5s,baz=262,slow=32						
RAR	**Rarotonga**	**15.61**	**101**	P	**P**	**09 52 04.2**	**-2.6**
RAR	**Rarotonga**	**15.61**	**101**	P	**Pn**	**09 52 01.9**	**-0.7**
RAR				pmax	pmax		
	comp=Z,281nm,0.9s						
RAR	**Rarotonga**	**15.61**	**101**	P	**Pn**	**09 52 02.2**	**-0.4**
PINNC	**Pines Island,**	**15.68**	**254**		**Pn**	**09 52 02.3**	**-1.2**
PINNC	**Pines Island,**	**15.68**	**254**	P	**Pn**	**09 52 04.9**	**+1.4**
OUENC	**Ouen Island, N**	**16.20**	**255**	P	**Pn**	**09 52 11.2**	**+1.0**
SANVU	**Saraoutou**	**16.22**	**280**		**Pn**	**09 52 07.9**	**-2.6**
SANVU				IAmb	IAmb	09 52 16.5	
	comp=Z,742nm,1.5s						
SANVU	**Saraoutou**	**16.22**	**280**	P	**Pn**	**09 52 10.0**	**-0.5**
DZM	**Mont Dzumac**	**16.51**	**256**	*e*P	**Pn**	**09 52 12.6**	**-1.7**
	comp=Z,1μm,1.4s						
DZM				*e*LR	LR	09 55 56.4	
	comp=Z,42μm,25.0s						
DZM	**Mont Dzumac**	**16.51**	**256**		**Pn**	**09 52 12.7**	**-1.7**
DZM	**Mont Dzumac**	**16.51**	**256**	Pn	**Pn**	**09 52 11.9**	**-2.5**
	comp=Z,20nm,1.0s,baz=90,slow=15						
DZM				LR	LR	09 57 25.9	
	comp=Z,27μm,20.1s,baz=90,slow=34						
DZM	**Mont Dzumac**	**16.51**	**256**	P	**Pn**	**09 52 14.2**	**-0.1**
ONTNC	**Ouen Toro**	**16.54**	**256**		**Pn**	**09 52 13.3**	**-1.2**
ONTNC				IAmb	IAmb	09 52 18.6	
	comp=Z,812nm,1.6s						
ONTNC	**Ouen Toro**	**16.54**	**256**	P	**P**	**09 52 17.8**	**+0.7**
	comp=Z,484nm,2.1s						
KOUNC	**Koumac, New Ca**	**18.40**	**262**	P	**Pn**	**09 52 38.8**	**+1.0**
OUZ	**Omahuta**	**18.49**	**207**	P	**Pn**	**09 52 40.3**	**+1.5**
WCZ	**Waipu Caves**	**18.80**	**204**	P	**Pn**	**09 52 43.6**	**+1.1**
KUZ	**Kuaotunu**	**19.03**	**200**	P	**Pn**	**09 52 46.4**	**+1.1**
KUZ	**Kuaotunu**	**19.03**	**200**	P	**Pn**	**09 52 46.5**	**+1.1**
LUES	**Luesalemba Tem**	**19.14**	**293**	P	**Pn**	**09 52 47.7**	**+0.9**
HAZ	**Te Kaha**	**19.40**	**194**	P	**P**	**09 52 48.9**	**+0.3**
TOZ	**Tahuroa Road**	**20.00**	**199**	IAMs_20	IAMs_20	10 00 41.0	
	comp=Z,13μm,19.0s						
TOZ	**Tahuroa Road**	**20.00**	**199**	P	**P**	**09 52 55.8**	**+0.6**
URZ	**Urewera**	**20.04**	**195**	P	**P**	**09 52 52.8**	**-2.7**
	comp=Z,31nm,0.8s,baz=67,slow=3.2,SNR=7.2						
URZ				LR	LR	09 59 42.5	
	comp=Z,21μm,21.8s,baz=30,slow=34						
URZ	**Urewera**	**20.04**	**195**	P	**P**	**09 52 53.5**	**-2.0**
RTZ	**Ruatahuna**	**20.41**	**195**	P	**P**	**09 52 59.0**	**-0.6**
RTZ				IAMs_20	IAMs_20	10 00 16.7	
	comp=Z,18μm,20.0s						
HIZ	**Hauiti**	**20.92**	**200**	P	**P**	**09 53 05.3**	**+0.1**
HIZ				IAmb	IAmb	09 53 15.9	
	comp=Z,290nm,1.2s						
HIZ	**Hauiti**	**20.92**	**200**	P	**P**	**09 53 06.2**	**+1.1**
BKZ	**Black Stump Fm**	**21.05**	**196**	IAMs_20	IAMs_20	10 00 05.8	
	comp=Z,20μm,22.0s						
BKZ	**Black Stump Fm**	**21.05**	**196**	P	**P**	**09 53 07.9**	**+1.3**
VRZ	**Vera Road**	**21.51**	**199**	P	**P**	**09 53 12.7**	**+1.3**
NEZ	**North Egmont**	**21.86**	**201**	P	**P**	**09 53 18.0**	**+2.7**
MRZ	**Mangatainoka R**	**22.70**	**196**	P	**P**	**09 53 27.2**	**+3.1**
TARA	**Tarawa**	**22.88**	**331**	P	**P**	**09 53 29.1**	**+2.9**
	comp=Z,152nm,1.1s						
BHW	**Baring Head**	**23.58**	**197**	IAMs_20	IAMs_20	10 01 48.3	
	comp=Z,13μm,21.0s						
QRZ	**Quartz Range**	**23.78**	**202**	P	**P**	**09 53 34.8**	**-0.4**
NNZ	**Nelson**	**23.85**	**200**	P	**P**	**09 53 34.4**	**-1.4**
THZ	**Tophouse**	**24.50**	**200**	P	**P**	**09 53 42.7**	**+0.8**
ALEGG	**Aligegeo Malai**	**24.58**	**291**	P	**P**	**09 53 46.5**	**+3.7**
DSZ	**Denniston Nort**	**24.85**	**202**	P	**P**	**09 53 44.2**	**-0.8**
KHZ	**Kahutara**	**24.89**	**198**	IAMs_20	IAMs_20	10 02 41.0	
	comp=Z,11μm,22.0s						
HNR	**Honiara**	**24.95**	**289**	LR	LR	10 01 49.1	
	comp=Z,5μm,20.5s,baz=125,slow=33						
TBI	**Tubuai**	**25.31**	**105**	*e*P	**P**	**09 53 47.4**	**-1.9**
	comp=Z,3μm,25.5s						
TBI				*e*S	**S**	**09 58 08.8**	**-6.6**
	comp=Z,7μm,29.0s						
TBI				*e*LQ	LQ	09 58 56.6	
	comp=Z,68μm,28.2s						
TBI				*e*LR	LR	09 59 58.1	
	comp=Z,78μm,28.2s						
TBI				*e*LR	LR	10 00 01.7	
	comp=Z,16μm,26.8s						
PPT2	**Papeete2**	**25.34**	**91**	*e*P	P	09 53 42.3	-7.4
	comp=Z,655nm,25.5s						
PPT2				*e*S	**S**	**09 58 13.2**	**-2.8**
	comp=Z,2μm,26.5s						
PPT2				*e*LR	LR	09 59 55.3	
	comp=Z,33μm,27.2s						
PPT2				*e*LR	LR	10 00 02.7	
	comp=Z,22μm,29.8s						
PPT	**Papeete**	**25.34**	**91**	P	**P**	**09 53 52.8**	**+3.2**
	comp=Z,410nm,1.0s,baz=1.7,slow=4.9,SNR=7.7						
PPT				LR	LR	10 01 16.2	
	comp=Z,7μm,21.6s,baz=252,slow=30						
TATA	**Tatamba Isabel**	**25.53**	**291**	P	**P**	**09 53 53.2**	**+1.8**
GVZ	**Greta Valley S**	**25.55**	**198**	P	**P**	**09 53 50.9**	**-0.5**
LTZ	**Lake Taylor**	**25.62**	**200**		**P**	**09 53 52.2**	**+0.3**
LTZ	**Lake Taylor**	**25.62**	**200**	P	**P**	**09 53 52.3**	**+0.3**
INZ	**Inchbonnie**	**25.84**	**201**	P	**P**	**09 53 54.0**	**0.0**
OXZ	**Oxford**	**26.18**	**200**	IAMs_20	IAMs_20	10 05 31.3	
	comp=Z,10μm,19.0s						
OXZ	**Oxford**	**26.18**	**200**	P	**P**	**09 53 59.7**	**+2.6**
WVZ	**Waitaha Valley**	**26.39**	**202**	P	**P**	**09 54 00.5**	**+1.5**
FOZ	**Fox Glacier**	**27.12**	**203**	P	**P**	**09 54 04.9**	**-0.6**
JCZ	**Jackson Bay**	**27.97**	**203**	P	**P**	**09 54 14.4**	**+1.2**
ODZ	**Otahua Downs**	**28.17**	**200**	IAMs_20	IAMs_20	10 05 22.8	
	comp=Z,9μm,19.0s						
MLZ	**Mavora Lakes**	**29.32**	**203**	IAMs_20	IAMs_20	10 04 10.3	
	comp=Z,7μm,20.0s						
DCZ	**Deep Cove**	**29.77**	**204**	IAMs_20	IAMs_20	10 05 51.8	
	com

comp=Z,231nm,24.6s
TAOE *e*S **S** **10 01 06.3 -2.3**
comp=Z,926nm,27.4s
TAOE *e*LQ LQ 10 03 19.8
comp=Z,3µm,24.2s
TAOE *e*LR LR 10 05 08.9
comp=Z,10µm,25.5s
TAOE Nuku Hiva Isla 36.37 79 IAMs_20 IAMs_20 10 06 18.4
comp=Z,5µm,19.0s
CMSA Cobar Meteorol 36.45 242 P **P** **09 55 26.5 -1.0**
comp=Z,124nm,1.1s
CMSA Cobar Meteorol 36.45 242 P **P** **09 55 26.7 -0.8**
PMG Port Moresby 36.69 280 **P** **09 55 28.2 -1.5**
PMG Port Moresby 36.69 280 P **P** **09 55 29.0 -0.7**
PMG Port Moresby 36.69 280 P **P** **09 55 29.1 -0.7**
PMG Port Moresby 36.69 280 *i* P **P** **09 55 28.3 -1.5**
PMG pmax pmax
comp=Z,231nm,1.2s
QLP Quilpie 37.11 251 P **P** **09 55 31.8 -1.4**
comp=Z,48nm,1.4s
QLP Quilpie 37.11 251 P **P** **09 55 34.3 +1.1**
MTSU Mount Surprise 37.36 265 P **P** **09 55 33.4 -2.1**
comp=Z,13nm,1.0s
MTSU Mount Surprise 37.36 265 P **P** **09 55 34.3 -1.2**
TOO Toolangi 38.12 233 P **P** **09 55 41.2 -0.5**
comp=Z,61nm,1.2s
TOO Toolangi 38.12 233 P **P** **09 55 40.6 -1.1**
TOO IAmb IAmb 09 55 51.0
comp=Z,102nm,1.3s
TOO Toolangi 38.12 233 P **P** **09 55 40.6 -1.1**
TOO pmax pmax
comp=Z,102nm,1.3s
TOO MLR MLR
comp=Z,1µm,18.0s
RKT Rikitea 38.62 103 *e*S **S** **10 01 41.1 -1.4**
comp=Z,4µm,35.5s
RKT *e*SS **SnSn** **10 04 30.2 -0.2**
comp=Z,11µm,30.8s
RKT *e*LR LR 10 06 06.7
comp=Z,41µm,27.5s
COEN Coen 39.19 271 P **P** **09 55 48.4 -2.5**
comp=Z,86nm,1.3s
COEN Coen 39.19 271 P **P** **09 55 48.7 -2.2**
COEN IAmb IAmb 09 55 55.5
comp=Z,98nm,1.1s
COEN IAMs_20 IAMs_20 10 08 43.3
comp=Z,6µm,22.0s
COEN Coen 39.19 271 P **P** **09 55 49.6 -1.3**
GEXS Deakin Univers 39.22 232 P **P** **09 55 55.1 +4.2**
comp=Z,154nm,1.2s
BRAT Ballarat 39.30 234 P **P** **09 55 51.9 +0.4**
comp=Z,93nm,1.2s
MANU Manus Island 39.42 291 P **P** **09 55 51.5 -1.4**
MANU IAmb IAmb 09 55 58.3
comp=Z,75nm,1.0s
STKA Stephens Creek 39.94 243 P **P** **09 55 56.0 -1.0**
comp=Z,417nm,1.1s
STKA Stephens Creek 39.94 243 P **P** **09 55 55.7 -1.3**
STKA Stephens Creek 39.94 243 P **P** **09 55 56.2 -0.8**
comp=Z,31nm,0.8s,baz=82,slow=9.7,SNR=44
STKA LR LR 10 11 13.4
comp=Z,2µm,19.0s,baz=76,slow=35
comp=Z,31nm,0.8s
STKA Stephens Creek 39.94 243 P **P** **09 55 56.6 -0.4**
STKA Stephens Creek 39.94 243 P **P** **09 55 55.7 -1.3**
STKA pmax pmax
comp=Z,436nm,1.1s
STKA MLR MLR
comp=Z,12µm,19.0s
INKA Innaminka 40.27 249 P **P** **09 55 58.9 -0.9**
ARPS Mount Arapiles 40.70 235 P **P** **09 56 02.0 -1.2**
comp=Z,22nm,1.0s
HTT Hallett 42.40 241 P **P** **09 56 16.1 -1.2**
comp=Z,21nm,1.4s
HTT Hallett 42.40 241 P **P** **09 56 16.9 -0.4**
PUH Pauahi 43.36 30 IAMs_20 IAMs_20 10 09 23.3
comp=Z,4µm,21.0s
HATHI Halema'uma'u T 43.38 29 IAMs_20 IAMs_20 10 09 44.9
comp=Z,4µm,20.0s
MLH Mauna Loa 43.38 29 IAMs_20 IAMs_20 10 10 06.9
comp=Z,4µm,20.0s
WHYH Whyalla 43.47 242 P **P** **09 56 25.2 -0.6**
comp=Z,55nm,0.9s
BBOO Buckleboo 44.71 242 P **P** **09 56 34.3 -1.6**
comp=Z,73nm,1.2s
BBOO Buckleboo 44.71 242 P **P** **09 56 34.0 -1.9**
BBOO Buckleboo 44.71 242 P **P** **09 56 35.1 -0.8**
JAY Jayapura 45.20 286 LR LR 10 14 23.7
comp=Z,3µm,22.0s,baz=100,slow=35
JAY Jayapura 45.20 286 P **P** **09 56 37.0 -3.0**
comp=Z,1µmcomp=Z,35nm,1.4s
GENI Genyem 45.66 286 P **P** **09 56 44.9 +1.3**
GENI Genyem 45.66 286 P **P** **09 56 41.3 -2.3**
comp=Z,2µmcomp=Z,186nm,1.3s
WR0 Warramunga Arr 46.29 260 P **P** **09 56 46.3 -2.2**
AS17 Alice Springs 46.42 255 P **P** **09 56 47.1 -2.4**
comp=Z,43nm,0.8s
AS01 Alice Springs 46.46 255 P **P** **09 56 47.9 -2.0**
comp=Z,56nm,0.9s
WRAB Tennant Creek 46.47 260 P **P** **09 56 46.6 -3.4**
WRAB IAmb IAmb 09 56 53.4
comp=Z,44nm,1.4s
WRAB Tennant Creek 46.47 260 *i* P **P** **09 56 47.1 -2.9**
WRAB pmax pmax
comp=Z,41nm,1.4s
WRA Warramunga Arr 46.48 260 P **P** **09 56 47.1 -3.0**
WRA Warramunga Arr 46.48 260 P **P** **09 56 46.6 -3.4**
comp=Z,6.2nm,0.7s,baz=94,slow=7.1,SNR=39
WRA LR LR 10 15 07.1
comp=Z,8µm,19.6s,baz=102,slow=35
comp=Z,6.2nm,0.7s
WRA Warramunga Arr 46.48 260 P **P** **09 56 47.1 -3.0**
WRA pmax pmax
comp=Z,3.0nm,1.3s
AS31 Alice Springs 46.50 255 P **P** **09 56 47.8 -2.4**
comp=Z,13nm,1.0s
ASAR Alice Springs 46.50 255 P **P** **09 56 47.6 -2.6**
ASAR Alice Springs 46.50 255 P **P** **09 56 47.0 -3.2**
comp=Z,21nm,0.9s,baz=91,slow=7.7,SNR=105
ASAR LR LR 10 15 34.7
comp=Z,3µm,19.6s,baz=94,slow=35
comp=Z,21nm,0.9s
ASAR Alice Springs 46.50 255 P **P** **09 56 47.6 -2.6**
MIDW Midway 46.96 359 IAMs_20 IAMs_20 10 12 31.9
comp=Z,3µm,19.0s
SMPI Sarmi 47.23 285 P **P** **09 56 52.9 -3.1**
comp=Z,2µmcomp=Z,93nm,1.4s
KDU Kakadu 49.61 269 P **P** **09 57 10.8 -3.5**
comp=Z,25nm,1.0s
KDU Kakadu 49.61 269 P **P** **09 57 16.0 +1.7**
BAKI Biak 49.93 285 P **P** **09 57 16.6 -0.2**
comp=Z,2µmcomp=Z,109nm,1.1s
GUMO Guam 50.18 307 LR LR 10 16 33.3
comp=Z,1µm,21.1s,baz=140,slow=34
MTN Manton Dam 50.84 269 P **P** **09 57 20.1 -3.5**
comp=Z,27nm,1.5s
MTN Manton Dam 50.84 269 IAMs_20 IAMs_20 10 16 08.1
comp=Z,4µm,21.0s
MTN Manton Dam 50.84 269 P **P** **09 57 27.4 +3.7**
comp=Z,27nm,1.5s
WRKA Warakurna 51.49 253 P **P** **09 57 26.5 -2.0**
comp=Z,17nm,1.1s
KNRA Kununurra 52.44 265 P **P** **09 57 32.7 -2.9**
comp=Z,23nm,1.4s
KNRA Kununurra 52.44 265 P **P** **09 57 34.1 -1.5**
KNRA IAMs_20 IAMs_20 10 18 46.5
comp=Z,3µm,18.0s
FAKI Fak Fak 52.82 281 P **P** **09 57 36.3 -2.2**
FAKI IAmb IAmb 09 57 42.8
comp=Z,108nm,1.4s
FAKI IAMs_20 IAMs_20 10 17 53.4
comp=Z,3µm,22.0s
FAKI Fak Fak 52.82 281 P **P** **09 57 39.4 +0.9**
FAKI Fak Fak 52.82 281 P **P** **09 57 38.0 -0.5**
comp=Z,1µmcomp=Z,57nm,1.7s
SWI Sorong 54.51 283 P **P** **09 57 48.6 -2.2**
comp=Z,2µmcomp=Z,137nm,1.2s
FITZ Fitzroy Crossi 54.90 261 P **P** **09 57 51.4 -2.2**
comp=Z,5,7nm,1.7s
FITZ Fitzroy Crossi 54.90 261 P **P** **09 57 51.5 -2.1**
FITZ Fitzroy Crossi 54.90 261 LR LR 10 19 58.6
comp=Z,7µm,20.9s,baz=102,slow=35
FITZ Fitzroy Crossi 54.90 261 P **P** **09 57 53.2 -0.4**
comp=Z,56nm,1.7s
SOEI Soe 58.15 270 P **P** **09 58 14.6 -2.3**
SOEI IAMs_20 IAMs_20 10 22 15.7
comp=Z,3µm,19.0s
SOEI Soe 58.15 270 P **P** **09 58 17.4 +0.4**
SOEI Soe 58.15 270 P **P** **09 58 14.8 -2.2**
BATI Baumata 58.59 269 LR LR 10 25 11.9
comp=Z,4µm,18.0s,baz=138,slow=38
TNTI Ternate 58.73 283 P **P** **09 58 18.0 -2.9**
TNTI Ternate 58.73 283 P **P** **09 58 21.2 +0.3**
comp=Z,2µmcomp=Z,112nm,1.0s
SANI Sanana 58.97 279 P **P** **09 58 26.7 +4.2**
comp=Z,42nm,1.2s
SANI Sanana 58.97 279 P **P** **09 58 21.8 -0.7**
comp=Z,973nmcomp=Z,42nm,1.2s
SBA Scott Base 59.46 184 P **P** **09 58 24.4 -0.6**
SBA Scott Base 59.46 184 P **P** **09 58 24.4 -0.6**
SBA pmax pmax
comp=Z,189nm,1.8s
VNDA Vanda 59.54 185 P **P** **09 58 26.4 +1.0**
comp=Z,3.3nm,0.9s,baz=343,slow=7.7,SNR=12
VNDA LR LR 10 19 43.6
comp=Z,1µm,21.1s,baz=16,slow=32
comp=Z,3.3nm,0.9s
PSAC2 Pilbara Seismi 59.59 256 P **P** **09 58 24.7 -2.1**
comp=Z,31nm,1.2s
PSA00 Pilbara Seismi 59.64 256 P **P** **09 58 25.1 -2.1**
comp=Z,46nm,1.2s
PSA00 Pilbara Seismi 59.64 256 P **P** **09 58 24.6 -2.5**
PSA00 IAmb IAmb 09 58 34.4
comp=Z,29nm,1.1s
PSA00 Pilbara Seismi 59.64 256 P **P** **09 58 28.1 +1.0**
MBWA Marble Bar 59.82 256 P **P** **09 58 26.6 -1.8**
comp=Z,31nm,1.1s
MBWA Marble Bar 59.82 256 P **P** **09 58 26.1 -2.2**
MBWA IAmb IAmb 09 58 35.7
comp=Z,55nm,1.3s
MBWA Marble Bar 59.82 256 P **P** **09 58 27.8 -0.6**
comp=Z,18nm,1.1s
KLBR Kellerberrin 60.20 244 P **P** **09 58 28.9 -1.9**
comp=Z,143nm,1.1s
KLBR Kellerberrin 60.20 244 P **P** **09 58 31.7 +0.8**
NWAO Narrogin (SRO) 60.53 242 P **P** **09 58 32.2 -0.9**
NWAO Narrogin (SRO) 60.53 242 IAMs_20 IAMs_20 10 25 53.6
comp=Z,2µm,18.0s
NWAO Narrogin (SRO) 60.53 242 LR LR 10 22 36.5
comp=Z,1µm,20.1s,baz=90,slow=34
NWAO Narrogin (SRO) 60.53 242 P **P** **09 58 32.2 -0.9**
NWAO pmax pmax
comp=Z,117nm,1.4s
NWAO MLR MLR
comp=Z,2µm,18.0s
EDFI Ende, Flores 60.87 270 P **P** **09 58 32.1 -3.7**
comp=Z,789nmcomp=Z,23nm,0.9s
BLDU Ballidu 61.19 245 P **P** **09 58 35.4 -2.2**
comp=Z,65nm,1.7s
BLDU Ballidu 61.19 245 P **P** **09 58 36.5 -1.1**
VA02 Isla de Pascua 61.37 111 IAMs_20 IAMs_20 10 17 53.9
comp=Z,3µm,21.0s
RPN Rapa Nui 61.46 111 LR LR 10 20 51.3
comp=Z,2µm,18.4s,baz=260,slow=32
MUN Mundaring 61.48 243 P **P** **09 58 38.0 -1.6**
comp=Z,50nm,1.5s
MORW Morawa 61.94 247 P **P** **09 58 40.8 -1.9**
comp=Z,53nm,1.6s
MORW Morawa 61.94 247 P **P** **09 58 41.0 -1.7**
MORW IAMs_20 IAMs_20 10 22 20.2
comp=Z,2µm,21.0s
MORW Morawa 61.94 247 P **P** **09 58 44.1 +1.4**
DAV Davao City (W) 62.91 289 LR LR 10 24 49.6
comp=Z,1µm,19.2s,baz=98,slow=35
APSI Ampana 63.42 279 P **P** **09 58 51.3 -1.5**
comp=Z,2µmcomp=Z,97nm,1.3s
KAPI Kapanga 63.83 274 LR LR 10 25 29.9
comp=Z,720nm,21.3s,baz=93,slow=35
TTSI Tana Toraja 64.41 276 P P 09 59 05.5 +6.2
TOLI2 Tolitoli 64.95 281 P **P** **09 59 00.4 -2.5**
TOLI2 Tolitoli 64.95 281 P **P** **09 59 03.0 +0.2**
CASY Casey 66.01 205 P **P** **09 59 08.6 -0.2**
CASY IAmb IAmb 09 59 18.2
comp=Z,31nm,1.2s
JHJ Hachijo jima 2 66.72 321 LR LR 10 26 40.8
comp=Z,536nm,18.3s,baz=148,slow=35
MJAR Matsushiro Arr 70.03 322 **P** **09 59 33.2 -1.3**
MJAR Matsushiro Arr 70.03 322 P **P** **09 59 34.1 -0.4**
comp=Z,5.3nm,0.7s,baz=159,slow=6.7,SNR=14
comp=Z,5.3nm,0.7s
MJAR Matsushiro Arr 70.03 322 P **P** **09 59 33.2 -1.3**
MJAR pmax pmax
comp=Z,13nm,1.0s
MAJO Matsushiro 70.03 322 P **P** **09 59 32.9 -1.6**
MAJO Matsushiro 70.03 322 P **P** **09 59 35.5 +1.0**
MAJO Matsushiro 70.03 322 *ce*P **P** **09 59 34.6 +0.1**
MAJO pmax pmax
comp=Z,18nm,1.3s
MJB9 Matsu-Tunnel 70.04 322 P **P** **09 59 32.8 -1.8**
JMN Monobe 70.79 318 P **P** **09 59 38.0 -1.3**
JMN IAmb IAmb 10 00 00.9
comp=Z,66nm,1.2s
ATKA Atka Island 70.93 1 P **P** **09 59 39.7 +0.1**
ATKA IAMs_20 IAMs_20 10 24 05.6
comp=Z,2µm,21.0s
QSPA South Pole Qui 71.05 180 P **P** **09 59 42.6 +2.1**
QSPA IAmb IAmb 09 59 55.8
comp=Z,47nm,1.0s
QSPA South Pole Qui 71.05 180 IAMs_20 IAMs_20 10 32 09.7
comp=Z,1µm,18.0s
QSPA South Pole Qui 71.05 180 P **P** **09 59 42.4 +1.9**
comp=Z,17nm,0.8s,baz=305,slow=0.6,SNR=79
QSPA LR LR 10 27 08.1
comp=Z,699nm,19.5s,baz=34,slow=33
comp=Z,17nm,0.8s
SHEM Shemya Is, Ala 71.93 354 LR LR 10 24 56.9
comp=Z,3µm,21.2s,baz=154,slow=30
UNV Ialaska Valle 73.04 6 IAMs_20 IAMs_20 10 25 04.5
comp=Z,1µm,20.0s
ASAJ Asahikawa 73.24 330 LR LR 10 25 53.7
comp=Z,2µm,21.3s,baz=154,slow=31
LVA Lava Point 73.40 6 IAMs_20 IAMs_20 10 23 57.1
comp=Z,2µm,22.0s
SBUM Sibu 73.42 279 P P 10 00 00.8 +5.4
comp=Z,8.6nm,2.1s
LEM Lembang 74.75 268 LR LR 10 31 49.8
comp=Z,1µm,22.0s,baz=122,slow=35
KSM Kushiro 74.88 277 P **P** **10 00 05.7 +1.8**
comp=Z,54nm,1.1s
CNBA Chernabura Isl 74.90 10 IAMs_20 IAMs_20 10 24 14.1
comp=Z,2µm,22.0s
PET Petropavlovsk 74.96 345 *e*P **P** **10 00 07.7 +4.3**
PET *e*S **S** **10 09 46.8 +6.1**
PET pmax pmax
comp=Z,100nm,9.6s
PET MLR MLR
comp=Z,600nm,15.0s
PET MLR MLR
comp=Z,600nm,17.0s
PEA0B Petropavlovsk- 75.28 344 *i* P **P** **10 00 06.3 +1.0**
PETK Petropavlovsk- 75.28 344 P **P** **10 00 02.5 -2.8**
PETK Petropavlovsk- 75.28 344 P **P** **10 00 05.2 -0.1**
comp=Z,4.1nm,0.9s,baz=103,slow=6.2,SNR=5.4
PETK LR LR 10 29 45.0
comp=Z,1µm,19.3s,baz=149,slow=33
comp=Z,4.1nm,0.9s
YSS Yuzhno-Sakhali 75.34 332 P **P** **10 00 04.2 -1.5**
YSS IAmb IAmb 10 00 16.8
comp=Z,28nm,1.0s
YSS Yuzhno-Sakhali 75.34 332 P P 10 00 10.3 +4.6
YSS Yuzhno-Sakhali 75.34 332 *e*P **P** **10 00 06.4 +0.7**
YSS *e* 10 02 56.6
YSS *e*S **S** **10 09 48.6 +3.5**
YSS *e*PPS PPS 10 10 18.0
YSS *e*SS **SS** **10 14 37.9 +2.1**
YSS pmax pmax
comp=Z,400nm,3.2s
YSS pmax pmax
comp=N,100nm,3.0s
YSS pmax pmax
comp=E,100nm,2.6s
YSS pmax pmax
comp=Z,30nm,1.1s
S12K Black Hills 75.38 8 IAMs_20 IAMs_20 10 24 30.6
comp=Z,2µm,20.0s
MCCM Marconi Confer 75.75 41 IAMs_20 IAMs_20 10 26 46.0
comp=Z,1µm,20.0s
PMPB Monarch Peak 75.89 43 IAMs_20 IAMs_20 10 27 03.9
comp=Z,1µm,19.0s
CCX Cicese 76.25 49 IAMs_20 IAMs_20 10 26 51.5
comp=Z,2µm,20.0s
MTOS Mt Oso, Westle 76.33 42 P **P** **10 00 10.7 -1.0**
MTOS IAmb IAmb 10 00 25.5
comp=Z,37nm,1.2s
MTOS IAMs_20 IAMs_20 10 26 54.4
comp=Z,2µm,19.0s
OSI Osito Audit: C 76.34 46 IAMs_20 IAMs_20 10 28 21.0
comp=Z,2µm,19.0s
PASC Pasadena Art C 76.46 46 P **P** **10 00 11.3 -1.2**
PASC IAMs_20 IAMs_20 10 28 25.1
comp=Z,1µm,20.0s
CBX Cerro Bola 76.49 49 IAMs_20 IAMs_20 10 27 38.1
comp=Z,2µm,22.0s
CPE Camp Elliot 76.49 48 IAMs_20 IAMs_20 10 27 45.1
comp=Z,1µm,20.0s
KMRM Mail Ridge 76.55 39 P **P** **10 00 11.5 -1.5**
MWC Mount Wilson 76.57 46 IAMs_20 IAMs_20 10 26 25.1
comp=Z,1µm,20.0s
VTX Valle De La Tr 76.63 50 IAMs_20 IAMs_20 10 27 03.7
comp=Z,2µm,19.0s
DPP Dos Picos Cty 76.67 48 IAMs_20 IAMs_20 10 26 45.8
comp=Z,1µm,21.0s
BAR Barrett 76.68 48 IAMs_20 IAMs_20 10 27 32.2
comp=Z,1µm,19.0s
ELS Elsinore Mount 76.69 47 IAMs_20 IAMs_20 10 26 05.2
comp=Z,1µm,20.0s
TPO Tropico Hills 76.83 46 IAMs_20 IAMs_20 10 28 45.8
comp=Z,2µm,20.0s
ESJX Sierra Juarez 76.84 49 IAMs_20 IAMs_20 10 27 18.3
comp=Z,2µm,20.0s
TEY Ternei 76.84 328 ⇓ *e*P P 10 00 20.2 +5.9
TEY pmax pmax
comp=Z,10.0nm,1.3s
BFSC Mount Baldy Ra 76.86 47 IAMs_20 IAMs_20 10 26 12.6
comp=Z,1µm,20.0s
KSRS Korea Array 76.90 317 P **P** **10 00 14.8 -0.1**
comp=Z,3.0nm,0.9s,baz=142,slow=5.7,SNR=11
comp=Z,3.0nm,0.9s
KSAR Wonju Array Be 76.92 317 P **P** **10 00 13.0 -2.0**
KSAR Wonju Array Be 76.92 317 P **P** **10 00 13.0 -2.0**
ISA Isabella, Lake 77.11 45 IAMs_20 IAMs_20 10 28 48.2
comp=Z,2µm,18.0s
SFX San Felipe 77.12 51 IAMs_20 IAMs_20 10 26 06.8
comp=Z,2µm,20.0s
BORC Borrego Spring 77.18 48 IAMs_20 IAMs_20 10 29 01.4
comp=Z,2µm,19.0s
YUH Yuha Desert 77.20 49 IAMs_20 IAMs_20 10 27 46.8
comp=Z,2µm,20.0s
LPIG La Paz 77.22 59 LR LR 10 28 11.4
comp=Z,214nm,18.1s,baz=239,slow=31
PFO Pinyon Flats O 77.34 48 P **P** **10 00 16.5 -1.2**
PFO IAmb IAmb 10 00 36.7
comp=Z,96nm,2.0s
PFO Pinyon Flats O 77.34 48 IAMs_20 IAMs_20 10 28 29.6
comp=Z,2µm,19.0s
PFO Pinyon Flats O 77.34 48 LR LR 10 29 00.1
comp=Z,2µm,18.4s,baz=242,slow=31
PFO Pinyon Flats O 77.34 48 *ce*P **P** **10 00 18.7 +1.0**
PFO pmax pmax
comp=Z,15nm,1.1s
PMD Palm Desert 77.42 48 P **P** **10 00 17.6 -0.3**
PMD IAmb IAmb 10 00 36.9
comp=Z,47nm,1.6s
PMD IAMs_20 IAMs_20 10 28 51.6
comp=Z,2µm,19.0s
SALN Salton City 77.49 48 IAMs_20 IAMs_20 10 28 16.6
comp=Z,1µm,18.0s
CPBX Cerro Prieto 77.52 49 IAMs_20 IAMs_20 10 25 45.3
comp=Z,1µm,21.0s
SII Sitkinak Islan 77.53 12 IAMs_20 IAMs_20 10 26 27.6
comp=Z,2µm,22.0s
LRMC Laurel Mtn Rad 77.53 45 IAMs_20 IAMs_20 10 29 29.5
comp=Z,1µm,18.0s
WSHM Spangler Hills 77.73 45 IAMs_20 IAMs_20 10 29 07.7
comp=Z,1µm,19.0s
O03E Paynes Creek 77.74 40 IAmb IAmb 10 00 40.0
comp=Z,72nm,1.4s
CCCA Chr Cany lake 77.77 46 IAMs_20 IAMs_20 10 29 17.9
comp=Z,1µm,19.0s
CLC China Lake 77.78 45 IAMs_20 IAMs_20 10 29 09.0
comp=Z,2µm,19.0s
CWC Cottonwood Cre 77.81 44 IAMs_20 IAMs_20 10 29 28.8
comp=Z,1µm,19.0s
BELC Belle Mtn. Jos 77.87 48 IAMs_20 IAMs_20 10 29 06.7
comp=Z,2µm,18.0s
MPMC Manual Prospec 77.99 45 IAMs_20 IAMs_20 10 29 35.6
comp=Z,2µm,19.0s
GSC Goldstone, Bar 78.03 46 IAMs_20 IAMs_20 10 29 24.7
comp=Z,2µm,19.0s
SSE Sheshan 78.04 309 P **P** **10 00 20.1 -1.3**
SSE S **S** **10 10 15.9 +0.6**
SSE pmax pmax
comp=Z,9.0nm,0.7s
SSE pmax pmax
comp=Z,180nm,3.6s
SSE LR LR
comp=Z,470nm,21.8s
SSE LR LR
comp=Z,380nm,21.7s
BC3 Big Chuckawall 78.07 48 IAMs_20 IAMs_20 10 29 12.9
comp=Z,1µm,19.0s
YBH Yreka Blue Hor 78.09 38 LR LR 10 27 14.8
comp=Z,71nm,21.4s,baz=250,slow=30
MSHR Mys Shultsa 78.11 323 *i* P **P** **10 00 21.8 +0.3**
MSHR pmax pmax
comp=Z,21nm,1.2s
MSHR MLR MLR
comp=Z,641nm,19.0s
PLK4 Peulik 4 78.13 11 IAMs_20 IAMs_20 10 26 27.3
comp=Z,2µm,22.0s
GLA Glamis 78.19 49 IAMs_20 IAMs_20 10 28 39.2
comp=Z,1µm,20.0s
PSTR Posyet 78.36 323 *i* P **P** **10 00 23.2 +0.3**
TYV Tymovskoe 78.39 335 *eP* **P** **10 00 20.8 -2.1**
TYV pmax pmax
comp=Z,200nm,4.6s
TYV pmax pmax
comp=Z,13nm,1.4s
PIX Pinacate 78.41 51 IAMs_20 IAMs_20 10 26 49.0
comp=Z,1µm,20.0s
IRM Iron Mountain 78.56 48 IAMs_20 IAMs_20 10 29 08.7
comp=Z,1µm,19.0s
FURC Furnace Creek, 78.64 45 IAMs_20 IAMs_20 10 30 14.7
comp=Z,2µm,18.0s
DANC Danby, Needles 78.65 47 IAMs_20 IAMs_20 10 30 18.1
comp=Z,1µm,19.0s
PMBI Palembang 78.66 271 IAMs_20 IAMs_20 10 34 18.3
comp=Z,2µm,21.0s
USRK Ussuriysk Ar. 78.70 325 P **P** **10 00 25.5 +0.8**
comp=Z,1.6nm,0.7s,baz=103,slow=8.2,SNR=12
USRK LR LR 10 30 32.4
comp=Z,678nm,20.0s,baz=130,slow=32
comp=Z,1.6nm,0.7s
SHOC Shoshone, Teco 78.72 46 IAMs_20 IAMs_20 10 30 14.9
comp=Z,1µm,19.0s
NVAR Mina Aay Bea 78.80 43 P **P** **10 00 28.6 +2.8**
comp=Z,7.4nm,0.8s,baz=227,slow=8.4,SNR=28
NVAR LR LR 10 29 51.9
comp=Z,1µm,19.4s,baz=236,slow=32
comp=Z,7.4nm,0.8s
113A Mohawk Valley, 78.81 50 IAMs_20 IAMs_20 10 28 29.4
comp=Z,1µm,19.0s
I02E Swisshome, OR 78.96 36 IAMs_20 IAMs_20 10 28 26.8
comp=Z,2µm,21.0s
I03D Drain, OR 78.97 36 IAMs_20 IAMs_20 10 28 58.2
comp=Z,2µm,18.0s
MTPC Mountain Pass 78.98 46 IAMs_20 IAMs_20 10 29 35.0
comp=Z,2µm,19.0s
KDAK Kodiak Island 79.00 13 IAMs_20 IAMs_20 10 28 46.3
comp=Z,2µm,21.0s
KDAK Kodiak Island 79.00 13 LR LR 10 29 08.3
comp=Z,2µm,20.6s,baz=205,slow=31
214A Organ Pipe Nat 79.08 51 IAMs_20 IAMs_20 10 27 19.9
comp=Z,1µm,20.0s
K04D Chiloquin, OR 79.20 38 IAMs_20 IAMs_20 10 28 40.3
comp=Z,1µm,19.0s
TPNV Topopah Spring 79.31 45 IAmb IAmb 10 00 48.6
comp=Z,108nm,1.9s
TPNV IAMs_20 IAMs_20 10 30 28.6
comp=Z,1µm,19.0s
M11K Mekoryuk 79.53 5 IAMs_20 IAMs_20 10 28 15.2
comp=Z,2µm,21.0s
COR Corvallis 79.57 35 IAMs_20 IAMs_20 10 28 26.8
comp=Z,2µm,22.0s
O16K Kokwok River B 79.71 9 IAMs_20 IAMs_20 10 27 52.1
comp=Z,1µm,22.0s
SYI Shuyak Island 79.80 12 IAMs_20 IAMs_20 10 29 12.5
comp=Z,1µm,21.0s
H04D Lebanon 79.84 36 IAMs_20 IAMs_20 10 29 18.1
comp=Z,2µm,20.0s
Q19K Cape Douglas, 79.85 12 IAMs_20 IAMs_20 10 28 59.8

comp=Z,2µm,20.0s
J05D Fort Rock, OR 79.91 37 IAmb IAmb 10 00 41.4
comp=Z,42nm,1.2s
W13A Hualapai Mount 79.93 48 IAMs_20 IAMs_20 10 29 16.0
comp=Z,1µm,18.0s
Y14A Wickenburg 79.95 49 IAMs_20 IAMs_20 10 29 42.8
comp=Z,1µm,19.0s
P18K Big Mountain, 79.99 11 P **P** **10 00 30.8 -0.7**
P18K IAmb IAmb 10 00 45.0
comp=Z,52nm,1.1s
NJ2 Nanjing 80.24 309 *e*P P 10 00 38.1 +4.7
NJ2 S **S** **10 10 42.3 +3.6**
NJ2 SKS **SKSac** **10 10 48.3 -2.9**
NJ2 pmax pmax
comp=Z,11nm,0.6s
NJ2 pmax pmax
comp=Z,540nm,4.7s
NJ2 LR LR
comp=Z,450nm,24.1s
NJ2 LR LR
comp=Z,540nm,24.6s
NJ2 LR LR
comp=Z,780nm,22.7s
H04A Detroit Lake 80.25 36 P **P** **10 00 32.3 -1.0**
H04A IAMs_20 IAMs_20 10 27 49.8
comp=Z,2µm,18.0s
MDJ Mudanjiang 80.28 324 P **P** **10 00 33.3 -0.1**
MDJ S **S** **10 10 41.4 +2.7**
MDJ pmax pmax
comp=Z,11nm,1.3s
MDJ pmax pmax
comp=Z,370nm,8.9s
MDJ LR LR
comp=Z,850nm,22.0s
MDJ LR LR
comp=Z,840nm,24.7s
MDJ LR LR
comp=Z,1µm,17.2s
MDJ Mudanjiang 80.28 324 P **P** **10 00 34.6 +1.2**
R11B Troy Canyon, C 80.52 44 P **P** **10 00 33.6 -1.4**
P19K Oil Pt 80.60 12 IAMs_20 IAMs_20 10 28 16.7
comp=Z,2µm,22.0s
TUC Tucson 80.75 51 IAMs_20 IAMs_20 10 28 10.0
comp=Z,1µm,21.0s
BELA Belgrano 2 80.81 172 P **P** **10 00 36.1 +0.3**
CNPM China Poot 80.88 13 IAMs_20 IAMs_20 10 29 48.1
comp=Z,2µm,21.0s
O19K Port Alsworth 80.91 11 P **P** **10 00 36.0 -0.3**
O19K IAmb IAmb 10 00 49.5
comp=Z,77nm,1.4s
HOM Homer 80.92 12 IAMs_20 IAMs_20 10 30 21.2
comp=Z,2µm,20.0s
HOOD Mount Hood Mea 80.94 36 IAMs_20 IAMs_20 10 29 22.2
comp=Z,2µm,20.0s
GRNR Gornyy 80.97 332 ⇓ *i*P **P** **10 00 38.4 +1.4**
GRNR pmax pmax
comp=Z,3.0nm,1.0s
NLWA Neilton Lookou 81.08 33 IAMs_20 IAMs_20 10 34 42.8
comp=Z,1µm,19.0s
BRLK Bradley Lake 81.17 13 IAMs_20 IAMs_20 10 29 55.4
comp=Z,2µm,21.0s
X16A Lo Mia Camp, P 81.31 49 IAMs_20 IAMs_20 10 30 06.8
comp=Z,1µm,19.0s
319A Douglas 81.42 53 IAMs_20 IAMs_20 10 28 32.9
comp=Z,2µm,22.0s
G06A Carlson Farm, 81.45 36 IAMs_20 IAMs_20 10 29 29.7
comp=Z,2µm,20.0s
M17K Holitna River 81.54 9 IAMs_20 IAMs_20 10 30 35.4
comp=Z,1µm,21.0s
GNW Green Mountain 81.73 33 P **P** **10 00 40.2 -0.9**
GNW IAMs_20 IAMs_20 10 30 58.0
comp=Z,1µm,20.0s
QIZ Qiongzhong 81.79 293 P **P** **10 00 40.9 -1.1**
QIZ S **S** **10 10 54.1 -1.3**
QIZ LR LR
comp=Z,1µm,23.1s
DL2 Dalian 81.81 316 P **P** **10 00 44.1 +2.4**
DL2 S **SKSac** **10 11 00.9 -0.8**
DL2 pmax pmax
comp=Z,46nm,1.5s
DL2 pmax pmax
comp=Z,710nm,7.3s
DL2 LR LR
comp=Z,1µm,22.0s
DL2 LR LR
comp=Z,810nm,18.6s
DL2 LR LR
comp=Z,880nm,20.8s
Q23K Middleton Isla 81.89 15 IAMs_20 IAMs_20 10 31 31.4
comp=Z,2µm,20.0s
WUAZ Wupatki 81.91 48 IAMs_20 IAMs_20 10 31 04.6
comp=Z,1µm,18.0s
PMSA Palmer Station 81.98 156 LR LR 10 31 05.5
comp=Z,556nm,19.7s,baz=246,slow=31
ELK Elko 82.06 42 IAMs_20 IAMs_20 10 30 37.2
comp=Z,1µm,18.0s
O22K Cooper Landing 82.07 13 IAMs_20 IAMs_20 10 30 00.6
comp=Z,1µm,21.0s
J14K Nanvaranak Lak 82.10 6 IAMs_20 IAMs_20 10 30 16.1
comp=Z,1µm,20.0s
KLR Kul'dur 82.12 329 LR LR 10 31 57.9
comp=Z,1µm,20.7s,baz=182,slow=32
CN2 Changchun 82.16 322 *e*P **P** **10 00 43.4 0.0**
CN2 *es*P pwP 10 00 50.0 +0.2
CN2 *e*S **S** **10 10 57.3 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,600nm,18.0s
BNX BinXian 82.19 324 ⇓P **P** **10 00 43.4 -0.1**
BNX pP **pP** **10 00 46.5 -0.1**
BNX sP **sP** **10 00 47.8 +0.2**
BNX PP **PP** **10 03 51.2 -1.0**
BNX S **S** **10 10 59.8 +1.3**
BNX sS **SKKSac** **10 11 06.6 -0.7**
BNX pmax pmax
comp=Z,28nm,0.9s
BNX pmax pmax
comp=Z,380nm,7.0s
BNX LR LR
comp=Z,380nm,18.4s
BNX LR LR
comp=Z,520nm,22.9s
BNX LR LR
comp=Z,870nm,19.5s
BBB Bella Bella 82.31 28 LR LR 10 29 00.2
comp=Z,1µm,21.7s,baz=233,slow=30
G08A Pilot Rock 82.43 37 IAMs_20 IAMs_20 10 31 02.6
comp=Z,1µm,19.0s
FIS Fire Island 82.57 12 IAMs_20 IAMs_20 10 28 42.7
comp=Z,2µm,22.0s
GAMB Gambell 82.59 2 IAMs_20 IAMs_20 10 31 03.9
comp=Z,2µm,20.0s
E07A Sunnyside 82.69 35 IAMs_20 IAMs_20 10 36 48.5
comp=Z,2µm,19.0s
M20K Styx River 82.69 11 IAMs_20 IAMs_20 10 29 24.0
comp=Z,1µm,22.0s
PWL Port Wells 82.71 13 P **P** **10 00 44.8 -1.1**
PWL IAmb IAmb 10 01 04.5
comp=Z,31nm,1.2s
PWL IAMs_20 IAMs_20 10 31 16.8
comp=Z,1µm,20.0s
SUA Susitna One 82.75 12 IAMs_20 IAMs_20 10 29 47.7
comp=Z,2µm,22.0s
MA2 Magadan 82.81 344 LR LR 10 31 02.7
comp=Z,892nm,20.0s,baz=149,slow=31
MA2 Magadan 82.81 344 *i*P **P** **10 00 47.1 +0.7**
MA2 pmax pmax
comp=Z,13nm,1.2s
YPT Yellepit 82.88 36 IAMs_20 IAMs_20 10 31 02.5
comp=Z,2µm,21.0s
WHN Wuhan 82.93 306 P **P** **10 00 51.1 +3.4**
WHN S **SKSac** **10 11 10.0 +0.5**
WHN pmax pmax
comp=Z,190nm,1.5s
WHN LR LR
comp=Z,3µm,23.4s
WAH2 Wahluke Slope 82.97 35 IAMs_20 IAMs_20 10 30 36.8
comp=Z,2µm,19.0s
GLI Glacier Island 83.00 14 IAMs_20 IAMs_20 10 30 23.6
comp=Z,2µm,21.0s
MOIG Morelia 83.00 67 IAMs_20 IAMs_20 10 30 03.2
comp=Z,2µm,20.0s
ZAIG Zacatecas 83.05 63 IAMs_20 IAMs_20 10 29 37.4
comp=Z,1µm,21.0s
SKT Skwentna 83.08 11 IAMs_20 IAMs_20 10 32 13.2
comp=Z,1µm,20.0s
121A Cookes Peak, D 83.09 52 IAMs_20 IAMs_20 10 29 35.9
comp=Z,2µm,22.0s
E08A Dider Farm, El 83.09 36 IAMs_20 IAMs_20 10 31 28.0
comp=Z,2µm,20.0s
M22K Willow 83.14 12 IAMs_20 IAMs_20 10 30 10.9
comp=Z,2µm,21.0s
V35K Ketchikan 83.16 24 IAMs_20 IAMs_20 10 29 33.1
comp=Z,2µm,22.0s
KNK Knik Glacier 83.18 13 IAMs_20 IAMs_20 10 30 33.1
comp=Z,1µm,21.0s
BKNI Bangkinang 83.23 273 IAMs_20 IAMs_20 10 37 29.6
comp=Z,2µm,21.0s
GHO Glory Hole Cre 83.40 13 IAMs_20 IAMs_20 10 43 43.8
comp=Z,1µm,19.0s
D08A Wollman Farm, 83.50 35 IAMs_20 IAMs_20 10 30 53.0
comp=Z,1µm,20.0s
MAW Mawson 83.52 199 P **P** **10 00 52.0 +1.9**
comp=Z,1.6nm,0.8s,baz=86,slow=7.5,SNR=5.7
MAW LR LR 10 36 28.2
comp=Z,3µm,18.6s,baz=110,slow=35
comp=Z,1.6nm,0.8s
TIA Tai'an 83.52 312 P **P** **10 00 53.5 +2.8**
TIA S **S** **10 11 17.3 +4.8**
TIA SS **SS** **10 16 38.9 -0.2**
TIA pmax pmax
comp=Z,12nm,1.0s
TIA pmax pmax
comp=Z,310nm,3.8s
TIA LR LR
comp=Z,290nm,14.8s
TIA LR LR
comp=Z,520nm,14.4s
TIA LR LR
comp=Z,850nm,19.6s
DIV Divide 83.53 14 IAMs_20 IAMs_20 10 30 17.3
comp=Z,2µm,21.0s
E09A Wood Farm, Sta 83.61 36 IAMs_20 IAMs_20 10 31 04.8
comp=Z,1µm,20.0s
J18K Innoko River 83.61 9 IAMs_20 IAMs_20 10 35 40.2
comp=Z,1µm,20.0s
BMRM Bremner River 83.67 15 P **P** **10 00 50.2 -0.7**
BMRM IAmb IAmb 10 01 06.3
comp=Z,60nm,1.4s
BMRM IAMs_20 IAMs_20 10 35 54.2
comp=Z,2µm,18.0s
WRAK Wrangell Islan 83.70 23 IAMs_20 IAMs_20 10 28 45.4
comp=Z,2µm,20.0s
EPT El Paso 83.70 53 IAMs_20 IAMs_20 10 30 16.4
comp=Z,1µm,20.0s
CUT Chulitna 83.71 12 IAMs_20 IAMs_20 10 30 29.1
comp=Z,2µm,22.0s
ANM Nome 83.73 5 IAMs_20 IAMs_20 10 35 48.2
comp=Z,1µm,19.0s
SCM Sheep Creek Mo 83.80 13 IAMs_20 IAMs_20 10 31 02.4
comp=Z,1µm,21.0s
F10A Beach Ranch, E 83.81 37 P **P** **10 00 50.1 -2.0**
F10A IAmb IAmb 10 01 01.0
comp=Z,39nm,1.1s
KLU Klutina 83.81 14 IAMs_20 IAMs_20 10 30 37.0
comp=Z,2µm,21.0s
PLID Pearl Lake 84.01 38 IAMs_20 IAMs_20 10 31 56.6
comp=Z,2µm,21.0s
PCA Pinnacle 84.06 17 IAMs_20 IAMs_20 10 29 49.8
comp=Z,2µm,21.0s
BCPM Bancas Point 84.12 18 IAMs_20 IAMs_20 10 29 41.1
comp=Z,2µm,22.0s
VRDI Verde Repeater 84.17 15 IAMs_20 IAMs_20 10 35 50.5
comp=Z,1µm,19.0s
GRNC Granite Creek 84.19 16 IAMs_20 IAMs_20 10 34 07.8
comp=Z,2µm,20.0s
U35K Hyder 84.20 24 IAMs_20 IAMs_20 10 30 26.7
comp=Z,2µm,20.0s
N25K Chitina, Valde 84.22 15 P **P** **10 00 53.3 -0.4**
N25K IAmb IAmb 10 01 15.2
comp=Z,24nm,1.1s
N25K IAMs_20 IAMs_20 10 30 48.9
comp=Z,2µm,22.0s
GLB Gilahina Butte 84.27 15 IAMs_20 IAMs_20 10 32 09.0
comp=Z,1µm,21.0s
J19K Poorman 84.27 9 IAMs_20 IAMs_20 10 35 22.7
comp=Z,1µm,19.0s
M24K Tolsona, Glenn 84.30 14 IAMs_20 IAMs_20 10 32 16.8
comp=Z,1µm,20.0s
Y22A Socorro 84.34 51 IAMs_20 IAMs_20 10 30 26.1
comp=Z,1µm,20.0s
MCARA McCarthy VSAT 84.42 15 IAMs_20 IAMs_20 10 36 07.8
comp=Z,1µm,18.0s
Y22D IRIS PASSCAL I 84.44 51 IAMs_20 IAMs_20 10 30 29.6
comp=Z,1µm,20.0s
LOGN Logan Glacier 84.47 16 IAMs_20 IAMs_20 10 30 11.4
comp=Z,2µm,22.0s
CTGM Chitina Glacie 84.50 16 P **P** **10 00 54.8 -0.4**
CTGM IAmb IAmb 10 01 10.9
comp=Z,44nm,1.5s
CTGM IAMs_20 IAMs_20 10 30 23.1
comp=Z,2µm,22.0s
TLIG Tlapa 84.50 69 IAMs_20 IAMs_20 10 29 40.2
comp=Z,2µm,20.0s
TNA Tin City 84.55 3 IAMs_20 IAMs_20 10 32 35.6
comp=Z,2µm,20.0s
IPM Ipoh 84.61 277 P **P** **10 00 57.5 +0.7**
comp=Z,23nm,0.9s
UNM Universidad Na 84.62 68 IAMs_20 IAMs_20 10 29 43.2
comp=Z,1µm,21.0s
KTH Kantishna Hill 84.64 11 IAMs_20 IAMs_20 10 31 32.4
comp=Z,1µm,20.0s
TRF Thorofare Moun 84.66 11 IAMs_20 IAMs_20 10 32 45.1
comp=Z,2µm,20.0s
J20K Nowinta River 84.67 10 P **P** **10 00 55.2 -0.7**
PV05 Paradox Valley 84.76 47 IAMs_20 IAMs_20 10 35 09.2
comp=Z,1µm,20.0s
MVCO Mesa Verde 84.76 48 IAMs_20 IAMs_20 10 32 38.0
comp=Z,1µm,20.0s
TXAR Lajitas Array 84.85 57 P **P** **10 01 01.9 +4.2**
comp=Z,26nm,1.0s,baz=216,slow=4.8,SNR=44
TXAR LR LR 10 32 01.5
comp=Z,430nm,20.4s,baz=240,slow=31
HWUT Hardware Ranch 84.87 43 IAMs_20 IAMs_20 10 30 21.5
comp=Z,1µm,21.0s
T35M Bob Quinn 84.89 23 IAMs_20 IAMs_20 10 29 34.0
comp=Z,2µm,22.0s
DHY Denali Highway 84.90 13 IAMs_20 IAMs_20 10 42 34.5
comp=Z,1µm,19.0s
F15K North Star Dit 84.91 5 IAMs_20 IAMs_20 10 35 55.5
comp=Z,1µm,20.0s
HEH HeiHe 84.94 328 *e*P **P** **10 00 57.3 -0.2**
HEH sP **sP** **10 01 01.9 +0.3**
HEH S **S** **10 11 24.4 -1.6**
HEH sS **ScS** **10 11 34.2 -2.6**
HEH SS **SS** **10 16 58.7 -0.7**
HEH pmax pmax
comp=Z,23nm,1.2s
HEH pmax pmax
comp=Z,420nm,6.0s
HEH LR LR
comp=Z,330nm,21.6s
HEH LR LR
comp=Z,730nm,21.2s
HEH LR LR
comp=Z,1µm,22.1s
PV17 East Wray Mesa 84.95 47 IAMs_20 IAMs_20 10 36 02.0
comp=Z,1µm,18.0s
PV16 Nyswonger Mesa 85.00 47 IAMs_20 IAMs_20 10 33 17.2
comp=Z,1µm,21.0s
PV03 Paradox Valley 85.02 47 IAMs_20 IAMs_20 10 32 08.7
comp=Z,1µm,20.0s
ANMO Albuquerque 85.17 51 IAMs_20 IAMs_20 10 32 14.1
comp=Z,1µm,20.0s
ANMO Albuquerque 85.17 51 LR LR 10 32 25.3
comp=Z,1µm,19.5s,baz=337,slow=31
ANMO Albuquerque 85.17 51 *i*P **P** **10 00 59.3 0.0**
ANMO pmax pmax
comp=Z,29nm,1.5s
PV22 Blue Mesa, Par 85.19 47 IAMs_20 IAMs_20 10 31 42.4
comp=Z,2µm,20.0s
NEW Newport 85.20 35 IAMs_20 IAMs_20 10 31 19.8
comp=Z,1µm,21.0s
NEW Newport 85.20 35 LR LR 10 32 33.2
comp=Z,1µm,19.9s,baz=234,slow=31
PAX Paxson 85.21 14 IAMs_20 IAMs_20 10 31 56.9
comp=Z,1µm,21.0s
PV07 Paradox Valley 85.24 47 IAMs_20 IAMs_20 10 33 33.8
comp=Z,2µm,21.0s
M26K Nabesna, AK 85.29 15 IAMs_20 IAMs_20 10 31 26.2
comp=Z,1µm,21.0s
PV15 Paradox Valley 85.31 47 IAMs_20 IAMs_20 10 35 20.6
comp=Z,1µm,19.0s
SEY Seymchan 85.32 346 LR LR 10 32 31.2
comp=Z,2µm,21.9s,baz=145,slow=31
SEY Seymchan 85.32 346 *i*P **P** **10 00 59.9 +0.8**
SEY pmax pmax
comp=Z,35nm,1.4s
SEY MLR MLR
comp=Z,668nm,18.0s
MENT Mentasta 85.58 14 IAMs_20 IAMs_20 10 32 56.8
comp=Z,2µm,21.0s
H19K Roundabout Mou 85.61 8 IAMs_20 IAMs_20 10 41 53.1
comp=Z,1µm,18.0s
L26K Log Cabin Wild 85.75 14 IAMs_20 IAMs_20 10 33 02.1
comp=Z,2µm,21.0s
AHID Auburn Hatcher 85.76 42 IAMs_20 IAMs_20 10 33 12.0
comp=Z,1µm,19.0s
HNS HongShan 85.79 312 ⇑P P 10 01 09.3 +7.2
HNS HongShan 85.79 312 SKS **S** **10 11 32.2 -2.8**
HNS HongShan 85.79 312 SS SS 10 17 11.6 -0.9
HNS pmax pmax
comp=Z,21nm,1.6s
HNS LR LR
comp=N,430nm,16.2s
HNS LR LR
comp=E,440nm,15.2s
HNS LR LR
comp=Z,520nm,18.6s
O30N Mendenhall 85.82 18 P **P** **10 01 01.5 -0.3**
O30N IAmb IAmb 10 01 20.5
comp=Z,38nm,1.6s
K24K Donnelly Dome 85.88 13 IAMs_20 IAMs_20 10 34 09.3
comp=Z,1µm,20.0s
NEA2 Nenana 85.92 11 IAMs_20 IAMs_20 10 33 53.4
comp=Z,2µm,20.0s
PAYG Puerto Ayora 85.94 89 IAMs_20 IAMs_20 10 29 35.6
comp=Z,1µm,22.0s
RPSI Rantau Prapat 86.00 274 P **P** **10 01 01.5 -2.2**
RPSI IAmb IAmb 10 01 38.7
comp=Z,66nm,1.7s
RPSI IAMs_20 IAMs_20 10 40 56.0
comp=Z,1µm,20.0s
WRH Wood River Hil 86.00 12 IAMs_20 IAMs_20 10 32 23.5
comp=Z,1µm,20.0s
BJI Beijing 86.02 315 P **P** **10 01 03.7 +0.5**
BJI pP **pwP** **10 01 08.5 -1.1**
BJI SKS **SKSac** **10 11 25.7 -3.3**
BJI SS **SS** **10 17 15.6 -0.2**
BJI pmax pmax
comp=Z,6µm,3.1s
BJI pmax pmax
comp=Z,140nm,4.2s
BJI LR LR
comp=Z,250nm,20.1s
BJI LR LR
comp=Z,250nm,20.8s
BJI LR LR
comp=Z,410nm,19.8s
MLY Manley 86.02 11 P **P** **10 01 02.1 -0.6**
MLY IAMs_20 IAMs_20 10 36 15.2
comp=Z,1µm,19.0s
RIDG Independent Ri 86.03 13 IAMs_20 IAMs_20 10 33 43.3
comp=Z,2µm,20.0s
PSI Prapat 86.04 274 LR LR 10 40 57.2
comp=Z,973nm,18.7s,baz=137,slow=37
PSI Prapat 86.04 274 P **P** **10 01 06.3 +2.3**
comp=Z,20nm,1.8s
PSI Prapat 86.04 274 P **P** **10 01 01.5 -2.5**
PSI pmax pmax
comp=Z,67nm,1.7s
PSI MLR MLR
comp=Z,2µm,20.0s
DLBC Dease Lake 86.04 22 LR LR 10 31 16.4
comp=Z,19µm,21.7s,baz=199,slow=30
N30M Aishikik Lake 86.08 18 IAMs_20 IAMs_20 10 32 29.0
comp=Z,2µm,20.0s
DOT Dot Lake 86.12 14 IAMs_20 IAMs_20 10 33 24.8
comp=Z,1µm,20.0s
LYN LuoYang 86.13 308 *e*P **P** **10 01 06.4 +2.6**
LYN S **S** **10 11 45.5 +7.0**
LYN SS **SS** **10 17 20.5 +2.9**
LYN pmax pmax
comp=Z,22nm,0.6s
LYN LR LR
comp=Z,660nm,15.5s
LYN LR LR
comp=Z,460nm,15.1s
LYN LR LR
comp=Z,2µm,21.3s
L27K Beaver Creek, 86.14 15 IAMs_20 IAMs_20 10 31 39.6
comp=Z,2µm,22.0s
BCAR Beaver Creek A 86.16 15 P **P** **10 01 02.1 -1.3**
MSO Missoula 86.17 38 IAMs_20 IAMs_20 10 32 52.8
comp=Z,1µm,20.0s
S22A 4UR Ranch, Cre 86.19 48 IAMs_20 IAMs_20 10 31 48.7
comp=Z,1µm,20.0s
CCB Clear Creek Bu 86.22 12 P **P** **10 01 02.7 -0.8**
CCB IAmb IAmb 10 01 41.4
comp=Z,39nm,1.3s
CCB IAMs_20 IAMs_20 10 31 34.2
comp=Z,2µm,22.0s
O20A White River Ci 86.33 45 IAMs_20 IAMs_20 10 34 35.4
comp=Z,1µm,19.0s
I23K Minto, Yukon-K 86.38 11 IAMs_20 IAMs_20 10 33 08.3
comp=Z,1µm,20.0s
COLA College 86.41 12 P **P** **10 01 04.1 -0.4**
COLA IAmb IAmb 10 01 25.8
comp=Z,27nm,0.9s
COLA College 86.41 12 IAMs_20 IAMs_20 10 33 57.2
comp=Z,2µm,20.0s
COLA College 86.41 12 *i*P **P** **10 01 04.5 0.0**
COLA pmax pmax
comp=Z,60nm,2.2s
SCRK Sand Creek 86.42 14 IAMs_20 IAMs_20 10 31 50.8
comp=Z,2µm,22.0s
ILAR Eielson Array 86.51 12 P **P** **10 01 05.1 +0.1**
comp=Z,3.1nm,1.1s,baz=221,slow=6.1,SNR=18
ILAR LR LR 10 32 15.7
comp=Z,912nm,21.9s,baz=202,slow=30
comp=Z,3.1nm,1.1s
BW06 Boulder Array 86.74 43 IAMs_20 IAMs_20 10 33 47.0
comp=Z,1µm,19.0s
PDAR Pinedale Array 86.74 43 P **P** **10 01 08.2 +1.3**
comp=Z,2.6nm,1.1s,baz=217,slow=3.7,SNR=15
PDAR LR LR 10 34 26.7
comp=Z,567nm,19.2s,baz=230,slow=32
comp=Z,2.6nm,1.1s
K27K Chicken 86.90 14 IAmb IAmb 10 01 29.1
comp=Z,34nm,1.3s
K27K IAMs_20 IAMs_20 10 33 36.7
comp=Z,1µm,21.0s
H23K Yukon River 86.96 11 IAMs_20 IAMs_20 10 43 42.7
comp=Z,1µm,18.0s
J26L Joseph Creek 86.97 14 IAMs_20 IAMs_20 10 32 40.4
comp=Z,2µm,21.0s
L29M L29M 87.12 16 IAMs_20 IAMs_20 10 36 40.6
comp=Z,1µm,19.0s
ZEA Zeya 87.16 330 *e*P **P** **10 01 09.3 +0.9**
ZEA *e*S **S** **10 11 51.2 +3.6**
ZEA *e*SS **SS** **10 17 30.0 -1.9**
ZEA pmax pmax
comp=Z,20nm,1.6s
ZEA pmax pmax
comp=Z,100nm,2.3s
ZEA smax smax
comp=E,200nm,9.8s
RDOG Red Dog Mine 87.36 5 IAMs_20 IAMs_20 10 33 12.1
comp=Z,2µm,22.0s
MSTX Muleshoe 87.49 53 IAMs_20 IAMs_20 10 32 16.5
comp=Z,2µm,22.0s
TIY Taiyuan 87.54 311 P **P** **10 01 11.7 +0.9**
TIY S **S** **10 11 53.3 +1.1**
TIY pmax pmax
comp=Z,13nm,0.6s
TIY LR LR
comp=Z,440nm,17.2s
TIY LR LR
comp=Z,470nm,22.0s
TIY LR LR
comp=Z,390nm,26.8s
CMIG Matias Romero 87.61 71 LR LR 10 31 12.8
comp=Z,1µm,20.8s,baz=248,slow=29
F21K Alatna River 87.62 9 IAMs_20 IAMs_20 10 34 16.1
comp=Z,1µm,21.0s

BILL Bilibino 87.74 354 *i* P **P** **10 01 11.8 +0.9**
BILL pmax pmax
comp=Z,13nm,1.1s
BILL MLR MLR
comp=Z,857nm,19.0s
EGAK Eagle 87.75 14 IAMs_20 IAMs_20 10 32 31.8
comp=Z,2µm,22.0s
K29M Barlow Dome 87.88 16 IAMs_20 IAMs_20 10 34 41.6
comp=Z,1µm,19.0s
Q24A Divide 87.91 48 IAMs_20 IAMs_20 10 34 39.4
comp=Z,1µm,19.0s
XLT XiLinHaoTe 87.94 318 *e*P **P** **10 01 12.4 -0.2**
XLT pP pwP 10 01 18.6 -0.4
XLT sP sP 10 01 20.8 +4.1
XLT S **S** **10 12 00.8 +5.0**
XLT SS **SS** **10 17 42.6 -1.4**
XLT pmax pmax
comp=Z,9.0nm,0.9s
XLT pmax pmax
comp=Z,170nm,4.1s
XLT LR LR
comp=Z,65nm,24.7s
XLT LR LR
comp=Z,350nm,26.4s
XLT LR LR
comp=Z,240nm,19.6s
ISCO Idaho Springs 87.97 47 IAMs_20 IAMs_20 10 35 32.7
comp=Z,1µm,19.0s
C18K Utukok River 88.09 5 IAMs_20 IAMs_20 10 39 04.4
comp=Z,1µm,19.0s
G24K Hadweenzic Riv 88.12 11 IAMs_20 IAMs_20 10 33 50.3
comp=Z,2µm,21.0s
COLD Coldfoot 88.12 10 IAMs_20 IAMs_20 10 38 01.7
comp=Z,1µm,19.0s
J29N Klondike Camp 88.20 15 IAMs_20 IAMs_20 10 32 54.0
comp=Z,1µm,21.0s
FYU Fort Yukon 88.42 12 IAMs_20 IAMs_20 10 32 51.5
comp=Z,2µm,22.0s
HIA Hailar 88.47 324 IAMs_20 IAMs_20 10 39 20.5
comp=Z,1µm,20.0s
SYO Syowa Base 88.53 192⇑ *e*P **P** **10 01 15.4 +0.5**
XAN Xi'an 88.57 307 ⇑P **P** **10 01 16.6 +0.9**
XAN pP pwP 10 01 21.1 -1.1
XAN sP sP 10 01 23.5 +3.7
XAN S **S** **10 12 06.9 +4.8**
XAN pmax pmax
comp=Z,12nm,0.9s
XAN LR LR
comp=Z,750nm,20.6s
XAN LR LR
comp=Z,390nm,19.2s
XAN LR LR
comp=Z,660nm,20.6s
K22A Casper 88.65 44 IAMs_20 IAMs_20 10 36 36.7
comp=Z,1µm,19.0s
C19K Lookout Ridge 88.68 6 IAMs_20 IAMs_20 10 38 56.3
comp=Z,1µm,19.0s
AMTX Amarillo 88.69 52 IAMs_20 IAMs_20 10 33 14.9
comp=Z,2µm,20.0s
BI05 Punta Hualpn 88.77 128 IAMs_20 IAMs_20 10 46 07.1
comp=Z,977nm,18.0s
F24K Squaw Lake 88.78 11 IAMs_20 IAMs_20 10 35 35.8
comp=Z,1µm,20.0s
I29M Ogilvie Camp, 88.92 15 IAMs_20 IAMs_20 10 32 44.9
comp=Z,1µm,22.0s
E23K Chandalar 88.98 10 IAMs_20 IAMs_20 10 38 39.0
comp=Z,1µm,20.0s
G26K Porcupine Rive 89.04 12 IAMs_20 IAMs_20 10 33 21.9
comp=Z,1µm,22.0s
PLCA Paso Flores 89.07 133 P **P** **10 01 19.9 +1.7**
comp=Z,4.3nm,1.0s,baz=270,slow=6.1,SNR=3.6
PLCA LR LR 10 32 50.6
comp=Z,479nm,21.7s,baz=255,slow=30
comp=Z,4.3nm,1.0s
TROLL Troll, Antarti 89.21 180 ⇑P **P** **10 01 18.2 0.0**
comp=Z,241nm,0.7s
EGMT Eagleton 89.22 38 IAMs_20 IAMs_20 10 35 11.5
comp=Z,1µm,20.0s
F25K Christian Rive 89.24 11 IAMs_20 IAMs_20 10 34 45.1
comp=Z,2µm,20.0s
D22K Ayikyak River 89.28 8 IAMs_20 IAMs_20 10 38 52.0
comp=Z,1µm,18.0s
I30M Mount Dempster 89.29 16 IAMs_20 IAMs_20 10 37 22.8
comp=Z,1µm,20.0s
SNAA Sanae 89.44 178 ⇑P **P** **10 01 18.9 -0.3**
comp=Z,84nm,0.8s
SNAA Sanae 89.44 178 IAMs_20 IAMs_20 10 40 47.5
comp=Z,1µm,19.0s
SNAA Sanae 89.44 178 P **P** **10 01 19.1 -0.1**
comp=Z,1.7nm,0.7s,baz=192,slow=7.3,SNR=13
SNAA LR LR 10 40 21.7
comp=Z,955nm,18.8s,baz=196,slow=35
comp=Z,1.7nm,0.7s
SNAA Sanae 89.44 178 *i* P **P** **10 01 19.4 +0.2**
SNAA pmax pmax
comp=Z,8.0nm,1.1s
VNA3 Neumayer Olymp 89.50 176 ⇑P **P** **10 01 19.6 +0.1**
comp=Z,12nm,0.8s
TOLK Toolik Lake Re 89.51 9 IAMs_20 IAMs_20 10 44 55.2
comp=Z,965nm,18.0s
HHC Hu-ho-hao-te 89.52 314 *e*P **P** **10 01 19.4 -0.7**
HHC PP **PP** **10 04 56.0 +4.1**
HHC S **S** **10 12 09.1 -1.8**
HHC sS sS 10 12 21.6 +5.6
HHC SS **SS** **10 18 11.5 +4.4**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,190nm,5.9s
HHC LR LR
comp=Z,240nm,17.7s
HHC LR LR
comp=Z,470nm,21.9s
HHC LR LR
comp=Z,780nm,20.8s
H29M Whitestone 89.60 14 IAMs_20 IAMs_20 10 33 49.1
comp=Z,2µm,21.0s
F26K Sheenjek River 89.61 12 IAMs_20 IAMs_20 10 33 50.9
comp=Z,2µm,22.0s
D23K Nanushuk River 89.64 9 IAMs_20 IAMs_20 10 35 41.6
comp=Z,2µm,21.0s
B21K Ikpikpuk River 89.72 7 IAMs_20 IAMs_20 10 34 12.7
comp=Z,1µm,22.0s
B20K Meade River 89.80 6 IAMs_20 IAMs_20 10 36 27.7
comp=Z,1µm,21.0s
CCIG Comitan 89.81 73 IAMs_20 IAMs_20 10 32 15.9
comp=Z,1µm,20.0s
EPYK Eagle Plains 90.12 15 IAMs_20 IAMs_20 10 39 40.7
comp=Z,1µm,18.0s
KMI Kunming 90.17 296 P **P** **10 01 27.3 +3.6**
KMI S **S** **10 12 23.7 +5.9**
KMI SS **SS** **10 18 15.1 -2.3**
KMI pmax pmax
comp=Z,13nm,1.8s
KMI LR LR
comp=Z,600nm,19.7s
KMI LR LR
comp=Z,670nm,20.7s
KMI LR LR
comp=Z,940nm,22.2s
VNA1 Neumayer--Stat 90.18 176 ⇑P **P** **10 01 23.1 +0.6**
comp=Z,16nm,0.9s
G29M Pine Creek 90.25 14 IAMs_20 IAMs_20 10 34 31.0
comp=Z,1µm,21.0s
NVL N'lazarevskaya 90.28 183 *e*P P 10 01 27.9 +4.8
NVL *e* 10 01 29.4
NVL *e* 10 05 04.1
NVL *e*PPP PPP 10 06 58.7
NVL *e*S **SKSac** **10 11 57.8 +3.9**
NVL *e*PS **PS** **10 13 33.0 +8.7**
NVL *e*SSS SSS 10 21 54.1
NVL pmax pmax
comp=Z,6.0nm,0.9s
NVL MLR MLR
comp=Z,154nm,20.0s
F28M Old Crow 90.41 13 IAMs_20 IAMs_20 10 36 50.5
comp=Z,1µm,20.0s
C23K Itkillik River 90.45 9 IAMs_20 IAMs_20 10 34 32.9
comp=Z,1µm,22.0s
BTO Baotou 90.48 313 *e*P **P** **10 01 23.5 -1.1**
BTO pP **sP** **10 01 28.3 -0.4**
BTO sP **pwP** **10 01 30.5 -0.5**
BTO PP **PP** **10 05 00.9 +1.4**
BTO S **S** **10 12 16.3 -3.5**
BTO sS **sS** **10 12 24.8 0.0**
BTO SS **SS** **10 18 23.6 +2.6**
BTO pmax pmax
comp=Z,34nm,0.5s
BTO pmax pmax
comp=Z,440nm,4.0s
BTO LR LR
comp=Z,1µm,16.8s
BTO LR LR
comp=Z,1µm,20.2s
BTO LR LR
comp=Z,2µm,22.4s
G30M tAoh Zraii Nji 90.73 15 IAMs_20 IAMs_20 10 34 33.8
comp=Z,1µm,21.0s
WMOK Wichita Mounta 90.82 54 IAMs_20 IAMs_20 10 35 02.8
comp=Z,1µm,20.0s
RSSD Black Hills 90.93 43 IAMs_20 IAMs_20 10 38 29.0
comp=Z,1µm,18.0s
G31M Satah River 91.16 15 IAMs_20 IAMs_20 10 41 07.2
comp=Z,1µm,18.0s
CMAR Chiang Mai Arr 91.20 289 P **P** **10 01 27.5 -0.8**
CMAR Chiang Mai Arr 91.20 289 P **P** **10 01 28.2 -0.1**
comp=Z,4.0nm,0.9s,baz=112,slow=2.7,SNR=16
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 91.20 289 *i* P **P** **10 01 29.2 +0.9**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 91.32 289 P **P** **10 01 27.0 -1.9**
CHTO lAmb lAmb 10 01 39.1
comp=Z,16nm,1.1s
CHTO Chiang Mai 91.32 289 P **P** **10 01 30.0 +1.2**
CHTO Chiang Mai 91.32 289 P **P** **10 01 27.0 -1.9**
CHTO pmax pmax
comp=Z,17nm,1.2s
F30M Barrier River 91.33 14 IAMs_20 IAMs_20 10 34 52.8
comp=Z,1µm,21.0s
HKT Hockley 91.36 59 IAMs_20 IAMs_20 10 41 34.5
comp=Z,907nm,18.0s
C27K Jago River 91.37 11 IAMs_20 IAMs_20 10 36 16.3
comp=Z,2µm,21.0s
YAK Yakutsk 91.37 338 LR LR 10 43 04.7
comp=Z,212nm,18.1s,baz=125,slow=36
YAK Yakutsk 91.37 338 *i* P **P** **10 01 28.8 +0.8**
YAK pmax pmax
comp=Z,13nm,0.6s
VA01 Torpederas 91.40 126 IAMs_20 IAMs_20 10 39 09.2
comp=Z,1µm,21.0s
CD2 Chengdu 91.40 302 *e*P **P** **10 01 28.4 -0.6**
CD2 S **S** **10 12 28.2 -0.3**
CD2 sS sS 10 12 33.5 -0.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,760nm,17.8s
CD2 LR LR
comp=Z,1µm,19.6s
E29M Blow River 91.48 13 IAMs_20 IAMs_20 10 40 39.6
comp=Z,1µm,19.0s
PZH PanZhiHua 91.50 297 P **P** **10 01 28.8 -0.9**
PZH S **S** **10 12 27.6 -2.1**
PZH sS **sS** **10 12 36.5 +1.6**
PZH pmax pmax
comp=Z,20nm,1.4s
PZH pmax pmax
comp=Z,100nm,5.4s
PZH LR LR
comp=Z,420nm,19.4s
PZH LR LR
comp=Z,430nm,22.7s
PZH LR LR
comp=Z,640nm,21.6s
OK038 West end E0370 91.51 52 IAMs_20 IAMs_20 10 35 09.0
comp=Z,2µm,20.0s
D27M Malcolm River 91.55 12 IAMs_20 IAMs_20 10 35 25.2
comp=Z,1µm,21.0s
F31M Tsiigehtchic 91.69 15 IAMs_20 IAMs_20 10 41 32.2
comp=Z,1µm,19.0s
MT13 San Alfonso 92.15 127 IAMs_20 IAMs_20 10 46 04.7
comp=Z,1µm,18.0s
LMEL Las Melosas 92.17 127 IAMs_20 IAMs_20 10 40 59.1
comp=Z,1µm,18.0s
OK029 Liberty Lake 92.22 53 IAMs_20 IAMs_20 10 35 13.9
comp=Z,1µm,22.0s
R32A Long Quarter, 92.28 50 IAMs_20 IAMs_20 10 35 32.1
comp=Z,1µm,21.0s
CO06 Fray Jorge 92.35 123 IAMs_20 IAMs_20 10 32 04.2
comp=Z,994nm,20.0s
INK Inuvik 92.41 15 LR LR 10 36 19.0
comp=Z,852nm,20.9s,baz=228,slow=31
CO02 Tombarbal 92.64 124 IAMs_20 IAMs_20 10 42 31.8
comp=Z,1µm,18.0s
OK052 Battle Ridge R 92.79 53 IAMs_20 IAMs_20 10 36 27.8
comp=Z,1µm,20.0s
NATX Nacogdoches 92.95 58 IAMs_20 IAMs_20 10 39 49.3
comp=Z,1µm,18.0s
CO05 La Serena 92.97 123 IAMs_20 IAMs_20 10 39 47.6
comp=Z,971nm,18.0s
LZH Lanzhou 93.20 307 *e*P P 10 01 32.2 -5.2
LZH pP pP 10 01 39.4 -1.1
LZH pmax pmax
comp=Z,22nm,1.2s
LZH LR LR
comp=N,460nm,16.1s
LZH LR LR
comp=E,690nm,16.5s
LZH LR LR
comp=Z,840nm,17.9s
GO04 Tololo Observa 93.21 123 IAMs_20 IAMs_20 10 40 15.1
comp=Z,887nm,18.0s
Z38A Mt. Pleasant 93.21 56 IAMs_20 IAMs_20 10 40 04.3
comp=Z,1µm,18.0s
LZDM Lanzhou Array 93.27 307 P **P** **10 01 37.4 -0.5**
comp=Z,1.1nm,0.3s,baz=70,slow=6.5,SNR=4.9
LZDM LR LR 10 41 56.6
comp=Z,335nm,19.5s,baz=175,slow=35
comp=Z,1.1nm,0.3s
TGUH Tegucigalpa,Un 93.52 76 IAMs_20 IAMs_20 10 33 16.3
comp=Z,1µm,22.0s
TUL3 Leonard 93.52 53 IAMs_20 IAMs_20 10 35 56.3
comp=Z,1µm,21.0s
TNCH TengChong 93.74 295 *e*P **P** **10 01 37.7 -2.4**
TNCH SKS **SKSac** **10 12 13.8 -1.5**
TNCH S **S** **10 12 44.1 -5.8**
TNCH pmax pmax
comp=Z,270nm,4.2s
TNCH LR LR
comp=Z,470nm,17.9s
TNCH LR LR
comp=Z,430nm,15.4s
TNCH LR LR
comp=Z,1µm,21.3s
BGNE Belgrade 93.80 48 IAMs_20 IAMs_20 10 39 35.3
comp=Z,1µm,19.0s
CO01 Juntas del Tor 93.85 123 IAMs_20 IAMs_20 10 39 51.9
comp=Z,1µm,18.0s
KSU1 Kansas State U 94.06 50 IAMs_20 IAMs_20 10 37 15.8
comp=Z,1µm,19.0s
E28A Huff 94.09 42 IAMs_20 IAMs_20 10 38 56.6
comp=Z,1µm,19.0s
YKA Yellowknife Ar 94.47 24 LR LR 10 36 31.3
comp=Z,919nm,21.4s,baz=241,slow=30
JTS Las Juntas de 94.48 81 IAMs_20 IAMs_20 10 35 22.0
comp=Z,1µm,20.0s
JTS Las Juntas de 94.48 81 LR LR 10 34 17.6
comp=Z,1µm,20.3s,baz=252,slow=29
TEIG Tepich 94.56 70 IAMs_20 IAMs_20 10 35 49.7
comp=Z,1µm,21.0s
AC06 Mina Casimiro 94.71 121 IAMs_20 IAMs_20 10 40 10.9
comp=Z,1µm,18.0s
GO03 Copiapo 94.71 121 IAMs_20 IAMs_20 10 33 47.9
comp=Z,1µm,21.0s
U38A Gravette 94.77 53 IAMs_20 IAMs_20 10 37 29.4
comp=Z,1µm,20.0s
NNA Nana 94.83 104 LR LR 10 34 14.2
comp=Z,807nm,20.8s,baz=254,slow=29
ATAH Atahualpa 95.05 99 LR LR 10 36 01.7
comp=Z,1µm,19.5s,baz=252,slow=30
HHAR Hobbs 95.06 53 IAMs_20 IAMs_20 10 37 05.0
comp=Z,1µm,22.0s
HDC Heredia 95.18 81 IAMs_20 IAMs_20 10 34 07.4
comp=Z,1µm,22.0s
L34A Svendsen Farm, 95.24 47 IAMs_20 IAMs_20 10 40 22.4
comp=Z,1µm,18.0s
ULN Ulaanbaatar 95.34 319 *i* P **P** **10 01 46.3 -0.6**
ULN pmax pmax
comp=Z,10.0nm,1.3s
N35A Tabor 95.37 49 IAMs_20 IAMs_20 10 37 01.9
comp=Z,1µm,22.0s
C36M Paulatuk 95.56 16 IAMs_20 IAMs_20 10 43 38.3
comp=Z,1µm,19.0s
ECSD EROS Data Cent 95.70 46 IAMs_20 IAMs_20 10 38 49.5
comp=Z,1µm,20.0s
SIUN Universidad Ur 95.72 78 IAMs_20 IAMs_20 10 35 03.6
comp=Z,473nm,21.0s
SONM Songino Array 95.74 319 P **P** **10 01 49.3 +0.6**
comp=Z,0.4nm,0.4s,baz=145,slow=5.4,SNR=5.4
SONM PP **PP** **10 05 41.7 +1.1**
comp=Z,0.4nm,0.3s,baz=193,slow=6.1,SNR=3.7
SONM LR LR 10 40 49.6
comp=Z,352nm,21.2s,baz=116,slow=33
comp=Z,0.4nm,0.4s
WHAR Wooly Hollow 96.00 55 IAMs_20 IAMs_20 10 38 46.9
comp=Z,1µm,21.0s
GO02 Mina Guanaco 96.23 119 IAMs_20 IAMs_20 10 34 44.3
comp=Z,2µm,22.0s
P38A Dawn 96.47 50 IAMs_20 IAMs_20 10 37 52.2
comp=Z,1µm,22.0s
FFC Flin Flon 96.59 34 IAMs_20 IAMs_20 10 38 38.0
comp=Z,1µm,18.0s
PB05 IPOC Station P 96.66 117 IAMs_20 IAMs_20 10 34 58.7
comp=Z,1µm,21.0s
R40A Maddies Statio 96.98 52 IAMs_20 IAMs_20 10 42 09.6
comp=Z,1µm,18.0s
A36M Sachs Harbour 97.03 14 IAMs_20 IAMs_20 10 44 04.2
comp=Z,924nm,18.0s
N38A Joes South For 97.07 49 IAMs_20 IAMs_20 10 40 16.9
comp=Z,971nm,19.0s
BILN Bilwi Airport 97.11 78 IAMs_20 IAMs_20 10 35 58.5
comp=Z,364nm,22.0s
PB06 IPOC Station P 97.25 117 IAMs_20 IAMs_20 10 35 40.3
comp=Z,1µm,20.0s
GTA Gaotai 97.33 309 P Pdif 10 02 01.6 +5.4
GTA SS SS 10 19 55.1 -3.9
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA LR LR
comp=Z,300nm,22.3s
GTA LR LR
comp=Z,690nm,22.7s
GTA LR LR
comp=Z,960nm,23.1s
SCIA State Center 97.44 48 IAMs_20 IAMs_20 10 39 18.7
comp=Z,1µm,21.0s
TIXI Tiksi 97.75 345 IAMs_20 IAMs_20 10 40 00.0
comp=Z,1µm,21.0s
TIXI Tiksi 97.75 345 LR LR 10 40 28.7
comp=Z,2µm,21.9s,baz=143,slow=32
TIXI Tiksi 97.75 345 *i* P Pdif 10 01 58.1 +1.0
TIXI pmax pmax
comp=Z,9.0nm,1.0s
PB01 IPOC Station P 97.99 115 IAMs_20 IAMs_20 10 36 18.1
comp=Z,1µm,22.0s
OXF Oxford 98.00 56 IAMs_20 IAMs_20 10 41 01.2
comp=Z,931nm,18.0s
FVM French Village 98.26 53 IAMs_20 IAMs_20 10 39 04.7
comp=Z,1µm,21.0s
PB11 IPOC Station P 98.36 114 IAMs_20 IAMs_20 10 36 27.6
comp=Z,978nm,22.0s
ULM Lac du Bonnet 98.42 40 LR LR 10 40 41.6
comp=Z,1µm,19.6s,baz=252,slow=32
SLM Saint Louis 98.60 52 IAMs_20 IAMs_20 10 38 54.6
comp=Z,1µm,21.0s
N41A Harden Midland 98.76 50 IAMs_20 IAMs_20 10 40 13.7
comp=Z,1µm,19.0s
PRVC Isla de Provid 98.77 79 IAMs_20 IAMs_20 10 37 04.4
comp=Z,945nm,21.0s
SPMN Marine on St. 98.77 45 IAMs_20 IAMs_20 10 38 31.6
comp=Z,915nm,20.0s
JFWS Jewell Farm 99.84 48 IAMs_20 IAMs_20 10 40 53.0
comp=Z,1µm,19.0s
GOMU GeErMu 100.17 305 P **Pdif** **10 02 08.8 -0.4**
GOMU PP **PP** **10 06 19.6 +4.4**
GOMU SS SS 10 20 39.2 -0.2
GOMU pmax pmax
comp=Z,120nm,5.9s
GOMU LR LR
comp=Z,170nm,16.5s
GOMU LR LR
comp=Z,280nm,16.7s
GOMU LR LR
comp=Z,450nm,16.3s
EYMN Ely 100.44 43 IAMs_20 IAMs_20 10 45 42.5
comp=Z,944nm,19.0s
LPAZ La Paz 101.07 112 P **Pdif** **10 02 15.4 +1.4**
comp=Z,0.5nm,0.8s,baz=270,slow=3.0,SNR=1.6
ROSC El Rosal 102.81 89 IAMs_20 IAMs_20 10 40 05.5
comp=Z,924nm,21.0s
MTDJ Mount Denham 103.68 75 IAMs_20 IAMs_20 10 39 32.5
comp=Z,904nm,22.0s
RUSC La Rusia 104.30 89 IAMs_20 IAMs_20 10 40 58.1
comp=Z,1µm,21.0s
AAM Ann Arbor 104.39 50 IAMs_20 IAMs_20 10 42 15.6
comp=Z,1µm,21.0s
PALK Pallekele 104.66 273 IAMs_20 IAMs_20 10 52 11.5
comp=Z,1µm,20.0s
CHIV Chivirico 105.17 74 IAMs_20 IAMs_20 10 45 57.7
comp=Z,636nm,21.0s
NMDO Nuevo Mundo 106.61 74 IAMs_20 IAMs_20 10 42 52.1
comp=Z,527nm,18.0s
WMQ Urumqi 107.21 311 *e*Pdif **Pdif** **10 02 40.7 +0.7**
WMQ LR LR
comp=Z,910nm,19.5s
WMQ LR LR
comp=Z,480nm,17.9s
WMQ LR LR
comp=Z,580nm,21.9s
SDV Santo Domingo 107.52 86 IAMs_20 IAMs_20 10 42 18.3
comp=Z,892nm,22.0s
BUKO Buck Lake 108.01 47 IAMs_20 IAMs_20 10 49 08.0
comp=Z,1µm,20.0s
MEDO Medina 108.32 50 IAMs_20 IAMs_20 10 44 58.5
comp=Z,824nm,20.0s
MMNY Mt. Morris Dam 108.65 50 IAMs_20 IAMs_20 10 45 07.3
comp=Z,1µm,21.0s
J55A Hilton 108.80 50 IAMs_20 IAMs_20 10 45 12.1
comp=Z,820nm,20.0s
HYB Hyderabad 109.48 282 *e*PKiKP **PKiKP** **10 06 52.5 -1.4**
HYB *e*SKSac **SKSac** **10 13 28.7 -2.2**
PECO Prince Edward 109.48 49 IAMs_20 IAMs_20 10 45 48.3
comp=Z,990nm,22.0s
J57A Williamstown 110.13 50 IAMs_20 IAMs_20 10 47 38.5
comp=Z,838nm,20.0s
P61A Hammonton 110.53 54 IAMs_20 IAMs_20 10 45 41.3
comp=Z,875nm,21.0s
J59A Piesco 111.22 50 IAMs_20 IAMs_20 10 48 00.2
comp=Z,759nm,20.0s
NCB Newcomb 111.47 49 IAMs_20 IAMs_20 10 47 39.0
comp=Z,1µm,18.0s
TRY Troy 111.75 51 IAMs_20 IAMs_20 10 50 32.3
comp=Z,1µm,19.0s
FRNY Flat Rock 112.01 48 IAMs_20 IAMs_20 10 47 25.1
comp=Z,1µm,21.0s
J61A Chester 112.62 50 IAMs_20 IAMs_20 10 52 48.3
comp=Z,823nm,19.0s
HNH Hanover 112.85 50 IAMs_20 IAMs_20 10 54 10.3
comp=Z,860nm,20.0s
LBNH Lisbon 113.15 49 IAMs_20 IAMs_20 10 48 57.2
comp=Z,1µm,20.0s
I62A Tamworth 113.54 50 IAMs_20 IAMs_20 10 49 09.8
comp=Z,1µm,22.0s
I63A Otisfield 114.10 50 IAMs_20 IAMs_20 10 49 46.4
comp=Z,932nm,20.0s
G62A West of Eustis 114.20 48 IAMs_20 IAMs_20 10 48 07.0
comp=Z,967nm,22.0s
SPB Sao Paulo 114.52 128 IAMs_20 IAMs_20 10 54 23.0
comp=Z,973nm,18.0s
E62A Clayton Lake 114.96 47 IAMs_20 IAMs_20 10 49 49.0
comp=Z,1µm,20.0s
BOAV Boa Vista 115.05 96 IAMs_20 IAMs_20 10 46 17.9
comp=Z,1µm,22.0s
PKME Peaks-Kenny Pk 115.08 48 IAMs_20 IAMs_20 10 48 11.2
comp=Z,779nm,20.0s
D62A Allapoint, All 115.30 46 IAMs_20 IAMs_20 10 50 05.8
comp=Z,1µm,20.0s
F64A Sherman 115.76 48 IAMs_20 IAMs_20 10 51 45.1
comp=Z,968nm,19.0s
G65A Princeton 116.30 48 IAMs_20 IAMs_20 10 50 04.5
comp=Z,1µm,21.0s
EMMW East Machias 116.36 49 IAMs_20 IAMs_20 10 50 48.3
comp=Z,802nm,20.0s
AAK Ala-Archa 116.68 309 *i* PKiKP **PKiKP** **10 07 08.1 +0.9**
SABA Saba 116.73 79 IAMs_20 IAMs_20 10 47 44.2
comp=Z,849nm,21.0s
SEUS St. Eustatius 116.94 80 IAMs_20 IAMs_20 10 47 50.9
comp=Z,761nm,21.0s
BVAR Borovoye Array 119.00 321 PKP **PKPdf** **10 07 10.1 -1.0**
comp=Z,1.8nm,0.7s,baz=132,slow=2.2,SNR=5.5
MSEY Mahe Island 123.93 251 IAMs_20 IAMs_20 10 54 37.7
comp=Z,1µm,21.0s

ARTI	**Arti**	**125.02 326**		IAMs_20	IAMs_20	10 59 26.8		
	comp=Z,778nm,20.0s							
ARTI	**Arti**	**125.02 326**		PKP	**PKiKP**	**10 07 24.0**	**+1.1**	
	comp=Z,5.4nm,0.9s,baz=166,slow=8.3,SNR=5.2							
ARTI	**Arti**	**125.02 326**	*i*	PKIKP	**PKPdf**	**10 07 22.2**	**-0.3**	
ARTI						10 09 10.7		
ARTI						10 14 33.6		
ARTI				SS	SS	10 26 07.9	+0.9	
AKTO	**Aktyubinsk**	**127.05 319**		PKP	**PKiKP**	**10 07 28.1**	**+0.9**	
	comp=Z,1.8nm,0.8s,baz=82,slow=6.0,SNR=4.0							
ARCES	**ARCESS Array B**	**127.75 351**		PKP	**PKiKP**	**10 07 30.4**	**+2.4**	
	comp=Z,13nm,0.9s,baz=0.0,slow=1.3,SNR=11							
APA	**Apatity**	**127.92 346**	*i*	PKIKP	**PKiKP**	**10 07 28.3**	**-0.1**	
APA				MLR	MLR			
	comp=Z,1μm,19.6s							
KLMR	**Klimovskoe**	**131.17 338**	*e*	PKIKP	**PKPdf**	**10 07 34.2**	**+0.1**	
KLMR				pmax	pmax			
	comp=Z,8.0nm,0.6s							
RCBR	**Riachuelo**	**133.78 118**		IAMs_20	IAMs_20	11 05 56.2		
	comp=Z,523nm,18.0s							
FINES	**FINESS Array B**	**134.79 345**		PKP	**PKiKP**	**10 07 42.1**	**-0.3**	
	comp=Z,5.2nm,1.1s,baz=113,slow=5.0,SNR=4.2							
MAK	**Makhachkala**	**136.20 313**	*e*	P	**Pdif**	**10 04 37.8**	**-11**	
MAK			*e*			10 10 19.2		
MAK			*e*			10 14 51.4		
MAK			*e*	PS	**PS**	**10 20 38.5**	**-11**	
MAK			*e*	SS	SS	10 28 23.0	-1.9	
MAK				pmax	pmax			
	comp=Z,32nm,0.3s							
OBN	**Obninsk**	**136.22 333**	⇑*e*	PKIKP	**PKiKP**	**10 07 44.4**	**-1.0**	
OBN			*e*			10 10 30.5		
OBN				pmax	pmax			
	comp=Z,2.0nm,0.9s							
AKT	**Akhty**	**136.50 311**	*e*	PKIKP	**PKiKP**	**10 07 45.6**	**-1.1**	
AKT			*e*			10 10 24.0		
AKT			*e*	PPP	PPP	10 13 24.0		
AKT				pmax	pmax			
	comp=Z,9.0nm,1.2s							
AKT				MLR	MLR			
	comp=Z,1μm,29.0s							
NB2	**NORSAR Subarra**	**137.69 355**		PKP	**PKiKP**	**10 07 54.1**	**+5.7**	
	comp=Z,1.6nm,0.9s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**137.69 355**		PKP	**PKiKP**	**10 07 48.8**	**+0.5**	
	comp=Z,2.1nm,0.9s,baz=19,slow=4.7,SNR=5.1							
HFS	**Hagfors**	**138.31 353**		PKP	**PKiKP**	**10 07 49.3**	**-0.3**	
	comp=Z,3.6nm,0.9s,baz=60,slow=3.5,SNR=3.0							
KBZ	**Khabaz**	**139.04 316**		PKP	**PKiKP**	**10 07 51.0**	**-0.5**	
	comp=Z,1.2nm,0.6s,baz=90,slow=2.0,SNR=3.6							
KIV	**Kislovodsk**	**139.08 316**	*i*	PKIKP	**PKiKP**	**10 07 50.8**	**-1.0**	
KIV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,877nm,24.0s							
SHA1	**Shidzhatmaz**	**139.19 316**	*i*	PKIKP	**PKPdf**	**10 07 49.5**	**-0.5**	
ERBR	**Yeremizino-Bor**	**139.68 320**	*i*	PKIKP	**PKPdf**	**10 07 51.1**	**+0.6**	
ERBR			*e*			10 14 58.9		
ERBR				pmax	pmax			
	comp=Z,15nm,0.5s							
MNK	**Minsk**	**140.06 338**	*i*	PKIKP	**PKPdf**	**10 07 49.6**	**-1.3**	
MNK			*i*			10 10 47.4		
MNK			*i*	PPP	PPP	10 13 51.3		
MNK			*i*			10 14 59.9		
MNK			*i*	SS	SS	10 29 11.8	+2.8	
MNK			*i*	SSS	SSS	10 34 25.0		
MNK				pmax	pmax			
	comp=Z,8.0nm,0.6s							
MNK				pmax	pmax			
	comp=N,15nm,0.8s							
MNK				pmax	pmax			
	comp=E,22nm,0.8s							
MNK				MLR	MLR			
	comp=N,296nm,21.0s							
MNK				MLR	MLR			
	comp=Z,941nm,23.0s							
KIBK	**Kibwezi**	**140.18 241**		IAMs_20	IAMs_20	11 07 22.5		
	comp=Z,630nm,20.0s							
RAYN	**Ar Rayn**	**140.95 284**		IAMs_20	IAMs_20	11 12 30.9		
	comp=Z,563nm,20.0s							
ATD	**Arta Tunnel**	**141.65 265**		IAMs_20	IAMs_20	11 08 36.8		
	comp=Z,583nm,20.0s							
ANN	**Anapa**	**142.00 320**	*i*	PKIKP	**PKiKP**	**10 07 56.2**	**-1.4**	
ANN			*e*			10 15 02.9		
ANN				pmax	pmax			
	comp=Z,13nm,0.7s							
ANN				MLR	MLR			
	comp=Z,554nm,22.0s							
AKASG	**Malin Array Be**	**142.48 333**		PKP	**PKPdf**	**10 07 56.4**	**+1.0**	
	comp=Z,4.8nm,0.9s,baz=40,slow=2.6,SNR=6.7							
KIEV	**Kiev**	**142.49 333**		IAMs_20	IAMs_20	11 14 54.1		
	comp=Z,773nm,21.0s							
EKA	**Eskdalemuir Ar**	**143.36 7**		PKP	**PKPdf**	**10 07 57.9**	**+1.1**	
	comp=Z,1.0nm,0.6s,baz=327,slow=1.2,SNR=2.9							
ARPR	**Arapgir-MALATY**	**144.06 311**		IAMs_20	IAMs_20	11 12 03.3		
	comp=Z,516nm,22.0s							
BEL	**Belsk**	**144.62 342**	*e*	PKP	**PKiKP**	**10 08 05.7**	**+3.0**	
SORM	**Soroca**	**144.76 331**	⇑P		**PKPdf**	**10 08 00.9**	**+1.5**	
GORT1	**Trebel**	**145.58 352**	*e*	PKPbc	**PKPab**	**10 08 01.6**	**+0.5**	
	baz=14,slow=2.8							
RUE	**Ruedersdorf**	**145.69 349**	*e*	PKPbc	**PKPab**	**10 08 01.4**	**-0.1**	
	baz=14,slow=2.8							
KWP	**Kalwaria Pacla**	**145.88 338**	*e*	PKP	**PKPab**	**10 08 03.3**	**+0.9**	
RETH	**Rethem/Aller,**	**146.06 354**	*e*	PKPbc	**PKPab**	**10 08 03.0**	**+0.2**	
	baz=14,slow=2.8							
FLTG	**Flechtingen**	**146.24 352**	*e*	PKPbc	**PKPab**	**10 08 03.1**	**-0.5**	
	baz=14,slow=2.8							
OJC	**Ojcow**	**146.34 341**	*e*	PKP	**PKPdf**	**10 08 00.6**	**-1.5**	
ASSE	**Asse, Remlinge**	**146.51 352**	*e*	PKPbc	**PKPab**	**10 08 04.4**	**-0.2**	
	baz=14,slow=2.8							
BURAR	**Bucovina Array**	**146.54 333**	⇑P		**PKiKP**	**10 08 06.7**	**-0.3**	
STHS	**Stebnicka Huta**	**146.57 339**	*e*	PKP2	**PKPbc**	**10 08 03.9**	**-0.1**	
IBBN	**Ibbenburen**	**146.62 356**	*e*	PKPbc	**PKPab**	**10 08 04.8**	**-0.3**	
	baz=14,slow=2.8							
KOLS	**Kolonicke sedl**	**146.62 338**	*e*	PKP2	**PKPab**	**10 08 05.4**	**+0.2**	
KSP	**Ksiaz**	**146.72 345**	*e*	PKP	**PKPab**	**10 08 05.2**	**-0.3**	
TESR	**Tescani**	**146.74 331**	⇓P		**PKiKP**	**10 08 07.9**	**+0.5**	
NIE	**Niedzica**	**146.88 340**	*e*	PKP	**PKPdf**	**10 08 03.3**	**+0.2**	
CLL	**Collm**	**146.96 349**		IAMs_20	IAMs_20	11 19 11.7		
	comp=Z,621nm,20.0s							
CLL	**Collm**	**146.96 349**	*i*	PKP2	**PKPab**	**10 08 05.6**	**-0.8**	
CLL				pmax	pmax			
	comp=Z,28nm,0.9s							
CLL				MLR	MLR			
	comp=Z,600nm,20.5s							
CLL	**Collm**	**146.96 349**	*e*	PKPbc	**PKPbc**	**10 08 05.4**	**+0.4**	
	baz=14,slow=2.8							
CFR	**Carcaliu**	**146.98 328**	⇑P		**PKPab**	**10 08 06.7**	**+0.1**	
ONER	**Baraj Valea Uz**	**146.99 331**	⇑P		**PKiKP**	**10 08 07.1**	**-0.7**	
OSTC	**Ostas**	**147.00 345**	*e*	PKP2	**PKPab**	**10 08 06.4**	**-0.3**	
OSTC				MLR	MLR			
	comp=Z,1μm,26.4s							
OSTC	**Ostas**	**147.00 345**	*e*	PKP	**PKPab**	**10 08 06.4**	**-0.3**	
OSTC			*ex*		x	10 08 12.9		
OSTC				AMS	AMS	11 05 30.0		
	comp=Z,1μm,26.4s							
CHVC	**Chvalec**	**147.01 346**	*e*	PKP2	**PKPbc**	**10 08 05.3**	**0.0**	
CHVC	**Chvalec**	**147.01 346**	*e*	PKP	**PKPbc**	**10 08 05.3**	**0.0**	
BRTR	**Keskin Array B**	**147.02 315**			**PKPdf**	**10 08 02.0**	**-1.8**	
BRTR	**Keskin Array B**	**147.02 315**		PKPbc	**PKPbc**	**10 08 05.5**	**-0.3**	
	comp=Z,7.1nm,0.9s,baz=108,slow=2.7,SNR=9.5							
BRTR	**Keskin Array B**	**147.02 315**		PKHKP	PKPpre	10 08 02.0		
TPGR	**Topolog**	**147.06 327**	⇑P		**PKPab**	**10 08 06.8**	**-0.3**	
UPC	**Upice**	**147.10 346**	*e*	PKP2	**PKPab**	**10 08 06.3**	**-0.7**	
UPC				MLR	MLR			
	comp=Z,1μm,24.4s							
UPC	**Upice**	**147.10 346**	*e*	PKP	**PKPab**	**10 08 06.3**	**-0.7**	
UPC				AMS	AMS	11 05 10.0		
	comp=Z,1μm,24.4s							
KIRS	**Kirsehir-Merke**	**147.13 314**	⇓P		**PKPbc**	**10 08 05.3**	**-0.7**	
DPC	**Dobruska-Polom**	**147.17 345**	*e*	PKP2	**PKPab**	**10 08 06.5**	**-0.9**	
DPC				MLR	MLR			
	comp=Z,700nm,19.2s							
DPC	**Dobruska-Polom**	**147.17 345**	*e*	PKP	**PKPab**	**10 08 06.5**	**-0.9**	
DPC			*ex*		x	10 08 13.2		
DPC				AMS	AMS	11 14 50.0		
	comp=Z,700nm,19.2s							
GTTG	**Gottingen**	**147.17 353**	*e*	PKPbc	**PKPab**	**10 08 06.4**	**-0.9**	
	baz=14,slow=2.8							
STEB	**Steborice**	**147.18 343**	*e*	PKP	**PKPbc**	**10 08 06.1**	**+0.4**	
STEB			*ex*		x	10 08 12.4		
VRI	**Vrincioaia**	**147.18 330**	⇑P		**PKiKP**	**10 08 10.6**	**+2.3**	
BRG	**Berggiesshubel**	**147.20 348**	⇓*e*	PKPf		10 08 07.8		
BRG				Amp		10 08 11.6		
	comp=Z,17nm,1.0s							
BRG	**Berggiesshubel**	**147.20 348**		P	**PKiKP**	**10 08 14.7**	**+6.6**	
BRG				Amp		10 08 15.1		
	comp=Z,46nm,1.0s							
PLOR	**Plostina**	**147.23 330**	⇓P		**PKiKP**	**10 08 08.0**	**-0.4**	
NEUB	**Neuenburg**	**147.25 351**	*e*	PKPbc	**PKPbc**	**10 08 06.4**	**+0.5**	
	baz=14,slow=2.8							
KRLC	**Kraliky**	**147.31 344**	*e*	PKP2	**PKPbc**	**10 08 06.7**	**+0.6**	
KRLC				MLR	MLR			
	comp=Z,900nm,24.1s							
KRLC	**Kraliky**	**147.31 344**	*e*	PKP	**PKPbc**	**10 08 06.7**	**+0.6**	
KRLC				AMS	AMS	11 09 00.0		
	comp=Z,900nm,24.1s							
ARCR	**ARCALIA**	**147.32 334**	⇑P		**PKiKP**	**10 08 11.1**	**+2.6**	
LANS	**Liptovska Anna**	**147.38 341**	*e*	PKP2	PKiKP	10 08 16.4	+7.8	
MORC	**Moravsky Berou**	**147.38 343**	*e*	PKP	**PKPbc**	**10 08 06.5**	**+0.2**	
MORC	**Moravsky Berou**	**147.38 343**	⇓P		**PKPab**	**10 08 08.0**	**-0.2**	
PVCC	**Panska Ves**	**147.40 347**	*e*	PKP2	**PKiKP**	**10 08 09.2**	**+0.7**	
PVCC				MLR	MLR			
	comp=Z,700nm,17.6s							
PVCC	**Panska Ves**	**147.40 347**	*e*	PKP	**PKiKP**	**10 08 09.2**	**+0.7**	
PVCC				AMS	AMS	11 13 40.0		
	comp=Z,700nm,17.6s							
HARR	**Harsova**	**147.43 327**	⇓PKP2		**PKPbc**	**10 08 05.8**	**-0.7**	
COVR	**Voineasa-Covas**	**147.44 330**	⇑P		**PKiKP**	**10 08 08.6**	**-0.2**	
OZUR		**147.45 331**	⇑P		**PKiKP**	**10 08 11.2**	**+2.4**	
RICC	**Richard**	**147.48 348**		AMS	AMS	11 13 10.0		
	comp=Z,900nm,21.5s							
BUG	**Bochum--Univer**	**147.52 356**	*e*	PKPbc	**PKPbc**	**10 08 07.1**	**+0.5**	
	baz=14,slow=2.8							
KECS	**Kecovo**	**147.63 339**	*e*	PKP2	**PKPab**	**10 08 15.7**	**+6.5**	
KASTN	**Kahler Asten**	**147.67 355**	*e*	PKPbc	**PKPbc**	**10 08 07.6**	**+0.5**	
	baz=14,slow=2.8							
MAUC	**Maruska**	**147.68 343**	*e*	PKP	**PKPab**	**10 08 11.5**	**+2.1**	
MAUC				AMS	AMS	11 11 20.0		
	comp=Z,2μm,21.4s							
DOPR	**Dopca**	**147.73 331**	⇑P		**PKiKP**	**10 08 08.8**	**-0.7**	
MOX	**Moxa**	**147.82 351**	*e*	PKPbc	**PKPbc**	**10 08 08.1**	**+0.6**	
	baz=14,slow=2.8							
MOX			*e*	L	L	11 10 43.1		
	comp=Z,752nm,21.8s							
MLR	**Muntele Rosu**	**147.83 330**	⇓P		**PKiKP**	**10 08 08.6**	**-1.2**	
PRA	**Prague**	**147.86 347**		AMS	AMS	11 14 10.0		
	comp=Z,600nm,16.9s							
UBBA	**Unterbreizbach**	**147.88 353**	*e*	PKPbc	**PKiKP**	**10 08 08.2**	**-1.2**	
	baz=14,slow=2.8							
PLN	**Plauen**	**147.89 350**	*e*	PKPbc	**PKPbc**	**10 08 08.2**	**+0.5**	
	baz=14,slow=2.8							
TANN	**Tannenbergstha**	**147.91 350**	*e*	PKPbc	**PKPbc**	**10 08 08.3**	**+0.5**	
	baz=14,slow=2.8							
PRU	**Pruhonice**	**147.91 347**	*e*	PKP2	**PKPbc**	**10 08 07.9**	**+0.2**	
PRU				MLR	MLR			
	comp=Z,1μm,23.7s							
PRU	**Pruhonice**	**147.91 347**	*e*	PKP	**PKPbc**	**10 08 07.9**	**+0.2**	
PRU				AMS	AMS	11 16 50.0		
	comp=Z,1μm,23.7s							
CJR	**Cluj-Napoca**	**147.93 334**	⇑P		**PKiKP**	**10 08 09.9**	**+0.1**	
VRAC	**Vranov**	**148.06 344**	*e*	PKP	**PKPbc**	**10 08 08.5**	**+0.3**	
MARR	**Marisel-Cluj**	**148.16 334**	⇑P		**PKiKP**	**10 08 09.3**	**-1.0**	
VYHS	**Vyhne**	**148.16 341**	*e*	PKP2	**PKPbc**	**10 08 08.6**	**+0.2**	
JAVC	**Velka Javorina**	**148.18 342**	*e*	PKP	**PKiKP**	**10 08 09.7**	**-0.6**	
DRGR		**148.23 335**	⇓P		**PKiKP**	**10 08 10.0**	**-0.5**	
UCC	**Uccle**	**148.28 359**	*d*	PKP	**PKPab**	**10 08 13.1**	**+1.5**	
KRUC	**Moravsky**	**148.34 344**	*e*	PKP	**PKPbc**	**10 08 09.1**	**+0.2**	
TREC	**Trest**	**148.35 345**		AMS	AMS	11 04 50.0		
	comp=Z,1μm,25.5s							
MANZ	**Manzenberg**	**148.38 350**	*e*	PKPbc	**PKiKP**	**10 08 09.7**	**-0.9**	
	baz=14,slow=2.8							
MEM	**Membach**	**148.42 357**	*d*	PKP	**PKPbc**	**10 08 07.1**	**-1.9**	
BTNL	**Ternell**	**148.44 357**	*d*	PKP	**PKPbc**	**10 08 09.2**	**+0.1**	
BSTI	**Sart Tilman**	**148.47 358**	*d*	PcP	**PKiKP**	**10 08 10.3**	**-0.4**	
MMAI	**Mount Meron Ar**	**148.48 303**		PKPbc	**PKPbc**	**10 08 09.8**	**0.0**	
	comp=Z,13nm,0.9s,baz=55,slow=7.2,SNR=8.1							
ARR	**Arges**	**148.53 331**	⇑P		**PKiKP**	**10 08 11.0**	**-0.1**	
SMOL	**Smolenice**	**148.56 342**	*e*	PKP2	**PKPab**	**10 08 17.9**	**+5.0**	
ROTZ	**Rotzenmuhle**	**148.58 349**	*e*	PKPbc	**PKiKP**	**10 08 10.2**	**-0.8**	
	baz=14,slow=2.8							
TNS	**Taunus Mts**	**148.64 354**	*e*	PKPbc	**PKiKP**	**10 08 10.3**	**-0.9**	
	baz=14,slow=2.8							
BCLA	**Clavier**	**148.64 358**	*d*	PKP	**PKPab**	**10 08 11.9**	**-1.2**	
BHOU	**Houvegnez**	**148.68 357**	*d*	PcP	**PKPbc**	**10 08 08.9**	**-0.8**	
BGES	**Geves**	**148.68 358**	*d*	PKP	**PKiKP**	**10 08 10.8**	**-0.4**	
BMRD	**Maredsous**	**148.77 359**	*d*	PKP	**PKPbc**	**10 08 09.9**	**0.0**	
GRA1	**Grafenberg Arr**	**148.81 351**		IAMs_20	IAMs_20	11 11 23.8		
	comp=Z,757nm,22.0s							
GRF	**Grafenberg Arr**	**148.81 351**	*e*	PKPbc	**PKiKP**	**10 08 11.4**	**-0.1**	
	baz=14,slow=2.8							
GRF			*e*	L	L	11 19 19.6		
	comp=Z,646nm,21.6s							
GRFO	**Grafenberg**	**148.81 351**		IAMs_20	IAMs_20	11 11 22.8		
	comp=Z,746nm,21.0s							
GHAJ	**Ghor Haditha**	**148.84 299**		IAMs_20	IAMs_20	11 19 10.3		
	comp=Z,608nm,20.0s							
RCHB	**Rochefort**	**148.90 358**	*d*	PKP	**PKPab**	**10 08 13.2**	**-1.0**	
KHC	**Kasperske Hory**	**148.93 347**	*e*	PKP2	**PKPbc**	**10 08 10.8**	**+0.3**	
KHC				MLR	MLR			
	comp=Z,1μm,26.5s							
KHC	**Kasperske Hory**	**148.93 347**	*e*	PKP	**PKPbc**	**10 08 10.8**	**+0.3**	
KHC			*ex*		x	10 08 17.6		
KHC				AMS	AMS	11 06 30.0		
	comp=Z,1μm,26.5s							
DOU	**Dourbes**	**148.98 359**	*d*	PKP	**PKiKP**	**10 08 10.9**	**-0.9**	
WET	**Wettzell**	**149.06 348**	*e*	PKPbc	**PKiKP**	**10 08 11.6**	**-0.5**	
	baz=14,slow=2.8							
GEC2	**GERESS Array S**	**149.18 347**	*e*	PKPbc	**PKiKP**	**10 08 11.6**	**-0.8**	
	baz=14,slow=2.8							
GERES	**GERESS Array B**	**149.18 347**		PKPbc	**PKPbc**	**10 08 10.9**	**-0.3**	
	comp=Z,3.7nm,0.8s,baz=35,slow=2.4,SNR=19							
GZR	**Gura Zlata**	**149.33 333**	⇑PKP2		**PKPbc**	**10 08 11.4**	**-0.2**	
WLF	**Walferdange**	**149.36 357**			**PKPab**	**10 08 15.6**	**-0.4**	
WLF	**Walferdange**	**149.36 357**	*d*	PKP	**PKiKP**	**10 08 12.8**	**+0.2**	
WLF	**Walferdange**	**149.36 357**		PKP2	**PKPab**	**10 08 15.6**	**-0.4**	
WLF				MLR	MLR			
	comp=Z,1μm,22.0s							
WLF	**Walferdange**	**149.36 357**	*e*	PKPbc	**PKiKP**	**10 08 12.8**	**+0.2**	
	baz=14,slow=2.8							
CONA	**Conrad Observa**	**149.52 344**	*i*	PKP	**PKPbc**	**10 08 10.6**	**-1.5**	
	comp=Z,44nm,1.4s,SNR=5.7							
RONA	**Rosalia, Austr**	**149.62 343**	*e*	PKP	**PKPbc**	**10 08 10.8**	**-1.4**	
	comp=Z,0.9nm,0.4s							
BZS	**Buzias**	**149.63 335**	⇓PKP2		**PKiKP**	**10 08 13.0**	**-0.3**	
STU	**Stuttgart**	**149.99 353**		IAMs_20	IAMs_20	11 18 04.9		
	comp=Z,613nm,21.0s							
STU	**Stuttgart**	**149.99 353**	*e*	PKPbc	**PKiKP**	**10 08 13.8**	**-0.2**	
	baz=14,slow=2.8							
MOA	**Molln**	**149.99 346**	*e*	PKP	**PKPbc**	**10 08 11.6**	**-1.5**	
	comp=Z,26nm,1.2s							
ISP	**Isparta**	**150.09 314**		IAMs_20	IAMs_20	11 25 05.3		
	comp=Z,458nm,20.0s							
ARSA	**Arzberg**	**150.24 344**	*e*	PKP	**PKPbc**	**10 08 11.5**	**-2.2**	
	comp=Z,0.9nm,0.6s							
BIOA	**Bad Ischl, Aus**	**150.28 346**	*e*	PKP	**PKPbc**	**10 08 12.9**	**-1.0**	
	comp=Z,0.6nm,0.3s							
FUR	**Furstenfeldbru**	**150.28 350**	*e*	PKPbc	**PKiKP**	**10 08 14.3**	**-0.4**	
	baz=14,slow=2.8							
RJOB	**Jochberg**	**150.42 348**	*e*	PKPbc	**PKiKP**	**10 08 14.4**	**-0.5**	
	baz=14,slow=2.8							
BFO	**Black Forest**	**150.52 354**			**PKiKP**	**10 08 17.4**	**+2.3**	
BFO				IAMs_20	IAMs_20	11 23 18.9		
	comp=Z,582nm,20.0s							
BFO	**Black Forest**	**150.52 354**		PKIKP	**PKiKP**	**10 08 17.4**	**+2.3**	
BFO	**Black Forest**	**150.52 354**	*e*	PKPbc	**PKiKP**	**10 08 15.0**	**-0.1**	
	baz=14,slow=2.8							
ECH	**Echery**	**150.74 355**		IAMs_20	IAMs_20	11 13 46.7		
	comp=Z,656nm,20.0s							
LESA	**Schwarzleotal**	**150.74 348**	*e*	PKP	**PKPbc**	**10 08 13.7**	**-1.3**	
	comp=Z,2.6nm,0.6s							
SOKA	**Soboth**	**150.89 344**	*e*	PKP	**PKPbc**	**10 08 13.6**	**-1.7**	
	comp=Z,0.4nm,0.5s							
KBA	**Koelnbreinsper**	**150.93 346**	*e*	PKP	**PKPbc**	**10 08 13.8**	**-1.7**	
	comp=Z,0.6nm,0.4s							
MANT	**Manisa**	**151.02 317**			**PKPab**	**10 08 21.9**	**-1.7**	
RETA	**Reutte**	**151.03 350**	*e*	PKP	**PKPbc**	**10 08 13.8**	**-1.9**	
	comp=Z,1.9nm,0.6s							
CLF	**Chambon-Foret**	**151.03 2**			**PKPab**	**10 08 20.3**	**-2.6**	
WATA	**Walderalm**	**151.03 349**	*e*	PKP	**PKPbc**	**10 08 13.5**	**-2.3**	
	comp=Z,1.5nm,0.5s,SNR=4.2							
WTTA	**Wattenberg**	**151.09 349**	*e*	PKP	**PKPbc**	**10 08 14.0**	**-2.0**	
	comp=Z,1.1nm,0.5s,SNR=4.7							
MOTA	**Moosalm**	**151.11 350**	*e*	PKP	**PKPbc**	**10 08 13.3**	**-2.6**	
	comp=Z,2.0nm,0.5s							
RDO	**Rodhopi**	**151.14 325**			**PKPab**	**10 08 21.7**	**-2.0**	
OBKA	**Obir**	**151.18 344**	*e*	PKiKP	**PKPbc**	**10 08 15.2**	**-0.9**	
	comp=Z,0.1nm,0.3s							
SQTA	**Sankt Quirin**	**151.21 349**	*e*	PKiKP	**PKPbc**	**10 08 15.2**	**-0.9**	
	comp=Z,0.7nm,0.4s							
MYKA	**Terra Mystica**	**151.28 346**	*e*	PKP	**PKPbc**	**10 08 14.6**	**-1.7**	
	comp=Z,0.3nm,0.4s							
DAVA	**Damuels**	**151.36 351**	*e*	PKP	**PKPbc**	**10 08 14.7**	**-1.8**	
	comp=Z,0.9nm,0.5s							
ABTA	**Abfaltersbach**	**151.42 347**	*i*	pPKP	pPKPdf	10 08 13.5	-0.1	
	comp=Z,2.5nm,0.8s,SNR=8.3							
FETA	**Feichten**	**151.49 350**	*e*	PKP	**PKPbc**	**10 08 15.3**	**-1.6**	
	comp=Z,1.4nm,0.7s							
EZN	**Ezine**	**151.58 322**	⇓	PKIKP	**PKPab**	**10 08 21.7**	**-3.8**	
FUORN	**Ofenpass-Fuorn**	**151.95 350**		IAMs_20	IAMs_20	11 10 43.8		
	comp=Z,722nm,21.0s							
TRI	**Trieste**	**152.12 345**			**PKPab**	**10 08 23.8**	**-3.7**	
TUE	**Stuetta**	**152.23 352**			**PKPdf**	**10 08 15.0**	**+3.1**	
PDG	**Podgorica**	**153.22 334**		IAMs_20	IAMs_20	11 20 35.0		
	comp=Z,716nm,21.0s							
MTE	**Manteigas**	**156.57 22**		IAMs_20	IAMs_20	11 25 56.7		
	comp=Z,585nm,20.0s							
ESDC	**Sonseca Array**	**158.35 16**		PKP	**PKPdf**	**10 08 21.2**	**+1.0**	
	comp=Z,2.6nm,0.9s,baz=345,slow=3.0,SNR=12							
DBIC	**Dimbokro**	**165.13 144**		PKP	**PKPdf**	**10 08 27.7**	**-0.2**	
	comp=Z,7.6nm,1.0s,baz=87,slow=4.0,SNR=3.6							
TORD	**Torodi Ar. Bea**	**173.84 161**		PKP	**PKPdf**	**10 08 33.0**	**0.0**	
	comp=Z,6.5nm,1.0s,baz=358,slow=2.6,SNR=8.9							
TORD				PKPab	**pPKPab**	**10 10 06.2**	**+0.1**	
	comp=Z,1.7nm,0.8s,baz=181,slow=2.4,SNR=5.9							

NDI ***04*** *10:00:29.7±1.9,28°.04N×75°.77E,h10km,ML3.7,MW3.5*
ISC 04 10:00:28.9±0.9,27°.95N±0°.07×75°.80E±0°.05,h10km,n16,
σ2°.63/30,Northern India

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUDL	**Kundal**	**0.64**	**72**	*eP*		**Pg**	**10 00 42.4**	**+1.1**
KUDL				*eS*		**Sg**	**10 00 51.6**	**+2.0**
KUDL				IAML			10 00 53.5	
	comp=N,966nm,0.2s							
KUDL				IAML			10 00 54.0	
	comp=E,794nm,0.3s							
RTK	**Rohtak**	**1.21**	**26**	*eS*		**Sb**	**10 01 06.7**	**-0.8**
RTK				IAML			10 01 09.6	
	comp=N,3μm,0.1s							
AYAN	**Aya Nagar**	**1.28**	**65**	*eP*		**Pn**	**10 00 54.1**	**+1.2**
AYAN				*eS*		**Sb**	**10 01 11.1**	**+1.4**
AYAN				IAML			10 01 13.0	
	comp=E,3μm,0.3s							
AYAN				IAML			10 01 14.3	
	comp=N,4μm,0.3s							
NDI	**New Delhi**	**1.45**	**59**	*eP*		**Pn**	**10 00 56.4**	**+1.2**
NDI				*eS*		**Sn**	**10 01 15.7**	**+1.4**
AJM	**Ajmer**	**1.79**	**215**	*eP*		**Pn**	**10 01 01.2**	**+1.3**
AJM				*eS*		**Sn**	**10 01 24.7**	**+1.9**
AJM				IAML			10 01 25.7	
	comp=E,705nm,0.3s							
AJM

KURBB				⇑Sn		Sn	10 06 37.6	-1.1
	13nm,0.8s								
KURBB				⇑Lg		Lg	10 07 26.5		
	21nm,0.8s								
KURBB	**Kurchatov Arra**	**8.13**	**252**	Pn		**Pn**	**10 05 05.8**	**-0.4**
	0.1nm,0.3s,baz=64,slow=14,SNR=9.0								
KURBB				Sn		**Sn**	**10 06 38.3**	**-0.4**
	0.1nm,0.3s,baz=67,slow=24,SNR=10								
KURBB				Lg		Lg	10 07 24.0		
	0.1nm,0.3s,baz=64,slow=27,SNR=6.6								
	1.6nm,0.5s								
MK31	**Makanchi Array**	**8.84**	**221**	⇑Pn		**Pn**	**10 05 18.1**	**+2.2**
	1.9nm,0.8s,baz=46,slow=10,SNR=6.5								
MK31				⇑Sn		**Sn**	**10 06 58.8**	**+2.6**
	0.9nm,0.6s,baz=87,slow=50,SNR=4.3								
MK31				⇓Lg		Lg	10 07 49.5		
	7.1nm,0.9s,baz=43,slow=31,SNR=4.2								
MKAR	**Makanchi Array**	**8.84**	**221**	Pn		**Pn**	**10 05 14.4**	**-1.5**
	0.2nm,0.3s,baz=41,slow=15,SNR=6.4								
MKAR				Sn		**Sn**	**10 06 53.3**	**-2.9**
	baz=39,slow=18								
MKAR				Lg		Lg	10 07 45.2		
	0.1nm,0.3s,baz=38,slow=31,SNR=5.9								
	0.6nm,0.5s								
MAKZ	**Makanchi**	**8.95**	**222**	Pn		**Pn**	**10 05 17.8**	**+0.4**
	0.8nm,0.4s								
MAKZ				⇑Sn		**Sn**	**10 06 58.4**	**-0.5**
	1.3nm,0.6s								
MAKZ				Lg		Lg	10 07 48.0		
	8.7nm,1.2s								
SONM	**Songino Array**	**11.56**	**115**	Lg		Lg	10 09 01.4		
	0.3nm,0.3s,baz=298,slow=31,SNR=6.9								

*JMA **04** 10:11:32.1±0.3,31°N±3°×13°8E±°, h458km,MV3.7/36, NEAR TORISHIMA IS*
*IDC **04** 10:11:38.6±0.7,31.56N×138.38E, h400km±16km, mb3.1/8, mbtmp4.0/10, Error ellipse: s-maj=41.8km s-min=12.9km az=65.0*
ISC 04 10:11:38.8±0.9,31°64N±0.09×138°4E±0.1,h400km,n31, σ1§07/33,mb3.3/8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.43**	**54**	*e*P		**Pn**	**10 12 31.8**	**+0.2**
JAOM				*e*S		**S**	**10 13 14.7**	**+0.4**
JHCJ	**Hachijojimakas**	**1.86**	**39**	*e*P		**Pn**	**10 12 35.5**	**+1.6**
JHJ	**Hachijo jima 2**	**1.89**	**38**	P		**Pn**	**10 12 34.0**	**-0.1**
	78nm,0.9s,baz=78,slow=24,SNR=18							
JHJ				S		**S**	**10 13 19.8**	**+1.1**
	104nm,0.3s,baz=276,slow=23,SNR=12							
JHJ2	**Mitsune**	**1.90**	**39**	P		**Pn**	**10 12 34.4**	**+0.3**
JHJ2	**Mitsune**	**1.90**	**39**	*e*P		**Pn**	**10 12 34.6**	**+0.6**
TK02	**Tokai 2**	**2.37**	**347**	*e*P		**Pn**	**10 12 38.5**	**+1.7**
TTO1	**TONANKAI O.B.S**	**2.40**	**326**	*e*P		**Pn**	**10 12 38.5**	**+1.5**
TTO4	**TONANKAI O.B.S**	**2.47**	**343**	*e*P		**Pn**	**10 12 39.1**	**+1.6**
JIE	**Ise**	**3.09**	**333**	P		**Pn**	**10 12 44.1**	**+1.4**
JKN2	**Miekihoku**	**3.15**	**326**	P		**Pn**	**10 12 44.0**	**+0.9**
JTNC	**Tanabenakahech**	**3.20**	**314**	P		**Pn**	**10 12 44.2**	**+0.5**
JHMK	**Hamakita**	**3.21**	**351**	*e*P		**Pn**	**10 12 44.9**	**+1.3**
HMMJ	**Hamamatsu 2**	**3.26**	**350**	*e*P		**Pn**	**10 12 45.5**	**+1.4**
INU	**Inuyama**	**3.88**	**343**	P		**Pn**	**10 12 51.3**	**+1.7**
JGF	**Kuroka**	**4.05**	**348**	P		**Pn**	**10 12 52.4**	**+1.1**
JMN	**Monobe**	**4.34**	**300**	P		**Pn**	**10 12 55.0**	**+0.9**
MJAR	**Matsushiro Arr**	**4.89**	**358**	P		**Pn**	**10 12 59.7**	**+0.1**
	14nm,0.4s,baz=173,slow=10,SNR=45							
MAJO	**Matsushiro**	**4.90**	**358**	P		**Pn**	**10 13 00.3**	**+0.6**
JSD	**Sado**	**6.39**	**359**	P		**Pn**	**10 13 15.3**	**-0.2**
JMM	**Marumori**	**6.52**	**17**	P		**Pn**	**10 13 17.0**	**0.0**
JMM	**Marumori**	**6.52**	**17**	S		**S**	**10 14 34.5**	**-2.7**
KSRS	**Korea Array**	**10.40**	**307**	P		**Pn**	**10 14 01.6**	**+0.2**
	3.4nm,0.7s,baz=126,slow=10,SNR=9.2							
ERM	**Erimo**	**11.04**	**19**	S		**S**	**10 16 11.5**	**+0.9**
LZDM	**Lanzhou Array**	**29.06**	**288**	P		**P**	**10 17 03.9**	**-0.8**
	2.3nm,0.4s,baz=90,slow=4.4,SNR=4.5							
	2.3nm,0.4s							
SONM	**Songino Array**	**29.18**	**313**	P		**P**	**10 17 05.5**	**+0.2**
	1.0nm,0.7s,baz=101,slow=6.2,SNR=4.3							
	1.0nm,0.7s							
MKAR	**Makanchi Array**	**45.08**	**306**	P		**P**	**10 19 17.0**	**0.0**
	0.6nm,0.6s,baz=91,slow=8.9,SNR=5.4							
	0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**47.53**	**312**	P		**P**	**10 19 35.5**	**-0.1**
	0.6nm,0.3s,baz=91,slow=9.7,SNR=5.3							
	0.6nm,0.3s							
WRA	**Warramunga Arr**	**51.43**	**185**	P		**P**	**10 20 04.0**	**-1.0**
	1.0nm,0.7s,baz=1.5,slow=7.9,SNR=17							
	1.0nm,0.7s							
BVAR	**Borovoye Array**	**52.48**	**315**	P		**P**	**10 20 12.6**	**+0.2**
	1.0nm,0.5s,baz=108,slow=8.0,SNR=3.8							
	1.0nm,0.5s							
ASAR	**Alice Springs**	**55.16**	**185**	P		**P**	**10 20 31.1**	**-0.7**
	0.5nm,0.7s,baz=11,slow=13,SNR=10							
	0.5nm,0.7s							
FINES	**FINESS Array B**	**72.41**	**332**	P		**P**	**10 22 22.3**	**-0.1**
	1.8nm,0.8s,baz=73,slow=7.0,SNR=6.0							
	1.8nm,0.8s							

*NNC **04** 10:18:46.5±15.0,37°43N×71°19E, h118km±330km, mb3.1, mpv3.8, Error ellipse: s-maj=127.3km s-min=92.7km az=15.0*
ISC 04 10:18:44.8±3.6,37°4N±0°2×71°4E±0°1,h100km,n9, σ1§74/12,2C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UCH	**Uchtor**	**5.44**	**25**	P		**Pn**	**10 20 04.1**	**+0.3**
	SNR=61							
EKS2	**Erkin-Say**	**5.62**	**18**	P		**Pn**	**10 20 07.2**	**+1.2**
	SNR=22							
KK31	**Karatay Array**	**5.79**	**354**	⇓P		**Pn**	**10 20 10.8**	**+2.7**
	3.2nm,0.4s,baz=180,slow=14,SNR=42							
KK31				⇑S		**Sn**	**10 21 14.9**	**+1.7**
	16nm,0.3s,baz=182,slow=26,SNR=6.5							
AAK	**Ala-Archa**	**5.80**	**23**	P		**Pn**	**10 20 09.1**	**+0.7**
	SNR=18							
AAK	**Ala-Archa**	**5.80**	**23**	⇓P		**Pn**	**10 20 08.8**	**+0.4**
	6.5nm,0.4s							
AAK				⇓S		**Sn**	**10 21 13.8**	**+0.2**
	28nm,0.7s							
KBK	**Karagaybulak**	**5.97**	**26**	P		**Pn**	**10 20 11.2**	**+0.5**
	SNR=12							
CHMS	**Chumysh**	**6.21**	**23**	P		**Pn**	**10 20 14.3**	**+0.5**
	SNR=11							
TKM2	**Tokmak 2**	**6.43**	**29**	P		**Pn**	**10 20 16.6**	**-0.5**
	SNR=9.1							
AB31	**Akbulak array**	**14.51**	**329**	⇓P		**Pn**	**10 22 04.8**	**-0.3**
	0.6nm,0.5s,baz=147,slow=11,SNR=15							
AB31				⇑S		**Sn**	**10 24 41.1**	**-3.7**
	0.4nm,0.3s,baz=150,slow=24,SNR=4.0							

*IDC **04** 10:41:24.9±0.7, 11°75N×85°42W, h224km±12km, mb2.9/5, mbtmp3.6/6, Error ellipse: s-maj=28.4km s-min=19.5km az=42.0*
*CATAC **04** 10:41:26.6±0.3, 11°N±3°×8°6W±°, h235km±2km, M3.9/39, MLv3.9/39, Error ellipse: s-maj=7.6km s-min=3.2km az=47.2, confirmed*
*UCR **04** 10:41:27.5±1.2, 11°45N×85°63W, h230km±2km, MW4.4*
*SNET **04** 10:41:29.0±0.5, 11°61N×85°93W, h237km±782km, ML4.1*
*GCG **04** 10:41:47.4±2.9, 12°17N×86°87W, h139km±900km, MD4.7*
ISC 04 10:41:25.9±0.7,11°44N±0°04×85°71W±0°05,h243km±5km, n163,σ1§24/223,mb3.3/6,71C-8D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAPN	**Al SSO del Vol**	**0.09**	**20**	⇓*e*P		**Pn**	**10 41 58.0**	**+0.9**
JAPN	**Al SSO del Vol**	**0.09**	**20**	⇓P		**Pn**	**10 41 58.1**	**+0.9**
OMEN	**Al SSO del Vol**	**0.11**	**50**	⇓P		**Pn**	**10 41 55.6**	**-1.6**
MORN	**Al O del Volca**	**0.12**	**30**	⇑P		**Pn**	**10 41 57.8**	**+0.5**
CONN	**Concepcion**	**0.15**	**34**	⇑P		**Pn**	**10 41 57.7**	**+0.5**
CARN	**Rivas**	**0.31**	**144**	⇑*i*P		**Pn**	**10 41 58.0**	**+0.5**
CARN				*e*S		**S**	**10 42 22.8**	**+0.5**
CARN	**Rivas**	**0.31**	**144**	⇑P		**Pn**	**10 41 58.1**	**+0.5**
CARN				S		**S**	**10 42 21.9**	**-0.4**
LCRUZ	**La Cruz**	**0.37**	**168**	⇑*i*P		**Pn**	**10 41 57.7**	**0.0**
LCRUZ				*e*S		**S**	**10 42 22.6**	**-0.1**
NADN	**Granada**	**0.44**	**314**	⇑P		**Pn**	**10 41 57.9**	**+0.1**
NANN	**Nandasmo**	**0.64**	**321**	S		**S**	**10 42 24.7**	**+0.6**
NANN	**Nandasmo**	**0.64**	**321**	⇑P		**Pn**	**10 41 59.7**	**+1.2**
PEJA	**Penjamo Buenos**	**0.67**	**144**	⇑*i*P		**Pn**	**10 41 59.3**	**+0.7**
BUAI	**Buenos Aires**	**0.67**	**147**	⇑*i*P		**Pn**	**10 41 59.3**	**+0.6**
BUAI				*e*S		**S**	**10 42 23.7**	**-0.6**
SABN	**Sabanita**	**0.68**	**319**	⇑P		**Pn**	**10 41 57.7**	**-0.9**
MASN	**Masaya**	**0.69**	**321**	*e*P		**Pn**	**10 41 58.5**	**-0.2**
MASN	**Masaya**	**0.69**	**321**	P		**Pn**	**10 41 59.0**	**+0.3**
VORI	**VORI**	**0.71**	**150**	⇑*i*P		**Pn**	**10 41 59.4**	**+0.4**
LAPC	**Finca la Perla**	**0.72**	**158**	⇑*e*P		**Pn**	**10 41 58.7**	**-0.1**
LAPC				*e*S		**S**	**10 42 23.3**	**-1.4**
VRLE	**La Escondida,**	**0.73**	**152**	⇑*i*P		**Pn**	**10 41 59.0**	**+0.1**
MAS3	**Al N del Volca**	**0.74**	**322**	⇓P		**Pn**	**10 41 59.2**	**+0.3**
MAS3				S		**S**	**10 42 25.9**	**+1.2**
ACON	**Acoyapa**	**0.74**	**45**	⇑*i*P		**Pn**	**10 41 58.5**	**-0.3**
ACON	**Acoyapa**	**0.74**	**45**	S		**S**	**10 42 24.5**	**-0.2**
ACON	**Acoyapa**	**0.74**	**45**	⇑P		**Pn**	**10 41 58.5**	**-0.3**
GPS1	**Guardaparques**	**0.75**	**152**	*e*P		**Pn**	**10 41 59.2**	**+0.2**
GPS3	**Bodega del ICE**	**0.76**	**154**	⇑P		**Pn**	**10 42 01.8**	**+2.7**
GPS3				*e*S		**S**	**10 42 27.6**	**+2.5**
GPS2	**Hotel Rincn d**	**0.77**	**153**	⇑*e*P		**Pn**	**10 41 59.1**	**0.0**
GPS2				*e*S		**S**	**10 42 24.8**	**-0.4**
CRUN	**El Crucero**	**0.79**	**313**	P		**Pn**	**10 41 59.3**	**+0.1**
ELI1	**Hacienda Flor**	**0.81**	**169**	*e*P		**Pn**	**10 41 59.5**	**+0.4**
ELI1				*e*S		**S**	**10 42 25.1**	**-0.3**
ELI1	**Hacienda Flor**	**0.81**	**169**	P		**Pn**	**10 41 59.6**	**+0.4**
ELI1	**Hacienda Flor**	**0.81**	**169**	S		**S**	**10 42 24.8**	**-0.6**
WILN	**Americas 2**	**0.85**	**327**	⇑P		**Pn**	**10 41 59.7**	**+0.4**
WILN				S		**S**	**10 42 26.7**	**+1.1**
VMAR	**Armenia, Volca**	**0.86**	**137**	⇑*i*P		**Pn**	**10 41 59.9**	**+0.4**
VMAR				*e*S		**S**	**10 42 24.7**	**-1.1**
ALIBA	**Liberia Airpor**	**0.86**	**169**	⇑*i*P		**Pn**	**10 41 59.8**	**+0.3**
ALIBA				*e*S		**S**	**10 42 25.5**	**-0.3**
MESS	**Mesas**	**0.86**	**144**	⇑*i*P		**Pn**	**10 41 59.9**	**+0.4**
MESS				*e*S		**S**	**10 42 23.7**	**-2.2**
UNAN	**Cigeo UNAN**	**0.86**	**321**	⇑P		**Pn**	**10 41 59.6**	**+0.2**
UNAN				S		**S**	**10 42 26.9**	**+1.1**
MGAN	**Managua**	**0.88**	**323**	⇑*i*P		**Pn**	**10 41 59.7**	**+0.3**
MGAN	**Managua**	**0.88**	**323**	S		**S**	**10 42 26.2**	**+0.3**
MGAN	**Managua**	**0.88**	**323**	⇑P		**Pn**	**10 41 59.8**	**+0.3**
R4DEC	**Barrio San Lui**	**0.88**	**323**	S		**S**	**10 42 25.8**	**-0.1**
R4DEC	**Barrio San Lui**	**0.88**	**323**	⇓P		**Pn**	**10 41 59.8**	**+0.3**
TISN	**Laguna Tiscapa**	**0.89**	**322**	⇑P		**Pn**	**10 41 59.7**	**+0.2**
HORNC	**Hornillas**	**0.89**	**144**	⇑*e*P		**Pn**	**10 42 00.1**	**+0.4**
HORNC				*e*S		**S**	**10 42 25.6**	**-0.6**
ABCN	**Banco Central**	**0.90**	**319**	P		**Pn**	**10 41 60.0**	**+0.4**
ABCN	**Banco Central**	**0.90**	**319**	S		**S**	**10 42 26.3**	**+0.2**
COLC	**Colonia**	**0.92**	**147**	⇑*i*P		**Pn**	**10 42 00.1**	**+0.3**
COLC				*e*S		**S**	**10 42 25.9**	**-0.5**
CUI	**Cuipilapa**	**0.95**	**145**	⇑*i*P		**Pn**	**10 42 00.5**	**+0.6**
CUI				*e*S		**S**	**10 42 26.0**	**-0.7**
MOTZ	**Rio Naranjo**	**0.98**	**140**	⇑*e*P		**Pn**	**10 42 00.7**	**+0.5**
MOTZ				*e*S		**S**	**10 42 27.1**	**+0.1**
SAPS	**Ciudad Sandino**	**0.99**	**317**	S		**S**	**10 42 27.3**	**+0.3**
SAPS	**Ciudad Sandino**	**0.99**	**317**	P		**Pn**	**10 42 00.3**	**+0.2**
DELF	**Filadelfia**	**1.00**	**171**	⇑*i*P		**Pn**	**10 42 00.8**	**+0.6**
DELF				*e*S		**S**	**10 42 26.5**	**-0.6**
BAGA	**Bagaces**	**1.01**	**154**	⇑*i*P		**Pn**	**10 42 00.5**	**+0.2**
BAGA				*e*S		**S**	**10 42 26.5**	**-0.7**
TENO	**El Achiote**	**1.03**	**135**	*e*P		**Pn**	**10 42 01.0**	**+0.6**
APQ3	**Volcan Apoyequ**	**1.05**	**322**	P		**Pn**	**10 42 00.6**	**+0.2**
APQ3				S		**S**	**10 42 27.4**	**-0.1**
LCHIL	**Los Chiles**	**1.06**	**112**	⇑*i*P		**Pn**	**10 42 00.8**	**+0.3**
TIMP	**Tierras Morena**	**1.09**	**141**	⇑*i*P		**Pn**	**10 42 01.1**	**+0.3**
TIMP				*e*S		**S**	**10 42 26.8**	**-1.4**
COPN	**Copaltepe**	**1.13**	**310**	⇑*i*P		**Pn**	**10 42 00.4**	**-0.5**
COPN	**Copaltepe**	**1.13**	**310**	⇑P		**Pn**	**10 42 00.4**	**-0.5**
QUEB	**Quebradon, Cot**	**1.14**	**135**	⇑*i*P		**Pn**	**10 42 01.5**	**+0.4**
QUEB				*e*S		**S**	**10 42 29.1**	**+0.4**
PLVR	**Palo Verde**	**1.14**	**162**	⇑*e*P		**Pn**	**10 42 01.6**	**+0.4**
PLVR				*e*S		**S**	**10 42 28.1**	**-0.9**
INVE	**Universidad In**	**1.15**	**146**	⇑*i*P		**Pn**	**10 42 01.9**	**+0.3**
INVE				*e*S		**S**	**10 42 27.6**	**-1.2**
CNAS	**Canas**	**1.17**	**149**	⇑*i*P		**Pn**	**10 42 02.6**	**+1.4**
CNAS				*e*S		**S**	**10 42 28.3**	**-0.7**
TILA	**Tilaran**	**1.21**	**143**	⇑*i*P		**Pn**	**10 42 01.8**	**+0.3**
TILA				*e*S		**S**	**10 42 27.8**	**-1.7**
MOM2	**El Cardon**	**1.25**	**323**	⇑P		**Pn**	**10 42 01.9**	**+0.3**
MOM2				S		**S**	**10 42 31.0**	**+1.2**
CHIK	**Chiripa**	**1.27**	**141**	*e*P		**Pn**	**10 42 02.6**	**+0.6**
CHIK				*e*S		**S**	**10 42 30.4**	**+0.1**
JUD3	**Juan Diaz 3**	**1.28**	**172**	⇑*i*P		**Pn**	**10 42 02.5**	**+0.4**
JUD3				*e*S		**S**	**10 42 29.7**	**-0.8**
TABAC	**Tabacon**	**1.32**	**135**	⇑*i*P		**Pn**	**10 42 03.1**	**+0.8**
TABAC				*e*S		**S**	**10 42 31.2**	**+0.4**
MOM3	**MOM3**	**1.32**	**323**	⇓P		**Pn**	**10 42 02.6**	**+0.4**
MOM3				S		**S**	**10 42 31.5**	**+0.7**
REZ	**Monterrey de S**	**1.35**	**132**	*e*P		**Pn**	**10 42 03.5**	**+1.0**
JTS	**Las Juntas de**	**1.36**	**147**	P		**Pn**	**10 42 02.8**	**+0.2**
	152nm,0.5s,baz=22,slow=5.4,SNR=224							
JTS				S		**S**	**10 42 29.2**	**-2.1**
	241nm,0.3s,baz=329,slow=16,SNR=12							
JTS	**Las Juntas de**	**1.36**	**147**	⇑*i*P		**Pn**	**10 42 02.8**	**+0.2**
JTS				*e*S		**S**	**10 42 29.6**	**-1.8**
JUNT	**Juntas**	**1.37**	**147**	⇑*i*P		**Pn**	**10 42 02.8**	**+0.2**
JUNT				*e*S		**S**	**10 42 29.2**	**-2.2**
CEDE	**Laguna Cedeo**	**1.37**	**134**	⇑*i*P		**Pn**	**10 42 03.0**	**+0.4**
CEDE				*e*S		**S**	**10 42 30.5**	**-1.0**
ARE1	**Arenal 1**	**1.38**	**135**	⇑*i*P		**Pn**	**10 42 03.6**	**+1.0**
ARE1				*e*S		**S**	**10 42 30.6**	**-0.9**
VARE2	**V. Arenal**	**1.38**	**135**	⇑*i*P		**Pn**	**10 42 03.6**	**+0.9**
VARE2				*e*S		**S**	**10 42 30.9**	**-0.8**
CASO	**Castillo**	**1.39**	**136**	⇑*i*P		**Pn**	**10 42 03.5**	**+0.8**
CASO				*e*S		**S**	**10 42 30.9**	**-0.8**
VACR	**Volcan Arenal**	**1.40**	**133**	⇑*i*P		**Pn**	**10 42 03.7**	**+0.9**
VACR				*e*S		**S**	**10 42 30.8**	**-1.0**
FORC	**Fortuna**	**1.41**	**133**	⇑*i*P		**Pn**	**10 42 03.7**	**+0.8**
MTEVE	**Monteverde**	**1.41**	**142**	⇑*i*P		**Pn**	**10 42 03.3**	**+0.2**
MTEVE				*e*S		**S**	**10 42 30.7**	**-1.5**
CNGA	**Al SSO del Vol**	**1.43**	**317**	⇑P		**Pn**	**10 42 03.0**	**-0.1**
CNGN	**Cerro Negro**	**1.43**	**317**	⇑*i*P		**Pn**	**10 42 02.7**	**-0.3**
CNGN				*e*S		**S**	**10 42 33.7**	**+1.5**
CNGN	**Cerro Negro**	**1.43**	**317**	S		**S**	**10 42 32.9**	**+0.7**
CNGN	**Cerro Negro**	**1.43**	**317**	⇑P		**Pn**	**10 42 02.9**	**-0.1**
CMARA	**Lajas Hojancha**	**1.44**	**169**	S		**S**	**10 42 31.6**	**-0.9**
CMARA	**Lajas Hojancha**	**1.44**	**169**	⇑P		**Pn**	**10 42 03.5**	**+0.3**
MATN	**Matagalpa**	**1.49**	**352**	S		**S**	**10 42 33.2**	**-0.1**
MATN	**Matagalpa**	**1.49**	**352**	⇑P		**Pn**	**10 42 03.2**	**-0.4**
SOCE	**Pocosol**	**1.50**	**134**	⇑*i*P		**Pn**	**10 42 04.2**	**+0.6**
SOCE				*e*S		**S**	**10 42 32.1**	**-1.1**
SOCE	**Pocosol**	**1.50**	**134**	⇑P		**Pn**	**10 42 04.3**	**+0.6**
PLRN	**Geotermica Pol**	**1.54**	**318**	P		**Pn**	**10 42 03.7**	**+0.1**
PLRN				S		**S**	**10 42 34.3**	**+0.7**
ESPN	**Las Esperanzas**	**1.57**	**61**	⇓*i*P		**Pn**	**10 42 04.6**	**+0.5**
ESPN				*e*S		**S**	**10 42 33.5**	**-0.6**
ESPN	**Las Esperanzas**	**1.57**	**61**	P		**Pn**	**10 42 05.0**	**+1.0**
INDI	**Punta indio, G**	**1.58**	**173**	S		**S**	**10 42 33.3**	**-1.0**
INDI	**Punta indio, G**	**1.58**	**173**	⇑P		**Pn**	**10 42 04.5**	**+0.4**
QUEU	**Ciudad Quesada**	**1.68**	**132**	*e*P		**Pn**	**10 42 05.5**	**+0.5**
VPL2	**V. Platanar**	**1.73**	**131**	⇑*e*P		**Pn**	**10 42 06.3**	**+0.7**
PKGN	**Cerro Pekin**	**1.74**	**315**	P		**Pn**	**10 42 06.0**	**+0.5**
PKGN				S		**S**	**10 42 37.4**	**+0.8**
ARZA	**Esparza**	**1.77**	**145**	⇑*i*P		**Pn**	**10 42 06.6**	**+0.8**
PAQE	**Paquera**	**1.78**	**155**	*e*P		**Pn**	**10 42 06.1**	**+0.2**
SRA1	**San Ramn**	**1.81**	**138**	*e*P		**Pn**	**10 42 06.9**	**+0.7**
CRIN	**San Cristobal**	**1.81**	**314**	*e*P		**Pn**	**10 42 06.0**	**-0.1**
CRIN	**San Cristobal**	**1.81**	**314**	P		**Pn**	**10 42 06.4**	**+0.2**
CRIN	**San Cristobal**	**1.81**	**314**	S		**S**	**10 42 37.8**	**0.0**
RAMO	**San Ramon**	**1.82**	**138**	*e*P		**Pn**	**10 42 06.9**	**+0.6**
ARTO	**Ro Cuarto**	**1.83**	**127**	*e*P		**Pn**	**10 42 06.4**	**+0.1**
ARTO				*e*S		**S**	**10 42 36.6**	**-1.4**
PALD	**Palmares**	**1.86**	**138**	*e*P		**Pn**	**10 42 07.3**	**+0.6**
VPS8	**V Poas**	**1.91**	**131**	*e*P		**Pn**	**10 42 08.2**	**+0.8**
CBL1	**Cabuya**	**1.94**	**162**	*e*P		**Pn**	**10 42 08.6**	**+1.3**
CBL1				*e*S		**S**	**10 42 38.5**	**-1.3**
ATEO	**Atenas**	**1.95**	**138**	*e*P		**Pn**	**10 42 07.7**	**+0.3**
BELE	**Belen**	**2.09**	**134**	*e*P		**Pn**	**10 42 09.0**	**+0.3**
ACOS	**Acosta**	**2.23**	**137**	⇑*i*P		**Pn**	**10 42 10.9**	**+0.7**
ACOS				*e*S		**S**	**10 42 42.8**	**-2.2**
CVIMO	**Finca Echandi**	**2.24**	**129**	⇑*i*P		**Pn**	**10 42 10.9**	**+0.6**
CVIMO				*e*S		**S**	**10 42 43.7**	**-1.5**
PAR1A	**Puntarenas Pro**	**2.33**	**142**	*e*P		**Pn**	**10 42 12.4**	**+1.5**
PICV	**PH. Pirrs**	**2.34**	**140**	*e*P		**Pn**	**10 42 12.7**	**+1.6**
POTN	**Potosi Cosigui**	**2.34**	**312**	⇑*i*P		**Pn**	**10 42 11.1**	**+0.1**
POTN	**Potosi Cosigui**	**2.34**	**312**	P		**Pn**	**10 42 11.7**	**+0.7**
POTN				S		**S**	**10 42 47.1**	**+0.5**
CSGN	**Cosiguina Volc**	**2.37**	**310**	⇑*i*P		**Pn**	**10 42 11.4**	**+0.1**
CSGN	**Cosiguina Volc**	**2.37**	**310**	⇑P		**Pn**	**10 42 11.4**	**+0.1**
CSGN				S		**S**	**10 42 47.1**	**0.0**
LCR2	**La Lucha 2**	**2.38**	**135**	⇑*e*P		**Pn**	**10 42 12.3**	**+0.6**
VTR0	**Volcan Turrial**	**2.38**	**126**	*e*P		**Pn**	**10 42 13.8**	**+1.9**
ABRB	**Las Abras (San**	**2.42**	**126**	⇑*e*P		**Pn**	**10 42 12.9**	**+0.8**
RAZU	**San Marcos de**	**2.43**	**137**	*e*P		**Pn**	**10 42 12.9**	**+0.8**
VTCV	**VTCV, Calle Va**	**2.43**	**126**	*e*P		**Pn**	**10 42 12.1**	**-0.1**
SIUN	**Universidad Ur**	**2.44**	**22**	P		**Pn**	**10 42 12.3**	**+0.3**
VERB	**Verbena**	**2.48**	**127**	*e*P		**Pn**	**10 42 13.8**	**+1.2**
PIEC	**Cerro El Cedra**	**2.50**	**136**	⇓*e*P		**Pn**	**10 42 14.2**	**+1.3**
LCOCO	**El Coco**	**2.51**	**122**	*e*P		**Pn**	**10 42 13.8**	**+1.1**
LLNJ	**Naranjito**	**2.52**	**141**	*e*P		**Pn**	**10 42 14.4**	**+1.6**
BUS1	**Rivas**	**2.69**	**134**	⇑*i*P		**Pn**	**10 42 15.9**	**+0.8**
BUS1				*e*S		**S**	**10 42 51.4**	**-2.5**
CNCH	**Conchagua**	**2.76**	**312**	*e*P		**Pn**	**10 42 15.7**	**+0.3**
CNCH				*e*S		**S**	**10 42 53.3**	**-1.3**
CNCH	**Conchagua**	**2.76**	**312**	P		**Pn**	**10 42 15.8**	**+0.3**
CNCH	**Conchagua**	**2.76**	**312**	S		**S**	**10 42 54.8**	**+0.2**
SAJE	**San Jernim**	**3.00**	**134**	*e*P		**Pn**	**10 42 19.2**	**+1.1**
OCHAL	**Ojochal**	**3.09**	**139**	P		**Pn**	**10 42 20.6**	**+1.6**
OCHAL	**Ojochal**	**3.09**	**139**	S		**S**	**10 43 00.4**	**-0.5**
EDPE	**Pejibaye, P**	**3.09**	**137**	*e*P		**Pn**	**10 42 21.3**	**+2.2**
BLLM	**Bellamira**	**3.17**	**309**	*e*P		**Pn**	**10 42 20.6**	**+0.7**
DRK0	**Durika**	**3.25**	**132**	*e*P		**Pn**	**10 42 22.1**	**+1.1**
PACA	**Pacayal**	**3.25**	**309**	*e*P		**Pn**	**10 42 21.6**	**+0.7**
FIMO	**Fila Mora**	**3.36**	**136**	⇑*i*P		**Pn**	**10 42 23.8**	**+1.7**
TECA	**Tecapa**	**3.41**	**307**	*e*P		**Pn**	**10 42 24.1**	**+1.4**
BILN	**Bilwi Airport**	**3.45**	**41**	P		**Pn**	**10 42 23.6**	**+0.7**
EDP2	**Potrero Grande**	**3.47**	**134**	*e*P		**Pn**	**10 42 24.6**	**+1.4**
MARCA	**Marcala la Paz**	**3.53**	**320**	*i*P		**Pn**	**10 42 25.5**	**+1.6**
MARCA				*e*S		**S**	**10 43 04.3**	**-5.6**
ALCO	**Alturas Coton,**	**3.76**

baz=320,slow=76,SNR=49
ZALV Zalesovo Beam 40.63 310 P **P** **11 02 16.0 -0.3**
comp=E,2.1nm,0.4s,baz=88,slow=8.3,SNR=9.1
ZALV pP **pP** **11 02 33.4 +2.9**
comp=E,1.9nm,0.5s,baz=99,slow=7.9,SNR=3.9
ZALV PcP **PcP** **11 04 16.7 -0.5**
comp=E,0.6nm,0.4s,baz=90,slow=2.3,SNR=1.9
comp=E,2.1nm,0.4s
CMAR Chiang Mai Arr 42.72 253 P **P** **11 02 33.5 -0.3**
comp=E,0.3nm,0.3s,baz=46,slow=6.3,SNR=4.0
comp=E,0.3nm,0.3s
MKAR Makanchi Array 43.26 300 P **P** **11 02 37.7 -0.3**
comp=E,2.2nm,0.7s,baz=82,slow=9.3,SNR=16
MKAR pP **pP** **11 02 54.8 +2.6**
comp=E,1.9nm,1.0s,baz=90,slow=8.5,SNR=4.2
comp=E,2.2nm,0.7s
KURBB **Kurchatov Arra 44.89 306** P **P** **11 02 50.2 -0.6**
comp=E,4.4nm,0.7s,baz=81,slow=8.3,SNR=20
KURBB pP **pP** **11 03 07.8 +2.7**
comp=E,5.5nm,0.7s,baz=81,slow=8.4,SNR=9.2
comp=E,4.4nm,0.7s
ILAR Eielson Array 47.04 34 P **P** **11 03 08.2 +0.6**
comp=E,0.6nm,0.6s,baz=272,slow=6.5,SNR=11
comp=E,0.6nm,0.6s
BVAR Borovoye Array 49.28 311 P **P** **11 03 24.6 -0.4**
comp=E,1.3nm,0.5s,baz=64,slow=7.4,SNR=4.4
BVAR PcP **PcP** **11 04 46.1 -1.0**
comp=E,1.0nm,0.4s,baz=57,slow=5.3,SNR=2.1
comp=E,1.3nm,0.5s
WRA Warramunga Arr 59.68 188 P **P** **11 04 40.1 -0.6**
comp=E,0.9nm,0.8s,baz=7.6,slow=7.0,SNR=12
comp=E,0.9nm,0.8s
ASAR Alice Springs 63.41 188 P **P** **11 05 05.5 -0.3**
comp=E,0.5nm,0.7s,baz=14,slow=13,SNR=5.4
comp=E,0.5nm,0.7s
FINES FINESS Array B 66.80 332 P **P** **11 05 27.1 -0.3**
comp=E,1.9nm,0.6s,baz=46,slow=11,SNR=5.5
comp=E,1.9nm,0.6s
KBZ Khabaz 69.65 310 P **P** **11 05 44.1 -1.4**
comp=E,2.5nm,1.0s,baz=18,slow=3.2,SNR=2.5
comp=E,2.5nm,1.0s
HFS Hagfors 71.97 336 P **P** **11 05 58.4 -0.9**
comp=E,2.3nm,0.7s,baz=87,slow=7.7,SNR=2.4
comp=E,2.3nm,0.7s
NOA NORSAR Array B 72.03 337 P **P** **11 05 59.6 -0.1**
comp=E,0.7nm,0.3s,baz=37,slow=8.9,SNR=5.4
comp=E,0.7nm,0.3s
AKASG Malin Array Be 72.60 322 P **P** **11 06 02.3 -0.9**
comp=E,1.0nm,0.5s,baz=46,slow=6.5,SNR=4.7
comp=E,1.0nm,0.5s
NVAR Mina Array Bea 73.02 54 P **P** **11 06 07.1 +0.8**
comp=E,0.4nm,0.9s,baz=313,slow=6.4,SNR=2.6
comp=E,0.4nm,0.9s
PDAR Pinedale Array 75.48 46 P **P** **11 06 21.6 +1.1**
comp=E,0.5nm,0.7s,baz=234,slow=1.3,SNR=6.3
comp=E,0.5nm,0.7s
GERES GERESS Array B 80.81 328 P **P** **11 06 49.0 -0.7**
comp=E,0.3nm,0.3s,baz=37,slow=7.0,SNR=1.9
comp=E,0.3nm,0.3s

*TRN **04** 11:09:05.7, 11.02N×62.39W, h113km, MD3.1, North of the Paria peninsula.*
*FUNV **04** 11:09:07.9, 10.97N×62.44W, h22km, MW3.5*
ISC 04 11:09:02.5±2.2, 10.94N±0.07×62.33W±0.09, h142km±20km, n17, σ2.9±10/29, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**0.80**	**107**	*eP*		**Pn**		**11 09 26.1**	**+1.2**
DMDM				*eS*		**Sn**		**11 09 40.9**	**-1.0**
PSMG	**Mucurapo Girls**	**0.83**	**109**	*eP*		**Pn**		**11 09 26.9**	**+1.9**
PSMG				*eS*		**Sn**		**11 09 40.9**	**-1.4**
TRN	**Trinidad (W)**	**0.96**	**107**	*i P*		**Pn**		**11 09 28.4**	**+2.2**
TRN				*eS*		**Sn**		**11 09 43.4**	**-0.7**
GRFF	**Grenada Fort F**	**1.25**	**28**	*eP*		**Pn**		**11 09 29.0**	**+0.2**
GRFF				*eS*		**Sn**		**11 09 46.7**	**-2.4**
GRGR	**Grenville**	**1.36**	**29**	*eP*		**Pn**		**11 09 31.0**	**+1.0**
GRGR				*eS*		**Sn**		**11 09 49.2**	**-1.9**
GRW	**Mount Saint Ca**	**1.38**	**28**	*eS*		**Sn**		**11 09 49.0**	**-2.6**
GRHS	**Sauteurs**	**1.45**	**28**	*eS*		**Sn**		**11 09 50.8**	**-1.9**
GRSS	**Sisters**	**1.52**	**27**	*eP*		**Pn**		**11 09 32.4**	**+0.7**
GRSS				*eS*		**Sn**		**11 09 53.2**	**-0.9**
GCMP	**Grenada, Carri**	**1.78**	**30**	*eP*		**Pn**		**11 09 35.8**	**+1.2**
GCMP				*eS*		**Sn**		**11 09 57.7**	**-1.4**
PCRV	**Puerto La Cruz**	**2.39**	**252**	*eP*		**Pn**		**11 09 44.4**	**+2.5**
PCRV				*eS*		**Sn**		**11 10 10.6**	**-1.7**
PCRV	**Puerto La Cruz**	**2.39**	**252**	*eP*		**Pn**		**11 09 44.9**	**+3.0**
PCRV				*eS*		**Sn**		**11 10 11.7**	**-0.5**
SVB	**Belmont**	**2.55**	**24**	*eP*		Pn		11 09 50.7	+6.8
SVB				*eS*		**Sn**		**11 10 16.6**	**+0.8**
BENV	**Beln**	**5.27**	**260**	*eP*		**Pn**		**11 10 22.9**	**+3.4**
BENV				*eS*		**Sn**		**11 11 18.5**	**-1.0**
CACV	**CAICARA DEL OR**	**5.34**	**231**	*eP*		**Pn**		**11 10 18.1**	**-2.2**
CACV				*eS*		Sn		11 11 11.0	-10
BAUV	**El Baul**	**5.96**	**251**	*eP*		**Pn**		**11 10 30.8**	**+2.1**
BAUV				*eS*		**Sn**		**11 11 33.7**	**-2.3**
BAUV	**El Baul**	**5.96**	**251**	*eP*		**Pn**		**11 10 30.8**	**+2.1**
BAUV				*eS*		**Sn**		**11 11 32.8**	**-3.2**
BAUV	**El Baul**	**5.96**	**251**	*eS*		**Sn**		**11 11 32.8**	**-3.2**

*IDC **04** 11:30:00.0±0.9, 18.31S×177.02W, h0km, mb3.7/8, mbtmp3.7/8, MS4.2/34, Error ellipse: s-maj=45.9km s-min=21.0km az=144.0*
*GCMT **04** 11:30:04.0±0.2, 18.98S±0.02×176.42W±0.01, h18km±1km, MW5.0/113, Moment Tensor Solution. s25,c29; s113,c153; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.69±.14; $M_{\theta\theta}$-2.83±.11; $M_{\phi\phi}$3.52±.12; $M_{r\theta}$0.67±.28; $M_{\theta\phi}$1.46±.10; $M_{r\phi}$0.55±.25; Best double couple: M_o3.60300×10^{16} NP1:ϕ_s327.00000°, δ75.00000°, λ-177.00000°. NP2:ϕ_s237.00000°, δ87.00000°, λ-15.00000°. Principal axes: T 3.9400, Plg8.0000°, Azm283.0000°; N -0.6720, Plg75.0000°, Azm47.0000°; P -3.2650, Plg12.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 04 11:30:01.2±0.8, 18.2S±0.3×177.1W±0.2, h10km, n43, σ1.9±2.42/12, mb3.8/8, MS4.3/33, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.92**	**253**	LR		LR		11 38 52.0	
	comp=Z,2μm,21.2s,baz=84,slow=33								
RAR	**Rarotonga**	**16.58**	**103**	LR		LR		11 39 43.0	
	comp=Z,317nm,18.3s,baz=280,slow=35								
URZ	**Urewera**	**20.59**	**193**	LR		LR		11 41 52.4	
	comp=Z,2μm,18.7s,baz=32,slow=35								
HNR	**Honiara**	**23.92**	**288**	LR		LR		11 43 25.0	
	comp=Z,397nm,20.6s,baz=100,slow=34								
PPT	**Papeete**	**26.19**	**93**	LR		LR		11 42 51.9	
	comp=Z,509nm,21.9s,baz=283,slow=30								
STKA	**Stephens Creek**	**39.57**	**242**	P		**P**		**11 37 32.5**	**-0.3**
	1.8nm,0.6s,baz=48,slow=2.8,SNR=3.8								
	1.8nm,0.6s								
JAY	**Jayapura**	**44.19**	**286**	LR		LR		11 55 59.8	
	comp=Z,248nm,21.4s,baz=118,slow=35								
WRA	**Warramunga Arr**	**45.80**	**260**	P		**P**		**11 38 24.2**	**+0.6**
	0.4nm,0.8s,baz=99,slow=7.2,SNR=3.2								
WRA				LR		LR		11 56 33.2	
	comp=Z,540nm,19.6s,baz=124,slow=35								
	0.4nm,0.8s								
ASAR	**Alice Springs**	**45.90**	**254**	P		**P**		**11 38 25.0**	**+0.6**
	0.9nm,0.7s,baz=91,slow=7.7,SNR=13								
ASAR				LR		LR		11 57 20.4	
	comp=Z,255nm,19.5s,baz=95,slow=36								
	0.9nm,0.7s								
GUMO	**Guam**	**49.05**	**308**	LR		LR		11 57 37.6	
	comp=Z,73nm,21.6s,baz=143,slow=34								
FITZ	**Fitzroy Crossi**	**54.20**	**261**	LR		LR		12 01 34.9	
	comp=Z,503nm,20.4s,baz=106,slow=35								
BATI	**Baumata**	**57.77**	**269**	LR		LR		12 02 57.9	
	comp=Z,455nm,20.7s,baz=162,slow=34								
VNDA	**Vanda**	**60.23**	**185**	P		**P**		**11 40 09.3**	**+0.1**
	1.0nm,0.9s,baz=359,slow=7.2,SNR=4.0								
VNDA				LR		LR		12 01 20.4	
	comp=Z,81nm,20.8s,baz=36,slow=31								
	1.0nm,0.9s								
DAV	**Davao City (W)**	**61.88**	**289**	LR		LR		12 06 35.5	
	comp=Z,114nm,18.4s,baz=110,slow=35								
RPN	**Rapa Nui**	**62.51**	**112**	LR		LR		11 59 44.3	
	comp=Z,252nm,19.8s,baz=266,slow=29								
KAPI	**Kappang**	**62.96**	**274**	LR		LR		12 05 41.7	
	comp=Z,80nm,21.9s,baz=90,slow=34								
SHEM	**Shemya Is, Ala**	**71.07**	**354**	LR		LR		12 06 32.6	
	comp=Z,227nm,20.9s,baz=134,slow=31								
ASAJ	**Asahikawa**	**72.16**	**331**	LR		LR		12 07 07.9	
	comp=Z,190nm,22.0s,baz=136,slow=31								
LEM	**Lembang**	**73.95**	**268**	LR		LR		12 14 48.1	
	comp=Z,116nm,18.6s,baz=168,slow=36								
PETK	**Petropavlovsk-**	**74.31**	**345**	LR		LR		12 11 20.6	
	comp=Z,113nm,19.2s,baz=178,slow=33								
YBH	**Yreka Blue Hor**	**77.99**	**38**	LR		LR		12 09 50.5	
	comp=Z,11nm,18.9s,baz=26,slow=31								
KDAK	**Kodiak Island**	**78.42**	**13**	LR		LR		12 09 20.6	
	comp=Z,196nm,21.9s,baz=124,slow=30								
NVAR	**Mina Array Bea**	**78.80**	**43**	P		**P**		**11 42 05.2**	**+0.6**
	0.3nm,0.8s,baz=251,slow=5.7,SNR=5.4								
	0.3nm,0.8s								
MA2	**Magadan**	**81.84**	**344**	LR		LR		12 15 34.2	
	comp=Z,686nm,18.9s,baz=286,slow=33								
BBB	**Bella Bella**	**82.01**	**28**	LR		LR		12 11 35.7	
	comp=Z,202nm,21.4s,baz=124,slow=30								
MAW	**Mawson**	**83.98**	**199**	LR		LR		12 18 05.0	
	comp=Z,246nm,18.3s,baz=51,slow=34								
SEY	**Seymchan**	**84.37**	**347**	LR		LR		12 15 09.9	
	comp=Z,160nm,21.2s,baz=170,slow=32								
NEW	**Newport**	**85.04**	**36**	LR		LR		12 12 58.8	
	comp=Z,145nm,21.5s,baz=108,slow=30								
TXAR	**Lajitas Array**	**85.12**	**57**	P		**P**		**11 42 37.6**	**-0.4**
	1.0nm,1.0s,baz=223,slow=3.1,SNR=6.2								
	1.0nm,1.0s								
ANMO	**Albuquerque**	**85.33**	**51**	LR		LR		12 15 32.9	
	comp=Z,114nm,18.6s,baz=164,slow=32								
ILAR	**Eielson Array**	**85.92**	**12**	P		**P**		**11 42 41.0**	**-0.1**
	0.8nm,1.1s,baz=224,slow=5.5,SNR=6.0								
ILAR				LR		LR		12 15 26.6	
	comp=Z,100nm,20.4s,baz=115,slow=32								
	0.8nm,1.1s								
PDAR	**Pinedale Array**	**86.73**	**43**	P		**P**		**11 42 47.0**	**+1.1**
	0.2nm,0.8s,baz=235,slow=5.1,SNR=2.0								
	0.2nm,0.8s								
CMAR	**Chiang Mai Arr**	**90.17**	**289**	LR		LR		12 22 30.2	
	comp=Z,37nm,19.8s,baz=115,slow=35								
SNAA	**Sanae**	**90.24**	**178**	LR		LR		12 21 29.0	
	comp=Z,116nm,19.2s,baz=34,slow=34								
YKA	**Yellowknife Ar**	**94.11**	**24**	LR		LR		12 18 07.5	
	comp=Z,163nm,21.1s,baz=46,slow=31								
NNA	**Nana**	**95.82**	**105**	LR		LR		12 15 49.2	
	comp=Z,94nm,20.4s,baz=51,slow=29								
ATAH	**Atahualpa**	**95.99**	**99**	LR		LR		12 19 09.7	
	comp=Z,98nm,18.6s,baz=214,slow=31								
TIXI	**Tiksi**	**96.78**	**345**	LR		LR		12 22 05.0	
	comp=Z,165nm,21.9s,baz=44,slow=32								
ULM	**Lac du Bonnet**	**98.36**	**40**	LR		LR		12 23 17.0	
	comp=Z,206nm,18.4s,baz=6.0,slow=32								
BRTR	**Keskin Array B**	**145.89**	**315**	PKPbc		**PKiKP**		**11 49 42.9**	**-2.0**
	0.4nm,0.8s,baz=22,slow=1.6,SNR=1.5								
CLL	**Collm**	**146.03**	**349**	*i* PKiKP		**PKiKP**		**11 49 47.4**	**+2.8**
	comp=Z,8.0nm,1.0s								
CLL	**Collm**	**146.03**	**349**	*e*PKPbc		**PKiKP**		**11 49 43.0**	**-1.6**
GERES	**GERESS Array B**	**148.23**	**346**	PKPbc		**PKiKP**		**11 49 48.3**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=24,slow=3.8,SNR=5.0								

*UPP **04** 11:46:58.9±0.1, 58.99N×18.20E, h0km, ML2.6, Suspected explosion*
*DNK **04** 11:46:59.4±2.0, 58.99N×18.23E, h0km, ML2.6, Explosion*
*HEL **04** 11:46:59.5±0.4, 58.97N×18.14E, h0km, ML2.2, Explosion*
*IDC **04** 11:47:00.5±2.1, 59.06N×18.05E, h0km, mbtmp3.0/3, ML2.2/3, Error ellipse: s-maj=26.0km s-min=6.0km az=1.0*
*BER **04** 11:47:00.3±1.7, 59.00N×18.22E, h0km, ML1.9, ML2.6(UPP), Suspected explosion*
ISC 04 11:46:58.6±0.7, 58.99N±0.02×18.19E±0.02, h0km, n89, σ1.1±17/126, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**0.73**	**18**	P		**Pg**		**11 47 12.6**	**+0.1**
NRTU				S		**Sg**		**11 47 22.4**	**+0.5**
NRTU	**Norrtaelje**	**0.73**	**18**	P		**Pg**		**11 47 12.6**	**+0.1**
NRTU				S		**Sg**		**11 47 22.4**	**+0.5**
NRTU	**Norrtaelje**	**0.73**	**18**	P		**Pg**		**11 47 12.6**	**+0.1**
NRTU				S		**Sg**		**11 47 22.4**	**+0.5**
VIKU	**Vikbolandet**	**0.92**	**238**	P		**Pg**		**11 47 16.3**	**+0.2**
VIKU				S		**Sg**		**11 47 28.6**	**+0.6**
VIKU	**Vikbolandet**	**0.92**	**238**	P		**Pg**		**11 47 16.3**	**+0.2**
VIKU				S		**Sg**		**11 47 28.6**	**+0.6**
VIKU	**Vikbolandet**	**0.92**	**238**	P		**Pg**		**11 47 16.3**	**+0.2**
VIKU				S		**Sg**		**11 47 28.6**	**+0.6**
UPP	**Uppsala**	**0.92**	**342**	P		**Pg**		**11 47 16.2**	**0.0**
UPP				S		**Sg**		**11 47 28.7**	**+0.6**
UPP	**Uppsala**	**0.92**	**342**	P		**Pg**		**11 47 16.2**	**0.0**
UPP				S		**Sg**		**11 47 28.7**	**+0.6**
UPP	**Uppsala**	**0.92**	**342**	P		**Pg**		**11 47 16.2**	**0.0**
UPP				S		**Sg**		**11 47 28.7**	**+0.6**
ESKU	**Eskilstuna**	**0.96**	**286**	P		**Pg**		**11 47 16.8**	**-0.1**
ESKU				S		**Sg**		**11 47 30.0**	**+0.7**
ESKU	**Eskilstuna**	**0.96**	**286**	P		**Pg**		**11 47 16.8**	**-0.1**
ESKU				S		**Sg**		**11 47 30.0**	**+0.7**
ESKU	**Eskilstuna**	**0.96**	**286**	P		**Pg**		**11 47 16.8**	**-0.1**
ESKU				S		**Sg**		**11 47 30.0**	**+0.7**
FIBU	**Brunna**	**1.01**	**335**	P		**Pg**		**11 47 17.8**	**-0.1**
FIBU	**Brunna**	**1.01**	**335**	P		**Pg**		**11 47 17.8**	**-0.1**
FIBU	**Brunna**	**1.01**	**335**	P		**Pg**		**11 47 17.8**	**-0.1**
BACU	**Backbrunna**	**1.03**	**328**	P		**Pg**		**11 47 18.1**	**-0.2**
BACU				S		**Sg**		**11 47 32.5**	**-0.8**
BACU	**Backbrunna**	**1.03**	**328**	P		**Pg**		**11 47 18.1**	**-0.2**
BACU				S		**Sg**		**11 47 32.5**	**-0.8**
BACU	**Backbrunna**	**1.03**	**328**	P		**Pg**		**11 47 18.1**	**-0.2**
BACU				S		**Sg**		**11 47 32.5**	**-0.8**
FLYU	**Flymyra**	**1.15**	**352**	P		**Pg**		**11 47 20.4**	**-0.2**
FLYU	**Flymyra**	**1.15**	**352**	P		**Pg**		**11 47 20.4**	**-0.2**
FLYU	**Flymyra**	**1.15**	**352**	P		**Pg**		**11 47 20.4**	**-0.2**
GOTU	**Gotland**	**1.32**	**171**	P		**Pg**		**11 47 23.1**	**-0.7**
GOTU	**Gotland**	**1.32**	**171**	P		**Pg**		**11 47 23.1**	**-0.7**
GOTU	**Gotland**	**1.32**	**171**	P		**Pg**		**11 47 23.1**	**-0.7**
OSTU	**Oestervaala**	**1.36**	**337**	P		**Pg**		**11 47 24.1**	**-0.5**
OSTU	**Oestervaala**	**1.36**	**337**	P		**Pg**		**11 47 24.1**	**-0.5**
OSTU	**Oestervaala**	**1.36**	**337**	P		**Pg**		**11 47 24.1**	**-0.5**
GRAU	**Graesoe**	**1.36**	**7**	P		**Pg**		**11 47 24.2**	**-0.4**
GRAU	**Graesoe**	**1.36**	**7**	P		**Pg**		**11 47 24.2**	**-0.4**
GRAU	**Graesoe**	**1.36**	**7**	P		**Pg**		**11 47 24.2**	**-0.4**
FORU	**Forsmark**	**1.40**	**360**	P		**Pn**		**11 47 24.9**	**-0.4**
FORU	**Forsmark**	**1.40**	**360**	P		**Pn**		**11 47 24.9**	**-0.4**
FORU	**Forsmark**	**1.40**	**360**	P		**Pn**		**11 47 24.9**	**-0.4**
AAL	**Aland**	**1.51**	**37**	P		**Pn**		**11 47 26.6**	**-0.2**
AAL	**Aland**	**1.51**	**37**	P		**Pn**		**11 47 26.6**	**-0.2**
AAL	**Aland**	**1.51**	**37**	*e*P		**Pn**		**11 47 26.6**	**-0.2**
AAL				*e*S		**Sg**		**11 47 45.9**	**-1.0**
VSTU	**Vaestervik**	**1.59**	**214**	P		**Pn**		**11 47 28.4**	**+0.5**
VSTU	**Vaestervik**	**1.59**	**214**	P		**Pn**		**11 47 28.4**	**+0.5**
VSTU	**Vaestervik**	**1.59**	**214**	P		**Pn**		**11 47 28.4**	**+0.5**
LNKU	**Linkoeping**	**1.60**	**242**	P		**Pn**		**11 47 28.4**	**+0.3**
LNKU	**Linkoeping**	**1.60**	**242**	P		**Pn**		**11 47 28.4**	**+0.3**
LNKU	**Linkoeping**	**1.60**	**242**	P		**Pn**		**11 47 28.4**	**+0.3**
NRAU	**Nora**	**1.72**	**291**	P		**Pb**		**11 47 30.5**	**-0.5**
NRAU	**Nora**	**1.72**	**291**	P		**Pb**		**11 47 30.5**	**-0.5**
NRAU	**Nora**	**1.72**	**291**	P		**Pb**		**11 47 30.5**	**-0.5**
ASKU	**Askersund**	**1.74**	**268**	P		**Pb**		**11 47 30.9**	**-0.5**
ASKU	**Askersund**	**1.74**	**268**	P		**Pb**		**11 47 30.9**	**-0.5**
ASKU	**Askersund**	**1.74**	**268**	P		**Pb**		**11 47 30.9**	**-0.5**
HFS	**Hagfors**	**2.56**	**299**	Pg		**Pn**		**11 47 42.8**	**+1.5**
	1.1nm,0.3s,baz=127,slow=15,SNR=44								
HFS				Lg		Lg		11 48 16.5	
	5.2nm,0.3s,baz=118,slow=29,SNR=29								
SLIT	**Slitere, Latvi**	**2.56**	**120**	*e*P		**Pn**		**11 47 41.8**	**+0.6**
SLIT	**Slitere, Latvi**	**2.56**	**120**	*e*PB		**Pb**		**11 47 43.6**	**-1.7**
SLIT				*e*SG		**Sb**		**11 48 18.3**	**+1.0**
RAF	**Rauma**	**2.72**	**40**	*e*P		**Pn**		**11 47 44.6**	**+1.2**
RAF	**Rauma**	**2.72**	**40**	*e*PB		**Pb**		**11 47 46.1**	**-1.9**
RAF				*e*S		**Sn**		**11 48 18.2**	**+1.2**
RAF				MSG				11 48 27.2	
	comp=Z,10nm,0.2s								
TVF	**Tvarminne**	**2.73**	**70**	*e*PB		**Pb**		**11 47 47.1**	**-1.1**
TVF				*e*SB		**Sb**		**11 48 21.2**	**-0.9**
TVF				MSG				11 48 23.4	
	comp=Z,6.0nm,0.2s								
BLEU	**Blekinge**	**2.98**	**206**	*e*P		**Pn**		**11 47 48.6**	**+1.6**
BORU	**Boraas**	**3.17**	**247**	*e*P		**Pn**		**11 47 52.2**	**+2.7**
BORU				*e*S		**Sn**		**11 48 30.7**	**+2.7**
MEF	**Metsahovi**	**3.39**	**66**	*e*P		**Pn**		**11 47 54.8**	**+2.2**
MEF	**Metsahovi**	**3.39**	**66**	*e*P		**Pn**		**11 47 55.0**	**+2.4**
MEF				*e*S		**Sn**		**11 48 34.3**	**+0.8**
MEF				MSG				11 48 48.0	
	comp=Z,8.9nm,0.3s								
DEL	**Delary**	**3.42**	**224**	*e*P		**Pn**		**11 47 54.8**	**+1.7**
DEL				*e*S		**Sn**		**11 48 35.8**	**+1.3**
KPF	**Kankaanpaa**	**3.44**	**32**	*e*P		**Pn**		**11 47 56.0**	**+2.6**
KPF				*e*S		**Sn**		**11 48 37.2**	**+2.4**
TJOU	**Tjoern**	**3.57**	**257**	*e*P		**Pb**		**11 47 59.7**	**-2.9**
TJOU				*e*S		**Sn**		**11 48 40.6**	**+2.5**
STRU	**Stroemstad**	**3.62**	**274**	*e*P		**Pn**		**11 47 57.1**	**+1.3**
STRU	**Stroemstad**	**3.62**	**274**	*e*P		**Pn**		**11 47 56.8**	**+1.0**
STRU	**Stroemstad**	**3.62**	**274**	*e*P		**Pn**		**11 47 58.1**	**+2.3**
ONAU	**Onsala**	**3.68**	**247**	*e*P		**Pn**		**11 47 58.7**	**+2.0**
HEMU	**Hemsoen**	**3.70**	**359**	*e*P		**Pn**		**11 47 57.8**	**+0.9**
HEMU				*e*S		**Sn**		**11 48 41.4**	**+0.2**
NC602	**NORSAR Array S**	**3.78**	**300**	*e*P		**Pn**		**11 47 59.6**	**+1.6**
NC602				IAML				11 49 05.2	
	comp=Z,6.1nm,0.2s								
NB201	**NORSAR Array S**	**4.03**	**304**	*e*P		**Pn**		**11 48 01.9**	**+0.4**
NOA	**NORSAR Array B**	**4.06**	**303**	Pn		**Pn**		**11 48 01.1**	**-0.9**
	baz=128,slow=12,SNR=9.2								
NOA				Pg		**Pb**		**11 48 10.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=129,slow=12,SNR=17								
NOA				Sn		**Sn**		**11 48 47.3**	**-2.8**
	baz=146,slow=18,SNR=4.7								
NOA				Lg	Lg			11 49 06.2	
	comp=Z,0.1nm,0.3s,baz=130,slow=24,SNR=7.3								
	comp=Z,0.2nm,0.2s								
NC303	**NORSAR Array S**	**4.08**	**306**	*e*P		**Pn**		**11 48 03.5**	**+1.3**
NAO01	**NORSAR Array S**	**4.12**	**300**	*e*P		**Pn**		**11 48 03.0**	**+0.2**
NAO01				IAML				11 49 08.9	
	comp=Z,6.0nm,0.7s								
PVF	**Pernaja**	**4.18**	**65**	*e*P		**Pn**		**11 48 04.1**	**+0.6**
PVF				*e*S		**Sn**		**11 48 53.1**	**+0.1**
LUNU	**Lund**	**4.23**	**219**	*e*P		**Pn**		**11 48 04.8**	**+0.6**
LUNU				*e*S		**Sn**		**11 48 53.3**	**-1.1**
NBO00	**NORSAR Array S**	**4.25**	**302**	*e*P		**Pn**		**11 48 03.4**	**-1.0**
NBO00				IAML				11 49 12.8	
	comp=Z,5.4nm,0.7s								
BSD	**Bornholm Skovb**	**4.28**	**206**	*e*P		**Pn**		**11 48 05.3**	**+0.4**
BSD	**Bornholm Skovb**	**4.28**	**206**	*e*P		**Pn**		**11 48 05.1**	**+0.3**
BSD				*e*S		**Sn**		**11 48 54.9**	**-0.5**
BSD				IAML				11 49 13.8	
	comp=Z,5.1nm,0.2s								
NC204	**NORSAR Array S**	**4.36**	**305**	*e*P		**Pn**		**11 48 06.8**	**+0.7**
HUSU	**Husum**	**4.40**	**6**	*e*P		**Pn**		**11 48 07.7**	**+1.2**
HUSU				*e*S		**Sn**		**11 48 59.2**	**+0.9**
KEF	**Keuruu**	**4.58**	**43**	*e*P		**Pn**		**11 48 10.9**	**+1.8**
KEF	**Keuruu**	**4.58**	**43**	*e*P		**Pn**		**11 48 10.9**	**+1.8**
KEF				*e*S		**Sn**		**11 49 03.4**	**+0.4**
FIA0	**FINESS Array S**	**4.64**	**55**	*e*P		**Pn**		**11 48 11.7**	**+1.8**
FIA0				*e*S		**Sn**		**11 49 04.4**	**+0.1**
FINES	**FINESS Array B**	**4.64**	**55**	Pn		**Pn**		**11 48 11.8**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=246,slow=12,SNR=26								
FINES				Pg		**Pb**		**11 48 21.9**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=255,slow=9.9,SNR=4.1								
FINES				Sn		**Sn**		**11 49 04.5**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=245,slow=22,SNR=12								
FINES				Lg	Lg			11 49 23.7	
	comp=Z,2.0nm,0.3s,baz=243,slow=25,SNR=11								
	comp=Z,1.0nm,0.2s								
PABE	**Paberze**	**4.70**	**136**	*e*P		**Pn**		**11 48 09.1**	**-1.5**
KAF	**Kangasniemi**	**5.08**	**49**	*e*P		**Pn**		**11 48 17.2**	**+1.3**
HOMB	**Homborsund**	**5.11**	**266**	*e*P		**Pn**		**11 48 16.9**	**+0.6**
HOMB				*e*S		**Sn**		**11 49 12.7**	**-3.3**
SUF	**Sumiainen**	**5.40**	**43**	*e*P		**Pn**		**11 48 21.0**	**+0.8**
SNART	**Snartemo**	**5.77**	**268**	*e*

JIJ				S	Sn	11 59 55.9	-2.1	
JKRS	**Kuro-shima**	**1.93**	**197**	*e*P	**Pn**	**11 59 32.8**	**0.0**	
JKRS				S	Sn	11 59 59.3	-1.5	
IRIF	**Iriomote-Funau**	**1.93**	**206**	*e*P	**Pn**	**11 59 32.7**	**-0.1**	
IRIF				S	Sn	12 00 00.3	-0.6	
JKE	**Kume jima 2**	**1.94**	**82**	*e*P	**Pn**	**11 59 33.3**	**+0.5**	
HATJ	**Hateruma jima**	**2.16**	**201**	*e*S	**Sn**	**12 00 03.9**	**-1.4**	
YOJ	**Yonaguni jima**	**2.19**	**223**	P	**Pn**	**11 59 36.6**	**+0.9**	
JYNG	**Yonagunijimaku**	**2.24**	**224**	*e*P	**Pn**	**11 59 37.0**	**+0.8**	
JJT3	**Tamagusuku3**	**2.82**	**88**	*e*P	**Pn**	**11 59 43.5**	**+0.5**	
JJT3				*e*S	**Sn**	**12 00 17.9**	**-1.2**	
JOW	**Kunigami**	**3.34**	**76**	P	**Pn**	**11 59 48.9**	**-0.4**	
JYRO	**Yoronjima**	**3.54**	**74**	P	**Pn**	**11 59 51.1**	**-0.6**	
KSRS	**Korea Array**	**11.67**	**13**	P	**P**	**12 01 44.5**	**+0.7**	
	0.9nm,0.5s,baz=197,slow=12,SNR=5.3							
SONM	**Songino Array**	**26.02**	**331**	P	**P**	**12 04 14.3**	**+1.1**	
	0.5nm,0.5s,baz=157,slow=7.8,SNR=1.8							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**39.25**	**313**	P	**P**	**12 06 07.9**	**+0.2**	
	0.4nm,0.4s,baz=109,slow=7.4,SNR=5.0							
	0.4nm,0.4s							
ZALV	**Zalesovo Beam**	**40.45**	**324**	P	**P**	**12 06 17.1**	**-0.3**	
	1.8nm,0.4s,baz=108,slow=9.0,SNR=7.2							
	1.8nm,0.4s							
KURBB	**Kurchatov Arra**	**42.76**	**317**	P	**P**	**12 06 35.5**	**-0.7**	
	0.4nm,0.6s,baz=119,slow=7.6,SNR=2.4							
	0.4nm,0.6s							
WRA	**Warramunga Arr**	**46.71**	**167**	P	**P**	**12 07 07.8**	**0.0**	
	0.3nm,0.8s,baz=349,slow=8.9,SNR=5.5							
	0.3nm,0.8s							
ASAR	**Alice Springs**	**50.27**	**169**	P	**P**	**12 07 35.4**	**+0.5**	
	0.1nm,0.6s,baz=355,slow=8.3,SNR=5.0							
	0.1nm,0.6s							
FINES	**FINESS Array B**	**71.39**	**330**	P	**P**	**12 09 56.2**	**-0.7**	
	1.1nm,0.5s,baz=56,slow=6.1,SNR=3.9							
	1.1nm,0.5s							

IDC 04 12:01:17.9±3.1, 31°.27S×178°.63W, h0km, mb4.0/3, mbtmp4.0/4, ML3.1/1, Error ellipse: s-maj=66.1km s-min=36.9km az=110.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.80**	**206**	Pn	Pn	12 03 12.9	+0.2
	0.3nm,0.3s,baz=32,slow=19,SNR=1.7						
URZ				Sn	Sn	12 04 41.5	-0.2
	0.6nm,0.3s,baz=53,slow=20,SNR=1.8						
	14nm,0.9s						
STKA	**Stephens Creek**	**33.76**	**258**	P	P	12 08 02.3	+0.9
	0.9nm,0.5s,baz=54,slow=14,SNR=1.9						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**42.53**	**268**	P	P	12 09 15.3	-0.2
	1.4nm,0.7s,baz=114,slow=8.3,SNR=14						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**43.60**	**273**	P	P	12 09 23.5	-0.6
	2.0nm,0.7s,baz=112,slow=8.2,SNR=10						
	2.0nm,0.7s						
H03S2	**Juan Fernandez**	**80.43**	**124**	T	T	13 42 32.6	
	baz=238,slow=74,SNR=3.3						
H03S1	**Juan Fernandez**	**80.44**	**124**	T	T	13 42 31.6	
	baz=238,slow=74,SNR=3.9						
H03S3	**Juan Fernandez**	**80.45**	**124**	T	T	13 42 38.4	
	baz=238,slow=74,SNR=4.7						
FINES	**FINESS Array B**	**145.77**	**339**	PKPbc	PKPdf	12 20 57.3	-0.4
	2.0nm,1.0s,baz=42,slow=4.5,SNR=5.2						

*IDC **04** 12:00:28.0±2.1, 22°.88S×178°.41W, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=58.3km s-min=35.3km az=29.0*

ISC 04 12:01:29.6±1.7, 24°.0S±0°.3×179°.9E±0°.3, h526km, n6, σ1s10/7, mb3.9/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.62**	**248**	P	**P**	**12 07 34.3**	**-0.5**
	1.1nm,0.4s,baz=84,slow=11,SNR=6.1						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**41.96**	**261**	P	**P**	**12 08 34.5**	**0.0**
	0.9nm,0.6s,baz=101,slow=8.0,SNR=37						
ASAR				PcP	**PcP**	**12 10 19.7**	**+1.9**
	0.2nm,0.6s,baz=105,slow=3.9,SNR=1.1						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**42.34**	**266**	P	**P**	**12 08 37.7**	**+0.1**
	2.1nm,0.4s,baz=100,slow=7.9,SNR=84						
	2.1nm,0.4s						
QSPA	**South Pole Qui**	**66.06**	**180**	P	**P**	**12 11 24.0**	**0.0**
	2.6nm,0.8s,baz=42,slow=3.9,SNR=14						
	2.6nm,0.8s						
HFS	**Hagfors**	**142.66**	**349**	PKP	**PKPdf**	**12 20 01.3**	**-0.9**
	1.1nm,0.4s,baz=67,slow=3.7,SNR=7.5						
BRTR	**Keskin Array B**	**147.61**	**307**	PKPbc	**PKiKP**	**12 20 16.4**	**-0.2**
	0.3nm,0.5s,baz=71,slow=4.3,SNR=1.9						

IDC 04 12:46:49.6±1.5, 19°.98S×176°.61W, h0km, mb3.6/4, mbtmp3.6/4, MS3.5/1, Error ellipse: s-maj=55.5km s-min=33.5km az=172.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.96**	**260**	LR	LR	12 55 42.2	
	comp=Z,154nm,18.5s,baz=251,slow=33						
ASAR	**Alice Springs**	**45.91**	**256**	P	P	12 55 13.1	-1.3
	0.7nm,0.6s,baz=96,slow=7.1,SNR=9.2						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**45.97**	**261**	P	P	12 55 15.8	+0.9
	0.3nm,0.4s,baz=96,slow=8.5,SNR=18						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**70.08**	**180**	P	P	12 58 03.7	+0.2
	0.4nm,0.6s,baz=53,slow=5.1,SNR=5.0						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**85.68**	**57**	P	P	12 59 30.8	-0.1
	0.4nm,0.9s,baz=230,slow=4.6,SNR=3.5						
	0.4nm,0.9s						

*RSNC **04** 13:19:57.6±0.0, 7°.N±1°.7×7°.3W±°, h134km±2km, M3.1, mb3.6, ML2.8*

*FUNV **04** 13:19:57.0, 7°.33N×73°.10W, h152km, MW3.9*

ISC 04 13:19:55.8±1.2, 7°.48N±0°.03×73°.16W±0°.03, h143km±8km, n34, σ1s92/66, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.48**	**107**	P	**Pn**	**13 20 17.9**	**+1.1**
PAMC				S	**Sn**	**13 20 32.7**	**+0.1**
OCAC	**Ocana**	**0.77**	**348**	P	**Pn**	**13 20 19.1**	**+0.9**
OCAC				S	**Sn**	**13 20 35.6**	**+0.3**
BRJC	**Barrancabermej**	**0.77**	**229**	P	**Pn**	**13 20 18.1**	**0.0**
BRJC				S	**Sn**	**13 20 33.9**	**-1.0**
BARC	**Barichara**	**0.89**	**182**	P	**Pn**	**13 20 19.4**	**+0.2**
BARC				S	**Sn**	**13 20 36.5**	**-0.5**
CAPV	**Capacho**	**0.92**	**66↑**	*i*P	**Pn**	**13 20 21.0**	**+1.5**
CAPV				*e*S	**Sn**	**13 20 39.0**	**+1.6**
RUSC	**La Rusia**	**1.58**	**177**	P	**Pn**	**13 20 26.4**	**+0.1**
RUSC				S	**Sn**	**13 20 48.8**	**-0.7**
PTBC	**PUERTO BERRIO,**	**1.59**	**234**	P	**Pn**	**13 20 25.6**	**-0.3**
PTBC				S	**Sn**	**13 20 47.8**	**-1.1**
ZARC	**Zaragoza, Cauc**	**1.69**	**270**	P	**Pn**	**13 20 27.5**	**+0.6**
ZARC				S	**Sn**	**13 20 50.8**	**+0.2**
UREC	**San Jos de Ur**	**2.37**	**277**	P	**Pn**	**13 20 34.8**	**-0.2**
UREC				S	**Sn**	**13 21 03.4**	**-1.7**
NORC	**Norcasia**	**2.56**	**222**	P	**Pn**	**13 20 37.9**	**+0.5**
NORC				S	**Sn**	**13 21 07.7**	**-1.6**
ARGC	**Ariguani, Magd**	**2.59**	**336**	P	**Pn**	**13 20 39.5**	**+1.7**
ARGC				S	**Sn**	**13 21 11.5**	**+1.4**
MCQV	**Machiques**	**2.62**	**14**	*e*P	**Pn**	**13 20 39.9**	**+1.8**
MCQV				*e*S	**Sn**	**13 21 12.7**	**+1.9**
HELC	**Santa Helena**	**2.68**	**242**	P	**Pn**	**13 20 39.9**	**+0.7**
HELC				S	**Sn**	**13 21 09.9**	**-2.7**
SDV	**Santo Domingo**	**2.86**	**61**	P	**Pn**	**13 20 43.1**	**+1.8**
SDV				S	**Sn**	**13 21 16.1**	**-0.3**
ROSC	**El Rosal**	**2.87**	**204**	P	**Pn**	**13 20 43.0**	**+1.3**
ROSC				S	**Sn**	**13 21 19.0**	**+2.0**
DBBC	**Dabeiba**	**3.06**	**261**	P	**Pn**	**13 20 44.4**	**+0.6**
DBBC				S	**Sn**	**13 21 18.5**	**-2.3**
SJCC	**San Jacinto, C**	**3.12**	**320**	P	**Pn**	**13 20 45.1**	**+0.6**
SJCC				S	**Sn**	**13 21 21.4**	**-0.8**
GUY2C	**Guyana, Caldas**	**3.14**	**224**	P	**Pn**	**13 20 47.2**	**+2.0**
GUY2C				S	**Sn**	**13 21 23.9**	**+0.7**
CBOC	**Ciudad Bolivar**	**3.26**	**241**	P	**Pn**	**13 20 47.3**	**+0.9**
CBOC				S	**Sn**	**13 21 24.8**	**-0.7**
RECRC	**Villamaria, Ca**	**3.32**	**221**	P	**Pn**	**13 20 49.9**	**+2.3**
RECRC				S	**Sn**	**13 21 28.9**	**+1.3**
VILC	**Villavicencio,**	**3.39**	**189**	P	**Pn**	**13 20 48.7**	**+0.6**
VILC				S	**Sn**	**13 21 29.6**	**+1.0**
LCBC	**Los crdobas,**	**3.46**	**293**	P	**Pn**	**13 20 50.0**	**+1.2**
LCBC				S	**Sn**	**13 21 30.4**	**+0.6**
CRJC	**Cerrejon, Guaj**	**3.52**	**4**	P	**Pn**	**13 20 50.0**	**+0.2**
CRJC				S	**Sn**	**13 21 30.4**	**-1.2**
ANIL	**Santa Ana**	**3.72**	**217**	P	**Pn**	**13 20 55.0**	**+2.5**
ANIL				S	**Sn**	**13 21 38.0**	**+1.6**
ORTC	**Ortega, Tolima**	**4.11**	**210**	P	**Pn**	**13 20 57.9**	**+0.4**
ORTC				S	**Sn**	**13 21 47.7**	**+2.3**
PRAC	**Prado**	**4.12**	**205**	P	**Pn**	**13 20 58.2**	**+0.6**
PRAC				S	**Sn**	**13 21 47.6**	**+2.1**
URIC	**Uribia, Colomb**	**4.35**	**15**	P	**Pn**	**13 21 00.7**	**+0.2**
URIC				S	**Sn**	**13 21 49.6**	**-1.2**
YOTC	**Yotoco, Valle**	**4.71**	**223**	P	**Pn**	**13 21 05.4**	**0.0**
YOTC				S	**Sn**	**13 22 01.4**	**+1.9**
BAUV	**El Baul**	**5.27**	**74**	*e*P	**Pn**	**13 21 12.3**	**-0.4**
BAUV				*e*S	**Sn**	**13 22 07.6**	**-5.1**
MACC	**Macarena, Meta**	**5.35**	**187**	P	**Pn**	**13 21 12.9**	**-0.9**
	4.5nm,0.7s						
MACC				S	**Sn**	**13 22 10.6**	**-4.1**
	4.5nm,0.7s						
JAMC	**Jamundi, Valle**	**5.50**	**220**	P	**Pn**	**13 21 15.9**	**-0.1**
BENV	**Beln**	**6.02**	**65**	*e*P	**Pn**	**13 21 21.1**	**-1.8**
BENV				*e*S	**Sn**	**13 22 25.9**	**-5.0**
CACV	**CAICARA DEL OR**	**6.56**	**89**	*e*P	Pn	13 21 36.0	+6.0
CACV				*e*S	**Sn**	**13 22 47.4**	**+3.7**
TACV	**Tcata**	**6.61**	**66**	*e*P	**Pn**	**13 21 30.5**	**-0.2**
TACV				*e*S	**Sn**	**13 22 37.8**	**-7.1**

*IDC **04** 13:26:21.1±3.1, 9°.82S×119°.56E, h76km±27km, mb3.6/5, mbtmp4.0/10, Error ellipse: s-maj=33.2km s-min=12.3km az=58.0*

*DJA **04** 13:26:22.0±0.3, 10°S±5°×12°0E±°, h47km±10km, M4.2/17, mb4.3/4, MLv4.1/17*

ISC 04 13:26:20.0±0.8, 9°.87S±0°.07×119°.56E±0°.04, h50km, n24, σ2s30/28, mb3.8/5, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.28**	**324**	P	**Pn**	**13 26 32.2**	**+3.2**
WSI	**Waingapu**	**0.76**	**75**	P	**Pn**	**13 26 36.6**	**+2.1**
BASI	**Baing, Sumba**	**1.07**	**109**	P	**Pn**	**13 26 41.5**	**+2.9**
PLAI	**Plampang**	**2.04**	**300**	P	**Pn**	**13 26 54.1**	**+2.2**
PLAI				S	**Sn**	**13 27 18.2**	**+2.1**
EDFI	**Ende, Flores**	**2.38**	**62**	P	**Pn**	**13 26 58.4**	**+1.7**
TWSI	**Taliwang, Sumb**	**2.87**	**293**	P	**Pn**	**13 27 05.6**	**+2.4**
TWSI				S	**Sn**	**13 27 38.5**	**+2.0**
MMRI	**Maumere**	**2.92**	**65**	P	**Pn**	**13 27 06.1**	**+2.2**
BSSI	**Bau Bau, Buton**	**3.81**	**14**	P	**Pn**	**13 27 19.1**	**+2.8**
BATI	**Baumata**	**4.06**	**95**	P	**Pn**	**13 27 22.7**	**+3.1**
	71nm,0.3s,baz=253,slow=3.9,SNR=19						
BATI				S	**Sn**	**13 28 06.8**	**+0.9**
	46nm,0.3s,baz=293,slow=23,SNR=7.0						
BATI	**Baumata**	**4.06**	**95**	P	**Pn**	**13 27 22.3**	**+2.7**
BKSI	**Bulukumba**	**4.55**	**7**	P	**Pn**	**13 27 29.5**	**+3.1**
SRBI	**Singaraja**	**4.64**	**292**	P	**Pn**	**13 27 29.0**	**+1.4**
SOEI	**Soe**	**4.64**	**89**	P	**Pn**	**13 27 31.0**	**+3.2**
KAPI	**Kappang**	**4.83**	**2**	P	**Pn**	**13 27 32.4**	**+2.3**
	9.9nm,0.3s,baz=216,slow=3.6,SNR=9.8						
KAPI				S	**Sn**	**13 28 25.0**	**+0.2**
	15nm,0.3s,baz=108,slow=20,SNR=7.6						
BNSI	**Bone**	**5.46**	**6**	P	**Pn**	**13 27 40.6**	**+1.8**
JAGI	**Jajag, Banyuwa**	**5.51**	**284**	P	**Pn**	**13 27 40.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**10.09**	**145**	P	**Pn**	**13 28 42.5**	**+0.2**
	3.5nm,0.4s,baz=346,slow=11,SNR=48						
FITZ				S	Sn	13 30 26.9	-7.2
	8.7nm,0.4s,baz=54,slow=19,SNR=16						
WRA	**Warramunga Arr**	**17.43**	**127**	P	**Pn**	**13 30 18.5**	**-1.3**
	1.0nm,0.5s,baz=302,slow=14,SNR=21						
WRA				S	Sn	13 33 20.8	-12
	0.6nm,0.6s,baz=295,slow=21,SNR=6.6						
ASAR	**Alice Springs**	**19.39**	**137**	P	**P**	**13 30 43.4**	**+1.4**
	2.8nm,0.8s,baz=320,slow=11,SNR=29						
ASAR				S	S	13 34 09.1	-10
	0.5nm,0.4s,baz=314,slow=25,SNR=7.1						
SONM	**Songino Array**	**58.62**	**350**	P	**P**	**13 36 10.9**	**-1.1**
	0.4nm,0.3s,baz=167,slow=8.3,SNR=1.4						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**65.47**	**333**	P	**P**	**13 36 56.6**	**-1.3**
	0.4nm,0.4s,baz=150,slow=6.2,SNR=5.6						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**69.98**	**334**	P	**P**	**13 37 22.4**	**-3.7**
	1.1nm,0.3s,baz=129,slow=4.0,SNR=8.9						
	1.1nm,0.3s						
ZALV	**Zalesovo Beam**	**70.04**	**339**	P	**P**	**13 37 24.3**	**-2.1**
	0.4nm,0.4s,baz=147,slow=3.4,SNR=1.8						
	0.4nm,0.4s						
PETK	**Petropavlovsk-**	**70.65**	**23**	P	**P**	**13 37 29.2**	**-1.0**
	0.7nm,0.6s,baz=216,slow=7.3,SNR=1.0						
	0.7nm,0.6s						

IDC 04 13:33:01.5±2.3, 0°.75N×127°.09E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=180.3km s-min=28.3km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.76**	**161**	P	P	13 37 54.3	-0.6
	0.4nm,0.5s,baz=340,slow=11,SNR=8.0						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**25.16**	**165**	P	P	13 38 29.1	+0.4
	0.6nm,0.5s,baz=342,slow=11,SNR=12						
	0.6nm,0.5s						
DZM	**Mont Dzumac**	**44.57**	**123**	*e*LR	LR	13 54 19.1	
	969nm,31.6s						
MKAR	**Makanchi Array**	**60.21**	**326**	P	P	13 43 11.4	-0.1
	0.3nm,0.4s,baz=124,slow=8.5,SNR=2.4						
	0.3nm,0.4s						
PPT2	**Papeete2**	**83.86**	**108**	*e*LR	LR	14 12 20.3	
	242nm,31.8s						
PPT2				*e*LR	LR	14 12 27.2	
	351nm,30.5s						
TBI	**Tubuai**	**84.27**	**113**	*e*LR	LR	14 12 41.6	
	956nm,28.2s						
TAOE	**Nuku Hiva Isla**	**92.84**	**99**	*e*SS	SS	14 03 56.8	+19
	437nm,33.8s						
TAOE	**Nuku Hiva Isla**	**92.84**	**99**	*e*LR	LR	14 16 32.8	
	183nm,26.9s						

*NEIC **04** 13:33:18.9±1.8, 23°.95N±0°.05×122°.48E±0°.02, h27km±6km, mb4.4/18, Error ellipse: s-maj=8.0km s-min=2.1km az=172.0*

*JMA **04** 13:33:19.2±0.2, 24°.N±1°.×122°.4E±0°.5, h25km, MV4.1/13, NW OFF ISHIGAKIJIMA IS*

*TAP **04** 13:33:20.2, 24°.02N×122°.37E, h24km, ML4.5, C*

*IDC **04** 13:33:22.3±3.1, 24°.12N×122°.57E, h54km±30km, mb3.9/19, mbtmp4.2/20, ML3.6/1, Error ellipse: s-maj=18.9km s-min=14.7km az=64.0*

ISC 04 13:33:18.9±0.9, 23°.94N±0°.02×122°.45E±0°.02, h28km±6km, n243, σ0s99/370, mb4.3/29, 47C-14D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.21**	**327**	*i*P	**Pb**	**13 33 24.7**	**+0.1**
EOS4				*i* S	**Sb**	**13 33 28.1**	**-0.4**
EOS3	**EOS3**	**0.36**	**341**	*i*P	**Pn**	**13 33 27.3**	**-0.9**
EOS3				S	**Sn**	**13 33 32.8**	**-1.6**
EOS2	**EOS2**	**0.52**	**338**	*i*P	**Pn**	**13 33 30.1**	**-0.2**
EOS2				S	**Sn**	**13 33 37.1**	**-1.0**
JYNG	**Yonagunijimaku**	**0.68**	**42**	*i* P	**Pn**	**13 33 32.3**	**-0.4**
JYNG				S	**Sn**	**13 33 40.9**	**-1.5**
YOJ	**Yonaguni jima**	**0.73**	**45**		**Pn**	**13 33 33.0**	**-0.3**
YOJ	**Yonaguni jima**	**0.73**	**45**	P	**Pn**	**13 33 32.9**	**-0.5**
YOJ	**Yonaguni jima**	**0.73**	**45**	S	**Sn**	**13 33 44.3**	**+0.7**
YOJ	**Yonaguni jima**	**0.73**	**45↓**	*e*P	**Pn**	**13 33 33.3**	**0.0**
YOJ				*e*S	**Sn**	**13 33 42.5**	**-1.1**
YOJ	**Yonaguni jima**	**0.73**	**45**	*i* P	**Pn**	**13 33 33.4**	**0.0**
YOJ				S	**Sn**	**13 33 42.4**	**-1.1**
EHP	**Heping Village**	**0.74**	**300**	*e*P	**Pn**	**13 33 33.2**	**-0.3**
EHP				*e*S	**Sn**	**13 33 43.4**	**-0.5**
EAHA	**Aohua**	**0.75**	**301↓**	*e*P	**Pn**	**13 33 33.3**	**-0.4**
HWA	**Hwalien**	**0.77**	**273**	↑P	**Pn**	**13 33 33.8**	**-0.1**
HWA				S	**Sn**	**13 33 44.3**	**-0.3**
TEYL	**Yanliau Villag**	**0.78**	**265**	*e*P	**Pn**	**13 33 34.0**	**-0.1**
TEYL				*e*S	**Sb**	**13 33 44.2**	**+0.1**
ETL	**Fush Village**	**0.78**	**286**	*e*P	**Pn**	**13 33 33.8**	**-0.3**
ETL				*e*S	**Sn**	**13 33 44.5**	**-0.5**
EWUT	**Wuta**	**0.79**	**310**	↓P	**Pn**	**13 33 33.7**	**-0.5**
EWUT				S	**Sb**	**13 33 44.1**	**-0.3**
TWD	**Chiawan**	**0.79**	**280↑**	*i*P	**Pb**	**13 33 33.6**	**-0.5**
TWD				S	**Sb**	**13 33 43.7**	**-0.7**
ENA	**Nanau**	**0.81**	**307↓**	*i*P	**Pn**	**13 33 34.0**	**-0.5**
ENA				*e*S	**Sb**	**13 33 43.9**	**-1.0**
NACB	**Ninganchiao**	**0.81**	**287**		**Pn**	**13 33 34.1**	**-0.5**
NACB	**Ninganchiao**	**0.81**	**287**	P	**Pb**	**13 33 33.8**	**-0.6**
NACB	**Ninganchiao**	**0.81**	**287**	S	**Sn**	**13 33 45.7**	**0.0**
NACB	**Ninganchiao**	**0.81**	**287**	*i*P	**Pn**	**13 33 34.0**	**-0.5**
NACB				S	**Sb**	**13 33 44.4**	**-0.6**
SHUL	**Shoufeng**	**0.82**	**259**	↑P	**Pn**	**13 33 34.4**	**-0.2**
SHUL				*e*S	**Sb**	**13 33 45.6**	**+0.3**
ESAO	**Su ao**	**0.84**	**319**	↓P	**Pn**	**13 33 34.3**	**-0.5**
ESAO				*e*S	**Sb**	**13 33 44.6**	**-1.2**
TWC	**Suao**	**0.86**	**321↓**	*i*P	**Pn**	**13 33 34.6**	**-0.5**
TWC				*e*S	**Sb**	**13 33 45.2**	**-1.2**
TEGC	**Jichi Village**	**0.86**	**255**	*e*P	**Pn**	**13 33 35.5**	**+0.4**
TEGC				S	**Sb**	**13 33 46.7**	**+0.3**
ETM	**Tongmen**	**0.87**	**272↑**	*i*P	**Pb**	**13 33 34.8**	**-0.7**
ETM				S	**Sb**	**13 33 46.1**	**-0.7**
ETLH	**Xiulin Townshi**	**0.92**	**287↑**	*i*P	**Pn**	**13 33 35.9**	**-0.2**
ETLH				*e*S	**Sb**	**13 33 48.0**	**-0.2**
ESL	**Shilin**	**0.94**	**262↑**	*i*P	**Pb**	**13 33 35.4**	**-1.1**
ESL				*e*S	**Sb**	**13 33 47.1**	**-1.5**
LXIB	**Xiulin Townshi**	**0.95**	**275↑**	*i*P	**Pb**	**13 33 36.0**	**-0.9**
LXIB				*e*S	**Sb**	**13 33 48.6**	**-0.5**
EGFH	**Guangfu**	**0.97**	**254**	*e*P	**Pb**	**13 33 36.5**	**-0.6**
EGFH				*e*S	**Sb**	**13 33 48.9**	**-0.7**
WARBT	**Fenglin Townsh**	**1.00**	**257↑**	*i*P	**Pb**	**13 33 36.3**	**-1.2**
EGS		**1.01**	**333**	P	**Pn**	**13 33 37.8**	**+0.5**
EGS				*e*S	**Sn**	**13 33 50.6**	**0.0**
LATG	**Datong**	**1.03**	**305↑**	*i*P	**Pn**	**13 33 37.9**	**+0.3**
LATG				*e*S	**Sb**	**13 33 50.6**	**-0.7**
HGSD	**Ruisui**	**1.04**	**245**	P	**Pb**	**13 33 37.3**	**-0.9**
HGSD				*e*S	**Sb**	**13 33 49.1**	**-2.3**
ILA	**Ilan**	**1.04**	**322**	*e*P	**Pn**	**13 33 38.2**	**+0.5**
TWE	**Neicheng**	**1.05**	**318↓**	*i*P	**Pn**	**13 33 38.3**	**+0.5**
TWE				*e*S	**Sn**	**13 33 51.7**	**+0.1**
ENTT	**Nioudou**	**1.06**	**311**	↑P	**Pn**	**13 33 38.6**	**+0.6**
ENTT				*e*S	**Sn**	**13 33 51.5**	**-0.4**
NNSB	**Datong**	**1.09**	**297↑**	*i*P	**Pb**	**13 33 38.7**	**-0.4**
NNS	**Nan Shan**	**1.10**	**297↑**	*i*P	**Pb**	**13 33 38.8**	**-0.5**
WHF	**Hehuan Shan**	**1.10**	**281↑**	*i*P	**Pn**	**13 33 38.7**	**-0.2**
WHF				*e*S	**Sb**	**13 33 53.0**	**-0.6**
EHYH	**Wanrong**	**1.10**	**246**	P	**Pn**	**13 33 38.7**	**+0.1**
EHYH				*e*S	**Sb**	**13 33 52.2**	**-1.1**
ECBN	**Changbin**	**1.10**	**236**	*e*P	**Pn**	**13 33 38.4**	**-0.1**
ECBN				S	**Sb**	**13 33 52.1**	**-1.3**
EHY	**Hungye**	**1.12**	**247**	↑P	**Pn**	**13 33 38.5**	**-0.2**
EHY				*e*S	**Sb**	**13 33 52.6**	**-1.2**
FUSB	**Fushanzhiwuyua**	**1.13**	**316↑**	*i*P	**Pb**	**13 33 39.9**	**+0.1**
FUSB				*e*S	**Sn**	**13 33 53.9**	**+0.3**
FUSS	**Fushou**	**1.14**	**286**	↑P	**Pb**	**13 33 39.6**	**-0.5**
FUSS				*e*S	**Sn**	**13 33 54.3**	**+0.2**
TWB1	**Santiao Chiao**	**1.14**	**339↑**	*i*P	**Pb**	**13 33 39.4**	**-0.6**
TWB1				*e*S	**Sn**	**13 33 53.9**	**+0.2**
OWD	**Renai**	**1.16**	**271**	*e*P	**Pn**	**13 33 39.4**	**-0.1**
OWD				*e*S	**Sb**	**13 33 53.8**	**-1.4**
TIPB	**Shuangxi**	**1.17**	**331**	↑P	**Pb**	**13 33 40.2**	**-0.3**
TIPB				*e*S	**Sn**	**13 33 54.6**	**0.0**
YULB	**Yu-li**	**1.19**	**243**		**Pn**	**13 33 39.8**	**+0.1**
YULB	**Yu-li**	**1.19**	**243**	P	**Pn**	**13 33 39.9**	**+0.2**
YULB	**Yu-li**	**1.19**	**243**	S	**Sb**	**13 33 55.1**	**-0.7**
YULB	**Yu-li**	**1.19**	**243↑**	*i*P	**Pn**	**13 33 39.8**	**+0.1**
YULB				*e*S	**Sb**	**13 33 54.5**	**-1.2**
EYUL	**Yuli**	**1.19**	**240**	*e*P	**Pn**	**13 33 40.1**	**+0.4**
EYUL				*e*S	**Sb**	**13 33 55.0**	**-0.8**
NWLT	**Wulai**	**1.20**	**314↑**	*i*P	**Pb**	**13 33 40.1**	**-0.3**
TWT	**Tachien**	**1.20**	**285**	*e*P	**Pb**	**13 33 40.9**	**-0.2**
TWT				*e*S	**Sn**	**13 33 56.2**	**+0.6**
TWF1	**Yuli**	**1.21**	**241**	↑P	**Pn**	**13 33 40.2**	**+0.2**
TWF1				*e*S	**Sb**	**13 33 55.5**	**-0.8**
WUSB	**Renai**	**1.22**

WWF eS Sb 13 34 07.7 0.0
JJJ Ishigaki jima 1.60 74 *i* P Pb 13 33 46.5 -1.4
NSY Sanyi 1.61 287 eP Pb 13 33 48.3 +0.3
WNT Mingjian 1.61 268 eP Pb 13 33 47.5 -0.5
WNT eS Sb 13 34 07.6 -0.4
NJN Zhunan 1.62 298 eP Pb 13 33 46.9 -1.2
WNT1 Nantou City 1.62 269 eP Pb 13 33 47.3 -0.8
NMLH Miaoli 1.62 292 eP Pb 13 33 48.0 -0.2
TCU Taichung 1.63 278 eP Pb 13 33 48.2 -0.1
TCU eS Sb 13 34 08.6 +0.1
CHN5 Tsauling 1.66 258 ⇑P Pb 13 33 47.9 -0.9
CHN5 eS Sb 13 34 08.7 -0.6
NHW Xinwu Township 1.66 310 eP Pb 13 33 47.2 -1.6
TTN Taitung 1.68 226 eP Pn 13 33 47.7 +1.3
TWGBT Beinan 1.68 229 P Pn 13 33 46.7 +0.2
TWGBT Beinan 1.68 229 eP Pn 13 33 46.8 +0.2
TWG Pinlang 1.69 229 Pn 13 33 45.6 -1.0
TWG Pinlang 1.69 229 eP Pn 13 33 46.5 0.0
TWG eS Sn 13 34 05.7 -1.6
WDJ Dajia District 1.70 284 eP Pb 13 33 48.9 -0.6
WDJ eS Sb 13 34 10.5 0.0
PCYT Pengchaiyu 1.71 349 eP Pb 13 33 47.6 -2.1
STYH Taoyuan 1.71 244 eP Pb 13 33 48.2 -1.5
STYH eS Sn 13 34 08.8 +0.8
STYT Tauyuan 1.73 244 eP Pn 13 33 48.1 +0.9
STYT eS Sn 13 34 09.4 +0.9
WCH1 Changhua City 1.74 275 eP Pb 13 33 49.6 -0.6
WGK Gukeng 1.75 262 eP Pb 13 33 49.5 -0.7
WGK eS Sb 13 34 11.7 0.0
WCKO Fanlu 1.76 254 eP Pb 13 33 49.6 -0.9
WCKO eS Sb 13 34 11.8 -0.5
WDL Douliou City 1.76 263 eP Pb 13 33 49.5 -1.0
WDL eS Sb 13 34 12.2 0.0
WDLH Douliu 1.77 262 eP Pb 13 33 49.8 -0.8
WDLH eS Sb 13 34 12.4 +0.1
TPUB Ta-pu 1.79 249 Pn 13 33 48.9 +0.9
TPUB Ta-pu 1.79 249 P Pb 13 33 49.9 -1.1
TPUB Ta-pu 1.79 249 eP Pb 13 33 49.9 -1.1
TPUB eS Sn 13 34 11.1 +1.4
JISG Ishigakijimahi 1.82 69 P Pb 13 33 49.4 -2.1
JISG eS Sb 13 34 12.3 -1.5
WTP Ta-pu 1.82 248 eP Pb 13 33 50.4 -1.2
WTP eS Sb 13 34 13.6 -0.4
CHN2 Minshiung 1.85 258 eP Pb 13 33 51.2 -0.8
CHN2 eS Sb 13 34 15.0 +0.1
WTK Tuku 1.90 263 eP Pb 13 33 52.0 -0.9
WTK eS Sb 13 34 16.4 +0.2
CHY Chiayi 1.91 257 eP Pb 13 33 51.9 -1.1
CHY eS Sb 13 34 15.7 -0.6
RLNB Erlin 1.91 269 P Pb 13 33 52.0 -1.1
RLNB eS Sb 13 34 15.1 -1.4
ECL Taimali 1.92 226 eP Pn 13 33 49.3 -0.4
ECL eS Sn 13 34 10.9 -2.0
TWK Hsinying 1.92 250 eP Pb 13 33 51.9 -1.4
TWK eS Sb 13 34 15.9 -0.9
SNST Tainan City 1.93 249 eP Pb 13 33 53.8 +0.4
SNST eS Sb 13 34 17.8 +0.8
WTCT Ta-ch'eng 1.98 268 eP Pb 13 33 52.7 -1.6
WTCT eS Sb 13 34 17.8 -0.8
SSD Sandimen 2.05 235 eP Pn 13 33 53.0 +1.5
SSD eS Sn 13 34 17.9 +1.7
WSF Szhu 2.06 262 eP Pb 13 33 53.9 -1.7
WSF eS Sb 13 34 20.0 -0.8
LAY Lan-yu 2.07 204 eP Pn 13 33 51.6 -0.2
ICHU Yijhu 2.07 254⇓eP Pb 13 33 54.3 -1.5
ICHU eS Sb 13 34 19.4 -1.6
WSL Shuilin Townsh 2.08 259 eP Pb 13 33 54.0 -1.8
WSL eS Sb 13 34 20.3 -1.0
SCST Cishan 2.08 240 eP Pb 13 33 55.3 -0.6
SCST eS Sb 13 34 21.4 0.0
LYUB Lan-yu 2.09 203 eP Pn 13 33 51.1 -1.0
CHN3 Shinhua 2.10 246 eP Pb 13 33 55.6 -0.6
CHN3 eS Sb 13 34 22.4 +0.5
TAW Tawu 2.13 222 eP Pb 13 33 54.9 -1.8
TAW eS Sn 13 34 17.5 -0.6
MASBT Mashibuluo 2.13 232 eP Pn 13 33 54.0 +1.4
MASBT eS Sb 13 34 21.1 -1.7
SHHT Tainan City 2.13 245 eP Pb 13 33 56.4 -0.4
SHHT eS Sb 13 34 23.8 +0.8
CHN8 Yiju 2.13 254 ⇓P Pb 13 33 54.9 -1.9
CHN8 eS Sb 13 34 20.8 -2.1
SSHA Shanhua 2.14 248 eP Pb 13 33 55.9 -1.0
SSHA eS Sb 13 34 22.5 -0.6
TAWH Dawu Township 2.15 222 eP Pn 13 33 53.1 +0.3
TAWH eS Sn 13 34 17.9 -0.7
SGLT Jiouru 2.17 236 eP Pn 13 33 56.0 -1.5
SGLT eS Sb 13 34 23.9 0.0
TWM1 Shoushan 2.17 240 eP Pb 13 33 56.5 -0.9
TSPT Pingtung City 2.19 235 eP Pb 13 33 56.6 -1.2
SCLT Jiali 2.20 250 eP Pb 13 33 56.0 -2.0
SCLT eS Sb 13 34 23.2 -1.7
TAI1 Yung-k'ang 2.23 247 eP Pb 13 33 56.1 -2.3
TAI1 eS Sb 13 34 24.8 -0.7
SNJT Kaohsiung City 2.27 239 eP Pb 13 33 57.7 -1.6
SLIU Shizi 2.29 222 eP Pn 13 33 54.9 0.0
SCZT Fangliau 2.29 227 eP Pn 13 33 56.7 +1.8
SCZT eS Sn 13 34 24.0 +1.7
TSCK Chigu Township 2.31 250 eP Pb 13 33 57.3 -2.5
TSCK eS Sn 13 34 24.8 +2.3
WSSB Gushan 2.39 238 eP Pn 13 33 57.9 +1.7
WSSB eS Sb 13 34 28.5 -1.9
SMST Manzhou Townsh 2.42 218 eP Pn 13 33 57.5 +0.8
TSEB Hengchuen, Pin 2.48 215 eP Pb 13 33 00.6 -2.2
TSEB eS Sn 13 34 28.9 +2.1
HEN Hengchun 2.49 220 eP Pb 13 33 59.6 +2.1
HEN eS Sn 13 34 28.0 +1.0
TWKBT Hengchun 2.50 217 P Pn 13 33 59.8 +2.1
TWKBT eS Sn 13 34 27.9 +0.6
TWK1 Hengchun 2.50 218 eP Pn 13 33 59.9 +2.2
TWK1 eS Sn 13 34 27.0 -0.3
JIRB Irabujima 2.64 70 eS Sn 13 34 31.9 +1.2
WDGT Dungji 2.65 256 ⇓P Pn 13 34 01.2 +1.5
WDGT eS Sn 13 34 31.6 +0.7
PHUB P'eng-hu 2.67 261 P Pn 13 34 01.4 +1.4
PHUB S Sn 13 34 32.2 +0.7
PNG Penghu 2.68 263 ⇑P Pn 13 34 01.4 +1.2
PNG S Sn 13 34 32.7 +1.0
JMJ Miyako jima 2 2.74 71 eP Pb 13 34 04.5 -2.6
VCHM Qimei 2.86 256 P Pn 13 34 04.0 +1.3
VCHM S Sn 13 34 36.3 +0.1
VWUC VWUC 2.92 292⇑eP Pn 13 34 04.3 +0.4
MATB Ma-tsu 3.16 315 eP Pn 13 34 07.1 +0.3
PTMZ Houxiangcun 3.22 291⇑eP Pn 13 34 08.1 +0.4
PTMZ eS Sn 13 34 44.2 -1.0
XPSS Dashiqiu 3.61 326 eP Pn 13 34 13.3 +0.3
KNM Kinmen 3.70 278 eP Pn 13 34 16.5 +2.3
KNM eS Sn 13 34 58.4 +1.6
KNMB Chin-men Tao 3.74 279 Pn 13 34 15.1 +0.3
KNMB Chin-men Tao 3.74 279⇑eP Pn 13 34 15.1 +0.3
KNMB eS Sn 13 34 56.1 -1.9
MHZQ Yeshan 3.77 305 eP Pn 13 34 15.3 +0.1
AXDP Jialang 4.19 284⇑eP Pn 13 34 21.5 +0.5
AXDP eS Sn 13 35 07.4 -1.7
ZPLA Ao Xicun 4.30 271⇑eP Pn 13 34 23.2 +0.7
ZPLA eS Sn 13 35 09.8 -1.9
DSXP Dongshan 4.60 268 eP Pn 13 34 27.3 +0.6
DSXP eS Sn 13 35 17.8 -1.4
SXFK Yanhouchang 4.99 300 eP Pn 13 34 32.1 0.0
JOW Kunigami 6.00 60 Pn Pn 13 34 44.7 -1.2
JOW Kunigami 6.00 60 P Pn 13 34 44.4 -1.6
3.5nm,0.3s,baz=240,slow=14,SNR=7.8
JOW S Sn 13 35 53.9 +0.1
9.5nm,0.5s,baz=180,slow=17,SNR=1.4
16nm,0.5s
JOW Kunigami 6.00 60 eP Pn 13 34 46.1 +0.2
KSRS Korea Array 14.26 18 P Pn 13 36 41.8 +2.8
9.4nm,0.6s,baz=197,slow=11,SNR=38
LZDM Lanzhou Array 20.14 311 P Pn 13 37 52.7 -0.6
2.1nm,0.4s,baz=139,slow=9.5,SNR=1.0
2.1nm,0.4s
USRK Ussuriysk Ar. 21.67 19 P P 13 38 06.3 -1.0
1.2nm,0.6s,baz=189,slow=8.3,SNR=2.7
1.2nm,0.6s
CMAR Chiang Mai Arr 22.57 261 P P 13 38 19.2 +2.0
0.9nm,0.3s,baz=79,slow=11,SNR=4.2
0.9nm,0.3s
GTA Gaotai 24.58 314 eP P 13 38 38.3 +1.6
GTA pmax pmax
comp=Z,7.0nm,0.9s
JKA Kamikawa-asahi 26.03 34 P P 13 38 47.4 -2.3
JKA IAmb IAmb 13 39 08.5
comp=Z,7.8nm,1.1s
SONM Songino Array 27.05 336 P P 13 38 59.0 0.0
SONM Songino Array 27.05 336 P P 13 38 59.0 0.0
comp=Z,3.5nm,0.6s,baz=153,slow=9.0,SNR=14
comp=Z,3.5nm,0.6s
MTN Manton Dam 37.53 166 P P 13 40 30.5 -0.2
MTN IAmb IAmb 13 40 31.0
comp=Z,14nm,1.1s
MKAR Makanchi Array 39.32 316 P P 13 40 45.6 +0.1
MKAR Makanchi Array 39.32 316 P P 13 40 46.0 +0.4
comp=Z,2.9nm,0.4s,baz=102,slow=9.4,SNR=43
comp=Z,2.9nm,0.4s
KNRA Kununurra 39.86 170 P P 13 40 50.6 +0.4
KNRA IAmb IAmb 13 40 53.7
comp=Z,4.5nm,0.9s
ZALV Zalesovo Beam 41.08 327 P 13 40 59.1 -0.8
ZALV Zalesovo Beam 41.08 327 P P 13 40 59.2 -0.7
comp=Z,6.6nm,0.5s,baz=117,slow=8.3,SNR=28
comp=Z,6.6nm,0.5s
KDJ Kajisay 41.52 307 P P 13 41 05.0 +1.0
KDJ IAmb IAmb 13 41 06.7
comp=Z,7.8nm,1.2s
NRN Naryn 42.26 306 P P 13 41 11.1 +0.8
NRN IAmb IAmb 13 41 13.0
comp=Z,7.3nm,0.7s
KURK Kurchatov 43.02 320 P P 13 41 15.0 -0.9
KURK IAmb IAmb 13 41 16.6
comp=Z,4.2nm,0.5s
KURBB Kurchatov Arra 43.04 320 P P 13 41 16.1 0.0
comp=Z,1.9nm,0.6s,baz=112,slow=8.5,SNR=9.1
comp=Z,1.9nm,0.6s
WRAB Tennant Creek 45.13 164 P P 13 41 33.5 +0.4
WRA Warramunga Arr 45.13 164 P P 13 41 34.2 +1.1
comp=Z,2.2nm,0.8s,baz=345,slow=8.5,SNR=11
comp=Z,2.2nm,0.8s
KKAR Karatay Array 46.53 307 P P 13 41 44.9 +0.8
CHGR Chuyangaron 47.21 301 P P 13 41 48.8 -0.7
KBL Kabul 47.31 296 P P 13 41 50.5 0.0
KBL IAmb IAmb 13 41 52.9
comp=Z,4.5nm,0.7s
BVAR Borovoye Array 48.59 321 P P 13 41 60.0 +0.1
comp=Z,3.1nm,0.5s,baz=111,slow=8.5,SNR=18
comp=Z,3.1nm,0.5s
ASAR Alice Springs 48.61 166 P P 13 42 02.4 +2.0
comp=Z,1.0nm,0.6s,baz=343,slow=7.1,SNR=28
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 54.44 314 P P 13 42 44.0 +0.3
ARTI Arti 56.09 323 P P 13 42 54.6 -0.8
C19K Lookout Ridge 63.57 23 P P 13 43 46.6 -0.2
C19K IAmb IAmb 13 44 07.3
comp=Z,3.3nm,1.1s
J17K VABM Dome 63.73 29 P P 13 43 47.9 +0.1
D19K Kuna River 64.09 24 P P 13 43 50.1 0.0
E19K Redstone River 64.43 25 P P 13 43 51.6 -0.7
E19K IAmb IAmb 13 44 05.6
comp=Z,2.4nm,1.0s
CHGN Chignik 64.46 37 P P 13 43 51.2 -1.5
D20K Etivluk River 64.64 24 P P 13 43 54.1 +0.4
J20K Nowinta River 65.87 28 P P 13 44 02.1 +0.4
J20K IAmb IAmb 13 44 18.0
comp=Z,2.8nm,1.1s
KBZ Khabaz 66.53 309 P P 13 44 07.2 +0.9
comp=Z,2.5nm,0.8s,baz=106,slow=5.5,SNR=4.9
comp=Z,2.5nm,0.8s
ILAR Eielson Array 68.90 27 P P 13 44 19.8 -1.1
comp=Z,0.2nm,0.5s,baz=277,slow=5.8,SNR=5.2
comp=Z,0.2nm,0.5s
SPITS Spitsbergen Ar 69.96 348 P P 13 44 26.7 -0.6
comp=Z,7.4nm,0.9s,baz=85,slow=6.1,SNR=10
comp=Z,7.4nm,0.9s
ARCES ARCESS Array B 70.19 338 P P 13 44 27.7 -1.1
comp=Z,4.1nm,1.0s,baz=63,slow=5.3,SNR=7.2
comp=Z,4.1nm,1.0s
FINES FINESS Array B 72.23 330 P P 13 44 40.8 -0.5
comp=Z,1.5nm,0.5s,baz=74,slow=6.0,SNR=11
comp=Z,1.5nm,0.5s
BRTR Keskin Array B 74.24 307 P P 13 44 54.6 +0.9
comp=Z,1.9nm,0.6s,baz=101,slow=6.4,SNR=13
comp=Z,1.9nm,0.6s
HFS Hagfors 78.34 331 P P 13 45 15.6 -0.8
comp=Z,1.2nm,0.7s,baz=91,slow=9.3,SNR=4.3
comp=Z,1.2nm,0.7s
NB2 NORSAR Subarra 78.97 332 P P 13 45 18.7 -1.3
comp=Z,0.5nm,0.5s,baz=58,slow=5.6
NOA NORSAR Array B 78.97 332 P P 13 45 19.3 -0.7
comp=Z,1.1nm,0.8s,baz=52,slow=5.8,SNR=3.7
comp=Z,1.1nm,0.8s
GERES GERESS Array B 83.76 321 P P 13 45 45.8 +0.1
comp=Z,0.5nm,0.3s,baz=58,slow=7.3,SNR=3.0
comp=Z,0.5nm,0.3s

*BJI **04** 13:37:40.7, $1.81N_{\times}126.98E$, h39km, mB5.0/19, mb4.8/57, Ms4.4/23, Ms7 4.2/29*
*NEIC **04** 13:37:47.1±1.3, 2.29N±0.07×126.81E±0.07, h48km±6km, mb5.0/71, Mww5.0/18, Error ellipse: s-maj=12.3km s-min=8.4km az=219.0*
*DJA **04** 13:37:48.4±0.2, 2.1N±2.2×12.7E±., h63km±2km, M4.4.9/67, mb5.1/67, mB5.4/25, MLv5.1/20, Mw(mB)4.8/25, MwMwp4.8/12, Mwp5.1/12*
*IDC **04** 13:37:48.7±1.6, 2.23N×126.79E, h69km±14km, mb4.4/29, mbtmp4.8/33, MS3.8/44, Error ellipse: s-maj=15.8km s-min=6.9km az=82.0*
*GCMT **04** 13:37:49.1±0.2, 2.41N±0.01×126.64E±0.02, h45km, MW5.0/100, Moment Tensor Solution. s77, c108; s100, c141; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.93±.14; $M_{\theta\theta}$-0.17±.09; $M_{\phi\phi}$-3.77±.11; $M_{r\theta}$-0.60±.08; $M_{\theta\phi}$-1.64±.08; $M_{r\phi}$-2.12±.10; Best double couple: M_o4.71400×10^{16} NP1:φ±24.00000°, δ31.00000°, λ95.00000°. NP2:φ±198.00000°, δ59.00000°, λ87.00000°. Principal axes: T 4.4820, Plg76.0000°, Azm99.0000°; N 0.4570, Plg3.0000°, Azm200.0000°; P -4.9470, Plg14.0000°, Azm291.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 13:37:47.1±0.5, **2.25N**±0.03×**126.87E**±0.05, **h51**km±4km, **h51**km:**pP-P, n591**, σ1§**19**/586, **mb4.9**/97, **MS3.9**/57, **2C-2D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.55**	**161**			**Pn**	**13 38 12.8**	**+0.5**
TNTI	**Ternate**	**1.55**	**161**	P		**Pn**	**13 38 12.7**	**+0.3**
TNTI	**Ternate**	**1.55**	**161**	P		**Pn**	**13 38 12.4**	**0.0**
SGSI	**Sangihe**	**1.95**	**317**	P		**Pn**	**13 38 16.8**	**-1.0**
SGSI				S		**Sn**	**13 38 42.6**	**+1.4**
LBMI	**Labuha**	**2.94**	**168**	P		Pn	13 38 40.7	+9.3
KMSI	**Cibinong**	**3.33**	**240**	P		**Pn**	**13 38 39.6**	**+2.9**
SANI	**Sanana**	**4.36**	**192**	P		**Pn**	**13 38 50.7**	**-0.2**
SANI				S		**Sn**	**13 39 38.0**	**-2.4**
DAV	**Davao City (W)**	**4.96**	**345**	P		**Pn**	**13 39 00.6**	**+1.6**
	99nm,0.3s,baz=210,slow=20,SNR=0.9							
DAV				S		**Sn**	**13 40 00.5**	**+5.4**
	256nm,0.4s,baz=80,slow=18,SNR=3.7							
MRSI	**Marisa**	**5.23**	**250**	P		**Pn**	**13 39 05.5**	**+2.7**
LUWI	**Luwuk**	**5.24**	**231**			**Pn**	**13 39 05.7**	**+2.7**
LUWI	**Luwuk**	**5.24**	**231**	P		**Pn**	**13 39 07.0**	**+4.1**
LUWI	**Luwuk**	**5.24**	**231**	P		**Pn**	**13 39 06.4**	**+3.5**
SWI	**Sorong**	**5.37**	**125**	P		**Pn**	**13 39 06.6**	**+1.8**
	0.6nm5μm2μm162nm,0.5s							
NLAI	**Namlea**	**5.46**	**178**	P		**Pn**	**13 39 06.7**	**+0.8**
	1.0nm2μm190nm,1.1s							
MSAI	**Masohi**	**5.93**	**160**	P		**Pn**	**13 39 16.4**	**+4.0**
	1.1nm4μm4μm249nm,0.6s							
AAI	**Ambon**	**6.04**	**167**	P		**Pn**	**13 39 17.7**	**+3.7**
	0.7nm2μm184nm,1.1s							
APSI	**Ampana**	**6.09**	**239**	P		**Pn**	**13 39 17.7**	**+3.1**
TOLI2	**Tolitoli**	**6.18**	**260**			**Pn**	**13 39 15.8**	**-0.1**
MPSI	**Mapaga**	**7.22**	**255**	P		**Pn**	**13 39 32.4**	**+2.3**
FAKI	**Fak Fak**	**7.44**	**134**	Pn		**Pn**	**13 39 34.7**	**+1.6**
FAKI	**Fak Fak**	**7.44**	**134**	P		**Pn**	**13 39 35.3**	**+2.2**
	0.4nm3um1μm93nm,0.8s							
KDI	**Kendari**	**7.49**	**215**	P		**Pn**	**13 39 34.6**	**+0.8**
PCI	**Palu**	**7.70**	**246**	P		**Pn**	**13 39 39.0**	**+2.4**
	0.5nm4μm162nm,0.9s							
RKPI	**Ransiki, Papua**	**8.21**	**117**	P		**Pn**	**13 39 46.5**	**+2.8**
	6μm193nm,0.7s							
TTSI	**Tana Toraja**	**8.79**	**233**	P		**Pn**	**13 39 52.2**	**+0.6**
	1μm120nm,1.0s							
BBSI	**Bau Bau**	**8.80**	**209**	P		**Pn**	**13 39 55.1**	**+3.3**
	2μm249nm,0.9s							
MYLDM	**Lahad Datu**	**8.84**	**289**			**Pn**	**13 39 53.3**	**+1.0**
MYLDM	**Lahad Datu**	**8.84**	**289**	P		**Pn**	**13 39 55.7**	**+3.4**
KMPI	**Kaimana, Papua**	**9.01**	**131**	P		**Pn**	**13 39 59.1**	**+4.4**
	181nm,0.7s							
SPSI	**Sidrap Palu**	**9.40**	**229**	P		**Pn**	**13 40 03.0**	**+3.0**
	65nm,1.1s							
BNSI	**Bone**	**9.45**	**226**	P		**Pn**	**13 40 02.7**	**+2.1**
	68nm,0.7s							
BAKI	**Biak**	**9.85**	**110**	P		**Pn**	**13 40 09.0**	**+2.8**
BKSI	**Bulukumba**	**10.10**	**222**	P		**Pn**	**13 40 10.7**	**+1.2**
	39nm,0.5s							
KAPI	**Kappang**	**10.13**	**225**			**Pn**	**13 40 10.8**	**+0.8**
KAPI	**Kappang**	**10.13**	**225**	P		**Pn**	**13 40 11.7**	**+1.7**
	22nm,0.6s,baz=55,slow=12,SNR=14							
KAPI				S		**Sn**	**13 41 59.4**	**-2.8**
	12nm,0.5s,baz=0.5,slow=21,SNR=1.4							
KAPI	**Kappang**	**10.13**	**225**	P		**Pn**	**13 40 12.8**	**+2.8**
SRPI	**Serui, Papua**	**10.23**	**114**	P		**Pn**	**13 40 13.5**	**+2.2**
	94nm,0.8s							
BSSI	**Bau Bau, Buton**	**10.49**	**217**	P		**Pn**	**13 40 18.5**	**+3.6**
	1μm99nm,0.5s							
KKM	**Kota Kinabalu**	**11.27**	**290**			**Pn**	**13 40 27.9**	**+2.2**
KKM	**Kota Kinabalu**	**11.27**	**290**	P		**Pn**	**13 40 29.8**	**+4.1**
EDFI	**Ende, Flores**	**12.08**	**205**	P		**Pn**	**13 40 38.2**	**+1.4**
	34nm,0.8s							
SOEI	**Soe**	**12.20**	**192**	P		**Pn**	**13 40 40.4**	**+1.9**
	2μm121nm,0.8s							
SMPI	**Sarmi**	**12.57**	**109**	P		**Pn**	**13 40 46.6**	**+3.3**
	1μm83nm,1.3s							
BATI	**Baumata**	**12.78**	**194**	P		**Pn**	**13 40 48.7**	**+2.5**
	9.3nm,0.4s,baz=17,slow=6.0,SNR=6.2							
BATI	**Baumata**	**12.78**	**194**	P		**Pn**	**13 40 50.2**	**+4.0**
	50nm,0.9s							
WBSI	**Waikabubak, Su**	**13.96**	**212**	P		**Pn**	**13 41 03.9**	**+1.5**
	142nm,0.8s							
GENI	**Genyem**	**14.14**	**110**	P		**Pn**	**13 41 07.6**	**+2.8**
PLAI	**Plampang**	**14.25**	**219**	P		**Pn**	**13 41 08.8**	**+2.5**
PLAI	**Plampang**	**14.25**	**219**	P		**Pn**	**13 41 08.7**	**+2.5**
	166nm,1.0s							
JAY	**Jayapura**	**14.62**	**109**	P		**Pn**	**13 41 13.4**	**+2.3**
	71nm,1.1s,baz=269,slow=6.5,SNR=21							
JAY	**Jayapura**	**14.62**	**109**	P		**Pn**	**13 41 12.6**	**+1.4**
	726nm90nm,0.9s							
SBUM	**Sibu**	**14.63**	**271**	P		**P**	**13 41 15.3**	**-1.2**
TWSI	**Taliwang, Sumb**	**14.77**	**222**	P		**P**	**13 41 15.9**	**-2.1**
	206nm,1.0s							
DRS	**Darwin Rock St**	**15.13**	**165**	P		**Pn**	**13 41 17.5**	**-0.2**
	122nm,0.7s							
SRBI	**Singaraja**	**15.51**	**228**	P		**P**	**13 41 25.8**	**-0.3**
	105nm,0.8s							
STKI	**Sintang**	**15.54**	**262**	P		**P**	**13 41 26.7**	**+0.2**
MTN	**Manton Dam**	**15.58**	**164**	P		**Pn**	**13 41 23.9**	**+0.3**
	comp=Z,78nm,0.5s							
MTN	**Manton Dam**	**15.58**	**164**			**Pn**	**13 41 21.9**	**-1.6**
MTN				IAmb		IAmb	13 41 31.6	
	comp=Z,60nm,0.5s							
MTN	**Manton Dam**	**15.58**	**164**	P		**Pn**	**13 41 23.1**	**-0.5**
KMMI	**Kalianget**	**15.85**	**234**	P		**P**	**13 41 31.1**	**+1.2**
	comp=Z,134nm,0.8s							
KDU	**Kakadu**	**15.85**	**160**	P		**P**	**13 41 30.1**	**+0.2**
	comp=Z,52nm,1.1s							
KDU	**Kakadu**	**15.85**	**160**	P		**Pn**	**13 41 27.3**	**+0.3**
DNP	**Denpasar**	**15.90**	**227**	P		**P**	**13 41 35.1**	**+4.6**
ABJI	**Asem Bagus**	**16.07**	**231**	P		**P**	**13 41 34.8**	**+2.4**
	comp=Z,62nm,1.0s							
BLJI	**Banyuglugur**	**16.55**	**233**	P		**Pn**	**13 41 36.0**	**+0.2**
	comp=Z,155nm,1.1s							
JAGI	**Jajag, Banyuwa**	**16.56**	**230**			**Pn**	**13 41 36.6**	**+0.7**
JAGI				IAmb		IAmb	13 41 43.0	
	comp=Z,121nm,1.3s							
JAGI	**Jajag, Banyuwa**	**16.56**	**230**	P		**P**	**13 41 38.1**	**+0.3**
JAGI	**Jajag, Banyuwa**	**16.56**	**230**	P		**P**	**13 41 37.3**	**-0.5**
	comp=Z,105nm,1.1s							
KSM	**Kuching**	**16.57**	**268**			**Pn**	**13 41 35.9**	**-0.2**
KSM				IAmb		IAmb	13 41 43.7	
	comp=Z,194nm,2.0s							
GMJI	**Gumukmas**	**16.98**	**232**	P		**P**	**13 41 42.4**	**-0.1**
	comp=Z,81nm,0.9s							
KNRA	**Kununurra**	**17.91**	**174**	P		**Pn**	**13 41 51.7**	**-1.0**
KNRA	**Kununurra**	**17.91**	**174**	P		**Pn**	**13 41 52.2**	**-0.5**
PCJI	**Pacitan**	**18.77**	**236**	P		**Pn**	**13 42 03.9**	**+0.7**
	comp=Z,119nm,0.5s							
WOJI	**Wonogiri, Jawa**	**18.80**	**238**	P		**P**	**13 42 02.1**	**-0.4**
	comp=Z,69nm,0.8s							
UGM	**Wanagama**	**19.17**	**238**	P		**P**	**13 42 06.3**	**-0.4**
UGM	**Wanagama**	**19.17**	**238**	P		**Pn**	**13 42 09.2**	**+1.2**
TPI	**Tanjungpandan**	**19.84**	**256**	P		**P**	**13 42 14.5**	**+0.6**
	comp=Z,34nm,1.0s							
FITZ	**Fitzroy Crossi**	**20.26**	**183**	P		**P**	**13 42 18.1**	**-0.3**
	comp=Z,7.9nm,1.2s							
FITZ	**Fitzroy Crossi**	**20.26**	**183**	P		**P**	**13 42 18.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**20.26**	**183**	P		**P**	**13 42 18.4**	**0.0**
	comp=Z,19nm,0.5s,baz=17,slow=9.8,SNR=143							
FITZ				S		**S**	**13 46 00.3**	**-2.7**
	comp=Z,4.9nm,0.9s,baz=8.8,slow=18,SNR=2.0							
FITZ				LR		LR	13 50 08.2	
	comp=Z,55nm,19.1s,baz=14,slow=36							
	comp=Z,19nm,0.5s							
FITZ	**Fitzroy Crossi**	**20.26**	**183**	P		**P**	**13 42 17.5**	**-0.9**
	comp=Z,78nm,1.2s							
KPJI	**Karang Pucung**	**20.27**	**242**	P		**P**	**13 42 17.5**	**-1.1**
	comp=Z,93nm,0.8s							
MANU	**Manus Island**	**20.93**	**102**	P		**P**	**13 42 26.1**	**+0.2**
GUMO	**Guam**	**21.07**	**57**	P		**P**	**13 42 28.4**	**+1.1**
	comp=Z,36nm,0.6s,baz=278,slow=16,SNR=7.0							
	comp=Z,36nm,0.6s							
GUMO	**Guam**	**21.07**	**57**	P		**P**	**13 42 27.8**	**+0.6**
TWG	**Pinlang**	**21.21**	**345**	P		**P**	**13 42 25.2**	**-3.4**
TWG				IAmb		IAmb	13 42 26.6	
	comp=Z,46nm,0.7s							
LEM	**Lembang**	**21.22**	**245**	LR		LR	13 52 37.8	
	comp=Z,481nm,18.7s,baz=40,slow=42							
YULB	**Yu-li**	**21.70**	**346**	P		**P**	**13 42 29.5**	**-4.4**
YULB				IAmb		IAmb	13 42 41.9	
	comp=Z,92nm,1.5s							
TPUB	**Ta-pu**	**21.78**	**344**	P		**P**	**13 42 31.9**	**-2.9**
TPUB				IAmb		IAmb	13 42 39.4	
	comp=Z,48nm,0.8s							
TPUB	**Ta-pu**	**21.78**	**344**	P		**P**	**13 42 34.6**	**-0.2**
SSLB	**Suanglung**	**22.16**	**346**	P		**P**	**13 42 37.3**	**-1.7**
SSLB				IAmb		IAmb	13 42 41.1	
	comp=Z,154nm,1.8s							
COEN	**Coen**	**22.82**	**135**	P		**P**	**13 42 45.5**	**-0.5**
	comp=Z,35nm,1.1s							
COEN	**Coen**	**22.82**	**135**	P		**P**	**13 42 44.7**	**-1.3**
COEN	**Coen**	**22.82**	**135**	P		**P**	**13 42 45.6**	**-0.4**
YHNB	**Yeheng**	**22.91**	**347**	P		**P**	**13 42 44.5**	**-2.3**
YHNB				IAmb		IAmb	13 42 52.6	
	comp=Z,25nm,0.6s							
YHNB	**Yeheng**	**22.91**	**347**	P		**P**	**13 42 46.3**	**-0.6**
WRAB	**Tennant Creek**	**23.24**	**162**	P		**P**	**13 42 48.6**	**-1.5**
WRAB				IAmb		IAmb	13 42 56.5	
	comp=Z,80nm,0.9s							
WRA	**Warramunga Arr**	**23.24**	**162**	P		**P**	**13 42 47.5**	**-2.7**
WRA	**Warramunga Arr**	**23.24**	**162**	P		**P**	**13 42 48.5**	**-1.7**
	comp=Z,32nm,0.5s,baz=339,slow=11,SNR=133							
WRA				PcP		**PcP**	**13 46 36.8**	**0.0**
	comp=Z,1.2nm,0.6s,baz=328,slow=2.1,SNR=2.6							
WRA				S		**S**	**13 46 57.3**	**-1.3**
	comp=Z,6.5nm,0.9s,baz=337,slow=17,SNR=6.4							
WRA				LR		LR

KSI Kapahiang 24.96 256 P **P** **13 43 10.2 +4.1**
MASI Maura Aman, Be 25.19 258 P **P** **13 43 11.1 +2.9**
comp=Z,125nm,1.0s
QIS Mount Isa 25.88 152 P **P** **13 43 13.9 -0.5**
comp=Z,80nm,1.2s
QIS Mount Isa 25.88 152 P **P** **13 43 14.2 -0.2**
KULM Kulim 26.33 277 P **P** **13 43 20.7 +2.2**
MTSU Mount Surprise 26.57 140 P **P** **13 43 20.6 0.0**
comp=Z,30nm,1.1s
MTSU Mount Surprise 26.57 140 P **P** **13 43 20.8 +0.2**
ASAR Alice Springs 26.66 165 P **P** **13 43 20.6 -0.8**
comp=Z,6.4nm,0.5s,baz=345,slow=7.5,SNR=43
ASAR PcP **PcP** **13 46 44.2 -0.1**
comp=Z,3.6nm,0.6s,baz=357,slow=2.4,SNR=6.0
ASAR S **S** **13 47 54.8 +1.6**
comp=Z,3.0nm,0.8s,baz=342,slow=18,SNR=5.3
ASAR LR LR 13 55 49.3
comp=Z,282nm,20.5s,baz=354,slow=40
comp=Z,6.4nm,0.5s
AS01 Alice Springs 26.67 165 P **P** **13 43 20.3 -1.2**
comp=Z,29nm,0.9s
WRKA Warakurna 27.16 177 P **P** **13 43 25.8 -0.1**
comp=Z,30nm,0.9s
MNSI Mandailing Nat 27.31 267 P **P** **13 43 27.4 0.0**
comp=Z,16nm,0.7s
PSI Prapat 27.92 272 LR LR 13 56 08.9
comp=Z,299nm,20.5s,baz=108,slow=40
CTA Charters Tower 29.24 140 P **P** **13 43 44.9 +0.5**
CTAO Charters Tower 29.24 140 P **P** **13 43 43.9 -0.5**
CTAO Charters Tower 29.24 140 P **P** **13 43 44.2 -0.2**
MEEK Meekatharra 29.80 195 P **P** **13 43 49.0 -0.4**
comp=Z,32nm,1.0s
MEEK Meekatharra 29.80 195 P **P** **13 43 50.3 +0.9**
NJ2 Nanjing 30.59 347 *e*P **P** **13 43 57.5 +1.3**
NJ2 pmax pmax
comp=Z,12nm,0.6s
JNU Nakatsue 30.94 7 P **P** **13 43 58.5 -0.9**
JNU IAmb IAmb 13 44 09.5
comp=Z,19nm,0.9s
CMAR Chiang Mai Arr 31.75 302 P **P** **13 44 05.5 -1.2**
comp=Z,9.4nm,0.8s,baz=120,slow=7.2,SNR=8.2
CMAR PcP **PcP** **13 46 57.0 -0.3**
comp=Z,0.4nm,0.3s,baz=114,slow=2.8,SNR=1.8
CMAR LR LR 13 58 32.5
comp=Z,108nm,18.2s,baz=115,slow=39
comp=Z,9.4nm,0.8s
CHTO Chiang Mai 31.91 303 P **P** **13 44 06.7 -1.5**
CHTO IAmb IAmb 13 44 09.4
comp=Z,26nm,0.6s
CHTO Chiang Mai 31.91 303 P **P** **13 44 08.7 +0.6**
CHTO Chiang Mai 31.91 303 P **P** **13 44 07.0 -1.1**
JMN Monobe 32.00 11 P **P** **13 44 08.3 -0.3**
KMI Kunming 32.53 316 P **P** **13 44 13.9 +0.3**
KMI pmax pmax
comp=Z,11nm,1.4s
KMI LR LR
comp=Z,250nm,28.9s
KMI LR LR
comp=Z,340nm,26.9s
KMI LR LR
comp=Z,360nm,24.8s
INKA Innaminka 32.67 157 **P** **13 44 14.2 -0.4**
MORW Morawa 32.82 198 P **P** **13 44 16.8 +0.9**
QLP Quilpie 33.21 151 P **P** **13 44 18.1 -1.3**
comp=Z,45nm,1.1s
QLP Quilpie 33.21 151 P **P** **13 44 19.2 -0.1**
BLDU Ballidu 34.09 196 P **P** **13 44 27.5 +0.6**
PZH PanZhiHua 34.10 317 P **P** **13 44 28.8 +1.5**
INU Inuyama 34.26 15 P **P** **13 44 26.9 -1.4**
INU Inuyama 34.26 15 P **P** **13 44 28.4 +0.1**
INU Inuyama 34.26 15 P **P** **13 44 28.1 -0.2**
INU PcP **PcP** **13 47 01.0 -2.9**
JGF Kuroka 34.58 15 P **P** **13 44 30.2 -1.0**
JGF IAmb IAmb 13 44 32.2
comp=Z,13nm,0.7s
JGF Kuroka 34.58 15 P **P** **13 44 31.4 +0.2**
KLBR Kellerberrin 34.75 194 P **P** **13 44 32.4 -0.3**
comp=Z,60nm,1.0s
KLBR Kellerberrin 34.75 194 P **P** **13 44 33.1 +0.5**
LYN LuoYang 34.83 339 P **P** **13 44 34.3 +1.1**
LYN pP pP 13 44 41.4 -4.4
LYN pmax pmax
comp=Z,36nm,0.7s
HNR Honiara 34.94 110 LR LR 13 57 27.3
comp=Z,184nm,21.2s,baz=298,slow=34
TIA Tai'an 34.98 346 P **P** **13 44 34.4 -0.1**
TIA pmax pmax
comp=Z,4.0nm,0.6s
KSRS Korea Array 35.05 1 P **P** **13 44 35.2 +0.1**
comp=Z,6.9nm,0.5s,baz=178,slow=9.9,SNR=45
KSRS PcP **PcP** **13 47 06.3 +0.2**
comp=Z,1.5nm,0.6s,baz=185,slow=2.4,SNR=4.2
comp=Z,6.9nm,0.5s
MUN Mundaring 35.51 196 P **P** **13 44 40.5 +1.3**
MAJO Matsushiro 35.70 16 P **P** **13 44 38.8 -1.9**
MAJO Matsushiro 35.70 16 P **P** **13 44 39.9 -0.8**
MAJO Matsushiro 35.70 16 P **P** **13 44 39.6 -1.2**
MJAR Matsushiro Arr 35.70 16 P **P** **13 44 39.1 -1.7**
MJAR Matsushiro Arr 35.70 16 P **P** **13 44 39.0 -1.7**
comp=Z,7.2nm,0.6s,baz=197,slow=8.7,SNR=19
MJAR LR LR 13 58 25.5
comp=Z,186nm,21.7s,baz=217,slow=35
comp=Z,7.2nm,0.6s
XAN Xi'an 35.79 334 ⇑P **P** **13 44 40.9 -0.7**
XAN pmax pmax
comp=Z,14nm,0.8s
XAN LR LR
comp=Z,350nm,19.9s
XAN LR LR
comp=Z,340nm,19.9s
XAN LR LR
comp=Z,550nm,23.0s
CD2 Chengdu 35.92 325 *e*P **P** **13 44 42.7 0.0**
BBOO Buckleboo 35.94 167 P **P** **13 44 41.4 -1.4**
comp=Z,34nm,0.7s
BBOO Buckleboo 35.94 167 **P** **13 44 42.2 -0.6**
BBOO IAmb IAmb 13 44 49.0
comp=Z,26nm,0.9s
BBOO Buckleboo 35.94 167 P **P** **13 44 41.5 -1.4**
EIDS Eidsvold 36.12 141 P **P** **13 44 43.9 -0.6**
comp=Z,76nm,1.0s
EIDS Eidsvold 36.12 141 **P** **13 44 43.6 -0.9**
EIDS Eidsvold 36.12 141 P **P** **13 44 44.1 -0.4**
NWAO Narrogin (SRO) 36.15 194 P **P** **13 44 45.2 +0.5**
NWAO Narrogin (SRO) 36.15 194 P **P** **13 44 45.0 +0.3**
WHYH Whyalla 36.52 165 P **P** **13 44 48.8 +1.0**
comp=Z,39nm,0.8s
STKA Stephens Creek 36.71 159 P **P** **13 44 49.2 -0.2**
comp=Z,378nm,0.8s
STKA Stephens Creek 36.71 159 P **P** **13 44 48.8 -0.6**
STKA Stephens Creek 36.71 159 P **P** **13 44 49.2 -0.2**
comp=Z,56nm,0.8s,baz=331,slow=9.3,SNR=75
STKA LR LR 14 00 46.4
comp=Z,225nm,20.2s,baz=353,slow=38
comp=Z,56nm,0.8s
STKA Stephens Creek 36.71 159 P **P** **13 44 49.4 0.0**
HNS HongShan 36.72 344 ⇑P **P** **13 44 50.7 +1.3**
HNS sP **pP** **13 45 03.2 +1.1**
HNS pmax pmax
comp=Z,13nm,0.6s
HNS LR LR
comp=Z,290nm,22.6s
HNS LR LR
comp=Z,260nm,20.6s
HNS LR LR
comp=Z,410nm,22.6s
DL2 Dalian 36.80 353 P **P** **13 44 52.2 +2.2**
DL2 S **S** **13 50 35.3 +4.7**
DL2 pmax pmax
comp=Z,61nm,0.6s
DL2 LR LR
comp=Z,760nm,14.7s
DL2 LR LR
comp=Z,630nm,13.0s
DL2 LR LR
comp=Z,530nm,13.9s
HTT Hallett 37.27 163 P **P** **13 44 54.0 -0.2**
comp=Z,4.1nm,1.5s
HTT Hallett 37.27 163 P **P** **13 44 54.6 +0.4**
JMM Marumori 37.68 18 P **P** **13 44 57.1 -0.4**
JMM Marumori 37.68 18 P **P** **13 44 57.9 +0.3**
CMSA Cobar Meteorol 38.07 153 P **P** **13 45 00.5 -0.4**
comp=Z,29nm,1.3s
CMSA Cobar Meteorol 38.07 153 P **P** **13 45 01.0 +0.1**
BJT Baijiatuau 38.83 347 P **P** **13 45 07.5 +0.3**
BJT IAmb IAmb 13 45 13.2
comp=Z,24nm,0.8s
BJI Beijing 38.85 347 P **P** **13 45 08.0 +0.7**
BJI pP **pP** **13 45 17.8 -2.3**
BJI pmax pmax
comp=Z,16nm,0.8s
BRDH Bariadhala 39.75 304 LR LR 14 03 41.1
comp=Z,140nm,19.7s,baz=112,slow=39
LZDM Lanzhou Array 39.81 330 P **P** **13 45 16.9 +1.0**
comp=Z,1.0nm,0.3s,baz=148,slow=8.5,SNR=1.4
comp=Z,1.0nm,0.3s
LZH Lanzhou 39.84 330 *e*P **P** **13 45 17.4 +1.5**
LZH sP pP 13 45 27.1 -1.6
LZH pmax pmax
comp=Z,22nm,1.2s
LZH LR LR
comp=Z,230nm,13.7s
LZH LR LR
comp=Z,270nm,14.8s
LZH LR LR
comp=Z,600nm,14.4s
ARMA Armidale 40.17 146 P **P** **13 45 19.0 +0.3**
comp=Z,109nm,0.9s
ARMA Armidale 40.17 146 P **P** **13 45 18.8 +0.2**
ARMA Armidale 40.17 146 P **P** **13 45 19.4 +0.8**
JTM Tenmabayashi 40.45 17 P **P** **13 45 19.9 -0.7**
JTM IAmb IAmb 13 45 23.6
comp=Z,44nm,0.9s
HHC Hu-ho-hao-te 40.84 342 *e*P **P** **13 45 25.5 +1.5**
HHC S **S** **13 51 31.6 -0.1**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,74nm,5.9s
HHC LR LR
comp=Z,250nm,17.7s
HHC LR LR
comp=Z,140nm,10.9s
HHC LR LR
comp=Z,410nm,19.3s
SHL Shillong 40.87 308 P **P** **13 45 22.9 -1.7**
SHL IAmb IAmb 13 45 31.5
comp=Z,24nm,0.7s
ARPS Mount Arapiles 41.25 162 P **P** **13 45 27.5 +0.3**
comp=Z,10.0nm,1.3s
CN2 Changchun 41.39 358 *e*P **P** **13 45 29.6 +1.2**
CN2 *e*pP pP 13 45 38.0 -3.1
CN2 *e*S **S** **13 51 42.6 +3.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,100nm,12.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,200nm,13.0s
YNG Young 41.61 153 P **P** **13 45 30.1 -0.3**
comp=Z,36nm,1.2s
USRK Ussuriysk Ar. 42.02 6 P **P** **13 45 33.9 +0.4**
USRK Ussuriysk Ar. 42.02 6 P **P** **13 45 34.1 +0.6**
comp=Z,21nm,0.9s,baz=194,slow=7.4,SNR=28
USRK LR LR 14 03 19.0
comp=Z,49nm,21.8s,baz=192,slow=36
comp=Z,21nm,0.9s
H11S3 WAKE ISLAND Hy 42.22 65 T T 14 30 43.6
baz=251
H11S2 WAKE ISLAND Hy 42.23 65 T T 14 30 48.0
baz=251
H11S1 WAKE ISLAND Hy 42.23 65 T T 14 30 47.4
baz=251
MDJ Mudanjiang 42.26 3 P **P** **13 45 35.2 -0.3**
MDJ IAmb IAmb 13 45 37.1
comp=Z,24nm,1.0s
MDJ Mudanjiang 42.26 3 P **P** **13 45 36.4 +1.0**
MDJ pmax pmax
comp=Z,29nm,0.9s
XLT XiLinHaoTe 42.56 348 *e*P **P** **13 45 38.1 0.0**
XLT pP pP 13 45 48.5 -2.4
XLT sP pwP 13 45 52.8 -0.9
XLT S **S** **13 51 55.4 -1.7**
XLT pmax pmax
comp=Z,15nm,0.7s
XLT LR LR
comp=Z,18nm,26.4s
XLT LR LR
comp=Z,92nm,16.2s
XLT LR LR
comp=Z,190nm,17.4s
CAN Canberra 42.74 153 P **P** **13 45 39.9 +0.3**
comp=Z,46nm,1.3s
CAN Canberra 42.74 153 P **P** **13 45 39.7 +0.2**
CAN IAmb IAmb 13 45 41.5
comp=Z,51nm,1.1s
CAN Canberra 42.74 153 P **P** **13 45 40.6 +1.0**
CAN Canberra 42.74 153 P **P** **13 45 40.5 +0.9**
CNB Canberra Magne 42.90 153 P **P** **13 45 41.1 +0.2**
comp=Z,31nm,1.2s
CNB Canberra Magne 42.90 153 P **P** **13 45 41.6 +0.7**
TOO Toolangi 43.22 158 P **P** **13 45 44.7 +1.3**
comp=Z,11nm,1.3s
TOO Toolangi 43.22 158 P **P** **13 45 43.7 +0.3**
BNX BinXian 43.31 1 ⇓P **P** **13 45 43.4 -0.6**
BNX pP **pP** **13 45 52.2 -4.6**
BNX S **S** **13 52 11.9 +4.0**
BNX sS **sS** **13 52 27.9 -1.5**
BNX pmax pmax
comp=Z,7.0nm,1.1s
BNX LR LR
comp=Z,210nm,23.3s
LSA Lhasa 43.52 312 P **P** **13 45 45.3 -1.2**
JKA Kamikawa-asahi 43.96 16 P **P** **13 45 49.2 -0.1**
JKA IAmb IAmb 13 45 51.5
comp=Z,31nm,1.3s
GTA Gaotai 44.43 330 *e*P **P** **13 45 52.6 -0.6**
GTA pmax pmax
comp=Z,8.0nm,0.5s
GTA LR LR
comp=Z,260nm,21.1s
GTA LR LR
comp=Z,280nm,21.9s
GTA LR LR
comp=Z,560nm,24.7s
EVN Everest 45.99 308 P **P** **13 46 05.3 -1.1**
PALK Pallekele 46.25 278 LR LR 14 06 36.9
comp=Z,192nm,21.9s,baz=102,slow=37
YSS Yuzhno-Sakhali 46.62 15 P **P** **13 46 10.0 -0.2**
YSS IAmb IAmb 13 46 11.1
comp=Z,27nm,1.4s
HEH HeiHe 47.83 0 *e*P **P** **13 46 19.0 -0.6**
HEH PcP **PcP** **13 47 47.7 0.0**
HEH pmax pmax
comp=Z,22nm,0.9s
ULN Ulaanbaatar 48.56 342 P **P** **13 46 25.3 -0.1**
ULN IAmb IAmb 13 46 55.9
comp=Z,10nm,0.8s
SONM Songino Array 48.73 342 P **P** **13 46 26.8 -0.1**
SONM Songino Array 48.73 342 P **P** **13 46 26.5 -0.3**
comp=Z,4.3nm,0.5s,baz=156,slow=8.7,SNR=15
SONM LR LR 14 09 04.7
comp=Z,142nm,21.2s,baz=156,slow=38
comp=Z,4.3nm,0.5s
HYB Hyderabad 49.75 291 *e*P **P** **13 46 34.8 -0.2**
WMQ Urumqi 54.01 326 *e*P **P** **13 47 08.8 +2.5**
WMQ pP pP 13 47 14.7 -4.9
WMQ LR LR
comp=Z,190nm,19.7s
MSVF Nonsavu 54.19 114 P **P** **13 47 08.4 +0.4**
MSVF IAmb IAmb 13 47 10.2
comp=Z,29nm,1.1s
MSVF Nonsavu 54.19 114 P **P** **13 47 07.6 -0.4**
MSVF Nonsavu 54.19 114 P **P** **13 47 08.8 +0.8**
PETK Petropavlovsk- 56.74 22 P **P** **13 47 25.4 -0.3**
PETK Petropavlovsk- 56.74 22 P **P** **13 47 25.6 -0.1**
comp=Z,4.7nm,0.6s,baz=178,slow=2.1,SNR=16
PETK LR LR 14 14 37.8
comp=Z,23nm,18.9s,baz=200,slow=39
comp=Z,4.7nm,0.6s
ZSN Zaisan 57.82 328 *e*P **P** **13 47 33.7 +0.3**
SHLS Shalkode 58.57 321 *e*P **P** **13 47 36.6 -2.2**
UZB Uzynbulak 58.84 321 *e*P **P** **13 47 40.4 -0.4**
MKAR Makanchi Array 58.84 326 P **P** **13 47 39.4 -1.2**
comp=Z,4.5nm,0.3s,baz=120,slow=7.8,SNR=49
MKAR LR LR 14 14 55.1
comp=Z,127nm,18.1s,baz=116,slow=38
comp=Z,4.5nm,0.3s
TARG Taragay, Kyrgy 58.94 319 P **P** **13 47 42.0 +0.2**
MAKZ Makanchi 59.03 326 P **P** **13 47 41.2 -0.7**
KSH Kashi 59.18 316 P **P** **13 47 44.8 +1.6**
KSH sP pP 13 47 57.9 +1.3
KSH pmax pmax
comp=Z,4.0nm,0.8s
SATY Saty 59.19 320 *e*P **P** **13 47 43.0 -0.2**
MSZ Milford Sound 59.32 147 P **P** **13 47 44.8 +0.9**
JCZ Jackson Bay 59.41 146 P **P** **13 47 46.1 +1.5**
JCZ Jackson Bay 59.41 146 P **P** **13 47 45.6 +0.9**
KDJ Kajisay 59.54 319 P **P** **13 47 44.8 -0.9**
KDJ IAmb IAmb 13 47 55.1
comp=Z,7.0nm,0.6s
YAK Yakutsk 59.67 2 P **P** **13 47 44.4 -1.6**
YAK Yakutsk 59.67 2 LR LR 14 15 41.8
comp=Z,52nm,19.0s,baz=186,slow=38
YAK Yakutsk 59.67 2 P **P** **13 47 46.4 +0.4**
QRZ Quartz Range 59.70 141 P **P** **13 47 46.4 -0.2**
QRZ Quartz Range 59.70 141 P **P** **13 47 46.9 +0.3**
DSZ Denniston Nort 59.77 142 P **P** **13 47 47.1 0.0**
NRN Naryn 60.01 318 P **P** **13 47 48.3 -0.8**
MA2 Magadan 60.10 14 LR LR 14 13 38.5
comp=Z,23nm,22.0s,baz=224,slow=36
MDOK Medeo 60.11 320 *e*P **P** **13 47 49.4 -0.2**
TNSS Tian-Shan 60.12 320 *e*P **P** **13 47 49.5 -0.5**
WHZ Wether Hill Ro 60.12 148 P **P** **13 47 49.1 -0.3**
TDK Taldyqorghan 60.16 322 *e*P **P** **13 47 49.5 -0.2**
AAA Alma-Ata 60.22 320 *e*P **P** **13 47 50.0 -0.2**
comp=Z,5.8nm,0.4s
LBZ Lake Benmore 60.39 146 P **P** **13 47 51.1 -0.2**
NNZ Nelson 60.45 141 P **P** **13 47 50.5 -1.2**
THZ Tophouse 60.46 142 P **P** **13 47 51.0 -0.9**
RPZ Rata Peaks 60.48 144 LR LR 14 16 04.8
comp=Z,121nm,18.3s,baz=318,slow=38
RPZ Rata Peaks 60.48 144 P **P** **13 47 51.8 -0.1**
RPZ Rata Peaks 60.48 144 P **P** **13 47 52.0 +0.1**
LTZ Lake Taylor 60.65 143 P **P** **13 47 53.5 +0.4**
APS The Paps 60.76 149 P **P** **13 47 53.8 +0.1**
OXZ Oxford 60.83 144 P **P** **13 47 53.6 -0.6**
TUWZ Tuamarina 60.92 141 P **P** **13 47 54.1 -0.8**
GVZ Greta Valley S 61.22 143 P **P** **13 47 56.8 -0.1**
SNZO South Karori 61.34 140 P **P** **13 47 57.7 0.0**
URZ Urewera 61.38 136 P **P** **13 47 56.9 -1.1**
comp=Z,16nm,0.8s,baz=17,slow=15,SNR=1.9
URZ LR LR 14 16 09.1
comp=Z,281nm,18.3s,baz=310,slow=38
comp=Z,16nm,0.8s
URZ Urewera 61.38 136 P **P** **13 47 58.2 +0.2**
BKZ Black Stump Fm 61.40 138 P **P** **13 47 57.6 -0.7**
BKZ Black Stump Fm 61.40 138 P **P** **13 47 57.2 -1.1**
MTHZ Maungataniwha 61.48 137 P **P** **13 47 58.4 -0.4**
KWHZ Kawekа Forest 61.48 138 P **P** **13 47 58.6 -0.3**
AAK Ala-Archa 61.54 318 LR LR 14 18 11.3
comp=Z,146nm,21.2s,baz=88,slow=39
MRZ Mangatainoka R 61.56 139 P **P** **13 47 59.0 -0.3**
KRHZ Kereru 61.56 138 P **P** **13 47 58.6 -0.7**
NMHZ Naumai 61.58 137 P **P** **13 47 59.8 +0.3**
MCHZ McNeill Hill 61.68 138 P **P** **13 48 00.1 0.0**
RAHZ Arahi 61.68 137 P **P** **13 48 00.1 0.0**
RAGZ Rawiri 61.70 137 P **P** **13 47 59.9 -0.4**
SGDS Sogindy 61.81 319 *e*P **P** **13 48 00.9 0.0**
ZALV Zalesovo Beam 61.96 333 P **P** **13 48 00.7 -1.0**
ZALV Zalesovo Beam 61.96 333 P **P** **13 48 00.0 -1.7**
comp=Z,2.5nm,0.4s,baz=129,slow=6.4,SNR=14
ZALV LR LR 14 17 05.7
comp=Z,47nm,21.7s,baz=126,slow=38
comp=Z,2.5nm,0.4s
KAHZ Kahuranaki 61.97 138 P **P** **13 48 01.9 -0.2**
ARSB Arslanbob 62.01 316 **P** **13 48 02.1 -0.4**
ARSB IAmb IAmb 13 48 36.6
comp=Z,22nm,1.6s
RIGZ Rimuhau 62.04 137 P **P** **13 48 02.6 0.0**
BTLS Baital 62.89 321 *e*P **P** **13 48 08.0 -0.2**
GAR Garm 63.02 313 P **P** **13 48 08.6 -0.7**
KURBB Kurchatov Arra 63.05 328 P **P** **13 48 08.0 -1.0**
comp=Z,11nm,0.6s,baz=128,slow=6.2,SNR=56
comp=Z,11nm,0.6s
KURK Kurchatov 63.05 328 P **P** **13 48 07.9 -1.1**
SEY Seymchan 63.44 13 LR LR 14 15 49.3
comp=Z,40nm,21.8s,baz=190,slow=36
IUG Iuzhnay 64.37 316 *e*P **P** **13 48 17.7 -0.4**
comp=Z,5.7nm,0.7s
KKAR Karatay Array 64.40 317 P **P** **13 48 17.0 -1.1**
CHM Chimkent 64.73 316 *e*P **P** **13 48 20.5 +0.3**
BRLS Boroldav 64.83 317 *e*P **P** **13 48 21.2 +0.2**
BRZS Berezniki 65.97 325 *e*P **P** **13 48 28.1 0.0**
BVAR Borovoye Array 68.63 327 P **P** **13 48 44.3 -0.6**
comp=Z,7.0nm,0.7s,baz=137,slow=8.3,SNR=19
comp=Z,7.0nm,0.7s
BORK Borovoye 68.67 327 P **P** **13 48 45.2 0.0**
TIXI Tiksi 69.31 1 P **P** **13 48 47.5 -1.2**
TIXI IAmb IAmb 13 48 50.9
comp=Z,8.7nm,0.7s
TIXI Tiksi 69.31 1 LR LR 14 21 59.7
comp=Z,66nm,18.4s,baz=200,slow=38
TIXI Tiksi 69.31 1 P **P** **13 48 47.8 -0.9**
CASY Casey 69.37 187 P **P** **13 48 49.8 +0.6**
DRV Dumont d'Urvil 69.40 174 P **P** **13 48 48.9 -0.4**
ATKA Atka Island 69.63 34 P **P** **13 48 50.9 -0.2**
ABKAR Akbulak array 73.38 321 P **P** **13 49 12.5 -1.2**
P08K Saint George I 73.84 31 P **P** **13 49 15.1 -1.1**
baz=249
UNV Unalaska Valle 74.56 34 P **P** **13 49 20.2 -0.3**
baz=252
AKUT Akutan 75.06 34 P **P** **13 49 23.6 +0.2**
ARTI Arti 76.33 328 P **P** **13 49 30.9 +0.2**
ARTI IAmb IAmb 13 49 41.1
comp=Z,15nm,0.7s
FALS False Pass 76.58 34 P **P** **13 49 31.7 -0.3**
baz=254
M11K Mekoryuk 76.80 28 P **P** **13 49 33.6 +0.4**
CCD Concordia, Ant 77.28 181 P **P** **13 49 36.6 +0.5**
S12K Black Hills 77.55 33 P **P** **13 49 37.4 -0.1**
baz=255
M13K Dall Lake 78.16 28 P **P** **13 49 40.8 0.0**
baz=253
SDPT Sand Point 78.34 34 P **P** **13 49 41.8 -0.1**
SDPT Sand Point 78.34 34 P **P** **13 49 41.3 -0.6**
baz=257
F14K Arctic Creek 78.48 23 P **P** **13 49 42.6 +0.1**
baz=250
L14K Kuka Creek 78.73 28 P **P** **13 49 44.3 +0.4**
baz=254
J14K Nanvaranak Lak 78.75 26 P **P** **13 49 44.4 +0.4**
baz=253
N14K Kuskokwak Cree 78.83 29 P **P** **13 49 44.6 +0.1**
baz=255
O14K Tigyukauivet M 78.86 30 P **P** **13 49 43.9 -0.7**
baz=255
M14K Bethel 78.91 28 P **P** **13 49 44.2 -0.7**
baz=254
F15K North Star Dit 79.22 23 P **P** **13 49 46.4 -0.2**
baz=251
L15K Ungalak Mounta 79.38 27 P **P** **13 49 48.0 +0.6**
baz=255
M15K Kasigluk River 79.50 28 P **P** **13 49 48.8 +0.7**
baz=256
K15K Wolf Creek Mou 79.52 27 P **P** **13 49 48.9 +0.7**
baz=255
N15K Kwethluk River 79.66 29 P **P** **13 49 49.7 +0.6**
baz=256
H16K Elim 79.86 24 P **P** **13 49 50.8 +0.7**
baz=254
G16K Koyuk River 80.03 24 P **P** **13 49 51.4 +0.5**
baz=253
J16K Anvik River 80.19 26 P **P** **13 49 52.4 +0.6**
baz=255
L16K Owhat River 80.32 28 P **P** **13 49 52.8 +0.3**
L16K IAmb IAmb 13 52 49.8
comp=Z,57nm,1.8s
L16K Owhat River 80.32 28 P **P** **13 49 53.0 +0.4**
baz=257
N16K Nishlik Lake 80.37 29 P **P** **13 49 53.1 +0.2**
baz=257
R16K Pilot Point 80.38 32 P **P** **13 49 53.4 +0.5**
baz=259
M16K Timber Creek 80.40 28 P **P** **13 49 53.5 +0.5**
baz=257
D17K Noatak River 80.44 21 P **P** **13 49 53.6 +0.6**
baz=252
O16K Kokwok River B 80.52 30 P **P** **13 49 54.3 +0.6**
baz=258
RDOG Red Dog Mine 80.61 21 P **P** **13 49 54.8 +0.8**
baz=252
E17K Hotham Inlet 80.72 22 P **P** **13 49 55.1 +0.5**

baz=254
G17K **Kiwalik Mounta** 80.74 24 P P 13 49 55.6 +0.8
baz=255
J17K **VABM Dome** 80.89 26 P P 13 49 56.1 +0.6
baz=257
ABPO **Ambohimpanom** 80.94 250 P P 13 49 57.0 0.0
ABPO IAmb IAmb 13 51 26.2
comp=Z,36nm,1.6s
L17K **Donlin** 80.95 27 P P 13 49 57.1 +1.1
baz=258
R17L **Mt. Peulik Vol** 81.03 32 P P 13 49 57.1 +0.6
baz=260
O17K **Koliganek Bris** 81.05 30 P P 13 49 57.4 +0.9
baz=259
K17K **Iditarod** 81.08 27 P P 13 49 57.1 +0.5
baz=258
CHIR **Chirikof Islan** 81.13 34 P P 13 49 58.0 +1.0
baz=261
N17K **Nushagak Hills** 81.15 29 P P 13 49 57.8 +0.8
baz=259
RAYN **Ar Rayn** 81.19 293 P P 13 49 56.8 -1.3
RAYN **Ar Rayn** 81.19 293 P P 13 49 57.4 -0.7
M17K **Holitna River** 81.20 28 P P 13 49 58.0 +0.7
baz=258
E18K **Tukpahlearik C** 81.27 22 P P 13 49 58.5 +1.0
baz=255
P17K **Kvichak River** 81.27 30 P P 13 49 58.7 +1.0
baz=260
C18K **Utukok River** 81.39 21 P P 13 49 58.9 +0.7
baz=254
Q17K **Contact Creek** 81.39 31 P P 13 49 58.7 +0.2
baz=260
F18K **Selawik** 81.42 23 P P 13 49 58.7 +0.4
baz=256
H18K **Honhosa River** 81.59 24 P P 13 49 60.0 +0.7
baz=257
VOI **Vohitsoka** 81.63 248 P P 13 49 60.0 -0.6
G18K **Tagagawik** 81.64 24 P P 13 50 00.1 +0.6
baz=257
L18K **Granite Mounta** 81.71 27 P P 13 50 00.4 +0.4
L18K IAmb IAmb 13 50 20.9
comp=Z,51nm,1.9s
L18K **Granite Mounta** 81.71 27 P P 13 50 00.7 +0.7
baz=259
N18K **Kilae Creek** 81.81 29 P P 13 50 01.1 +0.5
baz=260
A19K **Wainwright** 81.86 19 P P 13 50 01.2 +0.6
baz=254
Q18K **Katmai Hardscr** 81.91 31 P P 13 50 01.5 +0.3
baz=261
P18K **Big Mountain,** 81.92 30 P P 13 50 01.2 0.0
baz=261
J18K **Innoko River** 81.94 26 P P 13 50 02.2 +1.0
baz=259
VNDA **Vanda** 81.95 173 P P 13 50 00.9 -0.1
comp=Z,7.1nm,0.7s,baz=319,slow=5.9,SNR=41
VNDA LR LR 14 28 18.4
comp=Z,49nm,18.1s,baz=343,slow=37
comp=Z,7.1nm,0.7s
VNDA **Vanda** 81.95 173 P P 13 50 00.9 -0.1
M18K **Stony River** 81.98 28 P P 13 50 01.6 +0.3
baz=260
SII **Sitkinak Islan** 82.04 33 P P 13 50 02.1 +0.2
baz=262
C19K **Lookout Ridge** 82.07 20 P P 13 50 02.3 +0.5
baz=255
GCSA **Galena City Sc** 82.12 25 P P 13 50 02.4 +0.4
baz=258
F19K **Shaleruckik Mo** 82.20 23 P P 13 50 03.3 +0.8
baz=257
G19K **Purcell Mounta** 82.32 23 P P 13 50 04.0 +0.9
baz=258,SNR=7.0
MAW **Mawson** 82.42 200 P P 13 50 04.5 +1.0
comp=Z,4.7nm,0.6s,baz=79,slow=4.7,SNR=23
MAW LR LR 14 25 16.4
comp=Z,27nm,19.6s,baz=73,slow=35
comp=Z,4.7nm,0.6s
D19K **Kuna River** 82.44 21 P P 13 50 04.7 +0.9
baz=257
H19K **Roundabout Mou** 82.45 24 P P 13 50 04.9 +1.2
baz=259,SNR=11
O19K **Port Alsworth** 82.50 30 P P 13 50 05.5 +1.4
baz=261
N19K **Bonanza Creek** 82.51 29 P P 13 50 04.8 +0.5
baz=261
J19K **Poorman** 82.52 26 P P 13 50 05.0 +0.8
baz=260,SNR=6.2
GNI **Garni** 82.53 310 LR LR 14 32 25.5
comp=Z,22nm,20.1s,baz=86,slow=40
E19K **Redstone River** 82.54 22 P P 13 50 05.1 +0.9
baz=258
L19K **White Mountain** 82.55 28 P P 13 50 05.2 +0.8
baz=261
OHAK **Old Harbor** 82.61 33 P P 13 50 04.8 0.0
OHAK **Old Harbor** 82.61 33 P P 13 50 05.5 +0.7
baz=263
Q19K **Cape Douglas,** 82.65 31 P P 13 50 04.6 -0.5
baz=262
M19K **Big River Lodg** 82.72 28 P P 13 50 05.8 +0.5
baz=261
SBA **Scott Base** 82.86 172 P P 13 50 06.4 +0.8
SBA IAmb IAmb 13 51 20.1
comp=Z,31nm,1.8s
SBA **Scott Base** 82.86 172 P P 13 50 07.0 +1.3
P19K **Oil Pt** 82.96 30 P P 13 50 07.0 +0.4
baz=262
D20K **Etivluk River** 83.03 21 P P 13 50 07.1 +0.3
baz=258
F20K **Avaraart Lake** 83.03 23 P P 13 50 07.3 +0.6
baz=259,SNR=6.1
L20K **Farewell, AK** 83.05 27 P P 13 50 07.2 +0.2
baz=262
KDAK **Kodiak Island** 83.06 32 LR LR 14 21 14.3
comp=Z,111nm,21.9s,baz=246,slow=31
KDAK **Kodiak Island** 83.06 32 P P 13 50 07.6 +0.5
baz=263
KDAK **Kodiak Island** 83.06 32 P P 13 50 07.6 +0.5
KDAK pP pP 13 50 21.8 +0.7
H20K **Anotleneega Mo** 83.09 24 P P 13 50 08.0 +0.8
baz=260,SNR=6.0
E20K **Nigu River** 83.09 21 P P 13 50 07.9 +0.7
baz=259
K20K **Telida** 83.09 26 P P 13 50 07.8 +0.6
baz=261,SNR=6.2
B20K **Meade River** 83.11 20 P P 13 50 07.7 +0.5
baz=258
I20K **Naaghedeneel** 83.14 25 P P 13 50 08.0 +0.7
baz=261
J20K **Nowinta River** 83.19 26 P P 13 50 07.9 +0.3
baz=261,SNR=6.5
Q20K **Shuyak Island** 83.26 31 P P 13 50 08.4 +0.3
baz=263
M20K **Styx River** 83.31 28 P P 13 50 08.7 +0.3
baz=262,SNR=6.7
O20K **Slope Mountain** 83.32 30 P P 13 50 08.2 -0.3
baz=263
A21K **Barrow** 83.57 18 P P 13 50 09.9 +0.5
baz=258
IMAR **Indian Mountai** 83.63 24 P P 13 50 09.8 -0.1
SPCR **Spurr Chakacha** 83.66 29 P P 13 50 10.4 +0.2
baz=263
N20K **Mount Spurr** 83.66 29 P P 13 50 10.2 0.0
baz=263
GEVA **Gevas** 83.75 308 P P 13 50 11.1 -0.3
C21K **Knifeblade Rid** 83.76 21 P P 13 50 11.2 +0.7
baz=260
G21K **Allakaket** 83.81 23 P P 13 50 11.0 +0.2
baz=261
PPLA **Purkeypile** 83.88 27 P P 13 50 11.5 +0.1
baz=263
B21K **Ikpikpuk River** 83.91 20 P P 13 50 11.9 +0.7
baz=260
F21K **Alatna River** 83.93 23 P P 13 50 12.5 +1.1
baz=261
E21K **Killik River** 83.93 21 P P 13 50 12.3 +0.8
baz=261,SNR=5.6
CHUM **Lake Minchumin** 83.94 26 P P 13 50 12.5 +1.1
baz=263
H21K **Melozitna Rive** 83.97 24 P P 13 50 12.5 +0.8
baz=262,SNR=7.0
A22K **Sinclair Lake** 84.03 19 P P 13 50 12.7 +0.9
baz=260
SKT **Skwentna** 84.07 28 P P 13 50 12.8 +0.5
baz=264
KBZ **Khabaz** 84.09 314 P P 13 50 12.3 -0.3
comp=Z,2.0nm,0.8s,baz=15,slow=4.7,SNR=6.9
KBZ LR LR 14 33 07.8
comp=Z,27nm,21.6s,baz=56,slow=40
comp=Z,2.0nm,0.8s
BRSE **Bradley Lake S** 84.22 30 P P 13 50 13.8 +0.7
baz=265
I21K **Tanana** 84.25 25 P P 13 50 13.5 +0.5
baz=263
SUA **Susitna One** 84.39 29 P P 13 50 13.4 -0.6
baz=264
F22K **John River** 84.47 22 P P 13 50 14.9 +0.7
baz=262
D22K **Ayikyak River** 84.47 21 P P 13 50 14.9 +0.7
baz=262
PPT **Papeete** 84.53 108 LR LR 14 23 47.3
comp=Z,102nm,19.0s,baz=312,slow=33
BPAW **Bear Paw Mtn.** 84.55 26 P P 13 50 15.2 +0.5
baz=264
H22K **Ishtalitna Cre** 84.58 24 P P 13 50 15.1 +0.3
baz=263
G22K **Bettles** 84.65 23 P P 13 50 15.9 +0.9
baz=263
CUT **Chulitna** 84.70 28 P P 13 50 15.9 +0.6
baz=265
MLY **Manley** 84.75 25 P P 13 50 15.9 +0.3
baz=264
TRF **Thorofare Moun** 84.79 27 P P 13 50 16.5 +0.4
baz=265
RC01 **Rabbit Creek A** 84.84 29 P P 13 50 16.8 +0.7
baz=265
SEW **Seward** 84.90 30 P P 13 50 16.6 +0.2
baz=266
PMR **Palmer** 85.17 29 P P 13 50 17.6 -0.1
baz=266
COLD **Coldfoot** 85.19 23 P P 13 50 18.8 +1.1
baz=264
D23K **Nanushuk River** 85.20 21 P P 13 50 18.8 +1.1
baz=264
G23K **Bananza Creek** 85.21 23 P P 13 50 17.9 0.0
baz=265,SNR=6.0
C23K **Itkillik River** 85.31 20 P P 13 50 18.6 +0.3
baz=264
H23K **Yukon River** 85.33 24 P P 13 50 18.8 +0.3
baz=265
I23K **Minto, Yukon-K** 85.35 25 P P 13 50 19.1 +0.6
baz=265
MCK **McKinley** 85.42 26 P P 13 50 19.6 +0.6
baz=266
NEA2 **Nenana** 85.42 25 P P 13 50 19.3 +0.3
baz=266
KNK **Knik Glacier** 85.48 29 P P 13 50 19.3 0.0
baz=266
E23K **Chandalar** 85.50 22 P P 13 50 20.1 +0.7
baz=265,SNR=7.5
PWL **Port Wells** 85.51 29 P P 13 50 20.2 +0.7
baz=267
WAT1 **Susitna Watana** 85.53 27 P P 13 50 20.0 +0.5
baz=266
TOLK **Toolik Lake Re** 85.56 21 P P 13 50 19.8 +0.1
baz=265
M23K **Glacier View** 85.85 28 P P 13 50 21.6 +0.5
baz=267
D24K **Happy Valley** 85.88 21 P P 13 50 22.0 +0.9
baz=266
WAT6 **Susitna Watana** 85.89 28 P P 13 50 22.3 +0.7
baz=267
E24K **Your Creek** 85.92 22 P P 13 50 22.0 +0.5
baz=266
C24K **Franklin Bluff** 85.97 20 P P 13 50 22.2 +0.7
baz=266
COLA **College** 85.97 25 P P 13 50 21.9 +0.3
baz=267
H24K **Noodor Dome** 86.01 24 P P 13 50 22.3 +0.4
baz=267
SCM **Shep Creek Mo** 86.04 28 P P 13 50 22.7 +0.5
baz=267
DHY **Denali Highway** 86.08 27 P P 13 50 22.8 +0.3
baz=267
F24K **Squaw Lake** 86.11 23 P P 13 50 22.8 +0.4
baz=266
GLI **Glacier Island** 86.11 29 P P 13 50 22.7 +0.2
baz=268
POKR **Poker Plat Res** 86.16 25 P P 13 50 22.2 -0.4
baz=267
G24K **Hadweenzic Riv** 86.22 23 P P 13 50 23.1 +0.2
baz=267
HDA **Harding Lake** 86.33 26 P P 13 50 23.3 -0.2
baz=268
ILAR **Eielson Array** 86.37 25 P P 13 50 22.1 -1.6
comp=Z,0.6nm,0.6s,baz=242,slow=5.3,SNR=10
comp=Z,0.6nm,0.6s
M24K **Tolsona, Glenn** 86.60 28 P P 13 50 24.9 0.0
baz=268
KLU **Klutina** 86.70 29 P P 13 50 25.4 0.0
baz=269
D25K **Kavik River** 86.76 21 P P 13 50 25.3 -0.3
baz=268
EYAK **Cordova Ski Ar** 86.77 30 P P 13 50 25.1 -0.6
baz=269
G25K **Bearman Lake** 86.77 23 P P 13 50 25.4 -0.1
baz=268
K24K **Donnelly Dome** 86.82 26 P P 13 50 26.2 +0.2
baz=269
H25L **Birch Creek** 86.87 24 P P 13 50 26.5 +0.5
baz=268
PAX **Paxson** 86.94 27 P P 13 50 26.9 +0.2
baz=269
F25K **Christian Rive** 86.97 23 P P 13 50 27.1 +0.5
baz=268
E25K **Arctic Village** 87.02 22 P P 13 50 27.1 +0.3
baz=269
J25K **Salcha River,** 87.02 26 P P 13 50 27.1 +0.2
baz=269
RIDG **Independent Ri** 87.24 26 P P 13 50 28.3 +0.3
baz=269
C26K **Camden Bay** 87.29 20 P P 13 50 27.6 -0.4
baz=269
BMRM **Bremner River** 87.33 29 P P 13 50 28.0 -0.5
baz=270
N25K **Chitina, Valde** 87.34 29 P P 13 50 28.3 -0.3
baz=270
BMAR **Burnt Mountain** 87.38 23 P P 13 50 28.9 +0.4
KAIM **Kayak Island** 87.42 30 P P 13 50 28.4 -0.5
baz=270
F26K **Sheenjek River** 87.55 22 P P 13 50 29.6 +0.3
baz=270
SCRK **Sand Creek** 87.62 26 P P 13 50 29.7 -0.2
baz=270
G26K **Porcupine Rive** 87.69 23 P P 13 50 30.3 +0.3
baz=270
C27K **Jago River** 87.70 21 P P 13 50 30.4 +0.3
C27K IAmb IAmb 13 50 31.7
comp=Z,8.3nm,0.9s
C27K **Jago River** 87.70 21 P P 13 50 30.4 +0.3
baz=270
J26L **Joseph Creek** 87.80 26 P P 13 50 30.8 +0.1
baz=271
FURI **Furi** 87.87 279 LR LR 14 28 26.0
comp=Z,52nm,21.9s,baz=82,slow=35
L26K **Log Cabin Wild** 87.91 27 P P 13 50 31.6 +0.4
baz=271
I26K **Coal Creek Min** 87.96 25 P P 13 50 31.8 +0.5
baz=271
CRQE **Cirque** 88.07 29 P P 13 50 32.6 +0.5
baz=271
M26K **Nabesna, AK** 88.09 28 P P 13 50 32.3 +0.2
baz=271
MCARA **McCarthy VSAT** 88.09 29 P P 13 50 32.7 +0.6
baz=271
K27K **Chicken** 88.46 26 P P 13 50 33.7 0.0
baz=272
E27K **Coleen River** 88.50 22 P P 13 50 34.1 +0.3
baz=272
G27K **Doyon Strip** 88.53 23 P P 13 50 34.2 +0.1
baz=272
I27K **Kandik River** 88.60 25 P P 13 50 34.5 0.0
baz=272
L27K **Beaver Creek,** 88.61 27 P P 13 50 34.6 +0.1
baz=272
H27K **Steamboat Moun** 88.61 24 P P 13 50 34.6 +0.2
baz=272
M27K **Edge Creek, AK** 88.61 28 P P 13 50 35.1 +0.5
baz=272
BCAR **Beaver Creek A** 88.62 27 P P 13 50 34.5 -0.1
MESA **MESA** 88.66 30 P P 13 50 34.7 -0.2
baz=272
D27M **Malcolm River** 88.69 21 P P 13 50 35.1 +0.3
baz=273
ASF **Jabal al Asfar** 88.79 302 LR LR 14 35 20.0
comp=Z,26nm,21.6s,baz=153,slow=39
CTG **Chitna Glacier** 88.92 29 P P 13 50 35.4 -0.7
baz=273
F28M **Old Crow** 89.18 22 P P 13 50 37.1 0.0
baz=274
E28M **Babbage River** 89.24 21 P P 13 50 37.8 +0.5
baz=274
YUK3 **Moose Creek** 89.30 28 P P 13 50 37.2 -0.8
baz=273
I28M **Miner Creek** 89.31 25 P P 13 50 37.8 0.0
baz=274
PINM **Pinnacle** 89.51 30 P P 13 50 38.4 -0.4
baz=274
DAWY **Dawson** 89.64 26 P P 13 50 39.2 -0.1
baz=274
KMBO **Kilima Mbogo** 89.66 269 LR LR 14 26 57.5
comp=Z,22nm,19.2s,baz=104,slow=33
YUK8 **Steele Glacier** 89.67 29 P P 13 50 39.6 -0.2
baz=274
E29M **Blow River** 89.86 22 P P 13 50 40.5 +0.3
baz=276
H29M **Whitestone** 89.89 24 P P 13 50 40.2 -0.1
baz=275
G29M **Pine Creek** 89.96 23 P P 13 50 40.7 0.0
baz=276
MMAI **Mount Meron Ar** 90.02 303 P P 13 50 41.1 -0.7
comp=Z,0.8nm,0.3s,baz=83,slow=9.4,SNR=2.1
MMAI LR LR 14 37 34.7
comp=Z,26nm,18.2s,baz=100,slow=40
comp=Z,0.8nm,0.3s
M29M **Somme Creek** 90.19 28 P P 13 50 42.1 +0.1
baz=275
YUK4 **Talbot Arm** 90.20 29 P P 13 50 42.5 +0.3
baz=275
L29M **L29M** 90.28 27 P P 13 50 42.7 +0.3
baz=276
O29M **Mount Kennedy** 90.33 30 P P 13 50 42.4 -0.3
baz=275
K29M **Barlow Dome** 90.48 26 P P 13 50 43.6 +0.2
baz=276
EPYK **Eagle Plains** 90.53 24 P P 13 50 43.5 0.0
baz=277
G30M **tAoh Zraii Nji** 90.66 23 P P 13 50 44.1 +0.2
baz=277
F30M **Barrier River** 90.74 22 P P 13 50 44.4 +0.1
baz=278
HYT **Haines Junctio** 90.80 29 P P 13 50 44.5 -0.4
baz=276
P29M **Windy Craggy** 90.81 30 P P 13 50 44.5 -0.3
baz=276
I30M **Mount Dempster** 90.81 25 P P 13 50 44.6 -0.2
baz=277
J30M **Hart River** 90.91 25 P P 13 50 45.2 -0.1
baz=277
N30M **Aishikik Lake** 90.94 29 P P 13 50 45.0 -0.5
baz=276
M30M **Minto, Yukon** 90.95 27 P 13 50 45.1 -0.4
M30M **Minto, Yukon** 90.95 27 P P 13 50 44.9 -0.5
baz=277
BRTR **Keskin Array B** 91.06 310 P P 13 50 44.8 -1.9
comp=Z,1.0nm,0.4s,baz=142,slow=6.0,SNR=5.7
comp=Z,1.0nm,0.4s
SYO **Syowa Base** 91.10 201 pP P 13 50 47.2 +1.3
P30M **Million Dollar** 91.15 30 P P 13 50 46.0 -0.5
baz=276
G31M **Satah River** 91.42 23 P P 13 50 47.2 -0.2
baz=279
INK **Inuvik** 91.48 22 LR LR 14 38 30.4
comp=Z,7.1nm,18.0s,baz=242,slow=40
INK **Inuvik** 91.48 22 P P 13 50 47.9 +0.3
baz=280
O30N **Mendenhall** 91.50 29 P P 13 50 47.6 -0.5
baz=277
F31M **Tsiigehtchic** 91.54 22 P P 13 50 48.2 +0.2
baz=280
N31M **Braeburn, Yuko** 91.56 28 P P 13 50 48.5 +0.2
baz=278
ARCES **ARCESS Array B** 91.87 340 P P 13 50 47.4 -2.2
comp=Z,1.2nm,0.5s,baz=63,slow=5.6,SNR=8.2
ARCES LR LR 14 37 32.0
comp=Z,39nm,20.2s,baz=72,slow=39
comp=Z,1.2nm,0.5s
SPITS **Spitsbergen Ar** 91.95 349 P P 13 50 48.6 -1.1
comp=Z,8.4nm,0.9s,baz=80,slow=11,SNR=2.3
SPITS LR LR 14 36 37.9
comp=Z,59nm,21.6s,baz=60,slow=38
comp=Z,8.4nm,0.9s
SKAG **Skagway** 92.05 30 P P 13 50 51.3 +0.8
baz=278
WHY **Whitehorse** 92.10 29 P P 13 50 51.0 +0.1
baz=278
M31M **Drury Creek, Y** 92.11 28 P P 13 50 50.6 -0.2
baz=279
QSPA **South Pole Qui** 92.17 180 P P 13 50 52.3 +1.2
QSPA IAmb IAmb 13 50 53.5
comp=Z,16nm,1.4s
QSPA **South Pole Qui** 92.17 180 P P 13 50 52.3 +1.2
comp=Z,3.0nm,0.9s,baz=287,slow=1.3,SNR=20
QSPA LR LR 14 33 03.2
comp=Z,42nm,20.0s,baz=356,slow=36
comp=Z,3.0nm,0.9s
R32K **Eaglecrest** 92.64 32 P P 13 50 53.7 +0.4
baz=278
P32M **Atlin** 92.84 30 P P 13 50 54.3 0.0
baz=279
N32M **Quiet Lake** 92.89 29 P P 13 50 54.9 +0.4
baz=280
AK08 **Malin Array Si** 93.11 321 P P 13 50 55.1 -0.5
AK10 **Malin Array Si** 93.11 321 P P 13 50 55.1 -0.5
AKASG **Malin Array Be** 93.12 321 P P 13 50 54.4 -1.2
comp=Z,1.1nm,0.5s,baz=69,slow=5.0,SNR=6.4
AKASG LR LR 14 36 06.8
comp=Z,84nm,21.8s,baz=222,slow=38
comp=Z,1.1nm,0.5s
AK01 **Malin Array Si** 93.13 321 P P 13 50 55.4 -0.3
AK02 **Malin Array Si** 93.14 321 P P 13 50 55.4 -0.3
AK05 **Malin Array Si** 93.14 321 P P 13 50 55.5 -0.3
AK07 **Malin Array Si** 93.15 321 P P 13 50 55.3 -0.5
AK11 **Malin Array Si** 93.16 321 P P 13 50 55.2 -0.6
AK12 **Malin Array Si** 93.17 321 P P 13 50 55.8 -0.1
P33M **Teslin, Yukon** 93.19 29 P P 13 50 55.8 -0.1
baz=280
FINES **FINESS Array B** 93.19 332 P P 13 50 54.1 -1.6
comp=Z,1.9nm,0.6s,baz=108,slow=6.2,SNR=1.7
FINES LR LR 14 36 16.4
comp=Z,45nm,21.7s,baz=60,slow=38
comp=Z,1.9nm,0.6s
AK21 **Malin Array Si** 93.22 321 P P 13 50 55.9 -0.2
AK17 **Malin Array Si** 93.22 321 P P 13 50 55.4 -0.7
AK13 **Malin Array Si** 93.23 321 P P 13 50 55.5 -0.7
AK20 **Malin Array Si** 93.25 321 P P 13 50 55.5 -0.7
A36M **Sachs Harbour** 93.35 17 P P 13 50 57.0 +0.7
baz=288
MMPY **Sheldon Lake,** 93.47 27 P P 13 50 56.9 -0.2
baz=282
U33K **Whale Pass** 93.73 34 P P 13 50 58.3 0.0
baz=280
WRAK **Wrangell Islan** 94.10 33 P P 13 50 59.8 -0.2
baz=280
R33M **Jennings River** 94.26 30 P P 13 51 00.4 -0.5
baz=282
S34M **Telegraph Cree** 94.47 32 P P 13 51 01.9 +0.1
baz=281
C36M **Paulatuk** 94.55 20 P P 13 51 02.1 +0.3
baz=289
DLBC **Dease Lake** 94.94 31 LR LR 14 30 30.4
comp=Z,555nm,19.8s,baz=243,slow=33
DLBC **Dease Lake** 94.94 31 P P 13 51 03.6 -0.3
baz=282
TGTN **Hyland Airport** 95.08 28 P P 13 51 04.9 +0.3
baz=284
WTLY **Watson Lake, Y** 95.17 29 P P 13 51 05.7 +0.8
baz=284
MLR **Muntele Rosu** 96.05 316 LR LR 14 41 07.7
comp=Z,59nm,20.6s,baz=72,slow=40
BURAR **Bucovina Array** 96.19 318 P P 13 51 09.3 -0.7
BURAR IAmb IAmb 13 51 14.0
comp=Z,3.6nm,0.7s
TOAD **Toad River Com** 97.26 30 P Pdif 13 51 14.5 0.0
baz=287
BBB **Bella Bella** 97.40 37 LR LR 14 28 37.7
comp=Z,30nm,19.6s,baz=226,slow=31
MATP **Matopo** 98.62 250 LR LR 14 32 30.5
comp=Z,52nm,19.1s,baz=62,slow=33
LSZ **Lusaka** 98.96 255 LR LR 14 33 42.1
comp=Z,54nm,20.6s,baz=124,slow=34
RES **Resolute Bay** 99.23 10 LR LR 14 43 10.2
comp=Z,15nm,18.4s,baz=5.0,slow=40
SCHQ **Schefferville** 122.00 9 PKP PKPdf 13 56 35.7 -0.3
comp=Z,46nm,0.7s,baz=267,slow=3.4,SNR=4.7

TXAR	**Lajitas Array**	**122.39**	**53**	PKP	**PKiKP**	**13 56 38.0**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=257,slow=1.2,SNR=5.8						
TORD	**Torodi Ar. Bea**	**123.50**	**287**	PKP	**PKPdf**	**13 56 39.2**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=47,slow=2.5,SNR=8.9						
DBIC	**Dimbokro**	**131.00**	**281**	PKP	**PKPdf**	**13 56 53.8**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=46,slow=2.9,SNR=3.7						
PLCA	**Paso Flores**	**138.58**	**160**	PKP	**PKPdf**	**13 57 07.6**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=192,slow=1.9,SNR=5.3						
CPUP	**Villa Florida**	**155.72**	**171**	PKP	**PKPdf**	**13 57 35.5**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=194,slow=1.8,SNR=1.9						
LPAZ	**La Paz**	**159.69**	**134**	PKP	**PKPdf**	**13 57 42.5**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=252,slow=3.2,SNR=4.6						

*JMA **04** 14:12:00.5±0.2,35.6N±0.4×140.1E±0.6, h65km±1km, MV2.7/39, CENTRAL CHIBA PREF*
ISC 04 14:12:01.2±1.5, 35.54N±0.04×140.08E±0.05, h57km±17km, n17, σ0.967/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.32**	**70**	P	**Pn**	**14 12 11.7**	**+0.6**
BSO3	**Boso 3**	**0.81**	**154**	P	**Pn**	**14 12 16.2**	**-0.2**
JOD2	**Odawara 2**	**0.86**	**252**	P	**Pn**	**14 12 17.2**	**0.0**
JOD2				S	**Sn**	**14 12 29.4**	**+0.3**
JIM2	**Oshima 2**	**0.98**	**213**	P	**Pn**	**14 12 18.2**	**-0.6**
JIM2				S	**Sn**	**14 12 31.6**	**-0.2**
JAG	**Ashikaga**	**1.02**	**330**	P	**Pn**	**14 12 19.0**	**-0.4**
JAG				S	**Sn**	**14 12 32.6**	**-0.3**
JRY	**Ryogami san**	**1.07**	**297**	P	**Pn**	**14 12 20.2**	**+0.1**
BSO1	**Boso 1**	**1.15**	**140**	P	**Pn**	**14 12 20.1**	**-0.4**
JYN	**Shimob**	**1.25**	**269**	P	**Pn**	**14 12 22.3**	**-0.2**
JIZS	**Izushimoda**	**1.28**	**231**	P	**Pn**	**14 12 22.7**	**-0.1**
JIZS				S	**Sn**	**14 12 38.6**	**-0.3**
JKT	**Katashina**	**1.40**	**331**	P	**Pn**	**14 12 23.9**	**-0.6**
JKT				S	**Sn**	**14 12 41.5**	**-0.6**
MAJO	**Matsushiro**	**1.82**	**304**	P	**Pn**	**14 12 30.8**	**+0.7**
JGF	**Kuroka**	**2.22**	**272**	P	**Pn**	**14 12 37.2**	**+1.6**
JMM	**Marumori**	**2.39**	**14**	P	**Pn**	**14 12 38.0**	**+0.1**
JMM	**Marumori**	**2.39**	**14**	S	**Sn**	**14 13 06.5**	**+0.4**
JHJ2	**Mitsune**	**2.43**	**185**	P	**Pn**	**14 12 39.4**	**+1.0**
INU	**Inuyama**	**2.51**	**267**	P	**Pn**	**14 12 40.4**	**+0.9**
JWT	**Wachi**	**3.83**	**268**	P	**Pn**	**14 12 56.6**	**-1.0**

IDC 04 14:22:39.1±3.4, 32.58S×178.32W, h0km, mb3.4/3, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=65.5km s-min=34.1km az=66.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.79**	**212**	Pn	Pn	14 24 21.2	+1.2
	0.3nm,0.3s,baz=36,slow=8.7,SNR=1.5						
URZ				Sn	Sn	14 25 36.8	-1.1
	0.5nm,0.3s,baz=37,slow=20,SNR=5.6 15nm,1.0s						
ASAR	**Alice Springs**	**42.77**	**269**	P	P	14 30 38.5	-0.1
	0.1nm,0.4s,baz=106,slow=7.9,SNR=8.5 0.1nm,0.4s						
WRA	**Warramunga Arr**	**43.95**	**275**	P	P	14 30 48.0	-0.2
	0.3nm,0.5s,baz=115,slow=8.1,SNR=9.8 0.3nm,0.5s						
VNDA	**Vanda**	**45.91**	**186**	P	P	14 31 02.7	-0.3
	0.6nm,0.6s,baz=74,slow=4.8,SNR=6.5 0.6nm,0.6s						

*IDC **04** 14:27:43.2±1.1,36.86N×143.30E, h0km, mb3.7/9, mbtmp3.8/13, ML3.8/4, MS3.1/3, Error ellipse: s-maj=26.7km s-min=16.3km az=75.0*
*JMA **04** 14:27:46.4±0.2,37.0N±0.7×14.3E±°, h58km, MV3.6/34, FAR E OFF FUKUSHIMA PREF*
*NIED **04** 14:27:46.4,36.99N×143.25E, h58km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.51; $M_{\theta\theta}$1.27; $M_{\phi\phi}$2.23; $M_{r\theta}$3.13; $M_{\theta\phi}$1.58; $M_{\phi r}$1.62; Fault plane solution: $M_0$4.92000×10^{14} NP1:ϕ_s23.00000°, δ25.00000°, λ-119.00000°. NP2:ϕ_s234.00000°, δ68.00000°, λ-77.00000°.*
ISC 04 14:27:47.7±0.9, 36.95N±0.05×143.31E±0.07, h35km, n47, σ1.971/48, mb3.6/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.99**	**283**	P	**Pn**	**14 28 17.6**	**-1.3**
JFK				*eS*	**Sn**	**14 28 40.3**	**-2.2**
JIKH	**Ishinomakikobu**	**2.00**	**314**	P	**Pn**	**14 28 17.5**	**-1.5**
JIKH				*eS*	**Sn**	**14 28 40.7**	**-2.0**
ONAJ	**Iwakimizuishiy**	**2.01**	**275**	P	**Pn**	**14 28 17.8**	**-1.4**
JMST	**Minamisoumatoc**	**2.08**	**293**	P	**Pn**	**14 28 18.8**	**-1.3**
JMST				S	**Sn**	**14 28 42.3**	**-2.4**
JMM	**Marumori**	**2.20**	**295**	P	**Pn**	**14 28 20.6**	**-1.1**
JOTO	**OTAMA OYAMA**	**2.45**	**285**	P	**Pn**	**14 28 24.9**	**-0.2**
JOTO				S	**Sn**	**14 28 52.8**	**-1.1**
JMK	**Ichinoseki**	**2.59**	**321**	P	**Pn**	**14 28 26.1**	**-1.0**
BSO1	**Boso 1**	**2.97**	**220**	P	**Pn**	**14 28 31.6**	**-0.2**
BSO1				S	**Sn**	**14 29 05.5**	**-0.4**
JOM	**Ohasama**	**2.98**	**328**	P	**Pn**	**14 28 31.4**	**-1.1**
JYK	**Kaneyama**	**3.05**	**311**	P	**Pn**	**14 28 32.9**	**-0.5**
JAG	**Ashikaga**	**3.14**	**262**	P	**Pn**	**14 28 34.0**	**-0.6**
JRY	**Ryogami san**	**3.67**	**257**	P	**Pn**	**14 28 41.4**	**-0.6**
JRY				*eS*	**Sn**	**14 29 20.9**	**-3.1**
JANG	**Nango**	**3.70**	**338**	P	**Pn**	**14 28 40.6**	**-1.7**
JOD2	**Odawara 2**	**3.81**	**245**	P	**Pn**	**14 28 43.1**	**-0.7**
JYN	**Shimob**	**4.11**	**251**	P	**Pn**	**14 28 48.0**	**0.0**
MJAR	**Matsushiro Arr**	**4.11**	**266**	Pn	**Pn**	**14 28 48.4**	**+0.4**
	0.7nm,0.3s,baz=86,slow=13,SNR=26						
MJAR				Sn	**Sn**	**14 29 34.5**	**-0.5**
	0.3nm,0.3s,baz=90,slow=28,SNR=7.5						
MJAR				LR	LR	14 30 57.3	
	comp=Z,28nm,19.7s,baz=92,slow=47 5.1nm,0.4s						
MAJO	**Matsushiro**	**4.11**	**266**	P	**Pn**	**14 28 49.2**	**+1.1**
MAT	**Matsushiro**	**4.11**	**266**	P	**Pn**	**14 28 49.0**	**+1.0**
JSD	**Sado**	**4.16**	**287**	P	**Pn**	**14 28 48.1**	**-0.5**
JTM	**Tenmabayashi**	**4.21**	**336**	P	**Pn**	**14 28 49.0**	**-0.4**
JOT	**Ohata**	**4.76**	**339**	P	**Pn**	**14 28 56.4**	**-0.5**
JHJ2	**Mitsune**	**4.78**	**218**	P	**Pn**	**14 28 55.3**	**-1.8**
JHJ2	**Mitsune**	**4.78**	**218**	P	**Pn**	**14 28 55.0**	**-2.1**
JHJ	**Hachijo jima 2**	**4.79**	**218**	Pn	**Pn**	**14 28 55.3**	**-2.0**
	23nm,0.3s,baz=30,slow=20,SNR=48						
JHJ				Sn	**Sn**	**14 29 46.3**	**-5.2**
	60nm,0.3s,baz=66,slow=20,SNR=10 46nm,0.3s						
JEM	**Erimo**	**5.07**	**359**	P	**Pn**	**14 28 58.9**	**-2.2**
INU	**Inuyama**	**5.33**	**254**	P	**Pn**	**14 29 06.0**	**+1.2**
ASAJ	**Asahikawa**	**7.18**	**356**	Pn	**Pn**	**14 29 28.9**	**-1.3**
	4.7nm,0.3s,baz=174,slow=3.2,SNR=51						
ASAJ				Sn	**Sn**	**14 30 45.6**	**-4.8**
	1.2nm,0.3s,baz=137,slow=8.6,SNR=4.2 13nm,0.4s						
JMN	**Monobe**	**8.34**	**250**	P	**Pn**	**14 29 47.6**	**+1.4**
YSS	**Yuzhno-Sakhali**	**10.01**	**358**	P	**Pn**	**14 30 09.5**	**+0.6**
USRK	**Ussuriysk Ar.**	**11.24**	**314**	Pn	**Pn**	**14 30 24.0**	**-1.8**
	0.2nm,0.3s,baz=123,slow=13,SNR=2.4 2.4nm,0.6s						
GUMO	**Guam**	**23.30**	**176**	P	**P**	**14 32 52.0**	**-0.4**
	8.4nm,0.5s,baz=0.0,slow=19,SNR=1.2 8.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**26.82**	**123**	T	T	15 01 33.9	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**26.83**	**123**	T	T	15 01 35.8	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**26.84**	**123**	T	T	15 01 36.0	
	baz=320						
H11S1	**WAKE ISLAND Hy**	**27.56**	**125**	T	T	15 02 22.5	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**27.56**	**126**	T	T	15 02 28.5	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**27.57**	**125**	T	T	15 02 33.5	
	baz=316						
SONM	**Songino Array**	**29.09**	**304**	P	**P**	**14 33 46.1**	**+1.1**
	0.7nm,0.6s,baz=99,slow=8.9,SNR=4.5 0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**42.95**	**257**	LR	LR	14 57 18.9	
	comp=Z,22nm,18.1s,baz=210,slow=41						
ZALV	**Zalesovo Beam**	**43.09**	**312**	P	**P**	**14 35 44.6**	**+0.5**
	0.4nm,0.4s,baz=81,slow=8.9,SNR=1.9 0.4nm,0.4s						
MKAR	**Makanchi Array**	**45.45**	**302**	P	**P**	**14 36 04.4**	**+1.3**
	0.3nm,0.6s,baz=87,slow=8.8,SNR=2.4 0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**47.25**	**308**	P	**P**	**14 36 18.5**	**+1.4**
	0.8nm,0.5s,baz=81,slow=8.1,SNR=5.3 0.8nm,0.5s						

ILAR	**Eielson Array**	**48.76**	**32**	P	**P**	**14 36 30.4**	**+1.8**
	0.3nm,0.8s,baz=271,slow=7.6,SNR=2.2 0.3nm,0.8s						
BVAR	**Borovoye Array**	**51.75**	**313**	P	**P**	**14 36 53.4**	**+2.0**
	0.2nm,0.4s,baz=82,slow=10,SNR=2.3 0.2nm,0.4s						
WRA	**Warramunga Arr**	**57.21**	**190**	P	**P**	**14 37 31.2**	**-0.2**
	1.2nm,0.7s,baz=7.7,slow=7.2,SNR=22 1.2nm,0.7s						
ASAR	**Alice Springs**	**60.94**	**190**	P	**P**	**14 37 57.3**	**+0.1**
	0.6nm,0.7s,baz=5.8,slow=6.9,SNR=11 0.6nm,0.7s						
ELK	**Elko**	**74.44**	**51**	LR	LR	15 04 39.0	
	comp=Z,90nm,21.1s,baz=64,slow=30						

*IDC **04** 14:41:27.9±3.6, 18.33S×71.01W, h0km, mb4.0/4, mbtmp4.0/4, MS3.3/2, Error ellipse: s-maj=135.8km s-min=33.0km az=112.0*
*GUC **04** 14:41:34.7±0.8, 18.60S×71.08W, h25km±12km, ML3.9*
ISC 04 14:41:34.3±1.1, 18.60S±0.06×70.9W±0.1, h34km, n27, σ1.942/18, mb3.9/3, 3C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**0.58**	**92**	*iP*	**Pb**	**14 41 46.9**	**+0.6**
PB12				*eS*	**Sb**	**14 41 54.0**	**-0.5**
AP01	**Chacalluta**	**0.61**	**69**	*iP*	**Pb**	**14 41 47.3**	**+0.6**
PB16	**IPOC Station P**	**1.38**	**79**	*iP*	**Pb**	**14 41 59.9**	**-0.1**
PB11	**IPOC Station P**	**1.68**	**134**	*eP*	**Pb**	**14 42 04.2**	**-0.6**
PB11				IAML		14 42 34.2	
	comp=E,2μm,0.6s						
PB18	**Visviri**	**1.71**	**54**	*iP*	**Pb**	**14 42 06.7**	**+1.2**
PB18				IAML		14 42 40.4	
	comp=E,2μm,0.5s						
TA02	**Huaiquique**	**1.83**	**156**	*eP*	**Pn**	**14 42 05.0**	**+1.6**
TA02				IAML		14 42 29.0	
	comp=N,1μm,0.1s						
HMBC	**Humberstone**	**1.95**	**150**	*eP*	**Pn**	**14 42 07.1**	**+2.0**
HMBC				IAML		14 42 48.6	
	comp=N,1μm,0.7s						
GO01	**Chusmiza**	**1.96**	**123**	*eP*	**Pb**	**14 42 08.5**	**-1.2**
GO01				IAML		14 42 41.8	
	comp=N,863nm,0.3s						
TA01	**Diego Aracena**	**2.09**	**160**	*eP*	**Pn**	**14 42 08.0**	**+1.1**
TA01				IAML		14 42 47.5	
	comp=E,621nm,0.7s						
PB08	**IPOC Station P**	**2.28**	**133**	*eP*	**Pb**	**14 42 13.2**	**-1.9**
PB08				IAML		14 42 48.7	
	comp=N,2μm,1.2s						
PB02	**IPOC Station P**	**2.88**	**160**	*eP*	**Pn**	**14 42 17.4**	**-0.6**
PB02				IAML		14 43 14.1	
	comp=E,587nm,0.7s						
LPAZ	**La Paz**	**3.53**	**50**	Pn	**Pb**	**14 42 33.3**	**-3.1**
	comp=E,1.4nm,0.3s,baz=220,slow=5.2,SNR=23						
LPAZ				LR	LR	14 44 07.8	
	comp=E,272nm,18.4s,baz=239,slow=47						
H03N1	**Juan Fernandez**	**16.42**	**204**	T	T	15 02 22.4	
	baz=28,slow=73,SNR=84						
H03N2	**Juan Fernandez**	**16.43**	**204**	T	T	15 02 21.4	
	baz=28,slow=73,SNR=62						
H03N3	**Juan Fernandez**	**16.44**	**204**	T	T	15 02 21.6	
	baz=28,slow=73,SNR=59						
PLCA	**Paso Flores**	**22.07**	**179**	P	**P**	**14 46 27.2**	**+0.9**
	comp=E,2.9nm,0.7s,baz=2.8,slow=9.9,SNR=7.8 comp=E,2.9nm,0.7s						
RPN	**Rapa Nui**	**36.27**	**249**	LR	LR	14 59 19.2	
	comp=E,68nm,20.2s,baz=128,slow=30						
SNAA	**Sanae**	**65.63**	**161**	P	**P**	**14 52 15.9**	**+1.2**
	comp=E,1.5nm,0.7s,baz=283,slow=5.5,SNR=7.5 comp=E,1.5nm,0.7s						
QSPA	**South Pole Qui**	**71.58**	**180**	P	**P**	**14 52 52.1**	**+0.1**
	comp=E,1.7nm,1.2s,baz=136,slow=0.7,SNR=1.9 comp=E,1.7nm,1.2s						
TORD	**Torodi Ar. Bea**	**78.22**	**72**	P	**P**	**14 53 29.8**	**-1.3**
	comp=E,1.5nm,0.8s,baz=248,slow=5.7,SNR=8.6 comp=E,1.5nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**25.56**	**280**	T	T	17 18 25.3	
	baz=100,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**25.57**	**280**	T	T	17 18 20.9	
	baz=100,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**25.58**	**281**	T	T	17 18 26.4	
	baz=100						
H11S3	**WAKE ISLAND Hy**	**25.58**	**280**	T	T	17 18 26.8	
	baz=100,slow=75,SNR=22						
H11N2	**WAKE ISLAND Hy**	**25.59**	**281**	T	T	17 18 22.6	
	baz=100						
H11N1	**WAKE ISLAND Hy**	**25.59**	**281**	T	T	17 18 26.4	
	baz=100						
MKAR	**Makanchi Array**	**144.30**	**32**	PKP	**PKPdf**	**15 01 06.0**	**-0.9**
	comp=E,0.8nm,1.0s,baz=318,slow=1.9,SNR=3.7						

IDC 04 14:46:56.5±3.1, 31.55S×177.70W, h0km, mb3.7/2, mbtmp3.8/3, ML3.3/1, Error ellipse: s-maj=71.2km s-min=37.1km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.93**	**211**	Pn	Pn	14 48 52.6	-0.4
	0.4nm,0.3s,baz=34,slow=11,SNR=1.7						
URZ				Sn	Sn	14 50 24.6	+1.1
	0.5nm,0.3s,baz=123,slow=18,SNR=1.3 16nm,1.1s						
ASAR	**Alice Springs**	**43.32**	**268**	P	P	14 55 00.3	-0.1
	0.4nm,0.3s,baz=113,slow=8.5,SNR=14 0.4nm,0.3s						
WRA	**Warramunga Arr**	**44.41**	**273**	P	P	14 55 09.2	0.0
	0.5nm,0.4s,baz=114,slow=8.2,SNR=14 0.5nm,0.4s						
FINES	**FINESS Array B**	**146.31**	**340**	PKPbc	PKPdf	15 06 37.5	+0.3
	2.4nm,0.8s,baz=30,slow=3.7,SNR=6.7						

*NOU **04** 14:55:39.9, 35.65S×178.09E, h485km, ML4.3/5, Off E. Coast of N. Island, N.Z.*
*WEL **04** 14:56:07.6±1.3, 37.3S±13×17.7E±°, h286km±11km, M3.2/29, ML2.8/2, MLv3.2/29, Error ellipse: s-maj=18.0km s-min=10.8km az=22.6, confirmed*
ISC 04 14:56:04.0±3.3, 37.0S±0.1×176.92E±0.10, h317km±19km, n76, σ1.907/83, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARZ	**Manawahe**	**0.98**	**192**	P	**Pn**	**14 56 47.3**	**+1.2**
HAZ	**Te Kaha**	**1.00**	**137**	P	**Pn**	**14 56 46.5**	**+0.4**
HAZ				S	**S**	**14 57 17.4**	**-2.3**
KUZ	**Kuaotunu**	**1.00**	**286**	P	**Pn**	**14 56 46.3**	**+0.1**
RUGZ	**Raukumara Rang**	**1.12**	**148**	P	**Pn**	**14 56 46.8**	**0.0**
OMRZ	**Omania**	**1.17**	**202**	P	**Pn**	**14 56 47.9**	**+1.0**
URZ	**Urewera**	**1.24**	**173**	P	**Pn**	**14 56 47.9**	**+0.6**
URZ	**Urewera**	**1.24**	**173**	P	**Pn**	**14 56 47.6**	**+0.3**
URZ				S	**S**	**14 57 20.1**	**-1.7**
PKGZ	**Pakihiroa**	**1.25**	**133**	P	**Pn**	**14 56 48.4**	**+1.1**
TOZ	**Tahuroa Road**	**1.33**	**238**	P	**Pn**	**14 56 49.0**	**+1.2**
RRRZ	**Republican Roa**	**1.35**	**194**	P	**Pn**	**14 56 48.9**	**+1.0**
HSRZ	**Hossack Road**	**1.39**	**203**	P	**Pn**	**14 56 49.7**	**+1.5**
MKAZ	**Moumakai**	**1.41**	**266**	P	**Pn**	**14 56 48.8**	**+0.6**
TWGZ	**Tauwhareparae**	**1.43**	**144**	P	**Pn**	**14 56 49.7**	**+1.4**
TWGZ				S	**S**	**14 57 23.8**	**0.0**
WMGZ	**Waiomatatini S**	**1.43**	**124**	P	**Pn**	**14 56 49.3**	**+0.9**
WMGZ				S	**S**	**14 57 23.2**	**-0.5**
WIAZ	**Waiheke Island**	**1.45**	**279**	P	**Pn**	**14 56 49.1**	**+0.5**
HRRZ	**Handcock Road**	**1.46**	**200**	P	**Pn**	**14 56 49.8**	**+1.2**
GRRZ	**Galatos Road**	**1.47**	**206**	P	**Pn**	**14 56 50.1**	**+1.4**
PUZ	**Puketiti**	**1.49**	**135**	P	**Pn**	**14 56 49.6**	**+0.9**
PUZ				S	**S**	**14 57 22.9**	**-1.5**
RAGZ	**Rawiri**	**1.52**	**165**	P	**Pn**	**14 56 49.9**	**+0.9**
RAGZ				S	**S**	**14 57 24.4**	**-0.5**
PRRZ	**Plateau Road**	**1.53**	**196**	P	**Pn**	**14 56 49.9**	**+0.9**
RTZ	**Ruatahuna**	**1.59**	**178**	P	**Pn**	**14 56 50.1**	**+0.6**
TKGZ	**Te Karaka**	**1.59**	**153**	P	**Pn**	**14 56 50.3**	**+1.0**
TKGZ				S	**S**	**14 57 24.8**	**-0.7**
ETAZ	**East Tamaki Re**	**1.60**	**272**	P	**Pn**	**14 56 50.2**	**+0.7**
ALRZ	**Allen Road**	**1.60**	**196**	P	**Pn**	**14 56 50.3**	**+0.9**
WPRZ	**Whakapapatarin**	**1.61**	**202**	P	**Pn**	**14 56 50.7**	**+1.3**
MBAZ	**Motutapu North**	**1.64**	**278**	P	**Pn**	**14 56 50.4**	**+0.7**
TLZ	**Tolley Road**	**1.71**	**220**	P	**Pn**	**14 56 52.0**	**+1.8**
CNGZ	**Carnagh Statio**	**1.78**	**145**	P	**Pn**	**14 56 52.1**	**+1.6**
SNGZ	**Shannon Statio**	**1.79**	**169**	P	**Pn**	**14 56 51.8**	**+1.2**
RIGZ	**Rimuhau**	**1.81**	**159**	P	**Pn**	**14 56 52.1**	**+1.3**
AWAZ	**Awhitu Peninsu**	**1.82**	**268**	P	**Pn**	**14 56 51.7**	**+0.7**
MTHZ	**Maungataniwha**	**1.83**	**182**	P	**Pn**	**14 56 51.7**	**+0.7**
RAHZ	**Arahi**	**1.90**	**176**	P	**Pn**	**14 56 52.7**	**+1.3**
WHHZ	**Waihua**	**2.06**	**173**	P	**Pn**	**14 56 54.1**	**+1.5**

NMHZ	**Naumai**	**2.07**	**183**	P	**Pn**	**14 56 54.4**	**+1.6**
KNZ	**Kokohu**	**2.08**	**164**	P	**Pn**	**14 56 53.8**	**+1.0**
BKZ	**Black Stump Fm**	**2.17**	**189**	P	**Pn**	**14 56 54.2**	**+0.7**
HIZ	**Hauiti**	**2.21**	**227**	P	**Pn**	**14 56 56.5**	**+2.6**
ARHZ	**Aropaoanui**	**2.24**	**179**	P	**Pn**	**14 56 55.4**	**+1.3**
OTVZ	**Oturere**	**2.36**	**205**	P	**Pn**	**14 56 56.3**	**+1.1**
TWVZ	**Taurewa**	**2.36**	**209**	P	**Pn**	**14 56 56.1**	**+0.9**
SNVZ	**South Ngauruho**	**2.38**	**205**	P	**Pn**	**14 56 56.5**	**+1.0**
NGZ	**Ngauruhoe**	**2.39**	**205**	P	**Pn**	**14 56 56.8**	**+1.3**
MCHZ	**McNeill Hill**	**2.42**	**184**	P	**Pn**	**14 56 56.9**	**+1.3**
KWHZ	**Kaweka Forest**	**2.43**	**189**	P	**Pn**	**14 56 56.6**	**+0.9**
COVZ	**Chateau Observ**	**2.43**	**206**	P	**Pn**	**14 56 56.2**	**+0.4**
TUVZ	**Tukino**	**2.45**	**204**	P	**Pn**	**14 56 57.0**	**+0.9**
MAVZ	**Matarangi**	**2.48**	**205**	P	**Pn**	**14 56 57.4**	**+0.9**
WHVZ	**Whangaehu Hut**	**2.49**	**205**	P	**Pn**	**14 56 57.2**	**+0.7**
WNVZ	**Wahianoa**	**2.53**	**204**	P	**Pn**	**14 56 57.5**	**+0.8**
MOVZ	**Moawhango**	**2.55**	**201**	P	**Pn**	**14 56 57.2**	**+0.4**
PKVZ	**Pokaka**	**2.58**	**208**	P	**Pn**	**14 56 57.8**	**+0.8**
MTVZ	**Mangateitei**	**2.62**	**205**	P	**Pn**	**14 56 58.1**	**+0.6**
CKHZ	**Cape Kidnapper**	**2.63**	**177**	P	**Pn**	**14 56 58.8**	**+1.3**
KRHZ	**Kereru**	**2.65**	**189**	P	**Pn**	**14 56 58.2**	**+0.6**
VRZ	**Vera Road**	**2.71**	**218**	P	**Pn**	**14 56 59.6**	**+1.5**
KAHZ	**Kahuranaki**	**2.77**	**181**	P	**Pn**	**14 56 59.9**	**+1.2**
PNHZ	**Pukenui**	**2.94**	**191**	P	**Pn**	**14 57 00.7**	**+0.4**
PXZ	**Pawanui**	**3.00**	**181**	P	**Pn**	**14 57 01.7**	**+0.8**
WPHZ	**Waipukurau**	**3.06**	**187**	P	**Pn**	**14 57 02.3**	**+0.8**
TSZ	**Takapari Road**	**3.12**	**194**	P	**Pn**	**14 57 02.3**	**+0.3**
WAZ	**Wanganui**	**3.12**	**209**	P	**Pn**	**14 57 02.8**	**+0.7**
NEZ	**North Egmont**	**3.16**	**224**	P	**Pn**	**14 57 04.5**	**+2.0**
PRHZ	**Porangahau**	**3.25**	**184**	P	**Pn**	**14 57 04.2**	**+1.0**
DVHZ	**Dannevirke**	**3.32**	**190**	P	**Pn**	**14 57 04.3**	**+0.3**
OHWZ	**Ohakea**	**3.42**	**201**	P	**Pn**	**14 57 05.7**	**+0.8**
ANWZ	**Angora Road**	**3.45**	**186**	P	**Pn**	**14 57 06.3**	**+1.0**
POWZ	**Post Office Ro**	**3.48**	**195**	P	**Pn**	**14 57 06.0**	**+0.4**
PRWZ	**Pori Road**	**3.60**	**192**	P	**Pn**	**14 57 07.7**	**+0.9**
BFZ	**Birch Farm**	**3.69**	**188**	P	**Pn**	**14 57 08.7**	**+1.0**
BFZ	**Birch Farm**	**3.69**	**188**	P	**Pn**	**14 57 08.3**	**+0.5**
MRZ	**Mangatainoka R**	**3.78**	**196**	P	**Pn**	**14 57 08.4**	**-0.3**
TIWZ	**Tintock**	**3.83**	**192**	P	**Pn**	**14 57 09.7**	**+0.4**
OGWZ	**Otaki Gorge**	**4.03**	**199**	P	**Pn**	**14 57 11.1**	**-0.2**
KIW	**Kapiti Island**	**4.14**	**202**	P	**Pn**	**14 57 12.1**	**-0.4**
QRZ	**Quartz Range**	**5.11**	**221**	P	**Pn**	**14 57 23.0**	**-0.4**

*WEL **04** 14:58:35.5±0.3, 41.3S±3×17.4E±°, h22km±2km, M3.6/20, ML3.8/20, MLv3.6/20, Error ellipse: s-maj=3.6km s-min=2.0km az=168.9, confirmed*
*NOU **04** 14:58:35.9, 41.34S×174.34E, h29km, MLv3.9/15, Cook Strait, New Zealand*
ISC 04 14:58:35.9±0.9, 41.34S±0.02×174.29E±0.02, h32km±6km, n105, σ1.905/125, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TCW	**Tory Channel**	**0.13**	**355**	P	**Pn**	**14 58 42.1**	**+0.4**
TCW				S	**Sb**	**14 58 46.4**	**+0.6**
QCCS	**Picton Queen C**	**0.21**	**286**	P	**Pb**	**14 58 42.5**	**-0.1**
QCCS				S	**Sb**	**14 58 47.3**	**+0.2**
TUWZ	**Tuamarina**	**0.28**	**251**	P	**Pn**	**14 58 43.6**	**-0.2**
TUWZ				S	**Sn**	**14 58 48.7**	**-0.1**
BWRS	**Waikakaho Road**	**0.31**	**251**	P	**Pb**	**14 58 43.5**	**-0.2**
BWRS				S	**Sb**	**14 58 48.8**	**-0.1**
MGCS	**Blenheim Marlb**	**0.31**	**237**	P	**Pn**	**14 58 43.9**	**-0.3**
MGCS				S	**Sn**	**14 58 49.9**	**+0.3**
SNZO	**South Karori**	**0.31**	**85**	P	**Pn**	**14 58 44.4**	**+0.2**
SNZO	**South Karori**	**0.31**	**85**	S	**Sn**	**14 58 50.8**	**+1.1**
MKVS	**Makara Village**	**0.32**	**77**	P	**Pn**	**14 58 44.5**	**+0.2**
MKBS	**Makara Bunker**	**0.33**	**70**	P	**Pn**	**14 58 44.5**	**0.0**
MKBS				S	**Sn**	**14 58 50.6**	**+0.5**
**SDNS

ETVZ	East Tongariro	2.46	27	P		Pn	14 59 14.7	+0.9
KRVZ	Karewarewa	2.47	25	P		Pb	14 59 18.0	-1.8
TMVZ	Te Maari	2.47	26	P		Pn	14 59 14.5	+0.5
KAHZ	Kahuranaki	2.50	53	P		Pn	14 59 12.7	-1.8
KWHZ	Kaweka Forest	2.51	41	P		Pn	14 59 13.8	-0.7
INZ	Inchbonnie	2.53	236	P		Pn	14 59 16.0	+1.3
OKCZ	Okains Bay	2.55	200	P		Pn	14 59 13.0	-2.0
KATZ	Kakaramea	2.59	25	P		Pb	14 59 19.9	-2.0
RITZ	Rihia Road	2.65	28	P		Pb	14 59 20.4	-2.3
RATZ	Rangitukua	2.72	25	P		Pn	14 59 18.9	+1.5
AKCZ	Akaroa Harbour	2.73	201	P		Pn	14 59 16.1	-1.4
BKZ	Black Stump Fm	2.75	39	P		Pn	14 59 16.5	-1.3
HIZ	Hauiti	2.86	9	P		Sn	14 59 20.3	+1.1
HIZ	Hauiti	2.86	9	S		Sn	14 59 54.0	+1.5
MHCZ	Mount Hutt	2.98	222	P		Pn	14 59 18.4	-2.5
RPZ	Rata Peaks	3.37	224	P		Pn	14 59 28.1	+1.8
URZ	Urewera	3.77	36	P		Pn	14 59 30.7	-1.0
ODZ	Otahua Downs	4.56	215	P		Pn	14 59 41.8	-0.9
JCZ	Jackson Bay	4.89	234	P		Pn	14 59 47.9	+0.6
CTZ	Chatham Island	7.13	113	P		Pn	15 00 16.9	-1.0

CATAC ***04*** *15:25:15.0±0.6, 12°N±3°×8°9W±°, h11km±5km, M3.8/17, MLv3.8/17, Error ellipse: s-maj=7.4km s-min=3.3km az=37.4, confirmed*
SNET ***04*** *15:25:16.0±1.0, 12°73N×89°11W, h14km±10km, ML3.6*
UCR ***04*** *15:25:19.5±0.9, 13°19N×88°43W, h146km±20km, MW3.8*
ISC 04 15:25:07.0±1.7,**12°01N**±0°06×**89°17W**±0°05,**h16**km±12km, **n60,σ1ˢ24/63, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LFRS	El Faro	1.61	4	*eP*		Pg	15 25 38.2	+0.3
TECA	Tecapa	1.61	24	*eP*		Pg	15 25 38.4	+0.3
LOMA	Loma Larga	1.62	360	P		Pg	15 25 38.7	+0.4
LOMA	Loma Larga	1.62	360	S		Sg	15 25 58.3	-1.1
LCY	Lacayo	1.64	31	*eP*		Pg	15 25 39.1	+0.5
JAYA	Jayaque - finc	1.66	351	*eP*		Pg	15 25 39.7	+0.9
JAYA	Jayaque - finc	1.66	351	P		Pg	15 25 39.8	+0.9
JAYA	Jayaque - finc	1.66	351	S		Sg	15 25 59.7	-0.8
UESV	Universidad de	1.66	13	P		Pg	15 25 38.7	-0.2
UESV	Universidad de	1.66	13	S		Sb	15 25 57.6	-0.2
PACA	Pacayal	1.67	30	*eP*		Pg	15 25 39.9	+0.8
PACA				*eS*		Sn	15 25 55.1	-1.7
PACA	Pacayal	1.67	30	S		Sb	15 25 58.7	+0.5
PACA	Pacayal	1.67	30	P		Pg	15 25 39.9	+0.8
BLLM	Bellamira	1.69	32	*eP*		Pg	15 25 39.9	+0.4
IGN	Direccin Gen	1.69	360	P		Pg	15 25 41.8	+2.2
IGN	Direccin Gen	1.69	360	S		Sg	15 26 00.0	-1.6
UEES	Universidad Ev	1.70	358	P		Pg	15 25 41.5	+1.8
PMON	Piamonte	1.70	355	*eP*		Pg	15 25 40.0	+0.4
PMON	Piamonte	1.70	355	P		Pg	15 25 40.5	+0.9
PMON	Piamonte	1.70	355	S		Sg	15 26 01.0	-0.7
PAVA	Las Pavas	1.71	8	P		Pg	15 25 39.5	-0.3
PAVA	Las Pavas	1.71	8	S		Sg	15 26 00.2	-1.8
PQSS	Presa 15 de Se	1.71	20	S		Sb	15 25 59.1	-0.2
PQSS	Presa 15 de Se	1.71	20	P		Pg	15 25 40.3	+0.5
BOQS	Boqueron	1.72	356	*eP*		Pg	15 25 40.6	+0.5
PIC2	El Picacho	1.73	357	*eP*		Pg	15 25 40.8	+0.6
LFU	La Fuente	1.73	2	*eP*		Pg	15 25 40.5	+0.3
CNRM	Centro Naciona	1.75	34	S		Sb	15 26 00.6	+0.2
CNRM	Centro Naciona	1.75	34	P		Pg	15 25 40.9	+0.3
CEDA	San Andres	1.79	353	S		Sb	15 26 02.5	+0.7
CEDA	San Andres	1.79	353	P		Pg	15 25 42.8	+1.3
CNCH	Conchagua	1.81	46	*eP*		Pg	15 25 42.2	+0.4
CNCH	Conchagua	1.81	46	P		Pg	15 25 42.1	+0.4
CSGN	Cosiguina Volc	1.84	58	*eP*		Pg	15 25 43.0	+0.8
CSGN	Cosiguina Volc	1.84	58	P		Pg	15 25 43.7	+1.3
CEVE	Cerro Verde	1.86	346	*eP*		Pg	15 25 43.7	+0.9
CEVE	Cerro Verde	1.86	346	P		Pg	15 25 43.7	+0.9
POTN	Potosi Cosigui	1.90	59	P		Pg	15 25 44.3	+0.8
POTN				S		Sg	15 26 06.6	-1.5
NUBE	Las Nubes	1.97	342	*eP*		Pg	15 25 44.8	-0.1
NUBE	Las Nubes	1.97	342	P		Pg	15 25 44.5	-0.4
NUBE	Las Nubes	1.97	342	S		Sb	15 26 08.2	+1.2
CRIN	San Cristobal	2.18	71	*eS*		Sg	15 26 16.2	-1.0
PKGN	Cerro Pekin	2.24	73	P		Pg	15 25 50.8	+0.8
PKGN				S		Sb	15 26 16.4	+1.8
MTO3	Montecristo	2.38	356	*eP*		Pb	15 25 51.1	+1.5
MTO3	Montecristo	2.38	356	P		Pg	15 25 51.5	-1.2
MTO3	Montecristo	2.38	356	S		Sb	15 26 17.8	-1.1
POLN	Al Sur del Vol	2.39	74	P		Pb	15 25 51.3	+1.7
POLN				S		Sb	15 26 18.6	-0.2
COPN	Copaltepe	2.53	86	*eP*		Pg	15 25 55.1	-0.4
COPN				*eS*		Sb	15 26 23.4	+0.6
COPN	Copaltepe	2.53	86	P		Pg	15 25 55.1	-0.4
LAPC	Finca la Perla	3.87	108	*eP*		Pb	15 26 16.5	+1.7
VRLE	La Escondida,	3.92	108	*eP*		Pb	15 26 19.4	+3.6
JUD3	Juan Diaz 3	4.01	117	*eP*		Pb	15 26 19.5	+2.3
MESS	Mesas	4.10	108	*eP*		Pb	15 26 20.0	+1.2
QUEB	Quebradon, Cot	4.41	108	*eP*		Pb	15 26 24.9	+0.8
JTS	Las Juntas de	4.48	112	*eP*		Pb	15 26 27.4	+2.2
LCR2	La Lucha 2	5.55	113	*eP*		Pb	15 26 41.7	-2.0
PIEC	Cerro El Cedra	5.64	114	*eP*		Pb	15 26 43.0	-2.3
BUS1	Rivas	5.86	114	*eP*		Pb	15 26 47.3	-1.8
DRK0	Durika	6.43	115	*eP*		Pb	15 26 54.0	-4.6
PIRO	Carate, Puerto	6.77	121	*eP*		Pb	15 27 00.1	-4.2

NEIC ***04*** *15:27:01.1±1.3, 18°.1N±0°.3×68°.39W±0°.05, h85km±21km, ML2.9/16, Md2.9/13(RSPR), Error ellipse: s-maj=42.4km s-min=6.1km az=183.0*
RSPR ***04*** *15:27:01.5, 18°.16N×68°.43W, h79km±3km, MD2.9/13*
OSPL ***04*** *15:27:02.4±2.6, 18°.04N×68°.45W, h85km±46km, ML2.9*
ISC 04 15:27:00.2±1.3,**18°13N**±0°.08×**68°44W**±0°.03,**h86**km±12km, **n55,σ1ˢ19/74, 11C-2D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HIDR	Higuey Centro	0.53	330	||*iP*	Pn	15 27 14.7	-0.2
HIDR	Higuey Centro	0.53	330	*eS*		Sn	15 27 24.5	-1.2
IDE	Isla Desecheo	0.95	74			Pn	15 27 19.4	+0.3
IDE						Sn	15 27 33.2	0.0
IDE	Isla Desecheo	0.95	74	||*eP*	Pn	15 27 19.4	+0.3
IDE	Isla Desecheo	0.95	74	*eS*		Sn	15 27 33.2	0.0
MIDR	Miches	1.03	326	||*eP*	Pn	15 27 19.6	-0.4
MIDR	Miches	1.03	326	*eS*		Sn	15 27 33.7	-1.1
PRSN	Puerto Rico Se	1.23	86	Pn		Pn	15 27 22.5	+0.1
PRSN				Sn		Sn	15 27 38.4	-0.8
CRPR	Cabo Rojo, PR	1.27	95	Pn		Pn	15 27 23.3	+0.5
CRPR				Sn		Sn	15 27 40.1	-0.2
CRPR	Cabo Rojo, PR	1.27	95	||*iP*	Pn	15 27 23.4	+0.5
CRPR	Cabo Rojo, PR	1.27	95	*eS*		Sn	15 27 39.7	-0.3
CRPR	Cabo Rojo, PR	1.27	95	*i* P		Pn	15 27 23.4	+0.5
CRPR				*eS*		Sn	15 27 40.1	+0.2
CRPR				IAML			15 27 41.3	
	comp=Z,53nm,0.1s							
LSP	Las Mesas	1.28	88			Pn	15 27 23.6	+0.5
LSP						Sn	15 27 40.7	+0.3
LSP	Las Mesas	1.28	88	||*eP*	Pn	15 27 23.6	+0.5
LSP	Las Mesas	1.28	88	*eS*		Sn	15 27 40.7	+0.3
AGPR	Aguadilla, PR	1.30	75			Pn	15 27 24.2	+0.9
AGPR						Sn	15 27 41.2	+0.5
AGPR	Aguadilla, PR	1.30	75	||*eP*	Pn	15 27 24.2	+0.9
AGPR	Aguadilla, PR	1.30	75	*eS*		Sn	15 27 41.2	+0.5
AGPR	Aguadilla, PR	1.30	75	*i* P		Pn	15 27 24.6	+1.3
AGPR				*eS*		Sn	15 27 43.3	+1.5
AGPR				IAML			15 27 47.7	
	comp=Z,137nm,0.1s							
MLPR	Magueyes Islan	1.33	97	||*iP*	Pn	15 27 24.0	+0.3
MLPR	Magueyes Islan	1.33	97	*eS*		Sn	15 27 41.3	-0.1
SDD	Santo Domingo	1.44	283	Pn		Pn	15 27 24.9	-0.1
SDD				Sn		Sn	15 27 43.9	+0.1
SDD				IAML			15 27 45.7	
	comp=E,112nm,1.6s							
SDD				IAML			15 28 03.9	
	comp=N,136nm,1.8s							
AOPR	Arecibo Observ	1.61	82	Pn		Pn	15 27 27.8	+0.5
AOPR				Sn		Sn	15 27 46.3	-1.5
UUPR	Utuado, UPR, P	1.64	86	Pn		Pn	15 27 28.5	+0.9
UUPR				Sn		Sn	15 27 47.8	-0.5
UUPR	Utuado, UPR, P	1.64	86	||*eP*	Pn	15 27 28.0	+0.4
UUPR	Utuado, UPR, P	1.64	86	*eS*		Sn	15 27 47.7	-0.6
OBIP	Obispado Ponce	1.74	93	Pn		Pn	15 27 29.4	+0.5
OBIP	Obispado Ponce	1.74	93	||*eP*	Pn	15 27 29.4	+0.5
OBIP	Obispado Ponce	1.74	93	*eS*		Sn	15 27 50.5	-0.3
CELP	Cerrillos	1.77	92	Pn		Pn	15 27 29.8	+0.5
CELP				Sn		Sn	15 27 50.7	-0.6
CELP				IAML			15 27 56.4	
	comp=N,132nm,0.3s							
CELP	Cerrillos	1.77	92	||*eP*	Pn	15 27 29.5	+0.3
CELP	Cerrillos	1.77	92	*eS*		Sn	15 27 50.9	-0.5
BANI	BANI	1.84	278	Pn		Pn	15 27 32.6	+2.2
BANI				Sn		Sn	15 27 54.0	+0.7
EMPR	Esperanza - Ma	1.84	79	Pn		Pn	15 27 30.8	+0.6
EMPR				Sn		Sn	15 27 53.2	+0.2
EMPR	Esperanza - Ma	1.84	79	||*eP*	Pn	15 27 31.0	+0.7
EMPR	Esperanza - Ma	1.84	79	*eS*		Sn	15 27 54.0	+1.0
ECPR	Experimental S	1.98	84	||*eP*	Pn	15 27 32.3	+0.3
ECPR	Experimental S	1.98	84	*eS*		Sn	15 27 55.7	-0.6
SJG	San Juan	2.17	90	Pn		Pn	15 27 34.4	-0.2
SJG	San Juan	2.17	90	*i* P		Pn	15 27 35.1	+0.5
SJG				*eS*		Sn	15 28 00.7	-0.2
SJG				IAML			15 28 03.8	
	comp=Z,37nm,0.2s							
IGPR	InterUniversit	2.22	94			Pn	15 27 35.0	-0.2
IGPR						Sn	15 28 01.1	-1.0
IGPR	InterUniversit	2.22	94	||*eP*	Pn	15 27 35.0	-0.2
IGPR	InterUniversit	2.22	94	*eS*		Sn	15 28 01.1	-1.0
GCPR	Guaynabo City	2.24	85	Pn		Pn	15 27 35.7	+0.2
GCPR				Sn		Sn	15 27 58.7	-3.8
GCPR				IAML			15 28 02.6	
	comp=N,62nm,0.4s							
GCPR				IAML			15 28 03.5	
	comp=E,77nm,0.3s							
GCPR	Guaynabo City	2.24	85	||*eP*	Pn	15 27 35.9	+0.4
GCPR	Guaynabo City	2.24	85	*eS*		Sn	15 28 01.1	-1.4
PDPR	Patillas Dam,	2.30	92	Pn		Pn	15 27 36.2	-0.1
PDPR				Sn		Sn	15 28 01.7	-2.1
PDPR				IAML			15 28 09.7	
	comp=E,78nm,0.1s							
PDPR	Patillas Dam,	2.30	92	||*eP*	Pn	15 27 36.0	-0.2
PDPR	Patillas Dam,	2.30	92	*eS*		Sn	15 28 03.2	-0.7
HUMP	Col San Antoni	2.46	89	Pn		Pn	15 27 39.0	+0.6
LOVI	El Cajuil, Ovi	2.81	264	*i* P		Pn	15 27 43.4	+0.3
LOVI				*eS*		Sn	15 28 13.2	-2.9
LOVI				IAML			15 28 16.4	
	comp=Z,98nm,0.9s							
SDDR	Presa de Saban	2.83	288	Pn		Pn	15 27 46.9	+3.4
SDDR				IAML			15 28 26.9	
	comp=Z,40nm,0.8s							
SDDR				IAML			15 28 29.6	
	comp=Z,41nm,0.5s							
SDDR	Presa de Saban	2.83	288	*i* P		Pn	15 27 47.3	+3.8
SDDR				IAML			15 28 29.7	
	comp=Z,30nm,0.5s							
LOBH	Bahia de las A	3.06	265	*i* P		Pn	15 27 47.2	+0.7
LOBH				*eS*		Sn	15 28 19.7	-2.4
LOBH				IAML			15 28 24.8	
	comp=Z,63nm,1.5s							
GRTK	Grand Turk	4.21	323	*eS*		Sn	15 28 47.1	-3.0
GRTK				IAML			15 28 50.1	
	comp=Z,61nm,1.4s							

IDC ***04*** *15:39:09.6±8.7, 20°.34S×177°.65W, h513km±94km, mb2.6/3, mbtmp3.7/4, Error ellipse: s-maj=57.1km s-min=37.9km az=17.0*
ISC 04 15:39:08.7±1.5,**20°3S**±0°.2×**177°7W**±0°.3,**h500**km,**n6, σ0ˢ30/6, mb3.1/3, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	Urewera	18.45	193	P		P	15 42 53.0	0.0
	15nm,1.0s,baz=0.0,slow=20,SNR=7.4							
ASAR	Alice Springs	44.84	256	P		P	15 46 38.4	+0.4
	0.2nm,0.6s,baz=94,slow=8.2,SNR=12							
ASAR				PcP		PcP	15 48 09.2	-0.2
	0.2nm,0.6s,baz=99,slow=3.6,SNR=5.7							
	0.2nm,0.6s							
WRA	Warramunga Arr	44.91	262	P		P	15 46 38.3	-0.3
	0.2nm,0.3s,baz=96,slow=8.2,SNR=12							
	0.2nm,0.3s							
ILAR	Eielson Array	88.06	13	P		P	15 51 05.0	+0.1
	0.2nm,0.4s,baz=215,slow=6.2,SNR=2.1							
	0.2nm,0.4s							
AKASG	Malin Array Be	142.98	331	PKP			15 57 42.0	
	1.1nm,0.6s,baz=46,slow=3.6,SNR=6.5							
BRTR	Keskin Array B	146.92	313	PKPbc		PKPbc	15 57 55.0	-0.1
	0.3nm,0.4s,baz=88,slow=3.9,SNR=2.5							

GCG ***04*** *15:39:49.9±0.3, 12°.28N×89°.37W, h15km±5km, MD4.4*
CATAC ***04*** *15:39:49.3±0.5, 12°.1N±3°×8°9W±°, h10km, M3.7/19, MLv3.7/19, Error ellipse: s-maj=7.2km s-min=3.4km az=34.3, confirmed*
SNET ***04*** *15:39:51.0±1.1, 12°.27N×89°.11W, h36km±10km, ML3.5*
ISC 04 15:39:49.2±3.3,**12°32N**±0°.09×**89°08W**±0°.06,**h8**km±18km, **n50,σ0ˢ73/57, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LFRS	El Faro	1.30	1	*eP*		Pn	15 40 12.5	-1.2
LFRS				*eS*		Sb	15 40 28.9	-1.8
TECA	Tecapa	1.30	26	*eP*		Pn	15 40 12.6	-1.1
TECA				*eP*		Pn	15 40 12.7	-1.1
TECA				*eS*		Sb	15 40 30.8	0.0
LOMA	Loma Larga	1.32	356	P		Pn	15 40 12.5	-1.6
UESV	Universidad de	1.34	12	P		Pn	15 40 13.5	-0.7
PACA	Pacayal	1.36	33	*eP*		Pn	15 40 14.4	-0.2
PACA	Pacayal	1.36	33	P		Pn	15 40 14.4	-0.2
PACA	Pacayal	1.36	33	S		Sb	15 40 32.7	+0.1
JAYA	Jayaque - finc	1.37	345	*eP*		Pn	15 40 13.8	-1.0
JAYA	Jayaque - finc	1.37	345	*eP*		Pn	15 40 13.8	-1.0
JAYA	Jayaque - finc	1.37	345	P		Pn	15 40 14.1	-0.7
JAYA	Jayaque - finc	1.37	345	S		Sg	15 40 33.9	+0.5
BLLM	Bellamira	1.39	36	*eP*		Pn	15 40 14.2	-0.7
BLLM				*eS*		Sb	15 40 32.9	-0.4
IGN	Direccin Gen	1.39	356	P		Pn	15 40 15.0	+0.1
UDBS	Universidad Do	1.39	357	P		Pn	15 40 14.8	-0.1
PAVA	Las Pavas	1.39	6	P		Pn	15 40 13.9	-1.2
PAVA	Las Pavas	1.39	6	S		Sb	15 40 33.0	-0.5
PQSS	Presa 15 de Se	1.39	21	P		Pn	15 40 14.5	-0.4
UEES	Universidad Ev	1.40	354	P		Pn	15 40 15.2	+0.1
PMON	Piamonte	1.40	351	P		Pn	15 40 14.5	-0.6
PMON	Piamonte	1.40	351	S		Sn	15 40 34.1	+0.2
BOQS	Boqueron	1.42	352	*eP*		Pn	15 40 14.8	-0.7
CNRM	Centro Naciona	1.45	38	S		Sn	15 40 34.8	-0.1
CNRM	Centro Naciona	1.45	38	P		Pn	15 40 15.0	-0.7
CNCH	Conchagua	1.54	52	*eP*		Pn	15 40 16.4	-0.7
CNCH	Conchagua	1.54	52	P		Pn	15 40 16.8	-0.4
CNCH	Conchagua	1.54	52	S		Sb	15 40 37.8	-0.1
CEVE	Cerro Verde	1.59	341	P		Pn	15 40 17.9	+0.1
CSGN	Cosiguina Volc	1.62	66	P		Pn	15 40 17.8	-0.3
CSGN				S		Sb	15 40 39.9	-0.2
SNJE	San Jose	1.62	342	*eP*		Pn	15 40 17.8	-0.5
RTR	El Retiro	1.66	341	*eP*		Pn	15 40 19.1	+0.3
POTN	Potosi Cosigui	1.68	66	P		Pn	15 40 18.1	-0.7
NUBE	Las Nubes	1.71	337	*eP*		Pn	15 40 18.8	-0.7
NUBE				*eS*		Sn	15 40 41.3	-0.4
NUBE	Las Nubes	1.71	337	P		Pn	15 40 19.1	-0.4
NUBE	Las Nubes	1.71	337	S		Sb	15 40 42.4	-0.4
LLGN	La Laguna	1.84	4	S		Sb	15 40 46.6	+0.3
LLGN	La Laguna	1.84	4	P		Pn	15 40 21.3	+0.2
MTO3	Montecristo	2.08	353	*eP*		Pn	15 40 25.2	+0.5
MTO3	Montecristo	2.08	353	P		Pn	15 40 24.9	+0.3
MTO3	Montecristo	2.08	353	S		Sn	15 40 52.2	+1.3
PKGN	Cerro Pekin	2.08	80	P		Pn	15 40 24.7	+0.3
PKGN				S		Sn	15 40 50.6	0.0
MARCA	Marcala la Paz	2.09	29	P		Pn	15 40 25.3	+0.6
INTHN	La Esperanza I	2.20	26	P		Pn	15 40 27.0	+0.7
CHOHN	Orocuina	2.20	58	P		Pn	15 40 25.8	-0.4
ESQI	Esquipulas	2.24	354	P		Pn	15 40 28.2	+1.5
ESQI	Esquipulas	2.24	354	S		Sn	15 40 56.3	+1.7
PLRN	Geotermica Pol	2.27	83	P		Pn	15 40 26.8	-0.3
CNGN	Cerro Negro	2.33	85	P		Pn	15 40 28.1	+0.2
ILCN	San Idelfonso	2.34	83	P		Pn	15 40 28.2	+0.3
YUSH	Yuscaran	2.72	53	P		Pn	15 40 33.5	+0.2
RCVN	Varillal2	3.08	66	P		Pn	15 40 37.7	-0.6

IDC ***04*** *15:58:27.6±1.9, 6°.34S×130°.42E, h133km±18km, mb3.9/9, mbtmp4.4/14, MS3.7/2, Error ellipse: s-maj=16.9km s-min=14.5km az=81.0*
NEIC ***04*** *15:58:28.6±2.1, 6°22S±0°.05×130°.48E±0°.08, h132km±8km, mb4.5/20, Error ellipse: s-maj=12.2km s-min=5.5km az=119.0*
DJA ***04*** *15:58:28.5±0.3, 6°S±3°×13°0E±°, h168km±6km, M4.7/19, mb4.8/19, mB5.2/11, MLv5.1/19, Mw(mB)4.5/11*
ISC 04 15:58:28.6±0.4,**6°38S**±0°.04×**130°47E**±0°.05,**h150**km,**n95, σ2ˢ10/100, mb4.3/16, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.92	343	P		Pn	15 59 02.1	-0.8
BNDI	Bandanaira	1.92	343	S		Sn	15 59 27.5	-1.7
BNDI	Bandanaira	1.92	343	P		Pn	15 59 02.1	-0.8
BNDI				S		Sn	15 59 28.5	-0.7
MSAI	Masohi	3.38	333	P		Pn	15 59 19.8	-1.0
MSAI				S		Sn	15 59 57.6	-3.7
AAI	Ambon	3.50	320	P		Pn	15 59 21.7	-0.7
FAKI	Fak Fak	3.87	27			Pn	15 59 24.6	-2.5
FAKI	Fak Fak	3.87	27	P		Pn	15 59 24.7	-2.5
FAKI	Fak Fak	3.87	27	P		Pn	15 59 25.0	-2.2
KMPI	Kaimana, Papua	4.20	50	P		Pn	15 59 30.9	-0.7
NLAI	Namlea	4.58	313	P		Pn	15 59 35.8	-0.7
SWI	Sorong	5.53	8	P		Pn	15 59 46.2	-3.0
	4.6nm7µm74nm,0.6s							
DRS	Darwin Rock St	6.03	176	P		Pn	15 59 56.9	+1.1
DRS	Darwin Rock St	6.03	176	S		Sn	16 01 03.8	-0.2
RKPI	Ransiki, Papua	6.09	38	P		Pn	15 59 55.8	-0.7
SANI	Sanana	6.20	314	P		Pn	15 59 58.0	0.0
SANI	Sanana	6.20	314	P		Pn	15 59 57.5	-0.5
	0.6nm154nm,0.7s							
MTN	Manton Dam	6.46	174	Pn		Pn	16 00 02.8	+1.3
MTN	Manton Dam	6.46	174	P		Pn	16 00 02.5	+1.0
MTN	Manton Dam	6.46	174	S		Sn	16 01 13.0	-1.3
KDU	Kakadu	6.58	163	P		Pn	16 00 03.7	+0.7
KDU	Kakadu	6.58	163	S		Sn	16 01 15.5	-1.5
SOEI	Soe	7.00	241	Pn		Pn	16 00 09.2	+0.4
SOEI	Soe	7.00	241	P		Pn	16 00 09.4	+0.6
	0.5nm77nm,0.6s							
SRPI	Serui, Papua	7.29	52	P		Pn	16 00 11.0	-1.6
	0.5nm94nm,0.9s							
BAKI	Biak	7.63	48	P		Pn	16 00 17.9	+0.8
BATI	Baumata	7.73	240	P		Pn	16 00 18.2	-0.3
	60nm,0.4s,baz=66,slow=18,SNR=22							
BATI				S		Sn	16 01 43.5	-1.5
	42nm,0.4s,baz=53,slow=20,SNR=8.7							
BATI	Baumata	7.73	240	P		Pn	16 00 18.1	-0.5
	0.3nm67nm,0.5s							
TNTI	Ternate	7.75	336	Pn		Pn	16 00 16.0	-2.6
TNTI	Ternate	7.75	336	P		Pn	16 00 14.9	-3.8
	0.4nm1µm109nm,0.7s							
EDFI	Ende, Flores	9.02	254	P		Pn	16 00 34.4	-1.3
SMPI	Sarmi	9.30	62	P		Pn	16 00 38.8	-0.6
LUWI	Luwuk	9.33	304	P		Pn	16 00 38.9	-0.9
KNRA	Kununurra	9.39	190	Pn		Pn	16 00 40.1	-0.5
KMSI	Cibinong	9.46	317	P		Pn	16 00 39.0	-2.6
MRSI	Marisa	10.90	308	P		Pn	16 00 58.1	-2.5
	47nm,0.6s							
JAY	Jayapura	10.90	70	P		Pn	16 01 02.0	+1.4
	3.3nm,0.4s,baz=229,slow=20,SNR=7.9							
JAY				S		Sn	16 02 58.2	-3.1
	8.3nm,1.0s,baz=288,slow=20,SNR=2.2							
PCI	Palu	11.92	297	P		Pn	16 01 12.9	-1.0
TOLI2	Tolitoli	12.20	307	Pn		Pn	16 01 16.9	-0.6
TOLI2	Tolitoli	12.20	307	P		Pn	16 01 18.6	+1.0
FITZ	Fitzroy Crossi	12.57	202	Pn		Pn	16 01 20.7	-1.6
FITZ	Fitzroy Crossi	12.57	202	P		Pn	16 01 20.1	-2.2
	12nm,0.5s,baz=24,slow=14,SNR=63							
FITZ				S		Sn	16 03 32.4	-9.0
	16nm,0.6s,baz=73,slow=14,SNR=11							
PLAI	Plampang	12.81	259	P		P	16 01 28.3	-2.3
WB0	Warramunga Arr	13.85	164	Pn		Pn	16 01 37.7	-1.0
WRAB	Tennant Creek	13.99	165	Pn		Pn	16 01 39.5	-1.0
WRA	Warramunga Arr	14.00	165	Pn		Pn	16 01 37.8	-2.8
WRA

SNAA	**Sanae**	**96.38**	**193**	P	**P**	**16 11 43.2 +3.0**
EIL	**Elat**	**97.90**	**299**	LR	LR	17 04 07.0
	comp=Z,41nm,18.3s,baz=126,slow=40					
TORD	**Torodi Ar. Bea**	**129.14**	**282**	PKP	**PKiKP**	**16 17 20.5 -0.2**
	comp=Z,0.4nm,0.7s,baz=48,slow=4.3,SNR=2.1					

*BJI **04** 16:02:50.8,27.˚67N×142.˚79E,h22km,mB5.0/20,mb4.6/57, Ms4.4/42,Ms7 4.1/42*
*IDC **04** 16:02:51.1±0.5,27.˚81N×142.˚64E,h0km,mb4.5/27, mbtmp4.5/31,ML4.0/4,MS3.9/53,Error ellipse: s-maj=15.8km s-min=10.3km az=76.0*
*JMA **04** 16:02:53.9±0.2,27.˚9N±0.˚8×14˚3E˚,h46km,MD4.6/37, MV4.8/37,NEAR CHICHIJIMA ISLAND*
*NIED **04** 16:02:53.9,27.˚87N×142.˚86E,h46km,MW4.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.80; $M_{\theta\theta}$-1.41; $M_{\phi\phi}$2.21; $M_{r\theta}$-1.75; $M_{\theta\phi}$-8.82; $M_{\phi r}$0.60; Fault plane solution: $M_0$9.18000×10^{15} NP1:ϕ_{s}6.00000°, δ79.00000°,λ1.00000°. NP2:ϕ_{s}276.00000°,δ89.00000°, λ169.00000°.*
*NEIC **04** 16:02:55.0±1.6,27.˚87N±0.˚04×142.˚5E±0.˚1,h15km±4km, mb4.9/224,Mww4.9/19 Error ellipse: s-maj=14.3km s-min=3.2km az=113.0*
*GCMT **04** 16:02:56.0±0.3,27.˚84N±0.˚02×142.˚96E±0.˚02,h17km±1km, MW4.8/98,Moment Tensor Solution. s18,c22; s98,c136; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.22±.07; $M_{\theta\theta}$-0.64±.06; $M_{\phi\phi}$0.41±.06; $M_{r\theta}$0.74±.18; $M_{\theta\phi}$-1.39±.06; $M_{\phi r}$0.53±.18; Best double couple: $M_0$1.67700×10^{16} NP1:ϕ_{s}283.00000°,δ73.00000°,λ-164.00000°. NP2: ϕ_{s}188.00000°,δ75.00000°,λ-17.00000°. Principal axes: T 1.3770, Plg1.0000°, Azm236.0000°; N 0.6000, Plg67.0000°, Azm328.0000°; P -1.9770, Plg23.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 16:02:55.6±0.3,**27.˚84N**±0.˚04×**142.˚59E**±0.˚05,**h25**km,**n561**, σ1**s32**/480,**mb4.9**/161,**MS4.0**/62,**3C-1D,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.82**	**206**			P	**Pn**	**16 03 11.5**	**-0.1**
CBIJ	**Chichi jima**	**0.82**	**206**			A	A	16 03 11.5	
	comp=N,45nm,2.3s,comp=E,42nm,2.0s								
JCJ	**Chichijima**	**0.82**	**206**				**Pb**	**16 03 11.2**	**-0.1**
JCJ	**Chichijima**	**0.82**	**206**			P	**Pb**	**16 03 11.1**	**-0.1**
JHH2	**Haha-jima-NKT2**	**1.26**	**197**			P	**Pn**	**16 03 17.3**	**-0.3**
JHH2						*e*S	**Sn**	**16 03 33.4**	**-0.2**
JHH2	**Haha-jima-NKT2**	**1.26**	**197**			A	A	16 03 17.3	
	comp=N,21nm,2.6s,comp=E,22nm,3.2s								
JHCJ	**Hachijojimakas**	**5.74**	**336**			*e*P	**Pn**	**16 04 19.7**	**+0.4**
JHCJ						*e*S	**Sn**	**16 05 20.4**	**-4.0**
JHJ2	**Mitsune**	**5.77**	**336**		Pn	P	**Pn**	**16 04 20.5**	**+0.8**
JHJ2	**Mitsune**	**5.77**	**336**		P	P	**Pn**	**16 04 21.2**	**+1.5**
JHJ2	**Mitsune**	**5.77**	**336**		P	P	**Pn**	**16 04 19.5**	**-0.1**
JHJ2						*e*S	**Sn**	**16 05 23.6**	**-1.5**
JHJ	**Hachijo jima 2**	**5.79**	**336**		Pn	P	**Pn**	**16 04 18.9**	**-1.0**
	comp=E,10nm,0.3s,baz=139,slow=19,SNR=22								
JHJ						Sn	**Sn**	**16 05 23.3**	**-2.3**
	comp=E,44nm,0.3s,baz=107,slow=19,SNR=5.5								
	comp=E,30nm,0.3s								
JMKN	**Mikurajimanish**	**6.56**	**338**		P	P	**Pn**	**16 04 31.1**	**+0.7**
JMKN						*e*S	**Sn**	**16 05 45.0**	**+0.5**
JMYK	**Miyake Tsubota**	**6.73**	**338**		*e*P	P	**Pn**	**16 04 33.0**	**+0.2**
JMYK						*e*S	**Sn**	**16 05 46.2**	**-2.4**
BSO1	**Boso 1**	**6.93**	**349**		P	P	**Pn**	**16 04 33.9**	**-1.2**
BSO3	**Boso 3**	**7.16**	**346**		*e*P	P	**Pn**	**16 04 37.4**	**-1.1**
BSO4	**Boso 4**	**7.38**	**345**		P	P	**Pn**	**16 04 41.9**	**+0.2**
JOD2	**Odawara 2**	**7.98**	**339**		P	P	**Pn**	**16 04 50.3**	**+0.3**
JOD2						*e*S	**Sn**	**16 06 19.4**	**0.0**
JRY	**Ryogami san**	**8.73**	**340**		P	P	**Pn**	**16 05 00.6**	**+0.3**
JRY						*e*S	**Sn**	**16 06 34.3**	**-3.7**
INU	**Inuyama**	**8.86**	**329**		Pn	P	**Pn**	**16 05 03.5**	**+1.4**
JGF	**Kuroka**	**8.93**	**331**		Pn	P	**Pn**	**16 05 06.0**	**+3.1**
JGF	**Kuroka**	**8.93**	**331**		P	P	**Pn**	**16 05 06.5**	**+3.5**
MJAR	**Matsushiro Arr**	**9.44**	**338**			P	**Pn**	**16 05 09.6**	**-0.3**
MJAR	**Matsushiro Arr**	**9.44**	**338**		Pn	P	**Pn**	**16 05 09.4**	**-0.5**
	comp=E,1.2nm,0.3s,baz=157,slow=11,SNR=36								
MJAR						Sn	**Sn**	**16 06 52.1**	**-3.1**
	comp=E,0.4nm,0.3s,baz=136,slow=18,SNR=5.0								
MJAR						LR	LR	16 08 40.9	
	comp=E,848nm,20.1s,baz=142,slow=37								
	comp=E,7.7nm,0.4s								
MAJO	**Matsushiro**	**9.44**	**338**			P	**Pn**	**16 05 09.9**	**-0.1**
MAJO	**Matsushiro**	**9.44**	**338**		P	P	**Pn**	**16 05 10.2**	**+0.2**
MJB9	**Matsu-Tunnel**	**9.44**	**338**		Pn	P	**Pn**	**16 05 09.4**	**-0.6**
JMM	**Marumori**	**10.11**	**352**			P	**Pn**	**16 05 16.6**	**-2.6**
JMM	**Marumori**	**10.11**	**352**		P	P	**Pn**	**16 05 16.7**	**-2.5**
JSD	**Sado**	**10.80**	**341**		P	P	**Pn**	**16 05 30.2**	**+1.6**
JMK	**Ichinoseki**	**11.14**	**354**		*e*P	P	**Pn**	**16 05 29.7**	**-3.6**
JMK						S	Sn	16 07 26.8	-10
JNU	**Nakatsue**	**11.39**	**300**		Pn	P	**Pn**	**16 05 36.0**	**-0.7**
JOW	**Kunigami**	**12.77**	**269**		LR	LR	16 10 27.0	
	comp=E,721nm,19.7s,baz=154,slow=36								
JTM	**Tenmabayashi**	**12.98**	**355**		Pn	Pn	**16 05 54.4**	**-3.9**
JTM	**Tenmabayashi**	**12.98**	**355**		P	Pn	**16 05 56.3**	**-2.0**
JTU	**Tsushima**	**13.10**	**304**		P	**P**	**16 06 05.3**	**-4.8**
ERM	**Erimo**	**14.15**	**2**		Pn	Pn	**16 06 10.6**	**-3.8**
ERM	**Erimo**	**14.15**	**2**		P	Pn	**16 06 10.5**	**-3.8**
JEM	**Erimo**	**14.15**	**2**		P	Pn	**16 06 11.6**	**-2.8**
KSRS	**Korea Array**	**15.62**	**312**		Pn	**P**	**16 06 38.7**	**+0.7**
	comp=E,0.8nm,0.3s,baz=121,slow=10,SNR=18								
KSAR	**Wonju Array Be**	**15.64**	**311**		P	**P**	**16 06 37.5**	**-0.8**
KS19	**Wonju Array Si**	**15.68**	**312**		P	**P**	**16 06 38.3**	**-0.5**
ASAJ	**Asahikawa**	**16.24**	**0**		Pn	Pn	**16 06 39.5**	**-2.5**
	comp=E,1.0nm,0.3s,baz=210,slow=16,SNR=13								
ASAJ						Sn	Sn	16 09 27.0	-14
	comp=E,1.0nm,0.3s,baz=150,slow=20,SNR=4.3								
ASAJ						LR	LR	16 13 16.3	
	comp=E,409nm,21.8s,baz=198,slow=38								
	comp=E,11nm,1.1s								
JKA	**Kamikawa-asahi**	**16.24**	**0**		Pn	Pn	**16 06 39.6**	**-2.4**
USA0B	**Ussuriysk Arra**	**18.41**	**335**		P	Pn	**16 07 09.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**18.41**	**335**		P	**P**	**16 07 07.8**	**-1.0**
	comp=E,0.4nm,0.3s,baz=154,slow=11,SNR=10								
USRK						S	**Sn**	**16 10 34.6**	**+0.7**
	comp=E,1.0nm,0.7s,baz=150,slow=18,SNR=1.8								
USRK						LR	LR	16 13 51.7	
	comp=E,435nm,18.6s,baz=148,slow=36								
	comp=E,10nm,1.0s								
YSS	**Yuzhno-Sakhali**	**19.08**	**0**				**P**	**16 07 16.4**	**+0.3**
NACB	**Ninganchiao**	**19.21**	**264**		P		**P**	**16 07 18.0**	**+0.1**
NACB						IAmb	IAmb	16 07 25.1	
	comp=Z,183nm,2.0s								
NACB	**Ninganchiao**	**19.21**	**264**		P		**Pn**	**16 07 20.0**	**+1.1**
YHNB	**Yeheng**	**19.28**	**265**		P		**Pn**	**16 07 19.4**	**-0.4**
YHNB	**Yeheng**	**19.28**	**265**		P		**Pn**	**16 07 21.2**	**+1.4**
YULB	**Yu-li**	**19.70**	**262**		P		**P**	**16 07 23.6**	**+0.4**
YULB						IAmb	IAmb	16 07 25.6	
	comp=Z,183nm,1.8s								
MDJ	**Mudanjiang**	**19.71**	**332**		P		**P**	**16 07 23.9**	**+0.8**
MDJ	**Mudanjiang**	**19.71**	**332**		P		**Pn**	**16 07 24.2**	**-0.5**
MDJ						pmax	pmax		
	comp=Z,9.0nm,0.9s								
SSLB	**Suanglung**	**19.88**	**263**				**Pn**	**16 07 27.3**	**+0.4**
SSLB						IAmb	IAmb	16 07 32.1	
	comp=Z,74nm,1.1s								
SSLB	**Suanglung**	**19.88**	**263**		P		**Pn**	**16 07 28.5**	**+1.6**
TPUB	**Ta-pu**	**20.31**	**262**				**P**	**16 07 30.4**	**+0.5**
TPUB						IAmb	IAmb	16 07 45.8	
	comp=Z,149nm,1.6s								
NJ2	**Nanjing**	**20.98**	**287**		*e*P		Pn	16 07 38.3	-1.3
NJ2						pP	pP	16 07 42.1	-1.4
NJ2						pmax	pmax		
	comp=Z,15nm,0.7s								
NJ2						LR	LR		
	comp=Z,760nm,14.2s								
NJ2						LR	LR		
	comp=Z,440nm,14.2s								
NJ2						LR	LR		
	comp=Z,400nm,12.3s								
BNX	**BinXian**	**21.55**	**330**	⇓	P		**P**	**16 07 42.6**	**-0.3**
BNX						pmax	pmax		
	comp=Z,40nm,0.7s								
BNX						pmax	pmax		
	comp=Z,140nm,3.8s								
KNMB	**Chin-men Tao**	**21.97**	**267**		P		**P**	**16 07 50.1**	**+2.4**
KNMB						IAmb	IAmb	16 07 59.8	
	comp=Z,72nm,1.0s								
TIA	**Tai'an**	**23.10**	**298**		P		**P**	**16 07 57.9**	**-1.7**
TIA						pmax	pmax		
	comp=Z,9.0nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**23.63**	**105**		T		T	16 32 40.0	
	baz=297,slow=75,SNR=32								
H11N1	**WAKE ISLAND Hy**	**23.64**	**105**		T		T	16 32 42.0	
	baz=297,slow=75,SNR=26								
H11N3	**WAKE ISLAND Hy**	**23.65**	**105**		T		T	16 32 34.4	
	baz=297,slow=75,SNR=52								
H11S3	**WAKE ISLAND Hy**	**23.99**	**108**		T		T	16 33 20.8	
	baz=295,slow=76								
H11S1	**WAKE ISLAND Hy**	**24.00**	**108**		T		T	16 33 29.3	
	baz=295,slow=76								
H11S2	**WAKE ISLAND Hy**	**24.01**	**108**		T		T	16 33 26.6	
	baz=295,slow=76								
WHN	**Wuhan**	**24.77**	**283**		P		**P**	**16 08 16.9**	**+1.5**
WHN						sP	**pwP**	**16 08 24.7**	**+0.2**
WHN						pmax	pmax		
	comp=Z,73nm,0.8s								
BJI	**Beijing**	**24.97**	**306**		P		**P**	**16 08 17.2**	**+0.1**
BJI						pP	**pP**	**16 08 22.7**	**-1.3**
BJI						S	**S**	**16 12 39.8**	**+0.5**
BJI						LR	LR		
	comp=Z,180nm,15.5s								
BJI						LR	LR		
	comp=Z,170nm,14.5s								
BJI						LR	LR		
	comp=Z,180nm,15.4s								
HEH	**HeiHe**	**25.20**	**337**		*e*P		**P**	**16 08 20.6**	**+1.5**
HEH						sP	**pwP**	**16 08 29.4**	**+0.7**
HEH						S	**S**	**16 12 51.2**	**+8.4**
HEH						pmax	pmax		
	comp=Z,12nm,1.0s								
HEH						pmax	pmax		
	comp=Z,220nm,4.3s								
HEH						LR	LR		
	comp=Z,540nm,18.2s								
HEH						LR	LR		
	comp=Z,560nm,18.4s								
HEH						LR	LR		
	comp=Z,440nm,16.3s								
XLT	**XiLinHaoTe**	**26.64**	**314**		*e*P		**P**	**16 08 31.3**	**-1.0**
XLT						sP	pwP	16 08 40.6	-0.7
XLT						PP	**PnPn**	**16 09 17.2**	**+3.8**
XLT						pmax	pmax		
	comp=Z,7.0nm,1.0s								
XLT						pmax	pmax		
	comp=Z,150nm,4.5s								
XLT						LR	LR		
	comp=Z,37nm,15.3s								
XLT						LR	LR		
	comp=Z,120nm,11.5s								
XLT						LR	LR		
	comp=Z,370nm,17.9s								
TIY	**Taiyuan**	**27.10**	**299**		P		**P**	**16 08 35.3**	**-1.2**
TIY						S	**S**	**16 13 20.9**	**+7.6**
TIY						pmax	pmax		
	comp=Z,170nm,5.9s								
TIY						LR	LR		
	comp=Z,250nm,15.1s								
TIY						LR	LR		
	comp=Z,250nm,17.2s								
TIY						LR	LR		
	comp=Z,250nm,19.9s								
PETK	**Petropavlovsk-**	**27.62**	**20**		P		**P**	**16 08 41.0**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=213,slow=7.8,SNR=2.3								
PETK						LR	LR	16 18 04.9	
	comp=Z,62nm,21.4s,baz=186,slow=33								
	comp=Z,1.3nm,0.5s								
HHC	**Hu-ho-hao-te**	**28.55**	**305**		*e*P		**P**	**16 08 50.3**	**+0.8**
HHC						S	**S**	**16 13 35.5**	**-0.7**
HHC						pmax	pmax		
	comp=Z,14nm,0.7s								
HHC						pmax	pmax		
	comp=Z,71nm,5.9s								
HHC						LR	LR		
	comp=Z,320nm,14.3s								
HHC						LR	LR		
	comp=Z,360nm,17.7s								
HHC						LR	LR		
	comp=Z,380nm,16.0s								
ENH	**Enshi**	**28.98**	**283**		P		**P**	**16 08 52.2**	**-1.1**
ENH						IAmb	IAmb	16 09 08.2	
	comp=Z,18nm,0.8s								
XAN	**Xi'an**	**29.44**	**291**	⇑	P		**P**	**16 08 56.7**	**-0.7**
XAN						pP	pP	16 09 01.6	-2.8
XAN						pmax	pmax		
	comp=Z,10.0nm,1.0s								
XAN						LR	LR		
	comp=Z,530nm,14.4s								
XAN						LR	LR		
	comp=Z,460nm,12.4s								
XAN						LR	LR		
	comp=Z,300nm,13.1s								
GYA	**Guiyang**	**31.93**	**276**	⇑	P		**P**	**16 09 20.0**	**+0.5**
GYA						pmax	pmax		
	comp=Z,17nm,0.7s								
KKM	**Kota Kinabalu**	**33.11**	**234**		P		**P**	**16 09 30.1**	**+0.2**
KKM						IAmb	IAmb	16 10 00.2	
	comp=Z,16nm,1.0s								
MRSI	**Marisa**	**33.65**	**220**		P		**P**	**16 09 35.7**	**+1.3**
LZDM	**Lanzhou Array**	**33.82**	**294**		P		**P**	**16 09 36.1**	**-0.1**
	comp=Z,2.5nm,0.4s,baz=120,slow=8.7,SNR=1.4								
	comp=Z,2.5nm,0.4s								
CD2	**Chengdu**	**33.86**	**285**		P		**P**	**16 09 35.8**	**-0.5**
ULN	**Ulaanbaatar**	**34.04**	**316**		P		**P**	**16 09 37.6**	**-0.2**
SHEM	**Shemya Is, Ala**	**34.12**	**35**		LR		LR	16 23 13.3	
	comp=Z,83nm,19.1s,baz=211,slow=36								
SONM	**Songino Array**	**34.43**	**315**		P		**P**	**16 09 40.5**	**-0.7**
SONM	**Songino Array**	**34.43**	**315**		P		**P**	**16 09 41.5**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=120,slow=8.5,SNR=7.1								
SONM						PcP	**PcP**	**16 12 17.6**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=126,slow=2.5,SNR=1.7								
SONM						LR	LR	16 24 30.6	
	comp=Z,216nm,19.0s,baz=125,slow=38								
	comp=Z,1.2nm,0.5s								
YAK	**Yakutsk**	**35.25**	**349**				**P**	**16 09 47.3**	**-0.5**
YAK						IAmb	IAmb	16 09 53.3	
	comp=Z,17nm,0.9s								
YAK	**Yakutsk**	**35.25**	**349**		LR		LR	16 26 46.0	
	comp=Z,139nm,18.2s,baz=153,slow=41								
KMI	**Kunming**	**35.66**	**275**		P		**P**	**16 09 51.8**	**-0.3**
KMI						pmax	pmax		
	comp=Z,14nm,1.0s								
KMI						LR	LR		
	comp=Z,210nm,17.1s								
KMI						LR	LR		
	comp=Z,340nm,16.2s								
KMI						LR	LR		
	comp=Z,320nm,14.9s								
PZH	**PanZhiHua**	**36.24**	**278**		P		**P**	**16 09 57.7**	**+0.7**
GTA	**Gaotai**	**37.12**	**299**		*e*P		**P**	**16 10 03.2**	**-1.2**
GTA						sP	sP	16 10 20.5	+6.2
GTA						pmax	pmax		
	comp=Z,12nm,1.4s								
GTA						LR	LR		
	comp=Z,320nm,19.1s								
GTA						LR	LR		
	comp=Z,240nm,17.5s								
GTA						LR	LR		
	comp=Z,220nm,19.5s								
KAPI	**Kappang**	**39.40**	**218**		LR		LR	16 27 18.9	
	comp=Z,56nm,19.6s,baz=54,slow=37								
TNCH	**TengChong**	**39.41**	**276**	⇑	P		**P**	**16 10 23.8**	**0.0**
TNCH						pP	pP	16 10 30.1	-0.7
TNCH						sP	sP	16 10 33.5	-0.2
TNCH						S	**S**	**16 16 23.6**	**-0.6**
TNCH						pmax	pmax		
	comp=Z,36nm,1.2s								
TNCH						pmax	pmax		
	comp=Z,170nm,4.1s								
TNCH						LR	LR		
	comp=Z,250nm,9.1s								
TNCH						LR	LR		
	comp=Z,530nm,14.9s								
TNCH						LR	LR		
	comp=Z,580nm,17.8s								
CHTO	**Chiang Mai**	**40.89**	**267**		P		**P**	**16 10 35.3**	**-0.7**
GOMU	**GeErMu**	**41.01**	**294**		P		**P**	**16 10 37.2**	**0.0**
GOMU						pP	pP	16 10 40.3	-4.0
GOMU						sP	pwP	16 10 44.2	-2.1
GOMU						S	**S**	**16 16 45.8**	**-2.6**
GOMU						pmax	pmax		
	comp=Z,8.0nm,0.5s								
GOMU						LR	LR		
	comp=Z,100nm,11.4s								
GOMU						LR	LR		
	comp=Z,130nm,11.8s								
GOMU						LR	LR		
	comp=Z,130nm,12.0s								
CMAR	**Chiang Mai Arr**	**41.02**	**266**		P		**P**	**16 10 36.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**41.02**	**266**		P		**P**	**16 10 35.7**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=70,slow=8.1,SNR=7.2								
CMAR						PcP	**PcP**	**16 12 37.7**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=88,slow=3.4,SNR=5.0								
CMAR						LR	LR	16 28 22.5	
	comp=Z,166nm,18.9s,baz=85,slow=37								
	comp=Z,0.7nm,0.3s								
EDFI	**Ende, Flores**	**41.62**	**212**		P		**P**	**16 10 41.6**	**-0.4**
	comp=Z,17nm,0.7s								
MTN	**Manton Dam**	**41.94**	**197**				**P**	**16 10 43.1**	**-1.3**
MTN						IAmb	IAmb	16 10 49.6	
	comp=Z,20nm,0.9s								
SPIA	**Saint Paul Isl**	**44.15**	**35**		P		**P**	**16 11 02.2**	**+0.3**
	baz=249								
TIXI	**Tiksi**	**44.51**	**354**		LR		LR	16 30 50.8	
	comp=Z,72nm,21.1s,baz=198,slow=38								
SHL	**Shillong**	**45.09**	**279**		P		**P**	**16 11 09.4**	**-0.7**
UNV	**Unalaska Valle**	**45.16**	**40**		P		**P**	**16 11 10.3**	**+0.2**
	baz=256								
WMQ	**Urumqi**	**46.44**	**305**		*e*P		**P**	**16 11 22.9**	**+2.5**
WMQ						LR	LR		
	comp=Z,220nm,18.3s								
FALS	**False Pass**	**47.16**	**40**		P		**P**	**16 11 26.1**	**+0.4**
	baz=258								
WB0	**Warramunga Arr**	**47.99**	**190**		P		**P**	**16 11 31.2**	**-1.3**
S12K	**Black Hills**	**48.09**	**39**		P		**P**	**16 11 33.3**	**+0.3**
	baz=258								
WR8	**Warramunga Arr**	**48.15**	**190**		P		**P**	**16 11 32.4**	**-1.4**
WRAB	**Tennant Creek**	**48.16**	**190**		P		**P**	**16 11 32.3**	**-1.5**
WRA	**Warramunga Arr**	**48.17**	**190**				**P**	**16 11 32.4**	**-1.6**
WRA	**Warramunga Arr**	**48.17**	**190**		P		**P**	**16 11 32.8**	**-1.1**
	comp=Z,12nm,0.5s,baz=9.6,slow=7.8,SNR=62								
WRA						LR	LR	16 30 50.7	
	comp=Z,140nm,21.4s,baz=353,slow=35								
	comp=Z,12nm,0.5s								
LEM	**Lembang**	**48.26**	**230**		P		**P**	**16 11 33.9**	**-1.1**
	comp=Z,42nm,0.6s,baz=0,slow=20,SNR=2.7								
	comp=Z,42nm,0.6s								
K13K	**Kusilvak Mount**	**48.49**	**30**		P		**P**	**16 11 36.6**	**+0.7**
	baz=250								
PSI	**Prapat**	**48.52**	**247**		LR		LR	16 31 20.6	
	comp=Z,100nm,18.1s,baz=58,slow=35								
FITZ	**Fitzroy Crossi**	**48.53**	**202**				**P**	**16 11 36.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**48.53**	**202**		P		**P**	**16 11 35.9**	**-0.8**
	comp=Z,11nm,0.8s,baz=26,slow=7.9,SNR=8.7								
FITZ						LR	LR	16 29 04.9	
	comp=Z,49nm,21.6s,baz=24,slow=32								
	comp=Z,11nm,0.8s								
RPSI	**Rantau Prapat**	**48.58**	**247**		P		**P**	**16 11 36.3**	**-0.9**
M13K	**Dall Lake**	**48.61**	**32**		P		**P**	**16 11 38.0**	**+1.2**
	baz=253								
EVN	**Everest**	**48.91**	**284**		P		**P**	**16 11 40.8**	**+0.3**
SDPT	**Sand Point**	**48.91**	**39**		P		**P**	**16 11 40.3**	**+1.1**
	baz=260								
CNJI	**Cibinong**	**48.94**	**230**		P		P	16 11 50.5	+11
MDSI	**Maura Dua**	**49.02**	**235**		P		**P**	**16 11 40.4**	**-0.3**
	comp=Z,37nm,1.1s								
F14K	**Arctic Creek**	**49.13**	**25**		P		**P**	**16 11 41.3**	**+0.5**
	baz=246								
ANM	**Nome**	**49.14**	**27**		P		**P**	**16 11 40.8**	**-0.1**
	baz=247								
MNSI	**Mandailing Nat**	**49.16**	**244**		P		**P**	**16 11 41.5**	**-0.2**
ZAA0	**Zalesovo Array**	**49.16**	**319**		P		**P**	**16 11 41.1**	**-0.1**
ZAA0						IAmb	IAmb	16 11 42.4	
	comp=Z,14nm,1.1s								
ZALV	**Zalesovo Beam**	**49.16**	**319**				**P**	**16 11 40.9**	**-0.4**
ZALV	**Zalesovo Beam**	**49.16**	**319**		P		**P**	**16 11 41.1**	**-0.1**
	comp=Z,7.0nm,0.8s,baz=100,slow=7.5,SNR=21								
ZALV						PcP	**PcP**	**16 13 03.5**	**-0.8**
	comp=Z,3.2nm,0.7s,baz=81,slow=4.7,SNR=4.5								
ZALV						LR	LR	16 33 09.8	
	comp=Z,246nm,18.9s,baz=96,slow=37								
	comp=Z,7.0nm,0.8s								
L14K	**Kuka Creek**	**49.19**	**31**		P		**P**	**16 11 42.2**	**+0.8**
	baz=253								
J14K	**Nanvaranak Lak**	**49.25**	**29**		P		**P**	**16 11 43.3**	**+1.6**
	baz=251								
N14K	**Kuskokwak Cree**	**49.27**	**33**		P		**P**	**16 11 41.7**	**-0.2**
	baz=255								
O14K	**Tigyukauivet M**	**49.31**	**34**		P		**P**	**16 11 43.5**	**+1.2**
	baz=256								
CHNA	**Chernabura Isl**	**49.33**	**40**		P		**P**	**16 11 43.1**	**+0.6**
	baz=261								
M14K	**Bethel**	**49.36**	**32**		P		**P**	**16 11 43.1**	**+0.5**
	baz=254								
S14K	**Fog Glacier**	**49.59**	**38**		P		**P**	**16 11 44.3**	**-0.2**
	baz=260								
G15K	**Niukluk**	**49.83**	**27**		P		**P**	**16 11 46.4**	**+0.2**
	baz=248								
L15K	**Ungalak Mounta**	**49.84**	**31**		P		**P**	**16 11 46.5**	**+0.2**
	baz=254								
F15K	**North Star Dit**	**49.86**	**26**		P		**P**	**16 11 47.2**	**+0.8**
	baz=247								
M15K	**Kasigluk River**	**49.95**	**33**		P		**P**	**16 11 48.1**	**+1.0**
	baz=255								
K15K	**Wolf Creek Mou**	**50.00**	**30**		P		**P**	**16 11 48.8**	**+1.3**
	baz=253								
O15K	**Ungalikthiuk R**	**50.01**	**35**		P		**P**	**16 11 48.2**	**+0.6**
	baz=257

baz=254
L18K **Granite Mounta** 52.17 31 P P 16 12 05.0 +1.2
baz=258
C18K **Utukok River** 52.22 23 P P 16 12 05.6 +1.4
baz=249
N18K **Kilae Creek** 52.25 33 P P 16 12 05.5 +1.0
baz=260
G18K **Tagagawik** 52.25 26 IAmb IAmb 16 12 08.4
comp=Z,19nm,1.1s
G18K **Tagagawik** 52.25 26 P P 16 12 06.0 +1.6
baz=253,SNR=7.1
B18K **Kokolik River** 52.29 22 P P 16 12 05.4 +0.8
baz=248
P18K **Big Mountain,** 52.37 35 IAmb IAmb 16 12 13.6
comp=Z,12nm,0.9s
P18K **Big Mountain,** 52.37 35 P P 16 12 06.3 +1.0
baz=262
Q18K **Katmai Hardscr** 52.38 36 P P 16 12 05.9 +0.4
baz=262
M18K **Stony River** 52.43 32 P P 16 12 06.8 +1.0
baz=259
J18K **Innoko River** 52.43 30 P P 16 12 06.6 +0.8
baz=257
R18K **Karluk** 52.54 37 P P 16 12 07.1 +0.6
baz=264
SII **Sitkinak Islan** 52.58 38 P P 16 12 07.5 +0.5
baz=265
GCSA **Galena City Sc** 52.66 28 P P 16 12 07.5 +0.1
baz=256
KURBB **Kurchatov Arra** 52.78 314 P P 16 12 08.5 0.0
comp=Z,13nm,0.7s,baz=91,slow=7.4,SNR=121
KURBB LR LR 16 35 32.3
comp=Z,172nm,18.0s,baz=168,slow=37
comp=Z,13nm,0.7s
A19K **Wainwright** 52.85 21 P P 16 12 09.8 +1.2
baz=248
F19K **Shaleruckik Mo** 52.86 25 P P 16 12 10.2 +1.3
baz=254
C19K **Lookout Ridge** 52.93 22 P P 16 12 10.3 +0.9
baz=250
G19K **Purcell Mounta** 52.94 26 P P 16 12 10.7 +1.3
baz=255
O19K **Port Alsworth** 52.94 34 P P 16 12 11.2 +1.7
baz=262
N19K **Bonanza Creek** 52.95 33 P P 16 12 11.2 +1.5
baz=261
L19K **White Mountain** 53.01 31 P P 16 12 11.5 +1.4
baz=260
J19K **Poorman** 53.02 29 IAmb IAmb 16 12 14.0
comp=Z,17nm,1.1s
J19K **Poorman** 53.02 29 P P 16 12 11.9 +1.8
baz=258,SNR=5.4
H19K **Roundabout Mou** 53.03 27 P P 16 12 11.1 +1.0
baz=256
OHAK **Old Harbor** 53.13 38 P 16 12 11.9 +1.0
OHAK IAmb IAmb 16 12 14.6
comp=Z,16nm,1.0s
OHAK **Old Harbor** 53.13 38 P P 16 12 12.4 +1.5
baz=265
M19K **Big River Lodg** 53.17 32 P P 16 12 11.1 -0.1
baz=260
D19K **Kuna River** 53.23 23 P P 16 12 12.4 +0.7
baz=252
E19K **Redstone River** 53.24 25 P P 16 12 12.8 +1.1
baz=254
P19K **Oil Pt** 53.41 35 P P 16 12 13.9 +0.8
baz=263
L20K **Farewell, AK** 53.51 31 P P 16 12 13.9 +0.2
baz=260
KDAK **Kodiak Island** 53.56 37 P P 16 12 14.1 0.0
KDAK **Kodiak Island** 53.56 37 LR LR 16 32 52.6
comp=Z,57nm,21.4s,baz=240,slow=34
KDAK **Kodiak Island** 53.56 37 P P 16 12 14.4 +0.3
baz=265
K20K **Telida** 53.58 30 P P 16 12 14.4 +0.2
K20K **Telida** 53.58 30 P P 16 12 15.1 +0.9
baz=260
H20K **Anotleneega Mo** 53.66 27 P P 16 12 15.2 +0.5
baz=257,SNR=5.5
J20K **Nowinta River** 53.69 29 IAmb IAmb 16 12 19.5
comp=Z,22nm,1.1s
J20K **Nowinta River** 53.69 29 P P 16 12 16.3 +1.3
baz=259,SNR=12
F20K **Avaraart Lake** 53.70 25 P P 16 12 15.2 +0.2
baz=255
Q20K **Shuyak Island** 53.73 36 P P 16 12 16.0 +0.7
baz=265
M20K **Styx River** 53.76 32 P P 16 12 16.0 +0.3
baz=262
O20K **Slope Mountain** 53.77 34 P P 16 12 15.4 -0.3
baz=263
TARG **Taragay, Kyrgy** 53.81 303 IAmb IAmb 16 12 18.4
comp=Z,12nm,1.1s
D20K **Etivluk River** 53.83 23 IAmb IAmb 16 12 20.8
comp=Z,21nm,1.1s
D20K **Etivluk River** 53.83 23 P P 16 12 15.9 -0.1
baz=253
E20K **Nigu River** 53.85 24 P P 16 12 15.8 -0.4
baz=254
B20K **Meade River** 54.03 22 P P 16 12 17.9 +0.6
baz=252
PPLA **Purkeypile** 54.34 31 P P 16 12 20.2 +0.3
baz=262
G21K **Allakaket** 54.43 26 P P 16 12 20.7 +0.3
G21K **Allakaket** 54.43 26 P P 16 12 20.5 +0.1
baz=258
SKT **Skwentna** 54.52 32 IAmb IAmb 16 12 24.8
comp=Z,11nm,1.1s
SKT **Skwentna** 54.52 32 P P 16 12 20.9 -0.3
baz=263,SNR=5.0
H21K **Melozitna River** 54.54 27 IAmb IAmb 16 12 25.8
comp=Z,16nm,1.1s
H21K **Melozitna River** 54.54 27 P P 16 12 22.2 +1.0
baz=259,SNR=7.3
C21K **Knifeblade Rid** 54.59 23 P P 16 12 22.4 +0.9
baz=255
BRSE **Bradley Lake S** 54.68 35 P P 16 12 22.4 +0.1
baz=265
E21K **Killik River** 54.69 24 P P 16 12 22.7 +0.4
baz=256
DZM **Mont Dzumac** 54.71 153 eS S 16 20 06.2 +4.2
comp=Z,80nm,27.9s
DZM eLR LR 16 28 16.7
comp=Z,298nm,25.2s
DZM **Mont Dzumac** 54.71 153 LR LR 16 36 07.5
comp=Z,106nm,18.9s,baz=5.0,slow=36
B21K **Ikpikpuk River** 54.77 22 P P 16 12 23.5 +0.8
baz=255
I21K **Tanana** 54.79 28 IAmb IAmb 16 12 28.2
comp=Z,12nm,1.0s
I21K **Tanana** 54.79 28 P P 16 12 23.8 +0.8
baz=260,SNR=6.5
KTH **Kantishna Hill** 55.00 30 P P 16 12 26.0 +1.4
KTH IAmb IAmb 16 12 34.1
comp=Z,16nm,1.2s
BPAW **Bear Paw Mtn.** 55.05 29 IAmb IAmb 16 12 29.6
comp=Z,11nm,1.1s
BPAW **Bear Paw Mtn.** 55.05 29 P P 16 12 26.0 +1.1
baz=262,SNR=6.3
F22K **John River** 55.14 25 P P 16 12 26.9 +1.3
baz=259
H22K **Ishtalitna Cre** 55.16 27 P P 16 12 26.2 +0.5
baz=260,SNR=5.5
NRN **Naryn** 55.19 303 P P 16 12 25.9 -0.8
D22K **Ayikyak River** 55.25 24 P P 16 12 26.8 +0.5
baz=257
TRF **Thorofare Moun** 55.27 30 IAmb IAmb 16 12 30.6
comp=Z,16nm,1.0s
TRF **Thorofare Moun** 55.27 30 P P 16 12 26.5 -0.2
baz=263,SNR=9.6
RC01 **Rabbit Creek A** 55.29 33 P P 16 12 26.2 -0.4
baz=265
MLY **Manley** 55.29 28 IAmb IAmb 16 12 31.5
comp=Z,12nm,1.0s
MLY **Manley** 55.29 28 P P 16 12 26.9 +0.2
baz=262,SNR=9.8
G22K **Bettles** 55.29 26 P P 16 12 26.1 -0.4
baz=260
SEW **Seward** 55.35 34 P P 16 12 27.8 +0.7
SEW IAmb IAmb 16 12 30.3
comp=Z,20nm,1.1s
SEW **Seward** 55.35 34 P P 16 12 27.0 -0.1
baz=266
KSH **Kashi** 55.51 301 P P 16 12 32.1 +3.3
KSH pP pP 16 12 37.2 +1.1
KSH pmax pmax
comp=Z,6.0nm,1.0s
PMR **Palmer** 55.62 33 P P 16 12 29.6 +0.7
baz=266
PMR **Palmer** 55.62 33 P P 16 12 29.3 +0.3
baz=266
G23K **Bananza Creek** 55.83 26 IAmb IAmb 16 12 35.8
comp=Z,20nm,1.0s
G23K **Bananza Creek** 55.83 26 P P 16 12 31.2 +0.6
baz=261,SNR=13
COLD **Coldfoot** 55.85 26 P P 16 12 31.2 +0.7
baz=261
I23K **Minto, Yukon-K** 55.88 28 P P 16 12 32.0 +1.1
baz=263,SNR=7.9
H23K **Yukon River** 55.90 27 P P 16 12 32.0 +1.0
H23K IAmb IAmb 16 12 36.2
comp=Z,14nm,1.2s
H23K **Yukon River** 55.90 27 P P 16 12 31.5 +0.5
baz=262,SNR=5.8
MCK **McKinley** 55.90 30 IAmb IAmb 16 12 34.8
comp=Z,17nm,1.0s
MCK **McKinley** 55.90 30 P P 16 12 31.2 +0.1
baz=264,SNR=5.2
RND **Reindeer** 55.91 30 IAmb IAmb 16 12 35.0
comp=Z,16nm,1.0s
KNK **Knik Glacier** 55.93 33 P P 16 12 31.6 +0.3
baz=266
NEA2 **Nenana** 55.94 29 P P 16 12 31.8 +0.5
baz=264,SNR=18
PWL **Port Wells** 55.95 33 P P 16 12 31.5 0.0
baz=267
D23K **Nanushuk River** 55.98 24 P P 16 12 31.4 -0.1
baz=259
WAT1 **Susitna Watana** 55.99 31 P P 16 12 31.3 -0.5
baz=265
AAK **Ala-Archa** 56.13 304 LR LR 16 37 47.0
comp=Z,85nm,18.4s,baz=80,slow=37
C23K **Itkillik River** 56.17 23 P P 16 12 32.4 -0.4
baz=258,SNR=6.7
E23K **Chandalar** 56.20 25 P P 16 12 34.6 +1.4
E23K IAmb IAmb 16 13 22.8
comp=Z,11nm,0.6s
E23K **Chandalar** 56.20 25 P P 16 12 33.7 +0.4
baz=261,SNR=8.1
M23K **Glacier View** 56.30 32 P P 16 12 34.4 +0.5
baz=267
TOLK **Toolik Lake Re** 56.32 24 P P 16 12 34.1 +0.2
baz=260
WAT6 **Susitna Watana** 56.35 31 P P 16 12 34.3 -0.2
baz=266,SNR=11
CCB **Clear Creek Bu** 56.49 29 P P 16 12 35.9 +0.7
SCM **Sheep Creek Mo** 56.49 32 P P 16 12 35.4 0.0
baz=267,SNR=11
DHY **Denali Highway** 56.55 31 P P 16 12 35.5 -0.4
baz=266
GLI **Glacier Island** 56.56 34 P P 16 12 35.7 -0.1
baz=268
H24K **Noodor Dome** 56.58 28 P P 16 12 36.3 +0.5
baz=264,SNR=6.1
D24K **Happy Valley** 56.67 24 P P 16 12 36.8 +0.3
baz=261,SNR=6.1
POKR **Poker Plat Res** 56.69 28 P P 16 12 36.8 +0.2
baz=265
F24K **Squaw Lake** 56.77 26 P P 16 12 37.8 +0.6
baz=263
C24K **Franklin Bluff** 56.80 23 P P 16 12 38.9 +1.6
C24K IAmb IAmb 16 12 42.4
comp=Z,20nm,1.0s
C24K **Franklin Bluff** 56.80 23 P P 16 12 37.9 +0.6
baz=260
G24K **Hadweenzic Riv** 56.84 27 P P 16 12 38.6 +1.0
baz=264,SNR=6.8
HDA **Harding Lake** 56.84 29 P P 16 12 36.9 -0.8
HDA IAmb IAmb 16 12 40.3
comp=Z,11nm,1.1s
IL31 56.89 29 P P 16 12 38.6 +0.6
IL31 IAmb IAmb 16 12 41.4
comp=Z,16nm,1.1s
ILAR **Eielson Array** 56.89 29 P 16 12 37.1 -0.9
ILAR **Eielson Array** 56.89 29 P P 16 12 36.9 -1.2
comp=Z,8.7nm,1.0s,baz=261,slow=6.7,SNR=30
comp=Z,8.7nm,1.0s
M24K **Tolsona, Glenn** 57.05 32 P P 16 12 39.7 +0.4
baz=268
KLU **Klutina** 57.15 33 IAmb IAmb 16 12 44.2
comp=Z,10nm,0.8s
KLU **Klutina** 57.15 33 P P 16 12 40.6 +0.6
baz=268,SNR=7.7
DIV **Divide** 57.21 33 P P 16 12 41.5 +1.0
DIV IAmb IAmb 16 12 44.8
comp=Z,27nm,1.3s
EYAK **Cordova Ski Ar** 57.21 34 P P 16 12 41.1 +0.7
baz=269
K24K **Donnelly Dome** 57.31 30 P P 16 12 42.0 +0.9
baz=267
G25K **Bearman Lake** 57.38 26 P P 16 12 43.2 +1.7
baz=265
PAX **Paxson** 57.41 31 IAmb IAmb 16 12 45.5
comp=Z,12nm,1.2s
PAX **Paxson** 57.41 31 P P 16 12 42.7 +0.8
baz=268,SNR=8.1
ARSB **Arslanbob** 57.45 303 IAmb IAmb 16 12 48.0
comp=Z,14nm,1.2s
H25L **Birch Creek** 57.45 27 P P 16 12 43.6 +1.6
baz=266,SNR=5.5
PRP **Porcupine Dome** 57.52 28 P P 16 12 43.3 +0.7
baz=266
HARP **HAARP** 57.53 32 P P 16 12 43.5 +0.8
baz=268
D25K **Kavik River** 57.56 23 P P 16 12 43.6 +0.8
baz=263
F25K **Christian Rive** 57.64 26 IAmb IAmb 16 13 09.2
comp=Z,12nm,0.9s
F25K **Christian Rive** 57.64 26 P P 16 12 44.3 +0.9
baz=265,SNR=8.9
RIDG **Independent Ri** 57.72 30 P P 16 12 45.0 +1.0
baz=268
BVAR **Borovoye Array** 57.74 317 P P 16 12 44.5 +0.2
comp=Z,8.4nm,0.5s,baz=91,slow=7.2,SNR=51
BVAR LR LR 16 38 37.4
comp=Z,222nm,18.4s,baz=77,slow=37
comp=Z,8.4nm,0.5s
BMRM **Bremner River** 57.78 33 P P 16 12 45.7 +1.3
BMRM **Bremner River** 57.78 33 P P 16 12 44.5 0.0
baz=270,SNR=6.8
N25K **Chitina, Valde** 57.78 33 P P 16 12 44.5 0.0
baz=270
KAIM **Kayak Island** 57.88 35 P P 16 12 45.6 +0.6
baz=271
BMAR **Burnt Mountain** 58.03 26 P 16 12 48.4 +2.2
DOT **Dot Lake** 58.07 30 IAmb IAmb 16 12 50.8
comp=Z,14nm,1.0s
SCRK **Sand Creek** 58.11 30 IAmb IAmb 16 12 51.1
comp=Z,13nm,0.9s
SCRK **Sand Creek** 58.11 30 P P 16 12 47.2 +0.4
baz=269,SNR=15
C26K **Camden Bay** 58.13 23 P P 16 12 46.9 +0.2
baz=264
GLB **Gilahina Butte** 58.16 33 P P 16 12 49.3 +2.2
GLB IAmb IAmb 16 12 51.5
comp=Z,15nm,1.1s
MENT **Mentasta** 58.21 31 IAmb IAmb 16 13 08.9
comp=Z,12nm,1.0s
F26K **Sheenjek River** 58.22 25 P P 16 12 48.3 +0.9
baz=266
BERG **Berg Lake** 58.23 34 P P 16 12 49.7 +2.2
J26L **Joseph Creek** 58.30 29 IAmb IAmb 16 12 51.8
comp=Z,16nm,1.1s
J26L **Joseph Creek** 58.30 29 P P 16 12 47.9 -0.2
baz=269,SNR=13
G26K **Porcupine Rive** 58.31 26 IAmb IAmb 16 13 26.5
comp=Z,25nm,1.5s
G26K **Porcupine Rive** 58.31 26 P P 16 12 48.0 0.0
baz=267,SNR=7.0
VRDI **Verde Repeater** 58.34 33 IAmb IAmb 16 12 52.8
comp=Z,16nm,1.2s
L26K **Log Cabin Wild** 58.38 31 P P 16 12 49.8 +1.2
L26K IAmb IAmb 16 13 00.7
comp=Z,14nm,1.4s
L26K **Log Cabin Wild** 58.38 31 P P 16 12 49.0 +0.4
baz=270
I26K **Coal Creek Min** 58.50 28 P P 16 12 50.1 +0.7
baz=268
CRQE **Cirque** 58.52 34 P P 16 12 50.6 +0.9
baz=271,SNR=6.6
C27K **Jago River** 58.52 23 P P 16 12 49.8 +0.4
baz=265,SNR=6.3
M26K **Nabesna, AK** 58.54 32 P P 16 12 51.9 +2.1
M26K **Nabesna, AK** 58.54 32 P P 16 12 50.9 +1.2
baz=270,SNR=5.7
MCARA **McCarthy VSAT** 58.54 33 P P 16 12 50.8 +1.0
baz=271,SNR=5.9
NIL **Nilore** 58.88 294 P P 16 12 52.3 -0.3
ISLE **Juniper Island** 58.90 34 P P 16 12 54.6 +2.2
ISLE IAmb IAmb 16 12 59.2
comp=Z,21nm,1.2s
KK31 **Karatay Array** 58.94 306 P P 16 12 52.0 -0.9
KKAR **Karatay Array** 58.94 306 P 16 12 52.8 -0.1
K27K **Chicken** 58.95 30 P P 16 12 53.2 +0.7
baz=270
M27K **Edge Creek, AK** 59.06 32 P P 16 12 54.8 +1.3
M27K **Edge Creek, AK** 59.06 32 P P 16 12 53.8 +0.3
baz=272,SNR=6.3
L27K **Beaver Creek,** 59.07 31 IAmb IAmb 16 12 58.0
comp=Z,8.6nm,1.1s
L27K **Beaver Creek,** 59.07 31 P P 16 12 54.2 +0.8
baz=271,SNR=8.5
BCAR **Beaver Creek A** 59.09 31 P 16 12 53.0 -0.6
MESA **MESA** 59.10 34 P P 16 12 53.8 -0.1
baz=273
G27K **Doyon Strip** 59.15 27 P P 16 12 55.5 +1.6
baz=269
I27K **Kandik River** 59.15 28 P P 16 12 54.9 +1.0
baz=270
GRNC **Granite Creek** 59.18 34 IAmb IAmb 16 12 59.0
comp=Z,15nm,1.2s
H27K **Steamboat Moun** 59.19 27 P P 16 12 55.2 +1.0
baz=270,SNR=19
E27K **Coleen River** 59.20 25 P P 16 12 55.5 +1.2
baz=268
CTG **Chitna Glacier** 59.37 33 P P 16 12 57.2 +1.6
baz=273
STKA **Stephens Creek** 59.39 181 P P 16 12 54.1 -1.7
comp=Z,6.0nm,1.0s,baz=0.0,slow=9.1,SNR=4.6
comp=Z,6.0nm,1.0s
D27M **Malcolm River** 59.47 24 P P 16 12 57.1 +1.0
baz=268,SNR=5.9
BVCY **Beaver Creek** 59.53 32 P P 16 12 57.6 +1.0
baz=272,SNR=5.7
YUK3 **Moose Creek** 59.75 32 P P 16 12 59.3 +0.9
baz=273
F28M **Old Crow** 59.85 26 P P 16 13 00.1 +1.4
baz=270
I28M **Miner Creek** 59.85 28 P P 16 13 00.3 +1.5
baz=271,SNR=8.7
GAR **Garm** 59.91 301 P P 16 12 59.5 -0.2
O28M **Mount Upton** 59.94 34 P P 16 13 00.2 +0.5
baz=274
PINM **Pinnacle** 59.96 34 P P 16 13 00.5 +0.9
baz=274
E28M **Babbage River** 59.98 24 P P 16 13 00.8 +1.3
E28M IAmb IAmb 16 13 05.4
comp=Z,11nm,1.1s
E28M **Babbage River** 59.98 24 P P 16 13 00.0 +0.5
baz=270,SNR=7.8
DAWY **Dawson** 60.13 30 P P 16 13 01.5 +0.8
baz=273
PNL **Peninsula** 60.42 35 P P 16 13 03.3 +0.6
baz=275
H29M **Whitestone** 60.47 27 P P 16 13 04.6 +1.6
baz=272
I29M **Ogilvie Camp,** 60.53 28 IAmb IAmb 16 13 07.5
comp=Z,12nm,1.2s
I29M **Ogilvie Camp,** 60.53 28 P P 16 13 05.0 +1.6
baz=273,SNR=5.8
E29M **Blow River** 60.58 25 P P 16 13 05.0 +1.3
E29M IAmb IAmb 16 13 08.7
comp=Z,9.0nm,1.1s
E29M **Blow River** 60.58 25 P P 16 13 04.9 +1.3
baz=272,SNR=5.5
G29M **Pine Creek** 60.58 26 P P 16 13 04.8 +1.0
baz=272
M29M **Somme Creek** 60.65 32 IAmb IAmb 16 13 09.9
comp=Z,10nm,0.9s
M29M **Somme Creek** 60.65 32 P P 16 13 06.0 +1.6
baz=274,SNR=12
YUK4 **Talbot Arm** 60.65 33 P P 16 13 05.9 +1.4
baz=275,SNR=12
L29M **L29M** 60.75 31 P P 16 13 06.1 +1.1
baz=274,SNR=16
O29M **Mount Kennedy** 60.78 34 P P 16 13 06.0 +0.7
O29M IAmb IAmb 16 13 10.5
comp=Z,17nm,1.1s
O29M **Mount Kennedy** 60.78 34 P P 16 13 05.9 +0.7
baz=276,SNR=8.4
YUK6 **Outpost Mounta** 60.82 33 P P 16 13 05.1 -0.6
baz=275
CHGR **Chuyangaron** 60.87 301 P 16 13 05.5 -0.7
K29M **Barlow Dome** 60.97 30 P 16 13 07.0 +0.4
K29M IAmb IAmb 16 13 11.5
comp=Z,9.9nm,1.0s
K29M **Barlow Dome** 60.97 30 P P 16 13 06.1 -0.4
baz=274,SNR=8.7
SIMJ **Simiganj** 60.99 301 P P 16 13 06.5 -0.6
SIMJ IAmb IAmb 16 13 30.6
comp=Z,9.3nm,0.8s
EPYK **Eagle Plains** 61.13 27 P P 16 13 07.3 -0.1
baz=274,SNR=5.6
HYT **Haines Junctio** 61.25 33 P P 16 13 09.1 +0.6
HYT IAmb IAmb 16 13 13.6
comp=Z,9.5nm,1.1s
HYT **Haines Junctio** 61.25 33 P P 16 13 08.0 -0.5
baz=276,SNR=6.1
P29M **Windy Craggy** 61.27 35 P P 16 13 08.3 -0.2
baz=277,SNR=5.8
G30M **tAoh Zraii Nji** 61.29 26 P P 16 13 09.0 +0.4
baz=274,SNR=5.6
I30M **Mount Dempster** 61.35 28 P P 16 13 09.6 +0.5
baz=275
N30M **Aishikik Lake** 61.38 33 P P 16 13 10.2 +0.9
baz=276
M30M **Minto, Yukon** 61.41 31 P P 16 13 10.9 +1.4
M30M IAmb IAmb 16 13 14.4
comp=Z,8.6nm,1.0s
M30M **Minto, Yukon** 61.41 31 P P 16 13 10.2 +0.8
baz=276,SNR=11
F30M **Barrier River** 61.41 26 P 16 13 10.4 +1.1
F30M **Barrier River** 61.41 26 P P 16 13 10.8 +1.4
baz=274
J30M **Hart River** 61.43 29 P P 16 13 10.9 +1.2
baz=275,SNR=6.7
P30M **Million Dollar** 61.60 34 P P 16 13 12.2 +1.5
baz=277
PALK **Pallekele** 61.81 263 LR LR 16 40 46.0
comp=Z,60nm,18.0s,baz=75,slow=37
O30N **Mendenhall** 61.95 33 P P 16 13 14.2 +1.1
baz=277
PLBC **Pleasant Camp** 61.98 35 P P 16 13 14.4 +1.2
baz=278
N31M **Braeburn, Yuko** 62.01 33 P P 16 13 15.3 +1.9
baz=277,SNR=7.6
KBL **Kabul** 62.01 296 P P 16 13 13.4 -0.8
KBL IAmb IAmb 16 13 15.0
comp=Z,11nm,1.1s
G31M **Satah River** 62.06 26 P P 16 13 14.7 +1.1
G31M **Satah River** 62.06 26 P P 16 13 14.1 +0.5
baz=276
H31M **Peel River** 62.14 28 P P 16 13 15.3 +1.0
H31M IAmb IAmb 16 13 19.1
comp=Z,13nm,1.1s
H31M **Peel River** 62.14 28 P P 16 13 15.1 +0.8
baz=276,SNR=6.5
INK **Inuvik** 62.20 25 IAmb IAmb 16 13 19.1
comp=Z,9.6nm,1.1s
INK **Inuvik** 62.20 25 P P 16 13 15.7 +1.1
baz=276,SNR=5.0
F31M **Tsiigehtchic** 62.21 26 P P 16 13 15.2 +0.5
baz=276
SKAG **Skagway** 62.50 35 P P 16 13 17.6 +0.8
baz=279
WHY **Whitehorse** 62.55 33 P P 16 13 16.9 -0.3
baz=278,SNR=6.0
M31M **Drury Creek, Y** 62.56 32 IAmb IAmb 16 13 21.8
comp=Z,8.9nm,0.9s
M31M **Drury Creek, Y** 62.56 32 P P 16 13 17.8 +0.6
baz=278,SNR=7.5
R32K **Eaglecrest** 63.11 36 P P 16 13 22.7 +1.9
baz=280
P32M **Atlin** 63.30 34 P P 16 13 23.2 +1.1
baz=280
N32M **Quiet Lake** 63.34 33 P P 16 13 23.9 +1.5
baz=280
P33M **Teslin, Yukon** 63.63 34 P P 16 13 25.0 +0.7
baz=280,SNR=5.3
MMPY **Sheldon Lake,** 63.93 31 P P 16 13 27.0 +0.7
baz=280
ARTI **Arti** 64.16 322 P 16 13 27.4 -0.4
ARTI **Arti** 64.16 322 LR LR 16 44 18.1
comp=Z,88nm,18.2s,baz=84,slow=39

AB31 Akbulak array 64.83 314 P P 16 13 32.5 +0.2
ABKAR Akbulak array 64.83 314 P 16 13 32.2 -0.2
S34M Telegraph Cree 64.94 36 P P 16 13 34.2 +1.3
baz=283
V35K Ketchikan 65.27 39 P P 16 13 37.3 +2.3
baz=284
DLBC Dease Lake 65.40 35 LR LR 16 39 45.3
comp=Z,760nm,21.4s,baz=236,slow=34
DLBC Dease Lake 65.40 35 P P 16 13 37.9 +2.0
baz=283
C36M Paulatuk 65.42 23 P P 16 13 37.4 +1.6
baz=284
TGTN Hyland Airport 65.54 32 P P 16 13 37.6 +0.9
baz=284,SNR=5.4
T35M Bob Quinn 65.62 37 P P 16 13 40.1 +2.8
baz=284,SNR=5.3
AKTO Aktyubinsk 65.75 316 LR LR 16 43 45.3
comp=Z,195nm,19.2s,baz=112,slow=37
WRGLY Wrigley 67.26 29 P P 16 13 48.7 +1.1
WRGLY Wrigley 67.26 29 P P 16 13 49.9 +2.3
baz=287
KIRV Kirov 68.28 326 LR LR 16 46 52.2
comp=Z,110nm,18.3s,baz=67,slow=39
SPITS Spitsbergen Ar 69.72 350 LR LR 16 48 49.8
comp=Z,26nm,18.4s,baz=34,slow=40
YKA Yellowknife Ar 71.32 29 P P 16 14 11.9 -0.9
comp=Z,7.9nm,1.0s,baz=295,slow=5.4,SNR=7.9
comp=Z,7.9nm,1.0s
GNW Green Mountain 72.91 45 P P 16 14 23.1 +0.5
ARCES ARCESS Array B 72.96 341 P P 16 14 23.8 +1.3
comp=Z,6.8nm,1.0s,baz=52,slow=6.0,SNR=8.5
ARCES LR LR 16 50 50.8
comp=Z,130nm,19.0s,baz=60,slow=39
comp=Z,6.8nm,1.0s
URZ Urewera 73.27 152 LR LR 16 45 19.4
comp=Z,46nm,19.0s,baz=329,slow=35
RAR Rarotonga 74.03 125 LR LR 16 40 39.4
comp=Z,290nm,19.8s,baz=283,slow=31
BUCK Buck Mountain 74.12 48 P P 16 14 30.6 +0.7
LTY Liberty 74.38 45 P P 16 14 31.8 +0.5
H04A Detroit Lake 74.45 48 P 16 14 32.7 +0.9
H04A IAmb IAmb 16 14 36.0
comp=Z,13nm,1.1s
B08A Colville Reser 74.75 43 P 16 14 33.0 -0.4
MXC Moxie City 74.89 45 P P 16 14 35.2 +0.9
MXC IAmb IAmb 16 14 38.7
comp=Z,12nm,1.1s
J04A Umpqua Nationa 75.09 49 P P 16 14 35.7 -0.1
G06A Carlson Farm, 75.23 47 IAmb IAmb 16 14 40.8
comp=Z,12nm,1.2s
YBH Yreka Blue Hor 75.30 50 LR LR 16 39 11.8
comp=Z,78nm,21.0s,baz=284,slow=29
D08A Wollman Farm, 75.55 44 P P 16 14 38.7 +0.7
D08A IAmb IAmb 16 14 42.6
comp=Z,14nm,1.1s
J05D Fort Rock, OR 75.65 49 IAmb IAmb 16 14 43.6
comp=Z,11nm,1.0s
NEW Newport 76.12 43 IAmb IAmb 16 14 46.0
comp=Z,10nm,0.9s
NEW Newport 76.12 43 LR LR 16 44 37.7
comp=Z,36nm,21.1s,baz=302,slow=33
OBN Obninsk 76.12 325 LR LR 16 49 11.3
comp=Z,66nm,20.2s,baz=354,slow=36
E09A Wood Farm, Sta 76.26 45 IAmb IAmb 16 14 46.5
comp=Z,8.8nm,0.9s
ORV Oroville 77.05 52 P P 16 14 47.4 +0.7
ORV IAmb IAmb 16 14 50.9
comp=Z,12nm,1.1s
F10A Beach Ranch, E 77.07 45 P P 16 14 47.9 +1.0
FINES FINESS Array B 77.44 334 P P 16 14 48.3 -0.1
comp=Z,4.4nm,0.4s,baz=60,slow=5.2,SNR=48
FINES LR LR 16 52 20.9
comp=Z,76nm,18.4s,baz=46,slow=38
comp=Z,4.4nm,0.4s
J08A Circle Bar Ran 77.44 48 IAmb IAmb 16 14 53.4
comp=Z,11nm,1.0s
BLKN Baker Lake 77.47 22 IAmb IAmb 16 14 52.5
comp=Z,16nm,1.0s
BMO Blue Mountains 77.53 46 IAmb IAmb 16 14 53.8
comp=Z,14nm,1.1s
BEKR Beckworth 77.71 51 IAmb IAmb 16 14 54.4
comp=Z,17nm,1.1s
KBZ Khabaz 77.76 313 P P 16 14 50.6 +0.1
comp=Z,4.2nm,0.7s,baz=84,slow=8.1,SNR=9.5
KBZ LR LR 16 52 19.5
comp=Z,85nm,18.6s,baz=64,slow=38
comp=Z,4.2nm,0.7s
JTMT Jette 78.05 42 P P 16 14 52.3 0.0
GNI Garni 78.13 309 LR LR 16 52 28.3
comp=Z,48nm,19.7s,baz=66,slow=38
MFID Camas Ranch 79.13 47 IAmb IAmb 16 15 02.8
comp=Z,22nm,1.1s
OVMT Ovando 79.14 42 P P 16 14 57.4 -1.0
PPT2 Papeete2 79.68 116 *e*LR LR 16 39 52.1
comp=Z,117nm,21.8s
PPT2 *e*LR LR 16 39 58.2
comp=Z,168nm,27.0s
LHV Little Huntoon 79.72 52 IAmb IAmb 16 15 06.3
comp=Z,11nm,1.0s
NVAR Mina Array Bea 79.78 52 P P 16 15 00.9 -1.2
comp=Z,6.7nm,1.0s,baz=301,slow=4.5,SNR=11
NVAR LR LR 16 46 39.4
comp=Z,57nm,18.7s,baz=273,slow=33
comp=Z,6.7nm,1.0s
DLMT Dillon 80.22 44 IAmb IAmb 16 15 09.2
comp=Z,12nm,1.0s
MCMT McKenzie Canyo 80.33 44 P P 16 15 04.9 -0.1
FFC Flin Flon 80.92 32 P P 16 15 08.6 +1.0
FFC IAmb IAmb 16 15 11.4
comp=Z,18nm,1.1s
QLMT Earthquake Lak 81.20 44 P P 16 15 09.7 0.0
YHL Hebgen Lake 81.35 44 IAmb IAmb 16 15 15.8
comp=Z,15nm,0.9s
LRMC Laurel Mtn Rad 81.59 54 IAmb IAmb 16 15 15.7
comp=Z,9.4nm,1.1s
TPNV Topopah Spring 81.91 53 IAmb IAmb 16 15 17.4
comp=Z,13nm,1.2s
QSM Queen of Sheba 81.94 54 IAmb IAmb 16 15 17.9
comp=Z,13nm,1.0s
MARD Mardin 82.19 308 P P 16 15 14.8 0.0
MARD IAmb IAmb 16 15 37.3
comp=Z,9.4nm,0.7s
AK03 Malin Array Si 82.22 324 P P 16 15 14.0 -0.5
AKASG Malin Array Be 82.23 324 P P 16 15 14.3 -0.3
comp=Z,1.6nm,0.5s,baz=53,slow=5.2,SNR=6.6
AKASG LR LR 16 54 19.0
comp=Z,151nm,18.5s,baz=32,slow=38
comp=Z,1.6nm,0.5s
AKBB Malin Array Si 82.23 324 P P 16 15 14.1 -0.5
AK01 Malin Array Si 82.24 324 P P 16 15 14.2 -0.4
KIEV Kiev 82.24 324 P P 16 15 14.1 -0.5
comp=Z,28nm,0.6s
AK08 Malin Array Si 82.25 324 P P 16 15 14.2 -0.5
AK02 Malin Array Si 82.26 324 P P 16 15 14.3 -0.4
AK11 Malin Array Si 82.27 324 P P 16 15 14.3 -0.5
AK10 Malin Array Si 82.27 324 P P 16 15 14.4 -0.4
AK22 Malin Array Si 82.28 324 P P 16 15 14.4 -0.4
AK21 Malin Array Si 82.28 324 P P 16 15 14.4 -0.4
AHID Auburn Hatcher 82.47 45 IAmb IAmb 16 15 20.7
comp=Z,11nm,0.9s
DUG Dugway, Tooele 82.67 48 IAmb IAmb 16 15 22.1
comp=Z,12nm,0.9s
PSUT Pine Spring 82.80 50 IAmb IAmb 16 15 22.1
comp=Z,10nm,1.1s
HFS Hagfors 82.88 337 P P 16 15 18.1 +0.3
comp=Z,2.2nm,0.7s,baz=55,slow=5.5,SNR=9.6
HFS LR LR 16 55 34.4
comp=Z,61nm,18.1s,baz=36,slow=38
comp=Z,2.2nm,0.7s
SHPR Sheep Range 82.89 53 P P 16 15 18.6 0.0
MI28 Mi28,Pidlybu 82.90 325 P P 16 15 18.3 +0.2
TBI Tubuai 82.97 121 *e*LR LR 16 41 16.3
comp=Z,1μm,33.8s
TBI *e*LR LR 16 41 20.9
comp=Z,954nm,26.8s
TAOE Nuku Hiva Isla 83.00 104 *e*LR LR 16 41 20.9
comp=Z,100nm,24.2s
NB2 NORSAR Subarra 83.05 338 P P 16 15 18.9 +0.2
comp=Z,13nm,1.2s,baz=45,slow=5.1
NOA NORSAR Array B 83.05 338 P P 16 15 17.1 -1.6
comp=Z,1.1nm,0.6s,baz=42,slow=5.3,SNR=5.4
NOA LR LR 16 55 19.2
comp=Z,58nm,20.1s,baz=50,slow=38
comp=Z,1.1nm,0.6s
CTU Camp Tracy 83.11 48 P P 16 15 20.2 +0.6
CTU IAmb IAmb 16 15 23.8
comp=Z,14nm,1.1s

PFO Pinyon Flats O 83.36 56 P P 16 15 20.4 -0.6
PFO IAmb IAmb 16 15 24.9
comp=Z,8.3nm,1.1s
PFO Pinyon Flats O 83.36 56 LR LR 16 45 34.6
comp=Z,44nm,21.1s,baz=265,slow=31
PDAR Pinedale Array 83.43 45 P P 16 15 19.7 -1.6
comp=Z,3.2nm,0.9s,baz=295,slow=5.6,SNR=16
PDAR LR LR 16 47 35.9
comp=Z,64nm,19.3s,baz=300,slow=32
comp=Z,3.2nm,0.9s
LUBAR Lubar, Ukraine 83.45 324 P P 16 15 19.3 -1.6
V12A Nelson 83.49 53 IAmb IAmb 16 15 25.9
comp=Z,9.0nm,1.3s
RNPP9 Sopachiv 83.51 326 P P 16 15 20.9 -0.3
BELC Belle Mtn. Jos 83.51 55 IAmb IAmb 16 15 25.3
comp=Z,12nm,1.3s
BC3 Big Chuckawall 84.08 55 IAmb IAmb 16 15 28.0
comp=Z,6.7nm,1.0s
MTPU Mount Pierson 84.18 50 IAmb IAmb 16 15 30.1
comp=Z,8.7nm,1.2s
TMUT Trail Mountain 84.19 49 P P 16 15 25.8 +0.4
TMUT IAmb IAmb 16 15 29.9
comp=Z,8.1nm,1.3s
P18A Preston Nutter 84.65 48 IAmb IAmb 16 15 33.1
comp=Z,5.7nm,0.9s
GAZ Gaziantep 84.72 309 P P 16 15 29.1 +1.3
SRU San Rafael Swe 84.74 48 P P 16 15 27.2 -0.8
SRU IAmb IAmb 16 15 31.9
comp=Z,13nm,1.2s
BNN Bunyan 84.78 311 P P 16 15 28.3 +0.2
SFJD Kangerlussuaq 84.93 5 LR LR 16 55 07.0
comp=Z,24nm,20.4s,baz=342,slow=37
RAYN Ar Rayn 85.17 294 P P 16 15 30.2 0.0
HMU Henry Mountain 85.21 49 IAmb IAmb 16 15 34.3
comp=Z,12nm,1.1s
K22A Casper 85.37 44 IAmb IAmb 16 15 35.2
comp=Z,10nm,1.0s
FRB Frobisher Bay 85.47 13 LR LR 16 57 55.0
comp=Z,20nm,18.9s,baz=330,slow=39
O20A White River Ci 85.68 47 IAmb IAmb 16 15 37.1
comp=Z,8.3nm,0.9s
Y14A Wickenburg 85.70 54 IAmb IAmb 16 15 36.9
comp=Z,9.8nm,1.1s
BRTR Keskin Array B 85.76 313 P P 16 15 33.0 0.0
BRTR Keskin Array B 85.76 313 P P 16 15 33.0 0.0
comp=Z,1.1nm,0.6s,baz=81,slow=3.6,SNR=6.9
comp=Z,1.1nm,0.6s
PV22 Blue Mesa, Par 86.19 48 P P 16 15 33.0 -2.2
PV22 IAmb IAmb 16 15 43.2
comp=Z,7.5nm,0.9s
PV05 Paradox Valley 86.23 49 IAmb IAmb 16 15 39.6
comp=Z,16nm,1.2s
PV03 Paradox Valley 86.30 48 IAmb IAmb 16 15 39.7
comp=Z,10nm,1.0s
PV13 Radium Mtn., P 86.37 48 IAmb IAmb 16 15 40.1
comp=Z,8.2nm,1.0s
ULM Lac du Bonnet 86.63 33 P P 16 15 32.8 -4.0
comp=Z,2.1nm,0.7s,baz=315,slow=5.7,SNR=3.0
ULM LR LR 16 54 49.7
comp=Z,39nm,20.1s,baz=334,slow=36
214A Organ Pipe Nat 86.85 55 P P 16 15 38.1 -0.3
214A IAmb IAmb 16 15 42.8
comp=Z,11nm,1.0s
MLR Muntele Rosu 87.08 321 LR LR 16 57 23.0
comp=Z,110nm,19.5s,baz=62,slow=38
MMAI Mount Meron Ar 88.16 307 P P 16 15 43.5 -1.2
comp=Z,1.6nm,0.6s,baz=32,slow=6.8,SNR=2.7
comp=Z,1.6nm,0.6s
F33A 5 Mile Ranch, 89.30 37 P P 16 15 50.2 +0.5
VRAC Vranov 89.39 328 LR LR 16 59 12.9
comp=Z,83nm,18.7s,baz=44,slow=38
CLL Collm 89.57 331 *e*P **P 16 15 53.0 +2.1**
ANMO Albuquerque 89.73 50 LR LR 16 51 29.2
comp=Z,49nm,20.3s,baz=29,slow=32
ECSD EROS Data Cent 90.50 39 P P 16 15 56.0 +0.6
RONA Rosalia, Austr 90.66 327 *e*PcP **P 16 15 56.3 +0.2**
comp=Z,5.8nm,1.5s
CONA Conrad Observa 90.71 327 *i* P **P 16 15 55.2 -1.2**
comp=Z,3.5nm,0.9s
GERES GERESS Array B 91.06 329 P P 16 15 56.0 -2.0
comp=Z,0.8nm,0.7s,baz=42,slow=6.3,SNR=7.1
GERES LR LR 17 00 49.9
comp=Z,85nm,18.9s,baz=70,slow=38
comp=Z,0.8nm,0.7s
BIOA Bad Ischl, Aus 91.92 328 *i* PcP **P 16 16 03.1 +1.1**
comp=Z,1.9nm,0.5s
SOKA Soboth 91.99 327 *e*PcP **P 16 16 02.2 -0.2**
comp=Z,3.6nm,0.9s
OBKA Obir 92.35 327 *e*PcP **P 16 16 04.0 0.0**
comp=Z,4.2nm,0.8s
KBA Koelnbreinsper 92.51 328 *i* PcP **P 16 16 05.5 +0.6**
comp=Z,1.3nm,0.6s
LESA Schwarzleotal 92.57 329 *i* pP **P 16 16 08.3 +3.3**
comp=Z,3.2nm,0.7s
MYKA Terra Mystica 92.69 328 *e*PcP **P 16 16 05.3 -0.3**
comp=Z,3.8nm,0.9s
LPIG La Paz 92.83 61 LR LR 16 51 03.1
comp=Z,56nm,20.1s,baz=271,slow=31
ABTA Abfaltersbach 93.14 328 *i* PcP **P 16 16 07.3 -0.3**
comp=Z,4.8nm,1.1s
WTTA Wattenberg 93.16 329 *i* PcP **P 16 16 09.5 +1.6**
comp=Z,1.9nm,0.5s
MOTA Moosalm 93.34 329 *i* PcP **P 16 16 11.1 +2.5**
comp=Z,4.7nm,1.2s
SQTA Sankt Quirin 93.39 329 *e*pP **P 16 16 12.4 +3.5**
comp=Z,1.8nm,0.5s
RETA Reutte 93.39 330 *i* pP **P 16 16 13.2 +4.4**
comp=Z,0.4nm,0.3s
FETA Feichten 93.75 329 *e*P P 16 16 04.1 -6.5
comp=Z,6.2nm,1.6s
SCHQ Schefferville 93.86 17 P P 16 16 11.0 +0.2
comp=Z,61nm,0.5s,baz=336,slow=16,SNR=2.1
SCHQ LR LR 17 00 43.4
comp=Z,334nm,20.4s,baz=302,slow=37
FUORN Ofenpass-Fuorn 94.27 329 P P 16 16 13.1 +0.1
DAVOX Davos/Dischmat 94.32 330 LR LR 17 03 08.5
comp=Z,63nm,18.1s,baz=84,slow=38
TXAR Lajitas Array 94.87 53 P P 16 16 15.9 0.0
TXAR Lajitas Array 94.87 53 P P 16 16 16.6 +0.6
comp=Z,2.5nm,0.9s,baz=315,slow=4.7,SNR=12
comp=Z,2.5nm,0.9s
WMOK Wichita Mounta 94.93 47 P P 16 16 17.0 +0.9
WMOK IAmb IAmb 16 16 20.2
comp=Z,7.9nm,1.1s
SADO Sadowa 98.32 29 LR LR 17 04 08.0
comp=Z,262nm,18.5s,baz=16,slow=37
VAE Valguarnera 98.86 321 LR LR 17 04 12.3
comp=Z,47nm,19.1s,baz=132,slow=37
QSPA South Pole Qui 117.61 180 PKP PKiKP 16 21 38.9 +0.2
comp=Z,1.4nm,0.9s,baz=311,slow=0.9,SNR=2.5
TORD Torodi Ar. Bea 124.36 312 PKP PKPdf 16 21 52.5 -0.7
comp=Z,1.2nm,0.8s,baz=26,slow=2.4,SNR=5.1
TORD PP PP 16 23 37.6 -0.5
comp=Z,1.3nm,0.9s,baz=32,slow=9.5,SNR=5.5
SNAA Sanae 132.17 194 PKP PKPdf 16 22 05.2 -1.3
comp=Z,1.2nm,1.0s,baz=140,slow=1.2,SNR=3.7
MACA Manacapuru-AM 146.90 46 PKPbc PKPab 16 22 37.7 -0.3
LPAZ La Paz 149.39 74 PKPbc PKPbc 16 22 42.9 -0.9
LPAZ La Paz 149.39 74 PKPbc PKPbc 16 22 43.2 -0.6
comp=Z,6.1nm,0.7s,baz=323,slow=3.3,SNR=10
PB11 IPOC Station P 149.49 82 PKPbc PKPbc 16 22 43.0 -0.5
PLCA Paso Flores 149.94 124 PKPbc PKPbc 16 22 43.8 -0.1
comp=Z,4.6nm,0.8s,baz=233,slow=5.1,SNR=7.7

*IDC **04** 16:18:08.0±0.8,22.˚16N×144.˚54E, h0km, mb4.1/21, mbtmp4.1/22, Error ellipse: s-maj=24.3km s-min=15.2km az=89.0*
*NEIC **04** 16:18:14.5±2.4,22.˚16N±0.˚10×144.˚6E±0.˚2, h35km±2km, mb4.6/23, Error ellipse: s-maj=24.9km s-min=16.3km az=80.0*
ISC 04 16:18:17.4±0.7,22.˚22N±0.˚08×144.˚5E±0.˚1, h69km, n57, σ1§28/54, mb4.3/32, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.28**	**337**	Pn		Pn	**Pn**	**16 19 32.4**	**-1.4**
MJAR	**Matsushiro Arr**	**15.27**	**341**	Pn		Pn	**Pn**	**16 21 46.1**	**-2.9**
0.7nm,0.6s,baz=164,slow=10,SNR=1.4									
KSRS	**Korea Array**	**20.84**	**320**	P			**P**	**16 22 53.1**	**-0.4**
1.0nm,0.8s,baz=142,slow=8.6,SNR=13									
1.0nm,0.8s									
H11S3	**WAKE ISLAND Hy**	**21.16**	**96**	T		T		16 45 18.5	
baz=283,slow=75,SNR=8.9									
H11S1	**WAKE ISLAND Hy**	**21.17**	**96**	T		T		16 45 40.3	
baz=283,slow=75,SNR=5.7									
H11S2	**WAKE ISLAND Hy**	**21.18**	**96**	T		T		16 45 37.2	
baz=283,slow=75,SNR=5.0									
SSLB	**Suanglung**	**21.69**	**279**	P		P	**P**	**16 23 04.5**	**+1.8**
SSLB						IAmb	IAmb	16 23 06.2	
comp=Z,18nm,0.9s									
TGY	**Tagaytay City**	**23.74**	**254**	P		P	**P**	**16 23 22.2**	**-1.4**
comp=Z,262nm,0.3s,baz=126,slow=7.5,SNR=3.9									
USRK	**Ussuriysk Ar.**	**24.22**	**338**	P		P	**P**	**16 23 26.5**	**-1.2**
comp=Z,1.2nm,0.6s,baz=152,slow=9.8,SNR=11									
comp=Z,1.2nm,0.6s									
COEN	**Coen**	**35.97**	**182**	P		P	**P**	**16 25 11.2**	**-0.5**
COEN						IAmb	IAmb	16 25 19.9	
comp=Z,8.1nm,1.1s									
MTN	**Manton Dam**	**37.21**	**202**	P		P	**P**	**16 25 23.9**	**+1.6**
MTN						IAmb	IAmb	16 25 33.5	
comp=Z,18nm,1.4s									
SONM	**Songino Array**	**39.70**	**319**	P		P	**P**	**16 25 44.1**	**+0.9**
comp=Z,0.5nm,0.4s,baz=127,slow=8.3,SNR=3.4									
comp=Z,0.5nm,0.4s									
KNRA	**Kununurra**	**40.68**	**204**	P		P	**P**	**16 25 50.3**	**-1.0**
KNRA						IAmb	IAmb	16 26 12.4	
comp=Z,15nm,1.3s									
YAK	**Yakutsk**	**41.07**	**349**	P		P	**P**	**16 25 52.9**	**-1.1**
YAK						IAmb	IAmb	16 25 54.1	
comp=Z,13nm,0.5s									
CMAR	**Chiang Mai Arr**	**42.72**	**274**	P		P	**P**	**16 26 07.6**	**-0.4**
comp=Z,0.9nm,0.6s,baz=79,slow=8.8,SNR=6.4									
comp=Z,0.9nm,0.6s									
WB0	**Warramunga Arr**	**42.87**	**194**	P		P	**P**	**16 26 08.8**	**-0.4**
WB0						IAmb	IAmb	16 26 50.5	
comp=Z,10nm,1.5s									
WR8	**Warramunga Arr**	**43.03**	**194**	P		P	**P**	**16 26 09.9**	**-0.5**
WR8						IAmb	IAmb	16 26 26.4	
comp=Z,7.4nm,1.3s									
WRAB	**Tennant Creek**	**43.04**	**194**	P		P	**P**	**16 26 09.8**	**-0.7**
WRA	**Warramunga Arr**	**43.05**	**194**	P		P	**P**	**16 26 10.0**	**-0.6**
WRA	**Warramunga Arr**	**43.05**	**194**	P		P	**P**	**16 26 10.2**	**-0.4**
comp=Z,0.9nm,0.3s,baz=14,slow=8.2,SNR=40									
comp=Z,0.9nm,0.3s									
FITZ	**Fitzroy Crossi**	**44.09**	**206**	P		P	**P**	**16 26 19.1**	**+0.2**
KULM	**Kulim**	**45.54**	**255**	P		P	**P**	**16 26 31.6**	**+1.0**
KULM						IAmb	IAmb	16 26 48.0	
comp=Z,16nm,1.3s									
AS31	**Alice Springs**	**46.75**	**193**	P		P	**P**	**16 26 39.5**	**-0.5**
ASAR	**Alice Springs**	**46.75**	**193**	P		P	**P**	**16 26 38.4**	**-1.5**
ASAR	**Alice Springs**	**46.75**	**193**	P		P	**P**	**16 26 39.1**	**-0.9**
comp=Z,0.3nm,0.5s,baz=12,slow=6.6,SNR=11									
comp=Z,0.3nm,0.5s									
INKA	**Innaminka**	**49.79**	**184**	P		P	**P**	**16 27 02.8**	**-0.5**
EVN	**Everest**	**52.12**	**289**	P		P	**P**	**16 27 22.4**	**+0.7**
EVN						IAmb	IAmb	16 27 59.7	
comp=Z,4.9nm,0.7s									
STKA	**Stephens Creek**	**53.85**	**183**	P		P	**P**	**16 27 33.2**	**-0.2**
STKA	**Stephens Creek**	**53.85**	**183**	P		P	**P**	**16 27 31.6**	**-1.9**
comp=Z,1.1nm,0.6s,baz=5.7,slow=10,SNR=1.6									
comp=Z,1.1nm,0.6s									
ZALV	**Zalesovo Beam**	**54.54**	**321**	P		P	**P**	**16 27 38.0**	**-0.2**
ZALV	**Zalesovo Beam**	**54.54**	**321**	P		P	**P**	**16 27 38.3**	**0.0**
comp=Z,0.8nm,0.4s,baz=99,slow=8.4,SNR=5.8									
comp=Z,0.8nm,0.4s									
MKAR	**Makanchi Array**	**55.22**	**312**	P		P	**P**	**16 27 44.0**	**+0.7**
MKAR	**Makanchi Array**	**55.22**	**312**	P		P	**P**	**16 27 44.0**	**+0.7**
comp=Z,2.1nm,0.6s,baz=90,slow=7.6,SNR=23									
comp=Z,2.1nm,0.6s									
KURBB	**Kurchatov Arra**	**57.96**	**317**	P		P	**P**	**16 28 02.8**	**+0.2**
comp=Z,2.4nm,0.5s,baz=94,slow=7.4,SNR=40									
comp=Z,2.4nm,0.5s									
F20K	**Avaraart Lake**	**58.10**	**24**	P		P	**P**	**16 28 05.5**	**+2.2**
F20K						IAmb	IAmb	16 28 08.4	
comp=Z,2.6nm,1.1s									
D20K	**Etivluk River**	**58.36**	**22**	P		P	**P**	**16 28 08.0**	**+2.7**
B20K	**Meade River**	**58.66**	**20**	P		P	**P**	**16 28 10.2**	**+2.9**
D22K	**Ayikyak River**	**59.77**	**22**	P		P	**P**	**16 28 17.9**	**+3.0**
C23K	**Itkillik River**	**60.74**	**21**	P		P	**P**	**16 28 24.1**	**+2.6**
ILAR	**Eielson Array**	**61.04**	**27**	P		P	**P**	**16 28 24.7**	**+1.0**
comp=Z,0.3nm,0.7s,baz=268,slow=5.9,SNR=3.4									
comp=Z,0.3nm,0.7s									
BVAR	**Borovoye Array**	**63.05**	**319**	P		P	**P**	**16 28 37.9**	**+0.6**
comp=Z,5.0nm,0.4s,baz=86,slow=6.9,SNR=44									
comp=Z,5.0nm,0.4s									
KKAR	**Karatay Array**	**63.66**	**308**	P		P	**P**	**16 28 42.5**	**+0.9**
INK	**Inuvik**	**66.62**	**24**	P		P	**P**	**16 28 58.4**	**-1.8**
INK						IAmb	IAmb	16 29 00.2	
comp=Z,6.2nm,1.4s									
INK	**Inuvik**	**66.62**	**24**	P		P	**P**	**16 28 59.5**	**-0.7**
comp=Z,1.2nm,0.4s,baz=270,slow=5.1,SNR=4.9									
comp=Z,1.2nm,0.4s									
AB31	**Akbulak array**	**70.00**	**316**	P		P	**P**	**16 29 22.1**	**+0.4**
AB31						IAmb	IAmb	16 29 22.4	
comp=Z,1.9nm,0.5s									
YKA	**Yellowknife Ar**	**75.45**	**28**	P		P	**P**	**16 29 54.1**	**+0.4**
comp=Z,0.9nm,0.8s,baz=279,slow=4.2,SNR=4.1									
comp=Z,0.9nm,0.8s									
ARCES	**ARCESS Array B**	**78.81**	**342**	P		P	**P**	**16 30 14.2**	**+1.7**
ARCES						IAmb	IAmb	16 30 15.1	
comp=Z,22nm,1.5s									
ARCES	**ARCESS Array B**	**78.81**	**342**	P		P	**P**	**16 30 13.4**	**+1.0**
comp=Z,1.3nm,0.6s,baz=58,slow=5.6,SNR=6.1									
comp=Z,1.3nm,0.6s									
KBZ	**Khabaz**	**82.86**	**314**	P		P	**P**	**16 30 35.2**	**+0.7**
comp=Z,3.6nm,0.9s,baz=57,slow=1.4,SNR=7.7									
comp=Z,3.6nm,0.9s									
FIA1	**FINESS Array S**	**83.22**	**335**	P		P	**P**	**16 30 35.6**	**-0.4**
FINES	**FINESS Array B**	**83.22**	**335**	P		P	**P**	**16 30 36.3**	**+0.3**
FINES	**FINESS Array B**	**83.22**	**335**	P		P	**P**	**16 30 35.8**	**-0.2**
comp=Z,2.3nm,0.4s,baz=68,slow=5.9,SNR=33									
comp=Z,2.3nm,0.4s									
AKASG	**Malin Array Be**	**87.77**	**325**	P		P	**P**	**16 30 58.0**	**-0.9**
comp=Z,0.5nm,0.4s,baz=54,slow=5.0,SNR=5.0									
comp=Z,0.5nm,0.4s									
HFS	**Hagfors**	**88.70**	**338**	P		P	**P**	**16 31 02.6**	**-0.5**
comp=Z,1.1nm,0.4s,baz=72,slow=4.7,SNR=7.8									
comp=Z,1.1nm,0.4s									
BRTR	**Keskin Array B**	**90.84**	**314**	P		P	**P**	**16 31 13.8**	**0.0**
comp=Z,0.5nm,0.8s,baz=48,slow=2.1,SNR=3.7									
comp=Z,0.5nm,0.8s									
EKA	**Eskdalemuir Ar**	**97.97**	**342**	P		P	**P**	**16 31 44.9**	**-0.8**
comp=Z,2.2nm,0.8s,baz=26,slow=4.8,SNR=2.0									
comp=Z,2.2nm,0.8s									
TORD	**Torodi Ar. Bea**	**129.32**	**310**	PKP		**PKPdf**		**16 37 19.1**	**+0.2**
comp=Z,0.2nm,0.8s,baz=61,slow=4.3,SNR=1.3									

*IDC **04** 16:27:08.6±0.8,2.˚25N×127.˚61E, h0km, mb3.9/10, mbtmp4.0/10, MS2.5/1, Error ellipse: s-maj=49.0km s-min=14.2km az=71.0*
*DJA **04** 16:27:16.6±0.6,2.˚N±3.˚×12.˚7E±.˚, h31km±11km, M4.3/12, mb4.7/1, MLv4.1/12*
*NEIC **04** 16:27:18.9±2.2,2.˚13N±0.˚10×127.˚4E±0.˚1, h73km±9km, mb4.2/15, Error ellipse: s-maj=18.3km s-min=11.6km az=53.0*
ISC 04 16:27:17.2±0.6,2.˚26N±0.˚06×127.˚46E±0.˚10, h64km, n42, σ1§34/44, mb4.1/17, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.48**	**184**	Pn		Pn	**Pn**	**16 27 42.0**	**+0.1**
TNTI	**Ternate**	**1.48**	**184**	P		Pn	**Pn**	**16 27 41.8**	**0.0**
TNTI						S	**Sn**	**16 28 00.4**	**0.0**
SGSI	**Sangihe**	**2.39**	**306**	P		Pn	**Pn**	**16 27 52.2**	**-1.9**
KMSI	**Cibinong**	**3.86**	**244**	P		Pn	**Pn**	**16 28 13.5**	**-0.7**
SANI	**Sanana**	**4.53**	**199**	P		Pn	**Pn**	**16 28 22.9**	**-0.4**
SWI	**Sorong**	**4.91**	**129**	P		Pn	**Pn**	**16 28 28.8**	**+0.3**
NLAI	**Namlea**	**5.48**	**184**	P		Pn	**Pn**	**16 28 36.6**	**+0.3**
LUWI	**Luwuk**	**5.72**	**235**	Pn		Pn	**Pn**	**16 28 41.6**	**+2.0**
TOLI2	**Tolitoli**	**6.77**	**260**	Pn		Pn	**Pn**	**16 28 53.1**	**-0.9**
FAKI	**Fak Fak**	**7.03**	**137**	Pn		Pn	**Pn**	**16 28 59.8**	**+2.2**
MYLDM	**Lahad Datu**	**9.40**	**288**	Pn		Pn	**Pn**	**16 29 31.0**	**+1.0**
KNRA	**Kununurra**	**17.87**	**176**				**Pn**	**16 31 22.0**	**+0.4**
KNRA						IAmb	IAmb	16 31 54.1	
comp=Z,7.0nm,0.9s									
FITZ	**Fitzroy Crossi**	**20.31**	**185**	P		P	**P**	**16 31 48.2**	**0.0**
FITZ	**Fitzroy Crossi**	**20.31**	**185**	P

comp=Z,0.3nm,0.7s,baz=344,slow=2.7,SNR=2.3
comp=Z,3.3nm,0.6s

WR8	**Warramunga Arr**	**23.14**	**163**	P		**P**	**16 32 16.2**	**-2.0**
WR8				IAmb		IAmb	16 32 37.1	
	comp=Z,12nm,1.4s							
PSA00	**Pilbara Seismi**	**24.83**	**197**	P		**P**	**16 32 33.6**	**-0.1**
PSA00				IAmb		IAmb	16 32 54.5	
	comp=Z,6.8nm,0.9s							
AS31	**Alice Springs**	**26.53**	**167**	P		**P**	**16 32 45.9**	**-3.2**
ASAR	**Alice Springs**	**26.53**	**167**	P		**P**	**16 32 47.0**	**-2.1**
ASAR	**Alice Springs**	**26.53**	**167**	P		**P**	**16 32 47.2**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=348,slow=9.0,SNR=16							
ASAR				PcP		**PcP**	**16 36 12.1**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=350,slow=2.1,SNR=2.6							
	comp=Z,0.4nm,0.5s							
CMAR	**Chiang Mai Arr**	**32.25**	**302**	P		**P**	**16 33 41.1**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=104,slow=9.3,SNR=2.7							
	comp=Z,0.4nm,0.4s							
MJAR	**Matsushiro Arr**	**35.53**	**15**	P		**P**	**16 34 07.3**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=186,slow=10,SNR=2.7							
	comp=Z,1.1nm,0.6s							
BBOO	**Buckleboo**	**35.82**	**168**	P		**P**	**16 34 09.6**	**-1.0**
STKA	**Stephens Creek**	**36.51**	**160**	P		**P**	**16 34 15.2**	**-1.3**
STKA	**Stephens Creek**	**36.51**	**160**	P		**P**	**16 34 15.7**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=339,slow=11,SNR=9.0							
	comp=Z,1.4nm,0.4s							
SONM	**Songino Array**	**48.91**	**341**	P		**P**	**16 35 58.2**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=159,slow=9.3,SNR=2.4							
	comp=Z,0.5nm,0.5s							
MKAR	**Makanchi Array**	**59.17**	**325**	P		**P**	**16 37 12.2**	**+0.7**
MKAR	**Makanchi Array**	**59.17**	**325**	P		**P**	**16 37 12.3**	**+0.8**
	comp=Z,2.4nm,0.4s,baz=122,slow=8.4,SNR=40							
	comp=Z,2.4nm,0.4s							
KURBB	**Kurchatov Arra**	**63.36**	**328**	P		**P**	**16 37 40.0**	**+0.2**
	comp=Z,3.4nm,0.8s,baz=127,slow=6.1,SNR=32							
	comp=Z,3.4nm,0.8s							
BVAR	**Borovoye Array**	**68.94**	**327**	P		**P**	**16 38 14.9**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=120,slow=8.5,SNR=6.8							
	comp=Z,1.3nm,0.8s							
G19K	**Purcell Mounta**	**82.07**	**23**	P		**P**	**16 39 32.1**	**+1.7**
G19K				IAmb		IAmb	16 39 57.1	
	comp=Z,11nm,1.4s							
J20K	**Nowinta River**	**82.92**	**26**	P		**P**	**16 39 36.5**	**+1.7**
J20K				IAmb		IAmb	16 40 17.7	
	comp=Z,7.8nm,1.4s							
IMAR	**Indian Mountai**	**83.38**	**24**	P		**P**	**16 39 37.1**	**-0.1**
I21K	**Tanana**	**83.99**	**25**	P		**P**	**16 39 41.9**	**+1.6**
I21K				IAmb		IAmb	16 40 22.4	
	comp=Z,5.3nm,1.4s							
D23K	**Nanushuk River**	**84.97**	**21**	P		**P**	**16 39 46.7**	**+1.5**
BMAR	**Burnt Mountain**	**87.14**	**23**	P		**P**	**16 39 57.3**	**+1.3**
I28M	**Miner Creek**	**89.04**	**25**	P		**P**	**16 40 05.9**	**+0.8**
I28M				IAmb		IAmb	16 40 31.4	
	comp=Z,4.4nm,1.4s							
TORD	**Torodi Ar. Bea**	**124.06**	**287**	PKP		**PKPdf**	**16 46 09.0**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=42,slow=2.3,SNR=1.8							

*ASRS **04** 16:35:47.5,54°N±1°×9°0E±°, h1km±1km, MLh3.5/7, confirmed*
*NNC **04** 16:35:51.8±3.2,53°.94N×89°.50E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=23.6km s-min=16.5km az=53.0, Suspected Mining explosion.*

ISC 04 16:35:49.3±0.9, 53°.86N±0°.04×89°.90E±0°.03, h0km, n24, σ1°06/47, 8C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUZB	**Luzhba, Kemero**	**0.63**	**252**	⇓P	**Pg**	**16 36 01.2**	**-0.2**
LUZB				S	**Sg**	**16 36 09.4**	**0.0**
VEH	**Verkhnyaya Baz**	**0.66**	**158**	⇓P	**Pg**	**16 36 02.0**	**+0.1**
VEH				S	**Sg**	**16 36 10.9**	**+0.6**
KIYZ	**Kiyzas, Kuzbas**	**1.31**	**258**	P	**Pg**	**16 36 13.5**	**-1.0**
KIYZ				S	**Sb**	**16 36 31.7**	**-0.4**
DJO	**Djoy, Khakassi**	**1.34**	**143**	P	**Pg**	**16 36 14.4**	**-0.6**
DJO				S	**Sb**	**16 36 32.1**	**-0.8**
CERR	**Cheremushki**	**1.35**	**137**	P	**Pg**	**16 36 14.9**	**-0.3**
CERR				S	**Sg**	**16 36 32.5**	**-0.4**
ERU	**Erunakovo, Kuz**	**1.51**	**282**	P	**Pn**	**16 36 17.6**	**0.0**
ERU				S	**Sn**	**16 36 38.2**	**+0.1**
KALT2	**Kaltan 2**	**1.60**	**254**	P	**Pn**	**16 36 18.8**	**-0.1**
KALT2				S	**Sn**	**16 36 39.9**	**-0.4**
MALIN	**Malinovka, Kuz**	**1.62**	**255**	P	**Pg**	**16 36 21.1**	**+0.7**
MALIN				S	**Sb**	**16 36 41.0**	**-0.2**
TAIL	**Tailep, Kuzbas**	**1.66**	**257**	P	**Pb**	**16 36 20.2**	**-0.6**
TAIL				S	**Sb**	**16 36 41.9**	**-0.4**
BRCR	**Berchikul'**	**2.01**	**333**	P	**Pb**	**16 36 25.7**	**-1.0**
BRCR				S	**Sb**	**16 36 52.4**	**+0.2**
POMOR	**Pomortsevo, Ku**	**2.06**	**287**	P	**Pb**	**16 36 27.6**	**0.0**
POMOR				S	**Sg**	**16 36 56.1**	**+0.6**
BJR3	**Bachatsky-3 (S**	**2.24**	**281**	P	**Pb**	**16 36 30.7**	**+0.1**
BJR3				S	**Sg**	**16 37 01.0**	**-0.3**
BJR2	**Bachatsky-2, K**	**2.27**	**282**	P	**Pn**	**16 36 29.3**	**+1.3**
BJR2				S	**Sg**	**16 37 01.9**	**-0.1**
ELT	**Eltsovka**	**2.27**	**256**	⇓P	**Pb**	**16 36 29.8**	**-1.2**
ELT				S	**Sb**	**16 37 00.2**	**+0.5**
BJR1	**Bachatsky 1, K**	**2.31**	**281**	P	**Pb**	**16 36 31.9**	**0.0**
BJR1				S	**Sb**	**16 37 01.7**	**+0.8**
ARDR	**Aradan**	**2.48**	**120**	P	**Pb**	**16 36 34.0**	**-0.7**
ARDR				S	**Sb**	**16 37 06.3**	**+0.5**
YALR	**Yailyu, Altay**	**2.51**	**215**	P	**Pb**	**16 36 34.8**	**-0.5**
YALR				S	**Sb**	**16 37 07.1**	**+0.3**
SALR	**Pechorkino, Sa**	**2.53**	**284**	P	**Pb**	**16 36 36.2**	**+0.5**
SALR				S	**Sb**	**16 37 08.7**	**+1.4**
ARTR	**Artybash**	**2.61**	**219**	P	**Pb**	**16 36 36.3**	**-0.6**
ARTR				S	**Sg**	**16 37 11.7**	**-1.4**
ZAA0	**Zalesovo Array**	**3.01**	**274**	⇓Pg	**Pb**	**16 36 41.1**	**-2.7**
	1.4nm,0.8s						
ZAA0				⇑Lg	Lg	16 37 20.6	
	1.4nm,0.4s						
KURK	**Kurchatov**	**7.60**	**250**	⇓Pn	**Pn**	**16 37 39.7**	**-1.6**
	2.0nm,0.8s						
KURK				⇑Sn	**Sn**	**16 39 09.3**	**+1.2**
	0.9nm,0.7s						
KURK				⇑Lg	Lg	16 39 49.1	
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**7.70**	**250**	⇓Pn	**Pn**	**16 37 43.3**	**+0.8**
	2.9nm,0.5s						
KURBB				⇑Sn	**Sn**	**16 39 08.7**	**-1.6**
	6.0nm,0.6s						
KURBB				⇑Lg	Lg	16 39 51.2	
	7.7nm,0.7s						
MK31	**Makanchi Array**	**8.58**	**218**	⇑Pn	**Pn**	**16 37 57.8**	**+3.0**
	1.2nm,0.8s,baz=34,slow=13,SNR=6.6						
MK31				⇑Sn	**Sn**	**16 39 32.6**	**+0.3**
	1.0nm,0.5s,baz=37,slow=26,SNR=4.7						
MK31				⇑Lg	Lg	16 40 23.3	
	2.4nm,0.9s,baz=30,slow=30,SNR=5.6						
MAKZ	**Makanchi**	**8.69**	**219**	Pn	**Pn**	**16 37 59.4**	**+3.2**
	0.7nm,0.8s						
MAKZ				Sn	**Sn**	**16 39 34.1**	**-0.7**
	0.8nm,0.5s						
MAKZ				Lg	Lg	16 40 24.3	
	2.6nm,0.8s						

IDC 04 16:40:25.1±4.4, 8°.56S×129°.25E, h0km, mb3.7/1, mbtmp3.7/5, ML3.8/4, Error ellipse: s-maj=56.6km s-min=35.7km az=21.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.75**	**253**	Pn	Pn	16 41 51.3	-0.6
	2.1nm,0.3s,baz=232,slow=19,SNR=1.7						
	7.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**10.11**	**200**	Pn	Pn	16 42 53.4	+1.7
	0.3nm,0.3s,baz=25,slow=15,SNR=19						
FITZ				Sn	Sn	16 44 48.8	+3.0
	1.1nm,0.3s,baz=32,slow=15,SNR=5.8						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**12.34**	**157**	Pn	Pn	16 43 20.5	-1.7
	1.0nm,0.3s,baz=336,slow=14,SNR=68						
WRA				Sn	Sn	16 45 40.1	-0.4
	0.8nm,0.3s,baz=332,slow=23,SNR=9.6						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**15.66**	**164**	Pn	Pn	16 44 06.7	-0.7
	0.3nm,0.3s,baz=336,slow=10,SNR=24						
ASAR				Sn	Sn	16 47 04.3	+2.5
	baz=343,slow=24						
	0.5nm,0.5s						
STKA	**Stephens Creek**	**25.88**	**155**	P	P	16 45 59.0	+0.2
	0.6nm,0.4s,baz=335,slow=16,SNR=1.4						
	0.6nm,0.4s						

*DJA **04** 16:41:53.1±0.5, 8°.5±3°×12°.0E±°, h141km±9km, M4.0/15, mb4.0/1, MLv4.0/15*
*NEIC **04** 16:41:53.5±2.2, 8°.19S±0°.10×120°.0E±0°.1, h171km±9km, mb4.3/7, Error ellipse: s-maj=19.4km s-min=9.9km az=55.0*
*IDC **04** 16:41:54.8±1.6, 8°.11S×120°.25E, h194km±12km, mb3.6/6, mbtmp4.2/10, Error ellipse: s-maj=43.8km s-min=8.1km az=53.0*

ISC 04 16:41:52.0±0.6, 8°.39S±0°.04×119°.86E±0°.04, h172km, n57, σ1°52/65, mb4.1/7, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.33**	**200**	P	**Pn**	**16 42 20.8**	**-0.9**
WBSI				S	**Sn**	**16 42 42.4**	**-2.4**
WSI	**Waingapu**	**1.34**	**161**	P	**Pn**	**16 42 21.4**	**-0.4**
WSI				S	**Sn**	**16 42 42.7**	**-2.2**
EDFI	**Ende, Flores**	**1.84**	**101**	P	**Pn**	**16 42 26.8**	**-0.1**
EDFI				S	**Sn**	**16 42 52.1**	**-1.8**
BASI	**Baing, Sumba**	**1.95**	**159**	P	**Pn**	**16 42 28.0**	**0.0**
BASI				S	**Sn**	**16 42 54.6**	**-1.3**
PLAI	**Plampang**	**2.11**	**258**	P	**Pn**	**16 42 29.8**	**+0.1**
PLAI	**Plampang**	**2.11**	**258**	S	**Sn**	**16 42 57.8**	**-1.1**
PLAI	**Plampang**	**2.11**	**258**	P	**Pn**	**16 42 29.5**	**-0.2**
BSSI	**Bau Bau, Buton**	**2.32**	**16**	P	**Pn**	**16 42 30.7**	**-1.4**
MMRI	**Maumere**	**2.36**	**96**	Pn	**Pn**	**16 42 33.5**	**+0.8**
MMRI	**Maumere**	**2.36**	**96**	P	**Pn**	**16 42 31.1**	**-1.5**
TWSI	**Taliwang, Sumb**	**2.97**	**263**	P	**Pn**	**16 42 39.3**	**-0.6**
BKSI	**Bulukumba**	**3.06**	**5**	P	**Pn**	**16 42 40.6**	**-0.4**
KAPI	**Kappang**	**3.35**	**358**	P	**Pn**	**16 42 44.9**	**+0.2**
	50nm,0.4s,baz=183,slow=10,SNR=24						
BNSI	**Bone**	**3.97**	**4**	P	**Pn**	**16 42 51.2**	**-1.3**
BATI	**Baumata**	**4.16**	**116**	P	**Pn**	**16 42 56.2**	**+1.2**
	57nm,0.3s,baz=271,slow=10.0,SNR=29						
BATI				S	**Sn**	**16 43 44.6**	**+0.4**
	64nm,0.3s,baz=233,slow=20,SNR=7.6						
BATI	**Baumata**	**4.16**	**116**	P	**Pn**	**16 42 56.0**	**+1.0**
SPSI	**Sidrap Palu**	**4.40**	**359**	P	**Pn**	**16 42 58.4**	**+0.4**
SOEI	**Soe**	**4.56**	**108**	Pn	**Pn**	**16 43 01.7**	**+1.6**
SOEI	**Soe**	**4.56**	**108**	S	**Sn**	**16 43 53.5**	**0.0**
SOEI	**Soe**	**4.56**	**108**	P	**Pn**	**16 43 01.3**	**+1.1**
SRBI	**Singaraja**	**4.61**	**273**	P	**Pn**	**16 43 00.5**	**-0.2**
TTSI	**Tana Toraja**	**5.31**	**360**	P	**Pn**	**16 43 10.6**	**+0.7**
JAGI	**Jajag, Banyuwa**	**5.65**	**269**	P	**Pn**	**16 43 14.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**11.17**	**150**	Pn	**Pn**	**16 44 27.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.17**	**150**	P	**Pn**	**16 44 28.1**	**+1.2**
	8.9nm,0.5s,baz=337,slow=11,SNR=11						
FITZ				S	**Sn**	**16 46 26.7**	**-4.2**
	9.0nm,0.5s,baz=222,slow=12,SNR=5.7						
KNRA	**Kununurra**	**11.32**	**131**	Pn	**Pn**	**16 44 28.1**	**-0.9**
MTN	**Manton Dam**	**11.93**	**113**	Pn	**Pn**	**16 44 35.8**	**-1.0**
MBWA	**Marble Bar**	**12.70**	**181**	Pn	**P**	**16 44 50.3**	**-0.9**
MBWA	**Marble Bar**	**12.70**	**181**	P	**P**	**16 44 50.3**	**-0.9**
PSA00	**Pilbara Seismi**	**13.11**	**180**	Pn	**P**	**16 44 55.4**	**-0.4**
PSA00	**Pilbara Seismi**	**13.11**	**180**	P	**P**	**16 44 55.9**	**+0.2**
TNG	**Tangerang**	**13.29**	**279**	P	Pn	16 44 42.1	-12
FAKI	**Fak Fak**	**13.47**	**67**		**Pn**	**16 44 55.2**	**-1.3**
WB0	**Warramunga Arr**	**18.05**	**130**	P	**P**	**16 45 49.9**	**-0.6**
WB0				IAmb	IAmb	16 45 54.3	
	comp=Z,6.5nm,0.6s						
WRA	**Warramunga Arr**	**18.12**	**131**	P	**Pn**	**16 45 52.5**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=306,slow=10,SNR=4.7						
WRA				S	**Sn**	**16 49 05.7**	**-4.2**
	comp=Z,2.6nm,0.7s,baz=309,slow=24,SNR=6.6						
MEEK	**Meekatharra**	**18.19**	**184**	P	**Pn**	**16 45 54.8**	**+1.0**
WR8	**Warramunga Arr**	**18.25**	**131**	P	**Pn**	**16 45 54.1**	**-0.4**
WR8				IAmb	IAmb	16 45 56.3	
	comp=Z,8.6nm,0.8s						
AS31	**Alice Springs**	**20.29**	**140**	P	**P**	**16 46 16.5**	**+1.9**
AS31				IAmb	IAmb	16 46 22.8	
	comp=Z,3.2nm,0.4s						
ASAR	**Alice Springs**	**20.29**	**140**	P	**P**	**16 46 16.8**	**+2.2**
ASAR	**Alice Springs**	**20.29**	**140**	P	**P**	**16 46 16.3**	**+1.7**
	comp=Z,3.3nm,0.4s,baz=315,slow=10.0,SNR=46						
ASAR				S	**S**	**16 49 52.9**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=320,slow=22,SNR=5.5						
ASAR				ScP	**ScP**	**16 53 40.8**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=321,slow=2.7,SNR=2.2						
	comp=Z,3.3nm,0.4s						
AS01	**Alice Springs**	**20.32**	**140**	P	**P**	**16 46 17.1**	**+2.2**
BLDU	**Ballidu**	**22.31**	**187**	P	**P**	**16 46 37.9**	**+2.4**
QIS	**Mount Isa**	**22.59**	**124**	P	**P**	**16 46 40.3**	**+2.1**
KLBR	**Kellerberrin**	**23.17**	**185**	P	**P**	**16 46 46.3**	**+3.0**
COEN	**Coen**	**23.52**	**106**	P	**P**	**16 46 47.9**	**+1.1**
COEN				IAmb	IAmb	16 46 50.0	
	comp=Z,11nm,0.9s						
COEN	**Coen**	**23.52**	**106**	P	**P**	**16 46 47.8**	**+1.1**
INKA	**Innaminka**	**27.57**	**137**	P	**P**	**16 47 25.6**	**+2.6**
BBOO	**Buckleboo**	**28.56**	**151**	P	**P**	**16 47 33.7**	**+1.9**
BBOO				IAmb	IAmb	16 47 56.9	
	comp=Z,7.4nm,0.9s						
STKA	**Stephens Creek**	**30.89**	**142**	P	**P**	**16 47 55.1**	**+2.7**
STKA	**Stephens Creek**	**30.89**	**142**	P	**P**	**16 47 54.9**	**+2.5**
	comp=Z,4.0nm,0.3s,baz=317,slow=9.5,SNR=29						
	comp=Z,4.0nm,0.3s						
MKAR	**Makanchi Array**	**64.31**	**332**	P	**P**	**16 52 08.4**	**-0.6**
MKAR	**Makanchi Array**	**64.31**	**332**	P	**P**	**16 52 08.7**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=139,slow=8.9,SNR=13						
	comp=Z,0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**68.78**	**339**	P	**P**	**16 52 36.0**	**-1.3**
ZALV	**Zalesovo Beam**	**68.78**	**339**	P	**P**	**16 52 36.1**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=143,slow=5.5,SNR=6.6						
	comp=Z,1.2nm,0.3s						
KURBB	**Kurchatov Arra**	**68.81**	**333**	P	**P**	**16 52 36.8**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=138,slow=5.4,SNR=6.8						
	comp=Z,0.3nm,0.5s						
PETK	**Petropavlovsk-**	**69.18**	**23**	P	**P**	**16 52 39.6**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=236,slow=7.6,SNR=1.3						
	comp=Z,1.3nm,0.8s						
Q56A	**Snyder Ridge,**	**145.01**	**26**		**PKPbc**	**17 01 08.5**	**-0.4**

SJA 04 17:02:17.1±0.6, 24°.02S×67°.26W, h176km±13km, ML4.6, MW4.2, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALTA		**0.86**	**104**	eP	Pn	17 02 39.2	-4.8
SALTA				eP		17 02 44.3	
SLA	**San Lorenzo**	**1.74**	**114**	eP	Pn	17 02 52.4	+1.1
HJA	**Humahuaca**	**1.88**	**65**	eP	Pn	17 02 54.1	+1.1
AZAP	**Zapla**	**2.01**	**96**	eP	Pn	17 02 54.9	+0.6
FSA	**Cafayete**	**2.38**	**151**	eP	Pn	17 02 46.5	-12
YJA	**Yavi**	**2.44**	**41**	eP	Pn	17 03 00.7	+1.4
PB06	**IPOC Station P**	**2.50**	**301**	eP	Pn	17 03 00.8	+1.1
PB06				IAML		17 04 20.1	
	comp=Z,1μm,0.3s						
PB09	**IPOC Station P**	**2.87**	**320**	eP	Pn	17 03 05.5	+1.3
PB09				eS	Sn	17 03 36.7	-4.2
PB14	**IPOC Station P**	**2.93**	**258**	eP	Pn	17 03 04.8	-0.2
PB05	**IPOC Station P**	**2.94**	**293**	eP	Pn	17 03 05.6	+0.6
ALOL	**LOMAS DE OLMED**	**3.00**	**87**	eP	Pn	17 03 06.3	+0.7
PB03	**IPOC Station P**	**3.02**	**310**	eP	Pn	17 03 07.0	+1.0
PB10	**IPOC Station P**	**3.06**	**279**	eP	Pn	17 03 07.0	+0.7
PB01	**IPOC Station P**	**3.61**	**325**	eP	Pn	17 03 13.9	+0.6
PB01				eS	Sn	17 03 51.1	-6.0
PB01				IAML		17 04 29.4	
	comp=Z,1μm,0.2s						
PB02	**IPOC Station P**	**3.63**	**317**	eP	Pn	17 03 14.0	+0.4
PB02				IAML		17 04 30.3	
	comp=Z,2μm,0.5s						
PB11	**IPOC Station P**	**4.79**	**332**	eP	Pn	17 03 27.5	-1.0
PB11				eS	Sn	17 04 22.5	-1.9
PB11				IAML		17 05 03.8	
	comp=Z,183nm,0.3s						

*GUC **04** 17:03:40.3±0.9, 22°.36S×68°.71W, h120km±4km, ML3.7*
*IDC **04** 17:03:57.5±7.0, 20°.73S×68°.06W, h223km±52km, mb3.6/1, mbtmp3.6/3, MS3.8/3, Error ellipse: s-maj=78.5km s-min=31.4km az=13.0*

ISC 04 17:03:39.1±1.0, 22°.33S±0°.04×68°.65W±0°.06, h122km±8km, n18, σ0°88/26, 7C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**0.76**	**145**	⇓eP	**Pn**	**17 03 59.8**	**+0.3**
AF01				eS	**Sn**	**17 04 15.2**	**+0.3**
AF01				IAML		17 04 29.1	
	comp=N,2μm,0.6s						
PB09	**IPOC Station P**	**0.76**	**314**	⇑eP	**Pn**	**17 03 59.9**	**+0.6**
PB09				eS	**Sn**	**17 04 14.7**	**+0.1**
PB09				IAML		17 04 16.2	
	comp=E,2μm,0.2s						
PB06	**IPOC Station P**	**0.93**	**246**	⇑eP	**Pn**	**17 04 01.1**	**+0.3**
PB06				eS	**Sn**	**17 04 17.0**	**-0.3**
PB06				IAML		17 04 18.6	
	comp=E,2μm,0.1s						
PB03	**IPOC Station P**	**1.06**	**285**	⇑eP	**Pn**	**17 04 02.5**	**+0.5**
PB03				eS	**Sn**	**17 04 19.5**	**0.0**
PB03				IAML		17 04 20.7	
	comp=E,2μm,0.1s						
PB01	**IPOC Station P**	**1.50**	**328**	⇓iP	**Pn**	**17 04 07.5**	**+0.7**
PB01				iS	**Sn**	**17 04 27.9**	**+0.2**
PB01				IAML		17 04 28.7	
	comp=E,2μm,0.2s						
PB05	**IPOC Station P**	**1.53**	**250**	⇑eP	**Pn**	**17 04 07.4**	**+0.3**
PB05				eS	**Sn**	**17 04 27.6**	**-0.8**
PB05				IAML		17 04 32.5	
	comp=N,582nm,0.3s						
PB02	**IPOC Station P**	**1.53**	**311**	⇑eP	**Pn**	**17 04 07.9**	**+0.8**
PB02				eS	**Sn**	**17 04 28.4**	**0.0**
PB02				IAML		17 04 29.4	
	comp=E,2μm,0.3s						
PB10	**IPOC Station P**	**2.12**	**236**	eP	**Pn**	**17 04 14.6**	**+0.5**
PB10				eS	**Sn**	**17 04 39.9**	**-1.1**
PB10				IAML		17 04 49.9	
	comp=N,253nm,0.3s						
TA01	**Diego Aracena**	**2.26**	**321**	⇑eP	**Pn**	**17 04 16.5**	**+0.6**
TA01				eS	**Sn**	**17 04 44.4**	**+0.3**
TA01				IAML		17 04 50.2	
	comp=N,554nm,0.2s						
PB14	**IPOC Station P**	**2.80**	**215**	eP	**Pn**	**17 04 23.6**	**+0.5**
PB14				eS	**Sn**	**17 04 56.3**	**-0.7**
PB14				IAML		17 04 57.2	
	comp=N,112nm,0.1s						
GO02	**Mina Guanaco**	**2.95**	**197**	⇑eP	**Pn**	**17 04 26.1**	**+1.0**
GO02				eS	**Sn**	**17 05 01.2**	**+0.6**
GO02				IAML		17 05 03.0	
	comp=N,322nm,0.3s						
LPAZ	**La Paz**	**6.03**	**5**	P	**Pn**	**17 05 07.2**	**+0.7**
	comp=N,1.4nm,0.4s,baz=155,slow=3.8,SNR=9.2						
LPAZ				S	Sn	17 05 59.9	-15
	comp=N,3.3nm,0.7s,baz=168,slow=3.4,SNR=4.1						
SIV	**San Ignacio**	**9.54**	**50**	P	**Pn**	**17 05 50.8**	**-2.6**
	comp=N,1.6nm,0.5s,baz=246,slow=9.8,SNR=7.4						
SIV				S	Sn	17 07 27.4	-11
	comp=N,1.7nm,0.5s,baz=214,slow=7.5,SNR=4.8						
MDP	**Montagnes des**	**31.44**	**32**	LR	LR	17 23 13.4	
	comp=N,56nm,20.1s,baz=326,slow=39						
SCHQ	**Schefferville**	**76.86**	**1**	LR	LR	17 51 06.4	
	comp=N,284nm,18.2s,baz=92,slow=38						
TORD	**Torodi Ar. Bea**	**77.41**	**70**	P	**P**	**17 15 22.5**	**+1.3**
	comp=N,0.8nm,0.4s,baz=256,slow=5.5,SNR=9.3						
	comp=N,0.8nm,0.4s						
BBB	**Bella Bella**	**90.46**	**328**	LR	LR	18 01 39.0	
	comp=N,25nm,19.3s,baz=74,slow=39						
MKAR	**Makanchi Array**	**146.15**	**37**	PKP	**PKiKP**	**17 23 07.0**	**-1.1**
	comp=N,0.8nm,0.9s,baz=323,slow=1.1,SNR=4.2						

IDC 04 17:19:30.1±4.7, 47°.59N×92°.62W, h0km, mbtmp2.3/1, ML0.9/1, Error ellipse: s-maj=76.4km s-min=28.9km az=52.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULM	**Lac du Bonnet**	**3.42**	**322**	Pn	Pn	17 20 24.0	-0.7
	0.2nm,0.3s,baz=137,slow=14,SNR=0.8						
ULM				Sn	Sn	17 21 02.1	-3.8
	0.2nm,0.3s,baz=128,slow=19,SNR=1.4						
ULM				Lg	Lg	17 21 16.4	
	1.2nm,0.3s,baz=60,slow=20,SNR=19						
	1.2nm,0.7s						
I10CA	**LAC DU BONNET**	**3.45**	**321**	I	I	17 41 00.0	
	0.1nm,0.9s,baz=139,slow=322,SNR=10						
I56US	**NEWPORT INFRASI**	**6.43**	**281**	I	I	19 07 30.0	
	baz=84,slow=318,SNR=1.7						

*NNC **04** 17:27:49.4±3.1, 54°.83N×83°.85E, h25km±30km, mb3.5, mpv2.9, Error ellipse: s-maj=25.9km s-min=9.5km az=9.0*

ASRS 04 17:27:48.5, 55°N±1°×8°4E±°, h2km±1km, MLh3.3/5, 7C-7D, confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHAR	**Kharino, NSO,**	**0.09**	**204**	⇓P	Pg	17 27 51.0	+0.8
KHAR				S	Sg	17 27 53.0	+1.6
NVSII	**Novosibirsk**	**0.28**	**302**	⇓P	Pg	17 27 54.8	+0.8
NV

IDI Sn Sg 17 36 24.7 +2.2
156nm,0.3s,baz=354,slow=19,SNR=8.2
IDI Anoyia 1.28 288 P Pb 17 36 04.8 -0.1
IDI S Sg 17 36 22.5 0.0
TMBK Timbaki Herakl 1.33 278 P Pg 17 36 06.3 -0.6
TMBK S Sg 17 36 24.4 +0.2
TMBK Timbaki Herakl 1.33 278 P Pg 17 36 06.5 -0.3
TMBK S Sg 17 36 25.1 +0.9
PRNS Prines Rethymn 1.60 287 P Pg 17 36 11.7 -0.3
PRNS S Sg 17 36 32.9 0.0
THERA Ancient Thera, 1.64 334 P Pn 17 36 09.6 +0.1
THERA S Sn 17 36 29.1 -1.2
THERA Ancient Thera, 1.64 334 P Pn 17 36 09.8 +0.3
THR6 Thira Island, 1.66 332 P Pn 17 36 10.2 +0.5
SAP3 Santorini-Thir 1.75 332 P Pn 17 36 11.3 +0.3
SAP3 S Sn 17 36 33.0 0.0
SAP3 Santorini-Thir 1.75 332 P Pn 17 36 11.4 +0.5
SAP3 S Sb 17 36 34.9 +0.3
GVD Gavdhos 1.88 269 P Pb 17 36 15.4 +0.1
ARG Arkhangelos 1.94 47 Pn Pn 17 36 15.3 +1.6
ARG Arkhangelos 1.94 47 P Pb 17 36 15.8 -0.5
YAZI Mula-Dat§a- 1.98 26 P Pn 17 36 14.8 +0.5
YAZI *i* IAML 17 36 53.0
comp=E,110nm,0.8s
YAZI *i* IAML 17 36 59.0
comp=N,72nm,0.5s
DAT Datca 2.07 28 Pn Pn 17 36 15.0 -0.6
BDRM Kayabasi 2.33 22 P Pn 17 36 21.4 +2.4
BDRM *i* IAML 17 37 06.0
comp=E,38nm,0.7s
BDRM *i* IAML 17 37 21.0
comp=N,39nm,0.3s
MHLO Agia Marina, M 2.40 319 P Pn 17 36 21.0 +1.1
TURN Turunc 2.41 39 Pn Pn 17 36 21.1 +1.0
TURN Turunc 2.41 39 P Pn 17 36 21.7 +1.6
ANKY Antikythira Is 2.69 292 P Pn 17 36 24.6 +0.7
ANKY Antikythira Is 2.69 292 P Pn 17 36 26.0 +2.1
IZZE Mula-Seydike 2.78 56 P Pn 17 36 26.5 +1.3
IZZE *i* IAML 17 37 09.0
comp=E,114nm,0.5s
SMG Samos 2.83 7 P Pn 17 36 26.9 +1.0
SMG Samos 2.83 7 P Pn 17 36 26.4 +0.6
MULA Mugla, Merkez- 2.83 33 P Pb 17 36 29.8 -1.8
SABU Mula-Dalaman 2.85 47 P Pn 17 36 27.7 +1.5
GCAM G?zelcaml? 2.88 14 Pn Pn 17 36 25.7 -0.8
GCAM G?zelcaml? 2.88 14 P Pn 17 36 27.4 +0.8
GCAM *i* IAML 17 37 24.0
comp=N,79nm,1.3s
KSL Kastellorizon 2.90 64 P Pn 17 36 28.0 +1.2
AYDN Tasoluk 3.01 23 P Pn 17 36 31.3 +2.9
AYDN *i* IAML 17 37 31.0
comp=E,39nm,0.6s
AYDN *i* IAML 17 37 36.0
comp=N,54nm,1.0s
CAME Cameli-Denizli 3.13 49 Pn Pn 17 36 31.9 +1.7
KNIK Mula-Seydike 3.25 52 P Pn 17 36 33.6 +2.0
KNIK *i* IAML 17 37 20.0
comp=E,28nm,0.5s
KNIK *i* IAML 17 37 21.0
comp=N,30nm,0.6s
CAEL Denizli, Camel 3.26 46 P Pn 17 36 35.2 +3.3
CAEL *i* IAML 17 37 32.0
comp=E,212nm,0.8s
CAEL *i* IAML 17 37 49.0
comp=N,248nm,0.9s
TAVA DENIZLI_Tavas 3.28 38 P Pn 17 36 34.3 +2.1
TAVA S Sn 17 37 14.0 +3.0
TAVA *i* IAML 17 37 30.0
comp=E,61nm,0.9s
TAVA *i* IAML 17 37 38.0
comp=N,55nm,0.7s
ESEN Aydn-Nazilli 3.30 28 P Pn 17 36 34.3 +2.0
ESEN *i* IAML 17 37 24.0
comp=N,35nm,1.0s
ESEN *i* IAML 17 37 47.0
comp=E,28nm,0.7s
VLI Velíai 3.33 304 P Pn 17 36 33.9 +1.2
DNIZ Denizli-Tavas- 3.47 38 P Pn 17 36 36.8 +2.0
DNIZ *i* IAML 17 37 37.0
comp=N,111nm,0.4s
DNIZ *i* IAML 17 37 46.0
comp=E,106nm,0.4s
GOLH Golhisar 3.48 47 P Pn 17 36 37.2 +2.3
GOLH *i* IAML 17 37 52.0
comp=N,99nm,1.4s
CHOS Chios island 3.49 356 P Pn 17 36 35.8 +0.8
KARY Karystos 3.49 334 P Pn 17 36 36.2 +1.2
AKUM Antalya-Kumluc 3.53 65 P Pn 17 36 36.1 +0.6
KIRA zmir-Kiraz 3.67 26 P Pn 17 36 39.5 +1.9
DION Dionisos Attik 3.73 329 P Pn 17 36 39.7 +1.5
INCE Denizli-Bozkur 3.81 42 P Pn 17 36 41.3 +1.8
INCE *i* IAML 17 37 38.0
comp=E,35nm,0.5s
KORT Korkueli 3.85 56 P Pn 17 36 41.9 +1.9
KORT S Sn 17 37 27.0 +2.0
KORT *i* IAML 17 37 38.0
comp=E,76nm,0.6s
MANT Manisa 3.99 25 P Pn 17 36 44.4 +2.3
MANT *i* IAML 17 37 35.0
comp=N,13nm,0.5s
MANT *i* IAML 17 38 37.0
comp=E,11nm,2.0s
USAK Uak-Merkez 4.36 28 P Pn 17 36 48.4 +1.5
KZIL AFYON_Kizioren 4.52 41 P Pn 17 36 47.9 -1.4
GDZ Gediz 4.87 30 P Pn 17 36 56.0 +2.1
GAZI Gazipasa 5.03 73 P Pn 17 36 55.0 -1.1
GAZI S Sn 17 37 46.1 -7.7
SEDI Konya, Seydise 5.04 58 P Pn 17 36 58.8 +2.4
ERMK Ermenek 5.59 70 P Pn 17 37 05.3 +1.2
ERMK S Sn 17 38 01.9 -6.2
ERMK *i* IAML 17 38 22.0
comp=N,26nm,0.6s
SWA2 5.69 188 P Pn 17 37 06.3 +1.0
KKBE Karaman, Kazim 5.80 65 P Pn 17 37 08.0 +1.2
KKBE S Sn 17 38 06.3 -6.9
KKBE *i* IAML 17 38 23.0
comp=N,13nm,1.1s
KKBE *i* IAML 17 38 35.0
comp=E,11nm,0.7s
RYAN Fayoum 6.68 149 P Pn 17 37 20.3 +1.5
RYAN S Sn 17 38 33.2 -1.4
BRTR Keskin Array B 7.53 48 Pn Pn 17 37 33.0 +2.4
0.2nm,0.3s,baz=221,slow=16,SNR=5.4
BRTR Sn Sn 17 38 58.1 +2.4
0.1nm,0.3s,baz=152,slow=24,SNR=1.5
0.8nm,0.6s
NBNS Bani Suef 7.53 145 P Pn 17 37 31.3 +0.8
MMAI Mount Meron Ar 7.74 102 Pn Pn 17 37 32.6 -0.7
1.7nm,0.3s,baz=290,slow=12,SNR=8.8
MMAI Sn Sn 17 39 01.4 +0.7
1.8nm,0.3s,baz=219,slow=49,SNR=2.3
0.7nm,0.3s
HFRF Wahat Farafira 7.90 167 P Pn 17 37 36.0 +0.4
HFRF S Sn 17 39 02.3 -2.4
EIL Elat 8.94 123 Pn Pn 17 37 49.0 -0.8
1.1nm,0.3s,baz=310,slow=3.2,SNR=9.3
EIL Sn Sn 17 39 29.0 -1.2
2.3nm,0.3s,baz=118,slow=23,SNR=6.8
4.1nm,0.5s
HKAT Jabal Katrina 9.08 132 P Pn 17 37 50.2 -1.7
ASF Jabal al Asfar 9.20 104 Pn Pn 17 37 52.8 -0.6
0.3nm,0.3s,baz=301,slow=14,SNR=2.1
ASF Sn Sn 17 39 37.1 +0.5
0.1nm,0.3s,baz=221,slow=24,SNR=0.9
1.1nm,0.5s
HDK1 Dakhla 9.69 164 P Pn 17 38 02.4 +2.3
GNI Garni 15.48 65 LR LR 17 46 38.9
comp=Z,49nm,20.8s,baz=277,slow=43
KBZ Khabaz 15.51 50 Pn P 17 39 21.9 -1.7
0.2nm,0.3s,baz=199,slow=5.6,SNR=5.1
0.6nm,0.4s
AKASG Malin Array Be 15.93 7 Pn Pn 17 39 25.9 +1.3
0.7nm,0.3s,baz=204,slow=10,SNR=4.2
0.1nm,0.3s
GERES GERESS Array B 16.80 330 Pn Pn 17 39 36.9 +1.1
baz=142,slow=12,SNR=2.0
0.2nm,0.5s
BELG Belogornoye 23.14 34 P P 17 40 46.5 -0.2
4.6nm,0.5s,baz=227,slow=22,SNR=5.2
4.6nm,0.5s
ESDC Sonseca Array 24.54 290 P P 17 40 59.5 -0.8
0.6nm,0.6s,baz=80,slow=9.7,SNR=6.0
0.6nm,0.6s
FINES FINESS Array B 26.56 360 P P 17 41 19.5 +1.2
1.1nm,0.8s,baz=190,slow=9.6,SNR=3.5
1.1nm,0.8s
AKTO Aktyubinsk 27.70 46 P P 17 41 28.8 +0.1
1.2nm,0.4s,baz=260,slow=11,SNR=5.5
1.2nm,0.4s
EKA Eskdalemuir Ar 28.83 324 P P 17 41 39.7 +1.1
3.9nm,1.0s,baz=123,slow=10,SNR=1.6
3.9nm,1.0s
TORD Torodi Ar. Bea 31.10 232 P P 17 41 59.1 0.0
1.6nm,0.6s,baz=37,slow=8.9,SNR=8.1
1.6nm,0.6s
ARCES ARCESS Array B 34.69 359 P P 17 42 28.0 -1.9
2.0nm,0.9s,baz=183,slow=9.4,SNR=1.5
BVAR Borovoye Array 35.81 46 P P 17 42 40.8 +1.0
0.5nm,0.5s,baz=254,slow=9.7,SNR=3.5
0.5nm,0.5s
KURBB Kurchatov Arra 40.51 51 P P 17 43 19.6 +0.1
1.2nm,0.5s,baz=278,slow=8.8,SNR=11
1.2nm,0.5s
MKAR Makanchi Array 43.09 56 P P 17 43 41.0 +0.4
0.7nm,0.5s,baz=297,slow=1.0,SNR=10.0
0.7nm,0.5s
ZALV Zalesovo Beam 44.47 46 P P 17 43 50.7 -0.8
1.5nm,0.5s,baz=269,slow=8.7,SNR=7.3
1.5nm,0.5s
SFJD Kangerlussuaq 53.39 332 LR LR 18 08 35.4
comp=Z,23nm,20.4s,baz=323,slow=37
SONM Songino Array 58.88 51 P P 17 45 39.6 +0.1
0.3nm,0.4s,baz=282,slow=8.7,SNR=2.4
0.3nm,0.4s
SCHQ Schefferville 64.03 320 P P 17 46 15.3 +1.3
0.6nm,0.6s,baz=27,slow=11,SNR=1.7
JOW Kunigami 84.02 62 LR LR 18 29 28.3
comp=Z,276nm,21.0s,baz=142,slow=38

*SOME **04** 17:39:23.1,38˚.42N×72˚.57E,h10km*
*KRNET **04** 17:39:24.8±0.1,39˚.00N×72˚.78E,mb3.6*
ISC 04 17:39:26.3±1.6,38.7N±0.1×72.70E±0.05,h30km,n24,
σ1§89/41,22C-10D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
GAR	**Garm**	**1.88**	**280**	⇑*iP*		**Pb**	**17 40 00.3**	**+0.2**
GAR				⇑*iS*		**Sb**	**17 40 26.4**	**+3.1**
ARSB	**Arslanbob**	**2.62**	**5**	⇑*iP*		**Pn**	**17 40 06.3**	**-0.4**
ARSB				⇑*eS*		**Sn**	**17 40 36.6**	**-0.9**
CHGR	**Chuyangaron**	**2.77**	**270**	⇑*iP*		**Pb**	**17 40 13.5**	**-1.7**
CHGR				⇑*eS*		**Sb**	**17 40 48.9**	**+0.1**
JNKS	**Jany-Kuch**	**3.26**	**43**	⇑*iP*		**Pn**	**17 40 16.0**	**+0.3**
JNKS				⇑*eS*		**Sn**	**17 40 53.4**	**-0.2**
NRN	**Naryn**	**3.71**	**42**	⇑*iP*		**Pn**	**17 40 21.7**	**-0.2**
NRN				⇑*iS*		**Sn**	**17 41 03.4**	**-1.4**
UCH	**Uchtor**	**3.77**	**21**	P		**Pn**	**17 40 24.7**	**+1.8**
	SNR=10							
UCH	**Uchtor**	**3.77**	**21**	⇓*iP*		**Pn**	**17 40 22.6**	**-0.3**
UCH				⇓*iS*		**Sn**	**17 41 04.7**	**-1.8**
EKS2	**Erkin-Say**	**4.03**	**11**	⇓*iP*		**Pn**	**17 40 25.8**	**-0.3**
EKS2				⇓*iS*		**Sn**	**17 41 10.3**	**-2.0**
MRKS	**Merke**	**4.05**	**5**	*eP*		**Pn**	**17 40 28.6**	**+2.3**
	37nm,0.5s							
MRKS				*eS*		**Sn**	**17 41 15.9**	**+3.2**
	18nm,0.4s							
AAK	**Ala-Archa**	**4.15**	**19**	P		**Pn**	**17 40 30.2**	**+2.4**
	SNR=7.3							
AAK	**Ala-Archa**	**4.15**	**19**	⇑Pn		**Pn**	**17 40 30.0**	**+2.3**
	2.5nm,0.4s							
AAK				⇓Lg	Lg		17 41 18.2	
	6.7nm,0.6s							
AAK	**Ala-Archa**	**4.15**	**19**	⇑*iP*		**Pn**	**17 40 27.6**	**-0.2**
AAK				⇑*iS*		**Sn**	**17 41 13.3**	**-2.1**
KBK	**Karagaybulak**	**4.29**	**23**	⇑*eP*		**Pn**	**17 40 29.5**	**-0.3**
KBK				⇑*eS*		**Sn**	**17 41 17.0**	**-1.9**
ULHL	**Ulahol**	**4.45**	**36**	⇑*eP*		**Pn**	**17 40 31.9**	**+0.1**
ULHL				⇑*iS*		**Sn**	**17 41 21.2**	**-1.5**
CHMS	**Chumysh**	**4.56**	**19**	P		**Pn**	**17 40 36.1**	**+2.9**
	SNR=6.7							
CHMS	**Chumysh**	**4.56**	**19**	⇓*iP*		**Pn**	**17 40 33.0**	**-0.2**
CHMS				⇓*iS*		**Sn**	**17 41 23.1**	**-2.1**
KK31	**Karatay Array**	**4.69**	**340**	⇓Pn		**Pn**	**17 40 36.7**	**+1.7**
	1.1nm,0.2s,baz=149,slow=11,SNR=83							
KK31				⇑Lg	Lg		17 41 29.0	
	11nm,0.7s,baz=144,slow=21,SNR=5.9							
TKM2	**Tokmak 2**	**4.75**	**27**	P		**Pn**	**17 40 39.0**	**+3.1**
	SNR=5.0							
TKM2	**Tokmak 2**	**4.75**	**27**	⇓*iP*		**Pn**	**17 40 36.0**	**0.0**
TKM2				⇓*iS*		**Sn**	**17 41 28.1**	**-1.9**
USP	**Ospenovka**	**4.75**	**16**	P		**Pn**	**17 40 37.8**	**+1.9**
	SNR=5.8							
USP	**Ospenovka**	**4.75**	**16**	⇑*iP*		**Pn**	**17 40 35.6**	**-0.3**
USP				⇑*iS*		**Sn**	**17 41 27.6**	**-2.3**
BRLS	**Boroldav**	**4.83**	**334**	*eP*		**Pn**	**17 40 36.1**	**-0.9**
	2.5nm,0.2s							
BRLS				*eS*		**Sn**	**17 41 28.8**	**-3.1**
	5.3nm,0.3s							
KDJ	**Kajisay**	**4.83**	**44**	⇑*eP*		**Pn**	**17 40 37.7**	**+0.6**
KDJ				⇑*iS*		**Sn**	**17 41 31.1**	**-1.1**
KST	**Kastek**	**4.98**	**29**	*eP*		**Pn**	**17 40 42.3**	**+3.1**
	5.2nm,0.5s							
KST				*eS*		**Sn**	**17 41 39.5**	**+3.6**
	8.3nm,0.5s							

*IDC **04** 17:54:03.1±5.5,8˚.18S×123˚.94E,h128km±62km,mb3.3/1,*
mbtmp3.5/3,Error ellipse: s-maj=90.6km s-min=32.4km
az=47.0
*DJA **04** 17:54:03.0±0.8,8˚.S±6˚×12˚.4E±˚,h183km±8km,M3.5/7,*
MLv3.5/7
ISC 04 17:54:03.7±1.2,8.43S±0.09×123.98E±0.10,h150km,n12,
σ3§03/18,Flores region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SOEI	**Soe**	**1.34**	**168**	P		**Pn**	**17 54 34.6**	**+2.8**
MMRI	**Maumere**	**1.74**	**263**	P		**Pn**	**17 54 35.6**	**-0.2**
MMRI				S		**Sn**	**17 55 01.4**	**+0.9**
BATI	**Baumata**	**1.79**	**190**	P		**Pn**	**17 54 39.0**	**+2.5**
	207nm,0.3s,baz=75,slow=1.5,SNR=161							
BATI				S		**Sn**	**17 55 04.0**	**+2.3**
	89nm,0.3s,baz=108,slow=21,SNR=9.5							
BATI	**Baumata**	**1.79**	**190**	P		**Pn**	**17 54 38.3**	**+1.8**
BATI				S		**Sn**	**17 55 04.2**	**+2.5**
EDFI	**Ende, Flores**	**2.29**	**262**	P		**Pn**	**17 54 41.7**	**-0.6**
WSI	**Waingapu**	**3.84**	**251**	P		**Pn**	**17 54 59.8**	**-2.1**
WBSI	**Waikabubak, Su**	**4.69**	**255**	P		**Pn**	**17 55 10.0**	**-3.1**
BKSI	**Bulukumba**	**4.92**	**309**	P		**Pn**	**17 55 14.0**	**-2.1**
FITZ	**Fitzroy Crossi**	**9.74**	**171**	P		**Pn**	**17 56 19.5**	**-0.8**
	1.4nm,0.3s,baz=356,slow=10,SNR=30							
FITZ				S		**Sn**	**17 58 02.7**	**-5.6**
	5.0nm,0.4s,baz=258,slow=23,SNR=8.0							
WRA	**Warramunga Arr**	**15.21**	**140**	P		**P**	**17 57 33.4**	**+1.0**
	0.5nm,0.3s,baz=318,slow=13,SNR=18							
WRA				S		**Sn**	**18 00 13.2**	**-6.9**
	1.5nm,0.6s,baz=318,slow=26,SNR=11							
ASAR	**Alice Springs**	**17.88**	**149**	P		**Pn**	**17 58 06.1**	**+2.9**
	0.5nm,0.8s,baz=327,slow=11,SNR=19							
ASAR				S		**S**	**18 01 18.8**	**-0.8**
	0.6nm,0.5s,baz=315,slow=21,SNR=6.2							
MKAR	**Makanchi Array**	**66.31**	**330**	P		**P**	**18 04 36.0**	**0.0**
	0.4nm,0.5s,baz=123,slow=8.0,SNR=6.5							
	0.4nm,0.5s							

NNC 04 17:59:20.6±7.1,37.68N×71.63E,h217km±97km,mb2.4,
mpv3.6,4C-2D,Error ellipse: s-maj=72.7km
s-min=42.3km az=15.0,Afghanistan-Tajikistan border
region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
AAK	**Ala-Archa**	**5.42**	**23**	⇓P		Pn	18 00 39.6	-1.1
	1.4nm,0.4s							
AAK				⇑S		S	18 01 45.3	+1.2
	4.6nm,0.7s							
KK31	**Karatay Array**	**5.49**	**351**	⇑P		Pn	18 00 41.5	0.0
	5.5nm,0.3s,baz=167,slow=12,SNR=56							
KK31				⇑S		S	18 01 46.1	+0.6
	16nm,0.6s,baz=171,slow=24,SNR=26							
AB31	**Akbulak array**	**14.33**	**328**	⇑P		P	18 02 36.9	+2.2
	0.2nm,0.3s,baz=169,slow=10,SNR=9.4							
AB31				⇓S		S	18 05 10.3	-1.8
	2.6nm,0.8s,baz=152,slow=23,SNR=7.1							

*ISK **04** 18:03:34.7,39˚.65N×25˚.35E,h13km,ML2.1/9*
*AFAD **04** 18:03:38.5,39˚.58N×25˚.54E,h7km±3km,ML1.8*

ISC 04 18:03:35.3±2.0,39.65N±0.04×25.36E±0.08,h10km±11km,
n16,σ0§50/26,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
BOZC	**Bozcaada**	**0.57**	**70**	Pg		**Pg**	**18 03 46.3**	**0.0**
BOZC				Sg		**Sb**	**18 03 54.8**	**-0.6**
BOZC	**Bozcaada**	**0.57**	**70**	P		**Pb**	**18 03 48.3**	**+1.0**
BOZC				S		**Sb**	**18 03 55.1**	**-0.3**
SIGR	**SIGRI**	**0.58**	**139**	Pg		**Pg**	**18 03 46.9**	**+0.3**
KOCA	**Canakkale, Ayv**	**0.62**	**104**	P		**Pg**	**18 03 47.5**	**+0.2**
KOCA				S		**Sb**	**18 03 57.1**	**+0.1**
GADA	**Gvkgeada**	**0.68**	**37**	Pg		**Pg**	**18 03 48.5**	**+0.1**
EZN	**Ezine**	**0.77**	**77**	Pg		**Pg**	**18 03 49.6**	**-0.4**
EZN				Sg		**Sb**	**18 04 01.4**	**+0.3**
EZNE	**Ezine-Canakkal**	**0.78**	**82**	Pg		**Pg**	**18 03 50.1**	**-0.3**
CNKL	**anakkale-Mer**	**0.89**	**62**	P		**Pb**	**18 03 53.8**	**+1.0**
CNKL				S		**Sg**	**18 04 04.3**	**+0.2**
CNKL				*i* IAML			18 04 12.0	
	comp=N,36nm,1.3s							
BAYC	**CANAKKALE_Bayr**	**0.92**	**84**	P		**Pb**	**18 03 53.7**	**+0.4**
BAYC				S		**Sg**	**18 04 04.3**	**-0.7**
BAYC				*i* IAML			18 04 08.0	
	comp=N,30nm,0.1s							
AYVA	**Ayvalik**	**1.09**	**108**	P		**Pb**	**18 03 56.4**	**+0.3**
AYVA				S		**Sb**	**18 04 10.2**	**-0.1**
AYVA				*i* IAML			18 04 12.0	
	comp=N,44nm,0.5s							
AYVA				*i* IAML			18 04 12.0	
	comp=E,38nm,0.4s							
GELI	**Tayfur-Gelibol**	**1.14**	**49**	Pn		**Pb**	**18 03 56.6**	**-0.3**
YAYO	**Edremit-Balk**	**1.32**	**91**	Pn		**Pn**	**18 03 59.2**	**-0.6**
BUHA	**Balikesir, Bur**	**1.34**	**96**	P		**Pg**	**18 04 01.1**	**+0.2**
BUHA				S		**Sn**	**18 04 18.2**	**+0.5**
BUHA				*i* IAML			18 04 20.0	
	comp=E,31nm,0.4s							
ERIK	**Erikli-Kesan**	**1.35**	**41**	Pn		**Pn**	**18 03 59.6**	**-0.5**
ERIK				Sn		**Sb**	**18 04 17.8**	**-0.1**
ALN	**Alexandroupoli**	**1.35**	**23**	Pn		**Pn**	**18 04 00.0**	**-0.1**
ALN				Sn		**Sb**	**18 04 18.0**	**+0.1**
CHOS	**Chios island**	**1.38**	**157**	Pn		**Pn**	**18 03 59.8**	**-0.8**

*THE **04** 18:03:56.3,38˚.8N±0˚.7×23˚.3E±0˚.8,h10km±4km,M2.7/14,*
MLh2.7/14
ATH 04 18:03:56.1,38˚.83N×23˚.29E,h13km±1km,ML2.7/19,
Manual Solution by K.Orfanogiannaki First location:
2019/09/04 18:04:51, This location: 2019/09/04 18:26:10
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude
uncertainty: 0 km; Longitude uncertainty: 0 km,Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
ATAL	**Atalanti**	**0.25**	**237**	P		**Pg**	18 04 01.3	-0.1
ATAL				S		**Sg**	18 04 05.0	+0.1
ATAL	**Atalanti**	**0.25**	**237**	P		**Pg**	18 04 01.5	+0.1
ATAL				S		**Sg**	18 04 05.1	+0.2
LKR	**Lokris**	**0.28**	**232**	P		**Pg**	18 04 02.0	0.0
LKR				S		**Sg**	18 04 06.2	+0.2
LKR	**Lokris**	**0.28**	**232**	P		**Pg**	18 04 02.1	+0.1
LKR				S		**Sg**	18 04 06.0	0.0
NEO	**Neokhori**	**0.48**	**354**	P		**Pg**	18 04 05.8	+0.1
NEO				S		**Sg**	18 04 12.7	+0.6
NEO	**Neokhori**	**0.48**	**354**	P		**Pg**	18 04 05.7	+0.1
NEO				S		**Sg**	18 04 12.3	+0.1
AXAR	**Agios Charalam**	**0.49**	**263**	P		**Pg**	18 04 06.0	+0.1
AXAR				S		**Sg**	18 04 13.0	+0.6
AXAR	**Agios Charalam**	**0.49**	**263**	P		**Pg**	18 04 05.9	+0.1
AXAR				S		**Sg**	18 04 12.5	+0.1
AOS	**Alonnisos**	**0.58**	**53**	P		**Pg**	18 04 06.6	-0.8
AOS				S		**Sg**	18 04 13.9	-1.1
VIL2	**Platees**	**0.61**	**181**	P		**Pb**	18 04 08.4	-0.3
VIL2				S		**Sb**	18 04 18.5	+1.3
PARN2	**Moni Osiou Mel**	**0.65**	**168**	P		**Pg**	18 04 08.2	-0.5
PARN2				S		**Sb**	18 04 19.2	+1.0
VILL	**Villia**	**0.66**	**178**	P		**Pg**	18 04 08.4	-0.6
VILL				S		**Sb**	18 04 18.6	0.0
KYMI	**Kymi, Euboea I**	**0.67**	**107**	P		**Pg**	18 04 08.6	-0.4
KYMI				S		**Sb**	18 04 19.0	+0.2
KYMI	**Kymi, Euboea I**	**0.67**	**107**	P		**Pg**	18 04 08.4	-0.7
KYMI				S		**Sg**	18 04 17.9	0.0
STFN	**Stefani**	**0.68**	**163**	P		**Pg**	18 04 09.3	-0.1
STFN				S		**Sb**	18 04 19.9	+0.7
STFN	**Stefani**	**0.68**	**163**	P		**Pg**	18 04 08.7	-0.6
STFN				S		**Sb**	18 04 19.2	+0.1
AGG	**Agios Georgios**	**0.77**	**285**	P		**Pg**	18 04 10.4	-0.7
PARN3	**Mandra,Attica,**	**0.77**	**167**	P		**Pg**	18 04 10.7	-0.4
PARN3				S		**Sb**	18 04 22.2	+0.4
PARN1	**Fyli,Attica,Gr**	**0.78**	**157**	P		**Pg**	18 04 10.8	-0.4
LTK	**Loutraki**	**0.84**	**197**	P		**Pg**	18 04 11.5	-0.9
LTK	**Loutraki**	**0.84**	**197**	P		**Pg**	18 04 11.6	-0.8
LTK				S		**Sb**	18 04 24.0	+0.3
LOUT	**Loutraki**	**0.87**	**196**	P		**Pg**	18 04 12.6	-0.4
LOUT				S		**Sb**	18 04 25.1	+0.5
PTL	**Penteli**	**0.90**	**149**	P		**Pg**	18 04 13.3	-0.2
PTL	**Penteli**	**0.90**	**149**	P		**Pg**	18 04 12.8	-0.7
PTL				S		**Sb**	18 04 25.7	+0.3
DION	**Dionisos Attik**	**0.90**	**146**	P		**Pg**	18 04 13.1	-0.5
DION				S		**Sg**	18 04 25.5	+0.1
ATH	**Athens Observa**	**0.92**	**158**	P		**Pg**	18 04 13.3	-0.5
ATH				S		**Sb**	18 04 26.6	+0.7
MAKR	**Makrakomi, Fth**	**0.92**	**282**	P		**Pg**	18 04 13.1	-0.7
MAKR				S		**Sb**	18 04 26.4	+0.4
KALE	**Kalithea**	**1.00**	**245**	P		**Pb**	18 04 14.3	-0.9
ANX	**Ano Chora**	**1.09**	**258**	P		**Pb**	18 04 16.1	-0.7
ANX				S		**Sn**	18 04 31.8	-0.4
EFP	**Efpalio**	**1.15**	**250**	P		**Pb**	18 04 17.3	-0.5
EFP				S		**Sb**	18 04 32.7	0.0
EVR	**Evrytania**	**1.16**	**275**	P		**Pb**	18 04 17.2	-0.8
GUR	**Goura**	**1.16**	**220**	P		**Pb**	18 04 17.3	-0.7
GUR				S		**Sg**	18 04 33.2	-0.2
KLV	**Kalavryta, Ach**	**1.19**	**229**	P		**Pn**	18 04 17.9	-0.5
KLV				S		**Sb**	18 04 34.0	+0.3
KARY	**Karystos**	**1.20**	**131**	P		**Pn**	18 04 18.6	0.0
KARY				S		**Sb**	18 04 34.4	+0.3
MET5	**Makryloggos,Me**	**1.20**	**177**	P		**Pn**	18 04 18.3	-0.3
MET4	**Agioi Theodoro**	**1.21**	**176**	P		**Pn**	18 04 18.7	+0.1
MET4				S		**Sg**	18 04 35.0	0.0
THL	**Klokotos Trika**	**1.23**	**307**	P		**Pn**	18 04 18.9	-0.1
THL				S		**Sb**	18 04 35.2	+0.2
MET6	**Megalochori,Me**	**1.23**	**177**	P		**Pn**	18 04 19.0	0.0
MET6				S		**Sb**	18 04 34.8	-0.2
PVO	**Paravola**	**1.39**	**262**	P		**Pb**	18 04 21.9	0.0
DRO	**Drossia**	**1.51**	**235**	P		**Pb**	18 04 23.7	-0.4
PLG	**Polygyros**	**1.55**	**5**	P		**Pn**	18 04 22.6	-0.8
AXS	**Araxos**	**1.62**	**248**	P		**Pb**	18 04 26.0	+0.1
TETR	**Tetrakomo, Epi**	**1.65**	**289**	P		**Pb**	18 04 25.7	-0.6
ITM	**Ithomi**	**1.96**	**214**	P		**Pn**	18 04 30.1	+1.0
VLI	**Veliai**	**2.12**	**188**	P		**Pn**	18 04 31.9	+0.6
VLS	**Valsamata**	**2.21**	**254**	P		**Pn**	18 04 33.4	+0.9

*NEIC **04** 18:06:16.6±2.3,9˚.39S±0˚.08×107˚.98E±0˚.10,h10km±1km,*
mb4.6/27,Error ellipse: s-maj=17.9km s-min=11.3km
az=238.0
*DJA **04** 18:06:16.8±0.3,9˚.S±3˚×10˚.8E±˚,h10km,M4.7/21,mB5.5/1,*
mb5.0/6,MLv4.6/21,Mw(mB)4.9/1
*IDC **04** 18:06:24.6±2.8,9.10S×108.08E,h66km±25km,mb3.9/21,*
*mbtmp4.3

CGJI	Cibinong	3.44	322	P		Pn	18 07 10.4	-0.7	
PCJI	Pacitan	3.49	71	P		Pn	18 07 12.8	+1.1	
NGJI	Ngawi	4.08	62	P		Pn	18 07 21.6	+1.7	
GMJI	Gumukmas	5.64	80	P		Pn	18 07 43.8	+2.5	
	0.3nm55nm,1.4s								
LWLI	Liwa	5.70	319	P		Pn	18 07 41.0	-1.3	
	129nm,0.6s								
BLJI	Banyuglugur	5.91	75	P		Pn	18 07 47.4	+2.4	
	0.7nm118nm,0.5s								
MDSI	Maura Dua	6.04	323	P		Pn	18 07 44.9	-1.9	
JAGI	Jajag, Banyuwa	6.29	83			Pn	18 07 50.0	-0.4	
JAGI	Jajag, Banyuwa	6.29	83	P		Pn	18 07 50.5	+0.2	
	0.6nm3µm134nm,0.8s								
ABJI	Asem Bagus	6.50	77	P		Pn	18 07 55.5	+2.3	
MNAI	Manna	6.93	315	Pn		Pn	18 08 01.5	+2.5	
SBUM	Sibu	12.50	21			Pn	18 09 16.9	+1.6	
KAPI	Kappang	12.57	71	P		Pn	18 09 17.2	+0.8	
	9.6nm,0.3s,baz=96,slow=14,SNR=2.2								
BATI	Baumata	15.62	94	P		Pn	18 09 57.9	+0.3	
	10nm,0.3s,baz=65,slow=11,SNR=2.2								
SOEI	Soe	16.20	93			Pn	18 10 04.8	-0.5	
SOEI				IAmb		IAmb	18 10 40.7		
	comp=Z,42nm,0.8s								
TOLI2	Tolitoli	16.55	52			Pn	18 10 09.6	0.0	
PSA00	Pilbara Seismi	16.77	138	Pn		Pn	18 10 10.0	-2.3	
KKM	Kota Kinabalu	17.41	29	Pn		Pn	18 10 18.6	-1.9	
MYLDM	Lahad Datu	17.91	37			P	18 10 27.7	+0.7	
MYLDM				IAmb		IAmb	18 10 29.6		
	comp=Z,24nm,1.0s								
FITZ	Fitzroy Crossi	19.34	119			P	18 10 41.2	-1.4	
FITZ	Fitzroy Crossi	19.34	119	P		Pn	18 10 43.5	-0.5	
	comp=Z,3.7nm,0.8s,baz=260,slow=12,SNR=16								
MORW	Morawa	21.08	160	P		P	18 11 00.0	-1.5	
MORW				IAmb		IAmb	18 11 07.0		
	comp=Z,41nm,1.4s								
KNRA	Kununurra	21.36	109	P		P	18 11 02.0	-2.6	
KNRA				IAmb		IAmb	18 11 20.4		
	comp=Z,16nm,0.9s								
BNDI	Bandanaira	22.41	79	P		P	18 11 14.2	-1.7	
DAV	Davao City (W)	24.04	48	P		P	18 11 32.3	0.0	
	comp=Z,114nm,0.3s,baz=0.0,slow=2.0,SNR=1.8								
TGY	Tagaytay City	26.67	29	P		P	18 11 54.1	-2.0	
	comp=Z,142nm,0.3s,baz=308,slow=12,SNR=3.3								
WRA	Warramunga Arr	27.67	115			P	18 12 05.0	-0.2	
WRA	Warramunga Arr	27.67	115	P		P	18 12 05.3	+0.1	
	comp=Z,1.8nm,0.8s,baz=289,slow=11,SNR=16								
	comp=Z,1.8nm,0.8s								
WRAB	Tennant Creek	27.68	115	P		P	18 12 05.8	+0.5	
WRAB				IAmb		IAmb	18 12 22.1		
	comp=Z,12nm,1.4s								
ASAR	Alice Springs	28.69	123	P		P	18 12 13.1	-1.1	
ASAR	Alice Springs	28.69	123	P		P	18 12 15.7	+1.4	
	comp=Z,1.3nm,0.7s,baz=306,slow=9.5,SNR=14								
	comp=Z,1.3nm,0.7s								
CMAR	Chiang Mai Arr	28.98	342	P		P	18 12 16.1	-0.7	
	comp=Z,1.1nm,0.6s,baz=162,slow=8.4,SNR=8.3								
	comp=Z,1.1nm,0.6s								
CHTO	Chiang Mai	29.32	343	P		P	18 12 20.1	+0.4	
H08S2	Diego Garcia H	34.99	270	T		T	18 50 16.7		
	baz=95								
H08S3	Diego Garcia H	35.01	270	T		T	18 50 09.3		
	baz=95								
H08S1	Diego Garcia H	35.01	270	T		T	18 50 15.4		
	baz=95								
PZH	PanZhiHua	36.12	351	P		P	18 13 22.7	+3.5	
STKA	Stephens Creek	38.48	131	P		P	18 13 36.0	-3.1	
STKA	Stephens Creek	38.48	131	P		P	18 13 40.2	+1.1	
	comp=Z,4.7nm,0.8s,baz=305,slow=8.3,SNR=6.6								
	comp=Z,4.7nm,0.8s								
LSA	Lhasa	42.01	338	P		P	18 14 07.9	-1.0	
EVN	Everest	42.29	332			P	18 14 11.4	0.0	
EVN				IAmb		IAmb	18 14 18.9		
	comp=Z,7.5nm,0.8s								
NJ2	Nanjing	42.48	14	*e*P		P	18 14 14.2	+2.1	
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
XAN	Xi'an	43.15	1	⇓P		P	18 14 17.7	+0.1	
XAN				pmax		pmax			
	comp=Z,12nm,0.6s								
LZDM	Lanzhou Array	45.22	355	P		P	18 14 34.4	-0.1	
	comp=Z,5.2nm,0.5s,baz=178,slow=10,SNR=2.6								
	comp=Z,5.2nm,0.5s								
LZH	Lanzhou	45.34	355	*e*P		P	18 14 36.0	+0.8	
LZH				pP		pP	18 14 43.8	+0.9	
LZH				pmax		pmax			
	comp=Z,21nm,1.2s								
LZH				LR		LR			
	comp=N,260nm,13.7s								
LZH				LR		LR			
	comp=E,310nm,13.7s								
LZH				LR		LR			
	comp=Z,310nm,14.1s								
TIA	Tai'an	46.14	10	P		P	18 14 40.5	-0.9	
TIA				pmax		pmax			
	comp=Z,5.0nm,0.5s								
GTA	Gaotai	49.07	352	P		P	18 15 06.2	+2.0	
GTA				pmax		pmax			
	comp=Z,7.0nm,1.0s								
GTA				LR		LR			
	comp=N,200nm,21.9s								
GTA				LR		LR			
	comp=E,270nm,19.9s								
GTA				LR		LR			
	comp=Z,380nm,20.3s								
BTO	Baotou	49.73	2	*e*P		P	18 15 10.7	+1.5	
BTO				pP		pP	18 15 15.4	-1.6	
BTO				sP		sP	18 15 17.7	-2.1	
BTO				S		S	18 21 32.1	-45	
BTO				sS		pS	18 21 58.8	-27	
BTO				SS		ScS	18 24 38.8	-20	
BTO				pmax		pmax			
	comp=Z,26nm,1.1s								
BTO				pmax		pmax			
	comp=Z,250nm,8.6s								
BTO				LR		LR			
	comp=N,640nm,16.7s								
BTO				LR		LR			
	comp=E,410nm,16.4s								
BTO				LR		LR			
	comp=Z,870nm,20.7s								
HHC	Hu-ho-hao-te	50.05	4	*e*P		P	18 15 14.8	+3.1	
HHC				pmax		pmax			
	comp=Z,15nm,0.7s								
KSRS	Korea Array	50.21	21	P		P	18 15 11.3	-1.4	
	comp=Z,0.7nm,0.6s,baz=202,slow=7.8,SNR=2.0								
	comp=Z,0.7nm,0.6s								
XLT	XiLinHaoTe	53.51	7	*e*P		P	18 15 42.2	+4.8	
XLT				sP		pwP	18 15 50.6	+2.2	
XLT				pmax		pmax			
	comp=Z,5.0nm,0.6s								
WMQ	Urumqi	55.99	342	*e*P		P	18 15 54.8	-0.5	
WMQ				pmax		pmax			
	comp=Z,42nm,1.1s								
WMQ				LR		LR			
	comp=Z,150nm,23.3s								
KSH	Kashi	56.90	331	P		P	18 16 01.4	-0.6	
KSH				sP		pP	18 16 10.5	+0.7	
KSH				pmax		pmax			
	comp=Z,5.0nm,0.6s								
SONM	Songino Array	56.94	359			P	18 16 01.9	-0.2	
SONM				IAmb		IAmb	18 16 03.5		
	comp=Z,3.4nm,0.7s								
SONM	Songino Array	56.94	359	P		P	18 16 02.3	+0.3	
	comp=Z,3.3nm,0.7s,baz=180,slow=7.9,SNR=22								
	comp=Z,3.3nm,0.7s								
ULN	Ulaanbaatar	56.96	359			P	18 16 01.5	-0.7	
ULN				IAmb		IAmb	18 16 03.4		
	comp=Z,4.9nm,0.7s								
USRK	Ussuriysk Ar.	57.61	20	P		P	18 16 04.2	-2.5	
	comp=Z,1.4nm,0.5s,baz=196,slow=6.7,SNR=4.2								
	comp=Z,1.4nm,0.5s								
NRN	Naryn	58.39	332	P		P	18 16 12.6	-0.1	
NRN				IAmb		IAmb	18 16 17.5		
	comp=Z,4.7nm,0.8s								
GAR	Garm	59.41	327			P	18 16 20.1	+0.5	
GAR				IAmb		IAmb	18 16 35.0		
	comp=Z,6.4nm,0.6s								
ARSB	Arslanbob	59.74	330			P	18 16 22.1	+0.2	
ARSB				IAmb		IAmb	18 16 24.5		
	comp=Z,3.7nm,0.7s								
CHGR	Chuyangaron	59.81	326	P		P	18 16 20.8	-1.5	
SIMJ	Simiganj	59.90	325			P	18 16 21.9	-1.0	
SIMJ				IAmb		IAmb	18 16 24.5		
	comp=Z,2.8nm,0.7s								
H04N2	CROZET ISLANDS	60.06	222	T		T	19 21 42.9		
	baz=70,slow=75,SNR=8.5								
H04N1	CROZET ISLANDS	60.08	222	T		T	19 21 42.5		
	baz=70,slow=75,SNR=8.1								
H04N3	CROZET ISLANDS	60.08	222	T		T	19 21 41.1		
	baz=70,slow=75,SNR=9.3								
MKAR	Makanchi Array	60.36	340			P	18 16 25.6	-0.2	
MKAR	Makanchi Array	60.36	340	P		P	18 16 26.2	+0.5	
	comp=Z,9.8nm,0.6s,baz=143,slow=7.7,SNR=132								
	comp=Z,9.8nm,0.6s								
HEH	HeiHe	61.75	14	*e*P		P	18 16 34.2	-0.9	
KKAR	Karatay Array	62.29	330	P		P	18 16 39.1	+0.2	
KURBB	Kurchatov Arra	64.92	340	P		P	18 16 56.6	+0.5	
	comp=Z,3.6nm,0.7s,baz=156,slow=5.6,SNR=26								
	comp=Z,3.6nm,0.7s								
MAW	Mawson	65.39	197	P		P	18 17 01.3	+2.4	
	comp=Z,1.8nm,0.4s,baz=52,slow=9.9,SNR=5.1								
	comp=Z,1.8nm,0.4s								
ZALV	Zalesovo Beam	65.99	345	P		P	18 17 02.3	-0.7	
	comp=Z,3.7nm,0.8s,baz=155,slow=4.9,SNR=11								
	comp=Z,3.7nm,0.8s								
URZ	Urewera	68.01	127	LR		LR	18 46 27.6		
	comp=Z,69nm,21.7s,baz=305,slow=35								
BVAR	Borovoye Array	69.83	337	P		P	18 17 27.8	+0.5	
	comp=Z,5.4nm,0.8s,baz=151,slow=8.4,SNR=20								
	comp=Z,5.4nm,0.8s								
RAO	Raoul Island	71.78	118	LR		LR	18 48 19.7		
	comp=Z,328nm,19.5s,baz=326,slow=35								
ABKAR	Akbulak array	71.84	329			P	18 17 39.5	0.0	
YAK	Yakutsk	73.16	11			P	18 17 45.7	-1.3	
YAK	Yakutsk	73.16	11	LR		LR	18 50 22.9		
	comp=Z,50nm,21.7s,baz=238,slow=36								
VNDA	Vanda	73.53	169	P		P	18 17 50.5	+1.4	
	comp=Z,0.9nm,0.8s,baz=288,slow=4.3,SNR=5.5								
	comp=Z,0.9nm,0.8s								
AKTO	Aktyubinsk	73.55	329	P		P	18 17 52.5	+2.9	
	comp=Z,1.4nm,0.5s,baz=80,slow=5.4,SNR=5.8								
SYO	Syowa Base	73.61	200‖	*e*P		P	18 17 49.6	-0.1	
SBA	Scott Base	74.60	169	P		P	18 17 55.3	-0.1	
SBA				IAmb		IAmb	18 18 26.4		
	comp=Z,4.5nm,1.4s								
PETK	Petropavlovsk-	75.23	28	P		P	18 17 57.8	-1.5	
	comp=Z,1.7nm,0.6s,baz=222,slow=6.8,SNR=2.7								
	comp=Z,1.7nm,0.6s								
ARTI	Arti	77.13	334	P		P	18 18 09.1	-1.0	
	comp=Z,2.4nm,0.4s,baz=130,slow=4.0,SNR=6.3								
	comp=Z,2.4nm,0.4s								
KBZ	Khabaz	78.94	318	P		P	18 18 20.6	+0.3	
	comp=Z,2.3nm,1.0s,baz=124,slow=6.4,SNR=4.6								
	comp=Z,2.3nm,1.0s								
MMAI	Mount Meron Ar	80.63	306	P		P	18 18 31.5	+1.6	
	comp=Z,0.7nm,0.5s,baz=87,slow=8.1,SNR=2.3								
	comp=Z,0.7nm,0.5s								
QSPA	South Pole Qui	80.66	180	P		P	18 18 32.5	+3.0	
	comp=Z,1.6nm,0.7s,baz=258,slow=1.2,SNR=12								
	comp=Z,1.6nm,0.7s								
BRTR	Keskin Array B	84.00	312	P		P	18 18 48.1	+0.6	
	comp=Z,0.8nm,0.8s,baz=116,slow=8.4,SNR=5.3								
	comp=Z,0.8nm,0.8s								
SNAA	Sanae	87.56	197	P		P	18 19 06.9	+2.4	
	comp=Z,0.7nm,0.8s,baz=41,slow=3.3,SNR=5.0								
	comp=Z,0.7nm,0.8s								
ARCES	ARCESS Array B	96.01	339	LR		LR	19 09 49.8		
	comp=Z,37nm,18.1s,baz=88,slow=40								
SPITS	Spitsbergen Ar	99.38	348	LR		LR	19 12 31.7		
	comp=Z,85nm,18.8s,baz=72,slow=40								

*BJI **04** 18:09:42.2, 0.05S×126.24E, h55km, mB5.1/18, mb4.9/63, Ms4.5/29, Ms7 4.3/28*

*NEIC **04** 18:09:44.2±2.1, 0.29N±0.04×126.17E±0.04, h35km±1km, mb5.2/197, Mww5.0/20, Error ellipse: s-maj=9.1km s-min=2.9km az=226.0*

*IDC **04** 18:09:44.1±2.0, 0.24N×126.10E, h35km±14km, mb4.8/29, mbtmp5.0/33, ML4.6/4, MS4.0/22, Error ellipse: s-maj=18.6km s-min=7.7km az=71.0*

*DJA **04** 18:09:44.5±0.2, 0.0N±2°×12.6E±.°, h23km±2km, M4.9/54, mB5.4/24, mb5.2/54, MLv5.1/25, Mw5.0/9, Mw(mB)4.8/24, MwMwp4.7/9, Mwp5.1/9*

*GCMT **04** 18:09:46.2±0.2, 0.21N±0.01×126.01E±0.02, h28km, MW5.1/95, Moment Tensor Solution. s77,c101; s95,c153; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr4.54±.16; Mθθ-3.71±.10; Mϕϕ-0.82±.11; Mrθ0.73±.18; Mθϕ-2.32±.07; Mϕr-2.20±.24; Best double couple: M≈5.29700×10^16^ NP1:ϕ≈83.00000°, δ47.00000°, λ124.00000°. NP2:ϕ≈218.00000°, δ52.00000°, λ59.00000°. Principal axes: T 5.5740, Plg66.0000°, Azm66.0000°; N -0.5490, Plg24.0000°, Azm238.0000°; P -5.0200, Plg3.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 18:09:44.2±0.5, 0.24N±0.03×126.19E±0.04, h33km±1km, h34km:pP-P, n644, σ1§26/578, mb5.2/171, MS4.1/29, 4D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.30	66		Pn	18 10 05.4	-0.5
TNTI	Ternate	1.30	66	P	Pn	18 10 05.1	-0.8
TNTI	Ternate	1.30	66	P	Pn	18 10 05.1	-0.8
TNTI				S	Sb	18 10 25.6	+1.2
LBMI	Labuha	1.58	123	P	Pn	18 10 10.6	+0.8
KMSI	Cibinong	2.23	279	Pn	Pn	18 10 19.6	+0.8
SANI	Sanana	2.28	185	P	Pn	18 10 19.4	-0.1
SANI	Sanana	2.28	185	S	Sn	18 10 48.2	+1.7
SANI	Sanana	2.28	185	Pn	Pn	18 10 19.3	-0.2
SGSI	Sangihe	3.49	349	P	Pn	18 10 38.6	+2.5
NLAI	Namlea	3.57	165	P	Pn	18 10 38.1	+0.8
LUWI	Luwuk	3.64	250		Pn	18 10 39.2	+1.0
LUWI	Luwuk	3.64	250	P	Pn	18 10 40.4	+2.2
LUWI	Luwuk	3.64	250	P	Pn	18 10 40.3	+2.1
MRSI	Marisa	4.25	273	P	Pn	18 10 49.1	+2.5
AAI	Ambon	4.38	153	P	Pn	18 10 50.0	+1.5
MSAI	Masohi	4.49	142	P	Pn	18 10 53.2	+3.2
APSI	Ampana	4.68	256	P	Pn	18 10 54.6	+2.1
SWI	Sorong	5.19	102	P	Pn	18 11 00.8	+1.2
	0.6nm3µm2µm172nm,0.7s						
TOLI2	Tolitoli	5.47	279		Pn	18 11 03.6	+0.2
TOLI2	Tolitoli	5.47	279	P	Pn	18 11 06.9	+3.5
KDI	Kendari	5.48	220	P	Pn	18 11 05.5	+1.9
BNDI	Bandanaira	6.01	142	P	Pn	18 11 12.9	+2.0
MPSI	Mapaga	6.29	271	P	Pn	18 11 17.4	+2.8
PCI	Palu	6.45	260	P	Pn	18 11 19.9	+3.0
	0.8nm5µm2µm224nm,1.0s						
BBSI	Bau Bau	6.74	212	P	Pn	18 11 23.5	+2.7
	0.9nm3µm2µm285nm,1.0s						
DAV	Davao City (W)	6.81	355	Pn	Pn	18 11 24.1	+2.2
	47nm,0.3s,baz=238,slow=13,SNR=1.8						
DAV				LR	LR	18 14 14.8	
	comp=Z,1µm,20.4s,baz=172,slow=40						
FAKI	Fak Fak	6.83	117		Pn	18 11 22.0	-0.1
FAKI	Fak Fak	6.83	117	P	Pn	18 11 22.6	+0.6
FAKI	Fak Fak	6.83	117	P	Pn	18 11 22.8	+0.8
	0.6nm3µm1µm186nm,1.0s						
TTSI	Tana Toraja	7.15	243	P	Pn	18 11 27.7	+1.2
	1.0nm3µm322nm,0.8s						
BNSI	Bone	7.62	233	P	Pn	18 11 34.6	+1.6
	0.7nm2µm184nm,0.6s						
SPSI	Sidrap Palu	7.65	237	P	Pn	18 11 35.3	+1.9
RKPI	Ransiki, Papua	8.18	102	P	Pn	18 11 42.3	+1.7
	2µm1µm115nm,0.9s						
BKSI	Bulukumba	8.19	228	P	Pn	18 11 43.1	+2.3
	2µm1µm118nm,0.7s						
KAPI	Kappang	8.28	231		Pn	18 11 41.2	-0.7
KAPI	Kappang	8.28	231	Pn	Pn	18 11 43.7	+1.7
	15nm,0.3s,baz=83,slow=5.0,SNR=16						
KAPI				Sn	Sn	18 13 17.0	+2.6
	5.3nm,0.3s,baz=132,slow=19,SNR=1.4						
KAPI	Kappang	8.28	231	P	Pn	18 11 44.4	+2.4
BSSI	Bau Bau, Buton	8.51	222	P	Pn	18 11 46.0	+0.8
	2µm117nm,1.0s						
MYLDM	Lahad Datu	9.11	303		Pn	18 11 55.7	+2.3
MYLDM	Lahad Datu	9.11	303	P	Pn	18 11 59.2	+5.8
BKB	Balikpapan	9.41	261	Pn	Pn	18 11 53.9	-3.6
MMRI	Maumere	9.65	204	Pn	Pn	18 11 59.5	-1.3
MMRI	Maumere	9.65	204	P	Pn	18 12 03.6	+2.8
	1.1s						
EDFI	Ende, Flores	9.99	207	P	Pn	18 12 08.3	+2.8
	813nm84nm,0.9s						
BAKI	Biak	10.02	98	P	Pn	18 12 06.5	+0.6
	303nm,1.7s						
SOEI	Soe	10.11	191	Pn	Pn	18 12 09.4	+2.2
SOEI	Soe	10.11	191	P	Pn	18 12 11.2	+4.0
SOEI	Soe	10.11	191	P	Pn	18 12 10.5	+3.3
	3µm285nm,1.2s						
SRPI	Serui, Papua	10.27	102	P	Pn	18 12 11.6	+2.3
	1µm30nm,0.9s						
BATI	Baumata	10.67	194	Pn	Pn	18 12 15.6	+0.7
	6.6nm,0.3s,baz=128,slow=6.0,SNR=6.4						
	16nm,0.8s						
KKM	Kota Kinabalu	11.50	300		Pn	18 12 23.9	-2.3
KKM	Kota Kinabalu	11.50	300	P	Pn	18 12 30.6	+4.3
SMPI	Sarmi	12.72	100	P	Pn	18 12 45.6	+2.8
	1µm81nm,1.4s						
DRS	Darwin Rock St	13.43	160	P	Pn	18 12 53.5	+1.0
MTN	Manton Dam	13.89	159	P	Pn	18 12 58.2	-0.6
	comp=Z,62nm,1.5s						
MTN	Manton Dam	13.89	159		Pn	18 12 57.8	-1.1
MTN	Manton Dam	13.89	159	P	Pn	18 12 59.7	+0.8
MTN	Manton Dam	13.89	159	S	Sn	18 15 32.8	+0.8
SBUM	Sibu	14.13	279		Pn	18 13 00.7	-1.5
SBUM	Sibu	14.13	279	P	P	18 13 06.7	-2.6
GENI	Genyem	14.26	101	P	Pn	18 13 03.0	-0.9
GENI	Genyem	14.26	101	P	Pn	18 13 05.1	+1.2
	comp=Z,97nm,1.3s						
KDU	Kakadu	14.28	154	P	Pn	18 13 01.4	-2.7
KDU	Kakadu	14.28	154	P	Pn	18 13 02.9	-1.2
TGY	Tagaytay City	14.72	340	Pn	Pn	18 13 10.2	-0.1
	comp=Z,9.8nm,0.3s,baz=173,slow=18,SNR=4.7						
	comp=Z,139nm,0.6s						
JAY	Jayapura	14.77	101	Pn	Pn	18 13 13.5	+2.6
	comp=Z,0.5nm,0.3s,baz=259,slow=11,SNR=4.5						
JAY				LR	LR	18 20 06.7	
	comp=Z,1µm,20.7s,baz=278,slow=42						
	comp=Z,7.7nm,0.9s						
JAGI	Jajag, Banyuwa	14.79	234		Pn	18 13 09.5	-1.5
JAGI	Jajag, Banyuwa	14.79	234	P	P	18 13 15.9	-0.7
JAGI	Jajag, Banyuwa	14.79	234	P	Pn	18 13 12.9	+1.9
	comp=Z,122nm,1.0s						
GMJI	Gumukmas	15.26	236	P	Pn	18 13 18.7	+1.4
	comp=Z,80nm,0.9s						
KSM	Kuching	15.92	275	P	Pn	18 13 27.5	+1.6
KSM	Kuching	15.92	275	P	P	18 13 30.0	+0.8
KNRA	Kununurra	16.02	171	P	Pn	18 13 26.6	-0.5
	comp=Z,95nm,0.8s						
KNRA	Kununurra	16.02	171		Pn	18 13 26.4	-0.7
NGJI	Ngawi	16.51	242	P	P	18 13 37.4	+1.6
	comp=Z,181nm,0.9s						
PCJI	Pacitan	17.14	240	P	P	18 13 45.2	+2.4
	comp=Z,174nm,1.0s						
WOJI	Wonogiri, Jawa	17.20	242	P	P	18 13 45.0	+1.6
	comp=Z,136nm,1.6s						
SMRI	Semarang	17.29	245		Pn	18 13 40.9	-2.3
SMRI	Semarang	17.29	245	P	P	18 13 46.5	+2.1
	comp=Z,269nm,1.1s						
FITZ	Fitzroy Crossi	18.23	182	P	P	18 13 53.3	-1.4
	comp=Z,110.0nm,1.3s						
FITZ	Fitzroy Crossi	18.23	182	P	P	18 13 54.4	-0.3
FITZ	Fitzroy Crossi	18.23	182	P	P	18 13 54.5	-0.3
	comp=Z,1.7nm,0.3s,baz=20,slow=9.3,SNR=21						
	comp=Z,41nm,1.0s						
FITZ	Fitzroy Crossi	18.23	182	P	Pn	18 13 55.0	+0.3
KPJI	Karang Pucung	18.78	246	P	Pn	18 14 02.9	+1.4
	comp=Z,138nm,0.7s						
BBJI	Bungbulang	20.00	247	P	P	18 14 15.2	+0.9
DBJI	Dramaga	20.53	250	P	Pn	18 14 23.8	+1.4
	comp=Z,78nm,1.0s						
DLV	Lat	21.07	304	P	P	18 14 26.6	+0.6
DLV				IAmb	IAmb	18 14 32.9	
	comp=Z,126nm,1.4s						
MANU	Manus Island	21.30	96	P	P	18 14 28.3	0.0
CGJI	Cibinong	21.55	251	P	P	18 14 32.6	+1.7
	comp=Z,94nm,0.6s						
WRA	Warramunga Arr	21.59	159	P	P	18 14 30.1	-1.2
WRA	Warramunga Arr	21.59	159	P	P	18 14 30.6	-0.7
	comp=Z,126nm,0.7s,baz=340,slow=11,SNR=319						
WRA				S	S	18 18 29.5	+0.6
	comp=Z,16nm,1.1s,baz=336,slow=17,SNR=5.4						
WRA				ScP	ScP	18 22 06.4	-1.2
	comp=Z,1.0nm,1.0s,baz=330,slow=3.1,SNR=2.9						
	comp=Z,126nm,0.7s						
COEN	Coen	21.95	131	P	P	18 14 34.2	-1.1
	comp=Z,178nm,1.1s						
COEN	Coen	21.95	131	P	P	18 14 33.7	-1.5
COEN				IAmb	IAmb	18 14 42.0	
	comp=Z,167nm,1.0s						
COEN	Coen	21.95	131	P	P	18 14 35.3	0.0
MBWA	Marble Bar	22.18	196	P	P	18 14 37.2	-0.5
	comp=Z,46nm,0.9s						
MBWA	Marble Bar	22.18	196	P	P	18 14 37.4	-0.3
MBWA	Marble Bar	22.18	196	P	P	18 14 38.5	+0.9
MDSI	Maura Dua	22.48	258	P	P	18 14 42.8	+1.9
	comp=Z,23nm,0.7s						
PSA00	Pilbara Seismi	22.54	196	P	P	18 14 41.1	-0.4
	comp=Z,52nm,1.2s						
PSA00	Pilbara Seismi	22.54	196	P	P	18 14 40.9	-0.7
PSA00	Pilbara Seismi	22.54	196	P	P	18 14 40.6	-0.9
PSA00				IAmb	IAmb	18 15 03.1	
	comp=Z,54nm,1.4s						
PSA00	Pilbara Seismi	22.54	196	P	P	18 14 42.1	+0.6
GUMO	Guam	22.77	54	P	P	18 14 43.6	-0.4
GUMO	Guam	22.77	54	LR	LR	18 22 55.0	
	comp=Z,464nm,21.6s,baz=222,slow=35						

CMAR PcP **PcP** **18 18 58.5 +0.4**
comp=Z,2.3nm,0.9s,baz=125,slow=2.3,SNR=6.1
CMAR ScP **ScP** **18 22 39.4 -0.2**
comp=Z,0.9nm,0.9s,baz=134,slow=4.1,SNR=4.2
CMAR LR LR 18 29 46.5
comp=Z,254nm,20.9s,baz=115,slow=37
comp=Z,2.3nm,0.9s
NJ2 Nanjing 32.39 348 *e*P **P** **18 16 13.5 +2.6**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
CHTO Chiang Mai 32.49 306 P **P** **18 16 10.8 -1.2**
KLBR Kellerberrin 32.65 193 P **P** **18 16 14.5 +1.3**
JNU Nakatsue 33.01 7 P **P** **18 16 16.6 +0.3**
MUN Mundaring 33.40 196 P **P** **18 16 21.0 +1.2**
KMI Kunming 33.55 319 P **P** **18 16 22.0 +0.6**
KMI pmax pmax
comp=Z,12nm,1.3s
KMI LR LR
comp=Z,490nm,15.5s
KMI LR LR
comp=Z,300nm,13.9s
KMI LR LR
comp=Z,500nm,15.2s
ENH Enshi 33.83 333 P **P** **18 16 22.3 -1.3**
NWAO Narrogin (SRO) 34.05 194 P P 18 16 20.3 -5.1
comp=Z,20nm,1.2s,baz=346,slow=4.2,SNR=2.0
NWAO LR LR 18 32 48.1
comp=Z,256nm,18.6s,baz=46,slow=41
JMN Monobe 34.09 11 P **P** **18 16 27.6 +1.8**
BBOO Buckleboo 34.16 165 P **P** **18 16 23.7 -2.7**
comp=Z,27nm,1.1s
BBOO Buckleboo 34.16 165 IAmb IAmb 18 16 39.1
comp=Z,17nm,0.8s
BBOO Buckleboo 34.16 165 P **P** **18 16 27.1 +0.7**
HNR Honiara 34.96 107 P **P** **18 16 32.8 -0.7**
HNR Honiara 34.96 107 LR LR 18 32 07.9
comp=Z,308nm,21.2s,baz=263,slow=38
HNR Honiara 34.96 107 P **P** **18 16 34.1 +0.6**
HNR Honiara 34.96 107 P **P** **18 16 33.4 -0.1**
HNR sP **sP** **18 16 47.9 +1.6**
EIDS Eidsvold 35.03 138 P **P** **18 16 31.6 -2.4**
comp=Z,48nm,1.0s
EIDS Eidsvold 35.03 138 IAmb IAmb 18 16 36.1
comp=Z,37nm,0.9s
EIDS Eidsvold 35.03 138 P **P** **18 16 34.3 +0.3**
STKA Stephens Creek 35.11 157 P **P** **18 16 32.8 -1.8**
comp=Z,237nm,0.8s
STKA Stephens Creek 35.11 157 P **P** **18 16 34.7 +0.1**
comp=Z,44nm,0.8s,baz=331,slow=8.7,SNR=47
comp=Z,44nm,0.8s
STKA Stephens Creek 35.11 157 P **P** **18 16 34.9 +0.3**
PZH PanZhiHua 35.15 320 P **P** **18 16 36.8 +1.6**
HTT Hallett 35.57 162 P **P** **18 16 37.1 -1.5**
comp=Z,3.8nm,1.3s
HTT Hallett 35.57 162 P **P** **18 16 39.7 +1.1**
INU Inuyama 36.36 15 P **P** **18 16 46.0 +0.7**
INU Inuyama 36.36 15 P **P** **18 16 45.8 +0.6**
INU pP **pP** **18 16 53.7 -0.5**
TNCH TengChong 36.37 315 P **P** **18 16 47.1 +1.4**
TNCH S **S** **18 22 30.8 +5.6**
TNCH pmax pmax
comp=Z,17nm,1.5s
TNCH pmax pmax
comp=Z,95nm,3.7s
TNCH LR LR
comp=Z,340nm,8.9s
TNCH LR LR
comp=Z,350nm,9.9s
TNCH LR LR
comp=Z,560nm,14.5s
LYN LuoYang 36.47 341 P **P** **18 16 50.4 +4.2**
LYN pmax pmax
comp=Z,32nm,1.0s
CMSA Cobar Meteorol 36.61 151 P **P** **18 16 45.5 -1.9**
comp=Z,21nm,1.1s
CMSA Cobar Meteorol 36.61 151 P **P** **18 16 48.3 +0.8**
JGF Kuroka 36.69 15 IAmb IAmb 18 16 48.9
comp=Z,29nm,0.8s
JGF Kuroka 36.69 15 P **P** **18 16 48.3 +0.2**
TIA Tai'an 36.77 348 P **P** **18 16 50.0 +1.3**
TIA pmax pmax
comp=Z,14nm,0.9s
KSAR Wonju Array Be 37.05 2 P **P** **18 16 50.6 -0.5**
INCN Inchon 37.06 1 P **P** **18 16 50.4 -0.8**
INCN IAmb IAmb 18 16 53.7
comp=Z,59nm,1.0s
KSRS Korea Array 37.07 2 P **P** **18 16 52.0 +0.8**
comp=Z,25nm,0.8s,baz=179,slow=9.8,SNR=72
KSRS PcP **PcP** **18 19 10.8 -0.6**
comp=Z,2.9nm,0.8s,baz=193,slow=3.0,SNR=5.3
comp=Z,25nm,0.8s
CD2 Chengdu 37.20 327 P **P** **18 16 51.4 -1.1**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
XAN Xi'an 37.32 336 ⇓P **P** **18 16 52.3 -1.2**
XAN pmax pmax
comp=Z,14nm,0.8s
MAJO Matsushiro 37.81 16 P **P** **18 16 56.3 -1.3**
MAJO IAmb IAmb 18 16 57.6
comp=Z,35nm,0.8s
MAJO Matsushiro 37.81 16 P **P** **18 16 57.5 0.0**
MAJO Matsushiro 37.81 16 P **P** **18 16 56.7 -0.8**
MAJO sP **sP** **18 17 11.3 +1.1**
MJAR Matsushiro Arr 37.81 16 P **P** **18 16 56.2 -1.3**
MJAR IAmb IAmb 18 16 57.7
comp=Z,27nm,0.9s
MJAR Matsushiro Arr 37.81 16 P **P** **18 16 56.2 -1.3**
comp=Z,25nm,0.9s,baz=183,slow=9.2,SNR=44
comp=Z,25nm,0.9s
HNS HongShan 38.47 345 ⇓P **P** **18 17 04.7 +1.6**
HNS pmax pmax
comp=Z,17nm,0.6s
DL2 Dalian 38.71 354 P **P** **18 17 06.3 +1.2**
DL2 *e*S **S** **18 23 01.5 +1.6**
DL2 LR LR
comp=Z,620nm,16.4s
DL2 LR LR
comp=Z,390nm,15.3s
DL2 LR LR
comp=Z,490nm,18.6s
ARMA Armidale 38.93 144 P **P** **18 17 05.6 -1.6**
comp=Z,43nm,0.9s
ARMA Armidale 38.93 144 IAmb IAmb 18 17 09.7
comp=Z,52nm,1.2s
ARMA Armidale 38.93 144 P **P** **18 17 08.3 +1.1**
TIY Taiyuan 39.39 343 P **P** **18 17 13.9 +3.0**
TIY S **S** **18 23 05.5 -4.9**
TIY pmax pmax
comp=Z,41nm,0.8s
TIY pmax pmax
comp=Z,140nm,4.6s
TIY LR LR
comp=Z,110nm,7.6s
TIY LR LR
comp=Z,290nm,15.8s
TIY LR LR
comp=Z,170nm,17.2s
ARPS Mount Arapiles 39.58 160 P **P** **18 17 10.0 -2.4**
comp=Z,10nm,1.0s
YNG Young 40.17 151 P **P** **18 17 15.5 -1.8**
comp=Z,21nm,1.0s
BJI Beijing 40.65 348 P **P** **18 17 20.8 -0.4**
BJI S **S** **18 23 31.3 +2.3**
BJI pmax pmax
comp=Z,20nm,1.0s
BJI pmax pmax
comp=Z,77nm,4.0s
BJI LR LR
comp=Z,96nm,18.2s
BJI LR LR
comp=Z,72nm,20.0s
BJI LR LR
comp=Z,130nm,19.6s
LZH Lanzhou 41.27 332 *e*P **P** **18 17 27.0 +0.4**
LZH pmax pmax
comp=Z,23nm,1.2s
LZH pmax pmax
comp=Z,120nm,4.4s
LZH LR LR
comp=Z,260nm,13.1s
LZH LR LR
comp=Z,310nm,13.4s
LZH LR LR
comp=Z,310nm,14.4s
CAN Canberra 41.29 151 P **P** **18 17 25.6 -1.0**
comp=Z,31nm,1.0s
CAN Canberra 41.29 151 P **P** **18 17 27.1 +0.4**
CAN Canberra 41.29 151 P **P** **18 17 27.3 +0.7**
CAN Canberra 41.29 151 P **P** **18 17 27.7 +1.0**
CAN pP **pwP** **18 17 37.8 -1.3**
SHL Shillong 41.59 310 P **P** **18 17 26.4 -3.0**
TOO Toolangi 41.64 157 P **P** **18 17 29.2 -0.2**
HHC Hu-ho-hao-te 42.55 344 *e*P **P** **18 17 37.3 +0.4**
HHC pmax pmax
comp=Z,21nm,0.7s
JTM Tenmabayashi 42.56 17 P **P** **18 17 36.8 -0.1**
SANVU Saraoutou 43.41 113 P **P** **18 17 45.0 +0.9**
SANVU Saraoutou 43.41 113 P **P** **18 17 45.1 +1.0**
USRK Ussuriysk Ar. 44.08 6 P **P** **18 17 49.2 +0.2**
USRK Ussuriysk Ar. 44.08 6 P **P** **18 17 49.6 +0.5**
comp=Z,40nm,0.8s,baz=192,slow=6.8,SNR=51
USRK LR LR 18 38 41.2
comp=Z,51nm,18.5s,baz=183,slow=39
comp=Z,40nm,0.8s
MDJ Mudanjiang 44.29 3 P **P** **18 17 51.4 +0.6**
MDJ pmax pmax
comp=Z,59nm,1.0s
ERM Erimo 44.32 18 P **P** **18 17 50.6 -0.4**
ERM Erimo 44.32 18 P **P** **18 17 51.7 +0.7**
XLT XiLinHaoTe 44.40 350 *e*P **P** **18 17 51.3 -0.4**
XLT pmax pmax
comp=Z,20nm,0.6s
DZM Mont Dzumac 45.06 122 *e*Pn **P** **18 17 55.0 -2.4**
comp=Z,36nm,25.8s
DZM *e*S **S** **18 24 31.9 -2.7**
comp=Z,147nm,34.6s
DZM *e*SS **SS** **18 27 59.5 +2.0**
comp=Z,142nm,27.2s
DZM *e*LR LR 18 30 26.4
comp=Z,301nm,26.4s
BNX BinXian 45.32 1 ⇓P **P** **18 17 59.0 0.0**
BNX pmax pmax
comp=Z,21nm,0.9s
GTA Gaotai 45.84 331 *e*P **P** **18 18 03.2 -0.1**
GTA PcP **PcP** **18 19 41.4 +1.0**
GTA pmax pmax
comp=Z,11nm,0.9s
GTA LR LR
comp=Z,200nm,20.7s
GTA LR LR
comp=Z,270nm,19.5s
GTA LR LR
comp=Z,380nm,19.5s
ASAJ Asahikawa 46.07 16 LR LR 18 37 14.2
comp=Z,171nm,21.7s,baz=174,slow=36
JKA Kamikawa-asahi 46.07 16 IAmb IAmb 18 18 06.8
comp=Z,43nm,0.9s
EVN Everest 46.70 310 P **P** **18 18 09.5 -1.4**
EVN IAmb IAmb 18 18 13.4
comp=Z,39nm,1.4s
YSS Yuzhno-Sakhali 48.73 15 P **P** **18 18 25.3 -0.2**
YSS IAmb IAmb 18 18 26.8
comp=Z,33nm,1.1s
HEH HeiHe 49.84 1 *e*P **P** **18 18 33.9 -0.1**
HEH pmax pmax
comp=Z,36nm,1.1s
HEH pmax pmax
comp=Z,210nm,6.6s
HYB Hyderabad 49.86 293 *e*P **P** **18 18 34.1 -0.7**
HYB epP **pP** **18 18 44.0 0.0**
HYB ePP **PP** **18 20 28.7 -1.1**
ULN Ulaanbaatar 50.27 343 P **P** **18 18 36.5 -1.0**
ULN IAmb IAmb 18 18 39.8
comp=Z,40nm,1.2s
ULN Ulaanbaatar 50.27 343 P **P** **18 18 37.6 +0.1**
SONM Songino Array 50.43 343 P **P** **18 18 37.5 -1.2**
SONM IAmb IAmb 18 18 40.4
comp=Z,15nm,0.8s
SONM Songino Array 50.43 343 P **P** **18 18 38.4 -0.2**
comp=Z,14nm,0.8s,baz=158,slow=8.1,SNR=33
SONM PcP **PcP** **18 19 56.6 0.0**
comp=Z,4.7nm,0.9s,baz=159,slow=5.1,SNR=2.3
comp=Z,14nm,0.8s
WMQ Urumqi 55.29 327 *e*P **P** **18 19 17.3 +2.7**
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ LR LR
comp=Z,320nm,14.7s
WMQ LR LR
comp=Z,190nm,19.9s
QRZ Quartz Range 58.59 140 P **P** **18 19 38.5 +0.6**
PETK Petropavlovsk- 58.85 22 P **P** **18 19 39.8 +0.2**
comp=Z,31nm,0.8s,baz=188,slow=5.8,SNR=44
comp=Z,31nm,0.8s
PET Petropavlovsk 59.14 22 P **P** **18 19 41.7 +0.2**
PET Petropavlovsk 59.14 22 P **P** **18 19 42.9 +1.4**
PET Petropavlovsk 59.14 22 P **P** **18 19 41.1 -0.4**
comp=Z,39nm,1.1s
ZSN Zaisan 59.15 329 *e*P **P** **18 19 40.8 -0.9**
comp=Z,10nm,1.2s
SHLS Shalkode 59.70 322 *e*P **P** **18 19 42.8 -3.0**
comp=Z,7.7nm,1.1s
TUWZ Tuamarina 59.81 140 P **P** **18 19 45.2 -1.1**
UZB Uzynbulak 59.97 322 *e*P **P** **18 19 46.5 -1.1**
comp=Z,4.9nm,1.1s
PRZ Przheval'sk 60.01 321 **P** **18 19 46.4 -1.6**
PRZ IAmb IAmb 18 19 55.6
comp=Z,57nm,1.6s
MKAR Makanchi Array 60.13 327 P **P** **18 19 46.7 -1.8**
MKAR Makanchi Array 60.13 327 P **P** **18 19 47.6 -0.9**
comp=Z,13nm,0.5s,baz=124,slow=6.4,SNR=82
MKAR PcP **PcP** **18 20 33.4 -0.6**
comp=Z,9.0nm,0.7s,baz=119,slow=5.2,SNR=4.4
comp=Z,13nm,0.5s
KSH Kashi 60.16 317 P **P** **18 19 52.7 +3.8**
KSH pmax pmax
comp=Z,8.0nm,1.0s
MAKZ Makanchi 60.31 327 P **P** **18 19 48.9 -0.8**
MAKZ sP **sP** **18 20 04.1 +1.4**
SATY Saty 60.31 321 *e*P **P** **18 19 48.8 -1.1**
comp=Z,7.7nm,0.7s
BKZ Black Stump Fm 60.40 137 P **P** **18 19 49.5 -1.0**
RTZ Ruatahuna 60.49 136 P **P** **18 19 51.0 -0.1**
MDOK Medeo 61.22 321 *e*P **P** **18 19 55.0 -1.1**
AAA Alma-Ata 61.32 321 *e*P **P** **18 19 55.7 -1.0**
comp=Z,16nm,1.2s
TDK Taldyqorghan 61.34 323 *e*P **P** **18 19 55.6 -1.1**
comp=Z,7.6nm,0.7s
YAK Yakutsk 61.69 2 P **P** **18 19 58.3 -0.5**
YAK Yakutsk 61.69 2 P **P** **18 19 58.7 0.0**
MA2 Magadan 62.20 14 P **P** **18 20 03.2 +1.0**
MA2 Magadan 62.20 14 P **P** **18 20 03.9 +1.7**
MA2 Magadan 62.20 14 P **P** **18 20 01.6 -0.6**
comp=Z,967nmcomp=Z,130nm,0.9s
AAK Ala-Archa 62.60 319 P **P** **18 20 04.0 -1.4**
comp=Z,3.9nm,0.7s,baz=117,slow=8.3,SNR=5.5
comp=Z,3.9nm,0.7s
SGDS Sogindy 62.90 320 *e*P **P** **18 20 05.8 -1.4**
comp=Z,6.3nm,0.8s
ARSB Arslanbob 63.01 317 IAmb IAmb 18 20 37.3
comp=Z,52nm,1.7s
KBL Kabul 63.24 309 P **P** **18 20 07.7 -2.2**
KBL IAmb IAmb 18 20 29.3
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 63.45 334 P **P** **18 20 09.0 -1.6**
ZALV Zalesovo Beam 63.45 334 P **P** **18 20 09.7 -0.9**
comp=Z,8.2nm,0.7s,baz=117,slow=6.1,SNR=26
comp=Z,8.2nm,0.7s
BTLS Baital 64.02 321 *e*P **P** **18 20 13.4 -1.2**
comp=Z,4.4nm,1.0s
KURBB Kurchatov Arra 64.39 329 P **P** **18 20 16.4 -0.5**
comp=Z,23nm,0.8s,baz=128,slow=6.0,SNR=68
comp=Z,23nm,0.8s
CHGR Chuyangaron 64.62 313 IAmb IAmb 18 20 22.1
comp=Z,40nm,1.1s
SIMJ Simiganj 64.73 313 P **P** **18 20 17.9 -1.7**
SIMJ IAmb IAmb 18 20 22.9
comp=Z,21nm,1.1s
DZA Taraz 64.80 318 *e*P **P** **18 20 18.4 -1.4**
IUG luzhnay 65.36 317 *e*P **P** **18 20 22.4 -1.1**
comp=Z,7.8nm,0.8s
KKAR Karatay Array 65.43 318 P **P** **18 20 22.0 -1.9**
BRLS Borolday 65.85 318 *e*P **P** **18 20 25.4 -1.2**
BRZS Berezniki 67.23 326 *e*P **P** **18 20 34.2 -1.1**
CASY Casey 67.31 187 **P** **18 20 35.0 -0.4**
CASY IAmb IAmb 18 20 38.0
comp=Z,15nm,1.1s
DRV Dumont d'Urvil 67.48 174 P **P** **18 20 36.0 -0.4**
DRV sP **sP** **18 20 50.3 +0.8**
BVAR Borovoye Array 69.95 328 P **P** **18 20 51.4 -0.7**
comp=Z,17nm,0.9s,baz=131,slow=8.8,SNR=30
comp=Z,17nm,0.9s
BORK Borovoye 70.00 328 P **P** **18 20 52.3 -0.1**
ADK Adak 70.15 34 P **P** **18 20 53.6 +0.2**
TIXI Tiksi 71.32 1 P **P** **18 20 58.1 -2.0**
TIXI IAmb IAmb 18 21 00.5
comp=Z,23nm,1.1s
ATKA Atka Island 71.67 34 P **P** **18 21 04.6 +2.0**
RAR Rarotonga 75.22 112 P **P** **18 21 24.6 +0.5**
comp=Z,24nm,0.9s,baz=37,slow=5.1,SNR=1.9
comp=Z,24nm,0.9s
CCD Concordia, Ant 75.27 181 P **P** **18 21 24.8 +0.9**
CCD pP **pwP** **18 21 36.3 -0.6**
SPIA Saint Paul Isl 75.77 30 P **P** **18 21 27.3 +0.8**
baz=248
P08K Saint George I 75.90 31 P **P** **18 21 28.1 +0.8**
baz=248
AKTO Aktyubinsk 76.06 322 P **P** **18 21 27.7 -0.7**
comp=Z,38nm,0.9s,baz=103,slow=4.9,SNR=51
comp=Z,38nm,0.9s
UNV Unalaska Valle 76.59 34 P **P** **18 21 31.3 0.0**
baz=252
ARTI Arti 77.67 328 P **P** **18 21 35.3 -2.0**
ARTI IAmb IAmb 18 21 40.0
comp=Z,25nm,0.7s
ARTI Arti 77.67 328 P **P** **18 21 36.4 -0.9**
comp=Z,19nm,0.8s,baz=106,slow=3.1,SNR=19
ARTI LR LR 18 56 37.0
comp=Z,70nm,21.6s,baz=118,slow=36
comp=Z,19nm,0.8s
ARTI Arti 77.67 328 P **P** **18 21 36.5 -0.8**
GAMB Gambell 77.79 24 P **P** **18 21 38.3 +0.5**
baz=245
FALS False Pass 78.62 34 P **P** **18 21 43.0 +0.5**
baz=254,SNR=5.1
M11K Mekoryuk 78.89 28 P **P** **18 21 43.9 0.0**
baz=250
S12K Black Hills 79.59 33 P **P** **18 21 48.3 +0.4**
baz=255
TNA Tin City 80.00 23 P **P** **18 21 50.0 +0.1**
baz=248
VNDA Vanda 80.06 173 P **P** **18 21 49.5 -0.5**
comp=Z,3.8nm,0.8s,baz=306,slow=7.1,SNR=11
VNDA LR LR 18 58 47.4
comp=Z,93nm,19.0s,baz=336,slow=37
comp=Z,3.8nm,0.8s
K13K Kusilvak Mount 80.10 27 P **P** **18 21 51.1 +0.6**
baz=252
M13K Dall Lake 80.24 28 P **P** **18 21 51.3 0.0**
baz=253
MAW Mawson 80.31 200 P **P** **18 21 51.5 0.0**
comp=Z,6.1nm,0.8s,baz=69,slow=8.5,SNR=8.5
MAW LR LR 18 56 14.9
comp=Z,71nm,19.2s,baz=70,slow=35
comp=Z,6.1nm,0.8s
SDPT Sand Point 80.38 34 P **P** **18 21 52.9 +0.8**
SDPT Sand Point 80.38 34 P **P** **18 21 52.5 +0.3**
baz=256,SNR=11
ANM Nome 80.65 24 P **P** **18 21 53.6 +0.1**
baz=250
CHNA Chernabura Isl 80.76 34 P **P** **18 21 55.4 +1.2**
CHNA Chernabura Isl 80.76 34 P **P** **18 21 54.0 -0.1**
baz=257
L14K Kuka Creek 80.82 28 P **P** **18 21 54.7 +0.3**
baz=254
J14K Nanvaranak Lak 80.84 26 P **P** **18 21 54.9 +0.5**
baz=252
N14K Kuskokwak Cree 80.90 29 P **P** **18 21 55.6 +0.8**
baz=255
O14K Tigyukauivet M 80.93 30 P **P** **18 21 55.9 +0.8**
baz=255
M14K Bethel 81.00 28 P **P** **18 21 56.0 +0.7**
baz=254
S14K Fog Glacier 81.10 33 P **P** **18 21 56.2 +0.1**
baz=257
G15K Niukluk 81.33 24 P **P** **18 21 57.7 +0.6**
baz=252
RAYN Ar Rayn 81.36 294 P **P** **18 21 57.1 -1.0**
RAYN IAmb IAmb 18 21 58.7
comp=Z,15nm,0.7s
RAYN Ar Rayn 81.36 294 P **P** **18 21 57.3 -0.9**
L15K Ungalak Mounta 81.47 27 P **P** **18 21 59.0 +1.2**
baz=254
M15K Kasigluk River 81.58 28 P **P** **18 21 59.6 +1.2**
baz=255
K15K Wolf Creek Mou 81.61 27 P **P** **18 21 58.8 +0.2**
baz=254
O15K Ungalikthiuk R 81.63 30 IAmb IAmb 18 22 00.9
comp=Z,34nm,1.1s
O15K Ungalikthiuk R 81.63 30 P **P** **18 21 59.2 +0.5**
baz=256
CHGN Chignik 81.73 33 P **P** **18 21 59.9 +0.7**
baz=258
N15K Kwethluk River 81.74 29 IAmb IAmb 18 22 02.4
comp=Z,36nm,1.1s
N15K Kwethluk River 81.74 29 P **P** **18 22 00.0 +0.7**
baz=256,SNR=5.0
C16K Lisburne Hills 81.93 20 P **P** **18 22 01.2 +1.1**
baz=250
H16K Elim 81.96 24 P **P** **18 22 00.6 +0.2**
baz=253
G16K Koyuk River 82.13 24 P **P** **18 22 02.4 +1.2**
baz=253
J16K Anvik River 82.29 26 P **P** **18 22 02.8 +0.6**
baz=255,SNR=5.7
L16K Owhat River 82.40 28 IAmb IAmb 18 22 05.3
comp=Z,43nm,1.1s
L16K Owhat River 82.40 28 P **P** **18 22 02.6 -0.2**
baz=256,SNR=8.6
I17K Unalakleet 82.40 25 P **P** **18 22 03.4 +0.7**
baz=255
R16K Pilot Point 82.44 32 P **P** **18 22 03.2 +0.2**
baz=258
N16K Nishlik Lake 82.45 29 P **P** **18 22 02.9 -0.2**
baz=257,SNR=6.7
M16K Timber Creek 82.48 28 IAmb IAmb 18 22 05.8
comp=Z,44nm,1.2s
M16K Timber Creek 82.48 28 P **P** **18 22 03.2 0.0**
baz=257,SNR=5.2
P16K Nushagak River 82.52 30 P **P** **18 22 03.7 +0.3**
baz=258
D17K Noatak River 82.55 21 P **P** **18 22 03.8 +0.4**
baz=252
O16K Kokwok River B 82.59 30 IAmb IAmb 18 22 06.6
comp=Z,30nm,1.1s
O16K Kokwok River B 82.59 30 P **P** **18 22 03.8 0.0**
baz=258,SNR=6.1
RDOG Red Dog Mine 82.72 21 P **P** **18 22 04.4 +0.1**
baz=252
C17K DeLong Mountai 82.75 21 P **P** **18 22 05.3 +0.8**
baz=252
E17K Hotham Inlet 82.83 22 P **P** **18 22 05.8 +0.9**
baz=254
G17K Kiwalik Mounta 82.85 24 P **P** **18 22 05.9 +0.9**
baz=255,SNR=6.5
F17K Baldwin Pennin 82.87 23 P **P** **18 22 05.0 -0.1**
baz=254
KIRV Kirov 82.91 329 P **P** **18 22 05.4 0.0**
comp=Z,21nm,0.6s,baz=65,slow=2.9,SNR=15
comp=Z,21nm,0.6s
J17K VABM Dome 82.98 26 P **P** **18 22 05.9 +0.2**
baz=256,SNR=9.2
L17K Donlin 83.04 27 P **P** **18 22 06.1 0.0**
baz=257,SNR=8.2
R17L Mt. Peulik Vol 83.09 32 P **P** **18 22 06.5 0.0**
baz=260,SNR=12
O17K Koliganek Bris 83.12 30 P **P** **18 22 06.8 +0.3**
baz=259,SNR=11
Q16K King Salmon 83.13 31 P **P** **18 22 07.0 +0.4**
baz=259
K17K Iditarod 83.17 27 P **P** **18 22 07.7 +0.9**
baz=257,SNR=17
CHIR Chirikof Islan 83.17 34 P **P** **18 22 07.4 +0.6**
baz=260
N17K Nushagak Hills 83.23 29 IAmb IAmb 18 22 10.0
comp=Z,30nm,1.1s
N17K Nushagak Hills 83.23 29 P **P** **18 22 08.1 +1.0**
baz=258,SNR=7.8
M17K Holitna River 83.28 28 IAmb IAmb 18 22 10.4
comp=Z,29nm,1.0s
M17K Holitna River 83.28 28 P **P** **18 22 08.4 +1.0**
baz=258,SNR=6.2
P17K Kvichak River 83.34 30 P **P** **18 22 08.5 +0.9**
baz=259
E18K Tukpahlearik C 83.38 22 P **P** **18 22 08.7 +1.0**
baz=255,SNR=8.3
ATD Arta Tunnel 83.42 282 IAmb IAmb 18 22 11.7
comp=Z,25nm,0.9s
Q17K Contact Creek 83.45 31 P **P** **18 22 08.5 +0.1**
baz=260

B18K **Kokolik River** 83.49 20 P P 18 22 09.2 +0.9
baz=253
C18K **Utukok River** 83.50 21 P P 18 22 09.0 +0.6
baz=254
F18K **Selawik** 83.53 23 P P 18 22 09.0 +0.6
baz=256
H18K **Honhosa River** 83.69 24 IAmb IAmb 18 22 11.6
comp=Z,29nm,1.1s
H18K **Honhosa River** 83.69 24 P P 18 22 10.0 +0.6
baz=257
ACHA **Angle Creek He** 83.73 31 IAmb IAmb 18 22 13.2
comp=Z,20nm,1.0s
G18K **Tagagawik** 83.75 24 P P 18 22 10.4 +0.7
baz=257
L18K **Granite Mounta** 83.80 27 IAmb IAmb 18 22 12.7
comp=Z,36nm,1.1s
L18K **Granite Mounta** 83.80 27 P P 18 22 11.1 +1.1
baz=259,SNR=9.3
N18K **Kilae Creek** 83.88 29 IAmb IAmb 18 22 13.1
comp=Z,44nm,1.3s
N18K **Kilae Creek** 83.88 29 P P 18 22 11.3 +0.8
baz=260,SNR=7.7
Q18K **Katmai Hardscr** 83.97 31 P P 18 22 10.8 -0.2
baz=261,SNR=12
P18K **Big Mountain,** 83.98 30 IAmb IAmb 18 22 12.2
comp=Z,18nm,1.1s
P18K **Big Mountain,** 83.98 30 P P 18 22 11.1 +0.1
baz=260
J18K **Innoko River** 84.03 26 IAmb IAmb 18 22 13.3
comp=Z,24nm,1.2s
J18K **Innoko River** 84.03 26 P P 18 22 11.8 +0.7
baz=259,SNR=7.3
M18K **Stony River** 84.06 28 P P 18 22 12.1 +0.8
baz=260,SNR=13
SII **Sitkinak Islan** 84.08 33 P P 18 22 13.6 +2.0
SII **Sitkinak Islan** 84.08 33 P P 18 22 12.1 +0.5
baz=262
R18K **Karluk** 84.09 32 P P 18 22 11.9 +0.4
baz=261
C19K **Lookout Ridge** 84.18 20 P P 18 22 12.1 +0.3
baz=255
GCSA **Galena City Sc** 84.22 25 P P 18 22 12.7 +0.6
baz=258
F19K **Shaleruckik Mo** 84.31 23 IAmb IAmb 18 23 24.2
comp=Z,27nm,1.7s
F19K **Shaleruckik Mo** 84.31 23 P P 18 22 12.9 +0.4
baz=257
G19K **Purcell Mounta** 84.43 23 IAmb IAmb 18 22 15.5
comp=Z,23nm,1.1s
G19K **Purcell Mounta** 84.43 23 P P 18 22 13.5 +0.4
baz=258
D19K **Kuna River** 84.56 21 IAmb IAmb 18 22 16.1
comp=Z,23nm,1.1s
D19K **Kuna River** 84.56 21 P P 18 22 14.5 +0.7
baz=257
H19K **Roundabout Mou** 84.56 24 IAmb IAmb 18 22 20.3
comp=Z,34nm,1.5s
H19K **Roundabout Mou** 84.56 24 P P 18 22 14.0 +0.3
baz=259
PPT2 **Papeete2** 84.58 108 eLR LR 18 48 49.0
comp=Z,150nm,33.8s
PPT2 eLR LR 18 48 53.7
comp=Z,148nm,25.5s
N19K **Bonanza Creek** 84.59 29 P P 18 22 14.1 -0.1
baz=261,SNR=14
J19K **Poorman** 84.61 26 IAmb IAmb 18 22 18.2
comp=Z,16nm,1.2s
J19K **Poorman** 84.61 26 P P 18 22 14.4 +0.3
baz=260,SNR=5.9
L19K **White Mountain** 84.64 28 IAmb IAmb 18 22 17.5
comp=Z,29nm,1.2s
L19K **White Mountain** 84.64 28 P P 18 22 14.7 +0.4
baz=260,SNR=9.9
E19K **Redstone River** 84.65 22 P P 18 22 14.7 +0.5
baz=258
OHAK **Old Harbor** 84.67 33 P P 18 22 15.7 +1.3
OHAK **Old Harbor** 84.67 33 P P 18 22 14.8 +0.4
baz=262,SNR=14
Q19K **Cape Douglas,** 84.72 31 P P 18 22 14.8 +0.1
baz=262
M19K **Big River Lodg** 84.81 28 IAmb IAmb 18 22 17.8
comp=Z,19nm,1.2s
M19K **Big River Lodg** 84.81 28 P P 18 22 15.6 +0.5
baz=261,SNR=6.3
TBI **Tubuai** 84.91 113 eLR LR 18 48 54.0
comp=Z,1μm,39.8s
KBZ **Khabaz** 84.98 314 P P 18 22 15.8 -0.6
comp=Z,14nm,1.1s,baz=118,slow=1.8,SNR=18
comp=Z,14nm,1.1s
P19K **Oil Pt** 85.03 30 P P 18 22 16.7 +0.4
baz=262
KDAK **Kodiak Island** 85.12 32 P P 18 22 17.3 +0.6
baz=263
L20K **Farewell, AK** 85.13 27 P P 18 22 17.5 +0.7
baz=261,SNR=5.2
KVAR **Kislovodsk Arr** 85.14 314 LR LR 19 06 54.4
comp=Z,33nm,18.0s,baz=313,slow=40
D20K **Etivluk River** 85.14 21 IAmb IAmb 18 22 22.8
comp=Z,38nm,1.6s
D20K **Etivluk River** 85.14 21 P P 18 22 17.2 +0.5
baz=258
F20K **Avaraart Lake** 85.14 23 P P 18 22 17.0 +0.4
baz=259
KIV **Kislovodsk** 85.15 314 P P 18 22 16.2 -1.1
KIV IAmb IAmb 18 22 50.8
comp=Z,16nm,0.9s
K20K **Telida** 85.19 26 P P 18 22 17.6 +0.6
baz=261
H20K **Anotleneega Mo** 85.19 24 P P 18 22 17.6 +0.7
baz=260
E20K **Nigu River** 85.20 21 P P 18 22 17.7 +0.7
baz=259,SNR=8.3
B20K **Meade River** 85.22 20 P P 18 22 18.1 +1.1
baz=258
I20K **Naaghedeneel** 85.24 25 P P 18 22 17.9 +0.7
baz=260
J20K **Nowinta River** 85.28 26 IAmb IAmb 18 22 47.6
comp=Z,30nm,1.6s
J20K **Nowinta River** 85.28 26 P P 18 22 18.2 +0.8
baz=261
Q20K **Shuyak Island** 85.32 31 P P 18 22 18.4 +0.7
baz=263
RED **Redoubt Volcan** 85.36 29 IAmb IAmb 18 22 19.4
comp=Z,21nm,1.0s
M20K **Styx River** 85.39 28 IAmb IAmb 18 22 26.9
comp=Z,15nm,1.1s
M20K **Styx River** 85.39 28 P P 18 22 18.6 +0.5
baz=262
O20K **Slope Mountain** 85.39 30 P P 18 22 18.6 +0.5
baz=262
A21K **Barrow** 85.68 18 P P 18 22 20.0 +0.7
baz=258
IMAR **Indian Mountai** 85.74 24 P P 18 22 19.0 -0.7
N20K **Mount Spurr** 85.74 29 P P 18 22 20.4 +0.5
baz=263
SPCR **Spurr Chakacha** 85.74 29 P P 18 22 19.9 0.0
baz=263
C21K **Knifeblade Rid** 85.88 21 P P 18 22 20.3 0.0
baz=260
G21K **Allakaket** 85.92 23 P P 18 22 20.7 +0.1
baz=261
PPLA **Purkeypile** 85.97 27 P P 18 22 20.8 -0.3
baz=263
B21K **Ikpikpuk River** 86.02 20 P P 18 22 21.3 +0.3
baz=260
F21K **Alatna River** 86.03 23 P P 18 22 21.1 0.0
baz=261
CHUM **Lake Minchumin** 86.04 26 P P 18 22 21.0 -0.1
baz=262
E21K **Killik River** 86.04 21 P P 18 22 21.2 0.0
baz=261
H21K **Melozitna Rive** 86.07 24 IAmb IAmb 18 22 25.7
comp=Z,25nm,1.9s
H21K **Melozitna Rive** 86.07 24 P P 18 22 21.3 0.0
baz=262
A22K **Sinclair Lake** 86.14 19 P P 18 22 21.5 0.0
baz=260
SKT **Skwentna** 86.16 28 P P 18 22 22.0 +0.1
baz=263
BRSE **Bradley Lake S** 86.30 30 P P 18 22 22.9 +0.3
baz=264
I21K **Tanana** 86.35 25 P P 18 22 23.0 +0.3
baz=263
SUA **Susitna One** 86.47 29 P P 18 22 23.3 -0.3
baz=264
KOPT **Kop Dagi** 86.54 310 IAmb IAmb 18 22 29.4
comp=Z,20nm,0.9s
F22K **John River** 86.57 22 P P 18 22 23.8 0.0
baz=262
D22K **Ayikyak River** 86.58 21 P P 18 22 23.0 -0.8
baz=262
SLKM **Skilak Lake** 86.63 30 IAmb IAmb 18 22 26.0
comp=Z,28nm,1.1s
BPAW **Bear Paw Mtn.** 86.64 26 P P 18 22 23.5 -0.7
baz=264
H22K **Ishtalitna Cre** 86.69 24 P P 18 22 24.2 -0.2
baz=263
G22K **Bettles** 86.76 23 P P 18 22 25.0 +0.3
baz=263
MLY **Manley** 86.85 25 P P 18 22 25.2 0.0
baz=264,SNR=8.5
TRF **Thorofare Moun** 86.89 27 P P 18 22 25.5 -0.1
baz=264
RC01 **Rabbit Creek A** 86.92 29 P P 18 22 25.3 -0.2
baz=265
SEW **Seward** 86.97 30 IAmb IAmb 18 22 30.4
comp=Z,22nm,1.0s
SEW **Seward** 86.97 30 P P 18 22 25.5 -0.3
baz=265
PMR **Palmer** 87.25 28 P P 18 22 27.3 +0.1
baz=266
COLD **Coldfoot** 87.30 23 IAmb IAmb 18 22 30.0
comp=Z,13nm,1.0s
COLD **Coldfoot** 87.30 23 P P 18 22 27.7 +0.4
baz=264,SNR=8.9
D23K **Nanushuk River** 87.31 21 IAmb IAmb 18 22 29.9
comp=Z,16nm,1.1s
D23K **Nanushuk River** 87.31 21 P P 18 22 27.5 +0.2
baz=264,SNR=5.5
G23K **Bananza Creek** 87.32 23 IAmb IAmb 18 22 29.8
comp=Z,14nm,1.0s
G23K **Bananza Creek** 87.32 23 P P 18 22 27.5 0.0
baz=264,SNR=10
C23K **Itkillik River** 87.43 20 P P 18 22 28.1 +0.3
baz=264
H23K **Yukon River** 87.43 24 P P 18 22 28.8 +0.8
baz=265,SNR=6.5
I23K **Minto, Yukon-K** 87.45 25 IAmb IAmb 18 22 29.2
comp=Z,13nm,1.1s
I23K **Minto, Yukon-K** 87.45 25 P P 18 22 27.9 -0.1
baz=265,SNR=6.9
MCK **McKinley** 87.51 26 IAmb IAmb 18 22 33.1
comp=Z,13nm,1.2s
MCK **McKinley** 87.51 26 P P 18 22 28.4 0.0
baz=266
NEA2 **Nenana** 87.52 25 P P 18 22 28.4 -0.1
baz=265
KNK **Knik Glacier** 87.56 29 P P 18 22 28.9 +0.2
baz=266
PWL **Port Wells** 87.58 29 P P 18 22 28.8 -0.1
baz=266
E23K **Chandalar** 87.61 22 IAmb IAmb 18 22 32.1
comp=Z,19nm,1.1s
E23K **Chandalar** 87.61 22 P P 18 22 29.1 +0.2
baz=265,SNR=8.9
WAT1 **Susitna Watana** 87.62 27 P P 18 22 28.9 -0.1
baz=266
TOLK **Toolik Lake Re** 87.67 21 IAmb IAmb 18 22 30.8
comp=Z,17nm,1.1s
TOLK **Toolik Lake Re** 87.67 21 P P 18 22 29.3 +0.1
baz=265,SNR=5.6
M23K **Glacier View** 87.94 28 P P 18 22 30.4 -0.1
baz=267
WAT6 **Susitna Watana** 87.97 28 P P 18 22 30.4 -0.5
baz=267,SNR=6.7
D24K **Happy Valley** 87.99 21 IAmb IAmb 18 22 32.8
comp=Z,17nm,1.1s
D24K **Happy Valley** 87.99 21 P P 18 22 30.5 0.0
baz=265
E24K **Your Creek** 88.03 22 P P 18 22 31.1 +0.2
baz=266
C24K **Franklin Bluff** 88.08 20 IAmb IAmb 18 22 33.5
comp=Z,20nm,1.2s
C24K **Franklin Bluff** 88.08 20 P P 18 22 31.1 +0.1
baz=266
H24K **Noodor Dome** 88.11 24 P P 18 22 31.6 +0.3
baz=266,SNR=5.7
SCM **Sheep Creek Mo** 88.13 28 P P 18 22 31.4 0.0
baz=267
KIBK **Kibwezi** 88.15 268 P P 18 22 32.5 -0.1
DHY **Denali Highway** 88.17 27 P P 18 22 31.6 -0.1
baz=267
F24K **Squaw Lake** 88.22 23 P P 18 22 32.0 +0.2
baz=266,SNR=6.3
POKR **Poker Plat Res** 88.26 25 P P 18 22 31.8 -0.1
baz=267
G24K **Hadweenzic Riv** 88.33 23 P P 18 22 31.9 -0.3
baz=267
HDA **Harding Lake** 88.43 26 P P 18 22 32.2 -0.5
baz=267,SNR=7.1
ILAR **Eielson Array** 88.47 25 P P 18 22 30.9 -2.0
comp=Z,1.8nm,0.9s,baz=246,slow=4.9,SNR=11
ILAR PP PP 18 26 04.0 +3.0
comp=Z,1.2nm,0.9s,baz=275,slow=8.0,SNR=5.5
comp=Z,1.8nm,0.9s
Q23K **Middleton Isla** 88.50 31 P P 18 22 32.4 -0.7
baz=268
M24K **Tonsina, Glenn** 88.68 28 P P 18 22 33.6 -0.5
baz=268
KLU **Klutina** 88.78 29 P P 18 22 34.3 -0.3
baz=268
D25K **Kavik River** 88.87 21 P P 18 22 34.6 -0.2
baz=268
G25K **Bearman Lake** 88.88 23 P P 18 22 34.6 -0.2
baz=268
K24K **Donnelly Dome** 88.92 26 P P 18 22 34.7 -0.4
baz=268
KMBO **Kilima Mbogo** 88.94 269 P P 18 22 36.5 -0.1
comp=Z,5.2nm,0.8s,baz=80,slow=5.8,SNR=9.7
KMBO LR LR 18 59 22.6
comp=Z,64nm,20.8s,baz=102,slow=34
comp=Z,5.2nm,0.8s
SYO **Syowa Base** 88.99 201 eP P 18 22 35.6 +0.3
PAX **Paxson** 89.03 27 IAmb IAmb 18 22 36.7
comp=Z,10nm,1.2s
PAX **Paxson** 89.03 27 P P 18 22 35.6 -0.2
baz=269,SNR=5.6
F25K **Christian Rive** 89.08 23 P P 18 22 36.0 +0.2
baz=268
J25K **Salcha River,** 89.12 26 P P 18 22 36.2 +0.1
baz=269
E25K **Arctic Village** 89.12 22 P P 18 22 36.6 +0.6
baz=268
HARP **HAARP** 89.17 28 P P 18 22 36.2 -0.1
baz=269
RIDG **Independent Ri** 89.33 26 IAmb IAmb 18 22 38.1
comp=Z,10nm,1.0s
RIDG **Independent Ri** 89.33 26 P P 18 22 37.0 0.0
baz=269,SNR=7.2
C26K **Camden Bay** 89.40 20 P P 18 22 37.6 +0.4
baz=269
BMRM **Bremner River** 89.41 29 IAmb IAmb 18 22 43.1
comp=Z,25nm,1.4s
BMRM **Bremner River** 89.41 29 P P 18 22 37.4 -0.1
baz=270
BMAR **Burnt Mountain** 89.49 23 P P 18 22 37.6 -0.1
KAIM **Kayak Island** 89.49 30 P P 18 22 37.8 0.0
baz=270
F26K **Sheenjek River** 89.66 22 IAmb IAmb 18 24 12.4
comp=Z,20nm,1.9s
F26K **Sheenjek River** 89.66 22 P P 18 22 38.5 0.0
baz=270
SCRK **Sand Creek** 89.71 26 P P 18 22 38.3 -0.7
baz=270
G26K **Porcupine Rive** 89.80 23 P P 18 22 38.8 -0.3
baz=270
C27K **Jago River** 89.82 20 IAmb IAmb 18 22 40.5
comp=Z,8.3nm,0.8s
C27K **Jago River** 89.82 20 P P 18 22 39.2 0.0
baz=270,SNR=5.1
MENT **Mentasta** 89.83 27 IAmb IAmb 18 22 48.9
comp=Z,7.6nm,0.6s
J26L **Joseph Creek** 89.90 26 P P 18 22 39.2 -0.5
baz=270,SNR=7.7
I26K **Coal Creek Min** 90.06 25 P P 18 22 39.9 -0.5
baz=271
CRQE **Cirque** 90.15 29 P P 18 22 40.8 -0.3
baz=271
QSPA **South Pole Qui** 90.17 180 P P 18 22 41.4 +0.4
QSPA IAmb IAmb 18 22 60.0
comp=Z,9.5nm,1.0s
QSPA **South Pole Qui** 90.17 180 P P 18 22 42.1 +1.1
comp=Z,3.1nm,0.8s,baz=266,slow=0.8,SNR=15
QSPA LR LR 19 06 03.1
comp=Z,68nm,18.1s,baz=351,slow=38
comp=Z,3.1nm,0.8s
M26K **Nabesna, AK** 90.17 28 P P 18 22 40.9 -0.2
baz=271
MCARA **McCarthy VSAT** 90.17 29 pP 18 22 47.0 -3.8
MCARA **McCarthy VSAT** 90.17 29 P P 18 22 40.9 -0.1
baz=271
MMAI **Mount Meron Ar** 90.53 303 P P 18 22 43.0 -0.4
comp=Z,1.7nm,0.6s,baz=67,slow=4.8,SNR=4.5
comp=Z,1.7nm,0.6s
K27K **Chicken** 90.55 26 P P 18 22 42.5 -0.2
baz=272
E27K **Coleen River** 90.61 22 P P 18 22 42.9 -0.1
baz=272
G27K **Doyon Strip** 90.64 23 IAmb IAmb 18 22 45.0
comp=Z,17nm,1.8s
G27K **Doyon Strip** 90.64 23 P P 18 22 43.1 0.0
baz=272
L27K **Beaver Creek,** 90.69 27 P P 18 22 43.6 +0.2
baz=272,SNR=9.2
M27K **Edge Creek, AK** 90.69 28 P P 18 22 43.2 -0.4
baz=272
I27K **Kandik River** 90.70 25 P P 18 22 43.6 +0.2
baz=272,SNR=8.8
H27K **Steamboat Moun** 90.71 24 P P 18 22 43.7 +0.2
baz=272
BCAR **Beaver Creek A** 90.72 27 P P 18 22 43.6 0.0
MESA **MESA** 90.73 30 P P 18 22 43.8 -0.1
baz=272
D27M **Malcolm River** 90.80 21 P P 18 22 44.2 +0.4
baz=273
BARN **Barnard Glacie** 90.84 29 IAmb IAmb 18 22 46.2
comp=Z,10nm,1.1s
CTG **Chitna Glacier** 91.00 29 P P 18 22 45.2 +0.1
baz=272,SNR=5.1
CTGM **Chitina Glacie** 91.00 29 IAmb IAmb 18 22 47.0
comp=Z,12nm,1.0s
BVCY **Beaver Creek** 91.17 28 P P 18 22 46.3 +0.6
baz=272
F28M **Old Crow** 91.29 22 P P 18 22 46.5 +0.4
baz=274
E28M **Babbage River** 91.35 21 IAmb IAmb 18 22 48.4
comp=Z,10.0nm,1.1s
E28M **Babbage River** 91.35 21 P P 18 22 46.9 +0.5
baz=274,SNR=7.3
YUK3 **Moose Creek** 91.39 28 P P 18 22 47.4 +0.5
baz=273
I28M **Miner Creek** 91.41 25 IAmb IAmb 18 22 55.0
comp=Z,8.7nm,0.9s
I28M **Miner Creek** 91.41 25 P P 18 22 47.6 +0.9
baz=274,SNR=7.0
O28M **Mount Upton** 91.57 29 IAmb IAmb 18 22 49.6
comp=Z,7.4nm,1.0s
O28M **Mount Upton** 91.57 29 P P 18 22 47.9 0.0
baz=273,SNR=6.3
PINM **Pinnacle** 91.58 30 P P 18 22 48.1 +0.4
baz=273
D28M **Stokes Point** 91.58 21 P P 18 22 48.0 +0.7
baz=275
DAWY **Dawson** 91.73 26 IAmb IAmb 18 22 49.7
comp=Z,7.2nm,1.1s
DAWY **Dawson** 91.73 26 P P 18 22 48.4 +0.2
baz=274
BRTR **Keskin Array B** 91.81 310 P P 18 22 47.2 -2.1
BRTR **Keskin Array B** 91.81 310 P P 18 22 48.1 -1.2
comp=Z,1.1nm,0.8s,baz=125,slow=5.3,SNR=9.8
comp=Z,2.1nm,0.8s
E29M **Blow River** 91.97 22 P P 18 22 49.8 +0.6
baz=276
H29M **Whitestone** 91.99 24 P P 18 22 49.2 -0.1
baz=275
PNL **Peninsula** 92.04 30 P P 18 22 49.6 -0.1
baz=274
G29M **Pine Creek** 92.06 23 P P 18 22 49.8 +0.1
baz=276,SNR=7.9
M29M **Somme Creek** 92.28 28 P P 18 22 51.1 +0.3
baz=275,SNR=6.0
YUK4 **Talbot Arm** 92.28 29 P P 18 22 51.9 +0.9
baz=275
L29M **L29M** 92.37 27 IAmb IAmb 18 22 53.4
comp=Z,16nm,1.1s
L29M **L29M** 92.37 27 P P 18 22 51.9 +0.7
baz=275
YUK6 **Outpost Mounta** 92.45 29 P P 18 22 52.0 +0.1
baz=275
K29M **Barlow Dome** 92.57 26 IAmb IAmb 18 22 54.0
comp=Z,22nm,1.7s
K29M **Barlow Dome** 92.57 26 P P 18 22 52.3 0.0
baz=276,SNR=5.9
EPYK **Eagle Plains** 92.64 24 IAmb IAmb 18 22 53.8
comp=Z,12nm,1.1s
EPYK **Eagle Plains** 92.64 24 P P 18 22 52.2 -0.2
baz=277,SNR=6.7
G30M **tAoh Zraii Nji** 92.76 23 IAmb IAmb 18 22 53.4
comp=Z,9.4nm,1.1s
G30M **tAoh Zraii Nji** 92.76 23 P P 18 22 52.8 -0.2
baz=277,SNR=5.7
F30M **Barrier River** 92.85 22 IAmb IAmb 18 22 54.8
comp=Z,11nm,1.1s
F30M **Barrier River** 92.85 22 P P 18 22 53.6 +0.3
baz=278
P29M **Windy Craggy** 92.88 30 IAmb IAmb 18 22 55.7
comp=Z,12nm,1.1s
P29M **Windy Craggy** 92.88 30 P P 18 22 54.3 +0.6
baz=275
HYT **Haines Junctio** 92.88 29 IAmb IAmb 18 22 55.5
comp=Z,8.6nm,1.1s
HYT **Haines Junctio** 92.88 29 P P 18 22 54.1 +0.4
baz=276
I30M **Mount Dempster** 92.91 25 P P 18 22 54.3 +0.5
baz=277
J30M **Hart River** 93.01 25 IAmb IAmb 18 23 10.2
comp=Z,13nm,1.6s
J30M **Hart River** 93.01 25 P P 18 22 54.1 -0.1
baz=277
N30M **Aishikik Lake** 93.02 29 P P 18 22 54.9 +0.6
baz=276
M30M **Minto, Yukon** 93.04 27 IAmb IAmb 18 22 56.2
comp=Z,12nm,1.1s
M30M **Minto, Yukon** 93.04 27 P P 18 22 54.3 0.0
baz=276,SNR=13
P30M **Million Dollar** 93.22 30 P P 18 22 55.5 +0.3
baz=276
ARCES **ARCESS Array B** 93.52 340 P P 18 22 54.9 -1.4
ARCES **ARCESS Array B** 93.52 340 P P 18 22 55.3 -1.0
comp=Z,8.5nm,0.8s,baz=73,slow=6.5,SNR=17
comp=Z,8.5nm,0.8s
G31M **Satah River** 93.53 23 IAmb IAmb 18 22 57.0
comp=Z,10nm,1.0s
G31M **Satah River** 93.53 23 P P 18 22 56.1 -0.3
baz=279
INK **Inuvik** 93.59 22 IAmb IAmb 18 22 57.2
comp=Z,8.1nm,1.0s
INK **Inuvik** 93.59 22 P P 18 22 56.6 0.0
baz=280,SNR=5.1
PLBC **Pleasant Camp** 93.59 30 P P 18 22 56.6 -0.2
baz=277
N31M **Braeburn, Yuko** 93.64 28 IAmb IAmb 18 23 15.5
comp=Z,12nm,1.1s
N31M **Braeburn, Yuko** 93.64 28 P P 18 22 56.9 -0.2
baz=277
F31M **Tsiigehtchic** 93.65 22 IAmb IAmb 18 22 57.4
comp=Z,15nm,1.1s
F31M **Tsiigehtchic** 93.65 22 P P 18 22 56.6 -0.3
baz=280
H31M **Peel River** 93.67 24 P P 18 22 57.3 +0.1
baz=279
SKAG **Skagway** 94.12 30 IAmb IAmb 18 23 01.6
comp=Z,5.8nm,0.8s
SKAG **Skagway** 94.12 30 P P 18 22 59.8 +0.6
baz=278
WHY **Whitehorse** 94.18 29 P P 18 23 00.3 +0.6
baz=278
M31M **Drury Creek, Y** 94.19 28 IAmb IAmb 18 23 01.0
comp=Z,10nm,1.4s
M31M **Drury Creek, Y** 94.19 28 P P 18 23 00.4 +0.7
baz=278
AK10 **Malin Array Si** 94.23 321 P P 18 22 58.3 -1.7
AKASG **Malin Array Be** 94.24 321 P P 18 22 57.8 -2.2
comp=Z,0.3nm,0.3s,baz=69,slow=5.2,SNR=5.7
AKASG LR LR 19 09 05.9
comp=Z,87nm,21.0s,baz=70,slow=38
AK07 **Malin Array Si** 94.26 321 P P 18 22 58.1 -2.0
AK06 **Malin Array Si** 94.27 321 P P 18 22 58.1 -2.0
FINES **FINESS Array B** 94.63 332 P P 18 22 59.9 -1.6
comp=Z,4.5nm,0.9s,baz=32,slow=5.0,SNR=7.5
comp=Z,4.5nm,0.9s
R32K **Eaglecrest** 94.70 32 P P 18 23 02.9 +0.9
baz=278
P32M **Atlin** 94.92 30 P P 18 23 03.9 +0.9

	baz=279								
N32M	**Quiet Lake**	**94.97**	**29**	P		**P**	**18 23 04.0**	**+0.8**
	baz=280								
SORM	**Soroca**	**95.06**	**318**	P		**P**	**18 23 01.7**	**-2.1**
	comp=Z,6.7nm,1.2s								
LUBAR	**Lubar, Ukraine**	**95.25**	**320**	P		**P**	**18 23 02.5**	**-2.2**
P33M	**Teslin, Yukon**	**95.26**	**29**	P		**P**	**18 23 05.3**	**+0.7**
	baz=280								
MMPY	**Sheldon Lake,**	**95.56**	**27**	IAmb		IAmb	18 23 07.7		
	comp=Z,9.8nm,1.0s								
MMPY	**Sheldon Lake,**	**95.56**	**27**	P		**P**	**18 23 06.5**	**+0.6**
	baz=281								
WRAK	**Wrangell Islan**	**96.15**	**33**	P		**P**	**18 23 09.3**	**+0.8**
	baz=280								
KMPD	**K-Podol'skiy**	**96.27**	**319**	P		**P**	**18 23 07.1**	**-2.2**
R33M	**Jennings River**	**96.33**	**30**	IAmb		IAmb	18 23 12.2		
	comp=Z,21nm,1.9s								
R33M	**Jennings River**	**96.33**	**30**	P		**P**	**18 23 09.7**	**+0.1**
	baz=281								
TESR	**Tescani**	**96.40**	**317**	P		**P**	**18 23 07.7**	**-2.3**
S34M	**Telegraph Cree**	**96.53**	**32**	P		**P**	**18 23 10.2**	**-0.1**
	baz=281								
C36M	**Paulatuk**	**96.66**	**20**	P		**P**	**18 23 10.1**	**-0.5**
	baz=289								
V35K	**Ketchikan**	**96.74**	**34**	P		**P**	**18 23 10.6**	**-0.6**
	baz=280								
DLBC	**Dease Lake**	**97.00**	**31**	LR		LR	19 02 08.1		
	comp=Z,677nm,21.5s,baz=272,slow=32								
DLBC	**Dease Lake**	**97.00**	**31**	P		**P**	**18 23 12.5**	**-0.1**
	baz=282								
MLR	**Muntele Rosu**	**97.01**	**316**	LR		LR	19 11 17.5		
	comp=Z,58nm,21.6s,baz=65,slow=38								
TGTN	**Hyland Airport**	**97.17**	**28**	P		Pdif	18 23 13.8	+0.5	
	baz=284								
T35M	**Bob Quinn**	**97.18**	**32**	P		Pdif	18 23 14.0	+0.5	
	baz=282								
BURAR	**Bucovina Array**	**97.22**	**318**	P		**P**	**18 23 12.6**	**-1.2**
BURAR					IAmb	IAmb	18 23 14.7		
	comp=Z,8.6nm,1.1s								
MATP	**Matopo**	**97.29**	**250**	LR		LR	19 08 00.1		
	comp=Z,34nm,18.2s,baz=98,slow=36								
LSZ	**Lusaka**	**97.78**	**255**	LR		LR	19 05 42.1		
	comp=Z,106nm,20.9s,baz=124,slow=34								
BBB	**Bella Bella**	**99.40**	**37**	LR		LR	19 01 15.2		
	comp=Z,43nm,20.5s,baz=226,slow=31								
LBTB	**Lobatse**	**99.70**	**245**	LR		LR	19 05 11.6		
	comp=Z,57nm,20.7s,baz=104,slow=33								
BOSA	**Boshof**	**99.71**	**241**	LR		LR	19 04 03.8		
	comp=Z,78nm,19.9s,baz=96,slow=33								
HFS	**Hagfors**	**100.83**	**332**	P		**Pdif**	**18 23 27.1**	**-2.4**
	comp=Z,0.8nm,0.4s,baz=132,slow=8.8,SNR=5.1								
NB2	**NORSAR Subarra**	**101.65**	**333**	P		**Pdif**	**18 23 31.1**	**-2.1**
	comp=Z,0.9nm,0.7s,baz=66,slow=4.6								
NOA	**NORSAR Array B**	**101.65**	**333**	P		**Pdif**	**18 23 31.1**	**-2.1**
	comp=Z,1.6nm,0.8s,baz=66,slow=4.6,SNR=4.7								
PDAR	**Pinedale Array**	**114.31**	**42**	PKKPbc		PKKPbc	18 38 56.8	-5.5	
	comp=Z,0.3nm,0.5s,baz=80,slow=3.5,SNR=3.7								
TORD	**Torodi Ar. Bea**	**123.41**	**286**	PKP		**PKPdf**	**18 28 38.4**	**-0.6**	
	comp=Z,3.0nm,0.8s,baz=39,slow=3.1,SNR=16								
TORD				PKKPab		**PKKPab**	**18 38 28.8**	**+0.6**	
	comp=Z,4.0nm,0.9s,baz=296,slow=3.8,SNR=20								
TXAR	**Lajitas Array**	**124.12**	**54**	PKP		**PKPdf**	**18 28 40.2**	**+0.1**	
	comp=Z,0.9nm,0.8s,baz=318,slow=3.3,SNR=7.6								
PLCA	**Paso Flores**	**136.92**	**161**	PKP		**PKPdf**	**18 29 02.9**	**-1.2**	
	comp=Z,5.0nm,1.1s,baz=146,slow=5.6,SNR=3.0								
ASAL	**Salagasta**	**144.84**	**158**	*eP*		**PKPdf**	**18 29 18.4**	**-0.2**	
AUSP	**Uspallata**	**144.95**	**157**	*eP*		**PKPdf**	**18 29 19.5**	**+0.5**	
BOAB	**BOACO BROADBAND**	**145.98**	**67**			**PKPbc**	**18 29 21.8**	**+0.2**	
ACCO	**Cerro Coronel**	**146.52**	**156**	*eP*		**PKPab**	**18 29 23.9**	**-0.3**	
AROD	**Rodeo**	**146.71**	**155**	*eP*		**PKPbc**	**18 29 23.6**	**-0.2**	
AVFE	**Valle Fertil**	**147.09**	**158**	*eP*		**PKPbc**	**18 29 24.1**	**-0.4**	
APLL	**PUNTA DE LOS L**	**147.66**	**159**	*eP*		**PKPbc**	**18 29 26.0**	**-0.1**	
AGUA	**GUANDACOL**	**147.72**	**156**	*eP*		**PKPbc**	**18 29 27.3**	**+1.0**	
PLTB	**Pedras Altas**	**148.64**	**180**			**PKiKP**	**18 29 29.6**	**-0.5**	
AC02	**Maricunga**	**149.73**	**152**			**PKPdf**	**18 29 29.0**	**+1.6**	
NMDO	**Nuevo Mundo**	**150.74**	**44**			**PKiKP**	**18 29 35.1**	**+0.5**	
GO02	**Mina Guanaco**	**150.90**	**150**			**PKPbc**	**18 29 34.9**	**+0.2**	
CPUP	**Villa Florida**	**153.84**	**173**	PKPbc		**PKiKP**	**18 29 41.1**	**+0.2**	
	comp=Z,3.3nm,1.0s,baz=89,slow=1.9,SNR=10								
LPAZ	**La Paz**	**158.70**	**139**	PKP		**PKPdf**	**18 29 39.4**	**-0.9**	
	comp=Z,3.0nm,1.0s,baz=13,slow=2.4,SNR=6.3								
BAUV	**El Baul**	**163.15**	**57**			**PKPab**	**18 30 34.2**	**-0.3**	

TAP 04 18:14:26.1,21°.91N×120°.21E,h43km±1km, ML2.4, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	**0.46**	**18**	*eP*	Pn	18 14 37.4	+0.9
TWP				*eS*	Sn	18 14 45.4	+1.6
WLCH	**Liuqiu**	**0.47**	**20**	*eP*	Pn	18 14 37.7	+1.1
WLCH				*eS*	Sn	18 14 46.5	+2.5
HEN	**Hengchun**	**0.50**	**79**	*eP*	Pn	18 14 37.1	+0.1
HEN				*eS*	Sn	18 14 46.8	+2.1
TWK1	**Hengchun**	**0.56**	**86**	*eP*	Pn	18 14 39.3	+1.5
TWK1				*eS*	Sn	18 14 47.0	+1.0
TWKBT	**Hengchun**	**0.56**	**87**	*eP*	Pn	18 14 37.6	-0.2
TWKBT				*eS*	Sn	18 14 47.2	+1.0
SCZT	**Fangliau**	**0.60**	**40**	*eP*	Pn	18 14 39.0	+0.7
SCZT				*eS*	Sn	18 14 48.3	+1.3
TSEB	**Hengchuen, Pin**	**0.65**	**91**	*eP*	Pn	18 14 38.6	-0.2
TSEB				*eS*	Sn	18 14 48.6	+0.6
MASBT	**Mashibuluo**	**0.80**	**29**	*eP*	Pn	18 14 42.1	+1.1
MASBT				*eS*	Sn	18 14 53.2	+1.3
SGLT	**Jiouru**	**0.85**	**18**	*eP*	Pn	18 14 42.9	+1.2
SSD	**Sandimen**	**0.92**	**25**	*eP*	Pn	18 14 43.8	+1.1
SSD				*eS*	Sn	18 14 56.8	+2.0
ECL	**Taimali**	**0.97**	**45**	*eP*	Pn	18 14 42.5	-0.8
SCST	**Cishan**	**1.01**	**15**	*eP*	Pn	18 14 44.1	+0.3
TWGBT	**Beinan**	**1.21**	**42**	P	Pn	18 14 48.1	+1.5
STYH	**Taoyuan**	**1.36**	**23**	*eP*	Pn	18 14 47.9	-0.8
TWK	**Hsinying**	**1.38**	**11**	*eP*	Pn	18 14 49.4	+0.5
WTP	**Ta-pu**	**1.38**	**16**	*eP*	Pn	18 14 47.8	-1.2
CHN8	**Yiju**	**1.43**	**0**	*eP*	Pn	18 14 50.3	+0.7
TPUB	**Ta-pu**	**1.44**	**16**	*eP*	Pn	18 14 48.3	-1.4
TPUB	**Ta-pu**	**1.44**	**16**	P	Pn	18 14 48.1	-1.7
SSLB	**Suanglung**	**1.99**	**20**	P	Pn	18 14 58.1	+0.7

*NEIC **04** 18:25:34.2±1.4, 8°.80S±0°.05×124°.12E±0°.09, h35km±2km, mb4.2/5, Error ellipse: s-maj=15.9km s-min=6.3km az=243.0*
*DJA **04** 18:25:35.0±0.4, 9°.3S±3°×12°.4E±°, h97km±8km, M4.1/14, mb4.2/8, MLv4.1/14*
*IDC **04** 18:25:37.2±0.9, 9°.72S×123°.41E, h137km±7km, mb3.4/2, mbtmp4.1/5, Error ellipse: s-maj=75.8km s-min=18.0km az=64.0*

ISC 04 18:25:34.3±0.6, 9°.14S±0°.05×123°.86E±0°.05, h100km, n46, σ2§47/51, mb3.9/4, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.73**	**146**		**Pn**	**18 25 52.9**	**+0.7**
SOEI	**Soe**	**0.73**	**146**	P	**Pn**	**18 25 53.3**	**+1.1**
SOEI	**Soe**	**0.73**	**146**	P	**Pn**	**18 25 52.9**	**+0.7**
BATI	**Baumata**	**1.07**	**190**	P	**Pn**	**18 25 57.1**	**+1.5**
	701nm,0.3s,baz=49,slow=3.1,SNR=300						
BATI				S	**Sn**	**18 26 14.3**	**+2.7**
	313nm,0.5s,baz=240,slow=7.9,SNR=9.3						
BATI	**Baumata**	**1.07**	**190**	P	**Pn**	**18 25 56.7**	**+1.1**
MMRI	**Maumere**	**1.68**	**287**		**Pn**	**18 26 04.0**	**+1.2**
MMRI					**Sn**	**18 26 25.4**	**+1.0**
MMRI	**Maumere**	**1.68**	**287**	P	**Pn**	**18 26 03.8**	**+1.1**
MMRI				S	**Sn**	**18 26 25.2**	**+0.8**
EDFI	**Ende, Flores**	**2.17**	**280**	P	**Pn**	**18 26 10.7**	**+1.5**
EDFI				S	**Sn**	**18 26 36.1**	**+0.1**
WSI	**Waingapu**	**3.55**	**261**	P	**Pn**	**18 26 28.1**	**+0.7**
BBSI	**Bau Bau**	**3.85**	**341**	P	**Pn**	**18 26 32.5**	**+1.0**
WBSI	**Waikabubak, Su**	**4.43**	**263**	P	**Pn**	**18 26 38.8**	**-0.6**
BSSI	**Bau Bau, Buton**	**4.47**	**312**	P	**Pn**	**18 26 40.8**	**+0.9**
KDI	**Kendari**	**5.30**	**347**	P	**Pn**	**18 26 51.7**	**+0.6**
BKSI	**Bulukumba**	**5.30**	**315**	P	**Pn**	**18 26 50.6**	**-0.6**
	0.1nm14nm,0.7s						
KAPI	**Kappang**	**5.78**	**315**	Pn	**Pn**	**18 26 56.7**	**-0.9**
BNSI	**Bone**	**6.00**	**321**	P	**Pn**	**18 27 02.2**	**+1.5**
	0.1nm19nm,1.2s						
PLAI	**Plampang**	**6.01**	**273**	P	**Pn**	**18 27 02.0**	**+1.2**
NLAI	**Namlea**	**6.69**	**29**	P	**Pn**	**18 27 12.3**	**+2.2**
	0.1nm32nm,0.9s						
TWSI	**Taliwang, Sumb**	**6.90**	**273**	P	**Pn**	**18 27 13.3**	**+0.4**
	0.2nm19nm,0.6s						
SANI	**Sanana**	**7.36**	**17**	P	**Pn**	**18 27 22.3**	**+3.2**
SANI	**Sanana**	**7.36**	**17**	P	**Pn**	**18 27 20.9**	**+1.8**
	0.1nm23nm,0.8s						
DRS	**Darwin Rock St**	**7.65**	**116**	P	**Pn**	**18 27 23.1**	**0.0**
MTN	**Manton Dam**	**8.04**	**118**		**Pn**	**18 27 27.8**	**-0.5**
MTN				Sn	**Sn**	**18 28 50.8**	**-6.8**
MTN	**Manton Dam**	**8.04**	**118**	P	**Pn**	**18 27 27.9**	**-0.5**
KNRA	**Kununurra**	**8.07**	**144**		**Pn**	**18 27 27.6**	**-1.2**
LUWI	**Luwuk**	**8.12**	**352**	Pn	Pn	18 27 24.1	-5.3
FITZ	**Fitzroy Crossi**	**9.07**	**169**	Pn	**Pn**	**18 27 40.6**	**-1.7**
FITZ	**Fitzroy Crossi**	**9.07**	**169**	P	**Pn**	**18 27 39.5**	**-2.9**
	12nm,0.5s,baz=7.8,slow=10,SNR=78						
FITZ				S	**Sn**	**18 29 14.8**	**-8.0**
	22nm,0.6s,baz=237,slow=5.7,SNR=12						
KDU	**Kakadu**	**9.17**	**113**	P	**Pn**	**18 27 43.1**	**-0.6**
JAGI	**Jajag, Banyuwa**	**9.61**	**273**	Pn	**Pn**	**18 27 47.0**	**-2.8**
MBWA	**Marble Bar**	**12.59**	**198**	Pn	**Pn**	**18 28 29.1**	**-0.8**
PSA00	**Pilbara Seismi**	**12.95**	**197**	Pn	**Pn**	**18 28 34.1**	**-0.5**
WB0	**Warramunga Arr**	**14.68**	**137**	Pn	**Pn**	**18 28 53.5**	**-3.5**
WRA	**Warramunga Arr**	**14.76**	**138**	P	**Pn**	**18 28 56.0**	**-2.1**
	1.6nm,0.5s,baz=306,slow=14,SNR=68						
WRA				S	Sn	18 31 28.2	-13
	3.8nm,0.6s,baz=315,slow=24,SNR=11						
WRAB	**Tennant Creek**	**14.76**	**138**	P	**Pn**	**18 28 56.2**	**-1.9**
WR8	**Warramunga Arr**	**14.88**	**137**	Pn	**Pn**	**18 28 57.2**	**-2.4**
MYLDM	**Lahad Datu**	**15.20**	**339**	Pn	**Pn**	**18 28 59.7**	**-3.9**
GIRL	**Giralia**	**16.29**	**213**	Pn	**P**	**18 29 19.6**	**+1.3**
AS31	**Alice Springs**	**17.35**	**148**	P	**P**	**18 29 30.2**	**0.0**
ASAR	**Alice Springs**	**17.35**	**148**	P	**Pn**	**18 29 31.4**	**+1.2**
ASAR	**Alice Springs**	**17.35**	**148**	P	**P**	**18 29 29.6**	**-0.5**
	4.5nm,0.5s,baz=316,slow=11,SNR=148						
ASAR				S	Sn	18 32 30.8	-13
	2.5nm,0.7s,baz=59,slow=32,SNR=7.1						
COEN	**Coen**	**19.52**	**106**	P	**Pn**	**18 29 56.4**	**+0.2**
COEN				IAmb	IAmb	18 30 35.2	
	comp=Z,16nm,1.2s						
CTAO	**Charters Tower**	**24.22**	**119**	P	**P**	**18 30 47.6**	**+5.7**
CTAO				IAmb	IAmb	18 31 02.5	
	comp=Z,7.1nm,1.5s						
STKA	**Stephens Creek**	**27.98**	**146**	P	**P**	**18 31 21.9**	**+6.2**
STKA				IAmb	IAmb	18 31 52.0	
	comp=Z,15nm,1.1s						
CMAR	**Chiang Mai Arr**	**36.83**	**318**	P	**P**	**18 32 33.8**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=139,slow=7.2,SNR=5.9						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**66.86**	**330**	P	**P**	**18 36 16.1**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=139,slow=8.0,SNR=5.3						
	comp=Z,0.6nm,0.7s						

*NEIC **04** 18:35:04.2±0.8, 4°.52S±0°.08×152°.5E±0°.1, h92km±8km, mb4.1/12, Error ellipse: s-maj=19.6km s-min=8.7km az=118.0*
*IDC **04** 18:35:06.0±8.2, 4°.33S×152°.33E, h120km±59km, mb3.8/4, mbtmp4.1/5, MS3.0/1, Error ellipse: s-maj=55.4km s-min=49.8km az=51.0*

ISC 04 18:35:02.5±1.0, 4°.37S±0°.09×152°.6E±0°.1, h100km, n28, σ1§60/27, mb4.1/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.49**	**291**	Pn	**Pn**	**18 35 19.2**	**+0.9**
RABL				Sn	**Sn**	**18 35 32.7**	**-3.4**
MANU	**Manus Island**	**5.74**	**294**		**Pn**	**18 36 25.6**	**+0.2**
PMG	**Port Moresby**	**7.38**	**227**	Pn	**Pn**	**18 36 46.1**	**-1.6**
PMG				Sn	**Sn**	**18 38 08.6**	**-1.2**
PMG	**Port Moresby**	**7.38**	**227**	P	**Pn**	**18 36 48.0**	**+0.4**
	8.7nm,0.6s,baz=270,slow=24,SNR=2.1						
PMG				S	**Sn**	**18 38 11.4**	**+1.6**
	15nm,0.5s,baz=270,slow=24,SNR=6.9						
HNR	**Honiara**	**8.84**	**125**	LR	LR	18 41 03.9	
	comp=Z,86nm,20.7s,baz=264,slow=39						
COEN	**Coen**	**13.32**	**224**		**P**	**18 38 13.6**	**-0.1**
EIDS	**Eidsvold**	**20.93**	**184**	P	**P**	**18 39 38.3**	**+0.9**
EIDS				IAmb	IAmb	18 39 40.2	
	comp=Z,8.1nm,1.2s						
DZM	**Mont Dzumac**	**22.11**	**144**	P	**P**	**18 39 45.6**	**-4.5**
	comp=Z,9.3nm,0.9s,baz=17,slow=6.1,SNR=1.6						
MTN	**Manton Dam**	**22.84**	**247**	P	**P**	**18 39 58.1**	**+0.7**
WR8	**Warramunga Arr**	**23.49**	**227**	P	**P**	**18 40 03.3**	**-0.3**
WR8				IAmb	IAmb	18 40 04.9	
	comp=Z,5.4nm,0.7s						
WRA	**Warramunga Arr**	**23.60**	**228**	P	**P**	**18 40 03.9**	**-0.7**
WRA	**Warramunga Arr**	**23.60**	**228**	P	**P**	**18 40 04.7**	**+0.1**
	comp=Z,5.3nm,0.6s,baz=53,slow=9.7,SNR=60						
	comp=Z,5.3nm,0.6s						
INKA	**Innaminka**	**25.85**	**205**	P	**P**	**18 40 24.3**	**-0.6**
INKA				IAmb	IAmb	18 40 29.2	
	comp=Z,5.0nm,1.2s						
ARMA	**Armidale**	**25.92**	**182**	P	**P**	**18 40 25.7**	**0.0**
ARMA				IAmb	IAmb	18 40 56.9	
	comp=Z,16nm,1.5s						
KNRA	**Kununurra**	**26.01**	**243**	P	**P**	**18 40 25.5**	**-0.9**
AS31	**Alice Springs**	**26.35**	**222**	P	**P**	**18 40 29.0**	**-0.4**
ASAR	**Alice Springs**	**26.35**	**222**	P	**P**	**18 40 29.4**	**-0.1**
ASAR	**Alice Springs**	**26.35**	**222**	P	**P**	**18 40 28.9**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=55,slow=9.2,SNR=19						
	comp=Z,1.2nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**26.62**	**31**	T	T	19 08 14.2	
	baz=210						
H11S2	**WAKE ISLAND Hy**	**26.62**	**31**	T	T	19 08 20.6	
	baz=210						
H11S1	**WAKE ISLAND Hy**	**26.64**	**31**	T	T	19 08 11.9	
	baz=210						
FITZ	**Fitzroy Crossi**	**29.71**	**241**		**P**	**18 40 59.0**	**-0.4**
MBWA	**Marble Bar**	**36.03**	**240**	P	**P**	**18 41 54.0**	**-0.5**
VNDA	**Vanda**	**73.26**	**178**	P	**P**	**18 46 24.1**	**+1.6**
VNDA				IAmb	IAmb	18 47 02.5	
	comp=Z,3.0nm,1.4s						
VNDA	**Vanda**	**73.26**	**178**	P	**P**	**18 46 23.8**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=332,slow=6.7,SNR=6.1						
	comp=Z,0.8nm,0.7s						
QSPA	**South Pole Qui**	**85.58**	**180**	P	**P**	**18 47 32.6**	**+2.9**
QSPA				IAmb	IAmb	18 47 33.5	
	comp=Z,4.4nm,1.1s						
QSPA	**South Pole Qui**	**85.58**	**180**	P	**P**	**18 47 32.1**	**+2.4**
	comp=Z,2.4nm,0.8s,baz=27,slow=2.1,SNR=8.4						
	comp=Z,2.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.01**	**289**	PKPbc	**PKPbc**	**18 54 42.5**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=57,slow=2.3,SNR=6.6						

*AFAD **04** 18:38:19.5, 37°.54N×26°.76E, h7km±2km, ML2.5*
*ISK **04** 18:38:19.2, 37°.53N×26°.79E, h10km, ML2.7/14*
*ATH **04** 18:38:20.1, 37°.64N×26°.94E, h16km±2km, ML2.3/1, Manual Solution by S.Koutrakis First location: 2019/09/04 18:39:59, This location: 2019/09/04 18:55:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 5 km*

ISC 04 18:38:19.6±0.9, 37°.55N±0°.02×26°.78E±0°.03, h14km±7km, n31, σ0§63/47, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.17**	**15**	P	**Pg**	**18 38 23.6**	**-0.1**
SMG				S	**Sg**	**18 38 26.0**	**-0.4**
DDIM	**Aydin, Didim**	**0.38**	**104**	P	**Pg**	**18 38 27.8**	**+0.6**
DDIM				S	**Sg**	**18 38 33.3**	**+1.0**
DDIM				*i* IAML		18 38 34.0	
	comp=N,569nm,0.2s						
GCAM	**G?zelcaml?**	**0.39**	**67**	Pg	**Pg**	**18 38 27.5**	**+0.1**
GCAM				Sg	**Sg**	**18 38 33.3**	**+0.6**
GCAM	**G?zelcaml?**	**0.39**	**67**	P	**Pg**	**18 38 27.6**	**+0.1**
GCAM				S	**Sg**	**18 38 32.9**	**+0.2**
GCAM				*i* IAML		18 38 34.0	
	comp=N,1μm,0.2s						
GCAM				*i* IAML		18 38 34.0	
	comp=E,583nm,0.1s						
DIDI	**Didim-Aydin**	**0.40**	**115**	Pg	**Pg**	**18 38 27.5**	**-0.2**
DGB	**zmir**	**0.51**	**9**	P	**Pg**	**18 38 29.6**	**-0.1**
GMLD	**Gumuldur**	**0.54**	**11**	Pg	**Pg**	**18 38 30.6**	**+0.4**
GMLD				Sg	**Sg**	**18 38 38.1**	**+0.7**
YKAV	**Yalikavak-Bodr**	**0.58**	**137**	Pg	**Pg**	**18 38 30.4**	**-0.6**
YKAV				Sg	**Sg**	**18 38 38.4**	**-0.3**
BDRM	**Kayabasi**	**0.71**	**132**	P	**Pb**	**18 38 33.8**	**-0.1**
BDRM				S	**Sb**	**18 38 44.0**	**+0.5**
BDRM				*i* IAML		18 38 45.0	
	comp=E,206nm,0.2s						
ZEYE	**Izmir, Urla-Ze**	**0.72**	**342**	P	**Pg**	**18 38 33.8**	**+0.1**
ZEYE				S	**Sb**	**18 38 44.1**	**+0.2**
ZEYE				*i* IAML		18 38 46.0	
	comp=N,177nm,0.3s						
BLCB	**Balcova**	**0.86**	**14**	Pg	**Pg**	**18 38 36.2**	**-0.1**
AYDN	**Tasoluk**	**0.88**	**82**	P	**Pb**	**18 38 36.9**	**+0.2**
AYDN				S	**Sg**	**18 38 46.9**	**-1.3**
AYDN				*i* IAML		18 38 49.0	
	comp=N,119nm,0.3s						
AYDN				*i* IAML		18 38 51.0	
	comp=E,140nm,0.2s						
AYDB	**Zeytinkoy-Aydi**	**0.96**	**65**	Pg	**Pg**	**18 38 38.5**	**+0.2**
AYDB				Sg	**Sn**	**18 38 52.2**	**-0.3**
CHOS	**Chios island**	**1.02**	**326**	Pg	**Pn**	**18 38 39.6**	**0.0**
CHOS	**Chios island**	**1.02**	**326**	P	**Pn**	**18 38 39.8**	**+0.3**
CHOS				S	**Sn**	**18 38 53.2**	**-0.5**
YAZI	**Mula-Dat§a-**	**1.02**	**148**	P	**Pg**	**18 38 39.1**	**-0.2**
YAZI				S	**Sn**	**18 38 53.2**	**-0.3**
DAT	**Datca**	**1.03**	**142**	Pg	**Pg**	**18 38 39.5**	**-0.1**
DAT				Sg	**Sg**	**18 38 53.6**	**+0.5**
IZMR	**zmir-demi**	**1.10**	**57**	P	**Pg**	**18 38 41.6**	**+0.9**
IZMR				S	**Sb**	**18 38 53.4**	**-1.1**
IZMR				S	**Sg**	**18 38 53.6**	**-1.4**
ODEM	**Odemis-Izmir**	**1.25**	**54**	Pn	**Pb**	**18 38 43.4**	**+0.3**
MULA	**Mugla, Merkez-**	**1.26**	**103**	P	**Pn**	**18 38 42.5**	**-0.4**
NAZL	**Nazilli-Aydin**	**1.27**	**70**	Pn	**Pn**	**18 38 42.9**	**-0.1**
ESEN	**Aydn-Nazilli**	**1.27**	**78**	P	**Pn**	**18 38 42.5**	**-0.4**
TURN	**Turunc**	**1.40**	**123**	P	**Pg**	**18 38 47.1**	**+0.6**
KIRA	**zmir-Kiraz**	**1.44**	**63**	P	**Pg**	**18 38 47.5**	**+0.3**
THERA	**Ancient Thera,**	**1.58**	**222**	P	**Pg**	**18 38 49.5**	**-0.4**
THERA				S	**Sg**	**18 39 11.6**	**+1.2**
ARG	**Arkhangelos**	**1.71**	**141**	P	**Pn**	**18 38 49.6**	**+0.6**
PRK	**Paraskevi**	**1.74**	**347**	P	**Pn**	**18 38 50.2**	**+0.8**
GORD	**Gordes-Manisa**	**1.75**	**39**	Pn	**Pn**	**18 38 50.7**	**+1.1**
KULA	**Kula-Manisa**	**1.77**	**56**	Pn	**Pb**	**18 38 51.3**	**-0.6**
SIGR	**SIGRI**	**1.81**	**337**	Pn	**Pb**	**18 38 51.7**	**-0.9**
YAYO	**Edremit-Balk**	**2.07**	**6**	Pn	**Pn**	**18 38 55.2**	**+1.2**

*SNET **04** 18:50:11.0±0.8, 13°.22N×89°.31W, h57km±17km, ML3.4*
*CATAC **04** 18:50:12.1±0.5, 13°.1N±3°×8°.9W±°, h32km±3km, M3.6/15, MLv3.6/15, Error ellipse: s-maj=7.5km s-min=4.9km az=27.8, confirmed*
*GCG **04** 18:50:13.1±1.0, 13°.36N×89°.29W, h56km±8km, MD3.7, ML3.3*

ISC 04 18:50:12.2±1.8, 13°.21N±0°.09×89°.31W±0°.05, h54km±11km, n59, σ0§38/64, 2C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANCS	**Alcalda de**	**0.42**	**18**	P	**Pn**	**18 50 23.0**	**-0.1**
PANCS	**Alcalda de**	**0.42**	**18**	S	**Sn**	**18 50 30.2**	**-0.6**
LOMA	**Loma Larga**	**0.46**	**17**	*eP*	**Pn**	**18 50 23.2**	**-0.3**
LOMA	**Loma Larga**	**0.46**	**17**	S	**Sn**	**18 50 31.8**	**+0.3**
LOMA	**Loma Larga**	**0.46**	**17**	P	**Pn**	**18 50 23.2**	**-0.3**
JAYA	**Jayaque - finc**	**0.46**	**343**	*eP*	**Pn**	**18 50 23.3**	**-0.3**
JAYA	**Jayaque - finc**	**0.46**	**343**	*i P*	**Pn**	**18 50 23.2**	**-0.3**
JAYA				*i S*	**Sn**	**18 50 30.7**	**-1.0**
JAYA	**Jayaque - finc**	**0.46**	**343**	P	**Pn**	**18 50 23.3**	**-0.3**
JAYA	**Jayaque - finc**	**0.46**	**343**	S	**Sn**	**18 50 31.3**	**-0.4**
LFRS	**El Faro**	**0.48**	**30**	*eP*	**Pn**	**18 50 23.5**	**-0.2**
LFRS				*eS*	**Sn**	**18 50 31.7**	**-0.2**
SEMO	**Seminario San**	**0.50**	**10**	P	**Pn**	**18 50 23.8**	**-0.1**
SEMO	**Seminario San**	**0.50**	**10**	S	**Sn**	**18 50 33.0**	**+0.7**
PMON	**Piamonte**	**0.50**	**360**	*eP*	**Pn**	**18 50 23.8**	**-0.2**
PMON	**Piamonte**	**0.50**	**360**	S	**Sn**	**18 50 33.0**	**+0.6**
PMON	**Piamonte**	**0.50**	**360**	P	**Pn**	**18 50 23.9**	**0.0**
**UT

0.6nm,0.8s,baz=186,slow=7.5,SNR=5.7
0.6nm,0.8s
PDAR Pinedale Array 84.60 24 P **P** **19 17 05.8 +0.4**
2.6nm,0.7s,baz=181,slow=4.9,SNR=22
2.6nm,0.7s
SONM Songino Array 129.07 306 PKP **PKiKP** **19 23 40.1 -0.2**
0.2nm,0.5s,baz=95,slow=3.8,SNR=2.3
ZALV Zalesovo Beam 143.00 313 PKhKP PKPpre 19 24 02.5
1.5nm,0.5s,baz=86,slow=3.5,SNR=9.0
MKAR Makanchi Array 145.18 301 PKPbc **PKPab** **19 24 10.0 +1.2**
12nm,0.8s,baz=79,slow=6.3,SNR=73
ARCES ARCESS Array B 146.37 7 PKPbc **PKPbc** **19 24 11.4 -0.4**
3.0nm,0.8s,baz=329,slow=3.2,SNR=4.4
KURBB Kurchatov Arra 147.33 309 PKPbc **PKPbc** **19 24 15.6 +0.6**
2.7nm,0.7s,baz=85,slow=2.6,SNR=15
ESDC Sonseca Array 147.73 72 PKPbc **PKPbc** **19 24 15.9 -0.6**
3.0nm,0.9s,baz=275,slow=3.6,SNR=14
NOA NORSAR Array B 150.53 26 PKPbc **PKiKP** **19 24 23.0 -0.7**
1.5nm,0.8s,baz=336,slow=2.4,SNR=4.7
BVAR Borovoye Array 151.56 316 PKPbc **PKiKP** **19 24 26.1 +0.2**
5.2nm,0.6s,baz=98,slow=2.2,SNR=30
HFS Hagfors 152.04 25 PKPbc **PKPbc** **19 24 25.3 -1.1**
5.4nm,1.1s,baz=106,slow=3.7,SNR=7.1
FINES FINESS Array B 154.14 12 PKPbc **PKPbc** **19 24 30.4 -0.5**
0.5nm,0.4s,baz=5.2,slow=1.9,SNR=10

IDC ***04*** *19:27:40.7±0.7,20°24S×178°55W,h589km±7km,mb4.0/22, mbtmp4.9/22, Error ellipse: s-maj=13.2km s-min=10.0km az=94.0*

NOU ***04*** *19:27:41.7,20°27S×178°53W,h593km,mb4.8/44,Fiji Islands Region*

BGR ***04*** *19:27:41.1,20°57S×177°54W,h600km*

NEIC ***04*** *19:27:41.2±2.5,20°21S±0°10×178°48W±0°07, h593km±6km,mb4.7/327, Error ellipse: s-maj=15.8km s-min=7.1km az=151.0*

ISC 04 19:27:40.2±0.3, 20°35S±0°05×178°52W±0°06, h587km, n766, σ0.90/648, mb4.7/200, 52C-30D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**2.12**	**352**	P	**P**		**19 28 55.6**	**+1.7**
LKBA	**Tubou, Lakemba**	**2.12**	**352**	S	**S**		**19 29 56.2**	**+2.5**
TAVE	**Taveuni**	**3.85**	**340**	P	**P**		**19 29 05.3**	**+1.5**
MSVF	**Nonsavu**	**4.16**	**308**		**P**		**19 29 06.9**	**+0.9**
MSVF	**Nonsavu**	**4.16**	**308**	P	**P**		**19 29 07.9**	**+1.8**
DGTI	**Dogotuki**	**4.36**	**337**	P	**P**		**19 29 08.3**	**+0.9**
FUTU	**Fugatoga**	**6.02**	**4**		**P**		**19 29 20.6**	**-0.3**
FUTU	**Fugatoga**	**6.02**	**4**	P	**P**		**19 29 21.7**	**+0.7**
NIUE	**Niue**	**8.19**	**83**	P	**P**		**19 29 40.9**	**-0.1**
RAO	**Raoul Island**	**8.88**	**177**	P	P		19 29 56.0	+8.5
	2um,0.3s,baz=61,slow=22,SNR=5.3							
DZM	**Mont Dzumac**	**14.13**	**260**	*e*S	**S**		**19 33 00.4**	**-8.1**
	254nm,24.6s							
DZM	**Mont Dzumac**	**14.13**	**260**	P	**P**		**19 30 42.8**	**+2.1**
SANVU	**Saraoutou**	**14.44**	**287**		**P**		**19 30 44.3**	**+0.8**
OUZ	**Omahuta**	**16.36**	**204**	P	**P**		**19 31 04.1**	**+2.8**
GRZ	**Great Barrier**	**16.70**	**197**	P	**P**		**19 31 06.6**	**+2.3**
WCZ	**Waipu Caves**	**16.75**	**200**	P	**P**		**19 31 08.0**	**+3.2**
KUZ	**Kuaotunu**	**17.09**	**196**	P	**P**		**19 31 10.1**	**+2.2**
HAZ	**Te Kaha**	**17.64**	**190**	P	**P**		**19 31 13.1**	**+0.2**
PUZ	**Puketiti**	**17.88**	**188**	P	**P**		**19 31 15.5**	**+0.4**
TOZ	**Tahuroa Road**	**18.08**	**195**		**P**		**19 31 18.7**	**+1.7**
TOZ	**Tahuroa Road**	**18.08**	**195**	P	**P**		**19 31 19.0**	**+2.0**
URZ	**Urewera**	**18.25**	**191**	P	**P**		**19 31 16.8**	**-1.6**
	40nm,0.6s,baz=26,slow=4.7,SNR=20							
URZ				S	**S**		**19 34 10.0**	**-5.7**
	12nm,0.9s,baz=185,slow=20,SNR=1.7							
URZ	**Urewera**	**18.25**	**191**	P	**P**		**19 31 17.1**	**-1.3**
URZ				S	**S**		**19 34 11.2**	**-4.4**
RTZ	**Ruatahuna**	**18.61**	**191**	P	**P**		**19 31 22.5**	**+0.7**
RTZ				IAmb	IAmb		19 31 51.6	
	comp=Z,44nm,1.3s							
TLZ	**Tolley Road**	**18.64**	**195**	P	**P**		**19 31 23.8**	**+1.7**
NMHZ	**Naumai**	**19.11**	**191**	P	**P**		**19 31 27.0**	**+0.6**
BKZ	**Black Stump Fm**	**19.24**	**192**	P	**P**		**19 31 25.6**	**-1.9**
BKZ	**Black Stump Fm**	**19.24**	**192**	P	**P**		**19 31 26.0**	**-1.5**
TMVZ	**Te Maari**	**19.36**	**194**	P	**P**		**19 31 29.3**	**+0.6**
ETVZ	**East Tongariro**	**19.37**	**194**	P	**P**		**19 31 28.8**	**0.0**
OTVZ	**Oturere**	**19.41**	**194**	P	**P**		**19 31 28.5**	**-0.7**
MCHZ	**McNeill Hill**	**19.47**	**191**	P	**P**		**19 31 30.0**	**+0.4**
KWHZ	**Kaweka Forest**	**19.50**	**192**	P	**P**		**19 31 29.7**	**-0.3**
TUVZ	**Tukino**	**19.51**	**194**	P	**P**		**19 31 30.8**	**+0.7**
MAVZ	**Matarangi**	**19.53**	**194**	P	**P**		**19 31 31.0**	**+0.5**
WHVZ	**Whangaehu Hut**	**19.54**	**194**	P	**P**		**19 31 29.7**	**-0.7**
WNVZ	**Wahianoa**	**19.58**	**194**	P	**P**		**19 31 30.2**	**-0.6**
PKVZ	**Pokaka**	**19.60**	**194**	P	**P**		**19 31 31.2**	**+0.4**
MOVZ	**Moawhango**	**19.62**	**193**	P	**P**		**19 31 30.8**	**-0.2**
PNHZ	**Pukenui**	**20.02**	**192**	P	**P**		**19 31 33.4**	**-1.2**
TSZ	**Takapari Road**	**20.21**	**192**	P	**P**		**19 31 35.5**	**-0.8**
DVHZ	**Dannevirke**	**20.40**	**192**	P	**P**		**19 31 37.9**	**-0.1**
BFZ	**Birch Farm**	**20.75**	**191**	P	**P**		**19 31 40.3**	**-0.8**
MRZ	**Mangatainoka R**	**20.86**	**193**	P	**P**		**19 31 40.6**	**-1.5**
MRZ	**Mangatainoka R**	**20.86**	**193**	P	**P**		**19 31 40.5**	**-1.6**
MSWZ	**Moikau Station**	**21.66**	**193**	P	**P**		**19 31 50.1**	**+0.9**
TCW	**Tory Channel**	**21.68**	**195**	P	**P**		**19 31 51.1**	**+1.7**
QRZ	**Quartz Range**	**21.79**	**199**	P	**P**		**19 31 52.4**	**+2.0**
QRZ	**Quartz Range**	**21.79**	**199**	P	**P**		**19 31 50.9**	**+0.5**
THZ	**Tophouse**	**22.55**	**197**	P	**P**		**19 31 56.1**	**-1.1**
DSZ	**Denniston Nort**	**22.85**	**199**	P	**P**		**19 31 59.9**	**0.0**
KHZ	**Kahutara**	**23.00**	**195**	P	**P**		**19 31 59.5**	**-1.6**
TARA	**Tarawa**	**23.14**	**338**	P	**P**		**19 32 02.8**	**0.0**
ALEG	**Aligegeo Malai**	**23.16**	**297**	P	**P**		**19 32 04.5**	**+1.6**
GVZ	**Greta Valley S**	**23.64**	**196**	P	**P**		**19 32 06.4**	**-0.5**
LTZ	**Lake Taylor**	**23.67**	**197**	P	**P**		**19 32 05.4**	**-1.8**
WVZ	**Waitaha Valley**	**24.39**	**199**	P	**P**		**19 32 13.4**	**0.0**
RPZ	**Rata Peaks**	**24.88**	**198**	P	**P**		**19 32 18.9**	**+1.1**
FOZ	**Fox Glacier**	**25.09**	**200**	P	**P**		**19 32 19.8**	**+0.1**
TMZ	**Timaru**	**25.50**	**198**	P	**P**		**19 32 23.8**	**+0.5**
JCZ	**Jackson Bay**	**25.92**	**201**	P	**P**		**19 32 27.1**	**+0.1**
WKZ	**Wanaka**	**26.51**	**200**	P	**P**		**19 32 32.2**	**0.0**
MLZ	**Mavora Lakes**	**27.28**	**201**		**P**		**19 32 40.0**	**+1.1**
MLZ	**Mavora Lakes**	**27.28**	**201**	P	**P**		**19 32 40.0**	**+1.1**
PPT2	**Papeete2**	**27.49**	**89**	*e*S	**S**		**19 36 41.6**	**-0.4**
	comp=Z,29nm,23.0s							
PPT2				*es*S	sS		19 39 31.6	-4.5
	comp=Z,138nm,25.8s							
DCZ	**Deep Cove**	**27.70**	**202**	P	**P**		**19 32 43.2**	**+0.8**
DCZ				IAmb	IAmb		19 32 43.9	
	comp=Z,22nm,0.7s							
WHZ	**Wether Hill Ro**	**27.80**	**201**		**P**		**19 32 44.5**	**+1.2**
WHZ	**Wether Hill Ro**	**27.80**	**201**	P	**P**		**19 32 43.1**	**-0.3**
APZ	**The Pass**	**28.62**	**200**	P	**P**		**19 32 51.7**	**+1.2**
TV1H	**Townsville Har**	**32.62**	**266**	P	**P**		**19 33 26.1**	**+1.0**
CTA	**Charters Tower**	**33.02**	**264**	P	**P**		**19 33 29.6**	**+1.1**
CTAO	**Charters Tower**	**33.02**	**264**		**P**		**19 33 28.9**	**+0.4**
CTAO	**Charters Tower**	**33.02**	**264**	P	**P**		**19 33 29.6**	**+1.1**
CMSA	**Cobar Meteorol**	**33.92**	**244**	P	**P**		**19 33 37.1**	**+1.3**
QLP	**Quilpie**	**34.64**	**252**	P	**P**		**19 33 43.4**	**+1.5**
PMG	**Port Moresby**	**34.84**	**283**		**P**		**19 33 43.8**	**+0.1**
PMG	**Port Moresby**	**34.84**	**283**	P	**P**		**19 33 44.7**	**+1.1**
PMG	**Port Moresby**	**34.84**	**283**	P	**P**		**19 33 44.8**	**+1.1**
MTSU	**Mount Surprise**	**35.11**	**267**	P	**P**		**19 33 46.9**	**+0.9**
TOO	**Toolangi**	**35.60**	**233**	P	**P**		**19 33 50.5**	**+0.8**
COEN	**Coen**	**37.09**	**274**		**P**		**19 34 02.8**	**+0.6**
COEN	**Coen**	**37.09**	**274**	P	**P**		**19 34 03.2**	**+1.0**
STKA	**Stephens Creek**	**37.42**	**244**	P	**P**		**19 34 05.3**	**+0.6**
	comp=Z,3.6nm,0.7s,baz=84,slow=11,SNR=7.5							
	comp=Z,3.6nm,0.7s							
MANU	**Manus Island**	**37.95**	**294**		**P**		**19 34 09.9**	**+0.7**
BBOO	**Buckleboo**	**42.18**	**243**	P	**P**		**19 34 42.9**	**+0.1**
BBOO				IAmb	IAmb		19 34 44.1	
	comp=Z,9.2nm,0.6s							
JAY	**Jayapura**	**43.54**	**289**	P	**P**		**19 34 53.5**	**-0.1**
GENI	**Genyem**	**43.98**	**288**	P	**P**		**19 34 57.8**	**+0.9**
GENI	**Genyem**	**43.98**	**288**	P	**P**		**19 34 57.1**	**+0.2**
	comp=Z,131nm,0.8s							
AS01	**Alice Springs**	**44.04**	**257**	P	**P**		**19 34 58.1**	**+0.8**
ASAR	**Alice Springs**	**44.08**	**257**	P	**P**		**19 34 57.3**	**-0.3**
ASAR	**Alice Springs**	**44.08**	**257**	P	**P**		**19 34 58.0**	**+0.3**
	comp=Z,21nm,0.8s,baz=94,slow=7.7,SNR=201							
ASAR				PcP	**PcP**		**19 36 30.1**	**+0.2**
	comp=Z,3.9nm,0.5s,baz=96,slow=3.5,SNR=11							
	comp=Z,21nm,0.8s							
WRAB	**Tennant Creek**	**44.13**	**262**	P	**P**		**19 34 57.1**	**-0.9**
WRAB				IAmb	IAmb		19 34 58.8	
	comp=Z,39nm,1.2s							
WRA	**Warramunga Arr**	**44.14**	**262**	P	**P**		**19 34 56.6**	**-1.5**
WRA	**Warramunga Arr**	**44.14**	**262**	P	**P**		**19 34 57.4**	**-0.7**
	comp=Z,14nm,0.6s,baz=98,slow=8.1,SNR=375							
	comp=Z,14nm,0.6s							
SMPI	**Sarmi**	**45.55**	**288**	P	**P**		**19 35 09.0**	**+0.1**
	comp=Z,67nm,1.3s							
STCH	**Steam Cracks**	**45.66**	**32**	P	**P**		**19 35 08.9**	**-0.8**
HMH	**Humu'ula Sheep**	**45.67**	**31**	P	**P**		**19 35 09.8**	**-0.2**
HPAH	**Hawaii Prepara**	**45.93**	**30**	P	**P**		**19 35 10.5**	**-1.3**
KDU	**Kakadu**	**47.46**	**271**	P	**P**		**19 35 23.5**	**+0.2**
MTN	**Manton Dam**	**48.68**	**271**		**P**		**19 35 31.8**	**-0.6**
MTN	**Manton Dam**	**48.68**	**271**	P	**P**		**19 35 32.3**	**-0.1**
DRS	**Darwin Rock St**	**49.01**	**271**	P	**P**		**19 35 35.1**	**+0.3**
GUMO	**Guam**	**49.33**	**310**		**P**		**19 35 36.6**	**-0.5**
GUMO	**Guam**	**49.33**	**310**	P	**P**		**19 35 37.9**	**+0.8**
KNRA	**Kununurra**	**50.19**	**266**		**P**		**19 35 43.1**	**-0.3**
KNRA				IAmb	IAmb		19 35 44.4	
	comp=Z,17nm,0.7s							
FITZ	**Fitzroy Crossi**	**52.57**	**262**	P	**P**		**19 36 01.4**	**+0.9**
SWI	**Sorong**	**52.74**	**285**	P	**P**		**19 36 02.1**	**+0.3**
SOEI	**Soe**	**56.01**	**272**	P	**P**		**19 36 26.5**	**+1.6**
SOEI	**Soe**	**56.01**	**272**	P	**P**		**19 36 25.6**	**+0.7**
	comp=Z,103nm,0.9s							
SANI	**Sanana**	**57.08**	**281**	P	**P**		**19 36 32.2**	**+0.2**
SANI	**Sanana**	**57.08**	**281**	P	**P**		**19 36 32.6**	**+0.6**
	comp=Z,34nm,1.0s							
SBA	**Scott Base**	**57.99**	**184**	P	**P**		**19 36 39.8**	**+2.7**
VNDA	**Vanda**	**58.02**	**185**	P	**P**		**19 36 39.4**	**+2.1**
	comp=Z,2.5nm,0.6s,baz=15,slow=6.6,SNR=17							
	comp=Z,2.5nm,0.6s							
EDFI	**Ende, Flores**	**58.74**	**272**	P	**P**		**19 36 43.1**	**-0.3**
	comp=Z,31nm,1.1s							
TOLI2	**Tolitoli**	**63.10**	**282**	P	**P**		**19 37 11.2**	**-0.6**
TOLI2				IAmb	IAmb		19 37 12.6	
	comp=Z,27nm,1.1s							
TOLI2	**Tolitoli**	**63.10**	**282**	P	**P**		**19 37 12.0**	**+0.2**
PCI	**Palu**	**63.19**	**280**	P	**P**		**19 37 14.2**	**+1.8**
	comp=Z,65nm,1.0s							
CASY	**Casey**	**63.89**	**205**	P	**P**		**19 37 16.3**	**+0.4**
MYLDM	**Lahad Datu**	**66.83**	**285**	P	**P**		**19 37 36.4**	**+1.3**
MYLDM				IAmb	IAmb		19 37 55.3	
	comp=Z,25nm,1.0s							
QSPA	**South Pole Qui**	**69.72**	**180**	P	**P**		**19 37 54.3**	**+2.4**
QSPA				IAmb	IAmb		19 37 55.7	
	comp=Z,33nm,0.9s							
QSPA	**South Pole Qui**	**69.72**	**180**	P	**P**		**19 37 54.1**	**+2.2**
	comp=Z,25nm,0.8s,baz=222,slow=1.4,SNR=80							
	comp=Z,25nm,0.8s							
MJAR	**Matsushiro Arr**	**69.80**	**324**	P	**P**		**19 37 51.6**	**-1.1**
MJAR	**Matsushiro Arr**	**69.80**	**324**	P	**P**		**19 37 52.0**	**-0.7**
	comp=Z,7.7nm,0.7s,baz=157,slow=6.1,SNR=19							
	comp=Z,7.7nm,0.7s							
MAJO	**Matsushiro**	**69.81**	**324**	P	**P**		**19 37 51.9**	**-0.8**
MAJO				IAmb	IAmb		19 37 52.7	
	comp=Z,10nm,0.7s							
MAJO	**Matsushiro**	**69.81**	**324**	P	**P**		**19 37 52.7**	**0.0**
JNU	**Nakatsue**	**71.83**	**317**	P	**P**		**19 38 03.9**	**-0.8**
JNU				IAmb	IAmb		19 38 05.6	
	comp=Z,28nm,1.1s							
JNU	**Nakatsue**	**71.83**	**317**	P	**P**		**19 38 04.9**	**+0.2**
KSM	**Kuching**	**72.91**	**278**	P	**P**		**19 38 11.2**	**-0.1**
KSM				IAmb	IAmb		19 38 12.9	
	comp=Z,43nm,1.3s							
KSM	**Kuching**	**72.91**	**278**	P	**P**		**19 38 12.1**	**+0.8**
ASAJ	**Asahikawa**	**73.37**	**332**	P	**P**		**19 38 14.1**	**+0.9**
	comp=Z,33nm,0.8s,baz=226,slow=6.5,SNR=27							
	comp=Z,33nm,0.8s							
UNV	**Unalaska Valle**	**74.61**	**7**	P	**P**		**19 38 18.8**	**-1.1**
	baz=192							
YSS	**Yuzhno-Sakhali**	**75.55**	**334**	P	**P**		**19 38 25.2**	**-0.1**
YSS				IAmb	IAmb		19 38 27.1	
	comp=Z,38nm,1.0s							
YSS	**Yuzhno-Sakhali**	**75.55**	**334**	P	**P**		**19 38 26.8**	**+1.5**
PETK	**Petropavlovsk-**	**76.00**	**345**	P	**P**		**19 38 26.1**	**-1.7**
PETK	**Petropavlovsk-**	**76.00**	**345**	P	**P**		**19 38 27.1**	**-0.6**
	comp=Z,26nm,0.8s,baz=138,slow=7.6,SNR=34							
	comp=Z,26nm,0.8s							
FALS	**False Pass**	**76.01**	**9**	P	**P**		**19 38 27.0**	**-0.6**
	baz=194							
KSRS	**Korea Array**	**76.45**	**319**	P	**P**		**19 38 31.1**	**+0.6**
	comp=Z,3.8nm,0.7s,baz=128,slow=5.8,SNR=14							
	comp=Z,3.8nm,0.7s							
KSAR	**Wonju Array Be**	**76.47**	**319**	P	**P**		**19 38 30.1**	**-0.5**
CHNA	**Chernabura Isl**	**76.61**	**11**	P	**P**		**19 38 30.2**	**-0.7**
	baz=198							
SDPT	**Sand Point**	**76.95**	**10**	P	**P**		**19 38 31.9**	**-0.9**
	baz=197							
S12K	**Black Hills**	**77.03**	**9**	P	**P**		**19 38 32.4**	**-0.9**
	baz=196							
SPIA	**Saint Paul Isl**	**77.54**	**5**	P	**P**		**19 38 36.0**	**+0.1**
	baz=188							
S14K	**Fog Glacier**	**78.00**	**11**	P	**P**		**19 38 38.4**	**-0.2**
	baz=198							
CHGN	**Chignik**	**78.22**	**11**	IAmb	IAmb		19 38 39.8	
	comp=Z,38nm,0.8s							
CHGN	**Chignik**	**78.22**	**11**	P	**P**		**19 38 39.1**	**-0.5**
	baz=199							
SAO	**San Andreas Ge**	**78.25**	**44**	IAmb	IAmb		19 38 42.4	
	comp=Z,16nm,0.8s							
CHIR	**Chirikof Islan**	**78.32**	**13**	P	**P**		**19 38 40.1**	**-0.1**
	baz=202							
USRK	**Ussuriysk Ar.**	**78.57**	**326**	P	**P**		**19 38 42.8**	**+1.1**
	comp=Z,14nm,0.8s,baz=129,slow=2.8,SNR=16							
	comp=Z,14nm,0.8s							
MTOS	**Mt Oso, Westle**	**78.77**	**43**	IAmb	IAmb		19 38 45.2	
	comp=Z,27nm,1.1s							
KMPM	**Mount Pierce**	**78.82**	**39**	IAmb	IAmb		19 38 45.8	
	comp=Z,35nm,1.1s							
MNRC	**McLaughlin Min**	**78.89**	**41**	IAmb	IAmb		19 38 46.2	
	comp=Z,32nm,0.9s							
KMRM	**Mail Ridge**	**78.95**	**40**	IAmb	IAmb		19 38 47.0	
	comp=Z,42nm,0.8s							
SII	**Sitkinak Islan**	**79.31**	**13**	P	**P**		**19 38 46.2**	**+0.8**
SII	**Sitkinak Islan**	**79.31**	**13**	P	**P**		**19 38 45.4**	**0.0**
	baz=203							
NJ2	**Nanjing**	**79.41**	**310**	*e*P	**P**		**19 38 47.4**	**+0.9**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
O02D	**Mt. Diablo Mer**	**79.47**	**40**	IAmb	IAmb		19 38 49.4	
	comp=Z,21nm,0.8s							
BELA	**Belgrano 2**	**79.77**	**173**	P	**P**		**19 38 47.5**	**-0.2**
R17L	**Mt. Peulik Vol**	**79.86**	**12**	P	**P**		**19 38 48.3**	**0.0**
	baz=201							
OHAK	**Old Harbor**	**80.12**	**14**	P	**P**		**19 38 50.6**	**+1.0**
OHAK	**Old Harbor**	**80.12**	**14**	P	**P**		**19 38 49.5**	**-0.1**
	baz=204,SNR=5.6							
MDJ	**Mudanjiang**	**80.12**	**325**	IAmb	IAmb		19 38 51.8	
	comp=Z,22nm,1.0s							
MDJ	**Mudanjiang**	**80.12**	**325**	P	**P**		**19 38 51.1**	**+1.2**
MDJ				pmax	pmax			
	comp=Z,26nm,1.0s							
MDJ	**Mudanjiang**	**80.12**	**325**	P	**P**		**19 38 51.2**	**+1.3**
O03E	**Paynes Creek**	**80.14**	**40**	IAmb	IAmb		19 38 52.8	
	comp=Z,18nm,0.9s							
M02C	**Callahan**	**80.18**	**39**	IAmb	IAmb		19 38 53.1	
	comp=Z,20nm,0.8s							
R18K	**Karluk**	**80.18**	**13**	P	**P**		**19 38 49.8**	**-0.1**
	baz=203							
YBH	**Yreka Blue Hor**	**80.48**	**39**	IAmb	IAmb		19 38 54.3	
	comp=Z,20nm,0.8s							
TIN	**Tinemaha, Big**	**80.52**	**45**	IAmb	IAmb		19 38 55.7	
	comp=Z,27nm,0.9s							
Q17K	**Contact Creek**	**80.54**	**12**	P	**P**		**19 38 51.5**	**-0.5**
	baz=201							
WAKR	**Walker**	**80.56**	**43**	IAmb	IAmb		19 38 54.9	
	comp=Z,24nm,1.1s							
HATC	**Hat Creek Radi**	**80.66**	**40**	IAmb	IAmb		19 38 55.2	
	comp=Z,40nm,0.9s							
O15K	**Ungalikthiuk R**	**80.71**	**10**	P	**P**		**19 38 52.5**	**-0.1**
	baz=198							
Q16K	**King Salmon**	**80.78**	**11**	P	**P**		**19 38 52.8**	**-0.1**
	baz=201,SNR=7.7							
KDAK	**Kodiak Island**	**80.78**	**14**	P	**P**		**19 38 52.1**	**-0.9**
KDAK				IAmb	IAmb		19 38 54.8	
	comp=Z,14nm,0.8s							
KDAK	**Kodiak Island**	**80.78**	**14**	P	**P**		**19 38 53.0**	**0.0**
	baz=204							
P16K	**Nushagak River**	**80.88**	**11**	P	**P**		**19 38 52.9**	**-0.6**
	baz=199							
Q18K	**Katmai Hardscr**	**81.07**	**12**	P	**P**		**19 38 54.3**	**-0.4**
	baz=202							
N14K	**Kuskokwak Cree**	**81.16**	**8**	P	**P**		**19 38 55.2**	**+0.3**
	baz=196							
NVAR	**Mina Array Bea**	**81.25**	**44**	P	**P**		**19 38 56.7**	**+0.5**
	comp=Z,4.9nm,0.5s,baz=225,slow=8.0,SNR=6.8							
	comp=Z,4.9nm,0.5s							
P17K	**Kvichak River**	**81.31**	**11**	P	**P**		**19 38 55.4**	**-0.3**
	baz=201,SNR=13							
O16K	**Kokwok River B**	**81.39**	**10**	IAmb	IAmb		19 38 56.0	
	comp=Z,30nm,0.9s							
O16K	**Kokwok River B**	**81.39**	**10**	P	**P**		**19 38 55.1**	**-1.0**
	baz=199,SNR=6.2							
MAW	**Mawson**	**81.54**	**200**	P	**P**		**19 38 56.6**	**-0.3**
	comp=Z,3.9nm,0.9s,baz=111,slow=7.4,SNR=4.7							
	comp=Z,3.9nm,0.9s							
Q20K	**Shuyak Island**	**81.58**	**13**	P	**P**		**19 38 57.0**	**-0.1**
	baz=205							
SYI	**Shuyak Island**	**81.58**	**13**	IAmb	IAmb		19 38 58.0	
	comp=Z,31nm,1.0s							
Q19K	**Cape Douglas,**	**81.61**	**13**	P	**P**		**19 38 56.8**	**-0.5**
	baz=203							
N15K	**Kwethluk River**	**81.62**	**9**	P	**P**		**19 38 57.8**	**+0.5**
	baz=197,SNR=6.4							
P18K	**Big Mountain,**	**81.72**	**12**	IAmb	IAmb		19 38 58.0	
	comp=Z,33nm,0.8s							
P18K	**Big Mountain,**	**81.72**	**12**	P	**P**		**19 38 57.2**	**-0.7**
	baz=202,SNR=9.4							
O17K	**Koliganek Bris**	**81.73**	**11**	P	**P**		**19 38 57.3**	**-0.5**
	baz=200							
TPH	**Tonopah**	**81.75**	**44**	IAmb	IAmb		19 39 00.6	
	comp=Z,13nm,0.8s							
TPNV	**Topopah Spring**	**81.78**	**46**	P	**P**		**19 38 59.2**	**+0.3**
BUCK	**Buck Mountain**	**81.85**	**37**	IAmb	IAmb		19 39 01.1	
	comp=Z,49nm,1.2s							
M14K	**Bethel**	**81.92**	**8**	P	**P**		**19 38 59.2**	**+0.4**
	baz=196							
BNX	**BinXian**	**82.02**	**325**	⇓P	**P**		**19 38 59.4**	**-0.3**
BNX				pmax	pmax			
	comp=Z,17nm,0.8s							
M15K	**Kasigluk River**	**82.04**	**9**	P	**P**		**19 38 59.9**	**+0.5**
	baz=197,SNR=6.9							
V12A	**Nelson**	**82.08**	**47**	P	**P**		**19 38 59.3**	**-1.0**
N16K	**Nishlik Lake**	**82.12**	**10**	P	**P**		**19 39 00.3**	**+0.4**
	baz=199							
H04D	**Lebanon**	**82.19**	**37**	IAmb	IAmb		19 39 02.2	
	comp=Z,15nm,0.9s							
SHPR	**Sheep Range**	**82.28**	**47**	P	**P**		**19 39 02.2**	**+0.8**
P19K	**Oil Pt**	**82.36**	**13**	P	**P**		**19 39 00.7**	**-0.4**
	baz=204							
L14K	**Kuka Creek**	**82.40**	**8**	IAmb	IAmb		19 39 02.5	
	comp=Z,26nm,0.9s							
L14K	**Kuka Creek**	**82.40**	**8**	P	**P**		**19 39 01.7**	**+0.5**
	baz=195							
N17K	**Nushagak Hills**	**82.43**	**10**	P	**P**		**19 39 01.1**	**-0.2**
	baz=200							
H04A	**Detroit Lake**	**82.60**	**37**	IAmb	IAmb		19 39 04.0	
	comp=Z,45nm,1.4s							
M16K	**Timber Creek**	**82.61**	**9**	P	**P**		**19 39 03.2**	**+1.0**
	baz=198,SNR=12							
IPM	**Ipoh**	**82.63**	**278**	P	**P**		**19 39 03.4**	**-0.2**
IPM				IAmb	IAmb		19 39 04.7	
	comp=Z,14nm,0.6s							
CNPM	**China Poot**	**82.67**	**14**	IAmb	IAmb		19 39 03.3	
	comp=Z,31nm,0.8s							
HOM	**Homer**	**82.70**	**13**	P	**P**		**19 39 02.5**	**-0.2**
	baz=205							
K13K	**Kusilvak Mount**	**82.75**	**7**	P	**P**		**19 39 02.3**	**-0.6**
	baz=193							
PINE	**Pine Mountain**	**82.76**	**38**	IAmb	IAmb		19 39 06.0	
	comp=Z,33nm,0.9s							
N18K	**Kilae Creek**	**82.80**	**11**	P	**P**		**19 39 02.5**	**-0.7**
	baz=201							
TIA	**Tai'an**	**82.82**	**313**	P	**P**		**19 39 04.5**	**+0.6**
TIA				pmax	pmax			
	comp=Z,11nm,1.0s							
PRN	**Pahroc Range**	**82.84**	**46**	IAmb

EYAK	Cordova Ski Ar baz=211	84.87	16	P	P	19 39 12.8	-0.6
M22K	Willow baz=206	84.92	13	P	P	19 39 12.9	-0.6
HEH	HeiHe comp=Z,15nm,1.1s	84.93	329	*e*P pmax	P pmax	19 39 14.0	+0.1
KNK	Knik Glacier comp=Z,22nm,0.8s	84.98	14	IAmb	IAmb	19 39 14.5	
KNK	Knik Glacier baz=208,SNR=10	84.98	14	P	P	19 39 13.7	-0.3
PMR	Palmer comp=Z,42nm,1.4s	84.99	14	IAmb	IAmb	19 39 14.4	
PMR	Palmer baz=207	84.99	14	P	P	19 39 13.8	-0.1
PMR	Palmer baz=207	84.99	14	P	P	19 39 13.6	-0.3
E07A	Sunnyside comp=Z,15nm,1.0s	85.03	36	IAmb	IAmb	19 39 16.6	
HNS	HongShan comp=Z,17nm,0.9s	85.09	313	⇓P pmax	P pmax	19 39 15.6	+0.6
I17K	Unalakleet baz=197	85.11	8	P	P	19 39 14.5	0.0
HAWA	Hanford comp=Z,14nm,0.9s	85.12	37	IAmb	IAmb	19 39 16.9	
U33K	Whale Pass comp=Z,26nm,1.0s	85.26	24	IAmb	IAmb	19 39 17.2	
U33K	Whale Pass baz=222	85.26	24	P	P	19 39 16.0	+0.6
V35K	Ketchikan comp=Z,17nm,0.9s	85.26	25	IAmb	IAmb	19 39 17.1	
V35K	Ketchikan baz=223	85.26	25	P	P	19 39 15.9	+0.6
BERG	Berg Lake comp=Z,39nm,1.3s	85.27	17	IAmb	IAmb	19 39 16.6	
J18K	Innoko River comp=Z,23nm,1.4s	85.27	10	IAmb	IAmb	19 39 16.3	
J18K	Innoko River baz=200,SNR=7.1	85.27	10	P	P	19 39 15.1	-0.2
LYN	LuoYang comp=Z,49nm,0.9s	85.28	309	P pmax	P pmax	19 39 17.4	+1.3
E08A	Dider Farm, El comp=Z,11nm,0.9s	85.44	37	IAmb	IAmb	19 39 18.3	
BJI	Beijing comp=Z,6.0nm,0.8s	85.45	316	P pmax	P pmax	19 39 17.0	+0.3
CUT	Chulitna baz=206	85.47	13	P	P	19 39 15.4	-0.8
M23K	Glacier View baz=209	85.48	14	P	P	19 39 15.9	-0.5
BMRM	Bremner River comp=Z,22nm,0.9s	85.52	16	IAmb	IAmb	19 39 17.4	
BMRM	Bremner River baz=212,SNR=8.3	85.52	16	P	P	19 39 16.4	-0.2
PPLA	Purkeypile baz=205	85.53	12	P	P	19 39 16.2	-0.5
S31K	Pelican baz=219	85.55	21	P	P	19 39 16.9	+0.1
ENH	Enshi comp=Z,27nm,1.0s	85.56	304	IAmb	IAmb	19 39 19.2	
ENH	Enshi	85.56	304	P	P	19 39 18.3	+0.8
MESA	MESA baz=214	85.57	17	P	P	19 39 16.6	-0.5
MFID	Camas Ranch comp=Z,10nm,0.9s	85.58	40	IAmb	IAmb	19 39 19.2	
SCM	Sheep Creek Mo baz=209,SNR=23	85.61	14	P	P	19 39 16.5	-0.5
K20K	Telida comp=Z,14nm,1.0s	85.61	11	IAmb	IAmb	19 39 17.7	
K20K	Telida baz=203	85.61	11	P	P	19 39 16.3	-0.6
KLU	Klutina comp=Z,11nm,0.8s	85.64	15	IAmb	IAmb	19 39 17.9	
KLU	Klutina baz=210,SNR=6.7	85.64	15	P	P	19 39 16.9	-0.4
CRQM	Cirque comp=Z,27nm,1.1s	85.73	17	IAmb	IAmb	19 39 18.7	
CRQE	Cirque baz=213,SNR=7.1	85.73	17	P	P	19 39 17.7	0.0
WRAK	Wrangell Islan comp=Z,16nm,0.9s	85.77	24	IAmb	IAmb	19 39 19.5	
WRAK	Wrangell Islan baz=223	85.77	24	P	P	19 39 17.9	+0.1
G15K	Niuluk baz=194	85.80	6	P	P	19 39 17.3	-0.5
TGL	Tana Glacier comp=Z,18nm,1.0s	85.81	17	IAmb	IAmb	19 39 19.0	
ISLE	Juniper Island comp=Z,25nm,1.0s	85.81	17	IAmb	IAmb	19 39 19.1	
D08A	Wollman Farm, comp=Z,18nm,1.1s	85.85	36	IAmb	IAmb	19 39 20.3	
PNL	Peninsula	85.89	19	P	P	19 39 19.3	+0.9
PNL	Peninsula baz=216	85.89	19	P	P	19 39 18.5	+0.1
J19K	Poorman baz=201	85.94	10	P	P	19 39 18.3	-0.2
E09A	Wood Farm, Sta comp=Z,18nm,1.2s	85.97	37	IAmb	IAmb	19 39 20.6	
PINM	Pinnacle baz=216	85.99	18	P	P	19 39 18.6	-0.3
TABL	Table Mountain comp=Z,24nm,0.9s	86.01	18	IAmb	IAmb	19 39 20.2	
TNA	Tin City baz=190	86.02	4	P	P	19 39 19.7	+0.9
VRDI	Verde Repeater comp=Z,33nm,1.4s	86.04	16	IAmb	IAmb	19 39 20.2	
N25K	Chitina, Valde baz=212,SNR=16	86.07	16	P	P	19 39 19.0	-0.2
GRNC	Granite Creek comp=Z,17nm,0.8s	86.08	17	IAmb	IAmb	19 39 20.5	
M24K	Tolsona, Glenn comp=Z,20nm,0.9s	86.11	15	IAmb	IAmb	19 39 20.7	
M24K	Tolsona, Glenn baz=210,SNR=5.7	86.11	15	P	P	19 39 19.4	0.0
SEY	Seymchan comp=Z,18nm,0.7s,baz=146,slow=5.8,SNR=54 comp=Z,18nm,0.7s	86.12	347	P	P	19 39 18.9	-0.5
GLB	Gilahina Butte comp=Z,11nm,0.6s	86.13	16	IAmb	IAmb	19 39 19.8	
WAT6	Susitna Watana baz=209,SNR=16	86.17	14	P	P	19 39 19.0	-0.8
WAT1	Susitna Watana baz=208	86.21	13	P	P	19 39 19.0	-0.9
MCARA	McCarthy VSAT comp=Z,20nm,1.0s	86.28	16	IAmb	IAmb	19 39 21.3	
MCARA	McCarthy VSAT baz=213,SNR=6.7	86.28	16	P	P	19 39 20.3	+0.1
J20K	Nowinta River comp=Z,10nm,1.1s	86.36	10	IAmb	IAmb	19 39 20.6	
J20K	Nowinta River baz=203	86.36	10	P	P	19 39 20.1	-0.3
G16K	Koyuk River baz=195	86.36	7	P	P	19 39 20.0	-0.4
P29M	Windy Craggy comp=Z,15nm,1.1s	86.37	19	IAmb	IAmb	19 39 22.3	
P29M	Windy Craggy baz=218,SNR=5.3	86.37	19	P	P	19 39 21.0	+0.4
KTH	Kantishna Hill comp=Z,20nm,1.0s	86.37	12	IAmb	IAmb	19 39 20.1	
R32K	Eaglecrest baz=221	86.38	22	P	P	19 39 20.7	+0.1
B08A	Colville Reser comp=Z,13nm,0.8s	86.39	35	IAmb	IAmb	19 39 22.0	
CTG	Chitna Glacier baz=215,SNR=7.2	86.39	17	P	P	19 39 20.5	-0.4
CTGM	Chitina Glacie comp=Z,18nm,0.9s	86.39	17	IAmb	IAmb	19 39 21.9	
PLID	Pearl Lake comp=Z,9.1nm,0.8s	86.40	39	IAmb	IAmb	19 39 22.4	
TRF	Thorofare Moun baz=206,SNR=23	86.41	12	P	P	19 39 19.9	-1.0
CHUM	Lake Minchumin baz=204,SNR=6.5	86.41	11	P	P	19 39 19.4	-1.3
LLLB	Lillooet comp=Z,14nm,1.1s	86.42	32	IAmb	IAmb	19 39 22.5	
F15K	North Star Dit baz=193	86.44	6	P	P	19 39 20.1	-0.7
BESE	Bessie Mountai comp=Z,16nm,1.0s	86.49	21	IAmb	IAmb	19 39 22.9	
HLID	Hailey comp=Z,11nm,0.8s	86.53	41	IAmb	IAmb	19 39 24.1	
O28M	Mount Upton comp=Z,18nm,0.8s	86.56	18	IAmb	IAmb	19 39 22.9	
O28M	Mount Upton baz=216,SNR=7.4	86.56	18	P	P	19 39 21.4	-0.5
HARP	HAARP baz=211,SNR=5.2	86.61	15	P	P	19 39 21.4	-0.3
H18K	Honhosa River baz=199	86.62	8	P	P	19 39 21.5	-0.2
O29M	Mount Kennedy comp=Z,12nm,0.9s	86.65	19	IAmb	IAmb	19 40 06.9	
O29M	Mount Kennedy baz=217	86.65	19	P	P	19 39 21.2	-0.9
RND	Reindeer	86.66	13	P	P	19 39 20.4	-1.5
G17K	Kiwalik Mounta baz=192	86.66	7	P	P	19 39 21.4	-0.4
PLBC	Pleasant Camp baz=219,SNR=6.1	86.67	20	P	P	19 39 21.5	-0.5
DHY	Denali Highway baz=209,SNR=6.3	86.69	14	P	P	19 39 21.7	-0.6
SYO	Syowa Base	86.77	193	⇑*e*P	P	19 39 22.0	-0.4
BPAW	Bear Paw Mtn. baz=206	86.86	12	P	P	19 39 20.9	-1.9
I20K	Naaghedeneel baz=202	86.87	10	P	P	19 39 22.7	-0.1
MCK	McKinley comp=Z,17nm,0.7s	86.93	13	IAmb	IAmb	19 39 24.3	
MCK	McKinley baz=208,SNR=13	86.93	13	P	P	19 39 22.4	-0.8
VHRN	Van Horn comp=Z,13nm,1.2s	86.97	56	IAmb	IAmb	19 39 26.6	
P30M	Million Dollar baz=218	87.00	19	P	P	19 39 23.7	+0.1
SKAG	Skagway comp=Z,23nm,1.4s	87.01	20	IAmb	IAmb	19 39 25.6	
SKAG	Skagway	87.01	20	P	P	19 39 24.3	+0.7
SKAG	Skagway baz=220	87.01	20	P	P	19 39 23.4	-0.2
PAX	Paxson baz=211,SNR=5.8	87.03	14	P	P	19 39 22.9	-0.9
M26K	Nabesna, AK comp=Z,13nm,0.9s	87.15	16	IAmb	IAmb	19 39 25.4	
M26K	Nabesna, AK baz=213,SNR=13	87.15	16	P	P	19 39 24.2	-0.1
TCUT	Toone Canyon comp=Z,21nm,1.4s	87.17	44	IAmb	IAmb	19 39 27.8	
YUK6	Outpost Mounta baz=217	87.22	18	P	P	19 39 24.7	-0.3
H19K	Roundabout Mou comp=Z,16nm,1.0s	87.25	9	IAmb	IAmb	19 39 25.5	
H19K	Roundabout Mou baz=201,SNR=5.4	87.25	9	P	P	19 39 23.9	-0.6
MVCO	Mesa Verde comp=Z,6.1nm,0.5s	87.26	49	IAmb	IAmb	19 39 29.2	
G18K	Tagagawik baz=198	87.29	8	P	P	19 39 24.9	+0.1
YUK3	Moose Creek baz=215,SNR=25	87.30	17	P	P	19 39 25.2	-0.1
S34M	Telegraph Cree comp=Z,18nm,0.9s	87.32	23	IAmb	IAmb	19 39 27.1	
S34M	Telegraph Cree baz=224,SNR=13	87.32	23	P	P	19 39 25.9	+0.8
TXAR	Lajitas Array	87.38	58	P	P	19 39 27.2	+1.0
TXAR	Lajitas Array comp=Z,4.4nm,0.8s,baz=217,slow=5.9,SNR=36	87.38	58	P	P	19 39 27.4	+1.2
TXAR	comp=Z,2.8nm,1.3s,baz=309,slow=5.2,SNR=3.4 comp=Z,4.4nm,0.8s	87.38	58	P pP	P pwP	19 41 34.4	-1.0
HYT	Haines Junctio comp=Z,11nm,0.9s	87.39	19	IAmb	IAmb	19 39 26.9	
HYT	Haines Junctio baz=213,SNR=7.0	87.39	19	P	P	19 39 25.6	+0.1
M27K	Edge Creek, AK baz=214,SNR=24	87.40	16	P	P	19 39 25.4	-0.2
MENT	Mentasta comp=Z,9.9nm,0.9s	87.42	15	IAmb	IAmb	19 39 26.5	
MENT	Mentasta	87.42	15	P	P	19 39 26.3	+0.8
PV10	Paradox Valley comp=Z,7.9nm,0.8s	87.43	47	IAmb	IAmb	19 39 27.6	
PV19	Morning Glory comp=Z,10nm,1.2s	87.44	48	IAmb	IAmb	19 39 27.8	
H20K	Anotleneega Mo baz=202,SNR=6.8	87.46	10	P	P	19 39 25.4	-0.2
YUK4	Talbot Arm baz=217,SNR=5.9	87.46	18	P	P	19 39 26.4	+0.4
PV23	Carpenter Ridg comp=Z,12nm,0.9s	87.49	47	IAmb	IAmb	19 39 28.1	
XLT	XiLinHaoTe	87.51	319	*e*P	P	19 39 26.6	+0.1
XLT				pP	pwP	19 41 36.2	+0.3
XLT				sP	sP	19 42 41.7	+11
XLT	comp=Z,11nm,0.9s			pmax	pmax		
PV12	Saucer Basin, comp=Z,25nm,1.5s	87.57	48	IAmb	IAmb	19 39 28.9	
L26K	Log Cabin Wild comp=Z,7.8nm,0.8s	87.58	15	IAmb	IAmb	19 39 27.3	
L26K	Log Cabin Wild baz=213,SNR=6.1	87.58	15	P	P	19 39 25.9	-0.4
P32M	Atlin comp=Z,9.2nm,0.9s	87.64	21	IAmb	IAmb	19 39 28.2	
P32M	Atlin baz=221,SNR=5.1	87.64	21	P	P	19 39 27.2	+0.5
I21K	Tanana baz=205,SNR=23	87.65	11	P	P	19 39 25.8	-0.7
XAN	Xi'an	87.66	308	⇑P	P	19 39 28.1	+0.8
XAN	comp=Z,26nm,0.9s			pmax	pmax		
NEA2	Nenana comp=Z,9.8nm,0.6s	87.67	12	IAmb	IAmb	19 39 26.5	
NEA2	Nenana baz=207,SNR=12	87.67	12	P	P	19 39 25.0	-1.6
Q32M	Nakina River comp=Z,12nm,0.8s	87.67	22	IAmb	IAmb	19 39 28.7	
Q32M	Nakina River baz=223,SNR=7.9	87.67	22	P	P	19 39 27.3	+0.3
K24K	Donnelly Dome baz=210,SNR=15	87.68	14	P	P	19 39 26.2	-0.5
ANMO	Albuquerque	87.69	51	P	P	19 39 28.0	+0.3
BVCY	Beaver Creek baz=215,SNR=14	87.72	17	P	P	19 39 26.9	0.0
G19K	Purcell Mounta comp=Z,11nm,0.8s	87.74	9	IAmb	IAmb	19 39 27.6	
G19K	Purcell Mounta baz=200,SNR=5.2	87.74	9	P	P	19 39 25.5	-1.4
MLY	Manley comp=Z,12nm,0.6s	87.74	11	IAmb	IAmb	19 39 26.6	
MLY	Manley baz=206,SNR=16	87.74	11	P	P	19 39 25.8	-1.2
LL02	Futaleuf	87.77	135	P	P	19 39 29.4	+1.7
O30N	Mendenhall comp=Z,15nm,0.7s	87.78	19	IAmb	IAmb	19 39 28.6	
O30N	Mendenhall baz=219,SNR=12	87.78	19	P	P	19 39 27.5	+0.3
RIDG	Independent Ri comp=Z,18nm,1.0s	87.83	14	IAmb	IAmb	19 39 28.1	
RIDG	Independent Ri baz=211,SNR=8.4	87.83	14	P	P	19 39 26.5	-0.9
F18K	Selawik baz=198	87.84	7	P	P	19 39 27.2	-0.1
TROLL	Troll, Antarti comp=Z,207nm,0.6s	87.88	180	⇑P	P	19 39 27.7	-0.1
DOT	Dot Lake comp=Z,14nm,0.9s	87.94	15	IAmb	IAmb	19 39 28.6	
H21K	Melozitna Rive comp=Z,11nm,0.8s	87.95	10	IAmb	IAmb	19 39 28.6	
H21K	Melozitna Rive baz=204,SNR=12	87.95	10	P	P	19 39 27.4	-0.5
HDA	Harding Lake baz=209,SNR=42	87.95	13	P	P	19 39 27.1	-0.8
L27K	Beaver Creek, comp=Z,8.6nm,1.1s	88.00	16	IAmb	IAmb	19 39 29.2	
L27K	Beaver Creek, baz=214,SNR=9.7	88.00	16	P	P	19 39 28.2	0.0
N30M	Aishikik Lake comp=Z,7.8nm,0.8s	88.01	19	IAmb	IAmb	19 39 29.3	
N30M	Aishikik Lake baz=218,SNR=8.5	88.01	19	P	P	19 39 28.0	-0.4
E17K	Hoth Inlet baz=196	88.06	6	P	P	19 39 28.4	0.0
WHY	Whitehorse	88.07	20	P	P	19 39 28.4	-0.3
WHY	Whitehorse baz=220,SNR=11	88.07	20	P	P	19 39 28.9	+0.2
IMAR	Indian Mountai	88.09	10	P	P	19 39 27.2	-1.4
DLBC	Dease Lake baz=225	88.10	23	P	P	19 39 29.1	+0.2
I23K	Minto, Yukon-K comp=Z,8.0nm,0.6s	88.11	12	IAmb	IAmb	19 39 28.6	
I23K	Minto, Yukon-K baz=207,SNR=7.2	88.11	12	P	P	19 39 27.8	-0.8
COLA	College	88.17	13	P	P	19 39 27.2	-1.6
COLA	College	88.17	13	P	P	19 39 28.8	-0.1
COLA	College baz=208	88.17	13	P	P	19 39 27.7	-1.2
SNAA	Sanae comp=Z,58nm,1.0s	88.17	179	⇑P	P	19 39 28.7	-0.5
SNAA	Sanae	88.17	179	P	P	19 39 27.9	-1.2
SNAA	Sanae comp=Z,1.8nm,0.8s,baz=204,slow=11,SNR=7.9	88.17	179	P	P	19 39 28.6	-0.5
SNAA	comp=Z,4.2nm,1.3s,baz=204,slow=5.6,SNR=4.3 comp=Z,1.8nm,0.8s			pP	pP	19 41 35.7	+0.4
AHID	Auburn Hatcher comp=Z,8.2nm,1.0s	88.19	43	IAmb	IAmb	19 39 32.2	
SCRK	Sand Creek comp=Z,9.4nm,0.8s	88.24	14	IAmb	IAmb	19 39 31.4	
SCRK	Sand Creek baz=212,SNR=15	88.24	14	P	P	19 39 28.7	-0.7
ILAR	Eielson Array	88.28	13	P	P	19 39 27.3	-2.1
ILAR	Eielson Array comp=Z,10nm,0.8s,baz=228,slow=5.6,SNR=82	88.28	13	P	P	19 39 28.1	-1.3
ILAR	comp=Z,1.4nm,1.1s,baz=212,slow=5.7,SNR=4.2			pP PP	pP PP	19 41 36.3	+0.8
ILAR	comp=Z,0.8nm,0.8s,baz=204,slow=6.2,SNR=5.3 comp=Z,10nm,0.8s			PP	PP	19 43 10.2	+1.9
F19K	Shaleruckik Mo comp=Z,9.8nm,0.8s	88.30	8	IAmb	IAmb	19 39 29.5	
F19K	Shaleruckik Mo baz=199	88.30	8	P	P	19 39 28.8	-0.6
VNA3	Neumayer Olymp comp=Z,23nm,0.7s	88.32	176	⇑P	P	19 39 29.5	-0.2
M29M	Somme Creek baz=217,SNR=33	88.40	17	P	P	19 39 30.2	0.0
H22K	Ishtalitna Cre baz=205,SNR=18	88.41	11	P	P	19 39 29.5	-0.5
P33M	Teslin, Yukon comp=Z,7.1nm,0.9s	88.41	21	IAmb	IAmb	19 39 31.4	
P33M	Teslin, Yukon baz=222,SNR=8.2	88.41	21	P	P	19 39 30.2	-0.1
N31M	Braeburn, Yuko baz=220,SNR=12	88.43	19	P	P	19 39 30.6	+0.4
R33M	Jennings River comp=Z,17nm,1.2s	88.45	22	IAmb	IAmb	19 39 32.3	
R33M	Jennings River baz=224,SNR=8.9	88.45	22	P	P	19 39 30.9	+0.4
POKR	Poker Plat Res comp=Z,13nm,0.8s	88.47	13	IAmb	IAmb	19 39 30.1	
POKR	Poker Plat Res baz=209	88.47	13	P	P	19 39 29.1	-1.2
J25K	Salcha River, comp=Z,13nm,0.7s	88.47	14	IAmb	IAmb	19 39 30.8	
J25K	Salcha River, baz=211,SNR=18	88.47	14	P	P	19 39 29.6	-0.8
E18K	Tukpahlearik C baz=197	88.52	7	P	P	19 39 30.2	-0.3
DLMT	Dillon comp=Z,18nm,1.2s	88.58	40	IAmb	IAmb	19 39 33.4	
G21K	Allakaket baz=203,SNR=9.7	88.62	10	P	P	19 39 30.6	-0.4
TPAW	Teton Pass comp=Z,7.1nm,0.9s	88.65	42	IAmb	IAmb	19 39 33.9	
H23K	Yukon River baz=207	88.68	12	P	P	19 39 30.1	-1.2
J26L	Joseph Creek baz=212,SNR=35	88.78	14	P	P	19 39 31.6	-0.3
F20K	Avaraart Lake comp=Z,13nm,0.9s	88.78	9	IAmb	IAmb	19 39 32.5	
F20K	Avaraart Lake baz=208,SNR=7.3	88.78	9	P	P	19 39 31.5	-0.2
O20A	White River Ci comp=Z,9.3nm,1.1s	88.81	46	IAmb	IAmb	19 39 34.2	
HHC	Hu-ho-hao-te comp=Z,16nm,0.7s	88.90	315	*e*P pmax	P pmax	19 39 33.7	+0.6
LOHW	Long Hollow comp=Z,5.4nm,0.7s	88.93	42	IAmb	IAmb	19 39 34.9	
E19K	Redstone River baz=200,SNR=12	88.96	8	P	P	19 39 32.1	-0.5
M30M	Minto, Yukon baz=219,SNR=40	88.98	18	P	P	19 39 32.5	-0.3
VNA1	Neumayer--Stat comp=Z,20nm,1.0s	88.99	177	⇑P	P	19 39 33.1	+0.3
H24K	Noodor Dome baz=208	89.01	12	P	P	19 39 32.5	-0.4
L29M	L29M baz=217,SNR=33	89.02	17	P	P	19 39 33.4	+0.4
N32M	Quiet Lake comp=Z,10nm,0.8s	89.02	20	IAmb	IAmb	19 39 34.5	
N32M	Quiet Lake baz=222	89.02	20	P	P	19 39 33.4	+0.4
YHB	Horse Butte comp=Z,11nm,1.0s	89.13	41	IAmb	IAmb	19 39 36.6	
PDAR	Pinedale Array comp=Z,5.1nm,0.6s,baz=211,slow=3.5,SNR=46 comp=Z,5.1nm,0.6s	89.19	43	P	P	19 39 34.5	+0.1
PRP	Porcupine Dome comp=Z,9.2nm,0.9s	89.21	13	IAmb	IAmb	19 39 35.4	
PRP	Porcupine Dome baz=211	89.21	13	P	P	19 39 32.8	-1.1
F21K	Alatna River comp=Z,5.1nm,0.8s	89.28	9	IAmb	IAmb	19 39 34.0	
F21K	Alatna River baz=203	89.28	9	P	P	19 39 33.5	-0.5
BOZ	Bozeman (W) comp=Z,7.8nm,0.9s	89.29	40	IAmb	IAmb	19 39 36.7	
G22K	Bettles baz=205	89.32	10	P	P	19 39 34.1	-0.1
G23K	Bananza Creek comp=Z,20nm,1.5s	89.39	11	IAmb	IAmb	19 39 36.0	
G23K	Bananza Creek baz=206	89.39	11	P	P	19 39 34.7	+0.1
M31M	Drury Creek, Y comp=Z,11nm,1.2s	89.40	19	IAmb	IAmb	19 39 35.8	
M31M	Drury Creek, Y baz=221	89.40	19	P	P	19 39 34.8	+0.1
DAWY	Dawson baz=216,SNR=13	89.45	16	P	P	19 39 34.8	-0.2
I26K	Coal Creek Min baz=213	89.56	14	P	P	19 39 34.8	-0.6
CMAR	Chiang Mai Arr	89.61	290	P	P	19 39 37.3	+0.6
CMAR	Chiang Mai Arr comp=Z,7.4nm,0.9s,baz=124,slow=3.0,SNR=40 comp=Z,7.4nm,0.9s	89.61	290	P	P	19 39 38.0	+1.3
PLCA	Paso Flores comp=Z,2.9nm,0.8s,baz=222,slow=7.8,SNR=6.5 comp=Z,2.9nm,0.8s	89.73	134	P	P	19 39 38.1	+1.1
CHTO	Chiang Mai	89.74	290	P	P	19 39 38.1	+0.9
CHTO	comp=Z,11nm,0.8s			IAmb	IAmb	19 39 39.4	
CHTO	Chiang Mai	89.74	290	P	P	19 39 38.4	+1.1
F22K	John River baz=204	89.74	10	P	P	19 39 35.8	-0.4
K29M	Barlow Dome baz=218,SNR=17	89.77	17	P	P	19 39 36.9	+0.4
COLD	Coldfoot comp=Z,14nm,0.9s	89.82	11	IAmb	IAmb	19 39 37.7	
COLD	Coldfoot baz=206,SNR=8.7	89.82	11	P	P	19 39 36.5	0.0
D19K	Kuna River comp=Z,13nm,0.8s	89.83	7	IAmb	IAmb	19 39 37.2	
D19K	Kuna River baz=199	89.83	7	P	P	19 39 37.0	+0.4
DRIO	Del Rio comp=Z,9.6nm,0.8s	89.85	59	IAmb	IAmb	19 39 39.0	
G24K	Hadweenzic Riv baz=209	89.85	12	P	P	19 39 36.2	-0.5
E20K	Nigu River baz=201,SNR=17	89.85	8	P	P	19 39 36.5	-0.2
I27K	Kandik River baz=214,SNR=7.8	90.16	14	P	P	19 39 37.9	-0.3
G25K	Bearman Lake baz=210	90.17	12	P	P	19 39 38.2	+0.1
PZH	PanZhiHua	90.21	298	P	P	19 39 41.0	+1.5
TOAD	Toad River Com baz=229,SNR=6.0	90.21	25	P	P	19 39 38.9	+0.3
D20K	Etivluk River baz=200,SNR=6.3	90.22	8	P	P	19 39 38.4	0.0
C19K	Lookout Ridge baz=198	90.24	7	P	P	19 39 38.6	0.0
B18K	Kokolik River baz=196	90.27	6	P	P	19 39 38.8	+0.2
E21K	Killik River baz=203	90.33	9	P	P	19 39 38.4	-0.5
I28M	Miner Creek comp=Z,8.8nm,0.8s	90.44	15	IAmb	IAmb	19 39 40.0	
I28M	Miner Creek baz=216,SNR=14	90.44	15	P	P	19 39 38.9	-0.7
F24K	Squaw Lake comp=Z,8.2nm,1.1s	90.49	11	IAmb	IAmb	19 39 40.7	
F24K	Squaw Lake baz=208,SNR=6.5	90.49	11	P	P	19 39 39.8	0.0
E23K	Chandalar comp=Z,11nm,1.1s	90.67	10	IAmb	IAmb	19 39 41.4	

E23K	Chandalar	90.67	10	P	P	19 39 40.6	0.0		
	baz=207,SNR=5.1								
J30M	Hart River	90.67	17	P	P	19 39 40.7	0.0		
	baz=219,SNR=6.6								
MMPY	Sheldon Lake,	90.69	20	IAmb	IAmb	19 39 42.8			
	comp=Z,5.4nm,0.8s								
MMPY	Sheldon Lake,	90.69	20	P	P	19 39 41.0	+0.3		
	baz=224,SNR=6.5								
H27K	Steamboat Moun	90.70	14	IAmb	IAmb	19 39 41.8			
	comp=Z,6.3nm,0.9s								
H27K	Steamboat Moun	90.70	14	P	P	19 39 40.9	+0.2		
	baz=214,SNR=6.8								
I29M	Ogilvie Camp,	90.77	16	IAmb	IAmb	19 39 40.9			
	comp=Z,7.1nm,0.8s								
I29M	Ogilvie Camp,	90.77	16	P	P	19 39 40.3	-0.7		
	baz=217,SNR=12								
G26K	Porcupine Rive	90.81	13	IAmb	IAmb	19 39 43.0			
	comp=Z,13nm,0.9s								
G26K	Porcupine Rive	90.81	13	P	P	19 39 40.9	-0.2		
	baz=212,SNR=15								
E24K	Your Creek	90.88	11	P	P	19 39 41.9	+0.4		
	baz=208								
C21K	Knifeblade Rid	90.88	8	P	P	19 39 41.7	+0.3		
	baz=202,SNR=5.2								
TGTN	Hyland Airport	90.91	22	P	P	19 39 42.0	+0.2		
	baz=226								
D22K	Ayikyak River	90.92	9	P	P	19 39 41.9	+0.2		
	baz=204								
F25K	Christian Rive	90.98	12	IAmb	IAmb	19 39 43.9			
	comp=Z,8.8nm,1.5s								
F25K	Christian Rive	90.98	12	P	P	19 39 41.9	-0.1		
	baz=211								
BI02	San Fabin de	91.04	130	P	P	19 39 43.6	+0.4		
BI02				IAmb	IAmb	19 39 45.6			
	comp=Z,8.7nm,0.9s								
BMAR	Burnt Mountain	91.05	12	P	P	19 39 41.6	-0.7		
A19K	Wainwright	91.15	6	P	P	19 39 42.1	-0.4		
	baz=196								
G27K	Doyon Strip	91.15	14	P	P	19 39 42.3	-0.4		
	baz=214								
I30M	Mount Dempster	91.16	16	IAmb	IAmb	19 39 43.6			
	comp=Z,12nm,0.9s								
I30M	Mount Dempster	91.16	16	P	P	19 39 42.3	-0.7		
	baz=219,SNR=12								
TOLK	Toolik Lake Re	91.19	10	P	P	19 39 42.6	-0.4		
	baz=207								
D23K	Nanushuk River	91.31	10	IAmb	IAmb	19 39 44.6			
	comp=Z,11nm,1.0s								
D23K	Nanushuk River	91.31	10	P	P	19 39 43.1	-0.3		
	baz=206								
B21K	Ikpikpuk River	91.33	8	P	P	19 39 42.7	-0.7		
	baz=202								
F26K	Sheenjek River	91.37	12	P	P	19 39 43.8	0.0		
	baz=212								
B20K	Meade River	91.38	7	P	P	19 39 43.2	-0.5		
	baz=200								
H29M	Whitestone	91.44	15	P	P	19 39 44.0	-0.1		
	baz=217,SNR=10								
E25K	Arctic Village	91.45	12	P	P	19 39 44.2	0.0		
	baz=211								
YAK	Yakutsk	91.79	338	P	P	19 39 44.6	-1.1		
YAK	Yakutsk	91.79	338	P	P	19 39 44.7	-1.0		
	comp=Z,19nm,0.7s,baz=116,slow=2.5,SNR=14								
	comp=Z,19nm,0.7s								
EPYK	Eagle Plains	91.97	16	P	P	19 39 45.7	-0.9		
	baz=219,SNR=7.1								
G29M	Pine Creek	92.08	15	IAmb	IAmb	19 39 47.5			
	comp=Z,5.6nm,0.8s								
G29M	Pine Creek	92.08	15	P	P	19 39 46.5	-0.5		
	baz=218								
C23K	Itkillik River	92.10	9	P	P	19 39 47.0	0.0		
	baz=206								
H31M	Peel River	92.16	17	P	P	19 39 47.0	-0.4		
	baz=221								
F28M	Old Crow	92.21	14	P	P	19 39 47.9	+0.3		
	baz=216								
LZH	Lanzhou	92.29	308	*e*P	P	19 39 48.2	-0.7		
LZH				sP	PcP	19 39 55.8	+6.5		
LZH				pmax	pmax				
	comp=Z,31nm,1.2s								
C24K	Franklin Bluff	92.30	10	P	P	19 39 48.5	+0.6		
	baz=208								
E27K	Coleen River	92.31	13	P	P	19 39 47.9	-0.2		
	baz=214								
D25K	Kavik River	92.35	11	P	P	19 39 48.3	+0.1		
	baz=210								
G30M	tAoh Zraii Nji	92.57	15	P	P	19 39 48.6	-0.7		
	baz=219,SNR=10								
G31M	Satah River	93.02	16	P	P	19 39 50.7	-0.6		
	baz=221,SNR=11								
E28M	Babbage River	93.09	13	IAmb	IAmb	19 39 52.4			
	comp=Z,6.8nm,0.9s								
E28M	Babbage River	93.09	13	P	P	19 39 51.2	-0.4		
	baz=216,SNR=6.3								
C27K	Jago River	93.09	12	P	P	19 39 51.1	-0.5		
	baz=212								
F30M	Barrier River	93.17	15	P	P	19 39 52.3	+0.4		
	baz=220								
E29M	Blow River	93.28	14	P	P	19 39 51.8	-0.6		
	baz=218								
D27M	Malcolm River	93.31	13	P	P	19 39 52.7	0.0		
	baz=215								
F31M	Tsiigehtchic	93.55	16	P	P	19 39 53.3	-0.3		
	baz=221,SNR=7.9								
D28M	Stokes Point	93.85	13	P	P	19 39 55.3	+0.4		
	baz=217								
INK	Inuvik	94.25	15	P	P	19 39 56.0	-0.8		
	baz=222								
SONM	Songino Array	95.32	319	P	P	19 40 01.9	-0.4		
	comp=Z,0.7nm,0.6s,baz=123,slow=5.5,SNR=4.4								
SONM				PP	PP	19 43 58.4	-5.0		
	comp=Z,1.0nm,0.9s,baz=130,slow=6.4,SNR=4.0								
	comp=Z,0.7nm,0.6s								
GTA	Gaotai	96.50	310	*e*P	P	19 40 08.4	+0.5		
GTA				pmax	pmax				
	comp=Z,3.0nm,1.3s								
C36M	Paulatuk	97.45	17	P	Pdif	19 40 10.9	-0.2		
	baz=230								
A36M	Sachs Harbour	98.86	15	P	P	19 40 17.4	-0.1		
	baz=230								
ZALV	Zalesovo Beam	110.07	321	PKiKP	PKiKP	19 45 03.8	-1.7		
	comp=Z,1.8nm,0.6s,baz=141,slow=0.8,SNR=12								
MKAR	Makanchi Array	110.74	314	PKiKP	PKiKP	19 45 05.8	-1.3		
	comp=Z,1.7nm,0.6s,baz=71,slow=0.7,SNR=22								
KURBB	Kurchatov Arra	113.61	317	PKiKP	PKiKP	19 45 10.9	-1.4		
	comp=Z,2.5nm,0.7s,baz=100,slow=1.9,SNR=27								
KURBB				SKP		19 47 52.1			
	comp=Z,0.1nm,0.4s,baz=102,slow=2.2,SNR=6.1								
BVAR	Borovoye Array	118.65	320	PKP	PKPdf	19 45 20.9	-1.1		
	comp=Z,6.8nm,0.6s,baz=118,slow=0.8,SNR=35								
BVAR				SKP		19 48 01.9			
	comp=Z,1.6nm,0.8s,baz=116,slow=5.0,SNR=4.2								
GAR	Garm	118.73	304		PKPdf	19 45 21.5	-1.3		
SPITS	Spitsbergen Ar	121.69	356	PKP	PKPdf	19 45 26.1	-1.1		
	comp=Z,7.6nm,0.7s,baz=80,slow=7.9,SNR=3.1								
ARTI	Arti	124.91	325		PKPdf	19 45 33.0	-0.9		
ABKAR	Akbulak array	125.64	317		PKPpre	19 45 32.9			
ARCES	ARCESS Array B	128.69	349	PKP	PKPdf	19 45 40.0	-0.8		
	comp=Z,2.9nm,0.6s,baz=48,slow=0.8,SNR=23								
FINES	FINESS Array B	135.49	343	PKhKP	PKPpre	19 45 50.6			
	comp=Z,2.5nm,0.7s,baz=59,slow=3.6,SNR=9.8								
FINES				SKPbc	SKPbc	19 48 31.5	+0.9		
	comp=Z,2.8nm,0.8s,baz=298,slow=3.0,SNR=5.2								
KBZ	Khabaz	138.44	314	PKP	PKiKP	19 46 02.2	+0.2		
	comp=Z,1.8nm,1.0s,baz=0.0,slow=1.0,SNR=4.5								
NB2	NORSAR Subarra	138.77	353	PKP	PKPpre	19 45 49.8			
	comp=Z,2.5nm,0.8s,baz=16,slow=3.2								
NB2				pPKP	SKPbc	19 48 40.9	+0.8		
	comp=Z,1.4nm,0.8s,baz=7.7,slow=2.9								
NOA	NORSAR Array B	138.77	353	PKhKP	PKPpre	19 45 49.6			
	comp=Z,1.6nm,0.7s,baz=17,slow=2.8,SNR=10								
NOA				PKP	PKPdf	19 46 00.8	+0.8		
	comp=Z,0.2nm,0.4s,baz=31,slow=2.0,SNR=3.4								
NOA				SKPbc	SKPbc	19 48 40.4	+0.2		
	comp=Z,3.8nm,1.0s,baz=6.7,slow=2.4,SNR=5.9								
HFS	Hagfors	139.31	351	PKhKP	PKPpre	19 45 51.9			
	comp=Z,3.9nm,0.4s,baz=90,slow=3.0,SNR=30								
BORU	Boraas	141.85	350	*i* P	PKPpre	19 46 00.1			
MARD	Mardin	141.97	305		PKPpre	19 46 02.5			
ONAU	Onsala	142.21	351	*i* P	PKPpre	19 46 01.9			
SUW	Suwalki	142.53	339	*e*PKP	PKPpre	19 46 03.9			
AKASG	Malin Array Be	142.65	331	PKhKP	PKPpre	19 46 03.2			
	comp=Z,13nm,0.5s,baz=44,slow=4.3,SNR=144								
MCD	Coleburn Disti	142.65	4	*e*P	PKPpre	19 46 03.1			
KIEV	Kiev	142.66	331		PKPpre	19 46 02.4			
KIEV	Kiev	142.66	331	⇑P	PKPpre	19 46 03.5			
KPL	Plockton	142.69	6	*e*P	PKPpre	19 46 03.3			
DEL	Delary	142.77	349	*i* P	PKPpre	19 46 03.9			
LODK	Lodwar	142.96	247		PKPdf	19 46 06.8	-2.0		
DRUM	Mains of Drumt	143.37	4	*e*P	PKPab	19 46 05.5	-1.1		
MUD	Monsted U'grnd	143.49	353	*i* P	PKPab	19 46 06.8	-0.3		
LUNU	Lund	143.64	349	*i* P	PKPab	19 46 07.0	-0.7		
INVG	Invergeldie, C	143.74	5	*e*P	PKPbc	19 46 07.2	-0.8		
COP	Copenhagen	143.77	350	*i* P	PKPbc	19 46 07.8	-0.2		
LAWE	Loch Awe, Argy	143.78	6	*e*P	PKPbc	19 46 07.3	-0.8		
BSD	Bornholm Skovb	143.83	347	*i* P	PKPbc	19 46 07.6	-0.7		
MBAR	Mbarara	144.59	237		PKPab	19 46 12.7	-0.1		
SORM	Soroca	144.82	328	⇓P	PKPbc	19 46 11.6	+0.1		
EKA	Eskdalemuir Ar	144.90	5	PKP	PKPdf	19 46 10.4	-0.4		
	comp=Z,13nm,0.8s,baz=352,slow=2.5,SNR=16								
ESK	Eskdalemuir	144.91	5	*e*P	PKPdf	19 46 10.7	-0.1		
BEL	Belsk	145.15	339	*e*PKP	PKPbc	19 46 12.9	+0.4		
BNN	Bunyan	145.16	310		PKPdf	19 46 12.4	+0.4		
MILM	Milestii Mici	145.40	326	⇑P	PKPdf	19 46 11.8	-0.1		
IOMK	Kirk Michael	145.83	6	*e*P	PKPdf	19 46 13.3	+0.8		
KWP	Kalwaria Pacla	146.24	335	*e*PKP	PKPbc	19 46 15.6	0.0		
BRTR	Keskin Array B	146.38	312		PKPdf	19 46 13.3	-0.8		
BRTR	Keskin Array B	146.38	312	PKPbc	PKPbc	19 46 15.8	-0.7		
	comp=Z,7.3nm,0.7s,baz=133,slow=4.2,SNR=33								
BRTR				SKPbc	SKPbc	19 48 58.4	-1.2		
	comp=Z,1.4nm,0.9s,baz=166,slow=2.4,SNR=3.9								
KIRS	Kirsehir-Merke	146.44	311	⇑P	PKPbc	19 46 16.5	-0.1		
VLDR	Vladesti	146.48	325	⇑P	PKPbc	19 46 16.8	+0.4		
TLCR		146.50	324	⇓P	PKPbc	19 46 16.6	+0.1		
RUE	Ruedersdorf	146.54	346	*e*PKP	PKPbc	19 46 16.0	-0.3		
GORT1	Trebel	146.54	349	*e*PKP	PKPbc	19 46 16.3	0.0		
SCTR	Scanteiesti	146.64	325	⇓P	PKPbc	19 46 17.3	+0.5		
BURAR	Bucovina Array	146.69	330		PKPdf	19 46 13.6	-0.7		
BURAR	Bucovina Array	146.69	330	⇑P	PKPbc	19 46 17.4	+0.3		
GHRR		146.69	326	⇑P	PKPbc	19 46 17.5	+0.6		
TESR	Tescani	146.78	328	⇑P	PKPbc	19 46 17.1	-0.1		
WLF1	Llynfaes	146.81	6	*e*P	PKPbc	19 46 15.6	-1.4		
OJC	Ojcow	146.84	338	*e*PKP	PKPbc	19 46 17.1	-0.1		
CFR	Carcaliu	146.88	325	⇓P	PKPbc	19 46 17.1	-0.3		
ANTO	Ankara	146.90	313		PKPbc	19 46 17.4	-0.4		
ANTO	Ankara	146.90	313	⇑P	PKPbc	19 46 17.9	+0.1		
TPGR	Topolog	146.93	324	⇑P	PKPbc	19 46 17.8	+0.1		
ONER	Baraj Valea Uz	147.03	328	⇑P	PKPbc	19 46 18.5	+0.6		
RETH	Rethem/Aller,	147.10	351	*e*PKPbc	PKPbc	19 46 17.6	-0.2		
	baz=17,slow=2.5								
VRI	Vrincioaia	147.18	327	⇑P	PKPbc	19 46 18.0	-0.3		
FLTG	Flechtingen	147.19	349	*e*PKPbc	PKPbc	19 46 17.6	-0.5		
	baz=17,slow=2.5								
FLTG				*e*PKPab	PKPab	19 46 21.3	-0.4		
	baz=16,slow=4.2								
PLOR	Plostina	147.23	327	⇑P	PKPbc	19 46 18.1	-0.3		
HARR	Harsova	147.30	324	⇑P	PKPbc	19 46 18.8	+0.2		
FOEL	Foel Wylfa	147.32	5	*e*P	PKPbc	19 46 17.4	-1.0		
MMAI	Mount Meron Ar	147.32	300	PKPbc	PKPbc	19 46 19.0	-0.1		
	comp=Z,15nm,0.6s,baz=70,slow=3.6,SNR=35								
NIE	Niedzica	147.34	337	*e*PKP	PKPbc	19 46 18.7	+0.1		
KSP	Ksiaz	147.40	342	*e*PKP	PKPbc	19 46 18.2	+0.5		
TURR	Turia	147.41	328	⇓P	PKiKP	19 46 19.7	-0.8		
BMR	Baia Mare	147.43	332	⇑P	PKPbc	19 46 19.5	+0.6		
COVR	Voineasa-Covas	147.46	327	⇑P	PKPbc	19 46 18.6	-0.4		
ARCR	ARCALIA	147.48	330	⇑P	PKPbc	19 46 19.5	+0.5		
ASSE	Asse, Remlinge	147.48	349	*e*PKPbc	PKPbc	19 46 18.9	+0.2		
	baz=17,slow=2.5								
CWF	Charnwood Fore	147.60	3	*e*P	PKPbc	19 46 18.1	-1.0		
OSTC	Ostas	147.68	342	*e*PKP	PKPbc	19 46 19.9	+0.5		
NEHR	Nehoiu	147.70	326	⇓P	PKPbc	19 46 19.8	+0.2		
CHVC	Chvalec	147.70	343	*e*PKP	PKPbc	19 46 19.5	0.0		
IBBN	Ibbenburen	147.73	353	*e*PKPbc	PKPbc	19 46 19.1	-0.3		
	baz=17,slow=2.5								
IBBN				*e*PKPab	PKPab	19 46 23.9	-0.1		
	baz=16,slow=4.2								
SAHE	Sakarya_HENDEK	147.73	316	⇑P	PKPbc	19 46 19.5	-0.4		
STEB	Steborice	147.76	340	*e*PKP	PKPbc	19 46 19.8	+0.2		
STEB				*e*PKPAB	PKPab	19 46 24.8	+0.6		
UPC	Upice	147.78	343	*e*PKP	PKPbc	19 46 19.9	+0.2		
DOPR	Dopca	147.79	328	⇓P	PKPbc	19 46 20.3	+0.5		
CLL	Collm	147.81	346	*e*PKPbc	PKPbc	19 46 19.5	-0.1		
	baz=17,slow=2.5								
CLL	Collm	147.81	346	*e*SKPbc	SKiKP	19 49 03.0	+0.9		
CLL	Collm	147.81	346	*e*PKPdf	PKPdf	19 46 16.0	+0.2		
CLL	Collm	147.81	346	⇓*i*PKPbc	PKPbc	19 46 19.5	-0.1		
	comp=Z,48nm,0.9s								
CLL	Collm	147.81	346	*i* PKPab	PKPab	19 46 23.8	-0.5		
	comp=Z,20nm,0.7s								
CLL	Collm	147.81	346	*ex*	x	19 46 28.0			
CLL	Collm	147.81	346	*e*pPKPab	pPKPab	19 48 36.0	+1.7		
MLR	Muntele Rosu	147.84	327	⇑P	PKPbc	19 46 19.7	-0.4		
DPC	Dobruska-Polom	147.84	342	⇑*e*PKP	PKPbc	19 46 20.2	+0.3		
KRLC	Kraliky	147.95	341	⇑*e*PKP	PKPbc	19 46 20.3	+0.2		
MORC	Moravsky Berou	147.97	340	*e*PKP	PKPbc	19 46 20.0	-0.2		
MORC	Moravsky Berou	147.97	340	⇑P	PKPbc	19 46 20.4	+0.2		
BRG	Berggiesshubel	147.99	345	Amp		19 46 27.3			
	comp=Z,18nm,0.8s								
BRG	Berggiesshubel	147.99	345	Amp		19 46 34.6			
	comp=Z,3.6nm,0.9s								
BRG	Berggiesshubel	147.99	345	⇓*e*PKPf		19 46 18.9			
BRG	Berggiesshubel	147.99	345	Amp		19 46 19.4			
	comp=Z,1.4nm,0.8s								
BRG	Berggiesshubel	147.99	345	⇑PKP	PKiKP	19 46 21.9	+0.4		
BRG	Berggiesshubel	147.99	345	Amp		19 46 22.4			
	comp=Z,20nm,0.9s								
BRG	Berggiesshubel	147.99	345	PKPab	PKPab	19 46 26.6	+1.5		
BRG	Berggiesshubel	147.99	345	P	PKPab	19 46 33.3	+8.2		
CJR	Cluj-Napoca	148.10	331	⇑P	PKPbc	19 46 20.9	+0.2		
PVCC	Panska Ves	148.15	344	⇑*e*PKP	PKPbc	19 46 21.0	+0.4		
NEUB	Neuenburg	148.16	348	*e*PKPbc	PKPbc	19 46 20.3	-0.2		
	baz=17,slow=2.5								
GTTG	Gottingen	148.16	350	*e*PKPbc	PKPbc	19 46 20.4	-0.1		
	baz=17,slow=2.5								
GTTG				*e*PKPab	PKPab	19 46 25.6	-0.2		
	baz=16,slow=4.2								
MAUC	Maruska	148.24	340	⇑*e*PKP	PKPbc	19 46 21.4	+0.5		
MARR	Marisel-Cluj	148.35	331	⇓P	PKPbc	19 46 20.8	-0.5		
MONM	Monmouth	148.39	5	*e*P	PKPbc	19 46 19.8	-1.3		
DRGR		148.45	332	⇑P	PKPbc	19 46 21.5	0.0		
ARR	Arges	148.59	328	⇓P	PKiKP	19 46 23.1	+0.1		
PRA	Prague	148.61	344	⇑*e*PKP	PKPbc	19 46 22.0	+0.3		
BUG	Bochum--Univer	148.64	353	*e*PKPbc	PKPbc	19 46 21.3	-0.4		
	baz=17,slow=2.5								
BUG				*e*PKPab	PKPab	19 46 27.4	-0.3		
	baz=16,slow=4.2								
PRU	Pruhonice	148.66	344	⇑*e*PKP	PKPbc	19 46 21.8	0.0		
VRAC	Vranov	148.68	341	*e*PKP	PKPbc	19 46 21.8	-0.1		
VRAC	Vranov	148.68	341	⇑P	PKPbc	19 46 22.2	+0.3		
MOX	Moxa	148.72	348	*e*PKPbc	PKPbc	19 46 21.9	-0.1		
	baz=17,slow=2.5								
MOX				*e*PKPab	PKPab	19 46 27.7	-0.4		
	baz=16,slow=4.2								
PSZ	Piszkesteto	148.72	336	⇑P	PKPbc	19 46 22.0	-0.2		
JAVC	Velka Javorina	148.73	339	*e*PKP	PKiKP	19 46 23.1	0.0		
KASTN	Kahler Asten	148.73	352	*e*PKPbc	PKPbc	19 46 21.9	-0.1		
	baz=17,slow=2.5								
KASTN				*e*PKPab	PKPab	19 46 27.4	-0.7		
	baz=16,slow=4.2								
PLN	Plauen	148.76	347	*e*PKPbc	PKPbc	19 46 22.0	-0.1		
	baz=17,slow=2.5								
PLN				*e*PKPab	PKPab	19 46 28.0	-0.3		
	baz=16,slow=4.2								
TANN	Tannenbergstha	148.76	346	*e*PKPbc	PKPbc	19 46 22.1	-0.1		
	baz=17,slow=2.5								
TANN				*e*PKPab	PKPab	19 46 28.1	-0.2		
	baz=16,slow=4.2								
UBBA	Unterbreizbach	148.86	350	*e*PKPbc	PKPbc	19 46 22.0	-0.2		
	baz=17,slow=2.5								
UBBA				*e*PKPab	PKPab	19 46 28.5	0.0		
	baz=16,slow=4.2								
KRUC	Moravsky	148.96	341	*e*PKP	PKPbc	19 46 22.4	-0.2		
HUMR	Humele	148.99	326	⇓P	PKPbc	19 46 22.6	-0.2		
DEV	Deva	149.04	330	⇑P	PKiKP	19 46 23.4	-0.4		
MANZ	Manzenberg	149.24	347	*e*PKPbc	PKPbc	19 46 23.3	0.0		
	baz=17,slow=2.5								
SIRR	Siria	149.32	332	⇑P	PKPbc	19 46 23.8	+0.2		
ROTZ	Rotzenmuhle	149.43	346	*e*PKPbc	PKPbc	19 46 23.6	-0.1		
	baz=17,slow=2.5								
ROTZ				*e*PKPab	PKPab	19 46 30.8	-0.2		
	baz=16,slow=4.2								
BEBN	Eben Emael	149.44	355	*d*PKPbc	PKPbc	19 46 23.8	+0.2		
BEBN				*d*PKPab	PKPab	19 46 30.4	-0.6		
GZR	Gura Zlata	149.47	330	⇑P	PKPbc	19 46 23.6	-0.4		
SURR	Surduc	149.50	331	⇑P	PKPbc	19 46 23.7	-0.3		
ELND	Elena	149.57	323	⇑P	PKPbc	19 46 24.4	+0.1		
MEM	Membach	149.59	354	*d*PKPbc	PKPbc	19 46 23.4	-0.6		
BTNL	Ternell	149.60	354	*d*PKP	PKPbc	19 46 23.4	-0.7		
BSTI	Sart Tilman	149.66	355	*d*PKP	PKPbc	19 46 24.1	-0.1		
TNS	Taunus Mts	149.68	351	*e*PKPbc	PKPbc	19 46 24.3	-0.1		
	baz=17,slow=2.5								
TNS				*e*PKPab	PKPab	19 46 31.5	-0.6		
	baz=16,slow=4.2								
KHC	Kasperske Hory	149.69	344	⇑*e*PKP	PKPbc	19 46 24.4	0.0		
KHC				*e*PKPAB	PKPab	19 46 32.7	+0.5		
GRF	Grafenberg Arr	149.71	347	*e*PKPbc	PKPbc	19 46 24.6	+0.2		
	baz=17,slow=2.5								
GRF				*e*PKPab	PKPab	19 46 32.1	-0.2		
	baz=16,slow=4.2								
GRFO	Grafenberg	149.71	347		PKPdf	19 46 16.2	-2.8		
SRE	Strehaia	149.80	328	⇑P	PKiKP	19 46 25.1	-0.3		
BZS	Buzias	149.84	331	⇑P	PKPbc	19 46 24.7	-0.1		
BCLA	Clavier	149.84	355	*d*PKiKP	PKPbc	19 46 24.8	+0.2		
BCLA				*d*PKPab	PKPab	19 46 32.1	-0.6		
BHOU	Houvegnez	149.85	354	*d*PKP	PKiKP	19 46 25.0	-0.3		
BHOU				*d*PKPab	PKPab	19 46 32.2	-0.5		
WET	Wettzell	149.85	345	*e*PKPbc	PKPbc	19 46 24.8	0.0		
	baz=17,slow=2.5								
WET				*e*PKPab	PKPab	19 46 32.6	-0.3		
	baz=16,slow=4.2								
GEC2	GERESS Array S	149.92	344	*e*PKPbc	PKPbc	19 46 24.7	-0.4		
	baz=17,slow=2.5								
GEC2				*e*PKPab	PKPab	19 46 33.0	-0.2		
	baz=16,slow=4.2								
GERES	GERESS Array B	149.92	344	PKP	PKPdf	19 46 18.0	-1.4		
	comp=Z,0.6nm,0.7s,baz=46,slow=2.8,SNR=4.3								
GERES				PKPbc	PKPbc	19 46 24.3	-0.7		
	comp=Z,6.1nm,0.7s,baz=76,slow=5.6,SNR=9.0								
BMRD	Maredsous	150.00	356	*d*PKPbc	PKPbc	19 46 24.8	-0.3		
HERR	Herculane	150.02	329	⇑P	PKPbc	19 46 25.0	-0.2		
RCHB	Rochefort	150.11	355	*d*PKPbc	PKPbc	19 46 25.1	-0.2		
RCHB				*d*PKPab	PKPab	19 46 33.1	-0.7		
CONA	Conrad Observa	150.13	340	*i* PKiKP	PKPbc	19 46 25.6	0.0		
	comp=Z,14nm,0.7s,SNR=7.3								
CONA				*i* PKP	PKPab	19 46 33.7	-0.4		
	comp=Z,11nm,1.1s								
RONA	Rosalia, Austr	150.19	340	*i* PKiKP	PKPbc	19 46 25.6	0.0		
	comp=Z,11nm,0.6s,SNR=8.1								
RONA				*i* PKP	PKPab	19 46 34.2	-0.1		
	comp=Z,8.3nm,0.9s								
DOU	Dourbes	150.22	356	*d*PKPdf	PKPdf	19 46 19.6	-0.1		
DOU				*d*PKP	PKPbc	19 46 25.4	-0.1		
MDVR	Moldovita	150.43	330	⇑P	PKPbc	19 46 26.0	-0.3		
WLF	Walferdange	150.51	354	*d*PKPbc	PKPbc	19 46 25.5	-0.8		
WLF	Walferdange	150.51	354	*e*PKPbc	PKiKP	19 46 26.5	-0.1		
	baz=17,slow=2.5								
MORH	Mrgy, Hungar	150.61	335	⇑P	PKPbc	19 46 26.3	-0.3		
MOA	Molln	150.68

FUTU	**Fugatoga**	**4.83**	**321**		**Pn**	19 33 38.7	+1.6
NIUE	**Niue**	**4.88**	**102**	Pn	**Pn**	19 33 36.0	-1.6
TAVE	**Taveuni**	**4.91**	**286**	P	**Pn**	19 33 40.5	+2.6
DGTI	**Dogotuki**	**5.37**	**289**	P	**Pn**	19 33 45.7	+2.2
MSVF	**Nonsavu**	**6.65**	**272**		**Pn**	19 34 02.1	+2.4
MSVF	**Nonsavu**	**6.65**	**272**	P	**Pn**	19 34 02.7	+3.0
PINNC	**Pines Island,**	**17.08**	**252**	P	**P**	19 36 06.5	+0.5
SANVU	**Saraoutou**	**17.27**	**276**	P	**P**	19 36 08.9	+0.9
DZM	**Mont Dzumac**	**17.90**	**254**	P	**P**	19 36 15.6	+0.7
DZM				IAmb	IAmb	19 36 18.4	
	comp=Z,33nm,1.2s						
DZM	**Mont Dzumac**	**17.90**	**254**	P	**P**	19 36 14.4	-0.5
	comp=Z,11nm,0.7s,baz=142,slow=14,SNR=8.4						
WCZ	**Waipu Caves**	**20.13**	**206**	P	**P**	19 36 39.3	+0.8
KUZ	**Kuaotunu**	**20.31**	**202**	P	**P**	19 36 41.9	+1.5
KUZ	**Kuaotunu**	**20.31**	**202**	P	**P**	19 36 40.9	+0.5
HAZ	**Te Kaha**	**20.59**	**197**	P	**P**	19 36 43.6	+0.2
PUZ	**Puketiti**	**20.76**	**195**	P	**P**	19 36 45.2	-0.1
RUGZ	**Raukumara Rang**	**20.81**	**197**	P	**P**	19 36 47.3	+1.4
TWGZ	**Tauwhareparae**	**20.93**	**196**	P	**P**	19 36 48.4	+1.3
URZ	**Urewera**	**21.25**	**197**	P	**P**	19 36 49.8	-0.3
	comp=Z,15nm,0.4s,baz=277,slow=3.3,SNR=12						
URZ				S	**S**	19 40 30.3	+1.0
	comp=Z,10.0nm,0.6s,baz=56,slow=21,SNR=6.6						
	comp=Z,15nm,0.4s						
URZ	**Urewera**	**21.25**	**197**	P	**P**	19 36 51.5	+1.4
URZ	**Urewera**	**21.25**	**197**	P	**P**	19 36 48.4	-1.7
TOZ	**Tahuroa Road**	**21.27**	**201**	P	**P**	19 36 50.7	+0.4
TOZ				IAmb	IAmb	19 36 53.6	
	comp=Z,11nm,0.6s						
TOZ	**Tahuroa Road**	**21.27**	**201**	P	**P**	19 36 48.9	-1.4
RAGZ	**Rawiri**	**21.38**	**197**	P	**P**	19 36 53.5	+2.0
MUGZ	**Murupara**	**21.55**	**198**	P	**P**	19 36 52.7	-0.3
RTZ	**Ruatahuna**	**21.61**	**197**	P	**P**	19 36 52.5	-1.2
RTZ				IAmb	IAmb	19 36 55.5	
	comp=Z,19nm,0.8s						
BKZ	**Black Stump Fm**	**22.27**	**198**	P	**P**	19 36 56.7	-3.0
OTVZ	**Oturere**	**22.51**	**199**	P	**P**	19 37 00.9	-1.1
PNHZ	**Pukenui**	**23.04**	**198**	P	**P**	19 37 05.1	-1.5
BFZ	**Birch Farm**	**23.74**	**197**	P	**P**	19 37 12.9	-0.1
TCW	**Tory Channel**	**24.81**	**200**	P	**P**	19 37 21.5	-1.1
QRZ	**Quartz Range**	**25.07**	**203**	P	**P**	19 37 25.9	+0.9
KHZ	**Kahutara**	**26.14**	**200**	P	**P**	19 37 35.2	+0.7
JCZ	**Jackson Bay**	**29.28**	**204**	P	**P**	19 38 03.0	+0.5
EIDS	**Eidsvold**	**32.29**	**251**	P	**P**	19 38 28.3	-0.7
EIDS				IAmb	IAmb	19 38 29.1	
	comp=Z,16nm,1.1s						
ARMA	**Armidale**	**32.70**	**242**	P	**P**	19 38 32.2	-0.5
ARMA				IAmb	IAmb	19 38 33.6	
	comp=Z,16nm,1.2s						
CAN	**Canberra**	**36.22**	**234**	P	**P**	19 39 01.8	-0.8
CAN				IAmb	IAmb	19 39 29.0	
	comp=Z,11nm,1.2s						
CTAO	**Charters Tower**	**36.64**	**261**		**P**	19 39 05.3	-1.0
CTAO				IAmb	IAmb	19 39 07.1	
	comp=Z,15nm,0.6s						
PMG	**Port Moresby**	**37.72**	**278**	P	**P**	19 39 14.9	-0.5
PMG				IAmb	IAmb	19 39 17.4	
	comp=Z,25nm,0.9s						
TOO	**Toolangi**	**39.62**	**232**	P	**P**	19 39 29.7	-1.2
MANU	**Manus Island**	**40.23**	**289**	P	**P**	19 39 36.3	+0.1
MANU				IAmb	IAmb	19 40 19.1	
	comp=Z,26nm,1.3s						
COEN	**Coen**	**40.38**	**270**	P	**P**	19 39 37.0	-0.3
COEN				IAmb	IAmb	19 39 37.9	
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**41.42**	**242**		**P**	19 39 45.5	-0.2
STKA	**Stephens Creek**	**41.42**	**242**	P	**P**	19 39 44.9	-0.8
	comp=Z,13nm,1.0s,baz=98,slow=7.6,SNR=13						
	comp=Z,13nm,1.0s						
INKA	**Innaminka**	**41.71**	**248**		**P**	19 39 48.2	+0.2
INKA				IAmb	IAmb	19 39 49.4	
	comp=Z,23nm,1.3s						
BBOO	**Buckleboo**	**46.19**	**242**	P	**P**	19 40 22.9	-0.5
BBOO				IAmb	IAmb	19 40 23.6	
	comp=Z,32nm,0.7s						
WRAB	**Tennant Creek**	**47.80**	**259**	P	**P**	19 40 34.7	-1.4
WRAB				IAmb	IAmb	19 40 35.8	
	comp=Z,22nm,0.7s						
WRA	**Warramunga Arr**	**47.81**	**259**		**P**	19 40 34.5	-1.7
WRA	**Warramunga Arr**	**47.81**	**259**	P	**P**	19 40 34.9	-1.3
	comp=Z,18nm,0.5s,baz=97,slow=7.6,SNR=177						
WRA				PcP	**PcP**	19 42 01.2	+0.3
	comp=Z,1.3nm,0.8s,baz=82,slow=3.6,SNR=2.7						
	comp=Z,18nm,0.5s						
AS31	**Alice Springs**	**47.89**	**254**	P	**P**	19 40 36.3	-0.5
AS31				IAmb	IAmb	19 40 37.4	
	comp=Z,28nm,0.7s						
ASAR	**Alice Springs**	**47.89**	**254**		**P**	19 40 36.4	-0.4
ASAR	**Alice Springs**	**47.89**	**254**	P	**P**	19 40 36.1	-0.6
	comp=Z,88nm,0.6s,baz=94,slow=8.3,SNR=549						
ASAR				PcP	**PcP**	19 42 01.4	+0.2
	comp=Z,1.9nm,0.8s,baz=91,slow=4.0,SNR=2.8						
ASAR				S	**S**	19 47 09.0	-5.8
	comp=Z,0.5nm,0.7s,baz=93,slow=14,SNR=4.4						
MTN	**Manton Dam**	**52.06**	**268**		**P**	19 41 06.9	-1.2
MTN				IAmb	IAmb	19 41 08.3	
	comp=Z,29nm,0.8s						
KNRA	**Kununurra**	**53.72**	**264**		**P**	19 41 19.1	-1.0
KNRA				IAmb	IAmb	19 41 20.4	
	comp=Z,19nm,0.8s						
FAKI	**Fak Fak**	**53.83**	**280**	P	**P**	19 41 20.2	-0.7
FITZ	**Fitzroy Crossi**	**56.22**	**260**	P	**P**	19 41 37.5	-0.5
SOEI	**Soe**	**59.34**	**269**		**P**	19 42 00.6	+0.7
SBA	**Scott Base**	**60.46**	**184**	P	**P**	19 42 08.8	+2.6
VNDA	**Vanda**	**60.55**	**186**	P	**P**	19 42 07.5	+0.6
VNDA	**Vanda**	**60.55**	**186**	P	**P**	19 42 07.8	+0.9
	comp=Z,1.4nm,0.8s,baz=358,slow=5.9,SNR=6.6						
VNDA				S	**S**	19 50 01.7	-0.4
	comp=Z,0.7nm,0.4s,baz=348,slow=9.3,SNR=9.2						
	comp=Z,1.4nm,0.8s						
PSA00	**Pilbara Seismi**	**61.02**	**255**	P	**P**	19 42 09.3	-1.7
PSA00				IAmb	IAmb	19 42 11.4	
	comp=Z,9.8nm,0.8s						
MBWA	**Marble Bar**	**61.20**	**255**	P	**P**	19 42 11.1	-1.1
MBWA				IAmb	IAmb	19 42 48.5	
	comp=Z,11nm,1.1s						
MORW	**Morawa**	**63.40**	**246**	P	**P**	19 42 25.7	-0.9
MORW				IAmb	IAmb	19 42 41.8	
	comp=Z,23nm,1.4s						
CASY	**Casey**	**67.34**	**205**		**P**	19 42 50.9	-0.2
JAGI	**Jajag, Banyuwa**	**69.30**	**268**	P	**P**	19 43 03.2	-1.0
MJAR	**Matsushiro Arr**	**70.06**	**321**		**P**	19 43 08.2	-0.1
MJAR	**Matsushiro Arr**	**70.06**	**321**	P	**P**	19 43 08.5	+0.2
	comp=Z,5.4nm,0.8s,baz=151,slow=6.6,SNR=15						
	comp=Z,5.4nm,0.8s						
MAJO	**Matsushiro**	**70.06**	**321**	P	**P**	19 43 08.7	+0.4
MAJO				IAmb	IAmb	19 43 09.4	
	comp=Z,6.6nm,0.8s						
MJB9	**Matsu-Tunnel**	**70.06**	**321**	P	**P**	19 43 08.9	+0.6
MJB9				IAmb	IAmb	19 43 09.4	
	comp=Z,6.6nm,0.9s						
QSPA	**South Pole Qui**	**71.96**	**180**	P	**P**	19 43 21.6	+2.2
QSPA	**South Pole Qui**	**71.96**	**180**	P	**P**	19 43 21.6	+2.2
	comp=Z,2.5nm,0.8s,baz=77,slow=2.6,SNR=8.7						
	comp=Z,2.5nm,0.8s						
JNU	**Nakatsue**	**72.57**	**315**	P	**P**	19 43 24.0	+0.6
JNU				IAmb	IAmb	19 43 25.1	
	comp=Z,16nm,0.9s						
UGM	**Wanagama**	**72.91**	**267**	P	**P**	19 43 25.9	+0.1
SBUM	**Sibu**	**74.47**	**278**		**P**	19 43 35.5	+0.6
PEA0B	**Petropavlovsk-**	**74.75**	**343**	P	**P**	19 43 34.4	-1.1
PEA0B				IAmb	IAmb	19 43 44.2	
	comp=Z,25nm,1.3s						
PETK	**Petropavlovsk-**	**74.75**	**343**	P	**P**	19 43 35.8	+0.3
	comp=Z,3.2nm,0.8s,baz=157,slow=5.9,SNR=3.5						
	comp=Z,3.2nm,0.8s						
KSM	**Kuching**	**75.95**	**276**		**P**	19 43 43.9	+0.6
KSRS	**Korea Array**	**77.05**	**317**	P	**P**	19 43 50.7	+1.9
	comp=Z,4.1nm,0.9s,baz=137,slow=6.8,SNR=8.9						
	comp=Z,4.1nm,0.9s						
KSAR	**Wonju Array Be**	**77.07**	**317**	P	**P**	19 43 49.7	+0.7
SEY	**Seymchan**	**84.73**	**346**	P	**P**	19 44 29.4	+0.6
	comp=Z,4.3nm,1.0s,baz=175,slow=4.6,SNR=5.1						
	comp=Z,4.3nm,1.0s						
MAW	**Mawson**	**84.77**	**199**	P	**P**	19 44 28.7	-0.3
	comp=Z,3.0nm,0.7s,baz=128,slow=4.4,SNR=6.3						
	comp=Z,3.0nm,0.7s						
CCB	**Clear Creek Bu**	**85.09**	**11**		**P**	19 44 29.6	-0.9
ILAR	**Eielson Array**	**85.37**	**12**	P	**P**	19 44 30.8	-1.1
ILAR	**Eielson Array**	**85.37**	**12**	P	**P**	19 44 31.9	-0.1
	comp=Z,0.5nm,0.5s,baz=213,slow=4.5,SNR=7.7						
	comp=Z,0.5nm,0.5s						
IPM	**Ipoh**	**85.69**	**276**	P	**P**	19 44 34.6	-0.1
SYO	**Syowa Base**	**89.67**	**192**	*eP*	**P**	19 44 51.7	-0.8

SNAA	**Sanae**	**90.30**	**178**	P	**P**	19 44 55.5	0.0
CMAR	**Chiang Mai Arr**	**92.04**	**289**	P	**P**	19 45 06.0	+1.6
	comp=Z,1.4nm,0.8s,baz=105,slow=3.0,SNR=7.9						
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**111.62**	**314**	PKiKP	**PKiKP**	19 50 27.4	-0.5
	comp=Z,0.4nm,0.5s,baz=218,slow=1.4,SNR=4.8						
KURBB	**Kurchatov Arra**	**114.21**	**318**	PKP	**PKiKP**	19 50 32.6	-0.1
	comp=Z,0.2nm,0.5s,baz=90,slow=1.8,SNR=2.0						
BVAR	**Borovoye Array**	**119.05**	**321**	PKP	**PKPdf**	19 50 41.5	-0.6
	comp=Z,1.3nm,0.7s,baz=158,slow=0.8,SNR=5.7						
BRTR	**Keskin Array B**	**147.20**	**317**	PKPbc	**PKPbc**	19 51 37.6	+0.2
	comp=Z,3.1nm,0.9s,baz=135,slow=3.9,SNR=10						
GERES	**GERESS Array B**	**148.53**	**349**	PKPbc	**PKPbc**	19 51 40.8	+0.2
	comp=Z,1.2nm,0.8s,baz=47,slow=5.9,SNR=8.5						
CONA	**Conrad Observa**	**148.96**	**346**	*i* PKP	**PKiKP**	19 51 42.7	-0.1
	comp=Z,4.6nm,1.1s						
MMAI	**Mount Meron Ar**	**148.97**	**304**	PKPbc	**PKiKP**	19 51 43.1	-0.1
	comp=Z,1.9nm,0.6s,baz=149,slow=1.8,SNR=6.3						
RONA	**Rosalia, Austr**	**149.07**	**345**	*i* PKP	**PKPbc**	19 51 39.7	-2.2
	comp=Z,4.8nm,1.3s						
BIOA	**Bad Ischl, Aus**	**149.66**	**348**	*i* PKiKP	**PKPbc**	19 51 42.9	-0.4
	comp=Z,1.0nm,0.7s						
ARSA	**Arzberg**	**149.67**	**346**	*i* PKP	**PKPdf**	19 51 39.7	+1.3
	comp=Z,3.5nm,0.9s						
KBA	**Koelnbreinsper**	**150.30**	**348**	*i* PKiKP	**PKPbc**	19 51 44.7	-0.4
	comp=Z,1.7nm,0.6s						
RETA	**Reutte**	**150.31**	**352**	*e*PKiKP	**PKiKP**	19 51 45.9	+0.3
	comp=Z,2.8nm,0.8s						
SOKA	**Soboth**	**150.33**	**346**	*i* PKiKP	**PKPbc**	19 51 44.7	-0.3
	comp=Z,5.6nm,1.7s						
WATA	**Walderalm**	**150.35**	**351**	*i* PKiKP	**PKiKP**	19 51 45.5	-0.3
	comp=Z,3.4nm,0.6s						
MOTA	**Moosalm**	**150.41**	**352**	*i* PKiKP	**PKiKP**	19 51 45.9	0.0
	comp=Z,5.6nm,1.1s						
WTTA	**Wattenberg**	**150.41**	**351**	*i* PKiKP	**PKiKP**	19 51 45.7	-0.3
	comp=Z,5.8nm,0.6s						
SQTA	**Sankt Quirin**	**150.52**	**351**	*i* PKiKP	**PKiKP**	19 51 45.8	-0.3
	comp=Z,3.0nm,0.7s						
OBKA	**Obir**	**150.59**	**347**	*e*PKiKP	**PKPbc**	19 51 44.4	-1.2
	comp=Z,6.4nm,1.4s						
DAVA	**Damuels**	**150.62**	**353**	*i* PKiKP	**PKiKP**	19 51 47.0	+0.6
	comp=Z,8.2nm,1.1s						
MYKA	**Terra Mystica**	**150.67**	**348**	*i* PKiKP	**PKPbc**	19 51 45.7	-0.1
	comp=Z,2.3nm,0.9s						
ABTA	**Abfaltersbach**	**150.77**	**349**	*i* PKiKP	**PKPbc**	19 51 45.5	-0.5
	comp=Z,4.5nm,0.6s						
FETA	**Feichten**	**150.78**	**352**	*i* PKiKP	**PKiKP**	19 51 46.6	-0.1
	comp=Z,3.7nm,0.9s						

JSO ***04*** *19:38:14.1±1.5,34˚N±8˚×3˚5E±˚, h6km±5km, M2.9/18, Md3.3/18, ML2.9/18, MLv2.9/18, MLv2.9/18*
GRAL ***04*** *19:38:14.6±0.3,33.˚70N×34˚.91E, h11km±1km, MD3.3*
GII ***04*** *19:38:14.3±0.0,33.˚622N±0.˚003×34.˚969E±0.˚001, h12km, Mws2.5, confirmed*

ISC 04 19:38:12.8±1.3,33˚65N±0˚04×34˚95E±0˚06,h12km,n97,
σ0.963/100,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQRL	**Deir Qamar**	**0.52**	**84**	*eP*	**Pb**	19 38 24.7	+0.9
DQRL				*eS*	**Sb**	19 38 32.1	+0.7
HNTI	**Hanita**	**0.60**	**162**	P	**Pb**	19 38 25.2	0.0
HNTI	**Hanita**	**0.60**	**162**	P	**Pn**	19 38 25.9	-1.2
HNTI	**Hanita**	**0.60**	**162**	S	**Sb**	19 38 34.3	+0.7
QRWL	**Qaraoun**	**0.62**	**100**	*eP*	**Pn**	19 38 26.6	-0.8
QRWL				*eS*	**Sb**	19 38 35.5	+1.3
ZRT	**Zar'it**	**0.62**	**153**	P	**Pb**	19 38 25.9	+0.3
ZRT	**Zar'it**	**0.62**	**153**	S	**Sb**	19 38 34.6	+0.4
BHL	**Bhannes**	**0.64**	**67**	*eP*	**Pb**	19 38 26.5	+0.6
BHL				*eS*	**Sb**	19 38 35.1	+0.3
MSAM	**Misgav Am**	**0.64**	**129**	P	**Pn**	19 38 26.8	-1.0
MSAM	**Misgav Am**	**0.64**	**129**	S	**Sb**	19 38 35.7	+0.8
MTLA	**Metula**	**0.64**	**125**	P	**Pb**	19 38 26.7	+0.7
MTLA	**Metula**	**0.64**	**125**	S	**Sb**	19 38 35.6	+0.7
KIRY	**Kiryat Shemona**	**0.68**	**131**	P	**Pn**	19 38 27.3	-0.9
KIRY	**Kiryat Shemona**	**0.68**	**131**	S	**Sb**	19 38 36.5	+0.6
YFTH	**Yftach**	**0.72**	**136**	P	**Pn**	19 38 28.1	-0.8
YFTH	**Yftach**	**0.72**	**136**	S	**Sb**	19 38 38.0	+0.8
SHBL	**Chebaa**	**0.73**	**114**	*eP*	**Pn**	19 38 28.4	-0.6
MMC7	**Mount Meron ar**	**0.73**	**150**	P	**Pb**	19 38 27.9	+0.5
GEM	**Giv'at Ha'Em**	**0.74**	**126**	P	**Pn**	19 38 28.5	-0.6
GEM	**Giv'at Ha'Em**	**0.74**	**126**	P	**Pn**	19 38 28.2	-0.9
GEM	**Giv'at Ha'Em**	**0.74**	**126**	S	**Sb**	19 38 38.0	+0.3
MMA0B	**Mount Meron ar**	**0.74**	**149**	P	**Pn**	19 38 28.2	-1.0
MMA0B	**Mount Meron ar**	**0.74**	**149**	S	**Sb**	19 38 38.3	+0.6
RCY	**Rachaya**	**0.75**	**102**	*eP*	**Pn**	19 38 28.8	-0.5
NATI	**Neve Ativ**	**0.76**	**121**	P	**Pn**	19 38 28.9	-0.4
NATI	**Neve Ativ**	**0.76**	**121**	P	**Pn**	19 38 28.7	-0.7
NATI	**Neve Ativ**	**0.76**	**121**	S	**Sb**	19 38 39.0	+0.8
LVBS	**Lehavot Habash**	**0.77**	**131**	P	**Pn**	19 38 28.9	-0.6
LVBS	**Lehavot Habash**	**0.77**	**131**	S	**Sb**	19 38 38.6	0.0
ZAHL	**Zahle**	**0.80**	**75**	*eP*	**Pn**	19 38 29.4	-0.7
HULT	**Hulata**	**0.81**	**137**	P	**Pn**	19 38 29.5	-0.5
HULT	**Hulata**	**0.81**	**137**	S	**Sb**	19 38 40.5	+0.7
ZEFT	**Zefat**	**0.82**	**146**	P	**Pn**	19 38 29.6	-0.7
AFK	**Afek**	**0.83**	**170**	P	**Pn**	19 38 29.6	-0.6
AFK	**Afek**	**0.83**	**170**	S	**Sb**	19 38 40.9	+0.8
RSPN	**Rosh Pina**	**0.84**	**144**	P	**Pn**	19 38 29.9	-0.6
RSPN	**Rosh Pina**	**0.84**	**144**	S	**Sb**	19 38 41.1	+0.5
KMKB	**Kefar Hamakabi**	**0.87**	**171**	P	**Pn**	19 38 30.7	-0.1
HTEC	**Technion Haifa**	**0.87**	**176**	P	**Pn**	19 38 30.5	-0.4
AMID	**Amiad**	**0.87**	**146**	P	**Pn**	19 38 30.3	-0.6
AMID	**Amiad**	**0.87**	**146**	S	**Sb**	19 38 41.5	0.0
KDZV	**Kedmat Zvi**	**0.88**	**135**	P	**Pn**	19 38 30.8	-0.2
KDZV	**Kedmat Zvi**	**0.88**	**135**	S	**Sb**	19 38 42.4	+0.7
YGR	**Yagur**	**0.92**	**174**	P	**Pn**	19 38 31.2	-0.3
BTOR	**Bet Oren**	**0.92**	**177**	P	**Pn**	19 38 31.2	-0.4
BTOR	**Bet Oren**	**0.92**	**177**	S	**Sn**	19 38 44.0	-0.7
HDNS	**Had-Ness**	**0.92**	**141**	P	**Pn**	19 38 31.4	-0.2
HDNS	**Had-Ness**	**0.92**	**141**	S	**Sn**	19 38 43.8	-0.9
KNHM	**Kefar Nahum**	**0.93**	**145**	P	**Pn**	19 38 31.3	-0.4
KNHM	**Kefar Nahum**	**0.93**	**145**	S	**Sb**	19 38 43.2	+0.1
MGDL	**Migdal**	**0.93**	**150**	P	**Pn**	19 38 31.3	-0.4
MGDL	**Migdal**	**0.93**	**150**	S	**Sn**	19 38 44.0	-0.9
BLGI	**Bet Lehem HaGe**	**0.94**	**168**	P	**Pn**	19 38 31.2	-0.6
BLGI	**Bet Lehem HaGe**	**0.94**	**168**	P	**Pn**	19 38 31.4	-0.4
BLGI	**Bet Lehem HaGe**	**0.94**	**168**	S	**Sb**	19 38 44.0	+0.6
ALON	**ALONIM**	**0.94**	**170**	P	**Pn**	19 38 31.7	-0.2
ALON	**ALONIM**	**0.94**	**170**	S	**Sn**	19 38 44.7	-0.6
KSHT	**Keshet**	**0.98**	**133**	P	**Pn**	19 38 32.3	-0.1
KSHT	**Keshet**	**0.98**	**133**	S	**Sb**	19 38 45.4	+0.7
RMOT	**Ramot**	**1.00**	**143**	P	**Pn**	19 38 32.6	0.0
RMOT	**Ramot**	**1.00**	**143**	S	**Sn**	19 38 45.9	-0.6
OFRI	**`Ofer**	**1.03**	**179**	P	**Pn**	19 38 32.9	-0.2
OFRI	**`Ofer**	**1.03**	**179**	P	**Pn**	19 38 32.8	-0.2
OFRI	**`Ofer**	**1.03**	**179**	S	**Sn**	19 38 46.8	-0.6
HWQ	**Hawqa**	**1.03**	**53**	*eP*	**Pg**	19 38 32.7	0.0
HYGV	**Hayogev**	**1.06**	**169**	P	**Pn**	19 38 33.3	-0.1
GOLA	**Golan Heights**	**1.10**	**148**	P	**Pg**	19 38 34.3	+0.3
GOLA	**Golan Heights**	**1.10**	**148**	S	**Sn**	19 38 49.1	-0.2
MNHA	**Menahamia**	**1.11**	**153**	P	**Pg**	19 38 34.0	-0.1
MNHA	**Menahamia**	**1.11**	**153**	S	**Sn**	19 38 48.8	-0.4
SHGL	**Shaar Hagolan**	**1.11**	**150**	P	**Pn**	19 38 33.8	-0.3
IZRL	**Izrael**	**1.13**	**164**	P	**Pg**	19 38 34.4	-0.2
IZRL	**Izrael**	**1.13**	**164**	S	**Sn**	19 38 49.5	-0.4
MMLI	**Mount Malkishu**	**1.27**	**162**	P	**Pg**	19 38 37.0	-0.3
MMLI	**Mount Malkishu**	**1.27**	**162**	P	**Pb**	19 38 36.6	-0.1
MMLI	**Mount Malkishu**	**1.27**	**162**	S	**Sn**	19 38 53.3	-0.1
FKH	**Fakeheh**	**1.35**	**64**	*eP*	**Pg**	19 38 38.3	-0.4
BEIL	**Beino**	**1.35**	**49**	*eP*	**Pb**	19 38 37.8	-0.3
SLTI	**Sal'it**	**1.41**	**177**	P	**Pb**	19 38 38.8	-0.2
SLTI	**Sal'it**	**1.41**	**177**	P	**Pb**	19 38 38.8	-0.2
SLTI	**Sal'it**	**1.41**	**177**	S	**Sg**	19 38 57.8	-0.4
QRNJ	**Al-Qirein**	**1.41**	**158**	P	**Pb**	19 38 38.8	-0.3
HMDT	**Nahal Hemdat**	**1.48**	**161**	P	**Pb**	19 38 40.3	+0.1
HMDT	**Nahal Hemdat**	**1.48**	**161**	P	**Pb**	19 38 39.8	-0.4
HMDT	**Nahal Hemdat**	**1.48**	**161**	S	**Sb**	19 38 59.0	+0.1
SALP	**Salfit**	**1.59**	**173**	P	**Pb**	19 38 41.7	-0.5
BALJ	**Balqa**	**1.66**	**160**	P	**Pb**	19 38 42.6	-0.8
UJAP	**Al Uja**	**1.75**	**166**	P	**Pb**	19 38 44.0	-0.8
HSUJ	**Al Zarqa**	**1.86**	**146**	P	**Pb**	19 38 46.2	-0.6
DSI	**Dead Sea**	**2.11**	**170**	P	**Pn**	19 38 48.7	+0.8
DSI	**Dead Sea**	**2.11**	**170**	P	**Pn**	19 38 48.6	+0.7
AMAZ	**Amatzia**	**2.11**	**181**	P	**Pn**	19 38 48.8	+0.8
AMAZ	**Amatzia**	**2.11**	**181**	S	**Sn**	19 39 15.1	+0.9
ASF	**Jabal al Asfar**	**2.20**	**132**	P	**Pn**	19 38 50.7	+1.4
GHAJ	**Ghor Haditha**	**2.40**	**167**	P	**Pn**	19 38 53.0	+1.1
LISJ	**El Lisan**	**2.45**	**169**	P	**Pn**	19 38 53.8	+1.3
PRNI	**Paran**	**3.29**	**179**	P	**Pn**	19 39 05.3	+1.1

ROM 04 19:43:58.0±0.1,43˚303N±0˚002×12˚782E±0˚004,
h12km,ML0.7/4,1D,Error ellipse: s-maj=0.3km
s-min=0.1km az=255.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOSV	**Fossato di Vic**	**0.02**	**240**	||P	Pg	19 44 00.6	+0.3
FOSV				S	Sg	19 44 02.2	+0.3
FOSV				AML	AML		
	comp=E,86μm,0.1s						
FOSV				AML	AML		
	comp=N,165μm,0.1s						
SNTG	**Esanatoglia**	**0.13**	**113**	P	Pg	19 44 01.8	+0.5
SNTG				S	Sg	19 44 04.3	+0.6
SNTG				AML	AML		
	comp=E,31μm,1.2s						
SNTG				AML	AML		
	comp=N,41μm,0.2s						
SNTG				AML	AML		
	comp=E,31μm,0.8s						
SSFR	**Montelago di S**	**0.13**	**0**	P	Pg	19 44 01.9	+0.5
SSFR				S	Sg	19 44 04.6	+0.7
ATSC	**Scheggia e Pas**	**0.14**	**330**	P	Pg	19 44 01.9	+0.3
ATSC				S	Sg	19 44 04.5	+0.4
FRON	**Frontone**	**0.22**	**349**	P	Pg	19 44 03.2	+0.4
FRON				S	Sg	19 44 06.7	+0.7
ARVD	**Arcevia**	**0.23**	**31**	P	Pg	19 44 03.5	+0.5
ARVD				S	Sg	19 44 07.3	+1.0
ASSB	**Assisi San Ben**	**0.28**	**199**	P	Pg	19 44 04.1	+0.3
ASSB				S	Sb	19 44 08.6	-0.9
ATVO	**AVT- Monte Val**	**0.28**	**286**	P	Pg	19 44 04.4	+0.4
ATVO				S	Sb	19 44 09.1	-0.8
PIEI	**Pieia**	**0.29**	**322**	P	Pg	19 44 04.4	+0.3
PIEI				S	Sb	19 44 09.3	-0.8
NARO	**Abbazia di Nar**	**0.34**	**335**	P	Pg	19 44 05.2	+0.2
NARO				S	Sb	19 44 10.7	-0.7

IDC ***04*** *20:07:08.5±0.4,0˚18N×126˚13E,h0km, mb4.4/20, mbtmp4.4/24, ML3.9/3, MS3.8/13, Error ellipse: s-maj=22.5km s-min=8.1km az=74.0*
BJI ***04*** *20:07:11.4,0˚03S×126˚51E, h45km, mB5.0/8, mb4.6/35, Ms4.4/3, Ms7 4.1/5*
GCMT ***04*** *20:07:14.3±0.4,0˚37N±0˚03×126˚

CMAR				LR	LR	20 27 13.3	
	comp=Z,65nm,20.7s,baz=115,slow=37						
	comp=Z,0.3nm,0.2s						
NJ2	**Nanjing**	**32.44**	**348**	*eP*	**P**	**20 13 42.8**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ENH	**Enshi**	**33.87**	**333**	P	**P**	**20 13 52.5**	**-0.8**
ENH				lAmb	lAmb	20 13 55.2	
	comp=Z,16nm,1.1s						
BBOO	**Buckleboo**	**34.12**	**165**	P	**P**	**20 13 56.6**	**+1.1**
JMN	**Monobe**	**34.12**	**11**	P	**P**	**20 13 54.1**	**-1.4**
JMN				lAmb	lAmb	20 14 06.1	
	comp=Z,23nm,1.1s						
HNR	**Honiara**	**34.92**	**107**	LR	LR	20 29 26.8	
	comp=Z,161nm,20.9s,baz=236,slow=38						
EIDS	**Eidsvold**	**34.99**	**138**	lAmb	lAmb	20 14 04.9	
	comp=Z,19nm,0.9s						
STKA	**Stephens Creek**	**35.07**	**157**		**P**	**20 14 04.2**	**+0.6**
STKA	**Stephens Creek**	**35.07**	**157**	P	**P**	**20 14 04.3**	**+0.6**
	comp=Z,18nm,0.8s,baz=334,slow=7.9,SNR=27						
	comp=Z,18nm,0.8s						
PZH	**PanZhiHua**	**35.20**	**320**	P	**P**	**20 14 06.6**	**+1.6**
INU	**Inuyama**	**36.40**	**15**		**P**	**20 14 13.2**	**-1.7**
JGF	**Kuroka**	**36.72**	**15**	P	**P**	**20 14 16.8**	**-1.0**
JGF				lAmb	lAmb	20 14 37.8	
	comp=Z,16nm,1.2s						
KSRS	**Korea Array**	**37.10**	**2**	P	**P**	**20 14 20.8**	**-0.2**
	comp=Z,7.4nm,0.9s,baz=181,slow=9.9,SNR=21						
	comp=Z,7.4nm,0.9s						
XAN	**Xi'an**	**37.36**	**336**	⇑P	**P**	**20 14 23.2**	**-0.1**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MAJO	**Matsushiro**	**37.84**	**16**	P	**P**	**20 14 26.2**	**-1.0**
MAJO				lAmb	lAmb	20 14 29.5	
	comp=Z,26nm,1.6s						
MJAR	**Matsushiro Arr**	**37.84**	**16**		**P**	**20 14 25.9**	**-1.3**
MJAR	**Matsushiro Arr**	**37.84**	**16**	P	**P**	**20 14 26.0**	**-1.2**
	comp=Z,8.8nm,1.1s,baz=184,slow=9.0,SNR=12						
	comp=Z,8.8nm,1.1s						
ARMA	**Armidale**	**38.88**	**144**	lAmb	lAmb	20 14 39.0	
	comp=Z,18nm,0.9s						
BJT	**Baijiatuan**	**40.68**	**348**	P	**P**	**20 14 50.6**	**-0.2**
BJT				lAmb	lAmb	20 14 55.1	
	comp=Z,7.8nm,0.6s						
BJI	**Beijing**	**40.70**	**348**	P	**P**	**20 14 51.6**	**+0.6**
BJI				PcP	**PcP**	**20 16 53.8**	**+1.8**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LZH	**Lanzhou**	**41.31**	**332**	*eP*	**P**	**20 14 57.6**	**+1.2**
LZH				pP	pwP	20 15 09.6	-1.4
LZH				sP	sP	20 15 15.2	+2.6
LZH				pmax	pmax		
	comp=Z,22nm,1.2s						
HHC	**Hu-ho-hao-te**	**42.59**	**344**	*eP*	**P**	**20 15 09.1**	**+2.5**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SANVU	**Saraoutou**	**43.37**	**113**		**P**	**20 15 13.4**	**+0.2**
USRK	**Ussuriysk Ar.**	**44.11**	**6**		**P**	**20 15 18.7**	**0.0**
USRK	**Ussuriysk Ar.**	**44.11**	**6**	P	**P**	**20 15 19.3**	**+0.6**
	comp=Z,8.7nm,0.8s,baz=188,slow=7.0,SNR=12						
	comp=Z,8.7nm,0.8s						
MDJ	**Mudanjiang**	**44.33**	**3**	P	**P**	**20 15 19.1**	**-1.4**
MDJ				lAmb	lAmb	20 15 22.8	
	comp=Z,12nm,1.1s						
XLT	**XiLinHaoTe**	**44.44**	**350**	*eP*	**P**	**20 15 21.5**	**+0.1**
XLT				pP	pP	20 15 29.2	-3.6
XLT				pmax	pmax		
	comp=Z,7.0nm,1.1s						
LSA	**Lhasa**	**44.45**	**314**	P	**P**	**20 15 20.6**	**-1.6**
DZM	**Mont Dzumac**	**45.02**	**122**	*eS*	**S**	**20 21 58.2**	**-4.3**
	comp=Z,53nm,26.4s						
DZM				*eLR*	LR	20 28 04.1	
	comp=Z,118nm,23.5s						
BNX	**BinXian**	**45.36**	**1**	⇑P	**P**	**20 15 25.7**	**-2.9**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA	**Gaotai**	**45.88**	**331**	*eP*	**P**	**20 15 33.8**	**+0.8**
GTA				PcP	**PcP**	**20 17 10.9**	**+1.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA				LR	LR		
	comp=Z,120nm,16.3s						
GTA				LR	LR		
	comp=Z,140nm,16.3s						
GTA				LR	LR		
	comp=Z,130nm,17.5s						
ASAJ	**Asahikawa**	**46.10**	**16**	LR	LR	20 35 03.7	
	comp=Z,42nm,19.1s,baz=201,slow=36						
HEH	**HeiHe**	**49.88**	**1**	*eP*	**P**	**20 16 03.6**	**0.0**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ULN	**Ulaanbaatar**	**50.31**	**343**		**P**	**20 16 07.9**	**+0.8**
ULN				lAmb	lAmb	20 16 09.7	
	comp=Z,7.8nm,0.9s						
SONM	**Songino Array**	**50.48**	**343**		**P**	**20 16 08.9**	**+0.5**
SONM	**Songino Array**	**50.48**	**343**	P	**P**	**20 16 07.9**	**-0.4**
	comp=Z,4.1nm,0.8s,baz=156,slow=8.8,SNR=22						
SONM				PcP	**PcP**	**20 17 27.4**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=155,slow=4.9,SNR=2.7						
	comp=Z,4.1nm,0.8s						
WMQ	**Urumqi**	**55.34**	**327**	*eP*	**P**	**20 16 46.4**	**+2.2**
PETK	**Petropavlovsk-**	**58.88**	**22**		**P**	**20 17 08.3**	**-0.7**
PETK	**Petropavlovsk-**	**58.88**	**22**	P	**P**	**20 17 09.9**	**+0.9**
	comp=Z,5.9nm,0.8s,baz=195,slow=5.9,SNR=11						
	comp=Z,5.9nm,0.8s						
MKAR	**Makanchi Array**	**60.17**	**327**		**P**	**20 17 17.0**	**-1.0**
MKAR	**Makanchi Array**	**60.17**	**327**	P	**P**	**20 17 17.9**	**-0.1**
	comp=Z,4.0nm,0.6s,baz=116,slow=6.9,SNR=44						
MKAR				PcP	**PcP**	**20 18 03.2**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=126,slow=5.0,SNR=5.4						
MKAR				LR	LR	20 44 15.9	
	comp=Z,101nm,19.9s,baz=117,slow=37						
	comp=Z,4.0nm,0.6s						
YAK	**Yakutsk**	**61.73**	**2**		**P**	**20 17 27.4**	**-0.8**
ZALV	**Zalesovo Beam**	**63.50**	**334**	P	**P**	**20 17 40.2**	**0.0**
	comp=Z,3.1nm,0.8s,baz=124,slow=6.8,SNR=11						
	comp=Z,3.1nm,0.8s						
GAR	**Garm**	**63.95**	**314**	lAmb	lAmb	20 17 58.0	
	comp=Z,16nm,1.1s						
KURBB	**Kurchatov Arra**	**64.44**	**329**	P	**P**	**20 17 46.5**	**0.0**
	comp=Z,4.4nm,0.7s,baz=129,slow=6.1,SNR=21						
	comp=Z,4.4nm,0.7s						
KURK	**Kurchatov**	**64.44**	**329**		**P**	**20 17 45.3**	**-1.2**
KURK				lAmb	lAmb	20 17 50.9	
	comp=Z,12nm,1.0s						
SIMJ	**Simiganj**	**64.77**	**313**	P	**P**	**20 17 49.4**	**+0.3**
SIMJ				lAmb	lAmb	20 18 03.3	
	comp=Z,5.0nm,0.9s						
KKAR	**Karatay Array**	**65.47**	**318**		**P**	**20 17 52.0**	**-1.4**
BVAR	**Borovoye Array**	**70.00**	**328**	P	**P**	**20 18 21.2**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=124,slow=9.2,SNR=11						
	comp=Z,2.0nm,0.6s						
ABKAR	**Akbulak array**	**74.55**	**322**	P	**P**	**20 18 48.4**	**-0.5**
ARTI	**Arti**	**77.71**	**328**		**P**	**20 19 06.7**	**-0.1**
ARTI				lAmb	lAmb	20 19 08.9	
	comp=Z,9.1nm,1.2s						
VNDA	**Vanda**	**80.01**	**173**	P	**P**	**20 19 19.8**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=308,slow=4.8,SNR=11						
VNDA				LR	LR	20 55 38.7	
	comp=Z,58nm,18.4s,baz=336,slow=36						
	comp=Z,2.0nm,0.9s						
MAW	**Mawson**	**80.28**	**200**	P	**P**	**20 19 20.0**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=259,slow=2.9,SNR=4.0						
	comp=Z,0.6nm,0.3s						
SDPT	**Sand Point**	**80.40**	**34**	P	**P**	**20 19 19.0**	**-2.5**
RAYN	**Ar Rayn**	**81.39**	**294**		**P**	**20 19 27.3**	**-0.3**
GEVA	**Gevas**	**84.49**	**308**	lAmb	lAmb	20 19 54.2	
	comp=Z,13nm,0.9s						
PPT2	**Papeete2**	**84.55**	**108**	*eLR*	LR	20 46 21.0	
	comp=Z,52nm,23.5s						
PPT2				*eLR*	LR	20 46 24.7	
	comp=Z,104nm,29.0s						
N19K	**Bonanza Creek**	**84.61**	**29**	lAmb	lAmb	20 19 46.5	
	comp=Z,16nm,1.1s						
OHAK	**Old Harbor**	**84.69**	**33**	P	**P**	**20 19 44.6**	**+0.8**
OHAK				lAmb	lAmb	20 19 46.1	
	comp=Z,8.6nm,0.9s						
TBI	**Tubuai**	**84.87**	**113**	*eLR*	LR	20 46 28.1	
	comp=Z,936nm,37.8s						
KBZ	**Khabaz**	**85.02**	**314**	P	**P**	**20 19 45.5**	**-0.2**
	comp=Z,1.8nm,1.0s,baz=166,slow=5.3,SNR=7.0						
	comp=Z,1.8nm,1.0s						
GURO	**Guroymak-BITLI**	**85.31**	**308**	lAmb	lAmb	20 19 58.7	
	comp=Z,8.0nm,0.9s						
FURI	**Furi**	**87.53**	**279**	LR	LR	20 59 07.6	
	comp=Z,36nm,18.7s,baz=146,slow=36						
ILAR	**Eielson Array**	**88.50**	**25**	P	**P**	**20 20 02.4**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=255,slow=4.9,SNR=5.1						
	comp=Z,0.3nm,0.6s						
KMBO	**Kilima Mbogo**	**88.96**	**269**	LR	LR	20 58 27.4	
	comp=Z,38nm,18.9s,baz=102,slow=35						
QSPA	**South Pole Qui**	**90.13**	**180**	P	**P**	**20 20 09.8**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=282,slow=5.6,SNR=5.9						
	comp=Z,1.1nm,0.7s						
EIL	**Elat**	**91.00**	**300**	LR	LR	21 08 00.9	
	comp=Z,44nm,18.2s,baz=75,slow=40						
BRTR	**Keskin Array B**	**91.85**	**310**	P	**P**	**20 20 17.6**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=99,slow=3.9,SNR=4.8						
	comp=Z,0.7nm,0.7s						
L29M	**L29M**	**92.40**	**27**	lAmb	lAmb	20 20 22.7	
	comp=Z,5.8nm,1.1s						
ARCES	**ARCESS Array B**	**93.56**	**340**	P	**P**	**20 20 25.5**	**-0.2**
	comp=Z,4.0nm,0.9s,baz=23,slow=4.0,SNR=5.6						
	comp=Z,4.0nm,0.9s						
AKASG	**Malin Array Be**	**94.28**	**321**	LR	LR	21 05 28.8	
	comp=Z,34nm,21.1s,baz=48,slow=37						
DLBC	**Dease Lake**	**97.02**	**31**	LR	LR	21 06 21.0	
	comp=Z,216nm,18.1s,baz=238,slow=37						
LBTB	**Lobatse**	**99.70**	**245**	LR	LR	21 07 31.4	
	comp=Z,25nm,18.2s,baz=112,slow=36						
BOSA	**Boshof**	**99.71**	**241**	LR	LR	21 02 05.4	
	comp=Z,43nm,20.5s,baz=109,slow=33						
CLL	**Collm**	**104.16**	**323**	*ePdif*	**Pdif**	**20 21 16.0**	**+2.3**
TORD	**Torodi Ar. Bea**	**123.44**	**286**	PKP	**PKPdf**	**20 26 08.1**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=29,slow=3.2,SNR=3.5						
TORD				PKKPbc	**PKKPab**	**20 35 57.5**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=260,slow=4.2,SNR=5.1						
DBIC	**Dimbokro**	**130.70**	**279**	PKP	**PKiKP**	**20 26 23.5**	**+0.5**
	comp=Z,3.0nm,1.0s,baz=196,slow=18,SNR=1.9						
CPUP	**Villa Florida**	**153.80**	**173**	PKPbc	**PKiKP**	**20 27 10.9**	**+1.0**
	comp=Z,1.8nm,1.2s,baz=26,slow=9.2,SNR=3.8						
CPUP				PKPab	**pPKPbc**	**20 27 23.0**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=8.8,slow=6.3,SNR=2.9						
LPAZ	**La Paz**	**158.66**	**139**	PKPab	**PKPab**	**20 27 45.4**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=179,slow=5.1,SNR=3.5						

*IDC **04** 20:49:08.8±0.8, 12°.51S×85°.24E, h0km, mb3.9/14, mbtmp3.9/14, MS3.2/4, Error ellipse: s-maj=33.4km s-min=16.2km az=58.0*
*NEIC **04** 20:49:10.9±0.8, 12°.4S±0°.1×85°.2E±0°.1, h10km±1km, mb4.5/14, Error ellipse: s-maj=25.1km s-min=20.5km az=218.0*

ISC 04 20:49:10.2±0.6, 12°.5S±0°.1×85°.3E±0°.1, h10km, n49, σ0 56/38, mb4.3/20, MS3.2/4, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**13.45**	**290**	T	T	21 06 13.7	
	baz=112,slow=74						
H08S3	**Diego Garcia H**	**13.47**	**290**	T	T	21 06 27.0	
	baz=112,slow=74						
H08S1	**Diego Garcia H**	**13.47**	**290**	T	T	21 06 11.5	
	baz=112						
KAAM	**Kaadhehdhoo**	**17.72**	**316**		**Pn**	**20 53 16.4**	**-0.8**
KAAM				lAmb	lAmb	20 53 18.8	
	comp=Z,99nm,1.0s						
PALK	**Pallekele**	**20.12**	**347**	LR	LR	20 59 56.2	
	comp=Z,92nm,18.8s,baz=138,slow=32						
H01W3	**Cape Leeuwin H**	**34.39**	**135**	T	T	21 32 15.1	
	baz=304,slow=74						
H01W2	**Cape Leeuwin H**	**34.39**	**135**	T	T	21 32 16.0	
	baz=304,slow=74						
H01W1	**Cape Leeuwin H**	**34.40**	**135**	T	T	21 32 21.9	
	baz=304						
FITZ	**Fitzroy Crossi**	**39.29**	**103**	P	**P**	**20 56 40.2**	**+0.6**
KNRA	**Kununurra**	**42.26**	**100**	P	**P**	**20 57 04.4**	**+0.2**
KNRA				lAmb	lAmb	20 57 28.0	
	comp=Z,20nm,1.4s						
H04N2	**CROZET ISLANDS**	**43.90**	**214**	T	T	21 44 14.3	
	baz=50						
H04N1	**CROZET ISLANDS**	**43.91**	**214**	T	T	21 44 15.6	
	baz=50						
H04N3	**CROZET ISLANDS**	**43.92**	**214**	T	T	21 44 20.7	
	baz=50						
ASAR	**Alice Springs**	**47.36**	**111**	P	**P**	**20 57 44.9**	**0.0**
ASAR	**Alice Springs**	**47.36**	**111**	P	**P**	**20 57 45.1**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=281,slow=7.3,SNR=22						
	comp=Z,2.7nm,0.8s						
AS31	**Alice Springs**	**47.36**	**111**	P	**P**	**20 57 45.0**	**+0.1**
FAKI	**Fak Fak**	**47.44**	**82**	P	**P**	**20 57 44.7**	**-0.9**
WRA	**Warramunga Arr**	**47.58**	**106**	P	**P**	**20 57 46.7**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=273,slow=11,SNR=24						
WRA				PcP	**PcP**	**20 59 16.1**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=278,slow=2.6,SNR=1.8						
	comp=Z,2.3nm,0.8s						
WRAB	**Tennant Creek**	**47.59**	**106**	P	**P**	**20 57 46.8**	**+0.2**
WRAB				lAmb	lAmb	20 57 59.3	
	comp=Z,10nm,1.4s						
WB0	**Warramunga Arr**	**47.62**	**105**	P	**P**	**20 57 47.0**	**+0.1**
WB0				lAmb	lAmb	20 57 49.8	
	comp=Z,5.2nm,1.2s						
STKA	**Stephens Creek**	**55.02**	**120**	P	**P**	**20 58 41.9**	**-0.3**
STKA	**Stephens Creek**	**55.02**	**120**	P	**P**	**20 58 42.1**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=277,slow=7.8,SNR=7.6						
	comp=Z,1.5nm,0.5s						
AAK	**Ala-Archa**	**55.71**	**350**	LR	LR	21 22 39.6	
	comp=Z,24nm,19.3s,baz=180,slow=36						
KKAR	**Karatay Array**	**56.92**	**347**	P	**P**	**20 58 54.9**	**-0.6**
MKAR	**Makanchi Array**	**59.04**	**358**	P	**P**	**20 59 11.0**	**+0.6**
MKAR	**Makanchi Array**	**59.04**	**358**	P	**P**	**20 59 10.0**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=187,slow=5.8,SNR=4.2						
	comp=Z,0.5nm,0.7s						
MAKZ	**Makanchi**	**59.07**	**357**	P	**P**	**20 59 11.2**	**+0.7**
MAKZ				lAmb	lAmb	20 59 20.0	
	comp=Z,2.5nm,0.8s						
SUR	**Sutherland**	**61.92**	**240**	P	**P**	**20 59 31.0**	**+0.3**
SONM	**Songino Array**	**62.91**	**16**	P	**P**	**20 59 37.1**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=201,slow=7.7,SNR=2.3						
	comp=Z,0.3nm,0.4s						
EIDS	**Eidsvold**	**63.04**	**112**	P	**P**	**20 59 38.3**	**+0.2**
EIDS				lAmb	lAmb	20 59 50.2	
	comp=Z,4.4nm,1.2s						
KURBB	**Kurchatov Arra**	**63.09**	**355**	P	**P**	**20 59 38.4**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=181,slow=6.6,SNR=9.1						
	comp=Z,0.8nm,0.8s						
KSRS	**Korea Array**	**63.78**	**37**	P	**P**	**20 59 42.8**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=229,slow=5.3,SNR=2.7						
	comp=Z,1.1nm,0.6s						
GUMO	**Guam**	**64.50**	**68**	LR	LR	21 26 47.2	
	comp=Z,16nm,21.8s,baz=262,slow=35						
AB31	**Akbulak array**	**65.39**	**342**	P	**P**	**20 59 52.4**	**-0.4**
AB31				lAmb	lAmb	21 00 02.3	
	comp=Z,1.5nm,0.7s						
ABKAR	**Akbulak array**	**65.39**	**342**	P	**P**	**20 59 52.8**	**0.0**
ZAA0	**Zalesovo Array**	**66.15**	**360**	P	**P**	**20 59 57.4**	**-0.2**
ZALV	**Zalesovo Beam**	**66.15**	**360**	P	**P**	**20 59 56.4**	**-1.3**
ZALV	**Zalesovo Beam**	**66.15**	**360**	P	**P**	**20 59 58.6**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=222,slow=5.8,SNR=6.8						
	comp=Z,1.4nm,0.7s						
BVAR	**Borovoye Array**	**66.46**	**350**	P	**P**	**21 00 00.1**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=123,slow=11,SNR=5.0						
BVAR				LR	LR	21 28 19.2	
	comp=Z,16nm,20.9s,baz=188,slow=35						
	comp=Z,1.0nm,0.7s						
KBZ	**Khabaz**	**67.95**	**328**	P	**P**	**21 00 09.5**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=148,slow=2.9,SNR=4.0						
	comp=Z,1.7nm,0.8s						
BRTR	**Keskin Array B**	**70.66**	**320**	P	**P**	**21 00 27.3**	**+0.9**
	comp=Z,1.0nm,1.0s,baz=113,slow=6.6,SNR=3.3						
	comp=Z,1.0nm,1.0s						
VNDA	**Vanda**	**75.02**	**167**	P	**P**	**21 00 51.2**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=294,slow=7.5,SNR=2.0						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**77.58**	**180**	P	**P**	**21 01 07.0**	**+0.6**
QSPA				lAmb	lAmb	21 01 08.4	
	comp=Z,4.3nm,1.1s						
QSPA	**South Pole Qui**	**77.58**	**180**	P	**P**	**21 01 06.7**	**+0.3**
	comp=Z,2.5nm,1.0s,baz=339,slow=1.8,SNR=5.1						
	comp=Z,2.5nm,1.0s						
FINES	**FINESS Array B**	**87.00**	**336**	P	**P**	**21 01 55.6**	**+0.1**
FINES	**FINESS Array B**	**87.00**	**336**	P	**P**	**21 01 55.4**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=140,slow=9.2,SNR=4.6						
	comp=Z,1.6nm,0.8s						
BOAV	**Boa Vista**	**144.68**	**256**	PKPdf	**PKPab**	**21 08 45.7**	**-1.3**
NVAR	**Mina Array Bea**	**146.71**	**35**	PKPbc	**PKPbc**	**21 08 53.7**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=295,slow=2.3,SNR=11						
PDAR	**Pinedale Array**	**147.18**	**20**	PKPbc	**PKPbc**	**21 08 54.0**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=329,slow=0.6,SNR=12						

*IDC **04** 20:55:56.7±12.0, 55°.90S×27°.85W, h136km±113km, mb3.7/4, mbtmp4.1/5, ML4.6/1, MS3.7/1, Error ellipse: s-maj=64.4km s-min=28.5km az=113.0*

ISC 04 20:55:55.0±1.3, 56°.0S±0°.2×27°.4W±0°.4, h100km, n11, σ1 49/10, mb4.0/3, 3C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**17.08**	**160**	⇑P	**Pn**	**20 59 47.7**	**+0.6**
	comp=Z,5.2nm,0.7s						
SNAA	**Sanae**	**18.84**	**156**	⇑P	**P**	**21 00 06.7**	**+0.1**
	comp=Z,163nm,0.5s						
SNAA	**Sanae**	**18.84**	**156**	P	**P**	**21 00 06.9**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=311,slow=11,SNR=124						
	comp=Z,5.2nm,0.4s						
TROLL	**Troll, Antarti**	**20.34**	**154**	⇑P	**P**	**21 00 22.8**	**-0.2**
	comp=Z,451nm,0.7s						
QSPA	**South Pole Qui**	**34.26**	**180**	P	**P**	**21 02 31.0**	**0.0**
	comp=Z,2.9nm,0.6s,baz=191,slow=2.6,SNR=22						
	comp=Z,2.9nm,0.6s						
MAW	**Mawson**	**40.26**	**144**	P	**P**	**21 03 21.2**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=177,slow=6.5,SNR=1.7						
	comp=Z,1.3nm,0.6s						
VNDA	**Vanda**	**46.62**	**183**	P	**P**	**21 04 11.0**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=197,slow=6.0,SNR=11						
	comp=Z,1.8nm,0.7s						
SIV	**San Ignacio**	**47.46**	**314**	LR	LR	21 21 47.6	
	comp=Z,83nm,21.4s,baz=277,slow=33						
TORD	**Torodi Ar. Bea**	**73.06**	**30**	P	**P**	**21 07 12.5**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=203,slow=6.1,SNR=9.3						
	comp=Z,0.8nm,0.6s						
ILAR	**Eielson Array**	**149.99**	**312**	PKPbc	**PKPdf**	**21 15 27.8**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=114,slow=1.1,SNR=8.6						
SONM	**Songino Array**	**150.84**	**87**	PKPbc	**PKPdf**	**21 15 32.4**	**+3.3**
	comp=Z,0.6nm,0.4s,baz=204,slow=3.2,SNR=4.5						

IDC 04 21:03:16.8±1.7, 0°.32N×126°.37E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=168.8km s-min=23.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.59**	**159**	P	P	21 08 07.8	-0.7
	0.5nm,0.3s,baz=338,slow=11,SNR=18						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**24.94**	**163**	P	P	21 08 42.5	+0.5
	0.5nm,0.6s,baz=344,slow=11,SNR=11						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**60.16**	**327**	P	P	21 13 27.2	+0.7
	0.2nm,0.5s,baz=116,slow=6.9,SNR=1.9						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**64.42**	**328**	P	P	21 13 54.1	-0.8
	0.2nm,0.4s,baz=123,slow=6.8,SNR=2.0						
	0.2nm,0.4s						

TRN 04 21:10:51.8, 16°.04N×59°.65W, h27km, MD3.7, Far North-east of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DSDZ	**La Diserade, G**	**1.39**	**281**	*eP*	Pn	21 11 15.7	+0.2
DSDZ				*eS*	Sn	21 11 32.6	-0.3
ILAM	**Ilet Lapin Mar**	**1.73**	**223**	*eP*	Pn	21 11 21.2	+1.1
ILAM				*eS*	Sb	21 11 43.8	-0.5
DLBT	**Laudat, Domini**	**1.79**	**247**	*eP*	Pn	21 11 22.1	+1.1
DSLB	**Salisbury**	**1.81**	**251**	*eP*	Pn	21 11 21.9	+0.6
DSLB				*eS*	Sn	21 11 43.8	+0.4
SVN	**Savane Anatole**	**1.89**	**231**	*eP*	Pn	21 11 23.2	+0.8
SVN				*eS*	Sb	21 11 47.6	-1.4
TBG	**Guadaloupe-3**	**1.93**	**265**	*eP*	Pn	21 11 23.8	+0.9
TBG				*eS*	Sn	21 11 46.7	+0.4
MMLZ	**Guadeloupe Bro**	**1.95**	**270**	*eP*	Pn	21 11 24.5	+1.4
MMLZ				*eS*	Sn	21 11 48.2	+1.6
ATGZ	**Broadband at L**	**2.00**	**272**	*eP*	Pn	21 11 25.1	+1.2
ATGZ				*eS*	Sn	21 11 49.9	+1.9
BIM	**Bigot**	**2.05**	**222**	*eP*	Pn	21 11 25.4	+0.9
BIM				*eS*	Sn	21 11 51.2	+1.9
DHSZ	**Broadband at M**	**2.05**	**277**	*eP*	Pn	21 11 25.5	+1.0
DHSZ				*eS*	Sb	21 11 51.5	-2.0
SLBI	**Saint Lucia, B**	**2.38**	**213**	*eP*	Pn	21 11 30.4	+1.2
SLBI				*eS*	Sn	21 11 57.9	+0.4
MBWH		**2.54**	**286**	*eP*	Pn	21 11 32.6	+1.3
MBWH				*eS*	Sn	21 12 02.0	+0.6
ANWB	**Willy Bob**	**2.61**	**309**	*eP*	Pn	21 11 32.7	+0.5
ANWB				*eS*	Sn	21 12 04.3	+1.3
SKI	**Saint Kitts**	**3.23**	**294**

ALOL LOMAS DE OLMED 3.02 81 *eP* **Pn** 21 14 12.9 +0.3
AC02 Maricunga 3.03 214 **Pn** 21 14 13.9 +0.6
AC02 Maricunga 3.03 214 ⇑*iP* **Pn** 21 14 13.9 +0.6
AC02 Maricunga 3.03 214 *eP* **Pn** 21 14 13.3 +0.1
AC02 *eS* **Sn** 21 14 50.2 -1.2
PB05 IPOC Station P 3.09 298 **Pn** 21 14 13.8 +0.1
PB05 IPOC Station P 3.09 298 ⇑*iP* **Pn** 21 14 13.8 +0.1
PB05 IAML 21 14 53.9
comp=N,4μm,0.4s
PB05 IPOC Station P 3.09 298 *eP* **Pn** 21 14 13.9 +0.1
PB05 *eS* **Sn** 21 14 51.4 -0.7
PB05 IAML 21 14 55.3
comp=Z,3μm,0.3s
PB09 IPOC Station P 3.12 323 **Pn** 21 14 15.2 +1.1
PB09 IPOC Station P 3.12 323 ⇑*iP* **Pn** 21 14 15.2 +1.1
PB09 IPOC Station P 3.12 323 *eP* **Pn** 21 14 14.6 +0.5
PB09 *eS* **Sn** 21 14 53.8 +0.9
PB09 IAML 21 14 59.1
comp=Z,4μm,0.4s
PB10 IPOC Station P 3.14 284 **Pn** 21 14 14.5 +0.4
PB10 IPOC Station P 3.14 284 ⇑*iP* **Pn** 21 14 14.5 +0.4
PB10 IAML 21 14 59.8
comp=N,4μm,0.6s
PB10 IPOC Station P 3.14 284 *eP* **Pn** 21 14 14.6 +0.4
PB10 *eS* **Sn** 21 14 52.3 -0.7
PB10 IAML 21 14 54.5
comp=Z,2μm,0.2s
PB03 IPOC Station P 3.24 314 **Pn** 21 14 15.8 +0.2
PB03 IPOC Station P 3.24 314 ⇑*iP* **Pn** 21 14 15.8 +0.2
PB03 IPOC Station P 3.24 314 *eP* **Pn** 21 14 15.8 +0.2
PB03 *eS* **Sn** 21 14 54.6 -0.8
AC01 Pan de Azucar 3.55 238 **Pn** 21 14 18.3 -1.0
AC01 Pan de Azucar 3.55 238 ⇑*iP* **Pn** 21 14 18.2 -1.0
AC01 Pan de Azucar 3.55 238 *eP* **Pn** 21 14 18.3 -1.0
AC01 *eS* **Sn** 21 15 00.2 -1.9
AC01 IAML 21 15 07.7
comp=Z,1μm,0.3s
PB02 IPOC Station P 3.87 320 **Pn** 21 14 23.1 -0.4
PB02 IPOC Station P 3.87 320 ⇑*iP* **Pn** 21 14 23.0 -0.4
PB02 IPOC Station P 3.87 320 *eP* **Pn** 21 14 23.2 -0.2
PB02 *eS* **Sn** 21 15 09.2 -0.5
PB01 IPOC Station P 3.87 327 **Pn** 21 14 23.1 -0.4
PB01 IPOC Station P 3.87 327 *eP* **Pn** 21 14 23.1 -0.4
PB01 IPOC Station P 3.87 327 *eP* **Pn** 21 14 23.2 -0.3
PB01 *eS* **Sn** 21 15 08.0 -1.7
PB01 IAML 21 15 11.6
comp=Z,2μm,0.5s
AC06 Mina Casimiro 4.13 222 **Pn** 21 14 25.2 -1.4
AC06 Mina Casimiro 4.13 222 ⇑*iP* **Pn** 21 14 25.1 -1.5
GO03 Copiapo 4.23 219 **Pn** 21 14 26.6 -1.5
GO03 Copiapo 4.23 219 *eP* **Pn** 21 14 26.7 -1.3
GO03 Copiapo 4.23 219 *eP* **Pn** 21 14 26.8 -1.3
GO03 *eS* **Sn** 21 15 16.0 -1.9
GO03 IAML 21 15 21.3
comp=Z,669nm,0.3s
CYA Choya 4.30 163 *eP* Pn 21 14 24.2 -4.7
CYA *eS* Sn 21 15 10.2 -9.3
PATCX Punta Patache 4.41 322 **Pn** 21 14 29.1 -1.3
VCA Vinchina 4.48 191 *eP* **Pn** 21 14 32.2 +0.9
VCA Vinchina 4.48 191 *eP* **Pn** 21 14 32.1 +0.8
PB08 IPOC Station P 4.53 336 **Pn** 21 14 32.4 +0.2
PB08 IPOC Station P 4.53 336 ⇑*iP* **Pn** 21 14 32.4 +0.2
PB08 IPOC Station P 4.53 336 *eP* **Pn** 21 14 31.9 -0.4
PB08 IAML 21 15 32.6
comp=Z,687nm,0.5s
TA01 Diego Aracena 4.63 323 **Pn** 21 14 31.7 -1.4
TA01 Diego Aracena 4.63 323 *eP* **Pn** 21 14 31.5 -1.7
TA01 Diego Aracena 4.63 323 *eP* **Pn** 21 14 31.7 -1.4
TA01 IAML 21 15 38.0
comp=Z,1μm,0.7s
HMBC Humberstone 4.72 328 **Pn** 21 14 32.8 -1.6
HMBC Humberstone 4.72 328 *eP* **Pn** 21 14 32.6 -1.9
HMBC Humberstone 4.72 328 *eP* **Pn** 21 14 32.2 -2.2
GO01 Chusmiza 4.98 338 **Pn** 21 14 37.7 -0.5
GO01 Chusmiza 4.98 338 *eP* **Pn** 21 14 37.7 -0.5
GO01 Chusmiza 4.98 338 *eP* **Pn** 21 14 38.0 -0.2
GO01 IAML 21 15 41.5
comp=Z,846nm,0.6s
PB11 IPOC Station P 5.07 333 **Pn** 21 14 37.6 -1.4
PB11 IPOC Station P 5.07 333 *eP* **Pn** 21 14 37.4 -1.7
AC04 Llanos de Chal 5.18 221 **Pn** 21 14 38.1 -2.2
AC04 Llanos de Chal 5.18 221 *eP* **Pn** 21 14 37.9 -2.4
LCO Las Campanas 5.61 213 **Pn** 21 14 43.8 -2.3
CO01 Juntas del Tor 6.18 204 **Pn** 21 14 52.7 -1.0
PB16 IPOC Station P 6.32 340 **Pn** 21 14 54.7 -1.3
PB12 IPOC Station P 6.37 333 **Pn** 21 14 53.3 -2.8
AP01 Chacalluta 6.59 333 Pn **Pn** 21 14 57.9 -1.1
CO05 La Serena 6.62 212 **Pn** 21 14 57.2 -2.0
GO04 Tololo Observa 6.63 208 **Pn** 21 14 56.5 -3.2
PB18 Visviri 7.02 342 **Pn** 21 15 04.7 -0.4
CO03 El Pedregal 7.18 205 **Pn** 21 15 03.6 -3.2
CFA Coronel Fontan 7.31 187 P **Pn** 21 15 08.1 -0.3
comp=Z,4.6nm,0.3s,baz=354,slow=11,SNR=30
CFA S **Sn** **21 16 23.9 -6.6**
comp=Z,9.1nm,0.3s,baz=205,slow=14,SNR=7.6
CO06 Fray Jorge 7.43 211 **Pn** 21 15 06.5 -3.5
CO02 Combarbal 7.62 205 **Pn** 21 15 09.2 -3.4
LPAZ La Paz 8.04 354 P **Pn** 21 15 18.8 +0.1
comp=Z,21nm,0.4s,baz=140,slow=6.0,SNR=113
LPAZ S **Sn** **21 16 46.0 -3.0**
comp=Z,22nm,0.7s,baz=27,slow=7.4,SNR=3.9
CPUP Villa Florida 9.18 105 P **Pn** 21 15 31.1 -2.0
comp=Z,15nm,0.8s,baz=145,slow=12,SNR=60
MT08 Bocatoma Ro 9.41 194 Pn **Pn** 21 15 35.0 -1.3
LMEL Las Melosas 9.84 195 **Pn** 21 15 40.9 -1.0
SIV San Ignacio 10.11 36 P **Pn** 21 15 42.6 -2.8
comp=Z,30nm,0.4s,baz=213,slow=12,SNR=214
SIV S Sn 21 17 20.5 -17
comp=Z,8.1nm,0.5s,baz=218,slow=17,SNR=5.9
AQDB Aquidauana 11.34 73 **Pn** 21 15 58.6 -2.8
PTLB Pontes e Lacer 11.65 42 **Pn** 21 16 03.2 -2.3
BI02 San Fabin de 12.78 195 **Pn** 21 16 18.7 -1.3
VILB Vilhena 13.12 32 **Pn** 21 16 22.1 -2.3
TRCB Terra Rica 13.48 86 **Pn** 21 16 27.5 -1.4
H03N1 Juan Fernandez 13.67 226 P **Pn** 21 16 31.3 +0.4
baz=110,slow=15,SNR=16
H03N2 Juan Fernandez 13.69 226 P **Pn** **21 16 31.6 +0.6**
baz=110,slow=15,SNR=12
H03N3 Juan Fernandez 13.69 226 P **Pn** **21 16 31.7 +0.5**
baz=110,slow=15,SNR=38
ITAB Concordia 13.91 105 **Pn** 21 16 32.4 -1.8
H03S3 Juan Fernandez 13.91 224 P **Pn** 21 16 35.5 +1.6
baz=28,slow=6.5,SNR=13
H03S1 Juan Fernandez 13.92 224 P **Pn** **21 16 35.5 +1.5**
baz=28,slow=6.5,SNR=9.3
H03S2 Juan Fernandez 13.93 224 P **Pn** **21 16 34.9 +0.8**
baz=28,slow=6.5,SNR=10
PLTB Pedras Altas 14.13 125 **Pn** 21 16 34.5 -2.4
TRQA Tornquist 14.40 163 **Pn** 21 16 38.3 -2.0
NNA Nana 15.28 322 Pn **Pn** 21 16 51.4 0.0
NNA Nana 15.28 322 P **Pn** **21 16 52.1 +0.7**
comp=Z,5.9nm,0.4s,baz=168,slow=12,SNR=4.8
LR05 Currie 16.36 193 P **P** 21 17 03.2 -0.8
PLCA Paso Flores 16.60 189 P **P** 21 17 06.1 -0.6
PLCA Paso Flores 16.60 189 P **Pn** 21 17 07.4 +0.2
comp=Z,8.1nm,0.9s,baz=4.3,slow=13,SNR=13
PLCA PcP **PcP** **21 21 47.7 +0.9**
comp=Z,3.4nm,0.7s,baz=112,slow=2.5,SNR=6.5
CZSB Cruzeiro do Su 17.31 341 P **P** 21 17 14.7 0.0
SPB Sao Paulo 18.11 92 P **P** 21 17 22.0 -1.4
VAO Valinhos 18.61 90 P **P** 21 17 27.4 -1.6
GO07 Milladeo Hill, 19.48 194 P **P** 21 17 37.9 -0.1
BDFB Brasilia 20.00 68 P **P** 21 17 42.2 -1.8
BDFB Brasilia 20.00 68 P **P** 21 17 42.5 -1.5
comp=Z,108nm,0.8s,baz=241,slow=11,SNR=100
ATAH Atahualpa 20.16 326 P **P** **21 17 46.8 +0.8**
comp=Z,4.9nm,0.6s,baz=176,slow=7.6,SNR=4.4
comp=Z,4.9nm,0.6s
TBTG Tabatinga, AM 20.18 352 P **P** 21 17 45.7 -0.1
COYC Coyhaique 21.56 189 P **P** 21 17 59.4 -0.8
COHC Cochancay 24.64 330 **P** 21 18 30.9 +1.7
OTAV Otavalo 26.73 334 P **P** 21 18 49.5 +0.9
FLOC Florencia 27.02 341 P **P** 21 18 51.2 +0.5
FLOC IAmb IAmb 21 18 52.6
comp=Z,29nm,0.9s
BOAV Boa Vista 27.35 15 P **P** 21 18 52.9 -0.7
EFI East Falkland 28.20 168 P **P** 21 19 00.0 -0.8
ROSC El Rosal 29.80 346 LR LR 21 32 60.0
comp=Z,95nm,20.3s,baz=38,slow=40
RUSC La Rusia 30.57 349 P **P** **21 19 22.2 -0.4**
RUSC IAmb IAmb 21 19 25.2
comp=Z,32nm,1.0s
BAUV El Baul 33.07 359 P **P** **21 19 42.2 -1.7**
BAUV IAmb IAmb 21 19 43.7
comp=Z,20nm,0.7s
SDV Santo Domingo 33.17 354 P **P** **21 19 44.0 -1.0**
SDV IAmb IAmb 21 19 44.6
comp=Z,18nm,1.1s
RCBR Riachuelo 35.26 64 P **P** **21 20 01.1 -1.8**
RCBR IAmb IAmb 21 21 06.0
comp=Z,40nm,1.4s
LCR2 La Lucha 2 37.61 332 **P** **21 20 24.0 +1.1**
LCR2 IAmb IAmb 21 20 26.3
comp=Z,22nm,0.8s
SOCE Pocosol 38.45 332 P **P** **21 20 32.0 +2.3**
MPOM Morne Pois Mar 39.03 10 P **P** **21 20 33.5 -1.1**
FDF Fort de France 39.27 9 P **P** **21 20 35.3 -1.3**
ESPZ Base Esperanza 39.66 173 P **P** **21 20 39.1 0.0**
ESPZ IAmb IAmb 21 20 40.1
comp=Z,33nm,1.4s
SIUN Universidad Ur 41.51 334 P **P** **21 20 55.4 +0.5**
SIUN IAmb IAmb 21 20 56.7
comp=Z,11nm,0.6s
OBIP Obispado Ponce 42.11 1 **P** **21 20 57.7 -2.1**
OBIP IAmb IAmb 21 20 59.4
comp=Z,24nm,0.6s
CELP Cerrillos 42.15 1 P **P** **21 20 58.3 -1.8**
MTO3 Montecristo 44.14 328 P **P** **21 21 17.4 +1.1**
MTO3 IAmb IAmb 21 21 18.5
comp=Z,23nm,0.7s
PETF Flores 46.56 330 P **P** **21 21 36.0 +0.9**
PETF IAmb IAmb 21 21 37.0
comp=Z,24nm,0.7s
CCIG Comitan 47.11 326 P **P** **21 21 39.4 -0.2**
TEIG Tepich 48.79 333 **P** **21 21 52.4 +0.2**
TEIG Tepich 48.79 333 P **P** **21 21 52.4 +0.2**
VNA3 Neumayer Olymp 56.92 161 ⇑P **P** **21 22 48.7 -2.5**
comp=Z,11nm,0.7s
VNA1 Neumayer--Stat 57.12 160 ⇑P **P** **21 22 53.1 +0.6**
comp=Z,10.0nm,0.9s
ZAIG Zacatecas 58.04 321 **P** **21 23 01.1 +1.1**
ZAIG IAmb IAmb 21 23 03.1
comp=Z,14nm,0.9s
SNAA Sanae 59.12 161 ⇑P **P** **21 23 06.4 -0.1**
comp=Z,176nm,0.7s
SNAA Sanae 59.12 161 **P** **21 23 06.2 -0.3**
SNAA IAmb IAmb 21 23 07.7
comp=Z,11nm,0.9s
SNAA Sanae 59.12 161 P **P** **21 23 06.4 -0.1**
comp=Z,6.2nm,0.7s,baz=281,slow=8.3,SNR=59
SNAA PcP **PcP** **21 23 53.5 +0.2**
comp=Z,3.3nm,0.5s,baz=319,slow=6.4,SNR=4.8
comp=Z,6.2nm,0.7s
BIRD Birdtown, Kers 59.97 347 P **P** **21 23 13.1 +0.4**
833A Chaparral WMA, 60.82 327 P **P** **21 23 19.2 +0.7**
TROLL Troll, Antarti 60.83 160 ⇑P **P** **21 23 18.6 +0.3**
comp=Z,803nm,0.9s
SWET Sewanee 61.81 343 P **P** **21 23 24.9 -0.2**
WLAR White Oak Lake 62.73 336 **P** **21 23 32.1 +0.9**
JCT Junction City 62.81 329 P **P** **21 23 32.3 +0.5**
WHTX Lake Whitney, 63.01 331 P **P** **21 23 33.6 +0.5**
WHTX IAmb IAmb 21 23 34.4
comp=Z,16nm,0.8s
HPIG 63.04 321 P **P** **21 23 34.0 +0.4**
HPIG IAmb IAmb 21 23 35.9
comp=Z,21nm,1.4s
SLBS Sierra La Lagu 63.20 316 P **P** **21 23 35.6 +1.0**
SLBS IAmb IAmb 21 23 36.9
comp=Z,28nm,1.5s
WVT Waverly 63.20 341 P **P** **21 23 33.5 -0.8**
WVT Waverly 63.20 341 P **P** **21 23 33.7 -0.5**
WVT PcP **PcP** **21 24 09.6 -0.5**
MIAR Mount Ida 63.66 336 **P** **21 23 37.0 -0.3**
MIAR IAmb IAmb 21 23 38.4
comp=Z,13nm,0.7s
TXAR Lajitas Array 63.82 325 P **P** **21 23 39.2 +0.6**
TXAR Lajitas Array 63.82 325 P **P** **21 23 39.5 +0.9**
comp=Z,4.7nm,0.9s,baz=152,slow=8.2,SNR=27
comp=Z,4.7nm,0.9s
LOOK Love County 64.61 333 P **P** **21 23 44.0 +0.5**
SSPA Standing Stone 65.38 351 P **P** **21 23 48.6 +0.2**
SSPA IAmb IAmb 21 23 49.8
comp=Z,52nm,1.8s
FVM French Village 65.70 340 P **P** **21 23 49.8 -0.6**
QSPA South Pole Qui 65.88 180 P **P** **21 23 53.7 +2.2**
QSPA IAmb IAmb 21 23 54.7
comp=Z,20nm,0.7s
QSPA South Pole Qui 65.88 180 P **P** **21 23 53.7 +2.2**
comp=Z,18nm,0.5s,baz=182,slow=0.5,SNR=160
comp=Z,18nm,0.5s
QSPA South Pole Qui 65.88 180 P **P** **21 23 54.1 +2.6**
QSPA pP **pP** **21 24 37.0 +4.1**
WMOK Wichita Mounta 65.92 332 P **P** **21 23 51.8 -0.2**
CCM Cathedral Cave 66.02 339 P **P** **21 23 51.7 -0.8**
CCM IAmb IAmb 21 23 53.2
comp=Z,18nm,0.7s
BINY Binghamton 66.68 353 P **P** **21 23 56.9 +0.3**
BINY IAmb IAmb 21 23 58.9
comp=Z,25nm,1.0s
L56A Greenwood 66.81 352 P **P** **21 23 57.9 +0.4**
L56A IAmb IAmb 21 23 58.5
comp=Z,17nm,0.6s
HSIG 67.68 319 P **P** **21 24 04.2 +1.0**
HSIG IAmb IAmb 21 24 05.9
comp=Z,26nm,1.2s
DBIC Dimbokro 68.11 72 P **P** **21 24 04.8 -1.4**
DBIC IAmb IAmb 21 25 52.4
comp=Z,59nm,1.9s
DBIC Dimbokro 68.11 72 P **P** **21 24 04.7 -1.5**
comp=Z,6.6nm,0.6s,baz=266,slow=6.6,SNR=9.5
comp=Z,6.6nm,0.6s
319A Douglas 68.45 322 **P** **21 24 09.4 +1.3**
319A IAmb IAmb 21 24 10.9
comp=Z,20nm,0.7s
ANMO Albuquerque 69.69 326 P **P** **21 24 17.2 +1.4**
ANMO IAmb IAmb 21 24 18.4
comp=Z,17nm,1.0s
ANMO Albuquerque 69.69 326 P **P** **21 24 17.7 +1.9**
CBKS Cedar Bluff 69.80 333 **P** **21 24 16.9 +0.8**
JFWS Jewell Farm 70.19 342 **P** **21 24 18.0 -0.3**
JFWS IAmb IAmb 21 24 19.1
comp=Z,24nm,0.7s
T25A Trinidad 70.45 329 **P** **21 24 20.9 +0.6**
T25A IAmb IAmb 21 24 22.9
comp=Z,13nm,0.8s
PIX Pinacate 71.01 319 P **P** **21 24 24.7 +1.1**
PIX IAmb IAmb 21 24 26.3
comp=Z,15nm,0.9s
SDCO Great Sand Dun 71.45 329 P **P** **21 24 27.7 +1.2**
MVCO Mesa Verde 72.49 326 **P** **21 24 33.8 +1.1**
MVCO IAmb IAmb 21 24 35.3
comp=Z,16nm,0.9s
ECSD EROS Data Cent 72.90 338 P **P** **21 24 34.4 -0.2**
ECSD IAmb IAmb 21 24 35.7
comp=Z,26nm,1.3s
ISCO Idaho Springs 73.15 330 **P** **21 24 37.2 +0.7**
YUH Yuha Desert 73.25 319 **P** **21 24 37.4 +0.5**
SYO Syowa Base 73.33 159‖ *eP* **P** **21 24 37.2 +0.4**
SBA Scott Base 73.34 190 **P** **21 24 38.1 +1.3**
SBA Scott Base 73.34 190 P **P** **21 24 39.1 +2.3**
DRLN Deer Lake 73.76 7 P **P** **21 24 39.2 -0.3**
HMU Henry Mountain 74.19 326 **P** **21 24 43.8 +1.1**
HMU IAmb IAmb 21 24 45.8
comp=Z,24nm,1.3s
PFO Pinyon Flats O 74.25 319 P **P** **21 24 44.0 +1.2**
VNDA Vanda 74.35 190 P **P** **21 24 44.1 +1.5**
VNDA Vanda 74.35 190 P **P** **21 24 44.2 +1.5**
comp=Z,6.7nm,0.9s,baz=131,slow=4.7,SNR=34
comp=Z,6.7nm,0.9s
EYMN Ely 75.17 343 **P** **21 24 47.3 -0.4**
EYMN IAmb IAmb 21 24 48.3
comp=Z,14nm,1.0s
TBO Thunder Bay 75.30 345 **P** **21 24 48.4 0.0**
TBO IAmb IAmb 21 24 49.3
comp=Z,40nm,1.1s
SUR Sutherland 75.84 119 P **P** **21 24 52.5 +0.3**
RSSD Black Hills 76.00 334 P **P** **21 24 53.8 +1.0**
RSSD Black Hills 76.00 334 P **P** **21 24 54.1 +1.3**
GWY Greenwater Val 76.16 321 P **P** **21 24 55.1 +1.3**
GWY IAmb IAmb 21 24 56.4
comp=Z,14nm,0.9s
TPNV Topopah Spring 76.46 322 P **P** **21 24 56.0 +0.5**
TORD Torodi Ar. Bea 76.88 69 P **P** **21 24 56.4 -1.7**
TORD Torodi Ar. Bea 76.88 69 P **P** **21 24 56.4 -1.7**
comp=Z,7.2nm,0.6s,baz=260,slow=5.2,SNR=59
comp=Z,7.2nm,0.6s
DUG Dugway, Tooele 76.95 326 **P** **21 24 59.2 +1.1**
PD31 Pinedale Array 77.32 329 P **P** **21 25 00.7 +0.5**
PDAR Pinedale Array 77.32 329 P **P** **21 25 01.1 +1.0**
comp=Z,2.0nm,0.5s,baz=133,slow=7.8,SNR=32
comp=Z,2.0nm,0.5s
HWUT Hardware Ranch 77.38 328 **P** **21 25 01.3 +0.8**
HWUT IAmb IAmb 21 25 03.7
comp=Z,11nm,0.6s
TPH Tonopah 77.80 322 P **P** **21 25 04.0 +1.1**
AHID Auburn Hatcher 78.04 329 P **P** **21 25 04.7 +0.5**
AHID IAmb IAmb 21 25 06.4
comp=Z,22nm,0.8s
LOHW Long Hollow 78.45 329 **P** **21 25 07.3 +0.9**
ULM Lac du Bonnet 78.47 342 P **P** **21 25 06.1 +0.1**
comp=Z,9.3nm,0.5s,baz=152,slow=7.1,SNR=15
comp=Z,9.3nm,0.5s
ELK Elko 78.61 325 **P** **21 25 08.0 +0.6**
NVAR Mina Array Bea 78.66 321 P **P** **21 25 09.5 +1.9**
comp=Z,3.0nm,0.7s,baz=148,slow=5.7,SNR=14
comp=Z,3.0nm,0.7s
SCHQ Schefferville 78.83 0 P **P** **21 25 07.9 0.0**
comp=Z,38nm,0.6s,baz=218,slow=3.3,SNR=9.1
comp=Z,38nm,0.6s
LAO LASA Array 78.99 334 **P** **21 25 09.6 +0.5**
LAO IAmb IAmb 21 25 11.0
comp=Z,19nm,0.8s
YHH Holmes Hill 79.47 330 **P** **21 25 13.4 +1.4**
GRHM Grahamstown, E 79.89 122 P **P** **21 25 13.9 -0.5**
WELL Weller Preserv 80.06 320 P **P** **21 25 16.1 +1.1**
HLID Hailey 80.24 327 **P** **21 25 17.7 +1.7**
HLID IAmb IAmb 21 25 19.1
comp=Z,21nm,0.8s
MCMT McKenzie Canyo 80.43 329 **P** **21 25 18.2 +1.1**
CCD Concordia, Ant 80.58 183 P **P** **21 25 18.6 +0.8**
BOSA Boshof 80.78 117 P **P** **21 25 18.7 -0.7**
BOSA IAmb IAmb 21 26 49.5
comp=Z,54nm,2.0s
BOSA Boshof 80.78 117 P **P** **21 25 19.3 0.0**
comp=Z,3.7nm,0.5s,baz=264,slow=3.3,SNR=23
comp=Z,3.7nm,0.5s
MAW Mawson 81.19 163 P **P** **21 25 21.4 +0.9**
comp=Z,9.9nm,0.5s,baz=210,slow=6.1,SNR=25
comp=Z,9.9nm,0.5s
J08A Circle Bar Ran 82.16 325 **P** **21 25 27.1 +1.0**
J08A IAmb IAmb 21 25 28.6
comp=Z,17nm,0.7s
OVMT Ovando 82.17 330 P **P** **21 25 26.9 +0.8**
LBTB Lobatse 82.45 114 P **P** **21 25 27.8 -0.4**
LBTB IAmb IAmb 21 25 29.1
comp=Z,34nm,1.7s
BMO Blue Mountains 82.61 327 **P** **21 25 29.3 +0.9**
JTMT Jette 83.27 330 **P** **21 25 32.8 +1.1**
J05D Fort Rock, OR 83.58 324 P **P** **21 25 34.3 +0.8**
J05D IAmb IAmb 21 25 35.9
comp=Z,21nm,1.3s
RAR Rarotonga 83.71 250 P **P** **21 25 36.4 +1.9**
comp=Z,27nm,0.8s,baz=67,slow=11,SNR=2.2
comp=Z,27nm,0.8s
TAM Tamanrasset 84.73 62 P **P** **21 25 39.0 -0.8**
TAM IAmb IAmb 21 25 41.5
comp=Z,11nm,0.8s
NEW Newport 84.95 329 LR LR 22 10 41.7
comp=Z,25nm,18.0s,baz=160,slow=40
FCC Fort Churchill 85.72 346 P **P** **21 25 44.1 +0.6**
PAB San Pablo 86.46 44 P **P** **21 25 47.9 +0.1**
PAB IAmb IAmb 21 25 58.0
comp=Z,21nm,1.7s
ESDC Sonseca Array 86.78 44 P **P** **21 25 48.9 -0.4**
ESDC Sonseca Array 86.78 44 P **P** **21 25 48.6 -0.7**
comp=Z,1.3nm,0.9s,baz=235,slow=5.2,SNR=6.2
comp=Z,1.3nm,0.9s
DRV Dumont d'Urvil 86.98 191 P **P** **21 25 50.4 +0.5**
CASY Casey 89.67 179 P **P** **21 26 03.6 +1.1**
YKA Yellowknife Ar 94.35 340 P **P** **21 26 23.9 -0.1**
comp=Z,3.9nm,0.7s,baz=129,slow=4.7,SNR=8.4
comp=Z,3.9nm,0.7s
ILAR Eielson Array 107.45 334 PP **PP** **21 31 53.1 +0.7**
comp=Z,0.8nm,0.9s,baz=126,slow=5.2,SNR=5.8
STKA Stephens Creek 117.69 208 PKP **PKPdf** **21 31 50.3 -0.4**
comp=Z,1.2nm,0.7s,baz=332,slow=13,SNR=3.2
KBZ Khabaz 120.65 52 PKP **PKiKP** **21 31 56.3 +0.4**
comp=Z,2.9nm,0.9s,baz=267,slow=2.3,SNR=8.1
ASAR Alice Springs 128.07 205 PKPdf **PKPdf** **21 32 10.6 -0.2**
ASAR Alice Springs 128.07 205 PKP **PKPdf** **21 32 10.8 -0.1**
comp=Z,5.2nm,0.7s,baz=139,slow=1.8,SNR=42
ASAR PP **PP** **21 34 17.0 +2.4**
comp=Z,0.4nm,0.9s,baz=196,slow=18,SNR=4.2
AS31 Alice Springs 128.07 205 PKPdf **PKPdf** **21 32 09.9 -0.9**
ARTI Arti 129.49 36 PKPdf **PKPdf** **21 32 11.8 -0.5**
WRA Warramunga Arr 131.24 207 PKhKP PKPpre 21 32 04.3
comp=Z,0.5nm,0.7s,baz=117,slow=2.3,SNR=11
WRA PKP **PKPdf** **21 32 17.1 +0.2**
comp=Z,3.3nm,0.6s,baz=164,slow=1.6,SNR=5.7
WRA SKPbc **SKPbc** **21 35 25.9 -0.1**
comp=Z,1.6nm,0.8s,baz=156,slow=3.7,SNR=7.7
AB31 Akbulak array 132.11 45 PKPdf **PKPdf** **21 32 18.3 +0.7**
ABKAR Akbulak array 132.11 45 PKPdf **PKPdf** **21 32 18.1 +0.6**
PSA00 Pilbara Seismi 133.86 189 PKPdf **PKPdf** **21 32 20.4 -1.3**
PETK Petropavlovsk- 135.74 322 PKP **PKPdf** **21 32 24.8 +0.6**
comp=Z,4.7nm,0.8s,baz=71,slow=5.3,SNR=5.4
FITZ Fitzroy Crossi 136.01 198 PKP **PKPdf** **21 32 26.1 +0.3**
comp=Z,3.1nm,0.8s,baz=182,slow=5.7,SNR=6.6
BVAR Borovoye Array 137.18 37 PKP **PKPdf** **21 32 28.1 +1.2**
comp=Z,2.0nm,0.5s,baz=282,slow=2.5,SNR=13
KURBB Kurchatov Arra 142.76 36 PKhKP PKPpre 21 32 34.2
comp=Z,1.8nm,0.5s,baz=303,slow=2.8,SNR=12
KURBB SKP 21 35 55.5
comp=Z,0.3nm,0.3s,baz=300,slow=3.2,SNR=5.3
ZALV Zalesovo Beam 143.78 28 PKP PKPbc 21 32 37.2 +0.4
comp=Z,9.4nm,0.5s,baz=305,slow=4.0,SNR=56
ZALV SKPbc **SKPbc** **21 36 01.9 +0.3**
comp=Z,2.3nm,0.8s,baz=298,slow=3.2,SNR=6.1
BATI Baumata 144.07 198 PKP **PKPab** **21 32 38.5 +0.2**
comp=Z,25nm,0.6s,baz=220,slow=2.5,SNR=6.2
KSH Kashi 145.56 55 PKPbc **PKPdf** **21 32 43.0 +0.5**
KSH pPKP pPKPab 21 33 29.3 +1.1
TARG Taragay, Kyrgy 146.22 50 PKPdf **PKPdf** **21 32 44.5 +0.6**
MAKZ Makanchi 146.72 40 PKPdf **PKPdf** **21 32 44.4 +0.3**
MK31 Makanchi Array 146.91 40 PKPdf **PKPdf** **21 32 44.7 +0.3**
MKAR Makanchi Array 146.91 40 PKPdf **PKPdf** **21 32 44.9 +0.5**
MKAR **PKPbc** **21 32 47.1 +0.5**
MKAR Makanchi Array 146.91 40 PKPbc **PKPdf** **21 32 45.0 +0.6**
comp=Z,18nm,0.6s,baz=299,slow=1.7,SNR=141
MKAR SKPbc **SKiKP** **21 36 09.4 +0.2**
comp=Z,0.9nm,0.8s,baz=325,slow=2.3,SNR=3.9
FAKI Fak Fak 146.95 218 P **PKPbc** **21 32 49.0 +1.4**
GUMO Guam 147.89 256 PKPbc **PKPbc** **21 32 50.5 +0.4**
comp=Z,51nm,0.5s,baz=196,slow=9.1,SNR=6.8
ASAJ Asahikawa 148.66 316 PKPbc **PKPbc** **21 32 50.5 -0.8**
comp=Z,18nm,0.7s,baz=277,slow=10,SNR=11
JEM Erimo 149.26 312 P **PKPab** **21 33 00.2 +2.3**
HEH HeiHe 151.72 340 PKPbc **PKPbc** **21 32 58.5 +0.1**
WMQ Urumqi 151.73 40 *e*PKPbc **PKPdf** **21 32 52.4 +0.2**
WMQ LR LR
comp=N,340nm,12.7s
WMQ LR LR
comp=E,270nm,13.7s
WMQ LR LR
comp=Z,260nm,21.5s
BNX BinXian 155.58 335 ⇑P **PKPab** **21 33 24.9 +0.6**
BNX pmax pmax
comp=Z,12nm,0.8s
TOLI2 Tolitoli 155.66 200 P **PKPab** **21 33 24.6 -0.8**
SONM Songino Array 156.00 11 PKP **PKPdf** **21 32 58.7 +0.5**
comp=Z,1.0nm,0.8s,baz=199,slow=0.7,SNR=7.9
SONM PKPab **PKPab** **21 33 26.3 +0.1**
comp=Z,2.0nm,0.6s,baz=319,slow=3.5,SNR=8.2
GTA Gaotai 161.40 33 PKP **PKPdf** **21 33 05.8 +0.9**
GTA PKPab **PKPab** **21 33 49.8 -0.1**
KSRS Korea Array 161.58 319 PKP **PKPdf** **21 33 05.2 +0.3**
comp=Z,0.4nm,0.4s,baz=302,slow=37,SNR=5.2
KSRS PKPab **PKPab** **21 33 51.9 +1.2**
comp=Z,2.3nm,0.9s,baz=56,slow=4.1,SNR=5.5
HHC Hu-ho-hao-te 163.49 3 *eP* **PKPdf** **21 33 05.8 -1.1**
TIA Tai'an 167.57 343 PKP **PKPdf** **21 33 11.0 +0.8**
PZH PanZhiHua 169.80 75 PKP **PKPdf** **21 33 10.3 -1.8**
NJ2 Nanjing 170.62 326 *eP* **PKPdf** **21 33 11.1 -1.1**
NJ2 pmax pmax
comp=Z,11nm,0.5s

IDC 04 21:14:00.4 9.5, 23.42S 179.48W, h295km, 100km, mb3.5/3, mbtmp4.2/3, Error ellipse: s-maj=134.3km s-min=39.3km az=175.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.98**	**167**	P	Pn	21 15 29.2	+0.1

2µm,0.4s,baz=292,slow=14,SNR=6.3
STKA Stephens Creek 35.34 248 P P 21 20 27.7 -0.7
1.3nm,0.5s,baz=90,slow=10,SNR=6.6
1.3nm,0.5s
ASAR Alice Springs 42.59 260 P P 21 21 28.3 0.0
0.7nm,0.3s,baz=105,slow=8.3,SNR=20
0.7nm,0.3s
WRA Warramunga Arr 42.92 265 P P 21 21 31.0 +0.1
2.4nm,0.3s,baz=100,slow=7.0,SNR=17
2.4nm,0.3s
HFS Hagfors 142.17 349 PKP PKPdf 21 32 56.5 -0.6
1.0nm,0.4s,baz=47,slow=2.6,SNR=12

*IDC **04** 21:14:40.4±0.8, 10°.91N×122°.33E, h0km, mb3.9/14, mbtmp3.9/15, ML4.4/1, MS2.9/2, Error ellipse: s-maj=40.8km s-min=15.2km az=67.0*
*NEIC **04** 21:14:42.9±1.7, 11°.09N±0°.07×122°.6E±0°.1, h10km±1km, mb4.4/11, Error ellipse: s-maj=20.4km s-min=11.3km az=97.0*
ISC 04 21:14:46.2±0.7, 11°.02N±0°.08×122°.5E±0°.1, h39km, n32, σ0s82/32, mb4.1/20, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.43**	**333**	Pn	**Pn**	**21 15 36.5**	**-0.8**
	39nm,0.3s,baz=296,slow=10,SNR=1.7						
TGY				LR	LR	21 17 06.8	
	comp=Z,154nm,19.3s,baz=76,slow=42						
	113nm,0.4s						
MYLDM	**Lahad Datu**	**7.04**	**215**		**Pn**	**21 16 28.2**	**+1.5**
KKM	**Kota Kinabalu**	**7.96**	**232**	Pn	**Pn**	**21 16 40.6**	**+1.1**
TOLI2	**Tolitoli**	**10.00**	**190**	Pn	**Pn**	**21 17 08.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**23.95**	**291**	P	**P**	**21 19 56.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**23.95**	**291**	P	**P**	**21 19 55.8**	**-1.3**
	0.6nm,0.4s,baz=114,slow=7.6,SNR=5.0						
CMAR				LR	LR	21 29 47.8	
	comp=Z,26nm,18.0s,baz=170,slow=38						
	0.6nm,0.4s						
KSRS	**Korea Array**	**26.76**	**10**	P	**P**	**21 20 23.1**	**+0.8**
	1.2nm,0.9s,baz=178,slow=8.3,SNR=2.3						
	1.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**29.10**	**174**	P	**P**	**21 20 42.8**	**-0.6**
SHL	**Shillong**	**32.38**	**301**	P	**P**	**21 21 12.1**	**-0.5**
WB0	**Warramunga Arr**	**32.75**	**159**	P	**P**	**21 21 14.6**	**-1.1**
WB0				IAmb	IAmb	21 21 32.1	
	comp=Z,4.3nm,0.6s						
WRA	**Warramunga Arr**	**32.90**	**159**	P	**P**	**21 21 15.9**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=332,slow=11,SNR=4.6						
	comp=Z,0.8nm,0.7s						
WR8	**Warramunga Arr**	**32.97**	**159**	P	**P**	**21 21 16.6**	**-0.9**
WR8				IAmb	IAmb	21 21 31.3	
	comp=Z,10nm,1.4s						
AS31	**Alice Springs**	**36.23**	**162**	P	**P**	**21 21 45.2**	**-0.5**
ASAR	**Alice Springs**	**36.23**	**162**	P	**P**	**21 21 45.1**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=340,slow=6.8,SNR=16						
	comp=Z,0.8nm,0.3s						
SONM	**Songino Array**	**39.12**	**343**	P	**P**	**21 22 10.6**	**+0.6**
SONM				IAmb	IAmb	21 22 12.4	
	comp=Z,1.9nm,0.8s						
SONM	**Songino Array**	**39.12**	**343**	P	**P**	**21 22 10.7**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=162,slow=9.2,SNR=9.7						
	comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**46.40**	**157**	P	**P**	**21 23 08.4**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=12,slow=5.3,SNR=3.1						
	comp=Z,2.3nm,0.9s						
MKAR	**Makanchi Array**	**49.23**	**324**	P	**P**	**21 23 30.7**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=118,slow=7.0,SNR=3.8						
	comp=Z,0.7nm,0.9s						
NIL	**Nilore**	**50.27**	**305**	P	**P**	**21 23 38.6**	**-0.4**
NIL				IAmb	IAmb	21 23 41.5	
	comp=Z,5.1nm,0.7s						
ZALV	**Zalesovo Beam**	**52.24**	**333**	P	**P**	**21 23 51.8**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=140,slow=7.4,SNR=2.1						
	comp=Z,0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**53.39**	**327**	P	**P**	**21 24 02.0**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=130,slow=7.2,SNR=4.4						
	comp=Z,0.9nm,0.3s						
GAR	**Garm**	**53.99**	**310**	P	**P**	**21 24 06.2**	**-0.6**
GAR				IAmb	IAmb	21 24 08.9	
	comp=Z,6.0nm,0.6s						
CHGR	**Chuyangaron**	**54.77**	**310**	P	**P**	**21 24 12.7**	**+0.3**
KK31	**Karatay Array**	**55.11**	**315**	P	**P**	**21 24 14.9**	**+0.2**
KK31				IAmb	IAmb	21 24 17.3	
	comp=Z,1.7nm,0.8s						
KKAR	**Karatay Array**	**55.11**	**315**	P	**P**	**21 24 15.1**	**+0.4**
BVAR	**Borovoye Array**	**58.97**	**326**	P	**P**	**21 24 40.7**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=97,slow=10,SNR=3.2						
	comp=Z,0.4nm,0.5s						
AB31	**Akbulak array**	**63.91**	**320**	P	**P**	**21 25 15.4**	**+0.3**
AB31				IAmb	IAmb	21 25 42.6	
	comp=Z,1.3nm,1.0s						
ABKAR	**Akbulak array**	**63.91**	**320**	P	**P**	**21 25 15.3**	**+0.1**
ILAR	**Eielson Array**	**80.37**	**26**	P	**P**	**21 26 54.7**	**+1.3**
	comp=Z,0.4nm,0.9s,baz=274,slow=5.1,SNR=2.4						
	comp=Z,0.4nm,0.9s						
ARCES	**ARCESS Array B**	**82.20**	**339**	P	**P**	**21 27 03.4**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=42,slow=5.6,SNR=4.8						
	comp=Z,1.5nm,0.8s						
SPITS	**Spitsbergen Ar**	**82.56**	**348**	P	**P**	**21 27 05.3**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=46,slow=8.3,SNR=1.4						
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**83.47**	**331**	P	**P**	**21 27 09.7**	**0.0**
	comp=Z,3.0nm,1.0s,baz=90,slow=2.9,SNR=7.3						
	comp=Z,3.0nm,1.0s						

*IDC **04** 21:31:42.4±1.6, 34°.87N×138°.20E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=50.5km s-min=20.6km az=87.0*
*JMA **04** 21:31:44.6±0.2, 35°.6N±0°.5×140°.0E±0°.6, h54km±1km, MV3.0/40, CENTRAL CHIBA PREF*
ISC 04 21:31:44.4±1.0, 35°.52N±0°.05×139°.98E±0°.05, h61km±9km, n26, σ0s51/27, mb3.5/6, 6D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.24**	**314**	P	**Pn**	**21 31 54.1**	**-0.1**
JSMT	**Sammumatsuo**	**0.41**	**72**	P	**Pn**	**21 31 55.5**	**0.0**
JOD2	**Odawara 2**	**0.77**	**251**	⇓*i*P	**Pn**	**21 31 59.5**	**0.0**
JOD2				⇓S	**Sn**	**21 32 10.3**	**-0.4**
BSO3	**Boso 3**	**0.84**	**148**	P	**Pn**	**21 32 00.0**	**-0.1**
BSO3				*e*S	**Sn**	**21 32 12.9**	**+1.1**
JIM2	**Oshima 2**	**0.92**	**209**	P	**Pn**	**21 32 01.1**	**-0.4**
JIM2				S	**Sn**	**21 32 13.8**	**-0.2**
JAG	**Ashikaga**	**1.00**	**335**	P	**Pn**	**21 32 01.7**	**-0.8**
JRY	**Ryogami san**	**1.00**	**300**	P	**Pn**	**21 32 02.6**	**0.0**
JRY				*e*S	**Sn**	**21 32 16.0**	**0.0**
JYN	**Shimob**	**1.17**	**269**	⇓*i*P	**Pn**	**21 32 04.8**	**+0.1**
JYN				⇓*e*S	**Sn**	**21 32 19.2**	**-0.7**
BSO1	**Boso 1**	**1.19**	**136**	P	**Pn**	**21 32 03.9**	**-0.6**
BSO1				*e*S	**Sn**	**21 32 19.7**	**+0.1**
JIZS	**Izushimoda**	**1.20**	**229**	⇓*i*P	**Pn**	**21 32 05.3**	**+0.2**
JIZS				⇓S	**Sn**	**21 32 20.4**	**-0.2**
JKT	**Katashina**	**1.38**	**335**	*i*P	**Pn**	**21 32 06.7**	**-0.8**
MJAR	**Matsushiro Arr**	**1.76**	**306**	Pn	**Pn**	**21 32 12.5**	**-0.1**
	2.2nm,0.3s,baz=106,slow=13,SNR=58						
MJAR				Sn	**Sn**	**21 32 35.0**	**+1.1**
	1.9nm,0.3s,baz=148,slow=26,SNR=3.8						
MAJO	**Matsushiro**	**1.76**	**306**	P	**Pn**	**21 32 13.2**	**+0.6**
JHJ	**Hachijo jima 2**	**2.40**	**184**	Sn	**Sn**	**21 32 49.2**	**-0.4**
	baz=229,slow=19						
H11N2	**WAKE ISLAND Hy**	**28.45**	**116**	T	T	22 07 17.5	
	baz=308,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**28.45**	**116**	T	T	22 07 23.5	
	baz=308,slow=75,SNR=3.8						
H11N3	**WAKE ISLAND Hy**	**28.46**	**116**	T	T	22 07 26.4	
	baz=308,slow=75,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**29.09**	**119**	T	T	22 07 46.5	
	baz=311						
H11S1	**WAKE ISLAND Hy**	**29.09**	**119**	T	T	22 07 30.4	
	baz=311						
H11S2	**WAKE ISLAND Hy**	**29.10**	**119**	T	T	22 07 38.5	
	baz=311						
ZALV	**Zalesovo Beam**	**42.10**	**314**	P	**P**	**21 39 30.3**	**+0.2**
	0.4nm,0.4s,baz=100,slow=8.4,SNR=2.4						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**43.96**	**303**	P	**P**	**21 39 44.8**	**-0.5**
	0.4nm,0.7s,baz=83,slow=13,SNR=4.2						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**46.03**	**309**	P	**P**	**21 40 02.0**	**+0.3**
	1.2nm,0.5s,baz=85,slow=7.9,SNR=11						
	1.2nm,0.5s						
BVAR	**Borovoye Array**	**50.74**	**313**	P	**P**	**21 40 38.4**	**+0.5**
	0.2nm,0.4s,baz=76,slow=6.1,SNR=2.6						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**55.41**	**186**	P	**P**	**21 41 12.8**	**+0.2**
	0.2nm,0.5s,baz=1.7,slow=7.7,SNR=9.6						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**65.00**	**339**	P	P	21 42 24.8	+7.3
	1.1nm,0.7s,baz=38,slow=1.9,SNR=6.5						
	1.1nm,0.7s						

*IDC **04** 21:46:45.7±1.6, 4°.93N×82°.34W, h0km, mb3.7/3, mbtmp3.7/3, MS3.3/12, Error ellipse: s-maj=295.8km s-min=27.4km az=56.0*
*RSNC **04** 21:46:48.2±0.4, 5°.N±2°×8°2W±°, h0km, M4.1, mB4.9, mb4.5, ML3.5, MLv4.2, Mw(mB)4.2*
*UCR **04** 21:46:50.9±0.7, 5°.18N×82°.78W, h17km±999km, MW3.6*
*UPA **04** 21:47:39.3±0.6, 9°.04N×82°.55W, h7km, MW2.8*
ISC 04 21:46:44.8±0.9, 4°.65N±0°.05×82°.63W±0°.06, h10km, n74, σ2s47/81, mb3.9/3, MS3.3/10, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPC	**Malpelo**	**1.20**	**122**	P	**Pn**	**21 47 05.4**	**-2.3**
MAPC				S	**Sb**	**21 47 18.9**	**-4.5**
PIRO	**Carate, Puerto**	**3.79**	**349**	*e*P	**Pn**	**21 47 40.1**	**-3.3**
BRNON	**Bren.**	**3.96**	**357**	*e*P	**Pn**	**21 47 43.5**	**-2.2**
BANCO	**falda S V. Bar**	**4.04**	**1**	*e*P	**Pn**	**21 47 44.8**	**-2.2**
CLLRA	**Cordillera,**	**4.07**	**0**	*e*P	**Pn**	**21 47 45.2**	**-2.1**
BQTLY	**Boquete Panama**	**4.08**	**2**	*e*P	**Pn**	**21 47 46.0**	**-1.5**
BQTLY	**Boquete Panama**	**4.08**	**2**	*e*P	**Pn**	**21 47 45.7**	**-1.9**
BRU2	**Volcan**	**4.12**	**359**	*e*P	**Pn**	**21 47 46.1**	**-1.9**
BRU2	**Volcan**	**4.12**	**359**	*e*P	**Pn**	**21 47 45.5**	**-2.5**
RBALA	**Bur**	**4.23**	**6**	*e*P	**Pn**	**21 47 48.2**	**-1.2**
RBALA	**Bur**	**4.23**	**6**	*e*P	**Pn**	**21 47 48.0**	**-1.4**
EDPE	**Pejibaye, P**	**4.58**	**348**	*e*P	**Pn**	**21 47 51.8**	**-2.4**
DRK0	**Durika**	**4.62**	**352**	*e*P	**Pn**	**21 47 52.9**	**-2.1**
GR1C	**Gorgona, Isla**	**4.74**	**110**	P	**Pn**	**21 47 55.8**	**-0.6**
GR1C				S	**Sn**	**21 48 47.8**	**-3.7**
SAJE	**San Jernim**	**4.75**	**349**	*e*P	**Pn**	**21 47 54.4**	**-2.3**
BUS1	**Rivas**	**5.00**	**347**	*e*P	**Pn**	**21 47 57.6**	**-2.7**
LAES	**El Progreso Va**	**5.10**	**355**	*e*P	**Pn**	**21 48 00.4**	**-0.9**
PIEC	**Cerro El Cedra**	**5.11**	**345**	*e*P	**Pn**	**21 47 59.8**	**-2.0**
PAR1A	**Puntarenas Pro**	**5.17**	**342**	*e*P	**Pn**	**21 48 00.1**	**-2.2**
BCIP	**Isla Barro Col**	**5.27**	**32**	*e*P	**Pn**	**21 48 04.2**	**+0.5**
BCIP	**Isla Barro Col**	**5.27**	**32**	P	**Pn**	**21 48 03.7**	**0.0**
	0.1nm26nm,1.2s						
BCIP				S	**Sn**	**21 49 01.0**	**-3.6**
	0.1nm26nm,1.2s						
PTAC	**Punta Ardita,**	**5.40**	**62**	P	**Pn**	**21 48 05.9**	**+0.5**
	0.7nm3µm98nm,0.5s						
PTAC				S	**Sn**	**21 49 03.2**	**-4.5**
	0.7nm3µm98nm,0.5s						
VTCV	**VTCV, Calle Va**	**5.41**	**348**	*e*P	**Pn**	**21 48 04.3**	**-1.5**
ABRB	**Las Abras (San**	**5.43**	**349**	*e*P	**Pn**	**21 48 04.8**	**-1.4**
CVTP	**Tajo**	**5.43**	**348**	*e*P	**Pn**	**21 48 05.4**	**-0.9**
CVTR	**Volcan Turrial**	**5.45**	**348**	*e*P	**Pn**	**21 48 05.2**	**-1.4**
PAC1	**Pacto, Paraso**	**5.80**	**139**	P	**Pn**	**21 48 11.9**	**+0.8**
PAC1				S	**Sn**	**21 49 18.2**	**+0.3**
BBAC	**Balboa, Cauca**	**5.97**	**116**	P	**Pn**	**21 48 14.4**	**+0.8**
	21nm,0.5s						
BBAC				S	**Sn**	**21 49 17.5**	**-4.7**
	21nm,0.5s						
CUSE	**Cuicocha Este**	**6.04**	**136**	P	**Pn**	**21 48 16.2**	**+1.5**
CUSE				S	**Sn**	**21 49 25.1**	**+1.0**
JTS	**Las Juntas de**	**6.06**	**338**	*e*P	**Pn**	**21 48 12.3**	**-2.3**
JTS	**Las Juntas de**	**6.06**	**338**	P	**Pn**	**21 48 12.1**	**-2.5**
JAMC	**Jamundi, Valle**	**6.11**	**103**	P	**Pn**	**21 48 16.4**	**+1.0**
	17nm,0.6s						
JAMC				S	**Sn**	**21 49 18.9**	**-6.7**
	17nm,0.6s						
JUD3	**Juan Diaz 3**	**6.19**	**332**	*e*P	**Pn**	**21 48 14.6**	**-1.9**
GCUF	**Volcan Galeras**	**6.28**	**123**	P	**Pn**	**21 48 21.1**	**+3.1**
	621nm43nm,0.6s						
GCUF				S	**Sn**	**21 49 28.8**	**-1.3**
	621nm43nm,0.6s						
POPC	**Popayan, Colom**	**6.30**	**109**	P	**Pn**	**21 48 20.1**	**+2.0**
	182nm11nm,0.8s						
POPC				S	**Sn**	**21 49 25.5**	**-4.8**
	182nm11nm,0.8s						
YOTC	**Yotoco, Valle**	**6.30**	**96**	P	**Pn**	**21 48 20.0**	**+2.0**
	678nm27nm,0.8s						
YOTC				S	**Sn**	**21 49 27.6**	**-2.5**
	678nm27nm,0.8s						
PPLP	**Puerto Lpez**	**6.43**	**163**	P	**Pn**	**21 48 19.2**	**-0.5**
	2µm70nm,0.4s						
PPLP				S	**Sn**	**21 49 32.4**	**-0.8**
	2µm70nm,0.4s						
CAPC	**Capurgana**	**6.57**	**53**	P	**Pn**	**21 48 24.1**	**+2.6**
CAPC				S	**Sn**	**21 49 36.4**	**-0.1**
CBOC	**Ciudad Bolivar**	**6.70**	**79**	P	**Pn**	**21 48 25.2**	**+1.7**
	10nm,0.8s						
CBOC				S	**Sn**	**21 49 38.5**	**-1.5**
	10nm,0.8s						
APAC	**Apartado, Choc**	**6.82**	**61**	P	**Pn**	**21 48 29.0**	**+4.0**
	1µm99nm,0.7s						
APAC				S	**Sn**	**21 49 42.5**	**-0.3**
	1µm99nm,0.7s						
ANIL	**Santa Ana**	**7.20**	**91**	P	**Pn**	**21 48 33.3**	**+2.8**
ANIL				S	**Sn**	**21 49 55.3**	**+2.7**
GUY2C	**Guyana, Caldas**	**7.26**	**85**	P	**Pn**	**21 48 34.1**	**+2.6**
	346nm38nm,0.7s						
GUY2C				S	**Sn**	**21 49 54.7**	**+0.5**
	346nm38nm,0.7s						
ORTC	**Ortega, Tolima**	**7.40**	**95**	P	**Pn**	**21 48 37.0**	**+4.0**
	577nm45nm,1.0s						
ORTC				S	**Sn**	**21 49 54.7**	**-2.4**
	577nm45nm,1.0s						
BETC	**Betania**	**7.43**	**105**	P	**Pn**	**21 48 37.2**	**+3.7**
BETC				S	**Sn**	**21 50 00.0**	**+2.0**
LCBC	**Los crdobas,**	**7.49**	**56**	P	Pn	21 48 39.9	+5.7
GARC	**Garzon, Huila**	**7.53**	**109**	P	**Pn**	**21 48 37.7**	**+2.7**
GARC				S	**Sn**	**21 50 02.8**	**+2.2**
FLOC	**Florencia**	**7.60**	**113**	P	**Pn**	**21 48 37.8**	**+2.0**
FLOC				S	**Sn**	**21 50 02.3**	**+0.2**
PRAC	**Prado**	**7.78**	**97**	P	**Pn**	**21 48 42.2**	**+4.0**
	22nm,1.2s						
PRAC				S	**Sn**	**21 50 08.1**	**+1.7**
	22nm,1.2s						
NORC	**Norcasia**	**7.78**	**83**	P	**Pn**	**21 48 41.6**	**+3.3**
	431nm44nm,0.8s						
NORC				S	**Sn**	**21 50 06.9**	**+0.4**
	431nm44nm,0.8s						
COHC	**Cochancay**	**7.83**	**154**	P	**Pn**	**21 48 38.7**	**-0.2**
	15nm,0.5s						
PTBC	**PUERTO BERRIO,**	**8.34**	**77**	P	**Pn**	**21 48 50.2**	**+4.2**
	112nm7.8nm,0.7s						
URMC	**La Uribe, Meta**	**8.35**	**99**	P	**Pn**	**21 48 49.0**	**+2.9**
	15nm,0.7s						
URMC				S	**Sn**	**21 50 19.7**	**-0.8**
	15nm,0.7s						
MACC	**Macarena, Meta**	**9.11**	**106**	P	**Pn**	**21 48 58.8**	**+2.3**
	23nm,0.7s						
CRJC	**Cerrejon, Guaj**	**11.54**	**56**	P	**Pn**	**21 49 29.7**	**-0.2**
ATAH	**Atahualpa**	**12.45**	**160**	LR	LR	21 54 14.0	
	comp=Z,386nm,19.6s,baz=339,slow=36						
CMIG	**Matias Romero**	**17.24**	**317**	LR	LR	21 56 11.2	
	comp=Z,102nm,21.5s,baz=142,slow=33						
SJG	**San Juan**	**20.94**	**49**	LR	LR	21 58 49.2	
	comp=Z,39nm,21.2s,baz=176,slow=35						
LPAZ	**La Paz**	**25.27**	**146**	P	**P**	**21 52 15.1**	**+2.9**
	1.8nm,0.6s,baz=332,slow=7.2,SNR=5.0						
LPAZ				LR	LR	22 03 43.9	
	comp=Z,97nm,19.7s,baz=298,slow=40						
	1.8nm,0.6s						
SIV	**San Ignacio**	**29.59**	**134**	LR	LR	22 04 55.4	
	comp=Z,188nm,18.7s,baz=340,slow=37						
H06E1	**SOCORRO T-PHAS**	**30.99**	**299**	T	T	22 25 43.4	
	SNR=8.7						
LPIG	**La Paz**	**32.93**	**309**	LR	LR	22 03 33.2	
	comp=Z,55nm,22.0s,baz=159,slow=30						
H03N2	**Juan Fernandez**	**38.04**	**175**	T	T	22 34 31.4	
	baz=353,slow=76,SNR=3.8						
H03N1	**Juan Fernandez**	**38.05**	**175**	T	T	22 34 27.0	
	baz=353,slow=76,SNR=4.0						
H03N3	**Juan Fernandez**	**38.06**	**175**	T	T	22 34 26.9	
	baz=353,slow=76,SNR=4.2						
CPUP	**Villa Florida**	**39.36**	**143**	LR	LR	22 11 02.1	
	comp=Z,18nm,19.1s,baz=202,slow=37						
RPN	**Rapa Nui**	**40.80**	**218**	LR	LR	22 06 53.2	
	comp=Z,64nm,21.7s,baz=186,slow=29						
PFO	**Pinyon Flats O**	**42.66**	**317**	LR	LR	22 10 14.5	
	comp=Z,50nm,18.5s,baz=109,slow=33						
PDAR	**Pinedale Array**	**44.86**	**332**	P	**P**	**21 55 01.2**	**+1.5**
	0.3nm,0.8s,baz=135,slow=9.1,SNR=2.6						
PDAR				LR	LR	22 14 36.5	
	comp=Z,18nm,19.1s,baz=140,slow=37						
	0.3nm,0.8s						
NVAR	**Mina Array Bea**	**46.70**	**321**	P	**P**	**21 55 16.4**	**+2.0**
	2.6nm,1.0s,baz=144,slow=5.3,SNR=6.2						
NVAR				LR	LR	22 14 58.6	
	comp=Z,55nm,18.4s,baz=98,slow=36						
	2.6nm,1.0s						
NOA	**NORSAR Array B**	**87.83**	**29**	LR	LR	22 34 32.3	
	comp=Z,6.2nm,21.3s,baz=245,slow=33						
H11N3	**WAKE ISLAND Hy**	**107.53**	**292**	T	T	00 01 18.4	
	baz=79,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy**	**107.55**	**292**	T	T	00 01 19.2	
	baz=79,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**107.55**	**292**	T	T	00 01 19.8	
	baz=79,slow=75,SNR=12						
WRA	**Warramunga Arr**	**140.94**	**244**	PKP	**PKiKP**	**22 06 19.6**	**+0.7**
	0.4nm,0.8s,baz=101,slow=1.9,SNR=1.9						

HEL 04 21:59:33.8±0.2, 67°.19N×20°.60E, h0km, ML1.4, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALU	**Saltoluokta**	**0.83**	**284**	*e*P	**Pg**	**21 59 49.5**	**-0.3**
ERTU	**Ertsjaerv**	**0.90**	**135**	PG	**Pg**	**21 59 49.4**	**-1.6**
ERTU				SG	**Sg**	**22 00 01.4**	**-1.2**
PAJU	**Pajala**	**1.00**	**99**	PG	**Pg**	**21 59 51.5**	**-1.4**
	baz=283						
PAJU				SG	**Sg**	**22 00 04.4**	**-1.5**
LANU	**Lannavaara**	**1.01**	**31**	PG	**Pg**	**21 59 51.9**	**-1.2**
LANU				SB	**Sg**	**22 00 05.7**	**-0.6**
HEF	**Hetta**	**1.69**	**42**	*e*P	**Pn**	**22 00 02.8**	**-1.7**
HEF	**Hetta**	**1.69**	**42**	PG	**Pn**	**22 00 03.9**	**-0.6**
HEF				MSG		**22 00 24.1**	
	comp=Z,2.7nm,0.2s						
HEF				SG	**Sn**	**22 00 25.5**	**-1.3**
KALU	**Kalix**	**1.74**	**139**	PG	**Pn**	**22 00 04.8**	**-0.3**
KALU				SG	**Sn**	**22 00 27.8**	**-0.1**
KIF	**Kilpisjarvi**	**1.82**	**2**	PG	**Pn**	**22 00 06.9**	**+0.6**
	baz=186						
KIF				MSG		**22 00 29.3**	
	comp=Z,4.3nm,0.2s						
TOF	**Tornio**	**1.86**	**125**	PB	**Pn**	**22 00 06.6**	**-0.3**
TOF				MSG		**22 00 29.3**	
	comp=Z,1.6nm,0.2s						
TOF				SB	**Sn**	**22 00 30.6**	**-0.3**
KTK1	**Kautokeino**	**2.08**	**27**	PG	**Pb**	**22 00 11.2**	**-1.2**
KTK1				SG	**Sb**	**22 00 38.6**	**-0.1**
RANF	**Ranua**	**2.74**	**113**	SB	**Sb**	**22 00 56.4**	**-1.3**
ARA0	**ARCESS Array S**	**2.97**	**35**	SN	**Sn**	**22 00 59.2**	**+0.8**
OBF4	**Vikkela, Lumij**	**3.02**	**140**	MSG		**22 01 02.4**	
	comp=Z,0.7nm,0.2s						
OUL	**Oulu**	**3.02**	**132**	SN	**Sn**	**22 00 57.5**	**-2.1**
OBF0	**Syolatti, Pyha**	**3.09**	**149**	PG	**Pb**	**22 00 28.6**	**-0.9**
OBF0				MSG		**22 01 04.8**	
	comp=Z,0.8nm,0.2s						
OUF	**Merijarvi**	**3.31**	**147**	PB	**Pb**	**22 00 31.0**	**-2.3**
UMAU	**Umeaa**	**3.33**	**179**	PG	**Pb**	**22 00 34.6**	**+1.0**
KEV	**Kevo**	**3.49**	**40**	SN	**Sn**	**22 01 10.5**	**-0.7**

HEL 04 22:00:03.3±0.0, 63°.97N×22°.87E, h0km, ML1.6, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBF8	**Ulkokalla**	**0.44**	**34**	*e*P	**Pg**	**22 00 11.3**	**-0.5**
OBF8				*e*S	**Sg**	**22 00 16.5**	**-1.0**
OBF0	**Syolatti, Pyha**	**0.80**	**48**	*e*P	**Pg**	**22 00 17.4**	**-1.2**
OUF	**Merijarvi**	**0.91**	**63**	*e*P	**Pg**	**22 00 19.5**	**-1.2**
OUF				*e*S	**Sg**	**22 00 31.9**	**-0.5**
UMAU	**Umeaa**	**0.97**	**266**	*e*P	**Pg**	**22 00 20.9**	**-1.1**
OBF4	**Vikkela, Lumij**	**1.29**	**48**	*e*P	**Pg**	**22 00 26.3**	**-1.7**
OBF4				*e*SB	**Sg**	**22 00 43.4**	**-1.3**
OUL	**Oulu**	**1.72**	**48**	*e*PG	**Pn**	**22 00 34.2**	**-0.3**
OUL				MSG		**22 00 59.9**	
	comp=Z,4.0nm,0.1s						
HUSU	**Husum**	**1.75**	**251**	PN	**Pn**	**22 00 34.6**	**-0.2**
HUSU	**Husum**	**1.75**	**251**	*e*PG	**Pn**	**22 00 34.6**	**-0.2**
HUSU				*e*SN	**Sn**	**22 00 58.0**	**+0.2**
HUSU				MSG		**22 01 01.6**	
	comp=Z,3.6nm,0.2s						
KALU	**Kalix**	**1.91**	**6**	*e*PN	**Pn**	**22 00 37.1**	**0.0**
KALU				*e*SG	**Sn**	**22 01 02.1**	**+0.3**
KALU				MSG		**22 01 04.3**	
	comp=Z,6.1nm,0.2s						
SUF	**Sumiainen**	**1.94**	**129**	*e*PG	**Pn**	**22 00 37.9**	**+0.5**
SUF				*e*SG	**Sb**	**22 01 03.4**	**-0.6**
SUF				MSG		**22 01 07.0**	
	comp=Z,3.2nm,0.1s						
KEF	**Keu

PB06 IAML 22 04 50.9
comp=Z,620nm,0.2s
ALOL LOMAS DE OLMED 2.94 82 *eP* **Pn 22 04 16.6 +0.4**
ALOL *eS* **Sn 22 04 50.7 -2.9**
PB14 IPOC Station P 2.98 262 **Pn 22 04 17.2 +0.3**
PB14 IPOC Station P 2.98 262‖ *eP* **Pn 22 04 17.2 +0.3**
PB14 *eS* **Sn 22 04 53.1 -1.8**
PB14 IPOC Station P 2.98 262 *eP* **Pn 22 04 17.2 +0.3**
PB14 *eS* **Sn 22 04 53.7 -1.2**
PB14 IAML 22 04 57.2
comp=Z,155nm,0.3s
PB09 IPOC Station P 3.09 321 **Pn 22 04 19.5 +1.2**
PB09 IPOC Station P 3.09 321‖ *eP* **Pn 22 04 19.5 +1.2**
PB09 *eS* **Sn 22 04 57.7 +0.4**
PB09 IAML 22 04 59.3
comp=N,348nm,0.5s
PB09 IPOC Station P 3.09 321 *eP* **Pn 22 04 19.4 +1.2**
PB09 *eS* **Sn 22 04 57.8 +0.4**
PB09 IAML 22 04 57.9
comp=Z,278nm,0.5s
PB05 IPOC Station P 3.11 296 **Pn 22 04 18.9 +0.4**
PB05 IPOC Station P 3.11 296 *eS* **Sn 22 04 55.6 -1.9**
PB05 IAML 22 05 02.0
comp=E,400nm,0.4s
PB05 IPOC Station P 3.11 296 *eP* **Pn 22 04 18.7 +0.3**
PB05 *eS* **Sn 22 04 56.3 -1.2**
PB05 IAML 22 04 58.2
comp=Z,294nm,0.5s
AC02 Maricunga 3.14 214 **Pn 22 04 20.1 +1.1**
AC02 Maricunga 3.14 214‖ *eP* **Pn 22 04 20.2 +1.1**
AC02 *eS* **Sn 22 05 00.5 +1.7**
AC02 Maricunga 3.14 214 *eP* **Pn 22 04 20.1 +1.1**
AC02 *eS* **Sn 22 04 56.0 -2.8**
PB10 IPOC Station P 3.19 282 **Pn 22 04 19.9 +0.7**
PB10 IPOC Station P 3.19 282‖ *eP* **Pn 22 04 19.9 +0.7**
PB10 *eS* **Sn 22 04 57.3 -1.6**
PB10 IAML 22 05 02.3
comp=E,330nm,0.4s
PB10 IPOC Station P 3.19 282 *eP* **Pn 22 04 19.9 +0.7**
PB10 *eS* **Sn 22 04 57.8 -1.2**
PB10 IAML 22 05 02.5
comp=Z,278nm,0.4s
PB03 IPOC Station P 3.23 312 **Pn 22 04 20.4 +0.5**
AC01 Pan de Azucar 3.65 238 **Pn 22 04 24.3 -0.6**
AC01 Pan de Azucar 3.65 238‖ *eP* **Pn 22 04 24.2 -0.6**
AC01 *eS* **Sn 22 05 07.3 -2.0**
AC01 Pan de Azucar 3.65 238 *eP* **Pn 22 04 24.3 -0.6**
AC01 *eS* **Sn 22 05 07.8 -1.5**
PB01 IPOC Station P 3.83 326 **Pn 22 04 27.2 -0.2**
PB01 IPOC Station P 3.83 326‖ *eP* **Pn 22 04 27.3 -0.1**
PB01 *eS* **Sn 22 05 12.7 -1.0**
PB01 IPOC Station P 3.83 326 *eP* **Pn 22 04 27.4 -0.1**
PB01 *eS* **Sn 22 05 13.0 -0.8**
PB01 IAML 22 05 14.3
comp=Z,112nm,0.4s
PB02 IPOC Station P 3.84 319 **Pn 22 04 27.4 -0.2**
PB02 IPOC Station P 3.84 319 *eP* **Pn 22 04 27.6 0.0**
PB02 *eS* **Sn 22 05 12.7 -1.3**
PB02 IAML 22 05 17.6
comp=Z,424nm,0.4s
AC06 Mina Casimiro 4.23 222 **Pn 22 04 31.5 -0.8**
GO03 Copiapo 4.34 219 **Pn 22 04 32.7 -0.9**
GO03 Copiapo 4.34 219‖ *eP* **Pn 22 04 32.8 -0.9**
GO03 *eS* **Sn 22 05 23.6 -1.5**
GO03 Copiapo 4.34 219 *eP* **Pn 22 04 33.0 -0.7**
GO03 *eS* **Sn 22 05 23.3 -1.8**
GO03 IAML 22 05 26.4
comp=Z,133nm,0.7s
CYA Choya 4.36 164 *eP* **Pn 22 04 34.6 +0.6**
CYA *eS* **Sn 22 05 26.3 +0.6**
PATCX Punta Patache 4.38 320 **Pn 22 04 33.9 -0.5**
PATCX Punta Patache 4.38 320 *eP* **Pn 22 04 34.2 -0.2**
PATCX *eS* **Sn 22 05 26.3 +0.1**
PATCX IAML 22 05 35.0
comp=Z,101nm,0.3s
PATCX *eS* 22 05 35.1
PB08 IPOC Station P 4.47 335 **Pn 22 04 36.6 +0.7**
PB08 IPOC Station P 4.47 335 *eP* **Pn 22 04 36.5 +0.7**
PB08 *eS* **Sn 22 05 28.6 -0.2**
PB08 IAML 22 05 34.6
comp=Z,41nm,0.3s
TA01 Diego Aracena 4.60 322 **Pn 22 04 36.6 -0.4**
TA01 Diego Aracena 4.60 322 *eS* **Sn 22 05 29.4 -1.6**
TA01 IAML 22 05 55.5
comp=Z,61nm,0.6s
HMBC Humberstone 4.68 327 *eP* **Pn 22 04 37.0 -1.2**
HMBC *eS* **Sn 22 05 31.7 -1.4**
HMBC IAML 22 05 38.2
comp=Z,107nm,0.4s
GO01 Chusmiza 4.92 337 **Pn 22 04 41.6 -0.1**
PB11 IPOC Station P 5.02 332 **Pn 22 04 41.6 -1.0**
AC10 CERRO LA CRUZ 5.17 178 *eP* **Pn 22 04 44.8 +0.2**
AC04 Llanos de Chal 5.29 221 **Pn 22 04 44.1 -1.7**
AC04 Llanos de Chal 5.29 221 *eP* **Pn 22 04 44.2 -1.7**
AC04 IAML 22 05 47.0
comp=Z,66nm,0.5s
LCO Las Campanas 5.71 213 **Pn 22 04 50.1 -1.6**
PB16 IPOC Station P 6.27 339 **Pn 22 04 58.8 -0.6**
CO01 Juntas del Tor 6.28 204 Pn **Pn 22 04 58.5 -0.7**
GO04 Tololo Observa 6.74 208 **Pn 22 05 03.0 -2.1**
CFA Coronel Fontan 7.40 187 P **Pn 22 05 12.8 -0.8**
comp=Z,1.4nm,0.3s,baz=330,slow=10,SNR=23
CFA S **Sn 22 06 30.9 -6.1**
comp=Z,2.8nm,0.2s,baz=273,slow=23,SNR=9.5
CO06 Fray Jorge 7.54 211 Pn **Pn 22 05 13.1 -2.3**
LPAZ La Paz 7.96 353 P **Pn 22 05 21.9 +0.2**
comp=Z,5.4nm,0.4s,baz=154,slow=7.5,SNR=13
LPAZ S **Sn 22 06 49.9 -1.5**
comp=Z,4.7nm,0.7s,baz=337,slow=20,SNR=6.2
SIV San Ignacio 10.00 36 P **Pn 22 05 45.0 -2.8**
comp=Z,4.1nm,0.6s,baz=210,slow=13,SNR=22
SIV S Sn 22 07 28.0 -11
comp=Z,1.3nm,0.6s,baz=221,slow=19,SNR=2.3
TRCB Terra Rica 13.41 87 P **P 22 06 34.8 +0.1**
TRCB Terra Rica 13.41 87 *eP* **P 22 06 35.1 +0.3**
PDRB Porto dos Gac 15.99 40 *eP* **P 22 07 02.1 -1.3**
PLCA Paso Flores 16.69 189 P **Pn 22 07 12.9 +1.2**
PLCA IAmb IAmb 22 07 25.4
comp=Z,9.8nm,1.3s
PLCA Paso Flores 16.69 189 P **Pn 22 07 13.2 +1.5**
comp=Z,1.2nm,0.7s,baz=15,slow=11,SNR=7.7
ARAG Araguaiana, MT 16.73 62 *eP* **Pn 22 07 12.5 +0.2**
CLDB Colider 17.13 41 *eP* **P 22 07 15.0 -0.9**
LL01 San Ignacio de 18.61 192 P **Pn 22 07 34.9 +0.7**
IPMB Ipameri, GO 18.74 74 *eP* **P 22 07 33.5 0.0**
LL02 Futaleuf 19.30 190 **Pn 22 07 42.1 -0.2**
LL02 IAmb IAmb 22 07 43.7
comp=Z,10nm,0.7s
SNDB Serra Nova Dou 19.37 54 *eP* **P 22 07 39.1 -1.2**
BDFB Brasilia 19.91 68 P **P 22 07 45.6 -0.7**
BDFB IAmb IAmb 22 07 46.8
comp=Z,15nm,1.0s
BDFB Brasilia 19.91 68 P **P 22 07 45.3 -1.0**
comp=Z,9.8nm,0.6s,baz=238,slow=12,SNR=14
JANB Januaria 23.35 71 *eP* **P 22 08 18.8 -1.8**
SDBA SAO DESIDERIO 24.14 65 *eP* **P 22 08 26.4 -1.4**
USHA Ushuaia 30.57 181 P P 22 09 31.8 +7.2
comp=Z,170nm,0.9s,baz=161,slow=0.7,SNR=8.0
SNAA Sanae 59.18 161 P **P 22 13 10.2 +0.5**
SNAA IAmb IAmb 22 13 46.8
comp=Z,4.6nm,1.5s
SNAA Sanae 59.18 161 P **P 22 13 10.7 +1.0**
comp=Z,0.8nm,0.5s,baz=272,slow=9.4,SNR=14
comp=Z,0.8nm,0.5s
QSPA South Pole Qui 65.97 180 P **P 22 13 57.7 +2.9**
QSPA IAmb IAmb 22 13 58.3
comp=Z,1.8nm,0.6s
QSPA South Pole Qui 65.97 180 P **P 22 13 57.9 +3.1**
comp=Z,1.3nm,0.5s,baz=243,slow=0.8,SNR=13
comp=Z,1.3nm,0.5s
TORD Torodi Ar. Bea 76.79 69 P **P 22 15 00.5 +0.2**
TORD Torodi Ar. Bea 76.79 69 P **P 22 15 00.0 -0.3**
comp=Z,0.9nm,0.8s,baz=269,slow=5.9,SNR=14
comp=Z,0.9nm,0.8s
WRA Warramunga Arr 131.35 207 PKP **PKiKP 22 22 20.9 +0.3**
comp=Z,0.2nm,0.5s,baz=153,slow=1.9,SNR=1.1
MKAR Makanchi Array 146.80 40 PKPbc **PKPab 22 22 50.1 -0.4**
comp=Z,0.4nm,0.5s,baz=289,slow=3.8,SNR=4.3

*PLV **04** 22:05:26.3±1.4, 22°.08N×102°.42E, h15km±18km, ML2.9*
*BKK **04** 22:05:28.8±0.6, 22°N±5°×10°2E±°, h10km, M3.6/8, Mjma3.8/8, ML4.1/8, MLv3.2/5*

ISC 04 22:05:25.3±2.0, 22°.14N±0°.10×102°.39E±0°.07, h10km, n6, σ@69/11, Yunnan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
MLAV	**Muong La stati**	**0.71**	**98**	*eP*g		**Pg**	**22 05 39.1**	**0.0**
MLAV				*eP*g		**Pb**	**22 05 39.3**	**-0.6**
MLAV				*eS*g		**Sg**	**22 05 48.7**	**+0.3**
DBV	**Dienbien**	**0.95**	**142**	*i* Pg		**Pg**	**22 05 43.1**	**-0.5**
DBV				*eP*g		**Pg**	**22 05 43.1**	**-0.5**
DBV				*eP*g		**Pg**	**22 05 43.1**	**-0.5**
DBV				*eS*g		**Sb**	**22 05 56.3**	**-0.2**
DBV				IAML			22 05 58.5	
	comp=N,818nm,0.7s							
DBV				IAML			22 05 58.5	
	comp=N,812nm,0.7s							
DBV				IAML			22 05 58.5	
	comp=N,812nm,0.7s							
DBV				IAML			22 06 00.6	
	comp=E,708nm,0.4s							
DBV				IAML			22 06 00.6	
	comp=E,719nm,0.4s							
DBV				IAML			22 06 00.6	
	comp=E,708nm,0.4s							
SLVN	**Son La**	**1.62**	**119**	*eP*g		**Pb**	**22 05 55.0**	**-0.3**
SLVN				IAML			22 06 24.1	
	comp=E,57nm,0.5s							
SLVN				IAML			22 06 25.1	
	comp=N,84nm,0.6s							
VTVB	**Vinh Tuy**	**2.32**	**87**	*eP*g		**Pg**	**22 06 09.7**	**-0.3**
VTVB				IAML			22 06 41.4	
	comp=N,48nm,0.6s							
VTVB				IAML			22 06 41.7	
	comp=E,37nm,0.5s							
MCVV	**Moc Chau**	**2.49**	**122**	*eP*g		**Pb**	**22 06 11.7**	**+1.6**
CHTO	**Chiang Mai**	**4.62**	**225**	Pg		**Pg**	**22 06 53.8**	**-0.1**

IDC 04 22:08:01.9±1.7, 70°.44N×17°.23W, h0km, mb3.5/3, mbtmp3.5/4, ML2.8/1, MS3.4/33, Error ellipse: s-maj=65.7km s-min=28.6km az=48.0, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
BORG	**Borgarnes**	**5.93**	**197**	LR		LR	22 10 60.0	
	comp=Z,148nm,19.9s,baz=14,slow=30							
SFJD	**Kangerlussuaq**	**12.49**	**270**	LR		LR	22 15 49.0	
	comp=Z,228nm,20.6s,baz=49,slow=37							
ARCES	**ARCESS Array B**	**14.44**	**73**	LR		LR	22 15 52.7	
	comp=Z,87nm,21.7s,baz=203,slow=33							
NOA	**NORSAR Array B**	**14.83**	**115**	LR		LR	22 16 07.2	
	comp=Z,56nm,21.9s,baz=315,slow=33							
HFS	**Hagfors**	**16.31**	**114**	LR		LR	22 17 04.3	
	comp=Z,100nm,18.9s,baz=332,slow=33							
FINES	**FINESS Array B**	**19.35**	**96**	P		P	22 12 28.2	-0.2
	0.1nm,0.3s,baz=310,slow=11,SNR=5.5							
FINES				LR		LR	22 18 59.1	
	comp=Z,152nm,19.9s,baz=302,slow=34							
	1.2nm,1.0s							
FRB	**Frobisher Bay**	**20.45**	**277**	LR		LR	22 20 42.2	
	comp=Z,139nm,18.7s,baz=80,slow=37							
RES	**Resolute Bay**	**22.06**	**316**	LR		LR	22 21 53.9	
	comp=Z,89nm,21.7s,baz=27,slow=38							
GERES	**GERESS Array B**	**26.14**	**130**	P		P	22 13 37.6	+0.2
	1.9nm,0.9s,baz=340,slow=8.5,SNR=11							
	1.9nm,0.9s							
VRAC	**Vranov**	**26.49**	**125**	LR		LR	22 23 09.0	
	comp=Z,45nm,20.4s,baz=322,slow=34							
SCHQ	**Schefferville**	**26.59**	**260**	LR		LR	22 22 39.2	
	comp=Z,563nm,19.6s,baz=110,slow=33							
AKASG	**Malin Array Be**	**29.05**	**108**	LR		LR	22 25 12.5	
	comp=Z,62nm,19.1s,baz=334,slow=36							
KIRV	**Kirov**	**29.30**	**79**	LR		LR	22 24 47.3	
	comp=Z,39nm,19.0s,baz=320,slow=34							
MLR	**Muntele Rosu**	**32.64**	**117**	LR		LR	22 28 50.8	
	comp=Z,49nm,18.9s,baz=328,slow=38							
ARTI	**Arti**	**34.00**	**74**	LR		LR	22 27 49.1	
	comp=Z,63nm,19.9s,baz=321,slow=35							
YKA	**Yellowknife Ar**	**35.53**	**308**	LR		LR	22 29 09.5	
	comp=Z,49nm,18.2s,baz=314,slow=36							
VAE	**Valguarnera**	**37.00**	**136**	LR		LR	22 30 41.0	
	comp=Z,28nm,18.0s,baz=315,slow=37							
MDT	**Midelt**	**38.31**	**163**	LR		LR	22 28 36.3	
	comp=Z,23nm,21.9s,baz=36,slow=32							
AKTO	**Aktyubinsk**	**38.85**	**80**	LR		LR	22 30 40.1	
	comp=Z,37nm,18.1s,baz=114,slow=35							
SADO	**Sadowa**	**39.30**	**263**	LR		LR	22 32 32.4	
	comp=Z,403nm,18.6s,baz=152,slow=37							
KBZ	**Khabaz**	**39.63**	**100**	LR		LR	22 31 37.5	
	comp=Z,50nm,19.7s,baz=6.0,slow=36							
ULM	**Lac du Bonnet**	**40.14**	**282**	LR		LR	22 32 43.6	
	comp=Z,154nm,18.6s,baz=308,slow=37							
ILAR	**Eielson Array**	**40.66**	**330**	P		P	22 15 43.1	-0.1
	0.2nm,0.5s,baz=30,slow=9.3,SNR=2.2							
	0.2nm,0.5s							
GNI	**Garni**	**43.44**	**100**	LR		LR	22 34 08.5	
	comp=Z,57nm,20.9s,baz=348,slow=36							
BBB	**Bella Bella**	**48.09**	**309**	LR		LR	22 39 21.2	
	comp=Z,48nm,19.1s,baz=26,slow=39							
KDAK	**Kodiak Island**	**48.19**	**130**	LR		LR	22 42 06.8	
	comp=Z,28nm,18.2s,baz=97,slow=42							
NEW	**Newport**	**48.56**	**299**	LR		LR	22 37 42.9	
	comp=Z,54nm,20.3s,baz=44,slow=37							
TKL	**Tuckaleechee C**	**49.03**	**262**	LR		LR	22 37 03.0	
	comp=Z,40nm,19.1s,baz=14,slow=36							
PDAR	**Pinedale Array**	**51.18**	**289**	LR		LR	22 39 33.2	
	comp=Z,44nm,18.5s,baz=40,slow=37							
YBH	**Yreka Blue Hor**	**56.15**	**300**	LR		LR	22 43 42.9	
	comp=Z,5.5nm,18.1s,baz=278,slow=38							
ANMO	**Albuquerque**	**57.27**	**282**	LR		LR	22 43 14.2	
	comp=Z,98nm,20.2s,baz=108,slow=37							
TORD	**Torodi Ar. Bea**	**58.45**	**158**	P		P	22 17 59.0	-0.2
	0.4nm,0.9s,baz=12,slow=7.4,SNR=2.5							
	0.4nm,0.9s							
PFO	**Pinyon Flats O**	**61.73**	**291**	LR		LR	22 47 32.3	
	comp=Z,38nm,19.8s,baz=215,slow=38							
CMIG	**Matias Romero**	**69.89**	**264**	LR		LR	22 50 57.1	
	comp=Z,20nm,18.7s,baz=7.0,slow=37							
JTS	**Las Juntas de**	**72.98**	**252**	LR		LR	22 53 48.1	
	comp=Z,13nm,18.2s,baz=262,slow=38							
CMAR	**Chiang Mai Arr**	**81.07**	**60**	LR		LR	23 01 37.6	
	comp=Z,17nm,18.0s,baz=240,slow=40							

*IDC **04** 22:08:04.6±7.0, 0°.48S×98°.63E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=362.7km s-min=25.2km az=53.0*
*DJA **04** 22:08:07.0±0.3, 1°S±3°×10°0E±°, h40km±13km, M3.9/12, MLv3.9/12*

ISC 04 22:08:06.2±1.2, 1°.06S±0°.06×100°.06E±0°.05, h57km, n20, σ1@00/13, mb3.5/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PDSI	**Padang**	**0.43**	**70**	P		**Pn**	**22 08 18.3**	**+1.1**
PPI	**Padang Panjang**	**0.69**	**29**	P		**Pn**	**22 08 20.9**	**+0.7**
SISI	**Saibi**	**1.01**	**255**	P		**Pn**	**22 08 24.2**	**-0.1**
SISI				S		**Sn**	**22 08 38.2**	**+0.6**
BKNI	**Bangkinang**	**1.69**	**35**	P		**Pn**	**22 08 33.8**	**+0.3**
PPSI	**Pulau Pagai**	**1.69**	**182**	P		**Pn**	**22 08 34.6**	**+1.1**
KRJI	**Kerinci**	**1.73**	**126**	P		**Pn**	**22 08 34.6**	**+0.5**
MNSI	**Mandailing Nat**	**1.91**	**345**	P		**Pn**	**22 08 37.6**	**+1.2**
PBSI	**Pulau Batu**	**2.04**	**299**	P		**Pn**	**22 08 39.2**	**+0.9**
MASI	**Maura Aman, Be**	**3.00**	**134**	P		**Pn**	**22 08 52.0**	**+0.6**
GSI	**Gunungsitoli**	**3.42**	**313**	P		**Pn**	**22 08 58.0**	**+0.9**
WRA	**Warramunga Arr**	**38.42**	**122**	P		P	22 15 41.3	+19
	0.1nm,0.3s,baz=298,slow=8.6,SNR=1.1							
	0.1nm,0.3s							
ASAR	**Alice Springs**	**39.76**	**127**	P		P	22 15 51.3	+18
	0.4nm,0.9s,baz=299,slow=8.5,SNR=2.5							
	0.4nm,0.9s							
MKAR	**Makanchi Array**	**50.15**	**344**	P		**P**	**22 16 54.9**	**-1.1**
	0.6nm,0.4s,baz=161,slow=8.6,SNR=11							
	0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**54.67**	**343**	P		**P**	**22 17 28.0**	**-1.4**
	0.6nm,0.6s,baz=165,slow=7.6,SNR=4.2							
	0.6nm,0.6s							
H04N2	**CROZET ISLANDS**	**61.59**	**216**	T		T	23 24 04.6	
	baz=58,slow=75,SNR=6.8							
H04N1	**CROZET ISLANDS**	**61.60**	**216**	T		T	23 24 07.1	
	baz=58,slow=75,SNR=7.3							
H04N3	**CROZET ISLANDS**	**61.60**	**216**	T		T	23 24 04.5	
	baz=58,slow=75,SNR=9.8							
H04S1	**CROZET ISLANDS**	**61.88**	**215**	T		T	23 24 26.5	
	baz=56							
H04S3	**CROZET ISLANDS**	**61.89**	**215**	T		T	23 24 25.4	
	baz=56							
H04S2	**CROZET ISLANDS**	**61.90**	**215**	T		T	23 24 24.9	
	baz=56							

KRSC 04 22:09:25.7±1.0, 51°.54N×154°.86E, h470km±13km, MI4.3, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
MTVR	**Mutnovka**	**2.26**	**64**	*eP*		P	22 10 30.9	+1.4
RUS	**Russkaya**	**2.43**	**67**	*eP*		P	22 10 31.2	+0.9
RUS				*eS*		S	22 11 22.9	-0.1
KOK	**Koryaka**	**2.90**	**51**	*eP*		P	22 10 34.3	+0.8
KRX	**Arik**	**2.95**	**50**	*eP*		P	22 10 34.5	+0.5
UGLR	**Uglovaya**	**2.95**	**54**	*eP*		P	22 10 36.2	+2.3
SPN	**Mys Shipunski**	**3.53**	**62**	*eP*		P	22 10 39.5	+1.4
SPN				*eS*		S	22 11 36.8	-0.4
MKZ	**Mys Kozlova**	**5.13**	**51**	*eP*		P	22 10 53.6	+1.6
MKZ				*eS*		S	22 12 01.6	-1.1
KBTR	**Krutoberegovo**	**6.63**	**42**	*eP*		P	22 11 09.5	+2.7

*KRSC **04** 22:12:54.0±1.2, 54°.73N×164°.63E, h47km±25km, MI3.6*
*IDC **04** 22:12:53.5±1.8, 55°.30N×164°.21E, h0km, mb3.5/2, mbtmp3.4/3, ML2.4/1, MS3.8/2, Error ellipse: s-maj=159.4km s-min=25.6km az=150.0*

ISC 04 22:12:52.6±2.2, 54°.88N±0°.05×164°.56E±0°.04, h4km±13km, n32, σ1@42/36, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
BKI	**Bering**	**0.88**	**67**	*eP*		**Pn**	**22 13 11.5**	**-0.1**
BKI				*eS*		**Sn**	**22 13 22.5**	**-2.3**
KBTR	**Krutoberegovo**	**1.66**	**324**	*eP*		**Pb**	**22 13 23.2**	**+0.7**
MKZ	**Mys Kozlova**	**1.67**	**260**	*eP*		**Pb**	**22 13 23.6**	**-0.3**
MKZ				*eS*		**Sb**	**22 13 43.5**	**-1.8**
KBG	**Krutoberegovo**	**1.74**	**323**	*eS*		**Sn**	**22 13 45.8**	**-0.2**
TUMD	**Tumrok D**	**2.42**	**279**	*eP*		**Pb**	**22 13 35.0**	**-1.6**
TUMD				*eS*		**Sb**	**22 14 05.3**	**-1.4**
ZLN	**Zelenaya**	**2.43**	**300**	*eP*		**Pb**	**22 13 36.5**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**2.45**	**297**	*eP*		**Pb**	**22 13 36.3**	**-0.9**
BZGR				*eS*		**Sb**	**22 14 07.2**	**-0.5**
BZP	**Bezymyannyi-Pe**	**2.52**	**296**	*eP*		**Pb**	**22 13 37.2**	**-1.3**
BZMR	**Bezymyannaya**	**2.55**	**296**	*eP*		**Pb**	**22 13 37.8**	**-1.2**
BZMR				*eS*		**Sb**	**22 14 10.3**	**-0.4**
BZWR	**Bezymyannyi-We**	**2.56**	**297**	*eP*		**Pb**	**22 13 38.0**	**-1.1**
KMNR	**Kamenistaya**	**2.62**	**291**	*eP*		**Pb**	**22 13 39.1**	**-1.1**
KIRR	**Kirishev**	**2.64**	**296**	*eP*		**Pb**	**22 13 39.5**	**-0.9**
KIRR				*eS*		**Sb**	**22 14 12.3**	**-0.8**
KLY	**Klyuchi**	**2.64**	**305**	*eS*		**Sn**	**22 14 08.6**	**+0.2**
SPN	**Mys Shipunski**	**3.22**	**238**	*eP*		**Pn**	**22 13 43.0**	**-0.2**
SPN				*eS*		**Sn**	**22 14 19.6**	**-2.9**
NLC	**Nalytchevo**	**3.52**	**243**	*eS*		**Sn**	**22 14 28.5**	**-1.4**
SDLR	**Sedlovina**	**3.71**	**247**	*eP*		Pb	22 13 53.4	-5.3
SDLR				*eS*		**Sn**	**22 14 34.4**	**-0.4**
SMAR	**Somma**	**3.76**	**247**	*eP*		Pb	22 13 53.6	-5.9
SMAR				*eS*		**Sn**	**22 14 35.4**	**-0.8**
KRER	**Koryakskii**	**3.77**	**248**	*eP*		Pb	22 13 54.3	-5.5
KRER				*eS*		**Sn**	**22 14 36.2**	**-0.2**
UGLR	**Uglovaya**	**3.77**	**246**	*eP*		Pb	22 13 54.1	-5.6
KRX	**Arik**	**3.80**	**249**	*eP*		**Pn**	**22 13 54.1**	**+2.1**
KRX				*eS*		**Sn**	**22 14 37.0**	**0.0**
KOK	**Koryaka**	**3.83**	**248**	*eP*		Pb	22 13 55.0	-5.8
KOK				*eS*		**Sn**	**22 14 38.5**	**+0.6**
GNL	**Ganaly**	**4.06**	**256**	*eP*		**Pn**	**22 13 58.2**	**+2.8**
KRMR	**Karymshinskiy**	**4.33**	**244**	*eS*		**Sn**	**22 14 48.6**	**-1.3**
PETK	**Petropavlovsk-**	**4.42**	**249**	Pn		**Pn**	**22 14 02.0**	**+1.6**
	1.1nm,0.3s,baz=65,slow=8.4,SNR=10							
PETK				Sn		**Sn**	**22 14 53.8**	**+1.6**
	0.6nm,0.3s,baz=194,slow=31,SNR=5.3							
	1.9nm,0.5s							
MTVR	**Mutnovka**	**4.49**	**240**	*eP*		**Pn**	**22 14 03.4**	**+2.0**
MTVR				*eS*		**Sn**	**22 14 52.1**	**-1.9**
ILAR	**Eielson Array**	**25.67**	**48**	P		**P**	**22 18 23.5**	**+0.4**
	0.5nm,0.8s,baz=267,slow=9.8,SNR=6.7							
	0.5nm,0.8s							
DLBC	**Dease Lake**	**34.86**	**57**	LR		LR	22 34 23.3	
	comp=Z,589nm,18.9s,baz=59,slow=37							
H11N2	**WAKE ISLAND Hy**	**35.13**	**176**	T		T	22 58 17.6	
	baz=359							
H11N3	**WAKE ISLAND Hy**	**35.15**	**176**	T		T	22 58 22.8	
	baz=359							
H11N1	**WAKE ISLAND Hy**	**35.15**	**176**	T		T	22 57 51.7	
	baz=359							
ARTI	**Arti**	**53.94**	**319**	LR		LR	22 47 20.3	
	comp=Z,20nm,18.7s,baz=8.0,slow=39							
TXAR	**Lajitas Array**	**67.53**	**71**	P		**P**	**22 23 51.8**	**+1.9**
	0.4nm,0.6s,baz=340,slow=6.1,SNR=3.8							
	0.4nm,0.6s							

*IDC **04** 22:18:14.9±0.6, 26°.01N×142°.79E, h0km, mb4.0/22, mbtmp4.0/25, ML3.4/3, MS3.1/7, Error ellipse: s-maj=20.7km s-min=14.8km az=71.0*
*NEIC **04** 22:18:16.4±1.6, 26°.16N±0°.08×143°.2E±0°.1, h10km±1km, mb4.5/15, Error ellipse: s-maj=17.6km s-min=12.0km az=58.0*

ISC 04 22:18:20.1±0.6, 26°.19N±0°.07×142°.95E±0°.10, h35km, n60, σ1@65/57, mb4.2/30, MS3.0/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JCJ	**Chichijima**	**1.13**	**323**			**Pn**	**22 18 39.8**	**+0.3**
JCJ					Sn	**Sn**	**22 18 58.0**	**+4.1**
JHJ	**Hachijo jima 2**	**7.43**	**339**		Pn	**Pn**	**22 20 06.1**	**0.0**
	2.9nm,0.3s,baz=234,slow=23,SNR=1.2							
JHJ					Sn	**Sn**	**22 21 22.4**	**-6.7**
	3.2nm,0.3s,baz=246,slow=22,SNR=1.0							
JHJ					LR	LR	22 23 01.7	
	comp=Z,204nm,18.4s,baz=144,slow=38							
	37nm,0.9s							
JMZ	**Minamidaito 2**	**10.55**	**271**		Pn	**Pn**	**22 20 49.9**	**+0.9**
MJAR	**Matsushiro Arr**	**11.08**	**340**		Pn	**Pn**	**22 20 56.6**	**+0.5**
MJAR	**Matsushiro Arr**	**11.08**	**340**		Pn	**Pn**	**22 20 56.4**	**+0.2**
	0.1nm,0.3s,baz=159,slow=12,SNR=4.9							
MJAR					Sn	**Sn**	**22 22 57.7**	**-1.1**
	0.1nm,0.3s,baz=151,slow=17,SNR=2.3							
MJAR					LR	LR	22 25 02.7	
	comp=Z,66nm,18.1s,baz=166,slow=36							
	1.5nm,0.6s							
JMM	**Marumori**	**11.78**	**352**			**Pn**	**22 21 03.1**	**-2.6**
KSRS	**Korea Array**	**16.98**

AS31	**Alice Springs**	**50.33**	**191**	P		**P**	**22 27 12.9**	**-0.7**	
ASAR	**Alice Springs**	**50.33**	**191**	P		**P**	**22 27 12.7**	**-0.9**	
ASAR	**Alice Springs**	**50.33**	**191**	P		**P**	**22 27 12.2**	**-1.4**	
	comp=Z,0.4nm,0.6s,baz=20,slow=10,SNR=6.8								
	comp=Z,0.4nm,0.6s								
ZALV	**Zalesovo Beam**	**50.62**	**319**	P		**P**	**22 27 14.9**	**-0.6**	
ZALV	**Zalesovo Beam**	**50.62**	**319**	P		**P**	**22 27 16.0**	**+0.5**	
	comp=Z,0.4nm,0.3s,baz=108,slow=3.4,SNR=3.9								
ZALV				PcP		**PcP**	**22 28 32.6**	**-0.1**	
	comp=Z,0.5nm,0.3s,baz=95,slow=6.5,SNR=2.0								
ZALV				LR		LR	22 47 10.4		
	comp=Z,13nm,21.7s,baz=60,slow=34								
	comp=Z,0.4nm,0.3s								
N15K	**Kwethluk River**	**51.31**	**32**	P		**P**	**22 27 19.3**	**-1.3**	
MKAR	**Makanchi Array**	**51.58**	**310**	P		**P**	**22 27 22.6**	**-0.3**	
MKAR	**Makanchi Array**	**51.58**	**310**	P		**P**	**22 27 22.8**	**-0.1**	
	comp=Z,0.4nm,0.5s,baz=91,slow=9.0,SNR=8.6								
MKAR				PcP		**PcP**	**22 28 37.0**	**+0.5**	
	comp=Z,0.5nm,0.7s,baz=84,slow=6.4,SNR=2.5								
MKAR				ScP		**ScP**	**22 32 35.7**	**+5.1**	
	comp=Z,0.3nm,0.7s,baz=86,slow=8.8,SNR=2.0								
	comp=Z,0.4nm,0.5s								
KURBB	**Kurchatov Arra**	**54.16**	**315**	P		**P**	**22 27 41.0**	**-0.8**	
	comp=Z,1.4nm,0.6s,baz=92,slow=8.2,SNR=16								
	comp=Z,1.4nm,0.6s								
KDAK	**Kodiak Island**	**54.68**	**36**	P		**P**	**22 27 45.0**	**-0.5**	
K20K	**Telida**	**54.84**	**29**			**P**	**22 27 47.8**	**+1.2**	
K20K				IAmb		IAmb	22 28 13.4		
	comp=Z,5.1nm,1.0s								
B20K	**Meade River**	**55.44**	**21**	P		**P**	**22 27 51.1**	**+0.4**	
B20K				IAmb		IAmb	22 27 55.1		
	comp=Z,20nm,1.4s								
BPAW	**Bear Paw Mtn.**	**56.33**	**29**	P		**P**	**22 27 56.5**	**-0.7**	
BPAW				IAmb		IAmb	22 28 20.9		
	comp=Z,5.5nm,1.4s								
SCM	**Sheep Creek Mo**	**57.71**	**32**	P		**P**	**22 28 04.7**	**-2.4**	
SCM				IAmb		IAmb	22 28 10.4		
	comp=Z,7.9nm,0.8s								
STKA	**Stephens Creek**	**57.76**	**181**	P		**P**	**22 28 05.6**	**-2.0**	
	comp=Z,1.7nm,0.8s,baz=332,slow=22,SNR=1.2								
	comp=Z,1.7nm,0.8s								
ILAR	**Eielson Array**	**58.18**	**28**	P		**P**	**22 28 11.3**	**+1.1**	
	comp=Z,0.8nm,0.6s,baz=259,slow=5.6,SNR=8.1								
	comp=Z,0.8nm,0.6s								
BVAR	**Borovoye Array**	**59.17**	**318**	P		**P**	**22 28 18.3**	**+0.9**	
	comp=Z,2.9nm,0.5s,baz=90,slow=7.7,SNR=15								
	comp=Z,2.9nm,0.5s								
KKAR	**Karatay Array**	**60.17**	**306**			**P**	**22 28 24.3**	**-0.2**	
SIMJ	**Simiganj**	**62.12**	**302**	P		**P**	**22 28 39.1**	**+1.2**	
SIMJ				IAmb		IAmb	22 28 55.9		
	comp=Z,1.8nm,0.8s								
HYT	**Haines Junctio**	**62.45**	**33**	P		**P**	**22 28 39.3**	**-0.4**	
HYT				IAmb		IAmb	22 28 43.8		
	comp=Z,5.4nm,1.3s								
AB31	**Akbulak array**	**66.22**	**315**	P		**P**	**22 29 04.5**	**+0.1**	
AB31				IAmb		IAmb	22 29 20.5		
	comp=Z,1.9nm,0.8s								
ABKAR	**Akbulak array**	**66.22**	**315**	P		**P**	**22 29 04.3**	**-0.1**	
YKA	**Yellowknife Ar**	**72.61**	**28**	P		**P**	**22 29 45.6**	**+2.0**	
	comp=Z,1.0nm,0.8s,baz=294,slow=7.3,SNR=2.1								
	comp=Z,1.0nm,0.8s								
ARCES	**ARCESS Array B**	**74.62**	**341**	P		**P**	**22 29 56.7**	**+1.3**	
	comp=Z,3.2nm,1.1s,baz=56,slow=6.7,SNR=7.6								
	comp=Z,3.2nm,1.1s								
FINES	**FINESS Array B**	**79.06**	**334**	P		**P**	**22 30 21.4**	**+0.9**	
	comp=Z,1.0nm,0.4s,baz=63,slow=4.7,SNR=18								
	comp=Z,1.0nm,0.4s								
KBZ	**Khabaz**	**79.12**	**313**	P		**P**	**22 30 22.1**	**+0.9**	
	comp=Z,2.3nm,0.9s,baz=106,slow=3.5,SNR=4.8								
	comp=Z,2.3nm,0.9s								
NVAR	**Mina Array Bea**	**80.54**	**52**	P		**P**	**22 30 30.4**	**+1.1**	
	comp=Z,0.9nm,0.7s,baz=292,slow=5.7,SNR=4.7								
	comp=Z,0.9nm,0.7s								
AKASG	**Malin Array Be**	**83.75**	**324**	P		**P**	**22 30 45.4**	**-0.1**	
	comp=Z,0.5nm,0.5s,baz=55,slow=5.3,SNR=2.3								
	comp=Z,0.5nm,0.5s								
PDAR	**Pinedale Array**	**84.37**	**45**	P		**P**	**22 30 51.0**	**+1.8**	
	comp=Z,0.2nm,0.4s,baz=310,slow=9.1,SNR=2.4								
	comp=Z,0.2nm,0.4s								
NC405	**NORSAR Array S**	**84.48**	**338**	P		**P**	**22 30 49.4**	**+0.3**	
HFS	**Hagfors**	**84.52**	**337**	P		**P**	**22 30 49.4**	**+0.1**	
	comp=Z,1.0nm,0.6s,baz=58,slow=3.6,SNR=1.9								
	comp=Z,1.0nm,0.6s								
NB2	**NORSAR Subarra**	**84.70**	**339**	P		P	22 30 55.4	+5.2	
	comp=Z,5.5nm,1.2s,baz=43,slow=5.3								
NOA	**NORSAR Array B**	**84.70**	**339**	P		**P**	**22 30 50.9**	**+0.7**	
	comp=Z,0.4nm,0.5s,baz=45,slow=4.8,SNR=2.0								
	comp=Z,0.4nm,0.5s								
RAYN	**Ar Rayn**	**86.14**	**294**			**P**	**22 30 58.4**	**+0.3**	
RAYN				IAmb		IAmb	22 31 21.9		
	comp=Z,2.3nm,0.8s								
BRTR	**Keskin Array B**	**87.12**	**313**	P		**P**	**22 31 02.7**	**-0.1**	
	comp=Z,0.4nm,0.6s,baz=104,slow=4.0,SNR=3.6								
	comp=Z,0.4nm,0.6s								
PLCA	**Paso Flores**	**148.73**	**126**	PKPbc		**PKiKP**	**22 38 04.7**	**-0.6**	
	comp=Z,3.0nm,0.7s,baz=2.8,slow=1.6,SNR=5.0								
LPAZ	**La Paz**	**149.47**	**77**	PKPbc		**PKPbc**	**22 38 07.2**	**+0.1**	
	comp=Z,1.8nm,0.8s,baz=254,slow=3.9,SNR=8.5								

*INMG **04** 22:33:00.1±1.2, 42°.23N×7°.97W, h18km±1km, ML3.1, Error ellipse: s-maj=1.6km s-min=1.1km az=105.0, #DIST_RANGE: LOCAL #IPMA_REGION: SW Ourense (ESP)*
*MDD **04** 22:33:00.1±0.2, 42°.22N×7°.97W, h19km, mb_Lg3.3/71, Error ellipse: s-maj=1.6km s-min=1.1km az=123.0*
*IGIL **04** 22:33:01.2, 42°.22N×7°.99W, h18km*
*LDG **04** 22:33:01.7±0.2, 42°.18N×7°.79W, h15km, Ml3.1/14, Error ellipse: s-maj=4.7km s-min=2.6km az=90.0*
*SFS **04** 22:33:02.4, 42°.01N×7°.85W, h6km, ML3.9/10, ML3.6/13, MLv3.5/13*

ISC 04 22:32:59.6±1.0, 42°.27N±0°.02×8°.02W±0°.02, h26km±10km, n97, σ3°02/187, 3C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PGAV	**Gavieira, Arco**	**0.35**	**212**	⇑*i*Pg		**Pb**	**22 33 06.9**	**-0.7**
PGAV				*e*Sg		**Sb**	**22 33 11.8**	**-1.2**
PGAV				*i* IAML			22 33 11.9	
PGAV				*i* IAML			22 33 12.1	
PGAV				*i* IAML			22 33 12.6	
ELOB	**Lobios**	**0.40**	**184**	⇑Pg		**Pb**	**22 33 07.3**	**-1.1**
ELOB				Sg		**Sb**	**22 33 12.2**	**-2.0**
ELOB				*i* IVmb_Lg			22 33 12.4	
EZAM	**Zamans**	**0.51**	**257**	⇑Pg		**Pn**	**22 33 10.4**	**-1.0**
EZAM				Sg		**Sn**	**22 33 17.6**	**-1.6**
EZAM				*i* IVmb_Lg			22 33 19.0	
EAGO	**Agolada(Pontev**	**0.54**	**355**	⇓Pg		**Pn**	**22 33 11.0**	**-0.7**
EAGO				Sg		**Sn**	**22 33 18.6**	**-1.4**
EAGO				*i* IVmb_Lg			22 33 21.3	
PCAB	**Cabril**	**0.56**	**180**	*e*Pg		**Pb**	**22 33 10.0**	**-0.8**
PCAB				*e*Sg		**Sb**	**22 33 16.8**	**-1.6**
PCAB				*i* IAML			22 33 17.2	
PCAB				*i* IAML			22 33 17.4	
PCAB				*i* IAML			22 33 17.4	
POLO	**Lamas de Olo**	**0.91**	**169**	*e*P		**Pn**	**22 33 16.3**	**-0.6**
POLO				*e*S		**Sn**	**22 33 27.8**	**-1.3**
POLO				*i* IAML			22 33 29.0	
POLO				*i* IAML			22 33 29.3	
POLO				*i* IAML			22 33 29.4	
EMAZ	**Mazaricos**	**0.98**	**314**	Pg		**Pn**	**22 33 18.6**	**+0.9**
EMAZ				Sg		**Sn**	**22 33 32.6**	**+1.8**
EMAZ				*i* IVmb_Lg			22 33 34.1	
ECAL	**Calabor**	**1.01**	**108**	Pg		**Pn**	**22 33 17.8**	**-0.4**
ECAL				Sg		**Sb**	**22 33 29.6**	**-1.8**
ECAL	**Calabor**	**1.01**	**108**	Pg		**Pn**	**22 33 17.8**	**-0.4**
ECAL				Sg		**Sn**	**22 33 30.6**	**-1.0**
ECAL				*i* IVmb_Lg			22 33 32.3	
PVRL	**Vila Real**	**1.01**	**167**	*e*P		**Pn**	**22 33 18.3**	**0.0**
PVRL				*e*S		**Sn**	**22 33 31.1**	**-0.7**
PVRL				*i* IAML			22 33 31.9	
PVRL				*i* IAML			22 33 32.0	
PVRL				*i* IAML			22 33 32.2	
PBRG	**Braganca**	**1.06**	**115**	*e*P		**Pn**	**22 33 18.4**	**-0.5**
PBRG				*e*S		**Sn**	**22 33 32.1**	**-0.8**
PBRG				*i* IAML			22 33 33.5	
PBRG				*i* IAML			22 33 34.0	
PBRG				*i* IAML			22 33 34.5	
EPON	**Pontenova**	**1.24**	**31**	Pn		**Pb**	**22 33 21.2**	**-1.2**
EPON				Pg		**Pn**	**22 33 23.0**	**+1.7**
EPON				Sn		**Sn**	**22 33 37.4**	**+0.2**
EPON				*i* IVmb_Lg			22 33 41.7	
MVO	**Moncorvo**	**1.33**	**146**	*e*P		**Pb**	**22 33 22.2**	**-1.7**
MVO				*e*S		**Sb**	**22 33 40.4**	**-0.2**
MVO				*i* IAML			22 33 41.4	
MVO				*i* IAML			22 33 41.8	
MVO				*i* IAML			22 33 42.0	
PVIS	**Viseu**	**1.55**	**176**	*e*Pn		**Pn**	**22 33 25.4**	**-0.3**
PVIS				*e*Sg		**Sb**	**22 33 47.5**	**+0.6**
MTE	**Manteigas**	**1.90**	**169**	*e*Pn		**Pn**	**22 33 30.2**	**-0.3**
MTE				*e*Pg		**Pb**	**22 33 34.1**	**+0.5**
MTE				*e*Sg		**Sb**	**22 33 57.4**	**+0.5**
MTE				*i* IAML			22 33 58.3	
MTE				*i* IAML			22 33 58.6	
MTE				*i* IAML			22 34 02.1	
EJUZ	**Juzbado, Salam**	**1.98**	**126**	Pn		**Pn**	**22 33 31.2**	**-0.4**
EJUZ				Pg		**Pb**	**22 33 34.4**	**-0.8**
EJUZ				Sn		**Sn**	**22 33 54.0**	**-1.7**
EJUZ				Sg		**Sb**	**22 33 59.7**	**+0.3**
COI	**Coimbra**	**2.08**	**188**	*e*Pg		**Pb**	**22 33 38.8**	**+2.2**
COI				*e*Sg		**Sb**	**22 34 03.7**	**+1.8**
COI				*i* IAML			22 34 08.9	
COI				*i* IAML			22 34 09.4	
COI				*i* IAML			22 34 09.6	
PCAS	**Casmilo, Conde**	**2.24**	**189**	*e*Pn		**Pb**	**22 33 36.3**	**-3.1**
PCAS				*e*Pg		Pn	22 33 41.1	+6.0
PCAS				*e*Sg		**Sb**	**22 34 09.8**	**+3.2**
PCAS				*i* IAML			22 34 10.5	
PCAS				*i* IAML			22 34 11.6	
PCAS				*i* IAML			22 34 14.7	
EARI	**Arriondas**	**2.31**	**62**	Pn		**Pn**	**22 33 36.3**	**+0.2**
EARI				Pg		**Pb**	**22 33 40.4**	**-0.3**
EARI				Sn		**Sn**	**22 34 02.6**	**-1.2**
EARI				Sg		**Sb**	**22 34 10.8**	**+1.9**
EARI				*i* IVmb_Lg			22 34 19.7	
PCBR	**Castelo Branco**	**2.46**	**170**	*e*Pn		**Pn**	**22 33 37.9**	**-0.2**
PCBR				*e*Pg		**Pb**	**22 33 45.6**	**+2.5**
PCBR				*e*Sg		**Sb**	**22 34 14.8**	**+1.8**
PCBR				*i* IAML			22 34 18.1	
PCBR				*i* IAML			22 34 18.2	
PCBR				*i* IAML			22 34 19.1	
EPLA	**Plasencia**	**2.64**	**146**	Pn		**Pn**	**22 33 40.2**	**-0.4**
EPLA				Pg		**Pb**	**22 33 45.7**	**-0.6**
EPLA				Sn		**Sn**	**22 34 09.9**	**-2.0**
EPLA				Sg		**Sb**	**22 34 19.8**	**+1.5**
EPLA				*i* IVmb_Lg			22 34 22.5	
PSARD	**Sardoal**	**2.67**	**182**	*e*Pn		**Pn**	**22 33 41.0**	**+0.1**
PSARD				*e*Pg		**Pb**	**22 33 49.7**	**+3.1**
PSARD				*e*Sg		**Sb**	**22 34 23.1**	**+4.2**
PSARD				*i* IAML			22 34 25.4	
PSARD				*i* IAML			22 34 26.8	
PSARD				*i* IAML			22 34 27.2	
PMRV	**Marv??o**	**2.87**	**170**	*e*Pn		**Pn**	**22 33 43.2**	**-0.2**
PMRV				*i* IAML			22 34 16.7	
PMRV				*i* IAML			22 34 16.5	
PMRV				*i* IAML			22 34 21.5	
ALT03	**Santillana del**	**3.08**	**68**	Sn		**Sn**	**22 34 20.8**	**-1.7**
ALT03				Sg		**Sb**	**22 34 33.8**	**+3.1**
ALT01	**Santillana del**	**3.08**	**68**	Sn		**Sn**	**22 34 20.5**	**-2.0**
ALT01				Sg		**Sb**	**22 34 34.6**	**+3.8**
ALT02	**Santillana del**	**3.08**	**68**	Sn		**Sn**	**22 34 20.7**	**-1.9**
ALT02				Sg		**Sb**	**22 34 34.2**	**+3.4**
PMTG	**Montargil**	**3.20**	**183**	*e*Pn		**Pn**	**22 33 48.2**	**0.0**
PMTG				*e*Sg		**Sb**	**22 34 38.4**	**+4.2**
PMTG				*i* IAML			22 34 41.0	
PMTG				*i* IAML			22 34 42.5	
PMTG				*i* IAML			22 34 42.7	
GUD	**Guadarrama**	**3.33**	**118**	Pn		**Pn**	**22 33 49.7**	**-0.4**
GUD				Pg		**Pb**	**22 33 57.9**	**-0.2**
GUD				Sn		**Sn**	**22 34 25.8**	**-3.2**
GUD				Sg		**Sb**	**22 34 41.0**	**+2.9**
GUD				*i* IVmb_Lg			22 34 45.2	
PESTR	**Estremoz**	**3.41**	**174**	Pn		**Pn**	**22 33 51.0**	**-0.2**
PESTR				Sg		**Sb**	**22 34 43.2**	**+2.9**
PESTR	**Estremoz**	**3.41**	**174**	*e*Pn		**Pn**	**22 33 50.9**	**-0.2**
PESTR				*e*Sg		**Sb**	**22 34 44.6**	**+4.3**
PESTR				*i* IAML			22 34 47.0	
PESTR				*i* IAML			22 34 48.2	
PESTR				*i* IAML			22 34 51.2	
PMAFR	**Mafra**	**3.44**	**197**	*e*Pn		**Pn**	**22 33 52.1**	**+0.5**
PMAFR				*e*Sg		**Sb**	**22 34 46.6**	**+5.4**
PMAFR				*i* IAML			22 34 52.2	
PMAFR				*i* IAML			22 34 53.7	
PMAFR				*i* IAML			22 34 57.0	
ELAN	**Lanestosa**	**3.52**	**73**	Pn		**Pn**	**22 33 52.7**	**+0.1**
ELAN				Pg		**Pb**	**22 34 01.8**	**+0.7**
ELAN				Sn		**Sn**	**22 34 31.5**	**-1.9**
ELAN				Sg		**Sb**	**22 34 47.4**	**+4.0**
ELAN				*i* IVmb_Lg			22 34 50.4	
PARRA	**Arraiolos**	**3.53**	**193**	*e*Pn		**Pn**	**22 33 51.5**	**-1.4**
PARRA				*e*Sg		**Sb**	**22 34 45.2**	**+1.4**
PARRA				*i* IAML			22 34 47.7	
PARRA				*i* IAML			22 34 48.4	
PARRA				*i* IAML			22 34 49.6	
EBAD	**Badajoz**	**3.59**	**167**	Pn		**Pn**	**22 33 53.4**	**-0.3**
EBAD				Sg		**Sb**	**22 34 50.0**	**+4.5**
EBAD	**Badajoz**	**3.59**	**167**	Pn		**Pn**	**22 33 52.9**	**-0.7**
EBAD				Sn		**Sn**	**22 34 32.2**	**-3.0**
EBAD				Sg		**Sb**	**22 34 49.0**	**+3.5**
EBAD				*i* IVmb_Lg			22 34 53.4	
EVO	**Evora**	**3.73**	**180**	Pn		**Pn**	**22 33 55.6**	**+0.1**
EVO				Sg		**Sb**	**22 34 52.0**	**+2.5**
EVO	**Evora**	**3.73**	**180**	*e*Pn		**Pn**	**22 33 55.7**	**+0.1**
EVO				*e*Sg		**Sb**	**22 34 54.9**	**+5.4**
EVO				*i* IAML			22 35 00.6	
EVO				*i* IAML			22 35 01.2	
PAB	**San Pablo**	**3.89**	**133**	Pn		**Pn**	**22 33 57.0**	**-0.2**
PAB				Pg		**Pb**	**22 34 07.0**	**-0.6**
PAB				Sn		**Sn**	**22 34 39.0**	**-3.7**
PAB				Sg		**Sb**	**22 34 57.6**	**+3.4**
PAB				*i* IVmb_Lg			22 35 04.4	
ESBB	**Sonseca Array**	**4.02**	**129**	Pn		**Pn**	**22 33 59.2**	**-0.3**
ESBB				Sg		**Sb**	**22 35 01.5**	**+3.6**
ESDC	**Sonseca Array**	**4.02**	**129**	Pn		**Pn**	**22 33 59.1**	**-0.4**
ESDC				Sg		**Sb**	**22 35 01.5**	**+3.6**
ESDC				*i* IVmb_Lg			22 35 08.7	
UCM	**Universidad Co**	**4.10**	**117**	Pn		**Pn**	**22 34 02.3**	**+1.6**
UCM				Sg		**Sb**	**22 35 05.1**	**+4.9**
PBAR	**Barrancos**	**4.16**	**169**	Pn		**Pn**	**22 34 01.5**	**+0.1**
PBAR				Sg		**Sb**	**22 35 06.3**	**+4.5**
PBAR	**Barrancos**	**4.16**	**169**	*e*Pn		**Pn**	**22 34 01.5**	**+0.1**
PBAR				*e*Sg		**Sb**	**22 35 08.2**	**+6.4**
PBAR				*i* IAML			22 35 13.4	
PBAR				*i* IAML			22 35 13.5	
PBAR				*i* IAML			22 35 13.7	
MESJ	**Messejana**	**4.42**	**182**	*e*P		**Pn**	**22 34 05.2**	**+0.1**
MESJ	**Messejana**	**4.42**	**182**	*e*Pn		**Pn**	**22 34 05.2**	**+0.1**
MESJ				*e*Sg		Sb	22 35 17.5	+8.1
MESJ				*i* IAML			22 35 21.4	
MESJ				*i* IAML			22 35 23.0	
MESJ				*i* IAML			22 35 24.2	
EMIN	**Mina Concepcio**	**4.61**	**167**	Pn		**Pn**	**22 34 07.8**	**+0.1**
EMIN				Sg		**Sb**	**22 35 20.7**	**+5.8**
EMIN	**Mina Concepcio**	**4.61**	**167**	Pn		**Pn**	**22 34 07.2**	**-0.4**
EMIN				Sg		**Sb**	**22 35 20.0**	**+5.2**
EMIN				*i* IVmb_Lg			22 35 27.3	
PCVE	**Castro Verde**	**4.63**	**180**	Pn		**Pn**	**22 34 08.1**	**+0.2**
PCVE	**Castro Verde**	**4.63**	**180**	*e*Pn		**Pn**	**22 34 07.8**	**-0.1**
PCVE				*e*Sn		**Sn**	**22 34 59.1**	**-1.6**
PCVE				*e*Sg		Sb	22 35 24.7	+9.3
PCVE				*i* IAML			22 35 27.8	
PCVE				*i* IAML			22 35 28.8	
PCVE				*i* IAML			22 35 29.8	
ECAB	**El Cabril**	**4.64**	**154**	Pn		**Pn**	**22 34 07.9**	**-0.2**
ECAB				Sg		**Sb**	**22 35 21.5**	**+5.9**
ECAB	**El Cabril**	**4.64**	**154**	Pn		**Pn**	**22 34 07.6**	**-0.4**
ECAB				Pg		**Pb**	**22 34 20.2**	**-0.1**
ECAB				Sn		**Sn**	**22 34 56.4**	**-4.6**
ECAB				Sg		**Sb**	**22 35 20.4**	**+4.7**
ECAB				*i* IVmb_Lg			22 35 32.0	
ETOR	**Torete**	**4.71**	**106**	Pn		**Pn**	**22 34 08.8**	**-0.3**
ETOR				Pg		**Pb**	**22 34 21.2**	**-0.3**
ETOR				Sg		**Sb**	**22 35 22.7**	**+5.0**
ETOR				*i* IVmb_Lg			22 35 35.2	
PSIM	**Granatula de C**	**4.73**	**135**	Pn		**Pn**	**22 34 09.1**	**-0.3**
PSIM				Pg		**Pb**	**22 34 21.7**	**-0.3**
PSIM				Sn		**Sn**	**22 34 59.6**	**-3.9**
PSIM				Sg		**Sb**	**22 35 23.7**	**+5.3**
EGRO	**El Granado**	**4.74**	**175**	Pn		**Pn**	**22 34 09.3**	**-0.1**
EGRO	**El Granado**	**4.74**	**175**	Pn		**Pn**	**22 34 09.0**	**-0.4**
EGRO				Sg		**Sb**	**22 35 24.3**	**+5.6**
EGRO				*i* IVmb_Lg			22 35 32.1	
PTEO	**Sao Teotonio**	**4.75**	**187**	*e*Pn		**Pn**	**22 34 09.5**	**+0.1**
PTEO				*e*Sg		Sb	22 35 28.5	+10
PTEO				*i* IAML			22 35 33.1	
PTEO				*i* IAML			22 35 34.9	
PVAQ	**Vaqueiros**	**4.86**	**177**	*e*Pn		**Pn**	**22 34 11.0**	**-0.1**
PVAQ				*e*Sn		**Sn**	**22 35 02.7**	**-3.8**
PVAQ				*e*Sg		Sb	22 35 32.6	+11
PVAQ				*i* IAML			22 35 36.4	
PVAQ				*i* IAML			22 35 37.2	
PVAQ				*i* IAML			22 35 38.2	
EADA	**Adamuz**	**4.87**	**146**	Pn		**Pn**	**22 34 11.2**	**-0.1**
EADA				Sg		**Sb**	**22 35 28.9**	**+6.5**
EADA	**Adamuz**	**4.87**	**146**	Pn		**Pn**	**22 34 10.7**	**-0.5**
EADA				Pg		**Pb**	**22 34 24.4**	**+0.2**
EADA				Sn		**Sn**	**22 35 01.9**	**-4.9**
EADA				Sg		**Sb**	**22 35 28.0**	**+5.6**
EADA				*i* IVmb_Lg			22 35 41.4	
EALK	**Alkurruntz**	**4.89**	**77**	Pn		**Pn**	**22 34 11.5**	**-0.1**
EALK				Sg		**Sb**	**22 35 28.9**	**+5.9**
EALK				*i* IVmb_Lg			22 35 48.3	
MORF	**Marmelete**	**4.98**	**186**	*e*Pn		**Pn**	**22 34 12.8**	**0.0**
MORF				*e*Sn		**Sn**	**22 35 06.8**	**-2.7**
MORF				*e*Sg		Sb	22 35 37.2	+12
EORO	**Oroz-Betelu**	**5.00**	**81**	Pn		**Pn**	**22 34 12.8**	**-0.2**
EORO				Sn		**Sn**	**22 35 05.9**	**-4.0**
EORO				Sg		**Sb**	**22 35 32.2**	**+6.2**
PBDV	**Barranco-do-Ve**	**5.02**	**179**	Pn		**Pn**	**22 34 13.4**	**+0.1**
PBDV	**Barranco-do-Ve**	**5.02**	**179**	*e*Pn		**Pn**	**22 34 13.6**	**+0.3**
PBDV				*e*Sn		**Sn**	**22 35 07.7**	**-2.7**
PBDV				*e*Sg		Sb	22 35 37.2	+11
PBDV				*i* IAML			22 35 41.1	
PBDV				*i* IAML			22 35 44.5	
PBDV				*i* IAML			22 35 44.5	
SJPF	**Ste Jean**	**5.08**	**78**	*e*Pn		**Pn**	**22 34 14.4**	**+0.3**
SJPF				*e*Sn		**Sn**	**22 35 08.4**	**-3.6**
SJPF				*e*Sg		Sb	22 35 36.1	+7.7
	12nm,0.6s							
E0901	**Celadas (Terue**	**5.49**	**107**	Pn		**Pn**	**22 34 19.2**	**-0.6**
E0901				Sg		**Sb**	**22 35 46.3**	**+6.2**
E0901				*i* IVmb_Lg			22 36 08.0	
E0802	**Ubeda,Jaen**	**5.53**	**138**	Sg		**Sb**	**22 35 48.1**	**+6.6**
ETSF	**Etsaut**	**5.55**	**81**	*e*Pn		**Pn**	**22 34 21.1**	**+0.5**
ETSF				*e*Sn		**Sn**	**22 35 20.5**	**-3.0**
ETSF				*e*Sg		Sb	22 35 49.6	+7.8
	4.4nm,0.4s							
E0803	**Jimena (Jaen)**	**5.64**	**140**	Sg		**Sb**	**22 35 51.3**	**+6.9**
ESPR	**Espera**	**5.64**	**162**	Pn		**Pn**	**22 34 21.7**	**-0.1**
ESPR				Sn		**Sn**	**22 35 20.6**	**-5.2**
ESPR				Sg		**Sb**	**22 35 50.9**	**+6.3**
ESPR				*i* IVmb_Lg			22 36 13.7	
ESAC	**San Caprasio**	**5.66**	**93**	Sg		Sb	22 35 51.9	+7.0
EQES	**Quesada**	**5.86**	**138**	Pn		**Pn**	**22 34 24.0**	**-0.9**
EQES				Sg		**Sb**	**22 35 57.9**	**+7.1**
EQES				*i* IVmb_Lg			22 36 14.5	
EGOR	**Sierra Gorda,**	**5.97**	**148**	Sg		**Sb**	**22 36 01.4**	**+7.3**
EGOR				*i* IVmb_Lg			22 36 32.0	
ECHE	**Chera**	**5.97**	**114**	Sg		Sb	22 36 05.2	+11
ECHE	**Chera**	**5.97**	**114**	Pg		**Pb**	**22 34 43.5**	**+0.5**
ECHE				Sg		Sb	22 36 01.5	+7.5
ECHE				*i* IVmb_Lg			22 36 21.4	
EMOS	**Mosqueruela**	**5.99**	**106**	Pn		**Pn**	**22 34 26.5**	**-0.3**
EMOS				Sn		**Sn**	**22 35 29.3**	**-5.4**
EMOS				Sg		Sb	22 36 02.0	+7.2
EMOS				*i* IVmb_Lg			22 36 24.2	
EVIV	**Cofrentes, Val**	**6.04**	**117**	Pn		**Pn**	**22 34 26.8**	**-0.4**
EVIV				Sg		Sb	22 36 03.6	+7.7
EVIV				*i* IVmb_Lg			22 36

REZ				eS	Sn	22 45 48.0	+0.2
COLC	**Colonia**	**0.28**	**306**	*eP*	**Pn**	22 45 39.1	-0.6
COLC				eS	Sn	22 45 48.1	+0.3
BAGA	**Bagaces**	**0.29**	**276**	⇓*iP*	**Pn**	22 45 39.2	-0.4
BAGA				eS	Sn	22 45 48.1	+0.3
VACR	**Volcan Arenal**	**0.29**	**95**	*eP*	**Pn**	22 45 39.8	+0.1
VACR				eS	Sn	22 45 48.6	+0.7
HORNC	**Hornillas**	**0.29**	**316**	⇑*iP*	**Pn**	22 45 39.3	-0.5
HORNC				eS	Sn	22 45 48.2	+0.1
FORC	**Fortuna**	**0.30**	**96**	⇑*eP*	**Pn**	22 45 39.9	+0.2
FORC				eS	Sn	22 45 48.8	+0.8
MESS	**Mesas**	**0.33**	**318**	⇑*eP*	**Pn**	22 45 39.8	-0.1
MESS				eS	Sn	22 45 49.2	+0.8
VMAR	**Armenia, Volca**	**0.34**	**336**	⇓*eP*	**Pn**	22 45 40.0	-0.1
VMAR				eS	Sn	22 45 49.5	+0.9
SOCE	**Pocosol**	**0.37**	**108**	*eP*	**Pn**	22 45 39.9	-0.3
SOCE				eS	Sn	22 45 49.1	+0.2
SOCE	**Pocosol**	**0.37**	**108**	P	**Pn**	22 45 39.9	-0.3
PLVR	**Palo Verde**	**0.40**	**248**	⇓*iP*	**Pn**	22 45 40.1	-0.5
PLVR				eS	Sn	22 45 49.6	-0.1
GPS2	**Hotel Rincn d**	**0.45**	**304**	⇑*eP*	**Pn**	22 45 40.4	-0.5
GPS2				eS	Sn	22 45 50.3	+0.2
GPS1	**Guardaparques**	**0.46**	**306**	*eP*	**Pn**	22 45 40.6	-0.5
GPS1				eS	Sn	22 45 50.8	+0.4
GPS3	**Bodega del ICE**	**0.46**	**303**	⇑*iP*	**Pn**	22 45 43.0	+1.9
GPS3				eS	Sn	22 45 52.0	+1.6
VRLE	**La Escondida,**	**0.48**	**307**	*eP*	**Pn**	22 45 40.9	-0.4
VRLE				eS	Sn	22 45 50.7	0.0
VORI	**VORI**	**0.49**	**311**	*eP*	**Pn**	22 45 41.5	+0.1
VORI				eS	Sn	22 45 52.0	+1.1
BUAI	**Buenos Aires**	**0.52**	**317**	⇑*iP*	**Pn**	22 45 41.3	-0.3
BUAI				eS	Sn	22 45 51.6	+0.5
PEJA	**Penjamo Buenos**	**0.52**	**320**	*eP*	**Pn**	22 45 41.3	-0.2
LAPC	**Finca la Perla**	**0.53**	**300**	⇑*eP*	**Pn**	22 45 40.8	-0.8
ALIBA	**Liberia Airpor**	**0.57**	**279**	⇑*iP*	**Pn**	22 45 41.7	-0.3
ALIBA				eS	Sn	22 45 52.3	+0.3
DELF	**Filadelfia**	**0.57**	**265**	*eP*	**Pn**	22 45 41.8	-0.2
ELI1	**Hacienda Flor**	**0.59**	**284**	⇑*eP*	**Pn**	22 45 41.7	-0.4
ELI1				eS	Sn	22 45 52.0	-0.3
ELI1	**Hacienda Flor**	**0.59**	**284**	P	**Pn**	22 45 41.8	-0.4
COVE	**Coope Vega, Sa**	**0.60**	**69**	P	**Pn**	22 45 41.7	-0.6
COVE	**Coope Vega, Sa**	**0.60**	**69**	S	**Sn**	22 45 52.8	+0.2
VPL2	**V. Platanar**	**0.61**	**108**	*eP*	**Pn**	22 45 42.2	-0.4
VPL2				eS	Sn	22 45 53.5	+0.4
SRA1	**San Ramn**	**0.64**	**130**	*eP*	**Pn**	22 45 42.0	-0.9
SRA1				eS	Sn	22 45 53.1	-0.4
RAMO	**San Ramon**	**0.64**	**129**	*eP*	**Pn**	22 45 43.0	+0.1
RAMO				eS	Sn	22 45 53.4	-0.2
VPL1	**V. Platanar**	**0.64**	**112**	⇓*iP*	**Pn**	22 45 42.3	-0.7
VPL1				eS	Sn	22 45 53.5	-0.3
JUD3	**Juan Diaz 3**	**0.65**	**239**	⇑*eP*	**Pn**	22 45 41.6	-1.3
CMARA	**Lajas Hojancha**	**0.65**	**223**	P	**Pn**	22 45 42.7	-0.2
PAQE	**Paquera**	**0.68**	**177**	*eP*	Pn	22 45 47.4	+4.3
PAQE				eS	Sn	22 45 55.3	+1.3
PALD	**Palmares**	**0.69**	**130**	*eP*	**Pn**	22 45 42.9	-0.5
OROT	**Orotina**	**0.73**	**143**	*eP*	**Pn**	22 45 43.5	-0.3
ARTO	**Ro Cuarto**	**0.76**	**102**	⇓*iP*	**Pn**	22 45 43.7	-0.4
ARTO				eS	Sn	22 45 55.4	-0.3
ATEO	**Atenas**	**0.78**	**132**	*eP*	**Pn**	22 45 43.6	-0.8
ATEO				eS	Sn	22 45 55.6	-0.6
VPS8	**V Poas**	**0.79**	**114**	⇓*iP*	**Pn**	22 45 44.4	-0.3
INDI	**Punta indio, G**	**0.82**	**220**	P	**Pn**	22 45 44.9	+0.1
INDI	**Punta indio, G**	**0.82**	**220**	S	**Sn**	22 45 57.2	+0.3
CARN	**Rivas**	**0.87**	**322**	P	**Pn**	22 45 45.4	0.0
CARN				S	**Sn**	22 45 57.5	-0.5
BELE	**Belen**	**0.93**	**124**	*eP*	**Pn**	22 45 45.2	-1.0
HDC	**Heredia**	**0.98**	**120**	*eP*	**Pn**	22 45 44.4	-0.4
ACOS	**Acosta**	**1.06**	**131**	*eP*	**Pn**	22 45 46.9	-1.0
CVIMO	**Finca Echandi**	**1.12**	**115**	*eP*	**Pn**	22 45 48.4	-0.2
TRIO	**Tres Rios**	**1.13**	**121**	*eP*	**Pn**	22 45 45.6	-3.1
TRIO				eS	Sn	22 46 04.1	+0.2
PAR1A	**Puntarenas Pro**	**1.14**	**142**	*eP*	**Pn**	22 45 48.6	-0.2
PICV	**PH. Pirrs**	**1.16**	**138**	*eP*	**Pn**	22 45 48.3	-0.7
LCR2	**La Lucha 2**	**1.21**	**128**	⇓*iP*	**Pn**	22 45 49.1	-0.8
LCR2	**La Lucha 2**	**1.21**	**128**	P	**Pn**	22 45 49.2	-0.6
LCR2	**La Lucha 2**	**1.21**	**128**	S	**Sn**	22 46 06.1	+0.2
VICA	**Volcano Irazu**	**1.22**	**115**	⇓*iP*	**Pn**	22 45 49.6	-0.5
VICA				eS	Sn	22 46 08.1	+1.7
JAPN	**Al SSO del Vol**	**1.23**	**326**	*eP*	**Pn**	22 45 49.6	-0.3
RAFA	**San Farael, Vo**	**1.26**	**115**	*eP*	**Pn**	22 45 50.1	-0.5
CVTQ	**Turrialba Volc**	**1.28**	**112**	⇓*iP*	**Pn**	22 45 50.6	-0.3
CVTR	**Volcan Turrial**	**1.28**	**112**	⇓*iP*	**Pn**	22 45 50.5	-0.5
VTR0	**Volcan Turrial**	**1.28**	**112**	⇓*iP*	**Pn**	22 45 50.6	-0.4
CVTV	**Tajo**	**1.30**	**112**	⇓*eP*	**Pn**	22 45 50.8	-0.3
PIEC	**Cerro El Cedra**	**1.33**	**131**	*eP*	**Pn**	22 45 50.7	-0.6
PIEC				eS	Sn	22 46 09.8	+1.2
ABRB	**Las Abras (San**	**1.33**	**112**	⇑*iP*	**Pn**	22 45 51.1	-0.2
VTCV	**VTCV, Calle Va**	**1.33**	**113**	⇓*iP*	**Pn**	22 45 51.0	-0.4
VERB	**Verbena**	**1.37**	**114**	*eP*	**Pn**	22 45 51.5	-0.4
ACON	**Acoyapa**	**1.47**	**352**	⇓*eP*	**Pn**	22 45 52.2	-0.9
ACON				eS	Sn	22 46 11.1	-0.6
ACON	**Acoyapa**	**1.47**	**352**	P	**Pn**	22 45 52.2	-0.9
BUS1	**Rivas**	**1.53**	**128**	*eP*	**Pn**	22 45 53.8	-0.5
BUS1				eS	Sn	22 46 13.9	+0.3
VERH	**Veragua Rainfo**	**1.84**	**108**	*eP*	**Pn**	22 45 57.4	-0.7
OCHAL	**Ojochal**	**1.91**	**137**	S	**Sn**	22 46 23.3	+1.2
OCHAL	**Ojochal**	**1.91**	**137**	P	**Pn**	22 45 59.1	+0.2
EDPE	**Pejibaye, P**	**1.92**	**134**	*eP*	**Pn**	22 45 59.1	+0.1
LAES	**El Progreso Va**	**2.03**	**111**	*eP*	**Pn**	22 46 01.2	+0.7
BOAB	**BOACO BROADBAN**	**2.05**	**341**	P	**Pn**	22 46 00.5	-0.4
DRK0	**Durika**	**2.10**	**126**	⇑*eP*	**Pn**	22 46 01.4	-0.2
DRK0	**Durika**	**2.10**	**126**	P	**Pn**	22 46 01.4	-0.2
COPN	**Copaltepe**	**2.31**	**317**	P	**Pn**	22 46 04.3	+0.1
ALCO	**Alturas Coton,**	**2.61**	**126**	*eP*	**Pn**	22 46 08.3	-0.2

IDC 04 22:53:14.7±1.9, 11°51′S×67°22′E, h0km, mb3.8/5, mbtmp3.8/5, MS3.3/6, Error ellipse: s-maj=63.3km s-min=33.6km az=82.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**6.45**	**54**	T	T	23 01 54.4	
	baz=236,slow=75,SNR=4.8						
H08S2	**Diego Garcia H**	**6.47**	**54**	T	T	23 01 55.8	
	baz=236,slow=75,SNR=14						
H08S3	**Diego Garcia H**	**6.47**	**54**	T	T	23 01 55.2	
	baz=236,slow=75,SNR=54						
KMBO	**Kilima Mbogo**	**31.48**	**287**	LR	LR	23 10 57.7	
	comp=Z,43nm,19.8s,baz=94,slow=34						
LSZ	**Lusaka**	**38.12**	**260**	LR	LR	23 13 47.7	
	comp=Z,54nm,18.6s,baz=126,slow=32						
LBTB	**Lobatse**	**41.57**	**245**	LR	LR	23 16 29.1	
	comp=Z,63nm,19.1s,baz=109,slow=34						
TSUM	**Tsumeb**	**48.34**	**255**	LR	LR	23 19 16.7	
	comp=Z,31nm,20.6s,baz=179,slow=32						
H01W3	**Cape Leeuwin H**	**48.45**	**127**	T	T	23 54 27.1	
	baz=287,slow=75,SNR=55						
H01W2	**Cape Leeuwin H**	**48.45**	**127**	T	T	23 54 27.9	
	baz=287,slow=75,SNR=78						
H01W1	**Cape Leeuwin H**	**48.47**	**127**	T	T	23 54 28.3	
	baz=287,slow=75,SNR=70						
MKAR	**Makanchi Array**	**59.59**	**12**	P	P	23 03 20.6	+0.3
	1.7nm,1.2s,baz=213,slow=7.7,SNR=1.8 1.7nm,1.2s						
ASAR	**Alice Springs**	**64.23**	**111**	P	P	23 03 52.5	+0.5
	0.3nm,0.7s,baz=269,slow=6.2,SNR=5.1 0.3nm,0.7s						
WRA	**Warramunga Arr**	**64.80**	**107**	P	P	23 03 55.5	-0.4
	0.6nm,0.5s,baz=274,slow=5.8,SNR=5.1						
WRA				LR	LR	23 29 24.5	
	comp=Z,34nm,19.6s,baz=350,slow=34 0.6nm,0.5s						
SONM	**Songino Array**	**68.57**	**27**	P	P	23 04 19.0	-0.4
	0.6nm,0.6s,baz=222,slow=1.9,SNR=3.3 0.6nm,0.6s						
QSPA	**South Pole Qui**	**78.55**	**180**	P	P	23 05 17.9	0.0
	1.0nm,1.0s,baz=282,slow=8.3,SNR=1.8 1.0nm,1.0s						
MJAR	**Matsushiro Arr**	**81.98**	**50**	LR	LR	23 40 29.2	
	comp=Z,8.8nm,20.8s,baz=190,slow=35						

*AEIC **04** 22:57:52.4±1.2, 51°25′N±0°05′×178°32′W±0°03, h26km±6km, Error ellipse: s-maj=7.0km s-min=1.8km az=198.0*

NEIC 04 22:57:53.4±1.1, 51°28′N±0°06′×178°31′W±0°04, h33km±9km, mb3.7/12, ML3.9/8, ML3.5(AEIC), Error ellipse: s-maj=9.3km s-min=3.4km az=179.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.42**	**311**		Pb	22 58 02.0	-0.7
GAKI					Sb	22 58 09.1	-0.1
TAFL	**Tanaga Flats**	**0.54**	**28**		Pb	22 58 04.2	-0.5
TAFL					Sn	22 58 12.8	+0.1
GALAA	**Gareloi Lava P**	**0.56**	**329**		Pb	22 58 04.7	-0.3
GALAA					Sn	22 58 13.8	+0.6
GAEA	**Gareloi East**	**0.58**	**332**		Pn	22 58 04.8	-0.4
GAEA					Sn	22 58 13.8	+0.3
TASE	**Tanaga Southea**	**0.58**	**17**		Pn	22 58 04.9	-0.4
TASE					Sn	22 58 14.2	+0.4
GANE	**Gareloi Northe**	**0.62**	**332**		Pn	22 58 05.2	-0.6
GANE					Sn	22 58 14.7	+0.2
TAPA	**Tanaga Point A**	**0.62**	**30**		Pn	22 58 05.3	-0.5
TAPA					Sn	22 58 14.9	+0.3
KIMD	**Kanaga Island**	**0.83**	**54**		Pn	22 58 08.2	-0.4
KIMD					Sn	22 58 19.8	+0.1
KIWB	**Kanaga Island**	**0.92**	**51**		Pn	22 58 09.7	-0.3
KIWB					Sn	22 58 22.1	0.0
KIWB				IAML		22 58 23.2	
	comp=N,3μm,0.4s						
KIKV	**Kanaga Island**	**0.93**	**49**		Sn	22 58 22.5	+0.2
KICM	**Kanaga Island**	**0.94**	**47**		Pn	22 58 10.3	0.0
KICM					Sb	22 58 23.4	-0.1
ADK	**Adak**	**1.18**	**58**		Pn	22 58 13.2	-0.3
ADK				IAML		22 58 31.5	
	comp=N,2μm,0.6s						
ADK				IAML		22 58 31.8	
	comp=N,2μm,0.5s						
ADK	**Adak**	**1.18**	**58**		Sn	22 58 28.5	+0.1
ADAG	**Mount Adagdak**	**1.27**	**56**		Pn	22 58 15.1	+0.3
ADAG					Sn	22 58 31.6	+0.8
ETKA	**Kagalaska Isla**	**1.32**	**63**		Pn	22 58 15.1	-0.4
ETKA					Sn	22 58 32.2	+0.2
CERB	**Semis' Cerberu**	**1.44**	**298**		Pn	22 58 17.1	0.0
CERB					Sn	22 58 35.8	+0.9
CEPE	**Semis' Perret**	**1.45**	**299**		Pn	22 58 16.7	-0.5
AMKA	**Amchitka**	**1.50**	**275**		Pn	22 58 16.2	-1.7
AMKA	**Amchitka**	**1.50**	**275**		Sn	22 58 34.6	-1.8
CEAP	**Semis' Anvil P**	**1.50**	**300**		Pn	22 58 17.9	-0.1
GSCK	**Great Sitkin C**	**1.53**	**60**		Pn	22 58 18.4	+0.1
GSCK					Sn	22 58 38.5	+1.5
GSTD	**Great Sitkin T**	**1.56**	**59**		Sn	22 58 38.8	+1.0
GSSP	**Great Sitkin S**	**1.56**	**58**		Pn	22 58 19.2	+0.5
GSSP					Sb	22 58 39.5	-1.5
GSMY	**Great Sitkin M**	**1.60**	**60**		Sn	22 58 40.1	+1.2
GSTR	**Great Sitkin T**	**1.62**	**59**	Pn	Pn	22 58 19.7	+0.1
GSTR				IAML		22 58 47.7	
	comp=E,1μm,0.3s						
GSIG	**Igitkin Island**	**1.65**	**64**		Pn	22 58 19.8	-0.2
LSSE	**Little Sitkin**	**2.06**	**290**		Pn	22 58 26.0	+0.4
LSPA	**Little Sitkin**	**2.06**	**290**		Pn	22 58 25.6	0.0
LSPA					Sn	22 58 51.8	+1.6
LSNW	**Little Sitkin**	**2.10**	**291**		Pn	22 58 26.1	-0.1
ATKA	**Atka Island**	**2.72**	**68**		Pn	22 58 34.5	-0.2
ATKA					Sn	22 59 07.0	+0.7
SPIA	**Saint Paul Isl**	**7.56**	**35**	Pn	Pn	22 59 41.9	+0.8
CNBA	**Chernabura Isl**	**11.80**	**65**	Pn	Pn	23 00 38.7	-0.4
CHGN	**Chignik**	**12.77**	**59**	Pn	Pn	23 00 52.9	+0.5
M17K	**Holitna River**	**15.31**	**40**	Pn	Pn	23 01 27.8	+1.1
OHAK	**Old Harbor**	**15.73**	**58**	Pn	Pn	23 01 32.3	+0.1
OHAK				IAmb	IAmb	23 02 01.2	
	comp=Z,13nm,1.3s						
L18K	**Granite Mounta**	**16.05**	**39**	Pn	Pn	23 01 37.0	+0.8
L18K				IAmb	IAmb	23 01 50.8	
	comp=Z,5.8nm,1.2s						
KDAK	**Kodiak Island**	**16.22**	**56**	Pn	Pn	23 01 38.4	-0.1
KDAK				IAmb	IAmb	23 02 05.5	
	comp=Z,9.1nm,1.2s						
BPAW	**Bear Paw Mtn.**	**19.24**	**38**	P	P	23 02 14.7	+0.2
BPAW				IAmb	IAmb	23 02 24.4	
	comp=Z,6.0nm,1.4s						
E19K	**Redstone River**	**19.27**	**25**	P	P	23 02 15.4	+0.5
G21K	**Allakaket**	**19.71**	**30**	P	P	23 02 19.4	-0.2
G21K				IAmb	IAmb	23 02 44.4	
	comp=Z,8.5nm,1.5s						
RND	**Reindeer**	**19.78**	**41**	P	P	23 02 19.7	-0.7
D19K	**Kuna River**	**19.84**	**22**	P	P	23 02 20.8	-0.2
DHY	**Denali Highway**	**20.27**	**42**	P	P	23 02 24.8	-1.1
DHY				IAmb	IAmb	23 02 27.9	
	comp=Z,3.1nm,1.0s						
J25K	**Salcha River,**	**21.66**	**39**	P	P	23 02 40.6	-0.2
D23K	**Nanushuk River**	**22.09**	**26**	P	P	23 02 44.3	-1.0
MKAR	**Makanchi Array**	**60.34**	**309**	P	P	23 07 57.1	-1.6

IDC 04 23:08:12.1±4.6, 4°08′S×152°96′E, h0km, mb3.4/2, mbtmp3.4/2, MS2.7/1, Error ellipse: s-maj=227.7km s-min=54.6km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.74**	**128**	LR	LR	23 14 15.6	
	comp=Z,41nm,18.1s,baz=291,slow=42						
WRA	**Warramunga Arr**	**24.03**	**228**	P	P	23 13 29.3	+0.2
	0.6nm,0.5s,baz=54,slow=9.6,SNR=5.1 0.6nm,0.5s						
ASAR	**Alice Springs**	**26.78**	**222**	P	P	23 13 54.0	-0.1
	0.4nm,0.8s,baz=46,slow=8.7,SNR=2.0 0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.22**	**289**	PKPbc	PKPbc	23 28 05.8	-0.5
	0.3nm,0.6s,baz=80,slow=2.2,SNR=2.1						

*CATAC **04** 23:18:07.7±0.9, 10°N±5°×8°6W±°, h19km±9km, M3.2/11, MLv3.2/11, Error ellipse: s-maj=12.7km s-min=6.1km az=35.2, confirmed*

*UCR **04** 23:18:07.3±1.3, 10°31′N×86°31′W, h0km±7km, MW3.8*

ISC 04 23:18:07.8±2.0, 10°26′N±0°06′×86°32′W±0°07′, h7km±11km, n47, σ0°74/62, 7C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUD3	**Juan Diaz 3**	**0.77**	**97**	*eP*	**Pb**	**23 18 23.7**	**+0.2**
DELF	**Filadelfia**	**0.78**	**76**	*eP*	**Pb**	23 18 23.7	+0.1
DELF				eS	**Sb**	**23 18 34.5**	**+0.2**
ALIBA	**Liberia Airpor**	**0.83**	**66**	⇑*iP*	**Pb**	**23 18 25.0**	**+0.5**
ALIBA				eS	**Sb**	**23 18 37.1**	**+1.3**
ELI1	**Hacienda Flor**	**0.84**	**63**	⇑*iP*	**Pn**	**23 18 25.5**	**-0.6**
ELI1				eS	**Sn**	**23 18 38.0**	**-0.7**
ELI1	**Hacienda Flor**	**0.84**	**63**	P	**Pn**	**23 18 25.4**	**-0.6**
ELI1	**Hacienda Flor**	**0.84**	**63**	S	**Sn**	**23 18 38.7**	**0.0**
INDI	**Punta indio, G**	**0.89**	**116**	P	**Pb**	**23 18 25.7**	**+0.1**
INDI	**Punta indio, G**	**0.89**	**116**	S	**Sb**	**23 18 37.1**	**-0.5**
CMARA	**Lajas Hojancha**	**0.91**	**105**	P	**Pb**	**23 18 25.7**	**-0.2**
CMARA	**Lajas Hojancha**	**0.91**	**105**	S	**Sg**	**23 18 37.8**	**+0.6**
PLVR	**Palo Verde**	**0.95**	**85**	*eP*	**Pn**	**23 18 28.1**	**+0.3**
LAPC	**Finca la Perla**	**1.01**	**60**	⇑*iP*	**Pg**	**23 18 26.8**	**-0.3**
LAPC				eS	**Sg**	**23 18 41.0**	**+0.8**
LCRUZ	**La Cruz**	**1.06**	**40**	⇑*eP*	**Pg**	**23 18 27.9**	**-0.2**
LCRUZ				eS	**Sn**	**23 18 43.5**	**-0.5**
GPS2	**Hotel Rincn d**	**1.07**	**63**	⇑*eP*	**Pg**	**23 18 28.1**	**-0.2**
GPS2				eS	**Sb**	**23 18 43.3**	**+0.5**
BAGA	**Bagaces**	**1.07**	**75**	*eP*	Pg	23 18 23.7	-4.7
VRLE	**La Escondida,**	**1.07**	**61**	*eP*	**Pg**	**23 18 28.0**	**-0.4**
VRLE				eS	**Sb**	**23 18 43.5**	**+0.5**
GPS1	**Guardaparques**	**1.08**	**62**	*eP*	**Pg**	**23 18 28.2**	**-0.4**
GPS1				eS	**Sb**	**23 18 43.6**	**+0.4**
VORI	**VORI**	**1.10**	**60**	*eP*	**Pg**	**23 18 28.6**	**-0.4**
VORI				eS	**Sb**	**23 18 44.6**	**+0.6**
BUAI	**Buenos Aires**	**1.15**	**58**	*eP*	**Pb**	**23 18 29.6**	**-0.4**
BUAI				eS	**Sn**	**23 18 49.1**	**+2.9**
PEJA	**Penjamo Buenos**	**1.17**	**57**	*eP*	**Pb**	**23 18 30.0**	**-0.4**
CUI	**Cuipilapa**	**1.20**	**71**	*eP*	**Pn**	**23 18 30.2**	**-0.9**
CUI				eS	**Sb**	**23 18 45.3**	**-1.3**
MESS	**Mesas**	**1.20**	**66**	*eP*	**Pn**	**23 18 30.1**	**-1.0**
HORNC	**Hornillas**	**1.21**	**68**	*eP*	**Pn**	**23 18 30.2**	**-1.0**
HORNC				eS	**Sb**	**23 18 46.6**	**-0.2**
CARN	**Rivas**	**1.21**	**40**	*eP*	**Pn**	**23 18 30.6**	**-0.5**
CARN	**Rivas**	**1.21**	**40**	P	**Pn**	**23 18 30.4**	**-0.6**
INVE	**Universidad In**	**1.25**	**80**	⇑*eP*	**Pn**	**23 18 31.0**	**-0.7**
INVE				eS	**Sn**	**23 18 49.4**	**+0.5**
MOTZ	**Rio Naranjo**	**1.30**	**71**	*eP*	**Pn**	**23 18 31.4**	**-0.9**
VMAR	**Armenia, Volca**	**1.30**	**65**	*eP*	**Pn**	**23 18 31.9**	**-0.6**
TIMP	**Tierras Morena**	**1.32**	**76**	*eP*	**Pn**	**23 18 31.9**	**-0.8**
TIMP				eS	**Sn**	**23 18 50.5**	**-0.1**
JTS	**Las Juntas de**	**1.34**	**89**	*eP*	**Pn**	**23 18 32.1**	**-0.9**
JTS	**Las Juntas de**	**1.34**	**89**	P	**Pn**	**23 18 32.3**	**-0.7**
JTS				S	**Sb**	**23 18 50.7**	**0.0**
TENO	**El Achiote**	**1.39**	**71**	⇑*eP*	**Pn**	**23 18 32.3**	**-1.4**
TENO				eS	**Sn**	**23 18 52.0**	**-0.3**
OMEN	**Al SSO del Vol**	**1.42**	**29**	P	**Pn**	**23 18 33.7**	**-0.2**
MORN	**Al O del Volca**	**1.44**	**27**	P	**Pn**	**23 18 34.0**	**-0.3**
QUEB	**Quebradon, Cot**	**1.44**	**75**	*eP*	**Pn**	**23 18 33.9**	**-0.5**
CONN	**Concepcion**	**1.46**	**28**	P	**Pn**	**23 18 34.2**	**-0.5**
TABAC	**Tabacon**	**1.54**	**81**	*eP*	**Pn**	**23 18 35.8**	**0.0**
ARE1	**Arenal 1**	**1.58**	**83**	*eP*	**Pn**	**23 18 36.6**	**+0.3**
VARE2	**V. Arenal**	**1.58**	**83**	*eP*	**Pn**	**23 18 36.7**	**+0.3**
SOCE	**Pocosol**	**1.68**	**86**	*eP*	**Pn**	**23 18 37.4**	**-0.2**
SOCE	**Pocosol**	**1.68**	**86**	P	**Pn**	**23 18 37.3**	**-0.3**
NANN	**Nandasmo**	**1.68**	**7**	P	**Pn**	**23 18 38.2**	**+0.6**
VPL1	**V. Platanar**	**1.92**	**90**	*eP*	**Pn**	**23 18 41.9**	**+0.8**
COPN	**Copaltepe**	**1.93**	**352**	⇓*iP*	**Pn**	**23 18 40.9**	**-0.1**
COPN	**Copaltepe**	**1.93**	**352**	P	**Pn**	**23 18 40.9**	**-0.1**
ACON	**Acoyapa**	**2.04**	**33**	*eP*	**Pn**	**23 18 41.1**	**-1.3**
ACON	**Acoyapa**	**2.04**	**33**	P	**Pn**	**23 18 41.2**	**-1.3**

*UCR **04** 23:25:59.6±1.4, 10°25′N×86°38′W, h10km±10km, MW4.3*

*CATAC **04** 23:26:02.4±0.8, 10°N±5°×8°6W±°, h32km±14km, M3.5/12, MLv3.5/12, Error ellipse: s-maj=11.4km s-min=7.7km az=45.4, confirmed*

ISC 04 23:26:01.0±1.8, 10°26′N±0°05′×86°30′W±0°07′, h17km±9km, n51, σ0°62/66, 14C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUD3	**Juan Diaz 3**	**0.76**	**97**	*eP*	**Pb**	**23 26 15.3**	**-0.4**
DELF	**Filadelfia**	**0.76**	**76**	*eP*	**Pg**	**23 26 15.8**	**0.0**
DELF				eS	**Sg**	**23 26 26.6**	**+0.8**
ALIBA	**Liberia Airpor**	**0.81**	**66**	⇑*iP*	**Pn**	**23 26 17.4**	**-0.2**
ALIBA				eS	**Sn**	**23 26 29.7**	**+0.5**
ELI1	**Hacienda Flor**	**0.83**	**63**	⇑*iP*	**Pn**	**23 26 17.8**	**0.0**
ELI1				eS	**Sn**	**23 26 30.1**	**+0.5**
ELI1	**Hacienda Flor**	**0.83**	**63**	P	**Pn**	**23 26 17.8**	**0.0**
INDI	**Punta indio, G**	**0.88**	**117**	S	**Sg**	**23 26 29.5**	**-0.2**
INDI	**Punta indio, G**	**0.88**	**117**	P	**Pg**	**23 26 18.2**	**0.0**
CMARA	**Lajas Hojancha**	**0.90**	**106**	P	**Pg**	**23 26 18.4**	**-0.1**
CMARA	**Lajas Hojancha**	**0.90**	**106**	S	**Sb**	**23 26 29.7**	**-0.1**
PLVR	**Palo Verde**	**0.94**	**85**	*eP*	**Pn**	**23 26 19.4**	**-0.1**
PLVR				eS	**Sg**	**23 26 32.0**	**+0.3**
LAPC	**Finca la Perla**	**0.99**	**60**	⇑*eP*	**Pb**	**23 26 19.3**	**-0.3**
LCRUZ	**La Cruz**	**1.04**	**39**	*eP*	**Pb**	**23 26 20.1**	**-0.4**
GPS2	**Hotel Rincn d**	**1.05**	**62**	⇑*eP*	**Pb**	**23 26 20.3**	**-0.5**
VRLE	**La Escondida,**	**1.06**	**60**	⇑*eP*	**Pb**	**23 26 20.0**	**-0.8**
GPS1	**Guardaparques**	**1.06**	**61**	*eP*	**Pb**	**23 26 20.5**	**-0.5**
VORI	**VORI**	**1.09**	**60**	⇑*eP*	**Pb**	**23 26 20.9**	**-0.5**
BUAI	**Buenos Aires**	**1.13**	**57**	*eP*	**Pn**	**23 26 21.4**	**-0.6**
BUAI				eS	**Sg**	**23 26 38.1**	**+0.4**
COLC	**Colonia**	**1.15**	**70**	*eP*	**Pn**	**23 26 21.7**	**-0.6**
COLC				eS	**Sg**	**23 26 38.6**	**+0.3**
PEJA	**Penjamo Buenos**	**1.16**	**57**	*eP*	**Pg**	**23 26 23.0**	**-0.4**
CUI	**Cuipilapa**	**1.18**	**71

H11N1	**WAKE ISLAND Hy**	**41.76**	**331**	T	T	01 08 16.5	
	baz=150						
H11N2	**WAKE ISLAND Hy**	**41.77**	**331**	T	T	01 08 19.4	
	baz=150						
COEN	**Coen**	**42.38**	**268**	P	**P**	**00 24 28.9**	**-0.8**
COEN				IAmb	IAmb	00 24 45.5	
	comp=Z,13nm,1.3s						
STKA	**Stephens Creek**	**43.56**	**242**	P	**P**	**00 24 37.9**	**-1.3**
STKA	**Stephens Creek**	**43.56**	**242**	P	**P**	**00 24 38.3**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=72,slow=7.8,SNR=4.1						
	comp=Z,1.7nm,0.6s						
WB0	**Warramunga Arr**	**49.89**	**258**	P	**P**	**00 25 26.0**	**-2.9**
WB0				IAmb	IAmb	00 25 38.8	
	comp=Z,4.4nm,1.0s						
WRA	**Warramunga Arr**	**49.92**	**258**	P	**P**	**00 25 25.0**	**-4.1**
	comp=Z,0.6nm,0.4s,baz=96,slow=7.3,SNR=5.2						
WRA				LR	LR	00 45 24.6	
	comp=Z,130nm,18.5s,baz=86,slow=35						
	comp=Z,0.6nm,0.4s						
AS31	**Alice Springs**	**50.02**	**253**	P	**P**	**00 25 26.7**	**-3.2**
ASAR	**Alice Springs**	**50.03**	**253**	P	**P**	**00 25 25.8**	**-4.1**
	comp=Z,2.9nm,0.5s,baz=96,slow=7.8,SNR=32						
ASAR				LR	LR	00 44 45.0	
	comp=Z,34nm,19.6s,baz=40,slow=34						
	comp=Z,2.9nm,0.5s						
GUMO	**Guam**	**51.75**	**304**	LR	LR	00 44 09.7	
	comp=Z,25nm,20.3s,baz=254,slow=32						
MTN	**Manton Dam**	**54.09**	**266**	P	**P**	**00 25 59.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**58.32**	**259**	LR	LR	00 49 55.1	
	comp=Z,114nm,18.0s,baz=61,slow=35						
SBA	**Scott Base**	**61.45**	**185**	P	**P**	**00 26 51.2**	**+0.1**
SBA				IAmb	IAmb	00 27 07.4	
	comp=Z,8.9nm,1.1s						
SHEM	**Shemya Is, Ala**	**70.60**	**352**	LR	LR	00 53 13.0	
	comp=Z,43nm,19.9s,baz=284,slow=31						
QSPA	**South Pole Qui**	**72.80**	**180**	P	**P**	**00 28 03.3**	**-0.2**
QSPA				IAmb	IAmb	00 28 17.9	
	comp=Z,5.3nm,0.9s						
QSPA	**South Pole Qui**	**72.80**	**180**	P	**P**	**00 28 07.0**	**+3.6**
	comp=Z,1.7nm,0.9s,baz=288,slow=1.7,SNR=6.2						
	comp=Z,1.7nm,0.9s						
LPIG	**La Paz**	**73.60**	**58**	LR	LR	00 55 40.2	
	comp=Z,33nm,19.0s,baz=216,slow=32						
PFO	**Pinyon Flats O**	**73.83**	**46**	LR	LR	00 52 28.0	
	comp=Z,60nm,19.5s,baz=242,slow=29						
PETK	**Petropavlovsk-**	**74.53**	**342**	P	**P**	**00 28 12.1**	**-1.4**
	comp=Z,2.9nm,0.8s,baz=162,slow=5.2,SNR=5.4						
	comp=Z,2.9nm,0.8s						
NVAR	**Mina Array Bea**	**75.38**	**41**	LR	LR	00 53 22.7	
	comp=Z,47nm,19.9s,baz=270,slow=29						
ELK	**Elko**	**78.65**	**41**	LR	LR	00 55 23.5	
	comp=Z,55nm,20.0s,baz=250,slow=30						
TXAR	**Lajitas Array**	**81.24**	**56**	P	**P**	**00 28 52.4**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=242,slow=5.4,SNR=4.1						
TXAR				LR	LR	01 01 41.4	
	comp=Z,20nm,18.2s,baz=251,slow=33						
	comp=Z,0.2nm,0.5s						
ANMO	**Albuquerque**	**81.62**	**50**	LR	LR	00 57 33.6	
	comp=Z,42nm,20.1s,baz=348,slow=30						
PMSA	**Palmer Station**	**82.29**	**156**	LR	LR	01 03 15.5	
	comp=Z,92nm,18.4s,baz=225,slow=34						
PDAR	**Pinedale Array**	**83.32**	**41**	P	**P**	**00 29 02.2**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=247,slow=7.4,SNR=3.9						
	comp=Z,0.5nm,0.8s						
CCB	**Clear Creek Bu**	**83.89**	**11**	P	**P**	**00 29 04.5**	**+0.2**
CCB				IAmb	IAmb	00 29 18.9	
	comp=Z,2.6nm,0.8s						
ILAR	**Eielson Array**	**84.16**	**11**	P	**P**	**00 29 04.4**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=210,slow=5.2,SNR=5.5						
	comp=Z,0.5nm,0.8s						
K29M	**Barlow Dome**	**85.35**	**15**	P	**P**	**00 29 12.4**	**+0.5**
SNAA	**Sanae**	**91.04**	**177**	P	**P**	**00 29 38.4**	**-0.8**
SNAA				IAmb	IAmb	00 29 50.6	
	comp=Z,2.2nm,1.0s						
ATAH	**Atahualpa**	**92.18**	**98**	LR	LR	01 02 24.4	
	comp=Z,41nm,20.9s,baz=248,slow=30						
ULM	**Lac du Bonnet**	**95.06**	**39**	LR	LR	01 05 25.0	
	comp=Z,57nm,19.1s,baz=220,slow=31						
LPAZ	**La Paz**	**98.72**	**110**	LR	LR	01 04 56.9	
	comp=Z,24nm,20.9s,baz=158,slow=29						
OSTC	**Ostas**	**145.98**	**350**	*e*PKP	**PKPab**	**00 36 17.0**	**+1.8**
OSTC				*ex*	x	00 36 24.4	
DPC	**Dobruska-Polom**	**146.16**	**349**	*e*PKP	**PKiKP**	**00 36 18.0**	**-0.6**
DPC				*ex*	x	00 36 25.0	
STEB	**Steborice**	**146.28**	**348**	*e*PKP	**PKiKP**	**00 36 18.9**	**+0.1**
STEB				*ex*	x	00 36 25.6	
KRLC	**Kraliky**	**146.34**	**349**	*e*PKP	**PKPbc**	**00 36 15.9**	**0.0**
PRU	**Pruhonice**	**146.80**	**351**	*e*PKP	**PKiKP**	**00 36 27.4**	**+7.5**
KRUC	**Moravsky**	**147.39**	**349**	*e*PKP	**PKiKP**	**00 36 21.4**	**+0.3**
KHC	**Kasperske Hory**	**147.77**	**352**	*e*PKP	**PKPab**	**00 36 24.7**	**+2.4**
KHC				*ex*	x	00 36 31.2	
BRTR	**Keskin Array B**	**147.89**	**320**	PKPbc	**PKPbc**	**00 36 20.2**	**-0.6**
BRTR	**Keskin Array B**	**147.89**	**320**	PKPbc	**PKPbc**	**00 36 20.3**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=57,slow=5.3,SNR=5.6						
GERES	**GERESS Array B**	**148.04**	**352**	PKPbc	**PKPbc**	**00 36 20.6**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=349,slow=3.0,SNR=3.6						
CONA	**Conrad Observa**	**148.58**	**349**	*e*P	**PKPab**	**00 36 25.6**	**0.0**
	comp=Z,2.6nm,0.9s						
RONA	**Rosalia, Austr**	**148.71**	**348**	*e*P	**PKiKP**	**00 36 24.3**	**+0.4**
	comp=Z,0.3nm,0.2s						
RETA	**Reutte**	**149.70**	**355**	*e*P	**PKPbc**	**00 36 24.6**	**-0.4**
	comp=Z,0.9nm,0.3s						
MOTA	**Moosalm**	**149.81**	**355**	*e*P	**PKiKP**	**00 36 27.4**	**+1.0**
	comp=Z,3.8nm,1.2s						
WTTA	**Wattenberg**	**149.84**	**354**	*e*P	**PKiKP**	**00 36 26.3**	**-0.1**
	comp=Z,3.5nm,1.0s						
DAVA	**Damuels**	**149.96**	**356**	P	**PKiKP**	**00 36 27.0**	**+0.3**
	comp=Z,3.3nm,1.0s						
FETA	**Feichten**	**150.17**	**355**	P	**PKiKP**	**00 36 27.5**	**+0.4**
	comp=Z,2.0nm,1.1s						
ABTA	**Abfaltersbach**	**150.25**	**353**	*e*P	**PKPdf**	**00 36 23.6**	**+2.4**
	comp=Z,3.3nm,1.3s						
FUORN	**Ofenpass-Fuorn**	**150.60**	**356**	PKPbc	**PKPbc**	**00 36 26.4**	**-1.0**

*IDC **05** 00:16:48.3±1.0, 12°.26N×144°.08E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=36.8km s-min=17.3km az=110.0*

ISC 05 00:16:53.4±1.1, 12°.2N±0°.2×144°.1E±0°.3, h35km, n8, σ1§02/9, mb3.9/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GUMO	**Guam**	**1.57**	**29**	Pn		**Pn**	**00 17 18.1**	**-0.8**
	122nm,0.3s,baz=182,slow=9.8,SNR=18							
GUMO				Sn		**Sn**	**00 17 39.7**	**+1.7**
	150nm,0.3s,baz=14,slow=24,SNR=8.8							
WRA	**Warramunga Arr**	**33.36**	**197**	P		**P**	**00 23 28.8**	**+0.4**
	0.8nm,0.6s,baz=19,slow=8.9,SNR=1.9							
	0.8nm,0.6s							
ASAR	**Alice Springs**	**37.02**	**196**	P		**P**	**00 24 00.6**	**+0.7**
	0.9nm,0.7s,baz=15,slow=10,SNR=12							
	0.9nm,0.7s							
MKAR	**Makanchi Array**	**61.95**	**317**	P		**P**	**00 27 10.7**	**+0.9**
	1.0nm,1.0s,baz=96,slow=6.7,SNR=4.0							
	1.0nm,1.0s							
KURBB	**Kurchatov Arra**	**65.18**	**320**	P		**P**	**00 27 30.8**	**-0.2**
	0.8nm,0.7s,baz=104,slow=6.7,SNR=4.6							
	0.8nm,0.7s							
ILAR	**Eielson Array**	**70.14**	**25**	P		**P**	**00 28 01.0**	**-1.1**
	0.8nm,0.8s,baz=258,slow=5.8,SNR=7.7							
	0.8nm,0.8s							
BVAR	**Borovoye Array**	**70.53**	**322**	P		**P**	**00 28 05.0**	**+0.3**
	0.9nm,0.5s,baz=111,slow=6.7,SNR=9.6							
	0.9nm,0.5s							
FINES	**FINESS Array B**	**92.08**	**335**	P		**P**	**00 29 58.4**	**-0.3**
	2.5nm,1.0s,baz=77,slow=5.9,SNR=3.7							
	2.5nm,1.0s							

*DJA **05** 00:34:45.1±1.4, 9°.5S×10°.8E±°, h12km±12km, M3.9/11, MLv3.9/11*
*NEIC **05** 00:34:46.5±1.2, 9°.41S±0°.09×107°.9E±0°.1, h10km±1km, mb4.2/8, Error ellipse: s-maj=20.5km s-min=11.9km az=239.0*
*IDC **05** 00:34:48.9±1.7, 8°.83S×106°.64E, h0km, mb4.1/6, mbtmp4.1/7, ML3.8/1, Error ellipse: s-maj=52.9km s-min=28.8km az=52.0*

ISC 05 00:34:45.8±0.8, 9°.29S±0°.07×107°.84E±0°.07, h10km, n30, σ0§91/28, mb4.2/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CNJI	**Cibinong**	**2.09**	**340**	P		**Pn**	**00 35 20.3**	**-0.7**
CNJI				S		**Sn**	**00 35 47.8**	**+0.7**
KPJI	**Karang Pucung**	**2.23**	**29**	P		**Pn**	**00 35 23.4**	**+0.6**
LEM	**Lembang**	**2.46**	**355**	Pn		**Pb**	**00 35 28.3**	**-2.0**
	29nm,0.3s,baz=168,slow=8.5,SNR=5.0							
LEM				Sn		**Sb**	**00 36 00.4**	**-0.4**
	17nm,0.3s,baz=347,slow=21,SNR=8.8							
	100nm,0.4s							
LEM	**Lembang**	**2.46**	**355**	P		**Pn**	**00 35 26.6**	**+0.4**
UGM	**Wanagama**	**2.99**	**63**	Pn		**Pn**	**00 35 33.0**	**-0.3**
UGM	**Wanagama**	**2.99**	**63**	P		**Pn**	**00 35 32.3**	**-1.0**
WOJI	**Wonogiri, Jawa**	**3.38**	**65**	P		**Pn**	**00 35 38.0**	**-0.6**
SMRI	**Semarang**	**3.41**	**49**	Pn		**Pn**	**00 35 39.6**	**+0.5**
CGJI	**Cibinong**	**3.41**	**321**	P		**Pn**	**00 35 38.4**	**-0.7**
PCJI	**Pacitan**	**3.48**	**72**	P		**Pn**	**00 35 40.4**	**+0.4**
JAGI	**Jajag, Banyuwa**	**6.29**	**83**	Pn		**Pn**	**00 36 18.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**19.37**	**119**	P		**P**	**00 39 11.3**	**-0.6**
WR8	**Warramunga Arr**	**27.84**	**115**	P		**P**	**00 40 34.7**	**-1.1**
ASAR	**Alice Springs**	**28.72**	**123**	P		P	00 40 59.4	+16
	0.4nm,0.5s,baz=296,slow=8.7,SNR=4.1							
	0.4nm,0.5s							
SONM	**Songino Array**	**56.89**	**359**	P		**P**	**00 44 30.4**	**-0.6**
SONM				IAmb		IAmb	00 44 32.2	
	comp=Z,1.4nm,0.7s							
SONM	**Songino Array**	**56.89**	**359**	P		**P**	**00 44 30.7**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=178,slow=8.6,SNR=13							
	comp=Z,1.6nm,0.6s							
USA0B	**Ussuriysk Arra**	**57.57**	**20**	P		**P**	**00 44 38.0**	**+2.3**
H04N2	**CROZET ISLANDS**	**60.09**	**222**	T		T	01 50 08.3	
	baz=70							
H04N1	**CROZET ISLANDS**	**60.11**	**222**	T		T	01 50 07.6	
	baz=70,SNR=3.4							
H04N3	**CROZET ISLANDS**	**60.11**	**222**	T		T	01 50 11.7	
	baz=70							
MKAR	**Makanchi Array**	**60.31**	**340**	P		**P**	**00 44 54.6**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=160,slow=7.9,SNR=18							
	comp=Z,2.2nm,0.5s							
KKAR	**Karatay Array**	**62.25**	**330**	P		**P**	**00 45 09.2**	**+1.2**
KURBB	**Kurchatov Arra**	**64.88**	**340**	P		**P**	**00 45 24.9**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=153,slow=6.1,SNR=13							
	comp=Z,1.7nm,0.8s							
ZALV	**Zalesovo Beam**	**65.95**	**345**	P		**P**	**00 45 31.1**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=165,slow=6.9,SNR=4.5							
	comp=Z,0.7nm,0.5s							
BVAR	**Borovoye Array**	**69.79**	**337**	P		**P**	**00 45 55.6**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=130,slow=5.8,SNR=15							
	comp=Z,1.9nm,0.6s							
AB31	**Akbulak array**	**71.80**	**329**	P		**P**	**00 46 08.9**	**+0.4**
AB31				IAmb		IAmb	00 46 20.4	
	comp=Z,2.9nm,0.8s							
ABKAR	**Akbulak array**	**71.80**	**329**	P		**P**	**00 46 09.0**	**+0.4**
VNDA	**Vanda**	**73.57**	**169**	P		**P**	**00 46 18.5**	**-0.2**
VNDA				IAmb		IAmb	00 46 28.5	
	comp=Z,1.6nm,0.9s							
ARTI	**Arti**	**77.09**	**334**	P		**P**	**00 46 40.3**	**+1.1**
QSPA	**South Pole Qui**	**80.71**	**180**	P		**P**	**00 46 59.4**	**+0.2**
QSPA				IAmb		IAmb	00 47 10.5	
	comp=Z,3.0nm,1.2s							

*SOME **05** 00:43:39.6, 42°.57N×83°.23E, h15km*
*NNC **05** 00:43:44.8±2.1, 42°.76N×83°.31E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=19.0km s-min=7.8km az=149.0*

ISC 05 00:43:33.8±3.1, 42°.5N±0°.1×83°.31E±0°.10, h10km, n16, σ1§02/23, 6C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SHLS	**Shalkode**	**2.91**	**285**	Pg		**Pb**	**00 44 26.8**	**+0.9**
	15nm,0.3s							
SHLS				Lg		Lg	00 45 01.5	
	112nm,0.5s							
SHLS	**Shalkode**	**2.91**	**285**	*e*P		**Pb**	**00 44 26.8**	**+0.9**
	17nm,0.2s							
SHLS				*e*S		**Sb**	**00 45 01.5**	**-0.1**
	112nm,0.5s							
PDGK	**Podgornoye**	**2.93**	**288**	⇓Pn		**Pg**	**00 44 30.9**	**+0.9**
	10.0nm,0.4s							
PDGK				⇑Sn		**Sg**	**00 45 08.6**	**+0.7**
	66nm,0.7s							
UZB	**Uzynbulak**	**3.22**	**283**	Pg		**Pg**	**00 44 35.8**	**+0.2**
	2.4nm,0.2s							
UZB	**Uzynbulak**	**3.22**	**283**	*e*P		**Pg**	**00 44 35.8**	**+0.2**
	0.5nm,0.1s							
UZB				*e*S		**Sg**	**00 45 16.7**	**-0.7**
	36nm,0.6s							
KPKS	**Kokpek**	**3.53**	**288**	Pg		**Pg**	**00 44 41.0**	**-0.5**
SATY	**Saty**	**3.66**	**281**	Pg		**Pg**	**00 44 44.8**	**+0.9**
	6.0nm,0.2s							
SATY				Lg		Lg	00 45 31.9	
	37nm,0.3s							
ARXS	**Arharly**	**4.36**	**295**	*e*P		**Pg**	**00 44 57.0**	**-0.3**
ARXS				*e*S		**Sg**	**00 45 53.0**	**-0.7**
MK31	**Makanchi Array**	**4.37**	**351**	Pn		**Pb**	**00 44 48.9**	**-1.8**
	1.6nm,0.5s,baz=172,slow=12,SNR=33							
MK31				⇑Pg		**Pg**	**00 44 59.7**	**+2.2**
	4.4nm,0.5s,baz=168,slow=13,SNR=18							
MK31				⇑Lg		Lg	00 45 54.1	
	20nm,0.5s,baz=171,slow=29							
MAKZ	**Makanchi**	**4.43**	**348**	⇑Pn		**Pb**	**00 44 49.7**	**-2.0**
	1.5nm,0.6s							
MAKZ				Pg		**Pg**	**00 45 00.1**	**+1.5**
	2.5nm,0.4s							
MAKZ				⇑Lg		Lg	00 45 55.7	
	5.9nm,0.5s							
KTBS	**Karatobe**	**5.00**	**286**	Pg		**Pg**	**00 45 10.3**	**+0.7**
	1.5nm,0.4s							
KTBS				Lg		Lg	00 46 15.6	
	16nm,0.5s							
ZSN	**Zaisan**	**5.09**	**12**	Pg		**Pg**	**00 45 11.5**	**+0.3**
	5.1nm,0.2s							
ZSN				Lg		Lg	00 46 18.4	
	24nm,1.1s							
ZSN	**Zaisan**	**5.09**	**12**	*e*P		**Pg**	**00 45 11.5**	**+0.3**
	5.1nm,0.2s							
ZSN				*e*S		**Sg**	**00 46 17.9**	**+0.8**
	21nm,0.4s							
MTBS	**Maitube**	**5.10**	**280**	Pg		**Pg**	**00 45 11.2**	**-0.4**
	2.5nm,0.2s							
MTBS				Lg		Lg	00 46 18.2	
	10nm,0.6s							
MTBS	**Maitube**	**5.10**	**280**	*e*P		**Pg**	**00 45 11.2**	**-0.4**
	1.1nm,0.1s							
MTBS				*e*S		**Sg**	**00 46 17.1**	**-0.6**
	11nm,0.3s							
KURBB	**Kurchatov Arra**	**8.78**	**340**	⇑Lg		Lg	00 48 14.7	
	13nm,0.8s							

*NIED **05** 00:57:39.6, 33°.30N×135°.41E, h29km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.22; Mθθ-4.01; Mϕϕ2.79; Mrθ2.44; Mθϕ-8.30; Mϕr-3.36; Fault plane solution: Mo9.92000×10¹⁴ NP1: ϕs194.00000°, δ72.00000°, λ17.00000°. NP2:ϕs98.00000°, δ74.00000°, λ161.00000°.*
*JMA **05** 00:57:39.6±0.1, 33°.3N±0°.3×135°.4E±0°.2, h29km, MD4.1/40, MV4.3/40, S OFF KII PENINSULA*
JMA Felt II J1 at S OFF KII PENINSULA .
*IDC **05** 00:57:50.6±4.3, 33°.49N×136°.36E, h68km±41km, mb3.5/5, mbtmp3.7/6, ML2.6/1, Error ellipse: s-maj=31.3km s-min=28.4km az=80.0*

ISC 05 00:57:39.7±1.3, 33°.30N±0°.06×135°.40E±0°.04, h25km±10km, n45, σ1§30/31, mb3.7/5, 4D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JWKM	**Wakayamakushim**	**0.33**	**63**	*i* P		**Pb**	**00 57 47.2**	**+0.1**
JWKM				S		**Sb**	**00 57 52.6**	**+0.3**
JWKM	**Wakayamakushim**	**0.33**	**63**	A		A	00 57 47.2	
	comp=N,39nm,2.1s,comp=E,51nm,0.6s							
JTNC	**Tanabenakahech**	**0.55**	**18**	*i* P		**Pb**	**00 57 50.5**	**-0.2**
JTNC				S		**Sb**	**00 57 58.0**	**-0.1**
JTNC	**Tanabenakahech**	**0.55**	**18**	A		A	00 57 50.5	
	comp=N,46nm,0.4s,comp=E,36nm,0.9s							
JWM	**Minabe**	**0.55**	**356**	⇓*i* P		**Pb**	**00 57 50.6**	**-0.2**
JWM				⇓*i* S		**Sb**	**00 57 58.2**	**-0.1**
JWM	**Minabe**	**0.55**	**356**	A		A	00 57 50.6	
	comp=N,35nm,0.7s,comp=E,35nm,0.6s							
JMMH	**Miemihama**	**0.73**	**45**	A		A	00 57 53.4	
	comp=N,11nm,0.5s,comp=E,5.0nm,0.7s							
JWY	**Kouya**	**0.93**	**10**	*i* P		**Pn**	**00 57 56.6**	**-0.7**
JWY				S		**Sb**	**00 58 08.5**	**-0.7**
JWY	**Kouya**	**0.93**	**10**	A		A	00 57 56.6	
	comp=N,17nm,0.2s,comp=E,28nm,0.6s							
MRT2	**Murotomisaki 2**	**1.06**	**275**	A		A	00 57 58.6	
	comp=N,5.0nm,0.7s,comp=E,4.0nm,0.7s							
JKN2	**Miekihoku**	**1.19**	**37**	*i* P		**Pn**	**00 58 00.0**	**-0.7**
JKN2				*e*S		**Sn**	**00 58 15.5**	**-0.5**
TTO1	**TONANKAI O.B.S**	**1.20**	**74**	P		**Pn**	**00 57 59.8**	**-0.8**
JAWN	**Awajishima-nag**	**1.25**	**341**	⇓*i* P		**Pn**	**00 58 01.6**	**0.0**
JAWN				⇓S		**Sb**	**00 58 18.5**	**+0.1**
JAWN	**Awajishima-nag**	**1.25**	**341**	A		A	00 58 01.6	
	comp=N,5.0nm,0.9s,comp=E,5.0nm,1.6s							
JMN	**Monobe**	**1.34**	**289**	P		**Pn**	**00 58 02.4**	**-0.5**
JMN	**Monobe**	**1.34**	**289**	*i* P		**Pn**	**00 58 02.1**	**-0.8**
JMN				S		**Sn**	**00 58 18.9**	**-1.2**
JMN	**Monobe**	**1.34**	**289**	A		A	00 58 02.1	
	comp=N,3.0nm,5.0s,comp=E,3.0nm,1.0s							
JHE	**Heguri**	**1.37**	**10**	*i* P		**Pn**	**00 58 03.0**	**-0.2**
JHE				S		**Sn**	**00 58 19.7**	**-1.0**
TTO2	**TONANKAI O.B.S**	**1.43**	**72**	P		**Pn**	**00 58 02.9**	**-0.9**
JMIK	**Miki**	**1.53**	**349**	A		A	00 58 05.8	
	comp=N,7.0nm,0.8s,comp=E,7.0nm,1.6s							
JJS	**Sakaide**	**1.63**	**312**	A		A	00 58 07.3	
	comp=N,3.0nm,0.8s,comp=E,3.0nm,0.7s							
TSUJ	**Tsu 2**	**1.64**	**31**	A		A	00 58 07.4	
	comp=N,5.0nm,2.3s,comp=E,6.0nm,2.9s							
JEG	**Eigenji**	**2.01**	**24**	A		A	00 58 12.7	
	comp=N,4.0nm,1.7s,comp=E,5.0nm,1.5s							
JFM	**Mihama**	**2.28**	**12**	A		A	00 58 16.6	
	comp=N,3.0nm,1.0s,comp=E,4.0nm,1.7s							
INU	**Inuyama**	**2.44**	**33**	P		**Pn**	**00 58 18.0**	**0.0**
INU	**Inuyama**	**2.44**	**33**	S		**Sb**	**00 58 54.8**	**+2.2**
JGF	**Kuroka**	**2.81**	**35**	P		**Pn**	**00 58 23.4**	**+0.3**
JGF	**Kuroka**	**2.81**	**35**	S		**Sb**	**00 59 04.5**	**+1.4**
JNU	**Nakatsue**	**3.80**	**269**	P		**Pn**	**00 58 36.1**	**-0.6**
JNU	**Nakatsue**	**3.80**	**269**	S		**Sn**	**00 59 24.4**	**+3.8**
MAJO	**Matsushiro**	**3.97**	**35**	P		**Pn**	**00 58 39.7**	**+0.7**
MJAR	**Matsushiro Arr**	**3.97**	**35**	P		**Pn**	**00 58 40.0**	**+1.0**
	comp=E,0.6nm,0.3s,baz=226,slow=15,SNR=11							
MJAR				S		**Sn**	**00 59 21.6**	**-3.3**
	comp=E,14nm,0.6s,baz=221,slow=15,SNR=5.6							
	comp=E,4.1nm,0.4s							
JSU	**Suzuyama**	**4.55**	**248**	P		**Pn**	**00 58 45.1**	**-1.9**
JTU	**Tsushima**	**5.14**	**285**	P		**Pn**	**00 58 54.2**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**31.12**	**108**	T		T	01 36 27.2	
	baz=303,slow=75,SNR=32							
H11N1	**WAKE ISLAND Hy**	**31.12**	**108**	T		T	01 36 28.7	
	baz=303,slow=75,SNR=17							
H11N3	**WAKE ISLAND Hy**	**31.14**	**108**	T		T	01 36 27.9	
	baz=303,slow=75,SNR=26							
H11S3	**WAKE ISLAND Hy**	**31.62**	**110**	T		T	01 37 08.2	
	baz=304,slow=75,SNR=27							
H11S1	**WAKE ISLAND Hy**	**31.62**	**110**	T		T	01 37 12.1	
	baz=304,slow=75,SNR=41							
H11S2	**WAKE ISLAND Hy**	**31.64**	**110**	T		T	01 37 13.7	
	baz=304,slow=75,SNR=34							
MKAR	**Makanchi Array**	**42.06**	**305**	P		P	01 05 38.4	+9.0
	comp=E,0.8nm,0.6s,baz=99,slow=9.2,SNR=5.2							
	comp=E,0.8nm,0.6s							
KURBB	**Kurchatov Arra**	**44.54**	**310**	P		P	01 05 59.6	+10
	comp=E,1.0nm,0.9s,baz=94,slow=8.4,SNR=8.3							
	comp=E,1.0nm,0.9s							
BVAR	**Borovoye Array**	**49.52**	**314**	P		P	01 06 38.9	+11
	comp=E,1.4nm,0.8s,baz=99,slow=9.3,SNR=8.3							
	comp=E,1.4nm,0.8s							
WRA	**Warramunga Arr**	**52.95**	**181**	P		P	01 07 01.8	+7.7
	comp=E,1.2nm,0.7s,baz=1.6,slow=7.3,SNR=3.0							
	comp=E,1.2nm,0.7s							
ILAR	**Eielson Array**	**55.24**	**31**	P		**P**	**01 07 11.2**	**+0.9**
	comp=E,0.5nm,0.6s,baz=270,slow=6.7,SNR=6.8							
	comp=E,0.5nm,0.6s							

*IDC **05** 00:59:19.1±0.7, 27°.57N×142°.68E, h0km, mb4.0/16, mbtmp4.1/18, ML3.5/2, MS3.5/17, Error ellipse: s-maj=24.2km s-min=17.9km az=72.0*
*NEIC **05** 00:59:20.9±1.7, 27°.83N±0°.06×142°.75E±0°.07, h10km±1km, mb4.6/19, Error ellipse: s-maj=12.3km s-min=6.7km az=133.0*
*NIED **05** 00:59:21.4, 27°.97N×142°.68E, h43km, MW4.2, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-0.14; Mθθ0.43; Mϕϕ-0.29; Mrθ-0.43; Mθϕ-1.86; Mϕr0.35; Fault plane solution: Mo1.96000×10¹⁵ NP1: ϕs355.00000°, δ80.00000°, λ10.00000°. NP2: ϕs264.00000°, δ80.00000°, λ170.00000°.*
*JMA **05** 00:59:21.4±0.2, 28°.N±1°.×14°.3E±°, h43km, MD4.0/13, MV4.2/13, NEAR CHICHIJIMA ISLAND*

**ISC 05 00:59:23.4±0.6, 27°.89N±0°

comp=Z,36nm,18.1s,baz=70,slow=37
MTN Manton Dam 41.99 197 P P 01 07 10.4 -2.3
KNRA Kununurra 45.34 199 P P 01 07 37.6 -2.0
KNRA IAmb IAmb 01 07 56.2
comp=Z,13nm,1.4s
KULM Kulim 45.74 248 P P 01 07 42.5 -0.5
WB0 Warramunga Arr 48.04 190 P P 01 07 58.2 -2.5
WB0 IAmb IAmb 01 08 18.3
comp=Z,7.5nm,0.8s
WRA Warramunga Arr 48.22 190 P 01 07 59.2 -3.0
WRA Warramunga Arr 48.22 190 P P 01 08 00.1 -2.1
comp=Z,3.0nm,0.4s,baz=12,slow=8.6,SNR=11
comp=Z,3.0nm,0.4s
FITZ Fitzroy Crossi 48.59 202 P P 01 08 03.1 -1.8
ZALV Zalesovo Beam 49.15 319 P P 01 08 09.8 +0.8
ZALV Zalesovo Beam 49.15 319 P P 01 08 11.5 +2.5
comp=Z,1.3nm,0.7s,baz=106,slow=6.3,SNR=5.7
ZALV LR LR 01 30 09.9
comp=Z,59nm,18.3s,baz=96,slow=37
comp=Z,1.3nm,0.7s
MKAR Makanchi Array 50.28 309 P P 01 08 17.0 -0.7
MKAR Makanchi Array 50.28 309 P P 01 08 19.8 +2.1
comp=Z,0.7nm,0.7s,baz=86,slow=9.2,SNR=4.8
MKAR LR LR 01 30 34.6
comp=Z,56nm,18.3s,baz=116,slow=37
comp=Z,0.7nm,0.7s
ASAR Alice Springs 51.94 190 P P 01 08 26.5 -3.9
comp=Z,0.6nm,0.4s,baz=6.0,slow=5.9,SNR=8.9
ASAR LR LR 01 29 44.4
comp=Z,64nm,18.5s,baz=315,slow=35
comp=Z,0.6nm,0.4s
KURK Kurchatov 52.71 314 P 01 08 35.7 -0.2
KURK IAmb IAmb 01 08 43.9
comp=Z,6.7nm,0.9s
KURBB Kurchatov Arra 52.77 314 P P 01 08 36.7 +0.4
comp=Z,2.1nm,0.6s,baz=91,slow=7.2,SNR=28
comp=Z,2.1nm,0.6s
C19K Lookout Ridge 52.87 22 P P 01 08 37.2 +0.4
C19K IAmb IAmb 01 08 47.2
comp=Z,8.3nm,1.4s
J20K Nowinta River 53.63 29 P P 01 08 43.5 +1.0
J20K IAmb IAmb 01 08 45.2
comp=Z,11nm,1.4s
ILAR Eielson Array 56.83 29 P P 01 09 07.1 +1.6
comp=Z,1.2nm,1.0s,baz=261,slow=6.0,SNR=8.9
ILAR LR LR 01 33 30.6
comp=Z,19nm,19.5s,baz=95,slow=36
comp=Z,1.2nm,1.0s
BVAR Borovoye Array 57.73 317 P P 01 09 13.0 +1.0
comp=Z,2.0nm,0.5s,baz=88,slow=7.7,SNR=13
BVAR LR LR 01 35 12.5
comp=Z,46nm,19.3s,baz=79,slow=37
comp=Z,2.0nm,0.5s
F26K Sheenjek River 58.16 25 P P 01 09 15.7 +0.8
KKAR Karatay Array 58.94 306 P 01 09 19.8 -0.9
H27K Steamboat Moun 59.13 27 P 01 09 22.5 +0.8
H27K IAmb IAmb 01 09 26.9
comp=Z,5.7nm,1.1s
PALK Pallekele 61.85 263 LR LR 01 37 39.4
comp=Z,37nm,18.2s,baz=88,slow=37
ARTI Arti 64.14 322 P 01 09 55.4 -0.2
AB31 Akbulak array 64.83 314 P P 01 10 00.2 +0.1
AB31 IAmb IAmb 01 10 08.6
comp=Z,3.1nm,0.8s
ABKAR Akbulak array 64.83 314 P 01 10 00.2 +0.1
DLBC Dease Lake 65.34 35 LR LR 01 37 58.1
comp=Z,138nm,19.8s,baz=218,slow=35
ARCES ARCESS Array B 72.92 341 P P 01 10 52.7 +2.5
comp=Z,2.6nm,0.9s,baz=57,slow=4.5,SNR=4.0
comp=Z,2.6nm,0.9s
FIA1 FINESS Array S 77.41 334 P P 01 11 16.0 -0.1
FINES FINESS Array B 77.41 334 P P 01 11 16.1 0.0
FINES FINESS Array B 77.41 334 P P 01 11 16.9 +0.8
comp=Z,2.9nm,0.9s,baz=90,slow=5.0,SNR=12
FINES LR LR 01 49 37.4
comp=Z,30nm,18.4s,baz=40,slow=39
comp=Z,2.9nm,0.9s
KBZ Khabaz 77.76 313 P P 01 11 19.5 +1.2
comp=Z,1.9nm,0.8s,baz=161,slow=3.4,SNR=6.4
comp=Z,1.9nm,0.8s
NVAR Mina Array Bea 79.72 52 P P 01 11 29.2 -0.4
comp=Z,0.9nm,0.8s,baz=274,slow=5.0,SNR=6.5
comp=Z,0.9nm,0.8s
LRM Limekiln Ridge 80.03 43 P P 01 11 30.3 -0.8
ELK Elko 80.73 49 P P 01 11 35.8 +0.8
comp=Z,0.7nm,0.8s,baz=331,slow=4.3,SNR=4.7
comp=Z,0.7nm,0.8s
HFS Hagfors 82.85 337 P P 01 11 47.7 +2.2
comp=Z,1.6nm,0.7s,baz=76,slow=6.3,SNR=5.0
HFS LR LR 01 52 00.1
comp=Z,14nm,20.9s,baz=271,slow=38
comp=Z,1.6nm,0.7s
NOA NORSAR Array B 83.02 338 LR LR 01 50 46.4
comp=Z,17nm,20.5s,baz=50,slow=37
RAYN Ar Rayn 85.19 294 P P 01 11 58.2 +0.1
RAYN IAmb IAmb 01 11 59.3
comp=Z,5.8nm,0.9s
FRB Frobisher Bay 85.42 13 LR LR 01 50 35.2
comp=Z,12nm,21.4s,baz=129,slow=36
BRTR Keskin Array B 85.75 313 P P 01 12 01.5 +0.7
comp=Z,0.5nm,0.7s,baz=116,slow=4.3,SNR=3.6
comp=Z,0.5nm,0.7s
IDI Anoyia 93.98 313 LR LR 02 00 13.9
comp=Z,63nm,19.9s,baz=296,slow=39
TXAR Lajitas Array 94.82 53 P P 01 12 45.4 +1.8
comp=Z,0.6nm,1.0s,baz=325,slow=1.5,SNR=3.9
comp=Z,0.6nm,1.0s

*SSNC **05** 01:19:30.6±1.2, 19.°99N×71.°31W, h3km±10km, MD3.4, ML2.8*
*SDD **05** 01:19:30.7±2.7, 19.°98N×71.°12W, h17km±15km, MD3.3, ML3.0, MW3.3*
*OSPL **05** 01:19:30.9±2.9, 19.°99N×71.°22W, h0km±15km, ML2.8*
ISC 05 01:19:29.4±1.0, 20.°01N±0.°03×71.°22W±0.°02, h14km±6km, n36, σ1°77/63, 27C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.15**	**174**	*i* P			**Pg**	**01 19 33.2**	**0.0**
LOPP1					*e*S		**Sg**	**01 19 36.0**	**+0.2**
LOPP1					IAML			01 19 37.7	
	comp=Z,2μm,0.2s								
LUDR	**Luperon**	**0.27**	**115**	↑*e*P			**Pg**	**01 19 34.0**	**-1.1**
LUDR				↑*e*Sg			**Sg**	**01 19 38.2**	**-0.8**
MCDR	**Montecristi**	**0.43**	**255**	↑*e*P			**Pg**	**01 19 39.7**	**+1.7**
MCDR					IAML			01 19 53.0	
	comp=N,441nm,0.1s								
MADR	**Mao Valverde**	**0.45**	**166**	↑*e*P			**Pg**	**01 19 37.8**	**-0.6**
MADR				↑*e*Sg			**Sg**	**01 19 45.7**	**+1.2**
MADR					IAML			01 19 47.3	
	comp=N,2μm,0.6s								
LODA1	**ITESIL, Dajabo**	**0.65**	**225**	↑*e*P			**Pg**	**01 19 42.3**	**+0.1**
LODA1				↑*e*Sg			**Sg**	**01 19 52.1**	**+1.4**
LODA1					IAML			01 19 59.9	
	comp=N,2μm,1.1s								
LODA1	**ITESIL, Dajabo**	**0.65**	**225**	*i* P			**Pg**	**01 19 42.5**	**+0.4**
LODA1				*e*S			**Sg**	**01 19 50.9**	**+0.1**
LODA1					IAML			01 19 55.9	
	comp=Z,782nm,2.1s								
SC01	**Santiago de lo**	**0.74**	**141**	↑*e*Pg			**Pg**	**01 19 42.2**	**-1.6**
SC01					IAML			01 19 55.1	
	comp=N,644nm,0.6s								
SC01	**Santiago de lo**	**0.74**	**141**	*i* P			**Pg**	**01 19 42.4**	**-1.4**
SC01				*e*S			**Sg**	**01 19 54.1**	**+0.6**
REDR	**Restauracion**	**0.85**	**191**	↑*e*Pg			**Pg**	**01 19 45.1**	**-0.9**
REDR				↑*e*Sg			**Sb**	**01 19 58.8**	**+1.4**
REDR					IAML			01 19 59.1	
	comp=N,383nm,0.3s								
SDDR	**Presa de Saban**	**1.02**	**184**	*e*P			**Pg**	**01 19 47.4**	**-1.8**
SDDR				*e*S			**Sg**	**01 20 01.2**	**-1.3**
SDDR					IAML			01 20 03.3	
	comp=N,426nm,0.5s								
SDDR					IAML			01 20 03.3	
	comp=N,445nm,0.8s								
SDDR	**Presa de Saban**	**1.02**	**184**	↑*e*P			**Pg**	**01 19 48.8**	**-0.4**
SDDR				↑*e*Sg			**Sg**	**01 20 02.7**	**+0.1**
SDDR					IAML			01 20 03.4	
	comp=N,437nm,0.6s								
SDDR	**Presa de Saban**	**1.02**	**184**	*i* P			**Pg**	**01 19 48.8**	**-0.4**
SDDR				*e*S			**Sg**	**01 20 01.8**	**-0.7**
SDDR					IAML			01 20 03.1	
	comp=Z,241nm,0.5s								
ABDR	**Alto Bandera**	**1.31**	**155**	↑*e*Pg			**Pg**	**01 19 51.9**	**-2.9**
ABDR				↑*e*Sg			**Sg**	**01 20 09.7**	**-2.2**
ABDR					IAML			01 20 13.8	
	comp=N,163nm,0.3s								
NADR	**Nagua**	**1.44**	**117**	↑*e*Pg			**Pn**	**01 19 53.5**	**-1.5**
NADR				↑*e*Sg			**Sb**	**01 20 13.3**	**-0.9**
NADR					IAML			01 20 13.7	
	comp=N,405nm,0.5s								
GRTK	**Grand Turk**	**1.50**	**3**	↓*e*P			**Pn**	**01 19 56.1**	**+0.2**
GRTK				*e*S			**Sn**	**01 20 17.8**	**+2.5**
GRTK	**Grand Turk**	**1.50**	**3**	↑*e*Pg			**Pn**	**01 19 56.7**	**+0.8**
GRTK				↑*e*Sg			**Sn**	**01 20 18.9**	**+3.6**
GRTK					IAML			01 20 23.4	
	comp=N,180nm,0.2s								
GRTK	**Grand Turk**	**1.50**	**3**	*i* P			**Pn**	**01 19 56.8**	**+0.8**
GRTK				*e*S			**Sn**	**01 20 18.1**	**+2.9**
GRTK					IAML			01 20 22.7	
	comp=Z,79nm,0.1s								
DR08	**Loma La Naviza**	**1.53**	**133**	↑*e*Pg			**Pn**	**01 19 56.0**	**-0.5**
DR08					IAML			01 20 17.8	
	comp=N,2μm,0.1s								
JIDR	**Jimani**	**1.62**	**202**	↑*e*Pg			**Pn**	**01 19 58.6**	**+0.9**
JIDR				↑*e*Sg			**Sn**	**01 20 21.3**	**+2.9**
JIDR					IAML			01 20 24.8	
	comp=N,94nm,0.3s								
LODU1	**El Espartillar**	**1.67**	**188**	*i* P			**Pn**	**01 19 59.6**	**+1.3**
LODU1					IAML			01 20 27.1	
	comp=Z,98nm,0.3s								
PAPH	**Port-au-Prince**	**1.80**	**215**	*e*P			**Pn**	**01 20 00.7**	**+0.6**
PAPH				*e*S			**Sg**	**01 20 27.6**	**+0.3**
PAPH	**Port-au-Prince**	**1.80**	**215**	*i* P			**Pn**	**01 20 01.5**	**+1.5**
PODR	**Polo**	**1.83**	**182**	*i* P			**Pn**	**01 20 02.2**	**+1.5**
PODR				*e*S			**Sb**	**01 20 27.4**	**+1.6**
SMDR	**Samana, DR**	**2.04**	**110**	↑*e*Pg			**Pn**	**01 20 03.0**	**-0.3**
SMDR				↑*e*Sg			**Sn**	**01 20 29.6**	**+1.0**
SMDR					IAML			01 20 47.8	
	comp=N,63nm,0.8s								
LOBH	**Bahia de las A**	**2.17**	**191**	*i* P			**Pn**	**01 20 07.8**	**+2.6**
LOBH					IAML			01 20 41.1	
	comp=Z,66nm,1.9s								
MIDR	**Miches**	**2.28**	**116**	↑*e*Pg			**Pn**	**01 20 07.3**	**+0.6**
MIDR				↑*e*Sg			**Sn**	**01 20 36.5**	**+1.8**
MIDR					IAML			01 20 37.3	
	comp=N,19nm,0.2s								
HIDR	**Higuey Centro**	**2.75**	**120**	↑*e*Sg			**Sn**	**01 20 49.3**	**+3.1**
HIDR					IAML			01 20 50.2	
	comp=N,172nm,0.2s								
MASC	**Masc**	**2.84**	**274**	*e*P			**Pn**	**01 20 13.7**	**-0.6**
MASC				*e*S			**Sn**	**01 20 48.4**	**0.0**
MASC					IAML			01 21 03.8	
	comp=N,18nm,0.3s								
MASC					IAML			01 21 05.3	
	comp=E,18nm,0.5s								
MASC	**Masc**	**2.84**	**274**	↑*i* P			**Pn**	**01 20 14.0**	**-0.3**
MASC				*e*S			**Sn**	**01 20 48.6**	**+0.2**
MASC					IAML			01 21 03.2	
	comp=Z,16nm,1.1s								
QMBU	**Quimbuelo**	**3.38**	**274**	*e*P			**Pn**	**01 20 21.1**	**-0.8**
QMBU				*e*S			**Sn**	**01 20 58.6**	**-3.3**
QMBU					IAML			01 21 17.6	
	comp=E,24nm,0.5s								
QMBU					IAML			01 21 18.9	
	comp=N,20nm,0.6s								
MOAC	**Moa**	**3.57**	**281**	*e*P			Pn	01 20 18.7	-5.7
MOAC				*e*S			**Sn**	**01 21 01.4**	**-5.1**
MOAC					IAML			01 21 07.9	
	comp=E,14nm,0.2s								
MOAC					IAML			01 21 08.1	
	comp=N,8.6nm,0.4s								
NMDO	**Nuevo Mundo**	**3.58**	**279**	*e*P			**Pn**	**01 20 23.3**	**-1.2**
NMDO					IAML			01 21 08.1	
	comp=E,11nm,0.3s								
NMDO					IAML			01 21 08.3	
	comp=N,10nm,0.4s								
GTBY	**Guantanamo Bay**	**3.66**	**269**	*e*P			**Pn**	**01 20 24.9**	**-0.9**
GTBY				*e*S			**Sn**	**01 21 05.1**	**-3.7**
GTBY					IAML			01 21 12.6	
	comp=N,8.1nm,0.5s								
GTBY					IAML			01 21 15.2	
	comp=N,11nm,0.3s								
GTBY	**Guantanamo Bay**	**3.66**	**269**	*i* P			**Pn**	**01 20 25.4**	**-0.4**
GTBY				*e*S			**Sn**	**01 21 08.8**	**0.0**
GTBY					IAML			01 21 12.6	
	comp=Z,17nm,1.8s								
RCC	**Rio Carpintero**	**4.21**	**271**	*e*P			**Pn**	**01 20 32.4**	**-0.8**
RCC				*e*S			**Sn**	**01 21 18.3**	**-4.1**
RCC					IAML			01 21 31.0	
	comp=N,8.6nm,1.0s								
RCC					IAML			01 21 31.3	
	comp=E,9.7nm,1.1s								
PINC	**Pinares de May**	**4.32**	**277**	*e*P			**Pn**	**01 20 36.3**	**+1.5**
PINC				*e*S			**Sn**	**01 21 23.0**	**-2.0**

*IPEC **05** 01:25:33.2±0.2, 51.°63N×16.°07E, h1km, ML2.7/6, Error ellipse: s-maj=2.9km s-min=1.4km az=74.0*
*DNK **05** 01:25:34.4±2.0, 51.°76N×15.°55E, h0km±96km, ML1.8*
*PRU **05** 01:25:36.0, 51.°53N×16.°00E, h0km*
*UPP **05** 01:25:37.6±3.6, 51.°88N×15.°50E, h0km, ML1.7, Presumed earthquake*
*VIE **05** 01:25:37.8±2.2, 51.°46N×16.°57E, h0km, mb2.6/16, ml2.8/16, Error ellipse: s-maj=16.3km s-min=11.3km az=115.0 52 km NW of Wroclaw Suspected Mining induced.*
ISC 05 01:25:32.0±0.8, 51.°67N±0.°03×15.°97E±0.°03, h0km, n46, σ1°95/87, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.85**	**166**	*e*Pg			**Pb**	**01 25 49.2**	**-0.5**
KSP				*e*Sg			**Sg**	**01 25 59.5**	**+0.2**
CHVC	**Chvalec**	**1.08**	**177**	*e*PG			**Pb**	**01 25 53.8**	**+0.2**
CHVC				*e*SG			**Sg**	**01 26 07.0**	**+0.3**
	64nm,0.3s								
OSTC	**Ostas**	**1.12**	**172**	*e*PG			**Pb**	**01 25 54.6**	**+0.3**
OSTC				*e*SG			**Sg**	**01 26 08.3**	**+0.2**
	70nm,0.5s								
UPC	**Upice**	**1.16**	**179**	*e*PG			**Pb**	**01 25 54.8**	**-0.2**
UPC				*e*SG			**Sg**	**01 26 09.3**	**0.0**
	104nm,0.3s								
DPC	**Dobruska-Polom**	**1.34**	**170**	*e*SG			**Sg**	**01 26 14.4**	**-0.5**
	54nm,0.3s								
PVCC	**Panska Ves**	**1.44**	**218**	*e*PG			**Pb**	**01 26 00.3**	**+0.6**
PVCC				*e*SG			**Sn**	**01 26 19.5**	**+0.5**
	171nm,0.3s								
BRG	**Berggiesshubel**	**1.50**	**239**	Pg			**Pg**	**01 26 03.5**	**+2.8**
BRG				Sg			**Sn**	**01 26 23.5**	**+3.1**
BRG				Amp				01 26 26.2	
	comp=Z,89nm,0.5s								
PIVO	**Bartosovice**	**1.53**	**166**	*e*Pg			**Pn**	**01 26 00.4**	**-0.2**
	baz=348								
PIVO				*e*Sg			**Sg**	**01 26 19.6**	**-1.4**
	comp=Z,67nm,0.2s,baz=348								
KRLC	**Kraliky**	**1.68**	**162**	*e*PG			**Pn**	**01 26 03.0**	**+0.4**
KRLC				*e*SG			**Sn**	**01 26 25.0**	**+0.2**
	comp=Z,84nm,0.5s								
RYBC	**Ceska Rybna**	**1.86**	**178**	*e*Pn			**Pn**	**01 26 05.7**	**+0.5**
	baz=0.0								
RYBC				*e*Sg			**Sb**	**01 26 30.4**	**-0.3**
	comp=Z,58nm,0.2s,baz=0.0								
PRA	**Prague**	**1.87**	**212**	*e*PN			**Pn**	**01 26 06.2**	**+0.9**
PRA				*e*SG			**Sg**	**01 26 31.7**	**-0.4**
	comp=Z,38nm,0.5s								
CLL	**Collm**	**1.89**	**260**	*i* Pn			**Pn**	**01 26 06.0**	**+0.5**
	comp=Z,8.0nm,0.4s								
CLL				*i* Pg			**Pg**	**01 26 09.0**	**+0.8**
CLL				*i* x			x	01 26 13.1	
	comp=Z,36nm,0.5s								
CLL				*i* x			x	01 26 24.5	
CLL				*e*Sg			**Sg**	**01 26 34.0**	**+1.3**
	comp=Z,25nm,0.5s								
STEB	**Steborice**	**2.08**	**146**	*e*PN			**Pn**	**01 26 08.0**	**-0.1**
STEB				*e*PG			**Pb**	**01 26 11.2**	**+0.6**
STEB				*e*SG			**Sg**	**01 26 38.0**	**-0.7**
	comp=Z,86nm,0.6s								
MORC	**Moravsky Berou**	**2.14**	**152**	*e*Pn			**Pn**	**01 26 09.1**	**+0.1**
	baz=334								
MORC				*e*Sg			**Sb**	**01 26 38.5**	**-0.3**
	comp=Z,32nm,0.5s,baz=334								
OKC	**Ostrava-Krasne**	**2.30**	**142**	*e*SG			**Sb**	**01 26 44.0**	**+0.8**
TREC	**Trest**	**2.40**	**188**	*e*SG			**Sg**	**01 26 47.7**	**-1.2**
VRAC	**Vranov**	**2.40**	**170**	*e*Pn			**Pn**	**01 26 13.0**	**+0.5**
	baz=352								
VRAC				*e*Sg			**Sb**	**01 26 47.1**	**+1.0**
	comp=Z,29nm,0.5s,baz=352								
KRUC	**Moravsky**	**2.62**	**174**	*e*Pn			**Pn**	**01 26 16.2**	**+0.6**
	baz=356								
KRUC				*e*Sg			**Sb**	**01 26 54.0**	**+1.4**
	comp=Z,31nm,0.8s,baz=356								
OJC	**Ojcow**	**2.82**	**119**	*e*Pg			**Pg**	**01 26 26.3**	**+0.2**
OJC				*e*Sg			**Sg**	**01 27 03.1**	**+0.5**
KHC	**Kasperske Hory**	**2.97**	**212**	*e*PN			**Pn**	**01 26 22.0**	**+1.7**
KHC				*e*PG			**Pg**	**01 26 27.5**	**-1.3**
KHC				*e*SN			**Sn**	**01 26 55.0**	**-1.6**
KHC				*e*SG			**Sg**	**01 27 06.1**	**-1.1**
	comp=Z,19nm,0.4s								
JAVC	**Velka Javorina**	**3.02**	**158**	*e*Pn			**Pn**	**01 26 21.3**	**+0.2**
	baz=340								
BSD	**Bornholm Skovb**	**3.51**	**350**	*e*P			**Pn**	**01 26 29.0**	**+1.2**
BSD				*e*S			**Sn**	**01 27 07.6**	**-2.4**
BSD					IAML			01 27 15.4	
	comp=Z,1.0nm,0.2s								
NIE	**Niedzica**	**3.56**	**128**	*e*Pg			**Pg**	**01 26 42.5**	**+2.2**
NIE				*e*Sg			**Sg**	**01 27 27.1**	**+0.7**
CONA	**Conrad Observa**	**3.75**	**181**	*e*Pn			**Pn**	**01 26 32.3**	**+1.2**
	comp=Z,1.1nm,0.5s								
CONA				*e*Sg			**Sg**	**01 27 29.2**	**-3.0**
	comp=Z,14nm,0.6s								
RONA	**Rosalia, Austr**	**3.98**	**177**	*e*Pn			**Pn**	**01 26 35.3**	**+1.1**
	comp=Z,0.2nm,0.3s								
RONA				*e*Sg			**Sg**	**01 27 39.2**	**-0.6**
	comp=Z,8.9nm,0.4s								
MOA	**Molln**	**3.98**	**197**	*e*Pn			**Pn**	**01 26 34.7**	**+0.4**
	comp=Z,2.9nm,0.5s								
MOA				Sg			**Sg**	**01 27 39.8**	**0.0**
	comp=Z,16nm,0.6s								
LUNU	**Lund**	**4.25**	**340**	*e*P			**Pn**	**01 26 38.2**	**+0.3**
LUNU				*e*S			**Sn**	**01 27 27.6**	**-0.5**
BIOA	**Bad Ischl, Aus**	**4.26**	**202**	*e*Pn			**Pn**	**01 26 40.3**	**+2.2**
	comp=Z,1.1nm,0.5s								
BIOA				Sg			**Sg**	**01 27 47.2**	**-1.5**
	comp=Z,6.4nm,0.4s								
ARSA	**Arzberg**	**4.43**	**184**	*e*Pn			**Pn**	**01 26 40.9**	**+0.4**
	comp=Z,2.2nm,0.9s								
ARSA				Sg			**Sg**	**01 27 52.5**	**-1.8**
	comp=Z,7.9nm,0.6s								
BLEU	**Blekinge**	**4.65**	**359**	*e*P			**Pn**	**01 26 44.8**	**+1.5**
BLEU				*e*S			**Sn**	**01 27 36.4**	**-1.6**
LESA	**Schwarzleotal**	**4.76**	**208**	*e*Pn			Pn	01 26 50.1	+5.1
	comp=Z,2.2nm,0.9s								
LESA				Sg			**Sg**	**01 28 03.6**	**-1.1**
	comp=Z,4.8nm,0.5s								
KBA	**Koelnbreinsper**	**4.90**	**201**	*e*Sg			**Sg**	**01 28 06.8**	**-2.6**
	comp=Z,3.4nm,0.5s								
DEL	**Delary**	**4.97**	**346**	P			**Pn**	**01 26 48.9**	**+1.2**
DEL	**Delary**	**4.97**	**346**	*e*P			**Pn**	**01 26 48.2**	**+0.4**
DEL				P			**Pn**	**01 26 48.9**	**+1.2**
DEL				*e*S			**Sn**	**01 27 41.8**	**-4.1**
SOKA	**Soboth**	**5.03**	**187**	Sg			**Sg**	**01 28 12.0**	**-1.6**
	comp=Z,1.7nm,0.4s								
WATA	**Walderalm**	**5.20**	**215**	*e*Pn			Pb	01 26 57.8	-6.0
	comp=Z,0.3nm,0.1s								
WATA				Sg			**Sg**	**01 28 26.6**	**+7.8**
	comp=Z,6.9nm,0.6s								
WTTA	**Wattenberg**	**5.24**	**214**	*e*Pn			**Pn**	**01 26 53.4**	**+1.7**
	comp=Z,1.1nm,0.5s								
WTTA				Sg			**Sg**	**01 28 17.5**	**-2.6**
	comp=Z,4.2nm,0.6s								
OBKA	**Obir**	**5.25**	**191**	*e*Pn			**Pn**	**01 26 51.0**	**-0.8**
	comp=Z,3.1nm,1.1s								
OBKA				Sg			**Sg**	**01 28 18.4**	**-2.1**
	comp=Z,12nm,0.8s								
MYKA	**Terra Mystica**	**5.27**	**198**	*e*Pn			**Pn**	**01 26 56.0**	**+4.0**
	comp=Z,0.9nm,0.4s								
MYKA				Sg			**Sg**	**01 28 20.0**	**-1.2**
	comp=Z,1.5nm,0.5s								
MOTA	**Moosalm**	**5.36**	**218**	*e*Pn			**Pn**	**01 26 52.3**	**-1.1**
	comp=Z,2.1nm,0.8s								
MOTA				*e*Sg			**Sg**	**01 28 22.8**	**-1.4**
	comp=Z,12nm,0.8s								
RETA	**Reutte**	**5.38**	**221**	Pn			Pn	**01 26 56.4**	**+2.8**
	comp=Z,6.0nm,1.7s								
RETA				Sg			**Sg**	**01 28 24.1**	**-0.8**
	comp=Z,3.2nm,0.6s								
ABTA	**Abfaltersbach**	**5.42**	**206**	Pn			**Pb**	**01 27 06.0**	**-1.5**
	comp=Z,2.1nm,0.7s								
ABTA				Sg			**Sg**	**01 28 20.9**	**-5.1**
	comp=Z,2.3nm,0.6s								
SQTA	**Sankt Quirin**	**5.43**	**217**	*e*Pn			Pn	**01 26 58.5**	**+4.2**
	comp=Z,3.1nm,1.1s								
SQTA				Sg			**Sg**	**01 28 28.0**	**+1.7**
	comp=Z,4.7nm,0.6s								
FETA	**Feichten**	**5.78**	**218**	*e*Pn			Pn	01 27 05.1	+6.1
	comp=Z,5.4nm,1.7s								
FETA				*e*Sn			**Sb**	**01 28 16.8**	**-6.6**
	comp=Z,2.1nm,1.0s								
VSTU	**Vaestervik**	**6.01**	**3**	P			**Pn**	**01 27 03.7**	**+1.6**
VSTU				S			**Sn**	**01 28 09.7**	**-1.9**
VSTU	**Vaestervik**	**6.01**	**3**	P			**Pn**	**01 27 03.7**	**+1.6**
VSTU				S			**Sn**	**01 28 09.7**	**-1.9**

*UCR **05** 01:32:26.7±1.3, 8.°19N×82.°77W, h0km±3km, MW3.8*
*CATAC **05** 01:32:27.9±0.6, 8.°7N×4.°×8.°3W×, h6km±2km, M3.6/11, MLv3.6/11, Error ellipse: s-maj=9.4km s-min=5.9km az=17.5, confirmed*
*UPA **05** 01:32:28.4±1.4, 8.°25N×82.°76W, h12km±6km, MW3.7*
ISC 05 01:32:25.5±1.6, 8.°14N±0.°07×82.°84W±0.°02, h18km±5km, n69, σ1°27/102, 8C-7D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPPC	**Paso Canoas**	**0.39**	**359**	*e*P			**Pn**	**01 32 35.6**	**-0.7**
LPPC				*e*S			**Sb**	**01 32 41.2**	**+1.5**
CDITO	**Canoas**	**0.43**	**355**	P			**Pn**	**01 32 35.8**	**-1.0**
NELY	**Ciudad Neily**	**0.52**	**348**	*e*P			**Pn**	**01 32 37.6**	**-0.5**
NELY				*e*S			**Sn**	**01 32 44.7**	**-1.7**
PIRO	**Carate, Puerto**	**0.56**	**298**	P			**Pn**	**01 32 39.4**	**+0.9**
CGUAY	**Guayabal, Coch**	**0.57**	**56**	↑*e*P			**Pn**	**01 32 38.2**	**-0.6**
CGUAY				*e*S			**Sg**	**01 32 45.2**	**+0.5**
CGUAY	**Guayabal, Coch**	**0.57**	**56**	↓*i*P			**Pn**	**01 32 38.2**	**-0.6**
CGUAY				*e*S			**Sn**	**01 32 46.0**	**-1.8**
FITO	**Golfito**	**0.58**	**327**	*e*P			**Pb**	**01 32 35.0**	**-2.0**
EDAD	**Golfito**	**0.61**	**327**	*e*P	

LCR2	La Lucha 2	1.97 324	S		Sg	01 33 26.9	-2.1
VERB	Verbena	1.99 335⇑	eP		Pb	01 33 01.3	+0.2
PICV	PH. Pirrs	2.00 318	eP		Pg	01 33 02.4	-1.5
PAR1A	Puntarenas Pro	2.02 316	eP		Pb	01 33 01.2	-0.4
VTCV	VTCV, Calle Va	2.03 334	eP		Pb	01 33 01.9	-0.1
VTCV			eS		Sb	01 33 27.7	+0.6
RAFA	San Farael, Vo	2.05 332	eP		Pb	01 33 02.8	+0.4
LCOCO	El Coco	2.06 340⇑	eP		Pb	01 33 03.0	+0.6
LCOCO			eS		Sg	01 33 30.2	-1.7
CVTV	Tajo	2.06 334	eP		Pb	01 33 02.2	-0.4
CVTV			eS		Sb	01 33 29.0	+1.0
CVTQ	Turrialba Volc	2.07 334⇓	iP		Pb	01 33 03.3	+0.6
CVTQ			eS		Sg	01 33 30.7	-1.6
VTR0	Volcan Turrial	2.08 334	eP		Pb	01 33 03.0	+0.1
VTR0			eS		Sb	01 33 29.8	+1.2
CVTR	Volcan Turrial	2.08 334⇑	eP		Pb	01 33 03.1	+0.1
CVTR			eS		Sg	01 33 31.8	-0.8
VICA	Volcano Irazu	2.09 332	eP		Pb	01 33 02.5	-0.6
ACOS	Acosta	2.11 322	eP		Pg	01 33 04.3	-1.7
SANTA	Santa Ana	2.23 323	eP		Pn	01 33 02.4	+0.8
BELE	Belen	2.26 324	eP		Pb	01 33 05.7	-0.2
BELE			eS		Sb	01 33 34.3	+0.7
VPL1	V. Platanar	2.59 324	eP		Pb	01 33 12.7	+1.2
SOCE	Pocosol	2.84 322	eP		Pb	01 33 14.0	-1.7
SOCE	Pocosol	2.84 322	P		Pb	01 33 14.7	-1.0
SOCE	Pocosol	2.84 322	S		Sb	01 33 49.8	-0.4
FORC	Fortuna	2.94 322	eP		Pb	01 33 16.6	-0.7
VACR	Volcan Arenal	2.95 322	eP		Pb	01 33 17.4	-0.1
CASO	Castillo	2.95 321	eP		Pb	01 33 17.3	-0.3
CASO			eS		Sb	01 33 53.3	-0.1
ARE1	Arenal 1	2.96 321	eP		Pb	01 33 16.4	-1.4
VARE2	V. Arenal	2.96 321	eP		Pb	01 33 16.5	-1.3
CEDE	Laguna Cedeo	2.97 322	eP		Pb	01 33 17.0	-1.0
CEDE			eS		Sb	01 33 55.8	+1.8
JTS	Las Juntas de	2.99 316	eP		Pb	01 33 15.6	-2.7
JTS	Las Juntas de	2.99 316	P		Pb	01 33 16.0	-2.3
JTS			S		Sn	01 33 49.8	+2.3
BCIP	Isla Barro Col	3.13 71	eP		Pn	01 33 16.2	+2.2
BCIP	Isla Barro Col	3.13 71	P		Pn	01 33 16.2	+2.2
INDI	Punta indio, G	3.15 303	P		Pn	01 33 16.2	+2.0
CMARA	Lajas Hojancha	3.17 306	P		Pn	01 33 16.8	+2.3
QUEB	Quebradon, Cot	3.20 321	eP		Pb	01 33 20.1	-1.7
TENO	El Achiote	3.31 320	eP		Pb	01 33 20.6	-3.2
CUI	Cuipilapa	3.40 318	eP		Pb	01 33 21.9	-3.3
VMAR	Armenia, Volca	3.48 320	eP		Pb	01 33 23.6	-3.0

NEIC ***05*** *01:35:09.6±1.3, 33°.79N±0°.08×141°.5E±0°.1, h10km±1km, mb4.0/10, Error ellipse: s-maj=18.9km s-min=11.7km az=118.0*

JMA ***05*** *01:35:15.1±0.3, 33°.9N±0°.8×14°.1E±°, h46km±4km, MV3.4/32, E OFF HACHIJOJIMA ISLAND*

IDC ***05*** *01:35:17.8±4.0, 33°.84N×140°.92E, h55km±29km, mb3.6/4, mbtmp3.8/5, ML2.8/1, Error ellipse: s-maj=41.2km s-min=11.1km az=89.0*

ISC 05 01:35:14.0±0.8, 33°.83N±0°.05×141°.20E±0°.07, h40km, n40, σ1s04/47, mb4.0/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.84	347	P			Pn	01 35 29.5	+0.6
BSO1				X				01 35 42.4	
BSO2	Boso 2	0.99	338	eX				01 35 46.3	
BSO3	Boso 3	1.12	330	P			Pn	01 35 33.6	+0.6
BSO3				eS			Sn	01 35 46.5	-0.6
JMKN	Mikurajimanish	1.34	273	P			Pn	01 35 36.4	+0.2
JMKN				eS			Sn	01 35 51.8	-1.1
BSO4	Boso 4	1.36	329	eP			Pn	01 35 37.2	+0.8
JHJ2	Mitsune	1.36	239				Pn	01 35 37.0	+0.5
JHJ2	Mitsune	1.36	239	eP			Pn	01 35 37.0	+0.5
JHJ	Hachijo jima 2	1.38	239	P			Pn	01 35 37.1	+0.3
	205nm,0.3s,baz=120,slow=23,SNR=49								
JHJ				S			Sn	01 35 53.0	-0.8
	412nm,0.2s,baz=345,slow=23,SNR=16								
JMYK	Miyake Tsubota	1.39	280	eP			Pn	01 35 37.0	+0.1
JMYK				eS			Sn	01 35 52.6	-1.4
KTR	Katsuura	1.50	331	eP			Pn	01 35 38.8	+0.3
JKUC	kamogawauchiur	1.56	328	P			Pn	01 35 39.5	+0.3
JIM2	Oshima 3	1.71	302	eP			Pn	01 35 41.0	-0.3
JIM2				eS			Sn	01 36 00.6	-1.4
JTHY	Toshimahigashi	1.73	294	eP			Pn	01 35 41.8	+0.2
JTHY				eS			Sn	01 36 01.8	-0.6
JKO	Kozu shima	1.75	282	eP			Pn	01 35 42.0	+0.1
KTJ3	Kamata3	2.08	303	eP			Pn	01 35 46.1	-0.3
KTJ3				eS			Sn	01 36 09.1	-1.8
JIZS	Izushimoda	2.12	295	eP			Pn	01 35 47.2	+0.3
JOD2	Odawara 2	2.25	310	eP			Pn	01 35 48.8	0.0
JGF	Kuroka	3.62	300				Pn	01 36 10.2	+2.6
MJAR	Matsushiro Arr	3.65	319				Pn	01 36 09.3	+1.3
MJAR	Matsushiro Arr	3.65	319	P			Pn	01 36 09.1	+1.1
	1.0nm,0.3s,baz=153,slow=12,SNR=16								
MJAR				S			Sn	01 36 49.6	-0.2
	2.2nm,0.3s,baz=144,slow=11,SNR=4.2 5.1nm,0.3s								
MAJO	Matsushiro	3.65	319				Pn	01 36 08.7	+0.7
MJB9	Matsu-Tunnel	3.66	319	Pn			Pn	01 36 08.7	+0.6
INU	Inuyama	3.77	295	Pn			Pn	01 36 12.9	+3.3
JMM	Marumori	4.04	355				Pn	01 36 14.0	+0.7
SONM	Songino Array	29.54	309	P			P	01 41 14.8	0.0
SONM				IAmb		IAmb		01 41 16.5	
	comp=Z,3.3nm,1.4s								
MKAR	Makanchi Array	45.73	305	P			P	01 43 32.1	+0.8
MKAR	Makanchi Array	45.73	305	P			P	01 43 31.8	+0.5
	comp=Z,0.5nm,0.5s,baz=88,slow=7.3,SNR=5.0 comp=Z,0.5nm,0.5s								
MAKZ	Makanchi	45.95	305	P			P	01 43 33.3	+0.4
KURK	Kurchatov	47.82	310				P	01 43 48.3	+0.9
KURK				IAmb		IAmb		01 43 49.8	
	comp=Z,1.8nm,1.1s								
KURBB	Kurchatov Arra	47.88	310	P			P	01 43 48.0	+0.1
	comp=Z,0.5nm,0.2s,baz=71,slow=6.0,SNR=2.1 comp=Z,0.5nm,0.2s								
BVAR	Borovoye Array	52.63	314	P			P	01 44 25.0	+1.1
	comp=Z,0.4nm,0.3s,baz=81,slow=8.9,SNR=4.2 comp=Z,0.4nm,0.3s								
WB0	Warramunga Arr	53.69	188	P			P	01 44 31.9	0.0
FITZ	Fitzroy Crossi	53.73	198	P			P	01 44 32.1	0.0
FITZ				IAmb		IAmb		01 44 38.5	
	comp=Z,2.2nm,1.5s								
WR8	Warramunga Arr	53.87	188	P			P	01 44 32.5	-0.7
WR8				IAmb		IAmb		01 44 40.2	
	comp=Z,2.0nm,0.8s								
WRA	Warramunga Arr	53.87	188	P			P	01 44 35.3	+2.1
	comp=Z,0.5nm,0.3s,baz=5.7,slow=7.4,SNR=6.7 comp=Z,0.5nm,0.3s								
E28M	Babbage River	55.08	26	P			P	01 44 42.0	+0.4
E28M				IAmb		IAmb		01 44 44.0	
	comp=Z,2.4nm,1.4s								
INK	Inuvik	57.32	26	P			P	01 44 55.8	-1.6
AB31	Akbulak array	59.90	312	P			P	01 45 16.3	+0.6
AB31				IAmb		IAmb		01 45 17.7	
	comp=Z,2.0nm,1.2s								
ABKAR	Akbulak array	59.90	312	P			P	01 45 16.2	+0.5
CRAG	Craig	60.58	41	P			P	01 45 18.8	-1.4

FCIAR ***05*** *01:42:46.0, 62°.89N×55°.98E, h10km, station LSH has station magnitude of 3.70 station SHIP has station magnitude of 3.80*

MIRAS ***05*** *01:42:49.6, 62°.97N×56°.09E, h134km, ML3.1/8*

ISC 05 01:42:41.9±1.7, 63°.32N±0°.08×56°.31E±0°.06, h10km, n12, σ2s11/60, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PZG	Pozheg	1.62	215	iP			Pg	01 43 13.0	0.0
PZG				iP			Pg	01 43 13.0	0.0
PZG				iP			Pg	01 43 13.0	0.0
PZG				iS			Sg	01 43 34.1	+0.1
PZG				iS			Sg	01 43 34.1	+0.1
PZG				iS			Sg	01 43 34.1	+0.1
SVUR	Severouralsk	3.59	149	iP			Pb	01 43 44.4	-0.9
SVUR				iP			Pb	01 43 45.2	-0.1
SVUR				iP			Pb	01 43 45.2	-0.1
SVUR				iS			Sb	01 44 29.7	+0.9
SVUR				iS			Sb	01 44 29.7	+0.9
SVUR				iS			Sb	01 44 29.7	+0.9
SVUR				iAML		AML	AML	01 44 40.2	
	29nm,0.7s								
PR1R	Pomanovo	4.16	177	iP			Pb	01 43 54.3	-0.7
PR1R				iP			Pb	01 43 54.3	-0.7
PR1R				iP			Pb	01 43 54.3	-0.7
PR1R				iS			Sn	01 44 37.1	+3.2
PR1R				iS			Sn	01 44 37.1	+3.2
PR1R				iS			Sn	01 44 37.1	+3.2
PR1R				iAML		AML		01 44 52.3	
	83nm,0.6s								
LSH	Leshukonskoye	4.89	293	eP			Pn	01 43 57.8	+2.4
LSH				eS			Sn	01 44 53.0	+1.0
	50nm,0.4s								
PR7R	Sarany	4.93	165	iP			Pn	01 43 56.3	+0.2
PR7R				iP			Pn	01 43 56.3	+0.2
PR7R				iP			Pn	01 43 56.3	+0.2
PR7R				iS			Sn	01 44 53.8	+0.7
PR7R				iS			Sn	01 44 53.8	+0.7
PR7R				iS			Sn	01 44 53.8	+0.7
PR7R				iAML		AML		01 45 27.0	
	140nm,0.6s								
SHIP	Srednye Shipi	5.12	255	eP			Pn	01 43 58.3	-0.2
SHIP				eS			Sn	01 44 52.5	-5.1
	60nm,0.4s								
PR0R	Verkhnechusovs	5.16	175	iP			Pn	01 44 00.4	+1.4
PR0R				iP			Pn	01 44 00.4	+1.4
PR0R				iP			Pn	01 44 00.4	+1.4
PR0R				iS			Sn	01 44 58.3	-0.2
PR0R				iS			Sn	01 44 58.3	-0.2
PR0R				iS			Sn	01 44 58.3	-0.2
PR0R				iAML		AML		01 45 25.7	
	281nm,0.3s								
PR6R	Ekimyata	5.17	181	iP			Pn	01 43 59.1	-0.2
PR6R				iP			Pn	01 43 59.1	-0.2
PR6R				iP			Pn	01 43 59.1	-0.2
PR6R				iS			Sn	01 44 56.9	-2.1
PR6R				iS			Sn	01 44 56.9	-2.1
PR6R				iS			Sn	01 44 56.9	-2.1
PR6R				iAML		AML		01 45 24.0	
	45nm,0.3s								
PR4R	Vlasy	5.43	184	iP			Pn	01 44 01.3	-1.6
PR4R				iP			Pn	01 44 01.3	-1.6
PR4R				iP			Pn	01 44 01.3	-1.6
PR4R				iS			Sn	01 45 02.0	-3.3
PR4R				iS			Sn	01 45 02.0	-3.3
PR4R				iS			Sn	01 45 02.0	-3.3
PR4R				iAML		AML		01 45 33.3	
	211nm,0.6s								
KIRV	Kirov	5.81	218	iP			Pn	01 44 12.8	+4.7
KIRV				iP			Pn	01 44 12.8	+4.7
KIRV				iP			Pn	01 44 12.8	+4.7
KIRV				iS			Sn	01 45 15.5	+0.8
KIRV				iS			Sn	01 45 15.5	+0.8
KIRV				iS			Sn	01 45 15.5	+0.8
KIRV				iAML		AML		01 45 47.8	
	7.5nm,0.7s								
KIRV				iAML		AML		01 45 49.0	
ARTI	Arti	7.03	171	iP			Pn	01 44 25.2	+0.4
ARTI				iP			Pn	01 44 25.2	+0.4
ARTI				iP			Pn	01 44 25.2	+0.4
ARTI				iS			Sn	01 45 41.8	-3.0
ARTI				iS			Sn	01 45 41.8	-3.0
ARTI				iS			Sn	01 45 41.8	-3.0
ARTI				iAML		AML		01 46 27.5	
	20nm,0.6s								
KLMR	Klimovskoe	8.25	260	eP			Pn	01 44 43.0	+1.5
KLMR				eS			Sn	01 46 09.5	-5.1

IDC 05 02:13:06.4±12.0, 24°.09N×141°.79E, h237km±134km, mb3.4/5, mbtmp4.0/5, Error ellipse: s-maj=61.6km s-min=20.9km az=96.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	31.39	18	P			P	02 19 05.0	0.0
	1.0nm,0.3s,baz=225,slow=9.6,SNR=5.3 1.0nm,0.3s								
WRA	Warramunga Arr	44.36	190	P			P	02 20 53.4	-0.1
	0.6nm,0.4s,baz=11,slow=8.3,SNR=7.1 0.6nm,0.4s								
KURBB	Kurchatov Arra	54.92	316	P			P	02 22 12.6	-0.1
	0.3nm,0.3s,baz=90,slow=8.5,SNR=5.2 0.3nm,0.3s								
ARCES	ARCESS Array B	76.26	341	P			P	02 24 28.5	-0.1
	2.6nm,1.0s,baz=63,slow=6.8,SNR=3.8 2.6nm,1.0s								
FINES	FINESS Array B	80.48	334	P			P	02 24 51.8	+0.1
	0.6nm,0.4s,baz=71,slow=4.7,SNR=9.0 0.6nm,0.4s								

NEIC ***05*** *02:17:28.8±2.7, 51°.95N±0°.10×175°.2E±0°.1, h35km±2km, mb4.2/17, ML3.3(AEIC), Error ellipse: s-maj=19.0km s-min=5.8km az=208.0*

AEIC ***05*** *02:17:30.1±3.3, 51°.9N±0°.1×175°.2E±0°.1, h33km±6km, Error ellipse: s-maj=19.0km s-min=5.1km az=206.0*

IDC ***05*** *02:17:31.4±2.3, 52°.12N×175°.33E, h60km±13km, mb3.6/14, mbtmp3.8/16, MS2.8/3, Error ellipse: s-maj=29.3km s-min=17.7km az=180.0*

ISC 05 02:17:28.6±0.7, 52°.0N±0°.1×175°.25E±0°.05, h36km, n57, σ1s33/53, mb4.2/22, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	1.02	317	LR			LR	02 17 44.1	
	comp=Z,20nm,19.3s,baz=112,slow=13								
SHEM				P			Pn	02 17 48.0	+1.6
	1µm,0.3s,baz=96,slow=2.5,SNR=254								
SHEM				S			Sn	02 18 02.7	+3.2
	934nm,0.3s,baz=286,slow=20,SNR=13								
SMY	Shemya	1.02	317				Pn	02 17 47.7	+1.3
SMY					Sn		Sn	02 18 01.3	+1.8
LSSA	Little Sitkin	2.02	90				Pn	02 18 01.9	+1.8
LSNW	Little Sitkin	2.02	89				Pn	02 18 02.3	+2.2
LSNW							Sn	02 18 25.7	+1.7
AMKA	Amchitka	2.59	102				Pn	02 18 09.7	+1.7
AMKA	Amchitka	2.59	102				Sn	02 18 38.3	+0.1
CETU	Semis' Tuman	2.62	89				Pn	02 18 10.1	+1.7
CESW	Semis' Southwe	2.67	90				Pn	02 18 10.9	+1.9
GANE	Gareloi Northe	3.70	90				Pn	02 18 24.8	+1.6
GAKI	Gareloi-Kavalg	3.71	94				Pn	02 18 24.9	+1.6
KIWB	Kanaga Island	4.70	89	Pn			Pn	02 18 37.6	+0.7
ATKA	Atka Island	6.51	84	Pn			Pn	02 19 03.3	+1.6
PETK	Petropavlovsk-	10.75	283	P			Pn	02 20 02.5	+2.6
	0.6nm,0.3s,baz=94,slow=18,SNR=3.8								
PETK				S			Sn	02 21 55.4	-3.4
	1.3nm,0.6s,baz=93,slow=25,SNR=2.7								
PETK				LR			LR	02 25 05.5	
	comp=Z,23nm,18.1s,baz=106,slow=42								
MA2	Magadan	15.66	309	LR			LR	02 26 12.5	
	comp=Z,19nm,20.8s,baz=102,slow=33								
KDAK	Kodiak Island	19.26	60	P			P	02 21 49.3	-0.4
	1.7nm,0.4s,baz=283,slow=8.0,SNR=13								
ILAR	Eielson Array	23.18	42	P			P	02 22 31.0	-0.7
	0.3nm,0.9s,baz=240,slow=12,SNR=2.1 0.3nm,0.9s								
TOLK	Toolik Lake Re	23.59	32	P			P	02 22 35.7	0.0
TOLK				IAmb		IAmb		02 22 37.1	
	comp=Z,4.3nm,0.5s								
F26K	Sheenjek River	25.10	36	P			P	02 22 49.7	+0.2
EGAK	Eagle	25.58	43	P			P	02 22 53.2	-0.6
C27K	Jago River	25.91	32	P			P	02 22 56.8	0.0
C27K				IAmb		IAmb		02 23 05.2	
	comp=Z,3.2nm,1.1s								
E27K	Coleen River	26.16	35	P			P	02 22 58.7	-0.5
F30M	Barrier River	28.18	38	P			P	02 23 17.9	+0.7
F30M				IAmb		IAmb		02 23 26.9	
	comp=Z,4.4nm,1.4s								
G31M	Satah River	28.67	39	P			P	02 23 21.1	-0.4
G31M				IAmb		IAmb		02 23 22.0	
	comp=Z,9.4nm,1.4s								
H11N2	WAKE ISLAND Hy	32.85	195	T			T	02 58 39.4	
	baz=9.6,slow=76,SNR=61								
H11N3	WAKE ISLAND Hy	32.86	195	T			T	02 58 40.2	
	baz=9.6,slow=76,SNR=53								
H11N1	WAKE ISLAND Hy	32.87	195	T			T	02 59 01.2	
	baz=9.6,slow=76,SNR=56								
H11S1	WAKE ISLAND Hy	34.08	195	T			T	03 00 27.7	
	baz=9.1,slow=76,SNR=40								
H11S3	WAKE ISLAND Hy	34.10	195	T			T	03 00 33.2	
	baz=9.1,slow=76,SNR=42								
H11S2	WAKE ISLAND Hy	34.10	195	T			T	03 00 33.9	
	baz=9.1,slow=76,SNR=34								
SONM	Songino Array	43.03	293	P			P	02 25 25.2	+0.7
SONM	Songino Array	43.03	293	P			P	02 25 25.0	+0.5
	comp=Z,0.9nm,0.5s,baz=65,slow=7.3,SNR=5.7 comp=Z,0.9nm,0.5s								

SPITS	Spitsbergen Ar	49.45	354	P			P	02 26 13.4	-1.0
	comp=Z,1.1nm,0.3s,baz=48,slow=6.8,SNR=13 comp=Z,1.1nm,0.3s								
PFO	Pinyon Flats O	51.40	83	LR		LR		02 46 32.1	
	comp=Z,25nm,18.3s,baz=204,slow=34								
KURK	Kurchatov	55.86	310	P			P	02 27 02.2	+0.1
KURK				IAmb		IAmb		02 27 03.3	
	comp=Z,4.4nm,0.9s								
KURBB	Kurchatov Arra	55.96	310	P			P	02 27 02.8	-0.1
	comp=Z,1.7nm,0.6s,baz=47,slow=6.8,SNR=13 comp=Z,1.7nm,0.6s								
MKAR	Makanchi Array	56.70	305	P			P	02 27 07.7	-0.5
MKAR	Makanchi Array	56.70	305	P			P	02 27 07.5	-0.7
	comp=Z,1.1nm,0.5s,baz=54,slow=6.8,SNR=15 comp=Z,1.1nm,0.5s								
ARCES	ARCESS Array B	56.78	348	P			P	02 27 07.1	-1.3
	comp=Z,3.3nm,0.9s,baz=25,slow=8.1,SNR=7.6 comp=Z,3.3nm,0.9s								
BVAR	Borovoye Array	57.96	316	P			P	02 27 16.8	-0.2
	comp=Z,1.4nm,0.5s,baz=49,slow=7.2,SNR=8.8 comp=Z,1.4nm,0.5s								
TXAR	Lajitas Array	62.17	77	P			P	02 27 47.1	+0.8
	comp=Z,0.2nm,0.7s,baz=322,slow=7.4,SNR=3.9 comp=Z,0.2nm,0.7s								
LOOK	Love County	62.67	69	P			P	02 27 48.9	-0.5
FINES	FINESS Array B	64.28	344	P			P	02 27 57.5	-2.1
FINES	FINESS Array B	64.28	344	P			P	02 27 58.6	-0.9
	comp=Z,2.2nm,1.1s,baz=22,slow=5.1,SNR=3.3 comp=Z,2.2nm,1.1s								
AB31	Akbulak array	65.14	319	P			P	02 28 05.9	+0.5
AB31				IAmb		IAmb		02 28 06.1	
	comp=Z,0.8nm,0.6s								
ABKAR	Akbulak array	65.14	319	P			P	02 28 05.7	+0.3
KKAR	Karatay Array	65.18	309	P			P	02 28 05.8	0.0
DELO	Deloro Mine	65.24	49	P			P	02 28 04.5	-1.6
NC405	NORSAR Array S	66.48	351	P			P	02 28 13.5	-0.4
NB201	NORSAR Array S	66.58	352	P			P	02 28 14.2	-0.3
NOA	NORSAR Array B	66.60	352	P			P	02 28 14.0	-0.7
	comp=Z,0.4nm,0.4s,baz=2.5,slow=5.7,SNR=4.3 comp=Z,0.4nm,0.4s								
HFS	Hagfors	67.25	350	P			P	02 28 17.7	-1.0
	comp=Z,1.0nm,0.4s,baz=2.9,slow=3.0,SNR=11 comp=Z,1.0nm,0.4s								
AKASG	Malin Array Be	73.72	338	P			P	02 28 58.2	-0.1
	comp=Z,0.3nm,0.3s,baz=25,slow=6.4,SNR=2.5 comp=Z,0.3nm,0.3s								
BFO	Black Forest	79.44	351	P			P	02 29 29.7	-1.1
BFO				IAmb		IAmb		02 29 36.8	
	comp=Z,7.6nm,1.3s								
TUE	Stuetta	81.17	350	P			P	02 29 38.3	-2.0
TUE				IAmb		IAmb		02 29 40.2	
	comp=Z,3.8nm,1.1s								
BRTR	Keskin Array B	82.74	331	P			P	02 29 49.0	+0.3
BRTR	Keskin Array B	82.74	331	P			P	02 29 49.4	+0.7
	comp=Z,0.7nm,0.7s,baz=30,slow=6.7,SNR=3.2 comp=Z,0.7nm,0.7s								
ASAR	Alice Springs	83.57	218	P			P	02 29 53.0	+0.2
	comp=Z,0.3nm,0.6s,baz=24,slow=5.5,SNR=2.1 comp=Z,0.3nm,0.6s								

AUST ***05*** *02:21:56.0±0.2, 33°.S±2°×13°.8E±°, h10km, mb3.5/4, ML3.1/16, ML3.3/13, Error ellipse: s-maj=4.8km s-min=3.0km az=34.2*

IDC ***05*** *02:21:59.7±6.5, 32°.40S×138°.48E, h0km, mbtmp3.1/3, ML3.2/3, Error ellipse: s-maj=85.1km s-min=21.0km az=17.0*

ISC 05 02:21:54.7±0.7, 33°.04S±0°.04×138°.38E±0°.03, h10km, n20, σ2s23/27, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NAPP	Napperby	0.24	233	P			Pg	02 22 01.7	+2.0
PTPS	Port Pirie	0.35	247	P			Pb	02 22 03.0	0.0
HTT	Hallett	0.60	131	P			Pb	02 22 07.3	0.0
HTT				S			Sb	02 22 15.8	-0.1
WHYH	Whyalla	0.68	270	P			Pg	02 22 09.0	+1.2
WHYH				S			Sg	02 22 17.6	+0.9
YAPP	Yappala Statio	1.17	357	P			Pg	02 22 18.8	+1.7
YAPP				S			Sn	02 22 35.3	+2.3
SDAN	Sedan	1.67	152	P			Pb	02 22 25.5	0.0
SDAN				S			Sg	02 22 47.6	-0.8
BOX6	Mt Lofy	1.96	172	P			Pb	02 22 29.1	-1.4
BBOO	Buckleboo	1.97	276	P			Pn	02 22 29.5	+1.4
BBOO	Buckleboo	1.97	276	S			Sn	02 22 53.6	+0.8
LCRK	Leigh Creek	2.58	357	P			Pn	02 22 39.1	+2.5
STKA	Stephens Creek	2.95	68	P			Pb	02 22 45.1	-2.2
STKA	Stephens Creek	2.95	68	Pn			Pn	02 22 44.1	+2.5
	2.6nm,0.3s,baz=231,slow=12,SNR=19								
STKA				Lg		Lg		02 23 25.3	
	12nm,0.3s,baz=171,slow=19,SNR=4.8 7.9nm,0.4s								
MULG	Mulgathing	4.60	306	P			Pn	02 23 05.8	+1.5
MULG				S			Sn	02 23 57.3	-0.4
ARPS	Mount Arapiles	4.68	144	P			Pn	02 23 06.0	+0.6
ARPS				S			Sn	02 23 59.3	-0.6
INKA	Innaminka	5.66	22	P			Pn	02 23 23.6	+4.7
	comp=Z,0.0nmcomp=Z,44µmcomp=Z,3.0nm,0.5s								
OOD	Goodnadatta	5.72	335	P			Pn	02 23 21.8	+2.1
	comp=Z,0.0nmcomp=Z,47µmcomp=Z,5.8nm,1.2s								
CMSA	Cobar Meteorol	6.37	78	P			Pn	02 23 30.1	+1.5
	comp=Z,0.0nmcomp=Z,53µmcomp=Z,6.8nm,2.1s								
YNG	Young

JKB	**Kayabe**	**0.89**	**45**	P	**Pn**	**02 50 09.6**	**+0.3**	ARG			S	**Sb**	**03 00 31.7**	**-1.2**	**CSS**	**Mathiatis**	**4.41**	**91**	S	**Sn**	**03 01 58.7**	**+1.0**
JKB				S	**Sn**	**02 50 28.0**	**-0.2**	**RODB**	**Rodos**	**1.28**	**10**	P	**Pn**	**03 00 23.2**	**+0.2**	**CSS**	**Mathiatis**	**4.41**	**91**	P	**Pn**	**03 01 07.0**	**+0.8**
JOSM	**Okushiri--Mats**	**0.97**	**327**	*i* P	**Pn**	**02 50 09.9**	**0.0**	**RDI1**	**Rhodes Town Ha**	**1.28**	**10**	P	**Pn**	**03 00 22.8**	**-0.3**	**MVOU**	**Mavrovouni**	**4.66**	**90**	P	**Pn**	**03 01 10.5**	**+1.0**
JOSM				*e*S	**Sn**	**02 50 29.1**	**-0.4**	**ZKR**	**Zakros**	**1.43**	**268**	Pn	**Pb**	**03 00 26.3**	**+0.5**	MVOU				S	**Sn**	**03 02 05.5**	**+2.0**
JAH	**Hinai**	**1.13**	**162**	*i* P	**Pn**	**02 50 11.6**	**+0.2**	**ZKR**	**Zakros**	**1.43**	**268**	P	**Pb**	**03 00 27.0**	**+1.2**	MVOU				AML	AML	03 02 11.9	
JAH				S	**Sn**	**02 50 32.2**	**+0.3**	**ZKR**	**Zakros**	**1.43**	**268**	P	**Pn**	**03 00 24.0**	**-1.1**		0.1nm,0.5s						
JHST	**Hiyamasetana**	**1.18**	**349**	P	**Pn**	**02 50 11.9**	**+0.2**	ZKR				AML	AML	03 00 55.3		MVOU				AML	AML	03 02 12.3	
JANG	**Nango**	**1.35**	**131**	*i* P	**Pn**	**02 50 12.8**	**-0.6**		1.2nm,0.7s								0.1nm,0.5s						
JOM	**Ohasama**	**1.98**	**154**	*i* P	**Pn**	**02 50 19.7**	**-0.4**	ZKR				AML	AML	03 00 58.1		**MVOU**	**Mavrovouni**	**4.66**	**90**	P	**Pn**	**03 01 10.1**	**+0.6**
JNBK	**Urakawa-nobuka**	**2.17**	**61**	P	**Pn**	**02 50 22.7**	**+0.5**		1.7nm,0.7s							**HNTI**	**Hanita**	**6.34**	**107**	P	**Pn**	**03 01 32.6**	**0.0**
ERM	**Erimo**	**2.35**	**71**		**Pn**	**02 50 24.4**	**+0.1**	**ZKR**	**Zakros**	**1.43**	**268**	P	**Pb**	**03 00 26.8**	**+1.0**	**HNTI**	**Hanita**	**6.34**	**107**	S	**Sn**	**03 02 45.9**	**+0.8**
JYK	**Kaneyama**	**2.35**	**177**	P	**Pn**	**02 50 24.3**	**-0.1**	ZKR				S	**Sg**	**03 00 46.1**	**+1.0**	**BRTR**	**Keskin Array B**	**6.40**	**43**	Pn	**Pn**	**03 01 35.4**	**+1.8**
ASAJ	**Asahikawa**	**3.35**	**31**	P	**Pn**	**02 50 36.8**	**0.0**	**SIT2**	**Siteia**	**1.52**	**271**	P	**Pb**	**03 00 28.1**	**+0.7**		0.2nm,0.3s,baz=217,slow=16,SNR=7.4						
	6.9nm,0.3s,baz=178,slow=19,SNR=3.6							**YAZI**	**Mula-Dat§a-**	**1.55**	**345**	P	**Pn**	**03 00 27.5**	**+0.7**	BRTR				S	**Sn**	**03 02 47.8**	**+1.0**
ASAJ				S	**Sn**	**02 51 15.2**	**-2.1**	YAZI				S	**Sb**	**03 00 47.8**	**+0.2**		0.3nm,0.3s,baz=212,slow=24,SNR=5.7						
	5.2nm,0.3s,baz=196,slow=32,SNR=4.8							YAZI				*i* IAML		03 00 52.0			0.6nm,0.4s						
JMM	**Marumori**	**3.43**	**172**	Pn	**Pn**	**02 50 37.8**	**0.0**		comp=E,355nm,0.7s							**MMC7**	**Mount Meron ar**	**6.53**	**107**	P	**Pn**	**03 01 35.1**	**-0.2**
JGF	**Kuroka**	**6.08**	**202**	Pn	**Pn**	**02 51 14.7**	**+2.2**	**DAT**	**Datca**	**1.57**	**349**	Pn	**Pn**	**03 00 27.7**	**+0.5**	**MMA0B**	**Mount Meron ar**	**6.54**	**107**	P	**Pn**	**03 01 35.6**	**+0.1**
USRK	**Ussuriysk Ar.**	**6.71**	**299**	P	**Pn**	**02 51 21.2**	**+0.5**	**TURN**	**Turunc**	**1.60**	**8**	Pn	**Pn**	**03 00 28.7**	**+1.2**	**MMA0B**	**Mount Meron ar**	**6.54**	**107**	S	**Sn**	**03 02 51.2**	**+1.0**
	2.9nm,0.5s,baz=98,slow=14,SNR=5.6							**TURN**	**Turunc**	**1.60**	**8**	P	**Pb**	**03 00 29.8**	**+1.0**	**MMAI**	**Mount Meron Ar**	**6.54**	**107**	Pn	**Pn**	**03 01 34.8**	**-0.7**
PEA0B	**Petropavlovsk-**	**16.73**	**39**	P	**P**	**02 53 28.9**	**-0.2**	TURN				S	**Sg**	**03 00 52.2**	**+1.4**		3.2nm,0.3s,baz=297,slow=13,SNR=10						
PEA0B				IAmb	IAmb	02 53 32.0		**IZZE**	**Mula-Seydike**	**1.62**	**39**	P	**Pn**	**03 00 28.5**	**+0.7**	MMAI				Sn	**Sn**	**03 02 50.1**	**-0.1**
	comp=Z,6.0nm,0.9s							**KSL**	**Kastellorizon**	**1.64**	**53**	P	**Pb**	**03 00 30.0**	**+0.6**		5.7nm,0.3s,baz=290,slow=26,SNR=6.8						
PETK	**Petropavlovsk-**	**16.73**	**39**	P	**P**	**02 53 29.4**	**+0.3**	KSL				S	**Sg**	**03 00 52.6**	**+0.8**		1.5nm,0.3s						
	comp=Z,0.8nm,0.4s,baz=190,slow=7.2,SNR=6.4							**KSL**	**Kastellorizon**	**1.64**	**53**	P	**Pn**	**03 00 28.0**	**0.0**	**GEM**	**Giv'at Ha'Em**	**6.68**	**105**	P	**Pn**	**03 01 37.1**	**-0.2**
ZALV	**Zalesovo Beam**	**38.44**	**309**	P	**P**	**02 56 50.1**	**-0.4**	KSL				AML	AML	03 01 29.6		**GEM**	**Giv'at Ha'Em**	**6.68**	**105**	S	**Sn**	**03 02 54.7**	**+1.2**
	comp=Z,1.8nm,0.5s,baz=88,slow=8.3,SNR=6.9								0.5nm,1.4s							**SALP**	**Salfit**	**6.79**	**115**	P	**Pn**	**03 01 38.6**	**-0.2**
	comp=Z,1.8nm,0.5s							KSL				AML	AML	03 01 37.5		**SALP**	**Salfit**	**6.79**	**115**	S	**Sn**	**03 02 57.0**	**+0.8**
M16K	**Timber Creek**	**41.17**	**40**	P	**P**	**02 57 14.8**	**+1.7**		0.4nm,1.6s							**MMLI**	**Mount Malkishu**	**6.79**	**112**	P	**Pn**	**03 01 38.9**	**+0.1**
MKAR	**Makanchi Array**	**41.18**	**298**	P	**P**	**02 57 13.0**	**-0.3**	**KSL**	**Kastellorizon**	**1.64**	**53**	P	**Pn**	**03 00 28.1**	**+0.1**	**MMLI**	**Mount Malkishu**	**6.79**	**112**	S	**Sn**	**03 02 57.2**	**+1.0**
MKAR	**Makanchi Array**	**41.18**	**298**	P	**P**	**02 57 12.7**	**-0.6**	**SABU**	**Mula-Dalaman**	**1.83**	**26**	P	**Pn**	**03 00 31.5**	**+0.8**	**AMAZ**	**Amatzia**	**6.87**	**120**	P	**Pn**	**03 01 39.6**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=86,slow=9.3,SNR=16							**NPS**	**Neapolis**	**1.92**	**273**	P	**Pb**	**03 00 34.9**	**+0.7**	**AMAZ**	**Amatzia**	**6.87**	**120**	S	**Sn**	**03 02 58.5**	**+0.4**
	comp=Z,2.5nm,0.7s							NPS				S	**Sb**	**03 00 59.5**	**+1.2**	**KSHT**	**Keshet**	**6.88**	**106**	P	**Pn**	**03 01 40.1**	**+0.1**
MAKZ	**Makanchi**	**41.38**	**298**	P	**P**	**02 57 14.8**	**-0.1**	**NPS**	**Neapolis**	**1.92**	**273**	P	**Pb**	**03 00 33.8**	**-0.4**	**KSHT**	**Keshet**	**6.88**	**106**	S	**Sn**	**03 02 59.5**	**+1.1**
MAKZ				IAmb	IAmb	02 57 15.5		**BDRM**	**Kayabasi**	**1.92**	**348**	P	**Pn**	**03 00 32.8**	**+0.8**	**KZIT**	**Kziot**	**6.89**	**126**	P	**Pn**	**03 01 39.9**	**-0.2**
	comp=Z,3.6nm,0.7s							**KLNA**	**Kalymnos**	**1.94**	**336**	P	**Pn**	**03 00 32.7**	**+0.5**	**KZIT**	**Kziot**	**6.89**	**126**	S	**Sn**	**03 02 59.0**	**+0.4**
O16K	**Kokwok River B**	**41.63**	**42**	P	**P**	**02 57 18.0**	**+1.2**	**CAME**	**Cameli-Denizli**	**2.07**	**31**	Pn	**Pb**	**03 00 36.1**	**-0.7**	**HMDT**	**Nahal Hemdat**	**6.95**	**113**	P	**Pn**	**03 01 40.9**	**-0.1**
O16K				IAmb	IAmb	02 57 21.4		**MULA**	**Mugla, Merkez-**	**2.09**	**8**	P	**Pb**	**03 00 37.3**	**+0.2**	**HMDT**	**Nahal Hemdat**	**6.95**	**113**	S	**Sn**	**03 03 00.7**	**+0.6**
	comp=Z,6.9nm,1.0s							**KNIK**	**Mula-Seydike**	**2.11**	**38**	P	**Pn**	**03 00 36.0**	**+1.4**	**YTIR**	**Yattir**	**7.10**	**120**	P	**Pn**	**03 01 42.6**	**-0.5**
M17K	**Holitna River**	**41.91**	**40**	P	**P**	**02 57 21.1**	**+2.1**	**CAIK**	**Denizli, Camel**	**2.23**	**29**	P	**Pn**	**03 00 37.9**	**+1.7**	**YTIR**	**Yattir**	**7.10**	**120**	S	**Sn**	**03 03 04.5**	**+0.5**
M17K				IAmb	IAmb	02 57 36.7		**AKUM**	**Antalya-Kumluc**	**2.25**	**59**	P	**Pn**	**03 00 38.0**	**+1.6**	**DSI**	**Dead Sea**	**7.18**	**118**	P	**Pn**	**03 01 43.9**	**-0.2**
	comp=Z,8.5nm,1.4s							**THERA**	**Ancient Thera,**	**2.34**	**301**	P	**Pn**	**03 00 38.9**	**+1.3**	**DSI**	**Dead Sea**	**7.18**	**118**	S	**Sn**	**03 03 06.2**	**+0.5**
B20K	**Meade River**	**42.60**	**27**	P	**P**	**02 57 24.3**	**-0.1**	THERA				S	**Sb**	**03 01 08.7**	**-1.6**	**MSBI**	**Mazada**	**7.30**	**120**	P	**Pn**	**03 01 45.4**	**-0.4**
KURK	**Kurchatov**	**42.66**	**304**	P	**P**	**02 57 24.9**	**-0.2**	**THERA**	**Ancient Thera,**	**2.34**	**301**	P	**Pn**	**03 00 39.0**	**+1.3**	**MSBI**	**Mazada**	**7.30**	**120**	S	**Sn**	**03 03 09.5**	**+0.8**
N18K	**Kilae Creek**	**42.69**	**41**	P	**P**	**02 57 27.0**	**+1.7**	**DDIM**	**Aydin, Didim**	**2.34**	**346**	P	**Pn**	**03 00 36.7**	**-1.0**	**RMNI**	**Mount Ramon**	**7.33**	**127**	P	**Pn**	**03 01 45.9**	**-0.3**
N18K				IAmb	IAmb	02 57 41.6		**IACM**	**Heraklion**	**2.37**	**274**	P	**Pb**	**03 00 41.2**	**-0.6**	**RMNI**	**Mount Ramon**	**7.33**	**127**	S	**Sn**	**03 03 10.2**	**+0.7**
	comp=Z,7.6nm,1.1s							**THR6**	**Thira Island,**	**2.39**	**300**	P	**Pn**	**03 00 39.7**	**+1.4**	**GHAJ**	**Ghor Haditha**	**7.46**	**119**	P	**Pn**	**03 01 47.9**	**0.0**
KURBB	**Kurchatov Arra**	**42.73**	**304**	P	**P**	**02 57 25.4**	**-0.3**	**TAVA**	**DENIZLI_Tavas**	**2.41**	**18**	P	**Pn**	**03 00 40.0**	**+1.3**	**GHAJ**	**Ghor Haditha**	**7.46**	**119**	S	**Sn**	**03 03 13.0**	**+0.4**
	comp=Z,3.3nm,0.4s,baz=79,slow=8.8,SNR=24							TAVA				S	**Sb**	**03 01 12.2**	**-0.1**	**KRMI**	**Paran Flat**	**7.62**	**130**	P	**Pn**	**03 01 49.9**	**-0.3**
	comp=Z,3.3nm,0.4s							**THR3**	**Thira Island,**	**2.41**	**301**	P	**Pn**	**03 00 40.0**	**+1.4**	**KRMI**	**Paran Flat**	**7.62**	**130**	S	**Sn**	**03 03 16.2**	**-0.5**
IMAR	**Indian Mountai**	**43.55**	**33**	P	**P**	**02 57 33.3**	**+1.1**	**THR3**	**Thira Island,**	**2.41**	**301**	P	**Pn**	**03 00 40.1**	**+1.4**	**PRNI**	**Paran**	**7.64**	**127**	P	**Pn**	**03 01 50.1**	**-0.4**
SYI	**Shuyak Island**	**44.65**	**43**	P	**P**	**02 57 40.9**	**-0.1**	**SNT5**	**Nea Kammeni, S**	**2.41**	**301**	P	**Pn**	**03 00 40.3**	**+1.7**	**PRNI**	**Paran**	**7.64**	**127**	S	**Sn**	**03 03 16.2**	**-1.0**
KTH	**Kantishna Hill**	**44.84**	**36**	P	**P**	**02 57 43.8**	**+1.4**	**SNT5**	**Nea Kammeni, S**	**2.41**	**301**	P	**Pn**	**03 00 40.1**	**+1.5**	**HRFI**	**Mount Harif**	**7.87**	**129**	P	**Pn**	**03 01 53.4**	**-0.3**
KTH				IAmb	IAmb	02 57 46.0		**GOLH**	**Golhisar**	**2.42**	**32**	P	**Pb**	**03 00 41.9**	**-1.0**	**HRFI**	**Mount Harif**	**7.87**	**129**	S	**Sn**	**03 03 22.2**	**-0.7**
	comp=Z,2.1nm,0.7s							**SAP3**	**Santorini-Thir**	**2.46**	**301**	P	**Pn**	**03 00 40.5**	**+1.1**	**MBRI**	**Mt Berech**	**7.96**	**131**	P	**Pn**	**03 01 54.7**	**-0.3**
ILAR	**Eielson Array**	**46.48**	**34**	P	**P**	**02 57 55.9**	**+0.6**	**SAP3**	**Santorini-Thir**	**2.46**	**301**	P	**Pn**	**03 00 40.4**	**+1.1**	**MBRI**	**Mt Berech**	**7.96**	**131**	S	**Sn**	**03 03 25.2**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=282,slow=7.7,SNR=5.6							**AYDN**	**Tasoluk**	**2.47**	**359**	P	**Pn**	**03 00 41.9**	**+2.4**	**ASF**	**Jabal al Asfar**	**8.03**	**109**	Pn	**Pn**	**03 01 56.8**	**+0.8**
	comp=Z,0.5nm,0.8s							AYDN				S	**Sn**	**03 01 12.1**	**+2.3**		0.7nm,0.3s,baz=242,slow=23,SNR=8.0						
BVAR	**Borovoye Array**	**47.09**	**309**	P	**P**	**02 57 59.9**	**-0.3**	**IDI**	**Anoyia**	**2.51**	**273**	Pn	**Pn**	**03 00 41.5**	**+1.4**	ASF				Sn	**Sn**	**03 03 26.5**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=78,slow=8.7,SNR=4.3							**IDI**	**Anoyia**	**2.51**	**273**	P	**Pb**	**03 00 43.8**	**-0.6**		0.3nm,0.3s,baz=59,slow=24,SNR=2.0						
	comp=Z,1.0nm,0.5s							**IDI**	**Anoyia**	**2.51**	**273**	Pn	**Pn**	**03 00 41.7**	**+1.7**		3.9nm,0.5s						
BMAR	**Burnt Mountain**	**47.13**	**31**	P	**P**	**02 58 01.5**	**+1.2**		29nm,0.6s,baz=79,slow=16,SNR=23							**EIL**	**Elat**	**8.07**	**131**	Pn	**Pn**	**03 01 57.1**	**+0.7**
C27K	**Jago River**	**47.24**	**28**	P	**P**	**02 58 02.6**	**+1.6**	IDI				Sn	**Sb**	**03 01 14.9**	**-0.5**	EIL	1.4nm,0.3s,baz=329,slow=10,SNR=16			Sn	**Sn**	**03 03 24.1**	**-3.6**
C27K				IAmb	IAmb	02 58 12.4			7.6nm,0.3s,baz=264,slow=19,SNR=5.7								1.2nm,0.3s,baz=16,slow=16,SNR=4.8						
	comp=Z,7.9nm,1.4s							**IDI**	**Anoyia**	**2.51**	**273**	P	**Pn**	**03 00 41.8**	**+1.7**		6.9nm,0.5s						
F26K	**Sheenjek River**	**47.27**	**30**	P	**P**	**02 58 03.2**	**+1.9**	**APMY**	**Acipayam-Deniz**	**2.53**	**25**	Pn	**Pn**	**03 00 42.4**	**+2.1**	**EIL**	**Elat**	**8.07**	**131**	P	**Pn**	**03 01 56.4**	**0.0**
SCRK	**Sand Creek**	**47.85**	**35**	P	**P**	**02 58 06.5**	**+0.5**	**GCAM**	**G?zelcaml?**	**2.58**	**347**	Pn	**Pn**	**03 00 41.9**	**+1.0**	**EIL**	**Elat**	**8.07**	**131**	S	**Sn**	**03 03 27.7**	**0.0**
DOT	**Dot Lake**	**47.87**	**36**	P	**P**	**02 58 06.3**	**+0.2**	**DNIZ**	**Denizli-Tavas-**	**2.59**	**19**	P	**Pn**	**03 00 43.2**	**+2.1**	**OBKA**	**Obir**	**15.17**	**322**	*e*Pn	**Pn**	**03 03 35.4**	**+1.9**
N25K	**Chitina, Valde**	**48.00**	**38**	P	**P**	**02 58 07.2**	**+0.1**	**TMBK**	**Timbaki Herakl**	**2.62**	**268**	P	**Pb**	**03 00 45.1**	**-1.0**		3.5nm,1.0s						
N25K				IAmb	IAmb	02 58 09.5		**ESEN**	**Aydn-Nazilli**	**2.63**	**7**	P	**Pn**	**03 00 43.2**	**+1.6**	**KBA**	**Koelnbreinsper**	**16.17**	**322**	*e*Pn	**P**	**03 03 50.4**	**+0.7**
	comp=Z,5.1nm,1.4s							**KORT**	**Korkueli**	**2.65**	**46**	Pn	**Pn**	**03 00 44.9**	**+2.8**		7.7nm,1.3s						
BMRM	**Bremner River**	**48.13**	**39**	P	**P**	**02 58 09.4**	**+1.3**	**KORT**	**Korkueli**	**2.65**	**46**	P	**Pn**	**03 00 44.5**	**+2.5**	**LESA**	**Schwarzleotal**	**16.74**	**322**	*i* Pn	**Pn**	**03 03 54.8**	**+1.2**
K27K	**Chicken**	**48.66**	**35**	P	**P**	**02 58 13.2**	**+1.1**	**SMG**	**Samos**	**2.68**	**341**	P	**Pn**	**03 00 43.3**	**+1.0**		1.7nm,0.7s						
L27K	**Beaver Creek,**	**48.97**	**36**	P	**P**	**02 58 15.9**	**+1.5**	**SMG**	**Samos**	**2.68**	**341**	P	**Pn**	**03 00 43.1**	**+0.8**	**GERES**	**GERESS Array B**	**17.24**	**327**	P	**Pn**	**03 03 59.1**	**-0.9**
BCAR	**Beaver Creek A**	**48.99**	**36**	P	**P**	**02 58 16.3**	**+1.7**	**AYDB**	**Zeytinkoy-Aydi**	**2.76**	**359**	Pn	**Pn**	**03 00 44.7**	**+1.2**		baz=135,slow=13,SNR=8.2						
M27K	**Edge Creek, AK**	**49.10**	**37**	P	**P**	**02 58 17.1**	**+1.5**	**ANTB**	**Antalya**	**2.78**	**51**	Pn	**Pb**	**03 00 47.1**	**-1.7**		0.8nm,0.7s						
I28M	**Miner Creek**	**49.28**	**33**	P	**P**	**02 58 18.4**	**+1.5**	**NAZL**	**Nazilli-Aydin**	**2.79**	**5**	Pn	**Pn**	**03 00 45.4**	**+1.6**	**SQTA**	**Sankt Quirin**	**17.38**	**319**	*e*Pn	**Pn**	**03 04 00.9**	**-0.8**
EPYK	**Eagle Plains**	**50.37**	**31**	P	**P**	**02 58 26.6**	**+1.6**	**PRNS**	**Prines Rethymn**	**2.83**	**275**	P	**Pb**	**03 00 48.0**	**-1.7**		2.4nm,0.6s						
EPYK				IAmb	IAmb	02 58 32.4		**INCE**	**Denizli-Bozkur**	**2.84**	**27**	P	**Pn**	**03 00 46.5**	**+1.9**	**FETA**	**Feichten**	**17.52**	**318**	*e*Pn	**P**	**03 04 04.5**	**-0.1**
	comp=Z,4.4nm,1.2s							**DGB**	**zmir**	**2.99**	**344**	P	**Pn**	**03 00 47.2**	**+0.6**		7.1nm,1.1s						
K29M	**Barlow Dome**	**50.67**	**35**	P	**P**	**02 58 29.1**	**+1.7**	**BUCA**	**Burdur, Bucak-**	**3.00**	**44**	P	**Pb**	**03 00 51.1**	**-1.6**	**RETA**	**Reutte**	**17.78**	**319**	*e*Pn	**Pn**	**03 04 07.3**	**+0.6**
K29M				IAmb	IAmb	02 58 30.3		**KIRA**	**zmir-Kiraz**	**3.03**	**7**	Pn	**Pn**	**03 00 48.5**	**+1.3**		5.8nm,1.4s						
	comp=Z,3.9nm,1.4s							**GVD**	**Gavdhos**	**3.19**	**265**	Pn	**Pn**	**03 00 51.3**	**+1.9**	**DAVOX**	**Davos/Dischmat**	**17.86**	**316**	LR	LR	03 12 33.9	
I30M	**Mount Dempster**	**50.79**	**33**	P	**P**	**02 58 29.5**	**+1.3**	**GVD**	**Gavdhos**	**3.19**	**265**	P	**Pn**	**03 00 52.6**	**+3.2**		comp=Z,55nm,18.1s,baz=179,slow=42						
I30M				IAmb	IAmb	02 58 46.4		**GVD**	**Gavdhos**	**3.19**	**265**	P	**Pn**	**03 00 51.3**	**+1.9**	**ESDC**	**Sonseca Array**	**25.66**	**290**	P	**P**	**03 05 28.3**	**-0.9**
	comp=Z,2.9nm,1.2s							**BASM**	**Basmaki-Afyon**	**3.21**	**31**	Pn	**Pn**	**03 00 52.3**	**+2.6**		1.4nm,0.8s,baz=80,slow=9.1,SNR=9.5						
INK	**Inuvik**	**51.09**	**28**	P	**P**	**02 58 31.2**	**+1.0**	**CHAN**	**Chania**	**3.22**	**277**	P	**Pn**	**03 00 53.1**	**+3.4**		1.4nm,0.8s						
INK				IAmb	IAmb	02 58 35.5		**CHAN**	**Chania**	**3.22**	**277**	P	**Pn**	**03 00 51.4**	**+1.7**	**FINES**	**FINESS Array B**	**26.31**	**358**	P	**P**	**03 05 33.1**	**-1.5**
	comp=Z,3.4nm,1.4s							**BLCB**	**Balcova**	**3.28**	**347**	P	**Pn**	**03 00 52.9**	**+2.4**		2.4nm,0.9s,baz=126,slow=5.9,SNR=5.4						
G31M	**Satah River**	**51.17**	**30**	P	**P**	**02 58 31.7**	**+0.8**	**KNDR**	**Palaiochora Ch**	**3.50**	**272**	Pn	**Pn**	**03 00 56.1**	**+2.5**		2.4nm,0.3s						
G31M				IAmb	IAmb	02 58 51.0		**KNDR**	**Palaiochora Ch**	**3.50**	**272**	P	**Pn**	**03 00 56.4**	**+2.8**	**HFS**	**Hagfors**	**26.63**	**344**	P	**P**	**03 05 35.5**	**-2.1**
	comp=Z,4.1nm,1.3s							**KNDR**	**Palaiochora Ch**	**3.50**	**272**	P	**Pn**	**03 00 56.0**	**+2.5**		3.3nm,0.9s,baz=178,slow=10,SNR=2.1						
R32K	**Eaglecrest**	**53.80**	**41**	P	**P**	**02 58 52.9**	**+2.5**	**CHOS**	**Chios island**	**3.54**	**335**	P	**Pn**	**03 00 55.1**	**+0.8**	HFS				LR	LR	03 16 45.0	
R32K				IAmb	IAmb	02 58 55.5		**AKMS**	**Akamas**	**3.59**	**91**	P	**Pn**	**03 00 55.4**	**+0.6**		comp=Z,35nm,18.0s,baz=296,slow=38						
	comp=Z,5.9nm,1.4s							AKMS				S	**Sn**	**03 01 38.8**	**+1.4**		3.3nm,0.9s						
SIT	**Sitka**	**53.85**	**42**	P	**P**	**02 58 51.4**	**+0.7**	AKMS				AML	AML	03 01 42.8		**NOA**	**NORSAR Array B**	**28.01**	**343**	LR	LR	03 17 03.7	
AB31	**Akbulak array**	**54.54**	**308**	P	**P**	**02 58 55.3**	**-0.5**		0.5nm,0.7s								comp=Z,18nm,20.3s,baz=65,slow=37						
AB31				IAmb	IAmb	02 58 56.0		AKMS				AML	AML	03 01 43.8		**TORD**	**Torodi Ar. Bea**	**32.31**	**234**	P	**P**	**03 06 28.4**	**+0.1**
	comp=Z,1.2nm,0.6s								0.3nm,0.5s								1.1nm,0.9s,baz=24,slow=9.7,SNR=11						
ABKAR	**Akbulak array**	**54.54**	**308**	P	**P**	**02 58 55.7**	**-0.2**	**AKMS**	**Akamas**	**3.59**	**91**	P	**Pn**	**03 00 55.5**	**+0.6**		1.1nm,0.9s						
WR8	**Warramunga Arr**	**61.14**	**186**	P	**P**	**02 59 41.1**	**-0.9**	**USAK**	**Uak-Merkez**	**3.62**	**13**	P	**Pn**	**03 00 55.7**	**+0.3**	**KURBB**	**Kurchatov Arra**	**39.33**	**51**	P	**P**	**03 07 29.0**	**+0.7**
WR8				IAmb	IAmb	02 59 56.7		**ALFC**	**Alefka**	**3.80**	**89**	P	**Pn**	**03 00 58.1**	**+0.3**		0.4nm,0.5s,baz=275,slow=9.0,SNR=4.0						
	comp=Z,3.9nm,1.2s							ALFC				S	**Sn**	**03 01 44.2**	**+1.6**	KURBB				PcP	**PcP**	**03 09 36.5**	**-0.1**
WRA	**Warramunga Arr**	**61.14**	**186**	P	**P**	**02 59 40.9**	**-1.2**	ALFC				AML	AML	03 01 47.1			0.5nm,0.8s,baz=275,slow=3.4,SNR=4.6						
	comp=Z,0.4nm,0.5s,baz=4.1,slow=7.1,SNR=2.1								0.3nm,0.4s								0.4nm,0.5s						
	comp=Z,0.4nm,0.5s							ALFC				AML	AML	03 01 48.3		**MKAR**	**Makanchi Array**	**41.85**	**57**	P	**P**	**03 07 47.8**	**-1.4**
FINES	**FINESS Array B**	**64.64**	**331**	P	**P**	**03 00 04.0**	**-0.7**		0.4nm,0.7s								0.2nm,0.5s,baz=270,slow=8.3,SNR=2.0						
	comp=Z,2.6nm,1.0s,baz=26,slow=6.0,SNR=4.7							**ALFC**	**Alefka**	**3.80**	**89**	P	**Pn**	**03 00 58.1**	**+0.3**		0.2nm,0.5s						
	comp=Z,2.6nm,1.0s							**NATA**	**Nata**	**3.81**	**95**	P	**Pn**	**03 00 59.0**	**+1.1**								
HFS	**Hagfors**	**69.85**	**335**	P	**P**	**03 00 37.1**	**-0.4**	NATA				S	**Sn**	**03 01 44.5**	**+1.8**								
	comp=Z,1.2nm,0.8s,baz=38,slow=7.5,SNR=5.4							NATA				AML	AML	03 01 48.2									
	comp=Z,1.2nm,0.8s								1.3nm,0.5s														
P18A	**Preston Nutter**	**77.15**	**48**	P	**P**	**03 01 22.4**	**+1.4**	NATA				AML	AML	03 01 50.5									
SNAA	**Sanae**	**144.48**	**199**	PKP	**PKPab**	**03 08 58.8**	**-0.8**		0.6nm,0.5s														
	comp=Z,0.3nm,0.5s,baz=179,slow=3.2,SNR=7.5							**NATA**	**Nata**	**3.81**	**95**	P	**Pn**	**03 00 58.9**	**+1.1**								
								SEDI	**Konya, Seydise**	**3.81**	**52**	P	**Pn**	**03 01 00.9**	**+3.0**								
								SEDI				S	**Sn**	**03 01 43.6**	**+0.6**								
								SEDI				*i* IAML		03 01 57.0									
									comp=N,54nm,1.4s														
								SEDI				*i* IAML		03 02 02.0									
									comp=E,54nm,0.6s														
								ANKY	**Antikythira Is**	**3.86**	**282**	P	**Pn**	**03 01 01.3**	**+2.8**								
								ANKY	**Antikythira Is**	**3.86**	**282**	P	**Pn**	**03 01 00.2**	**+1.7**								
								KARY	**Karystos**	**4.01**	**316**	P	**Pn**	**03 01 01.3**	**+0.7**								
								TROD	**Troodos**	**4.03**	**92**	P	**Pn**	**03 01 00.8**	**-0.3**								
								TROD				S	**Sn**	**03 01 50.5**	**+2.0**								
								TROD				AML	AML	03 01 58.9									
									0.3nm,0.7s														
								TROD				AML	AML	03 01 59.3									
									0.3nm,0.6s														
								APOL	**The Sanctuary**	**4.06**	**96**	P	**Pn**	**03 01 02.1**	**+0.8**								
								APOL				S	**Sn**	**03 01 50.9**	**+2.0**								
								APOL				AML	AML	03 01 53.2									
									0.4nm,0.7s														
								APOL				AML	AML	03 01 53.9									
									0.3nm,0.7s														
								GDZ	**Gediz**	**4.08**	**17**	P	**Pn**	**03 01 01.6**	**-0.1**								
								KTHA	**Kythira Island**	**4.12**	**286**	Pn	**Pn**	**03 01 03.8**	**+1.6**								
								XYLS	**Xyliatos**	**4.18**	**91**	P	**Pn**	**03 01 03.5**	**+0.5**								
								XYLS				S	**Sn**	**03 01 54.2**	**+2.4**								
								XYLS				AML	AML	03 01 57.3									
									0.2nm,0.7s														
								XYLS				AML	AML	03 02 02.4									
									0.2nm,0.6s														
								PRK	**Paraskevi**	**4.27**	**342**	P	**Pn**	**03 01 04.8**	**+0.6**		

comp=Z,100nm,0.2s
SHO Shikotan 4.97 241 *e*P **Pn** **03 22 03.5 +2.2**
SHO AMB AMB 03 22 09.9
comp=Z,100nm,0.3s
SHO *e*S **Sn** **03 22 59.0 +1.6**
SHO A A 03 23 06.0
comp=Z,190nm,0.4s
SHO A A 03 23 06.0
comp=Z,280nm,0.4s
YUK Yuzh-Kuril'sk 5.48 247 *d* iPN **Pn** **03 22 10.7 +2.4**
YUK pmax pmax
comp=Z,422nm,0.2s
YUK pmax pmax
comp=N,124nm,0.1s
YUK Yuzh-Kuril'sk 5.48 247 *i* P **Pn** **03 22 10.8 +2.4**
YUK AMB AMB 03 22 11.9
comp=N,410nm,0.2s
YUK *e*S **Sn** **03 23 11.4 +1.3**
YUK A A 03 23 14.9
comp=N,100nm,0.2s
YUK A A 03 23 14.9
comp=N,260nm,0.2s
PAU Pauzhetka 5.68 26 *e*P **Pn** **03 22 13.1 +2.1**
PAU AMB AMB 03 22 20.0
comp=N,50nm,0.3s
PAU *e*S **Sn** **03 23 12.8 -2.0**
PAU A A 03 23 16.3
comp=N,170nm,0.3s
PAU A A 03 23 16.3
comp=N,100nm,0.3s
GLVR Golovnino 5.84 245 PN **Pn** **03 22 16.0 +2.7**
GLVR Golovnino 5.84 245 *e*P **Pn** **03 22 16.0 +2.7**
GLVR *e*S **Sn** **03 23 18.8 -0.2**
GLVR A A 03 23 25.5
comp=N,180nm,0.2s
GLVR A A 03 23 25.5
comp=N,340nm,0.2s
RUSJ Misakicho 5.84 249 *e*PN **Pn** **03 22 16.4 +3.1**
RUSJ S **Sn** **03 23 21.2 +2.2**
NEM2 Nemuro 2 5.90 241 P **Pn** **03 22 14.1 0.0**
NEM2 *e*S **Sn** **03 23 17.6 -2.8**
NMR Nemuro--Hokkai 5.91 241 ⍐ iPN **Pn** **03 22 14.2 0.0**
NMR Nemuro--Hokkai 5.91 241 *i* P **Pn** **03 22 14.8 +0.6**
JRA Rausu 6.00 248 *e*P **Pn** **03 22 18.4 +3.0**
JNK Nakash 6.42 247 *e*P **Pn** **03 22 22.9 +1.6**
JNK *e*S **Sn** **03 23 34.4 +1.1**
AKK Akkeshi 6.64 242 *e*P **Pn** **03 22 24.7 +0.4**
JAK Akkeshi 6.74 242 P **Pn** **03 22 25.8 +0.1**
JAK *e*S **Sn** **03 23 37.9 -3.2**
JTKR Abashiri--Toko 6.78 252 *e*P **Pn** **03 22 28.3 +2.2**
YSS Yuzhno-Sakhali 6.96 278 **Pn** **03 22 27.4 -1.2**
YSS Yuzhno-Sakhali 6.96 278 *e*PN **Pn** **03 22 31.0 +2.4**
YSS *e*S **Sn** **03 23 47.5 +1.1**
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=Z,2μm,15.0s
YSS Yuzhno-Sakhali 6.96 278 *e*P **Pn** **03 22 31.0 +2.4**
YSS AMB AMB 03 22 32.8
comp=Z,50nm,0.3s
YSS *e*S **Sn** **03 23 47.5 +1.1**
JAR Ashorobuto 7.17 247 *e*P **Pn** **03 22 33.3 +1.8**
JAR *e*S **Sn** **03 23 53.0 +1.4**
JOB Onbets 7.33 244 *e*P **Pn** **03 22 34.6 +0.9**
JOB *e*S **Sn** **03 23 53.9 -1.5**
PEA0B Petropavlovsk- 7.38 23 Pn **Pn** **03 22 35.6 +1.2**
PEA0B Petropavlovsk- 7.38 23 *i* PN **Pn** **03 22 34.2 -0.2**
PETK Petropavlovsk- 7.38 23 **Pn** **03 22 34.9 +0.4**
PETK Petropavlovsk- 7.38 23 P **Pn** **03 22 34.3 -0.1**
comp=Z,1.8nm,0.5s,baz=184,slow=12,SNR=6.3
JKK2 Kamakawa 2 7.58 254 *e*P **Pn** **03 22 40.1 +2.9**
JKA Kamikawa-asahi 7.59 256 **Pn** **03 22 40.1 +2.9**
JKA Kamikawa-asahi 7.59 256 *e*P **Pn** **03 22 40.2 +2.9**
ASAJ Asahikawa 7.59 256 P **Pn** **03 22 40.6 +3.3**
comp=Z,1.7nm,0.3s,baz=88,slow=18,SNR=21
comp=Z,74nm,0.9s
ASAJ Asahikawa 7.59 256 PN **Pn** **03 22 40.2 +2.9**
PET Petropavlovsk 7.59 28 *i* PN **Pn** **03 22 37.7 +0.4**
PET pmax pmax
comp=Z,5.0nm,0.3s
PET Petropavlovsk 7.59 28 *e*P **Pn** **03 22 37.7 +0.4**
JCH Churui 7.78 244 *e*P **Pn** **03 22 40.1 +0.3**
JCH *e*S **Sn** **03 24 04.0 -2.5**
TYV Tymovskoe 8.07 307 *e*PN **Pn** **03 22 45.0 +1.2**
TYV pmax pmax
comp=Z,9.0nm,7.0s
TYV pmax pmax
comp=Z,100nm,3.2s
TYV Tymovskoe 8.07 307 *e*P **Pn** **03 22 45.2 +1.4**
JAB Ashibetsu 8.08 253 *e*P **Pn** **03 22 47.4 +3.4**
ERM Erimo 8.24 241 **Pn** **03 22 47.9 +1.8**
ERM Erimo 8.24 241 PN **Pn** **03 22 47.9 +1.8**
JNBK Urakawa-nobuka 8.34 244 *e*P **Pn** **03 22 47.1 -0.4**
JNBK *e*S **Sn** **03 24 19.1 -1.1**
JANG Nango 10.22 238 *e*P **Pn** **03 23 10.9 -2.4**
JANG *e*S Sn 03 24 57.3 -9.2
JTH Tanohata 10.31 235 *e*S Sn 03 24 57.5 -11
TEY Ternei 11.44 269 *e*PN **Pn** **03 23 32.5 +2.6**
TEY Ternei 11.44 269 *e*P **Pn** **03 23 32.5 +2.6**
MAJO Matsushiro 14.74 233 **P** **03 24 19.6 -0.3**
MAJO Matsushiro 14.74 233 P **P** **03 24 19.6 -0.3**
MJAR Matsushiro Arr 14.74 233 Pn **P** **03 24 18.4 -1.4**
MJAR Matsushiro Arr 14.74 233 P **Pn** **03 24 13.5 -1.2**
comp=Z,3.8nm,0.6s,baz=29,slow=11,SNR=11
MJAR Matsushiro Arr 14.74 233 P **P** **03 24 18.5 -1.4**
USA0B Ussuriysk Arra 14.84 269 *i* P **Pn** **03 24 14.9 -1.1**
USRK Ussuriysk Ar. 14.84 269 P **Pn** **03 24 17.4 +1.4**
comp=Z,1.4nm,0.3s,baz=69,slow=12,SNR=12
comp=Z,3.8nm,0.5s
SEY Seymchan 16.54 359 *i* P **Pn** **03 24 36.8 -0.8**
SEY pmax pmax
comp=Z,2.0nm,0.9s
SEY Seymchan 16.54 359 *e*P **Pn** **03 24 36.8 -0.8**
HEH HeiHe 17.30 292 *e*P **P** **03 24 48.0 -0.1**
HEH pmax pmax
comp=Z,33nm,0.8s
KSRS Korea Array 20.53 253 P Pn 03 25 24.9 -1.1
comp=Z,3.7nm,0.7s,baz=56,slow=9.6,SNR=12
comp=Z,3.7nm,0.7s
KSRS Korea Array 20.53 253 *e*P Pn 03 25 24.9 -1.2
H11N2 WAKE ISLAND Hy 29.02 152 T T 03 58 10.2
baz=342
H11N1 WAKE ISLAND Hy 29.04 152 T T 03 58 20.3
baz=342
H11N3 WAKE ISLAND Hy 29.04 152 T T 03 58 15.9
baz=342
H11S1 WAKE ISLAND Hy 30.10 153 T T 03 59 33.7
baz=341
H11S3 WAKE ISLAND Hy 30.11 153 T T 03 59 35.9
baz=341
H11S2 WAKE ISLAND Hy 30.12 153 T T 03 59 37.4
baz=341
SONM Songino Array 31.27 290 P **P** **03 27 03.9 -0.6**
comp=Z,0.6nm,0.7s,baz=75,slow=7.9,SNR=7.8
comp=Z,0.6nm,0.7s
L19K White Mountain 33.26 43 P **P** **03 27 25.1 +3.4**
L19K IAmb IAmb 03 28 08.7
comp=Z,9.7nm,1.4s
N19K Bonanza Creek 33.37 45 P **P** **03 27 25.7 +2.9**
N19K IAmb IAmb 03 27 53.0
comp=Z,9.3nm,1.2s
D20K Etivluk River 33.61 31 P **P** **03 27 25.4 +0.8**
D20K IAmb IAmb 03 27 34.6
comp=Z,9.0nm,1.2s
J20K Nowinta River 33.74 39 P **P** **03 27 29.1 +3.3**
J20K IAmb IAmb 03 27 42.9
comp=Z,6.0nm,1.4s
B20K Meade River 33.79 28 P **P** **03 27 27.0 +0.9**
B20K IAmb IAmb 03 27 28.5
comp=Z,10.0nm,0.8s
IMAR Indian Mountai 34.13 36 P **P** **03 27 30.2 +1.0**
G21K Allakaket 34.31 35 P **P** **03 27 32.2 +1.5**
G21K IAmb IAmb 03 28 10.8
comp=Z,6.2nm,1.5s
KDAK Kodiak Island 34.45 51 P **P** **03 27 31.6 -0.4**
comp=Z,2.1nm,0.6s,baz=296,slow=2.2,SNR=7.3
comp=Z,2.1nm,0.6s
E21K Killik River 34.48 32 P **P** **03 27 32.6 +0.3**
E21K IAmb IAmb 03 27 34.2
comp=Z,6.9nm,1.2s
SYI Shuyak Island 34.49 49 P **P** **03 27 33.1 +0.8**
KTH Kantishna Hill 35.12 40 P **P** **03 27 40.0 +2.1**
KTH IAmb IAmb 03 27 41.0
comp=Z,9.4nm,1.2s

ILAR Eielson Array 36.91 38 P **P** **03 27 52.5 -0.6**
comp=Z,0.9nm,1.0s,baz=273,slow=7.9,SNR=8.6
comp=Z,0.9nm,1.0s
ILAR Eielson Array 36.91 38 *e*P **P** **03 27 55.8 +2.7**
ILAR pmax pmax
comp=Z,1.0nm,1.0s
LZDM Lanzhou Array 37.88 272 P **P** **03 28 01.5 -0.6**
comp=Z,1.1nm,0.3s,baz=54,slow=9.1,SNR=1.7
comp=Z,1.1nm,0.3s
GTA Gaotai 38.84 279 *e*P **P** **03 28 09.9 +0.1**
GTA pP pP 03 28 16.4 -5.3
GTA pmax pmax
comp=Z,3.0nm,0.6s
K27K Chicken 39.03 39 P **P** **03 28 12.6 +1.6**
L29M L29M 40.90 40 **P** **03 28 29.0 +2.5**
I30M Mount Dempster 41.33 37 **P** **03 28 31.4 +1.4**
INK Inuvik 42.02 32 P **P** **03 28 35.0 -0.5**
comp=Z,1.6nm,0.9s,baz=289,slow=7.4,SNR=3.2
comp=Z,1.6nm,0.9s
INK Inuvik 42.02 32 P **P** **03 28 35.0 -0.5**
ZALV Zalesovo Beam 42.65 306 P **P** **03 28 38.3 -2.5**
comp=Z,0.9nm,0.4s,baz=46,slow=4.3,SNR=4.3
ZALV PcP **PcP** **03 30 32.2 +0.3**
comp=Z,2.4nm,0.8s,baz=33,slow=3.4,SNR=7.1
comp=Z,0.9nm,0.4s
ZALV Zalesovo Beam 42.65 306 *e*P **P** **03 28 39.6 -1.2**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
P33M Teslin, Yukon 44.03 44 P **P** **03 28 54.5 +2.5**
DLBC Dease Lake 45.95 46 P **P** **03 29 09.7 +2.5**
comp=Z,15nm,0.7s,baz=246,slow=12,SNR=5.4
comp=Z,15nm,0.7s
MKAR Makanchi Array 46.92 298 P **P** **03 29 13.5 -1.5**
MKAR PcP **PcP** **03 30 47.5 +0.6**
MKAR Makanchi Array 46.92 298 P **P** **03 29 13.1 -1.9**
comp=Z,1.8nm,0.5s,baz=62,slow=7.1,SNR=17
MKAR PcP **PcP** **03 30 47.0 +0.1**
comp=Z,0.7nm,0.5s,baz=59,slow=4.7,SNR=7.1
comp=Z,1.8nm,0.5s
MKAR Makanchi Array 46.92 298 *i* P **P** **03 29 13.5 -1.5**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 46.92 298 *e*P **P** **03 29 13.5 -1.5**
KURK Kurchatov 47.39 304 P **P** **03 29 16.5 -1.9**
KURK Kurchatov 47.39 304 P **P** **03 29 16.5 -1.9**
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 47.39 304 *e*P **P** **03 29 16.5 -1.9**
KURBB Kurchatov Arra 47.48 304 P **P** **03 29 16.9 -2.3**
comp=Z,2.8nm,0.9s,baz=68,slow=8.5,SNR=8.7
KURBB PcP **PcP** **03 30 48.4 -0.3**
comp=Z,0.8nm,0.8s,baz=70,slow=4.1,SNR=5.5
comp=Z,2.8nm,0.9s
BVAR Borovoye Array 50.92 310 P **P** **03 29 43.6 -1.8**
comp=Z,0.9nm,0.4s,baz=64,slow=6.8,SNR=5.1
BVAR PcP **PcP** **03 31 01.3 0.0**
comp=Z,0.8nm,0.3s,baz=101,slow=3.0,SNR=6.2
comp=Z,0.9nm,0.4s
CMAR Chiang Mai Arr 52.12 256 P **P** **03 29 56.5 +1.7**
comp=Z,2.4nm,0.3s,baz=36,slow=7.6,SNR=10
CMAR PKiKP **PKiKP** **03 37 49.0 +2.5**
comp=Z,1.2nm,0.2s,baz=41,slow=4.2,SNR=5.7
comp=Z,2.4nm,0.3s
SPITS Spitsbergen Ar 52.89 350 P **P** **03 29 58.4 -1.4**
comp=Z,5.2nm,0.9s,baz=69,slow=7.9,SNR=11
comp=Z,5.2nm,0.9s
EVN Everest 54.17 274 **P** **03 30 09.8 -0.8**
ARTI Arti 55.23 318 *d* iP **P** **03 30 17.2 +0.1**
ARTI *PP **pP** **03 30 30.6 +1.1**
ARTI 03 31 14.7
ARTI 03 32 19.6
ARTI S **S** **03 38 01.0 +4.2**
ARTI SS **SS** **03 41 40.5 -0.2**
ARTI pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 58.09 341 P **P** **03 30 36.2 -1.0**
comp=Z,2.9nm,0.9s,baz=22,slow=9.2,SNR=5.2
comp=Z,2.9nm,0.9s
ABKAR Akbulak array 58.49 310 **P** **03 30 38.9 -1.4**
SIMJ Simiganj 59.51 295 **P** **03 30 46.7 -1.0**
SIMJ IAmb IAmb 03 30 50.2
comp=Z,3.4nm,0.8s
SUMG Summit 61.03 4 P **P** **03 30 57.6 -0.2**
SUMG IAmb IAmb 03 31 38.8
comp=Z,8.2nm,1.2s
SUMG Summit 61.03 4 P **P** **03 30 57.7 -0.2**
SUMG pmax pmax
comp=Z,8.0nm,1.2s
NVAR Mina Array Bea 62.75 62 P **P** **03 31 11.0 +1.3**
comp=Z,0.5nm,0.2s,baz=298,slow=4.7,SNR=7.0
comp=Z,0.5nm,0.2s
FINES FINESS Array B 64.25 335 P **P** **03 31 17.3 -1.6**
comp=Z,3.3nm,0.5s,baz=29,slow=8.4,SNR=30
comp=Z,3.3nm,0.5s
FINES FINESS Array B 64.25 335 *e*P **P** **03 31 17.7 -1.2**
FINES pmax pmax
comp=Z,3.0nm,0.5s
PDAR Pinedale Array 65.08 54 P **P** **03 31 26.6 +1.6**
comp=Z,0.8nm,0.9s,baz=324,slow=2.0,SNR=5.6
comp=Z,0.8nm,0.9s
OBN Obninsk 65.47 326 *e*P **P** **03 31 25.8 -1.1**
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN Obninsk 65.47 326 *e*P **P** **03 31 25.8 -1.1**
NB2 NORSAR Subarra 68.47 341 P **P** **03 31 45.0 -1.0**
comp=Z,2.0nm,0.6s,baz=28,slow=6.5
NB2 NORSAR Subarra 68.47 341 P **P** **03 31 45.0 -1.0**
comp=Z,2.0nm,0.6s,baz=28,slow=6.5
NOA NORSAR Array B 68.47 341 P **P** **03 31 45.0 -1.0**
comp=Z,2.4nm,0.6s,baz=27,slow=6.2,SNR=12
comp=Z,2.4nm,0.6s
HFS Hagfors 68.69 339 P **P** **03 31 46.4 -1.0**
comp=Z,3.9nm,0.5s,baz=53,slow=5.5,SNR=34
comp=Z,3.9nm,0.5s
KBZ Khabaz 70.95 314 P **P** **03 32 01.6 +0.2**
comp=Z,2.7nm,0.7s,baz=68,slow=5.4,SNR=6.8
comp=Z,2.7nm,0.7s
KBZ Khabaz 70.95 314 *i* P **P** **03 32 01.3 -0.2**
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 70.95 314 *e*P **P** **03 32 01.3 -0.2**
SHA1 Shidzhatmaz 71.06 314 *i* P **P** **03 32 02.7 +0.2**
AKASG Malin Array Be 71.71 326 P **P** **03 32 04.7 -1.2**
comp=Z,3.6nm,0.4s,baz=35,slow=6.2,SNR=21
comp=Z,3.6nm,0.4s
AKASG Malin Array Be 71.71 326 *e*P **P** **03 32 04.7 -1.2**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
KIEV Kiev 71.72 326 **P** **03 32 04.9 -1.1**
KIEV IAmb IAmb 03 32 05.7
comp=Z,5.7nm,0.7s
KIEV Kiev 71.72 326 P **P** **03 32 04.9 -1.1**
KIEV pmax pmax
comp=Z,6.0nm,0.7s
KOLS Kolonicke sedl 75.74 329 *e*P **P** **03 32 29.4 -0.3**
KOLS pmax pmax
comp=Z,4.0nm,0.9s
BURAR Bucovina Array 75.75 326 **P** **03 32 29.2 -0.7**
STEB Steborice 76.42 332 *e*P **P** **03 32 33.6 +0.1**
DPC Dobruska-Polom 76.53 333 *e*P **P** **03 32 34.3 +0.2**
DPC Dobruska-Polom 76.53 333 *e*P **P** **03 32 34.3 +0.2**
LANS Liptovska Anna 76.54 331 *e*P **P** **03 32 34.5 +0.3**
LANS pmax pmax
comp=Z,3.0nm,0.7s
EKA Eskdalemuir Ar 76.61 346 P **P** **03 32 33.4 -1.0**
comp=Z,0.6nm,0.4s,baz=20,slow=5.6,SNR=5.9
comp=Z,0.6nm,0.4s
KRLC Kraliky 76.62 333 *e*P **P** **03 32 34.4 -0.3**
KRLC Kraliky 76.62 333 *e*P **P** **03 32 34.4 -0.3**
MORC Moravsky Berou 76.64 332 P **P** **03 32 34.0 -0.8**
MORC IAmb IAmb 03 32 35.5
comp=Z,5.1nm,0.9s
MORC Moravsky Berou 76.64 332 P **P** **03 32 34.0 -0.8**
MORC pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 76.68 335 P **P** **03 32 33.5 -1.4**
CLL IAmb IAmb 03 32 34.9
comp=Z,7.1nm,0.6s
CLL Collm 76.68 335 P **P** **03 32 33.5 -1.4**
CLL pmax pmax
comp=Z,7.0nm,0.6s
CLL Collm 76.68 335 ‖ *i*P **P** **03 32 34.4 -0.5**
comp=Z,10.0nm,1.0s
VYHS Vyhne 77.31 331 *e*P **P** **03 32 38.3 -0.3**
TXAR Lajitas Array 77.81 60 P **P** **03 32 43.3 +1.5**
comp=Z,0.5nm,0.7s,baz=295,slow=4.2,SNR=11
comp=Z,0.5nm,0.7s

KHC Kasperske Hory 78.44 334 *e*P **P** **03 32 44.9 0.0**
KHC Kasperske Hory 78.44 334 *e*P **P** **03 32 44.9 0.0**
BRTR Keskin Array B 78.50 317 P **P** **03 32 45.2 -0.2**
comp=Z,2.3nm,0.9s,baz=84,slow=3.4,SNR=12
comp=Z,2.3nm,0.9s
BRTR Keskin Array B 78.50 317 *e*P **P** **03 32 45.5 +0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
GERES GERESS Array B 78.66 334 P **P** **03 32 45.6 -0.5**
comp=Z,1.1nm,0.6s,baz=44,slow=6.1,SNR=9.5
comp=Z,1.1nm,0.6s
CONA Conrad Observa 78.79 332 *i* P **P** **03 32 47.4 +0.5**
comp=Z,3.4nm,0.6s
RONA Rosalia, Austr 78.85 332 *i* P **P** **03 32 47.5 +0.4**
comp=Z,3.8nm,0.9s
MOA Molln 79.37 333 *i* P **P** **03 32 50.3 +0.4**
comp=Z,3.2nm,0.8s
ARSA Arzberg 79.50 332 *e*P **P** **03 32 50.9 +0.2**
comp=Z,0.9nm,0.6s
BIOA Bad Ischl, Aus 79.71 333 *i* P **P** **03 32 52.4 +0.6**
comp=Z,4.3nm,0.9s
SOKA Soboth 80.16 332 *i* P **P** **03 32 54.8 +0.5**
comp=Z,4.0nm,0.7s
LESA Schwarzleotal 80.24 334 *i* P **P** **03 32 55.2 +0.5**
comp=Z,3.1nm,0.5s
KBA Koelnbreinsper 80.34 333 *i* P **P** **03 32 55.9 +0.5**
comp=Z,6.7nm,0.7s
OBKA Obir 80.47 332 *e*P **P** **03 32 56.0 0.0**
comp=Z,4.8nm,1.2s
MYKA Terra Mystica 80.65 333 *i* P **P** **03 32 54.7 -2.2**
comp=Z,2.5nm,0.9s
WATA Walderalm 80.65 334 *i* P **P** **03 32 57.3 +0.3**
comp=Z,5.3nm,0.6s
WTTA Wattenberg 80.70 334 *i* P **P** **03 32 57.6 +0.2**
comp=Z,5.1nm,0.6s
RETA Reutte 80.75 335 *i* P **P** **03 32 57.7 +0.3**
comp=Z,2.5nm,0.8s
MOTA Moosalm 80.78 335 *i* P **P** **03 32 57.9 +0.2**
comp=Z,5.8nm,0.7s
SQTA Sankt Quirin 80.86 335 *i* P **P** **03 32 58.4 +0.2**
comp=Z,5.9nm,0.9s
ABTA Abfaltersbach 80.90 334 *i* P **P** **03 32 54.5 -3.7**
comp=Z,3.9nm,0.7s
FETA Feichten 81.19 335 *i* P **P** **03 32 60.0 +0.1**
comp=Z,2.3nm,1.0s
DAVA Damuels 81.19 335 *e*P **P** **03 32 58.5 -1.4**
comp=Z,8.6nm,1.3s
MMAI Mount Meron Ar 82.89 311 P **P** **03 33 09.5 +0.6**
comp=Z,5.0nm,0.6s,baz=37,slow=4.7,SNR=8.5
comp=Z,5.0nm,0.6s
BALJ Balqa 83.49 311 P **P** **03 33 11.7 -0.3**
H03N2 Juan Fernandez 138.93 90 T T 06 15 51.4
baz=306
H03N3 Juan Fernandez 138.95 91 T T 06 15 31.2
baz=306
H03N1 Juan Fernandez 138.95 90 T T 06 15 34.2
baz=306
BELA Belgrano 2 148.31 177 PKPdf **PKPbc** **03 40 29.0 +0.3**
SNAA Sanae 152.19 196 PKPbc **PKiKP** **03 40 38.7 +0.2**
comp=Z,0.6nm,0.6s,baz=155,slow=2.2,SNR=5.9

*BJI **05** 03:23:20.7, 46°.64N × 153°.03E, h16km, mB5.2/44, mb5.2/72, Ms5.0/71, Ms7 4.8/70*
*JMA **05** 03:23:26.6 ± 1.1, 47°.7N ± 5°.1 × 15°.3E ± °.1, h30km, MD5.7/19, MV6.0/19, KURILE ISLANDS REGION*
*NIED **05** 03:23:26.6, 46°.61N × 152°.89E, h30km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr2.67; Mθθ2.48; Mθφ-5.15; Mrθ-3.75; Mφφ-2.39; Mφr2.23; Fault plane solution: Mo6.60000 × 10^16^ NP1: φs231.00000°, δ53.00000°, λ152.00000°. NP2: φs339.00000°, δ68.00000°, λ40.00000°.*
*NEIC **05** 03:23:27.9 ± 1.9, 46°.55N ± 0°.09 × 152°.8E ± 0°.1, h35km ± 1km, mb5.3/63 Error ellipse: s-maj=18.1km s-min=10.7km az=143.0*
*MOS **05** 03:23:27.8 ± 1.1, 46°.57N × 152°.66E, h56km, mb5.3/40, MS5.0/31, Error ellipse: s-maj=5.5km s-min=4.1km az=103.4*
MOS Felt (III) at Kuril'sk.
*IDC **05** 03:23:29.8 ± 1.6, 46°.75N × 152°.68E, h54km ± 14km, mb4.8/40, mbtmp5.1/47, ML5.0/5, MS4.7/56, Error ellipse: s-maj=9.6km s-min=7.3km az=153.0*
*GCMT **05** 03:23:29.9 ± 0.1, 46°.60N ± 0°.01 × 152°.77E ± 0°.01, h48km, MW5.3/154, Moment Tensor Solution. s138, c255; s154, c299; Duration: 1§1 Moment tensor: Scale 10^17^ Nm; Mrr 1.14 ± .02; Mθθ -0.33 ± .01; Mφφ -0.81 ± .01; Mrθ 0.19 ± .01; Mθφ -0.55 ± .01; Mφr 0.58 ± .01; Best double couple: Mo 1.30300 × 10^17^ NP1: φs220.00000°, δ32.00000°, λ102.00000°. NP2: φs26.00000°, δ59.00000°, λ83.00000°. Principal axes: T 1.2980, Plg75.0000°, Azm276.0000°; N 0.0080, Plg6.0000°, Azm30.0000°; P -1.3080, Plg14.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SKHL **05** 03:23:29.4 ± 0.6, 46°.50N × 152°.80E, h73km ± 7km, mb6.2/7, ms5.1/4*
*BGR **05** 03:23:31.2, 47°.50N × 151°.50E, h33km, mb5.4, Ms4.8*
ISC 05 03:23:27.5 ± 0.3, 46°.51N ± 0°.03 × 152°.76E ± 0°.03, h41km ± 2km, h41km:pP-P, n1098, σ1§57/1139, mb5.2/213, MS4.9/100, 50C-98D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.65**	**251**	*d* iPN	**Pn**		**03 24 23.8**		**+2.4**
KUR				*e*S	**Sn**		**03 25 05.4**		**+2.2**
KUR				pmax	pmax				
	comp=Z,2μm,0.3s								
KUR				pmax	pmax				
	comp=N,1μm,0.4s								
KUR				pmax	pmax				
	comp=E,635nm,0.4s								
KUR				smax	smax				
	comp=E,15μm,0.5s								
KUR				smax	smax				
	comp=N,10μm,0.4s								
KUR				MLR	MLR				
	comp=Z,7μm,7.0s								
KUR	**Kuril'sk**	**3.65**	**251**	*i* P	**Pn**		**03 24 23.8**		**+2.4**
KUR				AMB	AMB		03 24 30.1		
	comp=Z,2μm,0.4s								
KUR				*e*S	**Sn**		**03 25 05.0**		**+1.8**
KUR				A	A		03 25 21.7		
	comp=Z,16μm,0.5s								
KUR				A	A		03 25 21.7		
	comp=Z,22μm,0.5s								
SKR	**Severo-Kuril's**	**4.73**	**27**	*e*PN	**Pn**		**03 24 39.3**		**+3.0**
SKR				*e*S	**Sn**		**03 25 35.9**		**+6.1**
SKR				pmax	pmax				
	comp=Z,231nm,0.8s								
SKR				smax	smax				
	comp=N,2μm,0.6s								
SKR				smax	smax				
	comp=E,2μm,0.5s								
SKR				MLR	MLR				
	comp=Z,5μm,14.0s								
SKR	**Severo-Kuril's**	**4.73**	**27**	*e*P	**Pn**		**03 24 38.1**		**+1.8**
SKR				AMB	AMB		03 24 39.5		
	comp=Z,230nm,0.8s								
SKR				*e*S	**Sn**		**03 25 29.2**		**-0.6**
SKR				A	A		03 25 35.7		
	comp=Z,620nm,0.4s								
SKR				A	A		03 25 35.7		
	comp=Z,930nm,0.4s								
SHO	**Shikotan**	**4.95**	**240**	*e*P	**Pn**		**03 24 44.1**		**+4.8**
SHO				AMB	AMB		03 24 48.2		
	comp=Z,1μm,0.4s								
SHO				*e*S	**Sn**		**03 25 37.3**		**+2.0**
SHO				A	A		03 26 02.6		
	comp=Z,9μm,0.5s								
SHO				A	A		03 26 02.6		
	comp=Z,10μm,0.5s								
YUK	**Yuzh-Kuril'sk**	**5.46**	**246**	*d* iPN	**Pn**		**03 24 48.9**		**+2.6**
YUK				*e*S	**Sn**		**03 25 51.5**		**+3.7**
YUK				pmax	pmax				
	comp=N,443nm,0.2s								
YUK				pmax	pmax				
	comp=E,836nm,0.2s								
YUK				pmax	pmax				
	comp=Z,3μm,0.2s								
YUK				smax	smax				
	comp=N,2μm,0.4s								

YUK smax smax
comp=E,5µm,0.6s
YUK MLR MLR
comp=Z,6µm,12.0s
YUK MLR MLR
comp=N,4µm,10.0s
YUK Yuzh-Kuril'sk 5.46 246 *i* P **Pn 03 24 49.1 +2.8**
YUK AMB AMB 03 24 52.3
comp=N,2µm,0.2s
YUK *e*S **Sn 03 25 51.2 +3.4**
YUK A A 03 25 57.7
comp=N,2µm,0.4s
YUK A A 03 25 57.7
comp=N,5µm,0.4s
PAU Pauzhetka 5.63 27 *e*P **Pn 03 24 50.5 +1.9**
PAU AMB AMB 03 24 54.5
comp=N,460nm,0.4s
PAU *e*S **Sn 03 25 53.5 +1.5**
PAU A A 03 26 00.5
comp=N,1µm,0.5s
PAU A A 03 26 00.5
comp=N,2µm,0.5s
RUSJ Misakicho 5.82 248 *e*PN **Pn 03 24 55.3 +4.1**
RUSJ *e*S **Sn 03 26 04.8 +8.2**
GLVR Golovnino 5.82 244 *e*PN **Pn 03 24 53.6 +2.3**
GLVR *e*S **Sn 03 26 01.2 +4.5**
GLVR pmax pmax
comp=Z,863nm,0.2s
GLVR pmax pmax
comp=N,59nm,0.1s
GLVR pmax pmax
comp=E,192nm,0.1s
GLVR smax smax
comp=N,4µm,0.3s
GLVR smax smax
comp=E,1µm,0.3s
GLVR Golovnino 5.82 244 *e*P **Pn 03 24 53.6 +2.3**
GLVR AMB AMB 03 24 54.6
comp=E,860nm,0.2s
GLVR *e*S **Sn 03 26 01.2 +4.5**
GLVR A A 03 26 05.9
comp=E,4µm,0.3s
GLVR A A 03 26 05.9
comp=E,1µm,0.3s
NEM2 Nemuro 2 5.89 240 *e*P **Pn 03 24 52.8 +0.6**
NEM2 *e*S **Sn 03 25 57.7 -0.7**
NEM2 Nemuro 2 5.89 240 A A 03 24 52.8
comp=N,11nm,6.5s,comp=E,9.0nm,0.8s
NMR Nemuro--Hokkai 5.90 240 ⇓*i* PN **Pn 03 24 52.7 +0.5**
NMR Nemuro--Hokkai 5.90 240 *i* P **Pn 03 24 52.8 +0.5**
JRA Rausu 5.98 247 *e*P **Pn 03 24 56.4 +3.1**
JRA *e*S **Sn 03 26 03.8 +3.3**
JRA Rausu 5.98 247 A A 03 24 56.4
comp=N,10.0nm,3.1s,comp=E,13nm,3.2s
JNSB Nemuroshibetsu 6.13 246 A A 03 24 56.0
comp=N,26nm,3.1s,comp=E,20nm,2.4s
JKHN Kushirohamanak 6.40 240 A A 03 24 59.8
comp=N,18nm,3.2s,comp=E,24nm,1.3s
JNK Nakash 6.40 246 ⇓*e*P **Pn 03 25 01.7 +2.5**
JNK ⇓*e*S **Sn 03 26 12.8 +1.8**
JNK Nakash 6.40 246 A A 03 25 01.7
comp=N,7.0nm,3.7s,comp=E,9.0nm,0.9s
AKK Akkeshi 6.63 241 *e*P **Pn 03 25 03.2 +0.9**
JAK Akkeshi 6.73 241 *e*P **Pn 03 25 04.5 +0.8**
JAK *e*S **Sn 03 26 18.2 -0.8**
JAK Akkeshi 6.73 241 A A 03 25 04.5
comp=N,16nm,0.9s,comp=E,15nm,0.8s
JTKR Abashiri--Toko 6.75 251 *e*P **Pn 03 25 07.3 +3.4**
YSS Yuzhno-Sakhali 6.89 277 **Pn 03 25 06.9 +0.9**
YSS Yuzhno-Sakhali 6.89 277 *ke*PN **Pn 03 25 08.0 +2.1**
YSS *e*S **Sn 03 26 24.0 +1.0**
YSS pmax pmax
comp=Z,1µm,3.0s
YSS pmax pmax
comp=N,380nm,0.8s
YSS pmax pmax
comp=E,750nm,0.8s
YSS pmax pmax
comp=Z,680nm,0.8s
YSS MLR MLR
comp=Z,9µm,16.0s
YSS MLR MLR
comp=E,6µm,14.0s
YSS Yuzhno-Sakhali 6.89 277 *e*P **Pn 03 25 09.3 +3.4**
YSS AMB AMB 03 25 13.9
comp=E,680nm,0.8s
YSS *e*S **Sn 03 26 24.0 +1.0**
YSS AMS AMS 03 27 30.8
comp=E,4µm,16.0s
YSS AMS AMS 03 27 30.8
comp=E,6µm,16.0s
JMP Maruseppu 7.09 253 A A 03 25 09.1
comp=N,6.0nm,1.8s,comp=E,9.0nm,1.8s
JAR Ashorobuto 7.15 247 P **Pn 03 25 12.0 +2.6**
JAR *e*S **Sn 03 26 31.6 +2.3**
JAR Ashorobuto 7.15 247 A A 03 25 12.0
comp=N,7.0nm,1.3s,comp=E,7.0nm,0.9s
JOB Onbets 7.31 244 P **Pn 03 25 13.2 +1.6**
JOB *e*S **Sn 03 26 32.9 -0.4**
JOB Onbets 7.31 244 A A 03 25 13.2
comp=N,10.0nm,4.4s,comp=E,11nm,0.9s
PEA0B Petropavlovsk- 7.34 24 *e*PN **Pn 03 25 14.0 +2.0**
PETK Petropavlovsk- 7.34 24 **Pn 03 25 12.6 +0.5**
PETK Petropavlovsk- 7.34 24 P **Pn 03 25 13.2 +1.2**
comp=E,18nm,0.6s,baz=186,slow=11,SNR=14
PETK LR LR 03 28 05.4
comp=E,3µm,20.6s,baz=203,slow=39
JKK2 Kamakawa 2 7.55 253 *e*P **Pn 03 25 18.6 +3.7**
JKA Kamikawa-asahi 7.55 255 **Pn 03 25 16.1 +1.1**
JKA Kamikawa-asahi 7.55 255 *e*P **Pn 03 25 16.1 +1.1**
ASAJ Asahikawa 7.55 255 P **Pn 03 25 18.7 +3.7**
comp=E,32nm,0.3s,baz=78,slow=15,SNR=47
ASAJ LR LR 03 28 04.6
comp=E,6µm,20.3s,baz=60,slow=36
comp=E,212nm,0.6s
ASAJ Asahikawa 7.55 255 PN **Pn 03 25 16.1 +1.1**
PET Petropavlovsk 7.55 28 P **Pn 03 25 15.0 +0.1**
PET Petropavlovsk 7.55 28 *e*PN Pn 03 25 20.0 +5.1
PET pmax pmax
comp=Z,101nm,0.6s
PET Petropavlovsk 7.55 28 *e*P **Pn 03 25 19.1 +4.2**
UGL Uglegorsk 7.65 294 *e*PN **Pn 03 25 19.8 +3.5**
UGL Uglegorsk 7.65 294 *e*P **Pn 03 25 20.7 +4.4**
JWK2 Keihoku 7.67 265 *e*P Pn 03 25 22.3 +5.7
JWK2 *e*S Sn 03 27 00.2 +18
JWK2 Keihoku 7.67 265 A A 03 25 22.3
comp=N,3.0nm,3.1s,comp=E,6.0nm,4.0s
JCH Churui 7.76 243 P **Pn 03 25 19.1 +1.3**
JCH *e*S **Sn 03 26 42.2 -2.0**
JCH Churui 7.76 243 A A 03 25 19.1
comp=N,11nm,3.1s,comp=E,5.0nm,0.8s
JSS Shosan 7.96 259 A A 03 25 20.6
comp=N,4.0nm,3.5s,comp=E,7.0nm,4.4s
JTHR Tokachihiroo 7.98 242 A A 03 25 21.1
comp=N,12nm,3.8s,comp=E,14nm,4.9s
TYV Tymovskoe 7.98 307 *e*PN **Pn 03 25 23.6 +2.8**
TYV pmax pmax
comp=Z,80nm,0.7s
TYV pmax pmax
comp=Z,700nm,2.4s
TYV MLR MLR
comp=E,5µm,17.0s
TYV MLR MLR
comp=Z,6µm,18.0s
TYV Tymovskoe 7.98 307 *e*P **Pn 03 25 23.2 +2.4**
TYV AMB AMB 03 25 25.3
comp=Z,80nm,0.7s
TYV *e*S **Sn 03 26 51.4 +1.7**
TYV A A 03 27 01.6
comp=Z,500nm,3.7s
TYV A A 03 27 01.6
comp=Z,500nm,3.7s
TYV AMS AMS 03 28 16.1
comp=Z,2µm,17.0s
TYV AMS AMS 03 28 16.1
comp=Z,5µm,17.0s
JAB Ashibetsu 8.05 252 *e*P **Pn 03 25 25.7 +3.9**
JRBN Rebuntou 8.22 267 *e*P **Pn 03 25 28.4 +4.2**
JEM Erimo 8.22 240 P **Pn 03 25 26.7 +2.5**
JEM Erimo 8.22 240 A A 03 25 24.3
comp=N,13nm,3.3s,comp=E,12nm,3.6s
ERM Erimo 8.22 240 Pn **Pn 03 25 25.0 +0.8**
ERM Erimo 8.22 240 P **Pn 03 25 26.7 +2.5**
ERM Erimo 8.22 240 PN **Pn 03 25 25.0 +0.8**
JHR Hokuryu 8.28 254 A A 03 25 24.9
comp=N,4.0nm,4.0s,comp=E,4.0nm,4.5s
JNBK Urakawa-nobuka 8.32 243 *e*P **Pn 03 25 26.9 +1.4**
JNBK *e*S **Sn 03 26 58.8 +0.8**
JNBK Urakawa-nobuka 8.32 243 A A 03 25 26.9
comp=N,11nm,1.6s,comp=E,18nm,1.1s
JSHD Hidakashinhida 8.43 245 A A 03 25 26.9
comp=N,13nm,1.2s,comp=E,14nm,2.1s
JIAM Iburiatsuma 8.66 247 A A 03 25 30.1
comp=N,17nm,1.1s,comp=E,13nm,5.2s
JEW Eniwo 8.85 250 A A 03 25 32.6
comp=N,6.0nm,5.9s,comp=E,6.0nm,5.6s
OKH Okha 9.46 322 *e*P **Pn 03 25 40.4 -0.7**
OKH AMS AMS 03 29 40.1
comp=E,2µm,16.0s
OKH AMS AMS 03 29 40.1
comp=E,7µm,16.0s
JKB Kayabe 9.60 245 A A 03 25 42.8
comp=N,5.0nm,2.2s,comp=E,6.0nm,1.6s
JAHD Aomorihigashid 9.77 242 A A 03 25 45.0
comp=N,9.0nm,1.3s,comp=E,12nm,0.9s
JANG Nango 10.22 237 *e*P **Pn 03 25 49.2 -2.3**
JANG *e*S Sn 03 27 35.7 -9.0
JTM Tenmabayashi 10.22 240 **Pn 03 25 50.7 -0.8**
JTM Tenmabayashi 10.22 240 P **Pn 03 25 51.1 -0.4**
NKL Nikolayevsk 10.24 315 *e*PN **Pn 03 25 54.3 +2.5**
NKL pmax pmax
comp=N,406nm,1.3s
NKL pmax pmax
comp=E,1µm,1.3s
NKL pmax pmax
comp=Z,2µm,1.3s
NKL MLR MLR
comp=N,7µm,15.0s
NKL MLR MLR
comp=E,23µm,14.0s
NKL MLR MLR
comp=Z,24µm,14.0s
NKL Nikolayevsk 10.24 315 *e*P **Pn 03 25 54.3 +2.5**
NKL AMB AMB 03 25 54.3
comp=Z,800nm,0.6s
NKL AMS AMS 03 25 57.6
comp=Z,7µm,15.0s
NKL AMS AMS 03 25 57.6
comp=Z,23µm,15.0s
JTH Tanohata 10.31 234 *e*P **Pn 03 25 50.8 -1.9**
JTH *e*S Sn 03 27 37.4 -9.5
TEY Ternei 11.38 268 *e*PN **Pn 03 26 09.3 +1.9**
TEY Ternei 11.38 268 *e*P **Pn 03 26 09.3 +1.9**
GRNR Gornyy 11.62 297 ⇓*i* PN **Pn 03 26 13.2 +2.6**
GRNR pmax pmax
comp=E,6.0nm,0.7s
GRNR pmax pmax
comp=N,4.0nm,0.8s
GRNR pmax pmax
comp=Z,7.0nm,0.7s
GRNR MLR MLR
comp=E,4µm,18.0s
GRNR MLR MLR
comp=N,1µm,14.0s
GRNR MLR MLR
comp=Z,5µm,16.0s
GRNR Gornyy 11.62 297 *e*P **Pn 03 26 13.2 +2.6**
JMM Marumori 12.37 230 **Pn 03 26 20.3 -0.6**
JMM Marumori 12.37 230 P **Pn 03 26 23.2 +2.3**
MA2 Magadan 13.14 356 **Pn 03 26 32.1 +0.8**
MA2 Magadan 13.14 356 P **Pn 03 26 31.0 -0.4**
comp=Z,70nm,0.6s,baz=168,slow=11,SNR=25
MA2 LR LR 03 31 21.7
comp=Z,2µm,20.7s,baz=169,slow=37
MA2 Magadan 13.14 356 *ce*PN **Pn 03 26 31.9 +0.5**
MA2 pmax pmax
comp=Z,137nm,0.8s
MA2 MLR MLR
comp=Z,3µm,22.0s
MA2 Magadan 13.14 356 *e*P **Pn 03 26 31.9 +0.5**
JSD Sado 13.66 237 P **Pn 03 26 36.4 -2.1**
KLR Kul'dur 14.36 289 LR LR 03 32 31.2
comp=Z,4µm,19.9s,baz=82,slow=38
MAJO Matsushiro 14.74 233 **Pn 03 26 51.8 -1.3**
MAJO Matsushiro 14.74 233 P **Pn 03 26 51.8 -1.3**
MJAR Matsushiro Arr 14.74 233 **Pn 03 26 52.1 -1.1**
MJAR Matsushiro Arr 14.74 233 P **Pn 03 26 51.9 -1.3**
comp=Z,18nm,0.8s,baz=27,slow=13,SNR=21
MJAR LR LR 03 32 49.7
comp=Z,2µm,21.1s,baz=43,slow=38
MJAR Matsushiro Arr 14.74 233 P **Pn 03 26 52.1 -1.1**
MJB9 Matsu-Tunnel 14.74 233 Pn **Pn 03 26 51.3 -1.8**
USA0B Ussuriysk Arra 14.78 269 Pn **Pn 03 26 54.4 +0.7**
USA0B Ussuriysk Arra 14.78 269 *e*P **Pn 03 26 54.5 +0.9**
USRK Ussuriysk Ar. 14.78 269 **Pn 03 26 54.9 +1.3**
USRK Ussuriysk Ar. 14.78 269 P **Pn 03 26 55.5 +1.9**
comp=Z,7.1nm,0.3s,baz=83,slow=13,SNR=42
USRK LR LR 03 32 18.7
comp=Z,4µm,20.5s,baz=71,slow=36
comp=Z,64nm,0.4s
SHEM Shemya Is, Ala 15.14 58 P **Pn 03 26 59.0 +0.8**
comp=Z,7.9nm,0.3s,baz=300,slow=7.9,SNR=4.9
SHEM LR LR 03 32 08.5
comp=Z,1µm,21.0s,baz=264,slow=34
comp=Z,36nm,0.5s
SMY Shemya 15.14 58 Pn IAmb **Pn 03 26 57.2 -1.0**
SMY IAmb IAmb 03 26 58.0
comp=Z,106nm,1.2s
SMY Shemya 15.14 58 P **Pn 03 26 57.2 -1.0**
SMY pmax pmax
comp=Z,106nm,1.2s
MSHR Mys Shultsa 15.88 264 *i* P **Pn 03 27 07.5 -0.5**
MSHR pmax pmax
comp=Z,23nm,0.8s
MSHR MLR MLR
comp=Z,2µm,20.0s
JGF Kuroka 15.90 232 **Pn 03 27 08.0 -0.2**
JGF Kuroka 15.90 232 P **Pn 03 27 07.8 -0.4**
PSTR Posyet 16.10 264 *e*P **Pn 03 27 09.7 -1.0**
INU Inuyama 16.27 232 P **P 03 27 14.4 -1.1**
MDJ Mudanjiang 16.33 272 P **P 03 27 15.4 -0.6**
MDJ S **Sn 03 30 17.3 +3.7**
MDJ pmax pmax
comp=Z,54nm,1.0s
MDJ pmax pmax
comp=Z,630nm,8.1s
MDJ LR LR
comp=Z,2µm,17.2s
MDJ LR LR
comp=Z,2µm,22.7s
MDJ LR LR
comp=Z,5µm,20.6s
SEY Seymchan 16.46 359 P **Pn 03 27 15.0 -0.1**
comp=Z,4.2nm,0.3s,baz=166,slow=9.9,SNR=35
SEY LR LR 03 33 56.4
comp=Z,2µm,18.2s,baz=178,slow=39
comp=Z,9.7nm,0.4s
SEY Seymchan 16.46 359 *e*P **P 03 27 16.6 -0.8**
SEY pmax pmax
comp=Z,27nm,1.1s
SEY Seymchan 16.46 359 *e*P **P 03 27 16.6 -0.8**
JHJ2 Mitsune 16.64 221 Pn **Pn 03 27 16.7 -0.9**
JHJ2 IAmb IAmb 03 27 21.8
comp=Z,763nm,1.9s
JHJ Hachijo jima 2 16.65 221 P **P 03 27 22.3 +2.7**
comp=Z,7.6nm,0.3s,baz=58,slow=19,SNR=3.0
JHJ S **Sn 03 30 11.7 -10**
comp=Z,66nm,0.5s,baz=89,slow=21,SNR=2.8
comp=Z,104nm,0.8s
HEH HeiHe 17.22 292 *e*P **P 03 27 25.7 -0.2**
HEH pP **Pn 03 27 28.7 +4.0**
HEH S **S 03 30 39.2 -3.6**
HEH pmax pmax
comp=Z,64nm,1.9s
HEH LR LR
comp=Z,970nm,20.1s
HEH LR LR
comp=Z,4µm,19.4s
HEH LR LR
comp=Z,6µm,20.6s
BNX BinXian 17.58 277 ⇓P **Pn 03 27 27.8 -1.4**
BNX pP **P 03 27 31.8 +2.0**
BNX sP **pP 03 27 33.3 -5.9**
BNX S **Sn 03 30 43.2 -0.6**
BNX sS **S 03 30 56.8 +6.7**
BNX pmax pmax
comp=Z,31nm,0.7s
BNX pmax pmax
comp=Z,840nm,6.0s
BNX LR LR
comp=Z,1µm,16.3s
BNX LR LR
comp=Z,3µm,18.8s
BNX LR LR
comp=Z,3µm,19.0s
ZEA Zeya 17.82 303 *e*P **P 03 27 33.8 +1.3**
ZEA *e*S **Sn 03 30 40.7 -8.9**
ZEA pmax pmax
comp=E,300nm,8.2s
ZEA pmax pmax
comp=N,300nm,6.0s
ZEA pmax pmax
comp=Z,400nm,2.8s
ZEA pmax pmax
comp=E,40nm,1.0s
ZEA pmax pmax
comp=N,20nm,0.6s
ZEA pmax pmax
comp=Z,50nm,0.9s
ZEA MLR MLR
comp=E,2µm,18.0s
ZEA Zeya 17.82 303 *e*P **P 03 27 32.4 -0.1**
JMN Monobe 19.21 235 P **P 03 27 48.2 +0.3**
JMN Monobe 19.21 235 P **Pn 03 27 51.4 +2.2**
CN2 Changchun 19.42 272 P **P 03 27 48.4 -1.7**
CN2 PP **PnPn 03 28 05.4 +0.2**
CN2 S **S 03 31 19.0 -8.3**
CN2 pmax pmax
comp=E,40nm,0.7s
CN2 pmax pmax
comp=E,210nm,5.0s
CN2 LR LR
comp=E,1µm,16.0s
CN2 LR LR
comp=E,2µm,16.0s
CN2 LR LR
comp=E,3µm,17.0s
KIWB Kanaga Island 20.30 64 P **P 03 27 59.9 +0.4**
YAK Yakutsk 20.40 328 P **P 03 28 01.4 +0.9**
YAK Yakutsk 20.40 328 P **P 03 28 01.1 +0.6**
comp=E,153nm,0.5s,baz=326,slow=0.9,SNR=14
YAK S **S 03 31 42.6 -3.8**
comp=E,17nm,0.5s,baz=90,slow=20,SNR=1.4
YAK LR LR 03 35 33.0
comp=E,3µm,21.2s,baz=132,slow=36
comp=E,153nm,0.5s
YAK Yakutsk 20.40 328 *e*P **P 03 28 00.8 +0.3**
YAK *e* 03 28 16.0
YAK *e*S **S 03 31 45.2 -1.2**
YAK *e* 03 32 13.7
YAK *e*SSS SSS 03 32 17.3
YAK pmax pmax
comp=Z,51nm,0.7s
YAK pmax pmax
comp=E,6.0nm,0.5s
YAK pmax pmax
comp=N,4.0nm,0.6s
YAK smax smax
comp=E,136nm,1.5s
YAK smax smax
comp=N,132nm,1.7s
YAK MLR MLR
comp=Z,3µm,20.0s
YAK MLR MLR
comp=N,2µm,16.0s
YAK MLR MLR
comp=E,1µm,15.0s
YAK Yakutsk 20.40 328 *e*P **P 03 28 00.8 +0.3**
KSRS Korea Array 20.49 253 P **P 03 28 02.2 +0.4**
comp=E,30nm,0.7s,baz=57,slow=9.7,SNR=44
KSRS S Sn 03 31 56.1 +2.0
comp=E,24nm,1.2s,baz=59,slow=19,SNR=11
comp=E,30nm,0.7s
KSRS Korea Array 20.49 253 *e*P **P 03 28 02.2 +0.4**
KS19 Wonju Array Si 20.50 253 P Pn 03 28 03.6 -0.7
KS19 IAmb IAmb 03 28 10.8
comp=Z,63nm,0.9s
KSAR Wonju Array Be 20.52 253 P **P 03 28 02.8 +0.7**
KSAR Wonju Array Be 20.52 253 P **P 03 28 02.8 +0.7**
ADK Adak 20.59 64 P **P 03 28 03.0 +0.3**
ADK IAmb IAmb 03 28 11.8
comp=Z,188nm,1.9s
ADK Adak 20.59 64 P **P 03 28 03.0 +0.3**
ADK pmax pmax
comp=Z,188nm,2.0s
JCJ Chichijima 21.11 207 P **P 03 28 08.8 +0.3**
INCN Inchon 21.33 254 P **P 03 28 11.6 +0.7**
INCN IAmb IAmb 03 28 16.1
comp=Z,87nm,0.8s
INCN Inchon 21.33 254 P **P 03 28 11.9 +1.1**
INCN S Sn 03 32 15.2 +0.8
INCN Inchon 21.33 254 P **P 03 28 11.6 +0.7**
INCN pmax pmax
comp=Z,87nm,0.8s
SNY Shenyang 21.39 268 ⇓P **P 03 28 10.8 -0.6**
SNY S **S 03 31 57.9 -8.5**
SNY pmax pmax
comp=Z,24nm,0.5s
SNY pmax pmax
comp=Z,360nm,7.9s
SNY LR LR
comp=Z,2µm,17.1s
SNY LR LR
comp=Z,2µm,22.0s
SNY LR LR
comp=Z,3µm,19.4s
JNU Nakatsue 21.39 239 P **P 03 28 12.1 +0.6**
JNU IAmb IAmb 03 28 21.9
comp=Z,51nm,0.7s
TJN Taejon 21.48 251 P **P 03 28 13.6 +1.2**
TJN Taejon 21.48 251 P **P 03 28 13.6 +1.2**
TJN pmax pmax
comp=Z,750nm,1.5s
BILL Bilibino 22.68 13 P **P 03 28 26.2 +1.2**
BILL Bilibino 22.68 13 *e*P **P 03 28 25.7 +0.7**
BILL pmax pmax
comp=Z,9.0nm,0.8s
BILL MLR MLR
comp=Z,1µm,18.0s
BILL Bilibino 22.68 13 *e*P **P 03 28 25.7 +0.7**
DL2 Dalian 23.99 263 P **P 03 28 38.4 +0.3**
DL2 S **S 03 32 53.2 +1.1**
DL2 pmax pmax
comp=Z,88nm,1.5s
DL2 pmax pmax
comp=Z,740nm,7.4s
DL2 LR LR
comp=Z,1µm,17.2s
DL2 LR LR
comp=Z,1µm,19.7s
DL2 LR LR
comp=Z,2µm,19.8s
SPIA Saint Paul Isl 24.91 51 P **P 03 28 46.7 +0.4**
baz=260
P08K Saint George I 25.21 53 P **P 03 28 49.3 +0.4**
baz=262
XLT XiLinHaoTe 25.83 278 *e*P **P 03 28 54.9 0.0**
XLT S **S 03 33 22.8 +1.2**
XLT pmax pmax
comp=Z,15nm,0.8s
XLT pmax pmax
comp=Z,270nm,7.4s
XLT LR LR
comp=Z,180nm,14.9s
XLT LR LR
comp=Z,2µm,18.4s
XLT LR LR
comp=Z,2µm,18.6s
GAMB Gambell 26.16 36 P **P 03 28 57.8 +0.3**
GAMB IAmb IAmb 03 29 34.8
comp=Z,41nm,1.0s
GAMB Gambell 26.16 36 P **P 03 28 58.0 +0.6**
baz=245
UNV Unalaska Valle 26.79 59 P **P 03 29 02.9 -0.4**
baz=271
BJI Beijing 27.23 270 P **P 03 29 08.5 +1.1**
BJI pP **pP 03 29 12.7 -5.1**
BJI PP **PnPn 03 29 55.0 +2.9**
BJI S **S 03 33 44.5 +1.0**
BJI pmax pmax
comp=Z,20nm,0.9s
BJI pmax pmax
comp=Z,160nm,7.8s
BJI LR LR
comp=Z,590nm,15.4s
BJI LR LR
comp=Z,1µm,19.0s

BJI LR LR
comp=Z,1µm,18.6s
M11K Mekoryuk 27.57 45 P **P 03 29 10.5 +0.3**
baz=258
JOW Kunigami 27.59 233 LR LR 03 40 57.4
comp=Z,422nm,18.2s,baz=117,slow=38
TIK Tiksi 27.62 344 *eP* **P 03 29 12.0 +1.4**
TIXI Tiksi 27.63 344 P **P 03 29 09.5 -1.2**
TIXI Tiksi 27.63 344 LR LR 03 40 34.1
comp=Z,2µm,19.9s,baz=156,slow=37
TIXI Tiksi 27.63 344 *i* P **P 03 29 12.0 +1.3**
TIXI pmax pmax
comp=Z,6.0nm,0.9s
TIXI MLR MLR
comp=Z,2µm,19.0s
TNA Tin City 28.37 34 P **P 03 29 17.9 +0.6**
baz=247
TIA Tai'an 28.44 262 P **P 03 29 19.8 +1.5**
TIA S **S 03 34 02.0 -0.7**
TIA ScP **ScP 03 36 06.1 -1.0**
TIA pmax pmax
comp=Z,24nm,0.6s
TIA pmax pmax
comp=Z,360nm,5.1s
TIA LR LR
comp=Z,550nm,15.0s
TIA LR LR
comp=Z,2µm,18.3s
TIA LR LR
comp=Z,2µm,15.9s
FALS False Pass 28.58 57 P **P 03 29 19.1 -0.2**
baz=271
K13K Kusilvak Mount 28.64 42 P **P 03 29 20.1 +0.4**
baz=257
SSE Sheshan 28.79 249 P **P 03 29 20.8 -0.5**
SSE S **S 03 34 12.3 +4.2**
SSE pmax pmax
comp=Z,9.0nm,0.7s
SSE pmax pmax
comp=Z,270nm,4.9s
SSE LR LR
comp=Z,360nm,19.2s
SSE LR LR
comp=Z,450nm,18.3s
F14K Arctic Creek 28.95 34 P **P 03 29 23.3 +0.8**
baz=249
M13K Dall Lake 28.97 45 P **P 03 29 22.9 +0.2**
baz=261
ANM Nome 29.03 36 P **P 03 29 24.1 +0.9**
baz=252
H11N2 WAKE ISLAND Hy 29.12 152 T T 04 00 46.4
baz=339,slow=76
H11N1 WAKE ISLAND Hy 29.13 152 T T 04 00 54.7
baz=339,slow=76
H11N3 WAKE ISLAND Hy 29.13 152 T T 04 00 56.7
baz=339,slow=76
J14K Nanvaranak Lak 29.32 40 P **P 03 29 26.8 +1.0**
baz=257
S12K Black Hills 29.34 55 P **P 03 29 26.5 +0.4**
baz=271
L14K Kuka Creek 29.44 43 P **P 03 29 27.7 +0.8**
baz=260
HNS HongShan 29.48 266 ⇑P **P 03 29 28.4 +0.9**
HNS PcP **PcP 03 32 34.0 +1.9**
HNS S **S 03 34 19.1 +0.1**
HNS PcS **PcS 03 36 14.6 -0.5**
HNS pmax pmax
comp=Z,28nm,0.6s
HNS LR LR
comp=Z,820nm,18.6s
HNS LR LR
comp=Z,1µm,18.0s
HNS LR LR
comp=Z,1µm,21.2s
F15K North Star Dit 29.69 34 P **P 03 29 29.7 +0.7**
baz=250
NJ2 Nanjing 29.69 253 *eP* **P 03 29 31.3 +1.9**
NJ2 pmax pmax
comp=Z,21nm,0.6s
NJ2 LR LR
comp=Z,1µm,13.3s
NJ2 LR LR
comp=Z,1µm,13.7s
NJ2 LR LR
comp=Z,2µm,17.2s
M14K Bethel 29.70 45 P **P 03 29 30.0 +0.9**
baz=262
G15K Niukluk 29.71 36 P **P 03 29 30.4 +1.2**
baz=252
N14K Kuskokwak Cree 29.73 46 P **P 03 29 30.1 +0.6**
baz=264
O14K Tigyukauivet M 29.89 48 P **P 03 29 31.9 +1.1**
O14K IAmb IAmb 03 29 50.5
comp=Z,29nm,1.0s
O14K Tigyukauivet M 29.89 48 P **P 03 29 31.7 +0.9**
baz=265
L15K Ungalak Mounta 30.07 43 P **P 03 29 32.8 +0.4**
baz=261
HHC Hu-ho-hao-te 30.07 274 *eP* **P 03 29 33.8 +1.0**
HHC sP pP 03 29 43.6 +0.3
HHC PP **PP 03 30 34.7 -6.3**
HHC S **S 03 34 31.9 +3.5**
HHC pmax pmax
comp=Z,61nm,1.1s
HHC pmax pmax
comp=Z,140nm,4.2s
HHC LR LR
comp=Z,2µm,17.5s
HHC LR LR
comp=Z,1µm,19.7s
HHC LR LR
comp=Z,2µm,19.3s
K15K Wolf Creek Mou 30.15 42 P **P 03 29 34.9 +1.7**
K15K IAmb IAmb 03 29 55.9
comp=Z,49nm,1.4s
K15K Wolf Creek Mou 30.15 42 P **P 03 29 33.8 +0.7**
baz=260
H11S1 WAKE ISLAND Hy 30.20 153 T T 04 02 11.6
baz=338,slow=76
H11S3 WAKE ISLAND Hy 30.21 153 T T 04 02 13.5
baz=338,slow=76
H11S2 WAKE ISLAND Hy 30.22 153 T T 04 02 11.0
baz=338,slow=76
SDPT Sand Point 30.25 56 P **P 03 29 34.3 +0.2**
baz=272
M15K Kasigluk River 30.31 45 P **P 03 29 35.1 +0.5**
baz=263
H16K Elim 30.35 37 P **P 03 29 35.7 +0.9**
baz=255
C16K Lisburne Hills 30.39 29 P **P 03 29 36.6 +1.4**
baz=246
G16K Koyuk River 30.50 36 P **P 03 29 37.4 +1.2**
baz=254
N15K Kwethluk River 30.55 46 P **P 03 29 37.6 +0.8**
baz=265
O15K Ungalikthiuk R 30.62 48 P **P 03 29 38.1 +0.8**
baz=267
S14K Fog Glacier 30.73 54 P **P 03 29 38.3 -0.1**
baz=272
J16K Anvik River 30.75 40 P **P 03 29 39.3 +0.9**
J16K IAmb IAmb 03 29 42.7
comp=Z,69nm,1.8s
J16K Anvik River 30.75 40 P **P 03 29 38.7 +0.3**
baz=259
ULN Ulaanbaatar 30.75 289 P **P 03 29 38.4 -0.4**
ULN IAmb IAmb 03 29 46.2
comp=Z,47nm,0.9s
ULN Ulaanbaatar 30.75 289 P **P 03 29 39.4 +0.6**
ULN Ulaanbaatar 30.75 289 *i* P **P 03 29 38.7 -0.1**
ULN pmax pmax
comp=Z,50nm,0.9s
ULN MLR MLR
comp=Z,2µm,17.0s
ULN Ulaanbaatar 30.75 289 *eP* **P 03 29 38.7 -0.1**
CHNA Chernabura Isl 30.79 57 P **P 03 29 38.1 -0.7**
baz=274
I17K Unalakleet 30.83 39 P **P 03 29 39.1 +0.1**
baz=258
D17K Noatak River 30.96 31 P **P 03 29 41.0 +0.8**
baz=249
L16K Owhat River 31.02 43 P **P 03 29 40.9 +0.1**
L16K Owhat River 31.02 43 P **P 03 29 41.0 +0.1**
baz=263
RDOG Red Dog Mine 31.15 31 P **P 03 29 43.0 +1.1**
RDOG IAmb IAmb 03 29 54.2
comp=Z,26nm,1.0s
RDOG Red Dog Mine 31.15 31 P **P 03 29 42.2 +0.3**
baz=249
SONM Songino Array 31.19 290 P **P 03 29 41.5 -1.1**
comp=Z,5.4nm,0.6s,baz=78,slow=8.3,SNR=17
SONM PcP **PcP 03 32 36.2 -0.3**
comp=Z,2.4nm,0.6s,baz=130,slow=3.9,SNR=3.1
SONM LR LR 03 43 15.3
comp=Z,3µm,18.9s,baz=80,slow=38
comp=Z,5.4nm,0.6s
M16K Timber Creek 31.19 45 P **P 03 29 43.8 +1.4**
M16K Timber Creek 31.19 45 P **P 03 29 42.7 +0.3**
baz=264
C17K DeLong Mountai 31.21 30 P **P 03 29 43.1 +0.6**
baz=248
E17K Hotham Inlet 31.21 33 P **P 03 29 42.9 +0.5**
baz=251,SNR=9.8
G17K Kiwalik Mounta 31.22 36 P **P 03 29 42.9 +0.4**
baz=255
F17K Baldwin Pennin 31.23 34 P **P 03 29 43.7 +1.1**
F17K IAmb IAmb 03 29 56.2
comp=Z,52nm,0.8s
F17K Baldwin Pennin 31.23 34 P **P 03 29 43.4 +0.8**
baz=253
BTO Baotou 31.23 275 *eP* **P 03 29 45.8 +2.7**
BTO pP **pP 03 29 50.0 -3.6**
BTO sP **pwP 03 29 52.6 -4.3**
BTO S **S 03 34 49.2 +2.6**
BTO sS **sS 03 34 57.7 -6.3**
BTO SS **SnSn 03 36 37.4 +6.0**
BTO pmax pmax
comp=Z,29nm,1.1s
BTO pmax pmax
comp=Z,340nm,9.1s
BTO LR LR
comp=Z,4µm,15.6s
BTO LR LR
comp=Z,3µm,16.2s
BTO LR LR
comp=Z,3µm,17.5s
N16K Nishlik Lake 31.24 46 P **P 03 29 42.8 0.0**
baz=265
CHGN Chignik 31.37 54 P **P 03 29 44.6 +0.7**
baz=273
J17K VABM Dome 31.45 40 P **P 03 29 46.1 +1.6**
J17K VABM Dome 31.45 40 P **P 03 29 45.6 +1.0**
baz=260
O16K Kokwok River B 31.52 47 P **P 03 29 45.3 0.0**
baz=267
P16K Nushagak River 31.56 48 P **P 03 29 45.3 -0.2**
baz=268
L17K Donlin 31.62 43 P **P 03 29 46.4 +0.3**
baz=263
K17K Iditarod 31.69 41 P **P 03 29 47.9 +1.2**
K17K IAmb IAmb 03 30 11.6
comp=Z,24nm,0.8s
K17K PcP **PcP 03 32 38.8 +1.4**
K17K Iditarod 31.69 41 P **P 03 29 47.0 +0.3**
baz=262
E18K Tukpahlearik C 31.77 32 P **P 03 29 47.9 +0.5**
baz=252
R16K Pilot Point 31.78 51 P **P 03 29 47.5 0.0**
baz=271
F18K Selawik 31.89 34 P **P 03 29 48.8 +0.4**
baz=255
C18K Utukok River 31.95 30 P **P 03 29 49.5 +0.5**
baz=250
M17K Holitna River 31.96 44 P **P 03 29 49.2 +0.1**
baz=265
B18K Kokolik River 32.01 28 P **P 03 29 50.2 +0.8**
baz=248,SNR=5.2
N17K Nushagak Hills 32.02 46 P **P 03 29 49.6 -0.1**
baz=267
O17K Koliganek Bris 32.04 47 P **P 03 29 50.0 +0.3**
baz=268
H18K Honhosa River 32.07 37 P **P 03 29 50.1 0.0**
baz=258
G18K Tagagawik 32.11 35 P **P 03 29 51.4 +1.0**
baz=257,SNR=10
Q16K King Salmon 32.25 49 P **P 03 29 52.3 +0.7**
baz=270
P17K Kvichak River 32.36 48 P **P 03 29 53.3 +0.7**
baz=270
L18K Granite Mounta 32.38 42 P **P 03 29 53.5 +0.7**
baz=264
R17L Mt. Peulik Vol 32.43 51 P **P 03 29 53.8 +0.5**
baz=272
J18K Inko River 32.51 40 P **P 03 29 54.4 +0.5**
baz=262
LYN LuoYang 32.53 263 P **P 03 29 55.6 +1.2**
LYN pmax pmax
comp=Z,82nm,1.0s
LYN LR LR
comp=Z,2µm,15.8s
LYN LR LR
comp=Z,1µm,15.1s
LYN LR LR
comp=Z,2µm,17.9s
A19K Wainwright 32.56 27 P **P 03 29 55.7 +1.5**
baz=248
ZAK Zakamensk 32.56 295 *eP* **P 03 29 52.7 -1.9**
ZAK pmax pmax
comp=Z,13nm,1.1s
GCSA Galena City Sc 32.62 38 P **P 03 29 55.1 +0.3**
baz=260
C19K Lookout Ridge 32.66 29 P **P 03 29 55.8 +0.7**
baz=251
Q17K Contact Creek 32.66 50 P **P 03 29 55.4 0.0**
baz=272
N18K Kilae Creek 32.67 45 P **P 03 29 55.6 +0.3**
baz=268
F19K Shaleruckik Mo 32.67 34 P **P 03 29 55.9 +0.6**
baz=256
M18K Stony River 32.74 44 P **P 03 29 55.8 0.0**
baz=266
G19K Purcell Mounta 32.79 35 P **P 03 29 57.1 +0.8**
baz=258
H19K Roundabout Mou 32.93 36 P **P 03 29 58.2 +0.6**
baz=260,SNR=21
ACHA Angle Creek He 32.96 50 P **P 03 29 58.6 +0.6**
D19K Kuna River 32.98 31 P **P 03 29 59.0 +1.0**
baz=253,SNR=16
P18K Big Mountain, 32.98 48 P **P 03 29 58.5 +0.4**
baz=270
E19K Redstone River 33.03 33 P **P 03 29 59.5 +1.1**
baz=256,SNR=21
J19K Poorman 33.05 39 P **P 03 29 59.4 +0.7**
baz=263,SNR=8.4
Q18K Katmai Hardscr 33.11 49 P **P 03 29 59.5 +0.2**
baz=272,SNR=8.1
L19K White Mountain 33.24 43 P **P 03 30 00.7 +0.4**
baz=266
N19K Bonanza Creek 33.36 45 P **P 03 30 01.9 +0.4**
baz=269
M19K Big River Lodg 33.44 43 P **P 03 30 02.6 +0.5**
baz=267
R18K Karluk 33.46 51 P **P 03 30 02.6 +0.4**
baz=274
GUMO Guam 33.48 194 LR LR 03 43 18.5
comp=Z,745nm,19.6s,baz=24,slow=35
F20K Avaraart Lake 33.51 34 P **P 03 30 03.4 +0.8**
baz=258
D20K Etivluk River 33.57 31 P **P 03 30 03.5 +0.3**
baz=255,SNR=24
H20K Anotleneega Mo 33.57 37 P **P 03 30 03.7 +0.5**
baz=261,SNR=10
E20K Nigu River 33.61 32 P **P 03 30 04.0 +0.5**
baz=256,SNR=33
WHN Wuhan 33.63 255 ⇑P **P 03 30 04.6 +0.6**
WHN sP **pP 03 30 15.5 +0.9**
WHN S **S 03 35 23.1 -0.8**
WHN pmax pmax
comp=Z,110nm,0.5s
WHN LR LR
comp=Z,3µm,16.3s
I20K Naaghedeneel 33.65 38 P **P 03 30 04.2 +0.4**
baz=263
K20K Telida 33.68 41 P **P 03 30 05.0 +0.8**
baz=265
SII Sitkinak Islan 33.69 53 P **P 03 30 04.8 +0.5**
baz=275
MOY Mondy 33.70 298 *eP* **P 03 30 04.0 -0.5**
MOY pmax pmax
comp=Z,12nm,1.4s
L20K Farewell, AK 33.71 42 P **P 03 30 04.9 +0.5**
baz=267
J20K Nowinta River 33.72 39 P **P 03 30 04.8 +0.4**
baz=264
B20K Meade River 33.75 28 P **P 03 30 05.3 +0.7**
baz=252
Q19K Cape Douglas, 33.81 49 P **P 03 30 05.3 0.0**
baz=272
P19K Oil Pt 33.99 47 P **P 03 30 06.5 -0.4**
baz=272
M20K Styx River 34.04 43 P **P 03 30 08.4 +1.0**
baz=268
OHAK Old Harbor 34.12 52 P **P 03 30 08.0 0.0**
OHAK IAmb IAmb 03 30 11.0
comp=Z,24nm,1.1s
OHAK Old Harbor 34.12 52 P **P 03 30 08.2 +0.3**
baz=275,SNR=6.4
G21K Allakaket 34.28 35 P **P 03 30 10.3 +1.0**
baz=261,SNR=18
O20K Slope Mountain 34.29 47 P **P 03 30 10.6 +1.1**
baz=271
C21K Knifeblade Rid 34.32 30 P **P 03 30 10.4 +0.8**
baz=256
A21K Barrow 34.33 26 P **P 03 30 10.5 +0.9**
baz=251
F21K Alatna River 34.40 34 P **P 03 30 11.2 +0.8**
baz=260,SNR=7.8
KDAK Kodiak Island 34.44 51 P **P 03 30 10.7 -0.1**
KDAK IAmb IAmb 03 30 11.9
comp=Z,22nm,0.7s
KDAK Kodiak Island 34.44 51 P **P 03 30 09.7 -1.0**
comp=Z,25nm,0.8s,baz=269,slow=5.5,SNR=30
comp=Z,25nm,0.8s
KDAK Kodiak Island 34.44 51 *i* P **P 03 30 10.6 -0.1**
KDAK pmax pmax
comp=Z,24nm,0.9s
KDAK Kodiak Island 34.44 51 P **P 03 30 10.7 -0.1**
baz=275
KDAK Kodiak Island 34.44 51 P **P 03 30 10.9 +0.1**
E21K Killik River 34.45 32 P **P 03 30 11.3 +0.5**
baz=258
H21K Melozitna Rive 34.45 37 P **P 03 30 11.3 +0.5**
baz=263,SNR=17
SPCR Spurr Chakacha 34.47 45 P **P 03 30 11.1 0.0**
baz=270
N20K Mount Spurr 34.47 45 P **P 03 30 11.2 +0.1**
baz=270
Q20K Shuyak Island 34.48 49 P **P 03 30 10.9 -0.1**
baz=274,SNR=5.9
B21K Ikpikpuk River 34.49 29 P **P 03 30 12.4 +1.3**
baz=256
CHUM Lake Minchumin 34.50 40 P **P 03 30 12.0 +0.8**
baz=266
PPLA Purkeypile 34.51 42 P **P 03 30 11.9 +0.4**
baz=268,SNR=5.6
SPU Mount Spurr 34.55 45 P **P 03 30 12.6 +0.9**
STLK Strandline Lak 34.65 44 P **P 03 30 13.7 +1.1**
STLK IAmb IAmb 03 30 19.9
comp=Z,16nm,0.8s
I21K Tanana 34.74 37 P **P 03 30 13.8 +0.5**
baz=265
A22K Sinclair Lake 34.74 27 P **P 03 30 13.9 +0.7**
baz=253
SKT Skwentna 34.79 43 P **P 03 30 15.3 +1.5**
SKT Skwentna 34.79 43 P **P 03 30 14.8 +1.0**
baz=270
HOM Homer 34.80 47 P **P 03 30 14.7 +0.9**
baz=273
TWG Pinlang 34.80 238 P **P 03 30 14.9 +0.7**
TWG IAmb IAmb 03 30 24.1
comp=Z,44nm,0.5s
F22K John River 34.95 33 P **P 03 30 16.4 +1.4**
baz=261
D22K Ayikyak River 35.00 31 P **P 03 30 16.4 +1.0**
baz=259,SNR=9.3
H22K Ishtalitna Cre 35.06 36 P **P 03 30 17.4 +1.3**
baz=264,SNR=11
B22K Teshekpuk Lake 35.07 28 P **P 03 30 16.7 +0.7**
baz=256,SNR=9.6
BPAW Bear Paw Mtn. 35.09 39 P **P 03 30 17.2 +0.8**
baz=267,SNR=9.8
G22K Bettles 35.12 34 P **P 03 30 17.5 +1.0**
baz=263,SNR=39
SUA Susitna One 35.17 44 P **P 03 30 17.2 +0.1**
baz=271
BRSE Bradley Lake S 35.25 47 P **P 03 30 18.2 +0.4**
baz=274
XAN Xi'an 35.25 265 ⇑P **P 03 30 18.5 +0.4**
XAN pP pP 03 30 23.4 -5.3
XAN pmax pmax
comp=Z,55nm,0.6s
XAN LR LR
comp=Z,1µm,17.9s
XAN LR LR
comp=Z,920nm,15.1s
XAN LR LR
comp=Z,2µm,16.5s
MLY Manley 35.26 38 P **P 03 30 18.5 +0.7**
baz=266,SNR=13
TRF Thorofare Moun 35.38 41 P **P 03 30 19.3 +0.3**
baz=269,SNR=13
CUT Chulitna 35.38 42 P **P 03 30 19.0 +0.2**
baz=270
COLD Coldfoot 35.67 34 P **P 03 30 22.1 +0.9**
baz=263,SNR=18
RC01 Rabbit Creek A 35.67 45 P **P 03 30 21.7 +0.4**
RC01 Rabbit Creek A 35.67 45 P **P 03 30 22.0 +0.7**
baz=272
G23K Bananza Creek 35.69 35 P **P 03 30 22.3 +0.9**
baz=264,SNR=6.6
D23K Nanushuk River 35.73 31 P **P 03 30 22.2 +0.5**
baz=260,SNR=11
H23K Yukon River 35.81 37 P **P 03 30 23.0 +0.5**
baz=266,SNR=18
I23K Minto, Yukon-K 35.84 38 P **P 03 30 22.8 +0.1**
baz=267,SNR=7.9
SEW Seward 35.87 46 P **P 03 30 23.4 +0.4**
baz=274
C23K Itkillik River 35.90 30 P **P 03 30 24.2 +1.1**
baz=259,SNR=12
PMR Palmer 35.94 44 P **P 03 30 23.4 -0.2**
PMR Palmer 35.94 44 P **P 03 30 23.4 -0.2**
PMR pmax pmax
comp=Z,10.0nm,0.7s
PMR Palmer 35.94 44 P **P 03 30 23.8 +0.2**
baz=272
NEA2 Nenana 35.95 39 P **P 03 30 23.9 +0.3**
NEA2 IAmb IAmb 03 30 50.1
comp=Z,24nm,0.8s
NEA2 Nenana 35.95 39 P **P 03 30 24.6 +1.0**
baz=268,SNR=20
E23K Chandalar 35.99 33 P **P 03 30 24.6 +0.6**
baz=263,SNR=18
MCK McKinley 35.99 40 P **P 03 30 24.1 0.0**
MCK IAmb IAmb 03 30 52.0
comp=Z,26nm,0.8s
MCK McKinley 35.99 40 P **P 03 30 24.1 0.0**
MCK pmax pmax
comp=Z,26nm,0.8s
MCK McKinley 35.99 40 P **P 03 30 25.0 +1.0**
baz=270,SNR=6.7
TOLK Toolik Lake Re 36.08 32 P **P 03 30 25.5 +0.8**
baz=262,SNR=16
CNSH ChangSha 36.10 254 P **P 03 30 26.1 +0.8**
CNSH S **S 03 36 00.8 -1.1**
CNSH pmax pmax
comp=Z,33nm,0.6s
CNSH LR LR
comp=Z,1µm,18.1s
CNSH LR LR
comp=Z,1µm,16.1s
CNSH LR LR
comp=Z,2µm,15.0s
WAT1 Susitna Watana 36.17 42 P **P 03 30 25.6 -0.1**
baz=271
KNK Knik Glacier 36.27 44 P **P 03 30 27.1 +0.6**
baz=273,SNR=15
PWL Port Wells 36.37 45 P **P 03 30 27.2 -0.1**
baz=274
E24K Your Creek 36.41 33 P **P 03 30 28.3 +0.7**
baz=264
D24K Happy Valley 36.42 31 P **P 03 30 28.5 +0.9**
baz=262,SNR=19
COLA College 36.48 38 P **P 03 30 28.8 +0.6**
COLA IAmb IAmb 03 30 55.8
comp=Z,48nm,0.6s
COLA College 36.48 38 *i* P **P 03 30 28.3 +0.2**
COLA pmax pmax
comp=Z,18nm,0.6s
COLA College 36.48 38 P **P 03 30 29.0 +0.8**
baz=269
COLA College 36.48 38 P **P 03 30 29.4 +1.3**
COLA pP **pP 03 30 38.6 -0.1**

H24K **Noodor Dome** 36.49 37 P P 03 30 28.8 +0.5
baz=268,SNR=9.5
C24K **Franklin Bluff** 36.54 30 P P 03 30 29.6 +1.0
baz=262,SNR=6.5
WAT6 **Susitna Watana** 36.55 42 P P 03 30 29.6 +0.6
baz=272
F24K **Squaw Lake** 36.59 34 P P 03 30 30.1 +1.0
baz=265,SNR=18
M23K **Glacier View** 36.60 43 P P 03 30 29.5 +0.2
baz=273,SNR=13
POKR **Poker Plat Res** 36.66 38 P P 03 30 30.7 +1.0
baz=269,SNR=9.3
G24K **Hadweenzic Riv** 36.70 35 P P 03 30 30.6 +0.6
baz=267,SNR=24
DHY **Denali Highway** 36.70 41 P P 03 30 30.3 0.0
baz=272,SNR=13
SCM **Sheep Creek Mo** 36.79 43 P P 03 30 31.2 +0.3
baz=273,SNR=7.8
HDA **Harding Lake** 36.86 39 P P 03 30 32.2 +0.7
baz=270,SNR=20
ILAR **Eielson Array** 36.89 38 P P 03 30 31.9 +0.2
comp=Z,3.7nm,0.6s,baz=260,slow=6.8,SNR=47
comp=Z,3.7nm,0.6s
GLI **Glacier Island** 36.97 45 P P 03 30 32.5 +0.1
baz=275
G25K **Bearman Lake** 37.24 35 P P 03 30 35.9 +1.3
baz=268,SNR=11
D25K **Kavik River** 37.30 31 P P 03 30 35.9 +0.7
baz=264
M24K **Tolsona, Glenn** 37.31 43 P P 03 30 35.9 +0.5
baz=274,SNR=6.8
H25L **Birch Creek** 37.34 36 P P 03 30 36.4 +0.9
baz=269
K24K **Donnelly Dome** 37.39 40 P P 03 30 36.3 +0.3
baz=272,SNR=10
F25K **Christian Rive** 37.45 34 P P 03 30 37.3 +0.9
baz=267
PRP **Porcupine Dome** 37.46 37 P P 03 30 37.2 +0.6
baz=270,SNR=7.6
KLU **Klutina** 37.48 44 P P 03 30 37.6 +0.8
baz=275,SNR=16
Q23K **Middleton Isla** 37.51 47 P P 03 30 37.6 +0.7
baz=277
E25K **Arctic Village** 37.51 33 P P 03 30 38.3 +1.4
baz=267,SNR=15
J25K **Salcha River,** 37.54 39 P P 03 30 37.1 -0.2
baz=272,SNR=6.9
PAX **Paxson** 37.58 41 P P 03 30 38.2 +0.6
baz=274
LZH **Lanzhou** 37.65 272 *e*P P 03 30 39.0 +0.3
LZH sP pP 03 30 48.6 -0.7
LZH S **S** 03 36 21.9 -3.8
LZH SS **SnSn** 03 39 05.3 -1.8
LZH pmax pmax
comp=Z,80nm,1.2s
LZH pmax pmax
comp=Z,440nm,4.1s
LZH LR LR
comp=Z,1μm,14.1s
LZH LR LR
comp=Z,2μm,14.4s
LZH LR LR
comp=Z,2μm,14.1s
EYAK **Cordova Ski Ar** 37.66 45 P P 03 30 39.1 +0.9
baz=276
HARP **HAARP** 37.76 42 P P 03 30 40.0 +0.9
baz=274
RIDG **Independent Ri** 37.81 40 P P 03 30 39.9 +0.4
baz=273,SNR=8.4
LZDM **Lanzhou Array** 37.82 272 P P 03 30 40.9 +0.6
comp=Z,13nm,0.5s,baz=46,slow=4.3,SNR=16
LZDM PcP **PcP** 03 32 57.4 +1.2
comp=Z,4.7nm,0.6s,baz=170,slow=0.9,SNR=2.4
LZDM S **S** 03 36 30.6 +2.0
comp=Z,1.2nm,0.3s,baz=78,slow=14,SNR=2.0
LZDM LR LR 03 46 54.6
comp=Z,1μm,19.3s,baz=0.0,slow=37
comp=Z,13nm,0.5s
C26K **Camden Bay** 37.87 30 P P 03 30 40.6 +0.8
baz=265
F26K **Sheenjek River** 38.03 34 P P 03 30 42.3 +1.0
baz=269
N25K **Chitina, Valde** 38.10 43 P P 03 30 42.9 +0.8
baz=276,SNR=9.3
G26K **Porcupine Rive** 38.16 35 P P 03 30 43.5 +1.2
baz=270,SNR=7.1
BMRM **Bremner River** 38.17 45 P P 03 30 43.7 +1.0
baz=277,SNR=18
SCRK **Sand Creek** 38.18 40 P P 03 30 43.0 +0.3
baz=274
C27K **Jago River** 38.26 30 P P 03 30 44.1 +0.9
baz=266,SNR=14
J26L **Joseph Creek** 38.33 39 P P 03 30 44.1 +0.1
baz=273
KAIM **Kayak Island** 38.41 46 P P 03 30 45.0 +0.5
baz=278
I26K **Coal Creek Min** 38.46 37 P P 03 30 45.7 +0.8
baz=272
M26K **Nabesna, AK** 38.76 42 P P 03 30 48.3 +0.7
baz=276,SNR=30
GTA **Gaotai** 38.77 279 P P 03 30 48.4 +0.4
GTA pP pP 03 30 51.4 -7.3
GTA PP **PnPn** 03 32 20.1 +0.6
GTA PcP **PcP** 03 33 01.1 +2.3
GTA PcS **PcS** 03 36 47.3 -1.0
GTA S S 03 36 51.5 +9.0
GTA pmax pmax
comp=Z,16nm,1.0s
GTA pmax pmax
comp=Z,240nm,7.6s
GTA LR LR
comp=Z,880nm,15.5s
GTA LR LR
comp=Z,920nm,15.9s
GTA LR LR
comp=Z,2μm,17.9s
MCARA **McCarthy VSAT** 38.88 44 P P 03 30 48.3 -0.1
baz=278
CRQE **Cirque** 38.94 45 P P 03 30 49.8 +0.7
baz=278,SNR=13
BGLC **Bering Glacier** 38.94 46 P P 03 30 48.8 -0.1
baz=279
E27K **Coleen River** 38.99 33 P P 03 30 50.1 +0.7
baz=270
G27K **Doyon Strip** 39.01 35 P P 03 30 50.0 +0.5
baz=272
K27K **Chicken** 39.01 39 P P 03 30 50.5 +1.0
baz=275
H27K **Steamboat Moun** 39.08 36 P P 03 30 50.8 +0.7
baz=273,SNR=9.6
I27K **Kandik River** 39.08 37 P P 03 30 50.7 +0.5
baz=274
D27M **Malcolm River** 39.22 31 P P 03 30 52.2 +0.9
baz=270
L27K **Beaver Creek,** 39.22 41 P P 03 30 52.6 +1.2
baz=276,SNR=16
M27K **Edge Creek, AK** 39.29 42 P P 03 30 52.7 +0.6
baz=277,SNR=14
MESA **MESA** 39.59 45 P P 03 30 54.4 -0.2
baz=280
F28M **Old Crow** 39.66 34 P P 03 30 55.6 +0.6
baz=273,SNR=8.5
E28M **Babbage River** 39.75 32 P P 03 30 57.5 +1.8
baz=272,SNR=8.0
BVCY **Beaver Creek** 39.75 42 P P 03 30 56.7 +1.0
baz=278,SNR=7.0
CTG **Chitna Glacier** 39.75 44 P P 03 30 56.5 +0.6
baz=279,SNR=29
I28M **Miner Creek** 39.79 37 P P 03 30 57.2 +1.0
baz=275,SNR=13
D28M **Stokes Point** 40.01 31 P P 03 30 59.4 +1.7
baz=272
YUK3 **Moose Creek** 40.03 43 P P 03 30 59.2 +0.8
baz=279,SNR=20
DAWY **Dawson** 40.18 39 P P 03 31 00.6 +1.2
baz=277,SNR=6.1
O28M **Mount Upton** 40.34 44 P P 03 31 01.5 +0.6
baz=280,SNR=10
H29M **Whitestone** 40.36 36 P P 03 31 01.8 +1.0
baz=276,SNR=8.9
E29M **Blow River** 40.36 32 P P 03 31 01.7 +1.0
baz=274,SNR=14
G29M **Pine Creek** 40.43 35 P P 03 31 02.5 +1.1
baz=275,SNR=14
PINM **Pinnacle** 40.44 45 P P 03 31 01.6 0.0
baz=281,SNR=9.3
I29M **Ogilvie Camp,** 40.48 37 P P 03 31 03.2 +1.4
baz=277

J29N **Klondike Camp** 40.64 38 P P 03 31 04.7 +1.6
baz=278
M29M **Somme Creek** 40.85 42 P P 03 31 06.3 +1.4
baz=280,SNR=7.5
L29M **L29M** 40.88 40 P P 03 31 06.3 +1.2
baz=279,SNR=26
PNL **Peninsula** 40.95 46 P P 03 31 06.2 +0.5
baz=282
YUK4 **Talbot Arm** 40.97 43 P P 03 31 06.7 +0.7
baz=281,SNR=11
EPYK **Eagle Plains** 41.01 35 P P 03 31 07.6 +1.5
baz=277,SNR=8.6
K29M **Barlow Dome** 41.03 39 P P 03 31 07.3 +0.9
baz=279,SNR=12
G30M **tAoh Zraii Nji** 41.13 34 P P 03 31 08.2 +1.1
baz=277,SNR=10
YUK6 **Outpost Mounta** 41.18 44 P P 03 31 08.9 +1.0
baz=282
O29M **Mount Kennedy** 41.21 45 P P 03 31 09.1 +1.2
baz=282
F30M **Barrier River** 41.22 33 P P 03 31 09.4 +1.6
baz=276
I30M **Mount Dempster** 41.30 37 P P 03 31 09.9 +1.2
baz=278,SNR=30
GYA **Guiyang** 41.42 257 ⇑P P 03 31 10.5 +0.4
GYA pmax pmax
comp=Z,34nm,0.6s
J30M **Hart River** 41.42 38 P P 03 31 11.3 +1.6
baz=279,SNR=5.9
M30M **Minto, Yukon** 41.58 41 P P 03 31 12.6 +1.7
baz=281,SNR=5.5
HYT **Haines Junctio** 41.62 44 P P 03 31 12.8 +1.6
baz=282,SNR=21
N30M **Aishikik Lake** 41.67 43 P P 03 31 13.6 +1.9
baz=282,SNR=7.7
P29M **Windy Craggy** 41.78 46 P P 03 31 13.9 +1.4
baz=284,SNR=19
G31M **Satah River** 41.90 34 P P 03 31 15.2 +1.9
baz=278,SNR=11
INK **Inuvik** 41.98 32 P P 03 31 15.0 +1.0
comp=Z,16nm,0.7s,baz=309,slow=8.6,SNR=22
INK LR LR 03 50 02.4
comp=Z,256nm,21.6s,baz=280,slow=38
comp=Z,16nm,0.7s
INK **Inuvik** 41.98 32 P P 03 31 15.0 +1.0
INK **Inuvik** 41.98 32 P P 03 31 15.2 +1.2
baz=278,SNR=16
F31M **Tsiigehtchic** 42.02 34 P P 03 31 15.4 +1.1
baz=278,SNR=13
P30M **Million Dollar** 42.04 45 P P 03 31 15.4 +0.7
baz=284,SNR=16
H31M **Peel River** 42.05 36 P P 03 31 16.1 +1.5
baz=280,SNR=12
N31M **Braeburn, Yuko** 42.28 43 P P 03 31 18.2 +1.6
baz=283,SNR=13
O30N **Mendenhall** 42.30 44 P P 03 31 18.0 +1.2
baz=284,SNR=20
PLBC **Pleasant Camp** 42.50 46 P P 03 31 19.9 +1.6
baz=285,SNR=17
ZALV **Zalesovo Beam** 42.56 306 P P 03 31 16.8 -2.0
comp=Z,9.6nm,0.5s,baz=63,slow=6.5,SNR=39
ZALV PcP **PcP** 03 33 10.6 0.0
comp=Z,9.9nm,0.6s,baz=62,slow=4.5,SNR=9.9
ZALV LR LR 03 50 05.6
comp=Z,4μm,19.1s,baz=78,slow=38
comp=Z,9.6nm,0.5s
M31M **Drury Creek, Y** 42.76 41 P P 03 31 21.6 +1.2
baz=283
WHY **Whitehorse** 42.91 44 P P 03 31 22.8 +1.0
baz=285,SNR=12
S31K **Pelican** 42.97 48 P P 03 31 23.1 +1.0
baz=286
SKAG **Skagway** 43.01 45 P P 03 31 23.5 +1.1
baz=286
N32M **Quiet Lake** 43.63 43 P P 03 31 28.6 +1.1
baz=285
SIT **Sitka** 43.71 49 P P 03 31 28.8 +0.7
baz=288
R32K **Eaglecrest** 43.75 47 P P 03 31 29.4 +0.9
baz=287,SNR=10
P32M **Atlin** 43.76 45 P P 03 31 29.3 +0.7
baz=287
P33M **Teslin, Yukon** 44.01 44 P P 03 31 32.0 +1.3
baz=287,SNR=19
MMPY **Sheldon Lake,** 44.06 40 P P 03 31 32.9 +1.9
baz=285,SNR=7.6
A36M **Sachs Harbour** 44.18 26 P P 03 31 33.2 +1.5
baz=281,SNR=18
QIZ **Qiongzhong** 44.53 247 P P 03 31 38.3 +3.2
QIZ S S 03 38 15.9 +8.1
QIZ LR LR
comp=Z,680nm,14.4s
QIZ LR LR
comp=Z,670nm,17.2s
QIZ LR LR
comp=Z,830nm,18.8s
Q32M **Nakina River** 44.66 45 P P 03 31 37.5 +1.5
baz=288,SNR=5.9
PZH **PanZhiHua** 44.74 262 P P 03 31 37.5 +0.6
PZH S S 03 38 07.9 -3.1
PZH pmax pmax
comp=Z,40nm,0.8s
PZH pmax pmax
comp=Z,170nm,6.8s
PZH LR LR
comp=Z,470nm,16.9s
PZH LR LR
comp=Z,490nm,16.1s
PZH LR LR
comp=Z,480nm,16.3s
WMQ **Urumqi** 44.79 291 *e*P P 03 31 41.6 +4.6
WMQ LR LR
comp=Z,2μm,17.9s
WMQ LR LR
comp=Z,2μm,16.9s
WMQ LR LR
comp=Z,1μm,16.9s
KMI **Kunming** 44.96 259 P P 03 31 39.2 +0.4
KMI S S 03 38 11.8 -2.6
KMI pmax pmax
comp=Z,36nm,0.8s
KMI pmax pmax
comp=Z,650nm,5.8s
KMI LR LR
comp=Z,890nm,16.1s
KMI LR LR
comp=Z,470nm,14.9s
KMI LR LR
comp=Z,620nm,19.3s
ZSN **Zaisan** 44.97 297 *e*P P 03 31 37.8 -0.6
ZSN *i* S S 03 38 12.4 -1.3
ZSN **Zaisan** 44.97 297 *e*P P 03 31 37.7 -0.6
C36M **Paulatuk** 45.15 30 P P 03 31 40.4 +0.9
baz=284,SNR=9.8
R33M **Jennings River** 45.16 45 P P 03 31 42.2 +2.4
baz=289,SNR=35
U33K **Whale Pass** 45.17 49 P P 03 31 41.0 +1.2
baz=290
CRAG **Craig** 45.40 50 P P 03 31 42.6 +0.9
baz=291
WRAK **Wrangell Islan** 45.47 49 P P 03 31 43.8 +1.6
baz=291
S34M **Telegraph Cree** 45.57 47 P P 03 31 44.4 +1.5
baz=290,SNR=9.6
DAV **Davao City (W)** 45.72 219 LR LR 03 48 59.7
comp=Z,301nm,21.8s,baz=350,slow=33
TGTN **Hyland Airport** 45.73 41 P P 03 31 46.0 +1.8
baz=289,SNR=7.6
DLBC **Dease Lake** 45.94 46 P P 03 31 47.5 +1.6
comp=Z,148nm,0.9s,baz=272,slow=6.5,SNR=47
DLBC LR LR 03 52 37.6
comp=Z,1μm,20.5s,baz=277,slow=38
comp=Z,148nm,0.9s
DLBC **Dease Lake** 45.94 46 P P 03 31 47.6 +1.6
baz=290,SNR=24
WTLY **Watson Lake, Y** 45.95 43 P P 03 31 48.3 +2.3
baz=290,SNR=5.4
V35K **Ketchikan** 46.26 50 P P 03 31 50.3 +1.9
baz=292
T35M **Bob Quinn** 46.35 47 P P 03 31 51.5 +2.3
baz=291,SNR=16
MK31 **Makanchi Array** 46.84 297 *ce*P P 03 31 51.5 -1.6
MKAR **Makanchi Array** 46.84 297 P P 03 31 51.7 -1.4
comp=Z,14nm,0.5s,baz=66,slow=6.9,SNR=62
MKAR PcP **PcP** 03 33 25.8 +0.3
comp=Z,7.8nm,0.6s,baz=67,slow=3.0,SNR=5.7
MKAR LR LR 03 52 39.8
comp=Z,5μm,18.8s,baz=60,slow=38
comp=Z,14nm,0.5s
WRGLY **Wrigley** 47.26 38 P P 03 31 58.5 +2.4
baz=291
KURK **Kurchatov** 47.30 304 P P 03 31 54.8 -1.8
KURK S S 03 38 41.0 -5.9
KURK **Kurchatov** 47.30 304 P P 03 31 55.1 -1.5
KURK 03 33 27.2
KURK S S 03 38 44.7 -2.2
KURK **Kurchatov** 47.30 304 *e*P P 03 31 55.1 -1.5
KURK **Kurchatov** 47.30 304 P P 03 31 54.8 -1.8
KURK PcP **PcP** 03 33 27.6 +0.6
KURBB **Kurchatov Arra** 47.39 304 P P 03 31 55.1 -2.2
comp=Z,18nm,0.6s,baz=70,slow=8.3,SNR=54
KURBB PcP **PcP** 03 33 27.2 -0.1
comp=Z,5.0nm,0.6s,baz=73,slow=3.4,SNR=7.1
KURBB S **S** 03 38 44.7 -3.5
comp=Z,2.4nm,0.9s,baz=70,slow=14,SNR=6.9
KURBB LR LR 03 52 51.1
comp=Z,2μm,19.1s,baz=31,slow=37
comp=Z,18nm,0.6s
LIRD **Liard River Hi** 47.48 43 P P 03 32 00.6 +2.7
baz=292,SNR=5.8
TOAD **Toad River Com** 48.11 44 P P 03 32 04.8 +1.9
baz=293,SNR=27
BBB **Bella Bella** 49.45 53 P P 03 32 13.2 +0.1
comp=Z,11nm,0.9s,baz=1.0,slow=6.4,SNR=3.9
comp=Z,11nm,0.9s
JAY **Jayapura** 49.96 196 LR LR 03 50 43.7
comp=Z,228nm,22.0s,baz=8.5,slow=33
LSA **Lhasa** 50.05 273 P P 03 32 18.3 -0.2
LSA pmax pmax
comp=Z,63nm,0.5s
LSA LR LR
comp=Z,490nm,22.7s
LSA LR LR
comp=Z,810nm,18.6s
LSA **Lhasa** 50.05 273 P P 03 32 20.5 +2.0
LSA **Lhasa** 50.05 273 P P 03 32 20.0 +1.5
TDK **Taldyqorghan** 50.08 297 *e*P P 03 32 17.4 -0.6
comp=Z,14nm,0.6s
TDK LR LR 03 54 09.1
comp=Z,2μm,14.3s
TDK **Taldyqorghan** 50.08 297 *e*P P 03 32 17.4 -0.6
TDK pmax pmax
comp=Z,14nm,0.6s
TDK MLR MLR
comp=Z,2μm,14.0s
UZB **Uzynbulak** 50.63 295 *e*P P 03 32 21.7 -0.7
comp=Z,4.8nm,0.5s
UZB **Uzynbulak** 50.63 295 *e*P P 03 32 21.7 -0.7
UZB pmax pmax
comp=Z,5.0nm,0.5s
BVAR **Borovoye Array** 50.83 309 P P 03 32 22.1 -1.4
comp=Z,12nm,0.4s,baz=39,slow=7.2,SNR=56
BVAR PcP **PcP** 03 33 39.9 0.0
comp=Z,13nm,0.5s,baz=73,slow=2.9,SNR=6.7
BVAR LR LR 03 55 43.0
comp=Z,2μm,19.0s,baz=60,slow=38
comp=Z,12nm,0.4s
BORK **Borovoye** 50.85 309 P P 03 32 22.4 -1.4
SATY **Saty** 51.06 295 *e*P P 03 32 25.2 -0.5
comp=Z,7.9nm,0.6s
SATY **Saty** 51.06 295 *e*P P 03 32 25.1 -0.5
SATY pmax pmax
comp=Z,8.0nm,0.6s
RES **Resolute Bay** 51.14 18 P P 03 32 25.4 -0.2
comp=Z,7.4nm,0.5s,baz=296,slow=7.3,SNR=7.4
RES LR LR 03 54 51.7
comp=Z,322nm,22.0s,baz=315,slow=37
comp=Z,7.4nm,0.5s
YKA **Yellowknife Ar** 51.26 36 P P 03 32 27.5 +0.9
comp=Z,4.0nm,0.8s,baz=307,slow=3.1,SNR=8.0
YKA LR LR 03 57 49.8
comp=Z,209nm,18.6s,baz=280,slow=40
comp=Z,4.0nm,0.8s
YKA **Yellowknife Ar** 51.26 36 *ce*P P 03 32 28.6 +1.9
CHTO **Chiang Mai** 51.83 257 P P 03 32 32.7 +1.3
CHTO **Chiang Mai** 51.83 257 P P 03 32 33.0 +1.5
MDOK **Medeo** 51.86 296 *e*P P 03 32 31.0 -0.6
MDOK LR LR 03 55 18.3
MDOK **Medeo** 51.86 296 *e*P P 03 32 31.0 -0.6
AAA **Alma-Ata** 51.91 296 *e*P P 03 32 31.3 -0.6
AAA LR LR 03 55 28.6
AAA **Alma-Ata** 51.91 296 *e*P P 03 32 31.3 -0.6
AAA **Alma-Ata** 51.91 296 *e*P P 03 32 31.3 -0.6
CM31 **Chiang Mai Arr** 52.08 256 P P 03 32 34.9 +1.6
SNR=8.0
CMAR **Chiang Mai Arr** 52.08 256 P P 03 32 34.4 +1.1
comp=Z,13nm,0.6s,baz=37,slow=7.2,SNR=44
CMAR LR LR 03 57 37.9
comp=Z,602nm,18.3s,baz=50,slow=39
comp=Z,13nm,0.6s
CMAR **Chiang Mai Arr** 52.08 256 *ce*P P 03 32 34.9 +1.6
CMAR pmax pmax
comp=Z,13nm,0.6s
SHL **Shillong** 52.12 268 P P 03 32 33.8 0.0
KBS **Kingsbay** 52.70 351 *e*P P 03 32 36.1 -1.0
KBS **Kingsbay** 52.70 351 *i* P P 03 32 36.3 -0.8
KBS **Kingsbay** 52.70 351 P P 03 32 36.2 -1.0
BTLS **Baital** 52.71 299 *e*P P 03 32 36.1 -1.6
BTLS **Baital** 52.71 299 *e*P P 03 32 36.9 -0.8
SPA0 **Spitsbergen Ar** 52.81 350 *e*P P 03 32 36.6 -1.4
SPITS **Spitsbergen Ar** 52.81 350 P P 03 32 36.6 -1.4
comp=Z,8.7nm,0.6s,baz=56,slow=7.4,SNR=22
SPITS LR LR 03 57 55.6
comp=Z,662nm,18.2s,baz=39,slow=39
comp=Z,8.7nm,0.6s
ULHL **Ulahol** 52.85 295 P P 03 32 39.0 0.0
SNR=8.2
TKM2 **Tokmak 2** 52.89 296 P P 03 32 41.3 +2.0
SNR=11
MRSI **Marisa** 53.19 220 P P 03 32 43.5 +2.0
SGDS **Sogindy** 53.20 297 *e*P P 03 32 41.0 -0.5
comp=Z,8.0nm,1.0s
USP **Ospenovka** 53.38 297 P P 03 32 42.2 -0.5
SNR=21
KBK **Karagaybulak** 53.43 296 P P 03 32 43.6 +0.3
SNR=6.6
AAK **Ala-Archa** 53.72 296 P P 03 32 45.4 -0.1
SNR=6.5
AAK **Ala-Archa** 53.72 296 LR LR 03 56 51.3
comp=Z,3μm,18.4s,baz=50,slow=37
AAK **Ala-Archa** 53.72 296 P P 03 32 44.9 -0.5
AAK **Ala-Archa** 53.72 296 *i* P P 03 32 44.7 -0.7
SNR=6.6
AAK **Ala-Archa** 53.72 296 *ce*P P 03 32 44.4 -1.0
AAK pmax pmax
comp=Z,19nm,0.8s
AAK MLR MLR
comp=Z,2μm,18.0s
SANI **Sanana** 53.80 214 P P 03 32 47.2 +1.2
comp=Z,29nm,1.3s
SVE **Sverdlovsk** 53.84 317 *e*P P 03 32 44.9 -0.9
SVE pmax pmax
comp=Z,20nm,0.9s
SVE MLR MLR
comp=Z,1μm,17.0s
EKS2 **Erkin-Say** 54.15 297 P P 03 32 48.4 -0.2
SNR=13
BRDH **Bariadhala** 54.17 266 LR LR 03 57 36.9
comp=Z,502nm,21.8s,baz=21,slow=38
KSH **Kashi** 54.52 292 P P 03 32 55.6 +4.4
KSH sP pP 03 33 03.9 +1.6
KSH S **S** 03 40 35.9 +8.5
KSH pmax pmax
comp=Z,15nm,0.4s
KSH LR LR
comp=Z,2μm,18.5s
KSH LR LR
comp=Z,2μm,16.5s
KSH LR LR
comp=Z,3μm,19.2s
APSI **Ampana** 54.56 219 P P 03 32 53.6 +2.1
comp=Z,76nm,1.0s
ARTI **Arti** 55.13 317 LR LR 03 58 37.3
comp=Z,1μm,20.0s,baz=46,slow=38
ARTI **Arti** 55.13 317 *di*P P 03 32 53.8 -1.5
ARTI *PP **pwP** 03 33 09.6 -0.2
ARTI 03 33 55.8
ARTI 03 34 55.4
ARTI S **S** 03 40 34.6 -0.3
ARTI SS **SS** 03 44 19.7 +1.2
ARTI pmax pmax
comp=Z,29nm,1.2s
ARTI MLR MLR
comp=Z,1μm,19.0s

ARTI Arti 55.13 317 P **P** **03 32 53.7 -1.5**
ARTI pP **pP** **03 33 05.8 -0.5**
NEEM North Greenlan 55.43 6 *i* P **P** **03 32 56.4 -1.1**
NEEM IAmb IAmb 03 32 58.1
comp=Z,49nm,0.7s
PMG Port Moresby 55.88 187 LR LR 03 54 27.1
comp=Z,92nm,21.6s,baz=344,slow=33
HNR Honiara 56.05 171 LR LR 03 59 08.5
comp=Z,267nm,18.0s,baz=355,slow=38
BRLS Boroday 56.35 299 *eP* **P** **03 33 05.3 +1.1**
BRLS Boroday 56.35 299 *eP* **P** **03 33 05.3 +1.1**
VADS Vadso 56.67 340 *eP* **P** **03 33 05.3 -0.7**
IUG Iuzhnay 56.74 298 *eP* **P** **03 33 06.5 -0.6**
comp=Z,5.6nm,0.4s
IUG Iuzhnay 56.74 298 *eP* **P** **03 33 06.4 -0.6**
IUG pmax pmax
comp=Z,6.0nm,0.4s
DAG Danmarks Havn 56.88 358 *i* P **P** **03 33 06.0 -1.4**
DAG IAmb IAmb 03 33 07.9
comp=Z,24nm,1.0s
CHM Chimkent 56.90 298 *eP* **P** **03 33 07.5 -0.7**
comp=Z,20nm,0.9s
CHM LR LR 03 58 35.5
comp=Z,813nm,14.7s
CHM Chimkent 56.90 298 *eP* **P** **03 33 07.4 -0.7**
CHM pmax pmax
comp=Z,20nm,0.9s
CHM MLR MLR
comp=Z,813nm,15.0s
NEW Newport 57.51 52 LR LR 03 56 54.9
comp=Z,164nm,21.0s,baz=310,slow=35
HAMF Hammerfest 57.55 342 *eP* **P** **03 33 10.8 -1.3**
KIRV Kirov 57.83 323 *ceP* **P** **03 33 14.6 +0.3**
ARA0 ARCESS Array S 58.00 341 *eP* **P** **03 33 14.4 -1.0**
ARCES ARCESS Array B 58.00 341 P **P** **03 33 14.5 -0.9**
comp=Z,5.0nm,0.4s,baz=37,slow=7.1,SNR=29
ARCES LR LR 04 03 50.6
comp=Z,692nm,18.0s,baz=36,slow=42
comp=Z,5.0nm,0.4s
YBH Yreka Blue Hor 58.07 61 LR LR 03 54 16.7
comp=Z,19nm,21.9s,baz=289,slow=32
AKTO Aktyubinsk 58.71 312 LR LR 04 01 01.9
comp=Z,4μm,18.3s,baz=48,slow=38
KTK1 Kautokeino 58.92 341 *eP* **P** **03 33 20.9 -0.9**
KAPI Kappang 59.05 219 P **P** **03 33 26.0 +2.7**
comp=Z,6.7nm,0.3s,baz=62,slow=1.9,SNR=4.2
comp=Z,6.7nm,0.3s
JETT Jettan, Norway 59.10 342 *eP* **P** **03 33 21.9 -1.2**
CHGR Chuyangaron 59.33 295 P **P** **03 33 24.7 -0.5**
CHGR pmax pmax
comp=Z,97nm,0.5s
TRO Tromso 59.34 343 *eP* **P** **03 33 23.2 -1.5**
DBG Daneborg 59.38 358 *i* P **P** **03 33 24.2 -0.8**
DBG IAmb IAmb 03 33 30.1
comp=Z,20nm,1.1s
NIL Nilore 59.75 288 P **P** **03 33 28.6 +0.4**
KLMR Klimovskoe 60.19 329 *eP* **P** **03 33 28.9 -1.7**
KLMR *e* 03 35 41.9
KLMR pmax pmax
comp=Z,24nm,1.2s
KLMR MLR MLR
comp=Z,603nm,18.0s
COEN Coen 60.80 191 P **P** **03 33 37.1 +1.8**
comp=Z,17nm,1.1s
SUMG Summit 60.96 4 *i* P **P** **03 33 35.7 -0.6**
SUMG IAmb IAmb 03 33 38.5
comp=Z,62nm,0.7s
FFC Flin Flon 61.08 40 P **P** **03 33 37.6 +0.8**
FFC PcP **PcP** **03 34 19.5 0.0**
PBA Port Blair 61.10 256 P **P** **03 33 39.1 +1.6**
STEI Steigen 61.51 343 *eP* **P** **03 33 38.5 -0.9**
EDFI Ende, Flores 61.61 215 P **P** **03 33 39.5 -1.4**
comp=Z,16nm,0.8s
LOF Lofoten 61.67 344 *eP* **P** **03 33 38.9 -1.7**
SAATT Saattut 61.67 9 *i* P **P** **03 33 39.4 -1.1**
SAATT IAmb IAmb 03 33 45.9
comp=Z,98nm,1.1s
FAUS Fauske 61.97 343 *eP* **P** **03 33 41.5 -1.1**
MTN Manton Dam 62.19 204 P **P** **03 33 46.4 +1.7**
comp=Z,21nm,1.2s
BELG Belogornoye 62.55 318 *i* P **P** **03 33 47.3 +0.6**
BELG pmax pmax
comp=Z,3.0nm,0.8s
BELG MLR MLR
comp=Z,206nm,19.0s
NVAR Mina Array Bea 62.76 62 P **P** **03 33 50.1 +1.4**
comp=Z,4.0nm,0.9s,baz=290,slow=7.4,SNR=16
comp=Z,4.0nm,0.9s
VAGH Vaagaholmen 62.94 343 *eP* **P** **03 33 47.5 -1.5**
WSI Waingapu 63.01 216 P **P** **03 33 49.7 -0.4**
KONS Konsvik 63.17 343 *eP* **P** **03 33 49.4 -1.2**
MOR8 Moi Rana 63.18 342 *eP* **P** **03 33 48.3 -2.5**
SCO Scoresbysund 63.26 358 *i* P **P** **03 33 51.3 +0.2**
SCO IAmb IAmb 03 33 53.1
comp=Z,23nm,0.5s
STOK Stokkvaagen 63.33 343 *eP* **P** **03 33 49.8 -1.8**
LEIR Leirfjorden 63.51 343 *eP* **P** **03 33 51.5 -1.3**
PUL Pulkovo 64.13 332 *i* P **P** **03 33 59.3 +2.3**
PUL pmax pmax
comp=Z,25nm,0.6s
PUL MLR MLR
comp=Z,501nm,22.0s
FINES FINESS Array B 64.16 335 P **P** **03 33 55.4 -1.8**
comp=Z,39nm,0.5s,baz=32,slow=7.8,SNR=272
comp=Z,39nm,0.5s
FINES FINESS Array B 64.16 335 *ceP* **P** **03 33 56.0 -1.2**
FINES pmax pmax
comp=Z,39nm,0.5s
MOS Moscow 64.50 325 *eP* **P** **03 33 59.5 0.0**
MOS *e* 03 34 33.4
MOS *e* 03 42 33.2
MOS *e* 03 43 50.2
MOS MLR MLR
comp=Z,600nm,19.0s
PDAR Pinedale Array 65.08 54 P **P** **03 34 05.1 +1.2**
comp=Z,7.7nm,0.8s,baz=297,slow=1.7,SNR=42
comp=Z,7.7nm,0.8s
NSS Namsos 65.12 342 *eP* **P** **03 34 01.5 -2.0**
OBN Obninsk 65.37 325 LR LR 04 04 22.5
comp=Z,782nm,19.6s,baz=342,slow=38
OBN Obninsk 65.37 325‖ *eP* **P** **03 34 03.8 -1.4**
OBN *e**PP **pP** **03 34 14.9 -1.6**
OBN *e**SP **sP** **03 34 22.5 +1.6**
OBN *i* 03 34 34.9
OBN *e* 03 36 29.7
OBN *eS* **S** **03 42 45.0 -1.0**
OBN pmax pmax
comp=Z,20nm,1.1s
OBN MLR MLR
comp=Z,911nm,21.0s
OBN Obninsk 65.37 325 *eP* **P** **03 34 03.8 -1.4**
SFJD Kangerlussuaq 65.43 10 LR LR 04 06 23.4
comp=Z,271nm,18.1s,baz=350,slow=40
SOEG Soedalen 65.57 2 *i* P **P** **03 34 06.0 -0.3**
SOEG IAmb IAmb 03 34 09.6
comp=Z,15nm,0.7s
VRH Novokhopyorsk 66.04 320 *eP* **P** **03 34 07.3 -2.3**
VRH pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 66.24 322 *eP* **P** **03 34 09.0 -1.9**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VSU Vasula 66.32 332 *ceP* **P** **03 34 09.5 -1.7**
VSU pmax pmax
comp=Z,14nm,0.7s
VSU MLR MLR
comp=Z,833nm,19.0s
DY2G Dye2 66.41 8 *i* P **P** **03 34 11.2 -0.8**
DY2G IAmb IAmb 03 34 12.3
comp=Z,21nm,0.9s
MASI Maura Aman, Be 66.48 237 P **P** **03 34 15.4 +2.5**
comp=Z,142nm,1.3s
LEM Lembang 66.52 230 P **P** **03 34 14.0 +0.7**
comp=Z,27nm,0.7s,baz=9.5,slow=18,SNR=2.3
LEM LR LR 04 03 34.8
comp=Z,143nm,21.9s,baz=318,slow=36
comp=Z,27nm,0.7s
HYB Hyderabad 66.76 271 *eP* **P** **03 34 15.7 +1.0**
HYB *es*P **sP** **03 34 30.8 +0.3**
HYB *eS* **S** **03 43 05.9 +1.9**
ULM Lac du Bonnet 66.86 41 P **P** **03 34 14.6 -0.3**
comp=Z,10nm,0.6s,baz=314,slow=6.7,SNR=22
comp=Z,10nm,0.6s
ULM Lac du Bonnet 66.86 41 *i* P **P** **03 34 15.3 +0.4**
VSR Storozhevoye 67.15 321 *eP* **P** **03 34 15.0 -1.7**
VSR pmax pmax
comp=Z,10.0nm,1.0s
RSSD Black Hills 67.17 50 P **P** **03 34 18.1 +0.9**
VORD Divnogorie 67.28 321 *eP* **P** **03 34 16.2 -1.3**
VORD pmax pmax
comp=Z,10.0nm,0.8s
MOL Molde 67.78 343 *eP* **P** **03 34 20.2 -0.2**
DOMB Dombas 67.95 342 *eP* **P** **03 34 20.4 -1.2**
WRAB Tennant Creek 68.19 199 *i* P **P** **03 34 23.8 +0.3**
WRAB pmax pmax
comp=Z,7.0nm,0.9s
WRA Warramunga Arr 68.20 199 P **P** **03 34 24.1 +0.6**
comp=Z,5.6nm,0.7s,baz=22,slow=6.9,SNR=8.8
comp=Z,5.6nm,0.7s
WRA Warramunga Arr 68.20 199 *i* P **P** **03 34 24.3 +0.7**
WRA pmax pmax
comp=Z,7.0nm,0.7s
NB2 NORSAR Subarra 68.38 341 P **P** **03 34 23.5 -0.9**
comp=Z,27nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 68.38 341 P **P** **03 34 23.4 -0.9**
comp=Z,20nm,0.5s,baz=27,slow=6.3,SNR=163
comp=Z,20nm,0.5s
NC602 NORSAR Array S 68.58 341 *eP* **P** **03 34 24.7 -0.8**
HFS Hagfors 68.60 339 P **P** **03 34 24.8 -0.8**
comp=Z,44nm,0.5s,baz=56,slow=5.6,SNR=244
HFS LR LR 04 09 37.6
comp=Z,648nm,18.7s,baz=23,slow=40
comp=Z,44nm,0.5s
FITZ Fitzroy Crossi 68.81 208 P **P** **03 34 29.1 +1.7**
FITZ Fitzroy Crossi 68.81 208 P **P** **03 34 28.8 +1.5**
comp=Z,13nm,0.8s,baz=44,slow=2.5,SNR=8.8
FITZ LR LR 04 03 31.1
comp=Z,75nm,21.8s,baz=12,slow=35
comp=Z,13nm,0.8s
MAK Makhachkala 69.05 311 *c* P **P** **03 34 27.9 -0.8**
MAK *e* 03 37 01.4
MAK *e*PPP PPP 03 38 43.9
MAK *eS* **S** **03 43 31.7 +1.1**
MAK *eSS* **SS** **03 48 00.9 +4.9**
MAK pmax pmax
comp=Z,179nm,1.5s
MAK MLR MLR
comp=Z,2μm,19.0s
MNK Minsk 69.08 329 *i* P **P** **03 34 28.3 -0.4**
MNK *i* *PP **pP** **03 34 41.2 +1.1**
MNK *i* *SP **PcP** **03 34 49.9 -2.6**
MNK *i* 03 37 01.1
MNK *i* PPP PPP 03 38 41.7
MNK *i* S **S** **03 43 30.9 +0.3**
MNK *i* *SS **sS** **03 43 52.9 +3.1**
MNK *i* SS **SS** **03 47 54.5 -1.5**
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK pmax pmax
comp=Z,33nm,0.7s
MNK pmax pmax
comp=E,23nm,0.8s
MNK MLR MLR
comp=Z,953nm,17.0s
MNK MLR MLR
comp=E,584nm,16.0s
MNK MLR MLR
comp=N,489nm,17.0s
FOO Floro 69.15 344 *eP* **P** **03 34 28.4 -0.6**
HYA Hoyanger 69.33 343 *eP* **P** **03 34 30.0 -0.1**
SKAR Skarslia 69.34 342 *eP* **P** **03 34 29.7 -0.6**
DZM Mont Dzumac 69.37 166 *eP* **P** **03 34 31.2 +0.3**
comp=N,93nm,24.4s
DZM *eS* **S** **03 43 26.9 -7.8**
comp=N,157nm,25.9s
DZM *eSS* **SS** **03 47 59.2 -3.8**
comp=N,250nm,31.9s
DZM *eLR* LR 03 55 23.5
comp=N,600nm,22.1s
DZM Mont Dzumac 69.37 166 LR LR 03 59 45.3
comp=N,353nm,20.3s,baz=24,slow=31
OSL Oslo 69.47 341 *eP* **P** **03 34 30.7 -0.3**
GOF Gofitskoye 69.82 315 *ceP* **P** **03 34 33.1 -0.4**
AKT Akhty 69.97 309 *eP* **P** **03 34 33.3 -1.3**
AKT *e**PP **pwP** **03 34 48.9 -0.5**
AKT *e**SP **PcP** **03 34 55.7 -1.0**
AKT *e* 03 37 07.9
AKT *e*PPP PPP 03 38 50.6
AKT *eS* **S** **03 43 35.7 -6.0**
AKT pmax pmax
comp=Z,30nm,0.5s
AKT MLR MLR
comp=Z,2μm,15.0s
KONO Kongsberg 69.99 341 *eP* **P** **03 34 33.4 -0.8**
KONO Kongsberg 69.99 341‖ **P** **03 34 34.0 -0.2**
KONO Kongsberg 69.99 341 ‖ **P** **03 34 34.0 -0.2**
ASK Askoy 70.15 344 *eP* **P** **03 34 34.7 -0.5**
STRU Stroemstad 70.17 340 *i* P **P** **03 34 34.9 -0.4**
BER Bergen 70.21 343 *eP* **P** **03 34 35.4 -0.2**
SEKA Sheki 70.44 310 P **P** **03 34 38.8 +1.4**
ERBR Yeremizino-Bor 70.58 317 *eP* **P** **03 34 34.6 -3.5**
ERBR pmax pmax
comp=Z,26nm,0.9s
ERBR MLR MLR
comp=Z,1μm,18.0s
ERBR MLR MLR
comp=N,1μm,19.0s
ERBR MLR MLR
comp=E,937nm,18.0s
KVAR Kislovodsk Arr 70.79 314 LR LR 04 09 31.8
comp=E,1μm,19.5s,baz=281,slow=39
KIV Kislovodsk 70.79 314 P **P** **03 34 39.5 -0.1**
KIV Kislovodsk 70.79 314 ⇑P **P** **03 34 39.9 +0.4**
KIV Kislovodsk 70.79 314 *i* P **P** **03 34 39.0 -0.6**
SNR=12
KIV Kislovodsk 70.79 314 *eP* **P** **03 34 39.0 -0.6**
KIV *eS* **S** **03 43 48.5 -2.8**
KIV pmax pmax
comp=Z,29nm,1.0s
KIV MLR MLR
comp=Z,988nm,18.0s
MNGR Mingechevir, A 70.81 309 P **P** **03 34 41.3 +1.7**
KBZ Khabaz 70.85 314 P **P** **03 34 39.5 -0.2**
comp=Z,20nm,0.8s,baz=70,slow=3.9,SNR=30
comp=Z,20nm,0.8s
KBZ Khabaz 70.85 314 *i* P **P** **03 34 40.2 +0.4**
KBZ pmax pmax
comp=Z,21nm,0.9s
KBZ MLR MLR
comp=Z,2μm,17.0s
KBZ Khabaz 70.85 314 *eP* **P** **03 34 40.2 +0.4**
BLS5 Blasjo 70.87 343 *eP* **P** **03 34 39.3 -0.3**
SHA1 Shidzhatmaz 70.97 314 *i* P **P** **03 34 40.9 +0.1**
BORU Boraas 71.03 339 *i* P **P** **03 34 39.3 -1.3**
SUW Suwalki 71.09 331 *eP* **P** **03 34 39.6 -1.5**
KMY Karmoy 71.31 343 *eP* **P** **03 34 42.0 -0.2**
LKRN Lenkoran, Azer 71.35 307 P **P** **03 34 44.6 +1.8**
BLEU Blekinge 71.39 336 *i* P **P** **03 34 41.5 -1.2**
ONAU Onsala 71.45 339 *i* P **P** **03 34 41.8 -1.4**
HOMB Hombersund 71.48 341 *eP* **P** **03 34 41.2 -2.1**
AK23 Malin Array Si 71.60 326 P **P** **03 34 43.0 -1.2**
AKASG Malin Array Be 71.61 326 P **P** **03 34 43.0 -1.2**
comp=Z,47nm,0.4s,baz=37,slow=6.2,SNR=290
AKASG LR LR 04 08 17.6
comp=Z,1μm,19.4s,baz=28,slow=38
comp=Z,47nm,0.4s
AKASG Malin Array Be 71.61 326 *ceP* **P** **03 34 43.0 -1.2**
AKASG pmax pmax
comp=Z,48nm,0.4s
AKBB Malin Array Si 71.61 326 *ceP* **P** **03 34 43.1 -1.1**
AKBB pmax pmax
comp=Z,29nm,0.9s
AKBB MLR MLR
comp=Z,1μm,19.0s
AKBB Malin Array Si 71.61 326 P **P** **03 34 42.8 -1.4**
AK04 Malin Array Si 71.62 326 P **P** **03 34 42.9 -1.4**
AK21 Malin Array Si 71.62 326 P **P** **03 34 42.9 -1.4**
AK22 Malin Array Si 71.62 326 P **P** **03 34 42.9 -1.4**
KIEV Kiev 71.62 326 ‖P **P** **03 34 43.4 -0.9**
KIEV Kiev 71.62 326 *i* P **P** **03 34 42.7 -1.6**
SNR=11
KIEV Kiev 71.62 326 ‖P **P** **03 34 43.4 -0.9**
KIEV Kiev 71.62 326 P **P** **03 34 42.7 -1.6**
KIEV Kiev 71.62 326 P **P** **03 34 43.0 -1.3**
KIEV PcP **PcP** **03 35 03.2 -0.2**
AK01 Malin Array Si 71.62 326 P **P** **03 34 42.9 -1.4**
AK11 Malin Array Si 71.65 326 P **P** **03 34 43.0 -1.5**
AK08 Malin Array Si 71.65 326 P **P** **03 34 43.0 -1.5**
AK02 Malin Array Si 71.66 326 P **P** **03 34 43.1 -1.4**
AK15 Malin Array Si 71.66 326 P **P** **03 34 43.1 -1.4**
AK18 Malin Array Si 71.66 326 P **P** **03 34 43.1 -1.4**
AK09 Malin Array Si 71.66 326 P **P** **03 34 43.1 -1.4**
AK09 pP **P** **03 34 46.8 +2.3**
AK20 Malin Array Si 71.66 326 P **P** **03 34 43.1 -1.4**
AK19 Malin Array Si 71.68 326 P **P** **03 34 43.2 -1.4**
AK10 Malin Array Si 71.68 326 P **P** **03 34 43.3 -1.4**
AK16 Malin Array Si 71.68 326 P **P** **03 34 43.2 -1.5**
AK05 Malin Array Si 71.69 326 P **P** **03 34 43.3 -1.4**
AK12 Malin Array Si 71.69 326 P **P** **03 34 43.3 -1.4**
AK17 Malin Array Si 71.69 326 P **P** **03 34 43.3 -1.4**
SNART Snartemo 71.70 342 *eP* **P** **03 34 44.5 -0.1**
SNART Snartemo 71.70 342 *i* P **P** **03 34 44.8 +0.1**
TRLG Trialeti 71.83 312 P **P** **03 34 45.3 -0.7**
AS16 Alice Springs 71.87 198 P **P** **03 34 47.8 +1.7**
comp=Z,18nm,0.8s
AS31 Alice Springs 71.90 198 P **P** **03 34 48.0 +1.8**
comp=Z,4.5nm,0.6s
ASAR Alice Springs 71.90 198 P **P** **03 34 48.0 +1.8**
comp=Z,9.1nm,0.6s,baz=12,slow=5.0,SNR=32
comp=Z,9.1nm,0.6s
ASAR Alice Springs 71.90 198 P **P** **03 34 48.0 +1.8**
MI28 Mi28,Pidlybu 72.02 327 P **P** **03 34 45.6 -1.1**
RNPP9 Sopachiv 72.29 328 P **P** **03 34 47.3 -1.0**
RNPP8 Varash 72.36 328 P **P** **03 34 47.7 -1.0**
PALK Pallekele 72.42 262 LR LR 04 08 26.2
comp=Z,239nm,21.5s,baz=37,slow=37
PALK Pallekele 72.42 262 P **P** **03 34 49.8 +0.1**
RNPP5 Staryi Chortor 72.44 328 P **P** **03 34 48.1 -1.1**
GNI Garni 72.50 310 LR LR 04 10 27.7
comp=Z,1μm,18.3s,baz=44,slow=39
GNI Garni 72.50 310 P **P** **03 34 50.9 +0.9**
GNI Garni 72.50 310 *i* P **P** **03 34 51.2 +1.2**
GNI pmax pmax
comp=Z,11nm,0.5s
Y22D IRIS PASSCAL I 72.51 59 P **P** **03 34 51.4 +1.4**
baz=315
SOC Sochi 72.52 315 *eP* **P** **03 34 47.6 -2.2**
SOC *e* 03 37 29.1
SOC *e*PPP PPP 03 39 11.8
SOC *eS* **S** **03 44 07.5 -3.5**
SOC *eSS* **SS** **03 48 48.1 -1.2**
SOC pmax pmax
comp=Z,19nm,0.6s
LUNU Lund 72.63 337 *i* P **P** **03 34 49.6 -0.6**
BSD Bornholm Skovb 72.68 336 *i* P **P** **03 34 50.0 -0.6**
BSD IAmb IAmb 03 34 50.8
comp=Z,24nm,0.6s
ANN Anapa 72.69 318 *eP* **P** **03 34 50.9 +0.1**
ANN *e**PP **sP** **03 35 06.6 -0.1**
ANN *e* 03 37 33.8
ANN *eS* **S** **03 44 14.5 +1.7**
ANN pmax pmax
comp=Z,20nm,0.9s
ANN Anapa 72.69 318 *eP* **P** **03 34 50.9 +0.1**
NAX Nakhchivan 72.81 309 P **P** **03 34 53.4 +1.7**
COP Copenhagen 72.85 338 *i* P **P** **03 34 51.4 -0.1**
COP IAmb IAmb 03 34 51.5
comp=Z,101nm,0.6s
GKP Gorka Klasztor 73.61 334 *eP* **P** **03 34 55.5 -0.6**
SCHQ Schefferville 73.63 23 P **P** **03 34 55.8 -0.4**
comp=Z,74nm,0.6s,baz=18,slow=6.6,SNR=10.0
SCHQ LR LR 04 09 07.4
comp=Z,2μm,20.6s,baz=332,slow=37
comp=Z,74nm,0.6s
BAL3X Bal3x, Balta 73.67 324 P **P** **03 34 55.8 -0.7**
MBWA Marble Bar 73.68 212 P **P** **03 34 57.7 +0.9**
PSAB2 Pilbara Seismi 74.00 212 P **P** **03 34 59.2 +0.6**
comp=Z,16nm,1.2s
SORM Soroca 74.01 325‖ **P** **03 34 57.6 -0.9**
SORM Soroca 74.01 325‖ **P** **03 34 57.6 -0.9**
SORM Soroca 74.01 325 P **P** **03 34 57.2 -1.3**
comp=Z,777nmcomp=Z,53nm,1.1s
KMPD K-Podol'skiy 74.40 326 P **P** **03 34 59.4 -1.4**
WRKA Warakurna 74.58 203 P **P** **03 35 03.6 +1.6**
comp=Z,9.8nm,0.7s
MILM Milestii Mici 74.80 324‖ **P** **03 35 01.8 -1.3**
MILM Milestii Mici 74.80 324‖ **P** **03 35 01.8 -1.3**
KWP Kalwaria Pacla 74.91 329 *eP* **P** **03 35 03.8 0.0**
RUE Ruedersdorf 75.32 335 *eP* **P** **03 35 05.5 -0.4**
comp=Z,42nm,0.8s,baz=26,slow=5.6
OJC Ojcow 75.42 331 *eP* **P** **03 35 06.4 -0.2**
OJC Ojcow 75.42 331 P **P** **03 35 05.6 -1.0**
VASR Vaslui 75.44 324‖ **P** **03 35 07.0 +0.1**
GORT1 Trebel 75.55 337 *eP* **P** **03 35 07.1 -0.2**
comp=Z,63nm,1.3s,baz=26,slow=5.6
KOLS Kolonicke sedl 75.65 329 *eP* **P** **03 35 07.8 -0.2**
KOLS pmax pmax
comp=Z,51nm,0.7s
BURAR Bucovina Array 75.66 326‖ **P** **03 35 08.1 -0.1**
BURAR Bucovina Array 75.66 326‖ **P** **03 35 08.1 -0.1**
BIR Birlad 75.81 324‖ **P** **03 35 09.7 +0.7**
BIR Birlad 75.81 324‖ **P** **03 35 09.7 +0.7**
BANOM Banah 75.85 293 P **P** **03 35 09.9 +0.4**
BANOM Banah 75.85 293 *i* P **P** **03 35 09.5 -0.1**
SNR=19
SHME Shamm 75.86 293 P **P** **03 35 09.6 0.0**
SNR=6.2
SHME Shamm 75.86 293 *i* P **P** **03 35 09.3 -0.3**
SNR=18
NIE Niedzica 75.93 330 *eP* **P** **03 35 09.8 +0.2**
VLDR Vladesti 75.97 324‖ **P** **03 35 10.3 +0.4**
TESR Tescani 76.00 325‖ **P** **03 35 10.1 0.0**
KSP Ksiaz 76.01 333 *eP* **P** **03 35 09.8 -0.2**
VARL Varlezi 76.02 324‖ **P** **03 35 10.6 +0.5**
GHRR 76.07 324 ⇑P **P** **03 35 11.3 +0.9**
FLTG Flechtingen 76.16 337 *eP* **P** **03 35 09.8 -1.0**
comp=Z,42nm,0.9s,baz=26,slow=5.6
TLCR 76.20 323 ⇑P **P** **03 35 11.4 +0.2**
TLCR 76.20 323 ⇑P **P** **03 35 11.4 +0.2**
WSAR Wadi Sarin 76.23 289 P **P** **03 35 12.4 +0.7**
ONER Baraj Valea Uz 76.25 325‖ **P** **03 35 11.8 +0.4**
BMR Baia Mare 76.26 327 ⇑P **P** **03 35 11.9 +0.4**
BMR Baia Mare 76.26 327 ⇑P **P** **03 35 11.9 +0.4**
OSTC Ostas 76.28 333 *eP* **P** **03 35 11.5 -0.1**
OSTC MLR MLR
comp=Z,1μm,18.7s
OSTC Ostas 76.28 333 *eP* **P** **03 35 11.5 -0.1**
OSTC AMS AMS 04 11 50.0
comp=Z,1μm,18.7s
OKC Ostrava-Krasne 76.29 332 *eP* **P** **03 35 11.5 -0.1**
OKC MLR MLR
comp=Z,700nm,17.7s
OKC Ostrava-Krasne 76.29 332 *eP* **P** **03 35 11.5 -0.1**
OKC AMS AMS 04 12 50.0
comp=Z,700nm,17.7s
MDH Madha 76.29 292 P **P** **03 35 11.5 -0.5**
MDH Madha 76.29 292 P **P** **03 35 11.6 -0.5**
RETH Rethem/Aller, 76.29 338 *eP* **P** **03 35 11.6 +0.1**
comp=Z,20nm,0.7s,baz=26,slow=5.6
CHVC Chvalec 76.31 333 *eP* **P** **03 35 11.6 -0.1**
CHVC MLR MLR
comp=Z,2μm,21.7s
CHVC Chvalec 76.31 333 *eP* **P** **03 35 11.6 -0.1**
CHVC AMS AMS 04 11 50.0
comp=Z,2μm,21.7s
PANC Panciu 76.33 324‖ **P** **03 35 12.6 +0.7**
STEB Steborice 76.33 332 *eP* **P** **03 35 11.9 +0.1**
MASF Masafi 76.33 292 P **P** **03 35 12.4 +0.1**
MSFE Esma-Masafi 76.34 292 *i* P **P** **03 35 12.3 -0.1**
SNR=8.9
SCHL Schela 76.35 324‖ **P** **03 35 12.3 +0.3**
BIDO Bidbid 76.36 290 P **P** **03 35 13.5 +1.0**
SCHLR Schela 76.38 324 ⇑P **P** **03 35 12.3 +0.2**
UPC Upice 76.39 333 *eP* **P** **03 35 12.0 -0.2**
UPC MLR MLR
comp=Z,2μm,20.8s
UPC Upice 76.39 333 *eP* **P** **03 35 12.0 -0.2**
UPC AMS AMS 04 12 00.0
comp=Z,2μm,20.8s
ARCR ARCALIA 76.42 327 ⇑P **P** **03 35 13.2 +0.8**
DPC Dobruska-Polom 76.43 333 *eP* **P** **03 35 12.5 0.0**
DPC MLR MLR
comp=Z,1μm,19.1s
DPC Dobruska-Polom 76.43 333 *eP* **P** **03 35 12.5 0.0**
DPC AMS AMS 04 12 50.0
comp=Z,1μm,19.1s
LANS Liptovska Anna 76.44 331 *eP* **P** **03 35 13.0 +0.5**
LANS pmax pmax
comp=Z,21nm,0.8s
ODBI Odobesti 76.45 324‖ **P** **03 35 13.9 +1.3**
WBK Wadi Bani Khal 76.45 288 P **P** **03 35 14.3 +1.3**
BZK Bozkurt 76.47 318 ⇑P **P** **03 35 13.4 +0.6**
JLN Jalan Bani Buh 76.49 288 P **P** **03 35 13.8 +0.7**

CFR **Carcaliu** **76.49 323** ⇓P **P** **03 35 12.7 -0.1**
CFR **Carcaliu** **76.49 323** ⇓P **P** **03 35 12.7 -0.1**
ASSE **Asse, Remlinge** **76.50 337** *eP* **P** **03 35 12.3 -0.4**
comp=Z,34nm,1.2s,baz=26,slow=5.6
VRI **Vrincioaia** **76.50 324** ⇑P **P** **03 35 13.3 +0.4**
VRI **Vrincioaia** **76.50 324** ⇑P **P** **03 35 13.3 +0.4**
JURR **Jurilovca** **76.51 323** ⇑P **P** **03 35 13.2 +0.3**
EKA **Eskdalemuir Ar** **76.52 346** P **P** **03 35 12.4 -0.4**
comp=Z,3.6nm,0.4s,baz=24,slow=5.1,SNR=46
comp=Z,3.6nm,0.4s
KRLC **Kraliky** **76.53 333** *eP* **P** **03 35 12.8 -0.2**
KRLC MLR MLR
comp=Z,1μm,17.3s
KRLC **Kraliky** **76.53 333** *eP* **P** **03 35 12.8 -0.2**
KRLC AMS AMS 04 14 40.0
comp=Z,1μm,17.3s
UMQ **Umm Al-Quwin** **76.54 293** P **P** **03 35 14.4 +1.0**
SNR=5.6
MORC **Moravsky Berou** **76.54 332** *eP* **P** **03 35 12.6 -0.5**
MORC **Moravsky Berou** **76.54 332** ⇓P **P** **03 35 13.3 +0.2**
MORC **Moravsky Berou** **76.54 332** ⇓P **P** **03 35 13.3 +0.2**
PLOR **Plostina** **76.55 325** ⇓P **P** **03 35 13.3 +0.1**
PLOR **Plostina** **76.55 325** ⇓P **P** **03 35 13.3 +0.1**
CLL **Collm** **76.58 335** ⇑*i*P **P** **03 35 12.3 -0.9**
CLL *eS* **S** **03 44 51.0 -5.1**
CLL pmax pmax
comp=Z,50nm,0.7s
CLL MLR MLR
comp=Z,600nm,18.3s
CLL **Collm** **76.58 335** *eP* **P** **03 35 12.5 -0.8**
comp=Z,41nm,0.7s,baz=26,slow=5.6
UOSS **Minazif** **76.60 292** P **P** **03 35 13.7 -0.1**
UOSS **Minazif** **76.60 292** *i* P **P** **03 35 13.5 -0.4**
SNR=5.7
TURR **Turia** **76.63 325** ⇓P **P** **03 35 14.5 +0.8**
TPGR **Topolog** **76.63 323** ⇑P **P** **03 35 13.6 0.0**
OZUR **76.69 325** ⇓P **P** **03 35 14.7 +0.7**
BRG **Berggiesshubel** **76.70 335** *eP* **P** **03 35 14.8 +0.9**
comp=Z,27nm,1.2s,baz=26,slow=5.6
BRG **Berggiesshubel** **76.70 335** *eP* **P** **03 35 14.7 +0.9**
BRG Amp 03 35 17.2
comp=Z,12nm,0.8s
COVR **Voineasa-Covas** **76.73 325** ⇓P **P** **03 35 14.7 +0.5**
HATD **Hatta, Dubai** **76.73 292** P **P** **03 35 14.7 +0.2**
SNR=12
HATD **Hatta, Dubai** **76.73 292** *i* P **P** **03 35 14.5 0.0**
SNR=18
SMDO **Samad** **76.74 289** P **P** **03 35 16.3 +1.5**
GRER **76.80 324** ⇓P **P** **03 35 15.8 +1.2**
MAUC **Maruska** **76.80 332** *eP* **P** **03 35 14.5 -0.1**
MAUC AMS AMS 04 13 10.0
comp=Z,2μm,18.9s
PVCC **Panska Ves** **76.81 334** *eP* **P** **03 35 14.5 -0.1**
PVCC MLR MLR
comp=Z,1μm,21.6s
PVCC **Panska Ves** **76.81 334** *eP* **P** **03 35 14.5 -0.1**
PVCC AMS AMS 04 11 20.0
comp=Z,1μm,21.6s
ASHO **Ashiyiah** **76.88 292** P **P** **03 35 15.6 +0.1**
SNR=9.2
ASHO **Ashiyiah** **76.88 292** *i* P **P** **03 35 15.2 -0.2**
SNR=18
MESR **Meseseni** **76.90 327** ⇓P **P** **03 35 15.7 +0.6**
NAZ **Nazwa, Dubai** **76.92 292** P **P** **03 35 15.7 +0.1**
SNR=8.2
NAZ **Nazwa, Dubai** **76.92 292** *i* P **P** **03 35 15.3 -0.2**
SNR=13
RICC **Richard** **76.94 334** *eP* **P** **03 35 15.1 -0.2**
RICC AMS AMS 04 11 30.0
comp=Z,1μm,22.5s
DOPR **Dopca** **76.95 325** ⇓P **P** **03 35 16.1 +0.7**
SOHO **SOHO** **76.96 291** P **P** **03 35 15.7 -0.2**
SOHO **SOHO** **76.96 291** *i* P **P** **03 35 15.4 -0.5**
SNR=14
HARR **Harsova** **76.97 323** ⇓P **P** **03 35 15.4 -0.1**
HARR **Harsova** **76.97 323** ⇓P **P** **03 35 15.4 -0.1**
CJR **Cluj-Napoca** **77.02 327** ⇓P **P** **03 35 16.4 +0.5**
CJR **Cluj-Napoca** **77.02 327** ⇓P **P** **03 35 16.4 +0.5**
NEUB **Neuenburg** **77.02 336** *eP* **P** **03 35 15.2 -0.5**
comp=Z,35nm,0.8s,baz=26,slow=5.6
TLBR **Topalu** **77.04 323** ⇓P **P** **03 35 16.3 +0.4**
IBBN **Ibbenburen** **77.09 339** *eP* **P** **03 35 15.7 -0.4**
comp=Z,69nm,1.2s,baz=26,slow=5.6
TSCT **Constanta Port** **77.09 322** ⇓P **P** **03 35 17.2 +0.9**
MLR **Muntele Rosu** **77.12 325** ⇓P **P** **03 35 16.7 +0.1**
MLR **Muntele Rosu** **77.12 325** ⇓P **P** **03 35 16.7 +0.1**
FAQ **Al Faqa, Dubai** **77.14 292** P **P** **03 35 16.7 -0.1**
SNR=7.5
FAQ **Al Faqa, Dubai** **77.14 292** *i* P **P** **03 35 16.4 -0.3**
SNR=11
MFTR **Murfatlar** **77.18 322** ⇑P **P** **03 35 17.1 +0.4**
ISR **Istrita** **77.19 324** ⇓P **P** **03 35 17.4 +0.6**
ISR **Istrita** **77.19 324** ⇓P **P** **03 35 17.4 +0.6**
JMDO **Jabal Madar** **77.19 289** P **P** **03 35 17.8 +0.6**
SNR=6.4
MDB **Medias** **77.20 326** ⇓P **P** **03 35 18.1 +1.3**
MDB **Medias** **77.20 326** ⇓P **P** **03 35 18.1 +1.3**
GTTG **Gottingen** **77.22 337** *eP* **P** **03 35 16.7 -0.1**
comp=Z,23nm,0.8s,baz=26,slow=5.6
VYHS **Vyhne** **77.22 331** *eP* **P** **03 35 16.9 0.0**
VYHS pmax pmax
comp=Z,28nm,1.0s
MARR **Marisel-Cluj** **77.23 327** ⇓P **P** **03 35 17.1 0.0**
VRAC **Vranov** **77.25 332** LR LR 04 12 32.4
comp=Z,1μm,21.7s,baz=30,slow=38
VRAC **Vranov** **77.25 332** *eP* **P** **03 35 16.9 -0.2**
VRAC **Vranov** **77.25 332** ⇑P **P** **03 35 17.2 +0.1**
PRA **Prague** **77.26 334** *eP* **P** **03 35 17.4 +0.3**
PRA MLR MLR
comp=Z,1μm,18.6s
PRA **Prague** **77.26 334** *eP* **P** **03 35 17.4 +0.3**
PRA AMS AMS 04 12 30.0
comp=Z,1μm,18.6s
AMRR **Amara** **77.28 323** ⇓P **P** **03 35 17.7 +0.4**
AMRR **Amara** **77.28 323** ⇓P **P** **03 35 17.7 +0.4**
DRGR **77.29 327** ⇓P **P** **03 35 17.3 -0.1**
DRGR **77.29 327** ⇓P **P** **03 35 17.3 -0.1**
JAVC **Velka Javorina** **77.29 331** *eP* **P** **03 35 18.1 +0.7**
PRU **Pruhonice** **77.30 334** *eP* **P** **03 35 17.4 +0.1**
PRU MLR MLR
comp=Z,1μm,17.3s
PRU **Pruhonice** **77.30 334** *eP* **P** **03 35 17.4 +0.1**
PRU AMS AMS 04 12 50.0
comp=Z,1μm,17.3s
PSZ **Piszkesteto** **77.35 330** ⇓P **P** **03 35 17.6 -0.1**
PSZ **Piszkesteto** **77.35 330** ⇓P **P** **03 35 17.6 -0.1**
ASUD **Al Ashush, Dub** **77.39 292** P **P** **03 35 18.5 +0.3**
SNR=8.8
ASUD **Al Ashush, Dub** **77.39 292** *i* P **P** **03 35 18.5 +0.3**
SNR=20
IDGL **Inch Island, C** **77.43 349** P **P** **03 35 19.3 +1.4**
ICOR **Ion Corvin** **77.49 323** ⇓P **P** **03 35 19.0 +0.6**
BSY **Bisya** **77.51 290** P **P** **03 35 19.7 +0.7**
ALNE **Al Ain** **77.52 292** P **P** **03 35 19.3 +0.3**
SNR=11
ALNE **Al Ain** **77.52 292** *i* P **P** **03 35 19.3 +0.3**
SNR=9.0
KRUC **Moravsky** **77.53 332** *eP* **P** **03 35 18.4 -0.2**
ARQ **Araqi** **77.53 291** P **P** **03 35 19.5 +0.4**
SNR=6.0
TANN **Tannenbergstha** **77.54 335** *eP* **P** **03 35 18.3 -0.4**
comp=Z,12nm,1.0s,baz=26,slow=5.6
PLN **Plauen** **77.56 335** *eP* **P** **03 35 18.4 -0.4**
comp=Z,15nm,1.2s,baz=26,slow=5.6
MOX **Moxa** **77.57 336** *eP* **P** **03 35 18.4 -0.4**
comp=Z,27nm,1.0s,baz=26,slow=5.6
MOX *eL* L 04 11 49.7
comp=Z,478nm,19.9s
TREC **Trest** **77.62 333** *eP* **P** **03 35 19.0 -0.1**
TREC MLR MLR
comp=Z,1μm,18.2s
TREC **Trest** **77.62 333** *eP* **P** **03 35 19.0 -0.1**
TREC AMS AMS 04 14 20.0
comp=Z,1μm,18.2s
TNR **Turnu Rosu** **77.65 326** ⇓P **P** **03 35 19.6 +0.2**
TNR **Turnu Rosu** **77.65 326** ⇓P **P** **03 35 19.6 +0.2**
AJN **Ajban** **77.65 293** P **P** **03 35 19.5 -0.2**
SNR=8.6
AJN **Ajban** **77.65 293** *i* P **P** **03 35 19.2 -0.4**
SNR=6.1
SMOL **Smolenice** **77.67 331** *eP* **P** **03 35 19.8 +0.4**
SMOL pmax pmax
comp=Z,13nm,0.8s
MTUR **Matau** **77.69 325** ⇓P **P** **03 35 20.3 +0.6**
MTUR **Matau** **77.69 325** ⇓P **P** **03 35 20.3 +0.6**

ARR **Arges** **77.74 325** ⇓P **P** **03 35 20.8 +0.9**
TXAR **Lajitas Array** **77.82 60** P **P** **03 35 21.5 +0.8**
comp=Z,8.4nm,0.6s,baz=299,slow=4.1,SNR=68
comp=Z,8.4nm,0.6s
UBBA **Unterbreizbach** **77.86 337** *eP* **P** **03 35 19.8 -0.5**
comp=Z,30nm,1.2s,baz=26,slow=5.6
KASTN **Kahler Asten** **77.93 338** *eP* **P** **03 35 20.7 -0.2**
comp=Z,35nm,1.0s,baz=26,slow=5.6
HMDM **Hanimaadhoo** **77.95 267** P **P** **03 35 23.7 +2.2**
SRO **Srobarova** **77.98 331** *eP* **P** **03 35 21.7 +0.6**
SRO pmax pmax
comp=Z,86nm,1.7s
BUG **Bochum--Univer** **78.01 339** *eP* **P** **03 35 20.7 -0.5**
comp=Z,61nm,1.3s,baz=26,slow=5.6
LOT **Lotru** **78.01 326** ⇓P **P** **03 35 21.3 -0.2**
MANZ **Manzenberg** **78.02 335** *eP* **P** **03 35 20.9 -0.5**
comp=Z,6.7nm,1.1s,baz=26,slow=5.6
ZST **Bratislava** **78.06 331** *eP* **P** **03 35 22.9 +1.4**
ZST pmax pmax
comp=Z,7.0nm,1.1s
SIRR **Siria** **78.12 328** ⇓P **P** **03 35 22.1 +0.2**
ROTZ **Rotzenmuhle** **78.19 335** *eP* **P** **03 35 22.2 -0.1**
comp=Z,10nm,1.2s,baz=26,slow=5.6
SADO **Sadowa** **78.23 35** LR LR 04 13 31.8
comp=Z,2μm,18.8s,baz=336,slow=38
MHTO **MHTO** **78.26 288** P **P** **03 35 23.9 +0.8**
SNR=9.5
KHC **Kasperske Hory** **78.35 334** *eP* **P** **03 35 23.1 -0.1**
KHC *e*PP **PcP** **03 35 27.2 -5.2**
KHC MLR MLR
comp=Z,1μm,16.8s
KHC **Kasperske Hory** **78.35 334** *eP* **P** **03 35 23.1 -0.1**
KHC *ep*P **PcP** **03 35 27.2 -5.2**
KHC AMS AMS 04 13 20.0
comp=Z,1μm,16.8s
SURR **Surduc** **78.38 327** ⇑P **P** **03 35 23.5 +0.2**
BR131 **Keskin Array S** **78.40 317** P **P** **03 35 23.9 0.0**
SNR=11
BR131 **Keskin Array S** **78.40 317** *i* P **P** **03 35 23.7 0.0**
BRTR **Keskin Array B** **78.40 317** P **P** **03 35 23.8 0.0**
comp=Z,10nm,0.5s,baz=73,slow=2.8,SNR=51
BRTR LR LR 04 16 01.7
comp=Z,668nm,18.2s,baz=32,slow=40
comp=Z,10nm,0.5s
GZR **Gura Zlata** **78.44 327** ⇑P **P** **03 35 23.3 -0.5**
GZR **Gura Zlata** **78.44 327** ⇑P **P** **03 35 23.3 -0.5**
RAZG **Razgrad** **78.48 323** ⇓P **P** **03 35 23.8 -0.1**
COPA **Copaceanca** **78.54 324** ⇓P **P** **03 35 23.9 -0.4**
GRF **Grafenberg Arr** **78.54 336** *eP* **P** **03 35 24.3 +0.1**
comp=Z,37nm,0.7s,baz=26,slow=5.6
GRF *eL* L 04 16 02.3
comp=Z,518nm,18.3s
WET **Wettzell** **78.55 334** *eP* **P** **03 35 24.2 -0.1**
comp=Z,40nm,1.0s,baz=26,slow=5.6
GEC2 **GERESS Array S** **78.57 334** *eP* **P** **03 35 24.0 -0.5**
comp=Z,19nm,1.0s,baz=26,slow=5.6
GERES **GERESS Array B** **78.57 334** P **P** **03 35 23.8 -0.7**
comp=Z,6.7nm,0.5s,baz=32,slow=6.1,SNR=78
GERES LR LR 04 13 58.0
comp=Z,1μm,18.2s,baz=38,slow=39
comp=Z,6.7nm,0.5s
STKA **Stephens Creek** **78.67 190** P **P** **03 35 26.7 +1.8**
comp=Z,3.5nm,0.8s,baz=36,slow=6.5,SNR=3.7
comp=Z,3.5nm,0.8s
ANTO **Ankara** **78.69 317** P **P** **03 35 25.9 +0.7**
ANTO **Ankara** **78.69 317** ⇓P **P** **03 35 26.1 +0.8**
ANTO **Ankara** **78.69 317** ⇓P **P** **03 35 26.1 +0.8**
BZS **Buzias** **78.69 327** ⇓P **P** **03 35 24.6 -0.5**
BZS **Buzias** **78.69 327** ⇓P **P** **03 35 24.6 -0.5**
CONA **Conrad Observa** **78.70 332** *i* P **P** **03 35 25.3 +0.1**
comp=Z,16nm,0.6s,SNR=18
KIRS **Kirshir-Merke** **78.73 316** ⇑P **P** **03 35 26.0 +0.4**
JRN **Qarnain Island** **78.74 294** P **P** **03 35 25.3 -0.4**
RONA **Rosalia, Austr** **78.75 332** *i* P **P** **03 35 25.8 +0.3**
comp=Z,14nm,0.7s,SNR=22
TNS **Taunus Mts** **78.82 338** *eP* **P** **03 35 25.4 -0.4**
comp=Z,24nm,0.7s,baz=26,slow=5.6
MZWR **Madinat Zayed** **78.93 293** P **P** **03 35 26.6 -0.1**
SZH **Strazhitsa** **78.95 323** P **P** **03 35 25.9 -0.7**
VLAD **Vladila** **78.97 325** ⇓P **P** **03 35 26.9 +0.2**
BEBN **Eben Emael** **79.00 339** *dP* **P** **03 35 26.3 -0.4**
comp=Z,54nm,0.9s
HERR **Herculane** **79.01 326** ⇓P **P** **03 35 26.1 -0.8**
DSB **Dublin** **79.04 347** P **P** **03 35 29.1 +2.2**
BTNL **Ternell** **79.08 339** *dP* **P** **03 35 26.7 -0.5**
comp=Z,26nm,1.1s
MEM **Membach** **79.09 339** *dP* **P** **03 35 25.9 -1.3**
comp=Z,39nm,1.1s
BSTI **Sart Tilman** **79.22 339** *dP* **P** **03 35 28.4 +0.5**
MORH **Mrgy, Hungar** **79.25 330** ⇑*i*P **P** **03 35 26.8 -1.3**
MORH **Mrgy, Hungar** **79.25 330** ⇓P **P** **03 35 27.4 -0.7**
SHMA **Al-Shehemyia** **79.26 296** P **P** **03 35 28.3 -0.1**
ELND **Elena** **79.27 323** ⇓P **P** **03 35 28.0 -0.3**
MOA **Molln** **79.28 333** *i* P **P** **03 35 28.0 -0.3**
comp=Z,18nm,0.8s,SNR=10
MOA **Mn** **79.28 333** *eP* **P** **03 35 28.1 -0.2**
comp=Z,18nm,0.8s,baz=26,slow=5.6
DQM **DQM** **79.29 288** P **P** **03 35 28.7 0.0**
UCC **Uccle** **79.31 340** *dP* **P** **03 35 27.8 -0.6**
BHOU **Houvegnez** **79.32 339** *dP* **P** **03 35 28.7 +0.2**
comp=Z,24nm,1.1s
MDVR **Moldovita** **79.36 327** ⇓P **P** **03 35 27.6 -1.3**
PLVB **Pleven** **79.40 324** ⇓P **P** **03 35 28.8 -0.2**
ARSA **Arzberg** **79.40 332** *i* P **P** **03 35 29.0 0.0**
comp=Z,6.9nm,0.6s,SNR=11
ARSA **Arzberg** **79.40 332** *eP* **P** **03 35 28.9 -0.1**
comp=Z,34nm,1.2s,baz=26,slow=5.6
GHWR **Ruwais** **79.42 294** P **P** **03 35 28.8 -0.6**
SAKB **Bahrain** **79.43 297** P **P** **03 35 28.9 -0.6**
BCLA **Clavier** **79.43 340** *dP* **P** **03 35 28.9 -0.2**
comp=Z,30nm,1.0s
BGES **Gesves** **79.52 340** *dP* **P** **03 35 29.2 -0.4**
comp=Z,23nm,1.1s
BIOA **Bad Ischl, Aus** **79.61 333** *i* P **P** **03 35 30.4 +0.2**
comp=Z,52nm,1.2s,SNR=18
BMRD **Maredsous** **79.67 340** *dP* **P** **03 35 30.2 -0.1**
comp=Z,38nm,1.0s
RCHB **Rochefort** **79.70 339** *dP* **P** **03 35 30.6 +0.2**
comp=Z,23nm,1.2s
MZR **Muzera** **79.73 292** P **P** **03 35 31.7 +0.6**
SNR=20
MZR **Muzera** **79.73 292** *i* P **P** **03 35 30.9 -0.3**
SNR=75
MPEP **Malo Peshtene** **79.78 325** P **P** **03 35 30.7 -0.4**
RJOB **Jochberg** **79.83 334** *eP* **P** **03 35 31.5 +0.1**
comp=Z,21nm,0.9s,baz=26,slow=5.6
FUR **Furstenfeldbru** **79.90 335** *eP* **P** **03 35 31.6 0.0**
comp=Z,87nm,1.3s,baz=26,slow=5.6
DOU **Dourbes** **79.91 340** *dP* **P** **03 35 32.8 +1.2**
comp=Z,15nm,1.2s
TRNA **Turayna** **79.91 295** P **P** **03 35 31.8 -0.2**
WLF **Walferdange** **79.92 339** *dP* **P** **03 35 33.3 +1.5**
comp=Z,10nm,1.2s
WLF **Walferdange** **79.92 339** *eP* **P** **03 35 32.4 +0.6**
comp=Z,28nm,1.2s,baz=26,slow=5.6
STU **Stuttgart** **79.94 336** *eP* **P** **03 35 31.6 -0.2**
comp=Z,74nm,1.0s,baz=26,slow=5.6
IWEX **Carrickbyrne,** **79.94 347** P **P** **03 35 32.7 +0.9**
SOKA **Soboth** **80.06 332** *i* P **P** **03 35 32.4 -0.3**
comp=Z,32nm,1.2s,SNR=17
SLWR **Sila** **80.09 294** P **P** **03 35 33.2 +0.1**
LESA **Schwarzleotal** **80.14 334** *i* P **P** **03 35 33.1 0.0**
comp=Z,19nm,0.6s,SNR=22
SMRA **Abu-Samra** **80.15 295** P **P** **03 35 33.1 -0.2**
KBA **Koelnbreinsper** **80.25 333** *i* P **P** **03 35 34.3 +0.6**
comp=Z,36nm,0.5s,SNR=39
KBA **Koelnbreinsper** **80.25 333** *eP* **P** **03 35 33.6 -0.1**
comp=Z,45nm,0.6s,baz=26,slow=5.6
PGB **Panagyurishte** **80.31 324** P **P** **03 35 33.7 -0.3**
BOVS **Bovan** **80.33 326** ⇑P **P** **03 35 33.1 -0.9**
OBKA **Obir** **80.37 332** *i* P **P** **03 35 33.4 -0.9**
comp=Z,10nm,0.6s,SNR=6.0
OBKA **Obir** **80.37 332** *eP* **P** **03 35 32.7 -1.6**
comp=Z,13nm,0.7s,baz=26,slow=5.6
MOSL **Moslavina** **80.43 330** ⇑*i*P **P** **03 35 33.0 -1.6**
BAND **Balkesir-Ban** **80.43 320** ⇓P **P** **03 35 35.1 +0.4**
MYKA **Terra Mystica** **80.55 333** *i* P **P** **03 35 34.7 -0.6**
comp=Z,7.6nm,0.8s,SNR=8.6
WATA **Walderalm** **80.56 334** *i* P **P** **03 35 35.4 0.0**
comp=Z,22nm,0.6s,SNR=23
BFO **Black Forest** **80.58 337** *eP* **P** **03 35 35.0 -0.4**
comp=Z,46nm,1.2s,baz=26,slow=5.6
VTS **Vitosha** **80.60 325** P **P** **03 35 35.4 -0.3**
WTTA **Wattenberg** **80.60 334** *i* P **P** **03 35 35.9 +0.2**
comp=Z,31nm,0.5s,SNR=34
WTTA **Wattenberg** **80.60 334** *eP* **P** **03 35 35.7 0.0**
comp=Z,52nm,0.6s,baz=26,slow=5.6
PLNA **Plana** **80.64 325** P **P** **03 35 36.1 +0.2**
RETA **Reutte** **80.66 335** *i* P **P** **03 35 36.0 +0.2**
comp=Z,12nm,0.7s,SNR=12
MOTA **Moosalm** **80.69 335** *i* P **P** **03 35 36.3 +0.2**
comp=Z,19nm,0.6s,SNR=24
H06N1 **SOCORRO T-PHAS** **80.73 73** T T 05 05 24.0
SNR=3.6
RZN **Rozhen** **80.76 323** P **P** **03 35 36.9 +0.3**
SQTA **Sankt Quirin** **80.77 335** *i* P **P** **03 35 36.6 +0.1**
comp=Z,66nm,1.2s,SNR=18
LJU **Ljubljana** **80.79 332** *i* P **P** **03 35 36.0 -0.5**
ABTA **Abfaltersbach** **80.80 334** *i* P **P** **03 35 36.6 -0.1**
comp=Z,22nm,1.2s,SNR=8.7
VAL **Valentia** **80.85 349** P **P** **03 35 39.3 +2.7**
OZLJ **Ozalj** **80.86 331** ⇑*i*P **P** **03 35 35.8 -1.0**
A051A **Mrakovica** **80.90 330** *eP* **P** **03 35 36.0 -1.2**
BOJS **Bojanci** **81.03 331** *i* P **P** **03 35 36.5 -1.2**
BLY **Banja Luka** **81.03 330** ⇑*i*P **P** **03 35 36.6 -1.2**
BLY **Banja Luka** **81.03 330** ⇑*i*P **P** **03 35 37.3 -0.5**
TAOE **Nuku Hiva Isla** **81.08 113** *eS* **S** **03 45 39.4 -5.7**
comp=Z,177nm,25.8s
TAOE **Nuku Hiva Isla** **81.08 113** *e*LR LR 04 00 50.3
comp=Z,1μm,28.4s
FETA **Feichten** **81.09 335** *i* P **P** **03 35 38.5 +0.2**
comp=Z,37nm,1.2s,SNR=12
CEY **Cerknica** **81.09 332** *eP* **P** **03 35 37.0 -1.1**
DAVA **Damuels** **81.10 335** *i* P **P** **03 35 38.4 +0.1**
comp=Z,26nm,0.7s,SNR=8.4
DAVA **Damuels** **81.10 335** *eP* **P** **03 35 38.1 -0.2**
comp=Z,50nm,1.2s,baz=26,slow=5.6
RUDO **Rudo** **81.23 328** *eP* **P** **03 35 37.6 -1.3**
MMB **Musomishta** **81.29 324** P **P** **03 35 39.0 -0.3**
KKB **Krupnik** **81.29 324** P **P** **03 35 39.0 -0.2**
EZN **Ezine** **81.64 321** ⇓P **P** **03 35 40.7 -0.4**
EZN **Ezine** **81.64 321** ⇓P **P** **03 35 40.7 -0.4**
SKO **Skopje** **81.85 326** *i* P **P** **03 35 42.6 +0.5**
VAY **Valandovo** **81.96 324** *i* P **P** **03 35 42.5 -0.2**
BRJN **Brijuni** **82.05 332** ⇑*i*P P 03 35 31.2 -12
PPT2 **Papeete2** **82.23 126** *eP* **P** **03 35 40.6 -3.8**
comp=Z,166nm,23.5s
PPT2 **Papeete2** **82.23 126** *eS* **S** **03 45 49.7 -7.0**
comp=Z,141nm,23.5s
PPT2 **Papeete2** **82.23 126** *e*LR LR 04 01 22.9
comp=Z,1μm,25.0s
PPT2 *e*LR LR 04 01 29.7
comp=Z,1μm,24.5s
PDG **Podgorica** **82.29 327** ⇓P **P** **03 35 43.8 -0.7**
TREB **Trebinje** **82.38 328** *eP* **P** **03 35 43.0 -1.9**
DOK **Doka** **82.46 289** P **P** **03 35 45.9 +0.2**
STON **Ston** **82.48 328** ⇑*i*P **P** **03 35 43.4 -2.0**
DMTO **DMTO** **82.58 288** P **P** **03 35 46.5 +0.2**
ASF **Jabal al Asfar** **82.67 310** LR LR 04 17 02.2
comp=Z,654nm,18.6s,baz=337,slow=39
MMAI **Mount Meron Ar** **82.79 311** P **P** **03 35 48.0 +0.6**
comp=Z,43nm,0.4s,baz=46,slow=6.0,SNR=125
MMAI LR LR 04 17 52.1
comp=Z,2μm,18.3s,baz=22,slow=40
comp=Z,43nm,0.4s
WHFO **Wadi Hawf** **83.20 289** P **P** **03 35 49.4 -0.2**
RBK **Rabkut** **83.22 288** P **P** **03 35 49.7 0.0**
ABTO **Aybut** **83.92 289** P **P** **03 35 53.3 0.0**
RAYN **Ar Rayn** **84.32 298** P **P** **03 35 55.5 +0.1**
RAYN **Ar Rayn** **84.32 298** *i* P **P** **03 35 55.2 -0.2**
SNR=21
RAYN **Ar Rayn** **84.32 298** ⇓P **P** **03 35 55.9 +0.6**
INTR **Introdacqua** **84.57 330** P **P** **03 35 55.8 -0.5**
INTR IAmb IAmb 03 35 58.6
comp=Z,56nm,1.2s
BG3 **Lake Jocassee** **84.65 43** P **P** **03 35 57.2 +0.5**
T57A **Hurt** **84.66 39** P **P** **03 35 57.0 +0.2**
T57A IAmb IAmb 03 36 13.5
comp=Z,52nm,1.4s
V55A **Taylorsville** **84.74 41** P **P** **03 35 57.0 -0.2**
MATE **Matera** **84.79 328** ⇓P **P** **03 35 56.8 -0.4**
KARP **Karpathos** **84.80 318** P **P** **03 35 56.9 -0.6**
KMSC **Kings Mountain** **85.27 42** P **P** **03 36 00.1 +0.2**
KMSC IAmb IAmb 03 36 16.8
comp=Z,23nm,1.2s
NWAO **Narrogin (SRO)** **85.32 209** LR LR 04 19 07.6
comp=Z,47nm,18.3s,baz=44,slow=39
NWAO **Narrogin (SRO)** **85.32 209** P **P** **03 36 01.6 +1.8**
250A **Grady** **85.47 47** P **P** **03 36 01.4 +0.6**
250A IAmb IAmb 03 36 04.2
comp=Z,38nm,1.0s
HODGE **Hodges** **85.59 43** P **P** **03 36 01.9 +0.5**
HODGE IAmb IAmb 03 39 16.1
comp=Z,91nm,1.9s
EIL **Elat** **85.66 309** LR LR 04 18 56.2
comp=Z,677nm,19.5s,baz=316,slow=39
CUC **Castrocucco** **85.69 328** P **P** **03 36 00.8 -1.1**
CUC IAmb IAmb 03 36 02.6
comp=Z,32nm,1.3s
GOGA **Godfrey** **85.69 44** P **P** **03 36 02.5 +0.6**
GOGA IAmb IAmb 03 38 49.9
comp=Z,78nm,1.6s
GOGA **Godfrey** **85.69 44** P **P** **03 36 02.5 +0.6**
GOGA pmax pmax
comp=Z,78nm,1.7s
ITM **Ithomi** **85.73 323** P **P** **03 36 00.7 -1.4**
V58A **Windy Hill, Pi** **85.73 40** P **P** **03 36 02.6 +0.5**
W57A **Gilead** **85.87 41** P **P** **03 36 03.2 +0.4**
IDI **Anoyia** **86.04 320** P **P** **03 36 02.2 -1.5**
154A **Montrose** **86.51 44** P **P** **03 36 06.8 +0.8**
352A **Blakely** **86.54 46** P **P** **03 36 07.3 +1.2**
TBI **Tubuai** **86.93 129** *eP* **P** **03 36 07.2 -0.7**
comp=Z,1μm,30.2s
TBI **Tubuai** **86.93 129** *eS* **S** **03 46 39.7 -3.5**
comp=Z,1μm,32.5s
TBI *e*SS **SS** **03 52 24.9 -2.2**
comp=Z,2μm,40.2s
TBI **Tubuai** **86.93 129** *e*LR LR 04 03 13.2
comp=Z,1μm,38.0s
TBI *e*LR LR 04 03 27.3
comp=Z,4μm,29.2s
URZ **Urewera** **87.17 161** LR LR 04 08 42.8
comp=Z,454nm,21.6s,baz=355,slow=31
CEL **Celeste** **87.18 327** P **P** **03 36 09.0 -0.3**
CEL IAmb IAmb 03 36 38.5
comp=Z,19nm,0.9s
CEST **Esterri de Car** **87.74 339** P **P** **03 36 11.4 -0.6**
CEST IAmb IAmb 03 36 14.6
comp=Z,23nm,1.2s
VSL **Villasalto** **88.33 333** P **P** **03 36 14.5 -0.2**
VSL IAmb IAmb 03 36 16.3
comp=Z,72nm,1.8s
VAE **Valguarnera** **88.42 328** LR LR 04 19 05.7
comp=Z,625nm,21.9s,baz=38,slow=38
PBRG **Braganca** **90.20 345** *eP* **P** **03 36 22.2 -1.2**
PBRG *i* IAmb IAmb 03 36 25.9
comp=Z,30nm,1.6s
PGAV **Gavieira, Arco** **90.31 346** *eP* **P** **03 36 22.6 -1.4**
PGAV *i* IAmb IAmb 03 36 29.1
comp=Z,30nm,3.4s
PGAV *e*LR LR 04 07 53.0
PGAV *i* IAMs_20 IAMs_20 04 23 02.3
comp=Z,308nm,20.0s
PCAB **Cabril** **90.52 346** *eP* P 03 36 36.8 +12
PCAB *i* IAmb IAmb 03 36 41.2
comp=Z,50nm,1.8s
POLO **Lamas de Olo** **90.80 345** *eP* **P** **03 36 25.1 -1.3**
POLO *i* IAmb IAmb 03 36 27.5
comp=Z,17nm,1.4s
MVO **Moncorvo** **90.87 345** *eP* **P** **03 36 22.5 -4.1**
MVO *i* IAmb IAmb 03 36 28.3
comp=Z,36nm,1.7s
MVO *e*LR LR 04 09 34.8
MVO *i* IAMs_20 IAMs_20 04 23 02.3
comp=Z,364nm,20.0s
PVRL **Vila Real** **90.88 345** *eP* **P** **03 36 25.4 -1.3**
PVRL *i* IAmb IAmb 03 36 27.8
comp=Z,51nm,1.5s
RPZ **Rata Peaks** **91.29 167** LR LR 04 10 26.8
comp=Z,341nm,21.8s,baz=318,slow=31
PVIS **Viseu** **91.46 345** *eP* **P** **03 36 28.1 -1.2**
MTE **Manteigas** **91.70 345** P **P** **03 36 29.9 -0.5**
MTE **Manteigas** **91.70 345** *eP* **P** **03 36 29.1 -1.4**
MTE *i* IAmb IAmb 03 36 35.6
comp=Z,52nm,1.9s
MTE *e*LR LR 04 08 31.3
MTE *i* IAMs_20 IAMs_20 04 25 06.9
comp=Z,303nm,18.0s
ESDC **Sonseca Array** **91.71 342** P **P** **03 36 30.4 -0.1**
ESDC IAmb IAmb 03 36 31.7
comp=Z,8.9nm,1.1s

ESDC	**Sonseca Array**	**91.71**	**342**	P	**P**	**03 36 29.1**	**-1.4**
	comp=Z,6.1nm,1.0s,baz=355,slow=3.3,SNR=20						
	comp=Z,6.1nm,1.0s						
KEST	**Kesra**	**91.77**	**331**	P	**P**	**03 36 31.4**	**+0.5**
KEST				IAmb	IAmb	03 36 33.1	
	comp=Z,41nm,1.4s						
KEST	**Kesra**	**91.77**	**331**	P	**P**	**03 36 30.1**	**-0.7**
	comp=Z,9.6nm,0.7s,baz=31,slow=2.9,SNR=27						
	comp=Z,9.6nm,0.7s						
KEST	**Kesra**	**91.77**	**331**	P	**P**	**03 36 30.8**	**-0.1**
PCAS	**Casmilo, Conde**	**92.21**	**346**	*eP*	**P**	**03 36 31.3**	**-1.4**
PCAS				*i* IAmb	IAmb	03 36 34.4	
	comp=Z,50nm,1.5s						
PCBR	**Castelo Branco**	**92.24**	**345**	*eP*	**P**	**03 36 31.5**	**-1.4**
PCBR				*i* IAmb	IAmb	03 36 33.9	
	comp=Z,40nm,1.5s						
PMRV	**Marv??o**	**92.62**	**345**	*eLR*	LR	04 08 53.9	
PMRV				*i* IAMs_20	IAMs_20	04 23 31.0	
	comp=Z,503nm,20.0s						
PESTR	**Estremoz**	**93.20**	**345**	*eP*	**P**	**03 36 35.5**	**-1.8**
PESTR				*i* IAmb	IAmb	03 36 38.5	
	comp=Z,20nm,1.6s						
PARRA	**Arraiolos**	**93.51**	**346**	*eP*	**P**	**03 36 36.4**	**-2.3**
PARRA				*i* IAmb	IAmb	03 36 47.8	
	comp=Z,18nm,1.5s						
PBAR	**Barrancos**	**93.77**	**344**	*eP*	**P**	**03 36 38.3**	**-1.7**
PBAR				*i* IAmb	IAmb	03 36 43.0	
	comp=Z,17nm,1.4s						
PBEJ	**Beja**	**94.07**	**345**	*eP*	**P**	**03 36 40.5**	**-0.8**
PBEJ				*i* IAmb	IAmb	03 36 50.3	
	comp=Z,27nm,1.7s						
MESJ	**Messejana**	**94.31**	**345**	*eP*	**P**	**03 36 41.4**	**-1.1**
MESJ				*i* IAmb	IAmb	03 36 53.1	
	comp=Z,20nm,1.7s						
PCVE	**Castro Verde**	**94.48**	**345**	*eP*	**P**	**03 36 41.0**	**-2.2**
PCVE				*i* IAmb	IAmb	03 36 49.6	
	comp=Z,22nm,1.7s						
PVAQ	**Vaqueiros**	**94.65**	**345**	P	**P**	**03 36 43.7**	**-0.3**
PVAQ	**Vaqueiros**	**94.65**	**345**	*eP*	**P**	**03 36 41.7**	**-2.2**
PVAQ				*eLR*	LR	04 10 35.4	
PVAQ				*i* IAMs_20	IAMs_20	04 24 41.2	
	comp=Z,350nm,20.0s						
RKT	**Rikitea**	**95.09**	**118**	*eSS*	SS	03 54 01.2	-24
	comp=Z,1μm,24.8s						
RKT	**Rikitea**	**95.09**	**118**	*eLR*	LR	04 07 16.8	
	comp=Z,4μm,31.5s						
RTAL	**Retalhuleu**	**96.21**	**62**	P	**P**	**03 36 51.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**115.18**	**329**	PKP	**PKiKP**	**03 42 03.5**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=18,slow=2.5,SNR=30						
TORD				PKKPbc	**PKKPbc**	**03 52 40.8**	**+3.0**
	comp=Z,0.3nm,0.5s,baz=173,slow=1.2,SNR=6.3						
DBIC	**Dimbokro**	**123.43**	**333**	PKP	**PKPdf**	**03 42 19.7**	**-0.7**
	comp=Z,8.1nm,0.6s,baz=46,slow=2.7,SNR=18						
VNDA	**Vanda**	**123.88**	**178**	PKP	**PKiKP**	**03 42 19.9**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=327,slow=4.1,SNR=23						
VNDA	**Vanda**	**123.88**	**178**	PKIKP	**PKiKP**	**03 42 20.0**	**+0.4**
LSZ	**Lusaka**	**124.58**	**285**	PKPdf	**PKiKP**	**03 42 22.9**	**-0.1**
LSZ	**Lusaka**	**124.58**	**285**	PKIKP	**PKiKP**	**03 42 22.9**	**-0.1**
MAW	**Mawson**	**131.87**	**211**	PKP	**PKPdf**	**03 42 35.0**	**+0.2**
	comp=Z,3.7nm,0.8s,baz=54,slow=2.0,SNR=7.8						
MAW	**Mawson**	**131.87**	**211**	PKIKP	**PKPdf**	**03 42 35.0**	**+0.2**
LPAZ	**La Paz**	**134.67**	**62**	PKP	**PKiKP**	**03 42 43.5**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=342,slow=3.7,SNR=6.3						
BOSA	**Boshof**	**135.58**	**275**	PKhKP	PKPpre	03 42 31.6	
	comp=Z,1.6nm,0.6s,baz=135,slow=2.9,SNR=4.2						
QSPA	**South Pole Qui**	**136.24**	**180**	PKhKP	PKPpre	03 42 34.1	
	comp=Z,1.5nm,0.7s,baz=356,slow=0.9,SNR=7.6						
QSPA				PKP	**PKiKP**	**03 42 45.6**	**+0.8**
	comp=Z,5.6nm,0.6s,baz=187,slow=1.5,SNR=21						
H03N2	**Juan Fernandez**	**138.99**	**90**	T	T	06 18 15.5	
	baz=308,slow=77,SNR=51						
H03N1	**Juan Fernandez**	**139.01**	**90**	T	T	06 18 17.2	
	baz=308,slow=77,SNR=48						
H03N3	**Juan Fernandez**	**139.01**	**90**	T	T	06 18 20.1	
	baz=308,slow=77,SNR=47						
VA03	**San Esteban**	**144.38**	**83**	PKPdf	**PKPdf**	**03 42 58.3**	**-0.7**
MT05	**Renca**	**144.62**	**84**	PKPdf	PKPbc	03 42 58.7	+0.5
BDFB	**Brasilia**	**144.68**	**36**	PKPdf	**PKPdf**	**03 42 59.6**	**-0.4**
BDFB	**Brasilia**	**144.68**	**36**	PKP	PKPbc	03 42 58.8	-0.1
	comp=Z,10nm,0.7s,baz=285,slow=4.4,SNR=20						
BDFB	**Brasilia**	**144.68**	**36**	PKIKP	**PKPdf**	**03 42 59.6**	**-0.4**
MURT	**Porto Murtinho**	**145.05**	**55**	*eP*	**PKPdf**	**03 43 00.1**	**-0.2**
MT13	**San Alfonso**	**145.13**	**84**		**PKPdf**	**03 43 00.8**	**+0.5**
ML02	**Panimavida**	**145.45**	**88**	PKPbc	**PKPab**	**03 43 01.6**	**+0.6**
PLCA	**Paso Flores**	**148.43**	**95**	PKPbc	**PKPbc**	**03 43 09.1**	**0.0**
PLCA	**Paso Flores**	**148.43**	**95**	PKPbc	**PKiKP**	**03 43 10.1**	**-0.6**
	comp=Z,12nm,0.8s,baz=237,slow=3.2,SNR=23						
PLCA	**Paso Flores**	**148.43**	**95**	PKP2	**PKPbc**	**03 43 09.1**	**0.0**
TRCB	**Terra Rica**	**148.69**	**50**		**PKPbc**	**03 43 08.8**	**-1.5**
CPUP	**Villa Florida**	**148.80**	**60**	PKPbc	**PKPbc**	**03 43 10.3**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=151,slow=1.8,SNR=24						
AY03	**Cochrane**	**149.32**	**108**	PKPbc	**PKiKP**	**03 43 11.9**	**-0.3**
MG05	**Puerto Natales**	**150.29**	**117**	PKPdf	**PKPdf**	**03 43 09.6**	**+1.6**
TROLL	**Troll, Antarti**	**150.89**	**198**	⇑P	**PKiKP**	**03 43 15.1**	**+0.2**
	comp=Z,873nm,0.6s						
SNAA	**Sanae**	**152.25**	**196**	⇑P	**PKPbc**	**03 43 17.4**	**+0.1**
	comp=Z,198nm,0.6s						
SNAA	**Sanae**	**152.25**	**196**	PKPbc	**PKPbc**	**03 43 17.0**	**-0.3**
	comp=Z,6.7nm,0.7s,baz=193,slow=4.4,SNR=68						
VNA3	**Neumayer Olymp**	**153.80**	**193**	⇑P	**PKiKP**	**03 43 20.8**	**0.0**
	comp=Z,11nm,0.7s						
VNA1	**Neumayer--Stat**	**154.09**	**194**	⇑P	**PKiKP**	**03 43 21.8**	**+0.5**
	comp=Z,7.0nm,0.9s						

RSNC 05 03:56:54.0±0.0, 6°N±1°×7°4W±°, h112km±2km, M2.1, mb3.9, ML1.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMM10	**El Carmen**	**0.59**	**353**	P	Pn	03 57 11.0	-0.7
VMM10				S	Sn	03 57 24.9	-0.1
BARC	**Barichara**	**0.62**	**49**	P	Pn	03 57 11.6	-0.6
BARC				S	Sn	03 57 25.5	-0.4
RUSC	**La Rusia**	**0.63**	**117**	P	Pn	03 57 11.7	-0.9
RUSC				S	Sn	03 57 25.7	-0.8
BRJC	**Barrancabermej**	**0.79**	**353**	P	Pn	03 57 12.5	-0.9
BRJC				S	Sn	03 57 29.8	+1.8
PTBC	**PUERTO BERRIO,**	**0.88**	**294**	P	Pn	03 57 12.2	-2.0
PTBC				S	Sn	03 57 27.4	-2.0
VMM09	**Lebrija**	**1.01**	**21**	P	Pn	03 57 14.9	-0.7
VMM09				S	Sn	03 57 31.7	-0.2
VMM07	**Puerto Wilches**	**1.19**	**350**	P	Pn	03 57 16.7	-0.7
VMM07				S	Sn	03 57 37.4	+2.3
NORC	**Norcasia**	**1.36**	**243**	P	Pn	03 57 18.0	-1.3
NORC				S	Sn	03 57 36.9	-1.7
PAMC	**Pamplona, Colo**	**1.49**	**39**	P	Pn	03 57 20.6	-0.7
PAMC				S	Sn	03 57 41.2	-0.8
ROSC	**El Rosal**	**1.49**	**207**	P	Pn	03 57 20.8	-0.4
ROSC				S	Sn	03 57 40.9	-0.9
HELC	**Santa Helena**	**1.87**	**270**	P	Pn	03 57 25.7	-0.1
HELC				S	Sn	03 57 49.7	-0.3
GUY2C	**Guyana, Caldas**	**1.95**	**241**	P	Pn	03 57 26.5	-0.5
GUY2C				S	Sn	03 57 52.0	0.0
VILC	**Villavicencio,**	**2.06**	**181**	P	Pn	03 57 26.7	-1.2
VILC				S	Sn	03 57 53.9	0.0
OCAC	**Ocana**	**2.07**	**9**	P	Pn	03 57 26.8	-1.4
OCAC				S	Sn	03 57 54.8	+0.5
AGCC	**Aguachica**	**2.32**	**2**	P	Pn	03 57 29.6	-1.6
AGCC				S	Sn	03 58 00.6	+0.9
CBOC	**Ciudad Bolivar**	**2.37**	**263**	P	Pn	03 57 31.7	-0.3
CBOC				S	Sn	03 58 00.7	-0.4
ANIL	**Santa Ana**	**2.42**	**226**	P	Pn	03 57 31.6	-1.2
ANIL				S	Sn	03 58 04.0	+1.5
UREC	**San Jos de Ur**	**2.44**	**310**	P	Pn	03 57 29.8	-2.9
UREC				S	Sn	03 57 58.9	-3.5
PRAC	**Prado**	**2.74**	**207**	P	Pn	03 57 35.3	-1.4
PRAC				S	Sn	03 58 09.1	-0.5
ORTC	**Ortega, Tolima**	**2.76**	**215**	P	Pn	03 57 35.7	-1.3
ORTC				S	Sn	03 58 09.6	-0.4
URMC	**La Uribe, Meta**	**3.00**	**194**	P	Pn	03 57 38.2	-2.0
URMC				S	Sn	03 58 15.5	-0.3
SJCC	**San Jacinto, C**	**3.99**	**338**	P	Pn	03 57 50.8	-2.6
SJCC				S	Sn	03 58 34.9	-4.5
MACC	**Macarena, Meta**	**4.01**	**183**	P	Pn	03 57 50.1	-3.5
MACC				S	Sn	03 58 33.6	-6.2
CRJC	**Cerrejon, Guaj**	**4.87**	**9**	P	Pn	03 58 02.6	-2.6
URIC	**Uribia, Colomb**	**5.73**	**16**	P	Pn	03 58 13.8	-2.9

*IDC **05** 03:57:07.9±6.7, 23°.93S×179°.91W, h507km±70km, mb3.1/10, mbtmp3.9/10, Error ellipse: s-maj=33.1km s-min=19.0km az=68.0*

ISC 05 03:57:08.5±0.7, 23°.9S±0°.1×180°.0W±0°.2, h518km, n18, σ0.97/18, mb3.5/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.06**	**261**	P	**P**	**04 04 15.7**	**+0.8**
	0.4nm,0.4s,baz=92,slow=6.8,SNR=4.8						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**42.44**	**266**	P	**P**	**04 04 17.9**	**+0.1**
	1.5nm,0.5s,baz=104,slow=8.2,SNR=9.9						
	1.5nm,0.5s						
VNDA	**Vanda**	**54.37**	**185**	P	**P**	**04 05 45.8**	**0.0**
	0.3nm,0.6s,baz=5.9,slow=3.1,SNR=2.1						
	0.3nm,0.6s						
QSPA	**South Pole Qui**	**66.17**	**180**	P	**P**	**04 07 05.3**	**+1.0**
	1.3nm,0.6s,baz=64,slow=1.6,SNR=6.6						
	1.3nm,0.6s						
MJAR	**Matsushiro Arr**	**71.92**	**326**	P	**P**	**04 07 38.7**	**-0.5**
	0.9nm,0.6s,baz=164,slow=4.7,SNR=2.8						
	0.9nm,0.6s						
MAW	**Mawson**	**77.75**	**200**	P	**P**	**04 08 11.4**	**0.0**
	1.6nm,0.6s,baz=45,slow=4.3,SNR=2.0						
	1.6nm,0.6s						
PETK	**Petropavlovsk-**	**79.12**	**347**	P	**P**	**04 08 19.1**	**+0.3**
	3.4nm,0.9s,baz=121,slow=2.5,SNR=3.1						
	3.4nm,0.9s						
SNAA	**Sanae**	**84.66**	**179**	P	**P**	**04 08 45.3**	**-1.7**
	0.5nm,0.8s,baz=207,slow=9.0,SNR=8.0						
	0.5nm,0.8s						
TXAR	**Lajitas Array**	**90.41**	**58**	P	**P**	**04 09 16.2**	**+1.3**
	0.4nm,0.7s,baz=248,slow=4.9,SNR=6.2						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**92.03**	**14**	P	**P**	**04 09 21.0**	**-0.4**
	0.4nm,0.9s,baz=203,slow=5.0,SNR=2.9						
	0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**115.27**	**316**	PKP	**PKPdf**	**04 14 50.3**	**-0.4**
	0.2nm,0.3s,baz=93,slow=1.9,SNR=1.9						
BVAR	**Borovoye Array**	**120.47**	**319**	PKP	**PKPdf**	**04 15 00.7**	**0.0**
	1.0nm,0.5s,baz=119,slow=5.1,SNR=3.8						
ARCES	**ARCESS Array B**	**131.90**	**348**	PKP	**PKiKP**	**04 15 23.2**	**+0.1**
	2.8nm,0.8s,baz=342,slow=2.8,SNR=6.6						
HFS	**Hagfors**	**142.56**	**349**	PKP	**PKPdf**	**04 15 39.4**	**-2.4**
	2.6nm,0.4s,baz=66,slow=3.6,SNR=26						
AKASG	**Malin Array Be**	**145.00**	**327**	PKPbc	**PKPdf**	**04 15 47.2**	**+0.9**
	0.9nm,0.4s,baz=48,slow=3.9,SNR=7.5						
BRTR	**Keskin Array B**	**147.61**	**307**	PKPbc	**PKPbc**	**04 15 55.6**	**+0.8**
	0.8nm,0.6s,baz=140,slow=6.4,SNR=5.0						
MMAI	**Mount Meron Ar**	**147.73**	**294**	PKPbc	**PKiKP**	**04 15 56.9**	**+0.2**
	3.3nm,0.5s,baz=101,slow=4.3,SNR=5.9						
EKA	**Eskdalemuir Ar**	**148.53**	**3**	PKPbc	**PKPbc**	**04 15 56.3**	**-0.1**
	0.4nm,0.4s,baz=360,slow=2.6,SNR=4.4						

*SOME **05** 04:32:11.6, 41°.30N×83°.20E, h5km*
*NNC **05** 04:32:13.7±1.6, 41°.52N×83°.21E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=13.4km s-min=7.4km az=167.0*

ISC 05 04:32:04.1±3.4, 41°.3N±0°.2×83°.52E±0°.09, h10km, n22, σ1.9/32/33, 2C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.55**	**303**	*eP*	**Pb**	**04 33 09.2**	**+2.1**
	5.6nm,0.1s						
SHLS				*eS*	**Sb**	**04 33 50.6**	**+0.2**
	263nm,0.3s						
PDGK	**Podgornoye**	**3.63**	**306**	⇓Pn	**Pb**	**04 33 07.1**	**-1.3**
	11nm,0.8s						
PDGK				⇑Sn	**Sn**	**04 33 46.9**	**+3.5**
	94nm,0.8s						
UZB	**Uzunbulak**	**3.83**	**301**	Pg	**Pg**	**04 33 17.9**	**+0.4**
	3.9nm,0.2s						
UZB				Lg	Lg	04 34 05.8	
	65nm,0.6s						
UZB	**Uzunbulak**	**3.83**	**301**	*eP*	**Pg**	**04 33 17.9**	**+0.4**
	0.3nm,0.1s						
UZB				*eS*	**Sg**	**04 34 05.9**	**-1.2**
	43nm,0.3s						
SATY	**Saty**	**4.20**	**297**	Pg	**Pg**	**04 33 24.6**	**+0.1**
	2.2nm,0.1s						
SATY				Lg	Lg	04 34 17.4	
	76nm,0.5s						
ARXS	**Arharly**	**5.12**	**307**	Pg	**Pg**	**04 33 42.8**	**+0.6**
ARXS				Lg	Lg	04 34 48.4	
ARXS	**Arharly**	**5.12**	**307**	*eP*	**Pg**	**04 33 42.1**	**-0.1**
ARXS				*eS*	**Sg**	**04 34 47.3**	**-1.2**
KOTS	**Kotyrbulak**	**5.14**	**295**	Pg	**Pg**	**04 33 41.9**	**-0.7**
	6.6nm,0.3s						
KOTS				Lg	Lg	04 34 46.7	
	55nm,0.6s						
KOTS	**Kotyrbulak**	**5.14**	**295**	*eP*	**Pg**	**04 33 41.9**	**-0.7**
	2.1nm,0.2s						
KOTS				*eS*	**Sg**	**04 34 46.9**	**-2.3**
	44nm,0.6s						
MDOK	**Medeo**	**5.16**	**294**	Pg	**Pg**	**04 33 42.6**	**-0.4**
	1.1nm,0.2s						
MDOK				Lg	Lg	04 34 47.6	
	16nm,1.0s						
TNSS	**Tian-Shan**	**5.19**	**292**	*eP*	**Pg**	**04 33 43.5**	**-0.1**
	0.3nm,0.0s						
TNSS				*eS*	**Sg**	**04 34 49.8**	**-1.1**
	7.5nm,0.5s						
CHKK	**Chushkaly**	**5.47**	**300**	Pg	**Pg**	**04 33 46.6**	**-2.2**
	32nm,0.3s						
CHKK	**Chushkaly**	**5.47**	**300**	*eP*	**Pg**	**04 33 48.2**	**-0.7**
	5.5nm,0.1s						
CHKK				*eS*	**Sg**	**04 34 57.8**	**-1.9**
	11nm,0.3s						
MTBS	**Maitube**	**5.58**	**292**	*eP*	**Pg**	**04 33 51.0**	**-0.1**
	0.9nm,0.1s						
MTBS				*eS*	**Sg**	**04 35 02.5**	**-0.8**
	10nm,0.2s						
MK31	**Makanchi Array**	**5.59**	**351**	⇓Pn	**Pb**	**04 33 42.2**	**+0.4**
	3.4nm,0.7s,baz=183,slow=17,SNR=4.2						
MK31				⇑Sn	**Sn**	**04 34 33.0**	**+1.4**
	4.0nm,0.5s						
MK31				⇓Lg	Lg	04 35 07.7	
	12nm,0.6s						
KTBS	**Karatobe**	**5.61**	**298**	Pg	**Pg**	**04 33 49.9**	**-1.7**
	1.4nm,0.5s						
KTBS				Lg	Lg	04 35 00.9	
	42nm,0.6s						
MAKZ	**Makanchi**	**5.64**	**349**	Pn	**Pb**	**04 33 42.9**	**+0.3**
	1.4nm,0.6s						
MAKZ				Sn	**Sn**	**04 34 33.6**	**+0.6**
	3.1nm,0.5s						
MAKZ				Lg	Lg	04 35 05.2	
	19nm,0.9s						
KST	**Kastek**	**5.89**	**290**	Pg	**Pg**	**04 33 54.5**	**-2.3**
	4.1nm,0.7s						
KST				Lg	Lg	04 35 08.6	
	30nm,0.7s						
KST	**Kastek**	**5.89**	**290**	*eP*	**Pg**	**04 33 56.5**	**-0.3**
	1.5nm,0.2s						
KST				*eS*	**Sg**	**04 35 12.3**	**-0.8**
	30nm,0.7s						
KUU	**Kurty**	**5.91**	**299**	*eP*	**Pg**	**04 33 57.3**	**0.0**
	1.5nm,0.0s						
KUU				*eS*	**Sg**	**04 35 13.4**	**-0.4**
	8.7nm,0.0s						
ZSN	**Zaisan**	**6.25**	**8**	Pg	**Pg**	**04 34 02.8**	**-1.0**
	4.2nm,0.2s						
ZSN				Lg	Lg	04 35 22.6	
	33nm,0.6s						
ZSN	**Zaisan**	**6.25**	**8**	*eP*	Pg	04 34 08.5	+4.8
	1.3nm,0.1s						
ZSN				*eS*	Sg	04 35 32.5	+7.8
	33nm,0.4s						

*SKHL **05** 04:48:38.1±0.1, 45°.30N×153°.40E, h36km±2km, mb4.7/2*
*IDC **05** 04:48:44.8±4.0, 47°.12N×152°.46E, h81km±33km, mb3.3/8, mbtmp3.6/10, Error ellipse: s-maj=38.1km s-min=24.2km az=156.0*

ISC 05 04:48:39.2±1.4, 45°.9N±0°.3×153°.2E±0°.1, h35km, n25, σ2.95/12, mb3.8/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.81**	**263**	*eP*	**Pn**	**04 49 36.2**	**+0.9**
KUR				AMB	AMB	04 49 36.6	
	50nm,0.5s						
KUR				*eS*	**Sn**	**04 50 19.8**	**+1.0**
KUR				A	A	04 50 22.7	
	70nm,0.5s						
KUR				A	A	04 50 22.7	
	70nm,0.5s						
SHO	**Shikotan**	**4.95**	**249**	*eP*	Pn	04 49 54.9	+3.9
SHO				*eS*	**Sn**	**04 50 53.7**	**+6.7**
YUK	**Yuzh-Kuril'sk**	**5.53**	**253**	*eP*	**Pn**	**04 50 00.1**	**+1.2**
YUK				AMB	AMB	04 50 02.1	
	100nm,0.5s						
YUK				*eS*	**Sn**	**04 50 58.0**	**-3.1**
YUK				A	A	04 50 59.7	
	120nm,0.4s						
YUK				A	A	04 50 59.7	
	120nm,0.4s						
NMR	**Nemuro--Hokkai**	**5.89**	**248**	*eP*	**Pn**	**04 50 03.7**	**-0.2**
NMR				*eS*	**Sn**	**04 51 07.8**	**-2.3**
AKK	**Akkeshi**	**6.63**	**248**	*eP*	**Pn**	**04 50 13.8**	**-0.2**
AKK				*eS*	**Sn**	**04 51 25.4**	**-2.9**
PETK	**Petropavlovsk-**	**7.83**	**20**	P	Pn	04 50 22.6	-7.9
	1.1nm,0.7s,baz=206,slow=14,SNR=4.1						
USRK	**Ussuriysk Ar.**	**15.10**	**271**	P	**Pn**	**04 52 08.4**	**-1.3**
	1.9nm,0.6s,baz=76,slow=9.8,SNR=1.8						
KSRS	**Korea Array**	**20.61**	**255**	P	Pn	04 53 16.8	-0.9
	0.7nm,0.5s,baz=50,slow=11,SNR=1.9						
	0.7nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.39**	**152**	T	T	05 26 02.0	
	baz=340,slow=76,SNR=373						
H11N1	**WAKE ISLAND Hy**	**28.40**	**152**	T	T	05 26 03.7	
	baz=340,slow=76,SNR=252						
H11N3	**WAKE ISLAND Hy**	**28.40**	**152**	T	T	05 26 03.9	
	baz=340,slow=76,SNR=308						
H11S1	**WAKE ISLAND Hy**	**29.47**	**153**	T	T	05 27 17.3	
	baz=340,slow=76,SNR=285						
H11S3	**WAKE ISLAND Hy**	**29.48**	**153**	T	T	05 27 19.7	
	baz=340,slow=76,SNR=261						
H11S2	**WAKE ISLAND Hy**	**29.49**	**153**	T	T	05 27 20.7	
	baz=340,slow=76,SNR=315						
MKAR	**Makanchi Array**	**47.42**	**298**	P	P	04 57 01.8	-8.2
	0.2nm,0.5s,baz=74,slow=5.2,SNR=2.5						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**48.02**	**304**	P	P	04 57 05.1	-9.3
	0.2nm,0.3s,baz=67,slow=8.3,SNR=3.7						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**64.89**	**335**	P	P	04 59 05.8	-8.6
	0.6nm,0.5s,baz=53,slow=9.8,SNR=7.1						
	0.6nm,0.5s						
NOA	**NORSAR Array B**	**69.11**	**341**	P	P	04 59 34.1	-7.1
	0.5nm,0.6s,baz=27,slow=6.4,SNR=1.8						
	0.5nm,0.6s						
HFS	**Hagfors**	**69.33**	**340**	P	P	04 59 35.0	-7.5
	1.3nm,0.5s,baz=20,slow=4.7,SNR=7.3						
	1.3nm,0.5s						
AKASG	**Malin Array Be**	**72.34**	**326**	P	P	04 59 53.8	-7.2
	0.8nm,0.4s,baz=37,slow=6.4,SNR=6.8						
	0.8nm,0.4s						
TXAR	**Lajitas Array**	**77.88**	**60**	P	**P**	**05 00 32.5**	**-0.9**
	0.1nm,0.5s,baz=279,slow=1.7,SNR=4.1						
	0.1nm,0.5s						
VNDA	**Vanda**	**123.21**	**178**	PKP	**PKiKP**	**05 07 32.7**	**+1.9**
	0.3nm,0.5s,baz=306,slow=8.7,SNR=1.8						
H03N2	**Juan Fernandez**	**138.67**	**91**	T	T	07 43 19.4	
	baz=308,slow=77,SNR=49						
H03N3	**Juan Fernandez**	**138.68**	**91**	T	T	07 43 20.3	
	baz=308,slow=77,SNR=39						
H03N1	**Juan Fernandez**	**138.68**	**91**	T	T	07 43 23.7	
	baz=308,slow=77,SNR=51						

RSNC 05 05:02:30.8±0.0, 7°N±1°×7°3W±°, h151km±2km, M2.8, mB4.8, mb3.0, ML2.5, Mw(mB)4.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**195**	P	Pn	05 02 51.3	-0.3
BARC				S	Sn	05 03 06.6	-0.8
BRJC	**Barrancabermej**	**0.64**	**284**	P	Pn	05 02 52.6	-0.4
BRJC				S	Sn	05 03 09.7	-0.2
PAMC	**Pamplona, Colo**	**0.66**	**39**	P	Pn	05 02 54.2	+0.4
PAMC				S	Sn	05 03 11.0	-0.3
RUSC	**La Rusia**	**0.92**	**178**	P	Pn	05 02 55.3	-0.3
RUSC				S	Sn	05 03 14.1	-0.4
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	P	Pn	05 02 58.0	-1.0
PTBC				S	Sn	05 03 18.9	-1.6
OCAC	**Ocana**	**1.42**	**352**	P	Pn	05 02 59.5	-0.3
OCAC				S	Sn	05 03 21.3	-0.8
NORC	**Norcasia**	**2.14**	**234**	P	Pn	05 03 07.4	-0.3
NORC				S	Sn	05 03 35.1	-1.0
ROSC	**El Rosal**	**2.30**	**211**	P	Pn	05 03 11.3	+1.3
ROSC				S	Sn	05 03 39.7	-0.4
HELC	**Santa Helena**	**2.47**	**256**	P	Pn	05 03 11.9	-0.1
HELC				S	Sn	05 03 43.1	-0.6
UREC	**San Jos de Ur**	**2.57**	**291**	P	Pn	05 03 11.3	-1.5
UREC				S	Sn	05 03 41.2	-4.0
GUY2C	**Guyana, Caldas**	**2.74**	**235**	P	Pn	05 03 15.1	-0.3
GUY2C				S	Sn	05 03 49.2	-0.6
VILC	**Villavicencio,**	**2.75**	**192**	P	Pn	05 03 15.2	0.0
VILC				S	Sn	05 03 49.3	-

0.5nm,0.5s,baz=15,slow=7.8,SNR=6.0
0.5nm,0.5s

ILAR	**Eielson Array**	**64.46**	**26**	P		P	05 31 14.1	0.0
	0.2nm,0.4s,baz=260,slow=5.4,SNR=4.6							
	0.2nm,0.4s							

RSNC 05 05:28:05.5±0.4,**6**˚**S**±2˚×**7**˚**8W**±˚,**h91**km±30km,**M3.8,mB4.8, mb4.2,ML3.2,Mw(mB)4.1,Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCRA	**Macar, Loja**	**2.42**	**308**	P	Pn	05 28 43.6	+0.2
MCRA				S	Sn	05 29 12.7	+0.3
COHC	**Cochancay**	**3.59**	**340**	P	Pn	05 29 59.0	0.0
COHC				S	Sn	05 29 40.3	0.0
PIAT	**Ana Tenorio**	**4.84**	**357**	P	Pn	05 29 16.1	-0.2
PIAT				S	Sn	05 30 11.2	-0.1
PPLP	**Puerto Lpez**	**5.09**	**327**	P	Pn	05 29 20.0	+0.6
	27nm,0.5s						
CZSB	**Cruzeiro do Su**	**5.61**	**110**	P	Pn	05 29 31.7	+5.3
CZSB				S	Sn	05 30 36.5	+7.0
PAC1	**Pacto, Paraso**	**6.13**	**353**	P	Pn	05 29 35.8	+2.0
PAC1				S	Sn	05 30 43.9	+1.3
NNA	**Nana**	**6.20**	**169**	P	Pn	05 29 34.9	+0.3
	20nm,1.0s						
NNA				S	Sn	05 30 43.6	-0.5
	20nm,1.0s						
PTLC	**Puerto Leguiza**	**6.80**	**28**	P	Pn	05 29 38.3	-4.5
PTLC				S	Sn	05 31 02.4	+3.6
FLOC	**Florencia**	**7.76**	**18**	P	Pn	05 29 54.8	-1.1
	515nm16nm,0.5s						
FLOC				S	Sn	05 31 17.3	-5.0
	515nm16nm,0.5s						
BBAC	**Balboa, Cauca**	**7.87**	**6**	P	Pn	05 29 58.9	+1.4
	17nm,0.9s						
BBAC				S	Sn	05 31 24.4	-0.7
	17nm,0.9s						
TBTG	**Tabatinga, AM**	**8.26**	**79**	P	Pn	05 30 04.5	+1.9
	777nm46nm,0.8s						
TBTG				S	Sn	05 31 34.6	+0.3
	777nm46nm,0.8s						
GARC	**Garzon, Huila**	**8.38**	**18**	P	Pn	05 30 03.9	-0.7
POPC	**Popayan, Colom**	**8.45**	**9**	P	Pn	05 30 04.9	-0.6
	5.5nm,1.2s						
POPC				S	Sn	05 31 39.0	-0.4
	5.5nm,1.2s						
MACC	**Macarena, Meta**	**8.98**	**28**	P	Pn	05 30 12.1	-0.4
GUVC	**San Jose del G**	**9.94**	**33**	P	Pn	05 30 25.5	0.0
GUVC				S	Sn	05 32 16.4	+1.0

*CATAC **05** 05:30:48.9±0.7, 13˚N±4˚×87˚9W±˚, h26km±4km, M4.1/13, MLv4.1/13, Error ellipse: s-maj=9.9km s-min=4.2km az=19.2, confirmed*
*SNET **05** 05:30:50.0±1.9, 13˚.10N×89˚.01W, h54km, ML3.8*
*GCG **05** 05:30:56.6±0.6, 13˚.54N×89˚.39W, h22km, MD4.0*
ISC 05 05:30:48.7±2.3,**13˚.0N**±0˚.1×**89˚.03W**±0˚.05,**h55km**,**n47**, σ**0s55/47**,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMA	**Loma Larga**	**0.67**	**349**	P	**Pn**	**05 31 02.0**	**-0.5**
LOMA	**Loma Larga**	**0.67**	**349**	S	**Sn**	**05 31 11.9**	**-0.6**
UESV	**Universidad de**	**0.69**	**20**	P	**Pn**	**05 31 02.3**	**-0.4**
UESV	**Universidad de**	**0.69**	**20**	S	**Sn**	**05 31 12.8**	**0.0**
PAVA	**Las Pavas**	**0.73**	**7**	P	**Pn**	**05 31 03.0**	**-0.3**
PAVA	**Las Pavas**	**0.73**	**7**	S	**Sn**	**05 31 13.6**	**-0.2**
UTEC	**Universidad Te**	**0.73**	**347**	P	**Pn**	**05 31 02.8**	**-0.5**
UTEC	**Universidad Te**	**0.73**	**347**	S	**Sn**	**05 31 13.3**	**-0.5**
UDBS	**Universidad Do**	**0.74**	**351**	S	**Sn**	**05 31 13.8**	**-0.1**
UDBS	**Universidad Do**	**0.74**	**351**	P	**Pn**	**05 31 02.8**	**-0.5**
IGN	**Direccin Gen**	**0.74**	**350**	*eP*	**Pn**	**05 31 03.0**	**-0.3**
IGN	**Direccin Gen**	**0.74**	**350**	P	**Pn**	**05 31 03.0**	**-0.3**
IGN	**Direccin Gen**	**0.74**	**350**	S	**Sn**	**05 31 13.3**	**-0.6**
SEMO	**Seminario San**	**0.74**	**346**	P	**Pn**	**05 31 02.9**	**-0.4**
SEMO	**Seminario San**	**0.74**	**346**	S	**Sn**	**05 31 13.1**	**-0.8**
LBRS	**Las Brisas**	**0.75**	**359**	*eP*	**Pn**	**05 31 03.6**	**+0.1**
UEES	**Universidad Ev**	**0.76**	**345**	P	**Pn**	**05 31 03.2**	**-0.4**
UEES	**Universidad Ev**	**0.76**	**345**	S	**Sn**	**05 31 13.8**	**-0.6**
PMON	**Piamonte**	**0.78**	**339**	P	**Pn**	**05 31 03.4**	**-0.4**
PMON	**Piamonte**	**0.78**	**339**	S	**Sn**	**05 31 14.5**	**-0.3**
JAYA	**Jayaque - finc**	**0.78**	**329**	*eP*	**Pn**	**05 31 03.6**	**-0.3**
JAYA				*eS*	**Sn**	**05 31 14.7**	**-0.3**
BOQS	**Boqueron**	**0.79**	**342**	*eP*	**Pn**	**05 31 03.9**	**-0.1**
PQSS	**Presa 15 de Se**	**0.79**	**36**	P	**Pn**	**05 31 03.9**	**0.0**
PQSS	**Presa 15 de Se**	**0.79**	**36**	S	**Sn**	**05 31 15.0**	**+0.1**
PACA	**Pacayal**	**0.84**	**55**	P	**Pn**	**05 31 04.9**	**+0.2**
PACA	**Pacayal**	**0.84**	**55**	S	**Sn**	**05 31 16.6**	**+0.2**
CEDA	**San Andres**	**0.89**	**337**	*eS*	**Sn**	**05 31 18.8**	**+1.5**
CEDA	**San Andres**	**0.89**	**337**	P	**Pn**	**05 31 05.0**	**-0.2**
CEDA	**San Andres**	**0.89**	**337**	S	**Sn**	**05 31 17.4**	**+0.1**
BLLM	**Bellamira**	**0.90**	**59**	*eP*	**Pn**	**05 31 05.2**	**-0.1**
CNRM	**Centro Naciona**	**0.97**	**60**	*eS*	**Sn**	**05 31 20.2**	**+1.0**
CNRM	**Centro Naciona**	**0.97**	**60**	P	**Pn**	**05 31 06.2**	**-0.1**
CNRM	**Centro Naciona**	**0.97**	**60**	S	**Sn**	**05 31 19.7**	**+0.5**
CEVE	**Cerro Verde**	**1.02**	**326**	*eP*	**Pn**	**05 31 07.6**	**+0.5**
CEVE				*eS*	**Sn**	**05 31 22.4**	**+1.7**
CEVE	**Cerro Verde**	**1.02**	**326**	P	**Pn**	**05 31 07.1**	**0.0**
CEVE	**Cerro Verde**	**1.02**	**326**	S	**Sn**	**05 31 21.0**	**+0.4**
UNIC	**Universidad Ca**	**1.11**	**333**	P	**Pn**	**05 31 08.3**	**+0.1**
UNIC	**Universidad Ca**	**1.11**	**333**	S	**Sn**	**05 31 23.1**	**+0.5**
CAHU	**Cacacuatique**	**1.12**	**46**	*eP*	**Pn**	**05 31 08.4**	**0.0**
LCND	**La Caada**	**1.16**	**74**	*eS*	**Sn**	**05 31 24.1**	**+0.4**
NUBE	**Las Nubes**	**1.17**	**322**	P	**Pn**	**05 31 08.9**	**-0.1**
NUBE	**Las Nubes**	**1.17**	**322**	S	**Sn**	**05 31 23.6**	**-0.4**
CNCH	**Conchagua**	**1.21**	**76**	*eP*	**Pn**	**05 31 08.4**	**-1.1**
CNCH				*eP*		05 31 09.2	
MTO3	**Montecristo**	**1.44**	**347**	P	**Pn**	**05 31 12.7**	**-0.1**
ESQI	**Esquipulas**	**1.60**	**349**	*eP*	**Pn**	**05 31 15.3**	**+0.5**
FG16	**Alotenango, Sa**	**1.93**	**312**	*i* P	Pn	05 31 25.7	+6.4
FG8	**Yepocapa, Chim**	**1.95**	**311**	*i* P	Pn	05 31 25.7	+6.0

*IDC **05** 05:37:21.2±6.5, 5.6˚0N×124.7˚1E, h106km±72km, mb3.6/4, mbtmp3.9/4, Error ellipse: s-maj=107.3km s-min=17.2km az=70.0*
*NEIC **05** 05:37:24.3±1.1, 5.8˚N±0.1˚×126.1˚E±0.2, h114km±13km, mb4.3/13, Error ellipse: s-maj=23.3km s-min=15.5km az=72.0*
ISC 05 05:37:22.9±0.9,**5.9˚5N**±0.0˚8×**126.1˚E**±0.2,**h127**km,**n22**, σ**1s25/21**,**mb4.1**/10,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.22**	**336**		**Pn**	**05 37 49.0**	**+1.2**
DAV	**Davao City (W)**	**1.22**	**336**	P	Pn	05 37 50.7	+3.0
	162nm,0.3s,baz=78,slow=17,SNR=3.6						
DAV				S	Sn	05 38 12.5	+5.8
	354nm,0.3s,baz=267,slow=9.4,SNR=4.4						
TNTI	**Ternate**	**5.30**	**166**	Pn	**Pn**	**05 38 38.7**	**-1.3**
TOLI2	**Tolitoli**	**7.15**	**228**	Pn	**Pn**	**05 39 04.8**	**-0.2**
SOEI	**Soe**	**15.71**	**187**	Pn	**Pn**	**05 40 57.5**	**+0.1**
MTN	**Manton Dam**	**19.34**	**165**	P	**P**	**05 41 38.6**	**+0.1**
MTN				IAmb	IAmb	05 41 50.8	
	comp=Z,8.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**23.90**	**181**	P	**P**	**05 42 26.2**	**+1.1**
WB0	**Warramunga Arr**	**26.83**	**162**	P	**P**	**05 42 52.3**	**+0.6**
WRAB	**Tennant Creek**	**26.98**	**163**	P	**P**	**05 42 53.8**	**+0.8**
WRAB				IAmb	IAmb	05 42 58.9	
	comp=Z,5.1nm,1.0s						
WRA	**Warramunga Arr**	**26.98**	**163**	P	**P**	**05 42 53.7**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=336,slow=10,SNR=7.7						
	comp=Z,0.6nm,0.3s						
WR8	**Warramunga Ar**	**27.04**	**162**	P	**P**	**05 42 54.1**	**+0.6**
PSA00	**Pilbara Seismi**	**28.03**	**192**	P	**P**	**05 43 03.1**	**+0.8**
PSA00				IAmb	IAmb	05 43 03.1	
	comp=Z,4.9nm,0.7s						
AS31	**Alice Springs**	**30.41**	**166**	P	**P**	**05 43 24.3**	**+0.9**
AS31				IAmb	IAmb	05 43 25.6	
	comp=Z,1.8nm,0.4s						
ASAR	**Alice Springs**	**30.41**	**166**	P	**P**	**05 43 24.0**	**+0.6**
ASAR	**Alice Springs**	**30.41**	**166**	P	**P**	**05 43 24.2**	**+0.8**
	comp=Z,2.1nm,0.4s,baz=338,slow=6.9,SNR=28						
	comp=Z,2.1nm,0.4s						
MORW	**Morawa**	**36.13**	**195**	P	**P**	**05 44 13.5**	**+0.5**
MORW				IAmb	IAmb	05 44 21.3	
	comp=Z,9.2nm,1.1s						
NWAO	**Narrogin (SRO)**	**39.57**	**192**	P	**P**	**05 44 42.4**	**+0.6**
BBOO	**Buckleboo**	**39.70**	**167**	P	**P**	**05 44 44.1**	**+1.3**
STKA	**Stephens Creek**	**40.42**	**159**	P	**P**	**05 44 49.1**	**+0.3**
STKA				IAmb	IAmb	05 44 51.5	
	comp=Z,13nm,0.9s						

MKAR	**Makanchi Array**	**55.38**	**325**	P		**P**	**05 46 41.1**	**-2.7**
	comp=Z,0.3nm,0.4s,baz=117,slow=7.9,SNR=7.2							
	comp=Z,0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**59.53**	**327**	P		**P**	**05 47 09.8**	**-3.0**
	comp=Z,0.4nm,0.4s,baz=123,slow=6.8,SNR=5.3							
	comp=Z,0.4nm,0.4s							
CASY	**Casey**	**72.93**	**187**	P		**P**	**05 48 38.2**	**+0.3**
CASY				IAmb		IAmb	05 48 39.2	
	comp=Z,4.0nm,1.1s							

*SJA **05** 05:41:25.6±0.7, 35˚.98S×74˚.15W, h9km, ML5.1, MW5.1*
*GUC **05** 05:41:29.8±0.7, 36˚.09S×73˚.99W, h20km±3km, ML5.0*
*NEIC **05** 05:41:31.3, 36˚.09S×73˚.81W, h10km*
*NEIC **05** 05:41:31.4±1.1, 36˚.08S±0˚.04×73˚.80W±0˚.06, h10km±1km, mb5.2/145, Mwr5.0/59, Mww5.1/19, Mwr4.9(GUC), Error ellipse: s-maj=9.4km s-min=6.8km az=59.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr2.85; Mθθ-0.54; Mϕϕ-2.32; Mrθ-1.43; Mθϕ-1.03; Mϕr-2.13; Fault plane solution: M0.82000×10¹⁶ NP1: ϕs18.82000°, δ24.28000°, λ79.05000°. NP2:ϕs210.80000°, δ66.19000°, λ94.90000°. Principal axes: T 3.8620, Plg68.0000°, Azm130.0000°; N -0.0957, Plg4.0000°, Azm29.0000°; P -3.7663, Plg21.0000°, Azm297.0000°;*
*NEIC **05** 05:41:31.5, 36˚.19S×73˚.79W, h12km, Moment Tensor Solution. Duration: 1s1.0 Moment tensor: Scale 10¹⁶ Nm; Mrr3.54; Mθθ0.09; Mϕϕ-3.63; Mrθ-0.75; Mθϕ-1.14; Mϕr-4.75; Fault plane solution: M06.10000×10¹⁶ NP1: ϕs22.49000°, δ19.27000°, λ101.60000°. NP2: ϕs190.22000°, δ71.13000°, λ85.98000°. Principal axes: T 5.9097, Plg64.0000°, Azm94.0000°; N 0.3711, Plg4.0000°, Azm192.0000°; P -6.2809, Plg26.0000°, Azm283.0000°;*
*NEIC **05** 05:41:31.5, 36˚.09S×73˚.79W, h12km*
*IDC **05** 05:41:31.7±0.5, 36˚.09S×73˚.39W, h0km, mb4.4/16, mbtmp4.4/19, ML4.0/3, MS4.5/32, Error ellipse: s-maj=17.9km s-min=11.7km az=89.0*
*MOS **05** 05:41:34.5±1.5, 36˚.01S×73˚.54W, h33km, mb5.1/12, Error ellipse: s-maj=15.2km s-min=9.1km az=88.6*
*GCMT **05** 05:41:37.4±0.2, 36˚.18S±0˚.01×73˚.91W±0˚.01, h13km, MW5.1/106, Moment Tensor Solution. s60,c73; s106,c155; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.79±.15; Mθθ0.30±.08; Mϕϕ-4.09±.11; Mrθ-1.36±.22; Mθϕ-0.79±.06; Mϕr-4.44±.38; Best double couple: M6.13700×10¹⁶ NP1:ϕs3.00000°, δ21.00000°, λ78.00000°. NP2:ϕs196.00000°, δ70.00000°, λ94.00000°. Principal axes: T 5.9390, Plg65.0000°, Azm113.0000°; N 0.3960, Plg4.0000°, Azm14.0000°; P -6.3350, Plg25.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*VAO **05** 05:41:45.9±1.6, 35˚.16S×72˚.83W, h31km±12km, mb5.0*
ISC 05 05:41:30.8±0.8,**36˚.11S**±0.02×**73˚.88W**±0˚.04,**h6**km±4km, **n350**,σ**1s67/315**,**mb5.2**/99,**MS4.6**/32,**29C-7D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**0.85**	**139**		**Pg**	**05 41 47.0**	**-0.1**
BI05	**Punta Hualpn**	**0.85**	**139**	⇑*i*P	**Pg**	**05 41 46.7**	**-0.4**
BI05				*i* S	**Sg**	**05 41 57.6**	**-0.5**
BI05				IAML		05 42 04.2	
	comp=N,62μm,0.5s						
BI05	**Punta Hualpn**	**0.85**	**139**	*eP*	**Pg**	**05 41 46.5**	**-0.6**
BI05				IAML		05 42 03.1	
	comp=Z,30μm,0.8s						
GO05	**Hualane**	**1.93**	**56**	⇑*i*P	**Pn**	**05 42 02.4**	**-1.8**
GO05				*i* S	**Sn**	**05 42 27.8**	**-1.0**
GO05				IAML		05 42 44.2	
	comp=N,24μm,1.1s						
GO05	**Hualane**	**1.93**	**56**	*eP*	**Pn**	**05 42 01.9**	**-2.3**
GO05				IAML		05 42 42.5	
	comp=Z,9μm,0.9s						
ML02	**Panimavida**	**2.03**	**81**		**Pn**	**05 42 04.7**	**-0.8**
ML02	**Panimavida**	**2.03**	**81**	⇑*i*P	**Pn**	**05 42 04.7**	**-0.8**
ML02				*i* S	**Sn**	**05 42 31.0**	**-0.1**
ML02				IAML		05 42 41.9	
	comp=E,31μm,0.8s						
ML02	**Panimavida**	**2.03**	**81**	*eP*	Pn	05 41 59.0	-6.4
ML02				*eP*	**Pb**	**05 42 04.6**	**-3.4**
ML02				*eS*	**Sb**	**05 42 34.0**	**+0.5**
ML02				IAML		05 42 44.7	
	comp=Z,21μm,0.8s						
BI02	**San Fabin de**	**2.18**	**106**		**Pn**	**05 42 07.0**	**-0.6**
BI02				Sn	**Sn**	**05 42 32.4**	**-2.6**
BI02	**San Fabin de**	**2.18**	**106**	⇑*i*P	**Pn**	**05 42 06.5**	**-1.2**
BI02				*eS*	**Sn**	**05 42 35.3**	**+0.4**
BI02				IAML		05 42 41.8	
	comp=E,7μm,0.4s						
BI02	**San Fabin de**	**2.18**	**106**	*eP*	**Pn**	**05 42 06.4**	**-1.2**
BI02				IAML		05 42 44.2	
	comp=Z,9μm,0.5s						
BO03	**Pichilemu**	**2.25**	**45**	⇑*i*P	**Pn**	**05 42 06.8**	**-1.6**
BO03				*i* S	**Sn**	**05 42 34.8**	**-1.7**
BO03				IAML		05 42 51.8	
	comp=N,9μm,0.6s						
BI04	**Isla Mocha**	**2.30**	**180**	*eP*	**Pn**	**05 42 07.7**	**-1.5**
BI04				*i* S	**Sn**	**05 42 35.4**	**-2.4**
BI04				IAML		05 43 01.4	
	comp=N,7μm,0.6s						
BO02	**Sierra Bellavi**	**2.85**	**64**		**Pn**	**05 42 16.1**	**-0.8**
BO02	**Sierra Bellavi**	**2.85**	**64**	⇑*i*P	**Pn**	**05 42 16.0**	**-0.9**
BO02				*i* S	**Sn**	**05 42 50.8**	**-0.7**
BO02				IAML		05 43 07.0	
	comp=E,7μm,0.5s						
BO02	**Sierra Bellavi**	**2.85**	**64**	*eP*	**Pn**	**05 42 16.2**	**-0.6**
BO02				*eS*	**Sb**	**05 42 55.5**	**-1.7**
BO02				*eS*	**Sn**	**05 42 56.0**	**+4.5**
BO02				IAML		05 43 11.4	
	comp=Z,7μm,0.9s						
BO01	**Tunca**	**2.86**	**54**		**Pn**	**05 42 15.8**	**-1.0**
BO01	**Tunca**	**2.86**	**54**	⇑*i*P	**Pn**	**05 42 15.9**	**-1.0**
BO01				*i* S	**Sn**	**05 42 50.4**	**-1.2**
BO01				IAML		05 43 11.6	
	comp=N,3μm,0.5s						
BO01	**Tunca**	**2.86**	**54**	*eP*	**Pn**	**05 42 15.8**	**-1.0**
BO01				*eS*	**Sb**	**05 42 56.0**	**-1.4**
BO01				*eS*	**Sg**	**05 42 59.0**	**-3.6**
BO01				IAML		05 43 08.0	
	comp=Z,5μm,0.8s						
CANA	**Caviahue**	**2.88**	**129**	*eP*	**Pn**	**05 42 19.2**	**+1.9**
CANA				*eS*	**Sb**	**05 42 59.0**	**+1.0**
CANA				IAML		05 43 14.9	
	comp=Z,3μm,0.8s						
MT01	**Popeta**	**3.11**	**45**		**Pn**	**05 42 19.0**	**-1.3**
MT01	**Popeta**	**3.11**	**45**	⇑*i*P	**Pn**	**05 42 18.8**	**-1.6**
MT01				*i* S	**Sn**	**05 42 55.9**	**-2.0**
MT01	**Popeta**	**3.11**	**45**	*eP*	**Pn**	**05 42 18.3**	**-2.0**
MT01				*eS*	**Sg**	**05 43 10.0**	**-0.6**
MT01				IAML		05 43 21.3	
	comp=Z,5μm,1.1s						
LC01	**Cunco**	**3.21**	**151**	⇑*i*P	**Pn**	**05 42 20.9**	**-0.8**
LC01				*i* S	**Sn**	**05 42 59.1**	**-1.2**
LC01				IAML		05 43 18.2	
	comp=E,4μm,0.8s						
MT09	**Talagante**	**3.33**	**46**		**Pn**	**05 42 22.6**	**-0.8**
MT09	**Talagante**	**3.33**	**46**	⇑*i*P	**Pn**	**05 42 22.5**	**-0.9**
MT09				*i* S	**Sn**	**05 43 00.9**	**-2.4**
BO04	**La Punta**	**3.42**	**53**		**Pn**	**05 42 23.9**	**-0.8**
BO04	**La Punta**	**3.42**	**53**	⇑*i*P	**Pn**	**05 42 23.8**	**-0.8**
BO04				*i* S	**Sn**	**05 43 05.4**	**0.0**
BO04				IAML		05 43 25.2	
	comp=N,4μm,0.6s						
VA01	**Torpederas**	**3.59**	**32**		**Pn**	**05 42 25.4**	**-1.5**
VA01	**Torpederas**	**3.59**	**32**	⇑*i*P	**Pn**	**05 42 25.2**	**-1.7**
MT12	**Pirque**	**3.62**	**50**	⇑*i*P	**Pn**	**05 42 26.6**	**-0.8**
MT02	**Curacav**	**3.63**	**39**		**Pn**	**05 42 25.8**	**-1.7**
MT02	**Curacav**	**3.63**	**39**	⇑*i*P	**Pn**	**05 42 25.8**	**-1.7**
MT02	**Curacav**	**3.63**	**39**	*eP*	**Pn**	**05 42 25.2**	**-2.3**
MT02				*eS*	**Sg**	**05 43 27.5**	**+0.1**
MT02				IAML		05 43 39.9	
	comp=Z,2μm,1.2s						
LR03	**Panguipulli**	**3.73**	**161**		**Pn**	**05 42 28.5**	**-0.3**
LR03	**Panguipulli**	**3.73**	**161**	⇑*i*P	**Pn**	**05 42 28.7**	**-0.1**
LR03	**Panguipulli**	**3.73**	**161**	*eP*	**Pn**	**05 42 28.7**	**-0.1**
LR03				*eS*	**Sg**	**05 43 27.5**	**-2.8**
LR03				IAML		05 43 42.8	
	comp=Z,5μm,1.5s						
LR02	**Universidad Au**	**3.73**	**172**	*eP*	**Pn**	**05 42 28.2**	**-0.6**

MT15	**Las Vizcachas**	**3.74**	**49**	⇑*i*P		**Pn**	**05 42 28.1**	**-0.9**
MT05	**Renca**	**3.75**	**45**			**Pn**	**05 42 28.6**	**-0.6**
MT05	**Renca**	**3.75**	**45**	⇑*i*P		**Pn**	**05 42 28.2**	**-1.0**
MT05	**Renca**	**3.75**	**45**	*eP*		**Pn**	**05 42 28.3**	**-0.8**
MT05				IAML			05 43 41.4	
	comp=Z,5μm,1.2s							
LMEL	**Las Melosas**	**3.77**	**54**			**Pn**	**05 42 29.2**	**-0.4**
LMEL	**Las Melosas**	**3.77**	**54**	*eP*		**Pn**	**05 42 29.8**	**+0.3**
LMEL	**Las Melosas**	**3.77**	**54**	*eP*		**Pn**	**05 42 29.3**	**-0.2**
LMEL				*eS*		**Sb**	**05 43 26.0**	**+2.3**
LMEL				IAML			05 43 35.1	
	comp=Z,3μm,0.7s							
MT13	**San Alfonso**	**3.78**	**52**			**Pn**	**05 42 29.2**	**-0.4**
MT13	**San Alfonso**	**3.78**	**52**	⇑*i*P		**Pn**	**05 42 29.5**	**-0.1**
MT13	**San Alfonso**	**3.78**	**52**	*eP*		**Pn**	**05 42 29.4**	**-0.3**
MT13				*eS*		**Sg**	**05 43 29.0**	**-3.2**
MT13				IAML			05 43 38.7	
	comp=Z,5μm,0.9s							
MT03	**Universidad Ad**	**3.81**	**48**			**Pn**	**05 42 29.0**	**-1.0**
MT03	**Universidad Ad**	**3.81**	**48**	⇑*i*P		**Pn**	**05 42 29.1**	**-0.9**
MT03	**Universidad Ad**	**3.81**	**48**	*eP*		**Pn**	**05 42 29.4**	**-0.6**
MT03				*eS*		**Sg**	**05 43 34.5**	**+1.5**
MT03				IAML			05 43 40.3	
	comp=Z,5μm,0.9s							
MT16	**CCHEN**	**3.85**	**47**				**05 42 29.6**	**-0.9**
MT16	**CCHEN**	**3.85**	**47**	⇑*i*P		**Pn**	**05 42 29.5**	**-1.0**
MT14	**Cerro Cal¡n**	**3.86**	**47**	⇑*i*P		**Pn**	**05 42 29.9**	**-0.8**
ROCH	**El Roble**	**3.92**	**38**	⇓*i*P		**Pn**	**05 42 31.9**	**+0.1**
MT10	**Hacienda Santa**	**3.95**	**45**	⇑*i*P		**Pn**	**05 42 31.2**	**-0.8**
PEL	**Peldehue**	**3.96**	**43**			**Pn**	**05 42 31.4**	**-0.7**
PEL	**Peldehue**	**3.96**	**43**	P		**Pn**	**05 42 31.4**	**-0.7**
PEL	**Peldehue**	**3.96**	**43**	⇑*i*P		**Pn**	**05 42 31.3**	**-0.7**
GO06	**Curarrehue**	**3.96**	**152**	⇑*i*P		**Pn**	**05 42 32.1**	**-0.1**
GO06	**Curarrehue**	**3.96**	**152**	*eP*		**Pn**	**05 42 32.0**	**-0.2**
GO06				*eS*		**Sb**	**05 43 32.5**	**+3.3**
GO06				IAML			05 43 53.8	
	comp=Z,1μm,1.3s							
FCH	**Farellones**	**4.05**	**48**	⇑*i*P		**Pn**	**05 42 32.6**	**-1.0**
MT04	**Ro Olivares**	**4.09**	**50**	⇑*i*P		**Pn**	**05 42 33.3**	**-0.8**
MT04	**Ro Olivares**	**4.09**	**50**	*eP*		**Pn**	**05 42 33.5**	**-0.6**
MT04				*eS*		**Sb**	**05 43 36.5**	**+3.3**
MT04				IAML			05 43 45.4	
	comp=Z,2μm,0.9s							
VA06	**Catapilco**	**4.13**	**32**				**05 42 32.8**	**-1.6**
VA06	**Catapilco**	**4.13**	**32**	⇑*i*P		**Pn**	**05 42 32.8**	**-1.6**
MT08	**Bocatoma Ro**	**4.14**	**51**	⇑*i*P		**Pn**	**05 42 34.4**	**-0.4**
MT08	**Bocatoma Ro**	**4.14**	**51**	*eP*		**Pn**	**05 42 34.6**	**-0.1**
MT08				*eS*		**Sn**	**05 43 26.6**	**+3.0**
MT08				IAML			05 43 51.1	
	comp=Z,2μm,0.8s							
VA03	**San Esteban**	**4.32**	**41**				**05 42 36.4**	**-0.7**
VA03	**San Esteban**	**4.32**	**41**	*eP*		**Pn**	**05 42 36.0**	**-1.1**
VA03				IAML			05 43 57.0	
	comp=Z,2μm,0.9s							
LR05	**Currie**	**4.38**	**161**				**05 42 37.7**	**0.0**
LR05	**Currie**	**4.38**	**161**	*eP*		Pn	05 42 32.5	-5.2
LR05				*eP*		**Pn**	**05 42 38.6**	**+0.8**
LR05				*eS*		**Sg**	**05 43 48.0**	**-3.2**
LR05				IAML			05 43 56.3	
	comp=Z,3μm,1.1s							
RFA	**San Rafael**	**4.62**	**75**	*eP*		**Pn**	**05 42 36.5**	**-4.6**
RFA				*eP*		**Pn**	**05 42 41.7**	**+0.5**
RFA				*eS*		**Sg**	**05 43 58.5**	**-0.6**
RFA				IAML			05 44 03.4	
	comp=Z,1μm,1.2s							
H03S1	**Juan Fernandez**	**4.70**	**297**	T		T	05 47 45.8	
	baz=117,slow=73,SNR=655							
H03S3	**Juan Fernandez**	**4.71**	**297**	T		T	05 47 44.6	
	baz=117,slow=73,SNR=838							
H03S2	**Juan Fernandez**	**4.72**	**297**	T		T	05 47 42.3	
	baz=117,slow=73,SNR=925							
VA04	**Juan Fernndez**	**4.75**	**300**			**Pn**	**05 42 43.2**	**+0.3**
VA04	**Juan Fernndez**	**4.75**	**300**	*eP*		**Pn**	**05 42 43.0**	**+0.1**
AAGR	**Agrelo**	**5.14**	**56**	*eP*		**Pn**	**05 42 50.3**	**+1.9**
AAGR				IAML			05 44 37.2	
	comp=Z,1μm,1.7s							
LL05	**Los Muermos**	**5.30**	**177**			**Pn**	**

PTLB	**Pontes e Lacer**	**24.43**	**36**	P		**P**	**05 46 50.0**	**-0.2**
PTLB				IAmb		IAmb	05 47 02.8	
	comp=Z,65nm,1.1s							
PTLB	**Pontes e Lacer**	**24.43**	**36**	*e*P		**P**	**05 46 50.1**	**-0.1**
PCMB	**Pacaembu**	**24.44**	**60**	*e*P		**P**	**05 46 49.4**	**-1.0**
PP1B	**Ponte de Pedra**	**24.96**	**47**	*e*P		**P**	**05 46 55.3**	**+0.2**
C2SB	**Chapadao do Su**	**25.35**	**53**	*e*P		**P**	**05 47 00.3**	**+1.8**
PET01	**Itanhaem-SP**	**25.75**	**70**	*e*P		**P**	**05 47 03.3**	**+1.1**
SALV	**Santo Antonio**	**25.84**	**44**	*e*P		**P**	**05 47 03.2**	**+0.2**
SPB	**Sao Paulo**	**26.02**	**69**	P		**P**	**05 47 03.0**	**-1.6**
SPB				IAmb		IAmb	05 47 22.2	
	comp=Z,47nm,0.9s							
VILB	**Vilhena**	**26.14**	**32**	P		**P**	**05 47 04.9**	**-0.8**
VILB	**Vilhena**	**26.14**	**32**	*e*P		**P**	**05 47 05.6**	**-0.2**
ITRB	**Iturama**	**26.34**	**58**	*e*P		**P**	**05 47 08.3**	**+0.7**
RCLB	**Rio Claro- Sao**	**26.63**	**66**	*e*P		**P**	**05 47 11.8**	**+1.6**
VAO	**Valinhos**	**26.71**	**68**			**P**	**05 47 13.8**	**+2.8**
VAO				IAmb		IAmb	05 47 28.8	
	comp=Z,65nm,1.0s							
VAO	**Valinhos**	**26.71**	**68**	*e*P		**P**	**05 47 12.8**	**+1.9**
BB19B	**Bebedouro**	**26.73**	**63**	*e*P		**P**	**05 47 12.3**	**+1.1**
CZSB	**Cruzeiro do Su**	**28.27**	**2**	P		**P**	**05 47 23.8**	**-1.0**
CZSB				IAmb		IAmb	05 47 39.1	
	comp=Z,103nm,1.9s							
CZSB	**Cruzeiro do Su**	**28.27**	**2**	*e*P		**P**	**05 47 27.2**	**+2.4**
CZSB	**Cruzeiro do Su**	**28.27**	**2**	P		**P**	**05 47 26.7**	**+1.9**
	comp=Z,25nm,1.9s							
PDRB	**Porto dos Gac**	**28.90**	**37**	*e*P		**P**	**05 47 31.5**	**+1.0**
ATAH	**Atahualpa**	**29.13**	**351**	LR		LR	05 57 10.1	
	comp=Z,515nm,19.8s,baz=181,slow=32							
PMSA	**Palmer Station**	**29.30**	**171**	LR		LR	05 59 15.0	
	comp=Z,766nm,18.3s,baz=346,slow=36							
PMSA	**Palmer Station**	**29.30**	**171**	*e*P		P	05 47 53.6	+20
CLDB	**Colider**	**29.99**	**38**	*e*P		**P**	**05 47 41.4**	**+1.2**
BDFB	**Brasilia**	**30.77**	**55**	P		**P**	**05 47 46.4**	**-0.8**
	comp=Z,10nm,1.1s,baz=213,slow=7.2,SNR=8.7							
BDFB				LR		LR	06 00 36.1	
	comp=Z,439nm,20.0s,baz=225,slow=38							
	comp=Z,10nm,1.1s							
RPN	**Rapa Nui**	**31.35**	**276**	LR		LR	05 56 58.6	
	comp=Z,1μm,20.1s,baz=108,slow=29							
TBTG	**Tabatinga, AM**	**31.98**	**8**	*e*P		**P**	**05 48 00.6**	**+3.0**
TBTG	**Tabatinga, AM**	**31.98**	**8**	P		**P**	**05 48 00.2**	**+2.5**
	comp=Z,1μmcomp=Z,94nm,1.1s							
MCRA	**Macar, Loja**	**32.07**	**349**	P		**P**	**05 48 01.2**	**+2.6**
	comp=Z,289nmcomp=Z,13nm,1.4s							
NPGB	**Novo Progresso**	**33.53**	**35**	*e*P		**P**	**05 48 12.0**	**+0.7**
TEFE	**Tefe**	**33.54**	**17**	*e*P		**P**	**05 48 13.2**	**+1.9**
JANB	**Januaria**	**33.70**	**59**	*e*P		**P**	**05 48 12.3**	**-0.6**
COHC	**Cochancay**	**33.84**	**350**			**P**	**05 48 13.7**	**-0.3**
COHC	**Cochancay**	**33.84**	**350**	P		**P**	**05 48 17.8**	**+3.8**
	comp=Z,616nmcomp=Z,42nm,1.2s							
PIAT	**Ana Tenorio**	**35.17**	**352**	P		**P**	**05 48 30.2**	**+4.3**
	comp=Z,16nm,1.3s							
SDBA	**SAO DESIDERIO**	**35.18**	**55**	*e*P		**P**	**05 48 25.6**	**-0.1**
ITTB	**Itaituba**	**35.74**	**32**	*e*P		**P**	**05 48 30.3**	**-0.1**
PTLC	**Puerto Leguiza**	**36.10**	**358**	P		**P**	**05 48 33.7**	**+0.2**
	comp=Z,517nmcomp=Z,35nm,1.5s							
SMTB	**Santa Maria do**	**36.17**	**48**	*e*P		**P**	**05 48 33.7**	**-0.5**
SGC2	**Sao Gabriel da**	**36.34**	**12**	P		**P**	**05 48 35.6**	**0.0**
	comp=Z,18nm,1.1s							
PAC1	**Pacto, Paraso**	**36.47**	**352**	P		**P**	**05 48 38.3**	**+1.4**
	comp=Z,22nm,0.8s							
CMC01	**Camacan, BA**	**36.93**	**65**	*e*P		**P**	**05 48 40.9**	**+0.2**
FLOC	**Florencia**	**37.53**	**357**	P		**P**	**05 48 45.0**	**-0.7**
FLOC	**Florencia**	**37.53**	**357**	P		P	05 48 54.3	+8.6
MACC	**Macarena, Meta**	**38.05**	**0**	P		**P**	**05 48 52.9**	**+2.8**
	comp=Z,553nmcomp=Z,27nm,1.7s							
BBAC	**Balboa, Cauca**	**38.06**	**355**	P		**P**	**05 48 53.4**	**+3.0**
	comp=Z,470nmcomp=Z,14nm,1.5s							
POPC	**Popayan, Colom**	**38.53**	**356**	P		**P**	**05 48 54.6**	**+0.2**
URMC	**La Uribe, Meta**	**39.15**	**359**	P		**P**	**05 49 02.7**	**+3.3**
	comp=Z,17nm,1.2s							
JAMC	**Jamundi, Valle**	**39.20**	**356**	P		**P**	**05 49 00.0**	**0.0**
PRAC	**Prado**	**39.62**	**358**	P		**P**	**05 49 06.6**	**+3.3**
	comp=Z,1μmcomp=Z,36nm,1.8s							
ORTC	**Ortega, Tolima**	**39.83**	**358**	P		**P**	**05 49 08.7**	**+3.7**
	comp=Z,739nmcomp=Z,33nm,1.1s							
YOTC	**Yotoco, Valle**	**39.95**	**356**	P		**P**	**05 49 09.8**	**+3.7**
	comp=Z,14nm,0.9s							
BOAV	**Boa Vista**	**40.28**	**21**	P		**P**	**05 49 08.0**	**-0.8**
BOAV	**Boa Vista**	**40.28**	**21**	*e*P		**P**	**05 49 09.0**	**+0.3**
BOAV	**Boa Vista**	**40.28**	**21**	P		**P**	**05 49 08.4**	**-0.4**
	comp=Z,18nm,1.0s							
GUY2C	**Guyana, Caldas**	**41.14**	**358**	P		**P**	**05 49 19.8**	**+3.5**
	comp=Z,11nm,1.2s							
RUSC	**La Rusia**	**41.78**	**1**	P		**P**	**05 49 20.7**	**-0.9**
RUSC	**La Rusia**	**41.78**	**1**	P		**P**	**05 49 24.0**	**+2.4**
	comp=Z,1μmcomp=Z,54nm,1.7s							
CBOC	**Ciudad Bolivar**	**41.80**	**357**	P		**P**	**05 49 24.2**	**+2.8**
	comp=Z,455nmcomp=Z,27nm,1.8s							
HELC	**Santa Helena**	**42.10**	**358**	P		**P**	**05 49 26.3**	**+2.2**
	comp=Z,623nmcomp=Z,34nm,1.3s							
DBBC	**Dabeiba**	**42.95**	**357**	P		**P**	**05 49 34.9**	**+4.2**
NBAN	**Anadia - AL**	**43.08**	**62**	*e*P		**P**	**05 49 31.7**	**0.0**
SDV	**Santo Domingo**	**44.85**	**5**	P		**P**	**05 49 45.2**	**-0.9**
BELA	**Belgrano 2**	**45.09**	**169**	P		**P**	**05 49 47.5**	**+0.4**
BELA				IAmb		IAmb	05 49 58.3	
	comp=Z,53nm,1.7s							
BAUV	**El Baul**	**45.14**	**8**	P		**P**	**05 49 47.4**	**-0.8**
MDP	**Montagnes des**	**45.57**	**30**	LR		LR	06 10 35.4	
	comp=Z,2μm,18.8s,baz=200,slow=38							
ARGC	**Ariguani, Magd**	**45.72**	**360**	P		**P**	**05 49 55.7**	**+3.0**
SJCC	**San Jacinto, C**	**45.77**	**358**	P		**P**	**05 49 51.3**	**-1.9**
RCBR	**Riachuelo**	**46.04**	**58**	LR		LR	06 11 16.5	
	comp=Z,657nm,18.4s,baz=210,slow=39							
PCRV	**Puerto La Cruz**	**46.85**	**13**	LR		LR	06 12 32.3	
	comp=Z,1μm,18.0s,slow=40							
VNA3	**Neumayer Olymp**	**48.00**	**157**	⇓P		**P**	**05 50 11.2**	**+1.1**
	comp=Z,22nm,0.8s							
VNA1	**Neumayer--Stat**	**48.35**	**156**	⇓P		**P**	**05 50 13.9**	**+1.1**
	comp=Z,13nm,1.2s							
SNAA	**Sanae**	**50.23**	**157**	⇓P		**P**	**05 50 27.9**	**+0.7**
	comp=Z,387nm,1.1s							
SNAA	**Sanae**	**50.23**	**157**			**P**	**05 50 26.9**	**-0.2**
SNAA				IAmb		IAmb	05 50 36.4	
	comp=Z,59nm,1.3s							
SNAA	**Sanae**	**50.23**	**157**	P		**P**	**05 50 28.0**	**+0.9**
	comp=Z,7.2nm,0.9s,baz=271,slow=6.6,SNR=26							
SNAA				LR		LR	06 11 11.8	
	comp=Z,893nm,18.5s,baz=288,slow=36							
	comp=Z,7.2nm,0.9s							
SNAA	**Sanae**	**50.23**	**157**	*i* P		**P**	**05 50 26.6**	**-0.5**
SNAA				pmax		pmax		
	comp=Z,25nm,1.1s							
TROLL	**Troll, Antarti**	**51.92**	**157**	⇓P		**P**	**05 50 40.7**	**+0.8**
	comp=Z,594nm,0.8s							
RKT	**Rikitea**	**53.88**	**266**	*e*LR		LR	06 06 24.1	
	comp=Z,3μm,35.2s							
QSPA	**South Pole Qui**	**54.13**	**180**	P		**P**	**05 50 58.8**	**+2.4**
	comp=Z,4.7nm,0.8s,baz=154,slow=2.1,SNR=18							
QSPA				LR		LR	06 13 28.2	
	comp=Z,359nm,18.6s,baz=167,slow=35							
	comp=Z,4.7nm,0.8s							
CMIG	**Matias Romero**	**56.52**	**336**	LR		LR	06 11 01.3	
	comp=Z,134nm,18.1s,baz=156,slow=31							
VNDA	**Vanda**	**61.74**	**192**	P		**P**	**05 51 52.1**	**+2.8**
	comp=Z,1.0nm,0.9s,baz=156,slow=5.7,SNR=8.8							
	comp=Z,1.0nm,0.9s							
SYO	**Syowa Base**	**64.47**	**159**	*e*sP		sP	05 52 09.0	-0.2
SYO	**Syowa Base**	**64.47**	**159**	*e*PcP		**PcP**	**05 52 39.4**	**-2.4**
TBI	**Tubuai**	**65.38**	**258**	*e*S		**S**	**06 00 59.3**	**+0.3**
	comp=Z,2μm,26.2s							
TBI	**Tubuai**	**65.38**	**258**	*e*LR		LR	06 11 50.3	
	comp=Z,3μm,26.2s							
TAOE	**Nuku Hiva Isla**	**65.68**	**277**	*e*S		**S**	**06 00 59.3**	**-3.8**
	comp=Z,164nm,23.5s							
TAOE	**Nuku Hiva Isla**	**65.68**	**277**	*e*LR		LR	06 11 57.1	
	comp=Z,630nm,29.3s							
833A	**Chaparral WMA,**	**68.44**	**336**	IAmb		IAmb	05 52 44.7	
	comp=Z,26nm,1.1s							
PPT2	**Papeete2**	**68.46**	**264**	*e*S		**S**	**06 01 31.4**	**-5.2**
	comp=Z,258nm,24.0s							
PPT2	**Papeete2**	**68.46**	**264**	*e*LR		LR	06 13 12.2	
	comp=Z,1μm,24.8s							
PPT2				*e*LR		LR	06 13 17.5	
	comp=Z,814nm,26.5s							
PPT	**Papeete**	**68.47**	**264**	LR		LR	06 14 49.2	
	comp=Z,470nm,18.9s,baz=118,slow=29							
HKT	**Hockley**	**68.87**	**340**	*i* P		**P**	**05 52 36.1**	**+0.1**
HKT				pmax		pmax		
	comp=Z,23nm,2.3s							
LPIG	**La Paz**	**69.07**	**324**	LR		LR	06 16 22.9	
	comp=Z,194nm,18.5s,baz=170,slow=30							
JCT	**Junction City**	**70.57**	**336**	P		**P**	**05 52 46.4**	**-0.2**
JCT				IAmb		IAmb	05 52 57.4	
	comp=Z,40nm,1.4s							
JCT	**Junction City**	**70.57**	**336**	P		**P**	**05 52 46.4**	**-0.2**
JCT				pmax		pmax		
	comp=Z,40nm,1.5s							
TXAR	**Lajitas Array**	**70.87**	**333**			**P**	**05 52 49.1**	**+0.6**
TXAR	**Lajitas Array**	**70.87**	**333**	P		**P**	**05 52 51.5**	**+3.0**
	comp=Z,2.4nm,0.8s,baz=156,slow=8.6,SNR=28							
TXAR				LR		LR	06 19 20.6	
	comp=Z,207nm,18.6s,baz=137,slow=32							
	comp=Z,2.4nm,0.8s							
SAND	**Sanderson**	**70.87**	**334**	IAmb		IAmb	05 52 59.5	
	comp=Z,40nm,1.6s							
OZNA	**Ozona**	**71.41**	**335**	IAmb		IAmb	05 53 02.5	
	comp=Z,36nm,1.6s							
MAW	**Mawson**	**71.59**	**164**	P		**P**	**05 52 52.9**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=236,slow=8.6,SNR=5.2							
MAW				LR		LR	06 24 37.0	
	comp=Z,808nm,18.6s,baz=230,slow=36							
	comp=Z,2.8nm,0.8s							
ALPN	**Alpine**	**71.80**	**333**	IAmb		IAmb	05 53 05.2	
	comp=Z,33nm,1.6s							
SWET	**Sewanee**	**71.84**	**350**	IAmb		IAmb	05 53 04.9	
	comp=Z,27nm,0.9s							
CPCT	**Cooper Cave**	**71.88**	**351**	P		**P**	**05 52 54.4**	**0.0**
PLAL	**Pickwick Lake**	**71.95**	**348**	IAmb		IAmb	05 53 31.8	
	comp=Z,33nm,1.4s							
PLPT	**Palo Pinto**	**72.28**	**339**	IAmb		IAmb	05 53 07.4	
	comp=Z,38nm,1.5s							
MNHN	**Monahans**	**72.36**	**334**	IAmb		IAmb	05 53 08.2	
	comp=Z,30nm,1.5s							
ABTX	**Abilene, Hawle**	**72.50**	**337**	IAmb		IAmb	05 53 09.3	
	comp=Z,17nm,1.0s							
ODSA	**Odessa**	**72.99**	**335**	IAmb		IAmb	05 53 12.4	
	comp=Z,30nm,0.9s							
WVT	**Waverly**	**73.03**	**348**			**P**	**05 53 01.8**	**+0.6**
WVT	**Waverly**	**73.03**	**348**	P		**P**	**05 53 01.8**	**+0.6**
WVT				pmax		pmax		
	comp=Z,94nm,1.5s							
WHAR	**Wooly Hollow**	**73.07**	**344**	P		**P**	**05 53 00.4**	**-1.1**
WHAR				IAmb		IAmb	05 53 12.3	
	comp=Z,41nm,1.2s							
U49A	**Red Boiling Sp**	**73.09**	**350**	P		**P**	**05 53 01.8**	**+0.2**
U49A				IAmb		IAmb	05 53 59.5	
	comp=Z,41nm,1.8s							
WTFS	**Witchita Falls**	**73.21**	**339**			**P**	**05 53 01.1**	**-1.2**
WTFS				IAmb		IAmb	05 53 12.7	
	comp=Z,36nm,1.4s							
APMT	**Aspermont**	**73.30**	**337**			**P**	**05 53 02.5**	**-0.4**
APMT				IAmb		IAmb	05 53 13.4	
	comp=Z,46nm,1.6s							
SN07	**Snyder 07**	**73.33**	**337**	P		**P**	**05 53 03.0**	**-0.1**
POST	**Post**	**73.50**	**336**	P		**P**	**05 53 03.9**	**-0.3**
POST				IAmb		IAmb	05 53 14.5	
	comp=Z,21nm,1.3s							
LCAR	**Lake Charles**	**73.58**	**345**			**P**	**05 53 03.8**	**-0.7**
FCAR	**Ozark Folk Cen**	**73.61**	**345**	IAmb		IAmb	05 53 14.3	
	comp=Z,49nm,1.7s							
DKNS	**Dickens**	**73.87**	**337**	P		**P**	**05 53 06.0**	**-0.4**
DKNS				IAmb		IAmb	05 53 16.6	
	comp=Z,45nm,1.8s							
PBMO	**Poplar Bluff**	**74.13**	**346**	P		**P**	**05 53 07.8**	**+0.1**
PBMO				IAmb		IAmb	05 53 17.2	
	comp=Z,60nm,1.7s							
RAR	**Rarotonga**	**74.62**	**255**	LR		LR	06 17 35.4	
	comp=Z,237nm,21.2s,baz=98,slow=29							
OK052	**Battle Ridge R**	**74.84**	**341**	IAmb		IAmb	05 53 22.5	
	comp=Z,38nm,1.1s							
MGMO	**Mountain Grove**	**74.86**	**345**	IAmb		IAmb	05 53 15.2	
	comp=Z,26nm,1.4s							
CCM	**Cathedral Cave**	**75.52**	**346**	P		**P**	**05 53 16.1**	**+0.4**
CCM	**Cathedral Cave**	**75.52**	**346**	P		**P**	**05 53 16.1**	**+0.4**
CCM				pmax		pmax		
	comp=Z,102nm,1.7s							
S39A	**Bolivar**	**75.61**	**344**	IAmb		IAmb	05 53 26.1	
	comp=Z,21nm,1.3s							
T35A	**Sooner Cattle**	**75.63**	**341**	IAmb		IAmb	05 53 27.4	
	comp=Z,34nm,1.1s							
R40A	**Maddies Statio**	**75.96**	**345**	IAmb		IAmb	05 53 27.9	
	comp=Z,50nm,1.6s							
TUC	**Tucson**	**76.33**	**328**			**P**	**05 53 19.9**	**-0.7**
TUC				IAmb		IAmb	05 53 32.2	
	comp=Z,28nm,1.6s							
TUC	**Tucson**	**76.33**	**328**	P		**P**	**05 53 19.9**	**-0.7**
TUC				pmax		pmax		
	comp=Z,28nm,1.7s							
ACSO	**Alum Creek Sta**	**76.42**	**353**	P		**P**	**05 53 18.2**	**-2.6**
LENM	**Lemitar**	**76.43**	**332**	P		**P**	**05 53 19.1**	**-2.2**
P43A	**Skaggs, Pawnee**	**76.74**	**348**	IAmb		IAmb	05 53 26.0	
	comp=Z,30nm,1.1s							
ANMO	**Albuquerque**	**76.94**	**333**			**P**	**05 53 23.5**	**-0.6**
ANMO				IAmb		IAmb	05 53 35.6	
	comp=Z,23nm,1.4s							
ANMO	**Albuquerque**	**76.94**	**333**	P		**P**	**05 53 26.9**	**+2.8**
	comp=Z,6.9nm,1.1s,baz=246,slow=9.7,SNR=9.1							
ANMO				LR		LR	06 22 05.7	
	comp=Z,318nm,21.6s,baz=223,slow=32							
	comp=Z,6.9nm,1.1s							
ANMO	**Albuquerque**	**76.94**	**333**	*i* P		**P**	**05 53 25.2**	**+1.1**
ANMO				pmax		pmax		
	comp=Z,11nm,1.3s							
DBIC	**Dimbokro**	**77.28**	**72**	P		**P**	**05 53 25.9**	**-0.4**
	comp=Z,4.2nm,0.7s,baz=225,slow=6.0,SNR=5.2							
DBIC				LR		LR	06 23 05.4	
	comp=Z,288nm,20.6s,baz=202,slow=32							
	comp=Z,4.2nm,0.7s							
N47A	**Urbana**	**77.38**	**351**	IAmb		IAmb	05 54 02.6	
	comp=Z,48nm,1.5s							
P38A	**Dawn**	**77.50**	**345**	IAmb		IAmb	05 53 37.2	
	comp=Z,20nm,1.0s							
R32A	**Long Quarter,**	**77.63**	**340**	IAmb		IAmb	05 53 39.0	
	comp=Z,24nm,1.0s							
CASY	**Casey**	**77.88**	**182**			**P**	**05 53 29.3**	**+0.4**
CASY				IAmb		IAmb	05 53 39.0	
	comp=Z,34nm,1.8s							
T25A	**Trinidad**	**78.19**	**336**	IAmb		IAmb	05 53 42.6	
	comp=Z,39nm,1.3s							
WUAZ	**Wupatki**	**79.35**	**330**	IAmb		IAmb	05 53 49.3	
	comp=Z,30nm,1.5s							
L40A	**Anamosa**	**79.40**	**347**	IAmb		IAmb	05 53 53.0	
	comp=Z,44nm,1.4s							
PFO	**Pinyon Flats O**	**79.96**	**325**	P		**P**	**05 53 44.1**	**+3.3**
	comp=Z,4.4nm,1.1s,baz=149,slow=5.9,SNR=4.2							
PFO				LR		LR	06 23 13.8	
	comp=Z,208nm,18.1s,baz=160,slow=31							
	comp=Z,4.4nm,1.1s							
PFO	**Pinyon Flats O**	**79.96**	**325**	*i* P		**P**	**05 53 41.9**	**+1.1**
PFO				pmax		pmax		
	comp=Z,12nm,1.1s							
JFWS	**Jewell Farm**	**80.05**	**348**	IAmb		IAmb	05 53 44.5	
	comp=Z,47nm,1.5s							
TSUM	**Tsumeb**	**80.08**	**106**	LR		LR	06 26 36.1	
	comp=Z,202nm,18.4s,baz=212,slow=34							
BOSA	**Boshof**	**80.42**	**118**	P		**P**	**05 53 43.6**	**0.0**
	comp=Z,5.4nm,0.9s,baz=243,slow=5.4,SNR=4.1							
BOSA				LR		LR	06 29 12.4	
	comp=Z,274nm,18.1s,baz=214,slow=36							
	comp=Z,5.4nm,0.9s							
SADO	**Sadowa**	**80.64**	**356**	LR		LR	06 32 27.9	
	comp=Z,2μm,19.6s,baz=138,slow=38							
PV18	**Skein Mesa, Pa**	**80.77**	**333**	IAmb		IAmb	05 53 56.4	
	comp=Z,20nm,1.1s							
PV20	**West Nyswonger**	**80.87**	**333**	IAmb		IAmb	05 53 56.8	
	comp=Z,26nm,1.4s							
URZ	**Urewera**	**81.13**	**229**	LR		LR	06 22 27.3	
	comp=Z,263nm,18.3s,baz=159,slow=30							
KNB	**Kanab**	**81.23**	**329**	IAmb		IAmb	05 53 59.6	
	comp=Z,38nm,1.5s							
GRTLG	**Ghanzi**	**81.64**	**110**			**P**	**05 53 49.3**	**-0.9**
TRQ	**Mont Tremblant**	**81.95**	**360**	IAmb		IAmb	05 54 00.7	
	comp=Z,54nm,1.7s							
ECSD	**EROS Data Cent**	**82.11**	**344**			**P**	**05 53 52.1**	**+0.3**
TMUT	**Trail Mountain**	**82.55**	**332**	IAmb		IAmb	05 54 06.2	
	comp=Z,24nm,1.5s							
LBTB	**Lobatse**	**82.78**	**116**	LR		LR	06 28 51.6	
	comp=Z,230nm,18.3s,baz=206,slow=34							
PSUT	**Pine Spring**	**82.95**	**329**	IAmb		IAmb	05 54 08.3	
	comp=Z,18nm,1.4s							
BSUT	**Blindstream Ca**	**83.46**	**333**	IAmb		IAmb	05 54 10.8	
	comp=Z,39nm,1.7s							
F33A	**5 Mile Ranch,**	**84.04**	**344**	IAmb		IAmb	05 54 19.0	
	comp=Z,35nm,1.9s							
NVAR	**Mina Array Bea**	**84.77**	**326**	P		**P**	**05 54 09.6**	**+3.7**
	comp=Z,1.2nm,0.8s,baz=142,slow=5.6,SNR=9.7							
NVAR				LR		LR	06 27 42.6	
	comp=Z,72nm,19.7s,baz=116,slow=33							
	comp=Z,1.2nm,0.8s							
PDAR	**Pinedale Array**	**84.98**	**334**	P		**P**	**05 54 09.3**	**+2.4**
	comp=Z,3.6nm,1.1s,baz=145,slow=3.6,SNR=17							
	comp=Z,3.6nm,1.1s							
HVU	**Hansel Valley**	**85.30**	**332**	IAmb		IAmb	05 54 19.2	
	comp=Z,44nm,1.7s							
ELK	**Elko**	**85.39**	**330**			**P**	**05 54 09.0**	**0.0**
ELK				IAmb		IAmb	05 54 20.3	
	comp=Z,18nm,1.6s							
ELK	**Elko**	**85.39**	**330**	P		**P**	**05 54 09.0**	**0.0**
ELK				pmax		pmax		
	comp=Z,18nm,1.6s							
AHID	**Auburn Hatcher**	**85.53**	**333**	IAmb		IAmb	05 54 21.1	
	comp=Z,36nm,1.6s							
SNOW	**Snow King Moun**	**86.01**	**334**	IAmb		IAmb	05 54 24.3	
	comp=Z,31nm,1.8s							
LOHW	**Long Hollow**	**86.09**	**334**	IAmb		IAmb	05 54 23.0	
	comp=Z,22nm,1.6s							
TPAW	**Teton Pass**	**86.11**	**334**	IAmb		IAmb	05 54 23.3	
	comp=Z,29nm,1.6s							
TORD	**Torodi Ar. Bea**	**86.34**	**71**			**P**	**05 54 12.3**	**-1.7**
TORD	**Torodi Ar. Bea**	**86.34**	**71**	P		**P**	**05 54 13.8**	**-0.3**
	comp=Z,2.8nm,1.0s,baz=224,slow=4.0,SNR=8.8							
TORD				LR		LR	06 29 30.6	
	comp=Z,271nm,20.9s,baz=214,slow=34							
	comp=Z,2.8nm,1.0s							
RLMT	**Red Lodge**	**86.96**	**336**	IAmb		IAmb	05 54 27.2	
	comp=Z,44nm,1.9s							
HLID	**Hailey**	**87.45**	**332**			**P**	**05 54 19.0**	**0.0**
HLID				IAmb		IAmb	05 54 36.5	
	comp=Z,24nm,1.7s							
MATP	**Matopo**	**87.67**	**114**	LR		LR	06 30 50.7	
	comp=Z,238nm,19.3s,baz=219,slow=34							
MFID	**Camas Ranch**	**87.87**	**331**	IAmb		IAmb	05 54 32.2	
	comp=Z,32nm,1.8s							
ULM	**Lac du Bonnet**	**88.15**	**346**	P		**P**	**05 54 23.6**	**+1.7**
	comp=Z,5.3nm,0.9s,baz=171,slow=6.0,SNR=5.6							
	comp=Z,5.3nm,0.9s							
ULM	**Lac du Bonnet**	**88.15**	**346**	*i* P		**P**	**05 54 22.1**	**+0.2**
DLMT	**Dillon**	**88.32**	**334**	IAmb		IAmb	05 54 34.3	
	comp=Z,27nm,1.6s							
LSZ	**Lusaka**	**90.56**	**109**	LR		LR	06 33 04.4	
	comp=Z,300nm,18.5s,baz=184,slow=34							
G08A	**Pilot Rock**	**90.68**	**330**	IAmb		IAmb	05 54 45.3	
	comp=Z,19nm,1.8s							
HAWA	**Hanford**	**91.81**	**330**	IAmb		IAmb	05 54 50.5	
	comp=Z,25nm,1.7s							
MDT	**Midelt**	**94.31**	**52**	LR		LR	06 38 12.4	
	comp=Z,515nm,18.2s,baz=230,slow=36							
DZM	**Mont Dzumac**	**98.78**	**235**	*e*LR		LR	06 27 13.5	
	comp=Z,278nm,28.6s							
ESDC	**Sonseca Array**	**99.12**	**47**	LR		LR	06 38 20.7	
	comp=Z,243nm,20.1s,baz=221,slow=34							
OBN	**Obninsk**	**130.00**	**45**	*e*PKIKP		**PKiKP**	**06 00 41.7**	**+0.3**
OBN				pmax		pmax		
	comp=Z,5.0nm,1.1s							
MOS	**Moscow**	**130.68**	**44**	*i* PKIKP		PKiKP	06 00 51.5	+8.7
KIV	**Kislovodsk**	**131.87**	**60**	*i* PKIKP		**PKPdf**	**06 00 44.4**	**-0.3**
KIV				pmax		pmax		
	comp=Z,5.0nm,1.0s							
KIV				MLR		MLR		
	comp=Z,82nm,23.0s							
KLMR	**Klimovskoe**	**131.99**	**37**	*e*PKIKP		**PKPdf**	**06 00 43.8**	**-0.5**
KLMR				*e*			06 03 04.1	
KLMR				pmax		pmax		
	comp=Z,17nm,1.7s							
BILL	**Bilibino**	**134.04**	**333**	*i* PKIKP		**PKPdf**	**06 00 48.1**	**+0.1**
BILL				pmax		pmax		
	comp

BKNI	**Bangkinang**	**2.42**	**88**	P		**Pb**	05 47 40.4	**+1.3**
RPSI	**Rantau Prapat**	**2.47**	**7**			**Pn**	05 47 34.6	**+0.6**
PSI	**Prapat**	**2.57**	**7**	Pn		**Pn**	05 47 34.4	**-1.2**
	13nm,0.3s,baz=325,slow=23,SNR=24							
PSI				Sn		**Sn**	**05 48 07.4**	**+1.6**
	8.2nm,0.3s,baz=168,slow=19,SNR=3.8							
	31nm,0.3s							
SNSI	**Sinabang, Aceh**	**3.15**	**313**	P		**Pn**	05 47 44.7	**+1.3**
PPSI	**Pulau Pagai**	**3.28**	**155**	P		**Pn**	05 47 48.2	**+3.0**
KCSI	**Kotacane, Aceh**	**3.38**	**346**	P		**Pn**	05 47 46.6	**0.0**
MLSI	**Meulaboh, Aceh**	**4.58**	**331**	P		**Pn**	**05 48 03.7**	**+0.6**
IPM	**Ipoh**	**4.86**	**30**			**Pn**	**05 48 07.8**	**+0.8**
KULM	**Kulim**	**5.42**	**22**			**Pn**	**05 48 14.3**	**-0.4**
MNAI	**Manna**	**6.29**	**136**	Pn		**Pn**	**05 48 25.7**	**-0.9**
PMBI	**Palembang**	**6.90**	**117**	Pn		**Pn**	**05 48 34.9**	**-0.1**
MDSI	**Maura Dua**	**7.26**	**130**	P		**Pn**	**05 48 43.2**	**+3.2**
CMBY	**CAMPBELL BAY**	**8.20**	**325**	*eP*		**Pb**	**05 49 19.4**	**+1.9**
CMBY				*eS*		Sb	05 50 51.7	-3.0
CMBY				IAML			05 51 02.2	
	comp=N,138nm,0.7s							
CMBY				IAML			05 51 07.2	
	comp=E,160nm,0.7s							
PBA	**Port Blair**	**12.77**	**333**	*eP*		P	05 50 19.3	+13
PBA				*eS*		Sn	05 52 38.9	+23
PBA				IAML			05 52 38.9	
	comp=E,29nm,0.0s							
PBA				IAML			05 52 39.0	
	comp=N,34nm,0.0s							
SBUM	**Sibu**	**13.78**	**81**	Pn		**Pn**	**05 50 10.1**	**+0.9**
DGPR	**DIGLIPUR**	**14.05**	**337**	*eP*		P	05 50 37.5	+17
DGPR				*eS*		**S**	**05 53 12.6**	**+4.4**
DGPR				IAML			05 53 37.6	
	comp=E,86nm,2.4s							
DGPR				IAML			05 53 39.1	
	comp=N,83nm,2.9s							
CMAR	**Chiang Mai Arr**	**18.12**	**1**	P		**P**	**05 51 06.0**	**+0.6**
	comp=N,0.3nm,0.3s,baz=175,slow=13,SNR=1.5							
	comp=N,0.7nm,0.3s							
SAIH	**SAIHA**	**22.80**	**346**	*eP*		P	05 52 21.2	+25
AZL	**Aizawl**	**24.07**	**347**	*eP*		P	05 52 33.6	+25
H08S2	**Diego Garcia H**	**27.20**	**253**	T		T	06 20 03.9	
	baz=72,slow=74							
H08S3	**Diego Garcia H**	**27.20**	**253**	T		T	06 20 06.3	
	baz=72,slow=74							
H08S1	**Diego Carcia H**	**27.22**	**253**	T		T	06 20 05.5	
	baz=72							
WRA	**Warramunga Arr**	**40.32**	**122**	P		**P**	**05 54 28.0**	**-2.7**
	comp=N,0.8nm,0.8s,baz=298,slow=7.9,SNR=2.2							
	comp=N,0.8nm,0.8s							
ASAR	**Alice Springs**	**41.68**	**127**	P		**P**	**05 54 39.9**	**-2.1**
	comp=N,0.5nm,0.6s,baz=296,slow=7.8,SNR=8.3							
	comp=N,0.5nm,0.6s							
KSRS	**Korea Array**	**45.87**	**33**	P		**P**	**05 55 14.0**	**-1.3**
	comp=N,1.8nm,0.6s,baz=222,slow=8.2,SNR=9.8							
	comp=N,1.8nm,0.6s							
SONM	**Songino Array**	**47.90**	**7**	P		**P**	**05 55 32.1**	**+0.9**
	comp=N,1.0nm,0.5s,baz=187,slow=8.7,SNR=4.6							
	comp=N,1.0nm,0.5s							
MKAR	**Makanchi Array**	**48.53**	**345**	P		**P**	**05 55 35.0**	**-1.0**
MKAR	**Makanchi Array**	**48.53**	**345**	P		**P**	**05 55 36.4**	**+0.4**
	comp=N,1.4nm,0.8s,baz=163,slow=8.6,SNR=6.9							
	comp=N,1.4nm,0.8s							
CTAO	**Charters Tower**	**50.80**	**116**	P		**P**	**05 55 52.6**	**-1.2**
CTAO				IAmb		IAmb	05 56 03.7	
	comp=Z,3.6nm,1.1s							
KURBB	**Kurchatov Arra**	**53.04**	**344**	P		**P**	**05 56 11.5**	**+1.7**
	comp=Z,0.9nm,0.2s,baz=164,slow=7.1,SNR=4.5							
	comp=Z,0.9nm,0.2s							
ZAA0	**Zalesovo Array**	**54.74**	**350**	P		**P**	**05 56 21.9**	**-0.3**
ZAA0				IAmb		IAmb	05 56 47.5	
	comp=Z,3.5nm,1.1s							
ZALV	**Zalesovo Beam**	**54.74**	**350**	P		**P**	**05 56 21.8**	**-0.4**
ZALV	**Zalesovo Beam**	**54.74**	**350**	P		**P**	**05 56 23.5**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=164,slow=8.8,SNR=4.0							
	comp=Z,0.8nm,0.4s							
AB31	**Akbulak array**	**59.04**	**331**	P		**P**	**05 56 50.9**	**-1.8**
ABKAR	**Akbulak array**	**59.04**	**331**	P		**P**	**05 56 51.0**	**-1.7**
H04N2	**CROZET ISLANDS**	**61.78**	**215**	T		T	07 03 43.0	
	baz=55,slow=75,SNR=13							
H04N1	**CROZET ISLANDS**	**61.80**	**215**	T		T	07 04 08.4	
	baz=55,slow=75,SNR=34							
H04N3	**CROZET ISLANDS**	**61.80**	**215**	T		T	07 03 39.2	
	baz=55,slow=75,SNR=14							
CASY	**Casey**	**66.91**	**175**	P		**P**	**05 57 44.6**	**-0.1**

*JMA **05** 05:57:12.6±0.2,25°N±1°×12°6E±°, h27km±3km, MV3.8/13, NEAR MIYAKOJIMA ISLAND*

ISC 05 05:57:10.1±2.3, 24°9N±0°2×126°0E±0°1, h11km±12km, n18, σ1§12/25, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JMJ2	**Miyako jima3**	**0.62**	**257**	P		**Pn**	**05 57 24.6**	**-0.3**
JMJ2				*eS*		**Sn**	**05 57 33.4**	**-1.4**
JMJ	**Miyako jima 2**	**0.64**	**264**	P		**Pb**	**05 57 24.5**	**+1.2**
JMJ	**Miyako jima 2**	**0.64**	**264**	S		**Sn**	**05 57 33.9**	**-1.4**
JIKM	**Ikemajima**	**0.68**	**274**	P		**Pg**	**05 57 23.4**	**0.0**
JIKM				*eS*		**Sg**	**05 57 31.5**	**-0.8**
JIRB	**Irabujima**	**0.75**	**266**	P		**Pg**	**05 57 24.9**	**+0.3**
JIRB				*eS*		**Sg**	**05 57 33.8**	**-0.7**
JTJ	**Tarama**	**1.20**	**259**	*eP*		**Pn**	**05 57 32.1**	**-0.7**
JTJ				*eS*		**Sb**	**05 57 47.8**	**-0.6**
JISG	**Ishigakijimahi**	**1.56**	**260**	*eP*		**Pn**	**05 57 37.9**	**+0.1**
JISG				*eS*		**Sn**	**05 57 57.0**	**-1.0**
JKE	**Kume jima 2**	**1.61**	**26**	*eP*		**Pn**	**05 57 38.4**	**0.0**
JIJ	**Ishigaki jima**	**1.77**	**253**	*eP*		**Pn**	**05 57 40.9**	**+0.3**
JIJ				*eS*		**Sn**	**05 58 02.7**	**-0.3**
JKRS	**Kuro-shima**	**1.92**	**251**	*eP*		**Pb**	**05 57 44.5**	**-0.6**
JKRS				*eS*		**Sb**	**05 58 08.4**	**-0.7**
IRIF	**Iriomote-Funau**	**2.13**	**256**	*eP*		**Pn**	**05 57 46.5**	**+0.8**
JOW	**Kunigami**	**2.83**	**46**	P		**Pb**	**05 58 00.7**	**+0.1**
NACB	**Ninganchiao**	**4.07**	**261**	P		**Pn**	**05 58 14.4**	**+2.1**
YHNB	**Yeheng**	**4.21**	**268**	P		**Pn**	**05 58 16.9**	**+2.6**
YULB	**Yu-li**	**4.54**	**252**	P		**Pn**	**05 58 19.6**	**+0.8**
SSLB	**Suanglung**	**4.73**	**258**	P		**Pn**	**05 58 23.1**	**+1.7**
TPUB	**Ta-pu**	**5.15**	**253**	P		**Pn**	**05 58 27.9**	**+0.7**
TPUB	**Ta-pu**	**5.15**	**253**	S		**Sn**	**05 59 27.6**	**+0.9**

UCR 05 05:58:51.7±1.1, 8°47N×84°13W, h18km±2km, MW3.6, 6C-6D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PIRO	**Carate, Puerto**	**0.78**	**95⇑**	*eP*		Pb	05 59 06.4	-0.4
PIRO				*eS*		Sb	05 59 16.8	-0.4
PANP	**Palmar Norte**	**0.82**	**53⇓**	*eP*		Pb	05 59 06.9	-0.5
PANP				*eS*		Sb	05 59 17.6	-0.6
EDPE	**Pejibaye, P**	**0.88**	**38⇓**	*eP*		Pb	05 59 07.3	-1.2
EDPE				*eS*		Sb	05 59 19.1	-0.9
EDAD	**Golfito**	**0.97**	**79**	*eP*		Pb	05 59 08.5	-1.5
EDAD				*eS*		Sb	05 59 21.4	-1.1
FITO	**Golfito**	**0.97**	**81⇓**	*eP*		Pb	05 59 08.9	-1.2
FITO				*eS*		Sb	05 59 20.9	-1.7
ZEDO	**Perez Zeledon**	**0.98**	**26**	*eP*		Pb	05 59 09.0	-1.3
ZEDO				*eS*		Sb	05 59 22.1	-1.0
LLNJ	**Naranjito**	**1.00**	**1**	*eP*		Pb	05 59 10.3	-0.3
BURE	**Buenos Aires**	**1.05**	**48**	*eP*		Pb	05 59 10.8	-0.6
BURE				*eS*		Sb	05 59 24.6	-0.3
EDP2	**Potrero Grande**	**1.08**	**60**	*eP*		Pb	05 59 11.5	-0.5
EDP2				*eS*		Sn	05 59 26.6	-0.1
PAR1A	**Puntarenas Pro**	**1.13**	**354**	*eP*		Pn	05 59 11.6	-1.1
BUS1	**Rivas**	**1.14**	**19**	*eP*		Pb	05 59 11.9	-1.4
BUS1				*eS*		Sb	05 59 26.3	-1.7
PICV	**PH. Pirrs**	**1.16**	**357**	*eP*		Pn	05 59 12.3	-0.8
PIEC	**Cerro El Cedra**	**1.16**	**8**	*eP*		Pn	05 59 12.7	-0.7
DRK0	**Durika**	**1.18**	**48**	*i P*		Pn	05 59 12.2	-1.3
NELY	**Ciudad Neily**	**1.18**	**81⇑**	*i P*		Pn	05 59 12.2	-1.2
NELY				*eS*		Sb	05 59 28.4	-0.2
PITB	**Pirrs, San**	**1.19**	**5**	*eP*		Pg	05 59 15.9	+1.1
PITB				*eS*		Sb	05 59 27.7	-1.4
LCR2	**La Lucha 2**	**1.27**	**5**	*eP*		Pn	05 59 13.6	-1.3
LCR2				*eS*		Sb	05 59 29.5	-2.0
LPPC	**Paso Canoas**	**1.27**	**87**	*eP*		Pn	05 59 13.8	-0.9
LPPC				*eS*		Sb	05 59 29.9	-1.4
RSRNO	**Rio Sereno**	**1.30**	**74**	*eP*		Pn	05 59 14.7	-0.4
ACOS	**Acosta**	**1.32**	**358**	*eP*		Pn	05 59 13.2	-2.2
ALCO	**Alturas Coton,**	**1.36**	**69⇓**	*eP*		Pn	05 59 15.1	-1.0
ALCO				*eS*		Sn	05 59 32.8	-1.1
REPA	**Paraso**	**1.38**	**11**	*eP*		Pb	05 59 16.7	-0.4
BRU2	**Volcan**	**1.46**	**77⇑**	*eP*		Pn	05 59 16.7	-0.7
BRU2				*eS*		Sn	05 59 35.4	-0.7
SANTA	**Santa Ana**	**1.46**	**358**	*eP*		Pg	05 59 21.4	+1.5
PCAYA	**Pacayas**	**1.47**	**12**	*eP*		Pn	05 59 17.3	-0.4
TBS2		**1.49**	**77**	*eP*		Pn	05 59 18.1	+0.3
TURIB	**Turrialba**	**1.50**	**17**	*eP*		Pn	05 59 17.5	-0.3
RAFA	**San Farael, Vo**	**1.51**	**12**	*eP*		Pn	05 59 17.9	-0.4
RAFA				*eS*		Sn	05 59 36.1	-1.6
VERB	**Verbena**	**1.53**	**16**	*eP*		Pn	05 59 17.7	-0.6
VTCV	**VTCV, Calle Va**	**1.56**	**15**	*eP*		Pn	05 59 18.3	-0.5
CVIMO	**Finca Echandi**	**1.56**	**7**	*eP*		Pn	05 59 16.1	-2.7
CVTQ	**Turrialba Volc**	**1.57**	**13**	*eP*		Pn	05 59 18.6	-0.4
CVTQ				*eS*		Sn	05 59 38.0	-1.2
CVTV	**Tajo**	**1.57**	**14⇑**	*i P*		Pn	05 59 18.9	-0.2
VTR0	**Volcan Turrial**	**1.58**	**13**	*eP*		Pn	05 59 19.0	-0.3
VTR0				*eS*		Sn	05 59 39.0	-0.6
CVTR	**Volcan Turrial**	**1.58**	**13**	*eP*		Pn	05 59 18.9	-0.4
RESJ	**San Isidro (Tu**	**1.62**	**17**	*eP*		Pn	05 59 19.5	-0.1
CEUA	**Cerro Uatsi, L**	**1.64**	**45**	*eP*		Pg	05 59 22.7	-0.6
LAES	**El Progreso Va**	**1.67**	**39⇑**	*i P*		Pn	05 59 20.3	+0.2
LAES				*eS*		Sn	05 59 41.4	+0.3
WILLF	**Boquete**	**1.69**	**80**	*eP*		Pn	05 59 20.0	-0.6
LCOCO	**El Coco**	**1.70**	**19**	*eP*		Pn	05 59 21.1	+0.5
LCOCO				*eS*		Sn	05 59 42.1	+0.1
DAP26	**falda E V. Bar**	**1.71**	**79**	*eP*		Pn	05 59 19.8	-1.0
VERH	**Veragua Rainfo**	**1.72**	**32⇓**	*eP*		Pn	05 59 20.6	-0.3
VERH				*eS*		Sn	05 59 42.5	+0.1
CGUAY	**Guayabal, Coch**	**1.75**	**90**	*eP*		Pn	05 59 20.9	-0.4
PILE	**Guapiles**	**1.77**	**11**	*eP*		Pg	05 59 27.6	+1.8
PILE				*eS*		Sn	05 59 44.1	+0.4
PBNVO	**Pueblo Nuevo,**	**1.96**	**77**	*eP*		Pn	05 59 23.4	-0.6
SOCE	**Pocosol**	**1.96**	**346**	*eP*		Pb	05 59 27.2	+0.1
MTEVE	**Monteverde**	**1.97**	**339**	*eP*		Pb	05 59 26.8	-0.3
JTS	**Las Juntas de**	**1.99**	**336**	*eP*		Pb	05 59 26.2	-1.2
RBALA	**Bur**	**1.99**	**78⇓**	*i P*		Pn	05 59 24.1	-0.5
RBALA				*eS*		Sn	05 59 48.8	-0.3
ARE1	**Arenal 1**	**2.07**	**344**	*eP*		Pb	05 59 28.6	-0.1
VARE2	**V. Arenal**	**2.07**	**344**	*eP*		Pb	05 59 28.6	-0.2
CEDE	**Laguna Cedeo**	**2.09**	**344**	*eP*		Pb	05 59 29.5	+0.4
JUD3	**Juan Diaz 3**	**2.19**	**321**	*eP*		Pn	05 59 27.7	+0.3
TIMP	**Tierras Morena**	**2.28**	**337**	*eP*		Pb	05 59 31.2	-1.2
KKNTU	**Kakint²**	**2.32**	**81⇑**	*eP*		Pn	05 59 28.9	-0.2
KKNTU				*eS*		Sn	05 59 57.0	-0.3
TENO	**El Achiote**	**2.38**	**339**	*eP*		Pn	05 59 31.7	+1.8
CUI	**Cuipilapa**	**2.41**	**335**	*eP*		Pb	05 59 32.5	-2.1
CUI				*eS*		Sn	05 59 59.2	-0.2
VMAR	**Armenia, Volca**	**2.53**	**337**	*eP*		Pn	05 59 34.0	+2.1
LAPC	**Finca la Perla**	**2.62**	**331**	*eP*		Pn	05 59 35.0	+1.6

*ASRS **05** 06:00:56.0±0.6, 54°.41N×86°.85E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 06:00:56.8±3.5, 54°.48N×87°.14E, h0km, mbtmp3.5/2, ML3.2/2, Error ellipse: s-maj=31.3km s-min=20.2km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**250**	I		I	06 09 40.0	
	baz=69,slow=324,SNR=14							
ZALV	**Zalesovo Beam**	**1.46**	**250**			Pn	06 01 22.2	-2.2
ZALV	**Zalesovo Beam**	**1.46**	**250**	Pg		Pn	06 01 22.0	-2.4
	1.4nm,0.3s,baz=67,slow=18,SNR=19							
ZALV				Lg		Lg	06 01 43.3	
	1.6nm,0.3s,baz=69,slow=27,SNR=6.9							
ZALV	**Zalesovo Beam**	**1.46**	**250**	PKIKP		Pn	06 01 22.0	-2.4
KURBB	**Kurchatov Arra**	**6.51**	**237**	Pn		Pn	06 02 34.8	+1.0
	0.4nm,0.3s,baz=54,slow=14,SNR=8.7							
	4.9nm,0.2s							
MKAR	**Makanchi Array**	**8.28**	**204**	Pn		Pn	06 02 59.2	+1.1
	0.3nm,0.3s,baz=23,slow=13,SNR=2.0							
	0.5nm,0.6s							

*IDC **05** 06:14:37.4±0.6, 72°.55N×2°.90E, h0km, mb3.8/16, mbtmp3.8/22, ML3.5/6, MS3.9/37, Error ellipse: s-maj=14.9km s-min=12.0km az=59.0*

*NEIC **05** 06:14:38.6±1.4, 72°.63N±0°.06×2°.9E±0°.2, h10km±1km, mb4.5/39, Error ellipse: s-maj=11.8km s-min=9.9km az=129.0*

*NAO **05** 06:14:39.3±0.7, 72°.64N×2°.63E, h21km±6km, ML3.7*

*BER **05** 06:14:39.7±2.9, 72°.63N×2°.82E, h10km, mb(Pn)4.5, ML1.8(DNK), Confirmed Earthquake*

*GCMT **05** 06:14:40.6±0.3, 72°.72N±0°.03×3°.3E±0°.1, h12km, MW4.7/93, Moment Tensor Solution. s15,c15; s93,c131; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.29±.05; Mθθ 0.70±.05; Mϕϕ 0.58±.05; Mrθ 0.46±.24; Mϕθ 0.62±.04; Mϕr-0.67±.24; Best double couple: Mo1.47500×10¹⁶ NP1:ϕ250.00000°, δ47.00000°, λ-55.00000°. NP2: ϕ23.00000°, δ53.00000°, λ-122.00000°. Principal axes: T 1.2770, Plg3.0000°, Azm136.0000°; N 0.3970, Plg25.0000°, Azm44.0000°; P -1.6730, Plg65.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DNK **05** 06:14:42.6±4.2, 72°.94N×2°.37E, h15km, ML1.8*

ISC 05 06:14:38.6±0.4, 72°.60N±0°.05×3°.09E±0°.05, h10km, n154, σ2§00/140, mb4.3/39, MS3.8/33, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNE	**Jan Mayen East**	**3.92**	**251**	*eP*		**Pn**	**06 15 37.3**	**-1.3**
JNW	**Jan Mayen West**	**3.94**	**252**	*eP*		**Pn**	**06 15 37.6**	**-1.3**
JMN	**Jan Mayen**	**4.07**	**251**	*eP*		**Pn**	**06 15 39.7**	**-1.1**
BEA6	**Bear Island, N**	**4.90**	**60**	Pn		**Pn**	**06 15 52.3**	**+0.2**
HSPB	**Hornsund (broa**	**5.49**	**31**	Pn		**Pn**	**06 15 59.0**	**-1.2**
HSPB	**Hornsund (broa**	**5.49**	**31**	*eP*		**Pn**	**06 15 59.0**	**-1.2**
LOF	**Lofoten**	**5.70**	**137**	*eP*		**Pn**	**06 16 04.0**	**+1.0**
LOF				IAML			06 17 09.9	
	comp=Z,11nm,0.5s							
TRO	**Tromso**	**5.93**	**112**	Pn		**Pn**	**06 16 06.0**	**-0.3**
TRO				Sn		**Sn**	**06 17 09.2**	**-4.9**
TRO	**Tromso**	**5.93**	**112**	*eP*		**Pn**	**06 16 05.7**	**-0.6**
TRO				IAML			06 17 11.7	
	comp=Z,22nm,0.3s							
BRBB	**Barentsburg B**	**6.19**	**22**	Pn		**Pn**	**06 16 08.5**	**-1.3**
BRBB	**Barentsburg B**	**6.19**	**22**	*eP*		**Pn**	**06 16 08.6**	**-1.1**
STEI	**Steigen**	**6.22**	**133**	*eP*		**Pn**	**06 16 09.7**	**-0.6**
STEI				*eS*		**Sn**	**06 17 14.9**	**-6.4**
STEI				IAML			06 17 19.5	
	comp=Z,15nm,0.5s							
JETT	**Jettan, Norway**	**6.39**	**110**	Pn		**Pn**	**06 16 14.0**	**+1.4**
JETT				Sn		**Sn**	**06 17 22.0**	**-3.5**
JETT	**Jettan, Norway**	**6.39**	**110**	*eP*		**Pn**	**06 16 11.8**	**-0.9**
JETT				*eS*		**Sn**	**06 17 20.7**	**-4.9**
SPA0	**Spitsbergen Ar**	**6.51**	**25**	Pn		**Pn**	**06 16 13.6**	**-0.7**
	baz=219,slow=18							
SPA0				Sn		**Sn**	**06 17 24.5**	**-4.0**
	baz=210,slow=56							
SPA0	**Spitsbergen Ar**	**6.51**	**25**	*eP*		**Pn**	**06 16 13.0**	**-1.3**
SPITS	**Spitsbergen Ar**	**6.51**	**25**	Pn		**Pn**	**06 16 13.5**	**-0.7**
	baz=211,slow=16							
SPITS				Sn		**Sn**	**06 17 27.1**	**-1.5**
	baz=208,slow=24							
	comp=Z,9.1nm,0.4s							
KBS	**Kingsbay**	**6.72**	**15**			**Pn**	**06 16 15.8**	**-1.2**
KBS	**Kingsbay**	**6.72**	**15**	Pn		**Pn**	**06 16 16.3**	**-0.7**
KBS	**Kingsbay**	**6.72**	**15**	*eP*		**Pn**	**06 16 15.9**	**-1.1**
KBS				*eS*		Sn	06 17 22.1	-11
KIF	**Kilpisjarvi**	**6.84**	**113**	Pn		**Pn**	**06 16 18.7**	**-0.1**
KIF				Sn		**Sn**	**06 17 31.5**	**-5.0**
KIF	**Kilpisjarvi**	**6.84**	**113**	*eP*		**Pn**	**06 16 18.0**	**-0.4**
KIF				*eS*		**Sn**	**06 17 31.2**	**-5.4**
DBG	**Daneborg**	**6.85**	**295**	Pn		**Pn**	**06 16 14.9**	**-3.9**
DBG				Sn		Sn	06 17 25.5	-11
DBG	**Daneborg**	**6.85**	**295**	*eP*		**Pn**	**06 16 15.1**	**-3.7**
DBG				*eS*		Sn	06 17 25.3	-11
DBG				IAML			06 17 29.9	
	comp=Z,1.2nm,0.3s							
DBG	**Daneborg**	**6.85**	**295**	*eP*		**Pn**	**06 16 15.1**	**-3.7**
DBG				*eS*		Sn	06 17 25.3	-11
DBG				IAML			06 17 29.9	
	comp=Z,1.2nm,0.3s							
VAGH	**Vaagaholmen**	**6.87**	**144**	*eP*		**Pn**	**06 16 18.5**	**-0.6**
VAGH				*eS*		**Sn**	**06 17 31.3**	**-5.9**
VAGH				IAML			06 17 36.0	
	comp=Z,8.4nm,0.8s							
KONS	**Konsvik**	**7.05**	**145**	*eP*		**Pn**	**06 16 20.6**	**-1.0**
DAG	**Danmarks Havn**	**7.08**	**316**	*eP*		**Pn**	**06 16 18.6**	**-3.3**
DAG				*eS*		Sn	06 17 31.2	-11
DAG				IAML			06 17 32.2	
	comp=Z,7.8nm,0.3s							
DAG	**Danmarks Havn**	**7.08**	**316**	*eP*		**Pn**	**06 16 18.6**	**-3.3**
DAG				*eS*		Sn	06 17 31.2	-11
DAG				IAML			06 17 32.2	
	comp=Z,7.8nm,0.3s							
STOK	**Stokkvaagen**	**7.18**	**146**	*eP*		**Pn**	**06 16 23.6**	**+0.2**
STOK				*eS*		**Sn**	**06 17 37.5**	**-7.4**
STOK				IAML			06 17 42.2	
	comp=Z,8.1nm,0.5s							
LEIR	**Leirfjorden**	**7.40**	**147**	*eP*		**Pn**	**06 16 26.5**	**+0.1**
LEIR				IAML			06 17 48.1	
	comp=Z,10nm,0.4s							
SALU	**Saltoluokta**	**7.42**	**127**	*eP*		**Pn**	**06 16 26.6**	**-0.1**
KTK1	**Kautokeino**	**7.52**	**109**	Pn		**Pn**	**06 16 28.7**	**+0.5**
KTK1	**Kautokeino**	**7.52**	**109**	*eP*		**Pn**	**06 16 28.9**	**+0.8**
MOR8	**Moi Rana**	**7.58**	**143**	*eP*		**Pn**	**06 16 29.6**	**+0.7**
ARA0	**ARCESS Array S**	**7.88**	**102**	Pn		**Pn**	**06 16 32.7**	**-0.3**
	baz=310,slow=12							
ARA0				Sn		**Sn**	**06 17 56.2**	**-5.9**
	baz=308,slow=22							
ARCES	**ARCESS Array B**	**7.88**	**102**			**Pn**	**06 16 33.3**	**+0.3**
ARCES	**ARCESS Array B**	**7.88**	**102**	Pn		**Pn**	**06 16 32.8**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=313,slow=12,SNR=44							
	comp=Z,1.8nm,0.4s							
HEF	**Hetta**	**8.03**	**111**	Pn		**Pn**	**06 16 34.7**	**-0.3**
SCO	**Scoresbysund**	**8.19**	**267**	Pn		**Pn**	**06 16 36.1**	**-1.1**
SCO	**Scoresbysund**	**8.19**	**267**	*eP*		**Pn**	**06 16 35.9**	**-1.2**
SCO	**Scoresbysund**	**8.19**	**267**	*eP*		**Pn**	**06 16 35.9**	**-1.2**
KEV	**Kevo**	**8.21**	**99**	Pn		**Pn**	**06 16 37.5**	**+0.1**
KEV	**Kevo**	**8.21**	**99**	Pn		**Pn**	**06 16 38.5**	**+1.1**
VADS	**Vadso**	**8.73**	**94**	Pn		**Pn**	**06 16 44.2**	**-0.3**
NOR	**Nord**	**9.96**	**343**	*eP*		**Pn**	**06 17 01.0**	**-0.4**
NOR	**Nord**	**9.96**	**343**	*eP*		**Pn**	**06 17 01.0**	**-0.4**
APA0	**Apatity Array**	**11.24**	**101**	Pn		**Pn**	**06 17 18.4**	**-0.6**
	baz=311,slow=11							
LVZ	**Lovozero**	**11.55**	**98**	Pn		**Pn**	**06 17 22.2**	**-1.0**
BORG	**Borgarnes**	**11.76**	**240**	LR		LR	06 20 54.7	
	comp=Z,336nm,18.1s,baz=26,slow=32							
NOA	**NORSAR Array B**	**12.02**	**161**	Pn		**Pn**	**06 17 29.1**	**-0.6**
	baz=345,slow=12,SNR=2.8							
NOA				LR		LR	06 21 53.3	
	comp=Z,485nm,20.7s,baz=345,slow=36							
	comp=Z,0.4nm,0.4s							
SUMG	**Summit**	**12.26**	**290**			**Pn**	**06 17 31.4**	**-1.9**
NRA0	**NORESS Array S**	**12.35**	**160**	Pn		**Pn**	**06 17 32.6**	**-1.5**
	baz=347,slow=16							
NRA0				Sn		Sn	06 19 41.1	-11
	baz=348,slow=28							
HFS	**Hagfors**	**13.18**	**156**	Pn		**Pn**	**06 17 44.5**	**-1.0**
	baz=346,slow=14							
HFS	**Hagfors**	**13.18**	**156**	Pn		**Pn**	**06 17 44.5**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=353,slow=10,SNR=17							
HFS				LR		LR	06 22 29.2	
	comp=Z,561nm,19.6s,baz=348,slow=36							
	comp=Z,1.9nm,0.4s							
FIA0	**FINESS Array S**	**14.20**	**130**	P		**Pn**	**06 17 57.8**	**-1.6**
	baz=339,slow=16							
FINES	**FINESS Array B**	**14.20**

	comp=Z,1.1nm,0.7s						
INK	**Inuvik**	**36.49**	**335**	LR	LR	06 38 41.0	
	comp=Z,195nm,18.8s,baz=72,slow=40						
E28M	**Babbage River**	**36.93**	**338**	P	**P**	**06 21 46.5**	**-0.5**
E29M	**Blow River**	**36.95**	**337**		**P**	**06 21 46.5**	**-0.5**
E29M				IAmb	IAmb	06 21 54.0	
	comp=Z,5.8nm,1.1s						
F31M	**Tsiigehtchic**	**37.34**	**334**	P	**P**	**06 21 50.2**	**-0.1**
F31M				IAmb	IAmb	06 22 00.2	
	comp=Z,7.4nm,1.3s						
ZALV	**Zalesovo Beam**	**37.36**	**75**	P	**P**	**06 21 52.4**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=327,slow=7.7,SNR=1.7						
ZALV				LR	LR	06 39 34.4	
	comp=Z,66nm,21.7s,baz=327,slow=40						
	comp=Z,0.5nm,0.4s						
G31M	**Satah River**	**37.90**	**334**		**P**	**06 21 55.7**	**+0.6**
G31M				IAmb	IAmb	06 22 00.7	
	comp=Z,17nm,1.4s						
F28M	**Old Crow**	**37.92**	**338**	P	**P**	**06 21 56.2**	**+0.9**
F28M				IAmb	IAmb	06 21 58.2	
	comp=Z,5.6nm,1.3s						
GNI	**Garni**	**38.29**	**125**	LR	LR	06 37 59.5	
	comp=Z,262nm,18.3s,baz=334,slow=37						
G29M	**Pine Creek**	**38.38**	**336**		**P**	**06 21 59.0**	**-0.2**
G29M				IAmb	IAmb	06 22 03.4	
	comp=Z,8.1nm,0.9s						
KURBB	**Kurchatov Arra**	**38.43**	**83**	P	**P**	**06 22 00.8**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=328,slow=7.5,SNR=1.4						
KURBB				LR	LR	06 39 46.0	
	comp=Z,106nm,19.9s,baz=171,slow=39						
	comp=Z,0.6nm,0.3s						
EPYK	**Eagle Plains**	**38.73**	**335**	P	**P**	**06 22 01.6**	**-0.7**
YKA	**Yellowknife Ar**	**38.77**	**319**	LR	LR	06 38 05.6	
	comp=Z,289nm,18.3s,baz=92,slow=36						
G26K	**Porcupine Rive**	**38.98**	**340**		**P**	**06 22 04.5**	**+0.3**
H29M	**Whitestone**	**39.08**	**336**	P	**P**	**06 22 04.7**	**-0.4**
H29M				IAmb	IAmb	06 22 11.4	
	comp=Z,10nm,1.3s						
I30M	**Mount Dempster**	**39.79**	**335**		**P**	**06 22 11.7**	**+0.6**
I30M				IAmb	IAmb	06 22 17.2	
	comp=Z,17nm,1.5s						
I28M	**Miner Creek**	**40.01**	**337**	P	**P**	**06 22 13.7**	**+0.8**
J30M	**Hart River**	**40.40**	**334**	P	**P**	**06 22 16.9**	**+0.7**
HAL	**Halifax**	**41.16**	**265**	P	**P**	**06 22 21.5**	**-1.0**
K29M	**Barlow Dome**	**41.26**	**335**		**P**	**06 22 23.2**	**-0.1**
K29M				IAmb	IAmb	06 22 29.8	
	comp=Z,12nm,1.4s						
DAWY	**Dawson**	**41.28**	**336**	P	**P**	**06 22 23.3**	**-0.1**
ILAR	**Eielson Array**	**41.41**	**341**	P	**P**	**06 22 25.8**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=9.1,slow=5.7,SNR=9.4						
	comp=Z,0.7nm,0.8s						
M30M	**Minto, Yukon**	**42.38**	**334**	P	**P**	**06 22 32.4**	**0.0**
BCAR	**Beaver Creek A**	**42.53**	**337**	P	**P**	**06 22 32.9**	**-0.8**
L27K	**Beaver Creek,**	**42.54**	**337**		**P**	**06 22 33.4**	**-0.3**
MKAR	**Makanchi Array**	**42.98**	**82**	P	**P**	**06 22 38.2**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=336,slow=6.6,SNR=5.5						
MKAR				LR	LR	06 44 28.5	
	comp=Z,73nm,18.3s,baz=335,slow=42						
	comp=Z,0.4nm,0.7s						
AAK	**Ala-Archa**	**44.40**	**92**	LR	LR	06 42 10.8	
	comp=Z,85nm,18.1s,baz=330,slow=37						
ULM	**Lac du Bonnet**	**45.49**	**297**	LR	LR	06 41 53.8	
	comp=Z,384nm,18.1s,baz=104,slow=36						
WMQ	**Urumqi**	**47.27**	**79**	*e*P	**P**	**06 23 13.6**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,14nm,1.1s						
WMQ				LR	LR		
	comp=Z,130nm,24.0s						
KSH	**Kashi**	**47.71**	**92**	P	**P**	**06 23 18.5**	**+3.4**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KDAK	**Kodiak Island**	**48.83**	**343**	LR	LR	06 44 51.7	
	comp=Z,88nm,20.6s,baz=73,slow=37						
SONM	**Songino Array**	**48.85**	**61**	P	**P**	**06 23 22.9**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=343,slow=4.5,SNR=1.6						
SONM				PcP	**PcP**	**06 24 48.5**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=353,slow=4.8,SNR=2.3						
	comp=Z,0.5nm,0.6s						
NEW	**Newport**	**52.53**	**313**	LR	LR	06 46 20.8	
	comp=Z,225nm,18.4s,baz=85,slow=36						
OVMT	**Ovando**	**52.73**	**310**	P	**P**	**06 23 53.0**	**0.0**
TKL	**Tuckaleechee C**	**55.47**	**279**	LR	LR	06 46 48.5	
	comp=Z,115nm,18.5s,baz=59,slow=35						
PDAR	**Pinedale Array**	**55.95**	**305**	P	**P**	**06 24 16.2**	**-0.4**
	comp=Z,0.9nm,1.0s,baz=35,slow=5.4,SNR=5.6						
PDAR				LR	LR	06 50 44.4	
	comp=Z,28nm,18.2s,baz=86,slow=39						
	comp=Z,0.9nm,1.0s						
HHC	**Hu-ho-hao-te**	**56.70**	**59**	*e*P	**P**	**06 24 22.6**	**+0.7**
HHC				pmax	pmax		
	comp=Z,15nm,0.5s						
TORD	**Torodi Ar. Bea**	**59.43**	**182**	P	**P**	**06 24 41.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**59.43**	**182**	P	**P**	**06 24 41.1**	**0.0**
	comp=Z,2.5nm,0.8s,baz=1.2,slow=8.1,SNR=16						
	comp=Z,2.5nm,0.8s						
PV01	**Paradox Valley**	**60.08**	**302**	IAmb	IAmb	06 24 57.3	
	comp=Z,6.3nm,1.2s						
PV13	**Radium Mtn., P**	**60.12**	**302**	IAmb	IAmb	06 24 48.9	
	comp=Z,4.3nm,1.2s						
NVAR	**Mina Array Bea**	**62.15**	**311**	P	**P**	**06 25 00.3**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=22,slow=9.4,SNR=4.6						
	comp=Z,0.7nm,1.0s						
ANMO	**Albuquerque**	**62.54**	**299**	LR	LR	06 51 58.4	
	comp=Z,228nm,18.6s,baz=148,slow=36						
CWC	**Cottonwood Cre**	**64.00**	**310**	P	**P**	**06 25 12.4**	**+0.5**
CWC				IAmb	IAmb	06 25 32.7	
	comp=Z,7.2nm,1.5s						
ALPN	**Alpine**	**66.11**	**295**	P	**P**	**06 25 25.0**	**-0.7**
ALPN				IAmb	IAmb	06 25 30.5	
	comp=Z,6.7nm,1.3s						
SJG	**San Juan**	**66.66**	**256**	LR	LR	06 51 55.1	
	comp=Z,33nm,18.7s,baz=32,slow=34						
NJ2	**Nanjing**	**66.89**	**56**	*e*P	**P**	**06 25 30.5**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,22nm,1.0s						
TXAR	**Lajitas Array**	**67.11**	**295**	P	**P**	**06 25 31.9**	**0.0**
	comp=Z,0.3nm,0.9s,baz=44,slow=4.2,SNR=7.5						
	comp=Z,0.3nm,0.9s						
PZH	**PanZhiHua**	**67.50**	**74**	P	**P**	**06 25 35.6**	**+1.1**
LPIG	**La Paz**	**73.86**	**299**	LR	LR	06 57 14.7	
	comp=Z,60nm,21.9s,baz=341,slow=35						
CMAR	**Chiang Mai Arr**	**74.28**	**79**	P	**P**	**06 26 15.8**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=350,slow=4.3,SNR=4.5						
	comp=Z,1.0nm,0.3s						
CMIG	**Matias Romero**	**76.19**	**283**	LR	LR	07 01 30.9	
	comp=Z,35nm,19.4s,baz=92,slow=37						
SDV	**Santo Domingo**	**76.72**	**257**	LR	LR	06 59 51.0	
	comp=Z,40nm,18.2s,baz=71,slow=35						
JTS	**Las Juntas de**	**79.67**	**271**	LR	LR	07 03 10.2	
	comp=Z,29nm,18.1s,baz=94,slow=37						
ASAR	**Alice Springs**	**124.12**	**57**	PKP	**PKPdf**	**06 33 36.1**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=354,slow=1.7,SNR=8.6						
SNAA	**Sanae**	**144.09**	**183**	PKP	PKPbc	06 34 10.7	+0.2
	comp=Z,3.1nm,0.7s,baz=324,slow=0.5,SNR=17						
MAW	**Mawson**	**145.37**	**144**	PKPbc	**PKPab**	**06 34 15.4**	**+0.8**
	comp=Z,3.8nm,0.7s,baz=332,slow=3.9,SNR=8.6						

*KRSC **05** 06:21:51.6±1.7,56°.20N×164°.39E, h49km±22km, Ml4.1*
*MOS **05** 06:21:52.9±0.9,56°.22N×164°.50E, h43km, mb3.7/1, Error ellipse: s-maj=11.3km s-min=6.0km az=47.2*
*IDC **05** 06:21:56.7±1.8,54°.98N×164°.72E, h0km, mb3.8/2, mbtmp3.7/3, ML2.6/1, MS2.7/2, Error ellipse: s-maj=119.4km s-min=22.2km az=147.0*

ISC 05 06:21:49.1±1.3,56°.29N±0°.04×164°.52E±0°.04, h9km±10km, n77, σ1s87/103, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.95**	**266**	PN	**Pb**	**06 22 07.6**	**-0.2**
KBTR				S	**Sg**	**06 22 18.5**	**-1.2**
KBTR	**Krutoberegovo**	**0.95**	**266**	*e*P	**Pb**	**06 22 07.7**	**-0.2**
KBTR				*e*S	**Sg**	**06 22 18.6**	**-1.2**
KBG	**Krutoberegovo**	**1.01**	**269**	PN	**Pb**	**06 22 08.8**	**0.0**
KBG				S	**Sg**	**06 22 20.7**	**-0.9**
KBG	**Krutoberegovo**	**1.01**	**269**	*e*P	**Pb**	**06 22 08.8**	**0.0**
KBG				*e*S	**Sg**	**06 22 20.8**	**-0.9**
BKI	**Bering**	**1.36**	**142**	PN	**Pg**	**06 22 16.0**	**+0.8**
BKI				S	**Sg**	**06 22 33.0**	**+0.1**
BKI	**Bering**	**1.36**	**142**	*e*P	**Pg**	**06 22 16.0**	**+0.8**
BKI				*e*S	**Sg**	**06 22 33.0**	**+0.1**
SMKR	**Semkarok**	**1.72**	**281**	PN	**Pb**	**06 22 21.1**	**+0.2**
SMKR				S	**Sn**	**06 22 40.1**	**-1.4**
SMKR	**Semkarok**	**1.72**	**281**	*e*P	**Pb**	**06 22 21.1**	**+0.2**
SMKR				*e*S	**Sn**	**06 22 40.1**	**-1.4**
ZLN	**Zelenaya**	**2.10**	**264**	PN	**Pb**	**06 22 26.6**	**-0.8**
ZLN				S	**Sn**	**06 22 49.8**	**-1.0**
ZLN	**Zelenaya**	**2.10**	**264**	*e*P	**Pb**	**06 22 26.6**	**-0.8**
ZLN				*e*S	**Sn**	**06 22 49.8**	**-1.0**
CIRR	**Tsirk**	**2.12**	**267**	PN	**Pb**	**06 22 27.0**	**-0.7**
CIRR				S	**Sn**	**06 22 51.6**	**+0.4**
CIRR	**Tsirk**	**2.12**	**267**	*e*P	**Pb**	**06 22 27.1**	**-0.7**
CIRR				*e*S	**Sn**	**06 22 51.7**	**+0.4**
KLY	**Klyuchi**	**2.16**	**272**	PN	**Pn**	**06 22 25.6**	**+0.4**
KLY				S	**Sn**	**06 22 49.6**	**-2.4**
KLY	**Klyuchi**	**2.16**	**272**	*e*P	**Pn**	**06 22 25.7**	**+0.4**
KLY				*e*S	**Sn**	**06 22 49.7**	**-2.4**
BZGR	**Bezymyannyi-Gr**	**2.17**	**262**	PN	**Pb**	**06 22 27.6**	**-1.0**
BZGR				S	**Sn**	**06 22 52.3**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**2.17**	**262**	*e*P	**Pb**	**06 22 27.6**	**-1.0**
BZGR				*e*S	**Sn**	**06 22 52.4**	**-0.3**
BZP	**Bezymyannyi-Pe**	**2.26**	**262**	PN	**Pb**	**06 22 28.6**	**-1.6**
BZP				S	**Sn**	**06 22 54.1**	**-0.9**
BZP	**Bezymyannyi-Pe**	**2.26**	**262**	*e*P	**Pb**	**06 22 28.6**	**-1.6**
BZP				*e*S	**Sn**	**06 22 54.1**	**-0.9**
BZWR	**Bezymyannyi-We**	**2.28**	**263**	PN	**Pb**	**06 22 29.3**	**-1.2**
BZWR	**Bezymyannyi-We**	**2.28**	**263**	*e*P	**Pb**	**06 22 29.3**	**-1.2**
BZMR	**Bezymyannaya**	**2.29**	**263**	PN	**Pb**	**06 22 29.4**	**-1.2**
BZMR				S	**Sn**	**06 22 53.9**	**-1.6**
BZMR	**Bezymyannaya**	**2.29**	**263**	*e*P	**Pb**	**06 22 29.4**	**-1.2**
BZMR				*e*S	**Sn**	**06 22 53.9**	**-1.6**
MKZ	**Mys Kozlova**	**2.36**	**224**	PN	**Pn**	**06 22 28.4**	**+0.5**
MKZ				S	**Sn**	**06 22 51.9**	**-5.1**
MKZ	**Mys Kozlova**	**2.36**	**224**	*e*P	**Pn**	**06 22 28.4**	**+0.5**
MKZ				*e*S	**Sn**	**06 22 51.9**	**-5.1**
KIRR	**Kirishev**	**2.36**	**263**	PN	**Pb**	**06 22 30.3**	**-1.6**
KIRR				S	**Sn**	**06 22 57.8**	**+0.4**
KIRR	**Kirishev**	**2.36**	**263**	*e*P	**Pb**	**06 22 30.4**	**-1.6**
KIRR				*e*S	**Sn**	**06 22 57.9**	**+0.4**
KPT	**Kopyto**	**2.43**	**264**	PN	**Pb**	**06 22 31.5**	**-1.5**
KPT				S	**Sn**	**06 22 59.7**	**+0.8**
KPT	**Kopyto**	**2.43**	**264**	*e*P	**Pb**	**06 22 31.5**	**-1.5**
KPT				*e*S	**Sn**	**06 22 59.8**	**+0.8**
KMNR	**Kamenistaya**	**2.46**	**259**	PN	**Pb**	**06 22 32.5**	**-1.1**
KMNR	**Kamenistaya**	**2.46**	**259**	*e*P	**Pb**	**06 22 32.5**	**-1.1**
TUMD	**Tumrok D**	**2.57**	**247**	PN	**Pn**	**06 22 32.5**	**+1.5**
TUMD				S	**Sn**	**06 23 02.0**	**-0.4**
TUMD	**Tumrok D**	**2.57**	**247**	*e*P	**Pn**	**06 22 32.5**	**+1.5**
TUMD				*e*S	**Sn**	**06 23 02.0**	**-0.4**
KOZ	**Kozyrevsk**	**2.61**	**267**	PN	**Pb**	**06 22 34.3**	**-1.7**
KOZ	**Kozyrevsk**	**2.61**	**267**	*e*P	**Pb**	**06 22 34.4**	**-1.7**
SRDR	**Sredinnyy**	**2.68**	**273**	PN	**Pb**	**06 22 35.2**	**-2.0**
SRDR				S	**Sn**	**06 23 05.3**	**+0.3**
SRDR	**Sredinnyy**	**2.68**	**273**	*e*P	**Pb**	**06 22 35.2**	**-2.0**
SRDR				*e*S	**Sn**	**06 23 05.3**	**+0.3**
OSSR	**Ossora**	**3.07**	**346**	PN	**Pb**	**06 22 40.8**	**-3.0**
OSSR				S	**Sn**	**06 23 14.1**	**-0.4**
OSSR	**Ossora**	**3.07**	**346**	*e*P	**Pb**	**06 22 40.9**	**-3.0**
OSSR				*e*S	**Sn**	**06 23 14.1**	**-0.4**
KII	**Karymskiy**	**3.68**	**234**	PN	**Pn**	**06 22 47.8**	**+1.5**
KII	**Karymskiy**	**3.68**	**234**	*e*P	**Pn**	**06 22 47.9**	**+1.5**
SPN	**Mys Shipunski**	**4.13**	**221**	PN	**Pn**	**06 22 52.6**	**+0.3**
SPN	**Mys Shipunski**	**4.13**	**221**	*e*P	**Pn**	**06 22 52.7**	**+0.3**
SPN				*e*S	**Sn**	**06 23 35.0**	**-5.7**
SDLR	**Sedlovina**	**4.45**	**230**	PN	**Pn**	**06 22 58.7**	**+1.9**
SDLR	**Sedlovina**	**4.45**	**230**	*e*P	**Pn**	**06 22 58.8**	**+1.9**
KRER	**Koryakskii**	**4.49**	**231**	PN	**Pn**	**06 22 59.6**	**+2.2**
KRER	**Koryakskii**	**4.49**	**231**	*e*P	**Pn**	**06 22 59.6**	**+2.2**
KRX	**Arik**	**4.49**	**232**	PN	**Pn**	**06 22 59.5**	**+2.1**
KRX	**Arik**	**4.49**	**232**	*e*P	**Pn**	**06 22 59.6**	**+2.1**
SMAR	**Somma**	**4.49**	**230**	PN	**Pn**	**06 22 59.0**	**+1.5**
SMAR	**Somma**	**4.49**	**230**	*e*P	**Pn**	**06 22 59.1**	**+1.5**
AVH	**Avacha**	**4.52**	**230**	PN	**Pn**	**06 22 59.6**	**+1.9**
AVH	**Avacha**	**4.52**	**230**	*e*P	**Pn**	**06 22 59.6**	**+1.9**
KOK	**Koryaka**	**4.54**	**231**	PN	**Pn**	**06 23 00.4**	**+2.3**
KOK	**Koryaka**	**4.54**	**231**	*e*P	**Pn**	**06 23 00.4**	**+2.3**
GNL	**Ganaly**	**4.60**	**238**	PN	**Pn**	**06 23 01.3**	**+2.5**
GNL	**Ganaly**	**4.60**	**238**	*e*P	**Pn**	**06 23 01.3**	**+2.5**
PEA0B	**Petropavlovsk-**	**5.08**	**234**	PN	**Pn**	**06 23 08.9**	**+3.5**
PETK	**Petropavlovsk-**	**5.08**	**234**	Pn	**Pn**	**06 23 07.4**	**+2.0**
	1.5nm,0.3s,baz=61,slow=12,SNR=7.0						
PETK				Sn	**Sn**	**06 24 01.7**	**-2.5**
	baz=60,slow=32						
PETK				LR	LR	06 24 52.6	
	comp=Z,48nm,21.7s,baz=8.1,slow=39						
	5.0nm,0.7s						
KRMR	**Karymshinskiy**	**5.08**	**230**	PN	**Pn**	**06 23 07.8**	**+2.4**
KRMR	**Karymshinskiy**	**5.08**	**230**	*e*P	**Pn**	**06 23 07.9**	**+2.4**
RUS	**Russkaya**	**5.22**	**225**	PN	**Pn**	**06 23 09.2**	**+1.9**
RUS	**Russkaya**	**5.22**	**225**	*e*P	**Pn**	**06 23 09.2**	**+1.9**
GRL	**Gorelyy**	**5.31**	**228**	PN	**Pn**	**06 23 11.8**	**+3.2**
GRL	**Gorelyy**	**5.31**	**228**	*e*P	**Pn**	**06 23 11.9**	**+3.2**
MTVR	**Mutnovka**	**5.32**	**227**	PN	**Pn**	**06 23 11.6**	**+2.8**
MTVR	**Mutnovka**	**5.32**	**227**	*e*P	**Pn**	**06 23 11.7**	**+2.8**
ASAK	**Asacha**	**5.51**	**227**	PN	**Pn**	**06 23 14.2**	**+2.9**
ASAK	**Asacha**	**5.51**	**227**	*e*P	**Pn**	**06 23 14.2**	**+2.9**
ASAJ	**Asahikawa**	**18.48**	**238**	LR	LR	06 33 57.5	
	comp=Z,37nm,19.2s,baz=27,slow=40						
ILAR	**Eielson Array**	**24.76**	**50**	P	P	06 27 26.6	+16
	1.5nm,1.8s,baz=264,slow=9.7,SNR=12						
	1.5nm,1.0s						
MJAR	**Matsushiro Arr**	**26.54**	**233**	P	**P**	**06 27 29.5**	**+2.4**
	0.9nm,0.5s,baz=42,slow=11,SNR=6.2						
	0.9nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**36.55**	**176**	T	T	07 07 49.0	
	baz=357,slow=76,SNR=546						
H11N3	**WAKE ISLAND Hy**	**36.56**	**176**	T	T	07 07 54.0	
	baz=357,slow=76,SNR=414						
H11N1	**WAKE ISLAND Hy**	**36.57**	**176**	T	T	07 07 55.0	
	baz=357,slow=76,SNR=586						
H11S1	**WAKE ISLAND Hy**	**37.76**	**177**	T	T	07 09 19.5	
	baz=358,slow=72,SNR=20						
H11S3	**WAKE ISLAND Hy**	**37.77**	**177**	T	T	07 09 22.0	
	baz=358,slow=72,SNR=15						
H11S2	**WAKE ISLAND Hy**	**37.77**	**177**	T	T	07 09 18.6	
	baz=358,slow=72,SNR=13						

*ASRS **05** 07:08:40.0±1.0,53°.66N×87°.96E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 07:08:45.8±3.1,53°.56N×87°.77E, h0km, mbtmp2.7/2, ML2.5/2, 1C-1D, Error ellipse: s-maj=27.3km s-min=16.1km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.79**	**284**	⇑Pn	Pn	07 09 18.0	0.0
	0.3nm,0.5s,baz=100,slow=14						
ZAA0				⇓Sn	Sg	07 09 44.0	+0.5
	0.5nm,0.2s,baz=99,slow=25						
ZALV	**Zalesovo Beam**	**1.79**	**284**	Pg	Pn	07 09 18.0	0.0
	1.2nm,0.3s,baz=103,slow=14,SNR=12						
ZALV				Lg	Lg	07 09 42.6	
	2.2nm,0.3s,baz=106,slow=26,SNR=12						
I46RU	**ZALESOVO INFRA**	**1.79**	**284**	I	I	07 21 15.0	
	baz=96,slow=323,SNR=19						
KURBB	**Kurchatov Arra**	**6.41**	**246**	Pn	Pn	07 10 22.3	+1.0
	baz=62,slow=14,SNR=2.1						
KURBB				Lg	Lg	07 12 08.8	
	baz=62,slow=32,SNR=5.6						
	0.3nm,0.3s						
MK31	**Makanchi Array**	**7.63**	**210**	P	Pn	07 10 38.1	0.0
	0.4nm,0.6s,baz=27,slow=13,SNR=4.5						
MKAR	**Makanchi Array**	**7.63**	**210**	Pn	Pn	07 10 39.4	+1.3
	0.2nm,0.3s,baz=30,slow=14,SNR=6.5						
MKAR				Lg	Lg	07 12 46.3	
	baz=28,slow=32,SNR=2.2						
	0.2nm,0.4s						

GUC 05 07:14:21.5±0.7,41°.13S×73°.91W, h41km±2km, ML2.9, 3C-2D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LL05	**Los Muermos**	**0.43**	**130**	⇓*i*P	Pn	07 14 30.6	-0.8
LL05				*e*S	Sn	07 14 38.4	0.0
LL05				IAML		07 14 40.0	
	comp=E,2μm,0.1s						
LL05	**Los Muermos**	**0.43**	**130**	⇓*i*P	Pn	07 14 30.6	-0.8
LL05				*i* S	Sn	07 14 36.8	-1.6
LL05				IAML		07 14 41.7	
	comp=N,3μm,0.2s						
LL06	**Loncomilla**	**1.11**	**169**	*e*P	Pn	07 14 40.4	-0.1
LL06				*i* S	Sn	07 14 54.9	+0.3
LL03	**Petrohue**	**1.14**	**91**	*e*P	Pn	07 14 40.8	-0.2
LL03				IAML		07 14 59.6	
	comp=E,732nm,0.5s						
LL03	**Petrohue**	**1.14**	**91**	*e*P	Pn	07 14 40.8	-0.2
LL03				*i* S	Sn	07 14 52.6	-2.8
LL03				IAML		07 14 59.6	
	comp=E,725nm,0.4s						
LR02	**Universidad Au**	**1.41**	**21**	*e*P	Pn	07 14 45.6	+0.9
LR02				*e*S	Sn	07 15 02.8	+0.7
LR02	**Universidad Au**	**1.41**	**21**	*e*P	Pn	07 14 46.7	+2.0
LR02				*i* S	Sn	07 15 03.6	+1.5
LR02				IAML		07 15 20.8	
	comp=N,1μm,0.5s						
LL01	**San Ignacio de**	**1.68**	**139**	*i* P	Pn	07 14 49.0	+0.6
LL01				*e*S	Sn	07 15 09.5	+0.8
LL01				IAML		07 15 14.9	
	comp=N,199nm,0.5s						
LL01	**San Ignacio de**	**1.68**	**139**	⇑*i*P	Pn	07 14 49.0	+0.7
LL01				*i* S	Sn	07 15 09.6	+0.9
LL01				IAML		07 15 15.1	
	comp=N,195nm,0.4s						
LR05	**Currie**	**1.71**	**59**	*e*P	Pn	07 14 49.5	+0.7
LR05				*i* S	Sn	07 15 10.0	+0.6
LR05				IAML		07 15 16.8	
	comp=E,277nm,0.4s						
LR05	**Currie**	**1.71**	**59**	*e*P	Pn	07 14 49.6	+0.8
LR05				*i* S	Sn	07 15 09.9	+0.6
LR03	**Panguipulli**	**1.92**	**39**	*e*P	Pn	07 14 51.8	+0.2
LR03				IAML		07 15 23.3	
LR03	**Panguipulli**	**1.92**	**39**	*e*P	Pn	07 14 51.6	0.0
LR03				*i* S	Sn	07 15 12.9	-1.5
LR03				IAML		07 15 23.3	
	comp=N,365nm,0.4s						
GO07	**Milladeo Hill,**	**1.99**	**175**	*e*P	Pn	07 14 52.7	0.0
GO07	**Milladeo Hill,**	**1.99**	**175**	*e*P	Pn	07 14 52.9	+0.2
GO07				*i* S	Sn	07 15 19.0	+2.6
GO07				IAML		07 15 27.0	
	comp=E,445nm,0.4s						
VNTQ	**Ventisquero**	**2.06**	**149**	⇑*i*P	Pn	07 14 54.3	+0.6
VNTQ				*i* S	Sn	07 15 18.9	+0.8
VNTQ	**Ventisquero**	**2.06**	**149**	⇑*i*P	Pn	07 14 54.3	+0.6
VNTQ				*i* S	Sn	07 15 18.7	+0.5
VNTQ				IAML		07 15 21.8	
	comp=N,55nm,0.4s						
PDRA	**Piedra**	**2.08**	**146**	*e*P	Pn	07 14 54.7	+0.7
PDRA				*i* S	Sn	07 15 20.0	+1.2
PDRA				IAML		07 15 24.5	
	comp=E,69nm,0.2s						
PDRA	**Piedra**	**2.08**	**146**	*e*P	Pn	07 14 54.7	+0.6
PDRA				*i* S	Sn	07 15 20.1	+1.2
PDRA				IAML		07 15 27.8	
	comp=N,62nm,0.4s						
GO06	**Curarrehue**	**2.42**	**51**	*e*P	Pn	07 15 00.3	+1.7
LL02	**Futaleuf**	**2.57**	**144**	*e*P	Pn	07 15 01.1	+0.5

*ASRS **05** 07:18:38.0±1.2,49°.63N×81°.64E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **05** 07:18:41.9±1.4,49°.77N×81°.54E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=18.8km s-min=10.5km az=49.0*
*NNC **05** 07:18:41.7±2.7,49°.88N×81°.90E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=32.6km s-min=8.3km az=53.0, Suspected Mining explosion.*

ISC 05 07:18:39.7±1.2,49°.55N±0°.07×81°.46E±0°.10, h0km, n8, σ0s88/10, 2C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.17**	**301**	⇓Pn	**Pg**	**07 19 20.7**	**-0.6**
	22nm,0.8s,baz=109,slow=15						
KURBB				⇑Sn	**Sg**	**07 19 50.3**	**+0.8**
	68nm,0.8s						
KURBB	**Kurchatov Arra**	**2.17**	**301**	Pg	**Pb**	**07 19 19.7**	**-0.1**
	0.4nm,0.3s,baz=112,slow=19,SNR=85						
KURBB				Lg	Lg	07 19 50.3	
	1.2nm,0.3s,baz=113,slow=30,SNR=20						
MAKZ	**Makanchi**	**2.76**	**173**	⇓Pn	**Pg**	**07 19 32.7**	**+0.2**
	1.4nm,0.5s						
MAKZ				⇑Sn

DZM Sn Sn 07 34 33.3 -2.0
36nm,0.3s,baz=119,slow=23,SNR=4.0
DZM LR LR 07 35 19.2
comp=Z,2μm,21.0s,baz=40,slow=36
104nm,0.4s
DZM Mont Dzumac 4.45 200 P Pn 07 33 44.4 0.0
KOUNC Koumac, New Ca 4.49 233 P Pn 07 33 45.6 +0.8
OUENC Ouen Island, N 4.66 195 P Pn 07 33 47.4 +0.1
OUENC Ouen Island, N 4.66 195 S Sn 07 34 41.3 +0.9
ONTNC Ouen Toro 4.67 199 P Pn 07 33 47.2 -0.1
ONTNC Ouen Toro 4.67 199 P Pn 07 33 47.9 +0.6
PINNC Pines Island, 4.74 188 P Pn 07 33 47.3 -1.0
PINNC Pines Island, 4.74 188 P Pn 07 33 49.0 +0.7
LUES Luesalemba Tem 7.50 343 P Pn 07 34 26.6 +0.4
HURO Huro Makira 9.53 320 P Pn 07 34 54.0 -0.1
HNR Honiara 11.56 316 Pn Pn 07 35 22.5 +0.5
HNR Honiara 11.56 316 Pn Pn 07 35 21.1 -0.9
12nm,0.3s,baz=118,slow=2.4,SNR=4.2
HNR LR LR 07 38 57.7
comp=Z,342nm,21.9s,baz=178,slow=33
146nm,0.7s
ALEG Aligegeo Malai 11.60 321 P Pn 07 35 22.9 +0.4
ALEG Aligegeo Malai 11.60 321 S Sn 07 37 32.1 +0.9
SAVO Savo Central 11.86 316 P Pn 07 35 26.1 0.0
RAO Raoul Island 17.06 134 LR LR 07 41 48.0
comp=Z,341nm,20.4s,baz=322,slow=32
EIDS Eidsvold 17.49 242 P 07 36 42.4 +0.7
EIDS Eidsvold 17.49 242 P P 07 36 42.0 +0.4
ARMA Armidale 19.51 227 P Pn 07 37 05.4 +0.1
comp=Z,23nm,1.2s
ARMA Armidale 19.51 227 P 07 37 03.4 -0.5
ARMA Armidale 19.51 227 P Pn 07 37 04.9 -0.5
TV1H Townsville Har 20.26 263 P P 07 37 13.0 +0.9
CTA Charters Tower 20.79 260 P P 07 37 19.0 +1.2
CTAO Charters Tower 20.79 260 P 07 37 18.3 +0.5
CTAO Charters Tower 20.79 260 P P 07 37 19.1 +1.2
URZ Urewera 21.76 161 P P 07 37 29.3 +1.2
comp=Z,14nm,0.7s,baz=346,slow=7.7,SNR=5.9
URZ LR LR 07 44 51.5
comp=Z,603nm,20.0s,baz=342,slow=34
comp=Z,14nm,0.7s
MTSU Mount Surprise 22.64 266 P P 07 37 37.1 -0.6
comp=Z,32nm,1.0s
MTSU Mount Surprise 22.64 266 P P 07 37 39.2 +1.5
QLP Quilpie 23.71 244 P P 07 37 48.5 +0.1
comp=Z,204nm,1.1s
QLP Quilpie 23.71 244 P P 07 37 49.6 +1.2
YNG Young 24.03 223 P P 07 37 52.3 +1.0
comp=Z,27nm,0.8s
CNB Canberra Magne 24.06 220 P P 07 37 52.7 +1.0
comp=Z,59nm,0.8s
CNB Canberra Magne 24.06 220 P P 07 37 53.2 +1.5
CAN Canberra 24.29 221 P P 07 37 55.0 +1.2
comp=Z,28nm,0.9s
CAN Canberra 24.29 221 P 07 37 53.7 -0.1
CAN IAmb IAmb 07 37 56.9
comp=Z,26nm,0.8s
CAN Canberra 24.29 221 P P 07 37 55.4 +1.6
COEN Coen 24.30 276 P P 07 37 54.1 +0.1
comp=Z,0.0nmcomp=Z,25nm,1.1s
COEN Coen 24.30 276 P 07 37 53.9 -0.1
COEN Coen 24.30 276 P P 07 37 54.5 +0.5
CMSA Cobar Meteorol 24.43 232 P P 07 37 55.3 +0.3
comp=Z,44nm,1.1s
CMSA Cobar Meteorol 24.43 232 P P 07 37 55.7 +0.7
INKA Innaminka 27.02 244 P 07 38 17.9 -0.5
QIS Mount Isa 27.04 260 P P 07 38 18.6 -0.2
QIS Mount Isa 27.04 260 P P 07 38 20.5 +1.7
STKA Stephens Creek 27.71 235 P P 07 38 25.0 +0.3
comp=Z,120nm,1.0s
STKA Stephens Creek 27.71 235 P P 07 38 25.0 +0.3
STKA Stephens Creek 27.71 235 P P 07 38 25.0 +0.3
comp=Z,12nm,0.6s,baz=55,slow=7.8,SNR=24
STKA LR LR 07 48 56.2
comp=Z,309nm,19.5s,baz=59,slow=35
comp=Z,12nm,0.6s
STKA Stephens Creek 27.71 235 P P 07 38 25.8 +1.1
ARPS Mount Arapiles 29.82 226 P P 07 38 43.3 -0.1
comp=Z,8.7nm,1.4s
RAR Rarotonga 30.41 102 LR LR 07 49 11.6
comp=Z,116nm,19.9s,baz=78,slow=33
WRAB Tennant Creek 31.98 261 P P 07 39 01.2 -1.5
WRAB IAmb IAmb 07 39 04.5
comp=Z,15nm,1.1s
WRA Warramunga Arr 31.99 261 P P 07 39 00.7 -2.1
WRA Warramunga Arr 31.99 261 P P 07 39 01.3 -1.5
comp=Z,4.5nm,0.7s,baz=82,slow=6.2,SNR=26
WRA PcP **PcP 07 41 52.0 -0.5**
comp=Z,4.6nm,1.0s,baz=85,slow=2.5,SNR=11
WRA LR LR 07 51 06.6
comp=Z,232nm,19.8s,baz=150,slow=35
comp=Z,4.5nm,0.7s
AS01 Alice Springs 32.41 254 P P 07 39 05.8 -0.6
BBOO Buckleboo 32.41 237 P P 07 39 06.1 -0.1
comp=Z,18nm,0.7s
BBOO Buckleboo 32.41 237 P P 07 39 05.9 -0.4
AS03 Alice Springs 32.44 254 P P 07 39 05.7 -1.0
comp=Z,35nm,0.8s
AS31 Alice Springs 32.45 254 P P 07 39 05.8 -1.0
comp=Z,9.6nm,0.7s
ASAR Alice Springs 32.45 254 P P 07 39 05.5 -1.3
comp=Z,15nm,0.6s,baz=81,slow=8.8,SNR=215
ASAR PcP **PcP 07 41 53.2 -0.5**
comp=Z,2.9nm,0.8s,baz=104,slow=2.9,SNR=8.4
ASAR LR LR 07 51 18.5
comp=Z,440nm,20.5s,baz=100,slow=35
comp=Z,15nm,0.6s
SMPI Sarmi 32.91 295 P P 07 39 10.2 -0.6
comp=Z,19nm,1.1s
KDU Kakadu 34.74 273 P P 07 39 25.6 -1.0
comp=Z,24nm,1.2s
KDU Kakadu 34.74 273 P P 07 39 26.0 -0.7
MTN Manton Dam 35.98 273 P P 07 39 37.0 -0.4
comp=Z,23nm,1.4s
WRKA Warakurna 37.64 252 P P 07 39 50.5 -1.0
comp=Z,0.0nmcomp=Z,5.9nm,1.3s
KNRA Kununurra 37.70 267 P P 07 39 51.3 -0.7
comp=Z,90nm,0.9s
KNRA Kununurra 37.70 267 P P 07 39 51.2 -0.8
GUMO Guam 38.79 322 LR LR 07 54 08.1
comp=Z,140nm,21.1s,baz=135,slow=33
TBI Tubuai 39.97 105 eLR LR 07 51 04.3
comp=Z,777nm,24.8s
PPT2 Papeete2 40.23 96 eLR LR 07 51 07.6
comp=Z,246nm,24.2s
PPT2 eLR LR 07 51 12.3
comp=Z,229nm,29.2s
PPT Papeete 40.23 96 LR LR 07 52 55.7
comp=Z,215nm,19.0s,baz=210,slow=30
FITZ Fitzroy Crossi 40.34 263 P P 07 40 14.1 -0.1
comp=Z,25nm,0.9s
FITZ Fitzroy Crossi 40.34 263 P 07 40 14.0 -0.1
FITZ IAmb IAmb 07 40 15.0
comp=Z,17nm,0.8s
FITZ Fitzroy Crossi 40.34 263 P P 07 40 13.9 -0.2
comp=Z,81nm,0.8s,baz=106,slow=7.5,SNR=130
FITZ LR LR 07 56 03.9
comp=Z,336nm,20.2s,baz=115,slow=35
comp=Z,81nm,0.8s
FITZ Fitzroy Crossi 40.34 263 P P 07 40 14.3 +0.2
BATI Baumata 43.71 274 P P 07 40 42.5 +0.7
comp=Z,88nm,0.8s,baz=183,slow=2.2,SNR=5.3
BATI LR LR 07 59 02.9
comp=Z,214nm,18.4s,baz=162,slow=36
comp=Z,88nm,0.8s
PSAC2 Pilbara Seismi 45.40 257 P P 07 40 54.6 -0.6
comp=Z,42nm,1.4s
PSA00 Pilbara Seismi 45.45 257 P P 07 40 55.2 -0.3
comp=Z,36nm,1.2s
PSA00 Pilbara Seismi 45.45 257 P 07 40 55.6 +0.1
PSA00 IAmb IAmb 07 40 56.5
comp=Z,14nm,0.9s
PSA00 Pilbara Seismi 45.45 257 P P 07 40 56.3 +0.8
MBWA Marble Bar 45.59 258 P P 07 40 56.3 -0.3
comp=Z,64nm,0.9s
MBWA Marble Bar 45.59 258 P 07 40 56.6 -0.1
MBWA Marble Bar 45.59 258 P P 07 40 56.9 +0.3
EDFI Ende, Flores 45.98 275 P P 07 40 59.7 -0.2
comp=Z,28nm,1.2s
MEEK Meekatharra 46.40 250 P P 07 41 02.7 -0.3
comp=Z,64nm,1.3s
MEEK Meekatharra 46.40 250 P P 07 41 03.2 +0.2
KLBR Kellerberrin 47.35 243 P P 07 41 09.8 -0.6
comp=Z,40nm,1.3s
NWAO Narrogin (SRO) 47.90 242 P P 07 41 13.8 -0.8
NWAO Narrogin (SRO) 47.90 242 P P 07 41 14.4 -0.2

MUN Mundaring 48.69 243 P P 07 41 21.2 +0.5
MORW Morawa 48.71 247 P P 07 41 20.2 -0.7
comp=Z,18nm,2.1s
KAPI Kappang 48.95 279 P P 07 41 22.8 0.0
comp=Z,4.9nm,0.3s,baz=98,slow=14,SNR=4.7
KAPI LR LR 08 02 04.1
comp=Z,64nm,18.5s,baz=159,slow=36
comp=Z,4.9nm,0.3s
TOLI2 Tolitoli 50.26 287 P P 07 41 31.7 -1.2
TOLI2 IAmb IAmb 07 41 33.9
comp=Z,29nm,1.3s
TOLI2 Tolitoli 50.26 287 P P 07 41 33.1 +0.2
TAOE Nuku Hiva Isla 50.98 87 eLR LR 07 56 05.1
comp=Z,326nm,24.2s
MYLDM Lahad Datu 54.05 290 P P 07 42 02.2 +1.1
MYLDM IAmb IAmb 07 42 29.7
comp=Z,41nm,1.3s
KKM Kota Kinabalu 56.47 290 P P 07 42 18.9 +0.2
KKM IAmb IAmb 07 42 19.9
comp=Z,23nm,1.0s
JHJ Hachijo jima 2 57.50 332 LR LR 08 06 33.5
comp=Z,23nm,18.9s,baz=128,slow=36
SBUM Sibu 58.64 284 P P 07 42 33.4 -0.4
SBUM Sibu 58.64 284 P P 07 42 34.6 +0.8
VNDA Vanda 59.74 182 P P 07 42 41.0 +0.5
comp=Z,3.0nm,0.9s,baz=3.7,slow=6.8,SNR=17
VNDA LR LR 08 06 07.8
comp=Z,104nm,18.1s,baz=258,slow=34
comp=Z,3.0nm,0.9s
SBA Scott Base 60.00 180 P P 07 42 42.8 +0.6
SBA IAmb IAmb 07 42 45.3
comp=Z,26nm,1.0s
KSM Kuching 60.05 282 P P 07 42 43.6 +0.1
KSM Kuching 60.05 282 P P 07 42 44.1 +0.5
MJAR Matsushiro Arr 61.07 333 P P 07 42 49.1 -1.0
comp=Z,1.2nm,0.6s,baz=166,slow=11,SNR=4.4
MJAR LR LR 08 12 25.7
comp=Z,20nm,18.1s,baz=138,slow=39
comp=Z,1.2nm,0.6s
ASAJ Asahikawa 65.98 340 LR LR 08 08 08.5
comp=Z,170nm,21.3s,baz=178,slow=32
NJ2 Nanjing 68.51 316 eP P 07 43 39.8 +1.2
NJ2 pmax pmax
comp=Z,13nm,0.9s
IPM Ipoh 69.77 282 P P 07 43 47.2 +0.3
USRK Ussuriysk Ar. 70.06 333 P P 07 43 49.1 +1.1
comp=Z,5.3nm,0.9s,baz=145,slow=5.3,SNR=4.2
USRK LR LR 08 13 13.3
comp=Z,46nm,19.6s,baz=144,slow=35
comp=Z,5.3nm,0.9s
SHEM Shemya Is, Ala 70.51 4 LR LR 08 08 48.0
comp=Z,141nm,21.6s,baz=119,slow=31
RPSI Rantau Prapat 71.12 279 P P 07 43 54.4 -0.7
RPSI IAmb IAmb 07 43 55.3
comp=Z,16nm,0.9s
PSI Prapat 71.16 279 P P 07 43 54.9 -0.6
PETK Petropavlovsk- 71.28 353 P P 07 43 52.9 -2.2
PETK Petropavlovsk- 71.28 353 LR LR 08 11 26.4
comp=Z,16nm,19.4s,baz=161,slow=33
QSPA South Pole Qui 72.16 180 P P 07 44 01.4 +0.8
comp=Z,24nm,0.9s,baz=8.1,slow=1.3,SNR=60
QSPA LR LR 08 11 38.2
comp=Z,142nm,20.4s,baz=23,slow=32
comp=Z,24nm,0.9s
CN2 Changchun 72.76 329 P P 07 44 04.1 -0.2
CN2 S S 07 53 30.3 +2.3
CN2 pmax pmax
comp=Z,10.0nm,0.9s
BNX BinXian 73.29 332 ⇓P P 07 44 07.6 +0.2
BNX pmax pmax
comp=Z,18nm,0.8s
RPN Rapa Nui 75.61 114 LR LR 08 09 02.8
comp=Z,39nm,21.9s,baz=214,slow=29
HEH HeiHe 76.75 335 eP P 07 44 27.9 +0.7
CMAR Chiang Mai Arr 76.99 294 P P 07 44 29.7 +0.4
CMAR Chiang Mai Arr 76.99 294 P P 07 44 29.9 +0.6
comp=Z,2.2nm,0.3s,baz=128,slow=4.5,SNR=7.4
comp=Z,2.2nm,0.3s
PZH PanZhiHua 78.09 303 P P 07 44 37.3 +1.8
MA2 Magadan 78.48 351 LR LR 08 15 12.9
comp=Z,49nm,21.8s,baz=141,slow=33
HHC Hu-ho-hao-te 78.51 320 eP P 07 44 38.9 +1.4
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,88nm,5.9s
CD2 Chengdu 78.58 308 eP P 07 44 38.0 0.0
MAW Mawson 79.28 202 P P 07 44 42.1 +1.0
comp=Z,1.8nm,1.1s
MAW Mawson 79.28 202 P P 07 44 42.0 +0.8
comp=Z,7.9nm,1.0s,baz=91,slow=7.8,SNR=8.3
MAW LR LR 08 17 24.5
comp=Z,165nm,18.1s,baz=21,slow=34
comp=Z,7.9nm,1.0s
BTO Baotou 79.33 319 eP P 07 44 44.4 +2.5
BTO pP **PcP** 07 44 49.0 -1.0
BTO sP **pP** 07 44 51.4 +0.4
BTO pmax pmax
comp=Z,22nm,0.8s
BTO pmax pmax
comp=Z,230nm,6.0s
SEY Seymchan 81.50 353 LR LR 08 18 30.9
comp=Z,100nm,19.6s,baz=154,slow=34
KDAK Kodiak Island 82.13 20 LR LR 08 19 38.1
comp=Z,62nm,18.0s,baz=203,slow=34
Q19K Cape Douglas, 82.71 19 P P 07 44 59.0 -0.4
Q19K IAmb IAmb 07 45 01.5
comp=Z,14nm,0.7s
BELA Belgrano 2 83.52 175 P P 07 45 02.5 -1.0
BELA IAmb IAmb 07 45 04.3
comp=Z,26nm,1.2s
M17K Holitna River 83.67 16 P P 07 45 03.7 -0.6
N19K Bonanza Creek 83.99 17 P P 07 45 05.0 -1.1
N19K IAmb IAmb 07 46 31.4
comp=Z,28nm,1.9s
L19K White Mountain 85.01 16 P P 07 45 10.6 -0.5
L19K IAmb IAmb 07 45 25.0
comp=Z,44nm,2.0s
ULN Ulaanbaatar 85.16 324 P P 07 45 12.2 -0.1
ULN IAmb IAmb 07 45 13.9
comp=Z,16nm,0.9s
YAK Yakutsk 85.28 343 LR LR 08 18 31.2
comp=Z,84nm,21.9s,baz=156,slow=32
GTA Gaotai 85.43 314 eP P 07 45 15.8 +1.9
GTA sP sP 07 45 27.4 +1.3
GTA pmax pmax
comp=Z,9.0nm,1.1s
SONM Songino Array 85.51 323 P 07 45 13.8 -0.4
SONM IAmb IAmb 07 45 15.4
comp=Z,13nm,1.1s
SONM Songino Array 85.51 323 P P 07 45 13.7 -0.4
comp=Z,8.5nm,1.0s,baz=141,slow=5.4,SNR=31
SONM LR LR 08 25 08.0
comp=Z,18nm,18.1s,baz=122,slow=37
comp=Z,8.5nm,1.0s
SYO Syowa Base 85.92 196⇑ iP P 07 45 16.2 +0.5
SYO Syowa Base 85.92 196⇑ esP P 07 45 20.8 +5.1
YBH Yreka Blue Hor 87.08 44 LR LR 08 16 13.7
comp=Z,8.1nm,20.3s,baz=252,slow=30
PFO Pinyon Flats O 88.18 54 LR LR 08 18 40.4
comp=Z,80nm,18.6s,baz=262,slow=31
NVAR Mina Array Bea 88.71 49 P P 07 45 30.0 0.0
comp=Z,0.7nm,0.6s,baz=235,slow=6.4,SNR=7.4
NVAR LR LR 08 20 13.1
comp=Z,89nm,18.2s,baz=249,slow=32
comp=Z,0.7nm,0.6s
BBB Bella Bella 88.94 34 LR LR 08 15 58.7
comp=Z,55nm,21.9s,baz=220,slow=29
ILAR Eielson Array 89.27 18 P P 07 45 29.8 -1.8
comp=Z,0.5nm,0.6s,baz=229,slow=6.1,SNR=12
ILAR LR LR 08 20 23.3
comp=Z,103nm,19.4s,baz=221,slow=32
comp=Z,0.5nm,0.6s
TROLL Troll, Antarti 89.79 184 ⇑P P 07 45 34.7 +0.3
comp=Z,1μm,0.7s
LPIG La Paz 89.80 65 LR LR 08 18 06.5
comp=Z,126nm,19.6s,baz=234,slow=30
SNAA Sanae 90.45 183 ⇑P P 07 45 37.3 0.0
comp=Z,191nm,0.8s
SNAA Sanae 90.45 183 P P 07 45 36.6 -0.8
SNAA IAmb IAmb 07 45 38.4
comp=Z,29nm,1.4s
SNAA Sanae 90.45 183 P P 07 45 36.6 -0.8
comp=Z,9.3nm,0.8s,baz=198,slow=7.1,SNR=51
comp=Z,9.3nm,0.8s
VNA3 Neumayer Olymp 91.08 181 ⇑P P 07 45 40.0 -0.2
comp=Z,24nm,0.8s

DLBC Dease Lake 91.34 28 LR LR 08 18 05.9
comp=Z,770nm,21.9s,baz=208,slow=30
VNA1 Neumayer--Stat 91.66 181 ⇑P P 07 45 42.9 +0.1
comp=Z,14nm,1.1s
TIXI Tiksi 93.21 348 LR LR 08 25 51.0
comp=Z,58nm,19.4s,baz=182,slow=34
NEW Newport 93.43 40 LR LR 08 20 31.6
comp=Z,38nm,20.6s,baz=274,slow=31
WMQ Urumqi 95.51 314 eP P 07 46 01.8 +0.7
INK Inuvik 95.61 19 LR LR 08 24 34.3
comp=Z,92nm,18.6s,baz=226,slow=33
ANMO Albuquerque 96.41 55 LR LR 08 20 28.0
comp=Z,63nm,21.9s,baz=352,slow=30
PDAR Pinedale Array 96.48 47 LR LR 08 24 39.0
comp=Z,42nm,18.5s,baz=259,slow=32
YKA Yellowknife Ar 99.96 27 LR LR 08 26 08.3
comp=Z,66nm,18.5s,baz=271,slow=32
MKAR Makanchi Array 100.04 316 P Pdif 07 46 21.0 -0.4
comp=Z,0.6nm,0.7s,baz=92,slow=7.1,SNR=5.7
comp=Z,0.6nm,0.7s
SPITS Spitsbergen Ar 118.15 354 PKP **PKPdf** 07 51 20.5 -1.7
comp=Z,4.0nm,0.8s,baz=29,slow=3.3,SNR=1.3
ARCES ARCESS Array B 123.50 345 PKP **PKPdf** 07 51 31.7 -1.0
comp=Z,1.7nm,0.3s,baz=69,slow=1.6,SNR=26
FINES FINESS Array B 128.94 338 PKP **PKPdf** 07 51 42.8 -0.5
comp=Z,2.5nm,0.7s,baz=56,slow=3.5,SNR=8.1
AKASG Malin Array Be 133.78 325 PKP **PKPdf** 07 51 52.2 -0.5
comp=Z,1.2nm,0.5s,baz=63,slow=1.9,SNR=7.2
NOA NORSAR Array B 133.87 345 PKP **PKPdf** 07 51 52.0 -0.7
comp=Z,0.2nm,0.4s,baz=334,slow=16,SNR=2.5
BRTR Keskin Array B 135.15 309 PKP **PKPdf** 07 51 56.6 +0.8
comp=Z,0.7nm,0.7s,baz=54,slow=2.3,SNR=5.6
CLL Collm 141.25 335 ePKPdf **PKiKP** 07 52 09.0 -0.2
RONA Rosalia, Austr 142.39 328 *i* PKP **PKPdf** 07 52 07.3 -1.4
comp=Z,3.4nm,0.9s
CONA Conrad Observa 142.45 329 ePKP **PKPdf** 07 52 07.2 -1.7
comp=Z,1.6nm,0.6s
GERES GERESS Array B 142.81 332 PKP **PKPdf** 07 52 08.8 -0.8
comp=Z,1.1nm,0.7s,baz=46,slow=3.9,SNR=6.2
ARSA Arzberg 143.08 329 epPKiKP **PKiKP** 07 52 17.1 +3.9
comp=Z,2.0nm,0.6s
MOA Molln 143.27 330 *i* PKP PKPbc 07 52 07.9 +0.6
comp=Z,7.8nm,0.9s
BIOA Bad Ischl, Aus 143.68 331 ePKP PKPbc 07 52 08.9 +0.4
comp=Z,7.1nm,1.2s
SOKA Sobotin 143.72 328 *i* PKP PKPbc 07 52 08.4 -0.3
comp=Z,2.8nm,0.6s
OBKA Obir 144.07 328 *i* PKP **PKPab** 07 52 09.3 0.0
comp=Z,4.7nm,0.8s
KBA Koelnbreinsper 144.26 330 *i* PKP **PKPab** 07 52 09.3 -0.8
comp=Z,8.7nm,0.9s
LESA Schwarzleotal 144.32 331 *i* PKP PKPbc 07 52 10.8 +0.3
comp=Z,9.4nm,0.6s,SNR=6.0
LJU Ljubljana 144.41 328 *i* PKPdf PKPbc 07 52 10.7 -0.1
MYKA Terra Mystica 144.44 329 *i* PKP **PKPab** 07 52 10.7 0.0
comp=Z,8.9nm,1.0s
GBRS Gornja Briga 144.61 327 *i* PKPdf PKPbc 07 52 11.5 +0.1
GBRS *i* 07 52 21.2
CEY Cerknica 144.66 328 *i* PKPdf **PKPab** 07 52 11.5 0.0
WATA Walderalm 144.88 332 ePKP **PKPab** 07 52 12.4 0.0
comp=Z,11nm,1.0s
ABTA Abfaltersbach 144.89 330 *i* PKP **PKPab** 07 52 11.8 -0.5
comp=Z,9.8nm,0.8s,SNR=12
WTTA Wattenberg 144.91 332 *i* PKP PKPbc 07 52 12.9 +0.4
comp=Z,17nm,1.1s,SNR=6.5
MOTA Moosalm 145.09 332 *i* PKP **PKPab** 07 52 13.3 +0.2
comp=Z,22nm,0.9s,SNR=9.6
RETA Reutte 145.13 333 *i* PKP **PKPab** 07 52 13.3 +0.2
comp=Z,23nm,1.2s
SQTA Sankt Quirin 145.14 332 *i* PKP **PKPab** 07 52 13.4 +0.2
comp=Z,19nm,0.8s,SNR=7.6
FETA Feichten 145.50 332 *i* PKP **PKPab** 07 52 14.6 -0.1
comp=Z,32nm,0.9s,SNR=13
DAVA Damuels 145.66 333 *i* pPKP **PKPab** 07 52 15.3 0.0
comp=Z,32nm,1.2s,SNR=6.4
ESDC Sonseca Array 157.23 344 PKPab **PKPab** 07 53 02.4 -0.6
comp=Z,1.3nm,1.0s,baz=31,slow=4.8,SNR=4.4
TORD Torodi Ar. Bea 166.10 252 PKP **PKPdf** 07 52 41.1 -0.8
comp=Z,1.1nm,0.8s,baz=64,slow=2.4,SNR=8.5
TORD PKPab **PKPab** 07 53 42.1 -0.5
comp=Z,3.3nm,0.9s,baz=86,slow=4.8,SNR=12

KRSC 05 07:45:48.9±2.8, 49°.47N×157°.31E, h43km±49km, MI3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.44**	**328**	*eP*		Pn	07 46 11.8	-0.6
SKR				*eS*		Sn	07 46 28.2	-1.9
PAU	**Pauzhetka**	**2.02**	**351**	*eP*		Pn	07 46 22.7	+2.2
PAU				*eS*		Sn	07 46 46.7	+2.1
MIPR	**Malaya Ipel'ka**	**2.83**	**353**	*eP*		Pn	07 46 33.9	+2.2
ASAK	**Asacha**	**2.94**	**7**	*eP*		Pn	07 46 37.2	+4.0
RUS	**Russkaya**	**3.06**	**14**	*eP*		Pn	07 46 38.1	+3.4
MTVR	**Mutnovka**	**3.07**	**10**	*eP*		Pn	07 46 38.9	+3.9
MTVR				*eS*		Sn	07 47 15.4	+5.0
GRL	**Gorelyy**	**3.12**	**9**	*eP*		Pn	07 46 39.9	+4.2
GRL				*eS*		Sn	07 47 17.6	+5.8
KRMR	**Karymshinskiy**	**3.41**	**8**	*eP*		Pn	07 46 43.6	+4.1
APC	**Apacha**	**3.46**	**358**	*eP*		Pn	07 46 46.0	+5.8
PET	**Petropavlovsk**	**3.66**	**13**	*eP*		Pn	07 46 46.9	+3.9
DALK	**Dalny**	**3.68**	**14**	*eP*		Pn	07 46 47.1	+3.9
UGLR	**Uglovaya**	**3.86**	**14**	*eP*		Pn	07 46 50.8	+4.9
AVH	**Avacha**	**3.91**	**13**	*eP*		Pn	07 46 51.1	+4.7
SMAR	**Somma**	**3.91**	**13**	*eP*		Pn	07 46 51.1	+4.5
KOK	**Koryaka**	**3.92**	**12**	*eP*		Pn	07 46 51.9	+5.3
SDLR	**Sedlovina**	**3.94**	**14**	*eP*		Pn	07 46 51.0	+4.1
KRER	**Koryakskii**	**3.94**	**13**	*eP*		Pn	07 46 52.1	+5.1
KRX	**Arik**	**3.98**	**12**	*eP*		Pn	07 46 52.4	+4.8
SPN	**Mys Shipunski**	**4.01**	**24**	*eP*		Pn	07 46 52.5	+4.6
SPN				*eS*		Sn	07 47 39.4	+5.8
GNL	**Ganaly**	**4.25**	**5**	*eP*		Pn	07 46 55.6	+4.4
MKZ	**Mys Kozlova**	**5.78**	**26**	*eP*		Pn	07 47 15.4	+3.4
MKZ				*eS*		Sn	07 48 21.3	+4.4
KBTR	**Krutoberegovo**	**7.53**	**24**	*eP*		Pn	07 47 39.7	+3.7
BKI	**Bering**	**7.81**	**39**	*eP*		Pn	07 47 44.6	+4.6
BKI				*eS*		Sn	07 49 07.9	+1.0

ASRS ***05*** *08:05:26.0±0.5, 54°.55N×86°.32E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 08:05:30.5±3.1, 54°.49N×86°.17E, h0km, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=23.6km s-min=15.0km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**236**	I	I		08 11 30.0	
	baz=54,slow=320,SNR=3.4							
ZALV	**Zalesovo Beam**	**0.96**	**236**	Pg	Pg		08 05 47.6	-1.2
	1.6nm,0.3s,baz=54,slow=17,SNR=14							
ZALV					Lg	Lg	08 06 02.8	
	4.2nm,0.3s,baz=57,slow=27,SNR=18							
KURBB	**Kurchatov Arra**	**6.06**	**233**	Pn	Pn		08 07 02.5	+1.3
	0.1nm,0.3s,baz=50,slow=14,SNR=4.4							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**8.09**	**199**	Pn	Pn		08 07 29.8	+0.6
	0.2nm,0.3s,baz=21,slow=12,SNR=5.4							
	0.2nm,0.3s							

IDC ***05*** *08:06:04.9±2.2, 11°.78N×87°.28W, h0km, mb3.3/2, mbtmp3.3/4, ML2.8/2, Error ellipse: s-maj=116.0km s-min=21.3km az=39.0*

CATAC ***05*** *08:06:06.5±0.4, 12°.N±2°.×8°.8W±°., h21km, M3.6/24, MLv3.6/24, Error ellipse: s-maj=5.9km s-min=3.4km az=37.5, confirmed*

SNET ***05*** *08:06:12.9±5.4, 11°.95N×87°.29W, h35km, ML3.4*

ISC 05 08:06:06.9±1.0, 11°.52N±0°.05×87°.51W±0°.05, h22km±6km, n46, σ0.63/55, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.11**	**54**	P		**Pn**	**08 06 27.2**	**-0.1**
CRIN	**San Cristobal**	**1.26**	**21**	P		**Pn**	**08 06 29.3**	**0.0**
PKGN	**Cerro Pekin**	**1.26**	**25**	P		**Pn**	**08 06 29.1**	**-0.1**
PKGN				S		**Sn**	**08 06 44.6**	**-0.9**
CNGN	**Cerro Negro**	**1.26**	**39**	P		**Pn**	**08 06 29.0**	**-0.3**
SAPS	**Ciudad Sandino**	**1.26**	**59**	P		**Pn**	**08 06 29.5**	**+0.2**
SAPS	**Ciudad Sandino**	**1.26**	**59**	S		**Sn**	**08 06 45.6**	**0.0**
PLRN	**Geotermica Pol**	**1.28**	**34**	P		**Pn**	**08 06 29.4**	**-0.3**
PLRN				S		**Sb**	**08 06 46.7**	**+0.2**
APQ3	**Volcan Apoyequ**	**1.35**	**56**	P		**Pn**	**08 06 30.3**	**-0.1**

APQ3				S		Sn	08 06 47.0	-0.7
UNAN	Cigeo UNAN	1.35	64	P		Pn	08 06 30.4	-0.1
UNAN				S		Sb	08 06 49.2	+0.8
MOM2	El Cardon	1.36	48	P		Pn	08 06 30.5	-0.1
TISN	Laguna Tiscapa	1.36	63	P		Pn	08 06 29.5	-1.2
MOM3	MOM3	1.38	44	P		Pn	08 06 30.8	-0.2
MOM3				S		Sn	08 06 48.9	+0.2
MAS3	Al N del Volca	1.40	69	P		Pn	08 06 31.5	+0.3
NANN	Nandasmo	1.42	73	P		Pb	08 06 32.5	-0.3
WILN	Americas 2	1.44	64	P		Pn	08 06 31.7	-0.1
WILN				S		Sn	08 06 50.7	+0.6
CSGN	Cosiguina Volc	1.45	358	P		Pn	08 06 31.7	-0.2
NADN	Granada	1.47	81	P		Pn	08 06 31.5	-0.6
POTN	Potosi Cosigui	1.47	0	P		Pn	08 06 32.1	-0.1
POTN				S		Sn	08 06 50.8	0.0
CNCH	Conchagua	1.77	350	eP		Pn	08 06 36.3	-0.1
CNCH				eS		Sn	08 06 59.3	+0.8
CNCH	Conchagua	1.77	350	S		Sn	08 06 58.0	-0.5
CNCH	Conchagua	1.77	350	P		Pn	08 06 36.4	-0.1
LCND	La Caada	1.82	348	eS		Sn	08 06 59.5	+0.1
BOAB	BOACO BROADBAN	2.03	63	P		Pn	08 06 39.1	-0.8
MATN	Matagalpa	2.09	48	P		Pn	08 06 39.7	-1.1
PACA	Pacayal	2.09	338	eP		Pn	08 06 42.0	+1.1
PACA	Pacayal	2.09	338	P		Pn	08 06 41.4	+0.5
PACA	Pacayal	2.09	338	S		Sn	08 07 04.8	-1.6
PQSS	Presa 15 de Se	2.33	334	eP		Pn	08 06 44.6	+0.6
ACON	Acoyapa	2.33	79	P		Pn	08 06 43.8	-0.2
ACON	Acoyapa	2.33	79	S		Sn	08 07 11.5	-0.6
RCVN	Varillal2	2.42	32	P		Pn	08 06 46.0	+0.6
RCPN	Sur Rio San Ju	2.43	35	P		Pn	08 06 45.6	+0.2
CMARA	Lajas Hojancha	2.54	126	P		Pn	08 06 46.9	0.0
JTS	Las Juntas de 0.9nm,0.3s,baz=312,slow=23,SNR=8.7	2.79	116	Pn		Pn	08 06 50.7	+0.3
JTS				Sn		Sn	08 07 23.0	-0.5
	9.3nm,0.3s,baz=301,slow=16,SNR=7.8 1.8nm,0.3s							
JTS	Las Juntas de	2.79	116	P		Pn	08 06 49.9	-0.6
JAYA	Jayaque - finc	2.84	318	eP		Pn	08 06 51.1	-0.1
NUBE	Las Nubes	3.24	317	eP		Pn	08 06 57.0	+0.3
NUBE	Las Nubes	3.24	317	S		Sn	08 07 32.5	-2.2
NUBE	Las Nubes	3.24	317	P		Pn	08 06 56.4	-0.3
MTO3	Montecristo	3.38	328	eP		Pn	08 06 59.3	+0.5
SIUN	Universidad Ur	3.45	50	P		Pn	08 06 59.2	-0.2
LCR2	La Lucha 2	3.87	117	S		Sn	08 07 50.5	0.0
CMIG	Matias Romero 0.2nm,0.3s,baz=121,slow=12,SNR=2.0	9.04	309	Pn		Pn	08 08 17.1	+0.9
	0.6nm,0.4s							
TXAR	Lajitas Array 0.8nm,0.6s,baz=133,slow=9.5,SNR=20	23.26	322	P		P	08 11 13.8	+0.6
	0.8nm,0.6s							
PDAR	Pinedale Array 0.2nm,0.6s,baz=141,slow=8.6,SNR=3.7	36.56	332	P		P	08 13 11.4	-0.1
	0.2nm,0.6s							
CMAR	Chiang Mai Arr 0.6nm,0.3s,baz=342,slow=3.5,SNR=5.1	149.54	348	PKPbc		PKPbc	08 25 56.1	+0.5

IDC 05 08:17:01.2±2.7, 6°87'S×131°98'E, h0km, mb3.7/1, mbtmp3.6/4, ML3.7/3, MS2.8/1, Error ellipse: s-maj=104.6km s-min=30.2km az=81.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi 0.3nm,0.3s,baz=25,slow=12,SNR=12	12.76	208	Pn	Pn	08 20 04.1	+0.1
FITZ				Sn	Sn	08 22 17.9	-9.0
	0.6nm,0.3s,baz=195,slow=9.2,SNR=12 0.9nm,0.4s						
WRA	Warramunga Arr 0.3nm,0.3s,baz=351,slow=13,SNR=11	13.20	170	Pn	Pn	08 20 10.1	0.0
WRA				Sn	Sn	08 22 35.0	-2.7
	0.6nm,0.3s,baz=352,slow=23,SNR=7.4 0.7nm,0.5s						
ASAR	Alice Springs 0.2nm,0.3s,baz=348,slow=9.8,SNR=14	16.80	174	Pn	Pn	08 20 58.0	-0.2
ASAR				Sn	Sn	08 23 59.8	-5.8
	0.1nm,0.3s,baz=356,slow=26,SNR=5.4 0.6nm,0.4s						
CMAR	Chiang Mai Arr comp=Z,13nm,19.9s,baz=185,slow=39	41.17	308	LR	LR	08 44 01.2	
MKAR	Makanchi Array 0.4nm,0.5s,baz=123,slow=6.6,SNR=4.4	69.20	326	P	P	08 28 09.9	0.0
	0.4nm,0.5s						

*NOU **05** 08:17:41.9, 40°.28S×173°.60E, h198km, MLv3.6/15, Cook Strait, New Zealand*
*WEL **05** 08:17:45.5±1.4, 40°.5±8°×17°.3E±°, h171km±11km, M3.3/7, ML3.4/8, MLv3.3/7, Error ellipse: s-maj=10.6km s-min=9.7km az=59.9, confirmed*

ISC 05 08:17:42.7±1.3, 40°.24S±0°.06×173°.53E±0°.06, h191km, n34, σ1s16/38, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.64	152	P	Pn	08 18 10.8	+1.5
DUWZ				S	Sn	08 18 31.1	+0.9
KHLK	Kaihoka Lakes	0.77	245	P	Pn	08 18 10.8	+0.8
TSFS	Takaka Scotts	0.81	221	P	Pn	08 18 11.3	+1.0
OPSS	Opunake Primar	0.83	18	P	Pn	08 18 11.3	+0.9
NMEZ	Namu Road	0.87	18	P	Pn	08 18 11.5	+0.8
TKNZ	Takaka Hill	0.90	209	P	Pn	08 18 11.8	+0.9
TKNZ				S	Sn	08 18 32.8	0.0
QRZ	Quartz Range	0.96	232	P	Pn	08 18 11.9	+0.7
QRZ	Quartz Range	0.96	232	S	Sn	08 18 33.2	-0.2
QRZ	Quartz Range	0.96	232	P	Pn	08 18 12.0	+0.8
QRZ				S	Sn	08 18 32.8	-0.6
NNZ	Nelson	0.98	187	P	Pn	08 18 12.5	+1.1
NBEZ	Newall Road No	1.00	15	P	Pn	08 18 12.3	+0.7
KHEZ	Kahui Hut	1.01	22	P	Pn	08 18 12.3	+0.5
KHEZ	Kahui Hut	1.01	22	P	Sn	08 18 36.3	+2.1
KHEZ	Kahui Hut	1.01	22	P	Pn	08 18 12.6	+0.8
PREZ	Palmer Road	1.02	29	P	Pn	08 18 12.4	+0.7
LREZ	Lake Rotokare	1.03	41	P	Pn	08 18 12.7	+1.0
NEZ	North Egmont	1.06	24	P	Pn	08 18 12.6	+0.5
PKE	Pukeiti	1.10	19	P	Pn	08 18 13.1	+0.7
WCDS	Wanganui Civil	1.20	76	P	Pn	08 18 14.9	+1.9
KIW	Kapiti Island	1.22	121	P	Pn	08 18 14.5	+1.3
KIW				S	Sn	08 18 36.6	-0.3
FXBS	Foxton Beach S	1.31	100	P	Pn	08 18 15.7	+1.8
MKBS	Makara Bunker	1.32	138	P	Pn	08 18 15.5	+1.5
PFAS	Porirua Free A	1.34	132	P	Pn	08 18 15.8	+1.6
SNZO	South Karori	1.39	141	P	Pn	08 18 15.2	+0.6
SNZO	South Karori	1.39	141	S	Sn	08 18 39.7	+0.3
HIZ	Hauiti	2.01	31	P	Pn	08 18 20.1	-0.6
BFZ	Birch Farm	2.12	103	P	Pn	08 18 22.5	+0.7
BFZ	Birch Farm	2.12	103	P	Pn	08 18 51.1	-1.1
KHZ	Kahutara	2.17	180	P	Pn	08 18 22.6	+0.3
KHZ	Kahutara	2.17	180	P	Sn	08 18 52.2	-1.2
BKZ	Black Stump Fm	2.52	66	P	Pn	08 18 25.7	-0.7
BKZ	Black Stump Fm	2.52	66	P	Sn	08 18 58.3	-2.0
URZ	Urewera	3.41	56	P	Pn	08 18 35.3	-1.5
RPZ	Rata Peaks	3.93	207	P	Pn	08 18 41.0	-2.3

*ASRS **05** 08:24:37.0±0.9, 53°.65N×87°.79E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 08:24:39.4±3.3, 53°.54N×87°.87E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=28.6km s-min=17.3km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA baz=98,slow=323,SNR=16	1.86	284	I	I	08 36 40.0	
ZALV	Zalesovo Beam 0.7nm,0.3s,baz=102,slow=14,SNR=12	1.86	284	Pg	Pn	08 25 12.2	-0.2
ZALV				Lg	Lg	08 25 37.0	
	2.4nm,0.3s,baz=105,slow=24,SNR=11						
KURBB	Kurchatov Arra 0.1nm,0.3s,baz=67,slow=15,SNR=4.9	6.45	247	Pn	Pn	08 26 17.9	+2.4
KURBB				Lg	Lg	08 28 03.9	
	baz=63,slow=32,SNR=7.9 0.6nm,0.4s						
MKAR	Makanchi Array 0.2nm,0.3s,baz=19,slow=14,SNR=2.1	7.64	210	Pn	Pn	08 26 31.7	-0.2
MKAR				Lg	Lg	08 28 41.0	
	0.1nm,0.3s,baz=32,slow=33,SNR=2.7 0.1nm,0.3s						

*ASRS **05** 08:28:57.0±0.7, 54°.13N×87°.16E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 08:28:56.7±3.4, 54°.21N×87°.53E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=27.5km s-min=19.5km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA baz=80,slow=322,SNR=11	1.62	262	I	I	08 38 20.0	
ZALV	Zalesovo Beam 2.3nm,0.3s,baz=82,slow=18,SNR=18	1.62	262	Pg	Pn	08 29 24.7	-1.8
ZALV				Lg	Lg	08 29 49.5	
	2.0nm,0.3s,baz=76,slow=24,SNR=6.6						
KURBB	Kurchatov Arra 0.1nm,0.3s,baz=53,slow=13,SNR=4.8	6.57	241	Pn	Pn	08 30 35.2	+0.8
KURBB				Sn	Sn	08 31 48.5	-1.5
	0.1nm,0.3s,baz=54,slow=40,SNR=1.4 0.7nm,0.4s						
MKAR	Makanchi Array 0.1nm,0.3s,baz=28,slow=13,SNR=2.3	8.14	206	Pn	Pn	08 30 57.6	+1.5
MKAR				Lg	Lg	08 33 14.0	
	0.1nm,0.3s,baz=28,slow=34,SNR=1.3 0.1nm,0.3s						

IDC 05 08:47:11.1±8.5, 18°.55S×176°.24W, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=369.2km s-min=42.5km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.2nm,0.7s,baz=97,slow=7.3,SNR=6.2	46.55	260	P	P	08 55 40.7	-0.3
	0.2nm,0.7s						
ASAR	Alice Springs 0.5nm,0.7s,baz=88,slow=8.4,SNR=5.6	46.61	255	P	P	08 55 41.4	0.0
	0.5nm,0.7s						
ILAR	Eielson Array 0.1nm,0.6s,baz=201,slow=4.7,SNR=1.5	86.06	12	P	P	08 59 53.2	0.0
	0.1nm,0.6s						

*NEIC **05** 09:04:38.9±1.0, 58°.19N±0°.03×153°.01W±0°.03, h49km±7km, Error ellipse: s-maj=4.4km s-min=1.4km az=155.0*
*AEIC **05** 09:04:39.4±1.1, 58°.19N±0°.02×152°.99W±0°.05, h48km±7km, ML3.4, ML3.6/122(NEIC), Error ellipse: s-maj=4.7km s-min=1.5km az=119.0*
*IDC **05** 09:04:40.0±0.9, 58°.05N×151°.77W, h0km, mb3.4/2, mbtmp3.4/5, ML4.1/4, MS3.2/1, Error ellipse: s-maj=18.9km s-min=5.9km az=143.0*

ISC 05 09:04:39.3±0.9, 58°.21N±0°.04×152°.95W±0°.04, h56km, n154, σ1s00/132, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	0.47	155		Pn	09 04 49.8	-0.8
KDAK	Kodiak Island	0.47	155		Sn	09 04 58.1	-0.6
KDAK	Kodiak Island 10μm,0.5s	0.47	155	IAML		09 04 58.7	
KDAK				IAML		09 04 58.7	
	11μm,0.3s						
KDAK	Kodiak Island 1μm,0.3s,baz=59,slow=4.3	0.47	155	Pg	Pn	09 04 49.6	-1.0
KDAK				Lg	Lg	09 04 57.9	
	1μm,0.3s,baz=204,slow=22,SNR=22						
KDAK				LR	LR	09 05 08.0	
	comp=Z,138nm,20.2s,baz=67,slow=55						
SYI	Shuyak Island	0.50	36		Pn	09 04 50.2	-0.7
SYI	Shuyak Island	0.50	36		Sn	09 04 58.7	-0.7
SYI	Shuyak Island comp=E,4μm,0.6s	0.50	36	IAML		09 04 59.4	
SYI				IAML		09 04 59.5	
	comp=N,4μm,0.5s						
Q19K	Cape Douglas,	0.81	334		Pn	09 04 53.9	-0.8
KAPH	Katmai Pasha	0.83	299		Pn	09 04 53.8	-1.3
KAPH					Sn	09 05 04.9	-1.8
KAHG	Katmai Hook Gl	0.89	290		Pn	09 04 54.5	-1.3
KAHG					Sn	09 05 06.3	-1.7
KARR	Katmai Rainbow	0.97	288		Pn	09 04 56.0	-0.8
KAWH	Katmai	0.99	281		Pn	09 04 56.0	-1.2
OHAK	Old Harbor	1.00	191		Pn	09 04 56.2	-1.0
OHAK	Old Harbor	1.00	191		Sn	09 05 08.5	-1.9
OHAK	Old Harbor comp=N,760nm,0.3s	1.00	191	IAML		09 05 15.2	
OHAK				IAML		09 05 15.9	
	comp=E,694nm,0.4s						
OHAK	Old Harbor	1.00	191	P	Pn	09 04 56.4	-0.8
KAKN	Katmai Knife C	1.12	275		Pn	09 04 57.6	-1.2
KAKN					Sn	09 05 11.8	-1.6
AUJK	Augustine Jueg	1.17	348		Pn	09 04 59.1	-0.4
MGLS	Mageik Landsli	1.18	267		Pn	09 04 58.5	-1.0
AU22	Augustine Moun	1.19	350		Sn	09 05 15.9	+1.1
ACHA	Angle Creek He	1.26	271		Pn	09 04 59.8	-0.9
CAHL	Cahill	1.26	264		Pn	09 04 59.7	-0.9
P19K	Oil Pt	1.46	354		Pn	09 05 03.3	0.0
CNTC	Contact Creek	1.55	273		Pn	09 05 03.9	-0.8
CNPM	China Poot	1.59	33		Pn	09 05 05.5	+0.3
CNPM				IAML		09 05 33.2	
	comp=E,436nm,0.6s						
HOM	Homer	1.60	24	Pn	Pn	09 05 06.1	+0.8
P18K	Big Mountain,	1.68	316		Pn	09 05 05.0	-1.3
SII	Sitkinak Islan	1.78	203		Pn	09 05 06.4	-1.3
SII				IAML		09 05 44.5	
	comp=N,732nm,0.6s						
SII				IAML		09 05 52.7	
	comp=E,532nm,0.5s						
SII	Sitkinak Islan	1.78	203	P	Pn	09 05 06.5	-1.3
ILSW	Iliamna Southw	1.78	357		Pn	09 05 07.2	-0.6
ILSW				IAML		09 05 30.3	
	comp=E,368nm,0.7s						
ILSW				IAML		09 05 41.0	
	comp=N,321nm,0.6s						
PLK2	Peulik 2	1.85	258		Pn	09 05 08.0	-0.7
BRLK	Bradley Lake	1.89	33		Pn	09 05 08.4	-0.8
BRLK				IAML		09 05 32.2	
	comp=N,575nm,0.1s						
BRLK				IAML		09 05 32.9	
	comp=E,350nm,0.1s						
PLK4	Peulik 4	1.91	254		Pn	09 05 09.2	-0.3
PLK4				IAML		09 05 45.7	
	comp=N,454nm,0.8s						
Q19K	Port Ailsworth	2.12	341		Pn	09 05 11.8	-0.4
PLBL	Peulik Blue Cr	2.12	258		Pn	09 05 12.1	-0.3
RED	Redoubt Volcan	2.22	2		Pn	09 05 13.8	0.0
RDJH	Redoubt Jeurge	2.39	2		Pn	09 05 16.2	+0.1
SEW	Seward	2.62	42		Pn	09 05 19.1	0.0
SLKM	Skilak Lake	2.70	30		Pn	09 05 20.2	0.0
SLKM				IAML		09 05 51.1	
	comp=E,202nm,0.1s						
SLKM				IAML		09 05 52.4	
	comp=N,312nm,0.1s						
N19K	Bonanza Creek	2.73	344		Pn	09 05 20.4	-0.3
N19K				IAML		09 06 09.4	
	comp=E,138nm,0.8s						
P16K	Nushagak River	2.76	290		Pn	09 05 20.7	-0.4
P16K				IAML		09 06 04.2	
	comp=E,312nm,0.8s						
P16K				IAML		09 06 23.6	
	comp=N,212nm,0.9s						
CHIR	Chirikof Islan	2.80	213		Pn	09 05 19.8	-1.9
CHIR	Chirikof Islan comp=N,158nm,0.7s	2.80	213	IAML		09 06 16.6	
CHIR				IAML		09 06 28.7	
	comp=E,142nm,0.9s						
CHIR	Chirikof Islan	2.80	213	P	Pn	09 05 19.7	-1.9
N18K	Kilae Creek comp=N,183nm,0.6s	2.90	330	IAML		09 06 13.3	
N18K				IAML		09 06 14.1	
	comp=E,176nm,0.7s						
O16K	Kokwok River B	3.01	300		Pn	09 05 23.8	-0.7
O16K				IAML		09 06 14.5	
	comp=N,132nm,0.6s						
CKL	Chakachamna La	3.02	6		Pn	09 05 24.4	-0.2
SPU	Mount Spurr	3.02	8		Pn	09 05 24.6	0.0
SPCR	Spurr Chakacha	3.03	7		Pn	09 05 24.5	-0.3
SPCR	Spurr Chakacha	3.03	7		Pn	09 05 24.5	-0.3
SPBG	Spurr Blockage	3.08	5		Pn	09 05 25.4	0.0
SPCG	Spurr Capps Gl	3.13	8		Pn	09 05 26.3	+0.1
N17K	Nushagak Hills comp=N,98nm,0.8s	3.18	319	IAML		09 06 17.4	
N17K				IAML		09 06 17.4	
	comp=E,149nm,0.8s						

RC01	Rabbit Creek A comp=E,139nm,0.1s	3.32	28	IAML			09 06 05.9	
RC01				IAML			09 06 05.9	
	comp=N,98nm,0.3s							
STLK	Strandline Lak	3.35	9			Pn	09 05 28.8	-0.4
P23K	Montague Islan	3.38	56			Pn	09 05 28.4	-1.1
CHGN	Chignik	3.53	240			Pn	09 05 31.0	-0.6
CHGN				IAML			09 06 20.5	
	comp=E,80nm,0.5s							
CHGN				IAML			09 06 22.9	
	comp=N,77nm,0.8s							
PWL	Port Wells	3.55	39			Pn	09 05 31.4	-0.5
PWL				IAML			09 06 11.2	
	comp=N,140nm,0.6s							
PWL				IAML			09 06 12.0	
	comp=E,123nm,0.6s							
Q23K	Middleton Isla	3.64	68			Pn	09 05 32.0	-1.1
M19K	Big River Lodg comp=E,59nm,0.9s	3.78	350	IAML			09 06 44.7	
SKT	Skwentna	3.85	10			Pn	09 05 35.3	-0.7
SKT	Skwentna comp=E,59nm,0.6s	3.85	10	IAML			09 06 31.0	
SKT				IAML			09 06 33.8	
	comp=N,57nm,0.7s							
PMR	Palmer comp=E,59nm,0.2s	3.90	28	IAML			09 06 18.6	
PMR				IAML			09 06 19.4	
	comp=N,59nm,0.3s							
PMR	Palmer	3.90	28	P		Pn	09 05 35.4	-1.2
PMR	Palmer	3.90	28	S		Sn	09 06 18.1	-3.0
KNK	Knik Glacier comp=E,92nm,0.6s	3.93	33	IAML			09 06 41.5	
KNK				IAML			09 06 42.8	
	comp=N,77nm,0.6s							
HIN	Hinchinbrook I	3.97	54			Pn	09 05 37.2	-0.3
HIN				IAML			09 06 24.1	
	comp=N,72nm,0.6s							
HIN				IAML			09 06 39.9	
	comp=E,58nm,0.8s							
GLI	Glacier Island comp=E,56nm,0.4s	4.01	46	IAML			09 06 23.2	
GLI				IAML			09 06 54.6	
	comp=N,56nm,0.9s							
L19K	White Mountain comp=E,75nm,1.1s	4.10	347	IAML			09 06 56.0	
L19K				IAML			09 06 56.0	
	comp=N,59nm,1.2s							
GHO	Glory Hole Cre	4.11	28			Pn	09 05 38.4	-1.1
M16K	Timber Creek comp=E,70nm,1.0s	4.16	315	IAML			09 06 53.6	
M16K				IAML			09 06 54.4	
	comp=N,83nm,1.4s							
N15K	Kwethluk River	4.17	301			Pn	09 05 40.5	+0.2
FID	Port Fidalgo	4.17	50			Pn	09 05 38.6	-1.7
FID	Port Fidalgo comp=N,44nm,0.7s	4.17	50	IAML			09 06 53.2	
EYAK	Cordova Ski Ar	4.37	54			Pn	09 05 42.3	-0.7
EYAK	Cordova Ski Ar	4.37	54	P		Pn	09 05 42.1	-0.9
L18K	Granite Mounta	4.44	337			Pn	09 05 43.6	-0.3
L18K				IAML			09 06 33.6	
	comp=N,61nm,0.8s							
L18K				IAML			09 07 10.1	
	comp=E,60nm,1.3s							
O14K	Tigyukauivet M comp=N,39nm,1.2s	4.46	287	IAML			09 06 35.5	
SCM	Sheep Creek Mo comp=N,57nm,0.7s	4.60	35	IAML			09 06 39.0	
SCM				IAML			09 06 40.4	
	comp=E,70nm,0.4s							
DIV	Divide	4.67	48			Pn	09 05 46.5	-0.8
KAIM	Kayak Island comp=E,61nm,0.6s	4.73	65	IAML			09 06 46.4	
KAIM				IAML			09 06 46.6	
	comp=N,62nm,0.3s							
RAGM	Ragged Mountai	4.77	59			Pn	09 05 47.8	-0.8
RAGM	Ragged Mountai comp=E,43nm,0.6s	4.77	59	IAML			09 06 46.3	
L16K	Owhat River	4.81	320			Pn	09 05 48.7	-0.3
L16K				IAML			09 07 13.9	
	comp=E,51nm,0.8s							
L16K				IAML			09 07 15.3	
	comp=N,53nm,1.1s							
N14K	Kuskokwak Cree comp=E,64nm,0.8s	4.83	295	IAML			09 07 20.5	
GOAT	Goat Mountain	4.83	57			Pn	09 05 48.6	-0.8
KLU	Klutina	4.84	44			Pn	09 05 48.8	-0.7
KLU	Klutina comp=N,27nm,0.7s	4.84	44	IAML			09 07 05.6	
HMT	Hamilton	4.94	61			Pn	09 05 50.2	-0.7
HMT	Hamilton comp=N,52nm,0.5s	4.94	61	IAML			09 06 47.6	
CHNA	Chernabura Isl	5.00	230	P		Pn	09 05 53.1	+1.5
BMRM	Bremner River	5.06	53			Pn	09 05 51.7	-0.9
BMRM	Bremner River comp=N,24nm,0.4s	5.06	53	IAML			09 06 48.2	
WAT7	Susitna Watana	5.06	22			Pn	09 05 51.8	-0.8
SUCK	Suckling Hills	5.08	65			Pn	09 05 52.3	-0.5
SUCK	Suckling Hills comp=N,22nm,0.5s	5.08	65	IAML			09 06 52.1	
SUCK				IAML			09 06 53.9	
	comp=E,23nm,0.4s							
M24K	Tolsona, Glenn	5.17	38			Pn	09 05 55.3	+1.2
M24K				IAML			09 07 10.3	
	comp=N,41nm,1.4s							
BERG	Berg Lake	5.22	61			Pn	09 05 54.0	-0.7
M14K	Bethel comp=E,23nm,1.5s	5.25	303	IAML			09 06 54.3	
M14K				IAML			09 07 34.0	
	comp=N,38nm,1.4s							
GRIN	Grindle Hills	5.36	63			Pn	09 05 56.4	-0.3
N25K	Chitina, Valde	5.41	47			Pn	09 05 58.6	+1.3
TRF	Thorofare Moun	5.42	13			Pn	09 05 57.4	-0.2
KTH	Kantishna Hill	5.46	10			Pn	09 05 59.1	+1.1
SNH	Sunshine Point	5.56	65			Pn	09 05 58.9	-0.5
RND	Reindeer	5.59	19			Pn	09 05 59.4	-0.7
DHY	Denali Highway	5.60	27			Pn	09 05 59.4	-0.6
CRQM	Cirque	5.61	59			Pn	09 06 00.0	-0.3
GLB	Gilahina Butte	5.63	51			Pn	09 05 59.9	-0.5
WAX	Waxell Ridge	5.64	62			Pn	09 06 00.7	+0.2
VRDI	Verde Repeater	5.68	54			Pn	09 06 01.5	+0.4
BARK	Barkley Ridge	5.79	63			Pn	09 06 02.2	-0.4
MESA	MESA	5.99	66			Pn	09 06 05.0	-0.3
BPAW	Bear Paw Mtn.	5.99	8			Pn	09 06 04.3	-1.0
KIAG	Kiagna River	6.03	59			Pn	09 06 05.5	-0.4
PAX	Paxson	6.03	34			Pn	09 06 05.5	-0.3
BALM	Baldy	6.08	58			Pn	09 06 06.2	-0.4
PTPK	Patty Peak	6.09	56			Pn	09 06 06.3	-0.5
CHX	Chaix Hills	6.37	68			Pn	09 06 10.3	-0.2
BARN	Barnard Glacie	6.40	59			Pn	09 06 11.8	+0.8
CTGM	Chitina Glacie	6.51	60			Pn	09 06 12.5	0.0
K24K	Donnelly Dome	6.61	29			Pn	09 06 15.1	+1.4
LOGN	Logan Glacier	6.62	62			Pn	09 06 13.5	-0.5
WRH	Wood River Hil	6.70	18			Pn	09 06 13.9	-1.1
PCA	Pinnacle	6.80	68			Pn	09 06 16

comp=N,4,0nm,0.3s,baz=262,slow=4.2,SNR=10
DLBC Sn Sn 09 09 31.1 -9.4
comp=N,2.3nm,0.3s,baz=173,slow=25,SNR=2.5
INK Inuvik 13.30 33 Pn Pn 09 07 50.1 +5.2
comp=N,0.2nm,0.3s,baz=225,slow=8.6,SNR=4.0
comp=N,0.7nm,0.6s
YKA Yellowknife Ar 19.24 61 P **P** **09 08 59.3 +0.8**
comp=N,0.3nm,0.3s,baz=277,slow=10,SNR=9.6
comp=N,1.0nm,0.6s
NVAR Mina Array Bea 29.86 116 P **P** **09 10 43.9 +2.4**
comp=N,0.4nm,0.6s,baz=329,slow=12,SNR=4.7
NVAR LR LR 09 20 15.6
comp=N,45nm,18.7s,baz=259,slow=32
comp=N,0.4nm,0.6s
PDAR Pinedale Array 30.99 101 P **P** **09 10 52.7 +1.4**
comp=N,0.1nm,0.4s,baz=338,slow=5.5,SNR=1.5
comp=N,0.1nm,0.4s

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*IDC **05** 09:04:46.2±1.0, 50.87N×73.60E, h0km, mb3.4/1, mbtmp3.2/6, ML2.4/5, Error ellipse: s-maj=22.5km s-min=8.6km az=29.0*
*NNC **05** 09:04:54.0±1.1, 51.35N×73.94E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=21.4km s-min=6.7km az=23.0, Suspected Mining explosion.*
ISC 05 09:04:45.0±1.0, 50.83N±0.10×73.63E±0.06, h0km, n12, σ1§11/14, 3C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**2.98**	**319**	⇓Pn		**Pb**		**09 05 39.8**	**+0.9**
	8.1nm,0.6s,baz=120,slow=15,SNR=7.7								
BVA0				⇓Lg		Lg		09 06 20.3	
	79nm,0.8s,baz=127,slow=29								
BVAR	**Borovoye Array**	**2.98**	**319**	Pn		**Pn**		**09 05 34.9**	**+1.4**
	0.2nm,0.3s,baz=131,slow=17,SNR=19								
BVAR				Lg		Lg		09 06 17.1	
	0.3nm,0.3s,baz=126,slow=24,SNR=18								
	5.7nm,0.6s								
BRVK	**Borovoye**	**3.05**	**318**	⇓Pn		**Pb**		**09 05 40.5**	**+0.5**
	8.7nm,1.1s								
BRVK				⇑Lg		Lg		09 06 22.7	
	33nm,0.8s								
KURBB	**Kurchatov Arra**	**3.12**	**92**	⇓Pn		**Pg**		**09 05 43.5**	**-1.3**
	24nm,0.8s								
KURBB				⇓Sn		**Sb**		**09 06 20.5**	**+0.7**
	183nm,0.7s								
KURBB	**Kurchatov Arra**	**3.12**	**92**	Pn		**Pn**		**09 05 36.3**	**+1.0**
	0.2nm,0.3s,baz=278,slow=14,SNR=40								
KURBB				Lg		Lg		09 06 21.9	
	0.5nm,0.3s,baz=284,slow=31,SNR=7.3								
	9.0nm,0.8s								
KURK	**Kurchatov**	**3.17**	**90**	⇑Pn		**Pb**		**09 05 43.3**	**+1.2**
	4.4nm,0.9s								
KURK				⇑Sn		**Sb**		**09 06 20.3**	**-0.9**
	27nm,0.8s								
MK31	**Makanchi Array**	**7.00**	**122**	P		Pb		09 06 39.1	-8.3
	1.1nm,0.6s,baz=308,slow=12,SNR=4.8								
MK31				⇓S		Sb		09 08 02.5	-8.9
	22nm,0.8s,baz=308,slow=26								
MKAR	**Makanchi Array**	**7.00**	**122**	Pn		**Pn**		**09 06 29.6**	**+0.9**
	0.1nm,0.3s,baz=304,slow=11,SNR=5.3								
MKAR				Sn		**Sn**		**09 07 48.9**	**0.0**
	0.1nm,0.3s,baz=303,slow=13,SNR=3.9								
MKAR				Lg		Lg		09 08 23.6	
	0.8nm,0.3s,baz=310,slow=28,SNR=11								
	0.4nm,0.7s								
I46RU	**ZALESOVO INFRA**	**7.52**	**61**	I		I		09 54 10.0	
	baz=250,slow=322,SNR=5.0								
ZALV	**Zalesovo Beam**	**7.52**	**61**	Pn		**Pn**		**09 06 36.7**	**+0.9**
	0.3nm,0.3s,baz=256,slow=12,SNR=4.1								
ZALV				Sn		**Sn**		**09 08 00.2**	**-1.6**
	0.2nm,0.3s,baz=259,slow=24,SNR=5.8								
ZALV				Lg		Lg		09 08 45.9	
	0.4nm,0.3s,baz=251,slow=26,SNR=5.1								
	0.8nm,0.5s								
AKTO	**Aktyubinsk**	**9.94**	**274**	Pn		**Pn**		**09 07 07.8**	**-1.1**
	0.2nm,0.3s,baz=84,slow=12,SNR=2.6								
AKTO				Lg		Lg		09 09 55.1	
	0.1nm,0.3s,baz=62,slow=20,SNR=4.1								
	1.3nm,0.5s								
ILAR	**Eielson Array**	**60.53**	**19**	P		**P**		**09 14 56.2**	**-0.1**
	0.3nm,0.6s,baz=334,slow=5.3,SNR=4.3								
	0.3nm,0.6s								

IDC 05 09:05:36.8±1.7, 8.58S×129.33E, h0km, mb3.8/2, mbtmp3.6/5, ML3.5/3, Error ellipse: s-maj=62.8km s-min=21.4km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.12**	**200**	Pn		Pn		09 08 04.8	+1.5
	0.2nm,0.3s,baz=23,slow=10,SNR=12								
FITZ				Sn		Sn		09 10 00.1	+2.5
	0.6nm,0.3s,baz=39,slow=14,SNR=6.7								
	2.4nm,0.8s								
WRA	**Warramunga Arr**	**12.29**	**157**	Pn		Pn		09 08 32.1	-1.0
	0.4nm,0.3s,baz=333,slow=13,SNR=18								
WRA				Sn		Sn		09 10 52.3	+1.4
	0.6nm,0.3s,baz=330,slow=22,SNR=13								
	0.5nm,0.4s								
ASAR	**Alice Springs**	**15.62**	**164**	Pn		Pn		09 09 16.8	-1.7
	0.2nm,0.3s,baz=340,slow=9.1,SNR=9.0								
ASAR				Sn		Sn		09 12 15.3	+2.8
	0.2nm,0.3s,baz=350,slow=12,SNR=5.0								
	0.5nm,0.6s								
MKAR	**Makanchi Array**	**69.19**	**327**	P		P		09 16 44.6	-0.7
	0.6nm,0.5s,baz=129,slow=6.9,SNR=4.7								
	0.6nm,0.5s								
KURBB	**Kurchatov Arra**	**73.51**	**329**	P		P		09 17 12.2	+0.9
	0.4nm,0.4s,baz=129,slow=6.2,SNR=2.7								
	0.4nm,0.4s								

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*BJI **05** 09:12:12.8, 2.92S×67.98E, h10km, mB5.3/55, mb5.0/70, Ms5.3/69, Ms7 5.0/69*
*MOS **05** 09:12:16.9±1.2, 2.46S×68.44E, h10km, mb5.2/62, MS4.9/18, Error ellipse: s-maj=6.8km s-min=4.2km az=101.9*
*IDC **05** 09:12:17.0±0.4, 2.50S×68.43E, h0km, mb4.7/38, mbtmp4.7/39, ML5.2/1, MS4.9/72, Error ellipse: s-maj=12.2km s-min=10.3km az=46.0*
*NEIC **05** 09:12:20.0±2.2, 2.52S±0.07×68.48E±0.08, h10km±1km, mb5.2/96, Ms_20 5.2/315, Mwb5.5/50, Mww5.6/22, Error ellipse: s-maj=13.2km s-min=12.3km az=129.0, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr-0.40; Mθθ2.59; Mφφ-2.19; Mrθ0.21; Mθφ 1.01; Mφr0.30; Fault plane solution: M0 2.65000×1017 NP1: φs213.70000°, δ88.30000°, λ-171.73000°. NP2: φs123.45000°, δ81.73000°, λ-1.72000°. Principal axes: T 2.8219, Plg5.0000°, Azm348.0000°; N -0.3922, Plg82.0000°, Azm225.0000°; P -2.4296, Plg7.0000°, Azm79.0000°;*
*NEIC **05** 09:12:20.7, 2.51S×68.49E, h22km, Moment Tensor Solution. Duration: 3s2 Moment tensor: Scale 1017Nm; Mrr-0.72; Mθθ3.54; Mφφ-2.82; Mrθ-0.94; Mθφ0.78; Mφr-0.13; Fault plane solution: M0 3.46000×1017 NP1: φs308.74000°, δ81.37000°, λ8.13000°. NP2: φs217.51000°, δ81.96000°, λ171.28000°. Principal axes: T 3.8289, Plg12.0000°, Azm173.0000°; N -0.9190, Plg78.0000°, Azm355.0000°; P -2.9099, Plg0.0000°, Azm263.0000°;*
*BGR **05** 09:12:20.4, 2.86S×67.86E, h33km, mb5.1, Ms4.6*
*NEIC **05** 09:12:20.7, 2.51S×68.49E, h22km*
*NEIC **05** 09:12:20.7, 2.51S×68.51E, h10km*
*GCMT **05** 09:12:21.0±0.1, 2.62S±0.01×68.50E±0.01, h16km, MW5.7/162, Moment Tensor Solution. s136, c251; s162, c347; Duration: 1§7 Moment tensor: Scale 1017 Nm; Mrr-0.38±.03; Mθθ3.57±.03; Mφφ-3.20±.04; Mrθ1.61±.11; Mθφ1.05±.03; Mφr-0.76±.10; Best double couple: M0 3.95200×1017 NP1: φs36.00000°, δ64.00000°, λ180.00000°. NP2: φs126.00000°, δ90.00000°, λ26.00000°. Principal axes: T 4.2180, Plg18.0000°, Azm354.0000°; N -0.5390, Plg64.0000°, Azm126.0000°; P -3.6860, Plg18.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 05 09:12:19.8±0.4, 2.53S±0.03×68.51E±0.04, h14km±2km, h15km: pP-P, n743, σ1§97/645, mb5.1/225, MS5.1/266, 34C-30D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAAM	**Kaadhehdhoo**	**5.39**	**56**			**Pn**		**09 13 37.7**	**-2.2**
KAAM	**Kaadhehdhoo**	**5.39**	**56**	P		**Pn**		**09 13 37.3**	**-2.5**
	SNR=5.2								
KAAM				S		**Sn**		**09 14 35.2**	**-6.5**
DGAR	**Diego Garcia**	**6.24**	**141**			**Pn**		**09 13 51.0**	**-0.5**
DGAR	**Diego Garcia**	**6.24**	**141**	P		**Pn**		**09 13 50.6**	**-1.0**
DGAR				S		**Sn**		**09 14 57.8**	**-4.9**
DGAR	**Diego Garcia**	**6.24**	**141**	*de*P		**Pn**		**09 13 51.3**	**-0.2**
HMDM	**Hanimaadhoo**	**10.35**	**27**			**Pn**		**09 14 48.5**	**+0.6**
HMDM	**Hanimaadhoo**	**10.35**	**27**	P		**Pn**		**09 14 47.8**	**-0.1**
MSEY	**Mahe Island**	**13.18**	**260**			**Pn**		**09 15 27.1**	**+0.3**
MSEY	**Mahe Island**	**13.18**	**260**	P		**Pn**		**09 15 29.4**	**+2.6**
MSEY				P		**Pn**		**09 15 29.4**	**+2.6**
MSEY				P		**Pn**		**09 15 29.4**	**+2.6**
MSEY	**Mahe Island**	**13.18**	**260**	P		**Pn**		**09 15 27.1**	**+0.3**
PALK	**Pallekele**	**15.58**	**51**			**Pn**		**09 15 58.9**	**-0.3**
PALK	**Pallekele**	**15.58**	**51**	Pn		**Pn**		**09 15 58.4**	**-0.8**
	10.0nm,0.3s,baz=234,slow=12,SNR=54								
PALK				Sn		**Sn**		**09 18 41.4**	**-10**
	4.1nm,0.3s,baz=168,slow=6.5,SNR=5.7								
PALK				LR		LR		09 20 28.0	
	comp=Z,10μm,20.4s,baz=229,slow=31								
	31nm,0.4s								
PALK	**Pallekele**	**15.58**	**51**	P		**Pn**		**09 15 57.4**	**-1.8**
PALK				P		**Pn**		**09 15 57.4**	**-1.8**
PALK				S		**Sn**		**09 18 45.4**	**-6.4**
PALK				S		**Sn**		**09 18 45.4**	**-6.4**
PALK	**Pallekele**	**15.58**	**51**	*d* iP		**Pn**		**09 15 58.4**	**-0.8**
PALK				pmax		pmax			
	comp=Z,53nm,0.3s								
SBV	**Sambava**	**21.35**	**238**	P		**P**		**09 17 09.8**	**+3.0**
HYB	**Hyderabad**	**22.15**	**26**	*e*P		**P**		**09 17 16.3**	**+0.8**
HYB				IVmB_BB				09 17 38.3	
	comp=Z,1μm,3.2s								
HYB				*e*S		**S**		**09 21 21.2**	**+1.9**
RBK	**Rabkut**	**24.40**	**325**	P		**P**		**09 17 40.1**	**+2.1**
RBK				P		**P**		**09 17 40.1**	**+2.1**
DQM	**DQM**	**24.78**	**335**	P		**P**		**09 17 43.9**	**+2.5**
DQM				P		**P**		**09 17 43.9**	**+2.5**
WHFO	**Wadi Hawf**	**24.98**	**325**	P		**P**		**09 17 45.9**	**+2.7**
WHFO				P		**P**		**09 17 45.9**	**+2.7**
DOK	**Doka**	**25.34**	**327**	P		**P**		**09 17 49.4**	**+3.0**
MHTO	**MHTO**	**25.55**	**337**	P		**P**		**09 17 51.8**	**+3.5**
MHTO				P		**P**		**09 17 51.8**	**+3.5**
MHTO				S		**S**		**09 22 18.3**	**+2.6**
MHTO				S		**S**		**09 22 18.3**	**+2.6**
JLN	**Jalan Bani Buh**	**26.09**	**341**	P		**P**		**09 17 54.8**	**+1.6**
JLN				P		**P**		**09 17 54.8**	**+1.6**
JLN				P		**P**		**09 17 54.8**	**+1.6**
JLN				S		**S**		**09 22 23.4**	**-0.8**
JLN				S		**S**		**09 22 23.4**	**-0.8**
JLN				S		**S**		**09 22 23.4**	**-0.8**
ABPO	**Ambohimpanom**	**26.51**	**230**	IAMs_20		IAMs_20		09 25 43.2	
	comp=Z,6μm,21.0s								
WBK	**Wadi Bani Khal**	**26.66**	**340**	P		**P**		**09 18 00.7**	**+2.3**
JMDO	**Jabal Madar**	**26.75**	**338**	P		**P**		**09 18 03.3**	**+4.0**
JMDO				P		**P**		**09 18 03.3**	**+4.0**
WSAR	**Wadi Sarin**	**27.36**	**340**	LR		LR		09 26 35.6	
	comp=Z,36nm,21.8s,baz=168,slow=31								
WSAR	**Wadi Sarin**	**27.36**	**340**	P		**P**		**09 18 07.5**	**+2.8**
WSAR				S		**S**		**09 22 47.1**	**+2.8**
SMDO	**Samad**	**27.40**	**339**	P		**P**		**09 18 08.9**	**+3.7**
SMDO				P		**P**		**09 18 08.9**	**+3.7**
HOQ	**Hoqain**	**28.15**	**338**	P		**P**		**09 18 13.7**	**+2.0**
HOQ				P		**P**		**09 18 13.7**	**+2.0**
HOQ				P		**P**		**09 18 13.7**	**+2.0**
ARQ	**Araqi**	**28.24**	**336**	P		**P**		**09 18 15.9**	**+3.3**
VOI	**Vohitsoka**	**28.58**	**226**	P		**P**		**09 18 14.6**	**-1.2**
VOI				IAmb		IAmb		09 18 36.9	
	comp=Z,106nm,2.0s								
VOI	**Vohitsoka**	**28.58**	**226**	P		**P**		**09 18 15.1**	**-0.7**
SOHO	**SOHO**	**28.95**	**337**	P		**P**		**09 18 19.3**	**+0.4**
SOHO				P		**P**		**09 18 19.3**	**+0.4**
SOHO				P		**P**		**09 18 19.3**	**+0.4**
SOHO	**SOHO**	**28.95**	**337**	*i* P		**P**		**09 18 19.2**	**+0.4**
	SNR=5.5								
ATD	**Arta Tunnel**	**29.09**	**299**	LR		LR		09 28 24.4	
	comp=Z,56nm,18.6s,baz=108,slow=33								
GSI	**Gunungsitoli**	**29.30**	**83**	IAMs_20		IAMs_20		09 28 52.3	
	comp=Z,7μm,19.0s								
MZR	**Muzera**	**29.30**	**331**	P		**P**		**09 18 26.2**	**+4.1**
MZR				P		**P**		**09 18 26.2**	**+4.1**
MZR	**Muzera**	**29.30**	**331**	P		**P**		**09 18 20.6**	**-1.4**
ASHO	**Ashiyiah**	**29.63**	**337**	P		**P**		**09 18 25.9**	**+0.9**
ASHO				P		**P**		**09 18 25.9**	**+0.9**
ASHO				P		**P**		**09 18 25.9**	**+0.9**
ASHO				S		**S**		**09 23 22.9**	**+2.8**
ASHO				S		**S**		**09 23 22.9**	**+2.8**
ASHO				S		**S**		**09 23 22.9**	**+2.8**
ASHO	**Ashiyiah**	**29.63**	**337**	*i* P		**P**		**09 18 25.8**	**+0.9**
	SNR=5.3								
COCO	**West Island**	**29.65**	**110**	P		**P**		**09 18 25.8**	**+0.6**
HATD	**Hatta, Dubai**	**29.73**	**337**	P		**P**		**09 18 28.2**	**+2.4**
	SNR=5.8								
HATD				P		**P**		**09 18 28.2**	**+2.4**
	SNR=5.8								
HATD				P		**P**		**09 18 28.2**	**+2.4**
	SNR=5.8								
HATD	**Hatta, Dubai**	**29.73**	**337**	*i* P		**P**		**09 18 26.1**	**+0.3**
	SNR=8.8								
MZWR	**Madinat Zayed**	**29.76**	**332**	P		**P**		**09 18 29.7**	**+3.7**
MZWR				P		**P**		**09 18 29.7**	**+3.7**
UOSS	**Minazif**	**29.81**	**337**			**P**		**09 18 25.5**	**-1.0**
UOSS				IAmb		IAmb		09 18 32.2	
	comp=Z,42nm,1.5s								
UOSS	**Minazif**	**29.81**	**337**	IAMs_20		IAMs_20		09 27 59.1	
	comp=Z,5μm,21.0s								
UOSS	**Minazif**	**29.81**	**337**	P		**P**		**09 18 29.8**	**+3.3**
UOSS				P		**P**		**09 18 29.8**	**+3.3**
UOSS	**Minazif**	**29.81**	**337**	P		**P**		**09 18 26.0**	**-0.4**
KCSI	**Kotacane, Aceh**	**29.86**	**79**	P		**P**		**09 18 29.5**	**+2.4**
	comp=Z,11nm,1.1s								
FAQ	**Al Faqa, Dubai**	**29.87**	**336**	P		**P**		**09 18 31.0**	**+4.0**
	SNR=7.0								
FAQ				P		**P**		**09 18 31.0**	**+4.0**
	SNR=7.0								
FAQ	**Al Faqa, Dubai**	**29.87**	**336**	P		**P**		**09 18 28.1**	**+1.0**
ASUD	**Al Ashush, Dub**	**29.87**	**335**	P		**P**		**09 18 30.7**	**+3.7**
ASUD				P		**P**		**09 18 30.7**	**+3.7**
ASUD	**Al Ashush, Dub**	**29.87**	**335**	P		**P**		**09 18 26.9**	**-0.2**
AJN	**Ajban**	**29.96**	**335**	P		**P**		**09 18 30.5**	**+2.6**
AJN				P		**P**		**09 18 30.5**	**+2.6**
NAZ	**Nazwa, Dubai**	**30.06**	**336**	P		**P**		**09 18 33.0**	**+4.3**
	SNR=5.5								
NAZ				P		**P**		**09 18 33.0**	**+4.3**
	SNR=5.5								
NAZ	**Nazwa, Dubai**	**30.06**	**336**	P		**P**		**09 18 29.7**	**+1.0**
MSFE	**Esma-Masafi**	**30.20**	**337**	*i* P		**P**		**09 18 30.6**	**+0.6**
	SNR=5.4								
MASF	**Masafi**	**30.21**	**337**	P		**P**		**09 18 30.7**	**+0.6**
MASF				P		**P**		**09 18 30.7**	**+0.6**
KIBK	**Kibwezi**	**30.44**	**270**	P		**P**		**09 18 31.1**	**-1.2**
KIBK	**Kibwezi**	**30.44**	**270**	P		**P**		**09 18 32.5**	**+0.2**
BANOM	**Banah**	**30.65**	**338**	P		**P**		**09 18 34.5**	**+0.5**
SHME	**Shamme**	**30.83**	**338**	*i* P		**P**		**09 18 36.1**	**+0.7**
	SNR=12								
RPSI	**Rantau Prapat**	**30.84**	**81**	IAMs_20		IAMs_20		09 28 36.0	
	comp=Z,6μm,22.0s								
PSI	**Prapat**	**30.86**	**80**	LR		LR		09 28 57.9	
	comp=Z,6μm,21.7s,baz=278,slow=32								
KMBO	**Kilima Mbogo**	**31.27**	**272**	P		**P**		**09 18 39.8**	**-0.2**
	comp=Z,20nm,0.8s,baz=68,slow=11,SNR=24								
KMBO				LR		LR		09 28 57.7	
	comp=Z,2μm,20.6s,baz=93,slow=32								
	comp=Z,20nm,0.8s								
KMBO	**Kilima Mbogo**	**31.27**	**272**	*d* iP		**P**		**09 18 40.0**	**+0.1**
FURI	**Furi**	**31.83**	**291**	LR		LR		09 30 47.6	
	comp=Z,4μm,18.6s,baz=112,slow=35								
PPI	**Padang Panjang**	**31.94**	**87**	P		**P**		**09 18 49.0**	**+3.5**
	comp=Z,2μmcomp=Z,23nm,1.2s								
PDSI	**Padang**	**31.97**	**88**	P		**P**		**09 18 46.8**	**+1.0**
BKNI	**Bangkinang**	**32.64**	**85**	IAMs_20		IAMs_20		09 29 21.8	
	comp=Z,4μm,20.0s								
KULM	**Kulim**	**33.03**	**76**	P		**P**		**09 18 54.6**	**-0.4**
KULM				IAMs_20		IAMs_20		09 30 08.0	
	comp=Z,5μm,21.0s								
LODK	**Lodwar**	**33.66**	**280**			**P**		**09 19 01.4**	**+0.8**
LODK				IAmb		IAmb		09 19 03.7	
	comp=Z,24nm,0.9s								
LODK	**Lodwar**	**33.66**	**280**	P		**P**		**09 19 02.1**	**+1.5**
	SNR=9.9								
BRDH	**Bariadhala**	**33.72**	**41**	LR		LR		09 34 42.7	
	comp=Z,2μm,18.3s,baz=165,slow=40								
RAYN	**Ar Rayn**	**34.24**	**320**			**P**		**09 19 05.6**	**+0.1**
RAYN	**Ar Rayn**	**34.24**	**320**	IAMs_20		IAMs_20		09 30 56.7	
	comp=Z,3μm,19.0s								
RAYN	**Ar Rayn**	**34.24**	**320**	P		**P**		**09 19 05.3**	**-0.2**
RAYN	**Ar Rayn**	**34.24**	**320**	*i* P		**P**		**09 19 04.2**	**-1.4**
	SNR=7.5								
RAYN	**Ar Rayn**	**34.24**	**320**	P		**P**		**09 19 05.6**	**+0.1**
RAYN				pmax		pmax			
	comp=Z,7.0nm,0.7s								
LHSI	**Lahat**	**34.98**	**93**	P		**P**		**09 19 13.8**	**+1.8**
	comp=Z,2μmcomp=Z,40nm,0.7s								
EVN	**Everest**	**35.05**	**29**			**P**		**09 19 13.2**	**+0.1**
MDSI	**Maura Dua**	**35.65**	**94**	P		**P**		**09 19 19.6**	**+1.8**
	comp=Z,1μmcomp=Z,25nm,1.3s								
SHL	**Shillong**	**35.95**	**38**			**P**		**09 19 20.0**	**-0.4**
SHL	**Shillong**	**35.95**	**38**	P		**P**		**09 19 20.6**	**+0.2**
	SNR=6.6								
SHL	**Shillong**	**35.95**	**38**	P		**P**		**09 19 20.0**	**-0.4**
KASI	**Kota Agung**	**36.01**	**96**	P		**P**		**09 19 22.1**	**+1.2**
	comp=Z,41nm,1.6s								
DSRI	**Dabo**	**36.11**	**87**	P		**P**		**09 19 23.2**	**+1.5**
	comp=Z,2μmcomp=Z,38nm,2.0s								
NIL	**Nilore**	**36.26**	**7**			**P**		**09 19 23.2**	**+0.5**
NIL				IAmb		IAmb		09 19 26.7	
	comp=Z,34nm,0.8s								
NIL	**Nilore**	**36.26**	**7**	P		**P**		**09 19 23.2**	**+0.5**
NIL				pmax		pmax			
	comp=Z,34nm,0.8s								
NIL				MLR		MLR			
	comp=Z,3μm,20.0s								
CM31	**Chiang Mai Arr**	**36.50**	**54**	P		**P**		**09 19 24.7**	**-0.2**
	SNR=5.5								
CMAR	**Chiang Mai Arr**	**36.50**	**54**	P		**P**		**09 19 25.4**	**+0.5**
	comp=Z,7.4nm,0.9s,baz=245,slow=10.0,SNR=24								
CMAR				LR		LR		09 33 01.4	
	comp=Z,1μm,19.6s,baz=245,slow=34								
	comp=Z,7.4nm,0.9s								
CMAR	**Chiang Mai Arr**	**36.50**	**54**	*i* P		**P**		**09 19 26.0**	**+1.0**
CMAR				pmax		pmax			
	comp=Z,7.0nm,0.8s								
CHTO	**Chiang Mai**	**36.69**	**53**			**P**		**09 19 27.4**	**+0.9**
CHTO	**Chiang Mai**	**36.69**	**53**	P		**P**		**09 19 27.4**	**+0.9**
CHTO				S		**S**		**09 25 05.5**	**-4.3**
CHTO	**Chiang Mai**	**36.69**	**53**	P		**P**		**09 19 27.4**	**+0.9**
CHTO				pmax		pmax			
	comp=Z,27nm,1.0s								
KBL	**Kabul**	**36.87**	**1**	P		**P**		**09 19 29.0**	**+0.8**
KBL	**Kabul**	**36.87**	**1**	P		**P**		**09 19 28.5**	**+0.3**
KBL				P		**P**		**09 19 28.5**	**+0.3**
KBL				S		**S**		**09 25 14.7**	**+2.1**
KBL				S		**S**		**09 25 14.7**	**+2.1**
KBL	**Kabul**	**36.87**	**1**	P		**P**		**09 19 29.0**	**+0.8**
KBL				pmax		pmax			
	comp=Z,30nm,1.2s								
CGJI	**Cibinong**	**37.27**	**98**	P		**P**		**09 19 33.4**	**+1.8**
	comp=Z,5μmcomp=Z,58nm,1.4s								
PPBI	**Pangkal Pinang**	**37.59**	**90**	P		**P**		**09 19 36.8**	**+2.4**
MBAR	**Mbarara**	**37.81**	**272**	P		**P**		**09 19 36.2**	**-0.1**
MBAR				IAmb		IAmb		09 19 49.6	
	comp=Z,95nm,1.8s								
MBAR	**Mbarara**	**37.81**	**272**	*de*P		**P**		**09 19 37.3**	**+0.9**
MBAR				pmax		pmax			
	comp=Z,13nm,1.0s								
TNG	**Tangerang**	**38.19**	**97**	P		**P**		**09 19 41.7**	**+2.3**
DBJI	**Dramaga**	**38.32**	**97**	P		**P**		**09 19 42.6**	**+2.1**
LEM	**Lembang**	**39.20**	**98**	P		**P**		**09 19 49.5**	**+1.5**
	comp=Z,32nm,0.5s,baz=241,slow=2.5,SNR=7.8								
LEM				LR		LR		09 33 03.8	
	comp=Z,4μm,21.8s,baz=272,slow=32								
	comp=Z,32nm,0.5s								
LEM	**Lembang**	**39.20**	**98**	P		**P**		**09 19 49.2**	**+1.2**
TNCH	**TengChong**	**39.97**	**45**	⇓*i* P		**P**		**09 19 57.6**	**+3.3**
TNCH				sP		pwP		09 20 03.7	+1.4
TNCH				S		**S**		**09 26 03.6**	**+4.0**
TNCH				sS		sS		09 26 13.6	+8.5
TNCH				SS		**SS**		**09 28 55.8**	**-0.9**
TNCH				pmax		pmax			
	comp=Z,56nm,1.3s								
TNCH				pmax		pmax			
	comp=Z,520nm,4.6s								
TNCH				LR		LR			
	comp=Z,1μm,14.9s								
TNCH				LR		LR			
	comp=Z,1μm,15.9s								
TNCH				LR		LR			
	comp=Z,2μm,15.9s								
KPJI	**Karang Pucung**	**40.53**	**98**	P		**P**		**09 20 01.3**	**+2.3**
	comp=Z,2μmcomp=Z,41nm,1.0s								
CHGR	**Chuyangaron**	**40.98**	**1**	P		**P**		**09 20 02.3**	**-0.1**
CHGR				pmax		pmax			
	comp=Z,29nm,0.6s								
SIMJ	**Simiganj**	**40.98**	**1**			**P**		**09 20 02.0**	**-0.5**
LSZ	**Lusaka**	**41.71**	**250**			**P**		**09 20 07.6**	**-1.2**
LSZ	**Lusaka**	**41.71**	**250**	LR		LR		09 35 15.4	
	comp=Z,5μm,18.4s,baz=94,slow=33								
LSZ	**Lusaka**	**41.71**	**250**	P		**P**		**09 20 07.8**	**-1.0**
LSZ				P		**P**		**09 20 07.8**	**-1.0**
LSZ				P		**P**		**09 20 07.8**	**-1

TARG	**Taragay, Kyrgy**	**44.85**	**10**	P	**P**	**09 20 34.6**	**+0.5**
TARG				pmax	pmax		
	comp=Z,14nm,1.0s						
LKRN	**Lenkeran, Azer**	**44.89**	**338**	P	**P**	**09 20 32.4**	**-1.6**
KDJ	**Kajisay**	**45.14**	**9**	IAmb	IAmb	09 20 48.5	
	comp=Z,27nm,0.9s						
AAK	**Ala-Archa**	**45.28**	**6**		**P**	**09 20 37.5**	**+0.2**
AAK				IAmb	IAmb	09 20 49.2	
	comp=Z,18nm,0.9s						
AAK	**Ala-Archa**	**45.28**	**6**	LR	LR	09 39 48.2	
	comp=Z,1μm,20.5s,baz=201,slow=36						
AAK	**Ala-Archa**	**45.28**	**6**	P	**P**	**09 20 38.1**	**+0.8**
AAK				P	**P**	**09 20 38.1**	**+0.8**
AAK				S	**S**	**09 27 19.2**	**+2.0**
AAK				S	**S**	**09 27 19.2**	**+2.0**
AAK	**Ala-Archa**	**45.28**	**6**	*i* P	**P**	**09 20 38.0**	**+0.8**
	SNR=6.5						
AAK	**Ala-Archa**	**45.28**	**6**	*de*P	**P**	**09 20 37.6**	**+0.4**
AAK				pmax	pmax		
	comp=Z,23nm,1.7s						
DZA	**Taraz**	**45.28**	**3**	*e*P	**P**	**09 20 35.9**	**-1.1**
DZA	**Taraz**	**45.28**	**3**	*e*P	**P**	**09 20 35.9**	**-1.1**
EIL	**Elat**	**45.33**	**317**	LR	LR	09 37 04.8	
	comp=Z,2μm,18.3s,baz=126,slow=33						
BRLS	**Boroldaу**	**45.36**	**1**	*e*P	**P**	**09 20 34.6**	**-3.1**
BRLS	**Boroldaу**	**45.36**	**1**	*e*P	**P**	**09 20 34.6**	**-3.1**
KKAR	**Karatay Array**	**45.46**	**2**		**P**	**09 20 39.0**	**+0.6**
KKAR	**Karatay Array**	**45.46**	**2**	P	**P**	**09 20 39.0**	**+0.6**
ASF	**Jabal al Asfar**	**45.71**	**322**	LR	LR	09 38 33.5	
	comp=Z,2μm,18.3s,baz=156,slow=34						
JAGI	**Jajag, Banyuwa**	**45.78**	**99**	P	**P**	**09 20 43.6**	**+2.1**
H04N2	**CROZET ISLANDS**	**45.85**	**196**	T	T	10 09 55.1	
	baz=18						
H04N1	**CROZET ISLANDS**	**45.86**	**196**	T	T	10 09 55.1	
	baz=18						
H04N3	**CROZET ISLANDS**	**45.87**	**196**	T	T	10 09 55.1	
	baz=18						
QIZ	**Qiongzhong**	**45.93**	**60**	P	**P**	**09 20 44.5**	**+1.9**
QIZ				PP	**PP**	**09 22 32.1**	**+1.7**
QIZ				S	**S**	**09 27 29.9**	**+2.8**
QIZ				LR	LR		
	comp=Z,1μm,21.4s						
QIZ				LR	LR		
	comp=Z,1μm,21.0s						
QIZ				LR	LR		
	comp=Z,2μm,16.3s						
GHAJ	**Ghor Haditha**	**45.97**	**320**	IAMs_20	IAMs_20	09 37 27.4	
	comp=Z,2μm,19.0s						
SGDS	**Sogindy**	**46.10**	**6**	*e*P	**P**	**09 20 42.6**	**-1.0**
	comp=Z,22nm,1.6s						
MDOK	**Medeo**	**46.13**	**9**	*e*P	**P**	**09 20 42.6**	**-1.4**
MDOK	**Medeo**	**46.13**	**9**	*e*P	**P**	**09 20 42.5**	**-1.4**
AAA	**Alma-Ata**	**46.15**	**9**	*e*P	**P**	**09 20 43.2**	**-0.8**
	comp=Z,9.5nm,0.5s						
AAA	**Alma-Ata**	**46.15**	**9**	*e*P	**P**	**09 20 43.1**	**-0.8**
AAA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
LPHEP	**Lephephe**	**46.17**	**240**		**P**	**09 20 43.4**	**-1.1**
LPHEP				IAmb	IAmb	09 20 45.2	
	comp=Z,27nm,0.8s						
SATY	**Saty**	**46.25**	**10**	*e*P	**P**	**09 20 43.7**	**-1.1**
	comp=Z,11nm,0.7s						
SATY	**Saty**	**46.25**	**10**	*e*P	**P**	**09 20 43.7**	**-1.1**
SATY				pmax	pmax		
	comp=Z,11nm,0.7s						
UZB	**Uzynbulak**	**46.44**	**11**	*e*P	**P**	**09 20 45.1**	**-1.3**
	comp=Z,21nm,1.6s						
UZB	**Uzynbulak**	**46.44**	**11**	*e*P	**P**	**09 20 45.1**	**-1.3**
UZB				pmax	pmax		
	comp=Z,21nm,1.6s						
SHLS	**Shalkode**	**46.53**	**11**	*e*P	**P**	**09 20 46.5**	**-0.6**
	comp=Z,27nm,1.4s						
SHLS	**Shalkode**	**46.53**	**11**	*e*P	**P**	**09 20 46.5**	**-0.6**
SHLS				pmax	pmax		
	comp=Z,27nm,1.4s						
NAX	**Nakhchivan**	**46.59**	**335**	P	**P**	**09 20 48.0**	**+0.5**
LBTB	**Lobatse**	**46.98**	**238**	LR	LR	09 38 47.7	
	comp=Z,1μm,18.5s,baz=68,slow=34						
MMAI	**Mount Meron Ar**	**47.21**	**321**	P	**P**	**09 20 51.5**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=157,slow=7.8,SNR=5.5						
MMAI				LR	LR	09 39 09.9	
	comp=Z,2μm,18.7s,baz=134,slow=34						
	comp=Z,2.0nm,0.7s						
CD2	**Chengdu**	**47.24**	**42**	P	**P**	**09 20 53.0**	**+0.3**
CD2				S	**S**	**09 27 46.8**	**+1.2**
CD2				pmax	pmax		
	comp=Z,40nm,0.5s						
CD2				pmax	pmax		
	comp=Z,260nm,5.0s						
CD2				LR	LR		
	comp=Z,1μm,13.5s						
CD2				LR	LR		
	comp=Z,1μm,15.3s						
CD2				LR	LR		
	comp=Z,1μm,13.5s						
MARD	**Mardin**	**47.27**	**330**	IAmb	IAmb	09 21 10.0	
	comp=Z,19nm,1.1s						
BTLS	**Baital**	**47.61**	**5**	*e*P	**P**	**09 20 54.4**	**-1.0**
BTLS	**Baital**	**47.61**	**5**	*e*P	**P**	**09 20 54.3**	**-1.0**
SEKA	**Sheki**	**47.66**	**338**	P	**P**	**09 20 55.5**	**-0.3**
GNI	**Garni**	**47.73**	**335**		**P**	**09 20 57.2**	**+0.7**
GNI	**Garni**	**47.73**	**335**	IAMs_20	IAMs_20	09 40 25.6	
	comp=Z,3μm,20.0s						
GNI	**Garni**	**47.73**	**335**	P	**P**	**09 20 54.3**	**-2.2**
	comp=Z,6.5nm,0.3s,baz=139,slow=9.3,SNR=5.3						
GNI				LR	LR	09 40 37.6	
	comp=Z,3μm,20.8s,baz=144,slow=36						
	comp=Z,6.5nm,0.3s						
GNI	**Garni**	**47.73**	**335**	P	**P**	**09 20 57.9**	**+1.4**
GNI				P	**P**	**09 20 57.9**	**+1.4**
GNI				S	**S**	**09 27 55.8**	**+3.4**
GNI				S	**S**	**09 27 55.8**	**+3.4**
GNI	**Garni**	**47.73**	**335**	P	**P**	**09 20 53.6**	**-2.8**
GNI	**Garni**	**47.73**	**335⇓**	*e*P	**P**	**09 20 57.3**	**+0.8**
GNI				pmax	pmax		
	comp=Z,67nm,1.2s						
MAKGR	**Makgori**	**47.94**	**237**	P	**P**	**09 20 57.5**	**-0.9**
MAKGR				IAmb	IAmb	09 20 58.6	
	comp=Z,21nm,0.8s						
TDK	**Taldyqorghan**	**48.13**	**9**	*e*P	**P**	**09 20 58.5**	**-0.8**
TDK	**Taldyqorghan**	**48.13**	**9**	*e*P	**P**	**09 20 58.5**	**-0.8**
BOSA	**Boshof**	**48.66**	**233**	P	**P**	**09 21 02.1**	**-1.8**
	comp=Z,20nm,0.7s,baz=65,slow=7.9,SNR=42						
BOSA				LR	LR	09 39 40.9	
	comp=Z,2μm,18.1s,baz=76,slow=34						
	comp=Z,20nm,0.7s						
MAK	**Makhachkala**	**49.09**	**340**	*e*P	P	09 21 00.7	-6.0
MAK				*e*S	**S**	**09 28 04.0**	**-7.2**
MAK				pmax	pmax		
	comp=Z,274nm,1.2s						
MAK				MLR	MLR		
	comp=Z,946nm,14.0s						
TRLG	**Trialeti**	**49.15**	**336**	P	**P**	**09 21 08.8**	**+1.3**
QNGWA	**Qangwa**	**49.23**	**246**	IAmb	IAmb	09 21 25.5	
	comp=Z,25nm,1.1s						
WMQ	**Urumqi**	**49.25**	**18**	*e*P	**P**	**09 21 10.6**	**+2.6**
WMQ				sP	pwP	09 21 19.8	+3.5
WMQ				S	**S**	**09 28 10.5**	**-3.1**
WMQ				pmax	pmax		
	comp=Z,34nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,190nm,3.7s						
WMQ				LR	LR		
	comp=Z,3μm,18.9s						
WMQ				LR	LR		
	comp=Z,1μm,16.9s						
WMQ				LR	LR		
	comp=Z,3μm,23.1s						
PHPEN	**Phepeng**	**49.47**	**238**	P	**P**	**09 21 08.8**	**-1.2**
PHPEN				IAmb	IAmb	09 21 10.5	
	comp=Z,19nm,0.8s						
KOPT	**Kop Dagi**	**49.51**	**332**	P	**P**	**09 21 09.3**	**-1.1**
CSS	**Mathiatis**	**49.78**	**322**	IAMs_20	IAMs_20	09 39 50.3	
	comp=Z,2μm,20.0s						
ARPR	**Arapgir-MALATY**	**49.87**	**329**	IAmb	IAmb	09 21 38.6	
	comp=Z,31nm,1.1s						
LKGWB	**Lokgwabe**	**50.44**	**241**		P	09 21 12.6	-4.9
LZDM	**Lanzhou Array**	**50.44**	**37**	P	**P**	**09 21 16.7**	**-0.9**
	comp=Z,6.7nm,0.7s,baz=211,slow=11,SNR=7.7						
LZDM				LR	LR	09 42 32.3	
	comp=Z,1μm,21.1s,baz=240,slow=36						
	comp=Z,6.7nm,0.7s						
MAKZ	**Makanchi**	**50.54**	**12**	P	**P**	**09 21 16.2**	**-1.5**
MK31	**Makanchi Array**	**50.59**	**12**	*ce*P	**P**	**09 21 16.7**	**-1.4**
MKAR	**Makanchi Array**	**50.59**	**12**	P	**P**	**09 21 16.8**	**-1.3**
	comp=Z,5.1nm,0.7s,baz=198,slow=7.6,SNR=18						
MKAR				PcP	**PcP**	**09 22 34.3**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=207,slow=4.2,SNR=0.6						
MKAR				LR	LR	09 41 45.9	
	comp=Z,1μm,20.8s,baz=190,slow=35						
	comp=Z,5.1nm,0.7s						
MKAR	**Makanchi Array**	**50.59**	**12**	*i* P	**P**	**09 21 16.7**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LZH	**Lanzhou**	**50.62**	**37**	*e*P	**P**	**09 21 15.9**	**-2.8**
LZH				pP	pwP	09 21 25.2	-1.6
LZH				S	**S**	**09 28 32.3**	**-0.9**
LZH				pmax	pmax		
	comp=Z,29nm,1.3s						
LZH				pmax	pmax		
	comp=Z,280nm,4.4s						
LZH				LR	LR		
	comp=Z,950nm,15.5s						
LZH				LR	LR		
	comp=Z,970nm,15.8s						
LZH				LR	LR		
	comp=Z,2μm,14.1s						
GTA	**Gaotai**	**50.68**	**31**	*e*P	**P**	**09 21 19.1**	**0.0**
GTA				sP	pwP	09 21 27.1	-0.1
GTA				S	**S**	**09 28 34.1**	**+0.2**
GTA				SS	**SS**	**09 32 13.6**	**+5.0**
GTA				pmax	pmax		
	comp=Z,15nm,1.0s						
GTA				pmax	pmax		
	comp=Z,240nm,6.4s						
GTA				LR	LR		
	comp=Z,1μm,23.1s						
GTA				LR	LR		
	comp=Z,1μm,23.9s						
GTA				LR	LR		
	comp=Z,2μm,22.7s						
BNN	**Bunyan**	**51.00**	**327**		**P**	**09 21 21.7**	**+0.2**
KAPI	**Kappang**	**51.18**	**94**	LR	LR	09 40 35.5	
	comp=Z,2μm,21.4s,baz=264,slow=33						
SPSI	**Sidrap Palu**	**51.19**	**93**	P	**P**	**09 21 23.4**	**+0.2**
	comp=Z,1μmcomp=Z,27nm,1.0s						
TTSI	**Tana Toraja**	**51.24**	**92**	P	**P**	**09 21 24.8**	**+1.2**
	comp=Z,21nm,1.4s						
KBZ	**Khabaz**	**51.47**	**336**	P	**P**	**09 21 25.1**	**+0.4**
	comp=Z,35nm,0.9s,baz=155,slow=6.7,SNR=38						
KBZ				LR	LR	09 43 21.4	
	comp=Z,2μm,19.9s,baz=140,slow=36						
	comp=Z,35nm,0.9s						
KBZ	**Khabaz**	**51.47**	**336**	*ce*P	**P**	**09 21 25.3**	**+0.6**
KBZ				pmax	pmax		
	comp=Z,38nm,0.9s						
BKSI	**Bulukumba**	**51.55**	**95**	P	**P**	**09 21 26.5**	**+0.6**
	comp=Z,832nmcomp=Z,43nm,1.1s						
SHA1	**Shidzhatmaz**	**51.58**	**336**	*ce*P	**P**	**09 21 26.0**	**+0.2**
KVAR	**Kislovodsk Arr**	**51.74**	**336**	LR	LR	09 43 10.5	
	comp=Z,1μm,19.5s,baz=99,slow=36						
KIV	**Kislovodsk**	**51.74**	**336**	P	**P**	**09 21 28.0**	**+1.1**
KIV				S	**S**	**09 28 49.5**	**+1.1**
KIV	**Kislovodsk**	**51.74**	**336**	P	**P**	**09 21 26.3**	**-0.7**
KIV	**Kislovodsk**	**51.74**	**336**	*e*P	**P**	**09 21 25.9**	**-1.0**
KIV				*e*S	**S**	**09 28 48.1**	**-0.3**
KIV				pmax	pmax		
	comp=Z,20nm,1.1s						
KIV				MLR	MLR		
	comp=Z,949nm,16.0s						
ZSN	**Zaisan**	**51.80**	**14**	*e*P	**P**	**09 21 26.4**	**-0.8**
	comp=Z,22nm,1.4s						
ZSN	**Zaisan**	**51.80**	**14**	*e*P	**P**	**09 21 26.4**	**-0.8**
ZSN				pmax	pmax		
	comp=Z,22nm,1.4s						
ABKAR	**Akbulak array**	**52.11**	**353**		**P**	**09 21 28.9**	**-0.5**
KIRS	**Kirshir-Merke**	**52.26**	**326**	⇑P	**P**	**09 21 30.9**	**+0.1**
MORW	**Morawa**	**52.29**	**125**	P	**P**	**09 21 32.0**	**+0.8**
	comp=Z,26nm,2.6s						
MORW	**Morawa**	**52.29**	**125**	P	**P**	**09 21 32.0**	**+0.8**
MORW				IAmb	IAmb	09 21 46.2	
	comp=Z,65nm,1.6s						
TSUM	**Tsumeb**	**52.45**	**248**	LR	LR	09 41 20.8	
	comp=Z,2μm,20.2s,baz=85,slow=33						
GOF	**Gofitskoye**	**52.53**	**337**	*ce*P	**P**	**09 21 31.8**	**-0.8**
XAN	**Xi'an**	**52.60**	**43**	⇑P	**P**	**09 21 32.6**	**-0.9**
XAN				sP	pwP	09 21 39.8	-1.8
XAN				S	**S**	**09 28 59.5**	**-1.0**
XAN				pmax	pmax		
	comp=Z,23nm,1.1s						
XAN				LR	LR		
	comp=Z,1μm,19.9s						
XAN				LR	LR		
	comp=Z,1μm,20.6s						
XAN				LR	LR		
	comp=Z,960nm,17.2s						
SOC	**Sochi**	**52.69**	**334**	*e*P	**P**	**09 21 31.9**	**-1.9**
SOC				*e*		09 23 30.7	
SOC				*e*PPP	PPP	09 24 33.9	
SOC				*e*S	**S**	**09 28 59.7**	**-1.4**
SOC				*e*SS	**SS**	**09 32 29.9**	**-10**
SOC				pmax	pmax		
	comp=Z,19nm,1.0s						
SOC				MLR	MLR		
	comp=Z,1μm,20.0s						
BR131	**Keskin Array S**	**52.83**	**326**	P	**P**	**09 21 34.9**	**-0.2**
	SNR=6.3						
BR131				P	**P**	**09 21 34.9**	**-0.2**
	SNR=6.3						
BR131	**Keskin Array S**	**52.83**	**326⇑**	*e*P	**P**	**09 21 34.5**	**-0.6**
BRTR	**Keskin Array B**	**52.83**	**326**		**P**	**09 21 35.1**	**0.0**
BRTR	**Keskin Array B**	**52.83**	**326**	P	**P**	**09 21 34.0**	**-1.1**
	comp=Z,4.3nm,0.8s,baz=132,slow=9.2,SNR=18						
BRTR				LR	LR	09 43 40.2	
	comp=Z,2μm,19.9s,baz=134,slow=36						
	comp=Z,4.3nm,0.8s						
BRTR	**Keskin Array B**	**52.83**	**326**	*i* P	**P**	**09 21 38.0**	**+2.9**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MBWA	**Marble Bar**	**53.15**	**115**	P	**P**	**09 21 37.6**	**-0.1**
	comp=Z,17nm,1.7s						
MBWA	**Marble Bar**	**53.15**	**115**		**P**	**09 21 38.0**	**+0.4**
MBWA				IAmb	IAmb	09 22 05.7	
	comp=Z,32nm,1.4s						
MBWA	**Marble Bar**	**53.15**	**115**	P	**P**	**09 21 37.1**	**-0.5**
MBWA				P	**P**	**09 21 37.1**	**-0.5**
H01W3	**Cape Leeuwin H**	**53.18**	**133**	T	T	10 18 50.8	
	baz=299,slow=75,SNR=8.0						
H01W2	**Cape Leeuwin H**	**53.18**	**133**	T	T	10 19 09.3	
	baz=299,slow=75,SNR=8.2						
H01W1	**Cape Leeuwin H**	**53.20**	**133**	T	T	10 18 49.8	
	baz=299,slow=75,SNR=7.7						
EDFI	**Ende, Flores**	**53.24**	**99**	P	**P**	**09 21 37.4**	**-1.1**
	comp=Z,25nm,1.1s						
PSAC1	**Pilbara Seismi**	**53.30**	**115**	P	**P**	**09 21 39.5**	**+0.7**
	comp=Z,36nm,1.0s						
PSAA1	**Pilbara Seismi**	**53.34**	**115**	P	**P**	**09 21 39.3**	**+0.3**
	comp=Z,38nm,1.1s						
PSA00	**Pilbara Seismi**	**53.34**	**115**	P	**P**	**09 21 39.9**	**+0.8**
	comp=Z,36nm,1.1s						
PSA00	**Pilbara Seismi**	**53.34**	**115**		**P**	**09 21 39.8**	**+0.7**
PSA00				IAmb	IAmb	09 21 47.9	
	comp=Z,35nm,1.1s						
PSA00	**Pilbara Seismi**	**53.34**	**115**		**P**	**09 21 39.8**	**+0.7**
AKTO	**Aktyubinsk**	**53.52**	**352**	LR	LR	09 45 09.9	
	comp=Z,1μm,20.6s,baz=172,slow=37						
KURBB	**Kurchatov Arra**	**53.64**	**8**	P	**P**	**09 21 39.8**	**-0.9**
	comp=Z,7.3nm,0.8s,baz=204,slow=7.8,SNR=22						
KURBB				LR	LR	09 43 41.5	
	comp=Z,2μm,21.6s,baz=176,slow=35						
	comp=Z,7.3nm,0.8s						
SUR	**Sutherland**	**53.69**	**231**	P	**P**	**09 21 40.9**	**-0.7**
KURK	**Kurchatov**	**53.74**	**8**		**P**	**09 21 40.8**	**-0.6**
KURK				IAmb	IAmb	09 21 50.3	
	comp=Z,21nm,0.8s						
KURK	**Kurchatov**	**53.74**	**8**	IAMs_20	IAMs_20	09 43 33.6	
	comp=Z,2μm,21.0s						
KURK	**Kurchatov**	**53.74**	**8**	P	**P**	**09 21 41.0**	**-0.4**
KURK				P	**P**	**09 21 41.0**	**-0.4**
KURK	**Kurchatov**	**53.74**	**8**	P	**P**	**09 21 40.8**	**-0.6**
KURK				pmax	pmax		
	comp=Z,21nm,0.8s						
ERBR	**Yeremizino-Bor**	**54.08**	**336**	*e*P	**P**	**09 21 43.2**	**-0.8**
ERBR				*e**PP	**pP**	**09 21 46.5**	**-1.3**
ERBR				*e*S	**S**	**09 29 21.4**	**+1.4**
ERBR				pmax	pmax		
	comp=Z,49nm,1.1s						
ERBR				MLR	MLR		
	comp=Z,2μm,20.0s						
TGY	**Tagaytay City**	**54.51**	**71**	LR	LR	09 43 40.9	
	comp=Z,891nm,20.2s,baz=285,slow=34						
ANN	**Anapa**	**54.66**	**333**	*e*P	**P**	**09 21 46.0**	**-2.2**
ANN				*e**PP	**pP**	**09 21 48.8**	**-3.2**
ANN				*e*S	**S**	**09 29 26.1**	**-1.7**
ANN				pmax	pmax		
	comp=Z,41nm,1.4s						
ANN				MLR	MLR		
	comp=Z,1μm,19.0s						
WHN	**Wuhan**	**54.66**	**49**	P	**P**	**09 21 50.7**	**+2.1**
WHN				sP	**pwP**	**09 21 57.1**	**+0.5**
WHN				S	**S**	**09 29 28.9**	**+0.5**
WHN				pmax	pmax		
	comp=Z,70nm,1.1s						
WHN				LR	LR		
	comp=Z,3μm,17.2s						
NWAO	**Narrogin (SRO)**	**54.69**	**129**	P	**P**	**09 21 48.8**	**+0.1**
NWAO	**Narrogin (SRO)**	**54.69**	**129**	P	**P**	**09 21 48.1**	**-0.6**
	comp=Z,15nm,1.1s,baz=277,slow=8.1,SNR=5.5						
NWAO				LR	LR	09 39 49.5	
	comp=Z,3μm,21.7s,baz=286,slow=30						
	comp=Z,15nm,1.1s						
NWAO	**Narrogin (SRO)**	**54.69**	**129**	P	**P**	**09 21 48.5**	**-0.3**
NWAO				P	**P**	**09 21 48.5**	**-0.3**
BATI	**Baumata**	**55.27**	**101**	LR	LR	09 44 34.9	
	comp=Z,3μm,21.1s,baz=282,slow=35						
BVAR	**Borovoye Array**	**55.37**	**1**	P	**P**	**09 21 52.5**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=157,slow=8.0,SNR=8.5						
BVAR				LR	LR	09 47 05.0	
	comp=Z,1μm,18.8s,baz=184,slow=38						
	comp=Z,1.7nm,0.7s						
IDI	**Anoyia**	**55.50**	**317**	LR	LR	09 45 31.2	
	comp=Z,592nm,21.6s,baz=114,slow=36						
TIY	**Taiyuan**	**57.04**	**41**	P	**P**	**09 22 07.9**	**+2.3**
TIY				S	**S**	**09 30 06.0**	**+6.0**
TIY				pmax	pmax		
	comp=Z,14nm,0.6s						
TIY				pmax	pmax		
	comp=Z,190nm,8.9s						
TIY				LR	LR		
	comp=Z,890nm,22.0s						
TIY				LR	LR		
	comp=Z,610nm,18.6s						
TIY				LR	LR		
	comp=Z,620nm,19.9s						
BTO	**Baotou**	**57.23**	**37**	*e*P	**P**	**09 22 09.2**	**+2.3**
BTO				pP	**pwP**	**09 22 13.7**	**-1.4**
BTO				sP	**sP**	**09 22 16.3**	**+4.5**
BTO				S	**S**	**09 30 03.4**	**+0.9**
BTO				SS	**SS**	**09 33 53.9**	**+2.0**
BTO				pmax	pmax		
	comp=Z,21nm,1.5s						
BTO				pmax	pmax		
	comp=Z,540nm,8.4s						
BTO				LR	LR		
	comp=Z,1μm,19.1s						
BTO				LR	LR		
	comp=Z,2μm,18.6s						
BTO				LR	LR		
	comp=Z,1μm,21.1s						
BELG	**Belogornoye**	**57.49**	**345⇑**	*e*P	**P**	**09 22 07.6**	**-0.7**
BELG				pmax	pmax		
	comp=Z,7.0nm,1.2s						
DAV	**Davao City (W)**	**57.74**	**80**	LR	LR	09 45 20.0	
	comp=Z,702nm,21.1s,baz=246,slow=34						
ZALV	**Zalesovo Beam**	**57.90**	**11**		**P**	**09 22 10.1**	**-1.1**
ZALV	**Zalesovo Beam**	**57.90**	**11**	P	**P**	**09 22 09.6**	**-1.6**
	comp=Z,4.3nm,0.6s,baz=211,slow=7.7,SNR=12						
ZALV				LR	LR	09 46 40.4	
	comp=Z,2μm,21.8s,baz=204,slow=36						
	comp=Z,4.3nm,0.6s						
ALN	**Alexandroupoli**	**57.99**	**323**	IAmb	IAmb	09 22 16.0	
	comp=Z,35nm,1.1s						
FITZ	**Fitzroy Crossi**	**58.04**	**110**	P	**P**	**09 22 13.8**	**+0.9**
FITZ	**Fitzroy Crossi**	**58.04**	**110**	P	**P**	**09 22 11.9**	**-1.0**
	comp=Z,7.4nm,0.8s,baz=270,slow=5.1,SNR=11						
FITZ				LR	LR	09 46 44.8	
	comp=Z,1μm,18.6s,baz=280,slow=36						
	comp=Z,7.4nm,0.8s						
VRH	**Novokhopyorsk**	**58.20**	**341**	*e*P	**P**	**09 22 10.6**	**-2.7**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**58.31**	**37**	*e*P	**P**	**09 22 17.4**	**+2.9**
HHC				S	**S**	**09 30 16.7**	**0.0**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,200nm,6.7s						
HHC				LR	LR		
	comp=Z,600nm,16.0s						
HHC				LR	LR		
	comp=Z,750nm,16.0s						
HHC				LR	LR		
	comp=Z,1μm,19.3s						
HNS	**HongShan**	**58.38**	**42**	⇓P	**P**	**09 22 17.4**	**+2.5**
HNS				S	**S**	**09 30 18.6**	**+1.2**
HNS				pmax	pmax		
	comp=Z,19nm,0.8s						
HNS				pmax	pmax		
	comp=Z,520nm,7.0s						
HNS				LR	LR		
	comp=Z,1μm,19.0s						
HNS				LR	LR		
	comp=Z,620nm,19.8s						
HNS				LR	LR		
	comp=Z,540nm,18.5s						
EDA	**Edea**	**58.66**	**276**		**P**	**09 22 16.1**	**-1.2**
EDA				IAmb	IAmb	09 22 22.2	
	comp=Z,34nm,1.3s						
EDA				IAMs_20	IAMs_20	09 45 22.3	
	comp=Z,2μm,22.0s						
NJ2	**Nanjing**	**58.78**	**50**	*e*P	**P**	**09 22 15.6**	**-2.2**
NJ2				pmax	pmax		
	comp=Z,21nm,1.0s						
NJ2				LR	LR		
	comp=Z,690nm,17.1s						
NJ2				LR	LR		
	comp=Z,1μm,15.2s						
NJ2				LR	LR		
	comp=Z,1μm,17.6s						
VORD	**Divnogorie**	**58.84**	**339**	*e*P	**P**	**09 22 15.8**	**-2.0**
VORD				pmax	pmax		
	comp=Z,50nm,0.9s						
TIRR	**Tirgusor**	**58.89**	**327**	⇓P	**P**	**09 22 17.1**	**-1.3**
TIRR	**Tirgusor**	**58.89**	**327**	P	**P**	**09 22 17.0**	**-1.3**
VSR	**Storozhevoye**	**59.09**	**339**	*e*P	**P**	**09 22 16.8**	**-2.8**
VSR				pmax	pmax		
	comp=Z,30nm,0.9s						
ARTI	**Arti**	**59.30**	**353**		**P**	**09 22 20.0**	**-1.0**
ARTI				IAmb	IAmb	09 22 30.5	
	comp=Z,21nm,0.7s						
ARTI	**Arti**	**59.30**	**353**	LR	LR	09 48 50.3	
	comp=Z,813nm,19.7s,baz=167,slow=37						
ARTI	**Arti**	**59.30**	**353**	*c* *i*P	**P**	**09 22 19.8**	**-1.1**
ARTI						09 23 06.9	
ARTI						09 24 28.1	
ARTI				PPP	PPP	09 25 53.7	
ARTI				S	**S**	**09 30 30.8**	**+2.1**
ARTI						09 32 06.8	
ARTI				SS	**SS**	**09 34 24.0**	**+0.4**
ARTI				pmax	pmax		
	comp=Z,14nm,0.8s					

SONM Songino Array 60.07 29 P 09 22 26.8 +0.2
SONM Songino Array 60.07 29 P **P 09 22 26.5 -0.1**
comp=Z,24nm,0.8s,baz=222,slow=7.0,SNR=56
SONM LR LR 09 48 45.8
comp=Z,2µm,19.0s,baz=219,slow=36
comp=Z,24nm,0.8s
SONM Songino Array 60.07 29 P **P 09 22 26.8 +0.2**
SONM pmax pmax
comp=Z,33nm,0.8s
SSE Sheshan 60.19 52 P **P 09 22 27.1 -0.4**
SSE S **S 09 30 42.8 +1.8**
SSE pmax pmax
comp=Z,11nm,0.7s
SSE pmax pmax
comp=Z,200nm,4.6s
SSE LR LR
comp=Z,420nm,23.0s
SSE LR LR
comp=Z,480nm,23.4s
LPSR Galich'ya Gora 60.32 340 *e*P **P 09 22 25.3 -2.7**
LPSR pmax pmax
comp=Z,40nm,0.8s
ULN Ulaanbaatar 60.41 29 P **P 09 22 29.0 0.0**
ULN IAmb IAmb 09 22 51.7
comp=Z,18nm,1.1s
ULN Ulaanbaatar 60.41 29 IAMs_20 IAMs_20 09 48 46.3
comp=Z,1µm,18.0s
ULN Ulaanbaatar 60.41 29*ce*P **P 09 22 28.3 -0.6**
ULN pmax pmax
comp=Z,8.0nm,0.9s
ZAK Zakamensk 60.54 25 *e*P **P 09 22 28.0 -1.7**
ZAK pmax pmax
comp=Z,14nm,1.6s
MOY Mondy 60.62 23 *e*P **P 09 22 32.6 +2.4**
MOY pmax pmax
comp=Z,19nm,1.6s
NEHR Nehoiu 60.66 327 ⇑P **P 09 22 30.9 +0.3**
KNRA Kununurra 60.71 106 P **P 09 22 32.0 +0.7**
comp=Z,18nm,1.0s
KNRA Kununurra 60.71 106 IAmb IAmb 09 22 47.4
comp=Z,26nm,1.2s
VRI Vrincioaia 60.71 328 ⇑P **P 09 22 30.8 -0.1**
VRI Vrincioaia 60.71 328 P **P 09 22 30.7 -0.1**
PLOR Plostina 60.74 328 ⇑P **P 09 22 30.6 -0.6**
PLOR Plostina 60.74 328 P **P 09 22 30.5 -0.6**
BJI Beijing 60.76 41 P **P 09 22 31.6 +0.4**
BJI sP **pwP 09 22 39.1 -0.3**
BJI PP **PP 09 24 47.3 +2.0**
BJI S **S 09 30 46.9 -1.1**
BJI SS **SS 09 34 47.3 +0.2**
BJI pmax pmax
comp=Z,7.0nm,0.9s
BJI pmax pmax
comp=Z,140nm,7.8s
BJI LR LR
comp=Z,440nm,15.8s
BJI LR LR
comp=Z,370nm,14.8s
BJI LR LR
comp=Z,340nm,15.7s
MLR Muntele Rosu 60.89 327 ⇑P **P 09 22 32.4 +0.2**
MLR Muntele Rosu 60.89 327 P **P 09 22 32.4 +0.2**
COVR Voineasa-Covas 60.98 327 ⇓P **P 09 22 32.4 -0.3**
TESR Tescani 61.17 328 ⇑P **P 09 22 33.3 -0.6**
OZUR 61.36 327 ⇑P **P 09 22 34.2 -1.1**
SORM Soroca 61.38 331 ⇓P **P 09 22 34.0 -1.3**
SORM Soroca 61.38 331 P **P 09 22 34.0 -1.3**
DOPR Dopca 61.50 327 ⇓P **P 09 22 35.2 -1.0**
ARR Arges 61.54 326 ⇑P **P 09 22 35.5 -1.0**
WRKA Warakurna 61.67 117 P **P 09 22 39.0 +1.2**
comp=Z,4.8nm,1.0s
LOT Lotru 62.07 326 ⇑P **P 09 22 39.9 -0.3**
BOVS Bovan 62.20 323 ⇑P **P 09 22 39.8 -1.2**
BURAR Bucovina Array 62.63 329 **P 09 22 43.0 -0.9**
BURAR Bucovina Array 62.63 329 ⇓P **P 09 22 44.2 +0.2**
BURAR Bucovina Array 62.63 329 P **P 09 22 44.1 +0.2**
AKASG Malin Array Be 62.75 333 P **P 09 22 43.0 -1.5**
AKASG Malin Array Be 62.75 333 P **P 09 22 42.9 -1.6**
comp=Z,11nm,0.9s,baz=130,slow=5.6,SNR=23
AKASG PcP **PcP 09 23 23.8 +0.8**
comp=Z,4.1nm,0.8s,baz=126,slow=3.1,SNR=5.7
AKASG LR LR 09 51 17.0
comp=Z,777nm,19.9s,baz=143,slow=37
comp=Z,11nm,0.9s
AKASG Malin Array Be 62.75 333 *i* P **P 09 22 42.9 -1.6**
AKASG pmax pmax
comp=Z,13nm,0.9s
AKBB Malin Array Si 62.75 333*de*P **P 09 22 42.9 -1.5**
KIEV Kiev 62.75 333 **P 09 22 43.4 -1.1**
KIEV IAmb IAmb 09 22 46.6
comp=Z,27nm,1.1s
KIEV Kiev 62.75 333 ⇑P **P 09 22 43.4 -1.1**
KIEV Kiev 62.75 333 *i* P **P 09 22 42.2 -2.2**
SNR=11
KIRV Kirov 62.79 349 LR LR 09 52 25.2
comp=Z,785nm,18.3s,baz=160,slow=38
KIRV Kirov 62.79 349*ce*P **P 09 22 43.0 -1.6**
XLT XiLinHaoTe 62.80 37 *e*P **P 09 22 47.9 +2.8**
XLT pP pwP 09 22 53.1 -0.2
XLT S **S 09 31 13.0 -1.0**
XLT ScS **ScS 09 32 39.0 +1.4**
XLT SS **SS 09 35 19.8 +0.5**
XLT pmax pmax
comp=Z,11nm,0.7s
XLT pmax pmax
comp=Z,290nm,7.0s
XLT LR LR
comp=Z,570nm,15.3s
XLT LR LR
comp=Z,690nm,21.7s
MDVR Moldovita 62.85 324 ⇑P **P 09 22 43.8 -1.6**
MARR Marisel-Cluj 63.17 327 ⇑P **P 09 22 47.0 -0.5**
OBN Obninsk 63.18 340 LR LR 09 51 12.9
comp=Z,631nm,21.0s,baz=86,slow=37
OBN Obninsk 63.18 340⇑*e*P **P 09 22 46.5 -0.7**
OBN *i* 09 23 25.8
OBN *e* 09 25 06.0
OBN *i* S **S 09 31 14.5 -3.5**
OBN *i* SS **SS 09 35 23.3 -1.1**
OBN pmax pmax
comp=Z,23nm,1.3s
OBN MLR MLR
comp=Z,694nm,19.0s
SURR Surduc 63.18 325 ⇑P **P 09 22 46.8 -0.7**
MOS Moscow 63.33 341 *e*P **P 09 22 46.5 -1.7**
MOS *e* 09 23 21.8
MOS *e*S **S 09 31 18.5 -1.5**
MOS pmax pmax
comp=Z,49nm,0.7s
BZS Buzias 63.39 325 ⇑P **P 09 22 47.5 -1.3**
BZS Buzias 63.39 325 P **P 09 22 47.5 -1.3**
DRGR 63.47 327 ⇓P **P 09 22 49.0 -0.4**
DRGR 63.47 327 P **P 09 22 49.0 -0.4**
DL2 Dalian 63.87 44 P **P 09 22 55.0 +2.9**
DL2 S **S 09 31 33.5 +6.3**
DL2 pmax pmax
comp=Z,43nm,1.1s
DL2 pmax pmax
comp=Z,420nm,7.2s
DL2 LR LR
comp=Z,750nm,18.0s
DL2 LR LR
comp=Z,610nm,17.8s
DL2 LR LR
comp=Z,1µm,18.3s
KDU Kakadu 64.05 103 P **P 09 22 54.4 +0.6**
comp=Z,23nm,1.2s
JOW Kunigami 64.54 59 LR LR 09 52 51.5
comp=Z,616nm,18.3s,baz=240,slow=38
KOLS Kolonicke sedl 64.99 328 *e*P **P 09 22 59.0 -0.3**
KOLS pmax pmax
comp=Z,15nm,0.9s
MAW Mawson 65.08 182 P **P 09 22 58.0 -1.4**
comp=Z,3.2nm,1.2s
MAW Mawson 65.08 182 P **P 09 22 58.6 -0.8**
comp=Z,6.8nm,1.0s,baz=22,slow=9.8,SNR=8.0
MAW LR LR 09 44 16.4
comp=Z,2µm,21.4s,baz=354,slow=30
comp=Z,6.8nm,1.0s
KWP Kalwaria Pacla 65.19 329 *e*P **P 09 22 59.6 -1.0**
MORH Mrgy, Hungar 65.44 324 ⇑P **P 09 23 01.4 -0.9**
PSZ Piszkesteto 65.68 326 IAmb IAmb 09 23 22.9
comp=Z,12nm,1.1s
PSZ Piszkesteto 65.68 326 ⇑P **P 09 23 02.4 -1.5**
PSZ Piszkesteto 65.68 326 P **P 09 23 02.3 -1.5**

MNK Minsk 66.00 335 *i* P **P 09 23 02.2 -3.5**
MNK *i* 09 23 32.7
MNK *i* 09 25 27.2
MNK *i* PPP PPP 09 27 01.1
MNK *i* S **S 09 31 50.4 -2.6**
MNK *i* PS **PnS 09 32 09.1 -4.2**
MNK *i* SS **SS 09 36 06.6 -1.9**
MNK pmax pmax
comp=N,19nm,0.8s
MNK pmax pmax
comp=E,22nm,0.8s
MNK pmax pmax
comp=Z,25nm,0.8s
MNK MLR MLR
comp=E,612nm,18.0s
MNK MLR MLR
comp=N,453nm,19.0s
MNK MLR MLR
comp=Z,653nm,18.0s
INTR Introdacqua 66.30 318 IAmb IAmb 09 23 23.9
comp=Z,11nm,0.8s
TAM Tamanrasset 66.31 296 IAMs_20 IAMs_20 09 52 01.4
comp=Z,1µm,18.0s
NIE Niedzica 66.32 328 *e*P **P 09 23 09.8 +1.9**
WC1 Warramunga Arr 66.44 111 P **P 09 23 09.8 +0.5**
WRA Warramunga Arr 66.44 111 **P 09 23 09.1 -0.2**
WRA Warramunga Arr 66.44 111 P **P 09 23 08.9 -0.3**
comp=Z,5.9nm,0.8s,baz=285,slow=6.3,SNR=35
WRA LR LR 09 48 25.9
comp=Z,2µm,21.5s,baz=280,slow=33
comp=Z,5.9nm,0.8s
WRA Warramunga Arr 66.44 111 P **P 09 23 09.1 -0.2**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRAB Tennant Creek 66.45 111 P **P 09 23 09.2 -0.2**
WRAB IAmb IAmb 09 23 17.4
comp=Z,18nm,0.8s
WRAB IAMs_20 IAMs_20 09 48 03.9
comp=Z,2µm,21.0s
WRAB Tennant Creek 66.45 111⇑*e*P **P 09 23 09.3 0.0**
WRAB pmax pmax
comp=Z,9.0nm,0.9s
ASAR Alice Springs 66.49 115 **P 09 23 09.4 -0.2**
ASAR Alice Springs 66.49 115 P **P 09 23 08.9 -0.7**
comp=Z,4.8nm,0.7s,baz=285,slow=5.5,SNR=26
ASAR PcP **PcP 09 23 37.6 -1.5**
comp=Z,3.0nm,0.8s,baz=282,slow=5.9,SNR=4.9
ASAR LR LR 09 49 15.9
comp=Z,985nm,20.0s,baz=280,slow=33
comp=Z,4.8nm,0.7s
ASAR Alice Springs 66.49 115 P **P 09 23 09.4 -0.2**
AS31 Alice Springs 66.49 115 P **P 09 23 10.4 +0.9**
comp=Z,3.9nm,0.9s
VYHS Vyhne 66.59 326 *e*P **P 09 23 08.4 -1.2**
VYHS pmax pmax
comp=Z,22nm,1.2s
LANS Liptovska Anna 66.61 327 *e*P **P 09 23 09.1 -0.7**
LANS pmax pmax
comp=Z,11nm,1.0s
KEST Kesra 66.97 311 LR LR 09 51 43.5
comp=Z,436nm,18.2s,baz=77,slow=35
OJC Ojcow 67.05 328 *e*P **P 09 23 11.5 -1.0**
KLMR Klimovskoe 67.07 345 *e*P **P 09 23 09.4 -3.0**
KLMR S **S 09 32 02.4 -3.3**
KLMR SS **SS 09 36 23.0 -1.8**
KLMR pmax pmax
comp=Z,58nm,1.4s
KLMR MLR MLR
comp=Z,658nm,16.0s
BOJS Bojanci 67.10 322 *i* P **P 09 23 11.9 -1.0**
BOJS *e* 09 23 16.0
FDMO Fiordimonte 67.30 319 IAmb IAmb 09 23 34.2
comp=Z,24nm,1.1s
SMOL Smolenice 67.38 326 *e*P **P 09 23 16.3 +1.6**
SMOL pmax pmax
comp=Z,8.0nm,1.2s
JAVC Velka Javorina 67.43 326 *e*P **P 09 23 14.2 -0.9**
RONA Rosalia, Austr 67.59 325 *i* P **P 09 23 14.8 -1.3**
comp=Z,6.8nm,0.8s
OKC Ostrava-Krasne 67.71 327 AMS AMS 09 54 10.0
comp=Z,800nm,16.8s
SUW Suwalki 67.72 333 *e*P **P 09 23 14.9 -1.7**
KSAR Wonju Array Be 67.75 48 **P 09 23 17.4 +0.2**
KSAR Wonju Array Be 67.75 48 P **P 09 23 17.4 +0.2**
KSRS Korea Array 67.78 48 P **P 09 23 16.4 -1.1**
comp=Z,2.4nm,0.9s,baz=244,slow=7.1,SNR=8.7
comp=Z,2.4nm,0.9s
LJU Ljubljana 67.81 323 *i* P **P 09 23 15.8 -1.6**
LJU *e* 09 23 19.4
ARSA Arzberg 67.81 324 IAmb IAmb 09 23 26.6
comp=Z,24nm,1.4s
ARSA Arzberg 67.81 324 *i* P **P 09 23 16.3 -1.2**
comp=Z,5.5nm,0.8s
SOKA Soboth 67.81 323 *e*P **P 09 23 15.9 -1.7**
comp=Z,5.1nm,1.0s
CONA Conrad Observa 67.96 325 *i* P **P 09 23 17.0 -1.5**
comp=Z,10nm,0.8s
MORC Moravsky Berou 68.00 327 IAmb IAmb 09 23 21.0
comp=Z,18nm,1.2s
MORC Moravsky Berou 68.00 327 *e*P **P 09 23 16.0 -2.6**
MORC Moravsky Berou 68.00 327 ⇓P **P 09 23 17.3 -1.3**
MORC Moravsky Berou 68.00 327 P **P 09 23 17.3 -1.3**
OBKA Obir 68.02 323 *i* P **P 09 23 20.6 +1.7**
comp=Z,12nm,1.2s
TORD Torodi Ar. Bea 68.09 285 **P 09 23 18.8 -0.9**
TORD Torodi Ar. Bea 68.09 285 P **P 09 23 18.7 -1.1**
comp=Z,3.4nm,0.9s,baz=93,slow=8.4,SNR=13
TORD LR LR 09 51 44.9
comp=Z,1µm,20.1s,baz=94,slow=35
comp=Z,3.4nm,0.9s
KRUC Moravsky 68.25 326 *e*P **P 09 23 18.5 -1.6**
VRAC Vranov 68.27 326 LR LR 09 55 47.2
comp=Z,511nm,19.0s,baz=123,slow=38
VRAC Vranov 68.27 326 *e*P **P 09 23 18.0 -2.3**
KRLC Kraliky 68.58 327 *e*P **P 09 23 20.9 -1.3**
KRLC Kraliky 68.58 327 *e*P **P 09 23 20.9 -1.3**
CN2 Changchun 68.62 41 P **P 09 23 23.4 +0.8**
CN2 sP pwP 09 23 30.0 -0.8
CN2 S **S 09 32 25.1 +0.1**
CN2 SS **SS 09 36 50.0 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,230nm,6.0s
CN2 LR LR
comp=Z,670nm,16.0s
CN2 LR LR
comp=Z,440nm,16.0s
CN2 LR LR
comp=Z,600nm,16.0s
MYKA Terra Mystica 68.63 323 *i* P **P 09 23 20.4 -2.3**
comp=Z,5.2nm,0.9s
MOA Molln 68.85 324 *i* P **P 09 23 22.6 -1.3**
comp=Z,8.0nm,0.8s
TREC Trest 68.88 326 AMS AMS 09 56 20.0
comp=Z,800nm,16.2s
DPC Dobruska-Polom 68.98 327 *e*P **P 09 23 23.6 -1.1**
DPC MLR MLR
comp=Z,900nm,26.7s
DPC Dobruska-Polom 68.98 327 *e*P **P 09 23 23.6 -1.1**
DPC AMS AMS 09 51 00.0
comp=Z,900nm,26.7s
STAL STALIGIAL 69.02 322 IAmb IAmb 09 23 41.6
comp=Z,34nm,1.5s
KBA Koelnbreinsper 69.02 323 *e*P **P 09 23 26.4 +1.2**
comp=Z,5.6nm,0.6s
BIOA Bad Ischl, Aus 69.14 324 *i* P **P 09 23 24.6 -1.1**
comp=Z,5.7nm,0.6s
OSTC Ostas 69.14 327 *e*P **P 09 23 25.2 -0.5**
OSTC MLR MLR
comp=Z,1µm,26.8s
OSTC Ostas 69.14 327 *e*P **P 09 23 25.2 -0.5**
OSTC AMS AMS 09 51 20.0
comp=Z,1µm,26.8s
SYO Syowa Base 69.15 191⇑*e*P **P 09 23 27.4 +2.1**
SYO Syowa Base 69.15 191⇓*es*P sP 09 23 33.0 +2.8
UPC Upice 69.23 327 AMS AMS 09 51 10.0
comp=Z,900nm,22.5s
VSU Vasula 69.25 338*ce*P **P 09 23 24.8 -1.3**
VSU pmax pmax
comp=Z,28nm,0.9s
CHVC Chvalec 69.25 327 AMS AMS 09 51 20.0
comp=Z,900nm,21.3s
KSP Ksiaz 69.26 328 *e*P **P 09 23 26.5 +0.2**
ABTA Abfaltersbach 69.37 322 *e*P **P 09 23 26.2 -1.1**
comp=Z,4.6nm,0.7s

LESA Schwarzleotal 69.58 323 *i* P **P 09 23 26.6 -2.0**
comp=Z,6.0nm,1.2s
RJOB Jochberg 69.66 324 *e*P **P 09 23 27.1 -2.0**
comp=Z,6.8nm,0.7s,baz=118,slow=6.0
GERES GERESS Array B 69.67 325 P **P 09 23 27.1 -2.0**
comp=Z,0.3nm,0.2s,baz=116,slow=6.7,SNR=4.8
GERES LR LR 09 57 06.5
comp=Z,376nm,18.3s,baz=131,slow=39
comp=Z,0.3nm,0.2s
PRU Pruhonice 69.77 326 AMS AMS 09 48 50.0
comp=Z,800nm,25.9s
PRA Prague 69.87 326 AMS AMS 09 48 40.0
comp=Z,1µm,27.7s
KHC Kasperske Hory 69.88 325⇑*e*P **P 09 23 28.0 -2.3**
KHC pmax pmax
comp=Z,4.0nm,1.0s
KHC Kasperske Hory 69.88 325 *e*P **P 09 23 31.8 +1.5**
KHC *e*S **S 09 32 32.0 -7.7**
KHC AMS AMS 09 51 40.0
comp=Z,800nm,22.1s
CASY Casey 70.11 163 **P 09 23 31.7 +0.4**
CASY IAmb IAmb 09 23 51.9
comp=Z,35nm,1.6s
CASY Casey 70.11 163 IAMs_20 IAMs_20 09 47 52.8
comp=Z,943nm,18.0s
SMPI Sarmi 70.14 91 P **P 09 23 34.3 +1.8**
comp=Z,9.0nm,0.8s
WTTA Wattenberg 70.14 323 *i* P **P 09 23 30.7 -1.4**
comp=Z,10nm,0.8s
WATA Walderalm 70.21 323 *i* P **P 09 23 33.1 +0.7**
comp=Z,22nm,1.3s
SQTA Sankt Quirin 70.38 322 *i* P **P 09 23 32.2 -1.3**
comp=Z,7.3nm,0.6s
MOTA Moosalm 70.50 323 *i* P **P 09 23 32.7 -1.5**
comp=Z,12nm,0.8s
BRG Berggiesshubel 70.54 327 *e*P **P 09 23 35.2 +1.0**
BRG Amp 09 23 40.4
comp=Z,10nm,1.0s
BRG Berggiesshubel 70.54 327 S **S 09 32 48.0 +0.7**
BRG Berggiesshubel 70.54 327 SS SS 09 37 20.0 +1.1
FETA Feichten 70.58 322 *i* P **P 09 23 33.3 -1.5**
comp=Z,10nm,0.9s
FUORN Ofenpass-Fuorn 70.69 322 IAmb IAmb 09 23 51.8
comp=Z,22nm,1.0s
BNX BinXian 70.72 39 ⇓P **P 09 23 34.9 -0.5**
BNX pP **pP 09 23 38.0 -1.0**
BNX sP **sP 09 23 39.4 -0.9**
BNX S **S 09 32 51.8 +2.3**
BNX SS **SS 09 37 25.9 +4.1**
BNX pmax pmax
comp=Z,37nm,0.8s
BNX pmax pmax
comp=Z,170nm,6.0s
BNX LR LR
comp=Z,690nm,16.8s
BNX LR LR
comp=Z,510nm,17.9s
BNX LR LR
comp=Z,790nm,14.3s
FUR Furstenfeldbru 70.77 323 *e*P **P 09 23 33.6 -2.1**
comp=Z,62nm,1.2s,baz=118,slow=6.0
RETA Reutte 70.77 323 *i* P **P 09 23 34.3 -1.5**
comp=Z,7.5nm,0.8s
DAVOX Davos/Dischmat 71.00 322 LR LR 09 56 35.3
comp=Z,171nm,19.1s,baz=110,slow=38
TANN Tannenbergstha 71.14 326 *e*P **P 09 23 36.9 -1.1**
comp=Z,5.6nm,1.0s,baz=118,slow=6.0
DAVA Damuels 71.22 322 *e*P **P 09 23 37.2 -1.5**
comp=Z,24nm,0.9s
CLL Collm 71.28 327 IAmb IAmb 09 23 41.8
comp=Z,15nm,0.9s
CLL Collm 71.28 327 *i* P **P 09 23 37.4 -1.3**
CLL *i* 09 23 40.7
CLL *e*S **S 09 32 56.0 +0.2**
CLL pmax pmax
comp=Z,13nm,1.0s
CLL Collm 71.28 327 *e*P **P 09 23 37.2 -1.5**
comp=Z,18nm,1.0s,baz=118,slow=6.0
CLL Collm 71.28 327 *e*SSSS 09 42 18.0
CLL Collm 71.28 327 *i* P **P 09 23 37.4 -1.3**
comp=Z,13nm,1.0s
CLL Collm 71.28 327 *i* x x 09 23 40.7
comp=Z,27nm,1.2s
CLL Collm 71.28 327 *e*PP PP 09 26 24.0 +7.1
CLL Collm 71.28 327 *e*PPP PPP 09 28 06.0
CLL Collm 71.28 327 *e*S **S 09 32 56.0 +0.2**
CLL Collm 71.28 327 *e*PS 09 33 25.0
CLL Collm 71.28 327 *e*SS SS 09 37 31.0 +0.9
CLL Collm 71.28 327 *ex* x 09 38 48.0
CLL Collm 71.28 327 *ex* x 09 40 18.0
CLL Collm 71.28 327 *e*SSS SSS 09 41 00.0
QIS Mount Isa 71.42 111 P **P 09 23 39.7 -0.6**
comp=Z,35nm,0.9s
RUE Ruedersdorf 71.45 328 *e*P **P 09 23 38.2 -1.4**
comp=Z,38nm,0.8s,baz=118,slow=6.0
GRF Grafenberg Arr 71.50 325 *e*P **P 09 23 38.3 -1.8**
comp=Z,26nm,0.7s,baz=118,slow=6.0
GRF *e*L L 09 58 41.3
comp=Z,341nm,21.3s
GRFO Grafenberg 71.50 325 **P 09 23 39.1 -1.0**
GRFO Grafenberg 71.50 325 P **P 09 23 39.1 -1.0**
GRFO pmax pmax
comp=Z,50nm,1.0s
GRFO MLR MLR
comp=Z,400nm,18.0s
FINES FINESS Array B 71.58 340 P **P 09 23 39.5 -0.9**
comp=Z,7.7nm,0.9s,baz=116,slow=8.7,SNR=7.5
FINES LR LR 09 58 39.0
comp=Z,621nm,18.5s,baz=134,slow=39
comp=Z,7.7nm,0.9s
MDJ Mudanjiang 71.67 41 P **P 09 23 41.7 +0.4**
MDJ S **S 09 33 06.6 +5.9**
MDJ SS **SS 09 37 45.8 +9.3**
MDJ pmax pmax
comp=Z,20nm,0.9s
MDJ pmax pmax
comp=Z,500nm,5.2s
MDJ LR LR
comp=Z,630nm,16.5s
MDJ LR LR
comp=Z,990nm,19.9s
MDJ LR LR
comp=Z,1µm,20.6s
MOX Moxa 71.72 326 *e*P **P 09 23 40.3 -1.2**
comp=Z,6.2nm,0.8s,baz=118,slow=6.0
MOX *e*L L 09 59 12.9
comp=Z,332nm,19.6s
JAY Jayapura 72.11 92 LR LR 09 55 02.4
comp=Z,409nm,22.0s,baz=256,slow=36
SENIN Lac Senin/Sane 72.45 320 IAmb IAmb 09 23 54.4
comp=Z,17nm,0.8s
BFO Black Forest 72.61 323 **P 09 23 45.5 -1.4**
BFO IAmb IAmb 09 24 06.7
comp=Z,25nm,1.2s
BFO Black Forest 72.61 323 P **P 09 23 45.5 -1.4**
BFO pmax pmax
comp=Z,25nm,1.2s
BFO Black Forest 72.61 323 *e*P **P 09 23 45.1 -1.7**
comp=Z,15nm,1.1s,baz=118,slow=6.0
HEH HeiHe 72.68 35 *e*P **P 09 23 46.2 -1.0**
HEH sP **sP 09 23 53.6 +1.5**
HEH S **S 09 33 10.4 -1.6**
HEH SS **SS 09 37 56.6 +4.9**
HEH pmax pmax
comp=Z,12nm,0.9s
HEH pmax pmax
comp=Z,190nm,7.0s
HEH LR LR
comp=Z,740nm,17.6s
HEH LR LR
comp=Z,530nm,17.7s
HEH LR LR
comp=Z,1µm,19.2s
UBBA Unterbreizbach 72.71 325 *e*P **P 09 23 46.3 -0.9**
comp=Z,37nm,1.6s,baz=118,slow=6.0
FLTG Flechtingen 72.73 327 *e*P **P 09 23 45.5 -1.9**
comp=Z,14nm,1.0s,baz=118,slow=6.0
ASSE Asse, Remlinge 72.94 327 *e*P **P 09 23 47.1 -1.4**
comp=Z,56nm,1.8s,baz=118,slow=6.0
GTTG Gottingen 73.06 326 *e*P **P 09 23 48.1 -1.3**
comp=Z,19nm,0.9s,baz=118,slow=6.0
USA0B Ussuriysk Arra 73.11 42⇓*e*P **P 09 23 48.9 -1.0**
USRK Ussuriysk Ar. 73.11 42 P **P 09 23 49.9 0.0**
USRK Ussuriysk Ar. 73.11 42 P **P 09 23 51.4 +1.6**
comp=Z,4.4nm,0.6s,baz=257,slow=5.8,SNR=7.1
USRK LR LR 09 58 36.1

comp=Z,203nm,20.3s,baz=244,slow=38
comp=Z,4.4nm,0.6s
USRK Ussuriysk Ar. 73.11 42 P **P** **09 23 49.9 0.0**
INKA Innaminka 73.11 118 IAmb IAmb 09 24 05.6
comp=Z,33nm,1.4s
TNS Taunus Mts 73.34 324 *e*P **P** **09 23 49.6 -1.6**
comp=Z,20nm,1.2s,baz=118,slow=6.0
KASTN Kahler Asten 73.78 325 *e*P **P** **09 23 52.6 -1.1**
comp=Z,24nm,1.6s,baz=118,slow=6.0
DBIC Dimbokro 73.80 278 P **P** **09 23 53.7 -0.8**
comp=Z,27nm,0.8s,baz=118,slow=5.4,SNR=28
DBIC LR LR 09 55 38.6
comp=Z,810nm,19.9s,baz=107,slow=35
comp=Z,27nm,0.8s
RETH Rethem/Aller, 73.94 327 *e*P **P** **09 23 53.3 -1.2**
comp=Z,17nm,1.3s,baz=118,slow=6.0
LVZ Lovozero 74.13 347 P **P** **09 23 54.3 -1.1**
APA Apatity 74.14 347 *e*P **P** **09 23 56.8 +1.4**
APA *e* 09 24 11.4
APA *e* 09 26 49.3
APA *e*S **SKiKP** **09 33 18.6 -4.4**
ZEA Zeya 74.17 32 *e*P **P** **09 23 55.7 -0.2**
ZEA *e*S **S** **09 33 32.5 +3.8**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA pmax pmax
comp=Z,100nm,5.6s
ZEA smax smax
comp=E,300nm,14.1s
ZEA smax smax
comp=N,300nm,15.7s
ZEA MLR MLR
comp=E,600nm,16.0s
ZEA MLR MLR
comp=Z,700nm,18.0s
STKA Stephens Creek 74.32 122 P **P** **09 23 57.6 +0.4**
comp=Z,47nm,1.2s
STKA Stephens Creek 74.32 122 **P** **09 23 57.4 +0.1**
STKA Stephens Creek 74.32 122 P **P** **09 23 57.6 +0.4**
comp=Z,9.3nm,1.2s,baz=293,slow=10.0,SNR=3.9
STKA LR LR 09 55 43.5
comp=Z,1µm,18.0s,baz=268,slow=35
comp=Z,9.3nm,1.2s
STKA Stephens Creek 74.32 122 *de*P **P** **09 23 56.4 -0.8**
WLF Walferdange 74.46 323 *e*P **P** **09 23 56.0 -1.6**
comp=Z,31nm,1.2s,baz=118,slow=6.0
BUG Bochum-Univer 74.53 325 *e*P **P** **09 23 56.8 -1.1**
comp=Z,27nm,1.3s,baz=118,slow=6.0
IBBN Ibbenburen 74.63 326 *e*P **P** **09 23 57.4 -1.1**
comp=Z,17nm,0.9s,baz=118,slow=6.0
MAJO Matsushiro 75.33 51 *de*P **P** **09 24 04.4 +1.4**
MAJO pmax pmax
comp=Z,3.0nm,0.9s
MJAR Matsushiro Arr 75.33 51 **P** **09 24 04.3 +1.3**
MJAR IAmb IAmb 09 24 17.5
comp=Z,46nm,1.8s
MJAR Matsushiro Arr 75.33 51 P **P** **09 24 03.5 +0.5**
comp=Z,5.0nm,0.9s,baz=256,slow=5.4,SNR=12
MJAR LR LR 09 58 23.5
comp=Z,566nm,18.8s,baz=248,slow=37
comp=Z,5.0nm,0.9s
MJAR Matsushiro Arr 75.33 51 P **P** **09 24 04.3 +1.3**
MJAR pmax pmax
comp=Z,46nm,1.8s
HFS Hagfors 75.51 335 P **P** **09 24 02.9 -0.6**
comp=Z,18nm,0.9s,baz=126,slow=7.5,SNR=17
HFS LR LR 09 58 02.6
comp=Z,523nm,19.2s,baz=129,slow=36
comp=Z,18nm,0.9s
MTSU Mount Surprise 75.73 108 P **P** **09 24 05.5 -0.1**
comp=Z,13nm,1.0s
JHJ Hachijo jima 2 75.79 55 LR LR 09 58 49.7
comp=Z,192nm,18.6s,baz=257,slow=37
QLP Quilpie 76.11 117 P **P** **09 24 08.9 +1.3**
comp=Z,49nm,1.9s
TEY Ternei 76.50 43 ⇓*e*P **P** **09 24 07.5 -1.9**
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY pmax pmax
comp=E,10.0nm,0.9s
NB2 NORSAR Subarra 77.03 335 P **P** **09 24 10.8 -1.4**
comp=Z,30nm,1.7s,baz=120,slow=5.9
NB2 NORSAR Subarra 77.03 335 P **P** **09 24 10.8 -1.4**
comp=Z,30nm,1.7s,baz=120,slow=5.9
NOA NORSAR Array B 77.03 335 P **P** **09 24 10.8 -1.4**
comp=Z,3.6nm,0.8s,baz=112,slow=6.1,SNR=9.0
NOA LR LR 09 58 59.6
comp=Z,654nm,20.0s,baz=125,slow=36
comp=Z,3.6nm,0.8s
KONO Kongsberg 77.04 333 ⇓*e*P **P** **09 24 12.2 0.0**
KONO pmax pmax
comp=Z,22nm,1.0s
MDT Midelt 77.25 304 LR LR 09 55 49.5
comp=Z,690nm,21.8s,baz=108,slow=34
KEV Kevo 77.33 346 IAMs_20 IAMs_20 09 58 52.3
comp=Z,969nm,22.0s
ARCES ARCESS Array B 77.53 346 P **P** **09 24 14.7 -0.1**
comp=Z,2.8nm,0.8s,baz=145,slow=3.0,SNR=8.5
ARCES LR LR 09 59 32.8
comp=Z,848nm,21.6s,baz=124,slow=37
comp=Z,2.8nm,0.8s
CTAO Charters Tower 77.62 110 **P** **09 24 17.6 +1.3**
CTAO IAmb IAmb 09 24 25.8
comp=Z,18nm,1.2s
CTAO Charters Tower 77.62 110 IAMs_20 IAMs_20 10 01 29.7
comp=Z,1µm,19.0s
CTAO Charters Tower 77.62 110 P **P** **09 24 17.6 +1.3**
CTAO pmax pmax
comp=Z,18nm,1.3s
CTAO MLR MLR
comp=Z,1µm,19.0s
CMSA Cobar Meteorol 77.76 122 P **P** **09 24 17.5 +0.7**
comp=Z,17nm,1.6s
TOO Toolangi 78.14 128 P **P** **09 24 19.5 +0.5**
comp=Z,4.9nm,2.0s
GRNR Gornyy 78.18 37 ⇓*i*P **P** **09 24 16.9 -1.9**
GRNR pmax pmax
comp=Z,3.0nm,1.3s
GRNR MLR MLR
comp=E,430nm,23.0s
GRNR MLR MLR
comp=N,440nm,16.0s
GRNR MLR MLR
comp=Z,420nm,14.0s
ESDC Sonseca Array 78.21 311 **P** **09 24 18.5 -0.7**
ESDC IAmb IAmb 09 24 29.6
comp=Z,30nm,1.6s
ESDC Sonseca Array 78.21 311 P **P** **09 24 18.7 -0.6**
comp=Z,7.6nm,0.8s,baz=88,slow=4.8,SNR=42
ESDC LR LR 09 56 12.7
comp=Z,336nm,21.7s,baz=101,slow=34
comp=Z,7.6nm,0.8s
PMG Port Moresby 78.39 99 **P** **09 24 22.1 +1.4**
PMG Port Moresby 78.39 99 IAMs_20 IAMs_20 10 00 10.4
comp=Z,917nm,18.0s
PMG Port Moresby 78.39 99 P **P** **09 24 22.4 +1.7**
comp=Z,17nm,0.8s,baz=284,slow=4.2,SNR=4.1
comp=Z,17nm,0.8s
PMG Port Moresby 78.39 99 ⇓*e*P **P** **09 24 20.9 +0.2**
PMG pmax pmax
comp=Z,37nm,1.0s
PAB San Pablo 78.47 311 **P** **09 24 20.6 -0.1**
PAB San Pablo 78.47 311 P **P** **09 24 20.6 -0.1**
PAB pmax pmax
comp=Z,12nm,0.9s
YAK Yakutsk 79.13 25 IAMs_20 IAMs_20 09 59 28.4
comp=Z,1µm,19.0s
YAK Yakutsk 79.13 25 LR LR 09 59 46.4
comp=Z,1µm,19.6s,baz=236,slow=36
YAK Yakutsk 79.13 25 *e*P **P** **09 24 25.2 +1.5**
YAK *e* 09 24 33.3
YAK *e* 09 27 20.0
YAK *e*S **S** **09 34 20.7 -1.9**
YAK *e**SS **SKSac** **09 34 35.2 -3.8**
YAK *e*SSS SSS 09 42 53.2
YAK pmax pmax
comp=Z,6.0nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK pmax pmax
comp=Z,95nm,3.2s
YAK pmax pmax
comp=N,50nm,3.3s
YAK pmax pmax
comp=E,25nm,2.4s
YAK smax smax
comp=N,20nm,1.9s
YAK smax smax
comp=E,111nm,4.3s
YAK MLR MLR
comp=Z,901nm,17.0s
YAK MLR MLR
comp=N,357nm,21.0s
YAK MLR MLR
comp=E,646nm,18.0s
AVE Averroes 79.66 304 IAMs_20 IAMs_20 10 02 15.8
comp=Z,942nm,19.0s
PBAR Barrancos 80.24 309 *e*P **P** **09 24 32.5 +2.2**
PBAR *i* IAmb IAmb 09 24 40.7
comp=Z,31nm,1.6s
TROLL Troll, Antarti 80.33 197 ⇓P **P** **09 24 30.4 +0.1**
comp=Z,368nm,0.8s
ERM Erimo 80.33 47 **P** **09 24 30.8 +0.1**
ERM IAmb IAmb 09 24 38.8
comp=Z,16nm,0.8s
ERM Erimo 80.33 47 IAMs_20 IAMs_20 09 58 55.2
comp=Z,856nm,20.0s
ERM Erimo 80.33 47 P **P** **09 24 30.8 +0.1**
ERM pmax pmax
comp=Z,16nm,0.9s
ASAJ Asahikawa 80.39 45 LR LR 10 01 43.9
comp=Z,403nm,20.1s,baz=265,slow=37
PVAQ Vaqueiros 80.62 308 *e*PP **PP** **09 27 37.2 +1.0**
PVAQ *e*S **S** **09 34 41.6 +2.1**
PVAQ *e*SS SS 09 40 04.1 +12
PVAQ *e*LQ LQ 09 46 06.2
PVAQ *e*LR LR 09 50 09.1
PVAQ *i* IAMs_20 IAMs_20 10 03 46.0
comp=Z,374nm,18.0s
PBRG Braganca 80.73 313 *e*P **P** **09 24 33.6 +0.7**
PBRG *i* IAmb IAmb 09 24 46.9
comp=Z,47nm,1.8s
PMRV Marv??o 80.75 310 *e*P **P** **09 24 33.5 +0.4**
PMRV *i* IAmb IAmb 09 24 44.4
comp=Z,46nm,1.5s
PMRV *e*PP PP 09 27 46.7 +9.5
PMRV *e*LR LR 09 57 17.9
PMRV *i* IAMs_20 IAMs_20 10 05 33.7
comp=Z,374nm,18.0s
MVO Moncorvo 80.81 312 *e*P **P** **09 24 33.9 +0.5**
MVO *i* IAmb IAmb 09 24 46.2
comp=Z,34nm,1.9s
MVO *e*PP PP 09 27 21.9 -16
MVO *e*S **S** **09 34 46.4 +5.0**
MVO *e*LR LR 09 54 42.5
MVO *i* IAMs_20 IAMs_20 10 06 05.5
comp=Z,369nm,18.0s
PBEJ Beja 80.85 309 *e*P **P** **09 24 34.1 +0.5**
PBEJ *i* IAmb IAmb 09 24 45.0
comp=Z,37nm,1.6s
PCBR Castelo Branco 80.89 311 *e*P **P** **09 24 34.5 +0.8**
PCBR *i* IAmb IAmb 09 24 47.2
comp=Z,23nm,1.4s
PCVE Castro Verde 80.92 309 *e*P **P** **09 24 34.9 +0.9**
PCVE *i* IAmb IAmb 09 24 42.7
comp=Z,49nm,1.5s
MTE Manteigas 81.05 311 *e*S **S** **09 34 45.5 +1.6**
MTE *e*SS **SS** **09 40 03.2 +4.4**
MTE *e*LR LR 09 55 38.0
MTE *i* IAMs_20 IAMs_20 10 02 25.9
comp=Z,503nm,18.0s
EVO Evora 81.06 309 *e*P **P** **09 24 35.7 +1.0**
EVO *i* IAmb IAmb 09 24 45.8
comp=Z,43nm,1.4s
MESJ Messejana 81.10 309 *e*P **P** **09 24 34.5 -0.4**
MESJ *e*S **S** **09 34 45.0 +0.6**
MESJ IAMs_20 IAMs_20 10 03 33.3
comp=Z,625nm,26.2s
MESJ Messejana 81.10 309 *e*P **P** **09 24 34.5 -0.4**
MESJ *e*S **S** **09 34 45.0 +0.6**
YSS Yuzhno-Sakhali 81.14 42 **P** **09 24 34.2 -0.7**
YSS Yuzhno-Sakhali 81.14 42 *e*P **P** **09 24 34.2 -0.7**
YSS *e**SP **sP** **09 24 40.1 +0.1**
YSS *e* 09 27 41.2
YSS *e*S **S** **09 34 38.3 -6.1**
YSS *e*PPS PPS 09 35 32.7
YSS *e*SS **SS** **09 40 04.0 +4.4**
YSS pmax pmax
comp=Z,200nm,4.1s
YSS pmax pmax
comp=Z,20nm,1.0s
YSS pmax pmax
comp=Z,200nm,9.5s
YSS pmax pmax
comp=E,200nm,9.4s
YSS smax smax
comp=N,300nm,9.6s
PMTG Montargil 81.32 310 *e*P **P** **09 24 37.7 +1.7**
PMTG *i* IAmb IAmb 09 24 47.9
comp=N,42nm,1.6s
MORF Marmelete 81.34 308 *e*P **P** **09 24 36.1 -0.2**
MORF Marmelete 81.34 308 *e*P P 09 24 41.7 +5.4
MORF *i* IAmb IAmb 09 24 49.3
comp=N,66nm,1.8s
MORF Marmelete 81.34 308 *e*P **P** **09 24 36.1 -0.2**
PVRL Vila Real 81.34 312 *e*P **P** **09 24 36.9 +0.6**
PVRL *i* IAmb IAmb 09 24 45.7
comp=N,39nm,1.7s
PTEO Sao Teotonio 81.44 308 *e*P **P** **09 24 41.4 +4.6**
PTEO *i* IAmb IAmb 09 24 53.1
comp=N,93nm,1.7s
PCAS Casmilo, Conde 81.70 311 *e*P **P** **09 24 39.1 +1.0**
PCAS *i* IAmb IAmb 09 24 46.6
comp=N,51nm,1.6s
EKA Eskdalemuir Ar 81.75 327 P **P** **09 24 37.5 -0.5**
comp=N,3.6nm,0.7s,baz=118,slow=6.7,SNR=6.7
comp=N,3.6nm,0.7s
SNAA Sanae 81.80 198 ⇓P **P** **09 24 37.4 -0.6**
comp=Z,117nm,0.8s
SNAA Sanae 81.80 198 **P** **09 24 37.7 -0.3**
SNAA IAmb IAmb 09 24 57.8
comp=Z,49nm,1.9s
SNAA IAMs_20 IAMs_20 09 51 36.9
comp=Z,958nm,22.0s
SNAA Sanae 81.80 198 P **P** **09 24 38.0 -0.1**
comp=Z,4.1nm,1.0s,baz=97,slow=4.4,SNR=24
SNAA LR LR 09 52 22.1
comp=Z,1µm,21.8s,baz=66,slow=29
comp=Z,4.1nm,1.0s
SNAA Sanae 81.80 198 ⇓*e*P **P** **09 24 37.5 -0.6**
SNAA pmax pmax
comp=Z,12nm,1.7s
PGAV Gavieira, Arco 81.88 313 *e*LR LR 09 55 51.5
PGAV *i* IAMs_20 IAMs_20 10 04 14.0
comp=Z,322nm,20.0s
PARRA Arraiolos 81.90 310 *e*P **P** **09 24 35.8 -3.4**
PARRA *i* IAmb IAmb 09 24 46.1
comp=Z,56nm,1.5s
TYV Tymovskoe 82.00 38 *e*P P 09 24 46.6 +7.2
TYV pmax pmax
comp=Z,100nm,2.9s
TYV pmax pmax
comp=Z,7.0nm,1.3s
VNA1 Neumayer--Stat 83.25 199 ⇓P **P** **09 24 48.3 +2.8**
comp=Z,16nm,1.1s
TIXI Tiksi 83.40 16 **P** **09 24 45.6 -0.6**
TIXI Tiksi 83.40 16 IAMs_20 IAMs_20 10 02 54.2
comp=Z,1µm,20.0s
TIXI Tiksi 83.40 16 LR LR 10 03 09.1
comp=Z,2µm,19.9s,baz=263,slow=37
TIXI Tiksi 83.40 16 ⇓*e*P **P** **09 24 48.2 +2.0**
TIXI pmax pmax
comp=Z,51nm,1.7s
VNA3 Neumayer Olymp 83.82 199 ⇓P **P** **09 24 47.9 -0.6**
comp=Z,12nm,0.8s
SPITS Spitsbergen Ar 85.20 351 P **P** **09 24 56.1 +0.8**
comp=Z,7.2nm,0.9s,baz=116,slow=16,SNR=4.1
SPITS LR LR 10 05 46.0
comp=Z,760nm,20.8s,baz=119,slow=38
comp=Z,7.2nm,0.9s
KBS Kingsbay 86.36 351 IAMs_20 IAMs_20 10 08 05.7
comp=Z,751nm,18.0s
QSPA South Pole Qui 87.47 180 P **P** **09 25 07.3 +0.4**
comp=Z,4.4nm,0.7s,baz=290,slow=1.9,SNR=14
QSPA LR LR 09 57 53.1
comp=Z,1µm,21.2s,baz=280,slow=31
comp=Z,4.4nm,0.7s
PMOZ Porto Moniz, M 87.75 303 *e*SS SS 09 41 32.4 -5.6
PMOZ *e*LR LR 10 00 51.8
PMOZ *i* IAMs_20 IAMs_20 10 03 12.3
comp=Z,524nm,20.0s
JMIC Jan Mayen 88.16 341 LR LR 10 06 39.0
comp=Z,457nm,19.3s,baz=75,slow=37
MA2 Magadan 88.23 30 IAMs_20 IAMs_20 10 06 03.2
comp=Z,992nm,19.0s
MA2 Magadan 88.23 30 LR LR 10 06 15.0
comp=Z,911nm,19.4s,baz=263,slow=37
VNDA Vanda 88.28 167 P **P** **09 25 10.4 +0.1**
comp=Z,2.3nm,0.8s,baz=282,slow=5.8,SNR=16
VNDA LR LR 09 59 14.5
comp=Z,589nm,21.6s,baz=263,slow=32
comp=Z,2.3nm,0.8s
SBA Scott Base 89.29 168 **P** **09 25 15.2 +0.1**
SBA IAmb IAmb 09 25 25.8
comp=Z,26nm,1.3s
SBA Scott Base 89.29 168 P **P** **09 25 15.2 +0.1**
SBA pmax pmax
comp=Z,26nm,1.3s
SEY Seymchan 89.43 27 LR LR 10 06 57.6
comp=Z,562nm,19.3s,baz=264,slow=37
SEY Seymchan 89.43 27 *e*P **P** **09 25 17.4 +1.4**
SEY pmax pmax
comp=Z,12nm,1.4s
BELA Belgrano 2 90.30 192 **P** **09 25 19.2 -0.6**
BELA IAmb IAmb 09 25 28.6
comp=Z,37nm,1.9s
HNR Honiara 91.00 99 LR LR 10 10 34.3
comp=Z,893nm,18.1s,baz=238,slow=38
PETK Petropavlovsk- 91.51 37 LR LR 10 07 33.8
comp=Z,580nm,21.9s,baz=272,slow=36
PET Petropavlovsk 92.08 37 *e*P P 09 25 35.5 +7.0
PET *e*S **S** **09 36 34.7 +4.3**
BORG Borgarnes 92.20 335 LR LR 10 09 00.7
comp=Z,540nm,21.0s,baz=104,slow=37
DZM Mont Dzumac 96.40 112 *e*SS SS 09 43 42.1 -0.8
comp=Z,342nm,28.4s
DZM *e*LQ LQ 09 52 54.2
comp=Z,2µm,36.2s
DZM *e*LR LR 09 56 53.8
comp=Z,2µm,24.8s
C18K Utukok River 106.10 17 IAMs_20 IAMs_20 10 18 13.7
comp=Z,596nm,20.0s
B20K Meade River 106.33 15 IAMs_20 IAMs_20 10 18 53.7
comp=Z,597nm,19.0s
B22K Teshekpuk Lake 107.02 14 IAMs_20 IAMs_20 10 15 21.9
comp=Z,608nm,22.0s
D19K Kuna River 107.08 16 IAMs_20 IAMs_20 10 22 13.5
comp=Z,624nm,20.0s
B21K Ikpikpuk River 107.24 15 IAMs_20 IAMs_20 10 17 43.7
comp=Z,740nm,21.0s
D20K Etivluk River 107.35 16 IAMs_20 IAMs_20 10 17 19.5
comp=Z,558nm,22.0s
F17K Baldwin Pennin 107.42 19 IAMs_20 IAMs_20 10 22 29.8
comp=Z,631nm,20.0s
C23K Itkillik River 108.05 13 IAMs_20 IAMs_20 10 18 29.9
comp=Z,799nm,21.0s
E21K Killik River 108.24 15 IAMs_20 IAMs_20 10 21 07.1
comp=Z,674nm,20.0s
D22K Ayikyak River 108.25 15 IAMs_20 IAMs_20 10 20 56.5
comp=Z,652nm,20.0s
C24K Franklin Bluff 108.57 13 IAMs_20 IAMs_20 10 18 33.7
comp=Z,654nm,20.0s
G18K Tagagawik 108.59 19 IAMs_20 IAMs_20 10 20 06.7
comp=Z,547nm,19.0s
J14K Nanvaranak Lak 108.76 23 IAMs_20 IAMs_20 10 19 42.3
comp=Z,624nm,19.0s
D24K Happy Valley 108.98 13 IAMs_20 IAMs_20 10 18 31.6
comp=Z,716nm,21.0s
H18K Honhosa River 109.16 19 IAMs_20 IAMs_20 10 19 35.7
comp=Z,631nm,21.0s
TOLK Toolik Lake Re 109.20 14 IAMs_20 IAMs_20 10 19 19.3
comp=Z,768nm,21.0s
H19K Roundabout Mou 109.53 18 IAMs_20 IAMs_20 10 19 09.3
comp=Z,777nm,22.0s
J16K Anvik River 109.55 21 IAMs_20 IAMs_20 10 19 51.1
comp=Z,677nm,19.0s
E23K Chandalar 109.63 14 IAMs_20 IAMs_20 10 17 27.8
comp=Z,572nm,20.0s
C27K Jago River 109.69 11 IAMs_20 IAMs_20 10 17 58.4
comp=Z,547nm,22.0s
G21K Allakaket 109.73 17 IAMs_20 IAMs_20 10 21 34.5
comp=Z,651nm,18.0s
K15K Wolf Creek Mou 109.79 22 IAMs_20 IAMs_20 10 20 32.5
comp=Z,739nm,19.0s
J17K VABM Dome 110.03 21 IAMs_20 IAMs_20 10 20 15.6
comp=Z,740nm,20.0s
A36M Sachs Harbour 110.09 5 IAMs_20 IAMs_20 10 18 02.7
comp=Z,775nm,22.0s
COLD Coldfoot 110.11 15 IAMs_20 IAMs_20 10 20 06.4
comp=Z,668nm,22.0s
G23K Bananza Creek 110.54 15 IAMs_20 IAMs_20 10 23 05.0
comp=Z,550nm,20.0s
D27M Malcolm River 110.55 11 IAMs_20 IAMs_20 10 20 36.8
comp=Z,727nm,21.0s
I20K Naaghedeneel 110.64 18 IAMs_20 IAMs_20 10 20 25.7
comp=Z,681nm,22.0s
J18K Innoko River 110.80 20 IAMs_20 IAMs_20 10 20 15.1
comp=Z,587nm,22.0s
J19K Poorman 110.82 19 IAMs_20 IAMs_20 10 23 54.5
comp=Z,597nm,20.0s
F25K Christian Rive 110.94 13 IAMs_20 IAMs_20 10 21 47.4
comp=Z,750nm,21.0s
I21K Tanana 111.12 17 IAMs_20 IAMs_20 10 21 45.4
comp=Z,817nm,21.0s
J20K Nowinta River 111.17 19 IAMs_20 IAMs_20 10 22 53.7
comp=Z,554nm,21.0s
G24K Hadweenzic Riv 111.20 15 IAMs_20 IAMs_20 10 20 35.5
comp=Z,584nm,21.0s
H23K Yukon River 111.34 16 IAMs_20 IAMs_20 10 22 29.0
comp=Z,629nm,20.0s
E28M Babbage River 111.36 11 IAMs_20 IAMs_20 10 21 37.4
comp=Z,580nm,22.0s
M16K Timber Creek 111.53 23 IAMs_20 IAMs_20 10 21 38.7
comp=Z,547nm,22.0s
MLY Manley 111.59 17 IAMs_20 IAMs_20 10 22 18.8
comp=Z,655nm,19.0s
K20K Telida 111.76 19 IAMs_20 IAMs_20 10 23 06.4
comp=Z,531nm,21.0s
E29M Blow River 111.85 10 IAMs_20 IAMs_20 10 21 21.2
comp=Z,524nm,22.0s
FYU Fort Yukon 111.86 14 IAMs_20 IAMs_20 10 23 13.8
comp=Z,612nm,18.0s
M17K Holitna River 111.88 22 IAMs_20 IAMs_20 10 21 16.6
comp=Z,614nm,19.0s
G26K Porcupine Rive 111.89 13 IAMs_20 IAMs_20 10 20 37.4
comp=Z,691nm,18.0s
BPAW Bear Paw Mtn. 112.20 18 IAMs_20 IAMs_20 10 21 16.0
comp=Z,804nm,21.0s
L19K White Mountain 112.29 20 IAMs_20 IAMs_20 10 18 31.6
comp=Z,580nm,21.0s
NEA2 Nenana 112.40 17 IAMs_20 IAMs_20 10 21 28.1
comp=Z,668nm,22.0s
POKR Poker Plat Res 112.45 16 IAMs_20 IAMs_20 10 22 52.4
comp=Z,626nm,21.0s
G27K Doyon Strip 112.47 12 IAMs_20 IAMs_20 10 23 42.9
comp=Z,761nm,22.0s
N17K Nushagak Hills 112.53 23 IAMs_20 IAMs_20 10 19 47.9
comp=Z,543nm,20.0s
BWN Browne 112.60 17 IAMs_20 IAMs_20 10 25 43.7
comp=Z,550nm,20.0s
KTH Kantishna Hill 112.62 18 IAMs_20 IAMs_20 10 22 06.1
comp=Z,492nm,21.0s
PPLA Purkeypile 112.69 19 IAMs_20 IAMs_20 10 21 50.1
comp=Z,677nm,21.0s
CCB Clear Creek Bu 112.71 16 IAMs_20 IAMs_20 10 23 00.4
comp=Z,597nm,19.0s
C36M Paulatuk 112.76 5 IAMs_20 IAMs_20 10 19 09.2
comp=Z,594nm,22.0s
WRH Wood River Hil 112.77 16 IAMs_20 IAMs_20 10 22 48.8
comp=Z,511nm,20.0s
TRF Thorofare Moun 112.89 18 IAMs_20 IAMs_20 10 21 38.2
comp=Z,826nm,22.0s
F30M Barrier River 112.91 10 IAMs_20 IAMs_20 10 23 32.3
comp=Z,477nm,20.0s
N18K Kilae Creek 112.92 22 IAMs_20 IAMs_20 10 21 50.2
comp=Z,711nm,20.0s
H27K Steamboat Moun 112.99 13 IAMs_20 IAMs_20 10 20 20.5
comp=Z,490nm,20.0s
MCK McKinley 113.09 17 IAMs_20 IAMs_20 10 25 46.3
comp=Z,588nm,20.0s
M20K Styx River 113.09 20 IAMs_20 IAMs_20 10 22 06.7
comp=Z,717nm,22.0s
G29M Pine Creek 113.12 11 IAMs_20 IAMs_20 10 20 30.0
comp=Z,597nm,22.0s
RND Reindeer 113.36 17 IAMs_20 IAMs_20 10 18 24.4
comp=Z,648nm,22.0s
I26K Coal Creek Min 113.39 14 IAMs_20 IAMs_20 10 24 15.1

	comp=Z,680nm,21.0s								
J25K	**Salcha River,**	**113.39**	**15**	IAMs_20	IAMs_20	10 24 11.3			
	comp=Z,578nm,20.0s								
SKT	**Skwentna**	**113.56**	**19**	IAMs_20	IAMs_20	10 22 06.1			
	comp=Z,551nm,21.0s								
J26L	**Joseph Creek**	**113.95**	**15**	IAMs_20	IAMs_20	10 21 54.9			
	comp=Z,817nm,22.0s								
DHY	**Denali Highway**	**114.04**	**17**	IAMs_20	IAMs_20	10 22 16.6			
	comp=Z,742nm,22.0s								
M22K	**Willow**	**114.19**	**19**	IAMs_20	IAMs_20	10 24 30.6			
	comp=Z,581nm,20.0s								
SCRK	**Sand Creek**	**114.27**	**15**	IAMs_20	IAMs_20	10 22 40.4			
	comp=Z,766nm,22.0s								
I29M	**Ogilvie Camp,**	**114.42**	**12**	IAMs_20	IAMs_20	10 19 10.5			
	comp=Z,547nm,22.0s								
DOT	**Dot Lake**	**114.51**	**15**	IAMs_20	IAMs_20	10 23 11.9			
	comp=Z,714nm,21.0s								
GHO	**Glory Hole Cre**	**114.56**	**19**	IAMs_20	IAMs_20	10 22 40.4			
	comp=Z,570nm,19.0s								
K27K	**Chicken**	**114.71**	**14**	IAMs_20	IAMs_20	10 25 17.0			
	comp=Z,534nm,20.0s								
H31M	**Peel River**	**114.79**	**10**	IAMs_20	IAMs_20	10 23 43.0			
	comp=Z,524nm,22.0s								
RC01	**Rabbit Creek A**	**114.80**	**19**	IAMs_20	IAMs_20	10 24 50.9			
	comp=Z,752nm,22.0s								
SCM	**Sheep Creek Mo**	**115.01**	**18**	IAMs_20	IAMs_20	10 25 53.3			
	comp=Z,515nm,20.0s								
SLKM	**Skilak Lake**	**115.06**	**20**	IAMs_20	IAMs_20	10 22 31.7			
	comp=Z,499nm,21.0s								
L26K	**Log Cabin Wild**	**115.21**	**15**	IAMs_20	IAMs_20	10 23 54.3			
	comp=Z,723nm,20.0s								
J29N	**Klondike Camp**	**115.24**	**12**	IAMs_20	IAMs_20	10 25 42.9			
	comp=Z,487nm,21.0s								
O22K	**Cooper Landing**	**115.25**	**20**	IAMs_20	IAMs_20	10 25 09.8			
	comp=Z,597nm,21.0s								
BRLK	**Bradley Lake**	**115.37**	**21**	IAMs_20	IAMs_20	10 23 31.0			
	comp=Z,531nm,20.0s								
CNPM	**China Poot**	**115.41**	**21**	IAMs_20	IAMs_20	10 24 05.1			
	comp=Z,570nm,20.0s								
PWL	**Port Wells**	**115.43**	**19**	IAMs_20	IAMs_20	10 24 19.5			
	comp=Z,490nm,20.0s								
J30M	**Hart River**	**115.52**	**12**		**PKPdf**	**09 31 02.2**	**+0.9**		
J30M				IAMs_20	IAMs_20	10 30 42.4			
	comp=Z,424nm,19.0s								
L27K	**Beaver Creek,**	**115.57**	**15**	IAMs_20	IAMs_20	10 22 53.9			
	comp=Z,663nm,21.0s								
SEW	**Seward**	**115.62**	**20**	IAMs_20	IAMs_20	10 25 23.6			
	comp=Z,711nm,21.0s								
SYI	**Shuyak Island**	**115.63**	**22**	IAMs_20	IAMs_20	10 23 34.8			
	comp=Z,700nm,20.0s								
GLI	**Glacier Island**	**115.82**	**18**	IAMs_20	IAMs_20	10 23 51.6			
	comp=Z,798nm,22.0s								
K29M	**Barlow Dome**	**115.92**	**12**	IAMs_20	IAMs_20	10 25 55.0			
	comp=Z,570nm,20.0s								
DIV	**Divide**	**116.03**	**18**	IAMs_20	IAMs_20	10 23 53.2			
	comp=Z,486nm,22.0s								
KDAK	**Kodiak Island**	**116.12**	**23**	IAMs_20	IAMs_20	10 24 45.0			
	comp=Z,687nm,21.0s								
GLB	**Gilahina Butte**	**116.36**	**17**	IAMs_20	IAMs_20	10 26 53.9			
	comp=Z,552nm,22.0s								
HIN	**Hinchinbrook I**	**116.38**	**19**	IAMs_20	IAMs_20	10 24 08.4			
	comp=Z,712nm,20.0s								
L29M	**L29M**	**116.42**	**13**	IAMs_20	IAMs_20	10 25 06.4			
	comp=Z,474nm,20.0s								
EYAK	**Cordova Ski Ar**	**116.49**	**18**	IAMs_20	IAMs_20	10 28 13.5			
	comp=Z,528nm,20.0s								
BMRM	**Bremner River**	**116.51**	**17**	IAMs_20	IAMs_20	10 23 54.9			
	comp=Z,607nm,21.0s								
MCARA	**McCarthy VSAT**	**116.63**	**16**	IAMs_20	IAMs_20	10 24 05.1			
	comp=Z,714nm,22.0s								
M29M	**Somme Creek**	**116.92**	**14**		**PKPdf**	**09 31 03.7**	**-0.3**		
M29M				IAMs_20	IAMs_20	10 24 14.6			
	comp=Z,417nm,19.0s								
CRQM	**Cirque**	**117.11**	**17**	IAMs_20	IAMs_20	10 26 08.1			
	comp=Z,469nm,20.0s								
TGL	**Tana Glacier**	**117.20**	**17**	IAMs_20	IAMs_20	10 26 18.1			
	comp=Z,476nm,20.0s								
BARN	**Barnard Glacie**	**117.28**	**16**	IAMs_20	IAMs_20	10 25 43.1			
	comp=Z,625nm,19.0s								
CTGM	**Chitina Glacie**	**117.45**	**16**	IAMs_20	IAMs_20	10 24 56.5			
	comp=Z,593nm,20.0s								
ISLE	**Juniper Island**	**117.47**	**17**	IAMs_20	IAMs_20	10 25 04.1			
	comp=Z,677nm,21.0s								
SNH	**Sunshine Point**	**117.67**	**17**	IAMs_20	IAMs_20	10 26 07.4			
	comp=Z,552nm,19.0s								
TABL	**Table Mountain**	**117.94**	**16**	IAMs_20	IAMs_20	10 25 15.5			
	comp=Z,619nm,20.0s								
M31M	**Drury Creek, Y**	**118.04**	**12**	IAMs_20	IAMs_20	10 26 25.0			
	comp=Z,555nm,22.0s								
PCA	**Pinnacle**	**118.47**	**16**	IAMs_20	IAMs_20	10 26 21.6			
	comp=Z,483nm,20.0s								
O29M	**Mount Kennedy**	**118.74**	**15**	IAMs_20	IAMs_20	10 26 46.7			
	comp=Z,522nm,19.0s								
N32M	**Quiet Lake**	**119.26**	**12**	IAMs_20	IAMs_20	10 24 39.3			
	comp=Z,540nm,20.0s								
P29M	**Windy Craggy**	**119.54**	**15**	IAMs_20	IAMs_20	10 27 00.7			
	comp=Z,474nm,20.0s								
YKA	**Yellowknife Ar**	**120.13**	**2**	PKP	**PKPdf**	**09 31 08.8**	**-1.1**		
	comp=Z,1.1nm,0.9s,baz=348,slow=3.1,SNR=3.7								
P33M	**Teslin, Yukon**	**120.17**	**12**	IAMs_20	IAMs_20	10 24 52.4			
	comp=Z,577nm,22.0s								
BESE	**Bessie Mountai**	**121.18**	**14**	IAMs_20	IAMs_20	10 32 43.1			
	comp=Z,434nm,18.0s								
R33M	**Jennings River**	**121.30**	**12**		**PKiKP**	**09 31 12.9**	**+0.3**		
S34M	**Telegraph Cree**	**122.63**	**12**	IAMs_20	IAMs_20	10 27 14.4			
	comp=Z,453nm,21.0s								
PLCA	**Paso Flores**	**123.03**	**216**	PKP	**PKPdf**	**09 31 15.6**	**-0.8**		
	comp=Z,3.2nm,0.9s,baz=153,slow=11,SNR=4.3								
LMEL	**Las Melosas**	**126.91**	**223**	IAMs_20	IAMs_20	10 25 26.8			
	comp=Z,594nm,20.0s								
MT05	**Renca**	**127.53**	**224**	IAMs_20	IAMs_20	10 30 50.3			
	comp=Z,502nm,20.0s								
FDF	**Fort de France**	**128.90**	**287**	IAMs_20	IAMs_20	10 23 37.4			
	comp=Z,416nm,21.0s								
CO01	**Juntas del Tor**	**128.94**	**228**		**PKPdf**	**09 31 28.3**	**+0.1**		
ANWB	**Willy Bob**	**129.00**	**291**	IAMs_20	IAMs_20	10 26 29.6			
	comp=Z,488nm,20.0s								
AC02	**Maricunga**	**129.79**	**232**		**PKiKP**	**09 31 30.7**	**-0.3**		
SMRT	**St. Maarten**	**130.12**	**291**	IAMs_20	IAMs_20	10 27 52.3			
	comp=Z,533nm,21.0s								
SEUS	**St. Eustatius**	**130.15**	**291**	IAMs_20	IAMs_20	10 27 33.1			
	comp=Z,452nm,20.0s								
SJG	**San Juan**	**132.96**	**292**	IAMs_20	IAMs_20	10 23 59.3			
	comp=Z,519nm,20.0s								
HATHI	**Halema'uma'u T**	**134.05**	**65**		**PKPdf**	**09 31 36.9**	**-1.1**		
NEW	**Newport**	**134.18**	**5**	IAMs_20	IAMs_20	10 32 27.5			
	comp=Z,598nm,21.0s								
EGMT	**Eagleton**	**134.65**	**358**		**PKiKP**	**09 31 39.2**	**-0.5**		
TBI	**Tubuai**	**134.96**	**127**	*e*SS	SS	09 52 10.3	+3.3		
	comp=Z,3μm,36.5s								
TBI	**Tubuai**	**134.96**	**127**	*e*LR	LR	10 14 44.0			
	comp=Z,1μm,26.2s								
TBI				*e*LR	LR	10 14 58.3			
	comp=Z,3μm,29.0s								
LAO	**LASA Array**	**135.77**	**355**		**PKiKP**	**09 31 41.2**	**-0.7**		
MSO	**Missoula**	**135.82**	**2**		**PKPdf**	**09 31 40.9**	**+0.4**		
BOZ	**Bozeman (W)**	**137.10**	**0**	IAMs_20	IAMs_20	10 36 31.9			
	comp=Z,491nm,20.0s								
DLMT	**Dillon**	**137.33**	**1**	IAMs_20	IAMs_20	10 35 52.8			
	comp=Z,530nm,22.0s								
SDDR	**Presa de Saban**	**137.41**	**296**	IAMs_20	IAMs_20	10 28 55.1			
	comp=Z,506nm,20.0s								
PPT2	**Papeete2**	**137.46**	**120**	*e*LQ	LQ	10 10 13.7			
	comp=Z,913nm,22.8s								
PPT2				*e*LR	LR	10 15 54.5			
	comp=Z,1μm,24.0s								
PPT2				*e*LR	LR	10 15 54.9			
	comp=Z,874nm,25.0s								
BMO	**Blue Mountains**	**137.54**	**6**	IAMs_20	IAMs_20	10 35 47.4			
	comp=Z,524nm,20.0s								
K30B	**Basset**	**138.64**	**347**		**PKPdf**	**09 31 46.8**	**+1.0**		
SDV	**Santo Domingo**	**138.89**	**281**	IAMs_20	IAMs_20	10 32 15.9			
	comp=Z,441nm,21.0s								
BW06	**Boulder Array**	**139.90**	**358**	IAMs_20	IAMs_20	10 37 19.0			
	comp=Z,481nm,20.0s								
PDAR	**Pinedale Array**	**139.90**	**358**	PKP	**PKPdf**	**09 31 47.4**	**-1.0**		
	comp=Z,1.4nm,0.7s,baz=56,slow=2.7,SNR=13								
ELK	**Elko**	**141.80**	**5**		**PKPdf**	**09 31 50.1**	**-1.7**		
ELK	**Elko**	**141.80**	**5**	PKiKP	**PKPdf**	**09 31 50.1**	**-1.7**		
Q24A	**Divide**	**143.27**	**352**	IAMs_20	IAMs_20	10 44 56.3			
	comp=Z,364nm,20.0s								
NVAR	**Mina Array Bea**	**143.73**	**9**	PKP	**PKPdf**	**09 31 54.6**	**-0.7**		
	comp=Z,1.7nm,0.7s,baz=302,slow=1.6,SNR=14								
FLOC	**Florencia**	**144.18**	**269**		**PKPab**	**09 31 53.9**	**-0.3**		
CWC	**Cottonwood Cre**	**145.71**	**9**		**PKPab**	**09 31 59.1**	**-0.1**		
RKT	**Rikitea**	**145.74**	**139**	*e*LR	LR	10 19 47.2			
	comp=Z,7μm,34.8s								
COHC	**Cochancay**	**147.40**	**261**	PKPbc	**PKPbc**	**09 32 05.0**	**+0.6**		
ANMO	**Albuquerque**	**147.41**	**352**		**PKPdf**	**09 32 02.6**	**+0.9**		
ANMO	**Albuquerque**	**147.41**	**352**	PKP2	**PKPdf**	**09 32 02.6**	**+0.9**		
PFO	**Pinyon Flats O**	**148.73**	**8**		**PKPbc**	**09 32 06.7**	**-0.8**		
PFO	**Pinyon Flats O**	**148.73**	**8**	PKP2	**PKPbc**	**09 32 06.7**	**-0.8**		
TAOE	**Nuku Hiva Isla**	**149.28**	**112**	*e*SS	SS	09 54 48.7	-5.9		
	comp=Z,130nm,26.3s								
TAOE	**Nuku Hiva Isla**	**149.28**	**112**	*e*LR	LR	10 21 28.8			
	comp=Z,647nm,27.9s								
JCT	**Junction City**	**150.08**	**339**	IAMs_20	IAMs_20	10 41 03.2			
	comp=Z,518nm,22.0s								
TUC	**Tucson**	**150.37**	**359**		**PKiKP**	**09 32 12.0**	**-0.4**		
TUC	**Tucson**	**150.37**	**359**	PKIKP	**PKiKP**	**09 32 12.0**	**-0.4**		
TEIG	**Tepich**	**151.32**	**310**		**PKPbc**	**09 32 13.2**	**-0.7**		
SIUN	**Universidad Ur**	**151.35**	**294**		**PKPbc**	**09 32 13.1**	**-1.1**		
ESPN	**Las Esperanzas**	**151.41**	**291**		**PKPbc**	**09 32 13.7**	**-0.7**		
TXAR	**Lajitas Array**	**152.32**	**345**		**PKPdf**	**09 32 09.2**	**-0.2**		
TXAR				PKPbc	**PKPbc**	**09 32 15.8**	**-0.3**		
TXAR				PKPab	**PKPab**	**09 32 24.8**	**-1.2**		
TXAR	**Lajitas Array**	**152.32**	**345**	PKP	**PKPdf**	**09 32 08.9**	**-0.5**		
	comp=Z,2.0nm,0.9s,baz=150,slow=0.7,SNR=15								
TXAR				PKPbc	**PKPbc**	**09 32 16.0**	**-0.3**		
	comp=Z,8.4nm,0.8s,baz=85,slow=0.8,SNR=48								
TXAR	**Lajitas Array**	**152.32**	**345**	PKIKP	**PKPbc**	**09 32 15.9**	**-0.3**		
TXAR						09 32 24.8			
JTS	**Las Juntas de**	**152.55**	**288**	IAMs_20	IAMs_20	10 39 04.9			
	comp=Z,349nm,19.0s								

LJU 05 09:22:14.2, 45.78N×15.03E, h0km, ML0.7, 1C, Explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VISS	**Visnje**	**0.14**	**280**	*i*	Pg	09 22 16.6	-0.2
VISS				*i*	Sg	09 22 18.9	+0.3
VISS					IAML	09 22 21.8	
	comp=Z,27nm,0.1s						
LEGS	**Legarje**	**0.26**	**50**	*i*	Pg	09 22 19.5	+0.2
PDKS	**Podkum**	**0.28**	**355**	*i*	Pg	09 22 19.9	+0.3
PDKS					IAML	09 22 26.6	
	comp=Z,7.3nm,0.2s						
GBRS	**Gornja Briga**	**0.29**	**212**	*i*	Pg	09 22 20.4	+0.6
GBRS					IAML	09 22 28.1	
	comp=Z,1.9nm,0.1s						
CRES	**Cresnjevec Ost**	**0.30**	**81**	*e*	Pg	09 22 20.4	+0.4
CRES					IAML	09 22 27.6	
	comp=Z,5.0nm,0.1s						

GCG 05 09:25:34.7±0.9, 14.90N×87.87W, h16km±6km, MD3.9, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARCA	**Marcala la Paz**	**0.75**	**192**	*i*	P	09 25 48.6	-0.8
MARCA				*i*	S	09 26 00.4	+0.7
SARH	**Santa Rosa de**	**0.87**	**262**	*i*	P	09 25 50.5	-1.0
SARH				*i*	Sg	09 26 03.3	+0.2
MTO3	**Montecristo**	**1.53**	**251**	*i*	P	09 26 02.3	-0.5
MTO3				*i*	Sb	09 26 22.6	+0.5

*SDD **05** 09:33:27.6±2.9, 18.14N×67.46W, h18km±46km, MD4.1, ML4.3, MW4.3*
*IDC **05** 09:33:28.1±3.2, 18.09N×67.42W, h30km±23km, mb3.9/12, mbtmp4.1/16, ML3.8/4, MS3.3/2, Error ellipse: s-maj=15.5km s-min=14.5km az=42.0*
*RSPR **05** 09:33:28.5, 18.15N×67.38W, h4km±1km, MD3.5/17*
*OSPL **05** 09:33:28.4±4.7, 18.10N×67.40W, h5km±32km, ML4.2*
*NEIC **05** 09:33:29.1±2.0, 18.15N±0.04×67.32W±0.04, h28km±5km, mb4.5/103, ML4.2/22, ML4.3/17(RSPR), Error ellipse: s-maj=5.7km s-min=4.3km az=141.0*

ISC 05 09:33:27.4±0.8, 18.09N±0.03×67.46W±0.02, h26km±6km, n247,σ1s99/243, mb4.5/60, 25C-14D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDE	**Isla Desecheo**	**0.30**	**357**			**Pb**	**09 33 33.9**	**-0.6**
IDE	**Isla Desecheo**	**0.30**	**357**	↓	*e*P	**Pb**	**09 33 33.9**	**-0.6**
PRSN	**Puerto Rico Se**	**0.32**	**66**			**Pb**	**09 33 34.1**	**-0.8**
LSP	**Las Mesas**	**0.36**	**76**			**Pb**	**09 33 34.9**	**-0.7**
LSP	**Las Mesas**	**0.36**	**76**	↑	*e*P	**Pb**	**09 33 34.9**	**-0.7**
MLPR	**Magueyes Islan**	**0.41**	**107**	↓	*e*P	**Pb**	**09 33 36.1**	**-0.1**
MLPR	**Magueyes Islan**	**0.41**	**107**		*e*S	**Sb**	**09 33 42.0**	**-0.2**
MLPR	**Magueyes Islan**	**0.41**	**107**	↓	*e*Pg	**Pb**	**09 33 36.1**	**-0.1**
MLPR				↓	*e*Sg	**Sb**	**09 33 41.9**	**-0.3**
MLPR					IAML	09 33 42.6	
	comp=N,5μm,0.5s						
AGPR	**Aguadilla, PR**	**0.50**	**41**			**Pb**	**09 33 36.5**	**-1.2**
AGPR						**Sb**	**09 33 43.1**	**-1.6**
AGPR	**Aguadilla, PR**	**0.50**	**41**	↑	*e*P	**Pb**	**09 33 36.5**	**-1.2**
AGPR	**Aguadilla, PR**	**0.50**	**41**		*e*S	**Sb**	**09 33 43.1**	**-1.6**
AGPR	**Aguadilla, PR**	**0.50**	**41**	↑	*e*Pg	**Pb**	**09 33 36.5**	**-1.2**
AGPR				↓	*e*Sg	**Sb**	**09 33 42.9**	**-1.8**
AGPR					IAML	09 33 46.0	
	comp=N,30μm,0.2s						
AGPR	**Aguadilla, PR**	**0.50**	**41**	*i*	P	**Pb**	**09 33 36.5**	**-1.2**
AGPR					*e*S	**Sb**	**09 33 42.9**	**-1.8**
AGPR					IAML	09 33 44.3	
	comp=Z,24μm,0.1s						
GBPR	**Guanica, Bosqu**	**0.56**	**101**			**Pb**	**09 33 38.4**	**-0.3**
GBPR	**Guanica, Bosqu**	**0.56**	**101**	↑	*e*P	**Pb**	**09 33 38.4**	**-0.3**
AOPR	**Arecibo Observ**	**0.71**	**69**		Pn	**Pb**	**09 33 39.9**	**-1.4**
AOPR					IAML	09 33 52.2	
	comp=N,26μm,2.2s						
UUPR	**Utuado, UPR, P**	**0.72**	**77**			**Pb**	**09 33 39.9**	**-1.5**
UUPR	**Utuado, UPR, P**	**0.72**	**77**			**Sb**	**09 33 49.2**	**-1.6**
UUPR	**Utuado, UPR, P**	**0.72**	**77**	↓	*e*P	**Pb**	**09 33 39.9**	**-1.5**
UUPR	**Utuado, UPR, P**	**0.72**	**77**		*e*S	**Sb**	**09 33 49.2**	**-1.6**
OBIP	**Obispado Ponce**	**0.81**	**93**			**Pb**	**09 33 41.7**	**-1.1**
OBIP	**Obispado Ponce**	**0.81**	**93**			**Sb**	**09 33 52.8**	**-0.7**
OBIP	**Obispado Ponce**	**0.81**	**93**	↓	*e*P	**Pb**	**09 33 41.8**	**-1.1**
OBIP	**Obispado Ponce**	**0.81**	**93**		*e*S	**Sb**	**09 33 52.8**	**-0.7**
CELP	**Cerrillos**	**0.83**	**91**			**Pb**	**09 33 42.0**	**-1.3**
CELP					IAML	09 33 58.8	
	comp=N,9μm,0.5s						
CELP					IAML	09 33 59.0	
	comp=E,8μm,0.5s						
CELP	**Cerrillos**	**0.83**	**91**			**Sb**	**09 33 53.6**	**-0.5**
CELP	**Cerrillos**	**0.83**	**91**	↑	*e*P	**Pb**	**09 33 42.3**	**-1.1**
CELP	**Cerrillos**	**0.83**	**91**		*e*S	**Sb**	**09 33 53.6**	**-0.5**
CELP	**Cerrillos**	**0.83**	**91**	↓	*e*Pg	**Pb**	**09 33 42.1**	**-1.2**
CELP				↓	*e*Sg	**Sb**	**09 33 53.1**	**-1.0**
CELP					IAML	09 33 58.7	
	comp=N,9μm,0.5s						
EMPR	**Esperanza - Ma**	**0.96**	**66**			**Pn**	**09 33 44.1**	**-1.1**
EMPR	**Esperanza - Ma**	**0.96**	**66**			**Sb**	**09 33 56.7**	**-1.1**
EMPR	**Esperanza - Ma**	**0.96**	**66**	↑	*e*P	**Pn**	**09 33 44.2**	**-1.0**
EMPR	**Esperanza - Ma**	**0.96**	**66**		*e*S	**Sb**	**09 33 56.7**	**-1.1**
ECPR	**Experimental S**	**1.06**	**77**	↑	*e*P	**Pn**	**09 33 45.5**	**-1.2**
ECPR	**Experimental S**	**1.06**	**77**		*e*S	**Sn**	**09 34 00.0**	**-0.6**
SJG	**San Juan**	**1.24**	**89**			**Pn**	**09 33 48.4**	**-0.7**
SJG					IAML	09 34 09.9	
	comp=N,5μm,0.6s						
SJG					IAML	09 34 13.1	
	comp=N,5μm,0.4s						
SJG	**San Juan**	**1.24**	**89**		Pn	**Pn**	**09 33 48.6**	**-0.5**
	comp=N,267nm,0.3s,baz=282,slow=13,SNR=112							
SJG					Sn	**Sb**	**09 34 05.7**	**-0.2**
	comp=N,1μm,0.3s,baz=294,slow=20,SNR=27							
SJG					LR	LR	09 34 14.7	
	comp=N,112nm,20.7s,baz=284,slow=39							
SJG	**San Juan**	**1.24**	**89**	↑	*e*P	**Pn**	**09 33 48.6**	**-0.5**
SJG	**San Juan**	**1.24**	**89**		*e*P	**Pn**	**09 33 48.5**	**-0.5**
SJG	**San Juan**	**1.24**	**89**		*e*	Pb	09 34 06.8	+17
SJG	**San Juan**	**1.24**	**89**	↓	*e*Pg	**Pn**	**09 33 48.6**	**-0.5**
SJG				↓	*e*Sg	**Sb**	**09 34 05.9**	**+0.1**
SJG	**San Juan**	**1.24**	**89**	*i*	P	**Pn**	**09 33 48.8**	**-0.3**
SJG					*e*S	**Sb**	**09 34 05.6**	**-0.2**
SJG					IAML	09 34 07.3	
	comp=Z,4μm,0.4s						
IGPR	**InterUniversit**	**1.29**	**95**			**Pn**	**09 33 50.0**	**+0.3**
IGPR	**InterUniversit**	**1.29**	**95**	↑	*e*P	**Pn**	**09 33 50.0**	**+0.3**
HIDR	**Higuey Centro**	**1.30**	**293**	↑	*e*P	**Pn**	**09 33 50.5**	**+0.6**
HIDR	**Higuey Centro**	**1.30**	**293**		*e*S	**Sb**	**09 34 10.1**	**+2.6**
GCPR	**Guaynabo City**	**1.32**	**80**			**Pn**	**09 33 50.2**	**0.0**
GCPR					IAML	09 34 08.3	
	comp=E,4μm,0.5s						
GCPR					IAML	09 34 11.3	
	comp=N,4μm,0.7s						
GCPR	**Guaynabo City**	**1.32**	**80**			**Sn**	**09 34 06.6**	**-0.5**
GCPR	**Guaynabo City**	**1.32**	**80**	↑	*e*P	**Pn**	**09 33 50.2**	**0.0**
GCPR	**Guaynabo City**	**1.32**	**80**			**Sn**	**09 34 06.6**	**-0.5**
PDPR	**Patillas Dam,**	**1.36**	**93**		*e*S	**Sn**	**09 34 06.6**	**-0.5**
PDPR	**Patillas Dam,**	**1.36**	**93**			**Pn**	**09 33 50.7**	**-0.2**
PDPR					IAML	09 34 12.9		
	comp=N,3μm,0.6s							
PDPR	**Patillas Dam,**	**1.36**	**93**	↑	*e*P	**Pn**	**09 33 51.0**	**+0.2**
PDPR	**Patillas Dam,**	**1.36**	**93**		*e*S	**Sb**	**09 34 09.2**	**-0.2**
HUMP	**Col San Antoni**	**1.53**	**88**			**Pn**	**09 33 52.9**	**-0.2**
MIDR	**Miches**	**1.75**	**301**	↑	*e*P	**Pn**	**09 33 56.8**	**+0.6**
MIDR	**Miches**	**1.75**	**301**		*e*S	**Sb**	**09 34 23.2**	**+2.7**
SMDR	**Samana, DR**	**2.03**	**306**	↑	*e*P	**Pb**	**09 34 02.3**	**-1.4**
SMDR	**Samana, DR**	**2.03**	**306**	↓	*e*Pg	**Pb**	**09 34 02.3**	**-1.4**
SMDR				↓	*e*Sg	**Sb**	**09 34 27.2**	**-1.4**
SMDR					IAML	09 34 43.2		
	comp=N,1μm,1.1s							
SDD	**Santo Domingo**	**2.36**	**279**			**Pb**	**09 34 07.9**	**-1.4**
SDD	**Santo Domingo**	**2.36**	**279**			**Sb**	**09 34 39.2**	**+1.1**
SDD	**Santo Domingo**	**2.36**	**279**	↑	*e*P	**Pn**	**09 34 07.0**	**+2.4**
SDD	**Santo Domingo**	**2.36**	**279**		*e*S	**Sb**	**09 34 39.2**	**+1.1**
SDD	**Santo Domingo**	**2.36**	**279**	↓	*e*Pg	**Pb**	**09 34 08.6**	**-0.7**
SDD				↓	*e*Sg	**Sb**	**09 34 39.6**	**+1.4**
SDD					IAML	09 34 52.3		
	comp=N,234nm,0.6s							
SDD	**Santo Domingo**	**2.36**	**279**	*i*	P	**Pb**	**09 34 07.5**	**-1.8**
LOSC1	**San Cristbal**	**2.54**	**278**	*i*	P	**Pn**	**09 34 08.6**	**+1.6**
LOSC1					IAML	09 34 47.7		
	comp=Z,1μm,0.8s							
NADR	**Nagua**	**2.60**	**299**	↑	*e*Pg	**Pb**	**09 34 11.5**	**-1.9**
NADR					*e*Sg	**Sb**	**09 34 44.9**	**0.0**
NADR					IAML	09 35 04.8		
	comp=N,5μm,0.3s							
ABDR	**Alto Bandera**	**3.10**	**284**	↑	*e*Pg	**Pb**	**09 34 21.0**	**-1.0**
ABDR				↓	*e*Sg	**Sb**	**09 34 59.8**	**+0.3**
ABDR					IAML	09 35 09.0		
	comp=N,1μm,0.3s							
SC01	**Santiago de Io**	**3.37**	**294**			**Pb**	**09 34 23.3**	**-3.3**
SC01	**Santiago de Io**	**3.37**	**294**	↑	*e*Pg	**Pb**	**09 34 23.6**	**-3.0**
SC01				↓	*e*Sg	**Sb**	**09 35 09.6**	**+2.4**
SC01					IAML	09 35 15.9		
	comp=N,1μm,0.5s							
SC01	**Santiago de Io**	**3.37**	**294**	*i*	P	**Pb**	**09 34 23.5**	**-3.1**
SODR	**Sosua Marina B**	**3.39**	**300**	↑	*e*Pg	**Pn**	**09 34 22.2**	**+3.5**
SODR					IAML	09 35 32.4		
	comp=N,2μm,1.1s							
PODR	**Polo**	**3.64**	**272**	*i*	P	**Pn**	**09 34 24.0**	**+1.7**
LOVI	**El Cajuil, Ovi**	**3.73**	**266**	*i*	P	**Pn**	**09 34 24.2**	**+0.7**
LOVI					IAML	09 35 24.4		
	comp=Z,263nm,0.7s							

SJCC	**San Jacinto, C**	**11.06 224**	P		**Pn**	**09 36 03.4**	**-0.8**
	comp=Z,20nm,2.1s						
SJCC			S		Sn	09 37 52.6	-15
	comp=Z,20nm,2.1s						
OCAC	**Ocana**	**11.33 211**	P		**Pn**	**09 36 05.8**	**-2.1**
	comp=Z,1µmcomp=Z,86nm,0.6s						
OCAC			S		**Sn**	**09 38 06.6**	**-7.2**
	comp=Z,1µmcomp=Z,86nm,0.6s						
PAMC	**Pamplona, Colo**	**11.84 206**	P		**Pn**	**09 36 15.5**	**+0.3**
PAMC			S		**Sn**	**09 38 20.4**	**-6.4**
BRJC	**Barrancabermej**	**12.63 210**	P		**Pn**	**09 36 24.6**	**-1.0**
	comp=Z,57nm,0.4s						
BARC	**Barichara**	**12.72 207**	P		**Pn**	**09 36 27.1**	**+0.1**
BARC			S		**Sn**	**09 38 42.8**	**-5.1**
UREC	**San Jos de Ur**	**12.94 218**	P		**Pn**	**09 36 29.2**	**-0.6**
RUSC	**La Rusia**	**13.31 205**	Pn		**Pn**	**09 36 34.8**	**-0.4**
RUSC	**La Rusia**	**13.31 205**	P		**Pn**	**09 36 34.3**	**-0.9**
	comp=Z,19nm,0.5s						
PTBC	**PUERTO BERRIO,**	**13.36 212**	P		**Pn**	**09 36 33.8**	**-1.7**
	comp=Z,292nmcomp=Z,15nm,0.4s						
PTBC			S		**Sn**	**09 38 56.6**	**-6.6**
	comp=Z,292nmcomp=Z,15nm,0.4s						
DBBC	**Dabeiba**	**13.92 219**	P		**Pn**	**09 36 40.8**	**-2.5**
HELC	**Santa Helena**	**14.21 215**	P		**Pn**	**09 36 46.3**	**-1.2**
NORC	**Norcasia**	**14.40 211**	P		**Pn**	**09 36 48.3**	**-1.5**
CBOC	**Ciudad Bolivar**	**14.74 216**	P		**Pn**	**09 36 54.5**	**-0.1**
	comp=Z,9.9nm,0.5s						
ROSC	**El Rosal**	**14.78 208**	Pn		**Pn**	**09 36 55.5**	**+0.2**
	comp=Z,3.2nm,0.3s,baz=23,slow=20,SNR=4.4						
	comp=Z,7.9nm,0.3s						
ROSC	**El Rosal**	**14.78 208**	P		**Pn**	**09 36 55.9**	**+0.7**
GUY2C	**Guyana, Caldas**	**14.94 212**	P		**Pn**	**09 36 55.9**	**-1.6**
	comp=Z,26nm,0.6s						
VILC	**Villavicencio,**	**15.17 204**	P		**Pn**	**09 36 57.7**	**-2.6**
	comp=Z,382nmcomp=Z,32nm,0.5s						
SOR	**Soroa**	**15.31 290**	P		**P**	**09 37 07.9**	**+1.5**
ANIL	**Santa Ana**	**15.59 211**	P		**Pn**	**09 37 04.1**	**-1.8**
ORTC	**Ortega, Tolima**	**16.02 209**	P		**Pn**	**09 37 10.3**	**-0.9**
	comp=Z,16nm,1.2s						
PRAC	**Prado**	**16.03 208**	P		**Pn**	**09 37 10.4**	**-0.9**
	comp=Z,11nm,0.9s						
URMC	**La Uribe, Meta**	**16.23 205**	P		**Pn**	**09 37 14.0**	**0.0**
	comp=Z,18nm,0.8s						
YOTC	**Yotoco, Valle**	**16.50 213**	P		**Pn**	**09 37 15.8**	**-1.6**
	comp=Z,7.5nm,0.5s						
BOAV	**Boa Vista**	**17.01 156**			**P**	**09 37 25.4**	**0.0**
BOAV	**Boa Vista**	**17.01 156**	P		**P**	**09 37 24.5**	**-0.9**
MACC	**Macarena, Meta**	**17.04 202**	P		**Pn**	**09 37 22.8**	**-1.3**
	comp=Z,18nm,1.2s						
JAMC	**Jamundi, Valle**	**17.32 212**	P		**P**	**09 37 29.2**	**+0.1**
656A	**Willston**	**17.77 312**	P		**P**	**09 37 34.1**	**+0.3**
POPC	**Popayan, Colom**	**17.90 211**	P		**Pn**	**09 37 34.9**	**-0.1**
	comp=Z,5.6nm,0.7s						
LCR2	**La Lucha 2**	**18.07 245**	P		**P**	**09 37 39.4**	**+2.1**
SGC2	**Sao Gabriel da**	**18.13 178**	P		**P**	**09 37 39.9**	**+2.2**
FLOC	**Florencia**	**18.27 207**			**P**	**09 37 41.7**	**+2.4**
FLOC	**Florencia**	**18.27 207**	P		**P**	**09 37 41.3**	**+2.0**
BBAC	**Balboa, Cauca**	**18.63 212**	P		**Pn**	**09 37 45.3**	**+1.4**
JTS	**Las Juntas de**	**18.64 248**	P		**Pn**	**09 37 44.5**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=48,slow=8.8,SNR=4.6						
	comp=Z,7.1nm,0.9s						
JTS	**Las Juntas de**	**18.64 248**	P		**Pn**	**09 37 46.2**	**+2.4**
CSU	**Charleston Sou**	**18.67 325**	P		**Pn**	**09 37 45.2**	**+1.2**
TEIG	**Tepich**	**19.78 280**	P		**Pn**	**09 37 58.1**	**+0.7**
TEIG			IAmb		IAmb	09 37 58.8	
	comp=Z,22nm,1.2s						
V58A	**Windy Hill, Pi**	**20.44 332**	P		Pn	09 38 05.2	+0.1
OTAV	**Otavalo**	**20.77 213**	P		Pn	09 38 09.5	-0.1
OTAV			IAmb		IAmb	09 38 14.8	
	comp=Z,26nm,1.3s						
451A	**Vernon**	**20.78 310**	P		Pn	09 38 08.7	-0.3
T59A	**Double "B" Far**	**20.81 337**	P		Pn	09 38 08.7	-0.7
HODGE	**Hodges**	**20.82 323**	P		Pn	09 38 08.6	-0.9
GOGA	**Godfrey**	**20.95 320**	P		Pn	09 38 09.9	-1.2
GOGA			IAmb		IAmb	09 38 15.3	
	comp=Z,36nm,1.4s						
152A	**Waverly Hall**	**21.26 316**	P		**P**	**09 38 14.0**	**+2.2**
152A			IAmb		IAmb	09 38 17.3	
	comp=Z,20nm,0.9s						
V55A	**Taylorsville**	**21.48 328**	IAmb		IAmb	09 38 28.8	
	comp=Z,18nm,0.8s						
PIAT	**Ana Tenorio**	**21.74 210**	P		**P**	**09 38 20.2**	**+2.7**
BG3	**Lake Jocassee**	**21.75 324**	IAmb		IAmb	09 38 32.6	
	comp=Z,14nm,0.7s						
V53A	**Saluda**	**22.18 325**			**P**	**09 38 23.7**	**+2.0**
V53A			IAmb		IAmb	09 38 41.5	
	comp=Z,33nm,1.1s						
TBTG	**Tabatinga, AM**	**22.27 186**	P		**P**	**09 38 23.9**	**+1.2**
LRAL	**Lakeview Retre**	**23.01 314**	P		**P**	**09 38 31.9**	**+1.4**
W50A	**Signal Mountai**	**23.29 321**	P		**P**	**09 38 35.2**	**+1.9**
W50A			IAmb		IAmb	09 38 57.3	
	comp=Z,29nm,1.4s						
T50A	**Nancy**	**24.28 324**			**P**	**09 38 43.8**	**+1.1**
T50A			IAmb		IAmb	09 38 46.1	
	comp=Z,15nm,1.0s						
O54A	**Avella**	**24.69 336**	IAmb		IAmb	09 38 48.6	
	comp=Z,14nm,0.8s						
PLAL	**Pickwick Lake**	**24.89 317**	P		**P**	**09 38 49.2**	**+1.1**
PLAL			IAmb		IAmb	09 38 50.0	
	comp=Z,9.5nm,0.9s						
Y45A	**Yeager Farm, C**	**25.24 313**			**P**	**09 38 52.9**	**+1.5**
N53A	**Lisbon**	**25.40 336**	IAmb		IAmb	09 38 55.2	
	comp=Z,17nm,0.8s						
CCM	**Cathedral Cave**	**28.77 319**	P		**P**	**09 39 23.8**	**+0.7**
CCM			IAmb		IAmb	09 39 24.3	
	comp=Z,7.0nm,0.7s						
N38A	**Joes South For**	**31.66 321**	IAmb		IAmb	09 39 49.5	
	comp=Z,8.7nm,0.7s						
WMOK	**Wichita Mounta**	**32.41 307**	IAmb		IAmb	09 39 56.4	
	comp=Z,3.1nm,0.6s						
POST	**Post**	**33.96 303**	IAmb		IAmb	09 40 12.7	
	comp=Z,6.3nm,0.8s						
LPAZ	**La Paz**	**34.17 181**	P		**P**	**09 40 12.5**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=345,slow=3.9,SNR=6.1						
	comp=Z,1.2nm,0.6s						
TXAR	**Lajitas Array**	**34.86 296**	P		**P**	**09 40 17.5**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=112,slow=9.5,SNR=34						
	comp=Z,2.3nm,0.7s						
ALPN	**Alpine**	**35.04 297**	IAmb		IAmb	09 40 20.4	
	comp=Z,11nm,1.2s						
ECSD	**EROS Data Cent**	**35.44 322**	IAmb		IAmb	09 40 36.3	
	comp=Z,4.2nm,1.0s						
SCHQ	**Schefferville**	**36.68 1**	P		**P**	**09 40 32.5**	**+0.6**
	comp=Z,45nm,0.5s,baz=186,slow=7.1,SNR=12						
EPLO	**Experimental L**	**37.93 332**	IAmb		IAmb	09 40 43.5	
	comp=Z,6.5nm,0.7s						
AGMN	**Agassiz Nation**	**37.96 329**	IAmb		IAmb	09 40 43.2	
	comp=Z,6.8nm,0.7s						
ULM	**Lac du Bonnet**	**39.32 331**	P		**P**	**09 40 53.5**	**-0.7**
	comp=Z,3.6nm,0.7s,baz=141,slow=7.9,SNR=6.3						
	comp=Z,3.6nm,0.7s						
PV12	**Saucer Basin,**	**41.22 308**	IAmb		IAmb	09 41 14.2	
	comp=Z,7.0nm,0.8s						
PV20	**West Nyswonger**	**41.34 308**	IAmb		IAmb	09 41 40.2	
	comp=Z,6.0nm,0.9s						
DGMT	**Dagmar**	**42.47 324**	P		**P**	**09 41 21.2**	**+0.9**
DGMT			IAmb		IAmb	09 41 22.4	
	comp=Z,25nm,1.4s						
WUAZ	**Wupatki**	**42.49 303**			**P**	**09 41 22.6**	**+1.7**
PDAR	**Pinedale Array**	**43.24 314**	P		**P**	**09 41 26.4**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=111,slow=11,SNR=9.7						
PDAR			PcP		**PcP**	**09 43 15.8**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=103,slow=3.4,SNR=4.7						
PDAR			ScP		**ScP**	**09 47 04.8**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=107,slow=7.9,SNR=5.2						
	comp=Z,0.7nm,0.7s						
LOHW	**Long Hollow**	**44.26 315**	IAmb		IAmb	09 41 36.5	
	comp=Z,3.5nm,0.7s						
BGU	**Big Grassy Mou**	**45.10 310**			**P**	**09 41 42.6**	**+0.9**
YHL	**Hebgen Lake**	**45.10 316**	IAmb		IAmb	09 41 45.8	
	comp=Z,8.3nm,1.3s						
CPUP	**Villa Florida**	**45.24 167**	P		**P**	**09 41 41.0**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=357,slow=2.7,SNR=5.1						
	comp=Z,0.3nm,0.6s						
IRM	**Iron Mountain**	**45.30 300**	IAmb		IAmb	09 41 47.0	
	comp=Z,5.2nm,1.1s						
V12A	**Nelson**	**45.31 303**	IAmb		IAmb	09 41 46.8	
	comp=Z,5.1nm,1.2s						
DLMT	**Dillon**	**46.22 316**	IAmb		IAmb	09 41 52.6	
	comp=Z,4.2nm,0.8s						
TPNV	**Topopah Spring**	**46.63 304**	IAmb		IAmb	09 41 57.0	
	comp=Z,5.1nm,1.2s						
HLID	**Hailey**	**46.85 313**	IAmb		IAmb	09 41 57.3	
	comp=Z,6.2nm,1.4s						
MFID	**Camas Ranch**	**47.80 313**	IAmb		IAmb	09 42 08.2	
	comp=Z,6.9nm,1.4s						

PLID	**Pearl Lake**	**48.40 315**			**P**	**09 42 07.8**	**+0.2**
PLID			IAmb		IAmb	09 42 08.6	
	comp=Z,3.1nm,0.8s						
NVAR	**Mina Array Bea**	**48.49 306**	P		**P**	**09 42 09.6**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=72,slow=9.2,SNR=8.0						
NVAR			PcP		**PcP**	**09 43 36.3**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=97,slow=1.8,SNR=1.6						
	comp=Z,0.7nm,0.5s						
NEW	**Newport**	**50.14 318**	IAmb		IAmb	09 42 21.4	
	comp=Z,3.7nm,0.8s						
LNOR	**Lincton Mounta**	**50.17 315**	IAmb		IAmb	09 42 22.1	
	comp=Z,3.5nm,0.9s						
YKA	**Yellowknife Ar**	**54.99 335**	P		**P**	**09 42 55.9**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=108,slow=7.4,SNR=16						
	comp=Z,3.3nm,0.7s						
SUMG	**Summit**	**56.98 10**	P		**P**	**09 43 11.6**	**+0.8**
SUMG			IAmb		IAmb	09 43 13.8	
	comp=Z,7.2nm,0.9s						
ESDC	**Sonseca Array**	**58.41 54**	P		**P**	**09 43 21.7**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=273,slow=6.9,SNR=14						
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**64.54 338**	IAmb		IAmb	09 44 02.2	
	comp=Z,3.7nm,0.9s						
M30M	**Minto, Yukon**	**64.60 331**	IAmb		IAmb	09 44 03.6	
	comp=Z,8.2nm,1.4s						
K29M	**Barlow Dome**	**65.14 333**			**P**	**09 44 06.6**	**+0.6**
K29M			IAmb		IAmb	09 44 08.9	
	comp=Z,2.3nm,0.8s						
DAWY	**Dawson**	**65.99 333**	IAmb		IAmb	09 44 13.4	
	comp=Z,2.2nm,0.5s						
E29M	**Blow River**	**66.13 338**	IAmb		IAmb	09 44 12.5	
	comp=Z,3.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**66.45 83**	P		**P**	**09 44 14.3**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=280,slow=6.3,SNR=5.9						
	comp=Z,0.5nm,0.5s						
K27K	**Chicken**	**67.16 333**	IAmb		IAmb	09 44 40.6	
	comp=Z,5.0nm,1.5s						
L26K	**Log Cabin Wild**	**67.64 331**	IAmb		IAmb	09 44 23.6	
	comp=Z,2.5nm,0.8s						
MENT	**Mentasta**	**67.81 331**	IAmb		IAmb	09 44 24.6	
	comp=Z,4.1nm,0.6s						
SCRK	**Sand Creek**	**68.00 332**			**P**	**09 44 25.3**	**+1.0**
SCRK			IAmb		IAmb	09 44 25.7	
	comp=Z,4.8nm,0.8s						
PRP	**Porcupine Dome**	**68.75 334**			**P**	**09 44 29.4**	**+0.4**
PRP			IAmb		IAmb	09 44 29.9	
	comp=Z,3.9nm,0.6s						
F25K	**Christian Rive**	**68.92 336**	IAmb		IAmb	09 44 31.4	
	comp=Z,2.5nm,0.8s						
ILAR	**Eielson Array**	**69.29 333**	P		**P**	**09 44 31.6**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=96,slow=4.6,SNR=22						
	comp=Z,1.1nm,0.5s						
RND	**Reindeer**	**70.15 332**	IAmb		IAmb	09 44 38.9	
	comp=Z,4.1nm,0.9s						
NEA2	**Nenana**	**70.23 333**	IAmb		IAmb	09 44 47.5	
	comp=Z,6.3nm,1.3s						
I23K	**Minto, Yukon-K**	**70.35 334**	IAmb		IAmb	09 44 40.4	
	comp=Z,4.4nm,0.7s						
TRF	**Thorofare Moun**	**70.79 332**	IAmb		IAmb	09 44 42.6	
	comp=Z,3.9nm,0.8s						
H21K	**Melozitna Rive**	**71.77 334**	IAmb		IAmb	09 44 48.5	
	comp=Z,1.1nm,1.4s						
ARCES	**ARCESS Array B**	**74.24 21**	P		**P**	**09 45 02.1**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=293,slow=4.5,SNR=16						
	comp=Z,2.6nm,0.8s						
FINES	**FINESS Array B**	**75.97 30**	P		**P**	**09 45 12.0**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=284,slow=5.6,SNR=1.4						
	comp=Z,1.9nm,0.8s						
WRA	**Warramunga Arr**	**159.31 261**	PKP		**PKPdf**	**09 53 23.4**	**-1.0**
	comp=Z,0.3nm,0.9s,baz=116,slow=1.7,SNR=1.6						
WRA			PKPab		**PKPab**	**09 54 00.7**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=88,slow=3.9,SNR=7.8						

*IDC **05** 09:42:21.9±1.6,23.78S×66.66W,h190km±15km,mb3.4/7, mbtmp3.8/12,Error ellipse: s-maj=22.0km s-min=11.7km az=79.0*
*SJA **05** 09:42:21.4±0.6,23.90S×66.84W,h223km±5km,ML4.4, MW4.0*
*NEIC **05** 09:42:22.8±2.6,23.89S±0.06×66.88W±0.04,h209km±8km, mb4.4/11,Error ellipse: s-maj=14.2km s-min=8.6km az=88.0*
*VAO **05** 09:42:35.7±1.7,23.54S×65.79W,h259km±12km,mb4.2*

ISC 05 09:42:23.0±0.6,23.88S±0.04×66.88W±0.04,h207km±6km, n96,σ1.9s35/118,mb3.9/9,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SALTA		**0.60**	**125**	*eP*		**Pn**	**09 42 52.3**	**+0.4**
SALTA					IAML		09 43 22.2	
	comp=Z,113nm,0.8s							
AF01	**San Pedro de A**	**1.51**	**308**			**Pn**	**09 42 59.5**	**+1.7**
AF01					Sn	**Sn**	**09 43 27.4**	**+2.7**
AF01	**San Pedro de A**	**1.51**	**308**	*eP*		**Pn**	**09 42 59.7**	**+2.0**
AF01					*eS*	**Sn**	**09 43 23.7**	**-1.0**
AF01					IAML		09 43 47.1	
	comp=Z,413nm,0.2s							
HJA	**Humahuaca**	**1.51**	**64**	*eP*		**Pn**	**09 42 58.0**	**+0.1**
HJA					IAML		09 43 28.9	
	comp=Z,97nm,0.7s							
SLA	**San Lorenzo**	**1.51**	**124**	*eP*		**Pn**	**09 42 58.0**	**+0.4**
SLA					IAML		09 43 26.5	
	comp=Z,47nm,0.9s							
SLA					*eS*	**Sn**	**09 43 26.9**	**+2.3**
AZAP	**Zapla**	**1.70**	**102**	*eP*		**Pn**	**09 42 59.1**	**-0.2**
AZAP					IAML		09 43 33.8	
	comp=Z,214nm,0.9s							
YJA	**Yavi**	**2.11**	**37**	*eP*		**Pn**	**09 43 04.2**	**+0.5**
YJA					*eS*	**Sn**	**09 43 35.9**	**+0.5**
YJA					IAML		09 43 41.7	
	comp=Z,25nm,1.4s							
FSA	**Cafayete**	**2.37**	**160**	*eP*		**Pn**	**09 43 06.0**	**-0.1**
FSA					*eS*	**Sn**	**09 43 38.2**	**-1.6**
ALOL	**LOMAS DE OLMED**	**2.66**	**89**	*eP*		**Pn**	**09 43 08.8**	**-0.3**
PB06	**IPOC Station P**	**2.73**	**295**			**Pn**	**09 43 11.2**	**+1.0**
PB06					Sn	**Sn**	**09 43 46.4**	**-0.5**
PB06	**IPOC Station P**	**2.73**	**295**	*eP*		**Pn**	**09 43 11.1**	**+1.0**
PB06					*eS*	**Sn**	**09 43 46.8**	**-0.1**
PB06					IAML		09 43 49.2	
	comp=Z,948nm,0.4s							
GO02	**Mina Guanaco**	**2.78**	**242**			**Pn**	**09 43 11.8**	**+1.0**
GO02					Sn	**Sn**	**09 43 48.5**	**+0.5**
GO02	**Mina Guanaco**	**2.78**	**242**	*eP*		**Pn**	**09 43 11.0**	**+0.3**
GO02					*eS*	**Sn**	**09 43 49.0**	**+0.9**
GO02					IAML		09 43 49.2	
	comp=Z,2µm,0.2s							
PB09	**IPOC Station P**	**3.00**	**313**			**Pn**	**09 43 14.5**	**+1.3**
PB09					Sn	**Sn**	**09 43 52.5**	**0.0**
PB09	**IPOC Station P**	**3.00**	**313**	*eP*		**Pn**	**09 43 14.6**	**+1.3**
PB09					*eS*	**Sn**	**09 43 53.4**	**+0.8**
PB09					IAML		09 43 53.8	
	comp=Z,483nm,0.9s							
PB03	**IPOC Station P**	**3.21**	**304**			**Pn**	**09 43 16.3**	**+0.7**
PB03					Sn	**Sn**	**09 43 55.2**	**-1.7**
PB05	**IPOC Station P**	**3.22**	**288**			**Pn**	**09 43 16.1**	**+0.5**
PB05	**IPOC Station P**	**3.22**	**288**	*eP*		**Pn**	**09 43 16.2**	**+0.5**
PB05					*eS*	**Sn**	**09 43 56.4**	**-0.5**
PB05					IAML		09 44 01.9	
	comp=Z,392nm,0.4s							
PB14	**IPOC Station P**	**3.30**	**256**			**Pn**	**09 43 17.3**	**+0.5**
PB14	**IPOC Station P**	**3.30**	**256**	*eP*		**Pn**	**09 43 17.3**	**+0.5**
PB14					*eS*	**Sn**	**09 43 58.1**	**-0.8**
PB14					IAML		09 44 00.8	
	comp=Z,737nm,0.4s							
PB10	**IPOC Station P**	**3.38**	**275**			**Pn**	**09 43 18.3**	**+0.8**
PB10	**IPOC Station P**	**3.38**	**275**	*eP*		**Pn**	**09 43 17.6**	**0.0**
PB10					*eS*	**Sn**	**09 44 00.4**	**+0.2**
PB10					IAML		09 44 02.9	
	comp=Z,353nm,0.2s							
AC02	**Maricunga**	**3.58**	**214**			**Pn**	**09 43 21.1**	**+0.8**
AC02					Sn	**Sn**	**09 44 05.6**	**+0.2**
AC02	**Maricunga**	**3.58**	**214**	*eP*		**Pn**	**09 43 21.2**	**+0.8**
AC02					*eS*		09 43 53.4	
AC02					IAML		09 44 20.0	
	comp=Z,108nm,0.2s							
PB01	**IPOC Station P**	**3.71**	**319**			**Pn**	**09 43 21.7**	**+0.1**
PB01	**IPOC Station P**	**3.71**	**319**	*eP*		**Pn**	**09 43 21.7**	**+0.1**
PB01					IAML		09 44 10.2	
	comp=Z,452nm,0.3s							
PB02	**IPOC Station P**	**3.77**	**312**			**Pn**	**09 43 22.4**	**0.0**
PB02	**IPOC Station P**	**3.77**	**312**	*eP*		**Pn**	**09 43 22.3**	**0.0**
PB02					*eS*	**Sn**	**09 44 07.6**	**-1.4**
PB02					IAML		09 44 13.4	
	comp=Z,824nm,0.3s							

AC01	**Pan de Azucar**	**4.06 235**			**Pn**	**09 43 25.1**	**-0.6**
AC01	**Pan de Azucar**	**4.06 235**	*eP*		**Pn**	**09 43 25.1**	**-0.6**
AC01			*eS*		**Sn**	**09 44 13.1**	**-2.0**
AC01			IAML			09 44 13.3	
	comp=Z,399nm,0.4s						
PB08	**IPOC Station P**	**4.28 330**			**Pn**	**09 43 29.4**	**+0.5**
PB08			Sn		**Sn**	**09 44 20.0**	**-0.7**
PB08	**IPOC Station P**	**4.28 330**	*eP*		**Pn**	**09 43 29.8**	**+0.9**
PB08			IAML			09 44 26.1	
	comp=Z,217nm,0.7s						
PATCX	**Punta Patache**	**4.29 315**			**Pn**	**09 43 28.1**	**-0.7**
PATCX	**Punta Patache**	**4.29 315**	*eP*		**Pn**	**09 43 28.3**	**-0.5**
PATCX			IAML			09 44 33.0	
	comp=Z,209nm,0.4s						
TA01	**Diego Aracena**	**4.50 317**			**Pn**	**09 43 30.0**	**-1.2**
TA01			Sn		**Sn**	**09 44 22.2**	**-2.7**
TA01	**Diego Aracena**	**4.50 317**	*eP*		**Pn**	**09 43 30.4**	**-0.9**
TA01			*eS*		**Sn**	**09 44 23.1**	**-1.9**
TA01			IAML			09 44 29.3	
	comp=Z,130nm,0.5s						
CYA	**Choya**	**4.65 168**	*eP*		**Pn**	**09 43 33.5**	**+0.4**
CYA			*eS*			09 44 13.2	
CYA			IAML			09 44 27.2	
	comp=Z,7.9nm,0.8s						
AC06	**Mina Casimiro**	**4.67 221**			**Pn**	**09 43 32.5**	**-0.9**
GO01	**Chusmiza**	**4.71 332**			**Pn**	**09 43 34.2**	**-0.2**
GO01	**Chusmiza**	**4.71 332**	*eP*		Pn	09 43 20.8	-14
GO01			*eS*		**Sn**	**09 44 30.1**	**-0.6**
GO01			IAML			09 44 33.8	
	comp=Z,150nm,0.4s						
GO03	**Copiapo**	**4.78 219**			**Pn**	**09 43 34.1**	**-0.7**
GO03	**Copiapo**	**4.78 219**	*eP*		**Pn**	**09 43 34.0**	**-0.7**
GO03			*eS*		**Sn**	**09 44 29.2**	**-2.2**
GO03			IAML			09 44 32.7	
	comp=Z,200nm,0.3s						
PB11	**IPOC Station P**	**4.84 327**			**Pn**	**09 43 34.8**	**-0.9**
PB11	**IPOC Station P**	**4.84 327**	*eP*		Pn	09 43 20.9	-15
PB11			IAML			09 44 33.8	
	comp=Z,292nm,0.7s						
VCA	**Vinchina**	**4.98 193**	*eP*		**Pn**	**09 43 36.9**	**-0.5**
VCA			*eS*		**Sn**	**09 44 38.4**	**+2.1**
VCA			IAML			09 44 54.2	
	comp=Z,16nm,0.4s						
AC04	**Llanos de Chal**	**5.72 220**			**Pn**	**09 43 46.5**	**-0.3**
PB16	**IPOC Station P**	**6.04 336**			**Pn**	**09 43 50.9**	**-0.6**
PB12	**IPOC Station P**	**6.14 328**			**Pn**	**09 43 50.9**	**-1.4**
CO01	**Juntas del Tor**	**6.71 205**	Pn		**Pn**	**09 44 00.6**	**+0.9**
GO04	**Tololo Observa**	**7.17 208**	Pn		**Pn**	**09 44 04.3**	**-1.4**
LPAZ	**La Paz**	**7.64 351**	Pn		**Pn**	**09 44 12.4**	**+0.2**
LPAZ	**La Paz**	**7.64 351**	P		**Pn**	**09 44 11.7**	**-0.6**
	comp=Z,1.1nm,0.2s,baz=143,slow=4.6,SNR=18						
LPAZ			S		**Sn**	**09 45 36.7**	**-2.5**
	comp=Z,1.9nm,0.6s,baz=198,slow=17,SNR=1.9						
CFA	**Coronel Fontan**	**7.79 189**	P		**Pn**	**09 44 12.2**	**-1.3**
	comp=Z,2.5nm,0.3s,baz=257,slow=22,SNR=45						
CFA			S		**Sn**	**09 45 34.8**	**-6.8**
	comp=Z,6.1nm,0.3s,baz=244,slow=18,SNR=19						
MURT	**Porto Murtinho**	**8.84 77**	*eP*		**Pn**	**09 44 26.4**	**-0.8**
CPUP	**Villa Florida**	**9.00 108**	P		**Pn**	**09 44 26.6**	**-2.5**
	comp=Z,2.3nm,0.7s,baz=153,slow=12,SNR=12						
SIV	**San Ignacio**	**9.56 36**	P		**Pn**	**09 44 33.3**	**-3.3**
	comp=Z,3.3nm,0.6s,baz=218,slow=12,SNR=15						
BDQN	**Bodoquena, MS**	**9.99 72**	*eP*		**Pn**	**09 44 40.6**	**-1.5**
MT02	**Curacav**	**10.06 201**	Pn		**Pn**	**09 44 42.4**	**-0.5**
BO02	**Sierra Bellavi**	**11.39 196**	Pn		**Pn**	**09 45 01.2**	**+1.2**
TRCB	**Terra Rica**	**13.14 88**			**P**	**09 45 22.7**	**-2.2**
TRCB	**Terra Rica**	**13.14 88**	*eP*		**Pn**	**09 45 21.6**	**-0.4**
PTGB	**Pitanga**	**13.54 97**	*eP*		**P**	**09 45 27.3**	**-2.1**
CPSB	**Cacapava Do Su**	**13.62 121**	*eP*		**P**	**09 45 29.3**	**-0.7**
PLTB	**Pedras Altas**	**14.12 127**			**Pn**	**09 45 33.8**	**-0.4**
TRQA	**Tornquist**	**14.74 165**			**Pn**	**09 45 41.9**	**+0.2**
TRQA	**Tornquist**	**14.74 165**	*eP*		P	09 45 53.6	+11
ARAG	**

baz=233
RUF MSG 10 00 52.3
comp=Z,4.1nm,0.2s
RUF SN Sn 10 00 56.6 +0.4
KAF Kangasniemi 1.62 351 PG Pn 10 00 40.4 -0.5
baz=169
KAF MSG 10 00 59.6
comp=Z,3.4nm,0.2s
KAF SN Sb 10 01 02.7 -0.1
KEF Keuruu 1.91 331 PG Pn 10 00 45.1 +0.2
KEF MSG 10 01 07.9
comp=Z,2.8nm,0.2s
KEF SG Sb 10 01 10.6 -0.5
SUF Sumiainen 2.23 352 PG Pb 10 00 51.3 -1.0
baz=174
SUF MSG 10 01 17.2
comp=Z,1.1nm,0.2s
SUF SG Sb 10 01 20.6 +0.2
RAF Rauma 2.55 284 MSG 10 01 26.2
comp=Z,0.9nm,0.2s
RAF SG Sb 10 01 29.4 0.0
KPF Kankaanpaa 2.67 302 MSG 10 01 29.6
comp=Z,0.8nm,0.2s
KPF SG Sb 10 01 33.1 +0.3
SLIT Slitere, Latvi 3.73 221 PN Pn 10 01 09.7 -0.2

*IDC **05** 10:17:18.8±1.8,4.°43S×118.°26E,h0km,mb3.2/3, mbtmp3.3/3,Error ellipse: s-maj=64.3km s-min=23.1km az=40.0*
*DJA **05** 10:17:21.3±0.2,3.°S±1.°×12.°0E±.°,h10km,M4.0/14,mb3.9/3, MLv4.0/14*
ISC 05 10:17:21.5±1.0,3.°50S±0.°03×119.°7E±0.°1,h10km,n16, σ0s54/20,mb3.4/3,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.47**	**15**	P	**Pg**	**10 17 30.9**	**+0.3**
TTSI				S	**Sg**	**10 17 36.5**	**-0.3**
SPSI	**Sidrap Palu**	**0.47**	**171**	P	**Pg**	**10 17 30.6**	**-0.1**
SPSI				S	**Sg**	**10 17 37.1**	**+0.1**
BNSI	**Bone**	**0.99**	**156**	P	**Pg**	**10 17 39.6**	**-0.9**
BNSI				S	**Sb**	**10 17 53.9**	**+0.1**
KAPI	**Kappang**	**1.51**	**178**	Pn	**Pn**	**10 17 48.6**	**0.0**
KAPI	81nm,0.3s,baz=340,slow=11,SNR=51			Sn	**Sg**	**10 18 10.2**	**+0.1**
BKSI	**Bulukumba**	**1.86**	**167**	P	**Pn**	**10 17 53.7**	**+0.2**
PCI	**Palu**	**2.58**	**3**	P	**Pn**	**10 18 03.1**	**-0.3**
BSSI	**Bau Bau, Buton**	**2.75**	**163**	P	**Pn**	**10 18 06.1**	**+0.4**
APSI	**Ampana**	**3.23**	**37**	P	**Pn**	**10 18 11.7**	**-0.6**
LUWI	**Luwuk**	**3.92**	**52**	P	**Pn**	**10 18 21.9**	**0.0**
MRSI	**Marisa**	**4.54**	**30**	P	**Pn**	**10 18 30.9**	**+0.6**
EDFI	**Ende, Flores**	**5.58**	**159**	P	**Pn**	**10 18 45.1**	**+0.3**
	0.0nm6.2nm,1.5s						
PLAI	**Plampang**	**5.63**	**200**	P	**Pn**	**10 18 45.5**	**+0.2**
	0.2nm30nm,1.1s						
TWSI	**Taliwang, Sumb**	**5.91**	**208**	P	**Pn**	**10 18 49.4**	**+0.2**
WRA	**Warramunga Arr**	**21.71**	**140**	P	**P**	**10 22 14.5**	**+1.5**
	0.5nm,0.8s,baz=313,slow=10,SNR=5.5 0.5nm,0.8s						
ASAR	**Alice Springs**	**24.30**	**147**	P	**P**	**10 22 38.9**	**-0.5**
	0.6nm,0.7s,baz=321,slow=8.2,SNR=12 0.6nm,0.7s						
MKAR	**Makanchi Array**	**59.95**	**331**	P	**P**	**10 27 27.7**	**-0.4**
	0.3nm,0.6s,baz=124,slow=7.2,SNR=2.6 0.3nm,0.6s						

IDC 05 10:31:18.4±2.4,10.°92N×123.°48E,h0km,mb3.7/4, mbtmp3.7/4,MS3.7/4,Error ellipse: s-maj=154.0km s-min=27.9km az=66.0,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**21.07**	**81**	LR	LR	10 42 45.0	
	comp=Z,38nm,21.6s,baz=51,slow=33						
FITZ	**Fitzroy Crossi**	**28.91**	**176**	P	P	10 37 19.7	+0.4
	1.5nm,0.4s,baz=359,slow=8.4,SNR=8.2 1.5nm,0.4s						
WRA	**Warramunga Arr**	**32.48**	**161**	P	P	10 37 49.8	-1.0
	0.3nm,0.4s,baz=339,slow=10,SNR=11 0.3nm,0.4s						
ASAR	**Alice Springs**	**35.85**	**164**	P	P	10 38 20.6	+0.4
	0.4nm,0.5s,baz=344,slow=7.2,SNR=10 0.4nm,0.5s						
MKAR	**Makanchi Array**	**49.87**	**324**	P	P	10 40 13.4	-0.2
	0.2nm,0.3s,baz=140,slow=7.5,SNR=1.4 0.2nm,0.3s						
ILAR	**Eielson Array**	**80.05**	**26**	LR	LR	11 22 49.3	
	comp=Z,70nm,18.2s,baz=135,slow=39						
INK	**Inuvik**	**84.69**	**21**	LR	LR	11 21 01.6	
	comp=Z,64nm,21.5s,baz=98,slow=35						
RES	**Resolute Bay**	**91.33**	**10**	LR	LR	11 30 07.8	
	comp=Z,67nm,18.1s,baz=268,slow=39						

*SOME **05** 10:31:47.8,46.°57N×83.°33E,h15km*
*NNC **05** 10:31:48.7±0.4,46.°58N×83.°20E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=3.6km s-min=1.7km az=179.0*
*ASRS **05** 10:31:50.5±0.5,47.°N±3.°×8.°3E±.°,h8km,MLh3.9/9,Error ellipse: s-maj=7.2km s-min=3.1km az=149.9,confirmed*
ISC 05 10:31:46.1±1.0,46.°69N±0.°04×83.°22E±0.°04,h8km±10km, n46,σ1s51/74,3C-3D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK07	**Makanchi Array**	**0.62**	**276**	P	**Pn**	**10 32 01.5**	**+0.2**
MK07				S	**Sn**	**10 32 10.6**	**-0.9**
MK06	**Makanchi Array**	**0.63**	**278**	P	**Pn**	**10 32 01.5**	**+0.2**
MK06				S	**Sn**	**10 32 10.6**	**-1.0**
MK02	**Makanchi Array**	**0.63**	**278**	P	**Pn**	**10 32 01.7**	**+0.3**
MK02				S	**Sn**	**10 32 10.5**	**-1.2**
MK03	**Makanchi Array**	**0.64**	**277**	P	**Pn**	**10 32 01.4**	**-0.1**
MK03				S	**Sn**	**10 32 10.7**	**-1.1**
MK01	**Makanchi Array**	**0.64**	**278**	P	**Pn**	**10 32 01.4**	**-0.1**
MK01				S	**Sn**	**10 32 10.8**	**-1.0**
MK04	**Makanchi Array**	**0.64**	**278**	P	**Pn**	**10 32 01.4**	**-0.1**
MK04				S	**Sn**	**10 32 10.6**	**-1.3**
MK08	**Makanchi Array**	**0.65**	**276**	P	**Pn**	**10 32 01.4**	**-0.2**
MK08				S	**Sn**	**10 32 10.6**	**-1.4**
MK05	**Makanchi Array**	**0.65**	**280**	P	**Pn**	**10 32 01.6**	**0.0**
MK05				S	**Sn**	**10 32 10.8**	**-1.3**
MK31	**Makanchi Array**	**0.65**	**280**	⇓P	**Pn**	**10 32 01.5**	**-0.2**
	8.0nm,0.2s,baz=106,slow=15,SNR=21						
MK31				⇓S	**Sn**	**10 32 11.1**	**-1.0**
	143nm,0.3s						
MAKZ	**Makanchi**	**0.86**	**278**	⇓P	**Pn**	**10 32 05.1**	**+0.5**
	15nm,0.3s						
MAKZ				⇑S	**Sn**	**10 32 17.6**	**+0.3**
	99nm,0.4s						
MAKZ	**Makanchi**	**0.86**	**278**	Pg	**Pn**	**10 32 05.3**	**+0.7**
MAKZ				Sg	**Sn**	**10 32 17.7**	**+0.4**
ZSN	**Zaisan**	**1.36**	**55**	P	**Pn**	**10 32 11.1**	**-0.3**
	31nm,0.1s						
ZSN				S	**Sb**	**10 32 28.6**	**-0.7**
	413nm,0.5s						
ZSN	**Zaisan**	**1.36**	**55**	*eP*	**Pn**	**10 32 11.2**	**-0.2**
	9.6nm,0.2s						
ZSN				*eS*	**Sb**	**10 32 28.8**	**-0.6**
	425nm,0.3s						
TDK	**Taldyqorghan**	**3.76**	**245**	Pg	**Pg**	**10 32 57.7**	**-0.5**
	80nm,0.3s						
TDK	**Taldyqorghan**	**3.76**	**245**	*eP*	**Pg**	**10 32 57.0**	**-1.2**
	18nm,0.1s						
TDK				*eS*	**Sg**	**10 33 46.6**	**-0.3**
	56nm,0.2s						
DGZ	**Jazzator, Alta**	**4.12**	**42**	Pg	**Pg**	**10 33 05.1**	**0.0**
DGZ				Sg	**Sg**	**10 33 58.3**	**-0.2**
SEM	**Semipalatinsk**	**4.21**	**333**	Pg	**Pg**	**10 33 09.6**	**+2.8**
	6.7nm,0.1s						
SEM	**Semipalatinsk**	**4.21**	**333**	*eP*	**Pg**	**10 33 07.5**	**+0.8**
	2.1nm,0.1s						
SEM				*eS*	**Sg**	**10 34 04.7**	**+3.4**
	50nm,0.2s						
UKR	**Ust'-Kan**	**4.37**	**13**	Pg	**Pg**	**10 33 09.4**	**-0.5**
UKR				Sg	**Sg**	**10 34 05.9**	**-0.6**
SHLS	**Shalkode**	**4.43**	**218**	Pg	**Pb**	**10 33 04.9**	**+0.8**
	17nm,0.3s						
SHLS	**Shalkode**	**4.43**	**218**	*eP*	**Pb**	**10 33 05.0**	**+0.8**
	7.8nm,0.1s						
SHLS				*eS*	**Sb**	**10 34 00.8**	**+3.1**
	77nm,0.3s						
ARXS	**Arharly**	**4.53**	**239**	Pg	**Pg**	**10 33 10.6**	**-2.3**
	4.7nm,0.5s						
ARXS	**Arharly**	**4.53**	**239**	*eP*	**Pg**	**10 33 10.6**	**-2.3**
ARXS				*eS*	**Sg**	**10 34 10.4**	**-1.1**
KPKS	**Kokpek**	**4.55**	**227**	Pg	**Pg**	**10 33 10.8**	**-2.4**
	0.3nm,0.1s						
CHBI	**Chibit, Altay**	**4.61**	**37**	Pg	**Pg**	**10 33 15.4**	**+1.0**
CHBI				Sg	**Sg**	**10 34 13.3**	**-0.8**
UZB	**Uzynbulak**	**4.63**	**222**	Pg	**Pg**	**10 33 11.5**	**-3.2**
	5.0nm,0.3s						
UZB	**Uzynbulak**	**4.63**	**222**	*eP*	**Pg**	**10 33 11.5**	**-3.2**
	5.0nm,0.3s						
UZB				*eS*	**Sg**	**10 34 12.0**	**-2.6**
	20nm,0.5s						
AKAR	**Aktash**	**4.67**	**37**	Pg	**Pg**	**10 33 15.7**	**+0.3**
AKAR				Sg	**Sg**	**10 34 15.7**	**-0.1**
ELDR	**Elanda**	**4.91**	**22**	Pg	**Pg**	**10 33 18.3**	**-1.8**
ELDR				Sg	**Sg**	**10 34 21.6**	**-2.1**
SATY	**Saty**	**4.99**	**225**	Pg	**Pg**	**10 33 18.7**	**-2.9**
	4.6nm,0.2s						
KURBB	**Kurchatov Arra**	**5.01**	**323**	⇑Lg	Lg	10 34 29.8	
	146nm,0.8s						
ULGR	**Ulagan, Altay**	**5.04**	**37**	Pg	**Pg**	**10 33 22.7**	**+0.2**
ULGR				Sg	**Sg**	**10 34 26.8**	**-0.9**
KURK	**Kurchatov**	**5.05**	**325**	⇑Lg	Lg	10 34 29.6	
	16nm,0.5s						
KURK	**Kurchatov**	**5.05**	**325**	Pg	**Pg**	**10 33 22.2**	**-0.5**
KURK				Sg	**Sg**	**10 34 27.3**	**-0.8**
KTBS	**Karatobe**	**5.50**	**240**	Pg	**Pg**	**10 33 28.4**	**-2.9**
	1.6nm,0.4s						
GALT	**Gorno-Altaysk,**	**5.57**	**18**	Sg	**Sg**	**10 34 43.8**	**-0.9**
TNSS	**Tian-Shan**	**5.76**	**233**	*eP*	**Pg**	**10 33 35.3**	**-1.2**
	0.1nm,0.1s						
TNSS				*eS*	**Sg**	**10 34 52.1**	**+1.0**
	0.7nm,0.3s						
ARTR	**Artybash**	**5.76**	**26**	Sg	**Sg**	**10 34 49.0**	**-2.1**
YALR	**Yailyu, Altay**	**5.84**	**28**	Pg	**Pg**	**10 33 38.2**	**+0.3**
YALR				Sg	**Sg**	**10 34 53.9**	**+0.4**
MTBS	**Maitube**	**5.99**	**236**	*eP*	**Pg**	**10 33 39.3**	**-1.5**
	1.1nm,0.1s						
MTBS				*eS*	**Sg**	**10 34 59.1**	**+0.8**
	15nm,0.4s						
KST	**Kastek**	**6.31**	**237**	Pg	**Pg**	**10 33 45.8**	**-1.1**
	3.1nm,0.4s						
KST	**Kastek**	**6.31**	**237**	*eP*	**Pg**	**10 33 45.9**	**-1.1**
	0.4nm,0.1s						
KST				*eS*	**Sg**	**10 35 10.9**	**+2.1**
	6.7nm,0.4s						
TEL	**Teeli**	**6.32**	**44**	Pg	**Pg**	**10 33 48.3**	**+1.2**
TEL				Sg	**Sg**	**10 35 12.5**	**+3.5**
BTLS	**Baital**	**6.61**	**259**	Pg	**Pg**	**10 33 51.2**	**-1.5**
	1.3nm,0.2s						
BTLS	**Baital**	**6.61**	**259**	*eP*	**Pg**	**10 33 51.2**	**-1.5**
	0.3nm,0.1s						
BTLS				*eS*	**Sg**	**10 35 20.1**	**+1.8**
	3.6nm,0.3s						
BRZS	**Berezniki**	**7.76**	**299**	Lg	Lg	10 35 51.8	
	17nm,0.6s						

*IDC **05** 10:33:17.4±1.3,31.°03S×178.°10W,h0km,mb4.7/3, mbtmp4.7/3,Error ellipse: s-maj=60.7km s-min=34.2km az=169.0*
*NEIC **05** 10:33:24.6±1.6,31.°27S±0.°06×178.°3W±0.°2,h35km±2km, mb4.5/14,Error ellipse: s-maj=30.2km s-min=8.5km az=97.0*
ISC 05 10:33:24.4±0.8,31.°3S±0.°1×178.°5W±0.°2,h35km,n37, σ2s11/36,mb4.5/14,5C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.09**	**13**	Pn	**Pn**	**10 33 56.6**	**-0.4**
RTZ	**Ruatahuna**	**8.20**	**206**	Pn	Pn	10 35 17.4	-3.6
BKZ	**Black Stump Fm**	**8.87**	**206**	Pn	**Pn**	**10 35 26.9**	**-3.3**
CTAO	**Charters Tower**	**33.56**	**281**	P	**P**	**10 40 02.4**	**+1.2**
CTAO				IAmb	IAmb	10 40 04.8	
	comp=Z,4.2nm,0.7s						
STKA	**Stephens Creek**	**33.90**	**258**	P	**P**	**10 40 05.5**	**+1.4**
STKA	**Stephens Creek**	**33.90**	**258**	P	**P**	**10 40 06.0**	**+2.0**
	comp=Z,1.7nm,0.7s,baz=126,slow=8.7,SNR=3.6 comp=Z,1.7nm,0.7s						
INKA	**Innaminka**	**35.54**	**265**	P	**P**	**10 40 20.2**	**+2.0**
INKA				IAmb	IAmb	10 40 36.2	
	comp=Z,3.6nm,1.1s						
BBOO	**Buckleboo**	**38.35**	**255**	P	**P**	**10 40 42.3**	**+0.1**
BBOO				IAmb	IAmb	10 40 53.2	
	comp=Z,25nm,1.1s						
AS31	**Alice Springs**	**42.67**	**268**	P	**P**	**10 41 18.5**	**+0.5**
AS31				IAmb	IAmb	10 41 18.9	
	comp=Z,3.9nm,0.4s						
ASAR	**Alice Springs**	**42.68**	**268**	P	**P**	**10 41 18.1**	**+0.1**
ASAR	**Alice Springs**	**42.68**	**268**	P	**P**	**10 41 18.2**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=106,slow=7.2,SNR=121 comp=Z,7.3nm,0.5s						
WR8	**Warramunga Arr**	**43.60**	**273**	P	**P**	**10 41 26.1**	**+0.6**
WR8				IAmb	IAmb	10 41 26.5	
	comp=Z,13nm,0.7s						
WRAB	**Tennant Creek**	**43.74**	**273**	P	**P**	**10 41 27.0**	**+0.4**
WRA	**Warramunga Arr**	**43.75**	**273**	P	**P**	**10 41 26.1**	**-0.6**
WRA	**Warramunga Arr**	**43.75**	**273**	P	**P**	**10 41 26.8**	**+0.2**
	comp=Z,20nm,0.4s,baz=112,slow=8.0,SNR=329 comp=Z,20nm,0.4s						
WB0	**Warramunga Arr**	**43.77**	**274**	P	**P**	**10 41 27.4**	**+0.6**
KNRA	**Kununurra**	**50.39**	**275**	P	**P**	**10 42 18.5**	**0.0**
KNRA				IAmb	IAmb	10 42 19.1	
	comp=Z,14nm,1.3s						
FITZ	**Fitzroy Crossi**	**51.97**	**271**	P	**P**	**10 42 31.0**	**+0.7**
CASY	**Casey**	**54.16**	**208**	P	**P**	**10 42 44.3**	**-1.5**
QSPA	**South Pole Qui**	**58.82**	**180**	P	**P**	**10 43 21.4**	**+2.3**
QSPA				IAmb	IAmb	10 43 27.0	
	comp=Z,2.7nm,0.8s						
TROLL	**Troll, Antarti**	**76.98**	**180**	P	**P**	**10 45 13.2**	**+0.1**
TROLL	**Troll, Antarti**	**76.98**	**180**	⇑P	**P**	**10 45 13.2**	**+0.1**
	comp=Z,86nm,0.7s						
SNAA	**Sanae**	**77.27**	**179**	P	**P**	**10 45 18.6**	**+3.9**
SNAA	**Sanae**	**77.27**	**179**	⇑P	**P**	**10 45 18.6**	**+3.9**
	comp=Z,22nm,0.3s						
SNAA	**Sanae**	**77.27**	**179**	P	**P**	**10 45 15.1**	**+0.3**
SNAA				IAmb	IAmb	10 45 20.2	
	comp=Z,2.5nm,1.0s						
VNA3	**Neumayer Olymp**	**77.44**	**176**	P	**P**	**10 45 19.9**	**+4.2**
VNA3	**Neumayer Olymp**	**77.44**	**176**	⇑P	**P**	**10 45 19.9**	**+4.2**
	comp=Z,2.1nm,0.3s						
VNA2	**Neumayer--Watz**	**77.87**	**177**	P	**P**	**10 45 20.1**	**+2.1**
	baz=168,slow=4.8						
VNA2	**Neumayer--Watz**	**77.87**	**177**	⇑P	**P**	**10 45 20.1**	**+2.1**
	comp=Z,4.1nm,0.6s,baz=168,slow=4.8						
VNA1	**Neumayer--Stat**	**78.10**	**177**	P	**P**	**10 45 22.9**	**+3.6**
VNA1	**Neumayer--Stat**	**78.10**	**177**	⇑P	**P**	**10 45 22.9**	**+3.6**
	comp=Z,2.1nm,0.6s						
KURBB	**Kurchatov Arra**	**121.42**	**313**	PKP	**PKPdf**	**10 52 11.3**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=113,slow=2.1,SNR=2.2						
FINES	**FINESS Array B**	**145.84**	**339**	PKPbc	**PKPdf**	**10 52 57.0**	**-1.6**
	comp=Z,3.5nm,0.5s,baz=39,slow=4.6,SNR=20						
HFS	**Hagfors**	**150.04**	**348**	PKPbc	**PKPbc**	**10 53 08.5**	**-2.0**
	comp=Z,2.6nm,0.8s,baz=53,slow=5.6,SNR=4.6						
MMAI	**Mount Meron Ar**	**151.35**	**282**	PKPbc	**PKPbc**	**10 53 13.8**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=106,slow=12,SNR=4.6						
BRTR	**Keskin Array B**	**152.66**	**297**	PKPbc	**PKPbc**	**10 53 16.3**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=90,slow=6.1,SNR=2.0						
TORD	**Torodi Ar. Bea**	**161.94**	**180**	PKPab	**PKPab**	**10 54 07.6**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=182,slow=2.7,SNR=5.0						

IDC 05 10:40:02.7±7.7,3.°86S×151.°28E,h122km±55km,mb2.8/2, mbtmp3.4/3,Error ellipse: s-maj=143.8km s-min=54.2km az=121.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.87**	**216**	P	Pn	10 41 41.5	+0.6
	8.1nm,0.4s,baz=54,slow=9.0,SNR=7.8						
PMG				S	Sn	10 42 59.7	+2.0
	5.6nm,0.5s,baz=243,slow=20,SNR=5.6						
WRA	**Warramunga Arr**	**22.99**	**225**	P	P	10 44 57.1	0.0
	0.5nm,0.5s,baz=50,slow=9.9,SNR=5.7 0.5nm,0.5s						
ASAR	**Alice Springs**	**25.88**	**219**	P	P	10 45 22.1	-1.2
	0.3nm,0.9s,baz=40,slow=11,SNR=1.8 0.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**148.58**	**289**	PKPbc	PKPbc	10 59 36.4	0.0
	0.5nm,0.6s,baz=67,slow=2.8,SNR=3.6						

*JMA **05** 10:49:15.1±0.1,37.°7N±0.°3×141.°8E±0.°7,h39km±1km, MV3.2/39,E OFF FUKUSHIMA PREF*

*IDC **05** 10:49:15.6±6.0,37.°65N×142.°08E,h53km±48km,mb3.2/3, mbtmp3.4/5,ML2.6/2,Error ellipse: s-maj=43.6km s-min=27.7km az=94.0*
ISC 05 10:49:14.8±1.5,37.°67N±0.°07×141.°9E±0.°1,h35km,n23, σ1s37/21,mb3.6/3,9D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.73**	**331**	⇓*i*P	**Pn**	**10 49 28.6**	**0.0**
JIKH				⇓S	**Sn**	**10 49 37.9**	**-0.6**
JMST	**Minamisoumatoc**	**0.82**	**274**	⇓*i*P	**Pn**	**10 49 28.9**	**-0.9**
JMST				⇓S	**Sn**	**10 49 38.5**	**-2.1**
JFK	**Kawauchi**	**0.88**	**250**	P	**Pn**	**10 49 29.7**	**-1.0**
JIO	**Ouri**	**0.90**	**330**	⇓*i*P	**Pn**	**10 49 31.0**	**+0.1**
JMM	**Marumori**	**0.91**	**283**	⇓*i*P	**Pn**	**10 49 30.4**	**-0.7**
ONAJ	**Iwakimizuishiy**	**1.05**	**238**	*i* P	**Pn**	**10 49 32.2**	**-0.9**
JKMT	**Kesennumamotoy**	**1.19**	**343**	*i* P	**Pn**	**10 49 35.4**	**+0.5**
JOU	**Okura**	**1.21**	**305**	⇓*i*P	**Pn**	**10 49 35.2**	**0.0**
JOTO	**OTAMA OYAMA**	**1.26**	**265**	*i* P	**Pn**	**10 49 36.0**	**+0.1**
JOTO				S	**Sn**	**10 49 50.9**	**-0.7**
JMK	**Ichinoseki**	**1.39**	**337**	⇓*i*P	**Pn**	**10 49 38.4**	**+0.7**
JYS	**Shirataka**	**1.56**	**291**	*i* P	**Pn**	**10 49 40.2**	**+0.2**
JYK	**Kaneyama**	**1.75**	**316**	⇓*i*P	**Pn**	**10 49 43.1**	**+0.6**
MJAR	**Matsushiro Arr**	**3.17**	**250**	P	**Pn**	**10 50 04.3**	**+2.2**
	0.1nm,0.3s,baz=63,slow=10,SNR=6.3						
MJAR				S	**Sn**	**10 50 42.5**	**+3.7**
	4.0nm,0.7s,baz=84,slow=16,SNR=5.1 1.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**9.94**	**314**	P	**Pn**	**10 51 37.1**	**+2.0**
	0.2nm,0.3s,baz=122,slow=12,SNR=3.5 2.1nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.14**	**122**	T	T	11 24 23.6	
	baz=315,slow=75,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**28.15**	**123**	T	T	11 24 41.3	
	baz=315,slow=75,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	**28.16**	**122**	T	T	11 24 42.5	
	baz=315,slow=75,SNR=5.9						
H11S1	**WAKE ISLAND Hy**	**28.88**	**125**	T	T	11 25 30.2	
	baz=317,slow=76,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**28.88**	**125**	T	T	11 25 34.3	
	baz=317,slow=76,SNR=6.1						
H11S2	**WAKE ISLAND Hy**	**28.90**	**125**	T	T	11 25 31.7	
	baz=317,slow=76,SNR=4.9						
MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**10 57 19.0**	**-0.6**
	0.2nm,0.4s,baz=93,slow=8.8,SNR=2.2 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**45.93**	**308**	P	**P**	**10 57 33.7**	**-0.1**
	0.3nm,0.2s,baz=86,slow=7.8,SNR=4.1 0.3nm,0.2s						
WRA	**Warramunga Arr**	**57.75**	**188**	P	**P**	**10 59 01.4**	**-0.8**
	0.3nm,0.6s,baz=6.4,slow=7.4,SNR=2.8 0.3nm,0.6s						

IDC 05 10:55:03.2±2.2,3.°27S×128.°07E,h0km,mb3.1/2, mbtmp3.3/4,ML3.3/2,Error ellipse: s-maj=111.0km s-min=28.5km az=70.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.93**	**189**	Pn	Pn	10 58 35.0	-0.7
	0.1nm,0.3s,baz=14,slow=12,SNR=2.7 1.9nm,0.8s						
WRA	**Warramunga Arr**	**17.67**	**160**	P	Pn	10 59 11.1	+0.2
	0.1nm,0.3s,baz=339,slow=12,SNR=5.8 0.4nm,0.5s						
ASAR	**Alice Springs**	**21.05**	**165**	P	P	10 59 49.3	+0.3
	0.4nm,0.7s,baz=341,slow=9.9,SNR=4.4 0.4nm,0.7s						
MKAR	**Makanchi Array**	**64.07**	**327**	P	P	11 05 39.0	-0.1
	0.1nm,0.4s,baz=114,slow=7.0,SNR=1.5 0.1nm,0.4s						

*UPP **05** 11:00:34.5±3.0,64.°56N×31.°01E,h0km,ML1.8,Presumed earthquake*
*HEL **05** 11:00:36.3±0.2,64.°77N×30.°71E,h0km,ML2.1,Explosion*
*IDC **05** 11:00:37.0±2.7,64.°71N×30.°97E,h0km,mbtmp3.1/4, ML2.3/4,Error ellipse: s-maj=39.0km s-min=9.0km az=103.0*
*KOLA **05** 11:00:38.7,64.°83N×31.°00E,h0km,ML2.3,Error ellipse: s-maj=13.4km s-min=8.0km az=150.0,Karelia*
ISC 05 11:00:35.4±0.8,64.°77N±0.°02×30.°76E±0.°03,h0km,n51, σ1s77/77,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.66**	**213**	PB	**Pg**	**11 00 48.9**	**+0.8**
	baz=28						
RMF				MSG		11 00 56.8	
	comp=Z,26nm,0.2s						
KU1	**Kurvinen**	**0.94**	**328**	PG	**Pg**	**11 00 53.3**	**-0.2**
KU6	**Riekki**	**1.31**	**344**	PG	**Pg**	**11 00 59.8**	**-0.6**
	baz=162						
KU6				MSG		11 01 15.7	
	comp=Z,13nm,0.2s						
KU6				SG	**Sg**	**11 01 16.9**	**-0.5**
MSF	**Maaselka**	**1.35**	**329**	PG	**Pg**	**11 01 00.7**	**-0.6**
	baz=146						
MSF				SN	**Sb**	**11 01 19.9**	**+0.5**
KU2	**Taivalkoski**	**1.42**	**313**	PG	Pn	**11 01 01.7**	**-0.7**
OLKF	**Oulanka, Finla**	**1.65**	**341**	PG	Pn	**11 01 06.0**	**+0.3**
OLKF				MSG		11 01 25.6	
	comp=Z,12nm,0.2s						
OLKF				SN	**Sn**	**11 01 27.7**	**+0.1**
JOF	**Joensuu**	**1.88**	**172**	*eP*	**Pn**	**11 01 09.4**	**+0.7**
JOF	**Joensuu**	**1.88**	**172**	PG	**Pb**	**11 01 09.8**	**-0.7**
NIF	**Nilsia**	**1.90**	**224**	PG	**Pb**	**11 01 10.9**	**0.0**
	baz=45						
NIF				MSG		11 01 32.3	
	comp=Z,14nm,0.2s						
RANF	**Ranua**	**2.08**	**309**	PG	**Pb**	**11 01 13.2**	**-0.7**
RANF				SG	**Sn**	**11 01 39.1**	**+1.1**
OUL	**Oulu**	**2.10**	**281**	PG	**Pb**	**11 01 13.6**	**-0.6**
	baz=99						
OUL				SG	**Sn**	**11 01 39.6**	**+1.2**
KVDA	**Kovda**	**2.12**	**23**	P	**Pn**	**11 01 13.2**	**+1.2**
KVDA				S	**Sn**	**11 01 39.9**	**+0.9**
OBF4	**Vikkela, Lumij**	**2.42**	**274**	PG	**Pb**	**11 01 18.6**	**-1.1**
	baz=86						
OBF4			

SJUU	**Sjulsmark**	**3.94**	**285**	*e*P		**Pn**		**11 01 38.2**	**+1.2**
FIA0	**FINESS Array S**	**3.96**	**215**	PB		**Pn**		**11 01 41.6**	**+4.3**
FINES	**FINESS Array B**	**3.96**	**215**	Pn		**Pn**		**11 01 38.8**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=33,slow=12,SNR=8.1								
FINES				Sn		**Sn**		**11 02 24.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=29,slow=21,SNR=3.6								
FINES				Lg		Lg		11 02 40.4	
	comp=Z,0.7nm,0.3s,baz=35,slow=22,SNR=4.3								
	comp=Z,0.9nm,0.2s								
ERTU	**Ertsjaerv**	**3.97**	**301**	P		**Pn**		**11 01 39.0**	**+1.6**
ERTU	**Ertsjaerv**	**3.97**	**301**	PN		**Pn**		**11 01 39.6**	**+2.1**
ERTU				SG		**Sg**		**11 02 40.6**	**-2.2**
ODEU	**Stanfors**	**4.34**	**270**	P		**Pn**		**11 01 42.5**	**-0.1**
UMAU	**Umeaa**	**4.48**	**263**	PN		**Pn**		**11 01 44.4**	**+0.1**
UMAU				SN		**Sn**		**11 02 38.2**	**+1.2**
VJF	**Virojoki**	**4.50**	**201**	SG		**Sg**		**11 02 55.6**	**-4.2**
HEF	**Hetta**	**4.62**	**325**	PN		**Pn**		**11 01 48.3**	**+1.9**
HEF				SG		**Sb**		**11 02 57.3**	**+4.0**
TERR	**Teriberka**	**4.76**	**19**	P		**Pn**		**11 01 49.5**	**+1.2**
TERR				S		**Sn**		**11 02 42.5**	**-1.7**
ARCES	**ARCESS Array B**	**5.20**	**339**	Pn		**Pn**		**11 01 54.7**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=153,slow=13,SNR=39								
ARCES				Sn		**Sn**		**11 02 54.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=153,slow=22,SNR=5.7								
ARCES				Lg		Lg		11 03 14.4	
	comp=Z,0.2nm,0.3s,baz=151,slow=32,SNR=2.1								
	comp=Z,0.8nm,0.2s								
ARCES	**ARCESS Array B**	**5.20**	**339**	P		**Pn**		**11 01 55.0**	**+0.7**
ARCES				S		**Sn**		**11 02 52.1**	**-2.8**
VADS	**Vadso**	**5.40**	**355**	P		**Pn**		**11 01 57.5**	**+0.5**
VADS				S		**Sn**		**11 02 58.0**	**-1.8**
SALU	**Saltoluokta**	**5.63**	**303**	P		**Pn**		**11 02 01.6**	**+1.4**
NIKU	**Nikkaluokta**	**5.65**	**309**	P		**Pn**		**11 02 02.0**	**+1.5**
ARBE	**Arbavere**	**5.80**	**205**	*e*P		Pn		11 01 56.8	-5.8
FAUS	**Fauske**	**6.81**	**300**	P		**Pn**		**11 02 20.9**	**+4.6**
FAUS				S		**Sn**		**11 03 34.4**	**-0.1**
HFS	**Hagfors**	**9.16**	**247**	Pn		**Pn**		**11 02 48.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=55,slow=12,SNR=1.5								
HFS				Sn		Sn		11 04 21.1	-11
	comp=Z,0.2nm,0.3s,baz=54,slow=25,SNR=1.7								
HFS				Lg		Lg		11 05 19.0	
	comp=Z,0.4nm,0.3s,baz=54,slow=27,SNR=2.0								
	comp=Z,0.5nm,0.3s								
NOA	**NORSAR Array B**	**9.65**	**256**	Pn		**Pn**		**11 02 53.0**	**-2.4**
	baz=58,slow=11,SNR=2.0								
NOA				Lg		Lg		11 05 37.0	
	baz=62,slow=20,SNR=3.5								
	comp=Z,0.2nm,0.3s								

*IDC **05** 11:01:27.9±0.4, 47.°19N×155.°81E, h0km, mb4.7/39, mbtmp4.7/43, ML4.0/4, MS3.8/28, Error ellipse: s-maj=12.2km s-min=10.8km az=142.0*
*BJI **05** 11:01:27.9, 47.°33N×155.°89E, h12km, mB4.9/16, mb5.0/59, Ms4.4/28, Ms7.4/29*
*SKHL **05** 11:01:32.5±0.7, 47.°30N×155.°70E, h43km±6km, mb5.5/6*
*MOS **05** 11:01:33.1±1.2, 47.°30N×155.°68E, h44km, mb5.1/37, MS3.7/6, Error ellipse: s-maj=7.0km s-min=5.2km az=99.2*
*NEIC **05** 11:01:33.7±1.3, 47.21N±0.08×155.8E±0.1, h34km±5km, mb4.8/316, Error ellipse: s-maj=13.5km s-min=8.1km az=136.0*
*GCMT **05** 11:01:34.7±0.5, 47.°21N±0.°04×155.°88E±0.°05, h26km±1km, MW4.9/70, Moment Tensor Solution. s35,c42; s70,c88; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.35±.18; Mθθ0.62±.12; Mϕϕ1.73±.13; Mrθ-0.94±.24; Mϕθ1.03±.08; Mϕr-0.57±.21; Best double couple: M☐2.59300×10^16^ NP1:ϕs42.00000°, δ57.00000°, λ-78.00000°. Principal axes: T 2.5440, Plg12.0000°, Azm123.0000°; N 0.0960, Plg10.0000°, Azm215.0000°; P -2.6420, Plg75.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 11:01:33.3±0.4, 47.°21N±0.°05×155.°73E±0.°04, h34km±1km, h36km:pP-P, n747, σ1s31/628, mb4.8/266, MS3.9/34, 32C-33D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
SKR	**Severo-Kuril's**	**3.48**	**4**	*e*PN		**Pn**	**11 02 23.5**		**-1.5**
SKR				*e*S		**Sn**	**11 03 01.3**		**-3.7**
SKR				pmax		pmax			
	comp=Z,30nm,0.3s								
SKR				smax		smax			
	comp=E,972nm,0.6s								
SKR				smax		smax			
	comp=N,1μm,0.6s								
SKR	**Severo-Kuril's**	**3.48**	**4**	*e*P		**Pn**	**11 02 23.5**		**-1.5**
SKR				AMB		AMB	11 02 32.9		
	comp=N,170nm,0.4s								
SKR				*e*S		**Sn**	**11 03 01.3**		**-3.7**
SKR				A		A	11 03 04.6		
	comp=N,760nm,0.2s								
SKR				A		A	11 03 04.6		
	comp=N,920nm,0.2s								
PAU	**Pauzhetka**	**4.32**	**9**	*e*P		**Pn**	**11 02 35.2**		**-1.3**
PAU				AMB		AMB	11 02 39.5		
	comp=N,140nm,0.6s								
PAU				*e*S		**Sn**	**11 03 22.8**		**-2.8**
PAU				A		A	11 03 25.3		
	comp=N,1μm,0.3s								
PAU				A		A	11 03 25.3		
	comp=N,2μm,0.3s								
KUR	**Kuril'sk**	**5.80**	**253**	*e*PN		**Pn**	**11 02 55.8**		**-1.1**
KUR				pmax		pmax			
	comp=Z,330nm,0.7s								
KUR				pmax		pmax			
	comp=N,63nm,0.6s								
KUR				pmax		pmax			
	comp=E,73nm,0.6s								
KUR	**Kuril'sk**	**5.80**	**253**	*e*P		**Pn**	**11 02 56.9**		**0.0**
KUR				AMB		AMB	11 02 57.5		
	comp=E,590nm,0.7s								
KUR				*e*S		**Sn**	**11 04 00.1**		**-2.1**
KUR				A		A	11 04 01.4		
	comp=E,1μm,0.6s								
KUR				A		A	11 04 01.4		
	comp=E,1μm,0.6s								
PEA0B	**Petropavlovsk-**	**6.04**	**11**	*de*PN		**Pn**	**11 02 58.8**		**-1.3**
PETK	**Petropavlovsk-**	**6.04**	**11**			**Pn**	**11 02 58.6**		**-1.5**
PETK	**Petropavlovsk-**	**6.04**	**11**	Pn		**Pn**	**11 02 58.1**		**-2.0**
	comp=E,5.5nm,0.3s,baz=201,slow=14,SNR=89								
PETK				Sn		**Sn**	**11 04 10.7**		**+2.8**
	comp=E,3.4nm,0.3s,baz=196,slow=35,SNR=1.7								
PETK				LR		LR	11 05 53.4		
	comp=E,491nm,18.7s,baz=192,slow=44								
	comp=E,24nm,0.5s								
PET	**Petropavlovsk**	**6.12**	**17**			**Pn**	**11 02 59.0**		**-2.1**
PET	**Petropavlovsk**	**6.12**	**17**	*e*PN		**Pn**	**11 02 58.8**		**-2.3**
PET				pmax		pmax			
	comp=Z,44nm,0.6s								
PET				MLR		MLR			
	comp=Z,400nm,13.0s								
PET				MLR		MLR			
	comp=Z,400nm,13.0s								
PET	**Petropavlovsk**	**6.12**	**17**	*e*P		**Pn**	**11 03 00.8**		**-0.3**
PET				AMB		AMB	11 03 03.7		
	comp=Z,40nm,0.5s								
PET				*e*S		**Sn**	**11 04 05.8**		**-4.0**
PET				A		A	11 04 09.0		
	comp=Z,230nm,0.4s								
PET				A		A	11 04 09.0		
	comp=Z,210nm,0.4s								
SHO	**Shikotan**	**7.09**	**245**	*e*P		**Pn**	**11 03 15.3**		**+0.8**
SHO				AMB		AMB	11 03 23.6		
	comp=Z,120nm,0.4s								
SHO				*e*S		**Sn**	**11 04 31.2**		**-2.6**
SHO				A		A	11 04 37.3		
	comp=Z,410nm,0.5s								
SHO				A		A	11 04 37.3		
	comp=Z,430nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**7.61**	**249**	*e*PN		**Pn**	**11 03 20.2**		**-1.5**
YUK				pmax		pmax			
	comp=E,74nm,0.2s								
YUK				pmax		pmax			
	comp=Z,155nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**7.61**	**249**	*e*P		**Pn**	**11 03 20.4**		**-1.3**
YUK				AMB		AMB	11 03 22.3		
	comp=Z,180nm,0.3s								
YUK				*e*S		**Sn**	**11 04 43.1**		**-3.6**
YUK				A		A	11 04 50.0		
	comp=Z,750nm,0.5s								
YUK				A		A	11 04 50.0		
	comp=Z,1μm,0.5s								
RUSJ	**Misakicho**	**7.97**	**251**	*e*PN		**Pn**	**11 03 26.9**		**+0.2**
NMR	**Nemuro--Hokkai**	**8.03**	**245**	*e*PN		**Pn**	**11 03 23.4**		**-4.0**
NMR	**Nemuro--Hokkai**	**8.03**	**245**	*e*P		**Pn**	**11 03 23.7**		**-3.7**
AKK	**Akkeshi**	**8.77**	**245**	*e*P		**Pn**	**11 03 34.4**		**-3.1**
YSS	**Yuzhno-Sakhali**	**8.86**	**273**			**Pn**	**11 03 41.6**		**+2.7**
YSS						**Sn**	**11 05 19.4**		**+2.0**
YSS	**Yuzhno-Sakhali**	**8.86**	**273**	*e*PN		**Pn**	**11 03 39.4**		**+0.6**
YSS				pmax		pmax			
	comp=Z,300nm,3.9s								
YSS				pmax		pmax			
	comp=Z,60nm,1.0s								
YSS				MLR		MLR			
	comp=Z,700nm,11.0s								
YSS				MLR		MLR			
	comp=E,700nm,17.0s								
YSS	**Yuzhno-Sakhali**	**8.86**	**273**	*e*P		**Pn**	**11 03 39.3**		**+0.5**
YSS				AMB		AMB	11 03 42.2		
	comp=E,510nm,0.3s								
YSS				*e*S		**Sn**	**11 05 13.9**		**-3.5**
TYV	**Tymovskoe**	**9.33**	**298**	*e*PN		**Pn**	**11 03 47.2**		**+1.9**
TYV				pmax		pmax			
	comp=Z,14nm,1.0s								
TYV				pmax		pmax			
	comp=Z,100nm,2.2s								
TYV	**Tymovskoe**	**9.33**	**298**	*e*P		**Pn**	**11 03 46.1**		**+0.8**
TYV				*e*S		**Sn**	**11 05 24.7**		**-4.2**
JKA	**Kamikawa-asahi**	**9.70**	**256**			**Pn**	**11 03 50.5**		**+0.1**
ASAJ	**Asahikawa**	**9.70**	**256**	Pn		**Pn**	**11 03 50.0**		**-0.4**
	comp=Z,3.0nm,0.3s,baz=76,slow=12,SNR=20								
ASAJ				Sn		**Sn**	**11 05 37.4**		**-0.7**
	comp=Z,0.8nm,0.3s,baz=93,slow=19,SNR=1.0								
ASAJ				LR		LR	11 08 04.7		
	comp=Z,230nm,18.8s,baz=88,slow=41								
	comp=Z,12nm,0.5s								
ASAJ	**Asahikawa**	**9.70**	**256**	PN		**Pn**	**11 03 50.0**		**-0.4**
OKH	**Okha**	**10.34**	**313**	*c i* PN		**Pn**	**11 03 56.2**		**-2.8**
OKH				pmax		pmax			
	comp=Z,100nm,9.8s								
OKH				MLR		MLR			
	comp=N,500nm,14.0s								
OKH				MLR		MLR			
	comp=E,1μm,13.0s								
OKH				MLR		MLR			
	comp=Z,700nm,13.0s								
OKH	**Okha**	**10.34**	**313**	*i* P		**Pn**	**11 03 58.5**		**-0.5**
ERM	**Erimo**	**10.36**	**244**			**Pn**	**11 03 56.8**		**-2.5**
ERM	**Erimo**	**10.36**	**244**	*de*PN		**Pn**	**11 03 56.8**		**-2.5**
NKL	**Nikolayevsk**	**11.33**	**307**	*e*P		**Pn**	**11 04 13.5**		**+1.0**
JTM	**Tenmabayashi**	**12.35**	**244**			**Pn**	**11 04 22.1**		**-4.4**
MA2	**Magadan**	**12.73**	**348**	Pn		**Pn**	**11 04 30.0**		**-1.7**
	comp=Z,0.3nm,0.3s,baz=165,slow=12,SNR=2.2								
MA2				LR		LR	11 09 14.1		
	comp=Z,351nm,21.6s,baz=164,slow=36								
SHEM	**Shemya Is, Ala**	**13.04**	**58**	Pn		Pn	11 04 30.0		-5.9
	comp=Z,8.8nm,0.3s,baz=276,slow=9.2,SNR=5.7								
SHEM				Sn		Sn	11 06 43.2		-16
	comp=Z,7.4nm,0.3s,baz=246,slow=20,SNR=6.6								
SHEM				LR		LR	11 08 32.7		
	comp=Z,286nm,21.9s,baz=276,slow=33								
GRNR	**Gornyy**	**13.17**	**293**	*i* PN		**Pn**	**11 04 40.9**		**+3.2**
GRNR				pmax		pmax			
	comp=Z,7.0nm,0.9s								
GRNR				MLR		MLR			
	comp=N,260nm,15.0s								
GRNR				MLR		MLR			
	comp=Z,420nm,15.0s								
TEY	**Ternei**	**13.45**	**268**	*e*PN		**Pn**	**11 04 44.5**		**+3.0**
SEY	**Seymchan**	**15.87**	**354**	Pn		**Pn**	**11 05 11.9**		**-1.9**
	comp=Z,0.3nm,0.3s,baz=158,slow=5.3,SNR=9.4								
SEY				LR		LR	11 11 35.3		
	comp=Z,301nm,20.2s,baz=172,slow=38								
	comp=Z,3.7nm,0.8s								
SEY	**Seymchan**	**15.87**	**354**	*i* P		**Pn**	**11 05 13.8**		**0.0**
SEY				pmax		pmax			
	comp=Z,10.0nm,1.0s								
AMKA	**Amchitka**	**15.91**	**66**	Pn		**Pn**	**11 05 14.5**		**+0.2**
MJA0	**Matsu Arr-Jizo**	**16.79**	**237**	*e*P		**P**	**11 05 27.1**		**-0.5**
MAJO	**Matsushiro**	**16.81**	**237**			**Pn**	**11 05 22.1**		**-3.8**
MAJO	**Matsushiro**	**16.81**	**237**	*i* P		**Pn**	**11 05 22.3**		**-3.7**
MAJO				pmax		pmax			
	comp=Z,7.0nm,0.7s								
MJAR	**Matsushiro Arr**	**16.81**	**237**			**P**	**11 05 27.1**		**-0.6**
MJAR	**Matsushiro Arr**	**16.81**	**237**	Pn		**Pn**	**11 05 22.3**		**-3.7**
	comp=Z,0.1nm,0.3s,baz=32,slow=13,SNR=9.3								
MJAR	**Matsushiro Arr**	**16.81**	**237**	P		**P**	**11 05 27.2**		**-0.6**
MJAR				pmax		pmax			
	comp=Z,35nm,1.6s								
USA0B	**Ussuriysk Arra**	**16.84**	**268**	*de*P		**Pn**	**11 05 26.8**		**+0.6**
USRK	**Ussuriysk Ar.**	**16.84**	**268**			**Pn**	**11 05 25.7**		**-0.5**
USRK	**Ussuriysk Ar.**	**16.84**	**268**	Pn		**Pn**	**11 05 24.8**		**-1.5**
	comp=Z,1.6nm,0.3s,baz=72,slow=11,SNR=27								
USRK				LR		LR	11 11 35.5		
	comp=Z,283nm,19.2s,baz=71,slow=36								
	comp=Z,26nm,0.7s								
USRK	**Ussuriysk Ar.**	**16.84**	**268**	P		**Pn**	**11 05 25.7**		**-0.5**
JGF	**Kuroka**	**17.96**	**236**	P		**Pn**	**11 05 40.1**		**-0.2**
KIWB	**Kanaga Island**	**18.15**	**65**	P		**P**	**11 05 43.5**		**+1.0**
PSTR	**Posyet**	**18.20**	**265**	*de*P		**P**	**11 05 43.6**		**+0.6**
PSTR	**Posyet**	**18.20**	**265**	*e*P		**P**	**11 05 43.6**		**+0.6**
MDJ	**Mudanjiang**	**18.35**	**271**	P		**P**	**11 05 44.7**		**0.0**
MDJ	**Mudanjiang**	**18.35**	**271**	P		**Pn**	**11 05 46.8**		**+2.0**
MDJ				S		**Sn**	**11 09 06.7**		**-1.9**
MDJ				pmax		pmax			
	comp=Z,20nm,1.4s								
MDJ				LR		LR			
	comp=Z,300nm,13.7s								
MDJ				LR		LR			
	comp=Z,360nm,13.1s								
MDJ				LR		LR			
	comp=Z,560nm,14.4s								
HEH	**HeiHe**	**18.88**	**290**	*e*P		**P**	**11 05 50.1**		**-0.4**
HEH				pmax		pmax			
	comp=Z,19nm,1.2s								
HEH				LR		LR			
	comp=Z,390nm,14.5s								
HEH				LR		LR			
	comp=Z,150nm,15.5s								
HEH				LR		LR			
	comp=Z,750nm,15.7s								
ZEA	**Zeya**	**19.18**	**300**	*e*P		**P**	**11 05 53.2**		**-0.6**
ZEA				pmax		pmax			
	comp=Z,100nm,2.9s								
ZEA				pmax		pmax			
	comp=E,20nm,0.7s								
ZEA				pmax		pmax			
	comp=N,10.0nm,1.1s								
ZEA				pmax		pmax			
	comp=Z,30nm,1.4s								
ZEA				MLR		MLR			
	comp=E,300nm,16.0s								
ZEA				MLR		MLR			
	comp=Z,300nm,14.0s								
ZEA	**Zeya**	**19.18**	**300**	*e*P		**P**	**11 05 53.2**		**-0.6**
BNX	**BinXian**	**19.53**	**276**	*i* P		**Pn**	**11 05 58.7**		**-0.3**
BNX				pmax		pmax			
	comp=Z,8.0nm,0.9s								
YAK	**Yakutsk**	**20.95**	**325**	P		**P**	**11 06 12.0**		**-0.8**
YAK	**Yakutsk**	**20.95**	**325**	P		**P**	**11 06 11.8**		**-1.1**
	comp=Z,99nm,0.7s,baz=123,slow=2.4,SNR=22								
YAK				S		**S**	**11 09 58.6**		**-5.4**
	comp=Z,14nm,0.5s,baz=180,slow=20,SNR=10								
YAK				LR		LR	11 14 11.0		
	comp=Z,111nm,20.9s,baz=120,slow=36								
	comp=Z,99nm,0.7s								
YAK	**Yakutsk**	**20.95**	**325**	*e*P		**P**	**11 06 11.6**		**-1.2**
YAK				*e*			11 06 24.4		
YAK				*e*S		**S**	**11 09 58.3**		**-5.8**
YAK				*e*SSS		SSS	11 10 29.4		
YAK				pmax		pmax			
	comp=Z,24nm,0.9s								
YAK				pmax		pmax			
	comp=E,4.0nm,0.9s								
YAK				smax		smax			
	comp=E,37nm,1.1s								
YAK				smax		smax			
	comp=N,73nm,1.2s								
YAK				MLR		MLR			
	comp=Z,497nm,13.0s								
YAK				MLR		MLR			
	comp=N,282nm,13.0s								
YAK				MLR		MLR			
	comp=E,162nm,11.0s								
CN2	**Changchun**	**21.43**	**272**	P		**P**	**11 06 18.4**		**+0.2**
CN2				sP		pP	11 06 25.1		-0.3
CN2				S		**S**	**11 10 10.6**		**-3.4**
CN2				pmax		pmax			
	comp=E,20nm,1.0s								
CN2				LR		LR			
	comp=E,490nm,17.0s								
CN2				LR		LR			
	comp=E,200nm,17.0s								
CN2				LR		LR			
	comp=E,360nm,17.0s								
BILL	**Bilibino**	**21.57**	**11**	*e*P		**P**	**11 06 20.2**		**+0.7**
BILL				pmax		pmax			
	comp=Z,25nm,1.0s								
BILL	**Bilibino**	**21.57**	**11**	*e*P		**P**	**11 06 20.2**		**+0.7**
KSRS	**Korea Array**	**22.65**	**255**	P		**P**	**11 06 31.8**		**+0.6**
	comp=Z,25nm,0.8s,baz=57,slow=9.1,SNR=90								
KSRS				PcP		**PcP**	**11 10 23.4**		**+0.4**
	comp=Z,2.3nm,0.8s,baz=21,slow=1.2,SNR=7.9								
KSRS				LR		LR	11 15 02.4		
	comp=Z,85μm,19.9s,baz=65,slow=36								
	comp=Z,25nm,0.8s								
KSAR	**Wonju Array Be**	**22.68**	**255**			**P**	**11 06 32.4**		**+0.8**
KSAR	**Wonju Array Be**	**22.68**	**255**	P		**P**	**11 06 32.4**		**+0.8**
P08K	**Saint George I**	**23.16**	**53**	P		**P**	**11 06 36.5**		**+0.2**
	baz=261								
JNU	**Nakatsue**	**23.51**	**242**			**P**	**11 06 39.8**		**-0.3**
TJN	**Taejon**	**23.63**	**253**			**P**	**11 06 41.7**		**+0.5**
TJN	**Taejon**	**23.63**	**253**	*de*P		**P**	**11 06 42.0**		**+0.8**
GAMB	**Gambell**	**24.40**	**35**	P		**P**	**11 06 46.8**		**-1.3**
	baz=243								
UNV	**Unalaska Valle**	**24.68**	**60**	P		**P**	**11 06 49.9**		**-0.8**
	baz=270								
M11K	**Mekoryuk**	**25.64**	**45**	P		**P**	**11 06 57.9**		**-1.3**
	baz=256								
DL2	**Dalian**	**26.10**	**264**	P		**P**	**11 07 05.5**		**+1.8**
DL2				pmax		pmax			
	comp=Z,41nm,0.9s								
TNA	**Tin City**	**26.66**	**33**	P		**P**	**11 07 07.1**		**-1.3**
	baz=244								
K13K	**Kusilvak Mount**	**26.75**	**42**	P		**P**	**11 07 08.7**		**-0.6**
	baz=255								
M13K	**Dall Lake**	**27.03**	**46**	P		**P**	**11 07 11.1**		**-0.8**
	baz=259								
S12K	**Black Hills**	**27.26**	**56**	P		**P**	**11 07 13.3**		**-0.7**
	baz=270								
J14K	**Nanvaranak Lak**	**27.46**	**41**	P		**P**	**11 07 14.7**		**-1.0**
	baz=255								
L14K	**Kuka Creek**	**27.53**	**44**	P		**P**	**11 07 15.8**		**-0.5**
	baz=258								
TIK	**Tiksi**	**27.55**	**342**	*e*P		**P**	**11 07 17.2**		**+0.8**
TIXI	**Tiksi**	**27.56**	**342**	P		**P**	**11 07 16.7**		**+0.2**
TIXI				IAmb		IAmb	11 07 20.1		
	comp=Z,35nm,1.4s								
TIXI	**Tiksi**	**27.56**	**342**	LR		LR	11 19 17.0		
	comp=Z,139nm,18.2s,baz=166,slow=39								
TIXI	**Tiksi**	**27.56**	**342**	*i e*P		**P**	**11 07 17.2**		**+0.7**
TIXI				pmax		pmax			
	comp=Z,27nm,1.5s								
XLT	**XiLinHaoTe**	**27.76**	**278**	*e*P		**P**	**11 07 18.6**		**-0.1**
XLT				pmax		pmax			
	comp=Z,13nm,0.8s								
XLT				pmax		pmax			
	comp=Z,120nm,6.6s								
XLT				LR		LR			
	comp=Z,18nm,12.6s								
XLT				LR		LR			
	comp=Z,160nm,14.6s								
XLT				LR		LR			
	comp=Z,170nm,19.9s								
M14K	**Bethel**	**27.76**	**45**	P		**P**	**11 07 17.8**		**-0.6**
	baz=260								
N14K	**Kuskokwak Cree**	**27.77**	**47**	P		**P**	**11 07 17.6**		**-0.9**
	baz=262								
O14K	**Tigyukauivet M**	**27.90**	**48**	P		**P**	**11 07 19.4**		**-0.2**
	baz=264								
G15K	**Niukluk**	**27.94**	**36**	P		**P**	**11 07 19.9**		**-0.1**
	baz=250								
L15K	**Ungalak Mounta**	**28.16**	**43**	P		**P**	**11 07 21.8**		**-0.1**
	baz=259								
M15K	**Kasigluk River**	**28.37**	**46**	P		**P**	**11 07 22.6**		**-1.3**
	baz=262								
N15K	**Kwethluk River**	**28.59**	**47**	P		**P**	**11 07 24.2**		**-1.7**
	baz=263								
O15K	**Ungalikthiuk R**	**28.63**	**49**	P		**P**	**11 07 24.5**		**-1.6**
	baz=265								
S14K	**Fog Glacier**	**28.67**	**55**	P		**P**	**11 07 25.5**		**-1.2**
	baz=271								
CHNA	**Chernabura Isl**	**28.70**	**58**	P		**P**	**11 07 25.1**		**-1.7**
	baz=273								
G16K	**Koyuk River**	**28.74**	**36**	P		**P**	**11 07 25.6**		**-1.5**
	baz=251								
C16K	**Lisburne Hills**	**28.78**	**29**	P		**P**	**11 07 26.6**		**-0.9**
	baz=243								
H11N2	**WAKE ISLAND Hy**	**28.89**	**158**	T		T	11 37 36.3		
	baz=346								
J16K	**Anvik River**	**28.90**	**40**	P		**P**	**11 07 27.5**		**-1.0**
	baz=257								
H11N1	**WAKE ISLAND Hy**	**28.90**	**158**	T		T	11 37 38.0		
	baz=346								
H11N3	**WAKE ISLAND Hy**	**28.90**	**158**	T		T	11 37 32.1		
	baz=346								
I17K	**Unalakleet**	**29.00**	**39**	P		**P**	**11 07 28.8**		**-0.6**
	baz=256								
L16K	**Owhat River**	**29.11**	**44**	P		**P**	**11 07 29.5**		**-0.9**
	baz=261								
M16K	**Timber Creek**	**29.25**	**45**	P		**P**	**11 07 30.6**		**-1.2**
	baz=263								
BJI	**Beijing**	**29.27**	**270**	P		**P**	**11 07 32.1**		**0.0**
BJI				pP		**pP**	**11 07 40.5**		**+0.4**
BJI				sP		**sP**	**11 07 45.9**		**+2.1**
BJI				S		**S**	**11 12 21.2**		**-1.4**
BJI				pmax		pmax			
	comp=Z,2.0nm,0.7s								
BJI				pmax		pmax			
	comp=Z,60nm,5.7s								
BJI				LR		LR			
	comp=Z,160nm,17.4s								
BJI				LR		LR			
	comp=Z,130nm,15.8s								
BJI				LR		LR			
	comp=Z,150nm,16.1s								
D17K	**Noatak River**	**29.31**	**31**	P		**P**	**11 07 30.9

F19K Shaleruckiy Mo 30.95 34 P P 11 07 46.6 -0.1
baz=254
P18K Big Mountain, 30.99 49 P P 11 07 46.9 -0.3
baz=269
G19K Purcell Mounta 31.04 35 P P 11 07 46.0 -1.5
baz=256
C19K Lookout Ridge 31.04 29 P P 11 07 44.8 -2.8
baz=248
Q18K Katmai Hardscr 31.10 50 P P 11 07 46.7 -1.5
baz=270
H19K Roundabout Mou 31.15 37 P P 11 07 45.9 -2.5
baz=258
J19K Poorman 31.21 40 P P 11 07 47.7 -1.3
baz=261
D19K Kuna River 31.33 31 P P 11 07 49.1 -0.9
baz=251
E19K Redstone River 31.33 33 P P 11 07 49.2 -0.8
baz=254
R18K Karluk 31.43 52 P P 11 07 49.5 -1.4
baz=273
O19K Port Alsworth 31.47 47 P P 11 07 50.3 -1.0
baz=268
HNS HongShan 31.56 267 ⇑P P 11 07 54.0 +1.7
HNS pmax pmax
comp=Z,20nm,0.7s
SII Sitkinak Islan 31.63 54 P P 11 07 50.7 -2.1
baz=274
H20K Anotleneega Mo 31.79 37 P P 11 07 51.9 -2.2
baz=259
F20K Avaraart Lake 31.79 34 P P 11 07 51.9 -2.1
baz=256
L20K Farewell, AK 31.81 43 P P 11 07 53.8 -0.5
baz=265
K20K Telida 31.81 41 P P 11 07 52.6 -1.7
baz=264
I20K Naaghedeneel 31.83 38 P P 11 07 53.2 -1.2
baz=261
NJ2 Nanjing 31.85 255 eP P 11 07 56.0 +1.1
NJ2 pmax pmax
comp=Z,19nm,0.9s
J20K Nowinta River 31.88 40 P P 11 07 53.9 -1.0
baz=262
D20K Etivluk River 31.92 31 P P 11 07 54.0 -1.2
baz=252
E20K Nigu River 31.94 32 P P 11 07 53.6 -1.8
baz=254
HHC Hu-ho-hao-te 32.05 275 ⇑iP P 11 07 58.1 +1.4
HHC sP sP 11 08 09.5 +1.0
HHC S S 11 13 06.6 +0.3
HHC pmax pmax
comp=Z,30nm,0.9s
HHC pmax pmax
comp=Z,97nm,6.7s
HHC LR LR
comp=Z,180nm,14.3s
HHC LR LR
comp=Z,250nm,16.0s
HHC LR LR
comp=Z,270nm,14.7s
OHAK Old Harbor 32.08 53 P P 11 07 55.4 -1.2
baz=274
M20K Styx River 32.12 44 P P 11 07 55.8 -1.3
baz=267
B20K Meade River 32.16 28 P P 11 07 56.1 -1.1
baz=250
O20K Slope Mountain 32.32 47 P P 11 07 57.5 -1.3
baz=270
KDAK Kodiak Island 32.41 52 P 11 07 58.2 -1.4
KDAK IAmb IAmb 11 07 59.0
comp=Z,11nm,0.9s
KDAK Kodiak Island 32.41 52 di P P 11 07 57.8 -1.8
KDAK pmax pmax
comp=Z,13nm,0.9s
KDAK Kodiak Island 32.41 52 P P 11 07 58.4 -1.2
baz=274
KDAK Kodiak Island 32.41 52 P P 11 07 58.3 -1.4
ULN Ulaanbaatar 32.44 289 P P 11 07 57.5 -2.7
ULN Ulaanbaatar 32.44 289 deP P 11 07 59.2 -0.9
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 32.44 289 eP P 11 07 59.2 -0.9
Q20K Shuyak Island 32.47 50 P P 11 07 59.3 -0.7
baz=273
G21K Allakaket 32.53 35 P P 11 08 00.9 +0.3
baz=259
PPLA Purkeypile 32.62 42 P P 11 08 00.9 -0.7
baz=266
CHUM Lake Minchumin 32.65 40 P P 11 08 01.1 -0.5
baz=264
H21K Melozitna Rive 32.67 37 P P 11 08 01.9 +0.2
H21K IAmb IAmb 11 08 03.0
comp=Z,14nm,1.2s
H21K Melozitna Rive 32.67 37 P P 11 08 01.3 -0.5
baz=261,SNR=7.3
C21K Knifeblade Rid 32.69 30 P P 11 08 01.6 -0.3
baz=254
E21K Killik River 32.78 32 P P 11 08 02.2 -0.6
baz=256
A21K Barrow 32.80 26 P P 11 08 02.4 -0.5
baz=248
SONM Songino Array 32.87 290 P P 11 08 02.4 -1.5
SONM Songino Array 32.87 290 P P 11 08 03.1 -0.8
comp=Z,5.0nm,0.7s,baz=71,slow=8.0,SNR=14
SONM PcP PcP 11 10 47.8 -0.1
comp=Z,0.5nm,0.4s,baz=92,slow=4.3,SNR=4.0
SONM LR LR 11 22 16.8
comp=Z,247nm,18.6s,baz=86,slow=38
comp=Z,5.0nm,0.7s
SONM Songino Array 32.87 290 P P 11 08 02.4 -1.5
SONM pmax pmax
comp=Z,4.0nm,0.8s
B21K Ikpikpuk River 32.88 29 P 11 08 03.5 +0.1
B21K Ikpikpuk River 32.88 29 P P 11 08 03.6 +0.1
baz=253,SNR=5.4
SKT Skwentna 32.88 44 P P 11 08 03.1 -0.6
baz=268
I21K Tanana 32.94 38 IAmb IAmb 11 08 43.7
comp=Z,40nm,1.9s
I21K Tanana 32.94 38 P P 11 08 03.6 -0.5
baz=263
A22K Sinclair Lake 33.19 27 P P 11 08 05.7 -0.5
baz=251
BTO Baotou 33.20 276 eP P 11 08 07.9 +1.1
BTO pP pP 11 08 12.3 -2.6
BTO sP sP 11 08 14.9 -3.7
BTO S S 11 13 25.8 +1.5
BTO sS pS 11 13 34.4 +1.2
BTO SS SnSn 11 15 27.7 +2.4
BTO pmax pmax
comp=Z,30nm,1.0s
BTO pmax pmax
comp=Z,380nm,6.9s
BTO LR LR
comp=Z,480nm,12.9s
BTO LR LR
comp=Z,520nm,12.6s
BTO LR LR
comp=Z,690nm,13.7s
F22K John River 33.23 34 P P 11 08 04.7 -2.0
baz=259
KTH Kantishna Hill 33.24 41 P P 11 08 06.8 0.0
KTH IAmb IAmb 11 08 08.9
comp=Z,18nm,1.0s
SUA Susitna One 33.24 45 P P 11 08 05.0 -2.0
baz=270
BPAW Bear Paw Mtn. 33.25 40 P P 11 08 07.1 +0.2
BPAW Bear Paw Mtn. 33.25 40 P P 11 08 06.3 -0.6
baz=265
BRSE Bradley Lake S 33.27 48 P P 11 08 04.8 -2.3
baz=272
H22K Ishtalitna Cre 33.28 37 P P 11 08 06.2 -0.9
baz=262
D22K Ayikyak River 33.35 31 P P 11 08 06.4 -1.3
baz=256
G22K Bettles 33.39 35 P P 11 08 06.7 -1.3
baz=260
MLY Manley 33.45 38 P P 11 08 07.9 -0.7
baz=264
B22K Teshekpuk Lake 33.48 28 P P 11 08 08.1 -0.6
baz=253
TRF Thorofare Moun 33.52 41 P P 11 08 08.3 -1.1
baz=267
RC01 Rabbit Creek A 33.73 45 P P 11 08 10.2 -0.9
baz=271
O22K Cooper Landing 33.76 47 P P 11 08 10.0 -1.2
baz=272
SEW Seward 33.91 47 P P 11 08 12.0 -0.6
baz=273
G23K Bananza Creek 33.94 35 P P 11 08 12.1 -0.7
baz=262
COLD Coldfoot 33.94 34 P P 11 08 12.3 -0.5
baz=261
PMR Palmer 34.02 45 P P 11 08 12.3 -1.2
baz=271
H23K Yukon River 34.02 37 IAmb IAmb 11 08 16.0
comp=Z,23nm,1.7s
H23K Yukon River 34.02 37 P P 11 08 13.1 -0.5
baz=264
I23K Minto, Yukon-K 34.04 38 IAmb IAmb 11 08 15.1
comp=Z,27nm,1.8s
I23K Minto, Yukon-K 34.04 38 P P 11 08 13.4 -0.3
baz=265,SNR=5.9
D23K Nanushuk River 34.07 31 P P 11 08 13.8 -0.2
baz=258
NEA2 Nenana 34.12 39 IAmb IAmb 11 08 16.5
comp=Z,9.9nm,0.8s
NEA2 Nenana 34.12 39 P P 11 08 14.3 -0.1
baz=266,SNR=18
MCK McKinley 34.13 41 IAmb IAmb 11 08 15.3
comp=Z,13nm,1.1s
MCK McKinley 34.13 41 P P 11 08 14.6 0.0
baz=268,SNR=6.3
RND Reindeer 34.16 41 IAmb IAmb 11 08 15.7
comp=Z,12nm,0.9s
C23K Itkillik River 34.28 30 P P 11 08 16.1 +0.4
C23K Itkillik River 34.28 30 P P 11 08 15.5 -0.2
baz=257,SNR=5.4
WAT1 Susitna Watana 34.29 42 P P 11 08 15.2 -0.8
baz=270
E23K Chandalar 34.29 33 P 11 08 16.0 0.0
E23K IAmb IAmb 11 08 28.7
comp=Z,12nm,1.1s
E23K Chandalar 34.29 33 P P 11 08 15.4 -0.5
baz=261
KNK Knik Glacier 34.34 45 IAmb IAmb 11 08 16.8
comp=Z,12nm,1.0s
KNK Knik Glacier 34.34 45 P P 11 08 16.1 -0.3
baz=272
TOLK Toolik Lake Re 34.41 32 P P 11 08 16.5 -0.4
baz=260
PWL Port Wells 34.42 46 P P 11 08 16.6 -0.5
baz=273
LYN LuoYang 34.64 264 P P 11 08 24.8 +5.6
LYN pmax pmax
comp=Z,27nm,0.7s
COLA College 34.66 39 P P 11 08 19.4 +0.4
COLA IAmb IAmb 11 08 20.2
comp=Z,20nm,0.9s
COLA College 34.66 39 ci P P 11 08 19.5 +0.5
COLA pmax pmax
comp=Z,15nm,0.9s
COLA College 34.66 39 P P 11 08 18.5 -0.5
baz=267
COLA College 34.66 39 P P 11 08 19.4 +0.4
WAT6 Susitna Watana 34.66 43 P P 11 08 19.1 -0.2
baz=270
CCB Clear Creek Bu 34.67 39 P 11 08 18.8 -0.4
M23K Glacier View 34.68 44 P P 11 08 19.4 +0.1
baz=272
H24K Noodor Dome 34.71 37 P 11 08 19.9 +0.4
H24K Noodor Dome 34.71 37 P P 11 08 19.5 -0.1
baz=266,SNR=7.5
E24K Your Creek 34.71 33 P P 11 08 20.2 +0.7
E24K IAmb IAmb 11 08 21.3
comp=Z,16nm,1.2s
E24K Your Creek 34.71 33 P P 11 08 19.2 -0.4
baz=262,SNR=6.8
D24K Happy Valley 34.76 31 P P 11 08 19.6 -0.3
baz=260
DHY Denali Highway 34.83 42 IAmb IAmb 11 08 21.2
comp=Z,9.0nm,0.8s
DHY Denali Highway 34.83 42 P P 11 08 19.9 -0.8
baz=270,SNR=11
POKR Poker Plat Res 34.85 38 P P 11 08 21.3 +0.6
POKR Poker Plat Res 34.85 38 P P 11 08 20.4 -0.3
baz=267,SNR=7.4
F24K Squaw Lake 34.87 34 P P 11 08 20.6 -0.3
baz=263
SCM Sheep Creek Mo 34.87 44 IAmb IAmb 11 08 35.3
comp=Z,9.6nm,0.8s
SCM Sheep Creek Mo 34.87 44 P P 11 08 20.3 -0.7
baz=272
C24K Frankfurt Bluff 34.91 30 P P 11 08 20.8 -0.3
baz=259
G24K Hadweenzic Riv 34.94 36 IAmb IAmb 11 08 23.5
comp=Z,14nm,0.9s
G24K Hadweenzic Riv 34.94 36 P P 11 08 21.3 -0.3
baz=265,SNR=9.7
GLI Glacier Island 35.03 46 P P 11 08 21.9 -0.4
baz=274
HDA Harding Lake 35.03 40 IAmb IAmb 11 08 23.1
comp=Z,7.0nm,0.7s
HDA Harding Lake 35.03 40 P P 11 08 21.9 -0.4
baz=269,SNR=8.4
ILAR Eielson Array 35.07 39 P 11 08 21.7 -0.9
ILAR Eielson Array 35.07 39 P P 11 08 21.6 -1.0
comp=Z,2.9nm,0.9s,baz=266,slow=8.4,SNR=36
comp=Z,2.9nm,0.9s
M24K Tolsona, Glenn 35.40 44 IAmb IAmb 11 08 27.0
comp=Z,13nm,0.7s
M24K Tolsona, Glenn 35.40 44 P P 11 08 24.7 -0.8
baz=273
G25K Bearman Lake 35.49 35 P P 11 08 25.4 -0.8
baz=266
Q23K Middleton Isla 35.52 48 P P 11 08 25.9 -0.6
baz=276
K24K Donnelly Dome 35.54 41 IAmb IAmb 11 08 27.4
comp=Z,18nm,0.8s
K24K Donnelly Dome 35.54 41 P P 11 08 26.3 -0.4
baz=270,SNR=10
KLU Klutina 35.56 45 IAmb IAmb 11 08 27.8
comp=Z,9.6nm,0.8s
KLU Klutina 35.56 45 P P 11 08 26.2 -0.8
baz=274,SNR=7.3
H25L Birch Creek 35.57 36 P P 11 08 26.4 -0.5
baz=267
D25K Kavik River 35.65 31 IAmb IAmb 11 08 29.0
comp=Z,22nm,1.1s
D25K Kavik River 35.65 31 P P 11 08 27.1 -0.5
baz=262,SNR=11
PRP Porcupine Dome 35.66 38 IAmb IAmb 11 08 29.2
comp=Z,14nm,1.4s
PRP Porcupine Dome 35.66 38 P P 11 08 27.3 -0.6
baz=268,SNR=6.8
PAX Paxson 35.70 42 P P 11 08 27.8 -0.3
baz=272,SNR=5.0
EYAK Cordova Ski Ar 35.71 46 P P 11 08 27.3 -0.9
baz=275
J25K Salcha River, 35.72 39 P 11 08 26.9 -1.4
J25K Salcha River, 35.72 39 P P 11 08 27.1 -1.1
baz=270,SNR=8.6
F25K Christian Rive 35.73 34 P P 11 08 27.4 -0.9
baz=265
WHN Wuhan 35.78 257 P P 11 08 29.8 +0.7
E25K Arctic Village 35.81 33 P P 11 08 28.3 -0.6
baz=265,SNR=5.0
HARP HAARP 35.87 43 P P 11 08 28.7 -0.8
baz=273
RIDG Independent Ri 35.95 41 IAmb IAmb 11 08 31.1
comp=Z,14nm,1.0s
RIDG Independent Ri 35.95 41 P P 11 08 29.3 -1.0
baz=271,SNR=9.1
BMAR Burnt Mountain 36.13 34 P 11 08 32.4 +0.7
N25K Chitina, Valde 36.18 44 IAmb IAmb 11 08 46.1
comp=Z,29nm,1.8s
N25K Chitina, Valde 36.18 44 P P 11 08 30.5 -1.7
baz=275
BMRM Bremner River 36.23 45 P P 11 08 31.0 -1.7
baz=276
C26K Camden Bay 36.24 30 P P 11 08 31.6 -0.9
baz=263
RAGM Ragged Mountai 36.26 46 IAmb IAmb 11 08 45.7
comp=Z,9.9nm,0.9s
F26K Sheenjek River 36.31 34 P P 11 08 31.6 -1.6
baz=267
SCRK Sand Creek 36.33 40 P P 11 08 31.8 -1.8
baz=272
G26K Porcupine Rive 36.41 35 IAmb IAmb 11 08 36.3
comp=Z,16nm,0.9s
G26K Porcupine Rive 36.41 35 P P 11 08 33.2 -0.8
baz=268,SNR=12
KAIM Kayak Island 36.44 47 P P 11 08 33.1 -1.3
baz=277
J26L Joseph Creek 36.50 39 P 11 08 34.6 -0.3
J26L Joseph Creek 36.50 39 P P 11 08 33.7 -1.2
baz=272
GLB Gilahina Butte 36.57 45 IAmb IAmb 11 08 48.9
comp=Z,18nm,1.6s
C27K Jago River 36.62 31 P P 11 08 36.4 +0.6
C27K IAmb IAmb 11 08 37.6
comp=Z,11nm,0.9s
C27K Jago River 36.62 31 P P 11 08 34.9 -1.0
baz=264,SNR=6.0
I26K Coal Creek Min 36.66 38 P P 11 08 34.5 -1.6
baz=271
L26K Log Cabin Wild 36.66 42 P P 11 08 35.4 -0.8
baz=274,SNR=6.1
VRDI Verde Repeater 36.77 45 IAmb IAmb 11 08 38.5
comp=Z,8.6nm,0.7s
M26K Nabesna, AK 36.87 43 IAmb IAmb 11 08 40.0
comp=Z,12nm,0.8s
M26K Nabesna, AK 36.87 43 P P 11 08 37.0 -1.1
baz=275,SNR=18
MCARA McCarthy VSAT 36.95 45 P P 11 08 37.9 -0.8
baz=276
BGLC Bering Glacier 36.98 47 P P 11 08 37.9 -1.0
baz=278
CRQE Cirque 36.99 46 P P 11 08 38.5 -0.8
baz=277,SNR=12
K27K Chicken 37.17 40 IAmb IAmb 11 08 42.0
comp=Z,19nm,0.9s
K27K Chicken 37.17 40 P P 11 08 40.3 -0.2
baz=274
SNH Sunshine Point 37.19 47 P P 11 08 40.9 0.0
SNH IAmb IAmb 11 08 42.2
comp=Z,30nm,1.2s
G27K Doyon Strip 37.25 36 P P 11 08 40.6 -0.7
baz=270
I27K Kandik River 37.29 38 P P 11 08 41.3 -0.3
baz=272
E27K Coleen River 37.29 33 P P 11 08 42.1 +0.5
E27K Coleen River 37.29 33 P P 11 08 41.3 -0.4
baz=268,SNR=7.4
H27K Steamboat Moun 37.31 36 P P 11 08 42.1 +0.3
baz=271,SNR=11
XAN Xi'an 37.34 267 ⇑P P 11 08 46.2 +3.8
XAN pmax pmax
comp=Z,26nm,1.0s
L27K Beaver Creek, 37.35 42 IAmb IAmb 11 08 44.0
comp=Z,9.3nm,0.8s
L27K Beaver Creek, 37.35 42 P P 11 08 41.5 -0.7
baz=275,SNR=15
BCAR Beaver Creek A 37.37 42 P 11 08 43.0 +0.7
ISLE Juniper Island 37.38 46 IAmb IAmb 11 08 55.7
comp=Z,15nm,0.9s
M27K Edge Creek, AK 37.39 43 P P 11 08 42.4 -0.2
baz=276,SNR=7.4
D27M Malcolm River 37.56 31 P P 11 08 43.8 -0.1
baz=268,SNR=5.5
MESA MESA 37.63 46 P P 11 08 43.9 -0.8
baz=279
GRNC Granite Creek 37.65 46 IAmb IAmb 11 08 46.4
comp=Z,16nm,0.9s
BARN Barnard Glacie 37.65 45 IAmb IAmb 11 08 46.5
comp=Z,11nm,0.8s
YAH Yahtse 37.71 46 IAmb IAmb 11 08 47.0
comp=Z,12nm,0.7s
CTG Chitna Glacier 37.82 45 P P 11 08 45.9 -0.4
baz=278,SNR=8.0
CTGM Chitina Glacie 37.82 45 IAmb IAmb 11 08 47.8
comp=Z,16nm,0.8s
F28M Old Crow 37.94 34 IAmb IAmb 11 08 49.2
comp=Z,14nm,1.1s
F28M Old Crow 37.94 34 P P 11 08 47.0 0.0
baz=271,SNR=12
TABL Table Mountain 37.99 46 IAmb IAmb 11 08 49.1
comp=Z,14nm,0.9s
I28M Miner Creek 38.00 38 P P 11 08 47.4 -0.3
baz=274,SNR=10
E28M Babbage River 38.06 33 P 11 08 49.1 +1.1
E28M Babbage River 38.06 33 P P 11 08 47.9 -0.1
baz=270,SNR=6.9
YUK3 Moose Creek 38.12 44 P P 11 08 48.6 -0.3
baz=278,SNR=7.0
DAWY Dawson 38.34 40 P P 11 08 50.4 -0.1
DAWY Dawson 38.34 40 P P 11 08 50.3 -0.2
baz=276
D28M Stokes Point 38.36 31 P P 11 08 50.5 0.0
baz=270
O28M Mount Upton 38.40 45 IAmb IAmb 11 08 52.6
comp=Z,15nm,0.8s
O28M Mount Upton 38.40 45 P P 11 08 51.1 -0.2
baz=279,SNR=8.6
PINM Pinnacle 38.48 46 P P 11 08 51.6 -0.1
baz=280
H29M Whitestone 38.59 36 P P 11 08 52.6 +0.1
baz=274,SNR=9.4
E29M Blow River 38.67 33 P P 11 08 53.2 +0.1
baz=272,SNR=14
I29M Ogilvie Camp, 38.68 38 P P 11 08 53.8 +0.5
baz=275,SNR=5.7
G29M Pine Creek 38.69 35 IAmb IAmb 11 08 55.7
comp=Z,24nm,0.8s
G29M Pine Creek 38.69 35 P P 11 08 53.7 +0.4
baz=273,SNR=25
M29M Somme Creek 38.96 42 P P 11 08 55.6 -0.2
baz=278,SNR=7.9
PNL Peninsula 38.99 47 P P 11 08 55.8 -0.1
baz=281
L29M L29M 39.02 41 IAmb IAmb 11 08 58.3
comp=Z,16nm,0.8s
L29M L29M 39.02 41 P P 11 08 55.8 -0.4
baz=278,SNR=19
YUK4 Talbot Arm 39.05 44 P P 11 08 57.2 +0.5
baz=280
K29M Barlow Dome 39.19 40 P P 11 08 57.9 +0.2
baz=278,SNR=17
EPYK Eagle Plains 39.24 36 P P 11 08 58.6 +0.6
EPYK IAmb IAmb 11 08 59.9
comp=Z,26nm,1.0s
EPYK Eagle Plains 39.24 36 P P 11 08 57.9 -0.1
baz=275,SNR=16
YUK6 Outpost Mounta 39.25 45 P P 11 08 58.0 -0.4
baz=280
O29M Mount Kennedy 39.27 46 P P 11 08 57.4 -1.1
baz=281
G30M tAoh Zrail Nji 39.39 35 P P 11 08 59.0 -0.2
baz=275,SNR=9.5
I30M Mount Dempster 39.51 38 P 11 09 00.8 +0.5
I30M Mount Dempster 39.51 38 P P 11 08 59.9 -0.5
baz=277,SNR=16
F30M Barrier River 39.51 34 P 11 09 00.0 -0.1
F30M Barrier River 39.51 34 P P 11 09 00.3 +0.2
baz=274,SNR=5.6
J30M Hart River 39.61 39 P 11 09 01.5 +0.3
J30M Hart River 39.61 39 P P 11 09 01.5 +0.3
baz=278,SNR=7.2
LZH Lanzhou 39.66 273 eP P 11 09 03.7 +1.7
LZH sP sP 11 09 16.0 +2.1
LZH pmax pmax
comp=Z,39nm,1.3s
LZH LR LR
comp=Z,260nm,13.1s
LZH LR LR
comp=Z,310nm,13.1s
LZH LR LR
comp=Z,270nm,13.1s
HYT Haines Junctio 39.69 45 IAmb IAmb 11 09 04.3
comp=Z,15nm,0.8s
HYT Haines Junctio 39.69 45 P P 11 09 02.4 +0.5
baz=281,SNR=13
M30M Minto, Yukon 39.70 42 P P 11 09 02.0 +0.1
baz=280
N30M Aishikik Lake 39.77 44 P P 11 09 01.9 -0.6
baz=281
P29M Windy Craggy 39.82 47 P P 11 09 03.3 +0.4
baz=282,SNR=8.5
LZDM Lanzhou Array 39.83 273 P P 11 09 04.8 +1.2
comp=Z,3.4nm,0.5s,baz=46,slow=6.2,SNR=7.3
LZDM LR LR 11 25 59.4
comp=Z,87nm,20.6s,baz=335,slow=37
comp=Z,3.4nm,0.5s
MAYO Mayo, Yukon 39.94 40 P P 11 09 04.4 +0.6
baz=279,SNR=21
P30M Million Dollar 40.10 46 P P 11 09 05.6 +0.3
baz=282
G31M Satah River 40.16 35 IAmb IAmb 11 09 07.1
comp=Z,14nm,0.8s
G31M Satah River 40.16 35 P P 11 09 05.9 +0.4
baz=277,SNR=11
H31M Peel River 40.27 37 P 11 09 07.0 +0.5
H31M IAmb IAmb 11 09 08.7
comp=Z,22nm,1.1s

H31M Peel River 40.27 37 P P 11 09 06.6 +0.1
baz=278,SNR=12
PATS Pohnpei 40.29 176 P P 11 09 07.3 +0.2
comp=Z,113nm,2.4s
INK Inuvik 40.29 33 P 11 09 06.8 +0.1
INK IAmb IAmb 11 09 08.5
comp=Z,15nm,0.8s
INK Inuvik 40.29 33 P P 11 09 06.8 +0.1
INK pmax pmax
comp=Z,15nm,0.9s
INK Inuvik 40.29 33 P P 11 09 06.9 +0.3
baz=276,SNR=15
F31M Tsiigehtchic 40.30 34 IAmb IAmb 11 09 08.3
comp=Z,19nm,0.8s
F31M Tsiigehtchic 40.30 34 P P 11 09 07.3 +0.6
baz=276,SNR=12
N31M Braeburn, Yuko 40.38 44 IAmb IAmb 11 09 09.9
comp=Z,13nm,0.8s
N31M Braeburn, Yuko 40.38 44 P P 11 09 07.8 +0.3
baz=282,SNR=11
O30N Mendenhall 40.38 45 P P 11 09 08.2 +0.7
baz=282
PLBC Pleasant Camp 40.54 47 P P 11 09 08.7 -0.1
baz=284
GTA Gaotai 40.66 280 P P 11 09 11.2 +1.0
GTA pP pP 11 09 16.4 -2.1
GTA pmax pmax
comp=Z,35nm,1.0s
GTA LR LR
comp=Z,160nm,14.3s
GTA LR LR
comp=Z,190nm,15.1s
GTA LR LR
comp=Z,220nm,17.5s
M31M Drury Creek, Y 40.87 42 P P 11 09 11.6 0.0
baz=282,SNR=12
S31K Pelican 40.98 49 P P 11 09 12.8 +0.3
baz=285
WHY Whitehorse 40.98 45 IAmb IAmb 11 09 26.2
comp=Z,22nm,1.1s
WHY Whitehorse 40.98 45 P P 11 09 12.6 0.0
baz=283,SNR=8.7
SKAG Skagway 41.05 47 P P 11 09 13.4 +0.4
baz=284,SNR=6.0
R31K City Hall, Gus 41.12 48 P P 11 09 13.4 -0.1
baz=285
SIT Sitka 41.71 50 P P 11 09 18.3 -0.1
baz=287
N32M Quiet Lake 41.72 44 P P 11 09 18.6 +0.1
baz=284
R32K Eaglecrest 41.77 48 P P 11 09 18.8 -0.2
baz=286,SNR=5.4
P32M Atlin 41.81 46 P P 11 09 20.3 +0.9
P32M Atlin 41.81 46 P P 11 09 19.4 +0.1
baz=285
P33M Teslin, Yukon 42.09 45 P 11 09 22.4 +0.8
P33M IAmb IAmb 11 09 23.8
comp=Z,16nm,0.9s
P33M Teslin, Yukon 42.09 45 P P 11 09 21.4 -0.2
baz=285,SNR=22
MMPY Sheldon Lake, 42.20 41 P P 11 09 22.8 +0.3
baz=284,SNR=14
A36M Sachs Harbour 42.64 27 P 11 09 26.9 +1.1
A36M IAmb IAmb 11 09 28.0
comp=Z,14nm,0.8s
A36M Sachs Harbour 42.64 27 P P 11 09 26.3 +0.5
baz=279
Q32M Nakina River 42.70 47 IAmb IAmb 11 09 40.8
comp=Z,40nm,1.8s
Q32M Nakina River 42.70 47 P P 11 09 26.3 -0.5
baz=287,SNR=6.3
U33K Whale Pass 43.16 51 P P 11 09 30.1 -0.1
baz=289
R33M Jennings River 43.21 46 IAmb IAmb 11 09 33.4
comp=Z,15nm,0.8s
R33M Jennings River 43.21 46 P P 11 09 30.5 -0.3
baz=288,SNR=16
CRAG Craig 43.38 52 P P 11 09 31.3 -0.7
baz=290
WRAK Wrangell Islan 43.47 50 P P 11 09 32.2 -0.4
baz=290
C36M Paulatuk 43.52 31 IAmb IAmb 11 09 34.7
comp=Z,22nm,1.0s
C36M Paulatuk 43.52 31 P P 11 09 32.8 -0.1
baz=283,SNR=6.0
GYA Guiyang 43.56 259 ⇑P P 11 09 34.9 +0.9
GYA pmax pmax
comp=Z,54nm,1.0s
S34M Telegraph Cree 43.60 48 P P 11 09 34.6 +0.9
baz=289,SNR=6.2
ZALV Zalesovo Beam 43.79 306 P 11 09 34.6 -0.8
ZALV Zalesovo Beam 43.79 306 P P 11 09 34.4 -0.9
comp=Z,11nm,0.7s,baz=69,slow=7.2,SNR=16
ZALV PcP PcP 11 11 21.7 +0.3
comp=Z,1.3nm,0.6s,baz=73,slow=4.8,SNR=2.0
ZALV LR LR 11 29 22.0
comp=Z,149nm,19.0s,baz=62,slow=38
comp=Z,11nm,0.7s
ZALV Zalesovo Beam 43.79 306 *i* P P 11 09 37.2 +1.8
ZALV pmax pmax
comp=Z,11nm,0.6s
TGTN Hyland Airport 43.85 42 P P 11 09 35.7 -0.1
baz=287
DLBC Dease Lake 43.98 47 P P 11 09 37.0 +0.1
baz=289,SNR=14
WTLY Watson Lake, Y 44.04 44 IAmb IAmb 11 09 39.3
comp=Z,12nm,0.8s
WTLY Watson Lake, Y 44.04 44 P P 11 09 37.5 +0.2
baz=288
V35K Ketchikan 44.23 51 P P 11 09 38.9 0.0
baz=291
T35M Bob Quinn 44.36 49 IAmb IAmb 11 09 54.4
comp=Z,15nm,1.0s
T35M Bob Quinn 44.36 49 P P 11 09 40.4 +0.5
baz=290,SNR=8.6
WRGLY Wrigley 45.45 39 IAmb IAmb 11 09 50.5
comp=Z,14nm,0.8s
WRGLY Wrigley 45.45 39 P P 11 09 48.5 +0.1
baz=289
LIRD Liard River Hi 45.56 45 P P 11 09 49.7 +0.3
baz=291
GOMU GeErMu 45.72 279 P P 11 09 51.9 +0.5
GOMU pP pP 11 09 55.6 -4.1
GOMU sP sP 11 09 59.5 -3.8
GOMU S S 11 16 33.9 +1.4
GOMU pmax pmax
comp=Z,16nm,0.8s
GOMU LR LR
comp=Z,94nm,12.6s
GOMU LR LR
comp=Z,170nm,12.1s
GOMU LR LR
comp=Z,150nm,12.1s
TOAD Toad River Com 46.18 45 P P 11 09 55.4 +1.0
baz=292,SNR=19
WMQ Urumqi 46.42 292 *e*P P 11 09 58.9 +2.4
WMQ LR LR
comp=Z,170nm,18.3s
PZH PanZhiHua 46.85 263 P P 11 10 01.8 +1.7
KMI Kunming 47.09 261 P P 11 10 02.1 0.0
KMI pP sP 11 10 12.9 -1.1
KMI pmax pmax
comp=Z,11nm,1.0s
MK31 Makanchi Array 48.31 298 *d i* P P 11 10 11.2 +0.1
MKAR Makanchi Array 48.31 298 P 11 10 10.9 -0.2
MKAR Makanchi Array 48.31 298 P P 11 10 10.7 -0.4
comp=Z,11nm,0.7s,baz=67,slow=7.5,SNR=92
MKAR PcP PcP 11 11 38.1 +0.6
comp=Z,0.9nm,0.6s,baz=66,slow=3.5,SNR=1.0
MKAR LR LR 11 30 52.1
comp=Z,51nm,21.2s,baz=37,slow=36
comp=Z,11nm,0.7s
MKAR Makanchi Array 48.31 298 *i* P P 11 10 10.6 -0.5
MKAR pmax pmax
comp=Z,11nm,0.8s
MKAR Makanchi Array 48.31 298 *e*P P 11 10 10.6 -0.5
MAKZ Makanchi 48.50 298 P P 11 10 13.1 +0.6
KURK Kurchatov 48.59 304 P 11 10 13.0 -0.1
KURK Kurchatov 48.59 304 P P 11 10 13.0 -0.1
KURK pmax pmax
comp=Z,30nm,0.8s
KURK Kurchatov 48.59 304 *e*P P 11 10 13.0 -0.1
KURK Kurchatov 48.59 304 P P 11 10 12.5 -0.6
KURK pP pP 11 10 22.1 +0.8
KURK sP sP 11 10 26.1 +0.8
KURBB Kurchatov Arra 48.69 304 P P 11 10 13.7 -0.2
comp=Z,31nm,0.8s,baz=66,slow=8.2,SNR=70
KURBB LR LR 11 31 49.0
comp=Z,179nm,19.8s,baz=164,slow=37
comp=Z,31nm,0.8s
SLVN Son La 48.90 257 P 11 10 16.4 +0.5
SLVN IAmb IAmb 11 10 18.2
comp=Z,16nm,1.0s
ALE Alert 49.10 6 P P 11 10 17.4 +0.8
YKA Yellowknife Ar 49.47 38 P P 11 10 19.5 -0.2
comp=Z,7.4nm,0.8s,baz=298,slow=7.9,SNR=19
comp=Z,7.4nm,0.8s
CLRS Cowichan Lake 51.23 57 P P 11 10 33.5 +0.3
CLRS IAmb IAmb 11 10 46.2
comp=Z,18nm,1.0s
LLLB Lillooet 51.58 54 IAmb IAmb 11 10 49.0
comp=Z,14nm,1.0s
BVAR Borovoye Array 51.94 310 P P 11 10 38.8 +0.3
comp=Z,9.9nm,0.5s,baz=58,slow=8.0,SNR=61
BVAR LR LR 11 34 29.3
comp=Z,196nm,19.0s,baz=60,slow=38
comp=Z,9.9nm,0.5s
BORK Borovoye 51.97 310 P P 11 10 39.5 +0.8
BORK sP pwP 11 10 54.7 -0.3
LSA Lhasa 52.03 275 IAmb IAmb 11 11 00.0
comp=Z,11nm,0.6s
NLWA Neilton Lookou 52.12 58 IAmb IAmb 11 10 52.9
comp=Z,15nm,0.9s
KBS Kingsbay 52.31 352 P P 11 10 41.5 +0.7
KBS Kingsbay 52.31 352 *ce*P P 11 10 41.8 +1.0
KBS pmax pmax
comp=Z,31nm,0.9s
KBS Kingsbay 52.31 352 *i* P P 11 10 41.8 +1.0
KBS Kingsbay 52.31 352 P P 11 10 41.6 +0.7
SPITS Spitsbergen Ar 52.47 350 P P 11 10 42.3 +0.3
comp=Z,18nm,0.6s,baz=57,slow=11,SNR=33
comp=Z,18nm,0.6s
SPITS Spitsbergen Ar 52.47 350 P P 11 10 42.4 +0.3
SPITS pmax pmax
comp=Z,84nm,1.5s
TULEG Thule 53.32 12 *i* P P 11 10 48.9 +0.6
TULEG IAmb IAmb 11 10 52.8
comp=Z,70nm,1.4s
CHTO Chiang Mai 53.97 259 P 11 10 53.9 +0.1
CHTO IAmb IAmb 11 10 56.0
comp=Z,14nm,0.9s
CHTO Chiang Mai 53.97 259 P P 11 10 53.9 +0.1
CHTO pmax pmax
comp=Z,14nm,1.0s
CHTO Chiang Mai 53.97 259 P P 11 10 54.9 +1.1
CHTO pP pP 11 11 03.4 +1.2
B08A Colville Reser 54.18 55 IAmb IAmb 11 11 07.4
comp=Z,11nm,1.0s
CMAR Chiang Mai Arr 54.22 258 P 11 10 56.0 +0.3
CMAR Chiang Mai Arr 54.22 258 P P 11 10 56.6 +0.9
comp=Z,4.6nm,0.7s,baz=45,slow=7.5,SNR=26
CMAR PcP PcP 11 12 00.8 +1.0
comp=Z,1.4nm,0.8s,baz=46,slow=3.8,SNR=1.7
CMAR LR LR 11 35 19.8
comp=Z,43nm,18.9s,baz=55,slow=37
comp=Z,4.6nm,0.7s
CMAR Chiang Mai Arr 54.22 258 *i* P P 11 10 57.0 +1.3
CMAR pmax pmax
comp=Z,5.0nm,0.6s
ULHL Ulahol 54.38 296 P P 11 10 58.2 +1.3
SNR=5.1
TKM2 Tokmak 2 54.40 297 P P 11 10 58.0 +1.0
SNR=15
NEEM North Greenlan 54.50 7 *i* P P 11 10 57.4 +0.2
NEEM IAmb IAmb 11 10 58.6
comp=Z,22nm,0.8s
SVE Sverdlovsk 54.70 318 *e*P P 11 10 59.6 +0.9
SVE pmax pmax
comp=Z,51nm,1.0s
USP Ospenovka 54.86 298 P P 11 11 01.4 +1.3
SNR=22
KBK Karagaybulak 54.94 297 P P 11 11 02.4 +1.5
SNR=5.9
NRN Naryn 54.99 295 IAmb IAmb 11 11 28.8
comp=Z,13nm,1.3s
AAK Ala-Archa 55.23 297 P P 11 11 03.9 +1.0
SNR=8.9
AAK Ala-Archa 55.23 297 P 11 11 03.8 +0.9
AAK Ala-Archa 55.23 297 LR LR 11 35 46.4
comp=Z,202nm,18.7s,baz=54,slow=37
AAK Ala-Archa 55.23 297 *d i* P P 11 11 03.6 +0.7
AAK pmax pmax
comp=Z,20nm,0.9s
AAK Ala-Archa 55.23 297 *e*P P 11 11 03.6 +0.7
AAK Ala-Archa 55.23 297 P P 11 11 04.1 +1.2
AAK sP pwP 11 11 18.3 -1.7
UCH Uchtor 55.45 297 P P 11 11 05.9 +1.1
SNR=5.7
NEW Newport 55.46 54 LR LR 11 31 19.8
comp=Z,56nm,21.1s,baz=254,slow=32
BLKN Baker Lake 55.57 30 P 11 11 04.9 +0.1
EKS2 Erkin-Say 55.64 298 P P 11 11 07.0 +1.1
SNR=18
PINE Pine Mountain 55.81 60 IAmb IAmb 11 11 20.8
comp=Z,14nm,0.9s
E09A Wood Farm, Sta 55.88 56 IAmb IAmb 11 11 19.7
comp=Z,11nm,1.0s
ARTI Arti 55.98 318 P 11 11 07.9 0.0
ARTI Arti 55.98 318 P P 11 11 07.8 0.0
comp=Z,35nm,0.9s,baz=56,slow=5.2,SNR=32
ARTI LR LR 11 36 05.0
comp=Z,96nm,21.8s,baz=51,slow=37
comp=Z,35nm,0.9s
ARTI Arti 55.98 318 *c i* P P 11 11 08.0 +0.1
ARTI 11 12 01.7
ARTI 11 13 10.2
ARTI S S 11 19 00.4 +7.1
ARTI SS SS 11 22 43.6 +4.8
ARTI pmax pmax
comp=Z,58nm,1.0s
ARTI Arti 55.98 318 P P 11 11 08.1 +0.3
ARTI sP pwP 11 11 23.5 -0.8
KSH Kashi 56.12 294 P P 11 11 14.3 +5.0
KSH sP pwP 11 11 28.5 +2.0
KSH pmax pmax
comp=Z,18nm,0.9s
DAG Danmarks Havn 56.24 358 *i* P P 11 11 09.2 -0.3
DAG IAmb IAmb 11 11 09.9
comp=Z,16nm,0.8s
ILON Igloolik, Nuna 56.33 21 P 11 11 10.6 +0.5
KULL0 Kullorsuaq 56.51 10 *i* P P 11 11 11.9 +0.6
KULL0 IAmb IAmb 11 11 12.8
comp=Z,30nm,0.8s
LVZ Lovozero 57.05 337 P P 11 11 15.1 -0.2
LVZ Lovozero 57.05 337 *de*P P 11 11 15.3 0.0
LVZ pmax pmax
comp=Z,20nm,1.0s
BMO Blue Mountains 57.32 58 IAmb IAmb 11 11 30.6
comp=Z,6.5nm,0.8s
KKAR Karatay Array 57.34 300 P 11 11 18.2 +0.5
KKAR Karatay Array 57.34 300 P P 11 11 18.2 +0.5
O03E Paynes Creek 57.34 64 IAmb IAmb 11 11 31.0
comp=Z,15nm,1.1s
J08A Circle Bar Ran 57.52 60 IAmb IAmb 11 11 32.4
comp=Z,9.0nm,1.1s
PLID Pearl Lake 57.93 57 IAmb IAmb 11 11 34.9
comp=Z,13nm,0.8s
WVOR Wild Horse Val 57.98 61 IAmb IAmb 11 11 35.4
comp=Z,8.1nm,0.9s
ARCES ARCESS Array B 58.00 342 P 11 11 22.4 +0.5
ARCES ARCESS Array B 58.00 342 P P 11 11 22.1 +0.2
comp=Z,9.1nm,0.5s,baz=38,slow=7.0,SNR=73
ARCES LR LR 11 42 22.3
comp=Z,146nm,18.2s,baz=45,slow=42
comp=Z,9.1nm,0.5s
ARCES ARCESS Array B 58.00 342 P P 11 11 22.4 +0.5
ARCES pmax pmax
comp=Z,20nm,0.9s
MSO Missoula 58.05 54 IAmb IAmb 11 11 36.1
comp=Z,21nm,1.3s
UPNV Upernavik 58.27 11 *i* P P 11 11 23.9 +0.1
UPNV IAmb IAmb 11 11 24.5
comp=Z,26nm,0.8s
KIRV Kirov 58.48 324 P P 11 11 26.0 +0.6
comp=Z,10nm,0.5s,baz=72,slow=8.1,SNR=6.4
KIRV LR LR 11 40 23.9
comp=Z,52nm,18.8s,baz=12,slow=40
comp=Z,10nm,0.5s
KIRV Kirov 58.48 324 ⇓ *e*P P 11 11 25.8 +0.4
AFDM Forest Hills D 58.66 65 IAmb IAmb 11 11 39.7
comp=Z,8.9nm,1.3s
DBG Daneborg 58.74 359 *i* P P 11 11 27.0 -0.1
DBG IAmb IAmb 11 11 28.2
comp=Z,9.6nm,1.0s
MPK Martis Peak 59.03 64 IAmb IAmb 11 11 43.5
comp=Z,13nm,1.0s
FFC Flin Flon 59.22 41 P 11 11 30.6 -0.1
FFC Flin Flon 59.22 41 P P 11 11 30.6 -0.1
FFC pmax pmax
comp=Z,12nm,0.9s
FFC Flin Flon 59.22 41 P P 11 11 31.0 +0.3
FFC pP sP 11 11 42.8 0.0
ABKAR Akbulak array 59.50 311 P 11 11 33.1 +0.4
CMB Columbia Colle 59.59 66 IAmb IAmb 11 11 46.4
comp=Z,7.8nm,1.2s
DLMT Dillon 59.68 55 IAmb IAmb 11 11 48.7
comp=Z,10nm,1.2s
AKTO Aktyubinsk 59.74 313 P P 11 11 34.8 +0.5
comp=Z,8.5nm,0.6s,baz=58,slow=7.5,SNR=16
AKTO LR LR 11 39 47.1
comp=Z,79nm,18.8s,baz=8.5,slow=38
comp=Z,8.5nm,0.6s
HLID Hailey 59.76 57 IAmb IAmb 11 11 47.8
comp=Z,7.0nm,1.1s
BOZ Bozeman (W) 60.07 54 P P 11 11 37.3 +0.4
BOZ Bozeman (W) 60.07 54 P P 11 11 37.3 +0.4
BOZ pmax pmax
comp=Z,15nm,1.0s
SUMG Summit 60.10 5 P 11 11 37.9 +0.9
SUMG Summit 60.10 5 P P 11 11 37.9 +0.9
SUMG pmax pmax
comp=Z,25nm,0.8s
SUMG Summit 60.10 5 *i* P P 11 11 38.4 +1.4
SUMG IAmb IAmb 11 11 38.5
comp=Z,21nm,0.9s
NVAR Mina Array Bea 60.62 64 P P 11 11 40.6 -0.3
comp=Z,3.3nm,0.8s,baz=309,slow=7.4,SNR=27
comp=Z,3.3nm,0.8s
KLMR Klimovskoe 60.63 330 *e*P P 11 11 38.8 -1.4
KLMR pmax pmax
comp=Z,23nm,0.7s
SAATT Saattut 60.65 10 *i* P P 11 11 40.6 +0.4
SAATT IAmb IAmb 11 11 42.4
comp=Z,50nm,1.0s
YHL Hebgen Lake 60.78 54 IAmb IAmb 11 11 55.2
comp=Z,8.6nm,0.9s
SIMJ Simiganj 60.95 297 P 11 11 43.4 +0.4
SIMJ Simiganj 60.95 297 P P 11 11 43.6 +0.7
SIMJ pP pP 11 11 52.7 +1.5
YMR Madison River 61.02 55 IAmb IAmb 11 11 56.7
comp=Z,8.6nm,0.9s
ELK Elko 61.02 60 P 11 11 44.0 +0.4
ELK Elko 61.02 60 P P 11 11 44.0 +0.4
ELK pmax pmax
comp=Z,4.0nm,0.9s
YNR Norris Junctio 61.15 54 IAmb IAmb 11 11 57.7
comp=Z,11nm,1.1s
YFT Old Faithful 61.23 55 IAmb IAmb 11 12 00.2
comp=Z,12nm,0.9s
YNE Yellowstone No 61.33 54 IAmb IAmb 11 11 59.2
comp=Z,7.2nm,1.0s
NIL Nilore 61.45 290 P 11 11 47.0 +0.7
NIL Nilore 61.45 290 P P 11 11 47.0 +0.7
NIL pmax pmax
comp=Z,56nm,1.1s
DSP Deep Springs 61.49 65 IAmb IAmb 11 11 59.8
comp=Z,9.1nm,1.1s
RLMT Red Lodge 61.67 53 P 11 11 48.0 +0.2
LOHW Long Hollow 61.89 55 IAmb IAmb 11 12 03.5
comp=Z,12nm,1.2s
SNOW Snow King Moun 61.90 55 IAmb IAmb 11 12 03.3
comp=Z,11nm,0.9s
ILULI Ilulissat 62.21 10 *i* P P 11 11 51.0 +0.2
ILULI IAmb IAmb 11 11 52.2
comp=Z,27nm,0.9s
R11B Troy Canyon, C 62.33 63 IAmb IAmb 11 12 04.9
comp=Z,7.3nm,1.0s
MPMC Manual Prospec 62.63 66 IAmb IAmb 11 12 07.4
comp=Z,6.6nm,1.1s
CLC China Lake 62.72 66 IAmb IAmb 11 12 07.4
comp=Z,8.5nm,0.9s
DUG Dugway, Tooele 62.80 59 IAmb IAmb 11 12 08.5
comp=Z,9.9nm,0.9s
TPNV Topopah Spring 62.82 64 IAmb IAmb 11 12 08.9
comp=Z,8.9nm,1.1s
KULM Kulim 62.90 247 P P 11 11 56.9 +0.8
WSHM Spangler Hills 62.92 66 IAmb IAmb 11 12 08.6
comp=Z,8.3nm,1.0s
PDAR Pinedale Array 63.02 55 P P 11 11 56.8 -0.1
comp=Z,4.2nm,0.8s,baz=305,slow=7.4,SNR=39
PDAR LR LR 11 36 59.0
comp=Z,35nm,20.1s,baz=263,slow=34
comp=Z,4.2nm,0.8s
GWY Greenwater Val 63.05 65 IAmb IAmb 11 12 09.7
comp=Z,6.4nm,1.0s
QSM Queen of Sheba 63.07 65 IAmb IAmb 11 12 09.8
comp=Z,11nm,1.3s
KDU Kakadu 63.15 206 P P 11 12 00.0 +2.4
comp=Z,11nm,0.6s
BELG Belogornoye 63.37 319 P P 11 11 59.1 +0.4
comp=Z,61nm,0.8s,baz=34,slow=3.6,SNR=12
comp=Z,61nm,0.8s
BELG Belogornoye 63.37 319 *de*P P 11 11 58.8 +0.1
BELG pmax pmax
comp=Z,9.0nm,0.9s
SHOC Shoshone, Teco 63.48 65 IAmb IAmb 11 12 12.4
comp=Z,9.4nm,0.9s
BSUT Blindstream Ca 63.78 58 IAmb IAmb 11 12 15.7
comp=Z,6.7nm,0.9s
MTPC Mountain Pass 64.20 65 IAmb IAmb 11 12 17.4
comp=Z,9.6nm,1.2s
TMUT Trail Mountain 64.33 59 IAmb IAmb 11 13 19.4
comp=Z,11nm,1.1s
FINES FINESS Array B 64.37 336 P P 11 12 05.4 +0.2
comp=Z,14nm,0.9s,baz=30,slow=6.0,SNR=25
comp=Z,14nm,0.9s
P17A Butcher Ranch, 64.48 59 IAmb IAmb 11 12 20.1
comp=Z,9.4nm,1.2s
Q16A Castle Valley 64.60 60 IAmb IAmb 11 12 20.7
comp=Z,6.3nm,0.9s
LCMT Little Creek M 64.61 62 IAmb IAmb 11 12 20.5
comp=Z,9.2nm,0.9s
SRU San Rafael Swe 64.85 59 IAmb IAmb 11 12 21.6
comp=Z,12nm,0.8s
PFO Pinyon Flats O 64.86 67 LR LR 11 37 00.3
comp=Z,52nm,18.4s,baz=251,slow=33
PFO Pinyon Flats O 64.86 67 ‖ *eP* P 11 12 08.5 -0.5
PFO pmax pmax
comp=Z,5.0nm,1.3s
KNB Kanab 64.86 62 IAmb IAmb 11 12 22.4
comp=Z,10nm,0.9s
ULM Lac du Bonnet 64.99 42 P P 11 12 09.3 -0.1
comp=Z,5.4nm,0.7s,baz=310,slow=7.5,SNR=10
comp=Z,5.4nm,0.7s
ULM Lac du Bonnet 64.99 42 *d i* P P 11 12 09.0 -0.4
MOS Moscow 65.06 327 *e*P P 11 12 13.8 +4.0
RSSD Black Hills 65.14 51 P 11 12 10.8 0.0
RSSD Black Hills 65.14 51 P P 11 12 10.8 0.0
RSSD pmax pmax
comp=Z,17nm,0.9s
RSSD Black Hills 65.14 51 P P 11 12 11.0 +0.2
RSSD pP sP 11 12 22.5 -0.6
IRM Iron Mountain 65.32 66 IAmb IAmb 11 12 24.5
comp=Z,8.7nm,1.0s
DY2G Dye2 65.40 10 *i* P P 11 12 12.2 +0.1
DY2G IAmb IAmb 11 12 13.9
comp=Z,20nm,0.8s
O20A White River Ci 65.49 57 IAmb IAmb 11 12 38.0
comp=Z,7.4nm,1.1s
HMU Henry Mountain 65.50 60 IAmb IAmb 11 12 25.9
comp=Z,9.2nm,0.8s
OBN Obninsk 65.93 327 ⇑ *e*P P 11 12 16.5 +1.1
OBN *e* 11 12 26.7
OBN *e* 11 12 43.8
OBN *e* 11 14 40.7
OBN *e*S S 11 21 04.3 +4.4
OBN pmax pmax
comp=Z,17nm,1.2s
OBN MLR MLR
comp=Z,78nm,19.0s
PV21 Cone Mtn., Par 66.12 59 IAmb IAmb 11 12 30.4
comp=Z,14nm,1.2s
PV22 Blue Mesa, Par 66.25 59 IAmb IAmb 11 12 31.1
comp=Z,12nm,0.9s
PV04 Paradox Valley 66.27 59 IAmb IAmb 11 12 30.9
comp=Z,11nm,0.9s
PV16 Nyswonger Mesa 66.32 59 IAmb IAmb 11 12 31.1
comp=Z,15nm,1.0s
PV07 Paradox Valley 66.39 59 IAmb IAmb 11 12 31.4
comp=Z,10nm,1.2s

PV03	**Paradox Valley**	**66.40**	**59**	IAmb	IAmb	11 12 32.0			
	comp=Z,12nm,1.0s								
PV02	**Paradox Valley**	**66.49**	**59**	IAmb	IAmb	11 12 32.3			
	comp=Z,11nm,0.8s								
PV15	**Paradox Valley**	**66.55**	**59**	IAmb	IAmb	11 12 34.0			
	comp=Z,8.8nm,0.9s								
PV01	**Paradox Valley**	**66.64**	**59**	IAmb	IAmb	11 12 33.3			
	comp=Z,7.9nm,1.1s								
VRH	**Novokhopyorsk**	**66.79**	**321**	*e*P	**P**	**11 12 18.0**	**-3.0**		
VRH				pmax	pmax				
	comp=Z,10.0nm,1.0s								
Y14A	**Wickenburg**	**66.79**	**65**	IAmb	IAmb	11 12 34.1			
	comp=Z,7.5nm,0.9s								
LPSR	**Galich'ya Gora**	**66.91**	**324**	*e*P	**P**	**11 12 17.0**	**-4.7**		
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
ISCO	**Idaho Springs**	**67.21**	**56**	IAmb	IAmb	11 12 37.4			
	comp=Z,6.1nm,0.8s								
MVCO	**Mesa Verde**	**67.31**	**59**	IAmb	IAmb	11 12 37.5			
	comp=Z,6.4nm,0.9s								
X16A	**Lo Mia Camp, P**	**67.43**	**63**	IAmb	IAmb	11 12 38.8			
	comp=Z,6.4nm,0.9s								
VSR	**Storozhevoye**	**67.85**	**323**	*e*P	**P**	**11 12 25.1**	**-2.6**		
VSR				pmax	pmax				
	comp=Z,6.0nm,1.0s								
S22A	**4UR Ranch, Cre**	**67.91**	**58**	IAmb	IAmb	11 12 42.0			
	comp=Z,9.8nm,1.1s								
VORD	**Divnogorie**	**67.99**	**322**	*e*P	**P**	**11 12 26.6**	**-1.9**		
VORD				pmax	pmax				
	comp=Z,9.0nm,0.9s								
X18A	**Snowflake**	**68.26**	**62**	IAmb	IAmb	11 12 44.4			
	comp=Z,9.9nm,1.5s								
NB2	**NORSAR Subarra**	**68.35**	**342**	P	**P**	**11 12 30.8**	**+0.1**		
	comp=Z,11nm,1.0s,baz=29,slow=6.5								
NOA	**NORSAR Array B**	**68.35**	**342**	P	**P**	**11 12 31.1**	**+0.3**		
	comp=Z,6.1nm,0.9s,baz=26,slow=6.4,SNR=14								
	comp=Z,6.1nm,0.9s								
BORG	**Borgarnes**	**68.36**	**359**	P	**P**	**11 12 30.6**	**-0.1**		
	comp=Z,9.0nm,0.9s,baz=309,slow=6.5,SNR=1.3								
	comp=Z,9.0nm,0.9s								
HFS	**Hagfors**	**68.64**	**341**	P	**P**	**11 12 32.2**	**-0.3**		
	comp=Z,18nm,1.1s,baz=25,slow=3.8,SNR=15								
	comp=Z,18nm,1.1s								
EYMN	**Ely**	**68.64**	**42**	IAmb	IAmb	11 12 45.7			
	comp=Z,19nm,1.2s								
ECSD	**EROS Data Cent**	**69.26**	**48**	IAmb	IAmb	11 12 49.2			
	comp=Z,13nm,1.0s								
TUC	**Tucson**	**69.26**	**65**	P	**P**	**11 12 36.9**	**0.0**		
TUC	**Tucson**	**69.26**	**65**	P	**P**	**11 12 36.9**	**0.0**		
TUC				pmax	pmax				
	comp=Z,5.0nm,1.0s								
WRAB	**Tennant Creek**	**69.55**	**201**	P	**P**	**11 12 37.3**	**-1.2**		
WRAB	**Tennant Creek**	**69.55**	**201**	P	**P**	**11 12 37.3**	**-1.2**		
WRAB				pmax	pmax				
	comp=Z,6.0nm,1.0s								
WRA	**Warramunga Arr**	**69.56**	**201**		**P**	**11 12 36.5**	**-2.1**		
WRA	**Warramunga Arr**	**69.56**	**201**	P	**P**	**11 12 37.4**	**-1.2**		
	comp=Z,3.5nm,0.8s,baz=16,slow=6.2,SNR=13								
	comp=Z,3.5nm,0.8s								
WRA	**Warramunga Arr**	**69.56**	**201**	P	**P**	**11 12 36.5**	**-2.1**		
DZM	**Mont Dzumac**	**69.63**	**169**	*e*LR	LR	11 33 46.6			
	comp=Z,152nm,29.9s								
T25A	**Trinidad**	**69.72**	**57**	IAmb	IAmb	11 12 52.7			
	comp=Z,13nm,1.1s								
SPMN	**Marine on St.**	**70.04**	**44**	IAmb	IAmb	11 12 53.7			
	comp=Z,14nm,0.9s								
ANMO	**Albuquerque**	**70.06**	**60**		**P**	**11 12 41.9**	**0.0**		
ANMO	**Albuquerque**	**70.06**	**60**	LR	LR	11 39 36.3			
	comp=Z,64nm,21.0s,baz=8.0,slow=33								
ANMO	**Albuquerque**	**70.06**	**60**	⇑*e*P	**P**	**11 12 42.3**	**+0.3**		
ANMO				pmax	pmax				
	comp=Z,2.0nm,1.0s								
FITZ	**Fitzroy Crossi**	**70.42**	**210**	P	**P**	**11 12 44.7**	**+0.8**		
FITZ	**Fitzroy Crossi**	**70.42**	**210**	P	**P**	**11 12 43.8**	**-0.1**		
	comp=Z,5.3nm,0.9s,baz=7.4,slow=2.7,SNR=6.3								
	comp=Z,5.3nm,0.9s								
GOF	**Gofitskoye**	**70.75**	**316**	*ce*P	**P**	**11 12 46.6**	**+0.9**		
AKT	**Akhty**	**71.07**	**311**	*e*P	**P**	**11 12 48.5**	**+0.6**		
AKT				*e*		11 13 07.2			
AKT				pmax	pmax				
	comp=Z,31nm,0.8s								
AKT				MLR	MLR				
	comp=Z,156nm,15.0s								
G40A	**Rib Lake**	**71.24**	**43**	IAmb	IAmb	11 13 01.4			
	comp=Z,10nm,1.0s								
KIV	**Kislovodsk**	**71.75**	**316**	*e*P	**P**	**11 12 52.7**	**+0.8**		
KIV				pmax	pmax				
	comp=Z,18nm,1.0s								
KBZ	**Khabaz**	**71.81**	**315**	P	**P**	**11 12 53.3**	**+1.1**		
	comp=Z,9.3nm,0.9s,baz=38,slow=5.8,SNR=14								
	comp=Z,9.3nm,0.9s								
KBZ	**Khabaz**	**71.81**	**315**	*d* i P	**P**	**11 12 53.2**	**+1.1**		
KBZ				pmax	pmax				
	comp=Z,18nm,1.0s								
SHA1	**Shidzhatmaz**	**71.92**	**315**	⇓*e*P	**P**	**11 12 53.9**	**+0.8**		
I40A	**Norwalk**	**72.08**	**44**	IAmb	IAmb	11 13 05.8			
	comp=Z,14nm,0.9s								
AKASG	**Malin Array Be**	**72.14**	**328**	P	**P**	**11 12 53.3**	**-0.7**		
	comp=Z,5.8nm,0.7s,baz=34,slow=6.1,SNR=17								
	comp=Z,5.8nm,0.7s								
AKBB	**Malin Array Si**	**72.14**	**328**	*d* i P	**P**	**11 12 53.2**	**-0.8**		
KIEV	**Kiev**	**72.15**	**328**	⇓P	**P**	**11 12 53.5**	**-0.6**		
KIEV	**Kiev**	**72.15**	**328**	P	**P**	**11 12 53.5**	**-0.6**		
MSTX	**Muleshoe**	**72.90**	**58**	IAmb	IAmb	11 13 12.0			
	comp=Z,18nm,1.3s								
AS16	**Alice Springs**	**73.21**	**201**	P	**P**	**11 13 00.4**	**-0.2**		
	comp=Z,4.9nm,0.8s								
ASAR	**Alice Springs**	**73.25**	**201**	P	**P**	**11 13 00.3**	**-0.5**		
	comp=Z,2.2nm,0.7s,baz=16,slow=5.2,SNR=39								
	comp=Z,2.2nm,0.7s								
VSLR	**Vesyoloye**	**73.37**	**317**	*ce*P	**P**	**11 13 02.4**	**+0.9**		
VSLR				pmax	pmax				
	comp=Z,28nm,1.1s								
SOC	**Sochi**	**73.43**	**317**	*e*P	**P**	**11 13 00.5**	**-1.3**		
SOC				*e*		11 15 53.8			
SOC				*e*PPP	PPP	11 17 32.4			
SOC				*e*S	**SKiKP**	**11 22 31.1**	**+1.6**		
SOC				*e*SS	**SS**	**11 27 09.6**	**-0.5**		
SOC				pmax	pmax				
	comp=Z,8.0nm,0.6s								
GNI	**Garni**	**73.58**	**312**	P	**P**	**11 13 04.4**	**+1.5**		
GNI	**Garni**	**73.58**	**312**	LR	LR	11 49 21.1			
	comp=Z,114nm,18.5s,baz=40,slow=39								
GNI	**Garni**	**73.58**	**312**	*d* i P	**P**	**11 13 04.7**	**+1.7**		
GNI				pmax	pmax				
	comp=Z,24nm,1.0s								
POST	**Post**	**74.29**	**58**	IAmb	IAmb	11 13 20.2			
	comp=Z,14nm,0.9s								
SORM	**Soroca**	**74.58**	**326**	⇑P	**P**	**11 13 08.3**	**-0.1**		
SORM	**Soroca**	**74.58**	**326**	P	**P**	**11 13 08.3**	**-0.1**		
WMOK	**Wichita Mounta**	**74.63**	**55**	IAmb	IAmb	11 13 21.9			
	comp=Z,8.8nm,1.0s								
APMT	**Aspermont**	**74.90**	**57**	IAmb	IAmb	11 13 22.9			
	comp=Z,10nm,0.9s								
R40A	**Maddies Statio**	**75.49**	**49**	IAmb	IAmb	11 13 25.6			
	comp=Z,8.3nm,0.8s								
TXAR	**Lajitas Array**	**75.70**	**62**	P	**P**	**11 13 15.3**	**-0.1**		
	comp=Z,6.2nm,0.8s,baz=318,slow=6.4,SNR=68								
	comp=Z,6.2nm,0.8s								
KOLS	**Kolonicke sedl**	**76.07**	**330**	*e*P	**P**	**11 13 17.2**	**+0.2**		
HHAR	**Hobbs**	**76.13**	**51**	IAmb	IAmb	11 13 29.3			
	comp=Z,11nm,1.0s								
BURAR	**Bucovina Array**	**76.17**	**328**		**P**	**11 13 17.7**	**0.0**		
BURAR				IAmb	IAmb	11 13 18.5			
	comp=Z,6.5nm,0.8s								
BURAR	**Bucovina Array**	**76.17**	**328**	⇓P	**P**	**11 13 17.8**	**+0.1**		
BURAR	**Bucovina Array**	**76.17**	**328**	P	**P**	**11 13 17.8**	**+0.1**		
FLTG	**Flechtingen**	**76.29**	**338**	*ep*P	pP	11 13 25.8	-1.2		
	comp=Z,9.7nm,0.7s,baz=26,slow=6.1								
EKA	**Eskdalemuir Ar**	**76.29**	**348**	P	**P**	**11 13 18.8**	**+0.6**		
	comp=Z,0.6nm,0.5s,baz=16,slow=6.1,SNR=24								
	comp=Z,0.6nm,0.5s								
TESR	**Tescani**	**76.57**	**327**	⇑P	**P**	**11 13 20.0**	**+0.1**		
ASSE	**Asse, Remlinge**	**76.61**	**339**	*ep*P	pP	11 13 27.3	-1.5		
	comp=Z,15nm,1.1s,baz=26,slow=6.1								
CLL	**Collm**	**76.77**	**337**		**P**	**11 13 20.9**	**+0.1**		
CLL	**Collm**	**76.77**	**337**	P	**P**	**11 13 21.0**	**+0.1**		
CLL				pmax	pmax				
	comp=Z,16nm,0.8s								
CLL	**Collm**	**76.77**	**337**	*e*P	**P**	**11 13 20.6**	**-0.3**		
	baz=26,slow=5.9								
CLL				*ep*P	**pP**	**11 13 27.8**	**-1.9**		
	comp=Z,17nm,0.8s,baz=26,slow=6.1								
CLL	**Collm**	**76.77**	**337**	*i* P	**P**	**11 13 19.5**	**-1.4**		
	comp=Z,7.0nm,0.8s								
CLL				*i* x	x	11 13 27.0			
	comp=Z,18nm,0.8s								
CLL				*e*S	**S**	**11 23 10.0**	**+4.7**		
LANS	**Liptovska Anna**	**76.80**	**332**	*e*P	**P**	**11 13 22.5**	**+1.3**		
LANS				*e*		11 13 30.1			
MORC	**Moravsky Berou**	**76.85**	**334**	IAmb	IAmb	11 13 30.2			
	comp=Z,8.8nm,0.7s								
MORC	**Moravsky Berou**	**76.85**	**334**	*e*P	**P**	**11 13 21.8**	**+0.4**		
MORC	**Moravsky Berou**	**76.85**	**334**	⇑P	**P**	**11 13 22.3**	**+0.8**		
MORC	**Moravsky Berou**	**76.85**	**334**	P	**P**	**11 13 22.2**	**+0.8**		
BRG	**Berggiesshubel**	**76.90**	**336**	*e*P	**P**	11 13 30.6	+8.9		
BRG				Amp		11 13 32.5			
	comp=Z,5.2nm,0.9s								
WIMM	**Wimmelburg**	**76.96**	**338**	*ep*P	pP	11 13 29.2	-1.6		
	comp=Z,7.0nm,0.8s,baz=26,slow=6.1								
BRDY	**Brady**	**77.03**	**58**	IAmb	IAmb	11 13 35.7			
	comp=Z,7.8nm,1.0s								
CHRS	**Christianenhau**	**77.06**	**338**	*ep*P	pP	11 13 30.2	-1.2		
	comp=Z,6.7nm,0.8s,baz=26,slow=6.1								
CFR	**Carcaliu**	**77.12**	**325**	⇓P	**P**	**11 13 22.9**	**0.0**		
CFR	**Carcaliu**	**77.12**	**325**	P	**P**	**11 13 22.9**	**0.0**		
PLOR	**Plostina**	**77.13**	**326**	⇑P	**P**	**11 13 23.5**	**+0.4**		
PLOR	**Plostina**	**77.13**	**326**	P	**P**	**11 13 23.5**	**+0.4**		
OZUR		**77.25**	**327**	⇑P	**P**	**11 13 24.7**	**+1.0**		
TPGR	**Topolog**	**77.27**	**325**	⇑P	**P**	**11 13 23.9**	**0.0**		
POSS	**Possen**	**77.30**	**338**	*ep*P	pP	11 13 31.5	-1.3		
	comp=Z,19nm,1.0s,baz=26,slow=6.1								
FCAR	**Ozark Folk Cen**	**77.39**	**50**	IAmb	IAmb	11 13 36.3			
	comp=Z,9.8nm,0.9s								
DRIO	**Del Rio**	**77.45**	**60**	IAmb	IAmb	11 13 38.2			
	comp=Z,15nm,1.0s								
VRAC	**Vranov**	**77.55**	**334**	P	**P**	**11 13 26.0**	**+0.6**		
	comp=Z,2.4nm,0.4s,baz=30,slow=9.7,SNR=4.9								
	comp=Z,2.4nm,0.4s								
VRAC	**Vranov**	**77.55**	**334**	*e*P	**P**	**11 13 25.8**	**+0.5**		
VRAC	**Vranov**	**77.55**	**334**	P	**P**	**11 13 26.0**	**+0.6**		
VYHS	**Vyhne**	**77.58**	**332**	*e*P	**P**	**11 13 26.3**	**+0.8**		
VYHS				*e*		11 13 32.2			
HARR	**Harsova**	**77.60**	**325**	⇓P	**P**	**11 13 25.7**	**0.0**		
HARR	**Harsova**	**77.60**	**325**	P	**P**	**11 13 25.7**	**0.0**		
JAVC	**Velka Javorina**	**77.62**	**333**	*e*P	**P**	**11 13 27.0**	**+1.2**		
MLR	**Muntele Rosu**	**77.70**	**326**	IAmb	IAmb	11 13 36.2			
	comp=Z,9.1nm,0.7s								
MLR	**Muntele Rosu**	**77.70**	**326**	P	**P**	**11 13 27.1**	**+0.7**		
	comp=Z,5.7nm,0.6s,baz=0.0,slow=7.1,SNR=8.3								
	comp=Z,5.7nm,0.6s								
MLR	**Muntele Rosu**	**77.70**	**326**	⇓P	**P**	**11 13 27.0**	**+0.6**		
MOX	**Moxa**	**77.73**	**338**	*ep*P	pP	11 13 34.2	-1.0		
	comp=Z,6.9nm,0.8s,baz=26,slow=6.1								
KRUC	**Moravsky**	**77.83**	**334**	*e*P	**P**	**11 13 25.9**	**-1.0**		
KASTN	**Kahler Asten**	**78.02**	**340**	*e*P	**P**	**11 13 28.7**	**+0.7**		
	comp=Z,7.2nm,1.1s,baz=26,slow=5.9								
SPAHL	**Spahl**	**78.16**	**339**	*ep*P	pP	11 13 36.9	-0.7		
	baz=26,slow=6.1								
ARR	**Arges**	**78.29**	**327**	⇑P	**P**	**11 13 30.7**	**+1.1**		
ROTZ	**Rotzenmuhle**	**78.38**	**337**	*e*P	**P**	**11 13 30.2**	**+0.3**		
	comp=Z,1.5nm,0.9s,baz=26,slow=5.9								
KHC	**Kasperske Hory**	**78.58**	**336**	*de*P	**P**	**11 13 31.7**	**+0.6**		
KHC				pmax	pmax				
	comp=Z,13nm,1.6s								
GRF	**Grafenberg Arr**	**78.71**	**337**	*ep*P	pP	11 13 40.2	-0.4		
	baz=26,slow=6.1								
WET	**Wettzell**	**78.76**	**336**	*e*P	**P**	**11 13 32.7**	**+0.6**		
	comp=Z,8.3nm,0.8s,baz=26,slow=5.9								
WET				*ep*P	**PcP**	**11 13 40.3**	**-0.6**		
	baz=26,slow=6.1								
GEC2	**GERESS Array S**	**78.80**	**336**	*e*P	**P**	**11 13 32.2**	**-0.3**		
	comp=Z,3.7nm,0.7s,baz=26,slow=5.9								
GEC2				*ep*P	**PcP**	**11 13 40.0**	**-1.1**		
	baz=26,slow=6.1								
GERES	**GERESS Array B**	**78.80**	**336**	P	**P**	**11 13 32.5**	**+0.1**		
	comp=Z,1.6nm,0.6s,baz=27,slow=5.5,SNR=8.7								
	comp=Z,1.6nm,0.6s								
TNS	**Taunus Mts**	**78.92**	**339**	*e*P	**P**	**11 13 33.5**	**+0.5**		
	comp=Z,8.6nm,0.6s,baz=26,slow=5.9								
TNS				*ep*P	**PcP**	**11 13 41.5**	**0.0**		
	baz=26,slow=6.1								
BNN	**Bunyan**	**78.94**	**316**	IAmb	IAmb	11 13 35.2			
	comp=Z,9.0nm,0.9s								
CONA	**Conrad Observa**	**79.00**	**334**	*i* PcP	P	11 13 41.8	+8.3		
	comp=Z,8.5nm,0.8s								
RAR	**Rarotonga**	**79.01**	**138**	LR	LR	11 45 51.4			
	comp=Z,88nm,19.3s,baz=64,slow=34								
RONA	**Rosalia, Austr**	**79.07**	**333**	*i* PcP	P	11 13 42.2	+8.4		
	comp=Z,8.1nm,1.0s								
BTNL	**Ternell**	**79.12**	**341**	*d*PcP	**PcP**	**11 13 42.3**	**-0.1**		
	comp=Z,10nm,0.8s								
BSTI	**Sart Tilman**	**79.25**	**341**	*d*PcP	**PcP**	**11 13 43.8**	**+1.0**		
BR131	**Keskin Array S**	**79.26**	**318**	*de*P	**P**	**11 13 36.0**	**+0.9**		
BRTR	**Keskin Array B**	**79.26**	**318**		**P**	**11 13 34.8**	**-0.3**		
BRTR	**Keskin Array B**	**79.26**	**318**	P	**P**	**11 13 35.5**	**+0.3**		
	comp=Z,3.7nm,0.9s,baz=42,slow=2.3,SNR=11								
	comp=Z,3.7nm,0.9s								
BHOU	**Houvegnez**	**79.36**	**341**	*d*PcP	**PcP**	**11 13 43.7**	**+0.3**		
	comp=Z,7.0nm,0.8s								
BCLA	**Clavier**	**79.46**	**341**	*d*PcP	**PcP**	**11 13 43.8**	**+0.1**		
	comp=Z,9.2nm,0.9s								
BGES	**Gesves**	**79.54**	**341**	*d*PcP	**PcP**	**11 13 44.5**	**+0.3**		
	comp=Z,6.8nm,0.7s								
MOA	**Molln**	**79.54**	**335**	*i* pP	P	11 13 45.1	+8.8		
	comp=Z,4.8nm,0.8s								
KIRS	**Kirsehir-Merke**	**79.61**	**318**	⇓pP	**P**	**11 13 37.5**	**+0.5**		
BMRD	**Maredsous**	**79.68**	**342**	*d*PcP	**PcP**	**11 13 44.2**	**-0.6**		
ARSA	**Arzberg**	**79.71**	**334**	*i* pP	P	11 13 46.2	+8.9		
	comp=Z,7.0nm,0.6s								
RCHB	**Rochefort**	**79.72**	**341**	*d*P	**P**	**11 13 37.9**	**+0.6**		
RCHB				*d*PcP	**pP**	**11 13 45.8**	**-0.3**		
STKA	**Stephens Creek**	**79.75**	**192**	LR	LR	11 47 52.3			
	comp=Z,69nm,20.4s,baz=36,slow=35								
BIOA	**Bad Ischl, Aus**	**79.87**	**335**	*i* pP	P	11 13 50.8	+13		
	comp=Z,11nm,0.7s								
SOKA	**Soboth**	**80.37**	**334**	*i* PcP	P	11 13 48.6	+7.6		
	comp=Z,10.0nm,1.5s								
LESA	**Schwarzleotal**	**80.38**	**336**	*i* pP	P	11 13 49.8	+8.8		
	comp=Z,9.4nm,0.7s								
KBA	**Konibreinsper**	**80.51**	**335**	*i* PcP	P	11 13 48.6	+6.8		
	comp=Z,18nm,0.8s								
OBKA	**Obir**	**80.67**	**334**	*i* pP	P	11 13 50.6	+8.1		
	comp=Z,3.6nm,0.7s								
WATA	**Walderalm**	**80.77**	**336**	*i* P	**P**	**11 13 44.2**	**+1.0**		
	comp=Z,12nm,1.2s								
WTTA	**Wattenberg**	**80.82**	**336**	*i* P	**P**	**11 13 44.4**	**+1.0**		
	comp=Z,8.6nm,0.9s								
MYKA	**Terra Mystica**	**80.83**	**335**	*i* pP	P	11 13 51.8	+8.4		
	comp=Z,7.1nm,0.9s								
BOVS	**Bovan**	**80.85**	**328**	⇑P	**P**	**11 13 43.1**	**-0.3**		
RETA	**Reutte**	**80.85**	**337**	*e*P	**P**	**11 13 44.5**	**+1.0**		
	comp=Z,2.2nm,0.6s								
MOTA	**Moosalm**	**80.89**	**337**	*i* P	**P**	**11 13 44.6**	**+0.8**		
	comp=Z,9.8nm,1.1s								
SQTA	**Sankt Quirin**	**80.98**	**336**	*i* P	**P**	**11 13 45.6**	**+1.3**		
	comp=Z,12nm,0.8s								
PPT	**Papeete**	**81.00**	**128**	LR	LR	11 43 19.6			
	comp=Z,178nm,19.4s,baz=46,slow=31								
PPT2	**Papeete2**	**81.02**	**128**	*e*LR	LR	11 39 01.4			
	comp=Z,156nm,20.5s								
PPT2				*e*LR	LR	11 39 10.9			
	comp=Z,187nm,22.2s								
ABTA	**Abfaltersbach**	**81.05**	**335**	*e*PcP	P	11 13 52.1	+7.5		
	comp=Z,3.9nm,0.7s								
DAVA	**Damuels**	**81.27**	**337**	*i* P	**P**	**11 13 46.4**	**+0.5**		
	comp=Z,1.8nm,0.4s								
FETA	**Feichten**	**81.29**	**337**	*i* PcP	P	11 13 50.9	+4.9		
	comp=Z,3.5nm,0.7s								
DAVOX	**Davos/Dischmat**	**81.74**	**337**	P	**P**	**11 13 48.6**	**+0.3**		
	comp=Z,4.3nm,0.7s,baz=8.1,slow=7.1,SNR=5.2								
	comp=Z,4.3nm,0.7s								
TUE	**Stuetta**	**82.17**	**337**	P	**P**	**11 13 51.2**	**+0.6**		
MMAI	**Mount Meron Ar**	**83.83**	**313**	P	**P**	**11 13 59.5**	**+0.2**		
	comp=Z,5.9nm,0.5s,baz=35,slow=5.3,SNR=8.0								
	comp=Z,5.9nm,0.5s								
NRCA	**Norcia**	**84.43**	**333**	IAmb	IAmb	11 14 25.1			
	comp=Z,9.5nm,0.8s								
RAYN	**Ar Rayn**	**85.76**	**300**		**P**	**11 14 09.2**	**+0.1**		
RAYN				IAmb	IAmb	11 14 10.3			
	comp=Z,10nm,1.1s								
RAYN	**Ar Rayn**	**85.76**	**300**	P	**P**	**11 14 09.3**	**+0.1**		
RAYN				pmax	pmax				
	comp=Z,10.0nm,1.1s								
ESDC	**Sonseca Array**	**91.62**	**344**	P	**P**	**11 14 34.9**	**-1.9**		
	comp=Z,1.1nm,0.8s,baz=11,slow=5.3,SNR=6.1								
	comp=Z,1.1nm,0.8s								
KEST	**Kesra**	**92.10**	**333**	P	**P**	**11 14 38.0**	**-1.0**		
	comp=Z,1.6nm,0.7s,baz=18,slow=3.2,SNR=1.2								
	comp=Z,1.6nm,0.7s								
VNDA	**Vanda**	**124.51**	**178**	PKP	**PKPdf**	**11 20 26.6**	**-0.6**		
	comp=Z,0.8nm,0.6s,baz=335,slow=4.7,SNR=9.3								
MAW	**Mawson**	**133.53**	**212**	PKP	**PKPdf**	**11 20 44.3**	**-0.3**		
	comp=Z,1.7nm,0.2s,baz=90,slow=7.1,SNR=4.1								
SIV	**San Ignacio**	**136.50**	**57**	PKP	**PKPdf**	**11 20 51.7**	**-0.1**		
	comp=Z,0.5nm,0.3s,baz=324,slow=18,SNR=1.5								
QSPA	**South Pole Qui**	**136.95**	**180**	PKP	**PKPdf**	**11 20 50.7**	**-0.4**		
	comp=Z,2.1nm,0.7s,baz=282,slow=0.7,SNR=10.0								
H03N2	**Juan Fernandez**	**136.97**	**92**	T	T	13 53 00.4			
	baz=308,slow=77,SNR=3.3								
H03N1	**Juan Fernandez**	**136.98**	**92**	T	T	13 52 56.9			
	baz=308,slow=77,SNR=3.6								
H03N3	**Juan Fernandez**	**136.98**	**92**	T	T	13 52 57.4			
	baz=308,slow=77,SNR=3.4								
CFA	**Coronel Fontan**	**143.15**	**81**	PKP	**PKPdf**	**11 21 03.2**	**-0.3**		
	comp=Z,1.0nm,0.4s,baz=270,slow=6.1,SNR=3.5								
PLCA	**Paso Flores**	**146.47**	**96**	PKPbc	**PKPbc**	**11 21 10.2**	**-0.2**		
	comp=Z,5.6nm,0.9s,baz=305,slow=7.0,SNR=12								
CPUP	**Villa Florida**	**146.67**	**63**	PKPbc	**PKPbc**	**11 21 10.5**	**-0.8**		
	comp=Z,2.0nm,1.1s,baz=315,slow=1.4,SNR=5.6								
TROLL	**Troll, Antarti**	**152.19**	**197**	⇑P	**PKPbc**	**11 21 23.1**	**-0.8**		
	comp=Z,648nm,1.1s								
SNAA	**Sanae**	**153.48**	**195**	⇑P	**PKPbc**	**11 21 25.6**	**-1.1**		
	comp=Z,77nm,1.0s								
SNAA	**Sanae**	**153.48**	**195**	PKPbc	**PKPbc**	**11 21 25.6**	**-1.1**		
	comp=Z,3.8nm,1.0s,baz=180,slow=3.8,SNR=7.6								
VNA2	**Neumayer--Watz**	**154.88**	**193**	⇑P	**PKPbc**	**11 21 28.8**	**-0.8**		
	comp=Z,3.6nm,0.7s,baz=138,slow=2.9								
VNA3	**Neumayer Olymp**	**154.91**	**191**	⇑P	**PKPbc**	**11 21 27.7**	**-1.9**		
	comp=Z,2.1nm,0.7s								
VNA1	**Neumayer--Stat**	**155.25**	**193**	⇑P	**PKPdf**	**11 21 27.7**	**+6.3**		
	comp=Z,2.3nm,0.8s								

STR 05 11:04:16.7±0.3, 46°N±3°×√2, h5km, MLv1.6/6, LOCSAT
earthModelID auvergne_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SSB	**Saint Sauveur**	**0.41**	**155**	Pg	Pg	11 04 23.6	-1.0
SSB				Sg	Sg	11 04 29.7	-0.3
COLF	**Collangettes**	**0.44**	**253**	Pg	Pg	11 04 24.8	-0.4
COLF				Sg	Sg	11 04 31.4	+0.3
PLDF	**La Plantade**	**0.57**	**304**	Pg	Pg	11 04 27.1	-0.5
PLDF				Sg	Sg	11 04 35.4	+0.4
LBL	**Lubilhac**	**0.85**	**241**	Pg	Pg	11 04 32.5	-0.5
LBL				Sg	Sg	11 04 44.4	+0.4
AGO	**Saint Agoulin**	**0.91**	**297**	Pg	Pg	11 04 33.8	-0.3
AGO				Sg	Sg	11 04 46.4	+0.5
OG35	**Corcelles**	**0.97**	**66**	Pg	Pg	11

comp=E,1.0nm,0.6s,baz=225,slow=2.9,SNR=5.7
MT02 Curacav 15.64 186 Pn 11 12 34.1 +0.3
MT09 Talagante 16.14 185 P Pn 11 12 40.1 +0.1
TRCB Terra Rica 16.40 111 P Pn 11 12 44.4 +1.1
MACA Manacapuru-AM 16.67 31 P 11 12 45.6 -0.5
ITAB Concordia 18.45 124 P 11 13 06.8 +1.3
PLTB Pedras Altas 19.95 138 P 11 13 22.4 +0.7
BDFB Brasilia 20.44 88 P P 11 13 27.7 +0.5
BDFB Brasilia 20.44 88 P P 11 13 27.1 -0.1
comp=E,33nm,0.4s,baz=262,slow=9.6,SNR=41
comp=E,33nm,0.4s
MAL2 Monte Alegre, 21.45 45 P P 11 13 37.1 -0.8
VAO Valinhos 21.55 108 P P 11 13 39.4 +0.4
BOAV Boa Vista 21.70 24 P 11 13 39.5 -1.0
LR05 Currie 22.63 186 P P 11 13 49.1 -0.3
LR05 IAmb IAmb 11 13 52.0
comp=Z,21nm,0.7s
PLCA Paso Flores 23.03 183 P P 11 13 55.2 +2.0
PLCA Paso Flores 23.03 183 P P 11 13 54.4 +1.3
comp=Z,7.0nm,0.9s,baz=6.2,slow=13,SNR=17
comp=Z,7.0nm,0.9s
RUSC La Rusia 23.70 350 P P 11 13 59.1 -0.8
BAUV El Baul 26.45 3 P P 11 14 22.8 -1.5
RPN Rapa Nui 38.11 248 LR LR 11 28 47.8
comp=Z,72nm,20.6s,baz=175,slow=31
TXAR Lajitas Array 57.33 324 P P 11 18 32.7 -0.7
comp=Z,0.4nm,0.5s,baz=142,slow=6.8,SNR=3.3
comp=Z,0.4nm,0.5s
VNA3 Neumayer Olymp 63.81 162 ⇑P P 11 19 19.1 +2.4
comp=Z,1.4nm,0.7s
SNAA Sanae 66.00 161 ⇑P P 11 19 32.3 +1.4
comp=Z,36nm,0.8s
SNAA Sanae 66.00 161 P P 11 19 33.0 +2.1
SNAA IAmb IAmb 11 21 26.6
comp=Z,12nm,1.4s
SNAA Sanae 66.00 161 P P 11 19 32.0 +1.1
comp=Z,1.3nm,0.7s,baz=280,slow=12,SNR=7.9
comp=Z,1.3nm,0.7s
TROLL Troll, Antarti 67.72 161 ⇑P P 11 19 44.4 +2.5
comp=Z,88nm,0.6s
DBIC Dimbokro 67.99 75 P P 11 19 44.7 +0.3
comp=Z,23nm,0.7s,baz=265,slow=5.9,SNR=27
comp=Z,23nm,0.7s
PDAR Pinedale Array 70.64 330 P P 11 19 59.8 -0.5
comp=Z,0.3nm,0.4s,baz=134,slow=6.8,SNR=7.3
PDAR pP pP 11 20 42.9 +2.1
comp=Z,0.3nm,0.6s,baz=188,slow=1.2,SNR=2.7
comp=Z,0.3nm,0.4s
ULM Lac du Bonnet 71.57 342 P P 11 20 04.9 -0.5
comp=Z,5.9nm,0.3s,baz=150,slow=8.0,SNR=37
comp=Z,5.9nm,0.3s
NVAR Mina Array Bea 72.29 321 P P 11 20 11.1 +0.8
comp=Z,0.7nm,0.8s,baz=97,slow=7.8,SNR=4.2
comp=Z,0.7nm,0.8s
QSPA South Pole Qui 72.52 180 P P 11 20 12.9 +1.8
QSPA IAmb IAmb 11 20 15.6
comp=Z,14nm,1.6s
QSPA South Pole Qui 72.52 180 P P 11 20 14.7 +3.6
comp=Z,1.7nm,0.7s,baz=145,slow=0.9,SNR=15
comp=Z,1.7nm,0.7s
TORD Torodi Ar. Bea 76.39 71 P P 11 20 33.4 -0.8
TORD Torodi Ar. Bea 76.39 71 P P 11 20 33.2 -1.0
comp=Z,25nm,0.6s,baz=245,slow=5.2,SNR=161
VNDA Vanda 80.57 190 P P 11 20 58.9 +2.9
comp=Z,0.9nm,0.9s,baz=105,slow=2.4,SNR=3.5
comp=Z,0.9nm,0.9s
ESDC Sonseca Array 83.33 45 P P 11 21 11.7 +0.6
comp=Z,2.0nm,0.8s,baz=242,slow=5.7,SNR=7.5
comp=Z,2.0nm,0.8s
BOSA Boshof 85.53 118 P P 11 21 22.8 +0.2
comp=Z,2.0nm,0.7s,baz=252,slow=6.4,SNR=1.7
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 87.47 341 P P 11 21 31.2 +0.3
comp=Z,1.6nm,0.6s,baz=134,slow=4.9,SNR=10
YKA pP pP 11 22 12.6 -0.3
comp=Z,1.0nm,0.7s,baz=127,slow=3.7,SNR=3.2
comp=Z,1.6nm,0.6s
KEST Kesra 91.24 53 P P 11 21 49.2 -0.2
comp=Z,3.1nm,0.8s,baz=231,slow=6.5,SNR=2.6
comp=Z,3.1nm,0.8s
ASAR Alice Springs 133.12 210 PKP PKiKP 11 28 00.4 -0.2
comp=Z,0.2nm,0.6s,baz=141,slow=0.8,SNR=1.8
ASAR SKPbc SKPbc 11 31 11.6 -0.8
comp=Z,0.8nm,0.8s,baz=139,slow=3.6,SNR=6.9
ASAR SKPab SKPab 11 31 14.2 -0.1
comp=Z,0.9nm,0.8s,baz=139,slow=3.6,SNR=6.0
WRA Warramunga Arr 136.05 213 PKP PKPdf 11 28 05.8 +0.9
comp=Z,0.3nm,0.5s,baz=140,slow=1.8,SNR=2.1
WRA pPKP pPKPdf 11 28 49.9 +0.8
comp=Z,0.5nm,0.8s,baz=126,slow=1.7,SNR=3.1
WRA SKPbc SKPbc 11 31 19.4 -2.4
comp=Z,1.8nm,0.9s,baz=146,slow=2.7,SNR=9.0
WRA SKP 11 31 23.8
comp=Z,1.8nm,0.9s,baz=145,slow=2.7,SNR=9.6
KURBB Kurchatov Arra 138.25 31 PKP PKPdf 11 28 08.2 +0.3
comp=Z,0.5nm,0.7s,baz=319,slow=2.4,SNR=1.9
KURBB pPKP pPKPdf 11 28 52.0 -0.1
comp=Z,0.5nm,0.7s,baz=288,slow=2.5,SNR=3.0
KURBB SKPbc SKPbc 11 31 25.6 -1.6
comp=Z,0.4nm,0.6s,baz=287,slow=2.8,SNR=4.8
ZALV Zalesovo Beam 138.58 23 PKP PKPdf 11 28 09.5 +1.1
comp=Z,0.6nm,0.5s,baz=253,slow=1.5,SNR=2.0
ZALV pPKP pPKPdf 11 28 54.6 +2.0
comp=Z,1.2nm,0.6s,baz=300,slow=3.2,SNR=3.1
ZALV SKPbc SKPbc 11 31 27.7 -0.3
comp=Z,2.8nm,0.8s,baz=316,slow=4.0,SNR=9.5
FITZ Fitzroy Crossi 141.58 203 PKhKP PKPpre 11 28 10.5
comp=Z,1.6nm,0.9s,baz=153,slow=2.3,SNR=7.9
MKAR Makanchi Array 142.64 33 PKP PKPdf 11 28 16.0 0.0
comp=Z,0.4nm,0.6s,baz=318,slow=1.9,SNR=2.6
MKAR SKPbc SKPbc 11 31 38.3 -0.6
comp=Z,1.0nm,0.7s,baz=312,slow=2.7,SNR=8.3
SONM Songino Array 149.69 6 PKPbc PKiKP 11 28 33.7 -0.2
comp=Z,1.0nm,0.5s,baz=341,slow=2.2,SNR=5.7
SONM pPKPbc pPKPbc 11 29 17.1 +0.4
comp=Z,1.1nm,0.6s,baz=349,slow=2.8,SNR=3.4

BEO 05 11:12:05.0±1.5, 44°16N×22°22E, h0km, ML1.3/3, Mining explosion., Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAGS	Zajecar	0.34	179	*e*Pg	Pg	11 12 11.9	+0.3
ZAGS				*e*Sg	Sg	11 12 16.1	+0.1
ZAPS	Zavoj	0.93	161	*e*Sg	Sg	11 12 34.8	-0.1
SELS	Selova	1.23	221	*e*Pg	Pg	11 12 26.7	-1.9
SELS				*e*Sg	Sg	11 12 44.9	+0.4
BARS	Barje	1.37	193	*e*Pg	Pg	11 12 29.0	-2.3
BARS				*e*Sg	Sg	11 12 47.6	-1.4

IDC ***05*** *11:15:54.0±0.5, 36°.86N×143°.38E, h0km, mb4.1/18, mbtmp4.2/24, ML4.2/5, MS3.3/4, Error ellipse: s-maj=15.0km s-min=13.4km az=96.0*

NEIC ***05*** *11:15:56.4±1.9, 36°.90N±0°.06×143°.32E±0°.09, h10km±1km, mb4.6/68, Error ellipse: s-maj=11.7km s-min=9.6km az=77.0*

JMA ***05*** *11:15:57.3±0.2, 37°.0N±0°.7×14°3E±°, h50km, MV4.2/36, FAR E OFF FUKUSHIMA PREF*

NIED ***05*** *11:15:57.3, 36°.98N×143°.24E, h50km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=2.03; Mθθ0.63; Mφφ1.40; Mrθ1.07; Mθφ0.79; Mφr1.34; Fault plane solution: M₀2.60000×10¹⁵ NP1:φs28.00000°, δ25.00000°, λ-97.00000°. NP2:φs216.00000°, δ66.00000°, λ-87.00000°.*

ISC 05 11:15:59.2±0.4, 36°.92N±0°.05×143°.25E±0°.06, h35km, n151, σ1s71/141, mb4.5/55, MS3.3/3, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	1.95	284	*i* P	Pn	11 16 28.5	-1.3
JIKH	Ishinomakikobu	1.98	315	*i* P	Pn	11 16 28.5	-1.7
JIKH				*e*S	Sn	11 16 51.3	-2.5
JMST	Minamisoumatoc	2.05	294	*i* P	Pn	11 16 29.6	-1.4
JMST				S	Sn	11 16 53.5	-1.9
JMM	Marumori	2.17	297		Pn	11 16 31.5	-1.3
JMM				Sn	Sn	11 16 56.2	-2.3
JMM	Marumori	2.17	297	P	Pn	11 16 31.6	-1.3
JOTO	OTAMA OYAMA	2.41	286	*i* P	Pn	11 16 35.8	-0.3
JOTO				S	Sn	11 17 03.8	-0.7
JMK	Ichinoseki	2.59	322	*i* P	Pn	11 16 37.0	-1.5
BSO1	Boso 1	2.92	220	P	Pn	11 16 42.4	-0.2
JOM	Ohasama	2.98	329	*i* P	Pn	11 16 42.3	-1.6
JYK	Kaneyama	3.03	312	*i* P	Pn	11 16 43.8	-0.9
JAG	Ashikaga	3.09	262	*i* P	Pn	11 16 44.9	-0.5
JAW	Awa shima	3.52	297	P	Pn	11 16 52.1	+0.7
JRY	Ryogami san	3.62	257	P	Pn	11 16 52.1	-0.7
JANG	Nango	3.71	339	P	Pn	11 16 51.6	-2.3
JOD2	Odawara 2	3.75	245	P	Pn	11 16 53.9	-0.7
JYN	Shimob	4.06	251	P	Pn	11 16 59.1	+0.2
MJAR	Matsushiro Arr	4.07	266		Pn	11 16 59.7	+0.8
MJAR	Matsushiro Arr	4.07	266	Pn	Pn	11 16 59.1	+0.2
	2.6nm,0.3s,baz=85,slow=12,SNR=84						
MJAR				Sn	Sn	11 17 43.7	-1.6
	0.6nm,0.3s,baz=78,slow=40,SNR=3.5						
	43nm,0.6s						
MAJO	Matsushiro	4.07	266		Pn	11 16 59.6	+0.7
MAJO	Matsushiro	4.07	266	P	Pn	11 16 59.6	+0.7
MAT	Matsushiro	4.07	266	P	Pn	11 16 59.7	+0.8
MJB9	Matsu-Tunnel	4.07	266	Pn	Pn	11 16 59.7	+0.7
JSD	Sado	4.12	287	Pn	Pn	11 16 58.9	-0.8
JSD	Sado	4.12	287	P	Pn	11 16 59.6	0.0
JSD	Sado	4.12	287	P	Pn	11 16 58.8	-0.8
JTM	Tenmabayashi	4.22	337		Pn	11 16 59.9	-1.1
JTM	Tenmabayashi	4.22	337	P	Pn	11 16 59.3	-1.7
JSG	Sagara	4.69	243	Pn	Pn	11 17 05.9	-1.5
JHJ2	Mitsune	4.73	218	Pn	Pn	11 17 06.4	-1.6
JHJ2	Mitsune	4.73	218	P	Pn	11 17 06.1	-1.9
JHJ	Hachijo jima 2	4.74	218	Pn	Pn	11 17 06.0	-2.1
	64nm,0.3s,baz=60,slow=18,SNR=32						
JHJ				Sn	Sn	11 17 57.5	-4.3
	151nm,0.3s,baz=43,slow=18,SNR=7.8						
	116nm,0.3s						
JOT	Ohata	4.77	340	P	Pn	11 17 07.3	-1.2
JGF	Kuroka	4.94	256		Pn	11 17 12.2	+1.3
JGF	Kuroka	4.94	256	P	Pn	11 17 12.4	+1.5
ERM	Erimo	5.09	359	Pn	Pn	11 17 10.0	-2.8
ERM	Erimo	5.09	359	P	Pn	11 17 09.8	-3.1
JEM	Erimo	5.09	359	P	Pn	11 17 09.9	-3.0
INU	Inuyama	5.28	255		Pn	11 17 16.3	+0.8
INU	Inuyama	5.28	255	P	Pn	11 17 16.8	+1.2
ASAJ	Asahikawa	7.21	356	Pn	Pn	11 17 39.8	-2.1
	19nm,0.3s,baz=192,slow=19,SNR=174						
ASAJ				Sn	Sn	11 18 57.4	-5.1
	4.7nm,0.3s,baz=127,slow=20,SNR=4.8						
ASAJ				LR	LR	11 20 44.5	
	comp=Z,236nm,19.7s,baz=195,slow=40						
	56nm,0.4s						
JKA	Kamikawa-asahi	7.21	356	Pn	Pn	11 17 39.9	-2.1
JMN	Monobe	8.29	250		Pn	11 17 57.9	+0.9
JMN	Monobe	8.29	250	P	Pn	11 17 58.4	+1.4
JCJ	Chichijima	9.84	186	Pn	Pn	11 18 14.3	-3.8
JCJ	Chichijima	9.84	186	P	Pn	11 18 13.7	-4.4
YSS	Yuzhno-Sakhali	10.03	358		Pn	11 18 18.3	-2.4
YSS	Yuzhno-Sakhali	10.03	358	P	Pn	11 18 18.6	-2.1
JNU	Nakatsue	10.83	253	Pn	Pn	11 18 32.5	+0.8
JNU	Nakatsue	10.83	253	P	Pn	11 18 32.1	+0.4
USA0B	Ussuriysk Arra	11.23	314	Pn	Pn	11 18 37.0	-0.1
USRK	Ussuriysk Ar.	11.23	314	Pn	Pn	11 18 36.5	-0.6
USRK	Ussuriysk Ar.	11.23	314	Pn	Pn	11 18 35.9	-1.2
	0.7nm,0.3s,baz=126,slow=15,SNR=8.5						
USRK				LR	LR	11 22 43.5	
	comp=Z,163nm,19.8s,baz=147,slow=36						
	4.5nm,0.6s						
KSRS	Korea Array	12.24	277	Pn	Pn	11 18 52.3	+1.4
	0.4nm,0.3s,baz=89,slow=14,SNR=20						
	6.0nm,0.9s						
BNX	BinXian	14.79	311	⇑P	Pn	11 19 23.5	-2.1
BNX				pmax	pmax		
	comp=Z,11nm,0.9s						
CN2	Changchun	15.20	302	P	Pn	11 19 30.0	-1.1
HEH	HeiHe	17.54	324	*e*P	Pn	11 19 56.7	-4.0
HEH				LR	LR		
	comp=N,230nm,14.6s						
HEH				LR	LR		
	comp=E,250nm,12.8s						
HEH				LR	LR		
	comp=Z,410nm,14.1s						
PETK	Petropavlovsk-	19.08	27	P	Pn	11 20 20.0	+0.5
	comp=Z,2.4nm,0.9s,baz=212,slow=14,SNR=2.1						
XLT	XiLinHaoTe	21.77	297	*e*P	P	11 20 46.2	-1.6
XLT				pmax	pmax		
	comp=Z,20nm,1.3s						
XLT				pmax	pmax		
	comp=Z,180nm,7.0s						
BTO	Baotou	26.08	288	*e*P	P	11 21 27.4	-2.2
BTO				pP	pP	11 21 31.6	-6.1
BTO				sP	sP	11 21 34.4	-6.8
BTO				PP	PnPn	11 22 11.1	+2.7
BTO				pmax	pmax		
	comp=Z,20nm,0.7s						
BTO				pmax	pmax		
	comp=Z,190nm,4.3s						
H11N2	WAKE ISLAND Hy	26.84	123	T	T	11 49 42.5	
	baz=315,slow=75,SNR=17						
H11N1	WAKE ISLAND Hy	26.85	123	T	T	11 49 42.1	
	baz=315,slow=75,SNR=15						
H11N3	WAKE ISLAND Hy	26.86	123	T	T	11 49 44.6	
	baz=315,slow=75,SNR=16						
H11S1	WAKE ISLAND Hy	27.58	125	T	T	11 50 38.1	
	baz=317,slow=76,SNR=9.9						
H11S3	WAKE ISLAND Hy	27.58	125	T	T	11 50 39.4	
	baz=317,slow=76,SNR=10						
H11S2	WAKE ISLAND Hy	27.59	125	T	T	11 50 40.7	
	baz=317,slow=76,SNR=13						
SONM	Songino Array	29.07	304	P	P	11 21 57.1	+0.8
SONM	Songino Array	29.07	304	P	P	11 21 58.3	+2.1
	comp=Z,4.0nm,0.7s,baz=99,slow=7.7,SNR=17						
SONM				LR	LR	11 33 39.6	
	comp=Z,75nm,19.0s,baz=44,slow=36						
	comp=Z,4.0nm,0.7s						
LZDM	Lanzhou Array	31.68	280	P	P	11 22 21.4	+1.7
	comp=Z,1.8nm,0.4s,baz=97,slow=6.0,SNR=1.4						
	comp=Z,1.8nm,0.4s						
GTA	Gaotai	34.00	288	*e*P	P	11 22 41.6	+1.9
GTA				sP	pwP	11 22 55.3	-0.5
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CMAR	Chiang Mai Arr	42.90	257	P	P	11 23 56.2	+1.7
	comp=Z,0.7nm,0.6s,baz=70,slow=9.5,SNR=1.8						
	comp=Z,0.7nm,0.6s						
ZAA0	Zalesovo Array	43.08	312	P	P	11 23 56.0	+0.5
ZALV	Zalesovo Beam	43.08	312	P	P	11 23 56.3	+0.9
ZALV	Zalesovo Beam	43.08	312	P	P	11 23 56.1	+0.7
	comp=Z,1.5nm,0.6s,baz=87,slow=7.8,SNR=6.5						
ZALV				PcP	PcP	11 25 45.6	+0.7
	comp=Z,1.3nm,0.5s,baz=97,slow=4.6,SNR=4.0						
ZALV				LR	LR	11 42 23.3	
	comp=Z,33nm,18.0s,baz=54,slow=37						
	comp=Z,1.5nm,0.6s						
M16K	Timber Creek	43.08	37	P	P	11 23 55.0	-0.4
M16K				IAmb	IAmb	11 24 12.6	
	comp=Z,9.8nm,1.2s						
K17K	Iditarod	43.61	35	P	P	11 24 01.3	+1.7
MKAR	Makanchi Array	45.42	303		P	11 24 15.3	+0.9
MKAR	Makanchi Array	45.42	303	P	P	11 24 15.0	+0.6
	comp=Z,1.4nm,0.5s,baz=85,slow=10.0,SNR=14						
	comp=Z,1.4nm,0.5s						
OHAK	Old Harbor	45.84	43	P	P	11 24 17.9	+0.4
OHAK				IAmb	IAmb	11 24 32.6	
	comp=Z,3.5nm,0.8s						
KDAK	Kodiak Island	46.20	42	P	P	11 24 20.8	+0.5
KDAK				IAmb	IAmb	11 24 35.1	
	comp=Z,6.7nm,0.7s						
KURK	Kurchatov	47.16	308		P	11 24 29.1	+1.2
MLY	Manley	47.17	32		P	11 24 29.5	+1.6
MLY				IAmb	IAmb	11 24 43.3	
	comp=Z,5.4nm,0.8s						
KURBB	Kurchatov Arra	47.23	308	P	P	11 24 29.2	+0.7
	comp=Z,2.7nm,0.5s,baz=81,slow=8.1,SNR=22						
	comp=Z,2.7nm,0.5s						
H23K	Yukon River	47.71	31	P	P	11 24 33.1	+1.1
H23K				IAmb	IAmb	11 24 47.6	
	comp=Z,4.4nm,0.7s						
E23K	Chandalar	47.83	28		P	11 24 35.0	+1.9
EVN	Everest	47.86	276	P	P	11 24 35.2	+0.8
EVN				IAmb	IAmb	11 24 50.4	
	comp=Z,8.4nm,1.2s						
NEA2	Nenana	47.86	33	IAmb	IAmb	11 24 48.7	
	comp=Z,3.7nm,0.8s						
TOLK	Toolik Lake Re	47.90	27	P	P	11 24 34.6	+1.1
TOLK				IAmb	IAmb	11 24 48.9	
	comp=Z,5.6nm,0.8s						
E24K	Your Creek	48.26	28	P	P	11 24 37.0	+0.7
E24K				IAmb	IAmb	11 24 52.4	
	comp=Z,3.6nm,0.9s						
WRH	Wood River Hil	48.29	33	P	P	11 24 36.9	+0.4
WRH				IAmb	IAmb	11 24 51.5	
	comp=Z,2.6nm,0.6s						
C24K	Franklin Bluff	48.31	26	P	P	11 24 38.1	+1.4
ILAR	Eielson Array	48.80	32	P	P	11 24 40.6	+0.1
	comp=Z,1.3nm,0.8s,baz=271,slow=7.1,SNR=23						
	comp=Z,1.3nm,0.8s						
F25K	Christian Rive	49.31	29	P	P	11 24 45.8	+1.4
F25K				IAmb	IAmb	11 25 00.1	
	comp=Z,3.4nm,0.7s						
BMRM	Bremner River	50.06	37		P	11 24 53.0	+2.9
BMRM				IAmb	IAmb	11 25 08.6	
	comp=Z,5.1nm,0.9s						
CRQM	Cirque	50.80	37	IAmb	IAmb	11 25 15.5	
	comp=Z,7.5nm,0.7s						
H27K	Steamboat Moun	50.98	30	P	P	11 24 58.1	+1.1
BVAR	Borovoye Array	51.73	313	P	P	11 25 02.7	-0.1
	comp=Z,0.7nm,0.6s,baz=79,slow=8.7,SNR=7.2						
BVAR				PcP	PcP	11 26 16.8	+1.0
	comp=Z,0.8nm,0.5s,baz=90,slow=5.9,SNR=1.8						
	comp=Z,0.7nm,0.6s						
E29M	Blow River	52.20	27	IAmb	IAmb	11 25 22.1	
	comp=Z,5.6nm,0.8s						
I29M	Ogilvie Camp,	52.39	31	P	P	11 25 08.4	+0.9
I29M				IAmb	IAmb	11 25 22.9	
	comp=Z,5.7nm,0.8s						
L29M	L29M	52.80	34	IAmb	IAmb	11 25 15.2	
	comp=Z,7.6nm,1.3s						
EPYK	Eagle Plains	52.89	30	IAmb	IAmb	11 25 26.5	
	comp=Z,9.0nm,0.8s						
K29M	Barlow Dome	52.95	33	P	P	11 25 12.4	+0.6
G30M	tAoh Zraii Nji	53.00	29	IAmb	IAmb	11 25 27.0	
	comp=Z,5.6nm,0.6s						
I30M	Mount Dempster	53.21	31		P	11 25 14.7	+1.0
I30M				IAmb	IAmb	11 25 29.2	
	comp=Z,7.1nm,0.8s						
HYT	Haines Junctio	53.51	37	IAmb	IAmb	11 25 32.5	
	comp=Z,3.6nm,0.7s						
H31M	Peel River	53.94	30		P	11 25 20.5	+1.5
KNRA	Kununurra	54.07	197	P	P	11 25 20.0	-0.3
KKAR	Karatay Array	54.45	301	P	P	11 25 23.8	+0.8
WRAB	Tennant Creek	57.17	190	P	P	11 25 42.0	-0.5
WRAB				IAmb	IAmb	11 25 42.9	
	comp=Z,8.1nm,0.9s						
WRA	Warramunga Arr	57.18	190		P	11 25 41.6	-1.0
WRA	Warramunga Arr	57.18	190	P	P	11 25 42.0	-0.6
	comp=Z,5.8nm,0.7s,baz=9.6,slow=7.2,SNR=54						
	comp=Z,5.8nm,0.7s						
FITZ	Fitzroy Crossi	57.19	200	P	P	11 25 42.3	-0.4
FITZ	Fitzroy Crossi	57.19	200	P	P	11 25 42.5	-0.2
	comp=Z,2.0nm,0.6s,baz=18,slow=14,SNR=8.6						
	comp=Z,2.0nm,0.6s						
ABKAR	Akbulak array	59.13	311		P	11 25 56.8	+0.7
AS31	Alice Springs	60.90	190	P	P	11 26 07.0	-1.4
ASAR	Alice Springs	60.90	190		P	11 26 07.8	-0.6
ASAR	Alice Springs	60.90	190	P	P	11 26 07.9	-0.5
	comp=Z,3.6nm,0.7s,baz=11,slow=6.4,SNR=28						
	comp=Z,3.6nm,0.7s						
MBWA	Marble Bar	61.88	205	P	P	11 26 15.2	+0.1
EIDS	Eidsvold	62.39	172	P	P	11 26 19.2	+0.8
ARCES	ARCESS Array B	64.61	340	P	P	11 26 33.4	+0.8
	comp=Z,3.3nm,1.1s,baz=58,slow=5.6,SNR=4.3						
	comp=Z,3.3nm,1.1s						
STKA	Stephens Creek	68.46	182	P	P	11 26 57.5	0.0
	comp=Z,2.4nm,0.7s,baz=342,slow=20,SNR=2.9						
	comp=Z,2.4nm,0.7s						
PINE	Pine Mountain	69.28	50	P	P	11 27 03.1	+0.2
FINES	FINESS Array B	69.59	333	P	P	11 27 04.1	-0.1
	comp=Z,1.3nm,0.7s,baz=28,slow=6.1,SNR=3.6						
	comp=Z,1.3nm,0.7s						
PLID	Pearl Lake	71.56	47	P	P	11 27 17.4	+0.5
KBZ	Khabaz	72.09	311	P	P	11 27 22.9	+3.2
	comp=Z,1.3nm,0.6s,baz=23,slow=1.5,SNR=2.1						
DLMT	Dillon	73.38	46	IAmb	IAmb	11 27 44.4	
	comp=Z,4.2nm,0.8s						
BOZ	Bozeman (W)	73.79	45	IAmb	IAmb	11 27 45.1	
	comp=Z,3.9nm,0.7s						
NVAR	Mina Array Bea	73.87	54	P	P	11 27 32.1	+1.3
	comp=Z,1.2nm,0.7s,baz=305,slow=6.3,SNR=9.5						
	comp=Z,1.2nm,0.7s						
YHL	Hebgen Lake	74.49	45	P	P	11 27 36.5	+2.2
AKASG	Malin Array Be	75.28	323	P	P	11 27 39.0	+0.6
	comp=Z,0.5nm,0.4s,baz=46,slow=7.9,SNR=1.4						
	comp=Z,0.5nm,0.4s						
QSM	Queen of Sheba	76.22	55	P	P	11 27 43.8	-0.3
QSM				IAmb	IAmb	11 27 47.6	
	comp=Z,3.0nm,0.8s						
PDAR	Pinedale Array	76.69	46	P	P	11 27 45.4	-1.5
	comp=Z,0.5nm,0.7s,baz=294,slow=2.8,SNR=8.5						
	comp=Z,0.5nm,0.7s						
LCMT	Little Creek M	77.95	53	P	P	11 27 54.0	+0.1
KNB	Kanab	78.22	53		P	11 27 56.8	+1.4
SRU	San Rafael Swe	78.37	50	IAmb	IAmb	11 28 11.5	
	comp=Z,4.9nm,0.7s						
HMU	Henry Mountain	78.96	51	IAmb	IAmb	11 28 14.8	
	comp=Z,4.8nm,0.7s						
PV23	Carpenter Ridg	79.71	49	IAmb	IAmb	11 28 07.3	
	comp=Z,10nm,1.0s						
PV04	Paradox Valley	79.81	50	IAmb	IAmb	11 28 06.2	
	comp=Z,5.1nm,1.0s						
PV19	Morning Glory	79.81	50	P	P	11 28 05.1	+0.9
PV17	East Wray Mesa	79.85	50	IAmb	IAmb	11 28 19.4	
	comp=Z,6.0nm,0.8s						
PV05	Paradox Valley	79.89	50	P	P	11 28 04.9	+0.3
PV05				IAmb	IAmb	11 28 06.8	
	comp=Z,6.6nm,0.9s						
PV03	Paradox Valley	79.93	50	IAmb	IAmb	11 28 06.8	
	comp=Z,4.9nm,1.0s						
PV13	Radium Mtn., P	80.01	50	IAmb	IAmb	11 28 07.3	
	comp=Z,5.9nm,0.9s						
PV02	Paradox Valley	80.03	50	P	P	11 28 06.5	+1.1
PV02				IAmb	IAmb	11 28 24.5	
	comp=Z,11nm,1.3s						
CLL	Collm	81.92	331	*e*P	P	11 28 16.0	+1.1
CLL				*i* pP	PcP	11 28 20.0	-0.4
	comp=Z,9.0nm,1.2s						
ANMO	Albuquerque	83.53	51	P	P	11 28 24.4	+0.5
TXAR	Lajitas Array	89.02	53	P	P	11 28 50.6	-0.2
	comp=Z,0.9nm,0.7s,baz=316,slow=4.7,SNR=14						
	comp=Z,0.9nm,0.7s						
VAE	Valguarnera	92.15	322	LR	LR	12 13 48.0	
	comp=Z,1μm,18.4s,baz=36,slow=38						
QSPA	South Pole Qui	126.66	180	PKPdf	PKiKP	11 34 58.6	+0.3
QSPA	South Pole Qui	126.66	180	PKP	PKiKP	11 34 58.3	0

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PATR	**El Naranjo**	**1.55**	**78**	*eP*	Pn	11 22 41.1	-3.5
PATR				*eS*	Sn	11 23 01.0	-4.0
PAVE	**Pavencul**	**1.62**	**76**	*eP*	Pn	11 22 41.3	-4.3
PAVE	**Pavencul**	**1.62**	**76**	*eP*	Pn	11 22 40.9	-4.7
PAVE				*eS*	Sn	11 23 00.5	-6.3
CHUJ	**Union Juarez**	**1.66**	**79**	*eP*	Pn	11 22 42.9	-3.3
CHUJ	**Union Juarez**	**1.66**	**79**	*eP*	Pn	11 22 43.4	-2.9
CHUJ				*eS*	Sn	11 23 02.9	-4.9
TGIG		**2.08**	**18**	*eP*	Pn	11 22 48.8	-3.0
TGIG				*eS*	Sn	11 23 13.8	-4.0
CCIG	**Comitan**	**2.18**	**47**	*eP*	Pn	11 22 51.5	-1.8
CMIG	**Matias Romero**	**2.51**	**336**	*eP*	Pn	11 22 52.6	-5.0
CMIG				*eS*	Sn	11 23 19.0	-9.5
UXUV	**UXUV**	**2.53**	**353**	*eP*	Pn	11 22 55.4	-2.5
UXUV				*eS*	Sn	11 23 24.6	-4.3
NEUV	**Arroyo Zacate**	**3.48**	**327**	*eP*	Pn	11 23 03.9	-7.1
NEUV				*eS*	Sn	11 23 44.6	-7.7

WEL 05 11:27:43.6±0.7, 32°S±6″×18°0E±1″3, h12km, M4.3/3, mB4.6/3, ML4.8/10, MLv4.3/2, Mw(mB)3.8/3, Error ellipse: s-maj=17.6km s-min=4.5km az=112.9, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.24**	**38**	S	Sn	11 29 12.9	+0.1
WMGZ	**Waiomatatini S**	**6.06**	**190**	P	Pn	11 29 14.7	+1.6
WMGZ				S	Sn	11 30 27.4	+5.0
WCZ	**Waipu Caves**	**6.10**	**227**	P	Pn	11 29 12.0	-1.6
HAZ	**Te Kaha**	**6.12**	**195**	P	Pn	11 29 14.5	+0.6
HAZ				S	Sn	11 30 26.7	+2.9
PKGZ	**Pakihiroa**	**6.17**	**193**	P	Pn	11 29 17.1	+2.6
PKGZ				S	Sn	11 30 27.9	+2.9
PUZ	**Puketiti**	**6.33**	**191**	P	Pn	11 29 17.5	+0.7
PUZ				S	Sn	11 30 30.5	+1.4
RUGZ	**Raukumara Rang**	**6.34**	**195**	P	Pn	11 29 18.5	+1.4
RUGZ				S	Sn	11 30 30.4	+0.9
TWGZ	**Tauwhareparae**	**6.49**	**193**	S	Sn	11 30 36.6	+3.7
CNGZ	**Carnagh Statio**	**6.75**	**191**	S	Sn	11 30 35.4	-3.8
URZ	**Urewera**	**6.76**	**198**	P	Pn	11 29 23.1	+0.4
URZ				S	Sn	11 30 40.3	+0.7
TKGZ	**Te Karaka**	**6.76**	**193**	P	Pn	11 29 24.7	+2.0
TKGZ				S	Sn	11 30 41.0	+1.3
TOZ	**Tahuroa Road**	**6.85**	**210**	S	Sn	11 30 43.4	+1.7
RAGZ	**Rawiri**	**6.91**	**196**	S	Sn	11 30 46.6	+3.2
RIGZ	**Rimuhau**	**7.04**	**193**	P	Pn	11 29 27.2	+0.7
RIGZ				S	Sn	11 30 47.2	+0.7
MUGZ	**Murupara**	**7.06**	**200**	P	Pn	11 29 28.5	+1.7
MUGZ				S	Sn	11 30 48.4	+1.4
SNGZ	**Shannon Statio**	**7.20**	**196**	S	Sn	11 30 50.9	+0.4
TLZ	**Tolley Road**	**7.35**	**207**	P	Pn	11 29 34.4	+3.6
RAHZ	**Arahi**	**7.39**	**197**	P	Pn	11 29 31.1	-0.2
RAHZ				S	Sn	11 30 55.3	+0.2
MTHZ	**Maungataniwha**	**7.39**	**198**	P	Pn	11 29 31.9	+0.6
MTHZ				S	Sn	11 30 54.2	-1.0
MHGZ	**Mahia Peninsul**	**7.45**	**191**	P	Pn	11 29 29.7	-2.4
MHGZ				S	Sn	11 30 52.8	-3.7
NMHZ	**Naumai**	**7.63**	**198**	P	Pn	11 29 33.4	-1.3
NMHZ				S	Sn	11 31 03.0	+1.9
BKZ	**Black Stump Fm**	**7.78**	**199**	P	Pn	11 29 31.9	-4.8
BKZ				S	Sn	11 31 04.9	+0.1
MCHZ	**McNeill Hill**	**7.99**	**198**	P	Pn	11 29 39.5	0.0
MCHZ				S	Sn	11 31 08.0	-1.7
OTVZ	**Oturere**	**8.04**	**204**	P	Pn	11 29 40.4	0.0
KWHZ	**Kaweka Forest**	**8.04**	**199**	P	Pn	11 29 38.2	-2.1
KWHZ				S	Sn	11 31 10.8	-0.4
SNVZ	**South Ngauruho**	**8.07**	**204**	P	Pn	11 29 40.7	-0.1
TUVZ	**Tukino**	**8.13**	**203**	P	Pn	11 29 40.6	-1.0
FWVZ	**Far West T-bar**	**8.16**	**204**	P	Pn	11 29 42.0	-0.1
MAVZ	**Matarangi**	**8.17**	**204**	P	Pn	11 29 42.2	0.0
WHVZ	**Whangaehu Hut**	**8.17**	**204**	P	Pn	11 29 41.9	-0.3
MOVZ	**Moawhango**	**8.23**	**203**	P	Pn	11 29 41.9	-1.0
KRHZ	**Kereru**	**8.26**	**199**	P	Pn	11 29 40.9	-2.4

*KOLA **05** 11:31:40.6, 64°.51N×30°.09E, h0km, ML1.8, Karelia, Finland, Oulu area*

HEL 05 11:31:31.8±0.1, 63°.97N×28°.13E, h0km, ML1.5, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIF	**Nilsia**	**0.59**	**194**	PG	Pg	11 31 42.7	-0.5
NIF				SG	Sg	11 31 50.0	-0.8
NIF				MSG		11 31 50.7	
	comp=Z,6.3nm,0.2s						
RMF	**Romuvaara**	**0.83**	**72**	PG	Pg	11 31 47.3	-0.4
RMF				MSG		11 31 57.5	
	comp=Z,6.8nm,0.2s						
OUL	**Oulu**	**1.48**	**320**	PG	Pn	11 31 58.9	-0.8
	baz=135						
SUF	**Sumiainen**	**1.54**	**216**	PN	Pn	11 31 59.8	-0.6
SUF				MSG		11 32 17.9	
	comp=Z,2.0nm,0.2s						
OUF	**Merijarvi**	**1.54**	**287**	PG	Pn	11 31 59.6	-0.9
	baz=99						
OUF				MSG		11 32 17.9	
	comp=Z,3.1nm,0.2s						
OUF				SN	Sn	11 32 20.3	-0.8
OBF4	**Vikkela, Lumij**	**1.57**	**304**	PG	Pn	11 32 00.2	-0.6
	baz=117						
OBF4				MSG		11 32 18.7	
	comp=Z,3.2nm,0.2s						
KU1	**Kurvinen**	**1.72**	**20**	PG	Pn	11 32 02.7	-0.3
KU2	**Taivalkoski**	**1.75**	**1**	PG	Pn	11 32 03.1	-0.3
JOF	**Joensuu**	**1.78**	**125**	*eP*	Pn	11 32 03.6	-0.1
JOF	**Joensuu**	**1.78**	**125**	PG	Pn	11 32 03.8	+0.1
OBF0	**Syolatti, Pyha**	**1.78**	**289**	PG	Pn	11 32 03.8	0.0
OBF0				MSG		11 32 24.9	
	comp=Z,4.0nm,0.2s						
OBF0				SN	Sn	11 32 27.5	+0.4
MSF	**Maaselka**	**1.99**	**11**	PG	Pn	11 32 07.2	+0.5
MSF				SG	Sb	11 32 34.2	0.0
KAF	**Kangasniemi**	**2.04**	**205**	PG	Pn	11 32 08.3	+1.0
KAF				MSG		11 32 32.2	
	comp=Z,4.4nm,0.2s						
KAF				SG	Sg	11 32 36.3	-0.8
OBF8	**Ulkokalla**	**2.08**	**282**	PG	Pb	11 32 09.2	-1.2
	baz=102						
OBF8				MSG		11 32 33.7	
	comp=Z,2.4nm,0.2s						
RANF	**Ranua**	**2.13**	**345**	PG	Pb	11 32 10.1	-1.1
	baz=160						
RANF				SG	Sb	11 32 37.6	-0.7
KU6	**Riekki**	**2.20**	**19**	PG	Pn	11 32 10.8	+1.2
	baz=197						
KU6				MSG		11 32 36.9	
	comp=Z,1.1nm,0.2s						
KU6				SG	Sb	11 32 39.6	-0.6
KEF	**Keuruu**	**2.34**	**221**	*eP*	Pn	11 32 12.8	+1.4
KEF	**Keuruu**	**2.34**	**221**	PG	Pb	11 32 13.4	-1.3
KEF				MSG		11 32 41.0	
	comp=Z,2.9nm,0.2s						
KEF				SG	Sb	11 32 43.6	-0.5
OLKF	**Oulanka, Finla**	**2.42**	**12**	PB	Pb	11 32 14.5	-1.7
OLKF				MSG		11 32 43.6	
	comp=Z,2.0nm,0.2s						
OLKF				SG	Sb	11 32 46.5	-0.2
RUF	**Ruokolahti**	**2.58**	**171**	PB	Pb	11 32 17.1	-1.8
	baz=347						
RUF				MSG		11 32 48.0	
	comp=Z,2.1nm,0.2s						
RUF				SG	Sg	11 32 52.8	-1.7
TOF	**Tornio**	**2.67**	**324**	PB	Pn	11 32 17.2	+1.3
TOF				MSG		11 32 50.3	
	comp=Z,0.8nm,0.2s						
TOF				SG	Sb	11 32 53.2	-0.4
FIA0	**FINESS Array S**	**2.70**	**201**	PB	Pn	11 32 18.5	+2.1
FIA0				MSG		11 32 51.4	
	comp=Z,1.4nm,0.2s						
FIA0				SG	Sb	11 32 53.3	-1.3
SJUU	**Sjulsmark**	**3.20**	**302**	*eP*	Pn	11 32 23.2	0.0
UMAU	**Umeaa**	**3.29**	**272**	PN	Pn	11 32 24.1	-0.4
ERTU	**Ertsjaerv**	**3.60**	**319**	PN	Pn	11 32 30.0	+1.2
PAJU	**Pajala**	**3.71**	**328**	PN	Pn	11 32 31.8	+1.5
NUR	**Nurmijarvi**	**3.83**	**207**	SN	Sn	11 33 17.9	+0.3
HEMU	**Hemsoen**	**4.73**	**259**	PN	Pn	11 32 44.6	+0.3
ARCES	**ARCESS Array B**	**5.69**	**351**	P	Pn	11 32 58.5	+1.0
ARCES				S	Sn	11 34 02.2	-1.2

*SNET **05** 11:32:32.3±2.0, 13°.11N×89°.61W, h64km, ML3.3*
*GCG **05** 11:32:33.9±1.1, 13°.17N×89°.57W, h58km±10km, MD3.7*
*CATAC **05** 11:32:34.4±0.6, 13°N±4°×9°0W±°, h33km±4km, M3.4/12, MLv3.4/12, Error ellipse: s-maj=9.2km s-min=5.7km az=37.0, confirmed*

ISC 05 11:32:34.3±2.3, 13°.1N±0°.1×89°.55W±0°.08, h55km±13km, n43, σ0.943/53, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAYA	**Jayaque - finc**	**0.52**	**10**	*eP*	**Pn**	**11 32 46.0**	**-0.3**
JAYA				*eS*	**Sn**	**11 32 54.7**	**-0.3**
JAYA	**Jayaque - finc**	**0.52**	**10**	*i* P	**Pn**	**11 32 45.9**	**-0.4**
JAYA				*i* S	**Sn**	**11 32 55.0**	**0.0**
JAYA	**Jayaque - finc**	**0.52**	**10**	P	**Pn**	**11 32 46.0**	**-0.3**
PANCS	**Alcalda de**	**0.59**	**37**	P	**Pn**	**11 32 46.8**	**-0.2**
PMON	**Piamonte**	**0.61**	**22**	S	**Sn**	**11 32 56.8**	**+0.1**
PMON	**Piamonte**	**0.61**	**22**	P	**Pn**	**11 32 47.2**	**-0.1**
LOMA	**Loma Larga**	**0.62**	**36**	*eS*	**Sn**	**11 32 57.2**	**+0.2**
LOMA	**Loma Larga**	**0.62**	**36**	S	**Sn**	**11 32 56.9**	**-0.1**
LOMA	**Loma Larga**	**0.62**	**36**	P	**Pn**	**11 32 47.1**	**-0.3**
BOQS	**Boqueron**	**0.65**	**24**	*eP*	**Pn**	**11 32 47.6**	**-0.2**
UEES	**Universidad Ev**	**0.65**	**27**	S	**Sn**	**11 32 57.8**	**+0.3**
UEES	**Universidad Ev**	**0.65**	**27**	P	**Pn**	**11 32 47.5**	**-0.3**
LFRS	**El Faro**	**0.67**	**44**	*eP*	**Pn**	**11 32 48.1**	**0.0**
CEVE	**Cerro Verde**	**0.69**	**354**	*eP*	**Pn**	**11 32 48.5**	**0.0**
CEVE				*eS*	**Sn**	**11 33 00.2**	**+1.6**
CEVE	**Cerro Verde**	**0.69**	**354**	P	**Pn**	**11 32 48.6**	**+0.2**
LFU	**La Fuente**	**0.74**	**35**	*eS*	**Sn**	**11 32 60.0**	**+0.5**
LBRS	**Las Brisas**	**0.77**	**39**	*eP*	**Pn**	**11 32 49.5**	**+0.2**
NUBE	**Las Nubes**	**0.79**	**343**	*eP*	**Pn**	**11 32 49.4**	**-0.3**
NUBE				*eS*	**Sn**	**11 33 00.9**	**+0.1**
NUBE	**Las Nubes**	**0.79**	**343**	*i* P	**Pn**	**11 32 49.3**	**-0.3**
NUBE				*i* S	**Sn**	**11 33 00.9**	**+0.1**
NUBE	**Las Nubes**	**0.79**	**343**	P	**Pn**	**11 32 49.3**	**-0.3**
PAVA	**Las Pavas**	**0.82**	**46**	*eP*	**Pn**	**11 32 49.9**	**-0.1**
PAVA				*eS*	**Sn**	**11 33 02.1**	**+0.7**
PAVA	**Las Pavas**	**0.82**	**46**	S	**Sn**	**11 33 01.6**	**+0.1**
PAVA	**Las Pavas**	**0.82**	**46**	P	**Pn**	**11 32 50.0**	**0.0**
UESV	**Universidad de**	**0.89**	**56**	S	**Sn**	**11 33 02.0**	**-0.8**
UESV	**Universidad de**	**0.89**	**56**	P	**Pn**	**11 32 50.3**	**-0.4**
LLGN	**La Laguna**	**1.17**	**30**	S	**Sn**	**11 33 09.1**	**-0.6**
LLGN	**La Laguna**	**1.17**	**30**	P	**Pn**	**11 32 54.0**	**-0.6**
PACA	**Pacayal**	**1.23**	**75**	*eP*	**Pn**	**11 32 55.8**	**+0.4**
PACA				*eS*	**Sn**	**11 33 12.1**	**+0.9**
PACA	**Pacayal**	**1.23**	**75**	S	**Sn**	**11 33 11.9**	**+0.7**
PACA	**Pacayal**	**1.23**	**75**	P	**Pn**	**11 32 55.7**	**+0.2**
MTO3	**Montecristo**	**1.26**	**8**	*eP*	**Pn**	**11 32 55.7**	**-0.3**
MTO3				*eS*	**Sn**	**11 33 12.1**	**0.0**
MTO3	**Montecristo**	**1.26**	**8**	*i* P	**Pn**	**11 32 55.7**	**-0.3**
MTO3				*i* S	**Sn**	**11 33 12.5**	**+0.5**
MTO3	**Montecristo**	**1.26**	**8**	S	**Sn**	**11 33 12.0**	**0.0**
MTO3	**Montecristo**	**1.26**	**8**	P	**Pn**	**11 32 55.6**	**-0.4**
BLLM	**Bellamira**	**1.31**	**77**	*eP*	**Pn**	**11 32 56.5**	**+0.2**
ESQI	**Esquipulas**	**1.43**	**8**	*eP*	**Pn**	**11 32 58.1**	**+0.1**
ESQI	**Esquipulas**	**1.43**	**8**	S	**Sn**	**11 33 15.9**	**+0.2**
ESQI	**Esquipulas**	**1.43**	**8**	P	**Pn**	**11 32 57.8**	**-0.2**
LCND	**La Caada**	**1.62**	**84**	*eS*	**Sn**	**11 33 20.1**	**-0.3**
CNCH	**Conchagua**	**1.67**	**85**	*eP*	**Pn**	**11 33 01.0**	**-0.4**
CNCH				*eS*	**Sn**	**11 33 21.8**	**0.0**
CNCH	**Conchagua**	**1.67**	**85**	P	**Pn**	**11 33 01.0**	**-0.4**
MARCA	**Marcala la Paz**	**1.78**	**55**	*i* P	**Pn**	**11 33 02.4**	**-0.5**
SARH	**Santa Rosa de**	**1.79**	**25**	*i* P	**Pn**	**11 33 03.3**	**+0.3**

*OSPL **05** 11:44:32.9±1.0, 19°.22N×69°.66W, h17km±4km, ML2.3*
*SDD **05** 11:44:33.6±2.3, 19°.27N×69°.87W, h22km±13km, MD2.7, ML2.5, MW2.8*

ISC 05 11:44:32.7±1.0, 19°.22N±0°.05×69°.80W±0°.04, h20km±4km, n9, σ0.960/17, 3C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NADR	**Nagua**	**0.15**	**339**	↑↑ *eP*	**Pg**	**11 44 36.8**	**-0.4**
NADR				↑↑ *eS*	**Sg**	**11 44 40.7**	**+0.6**
NADR				IAML		11 44 40.9	
	comp=N,4μm,0.1s						
LONA1	**Toro Cenizo, N**	**0.17**	**339**	*i* P	**Pg**	**11 44 37.3**	**-0.2**
LONA1				*eS*	**Sg**	**11 44 41.1**	**+0.4**
LONA1				IAML		11 44 42.8	
	comp=Z,3μm,1.0s						
DR08	**Loma La Naviza**	**0.33**	**220**	↓↓ *eP*	**Pg**	**11 44 40.1**	**+0.2**
DR08				*eS*	**Sg**	**11 44 45.1**	**+0.3**
DR08				IAML		11 44 47.1	
	comp=N,2μm,0.6s						
SMDR	**Samana, DR**	**0.58**	**83**	↑↑ *eS*	**Sn**	**11 44 55.5**	**+0.6**
SMDR				IAML		11 44 55.7	
	comp=N,88nm,0.5s						
MIDR	**Miches**	**0.75**	**108**	*eP*	**Pb**	**11 44 46.6**	**-0.4**
MIDR				*eS*	**Sn**	**11 44 59.0**	**+0.1**
MIDR				IAML		11 45 01.3	
	comp=N,25nm,2.0s						
ABDR	**Alto Bandera**	**0.88**	**243**	*eP*	**Pb**	**11 44 48.2**	**-1.3**
ABDR				↓↓ *eS*	**Sb**	**11 45 00.8**	**-0.1**
ABDR				IAML		11 45 01.6	
	comp=N,141nm,0.3s						
BANI	**BANI**	**0.97**	**213**	*eP*	**Pb**	**11 44 50.2**	**-0.8**
BANI				↓↓ *eS*	**Sb**	**11 45 04.2**	**+0.7**
BANI				IAML		11 45 05.8	
	comp=N,136nm,0.1s						
SDDR	**Presa de Saban**	**1.43**	**261**	*i* P	**Pb**	**11 44 59.0**	**+0.4**
SDDR				*eS*	**Sb**	**11 45 16.8**	**+0.4**
SDDR				IAML		11 45 21.3	
	comp=Z,16nm,0.5s						
LOPP1	**Punta Rusia, P**	**1.47**	**296**	*i* P	**Pn**	**11 44 57.7**	**-0.3**
LOPP1				*eS*	**Sn**	**11 45 17.2**	**+0.5**
LOPP1				IAML		11 45 18.7	
	comp=Z,39nm,1.7s						

*IDC **05** 11:52:03.7±0.3, 52°.46N×31°.82W, h0km, mb4.6/40, mbtmp4.6/42, ML4.7/2, MS4.8/83, Error ellipse: s-maj=7.8km s-min=5.8km az=10.0*
*MOS **05** 11:52:04.3±1.0, 52°.64N×31°.79W, h10km, mb5.2/75, MS4.9/27, Error ellipse: s-maj=7.1km s-min=4.8km az=56.2*
*BJI **05** 11:52:05.0, 52°.70N×31°.80W, h10km, mB5.5/22, mb5.0/37, Ms5.4/38, Ms7 5.2/38*
*BGR **05** 11:52:05.5, 52°.62N×32°.48W, h40km, mb5.0, Ms4.6*
*NEIC **05** 11:52:06.7, 52°.54N×31°.87W, h22km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^17 Nm; Mrr-0.33; Mθθ-0.22; Mφφ0.55; Mrθ-0.53; Mθφ-1.91; Mφr-0.22; Fault plane solution: M0 2.06000×10^17 NP1: φs4.30000°, δ74.00000°, λ-10.62000°. NP2: φs97.26000°, δ79.80000°, λ-163.74000°. Principal axes: T 2.1293, Plg4.0000°, Azm230.0000°; N -0.1553, Plg71.0000°, Azm129.0000°; P -1.9740, Plg19.0000°, Azm321.0000°;*
*NEIC **05** 11:52:06.5±1.8, 52°.59N±0°.09×31°.9W±0°.1, h10km±1km, mb5.2/648, Ms_20 4.9/476, Mwb5.4/54, Mww5.5/38 Error ellipse: s-maj=15.2km s-min=12.7km az=189.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 0.33; Mθθ-0.49; Mφφ 0.16; Mrθ-0.06; Mθφ-1.75; Mφr-0.22; Fault plane solution: M0 1.81000×10^17 NP1: φs95.26000°, δ82.73000°, λ179.40000°. NP2: φs185.34000°, δ89.41000°, λ7.27000°. Principal axes: T 1.6254, Plg6.0000°, Azm51.0000°; N 0.3282, Plg83.0000°, Azm190.0000°; P -1.9536, Plg5.0000°, Azm320.0000°;*
*NEIC **05** 11:52:06.7, 52°.64N×31°.87W, h10km*
*NEIC **05** 11:52:06.7, 52°.64N×31°.87W, h22km*
*ISC-PP **05** 11:52:06, 52°.59N×31°.92W, h9km, Mwppsm5.8, Moment Tensor Solution. s53 Moment tensor: Scale 10^17 Nm; Mrr-0.03±.14; Mθθ-0.55±.21; Mφφ 0.65±.21; Mrθ 0.16±.27; Mθφ-0.32±.17; Mφr 0.08±.17; Fault plane solution: M0 6.68000×10^17 NP1: φs139.10000°, δ88.20000°, λ150.40000°. NP2: φs230.10000°, δ60.50000°, λ2.00000°.*
*GCMT **05** 11:52:08.5±0.1, 52°.63N±0°.01×31°.73W±0°.01, h14km, MW5.5/152, Moment Tensor Solution. s122, c219; s152, c319; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr-0.29±.02; Mθθ-0.26±.02; Mφφ 0.54±.02; Mrθ 0.07±.04; Mθφ-2.00±.02; Mφr-0.12±.04; Best double couple: M0 2.04400×10^17 NP1: φs96.00000°, δ87.00000°, λ178.00000°. NP2: φs186.00000°, δ88.00000°, λ3.00000°. Principal axes: T 2.1920, Plg3.0000°, Azm51.0000°; N -0.2960, Plg87.0000°, Azm213.0000°; P -1.8960, Plg1.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*INMG **05** 11:52:08.0±4.6, 52°.74N×31°.94W, h10km, mb5.0, MW5.1, #DIST_RANGE: DISTANT*
*DNK **05** 11:52:08.9±3.7, 52°.38N×32°.14W, h52km±38km, mb5.1*
*BER **05** 11:52:09.0±2.0, 52°.68N×31°.24W, h10km, mb5.2, mb5.2(USGS)*

ISC 05 11:52:06.7±0.4, 52°.53N±0°.03×31°.91W±0°.03, h15km±2km, h15km: pP-P, n1381, σ1.966/1008, mb5.2/487, MS4.9/352, 46C-38D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRS	**Narsarsuaq**	**11.36**	**325**	Pn	**Pn**	**11 54 50.2**	**+2.0**
NRS	**Narsarsuaq**	**11.36**	**325**	P	**Pn**	**11 54 50.2**	**+2.0**
NRS	**Narsarsuaq**	**11.36**	**325**	*i* P	**Pn**	**11 54 51.0**	**+2.9**
IVI	**Ivigtut**	**12.41**	**321**		**Pn**	**11 55 03.0**	**+0.5**
IVI	**Ivigtut**	**12.41**	**321**	*i* P	**Pn**	**11 55 04.1**	**+1.7**
VAL	**Valentia**	**13.29**	**84**	P	**Pn**	**11 55 11.4**	**-3.1**
VAL				S	Sn	11 57 27.0	-15
BORG	**Borgarnes**	**13.41**	**20**		**Pn**	**11 55 16.7**	**+0.6**
BORG	**Borgarnes**	**13.41**	**20**	Pn	**Pn**	**11 55 14.7**	**-1.4**
	5.2nm,0.3s,baz=210,slow=10.0,SNR=23						
BORG				Sn	**Sn**	**11 57 36.9**	**-7.7**
	3.4nm,0.3s,baz=252,slow=19,SNR=7.1						
	15nm,0.8s						
BORG	**Borgarnes**	**13.41**	**20**	P	**Pn**	**11 55 16.7**	**+0.6**
ANGG	**Ammassalik, Gr**	**13.45**	**350**		**Pn**	**11 55 17.8**	**+1.2**
ANGG	**Ammassalik, Gr**	**13.45**	**350**	*i* P	**Pn**	**11 55 17.7**	**+1.1**
ISOG	**Isortoq, Green**	**13.54**	**347**	*i* P	**Pn**	**11 55 18.4**	**+0.5**
IGLA	**Glengowla, Co**	**13.60**	**77**	P	Pn	11 55 13.9	-4.8
IGLA				S	Sn	11 57 35.4	-14
PGRA	**Graciosa**	**13.77**	**167**	*eP*	P	11 55 39.6	+10
PGRA				*i* IAmb	IAmb	11 55 41.1	
	392nm,1.5s						
ROSA	**Rosais**	**14.04**	**168**	*eP*	**P**	**11 55 31.4**	**-1.3**
ROSA				*i* IAmb	IAmb	11 55 33.7	
	200nm,1.8s						
CALA	**Caldeira**	**14.12**	**170**	*eP*	**P**	**11 55 32.9**	**-0.8**
CALA				*i* IAmb	IAmb	11 55 43.8	
	213nm,1.0s						
PAGU	**Agualva, Azore**	**14.15**	**165**	*eP*	**P**	**11 55 31.1**	**-2.8**
PAGU				*i* IAmb	IAmb	11 55 38.5	
	272nm,1.4s						
PICO	**Pico**	**14.23**	**169**	*eP*	**P**	**11 55 35.4**	**+0.4**
PICO				*i* IAmb	IAmb	11 55 42.6	
	324nm,1.3s						
IDGL	**Inch Island, C**	**14.62**	**70**	P	**Pn**	**11 55 33.8**	**+1.1**
IDGL				S	Sn	11 58 00.5	-14
IWEX	**Carrickbyrne,**	**15.30**	**81**	P	**Pn**	**11 55 39.1**	**-2.8**
PSET	**Sete Cidades**	**15.33**	**161**	*eP*	**Pn**	**11 55 44.2**	**+1.9**
PSET				*i* IAmb	IAmb	11 55 50.1	
	410nm,1.0s						
ILTH	**Belurgan, Co L**	**15.35**	**74**	P	**Pn**	**11 55 41.6**	**-0.8**
DSB	**Dublin**	**15.41**	**77**	P	**Pn**	**11 55 39.6**	**-3.6**
DSB				S	Sn	11 58 19.7	-14
DSB	**Dublin**	**15.41**	**77**		**Pn**	**11 55 39.9**	**-3.3**
NUUK	**Nuuk**	**15.55**	**326**	*i* P	**Pn**	**11 55 44.2**	**-0.7**
DY2G	**Dye2**	**15.71**	**338**	*i* P	**Pn**	**11 55 48.2**	**+1.0**
SOEG	**Soedalen**	**15.73**	**1**	*i* P	**P**	**11 55 50.5**	**-0.8**
PSMN	**Pico do Norte,**	**16.25**	**160**	*eP*	**P**	**11 56 00.1**	**+2.8**
PSMN				*i* IAmb	IAmb	11 56 09.2	
	204nm,1.3s						
ESK	**Eskdalemuir**	**17.08**	**69**		**Pn**	**11 56 02.9**	**-1.7**
ESK				IAmb	IAmb	11 56 07.5	
	comp=Z,122nm,0.8s						
ESK	**Eskdalemuir**	**17.08**	**69**	P	**Pn**	**11 56 02.9**	**-1.7**
ESK				pmax	pmax		
	comp=Z,122nm,0.9s						
EKA	**Eskdalemuir Ar**	**17.11**	**69**	P	**Pn**	**11 56 01.5**	**-3.4**
	comp=Z,94nm,0.8s,baz=275,slow=12,SNR=41						
EKA				S	Sn	11 58 57.5	-17
	comp=Z,1.6nm,0.3s,baz=272,slow=28,SNR=8.7						
SFJD	**Kangerlussuaq**	**17.18**	**335**	Pn	**Pn**	**11 56 04.9**	**-0.9**
SFJD				IAmb	IAmb	11 56 10.8	
	comp=Z,138nm,0.9s						
SFJD	**Kangerlussuaq**	**17.18**	**335**	P	**Pn**	**11 56 04.0**	**-1.7**
	comp=Z,2.2nm,0.3s,baz=146,slow=9.8,SNR=11						
SFJD				S	**Sn**	**11 59 13.8**	**-2.5**
	comp=Z,12nm,1.0s,baz=108,slow=20,SNR=1.2						
SFJD				LR	LR	12 01 24.2	
	comp=Z,6μm,21.2s,baz=143,slow=32						
	comp=Z,34nm,0.8s						
SFJD	**Kangerlussuaq**	**17.18**	**335**	P	**Pn**	**11 56 04.9**	**-0.9**
SFJD				pmax	pmax		
	comp=Z,138nm,1.0s						
SFJD	**Kangerlussuaq**	**17.18**	**335**	*i* P	**Pn**	**11 56 04.1**	**-1.7**
SCO	**Scoresbysund**	**18.59**	**11**	*i* P	**Pn**	**11 56 24.8**	**+1.8**
SCO				IAmb	IAmb	11 56 26.4	
	comp=Z,70nm,1.5s						
ILULI	**Ilulissat**	**19.01**	**339**	P	P	11 56 19.9	-7.5
ILULI				IAmb	IAmb	11 56 33.6	
	comp=Z,139nm,1.1s						
ILULI	**Ilulissat**	**19.01**	**339**	P	P

comp=Z,123nm,0.8s,baz=45,slow=19,SNR=4.2
SCHQ LR LR 12 03 11.7

comp=Z,29µm,21.9s,baz=86,slow=32
PMAFR Mafra 20.70 122 *e*P Pn 11 56 49.0 +0.5
PMAFR *i* IAmb IAmb 11 56 57.6

comp=Z,321nm,1.5s
PSARD Sardoal 20.82 119 *e*P Pn 11 56 49.9 0.0
PSARD *i* IAmb IAmb 11 56 59.4

comp=Z,221nm,1.3s
PARRA Arraiolos 20.93 122 *e*P Pn 11 56 55.2 +4.1
PARRA *i* IAmb IAmb 11 57 04.7

comp=Z,95nm,1.3s
LIS Lisbon 20.95 122 *e*P **P 11 56 50.0 +1.2**
LIS IAmb IAmb 11 57 12.5

comp=Z,888nm,2.0s
LIS *e*S **S 12 00 44.5 +2.9**
LIS Lisbon 20.95 122 *e*P Pn 11 56 51.6 +0.2
LIS *i* IAmb IAmb 11 57 12.7

comp=Z,299nm,1.6s
LIS Lisbon 20.95 122 *e*P **P 11 56 50.0 +1.2**
LIS *e*S **S 12 00 44.5 +2.9**
PCBR Castelo Branco 21.02 117 *e*P **P 11 56 52.5 +2.9**
PCBR *i* IAmb IAmb 11 57 24.3

comp=Z,93nm,1.3s
PMTG Montargil 21.18 120 *e*P **P 11 56 53.8 +2.6**
PMTG *i* IAmb IAmb 11 57 04.7

comp=Z,272nm,1.5s
NUUG Nuugaatsiaq 21.29 341 *i* P **P 11 56 51.1 -1.0**
NUUG IAmb IAmb 11 56 54.7

comp=Z,127nm,1.2s
JMIC Jan Mayen 21.30 21 LR LR 12 02 39.4
comp=Z,2µm,21.6s,baz=220,slow=30
KUQ Kuujjuuaa 21.31 300 **P 11 56 52.0 -0.5**
KUQ IAmb IAmb 11 57 01.9

comp=Z,100nm,0.9s
PMRV Marv??o 21.36 118 *e*P **P 11 56 55.2 +2.0**
PMRV *i* IAmb IAmb 11 57 05.8

comp=Z,197nm,1.9s
PMRV *e*S **S 12 00 53.0 +3.3**
PESTR Estremoz 21.66 119 P **P 11 56 57.2 +0.8**
PESTR Estremoz 21.66 119 *e*P **P 11 56 59.1 +2.7**
PESTR *i* IAmb IAmb 11 57 17.4

comp=Z,90nm,1.4s
EVO Evora 21.68 121 *e*P **P 11 56 58.6 +1.9**
EVO *i* IAmb IAmb 11 57 07.1

comp=Z,94nm,1.4s
ASK Askoy 21.71 54 *e*P **P 11 56 54.9 -1.8**
FOO Floro 21.76 51 *e*P **P 11 56 56.2 -1.0**
BER Bergen 21.77 54 *e*P **P 11 56 55.9 -1.5**
FRB Frobisher Bay 22.02 315 P **P 11 56 59.8 -0.2**
comp=Z,105nm,1.1s,baz=101,slow=13,SNR=17
FRB S **S 12 01 00.6 -1.5**
comp=Z,5.3nm,1.0s,baz=117,slow=14,SNR=1.8
FRB LR LR 12 03 28.6

comp=Z,2µm,20.9s,baz=104,slow=31
comp=Z,105nm,1.1s
PTEO Sao Teotonio 22.06 124 *e*P **P 11 57 02.8 +2.1**
PTEO *i* IAmb IAmb 11 57 12.3

comp=Z,192nm,1.6s
MESJ Messejana 22.09 122 *e*P **P 11 57 02.0 +0.9**
MESJ IAmb IAmb 11 57 15.8

comp=Z,81nm,1.3s
MESJ *e*S **S 12 01 06.9 +2.9**
MESJ Messejana 22.09 122 P **P 11 57 00.2 -0.9**
MESJ Messejana 22.09 122 *e*P **P 11 57 05.9 +4.8**
MESJ *i* IAmb IAmb 11 57 23.5

comp=Z,106nm,1.7s
MESJ Messejana 22.09 122 *e*P **P 11 57 02.0 +0.9**
MESJ *e*S **S 12 01 06.9 +2.9**
PBEJ Beja 22.14 121 *e*P **P 11 57 06.1 +4.5**
PBEJ *i* IAmb IAmb 11 57 15.4

comp=Z,70nm,1.3s
CLF Chambon-Foret 22.16 88 P **P 11 57 01.1 -0.6**
HAL Halifax 22.25 262 **P 11 57 00.6 -2.2**
HAL IAmb IAmb 11 57 04.8

comp=Z,162nm,1.2s
HAL Halifax 22.25 262 P **P 11 57 00.6 -2.2**
HAL pmax pmax

comp=Z,162nm,1.2s
HYA Hoyanger 22.25 52 *e*P **P 11 57 02.9 +0.3**
MORF Marmelete 22.28 124 *e*P **P 11 57 04.3 +1.2**
MORF IAmb IAmb 11 57 17.0

comp=Z,112nm,1.3s
MORF *e*S **S 12 01 10.7 +3.0**
MORF Marmelete 22.28 124 P **P 11 57 04.1 +1.0**
MORF IAmb IAmb 11 57 16.6

comp=Z,124nm,1.3s
MORF Marmelete 22.28 124 *e*P **P 11 57 07.6 +4.5**
MORF *i* IAmb IAmb 11 57 14.8

comp=Z,94nm,1.4s
MORF Marmelete 22.28 124 *e*P **P 11 57 04.3 +1.2**
BLS5 Blasjo 22.29 57 *e*P **P 11 57 00.5 -2.6**
PFVI Vila Bisbo 22.32 124 P **P 11 57 04.8 +1.2**
PFVI Vila Bisbo 22.32 124 *e*P **P 11 57 07.4 +3.9**
PFVI *i* IAmb IAmb 11 57 22.4

comp=Z,145nm,1.5s
PCVE Castro Verde 22.34 122 *e*P **P 11 57 06.0 +2.3**
PCVE *i* IAmb IAmb 11 57 21.5

comp=Z,133nm,1.4s
LMN Caledonia Moun 22.37 266 **P 11 57 01.1 -2.9**
LMN IAmb IAmb 11 57 04.9

comp=Z,110nm,0.9s
PMOZ Porto Moniz, M 22.38 146 *e*S Sn 12 01 19.3 -2.9
ODD1 Odda 22.39 56 *e*P **P 11 57 03.9 -0.3**
DBG Daneborg 22.39 8 *i* P **P 11 57 05.2 +1.2**
DBG IAmb IAmb 11 57 09.2

comp=Z,81nm,1.1s
UCC Uccle 22.42 80 P **P 11 57 03.2 -1.2**
UCC IAmb IAmb 11 57 17.2

comp=Z,97nm,1.0s
UCC Uccle 22.42 80 *d*P **P 11 57 03.1 -1.2**

comp=Z,54nm,1.1s
UCC Uccle 22.42 80 P **P 11 57 03.2 -1.2**
UCC pmax pmax

comp=Z,97nm,1.0s
PMPST Porto Santo, M 22.46 144 *e*P **P 11 57 10.7 +5.7**
PBAR Barrancos 22.46 120 *e*P **P 11 57 07.3 +2.3**
PBAR *i* IAmb IAmb 11 57 22.7

comp=Z,90nm,1.5s
BATG Bathurst New B 22.48 270 P **P 11 57 04.6 -0.5**
BATG IAmb IAmb 11 57 06.7

comp=Z,61nm,1.0s
PMPS Porto Santo 22.48 144 *e*P **P 11 57 07.5 +2.3**
PVAQ Vaqueiros 22.68 122 P **P 11 57 08.8 +1.4**
PVAQ IAmb IAmb 11 57 19.5

comp=Z,95nm,1.2s
PVAQ Vaqueiros 22.68 122 *e*P **P 11 57 10.1 +2.7**
PVAQ *i* IAmb IAmb 11 57 19.6

comp=Z,110nm,1.5s
PVAQ *e*S **S 12 01 19.7 +4.7**
SNART Snartemo 22.69 60 *e*P **P 11 57 04.8 -2.4**
SNART Snartemo 22.69 60 *i* P **P 11 57 04.6 -2.7**
DOU Dourbes 22.79 81 *d*P **P 11 57 07.2 -1.2**
comp=Z,39nm,1.2s
BMRD Maredsous 22.83 81 *d*P **P 11 57 07.7 -1.1**
comp=Z,56nm,1.2s
UPNV Upernavik 22.83 342 *i* P **P 11 57 08.9 +0.3**
UPNV IAmb IAmb 11 57 10.8

comp=Z,149nm,1.2s
PAB San Pablo 22.95 113 P **P 11 57 11.5 +1.2**
PAB San Pablo 22.95 113 P **P 11 57 11.5 +1.2**
PAB pmax pmax

comp=Z,27nm,1.2s
PAB MLR MLR

comp=Z,2µm,21.0s
BGES Gesves 22.99 80 *d*P **P 11 57 09.6 -0.9**
comp=Z,45nm,1.2s
MOL Molde 23.06 49 *e*P **P 11 57 09.8 -1.2**
ESDC Sonseca Array 23.08 113 P **P 11 57 12.0 +0.4**
ESDC Sonseca Array 23.08 113 P **P 11 57 10.6 -0.9**
comp=Z,4.8nm,0.9s,baz=315,slow=9,SNR=19
ESDC S **S 12 01 19.6 -2.4**
comp=Z,0.4nm,0.8s,baz=330,slow=28,SNR=1.0
ESDC LR LR 12 04 27.5

comp=Z,2µm,18.6s,baz=309,slow=32
comp=Z,4.8nm,0.9s
BCLA Clavier 23.11 80 *d*P **P 11 57 10.2 -1.5**
comp=Z,36nm,1.1s
RCHB Rochefort 23.15 81 *d*P **P 11 57 10.3 -1.8**
comp=Z,37nm,0.8s
BEBN Eben Emael 23.21 79 *d*P **P 11 57 11.7 -1.0**
BSTI Sart Tilman 23.21 80 *d*P **P 11 57 11.8 -0.9**
comp=Z,11nm,0.0s
SKAR Skarslia 23.25 54 *e*P **P 11 57 11.8 -1.3**
HOMB Homborsund 23.38 60 *e*P **P 11 57 13.8 -0.5**
HOMB Homborsund 23.38 60 *i* P **P 11 57 13.8 -0.5**
MEM Membach 23.47 79 *d*P **P 11 57 14.1 -1.2**
comp=Z,39nm,0.9s
MEM *d*PP **PnPn 11 57 41.0 -0.7**
BTNL Ternell 23.55 79 *d*P **P 11 57 15.3 -0.8**
comp=Z,32nm,0.9s
BHOU Houvegnez 23.55 80 *d*P **P 11 57 13.6 -2.6**
comp=Z,31nm,1.0s
DOMB Dombas 23.70 50 *e*P **P 11 57 16.1 -1.4**
KONO Kongsberg 23.89 56 P **P 11 57 17.8 -1.5**
KONO IAmb IAmb 11 57 27.8

comp=Z,120nm,1.3s
KONO Kongsberg 23.89 56 *e*P **P 11 57 18.7 -0.6**
KONO Kongsberg 23.89 56 *ce*P **P 11 57 18.1 -1.2**
KONO pmax pmax

comp=Z,36nm,1.1s
WLF Walferdange 23.89 82 IAmb IAmb 11 57 32.4
comp=Z,52nm,0.9s
WLF IAMs_20 IAMs_20 12 05 14.5

comp=Z,4µm,20.0s
WLF Walferdange 23.89 82 *d*P **P 11 57 19.4 0.0**
comp=Z,38nm,0.9s
WLF Walferdange 23.89 82 *e*P **P 11 57 18.9 -0.5**
comp=Z,44nm,0.9s,baz=292,slow=9.0
MUD Monsted U'grnd 23.92 64 *i* P **P 11 57 19.6 +0.1**
MUD IAmb IAmb 11 57 21.8

comp=Z,62nm,1.0s
BUG Bochum--Univer 23.95 77 *e*P **P 11 57 19.5 -0.5**
comp=Z,62nm,1.3s,baz=292,slow=9.0
GGN Saint George 23.98 266 IAmb IAmb 11 57 35.1
comp=Z,57nm,0.8s
IBBN Ibbenburen 23.99 75 *e*P **P 11 57 19.7 -0.6**
comp=Z,110nm,1.0s,baz=292,slow=9.0
CEST Esterri de Car 24.28 101 IAmb IAmb 11 57 34.7
comp=Z,106nm,1.2s
SSRD Sdr. Stenderup 24.33 66 *i* P **P 11 57 22.1 -1.3**
G65A Princeton 24.38 267 IAmb IAmb 11 57 48.4
comp=Z,60nm,1.0s
D62A Allapoint, All 24.39 272 IAmb IAmb 11 57 37.2
comp=Z,59nm,1.0s
KULLO Kullorsuaq 24.42 344 *i* P **P 11 57 23.4 -0.6**
EMMW East Machias 24.57 266 IAmb IAmb 11 57 35.6
comp=Z,43nm,0.8s
EMMW IAMs_20 IAMs_20 12 06 15.5

comp=Z,3µm,18.0s
NB2 NORSAR Subarra 24.69 53 P **P 11 57 25.4 -1.3**
comp=Z,91nm,1.4s,baz=269,slow=9.3
NB2 NORSAR Subarra 24.69 53 P **P 11 57 25.4 -1.3**
comp=Z,91nm,1.4s,baz=269,slow=9.3
NOA NORSAR Array B 24.69 53 P **P 11 57 24.3 -2.4**
comp=Z,5.9nm,0.9s,baz=269,slow=9.7,SNR=12
NOA S **S 12 01 51.5 +4.0**
comp=Z,0.1nm,0.4s,baz=270,slow=19,SNR=1.1
NOA LR LR 12 06 07.8

comp=Z,2µm,19.5s,baz=270,slow=34
comp=Z,5.9nm,0.9s
KASTN Kahler Asten 24.71 77 *e*P **P 11 57 26.4 -0.7**
comp=Z,45nm,1.1s,baz=292,slow=9.0
STRU Stroemstad 24.73 58 *i* P **P 11 57 26.4 -0.5**
RETH Rethem/Aller, 24.81 73 *e*P **P 11 57 27.2 -0.5**
comp=Z,33nm,1.1s,baz=292,slow=9.0
NC602 NORSAR Array S 24.84 54 *e*P **P 11 57 28.9 +0.8**
E62A Clayton Lake 24.89 271 IAmb IAmb 11 57 40.4
comp=Z,118nm,1.4s
TJOU Tjoern 25.05 60 *i* P **P 11 57 30.6 +0.7**
ECH Echery 25.07 84 P **P 11 57 29.9 -0.3**
ECH IAmb IAmb 11 57 31.9

comp=Z,62nm,1.3s
ECH Echery 25.07 84 P **P 11 57 29.9 -0.3**
ECH pmax pmax

comp=Z,62nm,1.3s
ECH MLR MLR

comp=Z,1µm,18.0s
TNS Taunus Mts 25.07 79 *e*P **P 11 57 29.7 -0.5**
comp=Z,141nm,1.3s,baz=292,slow=9.0
NSS Namsos 25.28 45 *e*P **P 11 57 30.5 -1.4**
ONAU Onsala 25.28 61 *i* P **P 11 57 33.3 +1.3**
PKME Peaks-Kenny Pk 25.40 268 IAmb IAmb 11 57 57.9
comp=Z,106nm,1.4s
GTTG Gottingen 25.52 75 *e*P **P 11 57 34.3 0.0**
comp=Z,191nm,1.2s,baz=292,slow=9.0
BORU Boraas 25.70 61 *i* P **P 11 57 37.6 +1.8**
BFO Black Forest 25.73 83 P **P 11 57 35.4 -0.8**
BFO IAmb IAmb 11 57 46.9

comp=Z,65nm,1.1s
BFO Black Forest 25.73 83 *e*P **P 11 57 35.4 -0.8**
BFO Black Forest 25.73 83 *e*P **P 11 57 35.6 -0.6**
comp=Z,58nm,1.0s,baz=292,slow=9.0
BFO *e*pP **pwP 11 57 45.7 +1.0**
ASSE Asse, Remlinge 25.75 74 *e*P **P 11 57 36.3 0.0**
comp=Z,47nm,1.3s,baz=292,slow=9.0
UBBA Unterbreizbach 25.79 77 *e*P **P 11 57 36.1 -0.4**
comp=Z,67nm,1.7s,baz=292,slow=9.0
GORT1 Trebel 25.87 72 *e*P **P 11 57 37.0 -0.3**
comp=Z,77nm,1.1s,baz=292,slow=9.0
HFS Hagfors 25.93 55 P **P 11 57 35.6 -2.3**
comp=Z,11nm,0.8s,baz=272,slow=9.7,SNR=11
HFS LR LR 12 06 28.2

comp=Z,3µm,21.9s,baz=278,slow=33
comp=Z,11nm,0.8s
SENIN Lac Senin/Sane 25.98 88 IAmb IAmb 11 57 50.0
comp=Z,44nm,1.1s
STOK Stokkvaagen 25.98 41 *e*P **P 11 57 38.4 +0.1**
LEIR Leirfjorden 25.98 41 *e*P **P 11 57 37.8 -0.5**
NEEM North Greenlan 26.01 351 *i* P **P 11 57 37.7 -1.1**
FLTG Flechtingen 26.02 73 *e*P **P 11 57 37.7 -1.0**
comp=Z,24nm,1.0s,baz=292,slow=9.0
KONS Konsvik 26.05 40 *e*P **P 11 57 38.7 -0.2**
STU Stuttgart 26.07 82 IAmb IAmb 11 57 50.3
comp=Z,84nm,1.1s
STU IAMs_20 IAMs_20 12 07 11.3

comp=Z,4µm,18.0s
STU Stuttgart 26.07 82 *e*P **P 11 57 39.0 -0.3**
comp=Z,134nm,0.8s,baz=292,slow=9.0
STU *e*pP **pwP 11 57 49.2 +1.4**
VAGH Vaagaholmen 26.16 40 *e*P **P 11 57 40.4 +0.6**
G62A West of Eustis 26.18 269 IAmb IAmb 11 57 50.1
comp=Z,46nm,0.9s
BNI Bardonecchia 26.24 91 IAMs_20 IAMs_20 12 06 05.3
comp=Z,3µm,21.0s
LUNU Lund 26.42 65 *i* P **P 11 57 41.8 -0.6**
MOR8 Moi Rana 26.53 41 *e*P **P 11 57 44.7 +1.5**
LOF Lofoten 26.55 37 *e*P **P 11 57 44.1 +0.7**
NEUB Neuenburg 26.70 75 *e*P **P 11 57 44.4 -0.6**
comp=Z,32nm,0.7s,baz=292,slow=9.0
MOX Moxa 26.81 76 *e*P **P 11 57 45.2 -0.7**
comp=Z,14nm,0.8s,baz=292,slow=9.0
MOX *e*pP **pwP 11 57 55.4 +1.0**
MOX *e*L L 12 06 26.7

comp=Z,1µm,21.7s
GRF Grafenberg Arr 26.93 79 *e*P **P 11 57 47.2 +0.2**
comp=Z,36nm,0.8s,baz=292,slow=9.0
GRF *e*L L 12 07 29.0

comp=Z,2µm,18.5s
GRFO Grafenberg 26.93 79 P **P 11 57 47.2 +0.2**
GRFO IAmb IAmb 11 57 58.0

comp=Z,36nm,0.8s
GRFO Grafenberg 26.93 79 P **P 11 57 47.2 +0.2**
GRFO pmax pmax

comp=Z,36nm,0.8s
GRFO MLR MLR

comp=Z,2µm,18.0s
FAUS Fauske 27.05 39 *e*P **P 11 57 46.4 -1.5**
DAVA Damuels 27.13 84 *i* P **P 11 57 48.7 -0.3**
comp=Z,15nm,1.1s
STEI Steigen 27.13 37 *e*P **P 11 57 51.0 +2.4**
PLN Plauen 27.19 77 *e*P **P 11 57 48.4 -1.0**
comp=Z,12nm,1.3s,baz=292,slow=9.0
MANZ Manzenberg 27.34 78 *e*P **P 11 57 49.7 -1.1**
comp=Z,9.3nm,1.4s,baz=292,slow=9.0
DAVOX Davos/Dischmat 27.36 85 P **P 11 57 50.1 -1.0**
comp=Z,17nm,0.8s,baz=302,slow=13,SNR=24
DAVOX S **S 12 02 33.7 +3.3**
comp=Z,1.3nm,0.3s,baz=274,slow=18,SNR=1.6
DAVOX LR LR 12 07 40.1

comp=Z,1µm,18.3s,baz=290,slow=34
comp=Z,17nm,0.8s
CLL Collm 27.39 74 IAmb IAmb 11 58 01.8
comp=Z,25nm,0.7s
CLL Collm 27.39 74⇑ *i*P **P 11 57 50.4 -0.7**
CLL *e*S **S 12 02 33.0 +2.5**
CLL pmax pmax

comp=Z,31nm,0.8s
CLL Collm 27.39 74 *e*P **P 11 57 50.4 -0.7**
comp=Z,25nm,0.8s,baz=292,slow=9.0
CLL Collm 27.39 74⇑ *i*P **P 11 57 50.4 -0.7**
comp=Z,31nm,0.8s
CLL *i* x x 11 57 58.5
CLL *i* x x 11 58 01.1

comp=Z,29nm,0.8s
CLL *e*PP **PnPn 11 58 30.0 -5.3**
CLL *ex* x 11 58 36.0
CLL *e*PPP PPP 11 58 43.0
CLL *ex* x 12 01 18.0
CLL *e*S **S 12 02 33.0 +2.5**
CLL *ex* x 12 03 04.0
CLL *e*SS **SnSn 12 03 39.0 -0.6**
CLL LmH 12 07 00.0

comp=Z,2µm,21.7s
CLL Lmax 12 08 00.0
TANN Tannenbergstha 27.39 76 *e*P **P 11 57 50.7 -0.5**
comp=Z,37nm,1.1s,baz=292,slow=9.0
ROTZ Rotzenmuhle 27.49 78 *e*P **P 11 57 51.7 -0.3**
comp=Z,10nm,1.6s,baz=292,slow=9.0
ROTZ *e*pP **pwP 11 58 01.8 +1.3**
RETA Reutte 27.57 83 *e*P **P 11 57 52.8 0.0**
comp=Z,30nm,1.1s,SNR=9.7
FUR Furstenfeldbru 27.59 82 *e*P **P 11 57 53.0 0.0**
comp=Z,99nm,1.2s,baz=292,slow=9.0
FUORN Ofenpass-Fuorn 27.66 85 P **P 11 57 54.6 +0.7**
FUORN IAmb IAmb 11 58 06.2

comp=Z,38nm,1.1s
FETA Feichten 27.76 84 *i* P **P 11 57 55.0 +0.3**
comp=Z,26nm,1.4s,SNR=6.2
MOTA Moosalm 27.84 83 *i* P **P 11 57 55.2 -0.2**
comp=Z,25nm,1.0s,SNR=16
MDT Midelt 27.85 124 LR LR 12 06 12.3
comp=Z,801nm,19.8s,baz=349,slow=31
TULEG Thule 27.86 342 IAMs_20 IAMs_20 12 07 39.7

comp=Z,3µm,19.0s
SQTA Sankt Quirin 27.96 83 *i* P **P 11 57 56.8 +0.3**
comp=Z,32nm,1.0s,SNR=11
POIN Pond Inlet 28.09 333 P **P 11 57 56.9 -0.2**
POIN IAmb IAmb 11 57 57.8

comp=Z,36nm,1.0s
BRG Berggiesshubel 28.10 75 *e*P **P 11 57 58.5 +1.0**
BRG Amp 11 57 59.6

comp=Z,14nm,0.9s
BRG Berggiesshubel 28.10 75 S **S 12 02 44.0 +2.3**
WATA Walderalm 28.13 83 *i* P **P 11 57 58.1 +0.1**
comp=Z,10nm,0.8s,SNR=6.0
WET Wettzell 28.14 79 *e*P **P 11 57 57.2 -0.7**
comp=Z,13nm,1.0s,baz=292,slow=9.0
L64A Middleborough 28.15 264 IAMs_20 IAMs_20 12 08 00.5
comp=Z,2µm,19.0s
WES Weston 28.19 265 IAMs_20 IAMs_20 12 09 50.4
comp=Z,2µm,18.0s
WTTA Wattenberg 28.20 83 *i* P **P 11 57 59.0 +0.3**
comp=Z,26nm,0.9s,SNR=8.3
M65A Busby, Falmout 28.25 263 P **P 11 58 00.1 +1.2**
baz=54
RICC Richard 28.32 75 AMS AMS 12 09 00.0
comp=Z,4µm,13.7s
ILON Igloolik, Nuna 28.39 325 P **P 11 58 01.6 +1.7**
ILON IAmb IAmb 11 58 40.7

comp=Z,45nm,1.2s
KHC Kasperske Hory 28.56 78 *e*P **P 11 58 01.2 -0.5**
KHC *e*S **S 12 02 50.4 +1.3**
KHC MLR MLR

comp=Z,2µm,14.5s
KHC Kasperske Hory 28.56 78 *e*P **P 11 58 01.2 -0.5**
KHC *ex* x 11 58 11.6
KHC *e*S **S 12 02 50.4 +1.3**
KHC AMS AMS 12 09 00.0

comp=Z,2µm,14.5s
K62A Royalston 28.58 266 IAMs_20 IAMs_20 12 09 00.8
comp=Z,2µm,18.0s
PVCC Panska Ves 28.60 75 AMS AMS 12 09 00.0
comp=Z,4µm,15.3s
PRA Prague 28.70 76 AMS AMS 12 08 40.0
comp=Z,2µm,15.8s
GEC2 GERESS Array S 28.76 79 *e*P **P 11 58 02.8 -0.7**
comp=Z,34nm,1.3s,baz=292,slow=9.0
GERES GERESS Array B 28.76 79 P **P 11 58 02.8 -0.7**
comp=Z,8.6nm,0.8s,baz=297,slow=8.7,SNR=42
GERES LR LR 12 09 27.3

comp=Z,2µm,19.4s,baz=294,slow=36
comp=Z,8.6nm,0.8s
LESA Schwarzleotal 28.76 82 *i* P **P 11 58 03.3 -0.2**
comp=Z,23nm,1.1s,SNR=8.1
PRU Pruhonice 28.79 76 AMS AMS 12 09 30.0
comp=Z,2µm,13.2s
ABTA Abfaltersbach 28.97 84 *i* P **P 11 58 05.8 +0.4**
comp=Z,9.8nm,1.3s
L61B Northampton 28.98 266 IAMs_20 IAMs_20 12 09 13.2
comp=Z,2µm,18.0s
TEOL Teolo 29.13 87 IAmb IAmb 11 58 17.8
comp=Z,32nm,0.9s
GKP Gorka Klasztor 29.19 69 *e*P **P 11 58 08.2 +1.1**
BIOA Bad Ischl, Aus 29.22 81 *i* P **P 11 58 06.7 -0.8**
comp=Z,24nm,1.0s,SNR=7.4
JETT Jettan, Norway 29.26 35 *e*P **P 11 58 07.3 -0.3**
KBA Koelnbreinsper 29.32 82 *e*P **P 11 58 08.6 0.0**
comp=Z,13nm,0.8s
SJUU Sjulsmark 29.42 43 *e*P **P 11 58 07.8 -1.2**
TRY Troy 29.42 267 IAMs_20 IAMs_20 12 09 12.9
comp=Z,2µm,19.0s
CHVC Chvalec 29.45 74 *e*P **P 11 58 09.0 -0.5**
CHVC MLR MLR

comp=Z,3µm,15.3s
CHVC Chvalec 29.45 74 *e*P **P 11 58 09.0 -0.5**
CHVC AMS AMS 12 09 30.0

comp=Z,3µm,15.3s
UPC Upice 29.46 74 *e*P **P 11 58 09.3 -0.3**
UPC MLR MLR

comp=Z,3µm,14.8s
UPC Upice 29.46 74 *e*P **P 11 58 09.3 -0.3**
UPC AMS AMS 12 09 30.0

comp=Z,3µm,14.8s
KSP Ksiaz 29.50 74 *e*P **P 11 58 09.2 -0.7**
MOA Molln 29.53 80 *i* P **P 11 58 10.5 +0.2**
comp=Z,17nm,1.0s,SNR=7.7
OSTC Ostas 29.56 74 AMS AMS 12 09 40.0
comp=Z,3µm,16.2s
TREC Trest 29.64 77 AMS AMS 12 09 50.0
comp=Z,3µm,13.2s
DPC Dobruska-Polom 29.70 75 *e*P **P 11 58 11.4 -0.4**
DPC *e**PP **pwP 11 58 19.8 -0.5**
DPC MLR MLR

comp=Z,3µm,15.8s
DPC Dobruska-Polom 29.70 75 *e*P **P 11 58 11.4 -0.4**
DPC *ep*P **pwP 11 58 19.8 -0.5**
DPC AMS AMS 12 09 40.0

comp=Z,3µm,15.8s
MYKA Terra Mystica 29.71 83 *i* P **P 11 58 12.0 +0.1**
comp=Z,39nm,0.7s,SNR=15
CADS Cadrg 29.96 84 *i* P **P 11 58 13.4 -0.7**
KRLC Kraliky 30.08 75 AMS AMS 12 09 30.0
comp=Z,3µm,16.4s
KTK1 Kautokeino 30.20 36 *e*P **P 11 58 14.6 -1.3**
TRI Trieste 30.24 84 IAmb IAmb 11 58 26.5
comp=Z,75nm,1.3s
KRUC Moravsky 30.27 77 *e*P **P 11 58 16.4 -0.4**
VRAC Vranov 30.29 76 P **P 11 58 15.9 -1.0**
comp=Z,2.0nm,0.4s,baz=292,slow=11,SNR=3.5
VRAC S **S 12 03 16.2 +0.2**
comp=Z,1.9nm,0.5s,baz=311,slow=20,SNR=0.9
VRAC LR LR 12 09 51.7

comp=Z,2µm,18.1s,baz=291,slow=35
comp=Z,2.0nm,0.4s
OBKA Obir 30.32 83 *i* P **P 11 58 16.8 -0.5**
comp=Z,32nm,0.7s,SNR=13
N62A Caumsett State 30.34 264 IAMs_20 IAMs_20 12 09 46.4
comp=Z,2µm,19.0s
CONA Conrad Observa 30.45 79 *e*P **P 11 58 18.0 -0.5**
comp=Z,3.9nm,0.8s
KBS Kingsbay 30.47 15 IAMs_20 IAMs_20 12 07 17.2
comp=Z,2µm,20.0s
KBS Kingsbay 30.47 15⇓ *e*P **P 11 58 15.9 -2.3**
KBS pmax pmax

comp=Z,68nm,2.3s
HAMF Hammerfest 30.52 33 *e*P **P 11 58 18.9 +0.3**
SOKA Soboth 30.53 82 *e*P **P 11 58 18.3 -0.9**
comp=Z,0.5nm,0.3s,SNR=12
LJU Ljubljana 30.53 83 *i* P **P 11 58 18.7 -0.4**
LJU *e* 11 58 26.9
ARSA Arzberg 30.56 81 *i* P **P 11 58 19.0 -0.4**
comp=Z,23nm,1.3s,SNR=7.7
MORC Moravsky Berou 30.65 75⇑ **P P 11 58 19.7 -0.5**
MORC Moravsky Berou 30.65 75 P **P 11 58 19.7 -0.5**
STEB Steborice 30.73 75 *e*P **P 11 58 20.5 -0.3**
RONA Rosalia, Austr 30.82 79 *i* P **P 11 58 21.8 +0.1**
comp=Z,27nm,1.4s,SNR=12

SPA0 Spitsbergen Ar 30.85 17 *e*P **P 11 58 23.3 +1.6**
SPITS Spitsbergen Ar 30.85 17 P **P 11 58 21.7 +0.1**
comp=Z,22nm,1.0s,baz=241,slow=7.7,SNR=6.7
SPITS LR LR 12 07 25.2
comp=Z,2µm,21.7s,baz=242,slow=30
comp=Z,22nm,1.0s
SPITS Spitsbergen Ar 30.85 17 P **P 11 58 22.2 +0.6**
SPITS pmax pmax
comp=Z,47nm,1.2s
OKC Ostrava-Krasne 30.98 75 AMS AMS 12 10 30.0
comp=Z,2µm,15.7s
MAUC Maruska 31.00 76 *e*P **P 11 58 23.2 0.0**
ARA0 ARCESS Array S 31.04 35 *e*P **P 11 58 22.6 -0.7**
ARCES ARCESS Array B 31.04 35 P **P 11 58 22.5 -0.8**
ARCES IAmb IAmb 11 58 32.6
comp=Z,44nm,1.4s
ARCES ARCESS Array B 31.04 35 P **P 11 58 22.2 -1.2**
comp=Z,5.4nm,0.7s,baz=260,slow=8.1,SNR=23
ARCES S **S 12 03 31.4 +3.9**
comp=Z,1.7nm,1.0s,baz=285,slow=10,SNR=1.4
ARCES LR LR 12 07 59.4
comp=Z,2µm,20.6s,baz=260,slow=31
comp=Z,5.4nm,0.7s
ZST Bratislava 31.07 78 *e*P **P 11 58 24.5 +0.6**
ZST pmax pmax
comp=Z,7.0nm,1.0s
SMOL Smolenice 31.13 77 *e*P **P 11 58 24.1 -0.2**
SMOL pmax pmax
comp=Z,8.0nm,1.2s
FDMO Fiordimonte 31.23 89 IAmb IAmb 11 58 35.7
comp=Z,31nm,1.2s
KOGS Kog 31.38 82 *i*P **P 11 58 25.6 -1.0**
KOGS *e* 11 58 33.7
KEV Kevo 31.57 35 P **P 11 58 27.2 -0.8**
KEV IAmb IAmb 11 58 37.4
comp=Z,68nm,1.4s
KEV Kevo 31.57 35 P **P 11 58 27.2 -0.8**
KEV pmax pmax
comp=Z,68nm,1.4s
SADO Sadowa 31.66 275 IAmb IAmb 11 58 37.7
comp=Z,66nm,1.7s
SADO Sadowa 31.66 275 LR LR 12 10 27.2
comp=Z,15µm,19.2s,baz=76,slow=35
BEL Belsk 31.73 70 *e*P **P 11 58 29.6 +0.1**
OJC Ojcow 31.80 73 *e*P **P 11 58 29.6 -0.6**
FINES FINESS Array B 31.80 51 P **P 11 58 29.3 -0.8**
FINES FINESS Array B 31.80 51 P **P 11 58 29.0 -1.1**
comp=Z,8.4nm,0.6s,baz=285,slow=7.0,SNR=24
FINES S **S 12 03 37.3 -2.0**
comp=Z,2.5nm,0.9s,baz=250,slow=20,SNR=1.4
FINES LR LR 12 09 50.2
comp=Z,3µm,21.9s,baz=264,slow=34
comp=Z,8.4nm,0.6s
SRO Srobarova 31.97 78 *e*P **P 11 58 32.2 +0.5**
SRO pmax pmax
comp=Z,29nm,1.0s
VYHS Vyhne 31.97 77 *e*P **P 11 58 31.4 -0.4**
VYHS pmax pmax
comp=Z,19nm,1.4s
LANS Liptovska Anna 32.06 75 *e*P **P 11 58 33.0 +0.4**
LANS pmax pmax
comp=Z,13nm,0.9s
PABE Paberze 32.22 62 IAMs_20 IAMs_20 12 10 24.7
comp=Z,3µm,20.0s
PABE Paberze 32.22 62 *e*P **P 11 58 33.5 -0.3**
SUW Suwalki 32.28 65 *e*P **P 11 58 33.8 -0.5**
SUW Suwalki 32.28 65 IAMs_20 IAMs_20 12 11 09.5
comp=Z,3µm,19.0s
SUW Suwalki 32.28 65 *e*P **P 11 58 33.6 -0.8**
VADS Vadso 32.40 34 *e*P **P 11 58 35.2 0.0**
NIE Niedzica 32.43 74 *e*P **P 11 58 36.0 +0.2**
VSU Vasula 32.80 56 *de*P **P 11 58 36.8 -2.0**
VSU pmax pmax
comp=Z,51nm,1.7s
BLY Banja Luka 32.80 84 ⇓P **P 11 58 39.4 +0.3**
PSZ Piszkesteto 32.87 77 IAmb IAmb 11 58 41.2
comp=Z,38nm,1.2s
PSZ Piszkesteto 32.87 77 ⇓P **P 11 58 38.7 -1.1**
PSZ Piszkesteto 32.87 77 *e*P **P 11 58 39.1 -0.6**
PSZ Piszkesteto 32.87 77 P **P 11 58 38.6 -1.1**
MORH Mrgy, Hungar 32.94 80 ⇑P **P 11 58 39.4 -0.9**
RES Resolute Bay 33.18 334 IAmb IAmb 11 58 45.7
comp=Z,38nm,1.1s
RES Resolute Bay 33.18 334 LR LR 12 11 19.2
comp=Z,1µm,18.5s,baz=90,slow=35
SSPA Standing Stone 33.21 268 IAMs_20 IAMs_20 12 12 59.1
comp=Z,2µm,18.0s
ISAL Salakas 33.35 61 *e*P **P 11 58 44.3 +0.6**
KEST Kesra 33.49 104 P **P 11 58 44.8 -0.4**
comp=Z,18nm,1.1s,baz=310,slow=3.7,SNR=6.9
KEST S **S 12 04 02.6 -3.7**
comp=Z,1.8nm,0.7s,baz=337,slow=13,SNR=1.5
KEST LR LR 12 10 29.5
comp=Z,772nm,19.2s,baz=340,slow=33
comp=Z,18nm,1.1s
KEST Kesra 33.49 104 P **P 11 58 45.4 +0.2**
SNR=6.6
KEST P **P 11 58 45.4 +0.2**
SNR=6.6
KWP Kalwaria Pacla 33.75 73 *e*P **P 11 58 47.9 +0.6**
KOLS Kolonicke sedl 33.81 74 *e*P **P 11 58 47.8 0.0**
KOLS pmax pmax
comp=Z,14nm,1.2s
JOF Joensuu 33.91 47 *e*P **P 11 58 48.0 -0.6**
NACGM Naroch 33.94 62 *e*P **P 11 58 48.6 -0.2**
comp=Z,18nm,0.9s,baz=291
P57A Homestead Farm 33.98 266 IAMs_20 IAMs_20 12 10 29.7
comp=Z,2µm,22.0s
APA Apatity 34.01 39 *i*P **P 11 58 46.7 -2.6**
APA *i*S **S 12 04 11.1 -2.5**
APA MLR MLR
comp=Z,1µm,10.8s
BLKN Baker Lake 34.02 316 IAmb IAmb 11 58 50.1
comp=Z,34nm,1.0s
CBN Corbin Frederi 34.40 264 IAMs_20 IAMs_20 12 12 18.8
comp=Z,2µm,19.0s
LVZ Lovozero 34.44 38 P **P 11 58 51.8 -1.3**
LVZ IAMs_20 IAMs_20 12 09 56.6
comp=Z,2µm,21.0s
LVZ Lovozero 34.44 38 *de*P **P 11 58 51.6 -1.5**
LVZ pmax pmax
comp=Z,39nm,1.2s
FCC Fort Churchill 34.49 306 IAmb IAmb 11 58 54.8
comp=Z,44nm,1.2s
CUC Castrocucco 34.66 92 IAMs_20 IAMs_20 12 11 36.1
comp=Z,2µm,19.0s
SIRR Siria 34.72 78 ⇑P **P 11 58 55.7 -0.1**
MATE Matera 34.81 90 ⇑P **P 11 58 56.0 -0.5**
K50A Casco 34.86 274 IAMs_20 IAMs_20 12 12 53.5
comp=Z,2µm,19.0s
N53A Lisbon 34.91 270 IAmb IAmb 11 59 06.8
comp=Z,41nm,1.2s
Q56A Snyder Ridge, 34.97 267 IAMs_20 IAMs_20 12 11 01.9
comp=Z,2µm,22.0s
O54A Avella 35.00 269 IAMs_20 IAMs_20 12 13 30.5
comp=Z,2µm,18.0s
BZS Buzias 35.03 79 ⇓P **P 11 58 58.4 -0.1**
BZS Buzias 35.03 79 P **P 11 58 58.3 -0.1**
DRGR 35.09 77 ⇑P **P 11 58 59.4 +0.4**
DRGR 35.09 77 P **P 11 58 59.4 +0.4**
SURR Surduc 35.27 79 ⇑P **P 11 59 00.2 -0.3**
PDG Podgorica 35.33 86 IAMs_20 IAMs_20 12 13 21.6
comp=Z,2µm,18.0s
MARR Marisel-Cluj 35.39 77 ⇓P **P 11 59 01.8 +0.2**
O53A New Philadelph 35.47 270 IAmb IAmb 11 59 11.8
comp=Z,40nm,1.1s
MDVR Moldovita 35.53 81 ⇑P **P 11 59 02.3 -0.5**
S57A Dark Hollow, R 35.64 265 IAMs_20 IAMs_20 12 13 05.6
comp=Z,2µm,20.0s
TIP Timpagrande 35.73 92 ⇑P **P 11 59 04.3 -0.3**
AAM Ann Arbor 35.76 275 IAMs_20 IAMs_20 12 13 20.2
comp=Z,2µm,20.0s
GZR Gura Zlata 35.84 79 ⇑P **P 11 59 05.2 -0.4**
GZR Gura Zlata 35.84 79 P **P 11 59 05.1 -0.4**
TBO Thunder Bay 35.88 287 IAmb IAmb 11 59 17.4
comp=Z,40nm,1.1s
O52A Adamsville 35.93 270 IAMs_20 IAMs_20 12 13 38.4
comp=Z,2µm,18.0s
R55A Marlinton 36.02 266 IAMs_20 IAMs_20 12 12 09.5
comp=Z,2µm,21.0s
P53A Whipple 36.04 269 IAMs_20 IAMs_20 12 11 25.0
comp=Z,2µm,18.0s
BOVS Bovan 36.15 82 ⇓P **P 11 59 07.7 -0.2**
BURAR Bucovina Array 36.16 74 P **P 11 59 08.7 +0.4**
BURAR Bucovina Array 36.16 74 ⇑P **P 11 59 07.8 -0.5**
BURAR Bucovina Array 36.16 74 P **P 11 59 07.7 -0.5**

P52A Corning 36.41 270 IAmb IAmb 11 59 14.2
comp=Z,89nm,1.6s
F42A Maple Grove Fa 36.58 282 IAMs_20 IAMs_20 12 12 35.3
comp=Z,2µm,19.0s
N49A Columbus Grove 36.88 273 IAMs_20 IAMs_20 12 15 59.0
comp=Z,2µm,18.0s
COWI Conover 36.99 284 IAMs_20 IAMs_20 12 12 48.5
comp=Z,2µm,19.0s
KIEV Kiev 37.00 68 P **P 11 59 13.9 -1.3**
KIEV IAmb IAmb 11 59 24.1
comp=Z,36nm,0.8s
KIEV Kiev 37.00 68 IAMs_20 IAMs_20 12 15 13.7
comp=Z,2µm,18.0s
KIEV Kiev 37.00 68 ⇓P **P 11 59 14.5 -0.7**
KIEV Kiev 37.00 68 *i*P **P 11 59 13.8 -1.3**
SNR=16
KIEV Kiev 37.00 68 P **P 11 59 13.9 -1.3**
KIEV pmax pmax
KIEV comp=Z,36nm,0.9s
MLR MLR
comp=Z,2µm,18.0s
AKASG Malin Array Be 37.01 68 P **P 11 59 13.3 -2.0**
AKASG Malin Array Be 37.01 68 P **P 11 59 13.8 -1.4**
comp=Z,22nm,1.0s,baz=299,slow=8.2,SNR=17
AKASG S **S 12 04 59.7 -0.3**
comp=Z,0.2nm,0.3s,baz=302,slow=23,SNR=0.9
AKASG LR LR 12 15 25.4
comp=Z,2µm,18.0s,baz=294,slow=38
comp=Z,22nm,1.0s
AKASG Malin Array Be 37.01 68 P **P 11 59 13.3 -2.0**
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 37.01 68 *c i*P **P 11 59 14.0 -1.2**
V58A Windy Hill, Pi 37.02 262 IAMs_20 IAMs_20 12 13 53.4
comp=Z,3µm,20.0s
S54A Dingess, Beckl 37.05 267 IAMs_20 IAMs_20 12 12 15.9
comp=Z,2µm,20.0s
O49A Covington 37.42 272 IAMs_20 IAMs_20 12 16 21.2
comp=Z,2µm,19.0s
EYMN Ely 37.44 288 P **P 11 59 18.4 -0.6**
EYMN IAmb IAmb 11 59 29.7
comp=Z,34nm,0.8s
ONER Baraj Valea Uz 37.51 76 ⇑P **P 11 59 19.2 -0.4**
Q51A Peebles 37.52 270 IAmb IAmb 11 59 29.0
comp=Z,37nm,1.1s
MLR Muntele Rosu 37.69 77 P **P 11 59 20.9 -0.3**
comp=Z,4.4nm,0.6s,baz=302,slow=17,SNR=5.1
MLR LR LR 12 14 10.4
comp=Z,1µm,18.6s,baz=292,slow=35
comp=Z,4.4nm,0.6s
MLR Muntele Rosu 37.69 77 ⇑P **P 11 59 21.3 0.0**
SORM Soroca 37.74 72 ⇓P **P 11 59 20.1 -1.4**
SORM Soroca 37.74 72 P **P 11 59 20.0 -1.4**
O48B Farmland 37.88 273 IAMs_20 IAMs_20 12 14 08.3
comp=Z,2µm,19.0s
PLOR Plostina 37.91 76 ⇓P **P 11 59 23.0 0.0**
PLOR Plostina 37.91 76 P **P 11 59 23.0 0.0**
PLVB Pleven 38.04 81 ⇓P **P 11 59 23.9 -0.2**
G40A Rib Lake 38.07 283 IAmb IAmb 11 59 35.7
G40A comp=Z,36nm,1.1s
IAMs_20 IAMs_20 12 13 19.7
comp=Z,2µm,19.0s
E38A The Farm, Brul 38.16 286 IAmb IAmb 11 59 35.4
comp=Z,27nm,0.8s
E38A IAMs_20 IAMs_20 12 13 23.9
comp=Z,2µm,21.0s
KLMR Klimovskoe 38.23 49 *e*P **P 11 59 22.2 -3.2**
KLMR S **S 12 05 13.5 -4.7**
KLMR pmax pmax
KLMR comp=Z,104nm,1.4s
MLR MLR
comp=Z,2µm,17.0s
K43A Burlington 38.37 278 IAMs_20 IAMs_20 12 14 05.0
comp=Z,2µm,19.0s
P48A Milroy 38.52 272 IAMs_20 IAMs_20 12 16 49.5
comp=Z,2µm,19.0s
S51A Beattyville 38.55 268 IAMs_20 IAMs_20 12 13 05.3
comp=Z,2µm,21.0s
R50A Paris 38.59 270 IAMs_20 IAMs_20 12 12 42.3
comp=Z,1µm,18.0s
MILM Milestii Mici 38.63 73 *e*P P 11 59 24.0 -5.0
MILM *e*S **S 12 05 27.0 +2.5**
MILM LRM MLR 12 16 04.0
comp=Z,900nm,15.0s
MILM Milestii Mici 38.63 73 *e*P P 11 59 24.0 -5.0
MILM *e*S **S 12 05 24.0 -0.5**
MILM MLR MLR
comp=Z,900nm,15.0s
ULM Lac du Bonnet 38.82 293 P **P 11 59 30.0 -0.6**
comp=Z,11nm,0.7s,baz=64,slow=10,SNR=13
ULM LR LR 12 13 58.8
comp=Z,1µm,18.6s,baz=58,slow=34
comp=Z,11nm,0.7s
ULM Lac du Bonnet 38.82 293 ⇓*e*P **P 11 59 29.4 -1.2**
OBN Obninsk 39.04 58 IAMs_20 IAMs_20 12 14 24.8
comp=Z,2µm,20.0s
OBN Obninsk 39.04 58 LR LR 12 14 37.3
comp=Z,2µm,20.6s,baz=230,slow=35
OBN Obninsk 39.04 58 *ce*P **P 11 59 31.3 -1.0**
OBN *e* 11 59 39.8
OBN *i* 12 01 03.7
OBN *i*S **S 12 05 35.7 +5.2**
OBN *i*SS **SnSn 12 08 18.6 -3.2**
OBN pmax pmax
comp=Z,93nm,1.0s
OBN MLR MLR
comp=Z,1µm,16.0s
ELND Elena 39.06 80 ⇑P **P 11 59 31.7 -1.0**
CFR Carcaliu 39.16 76 ⇓P **P 11 59 31.8 -1.7**
CFR Carcaliu 39.16 76 P **P 11 59 31.7 -1.7**
MOS Moscow 39.31 57 *e*P **P 11 59 33.3 -1.3**
MOS *e* 12 01 06.5
MOS *e* 12 01 45.8
MOS *e* 12 05 30.2
MOS pmax pmax
comp=Z,48nm,0.9s
MOS MLR MLR
comp=Z,1µm,14.0s
TPGR Topolog 39.50 76 ⇑P **P 11 59 34.9 -1.5**
SPMN Marine on St. 39.64 285 IAmb IAmb 11 59 49.0
comp=Z,53nm,1.0s
T50A Nancy 39.70 269 IAmb IAmb 11 59 47.4
comp=Z,99nm,1.8s
TIRR Tirgusor 39.72 77 IAMs_20 IAMs_20 12 16 46.0
comp=Z,2µm,18.0s
TIRR Tirgusor 39.72 77 ⇑P **P 11 59 36.8 -1.3**
TIRR Tirgusor 39.72 77 P **P 11 59 36.8 -1.3**
AGMN Agassiz Nation 39.79 290 IAMs_20 IAMs_20 12 14 36.6
comp=Z,2µm,19.0s
WCI Wyandotte Cave 39.82 271 IAMs_20 IAMs_20 12 14 54.9
comp=Z,2µm,20.0s
MBO M'Bour 39.87 157 IAMs_20 IAMs_20 12 12 37.7
comp=Z,2µm,19.0s
RDO Rodhopi 39.90 83 IAmb IAmb 11 59 50.4
comp=Z,59nm,1.2s
TKL Tuckaleechee C 39.94 266 LR LR 12 15 45.2
comp=Z,3µm,18.7s,baz=66,slow=36
FFC Flin Flon 40.03 302 P **P 11 59 39.9 -0.7**
FFC Flin Flon 40.03 302 *e*P **P 11 59 39.9 -0.7**
ITM Ithomi 40.15 90 P **P 11 59 41.1 -0.8**
ITM IAmb IAmb 11 59 52.3
comp=Z,49nm,1.2s
HDIL Hopedale 40.22 276 IAMs_20 IAMs_20 12 15 03.0
comp=Z,2µm,20.0s
ALN Alexandroupoli 40.35 83 P **P 11 59 43.7 +0.3**
ALN Alexandroupoli 40.35 83 P **P 11 59 43.7 +0.3**
ALN pmax pmax
comp=Z,27nm,1.0s
L40A Anamosa 40.48 279 P **P 11 59 45.0 +0.5**
L40A IAmb IAmb 11 59 56.2
comp=Z,50nm,1.1s
U49A Red Boiling Sp 40.61 269 P **P 11 59 46.0 +0.4**
I37A Lemond, Waseca 40.66 283 P **P 11 59 47.5 +1.5**
Q44A Meyer Farm, Va 41.06 274 P **P 11 59 50.7 +1.4**
Q44A IAmb IAmb 11 59 52.8
comp=Z,109nm,1.7s
TAM Tamanrasset 41.18 122 P **P 11 59 51.2 +0.7**
TAM Tamanrasset 41.18 122 P **P 11 59 51.3 +0.7**
TAM pmax pmax
comp=Z,30nm,0.3s
F33A 5 Mile Ranch, 41.35 287 P **P 11 59 53.3 +1.7**
LPSR Galich'ya Gora 41.44 61 *e*P **P 11 59 50.2 -2.0**
LPSR pmax pmax
comp=Z,40nm,0.8s
SIUC Southern Illin 41.93 273 IAmb IAmb 12 00 10.0
comp=Z,23nm,0.7s

ANWB Willy Bob 41.94 225 IAMs_20 IAMs_20 12 12 49.7
comp=Z,2µm,22.0s
S44A Carbondale 41.97 273 IAmb IAmb 12 00 10.1
comp=Z,24nm,0.7s
T45A Paducah 42.03 272 IAMs_20 IAMs_20 12 16 22.4
comp=Z,2µm,19.0s
VORR Voronezh 42.05 62 *e*P **P 11 59 54.5 -2.7**
VORR pmax pmax
comp=Z,40nm,1.0s
WVT Waverly 42.11 270 P **P 12 00 00.8 +2.9**
WVT Waverly 42.11 270 IAMs_20 IAMs_20 12 15 59.6
comp=Z,2µm,20.0s
WVT Waverly 42.11 270 P **P 12 00 00.8 +2.9**
WVT pmax pmax
comp=Z,15nm,1.0s
MDND Maddock 42.16 292 IAMs_20 IAMs_20 12 15 58.2
comp=Z,2µm,18.0s
A36M Sachs Harbour 42.16 332 IAMs_20 IAMs_20 12 16 39.8
comp=Z,2µm,18.0s
A36M Sachs Harbour 42.16 332 P **P 11 59 56.5 -1.3**
baz=65,SNR=8.2
SMRT St. Maarten 42.17 227 IAmb IAmb 12 00 00.2
comp=Z,78nm,1.1s
SMRT IAMs_20 IAMs_20 12 12 44.8
comp=Z,1µm,22.0s
VSR Storozhevoye 42.26 62 *e*P **P 11 59 55.8 -3.1**
VSR pmax pmax
comp=Z,40nm,0.9s
VORD Divnogorie 42.46 62 *e*P **P 11 59 58.7 -1.8**
VORD pmax pmax
comp=Z,60nm,1.0s
YKA Yellowknife Ar 42.51 317 P **P 12 00 00.5 -0.3**
YKA Yellowknife Ar 42.51 317 P **P 12 00 00.7 -0.1**
comp=Z,14nm,1.0s,baz=60,slow=7.9,SNR=28
YKA PcP **PcP 12 01 53.7 +0.5**
comp=Z,5.2nm,0.9s,baz=58,slow=4.5,SNR=5.3
YKA LR LR 12 17 15.4
comp=Z,732nm,18.9s,baz=62,slow=36
comp=Z,14nm,1.0s
YKA Yellowknife Ar 42.51 317 P **P 12 00 00.5 -0.3**
P40A Paris 42.52 277 IAMs_20 IAMs_20 12 16 42.8
comp=Z,2µm,19.0s
ECSD EROS Data Cent 42.73 285 IAmb IAmb 12 00 13.9
comp=Z,33nm,0.8s
SIM Simferopol' 42.80 73 *e*P **P 11 59 59.0 -4.5**
SIM *e* 12 01 40.0
SIM *e*S **S 12 06 21.0 -5.8**
SIM pmax pmax
SIM comp=Z,14nm,0.9s
MLR MLR
comp=Z,2µm,19.7s
H05N1 Guadeloupe/Mar 42.83 223 T T 12 45 23.1
SNR=95
GDSD La Dsirade Is 42.84 223 IAMs_20 IAMs_20 12 13 29.6
comp=Z,2µm,21.0s
ABD La Joyeuse, An 42.87 224 IAMs_20 IAMs_20 12 13 29.5
comp=Z,1µm,22.0s
C36M Paulatuk 42.95 329 P **P 12 00 03.3 -1.0**
baz=64
CCM Cathedral Cave 42.95 275 P **P 12 00 04.9 +0.1**
CCM Cathedral Cave 42.95 275 IAMs_20 IAMs_20 12 19 30.5
comp=Z,1µm,18.0s
CCM Cathedral Cave 42.95 275 P **P 12 00 04.9 +0.1**
CCM pmax pmax
comp=Z,22nm,0.9s
CCM MLR MLR
comp=Z,1µm,18.0s
IDI Anoyia 43.20 90 LR LR 12 19 18.0
comp=Z,595nm,18.1s,baz=300,slow=38
MAGL Barre de l'ile 43.25 224 IAMs_20 IAMs_20 12 13 30.6
comp=Z,2µm,22.0s
CBE Ff, Capester 43.28 224 IAMs_20 IAMs_20 12 14 15.5
comp=Z,2µm,21.0s
SAHE Sakarya_HENDEK 43.28 80 ⇑P **P 12 00 07.6 +0.2**
GCPR Guaynabo City 43.33 231 IAmb IAmb 12 00 09.3
comp=Z,97nm,1.6s
P38A Dawn 43.35 278 IAMs_20 IAMs_20 12 17 15.9
comp=Z,1µm,18.0s
MANT Manisa 43.36 84 P **P 12 00 08.4 +0.1**
MANT IAmb IAmb 12 00 19.2
comp=Z,78nm,1.2s
R40A Maddies Statio 43.42 276 IAMs_20 IAMs_20 12 20 01.0
comp=Z,2µm,19.0s
E28A Huff 43.48 291 IAMs_20 IAMs_20 12 16 49.3
comp=Z,2µm,18.0s
SJG San Juan 43.53 231 P **P 12 00 09.9 +0.3**
SJG IAmb IAmb 12 00 11.1
comp=Z,52nm,1.1s
SJG San Juan 43.53 231 LR LR 12 14 26.2
comp=Z,993nm,21.7s,baz=15,slow=31
SJG San Juan 43.53 231 P **P 12 00 09.9 +0.3**
SJG pmax pmax
comp=Z,52nm,1.1s
PDPR Patillas Dam, 43.55 231 IAmb IAmb 12 00 11.5
comp=Z,71nm,1.2s
L34A Svendsen Farm, 43.63 283 IAMs_20 IAMs_20 12 16 35.9
comp=Z,2µm,20.0s
VRH Novokhopyorsk 43.64 61 *e*P **P 12 00 07.5 -2.6**
VRH pmax pmax
comp=Z,20nm,0.6s
SUSD Miller 43.69 287 IAMs_20 IAMs_20 12 17 07.2
comp=Z,1µm,19.0s
KIRV Kirov 43.73 49 *c i*P **P 12 00 09.4 -1.3**
CELP Cerrillos 43.77 231 IAmb IAmb 12 00 13.7
comp=Z,55nm,1.2s
N35A Tabor 43.86 281 IAmb IAmb 12 00 29.5
comp=Z,27nm,0.8s
N35A IAMs_20 IAMs_20 12 17 03.2
comp=Z,2µm,19.0s
ILAM Ilet Lapin Mar 44.13 222 IAMs_20 IAMs_20 12 14 49.1
comp=Z,1µm,19.0s
OXF Oxford 44.15 269 IAmb IAmb 12 00 21.8
comp=Z,40nm,0.8s
SVN Savane Anatole 44.20 223 IAMs_20 IAMs_20 12 14 30.6
comp=Z,1µm,20.0s
Z47A Carrollton 44.22 267 IAMs_20 IAMs_20 12 17 15.6
comp=Z,2µm,20.0s
FDF Fort de France 44.29 223 IAMs_20 IAMs_20 12 15 04.0
comp=Z,1µm,20.0s
DGMT Dagmar 44.39 295 IAmb IAmb 12 00 28.6
comp=Z,34nm,1.0s
BIM Bigot 44.45 222 IAMs_20 IAMs_20 12 15 07.3
comp=Z,1µm,20.0s
ANN Anapa 44.81 71 *e*P **P 12 00 16.0 -3.6**
ANN *e*PP **pP 12 00 19.5 -3.6**
ANN *e* 12 02 03.7
ANN *e*S **S 12 06 51.8 -4.3**
ANN pmax pmax
comp=Z,34nm,1.3s
ANN MLR MLR
comp=E,3µm,16.0s
ANN MLR MLR
comp=Z,2µm,16.0s
ANN MLR MLR
comp=N,2µm,16.0s
FCAR Ozark Folk Cen 44.89 273 IAmb IAmb 12 00 39.6
comp=Z,34nm,1.4s
ISP Isparta 44.98 83 IAMs_20 IAMs_20 12 17 50.1
comp=Z,1µm,20.0s
BGNE Belgrade 45.03 283 IAMs_20 IAMs_20 12 17 28.8
comp=Z,2µm,21.0s
ANTO Ankara 45.06 79 P **P 12 00 21.5 -0.2**
ANTO IAmb IAmb 12 00 34.0
comp=Z,31nm,0.7s
ANTO Ankara 45.06 79 P **P 12 00 21.0 -0.7**
ANTO P **P 12 00 21.0 -0.7**
ANTO S **S 12 07 06.8 +6.9**
ANTO S **S 12 07 06.8 +6.9**
ANTO Ankara 45.06 79 ⇑P **P 12 00 21.1 -0.7**
ANTO Ankara 45.06 79 P **P 12 00 21.0 -0.7**
SDDR Presa de Saban 45.34 238 IAMs_20 IAMs_20 12 14 54.6
comp=Z,1µm,22.0s
SDDR Presa de Saban 45.34 238 P **P 12 00 25.4 +1.2**
comp=Z,1µmcomp=Z,60nm,1.3s
BANI BANI 45.36 236 P **P 12 00 24.4 0.0**
WHAR Wooly Hollow 45.39 273 IAmb IAmb 12 00 33.8
comp=Z,29nm,1.0s
BR131 Keskin Array S 45.65 79 P **P 12 00 26.9 +0.4**
SNR=24
BR131 P **P 12 00 26.9 +0.4**
SNR=24
BR131 S **S 12 07 14.5 +5.8**
BR131 S **S 12 07 14.5 +5.8**
BR131 Keskin Array S 45.65 79 *c i*P **P 12 00 27.0 +0.4**
BRTR Keskin Array B 45.65 79 P **P 12 00 26.9 +0.4**
BRTR Keskin Array B 45.65 79 P **P 12 00 26.7 +0.1**
comp=Z,25nm,0.8s,baz=302,slow=6.7,SNR=79

BRTR S **S** **12 07 07.8 -0.9**
comp=Z,0.4nm,0.7s,baz=307,slow=22,SNR=1.7
BRTR LR LR 12 21 04.4
comp=Z,777nm,18.8s,baz=309,slow=38
comp=Z,25nm,0.8s
BRTR Keskin Array B 45.65 79 *ce*P **P** **12 00 27.2 +0.7**
BRTR pmax pmax
comp=Z,25nm,0.8s
WRGLY Wrigley 45.71 321 IAmb IAmb 12 00 38.0
comp=Z,49nm,1.1s
WRGLY Wrigley 45.71 321 P **P** **12 00 25.7 -0.7**
baz=58,SNR=7.2
U38A Gravette 45.91 275 IAmb IAmb 12 00 37.6
comp=Z,44nm,1.5s
NMDO Nuevo Mundo 46.01 243 IAmb IAmb 12 00 30.8
comp=Z,43nm,1.0s
ERBR Yeremizino-Bor 46.02 68 *e*P **P** **12 00 28.8 -0.4**
ERBR *e*'PP **pP** **12 00 32.6 -0.1**
ERBR *e* 12 02 22.1
ERBR *e*S **S** **12 07 16.3 +2.7**
ERBR pmax pmax
comp=Z,52nm,1.4s
ERBR MLR MLR
comp=Z,2μm,15.0s
BELG Belogornoye 46.08 57 LR LR 12 19 24.7
comp=Z,1μm,19.1s,baz=285,slow=36
BELG Belogornoye 46.08 57 *c i*P **P** **12 00 28.3 -1.2**
BELG pmax pmax
comp=Z,13nm,1.1s
X40A Basin Creek Fa 46.26 272 IAmb IAmb 12 00 39.0
comp=Z,20nm,0.9s
INK Inuvik 46.44 330 IAmb IAmb 12 00 42.1
comp=Z,22nm,1.1s
INK Inuvik 46.44 330 LR LR 12 18 41.2
comp=Z,3μm,21.2s,baz=48,slow=34
INK Inuvik 46.44 330 P **P** **12 00 31.2 -0.9**
baz=56,SNR=14
RLO Rose Lookout 46.47 275 IAmb IAmb 12 00 48.4
comp=Z,25nm,0.8s
GTBY Guantanamo Bay 46.59 242 P **P** **12 00 34.7 +0.8**
comp=Z,74nm,1.1s
143A Socs Landing, 46.59 269 IAMs_20 IAMs_20 12 19 30.3
comp=Z,2μm,20.0s
MIAR Mount Ida 46.67 273 IAmb IAmb 12 00 47.1
comp=Z,19nm,1.0s
MIAR IAMs_20 IAMs_20 12 20 05.1
comp=Z,1μm,19.0s
SOC Sochi 46.86 71 *e*P **P** **12 00 34.9 -0.9**
SOC *e* 12 02 23.1
SOC *e*PPP PPP 12 03 15.1
SOC *e*S **S** **12 07 27.9 +2.3**
SOC *e*SSS SSS 12 11 46.0
SOC pmax pmax
comp=Z,22nm,0.9s
SOC MLR MLR
comp=Z,1μm,16.0s
T35A Sooner Cattle 46.89 277 IAMs_20 IAMs_20 12 19 35.5
comp=Z,1μm,18.0s
F31M Tsiigehtchic 47.00 329 P **P** **12 00 35.8 -0.7**
baz=55,SNR=18
VSLR Vesyoloye 47.11 71 *de*P **P** **12 00 38.4 +0.6**
VSLR pmax pmax
comp=Z,74nm,1.0s
R32A Long Quarter, 47.24 280 IAmb IAmb 12 00 56.3
comp=Z,30nm,0.9s
CHIV Chivirico 47.26 244 IAmb IAmb 12 00 41.5
comp=Z,103nm,1.6s
D28M Stokes Point 47.37 332 P **P** **12 00 38.6 -0.8**
baz=52,SNR=5.2
G31M Satah River 47.47 328 IAMs_20 IAMs_20 12 18 49.3
comp=Z,2μm,22.0s
G31M Satah River 47.47 328 P **P** **12 00 39.1 -1.1**
baz=54,SNR=23
F30M Barrier River 47.54 330 P **P** **12 00 40.1 -0.7**
baz=53,SNR=32
TOA0 Torodi Ar. Sit 47.57 133 P **P** **12 00 41.8 +0.2**
TORD Torodi Ar. Bea 47.57 133 P **P** **12 00 41.1 -0.5**
comp=Z,15nm,1.0s,baz=333,slow=7.2,SNR=44
TORD PcP **PcP** **12 02 09.5 -1.9**
comp=Z,1.8nm,0.8s,baz=338,slow=3.1,SNR=1.0
TORD S **S** **12 07 33.6 -2.7**
comp=Z,0.2nm,0.6s,baz=336,slow=11,SNR=1.3
TORD LR LR 12 17 33.9
comp=Z,625nm,20.9s,baz=334,slow=32
comp=Z,15nm,1.0s
CBKS Cedar Bluff 47.60 282 IAMs_20 IAMs_20 12 19 01.1
comp=Z,1μm,21.0s
OGNE Ogallala 47.61 285 IAmb IAmb 12 00 52.0
comp=Z,21nm,0.7s
KOTAN Kotaneelee Air 47.63 317 P **P** **12 00 40.6 -1.0**
baz=56
E29M Blow River 47.70 331 IAmb IAmb 12 00 47.4
comp=Z,17nm,0.8s
E29M Blow River 47.70 331 P **P** **12 00 41.5 -0.6**
baz=52,SNR=33
E28M Babbage River 48.05 332 P **P** **12 00 44.2 -0.5**
baz=51,SNR=33
D27M Malcolm River 48.05 333 IAmb IAmb 12 00 49.5
comp=Z,23nm,0.9s
D27M IAMs_20 IAMs_20 12 21 01.3
comp=Z,2μm,20.0s
D27M Malcolm River 48.05 333 P **P** **12 00 44.3 -0.5**
baz=51,SNR=21
CROK Carrier 48.05 278 IAmb IAmb 12 00 58.4
comp=Z,22nm,0.9s
G30M tAoh Zraii Nji 48.05 329 IAmb IAmb 12 01 05.3
comp=Z,22nm,1.1s
G30M tAoh Zraii Nji 48.05 329 P **P** **12 00 43.9 -1.0**
baz=53,SNR=9.8
H31M Peel River 48.16 327 IAmb IAmb 12 00 55.9
comp=Z,32nm,0.9s
H31M Peel River 48.16 327 P **P** **12 00 45.1 -0.6**
baz=53,SNR=15
KIV Kislovodsk 48.33 69 IAMs_20 IAMs_20 12 21 50.4
comp=Z,1μm,19.0s
KIV Kislovodsk 48.33 69 P **P** **12 00 47.8 +0.4**
KIV P **P** **12 00 47.8 +0.4**
KIV S **S** **12 07 48.5 +1.7**
KIV S **S** **12 07 48.5 +1.7**
KIV Kislovodsk 48.33 69 *e*P **P** **12 00 47.7 +0.4**
KIV *e* 12 02 39.8
KIV *e*S **S** **12 07 47.8 +1.0**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,877nm,16.0s
KVAR Kislovodsk Arr 48.34 69 LR LR 12 21 50.3
comp=Z,1μm,18.4s,baz=254,slow=37
Z38A Mt. Pleasant 48.40 273 IAMs_20 IAMs_20 12 20 57.9
comp=Z,1μm,20.0s
SHA1 Shidzhatmaz 48.45 69⚠ *e*P **P** **12 00 47.6 -0.8**
TGTN Hyland Airport 48.52 321 P **P** **12 00 48.8 +0.2**
baz=54,SNR=26
OK038 West end E0370 48.52 278 IAMs_20 IAMs_20 12 23 16.7
comp=Z,1μm,21.0s
C27K Jago River 48.54 334 IAmb IAmb 12 00 58.7
comp=Z,23nm,1.1s
C27K IAMs_20 IAMs_20 12 22 28.4
comp=Z,1μm,19.0s
C27K Jago River 48.54 334 P **P** **12 00 47.9 -0.6**
baz=49,SNR=15
EPYK Eagle Plains 48.58 329 P **P** **12 00 48.6 -0.3**
baz=52,SNR=27
KBZ Khabaz 48.59 69 P **P** **12 00 49.4 +0.2**
comp=Z,8.5nm,1.0s,baz=311,slow=9.4,SNR=15
KBZ LR LR 12 21 07.7
comp=Z,1μm,20.4s,baz=299,slow=36
comp=Z,8.5nm,1.0s
KBZ Khabaz 48.59 69 *c i*P **P** **12 00 49.7 +0.5**
KBZ pmax pmax
comp=Z,15nm,1.0s
G29M Pine Creek 48.65 330 P **P** **12 00 47.7 -1.7**
baz=51,SNR=24
C26K Camden Bay 48.66 335 P **P** **12 00 47.9 -1.5**
baz=48
F28M Old Crow 48.77 331 IAMs_20 IAMs_20 12 19 56.5
comp=Z,2μm,21.0s
F28M Old Crow 48.77 331 P **P** **12 00 49.1 -1.2**
baz=50,SNR=30
TOAD Toad River Com 48.86 316 P **P** **12 00 50.9 -0.2**
baz=54,SNR=64
LIRD Liard River Hi 48.89 317 P **P** **12 00 51.0 -0.3**
baz=54,SNR=5.4
E27K Coleen River 48.90 332 IAMs_20 IAMs_20 12 21 01.0
comp=Z,2μm,20.0s
E27K Coleen River 48.90 332 P **P** **12 00 50.9 -0.4**
baz=50,SNR=58

ARTI Arti 48.99 47 P **P** **12 00 51.5 -0.6**
ARTI Arti 48.99 47 LR LR 12 21 04.3
comp=Z,2μm,18.5s,baz=300,slow=36
ARTI Arti 48.99 47 *c i*P **P** **12 00 51.7 -0.4**
ARTI 12 02 16.9
ARTI 12 02 43.5
ARTI PPP PPP 12 03 34.1
ARTI S **S** **12 07 54.7 -0.8**
ARTI SS **SS** **12 11 16.6 -9.1**
ARTI pmax pmax
comp=Z,55nm,1.1s
ARTI MLR MLR
comp=Z,2μm,17.0s
MMPY Sheldon Lake, 49.00 323 P **P** **12 00 52.9 +0.7**
baz=53,SNR=28
RLMT Red Lodge 49.17 294 IAmb IAmb 12 00 59.9
comp=Z,54nm,1.5s
I30M Mount Dempster 49.19 327 P **P** **12 00 53.3 -0.4**
baz=51,SNR=24
KSCO Kaye Shedlock' 49.20 284 IAmb IAmb 12 01 04.8
comp=Z,35nm,0.9s
H29M Whitestone 49.20 329 P **P** **12 00 53.1 -0.5**
baz=51,SNR=21
NATX Nacogdoches 49.24 271 IAMs_20 IAMs_20 12 21 29.2
comp=Z,1μm,18.0s
LOOK Love County 49.24 275 IAmb IAmb 12 01 05.7
comp=Z,44nm,1.2s
D25K Kavik River 49.45 335 IAmb IAmb 12 01 07.1
comp=Z,25nm,0.8s
D25K IAMs_20 IAMs_20 12 22 13.3
comp=Z,1μm,20.0s
D25K Kavik River 49.45 335 P **P** **12 00 54.6 -0.9**
baz=47,SNR=22
WTLY Watson Lake, Y 49.57 319 P **P** **12 00 56.8 +0.3**
baz=53,SNR=51
J30M Hart River 49.58 327 IAmb IAmb 12 01 07.3
comp=Z,21nm,0.9s
J30M Hart River 49.58 327 P **P** **12 00 56.6 0.0**
baz=51,SNR=29
YNE Yellowstone No 49.66 294 IAmb IAmb 12 01 08.5
comp=Z,18nm,0.6s
WMOK Wichita Mounta 49.71 277 IAMs_20 IAMs_20 12 23 54.2
comp=Z,2μm,21.0s
I29M Ogilvie Camp, 49.73 328 IAmb IAmb 12 01 07.8
comp=Z,31nm,0.9s
I29M IAMs_20 IAMs_20 12 20 19.0
comp=Z,2μm,21.0s
I29M Ogilvie Camp, 49.73 328 P **P** **12 00 57.7 0.0**
baz=51,SNR=25
SVE Sverdlovsk 49.73 46 *e*P **P** **12 00 57.6 -0.1**
SVE *e*S **S** **12 08 09.2 +3.4**
SVE pmax pmax
comp=Z,27nm,1.3s
C24K Franklin Bluff 49.76 336 P **P** **12 00 57.8 0.0**
baz=46,SNR=17
G27K Doyon Strip 49.82 331 IAmb IAmb 12 01 08.6
comp=Z,28nm,1.1s
G27K IAMs_20 IAMs_20 12 20 29.4
comp=Z,2μm,22.0s
G27K Doyon Strip 49.82 331 P **P** **12 00 58.2 -0.2**
baz=49,SNR=31
PCRV Puerto La Cruz 49.84 224 LR LR 12 18 58.8
comp=Z,1μm,20.7s,slow=32
YMP Mirror Lake Pl 49.91 294 IAmb IAmb 12 01 10.8
comp=Z,30nm,0.7s
F26K Sheenjek River 49.95 333 P **P** **12 00 59.3 -0.1**
baz=48,SNR=8.9
MAYO Mayo, Yukon 50.05 326 IAmb IAmb 12 01 25.9
comp=Z,34nm,0.8s
MAYO Mayo, Yukon 50.05 326 P **P** **12 01 00.2 +0.1**
baz=50,SNR=10
E25K Arctic Village 50.06 333 IAmb IAmb 12 01 01.5
comp=Z,26nm,1.1s
E25K IAMs_20 IAMs_20 12 21 30.4
comp=Z,2μm,22.0s
E25K Arctic Village 50.06 333 P **P** **12 00 59.8 -0.3**
baz=47,SNR=18
C23K Itkillik River 50.15 337 IAmb IAmb 12 01 02.8
comp=Z,44nm,1.3s
C23K Itkillik River 50.15 337 P **P** **12 01 01.3 +0.5**
baz=44,SNR=8.1
LKWY Lake 50.15 294 IAmb IAmb 12 01 14.7
comp=Z,18nm,0.8s
FW06 Azle 50.17 274 P **P** **12 01 01.3 -0.1**
FW06 IAmb IAmb 12 01 10.7
comp=Z,43nm,1.1s
H27K Steamboat Moun 50.17 330 P **P** **12 01 00.7 -0.3**
baz=48,SNR=13
BOZ Bozeman (W) 50.19 296 IAmb IAmb 12 01 06.3
comp=Z,79nm,1.8s
I28M Miner Creek 50.19 329 IAmb IAmb 12 01 11.8
comp=Z,21nm,0.8s
I28M Miner Creek 50.19 329 P **P** **12 01 00.9 -0.4**
baz=49,SNR=22
D24K Happy Valley 50.19 335 IAmb IAmb 12 01 12.1
comp=Z,47nm,1.2s
D24K IAMs_20 IAMs_20 12 23 02.0
comp=Z,1μm,19.0s
D24K Happy Valley 50.19 335 P **P** **12 01 00.3 -0.9**
baz=45,SNR=14
BMAR Burnt Mountain 50.26 332 P **P** **12 01 01.9 +0.3**
MDP Montagnes des 50.28 207 LR LR 12 17 06.4
comp=Z,1μm,21.7s,baz=38,slow=30
J29N Klondike Camp 50.29 327 IAmb IAmb 12 01 12.9
comp=Z,25nm,0.9s
J29N Klondike Camp 50.29 327 P **P** **12 01 01.8 -0.2**
baz=50
A22K Sinclair Lake 50.29 339 P **P** **12 01 01.6 -0.2**
baz=42
G26K Porcupine Rive 50.35 332 IAMs_20 IAMs_20 12 20 59.4
comp=Z,1μm,21.0s
G26K Porcupine Rive 50.35 332 P **P** **12 01 02.3 0.0**
baz=47,SNR=33
A21K Barrow 50.41 340 P **P** **12 01 02.6 -0.1**
baz=41
M31M Drury Creek, Y 50.41 324 P **P** **12 01 03.6 +0.8**
baz=51,SNR=13
F25K Christian Rive 50.44 333 IAMs_20 IAMs_20 12 22 01.6
comp=Z,2μm,21.0s
F25K Christian Rive 50.44 333 P **P** **12 01 02.5 -0.6**
baz=46,SNR=9.8
B22K Teshekpuk Lake 50.44 338 P **P** **12 01 03.2 +0.3**
baz=42,SNR=9.3
K29M Barlow Dome 50.45 326 P **P** **12 01 02.2 -1.1**
baz=50,SNR=17
YFT Old Faithful 50.47 294 IAmb IAmb 12 01 17.6
comp=Z,29nm,1.0s
N32M Quiet Lake 50.59 322 IAMs_20 IAMs_20 12 21 05.1
comp=Z,1μm,18.0s
N32M Quiet Lake 50.59 322 P **P** **12 01 04.3 0.0**
baz=51
I27K Kandik River 50.61 330 P **P** **12 01 04.3 -0.1**
baz=48,SNR=16
MSO Missoula 50.68 298 IAmb IAmb 12 01 10.0
comp=Z,44nm,1.7s
MSO IAMs_20 IAMs_20 12 21 03.2
comp=Z,968nm,19.0s
TOLK Toolik Lake Re 50.75 335 IAmb IAmb 12 01 15.8
comp=Z,49nm,1.2s
TOLK IAMs_20 IAMs_20 12 22 50.7
comp=Z,1μm,21.0s
TOLK Toolik Lake Re 50.75 335 P **P** **12 01 05.1 -0.3**
baz=44,SNR=14
WHTX Lake Whitney, 50.78 273 IAmb IAmb 12 01 13.9
comp=Z,23nm,0.8s
WHTX IAMs_20 IAMs_20 12 22 55.9
comp=Z,1μm,18.0s
D23K Nanushuk River 50.80 336 IAmb IAmb 12 01 16.6
comp=Z,40nm,0.9s
D23K IAMs_20 IAMs_20 12 23 50.9
comp=Z,1μm,18.0s
D23K Nanushuk River 50.80 336 P **P** **12 01 05.9 +0.3**
baz=44,SNR=18
DBIC Dimbokro 50.81 144 P **P** **12 01 06.6 +0.2**
comp=Z,4.0nm,0.8s,baz=348,slow=10,SNR=8.9
DBIC S **S** **12 08 24.1 +2.4**
comp=Z,1.0nm,0.7s,baz=326,slow=16,SNR=1.2
DBIC LR LR 12 20 35.9
comp=Z,2μm,18.9s,baz=2.5,slow=34
comp=Z,4.0nm,0.8s
BW06 Boulder Array 50.82 292 IAMs_20 IAMs_20 12 21 23.5
comp=Z,1μm,19.0s
PDAR Pinedale Array 50.82 292 P **P** **12 01 05.4 -1.1**
comp=Z,4.4nm,0.6s,baz=50,slow=7.1,SNR=44
PDAR LR LR 12 21 34.2
comp=Z,802nm,18.2s,baz=43,slow=35
comp=Z,4.4nm,0.6s
DLMT Dillon 50.87 296 IAmb IAmb 12 01 12.5
comp=Z,28nm,1.1s
E24K Your Creek 50.87 334 IAmb IAmb 12 01 07.8
comp=Z,28nm,1.1s
E24K IAMs_20 IAMs_20 12 22 45.0
comp=Z,2μm,20.0s
E24K Your Creek 50.87 334 P **P** **12 01 06.0 -0.4**
baz=45,SNR=17
R33M Jennings River 50.88 319 P **P** **12 01 06.4 -0.2**
baz=51,SNR=44
DAWY Dawson 50.93 327 IAmb IAmb 12 01 18.1
comp=Z,37nm,1.3s
DAWY Dawson 50.93 327 P **P** **12 01 07.2 +0.4**
baz=48,SNR=21
HAYD Hayden 50.94 288 IAmb IAmb 12 01 19.2
comp=Z,31nm,0.9s
RTBA Rita Blanca 50.95 281 IAmb IAmb 12 01 19.6
comp=Z,42nm,1.0s
M30M Minto, Yukon 51.02 325 IAMs_20 IAMs_20 12 21 14.4
comp=Z,1μm,22.0s
M30M Minto, Yukon 51.02 325 P **P** **12 01 08.3 +0.8**
baz=49,SNR=12
EGAK Eagle 51.02 329 IAMs_20 IAMs_20 12 21 31.2
comp=Z,2μm,20.0s
FYU Fort Yukon 51.04 332 IAMs_20 IAMs_20 12 21 32.4
comp=Z,1μm,21.0s
SNOW Snow King Moun 51.05 293 IAmb IAmb 12 01 23.4
comp=Z,17nm,0.8s
P33M Teslin, Yukon 51.09 321 IAmb IAmb 12 01 19.2
comp=Z,25nm,1.1s
P33M Teslin, Yukon 51.09 321 P **P** **12 01 08.6 +0.5**
baz=50,SNR=17
DLBC Dease Lake 51.10 318 LR LR 12 21 08.4
comp=Z,6μm,21.9s,baz=16,slow=34
DLBC Dease Lake 51.10 318 P **P** **12 01 08.6 +0.3**
baz=51,SNR=23
F24K Squaw Lake 51.11 334 IAmb IAmb 12 01 25.6
comp=Z,34nm,1.4s
F24K IAMs_20 IAMs_20 12 23 15.2
comp=Z,1μm,19.0s
F24K Squaw Lake 51.11 334 P **P** **12 01 08.5 +0.4**
baz=45,SNR=13
L29M L29M 51.14 326 IAmb IAmb 12 01 19.4
comp=Z,34nm,1.1s
L29M L29M 51.14 326 P **P** **12 01 08.4 0.0**
baz=49,SNR=12
G25K Bearman Lake 51.15 332 P **P** **12 01 08.5 +0.2**
baz=46,SNR=21
MMAI Mount Meron Ar 51.15 84 P **P** **12 01 09.0 +0.1**
comp=Z,6.1nm,0.7s,baz=339,slow=7.7,SNR=9.8
MMAI S **S** **12 08 22.2 -4.0**
comp=Z,0.6nm,0.3s,baz=321,slow=14,SNR=1.1
comp=Z,6.1nm,0.7s
E23K Chandalar 51.18 335 IAmb IAmb 12 01 26.1
comp=Z,30nm,1.4s
E23K Chandalar 51.18 335 P **P** **12 01 08.2 -0.5**
baz=44,SNR=8.6
HKT Hockley 51.22 270 IAMs_20 IAMs_20 12 24 12.6
comp=Z,2μm,19.0s
HKT Hockley 51.22 270⚠ *e*P **P** **12 01 09.5 +0.2**
HKT pmax pmax
comp=Z,17nm,1.5s
B21K Ikpikpuk River 51.25 338 IAmb IAmb 12 01 10.9
comp=Z,48nm,1.1s
B21K IAMs_20 IAMs_20 12 21 55.9
comp=Z,982nm,20.0s
B21K Ikpikpuk River 51.25 338 P **P** **12 01 08.8 -0.3**
baz=41,SNR=8.3
I26K Coal Creek Min 51.29 330 P **P** **12 01 09.5 +0.1**
baz=47,SNR=15
D22K Ayikyak River 51.35 337 IAmb IAmb 12 01 25.1
comp=Z,55nm,1.5s
D22K IAMs_20 IAMs_20 12 24 15.5
comp=Z,855nm,19.0s
D22K Ayikyak River 51.35 337 P **P** **12 01 09.8 -0.1**
baz=42,SNR=6.7
AMTX Amarillo 51.37 279 IAMs_20 IAMs_20 12 23 02.9
comp=Z,1μm,18.0s
N31M Braeburn, Yuko 51.37 323 IAmb IAmb 12 01 26.7
comp=Z,36nm,1.1s
N31M Braeburn, Yuko 51.37 323 P **P** **12 01 09.8 -0.3**
baz=49,SNR=20
H25L Birch Creek 51.41 332 P **P** **12 01 11.1 +0.8**
baz=46,SNR=10
NEW Newport 51.46 302 LR LR 12 21 23.8
comp=Z,723nm,19.5s,baz=50,slow=34
T25A Trinidad 51.49 283 IAmb IAmb 12 01 23.0
comp=Z,25nm,1.0s
B20K Meade River 51.53 339 IAMs_20 IAMs_20 12 24 06.2
comp=Z,970nm,18.0s
B20K Meade River 51.53 339 P **P** **12 01 11.4 +0.3**
baz=40
G24K Hadweenzic Riv 51.58 333 IAmb IAmb 12 01 23.2
comp=Z,33nm,1.1s
G24K IAMs_20 IAMs_20 12 22 33.7
comp=Z,2μm,22.0s
G24K Hadweenzic Riv 51.58 333 P **P** **12 01 11.7 +0.1**
baz=45,SNR=15
WHY Whitehorse 51.58 322 P **P** **12 01 11.8 0.0**
baz=49,SNR=13
C21K Knifeblade Rid 51.65 337 P **P** **12 01 12.5 +0.5**
baz=41,SNR=5.4
Q32M Nakina River 51.67 319 IAmb IAmb 12 01 23.9
comp=Z,27nm,1.0s
Q32M Nakina River 51.67 319 P **P** **12 01 13.1 +0.5**
baz=50,SNR=13
ABTX Abilene, Hawle 51.68 275 IAMs_20 IAMs_20 12 22 39.4
comp=Z,1μm,18.0s
MAK Makhachkala 51.69 67 *e*P **P** **12 01 08.1 -4.6**
MAK *e* 12 03 11.9
MAK *e*PPP PPP 12 04 08.3
MAK *e*S **S** **12 08 26.6 -6.7**
MAK *e*SS **SS** **12 12 10.4 +1.3**
MAK *e*SSS SSS 12 13 50.1
MAK pmax pmax
comp=Z,245nm,1.3s
MAK MLR MLR
comp=Z,2μm,18.0s
M29M Somme Creek 51.69 325 IAmb IAmb 12 01 24.0
comp=Z,26nm,1.1s
M29M IAMs_20 IAMs_20 12 21 44.1
comp=Z,1μm,21.0s
M29M Somme Creek 51.69 325 P **P** **12 01 13.1 +0.4**
baz=48,SNR=14
DKNS Dickens 51.74 277 IAmb IAmb 12 01 22.0
comp=Z,51nm,1.7s
O20A White River Ci 51.76 288 IAmb IAmb 12 01 25.7
comp=Z,30nm,0.9s
K27K Chicken 51.83 328 IAMs_20 IAMs_20 12 21 23.4
comp=Z,1μm,22.0s
K27K Chicken 51.83 328 P **P** **12 01 13.8 +0.3**
baz=47
P32M Atlin 51.83 321 P **P** **12 01 12.7 -0.9**
baz=49
PRP Porcupine Dome 51.86 331 IAMs_20 IAMs_20 12 22 04.1
comp=Z,2μm,21.0s
PRP Porcupine Dome 51.86 331 P **P** **12 01 13.9 +0.1**
baz=45,SNR=7.6
N30M Aishikik Lake 51.86 324 P **P** **12 01 13.4 -0.4**
baz=48,SNR=12
S34M Telegraph Cree 51.89 318 P **P** **12 01 15.0 +1.0**
baz=50,SNR=11
BALJ Balqa 51.93 85 IAmb IAmb 12 01 26.4
comp=Z,37nm,1.0s
GNI Garni 51.93 71 P **P** **12 01 15.7 +0.9**
GNI Garni 51.93 71 IAMs_20 IAMs_20 12 24 09.9
comp=Z,1μm,20.0s
GNI Garni 51.93 71 LR LR 12 24 21.7
comp=Z,1μm,19.1s,baz=314,slow=37
GNI Garni 51.93 71 P **P** **12 01 15.3 +0.5**
GNI P **P** **12 01 15.3 +0.5**
GNI S **S** **12 08 42.8 +5.7**
GNI S **S** **12 08 42.8 +5.7**
GNI Garni 51.93 71 *d i*P **P** **12 01 14.9 +0.1**
GNI pmax pmax
comp=Z,27nm,1.2s
COLD Coldfoot 51.94 334 IAMs_20 IAMs_20 12 22 51.2
comp=Z,1μm,20.0s
COLD Coldfoot 51.94 334 P **P** **12 01 13.9 -0.4**
baz=43,SNR=8.7
O30N Mendenhall 51.96 323 IAmb IAmb 12 01 26.3
comp=Z,57nm,1.1s
O30N Mendenhall 51.96 323 P **P** **12 01 15.3 +0.8**
baz=49,SNR=29
J26L Joseph Creek 51.97 329 P **P** **12 01 14.8 +0.2**
baz=46,SNR=9.0
E21K Killik River 51.99 337 IAMs_20 IAMs_20 12 24 43.5
comp=Z,887nm,20.0s
E21K Killik River 51.99 337 P **P** **12 01 14.3 -0.4**

baz=41,SNR=7.0
T35M Bob Quinn 52.12 317 IAmb IAmb 12 01 27.6
comp=Z,64nm,1.6s
T35M Bob Quinn 52.12 317 P **P** **12 01 16.3 +0.5**
baz=50,SNR=15
A19K Wainwright 52.20 340 P **P** **12 01 16.3 +0.1**
baz=37
F22K John River 52.25 335 P **P** **12 01 16.4 -0.2**
baz=42,SNR=17
G23K Bananza Creek 52.27 334 IAmb IAmb 12 01 27.9
comp=Z,28nm,1.1s
G23K Bananza Creek 52.27 334 P **P** **12 01 17.0 +0.2**
baz=43,SNR=21
H24K Noodor Dome 52.31 332 IAMs_20 IAMs_20 12 22 33.1
comp=Z,2µm,22.0s
H24K Noodor Dome 52.31 332 P **P** **12 01 17.6 +0.4**
baz=44,SNR=14
LLLB Lillooet 52.39 306 IAmb IAmb 12 01 23.8
comp=Z,47nm,1.3s
BCAR Beaver Creek A 52.40 327 P **P** **12 01 18.5 +0.7**
L27K Beaver Creek, 52.41 327 P **P** **12 01 18.7 +0.8**
baz=46,SNR=12
D20K Etivluk River 52.41 338 IAmb IAmb 12 01 28.3
comp=Z,34nm,1.1s
D20K IAMs_20 IAMs_20 12 25 05.5
comp=Z,1µm,18.0s
D20K Etivluk River 52.41 338 P **P** **12 01 18.0 +0.2**
baz=39
BAUV El Baul 52.43 227 P **P** **12 01 18.8 +0.4**
HYT Haines Junctio 52.44 323 IAmb IAmb 12 01 30.1
comp=Z,56nm,1.5s
HYT Haines Junctio 52.44 323 P **P** **12 01 18.6 +0.4**
baz=48,SNR=14
J25K Salcha River, 52.45 330 IAMs_20 IAMs_20 12 22 07.9
comp=Z,2µm,21.0s
J25K Salcha River, 52.45 330 P **P** **12 01 18.5 +0.3**
baz=45,SNR=16
SCRK Sand Creek 52.47 329 IAmb IAmb 12 01 29.3
comp=Z,27nm,1.0s
SCRK Sand Creek 52.47 329 P **P** **12 01 19.0 +0.6**
baz=45,SNR=18
AKTO Aktyubinsk 52.47 54 LR LR 12 22 18.2
comp=Z,2µm,21.6s,baz=328,slow=35
YUK4 Talbot Arm 52.50 324 P **P** **12 01 18.8 +0.1**
baz=48,SNR=10
G22K Bettles 52.51 334 P **P** **12 01 18.5 0.0**
baz=42
BVCY Beaver Creek 52.54 326 P **P** **12 01 19.1 +0.3**
baz=47
SKAG Skagway 52.54 321 P **P** **12 01 19.9 +1.1**
SKAG Skagway 52.54 321 P **P** **12 01 19.8 +1.0**
baz=48,SNR=11
B08A Colville Reser 52.54 303 IAmb IAmb 12 01 20.4
comp=Z,28nm,0.9s
ASF Jabal al Asfar 52.64 84 LR LR 12 26 13.1
comp=Z,293nm,19.0s,baz=334,slow=39
MSTX Muleshoe 52.65 279 IAmb IAmb 12 01 29.9
comp=Z,38nm,1.1s
E20K Nigu River 52.67 337 P **P** **12 01 18.8 -0.9**
baz=39
YUK6 Outpost Mounta 52.67 324 P **P** **12 01 20.6 +0.5**
baz=47,SNR=12
HWUT Hardware Ranch 52.70 292 IAMs_20 IAMs_20 12 22 27.3
comp=Z,921nm,20.0s
POKR Poker Plat Res 52.70 331 P **P** **12 01 20.5 +0.5**
POKR IAmb IAmb 12 01 31.6
comp=Z,42nm,1.1s
POKR IAMs_20 IAMs_20 12 22 20.6
comp=Z,2µm,22.0s
POKR Poker Plat Res 52.70 331 P **P** **12 01 20.0 0.0**
baz=44,SNR=6.7
P30M Million Dollar 52.71 323 P **P** **12 01 21.0 +0.9**
baz=48,SNR=16
DOT Dot Lake 52.73 329 IAMs_20 IAMs_20 12 22 44.3
comp=Z,1µm,20.0s
C19K Lookout Ridge 52.77 339 IAmb IAmb 12 01 22.4
comp=Z,38nm,1.1s
C19K IAMs_20 IAMs_20 12 23 34.0
comp=Z,1µm,20.0s
C19K Lookout Ridge 52.77 339 P **P** **12 01 21.1 +0.6**
baz=37,SNR=5.1
AKT Akhty 52.77 68 *e*P **P** **12 01 17.5 -3.4**
AKT *e* 12 03 19.3
AKT *e*S **S** **12 08 42.3 -6.2**
AKT pmax pmax
comp=Z,23nm,1.4s
AKT MLR MLR
comp=Z,2µm,18.0s
H23K Yukon River 52.79 333 IAmb IAmb 12 01 31.7
comp=Z,30nm,1.1s
H23K IAMs_20 IAMs_20 12 23 10.8
comp=Z,1µm,22.0s
H23K Yukon River 52.79 333 P **P** **12 01 21.4 +0.8**
baz=43,SNR=12
ILAR Eielson Array 52.79 331 P **P** **12 01 20.9 +0.3**
ILAR Eielson Array 52.79 331 P **P** **12 01 20.4 -0.2**
comp=Z,5.1nm,1.0s,baz=41,slow=7.6,SNR=47
ILAR PcP **PcP** **12 02 29.5 -0.3**
comp=Z,7.8nm,0.9s,baz=30,slow=6.0,SNR=7.1
ILAR LR LR 12 23 02.7
comp=Z,2µm,20.6s,baz=47,slow=35
comp=Z,5.1nm,1.0s
F21K Alatna River 52.80 335 IAmb IAmb 12 01 31.3
comp=Z,26nm,1.1s
F21K IAMs_20 IAMs_20 12 23 51.8
comp=Z,1µm,20.0s
F21K Alatna River 52.80 335 P **P** **12 01 20.8 +0.1**
baz=41,SNR=19
YUK3 Moose Creek 52.84 326 P **P** **12 01 21.6 +0.3**
baz=46,SNR=9.1
PLID Pearl Lake 52.89 298 IAmb IAmb 12 01 26.2
comp=Z,51nm,1.4s
RIDG Independent Ri 52.91 329 IAmb IAmb 12 01 33.2
comp=Z,35nm,1.3s
RIDG Independent Ri 52.91 329 P **P** **12 01 21.9 +0.3**
baz=45,SNR=9.2
M27K Edge Creek, AK 52.92 327 P **P** **12 01 21.2 -0.5**
baz=46,SNR=6.0
D19K Kuna River 52.93 338 IAmb IAmb 12 01 32.6
comp=Z,49nm,1.3s
D19K Kuna River 52.93 338 P **P** **12 01 20.5 -1.1**
baz=38
PLBC Pleasant Camp 52.94 322 P **P** **12 01 22.6 +0.9**
baz=48,SNR=9.4
L26K Log Cabin Wild 52.94 328 IAMs_20 IAMs_20 12 22 20.8
comp=Z,1µm,21.0s
L26K Log Cabin Wild 52.94 328 P **P** **12 01 22.2 +0.5**
baz=45,SNR=5.9
BESE Bessie Mountai 52.94 320 IAmb IAmb 12 01 33.6
comp=Z,29nm,1.0s
JIS Juneau Island 52.96 320 P **P** **12 01 23.0 +1.1**
F10A Beach Ranch, E 52.98 299 P **P** **12 01 21.1 -1.2**
COLA College 53.00 331 P **P** **12 01 22.7 +0.5**
COLA College 53.00 331 IAMs_20 IAMs_20 12 22 29.6
comp=Z,2µm,22.0s
COLA College 53.00 331 P **P** **12 01 22.9 +0.8**
COLA College 53.00 331 *d*P **P** **12 01 22.0 -0.1**
COLA pmax pmax
comp=Z,12nm,1.1s
COLA College 53.00 331 P **P** **12 01 22.5 +0.3**
baz=43
R32K Eaglecrest 53.01 320 IAMs_20 IAMs_20 12 22 28.4
comp=Z,994nm,20.0s
R32K Eaglecrest 53.01 320 P **P** **12 01 22.9 +0.5**
baz=48,SNR=5.8
HLID Hailey 53.02 296 IAmb IAmb 12 01 28.8
comp=Z,75nm,1.9s
HLID IAMs_20 IAMs_20 12 22 27.3
comp=Z,976nm,19.0s
SGCY Sterling City 53.07 276 IAmb IAmb 12 01 32.8
comp=Z,27nm,1.0s
HDA Harding Lake 53.07 331 IAMs_20 IAMs_20 12 22 49.3
comp=Z,1µm,21.0s
HDA Harding Lake 53.07 331 P **P** **12 01 22.9 +0.2**
baz=44,SNR=12
PV15 Paradox Valley 53.09 287 IAmb IAmb 12 01 34.7
comp=Z,21nm,0.9s
MENT Mentasta 53.12 328 P **P** **12 01 24.2 +1.1**
PV07 Paradox Valley 53.12 287 IAmb IAmb 12 01 35.0
comp=Z,35nm,1.0s
PV22 Blue Mesa, Par 53.13 287 IAmb IAmb 12 01 36.4
comp=Z,57nm,1.6s
K24K Donnelly Dome 53.15 330 P **P** **12 01 24.1 +0.8**
baz=44,SNR=16
CCB Clear Creek Bu 53.16 331 IAMs_20 IAMs_20 12 22 44.5
comp=Z,1µm,20.0s
O29M Mount Kennedy 53.18 323 IAmb IAmb 12 01 35.5
comp=Z,42nm,1.3s
O29M Mount Kennedy 53.18 323 P **P** **12 01 24.5 +0.8**
baz=47,SNR=8.9
EIL Elat 53.21 88 LR LR 12 26 23.4
comp=Z,283nm,20.2s,baz=316,slow=39
PV21 Cone Mtn., Par 53.23 287 IAmb IAmb 12 01 36.3
comp=Z,26nm,0.9s
I23K Minto, Yukon-K 53.24 332 IAmb IAmb 12 01 34.9
comp=Z,47nm,1.2s
I23K IAMs_20 IAMs_20 12 22 48.7
comp=Z,2µm,22.0s
I23K Minto, Yukon-K 53.24 332 P **P** **12 01 24.1 +0.2**
baz=42,SNR=20
H22K Ishtalitna Cre 53.25 333 P **P** **12 01 24.1 +0.1**
baz=42,SNR=8.4
P18A Preston Nutter 53.25 289 IAmb IAmb 12 01 54.3
comp=Z,19nm,0.8s
M26K Nabesna, AK 53.26 327 IAmb IAmb 12 01 38.0
comp=Z,35nm,1.6s
M26K IAMs_20 IAMs_20 12 22 42.5
comp=Z,2µm,20.0s
M26K Nabesna, AK 53.26 327 P **P** **12 01 24.6 +0.5**
baz=45,SNR=8.8
JCT Junction City 53.27 274 IAmb IAmb 12 01 33.8
comp=Z,27nm,1.2s
JCT IAMs_20 IAMs_20 12 23 57.8
comp=Z,1µm,18.0s
PV23 Carpenter Ridg 53.32 287 IAmb IAmb 12 01 38.5
comp=Z,43nm,0.9s
P29M Windy Craggy 53.33 322 P **P** **12 01 24.5 -0.2**
baz=47,SNR=10
G21K Allakaket 53.34 335 IAMs_20 IAMs_20 12 23 38.2
comp=Z,949nm,22.0s
G21K Allakaket 53.34 335 P **P** **12 01 24.5 -0.1**
baz=40
T33K Petersburg 53.36 318 P **P** **12 01 24.7 -0.1**
baz=48
WRAK Wrangell Islan 53.37 317 IAmb IAmb 12 01 42.3
comp=Z,58nm,1.6s
WRAK Wrangell Islan 53.37 317 P **P** **12 01 25.3 +0.4**
baz=48,SNR=8.0
WRH Wood River Hil 53.37 331 IAmb IAmb 12 01 35.2
comp=Z,22nm,1.0s
WRH IAMs_20 IAMs_20 12 22 50.1
comp=Z,1µm,21.0s
PV14 Lion Creek, Pa 53.38 287 IAmb IAmb 12 01 37.8
comp=Z,40nm,0.9s
R31K City Hall, Gus 53.40 320 P **P** **12 01 24.5 -0.6**
baz=48
O28M Mount Upton 53.44 325 IAmb IAmb 12 01 36.9
comp=Z,40nm,1.2s
O28M IAMs_20 IAMs_20 12 23 17.3
comp=Z,1µm,18.0s
O28M Mount Upton 53.44 325 P **P** **12 01 25.9 +0.1**
baz=46,SNR=7.3
C18K Utukok River 53.49 339 IAMs_20 IAMs_20 12 24 14.9
comp=Z,1µm,19.0s
C18K Utukok River 53.49 339 P **P** **12 01 25.9 +0.1**
baz=36,SNR=5.8
F20K Avaraart Lake 53.50 336 IAmb IAmb 12 01 36.5
comp=Z,30nm,1.4s
F20K Avaraart Lake 53.50 336 P **P** **12 01 26.3 +0.6**
baz=39,SNR=8.9
E19K Redstone River 53.54 337 IAmb IAmb 12 01 36.7
comp=Z,56nm,1.5s
E19K Redstone River 53.54 337 P **P** **12 01 26.1 0.0**
baz=38
NEA2 Nenana 53.57 332 IAmb IAmb 12 01 36.9
comp=Z,39nm,1.2s
NEA2 IAMs_20 IAMs_20 12 23 08.3
comp=Z,1µm,20.0s
NEA2 Nenana 53.57 332 P **P** **12 01 25.9 -0.4**
baz=42,SNR=15
LNOR Lincton Mounta 53.60 300 IAmb IAmb 12 01 38.6
comp=Z,24nm,1.1s
E08A Dider Farm, El 53.61 301 IAmb IAmb 12 01 30.3
comp=Z,49nm,1.5s
P17A Butcher Ranch, 53.64 289 IAmb IAmb 12 01 37.5
comp=Z,55nm,1.6s
PAX Paxson 53.66 329 P **P** **12 01 27.8 +0.7**
PAX IAmb IAmb 12 01 38.5
comp=Z,22nm,1.1s
PAX IAMs_20 IAMs_20 12 23 13.9
comp=Z,1µm,20.0s
PAX Paxson 53.66 329 P **P** **12 01 27.8 +0.7**
PAX pmax pmax
comp=Z,22nm,1.1s
PAX Paxson 53.66 329 P **P** **12 01 27.4 +0.3**
baz=44,SNR=16
SDV Santo Domingo 53.67 230 P **P** **12 01 28.3 +0.4**
SDV IAmb IAmb 12 01 37.8
comp=Z,20nm,1.0s
SDV Santo Domingo 53.67 230 LR LR 12 20 01.9
comp=Z,577nm,121.9s,baz=64,slow=31
SDV Santo Domingo 53.67 230 *e*P **P** **12 01 27.4 -0.4**
SDV Santo Domingo 53.67 230 P **P** **12 01 27.8 0.0**
comp=Z,19nm,0.8s
LOGN Logan Glacier 53.69 325 P **P** **12 01 28.3 +0.9**
LOGN IAmb IAmb 12 01 38.5
comp=Z,36nm,1.5s
LOGN IAMs_20 IAMs_20 12 22 59.9
comp=Z,1µm,22.0s
WAH2 Wahluke Slope 53.70 302 IAmb IAmb 12 01 38.1
comp=Z,15nm,0.6s
CTGM Chitina Glacie 53.70 325 IAMs_20 IAMs_20 12 23 22.4
comp=Z,1µm,21.0s
CTG Chitna Glacier 53.71 325 P **P** **12 01 27.7 +0.2**
baz=46,SNR=5.7
MLY Manley 53.72 333 IAmb IAmb 12 01 29.0
comp=Z,35nm,1.5s
MLY IAMs_20 IAMs_20 12 23 38.3
comp=Z,2µm,22.0s
MLY Manley 53.72 333 P **P** **12 01 27.5 0.0**
baz=42,SNR=8.0
BARN Barnard Glacie 53.75 325 IAmb IAmb 12 01 38.9
comp=Z,35nm,1.2s
BARN IAMs_20 IAMs_20 12 23 22.6
comp=Z,1µm,20.0s
SRU San Rafael Swe 53.76 289 IAmb IAmb 12 01 40.2
comp=Z,28nm,0.8s
V35K Ketchikan 53.79 316 IAmb IAmb 12 01 43.9
comp=Z,26nm,1.0s
V35K Ketchikan 53.79 316 P **P** **12 01 28.5 +0.5**
baz=48,SNR=14
MPU Maple Canyon 53.79 291 IAmb IAmb 12 01 40.2
comp=Z,20nm,0.9s
H21K Melozitna Rive 53.81 334 P **P** **12 01 28.2 +0.1**
baz=40,SNR=9.5
IMAR Indian Mountai 53.81 334 P **P** **12 01 28.2 +0.1**
YPT Yellepit 53.85 301 IAmb IAmb 12 01 32.6
comp=Z,26nm,1.1s
TEIG Tepich 53.85 256 P **P** **12 01 29.4 +0.4**
TEIG IAmb IAmb 12 01 38.6
comp=Z,38nm,1.2s
TEIG IAMs_20 IAMs_20 12 23 06.6
comp=Z,1µm,20.0s
MVCO Mesa Verde 53.86 286 IAmb IAmb 12 01 41.7
comp=Z,32nm,1.1s
MFID Camas Ranch 53.89 296 IAmb IAmb 12 01 34.9
comp=Z,52nm,1.8s
U33K Whale Pass 53.90 317 IAmb IAmb 12 01 42.0
comp=Z,28nm,1.1s
U33K Whale Pass 53.90 317 P **P** **12 01 29.3 +0.5**
baz=48
S31K Pelican 53.90 320 IAmb IAmb 12 01 40.4
comp=Z,17nm,0.9s
S31K IAMs_20 IAMs_20 12 23 27.7
comp=Z,974nm,21.0s
S31K Pelican 53.90 320 P **P** **12 01 29.0 +0.2**
baz=47
PNL Peninsula 53.92 323 P **P** **12 01 29.7 +0.7**
PNL Peninsula 53.92 323 P **P** **12 01 28.7 -0.3**
baz=46
PINM Pinnacle 53.93 324 P **P** **12 01 28.9 -0.2**
baz=46
LTY Liberty 53.94 303 IAmb IAmb 12 01 29.6
comp=Z,50nm,1.2s
I21K Tanana 53.95 333 IAmb IAmb 12 01 40.3
comp=Z,32nm,1.0s
I21K IAMs_20 IAMs_20 12 24 07.4
comp=Z,1µm,21.0s
I21K Tanana 53.95 333 P **P** **12 01 28.9 -0.2**
baz=41,SNR=24
HARP HAARP 53.97 328 P **P** **12 01 28.6 -0.8**
baz=44,SNR=6.1
E07A Sunnyside 53.98 302 IAmb IAmb 12 01 49.3
comp=Z,19nm,1.0s
MCARA McCarthy VSAT 53.99 326 IAmb IAmb 12 02 46.0
comp=Z,39nm,1.2s
MCARA IAMs_20 IAMs_20 12 22 55.8
comp=Z,1µm,21.0s
MCARA McCarthy VSAT 53.99 326 P **P** **12 01 29.2 -0.3**
baz=45
BWN Browne 54.00 331 IAMs_20 IAMs_20 12 23 19.4
comp=Z,1µm,20.0s
TABL Table Mountain 54.01 325 IAmb IAmb 12 01 41.9
comp=Z,34nm,1.1s
TABL IAMs_20 IAMs_20 12 23 44.4
comp=Z,1µm,18.0s
GRNC Granite Creek 54.02 325 IAmb IAmb 12 01 42.5
comp=Z,19nm,1.0s
GRNC IAMs_20 IAMs_20 12 23 41.6
comp=Z,1µm,20.0s
TMUT Trail Mountain 54.03 290 IAmb IAmb 12 01 42.9
comp=Z,13nm,0.7s
C17K DeLong Mountai 54.05 340 P **P** **12 01 29.2 -0.6**
baz=34
SIT Sitka 54.16 319 P **P** **12 01 30.7 0.0**
baz=47
F19K Shaleruckik Mo 54.17 337 IAmb IAmb 12 01 40.7
comp=Z,27nm,1.2s
F19K IAMs_20 IAMs_20 12 24 43.9
comp=Z,1µm,21.0s
F19K Shaleruckik Mo 54.17 337 P **P** **12 01 30.1 -0.5**
baz=38,SNR=6.2
MCK McKinley 54.17 331 IAMs_20 IAMs_20 12 23 33.2
comp=Z,1µm,20.0s
MCK McKinley 54.17 331 P **P** **12 01 30.1 -0.7**
baz=42,SNR=13
DHY Denali Highway 54.18 330 IAMs_20 IAMs_20 12 23 59.6
comp=Z,1µm,18.0s
DHY Denali Highway 54.18 330 P **P** **12 01 30.3 -0.7**
baz=43,SNR=10
ABKAR Akbulak array 54.19 54 P **P** **12 01 31.0 0.0**
ANMO Albuquerque 54.19 282 P **P** **12 01 32.6 +1.1**
ANMO Albuquerque 54.19 282 LR LR 12 23 33.5
comp=Z,2µm,18.8s,baz=138,slow=35
ANMO Albuquerque 54.19 282 *de*P **P** **12 01 32.4 +0.9**
ANMO pmax pmax
comp=Z,5.0nm,1.3s
MXC Moxie City 54.20 302 IAmb IAmb 12 01 35.1
comp=Z,51nm,1.5s
GLB Gilahina Butte 54.22 327 IAMs_20 IAMs_20 12 23 13.7
comp=Z,1µm,20.0s
VRDI Verde Repeater 54.25 326 IAMs_20 IAMs_20 12 23 14.6
comp=Z,1µm,21.0s
Q16A Castle Valley 54.26 289 IAmb IAmb 12 01 37.6
comp=Z,63nm,1.8s
YAH Yahtse 54.27 325 IAMs_20 IAMs_20 12 23 52.6
comp=Z,1µm,19.0s
ISLE Juniper Island 54.31 325 IAMs_20 IAMs_20 12 23 18.4
comp=Z,1µm,21.0s
BBB Bella Bella 54.33 311 LR LR 12 23 47.6
comp=Z,700nm,18.2s,baz=42,slow=35
CRAG Craig 54.33 317 P **P** **12 01 31.8 -0.2**
baz=47
RDOG Red Dog Mine 54.34 340 IAmb IAmb 12 01 42.4
comp=Z,43nm,1.2s
RDOG IAMs_20 IAMs_20 12 24 22.4
comp=Z,879nm,20.0s
RDOG Red Dog Mine 54.34 340 P **P** **12 01 30.8 -1.2**
baz=34
DUG Dugway, Tooele 54.35 291 IAmb IAmb 12 01 42.8
comp=Z,60nm,1.5s
DUG IAMs_20 IAMs_20 12 23 31.8
comp=Z,788nm,18.0s
E18K Tukpahlearik C 54.35 338 IAmb IAmb 12 01 44.5
comp=Z,17nm,0.9s
E18K Tukpahlearik C 54.35 338 P **P** **12 01 30.2 -1.8**
baz=36
N25K Chitina, Valde 54.36 327 IAmb IAmb 12 01 43.4
comp=Z,24nm,1.1s
N25K Chitina, Valde 54.36 327 P **P** **12 01 32.2 0.0**
baz=44,SNR=8.8
TGL Tana Glacier 54.37 326 IAMs_20 IAMs_20 12 23 21.0
comp=Z,1µm,20.0s
RND Reindeer 54.38 330 IAmb IAmb 12 01 42.5
comp=Z,30nm,1.1s
RND IAMs_20 IAMs_20 12 23 40.1
comp=Z,1µm,20.0s
CRQE Cirque 54.47 326 P **P** **12 01 32.9 -0.2**
baz=44,SNR=12
MNHN Monahans 54.47 277 IAmb IAmb 12 01 50.1
comp=Z,36nm,1.6s
CRQM Cirque 54.48 326 IAMs_20 IAMs_20 12 23 55.4
comp=Z,1µm,19.0s
MESA MESA 54.48 325 IAmb IAmb 12 01 47.3
comp=Z,35nm,1.1s
MESA IAMs_20 IAMs_20 12 23 59.8
comp=Z,1µm,20.0s
MESA MESA 54.48 325 P **P** **12 01 33.1 -0.1**
baz=45
BPAW Bear Paw Mtn. 54.49 332 IAmb IAmb 12 01 44.1
comp=Z,20nm,1.1s
BPAW Bear Paw Mtn. 54.49 332 P **P** **12 01 33.0 -0.1**
baz=41,SNR=9.7
H20K Anotleneega Mo 54.49 335 P **P** **12 01 33.1 0.0**
baz=39,SNR=21
M24K Tolsona, Glenn 54.51 328 IAmb IAmb 12 01 44.7
comp=Z,31nm,1.1s
M24K IAMs_20 IAMs_20 12 23 10.4
comp=Z,1µm,21.0s
M24K Tolsona, Glenn 54.51 328 P **P** **12 01 32.3 -1.0**
baz=43
G19K Purcell Mounta 54.55 336 P **P** **12 01 33.4 0.0**
baz=38
WAX Waxell Ridge 54.60 325 IAMs_20 IAMs_20 12 23 28.0
comp=Z,1µm,21.0s
WAT6 Susitna Watana 54.66 329 P **P** **12 01 34.2 -0.3**
baz=42,SNR=25
C16K Lisburne Hills 54.66 341 P **P** **12 01 34.5 +0.2**
baz=33
D17K Noatak River 54.67 339 P **P** **12 01 34.1 -0.2**
baz=34
WAT1 Susitna Watana 54.72 330 P **P** **12 01 34.6 -0.2**
baz=42
TRF Thorofare Moun 54.78 331 IAmb IAmb 12 02 15.2
comp=Z,28nm,1.1s
TRF IAMs_20 IAMs_20 12 23 44.4
comp=Z,1µm,20.0s
TRF Thorofare Moun 54.78 331 P **P** **12 01 33.8 -1.5**
baz=41,SNR=8.5
SNH Sunshine Point 54.79 325 IAmb IAmb 12 01 46.7
comp=Z,41nm,1.2s
F18K Selawik 54.80 337 P **P** **12 01 34.7 -0.5**
baz=36
BMRM Bremner River 54.83 327 IAmb IAmb 12 01 45.9
comp=Z,48nm,1.4s
BMRM IAMs_20 IAMs_20 12 23 33.8
comp=Z,1µm,21.0s
BMRM Bremner River 54.83 327 P **P** **12 01 34.7 -0.9**
baz=44
H19K Roundabout Mou 54.87 335 IAmb IAmb 12 01 46.6
comp=Z,20nm,1.0s
H19K Roundabout Mou 54.87 335 P **P** **12 01 36.1 +0.4**
baz=38,SNR=7.3
KLU Klutina 54.88 328 IAMs_20 IAMs_20 12 23 35.2
comp=Z,1µm,21.0s
KLU Klutina 54.88 328 P **P** **12 01 36.1 +0.1**
baz=43,SNR=7.6
E17K Hotham Inlet 54.91 338 P **P** **12 01 35.5 -0.6**
baz=35
I20K Naaghedeneel 54.93 334 P **P** **12 01 36.2 +0.1**
baz=39,SNR=5.5
BERG Berg Lake 54.93 326 IAMs_20 IAMs_20 12 24 09.8
comp=Z,2µm,21.0s
CHUM Lake Minchumin 55.04 332 P **P** **12 01 36.5 -0.5**
baz=40
SAND Sanderson 55.06 275 IAmb IAmb 12 01 52.0
comp=Z,18nm,0.7s
Y22D IRIS PASSCAL I 55.07 282 IAMs_20 IAMs_20 12 23 49.7
comp=Z,1µm,19.0s
Y22D IRIS PASSCAL I 55.07 282 P **P** **12 01 38.1 +0.3**
baz=46
SCM Sheep Creek Mo 55.08 328 IAmb IAmb 12 02 52.6
comp=Z,50nm,1.6s
SCM IAMs_20 IAMs_20 12 24 10.6
comp=Z,1µm,20.0s
SCM Sheep Creek Mo 55.08 328 P **P** **12 01 35.8 -1.6**
baz=42
G18K Tagagawik 55.13 336 IAmb IAmb 12 01 39.5
comp=Z,37nm,1.4s
G18K IAMs_20 IAMs_20 12 24 45.4
comp=Z,1µm,21.0s
G18K Tagagawik 55.13 336 P **P** **12 01 37.3 -0.4**
baz=36
HMT Hamilton 55.17 326 IAmb IAmb 12 01 49.5

comp=Z,62nm,1.6s
HMT IAMs_20 IAMs_20 12 23 56.0
Y22A Socorro 55.19 282 IAmb IAmb 12 01 50.5
comp=Z,20nm,0.8s
RAGM Ragged Mountai 55.27 326 IAMs_20 IAMs_20 12 23 59.7
comp=Z,1µm,20.0s
SBM South Baldy 55.29 282 P **P** **12 01 40.7 +1.0**
F17K Baldwin Pennin 55.30 338 P **P** **12 01 38.2 -0.7**
baz=35
J20K Nowinta River 55.32 333 IAMs_20 IAMs_20 12 24 59.7
comp=Z,1µm,20.0s
J20K Nowinta River 55.32 333 P **P** **12 01 37.7 -1.3**
baz=39
BOAV Boa Vista 55.34 216 *eP* **P** **12 01 40.0 +0.3**
ELK Elko 55.35 293 LR LR 12 24 12.6
comp=Z,1µm,18.4s,baz=50,slow=35
J08A Circle Bar Ran 55.37 298 IAmb IAmb 12 01 52.1
comp=Z,31nm,1.0s
TIXI Tiksi 55.38 7 P **P** **12 01 40.1 +0.7**
TIXI Tiksi 55.38 7 LR LR 12 22 26.2
comp=Z,395nm,21.8s,baz=9.0,slow=33
TIXI Tiksi 55.38 7‖ *eP* **P** **12 01 40.0 +0.7**
TIXI pmax pmax
comp=Z,26nm,0.8s
MOBC Moresby Island 55.42 314 IAmb IAmb 12 01 50.7
comp=Z,17nm,0.9s
NLWA Neilton Lookou 55.48 304 IAMs_20 IAMs_20 12 24 11.8
comp=Z,1µm,19.0s
EYAK Cordova Ski Ar 55.52 327 P **P** **12 01 40.1 -0.4**
EYAK Cordova Ski Ar 55.52 327 P **P** **12 01 39.6 -0.9**
baz=42
KAIM Kayak Island 55.52 326 IAmb IAmb 12 01 51.6
comp=Z,37nm,1.0s
KAIM IAMs_20 IAMs_20 12 24 17.3
comp=Z,1µm,18.0s
KAIM Kayak Island 55.52 326 P **P** **12 01 39.9 -0.7**
baz=43
CUT Chulitna 55.57 330 P **P** **12 01 40.3 -0.5**
baz=40
DIB Dawson Inlet, 55.60 314 IAmb IAmb 12 01 45.9
comp=Z,20nm,1.0s
GCSA Galena City Sc 55.60 335 P **P** **12 01 40.4 -0.6**
baz=37
FID Port Fidalgo 55.61 327 IAmb IAmb 12 01 52.2
comp=Z,45nm,1.2s
GHO Glory Hole Cre 55.63 329 IAmb IAmb 12 01 58.6
comp=Z,18nm,1.0s
GHO IAMs_20 IAMs_20 12 23 44.1
comp=Z,965nm,21.0s
H18K Honhosa River 55.66 336 IAmb IAmb 12 01 52.7
comp=Z,35nm,1.1s
H18K Honhosa River 55.66 336 P **P** **12 01 40.0 -1.5**
baz=36
GLI Glacier Island 55.72 328 IAmb IAmb 12 01 52.5
comp=Z,39nm,1.1s
GLI IAMs_20 IAMs_20 12 24 12.4
comp=Z,1µm,21.0s
GLI Glacier Island 55.72 328 P **P** **12 01 40.8 -1.2**
baz=42
HOOD Mount Hood Mea 55.74 301 IAmb IAmb 12 01 47.2
comp=Z,39nm,1.5s
KNK Knik Glacier 55.76 329 IAmb IAmb 12 01 55.8
comp=Z,31nm,0.8s
KNK IAMs_20 IAMs_20 12 24 50.3
comp=Z,1µm,19.0s
KNK Knik Glacier 55.76 329 P **P** **12 01 42.6 +0.4**
baz=41,SNR=8.4
PPLA Purkeypile 55.76 331 P **P** **12 01 41.0 -1.4**
baz=40
MNTX Cornudas Mount 55.80 279 IAMs_20 IAMs_20 12 25 36.4
comp=Z,1µm,18.0s
PMR Palmer 55.83 329 IAmb IAmb 12 02 01.7
comp=Z,21nm,1.0s
PMR Palmer 55.83 329 P **P** **12 01 43.2 +0.5**
PMR Palmer 55.83 329 P **P** **12 01 42.7 0.0**
baz=41,SNR=6.4
J19K Poorman 55.87 334 IAmb IAmb 12 01 53.5
comp=Z,22nm,1.1s
J19K IAMs_20 IAMs_20 12 25 20.1
comp=Z,843nm,20.0s
J19K Poorman 55.87 334 P **P** **12 01 43.0 0.0**
baz=38,SNR=7.2
G17K Kiwalik Mounta 55.94 337 P **P** **12 01 43.2 -0.2**
baz=35
K20K Telida 55.94 333 IAmb IAmb 12 01 54.5
comp=Z,26nm,1.1s
K20K Telida 55.94 333 P **P** **12 01 43.0 -0.6**
baz=38
W18A Petrified Fore 56.02 285 IAmb IAmb 12 01 57.2
comp=Z,25nm,0.9s
M22K Willow 56.02 330 IAMs_20 IAMs_20 12 24 50.2
comp=Z,1µm,20.0s
M22K Willow 56.02 330 P **P** **12 01 42.6 -1.5**
baz=40
WVOR Wild Horse Val 56.08 297 IAmb IAmb 12 01 57.8
comp=Z,37nm,1.0s
PWL Port Wells 56.13 328 IAMs_20 IAMs_20 12 24 54.4
comp=Z,1µm,20.0s
PWL Port Wells 56.13 328 P **P** **12 01 43.0 -2.0**
baz=41,SNR=7.2
H17K Granite Mounta 56.22 336 P **P** **12 01 43.9 -1.6**
baz=35
I05D Terrebonne, OR 56.24 300 IAmb IAmb 12 01 51.0
comp=Z,54nm,1.6s
SKT Skwentna 56.27 330 IAmb IAmb 12 01 57.2
comp=Z,26nm,0.8s
SKT Skwentna 56.27 330 P **P** **12 01 44.0 -1.9**
baz=40,SNR=12
PINE Pine Mountain 56.40 300 IAmb IAmb 12 02 00.3
comp=Z,36nm,0.9s
RC01 Rabbit Creek A 56.41 329 IAmb IAmb 12 02 26.2
comp=Z,43nm,1.3s
RC01 IAMs_20 IAMs_20 12 24 31.5
comp=Z,1µm,21.0s
RC01 Rabbit Creek A 56.41 329 P **P** **12 01 46.7 -0.2**
baz=40
G16K Koyuk River 56.43 338 IAMs_20 IAMs_20 12 27 30.7
comp=Z,705nm,18.0s
G16K Koyuk River 56.43 338 P **P** **12 01 45.7 -1.3**
baz=34
SUA Susitna One 56.43 330 IAmb IAmb 12 02 02.9
comp=Z,17nm,0.8s
SUA IAMs_20 IAMs_20 12 24 53.2
comp=Z,1µm,20.0s
SUA Susitna One 56.43 330 P **P** **12 01 46.0 -1.2**
baz=40
TXAR Lajitas Array 56.44 276 P **P** **12 01 47.4 -0.3**
TXAR Lajitas Array 56.44 276 P **P** **12 01 46.8 -0.9**
comp=Z,1.0nm,0.4s,baz=42,slow=6.4,SNR=33
TXAR PcP **PcP** **12 02 44.7 +0.2**
comp=Z,2.2nm,0.8s,baz=50,slow=5.3,SNR=4.0
TXAR S **S** **12 09 41.5 +3.4**
comp=Z,0.3nm,0.9s,baz=24,slow=28,SNR=3.5
TXAR LR LR 12 26 30.5
comp=Z,476nm,18.7s,baz=49,slow=37
comp=Z,1.0nm,0.4s
H04A Detroit Lake 56.45 301 IAmb IAmb 12 01 59.0
comp=Z,21nm,1.2s
BVAR Borovoye Array 56.47 45 P **P** **12 01 47.2 -0.3**
comp=Z,14nm,0.7s,baz=316,slow=6.0,SNR=68
BVAR S **S** **12 09 43.2 +5.4**
comp=Z,0.5nm,0.5s,baz=339,slow=19,SNR=2.0
BVAR LR LR 12 24 53.4
comp=Z,2µm,20.0s,baz=305,slow=35
comp=Z,14nm,0.7s
KNB Kanab 56.51 289 IAmb IAmb 12 01 59.1
comp=Z,30nm,0.9s
FIS Fire Island 56.52 329 IAMs_20 IAMs_20 12 24 35.4
comp=Z,1µm,21.0s
Q23K Middleton Isla 56.55 326 IAMs_20 IAMs_20 12 25 13.4
comp=Z,1µm,20.0s
Q23K Middleton Isla 56.55 326 P **P** **12 01 46.4 -1.5**
baz=42
L20K Farewell, AK 56.58 332 P **P** **12 01 46.6 -1.5**
baz=38,SNR=12
J18K Innoko River 56.59 334 IAmb IAmb 12 01 58.5
comp=Z,22nm,1.1s
J18K IAMs_20 IAMs_20 12 25 52.0
comp=Z,1µm,20.0s
J18K Innoko River 56.59 334 P **P** **12 01 46.9 -1.3**
baz=37,SNR=6.2
U15A North Rim 56.61 288 IAmb IAmb 12 02 00.5
comp=Z,20nm,0.9s
121A Cookes Peak, D 56.66 281 IAmb IAmb 12 02 01.9
comp=Z,71nm,1.9s
F15K North Star Dit 56.69 339 P **P** **12 01 47.7 -1.1**
baz=32
WUAZ Wupatki 56.70 286 IAmb IAmb 12 02 01.2
comp=Z,28nm,1.1s
STLK Strandline Lak 56.74 330 IAmb IAmb 12 01 59.8
comp=Z,24nm,1.2s
M20K Styx River 56.83 331 P **P** **12 01 48.4 -1.6**
baz=38
O22K Cooper Landing 56.87 328 IAMs_20 IAMs_20 12 24 47.7
comp=Z,892nm,21.0s
O22K Cooper Landing 56.87 328 P **P** **12 01 49.1 -1.0**
baz=40
SIUN Universidad Ur 56.98 248 IAmb IAmb 12 01 53.9
comp=Z,16nm,1.1s
SLKM Skilak Lake 57.01 329 IAMs_20 IAMs_20 12 24 52.3
comp=Z,982nm,21.0s
H16K Elim 57.03 337 P **P** **12 01 49.9 -1.4**
baz=34
SPU Mount Spurr 57.05 330 IAmb IAmb 12 02 04.0
comp=Z,16nm,0.9s
SEW Seward 57.07 328 IAmb IAmb 12 02 02.1
comp=Z,20nm,1.0s
SEW IAMs_20 IAMs_20 12 24 54.1
comp=Z,1µm,21.0s
SEW Seward 57.07 328 P **P** **12 01 50.5 -1.0**
baz=40
N20K Mount Spurr 57.09 330 P **P** **12 01 50.6 -1.2**
baz=39
SPCR Spurr Chakacha 57.09 330 P **P** **12 01 50.7 -1.1**
baz=39
L19K White Mountain 57.09 332 IAMs_20 IAMs_20 12 25 18.5
comp=Z,1µm,21.0s
L19K White Mountain 57.09 332 P **P** **12 01 50.5 -1.3**
baz=38
CAPN Captain Cook N 57.10 329 P **P** **12 01 50.2 -1.5**
baz=39
G15K Niukluk 57.15 338 P **P** **12 01 50.5 -1.6**
baz=32
M19K Big River Lodg 57.18 332 IAmb IAmb 12 02 01.9
comp=Z,40nm,1.4s
M19K IAMs_20 IAMs_20 12 25 21.9
comp=Z,1µm,22.0s
M19K Big River Lodg 57.18 332 P **P** **12 01 51.4 -1.0**
baz=38
F14K Arctic Creek 57.26 339 P **P** **12 01 51.3 -1.5**
baz=31
J17K VABM Dome 57.27 335 IAmb IAmb 12 02 03.7
comp=Z,25nm,1.1s
J17K IAMs_20 IAMs_20 12 26 25.0
comp=Z,809nm,20.0s
J17K VABM Dome 57.27 335 P **P** **12 01 51.9 -1.0**
baz=35
I17K Unalakleet 57.28 336 P **P** **12 01 51.9 -1.1**
baz=34
PETF Flores 57.37 254 IAmb IAmb 12 02 03.6
comp=Z,57nm,1.6s
RUSC La Lusia 57.44 231 P **P** **12 01 56.4 +1.1**
comp=Z,6.3nm,0.8s
TNA Tin City 57.52 340 P **P** **12 01 53.5 -1.1**
baz=30
L18K Granite Mounta 57.58 333 IAmb IAmb 12 02 06.1
comp=Z,33nm,1.4s
L18K IAMs_20 IAMs_20 12 25 45.4
comp=Z,1µm,22.0s
L18K Granite Mounta 57.58 333 P **P** **12 01 53.3 -1.9**
baz=36
K17K Iditarod 57.62 334 IAMs_20 IAMs_20 12 26 23.3
comp=Z,1µm,20.0s
K17K Iditarod 57.62 334 P **P** **12 01 54.0 -1.5**
baz=36
J16K Anvik River 57.76 335 P **P** **12 01 54.7 -1.7**
baz=34
BRSE Bradley Lake S 57.76 328 P **P** **12 01 54.9 -1.7**
baz=39
ANM Nome 57.82 338 P **P** **12 01 55.6 -1.3**
baz=32
M18K Stony River 57.92 332 P **P** **12 01 55.6 -2.0**
baz=37
BBOR Butler Butte 57.94 300 IAmb IAmb 12 02 07.0
comp=Z,11nm,0.6s
ESPN Las Esperanzas 57.95 246 IAmb IAmb 12 02 00.6
comp=Z,41nm,1.1s
N19K Bonanza Creek 58.08 331 P **P** **12 01 56.8 -2.0**
baz=37
CNPM China Poot 58.09 328 IAmb IAmb 12 02 10.1
comp=Z,23nm,1.1s
O20K Slope Mountain 58.09 329 P **P** **12 01 56.4 -2.4**
baz=38
L17K Donlin 58.09 334 P **P** **12 01 57.2 -1.6**
baz=35
RCBR Riachuelo 58.23 185 LR LR 12 21 33.0
comp=Z,102nm,19.4s,baz=4.0,slow=30
319A Deus 58.37 281 IAmb IAmb 12 02 20.7
comp=Z,19nm,1.1s
M17K Holitna River 58.46 333 P **P** **12 01 59.3 -2.0**
baz=36
O19K Port Alsworth 58.52 330 IAMs_20 IAMs_20 12 25 53.3
comp=Z,1µm,21.0s
O19K Port Alsworth 58.52 330 P **P** **12 01 59.8 -2.0**
baz=37
TPNV Topopah Spring 58.53 291 IAmb IAmb 12 02 07.9
comp=Z,43nm,1.7s
N18K Kilae Creek 58.60 331 P **P** **12 02 00.5 -1.8**
baz=36
TUC Tucson 58.61 283 P **P** **12 02 03.1 +0.2**
TUC IAmb IAmb 12 02 13.5
comp=Z,47nm,1.9s
TUC Tucson 58.61 283 P **P** **12 02 03.1 +0.2**
TUC pmax pmax
comp=Z,47nm,1.9s
P19K Oil Pt 58.62 329 IAMs_20 IAMs_20 12 26 35.0
comp=Z,968nm,20.0s
P19K Oil Pt 58.62 329 P **P** **12 02 00.6 -1.9**
baz=38
NVAR Mina Array Bea 58.66 293 P **P** **12 02 03.2 -0.1**
comp=Z,2.1nm,0.8s,baz=40,slow=8.3,SNR=10
comp=Z,2.1nm,0.8s
L16K Owhat River 58.76 334 IAMs_20 IAMs_20 12 26 45.5
comp=Z,1µm,21.0s
L16K Owhat River 58.76 334 P **P** **12 02 01.7 -1.7**
baz=34
YBH Yreka Blue Hor 58.76 299 LR LR 12 27 00.0
comp=Z,26nm,21.2s,baz=56,slow=36
Y14A Wickenburg 58.77 286 IAmb IAmb 12 02 16.5
comp=Z,16nm,0.9s
K15K Wolf Creek Mou 58.82 335 P **P** **12 02 02.2 -1.6**
baz=33
CBOC Ciudad Bolivar 58.88 234 P **P** **12 02 05.5 +0.4**
comp=Z,446nmcomp=Z,34nm,1.0s
LHV Little Huntoon 58.89 293 IAmb IAmb 12 02 18.1
comp=Z,21nm,1.0s
J14K Nanvaranak Lak 58.94 336 P **P** **12 02 03.1 -1.6**
baz=32
ROSC El Rosal 58.95 232 P **P** **12 02 06.8 +1.0**
comp=Z,64nm,0.6s,baz=45,slow=4.3,SNR=30
ROSC LR LR 12 24 36.4
comp=Z,1µm,21.9s,baz=52,slow=33
ROSC El Rosal 58.95 232 P **P** **12 02 05.7 -0.1**
comp=Z,2µmcomp=Z,179nm,0.8s
L02F Cane Junction 58.95 300 IAmb IAmb 12 02 15.2
comp=Z,20nm,0.7s
BILL Bilibino 58.99 352 IAMs_20 IAMs_20 12 26 43.7
comp=Z,891nm,20.0s
BILL Bilibino 58.99 352 *ceP* **P** **12 02 05.3 +0.4**
BILL pmax pmax
comp=Z,8.0nm,1.1s
MTO3 Montecristo 59.06 252 IAmb IAmb 12 02 07.2
comp=Z,32nm,1.1s
N17K Nushagak Hills 59.10 332 IAMs_20 IAMs_20 12 26 42.5
comp=Z,1µm,20.0s
N17K Nushagak Hills 59.10 332 P **P** **12 02 03.4 -2.4**
baz=35
GUY2C Guyana, Caldas 59.12 233 P **P** **12 02 07.9 +0.9**
comp=Z,543nmcomp=Z,60nm,0.8s
SYI Shuyak Island 59.18 328 IAmb IAmb 12 02 17.0
comp=Z,24nm,1.1s
Q20K Shuyak Island 59.18 328 P **P** **12 02 04.6 -1.7**
baz=38
M16K Timber Creek 59.19 333 IAMs_20 IAMs_20 12 26 45.9
comp=Z,868nm,22.0s
M16K Timber Creek 59.19 333 P **P** **12 02 04.7 -1.7**
baz=34
DSP Deep Springs 59.21 292 IAmb IAmb 12 02 16.5
comp=Z,18nm,1.2s
FURC Furnace Creek, 59.22 291 IAmb IAmb 12 02 18.2
comp=Z,19nm,1.0s
O03E Paynes Creek 59.28 297 IAmb IAmb 12 02 18.6
comp=Z,26nm,0.9s
N02D Trinity Center 59.29 298 IAmb IAmb 12 02 46.6
comp=Z,38nm,1.5s
L15K Ungalak Mounta 59.32 335 P **P** **12 02 06.1 -1.2**
baz=33
Q19K Cape Douglas, 59.33 329 IAMs_20 IAMs_20 12 26 55.7
comp=Z,1µm,19.0s
Q19K Cape Douglas, 59.33 329 P **P** **12 02 05.8 -1.6**
baz=37
P18K Big Mountain, 59.44 330 IAMs_20 IAMs_20 12 27 07.7
comp=Z,752nm,20.0s
P18K Big Mountain, 59.44 330 P **P** **12 02 06.3 -1.9**
baz=36
QSM Queen of Sheba 59.57 290 IAmb IAmb 12 02 21.7
comp=Z,13nm,0.8s
N16K Nishlik Lake 59.59 333 P **P** **12 02 07.6 -1.6**
baz=34
BRZS Berezniki 59.65 46 *eP* **P** **12 02 09.7 -0.1**
BRZS Berezniki 59.65 46 *eP* **P** **12 02 09.6 -0.2**
O17K Koliganek Bris 59.69 331 P **P** **12 02 08.4 -1.4**
baz=35
ANIL Santa Ana 59.77 233 P **P** **12 02 12.4 +1.1**
AFDM Forest Hills D 59.77 296 IAmb IAmb 12 02 14.9
comp=Z,36nm,1.8s
IRM Iron Mountain 59.86 288 IAmb IAmb 12 02 22.9
comp=Z,14nm,1.0s
MPMC Manual Prospec 59.86 291 IAmb IAmb 12 02 23.9
comp=Z,14nm,0.8s
MPMC IAMs_20 IAMs_20 12 26 51.9
comp=Z,721nm,20.0s
JTS Las Juntas de 59.87 245 IAMs_20 IAMs_20 12 23 17.1
comp=Z,766nm,22.0s
JTS Las Juntas de 59.87 245 LR LR 12 25 22.2
comp=Z,394nm,21.0s,baz=18,slow=33
GAMB Gambell 59.87 341 IAMs_20 IAMs_20 12 28 36.5
comp=Z,834nm,21.0s
GAMB Gambell 59.87 341 P **P** **12 02 09.1 -1.9**
baz=27
KDAK Kodiak Island 59.90 328 P **P** **12 02 11.5 +0.1**
KDAK IAmb IAmb 12 02 21.8
comp=Z,19nm,1.1s
KDAK Kodiak Island 59.90 328 IAMs_20 IAMs_20 12 28 13.0
comp=Z,732nm,18.0s
KDAK Kodiak Island 59.90 328 LR LR 12 26 58.0
comp=Z,890nm,21.8s,baz=51,slow=35
KDAK Kodiak Island 59.90 328 *deP* **P** **12 02 11.0 -0.3**
KDAK pmax pmax
comp=Z,13nm,1.2s
KDAK Kodiak Island 59.90 328 P **P** **12 02 09.0 -2.3**
baz=37
K13K Kusilvak Mount 59.91 336 IAMs_20 IAMs_20 12 29 00.7
comp=Z,824nm,19.0s
K13K Kusilvak Mount 59.91 336 P **P** **12 02 09.1 -2.3**
baz=31
L14K Kuka Creek 59.92 335 P **P** **12 02 09.1 -2.2**
baz=32
M15K Kasigluk River 59.94 334 P **P** **12 02 09.3 -2.2**
baz=33
P17K Kvichak River 59.97 331 P **P** **12 02 09.2 -2.5**
baz=35
Q18K Katmai Hardscr 59.98 330 P **P** **12 02 09.6 -2.4**
baz=36
WELL Weller Preserv 60.00 295 P **P** **12 02 12.3 -0.1**
WELL IAmb IAmb 12 02 17.6
comp=Z,33nm,1.6s
GSC Goldstone, Bar 60.01 290 IAmb IAmb 12 02 18.6
comp=Z,36nm,1.5s
SUTB Sutter Butte 60.02 296 P **P** **12 02 11.8 -0.7**
SUTB IAmb IAmb 12 02 22.7
comp=Z,16nm,0.7s
113A Mohawk Valley, 60.04 286 IAmb IAmb 12 02 25.0
comp=Z,15nm,0.8s
214A Organ Pipe Nat 60.06 284 IAmb IAmb 12 02 22.6
comp=Z,47nm,1.6s
O16K Kokwok River B 60.12 332 P **P** **12 02 13.6 +0.7**
O16K IAmb IAmb 12 02 16.1
comp=Z,25nm,1.2s
O16K IAMs_20 IAMs_20 12 27 12.7
comp=Z,1µm,21.0s
O16K Kokwok River B 60.12 332 P **P** **12 02 10.5 -2.3**
baz=34
SGC2 Sao Gabriel da 60.13 221 P **P** **12 02 13.5 0.0**
comp=Z,514nmcomp=Z,40nm,1.1s
CCCA Chr Cany lake 60.17 290 IAmb IAmb 12 02 26.1
comp=Z,17nm,0.9s
ITTB Itaituba 60.17 208 *eP* **P** **12 02 14.1 +0.4**
WSHM Spangler Hills 60.19 291 IAmb IAmb 12 02 19.5
comp=Z,15nm,1.0s
PRAC Prado 60.20 232 P **P** **12 02 14.0 0.0**
comp=Z,1µmcomp=Z,86nm,0.8s
N15K Kwethluk River 60.21 333 IAMs_20 IAMs_20 12 27 51.9
comp=Z,720nm,20.0s
N15K Kwethluk River 60.21 333 P **P** **12 02 11.1 -2.4**
baz=34
CMIG Matias Romero 60.22 259 LR LR 12 27 30.1
comp=Z,1µm,20.4s,baz=42,slow=35
M14K Bethel 60.23 334 P **P** **12 02 11.1 -2.4**
baz=32
URMC La Uribe, Meta 60.37 231 P **P** **12 02 15.5 +0.3**
comp=Z,35nm,0.8s
LRMC Laurel Mtn Rad 60.38 291 IAmb IAmb 12 02 21.0
comp=Z,36nm,1.5s
BC3 Big Chuckawall 60.40 288 P **P** **12 02 15.9 +0.7**
BC3 IAmb IAmb 12 02 27.4
comp=Z,28nm,0.9s
Q16K King Salmon 60.45 330 P **P** **12 02 12.9 -2.2**
baz=35
Q17K Contact Creek 60.56 330 P **P** **12 02 14.1 -1.9**
baz=35
P16K Nushagak River 60.56 331 IAMs_20 IAMs_20 12 27 36.2
comp=Z,1µm,20.0s
P16K Nushagak River 60.56 331 P **P** **12 02 13.8 -2.0**
baz=34
ZAIG Zacatecas 60.57 270 P **P** **12 02 17.6 +0.9**
MACA Manacapuru-AM 60.57 213 IAmb IAmb 12 02 27.8
comp=Z,16nm,0.8s
MACA Manacapuru-AM 60.57 213 *eP* **P** **12 02 16.7 +0.2**
OHAK Old Harbor 60.58 328 P **P** **12 02 16.1 +0.2**
OHAK IAmb IAmb 12 02 26.3
comp=Z,22nm,1.2s
OHAK Old Harbor 60.58 328 P **P** **12 02 16.6 +0.6**
OHAK Old Harbor 60.58 328 P **P** **12 02 14.2 -1.8**
baz=37
R18K Karluk 60.68 329 P **P** **12 02 14.0 -2.6**
baz=36
DCMP DeCamp, Califo 60.70 297 IAmb IAmb 12 04 17.1
comp=Z,21nm,0.9s
ISA Isabella, Lake 60.71 291 IAmb IAmb 12 02 29.9
comp=Z,12nm,0.8s
N14K Kuskokwak Cree 60.85 334 IAMs_20 IAMs_20 12 27 49.9
comp=Z,966nm,21.0s
N14K Kuskokwak Cree 60.85 334 P **P** **12 02 15.0 -2.8**
baz=32
M13K Dall Lake 60.88 335 P **P** **12 02 15.6 -2.3**
baz=32
O15K Ungalikthiuk R 60.97 332 IAMs_20 IAMs_20 12 27 51.9
comp=Z,996nm,20.0s
PFO Pinyon Flats O 61.01 288 P **P** **12 02 20.5 +1.0**
PFO IAmb IAmb 12 02 32.3
comp=Z,20nm,1.0s
PFO Pinyon Flats O 61.01 288 *ceP* **P** **12 02 20.7 +1.2**
PFO pmax pmax
comp=Z,39nm,1.5s
TPO Tropico Hills 61.13 290 P **P** **12 02 21.0 +0.8**
TPO IAmb IAmb 12 02 26.5
comp=Z,37nm,1.3s
PLK4 Peulik 4 61.22 330 IAMs_20 IAMs_20 12 28 25.8
comp=Z,923nm,20.0s
R17L Mt. Peulik Vol 61.22 330 P **P** **12 02 19.0 -1.5**
baz=35
BORC Borrego Spring 61.24 288 IAmb IAmb 12 02 32.2
comp=Z,50nm,1.9s
BFSC Mount Baldy Ra 61.26 290 IAmb IAmb 12 02 30.9
comp=Z,42nm,1.7s
O14K Tigyukauivet M 61.31 333 P **P** **12 02 18.4 -2.5**
baz=32
YUH Yuha Desert 61.39 287 IAmb IAmb 12 02 32.1
comp=Z,24nm,1.2s
SII Sitkinak Islan 61.41 328 P **P** **12 02 19.2 -2.4**
baz=36
JAMC Jamundi, Valle 61.50 233 P **P** **12 02 22.3 -0.7**
comp=Z,21nm,1.2s
ELS Elsinore Mount 61.55 289 IAmb IAmb 12 02 28.9
comp=Z,49nm,1.7s
ZALV Zalesovo Beam 61.57 37 P **P** **12 02 22.6 -0.1**
comp=Z,6.9nm,0.6s,baz=321,slow=7.5,SNR=20
ZALV S **S** **12 10 46.6 +3.0**
comp=Z,0.3nm,0.3s,baz=306,slow=20,SNR=1.6
ZALV LR LR 12 30 20.6
comp=Z,360nm,18.7s,baz=315,slow=37
comp=Z,6.9nm,0.6s

ZALV Zalesovo Beam 61.57 37 *i* P **P 12 02 23.0 +0.3**
ZALV pmax pmax
comp=Z,7.0nm,0.6s
M11K Mekoryuk 61.63 336 P **P 12 02 21.1 -1.9**
baz=30
KURK Kurchatov 61.65 43 P **P 12 02 23.1 -0.2**
KURK IAmb IAmb 12 02 32.2
comp=Z,28nm,1.2s
KURK Kurchatov 61.65 43 P **P 12 02 22.7 -0.7**
KURK P **P 12 02 22.7 -0.7**
KURK S **S 12 10 47.9 +3.1**
KURK S **S 12 10 47.9 +3.1**
KURK Kurchatov 61.65 43 P **P 12 02 23.1 -0.2**
KURK pmax pmax
comp=Z,28nm,1.2s
KURBB Kurchatov Arra 61.68 43 P **P 12 02 23.4 -0.2**
comp=Z,6.4nm,0.8s,baz=320,slow=7.4,SNR=30
KURBB S **S 12 10 47.0 +1.8**
comp=Z,0.1nm,0.3s,baz=310,slow=4.7,SNR=1.1
KURBB LR LR 12 28 01.0
comp=Z,2µm,21.8s,baz=321,slow=35
comp=Z,6.4nm,0.8s
BAR Barrett 61.81 288 IAmb IAmb 12 02 37.4
comp=Z,23nm,0.8s
TLIG Tlapa 62.07 262 P **P 12 02 27.1 +0.3**
POPC Popayan, Colom 62.08 233 P **P 12 02 26.4 -0.6**
comp=Z,367nmcomp=Z,20nm,1.1s
CHIR Chirikof Islan 62.47 328 P **P 12 02 26.0 -2.8**
baz=35
SMTB Santa Maria do 62.60 198 *e*P **P 12 02 30.2 +0.1**
NPGB Novo Progresso 62.62 206 *e*P **P 12 02 30.1 -0.1**
BBAC Balboa, Cauca 62.81 233 P **P 12 02 31.4 -0.4**
comp=Z,411nmcomp=Z,19nm,0.8s
CHGN Chignik 62.96 330 P **P 12 02 30.5 -1.5**
baz=33
PTLC Puerto Leguiza 63.26 230 P **P 12 02 32.5 -2.0**
S14K Fog Glacier 63.32 330 P **P 12 02 33.2 -1.3**
baz=33
BRLS Boroldav 63.44 53 *e*P **P 12 02 36.1 +0.5**
comp=Z,14nm,1.3s
BRLS Boroldav 63.44 53 *e*P **P 12 02 36.0 +0.5**
BRLS pmax pmax
comp=Z,14nm,1.3s
KKAR Karatay Array 63.72 53 P **P 12 02 37.1 -0.2**
KKAR Karatay Array 63.72 53 P **P 12 02 37.1 -0.2**
BTLS Baital 63.94 49 *e*P **P 12 02 39.0 +0.2**
BTLS Baital 63.94 49 *e*P **P 12 02 38.9 +0.2**
RAYN Ar Rayn 64.12 85 P **P 12 02 40.4 +0.1**
RAYN Ar Rayn 64.12 85 P **P 12 02 40.5 +0.1**
RAYN Ar Rayn 64.12 85 *i* P **P 12 02 40.3 +0.1**
SNR=5.5
RAYN Ar Rayn 64.12 85 P **P 12 02 40.4 +0.1**
RAYN pmax pmax
comp=Z,141nm,1.8s
IUG Iuzhnay 64.20 54 *e*P **P 12 02 40.6 0.0**
comp=Z,16nm,1.2s
IUG Iuzhnay 64.20 54 *e*P **P 12 02 40.6 0.0**
IUG pmax pmax
comp=Z,16nm,1.2s
DZA Taraz 64.28 53 *e*P **P 12 02 41.1 0.0**
DZA Taraz 64.28 53 *e*P **P 12 02 41.0 0.0**
LPIG La Paz 64.30 277 LR LR 12 30 39.6
comp=Z,995nm,18.3s,baz=45,slow=36
BONI La Bonita 64.31 232 P **P 12 02 42.6 +0.8**
comp=Z,36nm,0.9s
SDPT Sand Point 64.39 330 P **P 12 02 40.1 -1.4**
baz=32
S12K Black Hills 64.56 331 P **P 12 02 41.3 -1.3**
baz=31
SEY Seymchan 64.83 358 P **P 12 02 43.8 -0.5**
comp=Z,4.1nm,0.9s,baz=337,slow=13,SNR=4.6
SEY S **S 12 11 28.8 +4.6**
comp=Z,0.8nm,0.7s,baz=343,slow=19,SNR=1.5
SEY LR LR 12 28 50.3
comp=Z,363nm,21.6s,baz=18,slow=34
comp=Z,4.1nm,0.9s
SEY Seymchan 64.83 358⇑ *e*P **P 12 02 44.6 +0.3**
SEY pmax pmax
comp=Z,9.0nm,1.1s
YAK Yakutsk 64.86 9 P **P 12 02 43.9 -0.6**
YAK Yakutsk 64.86 9 P **P 12 02 43.8 -0.6**
comp=Z,13nm,0.5s,baz=353,slow=11,SNR=2.3
YAK S **S 12 11 28.5 +4.1**
comp=Z,5.4nm,0.5s,baz=357,slow=2.3,SNR=1.4
YAK LR LR 12 29 06.3
comp=Z,444nm,20.5s,baz=352,slow=34
comp=Z,13nm,0.5s
YAK Yakutsk 64.86 9 *e*P **P 12 02 45.7 +1.3**
YAK *e**PP **pwP 12 02 54.6 +1.9**
YAK *e*S **S 12 11 24.7 +0.2**
YAK *e**SS sS 12 11 43.5 +13
YAK *e*SS **SS 12 15 34.9 +0.1**
YAK pmax pmax
comp=Z,22nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK smax smax
comp=N,34nm,2.7s
YAK smax smax
comp=E,251nm,7.8s
PAC1 Pacto, Paraso 65.09 234 P **P 12 02 50.2 +3.5**
SAKB Bahrain 65.34 79 P **P 12 02 47.3 -0.8**
SGDS Sogindy 65.42 50 *e*P **P 12 02 48.4 -0.2**
SHMA Al-Shehemyia 65.69 79 P **P 12 02 50.8 +0.4**
PIAT Ana Tenorio 65.92 232 P **P 12 02 53.2 +0.8**
comp=E,15nm,1.0s
TDK Taldyqorghan 65.95 47 *e*P **P 12 02 51.9 0.0**
comp=E,6.1nm,0.6s
TDK Taldyqorghan 65.95 47 *e*P **P 12 02 51.9 0.0**
TDK pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 65.98 51 *de*P **P 12 02 53.3 +1.0**
AAK pmax pmax
comp=Z,13nm,1.3s
MK31 Makanchi Array 66.22 43 *c i*P **P 12 02 53.3 -0.3**
MKAR Makanchi Array 66.22 43 P **P 12 02 53.1 -0.5**
MKAR Makanchi Array 66.22 43 P **P 12 02 53.3 -0.3**
comp=Z,10nm,0.8s,baz=325,slow=5.7,SNR=61
MKAR S **S 12 11 47.0 +5.2**
comp=Z,0.2nm,0.7s,baz=300,slow=18,SNR=1.4
comp=Z,10nm,0.8s
MKAR Makanchi Array 66.22 43 *i* P **P 12 02 53.5 -0.1**
MKAR pmax pmax
comp=Z,11nm,0.8s
SIMJ Simiganj 66.30 57 P **P 12 02 54.9 +0.6**
SIMJ IAmb IAmb 12 03 05.2
comp=Z,17nm,1.0s
ARXS Arharly 66.31 48 *e*P **P 12 02 53.7 -0.5**
CLDB Colider 66.40 206 *e*P **P 12 02 54.6 -0.3**
TRNA Turayna 66.67 79 P **P 12 02 56.7 0.0**
SNR=7.1
AAA Alma-Ata 66.67 49 *e*P **P 12 02 56.7 +0.1**
AAA Alma-Ata 66.67 49 *e*P **P 12 02 56.6 +0.1**
ZSN Zaisan 66.76 41 *e*P **P 12 02 57.0 0.0**
comp=Z,8.9nm,1.2s
ZSN Zaisan 66.76 41 *e*P **P 12 02 57.0 0.0**
ZSN pmax pmax
comp=Z,9.0nm,1.2s
MDOK Medeo 66.77 49 *e*P **P 12 02 57.2 -0.1**
MDOK Medeo 66.77 49 *e*P **P 12 02 57.2 -0.1**
TNSS Tian-Shan 66.82 49 *e*P **P 12 02 57.6 -0.4**
TNSS Tian-Shan 66.82 49 *e*P **P 12 02 57.5 -0.4**
PDRB Porto dos Gac 67.36 206 *e*P **P 12 03 00.8 -0.2**
UNV Unalaska Valle 67.45 333 P **P 12 03 00.5 -0.7**
baz=28
SATY Saty 67.47 48 *e*P **P 12 03 01.6 -0.1**
comp=Z,14nm,1.1s
SATY Saty 67.47 48 *e*P **P 12 03 01.6 -0.1**
SATY pmax pmax
comp=Z,14nm,1.1s
UZB Uzynbulak 67.68 48 *e*P **P 12 03 03.0 -0.1**
comp=Z,6.1nm,0.9s
UZB Uzynbulak 67.68 48 *e*P **P 12 03 03.0 -0.1**
UZB pmax pmax
comp=Z,6.0nm,0.9s
SHLS Shalkode 67.87 47 *e*P **P 12 03 05.6 +1.3**
comp=Z,16nm,1.2s
SHLS Shalkode 67.87 47 *e*P **P 12 03 05.5 +1.3**
SHLS pmax pmax
comp=Z,16nm,1.2s
JANB Januaria 68.16 193 *e*P **P 12 03 05.4 -0.7**
MA2 Magadan 68.23 359 P **P 12 03 06.9 +0.9**
comp=Z,5.7nm,0.6s,baz=0.0,slow=15,SNR=5.0
MA2 S **S 12 12 09.6 +4.1**
comp=Z,5.6nm,0.8s,baz=326,slow=15,SNR=1.4
MA2 LR LR 12 30 37.0
comp=Z,344nm,21.8s,baz=9.0,slow=34
comp=Z,5.7nm,0.6s
MA2 Magadan 68.23 359⇑ *e*P **P 12 03 06.3 +0.3**
MA2 pmax pmax
comp=Z,34nm,1.7s
SHME Shamm 68.62 75 P **P 12 03 09.1 +0.1**
SHME Shamm 68.62 75 P **P 12 03 08.6 -0.4**
BANOM Banah 68.81 75 P **P 12 03 10.1 -0.2**
BANOM P **P 12 03 10.1 -0.2**
BANOM Banah 68.81 75 P **P 12 03 09.8 -0.4**
MOY Mondy 68.88 29 *e*P **P 12 03 09.8 -0.6**
MOY pmax pmax
comp=Z,54nm,2.0s
AJN Ajban 69.06 77 P **P 12 03 11.6 -0.1**
AJN P **P 12 03 11.6 -0.1**
KSH Kashi 69.11 52 P **P 12 03 14.1 +2.1**
KSH sP pwP 12 03 22.2 +2.0
KSH pmax pmax
comp=Z,48nm,1.4s
KSH LR LR
comp=Z,1µm,19.2s
KSH LR LR
comp=Z,1µm,18.5s
KSH LR LR
comp=Z,2µm,20.6s
NAZ Nazwa, Dubai 69.14 76 P **P 12 03 12.0 -0.2**
NAZ P **P 12 03 12.0 -0.2**
MASF Masafi 69.14 75 P **P 12 03 12.1 -0.3**
MSFE Esma-Masafi 69.15 75 *i* P **P 12 03 12.0 -0.3**
SNR=6.2
BDFB Brasília 69.30 197 P **P 12 03 11.6 -1.7**
comp=Z,1.5nm,0.2s,baz=36,slow=3.0,SNR=3.0
BDFB LR LR 12 29 14.3
comp=Z,382nm,21.4s,baz=348,slow=32
comp=Z,1.5nm,0.2s
IRK Irkutsk 69.31 27 *e*P **P 12 03 10.1 -2.8**
IRK pmax pmax
comp=Z,78nm,1.7s
MZR Muzera 69.34 79 P **P 12 03 12.4 -1.1**
SNR=6.4
MZR P **P 12 03 12.4 -1.1**
SNR=6.4
MZR Muzera 69.34 79 *i* P **P 12 03 13.0 -0.5**
SNR=5.5
CZSB Cruzeiro do Su 69.36 224 *e*P **P 12 03 11.7 -1.9**
UOSS Minazif 69.49 76 P **P 12 03 13.8 -0.6**
UOSS Minazif 69.49 76 P **P 12 03 14.3 -0.2**
UOSS Minazif 69.49 76 *i* P **P 12 03 14.1 -0.3**
SNR=8.4
HATD Hatta, Dubai 69.54 76 P **P 12 03 14.1 -0.7**
SNR=12
HATD Hatta, Dubai 69.54 76 *i* P **P 12 03 14.0 -0.7**
SNR=11
ASHO Ashiyiah 69.60 76 P **P 12 03 14.7 -0.4**
SNR=8.4
ASHO P **P 12 03 14.7 -0.4**
SNR=8.4
ASHO Ashiyiah 69.60 76 *i* P **P 12 03 14.5 -0.7**
SNR=5.6
VILB Vilhena 69.63 210 P **P 12 03 15.6 +0.4**
VILB IAmb IAmb 12 03 16.5
comp=Z,36nm,1.2s
VILB Vilhena 69.63 210 *e*P **P 12 03 16.2 +1.0**
MCRA Macar, Loja 69.67 232 P **P 12 03 15.5 -0.1**
ALNE Al Ain 69.90 77 P **P 12 03 16.9 0.0**
SNR=9.4
ALNE P **P 12 03 16.9 0.0**
SNR=9.4
ALNE Al Ain 69.90 77 P **P 12 03 16.7 -0.2**
ARAG Araguaiana, MT 70.10 200 *e*P **P 12 03 18.5 +0.5**
SOHO SOHO 70.30 76 P **P 12 03 17.9 -1.5**
SOHO SOHO 70.30 76 *i* P **P 12 03 18.0 -1.3**
SNR=7.0
WMQ Urumqi 70.87 42 *e*P **P 12 03 24.0 +1.3**
WMQ sP pwP 12 03 32.5 +1.6
WMQ PcP **PcP 12 03 41.5 -1.7**
WMQ pmax pmax
comp=Z,34nm,0.9s
WMQ pmax pmax
comp=Z,170nm,4.7s
WMQ LR LR
comp=Z,980nm,17.3s
WMQ LR LR
comp=Z,1µm,21.1s
WMQ LR LR
comp=Z,1µm,19.9s
ARQ Araqi 70.90 76 P **P 12 03 23.2 +0.1**
ATKA Atka Island 70.94 337 IAMs_20 IAMs_20 12 35 25.5
comp=Z,927nm,21.0s
SALV Santo Antonio 71.19 204 *e*P **P 12 03 24.8 +0.1**
ATAH Atahualpa 71.35 229 LR LR 12 34 12.5
comp=Z,283nm,20.4s,baz=4.6,slow=35
PTLB Pontes e Lacer 71.68 208 P **P 12 03 27.9 +0.3**
PTLB Pontes e Lacer 71.68 208 *e*P **P 12 03 27.9 +0.3**
BIDO Bidbid 71.71 75 P **P 12 03 27.7 -0.2**
SNR=5.8
BIDO P **P 12 03 27.7 -0.2**
SNR=5.8
CIT Chita 71.85 22 *e*P P 12 03 37.2 +8.7
CIT *e* 12 03 43.1
CIT pmax pmax
comp=Z,103nm,2.4s
SMDO Samad 72.02 76 P **P 12 03 28.8 -1.2**
SNR=5.8
SMDO P **P 12 03 28.8 -1.2**
SNR=5.8
WSAR Wadi Sarin 72.22 75 P **P 12 03 30.6 -0.5**
JMDO Jabal Madar 72.57 76 P **P 12 03 32.8 -0.4**
ZEA Zeya 72.69 13 *e*P P 12 03 42.8 +9.5
ZEA *e* 12 12 59.4
ZEA pmax pmax
comp=Z,20nm,1.5s
SIV San Ignacio 72.76 209 LR LR 12 31 22.8
comp=Z,1µm,20.3s,baz=88,slow=32
SHEM Shmya Is, Ala 72.87 344 LR LR 12 35 49.5
comp=Z,256nm,21.9s,baz=62,slow=36
WBK Wadi Bani Khal 72.90 75 P **P 12 03 33.4 -1.8**
WBK P **P 12 03 33.4 -1.8**
DOK Doka 73.06 81 P **P 12 03 35.2 -0.9**
JLN Jalan Bani Buh 73.52 75 P **P 12 03 38.3 -0.5**
JLN P **P 12 03 38.3 -0.5**
ABTO Aybut 73.53 83 P **P 12 03 38.4 -0.5**
MHTO MHTO 73.55 77 P **P 12 03 38.0 -0.9**
MHTO P **P 12 03 38.0 -0.9**
LODK Lodwar 73.58 106 P **P 12 03 40.7 +1.5**
LODK IAmb IAmb 12 03 52.5
comp=Z,37nm,1.5s
LODK Lodwar 73.58 106 P **P 12 03 41.2 +1.9**
SNR=11
SONM Songino Array 73.88 28 P **P 12 03 40.9 +0.2**
SONM IAmb IAmb 12 03 50.4
comp=Z,31nm,1.0s
SONM Songino Array 73.88 28 P **P 12 03 40.9 +0.2**
comp=Z,9.5nm,1.0s,baz=328,slow=6.5,SNR=23
SONM LR LR 12 37 48.9
comp=Z,785nm,19.4s,baz=352,slow=37
comp=Z,9.5nm,1.0s
ULN Ulaanbaatar 74.04 27 P **P 12 03 42.5 +0.9**
ULN Ulaanbaatar 74.04 27 *de*P **P 12 03 42.5 +0.9**
ULN pmax pmax
comp=Z,13nm,1.0s
MBAR Mbarara 74.19 113 IAMs_20 IAMs_20 12 35 52.8
comp=Z,485nm,19.0s
MBAR Mbarara 74.19 113⇑ *i* P **P 12 03 43.5 +0.6**
MBAR pmax pmax
comp=Z,8.0nm,1.3s
PEA0B Petropavlovsk- 74.43 354 *de*P **P 12 03 42.4 -1.2**
PETK Petropavlovsk- 74.43 354 P **P 12 03 42.6 -1.0**
comp=Z,2.8nm,0.9s,baz=14,slow=8.0,SNR=3.7
PETK S **S 12 13 25.1 +7.7**
comp=Z,0.9nm,0.7s,baz=4.8,slow=19,SNR=1.4
PETK LR LR 12 36 37.6
comp=Z,500nm,19.2s,baz=4.6,slow=36
comp=Z,2.8nm,0.9s
PET Petropavlovsk 74.45 353 IAMs_20 IAMs_20 12 36 29.5
comp=Z,513nm,18.0s
PET Petropavlovsk 74.45 353 *e*P P 12 03 52.3 +8.6
PET *e*S **S 12 13 21.1 +3.6**
PET *e* 12 14 00.7
PET *e*SS **SS 12 18 09.4 +6.9**
PET pmax pmax
comp=Z,47nm,1.0s
PET pmax pmax
comp=Z,100nm,11.5s
PET MLR MLR
comp=Z,400nm,18.0s
PET MLR MLR
comp=Z,500nm,14.0s
NNA Nana 74.94 226 LR LR 12 35 38.6
comp=Z,596nm,20.5s,baz=350,slow=35
LPAZ La Paz 75.36 216 P **P 12 03 48.8 -1.3**
comp=Z,11nm,1.2s,baz=9.7,slow=13,SNR=14
LPAZ S **S 12 13 21.0 -8.7**
comp=Z,0.7nm,0.4s,baz=44,slow=2.0,SNR=3.9
LPAZ LR LR 12 35 00.4
comp=Z,443nm,18.6s,baz=358,slow=34
comp=Z,11nm,1.2s
AQDB Aquidauana 75.59 203 P **P 12 03 51.1 +0.6**
AQDB IAmb IAmb 12 03 52.0
comp=Z,35nm,1.5s
HIA Hailar 75.76 19 IAMs_20 IAMs_20 12 36 19.4
comp=Z,618nm,18.0s
HIA Hailar 75.76 19 P P 12 04 01.3 +10
HEH HeiHe 76.11 14 *e*P **P 12 03 53.6 +0.3**
HEH sP **pwP 12 04 02.5 +0.8**
HEH S **S 12 13 30.9 -5.1**
HEH sS **sS 12 13 43.9 +1.6**
HEH SS **SS 12 18 35.7 +7.9**
HEH pmax pmax
comp=Z,8.0nm,0.8s
HEH LR LR
comp=Z,280nm,19.8s
HEH LR LR
comp=Z,390nm,17.9s
HEH LR LR
comp=Z,680nm,18.8s
GRNR Gornyy 76.61 8⇑ *i* P P 12 04 03.9 +7.8
GRNR pmax pmax
comp=Z,10.0nm,1.3s
GRNR MLR MLR
comp=N,300nm,20.0s
GRNR MLR MLR
comp=E,170nm,20.0s
GRNR MLR MLR
comp=Z,260nm,17.0s
TYV Tymovskoe 76.88 4 *e*P P 12 04 06.7 +9.1
TYV pmax pmax
comp=Z,100nm,2.3s
TYV pmax pmax
comp=Z,17nm,1.0s
PB18 Visviri 77.05 217 IAmb IAmb 12 04 09.4
comp=Z,17nm,0.9s
KLR Kul'dur 77.67 11 LR LR 12 37 44.3
comp=Z,262nm,18.8s,baz=16,slow=35
PB16 IPOC Station P 77.75 216 IAmb IAmb 12 04 13.1
comp=Z,25nm,1.0s
PB16 IAMs_20 IAMs_20 12 37 04.0
comp=Z,562nm,19.0s
AMBA Amambai (Brazi 77.79 202 *e*P **P 12 04 02.8 -0.2**
KMBO Kilima Mbogo 78.35 107 P **P 12 04 06.2 -0.4**
comp=Z,1.2nm,0.3s,baz=352,slow=7.5,SNR=3.3
KMBO LR LR 12 38 31.3
comp=Z,266nm,20.6s,baz=308,slow=36
comp=Z,1.2nm,0.3s
KMBO Kilima Mbogo 78.35 107 *i* P **P 12 04 09.5 +2.8**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
PB11 IPOC Station P 79.11 216 IAmb IAmb 12 04 21.0
comp=Z,21nm,0.8s
PB08 IPOC Station P 79.28 215 IAmb IAmb 12 04 24.2
comp=Z,17nm,0.8s
PB08 IAMs_20 IAMs_20 12 40 09.7
comp=Z,468nm,20.0s
GTA Gaotai 79.30 36 P **P 12 04 11.4 -0.1**
GTA sP PcP 12 04 18.9 -0.8
GTA S **S 12 14 08.2 -3.1**
GTA SS **SS 12 19 15.4 -1.4**
GTA pmax pmax
comp=Z,12nm,0.9s
GTA LR LR
comp=Z,920nm,17.5s
GTA LR LR
comp=Z,590nm,18.3s
GTA LR LR
comp=Z,1µm,19.9s
HMBC Humberstone 79.67 216 IAmb IAmb 12 04 25.1
comp=Z,58nm,1.9s
KIBK Kibwezi 79.80 107 IAMs_20 IAMs_20 12 39 01.4
comp=Z,443nm,20.0s
XLT XiLinHaoTe 80.06 23 *e*P P 12 04 23.3 +7.8
XLT sP pwP 12 04 31.6 +7.7
XLT XiLinHaoTe 80.06 23 S **S 12 14 25.4 +6.3**
XLT XiLinHaoTe 80.06 23 SS SS 12 19 34.0 +6.3
XLT pmax pmax
comp=Z,21nm,1.5s
XLT pmax pmax
comp=Z,150nm,4.3s
XLT LR LR
comp=N,62nm,20.7s
XLT LR LR
comp=E,370nm,13.5s
XLT LR LR
comp=Z,1µm,20.4s
PATCX Punta Patache 80.26 216 IAmb IAmb 12 04 21.6
comp=Z,17nm,0.9s
BNX BinXian 80.51 15⇓ P **P 12 04 17.2 -0.5**
BNX pmax pmax
comp=Z,37nm,1.1s
PB02 IPOC Station P 80.63 216 IAmb IAmb 12 04 28.8
comp=Z,21nm,1.0s
YSS Yuzhno-Sakhali 80.79 4 P P 12 04 29.1 +10
YSS Yuzhno-Sakhali 80.79 4 *e*P P 12 04 28.6 +9.4
YSS pmax pmax
comp=Z,200nm,2.1s
YSS pmax pmax
comp=Z,40nm,1.3s
YSS MLR MLR
comp=Z,800nm,17.0s
YSS MLR MLR
comp=N,500nm,16.0s
YSS MLR MLR
comp=E,500nm,16.0s
PB09 IPOC Station P 80.84 215 IAmb IAmb 12 04 31.8
comp=Z,29nm,1.4s
PB03 IPOC Station P 81.25 215 IAmb IAmb 12 04 33.9
comp=Z,22nm,1.3s
BTO Baotou 81.54 28 *e*P **P 12 04 23.2 -0.3**
BTO pP **pwP 12 04 35.7 +3.8**
BTO S **S 12 14 33.9 -0.7**
BTO sS **pS 12 14 40.1 +0.6**
BTO SS **SS 12 19 46.7 -3.3**
BTO pmax pmax
comp=Z,23nm,0.9s
BTO pmax pmax
comp=Z,390nm,6.1s
BTO LR LR
comp=Z,710nm,17.5s
BTO LR LR
comp=Z,510nm,17.8s
BTO LR LR
comp=Z,690nm,20.8s
CPUP Villa Florida 81.61 203 P **P 12 04 23.0 -0.6**
comp=Z,0.8nm,0.7s,baz=0.0,slow=1.0,SNR=3.0
CPUP LR LR 12 37 34.1
comp=Z,58nm,18.5s,baz=238,slow=34
comp=Z,0.8nm,0.7s
CPUP Villa Florida 81.61 203 P **P 12 04 23.0 -0.6**
HHC Hu-ho-hao-te 81.76 27 *e*P **P 12 04 23.8 -0.8**
HHC sP pwP 12 04 34.4 +1.4
HHC S **S 12 14 33.8 -3.0**
HHC sS SKSac 12 14 45.3 +1.3
HHC SS **SS 12 19 59.2 +6.0**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,65nm,5.9s
HHC LR LR
comp=Z,770nm,18.6s
HHC LR LR
comp=Z,500nm,14.8s
HHC LR LR
comp=Z,890nm,18.2s
MDJ Mudanjiang 81.93 13 P **P 12 04 25.0 -0.3**
MDJ S **SKSac 12 14 44.9 +0.2**
MDJ pmax pmax
comp=Z,8.0nm,0.7s
MDJ LR LR
comp=Z,560nm,17.9s
MDJ LR LR
comp=Z,510nm,13.7s
MDJ LR LR

comp=Z,550nm,19.2s
CN2 Changchun 82.08 16 P **P** **12 04 27.5 +1.4**
CN2 sP pwP 12 04 34.4 -0.1
CN2 S **S** **12 14 37.8 -2.0**
CN2 SS **SS** **12 19 58.2 +0.7**
CN2 LR LR
comp=Z,360nm,18.0s
CN2 LR LR
comp=Z,510nm,18.0s
USA0B Ussuriysk Arra 82.66 12⇑*eP* **P** **12 04 30.3 +1.2**
USRK Ussuriysk Ar. 82.66 12 P **P** **12 04 28.1 -1.0**
comp=Z,3.5nm,0.9s,baz=332,slow=4.9,SNR=4.7
USRK LR LR 12 40 56.7
comp=Z,347nm,18.9s,baz=349,slow=36
comp=Z,3.5nm,0.9s
TSUM Tsumeb 83.33 134 LR LR 12 40 47.1
comp=Z,393nm,18.7s,baz=333,slow=35
ASAJ Asahikawa 83.62 4 P **P** **12 04 36.3 +2.3**
comp=Z,20nm,1.1s,baz=342,slow=9.6,SNR=4.4
ASAJ LR LR 12 41 43.1
comp=Z,164nm,19.6s,baz=12,slow=36
SNY Shenyang 83.65 18⇑P P 12 04 42.9 +8.6
SNY pmax pmax
comp=Z,35nm,1.0s
LZH Lanzhou 83.70 35 *eP* P 12 04 29.0 -5.8
LZH sP pwP 12 04 42.9 -0.4
LZH Lanzhou 83.70 35 sS S 12 14 56.6 -0.3
LZH Lanzhou 83.70 35 SS SS 12 20 19.8 -2.5
LZH pmax pmax
comp=Z,15nm,1.2s
LZH LR LR
comp=N,700nm,16.5s
LZH LR LR
comp=E,790nm,17.9s
LZH LR LR
comp=Z,890nm,17.5s
BJI Beijing 83.73 24 P **P** **12 04 34.8 +0.1**
BJI sP **pwP** **12 04 42.0 -1.1**
BJI PP **PP** **12 07 47.7 +0.9**
BJI S **S** **12 14 53.2 -3.5**
BJI SS **SS** **12 20 21.4 -0.7**
BJI pmax pmax
comp=Z,3.0nm,1.0s
BJI pmax pmax
comp=Z,75nm,8.5s
BJI LR LR
comp=Z,440nm,20.0s
BJI LR LR
comp=Z,240nm,22.3s
BJI LR LR
comp=Z,650nm,20.0s
LZDM Lanzhou Array 83.76 35 P **P** **12 04 35.7 +0.3**
comp=Z,1.3nm,0.3s,baz=300,slow=4.3,SNR=3.5
LZDM LR LR 12 42 23.9
comp=Z,460nm,18.9s,baz=10.0,slow=36
comp=Z,1.3nm,0.3s
PB14 IPOC Station P 83.85 215 IAmb IAmb 12 05 18.9
comp=Z,16nm,1.2s
GO02 Mina Guanaco 84.06 214 IAmb IAmb 12 04 48.7
comp=Z,14nm,1.0s
TIY Taiyuan 84.92 28 P **P** **12 04 40.8 -0.1**
TIY PP **PP** **12 08 02.3 +5.7**
TIY S **S** **12 15 12.3 +3.4**
TIY SS **SS** **12 20 36.7 -3.3**
TIY pmax pmax
comp=Z,230nm,4.9s
TIY LR LR
comp=Z,540nm,17.2s
TIY LR LR
comp=Z,560nm,15.1s
TIY LR LR
comp=Z,690nm,18.6s
LSZ Lusaka 85.03 123 P **P** **12 04 42.8 +1.2**
LSZ IAmb IAmb 12 04 51.5
comp=Z,11nm,0.8s
LSZ Lusaka 85.03 123 IAMs_20 IAMs_20 12 41 47.8
comp=Z,623nm,18.0s
LSZ Lusaka 85.03 123 LR LR 12 42 09.5
comp=Z,456nm,20.0s,baz=340,slow=35
LSZ Lusaka 85.03 123 P **P** **12 04 42.8 +1.2**
LSZ pmax pmax
comp=Z,11nm,0.8s
LSZ MLR MLR
comp=Z,600nm,18.0s
QNGWA Qangwa 85.23 131 P **P** **12 04 44.6 +2.0**
QNGWA IAmb IAmb 12 04 52.6
comp=Z,10nm,0.8s
AC02 Maricunga 85.45 213 IAmb IAmb 12 04 52.9
comp=Z,13nm,1.0s
KSANE Kasane 85.65 127 P **P** **12 04 45.9 +1.3**
ERM Erimo 85.74 4 P **P** **12 04 46.4 +1.6**
ERM Erimo 85.74 4*deP* **P** **12 04 45.8 +1.0**
ERM pmax pmax
comp=Z,20nm,0.9s
HNS HongShan 85.84 26⇑P **P** **12 04 48.5 +3.1**
HNS S **S** **12 15 22.0 +4.2**
HNS pmax pmax
comp=Z,260nm,5.1s
HNS LR LR
comp=Z,920nm,15.3s
HNS LR LR
comp=Z,250nm,14.5s
HNS LR LR
comp=Z,790nm,17.5s
DL2 Dalian 86.08 20 P **P** **12 04 47.5 +1.0**
DL2 S **S** **12 15 21.7 +1.7**
DL2 pmax pmax
comp=Z,91nm,1.6s
DL2 pmax pmax
comp=Z,260nm,11.8s
DL2 LR LR
comp=Z,680nm,17.1s
DL2 LR LR
comp=Z,360nm,18.1s
DL2 LR LR
comp=Z,1µm,18.7s
XAN Xi'an 87.26 32⇑P P 12 04 57.5 +5.0
XAN pP pwP 12 05 01.1 +0.1
XAN pmax pmax
comp=Z,12nm,0.8s
LCO Las Campanas 87.99 213 IAMs_20 IAMs_20 12 37 24.3
comp=Z,513nm,19.0s
HYB Hyderabad 88.19 64 *eP* **P** **12 04 57.7 +0.5**
CO01 Juntas del Tor 88.68 212 IAmb IAmb 12 05 32.2
comp=Z,30nm,1.8s
KSAR Wonju Array Be 88.69 16 P **P** **12 04 58.5 -0.6**
KSAR Wonju Array Be 88.69 16 P **P** **12 04 58.5 -0.6**
MATP Matopo 89.52 125 P **P** **12 05 03.6 +0.4**
comp=Z,0.6nm,0.4s,baz=297,slow=4.5,SNR=3.8
MATP LR LR 12 44 26.2
comp=Z,449nm,19.4s,baz=338,slow=35
comp=Z,0.6nm,0.4s
CFA Coronel Fontan 89.59 210 LR LR 12 41 55.2
comp=Z,306nm,21.9s,baz=10.0,slow=33
BRDH Bariadhala 90.48 50 LR LR 12 47 20.5
comp=Z,937nm,21.6s,baz=310,slow=37
PZH PanZhiHua 91.52 40 P **P** **12 05 13.0 +0.3**
PZH S **S** **12 16 08.2 -3.8**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,230nm,6.3s
PZH LR LR
comp=Z,460nm,21.8s
PZH LR LR
comp=Z,380nm,22.2s
PZH LR LR
comp=Z,660nm,20.1s
NJ2 Nanjing 91.98 25 *eP* **P** **12 05 12.9 -1.7**
NJ2 pmax pmax
comp=Z,12nm,0.8s
NJ2 LR LR
comp=Z,670nm,14.2s
NJ2 LR LR
comp=Z,700nm,11.8s
NJ2 LR LR
comp=Z,750nm,16.7s
LBTB Lobatse 92.01 130 LR LR 12 45 18.7
comp=Z,371nm,18.2s,baz=330,slow=35
MT05 Renca 92.03 212 IAMs_20 IAMs_20 12 43 48.5
comp=Z,477nm,21.0s
WHN Wuhan 92.18 29 P **P** **12 05 13.5 -2.0**
WHN LR LR
comp=Z,2µm,16.4s
MT13 San Alfonso 92.21 211 IAMs_20 IAMs_20 12 43 30.3
comp=Z,576nm,22.0s

BOSA Boshof 94.93 132 LR LR 12 46 52.7
comp=Z,688nm,18.9s,baz=344,slow=35
CHTO Chiang Mai 97.17 46 IAMs_20 IAMs_20 12 51 55.9
comp=Z,500nm,21.0s
CMAR Chiang Mai Arr 97.48 46 PP **PP** **12 09 35.7 -0.7**
comp=Z,0.5nm,0.5s,baz=338,slow=5.5,SNR=4.2
CMAR LR LR 12 52 17.6
comp=Z,353nm,19.9s,baz=320,slow=37
PALK Pallekele 97.67 68 LR LR 12 55 17.1
comp=Z,232nm,18.3s,baz=346,slow=39
PLCA Paso Flores 98.74 209 LR LR 12 48 06.4
comp=Z,388nm,20.5s,baz=28,slow=34
QIZ Qiongzhong 101.38 37 P **Pdif** **12 05 56.8 -0.6**
QIZ PP **PP** **12 10 05.6 -0.4**
QIZ S **Sdif** **12 17 37.4 +0.5**
QIZ SS **SS** **12 24 39.1 +3.1**
QIZ LR LR
comp=Z,620nm,9.1s
QIZ LR LR
comp=Z,480nm,11.9s
QIZ LR LR
comp=Z,640nm,16.9s
TAOE Nuku Hiva Isla 108.06 279 *e*LR LR 12 42 07.7
comp=Z,425nm,22.3s
IPM Ipoh 110.70 51 IAMs_20 IAMs_20 13 00 45.9
comp=Z,482nm,22.0s
SBUM Sibu 117.45 41 IAMs_20 IAMs_20 13 03 32.9
comp=Z,236nm,21.0s
PPT2 Papeete2 120.56 281 *e*LR LR 12 47 53.1
comp=Z,419nm,24.2s
PPT2 *e*LR LR 12 47 55.8
comp=Z,368nm,35.0s
VNA1 Neumayer--Stat 124.05 171⇑PKPdf **PKiKP** **12 11 03.7 +0.8**
comp=Z,6.7nm,1.0s
VNA2 Neumayer--Watz 124.39 170⇑PKPdf **PKiKP** **12 11 04.0 +0.4**
comp=Z,4.4nm,0.7s,baz=357,slow=4.4
VNA3 Neumayer Olymp 124.48 171⇑PKPdf **PKPdf** **12 11 02.9 -0.6**
comp=Z,6.9nm,0.8s
TBI Tubuai 124.87 277 *e*LR LR 12 50 00.0
comp=Z,3µm,36.2s
SNAA Sanae 125.59 169⇑PKPdf **PKPdf** **12 11 05.5 -0.2**
comp=Z,180nm,0.8s
SNAA Sanae 125.59 169 **PKiKP** **12 11 06.0 -0.1**
SNAA Sanae 125.59 169 PKP **PKPdf** **12 11 05.4 -0.2**
comp=Z,7.2nm,0.8s,baz=324,slow=3.0,SNR=13
TROLL Troll, Antarti 126.58 167⇑PKPdf **PKiKP** **12 11 08.2 0.0**
comp=Z,146nm,0.8s
BELA Belgrano 2 130.15 181 **PKiKP** **12 11 14.8 -0.2**
MAW Mawson 138.65 145 PKP **PKPdf** **12 11 28.5 -1.8**
comp=Z,1.7nm,0.8s,baz=333,slow=4.5,SNR=1.8
QSPA South Pole Qui 142.41 180 **PKiKP** **12 11 39.1 -1.2**
QSPA South Pole Qui 142.41 180 PKP **PKPdf** **12 11 35.6 -1.6**
comp=Z,4.4nm,0.9s,baz=218,slow=1.9,SNR=8.3
WRAB Tennant Creek 145.76 23 **PKPab** **12 11 45.3 0.0**
WRAB Tennant Creek 145.76 23 PKiKP **PKPab** **12 11 45.3 0.0**
WRA Warramunga Arr 145.76 23 **PKPbc** **12 11 45.0 +0.1**
WRA Warramunga Arr 145.76 23 PKPbc **PKPdf** **12 11 44.3 -0.2**
comp=Z,13nm,0.8s,baz=343,slow=3.6,SNR=34
WRA Warramunga Arr 145.76 23 PKiKP **PKPbc** **12 11 45.0 +0.1**
DZM Mont Dzumac 146.48 328 *e*LR LR 12 59 46.9
comp=Z,521nm,29.6s
DZM Mont Dzumac 146.48 328 PKPbc **PKPbc** **12 11 47.0 -0.1**
comp=Z,18nm,0.8s,baz=16,slow=10,SNR=7.3
CTAO Charters Tower 147.59 3 PKPbc **PKPbc** **12 11 50.6 +0.4**
CTAO Charters Tower 147.59 3 PKP2 **PKPbc** **12 11 50.6 +0.4**
ASAR Alice Springs 149.21 26 **PKPbc** **12 11 53.0 -1.4**
ASAR Alice Springs 149.21 26 PKPbc **PKPbc** **12 11 53.4 -1.0**
comp=Z,3.4nm,0.7s,baz=346,slow=2.5,SNR=15
VNDA Vanda 154.40 187 PKP **PKPdf** **12 11 56.2 -0.1**
comp=Z,3.2nm,1.1s,baz=153,slow=6.6,SNR=4.1
VNDA PKPbc **PKiKP** **12 12 05.4 +0.7**
comp=Z,3.4nm,0.9s,baz=179,slow=0.9,SNR=6.7

*IDC **05** 11:56:13.7±0.5,6˚.21S×103˚.71E,h0^{km},mb4.7/30, mbtmp4.7/32,ML4.3/2,MS3.8/14,Error ellipse: s-maj=16.8km s-min=11.4km az=66.0*
*BJI **05** 11:56:17.0,6˚.40S×103˚.60E,h40^{km},mB5.0/13,mb5.1/45, Ms4.7/19,Ms7 4.4/19*
*NEIC **05** 11:56:19.9±2.0,6˚.41S±0˚.06×103˚.65E±0˚.04,h35^{km}±1^{km}, mb5.1/36,Error ellipse: s-maj=12.1km s-min=4.0km az=206.0*
*DJA **05** 11:56:19.8±0.2,6˚S±2˚×10˚4E±˚,h49^{km}±3^{km},M4.9/64, mb5.1/64,mB5.4/18,MLv5.1/30,Mw(mB)4.9/18*
ISC 05 11:56:19.5±0.5,6˚.38S±0˚.04×103˚.65E±0˚.04,h41^{km}±4^{km}, h41^{km}:pP-P,n235,σ1%34/238,mb5.0/64,MS3.9/17,1C-2D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.20**	**45**	P	**Pn**	**11 56 39.0**	**-0.8**
KASI				S	**Sn**	**11 56 55.6**	**+0.7**
LWLI	**Liwa**	**1.42**	**17**	P	**Pn**	**11 56 42.8**	**-0.1**
LWLI				S	**Sn**	**11 57 02.0**	**+1.6**
BLSI	**Bandar Lampung**	**1.88**	**58**	P	**Pn**	**11 56 49.2**	**0.0**
BLSI				S	**Sn**	**11 57 13.4**	**+1.7**
KLI	**Kotabumi**	**1.93**	**39**	P	**Pn**	**11 56 50.6**	**+0.8**
KLI				S	**Sn**	**11 57 15.4**	**+2.5**
MDSI	**Maura Dua**	**1.96**	**16**	P	**Pn**	**11 56 50.9**	**+0.7**
MDSI				S	**Sn**	**11 57 15.2**	**+1.6**
CGJI	**Cibinong**	**2.04**	**97**	P	**Pn**	**11 56 51.0**	**-0.4**
CGJI				S	**Sn**	**11 57 18.1**	**+2.4**
MNAI	**Manna**	**2.12**	**341**	Pn	**Pn**	**11 56 53.3**	**+0.7**
MNAI	**Manna**	**2.12**	**341**	P	**Pn**	**11 56 52.9**	**+0.4**
MNAI	**Manna**	**2.12**	**341**	P	**Pn**	**11 56 53.7**	**+1.2**
MNAI				S	**Sn**	**11 57 19.5**	**+1.8**
SBJI	**Serang**	**2.48**	**84**	P	**Pn**	**11 56 58.0**	**+0.6**
SBJI				S	**Sn**	**11 57 28.9**	**+2.4**
LHSI	**Lahat**	**2.54**	**357**	P	**Pn**	**11 56 59.6**	**+1.3**
LHSI				S	**Sn**	**11 57 29.9**	**+1.9**
KSI	**Kapahiang**	**2.91**	**339**	P	**Pn**	**11 57 03.7**	**+0.3**
KSI				S	**Sn**	**11 57 38.8**	**+1.6**
SKJI	**Sukabumi**	**2.95**	**102**	P	**Pn**	**11 57 04.9**	**+1.0**
SKJI				S	**Sn**	**11 57 40.5**	**+2.3**
TNG	**Tangerang**	**2.99**	**86**	P	**Pn**	**11 57 05.8**	**+1.4**
DBJI	**Dramaga**	**3.09**	**93**	P	**Pn**	**11 57 06.3**	**+0.5**
DBJI				S	**Sn**	**11 57 43.1**	**+1.6**
MASI	**Maura Aman, Be**	**3.51**	**336**	P	**Pn**	**11 57 12.8**	**+1.1**
MASI				S	**Sn**	**11 57 52.8**	**+0.8**
CNJI	**Cibinong**	**3.58**	**105**	P	**Pn**	**11 57 11.7**	**-0.8**
CNJI				S	Sn	11 57 28.3	-25
PMBI	**Palembang**	**3.61**	**18**		**Pn**	**11 57 14.0**	**+1.0**
PMBI	**Palembang**	**3.61**	**18**	P	**Pn**	**11 57 15.1**	**+2.1**
PMBI	**Palembang**	**3.61**	**18**	P	**Pn**	**11 57 13.9**	**+1.0**
PMBI				S	**Sn**	**11 57 55.8**	**+1.4**
LEM	**Lembang**	**3.97**	**97**	Pn	**Pn**	**11 57 17.3**	**-0.7**
LEM	27nm,0.3s,baz=287,slow=19,SNR=32			Sn	**Sn**	**11 58 06.0**	**+2.6**
LEM	20nm,0.3s,baz=292,slow=19,SNR=3.7			LR	LR	11 59 03.8	
LEM	comp=Z,1µm,20.1s,baz=330,slow=43 241nm,0.7s **Lembang**	**3.97**	**97**	P	**Pn**	**11 57 19.3**	**+1.3**
BBJI	**Bungbulang**	**4.11**	**105**	P	**Pn**	**11 57 19.5**	**-0.5**
KRJI	**Kerinci**	**4.79**	**333**	P	**Pn**	**11 57 30.0**	**+0.7**
PPBI	**Pangkal Pinang**	**4.87**	**31**	P	**Pn**	**11 57 31.3**	**+1.0**
PPSI	**Pulau Pagai** 7µm593nm,1.0s	**5.11**	**315**	P	**Pn**	**11 57 32.8**	**-0.7**
KPJI	**Karang Puzung** 0.9nm2µm112nm,0.8s	**5.33**	**101**	P	**Pn**	**11 57 37.9**	**+1.3**
TPI	**Tanjungpandan** 0.7nm85nm,0.6s	**5.38**	**48**	P	**Pn**	**11 57 38.1**	**+0.9**
DSRI	**Dabo** 0.5nm115nm,0.5s	**5.94**	**9**	P	**Pn**	**11 57 46.3**	**+1.3**
PDSI	**Padang** 1.1nm2µm76nm,0.7s	**6.30**	**330**	P	**Pn**	**11 57 49.8**	**-0.1**
PPI	**Padang Panjang** 0.7nm63nm,0.8s	**6.72**	**331**	P	**Pn**	**11 57 56.8**	**+1.1**
SISI	**Saibi** 1.2nm147nm,0.7s	**6.78**	**318**	P	**Pn**	**11 57 56.7**	**+0.2**
SMRI	**Semarang** 0.9nm110nm,0.8s	**6.78**	**96**	P	**Pn**	**11 57 57.0**	**+0.5**
UGM	**Wanagama**	**6.99**	**103**		**Pn**	**11 58 00.4**	**+0.9**
UGM	**Wanagama**	**6.99**	**103**	P	**Pn**	**11 58 00.6**	**+1.2**
TPRI	**Tanjung Pinang** 0.7nm4µm102nm,1.1s	**7.30**	**7**	P	**Pn**	**11 58 05.1**	**+1.4**
WOJI	**Wonogiri, Jawa** 0.6nm116nm,0.4s	**7.36**	**102**	P	**Pn**	**11 58 05.7**	**+1.2**
PCJI	**Pacitan**	**7.68**	**104**	P	**Pn**	**11 58 09.5**	**+0.6**
BTDF	**Bukit Timah Da**	**7.69**	**1**	P	**Pn**	**11 58 10.4**	**+1.3**
NGJI	**Ngawi** 0.5nm135nm,0.9s	**7.82**	**98**	P	**Pn**	**11 58 13.2**	**+2.4**
MNSI	**Mandailing Nat**	**8.21**	**330**	P	**Pn**	**11 58 15.7**	**-0.4**

1µm33nm,0.5s
PBSI Pulau Batu 8.26 319 P **Pn** **11 58 17.5 +0.7**
143nm,1.3s
GRJI Gresik 8.79 94 P **Pn** **11 58 26.4 +2.3**
COCO West Island 8.86 229 **Pn** **11 58 24.9 -0.2**
COCO West Island 8.86 229 P **Pn** **11 58 25.2 +0.1**
GSI Gunungsitoli 9.75 321 P **Pn** **11 58 35.5 -1.8**
30nm,0.6s
GMJI Gumukmas 9.89 102 P **Pn** **11 58 40.4 +1.1**
94nm,0.8s
BLJI Banyuglugur 9.96 98 P **Pn** **11 58 41.1 +0.9**
3µm80nm,0.5s
STKI Sintang 10.10 51 P **Pn** **11 58 44.4 +2.3**
133nm,0.9s
KMMI Kalianget 10.27 94 P **Pn** **11 58 45.2 +0.8**
ABJI Asem Bagus 10.60 98 P **Pn** **11 58 50.1 +1.2**
JAGI Jajag, Banyuwa 10.62 102 **Pn** **11 58 49.1 -0.1**
JAGI Jajag, Banyuwa 10.62 102 P **Pn** **11 58 49.8 +0.6**
JAGI Jajag, Banyuwa 10.62 102 P **Pn** **11 58 49.6 +0.4**
196nm,0.9s
SRBI Singaraja 11.60 99 P **Pn** **11 59 03.3 +0.7**
105nm,0.5s
SBUM Sibu 12.26 45 **Pn** **11 59 12.0 +0.4**
SBUM Sibu 12.26 45 P **Pn** **11 59 14.0 +2.4**
MLSI Meulaboh, Aceh 12.81 325 P **Pn** **11 59 16.6 -2.6**
65nm,1.1s
TWSI Taliwang, Sumb 13.32 101 P **Pn** **11 59 23.5 -2.7**
1µm53nm,0.7s
BKB Balikpapan 14.16 69 P **Pn** **11 59 39.2 +1.6**
177nm,1.2s
PLAI Plampang 14.21 101 P **Pn** **11 59 39.1 +0.8**
PLAI Plampang 14.21 101 P **Pn** **11 59 34.7 -3.6**
WBSI Waikabubak, Su 15.92 103 P **Pn** **12 00 01.8 +1.0**
105nm,0.8s
KAPI Kappang 16.08 86 Pn **Pn** **12 00 00.6 -2.2**
1.0nm,0.3s,baz=262,slow=16,SNR=1.2
KAPI LR LR 12 06 55.4
comp=Z,384nm,19.0s,baz=248,slow=40
4.3nm,0.3s
SPSI Sidrap Palu 16.23 82 P **Pn** **12 00 05.7 +1.0**
922nm27nm,1.0s
BKSI Bulukumba 16.42 87 P **Pn** **12 00 06.7 -0.4**
842nm90nm,1.0s
TTSI Tana Toraja 16.45 79 P **Pn** **12 00 08.4 +0.9**
40nm,1.0s
BNSI Bone 16.50 84 P **Pn** **12 00 08.8 +0.7**
57nm,1.4s
BSSI Bau Bau, Buton 16.74 90 P **Pn** **12 00 11.5 +0.3**
50nm,1.3s
WSI Waingapu 16.80 102 P **Pn** **12 00 12.7 +0.8**
135nm,0.6s
PCI Palu 17.04 72 P **P** **12 00 16.0 -0.3**
137nm,1.0s
BASI Baing, Sumba 17.18 104 P **P** **12 00 17.4 -0.4**
EDFI Ende, Flores 18.04 99 P **Pn** **12 00 23.3 -4.0**
42nm,0.7s
MMRI Maumere 18.56 98 **P** **12 00 32.2 -0.9**
MMRI Maumere 18.56 98 P **Pn** **12 00 33.9 +0.3**
MMRI Maumere 18.56 98 P **P** **12 00 33.3 +0.2**
118nm,0.5s
TOLI2 Tolitoli 18.65 67 **P** **12 00 34.1 0.0**
TOLI2 IAmb IAmb 12 00 35.5
comp=Z,76nm,0.7s
TOLI2 Tolitoli 18.65 67 P **Pn** **12 00 35.1 +0.4**
MYLDM Lahad Datu 18.75 53 **Pn** **12 00 36.1 +0.2**
MYLDM IAmb IAmb 12 00 39.6
comp=Z,46nm,0.5s
MYLDM Lahad Datu 18.75 53 P **Pn** **12 00 37.0 +1.1**
APSI Ampana 18.76 74 P **Pn** **12 00 36.0 0.0**
comp=Z,1µmcomp=Z,128nm,1.0s
KDI Kendari 19.05 84 P **Pn** **12 00 39.1 -0.3**
GIRL Giralia 19.12 149 P **P** **12 00 37.5 -1.6**
comp=Z,92nm,1.6s
MRSI Marisa 19.49 70 P **P** **12 00 42.6 -0.6**
LUWI Luwuk 19.80 75 P **P** **12 00 46.7 +0.1**
LUWI IAmb IAmb 12 00 50.2
comp=Z,74nm,0.8s
LUWI Luwuk 19.80 75 P **P** **12 00 47.4 +0.8**
comp=Z,1µmcomp=Z,103nm,1.3s
BATI Baumata 20.16 102 P **P** **12 00 50.0 -0.6**
comp=Z,234nm,0.6s,baz=296,slow=13,SNR=32
BATI S **S** **12 04 30.7 -4.3**
comp=Z,43nm,0.5s,baz=242,slow=17,SNR=6.0
BATI Baumata 20.16 102 P **P** **12 00 51.2 +0.6**
SOEI Soe 20.68 101 **P** **12 00 56.0 -0.3**
SOEI Soe 20.68 101 P **P** **12 00 56.1 -0.3**
SOEI Soe 20.68 101 P **P** **12 00 55.2 -1.2**
MBWA Marble Bar 21.41 135 P **P** **12 01 04.7 +0.7**
PSA00 Pilbara Seismi 21.76 136 P **P** **12 01 06.7 -1.1**
SANI Sanana 22.68 80 P **P** **12 01 18.1 +0.3**
comp=Z,22nm,1.0s
FITZ Fitzroy Crossi 24.41 120 P **P** **12 01 33.8 -0.5**
comp=Z,2.8nm,0.8s
FITZ Fitzroy Crossi 24.41 120 P **P** **12 01 34.5 +0.2**
FITZ Fitzroy Crossi 24.41 120 LR LR 12 10 49.6
comp=Z,138nm,21.1s,baz=302,slow=36
FITZ Fitzroy Crossi 24.41 120 P **P** **12 01 34.4 +0.1**
CMAR Chiang Mai Arr 25.11 349 P **P** **12 01 39.2 -1.5**
comp=Z,28nm,0.8s,baz=168,slow=9.6,SNR=111
CMAR LR LR 12 13 00.6
comp=Z,196nm,18.3s,baz=180,slow=40
comp=Z,28nm,0.8s
CHTO Chiang Mai 25.46 350 P **P** **12 01 42.9 -0.9**
CHTO Chiang Mai 25.46 350 P **P** **12 01 43.0 -0.9**
DAV Davao City (W) 25.64 59 LR LR 12 13 00.3
comp=Z,126nm,19.9s,baz=253,slow=40
QIZ Qiongzhong 25.98 13 P **P** **12 01 51.9 +3.4**
QIZ S **S** **12 06 21.6 +5.1**
QIZ LR LR
comp=Z,490nm,18.0s
QIZ LR LR
comp=Z,400nm,10.8s
QIZ LR LR
comp=Z,620nm,15.7s
KNRA Kununurra 26.29 113 P **P** **12 01 50.9 -0.6**
comp=Z,28nm,0.8s
KNRA Kununurra 26.29 113 P **P** **12 01 51.0 -0.5**
KNRA IAmb IAmb 12 02 05.6
comp=Z,20nm,0.6s
PALK Pallekele 26.61 300 LR LR 12 11 58.0
comp=Z,209nm,18.3s,baz=108,slow=36
DRS Darwin Rock St 27.53 105 P **P** **12 02 03.3 +0.7**
MTN Manton Dam 27.83 105 P **P** **12 02 05.0 -0.3**
comp=Z,21nm,0.5s
MTN Manton Dam 27.83 105 P **P** **12 02 04.6 -0.7**
MTN IAmb IAmb 12 02 39.9
comp=Z,26nm,0.6s
FAKI Fak Fak 28.71 84 P **P** **12 02 12.7 -0.4**
NWAO Narrogin (SRO) 29.28 156 LR LR 12 12 20.0
comp=Z,198nm,21.7s,baz=301,slow=33
H01W3 Cape Leeuwin H 29.97 163 T T 12 33 52.0
baz=340,slow=76,SNR=33
H01W2 Cape Leeuwin H 29.98 163 T T 12 33 53.0
baz=340,slow=76,SNR=30
H01W1 Cape Leeuwin H 29.98 163 T T 12 33 43.7
baz=340,slow=76,SNR=48
H08S2 Diego Garcia H 30.95 266 T T 12 34 46.1
baz=89,slow=75,SNR=10.0
H08S3 Diego Garcia H 30.95 266 T T 12 35 04.9
baz=89,slow=75,SNR=24
H08S1 Diego Garcia H 30.96 266 T T 12 34 56.0
baz=89,slow=75,SNR=7.5
WRA Warramunga Arr 32.70 117 P **P** **12 02 48.5 +0.2**
WRA Warramunga Arr 32.70 117 P **P** **12 02 48.0 -0.3**
comp=Z,8.5nm,0.6s,baz=292,slow=8.7,SNR=99
WRA LR LR 12 16 52.3
comp=Z,110nm,21.7s,baz=289,slow=38
comp=Z,8.5nm,0.6s
WRAB Tennant Creek 32.71 117 P **P** **12 02 48.8 +0.4**
WRAB IAmb IAmb 12 02 49.6
comp=Z,13nm,0.7s
WB1 Warramunga Ar. 32.71 117 P **P** **12 02 48.9 +0.4**
PZH PanZhiHua 32.74 357 P **P** **12 02 52.6 +3.9**
ASAR Alice Springs 33.77 124 P **P** **12 02 58.1 +0.4**
ASAR Alice Springs 33.77 124 P **P** **12 02 57.9 +0.2**
comp=Z,9.0nm,0.8s,baz=297,slow=8.7,SNR=57
ASAR LR LR 12 18 04.8
comp=Z,144nm,19.7s,baz=290,slow=39
comp=Z,9.0nm,0.8s
AS31 Alice Springs 33.77 124 P **P** **12 02 57.6 -0.1**
comp=Z,4.4nm,0.4s
AS01 Alice Springs 33.81 124 P **P** **12 02 58.6 +0.6**
HYB Hyderabad 34.26 314 *eP* **P** **12 03 04.4 +2.4**
ENH Enshi 36.87 8 P **P** **12 03 22.8 -1.4**
ENH IAmb IAmb 12 03 24.4
comp=Z,26nm,0.7s

ENH	**Enshi**	**36.87**	**8**	P		**P**		**12 03 23.9**	**-0.3**
CD2	**Chengdu**	**37.08**	**0**	P		**P**		**12 03 27.0**	**+1.0**
CD2				pmax		pmax			
	comp=Z,20nm,0.4s								
JAY	**Jayapura**	**37.13**	**86**	LR		LR		12 23 42.3	
	comp=Z,67nm,18.3s,baz=223,slow=44								
QIS	**Mount Isa**	**37.58**	**116**	P		**P**		**12 03 30.0**	**-0.4**
	comp=Z,7.5nm,0.6s								
QIS	**Mount Isa**	**37.58**	**116**	P		**P**		**12 03 30.6**	**+0.2**
LSA	**Lhasa**	**37.83**	**342**	IAmb		IAmb		12 03 34.2	
	comp=Z,19nm,0.8s								
LSA	**Lhasa**	**37.83**	**342**	P		**P**		**12 03 31.4**	**-1.4**
LSA				pmax		pmax			
	comp=Z,25nm,0.8s								
XAN	**Xi'an**	**40.51**	**7**	⇑P		**P**		**12 03 53.0**	**-1.7**
XAN				pP		pP		12 04 06.0	+0.4
XAN				pmax		pmax			
	comp=Z,23nm,0.6s								
NJ2	**Nanjing**	**40.88**	**20**	*e*P		**P**		**12 03 58.0**	**+0.4**
NJ2				pmax		pmax			
	comp=Z,19nm,0.6s								
MTSU	**Mount Surprise**	**41.32**	**110**	P		**P**		**12 04 01.8**	**+0.2**
	comp=Z,10.0nm,0.7s								
MTSU	**Mount Surprise**	**41.32**	**110**	P		**P**		**12 04 02.4**	**+0.8**
LZDM	**Lanzhou Array**	**42.11**	**0**	P		**P**		**12 04 06.7**	**-1.4**
	comp=Z,1.8nm,0.3s,baz=183,slow=8.7,SNR=6.2								
	comp=Z,1.8nm,0.3s								
GOMU	**GeErMu**	**43.16**	**350**	P		**P**		**12 04 16.4**	**-0.3**
GOMU				S		**S**		**12 10 43.8**	**+3.1**
GOMU				pmax		pmax			
	comp=Z,8.0nm,0.6s								
GOMU				LR		LR			
	comp=Z,160nm,12.6s								
GOMU				LR		LR			
	comp=Z,70nm,12.9s								
GOMU				LR		LR			
	comp=Z,87nm,12.0s								
PMG	**Port Moresby**	**43.18**	**97**	P		**P**		**12 04 16.3**	**-0.4**
PMG	**Port Moresby**	**43.18**	**97**	P		**P**		**12 04 17.2**	**+0.4**
PMG	**Port Moresby**	**43.18**	**97**	P		**P**		**12 04 16.6**	**-0.2**
PMG				sP		**sP**		**12 04 32.7**	**+0.3**
CTA	**Charters Tower**	**43.51**	**112**	P		**P**		**12 04 19.8**	**+0.4**
CTAO	**Charters Tower**	**43.51**	**112**	P		**P**		**12 04 19.6**	**+0.2**
QLP	**Quilpie**	**43.53**	**122**	P		**P**		**12 04 21.1**	**+1.7**
QLP	**Quilpie**	**43.53**	**122**	P		**P**		**12 04 19.6**	**+0.2**
STKA	**Stephens Creek**	**43.54**	**131**	P		**P**		**12 04 19.9**	**+0.3**
	comp=Z,238nm,0.8s								
STKA	**Stephens Creek**	**43.54**	**131**	P		**P**		**12 04 20.1**	**+0.7**
STKA	**Stephens Creek**	**43.54**	**131**	P		**P**		**12 04 20.2**	**+0.7**
	comp=Z,8.4nm,0.6s,baz=300,slow=10,SNR=26								
	comp=Z,8.4nm,0.6s								
STKA	**Stephens Creek**	**43.54**	**131**	P		**P**		**12 04 19.8**	**+0.3**
TIA	**Tai'an**	**44.22**	**16**	P		**P**		**12 04 23.7**	**-1.0**
TIA				pmax		pmax			
	comp=Z,15nm,0.6s								
HNS	**HongShan**	**44.76**	**13**	⇓P		**P**		**12 04 28.7**	**-0.3**
HNS				pmax		pmax			
	comp=Z,27nm,0.7s								
CMSA	**Cobar Meteorol**	**46.55**	**128**	P		**P**		**12 04 44.3**	**+0.9**
	comp=Z,27nm,1.0s								
CMSA	**Cobar Meteorol**	**46.55**	**128**	P		**P**		**12 04 44.3**	**+0.9**
JNU	**Nakatsue**	**47.03**	**32**			**P**		**12 04 46.0**	**-1.1**
JNU	**Nakatsue**	**47.03**	**32**	P		**P**		**12 04 46.3**	**-0.8**
HHC	**Hu-ho-hao-te**	**47.56**	**8**	*e*P		**P**		**12 04 55.1**	**+3.9**
HHC				S		**S**		**12 11 43.3**	**-0.3**
HHC				pmax		pmax			
	comp=Z,11nm,0.7s								
HHC				pmax		pmax			
	comp=Z,60nm,6.7s								
HHC				LR		LR			
	comp=Z,270nm,16.8s								
HHC				LR		LR			
	comp=Z,290nm,19.3s								
HHC				LR		LR			
	comp=Z,310nm,17.7s								
BJT	**Baijiatuan**	**47.59**	**13**	IAmb		IAmb		12 04 51.7	
	comp=Z,20nm,0.7s								
DL2	**Dalian**	**48.05**	**19**	P		**P**		**12 04 55.0**	**+0.2**
DL2				pmax		pmax			
	comp=Z,91nm,1.3s								
KSRS	**Korea Array**	**49.15**	**26**	P		**P**		**12 05 02.6**	**-0.7**
	comp=Z,14nm,0.7s,baz=222,slow=7.5,SNR=47								
	comp=Z,14nm,0.7s								
KSRS	**Korea Array**	**49.15**	**26**	P		**P**		**12 05 02.6**	**-0.7**
XLT	**XiLinHaoTe**	**51.30**	**12**	*e*P		**P**		**12 05 19.0**	**-0.6**
XLT				pP		pP		12 05 31.4	+0.6
XLT				pmax		pmax			
	comp=Z,31nm,0.7s								
XLT				pmax		pmax			
	comp=Z,110nm,4.2s								
XLT				LR		LR			
	comp=Z,330nm,15.2s								
XLT				LR		LR			
	comp=Z,200nm,14.4s								
WMQ	**Urumqi**	**52.01**	**345**	*e*P		**P**		**12 05 26.4**	**+1.5**
WMQ				S		**S**		**12 12 42.5**	**-3.1**
WMQ				pmax		pmax			
	comp=Z,33nm,0.7s								
WMQ				LR		LR			
	comp=Z,510nm,14.5s								
WMQ				LR		LR			
	comp=Z,650nm,20.3s								
WMQ				LR		LR			
	comp=Z,440nm,23.1s								
KSH	**Kashi**	**52.35**	**333**	P		**P**		**12 05 26.6**	**-1.0**
KSH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
MOO	**Moorlands**	**52.59**	**140**	P		**P**		**12 05 29.1**	**-0.1**
	comp=Z,42nm,1.5s								
MOO	**Moorlands**	**52.59**	**140**	P		**P**		**12 05 29.5**	**+0.3**
MAJO	**Matsushiro**	**53.58**	**35**	P		**P**		**12 05 33.4**	**-3.2**
MAJO				IAmb		IAmb		12 05 38.1	
	comp=Z,9.3nm,0.6s								
MAJO	**Matsushiro**	**53.58**	**35**	P		**P**		**12 05 36.8**	**+0.2**
MJAR	**Matsushiro Arr**	**53.58**	**35**	P		**P**		**12 05 34.6**	**-2.0**
MJAR	**Matsushiro Arr**	**53.58**	**35**	P		**P**		**12 05 33.7**	**-2.9**
	comp=Z,7.6nm,0.7s,baz=214,slow=7.1,SNR=17								
	comp=Z,7.6nm,0.7s								
CN2	**Changchun**	**53.70**	**19**	P		**P**		**12 05 36.5**	**-0.8**
CN2				pP		pP		12 05 48.8	+0.3
CN2				S		**S**		**12 13 06.1**	**-2.4**
CN2				SS		**SKiKP**		**12 16 46.5**	**-2.2**
CN2				pmax		pmax			
	comp=Z,30nm,1.0s								
NRN	**Naryn**	**53.90**	**334**	IAmb		IAmb		12 05 41.5	
	comp=Z,14nm,0.8s								
KDJ	**Kajisay**	**53.98**	**336**	IAmb		IAmb		12 05 41.2	
	comp=Z,21nm,0.7s								
SONM	**Songino Array**	**54.04**	**2**			**P**		**12 05 40.3**	**+0.5**
SONM				IAmb		IAmb		12 05 41.0	
	comp=Z,24nm,0.9s								
SONM	**Songino Array**	**54.04**	**2**	P		**P**		**12 05 39.7**	**-0.1**
	comp=Z,19nm,0.8s,baz=184,slow=8.9,SNR=25								
	comp=Z,19nm,0.8s								
ULN	**Ulaanbaatar**	**54.10**	**3**	P		**P**		**12 05 40.3**	**0.0**
ULN				IAmb		IAmb		12 05 41.2	
	comp=Z,12nm,0.8s								
JSD	**Sado**	**54.68**	**33**	P		**P**		**12 05 43.0**	**-1.5**
JMM	**Marumori**	**55.98**	**35**	IAmb		IAmb		12 05 57.6	
	comp=Z,17nm,0.9s								
JMM	**Marumori**	**55.98**	**35**	P		**P**		**12 05 55.1**	**+1.2**
BNX	**BinXian**	**56.07**	**20**	⇓P		**P**		**12 05 53.9**	**-0.5**
BNX				pP		**pwP**		**12 06 07.6**	**-0.6**
BNX				pmax		pmax			
	comp=Z,50nm,0.7s								
MKAR	**Makanchi Array**	**56.24**	**342**			**P**		**12 05 55.5**	**-0.2**
MKAR	**Makanchi Array**	**56.24**	**342**	P		**P**		**12 05 55.0**	**-0.6**
	comp=Z,13nm,0.5s,baz=152,slow=7.9,SNR=56								
	comp=Z,13nm,0.5s								
USRK	**Ussuriysk Ar.**	**56.47**	**24**			**P**		**12 05 57.0**	**-0.3**
USRK	**Ussuriysk Ar.**	**56.47**	**24**	P		**P**		**12 05 56.1**	**-1.1**
	comp=Z,41nm,0.6s,baz=213,slow=6.5,SNR=49								
	comp=Z,41nm,0.6s								
H04N2	**CROZET ISLANDS**	**59.59**	**219**	T		T		13 10 45.5	
	baz=65,slow=75,SNR=662								
H04N1	**CROZET ISLANDS**	**59.61**	**219**	T		T		13 10 45.6	
	baz=65,slow=75,SNR=667								
H04N3	**CROZET ISLANDS**	**59.61**	**219**	T		T		13 10 44.4	
	baz=65,slow=75,SNR=644								
H04S1	**CROZET ISLANDS**	**59.81**	**219**	T		T		13 10 57.6	
	baz=64,slow=76,SNR=188								
H04S3	**CROZET ISLANDS**	**59.83**	**219**	T		T		13 10 56.9	
	baz=64,slow=76,SNR=150								
H04S2	**CROZET ISLANDS**	**59.83**	**219**	T		T		13 10 58.4	
	baz=64,slow=76,SNR=196								
HEH	**HeiHe**	**60.05**	**17**	*e*P		**P**		**12 06 21.2**	**-1.0**
HEH				sP		**pwP**		**12 06 34.8**	**-1.4**
HEH				pmax		pmax			
	comp=Z,42nm,0.7s								
KURBB	**Kurchatov Arra**	**60.79**	**342**	P		**P**		**12 06 25.9**	**-1.2**
	comp=Z,10.0nm,0.8s,baz=156,slow=6.4,SNR=25								
	comp=Z,10.0nm,0.8s								
KURK	**Kurchatov**	**60.84**	**342**			**P**		**12 06 28.0**	**+0.5**
KURK				IAmb		IAmb		12 06 29.4	
	comp=Z,9.3nm,0.7s								
KURK	**Kurchatov**	**60.84**	**342**	P		**P**		**12 06 27.6**	**0.0**
KURK				pP		**pP**		**12 06 38.2**	**-0.8**
KURK				sP		**sP**		**12 06 42.8**	**-0.7**
ASAJ	**Asahikawa**	**61.31**	**31**	P		**P**		**12 06 29.2**	**-1.7**
	comp=Z,12nm,0.6s,baz=249,slow=8.6,SNR=21								
	comp=Z,12nm,0.6s								
JKA	**Kamikawa-asahi**	**61.31**	**31**	P		**P**		**12 06 29.9**	**-0.9**
JKA				IAmb		IAmb		12 06 30.6	
	comp=Z,14nm,0.7s								
ZALV	**Zalesovo Beam**	**62.16**	**348**	P		**P**		**12 06 35.7**	**-0.7**
ZALV	**Zalesovo Beam**	**62.16**	**348**	P		**P**		**12 06 35.4**	**-1.0**
	comp=Z,15nm,0.4s,baz=156,slow=4.8,SNR=51								
	comp=Z,15nm,0.4s								
BVAR	**Borovoye Array**	**65.54**	**339**	P		**P**		**12 06 58.0**	**-0.7**
	comp=Z,9.3nm,0.6s,baz=145,slow=8.3,SNR=31								
	comp=Z,9.3nm,0.6s								
BORK	**Borovoye**	**65.59**	**339**	P		**P**		**12 06 58.5**	**-0.4**
FURI	**Furi**	**66.51**	**283**	LR		LR		12 31 23.3	
	comp=Z,175nm,21.4s,baz=325,slow=32								
MAW	**Mawson**	**67.02**	**196**	P		**P**		**12 07 08.9**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=30,slow=8.1,SNR=4.6								
	comp=Z,2.2nm,0.8s								
ABKAR	**Akbulak array**	**67.21**	**331**			**P**		**12 07 09.5**	**0.0**
YAK	**Yakutsk**	**71.12**	**13**	P		**P**		**12 07 32.2**	**-1.2**
	comp=Z,22nm,0.7s,baz=207,slow=4.5,SNR=5.3								
	comp=Z,22nm,0.7s								
ARTI	**Arti**	**72.71**	**336**			**P**		**12 07 43.3**	**+0.2**
KBZ	**Khabaz**	**73.98**	**319**	P		**P**		**12 07 51.6**	**+0.8**
	comp=Z,4.0nm,0.8s,baz=100,slow=6.1,SNR=4.6								
	comp=Z,4.0nm,0.8s								
PETK	**Petropavlovsk-**	**74.71**	**30**	P		**P**		**12 07 53.4**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=254,slow=5.2,SNR=1.4								
	comp=Z,1.1nm,0.4s								
MA2	**Magadan**	**75.57**	**23**	P		**P**		**12 07 58.7**	**-1.0**
	comp=Z,6.7nm,0.6s,baz=204,slow=19,SNR=2.6								
	comp=Z,6.7nm,0.6s								
BOSA	**Boshof**	**76.80**	**242**	P		**P**		**12 08 08.9**	**+1.3**
	comp=Z,3.8nm,0.8s,baz=66,slow=7.2,SNR=4.6								
	comp=Z,3.8nm,0.8s								
VNDA	**Vanda**	**77.19**	**169**	P		**P**		**12 08 09.2**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=311,slow=6.6,SNR=7.9								
	comp=Z,1.5nm,0.9s								
SEY	**Seymchan**	**78.36**	**21**	P		**P**		**12 08 14.4**	**-0.9**
	comp=Z,3.5nm,0.8s,baz=256,slow=4.2,SNR=7.9								
	comp=Z,3.5nm,0.8s								
BRTR	**Keskin Array B**	**78.95**	**312**	P		**P**		**12 08 19.5**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=130,slow=4.5,SNR=4.9								
	comp=Z,1.7nm,0.8s								
QSPA	**South Pole Qui**	**83.61**	**180**	P		**P**		**12 08 44.7**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=313,slow=1.3,SNR=5.1								
	comp=Z,1.4nm,0.8s								
AKASG	**Malin Array Be**	**85.15**	**322**	P		**P**		**12 08 51.0**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=88,slow=4.8,SNR=6.2								
	comp=Z,0.9nm,0.5s								
BURAR	**Bucovina Array**	**86.93**	**318**			**P**		**12 09 01.5**	**+1.1**
SNAA	**Sanae**	**89.11**	**198**	P		**P**		**12 09 11.7**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=90,slow=8.1,SNR=1.9								
	comp=Z,0.5nm,0.6s								
FINES	**FINESS Array B**	**89.66**	**332**	P		**P**		**12 09 13.5**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=110,slow=7.6,SNR=8.8								
	comp=Z,2.2nm,0.7s								
ARCES	**ARCESS Array B**	**91.81**	**340**	P		**P**		**12 09 22.0**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=77,slow=4.2,SNR=4.4								
	comp=Z,2.1nm,0.9s								
GERES	**GERESS Array B**	**94.72**	**318**	LR		LR		12 59 02.0	
	comp=Z,48nm,18.2s,baz=88,slow=40								
HFS	**Hagfors**	**95.46**	**330**	P		**P**		**12 09 38.8**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=94,slow=12,SNR=1.8								
HFS				LR		LR		12 55 50.2	
	comp=Z,99nm,18.9s,baz=140,slow=38								
	comp=Z,1.8nm,0.7s								
SPITS	**Spitsbergen Ar**	**95.64**	**348**	P		**P**		**12 09 39.4**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=84,slow=13,SNR=7.3								
	comp=Z,0.8nm,0.4s								
NOA	**NORSAR Array B**	**96.72**	**331**	LR		LR		12 59 54.5	
	comp=Z,38nm,18.1s,baz=115,slow=40								
ILAR	**Eielson Array**	**102.99**	**25**	PP		**PP**		**12 14 33.1**	**-2.3**
	comp=Z,2.2nm,0.7s,baz=280,slow=8.0,SNR=4.1								
E08A	**Dider Farm, El**	**125.76**	**35**			**PKPdf**		**12 15 17.0**	**+0.1**
NVAR	**Mina Array Bea**	**130.46**	**44**	PKP		**PKiKP**		**12 15 27.1**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=336,slow=2.7,SNR=3.5								
PLCA	**Paso Flores**	**132.81**	**186**	SKPbc		**SKPab**		**12 18 59.4**	**+2.9**
	comp=Z,2.6nm,1.0s,baz=162,slow=6.4,SNR=3.0								
PDAR	**Pinedale Array**	**133.40**	**34**	PKP		**PKPdf**		**12 15 32.1**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=314,slow=3.5,SNR=4.9								
PDAR				SKPab		**SKiKP**		**12 19 03.4**	**-2.7**
	comp=Z,0.7nm,0.8s,baz=294,slow=3.1,SNR=5.5								
TXAR	**Lajitas Array**	**145.58**	**45**	PKPbc		**PKPab**		**12 15 55.1**	**+0.4**
	comp=Z,9.9nm,0.7s,baz=324,slow=3.7,SNR=147								
CCM	**Cathedral Cave**	**145.69**	**21**			**PKPdf**		**12 15 54.0**	**0.0**
U38A	**Gravette**	**145.83**	**26**			**PKPdf**		**12 15 54.2**	**-0.1**
DRIO	**Del Rio**	**147.61**	**42**	PKPbc		**PKPbc**		**12 16 00.9**	**+0.8**
WVT	**Waverly**	**148.58**	**18**			**PKPbc**		**12 16 02.1**	**-0.4**
LPAZ	**La Paz**	**156.05**	**200**	PKP		**PKPdf**		**12 16 11.9**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=207,slow=4.5,SNR=3.6								

*SSNC **05** 12:10:31.7±1.8, 19°.94N×73°.48W, h4km±7km, MD3.4, ML3.2*
*OSPL **05** 12:10:33.0±1.8, 19°.99N×73°.48W, h18km±10km, ML3.3*
*SDD **05** 12:10:34.2±2.3, 19°.96N×73°.53W, h40km±54km, MD3.7, ML3.6, MW3.6*

ISC 05 12:10:31.4±1.2, 19°.98N±0°.05×73°.50W±0°.02, h27km±13km, n43, σ1°.01/75, 3C-1D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.72**	**286**	⇓*e*P		**Pb**		**12 10 45.1**	**-0.2**
MASC				*e*S		**Sb**		**12 10 55.4**	**+0.5**
MASC				IAML				12 10 57.5	
	comp=E,710nm,0.1s								
MASC				IAML				12 10 58.3	
	comp=N,366nm,0.2s								
MASC	**Masc**	**0.72**	**286**	*e*Pg		**Pb**		**12 10 45.2**	**-0.2**
MASC				*e*Sg		**Sn**		**12 10 56.1**	**+0.1**
MASC				IAML				12 11 00.9	
	comp=N,909nm,0.3s								
MASC	**Masc**	**0.72**	**286**	*i* P		**Pb**		**12 10 45.2**	**-0.2**
MASC				*e*S		**Sb**		**12 10 55.7**	**+0.8**
MASC				IAML				12 10 56.1	
	comp=Z,842nm,0.3s								
QMBU	**Quimbuelo**	**1.26**	**280**	*e*P		**Pn**		**12 10 53.0**	**-0.3**
QMBU				*e*S		**Sn**		**12 11 08.8**	**-0.5**
QMBU				IAML				12 11 12.8	
	comp=Z,558nm,0.2s								
QMBU				IAML				12 11 13.3	
	comp=E,266nm,0.1s								
QMBU	**Quimbuelo**	**1.26**	**280**	*e*Pg		**Pn**		**12 10 54.0**	**+0.7**
QMBU				*e*Sg		**Sb**		**12 11 10.4**	**+0.1**
QMBU				IAML				12 11 12.0	
	comp=N,1μm,0.6s								
NMDO	**Nuevo Mundo**	**1.51**	**293**	*e*P		**Pn**		**12 10 57.4**	**+0.7**
NMDO				*e*S		**Sn**		**12 11 16.0**	**+0.5**
NMDO				IAML				12 11 20.4	
	comp=E,237nm,0.1s								
NMDO				IAML				12 11 20.5	
	comp=N,492nm,0.1s								
NMDO	**Nuevo Mundo**	**1.51**	**293**	*e*Pg		**Pn**		**12 10 57.4**	**+0.7**
NMDO				*e*Sg		**Sn**		**12 11 16.0**	**+0.5**
NMDO				IAML				12 11 21.4	
	comp=N,317nm,0.2s								
GTBY	**Guantanamo Bay**	**1.52**	**268**	⇓*e*P		**Pn**		**12 10 56.6**	**-0.3**
GTBY				*e*S		**Sn**		**12 11 16.1**	**+0.3**
GTBY	**Guantanamo Bay**	**1.52**	**268**	*e*Pg		**Pn**		**12 10 57.9**	**+1.0**
GTBY				*e*Sg		**Sn**		**12 11 13.8**	**-2.0**
GTBY				IAML				12 11 30.1	
	comp=N,264nm,0.6s								
GTBY	**Guantanamo Bay**	**1.52**	**268**	*i* P		**Pn**		**12 10 57.2**	**+0.4**
GTBY				*e*S		**Sn**		**12 11 16.7**	**+1.0**
GTBY				IAML				12 11 19.6	
	comp=Z,165nm,0.4s								
MCDR	**Montecristi**	**1.73**	**93**	*e*Pg		**Pb**		**12 11 01.7**	**-0.9**
MCDR				IAML				12 11 33.6	
	comp=N,969nm,0.3s								
LODA1	**ITESIL, Dajabo**	**1.74**	**104**	*e*Pg		**Pn**		**12 11 00.8**	**+1.0**
LODA1				*e*Sg		**Sn**		**12 11 21.0**	**-0.2**
LODA1	**ITESIL, Dajabo**	**1.74**	**104**	*i* P		**Pn**		**12 11 01.2**	**+1.3**
LODA1				*e*S		**Sn**		**12 11 19.7**	**-1.5**
LODA1				IAML				12 11 26.6	
	comp=Z,1μm,1.7s								
PAPH	**Port-au-Prince**	**1.84**	**142**	⇑*e*P		**Pn**		**12 11 01.6**	**+0.4**
PAPH	**Port-au-Prince**	**1.84**	**142**	*i* P		**Pn**		**12 11 02.5**	**+1.2**
PAPH				*e*S		**Sn**		**12 11 24.0**	**+0.5**
RCC	**Rio Carpintero**	**2.07**	**271**	*e*P		**Pn**		**12 11 04.5**	**+0.1**
RCC				*e*S		**Sn**		**12 11 29.5**	**+0.2**
RCC				IAML				12 11 33.8	
	comp=E,62nm,0.3s								
RCC				IAML				12 11 34.2	
	comp=N,58nm,0.2s								
REDR	**Restauracion**	**2.14**	**112**	*e*Pg		Pn		12 11 00.2	-5.2
REDR				*e*Sg		Sn		12 11 20.6	-10
REDR				IAML				12 11 21.2	
	comp=N,823nm,0.3s								
JIDR	**Jimani**	**2.15**	**133**	*e*Pg		**Pn**		**12 11 06.9**	**+1.5**
JIDR				*e*Sg		**Sn**		**12 11 31.0**	**-0.1**
JIDR				IAML				12 11 33.6	
	comp=N,318nm,0.3s								
LOPP1	**Punta Rusia, P**	**2.16**	**93**	*i* P		**Pn**		**12 11 06.8**	**+1.1**
LOPP1				IAML				12 11 49.1	
	comp=Z,214nm,0.6s								
MARVS	**Santiago de Cu**	**2.26**	**271**	*e*P		**Pn**		**12 11 08.0**	**+0.9**
MARVS				*e*S		**Sn**		**12 11 34.5**	**+0.5**
MARVS				IAML				12 11 39.1	
	comp=E,149nm,0.3s								
MARVS				IAML				12 11 39.4	
	comp=N,87nm,0.3s								
SDDR	**Presa de Saban**	**2.31**	**115**	*e*P		**Pn**		**12 11 07.7**	**0.0**
SDDR				*e*S		**Sn**		**12 11 34.4**	**-0.9**
SDDR				IAML				12 11 34.9	
	comp=N,226nm,0.2s								
SDDR				IAML				12 11 35.4	
	comp=N,295nm,0.3s								
SDDR	**Presa de Saban**	**2.31**	**115**	*e*Pg		**Pn**		**12 11 07.7**	**0.0**
SDDR				*e*Sg		**Sn**		**12 11 34.7**	**-0.5**
SDDR				IAML				12 11 35.2	
	comp=N,262nm,0.4s								
SDDR	**Presa de Saban**	**2.31**	**115**	*i* P		**Pn**		**12 11 07.8**	**0.0**
SDDR				*e*S		**Sn**		**12 11 34.2**	**-1.0**
SDDR				IAML				12 11 34.9	
	comp=Z,258nm,0.3s								
LUDR	**Luperon**	**2.39**	**92**	*e*Pg		**Pn**		**12 11 09.8**	**+0.9**
LUDR				*e*Sg		**Sn**		**12 11 36.5**	**-0.8**
NEDR	**Neiba UASD**	**2.46**	**127**	*e*Pg		**Pn**		**12 11 11.0**	**+1.2**
NEDR				*e*Sg		**Sn**		**12 11 37.7**	**-1.3**
NEDR				IAML				12 11 56.4	
	comp=N,199nm,0.6s								
LODU1	**El Espartillar**	**2.50**	**130**	*i* P		**Pn**		**12 11 12.3**	**+2.0**
LODU1				IAML				12 12 03.8	
	comp=Z,162nm,0.7s								
HLGC	**Holguin**	**2.57**	**291**	*e*P		**Pn**		**12 11 13.6**	**+2.2**
HLGC				*e*S		**Sb**		**12 11 45.8**	**-2.3**
HLGC				IAML				12 11 48.8	
	comp=E,121nm,0.4s								
HLGC				IAML				12 11 49.4	
	comp=N,87nm,0.5s								
GRTK	**Grand Turk**	**2.69**	**55**	*e*P		**Pn**		**12 11 13.4**	**+0.5**
GRTK				*e*S		**Sn**		**12 11 43.9**	**-0.6**
GRTK				IAML				12 11 52.5	
	comp=N,148nm,0.2s								
GRTK				IAML				12 11 52.6	
	comp=N,82nm,0.3s								
GRTK	**Grand Turk**	**2.69**	**55**	*e*Pg		**Pn**		**12 11 13.0**	**+0.2**
GRTK				*e*Sg		**Sn**		**12 11 45.8**	**+1.3**
GRTK				IAML				12 11 57.9	
	comp=N,208nm,0.2s								
GRTK	**Grand Turk**	**2.69**	**55**	*i* P		**Pn**		**12 11 13.3**	**+0.5**
GRTK				*e*S		**Sn**		**12 11 44.6**	**+0.1**
GRTK				IAML				12 12 02.7	
	comp=Z,136nm,0.6s								
LOBH	**Bahia de las A**	**2.74**	**140**	*i* P		**Pn**		**12 11 15.2**	**+1.6**
LOBH				IAML				12 12 15.2	
	comp=Z,90nm,2.3s								
CHIV	**Chivirico**	**2.75**	**270**	*e*P		**Pn**		**12 11 14.3**	**+0.6**
CHIV				*e*S		**Sn**		**12 11 45.6**	**-0.4**
CHIV				IAML				12 11 49.3	
	comp=N,34nm,0.2s

STKA	**Stephens Creek**	**31.88**	**143**	P		**P**	**12 23 41.9**	**-0.8**
	2.0nm,0.6s,baz=319,slow=20,SNR=3.2							
	2.0nm,0.6s							
SONM	**Songino Array**	**56.27**	**349**	P		**P**	**12 26 53.8**	**-1.2**
	0.4nm,0.5s,baz=159,slow=9.8,SNR=2.1							
	0.4nm,0.5s							
MKAR	**Makanchi Array**	**63.31**	**332**	P		**P**	**12 27 43.1**	**+0.5**
	1.6nm,0.4s,baz=141,slow=6.5,SNR=24							
	1.6nm,0.4s							
ZALV	**Zalesovo Beam**	**67.79**	**339**	P		**P**	**12 28 10.5**	**-0.4**
	1.1nm,0.4s,baz=131,slow=6.0,SNR=4.2							
	1.1nm,0.4s							
KURBB	**Kurchatov Arra**	**67.81**	**333**	P		**P**	**12 28 11.4**	**+0.3**
	0.6nm,0.6s,baz=140,slow=6.0,SNR=7.9							
	0.6nm,0.6s							
ESDC	**Sonseca Array**	**120.22**	**312**	PKP		**PKiKP**	**12 36 02.0**	**+0.5**
	0.2nm,0.4s,baz=46,slow=3.7,SNR=1.5							

*DNK **05** 12:18:49.9±0.7,61.99N×22.47E,h0km,ML2.5(UPP), Suspected explosion*
*UPP **05** 12:18:50.7±1.4,62.03N×22.34E,h0km,ML2.5, Presumed earthquake*
*HEL **05** 12:18:50.0±0.1,62.01N×22.31E,h0km,ML1.6, Explosion*
ISC 05 12:18:48.6±0.8, 62.04N±0.02×22.32E±0.02, h0km, n35, σ0.90/50, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPF	**Kankaanpaa**	**0.24**	**210**	PG	**Pg**	**12 18 53.6**	**+0.4**
KPF				SG	**Sg**	**12 18 56.2**	**0.0**
RAF	**Rauma**	**1.05**	**195**	*eP*	**Pg**	**12 19 08.0**	**-0.8**
RAF	**Rauma**	**1.05**	**195**	PG	**Pg**	**12 19 08.6**	**-0.2**
RAF				MSG		12 19 21.4	
	comp=Z,2.3nm,0.2s						
RAF				SB	**Sg**	**12 19 22.3**	**-0.1**
KEF	**Keuruu**	**1.21**	**83**	*eP*	**Pg**	**12 19 11.5**	**-0.2**
KEF	**Keuruu**	**1.21**	**83**	PG	**Pb**	**12 19 11.7**	**-0.6**
KEF				MSG		12 19 26.8	
	comp=Z,4.6nm,0.2s						
KEF				SN	**Sn**	**12 19 31.4**	**+1.6**
KAF	**Kangasniemi**	**1.88**	**86**	PG	**Pb**	**12 19 23.6**	**-0.2**
KAF				MSG		12 19 46.0	
	comp=Z,4.3nm,0.2s						
KAF				SG	**Sg**	**12 19 48.8**	**-0.1**
FIA0	**FINESS Array S**	**1.89**	**107**	PG	**Pb**	**12 19 23.3**	**-0.6**
FIA0				MSG		12 19 46.0	
	comp=Z,3.4nm,0.2s						
FIA0				SG	**Sg**	**12 19 48.4**	**-0.7**
NUR	**Nurmijarvi**	**1.91**	**143**	MSG		12 19 46.0	
	comp=Z,6.3nm,0.2s						
NUR				SG	**Sg**	**12 19 49.5**	**-0.2**
SUF	**Sumiainen**	**1.91**	**67**	PG	**Pg**	**12 19 24.6**	**-0.6**
SUF				MSG		12 19 47.3	
	comp=Z,5.3nm,0.2s						
SUF				SG	**Sg**	**12 19 50.6**	**+0.6**
HUSU	**Husum**	**1.94**	**314**	P	**Pg**	**12 19 25.2**	**-0.5**
HUSU				S	**Sg**	**12 19 51.0**	**+0.3**
HUSU	**Husum**	**1.94**	**314**	P	**Pg**	**12 19 25.2**	**-0.5**
HUSU				S	**Sg**	**12 19 51.0**	**+0.3**
HUSU	**Husum**	**1.94**	**314**	SG	**Sg**	**12 19 51.2**	**+0.4**
UMAU	**Umeaa**	**2.00**	**339**	P	**Pg**	**12 19 26.3**	**-0.5**
	baz=159						
UMAU				S	**Sg**	**12 19 52.5**	**-0.2**
UMAU	**Umeaa**	**2.00**	**339**	P	**Pg**	**12 19 26.3**	**-0.5**
	baz=159						
UMAU				S	**Sg**	**12 19 52.5**	**-0.2**
UMAU	**Umeaa**	**2.00**	**339**	PG	**Pg**	**12 19 26.4**	**-0.5**
	baz=155						
UMAU				SG	**Sg**	**12 19 52.4**	**-0.3**
MEF	**Metsahovi**	**2.09**	**150**	*eP*	**Pb**	**12 19 27.0**	**-0.4**
MEF	**Metsahovi**	**2.09**	**150**	MSG		12 19 51.2	
	comp=Z,5.6nm,0.2s						
MEF				SG	**Sg**	**12 19 54.4**	**-1.2**
HEMU	**Hemsoen**	**2.10**	**290**	P	**Pb**	**12 19 27.4**	**-0.1**
HEMU				S	**Sg**	**12 19 55.4**	**-0.5**
HEMU	**Hemsoen**	**2.10**	**290**	P	**Pb**	**12 19 27.4**	**-0.1**
HEMU				S	**Sg**	**12 19 55.4**	**-0.5**
HEMU	**Hemsoen**	**2.10**	**290**	PG	**Pb**	**12 19 27.3**	**-0.1**
	baz=103						
HEMU				SG	**Sg**	**12 19 55.3**	**-0.6**
AAL	**Aland**	**2.18**	**212**	SG	**Sb**	**12 19 56.4**	**0.0**
TVF	**Tvarminne**	**2.25**	**168**	MSG		12 19 55.8	
	comp=Z,1.2nm,0.2s						
TVF				SG	**Sb**	**12 19 58.9**	**+0.4**
PVF	**Pernaja**	**2.27**	**130**	MSG		12 19 56.9	
	comp=Z,6.0nm,0.2s						
PVF				SG	**Sg**	**12 20 00.0**	**-1.6**
ARNU	**Arnoeviken**	**2.37**	**264**	P	**Pb**	**12 19 31.1**	**-0.9**
ARNU	**Arnoeviken**	**2.37**	**264**	P	**Pb**	**12 19 31.1**	**-0.9**
ODEU	**Stanfors**	**2.49**	**344**	P	**Pb**	**12 19 32.5**	**-1.6**
ODEU	**Stanfors**	**2.49**	**344**	P	**Pb**	**12 19 32.5**	**-1.6**
OUF	**Merijarvi**	**2.58**	**24**	PB	**Pb**	**12 19 35.0**	**-0.7**
	baz=201						
OUF				MSG		12 20 07.0	
	comp=Z,1.1nm,0.2s						
OUF				SB	**Sb**	**12 20 07.2**	**-0.7**
NIF	**Nilsia**	**2.87**	**59**	MSG		12 20 15.0	
	comp=Z,1.3nm,0.2s						
NIF				SB	**Sb**	**12 20 16.0**	**-0.2**
VJF	**Virojoki**	**2.94**	**118**	MSG		12 20 16.3	
	comp=Z,2.1nm,0.2s						
VJF				SG	**Sb**	**12 20 19.9**	**+1.6**
KALU	**Kalix**	**3.86**	**6**	SN	**Sn**	**12 20 37.7**	**+2.5**
TOF	**Tornio**	**4.15**	**11**	SN	**Sn**	**12 20 43.2**	**+0.9**
VSU	**Vasula**	**4.21**	**147**	PG	**Pb**	**12 20 02.5**	**-1.0**
ERTU	**Ertsjaerv**	**4.53**	**359**	SN	**Sn**	**12 20 53.4**	**+1.6**
PAJU	**Pajala**	**5.02**	**4**	PB	**Sn**	**12 21 05.8**	**+2.1**

HEL 05 12:19:55.5±0.2, 67.65N×33.85E, h0km, ML1.2, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.39**	**51**	PG	Pg	12 20 02.8	-0.2
LVZ				SG	Sg	12 20 07.8	-0.2
VRF	**Varrio**	**1.62**	**275**	PG	Pn	12 20 24.9	-0.4
VRF				MSG		12 20 44.0	
	comp=Z,1.7nm,0.2s						
VRF				SN	Sn	12 20 45.8	-1.1
OLKF	**Oulanka, Finla**	**2.20**	**235**	PG	Pb	12 20 35.2	-1.0
OLKF				MSG		12 21 00.8	
	comp=Z,1.0nm,0.2s						
OLKF				SG	Sb	12 21 04.0	+0.1
RAJF	**Raja-Jooseppi**	**2.24**	**294**	SG	Sn	12 21 02.7	+0.7
KU6	**Riekki**	**2.26**	**226**	MSG		12 21 02.6	
	comp=Z,0.5nm,0.2s						
KU6				SG	Sb	12 21 04.6	-1.0
RANF	**Ranua**	**3.24**	**243**	SN	Pb	12 20 51.0	-2.8
RANF	**Ranua**	**3.24**	**243**	PB	Pb	12 20 51.0	-2.8
KEV	**Kevo**	**3.27**	**313**	PN	Pn	12 20 48.5	+0.6
ARA0	**ARCESS Array S**	**3.60**	**306**	PN	Pn	12 20 52.0	-0.5
TOF	**Tornio**	**4.08**	**252**	PN	Pn	12 21 00.5	+1.5

*SNET **05** 12:27:53.0±1.5, 12.73N×88.84W, h21km, ML3.8*
*CATAC **05** 12:27:53.3±0.5, 13°N±3°×8°9W±°, h24km, M3.7/13, MLv3.7/13, Error ellipse: s-maj=6.9km s-min=2.8km az=22.5, confirmed*
*GCG **05** 12:27:55.2±0.6, 12.78N×88.94W, h52km±34km, MD4.0*
ISC 05 12:27:52.6±2.1, 12.72N±0.10×88.83W±0.04, h23km±15km, n42, σ0.35/47, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACA	**Pacayal**	**0.90**	**33**	P	**Pn**	**12 28 10.1**	**+0.1**
PACA	**Pacayal**	**0.90**	**33**	S	**Sn**	**12 28 22.4**	**+0.1**
UESV	**Universidad de**	**0.92**	**3**	P	**Pn**	**12 28 10.4**	**+0.3**
UESV	**Universidad de**	**0.92**	**3**	S	**Sn**	**12 28 22.5**	**-0.1**
BLLM	**Bellamira**	**0.93**	**39**	*eP*	**Pb**	**12 28 10.4**	**+0.4**
PQSS	**Presa 15 de Se**	**0.94**	**16**	P	**Pn**	**12 28 10.7**	**+0.2**
PQSS	**Presa 15 de Se**	**0.94**	**16**	S	**Sn**	**12 28 22.8**	**-0.4**
CNRM	**Centro Naciona**	**0.99**	**40**	*eS*	**Sn**	**12 28 24.6**	**+0.1**
CNRM	**Centro Naciona**	**0.99**	**40**	P	**Pn**	**12 28 11.4**	**+0.2**
CNRM	**Centro Naciona**	**0.99**	**40**	S	**Sn**	**12 28 24.6**	**+0.1**
PAVA	**Las Pavas**	**1.00**	**354**	P	**Pn**	**12 28 11.5**	**+0.2**
PAVA	**Las Pavas**	**1.00**	**354**	S	**Sn**	**12 28 24.7**	**0.0**
UDBS	**Universidad Do**	**1.04**	**343**	S	**Sn**	**12 28 25.6**	**-0.1**
IGN	**Direccin Gen**	**1.05**	**342**	S	**Sn**	**12 28 25.8**	**-0.1**
SEMO	**Seminario San**	**1.05**	**339**	S	**Sn**	**12 28 25.7**	**-0.4**
UEES	**Universidad Ev**	**1.07**	**338**	S	**Sn**	**12 28 26.4**	**-0.1**
UEES	**Universidad Ev**	**1.07**	**338**	P	**Pn**	**12 28 12.2**	**-0.1**
PMON	**Piamonte**	**1.10**	**335**	P	**Pn**	**12 28 12.9**	**+0.2**
PMON	**Piamonte**	**1.10**	**335**	S	**Sn**	**12 28 26.7**	**-0.4**
BOQS	**Boqueron**	**1.10**	**337**	*eP*	**Pb**	**12 28 13.3**	**+0.1**
JAYA	**Jayaque - finc**	**1.11**	**327**	*eP*	**Pn**	**12 28 13.0**	**+0.1**
JAYA	**Jayaque - finc**	**1.11**	**327**	*eP*	**Pn**	**12 28 13.0**	**+0.1**
JAYA				*eS*	**Sb**	**12 28 26.7**	**-0.6**
JAYA	**Jayaque - finc**	**1.11**	**327**	P	**Pn**	**12 28 13.1**	**+0.1**
JAYA	**Jayaque - finc**	**1.11**	**327**	S	**Sn**	**12 28 27.3**	**-0.2**
CNCH	**Conchagua**	**1.12**	**60**	*eP*	**Pn**	**12 28 12.9**	**-0.1**
CNCH				*eS*	**Sb**	**12 28 27.8**	**+0.1**
CNCH	**Conchagua**	**1.12**	**60**	P	**Pn**	**12 28 12.9**	**-0.1**
CSGN	**Cosiguina Volc**	**1.27**	**78**	P	**Pn**	**12 28 15.5**	**+0.5**
CSGN				S	**Sn**	**12 28 31.0**	**-0.4**
POTN	**Potosi Cosigui**	**1.32**	**77**	S	**Sn**	**12 28 31.7**	**-0.9**
CEVE	**Cerro Verde**	**1.35**	**325**	S	**Sb**	**12 28 33.9**	**-0.4**
UNIC	**Universidad Ca**	**1.44**	**331**	S	**Sb**	**12 28 36.2**	**-0.5**
UNIC	**Universidad Ca**	**1.44**	**331**	P	**Pn**	**12 28 17.6**	**+0.3**
LLGN	**La Laguna**	**1.44**	**356**	P	**Pn**	**12 28 18.0**	**+0.6**
LLGN	**La Laguna**	**1.44**	**356**	S	**Sb**	**12 28 36.4**	**-0.5**
NUBE	**Las Nubes**	**1.50**	**322**	*eP*	**Pn**	**12 28 18.7**	**+0.5**
NUBE				*eS*	**Sn**	**12 28 37.2**	**0.0**
NUBE	**Las Nubes**	**1.50**	**322**	P	**Pn**	**12 28 18.7**	**+0.5**
NUBE	**Las Nubes**	**1.50**	**322**	S	**Sn**	**12 28 37.0**	**-0.2**
MTO3	**Montecristo**	**1.75**	**343**	*eP*	**Pn**	**12 28 22.4**	**+0.7**
MTO3	**Montecristo**	**1.75**	**343**	P	**Pn**	**12 28 22.4**	**+0.7**
MTO3	**Montecristo**	**1.75**	**343**	S	**Sn**	**12 28 43.2**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.02**	**49**	P	**Pn**	**12 28 25.6**	**+0.2**
TGUH				S	**Sn**	**12 28 50.1**	**0.0**
YUSH	**Yuscaran**	**2.30**	**57**	P	**Pn**	**12 28 29.2**	**0.0**
YUSH	**Yuscaran**	**2.30**	**57**	S	**Sn**	**12 28 56.6**	**-0.1**

HEL 05 12:35:03.3±0.2, 62.52N×24.64E, h0km, ML1.3, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	**Keuruu**	**0.36**	**163**	PG	Pg	12 35 09.5	-0.8
KEF				SG	Sg	12 35 14.4	-0.6
SUF	**Sumiainen**	**0.73**	**73**	PG	Pg	12 35 16.2	-1.0
SUF				SG	Sg	12 35 26.1	-0.5
SUF				MSG		12 35 26.1	
	comp=Z,1.7nm,0.2s						
KAF	**Kangasniemi**	**0.88**	**117**	PG	Pg	12 35 19.1	-1.0
KAF				MSG		12 35 30.3	
	comp=Z,3.4nm,0.2s						
KAF				SB	Sg	12 35 30.9	-0.5
FIA0	**FINESS Array S** baz=330	**1.27**	**147**	PG	Pg	12 35 26.2	-1.4
FIA0				MSG		12 35 41.7	
	comp=Z,1.3nm,0.2s						
KPF	**Kankaanpaa**	**1.39**	**242**	PG	Pg	12 35 28.3	-1.5
KPF				MSG		12 35 45.0	
	comp=Z,1.5nm,0.2s						
KPF				SN	Sn	12 35 49.1	+0.3
NIF	**Nilsia**	**1.69**	**57**	PG	Pn	12 35 33.3	-0.8
NIF				MSG		12 35 53.8	
	comp=Z,1.1nm,0.2s						
NIF				SN	Sn	12 35 56.3	-0.1
RAF	**Rauma**	**2.03**	**224**	PG	Pn	12 35 39.2	+0.5
RAF				MSG		12 36 03.4	
	comp=Z,1.9nm,0.2s						
RAF				SG	Sb	12 36 06.1	-0.5
MEF	**Metsahovi**	**2.31**	**183**	MSG		12 36 11.7	
	comp=Z,2.0nm,0.2s						
MEF				SG	Sb	12 36 14.8	0.0
RUF	**Ruokolahti**	**2.31**	**116**	MSG		12 36 11.7	
	comp=Z,1.0nm,0.2s						
RUF				SG	Sb	12 36 15.3	+0.5
HEL5	**Espoo, Suvisaa**	**2.41**	**179**	MSG		12 36 14.3	
	comp=Z,2.4nm,0.2s						
HEL5				SG	Sb	12 36 17.7	+0.1
TVF	**Tvarminne**	**2.76**	**195**	PN	Pn	12 35 46.5	-2.3
TVF				MSG		12 36 24.7	
	comp=Z,0.4nm,0.2s						
TVF				SG	Sb	12 36 27.2	-0.6
JOF	**Joensuu**	**3.10**	**80**	SG	Sb	12 36 37.3	-0.2
ARBE	**Arbavere**	**3.16**	**167**	PN	Pn	12 35 53.6	-0.6
KU1	**Kurvinen**	**3.75**	**33**	SB	Sb	12 36 52.5	-3.6

*UCR **05** 12:35:36.5±1.5, 8.36N×82.82W, h15km±5km, MW3.6*
*CATAC **05** 12:35:36.4±0.6, 8°N±4°×8°W±°, h17km±1km, M3.9/11, MLv3.9/11, Error ellipse: s-maj=7.9km s-min=4.3km az=6.8, confirmed*
*UPA **05** 12:35:37.0±1.3, 8.47N×82.72W, h48km±8km, MW3.2, Fault plane solution: NP1:ϕs17.00000°, δ68.00000°, λ-142.00000°.*
ISC 05 12:35:35.1±1.4, 8.29N±0.05×82.84W±0.02, h17km±9km, n87, σ1.18/116, 10C-14D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPPC	**Paso Canoas**	**0.24**	**1**	*iP*	**Pb**	**12 35 42.4**	**+1.5**
LPPC				*eS*	**Sb**	**12 35 47.4**	**+2.5**
CDITO	**Canoas**	**0.28**	**354**	P	**Pb**	**12 35 42.8**	**+1.2**
CDITO	**Canoas**	**0.28**	**354**	S	**Sb**	**12 35 47.4**	**+1.3**
NELY	**Ciudad Neily**	**0.37**	**344**	*iP*	**Pb**	**12 35 43.9**	**+0.7**
NELY				*eS*	**Sn**	**12 35 50.3**	**-2.2**
PRISO	**Paraso**	**0.44**	**34**	*iP*	**Pb**	**12 35 45.1**	**+0.5**
PRISO				*eS*	**Sg**	**12 35 50.4**	**+0.1**
FITO	**Golfito**	**0.45**	**317**	*iP*	**Pb**	**12 35 44.5**	**-0.1**
FITO				*eS*	**Sb**	**12 35 51.0**	**0.0**
EDAD	**Golfito**	**0.48**	**318**	*iP*	**Pb**	**12 35 45.0**	**-0.1**
EDAD				*eS*	**Sb**	**12 35 52.0**	**+0.1**
CLLRA	**Cordillera,**	**0.50**	**27**	*iP*	**Pb**	**12 35 45.8**	**+0.3**
CLLRA				*eS*	**Sb**	**12 35 53.3**	**+0.7**
CGUAY	**Guayabal, Coch**	**0.51**	**71**	*iP*	**Pb**	**12 35 46.2**	**+0.6**
CGUAY				*eS*	**Sb**	**12 35 53.6**	**+0.7**
CGUAY	**Guayabal, Coch**	**0.51**	**71**	*iP*	**Pb**	**12 35 46.2**	**+0.6**
PTJ1	**Puerto Jimnez**	**0.51**	**298**	P	**Pb**	**12 35 46.6**	**+0.9**
PTJ1	**Puerto Jimnez**	**0.51**	**298**	S	**Sn**	**12 35 55.4**	**-0.2**
BRU2	**Volcan**	**0.52**	**17**	*eP*	**Pb**	**12 35 46.0**	**+0.2**
BRU2				*eS*	**Sb**	**12 35 53.9**	**+0.7**
BRU2	**Volcan**	**0.52**	**17**	*eP*	**Pb**	**12 35 46.0**	**+0.2**
BRU2				*eS*	**Sb**	**12 35 53.6**	**+0.4**
BRU2	**Volcan**	**0.52**	**17**	P	**Pb**	**12 35 46.2**	**+0.3**
RSRNO	**Rio Sereno**	**0.52**	**358**	*iP*	**Pb**	**12 35 46.6**	**+0.7**
RSRNO				*eS*	**Sn**	**12 35 54.9**	**-1.5**
RSRNO	**Rio Sereno**	**0.52**	**358**	*eP*	**Pb**	**12 35 46.0**	**+0.2**
BANCO	**falda S V. Bar**	**0.53**	**36**	*iP*	**Pb**	**12 35 46.3**	**+0.3**
BANCO				*eS*	**Sb**	**12 35 53.6**	**+0.2**
JIME	**Puerto Jimenez**	**0.54**	**297**	*eP*	**Pb**	**12 35 46.6**	**+0.6**
JIME				*eS*	**Sn**	**12 35 56.0**	**-0.6**
WILLF	**Boquete**	**0.61**	**42**	*iP*	**Pg**	**12 35 47.2**	**+0.1**
WILLF				*eS*	**Sg**	**12 35 54.4**	**-0.9**
DAP26	**falda E V. Bar**	**0.64**	**40**	*iP*	**Pg**	**12 35 47.5**	**-0.3**
ALCO	**Alturas Coton,**	**0.65**	**1**	*eP*	**Pg**	**12 35 47.8**	**-0.2**
ALCO				*eS*	**Sb**	**12 35 56.8**	**-0.2**
EDP2	**Potrero Grande**	**0.79**	**335**	*eP*	**Pb**	**12 35 49.7**	**-0.7**
EDP2				*eS*	**Sg**	**12 36 01.6**	**+0.6**
PBNVO	**Pueblo Nuevo,**	**0.88**	**47**	*iP*	**Pb**	**12 35 50.9**	**-0.9**
PBNVO				*eS*	**Sb**	**12 36 02.3**	**-1.0**
RBALA	**Bur**	**0.90**	**49**	*iP*	**Pb**	**12 35 51.6**	**-0.6**
RBALA				*eS*	**Sb**	**12 36 03.1**	**-0.7**
RBALA	**Bur**	**0.90**	**49**	*iP*	**Pb**	**12 35 51.5**	**-0.6**
RBALA				*eS*	**Sb**	**12 36 02.8**	**-1.1**
PANP	**Palmar Norte**	**0.90**	**317**	*eP*	**Pb**	**12 35 51.9**	**-0.3**
PANP				*eS*	**Sb**	**12 36 03.8**	**-0.2**
DRK0	**Durika**	**1.04**	**338**	*eP*	**Pb**	**12 35 53.5**	**-1.3**
DRK0				*eS*	**Sb**	**12 36 07.5**	**-0.7**
DRK0	**Durika**	**1.04**	**338**	P	**Pb**	**12 35 53.6**	**-1.2**
EDPE	**Pejibaye, P**	**1.12**	**320**	*iP*	**Pb**	**12 35 55.5**	**-0.5**
EDPE				*eS*	**Sb**	**12 36 10.1**	**-0.3**
OCHAL	**Ojochal**	**1.13**	**315**	S	**Sb**	**12 36 10.0**	**-0.5**
OCHAL	**Ojochal**	**1.13**	**315**	P	**Pb**	**12 35 55.3**	**-0.8**
KKNTU	**Kakint²**	**1.16**	**62**	*iP*	**Pb**	**12 35 55.2**	**-1.4**
KKNTU				*eS*	**Sb**	**12 36 09.5**	**-2.0**
KKNTU	**Kakint²**	**1.16**	**62**	*iP*	**Pb**	**12 35 55.1**	**-1.4**
KKNTU				*eS*	**Sb**	**12 36 09.3**	**-2.2**
SAJE	**San Jernim**	**1.24**	**328**	*eP*	**Pn**	**12 35 56.6**	**-1.1**
CEUA	**Cerro Uatsi, L**	**1.32**	**356**	*eP*	**Pb**	**12 35 59.5**	**0.0**
CEUA				*eS*	**Sg**	**12 36 18.5**	**+0.6**
LAES	**El Progreso Va**	**1.47**	**352**	*eP*	**Pn**	**12 36 01.0**	**+0.1**
BUS1	**Rivas**	**1.54**	**325**	*eP*	**Pn**	**12 36 01.5**	**-0.7**
BUS1				*eS*	**Sn**	**12 36 20.7**	**-1.3**
VERH	**Veragua Rainfo**	**1.66**	**348**	*eP*	**Pn**	**12 36 03.1**	**-0.3**
LLNJ	**Naranjito**	**1.71**	**313**	*eP*	**Pn**	**12 36 04.2**	**+0.1**
PIEC	**Cerro El Cedra**	**1.72**	**320**	*eP*	**Pn**	**12 36 04.4**	**-0.1**
QUEP	**Quepos**	**1.73**	**311**	P	**Pn**	**12 36 04.7**	**+0.3**
QUEP	**Quepos**	**1.73**	**311**	S	**Sn**	**12 36 26.4**	**+0.4**
PITB	**Pirrs, San**	**1.79**	**319**	*eP*	**Pb**	**12 36 06.8**	**-0.7**
REPA	**Paraso**	**1.83**	**326**	*eP*	**Pb**	**12 36 07.4**	**-0.8**
LCR2	**La Lucha 2**	**1.84**	**322**	*eP*	**Pn**	**12 36 06.2**	**+0.1**
LCR2	**La Lucha 2**	**1.84**	**322**	P	**Pn**	**12 36 06.9**	**+0.8**
LCR2	**La Lucha 2**	**1.84**	**322**	S	**Sn**	**12 36 28.7**	**-0.4**
VERB	**Verbena**	**1.84**	**333**	*eP*	**Pn**	**12 36 06.8**	**+0.7**
PICV	**PH. Pirrs**	**1.88**	**315**	*eP*	**Pn**	**12 36 07.4**	**+0.9**
PICV				*eS*	**Sb**	**12 36 31.7**	**-0.6**
RESJ	**San Isidro (Tu**	**1.90**	**335**	*eP*	**Pn**	**12 36 07.5**	**+0.7**
PAR1A	**Puntarenas Pro**	**1.90**	**313**	*eP*	**Pn**	**12 36 07.7**	**+0.9**
LCOCO	**El Coco**	**1.91**	**338**	*eP*	**Pn**	**12 36 07.9**	**+1.0**
CVTV	**Tajo**	**1.92**	**332**	*eP*	**Pn**	**12 36 07.9**	**+0.6**
CVTQ	**Turrialba Volc**	**1.93**	**332**	*eP*	**Pn**	**12 36 08.0**	**+0.6**
VTR0	**Volcan Turrial**	**1.94**	**332**	*eP*	**Pn**	**12 36 08.2**	**+0.5**
CVTR	**Volcan Turrial**	**1.94**	**332**	*eP*	**Pn**	**12 36 08.2**	**+0.6**
VICA	**Volcano Irazu**	**1.95**	**330**	*eP*	**Pb**	**12 36 09.4**	**-1.0**
CVIMO	**Finca Echandi**	**2.03**	**328**	*eP*	**Pb**	**12 36 10.2**	**-1.5**
SANTA	**Santa Ana**	**2.10**	**321**	*eP*	**Pn**	**12 36 10.6**	**+1.0**
HDC	**Heredia**	**2.11**	**324**	*iP*	**Pn**	**12 36 11.1**	**+1.3**
HDC				*eS*	**Sb**	**12 36 39.0**	**0.0**
HEME	**Heredia, Merce**	**2.12**	**323**	*eP*	**Pb**	**12 36 12.6**	**-0.5**
VPL2	**V. Platanar**	**2.51**	**323**	*eP*	**Pn**	**12 36 17.1**	**+1.8**
CBL1	**Cabuya**	**2.57**	**300**	*eP*	**Pn**	**12 36 14.9**	**-1.0**
SOCE	**Pocosol**	**2.72**	**320**	*eP*	**Pn**	**12 36 19.7**	**+1.7**
SOCE	**Pocosol**	**2.72**	**320**	P	**Pn**	**12 36 19.8**	**+1.8**
SOCE	**Pocosol**	**2.72**	**320**	S	**Sb**	**12 36 55.0**	**-1.4**
FORC	**Fortuna**	**2.81**	**320**	*eP*	**Pn**	**12 36 21.6**	**+2.3**
VACR	**Volcan Arenal**	**2.82**	**320**	*eP*	**Pn**	**12 36 21.9**	**+2.5**
ARE1	**Arenal 1**	**2.84**	**319**	*iP*	**Pn**	**12 36 21.9**	**+2.2**
VARE2	**V. Arenal**	**2.84**	**319**	*eP*	**Pn**	**12 36 21.8**	**+2.1**
CEDE	**Laguna Cedeo**	**2.85**	**320**	*eP*	**Pn**	**12 36 22.1**	**+2.2**
COVE	**Coope Vega, Sa**	**2.86**	**328**	P	**Pn**	**12 36 20.9**	**+1.0**
JTS	**Las Juntas de**	**2.88**	**314**	*eP*	**Pn**	**12 36 20.2**	**0.0**
JTS	**Las Juntas de**	**2.88**	**314**	P	**Pn**	**12 36 20.4**	**+0.2**
JTS				S	**Sn**	**12 36 54.2**	**-0.3**
TABAC	**Tabacon**	**2.90**	**319**	*eP*	**Pn**	**12 36 23.0**	**+2.5**
INDI	**Punta indio, G**	**3.06**	**301**	P	**Pn**	**12 36 22.7**	**+0.1**
INDI	**Punta indio, G**	**3.06**	**301**	S	**Sn**	**12 36 58.6**	**-0.3**
QUEB	**Quebradon, Cot**	**3.08**	**319**	*eP*	**Pn**	**12 36 25.2**	**+2.3**
INVE	**Universidad In**	**3.08**	**315**	*eP*	**Pn**	**12 36 25.8**	**+2.8**
BCIP	**Isla Barro Col**	**3.10**	**73**	*eP*	**Pn**	**12 36 25.5**	**+2.3**
BCIP	**Isla Barro Col**	**3.10**	**73**	P	**Pn**	**12 36 24.9**	**+1.7**
BCIP				S	**Sn**	**12 37 01.9**	**+2.1**
JUD3	**Juan Diaz 3**	**3.25**	**305**	*eP*	**Pn**	**12 36 26.2**	**+0.9**
COLC	**Colonia**	**3.31**	**316**	*eP*	**Pn**	**12 36 28.5**	**+2.3**
HORNC	**Hornillas**	**3.33**	**316**	*eP*	**Pn**	**12 36 28.4**	**+1.9**
VMAR	**Armenia, Volca**	**3.36**	**318**	*iP*	**Pn**	**12 36 29.4**	**+2.6**
LAPC	**Finca la Perla**	**3.54**	**314**	*eP*	**Pn**	**12 36 31.0**	**+1.6**

*NEIC **05** 13:14:50.6±2.0, 63.39S±0.10×172.1E±0.3, h10km±1km, mb4.5/12, Error ellipse: s-maj=24.4km s-min=16.2km az=86.0*
*IDC **05** 13:14:50.4±1.9, 63.54S×171.67E, h0km, mb4.4/4, mbtmp4.5/5, ML4.2/1, MS4.6/23, Error ellipse: s-maj=79.6km s-min=20.8km az=70.0*
*GCMT **05** 13:14:54.5±0.2, 63.51S±0.01×171.42E±0.03, h12km, MW5.2/120, Moment Tensor Solution. s58,c74; s120,c171; Duration: 1ϱ0 Moment tensor: Scale 10^16 Nm; Mrr-1.59±.15; Mθθ 7.19±.12; Mϕϕ-5.60±.15; Mrθ-3.26±.35; Mϕϕ-0.68±.15; Mϕr-1.81±.43; Best double couple: Mo7.41400×10^16 NP1:ϕs318.00000°, δ59.

WRA LR LR 13 43 58.3
comp=Z,286nm,18.3s,baz=132,slow=35
comp=Z,4.0nm,1.1s
WRAB Tennant Creek 50.34 312 P **P** **13 23 48.1 +0.6**
WRAB IAmb IAmb 13 23 58.1
comp=Z,6.8nm,1.2s
WB0 Warramunga Arr 50.48 312 P **P** **13 23 48.5 0.0**
WB0 IAmb IAmb 13 23 53.8
comp=Z,10nm,1.4s
PPT2 Papeete2 52.86 48 *e*SS **SS** **13 35 13.7 +0.1**
comp=Z,847nm,23.2s
PPT2 *e*LR LR 13 38 53.5
comp=Z,644nm,28.8s
PPT2 *e*LR LR 13 39 16.3
comp=Z,738nm,24.2s
PPT Papeete 52.88 48 LR LR 13 41 43.1
comp=Z,369nm,18.6s,baz=146,slow=30
HNR Honiara 54.58 346 LR LR 13 44 59.2
comp=Z,371nm,19.6s,baz=203,slow=33
PMG Port Moresby 56.76 330 LR LR 13 44 37.3
comp=Z,356nm,20.7s,baz=152,slow=32
RPN Rapa Nui 61.12 93 LR LR 13 46 29.6
comp=Z,324nm,19.3s,baz=218,slow=31
TAOE Nuku Hiva Isla 64.27 55 *e*LR LR 13 44 38.2
comp=Z,465nm,24.5s
H03S2 Juan Fernandez 68.16 122 T T 14 40 49.7
baz=205,slow=74,SNR=90
H03S1 Juan Fernandez 68.16 122 T T 14 40 51.0
baz=205,slow=74,SNR=95
H03S3 Juan Fernandez 68.18 122 T T 14 40 50.4
baz=205,slow=74,SNR=84
CPUP Villa Florida 82.51 137 LR LR 14 01 03.0
comp=Z,101nm,18.6s,baz=48,slow=34
BOSA Boshof 84.53 209 LR LR 14 02 15.6
comp=Z,488nm,20.5s,baz=177,slow=34
H08S2 Diego Garcia H 87.40 258 T T 15 04 35.2
baz=153,slow=76,SNR=127
H08S1 Diego Carcia H 87.41 258 T T 15 04 35.9
baz=153,slow=76,SNR=52
H08S3 Diego Garcia H 87.42 258 T T 15 04 30.5
baz=153,slow=76,SNR=583
LBTB Lobatse 87.93 210 LR LR 14 05 41.8
comp=Z,176nm,18.8s,baz=164,slow=35
NNA Nana 88.59 114 LR LR 13 59 22.6
comp=Z,189nm,19.2s,baz=243,slow=30
MATP Matopo 91.64 214 LR LR 14 05 27.5
comp=Z,459nm,20.6s,baz=172,slow=33
TSUM Tsumeb 95.22 204 LR LR 14 10 22.0
comp=Z,858nm,18.0s,baz=154,slow=35
BDFB Brasilia 95.34 142 LR LR 14 08 29.6
comp=Z,135nm,19.6s,baz=209,slow=34
ILAR Eielson Array 131.45 22 PKP **PKiKP** **13 34 04.2 +1.8**
comp=Z,1.0nm,0.8s,baz=240,slow=3.2,SNR=11
KBZ Khabaz 145.12 260 PKPbc **PKPbc** **13 34 26.1 -0.6**
comp=Z,2.7nm,0.7s,baz=148,slow=3.7,SNR=6.3
BRTR Keskin Array B 145.82 246 PKPbc **PKPdf** **13 34 28.2 -0.4**
comp=Z,1.6nm,0.8s,baz=138,slow=5.8,SNR=7.7
AKASG Malin Array Be 156.44 255 PKPab **PKPab** **13 35 13.7 +0.7**
comp=Z,0.2nm,0.3s,baz=140,slow=3.4,SNR=8.0

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*WEL **05** 13:42:18.8±0.8, 37°S±3°×17°8E±°, h146km±6km, M2.8/14, ML3.1/15, MLv2.8/14, Error ellipse: s-maj=7.7km s-min=4.0km az=106.2, confirmed*
*NOU **05** 13:42:19.7, 37°.16S×177°.72E, h148km, mb4.3/8, Off E. Coast of N. Island, N.Z.*
ISC 05 13:42:14.3±2.7, 37.03S±0°.09×178.08E±0°.09, h171km±12km, n92, σ1s95/129, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.56**	**162**	P		**Pn**	**13 42 38.3**	**+0.1**
MXZ				S		**Sn**	**13 42 54.9**	**-1.9**
HAZ	**Te Kaha**	**0.77**	**198**	P		**Pn**	**13 42 40.0**	**+0.6**
HAZ				S		**Sn**	**13 42 55.1**	**-3.8**
WMGZ	**Waiomatatini S**	**0.83**	**162**	P		**Pn**	**13 42 41.9**	**+2.1**
WMGZ				S		**Sn**	**13 42 58.7**	**-1.0**
PKGZ	**Pakihiroa**	**0.84**	**180**	P		**Pn**	**13 42 41.5**	**+1.6**
RUGZ	**Raukumara Rang**	**0.99**	**199**	P		**Pn**	**13 42 41.6**	**+0.4**
PUZ	**Puketiti**	**1.05**	**172**	P		**Pn**	**13 42 43.3**	**+1.9**
PUZ				S		**Sn**	**13 43 01.0**	**-1.6**
TWGZ	**Tauwhareparae**	**1.15**	**184**	P		**Pn**	**13 42 44.9**	**+2.6**
TWGZ				S		**Sn**	**13 43 03.4**	**-0.7**
TKGZ	**Te Karaka**	**1.42**	**187**	P		**Pn**	**13 42 47.1**	**+2.5**
TKGZ				S		**Sn**	**13 43 10.4**	**-1.5**
URVZ	**Urewera**	**1.45**	**212**	P		**Pn**	**13 42 46.1**	**+1.1**
URZ	**Urewera**	**1.45**	**212**	S		**Sn**	**13 43 06.2**	**-2.6**
URZ	**Urewera**	**1.45**	**212**	P		**Pn**	**13 42 46.0**	**+1.1**
URZ				S		**Sn**	**13 43 05.8**	**-2.9**
CNGZ	**Carnagh Statio**	**1.46**	**176**	P		**Pn**	**13 42 48.2**	**+3.2**
OPRZ	**Ohinepanea**	**1.46**	**236**	P		**Pn**	**13 42 46.1**	**+1.0**
MARZ	**Manawahe**	**1.47**	**229**	P		**Pn**	**13 42 46.6**	**+1.4**
RAGZ	**Rawiri**	**1.56**	**200**	P		**Pn**	**13 42 48.4**	**+2.4**
RAGZ				S		**Sn**	**13 43 10.1**	**-0.7**
TGRZ	**Tauranga**	**1.61**	**244**	P		**Pn**	**13 42 47.8**	**+1.3**
RIGZ	**Rimuhau**	**1.69**	**189**	P		**Pn**	**13 42 49.9**	**+2.5**
RIGZ				S		**Sn**	**13 43 12.4**	**-0.9**
TARZ	**Mount Tarawera**	**1.74**	**226**	P		**Pn**	**13 42 50.3**	**+2.3**
KARZ	**Kaharoa**	**1.77**	**235**	P		**Pn**	**13 42 49.8**	**+1.6**
MUGZ	**Murupara**	**1.78**	**215**	P		**Pn**	**13 42 49.9**	**+1.6**
RTZ	**Ruatahuna**	**1.81**	**209**	P		**Pn**	**13 42 50.1**	**+1.5**
SNGZ	**Shannon Statio**	**1.85**	**198**	P		**Pn**	**13 42 51.3**	**+2.3**
SNGZ				S		**Sn**	**13 43 15.8**	**-0.3**
KMRZ	**Kaimai**	**1.89**	**244**	P		**Pn**	**13 42 51.1**	**+1.6**
KUZ	**Kuaotunu**	**1.92**	**278**	P		**Pn**	**13 42 50.8**	**+1.1**
KUZ	**Kuaotunu**	**1.92**	**278**	P		**Pn**	**13 42 50.8**	**+1.1**
PRRZ	**Plateau Road**	**1.99**	**222**	P		**Pn**	**13 42 52.5**	**+1.9**
KNZ	**Kokohu**	**2.02**	**189**	P		**Pn**	**13 42 53.2**	**+2.4**
KNZ				S		**Sn**	**13 43 19.2**	**-0.1**
RAHZ	**Arahi**	**2.04**	**202**	P		**Pn**	**13 42 53.5**	**+2.4**
RAHZ				S		**Sn**	**13 43 19.3**	**-0.6**
ALRZ	**Allen Road**	**2.06**	**221**	P		**Pn**	**13 42 53.4**	**+2.0**
ALRZ				S		**Sn**	**13 43 19.1**	**-1.1**
MTHZ	**Maungataniwha**	**2.07**	**208**	P		**Pn**	**13 42 53.2**	**+1.7**
MTHZ				S		**Sn**	**13 43 19.2**	**-1.2**
MHGZ	**Mahia Peninsul**	**2.12**	**184**	P		**Pn**	**13 42 55.1**	**+3.0**
WPRZ	**Whakapapatarin**	**2.13**	**225**	P		**Pn**	**13 42 54.7**	**+2.5**
TOZ	**Tahuroa Road**	**2.17**	**250**	P		**Pn**	**13 42 54.6**	**+2.0**
MRHZ	**Matea Rd**	**2.23**	**216**	P		**Pn**	**13 42 55.2**	**+1.8**
MRHZ				S		**Sn**	**13 43 22.9**	**-0.8**
NMHZ	**Naumai**	**2.30**	**206**	P		**Pn**	**13 42 56.9**	**+2.7**
NMHZ				S		**Sn**	**13 43 25.5**	**+0.3**
KUTZ	**Kaahu Road**	**2.31**	**230**	P		**Pn**	**13 42 56.9**	**+2.7**
MKAZ	**Moumakai**	**2.34**	**267**	P		**Pn**	**13 42 56.5**	**+2.0**
ARHZ	**Aropaoanui**	**2.39**	**201**	P		**Pn**	**13 42 57.6**	**+2.5**
ARHZ				S		**Sn**	**13 43 27.2**	**+0.3**
TLZ	**Tolley Road**	**2.40**	**236**	P		**Pn**	**13 42 57.8**	**+2.5**
BKZ	**Black Stump Fm**	**2.48**	**210**	P		**Pn**	**13 42 58.4**	**+2.2**
BKZ	**Black Stump Fm**	**2.48**	**210**	P		**Pn**	**13 43 27.9**	**-0.9**
BKZ	**Black Stump Fm**	**2.48**	**210**	P		**Pn**	**13 42 58.2**	**+2.0**
BKZ				S		**Sn**	**13 43 27.6**	**-1.2**
WATZ	**Wairara**	**2.50**	**227**	P		**Pn**	**13 42 59.2**	**+2.7**
ETAZ	**East Tamaki Re**	**2.53**	**271**	P		**Pn**	**13 42 59.1**	**+2.3**
RATZ	**Rangitukua**	**2.59**	**224**	P		**Pn**	**13 43 00.9**	**+3.3**
MCHZ	**McNeill Hill**	**2.65**	**204**	P		**Pn**	**13 43 00.6**	**+2.4**
MCHZ				S		**Sn**	**13 43 32.6**	**+0.2**
KWHZ	**Kaweka Forest**	**2.73**	**208**	P		**Pn**	**13 43 01.2**	**+2.0**
KWHZ				S		**Sn**	**13 43 33.7**	**-0.4**
TMVZ	**Te Maari**	**2.81**	**221**	P		**Pn**	**13 43 03.1**	**+2.9**
TMVZ				S		**Sn**	**13 43 35.5**	**-0.5**
ETVZ	**East Tongariro**	**2.82**	**221**	P		**Pn**	**13 43 03.1**	**+2.8**
KRVZ	**Karewarewa**	**2.82**	**222**	P		**Pn**	**13 43 03.6**	**+3.2**
OTVZ	**Oturere**	**2.86**	**221**	P		**Pn**	**13 43 04.0**	**+3.1**
OTVZ				S		**Sn**	**13 43 37.2**	**-0.1**
NNVZ	**North Ngauruho**	**2.86**	**222**	P		**Pn**	**13 43 04.2**	**+3.2**
WTVZ	**West Tongariro**	**2.87**	**223**	P		**Pn**	**13 43 04.1**	**+3.1**
SNVZ	**South Ngauruho**	**2.89**	**221**	P		**Pn**	**13 43 03.8**	**+2.5**
NGZ	**Ngauruhoe**	**2.90**	**222**	P		**Pn**	**13 43 04.3**	**+2.9**
TWVZ	**Taurewa**	**2.92**	**225**	P		**Pn**	**13 43 04.7**	**+3.1**
KAHZ	**Kahuranaki**	**2.92**	**199**	P		**Pn**	**13 43 03.8**	**+2.4**
KAHZ				S		**Sn**	**13 43 39.5**	**+1.1**
KRHZ	**Kereru**	**2.94**	**207**	P		**Pn**	**13 43 03.3**	**+1.6**
KRHZ				S		**Sn**	**13 43 38.2**	**-0.5**
TUVZ	**Tukino**	**2.94**	**220**	P		**Pn**	**13 43 04.4**	**+2.5**
HIZ	**Hauiti**	**2.96**	**239**	P		**Pn**	**13 43 05.3**	**+3.4**
FWVZ	**Far West T-bar**	**2.99**	**221**	P		**Pn**	**13 43 04.9**	**+2.4**
WHVZ	**Whangaehu Hut**	**2.99**	**220**	P		**Pn**	**13 43 04.8**	**+2.3**
MAVZ	**Matarangi**	**2.99**	**221**	P		**Pn**	**13 43 05.1**	**+2.5**
MOVZ	**Moawhango**	**3.00**	**217**	P		**Pn**	**13 43 04.4**	**+1.9**
MOVZ				S		**Sn**	**13 43 38.2**	**-2.0**
WNVZ	**Wahianoa**	**3.02**	**220**	P		**Pn**	**13 43 05.2**	**+2.4**
MTVZ	**Mangateitei**	**3.12**	**220**	P		**Pn**	**13 43 06.5**	**+2.4**
PXZ	**Pawanui**	**3.15**	**197**	P		**Pn**	**13 43 05.8**	**+1.5**
PXZ				S		**Sn**	**13 43 41.7**	**-1.6**
PNHZ	**Pukenui**	**3.24**	**207**	P		**Pn**	**13 43 06.7**	**+1.3**
PNHZ				S		**Sn**	**13 43 43.7**	**-1.7**
PRHZ	**Porangahau**	**3.43**	**199**	P		**Pn**	**13 43 09.3**	**+1.5**
PRHZ				S		**Sn**	**13 43 48.8**	**-0.8**
TSZ	**Takapari Road**	**3.45**	**208**	P		**Pn**	**13 43 08.7**	**+0.6**
TSZ				S		**Sn**	**13 43 48.7**	**-1.5**
DVHZ	**Dannevirke**	**3.59**	**204**	P		**Pn**	**13 43 10.6**	**+0.8**
DVHZ				S		**Sn**	**13 43 51.3**	**-2.0**
ANWZ	**Angora Road**	**3.65**	**200**	P		**Pn**	**13 43 10.8**	**+0.2**
ANWZ				S		**Sn**	**13 43 53.5**	**-1.1**
WAZ	**Wanganui**	**3.65**	**221**	P		**Pn**	**13 43 13.3**	**+2.7**
POWZ	**Post Office Ro**	**3.81**	**208**	P		**Pn**	**13 43 13.5**	**+0.9**
PRWZ	**Pori Road**	**3.89**	**204**	P		**Pn**	**13 43 15.4**	**+1.8**
BFZ	**Birch Farm**	**3.92**	**201**	P		**Pn**	**13 43 15.8**	**+1.8**
BFZ	**Birch Farm**	**3.92**	**201**	S		**Sn**	**13 43 59.2**	**-1.5**
BFZ	**Birch Farm**	**3.92**	**201**	P		**Pn**	**13 43 14.8**	**+0.8**
BFZ				S		**Sn**	**13 43 59.0**	**-1.8**
TIWZ	**Tintock**	**4.12**	**204**	P		**Pn**	**13 43 17.6**	**+1.0**
MRZ	**Mangatainoka R**	**4.12**	**208**	P		**Pn**	**13 43 17.1**	**+0.5**
MRZ				S		**Sn**	**13 44 02.8**	**-2.6**
HOWZ	**Holdsworth Sta**	**4.35**	**207**	P		**Pn**	**13 43 19.8**	**+0.2**
HOWZ				S		**Sn**	**13 44 07.5**	**-3.2**
OGWZ	**Otaki Gorge**	**4.41**	**210**	P		**Pn**	**13 43 21.3**	**+1.0**
TMWZ	**Te Maipa**	**4.42**	**202**	P		**Pn**	**13 43 20.9**	**+0.5**
KIW	**Kapiti Island**	**4.56**	**212**	P		**Pn**	**13 43 22.9**	**+0.7**
KIW				S		**Sn**	**13 44 12.7**	**-2.7**
MTW	**Mount Morrison**	**4.59**	**205**	P		**Pn**	**13 43 22.8**	**+0.2**
MTW				S		**Sn**	**13 44 13.6**	**-2.5**
CAW	**Cannon Point**	**4.70**	**209**	P		**Pn**	**13 43 24.5**	**+0.4**
PAWZ	**Paruwai Farm**	**4.81**	**205**	P		**Pn**	**13 43 25.7**	**+0.2**
PAWZ				S		**Sn**	**13 44 17.7**	**-3.8**
PLWZ	**Palliser**	**5.04**	**205**	P		**Pn**	**13 43 28.1**	**-0.4**
TCW	**Tory Channel**	**5.12**	**214**	P		**Pn**	**13 43 29.7**	**+0.2**
TKNZ	**Takaka Hill**	**5.65**	**223**	P		**Pn**	**13 43 37.1**	**+0.6**
QRZ	**Quartz Range**	**5.75**	**227**	P		**Pn**	**13 43 38.6**	**+0.7**
QRZ	**Quartz Range**	**5.75**	**227**	P		**Pn**	**13 43 37.9**	**+0.1**

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*VAO **05** 13:52:50.5±3.0, 9°.58S×78°.91W, h60km±14km, mb4.6*
*IDC **05** 13:52:50.8±1.6, 9°.24S×78°.98W, h62km±13km, mb3.8/9, mbtmp4.2/14, MS4.1/2, Error ellipse: s-maj=18.0km s-min=7.1km az=69.0*
*NEIC **05** 13:52:51.9±1.7, 9°.27S±0°.07×78°.9W±0°.1, h59km±8km, mb4.6/69, Error ellipse: s-maj=17.7km s-min=9.3km az=70.0*
ISC 05 13:52:50.6±0.5, 9°.29S±0°.05×78°.98W±0°.08, h60km, n100, σ1s14/72, mb4.6/42, 3C, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATAH	**Atahualpa**	**2.21**	**15**	P		**Pn**	**13 53 26.8**	**+1.4**
ATAH	106nm,0.3s,baz=177,slow=7.1,SNR=133			S		**Sn**	**13 53 51.3**	**-0.6**
NNA	**Nana**	**3.41**	**142**			**Pn**	**13 53 41.2**	**-0.1**
NNA	**Nana**	**3.41**	**142**	P		**Pn**	**13 53 41.9**	**+0.6**
NNA	187nm,0.4s,baz=313,slow=12,SNR=52			S		**Sn**	**13 54 22.0**	**+1.4**
CZSB	**Cruzeiro do Su**	**6.40**	**76**			**Pn**	**13 54 22.5**	**+0.2**
CZSB	**Cruzeiro do Su**	**6.40**	**76**	*e*P		**Pn**	**13 54 22.6**	**+0.2**
COHC	**Cochancay**	**6.78**	**358**			**Pn**	**13 54 28.5**	**+1.0**
FLOC	**Florencia**	**11.29**	**17**			**Pn**	**13 55 27.9**	**-1.5**
LPAZ	**La Paz**	**12.66**	**124**	P		**Pn**	**13 55 49.9**	**+1.4**
LPAZ	3.0nm,0.6s,baz=315,slow=12,SNR=9.6 2.3nm,0.7s,baz=206,slow=18,SNR=1.5			S		**Sn**	**13 58 10.8**	**+2.5**
LPAZ				LR		LR	14 00 37.2	
	comp=Z,71nm,20.5s,baz=302,slow=37							
PB16	**IPOC Station P**	**12.86**	**135**			**Pn**	**13 55 50.8**	**-0.4**
PB11	**IPOC Station P**	**13.78**	**140**	Pn		**Pn**	**13 56 02.7**	**-0.5**
GO01	**Chusmiza**	**14.01**	**139**	Pn		**Pn**	**13 56 06.7**	**+0.1**
HMBC	**Humberstone**	**14.02**	**142**	P		**Pn**	**13 56 06.1**	**-0.3**
ROSC	**El Rosal**	**14.78**	**19**	P		**Pn**	**13 56 17.4**	**+0.7**
ROSC	4.9nm,0.4s,baz=272,slow=21,SNR=1.3 7.0nm,0.3s,baz=344,slow=17,SNR=1.7			S		**Sn**	**13 59 01.4**	**+1.9**
PB02	**IPOC Station P**	**14.82**	**145**	P		**P**	**13 56 22.6**	**+1.1**
PB09	**IPOC Station P**	**15.57**	**144**	Pn		**Pn**	**13 56 27.6**	**+1.0**
PB05	**IPOC Station P**	**15.90**	**149**			**P**	**13 56 34.6**	**+1.1**
RUSC	**La Rusia**	**16.18**	**22**			**P**	**13 56 37.9**	**+1.0**
GO02	**Mina Guanaco**	**18.14**	**152**	P		**Pn**	**13 57 00.2**	**+1.5**
SIV	**San Ignacio**	**18.70**	**113**	P		**P**	**13 57 04.2**	**0.0**
SIV	2.4nm,0.5s,baz=307,slow=11,SNR=15 3.0nm,0.8s,baz=212,slow=19,SNR=3.4			S		**S**	**14 00 35.0**	**+0.9**
VILB	**Vilhena**	**18.79**	**103**	P		**Pn**	**13 57 05.7**	**-0.6**
VILB				IAmb		IAmb	13 57 35.5	
	comp=Z,17nm,0.6s							
VILB	**Vilhena**	**18.79**	**103**	*e*P		**P**	**13 57 03.8**	**-1.4**
AC06	**Mina Casimiro**	**19.74**	**157**			**Pn**	**13 57 19.4**	**+1.9**
PTLB	**Pontes e Lacer**	**20.32**	**109**			**P**	**13 57 22.5**	**+0.6**
PTLB	**Pontes e Lacer**	**20.32**	**109**	*e*P		**P**	**13 57 20.2**	**-1.7**
BAUV	**El Baul**	**21.13**	**31**	P		**P**	**13 57 31.5**	**+0.8**
BOAV	**Boa Vista**	**21.75**	**59**			**P**	**13 57 38.2**	**+1.0**
BOAV	**Boa Vista**	**21.75**	**59**	*e*P		**P**	**13 57 38.0**	**+0.7**
PDRB	**Porto dos Gac**	**22.00**	**98**	*e*P		**P**	**13 57 39.2**	**-0.8**
GO04	**Tololo Observa**	**22.14**	**161**	P		**P**	**13 57 42.9**	**+1.3**
GO04				IAmb		IAmb	13 58 04.3	
	comp=Z,16nm,0.8s							
CLDB	**Colider**	**22.88**	**96**	*e*P		**P**	**13 57 48.6**	**-0.8**
NPGB	**Novo Progresso**	**23.49**	**86**	*e*P		**P**	**13 57 54.0**	**-1.3**
ITTB	**Itaituba**	**23.59**	**80**	*e*P		**P**	**13 57 55.6**	**-0.6**
H03N2	**Juan Fernandez**	**24.04**	**180**	T		T	14 22 49.9	
	baz=359,slow=76,SNR=39							
H03N1	**Juan Fernandez**	**24.04**	**180**	T		T	14 22 48.9	
	baz=359,slow=76,SNR=33							
H03N3	**Juan Fernandez**	**24.05**	**180**	T		T	14 22 49.7	
	baz=359,slow=76,SNR=25							
AMBA	**Amambai (Brazi**	**26.69**	**123**	*e*P		**P**	**13 58 22.4**	**-1.9**
SNDB	**Serra Nova Dou**	**27.34**	**98**	*e*P		**P**	**13 58 29.2**	**-1.0**
PSAL	**Palomas, Salto**	**29.43**	**140**	*e*P		**P**	**13 58 46.9**	**-1.7**
PLTB	**Pedras Altas**	**32.48**	**137**	P		**P**	**13 59 15.8**	**+0.3**
TRQA	**Tornquist**	**32.48**	**155**	P		**P**	**13 59 15.5**	**0.0**
TRQA				IAmb		IAmb	13 59 43.7	
	comp=Z,18nm,1.5s							
VAS01	**Vassouras-RJ**	**36.45**	**115**	*e*P		**P**	**13 59 45.3**	**-4.7**
NBAN	**Anadia - AL**	**42.11**	**94**	*e*P		**P**	**14 00 37.1**	**-0.1**
833A	**Chaparral WMA,**	**42.28**	**333**	P		**P**	**14 00 39.5**	**+1.2**
TKL	**Tuckaleechee C**	**44.93**	**354**	LR		LR	14 20 37.0	
	comp=Z,48nm,19.3s,baz=170,slow=37							
TXAR	**Lajitas Array**	**45.17**	**329**	P		**P**	**14 01 01.5**	**-0.2**
TXAR	comp=Z,0.8nm,0.8s,baz=151,slow=11,SNR=9.0			PcP		**PcP**	**14 02 40.9**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=132,slow=3.7,SNR=3.6 comp=Z,0.8nm,0.8s							
X40A	**Basin Creek Fa**	**45.47**	**344**	P		**P**	**14 01 05.0**	**+1.2**
X40A				IAmb		IAmb	14 01 24.1	
	comp=Z,12nm,1.4s							
WHAR	**Wooly Hollow**	**46.08**	**345**	P		**P**	**14 01 09.4**	**+0.7**
MNHN	**Monahans**	**46.38**	**332**	P		**P**	**14 01 11.6**	**+0.4**
MNHN				IAmb		IAmb	14 01 12.4	
	comp=Z,5.2nm,0.7s							
FCAR	**Ozark Folk Cen**	**46.61**	**345**			**P**	**14 01 12.6**	**-0.2**
FCAR				IAmb		IAmb	14 01 28.4	
	comp=Z,8.7nm,1.0s							
VHRN	**Van Horn**	**47.01**	**329**	P		**P**	**14 01 16.4**	**+0.1**
POST	**Post**	**47.27**	**334**	IAmb		IAmb	14 01 19.0	
	comp=Z,7.4nm,0.8s							
DKNS	**Dickens**	**47.54**	**335**	IAmb		IAmb	14 01 21.4	
	comp=Z,6.6nm,0.8s							
MGMO	**Mountain Grove**	**47.85**	**346**	IAmb		IAmb	14 01 37.6	
	comp=Z,31nm,1.1s							
319A	**Douglas**	**49.77**	**326**	IAmb		IAmb	14 01 39.5	
	comp=Z,9.7nm,1.2s							
SADO	**Sadowa**	**53.80**	**360**	LR		LR	14 26 22.8	
	comp=Z,682nm,19.1s,baz=291,slow=37							
PV15	**Paradox Valley**	**54.79**	**332**	IAmb		IAmb	14 02 18.4	
	comp=Z,6.7nm,0.9s							
PV02	**Paradox Valley**	**54.81**	**331**	IAmb		IAmb	14 02 16.2	
	comp=Z,5.7nm,0.9s							
PV13	**Radium Mtn.,**	**54.81**	**331**	IAmb		IAmb	14 02 46.4	
	comp=Z,7.4nm,1.4s							
HWUT	**Hardware Ranch**	**58.82**	**332**	IAmb		IAmb	14 02 44.0	
	comp=Z,5.0nm,0.8s							
PDAR	**Pinedale Array**	**58.84**	**334**	P		**P**	**14 02 42.8**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=133,slow=10,SNR=6.1 comp=Z,0.7nm,0.7s							
HVU	**Hansel Valley**	**59.53**	**331**	P		**P**	**14 02 47.9**	**-0.1**
NVAR	**Mina Array Bea**	**59.97**	**325**	P		**P**	**14 02 51.0**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=126,slow=7.5,SNR=5.1 comp=Z,0.7nm,0.5s							
ULM	**Lac du Bonnet**	**61.09**	**348**	P		**P**	**14 02 57.3**	**-1.0**
	comp=Z,2.3nm,0.6s,baz=145,slow=7.3,SNR=3.2 comp=Z,2.3nm,0.6s							
YHL	**Hebgen Lake**	**61.22**	**334**			**P**	**14 03 00.6**	**+0.9**
YHL				IAmb		IAmb	14 03 01.4	
	comp=Z,5.3nm,0.7s							
VNA2	**Neumayer--Watz**	**75.29**	**161**	⇑P		**P**	**14 04 27.5**	**+0.6**
	comp=Z,2.9nm,0.6s,baz=323,slow=9.8							
SNAA	**Sanae**	**76.89**	**162**	⇑P		**P**	**14 04 36.3**	**+0.2**
	comp=Z,46nm,0.7s							
SNAA	**Sanae**	**76.89**	**162**	P		**P**	**14 04 35.8**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=284,slow=5.4,SNR=15 comp=Z,1.9nm,0.7s							
TROLL	**Troll, Antarti**	**78.60**	**162**	⇑P		**P**	**14 04 46.1**	**+0.4**
	comp=Z,150nm,0.8s							
QSPA	**South Pole Qui**	**80.83**	**180**	P		**P**	**14 04 59.8**	**+2.0**
QSPA				IAmb		IAmb	14 05 00.8	
	comp=Z,6.0nm,0.8s							
QSPA	**South Pole Qui**	**80.83**	**180**	P		**P**	**14 04 59.0**	**+1.2**
	comp=Z,6.3nm,0.9s,baz=154,slow=1.0,SNR=27 comp=Z,6.3nm,0.9s							
TORD	**Torodi Ar. Bea**	**83.14**	**76**	P		**P**	**14 05 11.0**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=282,slow=4.7,SNR=16 comp=Z,3.3nm,0.8s							
ESDC	**Sonseca Array**	**84.55**	**48**	P		**P**	**14 05 17.6**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=264,slow=4.0,SNR=5.6 comp=Z,1.1nm,0.7s							
L29M	**L29M**	**84.98**	**337**	IAmb		IAmb	14 05 20.2	
	comp=Z,8.5nm,1.4s							
I30M	**Mount Dempster**	**85.48**	**339**	IAmb		IAmb	14 05 24.1	
	comp=Z,5.8nm,1.4s							
M27K	**Edge Creek, AK**	**86.10**	**335**	IAmb		IAmb	14 05 26.0	
	comp=Z,7.3nm,1.2s							
VRDI	**Verde Repeater**	**86.24**	**334**	IAmb		IAmb	14 05 26.4	
	comp=Z,6.3nm,1.2s							
BCAR	**Beaver Creek A**	**86.40**	**336**	P		**P**	**14 05 25.8**	**-0.5**
L27K	**Beaver Creek,**	**86.42**	**336**	IAmb		IAmb	14 05 27.3	
	comp=Z,4.6nm,0.9s							
I28M	**Miner Creek**	**86.87**	**339**	IAmb		IAmb	14 05 28.8	
	comp=Z,4.5nm,1.0s							
KLU	**Klutina**	**87.43**	**334**	IAmb		IAmb	14 05 31.8	
	comp=Z,5.0nm,1.0s							
J26L	**Joseph Creek**	**87.77**	**337**	IAmb		IAmb	14 05 33.6	
	comp=Z,4.4nm,0.8s							
PAX	**Paxson**	**87.86**	**335**	IAmb		IAmb	14 05 33.5	
	comp=Z,5.6nm,1.0s							
RIDG	**Independent Ri**	**87.94**	**336**	IAmb		IAmb	14 05 34.7	
	comp=Z,6.7nm,1.1s							
E28M	**Babbage River**	**88.34**	**341**	IAmb		IAmb	14 05 37.8	
	comp=Z,4.9nm,1.2s							
J25K	**Salcha River,**	**88.52**	**337**	IAmb		IAmb	14 05 37.0	
	comp=Z,3.0nm,0.8s							
ILAR	**Eielson Array**	**89.18**	**337**	P		**P**	**14 05 38.6**	**-0.8**
ILAR	**Eielson Array**	**89.18**	**337**	P		**P**	**14 05 38.8**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=150,slow=3.3,SNR=19 comp=Z,1.6nm,0.9s							
CCB	**Clear Creek Bu**	**89.49**	**336**	IAmb		IAmb	14 05 41.3	
	comp=Z,3.0nm,0.9s							
WRH	**Wood River Hil**	**89.54**	**336**	IAmb		IAmb	14 05 42.0	
	comp=Z,4.0nm,0.9s							
F25K	**Christian Rive**	**89.89**	**339**	IAmb		IAmb	14 05 44.2	
	comp=Z,2.9nm,0.9s							
H24K	**Noodor Dome**	**89.99**	**337**	IAmb		IAmb	14 05 44.0	
	comp=Z,4.9nm,0.9s							
E25K	**Arctic Village**	**90.09**	**340**	IAmb

TPUB	Ta-pu	9.59	26			Pn	14 00 50.7	-1.6	
TPUB	Ta-pu	9.59	26	P		Pn	14 00 52.8	+0.5	
MYLDM	Lahad Datu	9.70	166			Pn	14 00 55.8	+1.9	
MYLDM	Lahad Datu	9.70	166	P		Pn	14 00 55.9	+2.0	
YULB	Yu-li	9.96	28			Pn	14 00 56.8	-0.7	
YULB	Yu-li	9.96	28	P		Pn	14 00 56.8	-0.7	
KNMB	Chin-men Tao	9.98	12			Pn	14 00 56.6	-1.1	
SSLB	Suanglung	10.15	26			Pn	14 00 59.2	-1.0	
SSLB	Suanglung	10.15	26	P		Pn	14 00 59.8	-0.3	
QZH	Quanzhou	10.49	12	P		Pn	14 01 04.6	-0.1	
QZH				S		Sn	14 03 11.8	+10	
QZH				LR		LR			
	comp=N,5µm,10.6s								
QZH				LR		LR			
	comp=E,4µm,11.3s								
QZH				LR		LR			
	comp=Z,7µm,10.4s								
NACB	Ninganchiao	10.77	28			Pn	14 01 08.5	0.0	
NACB	Ninganchiao	10.77	28	P		Pn	14 01 09.4	+0.9	
YHNB	Yeheng	11.11	25			Pn	14 01 12.4	-0.8	
YHNB	Yeheng	11.11	25	P		Pn	14 01 13.0	-0.3	
GULI	GuiLin	11.89	334	P		Pn	14 01 20.0	-3.9	
GULI				pmax		pmax			
	comp=Z,270nm,0.6s								
GULI				AMB		AMB			
	comp=Z,830nm,7.4s								
DAV	Davao City (W)	11.94	128	LR		LR	14 06 09.8		
	comp=Z,5µm,18.8s,baz=308,slow=38								
DAV	Davao City (W)	11.94	128	P		Pn	14 01 27.0	+2.4	
SBUM	Sibu	12.73	198			Pn	14 01 37.0	+1.6	
SBUM	Sibu	12.73	198	P		Pn	14 01 37.1	+1.6	
SLVN	Son La	13.40	301			Pn	14 01 42.5	-2.2	
SLVN	Son La	13.40	301	P		Pn	14 01 45.8	+1.2	
CNSH	ChangSha	13.79	348	P		Pn	14 01 49.8	0.0	
CNSH				S		Sn	14 04 18.1	-4.5	
CNSH				pmax		pmax			
	comp=Z,140nm,1.1s								
CNSH				LR		LR			
	comp=Z,5µm,12.7s								
CNSH				LR		LR			
	comp=Z,9µm,11.7s								
CNSH				LR		LR			
	comp=Z,6µm,12.2s								
TOLI2	Tolitoli	14.22	161			Pn	14 01 57.2	+1.4	
TOLI2	Tolitoli	14.22	161	P		Pn	14 01 58.0	+2.3	
SGSI	Sangihe	14.29	139	P		Pn	14 01 57.5	+0.7	
	comp=Z,3µmcomp=Z,210nm,1.1s								
KSM	Kuching	14.31	204			Pn	14 01 58.8	+1.7	
KSM	Kuching	14.31	204	P		Pn	14 01 59.3	+2.2	
SMKI	Samarinda	15.04	176	P		P	14 02 10.1	-2.2	
	comp=Z,195nm,0.6s								
MRSI	Marisa	15.21	157	P		P	14 02 12.2	-1.9	
	comp=Z,47nm,0.5s								
STKI	Sintang	15.22	198	P		Pn	14 02 10.8	+1.5	
	comp=Z,139nm,1.3s								
BKB	Balikpapan	15.83	177	P		P	14 02 19.4	-1.6	
	comp=Z,280nm,1.7s								
PCI	Palu	15.89	166	P		Pn	14 02 18.8	+0.8	
	comp=Z,127nm,1.2s								
WHN	Wuhan	15.90	354	P		Pn	14 02 19.3	+1.2	
WHN				pP		pP	14 02 23.5	-1.5	
WHN				pmax		pmax			
	comp=Z,800nm,1.5s								
WHN				LR		LR			
	comp=Z,13µm,9.3s								
WHN				LR		LR			
	comp=Z,6µm,7.6s								
WHN				LR		LR			
	comp=Z,16µm,10.3s								
KMSI	Cibinong	15.99	150	P		P	14 02 21.3	-1.5	
KMI	Kunming	16.34	312	⇓P		P	14 02 26.6	-0.3	
KMI				S		Sn	14 05 30.3	+5.1	
KMI				pmax		pmax			
	comp=Z,60nm,1.8s								
KMI				pmax		pmax			
	comp=Z,1µm,4.2s								
KMI				LR		LR			
	comp=Z,3µm,13.6s								
KMI				LR		LR			
	comp=Z,5µm,15.2s								
KMI				LR		LR			
	comp=Z,7µm,14.9s								
APSI	Ampana	16.40	160	P		Pn	14 02 25.8	+1.2	
	comp=Z,3µmcomp=Z,110nm,1.0s								
JOW	Kunigami	16.58	41	Pn		Pn	14 02 25.9	-0.9	
	comp=Z,4.6nm,0.3s,baz=199,slow=8.6,SNR=3.7								
JOW				LR		LR	14 08 38.7		
	comp=Z,532nm,19.0s,baz=135,slow=37								
	comp=Z,13nm,0.4s								
JOW	Kunigami	16.58	41	P		Pn	14 02 27.2	+0.4	
ENH	Enshi	16.71	340	Pn		Pn	14 02 26.9	-1.6	
ENH	Enshi	16.71	340	P		Pn	14 02 29.0	+0.5	
LUWI	Luwuk	16.92	157	P		P	14 02 33.1	0.0	
LUWI	Luwuk	16.92	157	P		P	14 02 32.8	-0.3	
	comp=Z,4µmcomp=Z,4µmcomp=Z,306nm,1.5s								
CM31	Chiang Mai Arr	16.92	285	P		Pn	14 02 31.7	+0.5	
	SNR=84								
CMAR	Chiang Mai Arr	16.92	285			Pn	14 02 31.0	-0.2	
CMAR	Chiang Mai Arr	16.92	285	Pn		Pn	14 02 31.6	+0.5	
	comp=Z,0.5nm,0.3s,baz=103,slow=11,SNR=63								
CMAR				PcP		PcP	14 07 18.9	+1.0	
	comp=Z,7.0nm,0.8s,baz=232,slow=0.3,SNR=12								
CMAR				LR		LR	14 10 04.3		
	comp=Z,1µm,18.0s,baz=105,slow=41								
	comp=Z,108nm,1.2s								
CMAR	Chiang Mai Arr	16.92	285	*i* P		Pn	14 02 31.7	+0.5	
CMAR				pmax		pmax			
	comp=Z,120nm,1.3s								
CHTO	Chiang Mai	16.99	286			Pn	14 02 31.8	-0.2	
CHTO	Chiang Mai	16.99	286	P		Pn	14 02 32.0	0.0	
CHTO	Chiang Mai	16.99	286	P		Pn	14 02 32.4	+0.4	
CHTO	Chiang Mai	16.99	286	P		Pn	14 02 31.8	-0.2	
CHTO				pmax		pmax			
	comp=Z,140nm,1.4s								
SSE	Sheshan	17.00	15	P		Pn	14 02 32.9	+0.8	
SSE				S		Sn	14 05 41.4	+0.5	
SSE				pmax		pmax			
	comp=Z,31nm,1.6s								
SSE				pmax		pmax			
	comp=Z,240nm,5.5s								
SSE				LR		LR			
	comp=Z,970nm,9.1s								
SSE				LR		LR			
	comp=Z,740nm,9.6s								
SURA	Surathani	17.05	253	P		P	14 02 34.3	-0.3	
NJ2	Nanjing	17.49	8	*eP*		Pn	14 02 37.1	-1.1	
NJ2				sP		pwP	14 02 49.2	+0.9	
NJ2				pmax		pmax			
	comp=Z,70nm,1.2s								
NJ2				LR		LR			
	comp=Z,3µm,10.9s								
NJ2				LR		LR			
	comp=Z,2µm,9.5s								
NJ2				LR		LR			
	comp=Z,3µm,10.6s								
TNTI	Ternate	17.70	140	Pn		Pn	14 02 40.3	-0.7	
TNTI				IAmb		IAmb	14 02 51.0		
	comp=Z,765nm,1.4s								
TNTI	Ternate	17.70	140	P		P	14 02 42.3	+0.6	
TNTI	Ternate	17.70	140	P		Pn	14 02 39.3	-1.6	
	comp=Z,5µmcomp=Z,385nm,1.5s								
TPRI	Tanjung Pinang	17.84	221	P		Pn	14 02 40.0	-2.7	
	comp=Z,3µmcomp=Z,155nm,1.0s								
KULM	Kulim	17.86	240			P	14 02 43.9	+0.3	
KULM	Kulim	17.86	240	P		P	14 02 45.6	+2.0	
PZH	PanZhiHua	17.89	313	⇓P		P	14 02 46.0	+2.1	
PZH				pP		sP	14 02 48.8	-0.1	
PZH				S		Sn	14 06 04.4	+1.7	
PZH				SS		S	14 06 20.5	+11	
PZH				pmax		pmax			
	comp=Z,90nm,1.6s								
PZH				pmax		pmax			
	comp=Z,2µm,6.7s								
PZH				LR		LR			
	comp=Z,3µm,16.9s								
PZH				LR		LR			
	comp=Z,4µm,15.5s								
PZH				LR		LR			
	comp=Z,4µm,17.7s								
TTSI	Tana Toraja	17.96	168	P		P	14 02 46.0	+1.4	
	comp=Z,2µmcomp=Z,117nm,1.4s								
BTDF	Bukit Timah Da	18.00	224	P		P	14 02 46.5	+1.4	
IPM	Ipoh	18.00	237			P	14 02 45.8	+0.7	
IPM	Ipoh	18.00	237	P		P	14 02 47.5	+2.4	
SPSI	Sidrap Palu	18.85	169	P		Pn	14 02 57.0	+2.1	
	comp=Z,2µmcomp=Z,76nm,1.0s								
DSRI	Dabo	18.90	218	P		Pn	14 02 59.9	+4.3	
TPI	Tanjungpandan	19.24	207	P		Pn	14 03 02.7	+3.0	
SANI	Sanana	19.25	149	P		Pn	14 03 01.7	+1.9	
SANI	Sanana	19.25	149	P		P	14 02 59.4	+0.6	
BNSI	Bone	19.34	168	P		Pn	14 03 01.9	+1.1	
TNCH	TengChong	19.51	305	⇑P		Pn	14 03 03.3	+0.2	
TNCH				pP		pP	14 03 05.8	+0.6	
TNCH				sP		pwP	14 03 09.2	-1.6	
TNCH				PP		PnPn	14 03 21.4	+4.9	
TNCH				S		S	14 06 42.8	+0.9	
TNCH				sS		sS	14 06 49.7	+2.4	
TNCH				SS		SnSn	14 07 06.5	+10	
TNCH				pmax		pmax			
	comp=Z,290nm,1.5s								
TNCH				pmax		pmax			
	comp=Z,1µm,3.1s								
TNCH				LR		LR			
	comp=Z,1µm,10.4s								
TNCH				LR		LR			
	comp=Z,2µm,12.9s								
TNCH				LR		LR			
	comp=Z,3µm,18.4s								
CD2	Chengdu	19.78	327	P		P	14 03 04.8	+0.3	
CD2				S		Sn	14 06 52.6	+4.6	
CD2				pmax		pmax			
	comp=Z,190nm,0.8s								
CD2				pmax		pmax			
	comp=Z,3µm,4.2s								
CD2				LR		LR			
	comp=Z,6µm,13.4s								
CD2				LR		LR			
	comp=Z,8µm,11.2s								
CD2				LR		LR			
	comp=Z,5µm,13.5s								
KAPI	Kappang	19.87	169			Pn	14 03 06.8	-0.4	
KAPI	Kappang	19.87	169	P		Pn	14 03 07.1	0.0	
	comp=Z,1.0nm,0.3s,baz=345,slow=5.1,SNR=12								
KAPI				S		Sn	14 06 50.2	-0.1	
	comp=Z,11nm,0.3s,baz=177,slow=14,SNR=6.3								
	comp=Z,95nm,1.2s								
KAPI	Kappang	19.87	169	S		Sn	14 06 54.0	+3.7	
KAPI	Kappang	19.87	169	P		Pn	14 03 07.2	0.0	
KAPI	Kappang	19.87	169	*ce*P		Pn	14 03 06.9	-0.3	
KAPI				pmax		pmax			
	comp=Z,47nm,1.0s								
LYN	LuoYang	20.09	351	P		Pn	14 03 08.7	-0.9	
LYN				pP		sP	14 03 12.0	-0.8	
LYN				S		S	14 06 53.1	+0.1	
LYN				sS		sS	14 06 58.0	-0.4	
LYN				SS		SnSn	14 07 18.9	+8.7	
LYN				pmax		pmax			
	comp=Z,170nm,1.2s								
LYN				pmax		pmax			
	comp=Z,2µm,4.9s								
LYN				LR		LR			
	comp=Z,4µm,11.3s								
LYN				LR		LR			
	comp=Z,4µm,9.6s								
LYN				LR		LR			
	comp=Z,5µm,11.3s								
BKSI	Bulukumba	20.24	168	P		Pn	14 03 11.8	+0.3	
XAN	Xi'an	20.38	343	⇑P		P	14 03 10.8	-0.2	
XAN				pP		sP	14 03 16.2	+0.2	
XAN				sP		pwP	14 03 19.6	-0.4	
XAN				S		S	14 07 00.0	+1.1	
XAN				PcP		PcP	14 07 24.1	+0.4	
XAN				pmax		pmax			
	comp=Z,95nm,1.2s								
XAN				pmax		pmax			
	comp=Z,1µm,5.5s								
XAN				LR		LR			
	comp=Z,3µm,12.7s								
XAN				LR		LR			
	comp=Z,7µm,13.1s								
XAN				LR		LR			
	comp=Z,3µm,16.5s								
TSI	Tuntungan	20.58	239	P		Pn	14 03 17.9	+2.3	
	comp=Z,4µmcomp=Z,7µmcomp=Z,351nm,1.9s								
BKNI	Bangkinang	20.64	228	P		Pn	14 03 16.7	+0.4	
BKNI	Bangkinang	20.64	228	P		Pn	14 03 17.1	+0.8	
	comp=Z,9µmcomp=Z,595nm,1.4s								
PSI	Prapat	20.68	237	P		Pn	14 03 17.2	+0.3	
	comp=Z,118nm,1.1s,baz=41,slow=9.8,SNR=46								
PSI				LR		LR	14 10 59.6		
	comp=Z,806nm,19.5s,baz=340,slow=36								
	comp=Z,118nm,1.1s								
PSI	Prapat	20.68	237	P		Pn	14 03 17.5	+0.6	
RPSI	Rantau Prapat	20.74	237	P		Pn	14 03 17.2	-0.3	
RPSI	Rantau Prapat	20.74	237			P	14 03 15.5	+0.5	
RPSI				IAmb		IAmb	14 03 20.5		
	comp=Z,306nm,1.3s								
NLAI	Namlea	20.83	148	P		Pn	14 03 19.6	+1.1	
	comp=Z,3µmcomp=Z,3µmcomp=Z,163nm,1.1s								
LHMI	Lhok Sumawe	21.09	246	P		P	14 03 19.1	+0.3	
LHMI				IAmb		IAmb	14 03 25.0		
	comp=Z,207nm,0.9s								
LHMI	Lhok Sumawe	21.09	246	P		P	14 03 20.1	+1.3	
LHMI	Lhok Sumawe	21.09	246	P		P	14 03 23.7	+4.9	
	comp=Z,4µmcomp=Z,299nm,1.2s								
BSSI	Bau Bau, Buton	21.11	168	P		P	14 03 23.4	+4.4	
	comp=Z,2µmcomp=Z,157nm,1.6s								
KCSI	Kotacane, Aceh	21.23	240	P		P	14 03 21.9	+1.5	
	comp=Z,118nm,1.4s								
MNSI	Mandailing Nat	21.40	231	P		P	14 03 24.1	+1.9	
	comp=Z,3µmcomp=Z,176nm,1.2s								
SWI	Sorong	21.48	135	P		P	14 03 23.4	+0.4	
	comp=Z,3µmcomp=Z,2µmcomp=Z,106nm,1.2s								
TIA	Tai'an	21.48	2	P		P	14 03 23.1	+0.2	
TIA				PcP		PcP	14 07 24.7	-1.0	
TIA				pmax		pmax			
	comp=Z,160nm,1.1s								
TIA				pmax		pmax			
	comp=Z,1µm,7.0s								
TIA				LR		LR			
	comp=Z,3µm,9.6s								
TIA				LR		LR			
	comp=Z,1µm,10.2s								
TIA				LR		LR			
	comp=Z,3µm,10.2s								
PPI	Padang Panjang	21.64	227	P		P	14 03 27.4	+2.6	
	comp=Z,3µmcomp=Z,216nm,1.1s								
KMMI	Kalianget	21.67	186	P		P	14 03 27.1	+2.0	
	comp=Z,106nm,1.4s								
GRJI	Gresik	21.74	190	P		P	14 03 28.7	+2.9	
	comp=Z,194nm,0.9s								
TBJI	Tambak Boyo	21.76	192	P		P	14 03 27.5	+1.5	
	comp=Z,414nm,1.2s								
AAI	Ambon	21.79	146	P		P	14 03 27.7	+1.4	
	comp=Z,3µmcomp=Z,216nm,1.2s								
PDSI	Padang	21.91	226	P		P	14 03 29.8	+2.1	
	comp=Z,4µmcomp=Z,228nm,1.5s								
MSAI	Masohi	21.92	144	P		P	14 03 31.2	+3.5	
	comp=Z,4µmcomp=Z,329nm,1.1s								
MLSI	Meulaboh, Aceh	22.02	244	P		P	14 03 31.5	+2.7	
	comp=Z,5µmcomp=Z,250nm,1.4s								
KRJI	Kerinci	22.10	222	P		P	14 03 33.8	+4.0	
LHSI	Lahat	22.22	215	P		P	14 03 33.9	+2.9	
	comp=Z,6µmcomp=Z,427nm,1.3s								
NGJI	Ngawi	22.37	192	P		P	14 03 35.1	+2.5	
	comp=Z,132nm,1.1s								
KLI	Kotabumi	22.39	211	P		P	14 03 36.2	+3.4	
	comp=Z,379nm,1.0s								
BLJI	Banyuglugur	22.40	187	P		P	14 03 35.6	+2.7	
MDSI	Maura Dua	22.42	213	P		P	14 03 34.7	+1.6	
	comp=Z,4µmcomp=Z,196nm,1.2s								
MASI	Maura Aman, Be	22.42	219	P		P	14 03 37.0	+3.8	
KSI	Kapahiang	22.61	217	P		P	14 03 38.5	+3.2	
	comp=Z,4µmcomp=Z,347nm,1.0s								
BLSI	Bandar Lampung	22.64	209	P		P	14 03 39.3	+3.8	
	comp=Z,3µmcomp=Z,113nm,1.0s								
GSI	Gunungsitoli	22.64	236	P		P	14 03 35.1	-0.5	
GSI	Gunungsitoli	22.64	236	P		P	14 03 37.7	+2.2	
GSI	Gunungsitoli	22.64	236	P		P	14 03 36.5	+1.0	
	comp=Z,130nm,1.0s								
HNS	HongShan	22.69	357	⇑P		P	14 03 35.8	0.0	
HNS				S		S	14 07 41.8	-1.7	
HNS				pmax		pmax			
	comp=Z,81nm,1.5s								
HNS				pmax		pmax			
	comp=Z,2µm,5.2s								
HNS				LR		LR			
	comp=Z,7µm,10.8s								
HNS				LR		LR			
	comp=Z,2µm,10.3s								
HNS				LR		LR			
	comp=Z,6µm,10.8s								
LKP	Lekhapani	22.72	307	*e*P		P	14 03 31.1	-5.2	
LKP				IAmb		IAmb	14 03 40.0		
	comp=Z,108nm,1.1s								
JNU	Nakatsue	22.74	34	IAmb		IAmb	14 03 39.7		
	comp=Z,252nm,1.1s								
JNU	Nakatsue	22.74	34	P		P	14 03 36.8	+0.4	
SBJI	Serang	22.91	206	P		P	14 03 42.1	+3.8	
LWLI	Liwa	22.93	212	P		P	14 03 41.7	+3.1	
PBSI	Pulau Batu	22.93	232	P		P	14 03 39.7	+1.1	
	comp=Z,295nm,1.6s								
WOJI	Wonogiri, Jawa	22.94	193	P		P	14 03 41.6	+3.0	
	comp=Z,140nm,1.5s								
LEM	Lembang	22.96	202	P		P	14 03 41.5	+2.5	
	comp=Z,5µmcomp=Z,232nm,1.3s								
MNAI	Manna	22.98	216	P		P	14 03 41.4	+2.4	
KPJI	Karang Pucung	22.99	199	P		P	14 03 42.0	+2.9	
	comp=Z,5µmcomp=Z,181nm,1.7s								
SNSI	Sinabang, Aceh	23.04	240	P		P	14 03 41.2	+1.5	
	comp=Z,197nm,1.8s								
DBJI	Dramaga	23.04	204	P		P	14 03 43.2	+3.5	
JAGI	Jajag, Banyuwa	23.06	185	P		P	14 03 41.5	+1.6	
JAGI				IAmb		IAmb	14 03 51.2		
	comp=Z,311nm,1.5s								
JAGI	Jajag, Banyuwa	23.06	185	P		P	14 03 41.7	+1.8	
CMBY	CAMPBELL BAY	23.09	253	*e*P		P	14 03 35.0	-5.2	
CMBY				IAmb		IAmb	14 03 45.3		
	comp=Z,480nm,1.6s								
JTU	Tsushima	23.12	29	P		P	14 03 40.6	+0.3	
KASI	Kota Agung	23.14	211	P		P	14 03 42.8	+2.1	
	comp=Z,4µmcomp=Z,197nm,1.0s								
SISI	Saibi	23.18	228	P		P	14 03 42.2	+1.1	
	comp=Z,5µmcomp=Z,379nm,1.3s								
IMP	Imphal	23.19	299	*e*P		P	14 03 36.0	-5.2	
IMP				IAmb		IAmb	14 03 44.9		
	comp=Z,101nm,1.2s								
TIY	Taiyuan	23.20	353	P		P	14 03 41.0	-0.2	
TIY				S		S	14 07 50.4	-2.1	
TIY				pmax		pmax			
	comp=Z,59nm,1.5s								
TIY				pmax		pmax			
	comp=Z,1µm,3.9s								
TIY				LR		LR			
	comp=Z,4µm,11.7s								
TIY				LR		LR			
	comp=Z,2µm,12.4s								
TIY				LR		LR			
	comp=Z,2µm,13.7s								
DNP	Denpasar	23.20	182	P		P	14 03 43.1	+1.8	
	comp=Z,239nm,1.0s								
PCJI	Pacitan	23.23	193	P		P	14 03 44.9	+3.3	
	comp=Z,182nm,1.3s								
TWSI	Taliwang, Sumb	23.25	178	P		P	14 03 42.9	+1.1	
	comp=Z,4µmcomp=Z,239nm,1.1s								
PLAI	Plampang	23.39	176	P		P	14 03 44.4	+1.3	
PLAI	Plampang	23.39	176	P		P	14 03 44.6	+1.5	
	comp=Z,5µmcomp=Z,256nm,1.3s								
KOHI	KOHIMA	23.39	302	*e*P		P	14 03 38.5	-4.9	
KOHI				IAmb		IAmb	14 03 46.7		
	comp=Z,649nm,1.7s								
BNDI	Bandanaira	23.43	143	P		P	14 03 45.9	+2.3	
BNDI	Bandanaira	23.43	143	P		P	14 03 45.7	+2.1	
SKJI	Sukabumi	23.53	204	P		P	14 03 48.7	+4.1	
BBJI	Bungbulang	23.54	202	P		P	14 03 46.7	+2.0	
CGJI	Cibinong	23.54	207	P		P	14 03 46.0	+1.4	
	comp=Z,3µmcomp=Z,195nm,1.3s								
PPSI	Pulau Pagai	23.56	224	P		P	14 03 46.6	+1.7	
	comp=Z,7µmcomp=Z,386nm,1.7s								
CNJI	Cibinong	23.59	203	P		P	14 03 47.3	+2.2	
	comp=Z,3µmcomp=Z,238nm,1.2s								
FAKI	Fak Fak	23.65	136	P		P	14 03 47.2	+1.4	
	comp=Z,2µmcomp=Z,130nm,1.1s								
TJN	Taejon	23.84	23	P		P	14 03 47.5	+0.1	
TJN	Taejon	23.84	23	*c* P		P	14 03 47.2	-0.2	
AZL	Aizawl	23.89	296	*e*P		P	14 03 43.0	-5.2	
AZL				IAmb		IAmb	14 03 52.3		
	comp=Z,1µm,2.0s								
EDFI	Ende, Flores	23.89	166	P		P	14 03 48.4	+0.2	
	comp=Z,3µmcomp=Z,123nm,0.8s								
MMRI	Maumere	23.92	165	IAmb		IAmb	14 03 58.6		
	comp=Z,248nm,1.5s								
MMRI	Maumere	23.92	165	P		P	14 03 50.0	+1.7	
MMRI	Maumere	23.92	165	P		P	14 03 49.2	+0.9	
	comp=Z,2µmcomp=Z,132nm,1.4s								
LZDM	Lanzhou Array	23.97	334	P		P	14 03 49.6	+0.6	
	comp=Z,13nm,0.7s,baz=175,slow=7.4,SNR=15								
LZDM				PcP		PcP	14 07 32.8	+1.6	
	comp=Z,7.4nm,0.5s,baz=197,slow=4.6,SNR=6.8								
LZDM				LR		LR	14 13 03.2		
	comp=Z,1µm,20.4s,baz=270,slow=36								
RKPI	Ransiki, Papua	24.01	131	P		P	14 03 51.0	+1.7	
LZH	Lanzhou	24.02	335	⇑P		P	14 03 50.2	+0.9	
LZH				pP		sP	14 03 55.7	+1.3	
LZH				PcP		PcP	14 07 32.8	+1.7	
LZH				S		S	14 08 06.7	+0.8	
LZH				pmax		pmax			
	comp=Z,120nm,1.3s								
LZH				pmax		pmax			
	comp=Z,2µm,4.5s								
LZH				LR		LR			
	comp=Z,3µm,12.4s								
LZH				LR		LR			
	comp=Z,3µm,12.0s								
LZH				LR		LR			
	comp=Z,4µm,11.3s								
SILR	SILCHAR	24.14	298	*e*P		P	14 03 45.1	-5.2	
SILR				IAmb		IAmb	14 03 57.2		
	comp=Z,148nm,0.8s								
WBSI	Waikabubak, Su	24.35	172	P		P	14 03 53.2	+0.8	
	comp=Z,2µmcomp=Z,143nm,1.2s								
ZIRO	ZIRO	24.38	305	*e*P		P	14 03 47.6	-5.2	
ZIRO				IAmb		IAmb	14 03 56.8		
	comp=Z,178nm,1.1s								
WSI	Waingapu	24.52	170	P		P	14 03 55.7	+1.9	
	comp=Z,6µmcomp=Z,190nm,1.1s								
BRDH	Bariadhala	24.52	293	LR		LR	14 15 20.7		
	comp=Z,3µm,18.2s,baz=144,slow=41								
INCN	Inchon	24.57	20	P		P	14 03 53.9	-0.3	
INCN	Inchon	24.57	20	P		P	14 03 54.6	+0.4	
INCN	Inchon	24.57	20	P		P	14 03 54.5	+0.3	
INCN	Inchon	24.57	20	P		P	14 03 53.9	-0.3	
INCN				pmax		pmax			
	comp=Z,273nm,1.1s								
DL2	Dalian	24.63	10	P		P	14 03 54.7	0.0	
DL2				S		S	14 08 16.0	+0.6	
DL2				pmax		pmax			
	comp=

comp=Z,100nm,1.0s
BJI Beijing 25.29 0 P **P** **14 04 00.8 +0.2**
BJI pP **sP** **14 04 05.0 -0.7**
BJI PP **PnPn** **14 04 39.0 +3.7**
BJI PcP **PcP** **14 07 34.4 +0.9**
BJI S **S** **14 08 23.7 -2.2**
BJI sS **sS** **14 08 31.4 -0.5**
BJI pmax pmax
comp=Z,50nm,1.0s
BJI pmax pmax
comp=Z,710nm,4.1s
BJI LR LR
comp=Z,1μm,13.9s
BJI LR LR
comp=Z,680nm,11.2s
BJI LR LR
comp=Z,1μm,12.8s
SOEI Soe 25.55 161 **P** **14 04 03.0 -0.4**
SOEI IAmb IAmb 14 04 21.5
comp=Z,149nm,1.1s
SOEI Soe 25.55 161 P **P** **14 04 03.0 -0.4**
SOEI Soe 25.55 161 P **P** **14 04 06.3 +2.9**
comp=Z,2μmcomp=Z,107nm,0.9s
GUWA GUWAHATI 25.58 301 *e*P **P** **14 03 58.6 -4.9**
GUWA IAmb IAmb 14 04 07.7
comp=Z,149nm,1.0s
SRPI Serui, Papua 25.80 128 P **P** **14 04 07.0 +1.5**
comp=Z,88nm,0.7s
BATI Baumata 25.80 163 LR LR 14 15 52.8
comp=Z,511nm,18.1s,baz=343,slow=40
BATI Baumata 25.80 163 P **P** **14 04 06.4 +0.9**
comp=Z,2μmcomp=Z,103nm,1.2s
BTO Baotou 26.40 349 *e*P **P** **14 04 11.9 +1.1**
BTO pP **sP** **14 04 16.1 +0.1**
BTO sP **pwP** **14 04 19.0 -1.1**
BTO PP **PnPn** **14 04 56.1 +5.5**
BTO S **S** **14 08 46.0 +2.3**
BTO sS **sS** **14 08 51.9 +2.1**
BTO SS **SnSn** **14 09 54.4 +10**
BTO pmax pmax
comp=Z,150nm,1.0s
BTO pmax pmax
comp=Z,1μm,6.0s
BTO LR LR
comp=Z,5μm,12.2s
BTO LR LR
comp=Z,7μm,12.2s
BTO LR LR
comp=Z,5μm,11.7s
HHC Hu-ho-hao-te 26.40 352⇓ *i*P **P** **14 04 11.4 +0.6**
HHC S **S** **14 08 48.1 +4.4**
HHC pmax pmax
comp=Z,88nm,1.3s
HHC pmax pmax
comp=Z,410nm,5.9s
HHC LR LR
comp=Z,2μm,10.9s
HHC LR LR
comp=Z,1μm,12.9s
HHC LR LR
comp=Z,2μm,11.0s
LSA Lhasa 27.48 307 P **P** **14 04 20.2 -0.9**
LSA S **S** **14 09 03.0 +1.3**
LSA LR LR
comp=Z,2μm,19.1s
LSA LR LR
comp=Z,950nm,17.5s
LSA Lhasa 27.48 307 P **P** **14 04 21.9 +0.8**
LSA P **P** **14 04 21.9 +0.8**
SMPI Sarmi 27.80 125 P **P** **14 04 24.2 +0.7**
comp=Z,2μmcomp=Z,101nm,1.1s
SNY Shenyang 27.83 12⇑ P **P** **14 04 22.7 -0.8**
SNY S **S** **14 08 57.7 -8.3**
SNY pmax pmax
comp=Z,110nm,0.9s
SNY LR LR
comp=Z,700nm,12.1s
SNY LR LR
comp=Z,1μm,12.1s
SNY LR LR
comp=Z,1μm,13.3s
INU Inuyama 27.86 39 IAmb IAmb 14 04 26.7
comp=Z,93nm,1.0s
INU Inuyama 27.86 39 P **P** **14 04 24.4 +0.5**
GUMO Guam 27.87 89 LR LR 14 14 53.8
comp=Z,702nm,19.8s,baz=261,slow=35
JGF Kuroka 28.23 39 P **P** **14 04 27.4 +0.1**
JHJ Hachijo jima 2 28.25 45 LR LR 14 15 47.2
comp=Z,177nm,18.9s,baz=260,slow=37
GTA Gaotai 28.53 333 P **P** **14 04 31.3 +1.3**
GTA sP pwP 14 04 39.4 +0.1
GTA PcP **PcP** **14 07 42.3 +0.8**
GTA S **S** **14 09 19.4 +2.0**
GTA PcS **PcS** **14 11 23.1 -0.9**
GTA ScS **ScS** **14 15 16.0 +0.5**
GTA pmax pmax
comp=Z,70nm,1.0s
GTA pmax pmax
comp=Z,610nm,7.2s
GTA LR LR
comp=Z,2μm,15.1s
GTA LR LR
comp=Z,3μm,15.5s
GTA LR LR
comp=Z,2μm,14.3s
GOMU GeErMu 28.71 322 P **P** **14 04 32.5 +0.6**
GOMU pP pP 14 04 35.5 0.0
GOMU sP pwP 14 04 40.0 -1.2
GOMU S **S** **14 09 21.6 +0.9**
GOMU pmax pmax
comp=Z,14nm,0.9s
GOMU LR LR
comp=Z,1μm,13.8s
GOMU LR LR
comp=Z,910nm,13.2s
GOMU LR LR
comp=Z,1μm,13.7s
XLT XiLinHaoTe 29.14 360 *e*P **P** **14 04 35.6 +0.3**
XLT S **S** **14 09 24.2 -2.7**
XLT SS **SnSn** **14 10 55.8 +4.1**
XLT pmax pmax
comp=Z,69nm,1.3s
XLT pmax pmax
comp=Z,670nm,3.6s
XLT LR LR
comp=Z,2μm,10.7s
XLT LR LR
comp=Z,1μm,12.0s
GENI Genyem 29.32 124 P **P** **14 04 38.7 +1.6**
GENI Genyem 29.32 124 P **P** **14 04 38.0 +0.9**
comp=Z,175nm,1.5s
MAJO Matsushiro 29.37 38 **P** **14 04 35.1 -2.3**
MAJO Matsushiro 29.37 38 P **P** **14 04 36.6 -0.8**
MAJO Matsushiro 29.37 38*c i*P **P** **14 04 35.7 -1.7**
MAJO pmax pmax
comp=Z,25nm,1.2s
MJAR Matsushiro Arr 29.37 38 **P** **14 04 35.6 -1.8**
MJAR Matsushiro Arr 29.37 38 P **P** **14 04 36.6 -0.8**
comp=Z,19nm,1.1s,baz=223,slow=8.3,SNR=23
MJAR PcP **PcP** **14 07 43.9 +0.4**
comp=Z,7.7nm,1.1s,baz=220,slow=2.5,SNR=6.8
MJAR LR LR 14 14 39.2
comp=Z,217nm,21.1s,baz=210,slow=33
comp=Z,19nm,1.1s
JAY Jayapura 29.71 123 P **P** **14 04 43.6 +3.0**
comp=Z,609nmcomp=Z,37nm,1.2s
BOK Bokaro 29.93 292 *e*P P 14 04 37.6 -4.8
BOK IAmb IAmb 14 04 52.3
comp=Z,73nm,1.0s
CN2 Changchun 30.12 13 P **P** **14 04 42.6 -1.2**
CN2 PcP **PcP** **14 07 44.9 -0.3**
CN2 S **S** **14 09 38.6 -3.3**
CN2 pmax pmax
comp=Z,50nm,0.8s
CN2 pmax pmax
comp=Z,330nm,5.0s
CN2 LR LR
comp=Z,2μm,12.0s
CN2 LR LR
comp=Z,1μm,12.0s
CN2 LR LR
comp=Z,2μm,12.0s
EVN Everest 30.27 301 **P** **14 04 45.6 -0.5**
JSD Sado 30.42 36 P **P** **14 04 46.9 +0.3**
DRS Darwin Rock St 30.62 151 P **P** **14 04 49.8 +1.2**
GAYA Gaya 30.73 294 *e*P P 14 04 44.5 -5.1
GAYA IAmb IAmb 14 04 51.5
comp=Z,62nm,0.7s
MTN Manton Dam 31.09 151 P **P** **14 04 55.4 +2.6**
MTN Manton Dam 31.09 151 **P** **14 04 53.4 +0.7**
MTN Manton Dam 31.09 151 P **P** **14 04 54.0 +1.3**
KDU Kakadu 31.61 148 P **P** **14 04 55.4 -1.9**
KDU Kakadu 31.61 148 P **P** **14 04 58.0 +0.7**
JMM Marumori 31.80 39 P **P** **14 04 58.5 -0.2**
MDJ Mudanjiang 31.97 18 IAmb IAmb 14 05 01.0
comp=Z,80nm,1.0s
MDJ Mudanjiang 31.97 18 P **P** **14 04 59.6 -0.6**
MDJ S **S** **14 10 18.6 +7.6**
MDJ pmax pmax
comp=Z,98nm,1.0s
MDJ LR LR
comp=Z,2μm,12.7s
MDJ LR LR
comp=Z,420nm,11.3s
MDJ LR LR
comp=Z,2μm,12.8s
MDJ Mudanjiang 31.97 18 P **P** **14 04 59.9 -0.3**
USA0B Ussuriysk Arra 32.39 21*c i*P **P** **14 05 03.4 -0.5**
USRK Ussuriysk Ar. 32.39 21 P **P** **14 05 03.4 -0.5**
USRK Ussuriysk Ar. 32.39 21 P **P** **14 05 04.1 +0.2**
comp=Z,21nm,1.0s,baz=208,slow=9.6,SNR=22
USRK PcP **PcP** **14 07 50.4 -0.8**
comp=Z,2.1nm,0.6s,baz=225,slow=3.9,SNR=3.4
comp=Z,21nm,1.0s
BNX BinXian 32.41 15⇑ P **P** **14 05 02.9 -1.1**
BNX pP **pP** **14 05 06.2 -1.5**
BNX PcP **PcP** **14 07 49.3 -2.0**
BNX S **S** **14 10 20.4 +2.7**
BNX pmax pmax
comp=Z,31nm,0.9s
BNX pmax pmax
comp=Z,550nm,4.1s
BNX LR LR
comp=Z,710nm,12.5s
BNX LR LR
comp=Z,990nm,13.0s
BNX LR LR
comp=Z,2μm,11.4s
KNRA Kununurra 32.62 157 P **P** **14 05 04.9 -1.2**
comp=Z,22nm,1.4s
KNRA Kununurra 32.62 157 **P** **14 05 05.3 -0.8**
BLSP Bilaspur 33.07 288 *e*P P 14 05 04.8 -5.4
BLSP IAmb IAmb 14 05 14.7
comp=Z,145nm,1.3s
FITZ Fitzroy Crossi 33.87 164 LR LR 14 21 30.1
comp=Z,151nm,20.7s,baz=358,slow=41
ALBI Allahabad 33.88 294 *e*P P 14 05 12.2 -4.9
ALBI IAmb IAmb 14 05 18.5
comp=Z,117nm,0.8s
JTM Tenmabayashi 33.89 35 P **P** **14 05 17.2 +0.2**
ULN Ulaanbaatar 33.96 349 **P** **14 05 17.4 -0.3**
ULN Ulaanbaatar 33.96 349 P **P** **14 05 17.8 +0.1**
ULN Ulaanbaatar 33.96 349*c i*P **P** **14 05 17.7 0.0**
ULN pmax pmax
comp=Z,26nm,1.1s
SONM Songino Array 34.06 348 **P** **14 05 18.0 -0.5**
SONM IAmb IAmb 14 05 20.2
comp=Z,145nm,1.9s
SONM Songino Array 34.06 348 P **P** **14 05 18.7 +0.2**
comp=Z,11nm,0.8s,baz=164,slow=9.3,SNR=61
SONM PcP **PcP** **14 07 55.7 -0.3**
comp=Z,6.0nm,0.8s,baz=181,slow=4.7,SNR=6.2
SONM LR LR 14 19 40.6
comp=Z,613nm,18.5s,baz=163,slow=37
comp=Z,11nm,0.8s
BRCI Bahraich 34.58 297 *e*P P 14 05 18.2 -5.0
BRCI IAmb IAmb 14 05 25.1
comp=Z,270nm,0.7s
TEY Ternei 34.89 26 *e*P **P** **14 05 24.9 -0.7**
PALK Pallekele 35.53 262 P **P** **14 05 32.8 +1.2**
PALK Pallekele 35.53 262 LR LR 14 19 57.2
comp=Z,850nm,18.6s,baz=59,slow=36
PALK Pallekele 35.53 262 P **P** **14 05 33.4 +1.9**
PALK Pallekele 35.53 262*ce*P **P** **14 05 33.1 +1.6**
PALK pmax pmax
comp=Z,66nm,1.1s
MBWA Marble Bar 35.77 174 P **P** **14 05 31.8 -1.6**
comp=Z,48nm,1.3s
MBWA Marble Bar 35.77 174 P **P** **14 05 31.7 -1.6**
MBWA Marble Bar 35.77 174 P **P** **14 05 34.9 +1.5**
ERM Erimo 35.88 35 **P** **14 05 34.1 0.0**
ERM IAmb IAmb 14 05 35.7
comp=Z,97nm,0.9s
ERM Erimo 35.88 35 P **P** **14 05 34.6 +0.5**
ERM Erimo 35.88 35*c i*P **P** **14 05 34.2 0.0**
ERM pmax pmax
comp=Z,101nm,1.0s
JEM Erimo 35.88 35 P **P** **14 05 34.7 +0.5**
PSA00 Pilbara Seismi 36.19 174 P **P** **14 05 35.6 -1.4**
comp=Z,44nm,1.0s
PSA00 Pilbara Seismi 36.19 174 **P** **14 05 35.0 -1.9**
PSA00 Pilbara Seismi 36.19 174 P **P** **14 05 36.2 -0.8**
HYB Hyderabad 36.20 280 *e*P **P** **14 05 37.9 +0.6**
HYB *es*P **sP** **14 05 41.8 -0.6**
HYB *e*PP **PnPn** **14 06 59.2 +0.2**
HYB *e*PcP **PcP** **14 08 02.9 +0.1**
HYB *e*S **S** **14 11 17.8 +0.8**
LGTI Lohaghat 36.22 300 *e*P **P** **14 05 33.3 -4.0**
LGTI IAmb IAmb 14 05 40.3
comp=Z,111nm,1.1s
PTH Pithoragarh 36.27 300 *e*P P 14 05 33.1 -4.8
PTH IAmb IAmb 14 05 38.4
comp=Z,58nm,0.9s
HEH HeiHe 36.67 12 *e*P **P** **14 05 40.3 -0.5**
HEH PP **PP** **14 07 08.8 +4.5**
HEH PcP **PcP** **14 08 03.2 -0.2**
HEH S **S** **14 11 26.0 +2.7**
HEH sS **sS** **14 11 31.0 +1.6**
HEH pmax pmax
comp=Z,72nm,0.9s
HEH pmax pmax
comp=Z,710nm,3.6s
HEH LR LR
comp=Z,730nm,13.1s
HEH LR LR
comp=Z,620nm,12.9s
HEH LR LR
comp=Z,2μm,13.3s
JHNI Jhansi 36.81 293 *e*P P 14 05 36.5 -5.9
JHNI IAmb IAmb 14 05 42.4
comp=Z,60nm,0.8s
JKA Kamikawa-asahi 37.01 32 IAmb IAmb 14 05 45.8
comp=Z,155nm,1.2s
JOSI Joshimath 37.10 302 *e*P P 14 05 40.0 -5.1
JOSI IAmb IAmb 14 05 49.1
comp=Z,166nm,0.9s
ZAK Zakamensk 37.13 346 *e*P **P** **14 05 44.2 -0.7**
ZAK pmax pmax
comp=Z,52nm,1.5s
CIT Chita 37.33 357 *e*P **P** **14 05 46.8 +0.3**
CIT *e* 14 07 13.2
CIT *e* 14 07 31.8
CIT *e* 14 08 05.8
CIT pmax pmax
comp=Z,350nm,1.7s
BHPL Bhopal 37.51 289 *e*P P 14 05 43.3 -5.1
BHPL IAmb IAmb 14 05 50.0
comp=Z,45nm,0.8s
WMQ Urumqi 37.87 326 *e*P **P** **14 05 52.9 +1.7**
WMQ PP **PnPn** **14 07 21.1 +2.1**
WMQ S **S** **14 11 42.1 +0.1**
WMQ pmax pmax
comp=Z,42nm,1.3s
WMQ pmax pmax
comp=Z,740nm,3.9s
WMQ LR LR
comp=Z,2μm,14.3s
WMQ LR LR
comp=Z,1μm,13.3s
WMQ LR LR
comp=Z,1μm,22.7s
ASOR Ausora 38.13 298 *e*P P 14 05 48.5 -5.0
ASOR IAmb IAmb 14 05 53.5
comp=Z,497nm,0.3s
KLP Kalpa 38.46 303 *e*P P 14 05 51.1 -5.6
KLP IAmb IAmb 14 06 07.5
comp=Z,297nm,1.1s
IRK Irkutsk 38.68 348 *e*P **P** **14 05 57.0 -0.8**
IRK pmax pmax
comp=Z,155nm,3.6s
YUK Yuzh-Kuril'sk 38.70 35*de*P **P** **14 05 58.9 +0.9**
WRAB Tennant Creek 38.76 152 P **P** **14 05 57.5 -1.3**
WRAB Tennant Creek 38.76 152*de*P **P** **14 05 58.0 -0.8**
WRAB pmax pmax
comp=Z,53nm,1.1s
WRA Warramunga Arr 38.76 152 P **P** **14 05 56.6 -2.2**
WRA Warramunga Arr 38.76 152 P **P** **14 05 57.6 -1.2**
comp=Z,25nm,0.9s,baz=334,slow=9.5,SNR=64
WRA PcP **PcP** **14 08 10.4 0.0**
comp=Z,9.1nm,0.9s,baz=340,slow=3.2,SNR=8.5
comp=Z,25nm,0.9s
MOY Mondy 38.87 345 *e*P **P** **14 06 00.1 +0.5**
MOY pmax pmax
comp=Z,136nm,2.1s
PMG Port Moresby 38.95 126 **P** **14 05 60.0 -0.5**
PMG Port Moresby 38.95 126 P **P** **14 06 01.9 +1.4**
PMG Port Moresby 38.95 126 P **P** **14 06 01.8 +1.3**
PMG Port Moresby 38.95 126*d i*P **P** **14 05 59.7 -0.8**
PMG pmax pmax
comp=Z,58nm,0.9s
COEN Coen 39.03 136 P **P** **14 05 59.2 -2.0**
COEN Coen 39.03 136 P **P** **14 06 00.5 -0.7**
KUDL Kundal 39.11 297 *e*P P 14 05 56.5 -5.2
KUDL IAmb IAmb 14 06 01.2
comp=Z,67nm,1.1s
YSS Yuzhno-Sakhali 39.11 29 **P** **14 06 01.5 0.0**
YSS IAmb IAmb 14 06 03.1
comp=Z,166nm,1.0s
YSS Yuzhno-Sakhali 39.11 29 P **P** **14 06 02.1 +0.7**
YSS Yuzhno-Sakhali 39.11 29*α i*P **P** **14 06 01.8 +0.4**
YSS *e* 14 07 30.9
YSS *eS* **S** **14 12 00.2 -0.2**
YSS pmax pmax
comp=Z,150nm,0.9s
YSS pmax pmax
comp=Z,500nm,4.4s
YSS pmax pmax
comp=N,400nm,2.6s
YSS pmax pmax
comp=E,500nm,4.3s
YSS MLR MLR
comp=Z,400nm,16.0s
YSS MLR MLR
comp=E,600nm,15.0s
SMLA Simla 39.24 301 *e*P P 14 05 57.7 -5.1
SMLA IAmb IAmb 14 06 04.1
comp=Z,365nm,0.9s
GRNR Gornyy 39.58 20⇑ *i*P **P** **14 06 04.9 -0.5**
GRNR pmax pmax
comp=Z,20nm,1.1s
BHK Bhakra 39.93 302 *e*P P 14 05 60.0 -8.7
BHK IAmb IAmb 14 06 10.2
comp=Z,409nm,0.9s
ZEA Zeya 39.96 10 *e*P **P** **14 06 08.2 -0.3**
ZEA *e* 14 07 44.5
ZEA *e* 14 15 32.0
ZEA pmax pmax
comp=E,100nm,3.9s
ZEA pmax pmax
comp=N,200nm,4.5s
ZEA pmax pmax
comp=Z,400nm,4.3s
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,50nm,1.0s
ZEA MLR MLR
comp=E,500nm,12.0s
ZEA MLR MLR
comp=N,700nm,13.0s
ZEA MLR MLR
comp=Z,800nm,13.0s
UGL Uglegorsk 40.37 26 *e*P **P** **14 06 12.5 +0.6**
UGL pmax pmax
comp=Z,350nm,1.1s
KAD Karad 40.37 280 *e*P P 14 06 07.4 -5.1
KAD IAmb IAmb 14 06 17.4
comp=Z,208nm,1.6s
KUR Kuril'sk 40.56 35*d i*P **P** **14 06 13.5 -0.1**
KUR pmax pmax
comp=Z,496nm,1.1s
UDPR Udaipur 41.03 291 *e*P P 14 06 12.7 -5.1
UDPR IAmb IAmb 14 06 19.7
comp=Z,139nm,0.8s
MEEK Meekatharra 41.12 177 P **P** **14 06 16.9 -1.4**
comp=Z,51nm,1.2s
MEEK Meekatharra 41.12 177 P **P** **14 06 17.3 -1.0**
WRKA Warakurna 41.19 163 P **P** **14 06 18.2 -0.8**
comp=Z,34nm,1.2s
ZSN Zaisan 41.75 328 *e*P **P** **14 06 22.8 -0.6**
ZSN Zaisan 41.75 328 *e*P **P** **14 06 22.8 -0.6**
ASAR Alice Springs 41.86 155 P **P** **14 06 23.7 -0.8**
ASAR Alice Springs 41.86 155 P **P** **14 06 24.1 -0.5**
comp=Z,9.9nm,0.8s,baz=336,slow=6.5,SNR=53
ASAR PcP **PcP** **14 08 20.8 +0.4**
comp=Z,18nm,0.9s,baz=338,slow=2.7,SNR=17
ASAR PKiKP **PKiKP** **14 15 26.1 -1.0**
comp=Z,0.3nm,0.7s,baz=5.3,slow=1.6,SNR=4.2
ASAR LR LR 14 26 33.1
comp=Z,144nm,20.2s,baz=328,slow=40
comp=Z,9.9nm,0.8s
BKNR BIKANER 41.87 296 *e*P **P** **14 06 20.1 -4.6**
BKNR IAmb IAmb 14 06 25.3
comp=Z,146nm,0.5s
AS01 Alice Springs 41.88 155 P **P** **14 06 25.0 +0.3**
QIS Mount Isa 41.91 146 P **P** **14 06 23.9 -1.0**
comp=Z,33nm,0.8s
QIS Mount Isa 41.91 146 P **P** **14 06 24.7 -0.2**
TYV Tymovskoe 41.98 25 *e*P **P** **14 06 26.0 +0.9**
TYV *eS* **S** **14 12 44.9 +1.8**
TYV pmax pmax
comp=Z,15nm,1.6s
TYV pmax pmax
comp=Z,300nm,2.5s
TYV smax smax
comp=N,7.0nm,1.6s
TYV smax smax
comp=E,7.0nm,1.6s
TYV smax smax
comp=N,100nm,2.9s
TYV smax smax
comp=E,100nm,2.9s
PATS Pohnpei 42.09 96 P **P** **14 06 28.0 +1.5**
SHLS Shalkode 42.33 320 *e*P **P** **14 06 25.8 -2.5**
SHLS Shalkode 42.33 320 *e*P **P** **14 06 25.7 -2.5**
PDGK Podgornoye 42.40 320 P **P** **14 06 29.5 +0.6**
UZB Uzynbulak 42.60 319 *e*P **P** **14 06 30.0 -0.5**
UZB Uzynbulak 42.60 319 *e*P **P** **14 06 30.0 -0.5**
MK31 Makanchi Array 42.70 326*c i*P **P** **14 06 31.5 +0.4**
MK31 pmax pmax
comp=Z,42nm,0.8s
MKAR Makanchi Array 42.70 326 P **P** **14 06 31.0 -0.1**
MKAR Makanchi Array 42.70 326 P **P** **14 06 31.6 +0.5**
comp=Z,32nm,0.8s,baz=128,slow=8.4,SNR=211
MKAR PcP **PcP** **14 08 22.6 -0.2**
comp=Z,28nm,0.9s,baz=116,slow=4.2,SNR=12
MKAR LR LR 14 25 31.2
comp=Z,2μm,18.9s,baz=115,slow=38
comp=Z,32nm,0.8s
MTSU Mount Surprise 42.81 139 P **P** **14 06 32.2 -0.1**
comp=Z,16nm,1.1s
MTSU Mount Surprise 42.81 139 P **P** **14 06 33.8 +1.5**
MAKZ Makanchi 42.88 325 P **P** **14 06 32.8 +0.2**
SATY Saty 42.94 319 *e*P **P** **14 06 32.9 -0.5**
SATY Saty 42.94 319 *e*P **P** **14 06 32.8 -0.5**
KSH Kashi 43.00 313 P **P** **14 06 35.9 +2.1**
KSH sP pwP 14 06 43.8 +0.6
KSH PcP **PcP** **14 08 24.7 +0.6**
KSH S **S** **14 12 58.0 -0.8**
KSH pmax pmax
comp=Z,26nm,1.6s
KSH pmax pmax
comp=Z,530nm,5.2s
KSH LR LR
comp=Z,880nm,19.9s
KSH LR LR
comp=Z,2μm,17.2s
KSH LR LR
comp=Z,2μm,17.2s
NIL Nilore 43.10 304 P **P** **14 06 34.1 -0.5**
NIL IAmb IAmb 14 06 35.8
comp=Z,184nm,0.9s
NIL Nilore 43.10 304 P **P** **14 06 34.5 -0.1**
NIL P **P** **14 06 34.5 -0.1**

NIL	**Nilore**	**43.10**	**304**	P	**P**	**14 06 34.1**	**-0.5**
NIL				pmax	pmax		
	comp=Z,184nm,1.0s						
MORW	**Morawa**	**43.47**	**180**	P	**P**	**14 06 36.1**	**-1.4**
	comp=Z,23nm,2.3s						
MDOK	**Medeo**	**43.87**	**318**	*e*P	**P**	**14 06 40.2**	**-0.6**
MDOK	**Medeo**	**43.87**	**318**	*e*P	**P**	**14 06 40.2**	**-0.6**
TNSS	**Tian-Shan**	**43.87**	**318**	*e*P	**P**	**14 06 40.4**	**-0.8**
TNSS	**Tian-Shan**	**43.87**	**318**	*e*P	**P**	**14 06 40.3**	**-0.8**
TDK	**Taldyqorghan**	**43.93**	**321**	*e*P	**P**	**14 06 40.8**	**-0.4**
	comp=Z,64nm,0.7s						
TDK	**Taldyqorghan**	**43.93**	**321**	*e*P	**P**	**14 06 40.7**	**-0.4**
TDK				pmax	pmax		
	comp=Z,64nm,0.7s						
ULHL	**Ulahol**	**43.97**	**317**	P	**P**	**14 06 43.0**	**+1.2**
	SNR=21						
TKM2	**Tokmak 2**	**44.70**	**317**	P	**P**	**14 06 48.3**	**+0.8**
	SNR=27						
KBK	**Karagaybulak**	**45.01**	**317**	P	**P**	**14 06 51.4**	**+1.4**
	SNR=9.7						
UCH	**Uchtor**	**45.12**	**316**	P	**P**	**14 06 52.5**	**+1.3**
	SNR=17						
TV1H	**Townsville Har**	**45.23**	**137**	P	**P**	**14 06 52.3**	**+0.6**
AAK	**Ala-Archa**	**45.30**	**316**	P	**P**	**14 06 54.0**	**+1.7**
	SNR=9.1						
AAK	**Ala-Archa**	**45.30**	**316**	P	**P**	**14 06 52.4**	**+0.1**
AAK	**Ala-Archa**	**45.30**	**316**	LR	LR	14 27 04.3	
	comp=Z,1µm,21.2s,baz=109,slow=38						
AAK	**Ala-Archa**	**45.30**	**316**	P	**P**	**14 06 53.0**	**+0.7**
AAK				P	**P**	**14 06 53.0**	**+0.7**
AAK	**Ala-Archa**	**45.30**	**316**	*i* P	**P**	**14 06 53.4**	**+1.1**
	SNR=9.8						
AAK	**Ala-Archa**	**45.30**	**316**	*c i*P	**P**	**14 06 53.1**	**+0.8**
AAK				pmax	pmax		
	comp=Z,20nm,0.9s						
CTA	**Charters Tower**	**45.48**	**139**	P	**P**	**14 06 54.1**	**+0.4**
CTAO	**Charters Tower**	**45.48**	**139**	P	**P**	**14 06 51.8**	**-1.9**
CTAO	**Charters Tower**	**45.48**	**139**	P	**P**	**14 06 54.1**	**+0.4**
CTAO	**Charters Tower**	**45.48**	**139**	P	**P**	**14 06 51.8**	**-1.9**
CTAO				pmax	pmax		
	comp=Z,71nm,1.8s						
SGDS	**Sogindy**	**45.57**	**317**	*e*P	**P**	**14 06 53.8**	**-0.4**
USP	**Ospenovka**	**45.57**	**317**	P	**P**	**14 06 55.1**	**+0.8**
	SNR=12						
EKS2	**Erkin-Say**	**45.80**	**316**	P	**P**	**14 06 57.4**	**+1.2**
	SNR=18						
KLBR	**Kellerberrin**	**46.01**	**178**	P	**P**	**14 06 57.3**	**-0.4**
ZALV	**Zalesovo Beam**	**46.25**	**335**	P	**P**	**14 06 58.5**	**-0.8**
ZALV	**Zalesovo Beam**	**46.25**	**335**	P	**P**	**14 06 59.2**	**-0.1**
	comp=Z,18nm,0.7s,baz=127,slow=6.8,SNR=82						
ZALV				PcP	**PcP**	**14 08 33.7**	**-1.1**
	comp=Z,10nm,0.7s,baz=120,slow=3.8,SNR=7.0						
ZALV				LR	LR	14 26 39.8	
	comp=Z,783nm,19.6s,baz=134,slow=36						
	comp=Z,18nm,0.7s						
BTLS	**Baital**	**46.65**	**319**	*e*P	**P**	**14 07 02.4**	**-0.3**
BTLS	**Baital**	**46.65**	**319**	*e*P	**P**	**14 07 02.4**	**-0.3**
KBL	**Kabul**	**46.71**	**304**	P	**P**	**14 07 02.8**	**-0.7**
KBL				IAmb	IAmb	14 07 05.2	
	comp=Z,90nm,1.2s						
KBL	**Kabul**	**46.71**	**304**	P	**P**	**14 07 02.8**	**-0.7**
KBL				pmax	pmax		
	comp=Z,90nm,1.3s						
GAR	**Garm**	**46.92**	**310**	IAmb	IAmb	14 07 06.7	
	comp=Z,96nm,1.2s						
KURBB	**Kurchatov Arra**	**46.99**	**328**	P	**P**	**14 07 05.5**	**+0.4**
	comp=Z,10nm,0.7s,baz=119,slow=8.8,SNR=84						
KURBB				PcP	**PcP**	**14 08 37.3**	**-0.1**
	comp=Z,18nm,0.9s,baz=132,slow=3.0,SNR=11						
KURBB				LR	LR	14 28 13.9	
	comp=Z,585nm,18.4s,baz=153,slow=38						
	comp=Z,10nm,0.7s						
KURK	**Kurchatov**	**47.00**	**328**	P	**P**	**14 07 05.2**	**-0.1**
KURK				IAmb	IAmb	14 07 07.0	
	comp=Z,106nm,1.2s						
KURK	**Kurchatov**	**47.00**	**328**	P	**P**	**14 07 05.4**	**+0.2**
KURK				S	**S**	**14 13 56.5**	**+0.5**
KURK	**Kurchatov**	**47.00**	**328**	P	**P**	**14 07 05.6**	**+0.4**
KURK						14 08 37.3	
DZA	**Taraz**	**47.54**	**315**	*e*P	**P**	**14 07 09.2**	**-0.5**
DZA	**Taraz**	**47.54**	**315**	*e*P	**P**	**14 07 09.2**	**-0.5**
SIMJ	**Simiganj**	**47.79**	**309**	P	**P**	**14 07 10.9**	**-0.9**
SIMJ				IAmb	IAmb	14 07 13.7	
	comp=Z,42nm,0.9s						
IUG	**Iuzhnay**	**48.16**	**314**	*e*P	**P**	**14 07 14.1**	**-0.6**
	comp=Z,33nm,0.7s						
IUG	**Iuzhnay**	**48.16**	**314**	*e*P	**P**	**14 07 14.0**	**-0.6**
IUG				pmax	pmax		
	comp=Z,33nm,0.7s						
KK31	**Karatay Array**	**48.18**	**315**	*i* P	**P**	**14 07 15.0**	**+0.4**
KKAR	**Karatay Array**	**48.18**	**315**	P	**P**	**14 07 13.8**	**-0.8**
KKAR	**Karatay Array**	**48.18**	**315**	P	**P**	**14 07 13.8**	**-0.8**
SKR	**Severo-Kuril's**	**48.25**	**33**	*e*P	**P**	**14 07 14.4**	**-0.6**
SKR				*e*S	**S**	**14 14 20.2**	**+6.3**
SKR				pmax	pmax		
	comp=Z,346nm,1.0s						
SKR				pmax	pmax		
	comp=Z,400nm,3.4s						
YAK	**Yakutsk**	**48.29**	**8**	P	**P**	**14 07 13.9**	**-1.2**
YAK	**Yakutsk**	**48.29**	**8**	*e*P	**P**	**14 07 13.6**	**-1.5**
YAK				*e**PP	**pP**	**14 07 18.5**	**-0.4**
YAK				*e*		14 08 39.4	
YAK				*e*		14 09 06.0	
YAK				*e*S	**S**	**14 14 12.9**	**-1.2**
YAK				*e**SS	**sS**	**14 14 21.1**	**+0.7**
YAK				*e*SS	**SS**	**14 17 40.4**	**-3.1**
YAK				pmax	pmax		
	comp=Z,64nm,1.0s						
YAK				pmax	pmax		
	comp=N,38nm,1.3s						
YAK				pmax	pmax		
	comp=E,23nm,1.4s						
YAK				pmax	pmax		
	comp=Z,179nm,2.5s						
YAK				pmax	pmax		
	comp=N,310nm,5.2s						
YAK				pmax	pmax		
	comp=E,151nm,4.8s						
YAK				smax	smax		
	comp=N,28nm,2.4s						
YAK				smax	smax		
	comp=E,76nm,3.6s						
CHM	**Chimkent**	**48.52**	**314**	*e*P	**P**	**14 07 16.9**	**-0.4**
CHM	**Chimkent**	**48.52**	**314**	*e*P	**P**	**14 07 16.8**	**-0.4**
BRLS	**Boroldaу**	**48.61**	**315**	*e*P	**P**	**14 07 17.7**	**-0.3**
BRLS	**Boroldaу**	**48.61**	**315**	*e*P	**P**	**14 07 17.7**	**-0.3**
TATA	**Tatamba Isabel**	**48.97**	**115**	P	**P**	**14 07 22.0**	**+0.9**
QLP	**Quilpie**	**49.25**	**146**	P	**P**	**14 07 24.5**	**+1.5**
HNR	**Honiara**	**49.58**	**116**	LR	LR	14 26 31.2	
	comp=E,235nm,20.9s,baz=270,slow=34						
BRZS	**Berezniki**	**49.80**	**324**	*e*P	**P**	**14 07 26.6**	**-0.4**
BRZS	**Berezniki**	**49.80**	**324**	*e*P	**P**	**14 07 26.5**	**-0.4**
ALEG	**Aligegeo Malai**	**49.92**	**115**	P	**P**	**14 07 29.3**	**+1.0**
PEA0B	**Petropavlovsk-**	**50.41**	**31**	*c i*P	**P**	**14 07 31.0**	**-0.5**
PETK	**Petropavlovsk-**	**50.41**	**31**	P	**P**	**14 07 30.5**	**-1.0**
PETK	**Petropavlovsk-**	**50.41**	**31**	P	**P**	**14 07 31.4**	**-0.1**
	comp=E,52nm,0.9s,baz=209,slow=5.7,SNR=47						
PETK				LR	LR	14 30 18.2	
	comp=E,127nm,18.1s,baz=223,slow=38						
	comp=E,52nm,0.9s						
PET	**Petropavlovsk**	**50.85**	**32**	P	**P**	**14 07 34.3**	**-0.4**
PET	**Petropavlovsk**	**50.85**	**32**	P	**P**	**14 07 35.3**	**+0.6**
PET	**Petropavlovsk**	**50.85**	**32**	*e*P	**P**	**14 07 34.3**	**-0.4**
PET				*e*S	**S**	**14 14 50.1**	**-0.1**
PET				pmax	pmax		
	comp=Z,134nm,1.4s						
PET				MLR	MLR		
	comp=Z,200nm,13.0s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s						
BBOO	**Buckleboo**	**50.89**	**158**	P	**P**	**14 07 34.6**	**-0.7**
BBOO				IAmb	IAmb	14 07 36.0	
	comp=Z,102nm,1.1s						
BBOO	**Buckleboo**	**50.89**	**158**	P	**P**	**14 07 35.2**	**-0.1**
MA2	**Magadan**	**51.55**	**22**	P	**P**	**14 07 40.2**	**+0.2**
MA2	**Magadan**	**51.55**	**22**	P	**P**	**14 07 41.1**	**+1.1**
MA2	**Magadan**	**51.55**	**22**	*c i*P	**P**	**14 07 40.2**	**+0.2**
MA2				pmax	pmax		
	comp=Z,162nm,1.0s						
WHYH	**Whyalla**	**51.65**	**157**	P	**P**	**14 07 41.5**	**+0.5**
STKA	**Stephens Creek**	**52.31**	**152**	P	**P**	**14 07 45.6**	**-0.4**
STKA	**Stephens Creek**	**52.31**	**152**	P	**P**	**14 07 46.0**	**+0.1**
	comp=Z,39nm,0.8s,baz=327,slow=7.8,SNR=30						
STKA				PcP	**PcP**	**14 08 57.1**	**+0.1**
	comp=Z,5.7nm,0.6s,baz=333,slow=6.9,SNR=3.7						
STKA				LR	LR	14 32 04.0	
	comp=Z,239nm,20.7s,baz=346,slow=38						
	comp=Z,39nm,0.8s						
STKA	**Stephens Creek**	**52.31**	**152**	P	**P**	**14 07 46.2**	**+0.3**
STKA	**Stephens Creek**	**52.31**	**152**	*d i*P	**P**	**14 07 45.9**	**0.0**
EIDS	**Eidsvold**	**52.36**	**139**	P	**P**	**14 07 47.8**	**+1.4**
HTT	**Hallett**	**52.52**	**156**	P	**P**	**14 07 48.7**	**+1.1**
BVA0	**Borovoye Array**	**52.54**	**327**	P	**P**	**14 07 46.6**	**-0.8**
BVAR	**Borovoye Array**	**52.54**	**327**	P	**P**	**14 07 47.4**	**0.0**
	comp=Z,12nm,0.7s,baz=119,slow=9.9,SNR=38						
BVAR				PcP	**PcP**	**14 08 57.3**	**-0.3**
	comp=Z,28nm,0.8s,baz=129,slow=3.7,SNR=16						
BVAR				LR	LR	14 31 04.8	
	comp=Z,561nm,21.9s,baz=119,slow=37						
	comp=Z,12nm,0.7s						
CMSA	**Cobar Meteorol**	**53.98**	**149**	P	**P**	**14 07 58.8**	**+0.6**
SEY	**Seymchan**	**54.50**	**19**	*c i*P	**P**	**14 08 01.8**	**+0.2**
SEY				pmax	pmax		
	comp=Z,65nm,1.0s						
SEY				MLR	MLR		
	comp=Z,286nm,15.0s						
WSAR	**Wadi Sarin**	**54.78**	**288**	P	**P**	**14 08 04.5**	**+0.1**
	SNR=6.6						
BIDO	**Bidbid**	**55.23**	**289**	P	**P**	**14 08 07.8**	**+0.2**
	SNR=10						
JMDO	**Jabal Madar**	**55.30**	**287**	P	**P**	**14 08 07.7**	**-0.5**
JMDO				P	**P**	**14 08 07.7**	**-0.5**
SMDO	**Samad**	**55.32**	**288**	P	**P**	**14 08 08.0**	**-0.4**
SMDO				P	**P**	**14 08 08.0**	**-0.4**
MHTO	**MHTO**	**55.50**	**286**	P	**P**	**14 08 08.9**	**-0.6**
	SNR=5.4						
MHTO				P	**P**	**14 08 08.9**	**-0.6**
	SNR=5.4						
HOQ	**Hoqain**	**55.98**	**289**	P	**P**	**14 08 13.0**	**0.0**
	SNR=7.6						
DQM	**DQM**	**55.98**	**284**	P	**P**	**14 08 12.6**	**-0.4**
DQM				P	**P**	**14 08 12.6**	**-0.4**
ARMA	**Armidale**	**56.35**	**143**	P	**P**	**14 08 16.9**	**+1.4**
SOHO	**SOHO**	**56.67**	**289**	P	**P**	**14 08 17.6**	**-0.3**
SOHO	**SOHO**	**56.67**	**289**	*i* P	**P**	**14 08 17.0**	**-0.9**
	SNR=17						
ARQ	**Araqi**	**56.71**	**288**	P	**P**	**14 08 18.1**	**-0.1**
	SNR=6.5						
ARQ				P	**P**	**14 08 18.1**	**-0.1**
	SNR=6.5						
BANOM	**Banah**	**56.83**	**292**	*i* P	**P**	**14 08 19.5**	**+0.5**
	SNR=13						
UOSS	**Minazif**	**56.94**	**290**	P	**P**	**14 08 19.3**	**-0.6**
UOSS	**Minazif**	**56.94**	**290**	P	**P**	**14 08 19.8**	**0.0**
UOSS	**Minazif**	**56.94**	**290**	P	**P**	**14 08 18.6**	**-1.2**
SHME	**Shamm**	**56.97**	**292**	P	**P**	**14 08 20.6**	**+0.6**
	SNR=7.0						
SHME	**Shamm**	**56.97**	**292**	*i* P	**P**	**14 08 20.2**	**+0.2**
	SNR=7.5						
HATD	**Hatta, Dubai**	**57.01**	**290**	P	**P**	**14 08 20.3**	**0.0**
	SNR=7.0						
HATD	**Hatta, Dubai**	**57.01**	**290**	*i* P	**P**	**14 08 20.2**	**-0.2**
	SNR=6.8						
ASHO	**Ashiyiah**	**57.08**	**290**	P	**P**	**14 08 20.9**	**0.0**
	SNR=9.7						
ASHO	**Ashiyiah**	**57.08**	**290**	*i* P	**P**	**14 08 19.7**	**-1.2**
	SNR=13						
AB31	**Akbulak array**	**57.13**	**320**	*i* P	**P**	**14 08 20.3**	**-0.5**
ABKAR	**Akbulak array**	**57.13**	**320**	P	**P**	**14 08 20.2**	**-0.5**
ALNE	**Al Ain**	**57.38**	**289**	P	**P**	**14 08 23.1**	**0.0**
	SNR=13						
ALNE				P	**P**	**14 08 23.1**	**0.0**
	SNR=13						
ALNE	**Al Ain**	**57.38**	**289**	*i* P	**P**	**14 08 22.2**	**-0.8**
	SNR=9.2						
NAZ	**Nazwa, Dubai**	**57.43**	**290**	P	**P**	**14 08 22.9**	**-0.4**
TIXI	**Tiksi**	**57.48**	**5**	P	**P**	**14 08 21.2**	**-1.6**
TIXI	**Tiksi**	**57.48**	**5**	*c i*P	**P**	**14 08 21.2**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,40nm,1.0s						
FAQ	**Al Faqa, Dubai**	**57.50**	**290**	P	**P**	**14 08 23.1**	**-0.7**
ASUD	**Al Ashush, Dub**	**57.75**	**290**	P	**P**	**14 08 25.7**	**+0.2**
	SNR=6.7						
ASUD	**Al Ashush, Dub**	**57.75**	**290**	*i* P	**P**	**14 08 24.9**	**-0.6**
	comp=Z,978nm,19.5s,baz=80,slow=38						
BRAT	**Ballarat**	**58.13**	**154**	P	**P**	**14 08 28.4**	**+0.6**
CAN	**Canberra**	**58.66**	**149**	P	**P**	**14 08 32.5**	**+0.9**
AKTO	**Aktyubinsk**	**58.66**	**321**	LR	LR	14 35 36.1	
	comp=Z,978nm,19.5s,baz=80,slow=38						
AKTO	**Aktyubinsk**	**58.66**	**321**	P	**P**	**14 08 30.8**	**-0.7**
GEXS	**Deakin Univers**	**58.83**	**154**	P	**P**	**14 08 34.0**	**+1.3**
CNB	**Canberra Magne**	**58.83**	**148**	P	**P**	**14 08 33.5**	**+0.6**
SHEM	**Shemya Is, Ala**	**59.21**	**37**	LR	LR	14 35 33.3	
	comp=Z,69nm,19.2s,baz=291,slow=38						
SVE	**Sverdlovsk**	**59.25**	**328**	*e*P	**P**	**14 08 35.7**	**+0.3**
SVE				pmax	pmax		
	comp=Z,118nm,1.6s						
DOK	**Doka**	**59.31**	**283**	P	**P**	**14 08 36.1**	**-0.4**
DOK				P	**P**	**14 08 36.1**	**-0.4**
RBK	**Rabkut**	**59.37**	**282**	P	**P**	**14 08 37.0**	**+0.1**
RBK				P	**P**	**14 08 37.0**	**+0.1**
MZR	**Muzera**	**59.52**	**288**	P	**P**	**14 08 37.5**	**-0.5**
	SNR=12						
MZR				P	**P**	**14 08 37.5**	**-0.5**
	SNR=12						
MZR	**Muzera**	**59.52**	**288**	*i* P	**P**	**14 08 37.1**	**-0.9**
	SNR=23						
ABTO	**Aybut**	**60.24**	**282**	P	**P**	**14 08 42.9**	**-0.2**
ARTI	**Arti**	**60.26**	**327**	P	**P**	**14 08 41.3**	**-1.1**
ARTI				IAmb	IAmb	14 08 42.9	
	comp=Z,94nm,1.5s						
ARTI	**Arti**	**60.26**	**327**	LR	LR	14 35 47.2	
	comp=Z,554nm,20.8s,baz=116,slow=37						
ARTI	**Arti**	**60.26**	**327**	*c i*P	**P**	**14 08 41.5**	**-0.9**
ARTI						14 09 24.5	
ARTI						14 10 55.7	
ARTI				S	**S**	**14 16 56.4**	**+0.6**
ARTI				SS	**SS**	**14 20 55.1**	**+2.1**
ARTI				pmax	pmax		
	comp=Z,71nm,1.5s						
ARTI				MLR	MLR		
	comp=Z,460nm,17.0s						
DZM	**Mont Dzumac**	**61.34**	**126**	*e*S	**S**	**14 17 13.2**	**+2.5**
	comp=Z,246nm,29.0s						
DZM				*e*SS	**SS**	**14 21 08.8**	**-2.9**
	comp=Z,390nm,26.1s						
DZM				*e*LR	LR	14 27 01.1	
	comp=Z,1µm,33.9s						
TRNA	**Turayna**	**61.48**	**290**	P	**P**	**14 08 50.9**	**-0.4**
	SNR=5.4						
SMRA	**Abu-Samra**	**61.83**	**290**	P	**P**	**14 08 53.4**	**-0.3**
	SNR=9.3						
BILL	**Bilibino**	**62.20**	**19**	*c i*P	**P**	**14 08 54.8**	**-0.6**
BILL				pmax	pmax		
	comp=Z,96nm,1.1s						
BILL				MLR	MLR		
	comp=Z,170nm,14.0s						
GLAD	**Gladstone**	**62.74**	**153**	P	**P**	**14 08 59.6**	**+0.3**
AKT	**Akhty**	**64.31**	**309**	*e*P	**P**	**14 09 09.0**	**-1.0**
AKT				*e*		14 09 40.5	
AKT				*e*		14 11 32.0	
AKT				*e*PPP	PPP	14 13 04.1	
AKT				pmax	pmax		
	comp=Z,79nm,1.3s						
AKT				MLR	MLR		
	comp=Z,228nm,11.0s						
ADK	**Adak**	**64.53**	**39**	P	**P**	**14 09 11.9**	**+0.9**
MAK	**Makhachkala**	**64.56**	**311**	*e*P	**P**	**14 09 06.9**	**-4.5**
MAK				*e*		14 11 31.9	
MAK				*e*S	**S**	**14 17 43.4**	**-7.0**
MAK				*e*SS	**SS**	**14 22 00.2**	**-0.7**
MAK				pmax	pmax		
	comp=Z,221nm,1.4s						
MAK				MLR	MLR		
	comp=Z,517nm,14.0s						
BELG	**Belogornoye**	**65.43**	**321**	*c i*P	**P**	**14 09 16.1**	**-0.8**
BELG				pmax	pmax		
	comp=Z,21nm,1.0s						
KIRV	**Kirov**	**65.52**	**328**	LR	LR	14 41 09.6	
	comp=Z,310nm,18.1s,baz=103,slow=39						
KIRV	**Kirov**	**65.52**	**328**	*c i*P	**P**	**14 09 16.5**	**-0.8**
GNI	**Garni**	**66.55**	**308**	P	**P**	**14 09 24.1**	**-0.5**
GNI	**Garni**	**66.55**	**308**	LR	LR	14 41 15.7	
	comp=Z,265nm,21.2s,baz=100,slow=38						
GNI	**Garni**	**66.55**	**308**	P	**P**	**14 09 25.7**	**+1.1**
GNI				P	**P**	**14 09 25.7**	**+1.1**
GNI	**Garni**	**66.55**	**308**	P	**P**	**14 09 25.7**	**+1.1**
GNI	**Garni**	**66.55**	**308**	*c i*P	**P**	**14 09 25.5**	**+0.9**
GNI				pmax	pmax		
	comp=Z,93nm,1.2s						
FUNA	**Funafuti**	**66.62**	**106**	P	**P**	**14 09 27.2**	**+2.0**
RAYN	**Ar Rayn**	**66.78**	**290**	P	**P**	**14 09 25.7**	**-0.5**
RAYN				IAmb	IAmb	14 09 27.4	
	comp=Z,60nm,0.9s						
RAYN	**Ar Rayn**	**66.78**	**290**	*i* P	**P**	**14 09 26.0**	**-0.2**
	SNR=51						
RAYN	**Ar Rayn**	**66.78**	**290**	P	**P**	**14 09 25.7**	**-0.5**
RAYN				pmax	pmax		
	comp=Z,60nm,0.9s						
GOF	**Gofitskoye**	**67.87**	**313**	*c e*P	**P**	**14 09 32.4**	**-0.2**
GEVA	**Gevas**	**67.87**	**306**	IAmb	IAmb	14 09 34.7	
	comp=Z,58nm,1.0s						
KBZ	**Khabaz**	**67.95**	**312**	P	**P**	**14 09 33.3**	**+0.2**
	comp=Z,47nm,1.0s,baz=102,slow=4.4,SNR=64						
KBZ				LR	LR	14 42 49.9	
	comp=Z,318nm,18.6s,baz=86,slow=39						
	comp=Z,47nm,1.0s						
KBZ	**Khabaz**	**67.95**	**312**	*c i*P	**P**	**14 09 33.1**	**-0.1**
KBZ				pmax	pmax		
	comp=Z,63nm,1.0s						
KIV	**Kislovodsk**	**68.11**	**312**	P	**P**	**14 09 34.3**	**+0.1**
KIV	**Kislovodsk**	**68.11**	**312**	P	**P**	**14 09 33.4**	**-0.9**
KIV				P	**P**	**14 09 33.4**	**-0.9**
KIV	**Kislovodsk**	**68.11**	**312**	‖P	**P**	**14 09 35.2**	**+0.9**
KIV	**Kislovodsk**	**68.11**	**312**	*i* P	**P**	**14 09 34.6**	**+0.3**
	SNR=19						
KIV	**Kislovodsk**	**68.11**	**312**	*e*P	**P**	**14 09 34.4**	**+0.1**
KIV				*e*S	**S**	**14 18 35.2**	**+1.5**
KIV				pmax	pmax		
	comp=Z,133nm,1.0s						
KIV				pmax	pmax		
	comp=Z,102nm,3.6s						
KIV				MLR	MLR		
	comp=Z,276nm,17.0s						
SHA1	**Shidzhatmaz**	**68.12**	**312**	*c i*P	**P**	**14 09 34.2**	**-0.4**
SPIA	**Saint Paul Isl**	**68.92**	**34**	P	**P**	**14 09 39.7**	**+0.8**
	baz=264						
VRH	**Novokhopyorsk**	**68.97**	**320**	*e*P	**P**	**14 09 36.4**	**-3.0**
VRH				pmax	pmax		
	comp=Z,80nm,0.9s						
MSVF	**Nonsavu**	**69.00**	**116**	P	**P**	**14 09 42.4**	**+2.2**
MSVF	**Nonsavu**	**69.00**	**116**	‖*e*P	**P**	**14 09 42.3**	**+2.1**
MSVF				pmax	pmax		
	comp=Z,35nm,1.1s						
GAMB	**Gambell**	**69.08**	**27**	P	**P**	**14 09 40.4**	**+0.5**
	baz=260						
P08K	**Saint George I**	**69.25**	**35**	P	**P**	**14 09 41.4**	**+0.4**
	baz=265						
ERBR	**Yeremizino-Bor**	**69.68**	**314**	*e*P	**P**	**14 09 43.2**	**-0.7**
ERBR				*e**PP	**pP**	**14 09 46.6**	**-1.2**
ERBR				*e*S	**S**	**14 18 52.3**	**+0.3**
ERBR				pmax	pmax		
	comp=Z,51nm,0.9s						
ERBR				MLR	MLR		
	comp=Z,393nm,17.0s						
KOPT	**Kop Dagi**	**69.80**	**308**	IAmb	IAmb	14 09 55.3	
	comp=Z,39nm,0.9s						
DGTI	**Dogotuki**	**69.92**	**114**	P	**P**	**14 09 48.2**	**+2.4**
VSLR	**Vesyoloye**	**70.03**	**311**	*c i*P	**P**	**14 09 45.9**	**-0.3**
VSLR				pmax	pmax		
	comp=Z,128nm,1.0s						
SOC	**Sochi**	**70.26**	**311**	*e*P	**P**	**14 09 45.7**	**-1.8**
SOC				*e*PPP	PPP	14 14 03.5	
SOC				*e*S	**S**	**14 18 57.2**	**-1.7**
SOC				*e*SS	**SS**	**14 23 29.2**	**+0.1**
SOC				pmax	pmax		
	comp=Z,51nm,0.8s						
SOC				MLR	MLR		
	comp=Z,266nm,17.0s						
TAVE	**Taveuni**	**70.39**	**114**	P	**P**	**14 09 50.1**	**+1.4**
VORD	**Divnogorie**	**70.49**	**319**	*e*P	**P**	**14 09 46.5**	**-2.3**
VORD				pmax	pmax		
	comp=Z,40nm,0.9s						
VORR	**Voronezh**	**70.55**	**320**	*e*P	**P**	**14 09 46.1**	**-3.0**
VORR				pmax	pmax		
	comp=Z,100nm,1.0s						
VSR	**Storozhevoye**	**70.57**	**319**	*e*P	**P**	**14 09 45.9**	**-3.4**
VSR				pmax	pmax		
	comp=Z,30nm,0.9s						
LPSR	**Galich'ya Gora**	**70.74**	**321**	*e*P	**P**	**14 09 46.7**	**-3.6**
LPSR				pmax	pmax		
	comp=Z,100nm,1.0s						
KLMR	**Klimovskoe**	**70.80**	**330**	*e*P	**P**	**14 09 47.4**	**-3.1**
KLMR				*e*		14 12 23.0	
KLMR				pmax	pmax		
	comp=Z,193nm,1.1s						
KLMR				MLR	MLR		
	comp=Z,571nm,20.0s						
UNV	**Unalaska Valle**	**70.84**	**38**	P	**P**	**14 09 51.4**	**+0.6**
	baz=269						
TNA	**Tin City**	**70.94**	**25**	P	**P**	**14 09 51.9**	**+0.6**
	baz=263						
ATD	**Arta Tunnel**	**71.19**	**277**	LR	LR	14 39 41.5	
	comp=Z,9.4nm,21.2s,baz=70,slow=35						
M11K	**Mekoryuk**	**71.27**	**31**	P	**P**	**14 09 53.2**	**-0.1**
	baz=267						
MOS	**Moscow**	**71.56**	**324**	*e*P	**P**	**14 09 52.3**	**-2.9**
MOS				*e*		14 10 06.2	
MOS				*e*S	**S**	**14 19 12.7**	**-0.9**
MOS				pmax	pmax		
	comp=Z,135nm,1.1s						
MOS				pmax	pmax		
	comp=Z,200nm,1.2s						
F14K	**Arctic Creek**	**71.59**	**25**	P	**P**	**14 09 55.1**	**-0.1**
	baz=265						
ANN	**Anapa**	**71.86**	**313**	*e*P	**P**	**14 09 56.1**	**-1.1**
ANN				*e**PP	**pP**	**14 09 59.5**	**-1.6**
ANN				*e*S	**S**	**14 19 20.1**	**+2.8**
ANN				pmax	pmax		
	comp=Z,33nm,0.8s						
ANN				MLR	MLR		
	comp=Z,560nm,18.0s						
K13K	**Kusilvak Mount**	**72.10**	**29**	IAmb	IAmb	14 10 00.5	
	comp=Z,79nm,1.1s						
K13K	**Kus

ASF Jabal al Asfar 73.36 300 LR LR 14 46 04.9
comp=Z,166nm,18.3s,baz=153,slow=39
M14K Bethel 73.38 30 IAmb IAmb 14 10 07.8
comp=Z,76nm,1.0s
M14K Bethel 73.38 30 P P 14 10 05.7 -0.2
baz=270,SNR=7.5
S12K Black Hills 73.41 36 P P 14 10 06.3 0.0
baz=272
BNN Bunyan 73.48 307 IAmb IAmb 14 10 08.9
comp=Z,56nm,1.0s
E17K Hotham Inlet 73.50 24 P P 14 10 07.1 +0.6
baz=268,SNR=6.4
N14K Kuskokwak Cree 73.52 31 P P 14 10 07.5 +0.7
baz=271
K15K Wolf Creek Mou 73.58 29 IAmb IAmb 14 10 09.5
comp=Z,107nm,1.2s
K15K Wolf Creek Mou 73.58 29 P P 14 10 07.8 +0.7
baz=270,SNR=8.5
B18K Kokolik River 73.59 21 P P 14 10 07.9 +0.9
baz=268,SNR=6.3
L15K Ungalak Mounta 73.60 30 P P 14 10 07.9 +0.7
baz=270
F17K Baldwin Pennin 73.72 25 P P 14 10 08.5 +0.7
baz=269
O14K Tigyukauivet M 73.75 32 P P 14 10 08.4 +0.3
baz=271
C18K Utukok River 73.78 22 P P 14 10 08.6 +0.3
baz=269,SNR=5.8
APA Apatity 73.79 337 eP P 14 10 04.8 -3.4
APA e 14 10 21.3
APA e 14 12 52.9
APA eSS SS 14 24 20.0 -2.1
APA MLR MLR
comp=Z,640nm,11.6s
A19K Wainwright 73.87 21 P P 14 10 09.5 +0.9
baz=268
I17K Unalakleet 73.95 27 IAmb IAmb 14 10 11.6
comp=Z,82nm,1.1s
I17K Unalakleet 73.95 27 P P 14 10 09.7 +0.6
baz=270,SNR=5.0
G17K Kiwalik Mounta 73.96 26 P P 14 10 10.1 +0.8
baz=270,SNR=18
E18K Tukpahlearik C 73.99 24 IAmb IAmb 14 10 11.4
comp=Z,98nm,1.8s
E18K Tukpahlearik C 73.99 24 P P 14 10 10.3 +0.9
baz=270,SNR=6.0
J16K Anvik River 74.00 28 P P 14 10 10.3 +0.7
baz=271,SNR=7.3
M15K Kasigluk River 74.00 31 P P 14 10 10.1 +0.5
baz=271,SNR=8.8
SIM Simferopol' 74.20 313 eP P 14 10 08.8 -2.3
SIM e 14 10 24.0
SIM pmax pmax
comp=Z,107nm,0.8s
SIM MLR MLR
comp=Z,500nm,21.8s
H17K Granite Mounta 74.28 26 P P 14 10 12.0 +0.9
baz=271
N15K Kwethluk River 74.31 31 P P 14 10 12.0 +0.5
baz=272,SNR=23
SDPT Sand Point 74.33 36 P P 14 10 12.1 +0.5
baz=273
F18K Selawik 74.36 24 P P 14 10 11.8 +0.3
baz=271,SNR=21
C19K Lookout Ridge 74.37 22 IAmb IAmb 14 10 13.9
comp=Z,102nm,1.1s
C19K Lookout Ridge 74.37 22 P P 14 10 12.3 +0.6
baz=270,SNR=12
BALJ Balqa 74.43 300 IAmb IAmb 14 10 14.8
comp=Z,123nm,1.3s
O15K Ungalikthiuk R 74.49 32 IAmb IAmb 14 10 14.1
comp=Z,65nm,1.0s
O15K Ungalikthiuk R 74.49 32 P P 14 10 12.5 0.0
baz=273,SNR=6.1
MMAI Mount Meron Ar 74.51 301 P P 14 10 13.7 +0.5
comp=Z,22nm,1.0s,baz=87,slow=7.6,SNR=16
MMAI LR LR 14 47 41.7
comp=Z,350nm,21.3s,baz=92,slow=40
comp=Z,22nm,1.0s
L16K Owhat River 74.56 29 IAmb IAmb 14 10 14.8
comp=Z,77nm,1.0s
L16K Owhat River 74.56 29 P P 14 10 13.6 +0.8
baz=272,SNR=18
BZK Bozkurt 74.56 310 ⇑P P 14 10 13.6 +0.4
GHAJ Ghor Haditha 74.60 299 IAmb IAmb 14 10 15.5
comp=Z,89nm,1.0s
J17K VABM Dome 74.68 28 IAmb IAmb 14 10 15.9
comp=Z,103nm,1.1s
J17K VABM Dome 74.68 28 P P 14 10 14.2 +0.7
baz=272,SNR=15
G18K Tagagawik 74.78 25 P P 14 10 14.2 +0.2
baz=272,SNR=14
S14K Fog Glacier 74.79 35 P P 14 10 15.0 +0.6
baz=274
M16K Timber Creek 74.84 30 IAmb IAmb 14 10 16.5
comp=Z,80nm,1.0s
M16K Timber Creek 74.84 30 P P 14 10 15.4 +0.9
baz=273,SNR=17
CHNA Chernabura Isl 74.87 37 P P 14 10 14.5 -0.2
CHNA Chernabura Isl 74.87 37 P P 14 10 13.4 -1.3
baz=274,SNR=5.3
CNBA Chernabura Isl 74.87 37 IAmb IAmb 14 10 14.9
comp=Z,81nm,0.9s
D19K Kuna River 74.92 22 P P 14 10 15.1 +0.3
baz=272
H18K Honhosa River 74.93 26 P P 14 10 15.0 0.0
baz=272
KIRS Kirsehir-Merke 74.94 307 ⇑P P 14 10 16.0 +0.4
N16K Nishlik Lake 74.96 31 P P 14 10 16.1 +0.9
baz=273,SNR=21
K17K Iditarod 75.06 28 P P 14 10 16.6 +0.8
baz=273,SNR=22
BR131 Keskin Array S 75.09 308 P P 14 10 16.6 +0.1
SNR=22
BR131 P P 14 10 16.6 +0.1
SNR=22
BR131 Keskin Array S 75.09 308 c iP P 14 10 15.9 -0.6
BRTR Keskin Array B 75.09 308 P P 14 10 15.6 -0.9
BRTR Keskin Array B 75.09 308 P P 14 10 16.4 -0.2
comp=Z,19nm,0.9s,baz=117,slow=7.1,SNR=84
BRTR LR LR 14 46 53.7
comp=Z,267nm,21.1s,baz=128,slow=39
comp=Z,19nm,0.9s
L17K Donlin 75.10 29 P P 14 10 17.4 +1.4
baz=273,SNR=16
F19K Shaleruckik Mo 75.10 24 IAmb IAmb 14 10 17.3
comp=Z,100nm,1.6s
F19K Shaleruckik Mo 75.10 24 P P 14 10 15.7 -0.1
baz=272,SNR=15
B20K Meade River 75.21 21 P P 14 10 17.2 +0.8
baz=272,SNR=12
VADS Vadso 75.24 339 eP P 14 10 15.9 -0.6
E19K Redstone River 75.29 23 P P 14 10 17.4 +0.4
baz=273
A21K Barrow 75.34 19 P P 14 10 17.2 +0.1
baz=272
O16K Kokwok River B 75.35 32 P P 14 10 17.6 +0.2
baz=274,SNR=17
EIL Elat 75.36 297 LR LR 14 49 06.9
comp=Z,456nm,20.2s,baz=153,slow=40
G19K Purcell Mounta 75.41 25 P P 14 10 18.0 +0.3
baz=273,SNR=16
CHGN Chignik 75.42 35 P P 14 10 16.8 -1.1
baz=275
P16K Nushagak River 75.44 32 P P 14 10 18.5 +0.6
baz=274
D20K Etivluk River 75.46 22 P P 14 10 18.3 +0.4
baz=273
M17K Holitna River 75.55 30 IAmb IAmb 14 10 21.1
comp=Z,89nm,1.1s
M17K Holitna River 75.55 30 P P 14 10 19.7 +1.1
baz=274,SNR=14
JCZ Jackson Bay 75.58 144 P P 14 10 21.0 +2.0
GCSA Galena City Sc 75.58 26 P P 14 10 19.4 +0.8
baz=274,SNR=17
E20K Nigu River 75.64 23 P P 14 10 19.2 +0.1
baz=273
ABPO Ambohimpanom 75.65 246 P P 14 10 19.5 -0.5
ABPO Ambohimpanom 75.65 246 P P 14 10 19.5 -0.5
ABPO pmax pmax
comp=Z,34nm,1.3s
H19K Roundabout Mou 75.71 25 IAmb IAmb 14 10 21.4
comp=Z,74nm,0.9s
H19K Roundabout Mou 75.71 25 P P 14 10 20.2 +0.8
baz=274,SNR=34
ANTO Ankara 75.72 308 P P 14 10 19.6 -0.5
ANTO IAmb IAmb 14 10 21.4
comp=Z,72nm,1.1s
ANTO Ankara 75.72 308 ⇑P P 14 10 20.4 +0.3
ANTO Ankara 75.72 308 P P 14 10 19.6 -0.5
ANTO pmax pmax
comp=Z,72nm,1.1s
N17K Nushagak Hills 75.74 31 IAmb IAmb 14 10 22.1
comp=Z,84nm,1.1s
N17K Nushagak Hills 75.74 31 P P 14 10 20.3 +0.7
baz=274,SNR=16
J18K Innoko River 75.74 28 P P 14 10 20.1 +0.5
baz=274,SNR=11
FURI Furi 75.75 276 LR LR 14 41 39.9
comp=Z,235nm,20.3s,baz=86,slow=34
O17K Koliganek Bris 75.84 31 P P 14 10 20.8 +0.6
baz=275,SNR=12
L18K Granite Mounta 75.84 29 P P 14 10 21.2 +1.0
baz=274,SNR=12
A22K Sinclair Lake 75.89 20 P P 14 10 20.5 +0.2
baz=274
F20K Avaraart Lake 75.89 24 IAmb IAmb 14 10 22.1
comp=Z,50nm,1.1s
F20K Avaraart Lake 75.89 24 P P 14 10 20.8 +0.4
baz=274,SNR=32
KEV Kevo 76.07 339 P P 14 10 20.6 -0.7
KEV IAmb IAmb 14 10 22.1
comp=Z,54nm,1.0s
KEV Kevo 76.07 339 P P 14 10 20.6 -0.7
KEV pmax pmax
comp=Z,54nm,1.0s
C21K Knifeblade Rid 76.09 22 P P 14 10 22.2 +0.7
baz=274,SNR=17
B21K Ikpikpuk River 76.11 21 IAmb IAmb 14 10 23.5
comp=Z,83nm,1.1s
B21K Ikpikpuk River 76.11 21 P P 14 10 22.4 +0.9
baz=274,SNR=19
Q16K King Salmon 76.17 33 P P 14 10 21.7 -0.3
baz=275
J19K Poorman 76.18 27 IAmb IAmb 14 10 24.2
comp=Z,75nm,1.4s
J19K Poorman 76.18 27 P P 14 10 22.9 +0.7
baz=275,SNR=17
P17K Kvichak River 76.23 32 P P 14 10 23.4 +0.9
baz=276,SNR=41
M18K Stony River 76.31 30 P P 14 10 24.0 +1.1
baz=275,SNR=18
N18K Kilae Creek 76.36 30 IAmb IAmb 14 10 25.4
comp=Z,57nm,1.2s
N18K Kilae Creek 76.36 30 P P 14 10 24.0 +0.7
baz=276,SNR=13
H20K Anotleneega Mo 76.36 25 P P 14 10 24.0 +0.9
baz=275,SNR=29
R17L Mt. Peulik Vol 76.42 34 P P 14 10 22.5 -1.1
baz=276,SNR=9.4
PLK4 Peulik 4 76.42 34 IAmb IAmb 14 10 24.1
comp=Z,90nm,1.1s
E21K Killik River 76.44 22 IAmb IAmb 14 10 25.0
comp=Z,54nm,0.9s
E21K Killik River 76.44 22 P P 14 10 24.0 +0.4
baz=275,SNR=22
B22K Teshekpuk Lake 76.46 20 IAmb IAmb 14 10 25.3
comp=Z,70nm,1.1s
B22K Teshekpuk Lake 76.46 20 P P 14 10 24.1 +0.6
baz=275,SNR=12
LBZ Lake Benmore 76.57 143 P P 14 10 25.0 +0.4
LBZ IAmb IAmb 14 10 26.1
comp=Z,58nm,1.0s
I20K Naaghedemeel 76.60 26 P P 14 10 25.7 +1.2
baz=276,SNR=28
Q17K Contact Creek 76.61 33 P P 14 10 23.7 -1.1
baz=276
ARA0 ARCESS Array S 76.61 339 eP P 14 10 23.2 -1.2
ARCES ARCESS Array B 76.61 339 P P 14 10 23.6 -0.8
ARCES IAmb IAmb 14 10 25.2
comp=Z,55nm,1.0s
ARCES ARCESS Array B 76.61 339 P P 14 10 23.9 -0.5
comp=Z,40nm,0.9s,baz=79,slow=6.3,SNR=70
ARCES LR LR 14 48 38.6
comp=Z,469nm,18.8s,baz=90,slow=39
comp=Z,40nm,0.9s
ARCES ARCESS Array B 76.61 339 P P 14 10 23.7 -0.8
ARCES pmax pmax
comp=Z,55nm,1.0s
L19K White Mountain 76.70 29 IAmb IAmb 14 10 27.3
comp=Z,69nm,1.1s
L19K White Mountain 76.70 29 P P 14 10 25.9 +0.7
baz=276,SNR=30
F21K Alatna River 76.75 24 P P 14 10 25.1 -0.2
baz=276,SNR=10
IMAR Indian Mountai 76.78 25 P P 14 10 25.7 +0.2
J20K Nowinta River 76.81 27 IAmb IAmb 14 10 27.8
comp=Z,54nm,1.0s
J20K Nowinta River 76.81 27 P P 14 10 26.6 +1.0
baz=276,SNR=28
G21K Allakaket 76.82 24 P P 14 10 26.3 +0.6
baz=276
P18K Big Mountain, 76.83 32 IAmb IAmb 14 10 27.2
comp=Z,52nm,1.1s
P18K Big Mountain, 76.83 32 P P 14 10 25.8 -0.1
baz=276,SNR=6.8
D22K Ayikyak River 76.87 22 IAmb IAmb 14 10 27.9
comp=Z,112nm,1.4s
D22K Ayikyak River 76.87 22 P P 14 10 26.7 +0.7
baz=276,SNR=21
AKASG Malin Array Be 76.88 319 P P 14 10 24.8 -1.5
AKASG Malin Array Be 76.88 319 P P 14 10 25.3 -1.0
comp=Z,48nm,0.9s,baz=72,slow=5.4,SNR=133
AKASG LR LR 14 46 24.3
comp=Z,694nm,19.7s,baz=72,slow=37
comp=Z,48nm,0.9s
AKASG Malin Array Be 76.88 319 i P P 14 10 25.2 -1.0
AKASG pmax pmax
comp=Z,54nm,0.9s
AKBB Malin Array Si 76.88 319 c iP P 14 10 24.8 -1.5
KIEV Kiev 76.89 319 P P 14 10 25.1 -1.2
KIEV Kiev 76.89 319 ⇓P P 14 10 25.7 -0.6
KIEV Kiev 76.89 319 i P P 14 10 25.2 -1.2
SNR=6.8
KIEV Kiev 76.89 319 P P 14 10 25.1 -1.2
KIEV pmax pmax
comp=Z,88nm,1.0s
K20K Telida 76.93 28 IAmb IAmb 14 10 28.7
comp=Z,72nm,1.1s
K20K Telida 76.93 28 P P 14 10 27.5 +1.1
baz=276,SNR=33
M19K Big River Lodg 76.95 29 IAmb IAmb 14 10 28.9
comp=Z,69nm,1.0s
M19K Big River Lodg 76.95 29 P P 14 10 27.7 +1.2
baz=277,SNR=15
Q18K Katmai Hardscr 77.02 32 P P 14 10 26.2 -0.9
baz=277,SNR=12
CHIR Chirikof Islan 77.03 35 P P 14 10 27.7 +0.7
CHIR Chirikof Islan 77.03 35 P P 14 10 27.1 0.0
baz=277,SNR=7.3
N19K Bonanza Creek 77.03 30 P P 14 10 27.5 +0.4
baz=277,SNR=29
SAHE Sakarya_HENDEK 77.05 309 ⇓P P 14 10 27.4 -0.1
VOI Vohitsoka 77.08 243 IAmb IAmb 14 10 29.2
comp=Z,130nm,1.7s
HAMF Hammerfest 77.11 340 eP P 14 10 26.0 -1.2
L20K Farewell, AK 77.12 28 P P 14 10 27.8 +0.3
baz=277,SNR=12
O19K Port Alsworth 77.19 31 IAmb IAmb 14 10 29.5
comp=Z,69nm,0.9s
O19K Port Alsworth 77.19 31 P P 14 10 28.5 +0.7
baz=277,SNR=11
H21K Melozitna Rive 77.20 25 IAmb IAmb 14 10 30.0
comp=Z,87nm,1.1s
H21K Melozitna Rive 77.20 25 P P 14 10 28.6 +0.7
baz=277,SNR=48
MNK Minsk 77.21 323 d iP P 14 10 28.0 -0.1
F22K John River 77.22 23 P P 14 10 28.4 +0.5
baz=277,SNR=19
FINES FINESS Array B 77.30 330 P P 14 10 27.8 -0.6
FINES FINESS Array B 77.30 330 P P 14 10 27.9 -0.4
comp=Z,33nm,0.7s,baz=93,slow=7.6,SNR=70
comp=Z,33nm,0.7s
FINES FINESS Array B 77.30 330 i P P 14 10 28.0 -0.4
FINES pmax pmax
comp=Z,33nm,0.7s
VSU Vasula 77.34 327 c iP P 14 10 27.0 -1.7
VSU pmax pmax
comp=Z,179nm,1.0s
R18K Karluk 77.45 34 P P 14 10 28.4 -0.9
baz=278
C23K Itkillik River 77.47 21 P P 14 10 29.8 +0.5
baz=278,SNR=44
KTK1 Kautokeino 77.48 338 eP P 14 10 28.0 -1.3
M20K Styx River 77.55 29 IAmb IAmb 14 10 32.2
comp=Z,80nm,1.1s
M20K Styx River 77.55 29 P P 14 10 30.9 +1.0
baz=278,SNR=32
G22K Bettles 77.56 24 P P 14 10 29.9 +0.1
baz=278
D23K Nanushuk River 77.58 22 P P 14 10 30.8 +0.9
baz=278,SNR=31
I21K Tanana 77.61 26 IAmb IAmb 14 10 32.3
comp=Z,81nm,1.1s
I21K Tanana 77.61 26 P P 14 10 30.9 +0.8
baz=278,SNR=50
BKZ Black Stump Fm 77.64 136 P P 14 10 30.7 0.0
BKZ Black Stump Fm 77.64 136 P P 14 10 31.8 +1.1
CHUM Lake Minchumin 77.64 27 P P 14 10 31.2 +0.9
baz=278,SNR=12
RTZ Ruatahuna 77.69 136 P P 14 10 30.9 -0.2
Q19K Cape Douglas, 77.69 32 P P 14 10 30.0 -0.8
baz=278
SII Sitkinak Islan 77.73 35 P P 14 10 32.5 +1.5
SII Sitkinak Islan 77.73 35 P P 14 10 31.5 +0.5
baz=278,SNR=12
SPA0 Spitsbergen Ar 77.75 348 eP P 14 10 30.6 -0.2
SPITS Spitsbergen Ar 77.75 348 P P 14 10 30.9 +0.1
comp=Z,48nm,0.8s,baz=77,slow=9.0,SNR=27
SPITS LR LR 14 48 55.2
comp=Z,323nm,18.4s,baz=84,slow=39
comp=Z,48nm,0.8s
SPITS Spitsbergen Ar 77.75 348 P P 14 10 30.4 -0.4
SPITS pmax pmax
comp=Z,107nm,1.1s
H22K Ishtalitna Cre 77.75 25 P P 14 10 32.1 +1.1
baz=278,SNR=46
ISP Isparta 77.76 306 c iP P 14 10 31.0 -0.7
ISP pmax pmax
comp=Z,71nm,1.2s
SORM Soroca 77.78 317 ⇓P P 14 10 30.9 -0.5
SORM Soroca 77.78 317 P P 14 10 31.0 -0.4
ILSW Iliamna Southw 77.80 31 IAmb IAmb 14 10 42.0
comp=Z,86nm,1.5s
P19K Oil Pt 77.80 31 IAmb IAmb 14 10 31.9
comp=Z,67nm,0.9s
P19K Oil Pt 77.80 31 P P 14 10 30.6 -0.8
baz=278,SNR=6.7
PPLA Purkeypile 77.84 28 P P 14 10 31.8 +0.1
baz=278,SNR=12
TLCR 77.90 314 ⇑P P 14 10 32.2 +0.1
JURR Jurilovca 77.92 313 ⇓P P 14 10 32.3 0.0
RED Redoubt Volcan 77.92 30 IAmb IAmb 14 10 32.9
comp=Z,82nm,1.0s
COLD Coldfoot 78.02 23 IAmb IAmb 14 10 34.3
comp=Z,59nm,1.3s
COLD Coldfoot 78.02 23 P P 14 10 32.9 +0.5
baz=279,SNR=20
TOLK Toolik Lake Re 78.02 22 IAmb IAmb 14 10 34.1
comp=Z,38nm,0.8s
TOLK Toolik Lake Re 78.02 22 P P 14 10 33.0 +0.6
baz=279,SNR=31
O20K Slope Mountain 78.04 31 P P 14 10 32.1 -0.6
baz=278
N20K Mount Spurr 78.08 30 P P 14 10 32.9 0.0
baz=279,SNR=14
SPCR Spurr Chakacha 78.08 30 P P 14 10 32.8 -0.1
baz=279,SNR=11
E23K Chandalar 78.10 23 IAmb IAmb 14 10 34.8
comp=Z,76nm,1.2s
E23K Chandalar 78.10 23 P P 14 10 33.7 +0.7
baz=280,SNR=38
OHAK Old Harbor 78.12 34 IAmb IAmb 14 10 34.3
comp=Z,54nm,1.0s
OHAK Old Harbor 78.12 34 P P 14 10 33.9 +0.8
OHAK Old Harbor 78.12 34 P P 14 10 33.2 +0.1
baz=278,SNR=24
C24K Franklin Bluff 78.15 21 P P 14 10 33.4 +0.3
baz=280,SNR=26
MLY Manley 78.15 26 IAmb IAmb 14 10 35.0
comp=Z,62nm,1.0s
MLY Manley 78.15 26 P P 14 10 33.7 +0.5
baz=279,SNR=71
SPU Mount Spurr 78.16 30 IAmb IAmb 14 10 34.3
comp=Z,59nm,1.1s
G23K Bananza Creek 78.17 24 IAmb IAmb 14 10 35.3
comp=Z,81nm,1.2s
G23K Bananza Creek 78.17 24 P P 14 10 33.9 +0.6
baz=279,SNR=42
BPAW Bear Paw Mtn. 78.19 27 P P 14 10 33.9 +0.4
baz=278,SNR=72
HSPB Hornsund (broa 78.20 347 eP P 14 10 31.8 -1.4
D24K Happy Valley 78.20 21 IAmb IAmb 14 10 35.1
comp=Z,75nm,1.0s
D24K Happy Valley 78.20 21 P P 14 10 34.0 +0.6
baz=280,SNR=30
TPGR Topolog 78.23 313 ⇓P P 14 10 34.1 +0.1
SKT Skwentna 78.28 29 IAmb IAmb 14 10 34.7
comp=Z,89nm,1.1s
SKT Skwentna 78.28 29 P P 14 10 33.5 -0.4
baz=279,SNR=42
TIRR Tirgusor 78.29 313 IAmb IAmb 14 10 35.3
comp=Z,72nm,1.1s
TIRR Tirgusor 78.29 313 ⇓P P 14 10 34.4 +0.1
TIRR Tirgusor 78.29 313 P P 14 10 34.4 +0.1
VLDR Vladesti 78.31 314 ⇑P P 14 10 34.9 +0.5
CFR Carcaliu 78.38 314 ⇓P P 14 10 35.0 +0.2
CFR Carcaliu 78.38 314 P P 14 10 34.9 +0.2
JETT Jettan, Norway 78.38 339 eP P 14 10 33.8 -0.6
Q20K Shuyak Island 78.38 32 P P 14 10 34.2 -0.4
baz=279,SNR=13
KDAK Kodiak Island 78.41 33 P P 14 10 34.7 0.0
KDAK IAmb IAmb 14 10 35.9
comp=Z,62nm,0.9s
KDAK Kodiak Island 78.41 33 c iP P 14 10 34.5 -0.2
KDAK pmax pmax
comp=Z,69nm,1.0s
KDAK Kodiak Island 78.41 33 P P 14 10 34.8 0.0
baz=279
KBS Kingsbay 78.42 349 P P 14 10 34.4 0.0
KBS Kingsbay 78.42 349 eP P 14 10 33.8 -0.6
KBS Kingsbay 78.42 349 deP P 14 10 34.5 +0.1
KBS pmax pmax
comp=Z,47nm,1.0s
KBS Kingsbay 78.42 349 i P P 14 10 34.1 -0.3
H23K Yukon River 78.51 25 IAmb IAmb 14 10 37.4
comp=Z,85nm,1.1s
H23K Yukon River 78.51 25 P P 14 10 36.2 +1.0
baz=280,SNR=56
E24K Your Creek 78.52 22 IAmb IAmb 14 10 37.0
comp=Z,57nm,1.0s
E24K Your Creek 78.52 22 P P 14 10 35.9 +0.6
baz=280,SNR=41
HARR Harsova 78.60 313 ⇓P P 14 10 36.3 +0.2
HARR Harsova 78.60 313 P P 14 10 36.2 +0.2
HOM Homer 78.60 31 P P 14 10 37.1 +1.4
baz=279
TRF Thorofare Moun 78.60 27 P P 14 10 35.8 -0.1
baz=280,SNR=14
CAPN Captain Cook N 78.66 30 P P 14 10 36.2 +0.3
baz=280
I23K Minto, Yukon-K 78.71 25 P P 14 10 36.7 +0.5
baz=280,SNR=42
SUA Susitna One 78.73 29 P P 14 10 36.3 -0.3
baz=280,SNR=48
ICOR Ion Corvin 78.78 313 ⇓P P 14 10 37.9 +0.9
CUT Chulitna 78.79 28 IAmb IAmb 14 10 38.3
comp=Z,106nm,1.1s
CUT Chulitna 78.79 28 P P 14 10 36.2 -0.6
baz=280,SNR=5.2
CNPM China Poot 78.83 31 IAmb IAmb 14 10 38.9
comp=Z,48nm,0.9s
BWN Browne 78.84 26 IAmb IAmb 14 10 39.2
comp=Z,78nm,1.1s
F24K Squaw Lake 78.85 23 IAmb IAmb 14 10 38.9
comp=Z,45nm,0.9s
F24K Squaw Lake 78.85 23 P P 14 10 37.7 +0.7
baz=281,SNR=41
TRO Tromso 78.88 339 eP P 14 10 36.1 -1.0
NEA2 Nenana 78.93 26 P P 14 10 37.4 -0.1
baz=281,SNR=35
PANC Panciu 78.95 315 ⇓P P 14 10 39.0 +1.0
BRLK Bradley Lake 78.96 31 IAmb IAmb 14 10 40.1
comp=Z,68nm,1.0s
M22K Willow 78.98 29 P P 14 10 37.0 -0.7
baz=280,SNR=11
D25K Kavik River 79.03 21 P P 14 10 38.4 +0.4
baz=282,SNR=58
BRSE Bradley Lake S 79.03 31 P P 14 10 37.6 -0.6
baz=280,SNR=19
KIBK Kibwezi 79.09 265 P P 14 10 40.9 +1.4
SNR=9.0

MCK **McKinley** **79.15 27** lAmb lAmb 14 10 39.7
comp=Z,92nm,1.1s
MCK **McKinley** **79.15 27** P **P** **14 10 38.3 -0.4**
baz=281,SNR=39
SLKM **Skilak Lake** **79.15 30** lAmb lAmb 14 10 39.1
comp=Z,57nm,1.1s
G24K **Hadweenzic Riv** **79.17 24** lAmb lAmb 14 10 40.6
comp=Z,74nm,1.1s
G24K **Hadweenzic Riv** **79.17 24** P **P** **14 10 39.4 +0.7**
baz=282,SNR=46
MANT **Manisa** **79.18 307** lAmb lAmb 14 10 40.9
comp=Z,135nm,1.5s
H24K **Noodor Dome** **79.18 25** lAmb lAmb 14 10 40.9
comp=Z,69nm,1.2s
H24K **Noodor Dome** **79.18 25** P **P** **14 10 39.6 +0.8**
baz=282,SNR=39
TESR **Tescani** **79.18 315** ⇓P **P** **14 10 39.5 +0.2**
PRD **Provadia** **79.22 312** P **P** **14 10 39.8 +0.3**
RND **Reindeer** **79.25 27** lAmb lAmb 14 10 40.0
comp=Z,102nm,1.2s
RC01 **Rabbit Creek A** **79.28 30** lAmb lAmb 14 10 40.0
comp=Z,54nm,0.8s
RC01 **Rabbit Creek A** **79.28 30** P **P** **14 10 39.0 -0.4**
baz=281,SNR=12
PLOR **Plostina** **79.30 315** ⇑P **P** **14 10 41.0 +1.1**
PLOR **Plostina** **79.30 315** P **P** **14 10 40.3 +0.4**
NEF **NEVSHA** **79.30 312** P **P** **14 10 40.6 +0.7**
BISRR **Bisoca** **79.31 314** ⇓P **P** **14 10 41.6 +1.6**
ONER **Baraj Valea Uz** **79.39 315** ⇑P **P** **14 10 40.8 +0.5**
COLA **College** **79.39 26** P **P** **14 10 39.9 0.0**
COLA **College** **79.39 26** *ce*P **P** **14 10 39.4 -0.5**
COLA pmax pmax
comp=Z,34nm,1.0s
COLA **College** **79.39 26** P **P** **14 10 39.5 -0.4**
baz=282
C26K **Camden Bay** **79.40 20** P **P** **14 10 41.1 +1.2**
baz=283,SNR=8.7
O22K **Cooper Landing** **79.40 30** P **P** **14 10 39.5 -0.6**
baz=281,SNR=15
PHSR **Pinarhisar** **79.41 310** ⇓P **P** **14 10 41.0 +0.5**
PMR **Palmer** **79.47 29** lAmb lAmb 14 10 41.1
comp=Z,58nm,1.0s
PMR **Palmer** **79.47 29** P **P** **14 10 41.2 +0.8**
PMR **Palmer** **79.47 29** P **P** **14 10 40.1 -0.3**
baz=281,SNR=13
WAT1 **Susitna Watana** **79.50 28** P **P** **14 10 39.9 -0.7**
baz=282
ISR **Istrita** **79.50 314** ⇑P **P** **14 10 41.8 +0.7**
ISR **Istrita** **79.50 314** P **P** **14 10 41.7 +0.7**
POKR **Poker Plat Res** **79.51 25** P **P** **14 10 40.4 -0.3**
baz=282
GHO **Glory Hole Cre** **79.53 29** lAmb lAmb 14 10 44.8
comp=Z,50nm,0.9s
KMBO **Kilima Mbogo** **79.55 266** P **P** **14 10 43.5 +1.4**
comp=Z,32nm,0.9s,baz=70,slow=6.8,SNR=41
KMBO LR LR 14 43 49.1
comp=Z,195nm,20.1s,baz=100,slow=34
comp=Z,32nm,0.9s
KMBO **Kilima Mbogo** **79.55 266** *ci*P **P** **14 10 43.4 +1.3**
KMBO pmax pmax
comp=Z,32nm,0.9s
E25K **Arctic Village** **79.58 22** P **P** **14 10 41.5 +0.5**
baz=283,SNR=32
COVR **Voineasa-Covas** **79.60 315** ⇓P **P** **14 10 41.8 +0.2**
SEW **Seward** **79.61 31** lAmb lAmb 14 10 42.0
comp=Z,80nm,1.0s
SEW **Seward** **79.61 31** P **P** **14 10 40.7 -0.4**
baz=281,SNR=25
NEHR **Nehoiu** **79.61 314** ⇓P **P** **14 10 42.7 +1.0**
F25K **Christian Rive** **79.67 23** lAmb lAmb 14 10 43.8
comp=Z,58nm,1.1s
F25K **Christian Rive** **79.67 23** P **P** **14 10 42.5 +0.9**
baz=283,SNR=63
G25K **Bearman Lake** **79.69 24** P **P** **14 10 42.6 +1.1**
baz=283,SNR=25
LOZB **Loznitsa** **79.77 312** ⇑P **P** **14 10 42.6 +0.1**
RAZG **Razgrad** **79.80 312** ⇑P **P** **14 10 42.8 +0.2**
ILAR **Eielson Array** **79.81 26** P **P** **14 10 40.6 -1.7**
ILAR **Eielson Array** **79.81 26** P **P** **14 10 40.8 -1.5**
comp=Z,7.8nm,1.0s,baz=289,slow=3.7,SNR=31
ILAR PP **PP** **14 13 39.5 -3.8**
comp=Z,2.1nm,1.0s,baz=285,slow=7.3,SNR=4.1
comp=Z,7.8nm,1.0s
ILAR **Eielson Array** **79.81 26** P **P** **14 10 40.6 -1.7**
KNK **Knik Glacier** **79.82 29** lAmb lAmb 14 10 43.6
comp=Z,86nm,1.0s
KNK **Knik Glacier** **79.82 29** P **P** **14 10 42.2 -0.2**
baz=282,SNR=18
MLR **Muntele Rosu** **79.85 314** lAmb lAmb 14 10 44.4
comp=Z,75nm,0.9s
MLR **Muntele Rosu** **79.85 314** LR LR 14 50 29.9
comp=Z,526nm,21.1s,baz=75,slow=39
MLR **Muntele Rosu** **79.85 314** ⇓P **P** **14 10 43.6 +0.6**
MLR **Muntele Rosu** **79.85 314** P **P** **14 10 43.1 +0.1**
HDA **Harding Lake** **79.87 26** P **P** **14 10 41.3 -1.2**
baz=283,SNR=19
C27K **Jago River** **79.87 20** lAmb lAmb 14 10 44.6
comp=Z,82nm,1.1s
C27K **Jago River** **79.87 20** P **P** **14 10 43.3 +0.8**
baz=285,SNR=61
H25L **Birch Creek** **79.91 24** P **P** **14 10 43.5 +0.8**
baz=283,SNR=32
WAT6 **Susitna Watana** **79.91 28** P **P** **14 10 42.7 -0.4**
baz=282,SNR=38
BURAR **Bucovina Array** **79.95 317** P **P** **14 10 43.4 -0.1**
BURAR lAmb lAmb 14 10 45.0
comp=Z,85nm,0.8s
BURAR **Bucovina Array** **79.95 317** ⇓P **P** **14 10 43.8 +0.3**
BURAR **Bucovina Array** **79.95 317** P **P** **14 10 43.8 +0.3**
DHY **Denali Highway** **79.97 27** P **P** **14 10 42.7 -0.7**
baz=282,SNR=7.9
PWL **Port Wells** **80.00 30** lAmb lAmb 14 10 44.3
comp=Z,85nm,0.9s
PWL **Port Wells** **80.00 30** P **P** **14 10 43.1 -0.3**
baz=282,SNR=28
SUW **Suwalki** **80.01 323** *e*P **P** **14 10 42.7 -0.8**
FYU **Fort Yukon** **80.07 24** lAmb lAmb 14 10 45.6
comp=Z,76nm,1.3s
M23K **Glacier View** **80.09 29** P **P** **14 10 43.8 -0.1**
baz=282,SNR=20
BMAR **Burnt Mountain** **80.11 23** P **P** **14 10 44.6 +0.7**
DOPR **Dopca** **80.14 315** ⇓P **P** **14 10 44.8 +0.3**
PRP **Porcupine Dome** **80.20 25** P **P** **14 10 43.7 -0.8**
baz=284,SNR=34
F26K **Sheenjek River** **80.21 22** P **P** **14 10 45.2 +0.8**
baz=284,SNR=50
LODK **Lodwar** **80.23 271** P **P** **14 10 46.3 +0.7**
LODK **Lodwar** **80.23 271** P **P** **14 10 47.2 +1.6**
SNR=12
SCM **Sheep Creek Mo** **80.26 29** lAmb lAmb 14 10 46.2
comp=Z,106nm,1.1s
SCM **Sheep Creek Mo** **80.26 29** P **P** **14 10 45.0 +0.1**
baz=283,SNR=33
ELND **Elena** **80.37 312** ⇑P **P** **14 10 46.0 +0.3**
J25K **Salcha River,** **80.48 26** P **P** **14 10 44.7 -1.3**
baz=284,SNR=20
K24K **Donnelly Dome** **80.50 26** lAmb lAmb 14 10 47.7
comp=Z,70nm,0.9s
K24K **Donnelly Dome** **80.50 26** P **P** **14 10 45.6 -0.5**
baz=284,SNR=12
G26K **Porcupine Rive** **80.53 23** lAmb lAmb 14 10 48.2
comp=Z,57nm,1.1s
G26K **Porcupine Rive** **80.53 23** P **P** **14 10 47.0 +0.9**
baz=285,SNR=55
GLI **Glacier Island** **80.58 29** lAmb lAmb 14 10 47.7
comp=Z,84nm,0.9s
GLI **Glacier Island** **80.58 29** P **P** **14 10 46.4 -0.1**
baz=283,SNR=14
STEI **Steigen** **80.58 338** *e*P **P** **14 10 45.6 -0.8**
ARCR **ARCALIA** **80.63 316** ⇑P **P** **14 10 47.9 +0.9**
EZN **Ezine** **80.64 309** ⇓P **P** **14 10 47.4 +0.2**
EZN **Ezine** **80.64 309** P **P** **14 10 47.1 -0.1**
ALN **Alexandroupoli** **80.64 310** lAmb lAmb 14 10 48.1
comp=Z,81nm,1.1s
FAUS **Fauske** **80.72 337** *e*P **P** **14 10 45.6 -1.5**
M24K **Tolsona, Glenn** **80.73 28** P **P** **14 10 48.0 +0.7**
baz=284,SNR=34
ARR **Arges** **80.78 314** ⇑P **P** **14 10 47.9 -0.1**
CASY **Casey** **80.81 182** P **P** **14 10 46.9 -0.5**
PAX **Paxson** **80.84 27** P **P** **14 10 48.2 +0.2**
baz=284,SNR=27
FID **Port Fidalgo** **80.91 30** lAmb lAmb 14 10 49.6
comp=Z,93nm,1.2s
D27M **Malcolm River** **80.91 21** lAmb lAmb 14 10 50.1
comp=Z,79nm,1.2s
D27M **Malcolm River** **80.91 21** P **P** **14 10 48.8 +0.5**
baz=287,SNR=34
RIDG **Independent Ri** **80.92 26** lAmb lAmb 14 10 49.2
comp=Z,93nm,1.1s
RIDG **Independent Ri** **80.92 26** P **P** **14 10 47.9 -0.5**
baz=285,SNR=54
RDO **Rodhopi** **80.97 310** lAmb lAmb 14 10 49.7
comp=Z,60nm,1.1s
KLU **Klutina** **80.99 29** P **P** **14 10 49.0 +0.2**
baz=284,SNR=39
E27K **Coleen River** **81.00 22** lAmb lAmb 14 10 50.4
comp=Z,62nm,1.1s
E27K **Coleen River** **81.00 22** P **P** **14 10 49.1 +0.5**
baz=287,SNR=44
KDZ **Kurdzhali** **81.02 311** P **P** **14 10 49.0 -0.2**
BMR **Baia Mare** **81.08 317** ⇑P **P** **14 10 50.7 +1.2**
BMR **Baia Mare** **81.08 317** P **P** **14 10 50.6 +1.2**
HARP **HAARP** **81.12 28** P **P** **14 10 49.9 +0.5**
baz=284,SNR=18
DIV **Divide** **81.15 29** lAmb lAmb 14 10 51.1
comp=Z,70nm,1.0s
PLVB **Pleven** **81.18 312** ⇑P **P** **14 10 49.8 -0.3**
KWP **Kalwaria Pacla** **81.18 319** *e*P **P** **14 10 49.7 -0.3**
I26K **Coal Creek Min** **81.22 25** P **P** **14 10 49.5 -0.3**
baz=286
SCRK **Sand Creek** **81.23 26** P **P** **14 10 49.8 -0.2**
baz=285,SNR=24
NOR **Nord** **81.26 354** *i*P **P** **14 10 49.2 -0.5**
NOR lAmb lAmb 14 10 49.8
comp=Z,30nm,0.9s
J26L **Joseph Creek** **81.27 26** P **P** **14 10 49.9 -0.3**
baz=286,SNR=25
DOT **Dot Lake** **81.28 26** P **P** **14 10 49.4 -0.8**
Q23K **Middleton Isla** **81.28 31** lAmb lAmb 14 10 52.0
comp=Z,98nm,1.2s
Q23K **Middleton Isla** **81.28 31** P **P** **14 10 50.4 +0.2**
baz=284
EYAK **Cordova Ski Ar** **81.31 30** P **P** **14 10 51.7 +1.4**
EYAK **Cordova Ski Ar** **81.31 30** P **P** **14 10 50.9 +0.6**
baz=285,SNR=30
MOR8 **Moi Rana** **81.38 336** *e*P **P** **14 10 48.5 -2.2**
G27K **Doyon Strip** **81.38 23** P **P** **14 10 51.5 +0.8**
baz=287,SNR=47
MARR **Marisel-Cluj** **81.54 316** ⇑P **P** **14 10 52.6 +0.6**
N25K **Chitina, Valde** **81.58 28** lAmb lAmb 14 10 53.8
comp=Z,69nm,1.1s
N25K **Chitina, Valde** **81.58 28** P **P** **14 10 52.5 +0.6**
baz=285,SNR=42
H27K **Steamboat Moun** **81.60 24** lAmb lAmb 14 10 54.1
comp=Z,80nm,1.4s
H27K **Steamboat Moun** **81.60 24** P **P** **14 10 52.8 +0.9**
baz=287,SNR=36
E28M **Babbage River** **81.60 21** lAmb lAmb 14 10 53.6
comp=Z,85nm,1.4s
E28M **Babbage River** **81.60 21** P **P** **14 10 52.1 +0.3**
baz=289,SNR=45
KOLS **Kolonicke sedl** **81.61 318** *e*P **P** **14 10 52.3 +0.1**
KOLS pmax pmax
comp=Z,42nm,0.8s
MENT **Mentasta** **81.62 27** P **P** **14 10 52.9 +0.9**
D28M **Stokes Point** **81.64 20** P **P** **14 10 52.6 +0.7**
baz=289,SNR=9.2
VAGH **Vaagaholmen** **81.66 337** *e*P **P** **14 10 50.3 -1.7**
PGB **Panagyurishte** **81.68 312** P **P** **14 10 52.6 -0.2**
BMRM **Bremner River** **81.74 29** lAmb lAmb 14 10 54.3
comp=Z,84nm,1.0s
BMRM **Bremner River** **81.74 29** P **P** **14 10 53.0 +0.3**
baz=285,SNR=45
I27K **Kandik River** **81.75 24** P **P** **14 10 53.4 +0.7**
baz=287,SNR=41
L26K **Log Cabin Wild** **81.76 27** lAmb lAmb 14 10 54.8
comp=Z,128nm,1.8s
L26K **Log Cabin Wild** **81.76 27** P **P** **14 10 53.3 +0.6**
baz=286,SNR=9.4
KONS **Konsvik** **81.79 337** *e*P **P** **14 10 51.4 -1.4**
DRGR **81.79 316** ⇓P **P** **14 10 53.8 +0.5**
DRGR **81.79 316** P **P** **14 10 53.8 +0.5**
F28M **Old Crow** **81.80 22** lAmb lAmb 14 10 54.5
comp=Z,56nm,1.1s
F28M **Old Crow** **81.80 22** P **P** **14 10 53.3 +0.4**
baz=288,SNR=32
MPEP **Malo Peshtene** **81.82 313** P **P** **14 10 53.6 +0.2**
DEV **Deva** **81.86 315** ⇓P **P** **14 10 54.6 +1.0**
DEV **Deva** **81.86 315** P **P** **14 10 54.6 +1.0**
RAGM **Ragged Mountai** **81.86 30** lAmb lAmb 14 10 55.2
comp=Z,107nm,1.3s
STOK **Stokkvaagen** **81.88 337** *e*P **P** **14 10 51.4 -1.8**
BEL **Belsk** **81.89 321** *e*P **P** **14 10 53.2 -0.4**
LEIR **Leirfjorden** **81.91 336** *e*P **P** **14 10 51.9 -1.5**
VALD **Valchedram** **81.96 313** *e*P **P** **14 10 54.7 +0.6**
GLB **Gilahina Butte** **81.99 29** lAmb lAmb 14 10 55.8
comp=Z,91nm,1.2s
K27K **Chicken** **82.02 26** P **P** **14 10 55.0 +0.9**
baz=287
GZR **Gura Zlata** **82.05 315** ⇑P **P** **14 10 54.6 -0.1**
GZR **Gura Zlata** **82.05 315** P **P** **14 10 55.8 +1.1**
HMT **Hamilton** **82.07 30** lAmb lAmb 14 10 56.1
comp=Z,48nm,1.1s
M26K **Nabesna, AK** **82.09 28** lAmb lAmb 14 10 56.3
comp=Z,67nm,1.0s
M26K **Nabesna, AK** **82.09 28** P **P** **14 10 55.1 +0.6**
baz=286,SNR=64
KAIM **Kayak Island** **82.11 30** P **P** **14 10 55.4 +0.8**
baz=286,SNR=15
STHS **Stebnicka Huta** **82.16 319** *e*P **P** **14 10 54.2 -0.9**
STHS pmax pmax
comp=Z,21nm,1.0s
MMB **Musomishta** **82.20 311** P **P** **14 10 54.6 -0.9**
PLNA **Plana** **82.23 312** P **P** **14 10 55.7 -0.1**
E29M **Blow River** **82.24 21** lAmb lAmb 14 10 56.7
comp=Z,58nm,1.1s
E29M **Blow River** **82.24 21** P **P** **14 10 55.5 +0.4**
baz=290,SNR=49
VTS **Vitosha** **82.34 312** P **P** **14 10 56.2 -0.2**
MCARA **McCarthy VSAT** **82.37 28** lAmb lAmb 14 10 57.9
comp=Z,82nm,1.0s
MCARA **McCarthy VSAT** **82.37 28** P **P** **14 10 56.8 +0.9**
baz=286,SNR=42
SUCK **Suckling Hills** **82.38 30** lAmb lAmb 14 10 58.2
comp=Z,75nm,1.3s
HERR **Herculane** **82.41 314** ⇓P **P** **14 10 56.9 +0.4**
L27K **Beaver Creek,** **82.41 27** P **P** **14 10 57.4 +1.2**
baz=287,SNR=131
SURR **Surduc** **82.42 315** ⇑P **P** **14 10 56.5 0.0**
BCAR **Bevar Creek A** **82.43 27** P **P** **14 10 57.2 +0.9**
I28M **Miner Creek** **82.46 24** lAmb lAmb 14 10 58.5
comp=Z,57nm,1.1s
I28M **Miner Creek** **82.46 24** P **P** **14 10 57.1 +0.6**
baz=289,SNR=54
CRQM **Cirque** **82.49 29** lAmb lAmb 14 10 58.5
comp=Z,72nm,1.1s
CRQE **Cirque** **82.51 29** P **P** **14 10 57.3 +0.4**
baz=286,SNR=35
KKB **Krupnik** **82.59 311** P **P** **14 10 57.0 -0.5**
M27K **Edge Creek, AK** **82.60 27** P **P** **14 10 58.2 +0.8**
baz=287,SNR=40
SIRR **Siria** **82.61 316** ⇑P **P** **14 10 57.9 +0.4**
TGL **Tana Glacier** **82.64 29** lAmb lAmb 14 10 59.1
comp=Z,62nm,1.0s
IDI **Anoyia** **82.69 304** lAmb lAmb 14 10 59.6
comp=Z,55nm,1.1s
G29M **Pine Creek** **82.71 22** P **P** **14 10 57.8 +0.1**
baz=290,SNR=71
WAX **Waxell Ridge** **82.71 29** lAmb lAmb 14 10 59.8
comp=Z,70nm,1.0s
NIE **Niedzica** **82.76 319** *e*P **P** **14 10 58.6 +0.3**
BZS **Buzias** **82.79 315** ⇓P **P** **14 10 58.1 -0.4**
BZS **Buzias** **82.79 315** P **P** **14 10 58.0 -0.4**
H29M **Whitestone** **82.82 23** lAmb lAmb 14 10 59.6
comp=Z,63nm,1.0s
H29M **Whitestone** **82.82 23** P **P** **14 10 58.3 +0.1**
baz=290,SNR=51
KECS **Kecovo** **82.87 318** *e*P **P** **14 10 59.4 +0.6**
KECS pmax pmax
comp=Z,44nm,1.0s
OJC **Ojcow** **82.88 320** *e*P **P** **14 10 58.3 -0.6**
ISLE **Juniper Island** **82.91 29** lAmb lAmb 14 11 00.7
comp=Z,56nm,1.1s
MDVR **Moldovita** **82.92 314** ⇓P **P** **14 10 59.4 +0.1**
BVCY **Beaver Creek** **83.04 27** P **P** **14 11 00.7 +1.2**
baz=288,SNR=61
VAY **Valandovo** **83.11 311** *i*P **P** **14 10 59.3 -0.9**
DAWY **Dawson** **83.13 25** lAmb lAmb 14 11 01.5
comp=Z,42nm,1.1s
DAWY **Dawson** **83.13 25** P **P** **14 11 00.2 +0.3**
baz=289,SNR=54
I29M **Ogilvie Camp,** **83.14 24** lAmb lAmb 14 11 01.3
comp=Z,47nm,1.2s
I29M **Ogilvie Camp,** **83.14 24** P **P** **14 10 60.0 +0.1**
baz=290,SNR=27
BOVS **Bovan** **83.20 313** ⇓P **P** **14 11 00.6 0.0**
MESA **MESA** **83.22 30** lAmb lAmb 14 11 02.9
comp=Z,66nm,1.0s
MESA **MESA** **83.22 30** P **P** **14 11 01.6 +1.0**
baz=288,SNR=14
F30M **Barrier River** **83.27 22** lAmb lAmb 14 11 01.9
comp=Z,54nm,0.9s
F30M **Barrier River** **83.27 22** P **P** **14 11 00.8 +0.2**
baz=292,SNR=28
CTG **Chitna Glacier** **83.27 29** P **P** **14 11 01.9 +1.1**
baz=288,SNR=107
G30M **tAoh Zraii Nji** **83.34 22** P **P** **14 11 00.5 -0.5**
baz=292,SNR=62
LANS **Liptovska Anna** **83.36 319** *e*P **P** **14 11 01.9 +0.5**
LANS pmax pmax
comp=Z,10.0nm,1.2s
EPYK **Eagle Plains** **83.39 23** lAmb lAmb 14 11 02.0
comp=Z,48nm,0.9s
EPYK **Eagle Plains** **83.39 23** P **P** **14 11 00.9 -0.3**
baz=291,SNR=24
PSZ **Piszkesteto** **83.39 318** lAmb lAmb 14 11 02.9
comp=Z,66nm,1.5s
YUK3 **Moose Creek** **83.42 28** P **P** **14 11 02.5 +0.8**
baz=289,SNR=56
J29N **Klondike Camp** **83.49 25** P **P** **14 11 02.8 +1.0**
baz=290,SNR=11
HFS **Hagfors** **83.50 331** P **P** **14 11 00.8 -1.0**
comp=Z,15nm,0.7s,baz=116,slow=3.4,SNR=18
comp=Z,15nm,0.7s
TABL **Table Mountain** **83.53 29** lAmb lAmb 14 11 04.4
comp=Z,65nm,1.0s
BLEU **Blekinge** **83.57 327** *i*P **P** **14 11 01.3 -0.9**
INK **Inuvik** **83.78 21** lAmb lAmb 14 11 04.0
comp=Z,80nm,1.4s
INK **Inuvik** **83.78 21** P **P** **14 11 02.7 -0.4**
baz=294,SNR=28
SKO **Skopje** **83.78 312** *i*P **P** **14 11 03.1 -0.6**
O28M **Mount Upton** **83.86 29** lAmb lAmb 14 11 06.6
comp=Z,41nm,1.1s
O28M **Mount Upton** **83.86 29** P **P** **14 11 05.2 +1.2**
baz=289,SNR=30
YUK8 **Steele Glacier** **83.89 28** P **P** **14 11 05.0 +0.8**
baz=289,SNR=44
VYHS **Vyhne** **83.93 318** *e*P **P** **14 11 04.4 +0.1**
VYHS pmax pmax
comp=Z,91nm,1.9s
I30M **Mount Dempster** **83.94 24** P **P** **14 11 04.4 +0.2**
baz=292,SNR=92
K29M **Barlow Dome** **83.99 25** lAmb lAmb 14 11 06.3
comp=Z,43nm,0.9s
K29M **Barlow Dome** **83.99 25** P **P** **14 11 05.0 +0.6**
baz=291,SNR=58
L29M **L29M** **83.99 26** P **P** **14 11 05.6 +1.2**
baz=290,SNR=92
OKC **Ostrava-Krasne** **84.01 320** AMS AMS 14 50 20.0
comp=Z,500nm,23.6s
F31M **Tsiigehtchic** **84.06 21** P **P** **14 11 04.2 -0.3**
baz=294,SNR=18
PINM **Pinnacle** **84.06 29** P **P** **14 11 05.8 +1.0**
baz=289,SNR=20
G31M **Satah River** **84.08 22** lAmb lAmb 14 11 05.3
comp=Z,43nm,1.1s
G31M **Satah River** **84.08 22** P **P** **14 11 04.0 -0.6**
baz=294,SNR=26
M29M **Somme Creek** **84.08 27** lAmb lAmb 14 11 07.4
comp=Z,50nm,0.8s
M29M **Somme Creek** **84.08 27** P **P** **14 11 06.2 +1.3**
baz=290,SNR=69
FNA **Florina** **84.12 310** lAmb lAmb 14 11 05.1
comp=Z,58nm,1.3s
J30M **Hart River** **84.20 24** lAmb lAmb 14 11 07.2
comp=Z,124nm,2.0s
J30M **Hart River** **84.20 24** P **P** **14 11 05.8 +0.3**
baz=292,SNR=38
STEB **Steborice** **84.22 320** *e*P **P** **14 11 05.9 +0.2**
NC602 **NORSAR Array S** **84.31 331** *e*P **P** **14 11 04.1 -1.9**
MAUC **Maruska** **84.34 319** *e*P **P** **14 11 07.3 +0.9**
NB2 **NORSAR Subarra** **84.36 332** P **P** **14 11 04.6 -1.7**
comp=Z,79nm,1.1s,baz=72,slow=5.1
NB2 **NORSAR Subarra** **84.36 332** P **P** **14 11 04.6 -1.7**
comp=Z,79nm,1.1s,baz=72,slow=5.1
NOA **NORSAR Array B** **84.36 332** P **P** **14 11 04.7 -1.7**
comp=Z,26nm,0.9s,baz=72,slow=5.2,SNR=31
NOA LR LR 14 50 01.8
comp=Z,331nm,19.8s,baz=65,slow=37
comp=Z,26nm,0.9s
YUK4 **Talbot Arm** **84.38 28** P **P** **14 11 07.3 +0.7**
baz=290,SNR=30
MORC **Moravsky Berou** **84.40 320** *e*P **P** **14 11 05.7 -1.0**
MORC **Moravsky Berou** **84.40 320** ⇓P **P** **14 11 06.7 0.0**
MORC **Moravsky Berou** **84.40 320** P **P** **14 11 06.7 0.0**
BSD **Bornholm Skovb** **84.41 326** *i*P **P** **14 11 05.8 -0.7**
BSD lAmb lAmb 14 11 06.1
comp=Z,88nm,1.1s
SRO **Srobarova** **84.44 318** *e*P **P** **14 11 07.5 +0.6**
SRO pmax pmax
comp=Z,22nm,0.7s
OHR **Ohrid** **84.46 311** *i*P **P** **14 11 06.1 -1.1**
H31M **Peel River** **84.50 23** lAmb lAmb 14 11 07.9
comp=Z,62nm,1.1s
H31M **Peel River** **84.50 23** P **P** **14 11 06.8 -0.1**
baz=294,SNR=32
DEL **Delary** **84.55 327** *i*P **P** **14 11 06.7 -0.6**
A36M **Sachs Harbour** **84.56 16** P **P** **14 11 06.7 -0.3**
baz=301,SNR=14
JAVC **Velka Javorina** **84.57 319** *e*P **P** **14 11 08.0 +0.4**
PNL **Peninsula** **84.61 30** P **P** **14 11 09.4 +1.9**
PNL **Peninsula** **84.61 30** P **P** **14 11 08.7 +1.2**
baz=290,SNR=27
YUK6 **Outpost Mounta** **84.65 28** P **P** **14 11 09.3 +1.3**
baz=290,SNR=60
MORH **Mrgy, Hungar** **84.66 316** ⇓P **P** **14 11 07.8 -0.2**
IVA **Berane** **84.67 313** ⇑*i*P **P** **14 11 06.9 -1.4**
BORU **Boras** **84.75 328** *i*P **P** **14 11 07.2 -1.1**
MAYO **Mayo, Yukon** **84.75 25** P **P** **14 11 08.7 +0.5**
baz=292,SNR=10
M30M **Minto, Yukon** **84.76 26** P **P** **14 11 09.2 +0.9**
baz=292,SNR=116
O29M **Mount Kennedy** **84.78 29** lAmb lAmb 14 11 11.1
comp=Z,69nm,1.4s
O29M **Mount Kennedy** **84.78 29** P **P** **14 11 09.7 +1.2**
baz=290,SNR=27
SMOL **Smolenice** **84.82 319** *e*P **P** **14 11 09.2 +0.4**
SMOL pmax pmax
comp=Z,35nm,2.0s
KSP **Ksiaz** **84.87 321** *e*P **P** **14 11 08.9 -0.1**
KOME **Kolasin** **84.94 313** ⇑*i*P **P** **14 11 09.0 -0.7**
DOMB **Dombas** **84.97 333** *e*P **P** **14 11 08.6 -0.7**
OSL **Oslo** **84.97 331** *e*P **P** **14 11 07.9 -1.4**
DAG **Danmarks Havn** **84.97 351** *i*P **P** **14 11 08.0 -1.0**
DAG lAmb lAmb 14 11 08.6
comp=Z,59nm,0.9s
DPC **Dobruska-Polom** **85.00 321** *e*P **P** **14 11 10.2 +0.5**
DPC **Dobruska-Polom** **85.00 321** *e*P **P** **14 11 10.2 +0.5**
OSTC **Ostas** **85.00 321** *e*P **P** **14 11 10.6 +0.9**
OSTC MLR MLR
comp=Z,600nm,15.8s
OSTC **Ostas** **85.00 321** *e*P **P** **14 11 10.6 +0.9**
OSTC AMS AMS 14 51 10.0
comp=Z,600nm,15.8s
N30M **Aishikik Lake** **85.04 27** P **P** **14 11 11.0 +1.2**
baz=292,SNR=101
LUNU **Lund** **85.04 326** *i*P **P** **14 11 09.5 -0.2**
HYT **Haines Junctio** **85.08 28** P **P** **14 11 11.3 +1.2**
baz=291,SNR=102
CHVC **Chvalec** **85.09 321** *e*P **P** **14 11 10.5 +0.3**
CHVC MLR MLR
comp=Z,600nm,20.4s
CHVC **Chvalec** **85.09 321** *e*P **P** **14 11 10.5 +0.3**
CHVC AMS AMS 14 51 10.0
comp=Z,600nm,20.4s
ZST **Bratislava** **85.12 318** *e*P **P** **14 11 09.1 -1.2**
VRAC **Vranov** **85.13 320** LR LR 14 51 38.5
comp=Z,500nm,18.9s,baz=82,slow=37
VRAC **Vranov** **85.13 320** *e*P **P** **14 11 10.3 -0.1**
VRAC **Vranov** **85.13 320** *e*SN **S** **14 21 33.8 -5.7**
VRAC **Vranov** **85.13 320** ⇓P **P** **14 11 09.5 -0.9**
VRAC **Vranov** **85.13 320** P **P** **14 11 09.4 -0.9**
UPC **Upice** **85.14 321** AMS AMS 14 51 20.0
comp=Z,500nm,15.0s
TJOU **Tjoern** **85.19 329** *i*P **P** **14 11 09.2 -1.3**
PDG **Podgorica** **85.24 312** ⇑*i*P **P** **14 11 10.2 -0.8**
ONAU **Onsala** **85.26 328** *i*P **P** **14 11 09.7 -1.1**

KRUC **Moravsky** **85.32 319** *eP* **P** **14 11 11.0 -0.3**
DRME **Dracevica, Mon** **85.35 312**⇑ *iP* **P** **14 11 11.2 -0.4**
NKME **Niksic** **85.36 313**⇑ *iP* **P** **14 11 10.7 -1.0**
ULC **Ulcinj** **85.37 312**⇑ *iP* **P** **14 11 10.6 -1.1**
P29M **Windy Craggy** **85.41 29** P **P** **14 11 13.0 +1.4**
baz=291,SNR=60
MOL **Molde** **85.42 334** *eP* **P** **14 11 10.6 -0.8**
CEME **Cevo** **85.45 313**⇑ *iP* **P** **14 11 11.1 -1.1**
P30M **Million Dollar** **85.59 29** P **P** **14 11 13.5 +1.0**
baz=292,SNR=63
KONO **Kongsberg** **85.61 331** *eP* **P** **14 11 11.2 -1.3**
KONO **Kongsberg** **85.61 331**⇓ *eP* **P** **14 11 11.2 -1.3**
KONO pmax pmax
comp=Z,70nm,1.8s
N31M **Braeburn, Yuko** **85.61 27** P **P** **14 11 13.7 +1.2**
baz=293,SNR=78
BRY **Bratogost** **85.62 313**⇑ *iP* **P** **14 11 11.9 -1.2**
MBAR **Mbarara** **85.71 268** *c iP* **P** **14 11 14.7 +0.6**
MBAR pmax pmax
comp=Z,63nm,1.1s
O30N **Mendenhall** **85.75 28** P **P** **14 11 14.4 +1.2**
baz=292,SNR=80
HCY **Herceg Novi** **85.78 313**⇑ *iP* **P** **14 11 12.8 -0.9**
RONA **Rosalia, Austr** **85.78 318** *eP* **P** **14 11 13.1 -0.6**
comp=Z,18nm,1.2s,SNR=8.4
SKAR **Skarslia** **85.82 332** *eP* **P** **14 11 12.5 -1.1**
TREC **Trest** **85.82 320** *eP* **P** **14 11 14.5 +0.7**
TREC **Trest** **85.82 320** *eP* **P** **14 11 14.5 +0.7**
RUE **Ruedersdorf** **85.86 323** *eP* **P** **14 11 13.9 0.0**
comp=Z,270nm,1.3s,baz=69,slow=4.8
M31M **Drury Creek, Y** **85.93 26** IAmb IAmb 14 11 15.8
comp=Z,54nm,0.9s
M31M **Drury Creek, Y** **85.93 26** P **P** **14 11 14.5 +0.4**
baz=294,SNR=89
CONA **Conrad Observa** **86.00 318** *eP* **P** **14 11 14.5 -0.3**
comp=Z,24nm,1.2s,SNR=10
PVCC **Panska Ves** **86.01 321** AMS AMS 14 51 50.0
comp=Z,500nm,14.4s
BLY **Banja Luka** **86.05 315**⇑ P **P** **14 11 15.2 +0.3**
PLBC **Pleasant Camp** **86.12 29** P **P** **14 11 16.0 +1.0**
baz=292,SNR=32
KOGS **Kog** **86.18 317** *i P* **P** **14 11 15.3 -0.3**
PRU **Pruhonice** **86.20 321** *eP* **P** **14 11 15.9 +0.3**
PRU MLR MLR
comp=Z,600nm,18.6s
PRU **Pruhonice** **86.20 321** *eP* **P** **14 11 15.9 +0.3**
PRU AMS AMS 14 51 40.0
comp=Z,600nm,18.6s
PRA **Prague** **86.24 321** AMS AMS 14 51 40.0
comp=Z,500nm,16.8s
BRG **Berggiesshubel** **86.28 322**⇑ *iP* **P** **14 11 17.7 +1.7**
BRG Amp 14 11 19.1
comp=Z,84nm,1.2s
BRG **Berggiesshubel** **86.28 322** P P 14 11 26.1 +10
BRG Amp 14 11 28.0
comp=Z,32nm,1.1s
C36M **Paulatuk** **86.30 18** P **P** **14 11 15.1 -0.7**
baz=303,SNR=16
WHY **Whitehorse** **86.34 28** P **P** **14 11 17.3 +1.1**
baz=294,SNR=74
ARSA **Arzberg** **86.42 318** *eP* **P** **14 11 16.3 -0.5**
comp=Z,19nm,1.0s,SNR=9.2
SKAG **Skagway** **86.61 29** P **P** **14 11 18.7 +1.3**
SKAG **Skagway** **86.61 29** P **P** **14 11 18.7 +1.3**
baz=293,SNR=56
CLL **Collm** **86.70 322** IAmb IAmb 14 11 19.1
comp=Z,69nm,1.2s
CLL **Collm** **86.70 322** *i P* **P** **14 11 17.6 -0.5**
CLL pmax pmax
comp=Z,77nm,1.3s
CLL MLR MLR
comp=Z,700nm,18.8s
CLL **Collm** **86.70 322** *eP* **P** **14 11 17.6 -0.5**
comp=Z,69nm,1.2s,baz=69,slow=4.8
JMIC **Jan Mayen** **86.72 344** LR LR 14 54 21.2
comp=Z,155nm,18.2s,baz=50,slow=39
S31K **Pelican** **86.76 31** IAmb IAmb 14 11 20.5
comp=Z,52nm,1.1s
S31K **Pelican** **86.76 31** P **P** **14 11 19.1 +0.9**
baz=292,SNR=13
R31K **City Hall, Gus** **86.82 30** P **P** **14 11 19.5 +1.1**
baz=293
PERS **Pernice** **86.87 317** *i P* **P** **14 11 18.5 -0.6**
SOKA **Soboth** **86.91 317** *eP* **P** **14 11 18.6 -0.7**
comp=Z,19nm,1.2s,SNR=13
N32M **Quiet Lake** **86.94 27** P **P** **14 11 19.9 +0.8**
baz=295
MOA **Molln** **87.04 319** *eP* **P** **14 11 19.5 -0.3**
comp=Z,47nm,1.0s,SNR=8.7
DBG **Daneborg** **87.06 349** *i P* **P** **14 11 18.6 -0.7**
DBG IAmb IAmb 14 11 19.2
comp=Z,26nm,1.2s
KHC **Kasperske Hory** **87.06 320** *d iP* **P** **14 11 20.3 +0.3**
KHC pmax pmax
comp=Z,21nm,1.2s
KHC **Kasperske Hory** **87.06 320** *eP* **P** **14 11 20.2 +0.3**
KHC AMS AMS 14 52 20.0
comp=Z,500nm,16.4s
MMPY **Sheldon Lake,** **87.07 25** IAmb IAmb 14 11 21.8
comp=Z,55nm,1.1s
MMPY **Sheldon Lake,** **87.07 25** P **P** **14 11 20.6 +0.9**
baz=297,SNR=38
GEC2 **GERESS Array S** **87.08 320** *eP* **P** **14 11 19.9 -0.2**
comp=Z,66nm,1.3s,baz=69,slow=4.8
GERES **GERESS Array B** **87.08 320** P **P** **14 11 20.4 +0.2**
comp=Z,15nm,1.0s,baz=62,slow=6.8,SNR=46
GERES LR LR 14 52 48.0
comp=Z,431nm,20.1s,baz=90,slow=37
comp=Z,15nm,1.0s
GORT1 **Trebel** **87.11 324** *eP* **P** **14 11 20.3 +0.3**
comp=Z,160nm,1.3s,baz=69,slow=4.8
OBKA **Obir** **87.28 317** *i P* **P** **14 11 20.4 -0.7**
comp=Z,17nm,1.1s,SNR=5.9
P32M **Atlin** **87.31 29** P **P** **14 11 22.0 +1.1**
baz=295,SNR=16
TANN **Tannenbergstha** **87.32 322** *eP* **P** **14 11 20.9 -0.3**
comp=Z,37nm,1.2s,baz=69,slow=4.8
FLTG **Flechtingen** **87.38 324** *eP* **P** **14 11 20.7 -0.6**
comp=Z,66nm,1.3s,baz=69,slow=4.8
LJU **Ljubljana** **87.44 317** *i P* **P** **14 11 21.6 -0.2**
P33M **Teslin, Yukon** **87.46 28** IAmb IAmb 14 11 23.7
comp=Z,70nm,1.3s
P33M **Teslin, Yukon** **87.46 28** P **P** **14 11 22.5 +0.8**
baz=295,SNR=33
NEUB **Neuenburg** **87.46 322** *eP* **P** **14 11 21.5 -0.2**
comp=Z,103nm,1.3s,baz=69,slow=4.8
R32K **Eaglecrest** **87.47 30** IAmb IAmb 14 11 24.3
comp=Z,45nm,1.1s
R32K **Eaglecrest** **87.47 30** P **P** **14 11 22.5 +0.8**
baz=294,SNR=23
PLN **Plauen** **87.48 322** *eP* **P** **14 11 21.7 -0.2**
comp=Z,10nm,1.1s,baz=69,slow=4.8
BIOA **Bad Ischl, Aus** **87.49 319** *eP* **P** **14 11 21.4 -0.6**
comp=Z,17nm,1.1s,SNR=5.9
WET **Wettzell** **87.49 320** *eP* **P** **14 11 22.1 +0.1**
comp=Z,48nm,1.4s,baz=69,slow=4.8
JIS **Juneau Island** **87.53 30** P **P** **14 11 23.0 +1.1**
SIT **Sitka** **87.56 31** IAmb IAmb 14 11 24.5
comp=Z,43nm,1.1s
SIT **Sitka** **87.56 31** P **P** **14 11 23.8 +1.7**
SIT **Sitka** **87.56 31** P **P** **14 11 23.4 +1.4**
baz=293,SNR=5.6
MANZ **Manzenberg** **87.68 321** *eP* **P** **14 11 23.0 +0.1**
comp=Z,8.1nm,1.2s,baz=69,slow=4.8
ROTZ **Rotzenmuhle** **87.70 321** *eP* **P** **14 11 23.1 +0.1**
comp=Z,12nm,1.3s,baz=69,slow=4.8
MOX **Moxa** **87.75 322** *eP* **P** **14 11 23.0 -0.2**
comp=Z,45nm,1.3s,baz=69,slow=4.8
MOX *eL* L 14 53 05.5
comp=Z,407nm,21.5s
NEEM **North Greenlan** **87.77 357** *i P* **P** **14 11 23.2 0.0**
NEEM IAmb IAmb 14 11 24.0
comp=Z,59nm,0.9s
ASSE **Asse, Remlinge** **87.78 324** *eP* **P** **14 11 23.2 +0.1**
comp=Z,82nm,1.4s,baz=69,slow=4.8
MYKA **Terra Mystica** **87.84 318** *eP* **P** **14 11 22.8 -0.9**
comp=Z,2.7nm,0.6s
KBA **Koelnbreinsper** **87.88 318** *i P* **P** **14 11 23.4 -0.8**
comp=Z,19nm,1.5s
LESA **Schwarzleotal** **88.20 319** *eP* **P** **14 11 24.3 -1.2**
comp=Z,24nm,1.4s,SNR=7.4
Q32M **Nakina River** **88.25 29** P **P** **14 11 26.7 +1.1**
baz=296,SNR=14
RETH **Rethem/Aller,** **88.30 324** *eP* **P** **14 11 25.8 +0.2**
comp=Z,63nm,1.4s,baz=69,slow=4.8
GRF **Grafenberg Arr** **88.32 321** *eP* **P** **14 11 26.0 0.0**
comp=Z,14nm,0.8s,baz=69,slow=4.8
GRF *eL* L 14 53 03.5
comp=Z,490nm,21.2s
GTTG **Gottingen** **88.40 323** *eP* **P** **14 11 26.4 +0.1**
comp=Z,77nm,1.3s,baz=69,slow=4.8
ABTA **Abfaltersbach** **88.53 318** *eP* **P** **14 11 26.1 -0.9**
comp=Z,15nm,1.7s,SNR=5.4
STAL **STALIGIAL** **88.57 318** IAmb IAmb 14 11 31.4
comp=Z,37nm,1.2s
UBBA **Unterbreizbach** **88.65 322** *eP* **P** **14 11 27.4 +0.2**
comp=Z,50nm,1.6s,baz=69,slow=4.8
R33M **Jennings River** **88.66 28** P **P** **14 11 28.7 +1.2**
baz=297,SNR=17
FUR **Furstenfeldbru** **88.83 320** *eP* **P** **14 11 28.4 +0.1**
comp=Z,15nm,0.6s,baz=69,slow=4.8
TGTN **Hyland Airport** **88.83 26** P **P** **14 11 28.7 +0.6**
baz=299,SNR=11
WTTA **Wattenberg** **88.92 319** *eP* **P** **14 11 28.1 -0.9**
comp=Z,32nm,1.6s,SNR=9.8
WATA **Walderalm** **88.93 319** *eP* **P** **14 11 27.8 -1.2**
comp=Z,34nm,1.4s,SNR=5.7
TULEG **Thule** **88.94 1** *i P* **P** **14 11 27.7 -0.6**
TULEG IAmb IAmb 14 11 28.7
comp=Z,37nm,1.0s
U33K **Whale Pass** **89.06 32** P **P** **14 11 30.0 +0.8**
baz=295
INTR **Introdacqua** **89.16 313** IAmb IAmb 14 11 32.1
comp=Z,73nm,1.9s
SQTA **Samt Quirin** **89.20 319** *eP* **P** **14 11 29.4 -0.9**
comp=Z,12nm,0.9s,SNR=8.2
MOTA **Moosalm** **89.23 319** *eP* **P** **14 11 29.0 -1.4**
comp=Z,17nm,1.1s,SNR=6.8
S34M **Telegraph Cree** **89.25 29** P **P** **14 11 31.5 +1.4**
baz=297,SNR=7.0
WTLY **Watson Lake, Y** **89.29 27** IAmb IAmb 14 11 32.2
comp=Z,52nm,1.7s
WTLY **Watson Lake, Y** **89.29 27** P **P** **14 11 30.7 +0.4**
baz=299
WRAK **Wrangell Islan** **89.32 31** P **P** **14 11 31.1 +0.7**
baz=296,SNR=6.5
CRAG **Craig** **89.33 32** P **P** **14 11 31.9 +1.4**
CRAG **Craig** **89.33 32** P **P** **14 11 31.2 +0.7**
baz=295,SNR=5.8
IBBN **Ibbenburen** **89.37 324** *eP* **P** **14 11 30.9 +0.1**
comp=Z,122nm,1.4s,baz=69,slow=4.8
RETA **Reutte** **89.39 319** *eP* **P** **14 11 30.1 -1.0**
comp=Z,5.9nm,1.0s
KASTN **Kalte Asten** **89.43 323** *eP* **P** **14 11 31.2 +0.1**
comp=Z,64nm,1.6s,baz=69,slow=4.8
NRCA **Norcia** **89.44 314** IAmb IAmb 14 11 32.5
comp=Z,53nm,1.3s
DLBC **Dease Lake** **89.53 29** P **P** **14 11 32.8 +1.3**
baz=298,SNR=14
FETA **Feichten** **89.58 319** *eP* **P** **14 11 31.4 -0.7**
comp=Z,18nm,1.1s,SNR=6.8
TNS **Tanus Mts** **89.79 322** *eP* **P** **14 11 32.9 0.0**
comp=Z,39nm,1.4s,baz=69,slow=4.8
RAR **Rarotonga** **89.84 112** LR LR 14 44 32.8
comp=Z,198nm,21.7s,baz=280,slow=31
WRGLY **Wrigley** **89.86 23** IAmb IAmb 14 11 34.4
comp=Z,28nm,0.9s
WRGLY **Wrigley** **89.86 23** P **P** **14 11 33.5 +0.7**
baz=303,SNR=9.1
STU **Stuttgart** **89.89 321** *eP* **P** **14 11 33.0 -0.3**
comp=Z,31nm,0.8s,baz=69,slow=4.8
BUG **Bochum--Univer** **90.00 324** *eP* **P** **14 11 33.7 0.0**
comp=Z,68nm,1.2s,baz=69,slow=4.8
DAVA **Damuels** **90.02 319** *eP* **P** **14 11 33.1 -1.1**
comp=Z,5.9nm,0.7s
T35M **Bob Quinn** **90.10 30** P **P** **14 11 35.1 +0.9**
baz=298
V35K **Ketchikan** **90.17 32** P **P** **14 11 34.8 +0.3**
baz=296
DAVOX **Davos/Wischmat** **90.21 319** LR LR 14 55 12.5
comp=Z,367nm,19.9s,baz=86,slow=38
BFO **Black Forest** **90.59 321** P **P** **14 11 35.8 -0.8**
BFO **Black Forest** **90.59 321** P **P** **14 11 35.8 -0.8**
BFO pmax pmax
comp=Z,9.0nm,0.8s
BFO **Black Forest** **90.59 321** *eP* **P** **14 11 36.0 -0.7**
comp=Z,12nm,1.0s,baz=69,slow=4.8
MAW **Mawson** **90.60 198** P **P** **14 11 37.0 +1.0**
comp=Z,18nm,1.1s,baz=36,slow=6.1,SNR=17
comp=Z,18nm,1.1s
MAW **Mawson** **90.60 198** P **P** **14 11 37.0 +1.0**
DIB **Dawson Inlet,** **90.65 34** IAmb IAmb 14 11 40.0
comp=Z,69nm,1.6s
LIRD **Liard River Hi** **90.83 27** P **P** **14 11 37.8 +0.4**
baz=301
KULLO **Kullorsuaq** **90.86 358** *i P* **P** **14 11 36.8 -0.5**
KULLO IAmb IAmb 14 11 38.2
comp=Z,41nm,1.0s
BTNL **Ternell** **91.00 323** *dP* **P** **14 11 38.3 -0.2**
comp=Z,19nm,1.3s
MEM **Membach** **91.06 323** *dP* **P** **14 11 38.0 -0.7**
comp=Z,24nm,1.2s
BHOU **Houvegnez** **91.17 323** *dP* **P** **14 11 39.4 +0.1**
comp=Z,20nm,1.2s
BEBN **Eben Emael** **91.17 324** *dP* **P** **14 11 39.1 -0.1**
BSTI **Sart Tilman** **91.33 323** *dP* **P** **14 11 40.1 +0.1**
SUMG **Summit** **91.36 353** IAmb IAmb 14 11 42.4
comp=Z,56nm,1.2s
SUMG **Summit** **91.36 353** *i P* **P** **14 11 39.3 -0.8**
SUMG IAmb IAmb 14 11 42.0
comp=Z,39nm,1.0s
WLF **Walferdange** **91.37 322** *dP* **P** **14 11 41.0 +0.8**
comp=Z,44nm,1.1s
WLF **Walferdange** **91.37 322** *eP* **P** **14 11 40.5 +0.4**
comp=Z,93nm,1.1s,baz=69,slow=4.8
TOAD **Toad River Com** **91.50 27** P **P** **14 11 40.9 +0.2**
baz=302,SNR=14
BCLA **Clavier** **91.55 323** *dP* **P** **14 11 40.9 -0.1**
comp=Z,18nm,1.3s
BGES **Geseves** **91.69 323** *dP* **P** **14 11 41.7 +0.1**
comp=Z,13nm,1.3s
RCHB **Rochefort** **91.71 323** *dP* **P** **14 11 41.7 0.0**
comp=Z,16nm,1.2s
HG4B **Hotspring** **91.75 35** IAmb IAmb 14 11 43.6
comp=Z,39nm,1.1s
LSZ **Lusaka** **91.87 255** P **P** **14 11 42.8 -0.4**
LSZ IAmb IAmb 14 11 44.7
comp=Z,41nm,1.0s
LSZ **Lusaka** **91.87 255** LR LR 14 50 51.6
comp=Z,395nm,18.1s,baz=108,slow=34
LSZ **Lusaka** **91.87 255** P **P** **14 11 42.8 -0.4**
LSZ pmax pmax
comp=Z,41nm,1.0s
BMRD **Maredsous** **91.91 323** *dP* **P** **14 11 42.5 -0.2**
comp=Z,21nm,1.1s
UCC **Uccle** **91.93 324** IAmb IAmb 14 11 43.8
comp=Z,48nm,1.2s
UCC **Uccle** **91.93 324** *dP* **P** **14 11 42.7 0.0**
comp=Z,25nm,1.2s
SENIN **Lac Senin/Sane** **92.02 319** IAmb IAmb 14 11 56.1
comp=Z,49nm,1.6s
DOU **Dourbes** **92.10 323** *dP* **P** **14 11 42.8 -0.7**
comp=Z,23nm,1.1s
POIN **Pond Inlet** **92.34 4** IAmb IAmb 14 11 45.5
comp=Z,58nm,1.4s
MATP **Matopo** **92.86 250** LR LR 14 48 51.1
comp=Z,198nm,21.4s,baz=76,slow=32
BNI **Bardonecchia** **92.94 318** IAmb IAmb 14 11 48.3
comp=Z,32nm,1.4s
YKA **Yellowknife Ar** **93.53 21** P **P** **14 11 49.2 -0.7**
YKA **Yellowknife Ar** **93.53 21** P **P** **14 11 50.0 +0.1**
comp=Z,11nm,1.1s,baz=325,slow=5.2,SNR=21
comp=Z,11nm,1.1s
YKA **Yellowknife Ar** **93.53 21** P **P** **14 11 49.2 -0.7**
EKA **Eskdalemuir Ar** **93.69 330** P **P** **14 11 50.0 -0.8**
comp=Z,7.7nm,1.1s,baz=105,slow=9.6,SNR=5.1
comp=Z,7.7nm,1.1s
EKA **Eskdalemuir Ar** **93.69 330** P **P** **14 11 50.0 -0.8**
MREMI **Moremi** **94.34 248** IAmb IAmb 14 11 55.3
comp=Z,28nm,1.2s
KEST **Kesra** **94.67 309** P **P** **14 11 56.0 +0.2**
comp=Z,6.7nm,1.0s,baz=188,slow=3.1,SNR=3.7
comp=Z,6.7nm,1.0s
VNDA **Vanda** **95.65 171** P **P** **14 11 59.3 +0.2**
comp=Z,3.5nm,1.0s,baz=304,slow=5.1,SNR=15
VNDA LR LR 14 57 20.7
comp=Z,69nm,18.9s,baz=286,slow=37
comp=Z,3.5nm,1.0s
LPHEP **Lephephe** **95.95 248** IAmb IAmb 14 12 02.8
comp=Z,25nm,1.2s
BOSA **Boshof** **97.64 242** P **P** **14 12 08.7 -0.8**
comp=Z,9.6nm,1.1s,baz=359,slow=2.2,SNR=4.2
BOSA LR LR 14 54 18.3
comp=Z,116nm,18.1s,baz=62,slow=34
comp=Z,9.6nm,1.1s

SFJD **Kangerlussuaq** **98.00 355** *i* P **P** **14 12 09.5 -0.6**
SFJD IAmb IAmb 14 12 11.1
comp=Z,22nm,1.1s
DY2G **Dye2** **98.05 353** *i* P **P** **14 12 10.5 -0.2**
DY2G IAmb IAmb 14 12 11.3
comp=Z,239nm,1.7s
PPT2 **Papeete2** **98.30 106** *e*S **S** **14 23 32.8 -7.7**
comp=Z,283nm,28.0s
PPT2 *e*SS **SS** **14 30 19.2 -5.3**
comp=Z,156nm,22.0s
PPT2 **Papeete2** **98.30 106** *e*LR LR 14 44 02.4
comp=Z,586nm,35.0s
PPT2 *e*LR LR 14 44 06.4
comp=Z,584nm,23.0s
SYO **Syowa Base** **98.83 201**⇑ *e*Pdiff Pdif 14 12 15.8 +2.2
SYO **Syowa Base** **98.83 201**⇓ *ep*Pdiff Pdif 14 12 19.8 +6.2
TBI **Tubuai** **99.62 112** *e*S **S** **14 23 48.3 -3.0**
comp=Z,1μm,31.0s
TBI *e*SS **SS** **14 30 38.3 -4.5**
comp=Z,2μm,37.8s
TBI **Tubuai** **99.62 112** *e*LR LR 14 44 35.7
comp=Z,1μm,41.2s
TBI *e*LR LR 14 44 40.5
comp=Z,3μm,28.2s
TAOE **Nuku Hiva Isla** **105.37 95** *e*LR LR 14 47 26.4
comp=Z,368nm,23.1s
NVAR **Mina Array Bea** **106.64 42** Pdiff **Pdif** **14 12 48.7 -0.8**
comp=Z,0.2nm,0.4s,baz=216,slow=4.8,SNR=4.4
PDAR **Pinedale Array** **109.12 34** PKiKP **PKiKP** **14 17 04.7 +0.1**
comp=Z,0.4nm,0.8s,baz=339,slow=4.0,SNR=3.4
PDAR PP **PP** **14 17 29.7 -2.5**
comp=Z,2.5nm,1.1s,baz=291,slow=4.6,SNR=6.6
TORD **Torodi Ar. Bea** **109.48 290** PKiKP **PKiKP** **14 17 04.5 -1.2**
comp=Z,2.4nm,0.9s,baz=43,slow=3.2,SNR=8.7
TORD PP **PP** **14 17 29.1 -6.6**
comp=Z,4.8nm,1.0s,baz=42,slow=4.8,SNR=6.9
TXAR **Lajitas Array** **121.78 41** PKP **PKiKP** **14 17 29.2 0.0**
comp=Z,3.9nm,0.8s,baz=259,slow=0.8,SNR=32
TXAR PP **PP** **14 18 59.9 -1.4**
comp=Z,1.8nm,1.0s,baz=309,slow=4.0,SNR=4.2
TXAR PKKPab **PKKPab** **14 27 29.8 +0.2**
comp=Z,0.5nm,0.7s,baz=154,slow=6.9,SNR=4.5
PLCA **Paso Flores** **153.37 169** PKP **PKPdf** **14 18 25.2 0.0**
comp=Z,8.7nm,1.2s,baz=107,slow=3.5,SNR=5.4
SDV **Santo Domingo** **155.66 16** *e*P **PKPdf** **14 18 29.1 -0.3**
ROSC **El Rosal** **158.02 29** PKP **PKPdf** **14 18 33.0 +0.3**
comp=Z,11nm,0.5s,baz=81,slow=4.2,SNR=9.7
ROSC **El Rosal** **158.02 29** PKiKP **PKPdf** **14 18 33.0 +0.3**
JANB **Januaria** **161.11 266** *e*P **PKPdf** **14 18 35.7 0.0**
BDFB **Brasilia** **164.68 264** PKP **PKPdf** **14 18 38.7 -0.5**
comp=Z,9.5nm,0.9s,baz=318,slow=9.9,SNR=6.6
BDFB PKPab **PKPab** **14 19 34.7 0.0**
comp=Z,2.4nm,0.3s,baz=59,slow=5.8,SNR=3.9
CPUP **Villa Florida** **166.88 207** PKP **PKPdf** **14 18 40.3 -0.3**
comp=Z,2.0nm,1.1s,baz=183,slow=4.3,SNR=4.4
CPUP PKPab **PKPab** **14 19 44.4 +0.8**
comp=Z,1.0nm,0.8s,baz=27,slow=3.1,SNR=3.6
LPAZ **La Paz** **175.57 112** PKP **PKPdf** **14 18 46.2 +0.2**
comp=Z,8.9nm,1.1s,baz=4.4,slow=2.8,SNR=19
LPAZ PKPab **PKPab** **14 20 24.5 +1.1**
comp=Z,3.6nm,0.9s,baz=91,slow=1.8,SNR=5.0

IDC 05 14:13:42.5±4.8, 12°57S×167°58E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=238.4km s-min=30.8km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.69**	**253**	P	P	14 20 16.5	-0.4
	0.4nm,0.9s,baz=87,slow=8.6,SNR=6.9						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**33.77**	**246**	P	P	14 20 26.6	+0.3
	0.4nm,0.6s,baz=68,slow=9.8,SNR=9.0						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**84.39**	**18**	P	P	14 26 16.4	0.0
	1.0nm,0.6s,baz=233,slow=4.7,SNR=22						
	1.0nm,0.6s						

*NEIC **05** 14:25:47.3±1.5, 43°.71N×0°.09×127°.4W×0°.2, h10km±2km, mb3.7/20, ML3.1/62, Error ellipse: s-maj=19.5km s-min=12.9km az=243.0*
*IDC **05** 14:25:47.9±1.6, 43°.96N×126°.78W, h0km, mb3.4/4, mbtmp3.4/11, ML3.3/6, MS3.3/2, Error ellipse: s-maj=30.3km s-min=12.8km az=53.0*
ISC 05 14:25:47.7±1.1, 43°.79N×0°.09×127°.4W×0°.1, h10km, n65, σ1°47/61, mb3.7/6, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**2.44**	**111**	Pn	**Pn**	**14 26 25.2**	**-2.4**
KEBM				IAML		14 27 07.4	
	comp=N,92nm,1.8s						
KEBM				IAML		14 27 25.0	
	comp=E,95nm,1.7s						
I02E	**Swisshome, OR**	**2.61**	**82**	Pn	**Pn**	**14 26 28.8**	**-1.2**
I02E				IAML		14 27 15.6	
	comp=E,93nm,0.1s						
I02E				IAML		14 27 17.7	
	comp=N,144nm,0.1s						
J01E	**Myrtle Point**	**2.63**	**103**	Pn	**Pn**	**14 26 29.0**	**-1.2**
I03D	**Drain, OR**	**2.96**	**90**		**Pn**	**14 26 33.3**	**-1.4**
K02D	**Willamette Mer**	**2.96**	**110**		**Pn**	**14 26 33.1**	**-1.8**
COR	**Corvallis**	**3.08**	**74**	Pn	**Pn**	**14 26 36.8**	**+0.4**
COR				IAML		14 27 13.2	
	comp=N,44nm,2.0s						
COR				IAML		14 27 22.1	
	comp=N,52nm,1.4s						
BUCK	**Buck Mountain**	**3.24**	**81**		**Pn**	**14 26 38.4**	**-0.2**
BUCK				IAML		14 27 29.0	
	comp=N,50nm,1.9s						
BUCK				IAML		14 27 29.1	
	comp=E,41nm,1.6s						
G03D	**McMinnville, O**	**3.31**	**63**		**Pn**	**14 26 39.2**	**-0.2**
G03D				IAML		14 27 25.4	
	comp=E,80nm,0.8s						
H04D	**Lebanon**	**3.46**	**76**		**Pn**	**14 26 41.5**	**-0.1**
H04D				IAML		14 27 06.1	
	comp=N,35nm,0.6s						
H04D				IAML		14 27 37.3	
	comp=E,41nm,2.4s						
F03A	**Seaside**	**3.49**	**51**	Pn	**Pn**	**14 26 41.6**	**-0.5**
BBOR	**Butler Butte**	**3.58**	**103**		**Pn**	**14 26 43.1**	**-0.4**
G04A	**Mulino**	**3.82**	**67**		**Pn**	**14 26 46.2**	**-0.3**
H04A	**Detroit Lake**	**3.88**	**75**		**Pn**	**14 26 47.3**	**-0.1**
H04A				IAML		14 27 15.3	
	comp=E,27nm,0.6s						
H04A				IAML		14 27 16.4	
	comp=N,27nm,0.7s						
E03A	**Lebam**	**3.88**	**43**	Pn	**Pn**	**14 26 45.5**	**-1.9**
E03A				IAML		14 27 46.6	
	comp=E,46nm,2.0s						
E03A				IAML		14 28 37.2	
	comp=N,30nm,4.6s						
F04D	**Rainier, OR**	**3.89**	**52**		**Pn**	**14 26 47.2**	**-0.3**
J04A	**Umpqua Nationa**	**3.91**	**96**		**Pn**	**14 26 48.5**	**+0.5**
YBH	**Yreka Blue Hor**	**4.04**	**119**	Pn	**Pn**	**14 26 48.9**	**-0.8**
YBH	**Yreka Blue Hor**	**4.04**	**119**	Pn	**Pn**	**14 26 48.1**	**-1.6**
	baz=280,slow=3.9,SNR=5.3						
NLWA	**Neilton Lookou**	**4.39**	**34**		**Pn**	**14 26 53.0**	**-1.4**
NLWA				IAML		14 28 21.9	
	comp=N,15nm,4.0s						
HOOD	**Mount Hood Mea**	**4.41**	**68**		**Pn**	**14 26 55.2**	**+0.5**
I05D	**Terrebonne, OR**	**4.43**	**81**		**Pn**	**14 26 54.6**	**-0.3**
I05D				IAML		14 27 42.4	
	comp=E,26nm,3.1s						
I05D				IAML		14 29 04.7	
	comp=N,28nm,4.9s						
J05D	**Fort Rock, OR**	**4.54**	**94**		**Pn**	**14 26 56.4**	**-0.2**
J05D				IAML		14 27 30.6	
	comp=E,17nm,5.0s						
J05D				IAML		14 28 35.5	
	comp=N,14nm,4.1s						
G05A	**Wamic**	**4.61**	**70**		**Pn**	**14 26 56.9**	**-0.5**
PINE	**Pine Mountain**	**4.70**	**88**	IAML		14 28 42.0	
	comp=E,22nm,4.0s						
PINE				IAML		14 29 54.0	
	comp=N,20nm,4.5s						
LON	**Longmire**	**4.95**	**51**		**Pn**	**14 27 01.7**	**-0.4**
LON				IAML		14 28 05.2	
	comp=N,11nm,0.5s						
G06A	**Carlson Farm,**	**5.07**	**71**		**Pn**	**14 27 02.9**	**-1.0**
G06A				IAML		14 28 01.2	
	comp=E,12nm,5.0s						
G06A				IAML		14 29 50.8	

comp=N,9.3nm,5.0s
D05A Enumclaw 5.12 47 Pn Pn 14 27 04.4 0.0
MXC Moxie City 5.76 59 Pn Pn 14 27 14.0 +0.7
LTY Liberty 5.88 52 Pn Pn 14 27 14.8 -0.1
HAWA Hanford 6.17 62 Pn Pn 14 27 19.4 +0.6
G08A Pilot Rock 6.24 73 Pn Pn 14 27 20.0 0.0
CBB Campbell River 6.40 12 Pn Pn 14 27 22.5 +0.5
D08A Wollman Farm, 6.82 58 Pn Pn 14 27 28.8 +1.0
BMO Blue Mountains 7.34 78 Pn Pn 14 27 34.2 -0.8
BUCR Buckhorn Ranch 8.24 135 Pn Pn 14 27 50.0 +2.7
BBB Bella Bella 8.41 357 Pn Pn 14 27 49.2 -0.4
comp=N,0.2nm,0.3s,baz=176,slow=9.8,SNR=3.6
comp=N,3.6nm,0.7s
NEW Newport 8.45 54 Pn Pn 14 27 49.7 -0.5
NEW Newport 8.45 54 Pn Pn 14 27 47.1 -3.2
comp=N,0.2nm,0.3s,baz=242,slow=15,SNR=3.1
comp=N,1.9nm,0.5s
NVAR Mina Array Bea 8.72 125 Pn Pn 14 27 53.2 -0.9
baz=306,slow=13,SNR=2.9
comp=N,0.3nm,0.6s
ELK Elko 9.54 104 Pn Pn 14 28 03.4 -2.0
comp=N,0.1nm,0.3s,baz=298,slow=15,SNR=3.6
comp=N,0.3nm,0.5s
BGU Big Grassy Mou 11.04 100 Pn 14 28 26.9 +1.1
WSHM Spangler Hills 11.20 134 Pn 14 28 29.4 +1.6
CCCA Chr Cany lake 11.32 133 Pn 14 28 31.3 +1.7
PDAR Pinedale Array 13.07 88 Pn Pn 14 28 51.8 -1.8
baz=272,slow=16,SNR=1.0
PDAR LR LR 14 34 21.4
comp=N,124nm,18.4s,baz=232,slow=41
comp=N,0.1nm,0.5s
PFO Pinyon Flats O 13.28 136 LR LR 14 33 41.9
comp=N,132nm,19.3s,baz=242,slow=36
DLBC Dease Lake 14.76 355 Pn Pn 14 29 16.8 +0.5
comp=N,2.7nm,0.3s,baz=171,slow=13,SNR=7.6
LAO LASA Array 15.21 72 P P 14 29 30.8 +3.1
Q32M Nakina River 15.48 351 P P 14 29 30.3 -0.3
Q32M IAmb IAmb 14 29 35.9
comp=Z,4.9nm,1.0s
ISCO Idaho Springs 16.74 96 P P 14 29 48.6 +3.8
ISCO IAmb IAmb 14 29 59.4
comp=Z,6.7nm,1.1s
P33M Teslin, Yukon 16.77 351 Pn Pn 14 29 43.0 +0.5
Q24A Divide 17.39 98 P P 14 29 55.8 +3.8
Q24A IAmb IAmb 14 29 57.0
comp=Z,6.3nm,0.9s
M31M Drury Creek, Y 18.89 350 P Pn 14 30 08.8 +0.1
M31M IAmb IAmb 14 30 16.3
comp=Z,5.5nm,1.2s
MMPY Sheldon Lake, 19.00 355 Pn Pn 14 30 10.9 +1.0
MMPY IAmb IAmb 14 30 11.8
comp=Z,6.7nm,1.4s
YKA Yellowknife Ar 20.18 17 P P 14 30 20.1 -2.0
comp=Z,0.2nm,0.3s,baz=206,slow=9.6,SNR=8.1
comp=Z,1.0nm,0.6s
DAWY Dawson 21.43 346 IAmb IAmb 14 30 44.4
comp=Z,2.8nm,0.9s
ULM Lac du Bonnet 22.35 62 P P 14 30 42.5 -3.1
comp=Z,2.5nm,0.8s,baz=278,slow=12,SNR=3.7
comp=Z,2.5nm,0.8s
I28M Miner Creek 22.79 346 P P 14 30 50.2 -0.1
I28M IAmb IAmb 14 30 58.6
comp=Z,3.4nm,1.0s
G31M Satah River 23.48 353 P P 14 30 54.9 -2.3
ILAR Eielson Array 23.69 339 P P 14 31 00.8 +1.5
comp=Z,0.3nm,0.7s,baz=135,slow=9.0,SNR=4.2
comp=Z,0.3nm,0.7s
TXAR Lajitas Array 23.82 119 P P 14 31 00.4 -0.5
comp=Z,0.3nm,0.8s,baz=310,slow=9.7,SNR=4.3
comp=Z,0.3nm,0.8s
G29M Pine Creek 23.87 350 P P 14 30 58.6 -2.4
N17K Nushagak Hills 24.45 324 P P 14 31 07.0 +0.6
E27K Coleen River 25.57 348 P P 14 31 15.3 -1.2
E28M Babbage River 25.67 350 P P 14 31 16.3 -1.1
KURBB Kurchatov Arra 83.29 344 P P 14 38 15.6 +1.2
comp=Z,0.6nm,0.7s,baz=22,slow=5.2,SNR=6.1
comp=Z,0.6nm,0.7s

SOME 05 14:44:11.3, 42.˚95N×77.˚33E, h5km, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNSS	**Tian-Shan**	**0.30**	**287**	*eP*	Pg	14 44 17.0	-0.2
	0.8nm,0.1s						
TNSS				*eS*	Sg	14 44 21.3	+0.1
	9.4nm,0.2s						
TNSS	**Tian-Shan**	**0.30**	**287**	*eP*	Pb	14 44 20.7	+1.4
	0.2nm,0.0s						
TNSS				*eS*	Sb	14 44 25.5	+0.8
	8.0nm,0.1s						
KOTS	**Kotyrbulak**	**0.33**	**330**	*eP*	Pg	14 44 18.0	+0.3
	9.4nm,0.1s						
KOTS				*eS*	Sg	14 44 22.7	+0.7
	21nm,0.2s						
KOTS	**Kotyrbulak**	**0.33**	**330**	*eP*	Pn	14 44 21.9	-1.0
	7.5nm,0.1s						
KOTS				*eS*	Sb	14 44 27.5	+2.1
	12nm,0.2s						
KTBS	**Karatobe**	**0.90**	**328**	*eP*	Pn	14 44 32.3	+1.6
	0.1nm,0.1s						
KTBS				*eS*	Sn	14 44 47.3	+3.2
	1.3nm,0.1s						
UZB	**Uzynbulak**	**1.25**	**80**	*eP*	Pg	14 44 34.5	-0.8
	0.8nm,0.1s						
UZB				*eS*	Sg	14 44 51.2	-0.4
	2.1nm,0.1s						
UZB	**Uzynbulak**	**1.25**	**80**	*eP*	Pn	14 44 38.3	+2.6
	0.6nm,0.1s						
UZB				*eS*	Sn	14 44 55.4	+2.4
	1.4nm,0.1s						

*KRNET **05** 14:45:56.4±0.1, 42.˚52N×71.˚84E, h16km, mb4.2*
*NNC **05** 14:45:56.4±0.7, 42.˚56N×71.˚71E, h0km, mb3.9, mpv4.0, Error ellipse: s-maj=8.4km s-min=3.5km az=5.0*
*SOME **05** 14:45:56.9, 42.˚60N×71.˚82E, h10km*
*KNET **05** 14:45:57.8±0.5, 42.˚73N×71.˚81E, h26km±2km, ml3.5, Error ellipse: s-maj=6.2km s-min=3.4km az=3.0*
ISC 05 14:45:57.8±0.7, 42.˚56N±0.˚03×71.˚79E±0.˚02, h10km, n55, σ1§61/100, 42C-17D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZA	**Taraz**	**0.47**	**315**	*eP*	**Pg**	**14 46 06.6**	**-0.5**
DZA				*eS*	**Sg**	**14 46 13.7**	**+0.3**
DZA	**Taraz**	**0.47**	**315**	*eP*	**Pg**	**14 46 06.5**	**-0.5**
	509nm,0.2s						
DZA				*eS*	**Sg**	**14 46 13.6**	**+0.3**
	7µm,0.1s						
MRKS	**Merke**	**1.08**	**79**	P	**Pg**	**14 46 17.6**	**-0.9**
	9.2nm,0.1s						
MRKS				S	**Sg**	**14 46 31.8**	**-0.7**
	403nm,0.2s						
MRKS	**Merke**	**1.08**	**79**	*eP*	**Pg**	**14 46 17.5**	**-0.9**
	7.4nm,0.1s						
MRKS				*eS*	**Sb**	**14 46 32.5**	**-0.3**
	401nm,0.1s						
KK31	**Karatay Array**	**1.09**	**301**	P	**Pg**	**14 46 16.5**	**-2.1**
	99nm,0.3s,baz=133,slow=18,SNR=1156						
KK31				⇑S	**Sg**	**14 46 30.6**	**-2.2**
	359nm,0.4s,baz=126,slow=30						
TRKS	**Terek-Say**	**1.13**	**205**	⇑*iP*	**Pb**	**14 46 18.1**	**-1.5**
TRKS				⇑*iS*	**Sb**	**14 46 34.4**	**0.0**
IUG	**luzhnay**	**1.36**	**253**	P	**Pn**	**14 46 22.6**	**-0.4**
	502nm,0.2s						
IUG				S	**Sb**	**14 46 40.5**	**-0.5**
	3µm,0.4s						
IUG	**luzhnay**	**1.36**	**253**	*eP*	**Pn**	**14 46 22.8**	**-0.2**
IUG				*eS*	**Sb**	**14 46 41.5**	**+0.5**
EKS2	**Erkin-Say**	**1.47**	**85**	⇓P	**Pn**	**14 46 24.3**	**-0.1**
	74nm,0.2s,SNR=181						
EKS2				⇓S	**Sg**	**14 46 44.9**	**-0.3**
	209nm,0.2s						
EKS2	**Erkin-Say**	**1.47**	**85**	⇓*eP*	**Pn**	**14 46 23.4**	**-1.1**
EKS2				⇓*eS*	**Sn**	**14 46 42.4**	**-1.5**
BRLS	**Borolday**	**1.51**	**289**	P	**Pn**	**14 46 25.2**	**+0.3**
	43nm,0.1s						
BRLS				S	**Sn**	**14 46 44.9**	**+0.2**
	705nm,0.2s						
BRLS	**Borolday**	**1.51**	**289**	*eP*	**Pn**	**14 46 25.1**	**+0.1**
BRLS				*eS*	**Sb**	**14 46 45.4**	**+0.2**
BRLS	**Borolday**	**1.51**	**289**	*eP*	**Pn**	**14 46 25.1**	**+0.1**
	29nm,0.1s						
BRLS				*eS*	**Sb**	**14 46 45.4**	**+0.2**
	705nm,0.2s						
CHM	**Chimkent**	**1.64**	**262**	*eP*	**Pn**	**14 46 27.3**	**+0.7**
CHM				*eS*	**Sb**	**14 46 49.2**	**+0.5**
CHM	**Chimkent**	**1.64**	**262**	*eP*	**Pn**	**14 46 27.3**	**+0.7**
	207nm,0.2s						
CHM				*eS*	**Sb**	**14 46 49.2**	**+0.5**
	2µm,0.3s						
AAK	**Ala-Archa**	**2.00**	**87**	⇑P	**Pn**	**14 46 32.7**	**+1.0**
	31nm,0.2s,SNR=38						
AAK				⇓S	**Sb**	**14 46 59.9**	**+0.6**
	201nm,0.4s						
AAK	**Ala-Archa**	**2.00**	**87**	⇑Pn	**Pb**	**14 46 33.1**	**-1.2**
	6.8nm,0.3s						
AAK				⇑Sn	**Sg**	**14 47 00.6**	**-1.5**
	18nm,0.4s						
AAK	**Ala-Archa**	**2.00**	**87**	⇑*iP*	**Pn**	**14 46 32.2**	**+0.4**
AAK				⇑*iS*	**Sb**	**14 46 58.7**	**-0.6**
UCH	**Uchtor**	**2.04**	**98**	⇑P	**Pb**	**14 46 34.2**	**-1.1**
	26nm,0.2s,SNR=85						
UCH				⇓S	**Sb**	**14 47 02.0**	**+1.0**
	241nm,0.3s						
UCH	**Uchtor**	**2.04**	**98**	⇑*iP*	**Pn**	**14 46 32.9**	**+0.2**
UCH				⇑*iS*	**Sb**	**14 47 00.0**	**-0.9**
FRU1	**Bishkek**	**2.11**	**82**	⇓*iP*	**Pn**	**14 46 33.3**	**+0.1**
FRU1				⇓*iS*	**Sb**	**14 47 01.4**	**-1.0**
USP	**Ospenovka**	**2.12**	**69**	⇑P	**Pn**	**14 46 33.1**	**-0.1**
	46nm,0.3s,SNR=22						
USP				⇑S	**Sn**	**14 47 00.4**	**+0.8**
	301nm,0.2s						
USP	**Ospenovka**	**2.12**	**69**	⇑*iP*	**Pn**	**14 46 33.4**	**+0.2**
USP				⇑*iS*	**Sb**	**14 47 01.8**	**-0.7**
CHMS	**Chumysh**	**2.23**	**78**	⇑P	**Pn**	**14 46 35.1**	**+0.3**
	22nm,0.2s,SNR=30						
CHMS				⇓S	**Sb**	**14 47 05.1**	**-0.6**
	83nm,0.2s						
CHMS	**Chumysh**	**2.23**	**78**	P	Pn	14 46 27.1	-7.6
	207nm,0.2s						
CHMS				S	Sn	14 46 48.2	-14
	2µm,0.3s						
CHMS	**Chumysh**	**2.23**	**78**	⇑*iP*	**Pn**	**14 46 35.1**	**+0.3**
CHMS				⇑*iS*	**Sb**	**14 47 04.1**	**-1.6**
SGDS	**Sogindy**	**2.27**	**66**	Pg	**Pb**	**14 46 38.5**	**-0.4**
	16nm,0.2s						
KBK	**Karagaybulak**	**2.33**	**86**	⇑P	**Pn**	**14 46 37.4**	**+1.0**
	27nm,0.2s,SNR=14						
KBK				⇑S	**Sb**	**14 47 08.0**	**-1.0**
	266nm,0.2s						
KBK	**Karagaybulak**	**2.33**	**86**	⇑*iP*	**Pn**	**14 46 36.7**	**+0.3**
KBK				⇑*iS*	**Sb**	**14 47 06.8**	**-2.2**
TKM2	**Tokmak 2**	**2.83**	**81**	⇓P	**Pn**	**14 46 43.4**	**+0.2**
	7.7nm,0.2s,SNR=8.8						
TKM2	**Tokmak 2**	**2.83**	**81**	⇑*iP*	**Pn**	**14 46 43.6**	**+0.4**
TKM2				⇑*iS*	**Sn**	**14 47 18.8**	**+1.3**
BTLS	**Baital**	**2.97**	**33**	Pg	**Pb**	**14 46 51.2**	**+0.3**
	14nm,0.2s						
BTLS	**Baital**	**2.97**	**33**	*eP*	**Pb**	**14 46 51.1**	**+0.3**
	10.0nm,0.1s						
BTLS				*eS*	**Sg**	**14 47 29.9**	**-3.3**
	56nm,0.2s						
KST	**Kastek**	**3.11**	**80**	Pg	**Pb**	**14 46 54.0**	**+0.8**
	22nm,0.4s						
KST	**Kastek**	**3.11**	**80**	*eP*	**Pb**	**14 46 54.7**	**+1.5**
	5.4nm,0.2s						
KST				*eS*	**Sg**	**14 47 36.2**	**-1.5**
	194nm,0.5s						
ULHL	**Ulahol**	**3.31**	**94**	⇑*iP*	**Pn**	**14 46 50.3**	**+0.4**
ULHL				⇑*iS*	**Sn**	**14 47 30.2**	**+0.8**
NRN	**Naryn**	**3.33**	**108**	⇑*iP*	**Pn**	**14 46 50.4**	**+0.1**
NRN				⇑*iS*	**Sn**	**14 47 30.1**	**0.0**
MTBS	**Maitube**	**3.46**	**79**	*eP*	**Pb**	**14 47 00.9**	**+1.7**
	1.0nm,0.1s						
MTBS				*eS*	**Sg**	**14 47 46.7**	**-2.1**
	59nm,0.2s						
KUU	**Kurty**	**3.58**	**67**	*eP*	**Pb**	**14 47 03.4**	**+2.1**
	2.5nm,0.0s						
KUU				*eS*	**Sg**	**14 47 51.0**	**-1.8**
	161nm,0.4s						
GAR	**Garm**	**3.73**	**198**	⇑*iP*	**Pn**	**14 46 56.2**	**+0.8**
GAR				⇑*iS*	**Sn**	**14 47 40.7**	**+1.3**
TNSS	**Tian-Shan**	**3.83**	**81**	*eP*	**Pb**	**14 47 07.4**	**+1.8**
	2.5nm,0.2s						
TNSS				*eS*	**Sg**	**14 47 57.6**	**-3.0**
	31nm,0.5s						
KOTS	**Kotyrbulak**	**3.97**	**78**	*eP*	**Pb**	**14 47 09.8**	**+1.9**
	1.9nm,0.1s						
KOTS				*eS*	**Sg**	**14 48 02.1**	**-3.1**
	60nm,0.6s						
CHKK	**Chushkaly**	**4.02**	**69**	*eP*	**Pb**	**14 47 10.1**	**+1.5**
	5.4nm,0.1s						
CHKK				*eS*	**Sg**	**14 48 02.7**	**-4.0**
	86nm,0.2s						
KDJ	**Kajisay**	**4.02**	**94**	⇑*eP*	**Pn**	**14 47 00.3**	**+0.8**
KDJ				⇑*iS*	**Sn**	**14 47 47.4**	**+0.6**
CHGR	**Chuyangaron**	**4.38**	**208**	⇑*iP*	**Pn**	**14 47 05.4**	**+1.0**
CHGR				⇑*iS*	**Sn**	**14 47 56.6**	**+1.1**
UZB	**Uzynbulak**	**5.35**	**81**	*eP*	**Pg**	**14 47 37.1**	**-3.2**
	2.9nm,0.2s						
UZB				*eS*	**Sg**	**14 48 48.8**	**-0.8**
	18nm,0.5s						
SHLS	**Shalkode**	**5.67**	**81**	*eP*	**Pg**	**14 47 48.3**	**+2.0**
	3.0nm,0.1s						
SHLS				*eS*	**Sg**	**14 49 08.3**	**+8.5**
	32nm,0.5s						
PDGK	**Podgornoye**	**5.71**	**80**	⇑Pg	**Pb**	**14 47 41.5**	**+4.0**
	5.1nm,0.5s						
PDGK				⇓Lg	Lg	14 48 59.0	
	22nm,0.8s						
MAKZ	**Makanchi**	**8.41**	**56**	⇑Pn	**Pn**	**14 47 60.0**	**+0.3**
	1.6nm,0.6s						
MAKZ				Lg	Lg	14 50 27.4	
	7.8nm,0.6s						
MK31	**Makanchi Array**	**8.60**	**57**	Pn	**Pn**	**14 48 01.8**	**-0.5**
	0.6nm,0.3s,baz=242,slow=16,SNR=57						
MK31				⇑Lg	Lg	14 50 32.3	
	6.7nm,0.6s						
KURBB	**Kurchatov Arra**	**9.30**	**28**	⇑Pn	**Pn**	**14 48 11.0**	**-0.8**
	2.1nm,0.6s						
KURBB				⇑Sn	**Sn**	**14 49 58.5**	**+2.1**
	14nm,0.8s						
KURBB				⇓Lg	Lg	14 50 53.4	
	45nm,0.8s						
KURK	**Kurchatov**	**9.41**	**28**	⇓Pn	**Pn**	**14 48 12.5**	**-0.9**
	1.7nm,1.4s						
KURK				⇓Sn	**Sn**	**14 50 01.4**	**+2.2**
	2.3nm,0.7s						
KURK				⇓Lg	Lg	14 50 58.2	
	15nm,1.1s						
BVA0	**Borovoye Array**	**10.52**	**355**	Pn	**Pn**	**14 48 28.4**	**0.0**
	2.2nm,0.8s,baz=154,slow=11,SNR=8.2						
BVA0				⇑Sn	**Sn**	**14 50 28.6**	**+2.4**
	5.5nm,1.0s,baz=156,slow=22						
BVA0				⇓Lg	Lg	14 51 30.3	
	14nm,0.7s						
BRVK	**Borovoye**	**10.56**	**355**	⇓Pn	**Pn**	**14 48 27.9**	**-1.1**
	0.8nm,0.6s						
BRVK				⇑Sn	**Sn**	**14 50 29.4**	**+2.2**
	4.1nm,1.0s						
BRVK				⇑Lg	Lg	14 51 31.4	
	6.9nm,0.8s						
AB31	**Akbulak array**	**10.62**	**313**	P	**Pn**	**14 48 28.6**	**-1.3**
	0.5nm,0.3s,baz=112,slow=14,SNR=22						

*IDC **05** 14:49:28.9±3.4, 6.˚95N×73.˚17W, h157km±38km, mbtmp4.3/2, Error ellipse: s-maj=215.3km s-min=7.7km az=132.0*
*RSNC **05** 14:49:30.3±0.0, 7.˚1N±1.˚7×7.˚3W±.˚, h149km±1km, M3.6, mB4.8, mb4.0, ML3.3, Mw(mB)4.0*
ISC 05 14:49:28.5±0.9, 6.˚85N±0.˚03×73.˚11W±0.˚04, h161km±6km, n59, σ1§45/103, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**195**	P	**Pn**	**14 49 50.5**	**-0.1**
BARC	**Barichara**	**0.26**	**195**	P	**Pn**	**14 49 50.4**	**-0.1**
BARC				S	**Sn**	**14 50 06.3**	**-1.1**
PAMC	**Pamplona, Colo**	**0.64**	**40**	P	**Pn**	**14 49 53.3**	**+0.9**
PAMC				S	**Sn**	**14 50 10.3**	**-0.3**
BRJC	**Barrancabermej**	**0.64**	**281**	P	**Pn**	**14 49 52.0**	**+0.2**
BRJC				S	**Sn**	**14 50 09.0**	**-0.6**
RUSC	**La Rusia**	**0.95**	**178**	P	**Pn**	**14 49 54.3**	**-0.2**
RUSC				S	**Sn**	**14 50 12.9**	**-1.5**
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	P	**Pn**	**14 49 56.8**	**-0.8**
PTBC				P		14 49 56.9	
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	P	**Pn**	**14 49 56.7**	**-0.8**
PTBC				S	**Sn**	**14 50 17.9**	**-2.0**
OCAC	**Ocana**	**1.40**	**352**	P	**Pn**	**14 49 58.6**	**+0.6**
OCAC				S	**Sn**	**14 50 21.2**	**+0.4**
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	P	**Pn**	**14 50 03.1**	**+0.5**
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	P	**Pn**	**14 50 02.9**	**+0.3**
ZARC				S	**Sn**	**14 50 28.2**	**-0.6**
NORC	**Norcasia**	**2.16**	**234**	P	**Pn**	**14 50 06.1**	**-0.1**
NORC				P	**Pn**	**14 50 06.1**	**-0.1**
NORC	**Norcasia**	**2.16**	**234**	P	**Pn**	**14 50 06.2**	**0.0**
NORC				S	**Sn**	**14 50 34.6**	**-0.7**
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**14 50 10.2**	**+1.8**
	228nm,0.4s,baz=90,slow=20,SNR=49						
ROSC				S	**Sn**	**14 50 40.8**	**+1.4**
	490nm,0.5s,baz=67,slow=20,SNR=13						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**14 50 09.9**	**+1.4**
ROSC				S	**Sn**	**14 50 39.8**	**+0.4**
HELC	**Santa Helena**	**2.49**	**255**	P	**Pn**	**14 50 11.2**	**+0.9**
HELC				P	**Pn**	**14 50 11.2**	**+0.9**
HELC	**Santa Helena**	**2.49**	**255**	P	**Pn**	**14 50 11.0**	**+0.7**
HELC				S	**Sn**	**14 50 41.5**	**-1.2**
URDC	**San Jos de Ur**	**2.56**	**291**	P	**Pn**	**14 50 10.3**	**-0.6**
URDC				P		14 50 10.4	
URDC				P		14 50 10.5	
URDC	**San Jos de Ur**	**2.56**	**291**	P	**Pn**	**14 50 10.1**	**-0.8**
URDC				S	**Sn**	**14 50 42.0**	**-1.8**
GUY2C	**Guyana, Caldas**	**2.76**	**234**	P	**Pn**	**14 50 14.8**	**+1.0**
GUY2C	**Guyana, Caldas**	**2.76**	**234**	P	**Pn**	**14 50 15.3**	**+1.5**
GUY2C				S	**Sn**	**14 50 49.2**	**+0.4**
VILC	**Villavicencio,**	**2.78**	**192**	P	**Pn**	**14 50 13.6**	**-0.1**
VILC				P		14 50 14.2	
VILC				P		14 50 14.4	
VILC	**Villavicencio,**	**2.78**	**192**	P	**Pn**	**14 50 13.8**	**+0.1**
VILC				S	**Sn**	**14 50 48.4**	**-0.3**
PTGC	**Puerto Gaitan,**	**2.81**	**160**	P	**Pn**	**14 50 13.8**	**-0.1**
PTGC				P	**Pn**	**14 50 13.8**	**-0.1**
PTGC	**Puerto Gaitan,**	**2.81**	**160**	P	**Pn**	**14 50 13.6**	**-0.3**
PTGC				S	**Sn**	**14 50 46.8**	**-2.3**
NIZA	**Niza - Manizal**	**2.94**	**233**	P	**Pn**	**14 50 19.4**	**+3.5**
NIZA				S	**Sn**	**14 50 55.0**	**+2.4**
CBOC	**Ciudad Bolivar**	**3.04**	**251**	P	**Pn**	**14 50 18.2**	**+1.2**
CBOC				P		14 50 18.8	
CBOC				P		14 50 18.9	
CBOC	**Ciudad Bolivar**	**3.04**	**251**	P	**Pn**	**14 50 17.9**	**+0.9**
CBOC				S	**Sn**	**14 50 54.4**	**-0.2**
DBBC	**Dabeiba**	**3.08**	**273**	P	**Pn**	**14 50 18.1**	**+0.7**
DBBC				P	**P**	**14 50 18.6**	**+1.2**
DBBC				P	**P**	**14 50 18.6**	**+1.2**
DBBC	**Dabeiba**	**3.08**	**273**	P	**Pn**	**14 50 17.7**	**+0.3**
DBBC				S	**Sn**	**14 50 53.4**	**-1.9**
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**14 50 20.0**	**+1.2**
	52nm,0.4s,baz=230,slow=13,SNR=21						
SDV				S	**Sn**	**14 50 57.5**	**-0.3**
	68nm,0.5s,baz=253,slow=19,SNR=23						
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**14 50 20.3**	**+1.5**
SDV				S	**Sn**	**14 50 57.5**	**-0.3**
ARGC	**Ariguani, Magd**	**3.19**	**340**	P	**Pn**	**14 50 20.7**	**+2.0**
ARGC				S	**Sn**	**14 50 59.3**	**+1.5**
ANIL	**Santa Ana**	**3.27**	**224**	P	**Pn**	**14 50 21.5**	**+1.6**
ANIL				S	**Sn**	**14 51 00.3**	**+0.4**
PRAC	**Prado**	**3.58**	**210**	P	**Pn**	**14 50 24.0**	**+0.3**
PRAC				P		14 50 24.4	
PRAC				S	**Sn**	**14 51 06.5**	**-0.1**
PRAC	**Prado**	**3.58**	**210**	P	**Pn**	**14 50 23.8**	**+0.1**
PRAC				S	**Sn**	**14 51 06.0**	**-0.6**
APAC	**Apartado, Choc**	**3.59**	**287**	P	**Pn**	**14 50 24.4**	**+0.6**
APAC	**Apartado, Choc**	**3.59**	**287**	P	**Pn**	**14 50 24.1**	**+0.3**
APAC				S	**Sn**	**14 51 06.1**	**-0.7**
ORTC	**Ortega, Tolima**	**3.61**	**216**	P	**Pn**	**14 50 25.0**	**+0.9**
ORTC				P		14 50 25.2	
ORTC				P		14 50 25.3	
ORTC				S	**Sn**	**14 51 06.4**	**-0.9**
ORTC	**Ortega, Tolima**	**3.61**	**216**	P	**Pn**	**14 50 24.5**	**+0.4**
ORTC				S	**Sn**	**14 51 07.7**	**+0.4**
SJCC	**San Jacinto, C**	**3.66**	**326**	P	**Pn**	**14 50 24.3**	**-0.4**
SJCC				P	**P**	**14 50 24.7**	**0.0**
SJCC				P	**P**	**14 50 24.7**	**0.0**
SJCC				S	**Sn**	**14 51 05.7**	**-2.7**
SJCC	**San Jacinto, C**	**3.66**	**326**	P	**Pn**	**14 50 24.0**	**-0.7**
SJCC				S	**Sn**	**14 51 05.4**	**-3.0**
URMC	**La Uribe, Meta**	**3.79**	**199**	P	**Pn**	**14 50 27.2**	**+0.7**
URMC				S	**Sn**	**14 51 10.1**	**-1.5**
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	P	**Pn**	**14 50 31.1**	**0.0**
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	P	**Pn**	**14 50 30.9**	**-0.2**
CRJC				S	**Sn**	**14 51 18.6**	**-1.4**
YOTC	**Yotoco, Valle**	**4.30**	**229**	P	**Pn**	**14 50 33.4**	**+0.4**
SMRC	**Santa Marta, M**	**4.43**	**346**	P	**Pn**	**14 50 36.0**	**+1.4**
SMRC	**Santa Marta, M**	**4.43**	**346**	P	**Pn**	**14 50 35.7**	**+1.1**
SMRC				S	**Sn**	**14 51 23.2**	**-3.0**
CAPC	**Capurgana**	**4.56**	**293**	P	**Pn**	**14 50 34.7**	**-1.6**
CAPC				S	**Sn**	**14 51 25.8**	**-3.5**
MACC	**Macarena, Meta**	**4.73**	**189**	P	**Pn**	**14 50 34.5**	**-4.1**
MACC				P		14 50 36.0	
MACC	**Macarena, Meta**	**4.73**	**189**	P	**Pn**	**14 50 37.4**	**-1.2**
MACC				S	**Sn**	**14 51 28.3**	**-5.0**
URIC	**Uribia, Colomb**	**4.95**	**13**	P	**Pn**	**14 50 41.0**	**-0.4**
URIC				S	**Sn**	**14 51 38.7**	**+0.4**
GARC	**Garzon, Huila**	**5.20**	**207**	P	**Pn**	**14 50 41.7**	**-3.3**
GARC				S	**Sn**	**14 51 40.8**	**-4.1**
POPC	**Popayan, Colom**	**5.56**	**220**	P	**Pn**	**14 50 50.2**	**+0.5**
	9.4nm,0.7s						
POPC				S	**Sn**	**14 51 53.8**	**+0.5**
	9.4nm,0.7s						
FLOC	**Florencia**	**5.81**	**206**	P	**Pn**	**14 50 53.3**	**+0.4**
	495nm21nm,0.9s						
GR1C	**Gorgona, Isla**	**6.32**	**233**	P	**Pn**	**14 50 59.2**	**-0.4**
BBAC	**Balboa, Cauca**	**6.32**	**221**	P	**Pn**	**14 51 01.3**	**+1.5**
	645nm11nm,0.7s						
AUA1	**Aruba**	**6.40**	**28**	P	**Pn**	**14 51 02.6**	**+2.0**
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**	**15 08 59.0**	**+0.2**
	0.4nm,0.8s,baz=117,slow=3.3,SNR=4.2						
WRA	**Warramunga Arr**	**150.36**

JSD	Sado	2.14	287	P		Pn	15 02 54.2	-0.1
MJAR	Matsushiro Arr	2.29	248	P		Pn	15 02 57.2	+0.9
	8.3nm,0.5s,baz=55,slow=11,SNR=58							
MJAR				S		Sn	15 03 25.7	+1.8
	4.7nm,0.4s,baz=336,slow=19,SNR=3.7							
MAJO	Matsushiro	2.29	248	P		Pn	15 02 57.3	+0.9
JGF	Kuroka	3.35	238	P		Pn	15 03 12.0	+1.4
JTM	Tenmabayashi	3.36	3	P		Pn	15 03 11.7	+1.0
INU	Inuyama	3.72	237	P		Pn	15 03 17.4	+1.8
JHJ	Hachijo jima 2	4.38	192	P		Pn	15 03 24.9	+0.3
	25nm,0.3s,baz=326,slow=21,SNR=15							
JHJ				S		Sn	15 04 13.6	-0.9
	87nm,0.2s,baz=59,slow=23,SNR=14							
JHJ2	Mitsune	4.39	191	P		Pn	15 03 25.4	+0.8
JHJ2	Mitsune	4.39	191	S		Sn	15 04 12.8	-1.7
ERM	Erimo	4.92	21	P		Pn	15 03 31.7	-0.1
ERM	Erimo	4.92	21	S		Sn	15 04 25.3	-2.0
ASAJ	Asahikawa	6.81	11	P		Pn	15 03 55.8	-1.8
	5.9nm,1.1s,baz=256,slow=12,SNR=6.2							
ASAJ				S		Sn	15 05 12.4	-1.2
	2.5nm,0.6s,baz=163,slow=18,SNR=1.5							
KSRS	Korea Array	10.28	274	P		Pn	15 04 47.5	+2.6
	0.9nm,0.5s,baz=84,slow=14,SNR=6.0							
SONM	Songino Array	27.19	303	P		P	15 07 56.5	+0.6
	1.6nm,0.7s,baz=107,slow=8.1,SNR=7.9							
	1.6nm,0.7s							
H11N2	WAKE ISLAND Hy	28.74	121	T		T	15 38 25.2	
	baz=314,slow=75							
H11N1	WAKE ISLAND Hy	28.74	121	T		T	15 38 28.0	
	baz=314,slow=75							
H11N3	WAKE ISLAND Hy	28.75	121	T		T	15 38 26.8	
	baz=314,slow=75							
H11S1	WAKE ISLAND Hy	29.45	123	T		T	15 39 14.8	
	baz=317,slow=75							
H11S3	WAKE ISLAND Hy	29.45	123	T		T	15 39 27.9	
	baz=317,slow=75							
H11S2	WAKE ISLAND Hy	29.47	123	T		T	15 39 19.5	
	baz=317,slow=75							
ZALV	Zalesovo Beam	41.32	312	P		P	15 09 57.3	+0.1
	2.3nm,0.5s,baz=90,slow=6.4,SNR=8.7							
	2.3nm,0.5s							
MKAR	Makanchi Array	43.53	302	P		P	15 10 15.3	+0.1
	1.7nm,0.7s,baz=88,slow=9.5,SNR=18							
	1.7nm,0.7s							
KURBB	Kurchatov Arra	45.41	308	P		P	15 10 29.9	-0.2
	1.0nm,0.4s,baz=84,slow=8.9,SNR=12							
	1.0nm,0.4s							
BVAR	Borovoye Array	49.97	312	P		P	15 11 05.1	-0.2
	0.4nm,0.4s,baz=74,slow=12,SNR=3.6							
BVAR				PcP		PcP	15 12 23.9	-0.3
	0.6nm,0.6s,baz=100,slow=4.4,SNR=3.8							
	0.4nm,0.4s							
WRA	Warramunga Arr	57.39	187	P		P	15 12 00.2	+0.5
	0.3nm,0.4s,baz=3.9,slow=7.4,SNR=16							
	0.3nm,0.4s							
ASAR	Alice Springs	61.12	187	P		P	15 12 24.1	-1.4
	0.3nm,0.7s,baz=17,slow=7.5,SNR=1.9							
	0.3nm,0.7s							
ARCES	ARCESS Array B	63.47	339	P		P	15 12 38.9	-1.8
	2.0nm,0.9s,baz=33,slow=4.6,SNR=4.5							
	2.0nm,0.9s							
H03N2	Juan Fernandez	147.51	95	T		T	18 07 01.7	
	baz=291,slow=76,SNR=3.6							
H03N3	Juan Fernandez	147.52	95	T		T	18 07 05.1	
	baz=291,slow=76,SNR=4.9							
H03N1	Juan Fernandez	147.53	95	T		T	18 06 59.4	
	baz=291,slow=76,SNR=4.9							

*IDC **05** 15:02:44.9±0.4,43.80N×127.91W,h0km,mb5.1/40, mbtmp5.1/48,ML4.5/8,MS5.6/79,Error ellipse: s-maj=11.3km s-min=6.7km az=37.0*

*NEIC **05** 15:02:45.4,43.7N×127.83W,h12km*

*NEIC **05** 15:02:45.4,43.62N×128.10W,h12km,Moment Tensor Solution. Duration: 4s5 Moment tensor: Scale 10^17Nm; Mrr0.16; Mθθ-8.45; Mϕϕ8.28; Mrθ-2.33; Mrϕ0.58; Mθϕ0.90; Fault plane solution: M0 8.75000×10^17 NP1:ϕs46.15000°, δ75.60000°,λ-6.06000°. NP2:ϕs137.66000°,δ84.13000°, λ-165.52000°. Principal axes: T 8.3887, Plg6.0000°, Azm271.0000°; N 0.6813, Plg74.0000°, Azm159.0000°; P -9.0700, Plg14.0000°, Azm3.0000°;*

*NEIC **05** 15:02:45.4,43.7N×127.83W,h10km*

*ISC-PP **05** 15:02:45,43.72N×127.82W,h6km,Mwppsm6.0,Moment Tensor Solution. s47 Moment tensor: Scale 10^18Nm; Mrr0.46±.15; Mθθ-0.12±.12; Mϕϕ0.74±.14; Mrθ0.04±.13; Mθϕ-0.31±.09; Mϕr-0.15±.10; Fault plane solution: M0 1.33000×10^18 NP1:ϕs220.10000°,δ69.10000°, λ24.70000°. NP2:ϕs120.80000°,δ67.00000°,λ157.20000°.*

*MOS **05** 15:02:45.1±1.4,43.79N×127.91W,h10km,mb5.8/58, MS5.7/51 Error ellipse: s-maj=7.1km s-min=4.5km az=97.1*

*NEIC **05** 15:02:45.3±1.7,43.72N±0.06×127.82W±0.10,h10km±1km, mb5.8/716,ML4.8/108,Ms_20 5.7/806,Mwb5.8/37, Mww5.9/122,Error ellipse: s-maj=12.3km s-min=10.2km az=255.0,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.34; Mθθ-6.68; Mϕϕ6.34; Mrθ-0.52; Mθϕ0.33; Mϕr-0.85; Fault plane solution: M0 6.60000×10^17 NP1:ϕs226.67000°,δ87.18000°,λ8.57000°. NP2: ϕs136.25000°,δ81.44000°,λ177.15000°. Principal axes: T 6.4744, Plg8.0000°, Azm92.0000°; N 0.2516, Plg81.0000°, Azm245.0000°; P -6.7260, Plg4.0000°, Azm1.0000°;*

*IPGP **05** 15:02:45.0,43.72N×127.84W,h9km,Mw6.0,Fault plane solution: NP1:ϕs223.00000°,δ89.00000°,λ-6.00000°. NP2:ϕs313.00000°,δ84.00000°,λ-179.00000°.*

*BJI **05** 15:02:46.3,44.17N×128.38W,h10km,mB5.7/52, mb5.2/80,Ms5.9/77,Ms7 5.7/77*

*BGR **05** 15:02:46.6,43.78N×129.87W,h33km,mb5.8,Ms5.8*

*GCMT **05** 15:02:48.3±0.1,43.68N×128.09W,h15km,MW5.9/175, Moment Tensor Solution. s155,c328; s175,c587; Duration: 2s2 Moment tensor: Scale 10^18Nm; Mrr0.05±.01; Mθθ-0.95±.01; Mϕϕ0.90±.01; Mrθ-0.17±.02; Mθϕ0.05±.01; Mϕr-0.15±.02; Best double couple: M0 0.95900×10^18 NP1:ϕs136.00000°,δ77.00000°, λ179.00000°. NP2:ϕs227.00000°,δ89.00000°,λ13.00000°. Principal axes: T 0.9360, Plg10.0000°, Azm92.0000°; N 0.0460, Plg76.0000°, Azm229.0000°; P -0.9810, Plg9.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 05 15:02:46.4±0.3,43.64N±0.03×127.93W±0.03,h14km±1km, h14km:pP-P,n1796,σ2s12/1579,mb5.7/554,MS5.7/520, 129C-95D,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	2.73	105	Op		Pn	15 03 26.9	-3.1
KEBM					IAML		15 04 04.3	
	comp=E,5μm,0.9s							
KEBM					IAML		15 04 07.0	
	comp=N,4μm,1.2s							
J01E	**Myrtle Point**	2.95	98			Pn	15 03 29.3	-3.5
J01E					IAML		15 04 23.0	
	comp=E,4μm,2.2s							
I02E	**Swisshome, OR**	2.99	80			Pn	15 03 29.8	-3.5
I02E					IAML		15 04 14.2	
	comp=E,3μm,1.3s							
KBO	**Bosley Butte**	3.07	116			Pn	15 03 32.5	-2.1
KBO					IAML		15 04 41.1	
	comp=N,2μm,4.8s							
K02D	**Willamette Mer**	3.26	105			Pn	15 03 34.1	-3.0
I03D	**Drain, OR**	3.32	87			Pn	15 03 34.8	-3.1
I03D					IAML		15 04 22.2	
	comp=N,2μm,1.5s							
I03D					IAML		15 04 53.6	
	comp=E,2μm,2.2s							
COR	**Corvallis**	3.46	73			Pn	15 03 36.8	-3.0
COR					IAML		15 04 24.6	
	comp=E,3μm,0.9s							
COR					IAML		15 04 27.6	
	comp=E,3μm,1.3s							
COR	**Corvallis**	3.46	73	P		Pn	15 03 36.8	-3.0
COR	**Corvallis**	3.46	73	⇓P		Pn	15 03 37.7	-2.2
KSXB	**Camp Six Broad**	3.49	120			Pn	15 03 37.9	-2.4
L02F	**Cave Junction**	3.54	114			Pn	15 03 39.2	-1.8
BUCK	**Buck Mountain**	3.61	79			Pn	15 03 39.1	-3.0
BUCK					IAML		15 04 34.1	
	comp=N,3μm,1.8s							
BUCK					IAML		15 04 41.3	
	comp=E,3μm,1.8s							
KRMB	**Red Mountain**	3.64	124			Pn	15 03 40.9	-1.6
G03D	**McMinnville, O**	3.69	63			Pn	15 03 40.5	-2.5
KRPM	**Rodgers**	3.81	129			Pn	15 03 43.6	-1.1
H04D	**Lebanon**	3.84	75			Pn	15 03 42.7	-2.4
H04D					IAML		15 04 46.1	
	comp=N,2μm,1.3s							
F03A	**Seaside**	3.86	52			Pn	15 03 42.8	-2.6
BBOR	**Butler Butte**	3.91	99			Pn	15 03 43.3	-2.8
BBOR					IAML		15 04 45.1	
	comp=N,2μm,1.9s							
BBOR					IAML		15 05 01.4	
	comp=E,1μm,2.5s							
RADR	**Rader Ridge**	4.04	45			Pn	15 03 45.5	-2.4
RADR					IAML		15 04 38.5	
	comp=N,2μm,1.5s							
RADR					IAML		15 05 02.1	
	comp=E,2μm,1.9s							
JCC	**Jacoby Creek,**	4.04	133			Pn	15 03 47.4	-0.4
JCC					IAML		15 05 26.1	
	comp=N,1μm,5.0s							
KHMM	**Horse Mountain**	4.16	130			Pn	15 03 49.5	-0.2
KHMM					IAML		15 06 01.4	
	comp=N,946nm,4.5s							
G04A	**Mulino**	4.21	66			Pn	15 03 47.9	-2.2
E03A	**Lebam**	4.24	45			Pn	15 03 48.1	-2.5
J04A	**Umpqua Nationa**	4.25	93			Pn	15 03 49.8	-1.2
H04A	**Detroit Lake**	4.26	74			Pn	15 03 48.5	-2.4
H04A					IAML		15 04 20.4	
	comp=E,1μm,0.6s							
H04A					IAML		15 04 50.2	
	comp=N,2μm,0.5s							
F04D	**Rainier, OR**	4.26	53			Pn	15 03 48.6	-2.3
KMPM	**Mount Pierce**	4.29	137			Pn	15 03 51.5	+0.2
KMPM					IAML		15 06 33.2	
	comp=N,1μm,4.2s							
YBH	**Yreka Blue Hor**	4.29	115			Pn	15 03 50.8	-0.5
YBH	**Yreka Blue Hor**	4.29	115	Pn		Pn	15 03 51.2	-0.2
YBH	comp=N,1.0nm,0.3s,baz=302,slow=6.7,SNR=115				Sn	Sn	15 04 44.6	+3.3
	comp=N,0.7nm,0.3s,baz=264,slow=0.6,SNR=3.8							
M02C	**Callahan**	4.37	119			Pn	15 03 51.5	-1.0
WIFE	**Three Sisters-**	4.44	82	Pn		Pn	15 03 51.5	-2.0
WIFE					IAML		15 04 52.4	
	comp=E,1μm,0.9s							
WIFE					IAML		15 05 26.5	
	comp=N,1μm,4.9s							
KHBM	**Hayfork Bally**	4.59	129	Pn		Pn	15 03 54.7	-1.0
KHBM					IAML		15 06 40.6	
	comp=N,643nm,4.8s							
K04D	**Chiloquin, OR**	4.63	101			Pn	15 03 54.8	-1.2
KMRM	**Mail Ridge**	4.64	136			Pn	15 03 54.9	-1.3
KMRM					IAML		15 06 17.6	
	comp=E,620nm,4.4s							
N02D	**Trinity Center**	4.70	123			Pn	15 03 55.8	-1.2
N02D					IAML		15 06 10.6	
	comp=N,665nm,4.8s							
NLWA	**Neilton Lookou**	4.71	36			Pn	15 03 54.2	-2.9
NLWA					IAML		15 04 53.4	
	comp=N,1μm,1.6s							
NLWA					IAML		15 04 53.5	
	comp=N,750nm,2.2s							
NLWA	**Neilton Lookou**	4.71	36	⇓P		Pn	15 03 54.4	-2.7
HOOD	**Mount Hood Mea**	4.79	67			Pn	15 03 56.4	-1.9
I05D	**Terrebonne, OR**	4.80	79			Pn	15 03 56.4	-2.0
I05D					IAML		15 05 55.5	
	comp=E,1μm,4.1s							
J05D	**Fort Rock, OR**	4.88	92			Pn	15 03 57.4	-2.2
J05D					IAML		15 05 22.9	
	comp=N,910nm,2.8s							
J05D					IAML		15 05 27.4	
	comp=E,1μm,2.1s							
M03C	**McCloud**	4.90	117	Pn		Pn	15 03 59.5	-0.2
M03C					IAML		15 05 52.9	
	comp=N,970nm,4.9s							
M03C					IAML		15 06 01.1	
	comp=E,901nm,4.6s							
C03A	**Quillayute Air**	4.91	27			Pn	15 03 57.7	-2.0
C03A					IAML		15 05 00.8	
	comp=E,707nm,2.4s							
C03A					IAML		15 06 45.0	
	comp=N,712nm,5.0s							
G05A	**Wamic**	5.00	69			Pn	15 03 59.7	-1.3
PINE	**Pine Mountain**	5.07	86			Pn	15 04 00.4	-1.7
PINE					IAML		15 06 05.6	
	comp=E,788nm,4.1s							
PINE					IAML		15 06 51.7	
	comp=N,835nm,3.8s							
KCPM	**Cahto Peak**	5.12	139			Pn	15 04 03.8	+1.1
KCPM					IAML		15 06 28.2	
	comp=N,418nm,4.8s							
K05A	**Summer Lake**	5.22	98			Pn	15 04 03.0	-1.3
K05A					IAML		15 05 48.7	
	comp=E,802nm,2.7s							
GNW	**Green Mountain**	5.31	41		IAML		15 05 05.0	
	comp=E,546nm,0.4s							
GNW					IAML		15 05 13.0	
	comp=N,806nm,1.7s							
LON	**Longmire**	5.33	52		IAML		15 05 18.0	
	comp=N,720nm,0.9s							
LON					IAML		15 05 20.2	
	comp=E,715nm,1.5s							
B04A	**Port Angeles**	5.39	33		IAML		15 05 09.0	
	comp=N,674nm,1.1s							
B04A					IAML		15 05 23.3	
	comp=E,431nm,1.8s							
G06A	**Carlson Farm,**	5.46	70		IAML		15 05 36.1	
	comp=N,558nm,4.6s							
G06A					IAML		15 05 43.0	
	comp=E,483nm,2.4s							
OZB	**Mount Ozzard**	5.58	17			Pn	15 04 07.2	-1.9
OZB	**Mount Ozzard**	5.58	17	⇓P		Pn	15 04 06.3	-2.7
A04D	**Lummi Island**	6.24	34			Pn	15 04 16.3	-1.7
HAWA	**Hanford**	6.55	62	⇓P		Pn	15 04 21.2	-1.2
WAH2	**Wahluke Slope**	6.68	59			Pn	15 04 22.4	-1.6
MCCM	**Marconi Confer**	6.69	143	⇓P		Pn	15 04 24.5	+0.3
WVOR	**Wild Horse Val**	6.91	97	⇑P		Pn	15 04 26.1	-1.3
FARB	**Farallon Islan**	7.01	146			Pn	15 04 27.9	-0.8
E09A	**Wood Farm, Sta**	7.50	64			Pn	15 04 32.7	-2.6
BMO	**Blue Mountains**	7.72	77	⇓P		Pn	15 04 36.5	-2.0
LLLB	**Lillooet**	8.10	28			Pn	15 04 41.8	-1.7
SAO	**San Andreas Ge**	8.47	142	⇑P		Pn	15 04 51.5	+2.9
BBB	**Bella Bella**	8.55	359	Pn		Pn	15 04 48.0	-1.7
BBB	comp=E,6.2nm,0.3s,baz=192,slow=12,SNR=38				Sn	Sn	15 06 22.6	-3.3
	baz=51,slow=15							
BBB					LR	LR	15 07 31.0	
	comp=E,84μm,19.4s,baz=178,slow=34							
	comp=E,61nm,0.8s							
BBB	**Bella Bella**	8.55	359	⇑P		Pn	15 04 49.7	0.0
SCZ	**Santa Cruz**	8.62	142			Pn	15 04 49.8	-1.0
MFID	**Camas Ranch**	8.79	87			Pn	15 04 51.3	-1.9
NEW	**Newport**	8.83	55	Pn		Pn	15 04 52.4	-1.3
	comp=E,12nm,0.3s,baz=230,slow=11,SNR=134							
NEW					Sn	Sn	15 06 29.6	-3.3
	comp=E,1.4nm,0.3s,baz=59,slow=13,SNR=0.9							
NEW					LR	LR	15 08 03.6	
	comp=E,15μm,20.5s,baz=245,slow=36							
	comp=E,103nm,0.8s							
NEW	**Newport**	8.83	55	⇑P		Pn	15 04 51.7	-1.9
HG4B	**Hotspring**	8.93	347			Pn	15 04 55.1	+0.1
NVAR	**Mina Array Bea**	8.94	122	Pn		Pn	15 04 58.0	+2.6
	comp=E,1.5nm,0.3s,baz=300,slow=13,SNR=88							
NVAR					Sn	Sn	15 06 39.5	+3.6
	baz=133,slow=29							
NVAR					LR	LR	15 08 05.1	
	comp=E,17μm,19.3s,baz=304,slow=35							
	comp=E,61nm,1.0s							
RAMR	**Ramage Ranch**	9.66	143			Pn	15 05 03.4	-1.7
HLID	**Hailey**	9.81	86	⇑P		Pn	15 05 06.8	-0.3
ELK	**Elko**	9.85	103			Pn	15 05 08.2	+0.4
ELK	**Elko**	9.85	103	Pn		Pn	15 05 10.4	+2.6
	comp=E,2.6nm,0.3s,baz=296,slow=13,SNR=169							
ELK					LR	LR	15 09 07.9	
	comp=E,54μm,20.1s,baz=294,slow=39							
	comp=E,68nm,1.0s							
ELK	**Elko**	9.85	103	⇑P		Pn	15 05 09.4	+1.6
DIB	**Dawson Inlet,**	10.04	344			Pn	15 05 10.0	0.0
VES	**Vestal, Richgr**	10.34	136			Pn	15 05 15.8	+1.5
MSO	**Missoula**	10.37	67	⇑P		Pn	15 05 13.6	-1.2
DLMT	**Dillon**	11.09	76			Pn	15 05 23.2	-1.4
BGU	**Big Grassy Mou**	11.37	99			Pn	15 05 28.6	+0.1
DUG	**Dugway, Tooele**	11.77	102	⇑P		Pn	15 05 35.3	+1.3
PSUT	**Pine Spring**	11.78	111			Pn	15 05 32.9	-1.2
BOZ	**Bozeman (W)**	11.78	75			Pn	15 05 32.6	-1.5
BOZ	**Bozeman (W)**	11.78	75	⇓P		Pn	15 05 34.1	0.0
V35K	**Ketchikan**	11.94	350	P		Pn	15 05 38.3	+2.2
	baz=167,SNR=69							
HWUT	**Hardware Ranch**	12.22	94			Pn	15 05 40.3	+0.1
HWUT	**Hardware Ranch**	12.22	94	⇑P		Pn	15 05 41.4	+1.1
CRAG	**Craig**	12.31	346	P		Pn	15 05 43.3	+2.2
CRAG	**Craig**	12.31	346	⇑P		Pn	15 05 42.5	+1.4
CRAG	**Craig**	12.31	346	P		Pn	15 05 42.4	+1.4
	baz=162,SNR=21							
CRAG				S		Sn	15 08 00.8	+2.9
	baz=162							
AHID	**Auburn Hatcher**	12.31	88	⇑P		Pn	15 05 43.0	+1.5
U35K	**Hyder**	12.36	354	P		Pn	15 05 44.1	+2.3
	baz=172							
MTPC	**Mountain Pass**	12.54	126			Pn	15 05 49.2	+4.7
JLU	**Jordanelle**	12.61	98			Pn	15 05 45.4	-0.1
LKWY	**Lake**	12.64	80	⇑P		Pn	15 05 47.5	+1.6
U33K	**Whale Pass**	12.93	347	P		Pn	15 05 51.8	+2.3
	baz=163,SNR=23							
U33K				S		Sn	15 08 23.2	+10
	baz=163							
LCMT	**Little Creek M**	13.00	116			Pn	15 05 53.6	+2.8
WRAK	**Wrangell Islan**	13.10	349	⇓P		Pn	15 05 53.6	+1.7
WRAK	**Wrangell Islan**	13.10	349	P		Pn	15 05 54.3	+2.4
	baz=165,SNR=28							
WRAK				S		S	15 08 31.2	-11
	baz=165							
EGMT	**Eagleton**	13.40	65	⇑P		Pn	15 05 55.0	-1.2
PFO	**Pinyon Flats O**	13.42	134	Pn		Pn	15 05 59.8	+3.2
	comp=E,0.4nm,0.3s,baz=325,slow=13,SNR=24							
PFO					Sn	Sn	15 08 28.7	+3.1
	comp=E,0.2nm,0.3s,baz=7.8,slow=20,SNR=1.0							
PFO					LR	LR	15 10 53.9	
	comp=E,36μm,18.2s,baz=306,slow=36							
	comp=E,38nm,1.2s							
RLMT	**Red Lodge**	13.43	77	⇑P		Pn	15 05 57.3	+0.6
BW06	**Boulder Array**	13.43	87	⇑P		Pn	15 05 58.0	+1.2
PDAR	**Pinedale Array**	13.43	87	Pn		Pn	15 05 59.2	+2.5
	comp=E,0.3nm,0.3s,baz=283,slow=14,SNR=86							
PDAR					LR	LR	15 11 25.2	
	comp=E,47μm,18.8s,baz=260,slow=39							
	comp=E,14nm,0.9s							
T35M	**Bob Quinn**	13.44	355	P		Pn	15 06 00.1	+3.5
	baz=172,SNR=30							
T33K	**Petersburg**	13.57	348	P		Pn	15 05 60.0	+1.6
	baz=164							
T33K				S		S	15 08 41.8	-10
	baz=164							
CPE	**Camp Elliot**	13.68	138			Pn	15 05 59.7	-0.2
BAR	**Barrett**	14.06	137			Pn	15 06 06.4	+1.2
SIT	**Sitka**	14.23	343	P		Pn	15 06 08.1	+0.8
SIT	**Sitka**	14.23	343	P		Pn	15 06 07.1	-0.1
	baz=157							
SIT				S		Sn	15 08 53.4	+8.7
	baz=157							
S34M	**Telegraph Cree**	14.43	353	P		Pn	15 06 13.1	+3.0
	baz=170,SNR=81							
S34M				S		S	15 09 04.7	-5.0
	baz=170							
DLBC	**Dease Lake**	14.88	356	Pn		Pn	15 06 16.4	+0.2
	comp=E,1.9nm,0.3s,baz=162,slow=10,SNR=21							
DLBC					LR	LR	15 11 21.0	
	comp=E,515μm,18.2s,baz=152,slow=35							
	comp=E,79nm,0.9s							
DLBC	**Dease Lake**	14.88	356	P		Pn	15 06 18.6	+2.4
	baz=174,SNR=56							
ESJX	**Sierra Juarez**	14.96	137	P		Pn	15 06 19.2	+1.6
WUAZ	**Wupatki**	15.10	117	⇑P		P	15 06 22.7	-2.0
PV23	**Carpenter Ridg**	15.18	104	IAmb		IAmb	15 06 25.8	
	comp=Z,517nm,1.3s							
JIS	**Juneau Island**	15.20	347	P		Pn	15 06 21.5	+1.1
R32K	**Eaglecrest**	15.22	347	P		Pn	15 06 22.1	+1.3
	baz=161,SNR=65							
R32K				S		S	15 09 23.7	-2.1
	baz=161							
S31K	**Pelican**	15.25	343	P		Pn	15 06 21.7	+0.5
	baz=156,SNR=14							
S31K				S		S	15 09 21.5	-4.9
	baz=156							
PV19	**Morning Glory**	15.26	104	IAmb		IAmb	15 06 26.7	
	comp=Z,370nm,1.4s							
PV17	**East Wray Mesa**	15.29	104	P		Pn	15 06 21.7	-0.3
TOAD	**Toad River Com**	15.32	5	P		Pn	15 06 23.1	+1.0
	baz=187,SNR=28							
TOAD				S		S	15 09 21.1	-6.8
	baz=187							
PV12	**Saucer Basin,**	15.38	104	IAmb		IAmb	15 06 28.3	
	comp=Z,396nm,1.2s							
BESE	**Bessie Mountai**	15.57	346			Pn	15 06 24.9	-0.4
R31K	**City Hall, Gus**	15.57	345	P		Pn	15 06 21.6	+0.9
	baz=158							
R31K				S		S	15 09 30.3	-2.6
	baz=158							
Q32M	**Nakina River**	15.58	352	P		P	15 06 27.7	-2.1
	baz=168,SNR=77							
LAO	**LASA Array**	15.60	71	⇑P		Pn	15 06 24.7	-1.2
LIRD	**Liard River Hi**	15.83	3	P		P	15 06 30.3	-2.2
	baz=185,SNR=18							
R33M	**Jennings River**	15.89	354	P		P	15 06 31.9	-1.4
	baz=172,SNR=62							
MVCO	**Mesa Verde**	16.11	107			Pn	15 06 32.9	+0.2
MVCO	**Mesa Verde**	16.11	107	⇑P		Pn	15 06 33.4	+0.7
SFX	**San Felipe**	16.29	136			P	15 06 36.3	-1.4
P32M	**Atlin**	16.36	350			Pn	15 06 36.3	+0.7
P32M	**Atlin**	16.36	350	P		P	15 06 37.7	-0.7
	baz=165,SNR=69							
P32M				S		S	15 09 49.6	+0.5
	baz=165							
W18A	**Petrified Fore**	16.41	115	IAmb		IAmb	15 06 42.5	
	comp=Z,1μm,1.8s							
SKAG	**Skagway**	16.48	347			Pn	15 06 37.0	0.0
SKAG	**Skagway**	16.48	347	P		P	15 06 38.4	-1.2
SKAG	**Skagway**	16.48	347	⇑P		Pn	15 06 37.4	+0.5
SKAG	**Skagway**	16.48	347	P		P	15 06 38.6	-1.0
	baz=160,SNR=26							
SKAG				S		S	15 09 51.9	+0.5
	baz=160							
WTLY	**Watson Lake, Y**	16.51	358	P		Pn	15 06 37.3	-0.1
WTL

comp=Z,684nm,1.1s
N32M Quiet Lake 17.81 352 P P 15 06 54.6 +0.2
baz=167,SNR=82
N32M S **S** **15 10 23.8 +5.2**
baz=167
O30N Mendenhall 17.85 347 P P 15 06 54.8 -0.1
baz=160,SNR=30
O30N S **S** **15 10 24.3 +4.9**
baz=160
O29M Mount Kennedy 17.89 343 P P 15 06 55.6 +0.2
baz=154,SNR=18
O29M S **S** **15 10 23.2 +2.8**
baz=154
TGTN Hyland Airport 17.92 359 P P 15 06 56.6 +1.0
baz=179,SNR=66
TGTN S **S** **15 10 22.2 +1.4**
baz=179
SDCO Great Sand Dun 17.97 101 P P 15 06 56.3 -0.3
SDCO Great Sand Dun 17.97 101 ⇑P P 15 06 56.8 +0.2
PINM Pinnacle 18.10 340 P P 15 06 57.3 -0.3
baz=150,SNR=14
PINM S **S** **15 10 25.1 +0.5**
baz=150
HYT Haines Junctio 18.15 345 P P 15 06 59.1 +0.9
baz=157,SNR=28
HYT S **S** **15 10 28.0 +2.3**
baz=157
YUK6 Outpost Mounta 18.43 344 P P 15 07 02.5 +1.1
baz=155,SNR=28
YUK6 S **S** **15 10 35.9 +4.5**
baz=155
DUN6 Lazy B Ranch 18.46 121 IAmb IAmb 15 07 09.9
comp=Z,1µm,1.4s
N31M Braeburn, Yuko 18.48 348 P Pn 15 07 02.9 +1.0
baz=162,SNR=85
N31M S **S** **15 10 38.8 +6.7**
baz=162
MESA MESA 18.62 338 P Pn 15 07 04.4 +0.7
baz=146,SNR=13
MESA S **S** **15 10 42.0 +6.8**
baz=146
N30M Aishikik Lake 18.66 346 P Pn 15 07 04.7 +0.6
baz=159,SNR=54
N30M S **S** **15 10 41.1 +5.1**
baz=159
O28M Mount Upton 18.68 341 P Pn 15 07 05.2 +0.7
baz=151,SNR=82
O28M S **S** **15 10 40.4 +3.9**
baz=151
ANMO Albuquerque 18.71 110 Pn 15 07 05.4 +0.4
ANMO Albuquerque 18.71 110 P Pn 15 07 06.9 +1.9
comp=Z,0.9nm,0.3s,baz=38,slow=11,SNR=124
ANMO LR LR 15 14 47.7
comp=Z,52µm,20.2s,baz=32,slow=38
comp=Z,211nm,1.1s
ANMO Albuquerque 18.71 110 ⇓*e*P Pn 15 07 05.7 +0.7
ANMO pmax pmax
comp=Z,249nm,1.3s
ANMO MLR MLR
comp=Z,44µm,15.0s
ANMO Albuquerque 18.71 110 ⇑P Pn 15 07 06.7 +1.7
YAH Yahtse 18.72 338 IAmb IAmb 15 07 14.6
comp=Z,818nm,1.8s
YUK4 Talbot Arm 18.85 344 P Pn 15 07 07.4 +0.9
baz=155,SNR=18
YUK4 S **S** **15 10 44.5 +4.6**
baz=155
Y22D IRIS PASSCAL I 18.90 113 P Pn 15 07 11.0 +3.8
baz=307,SNR=8.1
Y22D S S 15 10 55.0 +14
baz=307
BGLC Bering Glacier 18.95 336 P Pn 15 07 08.7 +1.2
baz=143
BGLC S **S** **15 10 48.7 +7.2**
baz=143
Y22A Socorro 18.95 114 IAmb IAmb 15 07 14.2
comp=Z,991nm,1.8s
M31M Drury Creek, Y 18.98 351 P Pn 15 07 08.4 +0.5
baz=165,SNR=103
M31M S **S** **15 10 49.1 +6.9**
baz=165
YUK8 Steele Glacier 19.03 342 P Pn 15 07 09.5 +0.7
baz=153,SNR=36
YUK8 S **S** **15 10 51.2 +7.5**
baz=153
SUCK Suckling Hills 19.06 335 IAmb IAmb 15 07 18.7
comp=Z,1µm,1.7s
ISLE Juniper Island 19.08 338 IAmb IAmb 15 07 19.8
comp=Z,541nm,1.3s
WAX Waxell Ridge 19.09 337 IAmb IAmb 15 07 20.5
comp=Z,661nm,1.2s
MMPY Sheldon Lake, 19.11 355 IAmb IAmb 15 07 20.5
comp=Z,1µm,1.8s
MMPY Sheldon Lake, 19.11 355 P Pn 15 07 10.2 +0.6
baz=172,SNR=73
MMPY S **S** **15 10 53.7 +8.7**
baz=172
CTG Chitna Glacier 19.12 340 P Pn 15 07 09.4 -0.3
baz=149,SNR=39
CTG S **S** **15 10 52.2 +6.8**
baz=149
KAIM Kayak Island 19.14 334 P 15 07 07.3 -1.7
KAIM Kayak Island 19.14 334 P Pn 15 07 10.5 +0.6
baz=141,SNR=15
KAIM S **S** **15 10 55.4 +10**
baz=141
319A Douglas 19.15 124 IAmb IAmb 15 07 21.6
comp=Z,1µm,1.5s
121A Cookes Peak, D 19.30 118 IAmb IAmb 15 07 20.2
comp=Z,595nm,1.4s
OGNE Ogallala 19.32 89 IAmb IAmb 15 07 16.1
comp=Z,1µm,1.8s
OGNE Ogallala 19.32 89 ⇑P P 15 07 11.0 -0.2
E28A Huff 19.41 72 P 15 07 10.5 -1.5
CRQE Cirque 19.41 337 P P 15 07 12.3 +0.2
baz=145,SNR=55
CRQE S **S** **15 10 56.8 +5.7**
baz=145
Q23K Middleton Isla 19.42 331 IAmb IAmb 15 07 22.1
comp=Z,660nm,1.7s
Q23K Middleton Isla 19.42 331 P P 15 07 12.0 +0.1
baz=136
Q23K S **S** **15 10 58.4 +7.5**
baz=136
Q23K S **S** **15 10 58.4 +7.5**
baz=136
CRQM Cirque 19.43 337 IAmb IAmb 15 07 23.8
comp=Z,788nm,1.6s
KSCO Kaye Shedlock' 19.52 95 IAmb IAmb 15 07 21.2
comp=Z,338nm,0.9s
YUK3 Moose Creek 19.62 342 P Pn 15 07 15.1 -0.7
baz=152,SNR=31
YUK3 S **Sn** **15 11 02.2 +6.4**
baz=152
M30M Minto, Yukon 19.67 348 P 15 07 14.9 +0.1
M30M Minto, Yukon 19.67 348 P Pn 15 07 15.7 -0.5
baz=160,SNR=52
M30M S **Sn** **15 11 01.2 +4.5**
baz=160
WRGLY Wrigley 19.80 6 P 15 07 15.6 -0.5
WRGLY Wrigley 19.80 6 P Pn 15 07 17.2 -0.4
baz=189,SNR=55
WRGLY S **Sn** **15 11 01.2 +1.6**
baz=189
M29M Somme Creek 19.82 345 P Pn 15 07 17.6 -0.6
baz=157,SNR=38
M29M S **Sn** **15 11 06.7 +6.2**
baz=157
MCARA McCarthy VSAT 19.92 338 P Pn 15 07 18.7 -0.3
baz=146,SNR=31
MCARA S **Sn** **15 11 06.9 +4.3**
baz=146
HSIG 19.94 131 P 15 07 18.2 +0.2
HSIG IAmb IAmb 15 07 31.3
comp=Z,754nm,2.0s
HSIG 19.94 131 ⇑P Pn 15 07 21.0 +1.4
BMRM Bremner River 20.02 336 P Pn 15 07 19.9 -0.5
baz=142,SNR=22
BMRM S Sn 15 11 08.8 +3.6
baz=142
EYAK Cordova Ski Ar 20.05 334 P 15 07 19.1 +0.2
EYAK Cordova Ski Ar 20.05 334 P Pn 15 07 21.9 +1.3
EYAK Cordova Ski Ar 20.05 334 P Pn 15 07 19.5 -1.1
baz=139,SNR=16
EYAK S Sn 15 11 11.4 +5.7
baz=139
FFC Flin Flon 20.14 47 P 15 07 18.5 -1.4
FFC IAmb IAmb 15 07 29.2
comp=Z,466nm,1.0s
FFC Flin Flon 20.14 47 *e*P P 15 07 18.5 -1.4
FFC Flin Flon 20.14 47 ⇑P P 15 07 20.1 +0.2
MDND Maddock 20.16 68 IAMs_20 IAMs_20 15 15 06.3
comp=Z,25µm,19.0s
HIN Hinchinbrook I 20.18 333 IAmb IAmb 15 07 32.9
comp=Z,619nm,1.2s
HIN IAMs_20 IAMs_20 15 13 07.3
comp=Z,45µm,18.0s
BVCY Beaver Creek 20.28 343 P P 15 07 21.7 +0.3
baz=152,SNR=17
BVCY S Sn 15 11 14.6 +3.3
baz=152
L29M L29M 20.38 347 IAMs_20 IAMs_20 15 13 50.7
comp=Z,44µm,20.0s
L29M L29M 20.38 347 P Pn 15 07 23.8 -0.9
baz=158,SNR=40
L29M S Sn 15 11 19.6 +5.7
baz=158
YKA Yellowknife Ar 20.43 18 P 15 07 21.2 -1.8
YKA Yellowknife Ar 20.43 18 P P 15 07 22.5 -0.5
comp=Z,33nm,0.7s,baz=232,slow=6.1,SNR=56
YKA PcP **PcP 15 11 34.8 +0.1**
comp=Z,10nm,1.0s,baz=220,slow=1.6,SNR=6.5
YKA LR LR 15 15 11.0
comp=Z,31µm,19.5s,baz=208,slow=37
comp=Z,33nm,0.7s
FID Port Fidalgo 20.44 333 IAmb IAmb 15 07 35.0
comp=Z,650nm,1.6s
FID IAMs_20 IAMs_20 15 12 57.7
comp=Z,37µm,22.0s
M27K Edge Creek, AK 20.46 341 IAmb IAmb 15 07 35.5
comp=Z,779nm,1.9s
M27K IAMs_20 IAMs_20 15 13 38.9
comp=Z,28µm,19.0s
M27K Edge Creek, AK 20.46 341 P P 15 07 24.3 +0.8
baz=150,SNR=108
M27K S Sn 15 11 18.9 +3.1
baz=150
DIV Divide 20.50 335 IAMs_20 IAMs_20 15 13 01.8
comp=Z,34µm,22.0s
MAYO Mayo, Yukon 20.51 350 IAMs_20 IAMs_20 15 14 20.1
comp=Z,38µm,19.0s
MAYO Mayo, Yukon 20.51 350 P Pn 15 07 25.7 -0.4
baz=163
N25K Chitina, Valde 20.53 337 IAmb IAmb 15 07 36.2
comp=Z,499nm,1.6s
N25K IAMs_20 IAMs_20 15 13 19.0
comp=Z,23µm,18.0s
N25K Chitina, Valde 20.53 337 P Pn 15 07 25.3 -1.1
baz=143,SNR=102
N25K S Sn 15 11 21.9 +4.4
baz=143
RTBA Rita Blanca 20.53 102 IAmb IAmb 15 07 38.9
comp=Z,311nm,1.0s
EPT El Paso 20.61 118 IAmb IAmb 15 07 40.8
comp=Z,674nm,1.3s
EPT IAMs_20 IAMs_20 15 15 47.5
comp=Z,25µm,21.0s
SRIG Santa Rosalia 20.64 137 IAmb IAmb 15 07 33.0
comp=Z,487nm,1.4s
SRIG Santa Rosalia 20.64 137 ⇑P Pn 15 07 27.8 0.0
GLI Glacier Island 20.73 333 IAMs_20 IAMs_20 15 13 17.0
comp=Z,23µm,20.0s
GLI Glacier Island 20.73 333 P P 15 07 26.4 +0.1
baz=137,SNR=12
GLI S Sn 15 11 21.1 -1.2
baz=137
M26K Nabesna, AK 20.77 340 IAMs_20 IAMs_20 15 13 36.1
comp=Z,36µm,22.0s
M26K Nabesna, AK 20.77 340 P P 15 07 27.4 +0.7
baz=148,SNR=62
M26K S Sn 15 11 26.0 +2.9
baz=148
KLU Klutina 20.83 335 IAMs_20 IAMs_20 15 14 02.4
comp=Z,26µm,18.0s
KLU Klutina 20.83 335 P P 15 07 28.0 +0.6
baz=141,SNR=30
KLU S Sn 15 11 23.7 -1.0
baz=141
KDAK Kodiak Island 20.91 321 P 15 07 26.9 -1.3
KDAK Kodiak Island 20.91 321 P P 15 07 27.1 -1.1
comp=Z,46nm,1.0s,baz=120,slow=5.1,SNR=29
KDAK LR LR 15 13 24.1
comp=Z,15µm,19.2s,baz=121,slow=31
comp=Z,46nm,1.0s
KDAK Kodiak Island 20.91 321 *de*P P 15 07 28.4 +0.2
KDAK pmax pmax
comp=Z,94nm,1.1s
KDAK Kodiak Island 20.91 321 ⇑P P 15 07 28.1 -0.1
KDAK Kodiak Island 20.91 321 P P 15 07 28.4 +0.2
baz=122
KDAK S Sn 15 11 23.8 -2.6
baz=122
OHAK Old Harbor 20.95 319 P P 15 07 29.7 +1.1
OHAK Old Harbor 20.95 319 P P 15 07 28.2 -0.4
baz=119,SNR=26
OHAK S **S** **15 11 22.7 +1.3**
baz=119
K29M Barlow Dome 20.98 348 IAmb IAmb 15 07 39.0
comp=Z,378nm,1.1s
K29M IAMs_20 IAMs_20 15 14 20.7
comp=Z,39µm,20.0s
K29M Barlow Dome 20.98 348 P P 15 07 29.6 +0.6
baz=160,SNR=102
K29M S Sn 15 11 31.3 +3.1
baz=160
SEW Seward 21.01 329 IAmb IAmb 15 07 42.9
comp=Z,1µm,1.9s
SEW IAMs_20 IAMs_20 15 13 21.6
comp=Z,31µm,19.0s
SEW Seward 21.01 329 P P 15 07 29.4 +0.1
baz=132,SNR=36
SEW S Sn 15 11 26.4 -2.5
baz=132
BCAR Beaver Creek A 21.06 342 P 15 07 29.0 -0.8
L27K Beaver Creek, 21.06 342 IAmb IAmb 15 07 39.9
comp=Z,494nm,1.6s
L27K IAMs_20 IAMs_20 15 13 59.0
comp=Z,30µm,20.0s
L27K Beaver Creek, 21.06 342 P P 15 07 30.2 +0.3
baz=151,SNR=79
L27K S Sn 15 11 31.5 +1.3
baz=151
SII Sitkinak Islan 21.07 317 P 15 07 29.3 -0.7
SII IAmb IAmb 15 07 43.1
comp=Z,500nm,1.2s
SII Sitkinak Islan 21.07 317 P P 15 07 30.7 +0.7
SII Sitkinak Islan 21.07 317 P P 15 07 30.1 +0.1
baz=116,SNR=10
SII S Sn 15 11 29.4 -1.0
baz=116
PWL Port Wells 21.14 332 IAMs_20 IAMs_20 15 13 16.7
comp=Z,36µm,22.0s
PWL Port Wells 21.14 332 P P 15 07 30.4 -0.2
baz=135,SNR=27
PWL S Sn 15 11 30.8 -1.2
baz=135
BRSE Bradley Lake S 21.27 327 P P 15 07 32.8 +0.6
baz=129,SNR=50
BRSE S Sn 15 11 35.3 +0.1
baz=129
SYI Shuyak Island 21.28 323 IAmb IAmb 15 07 46.1
comp=Z,710nm,1.5s
Q20K Shuyak Island 21.28 323 P P 15 07 32.6 +0.4
baz=124,SNR=19
Q20K S Sn 15 11 33.1 -2.2
baz=124
HARP HAARP 21.33 338 P P 15 07 34.2 +1.5
baz=144,SNR=19
HARP S Sn 15 11 38.9 +2.4
baz=144
CNPM China Poot 21.33 326 IAmb IAmb 15 07 50.3
comp=Z,586nm,1.5s
CNPM IAMs_20 IAMs_20 15 13 41.1
comp=Z,27µm,18.0s
BRLK Bradley Lake 21.34 327 IAmb IAmb 15 07 46.4
comp=Z,438nm,1.3s
BRLK IAMs_20 IAMs_20 15 13 40.3
comp=Z,30µm,18.0s
O22K Cooper Landing 21.37 330 IAmb IAmb 15 07 50.3
comp=Z,541nm,1.1s
O22K IAMs_20 IAMs_20 15 13 41.9
comp=Z,37µm,18.0s
O22K Cooper Landing 21.37 330 P P 15 07 33.8 +0.7
baz=132,SNR=11
O22K S Sn 15 11 38.6 +1.2
baz=132
L26K Log Cabin Wild 21.38 341 IAMs_20 IAMs_20 15 14 07.4
comp=Z,30µm,19.0s
L26K Log Cabin Wild 21.38 341 P P 15 07 34.5 +1.2
baz=148,SNR=51
L26K S Sn 15 11 39.5 +1.7
baz=148
MNTX Cornudas Mount 21.39 116 IAMs_20 IAMs_20 15 16 20.1
comp=Z,29µm,18.0s
MNTX Cornudas Mount 21.39 116 ⇑P P 15 07 36.3 +2.8
M24K Tolsona, Glenn 21.39 336 IAmb IAmb 15 07 50.8
comp=Z,1µm,1.9s
M24K Tolsona, Glenn 21.39 336 P P 15 07 34.8 +1.4
baz=141,SNR=37
M24K S Sn 15 11 38.8 +0.8
baz=141
MENT Mentasta 21.40 340 IAmb IAmb 15 07 47.8
comp=Z,389nm,1.3s
MENT IAMs_20 IAMs_20 15 14 05.8
comp=Z,25µm,19.0s
MENT Mentasta 21.40 340 P P 15 07 35.1 +1.6
DAWY Dawson 21.49 346 IAmb IAmb 15 07 47.2
comp=Z,516nm,1.2s
DAWY Dawson 21.49 346 P P 15 07 34.5 +0.1
baz=157,SNR=67
DAWY S Sn 15 11 39.1 -1.2
baz=157
CHIR Chirikof Islan 21.49 314 P 15 07 33.5 -1.0
CHIR Chirikof Islan 21.49 314 P P 15 07 35.1 +0.6
CHIR Chirikof Islan 21.49 314 P P 15 07 35.1 +0.6
baz=113,SNR=12
CHIR S Sn 15 11 38.5 -1.9
baz=113
J30M Hart River 21.51 350 IAmb IAmb 15 07 48.1
comp=Z,456nm,1.1s
J30M IAMs_20 IAMs_20 15 15 00.7
comp=Z,39µm,18.0s
J30M Hart River 21.51 350 P P 15 07 35.7 +0.9
baz=163,SNR=223
J30M S Sn 15 11 37.1 -3.9
baz=163
SCM Sheep Creek Mo 21.52 335 IAmb IAmb 15 07 48.2
comp=Z,551nm,1.2s
SCM IAMs_20 IAMs_20 15 14 04.7
comp=Z,25µm,18.0s
SCM Sheep Creek Mo 21.52 335 P P 15 07 35.8 +0.9
baz=139,SNR=59
SCM S Sn 15 11 37.2 -4.1
baz=139
SLKM Skilak Lake 21.57 329 IAmb IAmb 15 07 44.8
comp=Z,358nm,1.2s
SLKM IAMs_20 IAMs_20 15 13 48.3
comp=Z,31µm,18.0s
HOM Homer 21.58 326 IAMs_20 IAMs_20 15 13 48.7
comp=Z,22µm,19.0s
HOM Homer 21.58 326 P P 15 07 36.5 +1.2
baz=127,SNR=9.0
HOM S Sn 15 11 38.6 -3.9
baz=127
KNK Knik Glacier 21.58 333 IAMs_20 IAMs_20 15 13 43.3
comp=Z,27µm,20.0s
KNK Knik Glacier 21.58 333 P P 15 07 36.5 +1.1
baz=136,SNR=39
KNK S **S** **15 11 36.3 +2.3**
baz=136
M23K Glacier View 21.62 334 P P 15 07 37.1 +1.3
baz=138,SNR=86
M23K S **S** **15 11 37.5 +2.7**
baz=138
J29N Klondike Camp 21.66 348 IAmb IAmb 15 07 48.6
comp=Z,676nm,1.4s
J29N IAMs_20 IAMs_20 15 14 53.3
comp=Z,41µm,19.0s
J29N Klondike Camp 21.66 348 P P 15 07 37.6 +1.3
baz=159,SNR=16
J29N S **S** **15 11 39.4 +3.9**
baz=159
R18K Karluk 21.67 319 P P 15 07 37.3 +1.0
baz=118,SNR=30
R18K S Sn 15 11 41.1 -3.5
baz=118
CBKS Cedar Bluff 21.69 93 IAmb IAmb 15 07 43.7
comp=Z,284nm,1.0s
CBKS Cedar Bluff 21.69 93 ⇑P P 15 07 37.5 +0.6
MSTX Muleshoe 21.78 108 IAmb IAmb 15 07 50.5
comp=Z,450nm,1.4s
MSTX IAMs_20 IAMs_20 15 16 35.9
comp=Z,33µm,18.0s
RC01 Rabbit Creek A 21.79 331 IAmb IAmb 15 07 54.6
comp=Z,566nm,1.6s
RC01 IAMs_20 IAMs_20 15 13 47.9
comp=Z,29µm,20.0s
RC01 Rabbit Creek A 21.79 331 P P 15 07 38.3 +0.7
baz=133,SNR=14
RC01 S Sn 15 11 43.1 -4.4
baz=133
PAX Paxson 21.88 338 IAMs_20 IAMs_20 15 14 06.9
comp=Z,23µm,21.0s
PAX Paxson 21.88 338 P P 15 07 39.2 +0.5
baz=144,SNR=52
PAX S Sn 15 11 47.8 -2.0
baz=144
PMR Palmer 21.93 332 IAMs_20 IAMs_20 15 13 53.2
comp=Z,23µm,20.0s
PMR Palmer 21.93 332 P P 15 07 40.4 +1.3
PMR Palmer 21.93 332 P P 15 07 40.0 +0.8
baz=135,SNR=22
PMR S Sn 15 11 46.1 -4.8
baz=135
K27K Chicken 21.97 343 IAmb IAmb 15 07 49.5
comp=Z,310nm,1.2s
K27K IAMs_20 IAMs_20 15 14 28.1
comp=Z,32µm,22.0s
K27K Chicken 21.97 343 P P 15 07 40.1 +0.5
baz=152
K27K S Sn 15 11 47.4 -4.4
baz=152
GHO Glory Hole Cre 21.99 333 IAmb IAmb 15 07 57.5
comp=Z,317nm,1.2s
GHO IAMs_20 IAMs_20 15 14 07.2
comp=Z,26µm,20.0s
FIS Fire Island 22.00 331 IAMs_20 IAMs_20 15 14 12.4
comp=Z,26µm,18.0s
Q19K Cape Douglas, 22.00 323 IAmb IAmb 15 08 00.1
comp=Z,327nm,1.1s
Q19K Cape Douglas, 22.00 323 P P 15 07 40.6 +0.6
baz=122
Q19K S Sn 15 11 49.9 -2.7
baz=122
BGNE Belgrade 22.01 85 IAmb IAmb 15 07 56.5
comp=Z,274nm,1.1s
BGNE IAMs_20 IAMs_20 15 16 27.9
comp=Z,39µm,20.0s
AMTX Amarillo 22.05 104 IAMs_20 IAMs_20 15 16 35.1
comp=Z,20µm,19.0s
AMTX Amarillo 22.05 104 ⇑P P 15 07 42.5 +1.7
DOT Dot Lake 22.08 341 IAmb IAmb 15 07 50.4
comp=Z,448nm,1.7s
DOT IAMs_20 IAMs_20 15 14 28.3
comp=Z,34µm,21.0s
CAPN Captain Cook N 22.09 329 P P 15 07 41.6 +0.8
baz=130
CAPN S Sn 15 11 53.1 -1.5
baz=130
I30M Mount Dempster 22.14 351 IAmb IAmb 15 07 53.0
comp=Z,524nm,1.3s
I30M IAMs_20 IAMs_20 15 15 22.3
comp=Z,39µm,19.0s
I30M Mount Dempster 22.14 351 P P 15 07 42.4 +0.8
baz=163,SNR=136
I30M S Sn 15 11 51.4 -4.7
baz=163
WAT6 Susitna Watana 22.22 335 P P 15 07 43.1 +0.7
baz=139,SNR=119
WAT6 S **S** **15 11 50.7 +4.2**
baz=139
P19K Oil Pt 22.23 325 IAmb IAmb 15 07 52.1
comp=Z,308nm,1.2s
P19K Oil Pt 22.23 325 P P 15 07 43.0 +0.6
baz=125,SNR=9.9
P19K S Sn 15 11 53.9 -4.2
baz=125
O20K Slope Mountain 22.23 326 P P 15 07 43.3 +0.9
baz=126,SNR=14
O20K S Sn 15 11 53.9 -4.3
baz=126
SCRK Sand Creek 22.34 341 IAMs_20 IAMs_20 15 14 37.1
comp=Z,33µm,21.0s
SCRK Sand Creek 22.34 341 P P 15 07 44.7 +0.9

baz=148,SNR=35
SCRK S Sn 15 11 55.1 -5.9
baz=148
RIDG Independent Ri 22.35 340 P **P** **15 07 43.4 -0.4**
RIDG IAMs_20 IAMs_20 15 14 36.4
comp=Z,33µm,20.0s
RIDG Independent Ri 22.35 340 P **P** **15 07 44.6 +0.9**
baz=146,SNR=82
RIDG S Sn 15 11 55.2 -5.9
baz=146
ILSW Iliamna Southw 22.38 326 IAmb IAmb 15 07 58.1
comp=Z,440nm,1.4s
ILSW IAMs_20 IAMs_20 15 13 52.4
comp=Z,22µm,21.0s
M22K Willow 22.38 332 IAmb IAmb 15 08 00.7
comp=Z,387nm,1.2s
M22K IAMs_20 IAMs_20 15 14 09.1
comp=Z,24µm,21.0s
M22K Willow 22.38 332 P **P** **15 07 43.8 -0.2**
baz=134,SNR=6.9
M22K S **S** **15 11 54.0 +4.8**
baz=134
SUA Susitna One 22.40 331 IAmb IAmb 15 07 54.5
comp=Z,684nm,1.8s
SUA IAMs_20 IAMs_20 15 14 26.1
comp=Z,27µm,18.0s
SUA Susitna One 22.40 331 P **P** **15 07 44.8 +0.5**
baz=132,SNR=63
SUA S **S** **15 11 54.9 +5.1**
baz=132
EGAK Eagle 22.46 345 IAMs_20 IAMs_20 15 14 54.0
comp=Z,30µm,22.0s
Q18K Katmai Hardscr 22.46 321 P **P** **15 07 45.5 +0.6**
baz=120,SNR=58
Q18K S **S** **15 11 55.6 +4.6**
baz=120
RED Redoubt Volcan 22.49 327 IAmb IAmb 15 07 59.1
comp=Z,393nm,1.4s
RED IAMs_20 IAMs_20 15 14 18.3
comp=Z,23µm,19.0s
DHY Denali Highway 22.49 337 IAmb IAmb 15 07 56.0
comp=Z,411nm,1.1s
DHY IAMs_20 IAMs_20 15 14 20.2
comp=Z,23µm,22.0s
DHY Denali Highway 22.49 337 P **P** **15 07 46.2 +0.8**
baz=141,SNR=129
DHY S Sn 15 11 58.2 -6.4
baz=141
H31M Peel River 22.50 353 IAMs_20 IAMs_20 15 15 46.6
comp=Z,31µm,20.0s
H31M Peel River 22.50 353 P **P** **15 07 46.0 +0.8**
baz=168,SNR=160
H31M S **S** **15 11 55.3 +3.8**
baz=168
F33A 5 Mile Ranch, 22.50 73 IAmb IAmb 15 08 01.2
comp=Z,639nm,1.4s
I29M Ogilvie Camp, 22.53 349 IAmb IAmb 15 08 00.5
comp=Z,657nm,1.4s
I29M IAMs_20 IAMs_20 15 15 31.3
comp=Z,40µm,19.0s
I29M Ogilvie Camp, 22.53 349 P **P** **15 07 46.0 +0.5**
baz=160,SNR=261
I29M S **S** **15 11 56.3 +4.3**
baz=160
ECSD EROS Data Cent 22.58 79 IAmb IAmb 15 07 59.6
comp=Z,321nm,1.2s
ECSD EROS Data Cent 22.58 79 ⇑P **P** **15 07 46.0 -0.3**
R32A Long Quarter, 22.58 93 **P** **15 07 45.7 -0.7**
PECS Pecos 22.59 115 IAmb IAmb 15 07 59.5
comp=Z,520nm,1.3s
PLK4 Peulik 4 22.61 318 **P** **15 07 45.4 -1.2**
PLK4 IAmb IAmb 15 07 55.8
comp=Z,438nm,1.5s
R17L Mt. Peulik Vol 22.61 318 P **P** **15 07 46.7 +0.2**
baz=116,SNR=24
R17L S **S** **15 11 58.8 +5.2**
baz=116
K24K Donnelly Dome 22.64 339 IAmb IAmb 15 08 03.8
comp=Z,432nm,1.6s
K24K IAMs_20 IAMs_20 15 14 42.6
comp=Z,24µm,20.0s
K24K Donnelly Dome 22.64 339 P **P** **15 07 47.3 +0.5**
baz=144,SNR=8.1
K24K S **S** **15 11 59.0 +4.9**
baz=144
WAT1 Susitna Watana 22.65 335 P **P** **15 07 47.5 +0.6**
baz=138
WAT1 S **S** **15 11 58.4 +4.0**
baz=138
AGMN Agassiz Nation 22.67 67 IAmb IAmb 15 07 58.9
comp=Z,273nm,1.1s
AGMN IAMs_20 IAMs_20 15 16 31.8
comp=Z,19µm,19.0s
AGMN Agassiz Nation 22.67 67 ⇑P **P** **15 07 46.6 -0.6**
Q17K Contact Creek 22.67 320 P **P** **15 07 47.0 -0.2**
baz=118
Q17K S **S** **15 11 59.0 +4.1**
baz=118
J26L Joseph Creek 22.70 342 IAMs_20 IAMs_20 15 14 50.5
comp=Z,30µm,22.0s
J26L Joseph Creek 22.70 342 P **P** **15 07 48.2 +0.7**
baz=149,SNR=54
J26L S **S** **15 11 59.6 +4.4**
baz=149
ULM Lac du Bonnet 22.73 62 P **P** **15 07 47.2 -0.7**
comp=Z,173nm,0.9s,baz=268,slow=10.0,SNR=61
ULM LR LR 15 16 48.1
comp=Z,15µm,20.0s,baz=264,slow=37
comp=Z,173nm,0.9s
ULM Lac du Bonnet 22.73 62 *c i*P **P** **15 07 46.3 -1.6**
N20K Mount Spurr 22.76 329 P **P** **15 07 48.5 +0.4**
baz=129,SNR=40
N20K S **S** **15 12 01.8 +5.5**
baz=129
SPCR Spurr Chakacha 22.76 329 P **P** **15 07 48.3 +0.2**
baz=129,SNR=24
SPCR S **S** **15 12 00.3 +3.9**
baz=129
STLK Strandline Lak 22.81 330 IAMs_20 IAMs_20 15 14 30.7
comp=Z,21µm,18.0s
I28M Miner Creek 22.86 347 IAmb IAmb 15 07 59.2
comp=Z,337nm,1.1s
I28M IAMs_20 IAMs_20 15 15 30.3
comp=Z,42nm,19.0s
I28M Miner Creek 22.86 347 P **P** **15 07 49.3 +0.2**
baz=157,SNR=155
I28M S **S** **15 12 04.3 +6.3**
baz=157
CUT Chulitna 22.89 333 IAMs_20 IAMs_20 15 14 24.9
comp=Z,27µm,21.0s
CUT Chulitna 22.89 333 P **P** **15 07 49.1 -0.2**
baz=135
CUT S **S** **15 12 05.4 +7.0**
baz=135
P18K Big Mountain, 22.94 323 P **P** **15 07 49.5 -0.4**
baz=121
P18K S **S** **15 12 03.7 +4.3**
baz=121
O19K Port Alsworth 22.99 325 IAMs_20 IAMs_20 15 14 45.5
comp=Z,21µm,18.0s
O19K Port Alsworth 22.99 325 P **P** **15 07 50.2 -0.2**
baz=124,SNR=28
O19K S **S** **15 12 06.5 +6.4**
baz=124
SKT Skwentna 23.03 331 IAmb IAmb 15 08 07.0
comp=Z,652nm,1.9s
SKT IAMs_20 IAMs_20 15 14 46.6
comp=Z,31µm,18.0s
SKT Skwentna 23.03 331 P **P** **15 07 51.0 +0.2**
baz=132,SNR=11
SKT S **S** **15 12 06.9 +6.0**
baz=132
ELIS Ellis County 23.08 99 IAmb IAmb 15 07 57.9
comp=Z,407nm,1.0s
CHGN Chignik 23.12 314 **P** **15 07 51.4 -0.4**
CHGN IAmb IAmb 15 07 57.0
comp=Z,244nm,1.1s
CHGN Chignik 23.12 314 P **P** **15 07 51.8 0.0**
baz=110,SNR=15
CHGN S **S** **15 12 06.5 +4.1**
baz=110
L34A Svendsen Farm, 23.14 83 IAmb IAmb 15 08 02.8
comp=Z,467nm,1.2s
L34A IAMs_20 IAMs_20 15 17 01.8
comp=Z,34µm,20.0s
R16K Pilot Point 23.18 317 P **P** **15 07 52.9 +0.6**
baz=114
RND Reindeer 23.18 336 IAMs_20 IAMs_20 15 15 26.4
comp=Z,34µm,18.0s
J25K Salcha River, 23.21 341 IAmb IAmb 15 08 07.8
comp=Z,352nm,1.6s
J25K IAMs_20 IAMs_20 15 15 13.6
comp=Z,26µm,20.0s
J25K Salcha River, 23.21 341 P **P** **15 07 52.6 -0.1**
baz=146,SNR=25
J25K S **S** **15 12 04.2 +0.3**
baz=146
Q16K King Salmon 23.23 320 P **P** **15 07 52.9 +0.1**
baz=118
Q16K S **S** **15 12 06.8 +2.6**
baz=118
DKNS Dickens 23.23 106 IAmb IAmb 15 08 04.0
comp=Z,299nm,1.2s
EPYK Eagle Plains 23.29 351 IAMs_20 IAMs_20 15 16 08.6
comp=Z,37,19.0s
EPYK Eagle Plains 23.29 351 P **P** **15 07 53.7 +0.3**
baz=164,SNR=44
EPYK S **S** **15 12 09.7 +4.5**
baz=164
I27K Kandik River 23.29 346 P **P** **15 07 53.5 0.0**
baz=154,SNR=238
I27K S **S** **15 12 08.1 +2.9**
baz=154
CNBA Chernabura Isl 23.30 310 **P** **15 07 52.6 -1.0**
CNBA IAmb IAmb 15 07 58.2
comp=Z,276nm,1.2s
CNBA IAMs_20 IAMs_20 15 13 55.2
comp=Z,24µm,22.0s
CHNA Chernabura Isl 23.30 310 P **P** **15 07 56.1 +2.5**
CHNA Chernabura Isl 23.30 310 P **P** **15 07 53.1 -0.5**
baz=105,SNR=6.8
CHNA S **S** **15 12 11.6 +6.0**
baz=105
I26K Coal Creek Min 23.32 344 IAmb IAmb 15 08 16.4
comp=Z,761nm,1.8s
I26K IAMs_20 IAMs_20 15 15 20.6
comp=Z,31µm,22.0s
I26K Coal Creek Min 23.32 344 P **P** **15 07 54.0 +0.3**
baz=151
I26K S **S** **15 12 10.6 +5.0**
baz=151
MNHN Monahans 23.34 113 IAmb IAmb 15 08 05.7
comp=Z,401nm,1.6s
H29M Whitestone 23.35 349 IAmb IAmb 15 08 14.6
comp=Z,502nm,1.2s
H29M IAMs_20 IAMs_20 15 15 58.1
comp=Z,32µm,19.0s
H29M Whitestone 23.35 349 P **P** **15 07 54.2 +0.2**
baz=160,SNR=233
H29M S **S** **15 12 09.5 +3.4**
baz=160
P17K Kvichak River 23.37 322 P **P** **15 07 54.8 +0.5**
baz=119
P17K S **S** **15 12 09.8 +3.3**
baz=119
ALPN Alpine 23.38 116 IAmb IAmb 15 08 09.4
comp=Z,628nm,1.6s
N19K Bonanza Creek 23.41 327 IAMs_20 IAMs_20 15 14 58.5
comp=Z,26µm,18.0s
N19K Bonanza Creek 23.41 327 P **P** **15 07 54.7 0.0**
baz=125,SNR=19
N19K S **S** **15 12 09.4 +2.1**
baz=125
HDA Harding Lake 23.43 339 IAMs_20 IAMs_20 15 15 07.0
comp=Z,22µm,21.0s
HDA Harding Lake 23.43 339 P **P** **15 07 55.0 +0.1**
baz=143,SNR=11
HDA S **S** **15 12 11.2 +3.6**
baz=143
MCK McKinley 23.45 336 IAmb IAmb 15 08 04.6
comp=Z,715nm,1.9s
MCK IAMs_20 IAMs_20 15 15 10.5
comp=Z,20µm,19.0s
MCK McKinley 23.45 336 P **P** **15 07 55.5 +0.5**
baz=139,SNR=32
MCK S **S** **15 12 12.1 +4.2**
baz=139
M20K Styx River 23.54 330 IAmb IAmb 15 08 05.6
comp=Z,484nm,1.6s
M20K IAMs_20 IAMs_20 15 15 02.8
comp=Z,27µm,19.0s
M20K Styx River 23.54 330 P **P** **15 07 56.0 -0.1**
baz=129,SNR=28
M20K S **S** **15 12 13.3 +3.9**
baz=129
SN07 Snyder 07 23.57 107 IAmb IAmb 15 08 07.1
comp=Z,391nm,1.3s
G31M Satah River 23.59 354 IAMs_20 IAMs_20 15 16 32.2
comp=Z,36µm,18.0s
G31M Satah River 23.59 354 P **P** **15 07 56.8 +0.4**
baz=168,SNR=52
G31M S **S** **15 12 12.3 +2.4**
baz=168
TRF Thorofare Moun 23.64 335 IAMs_20 IAMs_20 15 15 12.8
comp=Z,28µm,19.0s
TRF Thorofare Moun 23.64 335 P **P** **15 07 57.5 +0.3**
baz=136,SNR=31
TRF S **S** **15 12 14.9 +3.6**
baz=136
ILAR Eielson Array 23.71 340 **P** **15 07 56.4 -1.2**
ILAR Eielson Array 23.71 340 P **P** **15 07 57.1 -0.5**
comp=Z,5.5nm,0.7s,baz=150,slow=8.1,SNR=70
ILAR PcP **PcP** **15 11 41.7 +0.5**
comp=Z,6.7nm,1.1s,baz=160,slow=2.4,SNR=5.0
ILAR LR LR 15 15 37.3
comp=Z,22µm,20.0s,baz=144,slow=33
comp=Z,5.5nm,0.7s
S14K Fog Glacier 23.71 313 P **P** **15 07 58.0 +0.2**
baz=109
WRH Wood River Hil 23.78 338 IAmb IAmb 15 08 12.7
comp=Z,336nm,1.3s
WRH IAMs_20 IAMs_20 15 15 16.3
comp=Z,17µm,19.0s
KAN01 Argonia South 23.79 95 IAmb IAmb 15 08 04.7
comp=Z,358nm,1.1s
CSTR Hydro, Custer 23.80 100 **P** **15 07 57.2 -1.5**
G30M tAoh Zraii Nji 23.82 352 IAmb IAmb 15 08 07.3
comp=Z,266nm,1.1s
G30M IAMs_20 IAMs_20 15 16 25.7
comp=Z,25µm,19.0s
G30M tAoh Zraii Nji 23.82 352 P **P** **15 07 58.3 -0.4**
baz=165,SNR=38
G30M S **S** **15 12 15.7 +1.9**
baz=165
H27K Steamboat Moun 23.84 346 IAMs_20 IAMs_20 15 16 00.4
comp=Z,29µm,21.0s
H27K Steamboat Moun 23.84 346 P **P** **15 07 59.5 +0.6**
baz=155,SNR=30
H27K S **S** **15 12 16.9 +2.8**
baz=155
CCB Clear Creek Bu 23.85 339 IAMs_20 IAMs_20 15 15 18.9
comp=Z,21µm,21.0s
KSU1 Kansas State U 23.86 90 ⇑P **P** **15 07 59.9 +0.7**
PPLA Purkeypile 23.87 332 IAMs_20 IAMs_20 15 15 16.9
comp=Z,27µm,20.0s
PPLA Purkeypile 23.87 332 P **P** **15 07 59.6 +0.3**
baz=132,SNR=13
PPLA S **S** **15 12 19.7 +4.9**
baz=132
N18K Kilae Creek 23.90 325 IAmb IAmb 15 08 10.0
comp=Z,370nm,1.4s
N18K IAMs_20 IAMs_20 15 14 49.7
comp=Z,21µm,19.0s
N18K Kilae Creek 23.90 325 P **P** **15 07 59.6 +0.1**
baz=123,SNR=18
N18K S **S** **15 12 18.0 +2.8**
baz=123
KTH Kantishna Hill 23.92 334 IAmb IAmb 15 08 12.9
comp=Z,450nm,1.8s
KTH IAMs_20 IAMs_20 15 15 20.0
comp=Z,24µm,19.0s
BWN Browne 23.93 337 IAMs_20 IAMs_20 15 15 04.1
comp=Z,24µm,22.0s
SDPT Sand Point 23.93 311 **P** **15 07 58.7 -1.1**
SDPT Sand Point 23.93 311 P **P** **15 08 03.9 +4.1**
SDPT Sand Point 23.93 311 P **P** **15 08 00.2 +0.5**
baz=106
SDPT S **S** **15 12 20.4 +4.8**
baz=106
O17K Koliganek Bris 23.95 323 P **P** **15 08 00.2 +0.4**
baz=119,SNR=22
O17K S **S** **15 12 20.4 +4.7**
baz=119
G29M Pine Creek 23.96 350 IAMs_20 IAMs_20 15 16 29.3
comp=Z,33µm,20.0s
G29M Pine Creek 23.96 350 P **P** **15 07 59.8 -0.2**
baz=162,SNR=144
G29M S **S** **15 12 19.5 +3.6**
baz=162
APMT Aspermont 23.98 106 IAmb IAmb 15 08 06.5
comp=Z,329nm,1.3s
N35A Tabor 23.98 85 IAMs_20 IAMs_20 15 17 40.0
comp=Z,41µm,21.0s
P16K Nushagak River 24.00 320 IAmb IAmb 15 08 26.4
comp=Z,402nm,1.1s
P16K Nushagak River 24.00 320 P **P** **15 08 01.1 +0.7**
baz=116
P16K S **S** **15 12 22.5 +5.8**
baz=116
PRP Porcupine Dome 24.00 342 IAmb IAmb 15 08 14.5
comp=Z,600nm,1.9s
PRP IAMs_20 IAMs_20 15 15 40.0
comp=Z,29µm,22.0s
PRP Porcupine Dome 24.00 342 P **P** **15 08 00.6 0.0**
baz=147,SNR=18
PRP S **S** **15 12 20.4 +3.5**
baz=147
M19K Big River Lodg 24.02 329 IAMs_20 IAMs_20 15 15 10.6
comp=Z,23µm,20.0s
M19K Big River Lodg 24.02 329 P **P** **15 08 01.0 +0.5**
baz=127,SNR=28
M19K S **S** **15 12 18.0 +1.1**
baz=127
COLA College 24.04 339 P **P** **15 07 59.5 -1.1**
COLA College 24.04 339 IAMs_20 IAMs_20 15 15 25.7
comp=Z,22µm,21.0s
COLA College 24.04 339 P **P** **15 08 02.5 +1.8**
COLA College 24.04 339 *d i*P **P** **15 08 00.0 -0.7**
COLA pmax pmax
comp=Z,9.0nm,1.0s
COLA MLR MLR
comp=Z,19µm,18.0s
COLA College 24.04 339 ⇓P **P** **15 07 59.0 -1.7**
COLA College 24.04 339 P **P** **15 08 00.7 0.0**
baz=142
COLA S **S** **15 12 20.2 +3.1**
baz=142
TXAR Lajitas Array 24.06 118 **P** **15 08 00.8 -0.5**
TXAR Lajitas Array 24.06 118 P **P** **15 08 03.8 +2.4**
comp=Z,40nm,0.8s,baz=302,slow=7.1,SNR=181
TXAR PcP **PcP** **15 11 41.5 -1.1**
comp=Z,3.5nm,0.7s,baz=238,slow=1.4,SNR=6.4
TXAR LR LR 15 18 08.7
comp=Z,14µm,20.2s,baz=301,slow=38
comp=Z,40nm,0.8s
F31M Tsiigehtchic 24.06 354 IAmb IAmb 15 08 11.0
comp=Z,503nm,1.3s
F31M IAMs_20 IAMs_20 15 16 46.9
comp=Z,36µm,20.0s
F31M Tsiigehtchic 24.06 354 P **P** **15 08 00.5 -0.3**
baz=169,SNR=25
F31M S **S** **15 12 19.4 +2.0**
baz=169
EPLO Experimental L 24.09 63 **P** **15 07 59.7 -1.7**
EPLO IAmb IAmb 15 08 10.0
comp=Z,406nm,1.2s
SGCY Sterling City 24.09 110 IAmb IAmb 15 08 15.2
comp=Z,367nm,1.0s
POKR Poker Plat Res 24.13 340 IAmb IAmb 15 08 14.0
comp=Z,297nm,1.6s
POKR IAMs_20 IAMs_20 15 15 30.3
comp=Z,24µm,22.0s
POKR Poker Plat Res 24.13 340 P **P** **15 08 02.1 +0.5**
baz=143,SNR=20
POKR S **S** **15 12 22.0 +3.4**
baz=143
NEA2 Nenana 24.14 338 IAMs_20 IAMs_20 15 15 13.9
comp=Z,23µm,22.0s
NEA2 Nenana 24.14 338 P **P** **15 08 02.5 +0.8**
baz=140,SNR=26
NEA2 S **S** **15 12 21.7 +2.8**
baz=140
WMOK Wichita Mounta 24.18 102 IAMs_20 IAMs_20 15 18 04.1
comp=Z,25µm,18.0s
WMOK Wichita Mounta 24.18 102 ⇑P **P** **15 08 03.3 +1.0**
L20K Farewell, AK 24.19 330 P **P** **15 08 02.1 -0.1**
baz=129,SNR=30
L20K S **S** **15 12 21.5 +1.9**
baz=129
LPIG La Paz 24.27 138 LR LR 15 16 44.9
comp=Z,14µm,18.3s,baz=325,slow=34
O16K Kokwok River B 24.31 322 IAmb IAmb 15 08 14.2
comp=Z,254nm,1.1s
O16K Kokwok River B 24.31 322 P **P** **15 08 04.0 +0.8**
baz=117,SNR=39
O16K S **S** **15 12 24.2 +2.7**
baz=117
M18K Stony River 24.33 327 P **P** **15 08 03.7 +0.3**
baz=124,SNR=19
M18K S **S** **15 12 26.4 +4.5**
baz=124
BPAW Bear Paw Mtn. 24.33 335 IAmb IAmb 15 08 15.2
comp=Z,307nm,1.9s
BPAW IAMs_20 IAMs_20 15 16 09.9
comp=Z,31µm,18.0s
BPAW Bear Paw Mtn. 24.33 335 P **P** **15 08 02.7 -0.8**
baz=136,SNR=38
BPAW S **S** **15 12 24.4 +2.4**
baz=136
L19K White Mountain 24.36 329 IAmb IAmb 15 08 16.4
comp=Z,669nm,1.9s
L19K IAMs_20 IAMs_20 15 15 30.6
comp=Z,29µm,18.0s
L19K White Mountain 24.36 329 P **P** **15 08 03.9 +0.2**
baz=127,SNR=52
L19K S **S** **15 12 25.6 +3.2**
baz=127
N17K Nushagak Hills 24.37 324 **P** **15 08 03.6 -0.1**
N17K IAmb IAmb 15 08 14.2
comp=Z,376nm,1.4s
N17K Nushagak Hills 24.37 324 P **P** **15 08 04.8 +1.0**
baz=120,SNR=30
N17K S **S** **15 12 26.7 +4.2**
baz=120
G27K Doyon Strip 24.39 347 IAmb IAmb 15 08 19.9
comp=Z,370nm,1.6s
G27K IAMs_20 IAMs_20 15 16 28.6
comp=Z,33µm,20.0s
G27K Doyon Strip 24.39 347 P **P** **15 08 04.3 +0.4**
baz=155,SNR=46
G27K S **S** **15 12 25.9 +3.1**
baz=155
F30M Barrier River 24.39 353 IAmb IAmb 15 08 13.5
comp=Z,292nm,1.2s
F30M IAMs_20 IAMs_20 15 16 54.7
comp=Z,24µm,19.0s
F30M Barrier River 24.39 353 P **P** **15 08 03.8 -0.2**
baz=166,SNR=21
F30M S **S** **15 12 26.5 +3.6**
baz=166
HPIG 24.54 125 IAmb IAmb 15 08 19.9
comp=Z,307nm,1.1s
HPIG 24.54 125 ⇓P **P** **15 08 08.2 +2.4**
CHUM Lake Minchumin 24.59 334 P **P** **15 08 05.3 -0.5**
baz=134,SNR=17
CHUM S **S** **15 12 28.2 +2.2**
baz=134
OK029 Liberty Lake 24.61 98 IAMs_20 IAMs_20 15 18 16.4
comp=Z,29µm,19.0s
SAND Sanderson 24.65 115 IAmb IAmb 15 08 13.5
comp=Z,283nm,1.1s
I23K Minto, Yukon-K 24.65 338 IAmb IAmb 15 08 16.7
comp=Z,167nm,1.1s
I23K Minto, Yukon-K 24.65 338 P **P** **15 08 06.3 +0.1**
baz=140,SNR=40
I23K S **S** **15 12 30.8 +3.8**
baz=140
OZNA Ozona 24.70 112 IAmb IAmb 15 08 21.7
comp=Z,182nm,1.0s
ABTX Abilene, Hawle 24.70 107 IAMs_20 IAMs_20 15 18 19.2
comp=Z,35µm,20.0s
H25L Birch Creek 24.70 343 P **P** **15 08 06.7 0.0**
baz=148,SNR=65
SLBS Sierra La Lagu 24.80 138 **P** **15 08 07.5 -0.6**
SLBS Sierra La Lagu 24.80 138 IAMs_20 IAMs_20 15 16 49.5
comp=Z,15nm,18.0s
SLBS Sierra La Lagu 24.80 138 ⇑P **P** **15 08 12.3 +4.2**
K20K Telida 24.82 332 IAmb IAmb 15 08 18.5
comp=Z,254nm,1.2s
K20K IAMs_20 IAMs_20 15 15 56.0
comp=Z,23µm,19.0s
K20K Telida 24.82 332 P **P** **15 08 07.7 -0.1**
baz=130,SNR=38
K20K S **S** **15 12 32.8 +3.0**

baz=130
H24K Noodor Dome 24.82 340 IAmb IAmb 15 08 19.2
comp=Z,354nm,1.3s
H24K IAMs_20 IAMs_20 15 16 03.5
comp=Z,24µm,20.0s
H24K Noodor Dome 24.82 340 P **P** **15 08 08.1 +0.2**
baz=144,SNR=44
H24K S **S** **15 12 33.9 +4.0**
baz=144
FYU Fort Yukon 24.84 344 IAmb IAmb 15 08 31.6
comp=Z,302nm,1.3s
FYU IAMs_20 IAMs_20 15 16 17.9
comp=Z,28µm,21.0s
F28M Old Crow 24.86 349 IAMs_20 IAMs_20 15 16 55.4
comp=Z,33µm,19.0s
F28M Old Crow 24.86 349 P **P** **15 08 08.3 +0.1**
baz=159,SNR=44
F28M S **S** **15 12 33.8 +3.3**
baz=159
G26K Porcupine Rive 24.89 345 IAmb IAmb 15 08 25.4
comp=Z,220nm,1.4s
G26K IAMs_20 IAMs_20 15 16 21.2
comp=Z,23µm,22.0s
G26K Porcupine Rive 24.89 345 P **P** **15 08 09.2 +0.8**
baz=152,SNR=32
G26K S **S** **15 12 34.0 +3.2**
baz=152
S12K Black Hills 24.90 311 IAmb IAmb 15 08 13.8
comp=Z,278nm,1.2s
S12K Black Hills 24.90 311 P **P** **15 08 08.3 -0.4**
baz=104
S12K S **S** **15 12 34.7 +3.5**
baz=104
INK Inuvik 24.90 355 LR LR 15 17 34.8
comp=Z,37µm,19.5s,baz=174,slow=36
INK Inuvik 24.90 355 P **P** **15 08 08.0 -0.5**
baz=170,SNR=52
INK S **S** **15 12 32.1 +1.2**
baz=170
O15K Ungalikthiuk R 24.92 320 IAmb IAmb 15 08 23.3
comp=Z,367nm,1.2s
O15K IAMs_20 IAMs_20 15 15 28.9
comp=Z,15µm,18.0s
O15K Ungalikthiuk R 24.92 320 P **P** **15 08 09.2 +0.4**
baz=114,SNR=6.8
O15K S **S** **15 12 32.3 +0.8**
baz=114
M17K Holitna River 24.93 326 IAmb IAmb 15 08 22.1
comp=Z,218nm,1.0s
M17K IAMs_20 IAMs_20 15 15 54.8
comp=Z,19µm,18.0s
M17K Holitna River 24.93 326 P **P** **15 08 09.2 +0.3**
baz=122,SNR=33
M17K S **S** **15 12 34.8 +3.3**
baz=122
MLY Manley 24.95 337 IAmb IAmb 15 08 19.3
comp=Z,192nm,1.2s
MLY IAMs_20 IAMs_20 15 16 17.1
comp=Z,19µm,19.0s
MLY Manley 24.95 337 P **P** **15 08 09.3 +0.3**
baz=138,SNR=58
MLY S **S** **15 12 33.5 +1.6**
baz=138
OK052 Battle Ridge R 24.99 97 IAMs_20 IAMs_20 15 18 27.4
comp=Z,36µm,19.0s
SPMN Marine on St. 25.02 74 IAmb IAmb 15 08 28.7
comp=Z,218nm,0.9s
SPMN IAMs_20 IAMs_20 15 18 08.0
comp=Z,26µm,18.0s
N16K Nishlik Lake 25.02 323 P **P** **15 08 09.3 -0.4**
baz=118,SNR=13
N16K S **S** **15 12 37.7 +4.6**
baz=118
L18K Granite Mounta 25.08 328 IAmb IAmb 15 08 23.6
comp=Z,186nm,0.9s
L18K IAMs_20 IAMs_20 15 16 03.7
comp=Z,19µm,18.0s
L18K Granite Mounta 25.08 328 P **P** **15 08 10.3 +0.1**
baz=124,SNR=43
L18K S **S** **15 12 37.2 +3.3**
baz=124
G25K Bearman Lake 25.19 343 P **P** **15 08 11.8 +0.7**
baz=148,SNR=35
G25K S **S** **15 12 40.7 +5.2**
baz=148
H23K Yukon River 25.23 339 IAmb IAmb 15 08 27.6
comp=Z,390nm,1.6s
H23K IAMs_20 IAMs_20 15 16 02.5
comp=Z,22µm,22.0s
H23K Yukon River 25.23 339 P **P** **15 08 11.6 +0.1**
baz=141,SNR=20
H23K S **S** **15 12 40.1 +3.7**
baz=141
E29M Blow River 25.36 351 IAMs_20 IAMs_20 15 17 25.4
comp=Z,31µm,19.0s
E29M Blow River 25.36 351 P **P** **15 08 12.6 -0.1**
baz=163,SNR=52
E29M S **S** **15 12 40.8 +2.5**
baz=163
M16K Timber Creek 25.37 324 IAmb IAmb 15 08 22.1
comp=Z,166nm,1.1s
M16K IAMs_20 IAMs_20 15 15 47.8
comp=Z,16µm,20.0s
M16K Timber Creek 25.37 324 P **P** **15 08 12.9 +0.1**
baz=119,SNR=18
M16K S **S** **15 12 43.9 +5.3**
baz=119
J20K Nowinta River 25.38 333 IAmb IAmb 15 08 26.1
comp=Z,323nm,1.6s
J20K IAMs_20 IAMs_20 15 16 24.8
comp=Z,23µm,18.0s
J20K Nowinta River 25.38 333 P **P** **15 08 12.3 -0.7**
baz=131,SNR=31
J20K S **S** **15 12 40.0 +1.2**
baz=131
I21K Tanana 25.41 336 IAmb IAmb 15 08 23.4
comp=Z,171nm,1.1s
I21K Tanana 25.41 336 P **P** **15 08 12.3 -0.9**
baz=136,SNR=43
I21K S **S** **15 12 40.2 +1.1**
baz=136
SCIA State Center 25.43 82 IAmb IAmb 15 08 36.4
comp=Z,325nm,1.2s
SCIA IAMs_20 IAMs_20 15 18 41.4
comp=Z,27µm,19.0s
SCIA State Center 25.43 82 ⇑P **P** **15 08 15.7 +2.1**
G24K Hadweenzic Riv 25.43 342 IAmb IAmb 15 08 29.1
comp=Z,230nm,1.4s
G24K IAMs_20 IAMs_20 15 16 35.6
comp=Z,23µm,21.0s
G24K Hadweenzic Riv 25.43 342 P **P** **15 08 13.7 +0.4**
baz=145,SNR=63
G24K S **S** **15 12 44.0 +4.4**
baz=145
BMAR Burnt Mountain 25.46 345 P **P** **15 08 12.5 -1.2**
FALS False Pass 25.46 309 IAmb IAmb 15 08 18.3
comp=Z,265nm,1.1s
FALS IAMs_20 IAMs_20 15 15 32.3
comp=Z,15µm,19.0s
FALS False Pass 25.46 309 P **P** **15 08 16.0 +2.3**
FALS False Pass 25.46 309 P **P** **15 08 14.7 +1.0**
baz=101
N15K Kwethluk River 25.47 322 P **P** **15 08 15.0 +1.3**
baz=116
N15K S **S** **15 12 42.3 +2.1**
baz=116
EYMN Ely 25.61 67 P **P** **15 08 14.0 -1.1**
EYMN IAmb IAmb 15 08 28.6
comp=Z,230nm,1.3s
EYMN Ely 25.61 67 IAMs_20 IAMs_20 15 18 21.4
comp=Z,23µm,20.0s
EYMN Ely 25.61 67 ⇓P **P** **15 08 15.8 +0.7**
F26K Sheenjek River 25.62 346 IAmb IAmb 15 08 25.3
comp=Z,229nm,1.4s
F26K IAMs_20 IAMs_20 15 17 06.3
comp=Z,23µm,20.0s
F26K Sheenjek River 25.62 346 P **P** **15 08 15.9 +0.8**
baz=152,SNR=82
F26K S **S** **15 12 48.1 +5.7**
baz=152
O14K Tigyukauivet M 25.63 319 IAmb IAmb 15 08 25.8
comp=Z,202nm,1.2s
O14K IAMs_20 IAMs_20 15 16 03.1
comp=Z,15µm,19.0s
O14K Tigyukauivet M 25.63 319 P **P** **15 08 16.1 +1.0**
baz=112
O14K S **S** **15 12 46.3 +3.6**
baz=112
E27K Coleen River 25.64 348 IAMs_20 IAMs_20 15 17 17.9
comp=Z,26µm,19.0s
E27K Coleen River 25.64 348 P **P** **15 08 15.9 +0.6**
baz=156,SNR=80
E27K S **S** **15 12 45.4 +2.5**
baz=156
L17K Donlin 25.66 327 P **P** **15 08 15.3 -0.2**
baz=122,SNR=37
L17K S **S** **15 12 45.6 +2.3**
baz=122
E38A The Farm, Brul 25.69 71 IAmb IAmb 15 08 36.5
comp=Z,246nm,1.2s
E38A IAMs_20 IAMs_20 15 18 35.8
comp=Z,32µm,18.0s
E28M Babbage River 25.75 350 IAMs_20 IAMs_20 15 17 34.9
comp=Z,30µm,19.0s
E28M Babbage River 25.75 350 P **P** **15 08 17.1 +0.8**
baz=160,SNR=89
E28M S **S** **15 12 46.9 +2.3**
baz=160
J19K Poorman 25.76 332 IAmb IAmb 15 08 25.5
comp=Z,234nm,1.4s
J19K IAMs_20 IAMs_20 15 16 25.8
comp=Z,26µm,19.0s
J19K Poorman 25.76 332 P **P** **15 08 16.2 -0.2**
baz=129,SNR=51
J19K S **S** **15 12 45.9 +1.2**
baz=129
H22K Ishtalitna Cre 25.77 338 P **P** **15 08 16.8 +0.3**
baz=138,SNR=36
H22K S **S** **15 12 47.5 +2.6**
baz=138
F25K Christian Rive 25.81 344 IAmb IAmb 15 08 27.1
comp=Z,216nm,1.3s
F25K IAMs_20 IAMs_20 15 16 49.4
comp=Z,32µm,22.0s
F25K Christian Rive 25.81 344 P **P** **15 08 16.4 -0.5**
baz=149,SNR=18
F25K S **S** **15 12 48.3 +2.8**
baz=149
J18K Innoko River 25.82 330 IAMs_20 IAMs_20 15 16 44.0
comp=Z,23µm,18.0s
J18K Innoko River 25.82 330 P **P** **15 08 16.4 -0.4**
baz=126,SNR=27
J18K S **S** **15 12 48.9 +3.3**
baz=126
C36M Paulatuk 25.85 3 **P** **15 08 15.7 -1.4**
C36M IAmb IAmb 15 08 25.0
comp=Z,202nm,1.2s
C36M IAMs_20 IAMs_20 15 18 03.8
comp=Z,19µm,20.0s
C36M Paulatuk 25.85 3 P **P** **15 08 17.4 +0.3**
baz=186,SNR=11
C36M S **S** **15 12 46.8 +0.9**
baz=186
JCT Junction City 25.86 111 IAMs_20 IAMs_20 15 19 05.2
comp=Z,27µm,18.0s
JCT Junction City 25.86 111 ⇑P **P** **15 08 18.9 +1.3**
I20K Naaghedeneel 25.90 334 IAMs_20 IAMs_20 15 17 00.4
comp=Z,21µm,18.0s
I20K Naaghedeneel 25.90 334 P **P** **15 08 17.2 -0.4**
baz=132,SNR=63
I20K S **S** **15 12 50.2 +3.3**
baz=132
L16K Owhat River 25.92 325 IAmb IAmb 15 08 27.6
comp=Z,276nm,1.0s
L16K Owhat River 25.92 325 P **P** **15 08 17.7 -0.1**
baz=120,SNR=37
L16K S **S** **15 12 50.9 +3.6**
baz=120
M15K Kasigluk River 25.97 323 P **P** **15 08 18.6 +0.4**
baz=116
M15K S **S** **15 12 51.8 +3.8**
baz=116
FW06 Azle 25.97 104 IAmb IAmb 15 08 28.2
comp=Z,342nm,1.1s
K17K Iditarod 25.98 328 IAMs_20 IAMs_20 15 16 40.9
comp=Z,18µm,19.0s
K17K Iditarod 25.98 328 P **P** **15 08 18.4 +0.1**
baz=123,SNR=22
K17K S **S** **15 12 51.9 +3.7**
baz=123
Z35A Perchaven, San 25.99 103 IAMs_20 IAMs_20 15 19 01.1
comp=Z,16µm,19.0s
H21K Melozitna Rive 26.00 337 IAMs_20 IAMs_20 15 16 56.9
comp=Z,21µm,18.0s
H21K Melozitna Rive 26.00 337 P **P** **15 08 19.3 +0.8**
baz=136,SNR=32
H21K S **S** **15 12 51.6 +3.1**
baz=136
G23K Bananza Creek 26.05 340 IAmb IAmb 15 08 31.0
comp=Z,467nm,1.8s
G23K IAMs_20 IAMs_20 15 16 39.9
comp=Z,19µm,21.0s
G23K Bananza Creek 26.05 340 P **P** **15 08 19.5 +0.5**
baz=141,SNR=49
G23K S **S** **15 12 51.0 +1.7**
baz=141
N14K Kuskokwak Cree 26.09 320 IAmb IAmb 15 08 30.4
comp=Z,249nm,1.2s
N14K Kuskokwak Cree 26.09 320 P **P** **15 08 18.7 -0.6**
baz=113,SNR=5.5
N14K S **S** **15 12 53.0 +3.0**
baz=113
RLO Rose Lookout 26.20 95 **P** **15 08 20.1 -0.5**
RLO IAmb IAmb 15 08 37.2
comp=Z,254nm,1.2s
F24K Squaw Lake 26.20 343 IAMs_20 IAMs_20 15 17 09.9
comp=Z,25µm,19.0s
F24K Squaw Lake 26.20 343 P **P** **15 08 20.9 +0.6**
baz=146,SNR=30
F24K S **S** **15 12 55.5 +3.7**
baz=146
E25K Arctic Village 26.25 345 IAmb IAmb 15 08 33.3
comp=Z,245nm,1.3s
E25K IAMs_20 IAMs_20 15 17 28.1
comp=Z,30µm,22.0s
E25K Arctic Village 26.25 345 P **P** **15 08 21.9 +1.1**
baz=150,SNR=24
E25K S **S** **15 12 56.4 +3.9**
baz=150
D28M Stokes Point 26.35 351 P **P** **15 08 21.8 +0.2**
baz=162,SNR=21
D28M S **S** **15 12 56.8 +2.9**
baz=162
FW13 Cleburne 26.40 105 IAmb IAmb 15 08 32.2
comp=Z,278nm,1.1s
COLD Coldfoot 26.50 341 IAmb IAmb 15 08 36.8
comp=Z,337nm,1.8s
COLD IAMs_20 IAMs_20 15 17 06.9
comp=Z,21µm,20.0s
COLD Coldfoot 26.50 341 P **P** **15 08 22.6 -0.4**
baz=142,SNR=12
COLD S **S** **15 12 58.1 +1.8**
baz=142
H20K Anotleneega Mo 26.50 335 P **P** **15 08 22.8 -0.2**
baz=132,SNR=37
H20K S **S** **15 12 58.1 +1.7**
baz=132
IMAR Indian Mountai 26.50 336 P **P** **15 08 22.4 -0.7**
U38A Gravette 26.54 94 IAmb IAmb 15 08 39.7
comp=Z,235nm,1.1s
D27M Malcolm River 26.54 350 IAMs_20 IAMs_20 15 17 58.4
comp=Z,29µm,19.0s
D27M Malcolm River 26.54 350 P **P** **15 08 24.2 +0.8**
baz=158,SNR=62
D27M S **S** **15 12 60.0 +2.9**
baz=158
M14K Bethel 26.55 322 IAmb IAmb 15 08 37.9
comp=Z,414nm,1.8s
M14K Bethel 26.55 322 P **P** **15 08 23.9 +0.4**
baz=114
M14K S **S** **15 13 00.7 +3.4**
baz=114
G22K Bettles 26.58 339 P **P** **15 08 23.6 -0.2**
baz=139,SNR=32
G22K S **S** **15 12 58.9 +1.2**
baz=139
WHTX Lake Whitney, 26.58 106 IAmb IAmb 15 08 35.2
comp=Z,400nm,1.3s
WHTX IAMs_20 IAMs_20 15 19 29.8
comp=Z,24µm,19.0s
J17K VABM Dome 26.65 329 IAMs_20 IAMs_20 15 17 19.5
comp=Z,17µm,18.0s
J17K VABM Dome 26.65 329 P **P** **15 08 24.5 +0.1**
baz=123,SNR=7.2
J17K S **S** **15 13 02.5 +3.7**
baz=123
GCSA Galena City Sc 26.66 332 P **P** **15 08 24.8 +0.4**
baz=128
GCSA S **S** **15 13 01.0 +2.3**
baz=128
L15K Ungalak Mounta 26.75 324 P **P** **15 08 26.7 +1.4**
baz=117
L15K S **S** **15 13 02.5 +2.0**
baz=117
E24K Your Creek 26.80 343 IAMs_20 IAMs_20 15 17 30.5
comp=Z,27µm,20.0s
E24K Your Creek 26.80 343 P **P** **15 08 26.0 +0.3**
baz=145,SNR=15
E24K S **S** **15 13 03.3 +2.2**
baz=145
I40A Norwalk 26.80 76 IAmb IAmb 15 08 47.8
comp=Z,480nm,1.8s
I40A IAMs_20 IAMs_20 15 19 14.2
comp=Z,15µm,19.0s
G21K Allakaket 26.81 337 IAmb IAmb 15 08 39.7
comp=Z,392nm,1.6s
G21K IAMs_20 IAMs_20 15 16 46.4
comp=Z,18µm,22.0s
G21K Allakaket 26.81 337 P **P** **15 08 26.2 +0.3**
baz=136
G21K S **S** **15 13 04.0 +2.6**
baz=136
LVA Lava Point 26.86 307 IAMs_20 IAMs_20 15 16 08.1
comp=Z,15µm,20.0s
TBO Thunder Bay 26.95 66 **P** **15 08 24.8 -2.5**
H19K Roundabout Mou 27.01 334 IAmb IAmb 15 08 42.1
comp=Z,337nm,1.4s
H19K IAMs_20 IAMs_20 15 17 44.8
comp=Z,24µm,18.0s
H19K Roundabout Mou 27.01 334 P **P** **15 08 27.7 +0.1**
baz=130,SNR=42
H19K S **S** **15 13 09.8 +5.4**
baz=130
E23K Chandalar 27.03 342 IAMs_20 IAMs_20 15 17 24.7
comp=Z,28µm,22.0s
E23K Chandalar 27.03 342 P **P** **15 08 28.1 +0.2**
baz=144,SNR=56
E23K S **S** **15 13 08.4 +3.6**
baz=144
M13K Dall Lake 27.05 321 P **P** **15 08 26.7 -1.3**
baz=112
K15K Wolf Creek Mou 27.06 325 IAMs_20 IAMs_20 15 17 39.5
comp=Z,13µm,18.0s
K15K Wolf Creek Mou 27.06 325 P **P** **15 08 27.6 -0.4**
baz=118
K15K S **S** **15 13 11.2 +6.0**
baz=118
UNV Unalaska Valle 27.09 306 IAmb IAmb 15 08 32.8
comp=Z,331nm,1.2s
UNV Unalaska Valle 27.09 306 P **P** **15 08 30.7 +2.2**
UNV Unalaska Valle 27.09 306 P **P** **15 08 27.7 -0.8**
baz=96,SNR=8.4
UNV S **S** **15 13 11.8 +5.9**
baz=96
L14K Kuka Creek 27.12 323 P **P** **15 08 28.0 -0.7**
baz=115
L14K S **S** **15 13 11.3 +5.1**
baz=115
J16K Anvik River 27.17 328 IAmb IAmb 15 08 41.5
comp=Z,227nm,1.4s
J16K IAMs_20 IAMs_20 15 17 29.4
comp=Z,15µm,19.0s
J16K Anvik River 27.17 328 P **P** **15 08 27.6 -1.5**
baz=121,SNR=8.7
J16K S **S** **15 13 11.2 +4.2**
baz=121
F22K John River 27.20 340 P **P** **15 08 29.1 -0.2**
baz=139
F22K S **S** **15 13 13.0 +5.6**
baz=139
C27K Jago River 27.28 348 IAmb IAmb 15 08 48.7
comp=Z,302nm,1.5s
C27K IAMs_20 IAMs_20 15 18 21.1
comp=Z,32µm,20.0s
C27K Jago River 27.28 348 P **P** **15 08 29.3 -0.7**
baz=154,SNR=46
C27K S **S** **15 13 13.7 +5.1**
baz=154
R40A Maddies Statio 27.31 89 IAmb IAmb 15 08 52.5
comp=Z,419nm,1.6s
F21K Alatna River 27.32 339 IAmb IAmb 15 08 48.7
comp=Z,316nm,1.9s
F21K IAMs_20 IAMs_20 15 17 54.7
comp=Z,17µm,18.0s
F21K Alatna River 27.32 339 P **P** **15 08 30.5 0.0**
baz=137,SNR=25
F21K S **S** **15 13 14.1 +4.7**
baz=137
H18K Honhosa River 27.41 332 IAMs_20 IAMs_20 15 17 48.4
comp=Z,18µm,19.0s
H18K Honhosa River 27.41 332 P **P** **15 08 31.0 -0.2**
baz=127
H18K S **S** **15 13 14.8 +4.1**
baz=127
COWI Conover 27.42 71 IAMs_20 IAMs_20 15 19 31.1
comp=Z,23µm,18.0s
BLKN Baker Lake 27.44 30 **P** **15 08 30.4 -1.1**
D25K Kavik River 27.45 346 IAMs_20 IAMs_20 15 18 27.6
comp=Z,28µm,20.0s
D25K Kavik River 27.45 346 P **P** **15 08 31.8 +0.3**
baz=150,SNR=36
D25K S **S** **15 13 16.2 +4.9**
baz=150
N41A Harden Midland 27.48 83 IAmb IAmb 15 08 46.4
comp=Z,461nm,1.6s
N41A IAMs_20 IAMs_20 15 19 38.6
comp=Z,29µm,18.0s
TOLK Toolik Lake Re 27.49 343 IAmb IAmb 15 08 42.3
comp=Z,303nm,1.4s
TOLK IAMs_20 IAMs_20 15 18 02.9
comp=Z,24µm,19.0s
TOLK Toolik Lake Re 27.49 343 P **P** **15 08 32.0 0.0**
baz=144,SNR=23
TOLK S **S** **15 13 16.1 +4.0**
baz=144
833A Chaparral WMA, 27.51 114 IAmb IAmb 15 08 42.4
comp=Z,147nm,1.2s
I17K Unalakleet 27.52 329 IAmb IAmb 15 08 45.8
comp=Z,220nm,1.4s
I17K IAMs_20 IAMs_20 15 17 39.6
comp=Z,22µm,18.0s
I17K Unalakleet 27.52 329 P **P** **15 08 32.0 -0.2**
baz=122
I17K S **S** **15 13 15.9 +3.4**
baz=122
G19K Purcell Mounta 27.61 335 IAmb IAmb 15 09 04.9
comp=Z,283nm,1.6s
G19K IAMs_20 IAMs_20 15 17 47.6
comp=Z,18µm,20.0s
G19K Purcell Mounta 27.61 335 P **P** **15 08 33.8 +0.8**
baz=130,SNR=16
G19K S **S** **15 13 17.2 +3.3**
baz=130
Z38A Mt. Pleasant 27.64 101 IAMs_20 IAMs_20 15 20 14.5
comp=Z,30µm,20.0s
C26K Camden Bay 27.73 347 P **P** **15 08 34.6 +0.6**
baz=153,SNR=34
C26K S **S** **15 13 19.7 +4.1**
baz=153
D24K Happy Valley 27.76 344 IAmb IAmb 15 08 49.6
comp=Z,264nm,1.5s
D24K IAMs_20 IAMs_20 15 18 15.0
comp=Z,28µm,22.0s
D24K Happy Valley 27.76 344 P **P** **15 08 34.7 +0.3**
baz=146,SNR=14
D24K S **S** **15 13 20.5 +4.3**
baz=146
MGMO Mountain Grove 27.77 91 IAmb IAmb 15 08 57.1
comp=Z,158nm,1.1s
MGMO IAMs_20 IAMs_20 15 20 01.4
comp=Z,28µm,20.0s
H17K Granite Mounta 27.81 331 P **P** **15 08 35.7 +0.8**
baz=124
H17K S **S** **15 13 19.9 +2.8**
baz=124
F20K Avaraart Lake 27.82 337 IAmb IAmb 15 09 08.1
comp=Z,262nm,1.9s
F20K IAMs_20 IAMs_20 15 17 56.8
comp=Z,16µm,19.0s
F20K Avaraart Lake 27.82 337 P **P** **15 08 35.4 +0.6**
baz=133
F20K S **S** **15 13 19.5 +2.5**
baz=133
G18K Tagagawik 27.95 333 IAMs_20 IAMs_20 15 18 05.8

comp=Z,17µm,18.0s
G18K Tagagawik 27.95 333 P **P** **15 08 36.1 0.0**
baz=128
G18K S **S** **15 13 21.8 +2.4**
baz=128
D23K Nanushuk River 27.99 343 IAmb IAmb 15 08 47.0
comp=Z,235nm,1.3s
D23K IAMs_20 IAMs_20 15 18 08.2
comp=Z,27µm,22.0s
D23K Nanushuk River 27.99 343 P **P** **15 08 37.2 +0.8**
baz=143,SNR=20
D23K S **S** **15 13 24.6 +4.8**
baz=143
MIAR Mount Ida 28.00 97 IAmb IAmb 15 08 49.2
comp=Z,149nm,0.9s
MIAR Mount Ida 28.00 97 ⇓P **P** **15 08 38.8 +2.0**
J14K Nanvaranak Lak 28.10 325 P **P** **15 08 36.9 -0.5**
J14K IAMs_20 IAMs_20 15 17 24.1
comp=Z,14µm,21.0s
J14K Nanvaranak Lak 28.10 325 P **P** **15 08 36.9 -0.5**
baz=116
J14K S **S** **15 13 28.1 +6.6**
baz=116
CCM Cathedral Cave 28.14 89 P **P** **15 08 37.3 -0.8**
CCM Cathedral Cave 28.14 89 P **P** **15 08 37.3 -0.8**
CCM pmax pmax
comp=Z,420nm,1.4s
CCM MLR MLR
comp=Z,44µm,18.0s
CCM Cathedral Cave 28.14 89 ⇑P **P** **15 08 38.8 +0.7**
F42A Maple Grove Fa 28.16 72 IAmb IAmb 15 08 53.9
comp=Z,142nm,1.1s
F42A IAMs_20 IAMs_20 15 19 55.2
comp=Z,19µm,21.0s
C24K Franklin Bluff 28.21 345 IAmb IAmb 15 08 48.0
comp=Z,276nm,1.4s
C24K IAMs_20 IAMs_20 15 18 49.9
comp=Z,21µm,19.0s
C24K Franklin Bluff 28.21 345 P **P** **15 08 37.4 -0.9**
baz=147,SNR=12
C24K S **S** **15 13 25.6 +2.3**
baz=147
K13K Kusilvak Mount 28.22 323 P **P** **15 08 38.3 -0.2**
baz=113
K13K S **S** **15 13 24.7 +1.1**
baz=113
735A Kenedy 28.23 111 IAMs_20 IAMs_20 15 20 22.7
comp=Z,29µm,20.0s
F19K Shaleruckik Mo 28.27 335 IAMs_20 IAMs_20 15 18 26.9
comp=Z,17µm,18.0s
F19K Shaleruckik Mo 28.27 335 P **P** **15 08 38.2 -0.7**
baz=130
F19K S **S** **15 13 25.6 +1.3**
baz=130
E21K Killik River 28.35 340 IAmb IAmb 15 08 54.0
comp=Z,227nm,1.9s
E21K IAMs_20 IAMs_20 15 18 03.8
comp=Z,21µm,22.0s
E21K Killik River 28.35 340 P **P** **15 08 39.1 -0.5**
baz=138
E21K S **S** **15 13 29.3 +3.7**
baz=138
M11K Mekoryuk 28.36 320 IAMs_20 IAMs_20 15 17 57.4
comp=Z,13µm,18.0s
M11K Mekoryuk 28.36 320 P **P** **15 08 41.3 +1.6**
baz=109
M11K S **S** **15 13 28.0 +2.2**
baz=109
D22K Ayikyak River 28.37 341 IAmb IAmb 15 08 54.9
comp=Z,203nm,1.5s
D22K IAMs_20 IAMs_20 15 18 19.3
comp=Z,26µm,20.0s
D22K Ayikyak River 28.37 341 P **P** **15 08 39.6 -0.2**
baz=140,SNR=16
D22K S **S** **15 13 29.0 +3.1**
baz=140
G17K Kiwalik Mounta 28.39 332 P **P** **15 08 39.0 -1.0**
baz=124
G17K S **S** **15 13 28.7 +2.5**
baz=124
A36M Sachs Harbour 28.46 2 P **P** **15 08 37.4 -3.0**
A36M IAmb IAmb 15 08 49.4
comp=Z,291nm,1.2s
A36M IAMs_20 IAMs_20 15 19 42.8
comp=Z,17µm,19.0s
A36M Sachs Harbour 28.46 2 P **P** **15 08 39.2 -1.3**
baz=184,SNR=36
A36M S **S** **15 13 29.3 +2.3**
baz=184
H16K Elim 28.49 329 P **P** **15 08 39.4 -1.5**
baz=121
H16K S **S** **15 13 31.1 +3.4**
baz=121
E19K Redstone River 28.52 337 IAmb IAmb 15 08 59.6
comp=Z,371nm,1.9s
E19K IAMs_20 IAMs_20 15 19 02.7
comp=Z,18µm,18.0s
E19K Redstone River 28.52 337 P **P** **15 08 41.2 0.0**
baz=132
E19K S **S** **15 13 31.9 +3.6**
baz=132
X40A Basin Creek Fa 28.56 97 IAmb IAmb 15 09 09.1
comp=Z,297nm,1.6s
HDIL Hopedale 28.66 83 IAMs_20 IAMs_20 15 20 22.6
comp=Z,24µm,18.0s
HDIL Hopedale 28.66 83 ⇑P **P** **15 08 44.5 +1.9**
H43A Windswept, Lux 28.67 74 IAmb IAmb 15 09 03.0
comp=Z,114nm,1.0s
NATX Nacogdoches 28.68 103 **P** **15 08 40.7 -2.1**
NATX IAmb IAmb 15 09 08.2
comp=Z,253nm,1.2s
NATX IAMs_20 IAMs_20 15 20 38.2
comp=Z,19µm,19.0s
NATX Nacogdoches 28.68 103 ⇑P **P** **15 08 45.4 +2.6**
C23K Itkillik River 28.68 344 IAMs_20 IAMs_20 15 18 54.6
comp=Z,26µm,21.0s
C23K Itkillik River 28.68 344 P **P** **15 08 42.4 -0.1**
baz=144,SNR=12
C23K S **S** **15 13 34.8 +4.1**
baz=144
F18K Selawik 28.71 334 P **P** **15 08 43.3 +0.6**
baz=127
F18K S **S** **15 13 34.5 +3.4**
baz=127
K43A Burlington 28.71 78 **P** **15 08 40.5 -2.6**
K43A IAmb IAmb 15 09 14.3
comp=Z,167nm,1.1s
FVM French Village 28.77 88 IAmb IAmb 15 09 03.9
comp=Z,185nm,1.2s
E20K Nigu River 28.79 339 P **P** **15 08 43.3 -0.2**
baz=134,SNR=17
E20K S **S** **15 13 35.2 +2.7**
baz=134
P43A Skaggs, Pawnee 28.80 85 IAmb IAmb 15 09 01.8
comp=Z,222nm,1.1s
HKT Hockley 28.91 107 P **P** **15 08 45.4 +0.6**
HKT Hockley 28.91 107 *ceP* **P** **15 08 47.3 +2.5**
HKT pmax pmax
comp=Z,128nm,1.5s
HKT MLR MLR
comp=Z,44µm,15.0s
HKT Hockley 28.91 107 ⇑P **P** **15 08 47.2 +2.5**
G16K Koyuk River 28.93 331 IAMs_20 IAMs_20 15 18 34.7
comp=Z,21µm,19.0s
G16K Koyuk River 28.93 331 P **P** **15 08 43.2 -1.5**
baz=122
G16K S **S** **15 13 38.0 +3.4**
baz=122
LCAR Lake Charles 29.04 92 IAmb IAmb 15 08 59.5
comp=Z,158nm,1.2s
C21K Knifeblade Rid 29.08 341 P **P** **15 08 46.6 +0.5**
baz=137
C21K S **S** **15 13 40.3 +3.4**
baz=137
F17K Baldwin Pennin 29.13 333 IAMs_20 IAMs_20 15 19 01.9
comp=Z,19µm,18.0s
F17K Baldwin Pennin 29.13 333 P **P** **15 08 45.0 -1.5**
baz=125
F17K S **S** **15 13 42.3 +4.6**
baz=125
P08K Saint George I 29.18 311 P **P** **15 08 46.3 -0.7**
baz=98
Z41A Richland Creek 29.20 99 IAMs_20 IAMs_20 15 21 14.7
comp=Z,19µm,20.0s
D20K Etivluk River 29.22 339 IAmb IAmb 15 09 01.9
comp=Z,216nm,1.6s
D20K IAMs_20 IAMs_20 15 18 29.9
comp=Z,16µm,22.0s
D20K Etivluk River 29.22 339 P **P** **15 08 46.3 -1.0**
baz=134
D20K S **S** **15 13 41.0 +1.8**
baz=134
PBMO Poplar Bluff 29.26 91 P **P** **15 08 46.1 -1.8**
PBMO IAmb IAmb 15 09 01.7
comp=Z,174nm,1.3s
PBMO IAMs_20 IAMs_20 15 20 56.9
comp=Z,28µm,19.0s
M44A Midewin, Midew 29.29 80 IAmb IAmb 15 09 07.5
comp=Z,259nm,1.1s
G15K Niukluk 29.34 329 P **P** **15 08 48.4 0.0**
baz=119
G15K S **S** **15 13 46.6 +5.6**
baz=119
B21K Ikpikpuk River 29.39 341 IAmb IAmb 15 09 03.5
comp=Z,149nm,1.4s
B21K IAMs_20 IAMs_20 15 19 01.2
comp=Z,24µm,20.0s
B21K Ikpikpuk River 29.39 341 P **P** **15 08 48.3 -0.4**
baz=138
B21K S **S** **15 13 47.1 +5.4**
baz=138
D19K Kuna River 29.47 338 IAmb IAmb 15 09 02.8
comp=Z,152nm,1.4s
D19K IAMs_20 IAMs_20 15 19 45.6
comp=Z,17µm,18.0s
D19K Kuna River 29.47 338 P **P** **15 08 48.1 -1.4**
baz=132
D19K S **S** **15 13 46.7 +3.6**
baz=132
E18K Tukpahlearik C 29.50 335 IAMs_20 IAMs_20 15 18 57.7
comp=Z,17µm,20.0s
E18K Tukpahlearik C 29.50 335 P **P** **15 08 49.3 -0.5**
baz=127
E18K S **S** **15 13 47.1 +3.5**
baz=127
ZAIG Zacatecas 29.52 127 IAMs_20 IAMs_20 15 19 51.7
comp=Z,12µm,20.0s
CGM3 Cape Girardeau 29.60 89 IAmb IAmb 15 09 13.7
comp=Z,152nm,1.2s
ANM Nome 29.64 328 IAMs_20 IAMs_20 15 19 13.6
comp=Z,17µm,18.0s
ANM Nome 29.64 328 P **P** **15 08 50.6 -0.4**
baz=117
SPIA Saint Paul Isl 29.65 312 P **P** **15 08 50.3 -0.9**
baz=99
B22K Teshekpuk Lake 29.67 343 IAmb IAmb 15 09 08.0
comp=Z,224nm,1.3s
B22K IAMs_20 IAMs_20 15 19 24.7
comp=Z,21µm,21.0s
B22K Teshekpuk Lake 29.67 343 P **P** **15 08 50.8 -0.4**
baz=141,SNR=7.1
B22K S **S** **15 13 50.6 +4.5**
baz=141
E17K Hotham Inlet 29.69 334 P **P** **15 08 50.4 -1.0**
baz=125
E17K S **S** **15 13 50.7 +4.3**
baz=125
S44A Carbondale 29.73 88 IAmb IAmb 15 09 10.9
comp=Z,196nm,1.1s
SIUC Southern Illin 29.75 88 IAmb IAmb 15 09 11.0
comp=Z,234nm,1.0s
I45A Fontain 29.85 75 IAMs_20 IAMs_20 15 20 57.7
comp=Z,20µm,18.0s
F15K North Star Dit 29.91 330 IAMs_20 IAMs_20 15 19 06.6
comp=Z,21µm,18.0s
F15K North Star Dit 29.91 330 P **P** **15 08 53.9 +0.5**
baz=119
F15K S **S** **15 13 56.2 +6.2**
baz=119
GNAR Gosnell 29.91 92 IAMs_20 IAMs_20 15 21 18.2
comp=Z,22µm,22.0s
PEBM Pemiscott Bayo 29.96 91 IAMs_20 IAMs_20 15 21 19.4
comp=Z,21µm,21.0s
OLIL Olney 30.16 86 P **P** **15 08 54.0 -1.9**
OLIL IAmb IAmb 15 09 09.2
comp=Z,292nm,1.4s
B20K Meade River 30.27 341 IAmb IAmb 15 09 11.5
comp=Z,151nm,1.2s
B20K IAMs_20 IAMs_20 15 19 28.8
comp=Z,17µm,21.0s
B20K Meade River 30.27 341 P **P** **15 08 56.1 -0.5**
baz=135
B20K S **S** **15 13 59.9 +4.3**
baz=135
C19K Lookout Ridge 30.28 338 IAmb IAmb 15 09 11.4
comp=Z,334nm,1.9s
C19K IAMs_20 IAMs_20 15 19 41.9
comp=Z,17µm,19.0s
C19K Lookout Ridge 30.28 338 P **P** **15 08 55.1 -1.6**
baz=131
C19K S **S** **15 13 58.4 +2.6**
baz=131
441A DeRidder 30.29 103 IAMs_20 IAMs_20 15 22 13.7
comp=Z,15µm,21.0s
SFIN Lafayette 30.30 82 IAMs_20 IAMs_20 15 21 41.9
comp=Z,20µm,18.0s
F14K Arctic Creek 30.41 329 P **P** **15 08 57.9 0.0**
baz=117
F14K S **S** **15 14 02.2 +4.3**
baz=117
C18K Utukok River 30.43 337 IAMs_20 IAMs_20 15 19 33.2
comp=Z,16µm,19.0s
C18K Utukok River 30.43 337 P **P** **15 08 57.0 -1.1**
baz=128
C18K S **S** **15 14 00.3 +2.0**
baz=128
D17K Noatak River 30.44 334 P **P** **15 08 58.3 +0.2**
baz=124
D17K S **S** **15 14 02.9 +4.7**
baz=124
143A Socs Landing, 30.49 99 IAMs_20 IAMs_20 15 22 04.9
comp=Z,26µm,21.0s
A22K Sinclair Lake 30.51 343 P **P** **15 08 58.7 +0.1**
baz=139
A22K S **S** **15 14 03.6 +4.2**
baz=139
RDOG Red Dog Mine 30.59 335 IAMs_20 IAMs_20 15 19 53.3
comp=Z,20µm,19.0s
RDOG Red Dog Mine 30.59 335 P **P** **15 08 57.4 -2.1**
baz=125
RDOG S **S** **15 14 03.2 +2.6**
baz=125
E46A Sault Ste Mari 30.68 69 IAMs_20 IAMs_20 15 21 30.4
comp=Z,23µm,19.0s
GLMI Grayling 30.79 72 IAMs_20 IAMs_20 15 22 05.5
comp=Z,28µm,21.0s
C17K DeLong Mountai 30.91 336 P **P** **15 09 01.2 -1.1**
baz=125
C17K S **S** **15 14 08.6 +2.8**
baz=125
OXF Oxford 31.03 94 ⇑P **P** **15 09 05.2 +1.5**
J47A Sunmer 31.04 76 IAmb IAmb 15 09 17.4
comp=Z,180nm,1.1s
TNA Tin City 31.05 329 IAMs_20 IAMs_20 15 20 26.9
comp=Z,13µm,18.0s
TNA Tin City 31.05 329 P **P** **15 09 03.4 -0.1**
baz=115
TNA S **S** **15 14 11.8 +4.0**
baz=115
B18K Kokolik River 31.05 337 P **P** **15 09 02.9 -0.5**
baz=128
B18K S **S** **15 14 10.8 +3.0**
baz=128
A21K Barrow 31.11 343 P **P** **15 09 04.4 +0.5**
baz=137
A21K S **S** **15 14 11.3 +2.7**
baz=137
N47A Urbana 31.14 80 P **P** **15 09 03.3 -1.3**
BLO Bloomington 31.14 84 IAmb IAmb 15 09 16.6
comp=Z,85nm,0.8s
Y45A Yeager Farm, C 31.24 95 IAmb IAmb 15 09 19.6
comp=Z,276nm,1.4s
VBMS Vicksburg 31.38 99 IAMs_20 IAMs_20 15 22 43.5
comp=Z,24µm,20.0s
A19K Wainwright 31.39 339 P **P** **15 09 06.9 +0.5**
baz=130
A19K S **S** **15 14 15.8 +2.7**
baz=130
WVT Waverly 31.43 90 P **P** **15 09 05.5 -1.6**
WVT IAmb IAmb 15 09 20.2
comp=Z,104nm,1.1s
WVT Waverly 31.43 90 P **P** **15 09 05.5 -1.6**
WVT pmax pmax
comp=Z,104nm,1.2s
WVT MLR MLR
comp=Z,28µm,19.0s
WVT Waverly 31.43 90 ⇓P **P** **15 09 08.4 +1.3**
C16K Lisburne Hills 31.47 334 IAMs_20 IAMs_20 15 20 30.6
comp=Z,19µm,18.0s
C16K Lisburne Hills 31.47 334 P **P** **15 09 06.7 -0.4**
baz=122
C16K S **S** **15 14 19.0 +4.7**
baz=122
T47A Sharon Grove 31.58 88 IAmb IAmb 15 09 21.7
comp=Z,334nm,1.8s
ATKA Atka Island 31.69 302 P **P** **15 09 08.6 -0.7**
ATKA IAmb IAmb 15 09 12.2
comp=Z,157nm,1.1s
ATKA Atka Island 31.69 302 P **P** **15 09 09.2 -0.1**
ATKA Atka Island 31.69 302 ⇑P **P** **15 09 08.8 -0.5**
O48B Farmland 31.73 81 IAmb IAmb 15 09 18.5
comp=Z,211nm,1.6s
O48B IAMs_20 IAMs_20 15 22 59.9
comp=Z,15µm,21.0s
PLAL Pickwick Lake 31.77 92 IAMs_20 IAMs_20 15 22 25.4
comp=Z,22µm,22.0s
P48A Milroy 31.82 83 IAmb IAmb 15 09 19.4
comp=Z,229nm,1.5s
GAMB Gambell 31.90 324 P **P** **15 09 11.0 0.0**
baz=108
GAMB S **S** **15 14 23.8 +2.7**
baz=108
N49A Columbus Grove 32.20 79 IAmb IAmb 15 09 22.9
comp=Z,197nm,1.4s
V48A Smith Brothers 32.33 90 P **P** **15 09 13.2 -1.9**
V48A IAmb IAmb 15 09 28.4
comp=Z,310nm,1.8s
O49A Covington 32.34 81 IAmb IAmb 15 09 24.8
comp=Z,177nm,1.6s
CLTN Cedars of Leba 32.53 89 IAMs_20 IAMs_20 15 22 57.4
comp=Z,20µm,19.0s
346A Big Creek Wild 32.59 99 IAMs_20 IAMs_20 15 23 40.3
comp=Z,22µm,19.0s
X48A Hartselle 32.77 92 IAmb IAmb 15 09 32.0
comp=Z,178nm,1.3s
KHLH Kahului Airpor 32.81 235 IAmb IAmb 15 09 28.4
comp=Z,196nm,1.1s
GSTR Great Sitkin T 32.84 302 IAmb IAmb 15 09 36.8
comp=Z,175nm,1.2s
M50A Fremont 32.85 78 IAmb IAmb 15 09 33.0
comp=Z,149nm,1.2s
R50A Paris 33.06 84 IAmb IAmb 15 10 26.9
comp=Z,129nm,1.6s
T50A Nancy 33.21 87 P **P** **15 09 21.4 -1.4**
T50A IAmb IAmb 15 09 43.6
comp=Z,160nm,1.9s
SWET Sewanee 33.22 90 IAmb IAmb 15 09 36.1
comp=Z,206nm,1.4s
STCH Steam Cracks 33.23 232 IAmb IAmb 15 09 25.9
comp=Z,124nm,0.9s
STCH IAMs_20 IAMs_20 15 19 20.2
comp=Z,14µm,18.0s
ADK Adak 33.25 302 P **P** **15 09 22.0 -0.9**
ADK Adak 33.25 302 P **P** **15 09 24.8 +1.9**
ADK Adak 33.25 302 P **P** **15 09 22.0 -0.9**
ADK pmax pmax
comp=Z,79nm,1.1s
KNHH Kane Nui o Ham 33.26 232 P **P** **15 09 22.4 -1.0**
HMH Humu'ula Sheep 33.27 233 IAmb IAmb 15 09 34.5
comp=Z,184nm,1.2s
PUH Pauahi 33.29 232 P **P** **15 09 22.4 -1.3**
PUH IAmb IAmb 15 09 26.5
comp=Z,111nm,0.9s
MLH Mauna Loa 33.29 232 IAmb IAmb 15 09 31.6
comp=Z,145nm,1.0s
KIP Kipapa 33.38 238 P **P** **15 09 24.6 +0.3**
KIP Kipapa 33.38 238 P **P** **15 09 26.9 +2.6**
KIP Kipapa 33.38 238 P **P** **15 09 27.0 +2.6**
KIP Kipapa 33.38 238 ⇑*iP* **P** **15 09 25.2 +0.8**
KIP pmax pmax
comp=Z,147nm,1.1s
MWH Mokuaweoweo 33.42 233 IAmb IAmb 15 09 34.6
comp=Z,200nm,1.2s
Q51A Peebles 33.48 82 IAmb IAmb 15 09 35.4
comp=Z,310nm,1.9s
Q51A IAMs_20 IAMs_20 15 23 30.2
comp=Z,13µm,19.0s
LRAL Lakeview Retre 33.50 94 IAmb IAmb 15 09 38.6
comp=Z,194nm,1.4s
Y49A Blount Mountai 33.52 93 IAmb IAmb 15 09 34.5
comp=Z,141nm,1.4s
P51A Williamsport 33.52 81 IAmb IAmb 15 09 34.4
comp=Z,177nm,1.4s
P51A IAMs_20 IAMs_20 15 23 40.1
comp=Z,12µm,19.0s
W50A Signal Mountai 33.67 90 IAmb IAmb 15 09 45.6
comp=Z,125nm,1.0s
FPAL Fort Paine 33.77 91 IAmb IAmb 15 09 36.9
comp=Z,117nm,1.2s
FPAL IAMs_20 IAMs_20 15 23 36.2
comp=Z,15µm,19.0s
M52A Chesterland 34.00 77 IAMs_20 IAMs_20 15 22 37.8
comp=Z,9µm,18.0s
CPCT Cooper Cave 34.13 89 IAmb IAmb 15 09 44.3
comp=Z,194nm,1.6s
O52A Adamsville 34.16 80 IAmb IAmb 15 09 39.8
comp=Z,185nm,1.4s
UNM Universidad Na 34.17 126 IAMs_20 IAMs_20 15 24 50.9
comp=Z,11µm,19.0s
BUKO Buck Lake 34.22 70 IAmb IAmb 15 09 40.4
comp=Z,189nm,1.3s
TZTN Tazewell 34.35 86 P **P** **15 09 30.4 -2.3**
TZTN IAmb IAmb 15 09 45.4
comp=Z,140nm,1.4s
RES Resolute Bay 34.44 15 IAmb IAmb 15 09 41.5
comp=Z,119nm,0.9s
RES Resolute Bay 34.44 15 LR LR 15 23 10.3
comp=Z,12µm,21.1s,baz=226,slow=36
RES Resolute Bay 34.44 15 ⇓P **P** **15 09 33.4 +0.4**
SADO Sadowa 34.57 71 IAmb IAmb 15 09 43.2
comp=Z,156nm,1.1s
SADO Sadowa 34.57 71 LR LR 15 23 59.8
comp=Z,198µm,18.2s,baz=299,slow=37
N53A Lisbon 34.62 78 IAMs_20 IAMs_20 15 23 34.2
comp=Z,10µm,20.0s
W52A Murphy 34.73 89 IAmb IAmb 15 09 49.3
comp=Z,219nm,1.6s
ILON Igloolik, Nuna 34.77 27 P **P** **15 09 35.1 -0.8**
PAMR Moraine State 35.10 78 IAmb IAmb 15 09 48.4
comp=Z,150nm,1.1s
PAMR IAMs_20 IAMs_20 15 24 41.9
comp=Z,14µm,21.0s
O54A Avella 35.17 79 IAmb IAmb 15 09 48.9
comp=Z,298nm,1.5s
PAOC Oil Creek Stat 35.20 76 IAmb IAmb 15 09 49.1
comp=Z,110nm,1.0s
Y52A Lilburn 35.22 91 IAmb IAmb 15 09 49.8
comp=Z,198nm,1.1s
V53A Saluda 35.27 87 IAmb IAmb 15 09 55.0
comp=Z,302nm,1.8s
152A Waverly Hall 35.34 93 IAmb IAmb 15 09 55.2
comp=Z,142nm,1.3s
S54A Dingess, Beckl 35.44 83 IAmb IAmb 15 09 56.2
comp=Z,268nm,1.5s
S54A IAMs_20 IAMs_20 15 24 43.0
comp=Z,18µm,18.0s
MEDO Medina 35.52 73 IAmb IAmb 15 09 51.7
comp=Z,147nm,1.2s
DELO Deloro Mine 35.69 71 IAmb IAmb 15 09 53.0
comp=Z,115nm,1.3s
MCWV Mont Chateau 35.75 79 IAmb IAmb 15 09 58.2
comp=Z,206nm,1.1s
MCWV Mont Chateau 35.75 79 ⇑P **P** **15 09 46.3 +1.6**
352A Blakely 35.80 95 P **P** **15 09 44.6 -0.6**
352A IAmb IAmb 15 09 54.8
comp=Z,224nm,1.1s
GOGA Godfrey 35.87 91 IAmb IAmb 15 09 55.0
comp=Z,214nm,1.3s
GOGA Godfrey 35.87 91 ⇑P **P** **15 09 46.8 +1.0**
TLIG Tlapa 35.91 127 IAmb IAmb 15 09 59.1
comp=Z,140nm,1.4s
TLIG Tlapa 35.91 127 ⇑P **P** **15 09 49.0 +2.6**
J55A Hilton 35.93 73 IAmb IAmb 15 09 55.0
comp=Z,210nm,1.2s
MMNY Mt. Morris Dam 36.04 74 IAMs_20 IAMs_20 15 24 37.4
comp=Z,15µm,21.0s
R55A Marlinton 36.10 82 IAMs_20 IAMs_20 15 25 03.4
comp=Z,10µm,21.0s
PECO Prince Edward 36.29 71 IAmb IAmb 15 09 58.3
comp=Z,248nm,1.4s
PECO IAMs_20 IAMs_20 15 24 43.1
comp=Z,16µm,18.0s
BLA Blacksburg 36.33 84 IAmb IAmb 15 09 59.4

comp=Z,212nm,1.4s
BLA IAMs_20 IAMs_20 15 24 54.6
comp=Z,15µm,18.0s
HODGE Hodges 36.35 89 P **P** **15 09 48.6 -1.3**
HODGE IAmb IAmb 15 09 59.1
comp=Z,140nm,1.3s
V55A Taylorsville 36.35 86 IAmb IAmb 15 09 59.2
comp=Z,162nm,1.5s
PAULI Pauline 36.39 88 IAmb IAmb 15 09 53.7
comp=Z,101nm,1.0s
L56A Greenwood 36.48 74 IAmb IAmb 15 09 59.2
L56A IAMs_20 IAMs_20 15 24 26.1
comp=Z,12µm,20.0s
154A Montrose 36.53 92 IAmb IAmb 15 10 00.4
comp=Z,282nm,1.2s
154A IAMs_20 IAMs_20 15 25 13.5
comp=Z,19µm,21.0s
U56A King 36.73 85 IAmb IAmb 15 10 02.5
comp=Z,183nm,1.4s
SSPA Standing Stone 36.78 77 P **P** **15 09 52.6 -0.9**
SSPA IAmb IAmb 15 10 02.5
comp=Z,241nm,1.6s
SSPA Standing Stone 36.78 77 IAMs_20 IAMs_20 15 25 28.2
comp=Z,16µm,21.0s
SSPA Standing Stone 36.78 77 ⇓P **P** **15 09 55.0 +1.5**
GAC Glen Almond 36.81 68 ⇑P **P** **15 09 54.0 +0.3**
JSC Jenkinsville 37.05 88 IAmb IAmb 15 10 08.7
comp=Z,208nm,1.2s
M57A Sunshine Farm, 37.06 76 IAmb IAmb 15 10 05.0
comp=Z,254nm,1.3s
P57A Homestead Farm 37.12 79 IAmb IAmb 15 10 06.2
comp=Z,221nm,1.3s
P57A IAMs_20 IAMs_20 15 26 02.5
comp=Z,9µm,19.0s
J57A Williamstown 37.14 72 P **P** **15 09 54.7 -1.8**
J57A IAmb IAmb 15 10 05.2
comp=Z,233nm,1.3s
S57A Dark Hollow, R 37.15 82 IAmb IAmb 15 10 11.5
comp=Z,289nm,1.6s
S57A IAMs_20 IAMs_20 15 26 17.3
comp=Z,12µm,20.0s
POIN Pond Inlet 37.26 22 IAmb IAmb 15 10 06.2
comp=Z,165nm,1.1s
T57A Hurt 37.26 83 IAMs_20 IAMs_20 15 25 41.3
comp=Z,15µm,18.0s
TRQ Mont Tremblant 37.28 67 IAmb IAmb 15 10 06.4
comp=Z,165nm,0.9s
BIRD Birdtown, Kers 37.45 87 IAmb IAmb 15 10 12.1
comp=Z,209nm,1.5s
N58A Sunbury 37.53 76 IAmb IAmb 15 10 08.9
comp=Z,239nm,1.2s
N58A IAMs_20 IAMs_20 15 25 01.0
comp=Z,9µm,21.0s
BINY Binghamton 37.55 74 IAMs_20 IAMs_20 15 25 35.6
comp=Z,19µm,20.0s
W57A Gilead 37.56 86 IAmb IAmb 15 10 13.0
comp=Z,173nm,1.2s
LONY Lake Ozonia 37.73 69 P **P** **15 10 00.2 -1.4**
LONY IAmb IAmb 15 10 10.1
comp=Z,141nm,1.1s
LONY Lake Ozonia 37.73 69 ⇓P **P** **15 10 01.7 +0.1**
R58B Mineral 37.84 81 IAMs_20 IAMs_20 15 26 40.4
comp=Z,14µm,21.0s
V58A Windy Hill, Pi 37.90 85 IAmb IAmb 15 10 12.3
comp=Z,250nm,1.3s
KSPA Keystone Colle 37.93 75 IAMs_20 IAMs_20 15 25 21.7
comp=Z,11µm,19.0s
MVL Millersville 38.10 77 IAMs_20 IAMs_20 15 26 32.4
comp=Z,13µm,21.0s
MNTQ Montreal, Queb 38.11 68 IAmb IAmb 15 10 13.2
comp=Z,166nm,1.3s
J59A Piesco 38.15 71 IAmb IAmb 15 10 13.9
comp=Z,220nm,1.1s
L59A Walton 38.21 73 IAmb IAmb 15 10 14.4
comp=Z,191nm,1.3s
L59A IAMs_20 IAMs_20 15 26 42.0
comp=Z,16µm,18.0s
456A Hilliard 38.31 94 IAMs_20 IAMs_20 15 25 41.7
comp=Z,14µm,20.0s
FRNY Flat Rock 38.34 69 P **P** **15 10 04.8 -1.8**
FRNY IAmb IAmb 15 10 15.4
comp=Z,256nm,1.5s
CMIG Matias Romero 38.47 123 P **P** **15 10 10.1 +2.1**
comp=Z,27nm,0.7s,baz=315,slow=7.9,SNR=37
CMIG LR LR 15 26 49.2
comp=Z,5µm,21.4s,baz=296,slow=38
comp=Z,27nm,0.7s
T59A Double "B" Far 38.50 82 IAmb IAmb 15 10 17.6
comp=Z,188nm,1.2s
WUPA West Chester U 38.66 77 IAMs_20 IAMs_20 15 26 37.0
comp=Z,9µm,21.0s
W59A Clinton 38.67 85 IAmb IAmb 15 10 23.1
comp=Z,147nm,1.1s
FRB Frobisher Bay 38.70 38 LR LR 15 25 57.8
comp=Z,7µm,18.0s,baz=270,slow=36
FRB Frobisher Bay 38.70 38 ⇓P **P** **15 10 10.6 +1.1**
SHEM Shemya Is, Ala 38.74 305 LR LR 15 22 55.1
comp=Z,5µm,20.8s,baz=83,slow=31
ACCN Adirondack Com 38.75 71 IAmb IAmb 15 10 19.0
comp=Z,256nm,1.6s
KUQ Kuujjuaa 38.90 47 IAmb IAmb 15 10 19.6
comp=Z,247nm,1.0s
TRY Troy 38.98 72 IAmb IAmb 15 10 21.1
comp=Z,212nm,1.0s
VT1 Waterbury 39.06 69 IAmb IAmb 15 10 21.8
comp=Z,156nm,1.0s
VT1 IAMs_20 IAMs_20 15 26 23.5
comp=Z,18µm,20.0s
BRNJ Basking Ridge 39.10 75 P **P** **15 10 11.4 -1.7**
BRNJ IAmb IAmb 15 10 22.2
comp=Z,355nm,1.9s
P61A Hammonton 39.34 77 IAMs_20 IAMs_20 15 27 05.9
comp=Z,13µm,22.0s
PAL Palisades 39.44 75 IAMs_20 IAMs_20 15 26 06.5
comp=Z,8µm,18.0s
R61A Willards 39.50 79 IAMs_20 IAMs_20 15 26 36.3
comp=Z,9µm,19.0s
S61A Accomac 39.54 80 IAMs_20 IAMs_20 15 27 51.4
comp=Z,11µm,22.0s
HNH Hanover 39.59 70 IAmb IAmb 15 10 26.6
comp=Z,211nm,1.2s
LBNH Lisbon 39.65 69 IAmb IAmb 15 10 27.2
comp=Z,190nm,1.1s
LBNH Lisbon 39.65 69 ⇓P **P** **15 10 18.7 +1.0**
LMQ La Malbaie 39.70 64 IAmb IAmb 15 10 26.5
comp=Z,246nm,1.1s
V61A Roper 39.73 83 IAMs_20 IAMs_20 15 26 58.7
comp=Z,8µm,19.0s
L61B Northampton 39.76 72 IAmb IAmb 15 10 28.2
comp=Z,345nm,1.6s
H62A Milan 40.06 68 P **P** **15 10 19.2 -1.9**
H62A IAmb IAmb 15 10 30.1
comp=Z,174nm,1.1s
H62A IAMs_20 IAMs_20 15 27 03.8
comp=Z,15µm,20.0s
SCHQ Schefferville 40.19 52 P **P** **15 10 21.2 -0.8**
comp=Z,291nm,0.9s,baz=286,slow=7.4,SNR=15
SCHQ PP **PP** **15 11 53.4 -0.9**
comp=Z,226nm,0.9s,baz=290,slow=4.8,SNR=3.8
SCHQ LR LR 15 26 07.4
comp=Z,43µm,20.3s,baz=282,slow=35
DWPF Disney Wildern 40.20 97 P **P** **15 10 21.2 -1.1**
DWPF IAmb IAmb 15 10 32.2
comp=Z,306nm,1.1s
DWPF Disney Wildern 40.20 97 ⇓P **P** **15 10 24.9 +2.6**
UCCT U. Connecticut 40.31 73 IAmb IAmb 15 10 32.3
comp=Z,347nm,1.2s
TEIG Tepich 40.42 112 P **P** **15 10 23.6 -0.7**
TEIG IAmb IAmb 15 10 33.6
comp=Z,220nm,1.2s
TEIG Tepich 40.42 112 P **P** **15 10 26.7 +2.5**
baz=311,slow=24,SNR=9.3
TEIG Tepich 40.42 112 P **P** **15 10 24.7 +0.4**
comp=Z,8µmcomp=Z,350nm,1.2s
E62A Clayton Lake 40.50 65 IAmb IAmb 15 10 33.5
comp=Z,249nm,1.2s
E62A IAMs_20 IAMs_20 15 26 11.2
comp=Z,7µm,20.0s
HRV Adam Dziewonsk 40.51 71 P **P** **15 10 24.2 -0.6**
HRV Adam Dziewonsk 40.51 71 IAMs_20 IAMs_20 15 27 10.8
comp=Z,14µm,22.0s
HRV Adam Dziewonsk 40.51 71 P **P** **15 10 24.2 -0.6**
HRV pmax pmax
comp=Z,128nm,1.3s
HRV MLR MLR
comp=Z,14µm,22.0s
I63A Otisfield 40.63 69 IAmb IAmb 15 10 35.2
comp=Z,259nm,1.7s
D62A Allapoint, All 40.67 64 IAmb IAmb 15 10 35.4
comp=Z,201nm,1.0s
WES Weston 40.72 71 IAmb IAmb 15 10 35.8
comp=Z,168nm,1.3s
CCIG Comitan 40.78 121 IAMs_20 IAMs_20 15 26 09.6
comp=Z,9µm,21.0s
TULEG Thule 40.90 18 IAmb IAmb 15 10 36.8
TULEG comp=Z,223nm,1.3s IAMs_20 IAMs_20 15 27 06.1
comp=Z,15µm,19.0s
TULEG Thule 40.90 18 *i* P **P** **15 10 28.1 +0.6**
TULEG IAmb IAmb 15 10 36.4
comp=Z,211nm,1.3s
WVL Waterville 41.08 68 P **P** **15 10 28.8 -0.6**
WVL IAmb IAmb 15 10 38.6
WVL comp=Z,235nm,1.4s IAMs_20 IAMs_20 15 27 56.5
comp=Z,8µm,20.0s
PKME Peaks-Kenny Pk 41.08 67 IAmb IAmb 15 10 38.6
comp=Z,277nm,1.7s
PKME IAMs_20 IAMs_20 15 25 52.7
comp=Z,9µm,21.0s
PKME Peaks-Kenny Pk 41.08 67 ⇑P **P** **15 10 30.3 +0.8**
ICQ Pointe Anglais 41.11 60 IAmb IAmb 15 10 38.1
comp=Z,217nm,1.1s
L64A Middleborough 41.22 72 IAmb IAmb 15 10 40.0
comp=Z,151nm,1.1s
BILL Bilibino 41.49 329 P **P** **15 10 31.6 -1.0**
BILL IAmb IAmb 15 10 45.0
BILL comp=Z,214nm,1.5s IAMs_20 IAMs_20 15 27 07.9
comp=Z,12µm,18.0s
BILL Bilibino 41.49 329 *de*P **P** **15 10 31.5 -1.0**
BILL pmax pmax
comp=Z,16nm,0.9s
BILL MLR MLR
comp=Z,11µm,16.0s
M65A Busby, Falmout 41.49 72 P **P** **15 10 32.0 -0.9**
baz=293
F64A Sherman 41.51 65 IAMs_20 IAMs_20 15 26 17.0
comp=Z,9µm,20.0s
G65A Princeton 42.26 66 IAmb IAmb 15 10 48.4
comp=Z,214nm,1.1s
MIDW Midway 42.27 265 IAMs_20 IAMs_20 15 23 13.5
comp=Z,12µm,20.0s
RTAL Retalhuleu 42.39 122 P **P** **15 10 39.6 -0.9**
EMMW East Machias 42.50 67 IAmb IAmb 15 10 50.3
comp=Z,204nm,1.3s
BATG Bathurst New B 42.55 63 IAmb IAmb 15 10 50.0
comp=Z,269nm,1.0s
GGN Saint George 42.76 66 IAmb IAmb 15 10 52.5
comp=Z,206nm,1.2s
CAMR Camarioca 43.31 103 IAMs_20 IAMs_20 15 29 23.5
comp=Z,8µm,21.0s
KULLO Kullorsuaq 43.38 22 ⇑P **P** **15 10 48.5 +0.7**
KULLO Kullorsuaq 43.38 22 *i* P **P** **15 10 47.0 -0.8**
KULLO IAmb IAmb 15 10 56.5
comp=Z,272nm,1.2s
UPNV Upernavik 43.61 24 *i* P **P** **15 10 51.3 +1.6**
UPNV IAmb IAmb 15 10 58.6
comp=Z,107nm,1.1s
MTO3 Montecristo 43.95 119 IAmb IAmb 15 11 04.3
comp=Z,119nm,1.1s
JOHN Johnston Islan 44.20 246 P **P** **15 10 55.1 +0.1**
JOHN Johnston Islan 44.20 246 IAMs_20 IAMs_20 15 24 10.4
comp=Z,7µm,21.0s
JOHN Johnston Islan 44.20 246 P **P** **15 10 57.5 +2.5**
NIAQ Niaqornat 44.43 27 *i* P **P** **15 10 57.2 +0.9**
NIAQ IAmb IAmb 15 11 05.9
comp=Z,199nm,1.3s
NUUG Nuugaatsiaq 44.54 26 *i* P **P** **15 10 58.1 +1.0**
NUUG IAmb IAmb 15 11 06.1
comp=Z,37nm,1.0s
GDH Godhavn 44.59 29 *i* P **P** **15 10 58.4 +0.8**
GDH IAmb IAmb 15 11 07.0
comp=Z,358nm,1.2s
NEEM North Greenlan 45.00 18 ⇑P **P** **15 11 01.4 +0.2**
NEEM North Greenlan 45.00 18 *i* P **P** **15 11 01.3 +0.2**
NEEM IAmb IAmb 15 11 04.5
comp=Z,144nm,0.8s
SAQQ Saqqaq 45.07 28 *i* P **P** **15 11 02.2 +0.8**
SAQQ IAmb IAmb 15 11 11.0
comp=Z,92nm,1.0s
SAATT Saattut 45.10 27 *i* P **P** **15 11 01.8 +0.2**
SAATT IAmb IAmb 15 11 10.8
comp=Z,120nm,1.2s
ILULI Ilulissat 45.46 29 IAmb IAmb 15 11 13.8
comp=Z,134nm,1.2s
ILULI IAMs_20 IAMs_20 15 29 59.5
comp=Z,11µm,22.0s
ILULI Ilulissat 45.46 29 *i* P **P** **15 11 06.3 +1.8**
ILULI IAmb IAmb 15 11 14.1
comp=Z,152nm,1.3s
TGUH Tegucigalpa,Un 45.53 118 P **P** **15 11 09.9 +4.0**
comp=Z,3µmcomp=Z,193nm,1.0s
FSCY Frank Sound, G 45.90 107 *e*P P 15 10 57.5 -11
SFJD Kangerlussuaq 45.97 32 P **P** **15 11 07.7 -0.8**
SFJD Kangerlussuaq 45.97 32 LR LR 15 30 18.2
comp=Z,14µm,19.3s,baz=283,slow=36
SFJD Kangerlussuaq 45.97 32 P **P** **15 11 07.7 -0.8**
SFJD pmax pmax
comp=Z,294nm,1.3s
SFJD MLR MLR
comp=Z,13µm,18.0s
SFJD Kangerlussuaq 45.97 32 ⇑P **P** **15 11 10.6 +2.1**
SFJD Kangerlussuaq 45.97 32 *i* P **P** **15 11 08.8 +0.3**
SFJD IAmb IAmb 15 11 17.7
comp=Z,296nm,1.2s
NUUK Nuuk 46.05 36 *i* P **P** **15 11 10.9 +1.7**
NUUK IAmb IAmb 15 11 18.5
comp=Z,200nm,1.4s
CRIN San Cristobal 46.69 119 IAMs_20 IAMs_20 15 32 30.7
comp=Z,6µm,19.0s
HERN Volcan Telica 46.90 119 IAMs_20 IAMs_20 15 32 34.6
comp=Z,6µm,20.0s
SIUN Universidad Ur 47.41 115 IAmb IAmb 15 11 30.8
comp=Z,80nm,1.2s
SIUN IAMs_20 IAMs_20 15 31 33.9
comp=Z,5µm,21.0s
PET Petropavlovsk 47.69 308 P **P** **15 11 21.4 -0.8**
PET IAmb IAmb 15 11 25.7
comp=Z,118nm,1.1s
PET Petropavlovsk 47.69 308 P **P** **15 11 22.2 0.0**
PET Petropavlovsk 47.69 308 *e*P **P** **15 11 21.9 -0.3**
PET *e* 15 13 19.4
PET *e*S **S** **15 18 16.1 -1.3**
PET pmax pmax
comp=Z,111nm,1.0s
PET pmax pmax
comp=Z,700nm,4.6s
PET pmax pmax
comp=Z,300nm,7.7s
PET pmax pmax
comp=Z,500nm,8.0s
PET Petropavlovsk 47.69 308 ⇓P **P** **15 11 22.2 0.0**
BOAB BOACO BROADBAN 47.77 117 IAMs_20 IAMs_20 15 31 10.6
comp=Z,13µm,22.0s
BOAB BOACO BROADBAN 47.77 117 ⇑P **P** **15 11 24.1 +0.9**
DY2G Dye2 47.77 32 *i* P **P** **15 11 24.1 +1.1**
DY2G IAmb IAmb 15 11 31.8
comp=Z,581nm,1.3s
SEY Seymchan 47.86 323 P **P** **15 11 23.6 +0.3**
comp=Z,25nm,1.0s,baz=93,slow=7.7,SNR=15
SEY LR LR 15 30 17.0
comp=Z,8µm,19.7s,baz=84,slow=35
comp=Z,25nm,1.0s
SEY Seymchan 47.86 323 *c* *i*P **P** **15 11 23.7 +0.3**
SEY pmax pmax
comp=Z,37nm,1.1s
BILN Bilwi Airport 48.09 114 IAMs_20 IAMs_20 15 34 08.9
comp=Z,1µm,20.0s
PILO Pilon 48.15 103 *e*P **P** **15 11 23.4 -2.8**
PEA0B Petropavlovsk- 48.20 309 *d* *i*P **P** **15 11 25.8 -0.4**
PETK Petropavlovsk- 48.20 309 P **P** **15 11 24.9 -1.2**
PETK Petropavlovsk- 48.20 309 P **P** **15 11 25.8 -0.4**
comp=Z,32nm,0.9s,baz=79,slow=11,SNR=21
PETK PcP **PcP** **15 12 52.5 -0.8**
comp=Z,4.5nm,0.9s,baz=78,slow=10,SNR=1.4
PETK LR LR 15 28 34.9
comp=Z,5µm,21.3s,baz=70,slow=32
comp=Z,32nm,0.9s
LMGC Las Mercedes 48.34 102 ⇓*e*P **P** **15 11 32.1 +4.5**
IVI Ivigtut 48.38 40 IAMs_20 IAMs_20 15 30 01.8
comp=Z,6µm,20.0s
IVI Ivigtut 48.38 40 ⇓P **P** **15 11 29.6 +2.2**
IVI Ivigtut 48.38 40 *i* P **P** **15 11 29.7 +2.4**
IVI IAmb IAmb 15 11 36.7
comp=Z,308nm,1.1s
ACON Acoyapa 48.44 117 P **P** **15 11 28.6 +0.1**
comp=Z,47µmcomp=Z,891nmcomp=Z,45nm,1.3s
HLGC Holguin 48.47 101 *e*P **P** **15 11 25.4 -3.3**
CHIV Chivirico 48.81 102 IAmb IAmb 15 11 42.0
comp=Z,626nm,1.5s
CHIV IAMs_20 IAMs_20 15 35 03.3
comp=Z,16µm,18.0s
CHIV Chivirico 48.81 102 *e*P **P** **15 11 29.4 -1.8**
ESPN Las Esperanzas 48.84 116 P **P** **15 11 31.9 +0.4**
comp=Z,3µmcomp=Z,230nm,1.2s
SUMG Summit 48.87 24 IAMs_20 IAMs_20 15 31 59.7
comp=Z,7µm,20.0s
SUMG Summit 48.87 24 ⇑P **P** **15 11 31.4 -0.1**
SUMG Summit 48.87 24 *i* P **P** **15 11 31.6 -0.1**
SUMG IAmb IAmb 15 11 40.3
comp=Z,347nm,1.2s
PINC Pinares de May 48.92 101 *e*P **P** **15 11 32.7 +0.6**
XMAS Kiritimati 49.02 221 IAMs_20 IAMs_20 15 25 42.9
comp=Z,6µm,19.0s
MTDJ Mount Denham 49.18 105 P **P** **15 11 32.7 -1.5**
MTDJ IAMs_20 IAMs_20 15 35 01.1
comp=Z,5µm,18.0s
MTDJ Mount Denham 49.18 105 *e*P **P** **15 11 35.4 +1.2**
MTDJ Mount Denham 49.18 105 P **P** **15 11 35.6 +1.4**
comp=Z,3µmcomp=Z,122nm,1.9s
RCC Rio Carpintero 49.31 101 *e*P **P** **15 11 32.7 -2.4**
MOAC Moa 49.41 100 *e*P **P** **15 11 34.7 -1.1**
NMDO Nuevo Mundo 49.45 100 IAmb IAmb 15 11 46.2
comp=Z,269nm,1.1s
NMDO IAMs_20 IAMs_20 15 34 26.2
comp=Z,21µm,18.0s
NMDO Nuevo Mundo 49.45 100 *e*P **P** **15 11 34.7 -1.4**
MA2 Magadan 49.62 319 P **P** **15 11 37.4 +0.3**
MA2 IAmb IAmb 15 11 49.4
comp=Z,117nm,1.2s
MA2 Magadan 49.62 319 P **P** **15 11 37.9 +0.9**
comp=Z,30nm,0.9s,baz=21,slow=9.0,SNR=7.3
MA2 LR LR 15 31 40.6
comp=Z,4µm,18.5s,baz=75,slow=35
comp=Z,30nm,0.9s
MA2 Magadan 49.62 319 P **P** **15 11 39.7 +2.7**
MA2 Magadan 49.62 319 *de*P **P** **15 11 39.0 +2.0**
MA2 pmax pmax
comp=Z,136nm,1.6s
MA2 Magadan 49.62 319 ⇓P **P** **15 11 38.7 +1.7**
NRS Narsarsuaq 49.66 39 IAmb IAmb 15 11 45.5
comp=Z,98nm,1.0s
NRS IAMs_20 IAMs_20 15 32 24.7
comp=Z,7µm,18.0s
NRS Narsarsuaq 49.66 39 ⇑P **P** **15 11 39.0 +1.8**
NRS Narsarsuaq 49.66 39 *i* P **P** **15 11 37.9 +0.7**
NRS IAmb IAmb 15 11 45.7
comp=Z,85nm,0.9s
GTBY Guantanamo Bay 49.77 101 *e*P **P** **15 11 38.7 +0.1**
GTBY Guantanamo Bay 49.77 101 ⇑P **P** **15 11 40.5 +1.9**
GTBY Guantanamo Bay 49.77 101 P **P** **15 11 38.1 -0.5**
comp=Z,2µmcomp=Z,120nm,1.2s
STH Stony Hill 49.79 104 *e*P **P** **15 11 36.7 -2.1**
QMBU Quimbuelo 49.81 100 *e*P **P** **15 11 36.7 -2.2**
JTS Las Juntas de 49.85 119 P **P** **15 11 37.6 -1.7**
JTS Las Juntas de 49.85 119 LR LR 15 36 35.8
comp=Z,3µm,19.1s,baz=308,slow=41
JTS Las Juntas de 49.85 119 *ce*P **P** **15 11 38.5 -0.8**
JTS pmax pmax
comp=Z,10.0nm,1.0s
JTS Las Juntas de 49.85 119 ⇑P **P** **15 11 39.5 +0.2**
BBSR BB Station 49.97 81 P **P** **15 11 38.6 -1.4**
BBSR IAmb IAmb 15 11 48.9
comp=Z,92nm,1.0s
SKR Severo-Kuril's 50.01 306 *e*P **P** **15 11 38.4 -1.6**
SKR *e*S **S** **15 18 49.9 -0.3**
SKR pmax pmax
comp=Z,300nm,4.3s
NOR Nord 50.09 10 *i* P **P** **15 11 43.6 +3.3**
NOR IAmb IAmb 15 11 53.5
comp=Z,279nm,1.7s
MASC Masc 50.24 100 *e*P P 15 11 36.1 -6.1
ISOG Isortoq, Green 50.89 32 ⇑P **P** **15 11 47.8 +1.3**
ISOG Isortoq, Green 50.89 32 *i* P **P** **15 11 46.8 +0.3**
ISOG IAmb IAmb 15 11 54.5
comp=Z,188nm,1.1s
ANGG Ammassalik, Gr 51.38 32 IAmb IAmb 15 11 58.5
comp=Z,181nm,1.2s
ANGG Ammassalik, Gr 51.38 32 ⇑P **P** **15 11 52.1 +1.9**
ANGG Ammassalik, Gr 51.38 32 *i* P **P** **15 11 51.8 +1.6**
ANGG IAmb IAmb 15 11 58.8
comp=Z,228nm,1.3s
GRTK Grand Turk 51.62 96 P **P** **15 11 51.5 -1.0**
GRTK IAMs_20 IAMs_20 15 34 22.2
comp=Z,6µm,20.0s
GRTK Grand Turk 51.62 96 *e*P **P** **15 11 54.0 +1.5**
GRTK Grand Turk 51.62 96 P **P** **15 11 52.6 +0.1**
comp=Z,5µmcomp=Z,387nm,1.2s
DAG Danmarks Havn 52.12 16 ⇑P **P** **15 11 55.8 +0.3**
DAG Danmarks Havn 52.12 16 *i* P **P** **15 11 56.1 +0.6**
DAG IAmb IAmb 15 12 03.7
comp=Z,182nm,1.3s
SOEG Soedalen 52.63 28 *i* P **P** **15 11 59.1 -0.3**
SOEG IAmb IAmb 15 12 07.8
comp=Z,110nm,1.0s
PAPH Port-au-Prince 52.69 100 *e*P **P** **15 12 01.3 +0.7**
DBG Daneborg 53.02 19 *i* P **P** **15 12 02.9 +0.7**
DBG IAmb IAmb 15 12 10.9
comp=Z,348nm,1.2s
SDDR Presa de Saban 53.12 99 IAMs_20 IAMs_20 15 36 58.2
comp=Z,9µm,22.0s
SDDR Presa de Saban 53.12 99 *e*P **P** **15 12 04.6 +0.9**
SDDR Presa de Saban 53.12 99 ⇑P **P** **15 12 05.4 +1.6**
SDDR Presa de Saban 53.12 99 P **P** **15 12 04.9 +1.1**
comp=Z,2µmcomp=Z,160nm,1.2s
TIXI Tiksi 53.15 337 P **P** **15 12 01.6 -1.7**
TIXI Tiksi 53.15 337 IAMs_20 IAMs_20 15 34 59.7
comp=Z,6µm,20.0s
TIXI Tiksi 53.15 337 P **P** **15 12 03.3 +0.1**
comp=Z,14nm,0.9s,baz=66,slow=8.5,SNR=8.1
TIXI LR LR 15 35 15.6
comp=Z,9µm,20.1s,baz=86,slow=37
comp=Z,14nm,0.9s
TIXI Tiksi 53.15 337 ⇑*e*P **P** **15 12 02.2 -1.0**
TIXI pmax pmax
comp=Z,64nm,1.4s
TIXI MLR MLR
comp=Z,8µm,20.0s
SC01 Santiago de lo 53.23 98 IAMs_20 IAMs_20 15 36 21.2
comp=Z,7µm,19.0s
TAOE Nuku Hiva Isla 53.41 195 *e*P **P** **15 12 07.3 +1.4**
comp=Z,449nm,1.4s
TAOE Nuku Hiva Isla 53.41 195 *e*PP **PP** **15 14 01.7 -4.8**
comp=Z,274nm,26.2s
TAOE *e*S **S** **15 19 37.8 0.0**
comp=Z,3µm,26.7s
TAOE *e*SS **SS** **15 23 11.9 -6.3**
comp=Z,701nm,27.9s
TAOE *e*LQ LQ 15 25 06.3
comp=Z,3µm,25.6s
TAOE *e*LR LR 15 27 26.3
comp=Z,17µm,24.9s
TAOE Nuku Hiva Isla 53.41 195 P **P** **15 12 04.9 -0.9**
TAOE IAMs_20 IAMs_20 15 28 18.9
comp=Z,10µm,21.0s
TAOE Nuku Hiva Isla 53.41 195 P **P** **15 12 09.7 +3.8**
SCO Scoresbysund 54.51 23 IAmb IAmb 15 12 22.2
comp=Z,108nm,1.1s
SCO IAMs_20 IAMs_20 15 35 23.8
comp=Z,7µm,19.0s
SCO Scoresbysund 54.51 23 *i* P **P** **15 12 14.0 +0.8**
SCO IAmb IAmb 15 12 22.1
comp=Z,108nm,1.1s
KBS Kingsbay 55.43 9 P **P** **15 12 19.2 -0.6**
KBS IAmb IAmb 15 12 29.6
comp=Z,168nm,1.3s
KBS IAMs_20 IAMs_20 15 37 27.5
comp=Z,6µm,19.0s
KBS Kingsbay 55.43 9 *e*P **P** **15 12 22.2 +2.5**
KBS IVmB_BB 15 12 32.3
comp=Z,2µm,2.0s
KBS IVMs_BB IVMs_BB 15 36 36.0
comp=Z,3µm,15.6s
KBS Kingsbay 55.43 9 ⇑*e*P **P** **15 12 20.5 +0.7**
KBS pmax pmax
comp=Z,35nm,0.9s
KBS MLR MLR
comp=Z,6µm,17.0s

KBS Kingsbay 55.43 9 ⇑P **P 15 12 22.7 +3.0**
KBS Kingsbay 55.43 9 *i* P **P 15 12 22.0 +2.3**
SPA0 Spitsbergen Ar 56.54 8 *eP* **P 15 12 28.4 +0.7**
SPITS Spitsbergen Ar 56.54 8 P **P 15 12 27.8 0.0**
comp=Z,55nm,0.9s,baz=90,slow=5.0,SNR=21
SPITS LR LR 15 37 49.4
comp=Z,13µm,18.1s,baz=322,slow=37
comp=Z,55nm,0.9s
SPITS Spitsbergen Ar 56.54 8 P **P 15 12 26.7 -1.0**
SPITS pmax pmax
comp=Z,286nm,1.2s
SJCC San Jacinto, C 56.60 110 P **P 15 12 28.4 -0.6**
comp=Z,3µmcomp=Z,2µmcomp=Z,101nm,1.8s
CRPR Cabo Rojo, PR 56.76 97 IAmb IAmb 15 12 39.4
comp=Z,137nm,1.1s
CRPR IAMs_20 IAMs_20 15 40 07.5
comp=Z,5µm,19.0s
PTAC Punta Ardita, 56.84 115 P **P 15 12 31.7 +1.0**
comp=Z,2µmcomp=Z,52nm,1.4s
OBIP Obispado Ponce 57.10 96 IAMs_20 IAMs_20 15 41 20.4
comp=Z,4µm,18.0s
APAC Apartado, Choc 57.10 113 P **P 15 12 34.8 +2.3**
comp=Z,2µmcomp=Z,142nm,1.2s
GCPR Guaynabo City 57.30 96 IAmb IAmb 15 12 43.5
comp=Z,113nm,1.1s
SJG San Juan 57.38 96 P **P 15 12 34.1 -0.4**
SJG San Juan 57.38 96 LR LR 15 39 14.6
comp=Z,2µm,19.7s,baz=298,slow=38
SJG San Juan 57.38 96 P **P 15 12 34.1 -0.4**
SJG pmax pmax
comp=Z,224nm,1.2s
SJG MLR MLR
comp=Z,4µm,21.0s
SJG San Juan 57.38 96 P **P 15 12 35.9 +1.5**
comp=Z,984nmcomp=Z,76nm,1.2s
CRJC Cerrejon, Guaj 57.38 107 P **P 15 12 35.7 +1.1**
comp=Z,984nmcomp=Z,70nm,1.2s
KUR Kuril'sk 57.43 303 *eP* **P 15 12 34.8 +0.4**
KUR S **S 15 20 30.1 -0.7**
KUR pmax pmax
comp=Z,828nm,3.5s
KUR MLR MLR
comp=Z,3µm,20.0s
NKL Nikolayevsk 57.43 314 *eP* **P 15 12 33.4 -0.9**
NKL *eS* **S 15 20 33.2 +2.6**
NKL pmax pmax
comp=N,85nm,1.1s
NKL pmax pmax
comp=E,34nm,1.1s
NKL pmax pmax
comp=Z,168nm,1.1s
NKL smax smax
comp=N,156nm,5.7s
NKL smax smax
comp=E,266nm,5.7s
URIC Uribia, Colomb 57.53 106 P **P 15 12 32.1 -3.4**
comp=E,2µmcomp=E,82nm,1.9s
PDPR Patillas Dam, 57.53 96 P **P 15 12 34.5 -1.1**
PDPR IAmb IAmb 15 12 44.5
comp=Z,111nm,1.2s
PDPR IAMs_20 IAMs_20 15 41 55.0
comp=Z,4µm,18.0s
TYV Tymovskoe 57.55 311 *eP* **P 15 12 35.9 +0.7**
TYV *eS* **S 15 20 28.9 -3.3**
TYV pmax pmax
comp=Z,200nm,2.2s
TYV pmax pmax
comp=Z,36nm,1.3s
TYV smax smax
comp=N,6.0nm,2.0s
TYV smax smax
comp=E,8.0nm,2.0s
TYV smax smax
comp=N,600nm,7.8s
TYV smax smax
comp=E,500nm,7.8s
YAK Yakutsk 57.79 327 P **P 15 12 35.0 -1.7**
YAK IAmb IAmb 15 12 44.1
comp=Z,136nm,1.4s
YAK Yakutsk 57.79 327 IAMs_20 IAMs_20 15 35 22.8
comp=Z,8µm,21.0s
YAK Yakutsk 57.79 327 LR LR 15 35 41.2
comp=Z,8µm,21.3s,baz=58,slow=34
YAK Yakutsk 57.79 327 *eP* **P 15 12 35.0 -1.7**
YAK *e**PP **pP 15 12 38.4 -1.9**
YAK *e* 15 14 42.8
YAK *eS* **S 15 20 33.7 -1.4**
YAK *e**SS sS 15 20 47.8 +6.9
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=Z,293nm,4.4s
YAK pmax pmax
comp=E,155nm,3.8s
YAK pmax pmax
comp=N,80nm,3.5s
YAK smax smax
comp=N,523nm,6.1s
YAK smax smax
comp=E,206nm,6.8s
JMIC Jan Mayen 57.80 20 LR LR 15 37 11.8
comp=E,5µm,20.9s,baz=322,slow=36
BORG Borgarnes 57.84 29 P **P 15 12 36.0 -1.0**
BORG Borgarnes 57.84 29 IAMs_20 IAMs_20 15 35 35.9
comp=Z,8µm,22.0s
BORG Borgarnes 57.84 29 P **P 15 12 38.6 +1.5**
comp=Z,48nm,0.9s,baz=291,slow=3.1,SNR=8.3
BORG LR LR 15 35 57.2
comp=Z,6µm,21.6s,baz=305,slow=34
comp=Z,48nm,0.9s
BORG Borgarnes 57.84 29 P **P 15 12 36.1 -1.0**
BORG pmax pmax
comp=Z,221nm,1.3s
UREC San Jos de Ur 57.91 112 P **P 15 12 39.0 +0.7**
comp=Z,8µmcomp=Z,46nm,1.4s
DBBC Dabeiba 58.00 113 P **P 15 12 41.5 +2.6**
ZARC Zaragoza, Cauc 58.56 112 P **P 15 12 43.6 +0.8**
comp=Z,1µmcomp=Z,53nm,1.4s
H11N3 WAKE ISLAND Hy 58.81 268 T T 16 16 19.7
baz=49,slow=75
H11N2 WAKE ISLAND Hy 58.81 268 T T 16 16 23.4
baz=49,slow=75
H11N1 WAKE ISLAND Hy 58.82 268 T T 16 16 20.9
baz=49,slow=75
CBOC Ciudad Bolivar 58.98 114 P **P 15 12 47.4 +1.5**
comp=Z,7µmcomp=Z,92nm,1.2s
HELC Santa Helena 59.06 113 P **P 15 12 47.7 +1.0**
comp=Z,805nmcomp=Z,61nm,1.0s
OCAC Ocana 59.06 110 P **P 15 12 46.9 +0.5**
comp=Z,3µmcomp=Z,1µmcomp=Z,107nm,1.2s
WAKE Wake Island 59.27 268 IAMs_20 IAMs_20 15 31 03.8
comp=Z,6µm,21.0s
PTBC PUERTO BERRIO, 59.52 112 P **P 15 12 50.0 +0.5**
comp=Z,707nmcomp=Z,84nm,1.1s
YSS Yuzhno-Sakhali 59.54 307 P **P 15 12 48.1 -1.1**
YSS IAmb IAmb 15 12 52.8
comp=Z,72nm,1.0s
YSS Yuzhno-Sakhali 59.54 307 P **P 15 12 50.1 +0.9**
YSS Yuzhno-Sakhali 59.54 307 *eP* **P 15 12 48.4 -0.8**
YSS *eS* **S 15 20 51.3 -7.0**
YSS *eSS* **SS 15 24 56.2 +3.2**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=Z,700nm,4.4s
YSS smax smax
comp=N,1µm,11.7s
YSS smax smax
comp=E,1µm,11.8s
YSS MLR MLR
comp=N,1µm,16.0s
YSS MLR MLR
comp=E,1µm,16.0s
YSS MLR MLR
comp=Z,2µm,16.0s
SMRT St. Maarten 59.65 94 IAMs_20 IAMs_20 15 40 37.8
comp=Z,4µm,20.0s
GR1C Gorgona, Isla 59.73 118 P **P 15 12 52.7 +1.9**
H11S1 WAKE ISLAND Hy 59.73 267 T T 16 17 26.5
baz=50,slow=75
H11S2 WAKE ISLAND Hy 59.74 267 T T 16 17 31.7
baz=50,slow=75,SNR=7832
H11S3 WAKE ISLAND Hy 59.75 267 T T 16 17 37.0
baz=50,slow=75,SNR=3619
SABA Saba 59.80 94 IAMs_20 IAMs_20 15 40 08.0
comp=Z,5µm,22.0s
GUY2C Guyana, Caldas 59.88 114 P **P 15 12 53.8 +1.3**
comp=Z,1µmcomp=Z,98nm,1.0s
NORC Norcasia 59.96 113 P **P 15 12 54.9 +2.4**
comp=Z,2µmcomp=Z,133nm,1.4s
SEUS St. Eustatius 60.08 94 IAMs_20 IAMs_20 15 40 14.2
comp=Z,4µm,21.0s
PAMC Pamplona, Colo 60.13 110 P **P 15 12 55.0 +0.8**
YOTC Yotoco, Valle 60.16 116 P **P 15 12 54.5 +0.5**
comp=Z,945nmcomp=Z,105nm,1.2s
BARC Barichara 60.34 111 P **P 15 12 56.7 +1.3**
ANIL Santa Ana 60.40 115 P **P 15 12 57.0 +1.2**
SDV Santo Domingo 60.45 107 P **P 15 12 55.7 -0.4**
SDV IAmb IAmb 15 13 05.8
comp=Z,153nm,1.4s
SDV Santo Domingo 60.45 107 LR LR 15 42 49.1
comp=Z,4µm,18.4s,baz=312,slow=40
SDV Santo Domingo 60.45 107 *eP* **P 15 12 57.6 +1.6**
SDV Santo Domingo 60.45 107 P **P 15 12 57.6 +1.6**
comp=Z,2µmcomp=Z,76nm,1.1s
JAMC Jamundi, Valle 60.53 117 P **P 15 12 57.8 +1.2**
comp=Z,1µmcomp=Z,84nm,1.3s
ROSC El Rosal 60.86 113 P **P 15 13 00.4 +1.3**
comp=Z,27nm,1.0s,baz=358,slow=7.1,SNR=22
ROSC LR LR 15 41 46.1
comp=Z,2µm,21.2s,baz=334,slow=38
comp=Z,27nm,1.0s
ROSC El Rosal 60.86 113 P **P 15 13 01.7 +2.6**
comp=Z,3µmcomp=Z,166nm,1.5s
RUSC La Rusia 60.92 111 P **P 15 13 00.4 +0.8**
comp=Z,2µmcomp=Z,158nm,1.4s
GRNR Gornyy 60.93 314 ⇑*iP* **P 15 12 57.8 -0.9**
GRNR pmax pmax
comp=E,6.0nm,1.0s
GRNR pmax pmax
comp=Z,20nm,0.9s
ORTC Ortega, Tolima 60.94 115 P **P 15 13 00.0 +0.8**
comp=Z,2µmcomp=Z,1µmcomp=Z,94nm,1.0s
POPC Popayan, Colom 61.04 117 P **P 15 13 00.4 +0.3**
comp=Z,837nmcomp=Z,54nm,1.5s
BBAC Balboa, Cauca 61.06 118 P **P 15 13 00.7 +0.5**
comp=Z,2µmcomp=Z,78nm,1.4s
JKA Kamikawa-asahi 61.19 305 IAmb IAmb 15 13 04.2
comp=Z,95nm,1.2s
ASAJ Asahikawa 61.20 305 LR LR 15 35 16.5
comp=Z,2µm,21.6s,baz=64,slow=32
PRAC Prado 61.32 115 P **P 15 13 02.8 +1.0**
comp=Z,2µmcomp=Z,1µmcomp=Z,86nm,1.1s
CRUC La Cruz 61.60 118 P **P 15 13 05.1 +1.1**
GCUF Volcan Galeras 61.61 119 P **P 15 13 05.0 +0.8**
comp=Z,2µmcomp=Z,124nm,1.2s
PPLP Puerto Lpez 61.63 124 P **P 15 13 03.2 -0.6**
comp=Z,3µmcomp=Z,203nm,1.2s
TULM Tulcn-Chalpat 61.72 119 P **P 15 13 05.3 +0.3**
comp=Z,2µmcomp=Z,150nm,1.1s
GDHS Morne Mazeau, 61.75 94 P **P 15 13 02.0 -2.7**
GDHS IAMs_20 IAMs_20 15 42 39.3
comp=Z,4µm,20.0s
CBE Ff, Capester 62.00 94 IAMs_20 IAMs_20 15 42 38.1
comp=Z,5µm,19.0s
URMC La Uribe, Meta 62.01 115 P **P 15 13 06.8 +0.4**
comp=Z,3µmcomp=Z,167nm,1.4s
JEM Erimo 62.04 302 P **P 15 13 08.3 +2.0**
ERM Erimo 62.04 302 P **P 15 13 06.4 +0.2**
ERM IAmb IAmb 15 13 28.5
comp=Z,66nm,1.1s
ERM Erimo 62.04 302 IAMs_20 IAMs_20 15 34 12.4
comp=Z,4µm,22.0s
ERM Erimo 62.04 302 P **P 15 13 08.5 +2.2**
ERM Erimo 62.04 302 *de*P **P 15 13 06.5 +0.2**
ERM pmax pmax
comp=Z,52nm,1.1s
GARC Garzon, Huila 62.07 116 P **P 15 13 09.2 +2.1**
comp=Z,2µmcomp=Z,55nm,0.7s
BONI La Bonita 62.08 119 P **P 15 13 09.4 +2.2**
comp=Z,3µmcomp=Z,172nm,1.3s
FLOC Florencia 62.42 117 P **P 15 13 10.0 +0.8**
comp=Z,2µmcomp=Z,140nm,1.6s
PIAT Ana Tenorio 62.74 121 P **P 15 13 14.0 +2.3**
comp=Z,1µmcomp=Z,90nm,1.2s
PTGC Puerto Gaitan, 62.80 112 P **P 15 13 13.7 +2.0**
comp=Z,3µmcomp=Z,117nm,2.1s
SVN Savane Anatole 63.12 95 IAMs_20 IAMs_20 15 43 43.0
comp=Z,5µm,19.0s
MACC Macarena, Meta 63.18 115 P **P 15 13 14.1 -0.1**
comp=Z,2µmcomp=Z,162nm,1.0s
FDF Fort de France 63.20 95 IAMs_20 IAMs_20 15 43 54.2
comp=Z,5µm,18.0s
COHC Cochancay 63.28 123 P **P 15 13 14.8 0.0**
comp=Z,846nmcomp=Z,44nm,1.3s
ILAM Ilet Lapin Mar 63.38 95 IAMs_20 IAMs_20 15 43 40.7
comp=Z,7µm,18.0s
BIM Bigot 63.41 95 IAMs_20 IAMs_20 15 43 14.6
comp=Z,4µm,19.0s
MPOM Morne Pois Mar 63.61 95 IAMs_20 IAMs_20 15 44 14.8
comp=Z,5µm,18.0s
ZEA Zeya 63.72 320 *eP* **P 15 13 16.5 -0.7**
ZEA *eS* **S 15 21 52.6 +1.6**
ZEA pmax pmax
comp=Z,30nm,1.2s
ZEA pmax pmax
comp=N,100nm,6.6s
ZEA pmax pmax
comp=Z,300nm,5.2s
ZEA smax smax
comp=E,500nm,12.0s
ZEA smax smax
comp=N,800nm,12.1s
PCRV Puerto La Cruz 63.77 101 LR LR 15 42 16.7
comp=N,7µm,21.9s,slow=37
TIAR Tiarei 63.99 203 *eP* **P 15 13 21.0 +1.7**
comp=N,340nm,1.2s
JTM Tenmabayashi 64.04 302 IAmb IAmb 15 13 36.4
comp=Z,49nm,1.1s
JTM Tenmabayashi 64.04 302 P **P 15 13 21.3 +1.8**
PPT Papeete 64.06 203 LR LR 15 35 26.7
comp=Z,4µm,18.5s,baz=12,slow=30
PPTF Pamatai, Papee 64.08 203 IAMs_20 IAMs_20 15 35 05.7
comp=Z,6µm,19.0s
PPT2 Papeete2 64.08 203 *eP* P 15 13 11.4 -8.6
comp=Z,217nm,22.5s
PPT2 *eS* **S 15 21 54.2 -2.1**
PPT2 comp=Z,2µm,28.2s *eSS* **SS 15 25 58.3 -7.5**
PPT2 comp=Z,1µm,28.8s *eLQ* LQ 15 29 26.7
PPT2 comp=Z,15µm,29.2s *eLR* LR 15 32 17.2
PPT2 comp=Z,12µm,26.0s *eLR* LR 15 32 24.9
comp=Z,9µm,28.0s
PAE Paea 64.15 203 *eP* **P 15 13 20.4 +0.1**
comp=Z,65nm,1.2s
TEY Ternei 64.16 308 ⇑*eP* **P 15 13 19.5 -0.8**
TEY pmax pmax
comp=Z,10.0nm,1.1s
TEY pmax pmax
comp=Z,100nm,2.6s
HAMF Hammerfest 64.19 10 *eP* **P 15 13 19.5 -0.6**
HAMF IVmB_BB 15 13 31.1
comp=Z,2µm,1.9s
HAMF IVMs_BB IVMs_BB 15 42 13.0
comp=Z,2µm,21.2s
TRO Tromso 64.45 12 *eP* **P 15 13 22.4 +0.6**
TRO IVmB_BB 15 13 34.1
comp=Z,2µm,3.8s
TRO IVMs_BB IVMs_BB 15 43 33.4
comp=Z,2µm,17.3s
GRGR Grenville 64.58 98 IAMs_20 IAMs_20 15 43 40.7
comp=Z,5µm,19.0s
GRGR Grenville 64.58 98 P **P 15 13 24.8 +1.4**
comp=Z,3µmcomp=Z,205nm,1.6s
JETT Jettan, Norway 64.74 12 *eP* **P 15 13 24.4 +0.7**
JETT IVmB_BB 15 13 36.5
comp=Z,2µm,1.6s
JETT IVMs_BB IVMs_BB 15 42 00.4
comp=Z,2µm,20.0s
LOF Lofoten 64.86 15 *eP* **P 15 13 25.8 +1.4**
LOF IVmB_BB 15 13 37.1
comp=Z,3µm,2.4s
LOF IVMs_BB IVMs_BB 15 40 34.8
comp=Z,3µm,18.5s
VADS Vadso 65.35 8 *eP* **P 15 13 27.2 -0.4**
VADS IVmB_BB 15 13 39.0
comp=Z,2µm,1.6s
STEI Steigen 65.35 14 *eP* **P 15 13 28.3 +0.7**
STEI IVMs_BB IVMs_BB 15 41 11.1
comp=Z,4µm,19.4s
BBGH Gun Hill 65.41 95 IAMs_20 IAMs_20 15 45 11.6
comp=Z,5µm,21.0s
KEV Kevo 65.43 9 P **P 15 13 27.7 -0.5**
KEV Kevo 65.43 9 P **P 15 13 27.7 -0.5**
KEV pmax pmax
comp=Z,193nm,1.3s
KEV MLR MLR
comp=Z,3µm,19.0s
ARA0 ARCESS Array S 65.46 10 *eP* **P 15 13 27.9 -0.4**
ARA0 IVMs_BB IVMs_BB 15 38 50.4
comp=Z,2µm,24.8s
ARCES ARCESS Array B 65.46 10 P **P 15 13 26.9 -1.5**
ARCES ARCESS Array B 65.46 10 P **P 15 13 27.8 -0.6**
comp=Z,12nm,0.9s,baz=0.0,slow=4.9,SNR=23
ARCES PKP2bc 15 42 11.0
comp=Z,5.2nm,1.0s,baz=242,slow=2.6,SNR=4.7
ARCES LR LR 15 43 14.3
comp=Z,5µm,19.7s,baz=336,slow=37
comp=Z,12nm,0.9s
KTK1 Kautokeino 65.65 11 *eP* **P 15 13 30.2 +0.6**
HEH HeiHe 65.84 317 *eP* **P 15 13 29.2 -1.9**
HEH pP **pP 15 13 33.1 -1.6**
HEH S **S 15 22 16.6 -0.6**
HEH pmax pmax
comp=Z,23nm,0.8s
HEH LR LR
comp=Z,2µm,16.1s
HEH LR LR
comp=Z,4µm,18.3s
FAUS Fauske 65.84 15 *eP* **P 15 13 32.5 +1.6**
JMM Marumori 65.95 300 P **P 15 13 31.2 -0.8**
JMM IAmb IAmb 15 13 35.1
comp=Z,81nm,1.5s
VAGH Vaagaholmen 66.03 16 *eP* **P 15 13 33.2 +1.2**
KONS Konsvik 66.20 16 *eP* **P 15 13 35.6 +2.5**
STOK Stokkvaagen 66.32 16 *eP* **P 15 13 36.7 +2.8**
LEIR Leirfjorden 66.54 16 *eP* **P 15 13 37.5 +2.2**
MOR8 Moi Rana 66.75 16 *eP* **P 15 13 40.2 +3.5**
TARA Tarawa 67.15 249 IAMs_20 IAMs_20 15 37 09.7
comp=Z,3µm,19.0s
USA0B Ussuriysk Arra 67.27 310 *c iP* **P 15 13 40.8 +0.4**
USRK Ussuriysk Ar. 67.27 310 P **P 15 13 40.4 0.0**
comp=Z,32nm,1.1s,baz=62,slow=5.2,SNR=25
USRK LR LR 15 40 16.9
comp=Z,3µm,22.0s,baz=39,slow=34
comp=Z,32nm,1.1s
JSD Sado 67.43 301 P **P 15 13 41.7 +0.2**
NSS Namsos 67.67 18 *eP* **P 15 13 42.3 -0.2**
LVZ Lovozero 68.01 7 P **P 15 13 43.8 -0.9**
LVZ IAMs_20 IAMs_20 15 43 21.7
comp=Z,4µm,20.0s
LVZ Lovozero 68.01 7 *c iP* **P 15 13 45.3 +0.6**
LVZ pmax pmax
comp=Z,122nm,0.9s
LVZ MLR MLR
comp=Z,4µm,16.0s
APA Apatity 68.22 8 *i* P **P 15 13 45.1 -0.8**
APA *e* 15 14 12.6
APA *i* S **S 15 22 40.7 -4.7**
APA *i* SS **SS 15 27 01.5 -5.7**
APA MLR MLR
comp=Z,6µm,17.3s
MOL Molde 68.30 20 *eP* **P 15 13 47.7 +1.2**
MDJ Mudanjiang 68.33 311 P **P 15 13 46.6 -0.4**
MDJ S **S 15 22 48.4 +0.9**
MDJ pmax pmax
comp=Z,530nm,8.2s
MDJ LR LR
comp=Z,4µm,22.7s
MDJ LR LR
comp=Z,4µm,20.6s
MAJO Matsushiro 68.39 300 P **P 15 13 45.2 -2.4**
MAJO IAmb IAmb 15 13 50.6
comp=Z,56nm,1.2s
MAJO Matsushiro 68.39 300 P **P 15 13 46.6 -1.0**
MAJO Matsushiro 68.39 300 ⇓*eP* **P 15 13 45.8 -1.8**
MAJO pmax pmax
comp=Z,38nm,1.1s
MJAR Matsushiro Arr 68.39 300 P **P 15 13 45.4 -2.2**
MJAR Matsushiro Arr 68.39 300 P **P 15 13 46.7 -0.9**
comp=Z,9.0nm,1.0s,baz=38,slow=5.7,SNR=16
MJAR LR LR 15 41 16.4
comp=Z,2µm,19.3s,baz=62,slow=34
comp=Z,9.0nm,1.0s
FOO Floro 68.45 22 *eP* **P 15 13 51.6 +4.2**
BNX BinXian 68.77 313 ⇓P **P 15 13 48.4 -1.4**
BNX pP **pP 15 13 52.0 -1.4**
BNX sP **sP 15 13 53.5 -1.2**
BNX S **S 15 22 53.8 +1.1**
BNX sS **sS 15 22 59.5 +0.9**
BNX pmax pmax
comp=Z,44nm,1.9s
BNX pmax pmax
comp=Z,350nm,6.5s
BNX LR LR
comp=Z,3µm,25.5s
BNX LR LR
comp=Z,3µm,26.6s
BNX LR LR
comp=Z,2µm,28.2s
PSTR Posyet 68.93 309 ⇑*eP* **P 15 13 50.0 -0.8**
HYA Hoyanger 69.11 22 *eP* **P 15 13 52.8 +1.2**
DOMB Dombas 69.13 20 *eP* **P 15 13 53.2 +1.5**
IDGL Inch Island, C 69.44 32 P **P 15 13 55.7 +2.0**
JGF Kuroka 69.52 300 P **P 15 13 54.1 -0.5**
JGF Kuroka 69.52 300 P **P 15 13 56.7 +2.1**
JHJ2 Mitsune 69.52 296 IAMs_20 IAMs_20 15 44 58.8
comp=Z,3µm,18.0s
TBI Tubuai 69.53 201 *eP* **P 15 13 50.0 -4.5**
TBI comp=Z,2µm,31.5s *eS* **S 15 23 00.3 -1.5**
TBI comp=Z,6µm,28.8s *eSS* **SS 15 27 34.2 +4.0**
TBI comp=Z,2µm,27.5s *eLQ* LQ 15 31 22.1
TBI comp=Z,25µm,31.0s *eLR* LR 15 34 58.0
TBI comp=Z,39µm,25.8s *eLR* LR 15 35 00.6
comp=Z,11µm,28.0s
INU Inuyama 69.89 300 P **P 15 13 59.6 +2.7**
IGLA Glengowla, Co 69.93 34 P P 15 14 01.6 +4.9
SKAR Skarslia 70.09 21 *eP* **P 15 13 59.7 +2.0**
HIA Hailar 70.19 320 IAMs_20 IAMs_20 15 45 02.2
comp=Z,4µm,18.0s
HIA Hailar 70.19 320 P **P 15 14 01.5 +3.0**
ODD1 Odda 70.28 22 *eP* **P 15 13 59.6 +0.7**
TBTG Tabatinga, AM 70.51 116 P **P 15 14 00.5 -0.4**
NB2 NORSAR Subarra 70.52 20 P **P 15 14 00.3 -0.1**
comp=Z,251nm,1.4s,baz=330,slow=6.2
NB2 NORSAR Subarra 70.52 20 P **P 15 14 00.3 -0.1**
comp=Z,251nm,1.4s,baz=330,slow=6.2
NOA NORSAR Array B 70.52 20 P **P 15 14 00.3 -0.1**
comp=Z,27nm,0.9s,baz=332,slow=6.0,SNR=48
NOA LR LR 15 45 32.0
comp=Z,4µm,18.2s,baz=325,slow=36
comp=Z,27nm,0.9s
VAL Valentia 70.66 36 P **P 15 14 03.8 +2.6**
ILTH Belurgan, Co L 70.68 32 P P 15 14 06.5 +5.2
RAR Rarotonga 70.85 211 IAMs_20 IAMs_20 15 36 58.2
comp=Z,5µm,18.0s
RAR Rarotonga 70.85 211 LR LR 15 37 30.4
comp=Z,3µm,20.7s,baz=18,slow=29
ESK Eskdalemuir 70.86 30 IAMs_20 IAMs_20 15 44 12.0
comp=Z,5µm,18.0s
NC602 NORSAR Array S 70.86 20 *eP* **P 15 14 05.1 +2.7**
EKA Eskdalemuir Ar 70.86 30 P **P 15 14 02.3 -0.2**
comp=Z,7.3nm,0.9s,baz=306,slow=6.2,SNR=9.6
EKA PP **PP 15 16 38.2 -0.7**
comp=Z,6.0nm,0.9s,baz=292,slow=6.8,SNR=4.1
comp=Z,7.3nm,0.9s
CIT Chita 70.95 325 *eP* **P 15 14 03.2 +0.1**
CIT *e* 15 14 10.6
CIT *e* 15 14 26.8
CIT *e* 15 16 47.4
CIT *e* 15 18 24.4
CIT *eS* **S 15 23 21.2 +3.0**
CIT *e* 15 27 45.2
CIT pmax pmax
comp=Z,263nm,2.2s
CN2 Changchun 71.10 313 P **P 15 14 03.9 -0.2**
CN2 S **S 15 23 17.2 -2.9**

CN2 SS **SS** **15 27 51.1 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,1.7s
CN2 pmax pmax
comp=Z,400nm,4.0s
CN2 LR LR
comp=Z,2µm,22.0s
CN2 LR LR
comp=Z,2µm,22.0s
CN2 LR LR
comp=Z,2µm,19.0s
DSB Dublin 71.26 33 P **P** **15 14 06.4 +1.5**
KONO Kongsberg 71.31 21 P **P** **15 14 04.2 -0.9**
KONO IAmb IAmb 15 14 14.0
comp=Z,136nm,1.2s
KONO Kongsberg 71.31 21 IAMs_20 IAMs_20 15 46 03.7
comp=Z,4µm,19.0s
KONO Kongsberg 71.31 21 *e*P **P** **15 14 05.9 +0.8**
KONO Kongsberg 71.31 21 *ce*P **P** **15 14 06.2 +1.1**
KONO pmax pmax
comp=Z,47nm,1.0s
KONO MLR MLR
comp=Z,3µm,18.0s
OSL Oslo 71.35 21 *e*P **P** **15 14 07.2 +1.8**
CZSB Cruzeiro do Su 71.43 121 P **P** **15 14 08.4 +2.0**
comp=Z,2µmcomp=Z,113nm,1.3s
IWEX Carrickbyrne, 71.76 34 P **P** **15 14 09.0 +1.1**
SNART Snartemo 71.77 23 *e*P **P** **15 14 07.3 -0.6**
HFS Hagfors 71.91 19 P **P** **15 14 09.1 +0.4**
comp=Z,42nm,0.9s,baz=345,slow=4.6,SNR=31
HFS LR LR 15 44 30.6
comp=Z,5µm,21.2s,baz=330,slow=35
comp=Z,42nm,0.9s
BOAV Boa Vista 72.11 104 *e*P **P** **15 14 10.5 -0.1**
BOAV Boa Vista 72.11 104 P **P** **15 14 12.1 +1.5**
STRU Stroemstad 72.25 21 *i* P **P** **15 14 12.7 +2.0**
NNA Nana 72.28 127 P **P** **15 14 09.4 -2.1**
NNA IAmb IAmb 15 14 24.0
comp=Z,107nm,1.4s
NNA Nana 72.28 127 *de*P **P** **15 14 13.8 +2.2**
NNA pmax pmax
comp=Z,88nm,1.3s
NNA MLR MLR
comp=Z,1µm,16.0s
RPN Rapa Nui 72.46 163 LR LR 15 38 50.2
comp=Z,2µm,19.8s,baz=347,slow=30
FINES FINESS Array B 73.17 13 P **P** **15 14 14.6 -1.5**
FINES FINESS Array B 73.17 13 P **P** **15 14 16.0 -0.1**
comp=Z,37nm,0.8s,baz=0.0,slow=6.1,SNR=45
FINES LR LR 15 47 02.5
comp=Z,5µm,18.1s,baz=347,slow=36
comp=Z,37nm,0.8s
TJOU Tjoern 73.24 21 *i* P **P** **15 14 18.2 +1.6**
SNY Shenyang 73.46 312 ⇓P **P** **15 14 18.8 +0.6**
SNY S **SKiKP** **15 23 49.8 +1.5**
SNY pmax pmax
comp=Z,20nm,1.3s
SNY LR LR
comp=Z,2µm,24.2s
SNY LR LR
comp=Z,2µm,24.2s
SNY LR LR
comp=Z,3µm,30.8s
TEFE Tefe 73.51 112 *e*P **P** **15 14 20.1 +1.2**
ONAU Onsala 73.87 21 *i* P **P** **15 14 22.1 +1.8**
BORU Boraas 73.89 21 *i* P **P** **15 14 21.6 +1.1**
MUD Monsted U'grnd 73.94 23 *i* P **P** **15 14 23.4 +2.6**
MUD IAmb IAmb 15 14 29.8
comp=Z,261nm,1.5s
KSRS Korea Array 74.03 307 P **P** **15 14 21.6 -0.1**
comp=Z,13nm,1.1s,baz=52,slow=5.8,SNR=17
KSRS LR LR 15 44 10.9
comp=Z,794µm,20.9s,baz=55,slow=34
comp=Z,13nm,1.1s
KSAR Wonju Array Be 74.06 307 P **P** **15 14 19.9 -1.9**
KSAR Wonju Array Be 74.06 307 P **P** **15 14 19.9 -1.9**
IRK Irkutsk 74.41 330 *e*P **P** **15 14 21.8 -1.9**
IRK *e* 15 17 15.9
IRK *e* 15 24 03.1
IRK pmax pmax
comp=Z,264nm,2.1s
TJN Taejon 75.09 306 P **P** **15 14 27.7 -0.1**
TJN Taejon 75.09 306 *de*P **P** **15 14 27.5 -0.3**
JNU Nakatsue 75.19 302 P **P** **15 14 30.2 +1.7**
DEL Delary 75.20 21 *i* P **P** **15 14 28.4 +0.4**
XLT XiLinHaoTe 75.81 318 *e*P **P** **15 14 33.0 +1.0**
XLT pP pwP 15 14 38.9 -0.7
XLT PP **PP** **15 17 20.4 -1.0**
XLT S **S** **15 24 13.9 +0.3**
XLT SS **SS** **15 29 02.2 -2.3**
XLT pmax pmax
comp=Z,32nm,1.2s
XLT pmax pmax
comp=Z,490nm,3.6s
XLT LR LR
comp=Z,5µm,17.3s
XLT LR LR
comp=Z,3µm,25.2s
LUNU Lund 75.83 21 *i* P **P** **15 14 33.2 +1.4**
MDP Montagnes des 75.85 97 LR LR 15 51 02.2
comp=Z,3µm,19.8s,baz=308,slow=38
MOY Mondy 76.06 331 *e*P **P** **15 14 33.9 +0.6**
MOY pmax pmax
comp=Z,110nm,2.7s
VSU Vasula 76.11 13 *de*P **P** **15 14 34.2 +1.0**
VSU pmax pmax
comp=Z,137nm,1.3s
VSU MLR MLR
comp=Z,8µm,20.0s
ZAK Zakamensk 76.29 329 *e*P **P** **15 14 35.0 +0.4**
ZAK pmax pmax
comp=Z,29nm,1.9s
DL2 Dalian 76.57 311 P **P** **15 14 38.3 +2.1**
DL2 S **S** **15 24 21.6 -0.3**
DL2 pmax pmax
comp=Z,48nm,1.5s
DL2 pmax pmax
comp=Z,540nm,5.7s
DL2 LR LR
comp=Z,3µm,19.9s
DL2 LR LR
comp=Z,3µm,19.6s
BSD Bornholm Skovb 76.68 21 *i* P **P** **15 14 38.5 +2.0**
BSD IAmb IAmb 15 14 45.1
comp=Z,224nm,1.4s
RGN Rugen 76.76 22 IAMs_20 IAMs_20 15 46 47.9
comp=Z,5µm,21.0s
ULN Ulaanbaatar 76.83 326 P **P** **15 14 37.3 -0.5**
ULN Ulaanbaatar 76.83 326 *c* *i* P **P** **15 14 38.4 +0.6**
ULN pmax pmax
comp=Z,14nm,1.1s
ULN MLR MLR
comp=Z,6µm,18.0s
IBBN Ibbenburen 77.06 26 *e*P **P** **15 14 39.5 +0.7**
comp=Z,324nm,1.4s,baz=333,slow=5.4
SONM Songino Array 77.12 326 P **P** **15 14 38.5 -0.9**
SONM IAmb IAmb 15 14 53.1
comp=Z,108nm,1.4s
SONM Songino Array 77.12 326 P **P** **15 14 39.0 -0.4**
comp=Z,19nm,1.0s,baz=43,slow=2.2,SNR=26
SONM LR LR 15 48 46.3
comp=Z,6µm,18.4s,baz=37,slow=36
comp=Z,19nm,1.0s
SONM Songino Array 77.12 326 P **P** **15 14 39.0 -0.4**
RETH Rethem/Aller, 77.20 25 *e*P **P** **15 14 40.4 +0.9**
comp=Z,275nm,1.5s,baz=333,slow=5.4
UCC Uccle 77.20 29 IAMs_20 IAMs_20 15 47 31.8
comp=Z,4µm,20.0s
UCC Uccle 77.20 29 *d*P **P** **15 14 38.1 -1.5**
GORT1 Trebel 77.56 24 *e*P **P** **15 14 42.3 +0.8**
comp=Z,341nm,1.5s,baz=333,slow=5.4
BUG Bochum--Univer 77.65 27 *e*P **P** **15 14 42.7 +0.6**
comp=Z,65nm,1.1s,baz=333,slow=5.4
BUG *e*S **S** **15 24 31.4 -1.7**
baz=330,slow=11
BEBN Eben Emael 77.66 28 *d*P **P** **15 14 43.0 +0.9**
BMRD Maredsous 77.76 29 *d*P **P** **15 14 41.5 -1.3**
comp=Z,61nm,1.2s
BSTI Sart Tilman 77.80 28 *d*P **P** **15 14 42.2 -0.7**
comp=Z,12nm,1.2s
BSTI *d*PcP **PcP** **15 14 51.2 -1.7**
BGES Gesves 77.81 29 *d*P **P** **15 14 42.8 -0.2**
comp=Z,64nm,1.2s
BGES *d*PcP **pwP** **15 14 50.6 0.0**
BCLA Clavier 77.85 28 *d*P **P** **15 14 42.2 -1.0**
comp=Z,60nm,1.2s

DOU Dourbes 77.88 29 *d*P **P** **15 14 44.0 +0.6**
comp=Z,47nm,1.2s
MEM Membach 77.93 28 *d*P **P** **15 14 45.5 +1.8**
comp=Z,35nm,1.4s
BTNL Ternell 77.99 28 *d*P **P** **15 14 44.1 0.0**
comp=Z,30nm,1.7s
RCHB Rochefort 78.05 29 *d*P **P** **15 14 43.5 -0.8**
comp=Z,39nm,1.3s
KIRV Kirov 78.12 1 LR LR 15 50 43.9
comp=Z,4µm,21.2s,baz=359,slow=37
KIRV Kirov 78.12 1 *ce*P **P** **15 14 44.7 +0.2**
FLTG Flechtingen 78.12 24 *e*P **P** **15 14 44.7 0.0**
comp=Z,245nm,1.3s,baz=333,slow=5.4
ASSE Asse, Remlinge 78.12 25 *e*P **P** **15 14 45.3 +0.6**
comp=Z,266nm,1.6s,baz=333,slow=5.4
BHOU Houvegnez 78.15 28 *d*P **P** **15 14 43.0 -1.9**
comp=Z,16nm,1.4s
KASTN Kahler Asten 78.22 26 *e*P **P** **15 14 45.6 +0.2**
comp=Z,44nm,1.2s,baz=333,slow=5.4
PABE Paberze 78.39 16 IAMs_20 IAMs_20 15 50 42.0
comp=Z,4µm,19.0s
GTTG Gottingen 78.42 25 *e*P **P** **15 14 47.1 +0.8**
comp=Z,265nm,1.6s,baz=333,slow=5.4
BJI Beijing 78.63 315 P **P** **15 14 47.7 0.0**
BJI pP **sP** **15 14 52.1 -0.6**
BJI sP **pwP** **15 14 54.9 -0.4**
BJI PP **PP** **15 17 46.7 +1.7**
BJI S **S** **15 24 40.5 -3.6**
BJI SS **SS** **15 29 45.6 -1.3**
BJI pmax pmax
comp=Z,160nm,4.1s
BJI LR LR
comp=Z,660nm,21.7s
BJI LR LR
comp=Z,2µm,22.4s
BJI LR LR
comp=Z,1µm,19.8s
BJT Baijiatuan 78.65 315 IAMs_20 IAMs_20 15 48 29.5
comp=Z,2µm,19.0s
RUE Ruedersdorf 78.72 23 *e*P **P** **15 14 48.2 +0.3**
comp=Z,165nm,1.3s,baz=333,slow=5.4
CLF Chambon-Foret 78.74 32 P **P** **15 14 46.9 -1.3**
GUMO Guam 78.76 278 IAMs_20 IAMs_20 15 40 44.3
comp=Z,5µm,22.0s
GUMO Guam 78.76 278 P **P** **15 14 48.3 -0.5**
comp=Z,47nm,1.0s,baz=180,slow=7.5,SNR=3.7
GUMO LR LR 15 42 03.7
comp=Z,4µm,21.7s,baz=60,slow=30
comp=Z,47nm,1.0s
GUMO Guam 78.76 278 P **P** **15 14 48.9 +0.1**
WLF Walferdange 78.78 28 P **P** **15 14 47.4 -1.0**
WLF IAmb IAmb 15 15 02.3
comp=Z,191nm,1.5s
WLF IAMs_20 IAMs_20 15 48 15.5
comp=Z,4µm,21.0s
WLF Walferdange 78.78 28 *d*P **P** **15 14 51.1 +2.7**
comp=Z,35nm,1.5s
WLF Walferdange 78.78 28 P **P** **15 14 47.4 -1.0**
WLF pmax pmax
comp=Z,191nm,1.5s
WLF Walferdange 78.78 28 *e*P **P** **15 14 49.3 +0.9**
comp=Z,152nm,1.4s,baz=333,slow=5.4
ZALV Zalesovo Beam 78.83 341 P **P** **15 14 46.4 -2.2**
ZALV Zalesovo Beam 78.83 341 P **P** **15 14 47.8 -0.8**
comp=Z,8.4nm,0.8s,baz=13,slow=5.3,SNR=21
ZALV LR LR 15 51 00.9
comp=Z,3µm,19.6s,baz=28,slow=37
comp=Z,8.4nm,0.8s
GKP Gorka Klasztor 78.94 20 *e*P **P** **15 14 51.3 +2.1**
GKP *e*L L 15 45 15.5
comp=Z,3µm,28.5s
PGAV Gavieira, Arco 79.03 41 *e*S **S** **15 24 52.5 +3.8**
PGAV *e*LQ LQ 15 35 44.0
PGAV *e*LR LR 15 42 11.0
PGAV *i* IAMs_20 IAMs_20 15 47 17.4
comp=Z,4µm,20.0s
UBBA Unterbreizbach 79.06 26 *e*P **P** **15 14 50.5 +0.7**
comp=Z,217nm,1.7s,baz=333,slow=5.4
UBBA *e*S **S** **15 24 47.7 -0.4**
baz=330,slow=11
TNS Taunus Mts 79.08 27 *e*P **P** **15 14 50.5 +0.4**
comp=Z,113nm,1.3s,baz=333,slow=5.4
NEUB Neuenburg 79.27 24 *e*P **P** **15 14 51.2 +0.2**
comp=Z,224nm,1.5s,baz=333,slow=5.4
PCAB Cabril 79.35 41 *e*P **P** **15 14 54.6 +2.9**
PCAB *i* IAmb IAmb 15 15 06.4
comp=Z,105nm,2.0s
CLL Collm 79.54 24 IAmb IAmb 15 15 01.5
comp=Z,155nm,1.2s
CLL IAMs_20 IAMs_20 15 51 06.5
comp=Z,5µm,20.0s
CLL Collm 79.54 24 *e*P **P** **15 14 53.0 +0.5**
CLL *i* 15 14 59.4
CLL *e*S **S** **15 24 55.0 +1.5**
CLL pmax pmax
comp=Z,80nm,1.2s
CLL MLR MLR
comp=Z,5µm,19.8s
CLL Collm 79.54 24 *e*P **P** **15 14 52.6 +0.1**
comp=Z,142nm,1.2s,baz=333,slow=5.4
CLL *e*S **S** **15 24 52.7 -0.7**
baz=330,slow=11
SUW Suwalki 79.63 17 *e*P **P** **15 14 54.7 +1.8**
SUW *e*S **S** **15 24 54.9 +0.6**
SUW *e*L L 15 48 51.0
comp=Z,4µm,22.9s
SUW Suwalki 79.63 17 IAMs_20 IAMs_20 15 49 01.7
comp=Z,4µm,22.0s
SVE Sverdlovsk 79.64 355 *de*P **P** **15 14 53.7 +0.7**
SVE *e*S **S** **15 24 54.3 -0.1**
SVE *e* 15 30 03.5
SVE pmax pmax
comp=Z,279nm,1.4s
MAL2 Monte Alegre, 79.69 103 IAmb IAmb 15 15 02.8
comp=Z,120nm,1.0s
MAL2 IAMs_20 IAMs_20 15 53 01.5
comp=Z,3µm,20.0s
MOX Moxa 79.71 25 *e*P **P** **15 14 53.7 +0.2**
comp=Z,172nm,1.5s,baz=333,slow=5.4
MOX *e*S **S** **15 24 54.6 -0.7**
baz=330,slow=11
MOX *e*L L 15 54 43.8
comp=Z,3µm,19.7s
POLO Lamas de Olo 79.72 41 *e*P **P** **15 14 54.9 +1.1**
POLO *i* IAmb IAmb 15 15 08.6
comp=Z,64nm,1.8s
PVRL Vila Real 79.83 41 *e*P **P** **15 14 55.7 +1.4**
PVRL *i* IAmb IAmb 15 15 09.2
comp=Z,130nm,1.9s
PBRG Braganca 79.89 41 *e*P **P** **15 14 52.1 -2.5**
PBRG *i* tx tx 15 15 02.4
PBRG *i* IAmb IAmb 15 15 09.5
comp=Z,67nm,1.9s
PLN Plauen 80.02 25 *e*P **P** **15 14 55.2 0.0**
comp=Z,20nm,1.1s,baz=333,slow=5.4
MNK Minsk 80.08 14 *i* P **P** **15 14 57.0 +1.7**
comp=E,19nm,0.8s
MNK *i* P **P** **15 14 57.0 +1.7**
comp=N,6.0nm,0.9s
MNK *i* P **P** **15 14 57.0 +1.7**
comp=Z,45nm,0.9s,baz=342
MNK *i* PcP **PcP** **15 15 02.5 -0.2**
MNK *i* PP **PP** **15 18 03.2 +6.7**
MNK *i* PPP PPP 15 19 47.1
MNK *i* S **S** **15 25 01.0 +2.0**
MNK *i* PS **PnS** **15 25 42.3 -1.1**
MNK *i* SS SS 15 30 21.4 +14
MNK *i* LQ LQ 15 45 39.0
MNK Minsk 80.08 14 *d* *i* P **P** **15 14 57.0 +1.7**
TANN Tannenbergstha 80.17 24 *e*P **P** **15 14 56.1 +0.1**
comp=Z,40nm,1.0s,baz=333,slow=5.4
PVIS Viseu 80.17 42 *e*P **P** **15 14 56.4 +0.1**
PVIS *i* tx tx 15 15 03.6
ARTI 80.20 356 P **P** **15 14 54.4 -1.6**
ARTI 80.20 356 LR LR 15 52 06.3
comp=Z,2µm,21.6s,baz=14,slow=37
ARTI Arti 80.20 356 *d* *i* P **P** **15 14 54.6 -1.4**
ARTI 15 17 54.9
ARTI S **S** **15 25 00.3 0.0**
ARTI SS **SS** **15 30 05.4 -4.1**
ARTI SSS SSS 15 33 31.4
ARTI pmax pmax
comp=Z,68nm,1.2s
BRG Berggiesshubel 80.20 23 *e*P **P** **15 14 58.2 +2.1**
BRG Amp 15 15 01.4
comp=Z,41nm,0.9s

BRG ⇑PP **PcP** **15 15 06.1 +2.7**
BRG Amp 15 15 07.0
comp=Z,129nm,1.0s
BRG Berggiesshubel 80.20 23 S **SKSac** **15 25 06.0 -7.1**
MOS Moscow 80.24 8 *e*P **P** **15 14 56.5 +0.3**
MOS *e* 15 18 02.4
MOS *e*S **S** **15 25 01.2 +0.6**
MOS pmax pmax
comp=Z,294nm,1.4s
MOS pmax pmax
comp=N,165nm,1.3s
MOS pmax pmax
comp=Z,400nm,1.5s
MOS pmax pmax
comp=N,300nm,1.2s
MOS MLR MLR
comp=Z,4µm,17.0s
MOS MLR MLR
comp=N,4µm,19.0s
MVO Moncorvo 80.25 41 *e*P **P** **15 14 58.2 +1.6**
MVO *i* tx tx 15 15 04.7
MVO *i* IAmb IAmb 15 15 11.6
comp=N,107nm,1.7s
MVO *e*S **S** **15 25 04.4 +3.0**
MVO *e*LQ LQ 15 36 13.8
MVO *e*LR LR 15 42 44.4
MVO *i* IAMs_20 IAMs_20 15 48 14.8
comp=N,3µm,20.0s
HHC Hu-ho-hao-te 80.30 318 *e*P **P** **15 14 58.0 +1.0**
HHC sP PcP 15 15 04.4 +0.3
HHC S **S** **15 25 02.6 +0.5**
HHC SS **SS** **15 30 09.1 -3.1**
HHC pmax pmax
comp=N,47nm,1.0s
HHC pmax pmax
comp=N,470nm,5.9s
HHC LR LR
comp=N,3µm,17.9s
HHC LR LR
comp=N,3µm,22.7s
COI Coimbra 80.31 43 IAMs_20 IAMs_20 15 46 49.6
comp=Z,5µm,19.0s
COI Coimbra 80.31 43 *e*P **P** **15 14 54.1 -2.8**
ECH Echery 80.36 29 IAMs_20 IAMs_20 15 49 04.4
comp=Z,3µm,20.0s
PCAS Casmilo, Conde 80.39 43 *e*P **P** **15 14 58.3 +0.9**
PCAS *i* tx tx 15 15 05.2
PCAS *i* IAmb IAmb 15 15 12.2
comp=Z,108nm,1.5s
GRA1 Grafenberg Arr 80.43 26 IAMs_20 IAMs_20 15 51 33.0
comp=Z,5µm,19.0s
GRF Grafenberg Arr 80.43 26 *e*P **P** **15 14 58.1 +0.7**
comp=Z,298nm,1.6s,baz=333,slow=5.4
GRF *e*S **S** **15 25 03.4 +0.4**
baz=330,slow=11
GRF *e*L L 15 51 34.3
comp=Z,5µm,19.6s
GRFO Grafenberg 80.43 26 IAMs_20 IAMs_20 15 51 33.0
comp=Z,5µm,19.0s
MANZ Manzenberg 80.44 25 *e*P **P** **15 14 57.6 +0.1**
comp=Z,13nm,1.0s,baz=333,slow=5.4
RICC Richard 80.54 23 *e*P **P** **15 15 00.4 +2.5**
RICC *e*pP **PcP** **15 15 06.2 +1.4**
RICC AMS AMS 15 52 50.0
comp=Z,6µm,16.1s
STU Stuttgart 80.58 27 *e*P **P** **15 14 58.7 +0.5**
comp=Z,140nm,1.2s,baz=333,slow=5.4
STU *e*S **S** **15 25 04.6 +0.1**
baz=330,slow=11
MTE Manteigas 80.59 42 IAMs_20 IAMs_20 15 47 59.9
comp=Z,4µm,19.0s
MTE Manteigas 80.59 42 *e*P **P** **15 14 59.9 +1.5**
MTE *i* tx tx 15 15 06.2
MTE *i* IAmb IAmb 15 15 13.1
comp=Z,103nm,1.7s
MTE *e*S **S** **15 25 08.4 +3.4**
MTE *e*LQ LQ 15 35 42.2
MTE *e*LR LR 15 42 44.2
MTE *i* IAMs_20 IAMs_20 15 48 24.0
comp=Z,3µm,18.0s
ROTZ Rotzenmuhle 80.67 25 *e*P **P** **15 14 59.0 +0.3**
comp=Z,31nm,1.4s,baz=333,slow=5.4
BFO Black Forest 80.67 28 P **P** **15 14 57.5 -1.2**
BFO IAmb IAmb 15 15 07.9
comp=Z,172nm,1.4s
BFO IAMs_20 IAMs_20 15 49 34.4
comp=Z,5µm,21.0s
BFO Black Forest 80.67 28 P **P** **15 14 57.5 -1.2**
BFO pmax pmax
comp=Z,172nm,1.4s
BFO MLR MLR
comp=Z,5µm,21.0s
BFO Black Forest 80.67 28 *e*P **P** **15 14 59.2 +0.5**
comp=Z,178nm,1.4s,baz=333,slow=5.4
BFO *e*S **S** **15 25 04.0 -1.5**
baz=330,slow=11
PVCC Panska Ves 80.69 23 *e*P **P** **15 15 00.9 +2.2**
PVCC *e**PP **PcP** **15 15 06.7 +1.2**
PVCC MLR MLR
comp=Z,6µm,16.9s
PVCC Panska Ves 80.69 23 *e*P **P** **15 15 00.9 +2.2**
PVCC *e*pP **PcP** **15 15 06.7 +1.2**
PVCC AMS AMS 15 53 10.0
comp=Z,6µm,16.9s
OBN Obninsk 80.74 9 P **P** **15 14 58.1 -0.8**
OBN IAMs_20 IAMs_20 15 51 22.1
comp=Z,2µm,19.0s
OBN Obninsk 80.74 9 P **P** **15 14 58.7 -0.2**
comp=Z,44nm,0.6s,baz=155,slow=0.6,SNR=20
OBN LR LR 15 52 23.4
comp=Z,2µm,18.5s,baz=292,slow=37
comp=Z,44nm,0.6s
OBN Obninsk 80.74 9 ⇑P **P** **15 14 59.1 +0.2**
OBN Obninsk 80.74 9 *d* *i* P **P** **15 14 59.0 +0.1**
OBN *i* 15 15 05.1
OBN *e* 15 18 06.1
OBN *i* S **S** **15 25 04.3 -1.6**
OBN *i* SS **SS** **15 30 20.5 +3.0**
OBN pmax pmax
comp=Z,192nm,1.7s
OBN MLR MLR
comp=Z,2µm,17.0s
LPAZ La Paz 80.84 123 P **P** **15 15 01.3 +0.6**
comp=Z,16nm,0.7s,baz=330,slow=6.4,SNR=34
comp=Z,16nm,0.7s
R9F13 Warsaw-Wawer 80.85 19 *e*P **P** **15 15 02.2 +2.7**
R9F13 *e*S SKiKP 15 24 29.9 +30
KSP Ksiaz 80.89 22 *e*P **P** **15 15 02.6 +2.8**
KSP *e*S **S** **15 25 09.0 +1.3**
KSP *e*L L 15 44 38.1
comp=Z,4µm,31.6s
PSARD Sardoal 80.90 43 *e*P **P** **15 15 00.9 +0.8**
PSARD *i* tx tx 15 15 07.8
PSARD *i* IAmb IAmb 15 15 14.8
comp=Z,159nm,1.7s
TIA Tai'an 80.98 312 P **P** **15 14 59.6 -1.0**
TIA S **S** **15 25 11.6 +2.5**
TIA SS **SS** **15 30 24.2 +1.9**
TIA pmax pmax
comp=Z,17nm,1.5s
TIA pmax pmax
comp=Z,570nm,4.4s
TIA LR LR
comp=Z,3µm,16.2s
TIA LR LR
comp=Z,4µm,18.6s
CHVC Chvalec 81.05 22 *e*P **P** **15 15 02.8 +2.1**
CHVC *e**PP **PcP** **15 15 08.9 +1.8**
CHVC *e*S **SKSac** **15 25 13.7 -5.4**
CHVC MLR MLR
comp=Z,5µm,17.9s
CHVC Chvalec 81.05 22 *e*P **P** **15 15 02.8 +2.1**
CHVC *e*pP **PcP** **15 15 08.9 +1.8**
CHVC *e*S **SKSac** **15 25 13.7 -5.4**
CHVC AMS AMS 15 52 20.0
comp=Z,5µm,17.9s
PCBR Castelo Branco 81.05 42 *e*P **P** **15 14 57.3 -3.6**
PCBR *i* tx tx 15 15 08.0
PCBR *i* IAmb IAmb 15 15 15.3
comp=Z,70nm,1.6s
PRA Prague 81.06 23 *e*S **S** **15 25 09.5 +0.1**
PRA AMS AMS 15 53 10.0
comp=Z,5µm,17.4s
PARRA Arraiolos 81.07 44 *e*P **P** **15 15 05.0 +4.0**
PARRA *i* tx tx 15 15 11.2

PARRA *i* IAmb IAmb 15 15 12.6
comp=Z,94nm,1.3s
LIS Lisbon 81.08 44 *e*S **S 15 25 11.8 +1.7**
LIS IAMs_20 IAMs_20 15 47 44.9
comp=Z,4µm,23.2s
PMOZ Porto Moniz, M 81.11 53 *e*P P 15 15 06.8 +5.3
PMOZ *e*S **SKSac 15 25 20.5 +0.3**
PMOZ *e*LR LR 15 43 25.9
PMOZ *i* IAMs_20 IAMs_20 15 49 10.5
comp=Z,2µm,20.0s
UPC Upice 81.11 22 AMS AMS 15 52 20.0
comp=Z,6µm,18.1s
BEL Belsk 81.12 19 *e*P **P 15 15 03.5 +2.5**
BEL *e*L L 15 46 28.6
comp=Z,70µm,29.5s
OSTC Ostas 81.12 22 *e*P **P 15 15 02.2 +1.1**
OSTC MLR MLR
comp=Z,4µm,18.5s
OSTC Ostas 81.12 22 *e*P **P 15 15 02.2 +1.1**
OSTC AMS AMS 15 52 20.0
comp=Z,4µm,18.5s
JOW Kunigami 81.14 299 LR LR 15 45 28.0
comp=Z,1µm,21.3s,baz=100,slow=32
PRU Pruhonice 81.16 23 *e*P **P 15 15 02.2 +0.9**
PRU MLR MLR
comp=Z,5µm,16.9s
PRU Pruhonice 81.16 23 *e*P **P 15 15 02.2 +0.9**
PRU AMS AMS 15 53 10.0
comp=Z,5µm,16.9s
BTO Baotou 81.23 319 *e*P **P 15 15 02.5 +0.5**
BTO pP **PcP 15 15 07.4 -0.8**
BTO sP **pwP 15 15 09.0 -0.6**
BTO PP **PP 15 18 08.8 +2.1**
BTO S **S 15 25 10.2 -1.6**
BTO sS **sS 15 25 16.4 -1.4**
BTO SS **SS 15 30 23.7 -2.3**
BTO pmax pmax
comp=Z,61nm,2.1s
BTO pmax pmax
comp=Z,690nm,4.3s
PMTG Montargil 81.28 43 *e*P **P 15 15 02.8 +0.7**
PMTG *i* tx tx 15 15 10.0
PMTG *i* IAmb IAmb 15 15 15.6
comp=Z,82nm,1.9s
PB12 IPOC Station P 81.33 126 IAmb IAmb 15 15 13.7
comp=Z,95nm,1.0s
DPC Dobruska-Polom 81.34 22 *e*P **P 15 15 04.2 +1.9**
DPC *e**PP **PcP 15 15 10.5 +2.1**
DPC *e*S **S 15 25 14.1 +1.6**
DPC MLR MLR
comp=Z,5µm,17.3s
DPC Dobruska-Polom 81.34 22 *e*P **P 15 15 04.2 +1.9**
DPC *ep*P **PcP 15 15 10.5 +2.1**
DPC *e*S **S 15 25 14.1 +1.6**
DPC AMS AMS 15 52 30.0
comp=Z,5µm,17.3s
HNS HongShan 81.37 314 ⇓P **P 15 15 03.1 +0.5**
HNS S **S 15 25 16.8 +3.8**
HNS pmax pmax
comp=Z,45nm,1.6s
HNS LR LR
comp=Z,1µm,16.9s
HNS LR LR
comp=Z,3µm,18.6s
PMRV Marv??o 81.41 42 *e*P **P 15 15 04.1 +1.3**
PMRV *i* tx tx 15 15 10.5
PMRV *i* IAmb IAmb 15 15 17.4
comp=Z,115nm,1.6s
PMRV *e*S **S 15 25 14.8 +1.2**
PMRV *e*LQ LQ 15 35 59.5
PMRV *e*LR LR 15 43 10.5
PMRV *i* IAMs_20 IAMs_20 15 48 08.6
comp=Z,3µm,18.0s
WET Wettzell 81.42 25 *e*P **P 15 15 03.0 +0.3**
comp=Z,50nm,1.1s,baz=333,slow=5.4
WET *e*S **S 15 25 12.8 -0.6**
baz=330,slow=11
PB16 IPOC Station P 81.60 125 P **P 15 15 03.8 -0.8**
PB16 IAmb IAmb 15 15 15.2
comp=Z,66nm,1.1s
KHC Kasperske Hory 81.65 24 *e*P **P 15 15 05.0 +1.1**
KHC *e* 15 15 12.0
KHC *e*S **SKSac 15 25 19.7 -3.5**
KHC MLR MLR
comp=Z,5µm,16.8s
KHC Kasperske Hory 81.65 24 *e*P **P 15 15 05.0 +1.1**
KHC *ex* x 15 15 12.0
KHC *e*S **SKSac 15 25 19.7 -3.5**
KHC AMS AMS 15 53 20.0
comp=Z,5µm,16.8s
KRLC Kraliky 81.72 22 *e*P **P 15 15 05.1 +0.8**
KRLC MLR MLR
comp=Z,3µm,16.5s
KRLC Kraliky 81.72 22 *e*P **P 15 15 05.1 +0.8**
KRLC AMS AMS 15 52 50.0
comp=Z,3µm,16.5s
PESTR Estremoz 81.75 43 IAmb IAmb 15 15 17.5
comp=Z,178nm,1.6s
PESTR Estremoz 81.75 43 *e*P **P 15 15 06.6 +2.0**
PESTR *i* tx tx 15 15 12.2
PESTR *i* IAmb IAmb 15 15 19.3
comp=Z,98nm,1.8s
FUR Furstenfeldbru 81.78 26 *e*P **P 15 15 05.3 +0.7**
comp=Z,101nm,1.2s,baz=333,slow=5.4
FUR *e*S **S 15 25 17.2 0.0**
baz=330,slow=11
EVO Evora 81.80 43 *e*P **P 15 15 07.3 +2.4**
EVO *i* tx tx 15 15 12.5
EVO *i* IAmb IAmb 15 15 19.7
comp=Z,110nm,1.7s
GEC2 GERESS Array S 81.94 24 *e*P **P 15 15 05.6 0.0**
comp=Z,48nm,0.9s,baz=333,slow=5.4
GEC2 *e*S **S 15 25 19.7 +0.8**
baz=330,slow=11
GERES GERESS Array B 81.94 24 P **P 15 15 06.0 +0.4**
comp=Z,9.8nm,0.8s,baz=0.0,slow=5.3,SNR=44
GERES PKKPbc **PKKPbc 15 33 35.0 +0.7**
comp=Z,0.4nm,0.5s,baz=72,slow=8.6,SNR=4.6
GERES LR LR 15 50 56.4
comp=Z,4µm,21.8s,baz=339,slow=35
comp=Z,9.8nm,0.8s
GERES GERESS Array B 81.94 24 P **P 15 15 06.0 +0.4**
SENIN Lac Senin/Sane 82.00 30 IAMs_20 IAMs_20 15 51 11.7
comp=Z,5µm,20.0s
TREC Trest 82.06 23 *e*P **P 15 15 07.4 +1.3**
TREC MLR MLR
comp=Z,5µm,16.4s
TREC Trest 82.06 23 *e*P **P 15 15 07.4 +1.3**
TREC AMS AMS 15 53 50.0
comp=Z,5µm,16.4s
DAVA Damuels 82.10 27 *e*PcP **P 15 15 08.4 +1.9**
comp=Z,25nm,0.9s,SNR=13
STEB Steborice 82.11 22 *e*P **P 15 15 07.8 +1.5**
STEB *ep*P **pwP 15 15 14.0 0.0**
MORC Moravsky Berou 82.19 22 IAmb IAmb 15 15 20.0
comp=Z,169nm,1.7s
MORC IAMs_20 IAMs_20 15 51 41.6
comp=Z,3µm,19.0s
MORC Moravsky Berou 82.19 22 *e*P **P 15 15 07.0 +0.2**
MORC Moravsky Berou 82.19 22 ⇓P **P 15 15 08.4 +1.6**
MORC Moravsky Berou 82.19 22 ⇓P **P 15 15 08.4 +1.6**
PTEO Sao Teotonio 82.20 44 *e*P **P 15 15 06.3 -0.6**
RETA Reutte 82.21 27 *ep*P pP 15 15 08.5 -2.1
comp=Z,12nm,1.1s,SNR=9.9
MESJ Messejana 82.23 44 *e*P **P 15 15 08.4 +1.3**
MESJ *e*S **SKSac 15 25 23.8 -3.6**
MESJ IAMs_20 IAMs_20 15 48 46.1
comp=Z,4µm,18.6s
MESJ Messejana 82.23 44 IAMs_20 IAMs_20 15 48 59.4
comp=Z,4µm,19.0s
MESJ Messejana 82.23 44 *e*P **P 15 15 09.2 +2.1**
MESJ *i* IAmb IAmb 15 15 16.9
comp=Z,59nm,1.9s
MESJ Messejana 82.23 44 *e*P **P 15 15 08.4 +1.3**
MESJ *e*S **SKSac 15 25 23.8 -3.6**
PBEJ Beja 82.26 44 *e*P **P 15 15 08.6 +1.3**
PBEJ *i* IAmb IAmb 15 15 22.1
comp=Z,62nm,1.8s
TIY Taiyuan 82.29 316 P **P 15 15 09.5 +1.9**
TIY S **S 15 25 21.3 -1.5**
TIY pmax pmax
comp=Z,340nm,4.0s
TIY LR LR
comp=Z,4µm,18.6s
TIY LR LR
comp=Z,3µm,17.9s
OKC Ostrava-Krasne 82.30 21 *e*S **SKSac 15 25 25.1 -2.4**
OKC AMS AMS 15 53 00.0
comp=Z,3µm,16.4s
VRAC Vranov 82.36 23 P **P 15 15 08.3 +0.7**
comp=Z,22nm,0.9s,baz=333,slow=5.5,SNR=28
VRAC LR LR 15 51 48.9
comp=Z,3µm,19.6s,baz=329,slow=36
comp=Z,22nm,0.9s
VRAC Vranov 82.36 23 *e*P **P 15 15 07.3 -0.3**
VRAC Vranov 82.36 23 ⇑P **P 15 15 08.5 +0.9**
VRAC Vranov 82.36 23 ⇑P **P 15 15 08.5 +0.9**
OJC Ojcow 82.38 20 *e*P **P 15 15 09.2 +1.5**
OJC *e*S **S 15 25 23.2 +0.1**
OJC *e*L L 15 48 35.4
comp=Z,3µm,25.9s
MORF Marmelete 82.42 45 *e*P **P 15 15 09.2 +1.0**
MORF *e*S **SKSac 15 25 25.8 -3.0**
MORF IAMs_20 IAMs_20 15 37 03.6
comp=E,5µm,30.6s
MORF Marmelete 82.42 45 IAmb IAmb 15 15 17.5
comp=Z,161nm,1.6s
MORF IAMs_20 IAMs_20 15 58 07.6
comp=Z,3µm,19.0s
MORF Marmelete 82.42 45 *e*P **P 15 15 09.6 +1.4**
MORF *i* tx tx 15 15 15.7
MORF *i* IAmb IAmb 15 15 23.1
comp=Z,123nm,1.4s
MORF Marmelete 82.42 45 *e*P **P 15 15 09.2 +1.0**
MORF *e*S **SKSac 15 25 25.8 -3.0**
BVAR Borovoye Array 82.43 349 P **P 15 15 07.2 -0.8**
comp=Z,16nm,0.7s,baz=12,slow=4.8,SNR=53
BVAR PKKPbc **PKKPbc 15 33 34.8 +1.6**
comp=Z,1.3nm,0.9s,baz=209,slow=2.7,SNR=3.7
BVAR LR LR 15 56 30.4
comp=Z,2µm,18.0s,baz=21,slow=39
comp=Z,16nm,0.7s
MOTA Moosalm 82.45 27 *e*PcP **P 15 15 10.1 +1.7**
comp=Z,16nm,1.2s,SNR=15
SSE Sheshan 82.45 306 P **P 15 15 08.3 -0.1**
SSE S **S 15 25 23.4 -1.0**
SSE pmax pmax
comp=Z,17nm,1.4s
SSE pmax pmax
comp=Z,290nm,6.3s
SSE LR LR
comp=Z,1µm,14.9s
SSE LR LR
comp=Z,1µm,15.1s
PFVI Vila Bisbo 82.46 45 *e*P **P 15 15 10.2 +1.8**
PFVI *i* tx tx 15 15 16.4
PFVI *i* IAmb IAmb 15 15 23.4
comp=Z,169nm,1.8s
PCVE Castro Verde 82.48 44 *e*P **P 15 15 08.4 0.0**
PCVE *i* tx tx 15 15 16.3
PCVE *i* IAmb IAmb 15 15 22.4
comp=Z,93nm,1.8s
KRUC Moravsky 82.53 23 *e*P **P 15 15 09.4 +0.9**
DAVOX Davos/Dischmat 82.54 28 P **P 15 15 08.9 +0.1**
comp=Z,11nm,0.8s,baz=336,slow=10,SNR=18
DAVOX LR LR 15 52 34.0
comp=Z,6µm,19.5s,baz=318,slow=36
comp=Z,11nm,0.8s
PBAR Barrancos 82.56 43 *e*P **P 15 15 10.3 +1.4**
PBAR *i* tx tx 15 15 16.7
PBAR *i* IAmb IAmb 15 15 23.8
comp=Z,102nm,1.8s
SQTA Sankt Quirin 82.59 27 *e*PcP **P 15 15 10.9 +1.8**
comp=Z,52nm,1.6s,SNR=16
FETA Feichten 82.61 27 *e*PcP **P 15 15 11.2 +2.0**
comp=Z,19nm,1.1s,SNR=12
WATA Walderalm 82.61 26 *ep*P **P 15 15 10.2 +1.0**
comp=Z,47nm,1.3s,SNR=20
TUE Stuetta 82.62 28 IAMs_20 IAMs_20 15 50 46.2
comp=Z,5µm,21.0s
MAUC Maruska 82.64 22 *e*P **P 15 15 10.7 +1.6**
MAUC *ep*P **pwP 15 15 17.2 +0.4**
MAUC *e*S **S 15 25 26.9 +1.0**
MAUC AMS AMS 15 54 30.0
comp=Z,6µm,17.6s
WTTA Wattenberg 82.69 26 *ep*P pP 15 15 10.9 -2.4
PAB San Pablo 82.78 40 P **P 15 15 09.1 -1.0**
PAB IAmb IAmb 15 15 23.4
comp=Z,149nm,1.9s
PAB San Pablo 82.78 40 IAMs_20 IAMs_20 15 48 59.0
comp=Z,3µm,21.0s
PAB San Pablo 82.78 40 ⇑P **P 15 15 12.1 +2.0**
CEST Esterri de Car 82.81 35 P **P 15 15 08.6 -1.7**
PVAQ Vaqueiros 82.82 44 P **P 15 15 08.9 -1.3**
PVAQ Vaqueiros 82.82 44 *e*P **P 15 15 11.4 +1.2**
PVAQ *i* tx tx 15 15 18.2
PVAQ *i* IAmb IAmb 15 15 25.4
comp=Z,104nm,1.7s
PVAQ *e*S **S 15 25 28.6 +0.6**
PVAQ *e*LQ LQ 15 36 29.4
PVAQ *e*LR LR 15 44 01.8
PVAQ *i* IAMs_20 IAMs_20 15 49 51.6
comp=Z,3µm,18.0s
PBDV Barranco-do-Ve 82.83 44 *e*P **P 15 15 13.3 +2.9**
PBDV *i* tx tx 15 15 18.7
PBDV *i* IAmb IAmb 15 15 24.6
comp=Z,97nm,1.7s
ESDC Sonseca Array 82.86 40 P **P 15 15 10.1 -0.4**
ESDC Sonseca Array 82.86 40 P **P 15 15 10.8 +0.4**
comp=Z,7.3nm,0.9s,baz=311,slow=4.2,SNR=24
ESDC PP **PP 15 18 23.3 +3.2**
comp=Z,8.0nm,1.3s,baz=329,slow=8.0,SNR=4.2
ESDC LR LR 15 49 53.7
comp=Z,2µm,18.3s,baz=320,slow=34
comp=Z,7.3nm,0.9s
HMBC Humberstone 82.89 127 IAmb IAmb 15 15 20.4
comp=Z,51nm,0.9s
LESA Schwarzleotal 82.89 26 *ep*P **P 15 15 11.2 +0.7**
comp=Z,38nm,1.1s,SNR=20
BNI Bardonecchia 82.89 31 P **P 15 15 10.0 -0.7**
BNI IAmb IAmb 15 15 33.7
comp=Z,167nm,1.6s
BNI Bardonecchia 82.89 31 P **P 15 15 10.0 -0.7**
BNI pmax pmax
comp=Z,167nm,1.7s
TA01 Diego Aracena 82.94 127 IAmb IAmb 15 15 20.8
comp=Z,66nm,1.1s
BIOA Bad Ischl, Aus 82.95 25 *e*PcP **P 15 15 12.4 +1.7**
comp=Z,8.6nm,0.6s,SNR=15
MOA Molln 83.00 25 *ep*P pP 15 15 12.3 -2.4
comp=Z,28nm,1.7s,SNR=12
JAVC Velka Javorina 83.06 22 *e*P **P 15 15 12.2 +0.8**
NJ2 Nanjing 83.10 308 ⇓P **P 15 15 12.4 +0.7**
NJ2 S **S 15 25 31.7 +0.7**
NJ2 pmax pmax
comp=Z,22nm,1.2s
NJ2 LR LR
comp=Z,2µm,23.7s
NJ2 LR LR
comp=Z,3µm,17.0s
PATCX Punta Patache 83.16 127 IAmb IAmb 15 15 21.1
comp=Z,74nm,1.0s
HURO Huro Makira 83.22 249 P **P 15 15 16.2 +3.7**
KURK Kurchatov 83.23 343 P **P 15 15 10.3 -1.8**
KURK IAmb IAmb 15 15 20.8
comp=Z,57nm,1.1s
KURK Kurchatov 83.23 343 IAMs_20 IAMs_20 15 56 51.0
comp=Z,4µm,19.0s
KURK Kurchatov 83.23 343 P **P 15 15 10.3 -1.8**
KURK pmax pmax
comp=Z,57nm,1.1s
NIE Niedzica 83.24 20 *e*P **P 15 15 14.2 +2.0**
NIE *e*S S 15 25 41.7 +10
NIE *e*L L 15 46 33.4
comp=Z,1µm,28.4s
LANS Liptovska Anna 83.28 21 *e*P **P 15 15 14.7 +2.3**
LANS *e* 15 15 21.2
LANS pmax pmax
comp=Z,51nm,1.8s
SMOL Smolenice 83.31 22 *e*P **P 15 15 14.6 +2.0**
SMOL *e* 15 15 21.5
SMOL pmax pmax
comp=Z,43nm,1.4s
KURBB Kurchatov Arra 83.33 343 P **P 15 15 11.4 -1.2**
comp=Z,24nm,0.8s,baz=18,slow=4.9,SNR=78
KURBB PKKPbc **PKKPbc 15 33 31.8 +0.7**
comp=Z,0.7nm,0.8s,baz=223,slow=2.4,SNR=4.8
KURBB PKPPKP P'P'df 15 41 36.2 -8.0
comp=Z,0.5nm,0.9s,baz=207,slow=2.5,SNR=4.2
KURBB LR LR 15 57 04.9
comp=Z,3µm,18.6s,baz=21,slow=39
comp=Z,24nm,0.8s
CONA Conrad Observa 83.40 24 *ep*P **P 15 15 13.4 +0.3**
comp=Z,29nm,1.1s,SNR=28
KBA Koelnbreinsper 83.40 25 *e*PcP **P 15 15 14.7 +1.4**
comp=Z,26nm,0.9s,SNR=12
ABTA Abfaltersbach 83.43 26 *ep*P **P 15 15 13.5 +0.2**
comp=Z,34nm,1.1s,SNR=36
LPSR Galich'ya Gora 83.47 8 *e*P **P 15 15 11.1 -2.2**
LPSR pmax pmax
comp=Z,100nm,1.6s
LPSR MLR MLR
comp=Z,3µm,18.0s
STHS Stebnicka Huta 83.47 20 *e*P **P 15 15 14.4 +1.0**
STHS *e* 15 15 21.2
ZST Bratislava 83.51 23 *e*P P 15 15 23.5 +10
KWP Kalwaria Pacla 83.62 19 *e*P **P 15 15 15.5 +1.3**
KWP *e*S **S 15 25 41.1 +5.3**
KWP *e*L L 15 49 16.6
comp=Z,5µm,27.3s
PB02 IPOC Station P 83.69 127 IAmb IAmb 15 15 25.0
comp=Z,60nm,0.9s
VYHS Vyhne 83.71 22 *e*P **P 15 15 16.0 +1.4**
VYHS pmax pmax
comp=Z,217nm,2.3s
PB01 IPOC Station P 83.71 127 IAmb IAmb 15 15 25.0
comp=Z,66nm,0.9s
RONA Rosalia, Austr 83.73 23 *ep*P **P 15 15 14.8 0.0**
comp=Z,60nm,1.9s,SNR=24
CTI Castel Tesino 83.77 27 IAmb IAmb 15 15 24.1
comp=Z,132nm,1.4s
CTI IAMs_20 IAMs_20 15 51 48.4
comp=Z,5µm,22.0s
HNR Honiara 83.81 251 IAMs_20 IAMs_20 15 44 04.1
comp=Z,3µm,22.0s
HNR Honiara 83.81 251 LR LR 15 48 37.1
comp=Z,3µm,18.4s,baz=44,slow=33
MYKA Terra Mystica 83.89 26 *ep*P **P 15 15 15.8 +0.1**
comp=Z,47nm,2.0s,SNR=19
ARSA Arzberg 83.91 24 *ep*P **P 15 15 15.5 -0.2**
comp=Z,42nm,1.0s,SNR=28
AKASG Malin Array Be 83.96 14 P **P 15 15 14.9 -0.9**
AKASG Malin Array Be 83.96 14 P **P 15 15 14.9 -0.9**
comp=Z,18nm,0.8s,baz=345,slow=4.4,SNR=59
AKASG PP **PP 15 18 25.8 -2.7**
comp=Z,1.8nm,0.6s,baz=340,slow=8.4,SNR=4.4
AKASG LR LR 15 52 32.6
comp=Z,9µm,20.8s,baz=345,slow=36
comp=Z,18nm,0.8s
AKASG Malin Array Be 83.96 14 *ce*P **P 15 15 14.8 -1.0**
AKASG pmax pmax
comp=Z,18nm,0.7s
AKBB Malin Array Si 83.96 14 *ce*P **P 15 15 15.2 -0.6**
KIEV Kiev 83.96 14 P **P 15 15 14.7 -1.2**
KIEV Kiev 83.96 14 ⇓P **P 15 15 15.2 -0.6**
KIEV Kiev 83.96 14 ⇓P **P 15 15 15.2 -0.6**
KECS Kecovo 84.15 21 *e*P **P 15 15 19.7 +2.8**
KECS *e* 15 15 25.5
KECS pmax pmax
comp=Z,44nm,0.9s
KOLS Kolonicke sedl 84.17 19 *e*P **P 15 15 18.8 +1.8**
KOLS *e* 15 15 25.3
SRO Srobarova 84.19 22 *e*P **P 15 15 19.6 +2.5**
SRO *e* 15 15 25.4
SRO pmax pmax
comp=Z,110nm,1.6s
BELG Belogornoye 84.27 3 LR LR 15 54 40.7
comp=Z,3µm,20.3s,baz=334,slow=37
BELG Belogornoye 84.27 3 *de*P **P 15 15 16.7 -0.6**
BELG pmax pmax
comp=Z,8.0nm,1.0s
BELG MLR MLR
comp=Z,597nm,20.0s
TMAB Tom-Au,PA,Br 84.27 99 *ep*P **P 15 15 19.9 +1.9**
SOKA Soboth 84.28 25 *ep*P **P 15 15 17.5 -0.2**
comp=Z,35nm,1.0s,SNR=36
CADS Cadrg 84.28 26 *e*P **P 15 15 17.6 0.0**
CADS *e* 15 15 24.0
CADS *e*S **S 15 25 41.7 -0.9**
CADS *e* 15 26 33.8
CADS *e* 15 37 22.9
OBKA Obir 84.28 25 *ep*P **P 15 15 17.5 -0.2**
comp=Z,56nm,0.9s,SNR=32
PERS Pernice 84.34 25 *i* P **P 15 15 18.2 +0.3**
PERS *e*SS SS 15 31 17.2 +5.7
PB03 IPOC Station P 84.34 128 IAmb IAmb 15 15 35.9
comp=Z,78nm,1.2s
VORR Voronezh 84.42 8 *e*P **P 15 15 18.4 +0.3**
VORR pmax pmax
comp=Z,80nm,0.4s
VORR MLR MLR
comp=Z,2µm,13.0s
PRMA PARMA 84.44 28 IAMs_20 IAMs_20 15 53 41.4
comp=Z,4µm,21.0s
SABO M.te Sabotino 84.46 26 IAMs_20 IAMs_20 15 53 57.8
comp=Z,5µm,20.0s
PSZ Piszkesteto 84.52 21 ⇓P **P 15 15 20.2 +1.4**
PSZ Piszkesteto 84.52 21 ⇓P **P 15 15 20.2 +1.4**
MSSA Maissana 84.56 29 P **P 15 15 18.0 -1.1**
LJU Ljubljana 84.69 25 *i* P **P 15 15 20.0 +0.3**
LJU *i* 15 15 26.2
LJU *e*S **S 15 25 44.3 -2.3**
LJU *e* 15 37 32.3
LYN LuoYang 84.71 314 P **P 15 15 21.2 +1.2**
LYN pP pwP 15 15 26.3 -1.3
LYN sP PcP 15 15 27.7 +4.3
LYN S **S 15 25 46.0 -1.2**
LYN sS sS 15 25 51.6 -1.6
LYN pmax pmax
comp=Z,41nm,1.5s
LYN pmax pmax
comp=Z,1µm,4.2s
LYN LR LR
comp=Z,4µm,16.5s
LYN LR LR
comp=Z,4µm,16.5s
TRI Trieste 84.75 26 IAMs_20 IAMs_20 15 54 05.5
comp=Z,4µm,20.0s
ZSN Zaisan 84.79 338 *e*P **P 15 15 20.1 -0.1**
comp=Z,29nm,1.3s
ZSN *e*S **SKSac 15 25 44.2 +0.3**
ZSN Zaisan 84.79 338 *e*P **P 15 15 20.9 +0.7**
ZSN *e*S **SKSac 15 25 44.2 +0.3**
ZSN pmax pmax
comp=Z,29nm,1.3s
CLDB Colider 84.84 110 *e*P **P 15 15 21.3 +0.5**
VSR Storozhevoye 84.86 8 *e*P **P 15 15 20.3 -0.1**
VSR pmax pmax
comp=Z,230nm,1.3s
VSR MLR MLR
comp=Z,4µm,20.0s
CEY Cerknica 84.94 25 *i* P **P 15 15 21.7 +0.7**
PB06 IPOC Station P 84.96 128 IAmb IAmb 15 15 38.9
comp=Z,103nm,1.4s
BRZS Berezniki 85.04 347 *e*P **P 15 15 22.2 +0.9**
BRZS *e*S **SKSac 15 25 45.8 +0.3**
BRZS Berezniki 85.04 347 *e*P **P 15 15 22.2 +0.9**
BRZS *e*S **SKSac 15 25 45.7 +0.3**
SIV San Ignacio 85.06 117 LR LR 15 59 11.8
comp=Z,2µm,18.2s,baz=340,slow=40
VRH Novokhopyorsk 85.11 7 *e*P **P 15 15 20.9 -0.7**
VRH pmax pmax
comp=Z,50nm,1.1s
VRH MLR MLR
comp=Z,4µm,17.0s
VORD Divnogorie 85.12 8 *e*P **P 15 15 21.7 0.0**
VORD pmax pmax
comp=Z,110nm,1.1s
VORD MLR MLR
comp=Z,2µm,18.0s
RABL Rabaul 85.59 260 IAMs_20 IAMs_20 15 45 50.7
comp=Z,3µm,21.0s
BMR Baia Mare 85.64 19 ⇓P **P 15 15 25.3 +0.9**
BMR Baia Mare 85.64 19 ⇓P **P 15 15 25.3 +0.9**
PRPB Parauapebas 85.68 103 *e*P **P 15 15 25.8 +0.7**
MORH Mrgy, Hungar 85.75 23 ⇓P **P 15 15 25.1 +0.2**
RAO Raoul Island 85.78 222 LR LR 15 45 31.1
comp=Z,1µm,21.6s,baz=330,slow=30
DRBR Darabani 85.83 17 ⇑P P 15 15 31.6 +6.3
PTLB Pontes e Lacer 85.91 116 IAmb IAmb 15 15 34.8
comp=Z,139nm,1.7s
PTLB Pontes e Lacer 85.91 116 *e*P **P 15 15 26.0 0.0**
CART Cartagena 85.92 40 IAMs_20 IAMs_20 15 52 37.9
comp=Z,2µm,18.0s
PB14 IPOC Station P 86.00 130 IAmb IAmb 15 15 44.2

	comp=Z,125nm,1.6s									
MK31	**Makanchi Array**	**86.07**	**340**	*ce*	P		**P**	**15 15 26.4**	**-0.1**	
MKAR	**Makanchi Array**	**86.07**	**340**		P		**P**	**15 15 25.0**	**-1.5**	
MKAR	**Makanchi Array**	**86.07**	**340**		P		**P**	**15 15 25.8**	**-0.8**	
	comp=Z,5.1nm,0.9s,baz=28,slow=2.9,SNR=18									
MKAR					PKPPKP		**P'P'df**	**15 41 35.1**	**-4.0**	
	comp=Z,1.9nm,1.2s,baz=180,slow=0.8,SNR=5.8									
	comp=Z,5.1nm,0.9s									
BURAR	**Bucovina Array**	**86.09**	**18**		P		**P**	**15 15 25.6**	**-1.2**	
BURAR	**Bucovina Array**	**86.09**	**18**	⇓	P		**P**	**15 15 28.0**	**+1.2**	
BURAR	**Bucovina Array**	**86.09**	**18**	⇓	P		**P**	**15 15 28.0**	**+1.2**	
MAKZ	**Makanchi**	**86.13**	**340**	⇑	P		**P**	**15 15 25.0**	**-1.9**	
AVE	**Averroes**	**86.16**	**46**		IAMs_20	IAMs_20		15 52 57.6		
	comp=Z,2μm,20.0s									
AKTO	**Aktyubinsk**	**86.17**	**356**		LR	LR		15 58 15.3		
	comp=Z,4μm,18.5s,baz=14,slow=39									
SORM	**Soroca**	**86.25**	**16**	⇑	P		**P**	**15 15 26.5**	**-0.9**	
SORM	**Soroca**	**86.25**	**16**	⇑	P		**P**	**15 15 26.5**	**-0.9**	
DRGR		**86.28**	**20**	⇓	P		P	15 15 33.6	+5.9	
ARCR	**ARCALIA**	**86.39**	**19**	⇓	P		**P**	**15 15 29.7**	**+1.6**	
MARR	**Marisel-Cluj**	**86.49**	**20**	⇓	P		**P**	**15 15 29.6**	**+0.9**	
SIRR	**Siria**	**86.50**	**21**	⇑	P		**P**	**15 15 29.5**	**+0.8**	
BLY	**Banja Luka**	**86.67**	**24**	⇑	P		P	15 15 34.5	+5.1	
TATO	**Taipei**	**86.73**	**302**		IAMs_20	IAMs_20		15 48 31.9		
	comp=Z,3μm,22.0s									
GTA	**Gaotai**	**86.76**	**325**	*e*	P		**P**	**15 15 29.8**	**-0.4**	
GTA					pP		pwP	15 15 35.3	-2.6	
GTA					S		**S**	**15 26 02.9**	**-4.5**	
GTA					pmax	pmax				
	comp=Z,21nm,1.1s									
GTA					pmax	pmax				
	comp=Z,280nm,4.4s									
GTA					LR	LR				
	comp=Z,5μm,23.9s									
GTA					LR	LR				
	comp=Z,4μm,22.7s									
WHN	**Wuhan**	**86.77**	**310**		P		**P**	**15 15 32.2**	**+2.0**	
WHN					pP		**pwP**	**15 15 36.6**	**-1.3**	
WHN					sP		**sP**	**15 15 39.2**	**+4.0**	
WHN					S		**S**	**15 26 07.7**	**+0.2**	
WHN					pmax	pmax				
	comp=Z,430nm,1.8s									
WHN					LR	LR				
	comp=Z,6μm,17.8s									
GO02	**Mina Guanaco**	**86.87**	**129**		IAmb	IAmb		15 15 41.1		
	comp=Z,61nm,1.1s									
XAN	**Xi'an**	**86.94**	**316**	⇑	P		**P**	**15 15 31.3**	**+0.2**	
XAN					sP		pwP	15 15 38.1	-0.6	
XAN					S		**S**	**15 26 09.2**	**+0.1**	
XAN					pmax	pmax				
	comp=Z,31nm,1.8s									
XAN					LR	LR				
	comp=Z,3μm,15.1s									
XAN					LR	LR				
	comp=Z,3μm,22.7s									
IASR	**Iasi**	**87.01**	**16**	⇓	P		P	15 15 38.5	+7.4	
AC01	**Pan de Azucar**	**87.08**	**131**		IAmb	IAmb		15 15 49.0		
	comp=Z,66nm,1.5s									
BZS	**Buzias**	**87.10**	**21**	⇑	P		**P**	**15 15 31.6**	**0.0**	
BZS	**Buzias**	**87.10**	**21**	⇑	P		**P**	**15 15 31.6**	**0.0**	
SURR	**Surduc**	**87.10**	**20**	⇑	P		**P**	**15 15 32.3**	**+0.7**	
ABKAR	**Akbulak array**	**87.23**	**355**		P		**P**	**15 15 30.6**	**-1.6**	
WMQ	**Urumqi**	**87.29**	**335**	*e*	P		**P**	**15 15 32.3**	**-0.3**	
WMQ					SKS		**SKSac**	**15 25 58.8**	**-1.0**	
WMQ					pmax	pmax				
	comp=Z,65nm,0.7s									
WMQ					pmax	pmax				
	comp=Z,240nm,4.3s									
WMQ					LR	LR				
	comp=Z,4μm,14.7s									
WMQ					LR	LR				
	comp=Z,3μm,23.7s									
KIS	**Kishinev**	**87.43**	**16**	*e*	P		**P**	**15 15 33.0**	**-0.2**	
KIS				*e*	S		**S**	**15 26 12.0**	**-1.3**	
KIS	**Kishinev**	**87.43**	**16**	*e*	P		**P**	**15 15 33.0**	**-0.2**	
KIS				*e*	S		**S**	**15 26 12.0**	**-1.3**	
KIS				*i*	PS		**PnS**	**15 27 14.0**	**+0.5**	
KIS					MLR	MLR				
	comp=Z,1μm,18.0s									
TESR	**Tescani**	**87.45**	**17**	⇓	P		**P**	**15 15 33.6**	**+0.3**	
MILM	**Milestii Mici**	**87.51**	**16**	*e*	P		**P**	**15 15 31.0**	**-2.5**	
MILM				*e*	S		**S**	**15 26 13.0**	**-1.1**	
MILM				*e*	L		L	15 49 10.0		
MILM					LRM	MLR		15 54 54.0		
	comp=Z,1μm,18.0s									
MILM	**Milestii Mici**	**87.51**	**16**	*e*	P		**P**	**15 15 31.0**	**-2.5**	
MILM				*e*	S		**S**	**15 26 13.0**	**-1.1**	
MILM					MLR	MLR				
	comp=Z,1μm,18.0s									
MANU	**Manus Island**	**87.56**	**265**		IAMs_20	IAMs_20		15 50 35.6		
	comp=Z,2μm,19.0s									
ONER	**Baraj Valea Uz**	**87.56**	**17**	⇓	P		**P**	**15 15 33.2**	**-0.6**	
GZR	**Gura Zlata**	**87.60**	**20**	⇑	P		**P**	**15 15 34.5**	**+0.4**	
GZR	**Gura Zlata**	**87.60**	**20**	⇑	P		**P**	**15 15 34.5**	**+0.4**	
OZUR		**87.66**	**18**	⇑	P		P	15 15 41.5	+7.2	
DOPR	**Dopca**	**87.69**	**18**	⇑	P		**P**	**15 15 35.0**	**+0.5**	
LZH	**Lanzhou**	**87.75**	**320**	*e*	P		**P**	**15 15 36.3**	**+1.2**	
LZH					sP		pwP	15 15 42.6	-0.2	
LZH					SKS		**SKSac**	**15 26 02.8**	**-0.2**	
LZH					S		**SKKSac**	**15 26 14.6**	**+1.9**	
LZH					pmax	pmax				
	comp=Z,45nm,1.3s									
LOT	**Lotru**	**87.80**	**20**	⇓	P		**P**	**15 15 34.8**	**-0.3**	
MDVR	**Moldovita**	**87.90**	**21**	⇑	P		**P**	**15 15 36.2**	**+0.7**	
LZDM	**Lanzhou Array**	**87.92**	**320**		P		**P**	**15 15 36.9**	**+0.7**	
	comp=Z,2.3nm,0.3s,baz=14,slow=3.1,SNR=5.1									
	comp=Z,2.3nm,0.3s									
SSLB	**Suanglung**	**87.93**	**301**		IAmb	IAmb		15 15 41.4		
	comp=Z,123nm,1.7s									
SSLB	**Suanglung**	**87.93**	**301**		P		**P**	**15 15 37.2**	**+1.2**	
COVR	**Voineasa-Covas**	**87.99**	**18**	⇑	P		**P**	**15 15 37.3**	**+1.4**	
HERR	**Herculane**	**87.99**	**21**	⇓	P		P	15 15 23.1	-13	
MDT	**Midelt**	**87.99**	**45**		LR	LR		15 53 12.6		
	comp=Z,2μm,18.4s,baz=334,slow=34									
ARR	**Arges**	**88.08**	**19**	⇑	P		**P**	**15 15 36.4**	**0.0**	
PLOR	**Plostina**	**88.08**	**17**	⇓	P		**P**	**15 15 37.7**	**+1.3**	
PLOR	**Plostina**	**88.08**	**17**	⇓	P		**P**	**15 15 37.7**	**+1.3**	
VRI	**Vrincioaia**	**88.08**	**17**	⇓	P		**P**	**15 15 35.8**	**-0.5**	
VRI	**Vrincioaia**	**88.08**	**17**	⇓	P		**P**	**15 15 35.8**	**-0.5**	
INTR	**Introdacqua**	**88.10**	**27**		IAmb	IAmb		15 15 54.8		
	comp=Z,70nm,1.3s									
MLR	**Muntele Rosu**	**88.27**	**18**		P		**P**	**15 15 35.0**	**-2.4**	
MLR	**Muntele Rosu**	**88.27**	**18**		LR	LR		15 55 14.8		
	comp=Z,6μm,20.6s,baz=348,slow=36									
MLR	**Muntele Rosu**	**88.27**	**18**	⇑	P		**P**	**15 15 38.2**	**+0.8**	
MLR	**Muntele Rosu**	**88.27**	**18**	⇑	P		**P**	**15 15 38.2**	**+0.8**	
BISRR	**Bisoca**	**88.38**	**18**	⇓	P		**P**	**15 15 40.0**	**+2.2**	
NEHR	**Nehoiu**	**88.40**	**18**	⇓	P		**P**	**15 15 37.8**	**-0.1**	
NEGRR	**Negrea**	**88.64**	**17**	⇑	P		**P**	**15 15 39.3**	**+0.4**	
TDK	**Taldyqorghan**	**88.68**	**342**	*e*	P		**P**	**15 15 39.7**	**+0.4**	
	comp=Z,33nm,1.5s									
TDK					LR	LR		15 56 43.1		
	comp=Z,2μm,16.9s									
TDK	**Taldyqorghan**	**88.68**	**342**	*e*	P		**P**	**15 15 39.6**	**+0.4**	
TDK					pmax	pmax				
	comp=Z,33nm,1.5s									
TDK					MLR	MLR				
	comp=Z,2μm,17.0s									
VSL	**Villasalto**	**88.70**	**32**		IAMs_20	IAMs_20		15 56 02.0		
	comp=Z,4μm,18.0s									
DZM	**Mont Dzumac**	**88.80**	**238**	*e*	S		**S**	**15 26 23.9**	**-3.1**	
	comp=Z,362nm,28.4s									
DZM				*e*	SS		**SS**	**15 32 09.6**	**-10**	
	comp=Z,1μm,27.3s									
DZM				*e*	LQ		LQ	15 39 36.4		
	comp=Z,6μm,37.4s									
DZM				*e*	LR		LR	15 43 35.5		
	comp=Z,4μm,25.2s									
DZM	**Mont Dzumac**	**88.80**	**238**		P		**P**	**15 15 40.2**	**+0.2**	
DZM					IAmb	IAmb		15 15 45.3		
	comp=Z,63nm,1.3s									
DZM					IAMs_20	IAMs_20		15 51 38.6		
	comp=Z,3μm,19.0s									
DZM	**Mont Dzumac**	**88.80**	**238**		P		**P**	**15 15 42.1**	**+2.1**	
	comp=Z,21nm,1.1s,baz=131,slow=1.6,SNR=4.2									
	comp=Z,21nm,1.1s									
DZM	**Mont Dzumac**	**88.80**	**238**		P		**P**	**15 15 43.0**	**+3.0**	
HUMR	**Humele**	**88.95**	**19**	⇑	P		P	15 15 46.8	+6.4	
BOVS	**Bovan**	**88.97**	**22**	⇑	P		**P**	**15 15 44.4**	**+3.9**	
ONTNC	**Ouen Toro**	**88.97**	**238**		IAMs_20	IAMs_20		15 51 37.1		
	comp=Z,3μm,19.0s									
ONTNC	**Ouen Toro**	**88.97**	**238**		P		**P**	**15 15 43.7**	**+3.1**	
CFR	**Carcaliu**	**89.04**	**17**	⇑	P		**P**	**15 15 40.9**	**+0.1**	
CFR	**Carcaliu**	**89.04**	**17**	⇑	P		**P**	**15 15 40.9**	**+0.1**	
TLCR		**89.17**	**16**	⇓	P		**P**	**15 15 41.4**	**0.0**	
TLCR		**89.17**	**16**	⇓	P		**P**	**15 15 41.4**	**0.0**	
CNSH	**ChangSha**	**89.37**	**310**		P		**P**	**15 15 43.9**	**+1.2**	
CNSH					S		**S**	**15 26 33.9**	**+1.6**	
CNSH					pmax	pmax				
	comp=Z,61nm,1.9s									
CNSH					LR	LR				
	comp=Z,2μm,23.7s									
CNSH					LR	LR				
	comp=Z,3μm,18.4s									
TPGR	**Topolog**	**89.40**	**17**	⇑	P		**P**	**15 15 43.0**	**+0.4**	
HARR	**Harsova**	**89.46**	**17**	⇓	P		**P**	**15 15 41.8**	**-1.0**	
HARR	**Harsova**	**89.46**	**17**	⇓	P		**P**	**15 15 41.8**	**-1.0**	
ARXS	**Arharly**	**89.56**	**342**	*e*	P		**P**	**15 15 43.7**	**+0.3**	
BTLS	**Baital**	**89.56**	**345**	*e*	P		**P**	**15 15 43.9**	**+0.5**	
BTLS	**Baital**	**89.56**	**345**	*e*	P		**P**	**15 15 43.8**	**+0.5**	
JURR	**Jurilovca**	**89.58**	**16**	⇓	P		P	15 15 49.3	+5.9	
ENH	**Enshi**	**89.62**	**313**		IAmb	IAmb		15 15 47.1		
	comp=Z,60nm,1.1s									
ENH					IAMs_20	IAMs_20		15 56 45.6		
	comp=Z,3μm,19.0s									
ENH	**Enshi**	**89.62**	**313**		P		**P**	**15 15 43.3**	**-0.6**	
TLBR	**Topalu**	**89.62**	**17**	⇓	P		**P**	**15 15 44.1**	**+0.5**	
TIRR	**Tirgusor**	**89.78**	**17**	⇑	P		**P**	**15 15 44.6**	**+0.3**	
TIRR	**Tirgusor**	**89.78**	**17**	⇑	P		**P**	**15 15 44.6**	**+0.3**	
SACV	**Santiago Islan**	**89.83**	**69**		IAMs_20	IAMs_20		15 52 19.7		
	comp=Z,4μm,20.0s									
ACER	**Acerenza**	**89.87**	**27**		IAmb	IAmb		15 15 57.4		
	comp=Z,78nm,1.5s									
MFTR	**Murfatlar**	**90.05**	**17**	⇓	P		P	15 15 36.5	-9.1	
SHLS	**Shalkode**	**90.17**	**340**	*e*	P		**P**	**15 15 46.2**	**-0.2**	
	comp=Z,39nm,1.2s									
SHLS	**Shalkode**	**90.17**	**340**	*e*	P		**P**	**15 15 46.1**	**-0.2**	
SHLS					pmax	pmax				
	comp=Z,39nm,1.2s									
RAZG	**Razgrad**	**90.22**	**18**	⇑	P		P	15 15 52.7	+6.3	
MATE	**Matera**	**90.24**	**26**	⇑	P		**P**	**15 15 48.5**	**+2.0**	
PP1B	**Ponte de Pedra**	**90.27**	**114**	*e*	P		**P**	**15 15 48.2**	**+1.3**	
UZB	**Uzynbulak**	**90.29**	**341**	*e*	P		**P**	**15 15 47.2**	**+0.3**	
UZB	**Uzynbulak**	**90.29**	**341**	*e*	P		**P**	**15 15 47.2**	**+0.3**	
SIM	**Simferopol'**	**90.36**	**13**	*e*	P		P	15 15 38.0	-9.0	
SIM				*e*	S		**SKSac**	**15 26 17.0**	**-0.8**	
SIM					pmax	pmax				
	comp=Z,20nm,1.3s									
SIM					MLR	MLR				
	comp=Z,3μm,16.9s									
LOZB	**Loznitsa**	**90.42**	**18**	⇓	P		**P**	**15 15 47.8**	**+0.5**	
ERBR	**Yeremizino-Bor**	**90.44**	**8**	*e*	P		**P**	**15 15 47.8**	**+0.4**	
ERBR				*e*	PP		**sP**	**15 15 51.1**	**-1.3**	
ERBR				*e*				15 26 18.2		
ERBR					pmax	pmax				
	comp=Z,43nm,1.1s									
ERBR					MLR	MLR				
	comp=E,3μm,15.0s									
ERBR					MLR	MLR				
	comp=Z,3μm,16.0s									
ERBR					MLR	MLR				
	comp=N,4μm,16.0s									
SKO	**Skopje**	**90.44**	**22**	*i*	P		**P**	**15 15 49.1**	**+1.6**	
SATY	**Saty**	**90.52**	**341**	*e*	P		**P**	**15 15 48.5**	**+0.5**	
	comp=N,33nm,1.4s									
SATY	**Saty**	**90.52**	**341**	*e*	P		**P**	**15 15 48.5**	**+0.5**	
SATY					pmax	pmax				
	comp=Z,33nm,1.4s									
CUC	**Castrocucco**	**90.55**	**27**		IAMs_20	IAMs_20		15 58 32.8		
	comp=Z,3μm,18.0s									
AAA	**Alma-Ata**	**90.72**	**342**	*e*	P		**P**	**15 15 49.4**	**+0.6**	
	comp=Z,24nm,0.9s									
AAA	**Alma-Ata**	**90.72**	**342**	*e*	P		**P**	**15 15 49.4**	**+0.6**	
AAA					pmax	pmax				
	comp=Z,24nm,0.9s									
MDOK	**Medeo**	**90.73**	**342**	*e*	P		**P**	**15 15 49.5**	**+0.4**	
MDOK					LR	LR		15 57 57.2		
MDOK	**Medeo**	**90.73**	**342**	*e*	P		**P**	**15 15 49.4**	**+0.4**	
TNSS	**Tian-Shan**	**90.88**	**342**	*e*	P		**P**	**15 15 50.1**	**+0.1**	
TNSS	**Tian-Shan**	**90.88**	**342**	*e*	P		**P**	**15 15 50.0**	**+0.1**	
SGDS	**Sogindy**	**90.97**	**344**	*e*	P		**P**	**15 15 50.7**	**+0.7**	
	comp=Z,28nm,1.6s									
ANN	**Anapa**	**90.98**	**10**	*e*	P		**P**	**15 15 50.0**	**+0.1**	
ANN				*e*	*PP		**sP**	**15 15 53.5**	**-1.4**	
ANN				*e*				15 26 21.4		
ANN				*e*	SS	SS		15 32 59.3	+11	
ANN					pmax	pmax				
	comp=Z,44nm,1.0s									
ANN					MLR	MLR				
	comp=Z,3μm,17.0s									
ARAG	**Araguaiana, MT**	**90.98**	**111**	*e*	P		**P**	**15 15 50.3**	**+0.1**	
OHR	**Ohrid**	**91.06**	**23**	*i*	P		**P**	**15 15 51.3**	**+0.9**	
PRZ	**Przheval'sk**	**91.07**	**341**		IAMs_20	IAMs_20		15 59 17.2		
	comp=Z,3μm,19.0s									
GOF	**Gofitskoye**	**91.32**	**6**	*ce*	P		**P**	**15 15 53.0**	**+1.5**	
VAY	**Valandovo**	**91.35**	**22**	*i*	P		**P**	**15 15 53.1**	**+1.5**	
FNA	**Florina**	**91.52**	**23**		IAMs_20	IAMs_20		16 00 44.6		
	comp=Z,4μm,18.0s									
GOMU	**GeErMu**	**91.54**	**327**		P		**P**	**15 15 53.6**	**+0.4**	
GOMU					pP	pwP		15 15 58.4	-2.4	
GOMU					sP	sP		15 16 01.3	+3.1	
GOMU					pmax	pmax				
	comp=Z,12nm,1.1s									
GOMU					LR	LR				
	comp=Z,2μm,17.2s									
GOMU					LR	LR				
	comp=Z,4μm,17.5s									
TIP	**Timpagrande**	**91.59**	**27**		IAMs_20	IAMs_20		15 57 42.4		
	comp=Z,5μm,22.0s									
TIP	**Timpagrande**	**91.59**	**27**	⇑	P		**P**	**15 15 51.8**	**-1.1**	
KDJ	**Kajisay**	**91.69**	**342**		IAMs_20	IAMs_20		15 59 02.0		
	comp=Z,3μm,20.0s									
AAK	**Ala-Archa**	**91.78**	**344**		P		**P**	**15 15 52.2**	**-1.7**	
AAK					IAmb	IAmb		15 16 06.3		
	comp=Z,69nm,1.6s									
AAK	**Ala-Archa**	**91.78**	**344**		LR	LR		16 00 13.8		
	comp=Z,4μm,19.3s,baz=26,slow=38									
AAK	**Ala-Archa**	**91.78**	**344**	*ce*	P		**P**	**15 15 54.8**	**+0.9**	
AAK					pmax	pmax				
	comp=Z,28nm,1.7s									
AAK					MLR	MLR				
	comp=Z,4μm,19.0s									
TARG	**Taragay, Kyrgy**	**91.92**	**341**		IAmb	IAmb		15 16 08.7		
	comp=Z,86nm,1.8s									
KEST	**Kesra**	**91.95**	**34**		P		**P**	**15 15 54.9**	**+0.2**	
	comp=Z,3.8nm,0.9s,baz=315,slow=0.8,SNR=7.7									
KEST					LR	LR		15 57 35.3		
	comp=Z,3μm,18.7s,baz=331,slow=36									
	comp=Z,3.8nm,0.9s									
CD2	**Chengdu**	**92.03**	**318**		P		**P**	**15 15 52.8**	**-2.3**	
CD2					S		**S**	**15 26 58.8**	**+2.0**	
CD2					SS		**SS**	**15 33 02.0**	**-2.3**	
CD2					pmax	pmax				
	comp=Z,10.0nm,0.6s									
CD2					LR	LR				
	comp=Z,3μm,16.3s									
CD2					LR	LR				
	comp=Z,2μm,20.0s									
KEK	**Kerkira**	**92.06**	**24**		IAMs_20	IAMs_20		15 59 47.6		
	comp=Z,3μm,19.0s									
KKAR	**Karatay Array**	**92.08**	**347**		P		**P**	**15 15 52.9**	**-2.1**	
KKAR	**Karatay Array**	**92.08**	**347**		P		**P**	**15 15 52.9**	**-2.1**	
CEL	**Celeste**	**92.14**	**28**		IAMs_20	IAMs_20		15 57 09.9		
	comp=Z,4μm,20.0s									
DZA	**Taraz**	**92.14**	**346**	*e*	P		**P**	**15 15 56.0**	**+0.6**	
DZA	**Taraz**	**92.14**	**346**	*e*	P		**P**	**15 15 56.0**	**+0.6**	
BRLS	**Borolday**	**92.26**	**347**	*e*	P		**P**	**15 15 57.8**	**+1.8**	
BRLS	**Borolday**	**92.26**	**347**	*e*	P		**P**	**15 15 57.7**	**+1.8**	
RDO	**Rodhopi**	**92.28**	**20**		IAmb	IAmb		15 16 08.3		
	comp=Z,62nm,1.5s									
RDO					IAMs_20	IAMs_20		15 57 43.5		
	comp=Z,3μm,21.0s									
VAE	**Valguarnera**	**92.33**	**29**		LR	LR		15 58 42.2		
	comp=Z,4μm,18.0s,baz=356,slow=36									
KIV	**Kislovodsk**	**92.39**	**7**		IAMs_20	IAMs_20		16 00 20.3		
	comp=Z,3μm,20.0s									
KIV	**Kislovodsk**	**92.39**	**7**	*e*	P		**P**	**15 15 58.0**	**+1.4**	
KIV				*e*				15 26 31.0		
KIV				*e*	SS	SS		15 33 13.4	+4.9	
KIV					pmax	pmax				
	comp=Z,23nm,1.1s									
KIV					pmax	pmax				
	comp=Z,11nm,4.3s									
KIV					MLR	MLR				
	comp=Z,2μm,20.0s									
KVAR	**Kislovodsk Arr**	**92.39**	**7**		LR	LR		16 00 37.4		
	comp=Z,2μm,18.7s,baz=262,slow=38									
SOC	**Sochi**	**92.46**	**9**	*e*	P		**P**	**15 15 56.1**	**-0.7**	
SOC				*e*				15 19 36.6		
SOC				*e*	PPP	PPP		15 21 35.6		
SOC				*e*	S		**SKSac**	**15 26 29.2**	**-0.6**	
SOC				*e*	SS		**SS**	**15 33 10.0**	**+0.7**	
SOC				*e*	SSS	SSS		15 36 45.3		
SOC					pmax	pmax				
	comp=Z,33nm,1.0s									
SOC					MLR	MLR				
	comp=Z,2μm,17.0s									
SHA1	**Shidzhatmaz**	**92.60**	**7**	*de*	P		**P**	**15 15 59.4**	**+1.7**	
NRN	**Naryn**	**92.62**	**342**		IAMs_20	IAMs_20		16 00 52.0		
	comp=Z,3μm,20.0s									
KBZ	**Khabaz**	**92.63**	**7**		P		**P**	**15 15 58.6**	**+1.0**	
	comp=Z,1.5nm,0.4s,baz=128,slow=1.0,SNR=7.1									
KBZ					LR	LR		15 59 13.6		
	comp=Z,3μm,19.5s,baz=352,slow=37									
	comp=Z,1.5nm,0.4s									
KBZ	**Khabaz**	**92.63**	**7**	*ce*	P		**P**	**15 15 58.5**	**+1.0**	
KBZ					pmax	pmax				
	comp=Z,16nm,1.1s									
KBZ					MLR	MLR				
	comp=Z,3μm,18.0s									
ALN	**Alexandroupoli**	**92.64**	**19**		IAMs_20	IAMs_20		16 00 11.3		
	comp=Z,3μm,19.0s									
JAY	**Jayapura**	**92.71**	**269**		P		**P**	**15 16 01.4**	**+2.9**	
	comp=Z,12nm,1.1s,baz=12,slow=9.2,SNR=6.5									
JAY					LR	LR		15 52 19.0		
	comp=Z,2μm,18.8s,baz=26,slow=32									
JAY	**Jayapura**	**92.71**	**269**		P		**P**	**15 16 03.2**	**+4.8**	
	comp=Z,22nm,1.3s									
PMG	**Port Moresby**	**92.76**	**260**		IAMs_20	IAMs_20		15 49 09.8		
	comp=Z,3μm,22.0s									
PMG	**Port Moresby**	**92.76**	**260**		LR	LR		15 49 43.9		
	comp=Z,2μm,21.6s,baz=100,slow=30									
CHM	**Chimkent**	**92.99**	**347**	*e*	P		**P**	**15 15 59.9**	**+0.6**	
CHM					LR	LR		15 59 35.9		
	comp=Z,1μm,18.9s									
CHM	**Chimkent**	**92.99**	**347**	*e*	P		**P**	**15 15 59.8**	**+0.6**	
IUG	**Iuzhnay**	**93.09**	**347**	*e*	P		**P**	**15 16 00.3**	**+0.5**	
	comp=Z,35nm,1.6s									
IUG	**Iuzhnay**	**93.09**	**347**	*e*	P		**P**	**15 16 00.3**	**+0.5**	
IUG					pmax	pmax				
	comp=Z,35nm,1.6s									
GENI	**Genyem**	**93.15**	**269**		P		**P**	**15 16 03.5**	**+3.1**	
GENI	**Genyem**	**93.15**	**269**		P		**P**	**15 16 03.2**	**+2.8**	
SDBA	**SAO DESIDERIO**	**93.48**	**104**	*e*	P		**P**	**15 16 02.4**	**+0.6**	
BDFB	**Brasilia**	**93.54**	**108**		P		**P**	**15 16 04.9**	**+2.7**	
	comp=Z,1.6nm,0.3s,baz=318,slow=10.0,SNR=3.9									
BDFB					LR	LR		16 02 20.7		
	comp=Z,4μm,18.4s,baz=309,slow=38									
	comp=Z,1.6nm,0.3s									
MAK	**Makhachkala**	**93.69**	**3**	*e*	P		P	15 15 57.3	-5.1	
MAK				*e*				15 19 44.1		
MAK				*e*				15 26 31.0		
MAK				*e*	SS	SS		15 33 24.1	-2.7	
MAK				*e*	SSS	SSS		15 37 08.2		
MAK					pmax	pmax				
	comp=Z,303nm,1.3s									
EZN	**Ezine**	**93.72**	**20**	⇑	P		**P**	**15 16 02.4**	**-0.2**	
EZN	**Ezine**	**93.72**	**20**	⇑	P		**P**	**15 16 02.4**	**-0.2**	
WDD	**Wied Dalam**	**93.83**	**30**		IAMs_20	IAMs_20		16 00 36.9		
	comp=Z,2μm,20.0s									
KSH	**Kashi**	**94.45**	**342**		P		**P**	**15 16 10.8**	**+4.6**	
KSH					pP		pwP	15 16 15.6	+1.8	
KSH					PP		**PP**	**15 20 00.0**	**+7.4**	
KSH					SKS		**SKSac**	**15 26 41.5**	**+0.3**	
KSH					S		**ScS**	**15 27

	comp=Z,2μm,19.0s								
VAO	Valinhos	99.33	113		IAMs_20	IAMs_20	16 05 40.7		
	comp=Z,2μm,22.0s								
SPB	Sao Paulo	99.42	113		IAMs_20	IAMs_20	16 05 31.3		
	comp=Z,2μm,21.0s								
TNCH	TengChong	99.47	318	*e*P		Pdif	15 16 29.9	+0.7	
TNCH				PP		PP	15 20 31.6	-0.2	
TNCH				S		S	15 27 52.4	-9.3	
TNCH				pmax		pmax			
	comp=Z,18nm,2.1s								
TNCH				pmax		pmax			
	comp=Z,170nm,5.3s								
TNCH				LR		LR			
	comp=Z,2μm,20.8s								
TNCH				LR		LR			
	comp=Z,1μm,22.1s								
TNCH				LR		LR			
	comp=Z,3μm,20.2s								
SLVN	Son La	99.76	312		IAMs_20	IAMs_20	16 09 10.2		
	comp=Z,2μm,20.0s								
CSS	Mathiatis	99.93	16		IAMs_20	IAMs_20	16 06 44.9		
	comp=Z,3μm,19.0s								
EIDS	Eidsvold	100.96	246		IAMs_20	IAMs_20	15 57 52.7		
	comp=Z,2μm,20.0s								
TAM	Tamanrasset	101.30	43		IAMs_20	IAMs_20	16 02 35.4		
	comp=Z,2μm,20.0s								
SAUI	Saumlaki	103.26	272		IAMs_20	IAMs_20	16 02 34.1		
	comp=Z,3μm,20.0s								
CHTO	Chiang Mai	104.46	314		IAMs_20	IAMs_20	16 11 05.2		
	comp=Z,2μm,21.0s								
DLV	Lat	104.58	303		IAMs_20	IAMs_20	16 04 07.7		
	comp=Z,1μm,19.0s								
CMAR	Chiang Mai Arr	104.76	314		Pdiff	Pdif	15 16 51.6	-0.9	
	comp=Z,0.8nm,0.3s,baz=21,slow=4.8,SNR=4.9								
CMAR					PKiKP	PKiKP	15 21 07.8	-0.2	
	comp=Z,0.5nm,0.7s,baz=332,slow=2.2,SNR=4.1								
MTN	Manton Dam	106.64	268		IAMs_20	IAMs_20	15 57 24.1		
	comp=Z,2μm,21.0s								
TORD	Torodi Ar. Bea	107.19	52		IAMs_20	IAMs_20	16 01 48.4		
	comp=Z,3μm,21.0s								
TORD	Torodi Ar. Bea	107.19	52		PKiKP	PKiKP	15 21 13.5	+1.0	
	comp=Z,1.9nm,1.1s,baz=316,slow=2.6,SNR=3.9								
TORD					PKKPbc	PKKPbc	15 32 28.2	+1.1	
	comp=Z,0.7nm,0.7s,baz=241,slow=3.3,SNR=3.6								
MG02	Cerro Sombrero	108.49	147		IAMs_20	IAMs_20	16 01 14.6		
	comp=Z,1μm,19.0s								
BKB	Balikpapan	108.89	287		IAMs_20	IAMs_20	15 59 20.1		
	comp=Z,2μm,22.0s								
CAN	Canberra	108.92	239		IAMs_20	IAMs_20	16 01 56.6		
	comp=Z,2μm,20.0s								
WRA	Warramunga Arr	108.97	260		Pdiff	Pdif	15 17 12.9	+1.7	
	comp=Z,0.3nm,1.1s,baz=51,slow=4.9,SNR=2.2								
WRA					PKiKP	PKiKP	15 21 16.5	+0.8	
	comp=Z,1.8nm,0.9s,baz=35,slow=1.7,SNR=7.6								
WRA					PKKPbc	PKKPbc	15 32 19.7	-2.0	
	comp=Z,0.8nm,0.9s,baz=184,slow=6.7,SNR=5.8								
SOEI	Soe	109.55	275		IAMs_20	IAMs_20	16 02 54.7		
	comp=Z,2μm,21.0s								
KNRA	Kununurra	110.22	267		IAMs_20	IAMs_20	15 58 52.2		
	comp=Z,2μm,22.0s								
MMRI	Maumere	110.25	277		IAMs_20	IAMs_20	15 58 21.2		
	comp=Z,2μm,20.0s								
UOSS	Minazif	111.65	356		IAMs_20	IAMs_20	16 12 36.6		
	comp=Z,2μm,22.0s								
ASAR	Alice Springs	111.66	258		Pdiff	Pdif	15 17 28.6	+5.6	
	comp=Z,0.4nm,0.8s,baz=44,slow=6.2,SNR=4.4								
ASAR					PKiKP	PKiKP	15 21 22.0	+1.3	
	comp=Z,3.4nm,1.1s,baz=94,slow=1.9,SNR=7.9								
ASAR					PKKPbc	PKKPbc	15 32 13.4	+0.4	
	comp=Z,0.5nm,0.6s,baz=226,slow=2.8,SNR=8.7								
ASAR					PKKPab	PKKPab	15 32 21.9	-0.4	
	comp=Z,2.2nm,0.7s,baz=225,slow=2.6,SNR=18								
ASAR					PKKP	PKKPdf	15 32 31.5	-0.6	
	comp=Z,1.4nm,0.8s,baz=224,slow=5.1,SNR=4.9								
RAYN	Ar Rayn	112.90	7		IAMs_20	IAMs_20	16 16 36.3		
	comp=Z,1μm,19.0s								
KULM	Kulim	114.54	305		IAMs_20	IAMs_20	16 05 05.6		
	comp=Z,2μm,22.0s								
IPM	Ipoh	114.96	304		IAMs_20	IAMs_20	16 21 07.8		
	comp=Z,1μm,18.0s								
EDA	Edea	119.61	50		IAMs_20	IAMs_20	16 13 46.1		
	comp=Z,2μm,20.0s								
PSA00	Pilbara Seismi	120.47	268			PKPdf	15 21 35.4	-2.2	
PALK	Pallekele	123.07	325		IAMs_20	IAMs_20	16 20 42.0		
	comp=Z,2μm,22.0s								
MEEK	Meekatharra	124.43	265		P	PKPdf	15 21 45.2	+0.1	
MEEK					P	PKiKP	15 21 46.4	+1.0	
MEEK	Meekatharra	124.43	265		P	PKiKP	15 21 46.8	+1.4	
FURI	Furi	126.31	17		IAMs_20	IAMs_20	16 23 12.0		
	comp=Z,1μm,20.0s								
SBA	Scott Base	127.43	194			PKPdf	15 21 48.7	-0.6	
SBA	Scott Base	127.43	194		IAMs_20	IAMs_20	16 06 02.3		
	comp=Z,2μm,19.0s								
SBA	Scott Base	127.43	194		PKIKP	PKPdf	15 21 48.7	-0.6	
KLBR	Kellerberrin	127.85	260		P	PKPdf	15 21 51.3	-0.2	
KLBR					P	PKiKP	15 21 53.6	+1.6	
KLBR	Kellerberrin	127.85	260		P	PKiKP	15 21 53.7	+1.6	
BLDU	Ballidu	128.07	262		P	PKiKP	15 21 56.2	+3.7	
BLDU	Ballidu	128.07	262		P	PKiKP	15 21 59.0	+6.5	
VNDA	Vanda	128.15	195		PKPdf	PKPdf	15 21 50.1	-0.5	
VNDA	Vanda	128.15	195		PKP	PKiKP	15 21 51.2	0.0	
	comp=Z,3.7nm,0.9s,baz=356,slow=2.4,SNR=16								
NWAO	Narrogin (SRO)	128.94	259		P	PKiKP	15 21 57.0	+2.8	
LODK	Lodwar	130.79	22		IAMs_20	IAMs_20	16 23 59.8		
	comp=Z,1μm,20.0s								
BELA	Belgrano 2	132.92	163			PKPdf	15 21 57.9	-1.8	
MBAR	Mbarara	133.11	30		IAMs_20	IAMs_20	16 22 30.5		
	comp=Z,2μm,21.0s								
QSPA	South Pole Qui	133.44	180			PKPdf	15 21 59.9	-1.2	
QSPA	South Pole Qui	133.44	180		PKP	PKiKP	15 22 02.9	+0.7	
	comp=Z,12nm,1.1s,baz=62,slow=0.5,SNR=15								
KMBO	Kilima Mbogo	135.66	21		PKP	PKiKP	15 22 08.6	-0.1	
	comp=Z,3.3nm,0.6s,baz=17,slow=2.2,SNR=12								
KIBK	Kibwezi	137.03	21		IAMs_20	IAMs_20	16 26 00.4		
	comp=Z,2μm,22.0s								
VNA3	Neumayer Olymp	139.63	154	⇑	PKPdf	PKPdf	15 22 08.1	-4.2	
	comp=Z,10nm,0.7s								
VNA1	Neumayer--Stat	140.19	153	⇓	PKPdf	PKPdf	15 22 13.3	0.0	
	comp=Z,15nm,1.0s								
VNA2	Neumayer--Watz	140.42	154	⇑	PKPdf	PKPdf	15 22 09.1	-4.6	
	comp=Z,15nm,0.7s,baz=313,slow=4.3								
MSEY	Mahe Island	141.08	355		IAMs_20	IAMs_20	16 36 03.4		
	comp=Z,1μm,20.0s								
CASY	Casey	141.49	214			PKPdf	15 22 13.4	-2.4	
CASY	Casey	141.49	214		IAMs_20	IAMs_20	16 19 43.8		
	comp=Z,1μm,20.0s								
SNAA	Sanae	141.66	155	⇑	PKPdf	PKPdf	15 22 09.7	-6.4	
	comp=Z,159nm,0.8s								
SNAA	Sanae	141.66	155			PKPdf	15 22 12.5	-3.6	
SNAA					IAMs_20	IAMs_20	16 15 08.5		
	comp=Z,2μm,20.0s								
SNAA	Sanae	141.66	155		PKHKP	PKPpre	15 22 09.5		
	comp=Z,4.7nm,1.0s,baz=233,slow=3.9,SNR=14								
SNAA	Sanae	141.66	155		PKIKP	PKPdf	15 22 12.5	-3.6	
TSUM	Tsumeb	142.22	61			PKPdf	15 22 14.6	-4.2	
TSUM	Tsumeb	142.22	61		IAMs_20	IAMs_20	16 20 36.5		
	comp=Z,2μm,21.0s								
TSUM	Tsumeb	142.22	61		PKHKP	PKPpre	15 22 16.4		
	comp=Z,4.0nm,0.5s,baz=335,slow=4.1,SNR=11								
TROLL	Troll, Antarti	143.13	157	⇑	PKPdf	PKPbc	15 22 15.2	-0.5	
	comp=Z,381nm,0.7s								
XAUDM	Khaudum	144.04	56	*i*	P	PKPdf	15 22 21.4	-0.5	
XAUDM	Khaudum	144.04	56		IAMs_20	IAMs_20	16 23 21.2		
	comp=Z,2μm,21.0s								
QNGWA	Qangwa	144.69	57	*i*	P	PKPbc	15 22 22.1	+0.2	
QNGWA	Qangwa	144.69	57		IAMs_20	IAMs_20	16 23 26.8		
	comp=Z,1μm,22.0s								
LSZ	Lusaka	145.16	43		PKPbc	PKPdf	15 22 24.4	+0.4	
	comp=Z,24nm,0.8s,baz=16,slow=2.2,SNR=34								
KSANE	Kasane	145.66	50	*i*	P	PKPab	15 22 26.4	+1.0	
GRTLG	Ghanzi	146.10	59	*i*	P	PKPab	15 22 27.8	+0.8	
GRTLG	Ghanzi	146.10	59		IAMs_20	IAMs_20	16 27 59.1		
	comp=Z,2μm,20.0s								
CKGRV	CKGRV	147.69	56	*i*	P	PKPbc	15 22 29.6	-1.2	
KGCAE	Kacgae	147.81	60	*i*	P	PKPdf	15 22 27.3	-0.9	
BROLN	Tlhalogang	149.52	50	*i*	P	PKPdf	15 22 30.9	-0.2	
MATP	Matopo	149.62	48		PKPbc	PKPbc	15 22 34.1	-1.8	
	comp=Z,24nm,1.1s,baz=340,slow=0.7,SNR=18								
KDWAN	Kaudwane	149.72	57			PKPdf	15 22 32.2	+0.9	
KDWAN					IAMs_20	IAMs_20	16 24 04.6		
	comp=Z,2μm,22.0s								
SKOMA	Sekoma	150.10	60	*i*	P	PKPdf	15 22 31.6	-0.3	
LPHEP	Lephephe	150.43	55	*i*	P	PKPdf	15 22 33.3	+0.8	
LPHEP	Lephephe	150.43	55			PKPdf	15 22 33.0	+0.6	
LPHEP					IAMs_20	IAMs_20	16 35 24.3		
	comp=Z,2μm,20.0s								
MREMI	Moremi	150.75	52	*i*	P	PKPdf	15 22 35.0	+2.1	
MREMI	Moremi	150.75	52			PKPdf	15 22 34.4	+1.5	
LBTB	Lobatse	151.50	58		PKP	PKPdf	15 22 35.1	+1.0	
	comp=Z,16nm,1.0s,baz=333,slow=3.4,SNR=11								
LBTB					PKPbc	pPKPbc	15 22 42.1	-1.9	
	comp=Z,24nm,1.0s,baz=312,slow=3.1,SNR=13								
SYO	Syowa Base	153.75	170	⇑	*e*PKPdf	PKPdf	15 22 36.0	+0.2	
SYO	Syowa Base	153.75	170	⇑	*i*PKPbc	PKPbc	15 22 42.2	-1.5	
BOSA	Boshof	153.81	64		PKP	PKPdf	15 22 39.0	+1.6	
	comp=Z,5.7nm,0.8s,baz=75,slow=1.6,SNR=5.8								
BOSA					PKPbc	PKiKP	15 22 46.1	+0.8	
	comp=Z,16nm,1.1s,baz=339,slow=3.7,SNR=7.9								
BOSA					PKPab	pPKPab	15 23 00.1	-1.9	
	comp=Z,17nm,0.9s,baz=197,slow=0.8,SNR=4.4								
OPO	Ambohidratompo	154.67	11		PKP	PKPdf	15 22 38.8	-0.1	
	comp=Z,3.0nm,0.8s,baz=276,slow=6.2,SNR=3.3								
OPO					PKPbc	PKPbc	15 22 47.0	-0.4	
	comp=Z,8.5nm,1.1s,baz=5.6,slow=3.5,SNR=4.4								
ABPO	Ambohimpanom	155.12	11			PKPdf	15 22 41.5	+2.0	
ABPO	Ambohimpanom	155.12	11		IAMs_20	IAMs_20	16 34 21.1		
	comp=Z,2μm,21.0s								
ABPO	Ambohimpanom	155.12	11		PKIKP	PKPdf	15 22 41.5	+2.0	
ABPO					MLR	MLR			
	comp=Z,2μm,21.0s								
MAW	Mawson	155.29	190		P	PKPdf	15 22 37.9	-0.1	
MAW					P	pPKPdf	15 22 39.1	-2.6	
MAW	Mawson	155.29	190		PKP	PKPdf	15 22 38.1	+0.1	
	comp=Z,10nm,1.1s,baz=135,slow=2.9,SNR=9.0								
MAW					PKPab	PKPab	15 23 03.9	+0.6	
	comp=Z,13nm,0.9s,baz=245,slow=3.9,SNR=7.6								

SNET ***05*** *15:10:27.9±1.6, 13°.92N×91°.63W, h35km, ML4.1*
CATAC ***05*** *15:10:27.4±0.6, 14°.N±°×9°.2W±°, h25km±4km, M3.9/13, MLv3.9/13, Error ellipse: s-maj=7.3km s-min=3.3km az=35.5, confirmed*
GCG ***05*** *15:10:28.5±0.7, 14°.00N×91°.60W, h57km±17km, MD3.8, ML3.9*

ISC 05 15:10:30.4±1.8, 14°.1N±0°.1×91°.50W±0°.07, h42km±32km, n31, σ1$90/60, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.51**	**339**	*e*P		**Pn**	**15 10 40.7**	**-0.7**
RTAL				*e*S		**Sn**	**15 10 48.8**	**-0.2**
RTAL	**Retalhuleu**	**0.51**	**339**	P		**Pn**	**15 10 40.9**	**-0.5**
RTAL				S		**Sn**	**15 10 51.2**	**+2.1**
ESSG	**Sabana Grande**	**0.73**	**63**	*i* P		**Pn**	**15 10 44.4**	**-0.1**
ESSG				*i* S		**Sn**	**15 10 56.8**	**+2.2**
ESSG				IAML			15 10 58.7	
	comp=N,1μm,1.1s							
SOKI	**Kika Raxquin**	**0.77**	**7**	*i* P		**Pn**	**15 10 45.4**	**+0.2**
SOKI				*i* S		**Sn**	**15 10 58.2**	**+2.2**
SOKI				IAML			15 11 03.2	
	comp=E,3μm,1.0s							
FG8	**Yepocapa, Chim**	**0.94**	**77**	*i* P		**Pn**	**15 10 44.1**	**-3.2**
FG8				*i* S		**Sn**	**15 10 54.8**	**-4.8**
SMCA	**Catarina**	**0.97**	**325**	*i* P		**Pn**	**15 10 45.9**	**-1.8**
SMCA				*i* S		**Sn**	**15 11 00.3**	**0.0**
SMCA				IAML			15 11 01.4	
	comp=E,1μm,1.1s							
FG16	**Alotenango, Sa**	**0.99**	**77**	*i* P		**Pn**	**15 10 45.1**	**-2.9**
FG16				*i* S		**Sn**	**15 10 58.2**	**-2.7**
FG16				IAML			15 11 04.0	
	comp=N,18μm,0.4s							
LOAL	**Lomas de Alarc**	**1.67**	**92**	P		**Pn**	**15 10 58.0**	**+0.7**
LOAL	**Lomas de Alarc**	**1.67**	**92**	S		**Sn**	**15 11 20.2**	**+2.6**
NUBE	**Las Nubes**	**1.68**	**95**	*e*P		**Pn**	**15 10 56.7**	**-0.7**
NUBE				*e*S		**Sn**	**15 11 17.3**	**-0.6**
NUBE	**Las Nubes**	**1.68**	**95**	P		**Pn**	**15 10 56.8**	**-0.7**
NUBE	**Las Nubes**	**1.68**	**95**	S		**Sn**	**15 11 18.6**	**+0.7**
RTR	**El Retiro**	**1.81**	**95**	*e*P		**Pn**	**15 10 59.7**	**+0.4**
CEVE	**Cerro Verde**	**1.84**	**97**	*e*P		**Pn**	**15 10 59.6**	**-0.1**
CEVE				*e*S		**Sn**	**15 11 23.8**	**+1.8**
CEVE	**Cerro Verde**	**1.84**	**97**	P		**Pn**	**15 10 59.3**	**-0.4**
SBLS	**San Blas**	**1.84**	**96**	*e*P		**Pn**	**15 10 59.7**	**0.0**
SNJE	**San Jose**	**1.85**	**95**	*e*P		**Pn**	**15 10 59.6**	**-0.2**
UNIC	**Universidad Ca**	**1.90**	**92**	P		**Pn**	**15 11 00.5**	**+0.1**
UNIC	**Universidad Ca**	**1.90**	**92**	S		**Sn**	**15 11 25.6**	**+2.4**
JAYA	**Jayaque - finc**	**2.04**	**101**	*e*P		**Pn**	**15 11 01.9**	**-0.5**
JAYA				*e*S		**Sn**	**15 11 26.1**	**-0.6**
JAYA	**Jayaque - finc**	**2.04**	**101**	P		**Pn**	**15 11 01.4**	**-1.0**
JAYA	**Jayaque - finc**	**2.04**	**101**	S		**Sn**	**15 11 27.8**	**+1.2**
MTO3	**Montecristo**	**2.11**	**80**	P		**Pn**	**15 11 03.6**	**+0.2**
PMON	**Piamonte**	**2.15**	**99**	*e*P		**Pn**	**15 11 04.0**	**+0.1**
PMON				*e*S		**Sn**	**15 11 29.9**	**+0.4**
PMON	**Piamonte**	**2.15**	**99**	P		**Pn**	**15 11 03.8**	**-0.2**
PMON	**Piamonte**	**2.15**	**99**	S		**Sn**	**15 11 31.3**	**+1.8**
BOQS	**Boqueron**	**2.18**	**98**	*e*P		**Pn**	**15 11 04.3**	**-0.1**
UEES	**Universidad Ev**	**2.23**	**98**	S		**Sn**	**15 11 33.1**	**+1.9**
LFRS	**El Faro**	**2.41**	**100**	*e*P		**Pn**	**15 11 07.5**	**0.0**
PAVA	**Las Pavas**	**2.52**	**97**	P		**Pn**	**15 11 09.1**	**+0.2**
PAVA	**Las Pavas**	**2.52**	**97**	S		**Sn**	**15 11 39.5**	**+1.1**

CNRM ***05*** *15:10:47.9, 36°.41N×9°.66W, h23km, ML2.0*
INMG ***05*** *15:10:49.6±1.5, 36°.58N×9°.78W, h15km±6km, ML2.0, Error ellipse: s-maj=6.7km s-min=5.3km az=45.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Cabo S.Vicente*
MDD ***05*** *15:10:49.3±1.5, 36°.59N×9°.81W, h19km±17km, mb_Lg2.5/4, Error ellipse: s-maj=21.1km s-min=9.7km az=32.0*
IGIL ***05*** *15:10:49.6, 36°.60N×9°.80W, h14km, ML1.8*

ISC 05 15:10:46.4±1.9, 36°.49N±0°.06×9°.87W±0°.08, h31km±13km, n34, σ1$30/54, 4C-1D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.05**	**52**	⇑ *i*P		**Pb**	**15 11 06.7**	**+0.6**
PFVI				*e*S		**Sb**	**15 11 19.4**	**-0.2**
PFVI				*i* IAML			15 11 19.7	
PFVI				*i* IAML			15 11 19.9	
PFVI				*i* IAML			15 11 20.0	
PFVI	**Vila Bisbo**	**1.05**	**52**	P		**Pb**	**15 11 06.7**	**+0.6**
PFVI	**Vila Bisbo**	**1.05**	**52**	S		**Sn**	**15 11 18.9**	**+0.2**
MORF	**Marmelete**	**1.27**	**50**	*e*P		**Pb**	**15 11 09.7**	**0.0**
MORF				*e*S		**Sn**	**15 11 24.2**	**+0.2**
MORF				IAML			15 11 26.5	
	comp=N,27nm,0.2s							
MORF	**Marmelete**	**1.27**	**50**	⇑ *i*P		**Pb**	**15 11 09.8**	**0.0**
MORF				*e*S		**Sb**	**15 11 24.7**	**-1.0**
MORF				*i* IAML			15 11 25.4	
MORF				*i* IAML			15 11 25.8	
MORF				*i* IAML			15 11 26.4	
PTEO	**Sao Teotonio**	**1.40**	**41**	*e*P		**Pb**	**15 11 11.3**	**-0.6**
PTEO				*e*S		**Sn**	**15 11 27.5**	**+0.4**
PTEO				*i* IAML			15 11 28.5	
PTEO				*i* IAML			15 11 31.0	
PTEO				*i* IAML			15 11 36.0	
PBDV	**Barranco-do-Ve**	**1.73**	**64**	⇑ *e*P		**Pb**	**15 11 16.3**	**-1.2**
PBDV				*e*S		**Sn**	**15 11 35.8**	**+0.5**
PBDV				*i* IAML			15 11 39.0	
PBDV				*i* IAML			15 11 41.3	
PBDV				*i* IAML			15 11 43.0	
PCVE	**Castro Verde**	**1.85**	**52**	*e*P		**Pb**	**15 11 18.1**	**-1.5**
PCVE				*e*S		**Sn**	**15 11 39.3**	**+0.8**
PCVE				*i* IAML			15 11 40.6	
PCVE				*i* IAML			15 11 40.6	
PCVE				*i* IAML			15 11 40.7	
MESJ	**Messejana**	**1.88**	**44**	*e*P		**Pb**	**15 11 18.1**	**-2.0**
MESJ				*e*S		**Sn**	**15 11 38.8**	**-0.4**
MESJ				IAML			15 11 41.4	
	comp=N,4.7nm,0.2s							
MESJ	**Messejana**	**1.88**	**44**	⇓ *i*P		**Pb**	**15 11 18.1**	**-2.0**
MESJ				*e*S		**Sn**	**15 11 39.5**	**+0.3**
MESJ				*i* IAML			15 11 41.3	
MESJ				*i* IAML			15 11 43.0	
MESJ				*i* IAML			15 11 43.7	
PVAQ	**Vaqueiros**	**1.95**	**62**	⇑ *e*P		**Pb**	**15 11 19.3**	**-2.0**
PVAQ				*e*S		**Sn**	**15 11 41.2**	**+0.4**
PVAQ				*i* IAML			15 11 44.3	
PVAQ				*i* IAML			15 11 45.7	
PVAQ				*i* IAML			15 11 45.9	
PVAQ	**Vaqueiros**	**1.95**	**62**	P		**Pb**	**15 11 19.1**	**-2.1**
PVAQ	**Vaqueiros**	**1.95**	**62**	S		**Sn**	**15 11 40.6**	**-0.2**
EGRO	**El Granado**	**2.17**	**61**	P		**Pn**	**15 11 21.7**	**+1.3**
EGRO				S		**Sn**	**15 11 47.6**	**+1.2**
EGRO				*i* IVmb_Lg			15 11 48.4	
PBEJ	**Beja**	**2.21**	**46**	*e*S		**Sn**	**15 11 47.2**	**-0.1**
PBEJ				*i* IAML			15 11 48.5	
PBEJ				*i* IAML			15 11 49.3	
PBEJ				*i* IAML			15 11 49.6	
PARRA	**Arraiolos**	**2.41**	**16**	*e*P		**Pb**	**15 11 29.4**	**+0.3**
PARRA				*e*S		**Sb**	**15 11 59.9**	**+1.5**
PARRA				*i* IAML			15 12 00.7	
PARRA				*i* IAML			15 12 01.2	
PARRA				*i* IAML			15 12 02.0	
PMAFR	**Mafra**	**2.50**	**11**	*e*P		**Pn**	**15 11 26.6**	**+1.6**
PMAFR				*e*S		**Sn**	**15 11 54.6**	**+0.1**
PMAFR				*i* IAML			15 11 56.3	
PMAFR				*i* IAML			15 11 56.7	
PMAFR				*i* IAML			15 11 57.9	
EVO	**Evora**	**2.52**	**35**	*e*P		**Pn**	**15 11 26.4**	**+1.2**
EVO				*e*S		**Sn**	**15 11 54.2**	**-0.6**
EVO				*i* IAML			15 11 54.7	
EVO				*i* IAML			15 11 56.0	
EVO				*i* IAML			15 11 56.1	
PBAR	**Barrancos**	**2.81**	**52**	*e*P		**Pn**	**15 11 30.5**	**+1.2**
PBAR				*e*S		**Sn**	**15 12 01.6**	**-0.5**
PBAR				*i* IAML			15 12 04.3	
PBAR				*i* IAML			15 12 04.5	
PBAR				*i* IAML			15 12 08.2	
EMIN	**Mina Concepcio**	**2.85**	**63**	S		**Sn**	**15 12 03.6**	**+0.5**
EMIN				*i* IVmb_Lg			15 12 08.5	
PMTG	**Montargil**	**2.88**	**26**	*e*P		**Pn**	**15 11 31.6**	**+1.3**
PMTG				*e*S		**Sn**	**15 12 03.0**	**-0.9**
PMTG				*i* IAML			15 12 04.3	
PMTG				*i* IAML			15 12 04.6	
PMTG				*i* IAML			15 12 05.5	
PESTR	**Estremoz**	**2.98**	**37**	*e*S		**Sn**	**15 12 06.3**	**0.0**
PESTR				*i* IAML			15 12 06.5	
PESTR				*i* IAML			15 12 07.4	
PESTR				*i* IAML			15 12 09.3	
EBAD	**Badajoz**	**3.20**	**44**	P		**Pn**	**15 11 35.5**	**+0.9**
EBAD				S		**Sn**	**15 12 10.7**	**-1.0**
EBAD				*i* IVmb_Lg			15 12 12.2	
PSARD	**Sardoal**	**3.38**	**23**	*e*P		**Pn**	**15 11 38.5**	**+1.4**
PSARD				*e*S		**Sn**	**15 12 14.9**	**-1.3**
PSARD				*i* IAML			15 12 17.5	
PSARD				*i* IAML			15 12 17.7	
PSARD				*i* IAML			15 12 17.8	
PMRV	**Marv??o**	**3.53**	**33**	*e*P		**Pn**	**15 11 40.3**	**+1.2**
PMRV				*e*S		**Sn**	**15 12 18.2**	**-1.5**
PMRV				*i* IAML			15 12 19.5	
PMRV				*i* IAML			15 12 19.7	
PMRV				*i* IAML			15 12 21.9	
PCAS	**Casmilo, Conde**	**3.72**	**16**	*e*S		**Sn**	**15 12 24.0**	**-0.4**
PCAS				*i* IAML			15 12 25.8	
PCAS				*i* IAML			15 12 25.9	
PCAS				*i* IAML			15 12 26.1	
ECAB	**El Cabril**	**3.89**	**65**	P		**Pn**	**15 11 46.2**	**+2.2**
ECAB				S		**Sn**	**15 12 26.4**	**-2.2**
ECAB				*i* IVmb_Lg			15 12 31.2	
MTE	**Manteigas**	**4.31**	**24**	*e*S		**Sn**	**15 12 38.9**	**-0.2**
POLO	**Lamas de Olo**	**5.14**	**18**	*e*S		**Sn**	**15 12 56.9**	**-2.6**
POLO				*i* IAML			15 12 58.9	
POLO				*i* IAML			15 12 59.2	
POLO				*i* IAML			15 12 59.4	
MVO	**Moncorvo**	**5.17**	**25**	*e*P		**Pn**	**15 12 02.8**	**+1.2**
MVO				*e*S		**Sn**	**15 12 57.9**	**-2.3**
MVO				*i* IAML			15 12 59.9	
MVO				*i* IAML			15 13 01.4	
MVO				*i* IAML			15 13 01.9	
PCAB	**Cabril**	**5.41**	**15**	*e*S		**Sn**	**15 13 03.1**	**-2.9**
PCAB				*i* IAML			15 13 06.2	
PCAB				*i* IAML			15 13 07.6	
OUK	**Oukaimeden**	**5.53**	**162**	P		**Pn**	**

baz=308,slow=75,SNR=32
H11S1 WAKE ISLAND Hy 27.35 116 T T 15 51 19.2
baz=308,slow=75,SNR=36
H11S2 WAKE ISLAND Hy 27.36 116 T T 15 51 23.6
baz=308,slow=75,SNR=22
SONM Songino Array 29.75 310 P **P** **15 22 06.5 -1.2**
comp=E,0.6nm,0.5s,baz=108,slow=9.3,SNR=3.0
comp=E,0.6nm,0.5s
CMAR Chiang Mai Arr 40.20 259 P **P** **15 23 37.5 -0.3**
comp=E,0.3nm,0.4s,baz=66,slow=6.7,SNR=2.0
comp=E,0.3nm,0.4s
ZALV Zalesovo Beam 44.28 315 P **P** **15 24 10.6 +0.2**
comp=E,0.8nm,0.5s,baz=86,slow=7.2,SNR=3.6
ZALV PcP **PcP** **15 25 54.0 -0.1**
comp=E,0.4nm,0.4s,baz=98,slow=4.4,SNR=2.5
comp=E,0.8nm,0.5s
MKAR Makanchi Array 45.89 305 P **P** **15 24 23.3 -0.2**
comp=E,0.6nm,0.5s,baz=88,slow=8.8,SNR=3.0
comp=E,0.6nm,0.5s
KURBB Kurchatov Arra 48.11 311 P **P** **15 24 40.8 +0.2**
comp=E,1.1nm,0.5s,baz=89,slow=7.7,SNR=19
KURBB PcP **PcP** **15 26 06.7 -1.0**
comp=E,0.2nm,0.3s,baz=35,slow=2.3,SNR=0.9
comp=E,1.1nm,0.5s
BVAR Borovoye Array 52.91 314 P **P** **15 25 16.1 -0.7**
comp=E,0.3nm,0.3s,baz=105,slow=11,SNR=5.3
comp=E,0.3nm,0.3s
FITZ Fitzroy Crossi 53.00 198 P **P** **15 25 18.0 +0.3**
comp=E,2.1nm,0.7s,baz=22,slow=8.6,SNR=8.7
comp=E,2.1nm,0.7s
ILAR Eielson Array 53.03 31 P **P** **15 25 17.6 0.0**
comp=E,0.4nm,0.7s,baz=261,slow=6.1,SNR=7.6
comp=E,0.4nm,0.7s
WRA Warramunga Arr 53.16 188 P **P** **15 25 18.1 -0.9**
comp=E,12nm,0.5s,baz=3.0,slow=7.6,SNR=327
ASAR Alice Springs 56.89 188 P **P** **15 25 45.3 -0.6**
comp=E,2.6nm,0.4s,baz=3.4,slow=6.6,SNR=154
ASAR PcP **PcP** **15 26 40.1 -0.9**
comp=E,0.5nm,0.5s,baz=355,slow=3.4,SNR=1.5
comp=E,2.6nm,0.4s
STKA Stephens Creek 64.69 179 P **P** **15 26 38.4 -0.3**
comp=E,1.4nm,0.6s,baz=25,slow=9.7,SNR=3.2
comp=E,1.4nm,0.6s
YKA Yellowknife Ar 67.39 29 P **P** **15 26 56.6 +0.8**
comp=E,0.7nm,0.8s,baz=288,slow=5.6,SNR=4.1
comp=E,0.7nm,0.8s
ARCES ARCESS Array B 67.47 340 P **P** **15 26 57.1 +0.9**
comp=E,1.8nm,1.0s,baz=329,slow=16,SNR=1.5
comp=E,1.8nm,1.0s
NWAO Narrogin (SRO) 69.40 201 P **P** **15 27 08.2 -0.5**
comp=E,5.5nm,0.6s,baz=38,slow=5.7,SNR=6.3
comp=E,5.5nm,0.6s
FINES FINESS Array B 72.04 333 P **P** **15 27 24.3 -0.1**
comp=E,2.3nm,0.9s,baz=82,slow=6.7,SNR=3.7
comp=E,2.3nm,0.9s
AKASG Malin Array Be 77.09 323 P **P** **15 27 53.1 -0.9**
comp=E,0.3nm,0.3s,baz=48,slow=6.4,SNR=5.0
comp=E,0.3nm,0.3s
NVAR Mina Array Bea 77.69 52 P **P** **15 27 58.8 +1.0**
comp=E,0.4nm,0.6s,baz=293,slow=4.0,SNR=2.6
comp=E,0.4nm,0.6s
PDAR Pinedale Array 80.72 45 P **P** **15 28 14.9 +0.6**
comp=E,0.2nm,0.6s,baz=345,slow=4.8,SNR=1.8
comp=E,0.2nm,0.6s
BRTR Keskin Array B 81.09 312 P **P** **15 28 16.4 +0.2**
comp=E,0.2nm,0.5s,baz=106,slow=5.1,SNR=1.6
comp=E,0.2nm,0.5s
MMAI Mount Meron Ar 83.84 305 P **P** **15 28 31.3 +0.7**
comp=E,0.5nm,0.4s,baz=41,slow=7.7,SNR=1.5
comp=E,0.5nm,0.4s
GERES GERESS Array B 85.76 328 P **P** **15 28 40.6 +0.6**
comp=E,0.2nm,0.3s,baz=60,slow=2.4,SNR=1.6
comp=E,0.2nm,0.3s
TXAR Lajitas Array 92.85 52 P **P** **15 29 15.1 +1.2**
comp=E,1.1nm,0.7s,baz=296,slow=3.1,SNR=8.5
comp=E,1.1nm,0.7s

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*HVO **05** 15:20:09.4±1.1, 19°.58N±0°.02×156°.03W±0°.05, h41km±4km, Error ellipse: s-maj=6.9km s-min=2.9km az=83.0*
NEIC 05 15:20:06.9±1.4, **19°.58N**±0°.02×**156°.08W**±0°.05, **h53**km±3km, **ML2.9**/41, **ML2.8**/26(HVO), **Error ellipse: s-maj=7.4km s-min=1.9km az=80.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPH	**Captain Cook**	**0.17**	**122**		Pn	15 20 15.8	+0.4
HUH	**Hualalai**	**0.25**	**66**		Pn	15 20 16.4	+0.2
HUH				IAML		15 20 30.6	
	comp=N,678nm,2.7s						
HUH	**Hualalai**	**0.25**	**66**		Sn	15 20 22.2	-0.6
ALEP	**Alea Permanent**	**0.41**	**96**		Pn	15 20 18.2	+0.5
ALEP					Sn	15 20 24.6	-0.8
MWH	**Mokuaweoweo**	**0.46**	**102**		Pn	15 20 18.3	-0.1
MWH				IAML		15 20 35.8	
	comp=N,443nm,1.6s						
MWH				IAML		15 20 42.1	
	comp=E,495nm,2.8s						
MWH	**Mokuaweoweo**	**0.46**	**102**		Sn	15 20 25.2	-1.4
POHA	**Pohakuloa**	**0.54**	**71**		Pn	15 20 19.2	+0.2
POHA				IAML		15 20 27.3	
	comp=E,387nm,0.5s						
POHA	**Pohakuloa**	**0.54**	**71**		Sn	15 20 26.2	-1.5
KHU	**Kahuku**	**0.55**	**127**		Pn	15 20 19.3	+0.2
KHU					Sn	15 20 26.7	-1.2
HMH	**Humu'ula Sheep**	**0.56**	**88**		Pn	15 20 19.8	+0.5
HMH					Sn	15 20 27.6	-0.7
HMH	**Humu'ula Sheep**	**0.56**	**88**	IAML		15 20 28.2	
	comp=E,956nm,1.1s						
HMH				IAML		15 20 30.4	
	comp=N,1μm,1.7s						
HPAH	**Hawaii Prepara**	**0.57**	**39**		Pn	15 20 19.4	+0.1
HPAH	**Hawaii Prepara**	**0.57**	**39**		Sn	15 20 26.6	-1.5
AIN	**Ainahou**	**0.62**	**110**		Pn	15 20 20.1	+0.2
AIN	**Ainahou**	**0.62**	**110**		Sn	15 20 28.1	-1.3
MHA	**Mahukona**	**0.62**	**15**	Pn	Pn	15 20 20.6	+0.8
MHA	**Mahukona**	**0.62**	**15**		Sn	15 20 28.9	-0.3
MLH	**Mauna Loa**	**0.66**	**98**		Pn	15 20 20.7	+0.2
MLH	**Mauna Loa**	**0.66**	**98**		Sn	15 20 29.4	-0.8
HPO	**Honuapo**	**0.69**	**135**		Pn	15 20 20.4	-0.3
HPO					Sn	15 20 29.4	-1.2
HTC	**Hot Caves**	**0.73**	**118**		Pn	15 20 21.3	+0.2
WRMHI	**West Rim**	**0.75**	**103**		Pn	15 20 21.5	0.0
WRMHI					Sn	15 20 30.8	-1.4
UWE	**Uwekahuna**	**0.76**	**102**		Pn	15 20 21.6	0.0
UWE				IAML		15 20 34.9	
	comp=E,458nm,1.6s						
UWE	**Uwekahuna**	**0.76**	**102**		Sn	15 20 31.4	-0.9
RSD	**Rainshed**	**0.76**	**99**		Sn	15 20 31.6	-0.9
SDHHI	**Sand Hill**	**0.76**	**104**		Pn	15 20 21.6	0.0
SDHHI					Sn	15 20 30.8	-1.6
OBL	**Observatory Le**	**0.76**	**102**		Pn	15 20 21.7	+0.1
OBL					Sn	15 20 31.5	-1.0
UWB	**Uwekahuna Bluf**	**0.77**	**102**		Pn	15 20 21.8	+0.1
UWB					Sn	15 20 30.9	-1.6
SBLHI	**Steaming Bluff**	**0.78**	**101**		Pn	15 20 21.7	-0.2
SBLHI					Sn	15 20 31.2	-1.6
HLP	**Hilina Pali**	**0.78**	**111**	Pn	Pn	15 20 21.9	+0.1
HLP				IAML		15 20 49.0	
	comp=E,534nm,3.5s						
HLP	**Hilina Pali**	**0.78**	**111**		Sn	15 20 31.3	-1.4
RIM	**Rim**	**0.78**	**104**		Sn	15 20 31.5	-1.3
HATHI	**Halema'uma'u T**	**0.78**	**102**	Pn	Pn	15 20 21.7	-0.3
HATHI				IAML		15 20 32.5	
	comp=N,492nm,3.1s						
HATHI	**Halema'uma'u T**	**0.78**	**102**		Sn	15 20 31.0	-1.9
KKO	**Keanakako'i**	**0.79**	**103**		Pn	15 20 21.9	0.0
KKO					Sn	15 20 31.8	-1.2
BYL	**Byron's Ledge**	**0.79**	**102**	Pn	Pn	15 20 21.8	-0.2
BYL				IAML		15 20 44.7	
	comp=N,334nm,3.0s						
BYL				IAML		15 20 52.6	
	comp=E,292nm,3.7s						
BYL	**Byron's Ledge**	**0.79**	**102**		Sn	15 20 31.4	-1.6
PUH	**Pauahi**	**0.84**	**104**	Pn	Pn	15 20 22.3	-0.3
PUH				IAML		15 20 37.2	
	comp=N,260nm,4.0s						
PUH	**Pauahi**	**0.84**	**104**		Sn	15 20 32.5	-1.6
KNHH	**Kane Nui o Ham**	**0.88**	**103**	Pn	Pn	15 20 23.1	-0.1
STCH	**Steam Cracks**	**0.92**	**102**		Sn	15 20 34.2	-1.8
STCH	**Steam Cracks**	**0.92**	**102**		Pn	15 20 23.5	-0.2
STCH				IAML		15 20 34.7	
	comp=N,264nm,1.9s						
STCH				IAML		15 20 36.3	
	comp=E,303nm,1.7s						
NPOC	**North of Pu'u**	**0.93**	**102**		Pn	15 20 23.7	-0.1
NPOC					Sn	15 20 34.5	-1.8
JCUZ	**Jacuzzi**	**0.94**	**102**		Pn	15 20 23.9	-0.1
JCUZ					Sn	15 20 34.5	-2.0
JOKA	**Jonika Flow**	**1.02**	**98**		Sn	15 20 36.5	-1.9
JOKA	**Jonika Flow**	**1.02**	**98**		Pn	15 20 24.7	-0.3
JOKA				IAML		15 20 36.9	
	comp=E,228nm,3.6s						
HLK	**Haleakala**	**1.18**	**352**	Pn	Pn	15 20 28.0	+0.7
HLK				IAML		15 21 04.6	
	comp=N,214nm,4.2s						
HLK	**Haleakala**	**1.18**	**352**		Sn	15 20 42.1	-0.4
KHLH	**Kahului Airpor**	**1.35**	**346**	Pn	Pn	15 20 29.8	+0.4
KHLH				IAML		15 21 00.9	
	comp=N,139nm,3.2s						
KHLH				IAML		15 21 17.6	
	comp=E,208nm,4.9s						
KPA	**Kalaupapa**	**1.81**	**332**	Pn	Pn	15 20 35.6	0.0

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*NEIC **05** 15:27:25.8±1.6, 43°.78N±0°.07×127°.6W±0°.1, h10km±2km, mb4.1/70, ML3.5/88, Error ellipse: s-maj=17.1km s-min=11.6km az=249.0*
*IDC **05** 15:27:26.6±0.9, 44°.03N×127°.25W, h0km, mb3.8/11, mbtmp3.7/19, ML3.6/8, Error ellipse: s-maj=19.1km s-min=9.5km az=46.0*
ISC 05 15:27:26.8±0.7, **43°.90N**±0°.06×**127°.48W**±0°.07, **h10**km, **n158**, σ**1s30**/150, **mb4.1**/33, **Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.51**	**113**	Pn	**Pn**	**15 28 06.9**	**-0.9**
KEBM				IAML		15 28 44.8	
	comp=N,149nm,0.7s						
KEBM				IAML		15 28 49.3	
	comp=E,150nm,2.9s						
I02E	**Swisshome, OR**	**2.63**	**84**	Pn	**Pn**	**15 28 09.6**	**+0.3**
J01E	**Myrtle Point**	**2.69**	**105**		**Pn**	**15 28 10.2**	**+0.2**
KBO	**Bosley Butte**	**2.92**	**124**	Pn	**Pn**	**15 28 12.2**	**-1.2**
KBO				IAML		15 29 52.3	
	comp=N,168nm,2.0s						
KBO				IAML		15 29 54.5	
	comp=E,167nm,1.9s						
I03D	**Drain, OR**	**3.00**	**92**		**Pn**	**15 28 14.7**	**+0.4**
I03D				IAML		15 29 04.2	
	comp=E,110nm,4.8s						
K02D	**Willamette Mer**	**3.04**	**112**		**Pn**	**15 28 13.9**	**-1.0**
COR	**Corvallis**	**3.08**	**76**	Pn	**Pn**	**15 28 16.5**	**+1.1**
COR				IAML		15 29 05.2	
	comp=E,81nm,4.6s						
COR				IAML		15 29 11.1	
	comp=E,94nm,3.9s						
BUCK	**Buck Mountain**	**3.26**	**83**		**Pn**	**15 28 19.0**	**+1.0**
BUCK				IAML		15 29 09.9	
	comp=N,77nm,2.4s						
BUCK				IAML		15 29 44.7	
	comp=E,85nm,4.7s						
G03D	**McMinnville, O**	**3.29**	**65**		**Pn**	**15 28 20.5**	**+2.2**
G03D				IAML		15 29 06.5	
	comp=E,132nm,1.8s						
KSXB	**Camp Six Broad**	**3.36**	**127**	Pn	**Pn**	**15 28 18.6**	**-0.8**
L02F	**Cave Junction**	**3.37**	**120**	Pn	**Pn**	**15 28 19.0**	**-0.5**
F03A	**Seaside**	**3.45**	**53**		**Pn**	**15 28 21.0**	**+0.5**
H04D	**Lebanon**	**3.47**	**78**		**Pn**	**15 28 20.4**	**-0.4**
H04D				IAML		15 29 20.1	
	comp=N,76nm,3.0s						
H04D				IAML		15 29 35.0	
	comp=E,68nm,4.6s						
KRMB	**Red Mountain**	**3.55**	**131**	Pn	**Pn**	**15 28 20.5**	**-1.5**
KRMB				IAML		15 28 57.9	
	comp=N,68nm,4.4s						
KRMB				IAML		15 30 36.5	
	comp=E,60nm,4.1s						
RADR	**Rader Ridge**	**3.63**	**45**	Pn	**Pn**	**15 28 22.5**	**-0.5**
RADR				IAML		15 29 23.4	
	comp=E,99nm,4.6s						
RADR				IAML		15 29 56.7	
	comp=N,102nm,5.0s						
BBOR	**Butler Butte**	**3.64**	**104**		**Pn**	**15 28 24.1**	**+0.7**
BBOR				IAML		15 29 20.3	
	comp=N,53nm,4.5s						
KRPM	**Rodgers**	**3.75**	**136**	Pn	**Pn**	**15 28 27.6**	**+2.9**
G04A	**Mulino**	**3.81**	**68**		**Pn**	**15 28 27.9**	**+2.5**
E03A	**Lebam**	**3.83**	**45**		**Pn**	**15 28 27.2**	**+1.5**
E03A				IAML		15 29 59.9	
	comp=E,64nm,3.7s						
E03A				IAML		15 30 31.3	
	comp=N,63nm,5.0s						
F04D	**Rainier, OR**	**3.85**	**54**		**Pn**	**15 28 27.7**	**+1.7**
H04A	**Detroit Lake**	**3.88**	**76**		**Pn**	**15 28 28.5**	**+2.0**
H04A				IAML		15 28 55.7	
	comp=E,49nm,0.6s						
H04A				IAML		15 29 01.0	
	comp=N,51nm,1.5s						
J04A	**Umpqua Nationa**	**3.96**	**98**		**Pn**	**15 28 29.1**	**+1.4**
YBH	**Yreka Blue Hor**	**4.12**	**120**		**Pn**	**15 28 30.4**	**+0.4**
YBH	**Yreka Blue Hor**	**4.12**	**120**	Pn	**Pn**	**15 28 31.3**	**+1.4**
	baz=323,slow=10,SNR=6.6						
YBH					Sn	**15 29 19.6**	**+1.4**
	baz=166,slow=15,SNR=2.0						
NLWA	**Neilton Lookou**	**4.32**	**35**		**Pn**	**15 28 34.1**	**+1.6**
NLWA				IAML		15 29 31.9	
	comp=N,43nm,4.6s						
K04D	**Chiloquin, OR**	**4.37**	**105**	Pn	**Pn**	**15 28 33.2**	**-0.2**
HOOD	**Mount Hood Mea**	**4.40**	**69**		**Pn**	**15 28 35.8**	**+2.1**
I05D	**Terrebonne, OR**	**4.45**	**82**		**Pn**	**15 28 35.2**	**+1.0**
I05D				IAML		15 29 45.4	
	comp=N,60nm,4.6s						
I05D				IAML		15 30 35.5	
	comp=E,52nm,4.8s						
J05D	**Fort Rock, OR**	**4.58**	**96**		**Pn**	**15 28 36.6**	**+0.4**
J05D				IAML		15 29 56.6	
	comp=E,55nm,4.9s						
J05D				IAML		15 30 35.4	
	comp=N,37nm,4.8s						
G05A	**Wamic**	**4.61**	**71**		**Pn**	**15 28 37.8**	**+1.3**
PINE	**Pine Mountain**	**4.73**	**89**		**Pn**	**15 28 38.5**	**+0.2**
PINE				IAML		15 29 27.7	
	comp=E,33nm,4.5s						
PINE				IAML		15 30 38.5	
	comp=N,42nm,5.0s						
GNW	**Green Mountain**	**4.91**	**40**		**Pn**	**15 28 41.5**	**+0.9**
GNW				IAML		15 29 46.5	
	comp=E,29nm,4.9s						
GNW				IAML		15 29 47.5	
	comp=N,29nm,3.2s						
LON	**Longmire**	**4.91**	**53**	IAML		15 29 53.0	
	comp=N,24nm,2.9s						
LON				IAML		15 29 58.2	
	comp=E,21nm,3.4s						
K05A	**Summer Lake**	**4.95**	**101**		**Pn**	**15 28 40.4**	**-0.9**
K05A				IAML		15 31 03.2	
	comp=E,38nm,4.6s						
K05A				IAML		15 31 22.7	
	comp=N,29nm,4.9s						
G06A	**Carlson Farm,**	**5.07**	**72**	IAML		15 29 26.3	
	comp=E,16nm,3.7s						
G06A				IAML		15 29 27.3	
	comp=N,27nm,5.0s						
O02D	**Mt. Diablo Mer**	**5.10**	**135**	Pn	**Pn**	**15 28 41.6**	**-1.8**
O02D				IAML		15 31 31.2	
	comp=N,18nm,4.9s						
KCPM	**Cahto Peak**	**5.12**	**144**	Pn	**Pn**	**15 28 42.7**	**-0.9**
KCPM				IAML		15 30 39.0	
	comp=N,30nm,4.4s						
OZB	**Mount Ozzard**	**5.25**	**14**	Pn	**Pn**	**15 28 44.3**	**-1.0**
PGC	**Sidney**	**5.51**	**29**	Pn	**Pn**	**15 28 50.1**	**+1.3**
MXC	**Moxie City**	**5.74**	**60**		**Pn**	**15 28 52.1**	**0.0**
LTY	**Liberty**	**5.84**	**53**		**Pn**	**15 28 53.1**	**-0.4**
ORV	**Oroville**	**6.23**	**132**		**Pn**	**15 29 01.4**	**+2.6**
CBB	**Campbell River**	**6.31**	**13**		**Pn**	**15 29 02.4**	**+2.6**
AFDM	**Forest Hills D**	**6.96**	**133**		**Pn**	**15 29 10.9**	**+2.1**
B08A	**Colville Reser**	**7.21**	**49**		**Pn**	**15 29 13.2**	**+1.0**
BMO	**Blue Mountains**	**7.36**	**79**		**Pn**	**15 29 14.6**	**+0.3**
WELL	**Weller Preserv**	**7.46**	**135**		**Pn**	**15 29 14.1**	**-1.6**
BBB	**Bella Bella**	**8.30**	**357**	Pn	**Pn**	**15 29 26.6**	**-0.5**
	comp=N,0.4nm,0.3s,baz=219,slow=11,SNR=5.4						
BBB					Sn	**15 30 58.4**	**-2.5**
	baz=156,slow=19,SNR=1.3						
	comp=N,7.3nm,1.1s						
BUCR	**Buckhorn Ranch**	**8.34**	**136**		**Pn**	**15 29 28.6**	**+0.8**
NEW	**Newport**	**8.42**	**55**		**Pn**	**15 29 30.4**	**+1.6**
NEW	**Newport**	**8.42**	**55**	Pn	**Pn**	**15 29 28.5**	**-0.3**
	comp=N,0.5nm,0.3s,baz=260,slow=12,SNR=3.3						
NEW					Sn	**15 30 59.0**	**-4.9**
	comp=N,0.2nm,0.3s,baz=237,slow=21,SNR=1.4						
	comp=N,1.3nm,0.4s						
NVAR	**Mina Array Bea 8.82 125**			Pn	**Pn**	**15 29 35.2**	**+0.8**
	comp=N,0.1nm,0.3s,baz=294,slow=13,SNR=4.9						
NVAR					Sn	**15 31 13.4**	**-0.5**
	comp=N,0.1nm,0.3s,baz=290,slow=6.6,SNR=1.0						
	comp=N,0.4nm,0.7s						
ELK	**Elko 9.60 105**			Pn	**Pn**	**15 29 47.6**	**+2.4**
	comp=N,0.1nm,0.3s,baz=282,slow=14,SNR=4.3						
	comp=N,0.5nm,0.5s						
PDAR	**Pinedale Array 13.10 89**			Pn	**Pn**	**15 30 35.5**	**+2.5**
	baz=287,slow=15,SNR=5.6						
	comp=N,0.1nm,0.5s						
S34M	**Telegraph Cree 14.22 352**			P	**P**	**15 30 51.8**	**-3.6**
DLBC	**Dease Lake 14.64 355**			Pn	**Pn**	**15 30 54.6**	**+0.7**
	comp=N,0.4nm,0.3s,baz=168,slow=15,SNR=11						
	comp=N,3.3nm,0.3s						
O20A	**White River Ci 14.79 98**			P	**P**	**15 30 59.9**	**-2.2**
ESJX	**Sierra Juarez 14.94 139**				**Pn**	**15 30 57.4**	**-0.7**
PV15	**Paradox Valley 15.35 105**			Pn	**Pn**	**15 31 03.0**	**-0.6**
Q32M	**Nakina River 15.37 351**			P	**Pn**	**15 31 03.1**	**-0.6**
Q32M				IAmb	IAmb	15 31 26.5	
	comp=Z,8.5nm,1.2s						
BESE	**Bessie Mountai 15.39 345**				**Pn**	**15 31 03.5**	**-0.4**
BESE				IAmb	IAmb	15 31 16.6	
	comp=Z,11nm,1.2s						
R33M	**Jennings River 15.67 353**				**Pn**	**15 31 08.1**	**+0.6**
P32M	**Atlin 16.17 349**			P	**Pn**	**15 31 14.4**	**+0.5**
SKAG	**Skagway 16.31 346**			P	**Pn**	**15 31 15.7**	**+0.1**
P33M	**Teslin, Yukon 16.66 351**				**Pn**	**15 31 19.0**	**-1.1**
ISCO	**Idaho Springs 16.79 97**			P	**Pn**	**15 31 21.6**	**-0.7**
ISCO				IAmb	IAmb	15 31 35.4	
	comp=Z,11nm,1.0s						
N32M	**Quiet Lake 17.60 351**			P	**P**	**15 31 32.5**	**-0.5**
N32M				IAmb	IAmb	15 31 37.0	
	comp=Z,12nm,1.1s						
O30N	**Mendenhall 17.67 346**			P	**P**	**15 31 33.7**	**-0.1**
N31M	**Braeburn, Yuko 18.29 347**				**Pn**	**15 31 39.8**	**-0.7**
N31M				IAmb	IAmb	15 31 48.4	
	comp=Z,12nm,1.2s						
ANMO	**Albuquerque 18.50 112**			P	**Pn**	**15 31 43.8**	**+0.5**
ANMO	**Albuquerque 18.50 112**			P	**Pn**	**15 31 43.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=62,slow=14,SNR=1.9						
	comp=Z,1.4nm,0.7s						
YAH	**Yahtse 18.60 337**			P	**Pn**	**15 31 43.7**	**-0.6**
YAH				IAmb	IAmb	15 32 12.1	
	comp=Z,5.0nm,0.4s						
SBM	**South Baldy 18.60 115**			P	**P**	**15 31 44.2**	**-0.3**
LENM	**Lemitar 18.62 115**			P	**P**	**15 31 43.5**	**-1.0**
M31M	**Drury Creek, Y 18.78 350**			P	**Pn**	**15 31 46.4**	**0.0**
BNM	**Barren Site 18.86 114**			P	**P**	**15 31 46.7**	**-0.5**
MMPY	**Sheldon Lake, 18.89 355**				**Pn**	**15 31 48.5**	**+0.8**
GRNC	**Granite Creek 18.91 338**			P	**Pn**	**15 31 48.1**	**0.0**
GRNC				IAmb	IAmb	15 32 01.6	
	comp=Z,12nm,1.4s						
BARN	**Barnard Glacie 19.16 339**			P	**Pn**	**15 31 50.4**	**-0.7**
CRQM	**Cirque 19.32 336**			P	**P**	**15 31 48.1**	**-3.9**
WRGLY	**Wrigley 19.51 5**				**P**	**15 31 53.8**	**0.0**
M29M	**Somme Creek 19.66 345**			P	**P**	**15 31 55.0**	**-0.7**
FFC	**Flin Flon 19.73 48**				**P**	**15 31 56.1**	**-0.2**
FFC				IAmb	IAmb	15 32 04.2	
	comp=Z,8.7nm,1.0s						
YKA	**Yellowknife Ar 20.09 18**			P	**P**	**15 32 01.0**	**+0.8**
YKA	**Yellowknife Ar 20.09 18**			P	**P**	**15 32 00.5**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=209,slow=11,SNR=13						
	comp=Z,2.0nm,0.6s						
YKAW3	**Yellowknife Wh 20.15 17**			P	**P**	**15 32 01.6**	**+0.8**
YKAW3				IAmb	IAmb	15 32 18.7	
	comp=Z,11nm,1.1s						
FID	**Port Fidalgo 20.35 333**			P	**P**	**15 32 01.9**	**-1.1**
FID				IAmb	IAmb	15 32 06.8	
	comp=Z,15nm,1.4s						
N25K	**Chitina, Valde 20.42 336**			P	Pn	15 32 04.4	-1.6
K29M	**Barlow Dome 20.79 347**				**P**	**15 32 05.8**	**-2.2**
K29M				IAmb	IAmb	15 32 15.2	
	comp=Z,8.5nm,1.2s						
BCAR	**Beaver Creek A 20.91 342**			P	**P**	**15 32 07.0**	**-2.1**
KDAK	**Kodiak Island 20.91 320**			P	Pn	15 32 11.2	-0.5
	comp=Z,3.1nm,0.9s,baz=173,slow=8.1,SNR=1.6						
	comp=Z,3.1nm,0.9s						
L27K	**Beaver Creek, 20.91 342**				**P**	**15 32 07.4**	**-1.8**
SEW	**Seward 20.96 328**			P	**P**	**15 32 08.7**	**-0.9**
SEW				IAmb	IAmb	15 32 27.4	
	comp=Z,8.5nm,1.1s						
MENT	**Mentasta 21.27 339**			P	**P**	**15 32 13.3**	**+0.4**
J30M	**Hart River 21.31 349**				**P**	**15 32 12.1**	**-1.4**
J30M				IAmb	IAmb	15 32 22.1	
	comp=Z,15nm,1.4s						
DAWY	**Dawson 21.31 346**			P	**P**	**15 32 12.8**	**-0.7**
DAWY				IAmb	IAmb	15 32 25.1	
	comp=Z,8.3nm,1.1s						
KNK	**Knik Glacier 21.50 332**			P	**P**	**15 32 13.8**	**-1.6**
KNK				IAmb	IAmb	15 32 23.6	
	comp=Z,6.9nm,1.0s						
K27K	**Chicken 21.81 343**			P	**P**	**15 32 18.6**	**-0.2**
I30M	**Mount Dempster 21.94 350**				**P**	**15 32 20.6**	**+0.4**
I30M				IAmb	IAmb	15 32 30.1	
	comp=Z,10nm,1.4s						
SCRK	**Sand Creek 22.20 341**				**P**	**15 32 22.7**	**-0.5**
SCRK				IAmb	IAmb	15 32 30.7	
	comp=Z,6.9nm,1.4s						
RIDG	**Independent Ri 22.22 339**			P	**P**	**15 32 21.7**	**-1.5**
RIDG				IAmb	IAmb	15 32 30.2	
	comp=Z,12nm,1.3s						
H31M	**Peel River 22.28 353**				**P**	**15 32 24.7**	**+0.9**
ULM	**Lac du Bonnet 22.33 62**			P	**P**	**15 32 23.9**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=270,slow=12,SNR=5.4						
	comp=Z,2.4nm,0.8s						
I29M	**Ogilvie Camp, 22.34 348**			P	**P**	**15 32 24.0**	**-0.5**
I29M				IAmb	IAmb	15 32 31.6	
	comp=Z,6.1nm,1.1s						
DHY	**Denali Highway 22.38 336**				**P**	**15 32 24.8**	**-0.2**
DHY				IAmb	IAmb	15 32 39.3	
	comp=Z,10nm,1.1s						
J26L	**Joseph Creek 22.55 342**				**P**	**15 32 25.7**	**-1.1**
J26L				IAmb	IAmb	15 32 34.6	
	comp=Z,6.8nm,1.3s						
SPU	**Mount Spurr 22.64 328**			IAmb	IAmb	15 32 34.9	
	comp=Z,9.

comp=Z,5.5nm,1.1s
E27K Coleen River 25.46 348 P P 15 32 54.3 -0.2
E28M Babbage River 25.55 350 P P 15 32 55.1 -0.3
E28M IAmb IAmb 15 32 58.8
comp=Z,3.1nm,0.9s
J19K Poorman 25.68 331 P P 15 32 56.7 +0.1
J18K Innoko River 25.75 330 P P 15 32 57.0 -0.3
I20K Naaghedeneel 25.81 333 P P 15 32 56.9 -0.9
L16K Owhat River 25.90 325 P P 15 32 57.9 -0.6
IMAR Indian Mountai 26.39 336 P P 15 33 02.2 -0.8
G21K Allakaket 26.70 337 P P 15 33 05.0 -0.8
NEEM North Greenlan 44.65 18 *i* P P 15 35 40.9 +1.5
GBN Guysborough 45.75 64 P P 15 35 48.1 0.0
SUMG Summit 48.51 24 P P 15 36 09.4 -0.3
SUMG Summit 48.51 24 *i* P P 15 36 11.0 +1.3
ISOG Isortoq, Green 50.50 33 *i* P P 15 36 26.7 +2.2
ISOG IAmb IAmb 15 36 28.1
comp=Z,26nm,0.8s
H11N3 WAKE ISLAND Hy 59.14 268 T T 16 40 59.2
baz=49,slow=75,SNR=190
H11N2 WAKE ISLAND Hy 59.14 268 T T 16 40 53.8
baz=49,slow=75,SNR=86
H11N1 WAKE ISLAND Hy 59.15 268 T T 16 40 54.8
baz=49,slow=75,SNR=118
H11S1 WAKE ISLAND Hy 60.06 267 T T 16 42 04.2
baz=50,slow=75,SNR=41
H11S2 WAKE ISLAND Hy 60.07 267 T T 16 42 04.0
baz=50,slow=75,SNR=36
H11S3 WAKE ISLAND Hy 60.08 267 T T 16 42 03.1
baz=50,slow=75,SNR=26
BAUV El Baul 61.98 105 P P 15 37 42.0 -5.2
NOA NORSAR Array B 70.17 20 P P 15 38 39.6 +0.4
comp=Z,0.8nm,0.8s,baz=332,slow=5.7,SNR=3.7
comp=Z,0.8nm,0.8s
FINES FINESS Array B 72.85 13 P P 15 38 55.8 +0.6
comp=Z,4.8nm,1.1s,baz=339,slow=10,SNR=3.7
comp=Z,4.8nm,1.1s
SONM Songino Array 77.09 326 P P 15 39 20.1 -0.1
comp=Z,0.3nm,0.5s,baz=141,slow=7.3,SNR=1.9
comp=Z,0.3nm,0.5s
HHC Hu-ho-hao-te 80.32 319 *e*P P 15 39 38.4 +0.3
HHC pmax pmax
comp=Z,18nm,0.7s
LPAZ La Paz 80.72 123 P P 15 39 42.9 +1.9
comp=Z,1.7nm,0.9s,baz=327,slow=6.0,SNR=5.4
comp=Z,1.7nm,0.9s
GERES GERESS Array B 81.57 25 P P 15 39 45.2 +0.6
comp=Z,0.3nm,0.4s,baz=325,slow=8.5,SNR=3.9
comp=Z,0.3nm,0.4s
BVAR Borovoye Array 82.24 349 P P 15 39 48.8 +0.9
comp=Z,1.2nm,0.8s,baz=0.0,slow=5.8,SNR=2.6
comp=Z,1.2nm,0.8s
KURBB Kurchatov Arra 83.17 344 P P 15 39 52.6 -0.2
comp=Z,0.8nm,0.7s,baz=21,slow=4.7,SNR=6.5
comp=Z,0.8nm,0.7s

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*NEIC **05** 15:37:27.4±2.8, 44.°53S±0.°07×80.°7W±0.°1, h10km±1km, mb4.7/25, Mww4.9/9, Mwr5.1(GUC), Error ellipse: s-maj=19.9km s-min=6.6km az=300.0*
*NEIC **05** 15:37:27.8, 43.°99S×79.°78W, h13km*
*NEIC **05** 15:37:27.8, 44.°39S×80.°34W, h14km, Moment Tensor Solution. Duration: 1ŧ7 Moment tensor: Scale 10^16^Nm; Mrr-0.45; Mθθ1.43; Mφφ-0.98; Mrθ-0.57; Mθφ-2.89; Mφr-0.39; Fault plane solution: M0.23000×10^16^ NP1: φs347.95000°, δ77.41000°, λ-7.21000°. NP2:φs79.53000°, δ82.97000°, λ-167.32000°. Principal axes: T 3.3747, Plg4.0000°, Azm213.0000°; N -0.3122, Plg76.0000°, Azm108.0000°; P -3.0625, Plg14.0000°, Azm304.0000°;*
*GUC **05** 15:37:34.5±1.7, 44.°23S×80.°09W, h10km, MW4.9*
*GCMT **05** 15:37:36.4±0.3, 44.°71S±0.°02×80.°40W±0.°03, h24km±1km, MW5.1/89, Moment Tensor Solution. s22,c24; s89,c110; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.20±.31; Mθθ0.89±.24; Mφφ0.31±.25; Mrθ0.27±.48; Mθφ-5.31±.19; Mφr0.41±.49; Best double couple: M05.35100×10^16^ NP1:φs269.00000°, δ84.00000°, λ-175.00000°. NP2: φs178.00000°, δ85.00000°, λ-6.00000°. Principal axes: T 5.9200, Plg1.0000°, Azm223.0000°; N -1.1370, Plg82.0000°, Azm319.0000°; P -4.7810, Plg8.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 05 15:37:30.3±0.6, 44.°43S±0.°07×80.°65W±0.°09, h35km, n79, σ1ŧ45/82, mb4.7/12, 1C-5D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**5.22**	**78**	Pn	**Pn**	**15 38 46.6**	**+0.7**
GO07	**Milladeo Hill,**	**5.22**	**78**	*e*P	**Pn**	**15 38 46.6**	**+0.7**
CUEV	**Cuervo**	**5.42**	**100**	*e*P	**Pn**	**15 38 50.6**	**+1.9**
HUEM	**Huemules**	**5.52**	**108**	*e*P	**Pn**	**15 38 52.4**	**+2.3**
MGDN	**Magdalena**	**5.53**	**95**	*e*P	**Pn**	**15 38 52.2**	**+2.2**
LL06	**Loncomilla**	**5.58**	**69**	*e*P	**Pn**	**15 38 51.4**	**+0.7**
LL06				*e*S	**Sn**	**15 39 51.9**	**-1.7**
HUDS	**Hudson**	**5.69**	**108**	*i* P	**Pn**	**15 38 53.0**	**+2.6**
LL05	**Los Muermos**	**6.07**	**63**	P	**Pn**	**15 38 58.2**	**+0.7**
LL05	**Los Muermos**	**6.07**	**63**	*e*P	**Pn**	**15 38 58.2**	**+0.7**
LL05				*e*S	**Sn**	**15 40 03.9**	**-1.8**
VNTQ	**Ventisquero**	**6.14**	**78**	*e*P	**Pn**	**15 38 58.0**	**-0.5**
COYC	**Coyhaique**	**6.18**	**104**	*e*P	**Pn**	**15 39 01.7**	**+2.7**
PDRA	**Piedra**	**6.23**	**78**	*e*P	**Pn**	**15 38 59.6**	**-0.2**
PDRA				*e*S	**Sn**	**15 40 08.4**	**-1.4**
AY03	**Cochrane**	**6.29**	**119**	Pn	**Pn**	**15 39 02.8**	**+2.2**
AY03	**Cochrane**	**6.29**	**119**	*e*P	**Pn**	**15 39 03.1**	**+2.5**
LL01	**San Ignacio de**	**6.34**	**74**		**Pn**	**15 39 01.4**	**+0.2**
LL01	**San Ignacio de**	**6.34**	**74**	*e*P	**Pn**	**15 39 01.6**	**+0.4**
LL02	**Futaleuf**	**6.49**	**82**		**Pn**	**15 39 03.1**	**-0.1**
LL02	**Futaleuf**	**6.49**	**82**	*e*P	**Pn**	**15 39 03.5**	**+0.3**
LL03	**Petrohue**	**6.90**	**64**		**Pn**	**15 39 09.3**	**+0.4**
LL03	**Petrohue**	**6.90**	**64**	*e*P	**Pn**	**15 39 09.6**	**+0.7**
LR05	**Currie**	**7.66**	**60**		**Pn**	**15 39 20.3**	**+1.0**
LR05	**Currie**	**7.66**	**60**	*e*P	**Pn**	**15 39 20.4**	**+1.2**
PLCA	**Paso Flores**	**8.31**	**67**	Pn	**Pn**	**15 39 29.5**	**+1.1**
GO09	**Cerro Castillo**	**8.83**	**144**	Pn	**Pn**	**15 39 34.9**	**-0.4**
MG05	**Puerto Natales**	**9.07**	**146**	Pn	**Pn**	**15 39 38.5**	**0.0**
BI05	**Punta Hualpn**	**9.54**	**39**		**Pn**	**15 39 46.8**	**+1.7**
MG04	**Isla Riesco**	**10.34**	**148**	Pn	**Pn**	**15 39 55.0**	**-1.0**
BI02	**San Fabin de**	**10.53**	**46**		**Pn**	**15 40 00.3**	**+1.5**
GO10	**Punta Arenas**	**10.77**	**148**		**Pn**	**15 40 01.6**	**-0.4**
ML02	**Panimavida**	**11.17**	**42**		**Pn**	**15 40 08.9**	**+1.5**
MG02	**Cerro Sombrero**	**11.26**	**142**	Pn	**Pn**	**15 40 07.7**	**-0.8**
MG03	**Isla Dawson**	**11.53**	**148**	Pn	**Pn**	**15 40 09.2**	**-3.1**
BO02	**Sierra Bellavi**	**12.26**	**42**		**Pn**	**15 40 24.2**	**+1.8**
BO01	**Tunca**	**12.45**	**40**		**Pn**	**15 40 26.3**	**+1.4**
MT01	**Popeta**	**12.82**	**38**		**Pn**	**15 40 31.8**	**+1.9**
BO04	**La Punta**	**13.00**	**40**		**Pn**	**15 40 34.1**	**+1.6**
MT09	**Talagante**	**13.01**	**38**		**Pn**	**15 40 34.1**	**+1.4**
LMEL	**Las Melosas**	**13.31**	**41**		**Pn**	**15 40 39.5**	**+2.7**
MT13	**San Alfonso**	**13.35**	**40**		**Pn**	**15 40 39.5**	**+2.2**
VA01	**Torpederas**	**13.37**	**35**		**Pn**	**15 40 40.0**	**+2.6**
MT02	**Curacav**	**13.38**	**37**		**Pn**	**15 40 38.3**	**+0.6**
PEL	**Peldehue**	**13.68**	**38**		**Pn**	**15 40 42.6**	**+0.9**
MT08	**Bocatoma Ro**	**13.72**	**41**		**Pn**	**15 40 45.2**	**+2.6**
VA06	**Catapilco**	**13.92**	**35**		**Pn**	**15 40 47.0**	**+2.1**
VA03	**San Esteban**	**14.06**	**37**		**Pn**	**15 40 49.0**	**+2.0**
CO02	**Combarbal**	**15.23**	**33**		**Pn**	**15 41 05.2**	**+2.4**
CO02				IAmb	IAmb	15 41 09.5	
comp=Z,32nm,0.8s							
TRQA	**Tornquist**	**15.40**	**72**	Pn	**Pn**	**15 41 07.3**	**+2.4**
CO06	**Fray Jorge**	**15.47**	**30**		**P**	**15 41 08.5**	**-1.3**
CO06				IAmb	IAmb	15 41 12.4	
comp=Z,48nm,1.6s							
CO03	**El Pedregal**	**15.68**	**33**		**P**	**15 41 11.9**	**-0.4**
PB14	**IPOC Station P**	**21.45**	**26**	P	**P**	**15 42 15.6**	**-0.2**
PB14				IAmb	IAmb	15 42 30.3	
comp=Z,66nm,1.7s							
PB03	**IPOC Station P**	**24.07**	**25**	P	**P**	**15 42 42.1**	**-0.4**
PB09	**IPOC Station P**	**24.46**	**26**		**P**	**15 42 46.0**	**-0.2**
PLTB	**Pedras Altas**	**24.63**	**68**	P	**P**	**15 42 46.6**	**-0.8**
PB02	**IPOC Station P**	**24.71**	**25**	P	**P**	**15 42 47.1**	**-1.1**
PB02				IAmb	IAmb	15 43 10.6	
comp=Z,22nm,1.1s							
PB01	**IPOC Station P**	**25.09**	**25**	P	**P**	**15 42 50.7**	**-1.1**
PB01				IAmb	IAmb	15 43 03.4	
comp=Z,37nm,1.4s							
PATCX	**Punta Patache**	**25.11**	**24**	P	**P**	**15 42 50.5**	**-1.3**
PATCX				IAmb	IAmb	15 43 04.0	
comp=Z,32nm,1.2s							
TA01	**Diego Aracena**	**25.34**	**23**		**P**	**15 42 52.7**	**-1.1**
TA01				IAmb	IAmb	15 43 14.1	
comp=Z,12nm,0.8s
CPUP Villa Florida 26.08 54 P P 15 42 59.9 -0.7
PB11 IPOC Station P 26.25 24 P P 15 43 01.5 -0.8
PB11 IAmb IAmb 15 43 14.4
comp=Z,36nm,1.6s
GO01 Chusmiza 26.48 25 P P 15 43 04.0 -0.7
GO01 IAmb IAmb 15 43 17.2
comp=Z,24nm,1.8s
LPAZ La Paz 29.99 25 P P 15 43 36.5 +0.3
LPAZ IAmb IAmb 15 43 59.1
comp=Z,21nm,1.7s
PTLB Pontes e Lacer 34.16 39 P P 15 44 12.5 +0.4
PTLB IAmb IAmb 15 44 23.2
comp=Z,15nm,1.6s
BELA Belgrano 2 38.09 166 P P 15 44 44.3 -0.8
BELA IAmb IAmb 15 44 50.2
comp=Z,18nm,1.9s
COHC Cochancay 41.81 2 P P 15 45 16.3 -0.2
VNA3 Neumayer Olymp 42.64 153 ⇓P P 15 45 24.1 +1.3
comp=N,0.6nm,0.3s
VNA2 Neumayer–Watz 43.39 153 ⇓P P 15 45 28.1 -0.7
comp=Z,1.6nm,0.5s,baz=276,slow=7.9
SNAA Sanae 44.79 154 ⇓P P 15 45 41.9 +1.8
comp=Z,58nm,1.0s
SNAA Sanae 44.79 154 P 15 45 39.7 -0.4
SNAA IAmb IAmb 15 45 57.5
comp=Z,18nm,1.7s
QSPA South Pole Qui 45.81 180 P P 15 45 47.5 -0.9
TROLL Troll, Antarti 46.41 155 ⇓P P 15 45 55.3 +2.3
comp=Z,84nm,0.5s
VNDA Vanda 52.48 194 P P 15 46 38.9 -0.1
SYO Syowa Base 58.62 159⇑ *e*pP P 15 47 24.0 +0.8
MQZ McQueen's Vall 70.67 227 P P 15 48 42.2 0.0
HYB Hyderabad 147.88 140 *e*PKiKP **PKPab** 15 57 14.5 +0.1
NJ2 Nanjing 160.38 238 *e*P **PKPdf** 15 57 26.4 +0.5
NJ2 pmax pmax
comp=Z,8.0nm,1.1s
CD2 Chengdu 166.06 196 PKP **PKPdf** 15 57 32.5 +1.1
HHC Hu-ho-hao-te 170.32 253 *e*P **PKPdf** 15 57 31.9 -2.2
LZH Lanzhou 170.99 204 *e*PKP **PKPdf** 15 57 35.0 +0.3
LZH pPKP pPKPdf 15 57 43.4 -1.5
WMQ Urumqi 171.59 90 *e*PKP **PKPdf** 15 57 36.6 +2.0
WMQ LR LR
comp=N,240nm,15.3s
WMQ LR LR
comp=E,210nm,15.3s
WMQ LR LR
comp=Z,250nm,17.7s

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*NEIC **05** 15:47:39.1±2.7, 52.°68N±0.°1×31.°7W±0.°2, h10km±1km, mb4.6/65, Error ellipse: s-maj=20.2km s-min=16.0km az=183.0*
*IDC **05** 15:47:39.3±0.5, 52.°58N×31.°84W, h0km, mb4.1/27, mbtmp4.2/30, ML4.5/3, MS4.4/2, Error ellipse: s-maj=14.8km s-min=11.0km az=2.0*
ISC 05 15:47:40.5±0.4, 52.°68N±0.°07×31.°90W±0.°06, h13km, n133, σ1ŧ50/127, mb4.5/76, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**13.26**	**20**	Pn	**Pn**	**15 50 49.1**	**+0.8**
2.9nm,0.3s,baz=195,slow=9.5,SNR=11							
BORG				Sn	**Sn**	**15 53 14.7**	**-0.7**
1.4nm,0.3s,baz=20,slow=9.8,SNR=5.9							
9.4nm,0.8s							
ESK	**Eskdalemuir**	**17.02**	**70**		**Pn**	**15 51 36.4**	**-1.7**
ESK				IAmb	IAmb	15 51 42.8	
comp=Z,28nm,0.8s							
SFJD	**Kangerlussuaq**	**17.05**	**335**	P	**P**	**15 51 40.9**	**+0.9**
comp=Z,0.8nm,0.3s,baz=235,slow=8.5,SNR=4.0							
SFJD				LR	LR	15 56 55.5	
comp=Z,849nm,19.2s,baz=257,slow=32							
comp=Z,12nm,0.9s							
EKA	**Eskdalemuir Ar**	**17.05**	**70**	P	**Pn**	**15 51 37.7**	**-0.6**
baz=272,slow=14							
comp=Z,24nm,0.7s							
PGAV	**Gavieira, Arco**	**19.18**	**115**	*e*P	**Pn**	**15 52 06.1**	**+1.3**
PGAV				*i* IAmb	IAmb	15 52 13.2	
comp=Z,45nm,1.7s							
PCAB	**Cabril**	**19.49**	**115**	*e*P	**Pn**	**15 52 12.9**	**+4.5**
PCAB				*i* IAmb	IAmb	15 52 17.5	
comp=Z,49nm,1.7s							
POLO	**Lamas de Olo**	**19.84**	**115**	*e*P	**Pn**	**15 52 15.5**	**+2.8**
POLO				*i* IAmb	IAmb	15 52 34.3	
comp=Z,21nm,2.1s							
SUMG	**Summit**	**20.17**	**354**		**P**	**15 52 13.4**	**-1.3**
SUMG				IAmb	IAmb	15 52 17.9	
comp=Z,26nm,1.0s							
MVO	**Moncorvo**	**20.41**	**114**	*e*P	Pn	15 52 21.3	+2.0
MVO				*i* IAmb	IAmb	15 52 40.4	
comp=Z,48nm,1.8s							
SCHQ	**Schefferville**	**20.64**	**290**	P	**P**	**15 52 20.0**	**+0.4**
comp=Z,81nm,0.8s,baz=58,slow=6.9,SNR=7.6							
comp=Z,81nm,0.8s							
PSARD	**Sardoal**	**20.89**	**119**	*e*P	**P**	**15 52 23.1**	**+0.7**
PSARD				*i* IAmb	IAmb	15 52 24.8	
comp=Z,46nm,1.5s							
PARRA	**Arraiolos**	**21.01**	**122**	*e*P	P	15 52 31.1	+7.5
PARRA				*i* IAmb	IAmb	15 52 33.0	
comp=Z,26nm,1.6s							
PCBR	**Castelo Branco**	**21.09**	**118**	*e*P	**P**	**15 52 25.4**	**+1.0**
PCBR				*i* IAmb	IAmb	15 52 29.4	
comp=Z,27nm,2.0s							
PMTG	**Montargil**	**21.25**	**120**	*e*P	**P**	**15 52 26.5**	**+0.3**
PMTG				*i* IAmb	IAmb	15 52 30.1	
comp=Z,58nm,1.6s							
PMRV	**Marv??o**	**21.43**	**118**	*e*P	**P**	**15 52 29.1**	**+1.0**
PMRV				*i* IAmb	IAmb	15 52 33.0	
comp=Z,58nm,1.8s							
PESTR	**Estremoz**	**21.73**	**120**	*e*P	**P**	**15 52 33.9**	**+2.5**
PESTR				*i* IAmb	IAmb	15 52 43.4	
comp=Z,28nm,1.3s							
EVO	**Evora**	**21.76**	**121**	*e*P	**P**	**15 52 33.0**	**+1.4**
EVO				*i* IAmb	IAmb	15 52 42.1	
comp=Z,27nm,1.4s							
FRB	**Frobisher Bay**	**21.91**	**315**	P	**P**	**15 52 34.1**	**+1.0**
comp=Z,7.0nm,0.9s,baz=110,slow=12,SNR=4.2							
comp=Z,7.0nm,0.9s							
PTEO	**Sao Teotonio**	**22.14**	**124**	*e*P	**P**	**15 52 37.5**	**+1.7**
PTEO				*i* IAmb	IAmb	15 52 55.8	
comp=Z,71nm,1.7s							
MESJ	**Messejana**	**22.17**	**123**	*e*P	**P**	**15 52 37.5**	**+1.4**
MESJ				*i* IAmb	IAmb	15 52 48.3	
comp=Z,30nm,1.5s							
MORF	**Marmelete**	**22.36**	**124**	*e*P	**P**	**15 52 39.7**	**+1.5**
MORF				*i* IAmb	IAmb	15 52 44.0	
comp=Z,31nm,1.3s							
PFVI	**Vila Bisbo**	**22.41**	**125**	*e*P	**P**	**15 52 39.0**	**+0.4**
PFVI				*i* IAmb	IAmb	15 52 53.7	
comp=Z,100nm,1.5s							
PCVE	**Castro Verde**	**22.42**	**123**	*e*P	**P**	**15 52 38.8**	**0.0**
PCVE				*i* IAmb	IAmb	15 52 49.4	
comp=Z,30nm,1.3s							
ESDC	**Sonseca Array**	**23.14**	**113**	P	**P**	**15 52 45.8**	**-0.5**
ESDC	**Sonseca Array**	**23.14**	**113**	P	**P**	**15 52 46.2**	**-0.1**
comp=Z,1.8nm,0.8s,baz=314,slow=8.9,SNR=9.7							
comp=Z,1.8nm,0.8s							
NB2	**NORSAR Subarra**	**24.59**	**53**	P	**P**	**15 53 00.4**	**+0.4**
comp=Z,6.7nm,1.0s,baz=271,slow=10							
NOA	**NORSAR Array B**	**24.59**	**53**	P	**P**	**15 53 00.8**	**+0.8**
comp=Z,2.1nm,0.8s,baz=271,slow=9.6,SNR=4.6							
comp=Z,2.1nm,0.8s							
HFS	**Hagfors**	**25.84**	**55**	P	**P**	**15 53 11.9**	**+0.6**
comp=Z,4.7nm,0.8s,baz=248,slow=7.4,SNR=6.3							
comp=Z,4.7nm,0.8s							
CLL	**Collm**	**27.35**	**75**	*i* Px	Px	15 53 25.2	
comp=Z,11nm,0.8s							
RETA	**Rede**	**27.55**	**84**	*e*P	**P**	**15 53 27.9**	**+1.0**
comp=Z,4.0nm,0.8s							
FETA	**Feichten**	**27.74**	**84**	*e*P	**P**	**15 53 29.9**	**+1.1**
comp=Z,3.6nm,1.4s							
MOTA	**Moosalm**	**27.82**	**84**	*e*P	**P**	**15 53 30.7**	**+1.2**
comp=Z,6.5nm,1.0s							
MDT	**Midelt**	**27.93**	**124**	LR	LR	16 01 52.5	
comp=Z,1μm,21.4s,baz=356,slow=31							
SQTA	**Sankt Quirin**	**27.94**	**84**	*e*P	**P**	**15 53 31.4**	**+0.9**
comp=Z,7.7nm,1.1s							
BRG	**Berggiesshubel**	**28.06**	**75**	*e*P	**P**	**15 53 33.5**	**+2.1**
BRG				Amp		15 53 34.0	
comp=Z,3.9nm,0.7s							
GERES	**GERESS Array B**	**28.72**	**79**	P	**P**	**15 53 38.3**	**+0.9**
comp=Z,2.1nm,0.7s,baz=298,slow=8.6,SNR=14							
comp=Z,2.1nm,0.7s							
LESA	**Schwarzleotal**	**28.73**	**82**	*e*pP	**P**	**15 53 37.9**	**+0.4**
comp=Z,3.9nm,0.8s							

LONY Lake Ozonia 28.96 271 P 15 53 39.2 -0.3
MYKA Terra Mystica 29.69 83 *e*pP **P 15 53 46.8 +0.9**
comp=Z,6.4nm,0.6s
OBKA Obir 30.30 83 *e*pP **P 15 53 51.4 +0.1**
comp=Z,4.0nm,0.9s
SOKA Soboth 30.51 82 *e*pP **P 15 53 53.2 0.0**
comp=Z,2.7nm,0.7s
ARSA Arzberg 30.53 81 *e*P **P 15 53 51.5 -1.8**
comp=Z,2.4nm,0.7s
MORC Moravsky Berou 30.61 75 P P **15 53 51.1 -2.9**
SPITS Spitsbergen Ar 30.71 18 P P **15 53 56.1 +1.6**
comp=Z,4.5nm,0.9s,baz=320,slow=8.9,SNR=9.4
comp=Z,4.5nm,0.9s
RONA Rosalia, Austr 30.79 80 *e*P **P 15 53 53.7 -1.9**
comp=Z,2.5nm,0.6s
ARCES ARCESS Array B 30.91 35 P P **15 53 56.9 +0.4**
comp=Z,2.2nm,0.7s,baz=252,slow=7.3,SNR=10
comp=Z,2.2nm,0.7s
BUKO Buck Lake 31.46 276 P 15 53 59.3 -2.2
FINES FINESS Array B 31.70 51 P P **15 54 03.8 +0.4**
comp=Z,2.1nm,0.5s,baz=266,slow=7.6,SNR=15
comp=Z,2.1nm,0.5s
KEST Kesra 33.52 104 P P **15 54 19.9 +0.2**
comp=Z,5.8nm,0.9s,baz=302,slow=8.0,SNR=4.5
comp=Z,5.8nm,0.9s
BURAR Bucovina Array 36.12 75 P 15 54 38.9 -3.1
KIEV Kiev 36.94 68 P 15 54 46.9 -2.0
KIEV IAmb IAmb 15 54 59.2
comp=Z,6.2nm,0.7s
AKASG Malin Array Be 36.95 68 P P **15 54 48.9 0.0**
comp=Z,2.0nm,0.6s,baz=304,slow=8.4,SNR=12
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 42.40 317 P P **15 55 35.3 +1.1**
comp=Z,2.7nm,1.1s,baz=58,slow=9.0,SNR=5.0
comp=Z,2.7nm,1.1s
BRTR Keskin Array B 45.62 79 P P **15 55 59.2 -1.3**
BRTR Keskin Array B 45.62 79 P P **15 56 02.1 +1.6**
comp=Z,3.1nm,0.8s,baz=297,slow=5.7,SNR=13
comp=Z,3.1nm,0.8s
LAO LASA Array 46.48 294 P 15 56 08.1 +1.0
G31M Satah River 47.34 328 P P **15 56 11.4 -2.0**
G31M IAmb IAmb 15 56 23.4
comp=Z,5.1nm,0.9s
F30M Barrier River 47.41 330 P 15 56 12.2 -1.7
TORD Torodi Ar. Bea 47.67 133 P 15 56 15.3 -1.3
TORD IAmb IAmb 15 56 27.8
comp=Z,9.5nm,1.1s
TORD Torodi Ar. Bea 47.67 133 P P **15 56 16.0 -0.6**
comp=Z,7.3nm,0.8s,baz=339,slow=8.9,SNR=31
comp=Z,7.3nm,0.8s
E28M Babbage River 47.91 332 P 15 56 16.8 -1.1
E28M IAmb IAmb 15 56 20.1
comp=Z,4.6nm,0.9s
EPYK Eagle Plains 48.46 329 P P **15 56 22.3 +0.1**
KBZ Khabaz 48.53 69 P P **15 56 23.1 +0.1**
comp=Z,6.5nm,1.2s,baz=359,slow=8.2,SNR=3.8
comp=Z,6.5nm,1.2s
ARTI Arti 48.88 48 P 15 56 23.3 -2.2
I30M Mount Dempster 49.06 327 P 15 56 25.6 -1.3
D25K Kavik River 49.31 335 P P **15 56 27.6 -1.1**
D25K IAmb IAmb 15 56 42.2
comp=Z,5.1nm,0.9s
J30M Hart River 49.45 327 P P **15 56 28.9 -1.0**
J30M IAmb IAmb 15 56 40.9
comp=Z,5.2nm,1.1s
I29M Ogilvie Camp, 49.60 328 P P **15 56 30.2 -0.7**
I29M IAmb IAmb 15 56 44.0
comp=Z,8.4nm,1.3s
E25K Arctic Village 49.92 333 P P **15 56 31.5 -1.8**
I28M Miner Creek 50.06 329 P 15 56 34.1 -0.4
BOZ Bozeman (W) 50.13 296 IAmb IAmb 15 56 51.1
comp=Z,2.4nm,0.8s
G26K Porcupine Rive 50.22 332 P 15 56 34.7 -0.9
N32M Quiet Lake 50.47 322 P P **15 56 37.3 -0.3**
N32M IAmb IAmb 15 56 55.2
comp=Z,6.7nm,0.8s
BPMT Black Pine Rid 50.59 298 P 15 56 39.2 +0.2
PDAR Pinedale Array 50.76 292 P P **15 56 40.2 -0.1**
comp=Z,0.8nm,0.6s,baz=72,slow=6.5,SNR=10
comp=Z,0.8nm,0.6s
R33M Jennings River 50.77 319 P 15 56 37.7 -2.3
DBIC Dimbokro 50.93 144 P P **15 56 41.2 -0.3**
comp=Z,2.3nm,0.5s,baz=4.5,slow=7.2,SNR=7.9
comp=Z,2.3nm,0.5s
MMAI Mount Meron Ar 51.13 85 P P **15 56 43.5 +0.6**
comp=Z,1.0nm,0.5s,baz=355,slow=7.1,SNR=6.9
comp=Z,1.0nm,0.5s
M29M Somme Creek 51.57 325 P P **15 56 44.1 -1.8**
B08A Colville Reser 52.47 303 P 15 56 53.2 +0.5
BAUV El Baul 52.53 227 P 15 56 52.7 -0.8
MSTX Muleshoe 52.63 279 P P **15 56 56.3 +2.1**
MSTX IAmb IAmb 15 57 06.0
comp=Z,12nm,1.2s
HWUT Hardware Ranch 52.65 292 P P **15 56 55.4 +1.1**
ILAR Eielson Array 52.66 331 P P **15 56 55.6 +1.8**
comp=Z,0.9nm,1.0s,baz=40,slow=5.4,SNR=7.2
comp=Z,0.9nm,1.0s
PLID Pearl Lake 52.83 298 P 15 56 55.7 0.0
I23K Minto, Yukon-K 53.11 332 P P **15 56 55.7 -1.5**
I23K IAmb IAmb 15 57 00.2
comp=Z,8.4nm,1.4s
PV12 Saucer Basin, 53.25 287 P P 15 56 57.9 -1.0
PV03 Paradox Valley 53.32 287 IAmb IAmb 15 57 12.0
comp=Z,9.0nm,1.1s
PV20 West Nyswonger 53.33 287 P 15 57 00.2 +0.8
PV19 Morning Glory 53.36 287 P P **15 57 00.5 +0.8**
PV13 Radium Mtn., P 53.37 287 IAmb IAmb 15 57 17.9
comp=Z,6.4nm,0.9s
PV05 Paradox Valley 53.58 287 P P **15 57 01.5 +0.2**
PV05 IAmb IAmb 15 57 13.2
comp=Z,10nm,1.0s
ABKAR Akbulak array 54.09 54 P 15 57 03.0 -1.6
HMU Henry Mountain 54.63 288 IAmb IAmb 15 57 21.6
comp=Z,10nm,1.2s
SAND Sanderson 55.05 275 P 15 57 10.2 -1.7
SAND IAmb IAmb 15 57 22.2
comp=Z,4.7nm,0.8s
WVOR Wild Horse Val 56.02 297 P P **15 57 19.1 +0.3**
WVOR IAmb IAmb 15 57 38.3
comp=Z,8.7nm,1.2s
BVAR Borovoye Array 56.36 45 P P **15 57 22.5 +1.6**
comp=Z,4.3nm,0.7s,baz=309,slow=7.7,SNR=20
comp=Z,4.3nm,0.7s
TXAR Lajitas Array 56.43 276 P P **15 57 23.2 +1.4**
comp=Z,0.3nm,0.5s,baz=52,slow=7.5,SNR=4.7
comp=Z,0.3nm,0.5s
KNB Kanab 56.47 289 P 15 57 22.6 +0.5
KNB IAmb IAmb 15 57 34.1
comp=Z,5.2nm,1.1s
U15A North Rim 56.57 288 P 15 57 22.5 -0.4
U15A IAmb IAmb 15 57 35.9
comp=Z,2.7nm,0.6s
X16A Lo Mia Camp, P 57.47 285 P P **15 57 30.2 +0.9**
X16A IAmb IAmb 15 57 43.4
comp=Z,5.2nm,1.0s
NVAR Mina Array Bea 58.60 293 P P **15 57 39.1 +1.9**
comp=Z,0.2nm,0.5s,baz=44,slow=11,SNR=3.7
comp=Z,0.2nm,0.5s
ROSC El Rosal 59.04 232 P P **15 57 42.1 +1.5**
comp=Z,19nm,0.6s,baz=87,slow=7.9,SNR=6.8
MTO3 Montecristo 59.11 252 P P **15 57 40.1 -0.8**
MTO3 IAmb IAmb 15 57 42.2
comp=Z,7.5nm,1.0s
O03E Paynes Creek 59.22 297 P P **15 57 41.7 +0.5**
BUCR Buckhorn Ranch 60.16 294 P 15 57 47.4 -0.4
BUCR IAmb IAmb 15 58 00.9
comp=Z,5.8nm,0.8s
BC3 Big Chuckawall 60.36 288 P 15 57 50.1 +0.9
BC3 IAmb IAmb 15 58 01.9
comp=Z,4.9nm,0.9s
BELC Belle Mtn. Jos 60.42 288 P 15 57 49.9 +0.1
BELC IAmb IAmb 15 58 02.6
comp=Z,4.0nm,0.8s
**ZALV Zalesovo Beam

LODK	**Lodwar**	**73.62**	**106**			**P**	15 59 11.6	**-2.2**
LODK				IAmb	IAmb		15 59 25.8	
	comp=Z,6.2nm,1.2s							
SONM	**Songino Array**	**73.74**	**28**	P		**P**	**15 59 11.9**	**-2.1**
SONM				IAmb	IAmb		15 59 25.6	
	comp=Z,4.3nm,1.0s							
SONM	**Songino Array**	**73.74**	**28**	P		**P**	**15 59 15.7**	**+1.6**
	comp=Z,2.5nm,0.9s,baz=326,slow=5.2,SNR=7.8							
	comp=Z,2.5nm,0.9s							
LPAZ	**La Paz**	**75.49**	**216**	P		**P**	**15 59 25.1**	**0.0**
	comp=Z,0.6nm,0.3s,baz=23,slow=12,SNR=3.8							
	comp=Z,0.6nm,0.3s							
HEH	**HeiHe**	**75.96**	**14**	*e*P		**P**	**15 59 29.8**	**+3.1**
GTA	**Gaotai**	**79.18**	**36**	*e*P		**P**	**15 59 47.2**	**+2.2**
GTA				sP	PcP		15 59 54.7	+1.3
GTA				pmax	pmax			
	comp=Z,5.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**81.62**	**27**	*e*P		**P**	**15 59 55.8**	**-2.3**
HHC				pmax	pmax			
	comp=Z,16nm,0.7s							
KSANE	**Kasane**	**85.73**	**127**			**P**	**16 00 17.8**	**-1.5**
KSRS	**Korea Array**	**88.54**	**16**	P		**P**	**16 00 34.7**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=358,slow=5.4,SNR=6.3							
	comp=Z,0.3nm,0.6s							
NJ2	**Nanjing**	**91.84**	**25**	*e*P		**P**	**16 00 49.5**	**+1.3**
NJ2				pmax	pmax			
	comp=Z,25nm,1.0s							
QSPA	**South Pole Qui**	**142.56**	**180**	PKP		**PKPdf**	**16 07 12.8**	**+1.1**
	comp=Z,3.7nm,1.1s,baz=249,slow=1.8,SNR=8.0							
WRAB	**Tennant Creek**	**145.62**	**23**			**PKPdf**	**16 07 16.7**	**-1.8**
WRA	**Warramunga Arr**	**145.62**	**23**			**PKPdf**	**16 07 16.7**	**-1.8**
WRA	**Warramunga Arr**	**145.62**	**23**	PKPbc		**PKPab**	**16 07 19.6**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=345,slow=3.6,SNR=22							
ASAR	**Alice Springs**	**149.08**	**26**			**PKPdf**	**16 07 24.8**	**+0.6**
ASAR	**Alice Springs**	**149.08**	**26**	PKPbc		**PKPbc**	**16 07 28.1**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=346,slow=2.3,SNR=8.4							
ASAR				PKPab		**pPKPab**	**16 07 35.2**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=352,slow=2.3,SNR=18							
VNDA	**Vanda**	**154.54**	**187**	PKPbc		**PKiKP**	**16 07 39.3**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=282,slow=4.6,SNR=5.3							

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*IDC **05** 16:06:02.8±0.3,57.53S×66.15W,h0km,mb4.8/18, mbtmp4.8/20,ML4.1/2,MS4.4/19,Error ellipse: s-maj=17.5km s-min=9.8km az=78.0*

*VAO **05** 16:06:02.7±1.7,57.82S×66.45W,h10km,mb5.2*

*MOS **05** 16:06:03.0±1.1,57.56S×66.17W,h10km,mb5.4/15,Error ellipse: s-maj=23.4km s-min=8.0km az=88.9*

*NEIC **05** 16:06:03.9±1.6,57.58S±0.04×66.3W±0.1,h10km±1km, mb5.4/154,Mww5.1/9,Mwr5.1(GUC),Error ellipse: s-maj=13.8km s-min=2.6km az=243.0*

*BJI **05** 16:06:04.0,57.60S×66.40W,h10km,mB5.4/3,Ms5.3/3, Ms7 5.1/4*

*NEIC **05** 16:06:04.3,57.58S×66.31W,h24km*

*NEIC **05** 16:06:04.3,57.98S×66.12W,h24km,Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^{16}Nm; M_{rr}3.36; $M_{\theta\theta}$0.24; $M_{\phi\phi}$-3.60; $M_{r\theta}$1.35; $M_{\theta\phi}$3.58; $M_{r\theta}$0.53; Fault plane solution: $M_0$5.20000×10^{16} NP1: ϕ_s359.52000°,δ53.50000°,λ136.20000°. NP2: ϕ_s119.22000°,δ56.19000°,λ45.72000°. Principal axes: T 4.3869, Plg54.0000°, Azm331.0000°; N 1.3572, Plg35.0000°, Azm148.0000°; P -5.7440, Plg2.0000°, Azm239.0000°.*

*GCMT **05** 16:06:06.9±0.3,57.79S±0.02×66.32W±0.04,h29km±1km, MW5.2/86,Moment Tensor Solution. s30,c40; s86,c114; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.29±.47; $M_{\theta\theta}$-1.10±.29; $M_{\phi\phi}$-3.19±.34; $M_{r\theta}$3.51±.41; $M_{\theta\phi}$5.22±.18; $M_{r\phi}$4.03±.51; Best double couple: $M_0$8.30700×10^{16} NP1:ϕ_s108.00000°,δ54.00000°, λ35.00000°. NP2:ϕ_s355.00000°,δ63.00000°,λ138.00000°. Principal axes: T 9.0590, Plg48.0000°, Azm317.0000°; N -1.5050, Plg41.0000°, Azm148.0000°; P -7.5540, Plg5.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*GUC **05** 16:06:11.2±2.3,57.07S×66.60W,h10km,ML5.2,MS5.0*

ISC 05 16:06:04.0±1.0,57.58S±0.04×66.24W±0.06,h12km±5km, n681,σ1s03/664,mb5.4/112,MS4.6/21,27C-10D,Drake Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MG01	**Puerto William**	**2.76**	**343**			**Pn**	**16 06 48.5**	**+0.5**
MG01				Sn		**Sn**	**16 07 20.3**	**-0.9**
MG01	**Puerto William**	**2.76**	**343**	↑*e*P		**Pn**	**16 06 48.2**	**+0.2**
MG01				*e*S		**Sn**	**16 07 16.2**	**-5.0**
MG01				IAML			16 07 29.1	
	comp=Z,19μm,0.4s							
USHA	**Ushuaia**	**3.01**	**335**	Pn		**Pn**	**16 06 51.9**	**+0.4**
	comp=Z,68nm,0.3s,baz=162,slow=16,SNR=294							
USHA				Sn		**Sn**	**16 07 26.8**	**-0.6**
	comp=Z,416nm,0.3s,baz=139,slow=20,SNR=19							
	comp=Z,187nm,0.3s							
USHA	**Ushuaia**	**3.01**	**335**	↑*e*P		**Pn**	**16 06 51.8**	**+0.4**
USHA				*e*S		**Sn**	**16 07 23.0**	**-4.4**
MG03	**Isla Dawson**	**4.43**	**326**			**Pn**	**16 07 11.1**	**+0.1**
MG03				Sn		**Sn**	**16 07 58.9**	**-3.5**
MG03	**Isla Dawson**	**4.43**	**326**	↑*e*P		**Pn**	**16 07 11.3**	**+0.3**
MG03				*e*S		**Sn**	**16 08 00.1**	**-2.4**
MG02	**Cerro Sombrero**	**5.10**	**339**			**Pn**	**16 07 21.3**	**+1.2**
MG02				Sn		**Sn**	**16 08 16.6**	**-2.2**
MG02	**Cerro Sombrero**	**5.10**	**339**	↑*e*P		**Pn**	**16 07 21.9**	**+1.8**
MG02				IVMs_BB	IVMs_BB		16 09 53.8	
	comp=Z,20μm,4.4s							
GO10	**Punta Arenas**	**5.21**	**326**			**Pn**	**16 07 22.0**	**+0.3**
GO10	**Punta Arenas**	**5.21**	**326**	↑*e*P		**Pn**	**16 07 22.0**	**+0.3**
GO10				IVMs_BB	IVMs_BB		16 09 05.7	
	comp=Z,21μm,3.8s							
MG04	**Isla Riesco**	**5.63**	**325**			**Pn**	**16 07 26.6**	**-0.7**
MG04	**Isla Riesco**	**5.63**	**325**	↑*e*P		**Pn**	**16 07 27.6**	**+0.2**
MG04				IVMs_BB	IVMs_BB		16 09 21.1	
	comp=Z,29μm,4.7s							
MG05	**Puerto Natales**	**6.94**	**326**			**Pn**	**16 07 43.5**	**-1.8**
MG05	**Puerto Natales**	**6.94**	**326**	*e*P		**Pn**	**16 07 43.3**	**-2.0**
GO09	**Cerro Castillo**	**7.25**	**328**			**Pn**	**16 07 47.6**	**-2.0**
GO09	**Cerro Castillo**	**7.25**	**328**	*e*P		**Pn**	**16 07 48.1**	**-1.5**
PMSA	**Palmer Station**	**7.30**	**173**	Pn		**Pn**	**16 07 50.9**	**+0.7**
PMSA	**Palmer Station**	**7.30**	**173**	Pn		**Pn**	**16 07 52.3**	**+2.1**
	comp=Z,1.2nm,0.3s,baz=337,slow=11,SNR=10							
PMSA				Sn		**Sn**	**16 09 09.5**	**-3.3**
	comp=Z,1.3nm,0.3s,baz=13,slow=18,SNR=1.1							
PMSA				LR		LR	16 09 56.8	
	comp=Z,3μm,18.1s,baz=342,slow=32							
	comp=Z,18nm,0.7s							
ESPZ	**Base Esperanza**	**7.41**	**146**			**Pn**	**16 07 52.3**	**+0.6**
EFI	**East Falkland**	**7.58**	**42**			**Pn**	**16 07 54.5**	**+0.4**
EFI	**East Falkland**	**7.58**	**42**	*d* iP		**Pn**	**16 07 54.5**	**+0.4**
EFI				pmax	pmax			
	comp=Z,755nm,1.0s							
AY03	**Cochrane**	**11.04**	**337**			**Pn**	**16 08 45.7**	**+4.2**
COYC	**Coyhaique**	**12.55**	**341**			**Pn**	**16 09 06.0**	**+3.8**
LL02	**Futaleuf**	**14.83**	**344**			**P**	**16 09 36.4**	**-2.8**
GO07	**Milladeo Hill,**	**15.22**	**339**	P		**Pn**	**16 09 40.3**	**+1.8**
GO07				IAmb	IAmb		16 09 42.8	
	comp=Z,155nm,1.1s							
LL01	**San Ignacio de**	**15.71**	**343**	P		**P**	**16 09 48.0**	**-1.0**
LL05	**Los Muermos**	**16.84**	**341**	P		**P**	**16 10 01.4**	**-0.1**
HOPE	**Hope Point**	**16.92**	**91**	P		**P**	**16 10 02.7**	**+0.4**
HOPE	**Hope Point**	**16.92**	**91**	P		**P**	**16 10 02.7**	**+0.4**
HOPE				pmax	pmax			
	comp=Z,153nm,1.0s							
LL03	**Petrohue**	**16.93**	**344**	P		**P**	**16 10 01.7**	**-0.7**
PLCA	**Paso Flores**	**17.09**	**349**	P		**P**	**16 10 04.8**	**+0.5**
PLCA	**Paso Flores**	**17.09**	**349**	P		**P**	**16 10 05.0**	**+0.6**
	comp=Z,44nm,0.8s,baz=175,slow=9.7,SNR=96							
PLCA				S		**S**	**16 13 27.1**	**+5.1**
	comp=Z,6.6nm,0.8s,baz=248,slow=5.5,SNR=3.1							
PLCA				LR		LR	16 17 16.0	
	comp=Z,902nm,18.5s,baz=154,slow=40							
PLCA	**Paso Flores**	**17.09**	**349**	P		**P**	**16 10 04.8**	**+0.5**
PLCA				pmax	pmax			
	comp=Z,50nm,0.9s							
LR05	**Currie**	**17.76**	**345**			**Pn**	**16 10 09.7**	**-1.1**
LR03	**Panguipulli**	**18.39**	**345**	P		**Pn**	**16 10 19.2**	**+0.5**
TRQA	**Tornquist**	**19.73**	**10**			**P**	**16 10 33.7**	**+0.4**
TRQA	**Tornquist**	**19.73**	**10**	P		**P**	**16 10 33.7**	**+0.4**
TRQA				pmax	pmax			
	comp=Z,99nm,1.1s							
BI02	**San Fabin de**	**21.19**	**349**	P		**P**	**16 10 49.9**	**+0.7**
BI05	**Punta Hualpn**	**21.35**	**345**			**P**	**16 10 50.8**	**0.0**
ML02	**Panimavida**	**22.10**	**349**	P		**P**	**16 10 59.4**	**+0.5**
BO02	**Sierra Bellavi**	**23.00**	**350**	P		**P**	**16 11 08.5**	**0.0**
BO02				IAmb	IAmb		16 11 16.2	
	comp=Z,121nm,0.9s							
BELA	**Belgrano 2**	**23.01**	**164**	P		**P**	**16 11 08.9**	**+0.6**
BELA				IAmb	IAmb		16 11 23.1	
	comp=Z,193nm,1.2s							
LMEL	**Las Melosas**	**23.89**	**352**	P		**P**	**16 11 17.2**	**-0.2**
LMEL				IAmb	IAmb		16 11 23.9	
	comp=Z,128nm,1.1s							
MT01	**Popeta**	**23.96**	**350**	P		**P**	**16 11 17.6**	**-0.3**
MT01				IAmb	IAmb		16 11 19.4	
	comp=Z,117nm,1.1s							
MT13	**San Alfonso**	**24.00**	**352**	P		**P**	**16 11 18.0**	**-0.4**
MT13				IAmb	IAmb		16 11 22.5	
	comp=Z,173nm,0.9s							
MT09	**Talagante**	**24.02**	**350**	P		**P**	**16 11 18.5**	**-0.2**
MT16	**CCHEN**	**24.33**	**351**			**P**	**16 11 21.7**	**+0.3**
MT05	**Renca**	**24.38**	**351**			**P**	**16 11 22.1**	**+0.2**
MT02	**Curacav**	**24.55**	**350**	P		**P**	**16 11 23.4**	**0.0**
MT02				IAmb	IAmb		16 11 27.3	
	comp=Z,85nm,0.9s							
PEL	**Peldehue**	**24.62**	**351**	P		**P**	**16 11 24.7**	**+0.6**
PEL				IAmb	IAmb		16 11 26.2	
	comp=Z,119nm,1.1s							
PEL	**Peldehue**	**24.62**	**351**	P		**P**	**16 11 24.7**	**+0.6**
PEL				pmax	pmax			
	comp=Z,119nm,1.1s							
PEL	**Peldehue**	**24.62**	**351**	*e*P		**P**	**16 11 24.3**	**+0.2**
ARCO	**CERRO ARCO**	**24.81**	**355**	*e*P		**P**	**16 11 26.4**	**+0.5**
ROC1	**El Roble**	**24.82**	**350**	*e*P		**P**	**16 11 24.9**	**-1.2**
VA03	**San Esteban**	**24.99**	**351**	*e*P		**P**	**16 11 28.2**	**+0.7**
ASAL	**Salagasta**	**25.05**	**355**	*e*P		**P**	**16 11 29.1**	**+1.1**
VA06	**Catapilco**	**25.26**	**350**	IAmb	IAmb		16 11 33.1	
	comp=Z,96nm,1.1s							
VA04	**Juan Fernndez**	**25.42**	**335**	P		**P**	**16 11 32.1**	**+0.9**
VA04				IAmb	IAmb		16 11 33.8	
	comp=Z,184nm,1.3s							
AUSP	**Uspallata**	**25.45**	**354**	*e*P		**P**	**16 11 33.2**	**+1.4**
RTLS	**Leoncito**	**25.86**	**354**	*e*P		**P**	**16 11 36.1**	**+0.5**
CO02	**Combarbal**	**26.57**	**351**	*e*P		**P**	**16 11 42.6**	**+0.8**
VNA3	**Neumayer Olymp**	**26.72**	**143**	↑P		**P**	**16 11 44.2**	**+1.5**
	comp=Z,55nm,0.8s							
VNA3				↑PcP		**PcP**	**16 15 06.2**	**+0.7**
	comp=Z,12nm,0.8s							
CO03	**El Pedregal**	**26.91**	**352**	IAmb	IAmb		16 11 47.1	
	comp=Z,146nm,0.9s							
CO03	**El Pedregal**	**26.91**	**352**	*e*P		**P**	**16 11 45.2**	**+0.4**
AVFE	**Valle Fertil**	**26.93**	**358**	*e*P		**P**	**16 11 45.0**	**0.0**
ACCO	**Cerro Coronel**	**27.05**	**355**	*e*P		**P**	**16 11 48.2**	**+1.8**
PSAL	**Palomas, Salto**	**27.16**	**16**	*e*P		**P**	**16 11 48.7**	**+1.8**
CO06	**Fray Jorge**	**27.16**	**350**	IAmb	IAmb		16 11 51.9	
	comp=Z,63nm,1.1s							
APLL	**PUNTA DE LOS L**	**27.18**	**359**	*e*P		**P**	**16 11 47.3**	**+0.1**
VNA1	**Neumayer--Stat**	**27.19**	**142**	↑P		**P**	**16 11 48.5**	**+1.6**
	comp=Z,26nm,1.0s							
VNA1				↑PcP		**PcP**	**16 15 06.8**	**+0.3**
	comp=Z,8.0nm,0.9s							
PLTB	**Pedras Altas**	**27.24**	**24**	P		**P**	**16 11 48.0**	**+0.3**
VNA2	**Neumayer--Watz**	**27.47**	**142**	↑P		**P**	**16 11 51.0**	**+1.6**
	comp=Z,11nm,0.8s,baz=278,slow=8.7							
VNA2				↑PcP		**PcP**	**16 15 08.1**	**+0.9**
	comp=Z,11nm,0.6s,baz=344,slow=7.9							
ACDV	**Cuesta del Vie**	**27.47**	**355**	*e*P		**P**	**16 11 50.8**	**+0.9**
AROD	**Rodeo**	**27.50**	**354**	*e*P		**P**	**16 11 51.7**	**+1.4**
GO04	**Tololo Observa**	**27.58**	**351**	IAmb	IAmb		16 11 52.7	
	comp=Z,52nm,0.9s							
CO01	**Juntas del Tor**	**27.72**	**353**			**P**	**16 11 53.5**	**+1.2**
CO01				IAmb	IAmb		16 11 55.3	
	comp=Z,80nm,0.8s							
AGUA	**GUANDACOL**	**28.12**	**356**	*e*P		P	16 12 01.7	+6.0
LCO	**Las Campanas**	**28.73**	**352**	P		**P**	**16 12 01.0**	**-0.3**
LCO	**Las Campanas**	**28.73**	**352**	*e*P		**P**	**16 12 01.0**	**-0.3**
SNAA	**Sanae**	**28.89**	**144**	↑P		**P**	**16 12 03.2**	**+1.1**
SNAA				↓PcP		**PcP**	**16 15 11.7**	**+0.9**
	comp=Z,210nm,0.9s							
SNAA	**Sanae**	**28.89**	**144**	P		**P**	**16 12 03.0**	**+0.8**
SNAA				IAmb	IAmb		16 12 15.5	
	comp=Z,109nm,1.8s							
SNAA	**Sanae**	**28.89**	**144**	P		**P**	**16 12 03.6**	**+1.4**
	comp=Z,12nm,1.0s,baz=265,slow=6.9,SNR=45							
SNAA				PcP		**PcP**	**16 15 11.7**	**+0.9**
	comp=Z,8.6nm,0.9s,baz=188,slow=1.2,SNR=7.1							
SNAA				S		**S**	**16 16 53.0**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=267,slow=13,SNR=1.3							
	comp=Z,12nm,1.0s							
GO03	**Copiapo**	**30.10**	**353**	P		**P**	**16 12 13.3**	**+0.1**
GO03				IAmb	IAmb		16 12 14.9	
	comp=Z,60nm,1.4s							
AC06	**Mina Casimiro**	**30.34**	**353**	IAmb	IAmb		16 12 16.9	
	comp=Z,79nm,1.4s							
TROLL	**Troll, Antarti**	**30.53**	**145**	↑P		**P**	**16 12 17.9**	**+1.2**
	comp=Z,442nm,0.8s							
TROLL				↑PcP		**PcP**	**16 15 15.1**	**0.0**
	comp=Z,183nm,0.6s							
AC01	**Pan de Azucar**	**31.56**	**353**	IAmb	IAmb		16 12 27.8	
	comp=Z,46nm,1.1s							
CPUP	**Villa Florida**	**31.86**	**15**	P		**P**	**16 12 28.2**	**-0.5**
CPUP	**Villa Florida**	**31.86**	**15**	P		**P**	**16 12 28.9**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=188,slow=1.7,SNR=9.2							
CPUP				LR		LR	16 26 10.5	
	comp=Z,154nm,18.1s,baz=50,slow=38							
	comp=Z,1.7nm,0.8s							
ITAB	**Concordia**	**31.93**	**24**	P		**P**	**16 12 30.1**	**+0.9**
ITAB				IAmb	IAmb		16 12 31.7	
	comp=Z,49nm,0.8s							
ITAB	**Concordia**	**31.93**	**24**	*e*P		**P**	**16 12 31.0**	**+1.7**
QSPA	**South Pole Qui**	**32.66**	**180**	P		**P**	**16 12 37.1**	**+1.5**
QSPA				IAmb	IAmb		16 12 38.8	
	comp=Z,43nm,0.9s							
QSPA	**South Pole Qui**	**32.66**	**180**	P		**P**	**16 12 37.6**	**+2.0**
	comp=Z,41nm,0.9s,baz=158,slow=3.1,SNR=128							
QSPA				PcP		**PcP**	**16 15 23.6**	**+2.7**
	comp=Z,8.3nm,0.8s,baz=167,slow=1.0,SNR=5.9							
	comp=Z,41nm,0.9s							
PB14	**IPOC Station P**	**33.06**	**353**	IAmb	IAmb		16 12 40.9	
	comp=Z,51nm,0.8s							
SJPY	**San Joaquin**	**33.36**	**17**	*e*P		**P**	**16 12 42.2**	**+0.4**
PB10	**IPOC Station P**	**34.17**	**353**	IAmb	IAmb		16 12 50.9	
	comp=Z,64nm,0.9s							
PTGB	**Pitanga**	**34.38**	**23**	*e*P		**P**	**16 12 52.1**	**+1.3**
PB05	**IPOC Station P**	**34.81**	**354**	IAmb	IAmb		16 12 56.2	
	comp=Z,61nm,0.9s							
PB06	**IPOC Station P**	**34.92**	**355**	IAmb	IAmb		16 12 57.4	
	comp=Z,49nm,0.9s							
AMBA	**Amambai (Brazi**	**35.57**	**18**	*e*P		**P**	**16 13 01.4**	**+0.5**
PB09	**IPOC Station P**	**35.81**	**355**	IAmb	IAmb		16 13 06.2	
	comp=Z,48nm,1.3s							
TRCB	**Terra Rica**	**36.12**	**22**	P		**P**	**16 13 06.1**	**+0.3**
TRCB				IAmb	IAmb		16 13 07.7	
	comp=Z,54nm,1.0s							
PB02	**IPOC Station P**	**36.31**	**354**	IAmb	IAmb		16 13 09.9	
	comp=Z,56nm,1.0s							
PB01	**IPOC Station P**	**36.57**	**355**	IAmb	IAmb		16 13 12.1	
	comp=Z,79nm,1.3s							
SPB	**Sao Paulo**	**36.57**	**30**	P		**P**	**16 13 10.3**	**+0.8**
PATCX	**Punta Patache**	**36.82**	**354**	IAmb	IAmb		16 13 14.3	
	comp=Z,104nm,1.3s							
VAO	**Valinhos**	**37.26**	**30**	P		**P**	**16 13 16.2**	**+0.8**
PCMB	**Pacaembu**	**37.56**	**23**	*e*P		**P**	**16 13 19.2**	**+1.3**
BDQN	**Bodoquena, MS**	**37.73**	**15**	*e*P		**P**	**16 13 19.5**	**+0.1**
PB11	**IPOC Station P**	**37.85**	**355**	IAmb	IAmb		16 13 22.7	
	comp=Z,81nm,1.4s							
AQDB	**Aquidauana**	**37.86**	**16**	P		**P**	**16 13 19.9**	**-0.6**
AQDB	**Aquidauana**	**37.86**	**16**	*e*P		**P**	**16 13 20.8**	**+0.4**
GO01	**Chusmiza**	**37.92**	**355**	IAmb	IAmb		16 13 24.4	
	comp=Z,118nm,1.6s							
RPRD	**Ribas do Rio P**	**38.18**	**19**	*e*P		**P**	**16 13 24.6**	**+1.4**
BB19B	**Bebedouro**	**38.71**	**27**	*e*P		**P**	**16 13 28.6**	**+0.9**
PB12	**IPOC Station P**	**39.02**	**354**	IAmb	IAmb		16 13 33.0	
	comp=Z,56nm,1.0s							
PB16	**IPOC Station P**	**39.26**	**355**	IAmb	IAmb		16 13 36.4	
	comp=Z,128nm,1.8s							
PB18	**Visviri**	**40.00**	**355**	P		**P**	**16 13 39.9**	**+0.9**
PB18				IAmb	IAmb		16 13 43.5	
	comp=Z,156nm,1.6s							
PP1B	**Ponte de Pedra**	**40.80**	**17**	*e*P		**P**	**16 13 46.3**	**+1.2**
SBA	**Scott Base**	**41.00**	**195**	P		**P**	**16 13 47.2**	**+1.1**
SBA	**Scott Base**	**41.00**	**195**	P		**P**	**16 13 47.2**	**+1.1**
SBA				pmax	pmax			
	comp=Z,25nm,0.9s							
LPAZ	**La Paz**	**41.24**	**357**	P		**P**	**16 13 50.8**	**+1.4**
	comp=Z,16nm,1.0s,baz=158,slow=6.2,SNR=44							
LPAZ				PcP		**PcP**	**16 15 49.3**	**+1.1**
	comp=Z,7.8nm,0.8s,baz=133,slow=5.9,SNR=4.3							
LPAZ				LR		LR	16 31 42.5	
	comp=Z,396nm,18.7s,baz=170,slow=37							
	comp=Z,16nm,1.0s							
PMNB	**Patos De Minas**	**41.66**	**29**	*e*P		**P**	**16 13 54.0**	**+1.7**
VNDA	**Vanda**	**41.92**	**194**	P		**P**	**16 13 54.7**	**+1.1**
VNDA	**Vanda**	**41.92**	**194**	P		**P**	**16 13 55.8**	**+2.1**
	comp=Z,4.3nm,1.1s,baz=147,slow=7.2,SNR=14							
VNDA				PcP		**PcP**	**16 15 50.5**	**+1.8**
	comp=Z,1.6nm,0.8s,baz=178,slow=0.8,SNR=5.6							
	comp=Z,4.3nm,1.1s							
SALV	**Santo Antonio**	**42.35**	**15**	*e*P		**P**	**16 13 59.0**	**+1.3**
PTLB	**Pontes e Lacer**	**42.39**	**10**	P		**P**	**16 13 58.2**	**+0.1**
PTLB	**Pontes e Lacer**	**42.39**	**10**	*e*P		**P**	**16 13 58.9**	**+0.9**
RIB01	**Linhares ES**	**42.70**	**37**	*e*P		**P**	**16 14 02.0**	**+1.3**
SYO	**Syowa Base**	**42.87**	**149**	*e*P		**P**	**16 13 59.4**	**-2.0**
SYO	**Syowa Base**	**42.87**	**149**	*e*pP		**P**	**16 14 02.0**	**+0.6**
RPN	**Rapa Nui**	**42.89**	**297**	LR	LR		16 26 59.8	
	comp=Z,412nm,21.5s,baz=134,slow=29							
SJMB	**Sao Joao De Ma**	**43.02**	**36**	*e*P		**P**	**16 14 04.0**	**+0.8**
ARAG	**Araguaiana, MT**	**43.19**	**21**	*e*P		**P**	**16 14 06.0**	**+1.5**
BDFB	**Brasilia**	**44.05**	**26**	P		**P**	**16 14 12.3**	**+0.7**
BDFB	**Brasilia**	**44.05**	**26**	P		**P**	**16 14 12.5**	**+0.8**
	comp=Z,17nm,0.8s,baz=184,slow=4.3,SNR=15							
	comp=Z,17nm,0.8s							
VILB	**Vilhena**	**44.77**	**8**	P		**P**	**16 14 17.3**	**0.0**
VILB	**Vilhena**	**44.77**	**8**	*e*P		**P**	**16 14 18.5**	**+1.2**
GUA01	**Guaratinga, BA**	**45.45**	**37**	*e*P		**P**	**16 14 23.9**	**+1.3**
JANB	**Januaria**	**45.55**	**30**	*e*P		**P**	**16 14 24.2**	**+0.7**
NNA	**Nana**	**46.21**	**346**	LR	LR		16 31 51.2	
	comp=Z,247nm,21.0s,baz=148,slow=34							
NNA	**Nana**	**46.21**	**346**	*e*P		**P**	**16 14 29.7**	**+1.0**
NNA				pmax	pmax			
	comp=Z,75nm,1.5s							
PDRB	**Porto dos Gac**	**46.44**	**13**	*e*P		**P**	**16 14 30.7**	**+0.2**
CMC01	**Camacan, BA**	**46.69**	**37**	*e*P		**P**	**16 14 31.9**	**-0.6**
SNDB	**Serra Nova Dou**	**46.92**	**20**	*e*P		**P**	**16 14 35.5**	**+1.2**
CLDB	**Colider**	**47.29**	**14**	*e*P		**P**	**16 14 37.1**	**0.0**
SDBA	**SAO DESIDERIO**	**47.93**	**29**	*e*P		**P**	**16 14 43.2**	**+1.1**
MAW	**Mawson**	**49.61**	**157**	P		**P**	**16 14 54.1**	**-0.3**
MAW	**Mawson**	**49.61**	**157**	P		**P**	**16 14 54.7**	**+0.3**
	comp=Z,10nm,1.0s,baz=204,slow=7.4,SNR=12							
MAW				PcP		**PcP**	**16 16 16.9**	**+1.2**
	comp=Z,8.3nm,1.1s,baz=129,slow=2.4,SNR=2.0							
	comp=Z,10nm,1.0s							
CZSB	**Cruzeiro do Su**	**49.98**	**352**	P		**P**	**16 14 58.4**	**+0.6**
CZSB	**Cruzeiro do Su**	**49.98**	**352**	*e*P		**P**	**16 14 59.6**	**+1.8**
SMTB	**Santa Maria do**	**50.70**	**24**	*e*P		**P**	**16 15 04.4**	**+1.0**
NPGB	**Novo Progresso**	**51.12**	**14**	*e*P		**P**	**16 15 07.1**	**+0.7**
ATAH	**Atahualpa**	**51.20**	**344**	LR	LR		16 34 24.1	
	comp=Z,427nm,18.2s,baz=155,slow=33							
PRPB	**Parauapebas**	**52.86**	**21**	*e*P		**P**	**16 15 20.3**	**+0.9**
ITTB	**Itaituba**	**53.71**	**13**	*e*P		**P**	**16 15 26.5**	**+0.9**
COHC	**Cochancay**	**55.92**	**344**			**P**	**16 15 43.3**	**+1.7**
COHC	**Cochancay**	**55.92**	**344**	P		**P**	**16 15 44.2**	**+2.6**
	comp=Z,867nmcomp=Z,52nm,1.9s							
CASY	**Casey**	**56.44**	**178**	P		**P**	**16 15

LBTB IAmb IAmb 16 17 28.5
comp=Z,33nm,1.1s
LBTB Lobatse 70.21 105 P **P 16 17 16.4 -0.3**
LBTB pmax pmax
comp=Z,33nm,1.1s
BKZ Black Stump Fm 70.24 227 IAmb IAmb 16 17 19.9
comp=Z,61nm,1.2s
RTZ Ruatahuna 70.52 228 **P 16 17 18.7 +0.3**
TSUM Tsumeb 70.72 96 P **P 16 17 20.4 +0.5**
URZ Urewera 70.77 228 LR LR 16 39 55.8
comp=Z,362nm,19.7s,baz=210,slow=29
GRTLG Ghanzi 70.89 100 **P 16 17 20.4 -0.6**
GRTLG IAmb IAmb 16 17 32.2
comp=Z,63nm,1.4s
ACON Acoyapa 71.03 340 IAmb IAmb 16 17 22.1
comp=Z,32nm,1.0s
KDWAN Kaudwane 71.06 104 P **P 16 17 21.4 -0.5**
KDWAN IAmb IAmb 16 17 32.5
comp=Z,50nm,1.3s
LPHEP Lephephe 71.70 105 **P 16 17 26.3 +0.5**
LPHEP IAmb IAmb 16 17 37.7
comp=Z,45nm,1.4s
PPT Papeete 71.80 266 LR LR 16 43 34.8
comp=Z,298nm,18.2s,baz=310,slow=31
BIM Bigot 71.96 5 P **P 16 17 27.2 +0.2**
FDF Fort de France 72.17 5 P **P 16 17 27.2 -1.1**
FDF IAmb IAmb 16 17 30.0
comp=Z,50nm,0.9s
FDF Fort de France 72.17 5 P **P 16 17 27.2 -1.1**
FDF pmax pmax
comp=Z,50nm,0.9s
QNGWA Qangwa 72.37 99 P **P 16 17 28.5 -1.3**
SIUN Universidad Ur 72.67 341 IAmb IAmb 16 17 32.9
comp=Z,41nm,0.9s
MREMI Moremi 73.17 105 P **P 16 17 34.1 -0.4**
MREMI IAmb IAmb 16 17 39.9
comp=Z,26nm,0.9s
XAUDM Khaudum 73.27 98 P **P 16 17 34.5 -0.7**
XAUDM IAmb IAmb 16 17 47.3
comp=Z,41nm,1.4s
RAR Rarotonga 74.21 255 LR LR 16 44 16.0
comp=Z,222nm,18.3s,baz=128,slow=31
MTO3 Montecristo 74.22 337 IAmb IAmb 16 17 42.8
comp=Z,49nm,1.0s
OBIP Obispado Ponce 75.33 360 IAmb IAmb 16 17 47.5
comp=Z,58nm,1.1s
CELP Cerrillos 75.37 360 IAmb IAmb 16 17 47.6
comp=Z,47nm,1.1s
SMRT St. Maarten 75.39 3 P **P 16 17 46.3 -0.8**
SJG San Juan 75.40 0 P **P 16 17 46.3 -0.9**
comp=Z,6.8nm,0.3s,baz=180,slow=16,SNR=1.0
SJG LR LR 16 55 03.5
comp=Z,212nm,18.4s,baz=134,slow=39
comp=Z,6.8nm,0.3s
KSANE Kasane 75.91 101 **P 16 17 49.5 -1.0**
KSANE IAmb IAmb 16 18 01.8
comp=Z,46nm,1.6s
CCIG Comitan 76.66 334 IAmb IAmb 16 17 56.8
comp=Z,37nm,1.1s
CMIG Matias Romero 78.11 332 LR LR 16 46 12.0
comp=Z,218nm,18.1s,baz=232,slow=31
LSZ Lusaka 79.61 102 P **P 16 18 10.7 -0.4**
LSZ Lusaka 79.61 102 P **P 16 18 10.7 -0.4**
LSZ pmax pmax
comp=Z,30nm,1.5s
TEIG Tepich 79.67 339 P **P 16 18 10.4 -0.6**
TEIG IAmb IAmb 16 18 12.6
comp=Z,48nm,0.9s
DBIC Dimbokro 80.85 62 P **P 16 18 17.7 +0.1**
comp=Z,4.5nm,0.8s,baz=224,slow=7.0,SNR=4.7
comp=Z,4.5nm,0.8s
CAMR Camarioca 81.32 346 IAmb IAmb 16 18 22.1
comp=Z,64nm,0.9s
TOO Toolangi 81.52 205 P **P 16 18 22.3 +1.2**
comp=Z,8.3nm,1.6s
CNB Canberra Magne 82.72 209 P **P 16 18 28.5 +1.1**
comp=Z,41nm,1.3s
CAN Canberra 82.81 208 P **P 16 18 27.8 -0.1**
CAN Canberra 82.81 208 IAmb IAmb 16 18 30.1
comp=Z,55nm,1.5s
YNG Young 83.94 208 P **P 16 18 34.6 +1.0**
comp=Z,22nm,1.0s
ARMA Armidale 86.73 212 **P 16 18 43.2 -4.6**
ARMA IAmb IAmb 16 18 49.3
comp=Z,34nm,1.3s
HTT Hallett 86.89 201 P **P 16 18 48.0 -0.4**
STKA Stephens Creek 87.85 203 P **P 16 18 52.9 -0.1**
comp=Z,3.0nm,0.9s,baz=180,slow=5.1,SNR=3.8
comp=Z,3.0nm,0.9s
DZM Mont Dzumac 89.32 228 *e*LR LR 16 47 21.6
comp=Z,457nm,29.4s
LPIG La Paz 89.33 321 LR LR 16 50 29.3
comp=Z,431nm,18.9s,baz=264,slow=30
TORD Torodi Ar. Bea 89.62 65 **P 16 19 01.3 -0.1**
TORD Torodi Ar. Bea 89.62 65 P **P 16 19 02.5 +1.1**
comp=Z,1.2nm,0.7s,baz=228,slow=3.2,SNR=6.4
TORD PP **PP 16 22 35.6 +2.2**
comp=Z,6.4nm,1.2s,baz=211,slow=5.5,SNR=8.3
comp=Z,1.2nm,0.7s
HKT Hockley 90.68 335↓ *e*P **P 16 19 06.1 +0.2**
HKT pmax pmax
comp=Z,12nm,1.3s
KLBR Kellerberrin 91.11 183 P **P 16 19 06.7 -1.6**
HNDO Hondo 91.12 332 IAmb IAmb 16 19 10.5
comp=Z,26nm,1.1s
DRIO Del Rio 91.37 330 IAmb IAmb 16 19 11.0
comp=Z,18nm,1.1s
EIDS Eidsvold 91.64 213 P **P 16 19 11.7 +0.8**
comp=Z,18nm,1.8s
EIDS Eidsvold 91.64 213 IAmb IAmb 16 19 12.3
comp=Z,20nm,1.1s
INKA Innaminka 92.03 204 P **P 16 19 11.5 -1.1**
TXAR Lajitas Array 92.12 328 **P 16 19 13.1 +0.3**
TXAR Lajitas Array 92.12 328 P **P 16 19 14.2 +1.3**
comp=Z,11nm,1.0s,baz=152,slow=8.1,SNR=52
TXAR PKKPbc **PKKPbc 16 36 28.2 +0.7**
comp=Z,0.2nm,0.7s,baz=260,slow=1.4,SNR=3.7
TXAR LR LR 16 54 07.4
comp=Z,217nm,18.7s,baz=140,slow=31
comp=Z,11nm,1.0s
TXAR Lajitas Array 92.12 328 P **P 16 19 13.1 +0.3**
SAND Sanderson 92.28 329 IAmb IAmb 16 19 15.5
comp=Z,17nm,1.3s
QLP Quilpie 92.34 207 P **P 16 19 14.3 +0.2**
comp=Z,40nm,1.4s
BRDY Brady 92.72 332 IAmb IAmb 16 19 16.7
comp=Z,18nm,1.0s
ALPN Alpine 93.10 328 IAmb IAmb 16 19 19.9
comp=Z,19nm,1.1s
MNHN Monahans 93.76 329 IAmb IAmb 16 19 22.5
comp=Z,29nm,1.1s
SGCY Sterling City 93.86 331 IAmb IAmb 16 19 22.1
comp=Z,15nm,1.1s
PLPT Palo Pinto 94.01 333 IAmb IAmb 16 19 23.7
comp=Z,20nm,1.3s
SN07 Snyder 07 94.92 331 IAmb IAmb 16 19 27.0
comp=Z,15nm,0.8s
APMT Aspermont 94.95 332 IAmb IAmb 16 19 27.3
comp=Z,17nm,1.1s
POST Post 95.06 331 IAmb IAmb 16 19 27.6
comp=Z,14nm,0.8s
DKNS Dickens 95.47 332 IAmb IAmb 16 19 29.1
comp=Z,14nm,1.2s
FCAR Ozark Folk Cen 95.63 339 IAmb IAmb 16 19 29.9
comp=Z,28nm,1.4s
ASAR Alice Springs 97.32 199 **P 16 19 34.9 -2.1**
ASAR Alice Springs 97.32 199 P **P 16 19 36.4 -0.6**
comp=Z,1.6nm,0.8s,baz=163,slow=4.3,SNR=12
ASAR PP **PP 16 23 34.1 +1.5**
comp=Z,2.2nm,1.1s,baz=170,slow=6.2,SNR=6.1
ASAR PKKPbc **PKKPbc 16 36 11.8 -0.6**
comp=Z,0.4nm,0.9s,baz=345,slow=2.1,SNR=4.4
comp=Z,1.6nm,0.8s
ASAR Alice Springs 97.32 199 P **P 16 19 34.9 -2.1**
CTAO Charters Tower 98.01 211 **P 16 19 39.2 -0.9**
CTAO Charters Tower 98.01 211 P **P 16 19 39.2 -0.9**
CTAO pmax pmax
comp=Z,7.0nm,1.2s
ANMO Albuquerque 98.19 328 LR LR 16 58 22.4
comp=Z,501nm,18.0s,baz=132,slow=32
ANMO Albuquerque 98.19 328↑ *e*P Pdif 16 19 41.2 +0.6
ANMO pmax pmax
comp=Z,2.0nm,1.0s
QIS Mount Isa 99.22 204 P **Pdif 16 19 43.2 -2.3**
WRA Warramunga Arr 100.88 200 **Pdif 16 19 51.2 -1.7**
WRA Warramunga Arr 100.88 200 P **Pdif 16 19 52.1 -0.8**
comp=Z,3.4nm,0.9s,baz=171,slow=4.2,SNR=24
WRA Warramunga Arr 100.88 200 *i* P **Pdif 16 19 51.2 -1.7**
WRAB Tennant Creek 100.89 200↑ *e*P **Pdif 16 19 52.2 -0.7**
WRAB pmax pmax
comp=Z,30nm,3.4s
WB0 Warramunga Arr 101.05 200 Pdif **Pdif 16 19 51.6 -2.1**
COEN Coen 104.69 210 P **Pdif 16 20 09.4 -0.5**
PDAR Pinedale Array 106.34 328 PP **PP 16 24 42.6 +0.8**
comp=Z,0.3nm,0.7s,baz=188,slow=4.5,SNR=4.8
EKA Eskdalemuir Ar 123.51 38 PKP **PKPdf 16 24 59.5 -0.2**
comp=Z,2.6nm,0.9s,baz=336,slow=1.6,SNR=4.0
V35K Ketchikan 124.27 321 P **PKiKP 16 25 02.2 +0.7**
baz=144
GERES GERESS Array B 124.77 52 PKP **PKiKP 16 25 02.9 0.0**
comp=Z,2.2nm,0.8s,baz=163,slow=1.4,SNR=13
CRAG Craig 124.90 320 P **PKiKP 16 25 04.0 +1.3**
baz=143
T35M Bob Quinn 125.15 323 P **PKiKP 16 25 03.6 +0.4**
baz=144
WRAK Wrangell Islan 125.39 321 P **PKiKP 16 25 04.7 +1.0**
baz=143
U33K Whale Pass 125.41 321 P **PKiKP 16 25 03.9 +0.2**
baz=143
YKA Yellowknife Ar 125.45 335 **PKPdf 16 25 03.0 -0.2**
YKA Yellowknife Ar 125.45 335 PKP **PKiKP 16 25 03.7 +0.1**
comp=Z,7.1nm,0.9s,baz=150,slow=1.6,SNR=17
YKA Yellowknife Ar 125.45 335 PKiKP **PKPdf 16 25 03.0 -0.2**
KOTAN Kotaneelee Air 125.85 328 P **PKiKP 16 25 05.1 +0.6**
baz=146
H11N3 WAKE ISLAND Hy 125.94 249 T T 18 43 43.3
baz=145,slow=76,SNR=17
H11N1 WAKE ISLAND Hy 125.94 249 T T 18 43 51.1
baz=145,slow=76,SNR=13
H11N2 WAKE ISLAND Hy 125.96 249 T T 18 43 43.7
baz=145,slow=76,SNR=16
KRUC Moravsky 126.10 54 *e*PKP **PKiKP 16 25 05.6 +0.2**
S34M Telegraph Cree 126.19 323 P **PKiKP 16 25 05.7 +0.5**
baz=143
DLBC Dease Lake 126.25 324 PKP **PKiKP 16 25 05.9 +0.4**
comp=Z,66nm,1.0s,baz=144,slow=1.6,SNR=17
DLBC Dease Lake 126.25 324 P **PKiKP 16 25 05.6 +0.2**
baz=143
CLL Collm 126.35 50 *i* PKiKP **PKiKP 16 25 05.7 -0.1**
CLL pmax pmax
comp=Z,11nm,1.2s
CLL MLR MLR
comp=Z,300nm,20.4s
CLL Collm 126.35 50 *i* PKPdf **PKiKP 16 25 05.7 -0.1**
comp=Z,11nm,1.2s
CLL LmV 17 29 00.0
comp=Z,300nm,20.4s
CLL LmH 17 33 00.0
comp=Z,200nm,20.4s
VRAC Vranov 126.37 54 *e*PKP **PKiKP 16 25 06.5 +0.6**
BRG Berggiesshubel 126.42 51 *e*PKP **PKiKP 16 25 08.2 +2.2**
BRG Amp 16 25 09.7
comp=Z,3.1nm,0.7s
JAVC Velka Javorina 126.50 55 *e*PKP **PKiKP 16 25 07.0 +0.7**
VYHS Vyhne 126.75 56 *e*PKiKP **PKiKP 16 25 06.9 +0.2**
SIT Sitka 126.91 320 P **PKiKP 16 25 07.3 +0.7**
baz=141
MORC Moravsky Berou 127.13 54 *e*PKP **PKiKP 16 25 07.7 +0.2**
WTLY Watson Lake, Y 127.22 326 P **PKiKP 16 25 07.8 +0.5**
baz=143
R33M Jennings River 127.31 324 P **PKiKP 16 25 08.4 +0.8**
baz=142
Q32M Nakina River 127.38 323 P **PKiKP 16 25 08.7 +0.8**
baz=142
BRTR Keskin Array B 127.42 73 **PKPdf 16 25 07.5 -0.5**
BRTR Keskin Array B 127.42 73 PKP **PKiKP 16 25 08.5 0.0**
comp=Z,1.2nm,0.8s,baz=167,slow=6.2,SNR=6.0
BRTR Keskin Array B 127.42 73 *c* iPKiKP **PKiKP 16 25 09.0 +0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
R32K Eaglecrest 127.58 322 P **PKiKP 16 25 08.7 +0.7**
baz=141
S31K Pelican 127.92 321 P **PKiKP 16 25 09.8 +1.1**
baz=140
TGTN Hyland Airport 128.20 327 P **PKiKP 16 25 10.0 +0.8**
baz=143
WRGLY Wrigley 128.25 331 P **PKiKP 16 25 10.1 +1.0**
baz=145
P32M Atlin 128.34 323 P **PKiKP 16 25 10.2 +0.7**
baz=141
P33M Teslin, Yukon 128.54 324 P **PKiKP 16 25 10.3 +0.3**
baz=141
SKAG Skagway 128.77 322 P **PKiKP 16 25 10.7 +0.4**
baz=140
BURAR Bucovina Array 129.03 61 PKPdf **PKPdf 16 25 08.7 -2.0**
PLBC Pleasant Camp 129.11 322 P **PKiKP 16 25 11.7 +0.7**
baz=139
N32M Quiet Lake 129.35 325 P **PKiKP 16 25 11.8 +0.3**
baz=140
MARD Mardin 129.37 80 **PKPdf 16 25 10.9 -0.9**
WHY Whitehorse 129.54 324 P **PKiKP 16 25 12.1 +0.1**
baz=140
P29M Windy Craggy 129.70 321 P **PKiKP 16 25 13.4 +1.1**
baz=138
P30M Million Dollar 129.81 322 P **PKiKP 16 25 13.6 +1.1**
baz=139
MMPY Sheldon Lake, 129.93 327 P **PKiKP 16 25 12.8 +0.1**
baz=140
O30N Mendenhall 130.01 323 P **PKiKP 16 25 13.5 +0.6**
baz=139
PNL Peninsula 130.29 320 P **PKiKP 16 25 14.0 +0.6**
baz=138
N31M Braeburn, Yuko 130.45 324 P **PKiKP 16 25 14.5 +0.8**
baz=138
O29M Mount Kennedy 130.48 321 P **PKiKP 16 25 14.6 +0.6**
baz=138
HYT Haines Junctio 130.51 322 P **PKiKP 16 25 14.2 +0.2**
baz=138
M31M Drury Creek, Y 130.55 325 P **PKiKP 16 25 14.7 +0.8**
baz=139
N30M Aishikik Lake 130.85 323 P **PKiKP 16 25 15.2 +0.6**
baz=138
YUK6 Outpost Mounta 130.88 322 P **PKiKP 16 25 15.2 +0.4**
baz=137
PINM Pinnacle 130.90 320 P **PKiKP 16 25 15.2 +0.4**
baz=137
KOPT Kop Dagi 131.21 78 **PKPdf 16 25 14.8 -0.5**
YUK4 Talbot Arm 131.27 322 P **PKiKP 16 25 16.1 +0.4**
baz=137,SNR=6.9
SUMG Summit 131.28 11 **PKiKP 16 25 15.4 -0.1**
SUMG Summit 131.28 11 PKIKP **PKiKP 16 25 15.4 -0.1**
O28M Mount Upton 131.37 321 P **PKiKP 16 25 16.1 +0.2**
baz=136,SNR=11
MESA MESA 131.55 320 P **PKiKP 16 25 16.2 0.0**
baz=136
M30M Minto, Yukon 131.58 324 P **PKiKP 16 25 15.9 -0.1**
baz=137,SNR=10
YUK8 Steele Glacier 131.60 322 P **PKiKP 16 25 16.5 +0.1**
baz=136,SNR=9.3
CTG Chitna Glacier 131.90 321 P **PKiKP 16 25 16.6 -0.2**
baz=136
M29M Somme Creek 132.01 323 P **PKiKP 16 25 16.7 -0.3**
baz=136,SNR=15
YUK3 Moose Creek 132.19 322 P **PKPdf 16 25 16.8 +0.4**
baz=136,SNR=7.1
KAIM Kayak Island 132.24 318 P **PKiKP 16 25 17.5 +0.2**
baz=135
CRQE Cirque 132.35 320 P **PKPdf 16 25 16.9 +0.3**
baz=135,SNR=12
L29M L29M 132.39 324 P **PKiKP 16 25 17.9 +0.2**
baz=136,SNR=24
Q23K Middleton Isla 132.59 317 P **PKiKP 16 25 18.2 +0.2**
baz=134
K29M Barlow Dome 132.73 325 P **PKiKP 16 25 18.2 -0.1**
baz=136,SNR=12
NOA NORSAR Array B 132.77 40 PKP **PKiKP 16 25 18.1 -0.3**
comp=Z,2.2nm,1.0s,baz=235,slow=2.0,SNR=4.2
BVCY Beaver Creek 132.77 322 P **PKiKP 16 25 18.1 -0.3**
baz=135
MCARA McCarthy VSAT 132.78 320 P **PKiKP 16 25 18.5 +0.1**
baz=134
J30M Hart River 132.90 326 P **PKiKP 16 25 18.8 0.0**
baz=136,SNR=5.4
HFS Hagfors 133.02 42 PKP **PKPdf 16 25 17.0 -0.7**
comp=Z,2.9nm,0.9s,baz=201,slow=7.7,SNR=1.5
BMRM Bremner River 133.03 319 P **PKiKP 16 25 18.8 -0.2**
baz=134,SNR=16
KIEV Kiev 133.05 60 PKPdf **PKPdf 16 25 17.4 -0.7**
KIEV Kiev 133.05 60 PKIKP **PKPdf 16 25 17.4 -0.7**
AKASG Malin Array Be 133.07 60 **PKPdf 16 25 17.1 -1.0**
AKASG Malin Array Be 133.07 60 PKP **PKPdf 16 25 17.6 -0.5**
comp=Z,3.4nm,0.9s,baz=263,slow=2.0,SNR=11
AKASG Malin Array Be 133.07 60 *c* iPKiKP **PKPdf 16 25 18.2 +0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKBB Malin Array Si 133.07 60 *de*PKIKP **PKPdf 16 25 17.8 -0.3**
M27K Edge Creek, AK 133.07 322 P **PKiKP 16 25 18.9 -0.3**
baz=134
EYAK Cordova Ski Ar 133.15 318 P **PKiKP 16 25 19.0 -0.1**
baz=134
H31M Peel River 133.22 328 P **PKPdf 16 25 18.2 +0.3**
baz=137
C36M Paulatuk 133.31 336 P **PKiKP 16 25 19.1 -0.1**
baz=141
I30M Mount Dempster 133.38 327 P **PKPdf 16 25 18.8 +0.3**
baz=136,SNR=10.0
J29N Klondike Camp 133.38 325 P **PKiKP 16 25 19.6 -0.1**
baz=135
DAWY Dawson 133.47 325 P **PKiKP 16 25 19.4 -0.4**
baz=135
N25K Chitina, Valde 133.47 320 P **PKiKP 16 25 19.7 -0.2**
baz=133
M26K Nabesna, AK 133.48 321 P **PKiKP 16 25 19.6 -0.2**
baz=134
BCAR Beaver Creek A 133.54 323 **PKPdf 16 25 19.1 +0.4**
L27K Beaver Creek, 133.55 323 P **PKiKP 16 25 19.9 -0.1**
baz=134
SII Sitkinak Islan 133.70 310 **PKPdf 16 25 18.5 -0.6**
SII Sitkinak Islan 133.70 310 P **PKiKP 16 25 20.2 -0.2**
baz=132
OHAK Old Harbor 133.78 311 P **PKPdf 16 25 19.7 +0.5**
baz=132
CHIR Chirikof Islan 133.81 309 P **PKPdf 16 25 19.5 +0.2**
baz=132
KLU Klutina 133.86 319 P **PKPdf 16 25 20.0 +0.6**
baz=133
GLI Glacier Island 133.86 318 P **PKPdf 16 25 19.6 +0.3**
baz=132
KDAK Kodiak Island 133.87 312 **PKPdf 16 25 19.6 +0.2**
KDAK Kodiak Island 133.87 312 PKIKP **PKPdf 16 25 19.6 +0.2**
KDAK Kodiak Island 133.87 312 P **PKPdf 16 25 20.0 +0.6**
baz=132
G31M Satah River 134.01 329 P **PKiKP 16 25 20.2 -0.5**
baz=136
L26K Log Cabin Wild 134.03 322 P **PKiKP 16 25 20.7 -0.2**
baz=133
I29M Ogilvie Camp, 134.05 326 P **PKiKP 16 25 21.2 +0.3**
baz=135,SNR=5.9
SEW Seward 134.21 316 P **PKPdf 16 25 20.3 +0.3**
baz=132
F31M Tsiigehtchic 134.24 330 P **PKiKP 16 25 20.6 -0.5**
baz=136
K27K Chicken 134.30 323 P **PKiKP 16 25 21.6 +0.2**
baz=133
PWL Port Wells 134.30 317 P **PKPdf 16 25 20.7 +0.5**
baz=132,SNR=8.1
EPYK Eagle Plains 134.30 328 P **PKPdf 16 25 20.7 +0.7**
baz=135,SNR=6.9
Q20K Shuyak Island 134.34 313 P **PKPdf 16 25 20.8 +0.6**
baz=131
M24K Tolsona, Glenn 134.37 320 P **PKiKP 16 25 21.7 0.0**
baz=132
BRSE Bradley Lake S 134.45 315 P **PKPdf 16 25 21.0 +0.6**
baz=131
R18K Karluk 134.48 311 P **PKiKP 16 25 21.2 -0.7**
baz=131
O22K Cooper Landing 134.56 316 P **PKiKP 16 25 21.5 -0.5**
baz=131
SCM Sheep Creek Mo 134.59 319 P **PKiKP 16 25 21.5 -0.6**
baz=132
G30M tAoh Zraii Nji 134.59 329 P **PKPdf 16 25 21.1 +0.6**
baz=135
I28M Miner Creek 134.60 326 P **PKPdf 16 25 21.2 +0.6**
baz=134
H29M Whitestone 134.67 327 P **PKiKP 16 25 21.6 -0.5**
baz=134,SNR=10
PAX Paxson 134.70 321 **PKPdf 16 25 21.5 +0.6**
PAX Paxson 134.70 321 PKIKP **PKPdf 16 25 21.5 +0.6**
PAX Paxson 134.70 321 P **PKiKP 16 25 21.8 -0.6**
baz=132
M23K Glacier View 134.70 319 P **PKiKP 16 25 22.1 -0.2**
baz=132
KNK Knik Glacier 134.71 318 P **PKiKP 16 25 21.9 -0.5**
baz=131
HOM Homer 134.74 315 P **PKiKP 16 25 22.1 -0.3**
baz=131
INK Inuvik 134.81 331 **PKPdf 16 25 21.1 +0.3**
INK Inuvik 134.81 331 PKIKP **PKPdf 16 25 21.1 +0.3**
INK Inuvik 134.81 331 P **PKiKP 16 25 21.9 -0.4**
baz=136,SNR=8.0
SCRK Sand Creek 134.88 323 P **PKiKP 16 25 22.8 0.0**
baz=132,SNR=15
F30M Barrier River 134.92 330 P **PKiKP 16 25 21.9 -0.6**
baz=135
RC01 Rabbit Creek A 134.97 317 P **PKPdf 16 25 21.9 +0.5**
baz=131,SNR=6.9
MNK Minsk 134.99 55 *i* PKiKP **PKPdf 16 25 21.2 -0.4**
comp=E,15nm,0.9s
MNK *i* PKiKP **PKPdf 16 25 21.2 -0.4**
comp=N,5.0nm,0.8s
MNK *i* PKiKP **PKPdf 16 25 21.2 -0.4**
comp=Z,19nm,0.9s,baz=229
MNK *i* PP **PP 16 27 54.0 -3.5**
MNK *i* SKP 16 28 50.2
MNK *i* PKS PKSdf 16 29 12.0 +14
MNK *i* PPP PPP 16 30 49.2
MNK *i* SKS SKSdf 16 31 57.5 -34
MNK *i* SS **SS 16 45 48.6 -2.1**
MNK Minsk 134.99 55 *i* PKiKP **PKPdf 16 25 21.1 -0.4**
MNK *i* 16 27 53.9
MNK *i* SS SS 16 45 48.6 -2.1
MNK pmax pmax
comp=E,15nm,0.9s
MNK pmax pmax
comp=N,5.0nm,0.8s
MNK pmax pmax
comp=Z,19nm,0.9s
RIDG Independent Ri 135.01 322 P **PKiKP 16 25 22.4 -0.5**
baz=132,SNR=10
Q19K Cape Douglas, 135.04 313 P **PKPdf 16 25 21.8 +0.2**
baz=130
G29M Pine Creek 135.05 328 P **PKiKP 16 25 22.2 -0.6**
baz=134,SNR=7.4
PMR Palmer 135.07 318 P **PKiKP 16 25 22.5 -0.4**
baz=131
J26L Joseph Creek 135.10 323 P **PKiKP 16 25 22.6 -0.5**
baz=132,SNR=7.1
KBZ Khabaz 135.10 76 PKP **PKPdf 16 25 22.1 0.0**
comp=Z,6.1nm,1.0s,baz=166,slow=3.4,SNR=6.3
KBZ Khabaz 135.10 76 *de*PKIKP **PKiKP 16 25 23.0 -0.6**
KIV Kislovodsk 135.15 76 *i* PKIKP **PKiKP 16 25 23.7 -0.2**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,293nm,24.0s
I27K Kandik River 135.22 325 P **PKiKP 16 25 23.2 -0.1**
baz=132,SNR=26
WAT6 Susitna Watana 135.23 319 P **PKPdf 16 25 22.7 +0.7**
baz=131
R17L Mt. Peulik Vol 135.30 310 P **PKPdf 16 25 22.7 +0.6**
baz=130,SNR=8.0
K24K Donnelly Dome 135.36 322 P **PKiKP 16 25 23.0 -0.6**
baz=131
O20K Slope Mountain 135.39 315 P **PKiKP 16 25 23.5 -0.3**
baz=130
Q18K Katmai Hardscr 135.41 312 P **PKPdf 16 25 22.3 -0.1**
baz=130,SNR=5.2
DHY Denali Highway 135.42 320 P **PKiKP 16 25 23.2 -0.7**
baz=131
I26K Coal Creek Min 135.50 324 P **PKiKP 16 25 23.2 -0.5**
baz=132
Q17K Contact Creek 135.51 311 P **PKPdf 16 25 22.9 +0.3**
baz=130
M22K Willow 135.54 318 P **PKiKP 16 25 23.2 -0.7**
baz=130
SUA Susitna One 135.58 317 P **PKiKP 16 25 23.5 -0.7**
baz=130,SNR=7.4
A36M Sachs Harbour 135.59 338 P **PKiKP 16 25 23.2 -0.6**
baz=139
H27K Steamboat Moun 135.62 326 P **PKiKP 16 25 23.5 -0.6**
baz=132,SNR=14
WAT1 Susitna Watana 135.67 319 P **PKPdf 16 25 23.3 +0.6**
baz=130
J25K Salcha River, 135.76 323 P **PKiKP 16 25 23.8 -0.6**
baz=131
S14K Fog Glacier 135.78 307 P **PKPdf 16 25 23.2 +0.1**
baz=130
N20K Mount Spurr 135.95 316 P **PKPdf 16 25 23.4 +0.1**
baz=129
SPCR Spurr Chakacha 135.95 316 P **PKPdf 16 25 23.7 +0.4**
baz=129

P18K	Big Mountain, baz=129,SNR=5.6	135.97	313	P	PKPdf	16 25 23.1	-0.2
E29M	Blow River baz=133,SNR=20	136.03	330	P	PKPdf	16 25 23.8	+0.6
G27K	Doyon Strip baz=131,SNR=6.3	136.04	326	P	PKPdf	16 25 23.9	+0.6
F28M	Old Crow baz=132,SNR=8.3	136.06	328	P	PKPdf	16 25 23.9	+0.7
Q16K	King Salmon baz=129	136.09	311	P	PKPdf	16 25 23.6	+0.1
HDA	Harding Lake baz=130,SNR=7.3	136.15	322	P	PKPdf	16 25 23.9	+0.5
SKT	Skwentna baz=129,SNR=12	136.20	317	P	PKPdf	16 25 23.7	0.0
P17K	Kvichak River baz=129,SNR=6.6	136.33	312	P	PKPdf	16 25 24.3	+0.4
ILAR	Eielson Array	136.36	322		PKPdf	16 25 23.9	0.0
ILAR	Eielson Array comp=Z,14nm,1.0s,baz=125,slow=2.6,SNR=5.1	136.36	322	PKhKP	PKPpre	16 25 17.6	
ILAR	comp=Z,17nm,0.8s,baz=172,slow=1.8,SNR=90			PKP	PKiKP	16 25 24.9	-0.7
MCK	McKinley	136.39	320		PKPdf	16 25 24.0	+0.1
MCK	McKinley	136.39	320	PKIKP	PKPdf	16 25 24.0	+0.1
MCK	McKinley baz=129,SNR=8.2	136.39	320	P	PKPdf	16 25 24.4	+0.4
PRP	Porcupine Dome baz=130,SNR=11	136.39	324	P	PKiKP	16 25 25.0	-0.8
S12K	Black Hills baz=129	136.50	305	P	PKPdf	16 25 24.6	+0.2
N19K	Bonanza Creek baz=128	136.57	315	P	PKPdf	16 25 24.4	-0.1
E28M	Babbage River baz=131,SNR=13	136.63	329	P	PKPdf	16 25 24.8	+0.6
TRF	Thorofare Moun baz=129,SNR=11	136.68	319	P	PKPdf	16 25 25.0	+0.3
M20K	Styx River baz=128,SNR=7.8	136.73	316	P	PKPdf	16 25 25.0	+0.3
COLA	College	136.74	322	*ce*PKIKP	PKPdf	16 25 25.0	+0.5
POKR	Poker Plat Res baz=129	136.76	322	P	PKPdf	16 25 24.8	+0.2
G26K	Porcupine Rive baz=130,SNR=13	136.77	326	P	PKPdf	16 25 25.3	+0.8
D28M	Stokes Point baz=131,SNR=6.9	136.89	330	P	PKiKP	16 25 25.8	-0.7
E27K	Coleen River baz=130,SNR=14	136.93	328	P	PKiKP	16 25 25.9	-0.7
O17K	Koliganek Bris baz=128	136.95	312	P	PKPdf	16 25 25.5	+0.5
H25L	Birch Creek baz=129,SNR=9.7	136.97	324	P	PKPdf	16 25 25.5	+0.6
NEA2	Nenana baz=128,SNR=14	136.97	321	P	PKPdf	16 25 25.3	+0.3
PPLA	Purkeypile baz=128	137.01	318	P	PKPdf	16 25 25.6	+0.3
N18K	Kilae Creek baz=128	137.03	314	P	PKPdf	16 25 25.5	+0.3
M19K	Big River Lodg baz=128	137.21	316	P	PKPdf	16 25 26.3	+0.8
O16K	Kokwok River B baz=128	137.24	312	P	PKPdf	16 25 26.5	+0.9
BMAR	Burnt Mountain	137.32	326		PKPdf	16 25 24.5	-1.2
BPAW	Bear Paw Mtn. baz=128,SNR=7.0	137.33	320	P	PKPdf	16 25 26.1	+0.4
H24K	Noodor Dome baz=128,SNR=6.5	137.35	323	P	PKPdf	16 25 26.3	+0.5
F26K	Sheenjek River baz=129,SNR=11	137.36	327	P	PKiKP	16 25 26.6	-0.9
G25K	Bearman Lake baz=128,SNR=8.8	137.37	325	P	PKiKP	16 25 27.2	-0.3
I23K	Minto, Yukon-K baz=128	137.41	322	P	PKiKP	16 25 27.1	-0.6
D27M	Malcolm River baz=130,SNR=10	137.44	329	P	PKPdf	16 25 26.6	+0.7
N17K	Nushagak Hills baz=127	137.45	313	P	PKPdf	16 25 26.8	+0.8
M18K	Stony River baz=127	137.50	315	P	PKPdf	16 25 26.7	+0.7
L19K	White Mountain baz=127	137.55	316	P	PKPdf	16 25 26.3	+0.1
CHUM	Lake Minchumin baz=127,SNR=9.7	137.66	319	P	PKPdf	16 25 26.8	+0.6
F25K	Christian Rive baz=128,SNR=16	137.74	326	P	PKiKP	16 25 27.9	-0.5
G24K	Hadweenzic Riv baz=128,SNR=13	137.76	324	P	PKPdf	16 25 27.1	+0.7
MLY	Manley baz=127	137.81	321	P	PKPdf	16 25 27.5	+1.0
K20K	Telida baz=126	137.97	318	P	PKPdf	16 25 27.4	+0.5
N16K	Nishlik Lake baz=126	138.04	312	P	PKiKP	16 25 28.2	-1.0
E25K	Arctic Village baz=128,SNR=8.1	138.04	327	P	PKiKP	16 25 28.2	-0.7
M17K	Holitna River baz=126	138.07	314	P	PKiKP	16 25 28.3	-0.8
L18K	Granite Mounta baz=126	138.27	315	P	PKiKP	16 25 28.5	-1.0
I21K	Tanana baz=126	138.32	321	P	PKPdf	16 25 28.2	+0.8
F24K	Squaw Lake baz=127,SNR=9.5	138.38	325	P	PKiKP	16 25 28.7	-1.0
N15K	Kwethluk River baz=126	138.39	311	P	PKiKP	16 25 28.8	-1.0
C27K	Jago River baz=128	138.44	329	P	PKiKP	16 25 28.8	-0.9
M16K	Timber Creek baz=126	138.44	313	P	PKPdf	16 25 28.6	+0.8
J20K	Nowinta River baz=126	138.48	319	P	PKPdf	16 25 28.5	+0.8
FINES	FINESS Array B comp=Z,3.0nm,0.9s,baz=270,slow=2.8,SNR=2.1	138.53	46	PKP	PKPdf	16 25 28.3	+0.3
H22K	Ishtalitna Cre baz=126	138.54	322	P	PKPdf	16 25 28.9	+1.0
G23K	Bananza Creek baz=126	138.57	323	P	PKiKP	16 25 29.4	-0.7
L17K	Donlin baz=125	138.83	314	P	PKiKP	16 25 29.8	-0.8
H21K	Melozitna Rive baz=125,SNR=14	138.88	321	P	PKPdf	16 25 29.2	+0.7
E24K	Your Creek baz=126,SNR=6.8	138.90	326	P	PKPdf	16 25 29.4	+0.9
N14K	Kuskokwak Cree baz=125	138.90	310	P	PKPdf	16 25 29.0	+0.4
J19K	Poorman baz=125	138.91	318	P	PKPdf	16 25 29.5	+1.0
COLD	Coldfoot baz=125,SNR=11	138.93	324	P	PKiKP	16 25 30.2	-0.5
M15K	Kasigluk River baz=125	138.94	312	P	PKiKP	16 25 29.9	-1.0
C26K	Camden Bay baz=126	138.94	329	P	PKiKP	16 25 29.9	-0.8
I20K	Naaghedeneel baz=125	138.96	319	P	PKiKP	16 25 30.0	-0.8
J18K	Innoko River baz=125	139.00	317	P	PKiKP	16 25 30.3	-0.7
D25K	Kavik River baz=126	139.00	328	P	PKPdf	16 25 29.4	+0.7
L16K	Owhat River baz=125	139.04	313	P	PKPdf	16 25 29.8	+0.9
K17K	Iditarod baz=125	139.17	315	P	PKPdf	16 25 30.0	+0.9
G22K	Bettles baz=125	139.18	323	P	PKiKP	16 25 30.4	-0.8
E23K	Chandalar baz=125	139.23	325	P	PKPdf	16 25 30.1	+0.9
IMAR	Indian Mountai	139.38	321		PKPdf	16 25 27.8	-1.6
CMAR	Chiang Mai Arr	139.42	158		PKPpre	16 25 21.8	
CMAR				PKPdf	PKPdf	16 25 29.8	-1.1
CMAR	Chiang Mai Arr comp=Z,0.3nm,0.3s,baz=203,slow=3.2,SNR=5.0	139.42	158	PKhKP	PKPpre	16 25 21.4	
CMAR	comp=Z,8.0nm,1.0s,baz=222,slow=3.2,SNR=18			PKP	PKPdf	16 25 31.8	+0.8
H20K	Anotleneega Mo baz=124	139.50	320	P	PKPdf	16 25 30.5	+0.8
TOLK	Toolik Lake Re baz=124,SNR=14	139.55	326	P	PKPdf	16 25 29.8	+0.1
G21K	Allakaket baz=124,SNR=8.4	139.60	322	P	PKPdf	16 25 30.8	+1.0
D24K	Happy Valley baz=124	139.62	327	P	PKPdf	16 25 30.4	+0.6
F22K	John River baz=124,SNR=7.2	139.72	324	P	PKPdf	16 25 30.4	+0.4
CHTO	Chiang Mai	139.76	158		PKPpre	16 25 24.3	
CHTO	Chiang Mai	139.76	158	PKHKP	PKPpre	16 25 24.3	
L15K	Ungalak Mounta baz=124	139.82	313	P	PKPdf	16 25 31.0	+0.8
J17K	VABM Dome baz=124	139.84	316	P	PKPdf	16 25 31.2	+0.9
M13K	Dall Lake baz=124	139.86	310	P	PKPdf	16 25 31.3	+1.0
C24K	Franklin Bluff baz=124	139.90	328	P	PKPdf	16 25 31.3	+1.1
F21K	Alatna River baz=123,SNR=17	139.99	323	P	PKiKP	16 25 31.9	-1.0
H19K	Roundabout Mou baz=123	140.06	320	P	PKPdf	16 25 31.7	+1.1
D23K	Nanushuk River baz=123	140.07	326	P	PKiKP	16 25 31.8	-1.2
L14K	Kuka Creek baz=124	140.11	312	P	PKPdf	16 25 31.5	+0.8
K15K	Wolf Creek Mou baz=123	140.18	313	P	PKPdf	16 25 31.8	+0.9
J16K	Anvik River baz=123	140.36	315	P	PKPdf	16 25 31.9	+0.7
P08K	Saint George I baz=125	140.40	302	P	PKPdf	16 25 31.6	+0.1
C23K	Itkillik River	140.52	327		PKPdf	16 25 31.1	-0.2
C23K	Itkillik River baz=123	140.52	327	P	PKPdf	16 25 32.2	+0.9
G19K	Purcell Mounta	140.61	320		PKPdf	16 25 31.8	+0.2
G19K	Purcell Mounta baz=122	140.61	320	P	PKPdf	16 25 32.6	+1.0
D22K	Ayikyak River baz=122	140.63	325	P	PKPdf	16 25 32.5	+0.9
F20K	Avaraart Lake baz=122	140.63	322	P	PKPdf	16 25 31.9	+0.3
I17K	Unalakleet baz=122	140.72	316	P	PKPdf	16 25 32.4	+0.6
E21K	Killik River baz=122	140.80	324	P	PKiKP	16 25 33.3	-1.3
G18K	Tagagawik baz=121	141.03	319	P	PKPdf	16 25 33.5	+1.2
M11K	Mekoryuk baz=122	141.03	309	P	PKPdf	16 25 32.9	+0.5
SPIA	Saint Paul Isl baz=124	141.04	303	P	PKPdf	16 25 33.3	+0.7
F19K	Shaleruckik Mo	141.21	321		PKPdf	16 25 31.4	-1.2
F19K	Shaleruckik Mo baz=121	141.21	321	P	PKPdf	16 25 33.6	+1.0
K13K	Kusilvak Mount baz=122	141.22	312	P	PKPdf	16 25 33.9	+1.1
E19K	Redstone River	141.35	322		PKPdf	16 25 32.3	-0.6
E19K	Redstone River baz=120	141.35	322	P	PKPdf	16 25 34.0	+1.1
E20K	Nigu River baz=120	141.41	323	P	PKiKP	16 25 34.6	-1.3
C21K	Knifeblade Rid baz=120	141.42	325	P	PKiKP	16 25 34.7	-1.1
G17K	Kiwalik Mounta baz=120	141.54	318	P	PKiKP	16 25 34.8	-1.3
B21K	Ikpikpuk River baz=120	141.60	326	P	PKPdf	16 25 34.6	+1.3
B22K	Teshekpuk Lake baz=120	141.61	327	P	PKiKP	16 25 34.7	-1.4
H16K	Elim baz=120	141.68	316	P	PKPdf	16 25 34.8	+1.2
D20K	Etivluk River baz=120	141.78	324	P	PKiKP	16 25 35.4	-1.1
G16K	Koyuk River baz=119	142.10	317	P	PKPdf	16 25 35.2	+0.9
D19K	Kuna River baz=119	142.15	323	P	PKPdf	16 25 35.4	+1.0
A22K	Sinclair Lake baz=118	142.38	328	P	PKiKP	16 25 36.3	-1.4
G15K	Niukluk baz=119	142.53	316	P	PKPdf	16 25 36.4	+1.3
B20K	Meade River baz=118	142.57	326	P	PKPdf	16 25 36.4	+1.4
ARCES	ARCESS Array B comp=Z,2.2nm,0.8s,baz=268,slow=3.6,SNR=4.8	142.60	35	PKhKP	PKPpre	16 25 31.4	
C19K	Lookout Ridge baz=117	142.91	324	P	PKiKP	16 25 37.5	-1.4
A21K	Barrow baz=116	143.01	328	P	PKPdf	16 25 37.0	+1.3
BELG	Belogornoye	143.07	69	*ce*PKIKP	PKPdf	16 25 35.2	-1.2
F15K	North Star Dit baz=118	143.09	317	P	PKPdf	16 25 37.0	+1.0
C18K	Utukok River baz=116	143.22	322	P	PKPdf	16 25 36.7	+0.4
D17K	Noatak River baz=116	143.44	320	P	PKPdf	16 25 37.1	+0.5
RDOG	Red Dog Mine baz=116	143.53	321	P	PKPdf	16 25 36.7	-0.1
F14K	Arctic Creek baz=117	143.61	316	P	PKPdf	16 25 36.7	-0.3
KBS	Kingsbay	143.64	19		PKPbc	16 25 35.3	+1.0
KBS	Kingsbay	143.64	19	PKIKP	PKPbc	16 25 35.3	+1.0
B18K	Kokolik River baz=115	143.73	323	P	PKPdf	16 25 37.0	0.0
KLMR	Klimovskoe	143.73	53	*e*PKIKP	PKPbc	16 25 35.6	+0.7
KLMR	comp=Z,22nm,1.4s			pmax	pmax		
NIL	Nilore	143.74	114		PKPpre	16 25 35.2	
NIL	Nilore	143.74	114	PKIKP	PKPab	16 25 35.2	+0.1
C17K	DeLong Mountai baz=115	143.81	322	P	PKPdf	16 25 36.7	-0.6
SPITS	Spitsbergen Ar comp=Z,21nm,0.9s,baz=161,slow=8.8,SNR=9.3	144.11	20	PKP	PKPdf	16 25 36.7	-0.9
SPB2	Spitsbergen Ar	144.11	20	PKPdf	PKPbc	16 25 36.2	+0.5
TNA	Tin City baz=116	144.24	316	P	PKPdf	16 25 38.5	+0.5
SHL	Shillong	144.40	145		PKPab	16 25 38.1	+0.1
SHL	Shillong	144.40	145	PKIKP	PKPbc	16 25 38.2	-0.1
C16K	Lisburne Hills baz=114	144.45	321	P	PKPdf	16 25 37.9	-0.4
EVN	Everest	144.86	136		PKPab	16 25 39.7	-0.6
LVZ	Lovozero	144.92	40		PKPab	16 25 38.5	0.0
LVZ	Lovozero	144.92	40	*ce*PKIKP	PKPdf	16 25 39.2	0.0
GAMB	Gambell baz=115	144.94	312	P	PKPdf	16 25 39.5	+0.2
TPUB	Ta-pu	145.40	191		PKPbc	16 25 40.5	-0.9
YULB	Yu-li	145.41	192		PKPbc	16 25 39.7	-1.7
SIMJ	Simiganj	145.45	104		PKPdf	16 25 41.1	-0.2
CHGR	Chuyangaron	145.53	104		PKPdf	16 25 41.0	-0.3
CHGR	Chuyangaron	145.53	104	PKIKP	PKPdf	16 25 41.0	-0.3
TNCH	TengChong	145.69	155	PKPbc	PKPab	16 25 43.2	+0.4
TNCH				PKPab	pPKPbc	16 25 45.1	-0.2
TNCH				sPKP		16 25 47.8	
TNCH	comp=Z,370nm,9.1s			AMB	AMB		
TNCH	comp=Z,560nm,35.3s			LR	LR		
TNCH	comp=Z,270nm,20.2s			LR	LR		
SHEM	Shemya Is, Ala comp=Z,164nm,0.9s,baz=79,slow=5.2,SNR=7.3	146.19	288	PKPbc	PKPbc	16 25 43.0	+0.1
SMY	Shemya	146.19	288		PKPdf	16 25 41.6	-0.2
SMY	Shemya	146.19	288	PKIKP	PKPdf	16 25 41.6	-0.2
GAR	Garm	146.39	105		PKPdf	16 25 42.6	-0.2
KMI	Kunming	146.62	162	PKPbc	PKPbc	16 25 45.4	+0.1
KIRV	Kirov	147.12	60	*ce*PKP2	PKPbc	16 25 45.4	0.0
ABKAR	Akbulak array	147.66	81		PKPdf	16 25 43.7	-0.7
PZH	PanZhiHua	147.79	160	PKPbc	PKPdf	16 25 46.4	+0.9
LSA	Lhasa	148.00	141		PKPbc	16 25 47.8	-1.5
LSA	Lhasa	148.00	141	PKP2	PKPbc	16 25 47.8	-1.5
GYA	Guiyang	148.49	168	⇑PKPbc	PKPbc	16 25 50.4	+0.1
KK31	Karatay Array	149.43	99	PKPdf	PKPdf	16 25 46.7	-0.8
KK31				PKPbc	PKPbc	16 25 52.1	+0.1
KK31	Karatay Array	149.43	99	PKP2	PKPbc	16 25 52.1	+0.1
KKAR	Karatay Array	149.43	99		PKPdf	16 25 46.4	-1.2
KKAR				PKPbc	PKPbc	16 25 52.2	+0.2
KKAR	Karatay Array	149.43	99	PKP2	PKPbc	16 25 52.2	+0.2
ARSB	Arslanbob	149.48	104		PKPdf	16 25 47.0	-0.8
ARSB	Arslanbob	149.48	104	PKIKP	PKPdf	16 25 47.0	-0.8
KSH	Kashi	149.69	110	PKPbc	PKPdf	16 25 48.3	+0.1
ARTI	Arti	150.51	68		PKPdf	16 25 48.0	-0.8
ARTI				PKPbc	PKiKP	16 25 54.8	-0.1
ARTI	Arti	150.51	68	*i* PKIKP	PKiKP	16 25 54.6	-0.2
EKS2	Erkin-Say SNR=5.6	150.85	103	P	PKPdf	16 25 50.3	+0.4
UCH	Uchtor SNR=18	150.93	105	P	PKiKP	16 25 57.5	+0.7
NRN	Naryn	151.12	108		PKPdf	16 25 49.1	-1.6
NRN	Naryn	151.12	108	PKIKP	PKPdf	16 25 49.1	-1.6
AAK	Ala-Archa SNR=24	151.21	104	P	PKiKP	16 25 57.5	+0.6
AAK	Ala-Archa	151.21	104		PKPdf	16 25 50.9	+0.4
AAK	Ala-Archa	151.21	104	PKIKP	PKPdf	16 25 50.9	+0.4
FRU1	Bishkek	151.40	104		PKiKP	16 25 57.2	0.0
FRU1	Bishkek	151.40	104	PKIKP	PKiKP	16 25 57.2	0.0
KBK	Karagaybulak SNR=14	151.46	105	P	PKiKP	16 25 58.0	+0.4
CHMS	Chumysh	151.60	104	P	PKiKP	16 25 57.9	+0.3
USP	Ospenovka SNR=33	151.65	103	P	PKPbc	16 25 57.5	+0.1
SVE	Sverdlovsk	151.82	69	*e*PKIKP	PKiKP	16 25 57.9	+0.4
SVE	comp=Z,46nm,1.6s			pmax	pmax		
TKM2	Tokmak 2 SNR=13	151.98	105	P	PKiKP	16 25 58.8	+0.1
KDJ	Kajisay	152.24	108		PKPdf	16 25 50.6	-1.5
KDJ	Kajisay	152.24	108	PKIKP	PKPdf	16 25 50.6	-1.5
CD2	Chengdu	152.45	161	PKPbc	PKPdf	16 25 53.0	+0.4
JMN	Monobe	152.52	218		PKPdf	16 25 50.7	-1.9
JMN					PKPab	16 26 10.9	+1.0
INU	Inuyama	152.85	225		PKPdf	16 25 52.5	-0.5
JNU	Nakatsue	152.90	213		PKPbc	16 25 58.3	-2.1
WHN	Wuhan	152.97	181	P	PKiKP	16 26 01.2	+0.5
MJAR	Matsushiro Arr comp=Z,0.9nm,0.8s,baz=188,slow=1.8,SNR=2.0	153.43	228	PKP	PKPdf	16 25 53.7	-0.1
MJAR	comp=Z,1.1nm,0.6s,baz=191,slow=4.3,SNR=4.9			PKPbc	PKiKP	16 26 01.7	+0.1
PETK	Petropavlovsk-	154.96	279		PKPdf	16 25 55.0	-0.4
PETK				PKPbc	PKPbc	16 26 04.1	0.0
PETK				PKPab	PKPab	16 26 19.8	0.0
PETK	Petropavlovsk- comp=Z,4.3nm,0.9s,baz=77,slow=1.9,SNR=3.3	154.96	279	PKP	PKPdf	16 25 55.6	+0.2
PETK	comp=Z,15nm,0.9s,baz=128,slow=6.2,SNR=12			PKPbc	PKiKP	16 26 04.9	+0.8
PETK	comp=Z,12nm,0.9s,baz=111,slow=8.1,SNR=7.6			PKPab	PKPab	16 26 20.8	+1.0
PETK	Petropavlovsk-	154.96	279	PKP2	PKPab	16 26 19.8	0.0
BVAR	Borovoye Array comp=Z,4.5nm,0.9s,baz=225,slow=1.9,SNR=13	155.23	82	PKP	PKPdf	16 25 56.1	+0.3
BVAR	comp=Z,3.1nm,0.5s,baz=222,slow=4.0,SNR=5.4			PKPab	pPKPab	16 26 23.1	-0.8
XAN	Xi'an	156.23	170	⇑PKP	PKPdf	16 25 57.6	-0.2
LZDM	Lanzhou Array comp=Z,2.0nm,0.3s,baz=116,slow=3.4,SNR=1.7	157.35	158	PKP	PKPdf	16 25 59.5	0.0
LZDM	comp=Z,2.9nm,0.3s,baz=345,slow=39,SNR=2.4			PKPab	PKPab	16 26 29.6	-1.2
LZH	Lanzhou	157.50	159	*e*PKP	PKPdf	16 25 54.4	-5.1
LZH				sPKP		16 26 09.3	
ASAJ	Asahikawa comp=Z,7.1nm,0.8s,baz=207,slow=4.5,SNR=9.2	157.57	246	PKPab	PKPab	16 26 32.6	+1.4
KSAR	Wonju Array Be	157.80	211	PKPdf	PKPdf	16 25 58.4	-1.2
KSAR					PKPab	16 26 31.8	-0.5
KSAR	Wonju Array Be	157.80	211	PKIKP	PKPdf	16 25 58.4	-1.2
KSAR						16 26 31.8	
KSRS	Korea Array comp=Z,0.3nm,0.4s,baz=173,slow=1.5,SNR=3.2	157.80	211	PKP	PKPdf	16 25 59.8	+0.3
KSRS	comp=Z,3.2nm,1.0s,baz=153,slow=4.2,SNR=8.5			PKPab	PKPab	16 26 32.7	+0.4
MKAR	Makanchi Array	158.10	106		PKPdf	16 25 58.4	-1.3
MKAR	Makanchi Array comp=Z,2.3nm,1.0s,baz=236,slow=1.0,SNR=11	158.10	106	PKP	PKPdf	16 25 59.7	-0.1
MKAR	comp=Z,1.8nm,0.8s,baz=216,slow=3.9,SNR=6.6			PKPab	PKPab	16 26 33.5	0.0
KURBB	Kurchatov Arra comp=Z,1.3nm,0.8s,baz=234,slow=1.4,SNR=11	158.40	94	PKP	PKPdf	16 25 59.6	-0.3
KURBB	comp=Z,5.0nm,0.9s,baz=243,slow=5.0,SNR=14			PKPab	PKPab	16 26 34.6	0.0
KURBB	comp=Z,0.7nm,1.0s,baz=234,slow=6.4,SNR=4.2			PP	PP	16 30 16.4	+0.8
KURK	Kurchatov	158.50	93		PKPdf	16 25 59.5	-0.5
KURK					PKPab	16 26 33.6	-1.5
KURK	Kurchatov	158.50	93	PKIKP	PKPdf	16 25 59.5	-0.5
KURK						16 26 33.6	
WMQ	Urumqi	158.68	119	*e*PKP	PKPdf	16 26 01.7	+1.1
WMQ	comp=Z,310nm,22.5s			LR	LR		
GTA	Gaotai	159.68	147	PKP	PKPdf	16 26 02.9	+0.9
GTA				PKPab	pPKPab	16 26 42.7	-0.7
SEY	Seymchan comp=Z,4.9nm,1.0s,baz=72,slow=3.1,SNR=5.1	160.34	302	PKP	PKPdf	16 26 00.8	-1.0
SEY	comp=Z,2.7nm,0.9s,baz=103,slow=7.5,SNR=2.4			PKPab	PKPab	16 26 43.0	+0.2
MA2	Magadan comp=Z,3.7nm,0.8s,baz=126,slow=8.4,SNR=5.1	160.76	292	PKPab	PKPab	16 26 45.3	+0.6
USRK	Ussuriysk Ar. comp=Z,2.3nm,0.8s,baz=186,slow=4.3,SNR=5.4	162.43	228	PKPab	PKPab	16 26 53.1	+0.8
HHC	Hu-ho-hao-te	163.20	174	*e*PKP	PKPdf	16 26 02.6	-3.0
ZALV	Zalesovo Beam	163.38	90		PKPdf	16 26 03.8	-1.4
ZALV	Zalesovo Beam comp=Z,0.6nm,0.4s,baz=217,slow=4.5,SNR=8.7	163.38	90	PKP	PKPdf	16 26 04.5	-0.6
ZALV	comp=Z,0.5nm,0.4s,baz=254,slow=9.8,SNR=1.5			PKPab	pPKPab	16 26 58.0	-1.3
BNX	BinXian	165.47	221	⇓PKP	PKPdf	16 26 05.3	-2.0
SONM	Songino Array	169.28	152		PKPdf	16 26 09.8	-0.3
SONM				PKPab	PKPab	16 27 20.3	-2.3
SONM	Songino Array comp=Z,3.4nm,1.0s,baz=187,slow=3.1,SNR=10	169.28	152	PKP	PKPdf	16 26 10.3	+0.2
SONM	comp=Z,0.8nm,0.6s,baz=186,slow=5.7,SNR=3.9			PKPab	PKPab	16 27 23.0	+0.4
ULN	Ulaanbaatar	169.46	155		PKPdf	16 26 09.3	-1.0
ULN				PKPab	PKPab	16 27 21.4	-2.1
ULN	Ulaanbaatar	169.46	155	PKP2	PKPab	16 27 21.4	-2.1
ULN						17 26 09.3	
ZAK	Zakamensk comp=Z,10.0nm,1.7s	170.52	135	*e*PKIKP	PKPdf	16 26 10.8	0.0
ZAK				pmax	pmax		
YAK	Yakutsk comp=Z,5.0nm,0.4s,baz=114,slow=1.1,SNR=6.4	170.83	306	PKP	PKPdf	16 26 08.8	-1.5
ZEA	Zeya	171.46	249	*e*PKP2	PKPab	16 27 32.6	+0.5

*IDC **05** 16:19:09.1±6.6,4.°80N×70.°97W,h100km±60km,mb3.2/1, mbtmp3.9/3,ML2.8/2,Error ellipse: s-maj=118.2km s-min=29.7km az=147.0*
*RSNC **05** 16:19:19.8±0.0,7.°N±1.°×7.°3W±.°,h149km±2km,M3.1,mb3.8, ML2.8*

ISC 05 16:19:18.6±1.0,6.°86N±0.°03×73.°11W±0.°04,h150km,n35, σ1°36/64,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.27	196	P	Pn	16 19 40.0	+0.6
BARC				S	Sn	16 19 55.7	+0.5
PAMC	Pamplona, Colo	0.63	40	P	Pn	16 19 42.7	+1.5
PAMC				S	Sn	16 20 00.0	+1.6
BRJC	Barrancabermej	0.64	280	P	Pn	16 19 41.7	+1.0
BRJC				S	Sn	16 19 59.2	+1.7
RUSC	La Rusia	0.96	178	P	Pn	16 19 43.8	+0.2
RUSC				S	Sn	16 20 02.2	-0.4
PTBC	PUERTO BERRIO,	1.38	257	P	Pn	16 19 46.5	-0.4
PTBC				S	Sn	16 20 07.6	-0.9
OCAC	Ocana	1.39	351	P	Pn	16 19 47.8	+0.6
OCAC				S	Sn	16 20 09.9	+0.8
ZARC	Zaragoza, Cauc	1.85	290	P	Pn	16 19 52.6	+0.6
ZARC				S	Sn	16 20 18.3	+0.7
NORC	Norcasia	2.17	234	P	Pn	16 19 55.9	+0.1
NORC				S	Sn	16 20 23.3	-1.1
ROSC	El Rosal 17nm,0.3s,baz=45,slow=20,SNR=15	2.34	211	P	Pn	16 19 59.7	+1.5
ROSC	104nm,0.4s,baz=41,slow=19,SNR=17 38nm,0.3s			S	Sn	16 20 30.4	+1.8
ROSC	El Rosal	2.34	211	P	Pn	16 19 59.2	+1.1
ROSC				S	Sn	16 20 30.5	+1.9
HELC	Santa Helena	2.49	255	P	Pn	16 20 00.9	+0.9
HELC				S	Sn	16 20 31.4	-0.4
UREC	San Jos de Ur	2.56	290	P	Pn	16 20 00.8	+0.3
UREC				S	Sn	16 20 31.3	-1.5
GUY2C	Guyana, Caldas	2.77	234	P	Pn	16 20 04.6	+1.1
GUY2C				S	Sn	16 20 37.6	-0.5
VILC	Villavicencio,	2.79	192	P	Pn	16 20 03.6	+0.1
VILC				S	Sn

PRAC	**Prado**	**3.59**	**210**	P		**Pn**	**16 20 13.2**	**-0.4**
PRAC				S		**Sn**	**16 20 56.1**	**-0.1**
APAC	**Apartado, Choc**	**3.60**	**287**	P		**Pn**	**16 20 13.4**	**-0.2**
APAC				S		**Sn**	**16 20 56.0**	**-0.3**
ORTC	**Ortega, Tolima**	**3.62**	**216**	P		**Pn**	**16 20 13.9**	**-0.1**
ORTC				S		**Sn**	**16 20 56.9**	**0.0**
SJCC	**San Jacinto, C**	**3.65**	**326**	P		**Pn**	**16 20 13.7**	**-0.7**
SJCC				S		**Sn**	**16 20 55.6**	**-2.1**
URMC	**La Uribe, Meta**	**3.80**	**199**	P		**Pn**	**16 20 16.8**	**+0.4**
URMC				S		**Sn**	**16 21 00.7**	**-0.6**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P		**Pn**	**16 20 20.1**	**-0.7**
CRJC				S		**Sn**	**16 21 07.5**	**-1.7**
YOTC	**Yotoco, Valle**	**4.30**	**229**	P		**Pn**	**16 20 24.2**	**+1.2**
SMRC	**Santa Marta, M**	**4.42**	**346**	P		**Pn**	**16 20 24.8**	**+0.4**
SMRC				S		**Sn**	**16 21 13.0**	**-2.6**
MACC	**Macarena, Meta**	**4.74**	**189**	P		**Pn**	**16 20 26.5**	**-2.1**
MACC				S		**Sn**	**16 21 19.6**	**-3.6**
URIC	**Uribia, Colomb**	**4.94**	**13**	P		**Pn**	**16 20 30.1**	**-1.1**
URIC				S		**Sn**	**16 21 27.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**73.72**	**78**	P		P	16 30 22.9	-14
	0.4nm,0.8s,baz=262,slow=4.4,SNR=2.0							
	0.4nm,0.8s							
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc		**PKPdf**	**16 38 48.0**	**+2.2**
	0.2nm,0.6s,baz=117,slow=3.5,SNR=6.3							
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc		**PKPbc**	**16 38 51.0**	**-2.1**
	0.2nm,0.4s,baz=109,slow=2.4,SNR=6.8							

NEIC ***05*** *16:32:51.9±0.8, 55.08N±0.06×159.47W±0.04, h28km±12km, ML2.8/36, ML2.6(AEIC), Error ellipse: s-maj=8.7km s-min=1.8km az=160.0*
AEIC ***05*** *16:32:52.3±2.0, 55.08N±0.03×159.58W±0.06, h17km±5km, Error ellipse: s-maj=5.3km s-min=3.2km az=48.0*
ISC 05 16:32:51.8±1.5**, 55.06N**±0.08×**159.42W**±0.04**, h37km, n31,** σ1§**48**/34**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CHNA	**Chernabura Isl**	**0.25**	**204**	P		**Pn**	**16 32 58.3**	**-1.9**
CHNA	**Chernabura Isl**	**0.25**	**204**	P		**Pn**	**16 33 03.3**	**+3.1**
CNBA	**Chernabura Isl**	**0.26**	**203**			**Pn**	**16 32 58.5**	**-1.6**
CNBA						**Sn**	**16 33 03.0**	**-4.8**
CNBA				IAML			16 33 03.5	
	comp=E,2μm,0.4s							
CNBA				IAML			16 33 03.6	
	comp=N,912nm,0.3s							
SDPT	**Sand Point**	**0.67**	**296**			**Pn**	**16 33 04.0**	**-0.9**
SDPT				IAML			16 33 13.1	
	comp=N,560nm,0.5s							
SDPT				IAML			16 33 13.4	
	comp=E,346nm,0.2s							
SDPT	**Sand Point**	**0.67**	**296**			**Sn**	**16 33 12.9**	**-1.2**
VNSG	**Veniaminof 6**	**1.09**	**10**			**Pn**	**16 33 10.7**	**+0.2**
VNNF	**Veniaminof 3**	**1.23**	**3**			**Pn**	**16 33 13.9**	**+1.4**
VNFG	**Fog Glacier, M**	**1.23**	**356**			**Pn**	**16 33 13.9**	**+1.4**
VNFG	**Fog Glacier, M**	**1.23**	**356**	IAML			16 33 40.8	
	comp=N,333nm,0.6s							
VNFG				IAML			16 33 43.7	
	comp=E,217nm,0.6s							
CHGN	**Chignik**	**1.37**	**24**			**Pn**	**16 33 14.6**	**+0.3**
CHGN				IAML			16 33 37.5	
	comp=N,135nm,0.1s							
PS1A	**Pavlof South-1**	**1.38**	**286**			**Pn**	**16 33 15.1**	**+0.6**
PS1A						**Sn**	**16 33 32.5**	**+1.0**
DOL	**Dolgoi Island**	**1.41**	**275**			**Pn**	**16 33 15.0**	**+0.1**
DOL						**Sn**	**16 33 32.1**	**-0.1**
PS4A	**Pavlof South-4**	**1.43**	**283**			**Pn**	**16 33 15.6**	**+0.5**
PS4A						**Sn**	**16 33 33.5**	**+0.9**
S12K	**Black Hills**	**1.64**	**294**			**Pn**	**16 33 18.3**	**+0.2**
S12K				IAML			16 33 42.9	
	comp=E,202nm,0.4s							
S12K				IAML			16 33 43.3	
	comp=N,130nm,0.2s							
DT1	**Dutton Round H**	**1.65**	**273**			**Pn**	**16 33 18.3**	**+0.2**
CHIR	**Chirikof Islan**	**2.29**	**69**	Pn		**Pn**	**16 33 28.0**	**+1.1**
CHIR	**Chirikof Islan**	**2.29**	**69**	P		**Pn**	**16 33 28.1**	**+1.1**
FALS	**False Pass**	**2.32**	**267**	Pn		**Pn**	**16 33 28.1**	**+0.8**
R16K	**Pilot Point**	**2.72**	**21**	Pn		**Pn**	**16 33 33.5**	**+0.7**
PLK4	**Peulik 4**	**3.09**	**32**	Pn		**Pn**	**16 33 40.9**	**+2.8**
PLK4				IAML			16 34 19.0	
	comp=N,22nm,0.8s							
PLK4				IAML			16 34 22.4	
	comp=E,18nm,1.0s							
SII	**Sitkinak Islan**	**3.31**	**61**	Pn		**Pn**	**16 33 41.9**	**+0.9**
SII				IAML			16 34 56.4	
	comp=E,24nm,1.2s							
SII				IAML			16 34 57.1	
	comp=N,22nm,0.9s							
SII	**Sitkinak Islan**	**3.31**	**61**	P		**Pn**	**16 33 42.0**	**+0.9**
OHAK	**Old Harbor**	**4.06**	**55**	Pn		**Pn**	**16 33 51.6**	**+0.4**
OHAK	**Old Harbor**	**4.06**	**55**	P		**Pn**	**16 33 51.9**	**+0.7**
P16K	**Nushagak River**	**4.06**	**10**	Pn		**Pn**	**16 33 50.7**	**-0.5**
O15K	**Ungalikthiuk R**	**4.13**	**357**	Pn		**Pn**	**16 33 53.7**	**+1.4**
O15K				IAML			16 35 22.8	
	comp=E,7.6nm,1.2s							
O15K				IAML			16 36 13.8	
	comp=N,7.5nm,1.0s							
O14K	**Tigyukauivet M**	**4.33**	**347**	Pn		**Pn**	**16 33 55.8**	**+0.9**
O14K				IAML			16 34 41.1	
	comp=E,14nm,1.2s							
O14K				IAML			16 36 31.0	
	comp=N,13nm,1.1s							
O16K	**Kokwok River B**	**4.60**	**8**	Pn		**Pn**	**16 34 00.1**	**+1.4**
KDAK	**Kodiak Island**	**4.67**	**51**	Pn		**Pn**	**16 33 59.7**	**0.0**
P18K	**Big Mountain,**	**4.90**	**26**	Pn		**Pn**	**16 34 04.3**	**+1.4**
P18K				IAML			16 35 34.5	
	comp=E,4.8nm,0.9s							
N14K	**Kuskokwak Cree**	**5.03**	**347**	Pn		**Pn**	**16 34 04.0**	**-0.6**

NEIC ***05*** *16:41:53.4±1.8, 16.88N±0.05×95.16W±0.05, h107km±4km, mb4.4/37, Md4.4/77(MEX), Error ellipse: s-maj=7.9km s-min=6.2km az=183.0*
GCG ***05*** *16:41:53.4±4.6, 17.08N×95.14W, h50km±383km, ML4.4*
MEX ***05*** *16:41:54.2±1.4, 16.88N×95.18W, h108km±8km, MD4.4*
ISC 05 16:41:52.8±0.8**, 16.91N**±0.03×**95.19W**±0.02**, h115**km±6km**, n119,** σ1§**91**/186**, mb4.5**/10**, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.34**	**59**			**Pn**	**16 42 09.1**	**-0.2**
CMIG						**Sn**	**16 42 20.2**	**-1.5**
CMIG	**Matias Romero**	**0.34**	**59**	*i* P		**Pn**	**16 42 09.1**	**-0.2**
CMIG				*i* S		**Sn**	**16 42 20.2**	**-1.5**
NEUV	**Arroyo Zacate**	**0.99**	**323**			**Pn**	**16 42 14.2**	**0.0**
NEUV						**Sn**	**16 42 29.6**	**-0.9**
NEUV	**Arroyo Zacate**	**0.99**	**323**	*i* P		**Pn**	**16 42 14.2**	**0.0**
NEUV				*i* S		**Sn**	**16 42 29.6**	**-0.9**
TUIG	**Tuzandepetl**	**1.33**	**33**	*e*P		**Pn**	**16 42 17.9**	**0.0**
TUIG				*e*S		**Sn**	**16 42 36.4**	**-0.6**
HUIG	**Huatulco**	**1.44**	**218**			**Pn**	**16 42 18.1**	**-1.2**
HUIG						**Sn**	**16 42 37.9**	**-1.4**
HUIG	**Huatulco**	**1.44**	**218**	*i* P		**Pn**	**16 42 18.1**	**-1.2**
HUIG				*e*S		**Sn**	**16 42 37.9**	**-1.4**
HUIG	**Huatulco**	**1.44**	**218**	*e*P		**Pn**	**16 42 17.7**	**-1.6**
HUIG				*e*S		**Sn**	**16 42 37.5**	**-1.8**
HUIG				IAML			16 42 40.9	
	comp=N,656nm,0.2s							
OXLC	**Oaxaca**	**1.46**	**276**			**Pn**	**16 42 19.8**	**+0.2**
OXLC						**Sn**	**16 42 39.4**	**-0.6**
OXLC	**Oaxaca**	**1.46**	**276**	*e*P		**Pn**	**16 42 19.8**	**+0.2**
OXLC				*e*S		**Sn**	**16 42 39.4**	**-0.6**
OXBJ	**Oaxaca**	**1.48**	**276**			**Pn**	**16 42 20.4**	**+0.5**
OXBJ						**Sn**	**16 42 40.5**	**0.0**
OXBJ	**Oaxaca**	**1.48**	**276**	*e*P		**Pn**	**16 42 20.4**	**+0.5**
OXBJ				*e*S		**Sn**	**16 42 40.5**	**0.0**
OXIG	**Oaxaca**	**1.49**	**276**			**Pn**	**16 42 21.4**	**+1.4**
OXIG						**Sn**	**16 42 41.5**	**+0.9**
VHO	**Vista Hermosa**	**1.49**	**276**	*e*P		**Pn**	**16 42 21.4**	**+1.5**
VHO				*e*S		**Sn**	**16 42 41.5**	**+0.9**
PMUV	**Sontecomapan**	**1.62**	**2**			**Pn**	**16 42 21.6**	**+0.1**
PMUV	**Sontecomapan**	**1.62**	**2**	*e*P		**Pn**	**16 42 21.6**	**+0.1**
TGIG		**1.98**	**94**			**Pn**	**16 42 26.4**	**+0.6**
TGIG						**Sn**	**16 42 49.2**	**-1.8**
TGIG		**1.98**	**94**	*i* P		**Pn**	**16 42 26.4**	**+0.6**
TGIG				*i* S		**Sn**	**16 42 49.2**	**-1.8**
TGIG		**1.98**	**94**	*e*P		**Pn**	**16 42 26.2**	**+0.4**
TGIG				*e*S		**Sn**	**16 42 48.4**	**-2.6**
TGIG				IAML			16 42 52.4	
	comp=N,2μm,0.3s							
TGBT	**Tuxtla Gutierr**	**2.01**	**94**			**Pn**	**16 42 26.4**	**+0.3**
TGBT						**Sn**	**16 42 49.8**	**-1.8**
TGBT	**Tuxtla Gutierr**	**2.01**	**94**	*e*P		**Pn**	**16 42 26.4**	**+0.3**
TGBT				*e*S		**Sn**	**16 42 49.8**	**-1.8**
PEIG	**Puerto Escondi**	**2.09**	**244**			**Pn**	**16 42 26.0**	**-1.2**
PEIG						**Sn**	**16 42 52.3**	**-1.2**
PEIG	**Puerto Escondi**	**2.09**	**244**	*i* P		**Pn**	**16 42 26.0**	**-1.2**
PEIG				*e*S		**Sn**	**16 42 52.3**	**-1.2**
TOIG	**Toxpalan**	**2.14**	**303**			**Pn**	**16 42 29.6**	**+1.7**
TOIG						**Sn**	**16 42 55.6**	**+0.8**
TOIG	**Toxpalan**	**2.14**	**303**	*e*P		**Pn**	**16 42 29.6**	**+1.7**
TOIG				*e*S		**Sn**	**16 42 55.6**	**+0.8**
PCIG		**2.24**	**122**			**Pn**	**16 42 31.5**	**+2.5**
PCIG						**Sn**	**16 42 56.6**	**-0.2**
PCIG		**2.24**	**122**	*e*P		**Pn**	**16 42 31.5**	**+2.5**
PCIG				*e*S		**Sn**	**16 42 56.6**	**-0.2**
YOIG	**Yosondua**	**2.26**	**269**			**Pn**	**16 42 30.5**	**+1.0**
YOIG						**Sn**	**16 42 55.8**	**-1.9**
YOIG	**Yosondua**	**2.26**	**269**	*i* P		**Pn**	**16 42 30.5**	**+1.0**
YOIG				*e*S		**Sn**	**16 42 55.8**	**-1.9**
VHSA	**Villahermosa**	**2.39**	**63**			**Pn**	**16 42 31.7**	**+0.7**
VHSA						**Sn**	**16 43 00.5**	**+0.2**
VHSA	**Villahermosa**	**2.39**	**63**	*e*P		**Pn**	**16 42 31.7**	**+0.7**
VHSA				*e*S		**Sn**	**16 43 00.5**	**+0.2**
TXIG	**Tlaxiaco**	**2.49**	**278**			**Pn**	**16 42 33.9**	**+1.3**
TXIG						**Sn**	**16 43 00.4**	**-2.7**
TXIG	**Tlaxiaco**	**2.49**	**278**	*e*P		**Pn**	**16 42 33.9**	**+1.3**
TXIG				*e*S		**Sn**	**16 43 00.4**	**-2.7**
TPIG	**Tehuac#an**	**2.56**	**306**			**Sn**	**16 43 04.9**	**+0.4**
TPIG	**Tehuac#an**	**2.56**	**306**	*e*S		**Sn**	**16 43 04.9**	**+0.4**
HLIG	**Huajuapan de L**	**2.66**	**290**			**Pn**	**16 42 36.6**	**+1.9**
HLIG						**Sn**	**16 43 06.5**	**-0.4**
HLIG	**Huajuapan de L**	**2.66**	**290**	*e*P		**Pn**	**16 42 36.6**	**+1.9**
HLIG				*e*S		**Sn**	**16 43 06.5**	**-0.4**
PNIG	**Pinotepa**	**2.87**	**260**			**Pn**	**16 42 36.8**	**-0.5**
PNIG						**Sn**	**16 43 09.3**	**-2.1**
PNIG	**Pinotepa**	**2.87**	**260**	*i* P		**Pn**	**16 42 36.8**	**-0.5**
PNIG				*e*S		**Sn**	**16 43 09.3**	**-2.1**
JAUV	**Jalcomulco**	**2.88**	**328**			**Pn**	**16 42 37.0**	**-0.4**
JAUV	**Jalcomulco**	**2.88**	**328**	*e*P		**Pn**	**16 42 37.0**	**-0.4**
JAUV				*e*S		**Sn**	**16 43 10.0**	**-1.9**
FTIG	**Fresnillo de T**	**2.98**	**290**			**Pn**	**16 42 41.0**	**+2.2**
FTIG						**Sn**	**16 43 12.7**	**-1.6**
FTIG	**Fresnillo de T**	**2.98**	**290**	*e*P		**Pn**	**16 42 41.0**	**+2.2**
FTIG				*e*S		**Sn**	**16 43 12.7**	**-1.6**
CCIG	**Comitan**	**2.99**	**102**			**Pn**	**16 42 39.9**	**+0.9**
CCIG					Sn	**Sn**	**16 43 12.8**	**-1.7**
CCIG	**Comitan**	**2.99**	**102**	*e*P		**Pn**	**16 42 40.2**	**+1.3**
CCIG				*e*S		**Sn**	**16 43 12.6**	**-1.9**
CCIG	**Comitan**	**2.99**	**102**	*e*P		**Pn**	**16 42 40.3**	**+1.3**
CCIG				IAML			16 43 21.2	
	comp=N,2μm,0.4s							
LVIG	**Laguna Verde**	**3.03**	**337**	*e*P		**Pn**	**16 42 38.4**	**-0.9**
LVIG				*e*S		**Sn**	**16 43 11.6**	**-3.6**
TLIG	**Tlapa**	**3.29**	**282**			**Pn**	**16 42 43.9**	**+1.0**
TLIG					Sn	**Sn**	**16 43 21.2**	**-0.5**
TLIG	**Tlapa**	**3.29**	**282**	*e*P		**Pn**	**16 42 44.6**	**+1.7**
TLIG				*e*S		**Sn**	**16 43 18.8**	**-2.9**
MGIG	**Malinaltepec**	**3.31**	**276**			**Pn**	**16 42 44.8**	**+1.5**
MGIG						**Sn**	**16 43 21.8**	**-0.5**
MGIG	**Malinaltepec**	**3.31**	**276**	*e*P		**Pn**	**16 42 44.8**	**+1.5**
MGIG				*e*S		**Sn**	**16 43 21.8**	**-0.5**
PATR	**El Naranjo**	**3.35**	**122**			**Pn**	**16 42 45.6**	**+1.8**
PATR						**Sn**	**16 43 24.3**	**+1.0**
PATR	**El Naranjo**	**3.35**	**122**	*e*P		**Pn**	**16 42 45.6**	**+1.8**
PATR				*e*S		**Sn**	**16 43 24.3**	**+1.0**
PAVE	**Pavencul**	**3.36**	**120**			**Pn**	**16 42 46.4**	**+2.1**
PAVE						**Sn**	**16 43 24.3**	**+0.9**
PAVE	**Pavencul**	**3.36**	**120**	*e*P		**Pn**	**16 42 46.0**	**+2.1**
PAVE				*e*S		**Sn**	**16 43 24.3**	**+0.9**
CHUJ	**Union Juarez**	**3.47**	**121**	*e*P		**Pn**	**16 42 46.6**	**+1.2**
CHUJ				*e*S		**Sn**	**16 43 27.5**	**+1.5**
CRIG	**Cruz Grande**	**3.78**	**268**			**Pn**	**16 42 48.7**	**-0.6**
CRIG	**Cruz Grande**	**3.78**	**268**	*e*P		**Pn**	**16 42 48.7**	**-0.6**
CRIG				*e*S		**Sn**	**16 43 29.9**	**-3.2**
HUEH	**Huehuetenango**	**3.88**	**114**	Pn		**Pn**	**16 42 47.6**	**-3.2**
HUEH				Sn		**Sn**	**16 43 33.5**	**-2.3**
HUEH	**Huehuetenango**	**3.88**	**114**	*e*S		**Sn**	**16 43 33.5**	**-2.3**
PPM	**Popocatepetl**	**3.91**	**304**	*e*S		**Sn**	**16 43 29.4**	**-7.6**
CXUV	**Coxquihui**	**3.96**	**325**			**Pn**	**16 42 52.5**	**+0.7**
CXUV	**Coxquihui**	**3.96**	**325**	*e*P		**Pn**	**16 42 52.5**	**+0.7**
CXUV				*e*S		**Sn**	16 43 27.8	-10
RTAL	**Retalhuleu**	**4.12**	**125**	Pn		**Pn**	**16 42 52.0**	**-1.8**
RTAL				Sn		**Sn**	**16 43 32.6**	**-8.5**
YAIG	**Yautepec**	**4.17**	**298**			**Pn**	**16 42 57.8**	**+3.1**
YAIG						**Sn**	**16 43 41.5**	**-1.2**
YAIG	**Yautepec**	**4.17**	**298**	*e*P		**Pn**	**16 42 57.8**	**+3.1**
YAIG				*e*S		**Sn**	**16 43 41.5**	**-1.2**
DAIG	**Los Arroyos**	**4.28**	**272**			**Pn**	**16 42 55.7**	**-0.2**
DAIG	**Los Arroyos**	**4.28**	**272**	*e*P		**Pn**	**16 42 55.7**	**-0.2**
DAIG				*e*S		**Sn**	**16 43 41.1**	**-3.9**
SCIG	**Sabancuy**	**4.32**	**61**	*e*P		**Pn**	**16 42 55.5**	**-1.0**
SCIG				*e*S		**Sn**	**16 43 41.0**	**-4.9**
SCIG	**Sabancuy**	**4.32**	**61**	*e*P		**Pn**	**16 42 55.8**	**-0.7**
SCIG				*e*S		**Sn**	**16 43 41.1**	**-4.9**
SCIG				IAML			16 43 45.7	
	comp=N,828nm,0.3s							
MEIG	**Mezcala**	**4.35**	**284**			**Pn**	**16 42 59.4**	**+2.3**
MEIG	**Mezcala**	**4.35**	**284**	*e*P		**Pn**	**16 42 59.4**	**+2.3**
MEIG				*e*S		**Sn**	**16 43 43.6**	**-3.3**
CAIG	**El Cayaco**	**4.87**	**272**			**Pn**	**16 43 04.1**	**+0.3**
CAIG	**El Cayaco**	**4.87**	**272**	*e*P		**Pn**	**16 43 04.1**	**+0.3**
CAIG				*e*S		**Sn**	**16 43 52.7**	**-6.5**
PETF	**Flores**	**5.09**	**89**			**Pn**	**16 43 07.0**	**+0.1**
PETF					Sn	**Sn**	**16 43 59.0**	**-5.5**
PETF	**Flores**	**5.09**	**89**	*e*P		**Pn**	**16 43 06.9**	**-0.1**
PETF				*e*S		**Sn**	**16 44 00.7**	**-4.0**
PETF	**Flores**	**5.09**	**89**	*e*P		**Pn**	**16 43 07.0**	**+0.1**
PETF				*e*S		**Sn**	**16 43 59.1**	**-5.5**
PETF				IAML			16 44 17.7	
	comp=E,558nm,0.7s							
ARIG	**Puente Sto Nin**	**5.11**	**286**			**Pn**	**16 43 10.2**	**+3.0**
ARIG						**Sn**	**16 44 04.0**	**-1.1**
ARIG	**Puente Sto Nin**	**5.11**	**286**	*e*P		**Pn**	**16 43 10.2**	**+3.0**
ARIG				*e*S		**Sn**	**16 44 04.0**	**-1.1**
ZIIG	**Zihuatanejo**	**6.04**	**277**			**Pn**	**16 43 20.6**	**+0.9**
ZIIG						**Sn**	**16 44 27.8**	**+0.2**
ZIIG	**Zihuatanejo**	**6.04**	**277**	*e*P		**Pn**	**16 43 20.6**	**+0.9**
ZIIG				*e*S		**Sn**	**16 44 27.8**	**+0.2**
MTO3	**Montecristo**	**6.14**	**113**			**Pn**	**16 43 21.4**	**+0.1**
MYIG	**Merida**	**6.54**	**51**	*e*S		**Sn**	**16 44 37.2**	**-2.4**
TEIG	**Tepich**	**7.33**	**62**			**Pn**	**16 43 35.5**	**-1.7**
BRDY	**Brady**	**14.72**	**347**	P		**P**	**16 45 19.7**	**+1.3**
OZNA	**Ozona**	**14.96**	**340**			**P**	**16 45 21.9**	**+0.8**
WHTX	**Lake Whitney,**	**15.15**	**353**	P		**P**	**16 45 23.4**	**+0.2**
WHTX					IAmb	IAmb	16 45 27.1	
	comp=Z,20nm,0.6s							
SGCY	**Sterling City**	**15.88**	**341**	P		**P**	**16 45 31.9**	**+0.6**
APMT	**Aspermont**	**16.94**	**346**			**P**	**16 45 44.0**	**+1.0**
DKNS	**Dickens**	**17.46**	**344**	P		**P**	**16 45 49.9**	**+1.2**
MIAR	**Mount Ida**	**17.62**	**4**			**Pn**	**16 45 52.1**	**+1.0**
UALR	**University of**	**17.97**	**8**			**Pn**	**16 45 56.1**	**+0.8**
UALR					IAmb	IAmb	16 45 57.4	
	comp=Z,15nm,0.8s							
SMWD	**Samnorwood**	**18.67**	**347**	P		**P**	**16 46 03.4**	**+1.4**
SMWD					IAmb	IAmb	16 46 07.3	
	comp=Z,10.0nm,0.8s							
DEOK	**Depew**	**18.89**	**357**			**P**	**16 46 05.3**	**+1.0**
DEOK					IAmb	IAmb	16 46 07.2	
	comp=Z,20nm,0.7s							
OK052	**Battle Ridge R**	**19.06**	**356**	P		**P**	**16 46 08.0**	**+1.9**
FCAR	**Ozark Folk Cen**	**19.09**	**8**			**P**	**16 46 08.4**	**+1.9**
FCAR					IAmb	IAmb	16 46 09.3	
	comp=Z,15nm,0.9s							
RLO	**Rose Lookout**	**19.18**	**0**	P		**P**	**16 46 09.3**	**+1.9**
RLO					IAmb	IAmb	16 46 12.2	
	comp=Z,13nm,1.1s							
QUOK	**Quay**	**19.23**	**356**	P		**P**	**16 46 09.6**	**+1.6**
HHAR	**Hobbs**	**19.32**	**3**			**P**	**16 46 10.3**	**+1.3**
LCAR	**Lake Charles**	**19.41**	**10**			**P**	**16 46 11.3**	**+1.4**
LCAR					IAmb	IAmb	16 46 12.7	
	comp=Z,16nm,1.1s							
T35A	**Sooner Cattle**	**19.96**	**357**			**P**	**16 46 17.0**	**+1.1**
WVT	**Waverly**	**20.22**	**17**	P		**P**	**16 46 19.7**	**+0.9**
W50A	**Signal Mountai**	**20.23**	**24**	P		**P**	**16 46 18.7**	**-0.2**
W50A					IAmb	IAmb	16 46 48.2	
	comp=Z,8.8nm,0.9s							
BG3	**Lake Jocassee**	**21.07**	**29**	P		**P**	**16 46 28.9**	**+1.0**
U49A	**Red Boiling Sp**	**21.23**	**21**	P		**P**	**16 46 30.8**	**+1.2**
U49A					IAmb	IAmb	16 46 32.1	
	comp=Z,36nm,1.3s							
T47A	**Sharon Grove**	**21.23**	**18**	P		**P**	**16 46 31.3**	**+1.8**
T47A					IAmb	IAmb	16 46 32.5	
	comp=Z,15nm,0.6s							
R40A	**Maddies Statio**	**21.45**	**6**	P		**P**	**16 46 32.9**	**+1.0**
R40A					IAmb	IAmb	16 46 35.4	
	comp=Z,9.2nm,0.7s							
V53A	**Saluda**	**21.69**	**28**	P		**P**	**16 46 35.4**	**+0.9**
V53A					IAmb	IAmb	16 46 52.7	
	comp=Z,29nm,1.5s							
V55A	**Taylorsville**	**22.59**	**31**	P		**P**	**16 46 43.5**	**-0.2**
V55A					IAmb	IAmb	16 47 12.2	
	comp=Z,15nm,1.1s							
P40A	**Paris**	**22.70**	**6**	P		**P**	**16 46 45.5**	**+0.7**
U54A	**Nelsons Funny**	**22.84**	**29**	P		**P**	**16 46 46.1**	**-0.2**
P43A	**Skaggs, Pawnee**	**23.18**	**11**	P		**P**	**16 46 49.9**	**+0.6**
P43A					IAmb	IAmb	16 46 50.7	
	comp=Z,41nm,1.5s							
R50A	**Paris**	**23.32**	**22**	P		**P**	**16 46 50.1**	**-0.6**
R50A					IAmb	IAmb	16 47 17.6	
	comp=Z,13nm,1.2s							
N38A	**Joes South For**	**23.86**	**4**	P		**P**	**16 46 56.4**	**+0.9**
P48A	**Milroy**	**24.02**	**19**	P		**P**	**16 46 57.6**	**+0.6**
P48A					IAmb	IAmb	16 46 58.0	
	comp=Z,10nm,0.6s							
O48B	**Farmland**	**24.83**	**19**	P		**P**	**16 47 04.2**	**-0.2**
O48B					IAmb	IAmb	16 47 06.4	
	comp=Z,15nm,0.6s							
L42A	**Oliver, Polo**	**25.45**	**10**	P		**P**	**16 47 10.4**	**+0.4**
L42A					IAmb	IAmb	16 47 11.8	
	comp=Z,16nm,0.8s							
JFWS	**Jewell Farm**	**26.25**	**8**	P		**P**	**16 47 18.1**	**+0.9**
YNE	**Yellowstone No**	**30.65**	**339**	P		**P**	**16 47 56.5**	**-0.1**

DJA 05 16:44:09.6±0.5**, 1°N**±2°×**12°5E**±°**, h20**km±4km**, M3.8**/13**, mb3.9**/3**, MLv3.8**/13**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.57**	**251**	P		Pn	16 44 36.2	-0.2
KMSI				S		Sb	16 44 57.0	-0.6
TNTI	**Ternate**	**1.92**	**99**	P		Pn	16 44 40.8	-0.4
TNTI				S		Sb	16 45 06.4	-1.2
SGSI	**Sangihe**	**2.58**	**1**	P		Pn	16 44 50.1	-0.2
SGSI				S		Sn	16 45 21.7	+0.6
SANI	**Sanana**	**3.16**	**171**	P		Pn	16 44 56.3	-2.0
LUWI	**Luwuk**	**3.43**	**232**	P		Pn	16 45 03.2	+1.2
APSI	**Ampana**	**4.31**	**243**	P		Pn	16 45 15.1	+1.1
TTSI	**Tana Toraja**	**6.98**	**234**	P		Pn	16 45 51.4	+0.6

UPP ***05*** *17:00:50.6±0.1, 67.05N×20.95E, h0km, ML2.3, Suspected explosion*
HEL ***05*** *17:00:51.6±0.2, 67.09N×21.01E, h0km, ML2.2, Explosion*
IDC ***05*** *17:00:51.5±0.9, 67.04N×21.07E, h0km, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=16.6km s-min=8.0km az=114.0*
ISC 05 17:00:49.7±0.7**, 67.07N**±0.02×**21.01E**±0.02**, h0km, n51,** σ1§**47**/75**, Sweden**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.18**	**286**	P		**Pg**	**17 00 54.0**	**+0.9**
DUNU				S		**Sg**	**17 00 56.1**	**+0.7**
MASU	**Masugnsbyn**	**0.54**	**44**	P		**Pb**	**17 01 01.6**	**-0.5**
ERTU	**Ert

NOA				Sn	**Sn**	**17 04 02.8**	**-1.0**
	baz=27,slow=22,SNR=2.1							
	comp=Z,1.0nm,1.0s							
HFS	**Hagfors**	**7.69**	**208**	Pn	**Pn**	**17 02 42.8**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=27,slow=12,SNR=5.5							
HFS				Sn	**Sn**	**17 04 06.1**	**-4.2**
	comp=Z,0.2nm,0.3s,baz=27,slow=26,SNR=1.8							
	comp=Z,1.0nm,0.7s							

*SNET **05** 17:09:27.8±2.6, 12°.21N×89°.13W, h37km, ML3.9*
*CATAC **05** 17:09:28.8±0.7, 12°.N±4°×8°.9W±°, h14km±5km, M3.9/13, MLv3.9/13, Error ellipse: s-maj=9.0km s-min=3.9km az=35.1, confirmed*
*IDC **05** 17:09:30.6±1.6, 13°.39N×88°.14W, h0km, mb3.8/2, mbtmp3.8/4, ML3.3/2, Error ellipse: s-maj=86.8km s-min=23.9km az=46.0*
*NEIC **05** 17:09:34.4±2.5, 12°.70N±0°.08×88°.79W±0°.08, h35km±2km, mb4.5/14, Error ellipse: s-maj=17.0km s-min=8.4km az=221.0*

ISC 05 17:09:31.5±2.2, 12°.47N±0°.06×89°.03W±0°.04, h24km±15km, **n85, σ1$26/97, mb4.5/8, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TECA	**Tecapa**	**1.15**	**27**	*eP*		**Pn**		**17 09 51.3**	**-0.9**
LFRS	**El Faro**	**1.15**	**359**	*eP*		**Pn**		**17 09 51.1**	**-1.1**
LFRS				*eS*		**Sn**		**17 10 06.7**	**-0.6**
LOMA	**Loma Larga**	**1.18**	**353**	*eP*		**Pn**		**17 09 51.6**	**-1.1**
LOMA				*eS*		**Sn**		**17 10 08.0**	**-0.1**
LOMA	**Loma Larga**	**1.18**	**353**	P		**Pn**		**17 09 51.9**	**-0.8**
LOMA	**Loma Larga**	**1.18**	**353**	S		**Sb**		**17 10 10.0**	**+1.7**
LCY	**Lacayo**	**1.19**	**37**	*eP*		**Pn**		**17 09 51.9**	**-0.9**
VSM	**San Miguel**	**1.21**	**38**	*eP*		**Pn**		**17 09 52.3**	**-0.8**
PACA	**Pacayal**	**1.21**	**35**	*eP*		**Pn**		**17 09 52.9**	**-0.2**
PACA	**Pacayal**	**1.21**	**35**	P		**Pn**		**17 09 53.0**	**-0.2**
PACA	**Pacayal**	**1.21**	**35**	S		**Sb**		**17 10 10.7**	**+1.5**
BLLM	**Bellamira**	**1.24**	**38**	*eP*		**Pn**		**17 09 52.8**	**-0.6**
PAVA	**Las Pavas**	**1.24**	**4**	*eP*		**Pn**		**17 09 52.4**	**-1.1**
PAVA	**Las Pavas**	**1.24**	**4**	P		**Pn**		**17 09 52.6**	**-0.9**
PAVA	**Las Pavas**	**1.24**	**4**	S		**Sb**		**17 10 11.1**	**+1.1**
JAYA	**Jayaque - finc**	**1.25**	**341**	*eP*		**Pn**		**17 09 52.6**	**-1.1**
JAYA				*eS*		**Sn**		**17 10 08.7**	**-1.1**
JAYA	**Jayaque - finc**	**1.25**	**341**	P		**Pn**		**17 09 52.5**	**-1.1**
LBRS	**Las Brisas**	**1.27**	**360**	*eP*		**Pn**		**17 09 53.2**	**-0.6**
PMON	**Piamonte**	**1.27**	**348**	*eP*		**Pn**		**17 09 53.0**	**-0.8**
PMON				*eS*		**Sb**		**17 10 10.5**	**-0.3**
PMON	**Piamonte**	**1.27**	**348**	P		**Pn**		**17 09 53.0**	**-0.8**
PMON	**Piamonte**	**1.27**	**348**	S		**Sb**		**17 10 11.8**	**+1.1**
LFU	**La Fuente**	**1.28**	**356**	*eP*		**Pn**		**17 09 53.1**	**-0.8**
BOQS	**Boqueron**	**1.28**	**349**	*eP*		**Pn**		**17 09 53.1**	**-1.0**
BOQS				*eS*		**Sb**		**17 10 11.5**	**+0.2**
PIC2	**El Picacho**	**1.29**	**350**	*eP*		**Pn**		**17 09 53.3**	**-0.9**
CNCH	**Conchagua**	**1.42**	**55**	*eP*		**Pn**		**17 09 55.5**	**-0.4**
CNCH	**Conchagua**	**1.42**	**55**	P		**Pn**		**17 09 55.3**	**-0.6**
CNCH	**Conchagua**	**1.42**	**55**	S		**Sb**		**17 10 15.2**	**+0.1**
CEVE	**Cerro Verde**	**1.47**	**337**	*eP*		**Pn**		**17 09 56.7**	**-0.1**
CEVE	**Cerro Verde**	**1.47**	**337**	P		**Pn**		**17 09 56.3**	**-0.5**
CEVE	**Cerro Verde**	**1.47**	**337**	S		**Sb**		**17 10 16.6**	**-0.1**
SBLS	**San Blas**	**1.48**	**337**	*eP*		**Pn**		**17 09 56.6**	**-0.2**
CAHU	**Cacacuatique**	**1.52**	**32**	*eP*		**Pn**		**17 09 57.5**	**+0.1**
CSGN	**Cosiguina Volc**	**1.52**	**70**	P		**Pn**		**17 09 56.4**	**-1.0**
CSGN				S		**Sb**		**17 10 17.5**	**-0.5**
RTR	**El Retiro**	**1.54**	**337**	*eP*		**Pn**		**17 09 57.5**	**-0.2**
POTN	**Potosi Cosigui**	**1.58**	**70**	P		**Pn**		**17 09 57.4**	**-0.6**
POTN				S		**Sb**		**17 10 19.9**	**+0.2**
NUBE	**Las Nubes**	**1.60**	**333**	*eP*		**Pn**		**17 09 57.6**	**-0.9**
NUBE				*eS*		**Sn**		**17 10 19.1**	**+0.6**
NUBE	**Las Nubes**	**1.60**	**333**	P		**Pn**		**17 09 57.6**	**-0.9**
LLGN	**La Laguna**	**1.69**	**3**	*eP*		**Pn**		**17 09 59.9**	**+0.3**
MTO3	**Montecristo**	**1.95**	**351**			**Pn**		**17 10 03.1**	**-0.2**
MTO3	**Montecristo**	**1.95**	**351**	*eP*		**Pn**		**17 10 03.4**	**+0.1**
MTO3	**Montecristo**	**1.95**	**351**	P		**Pn**		**17 10 03.5**	**+0.2**
MTO3	**Montecristo**	**1.95**	**351**	S		**Sb**		**17 10 29.4**	**-1.0**
CRIN	**San Cristobal**	**1.95**	**83**	Pn		**Pn**		**17 09 60.0**	**-3.2**
PKGN	**Cerro Pekin**	**2.02**	**84**	P		**Pn**		**17 10 03.4**	**-0.7**
PKGN				S		**Sn**		**17 10 29.6**	**+1.1**
ESQI	**Esquipulas**	**2.10**	**352**	Pn		**Pn**		**17 10 04.9**	**-0.5**
ESQI	**Esquipulas**	**2.10**	**352**	*eP*		**Pn**		**17 10 05.2**	**-0.1**
HERN	**Volcan Telica**	**2.15**	**86**	Pn		**Pn**		**17 10 05.0**	**-1.0**
CNGA	**Al SSO del Vol**	**2.28**	**89**	P		**Pn**		**17 10 06.6**	**-1.0**
CNGN	**Cerro Negro**	**2.28**	**89**	Pn		**Pn**		**17 10 06.7**	**-1.0**
TGUH	**Tegucigalpa,Un**	**2.33**	**47**			**Pn**		**17 10 07.3**	**-1.2**
TGUH	**Tegucigalpa,Un**	**2.33**	**47**	P		**Pn**		**17 10 08.3**	**-0.1**
TGUH				S		**Sn**		**17 10 38.2**	**+1.7**
COPN	**Copaltepe**	**2.40**	**97**	P		**Pn**		**17 10 08.1**	**-1.2**
YUSH	**Yuscaran**	**2.60**	**55**	P		**Pn**		**17 10 12.2**	**+0.1**
MGAN	**Managua**	**2.74**	**96**	Pn		**Pn**		**17 10 13.0**	**-1.0**
BOAB	**BOACO BROADBAN**	**2.89**	**90**			**Pn**		**17 10 20.9**	**-0.6**
RTAL	**Retalhuleu**	**3.30**	**309**	Pn		**Pn**		**17 10 20.7**	**-1.0**
ACON	**Acoyapa**	**3.81**	**97**	Pn		**Pn**		**17 10 28.6**	**0.0**
SIUN	**Universidad Ur**	**4.33**	**73**	Pn		**Pn**		**17 10 34.0**	**-1.9**
PETF	**Flores**	**4.50**	**350**	Pn		**Pn**		**17 10 38.1**	**0.0**
JTS	**Las Juntas de**	**4.55**	**118**	Pn		**Pn**		**17 10 40.5**	**+1.7**
JTS	**Las Juntas de**	**4.55**	**118**	Pn		**Pn**		**17 10 39.5**	**+0.7**
	1.8nm,0.3s,baz=311,slow=19,SNR=4.3								
JTS				Sn		**Sn**		**17 11 28.5**	**-2.5**
	1.3nm,0.3s,baz=315,slow=20,SNR=1.9								
	6.0nm,0.4s								
LCR2	**La Lucha 2**	**5.63**	**118**			**Pn**		**17 10 52.2**	**-1.7**
PIRO	**Carate, Puerto**	**6.90**	**125**			**Pn**		**17 11 13.8**	**+2.5**
CMIG	**Matias Romero**	**7.29**	**310**	Pn		**Pn**		**17 11 20.1**	**+3.6**
	0.4nm,0.3s,baz=121,slow=13,SNR=4.5								
CMIG				Sn		**Sn**		**17 12 38.8**	**+0.1**
	0.2nm,0.3s,baz=93,slow=17,SNR=1.3								
	1.1nm,0.3s								
BRDY	**Brady**	**20.87**	**335**			**P**		**17 14 10.7**	**-1.1**
BRDY				IAmb		IAmb		17 14 12.0	
	comp=Z,14nm,0.8s								
OZNA	**Ozona**	**21.50**	**331**			**P**		**17 14 17.8**	**-1.0**
TXAR	**Lajitas Array**	**21.61**	**323**	P		**P**		**17 14 20.0**	**+0.1**
TXAR	**Lajitas Array**	**21.61**	**323**	P		**P**		**17 14 20.8**	**+0.9**
	comp=Z,3.6nm,0.7s,baz=146,slow=11,SNR=29								
	comp=Z,3.6nm,0.7s								
TX31	**Lajitas Ar. Si**	**21.61**	**323**	P		**P**		**17 14 20.6**	**+0.7**
MIAR	**Mount Ida**	**22.37**	**350**			**P**		**17 14 27.1**	**-0.8**
MIAR				IAmb		IAmb		17 14 29.8	
	comp=Z,12nm,0.8s								
POST	**Post**	**23.47**	**333**	P		**P**		**17 14 38.8**	**-0.6**
POST				IAmb		IAmb		17 14 39.7	
	comp=Z,5.5nm,0.7s								
FCAR	**Ozark Folk Cen**	**23.49**	**354**			**P**		**17 14 38.6**	**-0.9**
FCAR				IAmb		IAmb		17 14 40.2	
	comp=Z,11nm,0.7s								
DKNS	**Dickens**	**23.73**	**335**	P		**P**		**17 14 41.1**	**-0.9**
FNO	**Franklin**	**23.92**	**343**	P		**P**		**17 14 43.1**	**-0.6**
FNO				IAmb		IAmb		17 14 43.7	
	comp=Z,19nm,0.7s								
OK052	**Battle Ridge R**	**24.45**	**345**	P		**P**		**17 14 46.8**	**-1.8**
QUOK	**Quay**	**24.60**	**345**	P		**P**		**17 14 48.3**	**-1.6**
QUOK				IAmb		IAmb		17 14 53.9	
	comp=Z,26nm,1.3s								
SMWD	**Samnorwood**	**24.72**	**338**	P		**P**		**17 14 50.0**	**-1.1**
MGMO	**Mountain Grove**	**24.76**	**354**			**P**		**17 14 51.2**	**-0.1**
MGMO				IAmb		IAmb		17 14 52.2	
	comp=Z,16nm,0.8s								
CCM	**Cathedral Cave**	**25.56**	**356**	P		**P**		**17 14 56.1**	**-2.4**
DSLB	**Salisbury**	**26.95**	**80**	*eP*		**P**		**17 15 12.3**	**+0.9**
MDN	**Morne-Daniel**	**26.97**	**81**	*eP*		**P**		**17 15 11.0**	**-0.5**
DLDT	**Laudat, Domini**	**27.02**	**81**	*eP*		**P**		**17 15 11.8**	**-0.3**
YKA	**Yellowknife Ar**	**53.20**	**346**	P		**P**		**17 18 45.8**	**-1.7**
	comp=Z,1.2nm,0.9s,baz=138,slow=6.6,SNR=2.7								
	comp=Z,1.2nm,0.8s								
WRA	**Warramunga Arr**	**137.79**	**254**	PKP		**PKiKP**		**17 29 00.5**	**+3.8**
	comp=Z,0.2nm,0.3s,baz=88,slow=2.3,SNR=4.6								
ASAR	**Alice Springs**	**137.84**	**249**	PKP		**PKiKP**		**17 29 01.4**	**+4.6**
	comp=Z,0.2nm,0.7s,baz=77,slow=2.0,SNR=1.5								
CMAR	**Chiang Mai Arr**	**148.28**	**345**	PKPbc		**PKPbc**		**17 29 15.8**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=29,slow=4.0,SNR=4.2								

IDC 05 17:13:17.9±3.9, 47°.55N×93°.03W, h0km, mbtmp2.6/2, ML0.5/1, Error ellipse: s-maj=40.1km s-min=18.3km az=88.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**3.29**	**326**	Pn		Pn		17 14 08.6	-2.0
	0.1nm,0.3s,baz=141,slow=14,SNR=1.4								
ULM				Lg		Lg		17 15 00.1	
	2.4nm,0.3s,baz=223,slow=19,SNR=10								
	0.5nm,0.4s								

I10CA	**LAC DU BONNET**	**3.31**	**324**	I		I		17 33 38.9	
	baz=149,slow=314,SNR=4.4								
PDAR	**Pinedale Array**	**12.61**	**254**	Pn		Pn		17 16 16.8	-1.8
	0.2nm,0.5s,baz=64,slow=10,SNR=1.7								
PDAR				Lg		Lg		17 19 47.0	
	0.1nm,0.3s,baz=62,slow=35,SNR=3.4								

*NEIC **05** 17:29:44.7±2.3, 26°.5S±0°.1×177°.4W±0°.1, h116km±7km, mb4.5/22, Error ellipse: s-maj=21.3km s-min=15.6km az=211.0*
*IDC **05** 17:29:50.2±2.9, 26°.04S×177°.73W, h167km±21km, mb3.9/6, mbtmp4.4/7, MS4.1/2, Error ellipse: s-maj=32.7km s-min=18.6km az=52.0*

ISC 05 17:29:47.5±0.5, 26°.04S±0°.07×177°.38W±0°.08, h150km, **n50, σ1$52/51, mb4.3/17, 3C-3D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.23**	**188**	P		**Pn**		**17 30 40.4**	**+2.7**
	467nm,0.3s,baz=45,slow=22,SNR=1.7								
RAO				S		**Sn**		**17 31 20.7**	**+4.0**
	742nm,0.5s,baz=76,slow=24,SNR=1.4								
MSVF	**Nonsavu**	**9.29**	**332**	Pn		**Pn**		**17 32 00.8**	**+2.6**
NIUE	**Niue**	**9.77**	**46**	Pn		**Pn**		**17 32 05.7**	**+1.2**
NIUE						**Sn**		**17 33 52.4**	**-0.3**
URZ	**Urewera**	**13.04**	**200**	P		Pn		17 32 40.0	-7.0
	10nm,1.1s,baz=50,slow=17,SNR=1.4								
URZ				S		Sn		17 34 54.9	-16
	13nm,0.5s,baz=41,slow=20,SNR=15								
DZM	**Mont Dzumac**	**15.29**	**282**			**Pn**		**17 33 15.0**	**-0.7**
DZM				IAmb		IAmb		17 33 26.4	
	comp=Z,33nm,1.1s								
DZM	**Mont Dzumac**	**15.29**	**282**	P		**P**		**17 33 20.2**	**+3.2**
	comp=Z,11nm,0.7s,baz=149,slow=19,SNR=8.8								
SANVU	**Saraoutou**	**17.84**	**303**	P		**Pn**		**17 33 47.1**	**+0.7**
CTAO	**Charters Tower**	**33.91**	**272**	P		**P**		**17 36 16.6**	**+0.3**
CTAO				IAmb		IAmb		17 36 18.9	
	comp=Z,12nm,1.2s								
STKA	**Stephens Creek**	**36.21**	**251**	P		**P**		**17 36 35.5**	**-0.4**
INKA	**Innaminka**	**37.26**	**258**	P		**P**		**17 36 44.3**	**-0.5**
INKA				IAmb		IAmb		17 36 55.0	
	comp=Z,6.3nm,1.4s								
COEN	**Coen**	**38.82**	**280**	P		**P**		**17 36 59.7**	**+1.7**
COEN				IAmb		IAmb		17 37 20.5	
	comp=Z,14nm,1.3s								
BBOO	**Buckleboo**	**40.85**	**249**	P		**P**		**17 37 13.8**	**-0.8**
AS31	**Alice Springs**	**44.07**	**262**	P		**P**		**17 37 39.0**	**-1.7**
ASAR	**Alice Springs**	**44.07**	**262**	P		**P**		**17 37 37.5**	**-3.3**
ASAR	**Alice Springs**	**44.07**	**262**	P		**P**		**17 37 39.4**	**-1.4**
	comp=Z,4.6nm,0.8s,baz=99,slow=7.8,SNR=50								
ASAR				PcP		**PcP**		**17 39 22.1**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=103,slow=4.1,SNR=4.0								
	comp=Z,4.6nm,0.8s								
WR8	**Warramunga Arr**	**44.51**	**267**	P		**P**		**17 37 42.7**	**-1.6**
WR8				IAmb		IAmb		17 37 44.7	
	comp=Z,12nm,1.4s								
WB2	**Warramunga Arr**	**44.65**	**267**	P		**P**		**17 37 43.5**	**-1.9**
WRAB	**Tennant Creek**	**44.66**	**267**	P		**P**		**17 37 43.4**	**-2.1**
WRA	**Warramunga Arr**	**44.66**	**267**	P		**P**		**17 37 43.9**	**-1.7**
WRA	**Warramunga Arr**	**44.66**	**267**	P		**P**		**17 37 43.8**	**-1.7**
	comp=Z,3.9nm,0.9s,baz=105,slow=7.8,SNR=16								
WRA				PcP		**PcP**		**17 39 24.4**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=109,slow=4.1,SNR=4.5								
	comp=Z,3.9nm,0.9s								
WB0	**Warramunga Arr**	**44.67**	**268**	P		**P**		**17 37 44.7**	**-0.9**
WB0				IAmb		IAmb		17 37 47.0	
	comp=Z,6.0nm,0.8s								
MTN	**Manton Dam**	**50.00**	**275**	P		**P**		**17 38 26.6**	**-0.2**
MTN				IAmb		IAmb		17 39 01.4	
	comp=Z,14nm,1.3s								
KNRA	**Kununurra**	**51.07**	**270**	P		**P**		**17 38 34.1**	**-0.7**
SBA	**Scott Base**	**52.41**	**184**	P		**P**		**17 38 41.8**	**-2.0**
SBA				IAmb		IAmb		17 38 47.2	
	comp=Z,3.6nm,0.9s								
VNDA	**Vanda**	**52.47**	**186**	P		**P**		**17 38 43.2**	**-1.1**
VNDA				IAmb		IAmb		17 38 47.3	
	comp=Z,5.6nm,1.5s								
VNDA	**Vanda**	**52.47**	**186**	P		**P**		**17 38 45.7**	**+1.4**
	comp=Z,1.9nm,1.2s,baz=37,slow=6.1,SNR=5.9								
	comp=Z,1.9nm,1.2s								
FITZ	**Fitzroy Crossi**	**53.05**	**266**	P		**P**		**17 38 48.0**	**-1.4**
NWAO	**Narrogin (SRO)**	**56.54**	**246**	LR		LR		18 01 05.0	
	comp=Z,82nm,19.1s,baz=293,slow=33								
MORW	**Morawa**	**58.39**	**251**	P		**P**		**17 39 25.2**	**-2.3**
CASY	**Casey**	**59.25**	**207**	P		**P**		**17 39 31.0**	**-1.7**
CASY				IAmb		IAmb		17 39 32.4	
	comp=Z,7.2nm,1.2s								
QSPA	**South Pole Qui**	**64.05**	**180**	P		**P**		**17 40 03.8**	**-1.2**
QSPA				IAmb		IAmb		17 40 07.9	
	comp=Z,12nm,1.1s								
QSPA	**South Pole Qui**	**64.05**	**180**	P		**P**		**17 40 06.7**	**+1.7**
	comp=Z,8.3nm,1.1s,baz=56,slow=2.1,SNR=13								
	comp=Z,8.3nm,1.1s								
MAW	**Mawson**	**76.57**	**200**	P		**P**		**17 41 20.9**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=123,slow=6.1,SNR=7.4								
	comp=Z,4.0nm,0.8s								
SYO	**Syowa Base**	**81.47**	**193**	⇓*eP*		**P**		**17 41 46.0**	**-1.4**
TROLL	**Troll, Antarti**	**82.21**	**180**	⇓P		**P**		**17 41 51.4**	**-0.1**
	comp=Z,290nm,0.6s								
SNAA	**Sanae**	**82.48**	**178**	⇑P		**P**		**17 41 52.2**	**-0.6**
	comp=Z,87nm,0.9s								
SNAA	**Sanae**	**82.48**	**178**	P		**P**		**17 41 51.6**	**-1.2**
SNAA				IAmb		IAmb		17 41 53.3	
	comp=Z,6.9nm,1.0s								
SNAA	**Sanae**	**82.48**	**178**	P		**P**		**17 41 52.5**	**-0.3**
	comp=Z,4.2nm,0.9s,baz=199,slow=5.4,SNR=14								
	comp=Z,4.2nm,0.8s								
VNA3	**Neumayer Olymp**	**82.60**	**176**	⇓P		**P**		**17 41 52.4**	**-0.9**
	comp=Z,6.6nm,0.8s								
VNA2	**Neumayer--Watz**	**83.04**	**177**	⇑P		**P**		**17 41 55.5**	**-0.2**
	comp=Z,6.9nm,0.7s,baz=119,slow=5.5								
VNA1	**Neumayer--Stat**	**83.27**	**176**	⇑P		**P**		**17 41 56.7**	**-0.1**
	comp=Z,11nm,0.9s								
ANMO	**Albuquerque**	**90.43**	**51**	LR		LR		18 22 46.3	
	comp=Z,161nm,18.0s,baz=40,slow=35								
MKAR	**Makanchi Array**	**115.35**	**312**	PKP		**PKPdf**		**17 48 10.5**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=75,slow=1.4,SNR=4.1								
NOA	**NORSAR Array B**	**144.53**	**353**	PKP		**PKPdf**		**17 49 05.1**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=16,slow=2.4,SNR=9.1								
HFS	**Hagfors**	**145.08**	**350**	PKPbc		**PKPdf**		**17 49 06.3**	**0.0**
	comp=Z,2.6nm,0.5s,baz=70,slow=5.2,SNR=15								
KOPT	**Kop Dagi**	**145.59**	**303**			**PKPab**		**17 49 09.3**	**0.0**
AKASG	**Malin Array Be**	**148.05**	**327**	PKPbc		**PKPbc**		**17 49 14.2**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=45,slow=3.3,SNR=8.9								
MMAI	**Mount Meron Ar**	**150.72**	**292**	PKPbc		**PKiKP**		**17 49 23.1**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=81,slow=5.2,SNR=5.4								
BRTR	**Keskin Array B**	**150.76**	**306**	PKPbc		**PKiKP**		**17 49 22.4**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=96,slow=1.4,SNR=5.1								
TORD	**Torodi Ar. Bea**	**167.14**	**176**	PKPab		**PKPab**		**17 50 41.1**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=185,slow=2.0,SNR=7.2								

*TIR **05** 17:47:35.5, 40°.10N×19°.73E, h14km±1km, Ml4.2/5*
*IDC **05** 17:47:35.2±0.9, 40°.15N×19°.85E, h0km, mb4.0/13, mbtmp3.9/24, ML3.7/8, MS3.4/4, Error ellipse: s-maj=14.6km s-min=11.0km az=41.0*
*BEO **05** 17:47:37.7±0.5, 40°.10N×19°.78E, h9km±5km, ML3.9/8*
*PDG **05** 17:47:37.2±0.5, 40°.10N×19°.78E, h13km±1km, MD4.1/4, ML4.0/8, Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*
*THE **05** 17:47:38.6, 40°N±4°×2°0E±°, h0km±8km, M3.7/36, MLh3.7/36*
*NEIC **05** 17:47:39.9±1.9, 40°.13N±0°.06×19°.85E±0°.07, h33km±8km, mb4.4/13, Error ellipse: s-maj=8.4km s-min=7.4km az=212.0*
*NAO **05** 17:47:39.0, 40°.15N×19°.85E, h10km, MB3.8*

ISC 05 17:47:37.0±0.9, 40°.10N±0°.02×19°.78E±0°.02, h15km±6km, **n248, σ1$74/304, mb4.2/16, MS3.3/3, 34C-28D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.27**	**142**	P		**Pg**	**Pg**	**17 47 42.5**	**-0.3**
SRN				Sg		**Sb**	**Sb**	**17 47 47.8**	**-0.3**
SRN				AML		AML	AML	17 47 51.1	
	41nm,0.4s								
SRN	**Sarande**	**0.27**	**142**	P		**Pg**		**17 47 42.5**	**-0.3**
SRN				S		**Sg**		**17 47 47.1**	**+0.3**
KEK	**Kerkira**	**0.38**	**178**	P		**Pn**		**17 47 48.9**	**+0.8**
KEK				S		**Sn**		**17 47 55.5**	**+0.3**
KEK	**Kerkira**	**0.38**	**178**			**Pn**		**17 47 48.9**	**+0.8**
VLO	**Vlora**	**0.43**	**330**	Pg		**Pg**		**17 47 43.5**	**-2.1**
VLO				Sg		**Sg**		**17 47 49.6**	**-1.9**
VLO				AML		AML		17 47 58.0	
	104nm,0.4s								

VLO	**Vlora**	**0.43**	**330**	P		**Pb**		**17 47 47.5**	**+1.2**
VLO				S		**Sb**		**17 47 55.0**	**+2.3**
LFKM	**Lefkimmi**	**0.68**	**162**	P		**Pb**		**17 47 51.4**	**+0.8**
IGT	**Igoumenitsa**	**0.71**	**143**	P		**Pg**		**17 47 50.3**	**-0.5**
IGT				S		**Sb**		**17 48 00.9**	**+0.3**
IGT	**Igoumenitsa**	**0.71**	**143**	P		**Pg**		**17 47 50.3**	**-0.5**
IGT	**Igoumenitsa**	**0.71**	**143**	*e*Pg		**Pg**		**17 47 50.3**	**-0.5**
KBN	**Korca**	**0.93**	**55**	P		**Pg**		**17 47 53.8**	**-1.3**
KBN				S		**Sn**		**17 48 07.9**	**-0.9**
KBN				AML		AML		17 48 09.1	
	15nm,0.9s								
KBN	**Korca**	**0.93**	**55**	P		**Pg**		**17 47 53.8**	**-1.3**
KBN				S		**Sn**		**17 48 07.9**	**-0.9**
JAN	**Janina**	**0.93**	**118**	P		**Pg**		**17 47 54.8**	**-0.3**
OHR	**Ohrid**	**1.28**	**37**	⇓*i*Pn		**Pn**		**17 48 01.3**	**-0.3**
OHR				*e*Sn		**Sg**		**17 48 22.7**	**+4.4**
FNA	**Florina**	**1.40**	**60**	P		**Pn**		**17 48 02.4**	**+0.3**
FNA				S		**Sg**		**17 48 23.3**	**+1.2**
FNA	**Florina**	**1.40**	**60**			**Pb**		**17 48 02.7**	**-0.2**
FNA	**Florina**	**1.40**	**60**	P		**Pn**		**17 48 02.4**	**+0.3**
FNA				S		**Sg**		**17 48 24.1**	**+1.9**
FNA	**Florina**	**1.40**	**60**	*e*Pg		**Pn**		**17 48 01.2**	**-0.9**
FNA				*e*Sg		**Sg**		**17 48 23.9**	**+1.8**
TSLK	**Tsoukalades, L**	**1.44**	**152**	P		**Pb**		**17 48 03.8**	**+0.2**
LKD2	**Lefkada island**	**1.47**	**152**	P		**Pg**		**17 48 05.3**	**0.0**
LKD2				S		**Sg**		**17 48 26.3**	**+1.8**
LKD2	**Lefkada island**	**1.47**	**152**	P		**Pn**		**17 48 03.7**	**+0.6**
KZN	**Kozani**	**1.54**	**82**	P		**Pn**		**17 48 04.2**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.55**	**152**	P		**Pn**		**17 48 05.4**	**-0.1**
AMPL	**Ampelaki**	**1.61**	**136**	P		**Pn**		**17 48 06.7**	**+0.2**
EVGI	**Lefkada island**	**1.62**	**155**	P		**Pb**		**17 48 07.1**	**+0.4**
FSK	**Fiskardo**	**1.74**	**159**	P		**Pn**		**17 48 08.0**	**+1.2**
AST1	**Astakos**	**1.85**	**146**	P		**Pb**		**17 48 10.5**	**-0.1**
ULC	**Ulcinj**	**1.91**	**348**	⇑*i*Pn		**Pn**		**17 48 10.1**	**+1.0**
ULC				*e*Sn		**Sb**		**17 48 36.4**	**+1.1**
DMLN	**Damoulianata-K**	**1.91**	**166**	P		**Pn**		**17 48 10.4**	**+1.3**
TYRN	**Tyrnavos**	**1.93**	**101**	P		**Pb**		**17 48 11.3**	**-0.5**
PUK	**Puka**	**1.95**	**2**	P		**Pn**		**17 48 11.3**	**+1.7**
PUK				S		**Sg**		**17 48 38.8**	**-0.9**
PUK	**Puka**	**1.95**	**2**	P		**Pn**		**17 48 11.5**	**+1.9**

GUMA Sn **Sn** 17 50 04.8 -0.8
BZS Buzias 5.68 13 ⇑P **Pn** 17 49 03.2 +2.4
BZS Buzias 5.68 13 *e*Pn **Pn** 17 49 01.0 +0.1
NRCA Norcia 5.71 301 **Pn** 17 49 03.7 +2.4
GZR Gura Zlata 5.74 22 ⇓P **Pn** 17 49 03.3 +1.6
GZR Gura Zlata 5.74 22 *e*Pn **Pn** 17 49 03.0 +1.3
FDMO Fiordimonte 5.82 303 **Pn** 17 49 04.7 +2.0
FDMO Sn **Sn** 17 50 07.3 -1.9
SURR Surduc 5.91 16 ⇓P **Pn** 17 49 06.6 +2.6
MOSL Moslavina 5.95 339 ⇑*i*Pn **Pn** 17 49 04.5 0.0
CESX Cesi 5.97 297 **Pn** 17 49 07.6 +2.7
LOZB Loznitsa 6.05 55 ⇓P **Pn** 17 49 08.2 +2.1
LOT Lotru 6.10 27 ⇑P **Pn** 17 49 10.2 +3.4
RAZG Razgrad 6.10 53 ⇑Pn **Pn** 17 49 09.0 +2.3
MORH Mrgy, Hungar 6.17 353 *e*Pn **Pn** 17 49 06.5 -1.1
MORH Mrgy, Hungar 6.17 353 ⇓P **Pn** 17 49 10.6 +3.0
IDI Anoyia 6.28 138 Pn **Pn** 17 49 07.4 -1.8
IDI Sn **Sn** 17 50 15.1 -5.6
IDI Anoyia 6.28 138 Pn **Pn** 17 49 08.0 -1.2
11nm,1.1s,baz=306,slow=6.9,SNR=12
IDI Sn **Sn** 17 50 13.8 -7.0
2.5nm,0.3s,baz=302,slow=18,SNR=2.2
SIRR Siria 6.32 12 ⇑P **Pn** 17 49 12.1 +2.4
SIRR Siria 6.32 12 *e*Pn **Pn** 17 49 10.2 +0.5
BOJS Bojanci 6.35 330 *i* Pn **Pn** 17 49 11.0 +1.0
BOJS *e*Sn **Sn** 17 50 21.3 -1.0
BOJS Bojanci 6.35 330 *e*Pn **Pn** 17 49 11.0 +1.0
BOJS *e*Sn **Sn** 17 50 20.6 -1.6
OZLJ Ozalj 6.36 332 ⇑*i*Pn **Pn** 17 49 10.3 +0.1
ARR Arges 6.36 33 ⇑P **Pn** 17 49 12.9 +2.5
RIY Rijeka 6.52 325 *e*Pn **Pn** 17 49 13.7 +1.3
RIY *e*Sn **Sn** 17 50 26.2 -0.3
BRJN Brijuni 6.55 319 *e*Pn **Pn** 17 49 13.3 +0.5
BEHE Becsehely 6.74 342 Pn **Pn** 17 49 15.5 +0.1
BEHE Becsehely 6.74 342 *e*Pn **Pn** 17 49 13.8 -1.6
CICN Ciocanesti 6.76 50 ⇓P **Pn** 17 49 18.6 +2.8
CEY Cerknica 6.87 327 *e*Pn **Pn** 17 49 18.3 +1.0
CEY *e*Sn **Sn** 17 50 33.9 -1.3
SKDS Skadanscina 6.90 324 *e*Pn **Pn** 17 49 18.0 +0.3
SKDS *e*Sn **Sn** 17 50 33.5 -2.4
MARR Marisel-Cluj 7.01 19 ⇑P **Pn** 17 49 22.0 +2.8
DRGR 7.02 17 ⇓P **Pn** 17 49 22.5 +3.1
MLR Muntele Rosu 7.04 38 Pn **Pn** 17 49 20.9 +1.2
MLR Muntele Rosu 7.04 38 Pn **Pn** 17 49 21.4 +1.7
1.2nm,0.3s,baz=179,slow=13,SNR=8.7
MLR Sn **Sn** 17 50 43.6 +4.0
0.2nm,0.3s,baz=315,slow=23,SNR=1.5
MLR LR LR 17 52 41.0
comp=Z,224nm,18.4s,baz=215,slow=44
6.2nm,0.5s
MLR Muntele Rosu 7.04 38 ⇓P **Pn** 17 49 22.6 +2.9
ISR Istrita 7.08 43 ⇓P **Pn** 17 49 22.9 +2.8
LJU Ljubljana 7.08 329 *e*Pn **Pn** 17 49 20.9 +0.8
TRI Trieste 7.14 324 **Pn** 17 49 20.9 +0.1
DOPR Dopca 7.16 33 ⇓P **Pn** 17 49 25.0 +3.8
NEHR Nehoiu 7.17 40 ⇑P **Pn** 17 49 24.5 +3.2
ICOR Ion Corvin 7.19 53 ⇓P **Pn** 17 49 24.8 +3.2
SABO M.te Sabotino 7.42 324 **Pn** 17 49 24.9 +0.1
COVR Voineasa-Covas 7.43 37 ⇑P **Pn** 17 49 27.2 +2.3
SOKA Soboth 7.43 334 *i* Pn **Pn** 17 49 25.1 +0.1
11nm,0.3s,SNR=16
SOKA *e*Sn **Sn** 17 50 46.8 -2.3
8.8nm,0.6s
OZUR 7.43 34 ⇓P **Pn** 17 49 27.8 +2.8
OBKA Obir 7.46 331 *i* Pn **Pn** 17 49 25.7 +0.4
8.4nm,0.3s,SNR=25
OBKA *e*Sn **Sn** 17 50 49.4 -0.3
17nm,0.7s
GRER 7.48 43 ⇓P **Pn** 17 49 28.5 +3.0
TURR Turia 7.50 35 ⇓P **Pn** 17 49 29.6 +3.7
HARR Harsova 7.58 50 ⇓P **Pn** 17 49 30.4 +3.5
MFTR Murfatlar 7.61 55 ⇓P **Pn** 17 49 30.2 +2.9
PLOR Plostina 7.64 39 ⇑P **Pn** 17 49 30.8 +2.9
VRI Vrincioaia 7.69 39 ⇑P **Pn** 17 49 32.0 +3.5
TIRR Tirgusor 7.74 53 **Pn** 17 49 30.4 +1.3
TIRR Tirgusor 7.74 53 ⇓P **Pn** 17 49 31.0 +1.8
ARSA Arzberg 7.79 338 *e*Pn **Pn** 17 49 30.3 +0.5
5.6nm,0.3s,SNR=6.0
ARSA Arzberg 7.79 338 *e*Pn **Pn** 17 49 30.4 +0.5
PSZ Piszkesteto 7.82 1 **Pn** 17 49 31.4 +1.1
PSZ Piszkesteto 7.82 1 ⇑P **Pn** 17 49 33.7 +3.4
MYKA Terra Mystica 7.91 328 *e*Pn **Pn** 17 49 32.2 +0.6
1.3nm,0.3s
MYKA *e*Sn **Sn** 17 50 59.3 -1.6
4.2nm,0.6s
TPGR Topolog 7.96 50 ⇑P **Pn** 17 49 34.0 +1.8
CFR Carcaliu 7.98 48 ⇑P **Pn** 17 49 35.7 +3.3
RONA Rosalia, Austr 8.01 343 *e*Pn **Pn** 17 49 34.0 +1.2
0.9nm,0.3s
TESR Tescani 8.13 36 ⇑P **Pn** 17 49 37.0 +2.5
CONA Condrea Observa 8.32 341 *e*Pn **Pn** 17 49 38.1 +0.9
0.7nm,0.3s
BURAR Bucovina Array 8.48 26 ⇓P **Pn** 17 49 42.8 +3.4
ABTA Abfaltersbach 8.49 324 *e*Pn **Pn** 17 49 39.9 +0.3
3.2nm,0.4s,SNR=6.7
ABTA *e*Sn **Sn** 17 51 13.5 -1.6
17nm,0.6s
MSSA Maissana 8.71 302 Pn **Pn** 17 49 44.2 +1.8
MOA Molln 8.71 335 *i* Pn **Pn** 17 49 43.2 +0.8
2.8nm,0.3s,SNR=16
MOA *e*Sn **Sn** 17 51 19.7 -0.7
3.9nm,0.4s
MOA Molln 8.71 335 *e*Pn **Pn** 17 49 44.3 +1.9
BIOA Bad Ischl, Aus 8.79 332 *e*Pn **Pn** 17 49 44.1 +0.5
8.4nm,0.3s,SNR=13
LESA Schwarzleotal 8.95 327 *i* Pn **Pn** 17 49 46.1 +0.4
4.9nm,0.3s,SNR=12
LESA *e*Sn **Sn** 17 51 25.4 -0.8
4.6nm,0.5s
WTTA Wattenberg 9.28 323 *i* Pn **Pn** 17 49 51.1 +0.7
6.7nm,0.3s,SNR=14
WTTA *e*Sn **Sn** 17 51 33.7 -0.8
11nm,0.4s
WATA Walderalm 9.36 323 *e*Pn **Pn** 17 49 52.5 +1.0
3.9nm,0.3s,SNR=7.2
WATA *e*Sn **Sn** 17 51 34.7 -1.8
10nm,0.5s
SQTA Sankt Quirin 9.45 322 *e*Pn **Pn** 17 49 54.3 +1.7
7.9nm,0.4s,SNR=9.3
SQTA *e*Sn **Sn** 17 51 38.5 -0.1
5.0nm,0.6s
VRAC Vranov 9.48 347 Pn **Pn** 17 49 53.3 +0.2
1.1nm,0.3s,baz=188,slow=14,SNR=1.1
FUORN Ofenpass-Fuorn 9.51 316 Pn **Pn** 17 49 54.5 +0.8
FETA Feichten 9.54 319 *e*Pn **Pn** 17 49 55.5 +1.5
2.7nm,0.8s
FETA *e*Sn **Sn** 17 51 42.1 +1.1
5.5nm,0.6s
MOTA Moosalm 9.58 322 *i* Pn **Pn** 17 49 55.8 +1.2
7.9nm,0.6s,SNR=16
MOTA *e*Sn **Sn** 17 51 39.7 -2.4
13nm,0.8s
GEC2 GERESS Array S 9.76 336 Pn **Pn** 17 49 57.4 +0.4
GERES GERESS Array B 9.76 336 Pn **Pn** 17 49 56.6 -0.3
0.2nm,0.3s,baz=157,slow=13,SNR=27
GERES Sn **Sn** 17 51 44.4 -1.9
0.1nm,0.3s,baz=159,slow=23,SNR=5.0
1.8nm,0.3s
DAVOX Davos/Dischmat 9.82 316 Pn **Pn** 17 49 59.4 +1.6
0.8nm,0.3s,baz=132,slow=17,SNR=9.3
3.6nm,0.5s
TUE Stuetta 9.92 313 Pn **Pn** 17 50 00.4 +1.2
KHC Kasperske Hory 10.05 336 *e*PN **Pn** 17 50 00.4 -0.5
KHC *e*SN **Sn** 17 51 49.7 -3.7
DAVA Damuels 10.14 318 *e*Pn **Pn** 17 50 03.7 +1.4
1.7nm,0.2s
BRTR Keskin Array B 10.65 88 Pn **Pn** 17 50 10.8 +1.6
0.1nm,0.3s,baz=265,slow=11,SNR=4.0
0.8nm,0.8s
SENIN Lac Senin/Sane 11.05 309 Pn **Pn** 17 50 15.8 +1.2
AKASG Malin Array Be 12.50 29 Pn **Pn** 17 50 33.9 -0.4
0.3nm,0.3s,baz=216,slow=11,SNR=2.1
0.1nm,0.3s
MMAI Mount Meron Ar 14.40 115 Pn **Pn** 17 50 58.2 -2.1
1.0nm,0.3s,baz=302,slow=13,SNR=6.3
0.8nm,0.4s
GHAJ Ghor Haditha 15.52 120 Pn **Pn** 17 51 14.5 -0.8
GHAJ IAmb IAmb 17 51 36.2
comp=Z,24nm,1.2s
NACGM Naroch 15.54 15 *e*P **P** 17 51 19.3 -0.4
comp=Z,11nm,0.8s,baz=200
EIL Elat 16.20 125 Pn **Pn** 17 51 25.1 +1.0
comp=Z,0.3nm,0.3s,baz=346,slow=14,SNR=4.0
comp=Z,3.8nm,0.6s
ESDC Sonseca Array 18.22 276 P **P** 17 51 51.5 +1.9
comp=Z,0.1nm,0.3s,baz=77,slow=11,SNR=6.2
comp=Z,1.1nm,0.7s
HFS Hagfors 20.42 351 P **P** 17 52 13.2 -0.2
comp=Z,4.1nm,0.5s,baz=171,slow=10,SNR=17
comp=Z,4.1nm,0.5s
MDT Midelt 20.88 257 LR LR 18 01 33.3
comp=Z,121nm,18.9s,baz=184,slow=40
NC602 NORSAR Array S 21.29 349 P **P** 17 52 22.9 +0.1
NC602 IAmb IAmb 17 53 00.7
comp=Z,23nm,1.4s
NAO01 NORSAR Array S 21.49 348 P **P** 17 52 25.1 +0.2
NAO01 IAmb IAmb 17 52 35.7
comp=Z,22nm,1.1s
EKA Eskdalemuir Ar 21.54 323 P **P** 17 52 26.9 +1.3
comp=Z,2.5nm,0.6s,baz=122,slow=8.9,SNR=12
comp=Z,2.5nm,0.6s
ESK Eskdalemuir 21.55 323 P **P** 17 52 27.2 +1.5
NC405 NORSAR Array S 21.62 349 P **P** 17 52 26.3 -0.1
NC405 IAmb IAmb 17 52 34.2
comp=Z,13nm,0.8s
NB201 NORSAR Array S 21.62 349 P **P** 17 52 26.9 +0.5
NB201 IAmb IAmb 17 53 05.4
comp=Z,37nm,1.4s
NB2 NORSAR Subarra 21.63 349 P **P** 17 52 26.7 +0.2
comp=Z,2.6nm,0.6s,baz=162,slow=11
NOA NORSAR Array B 21.63 349 P **P** 17 52 26.6 +0.1
comp=Z,2.4nm,0.6s,baz=159,slow=10,SNR=12
NOA LR LR 18 01 31.1
comp=Z,44nm,19.7s,baz=195,slow=39
comp=Z,2.4nm,0.6s
FINES FINESS Array B 21.72 8 P **P** 17 52 26.2 -1.2
FINES FINESS Array B 21.72 8 P **P** 17 52 26.4 -1.0
comp=Z,3.1nm,0.5s,baz=171,slow=12,SNR=37
comp=Z,3.1nm,0.5s
NC204 NORSAR Array S 21.92 348 P **P** 17 52 29.7 +0.1
NC204 IAmb IAmb 17 53 00.7
comp=Z,32nm,1.4s
ARCES ARCESS Array B 29.66 4 P **P** 17 53 40.8 -0.9
ARCES IAmb IAmb 17 54 12.3
comp=Z,10nm,1.5s
ARCES ARCESS Array B 29.66 4 P **P** 17 53 40.6 -1.0
comp=Z,0.9nm,0.4s,baz=190,slow=9.9,SNR=20
comp=Z,0.9nm,0.4s
ABKAR Akbulak array 29.69 59 P **P** 17 53 39.0 -3.1
KEV Kevo 29.97 5 P **P** 17 53 42.8 -1.6
TORD Torodi Ar. Bea 31.20 216 P **P** 17 53 56.8 +1.0
comp=Z,0.6nm,0.8s,baz=29,slow=9.6,SNR=4.8
comp=Z,0.6nm,0.8s
BVAR Borovoye Array 36.36 52 P **P** 17 54 39.2 -1.1
comp=Z,0.6nm,0.6s,baz=268,slow=4.2,SNR=2.3
comp=Z,0.6nm,0.6s
KK31 Karatay Array 37.59 68 P **P** 17 54 49.6 -1.3
KKAR Karatay Array 37.59 68 P **P** 17 54 49.4 -1.5
SPITS Spitsbergen Ar 38.22 359 P **P** 17 54 55.9 +0.1
comp=Z,0.9nm,0.5s,baz=156,slow=11,SNR=5.7
comp=Z,0.9nm,0.5s
TARG Taragay, Kyrgy 43.16 68 P **P** 17 55 37.9 +0.4
MKAR Makanchi Array 44.81 60 P **P** 17 55 49.4 -0.8
comp=Z,1.8nm,0.4s,baz=283,slow=7.6,SNR=33
comp=Z,1.8nm,0.4s
ZAA0 Zalesovo Array 44.86 49 P **P** 17 55 49.5 -1.0
ZALV Zalesovo Beam 44.86 49 P **P** 17 55 49.3 -1.1
ZALV Zalesovo Beam 44.86 49 P **P** 17 55 49.6 -0.9
comp=Z,2.4nm,0.4s,baz=280,slow=8.2,SNR=14
comp=Z,2.4nm,0.4s
SONM Songino Array 59.70 51 P **P** 17 57 40.6 -0.3
comp=Z,0.8nm,0.6s,baz=296,slow=11,SNR=4.0
comp=Z,0.8nm,0.6s
ULM Lac du Bonnet 73.82 323 P **P** 17 59 12.1 +1.3
comp=Z,2.9nm,0.8s,baz=31,slow=7.5,SNR=3.8
comp=Z,2.9nm,0.8s
KSRS Korea Array 78.56 50 P **P** 17 59 37.8 -0.1
comp=Z,1.2nm,0.6s,baz=312,slow=5.0,SNR=7.6
comp=Z,1.2nm,0.6s
DAV Davao City (W) 97.40 74 LR LR 18 51 14.6
comp=Z,38nm,18.6s,baz=16,slow=39

TAP ***05*** *17:50:55.9,23°.03N×121°.12E,h10km,ML3.9,C*
JMA ***05*** *17:50:55.9±0.3,23°N±1°×12°1E±°,h5km,MV3.5/14,*
TAIWAN REGION
ISC 05 17:50:56.3±0.8,23°.02N±0°.01×121°.17E±0°.01,h17km±4km,
n152,σ1s08/237,35C-12D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LONT	**Longtian**	**0.12**	**198**	⇑*i*P		**Pg**	**17 50 59.3**	**-0.8**
LONT				S		**Sg**	**17 51 01.6**	**-1.0**
EDH	**Donghe**	**0.13**	**110**	⇓*i*P		**Pg**	**17 51 00.7**	**+0.4**
EDH				S		**Sg**	**17 51 04.0**	**+1.1**
EHD	**Haiduan**	**0.14**	**15**	⇑*i*P		**Pg**	**17 50 59.5**	**-0.8**
EHD				*e*S		**Sg**	**17 51 01.6**	**-1.5**
CHKT	**Chengkung**	**0.20**	**66**	⇑*i*P		**Pg**	**17 51 02.1**	**+0.9**
CHKT				*e*S		**Sg**	**17 51 05.8**	**+1.4**
FULB	**Fuli**	**0.21**	**33**	⇑*i*P		**Pg**	**17 51 01.7**	**+0.3**
FULB				*e*S		**Sg**	**17 51 04.6**	**-0.3**
TWGBT	**Beinan**	**0.21**	**202**	⇑*i*P		**Pg**	**17 51 00.6**	**-0.9**
TWGBT				*e*S		**Sg**	**17 51 04.0**	**-1.0**
TWG	**Pinlang**	**0.22**	**204**	⇑*i*P		**Pg**	**17 51 00.7**	**-0.9**
TWG				*e*S		**Sg**	**17 51 04.0**	**-1.0**
ELDTW	**Lidau**	**0.22**	**321**	⇓*i*P		**Pg**	**17 51 00.0**	**-1.6**
ELDTW				*e*S		**Sg**	**17 51 02.5**	**-2.8**
TTN	**Taitung**	**0.26**	**184**	⇑*i*P		**Pb**	**17 51 02.9**	**+0.3**
TTN				*e*S		**Sb**	**17 51 08.1**	**+1.3**
CHKH	**Chenggong**	**0.27**	**50**	⇑*i*P		**Pb**	**17 51 02.8**	**0.0**
CHKH				*e*S		**Sb**	**17 51 07.6**	**+0.6**
TWF1	**Yuli**	**0.35**	**20**	⇑*i*P		**Pg**	**17 51 03.2**	**-0.6**
TWF1				S		**Sg**	**17 51 08.3**	**-0.5**
EYUL	**Yuli**	**0.36**	**23**	*e*P		**Pg**	**17 51 03.5**	**-0.3**
EYUL				*e*S		**Sg**	**17 51 08.7**	**-0.2**
YULB	**Yu-li**	**0.39**	**18**	⇑*i*P		**Pg**	**17 51 03.8**	**-0.7**
YULB				*e*S		**Sg**	**17 51 08.8**	**-1.1**
STYH	**Taoyuan**	**0.39**	**293**	⇓*i*P		**Pg**	**17 51 03.2**	**-1.2**
STYH				*i* S		**Sg**	**17 51 08.4**	**-1.6**
ECBN	**Changbin**	**0.40**	**41**	⇑P		**Pb**	**17 51 05.0**	**+0.1**
ECBN				*e*S		**Sb**	**17 51 12.0**	**+1.4**
LDUT	**Ludao**	**0.44**	**141**	⇓P		**Pb**	**17 51 05.7**	**0.0**
LDUT				*e*S		**Sb**	**17 51 14.3**	**+2.3**
ECL	**Taimali**	**0.46**	**205**	⇑*i*P		**Pg**	**17 51 04.5**	**-1.2**
ECL				*e*S		**Sg**	**17 51 10.6**	**-1.4**
EHYH	**Wanrong**	**0.50**	**19**	⇑*i*P		**Pg**	**17 51 06.0**	**-0.4**
EHYH				S		**Sg**	**17 51 12.2**	**-1.0**
EHY	**Hungye**	**0.51**	**16**	⇑*i*P		**Pg**	**17 51 05.5**	**-1.0**
EHY				*e*S		**Sg**	**17 51 12.2**	**-1.2**
HGSD	**Ruisui**	**0.53**	**26**	⇑*i*P		**Pg**	**17 51 06.7**	**-0.2**
HGSD				*e*S		**Sb**	**17 51 15.2**	**+0.8**
WTP	**Ta-pu**	**0.56**	**294**	⇓*i*P		**Pg**	**17 51 06.7**	**-0.8**
WTP				*e*S		**Sg**	**17 51 14.3**	**-0.7**
SSD	**Sandimen**	**0.56**	**241**	⇑*i*P		**Pg**	**17 51 05.9**	**-1.7**
SSD				*e*S		**Sg**	**17 51 11.6**	**-3.5**
TPUB	**Ta-pu**	**0.57**	**300**	⇓*i*P		**Pg**	**17 51 07.0**	**-0.7**
TPUB				*i* S		**Sg**	**17 51 14.9**	**-0.5**
ALS	**Alishan**	**0.59**	**326**	⇓*i*P		**Pg**	**17 51 07.4**	**-0.9**
ALS				*e*S		**Sg**	**17 51 14.8**	**-1.5**
SCST	**Cishan**	**0.64**	**258**	⇑P		**Pb**	**17 51 08.4**	**-0.5**
SCST				*e*S		**Sb**	**17 51 17.6**	**+0.1**
MASBT	**Mashibuluo**	**0.64**	**231**	⇑*i*P		**Pg**	**17 51 07.5**	**-1.5**
MASBT				*e*S		**Sg**	**17 51 15.1**	**-2.3**
SNST	**Tainan City**	**0.65**	**288**	⇓*i*P		**Pg**	**17 51 08.8**	**-0.4**
SNST				*e*S		**Sb**	**17 51 18.2**	**+0.2**
WCKO	**Fanlu**	**0.67**	**309**	*e*P		**Pg**	**17 51 08.6**	**-0.9**
WCKO				*e*S		**Sg**	**17 51 18.3**	**-0.1**
TWK	**Hsinying**	**0.67**	**292**	⇓*i*P		**Pg**	**17 51 09.1**	**-0.6**
TWK				*e*S		**Sg**	**17 51 18.3**	**-0.3**
SGLT	**Jiouru**	**0.69**	**245**	⇑*i*P		**Pg**	**17 51 09.6**	**-0.3**
SGLT				*e*S		**Sg**	**17 51 18.8**	**-0.3**
EGFH	**Guangfu**	**0.69**	**20**	*i* P		**Pg**	**17 51 09.2**	**-0.7**
EGFH				*e*S		**Sg**	**17 51 18.3**	**-0.9**
EAST	**Anshuo**	**0.70**	**205**	⇑*i*P		**Pg**	**17 51 09.2**	**-0.9**
EAST				*e*S		**Sg**	**17 51 18.4**	**-1.0**
TAW	**Tawu**	**0.70**	**201**	⇑*i*P		**Pg**	**17 51 09.4**	**-0.8**
TWM1	**Shoushan**	**0.71**	**254**	⇑*i*P		**Pb**	**17 51 10.6**	**+0.2**
TWM1				*e*S		**Sb**	**17 51 21.4**	**+1.5**
TAWH	**Dawu Township**	**0.72**	**201**	⇑*i*P		**Pg**	**17 51 09.7**	**-0.9**
WARBT	**Fenglin Townsh**	**0.72**	**16**	⇑*i*P		**Pg**	**17 51 09.4**	**-1.2**
WARBT				*e*S		**Sg**	**17 51 19.0**	**-1.3**
CHN5	**Tsauling**	**0.73**	**322**	⇓*i*P		**Pg**	**17 51 10.2**	**-0.5**
CHN5				*e*S		**Sg**	**17 51 19.8**	**-0.7**
WHYT	**Xinyi Township**	**0.73**	**337**	⇑*i*P		**Pg**	**17 51 10.1**	**-0.7**
WHYT				*e*S		**Sg**	**17 51 19.1**	**-1.4**
CHN3	**Shinhua**	**0.74**	**275**	*e*P		**Pn**	**17 51 12.0**	**0.0**
CHN3				*e*S		**Sb**	**17 51 21.6**	**+1.0**
SHHT	**Tainan City**	**0.76**	**270**	*e*P		**Pn**	**17 51 12.5**	**+0.3**
SHHT				*e*S		**Sn**	**17 51 24.3**	**+1.1**
TEGC	**Jichi Village**	**0.77**	**26**	*e*P		**Pn**	**17 51 12.4**	**0.0**
TEGC				*e*S		**Sb**	**17 51 23.1**	**+1.7**
SSLB	**Suanglung**	**0.79**	**346**	⇑*i*P		**Pg**	**17 51 10.3**	**-1.5**
SSLB				*e*S		**Sg**	**17 51 21.6**	**-0.7**
CHN2	**Minshiung**	**0.82**	**309**	*e*P		**Pb**	**17 51 12.4**	**+0.3**
CHN2				*e*S		**Sb**	**17 51 24.5**	**+1.7**
SCZT	**Fangliau**	**0.82**	**218**	⇑*i*P		**Pg**	**17 51 11.0**	**-1.3**
SCZT				S		**Sg**	**17 51 21.2**	**-2.0**
SSHA	**Shanhua**	**0.82**	**278**	*e*P		**Pn**	**17 51 13.4**	**+0.3**
ESL	**Shilin**	**0.83**	**17**	⇑P		**Pg**	**17 51 11.5**	**-1.1**
ESL				*e*S		**Sg**	**17 51 22.9**	**-0.6**
CHY	**Chiayi**	**0.83**	**305**	*e*P		**Pg**	**17 51 12.3**	**-0.3**
CHY				*e*S		**Sb**	**17 51 25.2**	**+1.9**
SHUL	**Shoufeng**	**0.85**	**25**	⇑*i*P		**Pb**	**17 51 12.9**	**+0.3**
TAI1	**Yung-k'ang**	**0.87**	**272**	*e*P		**Pn**	**17 51 14.7**	**+1.0**
TAI1				*e*S		**Sn**	**17 51 27.2**	**+1.3**
WGK	**Gukeng**	**0.87**	**320**	*e*P		**Pb**	**17 51 13.1**	**+0.2**
WGK				*e*S		**Sb**	**17 51 25.2**	**+0.9**
WDLH	**Douliu**	**0.88**	**319**	*e*P		**Pb**	**17 51 13.5**	**+0.3**
WDLH				*e*S		**Sn**	**17 51 27.2**	**+0.8**
ICHU	**Yijhu**	**0.89**	**293**	*e*P		**Pb**	**17 51 13.7**	**+0.4**
SMLT	**Sun Moon Lake**	**0.90**	**344**	⇑*i*P		**Pg**	**17 51 12.7**	**-1.1**
SMLT				*e*S		**Sg**	**17 51 24.7**	**-1.0**
WJS	**Zhushan**	**0.90**	**333**	*i* P		**Pb**	**17 51 14.3**	**+0.8**
WJS				*e*S		**Sb**	**17 51 26.4**	**+1.3**
WDL	**Douliou City**	**0.90**	**320**	*e*P		**Pb**	**17 51 14.1**	**+0.5**
WDL				S		**Sn**	**17 51 27.3**	**+0.4**
SCLT	**Jiali**	**0.91**	**280**	*e*P		**Pg**	**17 51 13.6**	**-0.5**
SCLT				*i* S		**Sn**	**17 51 28.2**	**+1.2**
WSSB	**Gushan**	**0.92**	**246**	*e*P		**Pn**	**17 51 15.4**	**+1.0**
WSSB				*i* S		**Sn**	**17 51 30.8**	**+3.6**
OWD	**Renai**	**0.93**	**0**	⇓P		**Pg**	**17 51 13.1**	**-1.4**
OWD				*e*S		**Sb**	**17 51 27.1**	**+0.8**
TEYL	**Yanliau Villag**	**0.93**	**25**	*e*P		**Pn**	**17 51 15.0**	**+0.4**
TEYL				*e*S		**Sn**	**17 51 28.6**	**+1.0**
WNT	**Mingjian**	**0.96**	**333**	⇑*i*P		**Pn**	**17 51 15.4**	**+0.3**
WNT				*i* S		**Sn**	**17 51 29.0**	**+0.6**
WUSB	**Renai**	**0.97**	**357**	⇓P		**Pg**	**17 51 13.8**	**-1.4**
WUSB				*e*S		**Sb**	**17 51 28.6**	**+1.2**
WTK	**Tuku**	**0.98**	**313**	*e*P		**Pb**	**17 51 15.1**	**+0.3**
WTK				*i* S		**Sn**	**17 51 29.7**	**+1.0**
WLCH	**Liuqiu**	**0.99**	**228**	*e*P		**Pn**	**17 51 17.6**	**+2.3**
WLCH				*e*S		**Sn**	**17 51 30.1**	**+1.3**
ETM	**Tongmen**	**0.99**	**17**	P		**Pg**	**17 51 14.5**	**-1.1**
WSL	**Shuilin Townsh**	**1.00**	**300**	⇑*e*P		**Pb**	**17 51 15.6**	**+0.4**
WSL				*i* S		**Sn**	**17 51 30.3**	**+1.1**
TWP	**Hsiaoliuchiu**	**1.00**	**228**	*e*P		**Pn**	**17 51 17.8**	**+2.2**
TSCK	**Chigu Township**	**1.00**	**278**	P		**Pn**	**17 51 16.1**	**+0.4**
TSCK				*i* S		**Sn**	**17 51 30.7**	**+1.4**
LXIB	**Xiulin Townshi**	**1.02**	**13**	*e*P		**Pg**	**17 51 13.6**	**-2.7**
LXIB				*e*S		**Sg**	**17 51 28.8**	**-0.9**
HWA	**Hwalien**	**1.03**	**23**	⇑*e*P		**Pg**	**17 51 15.9**	**-0.5**
HWA				*e*S		**Sb**	**17 51 30.5**	**+1.4**
LAY	**Lan-yu**	**1.04**	**160**	*e*P		**Pg**	**17 51 14.2**	**-2.2**
SMST	**Manzhou Townsh**	**1.04**	**197**	*e*P		**Pg**	**17 51 15.3**	**-1.2**
WCS	**Beigang Elemen**	**1.06**	**347**	*e*P		**Pg**	**17 51 16.1**	**-0.8**
WSF	**Szhu**	**1.07**	**306**	*e*P		**Pg**	**17 51 16.1**	**-0.9**
WSF				*i* S		**Sb**	**17 51 31.4**	**+1.4**
HEN	**Hengchun**	**1.08**	**202**	*e*P		**Pb**	**17 51 16.9**	**+0.3**
TWK1	**Hengchun**	**1.12**	**198**	*e*P		**Pg**	**17 51 17.3**	**-0.8**
TWK1				*e*S		**Sg**	**17 51 31.2**	**-1.5**
TWKBT	**Hengchun**	**1.12**	**197**	*e*P		**Pb**	**17 51 17.7**	**+0.4**
TWKBT				*e*S		**Sg**	**17 51 31.4**	**-1.3**
WHF	**Hehuan Shan**	**1.12**	**4**	⇑P		**Pg**	**17 51 16.6**	**-1.7**
WHF				*e*S		**Sb**	**17 51 33.3**	**+1.2**
TWD	**Chiawan**	**1.13**	**20**	*e*P		**Pg**	**17 51 16.6**	**-1.6**
TWD				*e*S		**Sg**	**17 51 30.5**	**-2.0**
WTCT	**Ta-ch'eng**	**1.17**	**316**	*e*P		**Pb**	**17 51 17.6**	**-1.4**
WTCT				*e*S		**Sb**	**17 51 34.4**	**+1.3**
WCH1	**Changhua City**	**1.19**	**332**	*e*P		**Pn**	**17 51 19.0**	**+0.7**
WCHH	**Zhanghua**	**1.20**	**332**	*e*P		**Pn**	**17 51 19.4**	**+1.2**
ETL	**Fush Village**	**1.21**	**20**	*e*P		**Pb**	**17 51 18.4**	**-0.4**
TCU	**Taichung**	**1.21**	**338**	*e*P		**Pb**	**17 51 19.1**	**+0.3**
NACB	**Ninganchiao**	**1.22**	**19**	*e*P		**Pb**	**17 51 17.9**	**-1.0**
ETLH	**Xiulin Townshi**	**1.22**	**14**	*e*P		**Pb**	**17 51 18.0**	**-0.9**
FUSS	**Fushou**	**1.23**	**3**	*e*P		**Pg**	**17 51 18.7**	**-1.4**
TDCB	**Techi**	**1.23**	**360**	*e*P		**Pb**	**17 51 18.6**	**-0.6**
TDCB				*e*S		**Sn**	**17 51 36.1**	**+1.0**
TWT	**Tachien**	**1.23**	**0**	*e*P		**Pg**	**17 51 18.6**	**-1.5**
WHP	**Taichung City**	**1.27**	**351**	*e*P		**Pg**	**17 51 20.7**	**-0.2**
WHP				*e*S		**Sb**	**17 51 36.5**	**+0.5**
TWQ1	**Liyutan**	**1.37**	**345**	*e*P		**Pg**	**17 51 22.4**	**-0.5**
EHP	**Heping Village**	**1.39**	**22**	*e*P		**Pn**	**17 51 21.7**	**+0.8**
EHP				*e*S		**Sg**	**17 51 40.9**	**-0.4**
EAHA	**Aohua**	**1.41**	**22**	*e*P		**Pn**	**17 51 22.2**	**+0.1**
WDGT	**Dungji**	**1.41**	**280**	*e*P		**Pn**	**17 51 21.8**	**+0.6**
WDGT				*e*S		**Sb**	**17 51 39.6**	**-0.2**
**WD

*AEIC **05** 18:00:57.7±2.0,68°.79N±0°.02×146°.51W±0°.06,h15^{km}±5^{km}, ML3.5,ML3.6/152(NEIC),Mwr3.6/31(SLM),Error ellipse: s-maj=3.2km s-min=2.7km az=127.0*

*NEIC **05** 18:00:58,68°.83N×146°.24W,h9^{km},Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M$_r$=0.69; M$_{\theta\theta}$=-2.62; M$_{\phi\phi}$ 1.93; M$_{r\theta}$=0.51; M$_{\theta\phi}$=-1.71; M$_{r\phi}$=1.89; Fault plane solution: M$_o$3.51000×10^{14} NP1:ϕ_s30.00000°, δ80.00000°,λ35.00000°. NP2:ϕ_s293.00000°,δ56.00000°, λ168.00000°. Principal axes: T 3.5073, Plg32.0000°, Azm257.0000°; N -0.0029, Plg54.0000°, Azm44.0000°; P -3.5043, Plg16.0000°, Azm157.0000°;*

*IDC **05** 18:00:59.0±0.7,68°.87N×146°.63W,h0^{km},mb3.7/11, mbtmp3.8/16,ML4.1/4,MS3.7/1 Error ellipse: s-maj=18.9km s-min=11.5km az=73.0*

*NEIC **05** 18:00:59.4±1.7,68°.80N±0°.02×146°.49W±0°.06,h16^{km}±4^{km}, Error ellipse: s-maj=3.5km s-min=2.8km az=126.0*

ISC 05 18:00:59.0±0.5,**68°.80N**±0°.02×**146°.51W**±0°.03,**h10**^{km}, **n136,**σ1^{s}**30**/121,**mb3.8**/11,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
D25K	**Kavik River**	**0.53**	**5**		**Pg**	**18 01 08.1**	**-1.2**
D25K	**Kavik River**	**0.53**	**5**		**Sg**	**18 01 15.5**	**-0.7**
E25K	**Arctic Village**	**0.77**	**153**		**Sg**	**18 01 24.1**	**+0.4**
E25K	**Arctic Village**	**0.77**	**153**		**Pg**	**18 01 13.1**	**-0.7**
D24K	**Happy Valley**	**0.91**	**294**		**Pg**	**18 01 15.2**	**-1.3**
D24K	**Happy Valley**	**0.91**	**294**		**Sg**	**18 01 27.8**	**-0.4**
E24K	**Your Creek**	**1.03**	**226**		**Pg**	**18 01 17.0**	**-1.8**
E24K					**Pb**	**18 01 17.2**	**-1.7**
E24K					**Sg**	**18 01 31.2**	**-1.0**
TOLK	**Toolik Lake Re**	**1.13**	**263**		**Pb**	**18 01 19.8**	**-0.8**
TOLK					**Sb**	**18 01 35.9**	**+0.5**
TOLK					**Sn**	**18 01 36.4**	**-0.1**
TOLK	**Toolik Lake Re**	**1.13**	**263**		**Pb**	**18 01 19.5**	**-1.1**
TOLK	**Toolik Lake Re**	**1.13**	**263**	IAML		18 01 41.0	
	comp=E,1μm,0.8s						
C24K	**Franklin Bluff**	**1.21**	**321**		**Sn**	**18 01 38.8**	**+0.5**
C24K	**Franklin Bluff**	**1.21**	**321**		**Pn**	**18 01 21.2**	**-0.7**
C24K				IAML		18 01 43.4	
	comp=N,1μm,0.7s						
C24K				IAML		18 01 45.4	
	comp=E,1μm,0.8s						
F25K	**Christian Rive**	**1.26**	**165**		**Sn**	**18 01 40.0**	**+0.4**
F25K	**Christian Rive**	**1.26**	**165**		**Pn**	**18 01 21.7**	**-0.9**
F25K				IAML		18 01 44.6	
	comp=N,854nm,0.9s						
F25K				IAML		18 01 46.5	
	comp=E,885nm,0.8s						
C26K	**Camden Bay**	**1.26**	**26**		**Pn**	**18 01 22.0**	**-0.6**
C26K					**Sn**	**18 01 39.6**	**0.0**
C26K					**Sb**	**18 01 39.0**	**0.0**
C26K	**Camden Bay**	**1.26**	**26**	IAML		18 01 51.3	
	comp=E,969nm,1.1s						
C27K	**Jago River**	**1.30**	**49**		**Pn**	**18 01 21.4**	**-1.8**
C27K	**Jago River**	**1.30**	**49**		**Sb**	**18 01 39.2**	**-0.9**
C27K					**Sn**	**18 01 39.6**	**-0.9**
E23K	**Chandalar**	**1.37**	**238**		**Pn**	**18 01 23.1**	**-1.1**
E23K				IAML		18 01 47.6	
	comp=E,762nm,0.8s						
E23K				IAML		18 01 48.3	
	comp=N,886nm,0.6s						
F24K	**Squaw Lake**	**1.39**	**202**		**Pn**	**18 01 23.4**	**-1.1**
F24K				IAML		18 01 47.5	
	comp=E,657nm,0.7s						
F24K	**Squaw Lake**	**1.39**	**202**		**Sb**	**18 01 41.8**	**-0.9**
F26K	**Sheenjek River**	**1.42**	**140**		**Pn**	**18 01 24.2**	**-0.7**
D23K	**Nanushuk River**	**1.52**	**278**		**Pn**	**18 01 26.8**	**+0.6**
D23K				IAML		18 01 51.1	
	comp=E,806nm,0.9s						
D23K				IAML		18 01 53.6	
	comp=N,791nm,0.7s						
BMAR	**Burnt Mountain**	**1.56**	**151**		**Pn**	**18 01 26.8**	**0.0**
BM02	**Burnt Mountain**	**1.57**	**150**		**Pn**	**18 01 27.3**	**+0.4**
C23K	**Itkillik River**	**1.79**	**307**		**Pn**	**18 01 30.0**	**+0.1**
C23K				IAML		18 02 06.0	
	comp=E,670nm,0.8s						
E27K	**Coleen River**	**1.92**	**107**		**Pn**	**18 01 31.4**	**-0.3**
E27K				IAML		18 01 59.7	
	comp=N,391nm,0.6s						
D27M	**Malcolm River**	**2.05**	**75**		**Pn**	**18 01 34.3**	**+0.8**
D27M				IAML		18 02 11.5	
	comp=N,402nm,0.8s						
D27M				IAML		18 02 15.8	
	comp=E,298nm,0.7s						
COLD	**Coldfoot**	**2.10**	**223**		**Pn**	**18 01 34.6**	**+0.3**
G26K	**Porcupine Rive**	**2.13**	**150**		**Pn**	**18 01 34.1**	**-0.4**
G26K				IAML		18 02 12.5	
	comp=N,455nm,0.9s						
G26K				IAML		18 02 16.1	
	comp=E,575nm,1.2s						
G24K	**Hadweenzic Riv**	**2.14**	**190**		**Pn**	**18 01 34.5**	**-0.2**
G24K				IAML		18 02 11.0	
	comp=N,416nm,0.8s						
G24K				IAML		18 02 14.0	
	comp=E,328nm,0.8s						
D22K	**Ayikyak River**	**2.24**	**275**		**Pn**	**18 01 36.6**	**+0.5**
FYU	**Fort Yukon**	**2.30**	**167**		**Pn**	**18 01 37.0**	**+0.1**
FYU				IAML		18 02 23.7	
	comp=N,421nm,1.2s						
FYU				IAML		18 02 25.4	
	comp=E,354nm,1.2s						
G23K	**Bananza Creek**	**2.49**	**214**		**Pn**	**18 01 40.6**	**+1.0**
G23K				IAML		18 02 24.2	
	comp=E,297nm,0.7s						
G23K				IAML		18 02 26.3	
	comp=N,194nm,0.6s						
E28M	**Babbage River**	**2.56**	**91**		**Pn**	**18 01 41.0**	**+0.5**
E28M				IAML		18 02 21.8	
	comp=N,198nm,1.1s						
E28M				IAML		18 02 27.4	
	comp=E,198nm,1.1s						
H25L	**Birch Creek**	**2.56**	**174**		**Pn**	**18 01 40.7**	**+0.2**
F28M	**Old Crow**	**2.75**	**113**		**Pn**	**18 01 43.4**	**+0.3**
F28M				IAML		18 02 35.1	
	comp=E,220nm,0.8s						
F28M				IAML		18 02 38.4	
	comp=N,227nm,1.1s						
E21K	**Killik River**	**2.76**	**266**		**Pn**	**18 01 43.6**	**+0.3**
E21K	**Killik River**	**2.76**	**266**	IAML		18 02 29.9	
	comp=N,329nm,0.8s						
D28M	**Stokes Point**	**2.84**	**76**		**Pn**	**18 01 45.1**	**+0.8**
B22K	**Teshekpuk Lake**	**2.87**	**306**		**Pn**	**18 01 44.8**	**0.0**
B22K				IAML		18 02 31.3	
	comp=E,257nm,0.7s						
C21K	**Knifeblade Rid**	**3.00**	**281**		**Pn**	**18 01 46.9**	**+0.3**
B21K	**Ikpikpuk River**	**3.00**	**290**		**Pn**	**18 01 46.8**	**+0.2**
B21K				IAML		18 02 52.8	
	comp=E,151nm,1.1s						
H24K	**Noodor Dome**	**3.02**	**191**	IAML		18 02 41.9	
	comp=N,169nm,0.8s						
F21K	**Alatna River**	**3.06**	**242**		**Pn**	**18 01 48.7**	**+1.2**
F21K				IAML		18 02 39.2	
	comp=E,147nm,0.9s						
F21K				IAML		18 02 42.1	
	comp=N,173nm,0.9s						
E29M	**Blow River**	**3.19**	**93**	IAML		18 02 53.5	
	comp=E,162nm,1.0s						
H23K	**Yukon River**	**3.21**	**203**	IAML		18 02 50.4	
	comp=N,163nm,0.9s						
H27K	**Steamboat Moun**	**3.21**	**141**		**Pn**	**18 01 49.8**	**+0.2**
H27K				IAML		18 03 02.1	
	comp=E,138nm,1.1s						
PRP	**Porcupine Dome**	**3.32**	**173**		**Pn**	**18 01 51.2**	**+0.1**
H22K	**Ishtalitna Cre**	**3.47**	**215**		**Pn**	**18 01 53.5**	**+0.4**
G21K	**Allakaket**	**3.52**	**233**		**Pn**	**18 01 53.7**	**0.0**
G21K				IAML		18 03 02.0	
	comp=E,162nm,1.0s						
G21K				IAML		18 03 11.9	
	comp=N,136nm,1.1s						
A22K	**Sinclair Lake**	**3.66**	**311**		**Pn**	**18 01 55.6**	**0.0**
D20K	**Etivluk River**	**3.68**	**273**		**Pn**	**18 01 57.1**	**+1.2**
D20K				IAML		18 03 21.8	
	comp=E,137nm,1.1s						
D20K				IAML		18 03 23.0	
	comp=N,136nm,0.9s						
POKR	**Poker Plat Res**	**3.72**	**186**	IAML		18 03 03.0	
	comp=N,72nm,1.1s						
POKR				IAML		18 03 10.3	
	comp=E,70nm,1.1s						
I26K	**Coal Creek Min**	**3.75**	**158**		**Pn**	**18 01 57.3**	**+0.5**
I23K	**Minto, Yukon-K**	**3.84**	**198**	IAML		18 03 03.0	
	comp=E,106nm,1.0s						
I23K				IAML		18 03 10.3	
	comp=N,77nm,0.9s						
F20K	**Avaraart Lake**	**3.90**	**247**		**Pn**	**18 02 00.1**	**+1.2**
F20K	**Avaraart Lake**	**3.90**	**247**	IAML		18 03 07.3	
	comp=E,73nm,0.8s						
F20K				IAML		18 03 11.4	
	comp=N,109nm,0.8s						
B20K	**Meade River**	**3.95**	**293**		**Pn**	**18 01 59.6**	**+0.1**
B20K				IAML		18 03 23.9	
	comp=E,90nm,1.1s						
B20K				IAML		18 03 27.2	
	comp=N,95nm,1.2s						
IMAR	**Indian Mountai**	**3.98**	**228**		**Pn**	**18 02 00.5**	**+0.6**
COLA	**College**	**3.98**	**188**		**Pn**	**18 01 59.6**	**-0.4**
H21K	**Melozitna Rive**	**3.99**	**221**		**Pn**	**18 02 01.6**	**+1.4**
H21K	**Melozitna Rive**	**3.99**	**221**	IAML		18 03 20.5	
	comp=E,91nm,1.0s						
H21K				IAML		18 03 21.5	
	comp=N,59nm,1.1s						
IL31		**4.05**	**182**	Pn	**Pn**	**18 02 01.2**	**+0.3**
ILAR	**Eielson Array**	**4.05**	**182**		**Pn**	**18 02 00.3**	**-0.7**
ILAR	**Eielson Array**	**4.05**	**182**	Pn	**Pn**	**18 02 01.5**	**+0.5**
	comp=N,2.0nm,0.3s,baz=352,slow=11,SNR=42						
ILAR				Sn	**Sn**	**18 02 50.1**	**+1.7**
	comp=N,2.5nm,0.3s,baz=2.4,slow=16,SNR=5.3						
ILAR				Lg	Lg	18 03 07.4	
	comp=N,2.7nm,0.3s,baz=0.6,slow=29,SNR=5.7						
	comp=N,5.4nm,0.7s						
H29M	**Whitestone**	**4.06**	**126**	IAML		18 03 18.6	
	comp=N,97nm,0.9s						
MLY	**Manley**	**4.14**	**206**		**Pn**	**18 02 01.8**	**-0.4**
MLY				IAML		18 03 14.1	
	comp=E,62nm,1.0s						
F30M	**Barrier River**	**4.17**	**102**		**Pn**	**18 02 04.5**	**+1.8**
CCB	**Clear Creek Bu**	**4.21**	**188**		**Pn**	**18 02 03.3**	**+0.2**
E19K	**Redstone River**	**4.23**	**256**		**Pn**	**18 02 03.8**	**+0.4**
J25K	**Salcha River,**	**4.23**	**173**	IAML		18 03 29.4	
	comp=E,63nm,1.1s						
I28M	**Miner Creek**	**4.23**	**140**		**Pn**	**18 02 03.6**	**0.0**
I28M				IAML		18 03 25.9	
	comp=E,56nm,1.0s						
I28M				IAML		18 03 35.7	
	comp=N,47nm,1.1s						
D19K	**Kuna River**	**4.25**	**271**		**Pn**	**18 02 04.2**	**+0.4**
D19K				IAML		18 03 28.9	
	comp=N,90nm,1.0s						
A21K	**Barrow**	**4.29**	**311**		**Pn**	**18 02 04.8**	**+0.7**
G30M	**tAoh Zraii Nji**	**4.30**	**110**	IAML		18 02 58.6	
	comp=N,73nm,0.8s						
G30M				IAML		18 03 16.1	
	comp=E,48nm,0.8s						
WRH	**Wood River Hil**	**4.39**	**189**	IAML		18 03 22.9	
	comp=E,55nm,1.1s						
HDA	**Harding Lake**	**4.42**	**182**		**Pn**	**18 02 06.7**	**+0.7**
HDA	**Harding Lake**	**4.42**	**182**	IAML		18 03 27.7	
	comp=N,41nm,0.7s						
HDA				IAML		18 03 30.7	
	comp=E,61nm,1.0s						
EPYK	**Eagle Plains**	**4.47**	**118**		**Pn**	**18 02 07.2**	**+0.4**
J26L	**Joseph Creek**	**4.47**	**163**	IAML		18 03 30.8	
	comp=E,53nm,0.8s						
F19K	**Shaleruckik Mo**	**4.70**	**250**		**Pn**	**18 02 10.4**	**+0.6**
F19K					**Pn**	**18 02 10.9**	**+1.0**
F19K	**Shaleruckik Mo**	**4.70**	**250**	IAML		18 03 30.2	
	comp=E,62nm,0.8s						
F19K				IAML		18 03 35.0	
	comp=N,64nm,0.9s						
I29M	**Ogilvie Camp,**	**4.71**	**133**	IAML		18 03 07.1	
	comp=N,51nm,0.5s						
I29M				IAML		18 03 37.8	
	comp=E,56nm,0.9s						
INK	**Inuvik**	**4.79**	**90**		**Pn**	**18 02 09.8**	**-1.3**
INK	**Inuvik**	**4.79**	**90**	Pn	**Pn**	**18 02 12.8**	**+1.7**
	comp=E,2.1nm,0.3s,baz=337,slow=9.7,SNR=17						
INK				Sn	**Sn**	**18 03 07.8**	**+1.2**
	comp=E,1.4nm,0.3s,baz=341,slow=18,SNR=5.7						
	comp=E,5.1nm,0.3s						
BWN	**Browne**	**4.80**	**196**	IAML		18 04 04.0	
	comp=E,64nm,1.1s						
SCRK	**Sand Creek**	**4.95**	**167**	IAML		18 03 45.7	
	comp=E,40nm,1.2s						
F31M	**Tsiigehtchic**	**4.97**	**100**	IAML		18 03 13.7	
	comp=E,54nm,0.7s						
F31M				IAML		18 03 39.4	
	comp=N,52nm,0.7s						
G31M	**Satah River**	**5.00**	**106**		**Pn**	**18 02 13.4**	**-0.5**
G31M				IAML		18 03 30.0	
	comp=E,43nm,0.8s						
BPAW	**Bear Paw Mtn.**	**5.05**	**203**		**Pn**	**18 02 15.3**	**+0.6**
BPAW	**Bear Paw Mtn.**	**5.05**	**203**	IAML		18 03 47.3	
	comp=E,37nm,1.1s						
K27K	**Chicken**	**5.11**	**158**		**Pn**	**18 02 16.3**	**+0.8**
RIDG	**Independent Ri**	**5.13**	**172**		**Pn**	**18 02 16.6**	**+0.7**
MCK	**McKinley**	**5.18**	**192**		**Pn**	**18 02 16.6**	**0.0**
DOT	**Dot Lake**	**5.27**	**168**	IAML		18 03 52.9	
	comp=E,42nm,1.0s						
DOT				IAML		18 04 06.2	
	comp=N,25nm,1.1s						
A19K	**Wainwright**	**5.30**	**292**		**Pn**	**18 02 18.2**	**+0.1**
C18K	**Utukok River**	**5.35**	**275**	IAML		18 03 21.2	
	comp=E,31nm,0.9s						
I30M	**Mount Dempster**	**5.35**	**127**		**Pn**	**18 02 18.9**	**-0.1**
I30M	**Mount Dempster**	**5.35**	**127**	IAML		18 03 24.1	
	comp=N,32nm,0.6s						
E18K	**Tukpahlearik C**	**5.45**	**262**		**Pn**	**18 02 21.2**	**+1.1**
F18K	**Selawik**	**5.47**	**252**		**Pn**	**18 02 21.1**	**+0.7**
G18K	**Tagagawik**	**5.52**	**244**		**Pn**	**18 02 22.7**	**+1.5**
KTH	**Kantishna Hill**	**5.56**	**201**		**Pn**	**18 02 21.8**	**0.0**
H31M	**Peel River**	**5.59**	**117**		**Pn**	**18 02 21.2**	**-0.8**
MENT	**Mentasta**	**6.00**	**168**		**Pn**	**18 02 28.5**	**+0.7**
WAT1	**Susitna Watana**	**6.06**	**189**		**Pn**	**18 02 29.3**	**+0.8**
L27K	**Beaver Creek,**	**6.07**	**159**		**Pn**	**18 02 29.3**	**+0.6**
BCAR	**Beaver Creek A**	**6.07**	**159**		**Pn**	**18 02 29.2**	**+0.5**
D17K	**Noatak River**	**6.25**	**268**		**Pn**	**18 02 30.7**	**-0.5**
WAT6	**Susitna Watana**	**6.27**	**185**		**Pn**	**18 02 32.5**	**+1.0**
PPLA	**Purkeypile**	**6.37**	**204**		**Pn**	**18 02 33.9**	**+1.0**
L29M	**L29M**	**6.66**	**145**		**Pn**	**18 02 37.6**	**+0.8**
M29M	**Somme Creek**	**7.19**	**149**		**Pn**	**18 02 45.0**	**+0.8**
A36M	**Sachs Harbour**	**7.81**	**56**		**Pn**	**18 02 51.7**	**-0.7**
C36M	**Paulatuk**	**8.04**	**76**		**Pn**	**18 02 53.2**	**-2.4**
CTGM	**Chitina Glacie**	**8.17**	**162**		**Pn**	**18 02 59.5**	**+1.9**
LOGN	**Logan Glacier**	**8.34**	**161**		**Pn**	**18 03 01.9**	**+2.0**
N30M	**Aishikik Lake**	**8.36**	**147**		**Pn**	**18 03 01.6**	**+1.5**
O28M	**Mount Upton**	**8.49**	**159**		**Pn**	**18 03 04.1**	**+1.9**
BAGL	**Bagley Icefiel**	**8.55**	**165**		**Pn**	**18 03 06.0**	**+3.2**
KDAK	**Kodiak Island**	**11.38**	**197**	Pn	**Pn**	**18 03 38.0**	**-3.4**
	comp=N,2.7nm,1.0s,baz=0.0,slow=20,SNR=2.0						
DLBC	**Dease Lake**	**12.66**	**137**	Pn	**Pn**	**18 03 57.5**	**-1.4**
	comp=N,3.0nm,0.3s,baz=294,slow=20,SNR=5.6						
DLBC				Lg	Lg	18 07 43.1	
	comp=N,0.3nm,0.3s,baz=343,slow=19,SNR=3.7						
	comp=N,8.9nm,0.4s						
YKA	**Yellowknife Ar**	**14.45**	**100**	Pn	**Pn**	**18 04 21.0**	**-2.2**
	comp=N,0.5nm,0.3s,baz=310,slow=13,SNR=11						
YKA				Sn	**Sn**	**18 06 55.1**	**-8.1**
	comp=N,0.1nm,0.3s,baz=308,slow=22,SNR=4.2						
	comp=N,2.4nm,0.7s						
PETK	**Petropavlovsk-**	**29.95**	**267**	LR	LR	18 20 33.1	
	comp=N,123nm,18.6s,baz=7.6,slow=39						
PDAR	**Pinedale Array**	**32.41**	**124**	P	**P**	**18 07 31.1**	**+2.3**
	comp=N,0.6nm,0.8s,baz=1.4,slow=5.9,SNR=4.0						
	comp=N,0.6nm,0.8s						
TXAR	**Lajitas Array**	**46.62**	**125**	P	**P**	**18 09 29.6**	**+2.5**
	comp=N,0.2nm,0.6s,baz=354,slow=9.4,SNR=2.2						
	comp=N,0.2nm,0.6s						
HFS	**Hagfors**	**50.57**	**13**	P	**P**	**18 09 57.2**	**+0.2**
	comp=N,2.4nm,0.7s,baz=353,slow=10,SNR=2.5						
	comp=N,2.4nm,0.7s						
ZALV	**Zalesovo Beam**	**51.90**	**324**	P	**P**	**18 10 07.9**	**+0.8**
	comp=N,0.3nm,0.4s,baz=18,slow=11,SNR=2.1						
	comp=N,0.3nm,0.4s						
EKA	**Eskdalemuir Ar**	**53.29**	**25**	P	**P**	**18 10 18.1**	**+0.8**
	comp=N,1.8nm,0.9s,baz=352,slow=5.1,SNR=3.5						
	comp=N,1.8nm,0.9s						
BVAR	**Borovoye Array**	**55.48**	**334**	P	**P**	**18 10 34.7**	**+1.4**
	comp=N,0.5nm,0.5s,baz=0.0,slow=5.9,SNR=5.1						
	comp=N,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**56.33**	**327**	P	**P**	**18 10 39.9**	**+0.5**
	comp=N,0.4nm,0.5s,baz=19,slow=6.9,SNR=1.5						
	comp=N,0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.19**	**323**	P	**P**	**18 10 59.8**	**+0.1**
	comp=N,0.2nm,0.3s,baz=37,slow=7.3,SNR=4.0						
	comp=N,0.2nm,0.3s						
AKASG	**Malin Array Be**	**60.77**	**3**	P	**P**	**18 11 11.2**	**+0.9**
	comp=N,1.3nm,0.6s,baz=359,slow=6.8,SNR=7.8						
	comp=N,1.3nm,0.6s						
GERES	**GERESS Array B**	**61.76**	**15**	P	**P**	**18 11 18.8**	**+1.6**
	comp=N,0.6nm,0.6s,baz=24,slow=4.8,SNR=4.2						
	comp=N,0.6nm,0.6s						
ESDC	**Sonseca Array**	**68.32**	**30**	P	**P**	**18 12 01.7**	**+1.8**
	comp=N,0.7nm,0.7s,baz=354,slow=5.8,SNR=3.8						
	comp=N,0.7nm,0.7s						

*HLW **05** 18:13:20.5,35°.27N×23°.74E,h18^{km}±3^{km},Md3.0,Ml3.2*

*THE **05** 18:13:21.0,35°.N±4°.×2°.3E±°.,h27^{km}±7^{km},M3.1/8, MLh3.1/8*

*ATH **05** 18:13:21.1,35°.24N×23°.10E,h33^{km}±2^{km},ML3.4/6, Manual Solution by K.Orfanogiannaki First location: 2019/09/05 18:14:30, This location: 2019/09/05 18:59:42 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 3 km*

ISC 05 18:13:20.6±1.6,**35°.20N**±0°.05×**23°.09E**±0°.07,**h27**^{km}±12^{km}, **n22,**σ0^{s}**87**/30,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.49**	**85**	P	**Pb**	**18 13 30.7**	**+0.1**
KNDR				S	**Sb**	**18 13 38.3**	**+0.8**
KNDR	**Palaiochora Ch**	**0.49**	**85**	P	**Pb**	**18 13 30.7**	**+0.1**
KNDR				S	**Sb**	**18 13 37.3**	**-0.2**
ANKY	**Antikythira Is**	**0.69**	**14**	P	**Pn**	**18 13 34.1**	**-0.5**
ANKY				S	**Sn**	**18 13 44.9**	**+0.4**
ANKY	**Antikythira Is**	**0.69**	**14**	P	**Pn**	**18 13 34.1**	**-0.5**
ANKY				S	**Sb**	**18 13 42.8**	**-0.4**
CHAN	**Chania**	**0.84**	**67**	P	**Pb**	**18 13 36.3**	**-0.2**
CHAN				S	**Sn**	**18 13 48.8**	**+0.7**
CHAN	**Chania**	**0.84**	**67**	P	**Pb**	**18 13 36.4**	**-0.2**
CHAN				S	**Sn**	**18 13 47.8**	**-0.3**
GVD	**Gavdhos**	**0.89**	**113**	P	**Pn**	**18 13 37.6**	**+0.2**
GVD				S	**Sn**	**18 13 51.1**	**+1.7**
GVD	**Gavdhos**	**0.89**	**113**	P	**Pn**	**18 13 37.6**	**+0.2**
GVD				S	**Sb**	**18 13 49.4**	**+0.5**
KTHA	**Kythira Island**	**1.06**	**359**	P	**Pb**	**18 13 40.4**	**+0.1**
PRNS	**Prines Rethymn**	**1.17**	**81**	P	**Pn**	**18 13 40.9**	**-0.2**
PRNS	**Prines Rethymn**	**1.17**	**81**	P	**Pn**	**18 13 40.7**	**-0.4**
IDI	**Anoyia**	**1.47**	**86**	P	**Pn**	**18 13 45.8**	**+0.4**
IDI	**Anoyia**	**1.47**	**86**	P	**Pn**	**18 13 45.3**	**-0.1**
VLI	**Veliai**	**1.52**	**355**	P	**Pn**	**18 13 46.3**	**+0.2**
MHLO	**Agia Marina, M**	**1.83**	**35**	P	**Pn**	**18 13 49.4**	**-0.9**
MHLO	**Agia Marina, M**	**1.83**	**35**	P	**Pn**	**18 13 49.3**	**-0.9**
NPS	**Neapolis**	**2.06**	**87**	P	**Pn**	**18 13 54.2**	**+0.7**
THERA	**Ancient Thera,**	**2.26**	**58**	P	**Pn**	**18 13 55.5**	**-0.8**
DION	**Dionisos Attik**	**2.95**	**13**	P	**Pn**	**18 14 05.4**	**-0.3**
SWA2		**6.26**	**161**	P	**Pn**	**18 14 51.0**	**-0.2**
RYAN	**Fayoum**	**8.62**	**133**	⇑P	**Pn**	**18 15 20.4**	**-3.1**
HFRF	**Wahat Farafira**	**9.18**	**149**	P	**Pn**	**18 15 30.1**	**-1.1**

*SJA **05** 18:19:23.8±0.8,23°.90S×66°.72W,h225^{km}±4^{km},ML4.1, MW3.9*

*NEIC **05** 18:19:25.1±1.3,23°.89S±0°.07×66°.8W±0°.1,h206^{km}±9^{km}, mb4.5/6,ML4.4(GUC),Error ellipse: s-maj=14.9km s-min=10.7km az=94.0*

*IDC **05** 18:19:25.9±1.8,23°.67S×66°.54W,h211^{km}±17^{km},mb3.6/3, mbtmp4.1/8,Error ellipse: s-maj=22.5km s-min=14.0km az=99.0*

*GUC **05** 18:19:25.1±0.7,23°.95S×66°.81W,h206^{km}±6^{km},ML4.4*

ISC 05 18:19:24.4±0.6,**23°.86S**±0°.04×**66°.74W**±0°.04,**h216**^{km}±5^{km}, **n86,**σ1^{s}**78**/113,**mb4.0**/6,**7C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALTA		**0.52**	**135**	*i* P	**Pn**	**18 19 54.6**	**+0.6**
SALTA				*e*S	**S**	**18 20 16.8**	**-0.4**
SALTA		**0.52**	**135**	*e*P	**Pn**	**18 19 54.7**	**+0.6**
SALTA				*e*S	**S**	**18 20 16.6**	**-0.6**
HJA	**Humahuaca**	**1.39**	**62**	*e*P	**Pn**	**18 19 60.0**	**+0.9**
HJA				*e*S	**S**	**18 20 26.0**	**+0.2**
SLA	**San Lorenzo**	**1.42**	**127**	*e*P	**Pn**	**18 19 59.8**	**+0.7**
SLA				*e*S	**S**	**18 20 24.4**	**-1.5**
AZAP	**Zapla**	**1.58**	**104**	*e*P	**Pn**	**18 20 00.8**	**+0.3**
AZAP				*e*S	**S**	**18 20 28.3**	**0.0**
AZAP				IAML		18 20 29.1	
	comp=Z,130nm,0.7s						
AF01	**San Pedro de A**	**1.60**	**304**		**Pn**	**18 20 01.9**	**+1.1**
AF01				Sn	**S**	**18 20 31.5**	**+2.8**
AF01	**San Pedro de A**	**1.60**	**304**	*e*P	**Pn**	**18 20 02.4**	**+1.6**
AF01				*e*S	**S**	**18 20 29.7**	**+1.0**
YJA	**Yavi**	**2.02**	**34**	*e*P	**Pn**	**18 20 06.3**	**+1.4**
YJA				*e*S	**S**	**18 20 38.0**	**+1.8**
FSA	**Cafayete**	**2.35**	**163**	*e*P	**Pn**	**18 20 08.0**	**+0.2**
FSA				*e*S	**S**	**18 20 39.9**	**-1.7**
ALOL	**LOMAS DE OLMED**	**2.53**	**90**	*e*P	**Pn**	**18 20 09.8**	**+0.2**
PB06	**IPOC Station P**	**2.84**	**293**		**Pn**	**18 20 13.9**	**+0.6**
PB06				Sn	**S**	**18 20 49.4**	**-1.8**
PB06	**IPOC Station P**	**2.84**	**293**	⇑*i*P	**Pn**	**18 20 14.4**	**+1.1**
PB06				IAML	

TA01					*e*S		**S**	**18 21 26.2**	**-2.2**
TA01					IAML			18 21 27.7	
	comp=Z,82nm,0.4s								
HMBC	**Humberstone**	**4.61**	**320**				**Pn**	**18 20 33.1**	**-1.3**
CYA	**Choya**	**4.64**	**170**	*eP*			**Pn**	**18 20 35.5**	**+0.8**
GO01	**Chusmiza**	**4.75**	**331**				**Pn**	**18 20 36.8**	**+0.1**
GO01	**Chusmiza**	**4.75**	**331**	*e*S			**S**	**18 21 34.3**	**+1.0**
GO01					IAML			18 21 38.2	
	comp=Z,93nm,0.5s								
AC06	**Mina Casimiro**	**4.77**	**222**		Pn		**Pn**	**18 20 34.9**	**-1.4**
AC06							**S**	**18 21 27.9**	**-5.1**
GO03	**Copiapo**	**4.87**	**220**	*e*P			**Pn**	**18 20 36.9**	**-0.8**
PB11	**IPOC Station P**	**4.89**	**326**		Pn		**Pn**	**18 20 37.6**	**-0.5**
PB16	**IPOC Station P**	**6.07**	**334**				**Pn**	**18 20 53.5**	**0.0**
PB12	**IPOC Station P**	**6.20**	**327**				**Pn**	**18 20 54.3**	**-0.3**
LPAZ	**La Paz**	**7.64**	**350**		Pn		**Pn**	**18 21 14.6**	**+0.8**
LPAZ	**La Paz**	**7.64**	**350**		P		**Pn**	**18 21 14.1**	**+0.3**
	comp=Z,4.1nm,0.3s,baz=150,slow=4.8,SNR=33								
LPAZ					S		**S**	**18 22 37.6**	**-3.3**
	comp=Z,1.4nm,0.6s,baz=107,slow=15,SNR=1.3								
CFA	**Coronel Fontan**	**7.83**	**189**		P		**Pn**	**18 21 15.0**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=34,slow=15,SNR=4.2								
CFA					S		**S**	**18 22 37.0**	**-7.1**
	comp=Z,7.6nm,0.3s,baz=283,slow=20,SNR=17								
CPUP	**Villa Florida**	**8.88**	**108**		P		**Pn**	**18 21 27.4**	**-1.6**
	comp=Z,2.0nm,0.8s,baz=250,slow=4.4,SNR=10.0								
SIV	**San Ignacio**	**9.47**	**35**		P		**Pn**	**18 21 36.3**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=223,slow=16,SNR=4.6								
SIV					S		**S**	**18 23 16.5**	**-6.8**
	comp=Z,0.6nm,0.6s,baz=276,slow=17,SNR=1.3								
MT08	**Bocatoma Ro**	**9.97**	**196**		Pn		**Pn**	**18 21 42.5**	**-0.8**
TRQA	**Tornquist**	**14.73**	**165**		Pn		**Pn**	**18 22 39.5**	**-3.1**
PLCA	**Paso Flores**	**17.13**	**190**		P		**P**	**18 23 07.5**	**-2.1**
PLCA	**Paso Flores**	**17.13**	**190**		P		**Pn**	**18 23 14.2**	**+2.8**
	comp=Z,3.1nm,0.4s,baz=6.4,slow=11,SNR=9.3								
LL01	**San Ignacio de**	**19.06**	**193**		P		**Pn**	**18 23 32.7**	**-1.2**
LL01					IAmb		IAmb	18 23 34.9	
	comp=Z,5.3nm,0.5s								
BDFB	**Brasilia**	**19.42**	**69**		P		**P**	**18 23 35.5**	**+0.7**
	comp=Z,6.0nm,0.8s,baz=236,slow=10.0,SNR=3.2								
LL02	**Futaleuf**	**19.74**	**191**		P		**Pn**	**18 23 40.5**	**-1.6**
LL02					IAmb		IAmb	18 23 41.9	
	comp=Z,13nm,0.9s								
EFI	**East Falkland**	**28.56**	**169**		P		**P**	**18 25 01.4**	**+1.3**
RPN	**Rapa Nui**	**38.45**	**256**		P		**P**	**18 26 26.5**	**+0.8**
RPN					IAmb		IAmb	18 26 53.7	
	comp=Z,134nm,1.1s								
BELA	**Belgrano 2**	**56.15**	**172**		P		**P**	**18 28 42.4**	**+1.3**
BELA					IAmb		IAmb	18 28 44.2	
	comp=Z,3.1nm,1.1s								
VNA3	**Neumayer Olymp**	**57.21**	**161**	⇑	P		**P**	**18 28 49.9**	**+1.2**
	comp=Z,2.8nm,0.7s								
VNA1	**Neumayer--Stat**	**57.40**	**160**	⇑	P		**P**	**18 28 50.6**	**+0.6**
	comp=Z,0.9nm,0.4s								
SNAA	**Sanae**	**59.40**	**161**	⇑	P		**P**	**18 29 03.2**	**-0.8**
	comp=Z,55nm,0.9s								
SNAA	**Sanae**	**59.40**	**161**		P		**P**	**18 29 06.0**	**+2.0**
	comp=Z,1.5nm,0.6s,baz=258,slow=9.1,SNR=11								
	comp=Z,1.5nm,0.6s								
TROLL	**Troll, Antarti**	**61.12**	**161**	⇑	P		**P**	**18 29 17.4**	**+1.8**
	comp=Z,123nm,0.6s								
QSPA	**South Pole Qui**	**66.34**	**180**		P		**P**	**18 29 53.7**	**+3.9**
	comp=Z,2.4nm,0.5s,baz=168,slow=0.5,SNR=29								
	comp=Z,2.4nm,0.5s								
TORD	**Torodi Ar. Bea**	**76.30**	**69**		P		**P**	**18 30 50.4**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=264,slow=5.7,SNR=8.9								
	comp=Z,0.6nm,0.4s								
ASAR	**Alice Springs**	**128.68**	**204**		PKP		**PKiKP**	**18 38 07.7**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=137,slow=1.9,SNR=7.0								
WRA	**Warramunga Arr**	**131.86**	**207**		PKP		**PKiKP**	**18 38 14.6**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=154,slow=1.4,SNR=5.5								
KURBB	**Kurchatov Arra**	**142.13**	**36**		PKP		**PKiKP**	**18 38 32.8**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=303,slow=2.6,SNR=2.9								
ZALV	**Zalesovo Beam**	**143.16**	**28**		PKP		**PKPdf**	**18 38 31.8**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=345,slow=1.6,SNR=3.9								
MAKZ	**Makanchi**	**146.08**	**40**				**PKPab**	**18 38 40.2**	**+0.2**
MK31	**Makanchi Array**	**146.27**	**40**				**PKPbc**	**18 38 39.7**	**+0.2**
MKAR	**Makanchi Array**	**146.27**	**40**				**PKPab**	**18 38 40.1**	**-0.7**
MKAR	**Makanchi Array**	**146.27**	**40**		PKPbc		**PKPab**	**18 38 40.5**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=302,slow=3.0,SNR=14								

*GCG **05** 18:25:03.3±1.5, 12˚.27N×89˚.52W, h14km±21km, MD4.3*
*SNET **05** 18:25:03.1±2.3, 12˚.35N×89˚.08W, h14km, ML3.6*
*CATAC **05** 18:25:03.1±1.2, 12˚.N±6˚×8˚.9W±˚, h5km±6km, M3.6/8, MLv3.6/8, Error ellipse: s-maj=13.7km s-min=5.1km az=23.4, confirmed*

ISC 05 18:25:02.0±1.8**, 12˚.34N**±0˚.09×**89˚.12W**±0˚.05**, h10**km**, n43, σ0$67/47, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.27**	**3**	*e*P			**Pn**	**18 25 25.7**	**-0.3**
LFRS				*e*S			**Sb**	**18 25 40.8**	**-1.9**
TECA	**Tecapa**	**1.29**	**28**	*e*P			**Pn**	**18 25 25.8**	**-0.5**
LOMA	**Loma Larga**	**1.30**	**358**	*e*P			**Pb**	**18 25 26.2**	**-0.3**
LOMA	**Loma Larga**	**1.30**	**358**	P			**Pn**	**18 25 26.0**	**-0.3**
LOMA	**Loma Larga**	**1.30**	**358**	S			**Sg**	**18 25 43.8**	**0.0**
UESV	**Universidad de**	**1.33**	**14**	P			**Pb**	**18 25 26.8**	**-0.2**
UESV	**Universidad de**	**1.33**	**14**	S			**Sb**	**18 25 43.9**	**-0.2**
JAYA	**Jayaque - finc**	**1.34**	**346**	*e*P			**Pn**	**18 25 26.4**	**-0.6**
JAYA	**Jayaque - finc**	**1.34**	**346**	*i* P			**Pb**	**18 25 27.2**	**-0.1**
JAYA	**Jayaque - finc**	**1.34**	**346**	P			**Pn**	**18 25 26.9**	**-0.1**
JAYA	**Jayaque - finc**	**1.34**	**346**	S			**Sb**	**18 25 44.3**	**-0.4**
PACA	**Pacayal**	**1.36**	**35**	*e*P			**Pn**	**18 25 26.8**	**-0.4**
UDBS	**Universidad Do**	**1.36**	**359**	S			**Sb**	**18 25 44.9**	**-0.3**
PAVA	**Las Pavas**	**1.37**	**7**	*e*P			**Pn**	**18 25 26.1**	**-1.2**
PAVA	**Las Pavas**	**1.37**	**7**	P			**Pn**	**18 25 27.3**	**0.0**
PAVA	**Las Pavas**	**1.37**	**7**	S			**Sb**	**18 25 45.0**	**-0.5**
PMON	**Piamonte**	**1.38**	**352**	*e*P			**Pn**	**18 25 27.3**	**-0.1**
PMON	**Piamonte**	**1.38**	**352**	P			**Pn**	**18 25 27.0**	**-0.4**
PMON	**Piamonte**	**1.38**	**352**	S			**Sg**	**18 25 46.3**	**0.0**
LBRS	**Las Brisas**	**1.39**	**3**	*e*P			**Pn**	**18 25 27.1**	**-0.4**
BOQS	**Boqueron**	**1.39**	**354**	*e*P			**Pn**	**18 25 27.4**	**-0.3**
LFU	**La Fuente**	**1.40**	**0**	*e*P			**Pb**	**18 25 27.9**	**-0.4**
PIC2	**El Picacho**	**1.40**	**355**	*e*P			**Pb**	**18 25 28.0**	**-0.4**
LCND	**La Caada**	**1.54**	**51**	*e*P			**Pn**	**18 25 29.0**	**-0.5**
CEVE	**Cerro Verde**	**1.56**	**342**	*e*P			**Pg**	**18 25 32.5**	**+0.7**
CNCH	**Conchagua**	**1.56**	**53**	*e*P			**Pg**	**18 25 32.4**	**+0.4**
SBLS	**San Blas**	**1.57**	**342**	*e*P			**Pb**	**18 25 32.4**	**+0.3**
SNJE	**San Jose**	**1.59**	**343**	*e*P			**Pb**	**18 25 30.9**	**-0.7**
RTR	**El Retiro**	**1.63**	**342**	*e*P			**Pb**	**18 25 31.5**	**-0.8**
CSGN	**Cosiguina Volc**	**1.65**	**67**	P			**Pn**	**18 25 31.5**	**+0.5**
CSGN				S			**Sb**	**18 25 53.0**	**-0.4**
CAHU	**Cacacuatique**	**1.67**	**32**	*e*P			**Pb**	**18 25 32.3**	**-0.7**
NUBE	**Las Nubes**	**1.68**	**338**	*e*P			**Pn**	**18 25 31.9**	**+0.3**
NUBE	**Las Nubes**	**1.68**	**338**	*e*P			**Pn**	**18 25 31.8**	**+0.3**
NUBE				*e*S			**Sb**	**18 25 54.0**	**-0.3**
NUBE	**Las Nubes**	**1.68**	**338**	P			**Pn**	**18 25 31.4**	**-0.2**
NUBE	**Las Nubes**	**1.68**	**338**	S			**Sb**	**18 25 53.8**	**-0.5**
MTO3	**Montecristo**	**2.06**	**353**	*e*P			**Pn**	**18 25 37.4**	**+0.6**
MTO3	**Montecristo**	**2.06**	**353**	*e*P			**Pn**	**18 25 37.8**	**+0.9**
MTO3	**Montecristo**	**2.06**	**353**	S			**Sb**	**18 26 04.4**	**-0.9**
MTO3	**Montecristo**	**2.06**	**353**	P			**Pn**	**18 25 37.9**	**+1.1**
CNGN	**Cerro Negro**	**2.37**	**80**	P			**Pb**	**18 25 43.8**	**-1.0**
CNGN	**Cerro Negro**	**2.37**	**86**	S			**Sb**	**18 26 13.5**	**-0.7**
TGUH	**Tegucigalpa,Un**	**2.48**	**46**	P			**Pn**	**18 25 43.3**	**+0.8**
TGUH				S			**Sn**	**18 26 14.8**	**+1.9**
YUSH	**Yuscaran**	**2.74**	**54**	P			**Pn**	**18 25 46.6**	**+0.5**

*SNET **05** 18:45:52.8±1.3, 13˚.19N×89˚.53W, h50km, ML4.0*
*CATAC **05** 18:45:53.4±0.5, 13˚N±3˚×9˚.0W±˚, h30km±3km, M4.1/18, MLv4.1/18, Error ellipse: s-maj=7.1km s-min=4.2km az=29.2, confirmed*
*GCG **05** 18:45:54.2±0.3, 13˚.33N×89˚.54W, h59km±4km, MD4.1, ML4.0*

ISC 05 18:45:53.8±2.0**, 13˚.22N**±0˚.10×**89˚.50W**±0˚.06**, h53**km±11km**, n75, σ0$57/98, El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.44**	**7**	*e*P			**Pn**	**18 46 04.4**	**-0.4**
JAYA				*e*S			**Sn**	**18 46 12.7**	**0.0**
JAYA	**Jayaque - finc**	**0.44**	**7**	*i* P			**Pn**	**18 46 04.5**	**-0.4**
JAYA				*e*S			**Sn**	**18 46 12.5**	**-0.3**
JAYA	**Jayaque - finc**	**0.44**	**7**	P			**Pn**	**18 46 04.5**	**-0.4**
PANCS	**Alcalda de**	**0.50**	**38**	*e*P			**Pn**	**18 46 04.9**	**-0.6**
PANCS				*e*S			**Sn**	**18 46 13.6**	**-0.2**
PANCS	**Alcalda de**	**0.50**	**38**	P			**Pn**	**18 46 04.9**	**-0.6**
PMON	**Piamonte**	**0.53**	**20**	*e*P			**Pn**	**18 46 05.5**	**-0.3**
PMON				*e*S			**Sn**	**18 46 14.6**	**+0.3**
PMON	**Piamonte**	**0.53**	**20**	P			**Pn**	**18 46 05.5**	**-0.3**
LOMA	**Loma Larga**	**0.54**	**37**	*e*P			**Pn**	**18 46 05.5**	**-0.4**
LOMA				*e*S			**Sn**	**18 46 14.9**	**+0.3**
LOMA	**Loma Larga**	**0.54**	**37**	P			**Pn**	**18 46 05.5**	**-0.4**
BOQS	**Boqueron**	**0.56**	**23**	*e*P			**Pn**	**18 46 06.1**	**-0.2**
UEES	**Universidad Ev**	**0.56**	**27**	*e*P			**Pn**	**18 46 05.9**	**-0.2**
UEES				*e*S			**Sn**	**18 46 15.9**	**+0.8**
UEES	**Universidad Ev**	**0.56**	**27**	P			**Pn**	**18 46 05.9**	**-0.2**
UTEC	**Universidad Te**	**0.56**	**31**	*e*P			**Pn**	**18 46 05.7**	**-0.5**
UTEC				*e*S			**Sn**	**18 46 15.3**	**+0.2**
UTEC	**Universidad Te**	**0.56**	**31**	P			**Pn**	**18 46 06.0**	**-0.2**
PIC2	**El Picacho**	**0.58**	**24**	*e*P			**Pn**	**18 46 06.5**	**0.0**
PIC2				*e*S			**Sn**	**18 46 17.1**	**+1.5**
UESS	**Universidad de**	**0.58**	**30**	*e*P			**Pn**	**18 46 06.2**	**-0.2**
UESS				*e*S			**Sn**	**18 46 16.4**	**+0.9**
LFRS	**El Faro**	**0.59**	**46**	*e*P			**Pn**	**18 46 06.2**	**-0.3**
LFRS				*e*S			**Sn**	**18 46 16.4**	**+0.8**
IGN	**Direccin Gen**	**0.59**	**33**	S			**Sn**	**18 46 16.5**	**+0.9**
IGN	**Direccin Gen**	**0.59**	**33**	P			**Pn**	**18 46 06.1**	**-0.4**
CEDA	**San Andres**	**0.59**	**10**	*e*P			**Pn**	**18 46 06.2**	**-0.3**
CEDA	**San Andres**	**0.59**	**10**	S			**Sn**	**18 46 16.4**	**+0.8**
CEDA	**San Andres**	**0.59**	**10**	P			**Pn**	**18 46 06.3**	**-0.3**
UDBS	**Universidad Do**	**0.60**	**34**	*e*P			**Pn**	**18 46 06.2**	**-0.4**
UDBS				*e*S			**Sn**	**18 46 15.9**	**0.0**
UDBS	**Universidad Do**	**0.60**	**34**	P			**Pn**	**18 46 06.4**	**-0.2**
UDBS	**Universidad Do**	**0.60**	**34**	S			**Sn**	**18 46 16.5**	**+0.7**
AEIL	**Aeropuerto Ilo**	**0.61**	**38**	*e*P			**Pn**	**18 46 06.8**	**+0.1**
CEVE	**Cerro Verde**	**0.62**	**349**	*e*P			**Pn**	**18 46 06.8**	**-0.2**
CEVE				*e*S			**Sn**	**18 46 17.0**	**+0.4**
CEVE	**Cerro Verde**	**0.62**	**349**	P			**Pn**	**18 46 06.8**	**-0.2**
CEVE	**Cerro Verde**	**0.62**	**349**	S			**Sn**	**18 46 17.5**	**+1.0**
SBLS	**San Blas**	**0.63**	**349**	*e*P			**Pn**	**18 46 06.9**	**-0.2**
LFLU	**La Fuente**	**0.65**	**35**	*e*P			**Pn**	**18 46 07.2**	**0.0**
LFU				*e*S			**Sn**	**18 46 17.2**	**+0.3**
QUEZ	**Alcaldia de Qu**	**0.66**	**20**	*e*P			**Pn**	**18 46 05.4**	**-1.8**
QUEZ				*e*S			**Sn**	**18 46 15.7**	**-1.3**
SNJE	**San Jose**	**0.66**	**351**	*e*P			**Pn**	**18 46 07.3**	**-0.2**
SNJE				*e*S			**Sn**	**18 46 17.7**	**+0.5**
LBRS	**Las Brisas**	**0.69**	**41**	*e*P			**Pn**	**18 46 07.7**	**0.0**
LBRS				*e*S			**Sn**	**18 46 18.1**	**+0.4**
RTR	**El Retiro**	**0.69**	**348**	*e*P			**Pn**	**18 46 07.7**	**-0.2**
NUBE	**Las Nubes**	**0.73**	**338**	*e*P			**Pn**	**18 46 07.8**	**-0.5**
NUBE				*e*S			**Sn**	**18 46 18.4**	**-0.5**
NUBE	**Las Nubes**	**0.73**	**338**	*e*P			**Pn**	**18 46 07.9**	**-0.5**
NUBE				*e*S			**Sn**	**18 46 18.7**	**-0.3**
NUBE	**Las Nubes**	**0.73**	**338**	P			**Pn**	**18 46 07.8**	**-0.5**
PAVA	**Las Pavas**	**0.74**	**48**	*e*P			**Pn**	**18 46 08.3**	**-0.1**
PAVA				*e*S			**Sn**	**18 46 19.3**	**+0.3**
PAVA	**Las Pavas**	**0.74**	**48**	P			**Pn**	**18 46 08.3**	**-0.1**
SNVI	**San Vicente**	**0.76**	**58**	P			**Pn**	**18 46 08.1**	**-0.5**
UNIC	**Universidad Ca**	**0.76**	**357**	*e*P			**Pn**	**18 46 08.6**	**-0.1**
UNIC				*e*S			**Sn**	**18 46 20.3**	**+0.8**
UNIC	**Universidad Ca**	**0.76**	**357**	P			**Pn**	**18 46 08.4**	**-0.2**
UNIC	**Universidad Ca**	**0.76**	**357**	S			**Sn**	**18 46 19.8**	**+0.4**
UESV	**Universidad de**	**0.81**	**59**	*e*P			**Pn**	**18 46 08.8**	**-0.5**
UESV	**Universidad de**	**0.81**	**59**	P			**Pn**	**18 46 08.7**	**-0.5**
UESV	**Universidad de**	**0.81**	**59**	S			**Sn**	**18 46 20.8**	**+0.3**
LOAL	**Lomas de Alarc**	**0.82**	**341**	*e*P			**Pn**	**18 46 09.3**	**-0.1**
LOAL	**Lomas de Alarc**	**0.82**	**341**	P			**Pn**	**18 46 09.4**	**-0.1**
LOAL	**Lomas de Alarc**	**0.82**	**341**	S			**Sn**	**18 46 22.4**	**+1.6**
PQSS	**Presa 15 de Se**	**1.00**	**66**	*e*P			**Pn**	**18 46 11.2**	**-0.5**
PQSS				*e*S			**Sn**	**18 46 24.5**	**-0.4**
PQSS	**Presa 15 de Se**	**1.00**	**66**	P			**Pn**	**18 46 11.3**	**-0.4**
PQSS	**Presa 15 de Se**	**1.00**	**66**	S			**Sn**	**18 46 25.1**	**+0.2**
TECA	**Tecapa**	**1.01**	**74**	*e*P			**Pn**	**18 46 11.2**	**-0.8**
TECA				*e*P			**Pn**	**18 46 11.2**	**-0.8**
TECA				*e*S			**Sn**	**18 46 25.3**	**-0.1**
TECA				*e*S				18 46 25.3	
LLGN	**La Laguna**	**1.09**	**30**	P			**Pn**	**18 46 12.4**	**-0.5**
LLGN	**La Laguna**	**1.09**	**30**	S			**Sn**	**18 46 26.9**	**-0.1**
PACA	**Pacayal**	**1.17**	**77**	*e*P			**Pn**	**18 46 14.2**	**0.0**
PACA				*e*S			**Sn**	**18 46 30.2**	**+1.0**
PACA	**Pacayal**	**1.17**	**77**	P			**Pn**	**18 46 14.4**	**+0.3**
MTO3	**Montecristo**	**1.19**	**7**	*e*P			**Pn**	**18 46 13.9**	**-0.4**
MTO3	**Montecristo**	**1.19**	**7**	*i* P			**Pn**	**18 46 14.1**	**-0.4**
MTO3	**Montecristo**	**1.19**	**7**	P			**Pn**	**18 46 13.9**	**-0.4**
MTO3	**Montecristo**	**1.19**	**7**	S			**Sn**	**18 46 29.6**	**0.0**
LCY	**Lacayo**	**1.19**	**80**	*e*P			**Pn**	**18 46 14.0**	**-0.3**
VSM	**San Miguel**	**1.21**	**80**	*e*P			**Pn**	**18 46 14.4**	**-0.4**
BLLM	**Bellamira**	**1.25**	**79**	*e*P			**Pn**	**18 46 14.9**	**-0.2**
ESQI	**Esquipulas**	**1.35**	**7**	*e*P			**Pn**	**18 46 15.5**	**-0.9**
ESQI	**Esquipulas**	**1.35**	**7**	S			**Sn**	**18 46 34.2**	**+0.8**
ESQI	**Esquipulas**	**1.35**	**7**	P			**Pn**	**18 46 16.3**	**-0.1**
CAHU	**Cacacuatique**	**1.37**	**66**	*e*P			**Pn**	**18 46 16.3**	**-0.6**
FG16	**Alotenango, Sa**	**1.44**	**317**	*e*P			**Pn**	**18 46 22.5**	**+4.7**
FG8	**Yepocapa, Chim**	**1.46**	**315**	*e*P			**Pn**	**18 46 22.5**	**+4.5**
LCND	**La Caada**	**1.57**	**86**	*e*P			**Pn**	**18 46 18.1**	**-1.2**
LCND				*e*P				18 46 19.3	
LCND				*e*S			**Sn**	**18 46 39.5**	**+0.8**
CNCH	**Conchagua**	**1.62**	**88**	*e*P			**Pn**	**18 46 20.0**	**-0.3**
CNCH	**Conchagua**	**1.62**	**88**	S			**Sn**	**18 46 41.1**	**+1.0**
CNCH	**Conchagua**	**1.62**	**88**	P			**Pn**	**18 46 20.4**	**+0.2**

*IDC **05** 18:50:03.9±0.5, 1˚.99S×27˚.07E, h0km, mb4.4/28, mbtmp4.4/31, ML3.1/2, MS4.1/57, Error ellipse: s-maj=15.3km s-min=11.0km az=96.0*
*NEIC **05** 18:50:05.9±1.7, 1˚.94S±0˚.10×26˚.96E±0˚.07, h10km±1km, mb5.0/53, Error ellipse: s-maj=19.9km s-min=4.8km az=142.0*
*GCMT **05** 18:50:07.8±0.2, 1˚.88S±0˚.01×26˚.90E±0˚.01, h24km±1km, MW5.0/116, Moment Tensor Solution. s48,c58; s116,c173; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.39±.13; Mθθ3.50±.10; Mϕϕ-3.10±.11; Mrθ-0.20±.14; Mθϕ-0.52±.08; Mϕr0.52±.16; Best double couple: Ms3.39200×10¹⁶ NP1:ϕs230.00000°, δ80.00000°, λ-175.00000°. NP2:ϕs139.00000°, δ85.00000°, λ-10.00000°. Principal axes: T 3.5560, Plg4.0000°, Azm185.0000°; N -0.3210, Plg79.0000°, Azm294.0000°; P -3.2290, Plg10.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 18:50:05.8±0.3**, 1˚.95S**±0˚.06×**27˚.01E**±0˚.06**, h10**km**, n241, σ1$58/189, mb4.8/83, MS4.1/59, 27C-14D, Zaire**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**3.96**	**70**				**Pn**	**18 51 06.6**	**-0.3**
LODK	**Lodwar**	**9.91**	**57**				**Pn**	**18 52 24.3**	**-4.2**
KMBO	**Kilima Mbogo**	**10.27**	**86**	Pn			**Pn**	**18 52 32.5**	**-1.2**
	1.4nm,0.3s,baz=226,slow=16,SNR=23								
KMBO						Sn	**Sn**	**18 54 29.5**	**+0.4**
	3.2nm,0.3s,baz=230,slow=15,SNR=3.6					Lg			
KMBO						Lg	Lg	18 55 24.9	
	8.0nm,0.3s,baz=240,slow=17,SNR=7.6								
	15nm,0.8s								
KIBK	**Kibwezi**	**11.04**	**92**				**Pn**	**18 52 41.0**	**-2.9**
LSZ	**Lusaka**	**13.29**	**175**				**Pn**	**18 53 12.6**	**-2.2**
LSZ	**Lusaka**	**13.29**	**175**	Pn			**Pn**	**18 53 13.1**	**-1.7**
	54nm,0.6s,baz=10,slow=12,SNR=107								
LSZ						Sn	Sn	18 55 30.5	-12
	9.6nm,0.3s,baz=294,slow=20,SNR=6.2								
LSZ						Lg	Lg	18 57 01.2	
	8.1nm,0.3s,baz=294,slow=19,SNR=9.3								
KSANE	**Kasane**	**15.85**	**186**	*i* P			**Pn**	**18 53 46.8**	**-2.6**
KSANE					IAML			18 58 34.7	
	comp=E,459nm,1.2s								
KSANE	**Kasane**	**15.85**	**186**				**Pn**	**18 53 46.1**	**-3.2**
KSANE					IAmb		IAmb	18 53 55.7	
	comp=Z,114nm,0.9s								
FURI	**Furi**	**15.86**	**47**	Lg		Lg	Lg	18 58 27.1	
	comp=Z,16nm,0.3s,baz=339,slow=20,SNR=4.6								
XAUDM	**Khaudum**	**17.40**	**198**	*i* P			**Pn**	**18 54 08.8**	**-0.1**
XAUDM					IAML			18 59 51.6	
	comp=E,560nm,1.5s								
XAUDM	**Khaudum**	**17.40**	**198**	P			**Pn**	**18 54 07.0**	**-1.9**
EDA	**Edea**	**17.78**	**289**	Pn			**Pn**	**18 54 07.8**	**-5.9**
GMARE	**Gumare**	**17.97**	**195**	*i* P			**Pn**	**18 54 15.5**	**-0.5**
GMARE					IAML			19 00 06.9	
	comp=N,1μm,0.9s								
GMARE	**Gumare**	**17.97**	**195**	Pn			**Pn**	**18 54 14.1**	**-1.9**
GMARE					IAmb		IAmb	18 54 17.5	
	comp=Z,81nm,0.6s								
PHDHD	**Phuduhudu**	**18.29**	**187**	*i* P			**P**	**18 54 20.2**	**+0.1**
PHDHD					IAML			19 00 31.6	
	comp=N,659nm,1.2s								
PHDHD	**Phuduhudu**	**18.29**	**187**	P			**Pn**	**18 54 18.9**	**-1.0**
QNGWA	**Qangwa**	**18.38**	**198**	*i* P			**Pn**	**18 54 20.7**	**-0.4**
QNGWA				*i* S			Sn	18 57 31.0	-16
QNGWA					IAML			19 00 25.6	
	comp=N,203nm,1.1s								
QNGWA	**Qangwa**	**18.38**	**198**	P			**Pn**	**18 54 18.1**	**-3.0**
QNGWA					IAmb		IAmb	18 54 27.1	
	comp=Z,65nm,0.5s								
MATP	**Matopo**	**18.42**	**176**	Pn			**Pn**	**18 54 25.0**	**+3.5**
	comp=Z,7.6nm,0.3s,baz=357,slow=13,SNR=86								
MATP						S	Sn	18 57 35.5	-12
	comp=Z,28nm,0.8s,baz=277,slow=19,SNR=2.3								
MATP						Lg	Lg	18 59 48.5	
	comp=Z,1.7nm,0.3s,baz=276,slow=17,SNR=4.4								
SOOWA	**Sowa**	**18.51**	**182**	*i* P			**P**	**18 54 21.6**	**-0.9**
SOOWA				*i* S			Sn	18 57 36.9	-13
SOOWA					IAML			19 00 17.0	
	comp=N,290nm,0.8s								
BROLN	**Tlhalogang**	**19.04**	**179**	*i* P			**Pn**	**18 54 29.3**	**+0.3**
BROLN				*i* S			Sn	18 57 47.2	-15
BROLN					IAML			19 00 21.0	
	comp=Z,148nm,1.9s								
BROLN					IAmb		IAmb	19 00 40.5	
	comp=Z,445nm,1.4s								
TSUM	**Tsumeb**	**19.47**	**208**				**P**	**18 54 30.9**	**-2.2**
TSUM					IAmb		IAmb	18 54 46.1	
	comp=Z,61nm,0.7s								
TSUM	**Tsumeb**	**19.47**	**208**	Pn			**P**	**18 54 32.2**	**-0.9**
	comp=Z,1.4nm,0.3s,baz=28,slow=11,SNR=30								
TSUM						S	Sn	18 57 59.6	-13
	comp=Z,65nm,0.7s,baz=298,slow=9.0,SNR=4.7								
TSUM						Lg	Lg	19 00 11.9	
	comp=Z,4.7nm,0.3s,baz=96,slow=18,SNR=3.1						

comp=Z,171nm,19.0s,baz=206,slow=40
MLR Muntele Rosu 47.25 359 ⇑P **P 18 58 38.8 -0.4**
LOT Lotru 47.28 357 ⇑P **P 18 58 39.4 -0.1**
GZR Gura Zlata 47.29 356 ⇓P **P 18 58 38.8 -0.7**
BISRR Bisoca 47.30 360 ⇓P **P 18 58 39.3 -0.2**
BLY Banja Luka 47.31 350 ⇑P **P 18 58 39.3 -0.3**
COVR Voineasa-Covas 47.60 359 ⇓P **P 18 58 44.4 +2.5**
PLOR Plostina 47.60 360 ⇑P **P 18 58 41.4 -0.5**
BZS Buzias 47.60 355 ⇓P **P** 18 58 47.6 +5.7
VRI Vrincioaia 47.61 360 ⇑P **P 18 58 44.8 +2.8**
KBZ Khabaz 47.66 16 P **P 18 58 43.4 +1.1**
comp=Z,6.2nm,1.0s,baz=186,slow=6.4,SNR=7.3
KBZ LR LR 19 18 03.2
comp=Z,153nm,19.3s,baz=202,slow=35
comp=Z,6.2nm,1.0s
SURR Surduc 47.70 355 ⇓P P 18 58 48.0 +5.4
GHRR 47.81 0 ⇑P **P 18 58 44.4 +1.0**
KIV Kislovodsk 47.81 15 P **P 18 58 43.5 -0.2**
OZUR 47.85 359 ⇑P **P 18 58 42.4 -1.5**
SIRR Siria 48.25 355 ⇑P **P 18 58 47.3 +0.4**
TESR Tescani 48.26 360 ⇑P **P 18 58 48.2 +1.3**
VASR Vaslui 48.39 1 ⇓P **P 18 58 48.1 +0.2**
MORH Mrgy, Hungar 48.53 352 ⇑P **P 18 58 48.6 -0.4**
MARR Marisel-Cluj 48.54 356 ⇑P **P 18 58 49.8 +0.6**
GCIS Gornji Cirnik 48.67 349 *i* P **P 18 58 50.1 0.0**
GCIS *i* 18 58 55.5
DRGR 48.69 356 ⇑P **P 18 58 50.5 +0.2**
CEY Cerknica 48.78 348 *i* P **P 18 58 50.7 -0.3**
CEY *i* 18 58 56.1
GOLS Golise 48.81 349 *eP* **P 18 58 51.3 +0.1**
GOLS *i* 18 58 56.9
ARCR ARCALIA 48.89 358 ⇑P **P 18 58 50.3 -1.4**
MESR Meseseni 49.03 356 ⇓P **P 18 58 50.0 -2.8**
PRAR RASCA 49.11 359 ⇓P **P 18 58 57.1 +3.6**
BURAR Bucovina Array 49.39 358 P **P 18 58 55.6 -0.1**
BURAR Bucovina Array 49.39 358 ⇑P **P 18 58 56.6 +0.9**
OBKA Obir 49.49 349 *eP* **P 18 58 56.6 0.0**
comp=Z,6.9nm,1.0s
SOKA Soboth 49.56 349 *eP* **P 18 58 57.2 +0.2**
comp=Z,2.6nm,0.9s
MYKA Terra Mystica 49.79 348 *eP* **P 18 58 59.4 +0.6**
comp=Z,5.8nm,0.9s
ARSA Arzberg 50.02 350 *eP* **P 18 59 00.7 +0.2**
comp=Z,17nm,1.2s
PSZ Piszkesteto 50.05 354 P **P 18 59 00.6 -0.2**
PSZ IAmb IAmb 18 59 09.9
comp=Z,14nm,0.8s
PSZ Piszkesteto 50.05 354 ⇑P P 18 59 06.4 +5.7
ABTA Abfaltersbach 50.15 347 *eP* **P 18 59 01.4 -0.1**
comp=Z,4.6nm,0.9s
ESDC Sonseca Array 50.22 329 P **P 18 59 02.3 +0.2**
comp=Z,1.9nm,1.0s,baz=142,slow=8.3,SNR=6.7
ESDC LR LR 19 21 04.7
comp=Z,154nm,18.1s,baz=138,slow=37
comp=Z,1.9nm,1.0s
KBA Koelnbreinsper 50.28 348 *eP* **P 18 59 03.0 +0.4**
comp=Z,4.3nm,0.5s
FUORN Ofenpass-Fuorn 50.57 345 IAmb IAmb 18 59 22.0
comp=Z,20nm,1.3s
CONA Conrad Observa 50.62 350 *eP* **P 18 59 05.2 +0.1**
comp=Z,9.1nm,1.0s
TUE Stuetta 50.67 344 IAmb IAmb 18 59 17.7
comp=Z,23nm,0.9s
LESA Schwarzleotal 50.75 347 *eP* **P 18 59 05.5 -0.5**
comp=Z,2.2nm,0.5s
DAVOX Davos/Dischmat 50.82 345 LR LR 19 21 18.6
comp=Z,184nm,18.7s,baz=246,slow=37
FETA Feichten 50.82 346 *eP* **P 18 59 06.4 -0.3**
comp=Z,5.3nm,1.0s
MOA Molln 50.83 349 *eP* **P 18 59 06.0 -0.6**
comp=Z,13nm,0.7s
WTTA Wattenberg 50.83 347 *eP* **P 18 59 06.3 -0.5**
comp=Z,16nm,1.1s
SQTA Sankt Quirin 50.89 346 *eP* **P 18 59 06.8 -0.4**
comp=Z,12nm,0.8s
WATA Walderalm 50.91 347 *eP* **P 18 59 07.2 -0.1**
comp=Z,12nm,1.4s
MOTA Moosalm 51.03 346 *eP* **P 18 59 07.7 -0.6**
comp=Z,10nm,0.8s
SSB Saint Sauveur 51.09 340 IAmb IAmb 18 59 15.1
comp=Z,25nm,1.2s
RETA Reutte 51.25 346 *eP* **P 18 59 09.1 -0.7**
comp=Z,14nm,1.6s
JAVC Velka Javorina 51.25 352 *eP* **P 18 59 09.5 -0.3**
DAVA Damuels 51.28 345 *eP* **P 18 59 09.3 -0.9**
comp=Z,6.6nm,0.8s
NIE Niedzica 51.49 354 *eP* **P 18 59 12.2 +0.6**
KRUC Moravsky 51.64 351 *eP* **P 18 59 11.5 -1.1**
MAUC Maruska 51.73 352 *eP* **P 18 59 15.2 +1.9**
VRAC Vranov 51.85 351 LR LR 19 22 13.8
comp=Z,63nm,19.2s,baz=224,slow=37
VRAC Vranov 51.85 351 *eP* **P 18 59 13.0 -1.1**
VRAC Vranov 51.85 351 ⇑P **P 18 59 13.3 -0.8**
GEC2 GERESS Array S 51.90 349 *eP* **P 18 59 19.1 +4.5**
comp=Z,5.8nm,0.8s,baz=160,slow=7.7
GERES GERESS Array B 51.90 349 P **P 18 59 14.0 -0.7**
comp=Z,1.4nm,0.7s,baz=131,slow=7.4,SNR=10
GERES LR LR 19 24 54.0
comp=Z,126nm,18.4s,baz=188,slow=40
comp=Z,1.4nm,0.7s
MORC Moravsky Berou 52.17 352 *eP* **P 18 59 15.7 -0.9**
KHC Kasperske Hory 52.19 349 *eP* **P 18 59 16.1 -0.7**
KHC *ep*P **sP 18 59 21.7 +0.2**
KHC AMS AMS 19 24 30.0
comp=Z,200nm,12.7s
STEB Steborice 52.29 352 *eP* **P 18 59 16.7 -0.7**
STEB *ep*P **sP 18 59 22.2 0.0**
OJC Ojcow 52.34 354 *eP* **P 18 59 13.3 -4.5**
WET Wettzell 52.34 348 *eP* **P 18 59 22.3 +4.5**
comp=Z,10nm,1.2s,baz=160,slow=7.7
KIEV Kiev 52.48 2 P **P 18 59 18.1 -0.6**
KIEV IAmb IAmb 18 59 24.3
comp=Z,17nm,1.0s
KIEV Kiev 52.48 2 ⇑P **P 18 59 17.7 -1.1**
AKASG Malin Array Be 52.48 2 P **P 18 59 17.6 -1.2**
comp=Z,4.0nm,1.0s,baz=191,slow=6.7,SNR=8.4
comp=Z,4.0nm,1.0s
KRLC Kraliky 52.57 352 *eP* **P 18 59 19.8 +0.3**
KRLC *ep*P **sP 18 59 24.7 +0.4**
BFO Black Forest 52.65 344 P **P 18 59 18.2 -2.0**
BFO IAmb IAmb 18 59 28.2
comp=Z,42nm,1.5s
BFO Black Forest 52.65 344 *eP* **P 18 59 19.6 -0.6**
comp=Z,37nm,1.4s,baz=160,slow=7.7
DPC Dobruska-Polom 52.90 351 *eP* **P 18 59 21.3 -0.7**
DPC *ep*P **sP 18 59 27.3 +0.6**
ROTZ Rotzenmuhle 53.07 348 *eP* **P 18 59 24.0 +0.7**
comp=Z,1.6nm,1.0s,baz=160,slow=7.7
OSTC Ostas 53.12 351 *ep*P pP 18 59 28.0 +1.0
GRF Grafenberg Arr 53.21 347 *eP* **P 18 59 28.0 +3.8**
comp=Z,10nm,0.9s,baz=160,slow=7.7
GRF *eL* L 19 23 01.8
comp=Z,97nm,19.4s
MANZ Manzenberg 53.30 348 *eP* **P 18 59 29.1 +4.1**
comp=Z,2.3nm,1.1s,baz=160,slow=7.7
KSP Ksiaz 53.38 352 *eP* **P 18 59 28.7 +3.2**
TANN Tannenbergstha 53.64 348 *eP* **P 18 59 30.9 +3.5**
comp=Z,9.0nm,1.0s,baz=160,slow=7.7
PLN Plauen 53.76 348 *eP* **P 18 59 32.8 +4.5**
comp=Z,2.7nm,0.8s,baz=160,slow=7.7
BRG Berggiesshubel 53.80 350 *eP* P 18 59 34.2 +5.7
comp=Z,20nm,1.6s,baz=160,slow=7.7
BRG Berggiesshubel 53.80 350 *eP* P 18 59 33.6 +5.1
BRG Amp 18 59 38.6
comp=Z,7.6nm,1.2s
MOX Moxa 54.03 348 *eL* L 19 21 48.8
comp=Z,96nm,19.4s
HYB Hyderabad 54.31 67 *eP* **P 18 59 32.8 -0.2**
PALK Pallekele 54.35 80 LR LR 19 18 54.1
comp=Z,102nm,21.7s,baz=276,slow=32
TNS Taunus Mts 54.36 345 *eP* P 18 59 37.7 +5.0
comp=Z,16nm,0.8s,baz=160,slow=7.7
CLL Collm 54.38 349 *eP*x Px 18 59 30.0
CLL *i* x x 18 59 38.8
CLL *eP*P **PP 19 01 36.0 +1.0**
CLL *ex* x 19 01 50.0
CLL *eS* **S 19 07 15.0 +4.0**
NEUB Neuenburg 54.53 348 *eP* P 18 59 39.1 +5.3
comp=Z,24nm,0.9s,baz=160,slow=7.7
UBBA Unterbreizbach 54.54 347 *eP* P 18 59 39.1 +5.3
comp=Z,9.9nm,0.8s,baz=160,slow=7.7
comp=Z,12nm,1.0s,baz=160,slow=7.7
ASSE Asse, Remlinge 55.63 348 *eP* P 18 59 46.5 +4.9
SUW Suwalki 55.86 357 *eP* **P 18 59 43.3 -0.1**
SIMJ Simiganj 55.91 39 P **P 18 59 43.5 -0.8**

GAR Garm 56.94 40 IAmb IAmb 19 00 34.9
comp=Z,15nm,1.0s
AKTO Aktyubinsk 58.55 23 LR LR 19 28 38.3
comp=Z,177nm,18.9s,baz=61,slow=40
KKAR Karatay Array 59.48 36 P **P 19 00 07.7 -1.4**
ARSB Arslanbob 59.94 39 IAmb IAmb 19 00 42.5
comp=Z,26nm,1.6s
AAK Ala-Archa 61.60 38 LR LR 19 28 17.6
comp=Z,265nm,20.2s,baz=238,slow=37
EKA Eskdalemuir Ar 62.23 341 P **P 19 00 27.3 -0.3**
comp=Z,1.6nm,0.8s,baz=130,slow=7.0,SNR=7.7
comp=Z,1.6nm,0.8s
HFS Hagfors 62.77 353 P **P 19 00 32.5 +1.3**
comp=Z,3.1nm,0.9s,baz=299,slow=25,SNR=4.3
HFS LR LR 19 29 05.8
comp=Z,77nm,20.7s,baz=199,slow=37
comp=Z,3.1nm,0.9s
RCBR Riachuelo 62.85 264 LR LR 19 23 04.1
comp=Z,82nm,21.2s,baz=78,slow=32
FINES FINESS Array B 63.22 359 P **P 19 00 34.8 +0.7**
comp=Z,3.6nm,0.8s,baz=199,slow=4.0,SNR=5.8
FINES LR LR 19 30 57.1
comp=Z,84nm,18.2s,baz=230,slow=39
comp=Z,3.6nm,0.8s
TARG Taragay, Kyrgy 63.23 41 P **P 19 00 34.1 -0.9**
ARTI Arti 63.48 19 P **P 19 00 35.3 -0.6**
ARTI IAmb IAmb 19 00 42.5
comp=Z,7.4nm,0.9s
ARTI Arti 63.48 19 LR LR 19 30 24.4
comp=Z,119nm,18.6s,baz=215,slow=38
NB2 NORSAR Subarra 63.99 352 P **P 19 00 38.9 -0.3**
comp=Z,33nm,1.2s,baz=164,slow=6.5
NB2 NORSAR Subarra 63.99 352 P **P 19 00 38.9 -0.3**
comp=Z,33nm,1.2s,baz=164,slow=6.5
NOA NORSAR Array B 63.99 352 P **P 19 00 38.8 -0.5**
comp=Z,2.6nm,0.8s,baz=164,slow=6.5,SNR=8.3
NOA LR LR 19 32 35.6
comp=Z,50nm,19.6s,baz=190,slow=40
comp=Z,2.6nm,0.8s
BVAR Borovoye Array 65.68 27 P **P 19 00 49.5 -0.9**
comp=Z,1.5nm,0.6s,baz=224,slow=5.2,SNR=13
BVAR LR LR 19 32 40.4
comp=Z,122nm,18.8s,baz=207,slow=39
comp=Z,1.5nm,0.6s
SYO Syowa Base 67.48 175⇑*eP* **P 19 01 02.6 +1.1**
KURBB Kurchatov Arra 68.28 32 P **P 19 01 06.7 -0.2**
comp=Z,2.6nm,0.7s,baz=243,slow=6.7,SNR=14
KURBB LR LR 19 32 09.3
comp=Z,194nm,21.6s,baz=171,slow=37
comp=Z,2.6nm,0.7s
KURK Kurchatov 68.38 32 P **P 19 01 06.7 -0.8**
MKAR Makanchi Array 68.50 37 P **P 19 01 07.8 -0.7**
MKAR Makanchi Array 68.50 37 P **P 19 01 08.2 -0.2**
comp=Z,2.9nm,0.6s,baz=245,slow=5.9,SNR=27
MKAR LR LR 19 32 28.7
comp=Z,142nm,19.5s,baz=240,slow=37
comp=Z,2.9nm,0.6s
MAW Mawson 70.03 166 P **P 19 01 16.4 -1.1**
comp=Z,3.9nm,0.9s,baz=291,slow=9.9,SNR=9.1
MAW LR LR 19 29 36.1
comp=Z,141nm,18.9s,baz=338,slow=34
comp=Z,3.9nm,0.9s
WMQ Urumqi 70.68 42 *eP* **P 19 01 26.1 +4.0**
WMQ pP sP 19 01 28.9 +2.0
WMQ pmax pmax
comp=Z,36nm,0.7s
WMQ LR LR
comp=Z,250nm,17.5s
WMQ LR LR
comp=Z,200nm,18.7s
WMQ LR LR
comp=Z,190nm,24.1s
ARCES ARCESS Array B 71.35 359 P **P 19 01 25.0 -0.5**
comp=Z,2.1nm,0.7s,baz=178,slow=5.8,SNR=19
ARCES LR LR 19 34 33.4
comp=Z,71nm,19.5s,baz=152,slow=37
comp=Z,2.1nm,0.7s
TROLL Troll, Antarti 71.65 188 ⇑P **P 19 01 29.7 +2.2**
comp=Z,546nm,0.8s
PSI Prapat 72.05 86 LR LR 19 30 37.1
comp=Z,103nm,18.9s,baz=230,slow=34
SNAA Sanae 72.16 190 ⇑P **P 19 01 32.3 +1.9**
comp=Z,77nm,1.0s
SNAA Sanae 72.16 190 **P 19 01 31.8 +1.4**
SNAA Sanae 72.16 190 P **P 19 01 29.7 -0.7**
comp=Z,3.3nm,1.1s,baz=50,slow=8.5,SNR=9.3
SNAA LR LR 19 30 34.5
comp=Z,187nm,19.4s,baz=14,slow=34
comp=Z,3.3nm,1.1s
VNA1 Neumayer--Stat 72.31 192 ⇑P **P 19 01 33.1 +1.8**
comp=Z,16nm,1.0s
VNA2 Neumayer--Watz 72.36 191 ⇑P **P 19 01 33.1 +1.5**
comp=Z,12nm,0.6s,baz=38,slow=6.4
VNA3 Neumayer Olymp 73.06 192 ⇑P **P 19 01 37.2 +1.4**
comp=Z,13nm,0.7s
ZALV Zalesovo Beam 73.30 31 P **P 19 01 36.0 -1.5**
ZALV Zalesovo Beam 73.30 31 P **P 19 01 36.5 -1.0**
comp=Z,1.8nm,0.7s,baz=256,slow=6.0,SNR=7.6
ZALV LR LR 19 37 05.7
comp=Z,147nm,18.2s,baz=228,slow=38
comp=Z,1.8nm,0.7s
CMAR Chiang Mai Arr 73.53 70 P **P 19 01 38.9 -0.7**
comp=Z,0.8nm,0.6s,baz=264,slow=6.4,SNR=6.7
CMAR LR LR 19 32 40.0
comp=Z,57nm,19.8s,baz=265,slow=35
comp=Z,0.8nm,0.6s
TNCH TengChong 74.14 63 P **P 19 01 43.9 +0.7**
TNCH pP pP 19 01 47.0 +0.2
TNCH sP sP 19 01 49.4 +1.3
TNCH pmax pmax
comp=Z,8.0nm,0.9s
TNCH pmax pmax
comp=Z,150nm,3.6s
BDFB Brasilia 75.05 254 P **P 19 01 47.9 -0.7**
comp=Z,1.0nm,0.3s,baz=20,slow=15,SNR=1.1
BDFB LR LR 19 30 36.9
comp=Z,102nm,21.5s,baz=34,slow=32
comp=Z,1.0nm,0.3s
BORG Borgarnes 75.26 341 LR LR 19 36 13.8
comp=Z,32nm,18.6s,baz=146,slow=37
JMIC Jan Mayen 76.43 349 LR LR 19 39 10.2
comp=Z,71nm,18.1s,baz=257,slow=38
PZH PanZhiHua 77.25 62 P **P 19 02 01.5 +0.6**
KMI Kunming 77.94 64 P **P 19 02 05.6 +0.7**
KMI pmax pmax
comp=Z,7.0nm,1.2s
GTA Gaotai 78.03 49 *eP* **P 19 02 06.1 +1.1**
GTA pP sP 19 02 11.7 +1.8
GTA pmax pmax
comp=Z,5.0nm,1.5s
GTA LR LR
comp=Z,220nm,16.3s
GTA LR LR
comp=Z,190nm,17.5s
GTA LR LR
comp=Z,220nm,17.9s
CD2 Chengdu 79.65 58 *eP* **P 19 02 13.0 -1.1**
MDP Montagnes des 79.87 275 LR LR 19 32 31.4
comp=Z,73nm,20.4s,baz=133,slow=32
SPITS Spitsbergen Ar 80.24 358 P **P 19 02 15.5 -0.8**
comp=Z,3.2nm,0.8s,baz=163,slow=8.7,SNR=4.0
SPITS LR LR 19 41 54.2
comp=Z,77nm,18.2s,baz=180,slow=39
comp=Z,3.2nm,0.8s
LEM Lembang 80.45 97 LR LR 19 34 38.5
comp=Z,65nm,19.0s,baz=166,slow=33
BELA Belgrano 2 82.33 191 P **P 19 02 28.4 +1.0**
CPUP Villa Florida 84.06 244 LR LR 19 36 33.6
comp=Z,22nm,18.6s,baz=328,slow=33
SONM Songino Array 84.32 42 P **P 19 02 38.9 +0.5**
comp=Z,0.2nm,0.4s,baz=211,slow=1.7,SNR=3.7
SONM LR LR 19 45 28.4
comp=Z,97nm,18.0s,baz=266,slow=39
comp=Z,0.2nm,0.4s
HHC Hu-ho-hao-te 87.14 49 *eP* **P 19 02 52.3 -0.2**
HHC pmax pmax
comp=Z,9.0nm,0.6s
QSPA South Pole Qui 88.10 180 **P 19 02 57.8 +1.2**
QSPA IAmb IAmb 19 03 00.9
comp=Z,7.5nm,0.9s
QSPA South Pole Qui 88.10 180 P **P 19 02 57.9 +1.4**
comp=Z,5.4nm,0.8s,baz=251,slow=2.4,SNR=19
QSPA LR LR 19 42 14.5
comp=Z,134nm,18.1s,baz=278,slow=36
comp=Z,5.4nm,0.8s
PMSA Palmer Station 88.70 205 LR LR 19 37 42.4
comp=Z,110nm,20.5s,baz=84,slow=32
PCRV Puerto La Cruz 91.96 280 LR LR 19 40 50.5

comp=Z,43nm,20.4s,slow=33
KAPI Kappang 92.56 95 LR LR 19 41 48.0
comp=Z,55nm,20.4s,baz=274,slow=34
NJ2 Nanjing 92.59 58 *eP* **P 19 03 17.8 -0.3**
NJ2 pmax pmax
comp=Z,16nm,1.0s
SJG San Juan 93.60 288 LR LR 19 46 45.2
comp=Z,41nm,19.1s,baz=154,slow=36
SCHQ Schefferville 93.80 325 P **P 19 03 25.0 +1.8**
comp=Z,41nm,0.8s,baz=300,slow=9.3,SNR=2.0
SCHQ LR LR 19 43 16.3
comp=Z,575nm,20.6s,baz=108,slow=34
FRB Frobisher Bay 94.20 334 LR LR 19 45 52.8
comp=Z,78nm,18.3s,baz=20,slow=36
LPAZ La Paz 94.39 254 P **P 19 03 27.8 +0.3**
comp=Z,2.8nm,1.0s,baz=118,slow=1.2,SNR=6.5
LPAZ LR LR 19 46 00.2
comp=Z,44nm,18.3s,baz=75,slow=36
comp=Z,2.8nm,1.0s
PLCA Paso Flores 94.47 229 LR LR 19 41 02.6
comp=Z,92nm,19.4s,baz=93,slow=32
TIXI Tiksi 95.57 18 LR LR 19 51 36.1
comp=Z,101nm,18.9s,baz=300,slow=39
BATI Baumata 96.20 100 LR LR 19 40 39.0
comp=Z,68nm,19.5s,baz=213,slow=32
VNDA Vanda 96.91 171 P **P 19 03 38.0 +1.0**
comp=Z,0.5nm,0.8s,baz=238,slow=6.6,SNR=2.2
VNDA LR LR 19 44 14.7
comp=Z,89nm,19.8s,baz=252,slow=34
comp=Z,0.5nm,0.8s
FITZ Fitzroy Crossi 97.60 108 LR LR 19 45 28.4
comp=Z,92nm,18.1s,baz=242,slow=34
YAK Yakutsk 97.66 28 LR LR 19 51 45.9
comp=Z,79nm,18.5s,baz=268,slow=38
MDJ Mudanjiang 100.32 45 P **Pdif 19 03 50.6 -2.3**
MDJ pmax pmax
comp=Z,11nm,1.9s
PDAR Pinedale Array 123.87 322 PKP **PKPdf 19 09 04.3 -0.5**
comp=Z,0.4nm,0.7s,baz=100,slow=1.8,SNR=4.6
TXAR Lajitas Array 125.82 305 PKP **PKPdf 19 09 08.1 -0.7**
comp=Z,0.4nm,0.7s,baz=150,slow=5.7,SNR=3.8
DZM Mont Dzumac 133.76 123 *eLR* LR 19 52 10.7
comp=Z,87nm,23.2s
TBI Tubuai 154.62 188 *eLR* LR 20 01 40.5
comp=Z,3μm,40.8s
TBI *eLR* LR 20 01 45.3
comp=Z,1μm,30.5s
PPT2 Papeete2 160.29 190 *eLR* LR 20 04 15.6
comp=Z,93nm,20.0s
PPT2 *eLR* LR 20 04 19.3
comp=Z,146nm,26.0s

KRNET ***05*** *18:56:07.9±0.1, 42°.51N×71°.78E, h9km, mb2.8*
SOME ***05*** *18:56:08.0, 42°.58N×71°.83E, h15km*
ISC 05 18:56:07.8±1.1, 42°.52N±0°.04×71°.81E±0°.02, h9km±11km, n14, σ0s73/28, 6C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZA	**Taraz**	**0.51**	**317**	*eP*		**Pg**		**18 56 17.7**	**0.0**
DZA				*eS*		**Sg**		**18 56 24.7**	**+0.3**
DZA	**Taraz**	**0.51**	**317**	*eP*		**Pg**		**18 56 17.7**	**0.0**
	31nm,0.1s								
DZA				*eS*		**Sg**		**18 56 24.7**	**+0.3**
	816nm,0.2s								
MRKS	**Merke**	**1.07**	**78**	*eP*		**Pn**		**18 56 28.8**	**-0.3**
MRKS				*eS*		**Sn**		**18 56 43.8**	**-0.3**
MRKS	**Merke**	**1.07**	**78**	*eP*		**Pn**		**18 56 28.8**	**-0.3**
	0.8nm,0.1s								
MRKS				*eS*		**Sn**		**18 56 43.8**	**-0.3**
	19nm,0.1s								
TRKS	**Terek-Say**	**1.11**	**207**	⇑*iP*		**Pb**		**18 56 29.5**	**+0.3**
TRKS				⇑*iS*		**Sn**		**18 56 45.1**	**0.0**
IUG	**Iuzhnay**	**1.37**	**255**	*eP*		**Pb**		**18 56 33.8**	**+0.2**
IUG				*eS*		**Sg**		**18 56 52.3**	**+0.5**
EKS2	**Erkin-Say**	**1.46**	**84**	⇓*eP*		**Pg**		**18 56 35.7**	**-0.2**
EKS2				⇓*iS*		**Sg**		**18 56 56.0**	**+1.2**
ARSB	**Arslanbob**	**1.48**	**143**	⇑*iP*		**Pb**		**18 56 35.8**	**+0.2**
ARSB				⇑*iS*		**Sg**		**18 56 56.2**	**+0.6**
BRLS	**Borolday**	**1.54**	**290**	*eP*		**Pb**		**18 56 36.2**	**-0.2**
BRLS				*eS*		**Sg**		**18 56 56.7**	**-0.5**
BRLS	**Borolday**	**1.54**	**290**	*eP*		**Pb**		**18 56 36.2**	**-0.2**
	1.3nm,0.1s								
BRLS				*eS*		**Sg**		**18 56 56.6**	**-0.5**
	28nm,0.2s								
UCH	**Uchtor**	**2.03**	**97**	⇓*iP*		**Pb**		**18 56 45.4**	**+0.3**
UCH				⇓*iS*		**Sg**		**18 57 13.4**	**+0.4**
USP	**Ospenovka**	**2.12**	**69**	⇑*iP*		**Pb**		**18 56 46.7**	**+0.4**
USP				⇑*iS*		**Sg**		**18 57 16.5**	**+0.8**
BTLS	**Baital**	**3.00**	**32**	*eP*		**Pb**		**18 57 01.3**	**0.0**
	0.7nm,0.1s								
BTLS				*eS*		**Sb**		**18 57 39.8**	**+1.8**
	4.3nm,0.2s								
KST	**Kastek**	**3.10**	**79**	*eP*		**Pg**		**18 57 05.3**	**-2.0**
	0.5nm,0.1s								
KST				*eS*		**Sg**		**18 57 46.4**	**-1.1**
	7.0nm,0.4s								

TEH ***05*** *19:18:23.8, 34°.51N×45°.77E, h8km*
ISN ***05*** *19:18:24.3±0.5, 34°.52N×45°.70E, h18km±577km, ML2.5*
ISC 05 19:18:24.3±1.2, 34°.51N±0°.05×45°.76E±0°.04, h8km±11km, n12, σ0s86/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.14**	**269**		Pg	**Pg**		**19 18 27.4**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.41**	**162**		Pg	**Pg**		**19 18 32.0**	**-0.4**
IDHR	**Dehrash**	**0.55**	**70**		Pg	**Pg**		**19 18 34.1**	**-0.9**
IDHR					Sg	**Sg**		**19 18 42.9**	**+0.7**
IGHG	**Ghaleghazi**	**0.69**	**105**		Pg	**Pg**		**19 18 37.3**	**-0.4**
ILBA	**Ilam Banvizeh**	**0.96**	**157**		Pg	**Pb**		**19 18 42.3**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.08**	**102**		Pg	**Pb**		**19 18 44.7**	**-0.7**
IBDR	**Badra**	**1.40**	**174**	*eP*	n	**Pg**		**19 18 51.0**	**-0.2**
IBDR				*eS*	n	**Sg**		**19 19 10.5**	**+1.1**
IBDR					AML	AML		19 19 13.6	
	comp=E,83nm,0.8s								
IBDR					AML	AML		19 19 15.6	
	comp=N,73nm,0.7s								
SNQR	**Sonqor, Kerman**	**1.58**	**77**		Pg	**Pb**		**19 18 53.3**	**-0.7**
BHD	**Baghdad**	**1.69**	**223**	*eP*	n	**Pb**		**19 18 54.5**	**-1.1**
BHD				*eS*	n	**Sb**		**19 19 16.0**	**-1.0**
IBZA	**Bozab**	**1.74**	**91**		Pg	**Pb**		**19 18 56.4**	**-0.2**
HGHA	**Hamedan- Ghaye**	**2.72**	**68**		Pn	**Pn**		**19 19 09.6**	**+0.9**
RAFI	**Al-Rafai**	**2.79**	**174**	*eP*	n	**Pn**		**19 19 10.0**	**+0.7**
RAFI				*eS*	n	**Sn**		**19 19 44.0**	**+0.8**

JMA ***05*** *19:20:30.6±0.1, 37°.7N±0°.2×141°.7E±0°.4, h52km±1km,*
MD3.9/40, MV4.1/40, E OFF FUKUSHIMA PREF
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
NIED ***05*** *19:20:30.6, 37°.74N×141°.73E, h52km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr5.92; Mθθ-2.41; Mφφ-3.50; Mrθ-2.34; Mφθ0.54; Mφr-1.35; Fault plane solution: M0 5.24000×10^14 NP1: φs327.00000°, δ44.00000°, λ66.00000°. NP2: φs179.00000°, δ51.00000°, λ111.00000°.*
IDC ***05*** *19:20:30.8±0.6, 37°.69N×141°.83E, h55km±5km, mb3.4/10, mbtmp3.8/15, MS2.7/1 Error ellipse: s-maj=13.0km s-min=9.0km az=120.0*
ISC 05 19:20:31.0±0.7, 37°.74N±0°.04×141°.76E±0°.07, h53km±6km, n51, σ1s09/57, mb3.8/10, 18D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.61**	**338**	*i*	P	**Pn**		**19 20 43.3**	**-0.4**
JIKH				*i*	S	**Sn**		**19 20 52.3**	**-0.6**
JIKH	**Ishinomakikobu**	**0.61**	**338**		A	A		19 20 43.3	
	comp=N,13nm,0.7s,comp=E,11nm,0.6s								
JMST	**Minamisoumatoc**	**0.69**	**269**	⇓*i*	P	**Pn**		**19 20 44.1**	**-0.6**
JMST				⇓	S	**Sn**		**19 20 53.8**	**-0.8**
JMST	**Minamisoumatoc**	**0.69**	**269**		A	A		19 20 44.1	
	comp=N,7.0nm,0.7s,comp=E,17nm,1.1s								
JMM	**Marumori**	**0.77**	**279**		P	**Pn**		**19 20 45.1**	**-0.6**
JMM	**Marumori**	**0.77**	**279**		S	**Sn**		**19 20 54.5**	**-2.1**
JMM	**Marumori**	**0.77**	**279**	⇓	P	**Pn**		**19 20 45.2**	**-0.6**
JMM				⇓	S	**Sn**		**19 20 55.7**	**-0.9**
JMM	**Marumori**	**0.77**	**279**		A	A		19 20 45.2	
	comp=N,7.0nm,0.5s,comp=E,10.0nm,0.4s								
JIO	**Ouri**	**0.78**	**336**	*i*	P	**Pn**		**19 20 45.4**	**-0.4**
JIO					S	**Sn**		**19 20 55.9**	**-0.8**

JFK	**Kawauchi**	**0.80**	**242**	⇓*i*	P	**Pn**	**19 20 45.4 -0.7**
JFK				⇓	S	**Sn**	**19 20 56.1 -1.1**
JFK	**Kawauchi**	**0.80**	**242**		A	A	19 20 45.4
	comp=N,4.0nm,0.4s,comp=E,5.0nm,0.4s						
ONAJ	**Iwakimizuishiy**	**1.00**	**230**	⇓*i*	P	**Pn**	**19 20 48.0 -0.7**
JOU	**Okura**	**1.06**	**306**	⇓*i*	P	**Pn**	**19 20 49.2 -0.4**
JOU				⇓*e*	S	**Sn**	**19 21 03.2 -0.2**
JOU	**Okura**	**1.06**	**306**		A	A	19 20 49.2
	comp=N,7.0nm,1.5s,comp=E,8.0nm,0.6s						
JOFO	**Osakifurukawao**	**1.09**	**322**		A	A	19 20 49.6
	comp=N,9.0nm,0.7s,comp=E,10.0nm,1.0s						
JOTO	**OTAMA OYAMA**	**1.15**	**261**	*i*	P	**Pn**	**19 20 50.7 0.0**
JMK	**Ichinoseki**	**1.28**	**341**	⇓*i*	P	**Pn**	**19 20 52.4 -0.1**
JMK				⇓	S	**Sn**	**19 21 08.4 -0.1**
JYS	**Shirataka**	**1.42**	**290**	⇓*i*	P	**Pn**	**19 20 54.2 -0.2**
JYK	**Kaneyama**	**1.61**	**317**	⇓*i*	P	**Pn**	**19 20 57.0 0.0**
JYK				⇓*e*	S	**Sn**	**19 21 16.4 -0.2**
JFY	**Yanaizu**	**1.67**	**259**	⇓*i*	P	**Pn**	**19 20 57.7 -0.1**
JOM	**Ohasama**	**1.77**	**348**	⇓*i*	P	**Pn**	**19 20 59.1 0.0**
JOM				⇓*e*	S	**Sn**	**19 21 20.4 -0.1**
JYA	**Atsumi**	**1.82**	**298**	⇓*i*	P	**Pn**	**19 20 59.8 -0.1**
JSD	**Sado**	**2.78**	**277**		P	**Pn**	**19 21 12.7 -0.3**
MJAR	**Matsushiro Arr**	**3.08**	**248**		P	**Pn**	**19 21 17.7 +0.6**
	comp=E,12nm,0.5s,baz=53,slow=12,SNR=49						
MJAR					S	**Sn**	**19 21 54.6 +1.9**
	comp=E,8.2nm,0.3s,baz=357,slow=17,SNR=4.3						
MJAR					LR	LR	19 22 50.7
	comp=E,103nm,18.7s,baz=43,slow=45						
MAJO	**Matsushiro**	**3.08**	**248**		P	**Pn**	**19 21 18.3 +1.2**
JTM	**Tenmabayashi**	**3.09**	**350**		P	**Pn**	**19 21 17.5 +0.3**
JGF	**Kuroka**	**4.13**	**240**		P	**Pn**	**19 21 33.4 +1.8**
ERM	**Erimo**	**4.40**	**14**		P	**Pn**	**19 21 33.7 -1.5**
JEM	**Erimo**	**4.40**	**14**		P	**Pn**	**19 21 34.0 -1.2**
INU	**Inuyama**	**4.50**	**239**		P	**Pn**	**19 21 39.1 +2.5**
JHJ	**Hachijo jima 2**	**4.89**	**200**		P	**Pn**	**19 21 42.0 +0.1**
	comp=E,48nm,0.3s,baz=29,slow=19,SNR=17						
JHJ					S	**Sn**	**19 22 33.8 -3.3**
	comp=E,79nm,0.3s,baz=79,slow=23,SNR=15						
ASAJ	**Asahikawa**	**6.40**	**5**		P	**Pn**	**19 22 01.1 -1.4**
	comp=E,4.7nm,0.3s,baz=224,slow=12,SNR=15						
ASAJ					S	**Sn**	**19 23 13.3 -0.9**
	comp=E,4.3nm,0.5s,baz=90,slow=20,SNR=1.6						
USRK	**Ussuriysk Ar.**	**9.80**	**314**		P	**Pn**	**19 22 49.9 +0.8**
	comp=E,4.4nm,0.7s,baz=120,slow=14,SNR=5.2						
KSRS	**Korea Array**	**10.98**	**273**		P	**Pn**	**19 23 08.2 +2.9**
	comp=E,1.5nm,0.7s,baz=79,slow=13,SNR=5.8						
SONM	**Songino Array**	**27.62**	**303**		P	**P**	**19 26 13.4 -0.1**
	comp=E,0.4nm,0.5s,baz=123,slow=9.2,SNR=2.6						
	comp=E,0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.29**	**122**		T	T	19 56 35.1
	baz=316,slow=75,SNR=210						
H11N1	**WAKE ISLAND Hy**	**28.29**	**122**		T	T	19 56 38.9
	baz=316,slow=75,SNR=153						
H11N3	**WAKE ISLAND Hy**	**28.30**	**122**		T	T	19 56 39.7
	baz=316,slow=75,SNR=185						
H11S1	**WAKE ISLAND Hy**	**29.02**	**124**		T	T	19 57 32.3
	baz=317,slow=76,SNR=111						
H11S3	**WAKE ISLAND Hy**	**29.02**	**124**		T	T	19 57 32.4
	baz=317,slow=76,SNR=136						
H11S2	**WAKE ISLAND Hy**	**29.04**	**124**		T	T	19 57 33.0
	baz=317,slow=76,SNR=80						
ZALV	**Zalesovo Beam**	**41.64**	**312**		P	**P**	**19 28 15.5 +1.7**
	comp=E,0.4nm,0.4s,baz=107,slow=8.3,SNR=2.3						
	comp=E,0.4nm,0.4s						
MKAR	**Makanchi Array**	**43.98**	**302**		P	**P**	**19 28 32.2 -0.7**
	comp=E,0.8nm,0.8s,baz=84,slow=11,SNR=6.3						
	comp=E,0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**45.78**	**307**		P	**P**	**19 28 46.8 -0.3**
	comp=E,1.4nm,0.5s,baz=82,slow=8.0,SNR=16						
KURBB					pP	**pP**	**19 29 00.8 -0.3**
	comp=E,0.8nm,0.4s,baz=82,slow=8.1,SNR=4.9						
	comp=E,1.4nm,0.5s						
ILAR	**Eielson Array**	**48.75**	**33**		P	**P**	**19 29 08.7 -1.3**
	comp=E,0.3nm,0.7s,baz=270,slow=7.2,SNR=2.6						
ILAR					pP	**pP**	**19 29 25.1 +1.1**
	comp=E,0.5nm,0.6s,baz=265,slow=6.8,SNR=4.4						
	comp=E,0.3nm,0.7s						
BVAR	**Borovoye Array**	**50.30**	**312**		P	**P**	**19 29 22.5 +0.5**
	comp=E,0.5nm,0.6s,baz=101,slow=3.1,SNR=1.5						
BVAR					pP	**pP**	**19 29 36.0 -0.1**
	comp=E,0.5nm,0.4s,baz=93,slow=7.2,SNR=2.1						
	comp=E,0.5nm,0.6s						
WRA	**Warramunga Arr**	**57.80**	**188**		P	**P**	**19 30 15.9 -0.9**
	comp=E,2.0nm,0.5s,baz=5.4,slow=7.2,SNR=36						
	comp=E,2.0nm,0.5s						
ASAR	**Alice Springs**	**61.53**	**188**		P	**P**	**19 30 41.6 -0.8**
	comp=E,0.8nm,0.7s,baz=14,slow=6.4,SNR=10						
ASAR					pP	**pP**	**19 30 56.7 -0.3**
	comp=E,0.3nm,0.8s,baz=10,slow=7.6,SNR=1.9						
	comp=E,0.8nm,0.7s						
PDAR	**Pinedale Array**	**76.97**	**46**		P	**P**	**19 32 18.7 +0.5**
	comp=E,0.3nm,0.6s,baz=303,slow=11,SNR=4.1						
PDAR					pP	**pP**	**19 32 33.5 +0.5**
	comp=E,0.6nm,0.8s,baz=248,slow=1.6,SNR=3.8						
	comp=E,0.3nm,0.6s						
TXAR	**Lajitas Array**	**89.47**	**53**		P	**P**	**19 33 22.0 -0.6**
	comp=E,0.2nm,0.5s,baz=222,slow=1.7,SNR=3.4						
TXAR					pP	**pP**	**19 33 39.2 +1.4**
	comp=E,0.5nm,0.6s,baz=302,slow=2.5,SNR=5.9						
	comp=E,0.2nm,0.5s						
QSPA	**South Pole Qui**	**127.48**	**180**		PKP	**PKiKP**	**19 39 29.7 +0.2**
	comp=E,1.8nm,1.1s,baz=18,slow=3.2,SNR=3.0						

*IDC **05** 19:29:54.6±0.7, 26.°09N×142.°87E, h0km, mb3.8/15, mbtmp3.8/17, ML3.0/2, MS3.1/4, Error ellipse: s-maj=23.4km s-min=17.8km az=72.0*
*JMA **05** 19:29:54.4±0.3, 26.°N±1.°×14.°3E±.°, h7km, MV3.9/9, NEAR CHICHIJIMA ISLAND*
*NEIC **05** 19:29:57.6±1.4, 26.°06N±0.°05×142.°7E±0.°1, h10km±1km, mb4.5/28, Error ellipse: s-maj=23.2km s-min=5.4km az=105.0*

ISC 05 19:29:56.5±0.6, 26.°16N±0.°08×142.°97E±0.°10, h10km, n63, σ1°84/64, mb4.3/29, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**0.85**	**304**	*e*P	**Pn**	**19 30 15.4**	**+0.8**
JHH2				*e*S	**Sn**	**19 30 29.6**	**+2.5**
CBIJ	**Chichi jima**	**1.17**	**323**	P	**Pb**	**19 30 19.6**	**+0.9**
CBIJ				*e*S	**Sn**	**19 30 38.4**	**+3.5**
JCJ	**Chichijima**	**1.17**	**323**		**Pg**	**19 30 19.8**	**+0.9**
JHJ	**Hachijo jima 2**	**7.47**	**339**	Pn	**Pn**	**19 31 46.4**	**+0.9**
	2.1nm,0.3s,baz=201,slow=17,SNR=1.8						
JHJ				Sn	**Sn**	**19 33 06.3**	**-4.0**
	baz=231,slow=22						
	64nm,0.9s						
JHO	**Hitachi**	**10.62**	**349**	*e*P	**Pn**	**19 32 29.2**	**+0.5**
JHO				*e*S	**Sn**	**19 34 22.5**	**-5.2**
MJAR	**Matsushiro Arr**	**11.12**	**340**	Pn	**Pn**	**19 32 34.0**	**-1.6**
	baz=172,slow=9.8,SNR=2.1						
MJAR				LR	LR	19 36 28.0	
	comp=E,41nm,20.1s,baz=182,slow=35						
	0.8nm,0.8s						
JMM	**Marumori**	**11.82**	**352**	Pn	**Pn**	**19 32 44.4**	**-0.7**
GUMO	**Guam**	**12.63**	**172**	LR	LR	19 37 09.5	
	comp=Z,32nm,18.4s,baz=251,slow=35						
H11N2	**WAKE ISLAND Hy**	**22.93**	**101**	T	T	19 58 39.2	
	baz=292,slow=74						
H11N1	**WAKE ISLAND Hy**	**22.93**	**101**	T	T	19 58 43.5	
	baz=292						
H11N3	**WAKE ISLAND Hy**	**22.94**	**101**	T	T	19 58 40.4	
	baz=292,slow=74						
SONM	**Songino Array**	**35.87**	**317**	P	**P**	**19 36 56.4**	**-0.3**
	0.3nm,0.5s,baz=114,slow=9.6,SNR=2.2						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.29**	**269**	P	**P**	**19 37 41.7**	**-0.7**
	0.5nm,0.6s,baz=52,slow=7.1,SNR=2.2						
	0.5nm,0.6s						
WB0	**Warramunga Arr**	**46.40**	**191**	P	**P**	**19 38 22.3**	**-1.0**
WB0				IAmb	IAmb	19 38 34.0	
	comp=Z,9.7nm,1.4s						
WR8	**Warramunga Arr**	**46.57**	**191**	P	**P**	**19 38 22.8**	**-1.8**
WR8				IAmb	IAmb	19 38 39.8	
	comp=Z,4.7nm,0.9s						
WB2	**Warramunga Arr**	**46.58**	**191**	P	**P**	**19 38 23.4**	**-1.3**
WB2				IAmb	IAmb	19 38 40.2	
	comp=Z,7.3nm,0.9s						
WRA	**Warramunga Arr**	**46.58**	**191**	P	**P**	**19 38 23.3**	**-1.4**
WRA	**Warramunga Arr**	**46.58**	**191**	P	**P**	**19 38 23.4**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=11,slow=8.5,SNR=12						
	comp=Z,1.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**47.10**	**203**	P	**P**	**19 38 29.1**	**+0.3**
AS31	**Alice Springs**	**50.30**	**191**	P	**P**	**19 38 52.8**	**-0.6**
ASAR	**Alice Springs**	**50.30**	**191**	P	**P**	**19 38 53.3**	**-0.1**
ASAR	**Alice Springs**	**50.30**	**191**	P	**P**	**19 38 51.8**	**-1.6**
	comp=Z,0.3nm,0.8s,baz=21,slow=12,SNR=5.2						
	comp=Z,0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**50.65**	**320**	P	**P**	**19 38 55.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=88,slow=9.4,SNR=1.8						
ZALV				PcP	**PcP**	**19 40 12.8**	**-0.3**
	comp=Z,0.4nm,0.2s,baz=95,slow=7.2,SNR=2.2						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**51.61**	**310**	P	**P**	**19 39 02.5**	**-0.6**
MKAR	**Makanchi Array**	**51.61**	**310**	P	**P**	**19 39 01.9**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=84,slow=8.5,SNR=4.2						
MKAR				PcP	**PcP**	**19 40 16.5**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=85,slow=6.2,SNR=1.9						
MKAR				LR	LR	20 02 21.5	
	comp=Z,40nm,18.1s,baz=286,slow=38						
	comp=Z,0.3nm,0.7s						
KURK	**Kurchatov**	**54.14**	**315**	P	**P**	**19 39 21.9**	**+0.3**
KURBB	**Kurchatov Arra**	**54.20**	**315**	P	**P**	**19 39 21.4**	**-0.7**
	comp=E,0.8nm,0.6s,baz=90,slow=8.4,SNR=9.7						
	comp=E,0.8nm,0.6s						
SCM	**Sheep Creek Mo**	**57.73**	**32**	P	**P**	**19 39 49.4**	**+2.0**
GLI	**Glacier Island**	**57.78**	**33**	P	**P**	**19 39 49.1**	**+1.5**
FID	**Port Fidalgo**	**58.07**	**33**	P	**P**	**19 39 51.6**	**+1.9**
ILAR	**Eielson Array**	**58.20**	**28**	P	**P**	**19 39 52.1**	**+1.6**
ILAR	**Eielson Array**	**58.20**	**28**	P	**P**	**19 39 50.8**	**+0.3**
	comp=E,1.0nm,0.9s,baz=264,slow=5.8,SNR=7.0						
	comp=E,1.0nm,0.9s						
RAGM	**Ragged Mountai**	**58.95**	**34**	P	**P**	**19 39 58.1**	**+2.3**
D25K	**Kavik River**	**58.96**	**23**	P	**P**	**19 39 58.6**	**+2.8**
D25K				IAmb	IAmb	19 40 06.6	
	comp=Z,5.7nm,1.4s						
BMRM	**Bremner River**	**59.00**	**33**	P	**P**	**19 39 58.0**	**+1.8**
BMRM				IAmb	IAmb	19 40 00.9	
	comp=Z,7.4nm,1.2s						
BVAR	**Borovoye Array**	**59.20**	**318**	P	**P**	**19 39 57.4**	**-0.3**
	comp=E,1.3nm,0.5s,baz=77,slow=6.2,SNR=4.0						
	comp=E,1.3nm,0.5s						
GLB	**Gilahina Butte**	**59.39**	**32**	P	**P**	**19 40 00.7**	**+1.8**
GLB				IAmb	IAmb	19 40 27.7	
	comp=Z,3.2nm,0.7s						
SCRK	**Sand Creek**	**59.40**	**29**	P	**P**	**19 40 00.6**	**+1.6**
SCRK				IAmb	IAmb	19 40 22.3	
	comp=Z,3.4nm,1.2s						
BMAR	**Burnt Mountain**	**59.40**	**25**	P	**P**	**19 40 01.9**	**+3.0**
F26K	**Sheenjek River**	**59.59**	**25**	P	**P**	**19 40 03.2**	**+3.0**
F26K				IAmb	IAmb	19 40 04.4	
	comp=Z,1.5nm,0.6s						
KKAR	**Karatay Array**	**60.20**	**306**	P	**P**	**19 40 03.5**	**-1.2**
L27K	**Beaver Creek,**	**60.34**	**30**	P	**P**	**19 40 07.3**	**+2.0**
H27K	**Steamboat Moun**	**60.53**	**27**	P	**P**	**19 40 09.2**	**+2.6**
H27K				IAmb	IAmb	19 40 10.4	
	comp=Z,5.3nm,1.1s						
I28M	**Miner Creek**	**61.17**	**28**	P	**P**	**19 40 14.0**	**+2.9**
I28M				IAmb	IAmb	19 40 34.8	
	comp=Z,4.3nm,1.3s						
E28M	**Babbage River**	**61.36**	**24**	P	**P**	**19 40 15.1**	**+2.9**
E28M				IAmb	IAmb	19 40 17.2	
	comp=Z,2.9nm,0.9s						
M29M	**Somme Creek**	**61.90**	**31**	P	**P**	**19 40 18.4**	**+2.3**
M29M				IAmb	IAmb	19 40 32.4	
	comp=Z,2.2nm,1.1s						
G29M	**Pine Creek**	**61.94**	**26**	P	**P**	**19 40 18.8**	**+2.7**
L29M	**L29M**	**62.02**	**30**	P	**P**	**19 40 19.4**	**+2.6**
L29M				IAmb	IAmb	19 40 38.9	
	comp=Z,4.7nm,1.4s						
G30M	**tAoh Zraii Nji**	**62.64**	**26**	P	**P**	**19 40 23.3**	**+2.4**
F30M	**Barrier River**	**62.78**	**25**	P	**P**	**19 40 22.6**	**+0.9**
G31M	**Satah River**	**63.41**	**26**	P	**P**	**19 40 27.8**	**+1.9**
G31M				IAmb	IAmb	19 40 28.3	
	comp=Z,2.7nm,0.6s						
H31M	**Peel River**	**63.48**	**27**	P	**P**	**19 40 28.2**	**+1.8**
AB31	**Akbulak array**	**66.25**	**315**	P	**P**	**19 40 43.3**	**-1.4**
ABKAR	**Akbulak array**	**66.25**	**315**	P	**P**	**19 40 44.1**	**-0.6**
ARCES	**ARCESS Array B**	**74.65**	**341**	P	**P**	**19 41 35.7**	**0.0**
	comp=Z,2.5nm,1.1s,baz=52,slow=7.9,SNR=4.0						
	comp=Z,2.5nm,1.1s						
FINES	**FINESS Array B**	**79.09**	**334**	P	**P**	**19 42 00.2**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=64,slow=4.4,SNR=7.2						
	comp=Z,2.6nm,0.8s						
KBZ	**Khabaz**	**79.16**	**313**	P	**P**	**19 42 02.3**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=72,slow=3.2,SNR=4.2						
	comp=Z,2.2nm,0.9s						
NVAR	**Mina Array Bea**	**80.55**	**52**	P	**P**	**19 42 08.4**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=261,slow=5.2,SNR=3.6						
	comp=Z,0.5nm,0.6s						
AKASG	**Malin Array Be**	**83.78**	**324**	LR	LR	20 21 12.8	
	comp=Z,19nm,18.5s,baz=353,slow=37						
PDAR	**Pinedale Array**	**84.38**	**45**	P	**P**	**19 42 29.7**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=305,slow=7.4,SNR=2.4						
	comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**95.60**	**54**	P	**P**	**19 43 24.2**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=289,slow=3.9,SNR=1.5						
	comp=Z,0.2nm,0.5s						
PLCA	**Paso Flores**	**148.69**	**126**	PKPbc	**PKPbc**	**19 49 44.4**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=217,slow=5.1,SNR=3.1						
LPAZ	**La Paz**	**149.47**	**77**	PKPbc	**PKPbc**	**19 49 48.3**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=279,slow=3.5,SNR=5.7						

*NEIC **05** 19:40:58.6±0.5, 19.°4N±0.°2×155.°25W±0.°02, h3km±7km, Error ellipse: s-maj=28.4km s-min=1.0km az=183.0*

HVO 05 19:40:58.0±0.4, 19.°41N±0.°03×155.°24W±0.°07, h2km±5km, ML2.7/19, ML2.1/29(NEIC), Error ellipse: s-maj=10.1km s-min=0.7km az=114.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.02**	**284**		Pg	**19 40 59.3**	**+0.5**
BYL	**Byron's Ledge**	**0.02**	**284**		Sg	**19 41 00.1**	**+0.8**
BYL	**Byron's Ledge**	**0.02**	**284**	IAML		**19 40 59.5**	
	comp=E,57nm,0.1s						
HATHI	**Halema'uma'u T**	**0.03**	**308**		Pg	**19 40 59.4**	**+0.6**
HATHI	**Halema'uma'u T**	**0.03**	**308**		Sg	**19 41 00.2**	**+0.9**
HATHI	**Halema'uma'u T**	**0.03**	**308**	IAML		**19 40 59.7**	
	comp=N,5μm,0.2s						
HATHI				IAML		19 40 59.7	
	comp=E,5μm,0.2s						
KKO	**Keanakako'i**	**0.03**	**249**		Pg	**19 40 59.5**	**+0.6**
KKO					Sg	**19 41 00.3**	**+0.9**
SBLHI	**Steaming Bluff**	**0.03**	**306**		Pg	**19 40 59.4**	**+0.5**
SBLHI					Sg	**19 41 00.4**	**+0.9**
RIM	**Rim**	**0.04**	**250**		Pg	**19 40 59.6**	**+0.7**
RIM					Sg	**19 41 00.4**	**+0.9**
PUH	**Pauahi**	**0.04**	**146**	Pg	Pg	**19 40 59.7**	**+0.7**
PUH				IAML		**19 41 00.4**	
	comp=E,4μm,0.2s						
PUH	**Pauahi**	**0.04**	**146**		Sg	**19 41 00.8**	**+1.1**
UWB	**Uwekahuna Bluf**	**0.04**	**296**		Pg	**19 40 59.5**	**+0.5**
UWB					Sg	**19 41 00.7**	**+1.1**
OBL	**Observatory Le**	**0.04**	**284**		Pg	**19 40 59.7**	**+0.7**
OBL					Sg	**19 41 00.9**	**+1.1**
UWE	**Uwekahuna**	**0.05**	**285**		Pg	**19 40 59.9**	**+0.7**
UWE	**Uwekahuna**	**0.05**	**285**		Sg	**19 41 01.0**	**+1.0**
UWE	**Uwekahuna**	**0.05**	**285**	IAML		**19 41 00.7**	
	comp=N,622nm,0.2s						
UWE				IAML		19 41 00.8	
	comp=E,1μm,0.3s						
SDHHI	**Sand Hill**	**0.05**	**251**		Pg	**19 40 59.9**	**+0.7**
SDHHI					Sg	**19 41 01.1**	**+1.1**
WRMHI	**West Rim**	**0.06**	**269**		Pg	**19 41 00.0**	**+0.7**
WRMHI					Sg	**19 41 01.4**	**+1.2**
RSD	**Rainshed**	**0.07**	**327**		Pg	**19 41 00.1**	**+0.6**
RSD					Sg	**19 41 01.4**	**+0.9**
KNHH	**Kane Nui o Ham**	**0.07**	**113**		Pg	**19 41 00.4**	**+0.8**
STCH	**Steam Cracks**	**0.11**	**101**		Pg	**19 41 00.9**	**+0.7**
STCH					Sg	**19 41 02.9**	**+1.2**
STCH	**Steam Cracks**	**0.11**	**101**	IAML		**19 41 03.5**	
	comp=E,2μm,0.1s						
STCH				IAML		19 41 03.9	
	comp=N,2μm,0.2s						
NPOC	**North of Pu'u**	**0.12**	**97**		Pg	**19 41 01.1**	**+0.7**
NPOC					Sg	**19 41 03.5**	**+1.4**
HLP	**Hilina Pali**	**0.13**	**210**		Pg	**19 41 01.3**	**+0.8**
HLP					Sg	**19 41 03.7**	**+1.5**
HLP	**Hilina Pali**	**0.13**	**210**	IAML		**19 41 04.1**	
	comp=E,3μm,0.4s						
HLP				IAML		19 41 04.1	
	comp=N,4μm,0.2s						
JCUZ	**Jacuzzi**	**0.13**	**100**		Pg	**19 41 01.4**	**+0.7**
JCUZ					Sg	**19 41 03.6**	**+1.2**
MLH	**Mauna Loa**	**0.16**	**302**		Pg	**19 41 02.1**	**+0.8**
MLH					Sg	**19 41 04.9**	**+1.4**
MLH	**Mauna Loa**	**0.16**	**302**	IAML		**19 41 05.2**	
	comp=E,434nm,0.7s						
MLH				IAML		19 41 05.5	
	comp=N,310nm,0.3s						
AIN	**Ainahou**	**0.21**	**260**		Pg	**19 41 02.9**	**+0.8**
AIN					Sg	**19 41 06.3**	**+1.4**
AIN	**Ainahou**	**0.21**	**260**	IAML		**19 41 07.1**	
	comp=N,482nm,0.5s						
AIN				IAML		19 41 08.3	
	comp=E,330nm,0.3s						
JOKA	**Jonika Flow**	**0.22**	**83**		Pg	**19 41 02.8**	**+0.4**
JOKA					Sg	**19 41 06.2**	**+0.9**
JOKA	**Jonika Flow**	**0.22**	**83**	IAML		**19 41 06.9**	
	comp=N,320nm,0.6s						
JOKA				IAML		19 41 10.0	
	comp=E,318nm,0.7s						
HTC	**Hot Caves**	**0.23**	**221**		Pg	**19 41 03.0**	**+0.6**
HMH	**Humu'ula Sheep**	**0.30**	**310**		Pg	**19 41 04.5**	**+0.6**
HMH					Sg	**19 41 09.1**	**+1.2**
HMH	**Humu'ula Sheep**	**0.30**	**310**	IAML		**19 41 13.0**	
	comp=E,223nm,0.5s						
HMH				IAML		19 41 13.6	
	comp=N,161nm,0.5s						
MWH	**Mokuaweoweo**	**0.35**	**283**		Pg	**19 41 05.2**	**+0.3**
MWH					Sg	**19 41 10.6**	**+1.1**
MWH	**Mokuaweoweo**	**0.35**	**283**	IAML		**19 41 13.7**	
	comp=E,260nm,1.6s						
MWH				IAML		19 41 14.8	
	comp=N,225nm,1.2s						
KHU	**Kahuku**	**0.39**	**246**		Pg	**19 41 05.8**	**+0.3**

*IDC **05** 19:57:42.4±0.9, 3.°62N×126.°83E, h0km, mb3.7/10, mbtmp3.7/10, Error ellipse: s-maj=74.3km s-min=15.2km az=73.0*

ISC 05 19:57:48.8±0.9, 3.°6N±0.°2×126.°9E±0.°5, h48km, n10, σ0°84/10, mb3.7/10, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.60**	**183**	P	**P**	**20 02 34.8**	**0.0**
	1.8nm,0.8s,baz=347,slow=4.4,SNR=5.6						
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**24.52**	**163**	P	**P**	**20 03 02.5**	**-1.5**
	2.7nm,1.0s,baz=342,slow=10,SNR=10						
	2.7nm,1.0s						
ASAR	**Alice Springs**	**27.95**	**166**	P	**P**	**20 03 36.5**	**+1.5**
	0.3nm,0.4s,baz=345,slow=11,SNR=5.3						
	0.3nm,0.4s						
KSRS	**Korea Array**	**33.70**	**2**	P	**P**	**20 04 25.4**	**0.0**
	0.8nm,0.7s,baz=181,slow=10.0,SNR=4.6						
	0.8nm,0.7s						
STKA	**Stephens Creek**	**37.96**	**159**	P	**P**	**20 05 02.0**	**0.0**
	1.6nm,0.4s,baz=319,slow=9.3,SNR=3.4						
	1.6nm,0.4s						
SONM	**Songino Array**	**47.47**	**341**	P	**P**	**20 06 19.2**	**+0.2**
	0.4nm,0.6s,baz=155,slow=6.6,SNR=3.6						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**57.74**	**325**	P	**P**	**20 07 34.9**	**0.0**
	0.9nm,0.6s,baz=119,slow=7.7,SNR=12						
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**60.77**	**333**	P	**P**	**20 07 55.7**	**+0.1**
	0.4nm,0.4s,baz=115,slow=5.4,SNR=2.2						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**61.92**	**327**	P	**P**	**20 08 02.8**	**-0.7**
	0.5nm,0.5s,baz=132,slow=6.5,SNR=4.7						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**67.51**	**327**	P	**P**	**20 08 40.1**	**+0.2**
	0.3nm,0.4s,baz=123,slow=5.3,SNR=2.5						
	0.3nm,0.4s						

*IDC **05** 20:08:10.9±1.4, 3.°62S×144.°19E, h0km, mb3.7/7, mbtmp3.7/9, ML3.3/2, MS3.2/2, Error ellipse: s-maj=33.5km s-min=23.9km az=106.0*

ISC 05 20:08:15.8±1.1, 3.°7S±0.°1×144.°1E±0.°1, h31km, n10, σ1°00/10, mb3.8/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.58**	**288**	Pn	**Pn**	**20 09 09.3**	**+0.1**
	0.9nm,0.3s,baz=140,slow=9.3,SNR=15						
JAY				Sn	**Sn**	**20 09 50.2**	**-0.3**
	0.4nm,0.3s,baz=150,slow=20,SNR=2.4						
	2.8nm,0.4s						
WRA	**Warramunga Arr**	**18.79**	**210**	P	**Pn**	**20 12 33.5**	**+0.1**
	0.1nm,0.3s,baz=28,

comp=N,120nm,0.3s
RUSJ Misakicho 4.65 238 *e*PN **Pn** **20 12 26.3 +2.3**
RUSJ *e*S **Sn** **20 13 18.2 +0.3**
GLVR Golovnino 4.71 233 *e*PN **Pn** **20 12 25.5 +0.6**
GLVR pmax pmax
comp=Z,46nm,0.2s
GLVR Golovnino 4.71 233 *e*P **Pn** **20 12 25.5 +0.6**
GLVR AMB AMB 20 12 27.2
comp=Z,50nm,0.5s
GLVR *e*S **Sn** **20 13 17.9 -1.6**
GLVR A A 20 13 22.4
comp=Z,90nm,0.3s
GLVR A A 20 13 22.4
comp=Z,80nm,0.3s
NEM2 Nemuro 2 4.85 229 P **Pn** **20 12 25.2 -1.4**
NEM2 S **Sn** **20 13 17.8 -4.8**
NMR Nemuro--Hokkai 4.85 229 *e*PN **Pn** **20 12 25.2 -1.5**
NMR Nemuro--Hokkai 4.85 229 *e*P **Pn** **20 12 25.5 -1.2**
JTKR Abashiri--Toko 5.53 243 P **Pn** **20 12 36.8 +1.3**
AKK Akkeshi 5.56 231 *e*P **Pn** **20 12 35.8 -0.2**
JAK Akkeshi 5.66 232 P **Pn** **20 12 36.2 -1.0**
JAK S **Sn** **20 13 36.6 -5.1**
JAR Ashorobuto 5.99 238 P **Pn** **20 12 42.8 +1.2**
JAR S **Sn** **20 13 49.4 -0.2**
JOB Onbets 6.19 235 P **Pn** **20 12 44.0 -0.4**
JOB S **Sn** **20 13 51.0 -3.5**
PAU Pauzhetka 6.24 38 *e*P **Pn** **20 12 44.6 -0.2**
JKA Kamikawa-asahi 6.28 249 *e*P **Pn** **20 12 47.6 +2.2**
ASAJ Asahikawa 6.28 249 P **Pn** **20 12 47.6 +2.2**
comp=Z,30nm,0.7s,baz=70,slow=13,SNR=31
JKK2 Kamakawa 2 6.30 246 P **Pn** **20 12 47.5 +1.8**
JCH Churui 6.65 235 P **Pn** **20 12 49.2 -1.1**
JCH S **Sn** **20 14 00.1 -5.1**
JNBK Urakawa-nobuka 7.21 235 P **Pn** **20 12 55.6 -2.1**
PETK Petropavlovsk- 7.85 32 P Pn 20 12 59.7 -6.4
comp=Z,4.9nm,1.1s,baz=202,slow=14,SNR=1.7
JANG Nango 9.19 230 *e*P **Pn** **20 13 20.5 -3.5**
JANG S Sn 20 14 55.3 -11
USRK Ussuriysk Ar. 13.40 266 P **Pn** **20 14 19.1 +0.6**
comp=Z,2.2nm,0.6s,baz=73,slow=11,SNR=6.6
MJAR Matsushiro Arr 13.78 227 P **P** **20 14 28.7 +2.3**
comp=Z,0.7nm,0.5s,baz=49,slow=10,SNR=3.3
KSRS Korea Array 19.23 250 P **Pn** **20 15 28.0 -1.0**
comp=Z,1.3nm,0.6s,baz=58,slow=10,SNR=6.1
H11N2 WAKE ISLAND Hy 29.96 148 T T 20 48 19.5
baz=334,slow=74
H11N1 WAKE ISLAND Hy 29.97 148 T T 20 48 42.6
baz=334
H11N3 WAKE ISLAND Hy 29.98 148 T T 20 48 29.6
baz=334,slow=74
H11S1 WAKE ISLAND Hy 31.02 150 T T 20 50 01.5
baz=339,slow=76,SNR=5.6
H11S3 WAKE ISLAND Hy 31.02 150 T T 20 50 00.3
baz=339,slow=76,SNR=4.2
H11S2 WAKE ISLAND Hy 31.03 150 T T 20 50 02.0
baz=339,slow=76,SNR=3.4
MKAR Makanchi Array 45.52 296 P **P** **20 19 15.8 -1.7**
comp=Z,0.4nm,0.6s,baz=77,slow=7.9,SNR=3.0
comp=Z,0.4nm,0.6s
KURK Kurchatov 46.04 303 P **P** **20 19 19.1 -2.4**
KURK Kurchatov 46.04 303 *e*P **P** **20 19 19.1 -2.4**
KURBB Kurchatov Arra 46.13 303 P **P** **20 19 19.1 -3.1**
comp=Z,0.3nm,0.3s,baz=72,slow=8.9,SNR=2.8
comp=Z,0.3nm,0.3s
CMAR Chiang Mai Arr 50.77 254 P **P** **20 19 59.8 +1.7**
comp=Z,0.6nm,0.3s,baz=78,slow=8.2,SNR=1.5
comp=Z,0.6nm,0.3s
FINES FINESS Array B 63.40 334 P **P** **20 21 24.0 -2.1**
comp=Z,2.3nm,1.0s,baz=40,slow=6.5,SNR=4.1
comp=Z,2.3nm,1.0s
FINES FINESS Array B 63.40 334 P **P** **20 21 24.0 -2.1**
WRA Warramunga Arr 67.94 197 P **P** **20 21 57.3 +1.7**
comp=Z,0.2nm,0.6s,baz=9.5,slow=7.5,SNR=1.3
comp=Z,0.2nm,0.6s
ASAR Alice Springs 71.65 196 P **P** **20 22 20.4 +2.1**
comp=Z,0.3nm,0.6s,baz=9.6,slow=6.9,SNR=2.7
comp=Z,0.3nm,0.6s

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*IDC **05** 20:20:53.8±2.2, 13°.29S×167°.20E, h192km±18km, mb3.7/13, mbtmp4.1/14, Error ellipse: s-maj=22.1km s-min=13.7km az=92.0*
*NEIC **05** 20:20:57.0±1.0, 13°.44S±0°.06×167°.3E±0°.2, h215km±7km, mb4.3/19, Error ellipse: s-maj=25.6km s-min=7.6km az=101.0*
ISC 05 20:20:54.5±0.5, 13°.30S±0°.07×167°.2E±0°.1, h200km, n47, σ0s85/57, mb4.2/21, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SANVU	**Saraoutou**	**2.13**	**181**			**Pn**	**20 21 36.3**	**+1.8**
SANVU					Sn	**Sn**	**20 22 07.3**	**+1.5**
DZM	**Mont Dzumac**	**8.76**	**185**	Pn		**Pn**	**20 22 58.2**	**+0.5**
DZM	**Mont Dzumac**	**8.76**	**185**	P		**Pn**	**20 22 58.0**	**+0.2**
	6.6nm,0.8s,baz=0.7,slow=11,SNR=2.7							
DZM				S		**Sn**	**20 24 36.2**	**+0.1**
	11nm,1.2s,baz=69,slow=18,SNR=1.3							
ONTNC	**Ouen Toro**	**8.99**	**185**	Pn		**Pn**	**20 23 01.4**	**+0.7**
EIDS	**Eidsvold**	**19.38**	**229**	P		**P**	**20 25 06.4**	**+1.1**
EIDS				IAmb		IAmb	20 25 07.1	
	comp=Z,13nm,1.1s							
CTAO	**Charters Tower**	**21.19**	**249**	P		**P**	**20 25 24.9**	**+0.2**
ARMA	**Armidale**	**22.31**	**218**	P		**P**	**20 25 37.3**	**+1.5**
ARMA				IAmb		IAmb	20 25 57.7	
	comp=Z,15nm,1.3s							
COEN	**Coen**	**23.39**	**266**	P		**P**	**20 25 47.1**	**+1.5**
COEN				IAmb		IAmb	20 25 58.5	
	comp=Z,24nm,1.5s							
BKZ	**Black Stump Fm**	**27.03**	**164**	P		**P**	**20 26 17.8**	**-0.5**
STKA	**Stephens Creek**	**29.91**	**228**	P		**P**	**20 26 43.8**	**0.0**
STKA	**Stephens Creek**	**29.91**	**228**	P		**P**	**20 26 43.6**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=38,slow=7.8,SNR=3.5							
STKA				PcP		**PcP**	**20 29 41.2**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=6.0,slow=6.8,SNR=4.8							
	comp=Z,1.4nm,0.6s							
WR8	**Warramunga Arr**	**32.02**	**254**	P		**P**	**20 27 02.1**	**-0.4**
WR8				IAmb		IAmb	20 27 23.8	
	comp=Z,9.8nm,1.4s							
WB0	**Warramunga Arr**	**32.09**	**254**	P		**P**	**20 27 02.6**	**-0.5**
WB0				IAmb		IAmb	20 27 09.0	
	comp=Z,11nm,1.5s							
WRA	**Warramunga Arr**	**32.16**	**254**	P		**P**	**20 27 02.8**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=85,slow=9.3,SNR=5.2							
WRA				PcP		**PcP**	**20 29 47.3**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=80,slow=3.0,SNR=5.1							
WRA				ScP		**ScP**	**20 33 12.9**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=78,slow=3.9,SNR=4.6							
	comp=Z,0.5nm,0.6s							
AS31	**Alice Springs**	**33.17**	**247**	P		**P**	**20 27 11.8**	**-0.7**
ASAR	**Alice Springs**	**33.17**	**247**	P		**P**	**20 27 12.2**	**-0.3**
ASAR	**Alice Springs**	**33.17**	**247**	P		**P**	**20 27 11.7**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=76,slow=9.0,SNR=37							
ASAR				PcP		**PcP**	**20 29 50.0**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=72,slow=2.3,SNR=12							
ASAR				ScP		**ScP**	**20 33 16.4**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=65,slow=3.6,SNR=7.5							
	comp=Z,1.2nm,0.5s							
KNRA	**Kununurra**	**37.29**	**262**	P		**P**	**20 27 47.7**	**+0.1**
KNRA				IAmb		IAmb	20 28 27.7	
	comp=Z,19nm,1.4s							
FITZ	**Fitzroy Crossi**	**40.27**	**258**	P		**P**	**20 28 13.2**	**+0.8**
MJAR	**Matsushiro Arr**	**56.63**	**332**	P		**P**	**20 30 16.1**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=169,slow=8.8,SNR=4.4							
	comp=Z,1.5nm,0.8s							
VNDA	**Vanda**	**64.28**	**181**	P		**P**	**20 31 06.6**	**-1.4**
VNDA				IAmb		IAmb	20 31 22.9	
	comp=Z,3.8nm,1.4s							
VNDA	**Vanda**	**64.28**	**181**	P		**P**	**20 31 07.5**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=349,slow=5.5,SNR=4.2							
	comp=Z,0.5nm,0.6s							
SBA	**Scott Base**	**64.56**	**180**	P		**P**	**20 31 10.2**	**+0.4**
SBA				IAmb		IAmb	20 31 11.9	
	comp=Z,4.2nm,1.0s							
CASY	**Casey**	**64.83**	**202**	P		**P**	**20 31 09.9**	**-1.8**
CASY				IAmb		IAmb	20 31 37.1	
	comp=Z,5.8nm,1.2s							
KIWB	**Kanaga Island**	**66.28**	**11**	P		**P**	**20 31 22.6**	**+1.5**
PETK	**Petropavlovsk-**	**66.64**	**354**	P		**P**	**20 31 22.2**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=113,slow=6.8,SNR=4.2							
	comp=Z,1.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**74.34**	**294**	P		**P**	**20 32 11.7**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=121,slow=4.4,SNR=9.5							
	comp=Z,0.7nm,0.3s							
QSPA	**South Pole Qui**	**76.72**	**180**	P		**P**	**20 32 23.7**	**+0.1**
QSPA				IAmb		IAmb	20 32 25.7	
	comp=Z,7.6nm,0.9s							
QSPA	**South Pole Qui**	**76.72**	**180**	P		**P**	**20 32 24.4**	**+0.9**
	comp=Z,6.5nm,0.9s,baz=8.6,slow=1.7,SNR=18							
	comp=Z,6.5nm,0.9s							
M16K	**Timber Creek**	**78.80**	**16**	P		**P**	**20 32 36.0**	**+1.2**
M16K				IAmb		IAmb	20 32 43.9	
	comp=Z,15nm,1.4s							
K15K	**Wolf Creek Mou**	**79.22**	**14**	P		**P**	**20 32 38.2**	**+1.1**
SONM	**Songino Array**	**81.33**	**323**	P		**P**	**20 32 48.9**	**+0.1**
SONM	**Songino Array**	**81.33**	**323**	P		**P**	**20 32 49.5**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=139,slow=7.0,SNR=6.5							
	comp=Z,0.9nm,0.8s							
ILAR	**Eielson Array**	**85.19**	**18**	P		**P**	**20 33 07.9**	**0.0**
	comp=Z,1.0nm,0.6s,baz=242,slow=4.7,SNR=15							
	comp=Z,1.0nm,0.6s							
TROLL	**Troll, Antarti**	**94.28**	**185**	⇑P		**P**	**20 33 50.0**	**-0.9**
	comp=Z,124nm,0.8s							
SNAA	**Sanae**	**94.97**	**183**	P		**P**	**20 33 53.1**	**-0.9**
SNAA	**Sanae**	**94.97**	**183**	P		**P**	**20 33 52.6**	**-1.3**
	comp=Z,2.1nm,1.1s,baz=164,slow=6.2,SNR=3.5							
	comp=Z,2.1nm,1.1s							
VNA3	**Neumayer Olymp**	**95.63**	**181**	P		**P**	**20 33 55.6**	**-1.4**
MKAR	**Makanchi Array**	**96.15**	**316**	P		**P**	**20 34 00.4**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=86,slow=6.5,SNR=16							
	comp=Z,1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**96.22**	**324**	P		**P**	**20 33 59.2**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=135,slow=3.1,SNR=4.9							
	comp=Z,1.1nm,0.7s							
ARCES	**ARCESS Array B**	**118.87**	**346**	PKP		**PKPdf**	**20 39 18.4**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=70,slow=1.4,SNR=12							
FINES	**FINESS Array B**	**124.39**	**339**	PKP		**PKPdf**	**20 39 29.1**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=349,slow=4.5,SNR=3.9							
BRTR	**Keskin Array B**	**131.55**	**312**	PKP		**PKPdf**	**20 39 43.6**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=83,slow=3.3,SNR=2.5							
GERES	**GERESS Array B**	**138.36**	**334**	PKP		**PKPdf**	**20 39 56.0**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=54,slow=2.3,SNR=4.1							
KEST	**Kesra**	**150.08**	**322**	PKPbc		**PKiKP**	**20 40 22.5**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=338,slow=2.3,SNR=7.5							
ESDC	**Sonseca Array**	**152.60**	**345**	PKP		**PKPdf**	**20 40 20.5**	**0.0**
	comp=Z,0.6nm,0.7s,baz=18,slow=2.8,SNR=1.3							
ESDC				PKPbc		**PKiKP**	**20 40 28.7**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=19,slow=2.5,SNR=3.2							
ESDC				PKPab		**PKPab**	**20 40 39.1**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=18,slow=3.4,SNR=4.0							
TORD	**Torodi Ar. Bea**	**165.92**	**271**	PKP		**PKPdf**	**20 40 35.9**	**-0.6**
	comp=Z,1.0nm,1.1s,baz=24,slow=1.3,SNR=4.4							
TORD				PKPab		**PKPab**	**20 41 37.4**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=98,slow=7.5,SNR=1.6							

IDC 05 20:23:20.3±7.0, 23°.07S×178°.72W, h0km, mb3.9/5, mbtmp3.9/5, MS3.9/3, Error ellipse: s-maj=179.1km s-min=43.5km az=34.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**36.12**	**247**	P		P	20 30 24.1	-0.2
	2.2nm,0.9s,baz=77,slow=8.4,SNR=3.0							
	2.2nm,0.9s							
ASAR	**Alice Springs**	**43.33**	**259**	P		P	20 31 24.0	-0.5
	0.3nm,0.4s,baz=89,slow=7.1,SNR=6.5							
	0.3nm,0.4s							
WRA	**Warramunga Arr**	**43.64**	**265**	P		P	20 31 27.2	+0.3
	1.3nm,0.6s,baz=103,slow=8.0,SNR=11							
	1.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**52.07**	**265**	P		P	20 32 32.1	-0.2
	0.9nm,0.5s,baz=112,slow=6.4,SNR=1.6							
	0.9nm,0.5s							
BATI	**Baumata**	**56.34**	**273**	LR		LR	20 56 17.2	
	comp=Z,177nm,21.2s,baz=103,slow=35							
KAPI	**Kappang**	**61.88**	**277**	LR		LR	20 58 19.2	
	comp=Z,81nm,22.0s,baz=71,slow=34							
QSPA	**South Pole Qui**	**67.02**	**180**	P		P	20 34 15.1	+0.1
	1.6nm,1.0s,baz=38,slow=3.0,SNR=2.0							
	1.6nm,1.0s							
LEM	**Lembang**	**72.34**	**270**	LR		LR	21 05 53.6	
	comp=Z,81nm,20.1s,baz=356,slow=35							

UPA 05 20:27:58.7±0.6, 8°.46N×82°.98W, h15km±2km, MW3.0, 1C-5D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRU2	**Volcan**	**0.44**	**41**	⇑*i*P		Pb	20 28 08.8	+0.5
BRU2				*e*S		Sn	20 28 16.9	-1.5
BRU2	**Volcan**	**0.44**	**41**	*e*P		Pb	20 28 08.7	+0.4
BRU2				*e*S		Sb	20 28 15.7	+1.0
BAGA3	**Bagala, Chiriq**	**0.45**	**89**	*e*P		Pb	20 28 08.1	-0.3
BAGA3				*e*S		Sb	20 28 15.3	+0.3
CLLRA	**Cordillera,**	**0.46**	**53**	⇓*i*P		Pb	20 28 09.0	+0.4
CLLRA				*e*S		Sb	20 28 16.8	+1.4
BC3P	**Paso Ancho**	**0.51**	**46**	*e*P		Pb	20 28 09.5	0.0
BC3P				*e*S		Sb	20 28 17.3	+0.5
DVD	**David**	**0.53**	**93**	*e*P		Pn	20 28 11.0	-0.7
DVD				*e*S		Sb	20 28 16.9	-0.3
BQTLY	**Boquete Panama**	**0.59**	**60**	⇓*i*P		Pb	20 28 10.8	-0.2
BQTLY				*e*S		Sn	20 28 20.8	-1.5
BQSF3	**Alto Boquete,**	**0.61**	**63**	*e*P		Pg	20 28 10.9	+0.1
BQSF3				*e*S		Sg	20 28 19.1	+0.2
CGUAY	**Guayabal, Coch**	**0.63**	**90**	⇓*i*P		Pg	20 28 10.8	-0.2
CGUAY				*e*S		Sb	20 28 20.4	+0.5
RBALA	**Bur**	**0.92**	**63**	⇓*i*P		Pb	20 28 15.8	-0.6
KKNTU	**Kakint²**	**1.22**	**72**	⇓*e*P		Pn	20 28 20.0	-1.3
KKNTU				*e*S		Sb	20 28 36.5	-0.7

IDC 05 20:33:04.7±7.4, 7°.63S×127°.75E, h162km±80km, mb3.1/1, mbtmp3.9/5, Error ellipse: s-maj=75.2km s-min=25.3km az=36.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**4.78**	**237**	P		Pn	20 34 17.1	+1.7
	13nm,0.6s,baz=90,slow=6.1,SNR=1.6							
BATI				S		Sn	20 35 10.2	-0.5
	26nm,0.4s,baz=360,slow=23,SNR=6.1							
FITZ	**Fitzroy Crossi**	**10.61**	**191**	P		Pn	20 35 31.7	-0.9
	2.4nm,0.4s,baz=23,slow=13,SNR=34							
FITZ				S		Sn	20 37 21.6	-8.5
	2.0nm,0.2s,baz=323,slow=15,SNR=8.0							
WRA	**Warramunga Arr**	**13.81**	**153**	P		Pn	20 36 12.9	-0.9
	2.0nm,0.5s,baz=339,slow=11,SNR=24							
WRA				S		Sn	20 38 38.2	-8.9
	2.2nm,0.6s,baz=331,slow=22,SNR=9.6							
ASAR	**Alice Springs**	**17.00**	**160**	P		Pn	20 36 54.2	+1.1
	2.7nm,0.5s,baz=339,slow=12,SNR=45							
ASAR				S		S	20 39 55.1	-6.4
	0.6nm,0.5s,baz=323,slow=18,SNR=5.9							
MKAR	**Makanchi Array**	**67.55**	**328**	P		P	20 43 43.6	-0.1
	0.5nm,0.7s,baz=120,slow=8.6,SNR=2.6							
	0.5nm,0.7s							

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*BJI **05** 20:43:24.1, 3°.33S×139°.29E, h10km, mB5.3/3, mb4.7/29*
*IDC **05** 20:43:29.6±0.5, 2°.83S×138°.74E, h0km, mb4.6/18, mbtmp4.6/21, ML4.2/3, MS3.7/31, Error ellipse: s-maj=17.7km s-min=11.8km az=88.0*
*NEIC **05** 20:43:34.9±1.7, 2°.88S±0°.05×138°.75E±0°.05, h35km±2km, mb4.9/125, Error ellipse: s-maj=12.1km s-min=3.0km az=138.0*
*DJA **05** 20:43:36.6±0.3, 3°S±2°×13°9E±°, h38km±5km, M4.9/42, mb5.1/42, mB5.3/22, MLv5.4/11, Mw(mB)4.8/22, MwMwp5.1/2, Mwp5.3/2*
*GCMT **05** 20:43:38.9±0.4, 2°.70S±0°.02×138°.85E±0°.03, h36km±2km, MW4.8/70, Moment Tensor Solution. s17,c20; s70,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.83±.23; $M_{\theta\theta}$0.97±.14; $M_{\phi\phi}$-0.14±.16; $M_{r\theta}$-0.87±.14; $M_{r\phi}$-1.74±.07; $M_{\theta\phi}$-0.61±.13; Best double couple: M_o2.22900×10^{16} NP1:ϕ_s345.00000°,δ59.00000°,λ-24.00000°. NP2: ϕ_s88.00000°,δ70.00000°,λ-147.00000°. Principal axes: T 2.2820, Plg7.0000°, Azm214.0000°; N -0.1060, Plg52.0000°, Azm115.0000°; P -2.1760, Plg37.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 20:43:35.5±0.3, 2°.91S±0°.04×138°.80E±0°.04, h46km, n237, σ1s78/186, mb4.9/89, MS3.7/28, 1C-1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMPI	**Sarmi**	**0.92**	**354**	P		**Pn**	**20 43 51.6**	**-0.4**
SMPI				S		**Sn**	**20 44 03.0**	**-1.1**
GENI	**Genyem**	**1.40**	**77**	P		**Pn**	**20 43 59.7**	**+1.0**
GENI	**Genyem**	**1.40**	**77**	P		**Pn**	**20 43 59.5**	**+0.8**
GENI				S		**Sn**	**20 44 15.6**	**-0.4**
JAY	**Jayapura**	**1.94**	**78**	Pn		**Pn**	**20 44 05.8**	**-0.3**
	130nm,0.3s,baz=236,slow=10.0,SNR=594							
JAY				Sn		**Sn**	**20 44 30.3**	**+0.9**
	148nm,0.3s,baz=266,slow=19,SNR=9.8							
JAY				LR		LR	20 45 05.8	
	comp=Z,1μm,18.1s,baz=281,slow=48							
JAY	**Jayapura**	**1.94**	**78**	P		**Pn**	**20 44 05.8**	**-0.3**
SRPI	**Serui, Papua**	**2.76**	**292**	P		**Pn**	**20 44 17.6**	**+0.4**
SRPI				S		**Sn**	**20 44 50.4**	**+1.1**
BAKI	**Biak**	**3.18**	**302**	P		**Pn**	**20 44 24.2**	**+1.1**
BAKI				S		**Sn**	**20 45 00.4**	**+0.5**
RKPI	**Ransiki, Papua**	**4.82**	**287**	P		**Pn**	**20 44 46.7**	**+1.1**
RKPI				S		**Sn**	**20 45 41.4**	**+1.1**
KMPI	**Kaimana, Papua**	**5.14**	**261**	P		**Pn**	**20 44 53.2**	**+3.2**
MMPI	**Merauke**	**5.74**	**164**	P		Pn	20 45 03.6	+5.3
FAKI	**Fak Fak**	**6.54**	**270**			**Pn**	**20 45 10.6**	**+1.3**
FAKI				Sn		**Sn**	**20 46 20.1**	**-2.5**
FAKI	**Fak Fak**	**6.54**	**270**	P		**Pn**	**20 45 10.6**	**+1.3**
FAKI	**Fak Fak**	**6.54**	**270**	P		**Pn**	**20 45 10.8**	**+1.5**
	0.9nm2μm184nm,0.8s							
SWI	**Sorong**	**7.80**	**285**	P		**Pn**	**20 45 28.2**	**+1.6**
MANU	**Manus Island**	**8.60**	**84**	Pn		Pn	20 45 40.8	+3.2
SAUI	**Saumlaki**	**9.01**	**236**	Pn		**Pn**	**20 45 42.6**	**-0.5**
SAUI	**Saumlaki**	**9.01**	**236**	P		**Pn**	**20 45 45.9**	**+2.8**
BNDI	**Bandanaira**	**9.02**	**259**	P		**Pn**	**20 45 46.0**	**+2.8**
	257nm,0.8s							
MSAI	**Masohi**	**9.87**	**267**	P		**Pn**	**20 45 56.2**	**+1.4**
	158nm,0.7s							
PMG	**Port Moresby**	**10.52**	**128**	Pn		**Pn**	**20 46 02.9**	**-0.9**
PMG	**Port Moresby**	**10.52**	**128**	Pn		Pn	20 46 08.4	+4.6
	1.2nm,0.3s,baz=326,slow=14,SNR=5.0							
PMG				LR		LR	20 51 34.2	
	comp=Z,335nm,19.5s,baz=326,slow=46							
AAI	**Ambon**	**10.61**	**266**	P		**Pn**	**20 46 06.9**	**+1.8**
	1μm106nm,1.0s							
KDU	**Kakadu**	**11.56**	**212**	P		**Pn**	**20 46 17.8**	**-0.2**
	comp=Z,307nm,0.9s							
KDU	**Kakadu**	**11.56**	**212**	P		**Pn**	**20 46 18.4**	**+0.4**
NLAI	**Namlea**	**11.69**	**268**	P		**Pn**	**20 46 21.9**	**+2.1**
	comp=Z,1μmcomp=Z,153nm,0.7s							
COEN	**Coen**	**11.80**	**159**	P		**Pn**	**20 46 22.1**	**+0.8**
	comp=Z,38nm,0.7s							
COEN	**Coen**	**11.80**	**159**			**Pn**	**20 46 21.8**	**+0.5**
COEN	**Coen**	**11.80**	**159**	P		**Pn**	**20 46 22.2**	**+0.9**
DRS	**Darwin Rock St**	**12.28**	**219**	P		**Pn**	**20 46 29.0**	**+1.2**
MTN	**Manton Dam**	**12.45**	**217**	P		**Pn**	**20 46 30.7**	**+0.6**
	comp=Z,103nm,0.5s							
MTN	**Manton Dam**	**12.45**	**217**			**Pn**	**20 46 29.5**	**-0.7**
MTN	**Manton Dam**	**12.45**	**217**	P		**Pn**	**20 46 31.2**	**+1.0**
SANI	**Sanana**	**12.83**	**274**	P		**Pn**	**20 46 37.9**	**+2.6**
SANI	**Sanana**	**12.83**	**274**	P		**Pn**	**20 46 36.8**	**+1.5**
	comp=Z,876nmcomp=Z,83nm,0.8s							
KMSI	**Cibinong**	**15.21**	**283**	P		**P**	**20 47 09.0**	**-2.6**
	comp=Z,2μmcomp=Z,272nm,1.1s							
SOEI	**Soe**	**15.96**	**244**			**Pn**	**20 47 16.7**	**-0.4**
SOEI				IAmb		IAmb	20 47 24.1	
	comp=Z,56nm,0.6s							
SOEI	**Soe**	**15.96**	**244**	P		**P**	**20 47 18.7**	**-1.4**
SOEI	**Soe**	**15.96**	**244**	P		**P**	**20 47 20.0**	**-0.1**
	comp=Z,2μmcomp=Z,192nm,0.8s							
MTSU	**Mount Surprise**	**16.07**	**161**	P		**P**	**20 47 21.4**	**+0.2**
KNRA	**Kununurra**	**16.08**	**217**	P		**Pn**	**20 47 17.9**	**-0.7**
	comp=Z,172nm,1.0s							
KNRA	**Kununurra**	**16.08**	**217**			**Pn**	**20 47 18.1**	**-0.5**
KNRA				IAmb		IAmb	20 47 26.2	
	comp=Z,166nm,1.4s							
LUWI	**Luwuk**	**16.12**	**276**			**Pn**	**20 47 18.5**	**-0.7**
LUWI				IAmb		IAmb	20 47 20.0	
	comp=Z,99nm,1.1s							
LUWI	**Luwuk**	**16.12**	**276**	P		**P**	**20 47 20.0**	**-1.8**
	comp=Z,1μmcomp=Z,137nm,0.8s							
BBSI	**Bau Bau**	**16.39**	**260**	P		**P**	**20 47 27.2**	**+2.5**
	comp=Z,81nm,0.9s							
DAV	**Davao City (W)**	**16.50**	**307**	Pn		**P**	**20 47 27.4**	**+1.4**
	comp=Z,33nm,0.3s,baz=39,slow=2.8,SNR=4.2							
DAV				LR		LR	20 53 21.4	
	comp=Z,156nm,21.1s,baz=150,slow=36							
BATI	**Baumata**	**16.68**	**244**	Pn		**P**	**20 47 30.3**	**+2.3**
	comp=Z,32nm,0.3s,baz=157,slow=1.2,SNR=22							
BATI				Sn		**Sn**	**20 50 28.7**	**-2.0**
	comp=Z,4.0nm,0.3s,baz=121,slow=23,SNR=1.4							
BATI	**Baumata**	**16.68**	**244**	P		**P**	**20 47 30.6**	**+2.5**
MRSI	**Marisa**	**17.18**	**281**	P		**P**	**20 47 35.3**	**+1.8**
	comp=Z,616nmcomp=Z,72nm,1.0s							
APSI	**Ampana**	**17.25**	**276**	P		**P**	**20

comp=Z,34nm,0.9s
MBWA Marble Bar 25.95 224 P **P** **20 49 04.4 +0.5**
PSA00 Pilbara Seismi 26.15 223 P **P** **20 49 08.2 +2.5**
comp=Z,46nm,0.9s
PSA00 Pilbara Seismi 26.15 223 **P** **20 49 04.2 -1.5**
PSA00 IAmb IAmb 20 49 11.9
comp=Z,30nm,0.8s
PSA00 Pilbara Seismi 26.15 223 **P** **20 49 04.9 -0.8**
PSA00 IAmb IAmb 20 49 12.4
comp=Z,15nm,0.8s
PSA00 Pilbara Seismi 26.15 223 P **P** **20 49 07.3 +1.6**
SBUM Sibu 27.10 281 P **P** **20 49 13.7 -0.6**
STKA Stephens Creek 28.94 175 P **P** **20 49 31.7 +1.2**
comp=Z,1.9nm,0.7s,baz=0.9,slow=12,SNR=3.7
STKA LR LR 21 01 03.7
comp=Z,367nm,20.8s,baz=355,slow=36
comp=Z,1.9nm,0.7s
CMSA Cobar Meteorol 29.21 168 P **P** **20 49 34.4 +1.5**
BBJI Bungbulang 31.34 260 P **P** **20 49 53.7 +1.6**
NACB Ningaanchiao 31.70 329 P **P** **20 49 53.7 -1.3**
SSLB Suanglung 31.72 328 **P** **20 49 53.6 -1.6**
YHNB Yeheng 32.22 329 P **P** **20 49 57.5 -2.2**
YHNB Yeheng 32.22 329 P **P** **20 50 00.9 +1.3**
DZM Mont Dzumac 32.92 128 *e*P P 20 50 14.0 +8.2
comp=Z,50nm,22.8s
DZM *e*S **S** **20 55 25.9 +5.1**
comp=Z,72nm,34.3s
DZM *e*LR LR 20 58 48.6
comp=Z,408nm,26.8s
MORW Morawa 33.84 217 P **P** **20 50 15.6 +1.9**
MORW IAmb IAmb 20 50 18.5
comp=Z,18nm,1.1s
MORW Morawa 33.84 217 P **P** **20 50 15.1 +1.4**
MDSI Maura Dua 34.58 266 P **P** **20 50 21.7 +1.4**
JHJ Hachijo jima 2 35.84 1 LR LR 21 01 59.5
comp=Z,131nm,21.4s,baz=234,slow=31
NWAO Narrogin (SRO) 36.06 212 P **P** **20 50 32.8 0.0**
comp=Z,6.7nm,0.8s,baz=22,slow=5.8,SNR=2.4
NWAO LR LR 21 06 41.4
comp=Z,221nm,18.7s,baz=109,slow=39
comp=Z,6.7nm,0.8s
IPM Ipoh 38.45 281 IAmb IAmb 20 50 54.2
comp=Z,35nm,1.2s
KULM Kulim 38.97 282 **P** **20 50 57.6 0.0**
KULM IAmb IAmb 20 50 59.6
comp=Z,27nm,1.2s
KULM Kulim 38.97 282 P **P** **20 50 59.5 +1.8**
MJAR Matsushiro Arr 39.25 359 **P** **20 50 59.1 -0.5**
MJAR Matsushiro Arr 39.25 359 P **P** **20 50 57.9 -1.8**
comp=Z,3.4nm,0.6s,baz=176,slow=9.4,SNR=12
MJAR LR LR 21 05 22.0
comp=Z,84nm,19.8s,baz=164,slow=34
comp=Z,3.4nm,0.6s
MAJO Matsushiro 39.25 359 **P** **20 50 58.2 -1.5**
MJB9 Matsu-Tunnel 39.25 359 P **P** **20 50 58.4 -1.4**
RPSI Rantau Prapat 40.24 278 **P** **20 51 08.1 -0.2**
TJN Taejon 40.51 346 **P** **20 51 10.3 +0.1**
JMM Marumori 40.61 2 P **P** **20 51 10.4 -0.5**
JMM IAmb IAmb 20 51 11.7
comp=Z,25nm,1.0s
KSAR Wonju Array Be 41.41 347 **P** **20 51 17.0 -0.5**
KSRS Korea Array 41.41 347 P **P** **20 51 18.0 +0.5**
comp=Z,9.6nm,0.8s,baz=158,slow=8.8,SNR=40
KSRS PcP **PcP** **20 53 15.0 +0.1**
comp=Z,1.9nm,0.9s,baz=174,slow=4.3,SNR=4.1
KSRS LR LR 21 06 09.2
comp=Z,43μm,21.8s,baz=150,slow=33
comp=Z,9.6nm,0.8s
GSI Gunungsitoli 41.42 275 P **P** **20 51 19.9 +1.9**
INCN Inchon 41.74 345 P **P** **20 51 20.2 -0.1**
JTM Tenmabayashi 43.53 3 P **P** **20 51 34.7 0.0**
JTM IAmb IAmb 20 51 35.7
comp=Z,25nm,1.0s
CM31 Chiang Mai Arr 44.61 300 P **P** **20 51 43.3 -0.5**
CMAR Chiang Mai Arr 44.61 300 **P** **20 51 43.4 -0.4**
CMAR Chiang Mai Arr 44.61 300 P **P** **20 51 43.9 +0.1**
comp=Z,1.8nm,0.6s,baz=125,slow=6.7,SNR=12
CMAR LR LR 21 12 46.0
comp=Z,30nm,18.5s,baz=120,slow=40
comp=Z,1.8nm,0.6s
CHTO Chiang Mai 44.76 300 P **P** **20 51 44.8 -0.1**
XAN Xi'an 46.29 325 ⇑P **P** **20 51 56.9 +0.1**
XAN pmax pmax
comp=Z,15nm,1.2s
ASAJ Asahikawa 46.94 4 LR LR 21 09 04.8
comp=Z,65nm,21.3s,baz=195,slow=33
USA0B Ussuriysk Arra 47.29 353 **P** **20 52 04.5 0.0**
USRK Ussuriysk Ar. 47.29 353 **P** **20 52 04.5 +0.1**
USRK Ussuriysk Ar. 47.29 353 P **P** **20 52 05.1 +0.7**
comp=Z,17nm,0.8s,baz=180,slow=7.6,SNR=17
USRK LR LR 21 09 02.3
comp=Z,59nm,18.9s,baz=156,slow=32
comp=Z,17nm,0.8s
CN2 Changchun 48.02 347 P **P** **20 52 10.0 -0.1**
CN2 S **S** **20 59 06.5 +1.5**
CN2 pmax pmax
comp=Z,30nm,0.9s
BNX BinXian 49.48 350 ⇓P **P** **20 52 21.3 0.0**
BNX pmax pmax
comp=Z,47nm,0.8s
URZ Urewera 49.61 140 LR LR 21 16 07.6
comp=Z,94nm,18.2s,baz=294,slow=39
BTO Baotou 50.67 332 *e*P **P** **20 52 31.9 +1.4**
BTO pP **pP** **20 52 36.3 -7.2**
BTO sP sP 20 52 39.0 -10
BTO PP **PP** **20 54 29.6 +2.7**
BTO pmax pmax
comp=Z,17nm,0.7s
BTO pmax pmax
comp=Z,370nm,7.0s
LZH Lanzhou 50.69 323 *e*P **P** **20 52 31.8 +1.0**
LZH pP pP 20 52 42.2 -1.7
LZH pmax pmax
comp=Z,21nm,1.4s
LZDM Lanzhou Array 50.69 323 P **P** **20 52 32.4 +1.4**
comp=Z,2.3nm,0.3s,baz=140,slow=4.7,SNR=2.5
comp=Z,2.3nm,0.3s
HEH HeiHe 53.85 351 *e*P **P** **20 52 53.7 -0.1**
HEH pmax pmax
comp=Z,25nm,1.2s
GTA Gaotai 55.28 324 P **P** **20 53 05.2 +0.6**
GTA pmax pmax
comp=Z,4.0nm,1.3s
ULN Ulaanbaatar 57.68 335 **P** **20 53 21.7 +0.1**
ULN IAmb IAmb 20 53 22.6
comp=Z,5.5nm,0.6s
ULN Ulaanbaatar 57.68 335 P **P** **20 53 22.4 +0.9**
SONM Songino Array 57.94 335 P **P** **20 53 23.2 0.0**
SONM Songino Array 57.94 335 P **P** **20 53 23.6 +0.3**
comp=Z,2.1nm,0.7s,baz=153,slow=8.0,SNR=9.4
comp=Z,2.1nm,0.7s
PETK Petropavlovsk- 58.03 13 P **P** **20 53 24.2 +0.5**
comp=Z,2.3nm,0.5s,baz=177,slow=7.6,SNR=14
PETK LR LR 21 14 24.9
comp=Z,80nm,21.5s,baz=201,slow=32
comp=Z,2.3nm,0.5s
EVN Everest 58.62 305 P **P** **20 53 29.4 +0.3**
EVN IAmb IAmb 20 53 47.5
comp=Z,7.9nm,0.8s
PALK Pallekele 58.85 280 LR LR 21 20 49.3
comp=Z,69nm,18.3s,baz=106,slow=38
SHEM Shemya Is, Ala 62.89 23 LR LR 21 16 51.0
comp=Z,62nm,21.9s,baz=283,slow=32
MA2 Magadan 63.01 7 LR LR 21 20 23.4
comp=Z,23nm,20.8s,baz=195,slow=35
YAK Yakutsk 65.14 355 **P** **20 54 11.1 -0.2**
YAK Yakutsk 65.14 355 LR LR 21 19 56.2
comp=Z,42nm,21.7s,baz=168,slow=34
YAK Yakutsk 65.14 355 P **P** **20 54 11.8 +0.4**
SEY Seymchan 66.47 7 LR LR 21 25 27.8
comp=Z,17nm,18.0s,baz=172,slow=38
MKAR Makanchi Array 70.00 322 **P** **20 54 42.1 -0.3**
MKAR Makanchi Array 70.00 322 P **P** **20 54 42.7 +0.3**
comp=Z,12nm,0.7s,baz=98,slow=9.0,SNR=145
MKAR LR LR 21 25 44.3
comp=Z,18nm,21.9s,baz=86,slow=36
comp=Z,12nm,0.7s
MAKZ Makanchi 70.20 322 P **P** **20 54 43.8 +0.1**
KSH Kashi 71.28 313 P **P** **20 54 52.0 +1.4**
KSH pmax pmax
comp=Z,8.0nm,0.9s
ZALV Zalesovo Beam 72.15 330 **P** **20 54 54.1 -1.2**
ZALV Zalesovo Beam 72.15 330 P **P** **20 54 54.4 -0.9**
comp=Z,3.3nm,0.5s,baz=110,slow=6.5,SNR=17
comp=Z,3.3nm,0.5s
AAK Ala-Archa 73.41 316 LR LR 21 30 30.7
comp=Z,34nm,18.8s,baz=106,slow=38
KURK Kurchatov 73.93 325 **P** **20 55 05.2 -0.6**
KURK IAmb IAmb 20 55 06.5
comp=Z,7.5nm,0.7s
KURBB Kurchatov Arra 73.94 325 P **P** **20 55 05.8 -0.1**
comp=Z,7.3nm,0.2s,baz=117,slow=5.5,SNR=20
comp=Z,7.3nm,0.2s
TIXI Tiksi 74.70 357 LR LR 21 26 52.1
comp=Z,27nm,20.0s,baz=189,slow=35
VNDA Vanda 75.58 175 P **P** **20 55 15.9 +0.9**
comp=Z,0.9nm,0.7s,baz=320,slow=7.4,SNR=8.7
VNDA LR LR 21 28 42.7
comp=Z,122nm,18.2s,baz=335,slow=36
comp=Z,0.9nm,0.7s
CHGR Chuyangaron 76.07 311 **P** **20 55 17.6 -1.0**
SIMJ Simiganj 76.19 311 **P** **20 55 18.4 -1.0**
SIMJ IAmb IAmb 20 55 20.3
comp=Z,14nm,1.1s
KK31 Karatay Array 76.33 316 P **P** **20 55 18.8 -1.2**
KKAR Karatay Array 76.33 316 **P** **20 55 19.1 -0.8**
BVAR Borovoye Array 79.52 325 P **P** **20 55 37.4 0.0**
comp=Z,13nm,0.5s,baz=108,slow=7.5,SNR=122
comp=Z,13nm,0.5s
K17K Iditarod 80.51 25 **P** **20 55 43.5 +1.0**
K17K IAmb IAmb 20 55 45.2
comp=Z,20nm,1.0s
OHAK Old Harbor 80.68 31 IAmb IAmb 20 55 44.9
comp=Z,10nm,0.8s
KDAK Kodiak Island 81.23 30 **P** **20 55 46.0 -0.5**
KDAK Kodiak Island 81.23 30 LR LR 21 28 18.2
comp=Z,108nm,19.8s,baz=229,slow=33
N19K Bonanza Creek 81.40 27 **P** **20 55 48.1 +0.6**
N19K IAmb IAmb 20 55 49.1
comp=Z,12nm,0.9s
L19K White Mountain 81.75 26 IAmb IAmb 20 55 51.5
comp=Z,9.4nm,0.9s
MAW Mawson 81.97 202 P **P** **20 55 51.8 +1.5**
comp=Z,3.9nm,1.1s,baz=20,slow=6.5,SNR=3.7
MAW LR LR 21 29 48.3
comp=Z,96nm,19.5s,baz=60,slow=34
comp=Z,3.9nm,1.1s
J19K Poorman 82.14 24 IAmb IAmb 20 55 53.5
comp=Z,12nm,1.1s
M20K Styx River 82.40 26 IAmb IAmb 20 55 54.2
comp=Z,7.9nm,0.8s
K20K Telida 82.53 25 IAmb IAmb 20 57 17.5
comp=Z,26nm,1.7s
J20K Nowinta River 82.81 24 IAmb IAmb 20 55 56.6
comp=Z,16nm,1.2s
E19K Redstone River 82.96 20 IAmb IAmb 20 55 58.8
comp=Z,9.2nm,1.0s
F20K Avaraart Lake 83.33 21 IAmb IAmb 20 56 00.8
comp=Z,9.3nm,1.1s
MLY Manley 84.48 24 IAmb IAmb 20 56 05.8
comp=Z,7.9nm,1.1s
RND Reindeer 84.76 26 IAmb IAmb 20 56 05.4
comp=Z,12nm,1.0s
MCK McKinley 84.82 25 IAmb IAmb 20 56 21.3
comp=Z,12nm,1.2s
GLI Glacier Island 84.85 28 IAmb IAmb 20 56 05.9
comp=Z,9.5nm,0.8s
ABKAR Akbulak array 84.93 320 **P** **20 56 04.8 -1.0**
HIN Hinchinbrook I 85.00 29 IAmb IAmb 20 56 06.9
comp=Z,9.5nm,0.8s
NEA2 Nenana 85.02 24 IAmb IAmb 20 56 08.7
comp=Z,8.1nm,1.2s
I23K Minto, Yukon-K 85.07 24 IAmb IAmb 20 56 07.3
comp=Z,7.1nm,1.0s
FID Port Fidalgo 85.10 28 IAmb IAmb 20 56 07.2
comp=Z,7.7nm,0.8s
WRH Wood River Hil 85.39 25 IAmb IAmb 20 56 08.9
comp=Z,9.9nm,1.0s
KLU Klutina 85.55 28 IAmb IAmb 20 56 09.9
comp=Z,5.6nm,0.8s
CCB Clear Creek Bu 85.56 24 IAmb IAmb 20 56 08.6
comp=Z,8.6nm,0.9s
RAGM Ragged Mountai 85.88 29 IAmb IAmb 20 56 13.7
comp=Z,7.3nm,0.9s
ILAR Eielson Array 85.97 24 **P** **20 56 09.4 -1.3**
ILAR Eielson Array 85.97 24 P **P** **20 56 09.5 -1.2**
comp=Z,3.7nm,0.7s,baz=260,slow=4.7,SNR=35
comp=Z,3.7nm,0.7s
BMRM Bremner River 86.05 28 IAmb IAmb 20 56 12.2
comp=Z,10nm,1.1s
HMT Hamilton 86.07 29 IAmb IAmb 20 56 12.1
comp=Z,6.5nm,0.7s
TOLK Toolik Lake Re 86.08 20 IAmb IAmb 20 56 13.2
comp=Z,14nm,1.2s
GLB Gilahina Butte 86.53 28 IAmb IAmb 20 56 14.6
comp=Z,6.2nm,0.8s
CRQM Cirque 86.70 29 IAmb IAmb 20 56 18.4
comp=Z,8.3nm,0.7s
DOT Dot Lake 86.90 26 IAmb IAmb 20 56 16.6
comp=Z,15nm,1.7s
QSPA South Pole Qui 87.04 180 **P** **20 56 16.7 +0.6**
QSPA IAmb IAmb 20 56 37.6
comp=Z,10nm,1.1s
QSPA South Pole Qui 87.04 180 P **P** **20 56 17.9 +1.8**
comp=Z,2.6nm,0.7s,baz=309,slow=1.8,SNR=19
QSPA LR LR 21 34 25.5
comp=Z,121nm,21.7s,baz=356,slow=35
comp=Z,2.6nm,0.7s
ARTI Arti 87.10 327 **P** **20 56 14.3 -2.0**
ARTI Arti 87.10 327 LR LR 21 38 19.3
comp=Z,24nm,18.8s,baz=88,slow=38
F25K Christian Rive 87.19 22 IAmb IAmb 20 56 18.9
comp=Z,7.9nm,1.2s
E25K Arctic Village 87.35 21 IAmb IAmb 20 56 20.4
comp=Z,12nm,1.3s
BARN Barnard Glacie 87.47 29 IAmb IAmb 20 56 19.9
comp=Z,7.7nm,0.8s
BMAR Burnt Mountain 87.55 22 **P** **20 56 18.7 +0.3**
M27K Edge Creek, AK 87.61 27 IAmb IAmb 20 56 20.5
comp=Z,7.5nm,1.1s
LOGN Logan Glacier 87.74 29 IAmb IAmb 20 56 30.1
comp=Z,6.9nm,0.8s
L27K Beaver Creek, 87.76 27 IAmb IAmb 20 56 21.2
comp=Z,5.3nm,0.9s
F26K Sheenjek River 87.78 22 IAmb IAmb 20 56 22.6
comp=Z,13nm,1.2s
BCAR Beaver Creek A 87.78 27 **P** **20 56 19.8 +0.3**
O28M Mount Upton 88.13 29 IAmb IAmb 20 56 23.1
comp=Z,5.7nm,0.9s
E27K Coleen River 88.82 22 IAmb IAmb 20 56 45.6
comp=Z,12nm,1.6s
I28M Miner Creek 88.99 24 IAmb IAmb 20 56 27.0
comp=Z,5.8nm,1.0s
M29M Somme Creek 89.19 27 IAmb IAmb 20 56 28.1
comp=Z,4.7nm,0.9s
L29M L29M 89.43 27 IAmb IAmb 20 56 29.4
comp=Z,11nm,1.4s
HYT Haines Junctio 89.44 29 IAmb IAmb 20 56 29.1
comp=Z,5.7nm,0.8s
I29M Ogilvie Camp, 89.65 25 IAmb IAmb 20 56 30.3
comp=Z,11nm,1.4s
N30M Aishikik Lake 89.71 29 IAmb IAmb 20 56 30.3
comp=Z,6.0nm,0.9s
K29M Barlow Dome 89.80 26 IAmb IAmb 20 56 46.5
comp=Z,16nm,1.6s
INK Inuvik 91.82 22 LR LR 21 42 09.4
comp=Z,20nm,18.0s,baz=240,slow=38
DLBC Dease Lake 93.07 32 LR LR 21 38 08.1
comp=Z,362nm,18.7s,baz=234,slow=35
BBB Bella Bella 94.18 38 LR LR 21 31 23.3
comp=Z,56nm,20.2s,baz=243,slow=30
GNI Garni 94.96 310 LR LR 21 44 28.4
comp=Z,17nm,20.6s,baz=76,slow=39
SPITS Spitsbergen Ar 99.19 350 LR LR 21 41 02.9
comp=Z,45nm,21.9s,baz=40,slow=35
ARCES ARCESS Array B 100.72 341 P **Pdif** **20 57 17.2 -1.4**
comp=Z,2.9nm,0.9s,baz=81,slow=7.5,SNR=4.3
TORD Torodi Ar. Bea 136.40 286 PKP **PKiKP** **21 02 54.1 -0.9**
comp=Z,1.0nm,0.7s,baz=54,slow=2.6,SNR=6.6
DBIC Dimbokro 143.60 277 PKhKP PKPpre 21 03 03.6
comp=Z,1.9nm,0.5s,baz=65,slow=6.2,SNR=2.3
CPUP Villa Florida 147.01 153 PKPbc **PKiKP** **21 03 15.1 -1.5**
comp=Z,2.6nm,0.9s,baz=132,slow=1.8,SNR=10
LPAZ La Paz 147.26 126 PKPbc **PKiKP** **21 03 17.0 -1.1**
comp=Z,1.0nm,0.3s,baz=261,slow=1.9,SNR=4.3

*OSPL **05** 20:48:44.9±1.6, 18°.62N×71°.88W, h24km±11km, ML1.9*
*SDD **05** 20:48:46.3±2.4, 18°.52N×71°.87W, h14km±15km, MD2.6, ML2.1, MW2.8*
ISC 05 20:48:44.8±1.1,**18°.54N**±0°.05×**71°.88W**±0°.04,**h18**km±6km, **n11,** σ°**82**/21,**4C-2D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIDR	**Jimani**	**0.05**	**152**	⇓*e*Pg	**Pg**	**20 48 47.8**	**-0.3**
JIDR				⇓*e*Sg	**Sg**	**20 48 50.7**	**+0.5**
JIDR				IAML		20 48 50.9	
	comp=N,5μm,0.3s						
LONE3	**El Aguacate, B**	**0.40**	**80**	*i* P	**Pg**	**20 48 52.6**	**-0.6**
LONE3				*e*S	**Sg**	**20 48 59.2**	**+0.4**
LONE3				IAML		20 48 59.9	
	comp=Z,75nm,0.8s						
PAPH	**Port-au-Prince**	**0.40**	**268**	*i* P	**Pg**	**20 48 52.8**	**-0.3**
PAPH				*e*S	**Sg**	**20 48 59.6**	**+0.9**
LODU1	**El Espartillar**	**0.42**	**115**	*i* P	**Pg**	**20 48 53.2**	**-0.2**
LODU1				*e*S	**Sg**	**20 49 00.1**	**+0.8**
LODU1				IAML		20 49 04.5	
	comp=Z,108nm,0.3s						
NEDR	**Neiba UASD**	**0.44**	**97**	*e*Pg	**Pb**	**20 48 55.0**	**+0.9**
NEDR				IAML		20 49 01.6	
	comp=N,101nm,0.4s						
PODR	**Polo**	**0.67**	**123**	*e*Pg	**Pb**	**20 48 56.7**	**-1.5**
PODR				*e*Sg	**Sb**	**20 49 07.3**	**0.0**
PODR				IAML		20 49 15.4	
	comp=N,44nm,0.3s						
PODR	**Polo**	**0.67**	**123**	*i* P	**Pb**	**20 48 56.9**	**-1.3**
PODR				*e*S	**Sb**	**20 49 07.7**	**+0.4**
LOBH	**Bahia de las A**	**0.71**	**161**	*i* P	**Pb**	**20 48 58.0**	**-0.6**
LOBH				*e*S	**Sb**	**20 49 09.0**	**+1.0**
LOBH				IAML		20 49 13.7	
	comp=Z,40nm,1.0s						
SDDR	**Presa de Saban**	**0.71**	**51**	⇑*e*Pg	**Pg**	**20 48 59.2**	**+0.3**
SDDR				⇑*e*Sg	**Sb**	**20 49 08.0**	**-0.3**
LOVI	**El Cajuil, Ovi**	**0.88**	**147**	*i* P	**Pb**	**20 49 00.9**	**-0.7**
LOVI				*e*S	**Sb**	**20 49 14.2**	**+1.2**
LOVI				IAML		20 49 19.1	
	comp=Z,39nm,1.3s						
ABDR	**Alto Bandera**	**1.22**	**77**	⇑*e*Pg	**Pg**	**20 49 08.7**	**+0.3**
ABDR				IAML		20 49 22.1	
	comp=N,24nm,2.0s						
ABDR				⇑*e*Sg	**Sb**	**20 49 22.4**	**-0.7**

AUST 05 21:07:50.0±0.6,**18°S**±5°×**12°0E**±°,**h10**km,**mb4.0**/3,
ML2.4/4,**ML3.0**/6,**Error ellipse: s-maj=12.4km**
s-min=6.4km az=153.5,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAAN	**Eighty Mile Be**	**1.67**	**132**	P		21 08 19.9	+0.6
CAAN				S		21 08 41.0	+0.2
AUBRM	**Broome Senior**	**1.94**	**85**	P		21 08 24.6	-0.9
AUBRM				S		21 08 47.9	+0.4
MBWA	**Marble Bar**	**3.03**	**188**	P		21 08 38.3	+0.3
PSAA1	**Pilbara Seismi**	**3.43**	**186**	P		21 08 43.9	+0.3
FITZ	**Fitzroy Crossi**	**5.17**	**90**	P		21 09 06.4	-1.2
GIRL	**Giralia**	**7.17**	**230**	P		21 09 34.9	0.0
	comp=Z,151μmcomp=Z,0.2nmcomp=Z,59nm,1.6s						
KNRA	**Kununurra**	**8.55**	**75**	P		21 09 53.7	-0.3
	comp=Z,0.0nmcomp=Z,13nm,1.6s						
MEEK	**Meekatharra**	**8.58**	**190**	P		21 09 53.2	-1.2
	comp=Z,0.1nmcomp=Z,12nm,2.4s						

NEIC 05 21:09:03.3±1.5,**37°.29N**±0°.01×**104°.95W**±0°.03,**h8**km±8km,
ML2.0/10,**Error ellipse: s-maj=3.7km s-min=1.6km**
az=113.0,Colorado

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T25A	**Trinidad**	**0.45**	**109**		Pg	21 09 12.8	+0.6
T25A				Sg	Sg	21 09 18.5	+0.4
T25A				IAML		21 09 18.9	
	comp=E,210nm,0.5s						
T25A				IAML		21 09 19.1	
	comp=N,108nm,0.2s						
SDCO	**Great Sand Dun**	**0.64**	**316**		Pb	21 09 16.5	-0.3
S22A	**4UR Ranch, Cre**	**1.56**	**288**		Pg	21 09 34.0	+0.7
Q24A	**Divide**	**1.68**	**355**		Pb	21 09 35.0	+0.3
RTBA	**Rita Blanca**	**1.96**	**115**	Pn	Pn	21 09 37.9	+0.9
KSCO	**Kaye Shedlock'**	**2.51**	**46**	Pn	Pn	21 09 45.2	+0.7
ISCO	**Idaho Springs**	**2.56**	**348**	Pn	Pn	21 09 44.1	-1.2

*IDC **05** 21:36:00.2±9.0, 17°.02S×177°.89W, h310km±83km, mb3.2/7, mbtmp3.8/7, Error ellipse: s-maj=32.9km s-min=28.4km az=34.0*
ISC 05 21:35:58.7±0.8,**16°.9S**±0°.2×**177°.9W**±0°.2,**h300**km,**n11,**
σ1°39/12,mb3.6/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**21.69**	**191**	P	**P**	**21 40 26.5**	**+0.7**
	7.6nm,0.9s,baz=89,slow=6.6,SNR=1.0						
	7.6nm,0.9s						
WRA	**Warramunga Arr**	**45.33**	**259**	P	**P**	**21 43 47.8**	**-0.2**
	0.5nm,0.7s,baz=93,slow=7.1,SNR=1.4						
WRA				PcP	**PcP**	**21 45 20.4**	**-1.6**
	0.2nm,0.4s,baz=94,slow=3.4,SNR=1.5						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**45.56**	**253**	P	**P**	**21 43 49.8**	**+0.1**
	2.5nm,0.5s,baz=88,slow=8.3,SNR=50						
ASAR				PcP	**PcP**	**21 45 21.0**	**-1.8**
	0.4nm,0.4s,baz=108,slow=3.5,SNR=4.6						
	2.5nm,0.5s						
QSPA	**South Pole Qui**	**73.11**	**180**	P	**P**	**21 46 57.2**	**+0.7**
	0.9nm,0.5s,baz=65,slow=1.0,SNR=3.9						
	0.9nm,0.5s						
ILAR	**Eielson Array**	**84.83**	**13**	P	**P**	**21 47 58.5**	**-0.9**
	0.2nm,0.7s,baz=204,slow=7.4,SNR=4.2						
	0.2nm,0.7s						
TXAR	**Lajitas Array**	**85.04**	**57**	P	**P**	**21 48 01.2**	**-0.2**
	0.1nm,0.4s,baz=257,slow=4.0,SNR=2.5						
	0.1nm,0.4s						
SNAA	**Sanae**	**91.54**	**178**	P	**P**	**21 48 29.9**	**-1.4**
	0.7nm,0.9s,baz=191,slow=16,SNR=2.4						
	0.7nm,0.9s						
HFS	**Hagfors**	**136.06**	**352**	PKhKP	PKPpre	21 54 37.4	
	1.4nm,0.7s,baz=70,slow=4.7,SNR=1.7						
BRTR	**Keskin Array B**	**144.47**	**316**	PKP	**PKPab**	**21 54 59.7**	**+0.6**
	0.9nm,0.8s,baz=142,slow=6.3,SNR=4.9						
MMAI	**Mount Meron Ar**	**146.05**	**304**	PKPbc	**PKPdf**	**21 55 04.6**	**+1.9**
	0.9nm,0.4s,baz=126,slow=2.2,SNR=7.0						
GERES	**GERESS Array B**	**146.82**	**346**	PKPbc	**PKPbc**	**21 55 07.8**	**+2.0**
	0.7nm,0.5s,baz=22,slow=4.3,SNR=7.4						

*DSN **05** 22:02:12.4±1.5,27°.89N×56°.41E, h10km, ML3.5/12, Error ellipse: s-maj=18.2km s-min=9.3km az=53.0*
*IDC **05** 22:02:12.4±1.2,27°.61N×56°.47E, h0km, mb3.8/8, mbtmp3.8/11, ML3.6/3, MS3.1/1, Error ellipse: s-maj=24.2km s-min=20.4km az=25.0*
*TEH **05** 22:02:14.5,27°.64N×56°.48E, h7km±59km*
*OMAN **05** 22:02:16.0±0.7,27°.53N×56°.47E, h10km, mb4.5/3, ml3.8/11, Error ellipse: s-maj=6.4km s-min=3.9km az=29.0*
ISC 05 22:02:15.8±0.6,**27°.61N**±0°.04×**56°.49E**±0°.04,**h18**km,**n72,**
σ1°48/81,mb3.5/7,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**0.17**	**164**	Pg	**Pb**	**22 02 18.7**	**-1.2**
GENO	**Geno**	**0.35**	**233**	Pg	**Pg**	**22 02 22.5**	**-0.8**
KHNJ	**Kahnooj**	**1.13**	**73**	Pg	Pn	22 02 35.4	-1.3
SHME	**Shamm**	**1.59**	**191**	P	**Pn**	**22 02 44.2**	**+1.2**
SHME				S	**Sn**	**22 03 04.5**	**+1.4**
SHME	**Shamm**	**1.59**	**191**	*e*P	**Pn**	**22 02 43.9**	**+0.9**
	SNR=11						
SHME				S	**Sg**	**22 03 08.3**	**+1.2**
BANOM	**Banah**	**1.69**	**186**	P	**Pn**	**22 02 46.0**	**+1.5**
BANOM				S	**Sn**	**22 03 07.6**	**+2.0**
BANOM	**Banah**	**1.69**	**186**	*e*P	**Pn**	**22 02 45.6**	**+1.2**
	SNR=22						
LAR1	**LAR**	**1.88**	**272**	Pn	**Pn**	**22 02 48.8**	**+1.7**
NGRK	**Negar Kerman**	**2.04**	**6**	Pn	**Pn**	**22 02 51.0**	**+1.5**
MSFE	**Esma-Masafi**	**2.26**	**188**	*e*P	**Pn**	**22 02 53.2**	**+0.9**
	SNR=29						
KBAM	**BAM**	**2.30**	**48**	Pn	**Pn**	**22 02 54.9**	**+2.0**
MDH	**Madha**	**2.31**	**184**	P	**Pn**	**22 02 53.9**	**+0.9**
KRBR	**Kerman**	**2.37**	**6**	Pn	**Pn**	**22 02 56.2**	**+2.1**
CHMN	**Cheshme madani**	**2.42**	**22**	Pn	**Pn**	**22 02 56.8**	**+2.0**
UOSS	**Minazif**	**2.67**	**186**	P	**Pn**	**22 02 58.6**	**+0.7**
NAZ	**Nazwa, Dubai**	**2.72**	**196**	P	**Pn**	**22 03 00.7**	**+2.1**
JHRM	**Jahrom**	**2.72**	**290**	Pn	**Pn**	**22 02 59.7**	**+1.0**
KHGB	**Koh Gabri**	**2.75**	**360**	Pn	**Pn**	**22 03 01.2**	**+1.9**
HATD	**Hatta, Dubai**	**2.79**	**187**	P	**Pn**	**22 03 02.2**	**+2.5**
ASHO	**Ashiyiah**	**2.94**	**188**	P	**Pn**	**22 03 03.5**	**+1.8**

	SNR=17							
ASHO	Ashiyiah	2.94	188	*i*	P	Pn	22 03 02.8	+1.1
	SNR=11							
KRM1	Kerman Provinc	2.96	13		Pn	Pn	22 03 04.1	+2.0
FAQ	Al Faqa, Dubai	2.97	196		P	Pn	22 03 03.9	+1.9
	SNR=6.6							
FAQ	Al Faqa, Dubai	2.97	196	*i*	P	Pn	22 03 03.8	+1.8
	SNR=6.7							
ASUD	Al Ashush, Dub	3.15	200		P	Pn	22 03 07.0	+2.5
	SNR=18							
ASUD	Al Ashush, Dub	3.15	200	*i*	P	Pn	22 03 06.8	+2.3
	SNR=18							
QIR1	Qir	3.16	287		Pn	Pn	22 03 06.4	+1.6
ALNE	Al Ain	3.60	191		P	Pn	22 03 12.4	+1.6
	SNR=6.7							
ALNE	Al Ain	3.60	191	*i*	P	Pn	22 03 11.8	+1.0
	SNR=7.3							
IBAF	Bafgh	4.04	349		Pn	Pn	22 03 18.5	+1.5
IMEH	Mehriz	4.10	337		Pn	Pn	22 03 19.3	+1.5
ARQ	Araqi	4.26	180		P	Pn	22 03 20.5	+0.7
	SNR=21							
ZHSF	Zahedan	4.26	61		Pn	Pn	22 03 22.3	+2.3
SMDO	Samad	4.75	162		P	Pn	22 03 27.2	+0.6
SMDO					S	Sn	22 04 22.5	+1.2
WSAR	Wadi Sarin	4.77	156		Pn	Pn	22 03 26.7	-0.1
	baz=17,slow=19,SNR=19							
WSAR					Sn	Sn	22 04 20.5	-1.1
	0.1nm,0.3s,baz=38,slow=19,SNR=11							
WSAR	Wadi Sarin	4.77	156		P	Pn	22 03 27.3	+0.5
WSAR					S	Sn	22 04 21.6	+0.1
NHDN	Nehbandan	4.88	39		Pn	Pn	22 03 30.8	+2.3
ICHK	Chekchek	4.96	339		Pn	Pn	22 03 30.8	+1.2
UMZA	Um Al Zommool	5.02	194		P	Pn	22 03 31.1	+0.8
UMZA					S	Sn	22 04 29.1	+1.3
SRVN	Saravan	5.25	91		Pn	Pn	22 03 35.7	+2.2
MZR	Muzera	5.34	211		P	Pn	22 03 36.2	+1.6
MZR					S	Sn	22 04 36.3	+0.7
JMDO	Jabal Madar	5.42	164		P	Pn	22 03 36.9	+1.1
KLNJ	Kolanjah	5.45	310		Pn	Pn	22 03 38.2	+1.7
IRAM	Rameshеh	5.50	320		Pn	Pn	22 03 38.6	+1.6
TRNA	Turayna	5.54	240		P	Pn	22 03 37.9	+0.6
TRNA					S	Sn	22 04 40.9	+0.3
SAKB	Bahrain	5.56	254		P	Pn	22 03 38.1	+0.5
JLN	Jalan Bani Buh	6.05	153		P	Pn	22 03 44.3	-0.1
IGAR	Gharneh	6.14	322		Pn	Pn	22 03 46.1	+0.4
IBRJ	Brojen	6.24	315		Pn	Pn	22 03 49.4	+2.1
IZEF	Zefreh	6.38	327		Pn	Pn	22 03 49.9	+0.8
ZNGN	Zangian	6.64	314		Pn	Pn	22 03 54.2	+1.5
MHTO	MHTO	6.73	168		P	Pn	22 03 54.4	+0.7
MHTO					S	Sn	22 05 11.2	+1.1
JHBN	Jahan bin	6.83	314		Pn	Pn	22 03 56.3	+0.8
IPIR	Pirpir	7.00	318		Pn	Pn	22 03 58.9	+1.2
IKLH	Kolahrood	7.09	325		Pn	Pn	22 04 00.6	+1.7
KRSH	Karshahi	7.36	330		Pn	Pn	22 04 04.3	+1.8
QAMS	Qamsar	7.51	326		Pn	Pn	22 04 05.8	+1.1
DOK	Doka	9.21	194		P	Pn	22 04 27.6	-0.2
WHFO	Wadi Hawf	9.97	195		P	Pn	22 04 38.7	+0.5
RAYN	Ar Rayn	10.72	250		P	Pn	22 04 48.5	0.0
RAYN	Ar Rayn	10.72	250		P	Pn	22 04 45.6	-2.9
GNI	Garni	15.84	325		Pn	Pn	22 06 00.3	+2.4
	0.2nm,0.3s,baz=169,slow=22,SNR=2.4							
	6.6nm,0.8s							
ASF	Jabal al Asfar	17.58	290		Pn	Pn	22 06 18.1	-1.9
	0.1nm,0.3s,baz=94,slow=5.5,SNR=1.7							
ASF					Sn	Sn	22 09 37.9	+2.4
	0.2nm,0.3s,baz=30,slow=20,SNR=1.5							
	0.5nm,0.3s							
MMAI	Mount Meron Ar	18.97	292		P	P	22 06 37.3	+1.0
	0.3nm,0.3s,baz=121,slow=11,SNR=2.4							
MMAI					LR	LR	22 16 13.9	
	comp=Z,52nm,18.2s,baz=78,slow=44							
	0.5nm,0.5s							
BRTR	Keskin Array B	22.46	308		P	P	22 07 14.7	+0.6
	1.2nm,0.8s,baz=129,slow=11,SNR=7.4							
	1.2nm,0.8s							
BVAR	Borovoye Array	27.41	18		P	P	22 07 59.6	-0.5
	0.5nm,0.5s,baz=189,slow=6.8,SNR=2.1							
	0.5nm,0.5s							
AKASG	Malin Array Be	30.97	326		P	P	22 08 29.9	-1.9
	0.2nm,0.3s,baz=133,slow=11,SNR=4.2							
	0.2nm,0.3s							
ZALV	Zalesovo Beam	33.53	31		P	P	22 08 54.3	+0.1
	1.1nm,0.5s,baz=234,slow=9.8,SNR=5.7							
	1.1nm,0.5s							
FINES	FINESS Array B	39.46	337		P	P	22 09 42.3	-2.4
	3.5nm,0.9s,baz=144,slow=13,SNR=3.9							
	3.5nm,0.9s							
SONM	Songino Array	43.47	49		P	P	22 10 17.8	-0.1
	0.3nm,0.5s,baz=264,slow=10.0,SNR=2.7							
	0.3nm,0.5s							
HFS	Hagfors	43.53	330		P	P	22 10 17.4	-0.7
	2.5nm,0.8s,baz=119,slow=9.0,SNR=4.5							
	2.5nm,0.8s							
TORD	Torodi Ar. Bea	52.95	266		P	P	22 11 30.3	-1.1
	0.9nm,0.8s,baz=62,slow=7.5,SNR=6.4							
	0.9nm,0.8s							

*SNET **05** 22:03:04.6±2.4, 14°.05N×87°.72W, h16km, ML3.3*
*GCG **05** 22:03:05.8±0.7, 14°.19N×87°.60W, h33km±18km, MD4.0*
*CATAC **05** 22:03:05.1±0.2, 14°.1′×87°.8W±0°.9, h2km±1km, M3.3/13, MLv3.3/13, Error ellipse: s-maj=2.9km s-min=1.8km az=17.9, confirmed*

ISC 05 22:03:04.6±1.0, 14°.05N±0°.03×87°.74W±0°.02, h13km±9km, n60, σ6°7/74, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTHN	La Esperanza I	0.44	307	P	Pg	22 03 13.3	0.0
INTHN				S	Sg	22 03 18.9	-0.4
TGUH	Tegucigalpa,Un	0.46	89	P	Pb	22 03 14.6	0.0
TGUH				S	Sb	22 03 21.3	-0.1
CAHU	Cacacuatique	0.54	238	*eP*	Pg	22 03 15.3	+0.2
CAHU				*eS*	Sg	22 03 22.4	+0.1
LCND	La Caada	0.75	191	*eP*	Pg	22 03 19.2	-0.1
LCND				*eS*	Sg	22 03 29.9	+0.7
LCND	La Caada	0.75	191	P	Pg	22 03 19.3	+0.1
BLLM	Bellamira	0.78	219	*eP*	Pb	22 03 19.6	-0.3
CNCH	Conchagua	0.78	187	*eP*	Pg	22 03 19.8	+0.1
CNCH	Conchagua	0.78	187	S	Sg	22 03 29.6	-0.3
CNCH	Conchagua	0.78	187	P	Pg	22 03 19.8	+0.1
CHOHN	Orocuina	0.80	135	P	Pg	22 03 20.9	+0.7
CHOHN	Orocuina	0.80	135	S	Sb	22 03 31.9	+0.5
VSM	San Miguel	0.81	220	*eP*	Pb	22 03 20.2	-0.5
VSM				*eS*	Sg	22 03 31.0	0.0
PACA	Pacayal	0.81	224	*eP*	Pb	22 03 20.4	-0.2
PACA				*eS*	Sb	22 03 30.5	-1.0
PACA	Pacayal	0.81	224	P	Pb	22 03 20.4	-0.2
LCY	Lacayo	0.82	221	*eP*	Pb	22 03 20.4	-0.5
YUSH	Yuscaran	0.88	96	P	Pn	22 03 22.4	-0.4
YUSH	Yuscaran	0.88	96	S	Sn	22 03 34.7	-0.8
PQSS	Presa 15 de Se	0.90	242	*eP*	Pb	22 03 21.4	-0.7
PQSS	Presa 15 de Se	0.90	242	S	Sb	22 03 33.5	-0.6
PQSS	Presa 15 de Se	0.90	242	P	Pb	22 03 21.5	-0.7
TECA	Tecapa	0.92	233	*eP*	Pb	22 03 22.1	-0.6
POTN	Potosi Cosigui	1.07	168	P	Pn	22 03 25.4	+0.1
POTN				S	Sn	22 03 39.8	-0.2
CSGN	Cosiguina Volc	1.08	171	P	Pb	22 03 25.1	-0.2
CSGN				S	Sg	22 03 40.1	+0.4
UESV	Universidad de	1.10	248	P	Pb	22 03 24.2	-1.2
UESV	Universidad de	1.10	248	S	Sb	22 03 39.5	-0.3
LLGN	La Laguna	1.17	275	*eP*	Pn	22 03 26.2	-0.6
LLGN	La Laguna	1.17	275	P	Pn	22 03 25.9	-1.0
LLGN	La Laguna	1.17	275	S	Sb	22 03 41.3	-0.6
PAVA	Las Pavas	1.21	254	*eP*	Pn	22 03 26.8	-0.6
PAVA				*eS*	Sb	22 03 41.5	-1.5
PAVA	Las Pavas	1.21	254	P	Pn	22 03 26.7	-0.6
PAVA	Las Pavas	1.21	254	S	Sb	22 03 43.1	0.0
SARH	Santa Rosa de	1.22	306	*eP*	Pn	22 03 27.7	+0.2
SARH				*eS*	Sb	22 03 43.8	+0.5
SARH	Santa Rosa de	1.22	306	P	Pn	22 03 27.7	+0.2
OCON	Estacion meteo	1.30	109	P	Pg	22 03 29.8	+0.2
OCON				S	Sg	22 03 47.2	+0.7
LFRS	El Faro	1.35	252	*eP*	Pn	22 03 29.1	-0.2
LFRS				*eS*	Sn	22 03 46.7	-0.5
LOMA	Loma Larga	1.45	254	*eP*	Pn	22 03 30.8	+0.1
LOMA	Loma Larga	1.45	254	P	Pn	22 03 30.9	+0.2
LOMA	Loma Larga	1.45	254	S	Sn	22 03 49.7	+0.1
CRIN	San Cristobal	1.50	153	S	Sg	22 03 53.4	+0.3
BOQS	Boqueron	1.53	258	*eP*	Pn	22 03 32.4	+0.6
PKGN	Cerro Pekin	1.56	151	P	Pn	22 03 32.6	+0.5
PKGN				S	Sg	22 03 54.5	-0.5
PMON	Piamonte	1.56	258	*eP*	Pn	22 03 33.2	+1.0
PMON	Piamonte	1.56	258	P	Pn	22 03 33.0	+0.7
PMON	Piamonte	1.56	258	S	Sn	22 03 53.1	+0.7
RCVN	Varillal2	1.57	107	P	Pg	22 03 34.4	-0.5
RCVN	Varillal2	1.57	107	S	Sg	22 03 54.7	-0.7
MTO3	Montecristo	1.61	283	*eP*	Pn	22 03 33.8	+0.9
MTO3	Montecristo	1.61	283	*eP*	Pn	22 03 34.0	+1.1
MTO3	Montecristo	1.61	283	S	Sb	22 03 54.8	+0.2
MTO3	Montecristo	1.61	283	P	Pn	22 03 33.8	+0.9
RCPN	Sur Rio San Ju	1.68	108	S	Sg	22 03 58.6	-0.2
JAYA	Jayaque - finc	1.71	257	*eP*	Pn	22 03 34.7	+0.5
JAYA	Jayaque - finc	1.71	257	*eP*	Pn	22 03 35.1	+1.0
JAYA	Jayaque - finc	1.71	257	S	Sn	22 03 57.0	+1.0
JAYA	Jayaque - finc	1.71	257	P	Pn	22 03 35.2	+1.0
SNJE	San Jose	1.82	264	*eP*	Pn	22 03 36.7	+0.8
SBLS	San Blas	1.84	264	*eP*	Pb	22 03 37.9	-0.3
NUBE	Las Nubes	1.98	266	*eP*	Pn	22 03 39.8	+1.8
NUBE				*eS*	Sb	22 04 06.5	+1.1
NUBE	Las Nubes	1.98	266	P	Pn	22 03 39.7	+1.6
NUBE	Las Nubes	1.98	266	S	Sb	22 04 05.9	+0.5

*IDC **05** 22:05:01.6±8.3, 37°.64N×72°.02E, h175km±60km, mb3.7/2, mbtmp3.8/7, MS3.4/1, Error ellipse: s-maj=76.6km s-min=52.2km az=175.0*
*NNC **05** 22:05:01.2±4.2, 37°.90N×71°.76E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=32.7km s-min=24.6km az=164.0*

ISC 05 22:05:00.2±2.2, 37°.6N±0°.2×71°.9E±0°.1, h150km, n21, σ1§03/23, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	4.77	343	Pg	Pn	22 06 11.1	+0.5
	9.9nm,0.2s						
IUG				Lg	Lg	22 07 04.9	
	58nm,0.3s						
UCH	Uchtor	5.07	23	P	Pn	22 06 15.0	+0.2
	SNR=29						
EKS2	Erkin-Say	5.28	15	P	Pn	22 06 17.5	+0.2
	SNR=12						
AAK	Ala-Archa	5.43	21	P	Pn	22 06 20.0	+0.6
	SNR=14						
AAK	Ala-Archa	5.43	21	⇓P	Pn	22 06 20.0	+0.6
	3.7nm,0.4s						
AAK				⇑S	Sn	22 07 22.3	+0.9
	3.5nm,0.5s						
AAK	Ala-Archa	5.43	21	P	Pn	22 06 20.1	+0.6
	18nm,0.3s,baz=198,slow=20,SNR=34						
AAK				S	Sn	22 07 22.3	+0.9
	4.0nm,0.3s,baz=120,slow=20,SNR=9.2						
KBK	Karagaybulak	5.59	24	P	Pn	22 06 22.1	+0.5
	SNR=5.2						
KK31	Karatay Array	5.61	350	P	Pn	22 06 21.4	-0.2
	12nm,0.6s,baz=168,slow=11,SNR=77						
KK31				⇑S	Sn	22 07 23.8	-1.6
	12nm,0.3s,baz=166,slow=22						
ULHL	Ulahol	5.74	34	P	Pn	22 06 23.5	-0.1
	SNR=5.7						
CHMS	Chumysh	5.84	21	P	Pn	22 06 24.9	+0.2
	SNR=8.6						
USP	Ospenovka	6.02	19	P	Pn	22 06 26.8	-0.3
	SNR=14						
TKM2	Tokmak 2	6.05	27	P	Pn	22 06 27.8	+0.2
	SNR=16						
SGDS	Sogindy	6.23	19	Pg	Pn	22 06 29.5	-0.4
	3.8nm,0.3s						
SGDS				Lg	Lg	22 07 37.9	
	4.5nm,0.3s						
MKAR	Makanchi Array	12.01	37	P	Pn	22 07 45.9	-0.6
	0.6nm,0.8s,baz=223,slow=14,SNR=5.6						
KURBB	Kurotov Arra	13.88	18	P	Pn	22 08 07.6	-2.7
	0.3nm,0.6s,baz=203,slow=11,SNR=13						
AB31	Akbulak array	14.51	327	P	P	22 08 22.7	+2.0
	0.4nm,0.4s,baz=149,slow=12,SNR=9.8						
BVAR	Borovoye Array	15.48	357	P	Pn	22 08 29.2	-1.0
	1.3nm,0.5s,baz=158,slow=12,SNR=6.8						
ZALV	Zalesovo Beam	18.64	24	P	P	22 09 05.2	-1.0
	1.7nm,0.5s,baz=214,slow=9.5,SNR=7.0						
FINES	FINESS Array B	36.98	325	P	P	22 11 54.2	-0.5
	2.9nm,0.9s,baz=107,slow=8.5,SNR=2.0						
	2.9nm,0.9s						
HFS	Hagfors	42.65	321	P	P	22 12 40.4	-1.1
	4.4nm,1.0s,baz=91,slow=8.6,SNR=2.4						
	4.4nm,1.0s						
ASAJ	Asahikawa	52.40	59	LR	LR	22 38 07.0	
	comp=Z,36nm,18.3s,baz=110,slow=38						

*IDC **05** 22:15:51.2±4.8, 35°.51S×178°.30E, h154km±33km, mb3.6/3, mbtmp4.2/4, Error ellipse: s-maj=53.5km s-min=22.5km az=49.0*
*NOU **05** 22:15:55.5, 36°.26S×178°.34E, h234km, mb4.2/15, Off E. Coast of N. Island, N.Z.*
*WEL **05** 22:15:55.8±0.5, 35°.S±4′×17°.8E±′, h33km, M4.6/13, ML4.5/17, MLv4.6/13, Error ellipse: s-maj=7.8km s-min=4.5km az=97.8, confirmed*

ISC 05 22:15:50.7±0.9, 35°.97S±0°.06×178°.39E±0°.08, h261km±7km, n185, σ2§00/184, mb3.6/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.59	182	P	Pn	22 16 31.4	+0.8
MXZ	Matakaoa Point	1.59	182	S	S	22 16 59.1	-3.1
MXZ	Matakaoa Point	1.59	182	P	Pn	22 16 31.3	+0.7
MXZ	Matakaoa Point	1.59	182	S	S	22 16 58.2	-4.0
MXZ	Matakaoa Point	1.59	182	P	Pn	22 16 31.3	+0.7
MXZ				S	S	22 16 56.9	-5.3
WIZ	White Island	1.83	211	P	Pn	22 16 33.0	+0.5
WMGZ	Waiomatatini S	1.84	179	P	Pn	22 16 34.2	+1.6
WMGZ				S	S	22 17 02.5	-3.4
HAZ	Te Kaha	1.85	195	P	Pn	22 16 32.9	+0.3
HAZ				S	S	22 17 00.9	-5.0
PKGZ	Pakihiroa	1.91	187	P	Pn	22 16 34.4	+1.2
RUGZ	Raukumara Rang	2.07	196	P	Pn	22 16 35.0	+0.2
PUZ	Puketiti	2.10	183	P	Pn	22 16 36.1	+1.2
PUZ				S	S	22 17 07.1	-2.8
MYRZ	Mayor Island	2.17	232	P	Pn	22 16 36.1	+0.6
WHRZ	Whale Island	2.20	211	P	Pn	22 16 37.8	+2.0
TWGZ	Tauwhareparae	2.23	188	P	Pn	22 16 37.9	+1.8
TWGZ				S	S	22 17 11.0	-1.1
KUZ	Kuaotunu	2.29	249	P	Pn	22 16 36.3	-0.3
KUZ	Kuaotunu	2.29	249	P	Pn	22 16 36.2	-0.3
OPRZ	Ohinepanea	2.38	218	P	Pn	22 16 38.3	+0.9
GRZ	Great Barrier	2.39	262	P	Pn	22 16 36.9	-0.7
MARZ	Manawahe	2.44	214	P	Pn	22 16 39.5	+1.4
TGRZ	Tauranga	2.45	224	P	Pn	22 16 39.0	+0.9
TKGZ	Te Karaka	2.50	190	P	Pn	22 16 40.3	+1.7
URZ	Urewera	2.50	204	P	Pn	22 16 39.3	+0.7
	570nm,0.3s,baz=48,slow=4.8,SNR=3970						
URZ				S	S	22 17 12.9	-3.8
	252nm,0.3s,baz=49,slow=20,SNR=8.4						
URZ	Urewera	2.50	204	P	Pn	22 16 39.8	+1.2
URZ	Urewera	2.50	204	P	Pn	22 16 39.6	+1.0
URZ	Urewera	2.50	204	S	S	22 17 13.0	-3.7
URZ	Urewera	2.50	204	P	Pn	22 16 39.2	+0.7
URZ				S	S	22 17 12.4	-4.3
EDRZ	Edgecumbe	2.51	211	P	Pn	22 16 40.2	+1.4
CNGZ	Carnagh Statio	2.51	183	P	Pn	22 16 41.0	+2.2
RAGZ	Rawiri	2.64	197	P	Pn	22 16 41.8	+1.8
KARZ	Kaharoa	2.67	219	P	Pn	22 16 42.4	+2.0
KMRZ	Kaimai	2.71	226	P	Pn	22 16 42.1	+1.3
WIAZ	Waiheke Island	2.75	252	P	Pn	22 16 41.7	+0.5
RIGZ	Rimuhau	2.78	190	P	Pn	22 16 43.1	+1.7
RRRZ	Republican Roa	2.80	212	P	Pn	22 16 43.9	+2.2
HLRZ	Highlands Stat	2.80	215	P	Pn	22 16 44.6	+2.9
MUGZ	Murupara	2.82	207	P	Pn	22 16 43.1	+1.2
MKAZ	Moumakai	2.84	246	P	Pn	22 16 42.8	+0.8
RTZ	Ruatahuna	2.87	203	P	Pn	22 16 43.9	+1.4
HSRZ	Hossack Road	2.90	216	P	Pn	22 16 45.6	+2.9
TOZ	Tahuroa Road	2.91	232	P	Pn	22 16 44.4	+1.6
SNGZ	Shannon Statio	2.93	196	P	Pn	22 16 44.7	+1.7
MBAZ	Motutapu North	2.93	253	P	Pn	22 16 43.9	+0.9
HRRZ	Handcock Road	2.94	214	P	Pn	22 16 45.3	+2.2
PRGZ	Paritu Road	2.97	188	P	Pn	22 16 45.1	+1.6
PRRZ	Plateau Road	2.98	212	P	Pn	22 16 45.3	+1.7
GRRZ	Galatos Road	2.99	217	P	Pn	22 16 46.4	+2.7
ALRZ	Allen Road	3.06	212	P	Pn	22 16 46.3	+1.9
KNZ	Kokohu	3.10	190	P	Pn	22 16 46.3	+1.5
WPRZ	Whakapapatarin	3.10	214	P	Pn	22 16 47.1	+2.3
RAHZ	Arahi	3.12	199	P	Pn	22 16 46.7	+1.7
MTHZ	Maungataniwha	3.13	203	P	Pn	22 16 46.2	+1.1
MHGZ	Mahia Peninsul	3.20	187	P	Pn	22 16 47.9	+2.0
WHHZ	Waihua	3.23	196	P	Pn	22 16 48.1	+1.9
KUTZ	Kaahu Road	3.24	218	P	Pn	22 16 49.2	+2.8
TLZ	Tolley Road	3.28	223	P	Pn	22 16 49.4	+2.6
WCZ	Waipu Caves	3.28	269	P	Pn	22 16 47.1	+0.3
NMHZ	Naumai	3.37	201	P	Pn	22 16 49.8	+2.0
HATZ	Hinemaiaia	3.44	211	P	Pn	22 16 50.2	+1.7
WATZ	Wairara	3.46	217	P	Pn	22 16 51.3	+2.5
ARHZ	Aropaoanui	3.47	198	P	Pn	22 16 50.6	+1.8
BKZ	Black Stump Fm	3.53	205	P	Pn	22 16 50.6	+1.0
BKZ	Black Stump Fm	3.53	205	P	Pn	22 16 50.8	+1.2
BKZ	Black Stump Fm	3.53	205	P	S	22 17 34.2	-2.2
BKZ	Black Stump Fm	3.53	205	P	Pn	22 16 50.5	+0.9
RATZ	Rangitukua	3.56	215	P	Pn	22 16 52.1	+2.1
RITZ	Rihia Road	3.61	213	P	Pn	22 16 52.7	+2.2
KATZ	Kakaramea	3.69	215	P	Pn	22 16 53.4	+2.0
MCHZ	McNeill Hill	3.72	201	P	Pn	22 16 53.6	+1.9
KWHZ	Kaweka Forest	3.78	204	P	Pn	22 16 53.7	+1.3
HIZ	Hauiti	3.79	227	P	Pn	22 16 56.3	+3.8
HIZ	Hauiti	3.79	227	P	Pn	22 16 55.7	+3.2
HIZ	Hauiti	3.79	227	P	Pn	22 16 55.7	+3.2
TMVZ	Te Maari	3.80	213	P	Pn	22 16 54.5	+1.8
KRVZ	Karewarewa	3.81	214	P	Pn	22 16 54.6	+1.8
ETVZ	East Tongariro	3.81	213	P	Pn	22 16 54.6	+1.8
CKHZ	Cape Kidnapper	3.83	195	P	Pn	22 16 54.5	+1.6
WTVZ	West Tongariro	3.85	215	P	Pn	22 16 55.0	+1.8
NNVZ	North Ngauruho	3.85	214	P	Pn	22 16 55.1	+1.8
OTVZ	Oturere	3.85	213	P	Pn	22 16 55.2	+1.8
SNVZ	South Ngauruho	3.88	213	P	Pn	22 16 55.5	+1.8
TWVZ	Taurewa	3.88	216	P	Pn	22 16 55.6	+1.9
NGZ	Ngauruhoe	3.89	214	P	Pn	22 16 55.6	+1.8
COVZ	Chateau Observ	3.94	214	P	Pn	22 16 56.4	+2.1
TUVZ	Tukino	3.94	213	P	Pn	22 16 55.9	+1.6
FWVZ	Far West T-bar	3.98	214	P	Pn	22 16 56.3	+1.5
OUZ	Omahuta	3.98	279	P	Pn	22 16 55.0	+0.3
WHVZ	Whangaehu Hut	3.98	213	P	Pn	22 16 56.4	+1.5
MAVZ	Matarangi	3.98	213	P	Pn	22 16 56.6	+1.6
KRHZ	Kereru	4.00	203	P	Pn	22 16 55.8	+0.9
KAHZ	Kahuranaki	4.00	197	P	Pn	22 16 56.7	+1.8
TRVZ	Turoa	4.02	213	P	Pn	22 16 56.9	+1.6
WNVZ	Wahianoa	4.02	213	P	Pn	22 16 56.6	+1.4
MOVZ	Moawhango	4.02	211	P	Pn	22 16 56.1	+0.9
PKVZ	Pokaka	4.10	215	P	Pn	22 16 57.8	+1.7
MTVZ	Mangateitei	4.12	213	P	Pn	22 16 57.9	+1.5
PXZ	Pawanui	4.23	196	P	Pn	22 16 58.7	+1.2
VRZ	Vera Road	4.27	221	P	Pn	22 17 00.6	+2.6
PNHZ	Pukenui	4.30	203	P	Pn	22 16 59.0	+0.6
WPHZ	Waipukurau	4.37	200	P	Pn	22 17 00.1	+1.0
PRHZ	Porangahau	4.51	197	P	Pn	22 17 02.0	+1.2
TSZ	Takapari Road	4.51	204	P	Pn	22 17 01.4	+0.5
WAZ	Wanganui	4.64	214	P	Pn	22 17 03.9	+1.5
DVHZ	Dannevirke	4.66	201	P	Pn	22 17 03.5	+0.8
LREZ	Lake Rotokare	4.70	221	P	Pn	22 17 06.0	+2.9
ANWZ	Angora Road	4.73	198	P	Pn	22 17 04.7	+1.3
NEZ	North Egmont	4.74	225	P	Pn	22 17 07.5	+3.8
PKE	Pukeiti	4.75	226	P	Pn	22 17 07.6	+3.8
PREZ	Palmer Road	4.75	224	P	Pn	22 17 07.5	+3.7
KHEZ	Kahui Hut	4.80	225	P	Pn	22 17 07.6	+3.2
KHEZ	Kahui Hut	4.80	225	P	Pn	22 17 07.9	+3.5
NBEZ	Newall Road No	4.87	226	P	Pn	22 17 08.9	+3.7
POWZ	Post Office Ro	4.87	204	P	Pn	22 17 05.9	+0.7
OHWZ	Ohakea	4.87	209	P	Pn	22 17 06.7	+1.5
PRWZ	Pori Road	4.96	202	P	Pn	22 17 07.3	+1.1
BFZ	Birch Farm	5.00	199	P	Pn	22 17 07.8	+1.1
BFZ	Birch Farm	5.00	199	S	S	22 18 03.8	-3.6
BFZ	Birch Farm	5.00	199	P	Pn	22 17 07.7	+1.1
BFZ	Birch Farm	5.00	199	S	S	22 18 03.4	-4.0
BFZ	Birch Farm	5.00	199	P	Pn	22 17 07.5	+0.8
MRZ	Mangatainoka R	5.18	204	P	Pn	22 17 08.4	+0.2
TIWZ	Tintock	5.19	202	P	Pn	22 17 09.8	+1.8

MAL2	**Monte Alegre,**	**6.55**	**114**	P		**Pn**	**22 24 54.5**	**+1.6**
MAL2				S		**Sn**	**22 26 06.7**	**-1.1**
ITTB	**Itaituba**	**6.68**	**139**	P		**Pn**	**22 24 57.5**	**+2.8**
ITTB				S		**Sn**	**22 26 11.9**	**+0.9**
ITTB	**Itaituba**	**6.68**	**139**	*e*P		**Pn**	**22 24 54.0**	**-0.7**
ITTB				*e*S		**Sn**	**22 26 10.4**	**-0.6**
ATM1	**UHE Belo Monte**	**8.86**	**116**	P		**Pn**	**22 25 26.7**	**+2.1**
ATM1				S		**Sn**	**22 27 03.8**	**-0.7**
NPGB	**Novo Progresso**	**9.04**	**148**	*e*P		**Pn**	**22 25 26.0**	**-1.1**
NPGB				*e*S		**Sn**	**22 27 05.4**	**-3.7**

*AEIC **05** 22:34:02.5±1.9, 68˚.93N±0˚.02×147˚.68W±0˚.08, h14km±6km, ML3.3, ML3.3/30(NEIC), Mwr3.6/45(SLM), Error ellipse: s-maj=4.4km s-min=3.5km az=79.0*

*NEIC **05** 22:34:03, 68˚.98N×147˚.77W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.21; $M_{\theta\theta}$-2.62; $M_{\phi\phi}$2.41; $M_{r\theta}$0.59; $M_{\theta\phi}$-0.55; $M_{\phi r}$1.05; Fault plane solution: M_o2.85000×10^{14} NP1:ϕ_s40.00000°, δ85.00000°, λ25.00000°. NP2:ϕ_s308.00000°, δ65.00000°, λ174.00000°. Principal axes: T 2.8469, Plg21.0000°, Azm267.0000°; N 0.0021, Plg65.0000°, Azm51.0000°; P -2.8491, Plg14.0000°, Azm171.0000°;*

*IDC **05** 22:34:03.8±4.2, 69˚.01N×147˚.44W, h0km, mb3.4/3, mbtmp3.5/6, ML3.5/3, MS2.9/4 Error ellipse: s-maj=61.1km s-min=27.1km az=136.0*

*NEIC **05** 22:34:04.0±1.4, 68˚.941N±0˚.008×147˚.70W±0˚.08, h10km±2km, Error ellipse: s-maj=4.5km s-min=3.1km az=273.0*

ISC 05 22:34:03.9±0.7, **68˚.95N**±0˚.03×**147˚.70W**±0˚.02, **h10**km, **n107**, σ0**8**7/120, **mb3.5**/3, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
D24K	**Happy Valley**	**0.46**	**298**			**Pg**		**22 34 12.0**	**-0.8**
D24K						**Sg**		**22 34 19.0**	**+0.2**
D25K	**Kavik River**	**0.61**	**51**			**Pg**		**22 34 14.0**	**-1.6**
D25K						**Sg**		**22 34 22.6**	**-1.0**
TOLK	**Toolik Lake Re**	**0.75**	**247**			**Sg**		**22 34 28.1**	**+0.1**
TOLK	**Toolik Lake Re**	**0.75**	**247**			**Pg**		**22 34 17.1**	**-1.2**
C24K	**Franklin Bluff**	**0.85**	**336**			**Pg**		**22 34 19.0**	**-1.4**
C24K						**Sb**		**22 34 31.6**	**-0.7**
E24K	**Your Creek**	**0.92**	**199**			**Pg**		**22 34 19.8**	**-1.9**
E24K						**Sg**		**22 34 33.1**	**-0.5**
D23K	**Nanushuk River**	**1.08**	**272**			**Pg**		**22 34 23.8**	**-0.8**
E23K	**Chandalar**	**1.14**	**219**			**Pb**		**22 34 24.0**	**-1.7**
E23K						**Sb**		**22 34 39.9**	**-0.7**
E25K	**Arctic Village**	**1.14**	**136**			**Pb**		**22 34 24.2**	**-1.5**
E25K						**Sb**		**22 34 40.2**	**-0.3**
C23K	**Itkillik River**	**1.36**	**312**			**Pn**		**22 34 28.8**	**-0.2**
C23K						**Sg**		**22 34 48.0**	**+0.2**
C26K	**Camden Bay**	**1.39**	**44**			**Pb**		**22 34 29.6**	**-0.3**
F24K	**Squaw Lake**	**1.44**	**183**			**Pn**		**22 34 28.9**	**-1.0**
F25K	**Christian Rive**	**1.56**	**150**			**Pn**		**22 34 31.6**	**-0.2**
F25K						**Sb**		**22 34 53.6**	**+1.0**
C27K	**Jago River**	**1.57**	**62**			**Pn**		**22 34 31.6**	**-0.2**
C27K						**Sg**		**22 34 53.9**	**-0.5**
D22K	**Ayikyak River**	**1.80**	**270**			**Pn**		**22 34 35.0**	**-0.1**
F26K	**Sheenjek River**	**1.82**	**132**			**Pn**		**22 34 35.6**	**+0.4**
BMAR	**Burnt Mountain**	**1.92**	**141**			**Pn**		**22 34 36.6**	**0.0**
BM04	**Burnt Mountain**	**1.93**	**141**			**Pn**		**22 34 37.0**	**+0.2**
COLD	**Coldfoot**	**1.97**	**210**			**Pn**		**22 34 38.0**	**+0.8**
COLD				Sn		**Sn**		**22 35 03.7**	**+1.8**
COLD				IAML				22 35 05.1	
	comp=E,328nm,0.6s								
COLD				IAML				22 35 09.9	
	comp=N,276nm,0.9s								
F22K	**John River**	**2.21**	**231**			**Pn**		**22 34 41.2**	**+0.7**
F22K						**Sb**		**22 35 10.8**	**-0.4**
G24K	**Hadweenzic Riv**	**2.26**	**178**			**Pn**		**22 34 41.3**	**0.0**
E21K	**Killik River**	**2.35**	**260**			**Pn**		**22 34 42.6**	**+0.1**
E21K						**Sb**		**22 35 15.2**	**0.0**
G23K	**Bananza Creek**	**2.41**	**203**			**Pn**		**22 34 43.7**	**+0.3**
D27M	**Malcolm River**	**2.43**	**80**			**Pn**		**22 34 44.7**	**+1.0**
B22K	**Teshekpuk Lake**	**2.44**	**308**			**Pn**		**22 34 43.4**	**-0.4**
B21K	**Ikpikpuk River**	**2.55**	**289**			**Pn**		**22 34 45.2**	**0.0**
C21K	**Knifeblade Rid**	**2.56**	**278**			**Pn**		**22 34 45.3**	**0.0**
FYU	**Fort Yukon**	**2.57**	**157**			**Pn**		**22 34 45.7**	**+0.2**
FYU				IAML				22 35 30.3	
	comp=N,154nm,0.9s								
FYU				IAML				22 35 49.0	
	comp=E,106nm,0.9s								
H25L	**Birch Creek**	**2.79**	**164**			**Pn**		**22 34 48.7**	**+0.2**
E28M	**Babbage River**	**2.99**	**93**			**Pn**		**22 34 52.2**	**+0.9**
G27K	**Doyon Strip**	**3.14**	**130**			**Pn**		**22 34 53.7**	**+0.3**
E20K	**Nigu River**	**3.19**	**261**			**Pn**		**22 34 54.1**	**0.0**
A22K	**Sinclair Lake**	**3.25**	**313**			**Pn**		**22 34 54.1**	**-0.7**
G21K	**Allakaket**	**3.29**	**225**			**Pn**		**22 34 55.2**	**-0.2**
H22K	**Ishtalitna Cre**	**3.38**	**207**			**Pn**		**22 34 56.8**	**+0.2**
B20K	**Meade River**	**3.50**	**292**			**Pn**		**22 34 58.1**	**-0.1**
PRP	**Porcupine Dome**	**3.55**	**165**			**Pn**		**22 34 59.5**	**+0.4**
PRP				Sn		**Sn**		**22 35 42.5**	**+1.4**
PRP				IAML				22 35 48.5	
	comp=E,46nm,0.7s								
F20K	**Avaraart Lake**	**3.57**	**242**			**Pn**		**22 34 59.3**	**0.0**
H27K	**Steamboat Moun**	**3.61**	**136**			**Pn**		**22 34 59.9**	**+0.1**
E29M	**Blow River**	**3.63**	**94**			**Pn**		**22 35 00.7**	**+0.7**
IMAR	**Indian Mountai**	**3.78**	**221**			**Pn**		**22 35 02.1**	**+0.3**
D19K	**Kuna River**	**3.83**	**268**			**Pn**		**22 35 02.7**	**+0.1**
POKR	**Poker Plat Res**	**3.85**	**178**			**Pn**		**22 35 03.2**	**+0.1**
E19K	**Redstone River**	**3.86**	**252**			**Pn**		**22 35 02.5**	**-0.7**
I26K	**Coal Creek Min**	**4.06**	**152**			**Pn**		**22 35 06.2**	**+0.2**
COLA	**College**	**4.09**	**181**			**Pn**		**22 35 06.7**	**+0.3**
MLY	**Manley**	**4.11**	**198**			**Pn**		**22 35 06.7**	**0.0**
MLY				IAML				22 36 22.0	
	comp=E,34nm,0.9s								
G29M	**Pine Creek**	**4.18**	**115**			**Pn**		**22 35 08.4**	**+0.8**
ILAR	**Eielson Array**	**4.21**	**175**	Pn		**Pn**		**22 35 08.7**	**+0.7**
	comp=E,2.2nm,0.3s,baz=356,slow=15,SNR=115								
ILAR				Sn		**Sn**		**22 35 57.4**	**+0.3**
	comp=E,1.3nm,0.3s,baz=358,slow=23,SNR=4.7								
ILAR				LR		LR		22 37 08.3	
	comp=E,55nm,19.3s,baz=70,slow=43								
	comp=E,12nm,0.6s								
CCB	**Clear Creek Bu**	**4.32**	**181**			**Pn**		**22 35 09.4**	**-0.1**
CCB				IAML				22 36 32.8	
	comp=E,25nm,1.0s								
F19K	**Shaleruckik Mo**	**4.36**	**246**			**Pn**		**22 35 11.0**	**+0.9**
NEA2	**Nenana**	**4.41**	**188**			**Pn**		**22 35 11.2**	**+0.5**
NEA2				IAML				22 36 35.4	
	comp=E,24nm,1.1s								
WRH	**Wood River Hil**	**4.50**	**182**			**Pn**		**22 35 12.1**	**+0.1**
WRH				IAML				22 36 35.4	
	comp=E,26nm,1.1s								
WRH				IAML				22 36 37.1	
	comp=N,22nm,1.2s								
HDA	**Harding Lake**	**4.57**	**176**			**Pn**		**22 35 13.5**	**+0.6**
HDA				IAML				22 36 50.6	
	comp=E,33nm,1.1s								
F30M	**Barrier River**	**4.62**	**101**			**Pn**		**22 35 15.6**	**+1.9**
I28M	**Miner Creek**	**4.63**	**136**			**Pn**		**22 35 14.6**	**+0.7**
G30M	**tAoh Zrail Nji**	**4.75**	**109**			**Pn**		**22 35 16.1**	**+0.6**
GWN	**Browne**	**4.85**	**189**			**Pn**		**22 35 17.3**	**+0.5**
A19K	**Wainwright**	**4.85**	**291**			**Pn**		**22 35 16.4**	**-0.4**
BPAW	**Bear Paw Mtn.**	**5.04**	**197**			**Pn**		**22 35 19.8**	**+0.3**
BPAW				IAML				22 36 53.4	
	comp=E,25nm,1.2s								
BPAW				IAML				22 36 59.4	
	comp=N,22nm,1.1s								
F18K	**Selawik**	**5.11**	**248**			**Pn**		**22 35 20.7**	**+0.3**
SCRK	**Sand Creek**	**5.21**	**162**			**Pn**		**22 35 22.1**	**+0.3**
SCRK				IAML				22 36 58.0	
	comp=E,21nm,1.2s								
INK	**Inuvik**	**5.22**	**90**			**Pn**		**22 35 22.0**	**+0.1**
INK	**Inuvik**	**5.22**	**90**	Pn		**Pn**		**22 35 21.5**	**-0.4**
	comp=E,1.1nm,0.3s,baz=281,slow=4.7,SNR=25								
INK				Sn		**Sn**		**22 36 21.3**	**-0.8**
	comp=E,1.5nm,0.3s,baz=194,slow=17,SNR=4.8								
INK				LR		LR		22 37 14.2	
	comp=E,66nm,19.6s,baz=20,slow=37								
	comp=E,10nm,0.6s								
MCK	**McKinley**	**5.26**	**186**			**Pn**		**22 35 23.5**	**+1.0**
MCK				IAML				22 36 26.9	
	comp=N,23nm,0.9s								
MCK				IAML				22 36 54.9	
	comp=E,13nm,0.9s								
RIDG	**Independent Ri**	**5.35**	**166**			**Pn**		**22 35 24.1**	**+0.3**
F31M	**Tsiigehtchic**	**5.42**	**100**			**Pn**		**22 35 25.3**	**+0.7**
DOT	**Dot Lake**	**5.52**	**163**			**Pn**		**22 35 26.8**	**+0.8**
KTH	**Kantishna Hill**	**5.57**	**195**	Pn		**Pn**		**22 35 26.8**	**0.0**

RND	**Reindeer**	**5.58**	**185**			**Pn**	**22 35 26.5**	**-0.5**
TRF	**Thorofare Moun**	**5.62**	**192**			**Pn**	**22 35 28.1**	**+0.6**
E17K	**Hotham Inlet**	**5.62**	**257**			**Pn**	**22 35 27.2**	**-0.3**
C17K	**DeLong Mountai**	**5.66**	**272**			**Pn**	**22 35 27.0**	**-0.9**
RDOG	**Red Dog Mine**	**5.66**	**268**			**Pn**	**22 35 25.4**	**-2.6**
I30M	**Mount Dempster**	**5.79**	**125**			**Pn**	**22 35 30.1**	**+0.3**
D17K	**Noatak River**	**5.83**	**265**			**Pn**	**22 35 29.2**	**-1.1**
DHY	**Denali Highway**	**5.90**	**179**			**Pn**	**22 35 31.7**	**+0.3**
DAWY	**Dawson**	**5.92**	**142**			**Pn**	**22 35 32.3**	**+0.8**
PAX	**Paxson**	**6.07**	**170**			**Pn**	**22 35 34.1**	**+0.4**
PAX				Sn		**Sn**	**22 36 45.2**	**+2.1**
MENT	**Mentasta**	**6.25**	**163**			**Pn**	**22 35 36.7**	**+0.6**
J30M	**Hart River**	**6.28**	**129**			**Pn**	**22 35 37.0**	**+0.5**
L27K	**Beaver Creek,**	**6.37**	**155**			**Pn**	**22 35 38.4**	**+0.7**
BCAR	**Beaver Creek A**	**6.38**	**155**			**Pn**	**22 35 37.9**	**+0.1**
C16K	**Lisburne Hills**	**6.49**	**272**			**Pn**	**22 35 38.1**	**-1.1**
K29M	**Barlow Dome**	**6.55**	**137**			**Pn**	**22 35 41.4**	**+1.1**
L29M	**L29M**	**7.03**	**142**			**Pn**	**22 35 47.5**	**+0.7**
M27K	**Edge Creek, AK**	**7.04**	**157**			**Pn**	**22 35 47.6**	**+0.7**
SCM	**Sheep Creek Mo**	**7.15**	**179**			**Pn**	**22 35 48.5**	**+0.1**
GHO	**Glory Hole Cre**	**7.22**	**185**	Pn		**Pn**	**22 35 50.9**	**+1.5**
KLU	**Klutina**	**7.52**	**173**	Pn		**Pn**	**22 35 55.2**	**+1.6**
KNK	**Knik Glacier**	**7.57**	**183**	Pn		**Pn**	**22 35 56.7**	**+2.5**
GLB	**Gilahina Butte**	**7.71**	**166**	Pn		**Pn**	**22 35 57.5**	**+1.4**
MCARA	**McCarthy VSAT**	**7.84**	**163**	Pn		**Pn**	**22 35 58.7**	**+0.8**
VRDI	**Verde Repeater**	**7.95**	**165**			**Pn**	**22 36 00.8**	**+1.2**
BARN	**Barnard Glacie**	**8.32**	**159**	Pn		**Pn**	**22 36 04.5**	**0.0**
CRQM	**Cirque**	**8.45**	**165**	Pn		**Pn**	**22 36 06.4**	**+0.1**
CTGM	**Chitina Glacie**	**8.45**	**158**	Pn		**Pn**	**22 36 06.5**	**+0.2**
LOGN	**Logan Glacier**	**8.63**	**158**	Pn		**Pn**	**22 36 09.2**	**+0.4**
ISLE	**Juniper Island**	**8.68**	**162**	Pn		**Pn**	**22 36 09.9**	**+0.4**
BERG	**Berg Lake**	**8.76**	**167**	Pn		**Pn**	**22 36 12.0**	**+1.6**
YAH	**Yahtse**	**8.98**	**161**			**Pn**	**22 36 15.9**	**+2.2**
YKA	**Yellowknife Ar**	**14.90**	**100**	Pn		Pn	22 37 29.1	-5.1
	comp=E,0.2nm,0.3s,baz=306,slow=13,SNR=4.7							
	comp=E,1.5nm,0.8s							
SHEM	**Shemya Is, Ala**	**24.09**	**247**	LR		LR	22 48 50.1	
	comp=E,50nm,18.3s,baz=273,slow=37							
NEW	**Newport**	**25.63**	**128**	LR		LR	22 50 53.7	
	comp=E,75nm,18.1s,baz=175,slow=40							
PDAR	**Pinedale Array**	**32.85**	**123**	P		**P**	**22 40 37.6**	**0.0**
	comp=E,0.7nm,0.9s,baz=320,slow=4.4,SNR=5.2							
	comp=E,0.7nm,0.9s							
NVAR	**Mina Array Bea**	**34.47**	**137**	P		**P**	**22 40 52.4**	**+0.7**
	comp=E,0.2nm,0.3s,baz=327,slow=9.8,SNR=1.8							
	comp=E,0.2nm,0.3s							
TXAR	**Lajitas Array**	**47.05**	**124**	P		**P**	**22 42 37.5**	**+2.1**
	comp=E,0.2nm,0.6s,baz=347,slow=6.0,SNR=3.7							
	comp=E,0.2nm,0.6s							

*DJA **05** 22:37:48.6±0.3, 3˚S±3˚×12˚8E±˚, h10km, M3.6/6, MLv3.6/6*
*IDC **05** 22:38:16.1±10.0, 3˚.41S×130˚.45E, h300km±115km, mb2.9/2, mbtmp3.5/3, Error ellipse: s-maj=128.4km s-min=33.1km az=72.0*

ISC 05 22:37:49.4±1.0, **3˚.4S**±0˚.1×**128˚.40E**±0˚.08, **h10**km, **n7**, σ1**9**29/8, **Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.32**	**220**	P		P	**Pb**	**22 37 57.0**	**-0.2**
AAI				S		S	**Sb**	**22 38 02.3**	**-0.1**
MSAI	**Masohi**	**0.54**	**80**	P		P	**Pb**	**22 38 00.6**	**-0.4**
NLAI	**Namlea**	**1.31**	**279**	P		P	**Pn**	**22 38 12.3**	**-1.5**
SWI	**Sorong**	**3.84**	**48**	P		P	**Pn**	**22 38 47.4**	**-1.2**
WRA	**Warramunga Arr**	**17.39**	**161**	P		**P**	**P**	**22 41 54.1**	**+0.4**
	0.9nm,0.9s,baz=346,slow=11,SNR=1.5								
WRA				S		Sn		22 44 55.4	-11
	0.2nm,0.3s,baz=354,slow=20,SNR=1.2								
ASAR	**Alice Springs**	**20.80**	**166**	P		**P**	**P**	**22 42 31.2**	**+0.2**
	0.9nm,0.5s,baz=348,slow=12,SNR=12								
	0.9nm,0.5s								
MKAR	**Makanchi Array**	**64.40**	**327**	P		**P**	**P**	**22 48 27.8**	**+2.0**
	0.7nm,1.0s,baz=111,slow=7.9,SNR=1.7								
	0.7nm,1.0s								

*IDC **05** 23:04:55.5±0.6, 1˚.92S×27˚.06E, h0km, mb4.1/22, mbtmp4.2/25, ML3.0/2, MS3.5/26, Error ellipse: s-maj=18.1km s-min=13.9km az=103.0*
*NEIC **05** 23:04:58.0±2.0, 1˚.995±0˚.008×27˚.12E±0˚.08, h10km±1km, mb4.7/56, Error ellipse: s-maj=14.7km s-min=12.5km az=140.0*

ISC 05 23:04:57.5±0.4, **1˚.94S**±0˚.06×**27˚.05E**±0˚.06, **h10**km, **n138**, σ1**9**27/116, **mb4.5**/53, **MS3.6**/23, **2D**, **Zaire**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**3.92**	**70**				**Pn**	**23 05 57.7**	**-0.3**
LODK	**Lodwar**	**9.87**	**57**				**Pn**	**23 07 17.2**	**-2.4**
KMBO	**Kilima Mbogo**	**10.23**	**86**	Pn			**Pn**	**23 07 23.1**	**-1.6**
	0.6nm,0.3s,baz=236,slow=15,SNR=5.0								
KMBO				Sn			**Sn**	**23 09 22.1**	**+2.4**
	1.1nm,0.3s,baz=222,slow=14,SNR=3.2								
KMBO				Lg			Lg	23 10 13.8	
	2.6nm,0.3s,baz=173,slow=23,SNR=8.6								
	5.1nm,0.7s								
KIBK	**Kibwezi**	**11.00**	**92**				**Pn**	**23 07 33.2**	**-1.9**
LSZ	**Lusaka**	**13.30**	**175**				**Pn**	**23 08 04.3**	**-2.4**
LSZ	**Lusaka**	**13.30**	**175**	Pn			**Pn**	**23 08 04.7**	**-2.0**
	21nm,0.6s,baz=6.7,slow=12,SNR=29								
LSZ				Sn			Sn	23 10 24.4	-10
	5.0nm,0.3s,baz=94,slow=16,SNR=6.2								
LSZ				Lg			Lg	23 11 52.2	
	3.9nm,0.3s,baz=295,slow=18,SNR=4.2								
FURI	**Furi**	**15.82**	**47**	LR			LR	23 14 24.7	
	comp=Z,101nm,19.1s,baz=228,slow=36								
KSANE	**Kasane**	**15.87**	**187**	*i* P			**Pn**	**23 08 40.8**	**-0.5**
KSANE				*i* S			Sn	23 11 17.9	-20
KSANE				IAML				23 13 43.7	
	comp=E,98nm,0.8s								
KSANE	**Kasane**	**15.87**	**187**				**Pn**	**23 08 39.2**	**-2.1**
XAUDM	**Khaudum**	**17.43**	**198**				**Pn**	**23 08 58.4**	**-2.6**
EDA	**Edea**	**17.82**	**289**				**Pn**	**23 09 03.9**	**-1.9**
GMARE	**Gumare**	**17.99**	**195**	*i* P			**Pn**	**23 09 07.0**	**-1.0**
GMARE				*i* S			Sn	23 12 07.9	-21
GMARE				IAML				23 15 00.5	
	comp=N,296nm,1.0s								
GMARE	**Gumare**	**17.99**	**195**	P			**Pn**	**23 09 06.6**	**-1.4**
GMARE				IAmb			IAmb	23 09 48.2	
	comp=Z,62nm,1.1s								
PHDHD	**Phuduhudu**	**18.31**	**188**	*i* P			**P**	**23 09 11.8**	**-0.2**
PHDHD				*i* S			Sn	23 12 17.0	-20
PHDHD				IAML				23 15 43.7	
	comp=N,171nm,1.6s								
PHDHD	**Phuduhudu**	**18.31**	**188**	P			**Pn**	**23 09 10.3**	**-1.7**
QNGWA	**Qangwa**	**18.41**	**198**	*i* P			**Pn**	**23 09 11.7**	**-1.4**
QNGWA				*i* S			Sn	23 12 19.8	-19
QNGWA				IAML				23 14 49.9	
	comp=E,90nm,1.3s								
QNGWA	**Qangwa**	**18.41**	**198**	P			**Pn**	**23 09 11.2**	**-1.9**
MATP	**Matopo**	**18.43**	**176**	P			**Pn**	**23 09 16.1**	**+2.7**
	comp=E,26nm,0.9s,baz=4.1,slow=14,SNR=35								
MATP				S			Sn	23 12 26.9	-13
	comp=E,6.1nm,0.7s,baz=265,slow=21,SNR=1.5								
MATP				Lg			Lg	23 14 37.5	
	comp=E,0.4nm,0.3s,baz=279,slow=19,SNR=4.0								
MATP				LR			LR	23 15 22.7	
	comp=E,60nm,18.5s,baz=48,slow=34								
SOOWA	**Sowa**	**18.53**	**182**	*i* P			**Pn**	**23 09 15.1**	**+0.5**
SOOWA				IAML				23 15 09.1	
	comp=N,86nm,0.2s								
BROLN	**Tlhalogang**	**19.05**	**179**	*i* P			**Pn**	**23 09 21.1**	**+0.2**
BROLN				*i* S			Sn	23 12 37.1	-17
BROLN				IAML				23 15 17.1	
	comp=E,60nm,2.1s								
TSUM	**Tsumeb**	**19.50**	**208**				**P**	**23 09 24.4**	**-0.7**
TSUM				IAmb			IAmb	23 09 37.6	
	comp=Z,21nm,0.7s								
TSUM	**Tsumeb**	**19.50**	**208**	P			**P**	**23 09 23.9**	**-1.2**
	comp=Z,1.3nm,0.3s,baz=11,slow=12,SNR=7.6								
TSUM				S			Sn	23 12 49.7	-16
	comp=Z,21nm,0.6s,baz=296,slow=9.0,SNR=5.7								
TSUM				Lg			Lg	23 15 06.9	
	comp=Z,0.8nm,0.3s,baz=94,slow=19,SNR=3.7								
TSUM				LR			LR	23 17 20.9	
	comp=Z,100nm,20.8s,baz=114,slow=38								
	comp=Z,8.0nm,0.7s								
CKGRV	**CKGRV**	**19.61**	**189**	*i* P			**Pn**	**23 09 27.6**	**-0.1**
CKGRV				*i* S			S	23 12 46.6	-21
CKGRV				IAML				23 15 47.9	
	comp=E,168nm,1.5s								
GRTLG	**Ghanzi**	**20.13**	**196**	*i* P			Pn	23 09 32.7	-1.1
GRTLG				*i* S			S	23 12 57.3	-21
GRTLG				IAML				23 15 49.4	
	comp=E,54nm,0.3s								
GRTLG	**Ghanzi**	**20.13**	**196**				**P**	**23 09 31.2**	**-0.8**
MREMI	**Moremi**	**20.51**	**179**	*i* P			**P**	**23 09 36.6**	**+0.5**
MREMI				IAML				23 15 55.0	
	comp=E,86nm,2.0s								
MREMI	**Moremi**	**20.51**	**179**				**P**	**23 09 35.2**	**-0.9**
MREMI				IAmb			IAmb	23 09 47.1	
	comp=Z,54nm,1.4s								
KGCAE	**Kacgae**	**21.32**	**192**	*i* P			**P**	**23 09 45.6**	**+0.7**
KGCAE				*i* S			S	23 13 21.6	-20
KGCAE				IAML				23 16 39.2	
	comp=E,85nm,1.5s								
KGCAE	**Kacgae**	**21.32**	**192**				**P**	**23 09 43.9**	**-0.9**
KGCAE				IAmb			IAmb	23 09 57.0	
	comp=Z,89nm,1.5s								
LPHEP	**Lephephe**	**21.33**	**183**	*i* P			**P**	**23 09 45.3**	**+0.4**
LPHEP				*i* S			S	23 13 22.6	-19
LPHEP				IAML				23 16 24.6	
	comp=E,57nm,2.1s								
LPHEP	**Lephephe**	**21.33**	**183**				**P**	**23 09 44.2**	**-0.7**
KDWAN	**Kaudwane**	**21.44**	**186**	P			**P**	**23 09 45.6**	**-0.5**
KDWAN				IAmb			IAmb	23 09 57.2	
	comp=Z,42nm,0.7s								
KOOLE	**Kule**	**21.96**	**197**	*i* P			**P**	**23 09 52.3**	**+0.5**
KOOLE				IAML				23 16 59.0	
	comp=N,62nm,1.0s								
KOOLE	**Kule**	**21.96**	**197**				**P**	**23 09 51.5**	**-0.2**
KOOLE				IAmb			IAmb	23 09 55.3	
	comp=Z,36nm,0.7s								
LKGWB	**Lokgwabe**	**22.76**	**194**				**P**	**23 09 58.3**	**-1.9**
LBTB	**Lobatse**	**22.99**	**183**				**P**	**23 10 02.5**	**-0.1**
LBTB				IAmb			IAmb	23 10 17.7	
	comp=Z,11nm,0.8s								
LBTB	**Lobatse**	**22.99**	**183**	LR			LR	23 19 32.8	
	comp=Z,103nm,21.3s,baz=32,slow=38								
PHPEN	**Phepeng**	**23.75**	**189**	P			**P**	**23 10 09.9**	**-0.4**
PHPEN				IAmb			IAmb	23 10 18.1	
	comp=Z,17nm,0.9s								
MAKGR	**Makgori**	**23.84**	**185**	P			**P**	**23 10 11.3**	**+0.2**
MAKGR				IAmb			IAmb	23 10 28.5	
	comp=Z,28nm,1.2s								
POGA	**Pongola**	**25.66**	**170**	P			**P**	**23 10 27.7**	**+0.1**
POGA				IAmb			IAmb	23 10 42.1	
	comp=Z,17nm,0.9s								
OPO	**Ambohidratompo**	**25.75**	**131**	LR			LR	23 20 29.7	
	comp=Z,166nm,18.2s,baz=180,slow=36								
BOSA	**Boshof**	**26.58**	**184**	P			**P**	**23 10 35.7**	**-0.4**
BOSA				IAmb			IAmb	23 10 57.7	
	comp=Z,27nm,1.5s								
BOSA	**Boshof**	**26.58**	**184**	P			**P**	**23 10 35.0**	**-1.2**
	comp=Z,5.4nm,0.7s,baz=3.4,slow=8.2,SNR=11								
BOSA				LR			LR	23 22 00.2	
	comp=Z,77nm,20.3s,baz=138,slow=38								
	comp=Z,5.4nm,0.7s								
MSEY	**Mahe Island**	**28.51**	**96**	P			**P**	**23 10 51.3**	**-2.2**
TORD	**Torodi Ar. Bea**	**29.28**	**301**				**P**	**23 11 00.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**29.28**	**301**	P			**P**	**23 10 59.1**	**-1.2**
	comp=Z,3.6nm,0.7s,baz=102,slow=7.6,SNR=23								
	comp=Z,3.6nm,0.7s								
SUR	**Sutherland**	**30.85**	**190**	P			**P**	**23 11 13.6**	**-0.6**
GRHM	**Graham

KK31					IAmb	IAmb	23 15 01.2		
	comp=Z,4.1nm,0.9s								
KKAR	**Karatay Array**	**59.44**	**36**			**P**	**23 15 00.1**	**-0.5**	
ARSB	**Arslanbob**	**59.90**	**39**			**P**	**23 15 03.1**	**-0.8**	
ARSB					IAmb	IAmb	23 15 04.3		
	comp=Z,3.9nm,0.7s								
AAK	**Ala-Archa**	**61.57**	**38**	LR	LR		23 42 23.1		
	comp=Z,66nm,21.3s,baz=230,slow=36								
EKA	**Eskdalemuir Ar**	**62.23**	**341**	P		**P**	**23 15 18.5**	**-0.8**	
	comp=Z,1.7nm,0.8s,baz=127,slow=7.7,SNR=1.9								
	comp=Z,1.7nm,0.8s								
HFS	**Hagfors**	**62.77**	**353**	P		**P**	**23 15 24.0**	**+1.2**	
	comp=Z,3.6nm,0.9s,baz=188,slow=10,SNR=4.1								
	comp=Z,3.6nm,0.9s								
RCBR	**Riachuelo**	**62.90**	**264**	LR	LR		23 37 45.3		
	comp=Z,18nm,20.7s,baz=76,slow=31								
FINES	**FINESS Array B**	**63.21**	**359**	P		**P**	**23 15 26.2**	**+0.5**	
FINES	**FINESS Array B**	**63.21**	**359**	P		**P**	**23 15 25.4**	**-0.3**	
	comp=Z,4.4nm,1.0s,baz=194,slow=3.1,SNR=5.2								
	comp=Z,4.4nm,1.0s								
NAO01	**NORSAR Array S**	**63.84**	**351**	P		**P**	**23 15 31.5**	**+1.6**	
NC405	**NORSAR Array S**	**63.98**	**352**	P		**P**	**23 15 30.5**	**-0.4**	
NB201	**NORSAR Array S**	**63.98**	**352**	P		**P**	**23 15 30.4**	**-0.5**	
NB2	**NORSAR Subarra**	**63.98**	**352**	P		**P**	**23 15 30.0**	**-0.9**	
	comp=Z,3.6nm,0.9s,baz=163,slow=6.5								
NOA	**NORSAR Array B**	**63.98**	**352**	P		**P**	**23 15 29.8**	**-1.2**	
	comp=Z,0.7nm,0.7s,baz=150,slow=7.3,SNR=2.4								
NOA				LR		LR	23 46 10.0		
	comp=Z,13nm,18.3s,baz=230,slow=39								
	comp=Z,0.7nm,0.7s								
NC303	**NORSAR Array S**	**64.14**	**352**	P		**P**	**23 15 32.6**	**+0.7**	
NC204	**NORSAR Array S**	**64.28**	**351**	P		**P**	**23 15 33.1**	**+0.3**	
BVAR	**Borovoye Array**	**65.65**	**27**	P		**P**	**23 15 40.5**	**-1.4**	
	comp=Z,0.9nm,0.6s,baz=234,slow=5.6,SNR=6.4								
BVAR				LR		LR	23 47 22.3		
	comp=Z,37nm,19.1s,baz=203,slow=39								
	comp=Z,0.9nm,0.6s								
SYO	**Syowa Base**	**67.49**	**175**	⇓*e*pP		**P**	**23 15 55.5**	**+2.2**	
KURBB	**Kurchatov Arra**	**68.25**	**32**	P		**P**	**23 15 58.0**	**-0.4**	
	comp=Z,1.8nm,0.7s,baz=244,slow=6.7,SNR=14								
	comp=Z,1.8nm,0.7s								
KURK	**Kurchatov**	**68.35**	**32**	P		**P**	**23 15 58.8**	**-0.3**	
MKAR	**Makanchi Array**	**68.46**	**37**	P		**P**	**23 15 59.8**	**-0.2**	
MKAR	**Makanchi Array**	**68.46**	**37**	P		**P**	**23 15 59.5**	**-0.5**	
	comp=Z,1.9nm,0.6s,baz=240,slow=5.3,SNR=20								
	comp=Z,1.9nm,0.6s								
ARCES	**ARCESS Array B**	**71.34**	**359**	P		**P**	**23 16 16.6**	**-0.6**	
ARCES					IAmb	IAmb	23 16 32.5		
	comp=Z,7.9nm,1.2s								
ARCES	**ARCESS Array B**	**71.34**	**359**	P		**P**	**23 16 16.1**	**-1.0**	
	comp=Z,0.8nm,0.5s,baz=165,slow=5.0,SNR=8.5								
	comp=Z,0.8nm,0.5s								
TROLL	**Troll, Antarti**	**71.67**	**188**	⇓P		**P**	**23 16 21.7**	**+2.4**	
	comp=Z,124nm,0.8s								
SNAA	**Sanae**	**72.18**	**190**	P		**P**	**23 16 25.4**	**+3.1**	
SNAA	**Sanae**	**72.18**	**190**	P		**P**	**23 16 23.9**	**+1.6**	
SNAA					IAmb	IAmb	23 16 26.7		
	comp=Z,6.4nm,1.3s								
SNAA	**Sanae**	**72.18**	**190**	P		**P**	**23 16 23.4**	**+1.1**	
	comp=Z,2.4nm,1.2s,baz=36,slow=14,SNR=3.2								
SNAA				LR		LR	23 45 46.3		
	comp=Z,39nm,19.7s,baz=63,slow=34								
	comp=Z,2.4nm,1.2s								
VNA1	**Neumayer--Stat**	**72.33**	**192**	P		**P**	**23 16 25.7**	**+2.6**	
VNA3	**Neumayer Olymp**	**73.09**	**192**	P		**P**	**23 16 28.4**	**+0.7**	
ZALV	**Zalesovo Beam**	**73.26**	**31**	P		**P**	**23 16 27.7**	**-1.2**	
	comp=Z,0.9nm,0.5s,baz=257,slow=5.9,SNR=4.5								
ZALV				LR		LR	23 49 59.6		
	comp=Z,34nm,19.8s,baz=248,slow=37								
	comp=Z,0.9nm,0.5s								
CMAR	**Chiang Mai Arr**	**73.48**	**70**	P		**P**	**23 16 30.6**	**-0.3**	
	comp=Z,1.5nm,0.3s,baz=254,slow=8.3,SNR=1.9								
CMAR				LR		LR	23 47 01.2		
	comp=Z,14nm,19.9s,baz=295,slow=34								
	comp=Z,1.5nm,0.3s								
BKNI	**Bangkinang**	**74.01**	**89**	P		**P**	**23 16 33.0**	**-1.2**	
PZH	**PanZhiHua**	**77.20**	**62**	P		**P**	**23 16 54.4**	**+2.0**	
GTA	**Gaotai**	**77.98**	**49**	*e*P		**P**	**23 16 57.0**	**+0.5**	
GTA				sP		PcP	23 17 06.0	-0.3	
GTA				pmax		pmax			
	comp=Z,3.0nm,1.4s								
LZH	**Lanzhou**	**80.49**	**53**	*e*P		P	23 17 05.4	-4.9	
LZH				sP		pP	23 17 11.3	-2.6	
LZH				pmax		pmax			
	comp=Z,13nm,1.3s								
SONM	**Songino Array**	**84.28**	**42**	P		**P**	**23 17 28.9**	**-1.0**	
	comp=Z,0.9nm,0.4s,baz=268,slow=8.1,SNR=2.2								
	comp=Z,0.3nm,0.4s								
HHC	**Hu-ho-hao-te**	**87.10**	**49**	*e*P		**P**	**23 17 45.1**	**+1.1**	
HHC				pmax		pmax			
	comp=Z,10.0nm,0.5s								
QSPA	**South Pole Qui**	**88.11**	**180**	P		**P**	**23 17 50.9**	**+2.5**	
QSPA				IAmb		IAmb	23 17 54.3		
	comp=Z,7.5nm,1.2s								
QSPA	**South Pole Qui**	**88.11**	**180**	P		**P**	**23 17 49.6**	**+1.2**	
	comp=Z,1.9nm,0.8s,baz=267,slow=3.0,SNR=5.7								
	comp=Z,1.9nm,0.8s								
NJ2	**Nanjing**	**92.55**	**58**	*e*P		**P**	**23 18 09.1**	**-0.5**	
NJ2				pmax		pmax			
	comp=Z,13nm,1.1s								
LPAZ	**La Paz**	**94.43**	**254**	P		**P**	**23 18 20.0**	**+0.6**	
	comp=Z,0.5nm,0.6s,baz=41,slow=6.4,SNR=4.1								
	comp=Z,0.5nm,0.6s								
TIXI	**Tiksi**	**95.55**	**18**	LR		LR	00 06 37.2		
	comp=Z,34nm,18.5s,baz=349,slow=39								
FITZ	**Fitzroy Crossi**	**97.56**	**108**	LR		LR	23 58 21.7		
	comp=Z,22nm,21.8s,baz=181,slow=33								

*UPP **05** 23:28:58.5±0.1, 67.85N×20.21E, h0km, ML2.2, Suspected explosion*
*HEL **05** 23:28:59.0±0.1, 67.85N×20.17E, h0km, ML1.8, Suspected explosion*
*IDC **05** 23:29:02.6±1.3, 67.81N×21.04E, h0km, mbtmp2.8/3, ML2.0/3, Error ellipse: s-maj=20.3km s-min=9.3km az=110.0*

ISC 05 23:28:58.8±0.8, 67.83N±0.02×20.29E±0.03, h0km, n31, σ1©38/48, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUA	**Kurravaara**	**0.13**	**8**	P		**Pg**	**23 29 01.0**	**-0.3**
KUA				S		**Sg**	**23 29 02.7**	**-0.3**
KOVU	**Salmi**	**0.40**	**353**	P		**Pg**	**23 29 05.7**	**-0.8**
KOVU				S		**Sg**	**23 29 11.0**	**-0.7**
NIKU	**Nikkaluokta**	**0.48**	**275**	P		**Pg**	**23 29 07.1**	**-0.9**
LANU	**Lannavaara**	**0.68**	**70**	P		**Pg**	**23 29 11.9**	**0.0**
LANU				S		**Sg**	**23 29 21.3**	**+0.6**
LANU	**Lannavaara**	**0.68**	**70**	PG		**Pg**	**23 29 11.7**	**-0.2**
LANU				SG		**Sg**	**23 29 21.0**	**+0.3**
DUNU	**Dundret**	**0.72**	**171**	P		**Pg**	**23 29 12.4**	**-0.2**
SALU	**Saltoluokta**	**0.82**	**237**	P		**Pg**	**23 29 13.6**	**-0.9**
KIF	**Kilpisjarvi**	**1.20**	**9**	*e*P		**Pg**	**23 29 20.9**	**-0.9**
KIF	**Kilpisjarvi**	**1.20**	**9**	PN		**Pg**	**23 29 21.5**	**-0.3**
KIF				MSG			23 29 36.1	
	comp=Z,17nm,0.2s							
KIF				SB		**Sb**	**23 29 37.8**	**-0.6**
PAJU	**Pajala**	**1.36**	**125**	P		**Pg**	**23 29 24.1**	**-0.7**
PAJU	**Pajala**	**1.36**	**125**	PG		**Pg**	**23 29 24.0**	**-0.8**
	baz=304							
PAJU				SG		**Sb**	**23 29 43.0**	**0.0**
HEF	**Hetta**	**1.39**	**64**	*e*P		**Pg**	**23 29 23.9**	**-1.5**
HEF	**Hetta**	**1.39**	**64**	PG		**Pg**	**23 29 24.3**	**-1.2**
	baz=253							
HEF				MSG			23 29 41.8	
	comp=Z,4.8nm,0.2s							
HEF				SG		**Sg**	**23 29 43.2**	**-0.2**
ERTU	**Ertsjaerv**	**1.48**	**149**	P		**Pn**	**23 29 26.5**	**-0.1**
ERTU	**Ertsjaerv**	**1.48**	**149**	PG		**Pn**	**23 29 26.1**	**-0.6**
ERTU				SN		**Sn**	**23 29 47.8**	**+1.1**
KTK1	**Kautokeino**	**1.61**	**41**	PN		**Pn**	**23 29 28.3**	**-0.3**
KTK1				SN		**Sg**	**23 29 51.9**	**+1.3**
HARU	**Harads**	**1.69**	**171**	P		**Pn**	**23 29 29.9**	**+0.3**
TRO	**Tromso**	**1.88**	**345**	PG		**Pn**	**23 29 32.1**	**-0.1**
TRO				SG		**Sn**	**23 29 56.7**	**+0.2**
KALU	**Kalix**	**2.32**	**147**	PG		**Pn**	**23 29 39.4**	**+1.3**
KALU				SG		**Sb**	**23 30 11.5**	**+0.9**
TOF	**Tornio**	**2.37**	**136**	PB		**Pb**	**23 29 40.7**	**-1.6**
TOF				MSG			23 30 10.3	
	comp=Z,2.9nm,0.2s							
TOF				SG		**Sb**	**23 30 13.3**	**+1.3**
ARA0	**ARCESS Array S**	**2.56**	**46**	PB		**Pb**	**23 29 43.5**	**-2.1**
ARA0				SG		**Sb**	**23 30 17.4**	**-0.3**
ARCES	**ARCESS Array B**	**2.56**	**46**	Pn		**Pn**	**23 29 42.8**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=224,slow=16,SNR=17							
ARCES				Sn		**Sn**	**23 30 14.9**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=225,slow=24,SNR=13							
	comp=Z,0.8nm,0.3s							
RAJF	**Raja-Jooseppi**	**3.07**	**74**	SG		**Sb**	**23 30 33.2**	**+1.0**
KEV	**Kevo**	**3.12**	**49**	PN		**Pn**	**23 29 48.8**	**-0.3**
KEV				SG		**Sb**	**23 30 35.3**	**+1.8**
RANF	**Ranua**	**3.14**	**122**	PB		**Pb**	**23 29 54.0**	**-1.4**
RANF				SG		**Sg**	**23 30 37.4**	**-2.2**
VRF	**Varrio**	**3.54**	**87**	PN		**Pn**	**23 29 54.2**	**-0.8**
VRF				SG		**Sg**	**23 30 50.4**	**-2.1**
OUL	**Oulu**	**3.56**	**138**	SG		**Sg**	**23 30 51.1**	**-1.8**
OLKF	**Oulanka, Finla**	**3.87**	**109**	PG		**Pb**	**23 30 09.8**	**+1.9**
KU1	**Kurvinen**	**4.33**	**117**	PB		Pn	23 30 10.7	+4.9
FINES	**FINESS Array B**	**6.87**	**156**	Pn		**Pn**	**23 30 44.1**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=346,slow=12,SNR=2.2							
FINES				Sn		**Sn**	**23 31 57.1**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=346,slow=22,SNR=1.2							
FINES				Lg		Lg	23 32 35.6	
	comp=Z,0.3nm,0.3s,baz=343,slow=28,SNR=5.4							
	comp=Z,3.2nm,1.0s							
NOA	**NORSAR Array B**	**7.85**	**214**	Pn		**Pn**	**23 30 58.4**	**+4.2**
	baz=25,slow=18,SNR=2.2							
NOA				Lg		Lg	23 33 13.6	
	baz=42,slow=19,SNR=3.3							
	comp=Z,0.3nm,0.8s							

IDC 05 23:46:17.6±3.2, 32.22S×178.26W, h0km, mb3.6/2, mbtmp3.7/3, ML3.1/1, Error ellipse: s-maj=77.4km s-min=47.3km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**7.12**	**211**	Pn		Pn	23 48 02.7	-0.2
	0.3nm,0.3s,baz=34,slow=16,SNR=7.8							
URZ				Sn		Sn	23 49 18.3	-6.2
	0.7nm,0.3s,baz=80,slow=11,SNR=1.7							
	2.8nm,0.3s							
ASAR	**Alice Springs**	**42.82**	**269**	P		P	23 54 17.9	+0.5
	0.2nm,0.3s,baz=110,slow=7.1,SNR=5.1							
	0.2nm,0.3s							
WRA	**Warramunga Arr**	**43.97**	**274**	P		P	23 54 26.0	-0.8
	0.4nm,0.3s,baz=115,slow=8.1,SNR=1.3							
	0.4nm,0.3s							
FINES	**FINESS Array B**	**146.76**	**339**	PKPbc		PKPbc	00 05 59.9	-0.8
	5.5nm,1.0s,baz=68,slow=5.9,SNR=4.0							

*NIED **06** 00:08:16.4, 32.69N×130.71E, h12km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr-1.17; Mθθ1.51; Mφφ-0.34; Mrθ-0.50; Mθφ0.25; Mφr-0.59; Fault plane solution: M0 1.59000×10^14 NP1: φs286.00000°, δ39.00000°, λ-52.00000°. NP2: φs61.00000°, δ61.00000°, λ-116.00000°.*

JMA 06 00:08:16.4±0.0, 32.7N±0.1×130.7E±0.1, h12km, MV3.5/20, NW KUMAMOTO PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIU3	**Izumi3**	**0.17**	**146**	*i* P		Pg	00 08 20.2	+0.1
JIU3				S		Sg	00 08 23.1	+0.3
JTA	**Tamana**	**0.31**	**332**	P		Pg	00 08 22.9	+0.1
JTA				S		Sg	00 08 27.3	+0.3
JZO	**Okuchi**	**0.55**	**189**	*i* P		Pg	00 08 27.2	0.0
JZO				S		Sg	00 08 34.7	+0.1

*SJA **06** 00:08:35.3±1.4, 21.33S×68.82W, h135km, ML3.8, MW3.8*
*NEIC **06** 00:08:36.3±1.0, 21.31S±0.03×68.79W±0.09, h135km±6km, mb4.3/6, ML4.0(GUC), Error ellipse: s-maj=13.0km s-min=3.4km az=102.0*
*GUC **06** 00:08:37.8±0.8, 21.32S×68.74W, h122km±5km, ML4.0*
*VAO **06** 00:08:39.9±2.0, 21.24S×68.27W, h130km±9km, mb4.4*
*IDC **06** 00:08:40.1±1.1, 21.27S×68.23W, h135km±7km, mb3.7/5, mbtmp4.2/9, MS2.4/1, Error ellipse: s-maj=36.5km s-min=15.3km az=115.0*

ISC 06 00:08:36.5±0.6, 21.34S±0.03×68.76W±0.05, h131km±5km, n101, σ1©65/132, mb4.1/6, 8C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB09	**IPOC Station P**	**0.64**	**224**			**Pn**	**00 08 56.9**	**+0.1**
PB09				Sn		**Sn**	**00 09 12.3**	**+0.1**
PB09	**IPOC Station P**	**0.64**	**224**	⇑*e*P		**Pn**	**00 08 57.1**	**+0.3**
PB09				*e*S		**Sn**	**00 09 12.0**	**-0.3**
PB09				IAML			00 09 13.7	
	comp=N,4μm,0.3s							
PB09	**IPOC Station P**	**0.64**	**224**	*i* P		**Pn**	**00 08 56.4**	**-0.4**
PB09				*e*S		**Sn**	**00 09 12.2**	**-0.1**
PB09				IAML			00 09 13.4	
	comp=Z,3μm,0.3s							
PB01	**IPOC Station P**	**0.74**	**293**			**Pn**	**00 08 57.1**	**-0.4**
PB01				Sn		**Sn**	**00 09 12.9**	**-0.3**
PB01	**IPOC Station P**	**0.74**	**293**	*e*P		**Pn**	**00 08 57.1**	**-0.4**
PB01				*e*S		**Sn**	**00 09 12.0**	**-1.2**
PB01				IAML			00 09 13.7	
	comp=E,7μm,0.2s							
PB01	**IPOC Station P**	**0.74**	**293**	*i* P		**Pn**	**00 08 56.4**	**-1.0**
PB01				*e*S		**Sn**	**00 09 13.3**	**0.0**
PB01				IAML			00 09 13.7	
	comp=Z,5μm,0.5s							
PB02	**IPOC Station P**	**1.06**	**271**			**Pn**	**00 09 00.3**	**+0.1**
PB02				Sn		**Sn**	**00 09 18.0**	**-0.1**
PB02	**IPOC Station P**	**1.06**	**271**	⇑*e*P		**Pn**	**00 09 00.5**	**+0.3**
PB02				*e*S		**Sn**	**00 09 17.6**	**-0.6**
PB02				IAML			00 09 19.8	
	comp=E,14μm,0.4s							
PB02	**IPOC Station P**	**1.06**	**271**	*i* P		**Pn**	**00 08 59.8**	**-0.5**
PB02				⇓*e*S		**Sn**	**00 09 18.1**	**-0.1**
PB02				IAML			00 09 19.5	
	comp=Z,13μm,0.3s							
PB03	**IPOC Station P**	**1.16**	**232**	Pn		**Pn**	**00 09 01.6**	**+0.2**
PB03				Sn		**Sn**	**00 09 19.8**	**-0.4**
PB08	**IPOC Station P**	**1.25**	**343**			**Pn**	**00 09 02.2**	**-0.2**
PB08				Sn		**Sn**	**00 09 21.7**	**-0.4**
PB08	**IPOC Station P**	**1.25**	**343**	⇑*e*P		**Pn**	**00 09 02.4**	**0.0**
PB08				*e*S		**Sn**	**00 09 21.4**	**-0.6**
PB08				IAML			00 09 23.5	
	comp=E,1μm,0.3s							
PB08	**IPOC Station P**	**1.25**	**343**	*i* P		**Pn**	**00 09 01.8**	**-0.6**
PB08				⇓*e*S		**Sn**	**00 09 21.0**	**-1.0**
PB08				IAML			00 09 22.9	
	comp=Z,947nm,0.4s							
PATCX	**Punta Patache**	**1.40**	**291**	Pn		**Pn**	**00 09 04.0**	**+0.3**
PATCX				Sn		**Sn**	**00 09 24.2**	**-0.2**
HMBC	**Humberstone**	**1.49**	**315**			**Pn**	**00 09 04.2**	**-0.6**
HMBC				Sn		**Sn**	**00 09 25.7**	**-0.6**
HMBC	**Humberstone**	**1.49**	**315**	⇑*e*P		**Pn**	**00 09 04.4**	**-0.4**
HMBC				*e*S		**Sn**	**00 09 25.7**	**-0.6**
HMBC				IAML			00 09 28.6	
	comp=N,3μm,0.3s							
HMBC	**Humberstone**	**1.49**	**315**	*i* P		**Pn**	**00 09 03.7**	**-1.1**
HMBC				*e*S		**Sn**	**00 09 25.5**	**-0.8**
HMBC				IAML			00 09 26.5	
	comp=Z,4μm,0.5s							
TA01	**Diego Aracena**	**1.53**	**300**			**Pn**	**00 09 04.9**	**-0.1**
TA01				Sn		**Sn**	**00 09 26.5**	**-0.4**
TA01	**Diego Aracena**	**1.53**	**300**	⇑*e*P		**Pn**	**00 09 05.0**	**-0.1**
TA01				*e*S		**Sn**	**00 09 26.1**	**-0.7**
TA01				IAML			00 09 27.6	
	comp=E,2μm,0.2s							
TA01	**Diego Aracena**	**1.53**	**300**	*i* P		**Pn**	**00 09 04.2**	**-0.9**
TA01				IAML			00 09 27.2	
	comp=Z,1μm,0.6s							
PB06	**IPOC Station P**	**1.56**	**209**			**Pn**	**00 09 06.0**	**+0.6**
PB06				Sn		**Sn**	**00 09 28.1**	**+0.4**
PB06	**IPOC Station P**	**1.56**	**209**	⇑*i*P		**Pn**	**00 09 06.1**	**+0.6**
PB06				*e*S		**Sn**	**00 09 27.9**	**+0.3**
PB06				IAML			00 09 30.2	
	comp=E,1μm,0.3s							
PB06	**IPOC Station P**	**1.56**	**209**	*i* P		**Pn**	**00 09 05.4**	**-0.1**
PB06				IAML			00 09 30.2	
	comp=Z,1μm,0.4s							
TA02	**Huaiquique**	**1.67**	**309**	*e*P		**Pn**	**00 09 06.2**	**-0.4**
TA02				*e*S		**Sn**	**00 09 28.7**	**-0.8**
TA02				IAML			00 09 33.3	
	comp=N,3μm,0.1s							
TA02	**Huaiquique**	**1.67**	**309**	*i* P		**Pn**	**00 09 05.7**	**-0.9**
TA02				IAML			00 09 33.4	
	comp=Z,1μm,0.1s							
AF01	**San Pedro de A**	**1.69**	**162**			**Pn**	**00 09 08.3**	**+1.0**
AF01	**San Pedro de A**	**1.69**	**162**	*e*P		**Pn**	**00 09 08.3**	**+1.0**
AF01				IAML			00 09 50.4	
	comp=E,1μm,0.4s							
GO01	**Chusmiza**	**1.71**	**346**			**Pn**	**00 09 07.5**	**-0.2**
GO01				Sn		**Sn**	**00 09 30.9**	**-0.4**
GO01	**Chusmiza**	**1.71**	**346**	⇓*e*P		**Pn**	**00 09 07.5**	**-0.2**
GO01				*e*S		**Sn**	**00 09 31.1**	**-0.2**
GO01				IAML			00 09 33.2	
	comp=E,2μm,0.2s							
GO01	**Chusmiza**	**1.71**	**346**	*i* P		**Pn**	**00 09 06.9**	**-0.7**
GO01				IAML			00 09 33.1	
	comp=Z,392nm,0.1s							
PB11	**IPOC Station P**	**1.78**	**332**			**Pn**	**00 09 07.4**	**-0.7**
PB11				Sn		**Sn**	**00 09 31.5**	**-0.8**
PB11	**IPOC Station P**	**1.78**	**332**	⇑*e*P		**Pn**	**00 09 07.6**	**-0.5**
PB11				*e*S		**Sn**	**00 09 31.3**	**-0.9**
PB11				IAML			00 09 33.5	
	comp=E,2μm,0.4s							
PB11	**IPOC Station P**	**1.78**	**332**	*i* P		**Pn**	**00 09 07.0**	**-1.1**
PB11				IAML			00 09 37.0	
	comp=Z,773nm,0.4s							
PB05	**IPOC Station P**	**2.02**	**221**			**Pn**	**00 09 11.0**	**+0.2**
PB05				Sn		**Sn**	**00 09 36.1**	**-1.1**
PB05	**IPOC Station P**	**2.02**	**221**	⇑*e*P		**Pn**	**00 09 11.2**	**+0.3**
PB05				*e*S		**Sn**	**00 09 35.9**	**-1.3**
PB10	**IPOC Station P**	**2.73**	**217**			**Pn**	**00 09 19.4**	**-0.2**
PB10				Sn		**Sn**	**00 09 48.6**	**-4.3**
PB10	**IPOC Station P**	**2.73**	**217**	⇓*e*P		**Pn**	**00 09 19.5**	**-0.2**
PB10				IAML			00 09 51.9	
	comp=E,230nm,0.4s							
PB10	**IPOC Station P**	**2.73**	**217**	*i* P		**Pn**	**00 09 19.4**	**-0.3**
PB10				IAML			00 10 15.6	
	comp=Z,162nm,0.8s							
PB16	**IPOC Station P**	**3.07**	**347**			**Pn**	**00 09 23.6**	**-1.1**
PB16				Sn		**Sn**	**00 09 58.2**	**-3.5**
PB16	**IPOC Station P**	**3.07**	**347**	*e*P		**Pn**	**00 09 26.2**	**+1.6**
PB16	**IPOC Station P**	**3.07**	**347**	*i* P		**Pn**	**00 09 25.8**	**+1.1**
PB16				IAML			00 10 37.1	
	comp=Z,107nm,0.5s							
YJA	**Yavi**	**3.13**	**106**	*i* P		**Pn**	**00 09 26.8**	**+1.5**
YJA				IAML			00 10 16.9	
	comp=Z,15nm,1.7s							
PB14	**IPOC Station P**	**3.61**	**205**			**Pn**	**00 09 31.0**	**-0.4**
PB14	**IPOC Station P**	**3.61**	**205**	*i* P		**Pn**	**00 09 31.4**	**0.0**
PB14				IAML			00 10 37.5	
	comp=Z,176nm,0.6s							
HJA	**Humahuaca**	**3.62**	**122**	*i* P		**Pn**	**00 09 33.8**	**+2.2**
HJA				IAML			00 10 23.4	
	comp=Z,18nm,0.8s							
PB18	**Visviri**	**3.79**	**350**	Pn		**Pn**	**00 09 32.8**	**-1.2**
GO02	**Mina Guanaco**	**3.88**	**191**			**Pn**	**00 09 34.6**	**-0.5**
GO02	**Mina Guanaco**	**3.88**	**191**	*i* P		**Pn**	**00 09 34.4**	**-0.7**
GO02				IAML			00 10 23.9	
	comp=Z,202nm,0.3s							
AZAP	**Zapla**	**4.46**	**131**	*i* P		**Pn**	**00 09 43.2**	**+0.6**
AZAP				IAML			00 10 40.7	
	comp=Z,24nm,0.8s							
LPAZ	**La Paz**	**5.06**	**7**			**Pn**	**00 09 50.4**	**-0.6**
LPAZ	**La Paz**	**5.06**	**7**	P		**Pn**	**00 09 52.8**	**+1.7**
	comp=Z,4.7nm,0.4s,baz=195,slow=5.1,SNR=30							
LPAZ				LR		LR	00 11 45.8	
	comp=Z,36nm,19.3s,baz=82,slow=38							
LPAZ	**La Paz**	**5.06**	**7**	*e*P		**Pn**	**00 09 52.6**	**+1.6**
AC01	**Pan de Azucar**	**5.08**	**199**			**Pn**	**00 09 49.3**	**-1.3**
AC01	**Pan de Azucar**	**5.08**	**199**	*e*P		**Pn**	**00 09 49.2**	**-1.5**
AC01	**Pan de Azucar**	**5.08**	**199**	*i* P		**Pn**	**00 09 48.6**	**-2.1**
AC01				IAML			00 11 14.5	
	comp=Z,61nm,0.6s							
AC02	**Maricunga**	**5.48**	**183**			**Pn**	**00 09 56.4**	**-0.2**
AC06	**Mina Casimiro**	**6.17**	**193**			**Pn**	**00 10 03.1**	**-2.2**
GO03	**Copiapo**	**6.37**	**192**			**Pn**	**00 10 05.9**	**-2.2**
AC04	**Llanos de Chal**	**7.15**	**197**	Pn		**Pn**	**00 10 14.5**	**-4.0**
CO01	**Juntas del Tor**	**8.69**	**188**			**Pn**	**00 10 37.7**	**-1.7**
CO05	**La Serena**	**8.83**	**194**	Pn		**Pn**	**00 10 41.0**	**-0.1**
GO04	**Tololo Observa**	**8.99**	**191**	Pn		**Pn**	**00 10 39.9**	**-3.6**
SIV	**San Ignacio**	**9.02**	**55**	P		**Pn**	**00 10 39.7**	**-4.1**
	comp=Z,29nm,0.5s,baz=241,slow=11,SNR=153							
**CO

TOLI2	Tolitoli	8.30	226	Pn	Pn	00 12 29.6 -0.8
SBUM	Sibu	15.13	254		P	00 13 58.3 +0.6
SBUM				IAmb	IAmb	00 13 59.9
	comp=Z,5.6nm,0.7s					
KNRA	Kununurra	22.57	175	P	P	00 15 16.5 -0.3
KNRA				IAmb	IAmb	00 15 18.7
	comp=Z,4.7nm,0.8s					
WRA	Warramunga Arr	27.75	164	P	P	00 16 01.9 -1.6
	comp=Z,0.5nm,0.3s,baz=346,slow=8.5,SNR=2.2					
	comp=Z,0.5nm,0.3s					
WR8	Warramunga Arr	27.81	164	P	P	00 16 04.2 +0.2
MBWA	Marble Bar	28.77	194	P	P	00 16 14.7 +2.3
MBWA				IAmb	IAmb	00 16 21.5
	comp=Z,4.3nm,0.7s					
ASAR	Alice Springs	31.23	167	P	P	00 16 33.3 -0.8
	comp=Z,0.4nm,0.4s,baz=341,slow=8.7,SNR=9.7					
ASAR				PcP	PcP	00 19 23.7 -0.2
	comp=Z,0.4nm,0.5s,baz=350,slow=2.6,SNR=5.4					
	comp=Z,0.4nm,0.4s					
BBOO	Buckleboo	40.52	168	P	P	00 17 53.1 +0.2
YSS	Yuzhno-Sakhali	42.16	16	P	P	00 18 10.8 +4.8
YSS				IAmb	IAmb	00 18 16.3
	comp=Z,11nm,0.7s					
SONM	Songino Array	44.27	340	P	P	00 18 23.9 +0.8
	comp=Z,0.2nm,0.4s,baz=180,slow=6.8,SNR=2.3					
	comp=Z,0.2nm,0.4s					
MKAR	Makanchi Array	54.95	324	P	P	00 19 44.1 +0.6
	comp=Z,0.3nm,0.3s,baz=108,slow=7.9,SNR=9.0					
	comp=Z,0.3nm,0.3s					
ZALV	Zalesovo Beam	57.75	332	P	P	00 20 03.5 +0.4
	comp=Z,1.5nm,0.3s,baz=126,slow=7.2,SNR=10					
	comp=Z,1.5nm,0.3s					
KURBB	Kurchatov Arra	59.06	326	P	P	00 20 13.1 +0.8
	comp=Z,1.6nm,0.5s,baz=126,slow=5.9,SNR=17					
	comp=Z,1.6nm,0.5s					
BVAR	Borovoye Array	64.65	326	P	P	00 20 50.3 +0.8
	comp=Z,1.0nm,0.5s,baz=114,slow=7.2,SNR=7.5					
	comp=Z,1.0nm,0.5s					
ILAR	Eielson Array	82.21	26	P	P	00 22 31.3 -0.4
	comp=Z,0.8nm,0.6s,baz=249,slow=4.9,SNR=13					
	comp=Z,0.8nm,0.6s					
VNDA	Vanda	86.60	173	P	P	00 22 53.2 -0.1
	comp=Z,0.2nm,0.4s,baz=323,slow=8.1,SNR=2.1					
	comp=Z,0.2nm,0.4s					
ARCES	ARCESS Array B	87.44	340	P	P	00 22 57.2 -0.5
	comp=Z,1.9nm,0.9s,baz=84,slow=5.0,SNR=6.8					
	comp=Z,1.9nm,0.9s					
FINES	FINESS Array B	89.01	332	P	P	00 23 04.8 -0.4
	comp=Z,4.7nm,1.0s,baz=99,slow=4.4,SNR=3.4					
	comp=Z,4.7nm,1.0s					
TORD	Torodi Ar. Bea	121.87	290	PKP	PKPdf	00 29 03.0 -1.6
	comp=Z,0.2nm,0.4s,baz=46,slow=2.9,SNR=5.5					

*GRAL **06** 00:15:10.5±0.3, 32°.61N×34°.39E, h11km±5km, MD3.4*
*HLW **06** 00:15:10.2, 32°.56N×34°.46E, h16km±5km, Md3.3, Ml2.9*
*GII **06** 00:15:10.1±0.0, 32°.542N±0°.002×34°.481E±0°.001, h18km, Mws2.6, confirmed*

ISC 06 00:15:09.2±1.1, 32°.55N±0°.03×34°.45E±0°.05, h12km, n56, σ0§44/59, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OFRI	`Ofer	0.46	81	P		Pb	00 15 19.5	+0.3
OFRI	`Ofer	0.46	81	S		Sb	00 15 25.7	-0.2
SLTI	Sal'it	0.58	122	P		Pb	00 15 21.6	+0.3
SLTI	Sal'it	0.58	122	S		Sb	00 15 29.6	0.0
BLGI	Bet Lehem HaGe	0.65	73	P		Pb	00 15 22.5	0.0
SALP	Salfit	0.79	127	P		Pg	00 15 25.0	+0.6
SALP	Salfit	0.79	127	S		Sg	00 15 35.5	+0.8
HNTI	Hanita	0.81	48	P		Pb	00 15 25.4	+0.2
MMLI	Mount Malkishu	0.83	97	P		Pg	00 15 25.3	+0.1
MMLI	Mount Malkishu	0.83	97	S		Sg	00 15 36.2	+0.2
MMC7	Mount Meron ar	0.92	59	P		Pg	00 15 27.1	+0.1
MMA0B	Mount Meron ar	0.93	60	P		Pg	00 15 27.2	+0.1
MMA0B	Mount Meron ar	0.93	60	S		Sb	00 15 39.5	0.0
HMDT	Nahal Hemdat	0.95	108	P		Pg	00 15 27.6	0.0
HMDT	Nahal Hemdat	0.95	108	S		Sb	00 15 40.6	+0.4
UJAP	Al Uja	1.04	124	P		Pb	00 15 29.2	0.0
UJAP	Al Uja	1.04	124	S		Sb	00 15 43.0	+0.3
AMAZ	Amatzia	1.09	159	P		Pb	00 15 29.9	0.0
AMAZ	Amatzia	1.09	159	S		Sb	00 15 44.9	+0.9
GEM	Giv'at Ha'Em	1.21	57	P		Pn	00 15 31.8	-0.2
GEM	Giv'at Ha'Em	1.21	57	S		Sb	00 15 47.5	-0.2
KSHT	Keshet	1.22	69	P		Pn	00 15 32.2	0.0
KSHT	Keshet	1.22	69	S		Sb	00 15 48.2	+0.1
DSI	Dead Sea	1.25	141	P		Pn	00 15 32.4	-0.2
DSI	Dead Sea	1.25	141	S		Sb	00 15 48.3	-0.6
NATI	Neve Ativ	1.29	56	P		Pn	00 15 33.1	+0.1
NATI	Neve Ativ	1.29	56	S		Sb	00 15 49.9	-0.1
YTIR	Yattir	1.31	154	P		Pn	00 15 33.3	-0.1
YTIR	Yattir	1.31	154	S		Sb	00 15 50.5	0.0
SHBL	Chebaa	1.35	53	eP		Pn	00 15 33.9	-0.1
SHBL				eS		Sb	00 15 51.1	-0.6
QRWL	Qaraoun	1.44	46	eP		Pn	00 15 35.1	0.0
MDBI	Mazsada	1.45	148	P		Pn	00 15 34.3	-0.9
MDBI	Mazsada	1.45	148	S		Sn	00 15 53.8	-0.4
MSBI	Mazada	1.45	148	P		Pn	00 15 35.4	+0.2
DQRL	Deir Qamar	1.49	39	eP		Pn	00 15 35.8	-0.1
DQRL				eS		Sn	00 15 54.5	-0.7
RCY	Rachaya	1.50	50	eP		Pn	00 15 36.2	+0.2
RCY				eS		Sn	00 15 55.3	-0.3
GHAJ	Ghor Haditha	1.56	142	P		Pn	00 15 37.5	+0.7
KZIT	Kziot	1.64	182	P		Pn	00 15 37.9	+0.1
KZIT	Kziot	1.64	182	S		Sn	00 15 57.7	-1.2
BHL	Bhannes	1.69	36	eP		Pn	00 15 38.5	-0.1
ZAHL	Zahle	1.77	42	eP		Pn	00 15 40.0	+0.2
IDAN	Idan	1.85	158	P		Pn	00 15 40.8	+0.1
ZFRI	Zfri	2.08	163	P		Pn	00 15 43.8	-0.1
HWQ	Hawqa	2.13	35	eP		Pn	00 15 44.8	0.0
PRNI	Paran	2.24	168	P		Pn	00 15 46.0	-0.1
PRNI	Paran	2.24	168	S		Sn	00 16 13.4	-0.3
KRMI	Paran Flat	2.43	174	P		Pn	00 15 48.8	0.0
HRFI	Mount Harif	2.55	169	P		Pn	00 15 50.3	-0.1
HRFI	Mount Harif	2.55	169	S		Sn	00 16 20.0	-1.4
CSS	Mathiatis	2.58	339	P		Pn	00 15 51.3	+0.5
MBRI	Mt Berech	2.77	172	P		Pn	00 15 53.4	-0.1
EIL	Elat	2.90	171	P		Pn	00 15 55.5	+0.3
EIL	Elat	2.90	171	S		Sn	00 16 29.0	-1.0
HBST	Basata	3.33	176	P		Pn	00 16 01.9	+0.8
HKAT	Jabal Katrina	4.03	186	P		Pn	00 16 10.5	-0.4
RYAN	Fayoum	4.98	227	⇑P		Pn	00 16 24.1	+0.3

*AFAD **06** 00:27:28.5, 36°.41N×28°.64E, h11km±2km, ML2.3*
*THE **06** 00:27:29.0, 36°N±4°×2°9E±°, h12km±6km, M2.4/6, ML/h2.4/6*
*ISK **06** 00:27:28.4, 36°.42N×28°.69E, h7km, ML2.6/13*
*ATH **06** 00:27:28.7, 36°.38N×28°.68E, h14km±1km, ML2.5/4, Manual Solution by N.Liadopoulou First location: 2019/09/06 00:28:52, This location: 2019/09/06 07:33:37 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*

ISC 06 00:27:28.8±1.0, 36°.41N±0°.02×28°.66E±0°.02, h14km±8km, n62, σ0§62/90, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RDI1	Rhodes Town Ha	0.35	277	P		Pb	00 27 36.6	-0.3
RDI1				S		Sb	00 27 42.0	-0.3
RODB	Rodos	0.36	276	P		Pg	00 27 36.2	+0.2
RODB				S		Sb	00 27 42.2	-0.2
IZZE	Mula-Seydike	0.46	86	P		Pg	00 27 37.7	-0.2
IZZE				S		Sb	00 27 45.0	-0.2
ARG	Arkhangelos	0.47	246	P		Pg	00 27 36.4	+0.2
ARG				Sg		Sb	00 27 45.8	+0.1
ARG	Arkhangelos	0.47	246	P		Pg	00 27 38.0	-0.2
ARG				S		Sb	00 27 45.7	+0.1
ARG	Arkhangelos	0.47	246	P		Pg	00 27 38.2	+0.1
ARG				S		Sb	00 27 45.4	-0.3
SABU	Mula-Dalaman	0.48	31	P		Pg	00 27 38.0	-0.4
SABU				S		Sb	00 27 45.4	-0.7
SABU				*i*	IAML		00 27 47.0	
	comp=N,265nm,0.2s							
SABU				*i*	IAML		00 27 49.0	
	comp=E,198nm,0.4s							
TURN	Turunc	0.50	318	Pg		Pg	00 27 38.5	-0.1
TURN				Sg		Sg	00 27 46.0	+0.7
TURN	Turunc	0.50	318	P		Pg	00 27 38.2	-0.4
TURN				S		Sg	00 27 45.4	+0.1
TURN				*i*	IAML		00 27 46.0	
	comp=N,207nm,0.4s							
RGE1	Gennadi, Rhode	0.70	237	P		Pg	00 27 42.3	-0.2
RGE1				S		Sg	00 27 51.6	-0.2
CAME	Cameli-Denizli	0.74	44	Pg		Pg	00 27 42.7	-0.6
KSL	Kastellorizon	0.79	109	P		Pb	00 27 44.1	-0.1
KSL				S		Sb	00 27 55.5	+0.8
KSL	Kastellorizon	0.79	109	P		Pg	00 27 43.8	-0.3
KSL				S		Sb	00 27 54.4	-0.4
KNIK	Mula-Seydike	0.85	59	P		Pg	00 27 44.7	-0.7
KNIK				S		Sn	00 27 57.8	-1.0
KNIK				*i*	IAML		00 28 01.0	
	comp=E,80nm,0.3s							
DATC	Datca-Mugla	0.88	294	Pg		Pn	00 27 46.6	-0.1
DATC				Sg		Sn	00 27 59.1	-0.1
CAEL	Denizli, Camel	0.89	36	P		Pg	00 27 45.2	-0.9
CAEL				*i*	IAML		00 28 12.0	
	comp=E,98nm,0.5s							
CAEL				*i*	IAML		00 28 19.0	
	comp=N,81nm,0.5s							
MULA	Mugla, Merkez-	0.89	342	P		Pb	00 27 46.6	+0.5
MULA				*i*	IAML		00 28 05.0	
	comp=E,88nm,0.4s							
DNZT	Denizli-Tavas-	0.92	18	P		Pg	00 27 45.7	-0.9
DNZT				S		Sb	00 27 59.6	+1.0
DAT	Datca	0.93	291	Pg		Pg	00 27 46.9	+0.1
DAT	Datca	0.93	291	P		Pg	00 27 46.9	+0.1
DAT	Datca	0.93	291	P		Pg	00 27 46.6	-0.2
DAT				S		Sn	00 28 00.6	-0.1
YAZI	Mula-Dat§a-	1.01	286	P		Pb	00 27 47.7	-0.4
YAZI				S		Sg	00 27 60.0	-1.6
TAVA	DENIZLI_Tavas	1.07	11	P		Pb	00 27 48.7	-0.5
GOLH	Golhisar	1.10	41	P		Pb	00 27 49.3	-0.3
GOLH				S		Sn	00 28 06.7	+1.8
GOLH				*i*	IAML		00 28 10.0	
	comp=N,71nm,0.8s							
GOLH				*i*	IAML		00 28 10.0	
	comp=E,81nm,0.3s							
BDRM	Kayabasi	1.18	304	P		Pn	00 27 50.7	-0.1
BDRM				S		Sb	00 28 05.3	-0.7
APMY	Acipayam-Deniz	1.18	26	Pn		Pb	00 27 51.0	0.0
DNIZ	Denizli-Tavas-	1.25	14	P		Pg	00 27 52.5	-0.4
DNIZ				S		Sb	00 28 07.8	-0.5
DNIZ				*i*	IAML		00 28 21.0	
	comp=N,149nm,0.3s							
AKUM	Antalya-Kumluc	1.36	93	P		Pg	00 27 54.4	-0.5
AYDN	Tasoluk	1.40	334	P		Pb	00 27 55.0	+0.3
AYDN				S		Sn	00 28 11.6	-0.6
AYDN				*i*	IAML		00 28 18.0	
	comp=N,60nm,0.4s							
AYDN				*i*	IAML		00 28 19.0	
	comp=E,63nm,0.3s							
ESEN	Aydn-Nazilli	1.41	350	P		Pb	00 27 55.1	+0.3
ESEN				S		Sn	00 28 10.7	-1.7
ESEN				*i*	IAML		00 28 16.0	
	comp=N,40nm,0.5s							
ESEN				*i*	IAML		00 28 17.0	
	comp=E,64nm,0.3s							
KLNA	Kalymnos	1.46	292	P		Pn	00 27 55.1	+0.4
KORT	Korkueli	1.48	66	Pn		Pg	00 27 56.6	-0.7
KORT	Korkueli	1.48	66	P		Pg	00 27 57.5	+0.3
KORT				S		Sg	00 28 17.9	+1.3
KORT				*i*	IAML		00 28 26.0	
	comp=E,45nm,0.5s							
KORT				*i*	IAML		00 28 27.0	
	comp=N,51nm,0.6s							
KARP	Karpathos	1.49	235	Pn		Pb	00 27 56.6	+0.4
KARP	Karpathos	1.49	235	P		Pn	00 27 55.5	+0.4
KARP				S		Sn	00 28 14.5	+0.1
KARP	Karpathos	1.49	235	P		Pn	00 27 55.7	+0.6
INCE	Denizli-Bozkur	1.49	29	P		Pb	00 27 56.5	+0.2
DDIM	Aydin, Didim	1.55	313	P		Pb	00 27 56.9	-0.3
DDIM				S		Sb	00 28 17.0	+0.4
DDIM				*i*	IAML		00 28 26.0	
	comp=E,65nm,0.6s							
DDIM				*i*	IAML		00 28 27.0	
	comp=N,51nm,0.6s							
NAZL	Nazilli-Aydin	1.58	349	Pn		Pb	00 27 57.6	-0.2
AYDB	Zeytinkoy-Aydi	1.66	338	Pn		Pn	00 27 58.5	+1.0
GCAM	G?zelcami?	1.72	319	Pn		Pb	00 27 59.6	-0.6
GCAM	G?zelcami?	1.72	319	P		Pn	00 27 59.0	+0.7
GCAM				*i*	IAML		00 28 25.0	
	comp=N,34nm,0.2s							
GCAM				*i*	IAML		00 28 25.0	
	comp=E,42nm,0.5s							
BUCA	Burdur, Bucak-	1.78	58	P		Pg	00 28 02.5	-0.4
KIRA	zmir-Kiraz	1.80	353	P		Pn	00 28 00.5	+1.1
IZMR	zmir-demi	1.82	342	P		Pb	00 28 01.7	-0.1
IZMR				S		Sn	00 28 22.0	-0.4
ODEM	Odemis-Izmir	1.92	346	Pn		Pn	00 28 02.3	+1.2
SMG	Samos	1.95	312	P		Pn	00 28 01.9	+0.4
SMG				S		Sn	00 28 25.9	+0.1
SMG	Samos	1.95	312	P		Pn	00 28 02.0	+0.4
PASA	Karahalli, USA	2.05	19	P		Pn	00 28 03.4	+0.5
ISP	Isparta	2.05	46	P		Pn	00 28 04.2	+1.3
MANT	Manisa	2.08	358	P		Pn	00 28 04.3	+0.9
KULA	Kula-Manisa	2.10	360	Pn		Pn	00 28 04.7	+1.1
USAK	Uak-Merkez	2.32	7	P		Pn	00 28 07.4	+0.8
USAK				*i*	IAML		00 28 36.0	
	comp=N,23nm,1.0s							
ZKR	Zakros	2.37	238	P		Pn	00 28 07.6	+0.4
SNT5	Nea Kammeni, S	2.63	271	P		Pn	00 28 11.7	+0.8
NPS	Neapolis	2.73	246	P		Pn	00 28 11.8	-0.4
NPS				S		Sn	00 28 45.6	+0.7
NPS	Neapolis	2.73	246	P		Pn	00 28 12.5	+0.3
CHOS	Chios island	2.87	314	P		Pn	00 28 14.9	+0.8
IDI	Anoyia	3.26	251	P		Pn	00 28 19.6	0.0
AKMS	Akamas	3.29	114	P		Pn	00 28 19.8	-0.2
ALFC	Alefka	3.44	110	P		Pn	00 28 21.6	-0.3
NATA	Nata	3.58	116	P		Pn	00 28 23.7	-0.1

WEL 06 00:39:42.3±1.0, 36°S±8°×18°0E±1°0, h12km, M3.6/12, ML4.0/14, MLv3.6/12, Error ellipse: s-maj=14.8km s-min=7.3km az=125.3, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WMGZ	Waiomatatini S	1.81	221	P		Pn	00 40 14.1	+0.8
WMGZ				S		Sb	00 40 38.5	+0.5
PKGZ	Pakihiroa	2.03	226	P		Pn	00 40 16.9	+0.6
PKGZ				S		Sb	00 40 43.3	-1.1
PUZ	Puketiti	2.08	219	P		Pn	00 40 17.3	+0.2
PUZ				S		Sn	00 40 44.0	+1.1
HAZ	Te Kaha	2.15	233	P		Pn	00 40 18.7	+0.8
HAZ				S		Sb	00 40 46.8	-0.8
TWGZ	Tauwhareparae	2.31	222	P		Pn	00 40 20.9	+0.7
TWGZ				S		Sn	00 40 49.9	+1.4
RUGZ	Raukumara Rang	2.34	230	P		Pn	00 40 21.7	+1.1
RUGZ				S		Sn	00 40 51.0	+1.6
CNGZ	Carnagh Statio	2.44	214	P		Pn	00 40 22.3	+0.5
CNGZ				S		Sn	00 40 52.9	+1.4
RIGZ	Rimuhau	2.82	217	P		Pn	00 40 26.8	-0.4
RIGZ				S		Sn	00 41 01.2	+0.1
RAGZ	Rawiri	2.85	224	P		Pn	00 40 27.3	-0.3
RAGZ				S		Sn	00 41 01.9	+0.1
URZ	Urewera	2.87	231	P		Pn	00 40 28.1	+0.2
URZ				S		Sn	00 41 02.6	+0.3
PRGZ	Paritu Road	2.94	213	P		Pn	00 40 27.6	-1.2
PRGZ				S		Sn	00 41 04.6	+0.5
SNGZ	Shannon Statio	3.09	221	P		Pn	00 40 30.5	-0.5
SNGZ				S		Sn	00 41 07.7	-0.2
MHGZ	Mahia Peninsul	3.12	210	P		Pn	00 40 30.7	-0.6
RTZ	Ruatahuna	3.18	227	P		Pn	00 40 32.0	-0.2
RTZ				S		Sn	00 41 10.5	+0.5
MUGZ	Murupara	3.22	230	P		Pn	00 40 32.0	-0.6
MUGZ				S		Sn	00 41 10.7	-0.2
KUZ	Kuaotunu	3.40	264	P		Pn	00 40 34.7	-0.4
BKZ	Black Stump Fm	3.83	224	P		Pn	00 40 40.4	-0.7
BKZ				S		Sn	00 41 23.9	-2.1
MKAZ	Moumakai	3.88	259	P		Pn	00 40 41.0	-0.7
BFZ	Birch Farm	5.10	213	P		Pn	00 40 55.2	-3.3
BFZ				S		Sn	00 41 53.4	-3.9

*CATAC **06** 00:51:36.7±0.4, 6°N±4°×7°7W±°, h1km, M3.4/8, MLv3.4/8, Error ellipse: s-maj=8.5km s-min=5.7km az=21.7, confirmed*
*UPA **06** 00:51:38.1±2.5, 6°.17N×77°.06W, h25km±44km, MW3.9*
*RSNC **06** 00:51:40.0±0.0, 6°N±2°×7°7W±°, h31km±4km, M2.9, ML2.6*

ISC 06 00:51:38.6±1.0, 6°.28N±0°.03×77°.04W±0°.03, h32km±10km, n42, σ1§96/68, 1C-2D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SOLC	Bahia Solano	0.37	262	P		Pb	00 51 47.7	+0.5
SOLC				S		Sb	00 51 55.1	+2.0
CBOC	Ciudad Bolivar	1.10	112	P		Pn	00 51 56.7	-1.2
CBOC				S		Sn	00 52 09.5	-2.6
DBBC	Dabeiba	1.10	48	P		Pn	00 51 56.6	-1.3
DBBC				S		Sn	00 52 10.0	-2.1
PTAC	Punta Ardita,	1.15	319	⇓*i*	P	Pn	00 51 59.2	+0.7
PTAC				*i*	S	Sn	00 52 14.0	+0.9
PTAC	Punta Ardita,	1.15	319	P		Pn	00 51 59.1	+0.7
PTAC				S		Sn	00 52 14.6	+1.5
HELC	Santa Helena	1.50	93	*i*	P	Pn	00 52 03.2	-0.4
HELC				*i*	S	Sn	00 52 22.1	-0.3
HELC	Santa Helena	1.50	93	P		Pn	00 52 03.5	-0.2
HELC				S		Sn	00 52 21.8	-0.6
HELC	Santa Helena	1.50	93	P		Pn	00 52 03.1	-0.5
HELC				S		Sn	00 52 21.2	-1.2
APAC	Apartado, Choc	1.68	16	P		Pn	00 52 06.1	+0.4
APAC				S		Sn	00 52 29.3	+3.2
GUY2C	Guyana, Caldas	1.97	122	P		Pn	00 52 11.0	+0.9
GUY2C				S		Sn	00 52 35.4	+1.5
NIZA	Niza - Manizal	1.98	128	P		Pn	00 52 11.1	+1.0
NIZA				S		Sn	00 52 35.7	+1.8
UREC	San Jos de Ur	2.09	46	⇓*i*	P	Pn	00 52 12.3	+0.9
UREC				*eS*		Sn	00 52 39.5	+3.0
UREC	San Jos de Ur	2.09	46	P		Pn	00 52 12.2	+0.7
UREC				S		Sn	00 52 37.9	+1.5
RECRC	Villamaria, Ca	2.13	128	P		Pn	00 52 13.6	+1.2
RECRC				S		Sn	00 52 39.7	+1.7
NORC	Norcasia	2.27	108	P		Pn	00 52 15.9	+1.9
NORC				S		Sn	00 52 43.2	+2.3
CAPC	Capurgana	2.36	353	P		Pn	00 52 17.9	+2.8
CAPC				S		Sn	00 52 46.3	+3.3
CAP2	Capurgana	2.38	352	*eP*		Pn	00 52 15.5	+0.2
CAP2				*eP*		Pb	00 52 16.3	-4.5
CAP2				*eS*		Sn	00 52 44.9	+1.4
CAP2	Capurgana	2.38	352	P		Pn	00 52 11.8	-3.5
YOTC	Yotoco, Valle	2.38	163	P		Pn	00 52 15.4	-0.1
YOTC				S		Sn	00 52 42.5	-1.2
ANIL	Santa Ana	2.41	137	P		Pn	00 52 18.1	+2.1
ANIL				S		Sb	00 52 49.1	-1.8
UPD2	Meteti	2.45	337	*i*	P	Pn	00 52 18.7	+2.3
UPD2				*i*	S	Sn	00 52 50.3	+5.0
ZARC	Zaragoza, Cauc	2.48	61	P		Pn	00 52 17.8	+1.0
ZARC				S		Sn	00 52 46.7	+0.7
PTBC	PUERTO BERRIO,	2.58	84	P		Pn	00 52 20.3	+2.1
PTBC				S		Sn	00 52 49.9	+1.4
LCBC	Los crdobas,	2.65	15	P		Pn	00 52 20.7	+1.6
TOTI	Torti	2.92	335	*eP*		Pn	00 52 24.2	+1.4
ORTC	Ortega, Tolima	2.96	143	P		Pn	00 52 26.1	+2.8
ORTC				S		Sn	00 53 01.7	+4.0
ROSC	El Rosal	3.06	118	P		Pn	00 52 28.6	+3.5
JAMC	Jamundi, Valle	3.06	173	P		Pn	00 52 27.0	+2.0
PRAC	Prado	3.33	140	P		Pn	00 52 32.0	+3.5
AZU	Azuero	3.54	295	⇑*eP*		Pn	00 52 32.5	+1.1
AZU				*eS*		Sn	00 53 09.5	-2.7
TOSI3	Tonosi	3.56	289	*eP*		Pb	00 52 38.3	-2.6
TOSI3				*eS*		Sb	00 53 21.9	-1.8
CHIT3	Chitre	3.74	297	*eP*		Pn	00 52 34.5	+0.4
ZANG	Zanguenga, Cho	3.86	314	*eP*		Pn	00 52 36.3	+0.5
CACAO	El Cacao, Vera	3.94	286	*eP*		Pn	00 52 37.1	+0.3
RUSC	La Rusia	3.95	95	P		Pn	00 52 40.6	+3.2
RUSC	La Rusia	3.95	95	P		Pn	00 52 41.0	+3.5
FRIJ	El Hiral	3.96	318	*eP*		Pn	00 52 38.1	+1.1
BCIP	Isla Barro Col	3.99	316	*eP*		Pn	00 52 37.2	-0.3
BCIP	Isla Barro Col	3.99	316	P		Pn	00 52 37.3	-0.3
BCIP				S		Sn	00 53 23.3	+0.3
SJCC	San Jacinto, C	4.04	27	*eP*		Pn	00 52 40.0	+1.7
SJCC	San Jacinto, C	4.04	27	P		Pn	00 52 38.5	+0.2
SJCC				S		Sn	00 53 26.1	+1.5
GMAL	Guarumal, Vera	4.42	290	*eP*		Pn	00 52 45.6	+2.3

MEX 06 00:57:32.3±0.6, 16°.71N×99°.17W, h32km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CRIG	Cruz Grande	0.04	58	*eP*		Pb	00 57 36.1	-1.5
CRIG				*eS*		Sb	00 57 39.6	-1.6
DAIG	Los Arroyos	0.55	304	*eP*		Pb	00 57 41.7	-2.0
DAIG				*eS*		Sb	00 57 49.4	-2.1
MGIG	Malinaltepec	0.73	45	*eP*		Pn	00 57 43.8	-2.9
MGIG				*eS*		Sb	00 57 53.6	-2.9
TLIG	Tlapa	1.02	34	*eP*		Pn	00 57 48.4	-2.2
TLIG				*eS*		Sn	00 58 01.1	-2.8
PNIG	Pinotepa

AS31	Alice Springs	26.64	222		P	P	01 23 03.5 -0.9
ASAR	Alice Springs	26.64	222	P	P	P	01 23 03.1 -1.4
	comp=Z,4.1nm,0.6s,baz=54,slow=8.9,SNR=31						
ASAR				PcP	PcP	PcP	01 26 27.4 -0.2
	comp=Z,0.6nm,0.6s,baz=80,slow=2.3,SNR=2.4						
ASAR				ScP	ScP	ScP	01 30 04.0 +0.4
	comp=Z,1.4nm,0.9s,baz=44,slow=2.8,SNR=6.7						
ASAR				LR	LR	LR	01 34 50.9
	comp=Z,88nm,18.1s,baz=92,slow=39						
	comp=Z,4.1nm,0.6s						
H11N1	WAKE ISLAND Hy	27.47	30	T	T	T	01 52 03.2
	baz=196						
H11N3	WAKE ISLAND Hy	27.48	30	T	T	T	01 52 06.1
	baz=196,slow=74						
H11N2	WAKE ISLAND Hy	27.49	30	T	T	T	01 52 25.4
	baz=196,slow=74						
DAV	Davao City (W)	29.45	292	LR	LR	LR	01 34 24.3
	comp=Z,29nm,20.5s,baz=132,slow=35						
STKA	Stephens Creek	29.50	200	P	P	P	01 23 28.7 -1.2
STKA				IAmb	IAmb	IAmb	01 23 29.7
	comp=Z,28nm,0.8s						
STKA	Stephens Creek	29.50	200	P	P	P	01 23 28.7 -1.2
	comp=Z,2.8nm,0.4s,baz=35,slow=16,SNR=5.8						
STKA				LR	LR	LR	01 34 46.4
	comp=Z,100nm,20.7s,baz=27,slow=35						
	comp=Z,2.8nm,0.4s						
BATI	Baumata	29.57	257	LR	LR	LR	01 38 34.5
	comp=Z,208nm,18.8s,baz=90,slow=43						
FITZ	Fitzroy Crossi	30.01	240	P	P	P	01 23 32.5 -2.0
FITZ	Fitzroy Crossi	30.01	240	LR	LR	LR	01 35 28.9
	comp=Z,139nm,18.2s,baz=52,slow=36						
LUWI	Luwuk	30.23	275	P	P	P	01 23 36.6 +0.2
BBOO	Buckleboo	32.52	207	P	P	P	01 23 54.8 -1.7
KAPI	Kappang	33.02	267	LR	LR	LR	01 38 45.6
	comp=Z,25nm,18.5s,baz=80,slow=39						
MBWA	Marble Bar	36.33	239	P	P	P	01 24 27.8 -1.8
MBWA				IAmb	IAmb	IAmb	01 24 45.4
	comp=Z,12nm,1.1s						
PSA00	Pilbara Seismi	36.40	239	P	P	P	01 24 27.9 -2.2
PSA00				IAmb	IAmb	IAmb	01 24 28.8
	comp=Z,7.3nm,0.9s						
PSA00	Pilbara Seismi	36.40	239	P	P	P	01 24 27.9 -2.2
PSA00				IAmb	IAmb	IAmb	01 24 28.9
	comp=Z,16nm,0.9s						
TAU	Tasmania Unive	38.87	187	P	P	P	01 24 51.6 +0.9
JHJ	Hachijo jima 2	39.13	342	LR	LR	LR	01 40 13.9
	comp=Z,38nm,19.6s,baz=268,slow=35						
MRNZ	Matariki Terra	41.11	157	P	P	P	01 25 09.8 +0.5
GIRL	Giralia	41.62	240	P	P	P	01 25 14.0 +0.2
LTZ	Lake Taylor	42.12	159	P	P	P	01 25 18.1 +0.4
MJAR	Matsushiro Arr	42.78	343	LR	LR	LR	01 40 45.4
	comp=Z,39nm,20.3s,baz=172,slow=33						
MORW	Morawa	42.78	231	P	P	P	01 25 21.3 -1.9
MORW				IAmb	IAmb	IAmb	01 25 21.7
	comp=Z,13nm,0.8s						
LBZ	Lake Benmore	42.83	162	P	P	P	01 25 23.8 +0.4
LBZ				IAmb	IAmb	IAmb	01 25 54.0
	comp=Z,21nm,1.1s						
MLZ	Mavora Lakes	43.12	164	P	P	P	01 25 25.9 +0.2
NJ2	Nanjing	48.42	321	eP	P	P	01 26 09.5 +1.8
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
ASAJ	Asahikawa	48.97	350	LR	LR	LR	01 44 05.9
	comp=Z,18nm,21.9s,baz=90,slow=33						
CN2	Changchun	53.78	336	P	P	P	01 26 47.8 +0.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PSI	Prapat	54.35	276	LR	LR	LR	01 51 32.3
	comp=Z,40nm,18.6s,baz=173,slow=38						
PETK	Petropavlovsk-	57.23	3	LR	LR	LR	01 47 19.6
	comp=Z,18nm,21.4s,baz=152,slow=31						
PZH	PanZhiHua	58.09	305	P	P	P	01 27 20.1 +1.1
HHC	Hu-ho-hao-te	58.60	324	eP	P	P	01 27 24.4 +2.1
HHC				pmax	pmax		
	comp=Z,4.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,100nm,4.9s						
SHEM	Shemya Is, Ala	59.49	15	LR	LR	LR	01 48 32.4
	comp=Z,53nm,21.1s,baz=64,slow=31						
KIWB	Kanaga Island	61.39	21	P	P	P	01 27 41.8 +0.8
MA2	Magadan	63.59	359	LR	LR	LR	01 55 31.8
	comp=Z,20nm,19.1s,baz=123,slow=36						
SONM	Songino Array	65.85	328	P	P	P	01 28 12.1 +1.4
YAK	Yakutsk	68.40	348	LR	LR	LR	01 55 11.2
	comp=Z,19nm,21.9s,baz=112,slow=33						
VNDA	Vanda	73.43	178			P	01 28 57.1 +0.4
VNDA	Vanda	73.43	178	P	P	P	01 28 56.9 +0.1
	comp=Z,1.1nm,0.5s,baz=336,slow=6.3,SNR=14						
	comp=Z,1.1nm,0.5s						
SII	Sitkinak Islan	74.20	27	P	P	P	01 29 01.4 -0.2
KDAK	Kodiak Island	75.61	27	LR	LR	LR	01 56 26.3
	comp=Z,45nm,20.9s,baz=208,slow=31						
CNPM	China Poot	77.14	26	P	P	P	01 29 18.1 -0.3
CNPM				IAmb	IAmb	IAmb	01 29 19.3
	comp=Z,11nm,1.0s						
IMAR	Indian Mountai	79.79	19	P	P	P	01 29 32.6 -0.2
MLY	Manley	80.30	21	P	P	P	01 29 35.1 -0.5
KLU	Klutina	80.40	25	IAmb	IAmb	IAmb	01 29 37.6
	comp=Z,5.3nm,1.0s						
GLB	Gilahina Butte	81.29	26	IAmb	IAmb	IAmb	01 29 41.5
	comp=Z,4.7nm,0.9s						
ILAR	Eielson Array	81.58	22	P	P	P	01 29 40.7 -1.7
	comp=Z,1.8nm,0.8s,baz=251,slow=5.2,SNR=19						
ILAR				LR	LR	LR	02 06 58.8
	comp=Z,18nm,18.0s,baz=196,slow=36						
	comp=Z,1.8nm,0.8s						
DOT	Dot Lake	82.15	24	IAmb	IAmb	IAmb	01 29 45.8
	comp=Z,4.3nm,0.9s						
HYT	Haines Junctio	83.87	28	IAmb	IAmb	IAmb	01 29 56.1
	comp=Z,3.9nm,0.8s						
H02S2	DAWSON INLET T	84.22	36	T	T	T	03 02 52.4
	SNR=206						
QSPA	South Pole Qui	85.76	180	P	P	P	01 30 05.3 +1.3
QSPA				IAmb	IAmb	IAmb	01 30 07.6
	comp=Z,3.7nm,0.8s						
QSPA	South Pole Qui	85.76	180	P	P	P	01 30 04.4 +0.4
	comp=Z,2.7nm,0.7s,baz=36,slow=0.5,SNR=17						
	comp=Z,2.7nm,0.7s						
MAW	Mawson	86.15	203	P	P	P	01 30 04.6 -1.1
	comp=Z,2.3nm,0.6s,baz=108,slow=5.6,SNR=19						
	comp=Z,2.3nm,0.6s						
BVAR	Borovoye Array	88.80	323	P	P	P	01 30 17.3 -1.4
	comp=Z,0.3nm,0.4s,baz=68,slow=5.9,SNR=2.3						
	comp=Z,0.3nm,0.4s						
NVAR	Mina Array Bea	91.66	52	P	P	P	01 30 31.7 -1.0
	comp=Z,0.7nm,0.8s,baz=290,slow=5.6,SNR=5.1						
NVAR				LR	LR	LR	02 09 51.0
	comp=Z,48nm,18.1s,baz=266,slow=34						
	comp=Z,0.7nm,0.8s						
PFO	Pinyon Flats O	92.85	57	LR	LR	LR	02 05 59.1
	comp=Z,45nm,18.8s,baz=233,slow=31						
NEW	Newport	93.10	42	LR	LR	LR	02 06 11.5
	comp=Z,42nm,20.0s,baz=234,slow=31						
BELA	Belgrano 2	97.93	178	P	P	P	01 30 59.2 -1.1
BELA				IAmb	IAmb	IAmb	01 31 24.1
	comp=Z,4.7nm,1.5s						
PDAR	Pinedale Array	98.39	48	LR	LR	LR	02 10 10.2
	comp=Z,19nm,19.1s,baz=250,slow=32						
GERES	GERESS Array B	123.58	329	PKP		PKPdf	01 36 21.9 -0.5
	comp=Z,0.8nm,0.8s,baz=50,slow=3.1,SNR=5.3						
EKA	Eskdalemuir Ar	125.47	343	PKP		PKiKP	01 36 26.0 -0.1
	comp=Z,0.4nm,0.3s,baz=62,slow=4.2,SNR=2.2						
LPAZ	La Paz	134.64	118	PKP		PKPdf	01 36 44.8 -0.2
	comp=Z,1.5nm,0.7s,baz=253,slow=3.1,SNR=6.1						
TORD	Torodi Ar. Bea	150.18	289	PKPbc		PKPbc	01 37 15.7 -1.0
	comp=Z,1.9nm,0.6s,baz=64,slow=2.4,SNR=19						
BDFB	Brasilia	151.44	134	PKPbc		PKPbc	01 37 19.2 -0.6
	comp=Z,3.9nm,0.5s,baz=189,slow=2.4,SNR=7.2						

*IDC **06** 02:02:00.9±1.7,4.2°S×152.7°E,h0km,mb3.9/9, mbtmp3.9/9,MS3.1/13,Error ellipse: s-maj=61.5km s-min=22.2km az=114.0*

ISC 06 02:02:06.5±1.8,4.2°S±0.2°×152.7°E±0.4,h35km,n18, σ18.15/10,mb4.0/9,MS3.2/12,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.30	225	LR		LR		02 06 34.3	
	comp=Z,126nm,21.4s,baz=12,slow=37								
DZM	Mont Dzumac	22.41	144	LR		LR		02 13 48.3	
	comp=Z,52nm,20.1s,baz=178,slow=32								
WRA	Warramunga Arr	23.52	227	P		P		02 07 12.6	-1.0
	1.2nm,1.0s,baz=53,slow=9.9,SNR=7.3								
WRA				LR		LR		02 17 16.7	
	comp=Z,18nm,18.1s,baz=236,slow=39								
	1.2nm,1.0s								

ASAR	Alice Springs	26.30	221	P	P	02 07 40.0	+1.0
	0.5nm,0.6s,baz=44,slow=9.7,SNR=4.5						
ASAR				LR	LR	02 17 00.5	
	comp=Z,53nm,19.2s,baz=36,slow=34						
	0.5nm,0.6s						
KAPI	Kappang	32.50	267	LR	LR	02 24 13.5	
	comp=Z,32nm,18.4s,baz=83,slow=41						
MJAR	Matsushiro Arr	42.63	343	LR	LR	02 24 15.9	
	comp=Z,34nm,20.5s,baz=172,slow=31						
KSRS	Korea Array	47.26	333	P	P	02 10 35.1	-1.3
	0.8nm,0.5s,baz=156,slow=6.8,SNR=2.7						
	0.8nm,0.5s						
USRK	Ussuriysk Ar.	51.54	341	P	P	02 11 08.0	-1.0
	1.7nm,0.6s,baz=190,slow=4.0,SNR=4.3						
USRK				LR	LR	02 32 18.7	
	comp=Z,19nm,18.9s,baz=248,slow=35						
	1.7nm,0.6s						
PETK	Petropavlovsk-	57.27	4	P	P	02 11 51.6	+1.1
	7.1nm,0.9s,baz=190,slow=7.4,SNR=4.3						
PETK				LR	LR	02 32 13.4	
	comp=Z,23nm,21.7s,baz=205,slow=32						
	7.1nm,0.9s						
SHEM	Shemya Is, Ala	59.63	15	LR	LR	02 36 14.0	
	comp=Z,28nm,18.9s,baz=249,slow=34						
MA2	Magadan	63.59	359	LR	LR	02 38 54.9	
	comp=Z,9.5nm,20.1s,baz=127,slow=35						
SONM	Songino Array	65.58	328	P	P	02 12 47.6	+0.6
	0.8nm,0.6s,baz=134,slow=6.4,SNR=5.3						
SONM				LR	LR	02 39 37.9	
	comp=Z,18nm,21.4s,baz=180,slow=34						
	0.8nm,0.6s						
MKAR	Makanchi Array	79.58	319	LR	LR	02 52 16.3	
	comp=Z,14nm,18.4s,baz=10,slow=38						
ILAR	Eielson Array	81.77	22	P	P	02 14 20.6	-0.9
	1.3nm,0.6s,baz=247,slow=5.9,SNR=15						
	1.3nm,0.6s						
KURBB	Kurchatov Arra	83.05	322	P	P	02 14 29.6	+1.2
	0.1nm,0.3s,baz=76,slow=3.9,SNR=5.4						
	0.1nm,0.3s						
BVAR	Borovoye Array	88.49	323	P	P	02 14 56.0	+0.7
	0.7nm,0.7s,baz=126,slow=7.3,SNR=4.2						
	0.7nm,0.7s						
ARTI	Arti	95.67	326	LR	LR	02 58 52.0	
	comp=Z,13nm,20.7s,baz=34,slow=36						
TORD	Torodi Ar. Bea	149.69	289	PKPbc	PKPbc	02 21 53.1	-0.6
	0.7nm,1.0s,baz=50,slow=2.4,SNR=4.2						

*AEIC **06** 02:14:09.3±0.6,53.46°N±0.10°×163.4°W±0.1°,h7km±8km, Error ellipse: s-maj=15.1km s-min=7.5km az=151.0*

NEIC 06 02:14:05.5±1.2,53.55°N±0.07°×163.38°W±0.08,h10km±2km, ML2.9/10,ML2.7(AEIC)**,Error ellipse: s-maj=15.0km s-min=3.0km az=147.0,Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SSLS	Shishaldin Sou	1.22	343			Pg		02 14 29.0	+0.2
ISNN	Isanotski Nort	1.30	350			Pg		02 14 30.8	+0.3
FALS	False Pass	1.30	359			Pg		02 14 30.4	-0.1
FALS						Sg		02 14 47.8	+0.3
AKSA	Akutan Strait	1.49	294			Pn		02 14 31.9	-0.4
AKUT	Akutan	1.53	293			Pn		02 14 32.8	0.0
AKUT	Akutan	1.53	293	IAML				02 14 57.3	
	comp=N,96nm,1.0s								
AKUT				IAML				02 15 00.6	
	comp=E,92nm,0.6s								
AKBBA	Akutan Broad B	1.61	291			Pn		02 14 33.8	-0.1
ZRO	Akutan Zero	1.63	290			Pn		02 14 34.0	-0.3
AKLV	Akutan Long Va	1.65	293			Pn		02 14 33.9	-0.6
AKGG	Akutan Green G	1.68	294			Pn		02 14 34.8	0.0
DT1	Dutton Round H	1.68	22			Pn		02 14 34.5	-0.4
DT1						Sn		02 14 55.9	-0.7
LVA	Lava Point	1.69	292	Pn		Pn		02 14 33.8	-1.2
LVA				IAML				02 15 14.9	
	comp=E,125nm,1.0s								
LVA				IAML				02 15 18.3	
	comp=N,252nm,0.9s								
UNV	Unalaska Valle	1.88	280			Pn		02 14 36.7	-0.9
MNAT	Makushin Natee	1.99	281			Pn		02 14 38.8	-0.4
MTBL	Makushin Table	2.00	283			Pn		02 14 39.4	0.0
MREP	Makushin Rep't	2.02	279			Pn		02 14 39.1	-0.5
MSW	Makushin Switc	2.06	281			Pn		02 14 40.1	0.0
MSW						Sn		02 15 05.3	-0.5
MGOD	Makushin Gods	2.09	278			Pn		02 14 40.5	-0.1
PS1A	Pavlof South-1	2.10	26			Pn		02 14 41.9	+1.2
MAPS	Pakushin South	2.13	278			Pn		02 14 40.8	-0.3
S12K	Black Hills	2.29	19			Pn		02 14 43.4	+0.2
S12K						Sn		02 15 10.8	-0.6
SDPT	Sand Point	2.47	42			Pn		02 14 45.9	+0.2
SDPT						Sn		02 15 14.4	-1.5
SDPT	Sand Point	2.47	42	IAML				02 15 32.8	
	comp=N,70nm,0.9s								
SDPT				IAML				02 15 34.0	
	comp=E,64nm,1.1s								
OKSP	Okmok Steeple	2.96	266			Pn		02 14 51.9	-0.5
ADK	Adak	8.25	264	Pn		Pn		02 16 05.3	+0.2
KIWB	Kanaga Island	8.54	264	Pn		Pn		02 16 09.4	+0.4

*OTT **06** 03:02:16.8±0.2,43.67°N×74.11°W,h5km,MN2.3/9,New York State, U.S. 157km south from Huntingdon, Qc Northern Appalachians Seismic Zone.*
*LDO **06** 03:02:18.0±0.9,43.64°N±0.01°×74.10°W±0.01,h5km±1km, Error ellipse: s-maj=2.9km s-min=2.1km az=9.0*

NEIC 06 03:02:17.0±0.5,43.66°N±0.01°×74.10°W±0.02,h5km±5km, ML2.0/14,ML1.6/10(LDO)**,Error ellipse: s-maj=1.8km s-min=1.7km az=181.0,New York**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
J59A	Piesco	0.36	236			Pg		03 02 23.6	-0.4
J59A				Sg		Sg		03 02 28.2	-0.4
J59A				IAML				03 02 32.8	
	286nm,0.1s								
J59A				IAML				03 02 33.5	
	236nm,0.1s								
ACCN	Adirondack Com	0.42	132			Pg		03 02 24.9	-0.2
ACCN	Adirondack Com	0.42	132			Sg		03 02 30.3	-0.2
MCVT	Middlebury Col	0.85	70			Pg		03 02 32.4	-0.9
MCVT						Sg		03 02 43.7	-0.6
CFNY	Clifton-Fine,	0.85	306			Pg		03 02 32.8	-0.6
CFNY						Sg		03 02 43.9	-0.5
TRY	Troy	0.98	161			Pg		03 02 34.9	-0.9
TRY				Sg		Sg		03 02 47.7	-0.8
TRY				IAML				03 02 59.4	
	28nm,3.6s								
LONY	Lake Ozonia	1.02	340	Pg		Pg		03 02 35.1	-1.4
LONY				Sg		Sg		03 02 48.8	-0.9
HBVT	Hinesburg	1.02	46			Pg		03 02 35.3	-1.2
HBVT						Sg		03 02 49.3	-0.5
PTNY	Frank Revetta	1.09	326			Pg		03 02 37.0	-0.8
PTNY						Sg		03 02 51.3	-0.6
J61A	Chester	1.17	105			Pg		03 02 38.0	-1.3
J61A				Sg		Sg		03 02 53.1	-1.3
J61A				IAML				03 02 59.4	
	64nm,0.1s								
WCNY	West Carthage	1.17	286			Pg		03 02 38.5	-1.0
WCNY						Sg		03 02 53.5	-1.1
VT1	Waterbury	1.18	55			Pg		03 02 37.9	-1.6
FRNY	Flat Rock	1.23	17			Pg		03 02 38.4	-2.1
FRNY				Sg		Sg		03 02 54.9	-1.5
FRNY				IAML				03 02 59.2	
	comp=E,34nm,0.5s								
FRNY				IAML				03 03 00.3	
	comp=N,17nm,0.1s								
FRNY	Flat Rock	1.23	17	PG		Pg		03 02 38.7	-1.8
FRNY				SG		Sg		03 02 55.0	-1.4
FRNY				Trac				03 03 00.1	
	comp=N,11nm,0.1s								
HNH	Hanover	1.31	88			Pn		03 02 40.8	-1.2
HNH				IAML				03 03 01.8	
	comp=N,16nm,1.5s								
HNH				IAML				03 03 14.3	
	comp=N,16nm,3.5s								
J57A	Williamstown	1.41	260			Pn		03 02 42.0	-1.2
J57A	Williamstown	1.41	260			Sb		03 03 00.3	-1.6
WBO	Williamsburg	1.58	328			Pn		03 02 44.5	-1.1
WBO						Sn		03 03 05.7	-0.8
WBO	Williamsburg	1.58	328	PG		Pn		03 02 44.8	-0.8
WBO				SG		Sn		03 03 05.5	-0.9
WBO				Trac				03 03 11.5	
	comp=N,2.8nm,0.1s								
L61B	Northampton	1.60	139			Pn		03 02 45.7	-0.1
L59A	Walton	1.63	206			Pn		03 02 45.9	-0.4

LBNH	Lisbon	1.67	69		Pn	03 02 46.8	-0.1
K62A	Royalston	1.69	126		Pn	03 02 46.8	-0.3
KSCT	Kent School, K	1.99	167		Pn	03 02 51.0	-0.3
K57A	Scipio Center	2.00	243	Pn	Pn	03 02 50.9	-0.6
I62A	Tamworth	2.01	83		Pn	03 02 51.2	-0.3
BINY	Binghamton	2.02	224	Pn	Pn	03 02 50.9	-0.8
ORIO	Orleans, Innes	2.05	331	SN	Sn	03 03 16.7	-1.4
ORIO				LG	Lg	03 03 21.3	
PECO	Prince Edward	2.12	278	Pn	Pn	03 02 52.5	-0.5
PECO	Prince Edward	2.12	278	PN	Pn	03 02 52.5	-0.4
PECO				SN	Sn	03 03 19.2	-0.4
PECO				Trac		03 03 25.2	
	comp=N,6.1nm,0.1s						
HRV	Adam Dziewonsk	2.19	121	Pn	Pn	03 02 53.6	-0.4
GAC	Glen Almond	2.27	335	PN	Pn	03 02 54.8	-0.2
GAC				SN	Sn	03 03 22.6	-0.7
GAC				LG	Lg	03 03 27.9	
GAC				Trac		03 03 29.7	
	comp=N,8.9nm,0.4s						
UCCT	U. Connecticut	2.32	143	Pn	Pn	03 02 55.0	-0.8
KSPA	Keystone Colle	2.44	211	Pn	Pn	03 02 56.8	-0.7
PLVO	Plevna	2.54	304	PN	Pn	03 02 57.7	-1.1
PLVO				SN	Sn	03 03 28.8	-1.4
PLVO				LG	Lg	03 03 35.6	
PLVO				Trac		03 03 46.2	
	comp=N,6.3nm,0.3s						
I63A	Otisfield	2.57	80	Pn	Pn	03 02 58.6	-0.7
TRQ	Mont Tremblant	2.58	353	Pn	Pn	03 02 58.9	-0.5
TRQ	Mont Tremblant	2.58	353	PN	Pn	03 02 58.8	-0.6
TRQ				SN	Sn	03 03 29.8	-1.4
TRQ				LG	Lg	03 03 37.0	
TRQ				Trac		03 03 39.0	
	comp=N,3.1nm,0.2s						
DELO	Deloro Mine	2.68	290	PN	Pn	03 03 01.0	+0.3
DELO				SN	Sn	03 03 32.1	-1.4
DELO				LG	Lg	03 03 39.6	
DELO				Trac		03 03 53.4	
	comp=N,18nm,0.5s						
PEMO	Pembroke	3.02	313	PN	Pn	03 03 04.3	-1.1
PEMO				SN	Sn	03 03 40.4	-1.5
PEMO				Trac		03 03 46.5	
	comp=N,2.5nm,0.2s						
PEMO				LG	Lg	03 03 49.9	
DPQ	Saint Jean	3.16	17	PN	Pn	03 03 08.0	+0.7
DPQ				SN	Sn	03 03 43.9	-1.4
DPQ				Trac		03 03 51.6	
	comp=N,1.0nm,0.1s						
DPQ				LG	Lg	03 03 53.7	
MEDO	Medina	3.22	263	PN	Pn	03 03 06.2	-1.8
MEDO				SN	Sn	03 03 44.8	-1.9
MEDO				Trac		03 03 51.3	
	comp=N,1.0nm,0.0s						
MEDO				LG	Lg	03 03 55.1	
SADO	Sadowa	3.79	289	SN	Sn	03 03 58.2	-2.8

IDC 06 03:14:59.8±321.0,43.63°N×115.70°W,h0km,Error ellipse: s-maj=145.4km s-min=94.0km az=163.0, Western Idaho

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I56US	NEWPORT INFRAS	4.74	348	I		I		03 45 10.0	
	baz=166,slow=320,SNR=1.5								
I57US	PINON FLAT INF	10.02	184	I		I		04 14 20.0	
	baz=0.5,slow=318,SNR=1.1								
I59US	HAWAII INFRASO	41.22	247	I		I		07 27 20.0	
	baz=45,slow=323,SNR=2.7								

*LDG **06** 03:28:52.3±0.1,42.43°N×6.89°W,h8km,MI3.2/27,Error ellipse: s-maj=2.7km s-min=2.2km az=94.0*
*SFS **06** 03:28:52.5,42.44°N×6.85°W,h21km,ML4.1/12,ML3.9/14, MLv3.7/14*
*MDD **06** 03:28:52.9±0.2,42.42°N×6.92°W,h16km,mb_Lg3.5/84, Error ellipse: s-maj=1.3km s-min=1.0km az=127.0*
*IGIL **06** 03:28:53.5,42.42°N×6.86°W,h22km*
*INMG **06** 03:28:53.3±2.1,42.40°N×6.90°W,h20km±2km,ML3.1,Error ellipse: s-maj=1.8km s-min=1.6km az=120.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NE Vinhais*

ISC 06 03:28:48.4±0.6,42.39°N±0.02°×6.80°W±0.02,h9km,n127, σ2.54/272,7C-2D,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ECAL	Calabor	0.45	174			Pg	Pn	03 29 02.4	+1.2
ECAL						Sg	Sb	03 29 08.7	+3.3
ECAL	Calabor	0.45	174	↑		Pg	Pn	03 29 02.4	+1.2
ECAL						Sg	Sb	03 29 08.7	+3.3
PBRG	Braganca	0.59	176	↑	eP		Pn	03 29 04.5	+1.5
PBRG					eS		Sn	03 29 12.7	0.0
PBRG					i	IAML		03 29 13.7	
PBRG					i	IAML		03 29 15.1	
PBRG					i	IAML		03 29 15.7	
EPON	Pontenova	0.97	345	↑↑	Pg		Pn	03 29 09.7	+1.4
EPON					Sg		Sn	03 29 22.0	-0.3
EPON					i	IVmb_Lg		03 29 23.5	
EAGO	Agolada(Pontev	1.04	294		Pg		Pn	03 29 10.3	+1.0
EAGO					Sg		Sb	03 29 22.5	+0.1
EAGO					i	IVmb_Lg		03 29 25.8	
ELOB	Lobios	1.08	241		Pg		Pn	03 29 11.1	+1.4
ELOB					Sg		Sb	03 29 24.2	+0.7
ELOB					i	IVmb_Lg		03 29 27.2	
PCAB	Cabril	1.14	234	↑	ePn		Pn	03 29 12.1	+1.5
PCAB					ePg		Pb	03 29 13.5	+3.2
PCAB					eSn		Sn	03 29 26.8	+0.4
PCAB					eSg		Sb	03 29 27.9	+2.7
PCAB					i	IAML		03 29 28.5	
PCAB					i	IAML		03 29 28.5	
PCAB					i	IAML		03 29 29.0	
PGAV	Gavieira, Arco	1.18	249		ePn		Pn	03 29 12.4	+1.3
PGAV					eSn		Sn	03 29 27.3	-0.1
PGAV	

ALT03					Sn	**Sb**	**03 29 55.5 -0.2**
ALT03					Sg	**Sg**	**03 30 02.7 +3.6**
ALT01	**Santillana del**	**2.20**	**62**		Pn	**Pb**	**03 29 29.1 +0.7**
ALT01					Pg	**Pg**	**03 29 32.8 +2.2**
ALT01					Sn	**Sb**	**03 29 55.7 -0.1**
ALT01					Sg	**Sg**	**03 30 02.7 +3.6**
ALT02	**Santillana del**	**2.20**	**62**		Pg	**Pg**	**03 29 32.9 +2.3**
ALT02					Sn	**Sb**	**03 29 55.8 0.0**
ALT02					Sg	**Sg**	**03 30 02.9 +3.8**
EPLA	**Plasencia**	**2.38**	**167**		Pn	**Pb**	**03 29 30.6 -1.0**
EPLA					Pg	**Pg**	**03 29 35.4 +1.3**
EPLA					Sn	**Sn**	**03 29 59.2 +2.1**
EPLA					Sg	**Sg**	**03 30 07.5 +2.5**
EPLA				*i* IVmb_Lg			03 30 12.7
COI	**Coimbra**	**2.50**	**210**	*e*Pg		**Pg**	**03 29 38.7 +2.4**
COI				*e*Sg		**Sg**	**03 30 11.7 +3.0**
COI				*i* IAML			03 30 16.1
COI				*i* IAML			03 30 17.2
COI				*i* IAML			03 30 25.8
PCBR	**Castelo Branco**	**2.60**	**192**	*e*Pn		**Pn**	**03 29 32.9 +2.3**
PCBR				*e*Pg		**Pg**	**03 29 40.8 +2.6**
PCBR				*e*Sn		**Sn**	**03 30 03.2 +0.9**
PCBR				*e*Sg		**Sg**	**03 30 13.7 +1.8**
PCBR				*i* IAML			03 30 18.0
PCBR				*i* IAML			03 30 19.9
PCBR				*i* IAML			03 30 20.0
ELAN	**Lanestosa**	**2.61**	**70**	Pn		**Pb**	**03 29 34.6 -0.8**
ELAN				Pg		**Pg**	**03 29 40.4 +1.9**
ELAN				Sn		**Sb**	**03 30 05.6 -2.1**
ELAN				Sg		**Sg**	**03 30 15.8 +3.4**
ELAN				*i* IVmb_Lg			03 30 20.4
GUD	**Guadarrama**	**2.64**	**130**	Pn		**Pb**	**03 29 38.8 -1.2**
GUD				Pg		**Pg**	**03 29 41.3 +2.2**
GUD				Sg		**Sg**	**03 30 15.9 +2.6**
GUD				*i* IVmb_Lg			03 30 20.4
PCAS	**Casmilo, Conde**	**2.66**	**209⇑**	*e*Pn		**Pb**	**03 29 34.2 -2.1**
PCAS				*e*Sn		**Sn**	**03 30 06.2 +2.3**
PCAS				*i* IAML			03 30 21.1
PCAS				*i* IAML			03 30 22.1
PCAS				*i* IAML			03 30 27.1
PSARD	**Sardoal**	**2.97**	**201⇓**	*e*Pn		**Pn**	**03 29 38.6 +2.9**
PSARD				*e*Sg		**Sg**	**03 30 27.8 +3.9**
PSARD				*i* IAML			03 30 29.1
PSARD				*i* IAML			03 30 32.2
PSARD				*i* IAML			03 30 33.3
PMRV	**Marv??o**	**2.99**	**189⇑**	*e*Pn		**Pn**	**03 29 38.3 +2.3**
PMRV				*e*Sn		**Sn**	**03 30 12.7 +0.6**
PMRV				*e*Sg		**Sg**	**03 30 25.2 +0.7**
PMRV				*i* IAML			03 30 35.5
PMRV				*i* IAML			03 30 35.5
PMRV				*i* IAML			03 30 37.2
UCM	**Universidad Co**	**3.39**	**127**	Pn		**Pn**	**03 29 44.9 +3.4**
UCM				Sn		**Sn**	**03 30 20.2 -1.7**
PAB	**San Pablo**	**3.39**	**146**	Pn		**Pn**	**03 29 44.7 +3.1**
PAB				Pg		**Pg**	**03 29 53.8 +0.4**
PAB				Sn		**Sn**	**03 30 23.7 +1.7**
PAB				Sg		**Sg**	**03 30 38.9 +1.5**
PAB				*i* IVmb_Lg			03 30 44.0
ESBB	**Sonseca Array**	**3.46**	**141**	Pn		**Pn**	**03 29 45.9 +3.5**
ESBB				Pg		**Pg**	**03 29 55.6 +1.0**
ESBB				Sg		**Sg**	**03 30 40.4 +1.0**
ESDC	**Sonseca Array**	**3.46**	**141**	Pn		**Pn**	**03 29 45.9 +3.4**
ESDC				Pg		**Pg**	**03 29 55.3 +0.6**
ESDC				Sg		**Sg**	**03 30 40.3 +0.9**
ESDC				*i* IVmb_Lg			03 30 43.0
PMTG	**Montargil**	**3.49**	**199**	*e*Pn		**Pn**	**03 29 45.3 +2.4**
PMTG				*e*Pg		**Pb**	**03 29 50.3 -0.1**
PMTG				*e*Sn		**Sn**	**03 30 24.7 +0.4**
PMTG				*e*Sg		**Sg**	**03 30 42.9 +2.4**
PMTG				*i* IAML			03 30 48.7
PMTG				*i* IAML			03 30 49.7
PMTG				*i* IAML			03 30 53.2
PESTR	**Estremoz**	**3.57**	**190**	Pn		**Pn**	**03 29 46.3 +2.2**
PESTR				Sn		**Sn**	**03 30 25.3 -1.0**
PESTR				Sg		**Sg**	**03 30 42.8 -0.2**
PESTR	**Estremoz**	**3.57**	**190**	*e*Pn		**Pn**	**03 29 46.3 +2.2**
PESTR				*e*Sn		**Sn**	**03 30 26.7 +0.4**
PESTR				*e*Sg		**Sg**	**03 30 43.7 +0.6**
PESTR				*i* IAML			03 30 48.3
PESTR				*i* IAML			03 30 49.8
PESTR				*i* IAML			03 30 53.2
PESTR	**Estremoz**	**3.57**	**190**	P		**Pb**	**03 29 50.8 -1.0**
PESTR	**Estremoz**	**3.57**	**190**	S		**Sg**	**03 30 44.5 +1.4**
EBAD	**Badajoz**	**3.63**	**183**	Pn		**Pn**	**03 29 47.2 +2.3**
EBAD				Sn		**Sn**	**03 30 27.4 -0.5**
EBAD				Sg		**Sg**	**03 30 44.9 +0.2**
EBAD	**Badajoz**	**3.63**	**183**	Pn		**Pn**	**03 29 47.5 +2.7**
EBAD				Sn		**Sn**	**03 30 28.6 +0.7**
EBAD				Sg		**Sg**	**03 30 45.4 +0.3**
EBAD				*i* IVmb_Lg			03 30 50.8
EARA	**Aranguren**	**3.87**	**83**	Sn		**Sn**	**03 30 36.0 +2.3**
EARA				*i* IVmb_Lg			03 30 52.7
EARA				Sg		**Sg**	**03 30 54.3 +1.6**
ETOR	**Torete**	**3.88**	**112**	Pn		**Pn**	**03 29 51.6 +3.2**
ETOR				Pg		**Pg**	**03 30 02.8 0.0**
ETOR				Sg		**Sg**	**03 30 55.2 +2.0**
ETOR				*i* IVmb_Lg			03 31 03.0
PMAFR	**Mafra**	**3.92**	**210**	Pn		**Pn**	**03 29 51.0 +2.2**
PMAFR	**Mafra**	**3.92**	**210**	*e*Pn		**Pn**	**03 29 51.3 +2.5**
PMAFR				*e*Sn		**Sn**	**03 30 34.5 -0.3**
PMAFR				*i* IAML			03 31 03.3
PMAFR				*i* IAML			03 31 06.7
PMAFR				*i* IAML			03 31 18.0
PARRA	**Arraiolos**	**3.96**	**206⇓**	*e*Pn		**Pn**	**03 29 48.3 -1.0**
PARRA				*e*Sn		**Sn**	**03 30 30.6 -5.2**
PARRA				*e*Sg		**Sb**	**03 30 47.3 +1.0**
PARRA				*i* IAML			03 30 51.7
PARRA				*i* IAML			03 30 55.4
PARRA				*i* IAML			03 30 56.7
EVO	**Evora**	**3.96**	**194**	Pn		**Pn**	**03 29 51.6 +2.2**
EVO	**Evora**	**3.96**	**194**	*e*Pn		**Pn**	**03 29 51.7 +2.2**
EVO				*e*Sn		**Sn**	**03 30 36.0 0.0**
EVO				*e*Sg		**Sg**	**03 30 57.0 +1.3**
EVO				*i* IAML			03 31 02.6
EVO				*i* IAML			03 31 03.7
EVO				*i* IAML			03 31 09.1
EALK	**Alkurruntz**	**3.98**	**76**	Pn		**Pn**	**03 29 53.8 +4.1**
EALK				Sg		**Sg**	**03 30 57.5 +1.4**
EALK				*i* IVmb_Lg			03 31 11.4
EORO	**Oroz-Betelu**	**4.08**	**81**	Pn		**Pn**	**03 29 54.7 +3.7**
EORO				Sn		**Sn**	**03 30 41.3 +2.2**
SJPF	**Ste Jean**	**4.17**	**78**	*e*Pn		**Pn**	**03 29 56.0 +3.8**
SJPF				*e*Sn		**Sn**	**03 30 41.6 +0.6**
	11nm,0.3s						
PBAR	**Barrancos**	**4.21**	**183**	Pn		**Pn**	**03 29 55.6 +2.8**
PBAR				Sn		**Sn**	**03 30 42.5 +0.4**
PBAR				Sg		**Sg**	**03 31 01.9 -1.8**
PBAR	**Barrancos**	**4.21**	**183**	*e*Pn		**Pn**	**03 29 55.6 +2.8**
PBAR				*e*Sn		**Sn**	**03 30 42.5 +0.4**
PBAR				*e*Sg		**Sg**	**03 31 03.2 -0.5**
PBAR				*i* IAML			03 31 07.9
PBAR				*i* IAML			03 31 07.9
PBAR				*i* IAML			03 31 14.4
PSIM	**Granatula de C**	**4.25**	**146**	Pn		**Pn**	**03 29 56.2 +2.8**
PSIM				Sn		**Sn**	**03 30 43.8 +0.7**
PSIM				Sg		**Sg**	**03 31 06.0 +1.1**
PBEJ	**Beja**	**4.43**	**191**	*e*Pn		**Pn**	**03 29 58.5 +2.6**
PBEJ				*e*Sn		**Sn**	**03 30 47.3 -0.3**
PBEJ				*e*Sg		**Sg**	**03 31 10.7 -0.1**
PBEJ				*i* IAML			03 31 17.4
PBEJ				*i* IAML			03 31 18.1
PBEJ				*i* IAML			03 31 24.1
ECAB	**El Cabril**	**4.44**	**166**	Pn		**Pn**	**03 29 58.8 +2.9**
ECAB				Sn		**Sn**	**03 30 47.4 -0.2**
ECAB				Sg		**Sg**	**03 31 09.6 -1.3**
ECAB	**El Cabril**	**4.44**	**166**	Pn		**Pn**	**03 29 58.7 +2.9**
ECAB				Sn		**Sn**	**03 30 47.5 -0.2**
ECAB				Sg		**Sg**	**03 31 10.1 -0.8**
ECAB				*i* IVmb_Lg			03 31 16.7
EADA	**Adamuz**	**4.54**	**157**	Pn		**Pn**	**03 30 00.1 +2.6**
EADA				Sn		**Sn**	**03 30 50.1 -0.3**
EADA				Sg		**Sg**	**03 31 13.7 -0.6**
EADA	**Adamuz**	**4.54**	**157**	Pn		**Pn**	**03 30 00.0 +2.6**
EADA				Sn		**Sn**	**03 30 50.6 +0.2**
EADA				Sg		**Sg**	**03 31 13.8 -0.6**
EADA				*i* IVmb_Lg			03 31 19.9
EMIN	**Mina Concepcio**	**4.62**	**179**	Pn		**Pn**	**03 30 00.1 +1.7**
EMIN				Sn		**Sn**	**03 30 52.2 0.0**
EMIN	**Mina Concepcio**	**4.62**	**179**	Pn		**Pn**	**03 30 00.7 +2.4**
EMIN				Sn		**Sn**	**03 30 52.2 0.0**
EMIN				Sg		**Sg**	**03 31 15.5 -1.2**
EMIN				*i* IVmb_Lg			03 31 21.6
ETSF	**Etsaut**	**4.63**	**82**	*e*Pn		**Pn**	**03 30 02.3 +3.7**
ETSF				*e*Sn		**Sn**	**03 30 53.4 +0.9**
	5.4nm,0.2s						
E0901	**Celadas (Terue**	**4.67**	**112**	Pn		**Pn**	**03 30 03.7 +4.5**
E0901				*i* IVmb_Lg			03 31 39.5
MESJ	**Messejana**	**4.67**	**194**	*e*P		**Pn**	**03 30 01.3 +2.2**
MESJ	**Messejana**	**4.67**	**194**	*e*Pn		**Pn**	**03 30 01.6 +2.4**
MESJ				*e*Sn		**Sn**	**03 30 53.5 0.0**
MESJ				*e*Sg		**Sg**	**03 31 20.5 +2.0**
MESJ				*i* IAML			03 31 27.5
MESJ				*i* IAML			03 31 28.1
MESJ				*i* IAML			03 31 28.7
ESAC	**San Caprasio**	**4.76**	**96**	Pn		**Pn**	**03 30 04.9 +4.5**
ESAC				Sg		**Sg**	**03 31 21.3 +0.1**
PCVE	**Castro Verde**	**4.85**	**192**	Pn		**Pn**	**03 30 03.6 +2.1**
PCVE				Sn		**Sn**	**03 30 55.4 -2.3**
PCVE	**Castro Verde**	**4.85**	**192**	*e*Pn		**Pn**	**03 30 03.7 +2.2**
PCVE				*e*Sn		**Sn**	**03 30 56.0 -1.7**
PCVE				*e*Sg		**Sg**	**03 31 24.8 +0.7**
PCVE				*i* IAML			03 31 31.4
PCVE				*i* IAML			03 31 32.5
PCVE				*i* IAML			03 31 33.5
EGRO	**El Granado**	**4.88**	**186**	Pn		**Pn**	**03 30 04.3 +2.4**
EGRO	**El Granado**	**4.88**	**186**	Pn		**Pn**	**03 30 04.3 +2.4**
EGRO				*i* IVmb_Lg			03 31 37.7
PVAQ	**Vaqueiros**	**5.03**	**188**	*e*Pn		**Pn**	**03 30 06.3 +2.3**
PVAQ				*e*Sn		**Sn**	**03 31 01.1 -1.2**
PVAQ				*e*Sg		**Sg**	**03 31 31.1 +1.2**
PVAQ				*i* IAML			03 31 32.6
PVAQ				*i* IAML			03 31 33.2
PVAQ				*i* IAML			03 31 36.4
PVAQ	**Vaqueiros**	**5.03**	**188**	P		**Pn**	**03 30 05.6 +1.6**
PVAQ	**Vaqueiros**	**5.03**	**188**	S		**Sb**	**03 31 11.2 -6.0**
PTEO	**Sao Teotonio**	**5.06**	**198**	*e*Pn		**Pn**	**03 30 06.9 +2.4**
PTEO				*e*Sn		**Sn**	**03 31 02.5 -0.5**
PTEO				*e*Sg		**Sg**	**03 31 32.2 +1.3**
PTEO				*i* IAML			03 31 45.8
PTEO				*i* IAML			03 31 45.9
PTEO				*i* IAML			03 31 46.3
EMOS	**Mosqueruela**	**5.17**	**111**	Pn		**Pn**	**03 30 10.0 +3.8**
EMOS				Sn		**Sn**	**03 31 07.4 +1.4**
EMOS				*i* IVmb_Lg			03 31 38.4
E0803	**Jimena (Jaen)**	**5.21**	**150**	Pn		**Pn**	**03 30 10.3 +3.7**
E0803				Sg		**Sg**	**03 31 35.4 -0.4**
PBDV	**Barranco-do-Ve**	**5.21**	**190**	Sn		**Sn**	**03 31 04.4 -2.5**
PBDV				Pn		**Pn**	**03 30 08.8 +2.3**
PBDV	**Barranco-do-Ve**	**5.21**	**190**	*e*Pn		**Pn**	**03 30 08.9 +2.3**
PBDV				*e*Sn		**Sn**	**03 31 07.2 +0.3**
PBDV				*e*Sg		**Sg**	**03 31 37.8 +1.9**
PBDV				*i* IAML			03 31 40.8
PBDV				*i* IAML			03 31 47.6
PBDV				*i* IAML			03 31 49.3
ECHE	**Chera**	**5.22**	**120**	Pn		**Pn**	**03 30 10.5 +3.8**
ECHE				Pg		**Pg**	**03 30 25.9 -2.5**
ECHE				Sg		**Sg**	**03 31 36.0 -0.1**
ECHE				*i* IVmb_Lg			03 31 55.7
MORF	**Marmelete**	**5.28**	**196**	*e*P		**Pn**	**03 30 09.5 +2.0**
MORF	**Marmelete**	**5.28**	**196**	*e*Pn		**Pn**	**03 30 09.6 +2.0**
MORF				*e*Sn		**Sn**	**03 31 07.0 -1.5**
MORF				*i* IAML			03 31 51.1
MORF				*i* IAML			03 31 53.4
MORF				*i* IAML			03 31 57.2
EPF	**Esparros**	**5.30**	**81**	*e*Pn		**Pn**	**03 30 11.5 +3.7**
EPF				*e*Sn		**Sn**	**03 31 10.2 +1.3**
	7.2nm,0.3s						
EVIV	**Cofrentes, Val**	**5.32**	**124**	Pn		**Pn**	**03 30 11.9 +3.8**
EVIV				Sg		**Sg**	**03 31 39.1 0.0**
EVIV				*i* IVmb_Lg			03 31 55.7
EQES	**Quesada**	**5.40**	**147**	Pn		**Pn**	**03 30 12.6 +3.4**
EQES				Sg		**Sg**	**03 31 40.8 -0.9**
EQES				*i* IVmb_Lg			03 31 57.9
PFVI	**Vila Bisbo**	**5.48**	**197**	*e*Pn		**Pn**	**03 30 12.3 +2.1**
PFVI				*e*Sn		**Sn**	**03 31 12.4 -0.9**
PFVI				*i* IAML			03 31 51.5
PFVI				*i* IAML			03 31 57.3
PFVI				*i* IAML			03 31 58.5
PFVI	**Vila Bisbo**	**5.48**	**197**	P		**Pn**	**03 30 10.0 -0.2**
PFVI	**Vila Bisbo**	**5.48**	**197**	S		**Sn**	**03 31 11.5 +6.1**
ERTA	**Horta de San J**	**5.53**	**103**	Pn		**Pn**	**03 30 15.3 +4.4**
ERTA				*i* IVmb_Lg			03 31 60.0
ESPR	**Espera**	**5.56**	**172**	Sn		**Sn**	**03 31 15.1 -0.2**
ESPR				*i* IVmb_Lg			03 31 55.2
EGOR	**Sierra Gorda,**	**5.66**	**158**	Pn		**Pn**	**03 30 16.6 +3.7**
EGOR				Sg		**Sg**	**03 31 47.7 -2.6**
EGOR				*i* IVmb_Lg			03 32 11.5
EQUE	**Quentar**	**5.79**	**152**	Sg		**Sg**	**03 31 51.3 -2.8**
EQUE				*i* IVmb_Lg			03 32 06.7
EPOB	**Poblet**	**5.97**	**97**	Pn		**Pn**	**03 30 19.6 +2.6**
EPOB				Sg		**Sg**	**03 31 58.5 -1.5**
EPOB				*i* IVmb_Lg			03 32 05.6
EJIF	**Jimena Fronter**	**6.02**	**170**	Sg		**Sg**	**03 31 58.0 -3.6**
LFF	**La Frestale**	**6.03**	**62**	*e*P		Pn	03 30 24.7 +6.9
LFF				*e*Sn		**Sn**	**03 31 24.8 -2.1**
	4.8nm,0.3s						
ELGU	**Los Guajares,**	**6.03**	**155**	Pn		**Pn**	**03 30 21.5 +3.6**
ELGU				Sg		**Sg**	**03 31 59.0 -3.1**
ELGU				*i* IVmb_Lg			03 32 16.3
AFON	**Font Roja**	**6.04**	**126**	Sg		**Sg**	**03 31 59.4 -3.0**
AFON				*i* IVmb_Lg			03 32 23.8
QUIF	**Quistinic**	**6.09**	**24**	*e*Pn		**Pn**	**03 30 19.9 +1.3**
QUIF				*e*Sn		**Sn**	**03 31 24.0 -4.4**
	3.3nm,0.3s						
EMUR	**La Murta**	**6.22**	**135**	Pn		**Pn**	**03 30 23.9 +3.4**
EMUR				Sg		**Sg**	**03 32 02.8 -5.4**
EMUR	**La Murta**	**6.22**	**135**	Pn		**Pn**	**03 30 24.4 +3.9**
EMUR				Sg		**Sg**	**03 32 06.5 -1.7**
EMUR				*i* IVmb_Lg			03 32 16.7
MFF	**Saint Martin d**	**6.35**	**46**	*e*Pn		**Pn**	**03 30 23.9 +1.7**
MFF	**Saint Martin d**	**6.35**	**46**	*e*Pn		**Pn**	**03 30 24.4 +2.2**
	baz=232						
MFF				*e*Sn		**Sn**	**03 31 31.1 -3.7**
	3.7nm,0.3s						
MFF				*e*Sn		**Sn**	**03 31 31.1 -3.7**
	5.5nm,0.3s						
ROSF	**Rostrenen**	**6.44**	**21**	*e*Pn		**Pn**	**03 30 24.0 +0.6**
ROSF				*e*Sn		**Sn**	**03 31 31.8 -5.2**
	4.3nm,0.3s						
ENIJ	**Nijar**	**6.46**	**145**	Sg		**Sg**	**03 32 13.2 -2.7**
ENIJ				*i* IVmb_Lg			03 32 26.5
SGMF	**Saint Gilles**	**6.58**	**26**	*e*Pn		**Pn**	**03 30 26.4 +1.1**
SGMF				*e*Sn		**Sn**	**03 31 36.4 -4.0**
	3.4nm,0.3s						
RJF	**Les Rejaudoux**	**6.68**	**61**	*e*Pn		**Pn**	**03 30 28.0 +1.3**
RJF				*e*Sn		**Sn**	**03 31 39.8 -3.1**
	3.2nm,0.2s						
MTLF	**Montolieu**	**6.69**	**79**	*e*Pn		**Pn**	**03 30 30.2 +3.3**
MTLF				*e*Sn		**Sn**	**03 31 42.7 -0.5**
	2.0nm,0.3s						
CAF	**Calviac**	**6.91**	**65**	*e*Pn		**Pn**	**03 30 31.8 +1.9**
CAF				*e*Sn		**Sn**	**03 31 45.0 -3.6**
	2.0nm,0.2s						
EIBI	**Ibiza**	**7.04**	**116**	Pn		**Pn**	**03 30 35.2 +3.6**
EIBI				Sn		**Sn**	**03 31 50.7 -1.0**
EIBI				*i* IVmb_Lg			03 32 33.0
GRR	**Gorron**	**7.31**	**33**	*e*Pn		**Pn**	**03 30 37.7 +2.4**
GRR				*e*Sn		**Sn**	**03 31 52.7 -5.6**
	2.9nm,0.3s						
JSA	**Saint Aubin**	**7.53**	**24**	Sn		**Sn**	**03 32 00.0 -3.6**
TCF	**Toulx Ste Croi**	**7.54**	**56**	*e*Pn		**Pn**	**03 30 39.9 +1.4**
TCF				*e*Sn		**Sn**	**03 31 59.5 -4.6**
	3.2nm,0.4s						
FLN	**La Foliniere**	**7.76**	**33**	*e*Pn		**Pn**	**03 30 42.7 +1.2**
	baz=216						
FLN				*e*Sn		**Sn**	**03 32 06.2 -3.2**
	5.2nm,0.5s						
LDF	**La Druitiere**	**7.77**	**35**	*e*Pn		**Pn**	**03 30 42.8 +1.1**
LDF				*e*Sn		**Sn**	**03 32 03.5 -6.3**
	1.4nm,0.4s						
CCA1	**Carnmenellis**	**7.87**	**7**	Sn		**Sn**	**03 32 07.0 -5.2**
LASF	**Ste Croix**	**7.96**	**74**	*e*P		Pn	03 30 50.7 +6.4
LASF				*e*Sn		**Sn**	**03 32 12.4 -2.0**
	1.7nm,0.3s						
BGF	**Bois d'Agland**	**8.05**	**56**	*e*Pn		**Pn**	**03 30 47.2 +1.6**
BGF				*e*Sn		**Sn**	**03 32 14.1 -2.6**
	4.3nm,0.3s						
AKLM	**AKL**	**8.20**	**163**	P		Pn	03 30 38.0 -10
AKLM	**AKL**	**8.20**	**163**	S		**Sn**	**03 32 15.8 -4.5**
DYA	**Yadsworthy**	**8.29**	**13**	Sn		**Sn**	**03 32 18.1 -4.3**
HYF	**Humbligny**	**8.29**	**51**	*e*Pn		**Pn**	**03 30 50.9 +2.1**
HYF				*e*Sn		**Sn**	**03 32 19.2 -3.3**
AVF	**Avril sur Loir**	**8.47**	**55**	*e*Pn		**Pn**	**03 30 52.5 +1.2**
AVF				*e*Sn		**Sn**	**03 32 24.1 -2.8**
	0.5nm,0.2s						
VIVF	**Saint-Julien-l**	**8.68**	**70**	*e*Pn		**Pn**	**03 30 56.6 +2.5**
VIVF				*e*Sn		**Sn**	**03 32 26.8 -5.3**
	3.5nm,0.4s						
SSF	**Saint Saulge**	**8.69**	**54**	*e*Sn		**Sn**	**03 32 29.3 -3.1**
	0.8nm,0.2s						
SMF	**Signal de Mont**	**8.71**	**57**	*e*Pn		**Pn**	**03 30 55.9 +1.4**
SMF				*e*Sn		**Sn**	**03 32 29.7 -3.1**
	0.8nm,0.2s						
LOR	**Lormes**	**9.00**	**54**	*e*P		Pn	03 31 05.9 +7.3
	baz=241						
LOR				*e*Sn		**Sn**	**03 32 36.6 -3.5**
	1.0nm,0.4s						
MD31	**MD31**	**9.64**	**170**	P		Pn	03 30 58.5 -8.9
MD31	**MD31**	**9.64**	**170**	S		**Sn**	**03 32 50.4 -5.6**
MDT	**Midelt**	**9.71**	**169**	P		Pn	03 30 58.1 -10
MDT	**Midelt**	**9.71**	**169**	S		**Sn**	**03 32 49.5 -8.2**

IDC 06 03:32:32.6±3.2,32°.48S×178°.10W,h0km,mb3.7/2,
mbtmp3.8/3,ML3.3/1,Error ellipse: s-maj=73.9km
s-min=37.4km az=116.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.96**	**213**	Pn	Pn	03 34 16.0	+0.2
	0.6nm,0.3s,baz=213,slow=6.1,SNR=3.7						
URZ				Sn	Sn	03 35 34.3	-1.4
	2.4nm,0.3s,baz=175,slow=20,SNR=7.3						
	26nm,1.0s						
ASAR	**Alice Springs**	**42.95**	**269**	P	P	03 40 33.4	-0.2
	0.3nm,0.5s,baz=110,slow=7.6,SNR=5.7						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.13**	**274**	P	P	03 40 43.1	+0.1
	0.7nm,0.3s,baz=113,slow=7.8,SNR=18						
	0.7nm,0.3s						
FINES	**FINESS Array B**	**147.06**	**339**	PKPbc	PKPbc	03 52 15.7	-1.0
	1.5nm,0.8s,baz=20,slow=4.4,SNR=4.7						

IDC 06 03:46:22.6±3.2,32°.73S×177°.88W,h0km,mb3.8/2,
mbtmp3.8/3,ML3.1/1,Error ellipse: s-maj=76.5km
s-min=37.5km az=119.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.86**	**215**	Pn	Pn	03 48 03.1	-1.4
	0.4nm,0.3s,baz=259,slow=4.1,SNR=1.9						
URZ				Sn	Sn	03 49 24.7	+1.4
	1.8nm,0.3s,baz=164,slow=23,SNR=12						
	9.4nm,0.9s						
ASAR	**Alice Springs**	**43.13**	**269**	P	P	03 54 25.4	+0.4
	0.6nm,0.7s,baz=109,slow=7.7,SNR=4.7						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**44.33**	**274**	P	P	03 54 34.5	-0.2
	1.4nm,0.5s,baz=113,slow=7.9,SNR=15						
	1.4nm,0.5s						
FINES	**FINESS Array B**	**147.35**	**339**	PKPbc	PKPbc	04 06 06.7	-0.8
	2.4nm,0.9s,baz=54,slow=1.4,SNR=4.9						

*CNRM **06** 03:46:48.0,35°.69N×9°.87W,h23km,ML2.9*
*MDD **06** 03:46:49.3±0.7,35°.74N×10°.03W,h32km±17km,*
mb_Lg3.1/17,Error ellipse: s-maj=9.4km s-min=3.9km
az=87.0
*SFS **06** 03:46:50.2,35°.77N×9°.96W,h30km,ML3.2/10,ML2.7/14,*
MLv2.5/14
*INMG **06** 03:46:51.1±1.1,35°.82N×9°.95W,h24km,ML1.8,Error*
ellipse: s-maj=5.1km s-min=4.2km az=91.0,
#DIST_RANGE: REGIONAL #IPMA_REGION: Mar de
Marrocos
*IGIL **06** 03:46:51.4,35°.75N×9°.96W,h31km,ML1.5*

ISC 06 03:46:49.8±1.5,35°.76N±0°.03×9°.82W±0°.07,h35km,n64,
σ1§25/99,4C,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.59**	**30**	Pn	**Pn**	**03 47 16.1**	**+0.6**
PFVI				Sn	**Sn**	**03 47 34.4**	**-0.4**
PFVI	**Vila Bisbo**	**1.59**	**30⇑**	*e*P	**Pn**	**03 47 16.1**	**+0.6**
PFVI				*e*S	**Sn**	**03 47 34.3**	**-0.5**
PFVI				*i* IAML		03 47 35.8	
PFVI				*i* IAML		03 47 36.6	
PFVI				*i* IAML		03 47 37.3	
PFVI	**Vila Bisbo**	**1.59**	**30**	P	**Pn**	**03 47 15.9**	**+0.4**
PFVI	**Vila Bisbo**	**1.59**	**30**	S	**Sn**	**03 47 36.3**	**+1.5**
MORF	**Marmelete**	**1.81**	**31**	*e*P	**Pn**	**03 47 19.3**	**+0.7**
MORF				*e*S	**Sn**	**03 47 39.8**	**-0.5**
MORF				IAML		03 47 40.8	
	comp=N,5.5nm,0.1s						
MORF	**Marmelete**

EMIN					Sn	Sn	03 48 15.1	-0.2	
EMIN					*i* lVmb_Lg		03 48 17.5		
PBAR	**Barrancos**	**3.29**	**42**		Sn	Sn	**03 48 16.1**	**-0.5**	
PBAR					Pn	Pn	**03 47 39.3**	**+0.5**	
PBAR	**Barrancos**	**3.29**	**42**	*eP*	Pn	Pn	**03 47 39.5**	**+0.7**	
PBAR				*eS*	Sn	Sn	**03 48 16.2**	**-0.5**	
PBAR				*i* IAML			03 48 18.2		
PBAR				*i* IAML			03 48 18.3		
PBAR				*i* IAML			03 48 19.9		
ESPR	**Espera**	**3.39**	**70**		Pn	Pn	**03 47 41.5**	**+1.3**	
ESPR					Sn	Sn	**03 48 19.9**	**+0.7**	
ESPR				*i* lVmb_Lg			03 48 22.7		
ZHG	**ZHG**	**3.49**	**130**		P	Pn	**03 47 42.0**	**+0.3**	
ZHG	**ZHG**	**3.49**	**130**		S	Sn	**03 48 23.9**	**+2.1**	
PMTG	**Montargil**	**3.54**	**21**	*eP*	Pn	Pn	**03 47 42.7**	**+0.4**	
PMTG				*eS*	Sn	Sn	**03 48 21.4**	**-1.6**	
PMTG				*i* IAML			03 48 22.7		
PMTG				*i* IAML			03 48 23.2		
PMTG				*i* IAML			03 48 24.1		
PESTR	**Estremoz**	**3.58**	**29**		Pn	Pn	**03 47 43.0**	**+0.1**	
PESTR	**Estremoz**	**3.58**	**29**	*eS*		Sn	**03 48 22.5**	**-1.4**	
EBAD	**Badajoz**	**3.74**	**36**		Pn	Pn	**03 47 45.5**	**+0.5**	
EBAD					Sn	Sn	**03 48 28.2**	**+0.3**	
EBAD	**Badajoz**	**3.74**	**36**		Pn	Pn	**03 47 45.6**	**+0.6**	
EBAD					Sn	Sn	**03 48 26.9**	**-1.0**	
EBAD				*i* lVmb_Lg			03 48 30.9		
PSARD	**Sardoal**	**4.06**	**18**	*eP*		Pn	**03 47 49.7**	**+0.3**	
PSARD				*eS*		Sn	**03 48 34.6**	**-1.1**	
PSARD				*i* IAML			03 48 36.7		
PSARD				*i* IAML			03 48 37.8		
PSARD				*i* IAML			03 48 38.3		
PMRV	**Marv??o**	**4.14**	**27**	*eP*		Pn	**03 47 50.7**	**+0.1**	
PMRV				*eS*		Sn	**03 48 35.4**	**-2.4**	
PMRV				*i* IAML			03 48 36.2		
PMRV				*i* IAML			03 48 38.7		
PMRV				*i* IAML			03 48 40.9		
ECAB	**El Cabril**	**4.22**	**55**		Pn	Pn	**03 47 52.6**	**+1.0**	
ECAB					Sn	Sn	**03 48 37.4**	**-2.3**	
ECAB	**El Cabril**	**4.22**	**55**		Pn	Pn	**03 47 52.4**	**+0.7**	
ECAB					Sn	Sn	**03 48 38.1**	**-1.7**	
ECAB				*i* lVmb_Lg			03 48 39.0		
LCRM	**LCR**	**4.58**	**115**		P	Pn	**03 47 56.2**	**-0.6**	
LCRM	**LCR**	**4.58**	**115**		S	Sn	**03 48 48.9**	**+0.1**	
EGOR	**Sierra Gorda,**	**4.80**	**72**		Sn	Sn	**03 48 53.6**	**-0.6**	
EADA	**Adamuz**	**4.84**	**59**		Pn	Pn	**03 48 01.5**	**+1.3**	
EADA					Sn	Sn	**03 48 53.5**	**-1.5**	
EADA	**Adamuz**	**4.84**	**59**		Pn	Pn	**03 48 01.3**	**+1.1**	
EADA					Sn	Sn	**03 48 53.6**	**-1.5**	
EADA				*i* lVmb_Lg			03 48 56.2		
TISM	**Timmit**	**4.91**	**144**		P	Pn	**03 47 59.8**	**-1.3**	
TISM	**Timmit**	**4.91**	**144**		S	Sn	**03 48 57.7**	**+1.0**	
AKLM	**AKL**	**5.04**	**103**		P	Pn	**03 48 04.0**	**+1.1**	
AKLM	**AKL**	**5.04**	**103**		S	Sn	**03 48 57.9**	**-2.1**	
MD31	**MD31**	**5.08**	**123**		P	Pn	**03 48 02.9**	**-0.7**	
MD31	**MD31**	**5.08**	**123**		S	Sn	**03 49 01.8**	**+0.7**	
ELGU	**Los Guajares,**	**5.13**	**76**		Sn	Sn	**03 49 01.4**	**-0.7**	
ELGU				*i* lVmb_Lg			03 49 16.6		
MDT	**Midelt**	**5.22**	**123**		P	Pn	**03 48 05.3**	**-0.2**	
MDT	**Midelt**	**5.22**	**123**		S	Sn	**03 49 04.1**	**-0.4**	
EPLA	**Plasencia**	**5.22**	**33**		Pn	Pn	**03 48 05.9**	**+0.5**	
EPLA					Sn	Sn	**03 49 02.2**	**-2.2**	
EPLA				*i* lVmb_Lg			03 49 12.7		
TIO	**Tiouine**	**5.27**	**155**		P	Pn	**03 48 04.9**	**-1.3**	
TIO	**Tiouine**	**5.27**	**155**		S	Sn	**03 49 05.0**	**-0.8**	
OUZM	**OUZ**	**5.47**	**151**		P	Pn	**03 48 07.7**	**-1.2**	
OUZM	**OUZ**	**5.47**	**151**		S	Sn	**03 49 12.2**	**+1.5**	
PSIM	**Granatula de C**	**5.72**	**56**		Pn	Pn	**03 48 13.1**	**+0.8**	
PSIM					Sn	Sn	**03 49 15.2**	**-1.6**	
PAB	**San Pablo**	**5.76**	**47**		Pn	Pn	**03 48 13.6**	**+0.8**	
PAB					Sn	Sn	**03 49 15.0**	**-2.7**	
PAB				*i* lVmb_Lg			03 49 28.6		
GUD	**Guadarrama**	**6.61**	**41**		Pn	Pn	**03 48 25.4**	**+0.8**	
GUD				*i* lVmb_Lg			03 49 48.1		
ETOR	**Torete**	**7.93**	**48**		Pn	Pn	**03 48 43.9**	**+1.3**	
ETOR				*i* lVmb_Lg			03 50 03.7		

RHSSO ***06*** *03:50:33.1±0.4, 44°.66N×18°.56E, h6km±2km, ML2.6/12*
PDG ***06*** *03:50:33.5±0.2, 44°.71N×18°.64E, h13km±1km, ML2.5/10, Error ellipse: s-maj=0.7km s-min=1.0km az=0.0*
BEO ***06*** *03:50:34.5±0.3, 44°.66N×18°.53E, h12km±2km, ML2.4/7*
VIE ***06*** *03:50:35.0±1.4, 44°.67N×18°.43E, h10km±9km, mb2.5/4, ml2.3/6, Error ellipse: s-maj=10.0km s-min=8.0km az=137.0 63 km SSE of Slavonski Brod*

ISC 06 03:50:33.4±1.1, 44°.66N±0°.02×18°.53E±0°.01, h6km±9km, nB0, σ1±05/141, 15C-18D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DOB	**Doboj**	**0.32**	**284**	↑*i*	*i* Pg	**Pg**	**03 50 39.2**	**-0.3**
DOB				*e* Sg		**Sg**	**03 50 44.4**	**+0.7**
TEKS	**Tekeris**	**0.72**	**98**	*e* Pg		**Pg**	**03 50 47.6**	**+0.4**
TEKS				*e* Sg		**Sb**	**03 50 58.8**	**+0.2**
BLY	**Banja Luka**	**0.96**	**276**	↑*i*	*i* Pg	**Pg**	**03 50 51.2**	**-0.7**
BLY				*e* Sg		**Sg**	**03 51 04.5**	**+0.1**
BLY	**Banja Luka**	**0.96**	**276**	↑↑P		**Pg**	**03 50 52.3**	**+0.4**
BLY				↑↑S		**Sg**	**03 51 04.4**	**+0.1**
BLY	**Banja Luka**	**0.96**	**276**	*e* Pg		**Pb**	**03 50 52.4**	**-0.1**
BLY				*e* Sg		**Sg**	**03 51 04.2**	**-0.2**
BBLS	**Lazi&#263i**	**1.01**	**141**	*e* Pg		**Pg**	**03 50 51.7**	**-1.1**
BBLS				*e* Sg		**Sb**	**03 51 07.5**	**+0.5**
FRGS	**Fruska Gora**	**1.04**	**61**	*e* Pg		**Pb**	**03 50 54.1**	**+0.3**
FRGS				*e* Sg		**Sn**	**03 51 09.3**	**-0.1**
RUDO	**Rudo**	**1.20**	**150**	↑*i*	*i* Pg	**Pg**	**03 50 53.7**	**-2.8**
RUDO				*e* Sg		**Sg**	**03 51 11.2**	**-0.9**
A051A	**Mrakovica**	**1.21**	**288**	↑*i*	*i* Pg	**Pg**	**03 50 55.9**	**-0.6**
A051A				*e* Sg		**Sb**	**03 51 12.8**	**+0.2**
TRUS	**Trudelj**	**1.41**	**107**	*e* Pg		**Pb**	**03 51 00.3**	**+0.1**
TRUS				*e* Sg		**Sb**	**03 51 18.3**	**-0.1**
AVAS	**Avala Beograd**	**1.42**	**88**	*e* Pg		**Pg**	**03 51 01.4**	**+0.9**
AVAS				*e* Sg		**Sg**	**03 51 19.9**	**+1.1**
UPM	**Unac-Piva**	**1.48**	**169**	↓*i*	*i* Pg	**Pn**	**03 51 00.5**	**-0.3**
UPM				*i* Sg		**Sg**	**03 51 23.1**	**+2.1**
KLINJ	**Klinje**	**1.49**	**178**	*e* Pg		**Pn**	**03 51 00.5**	**-0.3**
KLINJ				*e* Sg		**Sn**	**03 51 20.5**	**-0.2**
RICI	**Ricice**	**1.54**	**221**	*e* Pn		**Pn**	**03 51 01.2**	**-0.2**
RICI				Sg		**Sn**	**03 51 21.3**	**-0.5**
MORH	**Mrgy, Hungar**	**1.56**	**3**	↑*i*	*i* Pn	**Pn**	**03 51 00.8**	**-0.8**
MORH				*e* Sn		**Sn**	**03 51 22.2**	**0.0**
MORH	**Mrgy, Hungar**	**1.56**	**3**	↓↓S		**Sg**	**03 51 26.5**	**+3.1**
MOSL	**Moslavina**	**1.58**	**308**	↑*i*	*i* Pn	**Pn**	**03 51 01.4**	**-0.6**
MOSL				*e* Sn		**Sn**	**03 51 22.6**	**-0.2**
MOSL	**Moslavina**	**1.58**	**308**	*e* Pn		**Pb**	**03 51 03.0**	**0.0**
MOSL				Sg		**Sn**	**03 51 22.6**	**-0.2**
IVAS	**Ivanjica**	**1.59**	**132**	*e* Pg		**Pn**	**03 51 01.6**	**-0.3**
KIJV	**Kijevo**	**1.66**	**248**	*e* Pn		**Pn**	**03 51 03.1**	**0.0**
KIJV				*e* Sn		**Sb**	**03 51 25.3**	**-0.2**
KIJV	**Kijevo**	**1.66**	**248**	*e* Pn		**Pn**	**03 51 03.3**	**+0.2**
KIJV				Sn		**Sb**	**03 51 25.4**	**-0.2**
SJES	**Sjenica**	**1.74**	**143**	*e* Pg		**Pn**	**03 51 04.8**	**+0.5**
GRUS	**Gruza**	**1.75**	**115**	*e* Pn		**Pn**	**03 51 04.5**	**+0.2**
MAKA	**Makarska**	**1.75**	**219**	*e* Pn		**Pn**	**03 51 04.3**	**0.0**
MAKA				Sn		**Sn**	**03 51 27.4**	**+0.4**
BRY	**Bratogost**	**1.76**	**180**	*e* Pn		**Pn**	**03 51 05.4**	**+0.9**
BRY				*i* Sn		**Sg**	**03 51 30.4**	**+0.6**
STON	**Ston**	**1.89**	**199**	*e* Pn		**Pn**	**03 51 05.4**	**-0.7**
STON				*e* Sn		**Sn**	**03 51 30.0**	**-0.2**
STON	**Ston**	**1.89**	**199**	*e* Pn		**Pn**	**03 51 07.2**	**+1.1**
STON				Sn		**Sb**	**03 51 31.4**	**-0.6**
NKME	**Niksic**	**1.92**	**171**	↑*i*	*i* Pn	**Pn**	**03 51 07.3**	**+0.7**
NKME				*i* Sn		**Sb**	**03 51 34.1**	**+1.1**
KOME	**Kolasin**	**1.94**	**158**	↓*i*	*i* Pn	**Pn**	**03 51 06.8**	**-0.3**
KOME				*i* Sn		**Sb**	**03 51 34.4**	**+0.6**
TREB	**Trebinje**	**1.95**	**184**	*e* Pn		**Pn**	**03 51 07.4**	**+0.4**
TREB				*e* Sn		**Sn**	**03 51 31.3**	**-0.5**
UDBI	**Udbina**	**1.98**	**267**	*e* Pn		**Pn**	**03 51 07.9**	**+0.4**
UDBI				Sn		**Sn**	**03 51 33.5**	**+0.8**
DBRK	**Dubrovnik**	**2.01**	**188**	*e* Pn		**Pn**	**03 51 08.4**	**+0.5**
DBRK				Sn		**Sn**	**03 51 34.2**	**+0.9**
GOCS	**Kraljevo Serbi**	**2.01**	**122**	*e* Pn		**Pn**	**03 51 08.7**	**+0.7**
VRSS	**Vrsac**	**2.04**	**76**	*e* Pn		**Pn**	**03 51 08.3**	**0.0**
VRSS				*e* Sn		**Sn**	**03 51 33.3**	**-0.8**
IVA	**Berane**	**2.04**	**151**	*e* Pn		**Pn**	**03 51 08.4**	**0.0**
IVA				*i* Sn		**Sb**	**03 51 36.3**	**-0.3**
PLIT	**Plitvice**	**2.08**	**277**	*e* Pn		**Pn**	**03 51 08.6**	**-0.3**
PLIT				Sn		**Sn**	**03 51 36.1**	**+0.9**
CEME	**Cevo**	**2.13**	**172**	*e* Pn		**Pn**	**03 51 10.4**	**+0.8**
CEME				*e* Sn		**Sb**	**03 51 39.1**	**-0.1**
MORI	**Morici**	**2.18**	**250**	*e* Pn		**Pn**	**03 51 11.5**	**+1.3**
MORI				Sn		**Sn**	**03 51 38.0**	**+0.5**
BEHE	**Becsehely**	**2.19**	**326**	*e* Pn		**Pn**	**03 51 09.9**	**-0.5**
BEHE				*e* Sn		**Sn**	**03 51 38.0**	**+0.2**
HCY	**Herceg Novi**	**2.21**	**181**	↓↓*i*	Pn	**Pn**	**03 51 12.0**	**+1.3**
HCY				*e* Sn		**Sb**	**03 51 41.3**	**-0.1**
LSTV	**Lastovo**	**2.23**	**213**	*e* Pn		**Pn**	**03 51 11.6**	**+0.6**
LSTV				Sn		**Sn**	**03 51 38.7**	**-0.1**
KUBS	**Kucevo**	**2.26**	**95**	*e* Pn		**Pn**	**03 51 11.0**	**-0.4**
MDVR	**Moldovita**	**2.27**	**86**	↑↑P		**Pb**	**03 51 15.7**	**+0.8**
MDVR				↑↑S		**Sg**	**03 51 46.4**	**+0.1**
PDG	**Podgorica**	**2.29**	**166**	↓↓P		**Pn**	**03 51 13.1**	**+1.5**
PDG				↓↓S		**Sn**	**03 51 42.0**	**+1.8**
PDG	**Podgorica**	**2.29**	**166**	*e* Pn		**Pn**	**03 51 13.2**	**+1.5**
PDG				*e* Sn		**Sn**	**03 51 41.7**	**+1.5**
PDG	**Podgorica**	**2.29**	**166**	*e* Pn		**Pn**	**03 51 12.7**	**+1.0**
PDG				*i* Sn		**Sb**	**03 51 42.8**	**-0.9**
ZIRJ	**Zirje**	**2.31**	**245**	*e* Pn		**Pn**	**03 51 12.9**	**+0.9**
ZIRJ				Sn		**Sn**	**03 51 41.4**	**+0.8**
SELS	**Selova**	**2.36**	**127**	*e* Pn		**Pn**	**03 51 12.8**	**+0.1**
OZLJ	**Ozalj**	**2.37**	**295**	*e* Pn		**Pn**	**03 51 12.8**	**0.0**
OZLJ				*e* Sn		**Sn**	**03 51 41.9**	**-0.3**
BUM	**Brajici-Budva**	**2.37**	**173**	*e* Pn		**Pn**	**03 51 14.0**	**+1.1**
BUM				*e* Sn		**Sb**	**03 51 44.7**	**-1.4**
BZS	**Buzias**	**2.38**	**65**	↓↓P		**Pb**	**03 51 17.6**	**+0.9**
BZS				↓↓S		**Sg**	**03 51 49.1**	**-0.8**
BZS	**Buzias**	**2.38**	**65**	*e* Sn		**Sn**	**03 51 41.3**	**-1.3**
GOLS	**Golise**	**2.46**	**304**	*e* Pn		**Pn**	**03 51 13.5**	**-0.6**
CRES	**Cresnjevec Ost**	**2.46**	**299**	*i* Pn		**Pn**	**03 51 13.8**	**-0.3**
BOJS	**Bojanci**	**2.47**	**291**	*e* Pn		**Pn**	**03 51 15.8**	**+1.6**
BOVS	**Bovan**	**2.50**	**113**	↓↓P		**Pb**	**03 51 17.7**	**-1.1**
BOVS				↓↓S		**Sb**	**03 51 50.8**	**+0.9**
BOVS	**Bovan**	**2.50**	**113**	*e* Pn		**Pn**	**03 51 14.5**	**-0.2**
VIRC	**Vir**	**2.52**	**263**	*e* Pn		**Pn**	**03 51 15.3**	**+0.5**
VIRC				Sn		**Sn**	**03 51 46.3**	**+0.5**
DRME	**Dracevica, Mon**	**2.52**	**169**	↑↑*i*	Pn	**Pn**	**03 51 15.7**	**+0.8**
DRME				*e* Sn		**Sb**	**03 51 48.7**	**-1.5**
DUGI	**Dugi Otok**	**2.58**	**256**	*e* Pn		**Pn**	**03 51 16.8**	**+1.0**
DUGI				Sn		**Sn**	**03 51 47.3**	**-0.2**
NVLJ	**Novalja**	**2.62**	**269**	*e* Pn		**Pn**	**03 51 17.2**	**+1.0**
NVLJ				Sn		**Sn**	**03 51 48.7**	**+0.4**
SIRR	**Siria**	**2.73**	**53**	↓↓P		**Pb**	**03 51 21.0**	**-1.5**
SIRR				↓↓S		**Sb**	**03 51 57.2**	**+0.9**
SURR	**Surduc**	**2.77**	**65**	↑↑P		**Pb**	**03 51 21.1**	**-2.1**
SURR				↓↓S		**Sb**	**03 51 57.5**	**+0.2**
HERR	**Herculane**	**2.78**	**84**	↑↑P		**Pn**	**03 51 20.7**	**+2.2**
HERR				↓↓S		**Sb**	**03 51 57.2**	**-0.5**
ZAGS	**Zajecar**	**2.79**	**106**	*e* Pn		**Pn**	**03 51 18.9**	**+0.3**
RIY	**Rijeka**	**2.95**	**284**	*e* Pn		**Pn**	**03 51 21.9**	**+1.1**
BARS	**Barje**	**3.01**	**127**	*e* Pn		**Pn**	**03 51 21.9**	**+0.3**
BARS				*e* Sn		**Sn**	**03 51 58.5**	**+0.4**
GZR	**Gura Zlata**	**3.10**	**75**	↓↓P		**Pb**	**03 51 27.2**	**-1.7**
PERS	**Pernice**	**3.10**	**311**	*e* Pn		**Pn**	**03 51 22.8**	**-0.2**
SOKA	**Soboth**	**3.18**	**311**	*i* Pn		**Pn**	**03 51 23.8**	**-0.2**
	1.0nm,0.2s							
SOKA				*e* Sn		**Sn**	**03 52 00.5**	**-1.7**
	0.6nm,0.3s							
ZAPS	**Zavoj**	**3.27**	**114**	*e* Pn		**Pn**	**03 51 25.1**	**-0.1**
ARSA	**Arzberg**	**3.33**	**322**	*i* Pn		**Pn**	**03 51 26.6**	**+0.5**
	4.3nm,0.3s							
ARSA				*e* Sn		**Sn**	**03 52 04.8**	**-1.2**
	1.9nm,0.4s							
ARSA	**Arzberg**	**3.33**	**322**	*e* Pn		**Pn**	**03 51 26.5**	**+0.4**
OBKA	**Obir**	**3.35**	**305**	*i* Pn		**Pn**	**03 51 27.0**	**+0.6**
	0.2nm,0.2s							
RONA	**Rosalia, Austr**	**3.41**	**334**	*i* Pn		**Pn**	**03 51 27.7**	**+0.5**
	1.0nm,0.2s							
RONA				*e* Sn		**Sn**	**03 52 07.9**	**-0.1**
	2.5nm,0.5s							
DRGR		**3.62**	**52**	↓↓P		**Pn**	**03 51 33.7**	**+3.6**
DRGR				↑↑S		**Sb**	**03 52 19.0**	**-3.1**
CONA	**Conrad Observa**	**3.76**	**331**	*i* Pn		**Pn**	**03 51 32.5**	**+0.6**
	0.5nm,0.2s							
CONA				*e* Sn		**Sn**	**03 52 16.4**	**-0.2**
	1.1nm,0.2s							
MARR	**Marisel-Cluj**	**3.80**	**56**	↓↓P		**Pn**	**03 51 36.5**	**+3.9**
MARR				↓↓S		**Sb**	**03 52 23.7**	**-3.4**
MOA	**Molln**	**4.35**	**319**	*i* Pn		**Pn**	**03 51 41.4**	**+1.3**
	0.3nm,0.2s							
MOA				*e* Sn		**Sn**	**03 52 30.8**	**-0.4**
	0.7nm,0.2s							
LESA	**Schwarzleotal**	**4.92**	**306**	*i* Pn		**Pn**	**03 51 48.0**	**0.0**
	0.3nm,0.2s							
LESA				*e* Sn		**Sn**	**03 52 45.7**	**+0.3**
	0.7nm,0.2s							

WEL 06 04:13:09.2±1.0, 33°S±19°×17°9E±2°5, h378km±28km, mB4.9/1, ML4.5/10, MLv4.3/8, Mw(mB)4.2/1, Error ellipse: s-maj=38.2km s-min=14.0km az=124.1, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.69**	**190**	P		Pn	04 14 27.5	+0.8
WMGZ				S		S	04 15 32.1	+2.5
HAZ	**Te Kaha**	**4.75**	**196**	P		Pn	04 14 27.1	-0.3
HAZ				S		S	04 15 30.9	0.0
PKGZ	**Pakihiroa**	**4.79**	**193**	P		Pn	04 14 28.5	+0.7
PKGZ				S		S	04 15 31.8	+0.1
PUZ	**Puketiti**	**4.96**	**191**	P		Pn	04 14 30.3	+0.7
PUZ				S		S	04 15 34.8	-0.1
RUGZ	**Raukumara Rang**	**4.98**	**197**	P		Pn	04 14 28.7	-1.2
RUGZ				S		S	04 15 35.5	+0.1
TWGZ	**Tauwhareparae**	**5.12**	**193**	P		Pn	04 14 31.6	+0.4
TWGZ				S		S	04 15 38.9	+0.9
CNGZ	**Carnagh Statio**	**5.37**	**191**	P		Pn	04 14 31.1	-2.8
URZ	**Urewera**	**5.41**	**200**	P		Pn	04 14 33.5	-0.8
URZ				S		S	04 15 43.0	-0.5
RAGZ	**Rawiri**	**5.54**	**197**	P		Pn	04 14 36.2	+0.3
RAGZ				S		S	04 15 47.1	+0.6
RIGZ	**Rimuhau**	**5.67**	**194**	P		Pn	04 14 36.6	-0.6
RIGZ				S		S	04 15 48.5	-0.4
MUGZ	**Murupara**	**5.71**	**202**	P		Pn	04 14 37.3	-0.3
MUGZ				S		S	04 15 50.1	+0.4
RTZ	**Ruatahuna**	**5.77**	**200**	P		Pn	04 14 37.4	-1.0
RTZ				S		S	04 15 50.6	-0.4
SNGZ	**Shannon Statio**	**5.83**	**197**	S		S	04 15 51.7	-0.5
KNZ	**Kokohu**	**5.99**	**194**	P		Pn	04 14 41.3	+0.6
KNZ				S		S	04 15 54.5	-0.7
RAHZ	**Arahi**	**6.03**	**198**	P		Pn	04 14 42.1	+0.9
RAHZ				S		S	04 15 56.9	+0.9
MTHZ	**Maungatangiwha**	**6.03**	**200**	P		Pn	04 14 41.7	+0.5
MTHZ				S		S	04 15 56.7	+0.5
TLZ	**Tolley Road**	**6.04**	**211**	P		Pn	04 14 43.8	+2.5
MHGZ	**Mahia Peninsul**	**6.08**	**192**	P		Pn	04 14 42.9	+1.2
MHGZ				S		S	04 15 59.0	+1.9
NGZ	**Ngauruhoe**	**6.74**	**207**	P		Pn	04 14 49.3	0.0
WAZ	**Wanganui**	**7.48**	**208**	P		Pn	04 14 56.3	-1.3
WAZ				S		S	04 16 27.3	+1.0

IDC ***06*** *04:25:58.0±0.5, 16°.31N×122°.41E, h0km, mb4.2/21, mbtmp4.2/22, ML4.8/1, MS4.0/42, Error ellipse: s-maj=20.4km s-min=11.7km az=79.0*
NEIC ***06*** *04:26:03.9±1.7, 16°.23N±0°.06×122°.4E±0°.1, h35km±2km, mb4.7/43, Error ellipse: s-maj=19.4km s-min=10.1km az=103.0*
BJI ***06*** *04:26:04.7, 16°.20N×122°.46E, h57km, mB5.1/13, mb4.5/32, Ms4.6/32, Ms7 4.4/30*
DJA ***06*** *04:26:09.8±0.5, 16°.N±3°×12°2E±°, h59km±6km, M5.1/23, mb4.7/23, mB5.8/5, MLv5.2/1, Mw(mB)5.4/5*

ISC 06 04:26:04.4±0.4, 16°.21N±0°.04×122°.44E±0°.06, h42km, n333, σ1±28/298, mb4.6/59, MS4.1/55, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.55**	**215**	Pn		**Pn**	**04 26 42.6**	**-0.7**
	170nm,0.3s,baz=27,slow=4.5,SNR=6.3							
TGY				Sn		**Sn**	**04 27 15.3**	**+2.1**
	605nm,0.3s,baz=90,slow=9.1,SNR=7.6							
	201nm,0.3s							
YULB	**Yu-li**	**7.22**	**352**			**Pn**	**04 27 47.6**	**+0.1**
SSLB	**Suanglung**	**7.67**	**350**			**Pn**	**04 27 54.1**	**+0.5**
NACB	**Ninganchiao**	**7.96**	**354**	Pn		**Pn**	**04 27 55.9**	**-1.7**
YHNB	**Yeheng**	**8.47**	**353**			**Pn**	**04 28 03.2**	**-1.5**
DAV	**Davao City (W)**	**9.59**	**161**	LR		LR	04 32 39.8	
	comp=Z,2μm,18.6s,baz=348,slow=42							
QIZ	**Qiongzhong**	**12.33**	**285**	P		**Pn**	**04 28 56.5**	**-1.0**
QIZ				S		**Sn**	**04 31 12.5**	**-1.2**
QIZ				LR		LR		
	comp=N,750nm,10.4s							
QIZ				LR		LR		
	comp=E,720nm,11.9s							
QIZ				LR		LR		
	comp=Z,1μm,14.4s							
MRSI	**Marisa**	**15.64**	**182**	P		**P**	**04 29 44.6**	**-1.0**
	21nm,0.8s							
NJ2	**Nanjing**	**16.10**	**349**	*e*P		**P**	**04 29 49.8**	**-0.8**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.7s							
SBUM	**Sibu**	**16.98**	**217**			**P**	**04 29 59.8**	**-0.6**
PCI	**Palu**	**17.20**	**189**	P		**P**	**04 30 02.7**	**-0.2**
	2μm44nm,0.7s							
STKI	**Sintang**	**19.35**	**215**	P		**Pn**	**04 30 29.8**	**+1.9**
	17μm42nm,0.9s							
LYN	**LuoYang**	**20.34**	**336**	P		Pn	04 30 38.7	-0.7
LYN				S		Sn	04 34 27.7	0.0
LYN				sS		sS	04 34 38.0	+0.3
LYN				pmax		pmax		
	comp=Z,22nm,0.7s							
LYN				pmax		pmax		
	comp=Z,410nm,9.6s							
LYN				LR		LR		
	comp=N,1μm,11.3s							
LYN				LR		LR		
	comp=E,740nm,16.8s							
LYN				LR		LR		
	comp=Z,1μm,15.5s							
KMI	**Kunming**	**20.43**	**299**	P		Pn	04 30 45.2	+4.3
KMI				pmax		pmax		
	comp=Z,15nm,2.0s							
KMI				LR		LR		
	comp=N,1μm,13.8s							
KMI				LR		LR		
	comp=E,990nm,14.9s							
KMI				LR		LR		
	comp=Z,1μm,19.2s							
KAPI	**Kappang**	**21.26**	**187**	P		**P**	**04 30 46.4**	**-0.7**
KAPI				IAmb		IAmb	04 30 58.0	
	comp=Z,29nm,1.2s							
KAPI	**Kappang**	**21.26**	**187**	P		**P**	**04 30 47.3**	**+0.2**
	comp=Z,9.5nm,0.8s,baz=356,slow=14,SNR=4.5							
	comp=Z,9.5nm,0.8s							
XAN	**Xi'an**	**21.52**	**328**	↓↓P		**P**	**04 30 51.9**	**+1.9**
XAN				pmax		pmax		
	comp=Z,24nm,1.3s							
XAN				pmax		pmax		
	comp=Z,510nm,5.2s							
XAN				LR		LR		
	comp=Z,1μm,16.3s							
XAN				LR		LR		
	comp=Z,1μm,11.0s							
XAN				LR		LR		
	comp=Z,2μm,13.7s							
KSAR	**Wonju Array Be**	**21.69**	**12**	P		**P**	**04 30 51.5**	**-0.1**
KSRS	**Korea Array**	**21.71**	**12**	P		**P**	**04 30 49.8**	**-2.0**
	comp=Z,3.5nm,1.1s,baz=191,slow=9.9,SNR=13							
	comp=Z,3.5nm,1.1s							
PZH	**PanZhiHua**	**21.80**	**301**	P		**P**	**04 30 53.4**	**+0.3**
PZH				S		**S**	**04 34 46.4**	**-5.7**
PZH				LR		LR		
	comp=Z,500nm,11.3s							
PZH				LR		LR		
	comp=Z,880nm,18.6s							
PZH				LR		LR		
	comp=Z,1μm,17.5s							
GUMO	**Guam**	**21.83**	**94**	LR		LR	04 38 13.2

BTO sP pwP 04 32 03.9 +11
BTO PP **PnPn** **04 32 28.8 +8.1**
BTO S **S** **04 36 10.9 +0.2**
BTO sS sS 04 36 37.0 +9.2
BTO pmax pmax
comp=Z,24nm,0.9s
BTO pmax pmax
comp=Z,400nm,5.7s
BTO LR LR
comp=Z,2µm,15.4s
BTO LR LR
comp=Z,790nm,15.1s
BTO LR LR
comp=Z,2µm,16.0s
PSI **Prapat** **26.70 242** LR LR 04 43 01.1
comp=Z,250nm,18.6s,baz=58,slow=38
RPSI **Rantau Prapat** **26.76 242** **P** **04 31 41.0 +0.6**
RPSI IAmb IAmb 04 31 47.0
comp=Z,19nm,1.2s
CN2 **Changchun** **27.62 5** P **P** **04 31 48.1 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,700nm,17.0s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,900nm,18.0s
XLT **XiLinHaoTe** **28.12 350** *e*P P 04 31 57.2 +4.7
XLT SS SS 04 38 00.3 -34
XLT pmax pmax
comp=Z,7.0nm,0.8s
XLT pmax pmax
comp=Z,180nm,4.6s
XLT LR LR
comp=Z,340nm,16.2s
MDJ **Mudanjiang** **28.95 11** P **P** **04 31 59.3 -0.4**
MDJ pmax pmax
comp=Z,12nm,0.7s
BNX **BinXian** **29.73 7** ⇑P **P** **04 32 05.8 -0.8**
BNX pmax pmax
comp=Z,6.0nm,0.4s
ASAJ **Asahikawa** **32.64 27** LR LR 04 46 09.8
comp=Z,89nm,20.6s,baz=356,slow=37
ULN **Ulaanbaatar** **34.02 341** **P** **04 32 46.0 +1.5**
ULN IAmb IAmb 04 32 52.8
comp=Z,17nm,1.4s
HEH **HeiHe** **34.19 6** *e*P **P** **04 32 46.9 +1.2**
HEH LR LR
comp=Z,370nm,13.1s
HEH LR LR
comp=Z,500nm,16.9s
SONM **Songino Array** **34.20 341** P **P** **04 32 44.9 -1.0**
SONM **Songino Array** **34.20 341** P **P** **04 32 43.7 -2.3**
comp=Z,1.2nm,0.7s,baz=159,slow=9.8,SNR=5.6
SONM LR LR 04 48 24.9
comp=Z,430nm,18.5s,baz=144,slow=40
comp=Z,1.2nm,0.7s
FITZ **Fitzroy Crossi** **34.24 175** **P** **04 32 45.8 -0.5**
FITZ IAmb IAmb 04 32 47.1
comp=Z,8.9nm,1.1s
FITZ **Fitzroy Crossi** **34.24 175** LR LR 04 49 34.0
comp=Z,64nm,18.8s,baz=55,slow=41
MBWA **Marble Bar** **37.23 184** P **P** **04 33 11.7 -0.3**
MBWA IAmb IAmb 04 33 12.4
comp=Z,17nm,0.8s
PSA00 **Pilbara Seismi** **37.64 184** **P** **04 33 15.7 +0.3**
PSA00 **Pilbara Seismi** **37.64 184** **P** **04 33 15.0 -0.5**
PSA00 IAmb IAmb 04 33 15.9
comp=Z,29nm,1.1s
WRAB **Tennant Creek** **37.78 162** P **P** **04 33 16.0 -0.7**
WRA **Warramunga Arr** **37.78 162** P **P** **04 33 15.1 -1.7**
WRA **Warramunga Arr** **37.78 162** P **P** **04 33 15.7 -1.1**
comp=Z,28nm,1.0s,baz=341,slow=8.7,SNR=77
WRA PcP **PcP** **04 35 33.9 +0.9**
comp=Z,0.8nm,0.8s,baz=338,slow=3.4,SNR=2.4
WMQ **Urumqi** **40.28 320** *e*P **P** **04 33 38.9 +1.4**
WMQ LR LR
comp=Z,810nm,12.5s
WMQ LR LR
comp=Z,500nm,12.9s
WMQ LR LR
comp=Z,300nm,14.1s
AS31 **Alice Springs** **41.19 164** P **P** **04 33 44.0 -1.1**
ASAR **Alice Springs** **41.19 164** P **P** **04 33 44.9 -0.2**
ASAR **Alice Springs** **41.19 164** P **P** **04 33 45.1 0.0**
comp=Z,11nm,0.7s,baz=347,slow=9.1,SNR=74
ASAR PcP **PcP** **04 35 44.1 +0.3**
comp=Z,0.7nm,0.7s,baz=352,slow=3.0,SNR=1.7
comp=Z,11nm,0.7s
PALK **Pallekele** **41.75 263** LR LR 04 51 01.1
comp=Z,170nm,19.1s,baz=73,slow=36
H11S3 **WAKE ISLAND Hy** **42.22 80** T T 05 19 05.7
baz=274,slow=75,SNR=366
H11S1 **WAKE ISLAND Hy** **42.23 80** T T 05 19 05.9
baz=274,slow=75,SNR=338
H11S2 **WAKE ISLAND Hy** **42.23 80** T T 05 19 07.6
baz=274,slow=75,SNR=362
H11N1 **WAKE ISLAND Hy** **42.34 78** T T 05 19 14.7
baz=273,slow=75,SNR=402
H11N2 **WAKE ISLAND Hy** **42.34 78** T T 05 19 15.0
baz=273,slow=75,SNR=519
H11N3 **WAKE ISLAND Hy** **42.36 78** T T 05 19 16.0
baz=273,slow=75,SNR=287
CTAO **Charters Tower** **43.00 146** P **P** **04 33 59.8 -0.1**
CTAO IAmb IAmb 04 34 01.8
comp=Z,15nm,1.3s
HNR **Honiara** **45.02 122** LR LR 04 50 20.5
comp=Z,199nm,21.0s,baz=296,slow=32
MKAR **Makanchi Array** **45.08 321** P **P** **04 34 15.4 -0.9**
MKAR **Makanchi Array** **45.08 321** P **P** **04 34 15.7 -0.7**
comp=Z,1.2nm,0.7s,baz=116,slow=9.2,SNR=9.8
MKAR PcP **PcP** **04 35 55.9 -0.7**
comp=Z,1.0nm,0.7s,baz=114,slow=3.5,SNR=2.1
MKAR LR LR 04 54 26.9
comp=Z,130nm,19.7s,baz=98,slow=38
comp=Z,1.2nm,0.7s
PETK **Petropavlovsk-** **46.03 29** P **P** **04 34 23.6 -0.1**
comp=Z,1.6nm,0.5s,baz=227,slow=6.9,SNR=2.7
PETK LR LR 04 55 30.7
comp=Z,38nm,19.6s,baz=228,slow=39
comp=Z,1.8nm,0.5s
YAK **Yakutsk** **46.05 5** LR LR 04 56 22.5
comp=Z,272nm,18.1s,baz=192,slow=40
KSH **Kashi** **46.55 309** P P 04 34 33.6 +5.4
KSH pmax pmax
comp=Z,5.0nm,1.8s
ZALV **Zalesovo Beam** **47.66 331** P **P** **04 34 34.8 -1.6**
ZALV **Zalesovo Beam** **47.66 331** P **P** **04 34 35.8 -0.6**
comp=Z,1.9nm,0.7s,baz=117,slow=8.3,SNR=6.4
ZALV LR LR 04 55 36.6
comp=Z,85nm,19.8s,baz=178,slow=37
comp=Z,1.9nm,0.7s
MA2 **Magadan** **47.99 19** LR LR 04 57 47.8
comp=Z,154nm,18.1s,baz=244,slow=40
AAK **Ala-Archa** **48.54 313** LR LR 04 56 43.7
comp=Z,288nm,19.7s,baz=99,slow=38
KURK **Kurchatov** **49.09 324** P **P** **04 34 47.1 -0.4**
KURK IAmb IAmb 04 34 58.0
comp=Z,14nm,1.1s
KURBB **Kurchatov Arra** **49.10 324** P **P** **04 34 46.9 -0.7**
comp=Z,4.6nm,0.2s,baz=121,slow=8.3,SNR=15
comp=Z,4.6nm,0.2s
GAR **Garm** **50.69 307** P **P** **04 34 57.1 -2.9**
KBL **Kabul** **50.99 301** P **P** **04 35 04.7 +2.2**
KBL IAmb IAmb 04 35 13.6
comp=Z,5.4nm,0.8s
SEY **Seymchan** **51.13 17** LR LR 04 56 16.1
comp=Z,106nm,21.6s,baz=245,slow=36
STKA **Stephens Creek** **51.22 159** P **P** **04 35 04.9 +1.1**
comp=Z,1.2nm,0.3s,baz=354,slow=9.2,SNR=2.0
comp=Z,1.2nm,0.3s
KKAR **Karatay Array** **51.48 313** P **P** **04 35 05.0 -0.8**
SHEM **Shemya Is, Ala** **54.36 36** LR LR 04 55 10.1
comp=Z,24nm,21.8s,baz=286,slow=32
BVAR **Borovoye Array** **54.69 324** P **P** **04 35 28.5 -0.7**
comp=Z,1.1nm,0.3s,baz=116,slow=6.7,SNR=9.4
BVAR PcP **PcP** **04 36 29.9 -1.7**
comp=Z,1.1nm,0.5s,baz=114,slow=5.2,SNR=1.8
BVAR LR LR 05 01 46.1
comp=Z,116nm,18.3s,baz=111,slow=39
comp=Z,1.1nm,0.3s
TIXI **Tiksi** **55.56 2** P **P** **04 35 32.4 -2.7**
TIXI IAmb IAmb 04 35 35.1
comp=Z,9.7nm,0.8s
TIXI **Tiksi** **55.56 2** LR LR 05 02 30.0
comp=Z,441nm,18.5s,baz=196,slow=40

DZM **Mount Dzumac** **57.49 130** *e*LR LR 04 52 43.4
comp=Z,105nm,22.2s
AB31 **Akbulak array** **59.98 318** P **P** **04 36 05.7 -0.9**
AB31 IAmb IAmb 04 36 17.4
comp=Z,4.7nm,0.8s
ABKAR **Akbulak array** **59.98 318** P **P** **04 36 05.4 -1.1**
AKTO **Aktyubinsk** **61.41 319** LR LR 05 05 26.6
comp=Z,166nm,18.2s,baz=92,slow=39
ARTI **Arti** **62.33 326** LR LR
comp=Z,101nm,19.5s,baz=89,slow=38 05 05 12.0
F15K **North Star Dit** **68.32 25** P **P** **04 37 01.1 +0.1**
baz=261
J14K **Nanvaranak Lak** **68.40 28** P **P** **04 37 01.9 +0.4**
baz=263
C16K **Lisburne Hills** **68.48 22** P **P** **04 37 02.2 +0.3**
baz=260
L14K **Kuka Creek** **68.66 30** P **P** **04 37 03.8 +0.6**
baz=265
M14K **Bethel** **68.96 31** P **P** **04 37 05.3 +0.3**
baz=266
N14K **Kuskokwak Cree** **69.03 32** P **P** **04 37 05.9 +0.4**
baz=266
H16K **Elim** **69.19 26** P **P** **04 37 07.0 +0.6**
baz=264
O14K **Tigyukauivet M** **69.21 32** P **P** **04 37 07.3 +0.7**
baz=267
G16K **Koyuk River** **69.22 26** P **P** **04 37 07.2 +0.6**
baz=264
D17K **Noatak River** **69.23 23** P **P** **04 37 06.9 +0.3**
baz=262
L15K **Ungalak Mounta** **69.26 30** P **P** **04 37 07.3 +0.5**
baz=266
K15K **Wolf Creek Mou** **69.28 29** P **P** **04 37 07.7 +0.7**
baz=265
C17K **DeLong Mountai** **69.31 22** P **P** **04 37 07.5 +0.4**
baz=262
M15K **Kagluk River** **69.58 31** P **P** **04 37 09.2 +0.3**
baz=267
N15K **Kwethluk River** **69.85 31** P **P** **04 37 10.7 +0.2**
baz=268
B18K **Kokolik River** **69.93 21** P **P** **04 37 11.4 +0.5**
baz=263
O15K **Ungalikthiuk R** **69.94 32** P **P** **04 37 11.3 +0.2**
baz=268
G17K **Kiwalik Mounta** **69.94 26** P **P** **04 37 11.3 +0.3**
baz=265
CHNA **Chernabura Isl** **69.99 37** P **P** **04 37 11.8 +0.3**
baz=270
S14K **Fog Glacier** **70.02 35** P **P** **04 37 12.1 +0.3**
baz=269
C18K **Utukok River** **70.05 22** P **P** **04 37 11.8 +0.1**
baz=263
E18K **Tukpahlearik C** **70.14 24** P **P** **04 37 12.9 +0.6**
baz=264
H17K **Granite Mounta** **70.21 26** P **P** **04 37 12.7 0.0**
baz=266
A19K **Wainwright** **70.28 21** P **P** **04 37 13.7 +0.7**
baz=263
GNI **Garni** **70.42 307** LR LR 05 13 49.3
comp=Z,83nm,18.6s,baz=92,slow=41
M16K **Timber Creek** **70.44 30** P **P** **04 37 14.6 +0.4**
baz=268
F18K **Selawik** **70.44 24** P **P** **04 37 14.6 +0.5**
baz=266
J17K **VABM Dome** **70.48 28** P **P** **04 37 14.2 -0.1**
baz=267
L17K **Donlin** **70.79 29** P **P** **04 37 16.5 +0.2**
baz=268
G18K **Tagagawik** **70.80 25** P **P** **04 37 16.5 +0.2**
baz=267
K17K **Iditarod** **70.81 29** P **P** **04 37 16.6 +0.2**
baz=268
O16K **Kokwok River B** **70.84 32** P **P** **04 37 16.9 +0.3**
baz=269
H18K **Honhosa River** **70.88 26** P **P** **04 37 17.2 +0.4**
baz=267
R16K **Pilot Point** **71.11 34** P **P** **04 37 18.9 +0.6**
baz=271
D19K **Kuna River** **71.17 23** P **P** **04 37 18.9 +0.4**
baz=266
M17K **Holitna River** **71.18 30** P **P** **04 37 19.2 +0.5**
baz=269
N17K **Nushagak Hills** **71.30 31** P **P** **04 37 20.0 +0.6**
baz=270
O17K **Koliganek Bris** **71.35 32** P **P** **04 37 20.6 +1.0**
baz=270
E19K **Redstone River** **71.44 24** P **P** **04 37 20.4 +0.2**
baz=268
G19K **Purcell Mounta** **71.45 25** P **P** **04 37 20.5 +0.3**
baz=268
KBZ **Khabaz** **71.49 311** P **P** **04 37 21.2 +0.4**
comp=Z,1.7nm,0.8s,baz=94,slow=8.6,SNR=2.6
KBZ LR LR 05 12 14.5
comp=Z,144nm,18.2s,baz=60,slow=39
comp=Z,1.7nm,0.8s
GCSA **Galena City Sc** **71.50 27** P **P** **04 37 21.0 +0.6**
baz=269
L18K **Granite Mounta** **71.55 29** P **P** **04 37 21.7 +0.9**
baz=270
B20K **Meade River** **71.60 21** P **P** **04 37 21.6 +0.6**
baz=267
H19K **Roundabout Mou** **71.69 26** P **P** **04 37 22.3 +0.7**
baz=269
D20K **Etivluk River** **71.73 22** P **P** **04 37 22.4 +0.5**
baz=268
A21K **Barrow** **71.86 20** P **P** **04 37 23.5 +1.0**
baz=267
E20K **Nigu River** **71.87 23** P **P** **04 37 22.6 -0.2**
baz=268
N18K **Kilo Creek** **71.94 31** P **P** **04 37 23.6 +0.3**
baz=271
M18K **Stony River** **71.96 30** P **P** **04 37 23.9 +0.6**
baz=271
F20K **Avaraart Lake** **72.02 24** P **P** **04 37 23.8 +0.2**
baz=269
J19K **Poorman** **72.03 27** P **P** **04 37 23.9 +0.2**
baz=270
P18K **Big Mountain,** **72.30 32** P **P** **04 37 26.0 +0.5**
baz=272
H20K **Anotleneega Mo** **72.35 26** P **P** **04 37 25.8 +0.2**
baz=270
A22K **Sinclair Lake** **72.38 20** P **P** **04 37 26.0 +0.4**
baz=268
C21K **Knifeblade Rid** **72.40 22** P **P** **04 37 26.2 +0.3**
baz=269
L19K **White Mountain** **72.41 29** P **P** **04 37 26.4 +0.3**
baz=271
Q18K **Katmai Hardscr** **72.44 33** P **P** **04 37 26.4 0.0**
baz=272
B21K **Ikpikpuk River** **72.47 21** P **P** **04 37 26.5 +0.3**
baz=269
I20K **Naaghedeneel** **72.52 26** P **P** **04 37 27.2 +0.6**
baz=271
N19K **Bonanza Creek** **72.62 31** P **P** **04 37 27.5 0.0**
baz=272
M19K **Big River Lodg** **72.63 30** P **P** **04 37 27.3 -0.1**
baz=272
J20K **Nowinta River** **72.68 27** P **P** **04 37 27.8 +0.2**
baz=271
E21K **Killik River** **72.69 23** P **P** **04 37 27.8 +0.2**
baz=270
K20K **Telida** **72.73 28** P **P** **04 37 28.1 +0.1**
baz=272
B22K **Teshekpuk Lake** **72.89 21** P **P** **04 37 28.7 0.0**
baz=270
F21K **Alatna River** **72.89 24** P **P** **04 37 29.1 +0.3**
baz=271
G21K **Allakaket** **72.90 25** P **P** **04 37 29.0 +0.2**
baz=271
Q19K **Cape Douglas,** **73.14 33** P **P** **04 37 30.4 -0.1**
baz=274
D22K **Ayikyak River** **73.16 22** P **P** **04 37 30.8 +0.4**
baz=271
H21K **Melozitna Rive** **73.21 26** P **P** **04 37 31.4 +0.7**
baz=272,SNR=5.4
M20K **Styx River** **73.23 30** P **P** **04 37 31.5 +0.5**
baz=273
F22K **John River** **73.39 24** P **P** **04 37 32.4 +0.6**
baz=272
CHUM **Lake Minchumin** **73.50 27** P **P** **04 37 32.8 +0.4**
baz=273
I21K **Tanana** **73.57 26** P **P** **04 37 33.7 +0.8**
baz=273
O20K **Slope Mountain** **73.58 31** P **P** **04 37 32.3 -0.8**
baz=274
PPLA **Purkeypile** **73.61 28** P **P** **04 37 32.9 -0.4**
baz=274
G22K **Bettles** **73.68 24** P **P** **04 37 34.0 +0.6**
baz=273
SPCR **Spurr Chakacha** **73.71 30** P **P** **04 37 34.1 +0.2**
baz=274
KDAK **Kodiak Island** **73.78 34** P **P** **04 37 34.4 +0.2**
baz=275
H22K **Ishtalitna Cre** **73.78 25** P **P** **04 37 34.7 +0.6**
baz=273
Q20K **Shuyak Island** **73.81 33** P **P** **04 37 34.1 -0.2**
baz=275
C23K **Itkillik River** **73.86 21** P **P** **04 37 34.3 -0.1**
baz=273
D23K **Nanushuk River** **73.88 22** P **P** **04 37 34.3 -0.3**
baz=273,SNR=5.5
SKT **Skwentna** **73.98 29** P **P** **04 37 35.5 +0.2**
baz=274
BPAW **Bear Paw Mtn.** **74.07 27** IAmb IAmb 04 37 37.5
comp=Z,14nm,1.1s
BPAW **Bear Paw Mtn.** **74.07 27** P **P** **04 37 36.0 +0.2**
baz=274,SNR=8.0
MLY **Manley** **74.11 26** P **P** **04 37 35.6 -0.4**
baz=274,SNR=8.1
COLD **Coldfoot** **74.17 24** IAmb IAmb 04 37 38.2
comp=Z,5.5nm,0.8s
COLD **Coldfoot** **74.17 24** P **P** **04 37 36.3 0.0**
baz=274,SNR=5.3
G23K **Bananza Creek** **74.28 24** P **P** **04 37 36.7 -0.3**
baz=274
TOLK **Toolik Lake Re** **74.30 22** P **P** **04 37 37.1 0.0**
baz=274
E23K **Chandalar** **74.33 23** P **P** **04 37 37.4 0.0**
baz=274,SNR=5.7
SUA **Susitna One** **74.39 30** P **P** **04 37 37.8 -0.1**
baz=275
TRF **Thorofare Moun** **74.43 28** IAmb IAmb 04 37 50.1
comp=Z,12nm,1.4s
TRF **Thorofare Moun** **74.43 28** P **P** **04 37 37.5 -0.6**
baz=275
C24K **Franklin Bluff** **74.53 21** P **P** **04 37 38.1 -0.3**
baz=275
D24K **Happy Valley** **74.53 22** P **P** **04 37 38.4 0.0**
baz=275
H23K **Yukon River** **74.54 25** P **P** **04 37 39.1 +0.5**
baz=275
URZ **Urewera** **74.56 138** LR LR 05 13 54.1
comp=Z,43nm,18.0s,baz=354,slow=38
BRSE **Bradley Lake S** **74.56 32** P **P** **04 37 38.2 -0.5**
baz=276
I23K **Minto, Yukon-K** **74.68 26** P **P** **04 37 39.1 -0.2**
baz=275
E24K **Your Creek** **74.75 23** P **P** **04 37 40.0 +0.3**
baz=275
NEA2 **Nenana** **74.86 27** P **P** **04 37 40.2 -0.1**
baz=276
MCK **McKinley** **75.00 27** P **P** **04 37 40.9 -0.4**
MCK IAmb IAmb 04 37 42.7
comp=Z,16nm,1.1s
MCK **McKinley** **75.00 27** P **P** **04 37 40.7 -0.5**
baz=276,SNR=6.7
F24K **Squaw Lake** **75.03 23** P **P** **04 37 41.7 +0.3**
baz=276,SNR=7.2
PMR **Palmer** **75.15 30** P **P** **04 37 42.3 +0.2**
baz=277
SEW **Seward** **75.16 31** P **P** **04 37 41.6 -0.6**
baz=277
H24K **Noodor Dome** **75.22 25** P **P** **04 37 42.8 +0.3**
baz=277
WAT1 **Susitna Watana** **75.28 28** P **P** **04 37 43.1 +0.2**
baz=277
G24K **Hadweenzic Riv** **75.28 24** P **P** **04 37 43.0 +0.2**
baz=277,SNR=8.4
D25K **Kavik River** **75.39 22** P **P** **04 37 43.8 +0.4**
baz=277
KNK **Knik Glacier** **75.49 30** IAmb IAmb 04 37 46.2
comp=Z,18nm,1.5s
KNK **Knik Glacier** **75.49 30** P **P** **04 37 43.8 -0.3**
baz=277
POKR **Poker Plat Res** **75.49 26** P **P** **04 37 43.7 -0.3**
baz=277
PWL **Port Wells** **75.62 30** P **P** **04 37 44.6 -0.2**
baz=277
WAT6 **Susitna Watana** **75.68 29** P **P** **04 37 44.8 -0.5**
baz=278,SNR=7.7
ILAR **Eielson Array** **75.77 26** P **P** **04 37 45.2 -0.4**
comp=Z,0.8nm,0.9s,baz=273,slow=6.2,SNR=9.5
comp=Z,0.8nm,0.9s
DHY **Denali Highway** **75.78 28** P **P** **04 37 45.6 -0.3**
baz=278
HDA **Harding Lake** **75.79 27** P **P** **04 37 45.0 -0.7**
baz=278
M23K **Glacier View** **75.79 29** P **P** **04 37 45.8 0.0**
baz=278
G25K **Bearman Lake** **75.82 24** P **P** **04 37 46.4 +0.6**
baz=278,SNR=6.8
E25K **Arctic Village** **75.83 23** P **P** **04 37 46.0 +0.1**
baz=278
F25K **Christian Rive** **75.88 23** P **P** **04 37 46.5 +0.2**
baz=278,SNR=10
SCM **Sheep Creek Mo** **75.97 29** P **P** **04 37 46.8 -0.1**
baz=278
H25L **Birch Creek** **76.00 25** P **P** **04 37 47.5 +0.7**
baz=278,SNR=6.8
GLI **Glacier Island** **76.22 30** P **P** **04 37 48.0 -0.2**
baz=278
PRP **Porcupine Dome** **76.23 25** P **P** **04 37 48.4 0.0**
baz=279
C27K **Jago River** **76.27 21** P **P** **04 37 48.5 +0.1**
baz=279
BMAR **Burnt Mountain** **76.31 23** P **P** **04 37 49.9 +1.2**
K24K **Donnelly Dome** **76.39 27** P **P** **04 37 49.0 -0.1**
baz=279
F26K **Sheenjek River** **76.43 23** P **P** **04 37 49.5 +0.1**
baz=280,SNR=5.9
PAX **Paxson** **76.66 28** P **P** **04 37 50.3 -0.4**
baz=279
KLU **Klutina** **76.69 30** P **P** **04 37 51.2 +0.3**
baz=279
G26K **Porcupine Rive** **76.69 24** P **P** **04 37 51.3 +0.6**
baz=280,SNR=8.1
RIDG **Independent Ri** **76.80 27** IAmb IAmb 04 37 52.9
comp=Z,13nm,1.1s
RIDG **Independent Ri** **76.80 27** P **P** **04 37 51.9 +0.3**
baz=280,SNR=8.2
Q23K **Middleton Isla** **76.81 32** P **P** **04 37 51.8 +0.2**
baz=280
SCRK **Sand Creek** **77.14 27** P **P** **04 37 53.8 +0.3**
baz=280
J26L **Joseph Creek** **77.22 26** P **P** **04 37 54.0 0.0**
baz=281
I26K **Coal Creek Min** **77.24 25** P **P** **04 37 54.4 +0.5**
baz=281
E27K **Coleen River** **77.29 22** P **P** **04 37 54.3 +0.1**
baz=282,SNR=7.6
N25K **Chitina, Valde** **77.29 29** P **P** **04 37 53.8 -0.6**
baz=280
D27M **Malcolm River** **77.30 21** P **P** **04 37 54.3 +0.1**
baz=282
ARCES **ARCESS Array B** **77.35 339** P **P** **04 37 54.0 -0.5**
comp=Z,0.8nm,0.4s,baz=76,slow=5.1,SNR=11
ARCES LR LR 05 17 32.5
comp=Z,64nm,18.4s,baz=82,slow=40
comp=Z,0.8nm,0.4s
SPITS **Spitsbergen Ar** **77.49 348** P **P** **04 37 54.2 -0.9**
comp=Z,5.5nm,0.8s,baz=103,slow=11,SNR=2.7
SPITS LR LR 05 19 31.5
comp=Z,83nm,18.0s,baz=60,slow=42
comp=Z,5.5nm,0.8s
G27K **Doyon Strip** **77.55 24** P **P** **04 37 55.6 0.0**
baz=282,SNR=5.2
GLB **Gilahina Butte** **77.69 29** IAmb IAmb 04 37 58.0
comp=Z,10nm,1.2s
H27K **Steamboat Moun** **77.72 24** P **P** **04 37 57.0 +0.4**
baz=282
I27K **Kandik River** **77.81 25** P **P** **04 37 57.2 +0.1**
baz=282,SNR=13
ASF **Jabal al Asfar** **77.86 300** LR LR 05 16 54.7
comp=Z,72nm,18.1s,baz=153,slow=39
M26K **Nabesna, AK** **77.88 28** P **P** **04 37 57.8 +0.1**
baz=282,SNR=7.1
E28M **Babbage River** **77.94 22** P **P** **04 37 57.7 -0.1**
baz=284,SNR=6.8
K27K **Chicken** **77.95 27** P **P** **04 37 58.3 +0.3**
baz=282
F28M **Old Crow** **78.05 23** P **P** **04 37 58.6 +0.2**
baz=283,SNR=11
D28M **Stokes Point** **78.05 21** P **P** **04 37 58.2 -0.1**
baz=284
MCARA **McCarthy VSAT** **78.08 29** P **P** **04 37 58.6 0.0**
baz=282
CRQE **Cirque** **78.17 30** P **P** **04 37 59.4 0.0**

	baz=282							
L27K	**Beaver Creek,** baz=283	**78.27**	**28**	P	**P**	**04 38 00.1**	**+0.4**	
BCAR	**Beaver Creek A**	**78.29**	**28**	P	**P**	**04 37 60.0**	**+0.1**	
M27K	**Edge Creek, AK** baz=283	**78.40**	**28**	P	**P**	**04 38 00.4**	**-0.2**	
I28M	**Miner Creek** baz=284,SNR=8.7	**78.53**	**25**	P	**P**	**04 38 01.1**	**-0.1**	
E29M	**Blow River** baz=285	**78.58**	**22**	P	**P**	**04 38 01.3**	**0.0**	
BARN	**Barnard Glacie** comp=Z,11nm,1.1s	**78.79**	**30**	IAmb	IAmb	04 38 10.7		
BVCY	**Beaver Creek** baz=284	**78.85**	**28**	P	**P**	**04 38 02.7**	**-0.2**	
G29M	**Pine Creek** baz=285,SNR=6.8	**78.92**	**23**	P	**P**	**04 38 03.4**	**+0.2**	
FINES	**FINESS Array B** comp=Z,1.5nm,0.4s,baz=60,slow=5.5,SNR=19	**78.92**	**331**	P	**P**	**04 38 02.2**	**-1.0**	
FINES				LR	LR	05 16 35.3		
	comp=Z,194nm,18.6s,baz=69,slow=38 comp=Z,1.5nm,0.4s							
BRTR	**Keskin Array B** comp=Z,153nm,21.6s,baz=133,slow=39	**78.92**	**308**	LR	LR	05 16 38.5		
CTG	**Chitna Glacier** baz=283	**78.96**	**30**	P	**P**	**04 38 03.6**	**-0.1**	
H29M	**Whitestone** baz=285,SNR=7.3	**78.97**	**24**	P	**P**	**04 38 03.6**	**+0.1**	
CTGM	**Chitina Glacie** comp=Z,8.4nm,0.9s	**78.97**	**30**	IAmb	IAmb	04 38 16.6		
DAWY	**Dawson** comp=Z,7.2nm,1.1s	**79.09**	**26**	IAmb	IAmb	04 38 05.8		
DAWY	**Dawson** baz=284,SNR=7.8	**79.09**	**26**	P	**P**	**04 38 04.0**	**-0.2**	
YUK3	**Moose Creek** baz=284	**79.18**	**29**	P	**P**	**04 38 05.0**	**0.0**	
I29M	**Ogilvie Camp,** baz=285	**79.21**	**25**	P	**P**	**04 38 05.3**	**+0.4**	
O28M	**Mount Upton** baz=284	**79.56**	**30**	P	**P**	**04 38 07.4**	**+0.2**	
F30M	**Barrier River** baz=287	**79.56**	**22**	P	**P**	**04 38 07.2**	**+0.5**	
EPYK	**Eagle Plains** baz=286	**79.57**	**24**	P	**P**	**04 38 07.5**	**+0.7**	
G30M	**tAoh Zraii Nji** baz=287,SNR=6.0	**79.58**	**23**	P	**P**	**04 38 07.5**	**+0.7**	
PINM	**Pinnacle** baz=284	**79.69**	**30**	P	**P**	**04 38 07.7**	**0.0**	
L29M	**L29M** baz=286,SNR=8.0	**79.89**	**27**	P	**P**	**04 38 09.3**	**+0.7**	
M29M	**Somme Creek** baz=286	**79.92**	**28**	P	**P**	**04 38 09.3**	**+0.5**	
K29M	**Barlow Dome** baz=286	**79.95**	**26**	P	**P**	**04 38 09.1**	**+0.1**	
EIL	**Elat** comp=Z,62nm,19.1s,baz=115,slow=40	**80.02**	**298**	LR	LR	05 19 30.1		
I30M	**Mount Dempster** baz=287,SNR=7.0	**80.03**	**25**	P	**P**	**04 38 09.4**	**0.0**	
YUK4	**Talbot Arm** baz=286	**80.13**	**29**	P	**P**	**04 38 09.7**	**-0.5**	
INK	**Inuvik** baz=289,SNR=5.5	**80.16**	**21**	P	**P**	**04 38 10.6**	**+0.7**	
J30M	**Hart River** baz=287	**80.24**	**25**	P	**P**	**04 38 10.9**	**+0.3**	
G31M	**Satah River** baz=289	**80.33**	**23**	P	**P**	**04 38 11.0**	**+0.2**	
F31M	**Tsiigehtchic** baz=289,SNR=5.3	**80.36**	**22**	P	**P**	**04 38 11.0**	**0.0**	
YUK6	**Outpost Mounta** baz=286	**80.38**	**29**	P	**P**	**04 38 11.7**	**+0.2**	
O29M	**Mount Kennedy** baz=286	**80.45**	**30**	P	**P**	**04 38 12.1**	**+0.3**	
M30M	**Minto, Yukon** baz=287	**80.63**	**27**	P	**P**	**04 38 12.4**	**-0.2**	
H31M	**Peel River** baz=289,SNR=6.2	**80.66**	**24**	P	**P**	**04 38 11.8**	**-0.9**	
HYT	**Haines Junctio** baz=287	**80.81**	**29**	P	**P**	**04 38 12.8**	**-0.9**	
N30M	**Aishikik Lake** baz=287	**80.82**	**29**	P	**P**	**04 38 13.3**	**-0.3**	
P29M	**Windy Craggy** baz=287	**81.04**	**30**	P	**P**	**04 38 14.5**	**-0.3**	
P30M	**Million Dollar** baz=287	**81.27**	**30**	P	**P**	**04 38 15.6**	**-0.4**	
A36M	**Sachs Harbour** baz=296,SNR=7.0	**81.36**	**17**	P	**P**	**04 38 15.9**	**-0.3**	
N31M	**Braeburn, Yuko** baz=288	**81.41**	**28**	P	**P**	**04 38 16.5**	**-0.3**	
FURI	**Furi** comp=Z,87nm,18.1s,baz=163,slow=36	**81.62**	**277**	LR	LR	05 15 13.0		
PLBC	**Pleasant Camp** baz=288	**81.76**	**30**	P	**P**	**04 38 18.7**	**+0.1**	
M31M	**Drury Creek, Y** baz=289	**81.81**	**27**	P	**P**	**04 38 18.4**	**-0.4**	
WHY	**Whitehorse** comp=Z,14nm,1.2s	**82.09**	**29**	IAmb	IAmb	04 38 22.5		
WHY	**Whitehorse** baz=289	**82.09**	**29**	P	**P**	**04 38 20.2**	**-0.2**	
SKAG	**Skagway** baz=288	**82.26**	**30**	P	**P**	**04 38 21.4**	**+0.2**	
S31K	**Pelican** baz=288	**82.29**	**32**	P	**P**	**04 38 21.3**	**0.0**	
N32M	**Quiet Lake** baz=290	**82.75**	**28**	P	**P**	**04 38 23.9**	**+0.1**	
C36M	**Paulatuk** baz=298,SNR=6.0	**82.90**	**19**	P	**P**	**04 38 23.9**	**-0.4**	
P32M	**Atlin** baz=290	**83.00**	**30**	P	**P**	**04 38 24.6**	**-0.5**	
MMPY	**Sheldon Lake,** baz=292	**83.03**	**27**	P	**P**	**04 38 25.2**	**0.0**	
MLR	**Muntele Rosu** comp=Z,170nm,20.7s,baz=62,slow=38	**83.06**	**315**	LR	LR	05 19 08.2		
Q32M	**Nakina River** baz=291	**83.91**	**30**	P	**P**	**04 38 30.0**	**0.0**	
R33M	**Jennings River** baz=292	**84.37**	**30**	P	**P**	**04 38 32.2**	**-0.1**	
TGTN	**Hyland Airport** baz=294	**84.75**	**27**	P	**P**	**04 38 33.3**	**-0.8**	
S34M	**Telegraph Cree** baz=292	**84.86**	**31**	P	**P**	**04 38 34.8**	**+0.2**	
HFS	**Hagfors** comp=Z,2.6nm,0.8s,baz=64,slow=3.4,SNR=7.2	**85.08**	**332**	P	**P**	**04 38 34.3**	**-1.4**	
HFS				LR	LR	05 20 15.5		
	comp=Z,183nm,20.2s,baz=65,slow=38 comp=Z,2.6nm,0.8s							
DLBC	**Dease Lake** baz=293	**85.19**	**30**	P	**P**	**04 38 37.0**	**+0.6**	
T35M	**Bob Quinn** baz=293	**85.66**	**32**	P	**P**	**04 38 38.5**	**-0.1**	
NB2	**NORSAR Substa** comp=Z,11nm,1.7s,baz=60,slow=5.3	**85.81**	**333**	P	**P**	**04 38 37.8**	**-1.5**	
NOA	**NORSAR Array B** comp=Z,1.4nm,0.7s,baz=63,slow=5.2,SNR=5.3	**85.81**	**333**	P	**P**	**04 38 38.1**	**-1.2**	
NOA				LR	LR	05 20 11.4		
	comp=Z,106nm,19.4s,baz=65,slow=38 comp=Z,1.4nm,0.7s							
VRAC	**Vranov** comp=Z,76nm,20.5s,baz=73,slow=38	**87.82**	**321**	LR	LR	05 22 17.1		
CLL	**Collm**	**89.12**	**324**	*e*Sx	Sx	04 49 52.0		
CLL				*e*PS	PS	04 50 48.0	-2.6	
YKA	**Yellowknife Ar**	**89.82**	**23**	P	**P**	**04 38 57.4**	**-1.0**	
YKA	**Yellowknife Ar** comp=Z,0.7nm,0.7s,baz=310,slow=4.7,SNR=5.2 comp=Z,0.7nm,0.7s	**89.82**	**23**	P	**P**	**04 38 59.1**	**+0.7**	
DAVOX	**Davos/Dischmat** comp=Z,77nm,19.0s,baz=85,slow=38	**92.97**	**321**	LR	LR	05 24 24.1		
BORG	**Borgarnes** comp=Z,62nm,18.2s,baz=34,slow=39	**94.69**	**345**	LR	LR	05 27 56.4		
LSZ	**Lusaka** comp=Z,134nm,18.2s,baz=172,slow=34	**98.13**	**256**	LR	LR	05 22 10.3		
TXAR	**Lajitas Array** comp=Z,0.3nm,0.8s,baz=312,slow=1.8,SNR=4.4	**116.51**	**45**	PKP	**PKPdf**	**04 44 43.6**	**-0.9**	
PLCA	**Paso Flores** comp=Z,3.2nm,0.8s,baz=198,slow=5.4,SNR=5.7	**153.09**	**158**	PKPbc	**PKiKP**	**04 45 59.2**	**+1.2**	

*SOME **06** 05:29:31.2, 43°.35N×81°.87E, h10km*
*NNC **06** 05:29:33.3±1.4, 43°.32N×81°.78E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=12.5km s-min=5.2km az=145.0, Suspected Mining explosion.*

ISC 06 05:29:25.6±3.5, 43°.1N±0°.2×82°.1E±0°.1, h0km, n10, σ2s24/14, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye** 11nm,0.3s	**1.90**	**279**	⇑P	**Pg**	**05 30 03.6**	**+1.6**
PDGK				⇓S	**Sb**	**05 30 26.4**	**+1.0**
	23nm,0.5s						
SHLS	**Shalkode** 19nm,0.2s	**1.91**	**273**	P	**Pn**	**05 29 59.2**	**-0.2**
SHLS				S	**Sn**	**05 30 19.8**	**-4.4**
	36nm,0.4s						
SHLS	**Shalkode** 19nm,0.2s	**1.91**	**273**	*e*P	**Pn**	**05 29 59.2**	**-0.2**
SHLS				*e*S	**Sn**	**05 30 19.8**	**-4.4**
	36nm,0.4s						
UZB	**Uzynbulak** 14nm,0.4s	**2.23**	**273**	Pg	**Pg**	**05 30 09.9**	**+1.7**
UZB				Lg	Lg	05 30 38.1	
	18nm,0.4s						
UZB	**Uzynbulak** 14nm,0.4s	**2.23**	**273**	*e*P	**Pg**	**05 30 09.9**	**+1.7**
UZB				*e*S	**Sg**	**05 30 38.1**	**+1.0**
	18nm,0.4s						
KNOS	**Konyrlen** 4.3nm,0.2s	**2.45**	**303**	Pg	**Pb**	**05 30 11.3**	**+0.7**
KNOS				Lg	Lg	05 30 40.6	
	8.7nm,0.2s						
KPKS	**Kokpek** 6.4nm,0.4s	**2.50**	**280**	Pg	**Pg**	**05 30 14.5**	**+1.1**
KPKS				Lg	Lg	05 30 46.1	
	27nm,0.6s						
SATY	**Saty** 10nm,0.3s	**2.68**	**271**	Pg	**Pg**	**05 30 18.1**	**+1.2**
SATY				Lg	Lg	05 30 52.4	
	28nm,0.4s						
MK31	**Makanchi Array** 0.8nm,0.5s,baz=182,slow=16,SNR=8.7	**3.72**	**2**	⇑Pg	**Pg**	**05 30 37.0**	**+0.1**
MK31				⇑Lg	Lg	05 31 22.3	
	0.6nm,0.3s,baz=189,slow=27,SNR=3.9						
MAKZ	**Makanchi** 4.7nm,1.2s	**3.74**	**359**	Pg	**Pg**	**05 30 38.8**	**+1.7**
MAKZ				Lg	Lg	05 31 26.6	
	1.7nm,0.8s						

*IDC **06** 05:37:26.6±1.9, 3°.24S×68°.62E, h0km, mb3.8/9, mbtmp3.8/9, MS3.3/16, Error ellipse: s-maj=59.9km s-min=24.2km az=50.0*

ISC 06 05:37:28.3±2.0, 3°.2S±0°.3×68°.6E±0°.3, h10km, n24, σ0s96/9, mb3.9/9, MS3.4/15, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele** comp=Z,100nm,20.3s,baz=232,slow=32	**15.96**	**49**	LR	LR	05 45 48.8	
PSI	**Prapat** comp=Z,80nm,20.7s,baz=247,slow=32	**30.89**	**79**	LR	LR	05 53 54.9	
KMBO	**Kilima Mbogo** comp=Z,44nm,19.1s,baz=102,slow=32	**31.40**	**273**	LR	LR	05 54 04.7	
FURI	**Furi** comp=Z,43nm,19.5s,baz=166,slow=34	**32.18**	**292**	LR	LR	05 55 54.3	
CMAR	**Chiang Mai Arr** comp=Z,28nm,19.1s,baz=240,slow=34	**36.84**	**53**	LR	LR	05 57 59.4	
LSZ	**Lusaka** comp=Z,70nm,18.5s,baz=196,slow=33	**41.56**	**251**	LR	LR	06 00 23.3	
LBTB	**Lobatse** comp=Z,50nm,18.2s,baz=79,slow=32	**46.69**	**238**	LR	LR	06 01 56.3	
BOSA	**Boshof** comp=Z,44nm,18.2s,baz=32,slow=33	**48.31**	**234**	LR	LR	06 04 12.5	
GNI	**Garni** comp=Z,45nm,19.2s,baz=102,slow=35	**48.41**	**336**	LR	LR	06 05 44.3	
KAPI	**Kappang** comp=Z,28nm,18.0s,baz=262,slow=35	**51.03**	**94**	LR	LR	06 07 06.4	
MKAR	**Makanchi Array** 0.9nm,0.8s,baz=194,slow=8.8,SNR=5.9 0.9nm,0.8s	**51.27**	**12**	P	**P**	**05 46 31.2**	**-1.1**
KBZ	**Khabaz** 4.5nm,0.9s,baz=135,slow=5.7,SNR=3.6 4.5nm,0.9s	**52.16**	**337**	P	**P**	**05 46 39.1**	**+0.1**
BRTR	**Keskin Array B** 0.8nm,0.8s,baz=134,slow=8.3,SNR=3.6 0.8nm,0.8s	**53.47**	**327**	P	**P**	**05 46 49.6**	**+0.6**
KURBB	**Kurchatov Arra** 1.1nm,0.7s,baz=203,slow=7.8,SNR=6.3 1.1nm,0.7s	**54.33**	**8**	P	**P**	**05 46 53.8**	**-1.1**
DAV	**Davao City (W)** comp=Z,12nm,21.4s,baz=171,slow=34	**57.77**	**80**	LR	LR	06 09 42.5	
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=195,slow=10,SNR=1.8 0.4nm,0.3s	**58.57**	**11**	P	**P**	**05 47 25.0**	**-0.1**
ARTI	**Arti** comp=Z,17nm,19.1s,baz=234,slow=37	**60.01**	**353**	LR	LR	06 14 07.0	
SONM	**Songino Array** 2.5nm,0.8s,baz=226,slow=6.4,SNR=7.8 2.5nm,0.8s	**60.65**	**28**	P	**P**	**05 47 41.0**	**+1.3**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=114,slow=6.2,SNR=2.1 0.2nm,0.3s	**63.42**	**333**	P	**P**	**05 47 57.6**	**-0.4**
MAW	**Mawson** comp=Z,81nm,20.0s,baz=116,slow=31	**64.37**	**182**	LR	LR	06 10 31.5	
WRA	**Warramunga Arr** 0.8nm,1.0s,baz=280,slow=6.2,SNR=3.9 0.8nm,1.0s	**66.10**	**110**	P	**P**	**05 48 15.5**	**-0.8**
ASAR	**Alice Springs** 0.2nm,0.4s,baz=281,slow=7.0,SNR=4.4	**66.11**	**114**	P	**P**	**05 48 16.6**	**+0.3**
ASAR				LR	LR	06 16 15.9	
	comp=Z,24nm,18.2s,baz=266,slow=35 0.2nm,0.4s						
MJAR	**Matsushiro Arr** comp=Z,17nm,18.0s,baz=188,slow=37	**75.70**	**51**	LR	LR	06 24 01.8	
NOA	**NORSAR Array B** comp=Z,12nm,19.8s,baz=315,slow=36	**77.71**	**335**	LR	LR	06 24 07.2	

*IDC **06** 05:43:01.6±1.1, 37°.65N×20°.76E, h0km, mb3.7/10, mbtmp3.7/12, ML3.9/1, MS2.2/1, Error ellipse: s-maj=23.7km s-min=19.1km az=23.0*
*ATH **06** 05:43:04.8, 37°.57N×20°.73E, h15km, ML3.7/18, Manual Solution by M.Kolligri First location: 2019/09/06 05:44:00, This location: 2019/09/06 05:48:09 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
*THE **06** 05:43:05.1, 38°.N±1°.×2°.1E±°, h10km±1km, M3.6/30, MLh3.6/30*

ISC 06 05:43:04.8±0.8, 37°.57N±0°.03×20°.72E±0°.03, h17km±4km, n84, σ1s06/111, mb3.8/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.12**	**41**	P	**Pg**	**05 43 08.5**	**-0.1**
KRI1				S	**Sg**	**05 43 11.0**	**-0.2**
KRI1	**kERI**	**0.12**	**41**	P	**Pg**	**05 43 08.5**	**-0.1**
KRI1				S	**Sg**	**05 43 10.7**	**-0.5**
LTHK	**Lithakia**	**0.17**	**34**	P	**Pg**	**05 43 09.1**	**-0.1**
LTHK				S	**Sg**	**05 43 11.9**	**-0.2**
LTHK	**Lithakia**	**0.17**	**34**	P	**Pg**	**05 43 09.0**	**-0.1**
LTHK				S	**Sg**	**05 43 11.8**	**-0.3**
KYPS	**Kipseli, Zakin**	**0.26**	**18**	P	**Pg**	**05 43 10.7**	**+0.1**
KYPS				S	**Sg**	**05 43 14.8**	**+0.2**
ORTH	**Orthonies,Zaky**	**0.28**	**356**	P	**Pg**	**05 43 10.7**	**-0.2**
ORTH				S	**Sg**	**05 43 15.2**	**0.0**
ORTH	**Orthonies,Zaky**	**0.28**	**356**	P	**Pg**	**05 43 10.8**	**-0.2**
ORTH				S	**Sg**	**05 43 15.0**	**-0.2**
CLEM	**Kyllini,Ilia,G**	**0.46**	**46**	P	**Pg**	**05 43 14.2**	**+0.1**
CLEM				S	**Sb**	**05 43 21.2**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.55**	**349**	P	**Pg**	**05 43 15.4**	**-0.4**
PSDA				S	**Sg**	**05 43 23.6**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.55**	**349**	P	**Pg**	**05 43 15.3**	**-0.5**
PSDA				S	**Sg**	**05 43 23.1**	**-0.1**
LCHA	**Lechaina**	**0.56**	**50**	P	**Pb**	**05 43 16.7**	**+0.5**
VLS	**Valsamata**	**0.61**	**350**	P	**Pg**	**05 43 16.4**	**-0.5**
VLS				S	**Sb**	**05 43 26.1**	**+0.7**
VLS	**Valsamata**	**0.61**	**350**	P	**Pg**	**05 43 16.0**	**-0.9**
VLS				S	**Sg**	**05 43 24.9**	**-0.3**
ARG2	**Argostoli**	**0.63**	**343**	P	**Pg**	**05 43 17.0**	**-0.4**
ARG2				S	**Sb**	**05 43 26.4**	**+0.5**
ARG2	**Argostoli**	**0.63**	**343**	P	**Pg**	**05 43 16.9**	**-0.4**
ARG2				S	**Sb**	**05 43 26.3**	**+0.4**
DMLN	**Damoulianata-K**	**0.72**	**338**	P	**Pg**	**05 43 18.3**	**-0.7**
DMLN				S	**Sb**	**05 43 29.5**	**+1.0**
DMLN	**Damoulianata-K**	**0.72**	**338**	P	**Pg**	**05 43 17.9**	**-1.0**
DMLN				S	**Sg**	**05 43 28.6**	**+0.1**
ZARO	**Zacharo**	**0.74**	**96**	P	**Pb**	**05 43 19.8**	**+0.6**
RLS	**Riolos of Patr**	**0.76**	**50**	P	**Pg**	**05 43 19.4**	**-0.3**
RLS				S	**Sb**	**05 43 30.8**	**+1.0**
RLS	**Riolos of Patr**	**0.76**	**50**	P	**Pg**	**05 43 19.3**	**-0.5**
RLS				S	**Sg**	**05 43 29.6**	**-0.3**
AMT	**Artemida-Makis**	**0.79**	**93**	P	**Pg**	**05 43 20.1**	**-0.1**
AXS	**Araxos**	**0.81**	**40**	P	**Pg**	**05 43 20.1**	**-0.6**
AXS	**Araxos**	**0.81**	**40**	P	**Pg**	**05 43 19.9**	**-0.7**
DRO	**Drossia**	**0.87**	**64**	P	**Pg**	**05 43 21.6**	**-0.2**
DRO				S	**Sn**	**05 43 36.3**	**+1.7**
DRO	**Drossia**	**0.87**	**64**	P	**Pg**	**05 43 21.5**	**-0.3**
FSK	**Fiskardo**	**0.89**	**352**	P	**Pg**	**05 43 21.2**	**-1.0**
FSK				S	**Sb**	**05 43 34.5**	**+1.0**
FSK	**Fiskardo**	**0.89**	**352**	P	**Pg**	**05 43 21.0**	**-1.2**
PYL1	**Pylos**	**1.02**	**130**	P	**Pg**	**05 43 24.1**	**-0.5**
ITM	**Ithomi**	**1.04**	**112**	P	**Pb**	**05 43 24.8**	**+0.5**
ITM				S	**Sn**	**05 43 40.5**	**+1.8**
ITM	**Ithomi**	**1.04**	**112**	P	**Pg**	**05 43 24.3**	**-0.7**
PYL2	**Kinigos**	**1.04**	**129**	P	**Pb**	**05 43 24.9**	**+0.5**
EVGI	**Lefkada island**	**1.05**	**357**	P	**Pg**	**05 43 24.9**	**-0.2**
EVGI				S	**Sb**	**05 43 39.5**	**+1.6**
EVGI	**Lefkada island**	**1.05**	**357**	P	**Pg**	**05 43 23.6**	**-1.6**
UPR	**University Cam**	**1.10**	**50**	P	**Pg**	**05 43 25.8**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.14**	**359**	P	**Pb**	**05 43 26.3**	**+0.3**
NYDR				S	**Sn**	**05 43 42.4**	**+1.3**
LKD2	**Lefkada island**	**1.22**	**358**	P	**Pb**	**05 43 27.4**	**0.0**
LKD2				S	**Sg**	**05 43 44.0**	**-0.2**
LKD2	**Lefkada island**	**1.22**	**358**	P	**Pb**	**05 43 27.6**	**+0.2**
PVO	**Paravola**	**1.22**	**31**	P	**Pn**	**05 43 27.7**	**+0.7**
PVO	**Paravola**	**1.22**	**31**	P	**Pn**	**05 43 27.4**	**+0.3**
KLV	**Kalavryta, Ach**	**1.23**	**67**	P	**Pn**	**05 43 27.6**	**+0.3**
KLV	**Kalavryta, Ach**	**1.23**	**67**	P	**Pn**	**05 43 27.5**	**+0.3**
TSLK	**Tsoukalades, L**	**1.25**	**358**	P	**Pn**	**05 43 28.2**	**+0.7**
EFP	**Efpalio**	**1.27**	**47**	P	**Pn**	**05 43 28.5**	**+0.8**
EFP				S	**Sn**	**05 43 47.6**	**+3.3**
EFP	**Efpalio**	**1.27**	**47**	P	**Pn**	**05 43 28.1**	**+0.4**
GUR	**Goura**	**1.34**	**74**	P	**Pn**	**05 43 29.5**	**+0.7**
GUR	**Goura**	**1.34**	**74**	P	**Pn**	**05 43 29.1**	**+0.4**
VLX	**Vlachokerasia**	**1.34**	**98**	P	**Pn**	**05 43 29.7**	**+0.9**
SERG	**Sergoula**	**1.35**	**51**	P	**Pn**	**05 43 29.6**	**+0.8**
KALE	**Kalithea**	**1.39**	**54**	P	**Pn**	**05 43 30.2**	**+0.7**
KALE	**Kalithea**	**1.39**	**54**	P	**Pn**	**05 43 29.8**	**+0.4**
ANX	**Ano Chora**	**1.39**	**43**	P	**Pn**	**05 43 30.2**	**+0.6**
ANX				S	**Sg**	**05 43 50.2**	**+0.3**
ANX	**Ano Chora**	**1.39**	**43**	P	**Pn**	**05 43 30.1**	**+0.6**
AMPL	**Ampelaki**	**1.40**	**16**	P	**Pg**	**05 43 32.0**	**+0.1**
EVR	**Evrytania**	**1.59**	**32**	P	**Pb**	**05 43 34.2**	**+0.3**
EVR	**Evrytania**	**1.59**	**32**	P	**Pb**	**05 43 33.8**	**0.0**
MAKR	**Makrakomi, Fth**	**1.82**	**37**	P	**Pb**	**05 43 38.2**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.82**	**37**	P	**Pb**	**05 43 37.9**	**+0.2**
TETR	**Tetrakomo, Epi**	**1.82**	**14**	P	**Pb**	**05 43 37.7**	**0.0**
TETR	**Tetrakomo, Epi**	**1.82**	**14**	P	**Pb**	**05 43 37.5**	**-0.3**
LTK	**Loutraki**	**1.84**	**75**	P	**Pb**	**05 43 37.8**	**-0.2**
AGG	**Agios Georgios**	**1.92**	**41**	P	**Pb**	**05 43 39.9**	**+0.5**
AXAR	**Agios Charalam**	**1.94**	**51**	P	**Pb**	**05 43 39.8**	**+0.2**
VLI	**Veliai**	**1.97**	**115**	P	**Pb**	**05 43 40.8**	**+0.6**
LKR	**Lokris**	**2.10**	**58**	P	**Pb**	**05 43 41.4**	**-0.9**
ATAL	**Atalanti**	**2.13**	**58**	P	**Pb**	**05 43 42.1**	**-0.9**
VILL	**Villia**	**2.13**	**73**	P	**Pn**	**05 43 41.6**	**+1.9**
THL	**Klokotos Trika**	**2.23**	**27**	P	**Pb**	**05 43 43.7**	**-1.0**
OHR	**Ohrid**	**3.53**	**1**	*e*Pn	**Pn**	**05 43 59.3**	**+0.4**
OHR				*e*Sn	**Sn**	**05 44 43.5**	**+3.1**
VAY	**Valandovo**	**4.01**	**20**	*e*Pn	**Pn**	**05 44 09.5**	**+4.1**
VAY				*e*Sn	**Sn**	**05 44 52.2**	**+0.3**
IDI	**Anoyia** 3.7nm,0.4s,baz=295,slow=16,SNR=12	**4.06**	**123**	Pn	**Pn**	**05 44 06.6**	**+0.4**
IDI				Sn	**Sn**	**05 44 55.1**	**+1.7**
	4.8nm,0.3s,baz=289,slow=17,SNR=6.8						
VAE	**Valguarnera** 3.4nm,0.3s,baz=22,slow=10.0,SNR=1.6	**5.01**	**271**	Sn	**Sn**	**05 45 21.5**	**+4.6**
VRAC	**Vranov** comp=Z,11nm,20.2s,baz=263,slow=39	**12.11**	**347**	LR		05 50 51.5	
MMAI	**Mount Meron Ar** 1.0nm,0.3s,baz=294,slow=11,SNR=1.5	**12.83**	**106**	Pn	Pn	05 45 57.6	-8.8
ESDC	**Sonseca Array** 0.1nm,0.3s,baz=91,slow=11,SNR=6.9 1.5nm,0.9s	**19.39**	**284**	P	**P**	**05 47 30.3**	**+0.5**
HFS	**Hagfors** 1.2nm,0.6s,baz=165,slow=12,SNR=5.8 1.2nm,0.6s	**23.02**	**351**	P	**P**	**05 48 07.8**	**-0.9**
EKA	**Eskdalemuir Ar** 0.9nm,0.5s,baz=126,slow=9.5,SNR=4.1 0.9nm,0.5s	**24.01**	**325**	P	**P**	**05 48 17.6**	**-0.8**
FINES	**FINESS Array B** 3.8nm,0.9s,baz=188,slow=8.4,SNR=4.1 3.8nm,0.9s	**24.13**	**6**	P	**P**	**05 48 16.3**	**-3.1**
NOA	**NORSAR Array B** 0.3nm,0.5s,baz=162,slow=9.5,SNR=2.2 0.3nm,0.5s	**24.24**	**349**	P	**P**	**05 48 20.3**	**-0.3**
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,baz=36,slow=10,SNR=1.7 0.3nm,0.6s	**29.66**	**220**	P	**P**	**05 49 08.7**	**-0.9**
BVAR	**Borovoye Array** 0.7nm,0.4s,baz=251,slow=6.7,SNR=4.9 0.7nm,0.4s	**37.39**	**49**	P	**P**	**05 50 15.1**	**-1.4**
KURBB	**Kurchatov Arra** 0.6nm,0.3s,baz=278,slow=8.6,SNR=4.5 0.6nm,0.3s	**42.47**	**53**	P	**P**	**05 50 57.9**	**-0.8**
MKAR	**Makanchi Array** 0.7nm,0.5s,baz=281,slow=7.2,SNR=10 0.7nm,0.5s	**45.49**	**58**	P	**P**	**05 51 21.5**	**-1.5**
ZALV	**Zalesovo Beam** 1.3nm,0.5s,baz=264,slow=10.0,SNR=4.8 1.3nm,0.5s	**45.98**	**48**	P	**P**	**05 51 25.7**	**-1.0**
CMAR	**Chiang Mai Arr** 1.0nm,0.3s,baz=307,slow=5.2,SNR=1.6 1.0nm,0.3s	**69.82**	**82**	P	**P**	**05 54 14.1**	**-0.6**

*JMA **06** 05:44:15.9±0.2, 33°.2N±0°.5×140°.8E±1°.0, h47km, MD4.1/47, MV4.2/47, E OFF HACHIJOJIMA ISLAND*
*NIED **06** 05:44:15.9, 33°.21N×140°.84E, h47km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr8.40; Mθθ0.79; Mϕϕ-9.19; Mrθ-1.68; Mrϕ2.19; Mθϕ-2.15; Fault plane solution: M0 9.47000×10^14 NP1: ϕs334.00000°, δ41.00000°, λ68.00000°. NP2: ϕs182.00000°, δ52.00000°, λ109.00000°.*
*NEIC **06** 05:44:16.7±1.6, 33°.05N±0°.07×140°.82E±0°.07, h44km±10km, mb4.3/13 Error ellipse: s-maj=10.2km s-min=8.9km az=177.0*
*IDC **06** 05:44:17.1±1.6, 33°.15N×140°.60E, h56km±13km, mb3.6/11, mbtmp3.8/13, MS2.8/3, Error ellipse: s-maj=24.5km s-min=11.7km az=83.0*

ISC 06 05:44:16.0±1.3, 33°.16N±0°.05×140°.85E±0°.07, h47km±12km, n82, σ1s22/85, mb4.2/19, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.87**	**267**		**Pn**	**05 44 32.1**	**+0.3**
JHJ2	**Mitsune**	**0.87**	**267**	P	**Pn**	**05 44 32.1**	**+0.3**
JHJ2	**Mitsune**	**0.87**	**267**	P	**Pn**	**05 44 32.1**	**+0.3**
JHJ2				*e*S	**Sn**	**05 44 43.1**	**-0.4**
JHJ2	**Mitsune** comp=N,8.0nm,0.3s,comp=E,10.0nm,0.4s	**0.87**	**267**	A	A

JOD2				*e*S		**Sn**	05 45 23.3	-1.6
TK02	**Tokai 2**	**2.70**	**288**	P		**Pn**	05 44 58.0	+1.3
TK02				S		**Sn**	05 45 28.9	+0.8
SHZ3	**Shizuoka 3**	**2.90**	**312**	P		**Pn**	05 45 01.5	+1.7
JYN	**Shimob**	**3.02**	**321**	*i* P		**Pn**	05 45 02.6	+1.2
JGF	**Kuroka**	**3.78**	**311**			**Pn**	05 45 13.6	+1.8
JGF	**Kuroka**	**3.78**	**311**	P		**Pn**	05 45 14.1	+2.3
INU	**Inuyama**	**3.85**	**306**			**Pn**	05 45 14.5	+1.7
INU	**Inuyama**	**3.85**	**306**	P		**Pn**	05 45 15.5	+2.7
MJAR	**Matsushiro Arr**	**4.01**	**328**			**Pn**	05 45 17.1	+2.1
MJAR	**Matsushiro Arr**	**4.01**	**328**	P		**Pn**	05 45 16.1	+1.1
	comp=E,20nm,0.6s,baz=146,slow=11,SNR=68							
MJAR				S		**Sn**	05 45 58.7	-2.1
	comp=E,11nm,0.4s,baz=143,slow=14,SNR=4.3							
MJAR				LR		LR	05 46 50.4	
	comp=E,60nm,21.0s,baz=148,slow=39							
MAJO	**Matsushiro**	**4.02**	**328**			**Pn**	05 45 17.2	+2.2
MAJO	**Matsushiro**	**4.02**	**328**	P		**Pn**	05 45 17.2	+2.2
MJB9	**Matsu-Tunnel**	**4.02**	**328**			**Pn**	05 45 17.2	+2.1
JMM	**Marumori**	**4.70**	**359**			**Pn**	05 45 23.8	-0.5
JMM	**Marumori**	**4.70**	**359**	P		**Pn**	05 45 24.5	+0.1
JMN	**Monobe**	**5.85**	**277**	Pn		**Pn**	05 45 41.4	+1.2
JMN	**Monobe**	**5.85**	**277**	P		**Pn**	05 45 42.1	+1.8
JCJ	**Chichijima**	**6.15**	**169**	Pn		**Pn**	05 45 43.4	-0.9
JCJ	**Chichijima**	**6.15**	**169**	P		**Pn**	05 45 44.7	+0.4
ERM	**Erimo**	**9.03**	**11**	Pn		**Pn**	05 46 24.1	+0.4
ERM	**Erimo**	**9.03**	**11**	P		**Pn**	05 46 23.6	-0.1
JEM	**Erimo**	**9.03**	**11**	P		**Pn**	05 46 24.0	+0.3
KSRS	**Korea Array**	**11.40**	**296**	P		**Pn**	05 46 56.3	+0.3
	comp=E,0.4nm,0.3s,baz=114,slow=13,SNR=8.5							
PET	**Petropavlovsk**	**23.61**	**27**	P		**P**	05 49 24.1	+1.6
PET				IAmb		IAmb	05 49 24.8	
	comp=Z,7.0nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**26.80**	**113**	T		T	06 18 50.2	
	baz=306,slow=75,SNR=70							
H11N1	**WAKE ISLAND Hy**	**26.80**	**113**	T		T	06 18 48.8	
	baz=306,slow=75,SNR=80							
H11N3	**WAKE ISLAND Hy**	**26.81**	**113**	T		T	06 18 49.7	
	baz=306,slow=75,SNR=78							
MA2	**Magadan**	**27.24**	**11**	P		**P**	05 49 58.1	+2.8
MA2				IAmb		IAmb	05 50 24.0	
	comp=Z,6.8nm,0.8s							
H11S3	**WAKE ISLAND Hy**	**27.36**	**116**	T		T	06 19 34.4	
	baz=308,slow=75,SNR=16							
H11S1	**WAKE ISLAND Hy**	**27.36**	**116**	T		T	06 19 31.2	
	baz=308,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**	**27.38**	**116**	T		T	06 19 34.3	
	baz=308,slow=75,SNR=12							
JAY	**Jayapura**	**35.48**	**180**	LR		LR	06 04 10.7	
	comp=Z,41nm,21.6s,baz=316,slow=34							
CMAR	**Chiang Mai Arr**	**40.19**	**259**	LR		LR	06 09 28.8	
	comp=Z,8.6nm,18.0s,baz=60,slow=38							
ZALV	**Zalesovo Beam**	**44.26**	**315**	P		**P**	05 52 18.8	-1.9
	comp=Z,0.4nm,0.3s,baz=93,slow=13,SNR=1.9							
	comp=Z,0.4nm,0.3s							
MKAR	**Makanchi Array**	**45.88**	**305**	P		**P**	05 52 34.0	+0.3
MKAR	**Makanchi Array**	**45.88**	**305**	P		**P**	05 52 33.1	-0.6
	comp=Z,0.4nm,0.5s,baz=87,slow=9.6,SNR=5.2							
	comp=Z,0.4nm,0.5s							
COEN	**Coen**	**46.90**	**177**	P		**P**	05 52 41.5	-0.4
COEN				IAmb		IAmb	05 52 47.8	
	comp=Z,2.2nm,0.8s							
KURBB	**Kurchatov Arra**	**48.10**	**311**	P		**P**	05 52 50.4	-0.5
	comp=Z,0.8nm,0.5s,baz=90,slow=7.7,SNR=9.1							
	comp=Z,0.8nm,0.5s							
KNRA	**Kununurra**	**49.91**	**195**	P		**P**	05 53 04.4	-0.6
IMAR	**Indian Mountai**	**50.24**	**29**	P		**P**	05 53 08.4	+1.4
KDAK	**Kodiak Island**	**50.33**	**40**	P		**P**	05 53 08.9	+1.2
PPLA	**Purkeypile**	**50.63**	**33**	P		**P**	05 53 11.3	+1.1
CNPM	**China Poot**	**51.02**	**37**	P		**P**	05 53 15.2	+2.2
CNPM				IAmb		IAmb	05 53 23.2	
	comp=Z,5.7nm,1.2s							
SUA	**Susitna One**	**51.26**	**35**	P		**P**	05 53 15.7	+0.7
BVAR	**Borovoye Array**	**52.89**	**314**	P		**P**	05 53 26.6	-0.4
	comp=Z,0.4nm,0.4s,baz=108,slow=8.5,SNR=3.3							
	comp=Z,0.4nm,0.4s							
FITZ	**Fitzroy Crossi**	**53.00**	**198**	P		**P**	05 53 27.2	-0.9
ILAR	**Eielson Array**	**53.03**	**31**	P		**P**	05 53 28.6	+0.7
	comp=Z,0.4nm,0.7s,baz=271,slow=7.3,SNR=7.8							
	comp=Z,0.4nm,0.7s							
WRA	**Warramunga Arr**	**53.16**	**188**	P		**P**	05 53 28.2	-1.1
WRA	**Warramunga Arr**	**53.16**	**188**	P		**P**	05 53 28.3	-1.0
	comp=Z,7.1nm,0.4s,baz=7.2,slow=7.6,SNR=122							
WRA				PcP		**PcP**	05 54 37.5	+0.5
	comp=Z,0.2nm,0.4s,baz=4.8,slow=4.1,SNR=1.0							
BMRM	**Bremner River**	**54.25**	**35**	P		**P**	05 53 38.5	+1.6
BMRM				IAmb		IAmb	05 53 43.1	
	comp=Z,2.7nm,0.8s							
RAGM	**Ragged Mountai**	**54.27**	**36**	P		**P**	05 53 38.6	+1.6
RAGM				IAmb		IAmb	05 54 13.3	
	comp=Z,3.7nm,0.9s							
AS31	**Alice Springs**	**56.89**	**188**	P		**P**	05 53 55.2	-0.9
AS31				IAmb		IAmb	05 53 57.4	
	comp=Z,2.2nm,0.5s							
ASAR	**Alice Springs**	**56.89**	**188**	P		**P**	05 53 55.7	-0.5
	comp=Z,2.1nm,0.5s,baz=5.5,slow=6.8,SNR=56							
ASAR				PcP		**PcP**	05 54 52.6	+1.3
	comp=Z,0.5nm,0.6s,baz=14,slow=5.1,SNR=2.0							
	comp=Z,2.1nm,0.5s							
YKA	**Yellowknife Ar**	**67.40**	**29**	P		**P**	05 55 06.3	+0.2
	comp=Z,0.5nm,0.8s,baz=309,slow=6.5,SNR=2.8							
	comp=Z,0.5nm,0.8s							
ARCES	**ARCESS Array B**	**67.46**	**340**	P		**P**	05 55 04.8	-1.6
	comp=Z,2.3nm,1.0s,baz=41,slow=6.6,SNR=2.0							
	comp=Z,2.3nm,1.0s							
FINES	**FINESS Array B**	**72.03**	**333**	P		**P**	05 55 34.9	+0.3
	comp=Z,1.0nm,0.7s,baz=50,slow=6.5,SNR=3.6							
	comp=Z,1.0nm,0.7s							
AKASG	**Malin Array Be**	**77.08**	**323**	P		**P**	05 56 02.2	-1.9
	comp=Z,0.4nm,0.3s,baz=52,slow=5.4,SNR=5.0							
	comp=Z,0.4nm,0.3s							
TXAR	**Lajitas Array**	**92.86**	**52**	P		**P**	05 57 24.9	+0.7
	comp=Z,0.9nm,0.7s,baz=316,slow=4.7,SNR=16							
	comp=Z,0.9nm,0.7s							
TORD	**Torodi Ar. Bea**	**119.68**	**313**	PKP		**PKPdf**	06 02 60.0	-1.4
	comp=Z,0.3nm,0.7s,baz=349,slow=2.8,SNR=1.5							
QSPA	**South Pole Qui**	**122.91**	**180**	PKP		**PKPdf**	06 03 06.1	+0.1
	comp=Z,0.7nm,0.8s,baz=311,slow=1.3,SNR=5.4							
LPAZ	**La Paz**	**148.92**	**64**	PKPbc		**PKPbc**	06 04 00.4	+0.5
	comp=Z,0.6nm,0.5s,baz=311,slow=5.2,SNR=5.8							

*HEL **06** 06:12:42.3±0.3, 67°.51N×34°.31E, h0km, ML1.2, Suspected explosion*

KOLA 06 06:12:42.4, 67°.66N×33°.74E, h0km, ML1.3, Error ellipse: s-maj=2.8km s-min=1.4km az=130.0, Khibiny, mines Kirovsk, Yukspor, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.16**	**235**	P	Pg	06 12 45.1	-0.3
APA				S	Sg	06 12 47.4	0.0
APA0	**Apatity Array**	**0.29**	**260**	P	Pg	06 12 47.4	-0.6
APA0				S	Sg	06 12 51.3	-0.4
LVZ	**Lovozero**	**0.42**	**55**	S	Sg	06 12 55.8	-0.1
LVZ	**Lovozero**	**0.42**	**55**	PG	Pg	06 12 50.0	-0.5
LVZ				SG	Sg	06 12 55.2	-0.7
KVDA	**Kovda**	**1.03**	**200**	P	Pg	06 13 00.9	-1.2
KVDA				S	Sg	06 13 14.5	-0.9
VRF	**Varrio**	**1.58**	**275**	PB	Pg	06 13 14.4	+1.9
VRF				MSG		06 13 36.5	
	comp=Z,1.4nm,0.2s						
TERR	**Teriberka**	**1.63**	**17**	P	Pn	06 13 11.1	-1.2
TERR				S	Sn	06 13 32.3	-1.6
OLKF	**Oulanka, Finla**	**2.17**	**234**	PB	Pb	06 13 21.5	-1.0
OLKF				MSG		06 13 49.7	
	comp=Z,0.9nm,0.2s						
OLKF				SB	Sb	06 13 50.9	+0.9
KU6	**Riekki**	**2.24**	**225**	PG	Pb	06 13 22.4	-1.2
KU6				MSG		06 13 50.5	
	comp=Z,0.6nm,0.2s						
MSF	**Maaselka**	**2.56**	**229**	PB	Pb	06 13 28.2	-0.9
VADS	**Vadso**	**2.94**	**329**	S	Sn	06 14 04.8	-1.3
KEV	**Kevo**	**3.23**	**314**	SN	Sb	06 14 21.6	+1.2
ARCES	**ARCESS Array B**	**3.56**	**306**	P	Pn	06 13 38.3	-0.4
ARCES				S	Sn	06 14 20.6	-0.9
HEF	**Hetta**	**3.86**	**286**	SB	Sg	06 14 46.7	+0.4

HEL 06 06:14:13.8±0.9, 67°.90N×20°.17E, h0km, ML1.3, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.70**	**77**	PG	Pg	06 14 26.0	-1.3
LANU				SG	Sg	06 14 34.7	-1.6
KIF	**Kilpisjarvi**	**1.14**	**11**	*e*P	Pg	06 14 34.0	-1.5
KIF	**Kilpisjarvi**	**1.14**	**11**	PG	Pg	06 14 34.5	-1.1
KIF				MSG		06 14 49.6	
	comp=Z,3.4nm,0.2s						
KIF				SN	Sb	06 14 51.3	-0.3
HEF	**Hetta**	**1.40**	**67**	*e*P	Pn	06 14 37.4	-3.2
HEF	**Hetta**	**1.40**	**67**	PN	Pb	06 14 41.1	+0.2
HEF				MSG		06 14 56.0	
	comp=Z,1.5nm,0.2s						
HEF				SN	Sn	06 15 00.7	+0.9
PAJU	**Pajala**	**1.43**	**126**	PG	Pn	06 14 38.5	-2.5
PAJU				SG	Sg	06 14 57.9	-1.8
ERTU	**Ertsjaerv**	**1.56**	**149**	PG	Pn	06 14 41.2	-1.5
ERTU				SG	Sn	06 15 02.6	-1.0
KTK1	**Kautokeino**	**1.59**	**44**	PN	Pb	06 14 44.1	0.0
KTK1				SN	Sg	06 15 05.8	+0.8
KALU	**Kalix**	**2.40**	**147**	SB	Sb	06 15 26.2	-1.6
TOF	**Tornio**	**2.45**	**136**	MSG		06 15 26.1	
	comp=Z,0.9nm,0.2s						
TOF				SB	Sb	06 15 27.8	-1.4
ARA0	**ARCESS Array S**	**2.55**	**47**	SG	Sb	06 15 31.5	-0.7
KEV	**Kevo**	**3.10**	**50**	SB	Sn	06 15 43.7	+2.0
MSF	**Maaselka**	**4.02**	**116**	SN	Sn	06 16 04.8	+0.5

HEL 06 06:15:13.6±0.1, 61°.61N×23°.51E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPF	**Kankaanpaa**	**0.72**	**289**	PG	Pg	06 15 26.5	-0.9
KPF				MSG		06 15 36.2	
	comp=Z,1.9nm,0.2s						
KEF	**Keuruu**	**0.85**	**48**	PG	Pg	06 15 28.8	-1.1
	baz=225						
KEF				MSG		06 15 40.1	
	comp=Z,3.3nm,0.2s						
KEF				SG	Sg	06 15 40.3	-0.7
RAF	**Rauma**	**1.03**	**236**	PB	Pg	06 15 32.1	-1.2
RAF				MSG		06 15 45.0	
	comp=Z,1.7nm,0.2s						
FIA0	**FINESS Array S**	**1.24**	**96**	PG	Pg	06 15 35.4	-1.9
FIA0				MSG		06 15 51.2	
	comp=Z,1.9nm,0.2s						
FIA0				SN	Sn	06 15 57.4	+1.8
KAF	**Kangasniemi**	**1.42**	**68**	PG	Pn	06 15 38.8	-1.8
	baz=250						
KAF				MSG		06 15 56.4	
	comp=Z,1.9nm,0.2s						
KAF				SN	Sn	06 15 59.9	0.0
MEF	**Metsahovi**	**1.46**	**162**	PG	Pn	06 15 40.1	-1.1
MEF				MSG		06 15 57.4	
	comp=Z,2.6nm,0.2s						
MEF				SN	Sn	06 16 00.9	-0.1
PVF	**Pernaja**	**1.56**	**132**	PN	Pn	06 15 42.1	-0.4
	baz=313						
PVF				MSG		06 16 00.3	
	comp=Z,1.1nm,0.2s						
SUF	**Sumiainen**	**1.67**	**47**	PG	Pn	06 15 43.5	-0.6
	baz=227						
SUF				MSG		06 16 03.4	
	comp=Z,1.0nm,0.2s						
SUF				SN	Sn	06 16 05.8	-0.3
TVF	**Tvarminne**	**1.77**	**184**	MSG		06 16 06.5	
	comp=Z,0.7nm,0.2s						
TVF				SN	Sn	06 16 08.6	0.0
AAL	**Aland**	**2.24**	**232**	SG	Sb	06 16 22.7	-0.3
VJF	**Virojoki**	**2.24**	**117**	MSG		06 16 19.9	
	comp=Z,0.9nm,0.2s						
VJF				SG	Sb	06 16 23.2	+0.1
ARBE	**Arbavere**	**2.50**	**150**	PN	Pn	06 15 52.8	-2.6
UMAU	**Umeaa**	**2.63**	**332**	PG	Pb	06 16 00.0	-1.5
UMAU				SG	Sb	06 16 34.9	+0.6
HEMU	**Hemsoen**	**2.79**	**295**	PB	Pn	06 16 01.4	+2.0
HEMU				SB	Sb	06 16 37.2	-1.6
OUF	**Merijarvi**	**2.83**	**11**	MSG		06 16 36.8	
	comp=Z,0.8nm,0.2s						
OUF				SG	Sb	06 16 40.4	+0.5
OUL	**Oulu**	**3.65**	**16**	PG	Pb	06 16 17.3	-1.6
KU2	**Taivalkoski**	**4.62**	**25**	PG	Pb	06 16 37.5	+2.0

*IDC **06** 06:15:33.4±0.6, 1°.19N×30°.42E, h0km, mb4.2/20, mbtmp4.2/22, ML4.4/2, MS3.2/16, Error ellipse: s-maj=16.6km s-min=12.9km az=79.0*
*NEIC **06** 06:15:35.1±1.3, 1°.06N±0°.07×30°.30E±0°.10, h10km±1km, mb4.6/33, Error ellipse: s-maj=17.4km s-min=10.8km az=288.0*

ISC 06 06:15:34.5±0.4, 1°.08N±0°.06×30°.31E±0°.07, h10km, n83, σ1§02/72, mb4.5/36, MS3.3/14, 2D, Uganda

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**1.73**	**166**	Pn	**Pn**	**06 16 04.7**	**-0.1**
LODK	**Lodwar**	**5.56**	**65**		**Pn**	**06 16 57.0**	**-0.5**
I32KE	**NAIROBI INFRAS**	**6.92**	**109**	I	I	07 03 00.0	
	baz=288,slow=318,SNR=2.5						
KMBO	**Kilima Mbogo**	**7.28**	**108**	Pn	**Pn**	**06 17 21.9**	**+0.6**
	3.6nm,0.3s,baz=268,slow=16,SNR=24						
KMBO				Sn	**Sn**	**06 18 41.7**	**-2.5**
	27nm,0.3s,baz=232,slow=18,SNR=5.9						
KMBO				Lg	Lg	06 19 20.9	
	80nm,0.3s,baz=222,slow=18,SNR=14						
	10nm,0.3s						
KIBK	**Kibwezi**	**8.45**	**114**		**Pn**	**06 17 36.9**	**-0.3**
FURI	**Furi**	**11.39**	**47**	LR	LR	06 22 46.9	
	comp=Z,90nm,20.6s,baz=236,slow=39						
ATD	**Arta Tunnel**	**16.21**	**50**	Pn	**Pn**	**06 19 23.3**	**+0.7**
LSZ	**Lusaka**	**16.39**	**187**		**Pn**	**06 19 23.4**	**-1.6**
LSZ	**Lusaka**	**16.39**	**187**	Pn	**Pn**	**06 19 24.9**	**0.0**
	0.5nm,0.3s,baz=19,slow=11,SNR=6.5						
LSZ				Sn	Sn	06 22 15.0	-12
	0.6nm,0.3s,baz=7.1,slow=8.1,SNR=1.4						
LSZ				Lg	Lg	06 24 02.6	
	0.9nm,0.3s,baz=24,slow=12,SNR=5.9						
LSZ				LR	LR	06 25 57.1	
	comp=Z,90nm,22.0s,baz=148,slow=38						
	7.1nm,0.8s						
EDA	**Edea**	**20.31**	**278**	P	**P**	**06 20 09.0**	**-1.9**
XAUDM	**Khaudum**	**21.40**	**204**	P	**P**	**06 20 23.6**	**+0.9**
MATP	**Matopo**	**21.45**	**185**	P	**P**	**06 20 26.4**	**+3.1**
	12nm,0.9s,baz=7.3,slow=13,SNR=10						
MATP				Lg	Lg	06 26 41.8	
	0.2nm,0.3s,baz=324,slow=19,SNR=2.2						
MATP				LR	LR	06 29 12.9	
	comp=Z,81nm,20.6s,baz=26,slow=38						
	12nm,0.9s						
PHDHD	**Phuduhudu**	**21.89**	**195**	P	**P**	**06 20 27.2**	**-0.7**
PHDHD				IAmb	IAmb	06 20 28.5	
	comp=Z,51nm,1.4s						
QNGWA	**Qangwa**	**22.36**	**203**	P	**P**	**06 20 31.2**	**-1.8**
QNGWA				IAmb	IAmb	06 20 53.3	
	comp=Z,21nm,1.4s						
LPHEP	**Lephephe**	**24.68**	**190**	P	**P**	**06 20 54.8**	**-1.1**
LPHEP				IAmb	IAmb	06 20 56.9	
	comp=Z,12nm,1.1s						
KDWAN	**Kaudwane**	**24.93**	**192**	P	**P**	**06 20 57.6**	**-0.5**
KGCAE	**Kacgae**	**25.07**	**198**	P	**P**	**06 20 59.1**	**-0.3**
LBTB	**Lobatse**	**26.34**	**190**	P	**P**	**06 21 10.7**	**-0.2**
LBTB				IAmb	IAmb	06 21 12.0	
	comp=Z,18nm,1.2s						
LBTB	**Lobatse**	**26.34**	**190**	LR	LR	06 30 59.1	
	comp=Z,33nm,20.8s,baz=23,slow=35						
RAYN	**Ar Rayn**	**26.74**	**32**	P	**P**	**06 21 15.3**	**+0.8**
EIL	**Elat**	**28.77**	**8**	LR	LR	06 31 24.9	
	comp=Z,33nm,18.9s,baz=337,slow=33						
BOSA	**Boshof**	**29.92**	**189**	P	**P**	**06 21 40.9**	**-2.0**
BOSA				IAmb	IAmb	06 22 03.5	
	comp=Z,23nm,1.5s						
BOSA	**Boshof**	**29.92**	**189**	P	**P**	**06 21 42.9**	**0.0**
	comp=Z,6.5nm,0.9s,baz=12,slow=8.7,SNR=8.0						
BOSA				LR	LR	06 34 35.9	
	comp=Z,58nm,18.8s,baz=22,slow=38						
	comp=Z,6.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**30.77**	**294**	P	**P**	**06 21 50.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**30.77**	**294**	P	**P**	**06 21 49.5**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=105,slow=6.7,SNR=10						
	comp=Z,2.1nm,0.6s						
IDI	**Anoyia**	**34.41**	**352**	P	**P**	**06 22 22.4**	**+0.3**
DBIC	**Dimbokro**	**35.50**	**280**	P	**P**	**06 22 31.6**	**-0.2**
DBIC				IAmb	IAmb	06 23 15.2	
	comp=Z,12nm,1.3s						
DBIC	**Dimbokro**	**35.50**	**280**	P	**P**	**06 22 34.7**	**+2.8**
	comp=Z,3.4nm,0.6s,baz=118,slow=9.7,SNR=5.7						
DBIC				LR	LR	06 36 53.9	
	comp=Z,51nm,19.9s,baz=148,slow=36						
	comp=Z,3.4nm,0.6s						
ITM	**Ithomi**	**36.74**	**349**	P	**P**	**06 22 41.6**	**-0.6**
ITM				IAmb	IAmb	06 22 49.5	
	comp=Z,9.4nm,0.8s						
BR131	**Keskin Array S**	**38.58**	**4**	P	**P**	**06 22 58.3**	**+0.4**
BRTR	**Keskin Array B**	**38.58**	**4**	P	**P**	**06 22 57.6**	**-0.2**
BRTR	**Keskin Array B**	**38.58**	**4**	P	**P**	**06 22 58.9**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=184,slow=8.7,SNR=11						
	comp=Z,2.2nm,0.7s						
KEST	**Kesra**	**39.60**	**333**	LR	LR	06 41 03.8	
	comp=Z,81nm,18.0s,baz=335,slow=39						
GNI	**Garni**	**41.04**	**17**	P	**P**	**06 23 18.8**	**+0.4**
GNI				IAmb	IAmb	06 23 20.0	
	comp=Z,6.8nm,0.7s						
KBZ	**Khabaz**	**43.92**	**13**	P	**P**	**06 23 42.0**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=178,slow=5.1,SNR=4.2						
	comp=Z,1.4nm,0.4s						
MLR	**Muntele Rosu**	**44.39**	**356**	P	**P**	**06 23 45.3**	**-0.1**
MLR				IAmb	IAmb	06 23 52.0	
	comp=Z,6.5nm,0.6s						
MDT	**Midelt**	**45.53**	**318**	LR	LR	06 44 30.6	
	comp=Z,77nm,20.6s,baz=130,slow=38						
MD01	**Midelt array s**	**45.67**	**317**	P	**P**	**06 23 55.8**	**0.0**
BURAR	**Bucovina Array**	**46.56**	**355**	P	**P**	**06 24 02.8**	**+0.3**
BURAR				IAmb	IAmb	06 24 09.9	
	comp=Z,4.4nm,0.9s						
BUR08	**Bucovina Ar. S**	**46.59**	**355**	P	**P**	**06 24 02.7**	**0.0**
BUR08				IAmb	IAmb	06 24 10.0	
	comp=Z,3.4nm,0.8s						
PSZ	**Piszkesteto**	**47.52**	**351**	P	**P**	**06 24 09.7**	**-0.3**
PSZ				IAmb	IAmb	06 24 16.1	
	comp=Z,6.8nm,0.7s						
AKASG	**Malin Array Be**	**49.45**	**359**	P	**P**	**06 24 24.3**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=186,slow=6.5,SNR=5.9						
	comp=Z,0.6nm,0.5s						
ESDC	**Sonseca Array**	**49.49**	**325**	P	**P**	**06 24 25.5**	**+0.2**
	comp=Z,2.7nm,1.0s,baz=136,slow=10.0,SNR=4.5						
ESDC				LR	LR	06 48 19.2	
	comp=Z,51nm,18.1s,baz=120,slow=40						
	comp=Z,2.7nm,1.0s						
GEC2	**GERESS Array S**	**49.68**	**346**	P	**P**	**06 24 26.7**	**+0.1**
GEC2				IAmb	IAmb	06 25 08.2	
	comp=Z,9.9nm,1.4s						
GERES	**GERESS Array B**	**49.68**	**346**	P	**P**	**06 24 26.1**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=161,slow=9.3,SNR=4.9						
	comp=Z,0.5nm,0.4s						
KHC	**Kasperske Hory**	**49.98**	**346**	*e*P	**P**	**06 24 28.0**	**-0.8**
PALK	**Pallekele**	**50.60**	**82**	LR	LR	06 43 35.4	
	comp=Z,33nm,19.4s,baz=258,slow=33						
SIMJ	**Simiganj**	**51.50**	**39**	P	**P**	**06 24 41.0**	**+0.4**
SIMJ				IAmb	IAmb	06 24 43.0	
	comp=Z,5.8nm,1.1s						
CHGR	**Chuyangaron**	**51.59**	**39**	P	**P**	**06 24 41.7**	**+0.4**
CHGR				IAmb	IAmb	06 24 43.6	
	comp=Z,11nm,0.9s						
NIL	**Nilore**	**51.62**	**46**	P	**P**	**06 24 42.1**	**+0.6**
CLL	**Collm**	**52.14**	**346**	*i* P	**P**	**06 24 45.5**	**+0.5**
	comp=Z,4.0nm,0.8s						
GAR	**Garm**	**52.52**	**39**	P	**P**	**06 24 48.4**	**+0.1**
GAR				IAmb	IAmb	06 24 50.3	
	comp=Z,7.2nm,0.9s						
AB31	**Akbulak array**	**54.30**	**24**	P	**P**	**06 25 01.4**	**+0.5**
ABKAR	**Akbulak array**	**54.30**	**24**	P	**P**	**06 25 01.0**	**+0.1**
KK31	**Karatay Array**	**55.11**	**35**	P	**P**	**06 25 07.7**	**+0.7**
KK31				IAmb	IAmb	06 25 08.8	
	comp=Z,2.7nm,0.9s						
KKAR	**Karatay Array**	**55.11**	**35**	P	**P**	**06 25 07.5**	**+0.6**
ARTI	**Arti**	**59.59**	**18**		**P**	**06 25 38.5**	**+0.1**
EVN	**Everest**	**60.21**	**58**	P	**P**	**06 25 43.0**	**-1.0**
FINES	**FINESS Array B**	**60.29**	**358**	P	**P**	**06 25 42.7**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=186,slow=4.1,SNR=5.2						
	comp=Z,2.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**60.53**	**339**	P	**P**	**06 25 43.9**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=128,slow=5.7,SNR=2.2						
	comp=Z,1.4nm,0.8s						
BVAR	**Borovoye Array**	**61.51**	**26**	P	**P**	**06 25 50.9**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=226,slow=7.8,SNR=5.5						
	comp=Z,1.4nm,0.5s						
NB2	**NORSAR Subarra**	**61.56**	**350**	P	**P**	**06 25 50.9**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=161,slow=6.9						
NOA	**NORSAR Array B**	**61.56**	**350**	P	**P**	**06 25 51.3**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=161,slow=6.7,SNR=4.8						
NOA				LR	LR

KRSH	Karshahi	4.32	72	Pn	Pn	06	43	28.5	+0.5
IZEF	Zefreh	4.33	86	Pn	Pn	06	43	28.4	+0.1

*IDC **06** 06:43:05.5±1.8, 10.˚51S×120.˚41E, h0km, mb3.8/4, mbtmp3.6/7, ML3.5/3, Error ellipse: s-maj=181.7km s-min=22.5km az=53.0*

ISC 06 06:43:10.7±1.3, 10.˚3S±0.˚2×121.˚3E±0.˚3, h35km, n7, σ3§13/10, mb3.8/4, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.81**	**152**	Pn	**Pn**	**06 45 17.4**	**+1.8**
	0.4nm,0.3s,baz=327,slow=12,SNR=14						
FITZ				Sn	**Sn**	**06 46 51.2**	**-2.6**
	0.2nm,0.3s,baz=316,slow=17,SNR=3.5						
	1.8nm,0.4s						
WRA	**Warramunga Arr**	**15.81**	**129**	Pn	**P**	**06 46 55.1**	**+0.8**
	0.2nm,0.3s,baz=298,slow=13,SNR=7.4						
WRA				Sn	**Sn**	**06 49 45.3**	**+0.3**
	0.1nm,0.3s,baz=300,slow=23,SNR=5.0						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**17.92**	**139**	P	**P**	**06 47 23.0**	**+5.4**
	0.2nm,0.3s,baz=312,slow=12,SNR=14						
ASAR				S	**Sn**	**06 50 31.3**	**-4.9**
	0.4nm,0.7s,baz=312,slow=24,SNR=3.1						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**66.66**	**332**	P	**P**	**06 53 57.1**	**-0.8**
	0.5nm,0.6s,baz=138,slow=7.5,SNR=6.1						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**71.08**	**338**	P	**P**	**06 54 23.9**	**-1.2**
	0.8nm,0.5s,baz=145,slow=3.5,SNR=2.5						
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**71.15**	**333**	P	**P**	**06 54 23.9**	**-1.7**
	0.3nm,0.5s,baz=136,slow=5.2,SNR=2.3						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**76.52**	**331**	P	**P**	**06 54 56.5**	**-0.6**
	0.5nm,0.5s,baz=131,slow=4.0,SNR=2.0						
	0.5nm,0.5s						

*NOU **06** 07:25:23.1, 42.˚16S×178.˚19E, h28km, MLv4.8/15, Off E. Coast of S. Island, N.Z.*
*IDC **06** 07:25:23.4±1.6, 41.˚88S×177.˚69E, h0km, mb4.1/4, mbtmp4.1/6, ML4.3/2, MS3.3/8, Error ellipse: s-maj=40.5km s-min=27.6km az=64.0*
*WEL **06** 07:25:28.7±0.6, 42.˚5S×17.˚8E±˚, h33km, M4.1/29, ML4.4/30, MLv4.1/29, Error ellipse: s-maj=6.5km s-min=6.0km az=127.0, confirmed*

ISC 06 07:25:27.0±1.0, 42.˚08S±0.˚05×177.˚94E±0.˚07, h35km, n174, σ1§57/175, mb4.0/4, MS3.3/7, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRWZ	**Traveller**	**1.82**	**291**	P	**Pn**	**07 25 54.6**	**-1.1**
TRWZ				S	**Sn**	**07 26 14.2**	**-3.3**
BFZ	**Birch Farm**	**1.89**	**317**	P	**Pn**	**07 25 56.7**	**-0.1**
BFZ	**Birch Farm**	**1.89**	**317**	P	**Pn**	**07 25 56.3**	**-0.5**
ANWZ	**Angora Road**	**1.96**	**325**	P	**Pn**	**07 25 56.5**	**-1.2**
PAWZ	**Paruwai Farm**	**2.00**	**290**	P	**Pn**	**07 25 56.4**	**-2.0**
TIWZ	**Tintock**	**2.02**	**310**	P	**Pn**	**07 25 58.1**	**-0.5**
TIWZ				S	**Sn**	**07 26 20.3**	**-2.3**
MTW	**Mount Morrison**	**2.05**	**296**	P	**Pn**	**07 25 57.0**	**-1.9**
PRHZ	**Porangahau**	**2.06**	**331**	P	**Pn**	**07 25 58.5**	**-0.6**
PLWZ	**Palliser**	**2.07**	**283**	P	**Pn**	**07 25 57.3**	**-1.9**
PLWZ				S	**Sn**	**07 26 20.3**	**-3.5**
MSWZ	**Moikau Station**	**2.12**	**287**	P	**Pn**	**07 25 57.9**	**-2.0**
PRWZ	**Pori Road**	**2.13**	**315**	P	**Pn**	**07 25 59.9**	**-0.1**
PRWZ				S	**Sn**	**07 26 22.9**	**-2.3**
HOWZ	**Holdsworth Sta**	**2.17**	**302**	P	**Pn**	**07 25 59.1**	**-1.6**
PXZ	**Pawanui**	**2.21**	**338**	P	**Pn**	**07 26 00.3**	**-0.8**
DVHZ	**Dannevirke**	**2.23**	**323**	P	**Pn**	**07 26 00.3**	**-1.1**
MRZ	**Mangatainoka R**	**2.27**	**308**	P	**Pn**	**07 26 01.5**	**-0.5**
WPHZ	**Waipukurau**	**2.31**	**330**	P	**Pn**	**07 26 01.9**	**-0.6**
WPHZ				S	**Sn**	**07 26 28.4**	**-1.3**
POWZ	**Post Office Ro**	**2.35**	**315**	P	**Pn**	**07 26 02.8**	**-0.3**
CAW	**Cannon Point**	**2.36**	**293**	P	**Pn**	**07 26 01.7**	**-1.5**
KAHZ	**Kahuranaki**	**2.42**	**340**	P	**Pn**	**07 26 03.5**	**-0.6**
OGWZ	**Otaki Gorge**	**2.43**	**300**	P	**Pn**	**07 26 04.0**	**-0.2**
WEL	**Wellington**	**2.50**	**288**	P	**Pn**	**07 26 04.8**	**-0.4**
TSZ	**Takapari Road**	**2.51**	**323**	P	**Pn**	**07 26 04.2**	**-1.1**
PNHZ	**Pukenui**	**2.54**	**328**	P	**Pn**	**07 26 04.6**	**-1.0**
SNZO	**South Karori**	**2.54**	**287**	P	**Pn**	**07 26 05.0**	**-0.6**
KIW	**Kapiti Island**	**2.58**	**297**	P	**Pn**	**07 26 05.9**	**-0.4**
KRHZ	**Kereru**	**2.71**	**334**	P	**Pn**	**07 26 07.1**	**-0.9**
CMWZ	**Cape Campbell**	**2.80**	**276**	P	**Pn**	**07 26 09.3**	**+0.1**
MCHZ	**McNeill Hill**	**2.80**	**340**	P	**Pn**	**07 26 08.5**	**-0.7**
TCW	**Tory Channel**	**2.88**	**286**	P	**Pn**	**07 26 08.9**	**-1.4**
KWHZ	**Kaweka Forest**	**2.90**	**336**	P	**Pn**	**07 26 09.8**	**-0.9**
ARHZ	**Aropaoanui**	**2.91**	**345**	P	**Pn**	**07 26 09.5**	**-1.2**
WHHZ	**Waihua**	**3.05**	**350**	P	**Pn**	**07 26 10.8**	**-1.9**
BSWZ	**Blackbirch Sta**	**3.05**	**276**	P	**Pn**	**07 26 11.3**	**-1.4**
TUWZ	**Tuamarina**	**3.06**	**281**	P	**Pn**	**07 26 12.2**	**-0.6**
KNZ	**Kokohu**	**3.06**	**356**	P	**Pn**	**07 26 09.7**	**-3.2**
NMHZ	**Naumai**	**3.10**	**344**	P	**Pn**	**07 26 12.2**	**-1.3**
BKZ	**Black Stump Fm**	**3.12**	**339**	P	**Pn**	**07 26 12.0**	**-1.6**
BKZ	**Black Stump Fm**	**3.12**	**339**	P	**Pn**	**07 26 11.7**	**-1.9**
MOVZ	**Moawhango**	**3.15**	**327**	P	**Pn**	**07 26 13.9**	**-0.2**
PRGZ	**Paritu Road**	**3.16**	**359**	P	**Pn**	**07 26 11.6**	**-2.6**
WAZ	**Wanganui**	**3.23**	**315**	P	**Pn**	**07 26 16.2**	**+1.0**
RAHZ	**Arahi**	**3.23**	**348**	P	**Pn**	**07 26 13.2**	**-2.0**
WNVZ	**Wahianoa**	**3.28**	**326**	P	**Pn**	**07 26 16.0**	**+0.1**
DUWZ	**D'Urville Isla**	**3.28**	**292**	P	**Pn**	**07 26 15.3**	**-0.6**
KHZ	**Kahutara**	**3.28**	**263**	P	**Pn**	**07 26 13.8**	**-2.0**
KHZ	**Kahutara**	**3.28**	**263**	P	**Pn**	**07 26 13.9**	**-1.9**
MTVZ	**Mangateitei**	**3.28**	**324**	P	**Pn**	**07 26 16.2**	**+0.2**
TUVZ	**Tukino**	**3.31**	**328**	P	**Pn**	**07 26 16.5**	**+0.2**
WHVZ	**Whangaehu Hut**	**3.32**	**327**	P	**Pn**	**07 26 16.5**	**-0.1**
TRVZ	**Turoa**	**3.32**	**326**	P	**Pn**	**07 26 16.7**	**+0.1**
SNGZ	**Shannon Statio**	**3.33**	**352**	P	**Pn**	**07 26 14.4**	**-2.2**
MTHZ	**Maungataniwha**	**3.33**	**345**	P	**Pn**	**07 26 14.6**	**-2.1**
MAVZ	**Matarangi**	**3.34**	**327**	P	**Pn**	**07 26 17.0**	**0.0**
FWVZ	**Far West T-bar**	**3.36**	**327**	P	**Pn**	**07 26 17.0**	**-0.1**
RIGZ	**Rimuhau**	**3.38**	**358**	P	**Pn**	**07 26 14.3**	**-3.0**
SNVZ	**South Ngauruho**	**3.38**	**328**	P	**Pn**	**07 26 17.2**	**-0.2**
OTVZ	**Oturere**	**3.39**	**329**	P	**Pn**	**07 26 17.4**	**-0.1**
ETVZ	**East Tongariro**	**3.40**	**329**	P	**Pn**	**07 26 17.7**	**+0.1**
NGZ	**Ngauruhoe**	**3.41**	**328**	P	**Pn**	**07 26 17.6**	**-0.1**
COVZ	**Chateau Observ**	**3.41**	**327**	P	**Pn**	**07 26 17.7**	**-0.1**
PKVZ	**Pokaka**	**3.42**	**324**	P	**Pn**	**07 26 17.9**	**+0.1**
TMVZ	**Te Maari**	**3.42**	**329**	P	**Pn**	**07 26 17.5**	**-0.3**
NNVZ	**North Ngauruho**	**3.44**	**328**	P	**Pn**	**07 26 18.0**	**-0.2**
MRHZ	**Matea Rd**	**3.45**	**340**	P	**Pn**	**07 26 17.9**	**-0.3**
KRVZ	**Karewarewa**	**3.46**	**329**	P	**Pn**	**07 26 18.5**	**+0.1**
WTVZ	**West Tongariro**	**3.46**	**328**	P	**Pn**	**07 26 18.2**	**-0.3**
RITZ	**Rihia Road**	**3.48**	**332**	P	**Pn**	**07 26 18.4**	**-0.2**
HATZ	**Hinemaiaia**	**3.48**	**336**	P	**Pn**	**07 26 18.3**	**-0.4**
NNZ	**Nelson**	**3.52**	**283**	P	**Pn**	**07 26 18.3**	**-0.9**
RTZ	**Ruatahuna**	**3.54**	**348**	P	**Pn**	**07 26 17.3**	**-2.2**
KATZ	**Kakaramea**	**3.54**	**330**	P	**Pn**	**07 26 19.2**	**-0.4**
TWVZ	**Taurewa**	**3.56**	**327**	P	**Pn**	**07 26 19.6**	**-0.2**
CNGZ	**Carnagh Statio**	**3.60**	**3**	P	**Pn**	**07 26 18.2**	**-2.0**
RAGZ	**Rawiri**	**3.61**	**353**	P	**Pn**	**07 26 18.4**	**-2.0**
RATZ	**Rangitukua**	**3.61**	**332**	P	**Pn**	**07 26 19.9**	**-0.6**
MUGZ	**Murupara**	**3.71**	**346**	P	**Pn**	**07 26 20.2**	**-1.6**
ALRZ	**Allen Road**	**3.72**	**340**	P	**Pn**	**07 26 20.9**	**-1.0**
GVZ	**Greta Valley S**	**3.73**	**255**	P	**Pn**	**07 26 20.4**	**-1.6**
WHTZ	**Whakaora**	**3.73**	**335**	P	**Pn**	**07 26 21.7**	**-0.5**
LREZ	**Lake Rotokare**	**3.75**	**313**	P	**Pn**	**07 26 23.7**	**+1.4**
THZ	**Tophouse**	**3.77**	**273**	P	**Pn**	**07 26 21.5**	**-1.1**
WATZ	**Wairara**	**3.77**	**333**	P	**Pn**	**07 26 21.8**	**-0.8**
PRRZ	**Plateau Road**	**3.77**	**341**	P	**Pn**	**07 26 21.2**	**-1.4**
WPRZ	**Whakapapatarin**	**3.81**	**339**	P	**Pn**	**07 26 22.1**	**-1.1**
VRZ	**Vera Road**	**3.82**	**350**	P	**Pn**	**07 26 23.2**	**0.0**
URZ	**Urewera**	**3.87**	**350**	Pn	**Pn**	**07 26 20.9**	**-3.0**
URZ	28nm,0.3s,baz=207,slow=6.7,SNR=22			Sn	**Sn**	**07 27 01.3**	**-6.9**
	46nm,0.3s,baz=258,slow=23,SNR=10						
URZ				LR	LR	07 27 54.9	
	comp=Z,533nm,20.4s,baz=160,slow=42						
	71nm,0.2s						
URZ	**Urewera**	**3.87**	**350**	P	**Pn**	**07 26 21.6**	**-2.4**
URZ	**Urewera**	**3.87**	**350**	P	**Pn**	**07 26 21.4**	**-2.6**
TKNZ	**Takaka Hill**	**3.88**	**284**	P	**Pn**	**07 26 23.2**	**-0.9**
HRNZ	**Handcock Road**	**3.90**	**341**	P	**Pn**	**07 26 23.7**	**-0.7**
MRNZ	**Matariki Terra**	**3.94**	**278**	P	**Pn**	**07 26 23.7**	**-1.2**
KUTZ	**Kaahu Road**	**3.94**	**335**	P	**Pn**	**07 26 24.0**	**-0.9**
OKCZ	**Okains Bay**	**3.94**	**244**	P	**Pn**	**07 26 23.7**	**-1.3**
PREZ	**Palmer Road**	**3.97**	**312**	P	**Pn**	**07 26 26.9**	**+1.6**
GRRZ	**Galatos Road**	**3.98**	**339**	P	**Pn**	**07 26 26.7**	**+1.2**
HSRZ	**Hossack Road**	**3.98**	**340**	P	**Pn**	**07 26 24.7**	**-0.9**
HLRZ	**Highlands Stat**	**4.01**	**342**	P	**Pn**	**07 26 27.4**	**+1.4**
PUZ	**Puketiti**	**4.01**	**4**	P	**Pn**	**07 26 22.8**	**-3.2**
AMCZ	**Amberley**	**4.05**	**253**	P	**Pn**	**07 26 25.3**	**-1.1**
NEZ	**North Egmont**	**4.05**	**313**	P	**Pn**	**07 26 28.0**	**+1.4**
DREZ	**Durham Road**	**4.05**	**314**	P	**Pn**	**07 26 28.0**	**+1.5**
NMEZ	**Namu Road**	**4.08**	**310**	P	**Pn**	**07 26 28.0**	**+1.2**
EDRZ	**Edgecumbe**	**4.08**	**347**	P	**Pn**	**07 26 26.0**	**-0.9**
KHEZ	**Kahui Hut**	**4.08**	**312**	P	**Pn**	**07 26 27.6**	**+0.7**
KHEZ	**Kahui Hut**	**4.08**	**312**	S	**Sn**	**07 27 15.8**	**+2.3**
KHEZ	**Kahui Hut**	**4.08**	**312**	P	**Pn**	**07 26 28.2**	**+1.3**
AKCZ	**Akaroa Harbour**	**4.10**	**242**	P	**Pn**	**07 26 25.8**	**-1.3**
MKRZ	**Makatiti**	**4.10**	**344**	P	**Pn**	**07 26 28.7**	**+1.5**
RUGZ	**Raukumara Rang**	**4.12**	**357**	P	**Pn**	**07 26 24.6**	**-2.9**
OMRZ	**Omania**	**4.15**	**343**	P	**Pn**	**07 26 26.4**	**-1.5**
PKE	**Pukeiti**	**4.17**	**313**	P	**Pn**	**07 26 29.1**	**+1.1**
TLZ	**Tolley Road**	**4.17**	**333**	P	**Pn**	**07 26 26.7**	**-1.5**
NBEZ	**Newall Road No**	**4.18**	**311**	P	**Pn**	**07 26 30.2**	**+2.0**
MQZ	**McQueen's Vall**	**4.21**	**246**	P	**Pn**	**07 26 26.5**	**-2.1**
MARZ	**Manawahe**	**4.21**	**346**	P	**Pn**	**07 26 28.0**	**-0.7**
PKGZ	**Pakihiroa**	**4.21**	**2**	P	**Pn**	**07 26 25.3**	**-3.4**
LTZ	**Lake Taylor**	**4.25**	**259**	P	**Pn**	**07 26 27.2**	**-2.0**
QRZ	**Quartz Range**	**4.25**	**285**	P	**Pn**	**07 26 28.4**	**-0.8**
QRZ	**Quartz Range**	**4.25**	**285**	P	**Pn**	**07 26 28.5**	**-0.8**
HIZ	**Hauiti**	**4.27**	**326**	P	**Pn**	**07 26 28.9**	**-0.6**
HIZ	**Hauiti**	**4.27**	**326**	P	**Pn**	**07 26 28.9**	**-0.6**
WMGZ	**Waiomatatini S**	**4.28**	**5**	P	**Pn**	**07 26 26.4**	**-3.1**
HAZ	**Te Kaha**	**4.32**	**358**	P	**Pn**	**07 26 27.3**	**-2.8**
CTZ	**Chatham Island**	**4.33**	**114**	P	Pn	07 26 36.2	+6.0
OPRZ	**Ohinepanea**	**4.37**	**345**	P	**Pn**	**07 26 29.1**	**-1.7**
KMRZ	**Kaimai**	**4.50**	**339**	P	**Pn**	**07 26 31.4**	**-1.3**
OXZ	**Oxford**	**4.52**	**252**	P	**Pn**	**07 26 31.0**	**-1.9**
MXZ	**Matakaoa Point**	**4.53**	**4**	P	**Pn**	**07 26 30.1**	**-2.8**
MXZ	**Matakaoa Point**	**4.53**	**4**	P	**Pn**	**07 26 30.1**	**-2.8**
RACZ	**Rakaia**	**4.56**	**247**	P	**Pn**	**07 26 33.6**	**+0.1**
DSZ	**Denniston Nort**	**4.59**	**272**	P	**Pn**	**07 26 32.7**	**-1.1**
TOZ	**Tahuroa Road**	**4.73**	**336**	P	**Pn**	**07 26 34.5**	**-1.3**
WACZ	**Wakanui South**	**4.84**	**245**	P	**Pn**	**07 26 36.3**	**-1.0**
ARCZ	**Arundel**	**5.29**	**247**	P	**Pn**	**07 26 42.5**	**-1.0**
RPZ	**Rata Peaks**	**5.31**	**250**	Pn	**Pn**	**07 26 42.3**	**-1.4**
	7.3nm,0.3s,baz=77,slow=3.9,SNR=29						
RPZ				Sn	**Sn**	**07 27 39.7**	**-4.0**
	5.5nm,0.3s,baz=107,slow=19,SNR=9.3						
	17nm,0.3s						
RPZ	**Rata Peaks**	**5.31**	**250**	P	**Pn**	**07 26 41.7**	**-2.1**
RPZ	**Rata Peaks**	**5.31**	**250**	P	**Pn**	**07 26 42.4**	**-1.4**
WVZ	**Waitaha Valley**	**5.41**	**257**	P	**Pn**	**07 26 43.9**	**-1.1**
MKAZ	**Moumakai**	**5.42**	**336**	P	**Pn**	**07 26 43.9**	**-1.3**
TMZ	**Timaru**	**5.56**	**243**	P	**Pn**	**07 26 46.0**	**-1.2**
KUZ	**Kuaotunu**	**5.60**	**341**	P	**Pn**	**07 26 46.8**	**-0.9**
KUZ	**Kuaotunu**	**5.60**	**341**	P	**Pn**	**07 26 46.8**	**-0.9**
AWAZ	**Awhitu Peninsu**	**5.62**	**332**	P	**Pn**	**07 26 47.5**	**-0.6**
ETAZ	**East Tamaki Re**	**5.63**	**335**	P	**Pn**	**07 26 47.2**	**-0.9**
WIAZ	**Waiheke Island**	**5.71**	**337**	P	**Pn**	**07 26 48.3**	**-1.0**
GCSZ	**Gaunt Creek Bo**	**5.74**	**255**	P	**Pn**	**07 26 49.0**	**-0.6**
WTAZ	**Waiatarua**	**5.76**	**332**	P	**Pn**	**07 26 50.3**	**+0.3**
MBAZ	**Motutapu North**	**5.80**	**335**	P	**Pn**	**07 26 49.5**	**-1.1**
RVAZ	**Riverhead Bore**	**5.91**	**333**	P	**Pn**	**07 26 51.5**	**-0.5**
ABAZ	**Army Bay**	**5.98**	**335**	P	**Pn**	**07 26 52.7**	**-0.3**
ODZ	**Otahua Downs**	**6.07**	**238**	P	**Pn**	**07 26 52.7**	**-1.4**
ODZ	**Otahua Downs**	**6.07**	**238**	P	**Pn**	**07 26 52.9**	**-1.2**
LBZ	**Lake Benmore**	**6.11**	**245**	P	**Pn**	**07 26 54.0**	**-0.7**
GRZ	**Great Barrier**	**6.13**	**341**	P	**Pn**	**07 26 54.0**	**-1.1**
FOZ	**Fox Glacier**	**6.15**	**254**	P	**Pn**	**07 26 54.8**	**-0.4**
WCZ	**Waipu Caves**	**6.74**	**334**	P	**Pn**	**07 27 03.5**	**+0.1**
EAZ	**Earnscleugh**	**7.00**	**240**	P	**Pn**	**07 27 06.3**	**-0.7**
WKZ	**Wanaka**	**7.04**	**244**	P	**Pn**	**07 27 08.2**	**+0.6**
TUZ	**Tuapeka**	**7.13**	**234**	P	**Pn**	**07 27 08.0**	**-0.6**
OUZ	**Omahuta**	**7.65**	**332**	P	**Pn**	**07 27 14.7**	**-1.1**
SYZ	**Scrubby Hill**	**7.72**	**232**	P	**Pn**	**07 27 16.4**	**-0.4**
SYZ	**Scrubby Hill**	**7.72**	**232**	P	**Pn**	**07 27 16.8**	**+0.1**
MLZ	**Mavora Lakes**	**7.83**	**242**	P	**Pn**	**07 27 17.4**	**-1.0**
WHZ	**Wether Hill Ro**	**8.15**	**239**	P	**Pn**	**07 27 22.3**	**-0.3**
DZM	**Mont Dzumac**	**22.16**	**331**	LR	LR	07 37 20.8	
	comp=Z,182nm,19.0s,baz=196,slow=33						
STKA	**Stephens Creek**	**30.56**	**278**	LR	LR	07 42 51.7	
	comp=Z,36nm,18.7s,baz=14,slow=34						
VNDA	**Vanda**	**36.16**	**186**	LR	LR	07 44 34.5	
	comp=Z,48nm,18.6s,baz=303,slow=32						
HNR	**Honiara**	**36.17**	**329**	LR	LR	07 45 36.3	
	comp=Z,37nm,20.2s,baz=174,slow=34						
ASAR	**Alice Springs**	**40.78**	**283**	P	**P**	**07 33 04.5**	**-0.4**
	1.3nm,0.9s,baz=123,slow=7.5,SNR=17						
	1.3nm,0.9s						
WRA	**Warramunga Arr**	**42.81**	**287**	P	**P**	**07 33 20.6**	**-0.9**
	1.0nm,0.8s,baz=126,slow=8.5,SNR=10						
	1.0nm,0.8s						
QSPA	**South Pole Qui**	**48.05**	**180**	P	**P**	**07 34 06.2**	**+3.7**
	3.1nm,1.1s,baz=44,slow=1.6,SNR=4.3						
QSPA				LR	LR	07 52 34.7	
	comp=Z,43nm,18.2s,baz=46,slow=34						
	3.1nm,1.1s						
LEM	**Lembang**	**70.86**	**278**	LR	LR	08 10 47.3	
	comp=Z,42nm,18.2s,baz=5.0,slow=39						
CMAR	**Chiang Mai Arr**	**94.31**	**291**	P	**P**	**07 38 45.3**	**+2.4**
	0.7nm,0.3s,baz=122,slow=4.8,SNR=4.7						
CMAR				LR	LR	08 25 18.3	
	comp=Z,4.2nm,18.2s,baz=280,slow=38						
	0.7nm,0.3s						
TORD	**Torodi Ar. Bea**	**150.99**	**188**	PKPbc	**PKiKP**	**07 45 17.8**	**+0.9**
	2.4nm,1.0s,baz=180,slow=1.2,SNR=8.6						

*IDC **06** 07:25:31.9±0.8, 28.˚53N×105.˚15E, h0km, mb4.2/19, mbtmp4.1/22, ML4.2/3, MS3.4/9, Error ellipse: s-maj=22.9km s-min=15.2km az=60.0*
*MOS **06** 07:25:33.8±1.2, 28.˚49N×104.˚86E, h19km, mb4.5/16, Error ellipse: s-maj=8.2km s-min=6.6km az=106.6*
*BJI **06** 07:25:34.3, 28.˚45N×104.˚78E, h7km, mB4.7/5, mb4.5/35, ML4.3/20, Ms4.1/22, Ms7 4.0/24*
*NEIC **06** 07:25:36.3±1.7, 28.˚69N±0.˚08×104.˚78E±0.˚09, h10km±1km, mb4.6/29, Error ellipse: s-maj=14.3km s-min=11.9km az=137.0*

ISC 06 07:25:36.2±0.4, 28.˚57N±0.˚04×104.˚87E±0.˚04, h19km, n127, σ1§65/131, mb4.4/40, MS3.4/9, 7C-6D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.52**	**338**	Pn	**Pn**	**07 26 17.5**	**+1.3**
CD2				Pg	**Pb**	**07 26 21.5**	**+0.6**
CD2				Sg	**Sb**	**07 26 51.1**	**-0.6**
CD2				smax	smax		
	comp=N,2μm,0.7s						
CD2				smax	smax		
	comp=E,6μm,0.7s						
GYA	**Guiyang**	**2.64**	**142**	⇓Pn	**Pn**	**07 26 18.4**	**+0.5**
PZH	**PanZhiHua**	**3.45**	**234**	Pn	**Pn**	**07 26 29.7**	**+0.6**
PZH				Pg	**Pb**	**07 26 37.1**	**+0.3**
PZH				Sg	**Sb**	**07 27 20.7**	**+2.2**
PZH				smax	smax		
	comp=N,560nm,1.2s						
PZH				smax	smax		
	comp=E,400nm,1.0s						
KMI	**Kunming**	**3.92**	**209**	Pn	**Pn**	**07 26 36.2**	**+0.6**
KMI				Sn	**Sn**	**07 27 23.7**	**+2.5**
KMI				smax	smax		
	comp=N,97nm,1.5s						
KMI				smax	smax		
	comp=E,110nm,2.0s						
KMI				LR	LR		
	comp=N,2μm,11.4s						
KMI				LR	LR		
	comp=Z,2μm,7.9s						
ENH	**Enshi**	**4.37**	**66**		**Pn**	**07 26 44.1**	**+2.4**
XAN	**Xi'an**	**6.46**	**31**	Pn	**Pn**	**07 27 11.7**	**+1.3**
XAN				Sn	**Sn**	**07 28 22.1**	**-1.5**
XAN				Sg	**Sg**	**07 28 59.0**	**-4.6**
XAN				smax	smax		
	comp=N,1μm,0.9s						
XAN				smax	smax		
	comp=E,940nm,1.2s						
XAN				LR	LR		
	comp=N,3μm,4.8s						
XAN				LR	LR		
	comp=E,2μm,3.9s						
XAN				LR	LR		
	comp=Z,4μm,4.2s						
TNCH	**TengChong**	**6.68**	**240**	Pg	Pg	07 27 37.9	-6.1
TNCH				Sg	**Sg**	**07 29 06.3**	**-4.2**
TNCH				smax	smax		
	comp=N,500nm,0.8s						
TNCH				smax	smax		
	comp=E,260nm,0.9s						
TNCH				LR	LR		
	comp=N,2μm,4.6s						
TNCH				LR	LR		
	comp=E,1μm,5.0s						
TNCH				LR	LR		
	comp=Z,1μm,9.7s						
CNSH	**ChangSha**	**7.12**	**91**	Pn	**Pn**	**07 27 19.1**	**-0.2**
CNSH				Sn	**Sn**	**07 28 36.6**	**-3.0**
CNSH				smax	smax		
	comp=Z,310nm,1.0s						
CNSH				smax	smax		
	comp=Z,200nm,0.9s						
SLVN	**Son La**	**7.25**	**187**		**Pn**	**07 27 24.0**	**+2.7**
LZDM	**Lanzhou Array**	**7.43**	**353**	Pn	**Pn**	**07 27 25.0**	**+1.1**
	baz=178,slow=13						
LZDM				Lg	Lg	07 29 34.3	
	baz=170,slow=34						
	comp=Z,3.4nm,0.3s						
LZH	**Lanzhou**	**7.55**	**354**	*e*Pn	**Pn**	**07 27 27.8**	**+2.5**
LZH				smax	smax		
	comp=Z,220nm,1.0s						
LZH				smax	smax		
	comp=Z,220nm,1.0s						
LZH				LR	LR		
	comp=Z,1μm,5.5s						
LZH				LR	LR		
	comp=Z,1μm,6.9s						
LZH				LR	LR		
	comp=Z,640nm,6.9s						
WHN	**Wuhan**	**8.49**	**74**	P	**Pn**	**07 27 40.0**	**+1.9**
WHN				sP		07 27 46.7	
WHN				S	**Sn**	**07 29 12.9**	**-0.5**
WHN				pmax	pmax		
	comp=Z,120nm,0.6s						
LYN	**LuoYang**	**8.81**	**45**	P	**Pn**	**07 27 43.0**	**+0.5**
LYN				S	**Sn**	**07 29 21.6**	**+0.4**
LYN				pmax	pmax		
	comp=Z,130nm,0.7s						
LYN				smax	smax		
	comp=Z,190nm,1.3s						
LYN				smax	smax		
	comp=Z,140nm,1.2s						
LYN				LR	LR		
	comp=Z,2μm,5.8s						
LYN				LR	LR		
	comp=Z,3μm,6.0s						
GZH	**Guangzhou**	**9.38**	**124**	P	**Pn**	**07 27 48.9**	**-1.5**
GZH				S	**Sn**	**07 29 33.2**	**-2.2**
GZH				smax	smax		
	comp=Z,190nm,1.1s						
GZH				smax	smax		
	comp=Z,100nm,0.9s						
CHTO	**Chiang Mai**	**11.12**	**210**	Pn	**Pn**	**07 28 15.3**	**+1.0**
CHTO	**Chiang Mai**	**11.12**	**210**	P	**Pn**	**07 28 15.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**11.43**	**210**	Pn	**Pn**	**07 28 19.9**	**+1.4**
CMAR	**Chiang Mai Arr**	**11.43**	**210**	Pn	**Pn**	**07 28 19.0**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=24,slow=12,SNR=14						
CMAR				LR	LR	07 33 08.9	
	comp=Z,252nm,18.0s,baz=5.0,slow=40						
	comp=Z,1.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**11.43**	**210**	*i* P	**Pn**	**07 28 20.1**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GTA	**Gaotai**	**11.60**	**340**	*e*P	Pn	07 28 25.5	+4.7
GTA				sP		07 28 31.4	
GTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GTA				LR	LR		
	comp=Z,340nm,15.5s						
GTA				LR	LR		
	comp=Z,630nm,15.1s						
GTA				LR	LR		
	comp=Z,360nm,10.0s						
SHL	**Shillong**	**11.95**	**259**		**Pn**	**07 28 24.6**	**-1.1**
SHL	**Shillong**	**11.95**	**259**	P	**Pn**	**07 28 24.6**	**-1.1**
LSA	**Lhasa**	**12.05**	**279**	Pn	**Pn**	**07 28 26.8**	**-0.5**
LSA	**Lhasa**	**12.05**	**279**	P	**Pn**	**07 28 26.8**	**-0.5**
NJ2	**Nanjing**	**12.57**	**71**	*e*P	**Pn**	**07 28 35.7**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,7.0nm,

comp=Z,5.0nm,0.8s
USRK Ussuriysk Ar. 26.67 47 P **P** **07 31 14.1 +0.3**
NRN Naryn 26.77 306 P **P** **07 31 15.5 +0.3**
NRN IAmb IAmb 07 31 22.2
comp=Z,9.5nm,1.1s
NRN Naryn 26.77 306 P **P** **07 31 15.5 +0.3**
NRN pmax pmax
comp=Z,9.0nm,1.1s
BOOM Boomskoye usch 27.18 308 P **P** **07 31 18.6 -0.1**
BOOM IAmb IAmb 07 31 56.2
comp=Z,35nm,1.5s
BOOM Boomskoye usch 27.18 308 P **P** **07 31 18.6 -0.1**
BOOM pmax pmax
comp=Z,35nm,1.5s
AAK Ala-Archa 28.23 308 LR LR 07 44 27.2
comp=Z,70nm,20.5s,baz=83,slow=40
AAK Ala-Archa 28.23 308 *i* P **P** **07 31 26.2 -1.9**
AAK pmax pmax
comp=Z,3.0nm,0.9s
MJAR Matsushiro Arr 29.10 66 LR LR 07 44 35.2
comp=Z,86nm,20.7s,baz=243,slow=40
ZAA0 Zalesovo Array 29.29 336 **P** **07 31 36.9 -0.3**
ZALV Zalesovo Beam 29.29 336 **P** **07 31 36.4 -0.8**
ZALV Zalesovo Beam 29.29 336 P **P** **07 31 37.0 -0.1**
comp=Z,2.5nm,0.6s,baz=140,slow=9.0,SNR=6.3
comp=Z,2.5nm,0.6s
ZALV Zalesovo Beam 29.29 336 *i* P **P** **07 31 39.2 +2.1**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
KURBB Kurchatov Arra 29.68 325 P **P** **07 31 40.9 +0.3**
comp=Z,4.3nm,0.7s,baz=131,slow=9.5,SNR=19
comp=Z,4.3nm,0.7s
KURK Kurchatov 29.69 325 **P** **07 31 40.9 +0.2**
KURK IAmb IAmb 07 31 44.9
comp=Z,7.2nm,0.9s
KURK Kurchatov 29.69 325 P **P** **07 31 40.9 +0.2**
KK31 Karatay Array 31.16 307 P **P** **07 31 52.8 -1.0**
KK31 Karatay Array 31.16 307 P **P** **07 31 52.8 -1.0**
KK31 pmax pmax
comp=Z,4.0nm,1.2s
KKAR Karatay Array 31.16 307 **P** **07 31 53.7 -0.1**
KKAR Karatay Array 31.16 307 P **P** **07 31 53.7 -0.1**
SIMJ Simiganj 31.34 298 P **P** **07 31 56.1 +0.5**
BVAR Borovoye Array 35.20 324 P **P** **07 32 29.3 +0.3**
comp=Z,2.3nm,0.8s,baz=116,slow=9.8,SNR=10.0
BVAR LR LR 07 47 52.7
comp=Z,49nm,19.2s,baz=122,slow=38
comp=Z,2.3nm,0.8s
YAK Yakutsk 37.26 19 LR LR 07 49 26.1
comp=Z,88nm,19.8s,baz=199,slow=38
AB31 Akbulak array 39.88 314 **P** **07 33 08.6 0.0**
ABKAR Akbulak array 39.88 314 **P** **07 33 08.2 -0.4**
AKTO Aktyubinsk 41.37 315 P **P** **07 33 21.7 +0.7**
comp=Z,4.5nm,0.7s,baz=86,slow=10.0,SNR=11
comp=Z,4.5nm,0.7s
ARTI Arti 42.93 324 P **P** **07 33 34.5 +1.0**
ARTI IAmb IAmb 07 33 37.7
comp=Z,11nm,1.2s
ARTI Arti 42.93 324 P **P** **07 33 35.3 +1.8**
comp=Z,2.3nm,0.4s,baz=91,slow=2.5,SNR=4.4
ARTI LR LR 07 52 46.1
comp=Z,34nm,18.1s,baz=75,slow=38
comp=Z,2.3nm,0.4s
ARTI Arti 42.93 324 *c i* P **P** **07 33 35.6 +2.1**
ARTI 07 35 09.2
ARTI S **S** **07 39 57.7 +0.3**
ARTI SS **SS** **07 43 02.6 -6.4**
ARTI pmax pmax
comp=Z,9.0nm,1.2s
TIXI Tiksi 45.11 10 P **P** **07 33 50.8 0.0**
TIXI Tiksi 45.11 10 P **P** **07 33 50.8 0.0**
TIXI pmax pmax
comp=Z,20nm,0.2s
PETK Petropavlovsk- 45.58 42 LR LR 07 55 12.3
comp=Z,43nm,18.2s,baz=251,slow=39
BELG Belogornoye 48.12 316 *i* P **P** **07 34 16.8 +2.2**
GNI Garni 50.11 300 P **P** **07 34 32.9 +2.6**
GNI IAmb IAmb 07 34 35.5
comp=Z,21nm,1.3s
GNI Garni 50.11 300 P **P** **07 34 32.9 +2.6**
GNI pmax pmax
comp=Z,21nm,1.3s
KBZ Khabaz 51.15 305 P **P** **07 34 36.9 -0.9**
comp=Z,2.1nm,0.8s,baz=63,slow=11,SNR=3.8
comp=Z,2.1nm,0.8s
KBZ Khabaz 51.15 305⇑ *i* P **P** **07 34 37.5 -0.3**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 51.28 305 P **P** **07 34 38.9 -0.2**
KIV Kislovodsk 51.28 305 *e* P **P** **07 34 39.9 +0.9**
KIV pmax pmax
comp=Z,24nm,1.1s
SHA1 Shidzhatmaz 51.32 305⇑ *e* P **P** **07 34 39.7 +0.2**
GURO Guroymak-BITLI 52.40 298 P **P** **07 34 48.3 +0.8**
GURO IAmb IAmb 07 34 51.9
comp=Z,10nm,1.1s
RAYN Ar Rayn 53.12 279 **P** **07 34 51.4 -1.5**
RAYN IAmb IAmb 07 34 54.5
comp=Z,6.0nm,0.9s
RAYN Ar Rayn 53.12 279 P **P** **07 34 51.4 -1.5**
RAYN pmax pmax
comp=Z,6.0nm,1.0s
MARD Mardin 53.59 297 P **P** **07 34 56.5 +0.2**
MARD IAmb IAmb 07 34 59.9
comp=Z,5.7nm,0.7s
OBN Obninsk 54.81 319 *e* P **P** **07 35 05.7 +1.0**
OBN *e* 07 36 08.5
OBN *e* 07 37 06.5
OBN pmax pmax
comp=Z,5.0nm,1.0s
WRA Warramunga Arr 56.01 146 P **P** **07 35 12.0 -1.7**
comp=Z,3.6nm,0.8s,baz=326,slow=7.3,SNR=3.3
comp=Z,3.6nm,0.8s
WRA Warramunga Arr 56.01 146 P **P** **07 35 12.0 -1.7**
BRTR Keskin Array B 58.59 301 P **P** **07 35 32.4 +0.4**
comp=Z,1.4nm,1.0s,baz=113,slow=6.7,SNR=4.4
comp=Z,1.4nm,1.0s
BRTR Keskin Array B 58.59 301 *ce* P **P** **07 35 35.2 +3.1**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 58.99 149 P **P** **07 35 32.7 -2.0**
comp=Z,2.5nm,0.8s,baz=333,slow=8.5,SNR=6.7
comp=Z,2.5nm,0.8s
AKASG Malin Array Be 59.61 314 P **P** **07 35 37.7 -1.0**
comp=Z,3.7nm,1.0s,baz=72,slow=6.5,SNR=6.7
comp=Z,3.7nm,1.0s
AKASG Malin Array Be 59.61 314 *ce* P **P** **07 35 39.0 +0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 59.61 314⇓ *i* P **P** **07 35 38.0 -0.7**
ARCES ARCESS Array B 59.84 336 P **P** **07 35 39.8 -0.2**
comp=Z,0.8nm,0.6s,baz=91,slow=8.1,SNR=3.8
comp=Z,0.8nm,0.6s
FINES FINESS Array B 60.04 327 P **P** **07 35 41.7 +0.2**
comp=Z,0.9nm,0.5s,baz=93,slow=8.4,SNR=8.9
comp=Z,0.9nm,0.5s
MLR Muntele Rosu 62.80 309 LR LR 08 08 08.4
comp=Z,43nm,18.6s,baz=47,slow=41
HFS Hagfors 66.24 327 P **P** **07 36 22.9 +0.2**
comp=Z,3.2nm,0.7s,baz=93,slow=6.1,SNR=6.9
comp=Z,3.2nm,0.7s
NOA NORSAR Array B 67.15 328 P **P** **07 36 28.0 -0.5**
comp=Z,1.5nm,0.9s,baz=72,slow=6.0,SNR=3.4
comp=Z,1.5nm,0.9s
NC204 NORSAR Array S 67.29 329 P **P** **07 36 29.6 +0.2**
IMAR Indian Mountai 68.72 26 P **P** **07 36 38.0 -0.2**
GERES GERESS Array B 69.80 315 P **P** **07 36 43.7 -1.6**
comp=Z,0.2nm,0.3s,baz=64,slow=2.3,SNR=4.5
comp=Z,0.2nm,0.3s
MLY Manley 70.25 26 P **P** **07 36 48.1 +0.3**
PPLA Purkeypile 70.57 28 P **P** **07 36 50.6 +0.7**
KMBO Kilima Mbogo 71.00 258 *i* P **P** **07 36 53.5 +0.1**
KMBO pmax pmax
comp=Z,3.0nm,0.3s
BMAR Burnt Mountain 71.36 22 P **P** **07 36 54.8 +0.3**
COLA College 71.42 25⇓ *e* P **P** **07 36 55.8 +1.0**
COLA pmax pmax
comp=Z,4.0nm,0.9s
ILAR Eielson Array 71.83 25 P **P** **07 36 55.9 -1.4**
comp=Z,0.5nm,0.9s,baz=298,slow=6.0,SNR=6.8
comp=Z,0.5nm,0.9s
PRP Porcupine Dome 71.97 24 **P** **07 36 58.5 +0.2**
PRP IAmb IAmb 07 37 02.4
comp=Z,2.8nm,0.8s
PMR Palmer 72.43 29 P **P** **07 37 02.5 +1.7**
PMR IAmb IAmb 07 37 04.3
comp=Z,3.1nm,0.8s
PMR Palmer 72.43 29 P **P** **07 37 02.6 +1.7**
PMR pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 83.91 17 P **P** **07 38 02.1 -2.4**
comp=Z,0.6nm,0.8s,baz=322,slow=5.6,SNR=5.3
comp=Z,0.6nm,0.8s
YKA Yellowknife Ar 83.91 17 *i* P **P** **07 38 07.5 +3.0**
YKA pmax pmax
comp=Z,1.0nm,0.7s

*IDC **06** 07:28:54.3±0.5, 3°.18N×126°.82E, h0km, mb4.1/19, mbtmp4.1/19, MS3.3/4, Error ellipse: s-maj=33.2km s-min=12.0km az=75.0*
*DJA **06** 07:28:58.8±1.1, 3°.7N±7°×12°.7E±°, h14km±12km, M4.0/6, MLv4.0/6*
*NEIC **06** 07:29:01.4±1.3, 3°.13N±0°.09×126°.95E±0°.09, h51km±7km, mb4.4/21, Error ellipse: s-maj=15.5km s-min=11.0km az=223.0*

ISC 06 07:29:00.4±0.5, **3°.16N**±0°.06×**126°.91E**±0°.07, **h44**km, **n56,**
σ1§**16**/56, **mb4.3**/28, **MS3.5**/4, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.48**	**291**	P		**Pn**	**Pn**	**07 29 25.4**	**+0.9**
SGSI				S		**Sn**	**Sn**	**07 29 46.2**	**+3.6**
TNTI	**Ternate**	**2.41**	**169**	P		**Pn**	**Pn**	**07 29 38.0**	**+0.5**
TNTI	**Ternate**	**2.41**	**169**	P		**Pn**	**Pn**	**07 29 37.8**	**+0.4**
KMSI	**Cibinong**	**3.89**	**229**	P		**Pn**	**Pn**	**07 29 56.5**	**-1.2**
TOLI2	**Tolitoli**	**6.45**	**252**			**Pn**	**Pn**	**07 30 34.5**	**+1.6**
FAKI	**Fak Fak**	**8.06**	**138**	Pn		**Pn**	**Pn**	**07 30 54.1**	**-0.8**
SBUM	**Sibu**	**14.69**	**268**	Pn		**P**	**P**	**07 32 28.1**	**-2.7**
MTN	**Manton Dam**	**16.44**	**165**	Pn		**Pn**	**Pn**	**07 32 46.9**	**-1.2**
MTN				IAmb		IAmb	IAmb	07 33 02.8	
	comp=Z,27nm,1.4s								
KSM	**Kuching**	**16.67**	**265**			**P**	**P**	**07 32 52.5**	**-0.4**
KNRA	**Kununurra**	**18.80**	**174**			**P**	**P**	**07 33 15.9**	**-0.4**
KNRA				IAmb		IAmb	IAmb	07 33 17.7	
	comp=Z,12nm,0.8s								
TPUB	**Ta-pu**	**20.93**	**344**	P		**P**	**P**	**07 33 37.9**	**-1.5**
FITZ	**Fitzroy Crossi**	**21.16**	**183**			**P**	**P**	**07 33 41.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**21.16**	**183**	P		**P**	**P**	**07 33 41.8**	**-0.1**
	comp=Z,5.7nm,0.6s,baz=9.0,slow=8.5,SNR=29								
	comp=Z,5.7nm,0.6s								
NACB	**Ninganchiao**	**21.52**	**347**	P		**P**	**P**	**07 33 44.2**	**-1.5**
NACB				IAmb		IAmb	IAmb	07 34 16.1	
	comp=Z,41nm,1.2s								
WB0	**Warramunga Arr**	**23.94**	**162**			**P**	**P**	**07 34 09.5**	**-1.1**
WB0				IAmb		IAmb	IAmb	07 34 10.6	
	comp=Z,18nm,0.6s								
WRA	**Warramunga Arr**	**24.09**	**163**			**P**	**P**	**07 34 09.3**	**-2.6**
WRA	**Warramunga Arr**	**24.09**	**163**	P		**P**	**P**	**07 34 11.4**	**-0.6**
	comp=Z,4.9nm,0.6s,baz=340,slow=9.8,SNR=39								
WRA				PcP		**PcP**	**PcP**	**07 37 54.1**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=336,slow=2.4,SNR=2.6								
	comp=Z,4.9nm,0.6s								
MBWA	**Marble Bar**	**25.17**	**196**	P		**P**	**P**	**07 34 21.3**	**-0.5**
MBWA				IAmb		IAmb	IAmb	07 35 00.6	
	comp=Z,9.7nm,0.9s								
PSA00	**Pilbara Seismi**	**25.53**	**195**	P		**P**	**P**	**07 34 26.0**	**+0.9**
PSA00				IAmb		IAmb	IAmb	07 34 28.9	
	comp=Z,3.4nm,0.7s								
AS31	**Alice Springs**	**27.52**	**166**	P		**P**	**P**	**07 34 42.3**	**-0.7**
ASAR	**Alice Springs**	**27.52**	**166**	P		**P**	**P**	**07 34 42.1**	**-0.9**
ASAR	**Alice Springs**	**27.52**	**166**	P		**P**	**P**	**07 34 43.0**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=347,slow=12,SNR=13								
ASAR				PcP		**PcP**	**PcP**	**07 38 01.7**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=345,slow=2.5,SNR=5.3								
	comp=Z,1.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**31.32**	**301**	P		**P**	**P**	**07 35 15.6**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=112,slow=7.8,SNR=4.2								
CMAR				LR		LR	LR	07 48 44.3	
	comp=Z,14nm,20.2s,baz=105,slow=38								
	comp=Z,0.8nm,0.3s								
INKA	**Innaminka**	**33.49**	**157**	P		**P**	**P**	**07 35 35.8**	**+0.2**
INKA				IAmb		IAmb	IAmb	07 35 36.6	
	comp=Z,9.5nm,1.5s								
KSRS	**Korea Array**	**34.15**	**1**	P		**P**	**P**	**07 35 41.4**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=177,slow=9.1,SNR=5.9								
	comp=Z,1.6nm,0.7s								
BBOO	**Buckleboo**	**36.81**	**167**	P		**P**	**P**	**07 36 03.4**	**-0.8**
STKA	**Stephens Creek**	**37.53**	**159**	P		**P**	**P**	**07 36 10.2**	**-0.1**
STKA	**Stephens Creek**	**37.53**	**159**	P		**P**	**P**	**07 36 09.3**	**-1.1**
	comp=Z,8.2nm,0.7s,baz=338,slow=8.9,SNR=9.1								
	comp=Z,8.2nm,0.7s								
SHL	**Shillong**	**40.36**	**307**	P		**P**	**P**	**07 36 33.7**	**-0.7**
SHL				IAmb		IAmb	IAmb	07 36 36.7	
	comp=Z,5.8nm,0.6s								
USRK	**Ussuriysk Ar.**	**41.12**	**6**	P		**P**	**P**	**07 36 40.2**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=178,slow=5.0,SNR=4.2								
	comp=Z,2.4nm,0.8s								
ASAJ	**Asahikawa**	**43.09**	**17**	LR		LR	LR	07 52 59.1	
	comp=Z,37nm,20.4s,baz=206,slow=34								
EVN	**Everest**	**45.48**	**307**	P		**P**	**P**	**07 37 14.5**	**-1.9**
EVN				IAmb		IAmb	IAmb	07 37 34.1	
	comp=Z,11nm,1.3s								
SONM	**Songino Array**	**47.89**	**341**	P		**P**	**P**	**07 37 35.2**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=167,slow=7.1,SNR=2.1								
	comp=Z,0.8nm,0.5s								
PEA0B	**Petropavlovsk-**	**55.89**	**22**	P		**P**	**P**	**07 38 34.1**	**+0.5**
PETK	**Petropavlovsk-**	**55.89**	**22**	P		**P**	**P**	**07 38 35.0**	**+1.3**
PETK	**Petropavlovsk-**	**55.89**	**22**	P		**P**	**P**	**07 38 34.1**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=224,slow=6.9,SNR=3.6								
	comp=Z,2.1nm,0.7s								
MKAR	**Makanchi Array**	**58.12**	**325**	P		**P**	**P**	**07 38 49.0**	**-0.6**
MKAR	**Makanchi Array**	**58.12**	**325**	P		**P**	**P**	**07 38 49.3**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=125,slow=7.9,SNR=8.5								
	comp=Z,2.2nm,0.8s								
MAKZ	**Makanchi**	**58.31**	**325**	P		**P**	**P**	**07 38 51.2**	**+0.3**
MAKZ				IAmb		IAmb	IAmb	07 38 54.6	
	comp=Z,3.2nm,0.9s								
ZALV	**Zalesovo Beam**	**61.18**	**333**	P		**P**	**P**	**07 39 09.9**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=133,slow=8.1,SNR=3.6								
	comp=Z,0.6nm,0.4s								
KURBB	**Kurchatov Arra**	**62.31**	**327**	P		**P**	**P**	**07 39 16.5**	**-1.7**
	comp=Z,2.0nm,0.7s,baz=124,slow=6.5,SNR=17								
	comp=Z,2.0nm,0.7s								
KURK	**Kurchatov**	**62.32**	**328**	P		**P**	**P**	**07 39 18.1**	**0.0**
KURK				IAmb		IAmb	IAmb	07 39 20.2	
	comp=Z,3.4nm,0.7s								
BVAR	**Borovoye Array**	**67.89**	**327**	P		**P**	**P**	**07 39 54.5**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=127,slow=9.2,SNR=6.5								
	comp=Z,1.4nm,0.6s								
AB31	**Akbulak array**	**72.70**	**321**	P		**P**	**P**	**07 40 23.6**	**-0.2**
ABKAR	**Akbulak array**	**72.70**	**321**	P		**P**	**P**	**07 40 23.4**	**-0.5**
AKTO	**Aktyubinsk**	**74.22**	**322**	P		**P**	**P**	**07 40 32.5**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=98,slow=6.0,SNR=5.3								
	comp=Z,1.1nm,0.4s								
CHGN	**Chignik**	**78.90**	**33**	P		**P**	**P**	**07 41 00.4**	**+1.4**
VNDA	**Vanda**	**82.84**	**173**	P		**P**	**P**	**07 41 20.8**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=321,slow=8.1,SNR=11								
	comp=Z,1.4nm,0.7s								
MAW	**Mawson**	**83.28**	**200**	P		**P**	**P**	**07 41 24.2**	**+2.1**
	comp=Z,1.9nm,0.9s,baz=53,slow=5.1,SNR=4.3								
	comp=Z,1.9nm,0.9s								
ILAR	**Eielson Array**	**85.54**	**25**	P		**P**	**P**	**07 41 33.4**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=266,slow=7.3,SNR=2.2								
	comp=Z,0.2nm,0.6s								
SPITS	**Spitsbergen Ar**	**91.07**	**349**	LR		LR	LR	08 28 34.0	
	comp=Z,30nm,18.7s,baz=300,slow=39								
AKASG	**Malin Array Be**	**92.45**	**321**	P		**P**	**P**	**07 42 06.1**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=88,slow=3.5,SNR=1.8								
	comp=Z,1.2nm,0.8s								
QSPA	**South Pole Qui**	**93.07**	**180**	P		**P**	**P**	**07 42 10.5**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=342,slow=3.2,SNR=3.2								
	comp=Z,1.1nm,0.8s								
NOA	**NORSAR Array B**	**99.38**	**334**	LR		LR	LR	08 32 10.6	
	comp=Z,20nm,18.0s,baz=275,slow=38								
TXAR	**Lajitas Array**	**121.80**	**53**	PKP			**PKiKP**	**07 47 50.9**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=306,slow=2.7,SNR=2.4								
TORD	**Torodi Ar. Bea**	**123.27**	**288**	PKP			**PKPdf**	**07 47 53.5**	**0.0**
	comp=Z,1.0nm,0.7s,baz=68,slow=1.3,SNR=4.8								

*AEIC **06** 07:43:19.5±2.4, 51°.51N±0°.03×178°.70W±0°.03, h13km±1km, Error ellipse: s-maj=3.7km s-min=2.4km az=177.0*
NEIC 06 07:43:19.0±1.1, **51°.44N**±0°.05×**178°.75W**±0°.04, **h18**km±4km, **mb3.7**/8, **ML4.0**/8, **ML4.0**(AEIC), **Error ellipse: s-maj=7.0km s-min=3.4km az=174.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.12**	**339**				Pg	07 43 23.0	+0.1
GAKI							Sg	07 43 25.3	-0.2
GAEA	**Gareloi Array**	**0.34**	**360**				Pg	07 43 26.4	+0.1
GAEA							Sg	07 43 31.4	+0.2
GASW	**Gareloi Southw**	**0.34**	**349**				Pg	07 43 26.4	+0.1
GASW							Sg	07 43 31.2	-0.1
GANE	**Gareloi Northe**	**0.38**	**357**				Pg	07 43 26.9	0.0
GANE							Sg	07 43 32.0	-0.3
GANO	**Gareloi North**	**0.38**	**354**				Pg	07 43 26.8	-0.2
TASE	**Tanaga Southea**	**0.59**	**48**				Pg	07 43 30.8	0.0
TANO	**Tanaga North**	**0.61**	**39**				Pb	07 43 31.1	0.0
TAFL	**Tanaga Flats**	**0.61**	**59**				Pb	07 43 31.1	-0.1
TAFL							Pg	07 43 31.3	+0.1
TAFP	**Tanaga Falls P**	**0.66**	**46**				Pb	07 43 31.6	-0.4
TAPA	**Tanaga Point A**	**0.69**	**57**				Pb	07 43 32.4	-0.1
TAPA							Sg	07 43 42.1	+0.3
KIMD	**Kanaga Island**	**0.99**	**71**				Pb	07 43 37.2	-0.5
KIMD							Sb	07 43 50.1	-0.4
KIKV	**Kanaga Island**	**1.07**	**65**				Pb	07 43 38.6	-0.5
KIKV							Sb	07 43 52.9	+0.1
KIWB	**Kanaga Island**	**1.07**	**67**				Pb	07 43 38.7	-0.4
KICM	**Kanaga Island**	**1.08**	**63**				Pb	07 43 38.9	-0.3
KINC	**Kanaga Island**	**1.12**	**63**				Pn	07 43 39.4	-0.4
CERB	**Semis' Cerberu**	**1.12**	**296**				Pn	07 43 39.6	-0.3
CEPE	**Semis' Perret**	**1.13**	**298**				Pn	07 43 39.5	-0.4
CEAP	**Semis' Anvil P**	**1.19**	**299**				Pn	07 43 40.6	-0.1
CEAP							Sb	07 43 56.0	+0.1
CETU	**Semis' Tuman**	**1.22**	**296**				Pn	07 43 40.9	-0.2
AMKA	**Amchitka**	**1.23**	**268**				Pn	07 43 41.2	-0.1
AMKA							Sn	07 43 57.5	+0.2
ADK	**Adak**	**1.36**	**70**				Pn	07 43 42.9	-0.2
ADK				IAML				07 44 04.2	
	3μm,0.3s								
ADK				IAML				07 44 04.3	
	3μm,0.3s								
ADAG	**Mount Adagdak**	**1.44**	**67**				Pn	07 43 44.7	+0.5
ETKA	**Kagalaska Isla**	**1.52**	**73**				Pn	07 43 45.5	+0.2
ETKA							Sb	07 44 05.2	-0.3
ETKA							Sn	07 44 05.6	+1.1
GSCK	**Great Sitkin C**	**1.70**	**69**				Pn	07 43 48.5	+0.6
GSSP	**Great Sitkin S**	**1.72**	**67**				Pn	07 43 48.4	+0.3
GSTD	**Great Sitkin T**	**1.73**	**68**				Pn	07 43 48.9	+0.6
GSTD							Sb	07 44 10.9	-0.8
GSTD							Sg	07 44 12.5	-2.2
LSSE	**Little Sitkin**	**1.74**	**287**				Pb	07 43 49.9	-0.6
LSPA	**Little Sitkin**	**1.75**	**288**				Pb	07 43 49.8	-0.8
GSMY	**Great Sitkin M**	**1.78**	**69**				Pn	07 43 49.4	+0.5
LSNW	**Little Sitkin**	**1.78**	**288**				Pn	07 43 50.0	+1.0
GSTR	**Great Sitkin T**	**1.79**	**68**				Pn	07 43 49.2	+0.1
GSIG	**Igitkin Island**	**1.84**	**72**				Pn	07 43 50.5	+0.8
GSIG							Sb	07 44 13.8	-0.9
GSIG							Sn	07 44 14.2	+1.7
ATKA	**Atka Island**	**2.92**	**73**				Pn	07 44 04.2	-0.4
ATKA				IAML				07 44 54.6	
	comp=N,578nm,0.8s								
ATKA				IAML				07 44 54.9	
	comp=E,274nm,0.7s								
P08K	**Saint George I**	**7.48**	**43**				Pn	07 45 07.5	+0.3
SPIA	**Saint Paul Isl**	**7.59**	**38**	Pn			Pn	07 45 08.7	+0.1
UNV	**Unalaska Valle**	**7.83**	**67**	Pn			Pn	07 45 11.7	-0.1
LVA	**Lava Point**	**8.17**	**66**	Pn			Pn	07 45 17.3	+0.7
PETK	**Petropavlovsk-**	**14.50**	**286**	Pn			Pn	07 46 42.6	-0.6
OHAK	**Old Harbor**	**15.88**	**59**	Pn			Pn	07 46 59.8	-1.5
OHAK				IAmb		IAmb	IAmb	07 47 36.0	
	comp=Z,7.3nm,1.2s								
KDAK	**Kodiak Island**	**16.36**	**57**	Pn			Pn	07 47 05.5	-2.0
SKT	**Skwentna**	**18.13**	**44**	P			P	07 47 30.2	+0.3
KTH	**Kantishna Hill**	**19.05**	**40**	P			Pn	07 47 41.2	+0.4
KTH				IAmb		IAmb	IAmb	07 48 02.6	
	comp=Z,5.7nm,1.4s								
DHY	**Denali Highway**	**20.33**	**43**	P			P	07 47 54.3	+0.2
DOT	**Dot Lake**	**21.93**	**43**	P			P	07 48 11.9	+0.8
DOT				IAmb		IAmb	IAmb	07 48 12.9	
	comp=Z,3.0nm,1.0s								
SCRK	**Sand Creek**	**22.06**	**42**	P			P	07 48 12.0	-0.7
SCRK				IAmb		IAmb	IAmb	07 48 45.1	
	comp=Z,4.0nm,1.4s								
USA0B	**Ussuriysk Arra**	**33.32**	**277**	P			P	07 49 54.8	-0.8

*IDC **06** 07:43:46.9±1.0, 12°.31N×47°.42E, h0km, mb3.9/14, mbtmp3.9/15, ML2.3/1, MS3.4/13, Error ellipse: s-maj=24.5km s-min=18.4km az=167.0*
*NEIC **06** 07:43:49.4±1.7, 12°.3N±0°.1×47°.28E±0°.04, h10km±1km, mb4.5/16, Error ellipse: s-maj=21.4km s-min=4.8km az=349.0*

ISC 06 07:43:48.4±0.6, **12°.29N**±0°.10×**47°.32E**±0°.09, **h10**km, **n44,**
σ1§**15**/36, **mb4.2**/19, **MS3.4**/12, **Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**4.44**	**261**				**Pn**	**07 44 55.2**	**-0.7**
ATD	**Arta Tunnel**	**4.44**	**261**	Pn			**Pn**	**07 44 56.8**	**+0.8**
	0.1nm,0.3s,baz=68,slow=19,SNR=5.3								
ATD				LR		LR	LR	07 46 16.6	
	comp=Z,7.8nm,19.7s,baz=105,slow=33								
LODK	**Lodwar**	**14.75**	**234**	Pn			**Pn**	**07 47 14.5**	**-2.9**
UOSS	**Minazif**	**15.14**	**32**	Pn			**Pn**	**07 47 22.4**	**-0.1**
KMBO	**Kilima Mbogo**	**16.66**	**218**	Pn			**Pn**	**07 47 44.2**	**+1.7**
	1.1nm,0.3s,baz=40,slow=15,SNR=4.0								
KMBO				LR		LR	LR	07 53 46.2	
	comp=Z,105nm,19.1s,baz=96,slow=36								
EIL	**Elat**	**20.76**	**328**	P			**P**	**07 48 30.7**	**+1.1**
	4.1nm,1.0s,baz=158,slow=11,SNR=2.8								
EIL				LR		LR	LR	07 56 11.9	
	comp=Z,114nm,18.0s,baz=121,slow=36								
	4.1nm,1.0s								
GHAJ	**Ghor Haditha**	**21.81**	**332**	P			**P**	**07 48 43.3**	**+2.5**
ASF	**Jabal al Asfar**	**21.99**	**336**	P			**P**	**07 48 43.0**	**+0.1**
	2.1nm,0.8s,baz=166,slow=4.2,SNR=5.6								
	2.1nm,0.8s								
MARD	**Mardin**	**25.60**	**348**	P			**P**	**07 49 17.8**	**-0.3**
MARD				IAmb		IAmb	IAmb	07

comp=Z,1.1nm,0.7s,baz=227,slow=7.8,SNR=8.3
comp=Z,1.1nm,0.7s

KIRV	**Kirov**	**46.23**	**2**	LR	LR		08 15 39.9	
	comp=Z,25nm,20.3s,baz=161,slow=41							
CMAR	**Chiang Mai Arr**	**50.02**	**76**	P	**P**		**07 52 43.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**50.02**	**76**	P	**P**		**07 52 43.5**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=285,slow=7.9,SNR=5.6							
CMAR				LR	LR		08 12 52.1	
	comp=Z,6.8nm,19.2s,baz=280,slow=35							
	comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**51.03**	**28**	P	**P**		**07 52 49.7**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=245,slow=6.3,SNR=3.1							
	comp=Z,0.6nm,0.3s							
FINES	**FINESS Array B**	**51.45**	**347**	P	**P**		**07 52 53.3**	**-0.3**
	comp=Z,3.0nm,0.9s,baz=163,slow=14,SNR=1.9							
	comp=Z,3.0nm,0.9s							
ARCES	**ARCESS Array B**	**58.86**	**351**	P	**P**		**07 53 45.7**	**-1.3**
	comp=Z,2.6nm,0.9s,baz=154,slow=7.2,SNR=4.2							
	comp=Z,2.6nm,0.9s							
SONM	**Songino Array**	**60.35**	**42**	P	**P**		**07 53 56.8**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=258,slow=6.8,SNR=5.4							
	comp=Z,2.1nm,0.7s							
TGY	**Tagaytay City**	**71.42**	**79**	LR	LR		08 26 40.7	
	comp=Z,95nm,18.1s,baz=5.5,slow=36							
TIXI	**Tiksi**	**75.75**	**19**	LR	LR		08 34 25.8	
	comp=Z,26nm,19.3s,baz=30,slow=40							
MJAR	**Matsushiro Arr**	**83.50**	**54**	LR	LR		08 35 34.8	
	comp=Z,24nm,18.6s,baz=200,slow=37							
SNAA	**Sanae**	**90.14**	**194**	P	**P**		**07 56 50.8**	**+2.3**
SNAA				IAmb	IAmb		07 57 23.0	
	comp=Z,4.7nm,1.5s							
WRA	**Warramunga Arr**	**91.37**	**110**	P	**P**		**07 56 54.5**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=296,slow=3.4,SNR=8.3							
	comp=Z,0.8nm,0.9s							

*ASRS **06** 07:45:26.0±0.4,53°.75N×88°.20E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **06** 07:45:28.7±3.1,53°.82N×88°.22E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=24.6km s-min=16.7km az=56.0*
ISC 06 07:45:31.1±4.4, 53°.8N±0°.2×88°.0E±0°.2, h0km, n5, σ1§37/6, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**276**	I	I		07 58 35.0	
	baz=92,slow=321,SNR=14							
ZALV	**Zalesovo Beam**	**1.87**	**276**	Pg		**Pn**	**07 46 04.8**	**+0.5**
	2.0nm,0.3s,baz=92,slow=16,SNR=26							
ZALV				Lg		Lg	07 46 32.3	
	4.1nm,0.3s,baz=90,slow=25,SNR=24							
KURBB	**Kurchatov Arra**	**6.61**	**245**	Pn		**Pn**	**07 47 09.8**	**+0.5**
	0.2nm,0.3s,baz=62,slow=14,SNR=7.8							
KURBB				Sn		**Sn**	**07 48 26.8**	**+1.5**
	baz=63,slow=28,SNR=4.5							
KURBB				Lg		Lg	07 49 02.9	
	baz=60,slow=31,SNR=7.1							
	0.9nm,0.4s							
MKAR	**Makanchi Array**	**7.88**	**210**	Pn		**Pn**	**07 47 27.1**	**+0.1**
	0.2nm,0.3s,baz=23,slow=13,SNR=5.2							
MKAR				Sn		**Sn**	**07 48 56.3**	**-0.5**
	0.2nm,0.3s,baz=28,slow=31,SNR=6.0							
MKAR				Lg		Lg	07 49 39.9	
	0.1nm,0.3s,baz=28,slow=31,SNR=5.2							
	0.3nm,0.4s							
BVAR	**Borovoye Array**	**10.52**	**273**	Sn		**Sn**	**07 49 59.9**	**-1.7**
	baz=78,slow=27,SNR=3.4							

*IDC **06** 07:46:30.8±2.1,7°.85S×119°.07E, h0km, mb3.5/2, mbtmp3.5/5, ML3.4/3, Error ellipse: s-maj=72.1km s-min=23.0km az=65.0*
*DJA **06** 07:46:31.8±0.3,8°.S±3°×11°.9E±°, h10km, M3.8/11, MLv3.8/11*
ISC 06 07:46:31.2±0.9, 7°.76S±0°.05×118°.97E±0°.05, h10km, n14, σ1§48/19, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PLAI	**Plampang**	**1.59**	**228**	P		**Pn**	**07 47 00.0**	**+0.5**
PLAI				S		**Sn**	**07 47 19.3**	**-0.8**
WBSI	**Waikabubak, Su**	**1.92**	**168**	P		**Pn**	**07 47 05.1**	**+1.1**
WBSI				S		**Sn**	**07 47 26.8**	**-1.4**
BSSI	**Bau Bau, Buton**	**2.20**	**43**	P		**Pn**	**07 47 08.6**	**+0.7**
BSSI				S		**Sn**	**07 47 33.7**	**-1.5**
TWSI	**Taliwang, Sumb**	**2.29**	**245**	P		**Pn**	**07 47 09.6**	**+0.5**
TWSI				S		**Sn**	**07 47 35.8**	**-1.5**
BKSI	**Bulukumba**	**2.68**	**25**	P		**Pn**	**07 47 15.3**	**+0.9**
KAPI	**Kappang**	**2.83**	**16**	Pn		**Pn**	**07 47 18.4**	**+1.8**
	4.3nm,0.3s,baz=186,slow=9.2,SNR=7.6							
KAPI				Sn		**Sn**	**07 47 47.3**	**-3.5**
	9.2nm,0.3s,baz=190,slow=19,SNR=6.0							
	17nm,0.2s							
EDFI	**Ende, Flores**	**2.86**	**110**	P		**Pn**	**07 47 18.2**	**+1.1**
MMRI	**Maumere**	**3.35**	**105**	P		**Pn**	**07 47 24.8**	**+1.2**
SRBI	**Singaraja**	**3.74**	**265**	P		**Pn**	**07 47 29.7**	**+0.7**
JAGI	**Jajag, Banyuwa**	**4.83**	**261**	P		**Pn**	**07 47 44.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**12.15**	**148**	Pn		**Pn**	**07 49 23.9**	**-0.7**
	0.1nm,0.3s,baz=333,slow=11,SNR=1.7							
FITZ				Sn		Sn	07 51 31.9	-8.4
	0.3nm,0.3s,baz=319,slow=11,SNR=8.4							
	1.3nm,0.9s							
WRA	**Warramunga Arr**	**19.19**	**131**	P		**P**	**07 50 54.2**	**-1.2**
	0.3nm,0.3s,baz=306,slow=12,SNR=12							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**21.34**	**140**	P		**P**	**07 51 18.7**	**0.0**
	1.7nm,0.5s,baz=315,slow=10.0,SNR=24							
	1.7nm,0.5s							
MKAR	**Makanchi Array**	**63.35**	**333**	P		**P**	**07 57 02.5**	**+1.8**
	0.1nm,0.3s,baz=122,slow=5.4,SNR=1.7							
	0.1nm,0.3s							

*SJA **06** 08:21:54.3±1.7,29°.70S×71°.92W, h53km, ML4.0, MW3.6*
*NEIC **06** 08:21:58.0±1.2,29°.73S±0°.03×71°.71W±0°.02, h34km±7km, mb4.1/7, ML4.1(GUC), Error ellipse: s-maj=4.5km s-min=2.8km az=196.0*
*GUC **06** 08:21:58.4±0.7,29°.74S×71°.51W, h69km±2km, ML4.1*
ISC 06 08:21:58.0±0.8, 29°.73S±0°.03×71°.79W±0°.05, h50km, n95, σ1§34/124, mb4.2/4, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO05	**La Serena**	**0.51**	**112**			**Pn**	**08 22 09.1**	**-0.3**
CO05	**La Serena**	**0.51**	**112**	⇓*i*	*i*	**Pn**	**08 22 09.3**	**-0.1**
CO05				*i*	S	**Sn**	**08 22 16.7**	**-0.9**
CO05					IAML		08 22 17.6	
	comp=E,31μm,0.2s							
CO06	**Fray Jorge**	**0.95**	**172**			**Pn**	**08 22 15.0**	**-0.1**
CO06					Sn	**Sn**	**08 22 27.6**	**-0.1**
CO06	**Fray Jorge**	**0.95**	**172**	⇑*i*	*i*P	**Pn**	**08 22 15.3**	**+0.2**
CO06				*i*	S	**Sn**	**08 22 28.0**	**+0.3**
GO04	**Tololo Observa**	**0.96**	**118**			**Pn**	**08 22 14.2**	**-1.3**
GO04					Sn	**Sn**	**08 22 25.2**	**-3.1**
GO04	**Tololo Observa**	**0.96**	**118**	*e*P	*e*P	**Pn**	**08 22 14.2**	**-1.3**
GO04				*i*	S	**Sn**	**08 22 25.9**	**-2.4**
GO04	**Tololo Observa**	**0.96**	**118**	*i*	P	**Pn**	**08 22 13.5**	**-2.0**
GO04				⇓*e*	S	**Sn**	**08 22 26.6**	**-1.8**
GO04					IAML		08 22 26.8	
	comp=Z,17μm,0.2s							
LCO	**Las Campanas**	**1.19**	**53**			**Pn**	**08 22 17.8**	**-0.7**
LCO					Sn	**Sn**	**08 22 31.5**	**-2.3**
LCO	**Las Campanas**	**1.19**	**53**	*e*P		**Pn**	**08 22 17.3**	**-1.2**
LCO				*i*	S	**Sn**	**08 22 31.4**	**-2.3**
LCO	**Las Campanas**	**1.19**	**53**	*i*	P	**Pn**	**08 22 17.9**	**-0.7**
LCO				*e*	S	**Sn**	**08 22 32.0**	**-1.8**
LCO					IAML		08 22 33.4	
	comp=Z,5μm,0.2s							
CO03	**El Pedregal**	**1.46**	**140**			**Pn**	**08 22 20.9**	**-1.1**
CO03					Sn	**Sn**	**08 22 37.1**	**-3.0**
CO03	**El Pedregal**	**1.46**	**140**	⇑*i*	*i*P	**Pn**	**08 22 21.2**	**-0.9**
CO03				*i*	S	**Sn**	**08 22 37.8**	**-2.3**
CO03					IAML		08 22 39.7	
	comp=E,5μm,0.3s							
CO03	**El Pedregal**	**1.46**	**140**	*i*	P	**Pn**	**08 22 20.3**	**-1.8**
CO03					IAML		08 22 40.6	
	comp=Z,2μm,0.3s							
CO01	**Juntas del Tor**	**1.49**	**100**			**Pn**	**08 22 21.7**	**-1.0**
CO01					Sn	**Sn**	**08 22 38.3**	**-2.8**
CO01	**Juntas del Tor**	**1.49**	**100**	⇓*i*	*i*P	**Pn**	**08 22 21.9**	**-0.8**
CO01				*i*	S	**Sn**	**08 22 38.8**	**-2.3**
CO01	**Juntas del Tor**	**1.49**	**100**	*i*	P	**Pn**	**08 22 21.1**	**-1.5**
CO01				⇓*e*	S	**Sn**	**08 22 39.0**	**-2.2**
CO01					IAML		08 22 39.6	
	comp=Z,4μm,0.1s							
CO02	**Combarbal**	**1.62**	**155**			**Pn**	**08 22 23.8**	**-0.5**
CO02					Sn	**Sn**	**08 22 42.4**	**-1.7**
CO02	**Combarbal**	**1.62**	**155**	⇑*i*	*i*P	**Pn**	**08 22 24.1**	**-0.2**
CO02				*i*	S	**Sn**	**08 22 42.8**	**-1.3**
CO02	**Combarbal**	**1.62**	**155**	*i*	P	**Pn**	**08 22 23.2**	**-1.1**
CO02					IAML		08 22 46.3	
	comp=Z,2μm,0.4s							
AC04	**Llanos de Chal**	**1.64**	**23**			**Pn**	**08 22 24.2**	**-0.3**
AC04					Sn	**Sn**	**08 22 42.8**	**-1.6**
AC04	**Llanos de Chal**	**1.64**	**23**	*e*P		**Pn**	**08 22 24.5**	**0.0**
AC04				*i*	S	**Sn**	**08 22 43.3**	**-1.2**
AC04					IAML		08 22 46.8	
	comp=E,2μm,0.2s							
AC04	**Llanos de Chal**	**1.64**	**23**	*i*	P	**Pn**	**08 22 23.8**	**-0.7**
AC04				*e*	S	**Sn**	**08 22 43.5**	**-1.0**
AC04					IAML		08 22 45.7	
	comp=Z,2μm,0.2s							
AROD	**Rodeo**	**2.06**	**103**	*i*	P	**Pn**	**08 22 31.0**	**+0.5**
AROD				*e*	S	**Sn**	**08 22 53.9**	**-1.1**
ACDV	**Cuesta del Vie**	**2.36**	**101**	*i*	P	**Pn**	**08 22 35.6**	**+1.2**
ACDV				*e*	S	**Sn**	**08 23 04.1**	**+1.8**
ACDV					IAML		08 23 05.9	
	comp=Z,581nm,0.2s							
CO04	**Los Peladeros**	**2.41**	**163**	*e*P		**Pn**	**08 22 35.6**	**+0.3**
CO04				*i*	S	**Sn**	**08 23 02.4**	**-1.3**
CO04					IAML		08 23 06.3	
	comp=N,2μm,0.3s							
ACCO	**Cerro Coronel**	**2.51**	**111**	*i*	P	**Pn**	**08 22 38.1**	**+1.5**
GO03	**Copiapo**	**2.53**	**33**			**Pn**	**08 22 36.2**	**-0.5**
GO03	**Copiapo**	**2.53**	**33**	*i*	P	**Pn**	**08 22 35.8**	**-0.9**
GO03					IAML		08 23 16.6	
	comp=Z,361nm,0.2s							
AC06	**Mina Casimiro**	**2.68**	**28**			**Pn**	**08 22 38.1**	**-0.6**
AC06	**Mina Casimiro**	**2.68**	**28**	*e*P		**Pn**	**08 22 38.3**	**-0.4**
AC06				*i*	S	**Sn**	**08 23 08.2**	**-1.8**
AC06					IAML		08 23 09.6	
	comp=N,521nm,0.2s							
VA06	**Catapilco**	**2.85**	**172**			**Pn**	**08 22 40.6**	**-0.4**
VA06	**Catapilco**	**2.85**	**172**	⇑*i*	*i*P	**Pn**	**08 22 40.9**	**-0.2**
VA06				*i*	S	**Sn**	**08 23 11.7**	**-2.5**
VA06					IAML		08 23 27.5	
	comp=E,881nm,0.3s							
AGUA	**GUANDACOL**	**2.88**	**86**	*i*	P	**Pn**	**08 22 43.6**	**+2.0**
AGUA					IAML		08 23 26.3	
	comp=Z,398nm,0.6s							
RTLS	**Leoncito**	**2.98**	**135**	*i*	P	**Pn**	**08 22 44.6**	**+1.6**
RTLS					IAML		08 23 24.5	
	comp=Z,398nm,0.3s							
VA03	**San Esteban**	**3.21**	**161**			**Pn**	**08 22 46.2**	**+0.2**
VA03	**San Esteban**	**3.21**	**161**	*e*P		**Pn**	**08 22 46.0**	**0.0**
VA03				*i*	S	**Sn**	**08 23 21.4**	**-1.6**
VA03					IAML		08 23 26.2	
	comp=E,957nm,0.2s							
VA03	**San Esteban**	**3.21**	**161**	*i*	P	**Pn**	**08 22 45.9**	**0.0**
VA03					IAML		08 23 27.5	
	comp=Z,313nm,0.1s							
RTLL	**Cerro Villicun**	**3.27**	**120**	*i*	P	**Pn**	**08 22 47.0**	**+0.2**
RTLL					IAML		08 23 44.2	
	comp=Z,354nm,0.4s							
VCA	**Vinchina**	**3.28**	**73**	*i*	P	**Pn**	**08 22 49.1**	**+2.0**
VCA					IAML		08 23 32.2	
	comp=Z,299nm,0.3s							
VA01	**Torpederas**	**3.29**	**178**			**Pn**	**08 22 46.0**	**-1.0**
VA01	**Torpederas**	**3.29**	**178**	*e*P		**Pn**	**08 22 46.3**	**-0.6**
ROCH	**El Roble**	**3.30**	**169**	*e*P		**Pn**	**08 22 47.3**	**-0.1**
ROCH				*i*	S	**Sn**	**08 23 24.5**	**-1.0**
PEL	**Peldehue**	**3.53**	**165**			**Pn**	**08 22 50.4**	**-0.1**
MT02	**Curacav**	**3.56**	**171**			**Pn**	**08 22 49.8**	**-1.0**
MT02	**Curacav**	**3.56**	**171**	⇑*i*	*i*P	**Pn**	**08 22 50.1**	**-0.7**
MT02				*i*	S	**Sn**	**08 23 28.7**	**-2.9**
MT02					IAML		08 23 47.6	
	comp=E,195nm,0.3s							
MT02	**Curacav**	**3.56**	**171**	*i*	P	**Pn**	**08 22 49.4**	**-1.4**
MT02					IAML		08 23 48.6	
	comp=Z,146nm,0.5s							
CFA	**Coronel Fontan**	**3.58**	**122**	*i*	P	**Pn**	**08 22 51.0**	**-0.2**
CFA					IAML		08 23 39.2	
	comp=Z,113nm,0.5s							
AC02	**Maricunga**	**3.72**	**40**			**Pn**	**08 22 52.8**	**-0.6**
AC02	**Maricunga**	**3.72**	**40**	*i*	P	**Pn**	**08 22 52.8**	**-0.6**
AC02					IAML		08 23 48.1	
	comp=Z,442nm,1.5s							
AC01	**Pan de Azucar**	**3.72**	**17**			**Pn**	**08 22 51.5**	**-1.5**
AC01	**Pan de Azucar**	**3.72**	**17**	*i*	P	**Pn**	**08 22 50.9**	**-2.1**
AC01					IAML		08 23 53.5	
	comp=Z,118nm,0.6s							
MT05	**Renca**	**3.76**	**166**			**Pn**	**08 22 53.5**	**-0.1**
MT05	**Renca**	**3.76**	**166**	*i*	P	**Pn**	**08 22 53.0**	**-0.5**
MT05					IAML		08 23 43.9	
	comp=Z,194nm,0.5s							
ASAL	**Salagasta**	**3.81**	**139**	*i*	P	**Pn**	**08 22 56.4**	**+2.0**
MT16	**CCHEN**	**3.84**	**164**			**Pn**	**08 22 54.6**	**-0.1**
AVFE	**Valle Fertil**	**3.86**	**105**	*i*	P	**Pn**	**08 22 55.2**	**+0.2**
AVFE					IAML		08 24 03.7	
	comp=Z,130nm,0.4s							
MT03	**Universidad Ad**	**3.91**	**164**			**Pn**	**08 22 55.6**	**0.0**
MT03	**Universidad Ad**	**3.91**	**164**	*i*	P	**Pn**	**08 22 55.7**	**0.0**
MT03					IAML		08 23 44.5	
	comp=Z,230nm,0.1s							
MT04	**Ro Olivares**	**3.92**	**159**	*i*	P	**Pn**	**08 22 56.8**	**+0.8**
MT04					IAML		08 23 46.5	
	comp=Z,190nm,0.7s							
ARCO	**CERRO ARCO**	**3.95**	**142**	*i*	P	**Pn**	**08 22 59.0**	**+2.7**
ARCO					IAML		08 24 05.9	
	comp=Z,81nm,0.7s							
MT08	**Bocatoma Ro**	**4.00**	**158**			**Pn**	**08 22 58.0**	**+0.9**
MT08	**Bocatoma Ro**	**4.00**	**158**	*i*	P	**Pn**	**08 22 58.5**	**+1.5**
MT08					IAML		08 23 59.5	
	comp=Z,111nm,0.8s							
MT09	**Talagante**	**4.09**	**171**			**Pn**	**08 22 57.7**	**-0.5**
MT01	**Popeta**	**4.15**	**174**			**Pn**	**08 22 58.0**	**-0.9**
MT01	**Popeta**	**4.15**	**174**	*i*	P	**Pn**	**08 22 57.7**	**-1.1**
MT01					IAML		08 23 52.5	
	comp=Z,92nm,0.3s							
AAGR	**Agrelo**	**4.19**	**144**	*i*	P	**Pn**	**08 23 02.2**	**+2.7**
AAGR					IAML		08 24 15.4	
	comp=Z,100nm,0.7s							
MT13	**San Alfonso**	**4.20**	**163**			**Pn**	**08 23 00.1**	**+0.5**
MT13	**San Alfonso**	**4.20**	**163**	*i*	P	**Pn**	**08 23 00.3**	**+0.6**
MT13					IAML		08 23 52.3	
	comp=Z,111nm,0.3s							
ACLC	**CERRO LA CRUZ**	**4.22**	**87**	*i*	P	**Pn**	**08 23 00.2**	**+0.1**
ACLC					IAML		08 24 04.6	
	comp=Z,127nm,0.3s							
LMEL	**Las Melosas**	**4.32**	**162**			**Pn**	**08 23 02.2**	**+0.8**
LMEL	**Las Melosas**	**4.32**	**162**	*i*	P	**Pn**	**08 23 01.7**	**+0.4**
LMEL					IAML		08 23 53.8	
	comp=Z,147nm,0.1s							
BO04	**La Punta**	**4.36**	**167**			**Pn**	**08 23 01.6**	**-0.2**
APLL	**PUNTA DE LOS L**	**4.61**	**100**	*i*	P	**Pn**	**08 23 05.0**	**-0.2**
ACHE	**Chepes**	**4.65**	**109**	*i*	P	**Pn**	**08 23 05.8**	**0.0**
AVIZ	**Vizcacheras**	**4.66**	**144**	*i*	P	**Pn**	**08 23 08.1**	**+2.1**
BO01	**Tunca**	**4.69**	**173**			**Pn**	**08 23 05.3**	**-0.9**
BO01	**Tunca**	**4.69**	**173**	*i*	P	**Pn**	**08 23 05.0**	**-1.2**
BO01					IAML		08 24 05.2	
	comp=Z,40nm,0.5s							
ACAN	**Cantantal**	**4.69**	**124**	*i*	P	**Pn**	**08 23 06.0**	**-0.4**
ACAN				*i*	P	**Pn**	**08 23 06.0**	**-0.4**
ACAN					IAML		08 24 24.5	
	comp=Z,358nm,0.5s							
ACAN					IAML		08 24 24.5	
	comp=Z,358nm,0.5s							
GO02	**Mina Guanaco**	**4.95**	**24**			**Pn**	**08 23 08.3**	**-1.8**
BO02	**Sierra Bellavi**	**5.12**	**171**			**Pn**	**08 23 11.2**	**-1.0**
BO02	**Sierra Bellavi**	**5.12**	**171**	*i*	P	**Pn**	**08 23 11.5**	**-0.8**
BO02				*i*	P	**Pn**	**08 23 11.5**	**-0.8**
BO02					IAML		08 24 13.1	
	comp=Z,124nm,0.2s							
GO05	**Hualane**	**5.27**	**181**	*i*	P	**Pn**	**08 23 11.9**	**-2.3**
GO05					IAML		08 24 18.5	
	comp=Z,24nm,0.4s							
ML02	**Panimavida**	**6.02**	**177**			**Pn**	**08 23 23.5**	**-1.1**
BI02	**San Fabin de**	**6.93**	**177**			**Pn**	**08 23 36.0**	**-1.0**
VA04	**Juan Fernndez**	**7.16**	**235**			**Pn**	**08 23 40.1**	**0.0**
PB09	**IPOC Station P**	**8.23**	**17**	Pn		**Pn**	**08 23 52.8**	**-2.2**
PB02	**IPOC Station P**	**8.55**	**12**	Pn		**Pn**	**08 23 59.0**	**-0.3**
TRQA	**Tornquist**	**11.63**	**138**	Pn		**Pn**	**08 24 38.8**	**-2.5**
COYC	**Coyhaique**	**15.82**	**181**	Pn		**Pn**	**08 25 37.2**	**-0.1**
NNA	**Nana**	**18.27**	**344**			**P**	**08 26 07.2**	**-0.5**
NNA					IAmb	IAmb	08 26 29.4	
	comp=Z,12nm,1.1s							
CZSB	**Cruzeiro do Su**	**21.90**	**358**	P		**P**	**08 26 48.1**	**+1.0**
CZSB					IAmb	IAmb	08 27 27.8	
	comp=Z,3.4nm,0.5s							
TBTG	**Tabatinga, AM**	**25.47**	**4**	P		**P**	**08 27 21.9**	**+0.4**
TBTG					IAmb	IAmb	08 27 42.9	
	comp=Z,7.8nm,0.8s							
LCR2	**La Lucha 2**	**40.97**	**341**	P		**P**	**08 29 37.0**	**+0.7**
LCR2					IAmb	IAmb	08 29 38.9	
	comp=Z,8.3nm,1.2s							
SNAA	**Sanae**	**55.47**	**159**	P		**P**	**08 31 28.7**	**+1.4**
SNAA					IAmb	IAmb	08 31 46.4	
	comp=Z,1.0nm,1.0s							
DBIC	**Dimbokro**	**73.64**	**72**	P		**P**	**08 33 28.4**	**+1.7**

NOU 06 08:23:53.4, 41°.37S×178°.00E, h9km, MLv4.1/9, Off E. Coast of N. Island, N.Z., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BFZ	**Birch Farm**	**1.49**	**297**	P		Pn	08 24 19.1	-1.3
BFZ	**Birch Farm**	**1.49**	**297**	S		Sb	08 24 40.5	+0.1
BKZ	**Black Stump Fm**	**2.49**	**332**	P		Pn	08 24 33.7	-0.4
BKZ	**Black Stump Fm**	**2.49**	**332**	P		Sn	08 25 05.7	+1.1
URZ	**Urewera**	**3.18**	**347**	P		Pn	08 24 42.9	-0.7
URZ	**Urewera**	**3.18**	**347**	S		Sn	08 25 22.7	+1.1
KHEZ	**Kahui Hut**	**3.69**	**303**	P		Pn	08 24 52.1	+1.5
KHEZ	**Kahui Hut**	**3.69**	**303**	S		Sn	08 25 34.0	-0.2
HIZ	**Hauiti**	**3.74**	**319**	P		Pn	08 24 51.7	+0.4

*KRNET **06** 08:33:05.6±0.1,39°.66N×75°.16E, mb3.1*
ISC 06 08:33:09.2±3.6, 39°.5N±0°.2×75°.07E±0°.08, h40km, n5, σ1§61/10, 8C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JNKS	**Jany-Kuch**	**1.59**	**16**	⇑*i*	*i*P	**Pn**	**08 33 32.9**	**-2.2**
JNKS				⇑*i*	S	**Sn**	**08 33 53.1**	**-1.4**
NRN	**Naryn**	**2.03**	**20**	⇑*i*	*i*P	**Pn**	**08 33 40.7**	**-0.5**
NRN				⇑*i*	S	**Sn**	**08 34 06.2**	**+0.8**
UCH	**Uchtor**	**2.73**	**351**	⇑*i*	*i*P	**Pn**	**08 33 51.5**	**+0.7**
UCH				⇑*i*	S	**Sn**	**08 34 25.0**	**+2.2**
TARG	**Taragay, Kyrgy**	**3.03**	**43**	⇓*i*	*i*P	**Pn**	**08 33 55.1**	**+0.2**
TARG				⇓*i*	S	**Sn**	**08 34 31.5**	**+1.3**
KK31	**Karatay Array**	**4.95**	**318**	Pn		**Pn**	**08 34 21.6**	**+0.7**
	0.2nm,0.2s,baz=128,slow=13,SNR=7.5							
KK31				⇑Sn		**Sn**	**08 35 15.1**	**-1.8**
	0.7nm,0.5s,baz=136,slow=26							
KK31				⇑Lg		Lg	08 35 35.1	
	1.8nm,0.7s,baz=124,slow=31							

IDC 06 08:40:00.5±2.9, 23°.56S×179°.12W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=261.2km s-min=34.7km az=163.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ASAR	**Alice Springs**	**42.89**	**260**	P		P	08 48 01.4	+0.4
	1.5nm,0.5s,baz=100,slow=7.6,SNR=34							
	1.5nm,0.5s							
WRA	**Warramunga Arr**	**43.24**	**265**	P		P	08 48 03.1	-0.7
	2.1nm,0.4s,baz=103,slow=8.0,SNR=69							
	2.1nm,0.4s							
TXAR	**Lajitas Array**	**89.57**	**58**	P		P	08 53 00.3	0.0
	0.2nm,0.7s,baz=205,slow=5.5,SNR=4.1							
	0.2nm,0.7s							

*ASRS **06** 08:40:29.0±1.0,54°.32N×86°.86E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 06 08:40:27.5±3.0, 54°.50N×87°.24E, h0km, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=24.8km s-min=19.2km az=37.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.52**	**250**	I	I		08 48 30.0	
	baz=71,slow=314,SNR=3.4							
ZALV	**Zalesovo Beam**	**1.52**	**250**	Pg		Pn	08 40 53.3	-2.7
	2.1nm,0.3s,baz=69,slow=18,SNR=20							
ZALV				Lg		Lg	08 41 16.2	
	4.8nm,0.3s,baz=112,slow=43,SNR=7.7							
KURBB	**Kurchatov Arra**	**6.58**	**237**	Pn		Pn	08 42 05.6	+0.3
	0.2nm,0.3s,baz=52,slow=13,SNR=9

KRMR				S	Sn	08 49 56.7	+0.1	
KRMR	**Karymshinskiy**	**1.05**	**272**	*e*P	Pn	08 49 43.4	+0.4	
KRMR				*e*S	Sn	08 49 56.6	0.0	
MTVR	**Mutnovka**	**1.07**	**253**	PN	Pn	08 49 44.1	+0.6	
MTVR	**Mutnovka**	**1.07**	**253**	*e*P	Pn	08 49 44.2	+0.6	
MTVR				*e*S	Sn	08 49 58.2	+0.9	
GRL	**Gorelyy**	**1.12**	**258**	PN	Pn	08 49 45.0	+0.9	
GRL	**Gorelyy**	**1.12**	**258**	*e*P	Pn	08 49 45.1	+1.0	
GRL				*e*S	Sn	08 49 59.6	+1.2	
KII	**Karymskiy**	**1.26**	**349**	PN	Pn	08 49 46.5	+0.5	
KII				S	Sn	08 50 02.1	+0.3	
KII	**Karymskiy**	**1.26**	**349**	*e*P	Pn	08 49 46.7	+0.7	
KII				*e*S	Sn	08 50 01.8	0.0	
ASAK	**Asacha**	**1.27**	**251**	PN	Pn	08 49 47.3	+1.2	
ASAK				S	Sn	08 50 04.0	+2.0	
ASAK	**Asacha**	**1.27**	**251**	*e*P	Pn	08 49 47.3	+1.2	
ASAK				*e*S	Sn	08 50 03.8	+1.7	
PEA0B	**Petropavlovsk-**	**1.34**	**284**	⇓*i*PN	Pn	08 49 47.7	+0.6	
PETK	**Petropavlovsk-**	**1.34**	**284**	P	Pn	08 49 47.2	+0.1	
	comp=N,498nm,0.5s,baz=95,slow=19,SNR=1163							
PETK				LR	LR	08 50 03.8		
	comp=N,49nm,18.4s,baz=118,slow=33							
PETK				S	Sn	08 50 04.5	+0.7	
	comp=N,833nm,0.6s,baz=160,slow=4.7,SNR=10							
GNL	**Ganaly**	**1.46**	**309**	PN	Pn	08 49 49.9	+1.1	
GNL				S	Sn	08 50 08.4	+1.6	
GNL	**Ganaly**	**1.46**	**309**	*e*P	Pn	08 49 49.9	+1.1	
GNL				*e*S	Sn	08 50 07.8	+1.1	
APC	**Apacha**	**1.65**	**275**	PN	Pn	08 49 54.5	+3.3	
APC				S	Sn	08 50 15.1	+4.0	
APC	**Apacha**	**1.65**	**275**	*e*P	Pn	08 49 54.6	+3.5	
APC				*e*S	Sn	08 50 15.1	+4.0	
MIPR	**Malaya Ipel'ka**	**1.97**	**256**	PN	Pn	08 49 57.4	+1.8	
MIPR	**Malaya Ipel'ka**	**1.97**	**256**	*e*P	Pn	08 49 57.4	+1.8	
MKZ	**Mys Kozlova**	**2.08**	**32**	PN	Pn	08 49 57.0	-0.1	
MKZ	**Mys Kozlova**	**2.08**	**32**	*e*P	Pn	08 49 57.4	+0.3	
MKZ				*e*S	Sn	08 50 21.1	-0.7	
PAU	**Pauzhetka**	**2.31**	**236**	PN	Pn	08 50 02.5	+2.2	
PAU	**Pauzhetka**	**2.31**	**236**	*e*P	Pn	08 50 02.4	+2.2	
TUMD	**Tumrok D**	**2.43**	**7**	PN	Pn	08 50 03.3	+1.4	
TUMD				S	Sn	08 50 31.1	+0.7	
TUMD	**Tumrok D**	**2.43**	**7**	*e*P	Pn	08 50 03.3	+1.4	
TUMD				*e*S	Sn	08 50 30.5	+0.1	
KMNR	**Kamenistaya**	**2.97**	**4**	PN	Pn	08 50 12.4	+3.0	
KMNR	**Kamenistaya**	**2.97**	**4**	*e*P	Pn	08 50 12.5	+3.0	
KMNR				*e*S	Sn	08 50 47.7	+3.9	
BZP	**Bezymyannyi-Pe**	**3.14**	**7**	PN	Pn	08 50 14.2	+2.3	
BZP	**Bezymyannyi-Pe**	**3.14**	**7**	*e*P	Pn	08 50 14.2	+2.3	
SKR	**Severo-Kuril's**	**3.15**	**229**	*e*PN	Pn	08 50 19.8	+8.0	
SKR				*e*S	Sn	08 50 49.5	+1.4	
SKR				pmax	pmax			
	comp=Z,99nm,0.6s							
SKR				smax	smax			
	comp=N,364nm,0.8s							
SKR				smax	smax			
	comp=E,400nm,0.6s							
BZMR	**Bezymyannaya**	**3.16**	**6**	PN	Pn	08 50 15.1	+3.0	
BZMR	**Bezymyannaya**	**3.16**	**6**	*e*P	Pn	08 50 14.7	+2.6	
KIRR	**Kirishev**	**3.17**	**5**	PN	Pn	08 50 15.2	+2.9	
KIRR	**Kirishev**	**3.17**	**5**	*e*P	Pn	08 50 15.1	+2.9	
KIRR				*e*S	Sn	08 50 50.6	+1.7	
KPT	**Kopyto**	**3.18**	**4**	PN	Pn	08 50 15.0	+2.7	
KPT	**Kopyto**	**3.18**	**4**	*e*P	Pn	08 50 14.2	+1.9	
KPT				*e*S	Sn	08 50 49.8	+0.9	
BZGR	**Bezymyannyi-Gr**	**3.18**	**8**	PN	Pn	08 50 15.4	+3.0	
BZGR	**Bezymyannyi-Gr**	**3.18**	**8**	*e*P	Pn	08 50 15.4	+3.0	
BZGR				*e*S	Sn	08 50 52.1	+3.0	
BZWR	**Bezymyannyi-We**	**3.19**	**6**	PN	Pn	08 50 15.0	+2.5	
BZWR	**Bezymyannyi-We**	**3.19**	**6**	*e*P	Pn	08 50 15.4	+2.9	
ESO	**Esso**	**3.20**	**348**	PN	Pn	08 50 13.9	+1.3	
ESO	**Esso**	**3.20**	**348**	*e*P	Pn	08 50 14.4	+1.8	
ESO				*e*S	Sn	08 50 50.3	+0.9	
KOZ	**Kozyrevsk**	**3.26**	**0**	PN	Pn	08 50 15.8	+2.4	
KOZ	**Kozyrevsk**	**3.26**	**0**	*e*P	Pn	08 50 15.9	+2.4	
ZLN	**Zelenaya**	**3.27**	**9**	PN	Pn	08 50 16.7	+3.2	
ZLN	**Zelenaya**	**3.27**	**9**	*e*P	Pn	08 50 16.7	+3.2	
ZLN				*e*S	Sn	08 50 53.5	+2.3	
LGNR	**Loginova**	**3.32**	**8**	*e*S	Sn	08 50 56.9	+4.1	
CIRR	**Tsirk**	**3.36**	**8**	PN	Pn	08 50 19.2	+4.4	
CIRR	**Tsirk**	**3.36**	**8**	*e*P	Pn	08 50 17.1	+2.3	
SRDR	**Sredinnyy**	**3.52**	**359**	PN	Pn	08 50 19.2	+2.2	
SRDR	**Sredinnyy**	**3.52**	**359**	*e*P	Pn	08 50 19.0	+2.0	
KLY	**Klyuchi**	**3.55**	**7**	*e*P	Pn	08 50 20.0	+2.7	
KBTR	**Krutoberegovo**	**3.82**	**26**	PN	Pn	08 50 22.8	+1.8	
KBTR	**Krutoberegovo**	**3.82**	**26**	*e*P	Pn	08 50 23.7	+2.6	
KBG	**Krutoberegovo**	**3.83**	**24**	PN	Pn	08 50 23.9	+2.7	
KBG	**Krutoberegovo**	**3.83**	**24**	*e*P	Pn	08 50 25.0	+3.8	
SMKR	**Semkarok**	**3.90**	**13**	PN	Pn	08 50 26.3	+4.1	
SMKR	**Semkarok**	**3.90**	**13**	*e*P	Pn	08 50 25.5	+3.3	
BKI	**Bering**	**4.33**	**54**	PN	Pn	08 50 29.2	+1.2	
BKI	**Bering**	**4.33**	**54**	*e*P	Pn	08 50 29.2	+1.2	
BKI				*e*S	Sn	08 51 13.7	-3.5	
MA2	**Magadan**	**8.47**	**327**	LR	LR	08 55 02.3		
	comp=E,68nm,21.2s,baz=154,slow=41							
SHEM	**Shemya Is, Ala**	**8.64**	**85**	P	**Pn**	**08 51 28.9**	**+1.9**	
	comp=E,10nm,0.3s,baz=62,slow=10.0,SNR=6.2							
SHEM				S	**Sn**	**08 53 01.0**	**-1.9**	
	comp=E,14nm,0.3s,baz=297,slow=20,SNR=9.4							
SHEM				LR	LR	08 54 41.9		
	comp=E,26nm,21.6s,baz=270,slow=35							
SEY	**Seymchan**	**10.90**	**342**	LR	LR	08 56 31.1		
	comp=E,67nm,18.0s,baz=92,slow=40							
ERM	**Erimo**	**15.59**	**233**	*e*P	**Pn**	**08 52 59.7**	**-1.5**	
YAK	**Yakutsk**	**18.53**	**312**	*e*P	**Pn**	**08 53 36.7**	**-0.9**	
YAK				pmax	pmax			
	comp=Z,14nm,0.9s							
YAK				pmax	pmax			
	comp=N,4.0nm,1.1s							
YAK				pmax	pmax			
	comp=E,3.0nm,1.1s							
MJA0	**Matsu Arr-Jizo**	**22.24**	**232**	*e*P	**P**	**08 54 18.4**	**+0.9**	
MJA0				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MJAR	**Matsushiro Arr**	**22.26**	**232**	P	**P**	**08 54 18.2**	**+0.5**	
	comp=Z,1.7nm,0.8s,baz=18,slow=12,SNR=5.4							
	comp=Z,1.7nm,0.8s							
TIXI	**Tiksi**	**23.29**	**336**	LR	LR	09 04 37.9		
	comp=Z,39nm,18.0s,baz=88,slow=40							
ILAR	**Eielson Array**	**29.12**	**45**	P	**P**	**08 55 21.9**	**+1.0**	
	comp=Z,0.8nm,0.8s,baz=270,slow=9.0,SNR=14							
	comp=Z,0.8nm,0.8s							
ILAR	**Eielson Array**	**29.12**	**45**	*e*P	**P**	**08 55 21.0**	**+0.2**	
H11N2	**WAKE ISLAND Hy**	**33.46**	**168**	T	T	09 31 44.2		
	baz=352,slow=76,SNR=96							
H11N3	**WAKE ISLAND Hy**	**33.47**	**168**	T	T	09 31 45.6		
	baz=352,slow=76,SNR=80							
H11N1	**WAKE ISLAND Hy**	**33.47**	**168**	T	T	09 31 42.6		
	baz=352,slow=76,SNR=124							
H11S1	**WAKE ISLAND Hy**	**34.64**	**169**	T	T	09 33 15.3		
	baz=352,slow=76,SNR=33							
H11S3	**WAKE ISLAND Hy**	**34.65**	**169**	T	T	09 33 23.1		
	baz=352,slow=76,SNR=82							
H11S2	**WAKE ISLAND Hy**	**34.66**	**169**	T	T	09 33 15.9		
	baz=352,slow=76,SNR=25							
YKA	**Yellowknife Ar**	**43.47**	**42**	P	**P**	**08 57 24.0**	**+1.1**	
	comp=Z,0.5nm,0.8s,baz=301,slow=8.2,SNR=6.1							
	comp=Z,0.5nm,0.8s							
YKA	**Yellowknife Ar**	**43.47**	**42**	P	**P**	**08 57 24.0**	**+1.1**	
SPITS	**Spitsbergen Ar**	**47.40**	**350**	P	**P**	**08 57 52.1**	**-1.8**	
	comp=Z,1.3nm,0.5s,baz=50,slow=9.6,SNR=6.2							
	comp=Z,1.3nm,0.5s							
KURK	**Kurchatov**	**47.77**	**302**	P	**P**	**08 57 55.1**	**-1.9**	
KURBB	**Kurchatov Arra**	**47.87**	**302**	P	**P**	**08 57 55.1**	**-2.6**	
	comp=Z,0.7nm,0.3s,baz=56,slow=7.8,SNR=3.5							
	comp=Z,0.7nm,0.3s							
MKAR	**Makanchi Array**	**48.16**	**296**	P	**P**	**08 57 57.1**	**-3.0**	
	comp=Z,0.3nm,0.5s,baz=53,slow=7.9,SNR=2.8							
	comp=Z,0.3nm,0.5s							
BVAR	**Borovoye Array**	**50.46**	**308**	P	**P**	**08 58 15.6**	**-1.9**	
	comp=Z,1.0nm,0.5s,baz=50,slow=9.0,SNR=5.0							
	comp=Z,1.0nm,0.5s							
KIRV	**Kirov**	**55.54**	**323**	LR	LR	09 25 39.0		
	comp=Z,28nm,19.6s,baz=320,slow=39							
PDAR	**Pinedale Array**	**57.79**	**60**	P	**P**	**08 59 13.0**	**+1.6**	
	comp=Z,0.3nm,0.6s,baz=312,slow=6.7,SNR=5.2							
	comp=Z,0.3nm,0.6s							
FINES	**FINESS Array B**	**60.33**	**336**	P	**P**	**08 59 26.4**	**-1.9**	
	comp=Z,2.4nm,0.9s,baz=49,slow=7.0,SNR=3.7							
	comp=Z,2.4nm,0.9s							
FINES	**FINESS Array B**	**60.33**	**336**	*e*P	**P**	**08 59 27.4**	**-0.9**	
FINES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
OBN	**Obninsk**	**62.69**	**327**	*e*P	**P**	**08 59 42.9**	**-1.4**	
OBN				*e**PP	**pP**	**08 59 56.9**	**-0.3**	
OBN				*e**SP	**sP**	**09 00 02.7**	**+0.3**	
OBN				*e*		09 00 22.6		
OBN				*e*		09 02 03.2		
OBN				*e*PPP	PPP	09 03 29.9		
OBN				pmax	pmax			
	comp=Z,3.0nm,0.8s							
OBN				MLR	MLR			
	comp=Z,22nm,14.0s							
HFS	**Hagfors**	**64.18**	**342**	P	**P**	**08 59 53.5**	**-0.6**	
	comp=E,16nm,0.9s,baz=77,slow=9.2,SNR=1.3							
	comp=Z,1.6nm,0.9s							
SADO	**Sadowa**	**70.43**	**40**	LR	LR	09 31 54.8		
	comp=Z,252nm,18.0s,baz=294,slow=36							
TXAR	**Lajitas Array**	**70.88**	**67**	P	**P**	**09 00 38.6**	**+1.6**	
	comp=Z,0.5nm,0.6s,baz=319,slow=6.7,SNR=15							
	comp=Z,0.5nm,0.6s							
EKA	**Eskdalemuir Ar**	**71.32**	**350**	P	**P**	**09 00 38.2**	**-0.9**	
	comp=Z,1.9nm,0.7s,baz=25,slow=6.2,SNR=1.8							
	comp=Z,1.9nm,0.7s							
WRA	**Warramunga Arr**	**75.76**	**205**	P	**P**	**09 01 05.3**	**-0.2**	
	comp=Z,0.4nm,0.5s,baz=16,slow=5.9,SNR=2.1							
	comp=Z,0.4nm,0.5s							
ASAR	**Alice Springs**	**79.44**	**204**	P	**P**	**09 01 26.4**	**+0.5**	
	comp=Z,0.3nm,0.6s,baz=15,slow=5.4,SNR=4.1							
	comp=Z,0.3nm,0.6s							

ASRS ***06*** *08:51:00.0±1.6, 53.71N×91.04E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 06 08:51:06.9±3.6, 53.52N×90.86E, h0km, mbtmp3.2/3, ML2.8/3, Error ellipse: s-maj=32.5km s-min=24.6km az=32.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.61**	**279**	I	I	09 14 50.0	
	baz=91,slow=320,SNR=9.0						
ZALV	**Zalesovo Beam**	**3.61**	**279**	Pn	Pn	08 52 05.4	+1.3
	1.6nm,0.3s,baz=96,slow=15,SNR=8.0						
ZALV				Lg	Lg	08 52 58.9	
	3.3nm,0.3s,baz=93,slow=27,SNR=8.7						
	2.7nm,0.3s						
KURBB	**Kurchatov Arra**	**8.13**	**254**	Pn	Pn	08 53 05.6	-0.5
	0.1nm,0.3s,baz=64,slow=14,SNR=4.5						
KURBB				Sn	Sn	08 54 37.9	-0.7
	0.1nm,0.3s,baz=67,slow=27,SNR=9.1						
KURBB				Lg	Lg	08 55 24.6	
	baz=71,slow=32						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**8.69**	**223**	Pn	Pn	08 53 14.6	+0.7
	0.2nm,0.3s,baz=43,slow=15,SNR=5.7						
MKAR				Lg	Lg	08 55 42.6	
	0.1nm,0.3s,baz=43,slow=29,SNR=4.6						
	0.6nm,0.5s						
SONM	**Songino Array**	**11.37**	**114**	Lg	Lg	08 57 00.3	
	baz=224,slow=43						

ISK ***06*** *08:59:51.7, 35.77N×31.65E, h10km, ML4.3/58*
NEIC ***06*** *08:59:54.8±1.2, 35.84N±0.06×31.73E±0.07, h59km±10km, mb4.2/11, Error ellipse: s-maj=9.6km s-min=7.1km az=205.0*
GRAL ***06*** *08:59:54.2±0.3, 35.78N×31.82E, h0km±206km, MD4.0*
HLW ***06*** *08:59:54.4, 35.81N×31.74E, h18km±2km, Ml4.3*
AFAD ***06*** *08:59:55.0, 35.99N×31.67E, h34km±11km, MW4.0*
NIC ***06*** *08:59:55.2, 35.88N×31.76E, h32km±42km, Ml4.2/14*
IDC ***06*** *08:59:56.1±1.6, 35.92N×31.75E, h69km±19km, mb3.8/10, mbtmp4.1/21, MS2.7/3, Error ellipse: s-maj=14.4km s-min=13.5km az=164.0*
GII ***06*** *08:59:57.8±0.0, 35.629N±0.002×31.832E±0.001, h30km, Mws4.2, confirmed*

ISC 06 08:59:54.8±0.7, 35.83N±0.03×31.78E±0.03, h57km±8km, n224, σ1$44/255, mb4.1/13, 6D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZI	**Gazipasa**	**0.60**	**47**	Pg	**Pn**	**09 00 07.6**	**0.0**
GAZI				Sg	**Sn**	**09 00 16.5**	**-0.5**
GAZI	**Gazipasa**	**0.60**	**47**	P	**Pn**	**09 00 07.8**	**+0.1**
GAZI				S	**Sn**	**09 00 15.8**	**-1.2**
ALAN	**Alanya-ANTALYA**	**0.76**	**16**	Pg	**Pn**	**09 00 08.9**	**-0.7**
ALAN				Sg	**Sn**	**09 00 19.7**	**-0.7**
AKMS	**Akamas**	**0.93**	**150**	P	**Pn**	**09 00 13.1**	**+1.4**
AKMS				S	**Sn**	**09 00 26.0**	**+1.8**
AKMS				AML	AML	09 00 33.7	
	42nm,0.5s						
AKMS				AML	AML	09 00 34.3	
	41nm,0.6s						
ALFC	**Alefka**	**0.95**	**135**	⇓*i*P	**Pn**	**09 00 13.0**	**+0.9**
ALFC				S	**Sn**	**09 00 25.6**	**+0.9**
ALFC				AML	AML	09 00 26.0	
	30nm,0.3s						
ALFC				AML	AML	09 00 26.3	
	39nm,0.2s						
MNVG	**Manavgat-Antal**	**1.01**	**343**	Pg	**Pn**	**09 00 12.6**	**-0.2**
MNVG				Sg	**Sn**	**09 00 26.5**	**+0.4**
BOZY	**Bozyazi-Mersin**	**1.01**	**74**	Pn	**Pn**	**09 00 13.7**	**+0.9**
TEKE	**Tekeli-Mersin**	**1.13**	**73**	Pn	**Pn**	**09 00 15.5**	**+1.1**
NATA	**Nata**	**1.23**	**148**	P	**Pn**	**09 00 17.5**	**+1.7**
NATA				AML	AML	09 00 45.3	
	59nm,0.7s						
NATA				AML	AML	09 00 46.0	
	56nm,0.7s						
TROD	**Troodos**	**1.25**	**134**	⇓*i*P	**Pn**	**09 00 17.1**	**+0.9**
TROD				S	**Sn**	**09 00 33.5**	**+1.3**
TROD				AML	AML	09 00 51.1	
	8.2nm,0.8s						
TROD				AML	AML	09 00 52.1	
	9.1nm,0.6s						
AKUM	**Antalya-Kumluc**	**1.26**	**294**	P	**Pn**	**09 00 17.4**	**+1.2**
AKUM				S	**Sn**	**09 00 38.9**	**+6.7**
HDMB	**Hadim**	**1.27**	**26**	Pn	**Pn**	**09 00 17.1**	**+0.6**
BERE	**Bereket-Mersin**	**1.28**	**66**	Pn	**Pn**	**09 00 17.9**	**+1.3**
XYLS	**Xyliatos**	**1.32**	**128**	⇓*i*P	**Pn**	**09 00 17.7**	**+0.7**
XYLS				S	**Sn**	**09 00 34.5**	**+1.0**
XYLS				AML	AML	09 00 35.8	
	12nm,0.2s						
XYLS				AML	AML	09 00 42.0	
	10nm,0.2s						
YORU	**Yoruktepe-Mers**	**1.36**	**76**	Pn	**Pn**	**09 00 19.0**	**+1.5**
ANTB	**Antalya**	**1.41**	**320**	Pn	**Pn**	**09 00 18.0**	**-0.1**
OREN	**Orenkoy-Mersin**	**1.42**	**74**	Pn	**Pn**	**09 00 19.9**	**+1.7**
APOL	**The Sanctuary**	**1.45**	**142**	P	**Pn**	**09 00 20.6**	**+1.8**
APOL				AML	AML	09 00 48.0	
	9.0nm,0.6s						
APOL				AML	AML	09 00 53.9	
	9.6nm,0.6s						
AKK1	**Akkuyu-Mersin**	**1.46**	**77**	Pn	**Pn**	**09 00 20.7**	**+1.8**
BECE	**Buyukeceli-Mer**	**1.48**	**77**	Pn	**Pn**	**09 00 20.7**	**+1.6**
ATHAL	**Athalassa**	**1.49**	**117**	⇓*i*P	**Pn**	**09 00 20.2**	**+1.0**
ATHAL				S	**Sn**	**09 00 39.8**	**+2.2**
ATHAL				AML	AML	09 00 45.9	
	15nm,0.4s						
ATHAL				AML	AML	09 00 47.0	
	24nm,0.5s						
TEPK	**Tepekoy-MERSIN**	**1.49**	**74**	Pn	**Pn**	**09 00 20.9**	**+1.7**
CSS	**Mathiatis**	**1.53**	**124**		**Pn**	**09 00 20.2**	**+0.3**
CSS	**Mathiatis**	**1.53**	**124**	Pn	**Pn**	**09 00 20.4**	**+0.5**
CSS	**Mathiatis**	**1.53**	**124**	⇓*i*P	**Pn**	**09 00 20.3**	**+0.5**
CSS				S	**Sn**	**09 00 39.4**	**+0.6**
CSS				AML	AML	09 00 49.0	
	5.0nm,0.5s						
CSS				AML	AML	09 00 54.0	
	7.1nm,0.6s						
CSS	**Mathiatis**	**1.53**	**124**	P	**Pn**	**09 00 20.3**	**+0.5**
CSS	**Mathiatis**	**1.53**	**124**	S	**Sn**	**09 00 38.1**	**-0.7**
YESI	**Yesilovacik-Me**	**1.56**	**76**	Pn	**Pn**	**09 00 21.7**	**+1.6**
DEMR	**Demre-Antalya**	**1.57**	**286**	Pn	**Pn**	**09 00 19.5**	**-0.9**
SEYD	**Seydisehir-KON**	**1.58**	**2**	Pn	**Pn**	**09 00 21.5**	**+0.9**
TISA	**Tisan-Mersin**	**1.58**	**77**	Pn	**Pn**	**09 00 22.1**	**+1.7**
ASGA	**Asgata**	**1.59**	**130**	P	**Pn**	**09 00 22.0**	**+1.4**
ASGA				S	**Sn**	**09 00 42.1**	**+2.1**
ASGA				AML	AML	09 00 54.0	
	10nm,0.9s						
ASGA				AML	AML	09 00 56.5	
	9.3nm,0.5s						
KARG	**Kargicak-Mersi**	**1.61**	**76**	Pn	**Pn**	**09 00 22.9**	**+2.0**
KARG				Sn	**Sn**	**09 00 44.9**	**+4.3**
SEDI	**Konya, Seydise**	**1.62**	**359**	P	**Pn**	**09 00 23.2**	**+2.1**
SEDI				S	**Sn**	**09 00 43.6**	**+2.5**
KORT	**Korkueli**	**1.64**	**316**	Pn	**Pn**	**09 00 20.9**	**-0.5**
KORT	**Korkueli**	**1.64**	**316**	P	**Pn**	**09 00 21.0**	**-0.5**
KORT				S	**Sn**	**09 00 43.0**	**+1.4**
KEBE	**Keben-Mersin**	**1.69**	**68**	Pn	**Pn**	**09 00 23.8**	**+1.8**
MVOU	**Mavrovouni**	**1.72**	**118**	⇓*i*P	**Pn**	**09 00 22.6**	**+0.3**
MVOU				S	**Sn**	**09 00 44.5**	**+1.4**
MVOU				AML	AML	09 00 56.0	
	8.0nm,0.5s						
MVOU				AML	AML	09 00 59.9	
	6.4nm,0.8s						
LAR1C	**Larnaka City C**	**1.75**	**120**	P	**Pn**	**09 00 24.1**	**+1.3**
LAR1C				S	**Sn**	**09 00 45.6**	**+1.7**
BUCA	**Burdur, Bucak-**	**1.79**	**327**	P	**Pn**	**09 00 24.7**	**+1.3**
KRMN	**Karaman**	**1.80**	**41**	Pn	**Pn**	**09 00 25.3**	**+1.7**
KSL	**Kastellorizon**	**1.81**	**281**	P	**Pn**	**09 00 23.9**	**+0.4**
KSL				S	**Sn**	**09 00 47.4**	**+2.0**
KSL				AML	AML	09 01 05.0	
	1.3nm,0.4s						
KSL				AML	AML	09 01 13.3	
	1.2nm,0.6s						
SILI	**Silifke-Mersin**	**1.82**	**72**	Pn	**Pn**	**09 00 25.6**	**+1.9**
SLFK	**Silifke-Mersin**	**1.84**	**71**	Pn	**Pn**	**09 00 25.9**	**+1.9**
PAR1C	**Paralimni Civi**	**1.96**	**113**	S	**Sn**	**09 00 52.0**	**+2.9**
KIZK	**Mersin**	**2.02**	**70**	Pn	**Pn**	**09 00 28.6**	**+2.1**
PARAL	**Paralimni**	**2.02**	**114**	P	**Pn**	**09 00 28.0**	**+1.5**
PARAL				AML	AML	09 01 05.3	
	4.9nm,0.5s						
PARAL				AML	AML	09 01 05.5	
	4.5nm,0.5s						
KNIK	**Mula-Seydike**	**2.05**	**300**	P	**Pn**	**09 00 28.7**	**+1.8**
KNIK				S	**Sn**	**09 00 54.6**	**+3.1**
IZZE	**Mula-Seydike**	**2.15**	**287**	P	**Pn**	**09 00 29.1**	**+0.8**
IZZE				S	**Sn**	**09 00 53.9**	**0.0**
ISP	**Isparta**	**2.23**	**334**		**Pn**	**09 00 29.9**	**+0.5**
ISP	**Isparta**	**2.23**	**334**	Pn	**Pn**	**09 00 30.2**	**+0.7**
ISP	**Isparta**	**2.23**	**334**	P	**Pn**	**09 00 31.3**	**+1.9**
GOLH	**Golhisar**	**2.27**	**309**	P	**Pn**	**09 00 32.3**	**+2.3**
CAME	**Cameli-Denizli**	**2.29**	**300**	Pn	**Pn**	**09 00 29.8**	**-0.4**
CAEL	**Denizli, Camel**	**2.37**	**304**	P	**Pn**	**09 00 33.0**	**+1.7**
CAEL				S	**Sn**	**09 01 02.0**	**+3.5**
LADK	**Ladik-KONYA**	**2.42**	**11**	Pn	**Pn**	**09 00 33.6**	**+1.6**
MERS	**Mersin**	**2.45**	**64**	Pn	**Pn**	**09 00 34.6**	**+2.3**
SABU	**Mula-Dalaman**	**2.48**	**295**	P	**Pn**	**09 00 33.1**	**+0.4**
SABU				S	**Sn**	**09 01 02.4**	**+0.6**
BASM	**Basmaki-Afyon**	**2.51**	**327**	Pn	**Pn**	**09 00 33.8**	**+0.6**
INCE	**Denizli-Bozkur**	**2.58**	**317**	P	**Pn**	**09 00 35.7**	**+1.5**
INCE				S	**Sn**	**09 01 04.7**	**+0.2**
APMY	**Acipayam-Deniz**	**2.58**	**310**	Pn	**Pn**	**09 00 34.4**	**+0.2**
KZIL	**AFYON_Kizioren**	**2.76**	**332**	P	**Pn**	**09 00 37.0**	**+0.3**
TAVA	**DENIZLI_Tavas**	**2.83**	**306**	P	**Pn**	**09 00 38.8**	**+1.2**
DNIZ	**Denizli-Tavas-**	**2.84**	**310**	P	**Pn**	**09 00 39.1**	**+1.4**
ARG	**Arkhangelos**	**2.99**	**279**		**Pn**	**09 00 39.6**	**0.0**
ARG	**Arkhangelos**	**2.99**	**279**	Pn	**Pn**	**09 00 39.4**	**-0.2**
ARG	**Arkhangelos**	**2.99**	**279**	P	**Pn**	**09 00 39.8**	**+0.2**
ARG				S	**Sn**	**09 01 15.2**	**+0.9**
ARG				AML	AML	09 01 17.1	
	1.8nm,0.3s						
ARG				AML	AML	09 01 18.6	
	1.0nm,0.3s						
KARA	**Karaisali**	**3.00**	**61**	Pn	**Pn**	**09 00 42.4**	**+2.5**
TURN	**Turunc**	**3.01**	**289**	Pn	**Pn**	**09 00 40.0**	**+0.1**
TURN	**Turunc**	**3.01**	**289**	P	**Pn**	**09 00 40.5**	**+0.5**
KHL	**Karahalli**	**3.08**	**325**	Pn	**Pn**	**09 00 41.6**	**+0.6**
MULA	**Mugla, Merkez-**	**3.13**	**298**	P	**Pn**	**09 00 42.0**	**+0.3**
CMRD	**Camardi-Nigde**	**3.17**	**54**	Pn	**Pn**	**09 00 45.1**	**+2.9**
NIG	**Nigde**	**3.22**	**44**	Pn	**Pn**	**09 00 45.2**	**+2.2**
CEYT	**Ceyhan**	**3.41**	**69**	Pn	**Pn**	**09 00 47.2**	**+1.7**
DATC	**Datca-Mugla**	**3.45**	**287**	Pn	**Pn**	**09 00 46.2**	**+0.2**
DAT

ARPR	**Arapgir-MALATY**	**6.15**	**56**		**Pn**	**09 01 23.1**	**0.0**
KRMI	**Paran Flat**	**6.21**	**156**	P	**Pn**	**09 01 24.4**	**+0.5**
HRFI	**Mount Harif**	**6.39**	**154**	P	**Pn**	**09 01 27.4**	**+1.0**
HRFI	**Mount Harif**	**6.39**	**154**	S	**Sn**	**09 02 36.9**	**-1.0**
ZAF	**Zafarana**	**6.56**	**174**	P	**Pn**	**09 01 29.5**	**+0.9**
MBRI	**Mt Berech**	**6.57**	**155**	P	**Pn**	**09 01 29.6**	**+0.8**
EIL	**Elat**	**6.69**	**156**	P	**Pn**	**09 01 31.3**	**+0.8**
	15nm,0.3s,baz=320,slow=3.0,SNR=72						
EIL				S	**Sn**	**09 02 44.5**	**-0.9**
	54nm,0.5s,baz=24,slow=22,SNR=8.4						
EIL	**Elat**	**6.69**	**156**	P	**Pn**	**09 01 31.3**	**+0.8**
EIL	**Elat**	**6.69**	**156**	S	**Sn**	**09 02 44.2**	**-1.2**
RYAN	**Fayoum**	**6.84**	**191**	P	**Pn**	**09 01 34.2**	**+1.7**
SLUM	**Salum**	**6.97**	**234**	P	**Pn**	**09 01 34.8**	**+0.5**
HBST	**Basata**	**7.05**	**158**	P	**Pn**	**09 01 36.1**	**+0.8**
NBNS	**Bani Suef**	**7.19**	**183**	P	**Pn**	**09 01 38.1**	**+0.8**
NUB	**Nuweibaa**	**7.20**	**160**	P	**Pn**	**09 01 39.0**	**+1.6**
MARD	**Mardin**	**7.39**	**76**		**Pn**	**09 01 41.0**	**+0.8**
HDHB	**Dhahab**	**7.48**	**160**	P	**Pn**	**09 01 43.0**	**+1.8**
HKAT	**Jabal Katrina**	**7.52**	**165**	P	**Pn**	**09 01 43.1**	**+1.1**
ITM	**Ithomi**	**8.05**	**283**		**Pn**	**09 01 49.2**	**+0.2**
TAMRE	**El Minia**	**8.15**	**185**	P	**Pn**	**09 01 51.3**	**+0.9**
ASUT		**8.40**	**181**	P	**Pn**	**09 01 55.8**	**+1.9**
TIRR	**Tirgusor**	**9.00**	**344**	Pn	**Pn**	**09 02 03.2**	**+1.3**
FNA	**Florina**	**9.55**	**304**	Pn	**Pn**	**09 02 10.9**	**+1.3**
GTR	**Jabal at Tayr**	**10.34**	**186**	P	**Pn**	**09 02 21.8**	**+1.5**
HDK1	**Dakhla**	**10.45**	**192**	P	**Pn**	**09 02 22.4**	**+0.5**
KBZ	**Khabaz**	**11.63**	**44**	P	**Pn**	**09 02 40.5**	**+2.6**
	2.5nm,0.7s,baz=229,slow=22,SNR=4.9						
TIP	**Timpagrande**	**12.39**	**290**		**Pn**	**09 02 45.5**	**-2.8**
CEL	**Celeste**	**12.92**	**286**		**Pn**	**09 02 53.1**	**-2.5**
CUC	**Castrocucco**	**13.27**	**293**		**Pn**	**09 02 59.3**	**-1.1**
ACER	**Acerenza**	**13.38**	**296**		**Pn**	**09 03 00.4**	**-1.5**
RAFF	**Raffo Rosso**	**14.08**	**281**	Pn	**Pn**	**09 03 08.2**	**-3.0**
AKASG	**Malin Array Be**	**14.98**	**354**	P	**Pn**	**09 03 23.6**	**+0.6**
	0.3nm,0.3s,baz=178,slow=9.3,SNR=26						
AKASG				LR	LR	09 09 10.4	
	comp=Z,20nm,19.8s,baz=202,slow=37						
INTR	**Introdacqua**	**15.21**	**299**		**Pn**	**09 03 25.2**	**-0.9**
INTR				IAmb	IAmb	09 03 29.6	
	comp=Z,23nm,1.2s						
MYKA	**Terra Mystica**	**17.35**	**314**	*e*P	**P**	**09 03 53.3**	**-0.3**
	comp=Z,6.4nm,0.8s						
KBA	**Koelnbreinsper**	**17.77**	**315**	*e*P	**Pn**	**09 03 58.2**	**+0.1**
	comp=Z,6.0nm,0.9s						
VSL	**Villasalto**	**18.10**	**288**	P	**P**	**09 04 00.6**	**-1.2**
VSL				IAmb	IAmb	09 04 27.7	
	comp=Z,48nm,1.4s						
KEST	**Kesra**	**18.20**	**276**	P	**P**	**09 04 01.3**	**-1.7**
KEST				IAmb	IAmb	09 04 08.5	
	comp=Z,14nm,0.9s						
KEST	**Kesra**	**18.20**	**276**	P	**Pn**	**09 04 03.3**	**-0.1**
	comp=Z,13nm,0.9s,baz=332,slow=2.2,SNR=7.9						
LESA	**Schwarzleotal**	**18.34**	**315**	*e*P	**P**	**09 04 03.9**	**-0.6**
	comp=Z,3.7nm,0.7s						
GERES	**GERESS Array B**	**18.59**	**320**	P	**P**	**09 04 06.6**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=127,slow=10,SNR=7.3						
WTTA	**Wattenberg**	**18.86**	**313**	*e*Pn	**P**	**09 04 10.2**	**-0.1**
	comp=Z,15nm,0.7s						
WATA	**Walderalm**	**18.93**	**314**	*e*P	**P**	**09 04 10.4**	**-0.6**
	comp=Z,14nm,1.2s						
SQTA	**Sankt Quirin**	**19.09**	**313**	*e*Pn	**P**	**09 04 12.8**	**0.0**
	comp=Z,9.1nm,0.7s						
MOTA	**Moosalm**	**19.21**	**313**	*e*Pn	**P**	**09 04 14.0**	**-0.1**
	comp=Z,9.8nm,0.7s						
FETA	**Feichten**	**19.28**	**312**	*e*Pn	**P**	**09 04 14.9**	**0.0**
	comp=Z,16nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**19.39**	**310**	P	**P**	**09 04 15.3**	**-0.9**
RETA	**Reutte**	**19.48**	**313**	*e*P	**P**	**09 04 16.8**	**-0.2**
	comp=Z,11nm,0.7s						
DAVOX	**Davos/Dischmat**	**19.69**	**310**	P	**P**	**09 04 18.8**	**-0.6**
	comp=Z,15nm,0.9s,baz=125,slow=10,SNR=18						
DAVOX				LR	LR	09 13 17.8	
	comp=Z,24nm,18.6s,baz=192,slow=41						
BELG	**Belogornoye**	**20.02**	**29**	P	**P**	**09 04 22.2**	**-0.4**
	comp=Z,15nm,0.7s,baz=220,slow=22,SNR=7.4						
SENIN	**Lac Senin/Sane**	**21.16**	**307**	P	**P**	**09 04 33.9**	**-1.4**
SENIN				IAmb	IAmb	09 04 42.5	
	comp=Z,7.5nm,0.8s						
BFO	**Black Forest**	**21.33**	**313**	P	**P**	**09 04 35.8**	**-1.1**
BFO				IAmb	IAmb	09 04 38.3	
	comp=Z,5.9nm,0.6s						
ECH	**Echery**	**21.98**	**312**	P	**P**	**09 04 42.8**	**-1.0**
ECH				IAmb	IAmb	09 04 46.0	
	comp=Z,7.8nm,1.1s						
AB31	**Akbulak array**	**24.55**	**48**	P	**P**	**09 05 08.2**	**-0.7**
ABKAR	**Akbulak array**	**24.55**	**48**	P	**P**	**09 05 08.2**	**-0.7**
FIA1	**FINESS Array S**	**25.89**	**354**	P	**P**	**09 05 19.1**	**-1.9**
FINES	**FINESS Array B**	**25.89**	**354**	P	**P**	**09 05 18.8**	**-2.2**
FINES	**FINESS Array B**	**25.89**	**354**	P	**P**	**09 05 19.6**	**-1.4**
	comp=Z,3.1nm,0.4s,baz=170,slow=8.8,SNR=23						
	comp=Z,3.1nm,0.4s						
ARTI	**Arti**	**27.33**	**33**	P	**P**	**09 05 33.2**	**-0.8**
ARTI				IAmb	IAmb	09 05 33.7	
	comp=Z,13nm,0.5s						
ARTI	**Arti**	**27.33**	**33**	P	**P**	**09 05 33.2**	**-0.8**
	comp=Z,5.1nm,0.5s,baz=218,slow=6.1,SNR=8.4						
	comp=Z,5.1nm,0.5s						
ESDC	**Sonseca Array**	**28.40**	**289**	P	**P**	**09 05 44.5**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=85,slow=8.9,SNR=13						
	comp=Z,2.6nm,0.8s						
NOA	**NORSAR Array B**	**28.43**	**339**	P	**P**	**09 05 43.0**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=151,slow=8.4,SNR=0.8						
NOA				LR	LR	09 18 52.0	
	comp=Z,13nm,18.2s,baz=330,slow=40						
	comp=Z,0.6nm,0.8s						
ARCES	**ARCESS Array B**	**33.94**	**356**	P	**P**	**09 06 31.1**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=170,slow=8.8,SNR=8.3						
	comp=Z,2.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**35.24**	**238**	P	**P**	**09 06 44.4**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=49,slow=12,SNR=3.2						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**36.50**	**51**	P	**P**	**09 06 54.3**	**0.0**
	comp=Z,1.0nm,0.6s,baz=271,slow=8.7,SNR=6.1						
	comp=Z,1.0nm,0.6s						
KMBO	**Kilima Mbogo**	**37.12**	**171**	P	**P**	**09 07 01.3**	**+1.1**
	comp=Z,1.9nm,0.4s,baz=214,slow=20,SNR=3.7						
	comp=Z,1.9nm,0.4s						
MKAR	**Makanchi Array**	**38.88**	**58**	P	**P**	**09 07 13.9**	**-0.6**
MKAR	**Makanchi Array**	**38.88**	**58**	P	**P**	**09 07 14.7**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=281,slow=6.9,SNR=10						
	comp=Z,1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**40.64**	**46**	P	**P**	**09 07 28.4**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=258,slow=7.2,SNR=3.7						
	comp=Z,1.6nm,0.6s						
PZH	**PanZhiHua**	**59.46**	**78**	P	**P**	**09 09 52.6**	**+0.5**
HHC	**Hu-ho-hao-te**	**60.73**	**59**	*e*P	**P**	**09 10 00.4**	**-0.1**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,3.9s						
BMAR	**Burnt Mountain**	**77.03**	**359**	P	**P**	**09 11 40.8**	**-0.4**
IMAR	**Indian Mountai**	**78.43**	**2**	P	**P**	**09 11 49.2**	**+0.2**
SSPA	**Standing Stone**	**80.22**	**313**	P	**P**	**09 11 58.5**	**-0.7**

ASRS ***06*** *09:08:50.0±1.5,53°.55N×87°.65E,h0km,M3.0, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 06 09:08:54.3±2.9,53°.47N×87°.53E,h0km,mbtmp2.9/2, ML2.5/2,Error ellipse: s-maj=23.9km s-min=14.0km az=63.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.68**	**288**	I	I			09 19 50.0	
	baz=101,slow=318,SNR=8.1								
ZALV	**Zalesovo Beam**	**1.68**	**288**	Pg	Pn			09 09 23.8	-1.0
	1.1nm,0.3s,baz=110,slow=12,SNR=10.0								
ZALV				Lg	Lg			09 09 48.3	
	1.3nm,0.3s,baz=108,slow=23,SNR=11								
KURBB	**Kurchatov Arra**	**6.24**	**246**	Pn	Pn			09 10 28.5	+1.0
	baz=62,slow=14,SNR=4.0								
KURBB				Sn	Sn			09 11 37.9	-1.6
	baz=80,slow=13,SNR=1.8								
KURBB				Lg	Lg			09 12 10.9	
	baz=64,slow=32,SNR=5.5								
	0.6nm,0.5s								
MKAR	**Makanchi Array**	**7.48**	**209**	Pn	Pn			09 10 45.9	+1.3
	0.2nm,0.3s,baz=29,slow=13,SNR=6.5								
MKAR				Sn	Sn			09 12 10.7	+0.5
	0.1nm,0.3s,baz=30,slow=27,SNR=4.0								
MKAR				Lg	Lg			09 12 49.9	
	0.1nm,0.3s,baz=25,slow=30,SNR=5.4								
	0.3nm,0.3s								

RSNC 06 09:10:41.7±0.0,7°N±1°×7°3W±1°,h146km±1km,M3.4, mB4.9, mb3.8,ML3.0,Mw(mB)4.2,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**183**	P		P	Pn	09 11 01.3	-0.6
BARC				S		Sn		09 11 16.4	-0.8
BRJC	**Barrancabermej**	**0.59**	**285**	P		P	Pn	09 11 03.0	-0.1
BRJC				S		Sn		09 11 19.9	+0.6
PAMC	**Pamplona, Colo**	**0.70**	**42**	P		P	Pn	09 11 04.2	-0.1
PAMC				S		Sn		09 11 21.4	-0.1
RUSC	**La Rusia**	**0.93**	**175**	P		P	Pn	09 11 05.2	-0.9
RUSC				S		Sn		09 11 24.1	-0.5
PTBC	**PUERTO BERRIO,**	**1.31**	**258**	P		P	Pn	09 11 07.6	-1.4
PTBC				S		Sn		09 11 29.2	-0.6
OCAC	**Ocana**	**1.42**	**354**	P		P	Pn	09 11 09.4	-0.9
OCAC				S		Sn		09 11 31.9	-0.3
NORC	**Norcasia**	**2.10**	**234**	P		P	Pn	09 11 16.8	-1.1
NORC				S		Sn		09 11 44.8	-0.8
ROSC	**El Rosal**	**2.28**	**210**	P		P	Pn	09 11 21.0	+0.7
ROSC				S		Sn		09 11 52.2	+2.3
UREC	**San Jos de Ur**	**2.52**	**292**	P		P	Pn	09 11 21.0	-1.9
UREC				S		Sn		09 11 51.9	-2.7
GUY2C	**Guyana, Caldas**	**2.70**	**234**	P		P	Pn	09 11 25.8	+0.2
GUY2C				S		Sn		09 11 58.7	-0.6
VILC	**Villavicencio,**	**2.74**	**191**	P		P	Pn	09 11 24.5	-1.3
VILC				S		Sn		09 11 59.0	-0.8
NIZA	**Niza - Manizal**	**2.88**	**233**	P		P	Pn	09 11 29.3	+1.6
NIZA				S		Sn		09 12 04.6	+1.4
CBOC	**Ciudad Bolivar**	**2.98**	**252**	P		P	Pn	09 11 28.9	+0.1
CBOC				S		Sn		09 12 05.3	+0.1
DBBC	**Dabeiba**	**3.02**	**274**	P		P	Pn	09 11 28.7	-0.6
DBBC				S		Sn		09 12 04.4	-1.7
ARGC	**Ariguani, Magd**	**3.20**	**341**	P		P	Pn	09 11 31.3	-0.2
ARGC				S		Sn		09 12 09.9	-0.2
ANIL	**Santa Ana**	**3.21**	**224**	P		P	Pn	09 11 32.3	+0.4
ANIL				S		Sn		09 12 11.1	+0.4
SDV	**Santo Domingo**	**3.25**	**51**	P		P	Pn	09 11 31.5	-0.8
SDV				S		Sn		09 12 07.3	-4.0
PRAC	**Prado**	**3.53**	**209**	P		P	Pn	09 11 35.0	-0.8
PRAC				S		Sn		09 12 16.3	-1.4
APAC	**Apartado, Choc**	**3.55**	**288**	P		P	Pn	09 11 35.1	-0.9
APAC				S		Sn		09 12 18.0	0.0
ORTC	**Ortega, Tolima**	**3.56**	**216**	P		P	Pn	09 11 34.6	-1.5
ORTC				S		Sn		09 12 18.6	+0.3
SJCC	**San Jacinto, C**	**3.65**	**327**	P		P	Pn	09 11 34.9	-2.4
SJCC				S		Sn		09 12 16.5	-4.0
URMC	**La Uribe, Meta**	**3.75**	**199**	P		P	Pn	09 11 38.3	-0.4
URMC				S		Sn		09 12 21.7	-1.2
CRJC	**Cerrejon, Guaj**	**4.18**	**4**	P		P	Pn	09 11 41.5	-2.9
CRJC				S		Sn		09 12 28.7	-4.4
YOTC	**Yotoco, Valle**	**4.23**	**228**	P		P	Pn	09 11 44.9	-0.2
YOTC				S		Sn		09 12 34.1	-0.2
SMRC	**Santa Marta, M**	**4.44**	**347**	P		P	Pn	09 11 46.7	-1.0
SMRC				S		Sn		09 12 34.1	-4.9
CAPC	**Capurgana**	**4.52**	**294**	P		P	Pn	09 11 45.9	-2.8
CAPC				S		Sn		09 12 38.4	-2.5
URIC	**Uribia, Colomb**	**4.99**	**13**	P		P	Pn	09 11 51.7	-3.2
URIC				S		Sn		09 12 45.1	-6.9
JAMC	**Jamundi, Valle**	**5.00**	**224**	P		P	Pn	09 11 54.6	-0.7
	11nm,1.0s								
JAMC				S		Sn		09 12 52.1	-0.5
	11nm,1.0s								
GARC	**Garzon, Huila**	**5.15**	**207**	P		P	Pn	09 11 55.6	-1.8
GARC				S		Sn		09 12 52.4	-3.9
FLOC	**Florencia**	**5.76**	**206**	P		P	Pn	09 12 04.1	-1.2
FLOC				S		Sn		09 13 09.6	-1.0
BCIP	**Isla Barro Col**	**7.00**	**290**	P		P	Pn	09 12 19.2	-2.6
BCIP				S		Sn		09 13 40.5	+0.2

IDC ***06*** *09:17:19.7±7.9,36°.50N×70°.72E,h209km±69km,mb3.2/5, mbtmp3.7/10,Error ellipse: s-maj=71.2km s-min=21.8km az=38.0*

ISC 06 09:17:19.2±1.3,36°.6N±0°.1×70°.6E±0°.1,h204km,n12, σ1s17/15,mb3.5/5,2C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.51**	**359**	⇓Pn		**P**	**Pn**	**09 18 52.8**	**-0.2**
	3.0nm,0.3s,baz=173,slow=12,SNR=23								
KK31				⇑Sn		**S**		**09 20 05.1**	**-2.1**
	2.0nm,0.3s								
AAK	**Ala-Archa**	**6.75**	**25**	⇑Pn		**Pn**	**09 18 56.6**	**+0.3**
	1.8nm,0.4s								
AAK				⇓Sn		**S**		**09 20 11.8**	**-1.4**
	2.3nm,0.5s								
AAK	**Ala-Archa**	**6.75**	**25**	P		**Pn**	**09 18 58.0**	**+1.8**
	10nm,0.3s,baz=175,slow=2.3,SNR=22								
AAK				S		**S**		**09 20 13.8**	**+0.6**
	5.5nm,0.4s,baz=131,slow=20,SNR=8.3								
MKAR	**Makanchi Array**	**13.41**	**37**	P		**P**		**09 20 23.5**	**-0.6**
	0.4nm,0.4s,baz=220,slow=13,SNR=6.8								
KURBB	**Kurchatov Arra**	**15.15**	**20**	P		**P**		**09 20 43.3**	**+0.1**
	0.3nm,0.4s,baz=208,slow=11,SNR=1.3								
BVAR	**Borovoye Array**	**16.43**	**360**	P		**Pn**		**09 20 59.3**	**+1.0**
	0.5nm,0.5s,baz=193,slow=12,SNR=3.7								
AKTO	**Aktyubinsk**	**16.54**	**331**	P		**Pn**		**09 20 59.1**	**-0.5**
	1.5nm,0.7s,baz=138,slow=10.0,SNR=4.9								
FINES	**FINESS Array B**	**37.23**	**326**	P		**P**		**09 24 11.4**	**+0.8**
	3.0nm,0.9s,baz=134,slow=4.0,SNR=2.3								
	3.0nm,0.9s								
ARCES	**ARCESS Array B**	**40.94**	**338**	P		**P**		**09 24 42.5**	**+1.2**
	1.0nm,0.6s,baz=116,slow=7.8,SNR=4.7								
	1.0nm,0.6s								
HFS	**Hagfors**	**42.79**	**322**	P		**P**		**09 24 57.3**	**+0.9**
	1.5nm,0.7s,baz=84,slow=13,SNR=1.6								
	1.5nm,0.7s								
WRA	**Warramunga Arr**	**82.32**	**122**	P		**P**		**09 29 17.0**	**-1.2**
	0.1nm,0.4s,baz=314,slow=5.1,SNR=1.2								
	0.1nm,0.4s								
ASAR	**Alice Springs**	**84.58**	**125**	P		**P**		**09 29 29.0**	**-0.7**
	0.4nm,0.8s,baz=305,slow=5.0,SNR=5.9								
	0.4nm,0.8s								

ASRS ***06*** *09:24:24.0±1.5,53°.53N×87°.65E,h0km,M3.0, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 06 09:24:26.0±2.9,53°.51N×87°.61E,h0km,mbtmp3.0/2, ML2.7/2,Error ellipse: s-maj=23.3km s-min=13.9km az=66.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**286**	I	I			09 35 10.0	
	baz=100,slow=318,SNR=11								
ZALV	**Zalesovo Beam**	**1.72**	**286**	Pg	Pn			09 24 56.8	-0.3
	1.8nm,0.3s,baz=99,slow=17,SNR=12								
ZALV				Lg	Lg			09 25 21.8	
	3.5nm,0.3s,baz=107,slow=28,SNR=14								
KURBB	**Kurchatov Arra**	**6.30**	**246**	Pn	Pn			09 26 00.1	0.0
	0.1nm,0.3s,baz=62,slow=14,SNR=5.3								
KURBB				Sn	Sn			09 27 10.8	-2.0
	baz=47,slow=22,SNR=0.9								
KURBB				Lg	Lg			09 27 43.4	
	0.1nm,0.3s,baz=64,slow=32,SNR=7.1								
	0.8nm,0.5s								
MKAR	**Makanchi Array**	**7.54**	**209**	Pn	Pn			09 26 18.9	+1.7
	0.2nm,0.3s,baz=31,slow=14,SNR=4.7								
MKAR				Sn	Sn			09 27 44.5	+1.1
	0.2nm,0.3s,baz=29,slow=28,SNR=8.7								
MKAR				Lg	Lg			09 28 23.4	
	0.1nm,0.3s,baz=32,slow=29,SNR=10								
	0.4nm,0.5s								

ASRS ***06*** *09:29:51.0±1.4,54°.28N×87°.09E,h0km,M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

NNC ***06*** *09:30:53.2±1.4,51°.70N×80°.49E,h0km,mb2.4,mpv2.3, Error ellipse: s-maj=189.8km s-min=8.3km az=139.0*

IDC 06 09:29:51.8±3.2,54°.28N×87°.24E,h0km,mbtmp2.9/2, ML2.3/2,12C-6D,Error ellipse: s-maj=27.7km s-min=20.3km az=51.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**258**	I	I			09 38 55.0	
	baz=75,slow=314,SNR=10								
ZALV	**Zalesovo Beam**	**1.46**	**258**	Pg	Pn			09 30 17.4	-2.0
	1.1nm,0.3s,baz=77,slow=17,SNR=7.6								
ZALV				Lg	Lg			09 30 38.9	
	1.0nm,0.3s,baz=72,slow=26,SNR=6.0								
ZALV				Rg	Rg			09 30 49.6	
	2.8nm,0.6s,baz=76,slow=30,SNR=5.6								
KUR04	**Kurchatov Arra**	**6.43**	**239**	⇑P		Pn		09 31 22.1	-5.6
KUR04				⇑S		Pb		09 31 44.5	0.0
KUR14	**Kurchatov Arra**	**6.43**	**239**	⇓P		Pn		09 31 22.5	-5.3
KUR14				⇑S		Pb		09 31 44.4	-0.2
KUR05	**Kurchatov Arra**	**6.44**	**239**	⇓P		Pn		09 31 22.2	-5.6
KUR05				⇓S		Pb		09 31 44.5	-0.2
KUR15	**Kurchatov Arra**	**6.45**	**239**	⇓P		Pn		09 31 22.6	-5.3
KUR15				⇓S		Pb		09 31 44.1	-0.7
KURBB	**Kurchatov Arra**	**6.46**	**239**	⇑P		Pn		09 31 22.5	-5.6
	2.0nm,0.8s								
KURBB				⇓S		Pb		09 31 44.6	-0.4
	9.7nm,0.8s								
KURBB	**Kurchatov Arra**	**6.46**	**239**	Pn		Pn		09 31 29.1	+1.0
	baz=56,slow=14,SNR=6.6								
KURBB				Lg		Lg		09 33 15.8	
	baz=58,slow=28,SNR=2.1								
	1.1nm,0.6s								
KUR16	**Kurchatov Arra**	**6.47**	**239**	⇑P		Pn		09 31 23.1	-5.2
KUR16				⇑S		Pb		09 31 45.0	-0.2
KUR06	**Kurchatov Arra**	**6.47**	**239**	⇑P		Pn		09 31 22.4	-5.9
KUR06				⇑S		Pb		09 31 44.4	-0.9
KUR17	**Kurchatov Arra**	**6.49**	**239**	⇑P		Pn		09 31 23.1	-5.3
KUR17				⇑S		Pb		09 31 45.0	-0.4
KUR07	**Kurchatov Arra**	**6.49**	**239**	⇑P		Pn		09 31 22.5	-6.0
KUR07				⇑S		Pb		09 31 44.4	-1.2
MKAR	**Makanchi Array**	**8.12**	**205**	Pn		Pn		09 31 52.2	+1.2
	0.1nm,0.3s,baz=27,slow=13,SNR=2.5								
MKAR				Lg		Lg		09 34 07.6	
	0.1nm,0.3s,baz=22,slow=28,SNR=3.2								
	0.2nm,0.4s								

IDC ***06*** *09:33:48.3±3.9,53°.62N×87°.85E,h0km,mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=39.1km s-min=18.0km az=48.0*

ASRS 06 09:33:45.0±1.2,53°.58N×87°.89E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**283**	I	I			09 46 00.0	
	baz=99,slow=316,SNR=3.7								
ZALV	**Zalesovo Beam**	**1.86**	**283**	Pg	Pg			09 34 21.4	+0.8
	2.0nm,0.3s,baz=102,slow=15,SNR=18								
ZALV				Lg	Lg			09 34 46.0	
	3.3nm,0.3s,baz=101,slow=27,SNR=14								
KURBB	**Kurchatov Arra**	**6.48**	**247**	Pn	Pn			09 35 25.7	+4.2
	0.1nm,0.3s,baz=63,slow=14,SNR=3.8								
	0.6nm,0.4s								
MKAR	**Makanchi Array**	**7.68**	**210**	Pn	Pn			09 35 42.6	+4.5
	0.1nm,0.3s,baz=32,slow=15,SNR=4.4								
	0.2nm,0.3s								

ASRS ***06*** *09:55:15.0±0.7,53°.91N×86°.56E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 06 09:55:20.8±2.5,53°.79N×86°.41E,h0km,mbtmp2.8/2, ML2.4/2,Error ellipse: s-maj=19.2km s-min=11.7km az=77.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**280**	I	I			09 59 40.0	
	baz=104,slow=318,SNR=3.9								
ZALV	**Zalesovo Beam**	**0.96**	**280**	Pg	Pg			09 55 37.5	-1.6
	0.6nm,0.3s,baz=95,slow=17,SNR=7.0								
ZALV				Lg	Lg			09 55 53.2	
	3.0nm,0.3s,baz=99,slow=30,SNR=13								
KURBB	**Kurchatov Arra**	**5.79**	**240**	Pn	Pn			09 56 48.7	+0.9
	0.1nm,0.3s,baz=55,slow=13,SNR=1.6								
KURBB				Lg	Lg			09 58 26.4	
	0.1nm,0.3s,baz=47,slow=33,SNR=1.0								
	0.5nm,0.3s								
MKAR	**Makanchi Array**	**7.48**	**202**	Pn	Pn			09 57 12.4	+1.3
	0.1nm,0.3s,baz=26,slow=14,SNR=1.9								
MKAR				Lg	Lg			09 59 19.7	
	baz=26

comp=N,127nm,18.4s,baz=285,slow=41
SHL Shillong 5.02 330 Pn Pn 10 11 02.6 +0.4
SHL Shillong 5.02 330 *e*P **Pn 10 11 01.8 -0.3**
SHL *e*S **Sn 10 11 56.4 -2.7**
SHL IAML 10 11 57.9
comp=E,1µm,0.2s
SHL IAML 10 11 58.0
comp=N,2µm,0.2s
TNCH TengChong 5.22 42 P **Pn 10 11 07.1 +2.3**
TNCH S **Sn 10 12 04.8 +0.9**
LAMP Lampang 5.41 119 P **Pn 10 11 06.4 -0.8**
comp=N,1.0nmcomp=N,0.8nmcomp=N,2µmcomp=N,171nm,1.0s
TEZP TEZPUR 5.64 343 *e*P **Pn 10 11 10.5 +0.1**
TEZP *e*S **Sn 10 12 11.6 -2.2**
TEZP IAML 10 12 12.0
comp=E,929nm,0.2s
TEZP IAML 10 12 13.2
comp=N,629nm,0.1s
GUWA GUWAHATI 5.65 332 *e*P **Pn 10 11 10.2 -0.2**
GUWA *e*S **Sn 10 12 11.3 -2.8**
GUWA IAML 10 12 12.4
comp=N,702nm,0.3s
GUWA IAML 10 12 12.9
comp=E,600nm,0.5s
PHIT Phitsanulok 6.77 125 P **Pn 10 11 25.7 +0.1**
comp=E,2.5nmcomp=E,6µmcomp=E,816nm,0.8s
UTHA Uthaitani 7.24 140 P **Pn 10 11 31.6 -0.4**
comp=E,35nm,0.7s
PZH PanZhiHua 8.37 50 P **Pn 10 11 48.9 +1.4**
KMI Kunming 8.41 61 ⇑P **Pn 10 11 52.0 +3.9**
KMI pmax pmax
comp=E,78nm,0.9s
ODAN Odare 8.69 312 Pn **Pn 10 11 51.6 -0.3**
baz=317,slow=0.0
ODAN Sn **Sn 10 13 25.2 -3.1**
comp=E,1µm,0.5s,baz=317,slow=0.0
LSA Lhasa 9.02 340 Pn **Pn 10 11 57.1 +0.5**
LSA Lhasa 9.02 340 P **Pn 10 11 55.4 -1.2**
LSA smax smax
comp=E,100nm,0.5s
RAMN Ramite 9.30 309 Pn **Pn 10 12 00.2 -0.1**
baz=314,slow=0.0
PBA Port Blair 9.67 191 Pn 10 12 04.2 -0.9
EVN Everest 9.79 315 Pn 10 12 07.0 -0.1
GUN Gumba 10.39 312 Pn **Pn 10 12 15.7 +0.6**
baz=316,slow=0.0
GUN Sn **Sn 10 14 06.3 -3.5**
comp=E,356nm,0.3s,baz=316,slow=0.0
PKI Pulchoki 10.53 309 Pn **Pn 10 12 16.2 -0.7**
baz=313,slow=0.0
PKI Sn **Sn 10 14 09.7 -3.4**
comp=E,500nm,0.7s,baz=313,slow=0.0
PKIN Phulchoki 10.54 309 Pn **Pn 10 12 16.3 -0.7**
baz=313,slow=0.0
PKIN Sn **Sn 10 14 08.8 -4.5**
comp=E,440nm,0.5s,baz=313,slow=0.0
KKN Kakani 10.75 309 Pn **Pn 10 12 19.4 -0.4**
baz=314,slow=0.0
KKN Sn **Sn 10 14 13.9 -4.3**
comp=E,153nm,0.2s,baz=314,slow=0.0
DMN Daman 10.77 308 Pn **Pn 10 12 19.7 -0.5**
baz=312,slow=0.0
DMN Sn **Sn 10 14 14.3 -4.6**
comp=E,326nm,0.5s,baz=312,slow=0.0
GKN Gorkha 11.33 309 Pn **Pn 10 12 26.9 -0.7**
baz=312,slow=0.0
GKN Sn **Sn 10 14 27.2 -5.2**
comp=E,297nm,0.3s,baz=312,slow=0.0
KOLN Koldanda 11.98 305 Pn **Pn 10 12 35.3 -1.0**
baz=309,slow=0.0
KOLN Sn **Sn 10 14 41.8 -6.4**
comp=E,449nm,0.4s,baz=309,slow=0.0
DANN Dangsing 12.17 308 Pn **Pn 10 12 37.2 -1.6**
baz=312,slow=0.0
DANN Sn **Sn 10 14 45.9 -7.0**
comp=E,402nm,0.5s,baz=312,slow=0.0
PYUN Piuthan 12.62 305 Pn **Pn 10 12 43.2 -1.4**
baz=309,slow=0.0
PYUN Sn **Sn 10 14 57.7 -5.8**
comp=E,312nm,0.4s,baz=309,slow=0.0
CD2 Chengdu 12.66 38 P **Pn 10 12 44.8 -0.3**
CD2 pmax pmax
comp=E,30nm,0.7s
GOMU GeErMu 14.94 1 P **Pn 10 13 11.0 -3.7**
GOMU pmax pmax
comp=E,7.0nm,0.7s
HYB Hyderabad 15.64 259 *e*P **P 10 13 25.2 0.0**
HYB *es*P **sP 10 13 59.2 +0.1**
HYB *e*S **S 10 16 27.9 +3.9**
LHMI Lhok Sumawe 16.04 172 P **Pn 10 13 27.8 -0.5**
comp=E,202nm,0.9s
ENH Enshi 16.12 53 Pn 10 13 29.0 -0.3
ENH IAmb IAmb 10 13 32.6
comp=Z,53nm,0.9s
DLV Lat 16.14 123 Pn 10 13 29.0 -0.8
DLV IAmb IAmb 10 13 29.6
comp=Z,72nm,1.5s
LZDM Lanzhou Array 16.69 26 P **Pn 10 13 35.7 -0.8**
comp=Z,3.5nm,0.4s,baz=184,slow=8.5,SNR=1.3
KULM Kulim 16.86 159 Pn 10 13 37.7 -0.7
LZH Lanzhou 16.87 27 *e*P **Pn 10 13 32.6 -5.9**
LZH pP P 10 13 48.6 +10
LZH sP pP 10 14 00.7 +1.9
LZH pmax pmax
comp=Z,18nm,1.1s
MLSI Meulaboh, Aceh 16.93 174 P **Pn 10 13 38.8 -0.4**
comp=Z,97nm,0.8s
IPM Ipoh 17.75 159 P 10 13 47.8 -0.7
IPM IAmb IAmb 10 13 49.9
comp=Z,38nm,0.8s
KCSI Kotacane, Aceh 17.84 170 P **P 10 13 49.9 +0.5**
TSI Tuntungan 18.01 167 P **Pn 10 13 53.4 +1.1**
comp=Z,337nm,1.0s
GTA Gaotai 18.68 13 *e*P **Pn 10 13 59.8 -0.4**
GTA PcP **PcP 10 18 23.8 +1.4**
GTA ScP **ScP 10 21 48.2 +0.1**
GTA pmax pmax
comp=Z,4.0nm,0.6s
PSI Prapat 18.77 167 P **Pn 10 14 01.3 -0.1**
comp=Z,35nm,0.6s,baz=341,slow=11,SNR=19
PSI LR LR 10 22 47.0
comp=Z,28nm,21.6s,baz=19,slow=41
RPSI Rantau Prapat 18.87 167 P 10 14 01.1 +0.5
RPSI IAmb IAmb 10 14 04.7
comp=Z,49nm,0.8s
RPSI Rantau Prapat 18.87 167 P **P 10 14 01.3 +0.6**
PALK Pallekele 19.32 226 P **P 10 14 06.9 +1.2**
comp=Z,16nm,1.1s,baz=62,slow=9.5,SNR=2.3
PALK S **S 10 17 31.3 -7.4**
comp=Z,5.8nm,0.6s,baz=42,slow=12,SNR=4.8
PALK LR LR 10 22 22.3
comp=Z,61nm,18.2s,baz=46,slow=39
GSI Gunungsitoli 19.99 171 P **P 10 14 12.8 -0.1**
GSI IAmb IAmb 10 14 14.9
comp=Z,38nm,0.8s
WHN Wuhan 20.00 58 P **P 10 14 13.0 +0.2**
WHN pmax pmax
comp=Z,140nm,0.8s
LYN LuoYang 20.57 46 P **P 10 14 19.7 +0.7**
LYN pmax pmax
comp=Z,68nm,0.8s
KNMB Chin-men Tao 22.12 77 P **P 10 14 35.0 -0.5**
KNMB IAmb IAmb 10 14 36.1
comp=Z,38nm,0.8s
NIL Nilore 22.62 308 P 10 14 41.6 +1.0
NIL IAmb IAmb 10 14 44.5
comp=Z,37nm,0.8s
WMQ Urumqi 23.28 347 *e*P **P 10 14 48.6 +1.7**
WMQ LR LR
comp=Z,350nm,17.5s
TPUB Ta-pu 24.14 80 P **P 10 14 53.4 -1.5**
NJ2 Nanjing 24.14 58 *e*P **P 10 14 55.1 +0.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
KSH Kashi 24.25 323 P **P 10 14 57.2 +1.4**
KSH PP **PnPn 10 15 33.2 +0.4**
KSH S **S 10 19 06.6 -0.2**
KSH pmax pmax
comp=Z,26nm,0.6s
HHC Hu-ho-hao-te 24.29 32 *e*P **P 10 14 58.7 +2.6**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,120nm,4.9s
SSLB Suanglung 24.44 79 P **P 10 14 55.9 -1.7**
SSLB IAmb IAmb 10 14 57.4
comp=Z,36nm,1.3s
TWG Pinlang 24.55 81 P **P 10 14 57.8 -0.7**
YULB Yu-li 24.75 80 P **P 10 14 58.7 -1.7**
YULB IAmb IAmb 10 15 02.8
comp=Z,27nm,0.9s
TARG Taragay, Kyrgy 24.91 329 P 10 15 03.9 +1.8
TARG IAmb IAmb 10 15 05.4
comp=Z,18nm,0.7s
HMDM Hanimaadhoo 25.23 238 P **P 10 15 04.9 +0.1**
KBL Kabul 26.15 306 P **P 10 15 15.3 +2.2**
KBL IAmb IAmb 10 15 44.9
comp=Z,16nm,0.7s
ARSB Arslanbob 27.16 322 P **P 10 15 22.2 +0.1**
GAR Garm 27.38 316 P **P 10 15 25.4 +1.3**
GAR IAmb IAmb 10 15 52.1
comp=Z,32nm,1.4s
MKAR Makanchi Array 27.43 341 P **P 10 15 25.2 +0.9**
MKAR PcP **PcP 10 18 41.0 +0.7**
MKAR Makanchi Array 27.43 341 P **P 10 15 25.3 +1.0**
comp=Z,4.8nm,0.6s,baz=153,slow=8.9,SNR=47
MKAR PcP **PcP 10 18 41.2 +0.9**
comp=Z,4.1nm,0.5s,baz=104,slow=3.3,SNR=15
MKAR ScP **ScP 10 22 10.9 0.0**
comp=Z,1.4nm,0.7s,baz=180,slow=2.3,SNR=6.4
comp=Z,4.8nm,0.6s
MAKZ Makanchi 27.54 341 P **P 10 15 25.3 +0.1**
CHGR Chuyangaron 27.97 314 P 10 15 30.7 +1.4
CHGR IAmb IAmb 10 15 31.1
comp=Z,17nm,0.6s
SIMJ Simiganj 28.07 314 P 10 15 31.4 +1.2
SIMJ IAmb IAmb 10 15 32.2
comp=Z,8.2nm,0.5s
SONM Songino Array 28.21 17 P **P 10 15 32.0 +0.7**
comp=Z,1.0nm,0.3s,baz=165,slow=7.4,SNR=2.3
comp=Z,1.0nm,0.3s
KK31 Karatay Array 29.71 323 P **P 10 15 45.6 +1.1**
KKAR Karatay Array 29.71 323 P **P 10 15 45.9 +1.4**
KKAR PcP **PcP 10 18 47.2 +1.2**
HRA Herat 31.38 302 P **P 10 15 59.6 0.0**
KURBB Kurchatov Arra 31.98 341 P **P 10 16 05.2 +0.8**
comp=Z,8.9nm,0.5s,baz=152,slow=8.4,SNR=70
KURBB PcP **PcP 10 18 52.8 +0.9**
comp=Z,9.6nm,0.5s,baz=158,slow=2.3,SNR=44
KURBB S **S 10 21 06.9 -0.8**
comp=Z,2.2nm,0.8s,baz=154,slow=16,SNR=7.1
KURBB ScP **ScP 10 22 26.0 +0.6**
comp=Z,2.3nm,0.7s,baz=155,slow=3.1,SNR=14
KURBB LR LR 10 32 40.0
comp=Z,26nm,20.4s,baz=172,slow=43
comp=Z,8.9nm,0.5s
KURK Kurchatov 32.03 341 P **P 10 16 05.7 +0.9**
KURK IAmb IAmb 10 16 06.3
comp=Z,11nm,0.6s
KURK PcP **PcP 10 18 53.0 +1.0**
TJN Taejon 32.23 55 P **P 10 16 05.8 -1.0**
KSRS Korea Array 33.01 53 P **P 10 16 11.4 -2.2**
comp=Z,1.6nm,0.5s,baz=244,slow=8.5,SNR=11
comp=Z,1.6nm,0.5s
ZAA0 Zalesovo Array 33.53 349 P **P 10 16 18.8 +0.9**
ZALV Zalesovo Beam 33.53 349 P **P 10 16 18.7 +0.8**
comp=Z,12nm,0.3s,baz=167,slow=9.2,SNR=54
ZALV PcP **PcP 10 18 55.5 -0.6**
comp=Z,1.4nm,0.5s,baz=172,slow=1.8,SNR=3.4
ZALV S **S 10 21 31.6 -0.2**
comp=Z,0.9nm,0.4s,baz=167,slow=13,SNR=4.4
comp=Z,12nm,0.3s
BNX BinXian 36.27 40 ⇑P **P 10 16 39.8 -1.8**
BNX pmax pmax
comp=Z,8.0nm,1.0s
JMN Monobe 36.77 62 P **P 10 16 45.1 -0.9**
BVAR Borovoye Array 36.82 336 P **P 10 16 46.0 -0.1**
comp=Z,1.4nm,0.4s,baz=143,slow=8.4,SNR=8.9
BVAR PcP **PcP 10 19 06.6 +0.8**
comp=Z,8.8nm,0.6s,baz=149,slow=3.5,SNR=16
BVAR S **S 10 22 21.8 -0.4**
comp=Z,1.5nm,0.8s,baz=137,slow=15,SNR=4.7
BVAR ScP **ScP 10 22 42.4 -0.3**
comp=Z,1.1nm,0.8s,baz=134,slow=4.2,SNR=2.2
comp=Z,1.4nm,0.4s
USA0B Ussuriysk Arra 38.43 45 P **P 10 16 59.2 -0.6**
USRK Ussuriysk Ar. 38.43 45 P **P 10 16 59.2 -0.6**
USRK Ussuriysk Ar. 38.43 45 P **P 10 16 58.6 -1.2**
comp=Z,1.8nm,0.5s,baz=245,slow=7.2,SNR=5.5
comp=Z,1.8nm,0.5s
AB31 Akbulak array 39.25 324 P **P 10 17 08.3 +1.7**
AB31 IAmb IAmb 10 17 08.9
comp=Z,15nm,0.7s
ABKAR Akbulak array 39.25 324 P **P 10 17 08.3 +1.7**
INU Inuyama 39.59 60 P **P 10 17 09.2 -0.4**
INU IAmb IAmb 10 17 10.4
comp=Z,16nm,0.7s
JGF Kuroka 39.91 60 P **P 10 17 11.2 -1.1**
MJAR Matsushiro Arr 40.74 58 P **P 10 17 17.6 -1.5**
comp=Z,3.2nm,0.8s,baz=270,slow=9.7,SNR=12
comp=Z,3.2nm,0.8s
AKTO Aktyubinsk 40.94 324 LR LR 10 35 50.1
comp=Z,49nm,20.2s,baz=262,slow=38
JMM Marumori 43.00 57 P **P 10 17 36.8 -0.6**
JMM IAmb IAmb 10 17 41.0
comp=Z,14nm,1.0s
ARTI Arti 44.16 332 P **P 10 17 47.1 +0.7**
RAYN Ar Rayn 45.33 283 P **P 10 17 56.0 -0.3**
ERM Erimo 45.54 51 P **P 10 17 56.6 -1.0**
JKA Kamikawa-asahi 45.61 48 P **P 10 17 57.5 -0.6**
JKA IAmb IAmb 10 17 59.7
comp=Z,13nm,1.2s
KBZ Khabaz 48.20 310 P **P 10 18 19.4 +1.1**
comp=Z,1.6nm,0.6s,baz=128,slow=6.7,SNR=4.0
comp=Z,1.6nm,0.6s
GUMO Guam 48.37 90 P **P 10 18 18.7 -1.2**
KIV Kislovodsk 48.39 310 P **P 10 18 20.0 +0.1**
MBWA Marble Bar 48.72 148 P **P 10 18 22.6 +0.1**
MBWA IAmb IAmb 10 18 44.5
comp=Z,15nm,1.4s
MARD Mardin 49.02 301 P **P 10 18 26.8 +1.9**
MARD IAmb IAmb 10 18 27.9
comp=Z,8.3nm,0.7s
PSA00 Pilbara Seismi 49.13 148 P **P 10 18 25.7 +0.1**
PSA00 IAmb IAmb 10 18 26.1
comp=Z,8.1nm,0.8s
KIRV Kirov 49.41 331 LR LR 10 43 27.1
comp=Z,36nm,18.1s,baz=179,slow=41
FITZ Fitzroy Crossi 49.48 140 P **P 10 18 27.9 -0.4**
FITZ Fitzroy Crossi 49.48 140 P **P 10 18 27.9 -0.4**
comp=Z,0.9nm,0.4s,baz=327,slow=8.7,SNR=6.5
FITZ pP **pP 10 18 53.1 -1.1**
comp=Z,2.3nm,0.8s,baz=349,slow=10,SNR=2.9
comp=Z,0.9nm,0.4s
KNRA Kununurra 49.65 135 P **P 10 18 29.3 -0.4**
KNRA IAmb IAmb 10 18 31.8
comp=Z,11nm,1.1s
ARPR Arapgir-MALATY 51.04 304 P **P 10 18 42.3 +2.1**
GAZ Gaziantep 51.86 301 P **P 10 18 47.2 +1.1**
GAZ IAmb IAmb 10 18 48.9
comp=Z,9.4nm,0.8s
GHAJ Ghor Haditha 53.38 294 P 10 18 59.4 +2.0
MMAI Mount Meron Ar 53.41 296 P **P 10 18 58.3 +0.6**
comp=Z,1.8nm,0.6s,baz=101,slow=3.1,SNR=3.8
comp=Z,1.8nm,0.6s
MORW Morawa 54.08 157 P **P 10 19 02.9 +0.6**
MORW IAmb IAmb 10 19 11.0
comp=Z,10nm,1.2s
TIXI Tiksi 54.16 13 P **P 10 19 01.4 -1.0**
ILGA Ilgaz 54.67 306 P **P 10 19 07.1 +0.2**
BR131 Keskin Array S 54.70 304 P **P 10 19 07.8 +0.8**
BRTR Keskin Array B 54.70 304 P **P 10 19 07.7 +0.6**
BRTR Keskin Array B 54.70 304 P **P 10 19 08.0 +1.0**
comp=Z,2.9nm,0.8s,baz=128,slow=9.5,SNR=12
BRTR pP **pP 10 19 34.5 +1.1**
comp=Z,1.1nm,0.7s,baz=103,slow=5.5,SNR=3.2
BRTR PcP **PcP 10 20 09.0 +0.5**
comp=Z,1.5nm,0.7s,baz=134,slow=4.0,SNR=3.8
comp=Z,2.9nm,0.8s
CSS Mathiatis 55.03 298 P **P 10 19 10.9 +1.5**
CSS IAmb IAmb 10 19 21.3
comp=Z,9.6nm,0.8s
ANTO Ankara 55.35 304 P **P 10 19 12.8 +1.2**
WB0 Warramunga Arr 56.31 134 P **P 10 19 17.7 -0.8**
WB0 IAmb IAmb 10 19 19.8
comp=Z,4.8nm,0.5s
WRA Warramunga Arr 56.40 134 P **P 10 19 18.3 -0.9**
comp=Z,2.0nm,0.4s,baz=322,slow=7.5,SNR=26
WRA pP **pP 10 19 44.5 -1.1**
comp=Z,2.2nm,0.6s,baz=323,slow=7.4,SNR=4.0
comp=Z,2.0nm,0.4s
WRAB Tennant Creek 56.40 134 P **P 10 19 19.1 -0.1**
WR8 Warramunga Arr 56.51 134 P **P 10 19 19.4 -0.6**
PETK Petropavlovsk- 57.19 40 P **P 10 19 24.2 -0.1**
PETK Petropavlovsk- 57.19 40 P **P 10 19 23.5 -0.9**
comp=Z,0.7nm,0.7s,baz=268,slow=6.9,SNR=0.9
comp=Z,0.7nm,0.7s
NWAO Narrogin (SRO) 58.00 158 P **P 10 19 30.3 +0.1**
NWAO PcP **PcP 10 20 21.5 +0.5**
NWAO Narrogin (SRO) 58.00 158 P **P 10 19 29.8 -0.3**
comp=Z,4.6nm,0.5s,baz=346,slow=5.6,SNR=9.9
comp=Z,4.6nm,0.5s
AKASG Malin Array Be 58.37 317 P **P 10 19 32.2 -0.4**
comp=Z,3.1nm,0.3s,baz=83,slow=6.4,SNR=19
AKASG pP **pP 10 19 59.2 -0.1**
comp=Z,2.1nm,0.5s,baz=82,slow=6.6,SNR=3.1
AKASG PcP **PcP 10 20 22.9 +0.6**
comp=Z,1.9nm,0.6s,baz=80,slow=4.7,SNR=5.3
comp=Z,3.1nm,0.3s
AKBB Malin Array Si 58.37 317 P **P 10 19 32.4 -0.2**
KIEV Kiev 58.38 317 P **P 10 19 32.5 -0.1**
AS31 Alice Springs 58.75 137 P **P 10 19 35.8 +0.2**
AS31 PcP **PcP 10 20 24.5 +0.2**
ASAR Alice Springs 58.75 137 P **P 10 19 35.8 +0.1**
ASAR PcP **PcP 10 20 24.4 +0.1**
ASAR Alice Springs 58.75 137 P **P 10 19 35.5 -0.2**
comp=Z,2.7nm,0.5s,baz=315,slow=6.7,SNR=76
ASAR pP **pP 10 20 02.5 +0.2**
comp=Z,0.8nm,0.6s,baz=318,slow=6.8,SNR=4.3
ASAR PcP **PcP 10 20 23.9 -0.3**
comp=Z,2.5nm,0.5s,baz=325,slow=4.5,SNR=11
comp=Z,2.7nm,0.5s
COEN Coen 59.09 122 P **P 10 19 38.2 +0.1**
COEN IAmb IAmb 10 19 46.2
comp=Z,6.1nm,1.1s
COEN PcP **PcP 10 20 26.0 +0.2**
LVZ Lovozero 59.37 338 P **P 10 19 39.6 +0.3**
LVZ PcP **PcP 10 20 27.0 +1.0**
KARP Karpathos 60.02 300 P **P 10 19 45.5 +1.2**
KIBK Kibwezi 60.08 254 P **P 10 19 46.2 +1.1**
LODK Lodwar 60.19 262 P **P 10 19 47.5 +1.7**
KMBO Kilima Mbogo 60.28 256 P **P 10 19 47.5 +0.9**
comp=Z,1.8nm,0.5s,baz=54,slow=12,SNR=3.8
comp=Z,1.8nm,0.5s
MLR Muntele Rosu 60.39 311 P **P 10 19 48.5 +1.7**
ALN Alexandroupoli 60.48 306 P **P 10 19 48.0 +0.7**
ALN IAmb IAmb 10 19 49.1
comp=Z,7.7nm,0.7s
RDO Rodhopi 60.85 306 P **P 10 19 50.0 +0.2**
RDO IAmb IAmb 10 19 51.6
comp=Z,10nm,1.2s
BURAR Bucovina Array 60.87 314 P **P 10 19 50.9 +0.9**
BURAR IAmb IAmb 10 19 51.3
comp=Z,4.1nm,0.7s
BUR08 Bucovina Ar. S 60.88 314 P **P 10 19 50.7 +0.6**
FIA1 FINESS Array S 61.36 329 P **P 10 19 53.2 +0.4**
FINES FINESS Array B 61.36 329 P **P 10 19 53.0 +0.1**
FINES FINESS Array B 61.36 329 P **P 10 19 52.8 -0.1**
comp=Z,4.4nm,0.5s,baz=86,slow=6.0,SNR=32
comp=Z,4.4nm,0.5s
PABE Paberze 61.87 322 P **P 10 19 56.7 +0.3**
VADS Vadso 61.87 339 *e*P **P 10 19 55.7 -0.5**
SUW Suwalki 62.26 321 P **P 10 19 59.6 +0.6**
KEV Kevo 62.56 339 P **P 10 20 01.3 +0.5**
KEV IAmb IAmb 10 20 02.3
comp=Z,9.9nm,0.9s
ARA0 ARCESS Array S 63.03 338 *e*P **P 10 20 04.3 +0.4**
ARCES ARCESS Array B 63.03 338 P **P 10 20 04.4 +0.4**
ARCES IAmb IAmb 10 20 04.9
comp=Z,8.4nm,0.8s
ARCES ARCESS Array B 63.03 338 P **P 10 20 04.2 +0.3**
comp=Z,5.5nm,0.5s,baz=93,slow=7.6,SNR=57
ARCES pP **pP 10 20 30.3 -0.7**
comp=Z,2.1nm,0.6s,baz=98,slow=8.8,SNR=2.2
ARCES PcP **PcP 10 20 40.8 0.0**
comp=Z,3.7nm,0.7s,baz=94,slow=3.6,SNR=4.9
comp=Z,5.5nm,0.5s
VOI Vohitsoka 63.38 230 P **P 10 20 06.5 -0.5**
VOI IAmb IAmb 10 20 26.3
comp=Z,18nm,1.4s
KTK1 Kautokeino 63.72 338 *e*P **P 10 20 07.8 -0.7**
HAMF Hammerfest 63.86 339 *e*P **P 10 20 09.8 +0.5**
FNA Florina 64.02 306 P 10 20 11.2 +0.1
FNA IAmb IAmb 10 20 11.6
comp=Z,8.8nm,0.8s
ITM Ithomi 64.03 302 P **P 10 20 11.0 -0.1**
ITM IAmb IAmb 10 20 28.2
comp=Z,12nm,0.8s
OJC Ojcow 64.38 317 P **P 10 20 13.4 +0.3**
PSZ Piszkesteto 64.45 314 P **P 10 20 14.4 +0.7**
JETT Jettan, Norway 64.80 338 *e*P **P 10 20 15.8 +0.3**
CTAO Charters Tower 65.05 126 P **P 10 20 18.2 +0.3**
TRO Tromso 65.32 338 *e*P **P 10 20 18.1 -0.7**
STEB Steborice 65.70 316 *e*P **P 10 20 22.3 +0.6**
MAUC Maruska 65.71 316 *e*P **P 10 20 22.7 +0.9**
MORC Moravsky Berou 65.86 316 P **P 10 20 23.7 +0.9**
INKA Innaminka 65.99 136 P **P 10 20 24.9 +1.1**
FAUS Fauske 66.53 336 *e*P **P 10 20 26.2 -0.4**
DPC Dobruska-Polom 66.60 317 *e*P **P 10 20 28.5 +1.0**
BEHE Becsehely 66.70 313 P **P 10 20 28.5 +0.3**
BEHE IAmb IAmb 10 20 30.2
comp=Z,8.0nm,0.9s
MOR8 Moi Rana 66.85 334 *e*P **P 10 20 27.9 -0.8**
SPB2 Spitsbergen Ar 66.98 347 P **P 10 20 29.6 +0.2**
SPA0 Spitsbergen Ar 66.98 347 *e*P **P 10 20 29.7 +0.3**
SPITS Spitsbergen Ar 66.98 347 P **P 10 20 29.4 0.0**
comp=Z,6.2nm,0.7s,baz=112,slow=9.1,SNR=13
comp=Z,6.2nm,0.7s
HSPB Hornsund (broa 67.03 346 *e*P **P 10 20 30.5 +0.9**
LOF Lofoten 67.20 336 *e*P **P 10 20 30.5 -0.3**
HFS Hagfors 67.36 328 P **P 10 20 32.0 -0.1**
comp=Z,8.2nm,0.5s,baz=104,slow=4.7,SNR=51
HFS pP **pP 10 21 00.0 +0.7**
comp=Z,3.7nm,0.6s,baz=64,slow=6.8,SNR=2.6
comp=Z,8.2nm,0.5s
KONS Konsvik 67.38 335 *e*P **P 10 20 31.4 -0.6**
TIP Timpagrande 67.76 305 P **P 10 20 35.5 +0.4**
TIP IAmb IAmb 10 20 36.2
comp=Z,6.2nm,0.7s
BRG Berggiesshubel 68.05 318 ⇑*i*P **P 10 20 39.0 +2.5**
BRG Amp 10 20 39.5
comp=Z,7.4nm,0.7s
OBKA Obir 68.22 313 *e*P **P 10 20 38.0 +0.1**
comp=Z,8.0nm,1.1s
MOA Molln 68.23 314 *i* P **P 10 20 38.1 +0.4**
comp=Z,4.7nm,0.4s
NC405 NORSAR Array S 68.27 329 P **P 10 20 37.7 -0.1**
NC405 IAmb IAmb 10 20 38.7
comp=Z,15nm,1.1s
NC602 NORSAR Array S 68.39 328 P **P 10 20 38.2 -0.3**
NC602 IAmb IAmb 10 20 56.5
comp=Z,13nm,1.2s
NC602 NORSAR Array S 68.39 328 *e*P **P 10 20 38.6 +0.1**
GEC2 GERESS Array S 68.46 315 P 10 20 40.1 +0.7
GEC2 IAmb IAmb 10 20 40.8
comp=Z,8.8nm,0.8s
GERES GERESS Array B 68.46 315 P **P 10 20 40.0 +0.7**
comp=Z,6.9nm,0.6s,baz=75,slow=7.2,SNR=37
GERES pP **pP 10 21 07.7 +1.0**
comp=Z,1.3nm,0.5s,baz=81,slow=4.2,SNR=2.9
comp=Z,6.9nm,0.6s
KHC Kasperske Hory 68.50 316 *e*P **P 10 20 40.1 +0.6**
NB2 NORSAR Subarra 68.52 329 P **P 10 20 38.6 -0.7**
comp=Z,2.1nm,0.4s,baz=94,slow=5.6
NOA NORSAR Array B 68.52 329 P **P 10 20 38.7 -0.6**
comp=Z,2.7nm,0.5s,baz=86,slow=6.2,SNR=15
NOA pP **pP 10 21 07.0 +0.2**
comp=Z,1.7nm,0.8s,baz=86,slow=6.3,SNR=2.6
NOA LR LR 10 53 14.1
comp=Z,8.0nm,19.0s,baz=80,slow=38
comp=Z,2.7nm,0.5s
CLL Collm 68.58 318 *i* P **P 10 20 40.0 +0.2**
comp=Z,3.0nm,0.8s
CEL Celeste 68.58 304 P 10 20 41.0 +0.8
CEL IAmb IAmb 10 20 42.6
comp=Z,18nm,0.9s
BIOA Bad Ischl, Aus 68.67 314 *e*P **P 10 20 40.7 +0.2**
comp=Z,2.5nm,0.5s
NC204 NORSAR Array S 68.72 329 P **P 10 20 40.6 +0.1**
NC204 IAmb IAmb 10 20 41.6
comp=Z,27nm,1.4s
MYKA Terra Mystica 68.82 313 *e*P **P 10 20 41.6 0.0**
comp=Z,1.2nm,0.5s
KBA Koelnbreinsper 68.96 314 *i* P **P 10 20 42.5 0.0**
comp=Z,4.6nm,0.5s
STKA Stephens Creek 69.34 138 P **P 10 20 43.6 -1.1**
comp=Z,2.0nm,0.4s,baz=311,slow=9.5,SNR=4.5
comp=Z,2.0nm,0.4s

LESA	Schwarzleotal	69.35	314	*i* P		P	10 20 44.8	0.0		
	comp=Z,9.3nm,0.6s,SNR=15									
NRCA	Norcia	69.83	309	lAmb		lAmb	10 20 50.5			
	comp=Z,14nm,1.1s									
WTTA	Wattenberg	70.08	314	*i* P		P	10 20 49.0	-0.4		
	comp=Z,5.6nm,0.4s,SNR=7.4									
SQTA	Sankt Quirin	70.37	314	*i* P		P	10 20 50.8	-0.3		
	comp=Z,6.1nm,0.4s,SNR=7.1									
MOTA	Moosalm	70.42	314	*e*P		P	10 20 51.2	-0.2		
	comp=Z,5.9nm,0.5s									
RETA	Reutte	70.62	314	*i* P		P	10 20 52.6	0.0		
	comp=Z,8.0nm,0.5s									
FETA	Feichten	70.73	314	*i* P		P	10 20 53.2	-0.1		
	comp=Z,2.8nm,0.5s,SNR=6.7									
FUORN	Ofenpass-Fuorn	71.12	314	P		P	10 20 56.3	+0.4		
FUORN				lAmb		lAmb	10 20 57.9			
	comp=Z,7.2nm,0.8s									
DAVA	Damuels	71.25	314	*e*P		P	10 20 56.5	0.0		
	comp=Z,4.1nm,0.4s									
EIDS	Eidsvold	71.74	127	P		P	10 21 00.0	+0.6		
EIDS				lAmb		lAmb	10 21 07.8			
	comp=Z,13nm,1.2s									
TUE	Stuetta	71.77	314	P		P	10 21 00.1	+0.4		
GAMB	Gambell	72.80	28	P		P	10 21 05.4	+0.3		
	baz=283									
SENIN	Lac Senin/Sane	73.17	314	P		P	10 21 08.7	+0.7		
SENIN				lAmb		lAmb	10 21 09.9			
	comp=Z,11nm,0.7s									
BNI	Bardonecchia	73.91	312	P		P	10 21 12.6	+0.3		
TNA	Tin City	73.93	25	P		P	10 21 11.9	+0.1		
	baz=286									
C16K	Lisburne Hills	74.14	22	P		P	10 21 13.2	+0.3		
	baz=287									
F14K	Arctic Creek	74.59	25	P		P	10 21 16.3	+0.7		
	baz=287									
LSZ	Lusaka	74.60	247	P		P	10 21 18.0	+1.4		
LSZ				lAmb		lAmb	10 21 18.3			
	comp=Z,8.4nm,0.5s									
C17K	DeLong Mountai	74.83	22	P		P	10 21 17.1	+0.1		
	baz=289									
A19K	Wainwright	74.95	20	P		P	10 21 18.1	+0.6		
	baz=291									
B18K	Kokolik River	75.00	21	P		P	10 21 18.8	+0.8		
	baz=290									
D17K	Noatak River	75.13	23	P		P	10 21 18.8	+0.1		
	baz=289									
SPIA	Saint Paul Isl	75.15	34	P		P	10 21 18.6	-0.3		
	baz=286									
F15K	North Star Dit	75.19	25	P		P	10 21 19.4	+0.3		
	baz=288									
E17K	Hotham Inlet	75.80	23	P		P	10 21 22.8	+0.3		
	baz=291									
C19K	Lookout Ridge	75.83	21	P		P	10 21 22.5	-0.3		
	baz=292									
E18K	Tukpahlearik C	76.12	23	P		P	10 21 25.0	+0.7		
	baz=292									
G16K	Koyuk River	76.19	25	P		P	10 21 24.7	0.0		
	baz=291									
F17K	Baldwin Pennin	76.24	24	P		P	10 21 25.1	+0.1		
	baz=291									
B20K	Meade River	76.26	20	P		P	10 21 25.4	+0.3		
	baz=294									
K13K	Kusilvak Mount	76.41	29	P		P	10 21 25.9	-0.2		
	baz=289									
A22K	Sinclair Lake	76.50	18	P		P	10 21 26.5	+0.1		
	baz=296									
H16K	Elim	76.51	26	P		P	10 21 26.1	-0.5		
	baz=291									
D19K	Kuna River	76.57	21	P		P	10 21 27.2	+0.3		
	baz=294									
J14K	Nanvaranak Lak	76.62	28	P		P	10 21 27.4	+0.2		
	baz=290									
F18K	Selawik	76.77	23	P		P	10 21 28.6	+0.6		
	baz=293									
G17K	Kiwalik Mounta	76.81	24	P		P	10 21 28.9	+0.6		
	baz=292									
D20K	Etivluk River	76.98	21	P		P	10 21 30.0	+0.7		
	baz=295									
EKA	Eskdalemuir Ar	77.12	324	P		P	10 21 30.8	+0.5		
	comp=Z,4.5nm,0.6s,baz=76,slow=6.2,SNR=13									
EKA				pP		pP	10 21 58.5	+0.3		
	comp=Z,2.9nm,0.7s,baz=70,slow=7.3,SNR=3.2									
	comp=Z,4.5nm,0.6s									
B21K	Ikpikpuk River	77.23	20	P		P	10 21 30.8	+0.3		
	baz=296									
B22K	Teshekpuk Lake	77.27	19	P		P	10 21 30.8	+0.1		
	baz=298									
E19K	Redstone River	77.30	22	P		P	10 21 30.7	-0.3		
	baz=295									
E20K	Nigu River	77.32	21	P		P	10 21 31.1	0.0		
	baz=295									
H17K	Granite Mounta	77.32	25	P		P	10 21 31.2	0.0		
	baz=293									
F19K	Shaleruckik Mo	77.36	23	P		P	10 21 31.1	-0.2		
	baz=294									
C21K	Knifeblade Rid	77.38	20	P		P	10 21 31.5	+0.1		
	baz=296									
I17K	Unalakleet	77.41	26	P		P	10 21 31.2	-0.4		
	baz=292									
G18K	Tagagawik	77.42	24	P		P	10 21 31.5	-0.2		
	baz=294									
L14K	Kuka Creek	77.50	29	P		P	10 21 31.6	-0.5		
	baz=291									
M13K	Dall Lake	77.53	30	P		P	10 21 31.8	-0.5		
	baz=291									
K15K	Wolf Creek Mou	77.66	28	P		P	10 21 33.0	-0.1		
	baz=292									
J16K	Anvik River	77.68	27	P		P	10 21 32.3	-0.9		
	baz=293									
H18K	Honhosa River	77.84	24	P		P	10 21 34.1	+0.1		
	baz=294									
G19K	Purcell Mounta	77.90	23	P		P	10 21 34.2	-0.2		
	baz=295									
L15K	Ungalak Mounta	77.91	28	P		P	10 21 34.4	-0.1		
	baz=292									
E21K	Killik River	77.97	21	P		P	10 21 35.8	+1.0		
	baz=297									
F20K	Avaraart Lake	78.00	22	P		P	10 21 35.2	+0.3		
	baz=296,SNR=5.2									
D22K	Ayikyak River	78.18	20	P		P	10 21 36.0	+0.2		
	baz=298									
UNV	Unalaska Valle	78.19	37	P		P	10 21 36.0	-0.2		
	baz=290									
J17K	VABM Dome	78.27	26	P		P	10 21 36.6	+0.2		
	baz=294									
C23K	Itkillik River	78.35	19	P		P	10 21 37.1	+0.3		
	baz=300									
H19K	Roundabout Mou	78.41	24	P		P	10 21 37.4	+0.3		
	baz=296									
N14K	Kuskokwak Cree	78.49	30	P		P	10 21 37.6	0.0		
	baz=292									
GCSA	Galena City Sc	78.58	25	P		P	10 21 38.2	+0.2		
	baz=296									
M15K	Kasigluk River	78.65	29	P		P	10 21 38.7	+0.2		
	baz=293									
F21K	Alatna River	78.70	22	P		P	10 21 38.5	-0.3		
	baz=298,SNR=8.0									
D23K	Nanushuk River	78.77	20	P		P	10 21 39.0	-0.1		
	baz=300,SNR=6.3									
L16K	Owhat River	78.78	28	P		P	10 21 39.7	+0.4		
	baz=294									
K17K	Iditarod	78.87	27	P		P	10 21 39.7	0.0		
	baz=295									
O14K	Tigyukauivet M	78.94	31	P		P	10 21 41.0	+0.9		
	baz=293									
C24K	Franklin Bluff	78.98	19	P		P	10 21 40.4	+0.2		
	baz=302									
H20K	Anotleneega Mo	79.01	23	P		P	10 21 40.6	+0.1		
	baz=297									
F22K	John River	79.01	21	P		P	10 21 40.5	0.0		
	baz=299									
G21K	Allakaket	79.03	22	P		P	10 21 40.6	0.0		
	baz=298									
L17K	Donlin	79.11	27	P		P	10 21 40.8	-0.3		
	baz=295									
N15K	Kwethluk River	79.13	29	P		P	10 21 40.8	-0.4		
	baz=294									
J18K	Innoko River	79.20	26	P		P	10 21 41.4	-0.2		
	baz=296									
D24K	Happy Valley	79.25	19	P		P	10 21 41.9	+0.2		
	baz=302									
TOLK	Toolik Lake Re	79.28	20	P		P	10 21 41.8	-0.1		
	baz=301									
M16K	Timber Creek	79.29	28	P		P	10 21 41.2	-0.9		
	baz=294									
J19K	Poorman	79.40	25	P		P	10 21 42.5	-0.1		
	baz=297									
I20K	Naaghedeneel	79.48	24	P		P	10 21 42.9	-0.1		
	baz=298									
NEEM	North Greenlan	79.50	353	*i* P		P	10 21 43.1	-0.1		
NEEM				lAmb		lAmb	10 21 44.5			
	comp=Z,24nm,0.6s									
FALS	False Pass	79.53	35	P		P	10 21 43.0	-0.4		
	baz=292									
G22K	Bettles	79.53	22	P		P	10 21 43.7	+0.5		
	baz=300									
E23K	Chandalar	79.57	20	P		P	10 21 43.5	-0.1		
	baz=301,SNR=8.5									
O15K	Ungalikthiuk R	79.65	30	P		P	10 21 43.4	-0.6		
	baz=294									
H21K	Melozitna Rive	79.69	23	P		P	10 21 44.2	0.0		
	baz=299,SNR=10									
M17K	Holitna River	79.80	28	P		P	10 21 44.7	-0.1		
	baz=296									
COLD	Coldfoot	79.81	21	P		P	10 21 44.8	0.0		
	baz=301									
D25K	Kavik River	79.89	18	P		P	10 21 44.9	-0.4		
	baz=304,SNR=9.6									
J20K	Nowinta River	79.90	25	P		P	10 21 45.5	+0.2		
	baz=298									
E24K	Your Creek	79.93	20	P		P	10 21 45.3	-0.2		
	baz=302,SNR=11									
C26K	Camden Bay	79.97	18	P		P	10 21 45.3	-0.3		
	baz=305									
H22K	Ishlitna Cre	80.09	22	P		P	10 21 46.3	0.0		
	baz=300,SNR=10									
G23K	Bananza Creek	80.14	21	P		P	10 21 46.7	+0.1		
	baz=301,SNR=6.3									
I21K	Tanana	80.23	23	P		P	10 21 46.9	-0.1		
	baz=300									
O16K	Kokwok River B	80.28	30	P		P	10 21 47.0	-0.4		
	baz=295									
N17K	Nushagak Hills	80.29	28	P		P	10 21 47.5	0.0		
	baz=296									
K20K	Telida	80.31	25	P		P	10 21 47.8	+0.3		
	baz=298									
F24K	Squaw Lake	80.42	20	P		P	10 21 47.9	-0.2		
	baz=303,SNR=5.9									
M18K	Stony River	80.45	27	P		P	10 21 48.3	-0.1		
	baz=297									
C27K	Jago River	80.48	18	P		P	10 21 48.1	-0.2		
	baz=306									
L19K	White Mountain	80.55	26	P		P	10 21 48.6	-0.2		
	baz=298									
O17K	Koliganek Bris	80.66	29	P		P	10 21 48.9	-0.5		
	baz=296									
CHUM	Lake Minchumin	80.75	24	P		P	10 21 49.4	-0.4		
	baz=300									
MLY	Manley	80.76	23	lAmb		lAmb	10 21 51.1			
	comp=Z,7.6nm,0.8s									
MLY	Manley	80.76	23	P		P	10 21 49.4	-0.6		
	baz=301									
H23K	Yukon River	80.77	22	P		P	10 21 50.5	+0.5		
	baz=302									
N18K	Kilae Creek	80.79	28	P		P	10 21 50.0	-0.2		
	baz=297									
L20K	Farewell, AK	80.81	26	P		P	10 21 49.7	-0.6		
	baz=298									
E25K	Arctic Village	80.81	19	P		P	10 21 49.5	-0.7		
	baz=305									
M19K	Big River Lodg	80.87	27	P		P	10 21 50.1	-0.4		
	baz=298									
SDPT	Sand Point	80.89	34	P		P	10 21 50.4	-0.3		
	baz=294									
S14K	Fog Glacier	80.98	33	P		P	10 21 50.8	-0.5		
	baz=295									
G24K	Hadweenzic Riv	81.00	21	P		P	10 21 50.8	-0.4		
	baz=303,SNR=6.1									
F25K	Christian Rive	81.09	20	P		P	10 21 51.7	0.0		
	baz=305,SNR=14									
BPAW	Bear Paw Mtn.	81.14	24	lAmb		lAmb	10 21 53.5			
	comp=Z,8.3nm,0.6s									
BPAW	Bear Paw Mtn.	81.14	24	P		P	10 21 52.1	+0.1		
	baz=301									
I23K	Minto, Yukon-K	81.19	23	P		P	10 21 52.2	0.0		
	baz=302									
PPLA	Purkeypile	81.28	25	P		P	10 21 52.6	-0.3		
	baz=300									
SUMG	Summit	81.32	347			P	10 21 53.1	-0.2		
SUMG	Summit	81.32	347	*i* P		P	10 21 53.0	-0.3		
SUMG				lAmb		lAmb	10 21 53.9			
	comp=Z,16nm,0.7s									
H24K	Noodor Dome	81.34	22	P		P	10 21 53.2	+0.1		
	baz=303									
N19K	Bonanza Creek	81.34	28	P		P	10 21 52.5	-0.7		
	baz=298									
Q16K	King Salmon	81.35	30	P		P	10 21 53.0	-0.1		
	baz=297									
M20K	Styx River	81.40	26	P		P	10 21 53.5	0.0		
	baz=299									
G25K	Bearman Lake	81.42	20	P		P	10 21 53.5	+0.1		
	baz=305,SNR=6.0									
D27M	Malcolm River	81.48	17	P		P	10 21 53.5	-0.2		
	baz=309									
F26K	Sheenjek River	81.50	19	P		P	10 21 53.8	-0.1		
	baz=306,SNR=9.6									
BMAR	Burnt Mountain	81.52	20			P	10 21 54.8	+0.9		
CHGN	Chignik	81.55	33	P		P	10 21 54.2	0.0		
	baz=296									
NEA2	Nenana	81.59	23	P		P	10 21 53.9	-0.4		
NEA2				lAmb		lAmb	10 21 54.6			
	comp=Z,6.5nm,0.6s									
NEA2	Nenana	81.59	23	P		P	10 21 54.4	0.0		
	baz=302									
O19K	Port Alsworth	81.71	28	P		P	10 21 54.7	-0.3		
	baz=298									
TRF	Thorofare Moun	81.74	24	P		P	10 21 54.5	-0.9		
	baz=301									
H25L	Birch Creek	81.80	21	P		P	10 21 55.0	-0.3		
	baz=305									
POKR	Poker Flat Res	81.90	22	P		P	10 21 55.5	-0.4		
	baz=304									
TULEG	Thule	81.95	356	*i* P		P	10 21 55.4	-0.5		
TULEG				lAmb		lAmb	10 21 56.2			
	comp=Z,27nm,1.0s									
E27K	Coleen River	81.97	18	P		P	10 21 56.0	-0.3		
	baz=308,SNR=5.8									
SKT	Skwentna	82.01	26	P		P	10 21 55.6	-1.0		
SKT	Skwentna	82.01	26	P		P	10 21 55.5	-1.1		
	baz=300,SNR=7.3									
G26K	Porcupine Rive	82.06	20	P		P	10 21 56.4	-0.2		
	baz=307,SNR=15									
MCK	McKinley	82.11	24			P	10 21 56.8	-0.2		
MCK				lAmb		lAmb	10 21 57.7			
	comp=Z,7.0nm,0.5s									
MCK	McKinley	82.11	24	P		P	10 21 56.3	-0.8		
	baz=302,SNR=6.6									
ILAR	Eielson Array	82.28	22	P		P	10 21 56.2	-1.7		
	comp=Z,2.3nm,0.6s,baz=284,slow=5.2,SNR=55									
	comp=Z,2.3nm,0.6s									
E28M	Babbage River	82.29	17	P		P	10 21 57.4	-0.5		
	baz=310									
CUT	Chulitna	82.30	25	P		P	10 21 57.6	-0.4		
	baz=302									
PRP	Porcupine Dome	82.33	21	lAmb		lAmb	10 21 59.6			
	comp=Z,9.5nm,0.7s									
PRP	Porcupine Dome	82.33	21	P		P	10 21 57.6	-0.7		
	baz=305									
HDA	Harding Lake	82.47	23	P		P	10 21 57.8	-1.1		
	baz=304									
O20K	Slope Mountain	82.51	28	P		P	10 21 58.6	-0.7		
	baz=300									
SUA	Susitna One	82.60	26	P		P	10 21 58.9	-0.8		
	baz=301									
Q19K	Cape Douglas,	82.62	29	P		P	10 21 58.5	-1.3		
	baz=299									
M22K	Willow	82.70	26	P		P	10 21 59.4	-0.7		
	baz=302									
KULLO	Kullorsuaq	82.74	353	*i* P		P	10 21 59.9	-0.2		
KULLO				lAmb		lAmb	10 22 01.1			
	comp=Z,15nm,0.9s									
WAT1	Susitna Watana	82.74	24	P		P	10 21 59.6	-0.8		
	baz=303									
CAPN	Captain Cook N	82.79	27	P		P	10 21 59.5	-1.1		
	baz=301									
G27K	Doyon Strip	82.81	19	P		P	10 21 59.7	-1.0		
	baz=308									
F28M	Old Crow	82.83	18	P		P	10 22 00.5	-0.3		
	baz=310,SNR=8.7									
E29M	Blow River	82.89	17	P		P	10 22 00.2	-0.8		
	baz=312									
R18K	Karluk	82.91	30	P		P	10 22 00.4	-0.8		
	baz=299									
J25K	Salcha River,	82.91	22	P		P	10 22 00.3	-1.0		
	baz=306									
ESDC	Sonseca Array	83.05	310	P		P	10 22 02.8	+0.3		
	comp=Z,1.6nm,0.8s,baz=47,slow=4.7,SNR=8.1									
ESDC				pP		pP	10 22 31.6	+0.8		
	comp=Z,1.7nm,0.8s,baz=53,slow=4.4,SNR=5.0									
	comp=Z,1.6nm,0.8s									
DHY	Denali Highway	83.06	24	P		P	10 22 01.2	-1.0		
	baz=304									
CHIR	Chirikof Islan	83.16	32	P		P	10 22 01.2	-1.4		
	baz=298									
A36M	Sachs Harbour	83.16	12	P		P	10 22 01.6	-0.7		
	baz=323,SNR=25									
PMR	Palmer	83.19	26	P		P	10 22 01.6	-1.0		
PMR				lAmb		lAmb	10 22 03.0			
	comp=Z,4.5nm,0.6s									
PMR	Palmer	83.19	26	P		P	10 22 01.5	-1.1		
	baz=303,SNR=6.5									
WAT6	Susitna Watana	83.19	24	P		P	10 22 01.8	-1.1		
	baz=304,SNR=7.7									
RC01	Rabbit Creek A	83.21	26	P		P	10 22 01.6	-1.2		
	baz=302									
H27K	Steamboat Moun	83.21	20	P		P	10 22 02.0	-0.8		
	baz=309,SNR=10									
K24K	Donnelly Dome	83.23	23	P		P	10 22 01.4	-1.5		
	baz=305,SNR=16									
BOSA	Boshof	83.25	236	P		P	10 22 04.8	+1.1		
	comp=Z,5.8nm,0.5s,baz=67,slow=4.1,SNR=23									
BOSA				pP		pP	10 22 32.8	+0.8		
	comp=Z,3.6nm,0.7s,baz=92,slow=6.4,SNR=2.9									
	comp=Z,5.8nm,0.5s									
I26K	Coal Creek Min	83.25	21	P		P	10 22 02.1	-0.9		
	baz=307									
Q20K	Shuyak Island	83.35	29	P		P	10 22 02.1	-1.4		
	baz=300									
BRLK	Bradley Lake	83.42	28	lAmb		lAmb	10 22 03.6			
	comp=Z,6.7nm,0.7s									
BRSE	Bradley Lake S	83.50	28	P		P	10 22 03.2	-1.1		
	baz=301									
KNK	Knik Glacier	83.56	26	lAmb		lAmb	10 22 05.4			
	comp=Z,7.0nm,0.7s									
KNK	Knik Glacier	83.56	26	P		P	10 22 03.4	-1.2		
	baz=303,SNR=5.6									
I27K	Kandik River	83.58	20	P		P	10 22 04.0	-0.6		
	baz=309									
J26L	Joseph Creek	83.60	22	P		P	10 22 04.0	-0.9		
	baz=307									
RIDG	Independent Ri	83.61	23	lAmb		lAmb	10 22 05.5			
	comp=Z,7.0nm,0.6s									
RIDG	Independent Ri	83.61	23	P		P	10 22 03.3	-1.6		
	baz=306,SNR=9.6									
OHAK	Old Harbor	83.62	30	P		P	10 22 04.1	-0.8		
	baz=300									
M23K	Glacier View	83.64	25	P		P	10 22 03.9	-1.1		
	baz=304,SNR=6.4									
KDAK	Kodiak Island	83.67	30	P		P	10 22 04.0	-1.2		
	baz=300									
SCM	Sheep Creek Mo	83.77	25	P		P	10 22 04.6	-1.1		
	baz=304									
SCRK	Sand Creek	83.77	22	lAmb		lAmb	10 22 06.1			
	comp=Z,6.9nm,0.8s									
SCRK	Sand Creek	83.77	22	P		P	10 22 04.6	-1.2		
	baz=307,SNR=12									
PAX	Paxson	83.83	23	P		P	10 22 05.6	-0.5		
	baz=306,SNR=6.1									
G29M	Pine Creek	83.84	18	P		P	10 22 05.0	-0.9		
	baz=312									
SEW	Seward	83.86	27	P		P	10 22 04.8	-1.2		
	baz=302									
PWL	Port Wells	83.91	26	lAmb		lAmb	10 22 07.0			
	comp=Z,11nm,0.8s									
PWL	Port Wells	83.91	26	P		P	10 22 05.3	-1.1		
	baz=303,SNR=13									
F30M	Barrier River	84.00	17	P		P	10 22 06.4	-0.3		
	baz=314									
M24K	Tolsona, Glenn	84.06	24	P		P	10 22 06.4	-0.8		
	baz=305									
INK	Inuvik	84.12	16	P		P	10 22 06.8	-0.5		
INK				lAmb		lAmb	10 22 07.5			
	comp=Z,8.1nm,0.6s									
INK	Inuvik	84.12	16	P		P	10 22 06.7	-0.5		
	baz=316,SNR=11									
H29M	Whitestone	84.20	19	P		P	10 22 06.6	-1.1		
	baz=312,SNR=8.0									
UPNV	Upernavik	84.21	352	*i* P		P	10 22 07.5	-0.2		
UPNV				lAmb		lAmb	10 22 07.9			
	comp=Z,25nm,1.1s									
I28M	Miner Creek	84.22	20	P		P	10 22 06.9	-1.0		
	baz=310,SNR=8.7									
HARP	HAARP	84.28	24	P		P	10 22 07.6	-0.6		
	baz=306									
G30M	tAoh Zraii Nji	84.32	18	P		P	10 22 07.2	-1.2		
	baz=313,SNR=13									
GLI	Glacier Island	84.40	26	P		P	10 22 08.0	-0.8		
	baz=304									
K27K	Chicken	84.41	22	P		P	10 22 09.0	+0.2		
	baz=308									
MENT	Mentasta	84.50	23	P		P	10 22 10.0	+0.7		
MENT				lAmb		lAmb	10 22 11.3			
	comp=Z,4.6nm,0.5s									
KLU	Klutina	84.52	25	P		P	10 22 09.6	0.0		
KLU				lAmb		lAmb	10 22 10.8			
	comp=Z,8.7nm,0.8s									
KLU	Klutina	84.52	25	P		P	10 22 08.8	-0.7		
	baz=305,SNR=11									
L26K	Log Cabin Wild	84.58	23	P		P	10 22 09.0	-0.8		
	baz=307									
EPYK	Eagle Plains	84.59	18	P		P	10 22 08.8	-0.9		
	baz=313,SNR=5.1									
F31M	Tsiigehtchic	84.68	17	P		P	10 22 09.3	-0.7		
	baz=316,SNR=5.1									
FID	Port Fidalgo	84.72	26	lAmb		lAmb	10 22 11.6			
	comp=Z,10nm,1.1s									
I29M	Qgilvie Camp,	84.79	20	P		P	10 22 09.7	-1.1		
	baz=312									
G31M	Satah River	84.91	17	P		P	10 22 10.5	-0.7		
	baz=315,SNR=5.8									
HIN	Hinchinbrook I	84.92	26	lAmb		lAmb	10 22 12.8			
	comp=Z,12nm,1.0s									
N25K	Chitina, Valde	84.97	24	P		P	10 22 11.5	-0.3		
	baz=306,SNR=21									
M26K	Nabesna, AK	85.09	23	P		P	10 22 11.8	-0.6		
	baz=308									
L27K	Beaver Creek,	85.10	22	P		P	10 22 12.2	-0.2		
	baz=309									
BCAR	Beaver Creek A	85.11	22	P		P	10 22 12.9	+0.4		
EYAK	Cordova Ski Ar	85.13	26	P		P	10 22 12.7	+0.2		
	baz=306,SNR=5.6									
DAWY	Dawson	85.30	21

CTG	Chitna Glacier	86.60	24	P	P	10 22 19.6	-0.4	
	baz=309							
ISOG	Isortoq, Green	86.61	342	*i* P	P	10 22 12.6	-7.1	
M29M	Somme Creek	86.68	22	P	P	10 22 20.4	+0.1	
	baz=312							
MAYO	Mayo, Yukon	86.76	20	P	P	10 22 20.8	+0.3	
	baz=314							
MESA	MESA	86.86	25	IAmb	IAmb	10 22 23.9		
	comp=Z,9.8nm,1.0s							
MESA	MESA	86.86	25	P	P	10 22 20.2	-1.2	
	baz=309							
O28M	Mount Upton	87.16	24	P	P	10 22 22.5	-0.4	
	baz=310							
M30M	Minto, Yukon	87.17	21	P	P	10 22 22.3	-0.3	
	baz=313,SNR=6.4							
YUK4	Talbot Arm	87.35	23	P	P	10 22 23.6	0.0	
	baz=312							
PINM	Pinnacle	87.57	24	P	P	10 22 24.8	+0.2	
	baz=310							
YUK6	Outpost Mounta	87.72	23	P	P	10 22 25.5	0.0	
	baz=312							
N30M	Aishikik Lake	87.83	22	P	P	10 22 26.1	+0.4	
	baz=313							
TORD	Torodi Ar. Bea	88.02	283	P	P	10 22 27.4	0.0	
	comp=Z,1.9nm,0.5s,baz=59,slow=4.8,SNR=16							
TORD				pP	pP	10 22 57.1	+1.1	
	comp=Z,2.6nm,0.9s,baz=57,slow=5.0,SNR=6.0							
	comp=Z,1.9nm,0.5s							
O29M	Mount Kennedy	88.07	24	P	P	10 22 27.2	+0.2	
	baz=312							
HYT	Haines Junctio	88.11	23	P	P	10 22 27.4	+0.2	
	baz=312							
PNL	Peninsula	88.18	24	P	P	10 22 27.8	+0.4	
	baz=311							
M31M	Drury Creek, Y	88.23	21	P	P	10 22 27.9	+0.3	
	baz=315							
N31M	Braeburn, Yuko	88.27	22	P	P	10 22 28.1	+0.3	
	baz=314							
O30N	Mendenhall	88.66	22	P	P	10 22 29.8	+0.1	
	baz=314							
P30M	Million Dollar	88.79	23	P	P	10 22 31.0	+0.7	
	baz=313							
P29M	Windy Craggy	88.83	24	P	P	10 22 30.5	0.0	
	baz=312							
MMPY	Sheldon Lake,	88.93	19	IAmb	IAmb	10 22 32.1		
	comp=Z,7.5nm,1.0s							
MMPY	Sheldon Lake,	88.93	19	P	P	10 22 30.8	-0.1	
	baz=318							
WHY	Whitehorse	89.16	22	P	P	10 22 31.8	-0.3	
	baz=315							
N32M	Quiet Lake	89.42	21	P	P	10 22 33.9	+0.7	
	baz=316							
PLBC	Pleasant Camp	89.47	23	P	P	10 22 33.2	-0.1	
	baz=314							
SKAG	Skagway	89.84	23	P	P	10 22 35.3	+0.2	
	baz=314							
P33M	Teslin, Yukon	90.20	22	P	P	10 22 36.8	-0.1	
	baz=317							
P32M	Atlin	90.33	22	P	P	10 22 37.8	+0.3	
	baz=316							
TGTN	Hyland Airport	90.68	19	P	P	10 22 39.4	+0.3	
	baz=321							
R32K	Eaglecrest	90.98	24	P	P	10 22 41.1	+0.6	
	baz=315							
Q32M	Nakina River	91.30	22	P	P	10 22 42.5	+0.3	
	baz=317							
R33M	Jennings River	91.43	21	P	P	10 22 42.7	-0.1	
	baz=318							
WTLY	Watson Lake, Y	91.61	20	P	P	10 22 43.8	+0.4	
	baz=320							
MAW	Mawson	91.62	192	P	P	10 22 42.8	-0.1	
	comp=Z,1.1nm,0.7s,baz=345,slow=9.2,SNR=2.0							
	comp=Z,1.1nm,0.7s							
DLBC	Dease Lake	92.47	22	P	P	10 22 47.6	+0.1	
	baz=319							
S34M	Telegraph Cree	92.48	23	P	P	10 22 46.9	-0.5	
	baz=318							
YKA	Yellowknife Ar	93.41	13	P	P	10 22 50.8	-0.8	
	comp=Z,1.4nm,0.8s,baz=336,slow=5.1,SNR=7.0							
	comp=Z,1.4nm,0.8s							
T35M	Bob Quinn	93.50	23	P	P	10 22 51.5	-0.7	
	baz=319							
CRAG	Craig	93.53	25	P	P	10 22 52.6	+0.4	
	baz=316							
TOAD	Toad River Com	93.73	20	P	P	10 22 52.7	-0.5	
	baz=323							
QSPA	South Pole Qui	111.03	180	PKiKP	PKiKP	10 28 09.7	+0.9	
	comp=Z,1.9nm,0.8s,baz=286,slow=0.5,SNR=9.0							
SNAA	Sanae	112.31	200	PKiKP	PKiKP	10 28 10.6	-0.5	
	comp=Z,0.5nm,0.7s,baz=39,slow=6.5,SNR=1.6							
PDAR	Pinedale Array	112.55	19	PKiKP	PKiKP	10 28 12.1	-0.7	
	comp=Z,0.2nm,0.4s,baz=307,slow=1.9,SNR=5.2							
BELA	Belgrano 2	118.45	191		PKPdf	10 28 21.3	-1.4	
R40A	Maddies Statio	120.46	6		PKPdf	10 28 27.4	-0.4	
Y22A	Socorro	121.43	21		PKiKP	10 28 30.7	+0.5	
SGCY	Sterling City	125.06	16		PKiKP	10 28 37.2	-0.1	
TXAR	Lajitas Array	126.74	20	PKP	PKPdf	10 28 40.2	-0.1	
	comp=Z,1.0nm,0.6s,baz=88,slow=0.4,SNR=18							
BDFB	Brasilia	144.20	272	PKP	PKPdf	10 29 12.3	-0.5	
	comp=Z,5.7nm,0.6s,baz=80,slow=5.6,SNR=9.2							
BAUV	El Baul	145.54	329	PKPbc	PKPab	10 29 16.0	+0.3	
SMRC	Santa Marta, M	146.02	340	PKPbc	PKPbc	10 29 17.1	+0.2	
BOAV	Boa Vista	146.21	311	PKPbc	PKPbc	10 29 17.4	-0.1	
BOAB	BOACO BROADBAND	146.55	1	PKPbc	PKPbc	10 29 18.4	0.0	
MG04	Isla Riesco	146.67	195	PKPbc	PKPab	10 29 18.6	-0.3	
SDV	Santo Domingo	146.78	333	PKPbc	PKPbc	10 29 19.4	0.0	
ESPN	Las Esperanzas	146.79	358	PKPbc	PKPbc	10 29 18.9	-0.1	
RUSC	La Rusia	150.50	335		PKPdf	10 29 24.5	+0.6	
ROSC	El Rosal	151.94	336	PKP	PKPdf	10 29 25.6	-0.4	
	comp=Z,18nm,0.8s,baz=143,slow=2.8,SNR=6.5							
ROSC				PKPbc	PKiKP	10 29 34.0	+1.2	
	comp=Z,80nm,0.8s,baz=123,slow=8.2,SNR=24							
CPUP	Villa Florida	153.87	253	PKP	PKPdf	10 29 27.4	-0.5	
	comp=Z,0.7nm,0.7s,baz=216,slow=1.0,SNR=4.9							
CPUP				PKPbc	PKPbc	10 29 35.5	-0.4	
	comp=Z,1.5nm,0.6s,baz=333,slow=2.7,SNR=12							
CPUP				PKPab	PKPab	10 29 49.8	+0.3	
	comp=Z,0.8nm,0.7s,baz=139,slow=13,SNR=4.0							
BO01	Tunca	161.81	221		PKPdf	10 29 39.1	+1.7	
LPAZ	La Paz	162.97	284	PKP	PKPdf	10 29 39.9	0.0	
	comp=Z,1.5nm,0.8s,baz=96,slow=5.2,SNR=6.2							
LPAZ				PKPab	PKPab	10 30 28.2	-1.7	
	comp=Z,0.5nm,0.4s,baz=64,slow=3.6,SNR=1.9							

IDC ***06*** *10:15:32.5±1.9,30°.24S×177°.46W,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=51.4km s-min=21.8km az=78.0*

ISC 06 10:15:37.0±1.6,30°.38S±0°.08×177°.7W±0°.3,h35km,n9, σ2.9 30/8,mb3.7/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	1.14	352	Pn	Pn	10 15 55.7	-0.7
	229nm,0.3s,baz=221,slow=19,SNR=2.3						
RAO				Sn	Sn	10 16 09.1	-1.7
	1µm,0.3s,baz=143,slow=20,SNR=9.7						
URZ	Urewera	8.93	207	Pn	Pn	10 17 40.8	-2.7
	baz=0.5,slow=18						
URZ				Sn	Sn	10 19 21.9	-0.9
	0.9nm,0.3s,baz=54,slow=19,SNR=8.2						
ASAR	Alice Springs	43.34	267	P	P	10 23 38.5	+2.6
	0.2nm,0.3s,baz=106,slow=7.5,SNR=5.9						
	0.2nm,0.3s						
WRA	Warramunga Arr	44.32	272	P	P	10 23 46.3	+2.4
	0.4nm,0.3s,baz=111,slow=8.1,SNR=3.8						
	0.4nm,0.3s						
QSPA	South Pole Qui	59.73	180	P	P	10 25 39.5	+1.5
	0.8nm,1.0s,baz=27,slow=16,SNR=2.0						
	0.8nm,1.0s						
H03N3	Juan Fernandez	80.48	123	T	T	11 57 30.2	
	baz=237,slow=72,SNR=31						
H03N2	Juan Fernandez	80.48	123	T	T	11 57 28.2	
	baz=237,slow=72,SNR=31						
H03N1	Juan Fernandez	80.49	123	T	T	11 57 33.3	
	baz=237,slow=72,SNR=28						
FINES	FINESS Array B	145.21	340	PKPbc	PKPab	10 35 09.9	-0.1
	4.8nm,1.0s,baz=17,slow=1.5,SNR=6.6						

SOME ***06*** *10:22:15.1,43°.63N×69°.52E*

NNC 06 10:22:16.8±1.9,43°.55N×69°.65E,h0km,mb3.5,mpv2.8, 2C,Error ellipse: s-maj=10.7km s-min=8.5km az=149.0, Suspected Mining explosion.,Central Kazakhstan

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

BRLS	Boroldoy	0.53	165	P	Pn	10 22 31.8	+0.2
	2.1nm,0.2s						
BRLS				S	Sn	10 22 43.9	+2.5
	20nm,0.4s						
KK31	Karatay Array	0.77	125	⇑P	Pg	10 22 31.0	-0.5
	1.0nm,0.3s,baz=301,slow=16,SNR=63						
KK31				⇑S	Sg	10 22 42.6	+1.1
	20nm,0.5s,baz=298,slow=29,SNR=77						
MRKS	Merke	2.74	106	Pg	Pg	10 23 08.9	-0.4
	1.9nm,0.4s						
MRKS				Lg	Lg	10 23 47.4	
	10nm,0.4s						
BTLS	Baital	3.50	63	Pg	Pb	10 23 21.3	+1.8
	5.6nm,0.5s						
BTLS				Lg	Lg	10 24 09.1	
	5.8nm,0.7s						
KST	Kastek	4.64	94	Pg	Pg	10 23 43.3	-2.4
	3.2nm,0.7s						
KST				Lg	Lg	10 24 46.3	
	8.3nm,0.6s						
KTBS	Karatobe	5.11	86	Pg	Pg	10 23 51.7	-3.0
	2.0nm,0.7s						
KTBS				Lg	Lg	10 25 00.9	
	6.2nm,0.5s						

IDC ***06*** *10:32:55.3±0.3,13°.83N×120°.72E,h106km±2km,mb4.5/36, mbtmp4.9/38,MS3.4/32,Error ellipse: s-maj=11.3km s-min=7.3km az=87.0*

MOS ***06*** *10:32:56.2±0.8,13°.86N×120°.73E,h128km,mb4.9/69, Error ellipse: s-maj=7.6km s-min=4.2km az=114.7*

GCMT ***06*** *10:32:56.7±0.2,14°.01N±0°.01×120°.47E±0°.02, h106km±3km,MW4.9/119,Moment Tensor Solution. s52,c63; s119,c168; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr0.43±.10; Mθθ0.97±.12; Mφφ-1.40±.11; Mrθ2.56±.05; Mθφ0.38±.10; Mφr-1.38±.06; Best double couple: M=3.16600×10^16 NP1:φ=27.00000°, δ24.00000°, λ172.00000° NP2:φ=124.00000°, δ87.00000°, λ67.00000°. Principal axes: T 3.3650, Plg43.0000°, Azm11.0000°; N -0.3990, Plg23.0000°, Azm125.0000°; P -2.9670, Plg37.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***06*** *10:32:56.5,13°.86N×120°.85E,h136km,mB5.4/11, mb5.1/74*

NEIC ***06*** *10:32:56.6±1.6,13°.89N±0°.06×120°.68E±0°.05, h109km±4km,mb5.0/181,Mww4.9/18, Error ellipse: s-maj=9.7km s-min=6.1km az=155.0*

DJA ***06*** *10:33:00.0±0.4,14°.N±3°×12°.1E±°,h133km±5km,M5.1/80, mB5.5/43,mb5.3/80,MLv5.9/1,Mw(mB)5.0/43*

ISC 06 10:32:55.9±0.3,13°.83N±0°.03×120°.71E±0°.05,h110km±2km, h110km:pP-P,n896,σ1°.34/897,mb5.0/244,41C-17D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	Tagaytay City	0.35	40	P	Pn	10 33 12.5	+0.5
	38µm,0.3s,baz=267,slow=1.6,SNR=1064						
TGY				S	Sn	10 33 24.3	+0.2
	90µm,0.3s,baz=311,slow=19,SNR=16						
SZP	Santa	3.70	356	P	Pn	10 33 54.3	+3.0
DAV	Davao City (W)	8.26	144	Pn	Pn	10 34 53.8	+0.9
DAV	Davao City (W)	8.26	144	LR	LR	10 39 15.5	
	comp=Z,127nm,18.2s,baz=339,slow=46						
MYLDM	Lahad Datu	8.87	194		Pn	10 35 04.6	+3.3
MYLDM	Lahad Datu	8.87	194	P	Pn	10 35 05.1	+3.9
KKM	Kota Kinabalu	8.91	210		Pn	10 35 03.9	+2.0
KKM	Kota Kinabalu	8.91	210	P	Pn	10 35 04.3	+2.4
TWGBT	Beinan	8.94	2	P	Pn	10 35 06.7	+4.5
TWG	Pinlang	8.95	2		Pn	10 35 01.5	-0.7
TPUB	Ta-pu	9.42	360		Pn	10 35 09.2	+0.6
YULB	Yu-li	9.52	3		Pn	10 35 08.9	-1.2
YULB	Yu-li	9.52	3	P	Pn	10 35 13.3	+3.2
SSLB	Suanglung	9.90	1	Pn	Pn	10 35 14.1	-1.1
SSLB	Suanglung	9.90	1	P	Pn	10 35 19.4	+4.2
NACB	Ninganchiao	10.32	5	Pn	Pn	10 35 20.8	0.0
KNMB	Chin-men Tao	10.80	349		Pn	10 35 27.7	+0.5
YHNB	Yeheng	10.80	3	Pn	Pn	10 35 27.7	+0.4
YHNB	Yeheng	10.80	3	P	Pn	10 35 32.4	+5.0
QZH	Quanzhou	11.23	350	P	Pn	10 35 33.1	0.0
QIZ	Qiongzhong	11.63	298	P	Pn	10 35 43.0	+4.5
QIZ				S	Sn	10 37 39.6	-6.8
QIZ				LR	LR		
	comp=Z,440nm,13.4s						
DLV	Lat	12.06	262		Pn	10 35 43.7	-0.6
DLV	Lat	12.06	262	P	Pn	10 35 46.6	+2.2
TOLI2	Tolitoli	12.64	180		Pn	10 35 53.1	+1.3
TOLI2	Tolitoli	12.64	180	P	Pn	10 35 56.0	+4.1
MRSI	Marisa	13.33	175	P	Pn	10 36 03.7	+2.9
	1µm122nm,0.9s						
KMSI	Cibinong	13.57	166	P	P	10 36 08.6	-0.5
	5µm360nm,0.8s						
SBUM	Sibu	14.08	217		Pn	10 36 11.3	+0.8
SBUM	Sibu	14.08	217	P	Pn	10 36 11.4	+0.8
TNTI	Ternate	14.56	153	Pn	Pn	10 36 17.1	+0.4
SMKI	Samarinda	14.61	194	P	P	10 36 21.4	+0.8
PCI	Palu	14.67	183	P	P	10 36 23.3	+2.0
	100nm,1.2s						
APSI	Ampana	14.68	176	P	Pn	10 36 20.6	+2.4
	2µm180nm,0.9s						
JOW	Kunigami	14.74	28	Pn	Pn	10 36 18.5	-0.4
JOW	Kunigami	14.74	28	P	Pn	10 36 18.0	-0.9
	29nm,0.5s,baz=198,slow=23,SNR=3.6						
LUWI	Luwuk	14.92	172	Pn	Pn	10 36 21.4	+0.1
LUWI	Luwuk	14.92	172	P	P	10 36 25.3	+1.2
LUWI	Luwuk	14.92	172	P	P	10 36 26.3	+2.2
	2µm280nm,0.9s						
BKB	Balikpapan	15.46	194	Pn	Pn	10 36 26.1	-2.0
BKB	Balikpapan	15.46	194	P	P	10 36 34.9	+4.8
	392nm,1.0s						
KSM	Kuching	16.02	221		Pn	10 36 34.5	-0.5
STKI	Sintang	16.45	214	P	P	10 36 43.2	+2.1
	265nm,1.1s						
SANI	Sanana	16.63	161	P	Pn	10 36 42.1	-0.4
	67nm,0.8s						
TTSI	Tana Toraja	16.79	183	P	P	10 36 46.2	+1.4
	1µm59nm,0.7s						
WHN	Wuhan	17.63	342	P	Pn	10 36 55.9	+1.3
WHN				pmax	pmax		
	comp=Z,160nm,0.9s						
SLVN	Son La	17.66	297		P	10 36 53.3	-1.1
SPSI	Sidrap Palu	17.71	183	P	Pn	10 36 58.2	+2.6
	56nm,0.8s						
NLAI	Nanlea	18.11	159	P	Pn	10 37 01.6	+1.2
BNSI	Bone	18.13	182	P	Pn	10 37 03.1	+2.5
	89nm,0.9s						
NJ2	Nanjing	18.21	355	⇓P	Pn	10 37 03.8	+2.3
NJ2				pmax	pmax		
	comp=Z,41nm,0.8s						
KAPI	Kappang	18.75	183		P	10 37 06.6	+0.2
KAPI	Kappang	18.75	183	P	P	10 37 07.6	+1.3
	60nm,0.5s,baz=7.1,slow=5.2,SNR=35						
KAPI				LR	LR	10 46 05.5	
	comp=Z,74nm,18.5s,baz=359,slow=42						
KAPI	Kappang	18.75	183	P	Pn	10 37 08.7	+0.7
KAPI	Kappang	18.75	183	*i* P	Pn	10 37 09.4	+1.4
MSAI	Masohi	18.92	154	P	Pn	10 37 11.7	+1.7
	113nm,0.9s						
AAI	Ambon	18.93	156	P	Pn	10 37 11.4	+1.3
	64nm,0.6s						
BKSI	Bulukumba	19.04	182	P	P	10 37 11.7	+2.2
	121nm,0.8s						
BBSI	Bau Bau	19.29	174	P	P	10 37 14.4	+2.2
	246nm,1.0s						
ENH	Enshi	19.36	329	P	P	10 37 13.4	+0.5
BSSI	Bau Bau, Buton	19.85	181	P	P	10 37 20.0	+1.7
	198nm,0.9s						
FAKI	Fak Fak	20.20	145	P	P	10 37 22.4	+0.2
KMI	Kunming	20.29	306	P	P	10 37 24.6	+1.3
KMI				pmax	pmax		
	comp=Z,24nm,1.0s						
KMI				LR	LR		
	comp=Z,250nm,10.9s						
TPRI	Tanjung Pinang	20.52	233	P	P	10 37 25.6	+0.1
BTDF	Bukit Timah Da	20.84	235	P	P	10 37 29.9	+1.0
TPI	Tanjungpandan	20.96	219	P	P	10 37 32.0	+1.8
	2µm165nm,0.9s						
SURA	Surathani	21.16	260	P	P	10 37 33.1	+0.7
JNU	Nakatsue	21.32	24	P	P	10 37 34.1	+0.1
JNU	Nakatsue	21.32	24	P	P	10 37 35.7	+1.7
DSRI	Dabo	21.39	230	P	P	10 37 35.0	+0.1
	195nm,0.7s						
CM31	Chiang Mai Arr	21.40	285	P	P	10 37 35.0	0.0
CMAR	Chiang Mai Arr	21.40	285	P	P	10 37 35.5	+0.6
CMAR	Chiang Mai Arr	21.40	285	P	P	10 37 35.8	+0.8
	21nm,1.2s,baz=91,slow=9.0,SNR=50						
CMAR				PcP	PcP	10 41 35.6	+1.0
	1.0nm,0.7s,baz=112,slow=2.6,SNR=4.0						
CMAR				ScP	ScP	10 45 00.6	-1.1
	1.7nm,0.9s,baz=91,slow=2.1,SNR=8.5						
	21nm,1.2s						
CHTO	Chiang Mai	21.46	286		P	10 37 36.0	+0.4
CHTO	Chiang Mai	21.46	286	P	P	10 37 35.9	+0.3
CHTO	Chiang Mai	21.46	286	P	P	10 37 36.0	+0.4
PPBI	Pangkal Pinang	21.48	223	P	P	10 37 35.4	-0.4
KULM	Kulim	21.50	249	P	P	10 37 36.5	+0.4
KULM	Kulim	21.50	249	P	P	10 37 36.2	+0.1
IPM	Ipoh	21.52	246	P	P	10 37 35.9	-0.4
IPM	Ipoh	21.52	246	P	P	10 37 35.7	-0.6
PZH	PanZhiHua	21.77	308	P	P	10 37 39.6	+0.6
PZH				pmax	pmax		
	comp=Z,30nm,1.1s						
KMMI	Kalianget	21.80	198	P	P	10 37 41.4	+2.2
	153nm,1.2s						
LYN	LuoYang	21.93	342	P	P	10 37 41.1	+0.7
LYN				pmax	pmax		
	comp=Z,170nm,1.3s						
MMRI	Maumere	22.38	176	P	P	10 37 45.8	+0.6
MMRI	Maumere	22.38	176	P	P	10 37 52.3	+7.1
	194nm,0.8s						
ABJI	Asem Bagus	22.43	197	P	P	10 37 49.1	+3.4
	3µm299nm,1.2s						
SRBI	Singaraja	22.45	194	P	P	10 37 47.4	+1.5
	3µm366nm,1.0s						
EDFI	Ende, Flores	22.46	177	P	P	10 37 46.3	+0.1
TIA	Tai'an	22.51	352	P	P	10 37 46.2	-0.2
TIA				pmax	pmax		
	comp=Z,100nm,1.0s						
BLJI	Banyuglugur	22.57	199	P	P	10 37 49.6	+2.4
	181nm,0.7s						
PLAI	Plampang	22.70	188	P	P	10 37 49.8	+1.3
PLAI	Plampang	22.70	188	P	P	10 37 49.8	+1.3
TWSI	Taliwang, Sumb	22.74	190	P	P	10 37 50.1	+1.2
	2µm148nm,1.0s						
PMBI	Palembang	22.96	225	P	P	10 37 52.4	+1.3
NGJI	Ngawi	22.98	204	P	P	10 37 54.4	+3.2
	3µm302nm,1.0s						
DNP	Denpasar	23.02	194	P	P	10 37 55.3	+3.7
	587nm,1.2s						
CD2	Chengdu	23.06	320	P	P	10 37 51.4	-0.6
CD2				pP	pwP	10 38 18.1	+2.5
CD2				pmax	pmax		
	comp=Z,220nm,0.8s						
JAGI	Jajag, Banyuwa	23.09	197	P	P	10 37 53.2	+0.9
JAGI	Jajag, Banyuwa	23.09	197	P	P	10 37 53.7	+1.4
JAGI	Jajag, Banyuwa	23.09	197	P	P	10 37 53.7	+1.4
	265nm,0.9s						
GMJI	Gumukmas	23.12	199	P	P	10 37 54.3	+1.8
	244nm,1.3s						
JMN	Monobe	23.14	29	P	P	10 37 54.4	+1.7
JMN	Monobe	23.14	29	P	P	10 37 54.9	+2.3
TJN	Taejon	23.23	14	P	P	10 37 53.0	-0.4
TJN	Taejon	23.23	14	P	P	10 37 54.7	+1.4
TJN	Taejon	23.23	14	⇑P	P	10 37 53.9	+0.6
TJN				pmax	pmax		
	comp=Z,4.0nm,2.1s						
WSI	Waingapu	23.35	181	P	P	10 37 54.4	-0.3
WBSI	Waikabubak, Su	23.36	183	P	P	10 37 55.6	+0.8
	comp=Z,123nm,0.7s						
GUMO	Guam	23.48	88	LR	LR	10 48 45.5	
	comp=Z,54nm,18.1s,baz=237,slow=40						
WOJI	Wonogiri, Jawa	23.62	205	P	P	10 37 58.5	+1.4
	comp=Z,475nm,1.0s						
BKNI	Bangkinang	23.65	237	P	P	10 37 57.6	+0.2
BKNI	Bangkinang	23.65	237	P	P	10 37 57.1	-0.3
BKNI	Bangkinang	23.65	237	P	P	10 37 58.2	+0.8
	comp=Z,274nm,1.2s						
SOEI	Soe	23.70	171	P	P	10 37 57.9	-0.1
SOEI	Soe	23.70	171	P	P	10 37 59.5	+1.5
SOEI	Soe	23.70	171	P	P	10 37 58.8	+0.8
	comp=Z,121nm,0.8s						
PCJI	Pacitan	23.84	204	P	P	10 38 02.5	+3.4
	comp=Z,161nm,1.1s						
UGM	Wanagama	23.85	206	P	P	10 38 00.4	+1.2
BASI	Baing, Sumba	23.90	180	P	P	10 38 00.3	+0.7
KPJI	Karang Pucung	24.06	210	P	P	10 38 03.2	+2.1
	comp=Z,2µmcomp=Z,111nm,1.7s						
BATI	Baumata	24.07	173	LR	LR	10 49 25.3	
	comp=Z,103nm,20.0s,baz=44,slow=41						
BATI	Baumata	24.07	173	P	P	10 38 01.6	+0.5
HNS	HongShan	24.07	348	⇑P	P	10 38 01.3	+0.4
HNS				pmax	pmax		
	comp=Z,120nm,0.9s						
TSI	Tuntungan	24.15	247	P	P	10 38 03.3	+1.4
	comp=Z,355nm,0.8s						
PSI	Prapat	24.15	245	LR	LR	10 46 53.0	
	comp=Z,116nm,19.6s,baz=338,slow=35						
PSI	Prapat	24.15	245	P	P	10 38 02.6	+0.5
PSI	Prapat	24.15	245	P	P	10 38 02.0	-0.1
RPSI	Pantau Prapat	24.20	245	P	P	10 38 02.0	-0.4
LEM	Lembang	24.29	213	LR	LR	10 47 58.3	
	comp=Z,89nm,19.3s,baz=21,slow=37						
KLI	Kotabumi	24.34	221	P	P	10 38 05.4	+1.8
KSAR	Wonju Array Be	24.37	14	P	P	10 38 03.0	-0.6
KSAR	Wonju Array Be	24.37	14	P	P	10 38 03.0	-0.6
KSRS	Korea Array	24.39	14	P	P	10 38 03.9	+0.1
	comp=Z,9.2nm,0.8s,baz=192,slow=11,SNR=20						
	comp=Z,9.2nm,0.8s						
KS19	Wonju Array Si	24.42	14	P	P	10 38 03.5	-0.6
LHSI	Lahat	24.46	225	P	P	10 38 06.4	+1.6
MDSI	Maura Dua	24.50	223	P	P	10 38 05.5	+0.4
	comp=Z,1µmcomp=Z,167nm,0.9s						
DBJI	Dramaga	24.54	215	P	P	10 38 09.5	+4.0
	comp=Z,52nm,0.7s						
SBJI	Serang	24.54	217	P	P	10 38 08.8	+3.3
	comp=Z,206nm,0.5s						
MNSI	Mandailing Nat	24.59	240	P	P	10 38 05.9	-0.1
	comp=Z,151nm,0.9s						
PPI	Padang Panjang	24.62	236	P	P	10 38 06.9	+0.7
	comp=

LZDM Lanzhou Array 26.81 328 P **P** **10 38 25.4 -0.7**
comp=Z,2.4nm,0.3s,baz=156,slow=11,SNR=9.5
comp=Z,2.4nm,0.3s
LZH Lanzhou 26.83 329 *e*P **P** **10 38 27.2 +1.0**
LZH sP PP 10 39 16.4 -13
LZH pmax pmax
comp=Z,53nm,1.1s
MAJO Matsushiro 27.51 32 P **P** **10 38 31.3 -0.8**
MAJO Matsushiro 27.51 32 P **P** **10 38 31.3 -0.8**
MAJO pmax pmax
comp=Z,16nm,1.3s
MJAR Matsushiro Arr 27.51 32 P **P** **10 38 30.8 -1.3**
MJAR Matsushiro Arr 27.51 32 P **P** **10 38 31.3 -0.8**
comp=Z,3.2nm,0.9s,baz=205,slow=8.6,SNR=8.7
MJAR LR LR 10 50 37.7
comp=Z,55nm,18.8s,baz=216,slow=39
comp=Z,3.2nm,0.9s
MJB9 Matsu-Tunnel 27.51 32 P **P** **10 38 31.3 -0.8**
HHC Hu-ho-hao-te 28.07 345 *e*P **P** **10 38 37.9 +0.7**
HHC pmax pmax
comp=Z,57nm,0.7s
HHC pmax pmax
comp=Z,96nm,4.3s
BTO Baotou 28.26 343 *e*P **P** **10 38 40.0 +1.2**
BTO pP **pP** **10 39 07.1 +3.9**
BTO sP **sP** **10 39 21.8 +5.8**
BTO PP **PnPn** **10 39 36.6 +3.2**
BTO pmax pmax
comp=Z,100nm,1.3s
BTO pmax pmax
comp=Z,320nm,7.4s
JSD Sado 28.71 30 P **P** **10 38 45.0 +2.3**
KDU Kakadu 28.82 156 P **P** **10 38 43.1 -0.7**
comp=Z,14nm,1.2s
BRDH Bariadhala 28.92 292 LR LR 10 51 15.9
comp=Z,58nm,20.4s,baz=76,slow=38
SHL Shillong 29.47 298 P **P** **10 38 49.3 -0.5**
SHL Shillong 29.47 298 P **P** **10 38 49.3 -0.5**
JMM Marumori 29.86 33 P **P** **10 38 52.1 -0.7**
JMM Marumori 29.86 33 P **P** **10 38 54.9 +2.0**
CN2 Changchun 30.14 7 P **P** **10 38 54.4 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
XLT XiLinHaoTe 30.22 353 *e*P **P** **10 38 56.1 0.0**
XLT pmax pmax
comp=Z,49nm,1.2s
KNRA Kununurra 30.39 165 P **P** **10 38 57.4 -0.3**
comp=Z,28nm,0.8s
KNRA Kununurra 30.39 165 P **P** **10 38 57.2 -0.5**
KNRA IAmb IAmb 10 38 58.9
comp=Z,16nm,0.8s
GTA Gaotai 31.43 328 P **P** **10 39 08.3 +1.5**
GTA pP pP 10 39 34.9 +3.7
GTA pmax pmax
comp=Z,68nm,1.1s
LSA Lhasa 31.54 305 P **P** **10 39 08.9 +0.6**
LSA IAmb IAmb 10 39 11.0
comp=Z,24nm,0.9s
LSA Lhasa 31.54 305 P **P** **10 39 08.9 +0.6**
LSA pmax pmax
comp=Z,24nm,0.9s
MDJ Mudanjiang 31.60 12 P **P** **10 39 07.8 -0.3**
MDJ Mudanjiang 31.60 12 P **P** **10 39 08.6 +0.5**
MDJ pmax pmax
comp=Z,17nm,0.8s
MDJ Mudanjiang 31.60 12 P **P** **10 39 09.2 +1.1**
USA0B Ussuriysk Arra 31.76 16 P **P** **10 39 09.1 -0.5**
USA0B Ussuriysk Arra 31.76 16⇑ *i*P **P** **10 39 10.2 +0.7**
USRK Ussuriysk Ar. 31.76 16 **P** **10 39 09.9 +0.4**
USRK Ussuriysk Ar. 31.76 16 P **P** **10 39 09.8 +0.2**
comp=Z,9.6nm,0.7s,baz=206,slow=7.1,SNR=40
USRK pP **pP** **10 39 32.2 -1.8**
comp=Z,5.5nm,0.8s,baz=201,slow=10,SNR=2.8
comp=Z,9.6nm,0.7s
FITZ Fitzroy Crossi 32.10 171 P **P** **10 39 12.3 -0.4**
comp=Z,3.5nm,1.0s
FITZ Fitzroy Crossi 32.10 171 P **P** **10 39 12.7 0.0**
FITZ Fitzroy Crossi 32.10 171 P **P** **10 39 12.3 -0.4**
comp=Z,12nm,0.8s,baz=352,slow=9.2,SNR=15
comp=Z,12nm,0.8s
FITZ Fitzroy Crossi 32.10 171 P **P** **10 39 13.1 +0.4**
GOMU GeErMu 32.16 318 P **P** **10 39 14.5 +0.9**
GOMU S **S** **10 44 21.0 +2.4**
GOMU pmax pmax
comp=Z,12nm,1.2s
GOMU LR LR
comp=Z,140nm,9.6s
GOMU LR LR
comp=Z,190nm,9.8s
GOMU LR LR
comp=Z,170nm,9.8s
BNX BinXian 32.30 9⇓ *i*P **P** **10 39 14.3 +0.1**
BNX pmax pmax
comp=Z,42nm,1.0s
EVN Everest 34.50 299 P **P** **10 39 32.4 -1.9**
EVN IAmb IAmb 10 39 40.3
comp=Z,20nm,1.0s
MBWA Marble Bar 34.79 182 P **P** **10 39 35.7 -0.3**
comp=Z,111nm,0.7s
MBWA Marble Bar 34.79 182 P **P** **10 39 36.8 +0.8**
MBWA Marble Bar 34.79 182 P **P** **10 39 35.7 -0.3**
PSA00 Pilbara Seismi 35.20 181 P **P** **10 39 39.3 -0.3**
comp=Z,140nm,1.0s
PSA00 Pilbara Seismi 35.20 181 **P** **10 39 39.5 0.0**
PSA00 Pilbara Seismi 35.20 181 P **P** **10 39 39.5 0.0**
HIA Hailar 35.34 359 P **P** **10 39 40.6 0.0**
HIA Hailar 35.34 359 P **P** **10 39 40.6 0.0**
HIA pmax pmax
comp=Z,9.0nm,0.8s
ASAJ Asahikawa 35.51 28 P **P** **10 39 43.0 +1.0**
ASAJ pmax pmax
comp=Z,24nm,1.1s
JKA Kamikawa-asahi 35.51 28 **P** **10 39 43.0 +1.0**
JKA IAmb IAmb 10 39 44.1
comp=Z,24nm,1.1s
ULN Ulaanbaatar 35.78 344 **P** **10 39 45.0 +0.5**
ULN Ulaanbaatar 35.78 344*c i*P **P** **10 39 44.9 +0.4**
ULN pmax pmax
comp=Z,60nm,0.8s
ULN Ulaanbaatar 35.78 344 P **P** **10 39 45.3 +0.8**
SONM Songino Array 35.93 344 P **P** **10 39 46.0 +0.3**
SONM Songino Array 35.93 344 P **P** **10 39 46.1 +0.4**
comp=Z,50nm,0.6s,baz=163,slow=9.8,SNR=82
SONM ScP **ScP** **10 45 46.5 -0.1**
comp=Z,2.5nm,0.6s,baz=212,slow=5.1,SNR=3.8
SONM LR LR 10 56 47.0
comp=Z,68nm,18.7s,baz=70,slow=40
comp=Z,50nm,0.6s
WB0 Warramunga Arr 36.01 158 P **P** **10 39 46.0 -0.5**
WB0 IAmb IAmb 10 40 11.6
comp=Z,25nm,0.8s
WB6 Warramunga Arr 36.08 158 P **P** **10 39 47.0 -0.1**
WB5 Warramunga Arr 36.10 158 P **P** **10 39 46.9 -0.4**
WRAB Tennant Creek 36.14 158 P **P** **10 39 47.2 -0.5**
WRAB IAmb IAmb 10 40 12.9
comp=Z,27nm,0.8s
WRAB Tennant Creek 36.14 158*d i*P **P** **10 39 48.3 +0.6**
WRAB pmax pmax
comp=Z,19nm,0.8s
WRA Warramunga Arr 36.15 158 P **P** **10 39 47.3 -0.4**
WRA Warramunga Arr 36.15 158 P **P** **10 39 47.1 -0.6**
comp=Z,13nm,0.7s,baz=336,slow=9.6,SNR=56
WRA pP **pP** **10 40 11.5 -1.2**
comp=Z,20nm,0.8s,baz=336,slow=9.5,SNR=11
WRA S **S** **10 45 13.5 -6.0**
comp=Z,3.0nm,0.8s,baz=337,slow=15,SNR=5.3
comp=Z,13nm,0.7s
WB1 Warramunga Ar. 36.16 158 P **P** **10 39 47.2 -0.7**
WR8 Warramunga Arr 36.22 158 P **P** **10 39 48.4 +0.1**
HEH HeiHe 36.73 7 *e*P **P** **10 39 53.0 +0.7**
HEH pP **pP** **10 40 19.6 +2.4**
HEH pmax pmax
comp=Z,37nm,0.9s
YSS Yuzhno-Sakhali 37.83 25 P **P** **10 40 02.0 +0.4**
YSS IAmb IAmb 10 40 03.8
comp=Z,12nm,0.8s
YSS Yuzhno-Sakhali 37.83 25 *e*P **P** **10 40 02.2 +0.6**
YSS *e**PP **sP** **10 40 33.4 -5.8**
YSS *e**SP pP 10 40 50.5 +24
YSS *e*S **S** **10 45 41.9 -2.6**
YSS pmax pmax
comp=Z,10.0nm,0.6s
YSS pmax pmax
comp=Z,100nm,6.1s
YSS MLR MLR
comp=N,100nm,15.0s
YSS MLR MLR
comp=E,100nm,15.0s
YSS MLR MLR
comp=Z,200nm,15.0s
QIS Mount Isa 38.90 151 P **P** **10 40 10.3 -0.7**
comp=Z,21nm,1.1s
QIS Mount Isa 38.90 151 P **P** **10 40 11.4 +0.4**
GRNR Gornyy 38.99 16⇓ *i*P **P** **10 40 11.6 +0.3**
GRNR pmax pmax
comp=N,10.0nm,1.0s
GRNR pmax pmax
comp=Z,20nm,0.9s
ZAK Zakamensk 39.12 342 *e*P **P** **10 40 11.4 -1.1**
ZAK pmax pmax
comp=Z,26nm,1.2s
WRKA Warakurna 39.34 169 P **P** **10 40 14.3 -0.2**
comp=Z,24nm,1.0s
MTSU Mount Surprise 39.39 143 P **P** **10 40 16.4 +1.3**
MTSU Mount Surprise 39.39 143 P **P** **10 40 16.8 +1.7**
AS31 Alice Springs 39.44 161 P **P** **10 40 15.4 0.0**
comp=Z,11nm,0.6s
AS31 Alice Springs 39.44 161 P **P** **10 40 15.7 +0.3**
ASAR Alice Springs 39.44 161 P **P** **10 40 15.5 0.0**
ASAR Alice Springs 39.44 161 P **P** **10 40 15.1 -0.4**
comp=Z,12nm,0.7s,baz=338,slow=6.9,SNR=161
ASAR pP **pP** **10 40 39.8 -1.3**
comp=Z,15nm,0.5s,baz=336,slow=7.4,SNR=14
ASAR S **S** **10 46 06.7 -2.7**
comp=Z,1.1nm,0.7s,baz=314,slow=12,SNR=5.4
comp=Z,12nm,0.7s
AS01 Alice Springs 39.46 161 P **P** **10 40 16.9 +1.3**
PALK Pallekele 39.82 265 LR LR 10 55 49.8
comp=Z,41nm,20.7s,baz=74,slow=34
ZEA Zeya 40.14 6 *e*P **P** **10 40 21.2 +0.3**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
MEEK Meekatharra 40.28 183 P **P** **10 40 21.8 -0.5**
comp=Z,91nm,0.9s
MEEK Meekatharra 40.28 183 P **P** **10 40 22.1 -0.2**
MOY Mondy 40.94 341 *e*P **P** **10 40 28.1 +0.5**
MOY pmax pmax
comp=Z,36nm,1.4s
TYV Tymovskoe 41.00 21 *e*P **P** **10 40 26.5 -1.4**
TYV pmax pmax
comp=Z,100nm,3.9s
TYV pmax pmax
comp=Z,6.0nm,1.1s
WMQ Urumqi 41.10 323 *e*P **P** **10 40 30.7 +1.7**
CTA Charters Tower 42.05 143 P **P** **10 40 38.3 +1.4**
CTAO Charters Tower 42.05 143 P **P** **10 40 37.6 +0.7**
CTAO Charters Tower 42.05 143 P **P** **10 40 38.3 +1.4**
CTAO Charters Tower 42.05 143 P **P** **10 40 37.6 +0.7**
CTAO pmax pmax
comp=Z,13nm,0.8s
MORW Morawa 42.89 186 P **P** **10 40 42.9 -0.6**
comp=Z,48nm,0.8s
MORW Morawa 42.89 186 **P** **10 40 43.2 -0.4**
MORW Morawa 42.89 186 P **P** **10 40 42.9 -0.6**
BLDU Ballidu 44.36 185 P **P** **10 40 54.3 -1.0**
comp=Z,25nm,1.2s
BLDU Ballidu 44.36 185 P **P** **10 40 55.1 -0.2**
ZSN Zaisan 44.85 326 *e*P **P** **10 40 59.6 +0.5**
ZSN Zaisan 44.85 326 *e*P **P** **10 40 59.6 +0.5**
KLBR Kellerberrin 45.25 184 P **P** **10 41 01.7 -0.7**
comp=Z,103nm,0.9s
KLBR Kellerberrin 45.25 184 P **P** **10 41 01.9 -0.5**
INKA Innaminka 45.67 155 **P** **10 41 06.4 +0.7**
INKA IAmb IAmb 10 41 33.7
comp=Z,21nm,1.1s
MUN Mundaring 45.76 185 P **P** **10 41 05.7 -0.6**
comp=Z,25nm,1.0s
SHLS Shalkode 45.86 318 *e*P **P** **10 41 05.5 -1.8**
comp=Z,24nm,0.7s
SHLS Shalkode 45.86 318 *e*P **P** **10 41 05.5 -1.8**
SHLS pmax pmax
comp=Z,24nm,0.7s
MK31 Makanchi Array 45.93 324 *i* P **P** **10 41 08.0 +0.4**
MK31 *i* *PP **sP** **10 41 42.0 -3.5**
MK31 pmax pmax
comp=Z,38nm,0.8s
MKAR Makanchi Array 45.93 324 P **P** **10 41 08.3 +0.7**
MKAR Makanchi Array 45.93 324 P **P** **10 41 08.0 +0.3**
comp=Z,26nm,0.8s,baz=128,slow=8.9,SNR=167
MKAR pP **pP** **10 41 32.4 -0.7**
comp=Z,5.3nm,0.8s,baz=130,slow=8.5,SNR=3.1
MKAR PcP **PcP** **10 42 41.1 -1.7**
comp=Z,1.9nm,0.7s,baz=118,slow=5.2,SNR=1.6
MKAR ScP **ScP** **10 46 26.7 +0.8**
comp=Z,1.0nm,0.9s,baz=119,slow=5.6,SNR=3.6
comp=Z,26nm,0.8s
MAKZ Makanchi 46.12 323 P **P** **10 41 09.8 +0.7**
MAKZ Makanchi 46.12 323 P **P** **10 41 09.8 +0.7**
MAKZ pmax pmax
comp=Z,101nm,1.7s
MAKZ Makanchi 46.12 323 P **P** **10 41 09.8 +0.7**
MAKZ sP **sP** **10 41 47.6 +0.6**
UZB Uzynbulak 46.14 318 *e*P **P** **10 41 10.0 +0.5**
comp=Z,18nm,0.6s
UZB Uzynbulak 46.14 318 *e*P **P** **10 41 10.0 +0.5**
UZB pmax pmax
comp=Z,18nm,0.6s
QLP Quilpie 46.23 150 P **P** **10 41 11.4 +1.3**
SATY Saty 46.51 317 *e*P **P** **10 41 12.9 +0.5**
SATY Saty 46.51 317 *e*P **P** **10 41 12.8 +0.5**
NWAO Narrogin (SRO) 46.62 184 P **P** **10 41 12.6 -0.5**
comp=Z,67nm,0.8s
NWAO Narrogin (SRO) 46.62 184 **P** **10 41 12.7 -0.3**
NWAO Narrogin (SRO) 46.62 184 P **P** **10 41 13.5 +0.5**
NWAO Narrogin (SRO) 46.62 184 P **P** **10 41 14.2 +1.2**
NWAO Narrogin (SRO) 46.62 184 P **P** **10 41 12.7 -0.3**
NWAO pmax pmax
comp=Z,84nm,1.4s
KSH Kashi 46.81 312 P **P** **10 41 17.0 +2.2**
KSH pmax pmax
comp=Z,13nm,1.0s
KDJ Kajisay 46.94 315 P **P** **10 41 16.3 +0.5**
KDJ Kajisay 46.94 315 P **P** **10 41 16.3 +0.5**
KDJ pmax pmax
comp=Z,136nm,2.0s
NIL Nilore 47.24 303 **P** **10 41 17.9 -0.2**
NIL IAmb IAmb 10 41 18.9
comp=Z,18nm,1.1s
NIL Nilore 47.24 303 P **P** **10 41 17.9 -0.2**
NIL pmax pmax
comp=Z,18nm,1.1s
TDK Taldyqorghan 47.38 320 *e*P **P** **10 41 19.5 +0.5**
comp=Z,32nm,0.8s
TDK Taldyqorghan 47.38 320 *e*P **P** **10 41 19.4 +0.5**
TDK pmax pmax
comp=Z,32nm,0.8s
ARXS Arharly 47.39 318 *e*P **P** **10 41 19.1 -0.1**
MDOK Medeo 47.45 317 *e*P **P** **10 41 20.1 +0.4**
MDOK Medeo 47.45 317 *e*P **P** **10 41 20.1 +0.4**
TNSS Tian-Shan 47.47 317 *e*P **P** **10 41 20.3 +0.1**
TNSS Tian-Shan 47.47 317 *e*P **P** **10 41 20.2 +0.1**
NRN Naryn 47.49 314 P **P** **10 41 21.0 +0.8**
NRN IAmb IAmb 10 41 22.1
comp=Z,27nm,0.8s
NRN Naryn 47.49 314 P **P** **10 41 21.0 +0.8**
NRN pmax pmax
comp=Z,27nm,0.8s
AAA Alma-Ata 47.56 317 *e*P **P** **10 41 21.0 +0.5**
comp=Z,22nm,0.7s
AAA Alma-Ata 47.56 317 *e*P **P** **10 41 21.0 +0.5**
AAA pmax pmax
comp=Z,22nm,0.7s
ULHL Ulahol 47.63 315 P **P** **10 41 22.8 +1.6**
SNR=7.4
KUU Kurty 48.23 317 *e*P **P** **10 41 25.9 +0.4**
KUU Kurty 48.23 317 *e*P **P** **10 41 25.9 +0.4**
TKM2 Tokmak 2 48.33 316 P **P** **10 41 27.5 +0.9**
SNR=21
YAK Yakutsk 48.56 6 P **P** **10 41 27.3 -0.4**
YAK Yakutsk 48.56 6 P **P** **10 41 27.6 -0.1**
comp=Z,28nm,0.4s,baz=238,slow=1.5,SNR=7.8
YAK LR LR 11 05 14.9
comp=Z,30nm,18.7s,baz=180,slow=40
comp=Z,28nm,0.4s
YAK Yakutsk 48.56 6 *e*P **P** **10 41 27.0 -0.7**
YAK *e**PP **pP** **10 41 57.1 +3.5**
YAK *e* 10 42 49.7
YAK *e* 10 43 18.7
YAK *e*PPP PPP 10 44 15.4
YAK *e*S **S** **10 48 19.3 -1.3**
YAK *e**SS **sS** **10 49 11.4 +6.1**
YAK *e* 10 51 05.7
YAK *e*SS **SS** **10 51 49.3 -2.6**
YAK pmax pmax
comp=Z,52nm,1.1s
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK pmax pmax
comp=Z,231nm,5.8s
YAK pmax pmax
comp=N,123nm,5.6s
YAK pmax pmax
comp=E,109nm,5.1s
YAK smax smax
comp=E,94nm,4.8s
YAK smax smax
comp=N,68nm,4.4s
BBOO Buckleboo 48.65 163 P **P** **10 41 28.1 -0.6**
comp=Z,27nm,0.9s
BBOO Buckleboo 48.65 163 P **P** **10 41 28.4 -0.3**
KBK Karagaybulak 48.67 315 P **P** **10 41 30.6 +1.5**
SNR=15
PEA0B Petropavlovsk- 48.91 29 P **P** **10 41 31.2 +0.6**
PEA0B IAmb IAmb 10 41 32.3
comp=Z,22nm,0.9s
PEA0B Petropavlovsk- 48.91 29⇓ *i*P **P** **10 41 31.6 +1.1**
PEA0B *i* *PP **sP** **10 42 03.8 -5.1**
PETK Petropavlovsk- 48.91 29 P **P** **10 41 31.1 +0.5**
PETK Petropavlovsk- 48.91 29 P **P** **10 41 30.6 0.0**
comp=Z,14nm,0.8s,baz=213,slow=6.7,SNR=19
PETK pP **pP** **10 41 56.4 -0.1**
comp=Z,2.1nm,0.8s,baz=201,slow=7.6,SNR=1.3
PETK LR LR 11 05 46.2
comp=Z,21nm,18.1s,baz=223,slow=40
comp=Z,14nm,0.8s
CHMS Chumysh 48.94 316 P **P** **10 41 31.6 +0.6**
SNR=9.0
ZAA0 Zalesovo Array 48.94 333 **P** **10 41 30.6 -0.2**
ZAA0 IAmb IAmb 10 41 31.6
comp=Z,28nm,1.1s
ZALV Zalesovo Beam 48.94 333 P **P** **10 41 30.6 -0.1**
ZALV Zalesovo Beam 48.94 333 P **P** **10 41 30.5 -0.3**
comp=Z,12nm,0.5s,baz=122,slow=7.2,SNR=52
ZALV PcP **PcP** **10 42 53.3 -0.1**
comp=Z,0.9nm,0.3s,baz=141,slow=5.3,SNR=1.4
ZALV LR LR 11 02 13.0
comp=Z,31nm,20.1s,baz=124,slow=36
comp=Z,12nm,0.5s
AAK Ala-Archa 48.98 315 P **P** **10 41 32.5 +1.0**
SNR=6.6
AAK Ala-Archa 48.98 315 P **P** **10 41 31.7 +0.3**
AAK IAmb IAmb 10 41 34.3
comp=Z,12nm,0.8s
AAK Ala-Archa 48.98 315 LR LR 11 02 08.2
comp=Z,50nm,20.3s,baz=108,slow=36
AAK Ala-Archa 48.98 315*d i*P **P** **10 41 33.2 +1.7**
AAK pmax pmax
comp=Z,18nm,0.9s
SGDS Sogindy 49.19 316 *e*P **P** **10 41 33.2 +0.3**
USP Ospenovka 49.21 316 P **P** **10 41 33.7 +0.6**
SNR=22
PET Petropavlovsk 49.30 29⇑ *i*P **P** **10 41 33.9 +0.4**
PET *i* *PP **pP** **10 42 03.2 +3.7**
PET pmax pmax
comp=Z,23nm,1.5s
EKS2 Erkin-Say 49.48 315 P **P** **10 41 36.5 +1.3**
SNR=18
ARSB Arslanbob 49.57 313 **P** **10 41 36.7 +0.7**
ARSB Arslanbob 49.57 313 P **P** **10 41 36.7 +0.7**
ARSB pmax pmax
comp=Z,29nm,0.7s
STKA Stephens Creek 49.67 157 P **P** **10 41 36.4 -0.2**
STKA Stephens Creek 49.67 157 P **P** **10 41 36.5 0.0**
comp=Z,3.8nm,0.6s,baz=335,slow=7.9,SNR=11
STKA pP **pP** **10 42 01.8 -1.1**
comp=Z,5.3nm,0.7s,baz=338,slow=11,SNR=3.6
comp=Z,3.8nm,0.6s
KURBB Kurchatov Arra 50.08 326 P **P** **10 41 39.9 +0.4**
comp=Z,76nm,0.9s,baz=124,slow=7.9,SNR=136
KURBB ScP **ScP** **10 46 43.1 -0.2**
comp=Z,5.5nm,0.2s,baz=106,slow=3.0,SNR=4.6
KURBB LR LR 11 04 54.1
comp=Z,47nm,18.2s,baz=170,slow=38
comp=Z,76nm,0.9s
KURK Kurchatov 50.08 326 **P** **10 41 40.3 +0.8**
KURK Kurchatov 50.08 326 P **P** **10 41 40.3 +0.8**
KURK pmax pmax
comp=Z,145nm,0.8s
KURK Kurchatov 50.08 326 P **P** **10 41 40.2 +0.8**
HTT Hallett 50.11 160 P **P** **10 41 40.2 +0.3**
comp=Z,7.1nm,2.4s
BTLS Baital 50.19 318⇑ *i*P **P** **10 41 40.9 +0.5**
comp=Z,16nm,0.7s
BTLS Baital 50.19 318*c i*P **P** **10 41 40.9 +0.5**
BTLS pmax pmax
comp=Z,16nm,0.7s
MA2 Magadan 50.77 19 P **P** **10 41 44.3 -0.2**
MA2 IAmb IAmb 10 41 46.1
comp=Z,19nm,0.9s
MA2 Magadan 50.77 19 P **P** **10 41 44.5 -0.1**
comp=Z,17nm,0.9s,baz=196,slow=6.6,SNR=8.4
MA2 LR LR 11 05 47.6
comp=Z,28nm,18.2s,baz=208,slow=39
comp=Z,17nm,0.9s
MA2 Magadan 50.77 19 P **P** **10 41 45.6 +1.1**
MA2 Magadan 50.77 19⇑ *i*P **P** **10 41 44.7 +0.2**
MA2 pmax pmax
comp=Z,18nm,0.8s
GAR Garm 50.84 309 **P** **10 41 45.7 +0.1**
KBL Kabul 50.84 303 **P** **10 41 45.8 +0.1**
KBL IAmb IAmb 10 41 46.9
comp=Z,14nm,0.9s
KBL Kabul 50.84 303 P **P** **10 41 45.8 +0.1**
KBL pmax pmax
comp=Z,14nm,0.9s
CMSA Cobar Meteorol 51.09 152 P **P** **10 41 48.1 +0.8**
comp=Z,19nm,0.9s
DZA Taraz 51.25 314 *e*P **P** **10 41 48.9 +0.4**
comp=Z,13nm,0.6s
DZA Taraz 51.25 314 *e*P **P** **10 41 48.8 +0.4**
DZA pmax pmax
comp=Z,13nm,0.6s
CHGR Chuyangaron 51.63 309 **P** **10 41 51.7 +0.3**
CHGR Chuyangaron 51.63 309 P **P** **10 41 51.7 +0.3**
CHGR pmax pmax
comp=Z,33nm,0.8s
SIMJ Simiganj 51.74 309 **P** **10 41 52.2 -0.2**
SIMJ PcP **PcP** **10 43 03.0 -1.2**
KK31 Karatay Array 51.88 314 P **P** **10 41 53.6 +0.4**
KK31 Karatay Array 51.88 314 P **P** **10 41 53.6 +0.4**
KK31 pmax pmax
comp=Z,27nm,0.8s
KKAR Karatay Array 51.88 314 P **P** **10 41 53.9 +0.7**
KKAR Karatay Array 51.88 314 P **P** **10 41 53.9 +0.7**
IUG Iuzhnay 51.93 313 *e*P **P** **10 41 54.0 +0.3**
comp=Z,26nm,0.7s
IUG Iuzhnay 51.93 313 *e*P **P** **10 41 53.9 +0.3**
IUG pmax pmax
comp=Z,26nm,0.7s
BRLS Boroldaу 52.33 314⇑ *i*P **P** **10 41 57.0 +0.4**
comp=Z,7.5nm,0.6s
BRLS Boroldaу 52.33 314*c i*P **P** **10 41 56.9 +0.4**
BRLS pmax pmax
comp=Z,8.0nm,0.6s
BRZS Berezniki 53.07 323 *e*P **P** **10 42 02.4 +0.6**
BRZS Berezniki 53.07 323 *e*P **P** **10 42 02.4 +0.6**
SEY Seymchan 53.88 17 P **P** **10 42 08.4 +1.0**
comp=Z,11nm,0.7s,baz=230,slow=6.2,SNR=30
SEY LR LR 11 06 46.2
comp=Z,41nm,18.3s,baz=209,slow=38
comp=Z,11nm,0.7s
BVA0 Borovoye Array 55.66 326 *e*P **P** **10 42 20.0 -0.5**
BVAR Borovoye Array 55.66 326 P **P** **10 42 20.9 +0.5**
comp=Z,32nm,0.6s,baz=118,slow=9.6,SNR=132
comp=Z,32nm,0.6s
BVAR Borovoye Array 55.66 326 P **P** **10 42 21.0 +0.5**
BORK Borovoye 55.71 326 P **P** **10 42 21.4 +0.5**
TOO Toolangi 56.19 156 P **P** **10 42 24.4 0.0**
HRA Herat 56.37 302 P **P** **10 42 26.1 -0.1**
SMY Shemya 57.26 35 P **P** **10 42 32.8 +1.1**
SMY Shemya 57.26 35 P **P** **10 42 32.8 +1.1**
SMY pmax pmax
comp=Z,60nm,1.0s
DZM Mont Dzumac 57.31 128 *e*LR LR 10 59 30.8

comp=Z,46nm,25.8s
TIXI Tiksi 58.00 3 P P 10 42 36.0 -0.6
TIXI IAmb IAmb 10 42 36.8
comp=Z,27nm,1.1s
TIXI Tiksi 58.00 3⇑ *i*P P 10 42 35.7 -0.9
TIXI pmax pmax
comp=Z,32nm,1.1s
TIXI Tiksi 58.00 3 P P 10 42 35.9 -0.8
AMKA Amchitka 59.84 38 P P 10 42 50.5 +0.8
AB31 Akbulak array 60.63 319 P 10 42 55.2 +0.1
AB31 Akbulak array 60.63 319 *i* P P 10 42 54.8 -0.4
ABKAR Akbulak array 60.63 319 P P 10 42 55.3 +0.1
BILL Bilibino 61.58 18 P P 10 43 01.8 +0.6
BILL Bilibino 61.58 18⇑ *i*P P 10 43 01.6 +0.4
BILL pmax pmax
comp=Z,29nm,0.7s
AKTO Aktyubinsk 62.12 320 LR LR 11 09 38.4
comp=Z,54nm,21.4s,baz=152,slow=36
SVE Sverdlovsk 62.29 327 *de*P P 10 43 06.4 +0.2
SVE pmax pmax
comp=Z,80nm,1.3s
ARTI Arti 63.36 327 P 10 43 12.7 -0.6
ARTI IAmb IAmb 10 43 13.5
comp=Z,29nm,1.1s
ARTI Arti 63.36 327 *d i*P P 10 43 12.3 -1.0
ARTI 10 43 45.8
ARTI 10 45 29.2
ARTI S S 10 51 34.8 -2.1
ARTI pmax pmax
comp=Z,29nm,1.2s
ATKA Atka Island 63.96 38 P P 10 43 17.4 +0.1
MSVF Nonsavu 64.69 117 P P 10 43 22.8 +0.1
MSVF IAmb IAmb 10 44 03.7
comp=Z,36nm,1.3s
MSVF Nonsavu 64.69 117 P P 10 43 22.8 +0.1
MSVF pmax pmax
comp=Z,36nm,1.3s
SPIA Saint Paul Isl 67.14 34 P P 10 43 39.0 +1.3
baz=260
P08K Saint George I 67.42 34 P P 10 43 39.4 0.0
baz=261
GAMB Gambell 67.83 26 P 10 43 43.3 +1.5
GAMB IAmb IAmb 10 43 44.4
comp=Z,27nm,0.8s
GAMB Gambell 67.83 26 P P 10 43 42.8 +0.9
baz=256
AKT Akhty 68.25 309 *e*P P 10 43 42.7 -2.4
AKT pmax pmax
comp=Z,31nm,1.2s
AKT MLR MLR
comp=Z,199nm,13.0s
KIRV Kirov 68.55 328 LR LR 11 15 43.8
comp=Z,30nm,18.8s,baz=59,slow=37
KIRV Kirov 68.55 328 *c i*P P 10 43 45.8 -0.7
UNV Unalaska Valle 68.80 37 P P 10 43 49.4 +1.4
baz=264
BELG Belogornoye 68.84 321 *c i*P P 10 43 47.8 -0.5
BELG pmax pmax
comp=Z,18nm,0.9s
M11K Mekoryuk 69.72 30 P P 10 43 55.1 +1.4
baz=262
TNA Tin City 69.81 25 P P 10 43 55.7 +1.6
baz=259
F14K Arctic Creek 70.45 25 P P 10 43 59.6 +1.6
baz=260
GNI Garni 70.54 308⇑ *i*P P 10 44 00.0 +0.7
GNI pmax pmax
comp=Z,37nm,1.6s
K13K Kusilvak Mount 70.67 29 P P 10 44 01.0 +1.6
baz=263
ANM Nome 70.70 26 P P 10 44 00.7 +1.1
ANM Nome 70.70 26 P P 10 44 00.7 +1.1
ANM pmax pmax
comp=Z,109nm,1.4s
ANM Nome 70.70 26 P P 10 43 59.6 0.0
baz=262
M13K Dall Lake 71.14 31 P P 10 44 03.7 +1.5
baz=265
F15K North Star Dit 71.17 25 P P 10 44 03.9 +1.4
baz=262
RAYN Ar Rayn 71.21 290 P P 10 44 03.5 -0.1
RAYN Ar Rayn 71.21 290 P P 10 44 03.5 -0.1
RAYN pmax pmax
comp=Z,9.0nm,0.9s
RAYN Ar Rayn 71.21 290 P P 10 44 03.8 +0.2
RAYN pP pP 10 44 29.8 -1.4
J14K Nanvaranak Lak 71.27 28 P P 10 44 04.4 +1.4
baz=264
C16K Lisburne Hills 71.31 22 P P 10 44 04.4 +1.3
baz=260
G15K Niukluk 71.33 26 P P 10 44 04.8 +1.4
baz=263
S12K Black Hills 71.50 36 P P 10 44 05.7 +1.1
baz=268
L14K Kuka Creek 71.54 30 P P 10 44 06.3 +1.6
baz=265
KBZ Khabaz 71.80 312 P P 10 44 06.4 -0.1
comp=Z,14nm,1.0s,baz=170,slow=2.5,SNR=14
comp=Z,14nm,1.0s
KBZ Khabaz 71.80 312 *c i*P P 10 44 06.2 -0.3
KBZ pmax pmax
comp=Z,23nm,1.1s
M14K Bethel 71.85 30 P P 10 44 08.0 +1.5
baz=266
N14K Kuskokwak Cree 71.93 31 P P 10 44 08.3 +1.3
baz=266
GEVA Gevas 71.93 306 P P 10 44 08.5 +0.7
KIV Kislovodsk 71.94 312 *e*P P 10 44 06.3 -1.3
KIV pmax pmax
comp=Z,32nm,1.0s
KIV MLR MLR
comp=Z,17nm,18.0s
H16K Elim 72.05 26 P P 10 44 08.9 +1.2
baz=264
D17K Noatak River 72.06 23 P P 10 44 08.6 +0.9
baz=263
G16K Koyuk River 72.08 25 P P 10 44 08.8 +1.0
baz=264
O14K Tigyukauivet M 72.10 32 P P 10 44 09.1 +1.0
baz=267
C17K DeLong Mountai 72.13 22 P P 10 44 09.3 +1.1
baz=262
L15K Ungalak Mounta 72.14 29 P P 10 44 09.6 +1.3
baz=266
K15K Wolf Creek Mou 72.17 29 P P 10 44 09.9 +1.5
baz=266
RDOG Red Dog Mine 72.17 23 P P 10 44 09.6 +1.2
baz=263
SDPT Sand Point 72.39 36 P P 10 44 11.1 +1.3
baz=269
VRH Novokhopyorsk 72.45 320 *e*P P 10 44 07.6 -2.7
VRH pmax pmax
comp=Z,50nm,0.9s
M15K Kasigluk River 72.47 30 P P 10 44 11.3 +1.1
baz=267,SNR=6.3
E17K Hotham Inlet 72.47 24 P P 10 44 11.3 +1.2
baz=264
F17K Baldwin Pennin 72.64 24 P P 10 44 12.6 +1.5
baz=265
I17K Unalakleet 72.66 27 P P 10 44 13.0 +1.7
baz=266
J16K Anvik River 72.66 28 P P 10 44 12.6 +1.3
baz=266
GURO Guroymak-BITLI 72.72 306 IAmb IAmb 10 44 14.4
comp=Z,35nm,0.9s
N15K Kwethluk River 72.74 31 P P 10 44 13.1 +1.2
baz=268,SNR=6.4
B18K Kokolik River 72.74 21 P P 10 44 13.3 +1.7
baz=263
G17K Kiwalik Mounta 72.80 25 P P 10 44 13.6 +1.5
baz=266
C18K Utukok River 72.88 22 P P 10 44 13.7 +1.1
baz=264
S14K Fog Glacier 72.92 35 P P 10 44 14.5 +1.4
baz=269
E18K Tukpahlearik C 72.98 23 P P 10 44 14.4 +1.3
baz=265
H17K Granite Mounta 73.07 26 P P 10 44 15.2 +1.5
baz=266
A19K Wainwright 73.09 20 P P 10 44 15.5 +1.8
baz=264
L16K Owhat River 73.10 29 P P 10 44 15.2 +1.3
baz=268
F18K Selawik 73.29 24 P P 10 44 16.3 +1.4
baz=266
M16K Timber Creek 73.33 30 P P 10 44 16.8 +1.5
baz=268,SNR=6.6
J17K VABM Dome 73.35 28 P P 10 44 17.2 +1.8
baz=268,SNR=14
N16K Nishlik Lake 73.41 31 P P 10 44 17.5 +1.6
baz=269,SNR=5.9
C19K Lookout Ridge 73.50 22 P P 10 44 17.8 +1.5
baz=266
CHGN Chignik 73.56 35 P P 10 44 18.3 +1.6
baz=270
G18K Tagagawik 73.65 25 P P 10 44 17.9 +0.8
baz=267
L17K Donlin 73.67 29 P P 10 44 18.9 +1.6
baz=269,SNR=14
K17K Iditarod 73.68 28 P P 10 44 19.2 +1.8
baz=269
O16K Kokwok River B 73.73 32 P P 10 44 18.9 +1.2
baz=270,SNR=5.3
H18K Honhosa River 73.74 26 P P 10 44 18.8 +1.1
baz=268
KLMR Klimovskoe 73.74 330 *e*P P 10 44 13.6 -4.1
KLMR *e**PP pP 10 44 45.6 +0.2
KLMR pmax pmax
comp=Z,61nm,1.1s
P16K Nushagak River 73.78 32 P P 10 44 18.9 +0.9
baz=270
VORD Divnogorie 73.99 319 *e*P P 10 44 15.6 -3.8
VORD pmax pmax
comp=Z,20nm,0.9s
D19K Kuna River 73.99 22 P P 10 44 20.2 +1.1
baz=267
R16K Pilot Point 74.01 34 P P 10 44 20.3 +1.0
baz=271
VORR Voronezh 74.02 320 *e*P P 10 44 05.5 -14
VORR pmax pmax
comp=Z,60nm,1.0s
F19K Shaleruckik Mo 74.05 24 P P 10 44 20.2 +0.8
baz=268
VSR Storozhevoye 74.06 320 *e*P P 10 44 16.7 -3.1
VSR pmax pmax
comp=Z,20nm,0.9s
M17K Holitna River 74.07 30 P P 10 44 21.5 +1.9
baz=270,SNR=9.5
LPSR Galich'ya Gora 74.16 321 *e*P P 10 44 16.7 -3.6
LPSR pmax pmax
comp=Z,50nm,0.9s
N17K Nushagak Hills 74.19 31 P P 10 44 22.0 +1.6
baz=270,SNR=6.6
O17K Koliganek Bris 74.24 31 P P 10 44 21.6 +1.0
baz=270
E19K Redstone River 74.28 23 P P 10 44 21.8 +1.0
baz=268
G19K Purcell Mounta 74.30 25 P P 10 44 22.0 +1.1
baz=269,SNR=8.4
GCSA Galena City Sc 74.36 26 P P 10 44 22.4 +1.1
baz=269
B20K Meade River 74.41 21 P P 10 44 22.6 +1.2
baz=268,SNR=7.4
J18K Inuko River 74.42 28 P P 10 44 22.8 +1.2
baz=270,SNR=9.4
L18K Granite Mounta 74.43 29 P P 10 44 23.3 +1.6
baz=270,SNR=15
Q16K King Salmon 74.48 33 P P 10 44 23.0 +1.0
baz=271
H19K Roundabout Mou 74.55 25 P P 10 44 23.9 +1.6
baz=270,SNR=31
D20K Etivluk River 74.55 22 P P 10 44 23.8 +1.4
baz=268
P17K Kvichak River 74.58 32 P P 10 44 23.9 +1.3
baz=271
R17L Mt. Peulik Vol 74.66 34 P P 10 44 23.8 +0.7
baz=272
E20K Nigu River 74.70 23 P P 10 44 24.0 +0.8
baz=269
MOS Moscow 74.80 324 *e*P P 10 44 21.8 -2.2
MOS pmax pmax
comp=Z,34nm,0.6s
N18K Kilae Creek 74.83 30 P P 10 44 25.4 +1.3
baz=271
M18K Stony River 74.84 30 P P 10 44 25.3 +1.2
baz=271,SNR=9.9
F20K Avaraart Lake 74.86 24 P P 10 44 25.3 +1.2
baz=270
Q17K Contact Creek 74.89 33 P P 10 44 24.8 +0.2
baz=272
J19K Poorman 74.90 27 P P 10 44 25.7 +1.2
baz=271,SNR=7.9
CHIR Chirikof Islan 75.13 35 P P 10 44 26.6 +0.7
baz=273
A22K Sinclair Lake 75.17 20 P P 10 44 27.2 +1.4
baz=269,SNR=5.2
P18K Big Mountain, 75.19 32 P P 10 44 26.9 +0.6
baz=272
H20K Anotleneegа Mo 75.20 25 P P 10 44 27.6 +1.5
baz=271,SNR=38
C21K Knifeblade Rid 75.22 22 P P 10 44 27.4 +1.2
baz=270
B21K Ikpikpuk River 75.28 21 P P 10 44 27.4 +1.0
baz=270,SNR=12
L19K White Mountain 75.29 29 P P 10 44 28.0 +1.2
baz=272,SNR=20
Q18K Katmai Hardscr 75.34 33 P P 10 44 26.6 -0.5
baz=273
I20K Naaghedeneel 75.39 26 P P 10 44 29.1 +1.9
baz=271,SNR=15
OBN Obninsk 75.43 324 *c i*P P 10 44 26.6 -1.0
OBN *e* 10 44 40.1
OBN *e**PP **sP** **10 45 02.8 -4.5**
OBN *e**SP pP 10 45 16.9 +21
OBN *e* 10 47 16.1
OBN *e*PPP PPP 10 49 04.8
OBN pmax pmax
comp=Z,35nm,0.7s
N19K Bonanza Creek 75.51 30 P P 10 44 29.8 +1.7
baz=272,SNR=11
M19K Big River Lodg 75.51 29 P P 10 44 29.7 +1.7
baz=272,SNR=5.1
E21K Killik River 75.52 22 P P 10 44 28.4 +0.5
baz=271
J20K Nowinta River 75.55 27 P P 10 44 29.9 +1.8
baz=272
K20K Telida 75.61 28 P P 10 44 30.0 +1.5
baz=272
O19K Port Alsworth 75.62 31 P P 10 44 29.7 +1.2
baz=273,SNR=5.5
IMAR Indian Mountai 75.66 25 P P 10 44 29.7 +0.9
B22K Teshekpuk Lake 75.69 20 P P 10 44 29.6 +0.9
baz=271,SNR=6.3
R18K Karluk 75.69 34 P P 10 44 29.0 0.0
baz=273
F21K Alatna River 75.73 24 P P 10 44 29.9 +0.8
baz=272,SNR=7.9
L20K Farewell, AK 75.73 29 P P 10 44 30.4 +1.2
baz=273,SNR=6.9
G21K Allakaket 75.74 24 P P 10 44 30.4 +1.2
baz=272
SII Sitkinak Islan 75.89 35 P P 10 44 31.1 +0.8
baz=274
D22K Ayikyak River 75.98 22 P P 10 44 31.7 +1.2
baz=272
H21K Melozitna Rive 76.06 25 P P 10 44 32.6 +1.6
baz=273,SNR=28
M20K Styx River 76.11 29 P P 10 44 32.8 +1.3
baz=273
P19K Oil Pt 76.20 31 P P 10 44 32.1 +0.1
baz=274
F22K John River 76.22 23 P P 10 44 33.1 +1.1
baz=273
APA Apatity 76.29 337⇓ *i*P P 10 44 31.3 -1.0
APA *i* 10 44 40.8
APA *e*S S 10 54 01.7 -6.0
APA *e* 10 54 29.0
APA *e*SS SS 10 59 02.8 -0.6
OHAK Old Harbor 76.34 34 P P 10 44 34.1 +1.4
OHAK Old Harbor 76.34 34 P P 10 44 33.3 +0.6
baz=274,SNR=5.9
CHUM Lake Minchumin 76.37 27 P P 10 44 34.2 +1.4
baz=274,SNR=21
RED Redoubt Volcan 76.38 31 IAmb IAmb 10 44 34.6
comp=Z,18nm,0.8s
I21K Tanana 76.43 26 P P 10 44 34.6 +1.6
baz=274,SNR=25
O20K Slope Mountain 76.47 31 P P 10 44 33.6 0.0
baz=274
PPLA Purkeypile 76.49 28 P 10 44 34.9 +1.2
PPLA IAmb IAmb 10 44 35.6
comp=Z,16nm,0.8s
PPLA Purkeypile 76.49 28 P P 10 44 34.7 +1.1
baz=274,SNR=6.6
G22K Bettles 76.52 24 P P 10 44 34.4 +0.8
baz=274
N20K Mount Spurr 76.60 30 P P 10 44 34.8 +0.5
baz=274
SPCR Spurr Chakacha 76.60 30 P P 10 44 34.9 +0.7
baz=274
H22K Ishtalitna Cre 76.64 25 P P 10 44 35.8 +1.6
baz=274,SNR=39
GAZ Gaziantep 76.65 305 IAmb IAmb 10 44 36.7
comp=Z,23nm,0.9s
C23K Itkillik River 76.67 21 P P 10 44 35.2 +0.9
baz=274,SNR=14
SPU Mount Spurr 76.67 30 P P 10 44 35.2 +0.5
KDAK Kodiak Island 76.67 33 P P 10 44 35.2 +0.6
KDAK IAmb IAmb 10 44 36.2
comp=Z,23nm,1.1s
KDAK Kodiak Island 76.67 33 P P 10 44 35.0 +0.4
comp=Z,10nm,0.8s,baz=234,slow=2.8,SNR=18
comp=Z,10nm,0.8s
KDAK Kodiak Island 76.67 33 P P 10 44 35.2 +0.6
KDAK pmax pmax
comp=Z,23nm,1.2s
KDAK Kodiak Island 76.67 33 P P 10 44 35.2 +0.6
baz=275
KDAK Kodiak Island 76.67 33 P P 10 44 35.2 +0.6
D23K Nanushuk River 76.70 22 P P 10 44 35.8 +1.2
baz=274,SNR=14
Q20K Shuyak Island 76.71 32 P P 10 44 34.8 0.0
baz=275,SNR=5.5
SKT Skwentna 76.86 29 P P 10 44 35.7 +0.1
SKT IAmb IAmb 10 44 36.6
comp=Z,24nm,1.0s
SKT Skwentna 76.86 29 P P 10 44 35.7 +0.1
baz=275,SNR=16
BPAW Bear Paw Mtn. 76.94 27 P P 10 44 37.1 +1.1
BPAW Bear Paw Mtn. 76.94 27 P P 10 44 37.1 +1.1
baz=275,SNR=68
MLY Manley 76.97 26 P 10 44 37.4 +1.2
MLY Manley 76.97 26 P P 10 44 37.5 +1.2
baz=275,SNR=45
COLD Coldfoot 77.01 24 P P 10 44 37.3 +1.0
COLD IAmb IAmb 10 44 38.5
comp=Z,15nm,0.8s
COLD Coldfoot 77.01 24 P P 10 44 37.5 +1.2
baz=275,SNR=18
G23K Bananza Creek 77.12 24 P P 10 44 38.4 +1.3
baz=275,SNR=17
TOLK Toolik Lake Re 77.13 22 P P 10 44 38.0 +0.9
baz=275,SNR=12
CAPN Captain Cook N 77.14 30 P P 10 44 38.1 +1.0
baz=275
E23K Chandalar 77.16 23 P P 10 44 38.5 +1.2
baz=275,SNR=28
CNPM China Poot 77.22 31 IAmb IAmb 10 44 38.5
comp=Z,16nm,0.8s
SUA Susitna One 77.28 29 P P 10 44 38.1 0.0
baz=276,SNR=29
TRF Thorofare Moun 77.30 27 IAmb IAmb 10 44 41.5
comp=Z,16nm,0.8s
TRF Thorofare Moun 77.30 27 P P 10 44 38.8 +0.6
baz=276,SNR=12
C24K Franklin Bluff 77.34 21 P P 10 44 38.7 +0.6
baz=276,SNR=10
D24K Happy Valley 77.35 22 P P 10 44 39.3 +1.1
baz=276
BRLK Bradley Lake 77.38 31 P P 10 44 38.1 -0.4
BRLK IAmb IAmb 10 44 41.2
comp=Z,22nm,0.8s
H23K Yukon River 77.39 25 P P 10 44 40.1 +1.5
baz=276
CUT Chulitna 77.41 28 P P 10 44 38.7 +0.1
baz=276,SNR=8.3
BRSE Bradley Lake S 77.45 31 P P 10 44 38.6 -0.3
baz=276,SNR=13
BNN Bunyan 77.50 307 P 10 44 40.2 +0.3
BNN IAmb IAmb 10 44 41.0
comp=Z,16nm,0.9s
I23K Minto, Yukon-K 77.54 26 P P 10 44 40.4 +1.2
baz=276,SNR=30
M22K Willow 77.55 29 P P 10 44 39.3 -0.1
baz=276,SNR=26
E24K Your Creek 77.58 23 P P 10 44 40.5 +1.0
baz=276,SNR=22
NEA2 Nenana 77.72 26 IAmb IAmb 10 44 42.5
comp=Z,28nm,0.8s
NEA2 Nenana 77.72 26 P P 10 44 41.1 +0.8
baz=276,SNR=24
RC01 Rabbit Creek A 77.80 30 P P 10 44 41.0 +0.2
RC01 IAmb IAmb 10 44 41.7
comp=Z,20nm,1.0s
RC01 Rabbit Creek A 77.80 30 P P 10 44 40.6 -0.2
baz=276,SNR=9.4
F24K Squaw Lake 77.87 23 P P 10 44 42.5 +1.4
baz=277,SNR=37
MCK McKinley 77.87 27 P 10 44 41.6 +0.4
MCK McKinley 77.87 27 P P 10 44 41.6 +0.4
MCK pmax pmax
comp=Z,55nm,0.8s
MCK McKinley 77.87 27 P P 10 44 41.6 +0.4
baz=277,SNR=41
O22K Cooper Landing 77.88 30 P P 10 44 41.9 +0.6
baz=277
RND Reindeer 77.95 27 IAmb IAmb 10 44 42.6
comp=Z,27nm,0.7s
PMR Palmer 78.03 29 IAmb IAmb 10 44 43.0
comp=Z,26nm,0.9s
PMR Palmer 78.03 29 P P 10 44 43.2 +1.1
PMR Palmer 78.03 29 P P 10 44 42.2 +0.1
baz=277,SNR=31
SEW Seward 78.06 31 IAmb IAmb 10 44 43.3
comp=Z,22nm,0.8s
SEW Seward 78.06 31 P P 10 44 42.4 +0.2
baz=277,SNR=15
H24K Noodor Dome 78.07 25 P P 10 44 43.8 +1.4
baz=277,SNR=23
GHO Glory Hole Cre 78.11 29 IAmb IAmb 10 44 47.8
comp=Z,17nm,0.8s
G24K Hadweenzic Riv 78.13 24 P P 10 44 43.7 +1.1
baz=277,SNR=32
WAT1 Susitna Watana 78.15 28 P P 10 44 42.8 -0.1
baz=277
D25K Kavik River 78.20 21 P P 10 44 43.7 +0.7
baz=278,SNR=27
COLA College 78.20 26 P P 10 44 43.0 0.0
COLA IAmb IAmb 10 44 45.6
comp=Z,22nm,0.8s
COLA College 78.20 26 P P 10 44 43.9 +0.9
COLA College 78.20 26 P P 10 44 43.0 0.0
COLA pmax pmax
comp=Z,22nm,0.8s
COLA College 78.20 26 P P 10 44 43.1 +0.1
baz=277
COLA College 78.20 26 P P 10 44 43.0 0.0
COLA PcP **PcP** 10 44 51.3 -0.7
CCB Clear Creek Bu 78.25 26 P 10 44 43.4 +0.1
POKR Poker Plat Res 78.35 26 P P 10 44 45.0 +1.2
baz=278
KNK Knik Glacier 78.38 29 P P 10 44 44.7 +0.6
KNK IAmb IAmb 10 44 45.5
comp=Z,26nm,0.8s
KNK Knik Glacier 78.38 29 P P 10 44 44.6 +0.6
baz=278,SNR=12
PWL Port Wells 78.51 30 P P 10 44 45.1 +0.3
baz=278,SNR=40
WAT6 Susitna Watana 78.56 28 P P 10 44 45.6 +0.4
baz=278,SNR=36
C26K Camden Bay 78.62 21 P P 10 44 46.8 +1.6
baz=279
IL31 78.63 26 P P 10 44 44.5 -0.8
ILAR Eielson Array 78.63 26 P P 10 44 44.5 -0.8
ILAR Eielson Array 78.63 26 P P 10 44 44.4 -1.0
comp=Z,4.2nm,0.7s,baz=272,slow=4.2,SNR=38
comp=Z,4.2nm,0.7s
ILAR Eielson Array 78.63 26 P P 10 44 44.5 -0.8
DHY Denali Highway 78.65 28 P 10 44 46.0 +0.3
DHY Denali Highway 78.65 28 P P 10 44 45.7 0.0
baz=278,SNR=19
HDA Harding Lake 78.65 26 P P 10 44 45.0 -0.5
HDA IAmb IAmb 10 44 45.8
comp=Z,18nm,0.7s
HDA Harding Lake 78.65 26 P P 10 44 44.8 -0.7
baz=278,SNR=30
G25K Bearman Lake 78.66 24 P P 10 44 47.1 +1.6
baz=279,SNR=32
E25K Arctic Village 78.66 22 P P 10 44 46.7 +1.2
baz=279,SNR=12
M23K Glacier View 78.67 29 P P 10 44 46.2 +0.5

baz=278,SNR=16
F25K Christian Rive 78.71 23 P **P** 10 44 47.4 +1.6
baz=279,SNR=43
MMAI Mount Meron Ar 78.71 301 P **P** 10 44 46.5 -0.1
comp=Z,2.2nm,0.5s,baz=74,slow=6.3,SNR=4.1
comp=Z,2.2nm,0.5s
H25L Birch Creek 78.85 24 P **P** 10 44 48.0 +1.5
baz=279,SNR=33
SCM Sheep Creek Mo 78.85 29 P **P** 10 44 46.9 +0.2
SCM IAmb IAmb 10 44 48.3
comp=Z,36nm,1.0s
SCM Sheep Creek Mo 78.85 29 P **P** 10 44 46.9 +0.2
SCM pmax pmax
comp=Z,36nm,1.0s
SCM Sheep Creek Mo 78.85 29 P **P** 10 44 47.3 +0.6
baz=278,SNR=15
GHAJ Ghor Haditha 78.85 300 IAmb IAmb 10 44 49.1
comp=Z,32nm,0.9s
ARCES ARCESS Array B 78.96 339 P **P** 10 44 46.6 -0.4
ARCES IAmb IAmb 10 44 47.8
comp=Z,22nm,1.1s
ARCES ARCESS Array B 78.96 339 P **P** 10 44 46.8 -0.3
comp=Z,9.2nm,0.7s,baz=80,slow=6.7,SNR=27
ARCES pP **pP** 10 45 15.3 +0.1
comp=Z,4.2nm,0.8s,baz=68,slow=7.2,SNR=2.3
ARCES LR LR 11 25 54.5
comp=Z,24nm,18.7s,baz=100,slow=40
comp=Z,9.2nm,0.7s
ARCES ARCESS Array B 78.96 339 P **P** 10 44 46.7 -0.4
ARCES pmax pmax
comp=Z,22nm,1.1s
FYU Fort Yukon 79.03 24 P **P** 10 44 48.7 +1.2
FYU IAmb IAmb 10 44 49.8
comp=Z,20nm,0.8s
BR131 Keskin Array S 79.07 308 P **P** 10 44 47.7 -0.8
BR131 Keskin Array S 79.07 308 P **P** 10 44 47.7 -0.8
BR131 pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 79.07 308 P **P** 10 44 48.3 -0.2
BRTR Keskin Array B 79.07 308 P **P** 10 44 47.6 -0.8
comp=Z,4.6nm,0.8s,baz=118,slow=4.9,SNR=25
comp=Z,4.6nm,0.8s
BRTR Keskin Array B 79.07 308 *i* P **P** 10 44 47.4 -1.1
BRTR pmax pmax
comp=Z,5.0nm,0.8s
C27K Jago River 79.08 21 P **P** 10 44 48.8 +1.1
baz=280
PRP Porcupine Dome 79.08 25 **P** 10 44 48.0 0.0
PRP IAmb IAmb 10 44 50.6
comp=Z,16nm,0.8s
PRP Porcupine Dome 79.08 25 P **P** 10 44 48.0 0.0
baz=279,SNR=31
GLI Glacier Island 79.11 30 IAmb IAmb 10 44 49.4
comp=Z,26nm,0.8s
GLI Glacier Island 79.11 30 P **P** 10 44 48.4 +0.4
baz=279,SNR=12
BMAR Burnt Mountain 79.14 23 P **P** 10 44 49.7 +1.5
K24K Donnelly Dome 79.25 27 P **P** 10 44 48.9 +0.1
baz=279,SNR=26
F26K Sheenjek River 79.26 23 P **P** 10 44 50.1 +1.3
baz=280
J25K Salcha River, 79.30 26 P **P** 10 44 48.2 -0.9
baz=280,SNR=14
M24K Tolsona, Glenn 79.35 29 P **P** 10 44 50.5 +1.1
baz=279,SNR=14
FID Port Fidalgo 79.42 30 IAmb IAmb 10 44 51.4
comp=Z,20nm,1.1s
SPB2 Spitsbergen Ar 79.46 348 P **P** 10 44 50.1 +0.4
SPB2 IAmb IAmb 10 44 56.8
comp=Z,19nm,0.9s
SPITS Spitsbergen Ar 79.46 348 P **P** 10 44 49.6 0.0
comp=Z,4.8nm,0.5s,baz=90,slow=7.5,SNR=15
SPITS LR LR 11 26 53.4
comp=Z,36nm,18.2s,baz=50,slow=41
comp=Z,4.8nm,0.5s
SPITS Spitsbergen Ar 79.46 348 P **P** 10 44 50.0 +0.3
SPITS pmax pmax
comp=Z,35nm,1.1s
HIN Hinchinbrook I 79.47 30 **P** 10 44 50.5 +0.5
PAX Paxson 79.53 28 P **P** 10 44 51.0 +0.6
baz=280,SNR=12
G26K Porcupine Rive 79.53 23 P **P** 10 44 51.6 +1.4
baz=281,SNR=44
KLU Klutina 79.57 29 P **P** 10 44 51.2 +0.6
baz=280,SNR=11
RIDG Independent Ri 79.67 27 P **P** 10 44 51.4 +0.3
baz=280,SNR=38
DIV Divide 79.70 29 IAmb IAmb 10 44 53.0
comp=Z,16nm,0.8s
HARP HAARP 79.77 28 P **P** 10 44 52.6 +1.0
baz=280,SNR=7.3
EYAK Cordova Ski Ar 79.81 30 **P** 10 44 52.8 +1.0
EYAK Cordova Ski Ar 79.81 30 P **P** 10 44 53.2 +1.4
EYAK Cordova Ski Ar 79.81 30 P **P** 10 44 52.8 +1.0
baz=280,SNR=9.4
SCRK Sand Creek 80.00 26 P **P** 10 44 53.3 +0.3
baz=281,SNR=22
DOT Dot Lake 80.03 27 IAmb IAmb 10 44 54.9
comp=Z,20nm,1.2s
J26L Joseph Creek 80.08 26 P **P** 10 44 53.4 0.0
baz=281,SNR=18
CSS Mathiatis 80.09 304 IAmb IAmb 10 44 55.1
comp=Z,32nm,1.0s
I26K Coal Creek Min 80.10 25 P **P** 10 44 53.8 +0.5
baz=282
D27M Malcolm River 80.11 21 P **P** 10 44 54.4 +1.0
baz=283,SNR=36
E27K Coleen River 80.11 22 P **P** 10 44 54.4 +1.0
baz=282,SNR=26
FINES FINESS Array B 80.17 331 P **P** 10 44 53.0 -0.7
comp=Z,7.0nm,0.7s,baz=60,slow=6.1,SNR=20
FINES pP **pP** 10 45 21.1 -0.9
comp=Z,2.4nm,0.6s,baz=73,slow=6.6,SNR=2.1
FINES LR LR 11 21 59.7
comp=Z,36nm,21.5s,baz=63,slow=37
comp=Z,7.0nm,0.7s
N25K Chitina, Valde 80.17 29 P **P** 10 44 54.8 +0.9
baz=281,SNR=11
BMRM Bremner River 80.29 30 **P** 10 44 55.1 +0.6
BMRM Bremner River 80.29 30 P **P** 10 44 55.0 +0.5
baz=281,SNR=7.4
MENT Mentasta 80.32 28 P **P** 10 44 55.3 +0.7
MENT Mentasta 80.32 28 P **P** 10 44 55.9 +1.3
AKASG Malin Array Be 80.36 320 P **P** 10 44 54.2 -0.8
AKASG Malin Array Be 80.36 320 P **P** 10 44 53.8 -1.3
comp=Z,5.1nm,0.7s,baz=66,slow=5.4,SNR=22
AKASG pP **pP** 10 45 22.6 -0.6
comp=Z,0.8nm,0.5s,baz=70,slow=4.7,SNR=1.9
AKASG LR LR 11 21 47.6
comp=Z,22nm,18.3s,baz=46,slow=36
comp=Z,5.1nm,0.7s
AKASG Malin Array Be 80.36 320 *i* P **P** 10 44 53.7 -1.3
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 80.36 320 P **P** 10 44 54.1 -0.8
AKBB IAmb IAmb 10 44 54.8
comp=Z,18nm,1.0s
AKBB Malin Array Si 80.36 320 P **P** 10 44 54.2 -0.8
AKBB pmax pmax
comp=Z,18nm,1.0s
RAGM Ragged Mountai 80.36 30 IAmb IAmb 10 44 57.0
comp=Z,36nm,1.5s
KIEV Kiev 80.37 320 P **P** 10 44 54.1 -0.9
KIEV Kiev 80.37 320 ⇑P **P** 10 44 54.5 -0.5
KIEV Kiev 80.37 320 P **P** 10 44 54.1 -0.9
KIEV pmax pmax
comp=Z,15nm,1.0s
G27K Doyon Strip 80.39 23 P **P** 10 44 56.1 +1.2
baz=283,SNR=29
VSU Vasula 80.40 328 *d* iP **P** 10 44 53.8 -1.2
VSU pmax pmax
comp=Z,57nm,0.7s
L26K Log Cabin Wild 80.47 27 P **P** 10 44 56.3 +0.9
baz=282,SNR=6.4
MNK Minsk 80.50 324 *i* P **P** 10 44 58.5 +2.9
MNK *i* *PP **sP** 10 45 32.9 -2.8
MNK *i* 10 48 03.8
MNK *i* PPP PPP 10 49 53.6
MNK *i* S **S** 10 54 54.0 +0.9
MNK *i* SS **SS** 11 00 10.2 +3.2
MNK pmax pmax
comp=N,12nm,0.7s
MNK pmax pmax
comp=E,8.0nm,0.6s
MNK pmax pmax
comp=Z,7.0nm,0.5s
H27K Steamboat Moun 80.56 24 P **P** 10 44 57.4 +1.5
baz=283,SNR=24
KAIM Kayak Island 80.58 31 **P** 10 44 57.3 +1.3
KAIM IAmb IAmb 10 44 58.1
comp=Z,27nm,0.8s
KAIM Kayak Island 80.58 31 P **P** 10 44 57.2 +1.2
baz=281
I27K Kandik River 80.66 25 P **P** 10 44 57.9 +1.4
baz=283,SNR=40
M26K Nabesna, AK 80.76 28 P **P** 10 44 57.9 +0.9
baz=282,SNR=16
E28M Babbage River 80.76 21 P **P** 10 44 57.7 +0.9
baz=284,SNR=30
MDUB Mudurnu 80.79 309 P **P** 10 44 57.5 -0.1
MDUB IAmb IAmb 10 44 58.3
comp=Z,22nm,0.7s
K27K Chicken 80.82 26 P **P** 10 44 58.7 +1.5
baz=283
BERG Berg Lake 80.84 30 IAmb IAmb 10 44 59.2
comp=Z,18nm,0.8s
D28M Stokes Point 80.86 21 P **P** 10 44 57.9 +0.7
baz=285
F28M Old Crow 80.88 23 P **P** 10 44 58.6 +1.1
baz=284,SNR=53
MCARA McCarthy VSAT 80.96 29 **P** 10 44 58.9 +0.9
MCARA McCarthy VSAT 80.96 29 P **P** 10 44 59.0 +0.9
baz=282,SNR=5.1
CRQM Cirque 81.03 30 P **P** 10 44 59.4 +0.8
EGAK Eagle 81.04 25 P **P** 10 44 58.9 +0.6
EGAK IAmb IAmb 10 44 59.8
comp=Z,24nm,0.7s
NACGM Naroch 81.05 324 ⇓*i* P **P** 10 44 58.5 -0.1
comp=Z,33nm,0.9s,baz=79
CRQE Cirque 81.06 30 P **P** 10 44 59.5 +0.8
baz=282,SNR=7.4
L27K Beaver Creek, 81.14 27 P **P** 10 45 00.4 +1.5
baz=283
BCAR Beaver Creek A 81.16 27 **P** 10 45 00.2 +1.1
WAX Waxell Ridge 81.24 30 IAmb IAmb 10 45 01.6
comp=Z,16nm,0.7s
M27K Edge Creek, AK 81.28 28 P **P** 10 45 00.8 +1.0
baz=283,SNR=9.3
SNH Sunshine Point 81.30 30 IAmb IAmb 10 45 02.2
comp=Z,19nm,0.9s
I28M Miner Creek 81.38 25 P **P** 10 45 01.6 +1.3
baz=284,SNR=53
SORM Soroca 81.39 317 ⇑P **P** 10 44 59.7 -0.9
SORM Soroca 81.39 317 P **P** 10 44 59.6 -0.9
E29M Blow River 81.40 22 P **P** 10 45 00.8 +0.7
baz=286,SNR=36
ISLE Juniper Island 81.45 30 P **P** 10 45 01.3 +0.5
DRV Dumont d'Urvil 81.53 172 P **P** 10 44 59.5 -1.2
DRV pP **pP** 10 45 27.3 -1.8
BARN Barnard Glacie 81.67 29 P **P** 10 45 03.4 +1.4
BARN IAmb IAmb 10 45 04.3
comp=Z,16nm,0.8s
GRNC Granite Creek 81.70 29 P **P** 10 45 03.1 +0.9
GRNC IAmb IAmb 10 45 04.4
comp=Z,43nm,1.7s
BVCY Beaver Creek 81.72 28 P **P** 10 45 03.5 +1.4
baz=284,SNR=13
MESA MESA 81.74 30 IAmb IAmb 10 47 54.1
comp=Z,16nm,0.5s
MESA MESA 81.74 30 P **P** 10 45 03.7 +1.3
baz=283
G29M Pine Creek 81.75 23 P **P** 10 45 03.0 +0.9
baz=286,SNR=51
H29M Whitestone 81.81 24 P **P** 10 45 03.3 +0.9
baz=286,SNR=52
CTG Chitna Glacier 81.85 29 P **P** 10 45 04.3 +1.4
baz=284,SNR=24
CTGM Chitina Glacie 81.85 29 P **P** 10 45 04.3 +1.4
CTGM IAmb IAmb 10 45 05.3
comp=Z,32nm,0.8s
DAWY Dawson 81.96 26 P **P** 10 45 04.1 +0.9
DAWY IAmb IAmb 10 45 05.7
comp=Z,17nm,1.0s
DAWY Dawson 81.96 26 P **P** 10 45 04.2 +0.9
baz=285,SNR=26
TPGR Topolog 81.98 314 ⇑P **P** 10 45 03.1 -0.6
LOGN Logan Glacier 82.04 29 P **P** 10 45 05.3 +1.4
LOGN IAmb IAmb 10 45 06.3
comp=Z,19nm,0.9s
I29M Ogilvie Camp, 82.06 25 P **P** 10 45 04.6 +0.8
baz=286
YUK3 Moose Creek 82.06 28 P **P** 10 45 05.3 +1.2
baz=284,SNR=10
TABL Table Mountain 82.07 30 IAmb IAmb 10 45 06.4
comp=Z,21nm,0.9s
CFR Carcaliu 82.11 314 ⇑P **P** 10 45 04.5 +0.1
CFR Carcaliu 82.11 314 P **P** 10 45 04.4 +0.1
J29N Klondike Camp 82.35 25 P **P** 10 45 06.9 +1.6
baz=286
F30M Barrier River 82.38 22 P **P** 10 45 06.1 +0.7
baz=288,SNR=35
EPYK Eagle Plains 82.40 23 P **P** 10 45 06.0 +0.5
baz=287,SNR=32
G30M tAoh Zraii Nji 82.41 23 P **P** 10 45 05.6 0.0
baz=288,SNR=37
O28M Mount Upton 82.44 29 P **P** 10 45 07.5 +1.4
baz=285,SNR=12
YUK8 Steele Glacier 82.51 29 P **P** 10 45 07.9 +1.4
baz=285
PCA Pinnacle 82.58 30 P **P** 10 45 07.7 +1.1
PCA IAmb IAmb 10 45 09.0
comp=Z,18nm,0.9s
PINM Pinnacle 82.58 30 P **P** 10 45 08.0 +1.4
baz=285,SNR=5.6
L29M L29M 82.76 27 P **P** 10 45 09.3 +1.9
baz=286,SNR=23
M29M Somme Creek 82.79 27 P **P** 10 45 09.5 +1.8
baz=286,SNR=26
K29M Barlow Dome 82.81 26 P **P** 10 45 09.0 +1.2
baz=287,SNR=29
TESR Tescani 82.85 316 ⇑P **P** 10 45 07.9 -0.3
I30M Mount Dempster 82.88 24 P **P** 10 45 08.9 +0.8
baz=288,SNR=68
BCPM Bancas Point 82.92 30 IAmb IAmb 10 45 10.8
comp=Z,24nm,1.4s
VRI Vrinceioaia 82.94 315 ⇑P **P** 10 45 08.7 -0.1
VRI Vrincioaia 82.94 315 P **P** 10 45 08.6 -0.1
INK Inuvik 82.97 21 IAmb IAmb 10 45 09.5
comp=Z,25nm,0.8s
INK Inuvik 82.97 21 P **P** 10 45 08.6 +0.3
baz=290,SNR=38
PLOR Plostina 83.00 315 ⇓P **P** 10 45 09.2 +0.1
PLOR Plostina 83.00 315 P **P** 10 45 09.1 +0.1
YUK4 Talbot Arm 83.01 29 P **P** 10 45 10.2 +1.2
baz=286,SNR=5.6
J30M Hart River 83.09 25 P **P** 10 45 10.2 +1.0
baz=288,SNR=11
PNL Peninsula 83.11 30 P **P** 10 45 10.6 +1.3
PNL Peninsula 83.11 30 P **P** 10 45 10.5 +1.3
baz=286
G31M Satah River 83.16 23 P **P** 10 45 09.5 +0.2
baz=289,SNR=20
F31M Tsiigehtchic 83.18 22 P **P** 10 45 09.6 +0.2
baz=290,SNR=35
YUK6 Outpost Mounta 83.26 29 P **P** 10 45 11.9 +1.6
baz=286,SNR=11
NEHR Nehoiu 83.33 315 ⇓P **P** 10 45 10.9 +0.2
O29M Mount Kennedy 83.33 30 P **P** 10 45 12.2 +1.6
baz=286
TURR Turia 83.38 316 ⇑P **P** 10 45 10.9 -0.1
M30M Minto, Yukon 83.50 27 P **P** 10 45 12.9 +1.6
baz=288,SNR=16
H31M Peel River 83.50 24 P **P** 10 45 11.6 +0.4
baz=289,SNR=25
MLR Muntele Rosu 83.56 315 IAmb IAmb 10 45 13.0
comp=Z,18nm,0.8s
MLR Muntele Rosu 83.56 315 LR LR 11 25 33.6
comp=Z,25nm,19.6s,baz=56,slow=38
MLR Muntele Rosu 83.56 315 ⇑P **P** 10 45 11.9 -0.2
MLR Muntele Rosu 83.56 315 P **P** 10 45 11.8 -0.2
BURAR Bucovina Array 83.56 317 P **P** 10 45 12.0 0.0
BURAR Bucovina Array 83.56 317 ⇑P **P** 10 45 12.1 +0.1
BURAR Bucovina Array 83.56 317 P **P** 10 45 12.1 +0.1
BUR08 Bucovina Ar. S 83.57 317 P **P** 10 45 11.7 -0.3
BUR08 IAmb IAmb 10 45 12.9
comp=Z,20nm,0.8s
MAYO Mayo, Yukon 83.58 26 P **P** 10 45 12.6 +1.0
MAYO IAmb IAmb 10 45 13.8
comp=Z,24nm,1.0s
MAYO Mayo, Yukon 83.58 26 P **P** 10 45 12.8 +1.2
baz=288,SNR=7.6
LOZB Loznitsa 83.58 313 ⇑P **P** 10 45 12.0 0.0
HYT Haines Junctio 83.69 29 **P** 10 45 13.9 +1.5
HYT IAmb IAmb 10 45 14.9
comp=Z,16nm,1.0s
HYT Haines Junctio 83.69 29 P **P** 10 45 13.9 +1.5
baz=287,SNR=17
N30M Aishikik Lake 83.70 28 P **P** 10 45 14.0 +1.6
baz=287
DOPR Dopca 83.83 316 ⇑P **P** 10 45 12.9 -0.4
KMBO Kilima Mbogo 83.91 267 P **P** 10 45 15.1 +0.5
comp=Z,1.3nm,0.3s,baz=231,slow=23,SNR=1.5
KMBO pP **pP** 10 45 42.1 -0.9
comp=Z,1.4nm,0.4s,baz=57,slow=7.9,SNR=1.4
KMBO LR LR 11 22 22.0
comp=Z,19nm,18.1s,baz=106,slow=35
comp=Z,1.3nm,0.3s
P29M Windy Craggy 83.93 30 P **P** 10 45 15.1 +1.6
baz=287
A36M Sachs Harbour 84.11 17 P **P** 10 45 14.0 0.0
baz=297,SNR=25
P30M Million Dollar 84.16 29 P **P** 10 45 16.0 +1.3
baz=288
ELND Elena 84.19 313 ⇑P **P** 10 45 15.0 -0.2
N31M Braeburn, Yuko 84.29 28 P **P** 10 45 17.0 +1.7
baz=288,SNR=19
O30N Mendenhall 84.37 29 P **P** 10 45 17.2 +1.5
baz=288,SNR=16
ARR Arges 84.48 315 ⇑P **P** 10 45 16.5 -0.2
ALN Alexandroupoli 84.54 311 IAmb IAmb 10 45 17.1
comp=Z,17nm,0.8s
PLBC Pleasant Camp 84.65 30 P **P** 10 45 18.2 +1.1
baz=288
TNR Turnu Rosu 84.66 316 ⇑P **P** 10 45 17.6 +0.1
TNR Turnu Rosu 84.66 316 P **P** 10 45 17.6 +0.1
M31M Drury Creek, Y 84.68 27 P **P** 10 45 18.4 +1.1
baz=290
KWP Kalwaria Pacla 84.68 320 *e*P **P** 10 45 17.3 -0.2
RDO Rodhopi 84.86 311 IAmb IAmb 10 45 18.5
comp=Z,18nm,0.8s
CBBR Cluj-Babes-Bol 84.87 317 ⇑P **P** 10 45 18.7 +0.2
WHY Whitehorse 84.97 29 **P** 10 45 19.9 +1.1
WHY Whitehorse 84.97 29 P **P** 10 45 20.3 +1.5
baz=289,SNR=20
PLVB Pleven 84.97 313 ⇑P **P** 10 45 19.1 0.0
KOLS Kolonicke sedl 85.14 319 *e*P **P** 10 45 22.0 +2.2
KOLS pmax pmax
comp=Z,14nm,0.7s
SKAG Skagway 85.15 30 **P** 10 45 21.2 +1.7
SKAG IAmb IAmb 10 45 22.2
comp=Z,53nm,1.7s
SKAG Skagway 85.15 30 P **P** 10 45 21.7 +2.1
SKAG Skagway 85.15 30 P **P** 10 45 21.1 +1.5
baz=289,SNR=14
MARR Marisel-Cluj 85.18 317 ⇓P **P** 10 45 20.2 0.0
S31K Pelican 85.18 31 P **P** 10 45 21.1 +1.4
baz=288
R31K City Hall, Gus 85.28 31 P **P** 10 45 21.4 +1.2
baz=289
DRGR 85.42 317 ⇓P **P** 10 45 20.8 -0.5
DRGR 85.42 317 P **P** 10 45 20.8 -0.5
N32M Quiet Lake 85.63 28 P **P** 10 45 23.2 +1.2
baz=291
STHS Stebnicka Huta 85.66 320 *e*P **P** 10 45 22.5 +0.1
STHS pmax pmax
comp=Z,9.0nm,0.8s
BESE Bessie Mountai 85.67 31 IAmb IAmb 10 45 25.2
comp=Z,31nm,1.7s
C36M Paulatuk 85.68 19 P **P** 10 45 22.1 +0.1
baz=298,SNR=32
GZR Gura Zlata 85.75 316 ⇑P **P** 10 45 22.5 -0.5
GZR Gura Zlata 85.75 316 P **P** 10 45 22.4 -0.5
P32M Atlin 85.88 29 P **P** 10 45 24.6 +1.3
baz=290
MMPY Sheldon Lake, 85.89 26 IAmb IAmb 10 45 25.6
comp=Z,16nm,1.2s
MMPY Sheldon Lake, 85.89 26 P **P** 10 45 24.6 +1.3
baz=292,SNR=17
SIT Sitka 85.94 32 P **P** 10 45 25.1 +1.6
baz=289
R32K Eaglecrest 85.94 31 P **P** 10 45 25.1 +1.5
baz=290,SNR=6.2
JIS Juneau Island 86.01 31 P **P** 10 45 24.5 +0.7
P33M Teslin, Yukon 86.08 29 P **P** 10 45 25.4 +1.1
baz=291,SNR=8.0
SURR Surduc 86.09 316 ⇓P **P** 10 45 24.5 -0.1
HERR Herculane 86.13 315 ⇑P **P** 10 45 24.5 -0.2
NIE Niedzica 86.25 320 *e*P **P** 10 45 25.9 +0.5
SIRR Siria 86.26 317 ⇓P **P** 10 45 25.8 +0.3
OJC Ojcow 86.33 321 *e*P **P** 10 45 25.4 -0.2
OJC Ojcow 86.33 321 **P** 10 45 25.6 0.0
OJC Ojcow 86.33 321 P **P** 10 45 25.6 0.0
HFS Hagfors 86.36 331 P **P** 10 45 24.6 -1.0
comp=Z,11nm,0.8s,baz=113,slow=4.4,SNR=10
HFS LR LR 11 25 02.3
comp=Z,34nm,20.9s,baz=68,slow=36
comp=Z,11nm,0.8s
KECS Kecovo 86.40 319 *e*P **P** 10 45 26.2 +0.2
KECS pmax pmax
comp=Z,26nm,0.8s
MDVR Moldovita 86.64 315 ⇑P **P** 10 45 27.5 +0.2
Q32M Nakina River 86.80 30 P **P** 10 45 29.2 +1.2
baz=292
LANS Liptovska Anna 86.85 320 *e*P **P** 10 45 29.0 +0.7
LANS pmax pmax
comp=Z,4.0nm,0.8s
NC405 NORSAR Array S 86.89 333 P **P** 10 45 27.6 -0.6
BOVS Bovan 86.96 314 ⇑P **P** 10 45 28.4 -0.4
NC303 NORSAR Array S 87.00 333 P **P** 10 45 27.6 -1.1
NB201 NORSAR Array S 87.10 333 P **P** 10 45 27.8 -1.5
NB2 NORSAR Subarra 87.14 333 P **P** 10 45 28.0 -1.4
comp=Z,24nm,1.1s,baz=69,slow=4.4
NB2 NORSAR Subarra 87.14 333 P **P** 10 45 28.0 -1.4
comp=Z,24nm,1.1s,baz=69,slow=4.4
NOA NORSAR Array B 87.14 333 P **P** 10 45 28.0 -1.4
comp=Z,12nm,0.9s,baz=68,slow=4.6,SNR=19
NOA pP **pP** 10 45 56.2 -1.8
comp=Z,2.6nm,0.7s,baz=68,slow=4.6,SNR=2.6
NOA LR LR 11 27 17.3
comp=Z,33nm,19.0s,baz=70,slow=37
comp=Z,12nm,0.9s
NC204 NORSAR Array S 87.25 333 P **P** 10 45 29.1 -0.8
NC204 IAmb IAmb 10 45 29.8
comp=Z,19nm,1.0s
R33M Jennings River 87.26 29 P **P** 10 45 31.3 +1.2
baz=293
NAO01 NORSAR Array S 87.37 333 P **P** 10 45 29.8 -0.7
U33K Whale Pass 87.41 33 P **P** 10 45 32.1 +1.5
baz=291
VYHS Vyhne 87.45 319 *e*P **P** 10 45 31.9 +0.8
VYHS pmax pmax
comp=Z,52nm,2.4s
TGTN Hyland Airport 87.62 27 P **P** 10 45 32.7 +1.0
baz=295,SNR=6.2
CRAG Craig 87.64 33 P **P** 10 45 33.3 +1.5
baz=291
STEB Steborice 87.66 321 *e*P **P** 10 45 30.2 -1.9
WRAK Wrangell Islan 87.70 32 P **P** 10 45 33.0 +1.0
baz=292
S34M Telegraph Cree 87.75 31 P **P** 10 45 33.5 +1.2
baz=293
MORC Moravsky Berou 87.85 321 IAmb IAmb 10 45 34.1
comp=Z,16nm,1.4s
MORC Moravsky Berou 87.85 321 *e*P **P** 10 45 32.9 -0.1
MORC Moravsky Berou 87.85 321 ⇑P **P** 10 45 32.9 -0.1
MORC Moravsky Berou 87.85 321 P **P** 10 45 32.9 -0.1
WTLY Watson Lake, Y 87.98 28 P **P** 10 45 34.5 +1.1
WTLY IAmb IAmb 10 45 36.5
comp=Z,22nm,1.5s
WTLY Watson Lake, Y 87.98 28 P **P** 10 45 34.3 +0.9
baz=295
DLBC Dease Lake 88.08 30 P **P** 10 45 33.9 -0.1
comp=Z,16nm,0.9s,baz=289,slow=4.4,SNR=6.8
DLBC LR LR 11 28 51.0
comp=Z,340nm,18.0s,baz=221,slow=38
comp=Z,16nm,0.9s
DLBC Dease Lake 88.08 30 P **P** 10 45 34.8 +0.8
baz=294
KSP Ksiaz 88.25 322 *e*P **P** 10 45 34.7 -0.1
DPC Dobruska-Polom 88.40 322 *e*P **P** 10 45 35.9 +0.3
DPC Dobruska-Polom 88.40 322 *e*P **P** 10 45 35.9 +0.3
T35M Bob Quinn 88.55 31 P **P** 10 45 36.9 +0.8
baz=293
VRAC Vranov 88.59 321 LR LR 11 27 31.2
comp=Z,25nm,18.7s,baz=39,slow=37
VRAC Vranov 88.59 321 *e*P **P** 10 45 36.7 +0.2
VRAC Vranov 88.59 321 ⇑P **P** 10 45 36.7 +0.2
VRAC Vranov 88.59 321 P **P** 10 45 36.6 +0.1
ITM Ithomi 88.59 308 P **P** 10 45 35.6 -1.2

ITM					IAmb	IAmb	10 45 36.0		
	comp=Z,10nm,0.7s								
KRUC	**Moravsky**	**88.79**	**320**	*eP*		**P**	**10 45 37.6**	**+0.2**
WRGLY	**Wrigley**	**88.85**	**24**		IAmb	IAmb	10 45 40.9		
	comp=Z,7.8nm,0.8s								
WRGLY	**Wrigley**	**88.85**	**24**		P	**P**	**10 45 38.2**	**+0.8**	
	baz=299								
BRG	**Berggiesshubel**	**89.64**	**323**	*i* P		**P**	**10 45 43.1**	**+1.8**	
BRG					Amp		10 45 43.9		
	comp=Z,8.5nm,0.9s								
CLL	**Collm**	**90.02**	**323**		IAmb	IAmb	10 45 44.2		
	comp=Z,11nm,1.2s								
CLL	**Collm**	**90.02**	**323**	*i* P		**P**	**10 45 42.9**	**-0.2**	
CLL					pmax	pmax			
	comp=Z,8.0nm,1.0s								
CLL	**Collm**	**90.02**	**323**	*i* P		**P**	**10 45 42.9**	**-0.2**	
	comp=Z,8.0nm,1.0s								
TOAD	**Toad River Com**	**90.17**	**28**	P		**P**	**10 45 44.4**	**+0.7**	
	baz=298								
KHC	**Kasperske Hory**	**90.50**	**321**	*eP*		**P**	**10 45 45.1**	**-0.4**	
KHC	**Kasperske Hory**	**90.50**	**321**	*eP*		**P**	**10 45 45.1**	**-0.4**	
GERES	**GERESS Array B**	**90.53**	**321**	P		**P**	**10 45 44.6**	**-1.1**	
	comp=Z,2.6nm,0.7s,baz=64,slow=6.1,SNR=15								
	comp=Z,2.6nm,0.7s								
MOA	**Molln**	**90.55**	**320**	*e*PcP		**P**	**10 45 45.6**	**-0.1**	
	comp=Z,8.6nm,0.7s								
OBKA	**Obir**	**90.85**	**318**	*i* P		**P**	**10 45 46.4**	**-0.8**	
	comp=Z,1.2nm,0.4s								
MAW	**Mawson**	**91.22**	**199**	P		**P**	**10 45 47.7**	**-0.5**	
	comp=Z,1.5nm,0.8s,baz=7.0,slow=7.0,SNR=2.4								
MAW					pP	**pP**	**10 46 15.2**	**-1.5**	
	comp=Z,2.0nm,0.7s,baz=37,slow=9.0,SNR=3.6								
	comp=Z,1.5nm,0.8s								
KBA	**Koelnbreinsper**	**91.41**	**319**	*e*PcP		**P**	**10 45 49.1**	**-0.8**	
	comp=Z,8.9nm,1.1s								
LESA	**Schwarzleotal**	**91.70**	**320**	*eP*		**P**	**10 45 50.3**	**-0.9**	
	comp=Z,6.2nm,0.8s								
TIP	**Timpagrande**	**91.86**	**311**	P		**P**	**10 45 51.5**	**-0.5**	
TIP					IAmb	IAmb	10 45 52.7		
	comp=Z,15nm,1.1s								
TIP	**Timpagrande**	**91.86**	**311**	⇑P		**P**	**10 45 52.2**	**+0.2**	
ACER	**Acerenza**	**91.91**	**313**	P		**P**	**10 45 51.7**	**-0.5**	
ABTA	**Abfaltersbach**	**92.06**	**319**	*i* P		**P**	**10 45 51.9**	**-0.9**	
	comp=Z,13nm,1.2s								
WTTA	**Wattenberg**	**92.42**	**320**	*eP*		**P**	**10 45 53.6**	**-1.0**	
	comp=Z,16nm,1.0s								
WATA	**Walderalm**	**92.42**	**320**	*eP*		**P**	**10 45 53.6**	**-1.0**	
	comp=Z,6.5nm,0.8s								
YKAW3	**Yellowknife Wh**	**92.61**	**22**			**P**	**10 45 55.3**	**+0.5**	
YKAW3					IAmb	IAmb	10 45 56.3		
	comp=Z,6.7nm,1.1s								
YKA	**Yellowknife Ar**	**92.65**	**22**	P		**P**	**10 45 55.3**	**+0.2**	
	comp=Z,3.1nm,0.9s,baz=316,slow=5.0,SNR=17								
YKA					pP	**pP**	**10 46 22.8**	**-1.2**	
	comp=Z,1.4nm,0.9s,baz=317,slow=4.8,SNR=3.1								
YKA					LR	LR	11 31 22.9		
	comp=Z,30nm,19.1s,baz=324,slow=38								
	comp=Z,3.1nm,0.9s								
SUMG	**Summit**	**92.69**	**354**		IAmb	IAmb	10 46 24.5		
	comp=Z,8.4nm,1.2s								
SQTA	**Sankt Quirin**	**92.70**	**320**	*e*PcP		**P**	**10 45 55.1**	**-0.7**	
	comp=Z,11nm,0.8s								
YKAW1	**Yellowknife Wh**	**92.70**	**22**	P		**P**	**10 45 55.5**	**+0.2**	
YKAW1					IAmb	IAmb	10 45 57.5		
	comp=Z,24nm,1.6s								
MOTA	**Moosalm**	**92.72**	**320**	*e*PcP		**P**	**10 45 55.1**	**-0.8**	
	comp=Z,5.4nm,0.7s								
CEL	**Celeste**	**92.81**	**310**			**P**	**10 45 55.8**	**-0.6**	
FETA	**Feichten**	**93.08**	**320**	*e*PcP		**P**	**10 45 56.8**	**-0.8**	
	comp=Z,9.2nm,0.9s								
FUORN	**Ofenpass-Fuorn**	**93.54**	**320**			**P**	**10 45 59.5**	**-0.3**	
PPT2	**Papeete2**	**93.83**	**107**	*e*LR		LR	11 16 19.5		
	comp=Z,162nm,32.5s								
PPT2				*e*LR		LR	11 16 25.4		
	comp=Z,125nm,31.2s								
VNDA	**Vanda**	**94.17**	**172**	P		**P**	**10 46 01.3**	**-0.3**	
VNDA	**Vanda**	**94.17**	**172**	P		**P**	**10 46 00.9**	**-0.7**	
	comp=Z,1.3nm,0.8s,baz=316,slow=5.6,SNR=8.4								
VNDA					pP	**pP**	**10 46 28.6**	**-1.7**	
	comp=Z,1.2nm,0.8s,baz=359,slow=2.1,SNR=2.9								
	comp=Z,1.3nm,0.8s								
VNDA	**Vanda**	**94.17**	**172**	P		**P**	**10 46 01.3**	**-0.3**	
VNDA					pmax	pmax			
	comp=Z,4.0nm,1.2s								
LSZ	**Lusaka**	**95.93**	**256**	LR		LR	11 28 46.9		
	comp=Z,37nm,18.1s,baz=162,slow=35								
BORG	**Borgarnes**	**96.54**	**345**	LR		LR	11 33 31.0		
	comp=Z,21nm,19.1s,baz=12,slow=38								
EKA	**Eskdalemuir Ar**	**96.56**	**331**	P		**P**	**10 46 13.5**	**+0.4**	
	comp=Z,3.1nm,1.0s,baz=26,slow=17,SNR=2.8								
	comp=Z,3.1nm,1.0s								
QSPA	**South Pole Qui**	**103.68**	**180**	Pdiff		**Pdif**	**10 46 43.9**	**-0.8**	
	comp=Z,1.0nm,1.0s,baz=312,slow=5.6,SNR=1.6								
TORD	**Torodi Ar. Bea**	**113.90**	**291**	PKiKP		**PKiKP**	**10 51 22.6**	**-0.2**	
	comp=Z,0.3nm,0.7s,baz=42,slow=2.2,SNR=2.1								
AY03	**Cochrane**	**144.88**	**164**	PKPbc		**PKPdf**	**10 52 21.1**	**+1.1**	
SDDR	**Presa de Saban**	**145.32**	**20**	PKPbc		**PKPbc**	**10 52 21.7**	**0.0**	
BANI	**BANI**	**146.17**	**19**	PKPbc		**PKPdf**	**10 52 24.5**	**+1.2**	
PLCA	**Paso Flores**	**151.45**	**162**	PKPbc		**PKPbc**	**10 52 36.9**	**-0.4**	
	comp=Z,3.6nm,0.9s,baz=184,slow=5.0,SNR=6.8								
ATAH	**Atahualpa**	**160.09**	**72**	PKPab		**PKPab**	**10 53 22.1**	**-2.1**	
	comp=Z,3.3nm,0.8s,baz=341,slow=6.0,SNR=4.0								
ATAH					PP	**PP**	**10 57 06.5**	**-0.1**	
	comp=Z,4.7nm,0.6s,baz=69,slow=12,SNR=2.7								

*NEIC **06** 10:33:31.3±1.4, 43.67N±0.08×127.6W±0.1, h10km±2km, ML3.1/94, Error ellipse: s-maj=18.3km s-min=12.5km az=255.0*
*IDC **06** 10:33:32.1±2.0, 43.75N×127.36W, h0km, mb3.0/3, mbtmp3.1/6, ML3.3/4, MS3.0/3, Error ellipse: s-maj=27.6km s-min=16.0km az=54.0*

ISC 06 10:33:33.4±1.4, 43.70N±0.07×127.5W±0.1, h15km, n87, σ1§36/79, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.45**	**109**	Pn	**Pn**	**10 34 10.4**	**-2.4**
KEBM				IAML		10 34 50.9	
	comp=N,63nm,2.8s						
I02E	**Swisshome, OR**	**2.66**	**80**	Pn	**Pn**	**10 34 14.9**	**-0.9**
I02E				IAML		10 34 50.9	
	comp=N,49nm,2.5s						
I02E				IAML		10 35 09.4	
	comp=E,64nm,2.0s						
KBO	**Bosley Butte**	**2.82**	**121**	Pn	**Pn**	**10 34 15.5**	**-2.5**
KBO				IAML		10 34 58.4	
	comp=E,52nm,2.3s						
KBO				IAML		10 35 36.5	
	comp=N,38nm,4.6s						
K02D	**Willamette Mer**	**2.97**	**108**	Pn	**Pn**	**10 34 18.4**	**-1.7**
I03D	**Drain, OR**	**3.00**	**89**	Pn	**Pn**	**10 34 19.7**	**-0.7**
COR	**Corvallis**	**3.14**	**72**	Pn	**Pn**	**10 34 20.1**	**-2.3**
COR				IAML		10 36 08.0	
	comp=N,43nm,1.9s						
COR				IAML		10 36 24.7	
	comp=N,45nm,2.3s						
KSXB	**Camp Six Broad**	**3.25**	**124**	Pn	**Pn**	**10 34 22.0**	**-2.0**
L02F	**Cave Junction**	**3.28**	**117**	Pn	**Pn**	**10 34 23.0**	**-1.4**
BUCK	**Buck Mountain**	**3.29**	**80**	Pn	**Pn**	**10 34 24.6**	**+0.2**
BUCK				IAML		10 34 50.8	
	comp=E,46nm,4.2s						
BUCK				IAML		10 35 05.7	
	comp=N,30nm,2.9s						
G03D	**McMinnville, O**	**3.38**	**62**		**Pn**	**10 34 25.1**	**-0.5**
G03D				IAML		10 35 10.6	
	comp=N,52nm,1.6s						
G03D				IAML		10 35 28.4	
	comp=E,44nm,2.0s						
KRMB	**Red Mountain**	**3.42**	**128**	Pn	**Pn**	**10 34 25.0**	**-1.3**
H04D	**Lebanon**	**3.52**	**75**	Pn	**Pn**	**10 34 26.9**	**-0.7**
H04D				IAML		10 34 52.7	
	comp=E,41nm,1.9s						
H04D				IAML		10 35 26.1	
	comp=N,40nm,2.0s						
F03A	**Seaside**	**3.58**	**50**		**Pn**	**10 34 27.6**	**-0.7**
BBOR	**Butler Butte**	**3.60**	**101**		**Pn**	**10 34 28.8**	**-0.1**
RADR	**Rader Ridge**	**3.77**	**43**	Pn	**Pn**	**10 34 29.9**	**-1.2**
JCC	**Jacoby Creek,**	**3.86**	**137**	Pn	**Pn**	**10 34 30.6**	**-1.6**
JCC				IAML		10 35 31.1	
	comp=N,20nm,4.5s						
JCC				IAML		10 35 41.1	
	comp=E,17nm,4.3s						
G04A	**Mulino**	**3.89**	**66**		**Pn**	**10 34 31.1**	**-1.6**
H04A	**Detroit Lake**	**3.94**	**74**		**Pn**	**10 34 32.4**	**-0.9**
J04A	**Umpqua Nationa**	**3.94**	**95**		**Pn**	**10 34 34.0**	**+0.5**
KHMM	**Horse Mountain**	**3.97**	**134**	Pn	**Pn**	**10 34 33.1**	**-0.8**
KHMM				IAML		10 36 59.6	
	comp=E,21nm,4.8s						
KHMM				IAML		10 37 14.7	
	comp=N,17nm,4.4s						
F04D	**Rainier, OR**	**3.97**	**52**		**Pn**	**10 34 32.7**	**-1.1**
E03A	**Lebam**	**3.98**	**43**		**Pn**	**10 34 33.4**	**-0.4**
E03A				IAML		10 35 24.8	
	comp=E,26nm,1.6s						
E03A				IAML		10 35 26.6	
	comp=N,22nm,1.6s						
YBH	**Yreka Blue Hor**	**4.03**	**118**	Pn	**Pn**	**10 34 34.0**	**-0.8**
YBH				IAML		10 35 58.5	
	comp=N,27nm,0.8s						
YBH	**Yreka Blue Hor**	**4.03**	**118**	Pn	**Pn**	**10 34 34.3**	**-0.4**
	baz=330,slow=11,SNR=5.0						
YBH				Sn	**Sn**	**10 35 23.8**	**+2.1**
	baz=0.6,slow=2.2,SNR=1.8						
WIFE	**Three Sisters-**	**4.12**	**83**	Pn	**Pn**	**10 34 36.1**	**+0.1**
WIFE				IAML		10 35 41.3	
	comp=N,22nm,3.7s						
WIFE				IAML		10 36 42.6	
	comp=E,24nm,4.2s						
KMPM	**Mount Pierce**	**4.13**	**141**	Pn	**Pn**	**10 34 33.4**	**-2.6**
KMPM				IAML		10 35 55.5	
	comp=E,30nm,4.2s						
KMPM				IAML		10 36 04.5	
	comp=N,22nm,3.2s						
K04D	**Chiloquin, OR**	**4.33**	**102**	Pn	**Pn**	**10 34 38.2**	**-0.6**
N02D	**Trinity Center**	**4.47**	**126**	Pn	**Pn**	**10 34 39.4**	**-1.4**
KMRM	**Mail Ridge**	**4.47**	**140**	Pn	**Pn**	**10 34 40.0**	**-0.8**
KMRM				IAML		10 37 22.3	
	comp=N,16nm,4.9s						
KMRM				IAML		10 37 24.0	
	comp=E,19nm,4.9s						
HOOD	**Mount Hood Mea**	**4.48**	**67**		**Pn**	**10 34 40.9**	**+0.1**
HOOD				IAML		10 35 21.0	
	comp=N,22nm,0.8s						
HOOD				IAML		10 35 21.9	
	comp=E,23nm,1.0s						
I05D	**Terrebonne, OR**	**4.48**	**80**		**Pn**	**10 34 39.7**	**-1.1**
I05D				IAML		10 35 18.6	
	comp=E,19nm,2.6s						
I05D				IAML		10 36 41.8	
	comp=N,19nm,3.5s						
NLWA	**Neilton Lookou**	**4.48**	**33**		**Pn**	**10 34 40.3**	**-0.5**
NLWA				IAML		10 35 55.8	
	comp=N,13nm,4.9s						
NLWA				IAML		10 37 32.0	
	comp=N,11nm,4.5s						
J05D	**Fort Rock, OR**	**4.57**	**93**		**Pn**	**10 34 42.0**	**-0.1**
J05D				IAML		10 35 46.0	
	comp=E,14nm,4.8s						
J05D				IAML		10 35 48.9	
	comp=N,18nm,4.2s						
M03C	**McCloud**	**4.65**	**120**	Pn	**Pn**	**10 34 41.7**	**-1.4**
M03C				IAML		10 35 24.6	
	comp=E,20nm,2.6s						
M03C				IAML		10 35 24.9	
	comp=N,15nm,2.6s						
C03A	**Quillayute Air**	**4.71**	**25**	Pn	**Pn**	**10 34 42.5**	**-1.4**
PINE	**Pine Mountain**	**4.74**	**87**		**Pn**	**10 34 43.8**	**-0.8**
PINE				IAML		10 37 39.5	
	comp=N,13nm,5.0s						
TULE	**Intermountain**	**4.76**	**109**	Pn	**Pn**	**10 34 42.9**	**-1.8**
K05A	**Summer Lake**	**4.92**	**99**	Pn	**Pn**	**10 34 46.5**	**-0.5**
K05A				IAML		10 37 02.9	
	comp=N,15nm,4.6s						
O02D	**Mt. Diablo Mer**	**4.97**	**134**	Pn	**Pn**	**10 34 46.7**	**-0.9**
O02D				IAML		10 37 17.1	
	comp=E,8.6nm,4.4s						
LON	**Longmire**	**5.04**	**51**		**Pn**	**10 34 47.7**	**-0.8**
LON				IAML		10 36 46.5	
	comp=N,12nm,4.2s						
LON				IAML		10 38 01.2	
	comp=E,7.6nm,4.0s						
GNW	**Green Mountain**	**5.06**	**39**		**Pn**	**10 34 47.9**	**-0.8**
GNW				IAML		10 35 49.3	
	comp=N,13nm,2.9s						
GNW				IAML		10 36 00.7	
	comp=E,11nm,4.1s						
G06A	**Carlson Farm,**	**5.14**	**70**	Pn	**Pn**	**10 34 49.2**	**-0.6**
G06A				IAML		10 37 37.0	
	comp=E,11nm,5.0s						
B04A	**Port Angeles**	**5.17**	**31**		**Pn**	**10 34 48.1**	**-2.1**
B04A				IAML		10 35 42.0	
	comp=E,9.8nm,4.7s						
B04A				IAML		10 36 21.3	
	comp=N,13nm,4.0s						
D05A	**Enumclaw**	**5.21**	**46**		**Pn**	**10 34 51.2**	**+0.5**
O03E	**Paynes Creek**	**5.43**	**127**		**Pn**	**10 34 52.2**	**-1.8**
OZB	**Mount Ozzard**	**5.44**	**14**	Pn	**Pn**	**10 34 52.4**	**-1.5**
CLRS	**Cowichan Lake**	**5.62**	**23**	Pn	**Pn**	**10 34 55.5**	**-0.9**
PGC	**Sidney**	**5.69**	**28**	Pn	**Pn**	**10 34 56.3**	**-1.0**
MXC	**Moxie City**	**5.84**	**58**	Pn	**Pn**	**10 34 59.5**	**-0.1**
LTY	**Liberty**	**5.97**	**51**		**Pn**	**10 35 01.6**	**+0.4**
A04D	**Lummi Island**	**6.01**	**32**	Pn	**Pn**	**10 35 01.8**	**0.0**
E07A	**Sunnyside**	**6.11**	**59**	Pn	**Pn**	**10 35 01.9**	**-1.2**
G08A	**Pilot Rock**	**6.30**	**72**	Pn	**Pn**	**10 35 04.5**	**-1.5**
WAH2	**Wahluke Slope**	**6.37**	**59**	Pn	**Pn**	**10 35 05.8**	**-1.0**
CBB	**Campbell River**	**6.50**	**12**	Pn	**Pn**	**10 35 06.4**	**-2.1**
WVOR	**Wild Horse Val**	**6.61**	**98**		**Pn**	**10 35 07.0**	**-3.1**
LNOR	**Lincton Mounta**	**6.90**	**68**	Pn	**Pn**	**10 35 12.6**	**-1.4**
WELL	**Weller Preserv**	**7.33**	**134**		**Pn**	**10 35 18.3**	**-1.7**
B08A	**Colville Reser**	**7.34**	**48**	Pn	**Pn**	**10 35 19.1**	**-1.0**
BMO	**Blue Mountains**	**7.40**	**78**	Pn	**Pn**	**10 35 20.7**	**-0.2**
CMB	**Columbia Colle**	**7.81**	**134**		**Pn**	**10 35 25.9**	**-0.7**
BUCR	**Buckhorn Ranch**	**8.20**	**135**		**Pn**	**10 35 31.4**	**-0.6**
NEW	**Newport**	**8.54**	**54**	Pn	**Pn**	**10 35 35.4**	**-1.1**
NEW	**Newport**	**8.54**	**54**	Pn	**Pn**	**10 35 36.8**	**+0.3**
	comp=N,0.2nm,0.3s,baz=246,slow=14,SNR=3.9						
NEW				Sn	**Sn**	**10 37 11.0**	**-1.5**
	baz=306,slow=19,SNR=1.4						
NEW				LR	LR	10 38 59.2	
	comp=N,108nm,20.8s,baz=221,slow=39						
	comp=N,0.9nm,0.5s						
LHV	**Little Huntoon**	**8.70**	**126**	Pn	**Pn**	**10 35 38.1**	**-0.6**
MDPB	**Devils Postpil**	**8.80**	**131**	Pn	**Pn**	**10 35 40.0**	**-0.4**
ELK	**Elko**	**9.55**	**104**	Pn	**Pn**	**10 35 50.2**	**-0.4**
ELK	**Elko**	**9.55**	**104**	Pn	**Pn**	**10 35 53.1**	**+2.5**
	comp=N,0.1nm,0.3s,baz=292,slow=19,SNR=4.3						
	comp=N,0.5nm,0.5s						
H02S2	**DAWSON INLET T**	**10.06**	**343**	T	T	10 46 03.2	
	SNR=31						
CLC	**China Lake**	**10.95**	**133**	Pn	**Pn**	**10 36 07.6**	**-1.9**
HVU	**Hansel Valley**	**10.99**	**95**	Pn	**Pn**	**10 36 08.7**	**-1.6**
LRMC	**Laurel Mtn Rad**	**11.16**	**134**	Pn	**Pn**	**10 36 10.5**	**-2.0**
WSHM	**Spangler Hills**	**11.16**	**133**	Pn	**Pn**	**10 36 11.4**	**-1.1**
LYMT	**Lyon Mountain**	**11.19**	**68**	Pn	**Pn**	**10 36 11.9**	**-1.0**
PDAR	**Pinedale Array**	**13.11**	**88**	Pn	**Pn**	**10 36 42.4**	**+3.1**
	baz=296,slow=14,SNR=1.6						
	comp=N,0.3nm,0.8s						
PFO	**Pinyon Flats O**	**13.24**	**136**	LR	LR	10 41 30.8	
	comp=N,54nm,18.6s,baz=320,slow=36						
DLBC	**Dease Lake**	**14.84**	**355**	Pn	**Pn**	**10 37 04.7**	**+2.0**
	comp=N,0.1nm,0.3s,baz=131,slow=26,SNR=1.9						
YKA	**Yellowknife Ar**	**20.28**	**17**	P	Pn	10 38 09.2	-1.0
	comp=N,0.5nm,0.7s,baz=208,slow=10,SNR=5.2						
	comp=N,0.5nm,0.7s						
ULM	**Lac du Bonnet**	**22.43**	**62**	LR	LR	10 47 33.7	
	comp=N,38nm,20.5s,baz=246,slow=38						
ILAR	**Eielson Array**	**23.76**	**339**	P	**P**	**10 38 44.7**	**-0.2**
	comp=N,0.2nm,0.6s,baz=140,slow=16,SNR=2.0						
	comp=N,0.2nm,0.6s						
TXAR	**Lajitas Array**	**23.81**	**119**	P	**P**	**10 38 46.2**	**+0.5**
	comp=N,0.6nm,0.9s,baz=308,slow=6.2,SNR=5.9						
	comp=N,0.6nm,0.9s						
H11N3	**WAKE ISLAND Hy**	**59.13**	**268**	T	T	11 47 02.9	
	baz=50,slow=75,SNR=34						
H11N2	**WAKE ISLAND Hy**	**59.13**	**268**	T	T	11 47 04.3	
	baz=50,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**59.14**	**268**	T	T	11 47 02.9	
	baz=50,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**60.05**	**267**	T	T	11 48 13.8	
	baz=50,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**60.06**	**267**	T	T	11 48 15.3	
	baz=50,slow=75,SNR=20						
H11S3	**WAKE ISLAND Hy**	**60.07**	**267**	T	T	11 48 14.0	
	baz=50,slow=75,SNR=15						

*BJI **06** 10:37:53.2, 18.30S×167.78E, h16km, mB5.2/2, mb4.9/20*
*IDC **06** 10:37:54.4±0.7, 18.21S×167.41E, h0km, mb4.5/21, mbtmp4.5/22, ML3.9/1, MS3.4/9, Error ellipse: s-maj=19.4km s-min=15.7km az=76.0*

*NOU **06** 10:37:55.5, 18.21S×167.69E, h11km, MLv5.0/30, Vanuatu Islands*
*NEIC **06** 10:37:55.1±1.4, 18.02S±0.06×167.50E±0.09, h10km±1km, mb4.9/91, Error ellipse: s-maj=14.2km s-min=10.0km az=95.0*

ISC 06 10:37:56.8±0.3, 18.16S±0.04×167.61E±0.06, h23km, n182, σ1§11/173, mb4.9/68, MS3.6/7, 2C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.70**	**52**	P	**Pb**	**10 38 09.1**	**-1.2**
INH	**Isangel**	**2.09**	**132**	P	**Pb**	**10 38 30.7**	**-3.4**
SANVU	**Saraoutou**	**2.73**	**352**		**Pn**	**10 38 35.7**	**-3.6**
KOUNC	**Koumac, New Ca**	**3.94**	**232**	P	**Pn**	**10 38 54.9**	**-1.0**
DZM	**Mont Dzumac**	**4.04**	**196**	*e*Pn	**Pn**	**10 38 56.2**	**-1.2**
	114nm,0.9s						
DZM				*e*Sn	Sn	10 39 29.2	-15
	352nm,0.9s						
DZM	**Mont Dzumac**	**4.04**	**196**		**Pn**	**10 38 56.1**	**-1.4**
DZM	**Mont Dzumac**	**4.04**	**196**	Pn	**Pn**	**10 38 56.0**	**-1.4**
	8.3nm,0.3s,baz=336,slow=5.9,SNR=72						
DZM				Sn	**Sn**	**10 39 41.3**	**-2.8**
	20nm,0.3s,baz=300,slow=20,SNR=9.5						
DZM				LR	LR	10 39 55.7	
	comp=Z,109nm,20.0s,baz=32,slow=31						
	31nm,0.5s						
DZM	**Mont Dzumac**	**4.04**	**196**	P	**Pn**	**10 38 56.3**	**-1.2**
ONTNC	**Ouen Toro**	**4.27**	**195**		**Pn**	**10 39 00.1**	**-0.3**
ONTNC	**Ouen Toro**	**4.27**	**195**	P	**Pn**	**10 38 59.7**	**-0.7**
ONTNC	**Ouen Toro**	**4.27**	**195**	S	**Sn**	**10 39 48.8**	**-0.7**
OUENC	**Ouen Island, N**	**4.30**	**190**	P	**Pn**	**10 38 59.9**	**-0.9**
OUENC	**Ouen Island, N**	**4.30**	**190**	S	**Sn**	**10 39 50.2**	**-0.1**
PINNC	**Pines Island,**	**4.43**	**182**		**Pn**	**10 39 02.7**	**-0.1**
PINNC	**Pines Island,**	**4.43**	**182**	P	**Pn**	**10 39 02.6**	**-0.1**
LUES	**Luesalemba Tem**	**7.63**	**347**	P	**Pn**	**10 39 46.2**	**-0.5**
MSVF	**Nonsavu**	**9.94**	**89**	Pn	**Pn**	**10 40 21.3**	**+2.8**
HNR	**Honiara**	**11.43**	**318**	Pn	Pn	10 40 34.5	-4.3
HNR	**Honiara**	**11.43**	**318**	LR	LR	10 43 43.6	
	comp=Z,98nm,21.6s,baz=164,slow=31						
SAVO	**Savo Central**	**11.73**	**319**	P	**Pn**	**10 40 43.2**	**+0.3**
DGTI	**Dogotuki**	**11.73**	**83**	P	**Pn**	**10 40 43.0**	**+0.1**
FUTU	**Fugatoga**	**14.22**	**76**	Pn	**Pn**	**10 41 15.5**	**-1.5**
EIDS	**Eidsvold**	**16.94**	**242**		**Pn**	**10 41 51.4**	**-1.0**
EIDS	**Eidsvold**	**16.94**	**242**	P	**P**	**10 41 54.2**	**-0.1**
TW1H	**Toowoomba 1 Ha**	**17.16**	**234**	P	**P**	**10 41 58.9**	**+2.1**
CTAO	**Charters Tower**	**20.27**	**261**	P	**P**	**10 42 31.7**	**+0.7**
PMG	**Port Moresby**	**21.67**	**291**	P	**P**	**10 42 43.9**	**-2.1**
PMG	**Port Moresby**	**21.67**	**291**	P	**P**	**10 42 45.5**	**-0.5**
	24nm,0.9s,baz=161,slow=7.3,SNR=5.4						
	24nm,0.9s						
URZ	**Urewera**	**21.68**	**159**	P	**P**	**10 42 46.1**	**+0.2**
	11nm,0.8s,baz=3.5,slow=19,SNR=2.1						
	11nm,0.8s						
MTSU	**Mount Surprise**	**22.14**	**266**	P	**P**	**10 42 54.0**	**+2.9**
QLP	**Quilpie**	**23.16**	**245**	P	**P**	**10 43 03.2**	**+1.4**
CNB	**Canberra Magne**	**23.54**	**220**	P	**P**	**10 43 06.9**	**+1.3**
COEN	**Coen**	**23.84**	**277**		**P**	**10 43 07.8**	**-0.8**
COEN				IAmb	IAmb	10 43 10.4	
	comp=Z,38nm,1.3s						
COEN	**Coen**	**23.84**	**277**	P	**P**	**10 43 10.0**	**+1.4**
CMSA	**Cobar Meteorol**	**23.88**	**232**	P	**P**	**10 43 09.6**	**+0.8**
INKA	**Innaminka**	**26.46**	**244**		**P**	**10 43 30.7**	**-1.6**
INKA				IAmb	IAmb	10 43 34.1	
	comp=Z,31nm,1.5s						
QIS	**Mount Isa**	**26.52**	**260**	P	**P**	**10 43 33.9**	**+0.9**
STKA	**Stephens Creek**	**27.16**	**235**		**P**	**10 43 39.1**	**+0.6**
STKA	**Stephens Creek**	**27.16**	**235**	P	**P**	**10 43 38.6**	**0.0**
	comp=Z,21nm,1.0s,baz=57,slow=7.6,SNR=9.4						
	comp=Z,21nm,1.0s						
STKA	**Stephens Creek**	**27.16**	**235**	P	**P**	**10 43 39.8**	**+1.2**
WR8	**Warramunga Arr**	**31.32**	**261**	P	**P**	**10 44 14.2**	**-1.5**
WR8				IAmb	IAmb	10 44 16.1	
	comp=Z,17nm,1.4s						
WB0	**Warramunga Arr**	**31.43**	**262**	P	**P**	**10 44 15.4**	**-1.2**
WB0				IAmb	IAmb	10 44 16.2	
	comp=Z,19nm,1.1s						
WB2	**Warramunga Arr**	**31.46**	**261**	P	**P**	**10 44 15.0**	**-1.9**
WRA	**Warramunga Arr**	**31.47**	**261**		**P**	**10 44 15.5**	**-1.6**

QSPA	**South Pole Qui**	**71.89**	**180**	P	**P**	**10 49 20.4**	**+2.4**
QSPA				IAmb	IAmb	10 49 28.8	
	comp=Z,9.2nm,0.9s						
QSPA	**South Pole Qui**	**71.89**	**180**	P	**P**	**10 49 20.3**	**+2.4**
	comp=Z,4.1nm,0.7s,baz=356,slow=1.2,SNR=29						
	comp=Z,4.1nm,0.7s						
BNX	**BinXian**	**73.30**	**332**	⇑P	**P**	**10 49 26.0**	**-0.4**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LYN	**LuoYang**	**74.12**	**315**	P	**P**	**10 49 32.1**	**+0.7**
LYN				pmax	pmax		
	comp=Z,25nm,0.8s						
BJI	**Beijing**	**75.14**	**322**	P	**P**	**10 49 37.5**	**+0.3**
BJI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KMI	**Kunming**	**76.40**	**302**	P	**P**	**10 49 46.3**	**+1.2**
KMI				pmax	pmax		
	comp=Z,16nm,1.2s						
CM31	**Chiang Mai Arr**	**76.66**	**295**	P	**P**	**10 49 45.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**76.66**	**295**	P	**P**	**10 49 44.7**	**-1.6**
CMAR	**Chiang Mai Arr**	**76.66**	**295**	P	**P**	**10 49 47.8**	**+1.4**
	comp=Z,2.3nm,0.6s,baz=125,slow=3.7,SNR=19						
	comp=Z,2.3nm,0.6s						
CHTO	**Chiang Mai**	**76.80**	**295**	P	**P**	**10 49 46.7**	**-0.5**
PZH	**PanZhiHua**	**77.83**	**303**	P	**P**	**10 49 53.3**	**+0.3**
HHC	**Hu-ho-hao-te**	**78.41**	**320**	*e*P	**P**	**10 49 57.5**	**+1.7**
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,92nm,5.1s						
MA2	**Magadan**	**78.67**	**351**	LR	LR	11 19 25.1	
	comp=Z,34nm,21.5s,baz=165,slow=32						
MAW	**Mawson**	**78.85**	**202**	P	**P**	**10 49 58.7**	**+1.0**
	comp=Z,4.2nm,1.1s,baz=113,slow=10,SNR=4.5						
	comp=Z,4.2nm,1.1s						
LZH	**Lanzhou**	**80.87**	**313**	*e*P	**P**	**10 50 08.1**	**-1.3**
LZH				pmax	pmax		
	comp=Z,17nm,0.9s						
LZDM	**Lanzhou Array**	**80.90**	**312**	P	**P**	**10 50 11.0**	**+1.2**
	comp=Z,1.3nm,0.3s,baz=212,slow=5.1,SNR=1.4						
	comp=Z,1.3nm,0.3s						
SEY	**Seymchan**	**81.71**	**353**	LR	LR	11 20 53.4	
	comp=Z,40nm,21.0s,baz=130,slow=32						
BELA	**Belgrano 2**	**83.30**	**175**	P	**P**	**10 50 21.6**	**+0.3**
CNPM	**China Poot**	**84.36**	**20**	P	**P**	**10 50 26.0**	**-0.9**
CNPM				IAmb	IAmb	10 50 35.5	
	comp=Z,9.1nm,1.0s						
RED	**Redoubt Volcan**	**84.58**	**19**	P	**P**	**10 50 27.7**	**-0.3**
BRLK	**Bradley Lake**	**84.65**	**20**	P	**P**	**10 50 27.7**	**-0.6**
BRLK				IAmb	IAmb	10 50 37.1	
	comp=Z,4.3nm,0.5s						
GTA	**Gaotai**	**85.27**	**314**	*e*P	**P**	**10 50 33.3**	**+1.2**
GTA				sP	sP	10 50 41.7	+1.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YAK	**Yakutsk**	**85.39**	**343**	P	**P**	**10 50 32.0**	**+0.1**
SONM	**Songino Array**	**85.44**	**324**	P	**P**	**10 50 32.3**	**-0.4**
SONM	**Songino Array**	**85.44**	**324**	P	**P**	**10 50 33.5**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=134,slow=6.4,SNR=3.6						
	comp=Z,1.5nm,0.8s						
SYO	**Syowa Base**	**85.53**	**197**	⇓*e*P	**P**	**10 50 33.0**	**+0.3**
BILL	**Bilibino**	**85.96**	**359**	P	**P**	**10 50 34.7**	**+0.1**
SUA	**Susitna One**	**86.02**	**19**	P	**P**	**10 50 33.8**	**-1.4**
RC01	**Rabbit Creek A**	**86.04**	**19**	P	**P**	**10 50 35.0**	**-0.2**
O02D	**Mt. Diablo Mer**	**86.86**	**46**	P	**P**	**10 50 39.5**	**-0.3**
O02D				IAmb	IAmb	10 50 49.3	
	comp=Z,8.1nm,0.9s						
WELL	**Weller Preserv**	**87.53**	**48**	P	**P**	**10 50 42.4**	**-0.7**
WELL				IAmb	IAmb	10 50 52.0	
	comp=Z,7.4nm,1.1s						
AFDM	**Forest Hills D**	**87.57**	**48**	P	**P**	**10 50 43.2**	**0.0**
AFDM				IAmb	IAmb	10 50 52.5	
	comp=Z,8.9nm,1.1s						
O03E	**Paynes Creek**	**87.58**	**46**	P	**P**	**10 50 43.5**	**+0.2**
O03E				IAmb	IAmb	10 50 52.0	
	comp=Z,9.2nm,1.1s						
CMB	**Columbia Colle**	**87.60**	**49**	P	**P**	**10 50 43.7**	**+0.3**
BUCR	**Buckhorn Ranch**	**87.61**	**49**	P	**P**	**10 50 43.7**	**+0.1**
BUCR				IAmb	IAmb	10 50 52.2	
	comp=Z,5.8nm,0.9s						
LSA	**Lhasa**	**87.65**	**302**	P	**P**	**10 50 44.3**	**-0.1**
LSA				IAmb	IAmb	10 50 54.0	
	comp=Z,12nm,1.4s						
MDPB	**Devils Postpil**	**88.37**	**50**	P	**P**	**10 50 47.6**	**+0.3**
MDPB				IAmb	IAmb	10 50 56.2	
	comp=Z,8.2nm,0.9s						
BEKR	**Beckworth**	**88.40**	**47**	P	**P**	**10 50 46.1**	**-1.2**
BEKR				IAmb	IAmb	10 50 56.1	
	comp=Z,7.4nm,1.1s						
WAKR	**Walker**	**88.47**	**49**		**P**	**10 50 47.9**	**+0.1**
WAKR				IAmb	IAmb	10 50 57.0	
	comp=Z,9.0nm,1.0s						
ESJX	**Sierra Juarez**	**88.51**	**56**	P	**P**	**10 50 47.6**	**-0.5**
BORC	**Borrego Spring**	**88.63**	**54**	P	**P**	**10 50 48.1**	**-0.3**
WSHM	**Sagmar Hills**	**88.72**	**52**	P	**P**	**10 50 47.7**	**-1.1**
WSHM				IAmb	IAmb	10 50 57.6	
	comp=Z,4.1nm,0.9s						
CLC	**China Lake**	**88.72**	**52**	P	**P**	**10 50 48.2**	**-0.6**
CLC				IAmb	IAmb	10 50 57.8	
	comp=Z,4.7nm,0.9s						
IMAR	**Indian Mountai**	**88.78**	**15**	P	**P**	**10 50 48.8**	**+0.5**
CCCA	**Chr Cany lake**	**88.78**	**52**	P	**P**	**10 50 48.1**	**-1.0**
CCCA				IAmb	IAmb	10 50 58.2	
	comp=Z,6.8nm,0.8s						
LOGN	**Logan Glacier**	**88.81**	**23**	P	**P**	**10 50 49.0**	**+0.2**
PAHR	**Pah Rah Range**	**89.01**	**48**		**P**	**10 50 50.0**	**-0.2**
PAHR				IAmb	IAmb	10 50 59.1	
	comp=Z,9.5nm,1.1s						
LHV	**Little Huntoon**	**89.04**	**49**		**P**	**10 50 49.6**	**-0.5**
LHV				IAmb	IAmb	10 50 59.5	
	comp=Z,9.3nm,1.1s						
DSP	**Deep Springs**	**89.07**	**50**		**P**	**10 50 50.7**	**+0.4**
DSP				IAmb	IAmb	10 51 00.0	
	comp=Z,8.3nm,1.2s						
RYN	**Ryan**	**89.18**	**49**		**P**	**10 50 50.1**	**-1.0**
RYN				IAmb	IAmb	10 50 59.9	
	comp=Z,5.6nm,0.9s						
BELC	**Belle Mtn. Jos**	**89.23**	**54**		**P**	**10 50 50.8**	**-0.5**
BELC				IAmb	IAmb	10 51 00.2	
	comp=Z,7.9nm,0.8s						
J05D	**Fort Rock, OR**	**89.28**	**44**	P	**P**	**10 50 50.0**	**-1.3**
HDA	**Harding Lake**	**89.39**	**18**	P	**P**	**10 50 51.0**	**-0.2**
HDA				IAmb	IAmb	10 51 14.4	
	comp=Z,6.2nm,1.1s						
TROLL	**Troll, Antarti**	**89.49**	**185**	⇓P	**P**	**10 50 52.5**	**+0.5**
	comp=Z,544nm,1.1s						
BC3	**Big Chuckawall**	**89.52**	**54**		**P**	**10 50 53.0**	**+0.3**
BC3				IAmb	IAmb	10 50 53.8	
	comp=Z,10nm,1.5s						
FURC	**Furnace Creek,**	**89.53**	**51**	P	**P**	**10 50 52.8**	**+0.3**
FURC				IAmb	IAmb	10 51 01.4	
	comp=Z,7.0nm,0.9s						
GMN	**Gold Mountain**	**89.56**	**50**	P	**P**	**10 50 53.0**	**+0.1**
GWY	**Greenwater Val**	**89.56**	**52**	P	**P**	**10 50 53.1**	**+0.3**
ILAR	**Eielson Array**	**89.67**	**18**	P	**P**	**10 50 52.6**	**+0.1**
ILAR	**Eielson Array**	**89.67**	**18**	P	**P**	**10 50 51.5**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=237,slow=5.1,SNR=7.2						
WCT	**Wildcat Mounta**	**89.83**	**51**	P	**P**	**10 50 53.5**	**-0.6**
BCAR	**Beaver Creek A**	**90.06**	**21**	P	**P**	**10 50 53.4**	**-1.0**
SNAA	**Sanae**	**90.16**	**183**	⇓P	**P**	**10 50 53.7**	**-1.3**
	comp=Z,87nm,0.9s						
SNAA	**Sanae**	**90.16**	**183**	P	**P**	**10 50 55.6**	**+0.6**
SNAA	**Sanae**	**90.16**	**183**	P	**P**	**10 50 55.3**	**+0.3**
	comp=Z,5.1nm,1.0s,baz=193,slow=6.4,SNR=11						
	comp=Z,5.1nm,1.0s						
TPNV	**Topopah Spring**	**90.17**	**51**	P	**P**	**10 50 55.7**	**0.0**
TPNV				IAmb	IAmb	10 51 04.7	
	comp=Z,6.8nm,0.9s						
WVOR	**Wild Horse Val**	**90.65**	**45**	P	**P**	**10 50 56.7**	**-1.1**
WVOR				IAmb	IAmb	10 51 06.9	
	comp=Z,6.5nm,1.0s						
VNA3	**Neumayer Olymp**	**90.81**	**181**	⇑P	**P**	**10 50 58.3**	**+0.3**
	comp=Z,7.1nm,0.8s						
SHPR	**Sheep Range**	**90.81**	**52**	P	**P**	**10 50 58.4**	**-0.3**
214A	**Organ Pipe Nat**	**90.97**	**57**	P	**P**	**10 50 58.8**	**-0.6**
214A				IAmb	IAmb	10 51 08.7	
	comp=Z,6.5nm,1.0s						
J08A	**Circle Bar Ran**	**91.13**	**45**		**P**	**10 50 59.5**	**-0.5**
PRN	**Pahroc Range**	**91.23**	**51**		**P**	**10 50 59.5**	**-1.1**
W13A	**Hualapai Mount**	**91.26**	**53**	P	**P**	**10 51 00.2**	**-0.7**
W13A				IAmb	IAmb	10 51 10.3	
	comp=Z,5.1nm,0.8s						
Y14A	**Wickenburg**	**91.52**	**55**	P	**P**	**10 51 00.6**	**-1.4**
G08A	**Pilot Rock**	**91.61**	**43**		**P**	**10 51 01.8**	**-0.4**
HAWA	**Hanford**	**91.70**	**41**	P	**P**	**10 51 01.6**	**-0.8**
HAWA				IAmb	IAmb	10 51 11.5	
	comp=Z,4.0nm,0.8s						
ELK	**Elko**	**92.33**	**48**	P	**P**	**10 51 04.5**	**-1.3**
LCMT	**Little Creek M**	**92.43**	**52**	P	**P**	**10 51 05.5**	**-0.6**
LCMT				IAmb	IAmb	10 51 15.6	
	comp=Z,4.7nm,0.9s						
X16A	**Lo Mia Camp, P**	**92.90**	**55**	P	**P**	**10 51 08.1**	**-0.4**
WMQ	**Urumqi**	**95.35**	**314**	*e*P	**P**	**10 51 20.5**	**+1.1**
PDAR	**Pinedale Array**	**97.02**	**47**	P	**P**	**10 51 28.5**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=294,slow=4.5,SNR=2.4						
PDAR				LR	LR	11 35 40.8	
	comp=Z,14nm,18.1s,baz=270,slow=36						
	comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**97.61**	**62**	P	**P**	**10 51 29.2**	**-0.8**
TXAR	**Lajitas Array**	**97.61**	**62**	P	Pdif	10 51 32.1	+2.0
	comp=Z,0.3nm,0.7s,baz=278,slow=2.3,SNR=4.1						
	comp=Z,0.3nm,0.7s						
MKAR	**Makanchi Array**	**99.89**	**316**	P	**Pdif**	**10 51 39.8**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=108,slow=4.7,SNR=2.1						
MKAR				PKKP	**PKKPdf**	**11 08 06.0**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=304,slow=2.8,SNR=5.0						
	comp=Z,0.4nm,0.9s						
LPAZ	**La Paz**	**115.32**	**119**	PKP	**PKPdf**	**10 56 41.4**	**+3.1**
	comp=Z,1.0nm,0.4s,baz=155,slow=3.8,SNR=2.7						
BOSA	**Boshof**	**120.95**	**219**	PKP	**PKiKP**	**10 56 48.5**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=153,slow=15,SNR=1.5						
BRTR	**Keskin Array B**	**134.94**	**308**	PKP	**PKiKP**	**10 57 15.9**	**0.0**
	comp=Z,0.5nm,0.6s,baz=151,slow=2.8,SNR=3.6						
KBA	**Koelnbreinsper**	**144.25**	**329**	*i* PKP	PKPbc	10 57 29.2	-0.2
	comp=Z,12nm,1.2s						
LESA	**Schwarzleotal**	**144.32**	**330**	*e*PKP	PKPbc	10 57 29.9	+0.4
	comp=Z,6.9nm,1.0s						
ABTA	**Abfaltersbach**	**144.88**	**330**	*e*PKP	**PKPab**	**10 57 30.6**	**-0.7**
	comp=Z,8.1nm,0.8s						
WATA	**Walderalm**	**144.89**	**331**	*e*PKP	PKPbc	10 57 31.3	-0.1
	comp=Z,6.0nm,0.8s						
WTTA	**Wattenberg**	**144.92**	**331**	*e*PKP	**PKPdf**	**10 57 31.7**	**-0.7**
	comp=Z,13nm,1.3s						
MOTA	**Moosalm**	**145.10**	**332**	*e*PKP	**PKPdf**	**10 57 32.2**	**-0.4**
	comp=Z,9.8nm,0.8s						
RETA	**Reutte**	**145.14**	**332**	*e*PKP	**PKPdf**	**10 57 32.3**	**-0.3**
	comp=Z,3.9nm,0.7s						
SQTA	**Sankt Quirin**	**145.14**	**331**	*e*PKP	**PKPdf**	**10 57 32.4**	**-0.3**
	comp=Z,8.1nm,1.0s						
FETA	**Feichten**	**145.51**	**332**	*i* PKP	**PKPab**	**10 57 34.1**	**+0.4**
	comp=Z,9.8nm,0.7s						
DAVA	**Damuels**	**145.68**	**333**	*e*PKP	**PKPdf**	**10 57 33.3**	**-0.3**
	comp=Z,12nm,1.0s						
TORD	**Torodi Ar. Bea**	**165.55**	**252**	PKP	**PKPdf**	**10 58 00.3**	**-0.2**
	comp=Z,1.5nm,1.0s,baz=50,slow=3.2,SNR=5.6						
TORD				PKPab	**PKPab**	**10 58 58.5**	**-0.6**
	comp=Z,2.2nm,1.0s,baz=71,slow=3.7,SNR=5.3						

*ISK **06** 10:50:35.1,38˚.71N×26˚.56E,h10km,ML2.5/22*
*AFAD **06** 10:50:35.2,38˚.74N×26˚.53E,h8km±2km,ML2.4*
ISC 06 10:50:35.5±0.9,38˚.73N±0˚.02×26˚.55E±0˚.03,h12km±6km,
n35,σ0s50/49,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARB	**zmir-Karabur**	**0.13**	**237**	P	**Pg**	**10 50 38.7**	**0.0**
KARB				*i* IAML		10 50 41.0	
	comp=E,1μm,0.3s						
KARB				S	**Sg**	**10 50 41.1**	**+0.1**
FOCM	**Foa**	**0.14**	**98**	Pg	**Pg**	**10 50 38.7**	**-0.2**
FOCM				Sg	**Sg**	**10 50 41.2**	**-0.1**
ZEDA	**zmir-Bergama**	**0.47**	**60**	P	**Pg**	**10 50 44.6**	**-0.2**
ZEDA				S	**Sg**	**10 50 51.7**	**+0.6**
ZEYE	**Izmir, Urla-Ze**	**0.49**	**184**	P	**Pg**	**10 50 44.6**	**-0.6**
ZEYE				S	**Sb**	**10 50 53.0**	**-0.2**
ZEYE				*i* IAML		10 50 57.0	
	comp=N,270nm,0.2s						
CHOS	**Chios island**	**0.52**	**228**	Pg	**Pg**	**10 50 45.6**	**0.0**
BLCB	**Balcova**	**0.52**	**132**	Pg	**Pg**	**10 50 45.4**	**-0.2**
AYVA	**Ayvalik**	**0.59**	**11**	P	**Pg**	**10 50 46.3**	**-0.6**
AYVA				S	**Sb**	**10 50 56.2**	**+0.2**
GMLD	**Gumuldur**	**0.71**	**156**	Pg	**Pg**	**10 50 48.8**	**-0.5**
SIGR	**SIGRI**	**0.72**	**312**	Pg	**Pb**	**10 50 49.8**	**-0.2**
DGB	**zmir**	**0.73**	**159**	P	**Pg**	**10 50 48.7**	**-0.9**
DGB				S	**Sb**	**10 51 01.3**	**+1.3**
GPNR	**Gulpinar-Canak**	**0.79**	**336**	Pg	**Pb**	**10 50 51.2**	**0.0**
KOCA	**Canakkale, Ayv**	**0.83**	**338**	P	**Pg**	**10 50 51.5**	**0.0**
KOCA				S	**Sn**	**10 51 04.8**	**-0.5**
KOCA				*i* IAML		10 51 07.0	
	comp=E,232nm,0.2s						
KOCA				*i* IAML		10 51 08.0	
	comp=N,140nm,0.4s						
BUHA	**Balikesir, Bur**	**0.87**	**28**	P	**Pg**	**10 50 51.4**	**-0.9**
BUHA				S	**Sn**	**10 51 06.5**	**+0.2**
BUHA				*i* IAML		10 51 09.0	
	comp=N,116nm,0.8s						
BUHA				*i* IAML		10 51 10.0	
	comp=E,190nm,0.5s						
SOMA	**Soma-Manisa**	**0.88**	**61**	Pg	**Pb**	**10 50 52.7**	**0.0**
YAYO	**Edremit-Balk**	**0.97**	**25**	Pg	**Pb**	**10 50 54.4**	**+0.2**
YAYO				Sg	**Sn**	**10 51 08.5**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**1.01**	**360**	P	**Pg**	**10 50 54.7**	**-0.3**
BAYC				S	**Sb**	**10 51 08.8**	**+0.6**
BAYC				*i* IAML		10 51 11.0	
	comp=N,118nm,0.2s						
BAYC				*i* IAML		10 51 11.0	
	comp=E,158nm,0.4s						
EZN	**Ezine**	**1.11**	**351**	Pn	**Pg**	**10 50 56.5**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.11**	**54**	P	**Pg**	**10 50 56.3**	**-0.7**
STEP				S	**Sb**	**10 51 11.9**	**+0.7**
STEP				*i* IAML		10 51 14.0	
	comp=N,101nm,0.3s						
STEP				*i* IAML		10 51 14.0	
	comp=E,146nm,0.4s						
ODEM	**Odemis-Izmir**	**1.28**	**110**	Pn	**Pn**	**10 50 59.2**	**-0.1**
GORD	**Gordes-Manisa**	**1.28**	**82**	Pn	**Pb**	**10 50 59.6**	**0.0**
BALY	**Balya**	**1.31**	**39**	P	**Pn**	**10 50 59.0**	**-0.6**
BALY				S	**Sg**	**10 51 17.8**	**+0.2**
BALY				*i* IAML		10 51 20.0	
	comp=N,115nm,0.7s						
BALY				*i* IAML		10 51 21.0	
	comp=E,73nm,0.3s						
AYDB	**Zeytinkoy-Aydi**	**1.31**	**126**	Pn	**Pn**	**10 50 59.5**	**-0.3**
YENI	**Yenice-Canakka**	**1.32**	**24**	Pn	**Pg**	**10 51 00.4**	**-0.4**
CANM	**Can-anakkale**	**1.34**	**17**	Pn	**Pb**	**10 51 00.7**	**+0.2**
CNKL	**anakkale-Mer**	**1.34**	**355**	P	**Pn**	**10 50 59.2**	**-0.8**
CNKL				S	**Sn**	**10 51 18.1**	**+0.4**
CNKL				*i* IAML		10 51 23.0	
	comp=E,51nm,0.6s						
CNKL				*i* IAML		10 51 26.0	
	comp=N,72nm,1.1s						
GADA	**Gvkgeada**	**1.54**	**341**	Pn	**Pb**	**10 51 03.6**	**-0.4**
NAZL	**Nazilli-Aydin**	**1.57**	**119**	Pn	**Pn**	**10 51 03.5**	**+0.3**
GONE	**Gonen-Balikesi**	**1.58**	**34**	Pn	**Pb**	**10 51 04.1**	**-0.6**
BLKS	**Balkesir-Sus**	**1.59**	**44**	P	**Pn**	**10 51 03.2**	**-0.2**
BLKS				S	**Sg**	**10 51 26.8**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.67**	**358**	Pn	**Pb**	**10 51 05.4**	**-0.7**
KULA	**Kula-Manisa**	**1.67**	**97**	Pn	**Pn**	**10 51 05.1**	**+0.5**
KRBG	**Karabiga-Canak**	**1.76**	**19**	Pn	**Pn**	**10 51 05.6**	**-0.2**
ERIK	**Erikli-Kesan**	**1.94**	**359**	Pn	**Pn**	**10 51 09.2**	**+1.0**
MRMT	**Marmara Adasi**	**2.04**	**23**	Pn	**Pn**	**10 51 10.3**	**+0.6**
KCTX	**Karacabey (Bur**	**2.07**	**42**	Pn	**Pn**	**10 51 10.4**	**+0.2**

IDC 06 10:57:15.5±2.1,8˚.22S×130˚.23E,h0km,mb3.9/1,
mbtmp3.5/4,ML3.5/3,Error ellipse: s-maj=77.2km
s-min=29.0km az=79.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.78**	**204**	Pn	Pn	10 59 52.5	+1.2
	0.3nm,0.3s,baz=25,slow=9.5,SNR=20						
FITZ				Sn	Sn	11 01 49.2	-3.6
	0.3nm,0.3s,baz=205,slow=15,SNR=2.9						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**12.31**	**162**	Pn	Pn	11 00 11.8	-0.5
	0.3nm,0.3s,baz=339,slow=14,SNR=2.4						
WRA				Sn	Sn	11 02 26.1	-4.1
	0.5nm,0.3s,baz=346,slow=24,SNR=10						
	0.2nm,0.2s						
ASAR	**Alice Springs**	**15.76**	**168**	Pn	Pn	11 00 58.0	-0.9
	0.1nm,0.3s,baz=344,slow=9.6,SNR=8.6						
ASAR				Sn	Sn	11 03 47.1	-7.3
	0.1nm,0.3s,baz=0.8,slow=29,SNR=4.3						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**69.37**	**327**	P	P	11 08 25.1	0.0
	0.7nm,0.5s,baz=111,slow=7.2,SNR=6.0						
	0.7nm,0.5s						

*LVSN **06** 10:59:10.0±9.3,56˚.08N×22˚.82E,h0km±999km,ML2.5*
ISC 06 10:59:26.8±1.1,56˚.99N±0˚.05×23˚.00E±0˚.07,h10km,n8,
σ2s90/8,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLIT	**Slitere, Latvi**	**0.75**	**329**	*e*P	**Pg**	**10 59 39.5**	**-1.8**
SLIT				*e*S	**Sn**	**11 00 00.4**	**+5.5**
SLIT				AML	AML	11 00 02.7	
	comp=N,157nm,0.6s						
SLIT				AML	AML	11 00 07.7	
	comp=Z,131nm,0.6s						
SLIT				AML	AML	11 00 08.8	
	comp=E,134nm,0.6s						
VSVD	**Vaisvydziai**	**1.13**	**153**	*e*P	**Pb**	**10 59 46.1**	**-2.3**
PBUR	**Paburge**	**1.13**	**212**	*e*P	**Sn**	**11 00 05.6**	**+1.3**
PABE	**Paberze**	**1.58**	**160**	*e*P	**Pb**	**10 59 56.0**	**-0.1**
ISAL	**Salakas**	**2.25**	**128**	*e*P	**Pg**	**11 00 10.6**	**+0.8**
VSU	**Vasula**	**2.49**	**52**	*e*S	**Sb**	**11 00 41.7**	**-0.6**
VSU				AML	AML	11 00 45.8	
	comp=Z,16nm,0.4s						
VSU				AML	AML	11 00 52.8	
	comp=E,55nm,0.5s						
VSU				AML	AML	11 00 57.0	
	comp=N,45nm,0.6s						
ARBE	**Arbavere**	**2.92**	**31**	*e*S	**Sg**	**11 00 60.0**	**-0.6**
ARBE				AML	AML	11 01 10.6	
	comp=Z,38nm,0.5s						
ARBE				AML	AML	11 01 13.1	
	comp=E,79nm,0.7s						
ARBE				AML	AML	11 01 13.4	
	comp=N,82nm,0.5s						
MEF	**Metsahovi**	**3.32**	**12**	AML	AML	11 01 21.7	
	comp=E,14nm,0.5s						
MEF				AML	AML	11 01 24.0	
	comp=N,5.5nm,0.7s						
MEF				AML	AML	11 01 24.2	
	comp=Z,7.2nm,0.7s						

*NNC **06** 11:11:38.2±0.6,42˚.79N×78˚.95E,h0km,mb3.0,mpv2.7,*
Error ellipse: s-maj=4.5km s-min=1.6km az=163.0
*SOME **06** 11:11:39.0,42˚.78N×78˚.83E,h20km*
*KRNET **06** 11:11:42.0±0.1,42˚.45N×78˚.69E,mb2.6*
ISC 06 11:11:36.8±1.0,42˚.67N±0˚.04×78˚.93E±0˚.04,h10km,n15,
σ1s39/30,8C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**0.48**	**8**	P	**Pg**	**11 11 45.5**	**-0.8**
	9.9nm,0.1s						
UZB				S	**Sg**	**11 11 50.6**	**-2.1**
	5.6nm,0.1s						
UZB	**Uzynbulak**	**0.48**	**8**	*e*P	**Pg**	**11 11 45.5**	**-0.8**
	9.9nm,0.1s						
UZB				*e*S	**Sg**	**11 11 50.6**	**-2.1**
	5.6nm,0.1s						
SATY	**Saty**	**0.55**	**316**	P	**Pg**	**11 11 47.1**	**-0.3**
	6.0nm,0.2s						
SATY				S	**Sg**	**11 11 53.5**	**-1.2**
	20nm,0.2s						
SHLS	**Shalkode**	**0.63**	**39**	P	**Pn**	**11 11 53.6**	**+1.7**
	2.3nm,0.1s						
SHLS				S	**Sn**	**11 12 04.9**	**+2.7**
	10nm,0.3s						
SHLS	**Shalkode**	**0.63**	**39**	*e*P	**Pn**	**11 11 53.6**	**+1.7**
	2.3nm,0.1s						
SHLS				*e*S	**Sn**	**11 12 04.8**	**+2.7**
	10nm,0.3s						
PDGK	**Podgornoye**	**0.78**	**32**	⇑P	**Pg**	**11 11 50.9**	**-1.0**
	1.3nm,0.4s						
PDGK				⇑S	**Sg**	**11 12 00.6**	**-1.5**
	4.0nm,0.7s						
KPKS	**Kokpek**	**0.82**	**348**	P	**Pg**	**11 11 51.7**	**-0.9**
	0.2nm,0.1s						
KPKS				S	**Sg**	**11 12 01.4**	**-1.8**
	8.2nm,0.3s						
TARG	**Taragay, Kyrgy**	**1.25**	**222**	⇑*i*P	**Pn**	**11 12 00.7**	**-0.1**
TARG				⇑*i*S	**Sb**	**11 12 14.2**	**-3.0**
KDJ	**Kajisay**	**1.40**	**248**	⇑*e*P	**Pg**	**11 12 03.9**	**+0.2**
KDJ				⇑*i*S	**Sb**	**11 12 20.1**	**-1.1**
KNDC	**Almaty**	**1.54**	**291**	⇓P	**Pg**	**11 12 06.2**	**-0.2**
	11nm,0.5s						
KNDC				⇓S	**Sg**	**11 12 27.1**	**+0.8**
	20nm,0.5s						
KNOS	**Konyrlen**	**1.70**	**6**	P	**Pb**	**11 12 07.9**	**-0.4**
	3.1nm,0.1s						
KNOS				S	**Sb**	**11 12 29.3**	**-0.4**
	11nm,0.1s						
ARXS	**Arharly**	**1.74**	**333**	P	**Pb**	**11 12 08.7**	**-

comp=N,14nm,0.3s
GTBY IAML 11 12 37.8
comp=N,14nm,0.2s
HLGC Holguin 2.04 24 *e*S **Sn 11 12 37.1 +1.5**
QMBU Quimbuelo 2.33 59 *e*P **Pn 11 12 16.2 +1.3**
QMBU *e*S **Sn 11 12 38.7 -4.1**

NEIC ***06*** *11:29:40.3±2.7,0.3S±0.1×6.63W±0.9, h10km±1km, mb4.7/13, Error ellipse: s-maj=25.7km s-min=8.7km az=147.0*
IDC ***06*** *11:29:40.4±3.1,0.15S×6.44W, h0km, mb4.1/7, mbtmp4.2/9, ML4.3/2, MS2.5/1, Error ellipse: s-maj=106.8km s-min=58.7km az=93.0*
ISC 06 11:29:39.9±0.7, 0.2S±0.1×6.7W±0.2, h10km, n29, σ1s64/27, mb4.5/14, South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
DBIC	**Dimbokro**	**7.08**	**15**			**Pn**	**Pn**	**11 31 25.7**	**+2.0**
DBIC	**Dimbokro**	**7.08**	**15**	Pn		**Pn**	**Pn**	**11 31 25.0**	**+1.3**
	4.2nm,0.3s,baz=202,slow=13,SNR=125								
DBIC							Sn	**Sn**	**11 32 40.0**	**-4.3**
	34nm,0.3s,baz=244,slow=23,SNR=22								
DBIC							LR	LR	11 33 26.2	
	comp=Z,40nm,19.9s,baz=192,slow=32								
	12nm,0.3s								
ACRG	**Accra**	**8.71**	**48**	Pn		**Pn**	**Pn**	**11 31 44.2**	**-1.9**
ASCN	**Ascension**	**10.82**	**225**	Pn		**Pn**	**Pn**	**11 32 14.0**	**-1.0**
H10N2	**ASCENSION HYDR**	**10.84**	**226**	T		T	T	11 43 13.3	
	baz=47								
H10N1	**ASCENSION HYDR**	**10.84**	**225**	T		T	T	11 43 18.8	
	baz=47								
H10N3	**ASCENSION HYDR**	**10.86**	**226**	T		T	T	11 43 15.1	
	baz=47								
TORD	**Torodi Ar. Bea**	**15.67**	**32**			**Pn**	**Pn**	**11 33 18.6**	**-2.3**
TORD	**Torodi Ar. Bea**	**15.67**	**32**	Pn		**Pn**	**Pn**	**11 33 18.2**	**-2.8**
	1.3nm,0.3s,baz=229,slow=13,SNR=32								
TORD							Sn	Sn	11 35 59.8	-15
	2.3nm,0.3s,baz=221,slow=21,SNR=9.9								
	3.1nm,0.4s								
GERES	**GERESS Array B**	**51.95**	**17**	P		**P**	**P**	**11 38 50.7**	**+1.5**
	1.2nm,0.5s,baz=186,slow=7.9,SNR=6.3								
	1.2nm,0.5s								
BRTR	**Keskin Array B**	**54.16**	**38**	P		**P**	**P**	**11 39 06.2**	**+0.4**
	1.4nm,0.7s,baz=220,slow=7.5,SNR=6.5								
	1.4nm,0.7s								
PB16	**IPOC Station P**	**64.20**	**250**	P		**P**	**P**	**11 40 14.5**	**-1.8**
PB16						IAmb	IAmb	11 40 28.0	
	comp=Z,6.4nm,1.4s								
SDV	**Santo Domingo**	**64.29**	**280**	P		**P**	**P**	**11 40 15.6**	**-0.8**
SDV						IAmb	IAmb	11 40 33.3	
	comp=Z,5.6nm,1.4s								
PB09	**IPOC Station P**	**64.53**	**246**	P		**P**	**P**	**11 40 16.3**	**-1.6**
PB11	**IPOC Station P**	**64.56**	**248**	P		**P**	**P**	**11 40 17.1**	**-1.0**
PB11						IAmb	IAmb	11 40 19.3	
	comp=Z,4.0nm,0.8s								
PB01	**IPOC Station P**	**64.62**	**247**	P		**P**	**P**	**11 40 17.9**	**-0.5**
FINES	**FINESS Array B**	**66.37**	**16**	P		**P**	**P**	**11 40 29.2**	**+0.4**
FINES	**FINESS Array B**	**66.37**	**16**	P		**P**	**P**	**11 40 29.7**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=201,slow=5.9,SNR=4.4								
	comp=Z,1.0nm,0.5s								
CO01	**Juntas del Tor**	**67.02**	**237**	P		**P**	**P**	**11 40 33.0**	**-0.9**
CO01						IAmb	IAmb	11 40 37.0	
	comp=Z,4.8nm,1.2s								
GO04	**Tololo Observa**	**67.66**	**237**	P		**P**	**P**	**11 40 38.4**	**+0.5**
GO04						IAmb	IAmb	11 40 53.6	
	comp=Z,7.1nm,1.1s								
CO06	**Fray Jorge**	**68.47**	**237**	P		**P**	**P**	**11 40 42.3**	**-0.5**
CO06						IAmb	IAmb	11 41 00.4	
	comp=Z,10.0nm,1.4s								
PLCA	**Paso Flores**	**70.28**	**226**	P		**P**	**P**	**11 40 54.6**	**+0.7**
PLCA						IAmb	IAmb	11 40 59.4	
	comp=Z,11nm,1.5s								
ARCES	**ARCESS Array B**	**72.89**	**11**	P		**P**	**P**	**11 41 09.6**	**+0.7**
ARCES	**ARCESS Array B**	**72.89**	**11**	P		**P**	**P**	**11 41 09.8**	**+0.9**
	comp=Z,4.3nm,0.9s,baz=199,slow=5.2,SNR=4.5								
	comp=Z,4.3nm,0.9s								
AB31	**Akbulak array**	**75.11**	**38**	P		**P**	**P**	**11 41 23.2**	**+1.0**
ABKAR	**Akbulak array**	**75.11**	**38**	P		**P**	**P**	**11 41 23.2**	**+0.9**
BVAR	**Borovoye Array**	**82.41**	**36**	P		**P**	**P**	**11 42 04.3**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=316,slow=4.0,SNR=2.4								
	comp=Z,0.6nm,0.5s								
KURBB	**Kurchatov Array**	**87.13**	**39**	P		**P**	**P**	**11 42 27.5**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=256,slow=6.2,SNR=5.2								
	comp=Z,0.7nm,0.8s								
MKAR	**Makanchi Array**	**89.46**	**43**	P		**P**	**P**	**11 42 38.4**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=281,slow=2.2,SNR=1.8								
	comp=Z,0.4nm,0.3s								

NEIC ***06*** *11:47:45.8±1.6,55.72S±0.08×27.6W±0.1, h35km±2km, mb4.4/14, Error ellipse: s-maj=15.2km s-min=9.3km az=144.0*
IDC ***06*** *11:47:55.8±10.0,55.89S×27.55W, h122km±96km, mb3.3/5, mbtmp3.8/6, ML4.7/1, Error ellipse: s-maj=39.3km s-min=28.8km az=77.0*
ISC 06 11:47:45.8±0.6, 55.71S±0.10×27.63W±0.10, h35km, n24, σ1s17/23, mb4.2/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
HOPE	**Hope Point**	**5.30**	**282**			Pn	**Pn**	**11 49 00.1**	**-2.2**
ESPZ	**Base Esperanza**	**16.63**	**231**	Pn		Pn	**Pn**	**11 51 35.9**	**+0.2**
ESPZ						IAmb	IAmb	11 52 20.0	
	comp=Z,62nm,1.5s								
SNAA	**Sanae**	**19.16**	**156**				**Pn**	**11 52 06.6**	**-0.2**
SNAA						IAmb	IAmb	11 52 07.3	
	comp=Z,6.2nm,0.4s								
SNAA	**Sanae**	**19.16**	**156**	P			**Pn**	**11 52 06.6**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=313,slow=12,SNR=179								
	comp=Z,5.7nm,0.4s								
BELA	**Belgrano 2**	**22.40**	**184**	P		**P**	**P**	**11 52 41.1**	**+0.4**
GO10	**Punta Arenas**	**25.08**	**258**	P		**P**	**P**	**11 53 06.9**	**+0.2**
TRQA	**Tornquist**	**28.96**	**293**	P		**P**	**P**	**11 53 43.0**	**+1.4**
TRQA						IAmb	IAmb	11 54 04.8	
	comp=Z,8.4nm,1.4s								
QSPA	**South Pole Qui**	**34.54**	**180**	P		**P**	**P**	**11 54 31.7**	**+1.1**
QSPA						IAmb	IAmb	11 55 09.2	
	comp=Z,5.5nm,1.4s								
QSPA	**South Pole Qui**	**34.54**	**180**	P		**P**	**P**	**11 54 31.6**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=167,slow=6.2,SNR=6.8								
	comp=Z,0.9nm,0.7s								
MAW	**Mawson**	**40.57**	**144**	P		**P**	**P**	**11 55 21.1**	**-0.1**
	comp=Z,1.8nm,1.0s,baz=250,slow=14,SNR=2.2								
	comp=Z,1.8nm,1.0s								
VNDA	**Vanda**	**46.90**	**183**	P		**P**	**P**	**11 56 11.8**	**-0.2**
VNDA	**Vanda**	**46.90**	**183**	P		**P**	**P**	**11 56 11.2**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=188,slow=6.9,SNR=2.3								
	comp=Z,0.2nm,0.5s								
VILB	**Vilhena**	**49.56**	**316**	P		**P**	**P**	**11 56 33.2**	**0.0**
LPAZ	**La Paz**	**49.98**	**305**	P		**P**	**P**	**11 56 39.1**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=176,slow=15,SNR=2.1								
	comp=Z,0.8nm,0.8s								
LPHEP	**Lephephe**	**50.61**	**73**	P		**P**	**P**	**11 56 39.7**	**-1.5**
LPHEP						IAmb	IAmb	11 57 16.9	
	comp=Z,12nm,1.1s								
QNGWA	**Qangwa**	**51.27**	**65**	P		**P**	**P**	**11 56 45.7**	**-0.5**
QNGWA						IAmb	IAmb	11 57 13.7	
	comp=Z,6.3nm,1.4s								
BOAV	**Boa Vista**	**63.86**	**323**	P		**P**	**P**	**11 58 13.8**	**-0.8**
BOAV						IAmb	IAmb	11 58 14.7	
	comp=Z,5.0nm,1.4s								
TORD	**Torodi Ar. Bea**	**72.88**	**30**	P		**P**	**P**	**11 59 13.3**	**+2.4**
TORD	**Torodi Ar. Bea**	**72.88**	**30**	P		**P**	**P**	**11 59 12.4**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=207,slow=5.6,SNR=6.3								
	comp=Z,0.4nm,0.4s								
ROCAM	**Rodrigues Isla**	**74.47**	**102**	P		**P**	**P**	**11 59 19.5**	**-0.9**
HYT	**Haines Junctio**	**144.39**	**308**	PKPdf		PKPbc		12 07 15.5	+0.1
INK	**Inuvik**	**145.38**	**321**			**PKPdf**		**12 07 17.8**	**-0.3**
DAWY	**Dawson**	**146.38**	**312**	PKPdf		**PKPdf**		**12 07 20.3**	**+0.2**
ILAR	**Eielson Array**	**149.70**	**312**	PKPbc		**PKPbc**		**12 07 29.1**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=128,slow=4.0,SNR=9.4								

NEIC ***06*** *11:56:15.2±1.5,29.2S±0.2×177.0W±0.1, h35km±2km, mb4.4/14, Error ellipse: s-maj=28.3km s-min=15.7km az=11.0*
IDC ***06*** *11:56:15.3±3.1,30.22S×177.69W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=64.6km s-min=23.4km az=105.0*
ISC 06 11:56:15.6±1.1, 29.4S±0.2×177.2W±0.2, h35km, n22, σ0s97/20, mb4.3/10, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
RAO	**Raoul Island**	**0.65**	**279**				**Pn**	**11 56 30.1**	**+1.8**
RAO	**Raoul Island**	**0.65**	**279**	Pn		Pn	Pn	11 56 36.8	+8.5
	51nm,0.3s,baz=107,slow=20,SNR=1.1								
RAO							Sn	Sn	11 56 52.0	+15
	404nm,0.3s,baz=78,slow=20,SNR=4.3								
URZ	**Urewera**	**10.07**	**207**	Pn		Pn	Pn	11 58 23.3	-14
	0.2nm,0.3s,baz=322,slow=21,SNR=2.4								
URZ							Sn	Sn	12 00 03.3	-26
	0.6nm,0.3s,baz=292,slow=21,SNR=6.0								
EIDS	**Eidsvold**	**28.41**	**270**	P		**P**	**P**	**12 02 05.9**	**-1.1**
EIDS						IAmb	IAmb	12 02 35.4	
	comp=Z,12nm,1.3s								
CAN	**Canberra**	**29.09**	**249**	P		**P**	**P**	**12 02 12.7**	**-0.3**
CTAO	**Charters Tower**	**34.35**	**277**	P		**P**	**P**	**12 02 58.6**	**-0.7**
STKA	**Stephens Creek**	**35.41**	**255**	P		**P**	**P**	**12 03 08.9**	**+0.5**
STKA	**Stephens Creek**	**35.41**	**255**	P		**P**	**P**	**12 03 09.1**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=86,slow=13,SNR=3.3								
	comp=Z,1.7nm,0.6s								
AS31	**Alice Springs**	**43.88**	**265**	P		**P**	**P**	**12 04 17.4**	**-1.6**
ASAR	**Alice Springs**	**43.88**	**265**	P		**P**	**P**	**12 04 18.6**	**-0.4**
ASAR	**Alice Springs**	**43.88**	**265**	P		**P**	**P**	**12 04 19.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=103,slow=7.4,SNR=4.5								
	comp=Z,0.2nm,0.3s								
WR8	**Warramunga Arr**	**44.63**	**271**	P		**P**	**P**	**12 04 24.6**	**-0.5**
WR8						IAmb	IAmb	12 04 52.9	
	comp=Z,14nm,1.5s								
WRA	**Warramunga Arr**	**44.78**	**271**	P		**P**	**P**	**12 04 26.2**	**0.0**
	comp=Z,0.8nm,0.5s,baz=111,slow=7.8,SNR=8.5								
	comp=Z,0.8nm,0.5s								
WB0	**Warramunga Arr**	**44.80**	**271**	P		**P**	**P**	**12 04 26.4**	**+0.1**
WB0						IAmb	IAmb	12 04 59.9	
	comp=Z,6.3nm,1.3s								
VNDA	**Vanda**	**49.20**	**186**	P		**P**	**P**	**12 05 00.8**	**+0.9**
PSA00	**Pilbara Seismi**	**56.80**	**262**	P		**P**	**P**	**12 05 55.0**	**-1.7**
PSA00						IAmb	IAmb	12 06 22.2	
	comp=Z,3.6nm,1.1s								
QSPA	**South Pole Qui**	**60.75**	**180**	P		**P**	**P**	**12 06 23.7**	**0.0**
QSPA						IAmb	IAmb	12 06 38.2	
	comp=Z,4.0nm,1.2s								
GO09	**Cerro Castillo**	**76.18**	**141**	P		**P**	**P**	**12 08 00.5**	**+0.4**
JMM	**Marumori**	**77.57**	**327**	P		**P**	**P**	**12 08 08.1**	**+0.2**
MAJO	**Matsushiro**	**77.80**	**325**	P		**P**	**P**	**12 08 08.5**	**-0.8**
MAJO						IAmb	IAmb	12 08 40.9	
	comp=Z,6.0nm,1.2s								
SNAA	**Sanae**	**79.18**	**178**	P		**P**	**P**	**12 08 16.0**	**-0.5**
SNAA						IAmb	IAmb	12 08 55.6	
	comp=Z,5.8nm,1.5s								
FINES	**FINESS Array B**	**144.40**	**341**	PKPbc		**PKiKP**		**12 15 52.2**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=58,slow=3.4,SNR=7.2								

DJA ***06*** *12:02:24.6±0.4,4°N±4°×12°7E±°, h62km±5km, M4.8/18, mB5.1/7, mb5.0/14, MLv4.9/18, Mw(mB)4.5/7*
NEIC ***06*** *12:02:24.1±1.5,3.93N±0.06×126.50E±0.09, h69km±7km, mb4.7/94, Error ellipse: s-maj=13.7km s-min=7.4km az=73.0*
IDC ***06*** *12:02:24.8±1.4,3.89N×126.51E, h84km±12km, mb4.0/19, mbtmp4.3/23, MS3.1/16, Error ellipse: s-maj=23.0km s-min=8.2km az=77.0*
ISC 06 12:02:21.9±0.3, 3.94N±0.04×126.60E±0.06, h50km, n372, σ1s13/366, mb4.7/67, MS3.1/15, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SGSI	**Sangihe**	**1.10**	**257**	P		P	**Pn**	**12 02 42.5**	**+1.6**
SGSI				S		S	**Sn**	**12 02 57.7**	**+2.7**
TNTI	**Ternate**	**3.24**	**166**				**Pn**	**12 03 12.9**	**+2.6**
TNTI						Sn	**Sn**	**12 03 49.9**	**+2.2**
TNTI	**Ternate**	**3.24**	**166**	P		P	**Pn**	**12 03 12.8**	**+2.6**
DAV	**Davao City (W)**	**3.27**	**342**	Pn		Pn	**Pn**	**12 03 12.2**	**+1.5**
DAV				Sn		Sn	**Sn**	**12 03 50.2**	**+1.9**
DAV	**Davao City (W)**	**3.27**	**342**	P		P	**Pn**	**12 03 13.2**	**+2.5**
	170nm,0.3s,baz=252,slow=24,SNR=6.7								
DAV				S			**Sn**	**12 03 52.9**	**+4.6**
	334nm,0.4s,baz=261,slow=22,SNR=5.1								
KMSI	**Cibinong**	**4.25**	**218**	P		P	**Pn**	**12 03 27.9**	**+3.8**
MRSI	**Marisa**	**5.79**	**234**	P		P	**Pn**	**12 03 48.2**	**+3.0**
SANI	**Sanana**	**5.98**	**186**	P		P	**Pn**	**12 03 47.4**	**-0.5**
	0.6nm5μm108nm,0.8s								
LUWI	**Luwuk**	**6.25**	**218**				**Pn**	**12 03 52.3**	**+0.6**
LUWI	**Luwuk**	**6.25**	**218**	P		Pn	Pn	12 03 56.9	+5.2
	0.9nm3μm292nm,1.3s								
TOLI2	**Tolitoli**	**6.46**	**244**				**Pn**	**12 03 55.0**	**+0.6**
SWI	**Sorong**	**6.67**	**136**	P		P	**Pn**	**12 04 00.7**	**+3.3**
	0.3nm58nm,0.6s								
APSI	**Ampana**	**6.91**	**226**	P		P	**Pn**	**12 04 03.6**	**+3.0**
	0.6nm1μm126nm,0.7s								
NLAI	**Namlea**	**7.15**	**176**	P		P	**Pn**	**12 04 04.8**	**+0.8**
MSAI	**Masohi**	**7.61**	**162**	P		P	**Pn**	**12 04 14.0**	**+3.8**
	162nm,0.6s								
AAI	**Ambon**	**7.74**	**168**	P		P	**Pn**	**12 04 14.0**	**+1.9**
	0.4nm2μm80nm,0.5s								
MYLDM	**Lahad Datu**	**8.17**	**279**	Pn		Pn	**Pn**	**12 04 19.1**	**+1.2**
FAKI	**Fak Fak**	**8.85**	**140**				**Pn**	**12 04 29.0**	**+1.7**
FAKI	**Fak Fak**	**8.85**	**140**	P		Pn	**Pn**	**12 04 30.6**	**+3.3**
	58nm,0.9s								
TTSI	**Tana Toraja**	**9.70**	**224**	P		P	**Pn**	**12 04 43.5**	**+4.6**
SPSI	**Sidrap Palu**	**10.40**	**221**	P		Pn	Pn	12 04 54.5	+6.0
KKM	**Kota Kinabalu**	**10.55**	**282**	Pn		Pn	**Pn**	**12 04 50.4**	**-0.3**
KAPI	**Kappang**	**11.22**	**218**	Pn		Pn	**Pn**	**12 04 58.9**	**-0.8**
KAPI	**Kappang**	**11.22**	**218**	P		P	**Pn**	**12 05 01.6**	**+1.9**
	3.7nm,0.4s,baz=81,slow=15,SNR=1.7								
KAPI						LR	LR	12 09 30.9	
	comp=Z,118nm,22.0s,baz=66,slow=38								
EDFI	**Ende, Flores**	**13.52**	**201**	P		P	**Pn**	**12 05 34.6**	**+3.3**
SOEI	**Soe**	**13.80**	**190**	P		P	**Pn**	**12 05 46.5**	**+4.3**
BATI	**Baumata**	**14.36**	**192**	P		P	**Pn**	**12 05 44.6**	**+2.1**
	14nm,0.3s,baz=248,slow=4.3,SNR=5.0								
JAY	**Jayapura**	**15.49**	**114**	P		P	**Pn**	**12 06 00.2**	**+2.9**
	3.7nm,0.6s,baz=23,slow=22,SNR=1.4								
JAY						LR	LR	12 10 49.7	
	comp=Z,38nm,20.9s,baz=14,slow=32								
KSM	**Kuching**	**16.45**	**262**	Pn		Pn	**Pn**	**12 06 07.5**	**-2.0**
MTN	**Manton Dam**	**17.27**	**165**				**Pn**	**12 06 18.1**	**-1.6**
MTN						IAmb	IAmb	12 06 19.3	
	comp=Z,24nm,0.5s								
JAGI	**Jajag, Banyuwa**	**17.50**	**225**	P		Pn	**Pn**	**12 06 22.3**	**-0.1**
KNRA	**Kununurra**	**19.61**	**174**				**P**	**12 06 46.0**	**-0.2**
KNRA						IAmb	IAmb	12 06 48.9	
	comp=Z,46nm,0.9s								
YULB	**Yu-li**	**20.00**	**346**	P		P	**P**	**12 06 49.2**	**-1.3**
YULB						IAmb	IAmb	12 06 57.9	
	comp=Z,48nm,1.5s								
TPUB	**Ta-pu**	**20.09**	**344**	P		P	**P**	**12 06 49.7**	**-1.8**
TPUB						IAmb	IAmb	12 06 58.3	
	comp=Z,34nm,1.0s								
GUMO	**Guam**	**20.43**	**61**	LR		LR	LR	12 13 33.2	
	comp=Z,28nm,20.8s,baz=256,slow=33								
SSLB	**Suanglung**	**20.47**	**345**	P		P	**P**	**12 06 54.8**	**-0.7**
YHNB	**Yeheng**	**21.21**	**347**	P		P	**P**	**12 07 00.6**	**-3.1**
YHNB						IAmb	IAmb	12 07 28.2	
	comp=Z,41nm,1.4s								
LEM	**Lembang**	**21.76**	**241**	LR		LR	LR	12 16 09.7	
	comp=Z,40nm,18.4s,baz=352,slow=38								
KNMB	**Chin-men Tao**	**21.88**	**340**	P		P	**P**	**12 07 09.4**	**-1.3**
KNMB						IAmb	IAmb	12 07 10.5	
	comp=Z,38nm,1.0s								
FITZ	**Fitzroy Crossi**	**21.92**	**182**	P		P	**P**	**12 07 10.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**21.92**	**182**	P		P	**P**	**12 07 10.6**	**-0.5**
	comp=Z,43nm,0.6s,baz=7.7,slow=7.4,SNR=60								
	comp=Z,43nm,0.6s								
JMZ	**Minamidaito 2**	**22.20**	**11**	P		P	**P**	**12 07 13.3**	**-0.8**
COEN	**Coen**	**24.22**	**138**	P		P	**P**	**12 07 35.3**	**+1.1**
WB0	**Warramunga Arr**	**24.78**	**162**				**P**	**12 07 38.7**	**-0.5**
WB0						IAmb	IAmb	12 07 40.9	
	comp=Z,28nm,0.7s								
WRAB	**Tennant Creek**	**24.92**	**162**	P		P	**P**	**12 07 40.2**	**-0.3**
WRAB						IAmb	IAmb	12 07 42.5	
	comp=Z,29nm,0.9s								
WRA	**Warramunga Arr**	**24.93**	**163**	P		P	**P**	**12 07 39.2**	**-1.4**
WRA	**Warramunga Arr**	**24.93**	**163**	P		P	**P**	**12 07 40.2**	**-0.4**
	comp=Z,21nm,0.8s,baz=342,slow=10,SNR=46								
WRA				S			**S**	**12 11 57.8**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=344,slow=20,SNR=2.0								
WRA				ScP			**ScP**	**12 14 46.7**	**-3.7**
	comp=Z,1.6nm,0.8s,baz=333,slow=3.2,SNR=7.9								
	comp=Z,21nm,0.8s								
WB2	**Warramunga Arr**	**24.93**	**162**	P		P	**P**	**12 07 40.3**	**-0.3**
WB2						IAmb	IAmb	12 07 42.5	
	comp=Z,30nm,0.8s								
WR8	**Warramunga Arr**	**24.99**	**162**	P		P	**P**	**12 07 40.6**	**-0.5**
WR8						IAmb	IAmb	12 07 42.6	
	comp=Z,45nm,1.4s								
MBWA	**Marble Bar**	**25.84**	**195**	P		P	**P**	**12 07 47.9**	**-0.9**
MBWA						IAmb	IAmb	12 08 11.6	
	comp=Z,18nm,1.1s								
PSA00	**Pilbara Seismi**	**26.21**	**194**	P		P	**P**	**12 07 50.8**	**-1.3**
PSA00	**Pilbara Seismi**	**26.21**	**194**	P		P	**P**	**12 07 51.1**	**-1.0**
PSA00						IAmb	IAmb	12 07 52.4	
	comp=Z,5.5nm,0.9s								
PSI	**Prapat**	**27.65**	**269**	LR		LR	LR	12 20 30.4	
	comp=Z,32nm,19.4s,baz=145,slow=39								
AS31	**Alice Springs**	**28.35**	**166**	P		P	**P**	**12 08 11.3**	**-0.1**
ASAR	**Alice Springs**	**28.35**	**166**	P		P	**P**	**12 08 11.1**	**-0.3**
	comp=Z,3.0nm,0.5s,baz=350,slow=7.4,SNR=104								
ASAR						S	**S**	**12 12 51.8**	**-3.0**
	comp=Z,0.4nm,0.8s,baz=346,slow=14,SNR=2.1								
ASAR						ScP	**SS**	**12 14 55.9**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=352,slow=2.5,SNR=5.6								
	comp=Z,3.0nm,0.5s								
NJ2	**Nanjing**	**28.89**	**346**	*e*P		P	**P**	**12 08 18.1**	**+2.0**
NJ2						pmax	pmax		
	comp=Z,18nm,0.5s								
JNU	**Nakatsue**	**29.30**	**7**	P		P	**P**	**12 08 19.2**	**-0.6**
JNU						IAmb	IAmb	12 08 20.5	
	comp=Z,21nm,1.0s								
CMAR	**Chiang Mai Arr**	**30.65**	**300**	P		P	**P**	**12 08 32.2**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=112,slow=8.8,SNR=6.2								
	comp=Z,0.5nm,0.3s								
JHJ	**Hachijo jima 2**	**31.54**	**21**	LR		LR	LR	12 23 55.5	
	comp=Z,12nm,18.7s,baz=41,slow=41								
PZH	**PanZhiHua**	**32.70**	**316**	P		P	**P**	**12 08 51.7**	**+1.8**
INU	**Inuyama**	**32.71**	**16**	P		P	**P**	**12 08 48.8**	**-0.9**
INU						IAmb	IAmb	12 08 58.9	
	comp=Z,6.9nm,0.9s								
JGF	**Kuroka**	**33.04**	**16**	P		P	**P**	**12 08 53.1**	**+0.4**
JGF						IAmb	IAmb	12 08 56.4	
	comp=Z,16nm,1.4s								
KSAR	**Wonju Array Be**	**33.36**	**2**	P		P	**P**	**12 08 54.1**	**-1.3**
KSRS	**Korea Array**	**33.38**	**2**	P		P	**P**	**12 08 56.1**	**+0.7**
	comp=Z,3.6nm,0.5s,baz=178,slow=10.0,SNR=31								
	comp=Z,3.6nm,0.5s								
KS19	**Wonju Array Si**	**33.42**	**2**	P		P	**P**	**12 08 56.3**	**+0.4**
KS19						IAmb	IAmb	12 09 26.0	
	comp=Z,19nm,1.4s								
MJAR	**Matsushiro Arr**	**34.16**	**17**	P		P	**P**	**12 09 01.6**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=192,slow=9.3,SNR=2.9								
MJAR						LR	LR	12 25 07.2	
	comp=Z,13nm,19.4s,baz=212,slow=40								
	comp=Z,0.9nm,0.4s								
INKA	**Innaminka**	**34.33**	**157**	P		P	**P**	**12 09 04.3**	**+0.5**
MORW	**Morawa**	**34.35**	**197**	P		P	**P**	**12 09 03.5**	**-0.6**
JMM	**Marumori**	**36.17**	**19**	P		P	**P**	**12 09 19.9**	**+0.2**
BJT	**Baijiatuan**	**37.13**	**347**	P		P	**P**	**12 09 28.6**	**+0.9**
BJT						IAmb	IAmb	12 09 35.0	
	comp=Z,7.8nm,0.7s								
BJI	**Beijing**	**37.15**	**347**	P		P	**P**	**12 09 28.7**	**+0.8**
BJI						pmax	pmax		
	comp=Z,5.0nm,0.8s								
EIDS	**Eidsvold**	**37.60**	**142**	P		P	**P**	**12 09 32.1**	**+0.2**
EIDS						IAmb	IAmb	12 09 44.1	
	comp=Z,12nm,1.3s								
BBOO	**Buckleboo**	**37.64**	**167**	P		P	**P**	**12 09 32.1**	**0.0**
BBOO						IAmb	IAmb	12 09 40.4	
	comp=Z,17nm,1.1s								
NWAO	**Narrogin (SRO)**	**37.73**	**193**	P		P	**P**	**12 09 32.0**	**-0.9**
LZDM	**Lanzhou Array**	**38.23**	**329**	LR		LR	LR	12 25 03.6	
	comp=Z,44nm,21.3s,baz=190,slow=36		

K15K	Wolf Creek Mou	78.14	27	P	P	12 14 16.3	+0.7
	baz=256						
H16K	Elim	78.44	25	P	P	12 14 17.8	+0.6
	baz=255						
J16K	Anvik River	78.80	26	P	P	12 14 19.7	+0.6
	baz=256						
L16K	Owhat River	78.95	28	P	P	12 14 20.8	+0.8
	baz=258						
M16K	Timber Creek	79.05	29	P	P	12 14 21.4	+0.7
	baz=258						
P16K	Nushagak River	79.14	31	P	P	12 14 21.7	+0.7
	baz=260						
O16K	Kokwok River B	79.19	30	P	P	12 14 22.3	+0.9
	baz=259						
E17K	Hotham Inlet	79.26	22	P	P	12 14 22.2	+0.6
	baz=255						
F17K	Baldwin Pennin	79.31	23	P	P	12 14 22.2	+0.3
	baz=255						
G17K	Kiwalik Mounta	79.31	24	P	P	12 14 22.3	+0.3
	baz=256						
J17K	VABM Dome	79.49	26	P	P	12 14 23.4	+0.4
	baz=258						
L17K	Donlin	79.58	27	P	P	12 14 23.8	+0.3
	baz=259						
K17K	Iditarod	79.70	27	P	P	12 14 25.2	+1.1
	baz=259						
O17K	Koliganek Bris	79.72	30	P	P	12 14 24.7	+0.4
	baz=260						
Q16K	King Salmon	79.76	31	P	P	12 14 24.8	+0.3
	baz=261						
E18K	Tukpahlearik C	79.81	22	P	P	12 14 26.0	+1.4
	baz=256						
N17K	Nushagak Hills	79.81	29	P	P	12 14 25.2	+0.5
	baz=260						
M17K	Holitna River	79.85	28	P	P	12 14 25.8	+0.8
	baz=260						
C18K	Utukok River	79.91	21	P	P	12 14 25.7	+0.5
	baz=255						
P17K	Kvichak River	79.96	31	P	P	12 14 25.8	+0.3
	baz=261						
F18K	Selawik	79.97	23	P	P	12 14 26.2	+0.7
	baz=257						
H18K	Honhosa River	80.17	24	P	P	12 14 27.7	+1.1
	baz=258						
G18K	Tagagawik	80.21	24	P	P	12 14 27.8	+1.0
	baz=258						
L18K	Granite Mounta	80.34	28	P	P	12 14 28.6	+1.0
	baz=260						
N18K	Kilae Creek	80.47	29	P	P	12 14 28.7	+0.4
	baz=261						
J18K	Innoko River	80.55	26	P	P	12 14 29.3	+0.6
	baz=260						
C19K	Lookout Ridge	80.59	20	P	P	12 14 29.5	+0.7
	baz=256						
P18K	Big Mountain,	80.60	31	P	P	12 14 28.8	-0.3
	baz=262						
Q18K	Katmai Hardscr	80.61	31	P	P	12 14 29.5	+0.3
	baz=262						
M18K	Stony River	80.63	28	P	P	12 14 29.6	+0.5
	baz=261						
GCSA	Galena City Sc	80.71	25	P	P	12 14 30.1	+0.6
	baz=260						
F19K	Shaleruckik Mo	80.75	23	P	P	12 14 30.4	+0.8
	baz=258						
R18K	Karluk	80.76	32	P	P	12 14 30.4	+0.6
	baz=263						
SII	Sitkinak Islan	80.78	33	P	P	12 14 30.5	+0.5
	baz=263						
G19K	Purcell Mounta	80.89	24	P	P	12 14 31.3	+0.8
	baz=259						
D19K	Kuna River	80.97	21	P	P	12 14 31.9	+1.0
	baz=258						
H19K	Roundabout Mou	81.03	24	P	P	12 14 31.9	+0.7
	baz=260						
E19K	Redstone River	81.09	22	P	P	12 14 32.9	+1.4
	baz=259						
J19K	Poorman	81.12	26	P	P	12 14 32.6	+0.9
	baz=261						
O19K	Port Alsworth	81.17	30	P	P	12 14 32.9	+0.9
	baz=263						
N19K	Bonanza Creek	81.17	29	P	P	12 14 32.8	+0.6
	baz=262						
L19K	White Mountain	81.19	28	P	P	12 14 33.3	+1.2
	baz=262						
OHAK	Old Harbor	81.35	33	P	P	12 14 33.6	+0.6
OHAK				IAmb	IAmb	12 14 43.8	
	comp=Z,9.1nm,1.3s						
OHAK	Old Harbor	81.35	33	P	P	12 14 33.6	+0.6
	baz=264						
M19K	Big River Lodg	81.36	28	P	P	12 14 33.8	+0.7
	baz=262						
D20K	Etivluk River	81.56	21	P	P	12 14 34.9	+0.9
	baz=259						
F20K	Avaraart Lake	81.59	23	P	P	12 14 35.3	+1.2
	baz=260						
B20K	Meade River	81.62	20	P	P	12 14 35.1	+0.9
	baz=258						
E20K	Nigu River	81.63	22	P	P	12 14 35.5	+1.1
	baz=260						
P19K	Oil Pt	81.64	30	P	P	12 14 34.7	+0.1
	baz=264						
H20K	Anotleneega Mo	81.67	24	P	P	12 14 35.1	+0.5
	baz=261						
L20K	Farewell, AK	81.68	27	P	P	12 14 35.2	+0.5
	baz=263						
K20K	Telida	81.71	27	P	P	12 14 35.9	+1.1
	baz=262						
I20K	Naaghedeneel	81.73	25	P	P	12 14 35.3	+0.4
	baz=262						
KDAK	Kodiak Island	81.78	32	P	P	12 14 36.3	+1.0
KDAK				IAmb	IAmb	12 14 36.6	
	comp=Z,6.1nm,0.7s						
KDAK	Kodiak Island	81.78	32	P	P	12 14 35.8	+0.5
	baz=264						
J20K	Nowinta River	81.79	26	P	P	12 14 35.7	+0.4
	baz=262						
M20K	Styx River	81.95	28	P	P	12 14 36.6	+0.4
	baz=263						
Q20K	Shuyak Island	81.96	31	P	P	12 14 36.6	+0.4
	baz=264						
O20K	Slope Mountain	82.00	30	P	P	12 14 37.0	+0.5
	baz=264						
IMAR	Indian Mountai	82.20	24	P	P	12 14 38.7	+1.3
C21K	Knifeblade Rid	82.29	21	P	P	12 14 38.3	+0.5
	baz=261						
SPCR	Spurr Chakacha	82.32	29	P	P	12 14 38.9	+0.7
	baz=264						
G21K	Allakaket	82.37	23	P	P	12 14 39.4	+1.1
	baz=262						
B21K	Ikpikpuk River	82.42	20	P	P	12 14 39.4	+0.9
	baz=261						
E21K	Killik River	82.47	21	P	P	12 14 39.7	+0.9
	baz=262						
F21K	Alatna River	82.48	23	P	P	12 14 39.8	+0.9
	baz=262						
PPLA	Purkeypile	82.50	27	P	P	12 14 37.9	-1.3
PPLA				IAmb	IAmb	12 14 41.7	
	comp=Z,8.8nm,1.2s						
PPLA	Purkeypile	82.50	27	P	P	12 14 39.6	+0.4
	baz=264						
GEVA	Gevas	82.50	308	P	P	12 14 37.8	-2.0
A22K	Sinclair Lake	82.53	19	P	P	12 14 39.9	+0.9
	baz=260						
H21K	Melozitna Rive	82.55	24	P	P	12 14 39.9	+0.7
	baz=263						
CHUM	Lake Minchumin	82.55	26	P	P	12 14 39.8	+0.6
	baz=264						
CNPM	China Poot	82.64	31	P	P	12 14 40.0	+0.2
CNPM				IAmb	IAmb	12 14 40.8	
	comp=Z,5.3nm,0.8s						
SKT	Skwentna	82.71	28	P	P	12 14 40.5	+0.3
SKT				IAmb	IAmb	12 14 41.0	
	comp=Z,8.5nm,1.0s						
SKT	Skwentna	82.71	28	P	P	12 14 40.5	+0.3
	baz=265,SNR=5.4						
I21K	Tanana	82.83	25	P	P	12 14 41.5	+0.9
	baz=264,SNR=10						
BRLK	Bradley Lake	82.84	30	P	P	12 14 40.2	-0.7
BRLK				IAmb	IAmb	12 14 44.7	
	comp=Z,5.6nm,0.8s						
BRSE	Bradley Lake S	82.91	30	P	P	12 14 41.5	+0.3
	baz=266						
B22K	Teshekpuk Lake	82.94	20	P	P	12 14 41.6	+0.6
	baz=262						
D22K	Ayikyak River	83.00	21	P	P	12 14 42.4	+0.9
	baz=263						
F22K	John River	83.02	23	P	P	12 14 42.4	+0.8
	baz=264						
SUA	Susitna One	83.04	29	P	P	12 14 42.0	0.0
SUA	Susitna One	83.04	29	P	P	12 14 42.0	0.0
	baz=266,SNR=8.3						
KTH	Kantishna Hill	83.14	27	P	P	12 14 42.8	+0.4
KTH				IAmb	IAmb	12 14 43.9	
	comp=Z,15nm,1.4s						
BPAW	Bear Paw Mtn.	83.16	26	P	P	12 14 43.0	+0.6
BPAW	Bear Paw Mtn.	83.16	26	P	P	12 14 42.6	+0.2
	baz=265,SNR=5.6						
H22K	Ishtalitna Cre	83.16	24	P	P	12 14 43.2	+0.8
	baz=264,SNR=7.1						
G22K	Bettles	83.21	23	P	P	12 14 43.4	+0.9
	baz=264						
SLKM	Skilak Lake	83.23	30		P	12 14 42.9	+0.1
SLKM				IAmb	IAmb	12 14 44.4	
	comp=Z,16nm,1.1s						
MLY	Manley	83.34	25		P	12 14 44.3	+0.9
MLY				IAmb	IAmb	12 14 45.4	
	comp=Z,9.9nm,1.0s						
MLY	Manley	83.34	25	P	P	12 14 44.0	+0.6
	baz=265,SNR=9.9						
M22K	Willow	83.36	28	P	P	12 14 43.9	+0.4
	baz=266,SNR=6.2						
TRF	Thorofare Moun	83.41	27	P	P	12 14 44.5	+0.6
TRF				IAmb	IAmb	12 14 45.6	
	comp=Z,6.3nm,1.0s						
TRF	Thorofare Moun	83.41	27	P	P	12 14 44.4	+0.4
	baz=266						
O22K	Cooper Landing	83.47	30	P	P	12 14 44.5	+0.4
	baz=266						
RC01	Rabbit Creek A	83.50	29	P	P	12 14 44.0	-0.2
RC01	Rabbit Creek A	83.50	29	P	P	12 14 44.0	-0.2
	baz=266,SNR=5.2						
SEW	Seward	83.58	30	P	P	12 14 45.2	+0.6
SEW				IAmb	IAmb	12 14 46.0	
	comp=Z,15nm,1.2s						
SEW	Seward	83.58	30	P	P	12 14 45.2	+0.6
	baz=267						
D23K	Nanushuk River	83.72	21	P	P	12 14 46.4	+1.1
	baz=265						
COLD	Coldfoot	83.75	23	P	P	12 14 47.0	+1.7
COLD	Coldfoot	83.75	23	P	P	12 14 46.5	+1.1
	baz=265,SNR=12						
G23K	Bananza Creek	83.78	23	P	P	12 14 45.9	+0.3
	baz=266,SNR=13						
PMR	Palmer	83.82	29	P	P	12 14 46.2	+0.4
PMR				IAmb	IAmb	12 14 46.8	
	comp=Z,8.4nm,1.0s						
PMR	Palmer	83.82	29	P	P	12 14 45.9	+0.1
	baz=267,SNR=7.5						
C23K	Itkillik River	83.83	20	P	P	12 14 45.9	+0.2
	baz=265,SNR=5.6						
H23K	Yukon River	83.91	24	P	P	12 14 47.3	+1.1
	baz=266						
GHO	Glory Hole Cre	83.93	28	P	P	12 14 46.4	-0.1
GHO				IAmb	IAmb	12 15 01.6	
	comp=Z,4.0nm,0.7s						
I23K	Minto, Yukon-K	83.94	25	P	P	12 14 46.9	+0.6
	baz=266,SNR=10						
NEA2	Nenana	84.02	26	P	P	12 14 47.3	+0.5
NEA2				IAmb	IAmb	12 14 49.2	
	comp=Z,6.7nm,1.0s						
NEA2	Nenana	84.02	26	P	P	12 14 47.2	+0.5
	baz=267,SNR=8.3						
MCK	McKinley	84.03	26		P	12 14 46.5	-0.5
MCK				IAmb	IAmb	12 14 48.0	
	comp=Z,12nm,1.0s						
MCK	McKinley	84.03	26	P	P	12 14 47.3	+0.4
	baz=267						
E23K	Chandalar	84.04	22	P	P	12 14 47.5	+0.6
	baz=266,SNR=11						
RND	Reindeer	84.05	27	P	P	12 14 47.1	0.0
RND				IAmb	IAmb	12 14 47.9	
	comp=Z,8.1nm,1.0s						
TOLK	Toolik Lake Re	84.10	21	P	P	12 14 48.3	+1.1
	baz=266,SNR=5.6						
KNK	Knik Glacier	84.14	29	P	P	12 14 47.5	0.0
KNK	Knik Glacier	84.14	29	P	P	12 14 47.9	+0.5
	baz=268,SNR=6.3						
WAT1	Susitna Watana	84.16	27	P	P	12 14 48.0	+0.5
	baz=267						
PWL	Port Wells	84.17	29	P	P	12 14 48.1	+0.4
PWL	Port Wells	84.17	29	P	P	12 14 48.2	+0.6
	baz=268,SNR=11						
D24K	Happy Valley	84.40	21	P	P	12 14 49.8	+1.1
	baz=266						
WRH	Wood River Hil	84.44	26	P	P	12 14 49.2	+0.3
WRH				IAmb	IAmb	12 14 49.8	
	comp=Z,6.3nm,1.2s						
E24K	Your Creek	84.46	22	P	P	12 14 49.9	+0.8
	baz=267						
C24K	Franklin Bluff	84.48	20	P	P	12 14 50.1	+1.0
	baz=266						
M23K	Glacier View	84.50	28	P	P	12 14 50.1	+0.8
	baz=268,SNR=6.1						
WAT6	Susitna Watana	84.52	28	P	P	12 14 50.4	+0.8
	baz=268,SNR=5.3						
CCB	Clear Creek Bu	84.57	26		P	12 14 49.6	+0.1
H24K	Noodor Dome	84.59	24	P	P	12 14 50.5	+0.8
	baz=268,SNR=5.6						
F24K	Squaw Lake	84.66	23	P	P	12 14 51.2	+1.1
	baz=268,SNR=8.6						
SCM	Sheep Creek Mo	84.69	28	P	P	12 14 50.6	+0.2
SCM				IAmb	IAmb	12 14 52.0	
	comp=Z,9.7nm,1.0s						
SCM	Sheep Creek Mo	84.69	28	P	P	12 14 50.8	+0.5
	baz=268						
DHY	Denali Highway	84.70	27	P	P	12 14 50.3	-0.2
POKR	Poker Flat Res	84.75	25	P	P	12 14 50.3	-0.2
	baz=268						
GLI	Glacier Island	84.78	29	P	P	12 14 51.4	+0.7
GLI	Glacier Island	84.78	29	P	P	12 14 51.2	+0.4
	baz=269,SNR=5.2						
G24K	Hadweenzic Riv	84.79	23	P	P	12 14 51.5	+0.8
	baz=268,SNR=7.4						
HDA	Harding Lake	84.93	26	P	P	12 14 51.9	+0.5
	baz=269						
ILAR	Eielson Array	84.97	25	P	P	12 14 51.0	-0.6
ILAR	Eielson Array	84.97	25	P	P	12 14 50.3	-1.3
	comp=Z,0.8nm,0.8s,baz=255,slow=6.4,SNR=9.9						
	comp=Z,0.8nm,0.8s						
HIN	Hinchinbrook I	85.06	30	P	P	12 14 52.1	-0.1
HIN				IAmb	IAmb	12 14 53.9	
	comp=Z,7.4nm,0.9s						
Q23K	Middleton Isla	85.13	31	P	P	12 14 52.8	+0.4
	baz=270						
M24K	Tolsona, Glenn	85.24	28	P	P	12 14 52.9	-0.2
	baz=270						
D25K	Kavik River	85.28	21	P	P	12 14 53.0	-0.1
	baz=269						
G25K	Bearman Lake	85.33	23	P	P	12 14 53.8	+0.4
	baz=269						
KLU	Klutina	85.36	29	P	P	12 14 53.6	-0.1
KLU				IAmb	IAmb	12 14 55.3	
	comp=Z,3.6nm,0.7s						
KLU	Klutina	85.36	29	P	P	12 14 53.7	-0.1
	baz=270						
DIV	Divide	85.43	29	P	P	12 14 55.4	+1.4
EYAK	Cordova Ski Ar	85.44	30	P	P	12 14 54.4	+0.5
EYAK	Cordova Ski Ar	85.44	30	P	P	12 14 54.5	+0.5
	baz=270						
K24K	Donnelly Dome	85.44	26	P	P	12 14 55.1	+1.1
	baz=270						
H25L	Birch Creek	85.44	24	P	P	12 14 54.9	+1.0
	baz=270						
F25K	Christian Rive	85.53	23	P	P	12 14 55.1	+0.7
	baz=270,SNR=6.6						
PRP	Porcupine Dome	85.56	25	P	P	12 14 54.4	-0.3
PRP	Porcupine Dome	85.56	25	P	P	12 14 55.1	+0.4
	baz=270						
E25K	Arctic Village	85.56	22	P	P	12 14 54.7	+0.2
	baz=270						
PAX	Paxson	85.57	27	P	P	12 14 55.3	+0.5
	baz=270						
J25K	Salcha River,	85.62	26	P	P	12 14 55.2	+0.2
	baz=270						
FYU	Fort Yukon	85.68	24		P	12 14 56.7	+1.7
FYU				IAmb	IAmb	12 14 58.2	
	comp=Z,11nm,1.3s						
HARP	HAARP	85.72	28	P	P	12 14 55.8	+0.4
	baz=270						
RIDG	Independent Ri	85.85	26	P	P	12 14 56.4	+0.3
RIDG	Independent Ri	85.85	26	P	P	12 14 57.0	+0.9
	baz=271						
BMAR	Burnt Mountain	85.93	23		P	12 14 57.9	+1.5
RAGM	Ragged Mountai	85.97	30	P	P	12 14 56.3	-0.4
RAGM				IAmb	IAmb	12 14 58.9	
	comp=Z,14nm,1.4s						
N25K	Chitina, Valde	85.99	29	P	P	12 14 57.6	+0.7
	baz=271						
BMRM	Bremner River	86.00	29	P	P	12 14 56.0	-0.9
BMRM				IAmb	IAmb	12 14 59.9	
	comp=Z,4.1nm,1.0s						
BMRM	Bremner River	86.00	29	P	P	12 14 57.5	+0.7
	baz=271						
F26K	Sheenjek River	86.10	22	P	P	12 14 57.8	+0.6
	baz=271						
DOT	Dot Lake	86.20	27	P	P	12 14 57.7	-0.1
C27K	Jago River	86.22	21	P	P	12 14 58.5	+0.8
	baz=271						
SCRK	Sand Creek	86.23	26	P	P	12 14 57.5	-0.5
G26K	Porcupine Rive	86.25	23	P	P	12 14 58.6	+0.7
	baz=271						
GLB	Gilahina Butte	86.37	29	P	P	12 14 59.3	+0.6
GLB				IAmb	IAmb	12 15 01.9	
	comp=Z,4.4nm,1.0s						
MENT	Mentasta	86.37	27	P	P	12 14 59.1	+0.5
MENT				IAmb	IAmb	12 15 04.1	
	comp=Z,6.3nm,1.4s						
J26L	Joseph Creek	86.40	26	P	P	12 14 59.1	+0.3
	baz=272						
L26K	Log Cabin Wild	86.54	27	P	P	12 14 59.8	+0.3
	baz=272						
VRDI	Verde Repeater	86.55	29	P	P	12 15 00.0	+0.3
I26K	Coal Creek Min	86.55	25	P	P	12 14 59.7	+0.3
	baz=272						
MCARA	McCarthy VSAT	86.75	29	P	P	12 15 00.6	+0.1
	baz=272						
SNH	Sunshine Point	86.89	30	P	P	12 15 00.1	-1.2
SNH				IAmb	IAmb	12 15 07.2	
	comp=Z,5.5nm,0.8s						
E27K	Coleen River	87.04	22	P	P	12 15 02.9	+1.0
	baz=273						
K27K	Chicken	87.07	26	P	P	12 15 02.8	+0.8
	baz=273						
G27K	Doyon Strip	87.10	23	P	P	12 15 03.1	+1.0
	baz=273						
H27K	Steamboat Moun	87.18	24	P	P	12 15 03.4	+0.9
	baz=273						
I27K	Kandik River	87.18	25	P	P	12 15 03.8	+1.2
	baz=273						
D27M	Malcolm River	87.21	21	P	P	12 15 03.6	+1.0
	baz=274						
L27K	Beaver Creek,	87.23	27	P	P	12 15 03.6	+0.7
	baz=273						
M27K	Edge Creek, AK	87.25	28	P	P	12 15 03.4	+0.4
	baz=273						
BCAR	Beaver Creek A	87.25	27		P	12 15 03.8	+0.8
MESA	MESA	87.33	30	P	P	12 15 02.8	-0.8
MESA	MESA	87.33	30	P	P	12 15 03.8	+0.2
	baz=273						
EGAK	Eagle	87.42	25	P	P	12 15 03.1	-0.5
CTG	Chitna Glacier	87.59	29	P	P	12 15 05.6	+0.9
	baz=274						
F28M	Old Crow	87.73	22	P	P	12 15 06.0	+0.9
	baz=275						
E28M	Babbage River	87.77	21	P	P	12 15 05.6	+0.3
	baz=275						
I28M	Miner Creek	87.89	25	P	P	12 15 06.9	+0.9
	baz=275						
YUK3	Moose Creek	87.95	28	P	P	12 15 07.2	+0.7
	baz=275						
D28M	Stokes Point	87.99	21	P	P	12 15 06.4	+0.2
	baz=276						
O28M	Mount Upton	88.16	29	P	P	12 15 07.5	-0.1
	baz=275						
DAWY	Dawson	88.24	26	P	P	12 15 07.8	+0.1
DAWY	Dawson	88.24	26	P	P	12 15 08.2	+0.6
	baz=275						
YUK8	Steele Glacier	88.33	29	P	P	12 15 08.6	+0.3
	baz=275						
E29M	Blow River	88.40	22	P	P	12 15 08.9	+0.7
	baz=277						
H29M	Whitestone	88.46	24	P	P	12 15 09.4	+0.9
	baz=276						
BCPM	Bancas Point	88.51	30	P	P	12 15 08.7	-0.2
BCPM				IAmb	IAmb	12 15 32.2	
	comp=Z,3.6nm,1.1s						
G29M	Pine Creek	88.52	23	P	P	12 15 09.5	+0.6
	baz=277						
M29M	Somme Creek	88.83	28	P	P	12 15 10.4	-0.1
	baz=276						
YUK4	Talbot Arm	88.86	29	P	P	12 15 11.1	+0.3
	baz=276						
L29M	L29M	88.90	27	P	P	12 15 10.8	0.0
	baz=277						
YUK6	Outpost Mounta	89.04	29	P	P	12 15 12.0	+0.3
	baz=276						
K29M	Barlow Dome	89.09	26	P	P	12 15 12.1	+0.3
	baz=277						
EPYK	Eagle Plains	89.10	24	P	P	12 15 12.0	+0.3
	baz=278						
G30M	tAoh Zraii Nji	89.21	23	P	P	12 15 12.4	+0.2
	baz=278						
F30M	Barrier River	89.29	22	P	P	12 15 13.2	+0.7
	baz=279						
BZK	Bozkurt	89.32	312	P	P	12 15 12.3	-0.8
I30M	Mount Dempster	89.40	25	P	P	12 15 13.7	+0.6
	baz=278						
HYT	Haines Junctio	89.47	29	P	P	12 15 13.9	+0.3
	baz=277						
P29M	Windy Craggy	89.50	30	P	P	12 15 14.3	+0.7
	baz=277						
M30M	Minto, Yukon	89.58	27	P	P	12 15 14.4	+0.4
	baz=278						
N30M	Aishikik Lake	89.59	29	P	P	12 15 14.3	+0.2
	baz=278						
MAYO	Mayo, Yukon	89.84	26	P	P	12 15 15.2	+0.1
	baz=279						
G31M	Satah River	89.98	23	P	P	12 15 15.7	+0.1
	baz=280						
INK	Inuvik	90.01	21	P	P	12 15 15.7	0.0
	baz=281						
F31M	Tsiigehtchic	90.09	22	P	P	12 15 16.1	0.0
	baz=280						
H31M	Peel River	90.14	24	P	P	12 15 16.6	+0.1
	baz=280						
O30N	Mendenhall	90.16	29	P	P	12 15 17.1	+0.3
	baz=278						
ARCES	ARCESS Array B	90.20	340	P	P	12 15 14.3	-2.4
	comp=Z,3.4nm,1.0s,baz=72,slow=7.8,SNR=5.9						
	comp=Z,3.4nm,1.0s						
N31M	Braeburn, Yuko	90.20	28	P	P	12 15 17.5	+0.6
	baz=279						
SKAG	Skagway	90.73	30	P	P	12 15 19.3	0.0
	baz=279						
M31M	Drury Creek, Y	90.74	28	P	P	12 15 19.7	+0.4
	baz=280						
WHY	Whitehorse	90.77	29	P	P	12 15 19.6	0.0
	baz=280						
FINES	FINESS Array B	91.58	332	P	P	12 15 21.3	-1.9
	comp=Z,1.6nm,0.8s,baz=147,slow=3.9,SNR=5.5						
	comp=Z,1.6nm,0.8s						
AKASG	Malin Array Be	91.65	321	P	P	12 15 21.2	-2.5
	comp=Z,0.2nm,0.3s,baz=66,slow=5.4,SNR=3.4						
	comp=Z,0.2nm,0.3s						
MMPY	Sheldon Lake,	92.09	27	P	P	12 15 25.2	-0.4
	baz=283						
SYO	Syowa Base	92.58	201	eP	P	12 15 28.2	+0.6
R33M	Jennings River	92.94	30	P	P	12 15 29.4	-0.3
	baz=283						
C36M	Paulatuk	93.06	20	P	P	12 15 30.0	+0.2
	baz=290						
S34M	Telegraph Cree	93.18	31	P	P	12 15 31.1	+0.4
	baz=283						
DLBC	Dease Lake	93.63	31	LR	LR	12 56 43.6	
	comp=Z,172nm,20.8s,baz=184,slow=35						
DLBC	Dease Lake	93.63	31	P	P	12 15 33.0	+0.2
	baz=284						
TGTN	Hyland Airport	93.72	28	P	P	12 15 33.4	+0.2
	baz=285						
WTLY	Watson Lake, Y	93.83	29	P	P	12 15 33.7	0.0
	baz=285						
T35M	Bob Quinn	93.85	32	P	P	12 15 34.1	+0.3
	baz=283						
LIRD	Liard River Hi	95.34	29	P	P	12 15 41.6	+1.0
	baz=287						
WRGLY	Wrigley	95.35	25	P	P	12 15 40.9	+0.4
	baz=290						
TOAD	Toad River Com	95.93	30	P	P	12 15 44.1	+0.8
	baz=288						
NOA	NORSAR Array B	98.54	334	LR	LR	13 03 10.9	
	comp=Z,10.0nm,19.4s,baz=265,slow=37						
VRAC	Vranov	99.89	321	LR	LR	13 04 58.8	
	comp=Z,15nm,18.7s,baz=360,slow=38						

TXAR Lajitas Array 121.57 52 PKP **PKPdf 12 21 10.9 0.0**
comp=Z,0.1nm,0.5s,baz=318,slow=3.3,SNR=2.5

*MOS **06** 12:09:06.6±1.6,43.52N×145.83E,h84km,mb4.8/1,Error ellipse: s-maj=21.3km s-min=10.6km az=94.5*
MOS Felt (II) at Golovnino, Goryachiy Plyazh, Yuzhno-Kuril'sk.
*SKHL **06** 12:09:06.3±0.3,43.50N×146.20E,h87km±6km,mb5.5/5,msha6.5/3*
*NIED **06** 12:09:07.9,43.49N×146.04E,h73km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.18; Mθθ2.32; Mφφ-3.50; Mrθ-3.04; Mθφ-0.98; Mφr-2.74; Fault plane solution: M05.20000×10¹⁴ NP1: φs328.00000°,δ35.00000°,λ14.00000°. NP2: φs227.00000°,δ82.00000°,λ124.00000°.*
*JMA **06** 12:09:07.9±0.2,43.5N±0.5×146.0E±0.8,h73km±1km, MD3.8/40,MV4.2/40,NEAR KUNASHIRI ISLAND*
JMA Felt II J1 at NEAR KUNASHIRI ISLAND .
*IDC **06** 12:09:13.6±5.1,43.55N×145.47E,h127km±49km,mb3.5/9,mbtmp3.8/10,MS2.5/1,Error ellipse: s-maj=34.1km s-min=28.6km az=93.0*

ISC 06 12:09:07.5±0.8,43.53N±0.05×145.97E±0.04,h75km±5km, n50,σ1§42/58,mb4.0/9,4C,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.23**	**225**	*i* P	**Pn**	**12 09 19.1**	**+0.3**
NEM2				S	**Sn**	**12 09 27.2**	**+0.1**
NMR	**Nemuro--Hokkai**	**0.23**	**228**	⇑*i* Pn	**Pn**	**12 09 19.1**	**+0.3**
NMR				*i* S	**Sn**	**12 09 27.1**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.23**	**228**	*i* P	**Pn**	**12 09 18.0**	**-0.8**
NMR				*i* S	**Sn**	**12 09 27.0**	**-0.1**
GLVR	**Golovnino**	**0.39**	**304**	⇑*i* Pn	**Pn**	**12 09 20.5**	**+0.7**
GLVR				*i* S	**Sn**	**12 09 29.6**	**+0.7**
GLVR				pmax	pmax		
	comp=Z,13μm,0.1s						
GLVR				pmax	pmax		
	comp=N,774nm,0.2s						
GLVR				pmax	pmax		
	comp=E,822nm,0.1s						
GLVR				smax	smax		
	comp=E,25μm,0.2s						
GLVR				smax	smax		
	comp=N,29μm,0.3s						
GLVR	**Golovnino**	**0.39**	**304**	*i* P	**Pn**	**12 09 20.5**	**+0.7**
GLVR				AMB	AMB	12 09 20.9	
	comp=N,13μm,0.4s						
GLVR				*i* S	**Sn**	**12 09 29.6**	**+0.7**
GLVR				A	A	12 09 33.9	
	comp=N,29μm,0.4s						
GLVR				A	A	12 09 33.9	
	comp=N,25μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.52**	**352**	*c i* PN	**Pn**	**12 09 20.9**	**0.0**
YUK				*i* S	**Sn**	**12 09 30.4**	**-0.3**
YUK				pmax	pmax		
	comp=Z,12μm,0.2s						
YUK				pmax	pmax		
	comp=N,1μm,0.1s						
YUK				pmax	pmax		
	comp=E,855nm,0.2s						
YUK				smax	smax		
	comp=N,7μm,0.1s						
YUK				smax	smax		
	comp=E,6μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.52**	**352**	*i* P	**Pn**	**12 09 20.9**	**0.0**
YUK				AMB	AMB	12 09 21.2	
	comp=E,9μm,0.2s						
YUK				*i* S	**Sn**	**12 09 30.5**	**-0.3**
YUK				A	A	12 09 31.5	
	comp=E,5μm,0.3s						
YUK				A	A	12 09 31.5	
	comp=E,6μm,0.3s						
SHO	**Shikotan**	**0.72**	**61**	*i* P	**Pn**	**12 09 26.6**	**+3.7**
SHO				AMB	AMB	12 09 27.3	
	comp=E,730nm,0.4s						
SHO				*i* S	**Sn**	**12 09 37.5**	**+3.1**
SHO				A	A	12 09 38.3	
	comp=E,6μm,0.3s						
SHO				A	A	12 09 38.3	
	comp=E,4μm,0.3s						
JKHN	**Kushirohamanak**	**0.73**	**233**	*i* P	**Pn**	**12 09 23.9**	**+0.7**
JKHN				S	**Sn**	**12 09 35.9**	**+1.1**
JRA	**Rausu**	**0.74**	**304**	*i* P	**Pn**	**12 09 24.2**	**+1.1**
JRA				S	**Sn**	**12 09 36.5**	**+1.8**
JRA	**Rausu**	**0.74**	**304**	A	A	12 09 24.2	
	comp=N,17nm,0.4s,comp=E,17nm,0.4s						
JNSB	**Nemuroshibetsu**	**0.74**	**290**	*i* P	**Pn**	**12 09 24.3**	**+1.1**
JNSB				S	**Sn**	**12 09 36.5**	**+1.6**
JNSB	**Nemuroshibetsu**	**0.74**	**290**	A	A	12 09 24.3	
	comp=N,6.0nm,1.0s,comp=E,10.0nm,0.6s						
RUSJ	**Misakicho**	**0.78**	**318**	⇑*i* PN	**Pn**	**12 09 24.8**	**+1.2**
RUSJ				*i* S	**Sn**	**12 09 37.7**	**+2.1**
JNK	**Nakash**	**0.91**	**274**	*i* P	**Pn**	**12 09 25.8**	**+0.7**
JNK				S	**Sn**	**12 09 38.4**	**+0.1**
AKK	**Akkeshi**	**0.96**	**239**	*i* P	**Pn**	**12 09 26.4**	**+0.6**
JAK	**Akkeshi**	**1.07**	**241**	*i* P	**Pn**	**12 09 27.7**	**+0.6**
JAK				S	**Sn**	**12 09 42.6**	**+0.9**
JAK	**Akkeshi**	**1.07**	**241**	A	A	12 09 27.7	
	comp=N,2.0nm,1.1s,comp=E,3.0nm,0.3s						
JTKR	**Abashiri--Toko**	**1.56**	**287**	*i* P	**Pn**	**12 09 34.9**	**+1.6**
JTKR				S	**Sn**	**12 09 55.5**	**+2.6**
JAR	**Ashorobuto**	**1.62**	**263**	*i* P	**Pn**	**12 09 35.7**	**+1.5**
JAR				S	**Sn**	**12 09 56.5**	**+2.1**
JOB	**Onbets**	**1.68**	**249**	*i* P	**Pn**	**12 09 36.3**	**+1.4**
JOB				S	**Sn**	**12 09 57.4**	**+1.7**
KUR	**Kuril'sk**	**2.19**	**38**	*e*PN	**Pn**	**12 09 42.6**	**+0.9**
KUR				*i* S	**Sn**	**12 10 09.2**	**+1.3**
KUR				pmax	pmax		
	comp=Z,109nm,0.2s						
KUR				pmax	pmax		
	comp=E,29nm,0.3s						
KUR				pmax	pmax		
	comp=N,20nm,0.2s						
KUR				smax	smax		
	comp=N,510nm,0.2s						
KUR				smax	smax		
	comp=E,314nm,0.2s						
KUR	**Kuril'sk**	**2.19**	**38**	*e*P	**Pn**	**12 09 42.6**	**+0.9**
KUR				AMB	AMB	12 09 43.2	
	comp=E,120nm,0.3s						
KUR				*i* S	**Sn**	**12 10 07.1**	**-0.8**
KUR				A	A	12 10 10.2	
	comp=E,580nm,0.4s						
KUR				A	A	12 10 10.2	
	comp=E,440nm,0.4s						
YSS	**Yuzhno-Sakhali**	**4.11**	**328**	*e*PN	**Pn**	**12 10 10.2**	**+2.4**
YSS				*e*S	**Sn**	**12 10 55.4**	**+0.8**
YSS				pmax	pmax		
	comp=Z,30nm,0.4s						
YSS				smax	smax		
	comp=N,60nm,1.1s						
YSS				smax	smax		
	comp=E,70nm,0.9s						
YSS	**Yuzhno-Sakhali**	**4.11**	**328**	*i* P	**Pn**	**12 10 08.9**	**+1.1**
YSS				*i* S	**Sn**	**12 10 54.9**	**+0.3**
TYV	**Tymovskoe**	**7.68**	**344**	*e*PN	**Pn**	**12 10 58.5**	**+2.0**
TYV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TYV				pmax	pmax		
	comp=Z,100nm,3.1s						
TYV	**Tymovskoe**	**7.68**	**344**	*e*P	**Pn**	**12 10 57.5**	**+1.0**
TYV				*e*rx	rx	12 12 19.5	
MJAR	**Matsushiro Arr**	**9.16**	**223**	P	**Pn**	**12 11 19.2**	**+2.3**
	comp=Z,0.7nm,0.5s,baz=28,slow=13,SNR=2.9						
SHEM	**Shemya Is, Ala**	**20.80**	**54**	LR	LR	12 22 04.8	
	comp=Z,13nm,20.2s,baz=57,slow=37						
H11N2	**WAKE ISLAND Hy 29.51**	**137**		T	T	12 46 01.8	
	baz=329,slow=76,SNR=349						
H11N1	**WAKE ISLAND Hy 29.52**	**137**		T	T	12 46 02.5	
	baz=329,slow=76,SNR=375						
H11N3	**WAKE ISLAND Hy 29.53**	**137**		T	T	12 46 01.6	
	baz=329,slow=76,SNR=322						
H11S1	**WAKE ISLAND Hy 30.45**	**138**		T	T	12 47 11.4	
	baz=329,slow=76,SNR=837						
H11S3	**WAKE ISLAND Hy 30.46**	**139**		T	T	12 47 12.9	
	baz=329,slow=76,SNR=617						
H11S2	**WAKE ISLAND Hy 30.47**	**138**		T	T	12 47 12.2	
	baz=329,slow=76,SNR=620						
ILAR	**Eielson Array**	**42.18**	**36**	P	**P**	**12 16 55.3**	**+2.9**
	comp=Z,0.3nm,0.7s,baz=277,slow=8.9,SNR=2.8						
	comp=Z,0.3nm,0.7s						
MKAR	**Makanchi Array**	**43.92**	**297**	P	**P**	**12 17 05.8**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=76,slow=9.3,SNR=4.1						
	comp=Z,0.5nm,0.5s						
KURK	**Kurchatov**	**44.94**	**304**	P	**P**	**12 17 14.3**	**-0.4**
KURK	**Kurchatov**	**44.94**	**304**	*e*P	**P**	**12 17 14.3**	**-0.4**
KURBB	**Kurchatov Arra**	**45.02**	**304**	P	**P**	**12 17 14.3**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=83,slow=7.7,SNR=2.2						
	comp=Z,1.3nm,0.3s						
AKTO	**Aktyubinsk**	**57.03**	**310**	P	**P**	**12 18 42.6**	**-2.7**
	comp=Z,0.7nm,0.5s,baz=90,slow=4.6,SNR=1.8						
	comp=Z,0.7nm,0.5s						
FINES	**FINESS Array B**	**64.68**	**333**	P	**P**	**12 19 36.2**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=29,slow=9.1,SNR=7.5						
	comp=Z,1.7nm,0.5s						
ASAR	**Alice Springs**	**67.77**	**192**	P	**P**	**12 19 57.4**	**+0.2**
	comp=Z,0.5nm,1.1s,baz=11,slow=6.1,SNR=1.9						
	comp=Z,0.5nm,1.1s						
HFS	**Hagfors**	**69.56**	**337**	P	**P**	**12 20 06.5**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=50,slow=7.9,SNR=6.7						
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.25**	**323**	P	**P**	**12 20 17.5**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=44,slow=6.9,SNR=7.1						
	comp=Z,0.8nm,0.4s						
EKA	**Eskdalemuir Ar**	**78.08**	**343**	P	**P**	**12 20 57.0**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=15,slow=5.9,SNR=3.6						
	comp=Z,0.7nm,0.6s						
EKA	**Eskdalemuir Ar**	**78.08**	**343**	P	**P**	**12 20 57.0**	**-0.8**
H03N2	**Juan Fernandez**	**143.83**	**89**	T	T	15 09 25.9	
	baz=300						
H03N3	**Juan Fernandez**	**143.84**	**89**	T	T	15 09 18.4	
	baz=300						
H03N1	**Juan Fernandez**	**143.84**	**89**	T	T	15 09 19.6	
	baz=300						

*TIR **06** 12:13:58.4,42.01N×20.28E,h13km±9km,Md2.5/3,Ml2.8/2*
*PDG **06** 12:13:59.1±0.0,42.01N×20.25E,h6km,ML2.5/12,Error ellipse: s-maj=0.1km s-min=0.1km az=0.0*
*BEO **06** 12:14:00.9±0.3,42.02N×20.25E,h0km,ML1.6/12*
*SKO **06** 12:14:01.6,42.05N×20.23E,h20km,ML2.4*

ISC 06 12:14:00.3±1.0,42.03N±0.02×20.22E±0.02,h9km±9km, n33,σ1§10/65,3C,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUK	**Puka**	**0.24**	**274**	Pg	**Pg**	**12 14 04.6**	**-0.6**
PUK				Sg	**Sg**	**12 14 09.2**	**+0.7**
PUK				AML	AML	12 14 11.6	
	7.2nm,0.1s						
PUK				AMd		12 14 42.2	
BCI	**Bajram Curri**	**0.36**	**342**	Pg	**Pg**	**12 14 06.5**	**-0.9**
BCI				Sg	**Sg**	**12 14 12.6**	**+0.5**
BCI				AML	AML	12 14 15.5	
	3.4nm,0.4s						
BCI				AMd		12 14 49.8	
PVY	**Plav**	**0.60**	**341**	*e*Pg	**Pg**	**12 14 10.5**	**-1.4**
PVY				*i* Sg	**Sg**	**12 14 20.3**	**+0.5**
ULC	**Ulcinj**	**0.73**	**265**	*e*Pg	**Pg**	**12 14 13.0**	**-1.3**
ULC				*i* Sg	**Sg**	**12 14 24.8**	**+1.0**
TIR	**Tirane**	**0.73**	**201**	*e*Pg	**Pg**	**12 14 15.1**	**+0.8**
TIR				*e*Sg	**Sn**	**12 14 28.0**	**+0.1**
DRME	**Dracevica, Mon**	**0.79**	**282**	*e*Pg	**Pg**	**12 14 14.1**	**-1.3**
DRME				*i* Sg	**Sg**	**12 14 26.9**	**+1.3**
PDG	**Podgorica**	**0.82**	**300**	*e*Pg	**Pg**	**12 14 15.1**	**-1.0**
PDG				*e*Sg	**Sg**	**12 14 27.9**	**+1.2**
PDG	**Podgorica**	**0.82**	**300**	*e*Pg	**Pg**	**12 14 14.8**	**-1.3**
PDG				*i* Sg	**Sg**	**12 14 28.1**	**+1.4**
IVA	**Berane**	**0.88**	**344**	⇑*i* Pg	**Pg**	**12 14 15.7**	**-1.5**
IVA				*i* Sg	**Sg**	**12 14 29.7**	**+1.1**
SKO	**Skopje**	**0.91**	**93**	*e*Pg	**Pb**	**12 14 18.1**	**-0.1**
SKO				*e*Sg	**Sn**	**12 14 31.9**	**-0.7**
KOME	**Kolasin**	**0.97**	**328**	*e*Pg	**Pb**	**12 14 17.5**	**-1.9**
KOME				*i* Sg	**Sg**	**12 14 33.1**	**+1.4**
OHR	**Ohrid**	**1.01**	**154**	*i* Pg	**Pb**	**12 14 19.9**	**-0.1**
OHR				*e*Sg	**Sn**	**12 14 34.9**	**-0.2**
OHR				*e*Lg	Lg	12 14 37.0	
	comp=E,67nm,0.5s						
OHR				*e*Lg	Lg	12 14 37.6	
	comp=N,86nm,0.7s						
BUM	**Brajici-Budva**	**1.02**	**286**	*e*Pg	**Pb**	**12 14 18.5**	**-1.7**
BUM				*i* Sg	**Sg**	**12 14 34.9**	**+1.7**
CEME	**Cevo**	**1.09**	**299**	⇑*i* Pg	**Pb**	**12 14 19.8**	**-1.6**
CEME				*i* Sg	**Sn**	**12 14 37.5**	**+0.4**
NKME	**Niksic**	**1.19**	**309**	⇑*i* Pg	**Pn**	**12 14 21.6**	**-1.6**
NKME				*i* Sg	**Sg**	**12 14 40.8**	**+2.1**
SJES	**Sjenica**	**1.25**	**352**	*e*Pg	**Pn**	**12 14 23.5**	**-0.5**
SJES				*e*Sg	**Sn**	**12 14 41.1**	**+0.2**
HCY	**Herceg Novi**	**1.35**	**289**	*e*Pg	**Pn**	**12 14 24.5**	**-0.7**
HCY				*i* Sg	**Sg**	**12 14 46.1**	**+2.5**
SELS	**Selova**	**1.36**	**29**	*e*Pg	**Pn**	**12 14 25.4**	**-0.1**
SELS				*e*Sg	**Sg**	**12 14 45.4**	**+1.2**
BARS	**Barje**	**1.42**	**56**	*e*Pg	**Pn**	**12 14 26.5**	**+0.2**
BARS				*e*Sg	**Sg**	**12 14 46.4**	**+0.4**
BARS	**Barje**	**1.42**	**56**	*e*Pg	**Pb**	**12 14 26.6**	**-0.3**
BARS				*e*Sg	**Sb**	**12 14 44.9**	**-0.3**
FNA	**Florina**	**1.52**	**145**	Pn	**Pn**	**12 14 26.8**	**-0.9**
FNA				Sn	**Sb**	**12 14 47.8**	**-0.1**
FNA				AMd		12 15 31.7	
FNA	**Florina**	**1.52**	**145**	*e*Pn	**Pb**	**12 14 28.6**	**-0.1**
FNA				*e*Sg	**Sg**	**12 14 49.6**	**+0.5**
FNA	**Florina**	**1.52**	**145**	*e*Pg	**Pb**	**12 14 28.1**	**-0.5**
FNA				*e*Sg	**Sg**	**12 14 49.0**	**-0.1**
BRY	**Bratogost**	**1.52**	**306**	*e*Pg	**Pn**	**12 14 27.7**	**0.0**
BRY				*i* Sg	**Sg**	**12 14 51.4**	**+2.3**
UPM	**Unac-Piva**	**1.52**	**321**	*e*Pg	**Pn**	**12 14 27.8**	**0.0**
UPM				*i* Sg	**Sg**	**12 14 51.5**	**+2.2**
TREB	**Trebinje**	**1.55**	**297**	*e*Pn	**Pn**	**12 14 28.9**	**+0.9**
TREB				*e*Sn	**Sg**	**12 14 51.7**	**+1.7**
IVAS	**Ivanjica**	**1.55**	**358**	*e*Pg	**Pn**	**12 14 28.4**	**+0.3**
IVAS				*e*Sg	**Sb**	**12 14 49.4**	**+0.5**
GOCS	**Kraljevo Serbi**	**1.61**	**17**	*e*Pg	**Pb**	**12 14 30.5**	**+0.3**
GOCS				*e*Sg	**Sb**	**12 14 50.7**	**+0.1**
RUDO	**Rudo**	**1.71**	**339**	*e*Pn	**Pn**	**12 14 30.8**	**+0.6**
RUDO				*e*Sn	**Sb**	**12 14 54.7**	**+1.3**
GRUS	**Gruza**	**1.90**	**11**	*e*Pn	**Pb**	**12 14 34.3**	**-0.7**
GRUS				*e*Sn	**Sb**	**12 14 59.7**	**+0.9**
BBLS	**Lazi&#263i**	**1.93**	**342**	*e*Pn	**Pn**	**12 14 34.7**	**+1.3**
BBLS				*e*Sn	**Sb**	**12 15 00.7**	**+0.8**
DIVS	**Divibare**	**2.08**	**356**	*e*Pn	**Pn**	**12 14 36.9**	**+1.5**
DIVS				*e*Sn	**Sb**	**12 15 04.0**	**-0.1**
KNT	**Kendrikon**	**2.19**	**112**	*e*Pn	**Pn**	**12 14 37.0**	**+0.2**

IDC 06 12:15:50.4±2.2,21.97N×12.60W,h0km,mbtmp3.9/2, ML3.5/2,Error ellipse: s-maj=82.3km s-min=30.3km az=53.0,Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**16.20**	**120**	Pn	Pn	12 19 39.2	-0.4
	0.3nm,0.3s,baz=312,slow=12,SNR=13						
TORD				Sn	Sn	12 22 41.5	+1.4
	0.1nm,0.3s,baz=312,slow=24,SNR=2.0						
TORD				Lg	Lg	12 24 26.3	
	baz=300,slow=27,SNR=1.7						
	0.9nm,0.4s						
DBIC	**Dimbokro**	**16.95**	**153**	Pn	Pn	12 19 49.1	0.0
	0.1nm,0.3s,baz=343,slow=19,SNR=1.7						
DBIC				Sn	Sn	12 22 58.6	+0.4
	0.1nm,0.3s,baz=126,slow=9.4,SNR=1.9						
DBIC				Lg	Lg	12 24 48.9	
	0.1nm,0.3s,baz=140,slow=4.6,SNR=2.2						
	3.0nm,0.9s						
WRA	**Warramunga Arr**	**149.09**	**92**	PKPbc	PKPbc	12 35 40.7	-0.8
	0.2nm,0.3s,baz=285,slow=2.6,SNR=2.0						
ASAR	**Alice Springs**	**149.12**	**100**	PKPbc	PKPbc	12 35 41.2	-0.3
	0.4nm,0.7s,baz=296,slow=2.9,SNR=7.6						

CATAC 06 12:20:59.1±0.4,10.7N×3.8°5W±°,h6km±3km,M3.1/6, MLv3.1/6,Error ellipse: s-maj=6.3km s-min=5.5km az=13.2,confirmed,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INDI	**Punta indio, G**	**0.37**	**300**	P	Pg	12 21 06.5	+0.2
INDI	**Punta indio, G**	**0.37**	**300**	S	Sg	12 21 12.4	+1.3
CMARA	**Lajas Hojancha**	**0.41**	**325**	P	Pg	12 21 07.5	+0.3
CMARA	**Lajas Hojancha**	**0.41**	**325**	S	Sg	12 21 14.0	+1.4
JTS	**Las Juntas de**	**0.65**	**20**	P	Pg	12 21 12.0	+0.4
JTS				S	Sg	12 21 19.8	-0.2
SOCE	**Pocosol**	**0.89**	**38**	P	Pg	12 21 16.6	+0.3
SOCE	**Pocosol**	**0.89**	**38**	S	Sb	12 21 29.7	+0.5
LCR2	**La Lucha 2**	**1.16**	**87**	P	Pg	12 21 20.8	-0.6
LCR2	**La Lucha 2**	**1.16**	**87**	S	Sn	12 21 37.9	-0.5
COVE	**Coope Vega, Sa**	**1.29**	**36**	P	Pn	12 21 22.9	-0.8
DRK0	**Durika**	**1.95**	**102**	P	Pn	12 21 31.7	-1.3
DRK0	**Durika**	**1.95**	**102**	S	Sn	12 21 56.1	-1.8
CDITO	**Canoas**	**2.53**	**116**	P	Pb	12 21 43.4	-1.6

*SOME **06** 12:38:45.2,41.90N×76.47E,h5km*
*KRNET **06** 12:38:45.5±0.1,41.91N×76.40E,h16km,mb2.5*
*NNC **06** 12:38:46.6±1.0,41.95N×76.36E,h0km,mb3.0,mpv2.8, Error ellipse: s-maj=7.8km s-min=3.4km az=165.0*

ISC 06 12:38:45.4±1.2,41.90N±0.03×76.41E±0.03,h5km±11km, n21,σ0§79/37,10C-4D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.36**	**340**	⇑*i* P	**Pg**	**12 38 52.5**	**0.0**
ULHL				⇑*i* S	**Sg**	**12 38 58.1**	**+0.8**
KDJ	**Kajisay**	**0.62**	**68**	⇑*i* P	**Pg**	**12 38 57.4**	**+0.1**
KDJ				⇑*i* S	**Sg**	**12 39 06.5**	**+1.2**
JNKS	**Jany-Kuch**	**1.02**	**214**	⇓*e*P	**Pg**	**12 39 04.6**	**-0.3**
JNKS				⇓*i* S	**Sg**	**12 39 18.5**	**+0.4**
TARG	**Taragay, Kyrgy**	**1.06**	**99**	⇑*i* P	**Pg**	**12 39 05.1**	**-0.6**
TARG				⇑*i* S	**Sg**	**12 39 19.8**	**+0.4**
TKM2	**Tokmak 2**	**1.18**	**330**	⇑*i* P	**Pg**	**12 39 07.3**	**-0.8**
TKM2				⇑*i* S	**Sg**	**12 39 23.1**	**-0.3**
KST	**Kastek**	**1.19**	**344**	P	**Pg**	**12 39 07.8**	**-0.3**
	3.3nm,0.2s						
KST				S	**Sb**	**12 39 24.3**	**+0.1**
	9.1nm,0.3s						
KST	**Kastek**	**1.19**	**344**	*e*P	**Pg**	**12 39 07.8**	**-0.3**
	3.3nm,0.2s						
KST				*e*S	**Sb**	**12 39 24.3**	**+0.1**
	9.1nm,0.3s						
TNSS	**Tian-Shan**	**1.20**	**19**	P	**Pg**	**12 39 08.1**	**-0.3**
	3.9nm,0.3s						
TNSS				S	**Sb**	**12 39 24.6**	**-0.3**
	1.8nm,0.2s						
TNSS	**Tian-Shan**	**1.20**	**19**	*e*P	**Pg**	**12 39 08.1**	**-0.3**
	3.9nm,0.3s						
TNSS				*e*S	**Sb**	**12 39 24.6**	**-0.3**
	1.8nm,0.2s						
MDOK	**Medeo**	**1.34**	**20**	Pg	**Pb**	**12 39 11.4**	**+0.2**
	2.0nm,0.1s						
MDOK				Lg	Lg	12 39 30.2	
	4.9nm,0.3s						
KOTS	**Kotyrbulak**	**1.43**	**21**	P	**Pb**	**12 39 12.5**	**-0.1**
	5.0nm,0.2s						
KOTS				S	**Sn**	**12 39 31.9**	**+0.5**
	18nm,0.3s						
KOTS	**Kotyrbulak**	**1.43**	**21**	*e*P	**Pb**	**12 39 12.5**	**-0.1**
	5.0nm,0.2s						
KOTS				*e*S	**Sn**	**12 39 31.9**	**+0.5**
	18nm,0.3s						
AAK	**Ala-Archa**	**1.60**	**298**	⇑P	**Pn**	**12 39 14.3**	**-0.2**
	0.7nm,0.4s						
AAK				⇓S	**Sb**	**12 39 36.3**	**+0.2**
	1.0nm,0.4s						
KTBS	**Karatobe**	**1.82**	**6**	Pg	**Pg**	**12 39 19.8**	**-0.4**
	4.1nm,0.3s						
KTBS				Lg	Lg	12 39 45.0	
	7.4nm,0.2s						
SATY	**Saty**	**1.87**	**51**	P	**Pb**	**12 39 20.3**	**+0.1**
	9.1nm,0.2s						
SATY				S	**Sg**	**12 39 45.6**	**0.0**
	18nm,0.3s						
KUU	**Kurty**	**1.99**	**359**	*e*P	**Pg**	**12 39 23.2**	**-0.3**
	1.4nm,0.0s						
KUU				*e*S	**Sg**	**12 39 50.4**	**+1.1**
	32nm,0.1s						
KPKS	**Kokpek**	**2.29**	**46**	Pg	**Pg**	**12 39 28.6**	**-0.7**
	0.1nm,0.1s						
KPKS				Lg	Lg	12 39 59.7	
	21nm,0.6s						
MRKS	**Merke**	**2.51**	**291**	*e*P	**Pg**	**12 39 33.5**	**+0.1**
	5.2nm,0.7s						
MRKS				*e*S	**Sg**	**12 40 08.0**	**+2.2**
	5.9nm,0.5s						
ARXS	**Arharly**	**2.53**	**24**	Pg	**Pb**	**12 39 31.6**	**+0.2**
	5.0nm,0.3s						
ARXS				Lg	Lg	12 40 04.8	
	7.7nm,0.5s						
ARXS	**Arharly**	**2.53**	**24**	*e*P	**Pb**	**12 39 31.6**	**+0.2**
ARXS				*e*S	**Sg**	**12 40 04.8**	**-1.9**
KK31	**Karatay Array**	**4.52**	**287**	⇑Pg	**Pg**	**12 40 09.7**	**-2.3**
	0.4nm,0.5s,baz=99,slow=16						
KK31				⇓Lg	Lg	12 41 10.5	
	0.6nm,0.5s,baz=99,slow=30						

*IDC **06** 12:49:33.0±4.3,36.75N×71.08E,h195km±37km,mb3.2/9, mbtmp3.8/15,Error ellipse: s-maj=32.3km s-min=17.6km az=27.0*
*NEIC **06** 12:49:34.5±0.9,36.65N±0.06×70.94E±0.07,h230km±6km, mb4.3/8,Error ellipse: s-maj=10.3km s-min=6.8km az=144.0*

ISC 06 12:49:35.7±0.6,36.71N±0.06×71.03E±0.07,h250km,n46, σ2§61/49,mb3.6/11,2C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.35**	**346**		**Pn**	**12 50 19.2**	**-2.4**
CHGR	**Chuyangaron**	**2.44**	**323**		**Pn**	**12 50 19.8**	**-2.6**
SIMJ	**Simiganj**	**2.52**	**321**		**Pn**	**12 50 20.7**	**-2.5**
KBL	**Kabul**	**2.71**	**217**		**Pn**	**12 50 21.6**	**-3.8**
NIL	**Nilore**	**3.56**	**149**		**Pn**	**12 50 32.2**	**-2.3**
ARSB	**Arslanbob**	**4.85**	**18**		**Pn**	**12 50 48.9**	**-0.8**
JMU	**Jammu**	**5.10**	**140**	*e*P	**Pn**	**12 50 51.8**	**-1.0**
JMU				*e*S	**S**	**12 51 46.8**	**-7.4**
JMU				IAML		12 51 48.9	
	comp=N,632nm,1.3s						
TSSA	**Tissa**	**5.72**	**131**	*e*P	**Pn**	**12 51 00.7**	**+0.1**
TSSA				*e*S	**S**	**12 52 03.9**	**-4.4**
TSSA				IAML		12 52 04.6	

SONM Songino Array 28.19 56 P P 12 55 08.1 +2.8
comp=N,0.9nm,0.6s,baz=224,slow=8.1,SNR=2.5
comp=N,0.9nm,0.6s
FINES FINESS Array B 37.32 326 P P 12 56 28.1 +4.3
comp=N,0.6nm,0.4s,baz=132,slow=7.7,SNR=1.4
comp=N,0.6nm,0.4s
ARCES ARCESS Array B 40.96 337 P P 12 56 53.8 0.0
ARCES IAmb IAmb 12 57 10.9
comp=Z,11nm,1.2s
ARCES ARCESS Array B 40.96 337 P P 12 56 57.7 +3.9
comp=Z,1.5nm,0.9s,baz=108,slow=7.8,SNR=8.3
comp=Z,1.5nm,0.9s
HFS Hagfors 42.91 322 P P 12 57 14.1 +4.5
comp=Z,2.0nm,0.7s,baz=93,slow=11,SNR=5.0
comp=Z,2.0nm,0.7s
NC602 NORSAR Array S 44.04 322 P P 12 57 19.0 +0.5
NC303 NORSAR Array S 44.17 323 P P 12 57 19.8 +0.2
NC303 IAmb IAmb 12 57 45.0
comp=Z,10nm,1.1s
NOA NORSAR Array B 44.23 323 P P 12 57 24.2 +4.1
comp=Z,0.3nm,0.5s,baz=95,slow=7.8,SNR=1.7
comp=Z,0.3nm,0.5s
GRFO Grafenberg 44.35 307 P P 12 57 21.7 +0.4
NBO00 NORSAR Array S 44.44 323 P P 12 57 20.9 -0.8
NBO00 IAmb IAmb 12 57 23.7
comp=Z,27nm,1.3s
ERM Erimo 54.50 61 P P 12 58 38.9 +1.2
TOLI2 Tolitoli 57.96 116 P P 12 59 02.5 +0.1
TOLI2 IAmb IAmb 12 59 17.1
comp=Z,13nm,1.1s
TORD Torodi Ar. Bea 65.75 269 P P 12 59 56.5 +2.2
comp=Z,0.3nm,0.5s,baz=38,slow=5.4,SNR=2.2
comp=Z,0.3nm,0.5s
ILAR Eielson Array 74.57 16 P 13 00 51.4 +4.6
comp=Z,0.2nm,0.5s,baz=353,slow=3.6,SNR=2.3
comp=Z,0.2nm,0.5s
WRA Warramunga Arr 82.08 122 P P 13 01 31.0 +2.5
comp=Z,0.4nm,0.5s,baz=315,slow=5.2,SNR=2.1
comp=Z,0.4nm,0.5s
ASAR Alice Springs 84.36 125 P P 13 01 42.8 +2.7
comp=Z,0.3nm,0.6s,baz=310,slow=4.9,SNR=9.0
comp=Z,0.3nm,0.6s

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*NEIC **06** 13:07:30.7±1.6,20°.32S±0°.04×70°.88W±0°.05,h10km±1km, mb4.7/70,Mwr4.4/40,Mwr4.6(GUC),Error ellipse: s-maj=7.9km s-min=6.1km az=260.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.98; Mθθ1.27; Mϕϕ-4.25; Mrθ1.60; Mθϕ0.17; Mϕr-3.59; Fault plane solution: M₀5.46000×10¹⁵ NP1:ϕs159.35000°, δ70.20000°,λ71.99000°. NP2:ϕs23.17000°,δ26.52000°, λ130.65000°. Principal axes: T 5.0026, Plg61.0000°, Azm43.0000°; N 0.8145, Plg17.0000°, Azm166.0000°; P -5.8171, Plg23.0000°, Azm263.0000°;*
*NEIC **06** 13:07:30.7,20°.32S×70°.88W,h10km*
*GUC **06** 13:07:31.2±0.8,20°.26S×70°.99W,h34km±4km,ML4.4*
*IDC **06** 13:07:35.3±1.8,20°.16S×70°.64W,h44km±17km,mb4.0/15, mbtmp4.2/20,ML3.8/5,MS3.6/7,Error ellipse: s-maj=17.4km s-min=12.0km az=74.0*

ISC 06 13:07:32.0±0.7,20°.23S±0°.03×70°.80W±0°.06,h22km±6km, n122,σ1s31/94,mb4.6/43,MS3.7/5,11C-2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TA02	**Huaiquique**	**0.63**	**94**	*e*P		**Pn**	**13 07 45.1**	**-0.6**
TA01	**Diego Aracena**	**0.67**	**120**			**Pb**	**13 07 45.3**	**+0.2**
TA01	**Diego Aracena**	**0.67**	**120**	⇓*i*P		**Pb**	**13 07 45.3**	**+0.2**
TA01				*e*S		**Sn**	**13 07 56.1**	**0.0**
TA01				IAML			13 07 59.0	
	comp=N,27μm,0.5s							
PATCX	**Punta Patache**	**0.85**	**134**			**Pb**	**13 07 47.9**	**-0.3**
PATCX						**Sn**	**13 08 00.3**	**-0.3**
HMBC	**Humberstone**	**0.86**	**93**	Pg		**Pn**	**13 07 49.0**	**0.0**
HMBC	**Humberstone**	**0.86**	**93**	⇓*i*P		**Pn**	**13 07 49.0**	**0.0**
HMBC				IAML			13 08 08.6	
	comp=E,12μm,0.7s							
PB11	**IPOC Station P**	**1.18**	**67**			**Pb**	**13 07 54.0**	**+0.2**
PB11						**Sn**	**13 08 11.5**	**+2.7**
PB11	**IPOC Station P**	**1.18**	**67**	⇑*i*P		**Pb**	**13 07 54.0**	**+0.2**
PB11				*e*S		**Sn**	**13 08 11.2**	**+2.4**
PB11				IAML			13 08 20.1	
	comp=N,9μm,0.5s							
PB02	**IPOC Station P**	**1.38**	**142**			**Pn**	**13 07 55.6**	**-0.5**
PB02	**IPOC Station P**	**1.38**	**142**	⇑*i*P		**Pn**	**13 07 55.5**	**-0.5**
PB02				*e*S		**Sn**	**13 08 14.4**	**+0.7**
PB02				IAML			13 08 20.1	
	comp=E,12μm,0.5s							
PB01	**IPOC Station P**	**1.48**	**124**			**Pn**	**13 07 57.7**	**+0.3**
PB01	**IPOC Station P**	**1.48**	**124**	⇑*i*P		**Pn**	**13 07 57.7**	**+0.3**
PB01				*e*S		**Sb**	**13 08 18.0**	**+0.8**
PB01				IAML			13 08 22.8	
	comp=N,6μm,0.4s							
PB08	**IPOC Station P**	**1.55**	**87**	Pn		**Pb**	**13 07 59.8**	**-0.5**
PB08	**IPOC Station P**	**1.55**	**87**	⇑*i*P		**Pb**	**13 07 59.8**	**-0.5**
PB08				IAML			13 08 27.5	
	comp=N,3μm,0.4s							
GO01	**Chusmiza**	**1.61**	**70**	Pn		**Pb**	**13 08 00.7**	**-0.7**
GO01	**Chusmiza**	**1.61**	**70**	⇑*i*P		**Pb**	**13 08 00.6**	**-0.9**
GO01				IAML			13 08 27.4	
	comp=N,8μm,0.5s							
PB03	**IPOC Station P**	**2.06**	**152**	Pn		**Pn**	**13 08 04.4**	**-1.1**
PB03	**IPOC Station P**	**2.06**	**152**	⇑*i*P		**Pn**	**13 08 04.4**	**-1.1**
PB03				IAML			13 08 48.7	
	comp=E,2μm,0.8s							
PB09	**IPOC Station P**	**2.14**	**137**	Pn		**Pn**	**13 08 07.5**	**+0.9**
PB09	**IPOC Station P**	**2.14**	**137**	⇑*i*P		**Pn**	**13 08 07.5**	**+0.9**
PB09				IAML			13 08 46.0	
	comp=E,5μm,0.7s							
PB16	**IPOC Station P**	**2.25**	**33**	*e*P		**Pn**	**13 08 09.1**	**+0.7**
PB16				IAML			13 08 50.5	
	comp=E,3μm,0.6s							
PB05	**IPOC Station P**	**2.67**	**168**	⇑*i*P		**Pn**	**13 08 11.4**	**-2.5**
PB05				IAML			13 09 05.6	
	comp=N,1μm,0.6s							
PB06	**IPOC Station P**	**2.72**	**155**	⇑*i*P		**Pn**	**13 08 13.1**	**-1.5**
PB06				IAML			13 09 03.2	
	comp=N,2μm,0.7s							
PB18	**Visviri**	**2.91**	**26**	Pn		**Pb**	**13 08 20.4**	**-3.2**
PB18	**Visviri**	**2.91**	**26**	*e*P		**Pb**	**13 08 20.4**	**-3.2**
PB10	**IPOC Station P**	**3.28**	**176**	*e*P		**Pn**	**13 08 18.9**	**-3.2**
LPAZ	**La Paz**	**4.67**	**33**			**Pn**	**13 08 45.2**	**+3.3**
LPAZ	**La Paz**	**4.67**	**33**	P		**Pn**	**13 08 43.8**	**+1.9**
	comp=N,4.8nm,0.3s,baz=236,slow=4.8,SNR=59							
	comp=N,4.4nm,0.4s							
GO02	**Mina Guanaco**	**5.04**	**167**			**Pn**	**13 08 45.0**	**-1.6**
AC01	**Pan de Azucar**	**5.89**	**178**			**Pn**	**13 08 54.6**	**-3.5**
AC04	**Llanos de Chal**	**7.94**	**182**	Pn		Pn	13 09 20.6	-5.7
NNA	**Nana**	**10.04**	**324**	P		**Pn**	**13 09 58.7**	**+3.6**
	comp=N,2.9nm,0.3s,baz=157,slow=7.1,SNR=2.2							
NNA				S		**Sn**	**13 11 46.8**	**-0.3**
	comp=N,16nm,0.8s,baz=107,slow=8.3,SNR=4.2							
	comp=N,5.9nm,0.3s							
SIV	**San Ignacio**	**10.17**	**67**	P		**Pn**	**13 09 56.1**	**-0.7**
	comp=N,0.2nm,0.3s,baz=261,slow=8.8,SNR=16							
SIV				S		**Sn**	**13 11 46.9**	**-3.3**
	comp=N,4.0nm,0.7s,baz=296,slow=23,SNR=1.2							
SIV				LR		LR	13 14 30.8	
	comp=N,700nm,18.2s,baz=268,slow=42							
	comp=N,7.6nm,0.5s							
CFA	**Coronel Fontan**	**11.56**	**169**	P		**Pn**	**13 10 18.8**	**+2.9**
	comp=N,0.3nm,0.3s,baz=343,slow=15,SNR=2.4							
CFA				S		**Sn**	**13 12 27.1**	**+2.8**
	comp=N,1.0nm,0.4s,baz=241,slow=22,SNR=1.6							
	comp=N,1.0nm,0.5s							
PTLB	**Pontes e Lacer**	**12.08**	**69**	Pn		**Pn**	**13 10 23.2**	**+0.2**
VILB	**Vilhena**	**12.47**	**56**			**Pn**	**13 10 28.8**	**+0.4**
CPUP	**Villa Florida**	**13.79**	**119**	P		**Pn**	**13 10 46.6**	**+0.4**
	baz=146,slow=6.0,SNR=3.1							
CPUP				LR		LR	13 17 06.9	
	comp=N,74nm,18.4s,baz=156,slow=42							
	comp=N,0.8nm,1.0s							
H03N1	**Juan Fernandez**	**15.01**	**207**	T		T	13 26 23.7	
	baz=33,slow=72,SNR=134							
H03N2	**Juan Fernandez**	**15.02**	**207**	T		T	13 26 30.1	
	baz=33,slow=72,SNR=106							
H03N3	**Juan Fernandez**	**15.03**	**207**	T		T	13 26 33.2	
	baz=33,slow=72,SNR=94							
ITAB	**Concordia**	**18.45**	**116**	P		**P**	**13 11 45.4**	**-0.9**
TRQA	**Tornquist**	**19.34**	**159**			**P**	**13 11 55.6**	**-0.5**
COHC	**Cochancay**	**19.49**	**334**			**P**	**13 11 58.2**	**+0.5**
PLCA	**Paso Flores**	**20.44**	**179**	P		**P**	**13 12 08.3**	**+0.3**
	comp=N,2.8nm,0.7s,baz=359,slow=12,SNR=7.6							
PLCA				LR		LR	13 20 22.5	
	comp=N,95nm,18.8s,baz=350,slow=37							
	comp=N,2.8nm,0.7s							
BDFB	**Brasilia**	**22.15**	**82**	P		**P**	**13 12 26.1**	**-0.6**
	comp=N,5.9nm,0.7s,baz=257,slow=16,SNR=5.1							
BDFB				LR		LR	13 22 34.7	
	comp=N,317nm,21.8s,baz=255,slow=41							
	comp=N,5.9nm,0.7s							
FLOC	**Florencia**	**22.19**	**347**	P		**P**	**13 12 27.9**	**+0.9**
BOAV	**Boa Vista**	**24.64**	**25**			**P**	**13 12 51.7**	**+0.5**
BOAV				IAmb		IAmb	13 13 00.7	
	comp=Z,21nm,0.8s							
ROSC	**El Rosal**	**25.15**	**352**	P		**P**	**13 12 56.7**	**+0.5**
	comp=Z,6.4nm,0.4s,baz=167,slow=24,SNR=1.8							
	comp=Z,6.4nm,0.4s							
RUSC	**La Rusia**	**26.05**	**355**			**P**	**13 13 05.1**	**+0.5**
RUSC				IAmb		IAmb	13 13 10.9	
	comp=Z,21nm,1.0s							
BAUV	**El Baul**	**29.12**	**6**	P		**P**	**13 13 31.3**	**-0.2**
BAUV				IAmb		IAmb	13 13 55.4	
	comp=Z,15nm,0.8s							
PCRV	**Puerto La Cruz**	**30.82**	**12**	LR		LR	13 26 32.8	
	comp=Z,255nm,18.6s,slow=37							
RPN	**Rapa Nui**	**35.84**	**251**	LR		LR	13 25 12.7	
	comp=Z,198nm,19.3s,baz=50,slow=29							
RCBR	**Riachuelo**	**36.78**	**72**	LR		LR	13 29 54.8	
	comp=Z,32nm,20.2s,baz=244,slow=37							
CELP	**Cerrillos**	**38.29**	**6**	P		**P**	**13 14 51.2**	**+0.1**
CELP				IAmb		IAmb	13 14 54.3	
	comp=Z,26nm,1.2s							
DRIO	**Del Rio**	**57.12**	**329**	P		**P**	**13 17 17.6**	**+0.5**
DRIO				IAmb		IAmb	13 17 22.4	
	comp=Z,4.6nm,0.7s							
WLAR	**White Oak Lake**	**57.68**	**338**	P		**P**	**13 17 21.8**	**+0.9**
SAND	**Sanderson**	**58.30**	**328**			**P**	**13 17 25.6**	**+0.1**
TXAR	**Lajitas Array**	**58.59**	**326**	P		**P**	**13 17 28.1**	**+0.6**
TXAR	**Lajitas Array**	**58.59**	**326**	P		**P**	**13 17 27.2**	**-0.3**
	comp=Z,1.6nm,1.0s,baz=147,slow=7.1,SNR=6.3							
	comp=Z,1.6nm,1.0s							
MIAR	**Mount Ida**	**58.62**	**338**	P		**P**	**13 17 27.7**	**+0.3**
MIAR				IAmb		IAmb	13 17 28.8	
	comp=Z,7.1nm,0.7s							
MNHN	**Monahans**	**59.75**	**328**			**P**	**13 17 35.9**	**+0.5**
VHRN	**Van Horn**	**60.43**	**326**	IAmb		IAmb	13 17 45.4	
	comp=Z,7.4nm,1.0s							
TUL3	**Leonard**	**60.64**	**337**	P		**P**	**13 17 41.7**	**+0.3**
R40A	**Maddies Statio**	**61.60**	**341**			**P**	**13 17 47.4**	**-0.5**
SNAA	**Sanae**	**64.05**	**161**	⇑P		**P**	**13 18 04.0**	**+0.2**
	comp=Z,29nm,0.7s							
SNAA	**Sanae**	**64.05**	**161**	P		**P**	**13 18 02.7**	**-1.2**
SNAA				IAmb		IAmb	13 18 14.5	
	comp=Z,7.1nm,1.1s							
SNAA	**Sanae**	**64.05**	**161**	P		**P**	**13 18 03.5**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=274,slow=10,SNR=8.4							
	comp=Z,1.3nm,0.7s							
TROLL	**Troll, Antarti**	**65.77**	**161**	⇑P		**P**	**13 18 15.1**	**0.0**
	comp=Z,79nm,0.6s							
SDCO	**Great Sand Dun**	**66.27**	**330**	IAmb		IAmb	13 18 25.3	
	comp=Z,8.3nm,1.4s							
X16A	**Lo Mia Camp, P**	**66.69**	**324**	IAmb		IAmb	13 18 28.2	
	comp=Z,11nm,1.4s							
PV01	**Paradox Valley**	**68.04**	**329**	IAmb		IAmb	13 18 48.6	
	comp=Z,4.8nm,1.0s							
PV15	**Paradox Valley**	**68.16**	**329**	IAmb		IAmb	13 18 34.6	
	comp=Z,7.3nm,0.9s							
PV13	**Radium Mtn., P**	**68.18**	**328**	IAmb		IAmb	13 18 37.6	
	comp=Z,5.8nm,1.1s							
U15A	**North Rim**	**68.65**	**325**	IAmb		IAmb	13 18 40.9	
	comp=Z,4.7nm,1.0s							
SRU	**San Rafael Swe**	**69.76**	**328**	IAmb		IAmb	13 18 46.7	
	comp=Z,6.7nm,1.0s							
Q16A	**Castle Valley**	**69.94**	**327**	IAmb		IAmb	13 18 58.6	
	comp=Z,5.0nm,0.9s							
QSPA	**South Pole Qui**	**69.95**	**180**	P		**P**	**13 18 41.7**	**+0.1**
QSPA				IAmb		IAmb	13 19 19.2	
	comp=Z,11nm,1.4s							
QSPA	**South Pole Qui**	**69.95**	**180**	P		**P**	**13 18 43.9**	**+2.4**
	comp=Z,2.4nm,0.6s,baz=140,slow=1.5,SNR=35							
	comp=Z,2.4nm,0.6s							
P18A	**Preston Nutter**	**70.02**	**329**	IAmb		IAmb	13 18 49.3	
	comp=Z,7.9nm,0.9s							
DBIC	**Dimbokro**	**70.09**	**75**	P		**P**	**13 18 42.4**	**-0.7**
DBIC	**Dimbokro**	**70.09**	**75**	P		**P**	**13 18 42.2**	**-0.8**
	comp=Z,8.8nm,0.9s,baz=257,slow=6.6,SNR=5.7							
	comp=Z,8.8nm,0.9s							
GWY	**Greenwater Val**	**70.92**	**322**	IAmb		IAmb	13 18 54.2	
	comp=Z,5.6nm,1.0s							
WSHM	**Spangler Hills**	**70.99**	**321**	IAmb		IAmb	13 18 54.6	
	comp=Z,5.1nm,1.0s							
PSUT	**Pine Spring**	**71.04**	**326**	IAmb		IAmb	13 18 55.3	
	comp=Z,5.3nm,0.9s							
TPNV	**Topopah Spring**	**71.21**	**323**	IAmb		IAmb	13 19 01.1	
	comp=Z,12nm,1.4s							
FURC	**Furnace Creek,**	**71.22**	**322**	IAmb		IAmb	13 18 56.5	
	comp=Z,10nm,1.1s							
SPR3	**Spring Creek 3**	**71.63**	**326**	P		**P**	**13 18 52.9**	**+0.5**
SPR3				IAmb		IAmb	13 18 58.6	
	comp=Z,5.9nm,1.1s							
R11B	**Troy Canyon, C**	**71.84**	**324**	IAmb		IAmb	13 18 59.9	
	comp=Z,7.4nm,1.4s							
CWC	**Cottonwood Cre**	**71.91**	**321**	IAmb		IAmb	13 19 00.7	
	comp=Z,6.6nm,1.3s							
PDAR	**Pinedale Array**	**72.14**	**331**	P		**P**	**13 18 55.3**	**+0.1**
PDAR	**Pinedale Array**	**72.14**	**331**	P		**P**	**13 18 55.7**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=136,slow=7.4,SNR=11							
	comp=Z,0.7nm,0.6s							
HWUT	**Hardware Ranch**	**72.18**	**329**	IAmb		IAmb	13 18 57.9	
	comp=Z,4.5nm,0.8s							
ULM	**Lac du Bonnet**	**73.59**	**344**	P		**P**	**13 19 02.8**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=178,slow=6.4,SNR=3.0							
	comp=Z,3.3nm,0.8s							
RLMT	**Red Lodge**	**73.87**	**333**	IAmb		IAmb	13 19 08.2	
	comp=Z,3.6nm,0.6s							
YNE	**Yellowstone No**	**74.10**	**332**	IAmb		IAmb	13 19 12.9	
	comp=Z,1.1nm,0.8s							
YHL	**Hebgen Lake**	**74.50**	**331**	IAmb		IAmb	13 19 16.1	
	comp=Z,12nm,1.4s							
PAHR	**Pah Rah Range**	**74.90**	**323**	IAmb		IAmb	13 19 18.2	
	comp=Z,8.2nm,1.0s							
PLID	**Pearl Lake**	**76.93**	**329**			**P**	**13 19 24.0**	**+1.0**
VNDA	**Vanda**	**77.78**	**190**	P		**P**	**13 19 27.1**	**0.0**
	comp=Z,0.4nm,0.9s,baz=202,slow=9.4,SNR=1.7							
	comp=Z,0.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**78.61**	**71**			**P**	**13 19 31.2**	**-1.5**
TORD				IAmb		IAmb	13 19 32.9	
	comp=Z,12nm,0.9s							
TORD	**Torodi Ar. Bea**	**78.61**	**71**	P		**P**	**13 19 31.1**	**-1.6**
	comp=Z,14nm,0.9s,baz=269,slow=4.5,SNR=51							
	comp=Z,14nm,0.9s							
BOSA	**Boshof**	**85.61**	**119**	P		**P**	**13 20 08.3**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=254,slow=21,SNR=1.7							
	comp=Z,1.6nm,0.8s							
TAM	**Tamanrasset**	**85.84**	**64**			**P**	**13 20 10.7**	**+0.1**
MAW	**Mawson**	**86.04**	**164**	P		**P**	**13 20 11.1**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=196,slow=4.5,SNR=7.2							
	comp=Z,1.8nm,0.7s							
ESDC	**Sonseca Array**	**86.19**	**45**	P		**P**	**13 20 11.8**	**0.0**
	comp=Z,1.5nm,0.9s,baz=248,slow=5.9,SNR=5.7							
	comp=Z,1.5nm,0.9s							
YKA	**Yellowknife Ar**	**89.41**	**341**	P		**P**	**13 20 26.5**	**-0.2**
	comp=Z,2.6nm,1.0s,baz=133,slow=4.4,SNR=10							
	comp=Z,2.6nm,1.0s							
H11S2	**WAKE ISLAND Hyl**	**25.95**	**279**	T		T	15 45 53.3	
	baz=102,slow=74,SNR=56							
H11S1	**WAKE ISLAND Hyl**	**25.96**	**279**	T		T	15 46 00.5	
	baz=102,slow=74,SNR=37							
H11S3	**WAKE ISLAND Hyl**	**25.97**	**279**	T		T	15 45 52.0	
	baz=102,slow=74,SNR=35							
H11N3	**WAKE ISLAND Hyl**	**26.00**	**280**	T		T	15 46 07.8	
	baz=102,slow=74,SNR=40							
H11N2	**WAKE ISLAND Hyl**	**26.02**	**280**	T		T	15 46 10.1	
	baz=102,slow=74,SNR=30							
H11N1	**WAKE ISLAND Hyl**	**26.02**	**280**	T		T	15 45 56.0	
	baz=102,slow=74,SNR=26							
ASAR	**Alice Springs**	**130.16**	**210**	PKP		**PKPdf**	**13 26 40.9**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=132,slow=1.6,SNR=5.9							
WRA	**Warramunga Arr**	**133.09**	**213**	PKP		**PKPdf**	**13 26 46.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=149,slow=1.9,SNR=11							
BVAR	**Borovoye Array**	**135.72**	**33**	PKP		**PKPdf**	**13 26 50.7**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=321,slow=1.8,SNR=2.9							
KURBB	**Kurchatov Arra**	**141.21**	**31**	PKhKP		PKPpre	13 26 57.0	
	comp=Z,0.4nm,0.5s,baz=302,slow=3.2,SNR=5.4							
ZALV	**Zalesovo Beam**	**141.52**	**23**	PKhKP		PKPpre	13 26 57.0	
	comp=Z,1.8nm,0.7s,baz=300,slow=3.1,SNR=7.1							
MAKZ	**Makanchi**	**145.43**	**34**	PKPdf		**PKPab**	**13 27 08.5**	**-0.1**
MKAR	**Makanchi Array**	**145.60**	**33**			**PKPab**	**13 27 09.5**	**+0.3**
MKAR	**Makanchi Array**	**145.60**	**33**	PKPbc		**PKPab**	**13 27 09.2**	**0.0**
	comp=Z,8.6nm,0.9s,baz=322,slow=3.4,SNR=43							
USRK	**Ussuriysk Ar.**	**149.48**	**327**	PKPbc		**PKPbc**	**13 27 20.1**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=39,slow=2.8,SNR=5.4							
SONM	**Songino Array**	**152.37**	**4**	PKP		**PKPdf**	**13 27 19.7**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=336,slow=3.3,SNR=3.9							

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*NNC **06** 13:15:12.0±0.5,50°.06N×78°.98E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=9.8km s-min=2.2km az=64.0, Suspected Mining explosion.*
*IDC **06** 13:15:13.0±1.0,50°.07N×78°.73E,h0km,mbtmp2.6/2, ML2.1/2,Error ellipse: s-maj=11.8km s-min=6.3km az=65.0*

ISC 06 13:15:13.1±1.1,50°.02N±0°.06×78°.7E±0°.1,h0km,n17, σ0s79/28,11C-10D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR07	**Kurchatov Arra**	**0.58**	**350**	⇑P		**Pg**	**13 15 23.5**	**-0.7**
KUR07				⇑S		**Sg**	**13 15 32.9**	**+1.2**
KUR06	**Kurchatov Arra**	**0.60**	**351**	⇓P		**Pg**	**13 15 23.6**	**-0.9**
KUR06				⇑S		**Sg**	**13 15 33.0**	**+0.7**
KUR14	**Kurchatov Arra**	**0.60**	**355**	⇓P		**Pg**	**13 15 23.8**	**-0.9**
KUR14				⇑S		**Sg**	**13 15 33.3**	**+0.9**
KUR15	**Kurchatov Arra**	**0.61**	**354**	⇑P		**Pg**	**13 15 24.0**	**-0.8**
KUR15				⇓S		**Sg**	**13 15 33.6**	**+1.0**
KURBB	**Kurchatov Arra**	**0.61**	**352**	⇑P		**Pg**	**13 15 24.2**	**-0.7**
KURBB				⇑S		**Sg**	**13 15 33.5**	**+0.6**
	82nm,0.7s							
KURBB	**Kurchatov Arra**	**0.61**	**352**	Pg		**Pg**	**13 15 24.0**	**-0.9**
	0.9nm,0.3s,baz=167,slow=19,SNR=27							
KURBB				Lg		Lg	13 15 32.3	
	1.8nm,0.3s,baz=168,slow=32,SNR=13							
KUR16	**Kurchatov Arra**	**0.62**	**350**	⇑P		**Pg**	**13 15 24.3**	**-0.7**
KUR16				⇓S		**Sg**	**13 15 33.9**	**+0.8**
KUR17	**Kurchatov Arra**	**0.63**	**348**	⇓P		**Pg**	**13 15 24.7**	**-0.5**
KUR17				⇓S		**Sg**	**13 15 34.1**	**+0.7**
KUR05	**Kurchatov Arra**	**0.63**	**352**	⇑P		**Pg**	**13 15 24.2**	**-1.0**
KUR05				⇑S		**Sg**	**13 15 33.6**	**+0.1**
KUR04	**Kurchatov Arra**	**0.65**	**353**	⇓P		**Pg**	**13 15 24.8**	**-0.8**
KUR04				⇑S		**Sg**	**13 15 34.2**	**+0.1**
KURK	**Kurchatov**	**0.70**	**357**	⇓P		**Pg**	**13 15 25.4**	**-1.2**
KURK				⇓S		**Sg**	**13 15 35.4**	**-0.3**
	8.6nm,0.6s							
MAKZ	**Makanchi**	**3.89**	**144**	Pg		**Pb**	**13 16 23.2**	**+0.6**
	4.9nm,1.2s							
MAKZ				Lg		Lg	13 17 13.1	
	8.5nm,1.1s							
MK31	**Makanchi Array**	**4.03**	**142**	Pg		**Pb**	**13 16 24.6**	**-0.3**
	1.5nm,0.6s,baz=322,slow=14,SNR=11							
MK31				⇓Lg		Lg	13 17 19.1	
	2.7nm,0.5s,baz=330,slow=26,SNR=18							
MKAR	**Makanchi Array**	**4.03**	**142**	Pn		**Pn**	**13 16 16.6**	**+0.6**
	0.1nm,0.3s,baz=332,slow=11,SNR=11							
MKAR				Pg		**Pb**	**13 16 23.7**	**-1.2**
	0.4nm,0.3s,baz=327,slow=16,SNR=9.4							
MKAR				Sn		**Sn**	**13 17 04.0**	**+0.2**
	0.5nm,0.3s,baz=332,slow=25,SNR=7.7							
MKAR				Lg		Lg	13 17 16.1	
	1.2nm,0.3s,baz=329,slow=30,SNR=15							
	0.2nm,0.3s							
I46RU	**ZALESOVO INFRA**	**5.47**	**42**	I		I	13 47 10.0	
	baz=224,slow=321,SNR=1.3							
ZALV	**Zalesovo Beam**	**5.47**	**42**	Pn		**Pn**	**13 16 36.4**	**+0.6**
	0.3nm,0.3s,baz=233,slow=14,SNR=3.2							
ZALV				Lg		Lg	13 18 04.3	
	0.2nm,0.3s,baz=223,slow=27,SNR=1.7							
	0.6nm,0.3s							
BVAR	**Borovoye Array**	**5.98**	**303**	Sn		**Sn**	**13 17 51.9**	**-0.1**
	0.1nm,0.3s,baz=113,slow=22,SNR=4.0							
BVAR				Lg		Lg	13 18 19.4	
	baz=112,slow=26,SNR=2.3							

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*NEIC **06** 13:24:07.0±0.9,36°.85N±0°.05×143°.7E±0°.1,h10km±1km, mb4.2/8,Error ellipse: s-maj=18.2km s-min=5.8km az=106.0*
*IDC **06** 13:24:07.2±1.1,36°.91N×143°.51E,h0km,mb3.8/8, mbtmp3.9/13,ML3.9/5,MS2.9/3,Error ellipse: s-maj=26.9km s-min=17.7km az=79.0*
*JMA **06** 13:24:11.7±0.2,37°.0N±0°.5

0.2nm,0.3s,baz=88,slow=12,SNR=9.4
2.8nm,0.8s

SONM	**Songino Array**	**29.07**	**304**	P		**P**	**13 30 08.6**	**-0.4**
SONM				IAmb		IAmb	13 30 14.7	
	comp=Z,3.3nm,1.1s							
SONM	**Songino Array**	**29.07**	**304**	P		**P**	**13 30 10.5**	**+1.5**
	comp=Z,2.5nm,0.8s,baz=94,slow=8.6,SNR=5.1							
	comp=Z,2.5nm,0.8s							
LUWI	**Luwuk**	**42.37**	**211**	P		**P**	**13 32 00.3**	**-2.5**
CMAR	**Chiang Mai Arr**	**42.96**	**257**	LR		LR	13 51 16.9	
	comp=Z,6.3nm,19.3s,baz=235,slow=38							
ZALV	**Zalesovo Beam**	**43.06**	**312**	P		**P**	**13 32 09.3**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=87,slow=8.9,SNR=1.8							
	comp=Z,0.5nm,0.5s							
MK31	**Makanchi Array**	**45.42**	**302**	P		**P**	**13 32 28.2**	**+1.1**
MK31				IAmb		IAmb	13 32 47.6	
	comp=Z,2.5nm,1.2s							
MKAR	**Makanchi Array**	**45.42**	**302**	P		**P**	**13 32 28.0**	**+1.0**
MKAR	**Makanchi Array**	**45.42**	**302**	P		**P**	**13 32 29.5**	**+2.5**
	comp=Z,0.7nm,0.6s,baz=89,slow=10,SNR=7.2							
	comp=Z,0.7nm,0.6s							
SUA	**Susitna One**	**46.98**	**37**	P		P	13 32 35.3	-3.8
KURBB	**Kurchatov Arra**	**47.22**	**308**	P		**P**	**13 32 43.1**	**+2.1**
	comp=Z,1.0nm,0.7s,baz=81,slow=7.7,SNR=8.9							
KURBB				LR		LR	13 54 50.0	
	comp=Z,31nm,18.0s,baz=168,slow=39							
	comp=Z,1.0nm,0.7s							
ILAR	**Eielson Array**	**48.71**	**32**	P		**P**	**13 32 52.5**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=273,slow=6.6,SNR=4.8							
	comp=Z,0.4nm,0.8s							
BVAR	**Borovoye Array**	**51.72**	**313**	P		**P**	**13 33 17.1**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=74,slow=11,SNR=1.7							
	comp=Z,0.5nm,0.5s							
LOGN	**Logan Glacier**	**51.73**	**37**	P		**P**	**13 33 13.3**	**-2.1**
LOGN				IAmb		IAmb	13 33 46.9	
	comp=Z,3.1nm,1.0s							
WB0	**Warramunga Arr**	**57.08**	**190**	P		**P**	**13 33 52.4**	**-2.2**
WB0				IAmb		IAmb	13 34 00.9	
	comp=Z,5.9nm,1.1s							
WRA	**Warramunga Arr**	**57.26**	**190**	P		**P**	**13 33 56.2**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=8.8,slow=7.3,SNR=13							
	comp=Z,1.9nm,0.7s							
FITZ	**Fitzroy Crossi**	**57.28**	**200**			**P**	**13 33 54.3**	**-1.6**
AB31	**Akbulak array**	**59.12**	**311**	P		**P**	**13 34 09.3**	**+0.8**
ABKAR	**Akbulak array**	**59.12**	**311**	P		**P**	**13 34 09.4**	**+0.8**
ASAR	**Alice Springs**	**60.99**	**190**	P		**P**	**13 34 22.2**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=10,slow=7.3,SNR=11							
	comp=Z,1.2nm,0.8s							

IDC 06 13:25:22.1±2.8, 8°83S×119°74E, h0km, mb3.2/2, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=244.2km s-min=30.1km az=51.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.92**	**130**	P		Pn	13 29 32.4	-0.6
	0.1nm,0.3s,baz=303,slow=14,SNR=4.7							
	0.5nm,0.6s							
ASAR	**Alice Springs**	**20.03**	**139**	P		P	13 29 57.4	+0.5
	0.6nm,0.7s,baz=314,slow=10.0,SNR=9.4							
	0.6nm,0.7s							
MKAR	**Makanchi Array**	**64.65**	**332**	P		P	13 36 01.5	-0.1
	0.2nm,0.5s,baz=143,slow=8.0,SNR=1.9							
	0.2nm,0.5s							

*CATAC **06** 13:28:20.4±0.1, 13°N±1°×8°9W±°, h34km, M5.1/60, mB5.4/7, mb5.1/6, MLv5.2/60, Mw(mB)4.9/7, MwMwp4.4/1, Mwp4.8/1, Error ellipse: s-maj=3.7km s-min=1.2km az=36.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.27; $M_{\theta\theta}$-2.02; $M_{\phi\phi}$-0.25; $M_{r\theta}$0.41; $M_{\theta\phi}$0.99; $M_{\phi r}$-0.60; Fault plane solution: $M_0$2.47667×10^{16} NP1: ϕ_s123.54338°, δ53.07964°, λ101.77595°. NP2: ϕ_s284.40418°, δ38.49662°, λ74.80422°. Principal axes: T 2.4080, Plg78.0077°, Azm77.5334°; N 0.1321, Plg9.3904°, Azm296.4054°; P -2.5401, Plg7.3917°, Azm205.1760°; confirmed*

*NEIC **06** 13:28:21.9±1.9, 12°.97N±0°.05×88°.73W±0°.02, h58km±6km, mb4.8/180, Mwr4.9/22 Error ellipse: s-maj=8.1km s-min=2.0km az=170.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.67; $M_{\theta\theta}$-1.05; $M_{\phi\phi}$0.38; $M_{r\theta}$1.93; $M_{\theta\phi}$-0.73; $M_{\phi r}$-1.60; Fault plane solution: $M_0$2.77000×10^{16} NP1:ϕ_s221.22000°, δ23.33000°, λ13.76000°. NP2:ϕ_s118.55000°, δ84.60000°, λ112.73000°. Principal axes: T 3.0567, Plg46.0000°, Azm52.0000°; N -0.7245, Plg23.0000°, Azm296.0000°; P -2.3322, Plg36.0000°, Azm189.0000°;*

*GCG **06** 13:28:21.8±1.2, 12°.95N×88°.99W, h57km±24km, MD4.9, ML4.8*

*SNET **06** 13:28:21.7±3.4, 12°.96N×88°.78W, h32km, ML5.0*

*GCMT **06** 13:28:21.5±0.3, 12°.65N±0°.02×88°.98W±0°.02, h48km, MW4.9/77, Moment Tensor Solution. s77,c96; s75,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.01±.12; $M_{\theta\theta}$-2.63±.08; $M_{\phi\phi}$-0.38±.09; $M_{r\theta}$0.33±.07; $M_{\theta\phi}$1.38±.07; $M_{\phi r}$-0.41±.07; Best double couple: $M_0$3.19400×10^{16} NP1:ϕ_s291.00000°, δ41.00000°, λ83.00000°. NP2: ϕ_s120.00000°, δ49.00000°, λ96.00000°. Principal axes: T 3.0650, Plg84.0000°, Azm73.0000°; N 0.2510, Plg5.0000°, Azm296.0000°; P -3.3220, Plg4.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **06** 13:28:22.3±1.6, 13°.09N×88°.55W, h69km±13km, mb4.0/17, mbtmp4.3/21, MS4.0/39 Error ellipse: s-maj=19.7km s-min=7.9km az=55.0*

*NEIC **06** 13:28:22.3, 12°.95N×88°.78W, h60km*

*UCR **06** 13:28:24.7±1.2, 12°.76N×88°.49W, h8km±123km, MW5.0, MB4.9(NEIC)*

*RSNC **06** 13:28:28.9±1.3, 13°N±10°×8°8W±1°6, h55km±11km, M4.3, mb4.9, mB5.1, ML4.2, Mw(mB)4.4, MwMwp5.0, Mwp5.3*

ISC 06 13:28:21.1±0.6, 12°.91N±0°.04×88°.85W±0°.03, h61km±5km, n568, σ1°10/509, mb4.8/84, 1C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UESV	**Universidad de**	**0.73**	**5**	P		**Pn**	**13 28 35.2**	**-0.7**
UESV	**Universidad de**	**0.73**	**5**	S		**Sn**	**13 28 46.6**	**0.0**
LFRS	**El Faro**	**0.74**	**344**	*eP*		**Pn**	**13 28 34.8**	**-1.3**
LCY	**Lacayo**	**0.75**	**46**	*eP*		**Pn**	**13 28 35.7**	**-0.4**
PACA	**Pacayal**	**0.76**	**42**	*eP*		**Pn**	**13 28 36.3**	**0.0**
PACA				*eS*		**Sn**	**13 28 48.6**	**+1.2**
PACA	**Pacayal**	**0.76**	**42**	P		**Pn**	**13 28 36.1**	**-0.1**
PQSS	**Presa 15 de Se**	**0.77**	**22**	P		**Pn**	**13 28 36.2**	**0.0**
PQSS	**Presa 15 de Se**	**0.77**	**22**	S		**Sn**	**13 28 48.5**	**+1.2**
PANCS	**Alcalda de**	**0.77**	**335**	*eP*		**Pn**	**13 28 34.9**	**-1.5**
PANCS	**Alcalda de**	**0.77**	**335**	P		**Pn**	**13 28 35.0**	**-1.4**
PANCS	**Alcalda de**	**0.77**	**335**	S		**Sn**	**13 28 45.2**	**-2.3**
LOMA	**Loma Larga**	**0.80**	**337**	*eP*		**Pn**	**13 28 35.6**	**-1.2**
LOMA	**Loma Larga**	**0.80**	**337**	P		**Pn**	**13 28 35.6**	**-1.2**
LOMA	**Loma Larga**	**0.80**	**337**	S		**Sn**	**13 28 47.1**	**-1.2**
BLLM	**Bellamira**	**0.80**	**48**	*iP*		**Pn**	**13 28 36.4**	**-0.3**
PAVA	**Las Pavas**	**0.81**	**354**	*eP*		**Pn**	**13 28 36.1**	**-0.8**
PAVA				*eS*		**Sn**	**13 28 48.6**	**+0.2**
PAVA	**Las Pavas**	**0.81**	**354**	P		**Pn**	**13 28 36.1**	**-0.8**
LBRS	**Las Brisas**	**0.85**	**347**	*eP*		**Pn**	**13 28 36.6**	**-0.7**
UDBS	**Universidad Do**	**0.86**	**340**	P		**Pn**	**13 28 36.8**	**-0.7**
UDBS	**Universidad Do**	**0.86**	**340**	S		**Sn**	**13 28 48.9**	**-0.6**
UTEC	**Universidad Te**	**0.86**	**337**	P		**Pn**	**13 28 36.7**	**-0.8**
UTEC	**Universidad Te**	**0.86**	**337**	S		**Sn**	**13 28 48.9**	**-0.6**
IGN	**Direccin Gen**	**0.86**	**339**	*eS*		**Sn**	**13 28 48.9**	**-0.6**
IGN	**Direccin Gen**	**0.86**	**339**	P		**Pn**	**13 28 36.6**	**-0.9**
IGN	**Direccin Gen**	**0.86**	**339**	S		**Sn**	**13 28 49.0**	**-0.6**
CNRM	**Centro Naciona**	**0.87**	**49**	*eP*		**Pn**	**13 28 37.5**	**0.0**
CNRM				*eS*		**Sn**	**13 28 51.1**	**+1.4**
CNRM	**Centro Naciona**	**0.87**	**49**	P		**Pn**	**13 28 37.5**	**0.0**
CNRM	**Centro Naciona**	**0.87**	**49**	S		**Sn**	**13 28 50.9**	**+1.3**
UEES	**Universidad Ev**	**0.89**	**335**	P		**Pn**	**13 28 36.9**	**-1.0**
UEES	**Universidad Ev**	**0.89**	**335**	S		**Sn**	**13 28 50.0**	**-0.2**
PMON	**Piamonte**	**0.92**	**331**	*eP*		**Pn**	**13 28 37.3**	**-1.0**
PMON	**Piamonte**	**0.92**	**331**	P		**Pn**	**13 28 37.2**	**-1.0**
PMON	**Piamonte**	**0.92**	**331**	S		**Sn**	**13 28 50.1**	**-0.9**
BOQS	**Boqueron**	**0.92**	**333**	*iP*		**Pn**	**13 28 37.6**	**-0.8**
JAYA	**Jayaque - finc**	**0.94**	**322**	*i* P		**Pn**	**13 28 37.3**	**-1.4**
JAYA				*i* S		**Sn**	**13 28 50.3**	**-1.3**
JAYA	**Jayaque - finc**	**0.94**	**322**	P		**Pn**	**13 28 37.4**	**-1.3**
LCND	**La Caada**	**1.02**	**67**	*eP*		**Pn**	**13 28 39.2**	**-0.3**
LCND	**La Caada**	**1.02**	**67**	P		**Pn**	**13 28 39.1**	**-0.3**
LCND	**La Caada**	**1.02**	**67**	S		**Sn**	**13 28 53.8**	**+0.9**
CEDA	**San Andres**	**1.04**	**329**	*eP*		**Pn**	**13 28 38.7**	**-1.0**
CEDA				*eS*		**Sn**	**13 28 53.5**	**0.0**
CEDA	**San Andres**	**1.04**	**329**	P		**Pn**	**13 28 38.8**	**-1.0**
CNCH	**Conchagua**	**1.06**	**70**	*eP*		**Pn**	**13 28 39.7**	**-0.4**
CNCH				*eP*			13 28 40.7	
CNCH				*eS*		**Sn**	**13 28 57.2**	**+3.1**
CNCH	**Conchagua**	**1.06**	**70**	P		**Pn**	**13 28 39.5**	**-0.6**
CNCH	**Conchagua**	**1.06**	**70**	S		**Sn**	**13 28 53.8**	**-0.3**
CAHU	**Cacacuatique**	**1.06**	**36**	*eP*		**Pn**	**13 28 40.8**	**+0.6**
CEVE	**Cerro Verde**	**1.19**	**321**	*eP*		**Pn**	**13 28 41.2**	**-0.7**
CEVE				*eS*		**Sn**	**13 28 57.8**	**+0.5**
CEVE	**Cerro Verde**	**1.19**	**321**	P		**Pn**	**13 28 41.2**	**-0.7**
CEVE	**Cerro Verde**	**1.19**	**321**	S		**Sn**	**13 28 55.9**	**-1.5**
LLGN	**La Laguna**	**1.25**	**356**	*eP*		**Pn**	**13 28 42.9**	**+0.2**
LLGN	**La Laguna**	**1.25**	**356**	P		**Pn**	**13 28 42.9**	**+0.2**
CSGN	**Cosiguina Volc**	**1.26**	**87**	P		**Pn**	**13 28 41.9**	**-0.8**
CSGN				S		**Sn**	**13 28 58.1**	**-0.8**
UNIC	**Universidad Ca**	**1.27**	**328**	P		**Pn**	**13 28 42.6**	**-0.2**
UNIC	**Universidad Ca**	**1.27**	**328**	S		**Sn**	**13 28 59.2**	**+0.2**
POTN	**Potosi Cosigui**	**1.31**	**86**	P		**Pn**	**13 28 42.6**	**-0.8**
POTN				S		**Sn**	**13 29 00.3**	**+0.3**
NUBE	**Las Nubes**	**1.34**	**318**	*eS*		**Sn**	**13 29 01.1**	**+0.2**
NUBE	**Las Nubes**	**1.34**	**318**	*i* P		**Pn**	**13 28 42.8**	**-1.0**
NUBE				*i* S		**Sn**	**13 28 59.6**	**-1.3**
NUBE	**Las Nubes**	**1.34**	**318**	P		**Pn**	**13 28 42.9**	**-1.0**
LOAL	**Lomas de Alarc**	**1.41**	**320**	*eS*		**Sn**	**13 29 03.5**	**+1.1**
LOAL	**Lomas de Alarc**	**1.41**	**320**	P		**Pn**	**13 28 44.3**	**-0.4**
LOAL	**Lomas de Alarc**	**1.41**	**320**	S		**Sn**	**13 29 02.7**	**+0.3**
MARCA	**Marcala la Paz**	**1.48**	**32**	*i* P		**Pn**	**13 28 46.4**	**+0.8**
MARCA	**Marcala la Paz**	**1.48**	**32**	P		**Pn**	**13 28 46.4**	**+0.8**
MTO3	**Montecristo**	**1.56**	**342**			**Pn**	**13 28 46.9**	**0.0**
MTO3	**Montecristo**	**1.56**	**342**	*eP*		**Pn**	**13 28 46.9**	**0.0**
MTO3	**Montecristo**	**1.56**	**342**	*i* P		**Pn**	**13 28 46.9**	**0.0**
MTO3	**Montecristo**	**1.56**	**342**	P		**Pn**	**13 28 46.7**	**-0.2**
ESQI	**Esquipulas**	**1.71**	**344**			**Pn**	**13 28 49.4**	**+0.6**
ESQI	**Esquipulas**	**1.71**	**344**	*eP*		**Pn**	**13 28 49.4**	**+0.6**
ESQI	**Esquipulas**	**1.71**	**344**	P		**Pn**	**13 28 49.2**	**+0.4**
ESQI	**Esquipulas**	**1.71**	**344**	S		**Sn**	**13 29 09.8**	**+0.1**
CHOHN	**Orocuina**	**1.74**	**71**	P		**Pn**	**13 28 49.2**	**0.0**
CRIN	**San Cristobal**	**1.77**	**96**			**Pn**	**13 28 49.4**	**-0.1**
CRIN	**San Cristobal**	**1.77**	**96**	P		**Pn**	**13 28 49.4**	**-0.1**
CRIN	**San Cristobal**	**1.77**	**96**	S		**Sn**	**13 29 11.0**	**-0.1**
CRIN	**San Cristobal**	**1.77**	**96**	P		**Pn**	**13 28 49.5**	**0.0**
PKGN	**Cerro Pekin**	**1.84**	**97**	P		**Pn**	**13 28 49.9**	**-0.6**
PKGN				S		**Sn**	**13 29 12.7**	**0.0**
SARH	**Santa Rosa de**	**1.86**	**3**	*i* P		**Pn**	**13 28 52.0**	**+1.2**
SARH				*i* S		**Sn**	**13 29 12.7**	**-0.6**
SARH	**Santa Rosa de**	**1.86**	**3**	P		**Pn**	**13 28 51.9**	**+1.2**
TGUH	**Tegucigalpa,Un**	**1.91**	**53**			**Pn**	**13 28 52.4**	**+0.8**
TGUH	**Tegucigalpa,Un**	**1.91**	**53**	P		**Pn**	**13 28 52.3**	**+0.8**
HERN	**Volcan Telica**	**1.99**	**98**			**Pn**	**13 28 51.7**	**-0.9**
PACN	**Al O del Volca**	**2.05**	**101**	P		**Pn**	**13 28 52.8**	**-0.5**
PACN				S		**Sn**	**13 29 17.7**	**-0.1**
PLRN	**Geotermica Pol**	**2.06**	**99**	P		**Pn**	**13 28 52.6**	**-0.8**
PLRN				S		**Sn**	**13 29 16.8**	**-1.1**
FG16	**Alotenango, Sa**	**2.11**	**310**	*i* P		**Pn**	**13 28 58.5**	**+4.2**
FG16				IAML			13 29 36.7	
	comp=N,18µm,0.2s							
ILCN	**San Idelfonso**	**2.12**	**99**	P		**Pn**	**13 28 53.7**	**-0.6**
ILCN				S		**Sn**	**13 29 19.9**	**+0.3**
CNGA	**Al SSO del Vol**	**2.14**	**101**	P		**Pn**	**13 28 53.7**	**-0.8**
CNGA				S		**Sn**	**13 29 19.2**	**-0.7**
CNGN	**Cerro Negro**	**2.14**	**101**			**Pn**	**13 28 53.4**	**-1.1**
CNGN	**Cerro Negro**	**2.14**	**101**	P		**Pn**	**13 28 53.8**	**-0.7**
CNGN	**Cerro Negro**	**2.14**	**101**	S		**Sn**	**13 29 18.6**	**-1.4**
FG8	**Yepocapa, Chim**	**2.14**	**309**	*eP*		**Pn**	**13 28 59.1**	**+4.5**
YUSH	**Yuscaran**	**2.21**	**62**	P		**Pn**	**13 28 56.2**	**+0.6**
MOM3	**MOM3**	**2.31**	**100**	P		**Pn**	**13 28 56.3**	**-0.5**
MOM3				S		**Sn**	**13 29 24.3**	**+0.2**
COPN	**Copaltepe**	**2.32**	**108**	P		**Pn**	**13 28 55.9**	**-1.0**
MOM2	**El Cardon**	**2.35**	**101**	P		**Pn**	**13 28 56.8**	**-0.7**
MOM2				S		**Sn**	**13 29 24.8**	**-0.4**
OCON	**Estacion meteo**	**2.42**	**72**	P		**Pn**	**13 28 58.7**	**+0.3**
OCON				S		**Sn**	**13 29 27.6**	**+0.7**
ESSG	**Sabana Grande**	**2.42**	**308**	*i* P		**Pn**	**13 28 57.4**	**-1.0**
ESSG				*i* S		**Sn**	**13 29 24.4**	**-2.6**
ESSG				IAML			13 29 35.4	
	comp=E,3µm,0.4s							
SAPS	**Ciudad Sandino**	**2.50**	**107**	P		**Pn**	**13 28 58.9**	**-0.5**
SAPS	**Ciudad Sandino**	**2.50**	**107**	S		**Sn**	**13 29 27.7**	**-1.0**
APQ2	**Apoyeque**	**2.56**	**106**	P		**Pn**	**13 29 00.6**	**+0.4**
APQ2				S		**Sn**	**13 29 29.9**	**-0.5**
ABCN	**Banco Central**	**2.60**	**107**	S		**Sn**	**13 29 30.8**	**-0.5**
TISN	**Laguna Tiscapa**	**2.63**	**106**	P		**Pn**	**13 29 01.5**	**+0.3**
USIM	**UNAN**	**2.63**	**107**			**Pn**	**13 29 00.7**	**-0.6**
UNAN	**Cigeo UNAN**	**2.64**	**107**	P		**Pn**	**13 29 00.5**	**-0.9**
UNAN				S		**Sn**	**13 29 31.0**	**-1.2**
R4DEC	**Barrio San Lui**	**2.65**	**106**	S		**Sn**	**13 29 31.2**	**-1.3**
R4DEC	**Barrio San Lui**	**2.65**	**106**	P		**Pn**	**13 29 01.9**	**+0.4**
MGAN	**Managua**	**2.65**	**106**	Pn		**Pn**	**13 29 00.9**	**-0.6**
MGAN	**Managua**	**2.65**	**106**	P		**Pn**	**13 29 02.4**	**+0.9**
MGAN	**Managua**	**2.65**	**106**	S		**Sn**	**13 29 31.3**	**-1.2**
MGAN	**Managua**	**2.65**	**106**	P		**Pn**	**13 29 01.1**	**-0.4**
CRUN	**El Crucero**	**2.65**	**110**	P		**Pn**	**13 29 02.6**	**+1.0**
RCVN	**Varillal2**	**2.67**	**75**	P		**Pn**	**13 29 02.0**	**+0.1**
WILN	**Americas 2**	**2.70**	**106**	P		**Pn**	**13 29 02.4**	**+0.2**
WILN				S		**Sn**	**13 29 33.0**	**-0.8**
RCPN	**Sur Rio San Ju**	**2.75**	**77**	P		**Pn**	**13 29 03.5**	**+0.5**
MAS3	**Al N del Volca**	**2.75**	**108**	P		**Pn**	**13 29 02.6**	**-0.4**
MAS3				S		**Sn**	**13 29 32.5**	**-2.6**
MASN	**Masaya**	**2.79**	**109**	P		**Pn**	**13 29 05.3**	**+1.9**
MASN				S		**Sn**	**13 29 34.3**	**-1.7**
SABN	**Sabanita**	**2.79**	**109**	P		**Pn**	**13 29 02.8**	**-0.6**
NANN	**Nandasmo**	**2.83**	**110**	P		**Pn**	**13 29 05.0**	**+1.0**
NANN	**Nandasmo**	**2.83**	**110**	S		**Sn**	**13 29 36.4**	**-0.7**
MATN	**Matagalpa**	**2.85**	**89**	S		**Sn**	**13 29 36.2**	**-1.4**
MATN	**Matagalpa**	**2.85**	**89**	P		**Pn**	**13 29 02.7**	**-1.6**
NADN	**Granada**	**2.98**	**112**	P		**Pn**	**13 29 06.0**	**-0.1**
NADN				S		**Sn**	**13 29 36.8**	**-3.9**
BOAB	**BOACO BROADBAN**	**3.14**	**98**	P		**Pn**	**13 29 07.3**	**-0.9**
BOAB	**BOACO BROADBAN**	**3.14**	**98**	S		**Sn**	**13 29 44.2**	**-0.2**
RTAL	**Retalhuleu**	**3.20**	**301**	P		**Pn**	**13 29 10.8**	**+1.8**
JAPN	**Al SSO del Vol**	**3.39**	**114**	P		**Pn**	**13 29 12.1**	**+0.5**
MOMB	**Al O del Volca**	**3.41**	**113**	P		**Pn**	**13 29 12.7**	**+0.8**
MORN				S		**Sn**	**13 29 49.2**	**-1.9**
CONN	**Concepcion**	**3.42**	**113**	P		**Pn**	**13 29 12.3**	**+0.2**
CONN				S		**Sn**	**13 29 50.1**	**-1.4**
CARN	**Rivas**	**3.68**	**117**	P		**Pn**	**13 29 15.7**	**+0.1**
CARN				S		**Sn**	**13 29 54.6**	**-3.1**
ACON	**Acoyapa**	**3.71**	**104**			**Pn**	**13 29 14.2**	**-1.8**
ACON	**Acoyapa**	**3.71**	**104**	*eP*		**Pn**	**13 29 15.7**	**-0.3**
ACON	**Acoyapa**	**3.71**	**104**	S		**Sn**	**13 29 56.8**	**-1.6**
ACON	**Acoyapa**	**3.71**	**104**	P		**Pn**	**13 29 15.4**	**-0.5**
ACON	**Acoyapa**	**3.71**	**104**	P		**Pn**	**13 29 15.2**	**-0.8**
PETF	**Flores**	**4.11**	**346**			**Pn**	**13 29 21.6**	**+0.2**
PETF	**Flores**	**4.11**	**346**	P		**Pn**	**13 29 23.5**	**+2.1**
MESS	**Mesas**	**4.18**	**121**	*eP*		**Pn**	**13 29 22.7**	**+0.3**
HORNC	**Hornillas**	**4.20**	**121**	*eP*		**Pn**	**13 29 23.4**	**+0.5**
COLC	**Colonia**	**4.21**	**122**	*eP*		**Pn**	**13 29 24.1**	**+1.2**
VMAR	**Armenia, Volca**	**4.21**	**119**	*eP*		**Pn**	**13 29 23.0**	**+0.1**
TIMP	**Tierras Morena**	**4.41**	**121**	*eP*		**Pn**	**13 29 26.3**	**+0.7**
CMARA	**Lajas Hojancha**	**4.42**	**130**	P		**Pn**	**13 29 26.5**	**+0.7**
CMARA	**Lajas Hojancha**	**4.42**	**130**	S		**Sn**	**13 30 12.6**	**-1.4**
INDI	**Punta indio, G**	**4.46**	**132**	P		**Pn**	**13 29 26.7**	**+0.4**
INDI	**Punta indio, G**	**4.46**	**132**	S		Sn	13 30 12.8	-4.1
ESPN	**Las Esperanzas**	**4.50**	**99**			**Pn**	**13 29 24.9**	**-1.8**
ESPN	**Las Esperanzas**	**4.50**	**99**	P		**Pn**	**13 29 27.0**	**+0.2**
JTS	**Las Juntas de**	**4.62**	**124**			**Pn**	**13 29 28.9**	**+0.4**
JTS	**Las Juntas de**	**4.62**	**124**	P		**Pn**	**13 29 29.5**	**+1.1**
	comp=E,35nm,0.3s,baz=300,slow=22,SNR=25							
JTS				S		**Sn**	**13 30 18.8**	**-2.1**
	comp=E,119nm,0.3s,baz=164,slow=18,SNR=4.7							
JTS	**Las Juntas de**	**4.62**	**124**	P		**Pn**	**13 29 29.6**	**+1.1**
JTS				S		**Sn**	**13 30 20.0**	**-0.8**
CCIG	**Comitan**	**4.62**	**317**			**Pn**	**13 29 30.3**	**+1.6**
CCIG	**Comitan**	**4.62**	**317**	*i* P		**Pn**	**13 29 30.0**	**+1.3**
CCIG				IAML			13 31 18.9	
	comp=N,293nm,1.0s							
CCIG	**Comitan**	**4.62**	**317**	P		**Pn**	**13 29 29.8**	**+1.2**
ARE1	**Arenal 1**	**4.72**	**121**	*eP*		**Pn**	**13 29 31.4**	**+1.6**
VARE2	**V. Arenal**	**4.72**	**121**	*eP*		**Pn**	**13 29 31.5**	**+1.6**
SOCE	**Pocosol**	**4.84**	**121**			**Pn**	**13 29 32.0**	**+0.4**
CBL1	**Cabuya**	**4.95**	**131**	*eP*		**Pn**	**13 29 33.9**	**+1.0**
VPS8	**V Poas**	**5.27**	**121**	*eP*		**Pn**	**13 29 41.1**	**+3.5**
BILN	**Bilwi Airport**	**5.45**	**77**			**Pn**	**13 29 37.9**	**-1.9**
BILN	**Bilwi Airport**	**5.45**	**77**	*eP*		**Pn**	**13 29 42.0**	**+2.3**
BILN	**Bilwi Airport**	**5.45**	**77**	P		**Pn**	**13 29 40.7**	**+0.9**
HDC	**Heredia**	**5.47**	**121**			**Pn**	**13 29 39.9**	**-0.3**
ACOS	**Acosta**	**5.54**	**123**	*eP*		**Pn**	**13 29 43.9**	**+2.7**
ACOS				*eS*		**Sn**	**13 30 43.7**	**+0.1**
PAR1A	**Puntarenas Pro**	**5.58**	**126**	*eP*		**Pn**	**13 29 44.3**	**+2.7**
PAR1A				*eS*		**Sn**	**13 30 43.8**	**-0.6**
PICV	**PH. Pirrs**	**5.61**	**125**	*eP*		**Pn**	**13 29 44.4**	**+2.3**
LCR2	**La Lucha 2**	**5.70**	**123**			**Pn**	**13 29 42.4**	**-1.1**
LCR2	**La Lucha 2**	**5.70**	**123**	S		**Sn**	**13 30 45.5**	**-2.2**
LCR2	**La Lucha 2**	**5.70**	**123**	P		**Pn**	**13 29 45.6**	**+2.2**
CVTR	**Volcan Turrial**	**5.75**	**119**	*eP*		**Pn**	**13 29 47.1**	**+2.7**
REPA	**Paraso**	**5.76**	**122**	*eP*		**Pn**	**13 29 47.4**	**+3.1**
BUS1	**Rivas**	**6.01**	**123**	*eP*		**Pn**	**13 29 49.9**	**+2.0**
OCHAL	**Ojochal**	**6.36**	**126**	P		**Pn**	**13 29 54.6**	**+2.3**
OCHAL	**Ojochal**	**6.36**	**126**	S		**Sn**	**13 31 00.6**	**-3.0**
SCIG	**Sabancuy**	**6.43**	**340**	P		**Pn**	**13 29 54.6**	**+1.4**
DRK0	**Durika**	**6.58**	**123**	P		**Pn**	**13 29 56.9**	**+1.3**
DRK0	**Durika**	**6.58**	**123**	S		**Sn**	**13 31 06.9**	**-2.5**
CEUA	**Cerro Uatsi, L**	**6.65**	**119**	*eP*		**Pn**	**13 29 59.8**	**+3.4**
PTJ1	**Puerto Jimnez**	**6.97**	**128**	S		**Sn**	**13 31 16.5**	**-2.0**
CMIG	**Matias Romero**	**7.16**	**306**	P		**Pn**	**13 30 05.2**	**+2.0**
	comp=N,9.5nm,0.4s,baz=145,slow=13,SNR=30							
CMIG				S		**Sn**	**13 31 27.4**	**+4.2**
	comp=N,26nm,0.7s,baz=124,slow=18,SNR=1.2							
TEIG	**Tepich**	**7.30**	**4**			**Pn**	**13 30 04.7**	**-0.5**
TEIG	**Tepich**	**7.30**	**4**	P		**Pn**	**13 30 05.0**	**-0.1**
	comp=N,0.1nm,0.4s,baz=132,slow=24,SNR=18							
TEIG				S		**Sn**	**13 31 22.6**	**-4.0**
	comp=N,0.1nm,0.5s,baz=131,slow=24,SNR=1.8							
TEIG	**

PV20	West Nyswonger	31.01	328	IAmb	IAmb	13 34 37.4	
	comp=Z,15nm,0.9s						
PV04	Paradox Valley	31.02	328	IAmb	IAmb	13 34 48.0	
	comp=Z,13nm,0.8s						
PV10	Paradox Valley	31.07	328	IAmb	IAmb	13 34 48.4	
	comp=Z,16nm,0.8s						
PV23	Carpenter Ridg	31.12	328	IAmb	IAmb	13 34 38.9	
	comp=Z,19nm,0.7s						
ESJX	Sierra Juarez	31.29	312	P	P	13 34 38.2	+2.4
HMU	Henry Mountain	31.65	326	IAmb	IAmb	13 34 54.2	
	comp=Z,30nm,1.9s						
O20A	White River Ci	32.05	331	IAmb	IAmb	13 34 46.4	
	comp=Z,24nm,1.0s						
SPMN	Marine on St.	32.38	355		P	13 34 45.0	0.0
PFO	Pinyon Flats O	32.51	314	LR	LR	13 49 30.8	
	comp=Z,232nm,18.8s,baz=122,slow=39						
P17A	Butcher Ranch,	32.77	328	IAmb	IAmb	13 35 03.8	
	comp=Z,12nm,0.8s						
SADO	Sadowa	32.82	13	IAmb	IAmb	13 34 49.6	
	comp=Z,12nm,0.6s						
SADO	Sadowa	32.82	13	LR	LR	13 47 48.2	
	comp=Z,3µm,21.6s,baz=182,slow=36						
K22A	Casper	33.36	336	IAmb	IAmb	13 34 57.1	
	comp=Z,10nm,0.9s						
BUKO	Buck Lake	33.41	12	IAmb	IAmb	13 34 54.9	
	comp=Z,14nm,0.6s						
RSSD	Black Hills	33.73	340		P	13 34 58.1	+1.1
RSSD				IAmb	IAmb	13 35 12.6	
	comp=Z,11nm,0.7s						
RSSD	Black Hills	33.73	340	P	P	13 34 59.0	+2.0
RSSD				sP	sP	13 35 18.3	-0.9
PD31	Pinedale Array	34.73	333	P	P	13 35 06.8	+1.1
PDAR	Pinedale Array	34.73	333	P	P	13 35 06.4	+0.7
PDAR	Pinedale Array	34.73	333	P	P	13 35 06.2	+0.5
	comp=Z,1.6nm,0.7s,baz=130,slow=11,SNR=20						
PDAR				PcP	PcP	13 37 38.4	0.0
	comp=Z,2.2nm,0.6s,baz=145,slow=5.2,SNR=12 comp=Z,1.6nm,0.7s						
HWUT	Hardware Ranch	34.78	329	IAmb	IAmb	13 35 20.6	
	comp=Z,16nm,1.2s						
AHID	Auburn Hatcher	35.44	331	IAmb	IAmb	13 35 27.5	
	comp=Z,11nm,0.9s						
LPAZ	La Paz	35.51	144		P	13 35 14.0	+0.9
LPAZ	La Paz	35.51	144	P	P	13 35 14.0	+0.9
	comp=Z,3.3nm,0.7s,baz=342,slow=7.8,SNR=11						
LPAZ				LR	LR	13 50 07.9	
	comp=Z,293nm,20.5s,baz=306,slow=37 comp=Z,3.3nm,0.7s						
LPAZ	La Paz	35.51	144	P	P	13 35 14.2	+1.1
LOHW	Long Hollow	35.87	333	IAmb	IAmb	13 35 30.1	
	comp=Z,18nm,1.1s						
TPAW	Teton Pass	35.93	332	IAmb	IAmb	13 35 31.5	
	comp=Z,20nm,1.2s						
RLMT	Red Lodge	36.52	335	IAmb	IAmb	13 35 24.6	
	comp=Z,9.7nm,0.8s						
MDP	Montagnes des	36.55	99	LR	LR	13 51 46.0	
	comp=Z,196nm,20.4s,baz=280,slow=39						
YMP	Mirror Lake Pl	36.57	334	IAmb	IAmb	13 35 46.9	
	comp=Z,17nm,1.0s						
YNE	Yellowstone No	36.73	335	IAmb	IAmb	13 35 37.4	
	comp=Z,12nm,0.9s						
YHL	Hebgen Lake	37.10	333	IAmb	IAmb	13 35 41.5	
	comp=Z,8.6nm,0.9s						
ULM	Lac du Bonnet	37.68	353	P	P	13 35 29.3	-1.1
	comp=Z,10nm,0.9s,baz=171,slow=8.8,SNR=8.0 comp=Z,10nm,0.9s						
PATCX	Punta Patache	38.22	151	P	P	13 35 35.0	-0.5
VILB	Vilhena	38.30	131		P	13 35 36.1	0.0
PLID	Pearl Lake	39.53	329	IAmb	IAmb	13 36 02.9	
	comp=Z,26nm,1.9s						
J08A	Circle Bar Ran	39.64	326	IAmb	IAmb	13 35 55.1	
	comp=Z,28nm,2.0s						
SIV	San Ignacio	39.74	135	P	P	13 35 47.6	-0.6
	comp=Z,11nm,0.8s,baz=304,slow=9.3,SNR=48						
SIV				PcP	PcP	13 37 53.7	0.0
	comp=Z,7.5nm,0.7s,baz=303,slow=4.4,SNR=4.6						
SIV				LR	LR	13 51 34.5	
	comp=Z,326nm,20.9s,baz=309,slow=35 comp=Z,11nm,0.8s						
PTLB	Pontes e Lacer	40.72	133	P	P	13 35 56.6	+0.3
PTLB				IAmb	IAmb	13 35 57.5	
	comp=Z,42nm,1.9s						
FFC	Flin Flon	42.98	349		P	13 36 14.9	+0.8
FFC				IAmb	IAmb	13 36 15.3	
	comp=Z,40nm,1.7s						
FFC	Flin Flon	42.98	349	P	P	13 36 15.1	+0.9
RPN	Rapa Nui	44.49	206	LR	LR	13 50 15.7	
	comp=Z,241nm,21.7s,baz=48,slow=29						
SCHQ	Schefferville	45.25	18	P	P	13 36 31.2	-1.2
	comp=Z,88nm,0.7s,baz=201,slow=6.4,SNR=7.5						
SCHQ				PcP	PcP	13 38 11.0	-0.4
	comp=Z,43nm,0.6s,baz=256,slow=4.3,SNR=4.6						
SCHQ				LR	LR	13 55 58.1	
	comp=Z,2µm,18.8s,baz=188,slow=37						
AQDB	Aquidauana	46.51	135		P	13 36 43.2	+0.5
H03N2	Juan Fernandez	47.05	169	T	T	14 26 54.4	
	baz=347,slow=76,SNR=31						
H03N1	Juan Fernandez	47.05	169	T	T	14 26 53.0	
	baz=347,slow=76,SNR=52						
H03N3	Juan Fernandez	47.06	169	T	T	14 26 54.7	
	baz=347,slow=76,SNR=35						
CO02	Combarbal	47.09	159		P	13 36 47.8	+0.6
CO02				IAmb	IAmb	13 37 01.7	
	comp=Z,13nm,0.8s						
BDFB	Brasilia	49.36	124	P	P	13 37 04.7	-0.3
	comp=Z,11nm,0.8s,baz=328,slow=9.2,SNR=8.7						
BDFB				LR	LR	13 59 27.8	
	comp=Z,98nm,18.3s,baz=296,slow=38 comp=Z,11nm,0.8s						
MT08	Bocatoma Ro	49.47	159	IAmb	IAmb	13 37 20.6	
	comp=Z,14nm,1.1s						
CPUP	Villa Florida	49.61	142	P	P	13 37 05.7	-0.9
	comp=Z,1.1nm,0.6s,baz=185,slow=6.8,SNR=6.7						
CPUP				LR	LR	13 59 19.6	
	comp=Z,40nm,19.2s,baz=194,slow=38 comp=Z,1.1nm,0.6s						
LMEL	Las Melosas	49.77	160	IAmb	IAmb	13 37 22.3	
	comp=Z,9.3nm,1.1s						
BLKN	Baker Lake	51.59	356		P	13 37 20.9	-0.1
FRB	Frobisher Bay	52.74	11	LR	LR	13 59 30.6	
	comp=Z,302nm,20.1s,baz=220,slow=36						
YKAW1	Yellowknife Wh	52.78	345	IAmb	IAmb	13 37 43.6	
	comp=Z,18nm,0.9s						
YKA	Yellowknife Ar	52.82	345		P	13 37 29.5	-0.6
YKA	Yellowknife Ar	52.82	345	P	P	13 37 30.0	-0.1
	comp=Z,9.9nm,0.8s,baz=141,slow=7.3,SNR=46 comp=Z,9.9nm,0.8s						
YKAW3	Yellowknife Wh	52.88	345	IAmb	IAmb	13 37 45.0	
	comp=Z,28nm,1.1s						
TOAD	Toad River Com	53.30	337	P	P	13 37 35.3	+1.5
	baz=134						
U35K	Hyder	53.37	332	P	P	13 37 35.8	+1.5
	baz=127						
V35K	Ketchikan	53.76	331	P	P	13 37 38.5	+1.4
	baz=125						
KOTAN	Kotaneelee Air	53.78	339	P	P	13 37 38.4	+1.2
	baz=136						
LIRD	Liard River Hi	54.01	338	P	P	13 37 39.3	+0.4
	baz=133						
T35M	Bob Quinn	54.12	333	P	P	13 37 41.0	+1.2
	baz=127						
CRAG	Craig	54.55	331	P	P	13 37 43.7	+0.8
	baz=123						
WRAK	Wrangell Islan	54.72	332	P	P	13 37 45.2	+1.2
	baz=125						
U33K	Whale Pass	54.91	331	P	P	13 37 45.6	+0.1
	baz=124						
DLBC	Dease Lake	54.92	335	LR	LR	14 04 15.9	
	comp=Z,1µm,21.5s,baz=114,slow=39						
DLBC	Dease Lake	54.92	335	P	P	13 37 46.5	+0.9
	baz=128						
S34M	Telegraph Cree	55.06	334	P	P	13 37 47.9	+1.4
	baz=127						
TAOE	Nuku Hiva Isla	55.35	250	eLR	LR	13 53 43.9	
	comp=Z,359nm,25.5s						
WTLY	Watson Lake, Y	55.50	337	P	P	13 37 50.2	+0.5
	baz=130						
RCBR	Riachuelo	55.80	106	LR	LR	14 04 23.7	
	comp=Z,68nm,18.4s,baz=293,slow=39						
WRGLY	Wrigley	55.85	342	P	P	13 37 52.2	+0.1
	baz=136						
R33M	Jennings River	55.89	336	P	P	13 37 53.1	+0.4
	baz=128						
PLCA	Paso Flores	56.00	163	P	P	13 37 53.9	+0.3
	comp=Z,2.5nm,0.9s,baz=354,slow=9.7,SNR=5.7						
PLCA				PcP	PcP	13 38 51.8	+0.5
	comp=Z,2.3nm,0.9s,baz=315,slow=5.7,SNR=3.5						
PLCA				LR	LR	13 56 24.7	
	comp=Z,151nm,20.9s,baz=360,slow=30 comp=Z,2.5nm,0.9s						
Q32M	Nakina River	56.16	335	P	P	13 37 55.5	+0.8
	baz=126						
TGTN	Hyland Airport	56.24	339	P	P	13 37 55.8	+0.8
	baz=132						
SIT	Sitka	56.44	332	P	P	13 37 56.6	+0.2
	baz=122						
R32K	Eaglecrest	56.74	333	P	P	13 37 59.2	+0.6
	baz=123						
P33M	Teslin, Yukon	57.13	336	P	P	13 38 02.1	+0.7
	baz=126						
P32M	Atlin	57.14	335	P	P	13 38 01.4	0.0
	baz=125						
S31K	Pelican	57.34	332	P	P	13 38 03.3	+0.6
	baz=122						
SKAG	Skagway	57.74	334	P	P	13 38 05.9	+0.3
	baz=123						
N32M	Quiet Lake	57.80	336	P	P	13 38 06.1	0.0
	baz=126						
MMPY	Sheldon Lake,	58.02	338	IAmb	IAmb	13 38 22.1	
	comp=Z,7.3nm,0.9s						
MMPY	Sheldon Lake,	58.02	338	P	P	13 38 08.2	+0.6
	baz=129						
PLBC	Pleasant Camp	58.19	334	P	P	13 38 08.8	+0.1
	baz=122						
WHY	Whitehorse	58.23	335	P	P	13 38 09.2	+0.1
	baz=124						
O30N	Mendenhall	58.78	335	P	P	13 38 13.2	+0.2
	baz=123						
P30M	Million Dollar	58.80	334	P	P	13 38 13.1	+0.1
	baz=122						
P29M	Windy Craggy	58.87	333	P	P	13 38 14.1	+0.6
	baz=121						
M31M	Dry Creek, Y	58.92	337	P	P	13 38 14.2	+0.4
	baz=126						
N31M	Braeburn, Yuko	59.05	336	P	P	13 38 15.3	+0.5
	baz=124						
HYT	Haines Junctio	59.40	335	P	P	13 38 17.5	+0.2
	baz=122						
N30M	Aishikik Lake	59.56	335	P	P	13 38 18.4	+0.1
	baz=122						
O29M	Mount Kennedy	59.58	334	P	P	13 38 18.4	-0.1
	baz=120						
PNL	Peninsula	59.62	333	P	P	13 38 18.8	+0.1
	baz=119						
SFJD	Kangerlussuaq	59.66	16	LR	LR	14 06 31.3	
	comp=Z,97nm,18.3s,baz=210,slow=38						
YUK6	Outpost Mounta	59.82	335	P	P	13 38 19.9	-0.4
	baz=121						
M30M	Minto, Yukon	60.06	337	P	P	13 38 21.8	+0.1
	baz=123						
YUK4	Talbot Arm	60.14	335	P	P	13 38 22.3	-0.2
	baz=121						
PINM	Pinnacle	60.21	333	P	P	13 38 22.6	-0.2
	baz=118						
O28M	Mount Upton	60.51	334	P	P	13 38 25.3	+0.2
	baz=119						
YUK8	Steele Glacier	60.58	335	P	P	13 38 25.7	+0.2
	baz=120						
M29M	Somme Creek	60.64	336	P	P	13 38 25.7	0.0
	baz=122,SNR=5.5						
C36M	Paulatuk	60.65	346	P	P	13 38 25.2	-0.3
	baz=140						
L29M	L29M	60.86	337	P	P	13 38 27.2	+0.1
	baz=122						
MESA	MESA	61.00	333	P	P	13 38 28.5	+0.2
	baz=117,SNR=6.4						
J30M	Hart River	61.01	339	P	P	13 38 27.9	-0.3
	baz=125						
K29M	Barlow Dome	61.03	338	P	P	13 38 28.2	-0.2
	baz=123						
H31M	Peel River	61.06	340	P	P	13 38 28.5	0.0
	baz=127						
CTG	Chitna Glacier	61.09	334	P	P	13 38 29.2	+0.3
	baz=118						
YUK3	Moose Creek	61.11	335	P	P	13 38 29.4	+0.3
	baz=119						
I30M	Mount Dempster	61.40	339	P	P	13 38 30.9	+0.1
	baz=125						
G31M	Satah River	61.72	341	P	P	13 38 33.0	+0.3
	baz=128,SNR=7.1						
CRQE	Cirque	61.76	333	P	P	13 38 33.2	-0.2
	baz=116						
DAWY	Dawson	61.85	337	P	P	13 38 34.1	+0.3
	baz=121						
F31M	Tsiigehtchic	61.88	342	P	P	13 38 33.8	-0.1
	baz=129,SNR=5.7						
M27K	Edge Creek, AK	61.98	335	P	P	13 38 34.6	-0.2
	baz=118						
KAIM	Kayak Island	62.01	332	P	P	13 38 35.1	+0.2
	baz=114						
MCARA	McCarthy VSAT	62.01	334	P	P	13 38 35.0	+0.1
	baz=116						
I29M	Ogilvie Camp,	62.15	339	P	P	13 38 35.5	-0.3
	baz=123						
EPYK	Eagle Plains	62.17	340	P	P	13 38 35.7	-0.2
	baz=125						
BCAR	Beaver Creek A	62.28	336	P	P	13 38 36.8	+0.1
L27K	Beaver Creek,	62.29	336	P	P	13 38 37.1	+0.3
	baz=118						
INK	Inuvik	62.37	343		P	13 38 37.1	+0.1
INK	Inuvik	62.37	343	P	P	13 38 36.8	-0.3
	baz=129,SNR=10						
G30M	tAoh Zraii Nji	62.37	341	P	P	13 38 36.4	-0.8
	baz=126						
M26K	Nabesna, AK	62.46	335	P	P	13 38 38.0	0.0
	baz=117						
BMRM	Bremner River	62.52	333	P	P	13 38 38.1	-0.3
	baz=115						
F30M	Barrier River	62.61	342	P	P	13 38 37.9	-0.8
	baz=127,SNR=10						
H29M	Whitestone	62.64	340	P	P	13 38 38.1	-0.9
	baz=123						
I28M	Miner Creek	62.77	339	P	P	13 38 40.2	+0.2
	baz=121						
N25K	Chitina, Valde	62.79	334	P	P	13 38 40.6	+0.5
	baz=115						
K27K	Chicken	62.85	337	P	P	13 38 41.2	+0.7
	baz=118						
EYAK	Cordova Ski Ar	62.87	332	P	P	13 38 40.8	+0.2
	baz=113						
L26K	Log Cabin Wild	62.89	335	P	P	13 38 41.6	+0.8
	baz=117						
G29M	Pine Creek	62.91	340	P	P	13 38 41.4	+0.6
	baz=124						
A36M	Sachs Harbour	62.93	348	P	P	13 38 40.5	-0.3
	baz=139,SNR=6.3						
KLU	Klutina	63.32	333	P	P	13 38 43.4	-0.2
	baz=114						
HARP	HAARP	63.36	334	P	P	13 38 43.2	-0.7
	baz=115						
I27K	Kandik River	63.45	338	P	P	13 38 43.4	-1.1
	baz=120						
SCRK	Sand Creek	63.57	336	P	P	13 38 44.5	-0.8
	baz=117						
GLI	Glacier Island	63.60	332	P	P	13 38 43.7	-1.7
	baz=112						
J26L	Joseph Creek	63.65	337	P	P	13 38 44.8	-1.0
	baz=117						
M24K	Tolsona, Glenn	63.68	334	P	P	13 38 44.9	-1.1
	baz=114						
E29M	Blow River	63.71	342	P	P	13 38 45.2	-0.8
	baz=125,SNR=6.4						
H27K	Steamboat Moun	63.73	339	P	P	13 38 45.6	-0.7
	baz=120,SNR=6.7						
PAX	Paxson	63.73	335	P	P	13 38 45.6	-0.8
	baz=115						
RIDG	Independent Ri	63.81	336	P	P	13 38 45.9	-1.0
	baz=116						
I26K	Coal Creek Min	63.87	338	P	P	13 38 46.4	-0.8
	baz=118						
F28M	Old Crow	63.90	341	P	P	13 38 46.4	-0.9
	baz=122,SNR=14						
SCM	Sheep Creek Mo	64.07	333	P	P	13 38 47.9	-0.7
	baz=112						
G27K	Doyon Strip	64.07	339	P	P	13 38 48.0	-0.5
	baz=120						
PWL	Port Wells	64.16	332	P	P	13 38 48.3	-0.9
	baz=111						
K24K	Donnelly Dome	64.21	336	P	P	13 38 48.5	-1.0
	baz=115						
M23K	Glacier View	64.23	333	P	P	13 38 49.0	-0.6
	baz=112						
E28M	Babbage River	64.33	342	P	P	13 38 49.5	-0.7
	baz=123,SNR=7.6						
J25K	Salcha River,	64.40	337	P	P	13 38 49.8	-0.9
	baz=116						
SEW	Seward	64.42	331	P	P	13 38 49.5	-1.3
	baz=110						
WAT6	Susitna Watana	64.54	334	P	P	13 38 51.2	-0.6
	baz=112						
DHY	Denali Highway	64.57	335	P	P	13 38 51.3	-0.7
	baz=113						
O22K	Cooper Landing	64.67	331	P	P	13 38 52.7	+0.3
	baz=110						
E27K	Coleen River	64.76	341	P	P	13 38 52.9	0.0
	baz=121						
PMR	Palmer	64.78	333	P	P	13 38 53.2	+0.1
	baz=110						
PRP	Porcupine Dome	64.85	337	P	P	13 38 53.7	0.0
	baz=116						
G26K	Porcupine Rive	64.88	339	P	P	13 38 53.4	-0.3
	baz=118						
RC01	Rabbit Creek A	64.88	332	P	P	13 38 54.1	+0.3
	baz=110						
BRSE	Bradley Lake S	64.91	330	P	P	13 38 54.3	+0.2
	baz=108						
HDA	Harding Lake	64.93	336	P	P	13 38 53.8	-0.3
	baz=114						
WAT1	Susitna Watana	64.98	334	P	P	13 38 54.2	-0.2
	baz=112						
IL31		65.06	336	IAmb	IAmb	13 39 09.0	
	comp=Z,7.6nm,1.0s						
ILAR	Eielson Array	65.06	336		P	13 38 54.3	-0.5
ILAR	Eielson Array	65.06	336	P	P	13 38 54.6	-0.2
	comp=Z,2.0nm,1.0s,baz=122,slow=4.3,SNR=17						
ILAR				LR	LR	14 10 01.4	
	comp=Z,146nm,21.0s,baz=84,slow=38 comp=Z,2.0nm,1.0s						
D27M	Malcolm River	65.11	342	P	P	13 38 55.3	+0.1
	baz=122						
KDAK	Kodiak Island	65.26	328	LR	LR	14 09 14.7	
	comp=Z,93nm,19.6s,baz=107,slow=38						
KDAK	Kodiak Island	65.26	328	P	P	13 38 56.8	+0.5
	baz=106						
M22K	Willow	65.28	333	P	P	13 38 56.6	+0.2
	baz=110						
H25L	Birch Creek	65.29	338	P	P	13 38 56.6	+0.3
	baz=116						
RND	Reindeer	65.32	335	IAmb	IAmb	13 39 10.6	
	comp=Z,12nm,0.9s						
F26K	Sheenjek River	65.35	340	P	P	13 38 56.9	+0.1
	baz=118						
CCB	Clear Creek Bu	65.37	336	IAmb	IAmb	13 40 35.3	
	comp=Z,14nm,1.8s						
BMAR	Burnt Mountain	65.38	339		P	13 38 57.2	+0.2
Q20K	Shuyak Island	65.39	329	P	P	13 38 56.8	-0.3
	baz=106						
POKR	Poker Plat Res	65.41	337	P	P	13 38 56.9	-0.3
	baz=114						
CAPN	Captain Cook N	65.43	331	P	P	13 38 57.9	+0.5
	baz=108						
MCK	McKinley	65.47	335	P	P	13 38 57.9	+0.3
	baz=112						
OHAK	Old Harbor	65.47	327	P	P	13 38 57.4	-0.3
	baz=105						
CUT	Chulitna	65.57	333	P	P	13 38 58.0	-0.2
	baz=110						
G25K	Bearman Lake	65.61	339	P	P	13 38 58.2	-0.2
	baz=116						
F25K	Christian Rive	65.81	339	P	P	13 39 00.3	+0.5
	baz=116,SNR=5.2						
NEA2	Nenana	65.85	336	P	P	13 39 00.1	+0.1
	baz=112						
H24K	Noodor Dome	65.87	337	P	P	13 39 00.1	-0.1
	baz=114						
O20K	Slope Mountain	65.92	330	P	P	13 38 59.9	-0.8
	baz=107						
TRF	Thorofare Moun	65.94	334	P	P	13 39 00.3	-0.5
	baz=110						
SKT	Skwentna	65.99	333	P	P	13 39 01.0	0.0
	baz=108						
E25K	Arctic Village	66.03	340	P	P	13 39 00.9	-0.3
	baz=117,SNR=5.9						
G24K	Hadweenzic Riv	66.07	338	P	P	13 39 00.7	-0.7
	baz=114						
P19K	Oil Pt	66.09	330	P	P	13 39 01.4	-0.3
	baz=106						
Q19K	Cape Douglas,	66.10	329	P	P	13 39 00.9	-0.8
	baz=105						
C27K	Jago River	66.14	342	P	P	13 39 01.3	-0.6
	baz=119						
I23K	Minto, Yukon-K	66.17	336	P	P	13 39 01.4	-0.7
	baz=112						
R18K	Karluk	66.17	328	P	P	13 39 01.7	-0.4
	baz=104						
CHIR	Chirikof Islan	66.41	326	P	P	13 39 03.0	-0.7
	baz=102						
BPAW	Bear Paw Mtn.	66.45	335	IAmb	IAmb	13 39 17.2	
	comp=Z,6.6nm,0.8s						
BPAW	Bear Paw Mtn.	66.45	335	P	P	13 39 02.8	-1.1
	baz=110						
H23K	Yukon River	66.50	337	P	P	13 39 03.4	-0.8
	baz=112						
F24K	Squaw Lake	66.56	339	P	P	13 39 04.2	-0.3
	baz=114						
PPLA	Purkeypile	66.57	334	P	P	13 39 04.2	-0.6
	baz=108						
C26K	Camden Bay	66.65	342	P	P	13 39 04.5	-0.5
	baz=118						
MLY	Manley	66.67	336		P	13 39 05.0	-0.3
MLY				IAmb	IAmb	13 39 18.9	
	comp=Z,6.2nm,0.8s						
MLY	Manley	66.67	336	P	P	13 39 04.8	-0.6
	baz=110						
M20K	Styx River	66.68	332	P	P	13 39 05.5	0.0
	baz=107						
Q18K	Katmai Hardscr	66.72	329	P	P	13 39 05.2	-0.6
	baz=104						
O19K	Port Alsworth	66.77	330	P	P	13 39 05.7	-0.2
	baz=105						
D25K	Kavik River	66.83	341	P	P	13 39 06.3	0.0
	baz=116,SNR=9.5						
CHUM	Lake Minchumin	66.93	335	P	P	13 39 07.1	+0.2
	baz=108						
E24K	Your Creek	67.00	339	P	P	13 39 06.9	-0.5
	baz=114						
N19K	Bonanza Creek	67.01	331	P	P	13 39 06.7	-0.9
	baz=105						
P18K	Big Mountain,	67.01	329	P	P	13 39 07.5	-0.1
	baz=104						
G23K	Bananza Creek	67.01	338	P	P	13 39 06.9	-0.5
	baz=112						
Q17K	Contact Creek	67.08	328	P	P	13 39 07.1	-1.0
	baz=103						
PPT	Papeete	67.16	245	LR	LR	14 01 12.2	
	comp=Z,268nm,18.3s,baz=32,slow=29						
PPT2	Papeete2	67.16	245	eLR	LR	13 59 10.1	
	comp=Z,394nm,25.5s						
PPT2				eLR	LR	13 59 15.4	
	comp=Z,257nm,27.5s						
L20K	Farewell, AK	67.19	333	P	P	13 39 08.0	-0.6
	baz=106						
R17L	Mt. Peulik Vol	67.19	327	P	P	13 39 08.2	-0.5
	baz=102						
I21K	Tanana	67.22	336	P	P	13 39 08.1	-0.6
	baz=109						
H22K	Ishtalitna Cre	67.22	337	P	P	13 39 08.0	-0.8
	baz=110						
COLD	Coldfoot	67.27	338	P	P	13 39 08.4	-0.6
	baz=112						
E23K	Chandalar	67.38	339	P	P	13 39 08.8	-1.1
	baz=113						
K20K	Telida	67.52	334	P	P	13 39 09.8	-0.9
	baz=107						
L19K	White Mountain	67.54	332	P	P	13 39 10.2	-0.7
	baz=105						
Q16K	King Salmon	67.56	328	P	P	13 39 10.5	-0.4
	baz=102						
P17K	Kvichak River	67.57	329	P	P	13 39 10.7	-0.3
	baz=103						
TOLK	Toolik Lake Re	67.59	340	P	P	13 39 10.3	-0.8
	baz=113						
G22K	Bettles	67.63	338	P	P	13 39 11.4	+0.1
	baz=110						
N18K	Kilae Creek	67.64	331	P	P	13 39 10.7	-0.8
	baz=104						
H21K	Melozitna Rive	67.70	336	P	P	13 39 11.0	-0.8
	baz=109						
C24K	Franklin Bluff	67.74	341	P	P	13 39 11.2	-0.8
	baz=114				

R16K Pilot Point 67.81 327 P **P** **13 39 11.7 -0.9**
baz=101
O17K Koliganek Bris 68.02 330 P **P** **13 39 13.1 -0.8**
baz=102
CHGN Chignik 68.04 326 P **P** **13 39 13.4 -0.6**
baz=100
F22K John River 68.08 338 P **P** **13 39 14.1 -0.1**
baz=110
D23K Nanushuk River 68.09 340 P **P** **13 39 13.2 -1.0**
baz=112
I20K Naaghedeneel 68.11 335 P **P** **13 39 13.9 -0.4**
baz=107
IMAR Indian Mountai 68.17 336 P **P** **13 39 14.5 -0.2**
N17K Nushagak Hills 68.23 330 P **P** **13 39 14.1 -1.1**
baz=102
G21K Allakaket 68.25 337 P **P** **13 39 14.6 -0.7**
baz=108
J19K Poorman 68.36 334 P **P** **13 39 15.6 -0.3**
baz=105
L18K Granite Mounta 68.38 332 P **P** **13 39 15.2 -0.9**
baz=104
C23K Itkillik River 68.40 341 P **P** **13 39 15.4 -0.6**
baz=112
CHNA Chernabura Isl 68.46 324 P **P** **13 39 16.2 -0.5**
baz=98
F21K Alatna River 68.47 338 P **P** **13 39 15.9 -0.7**
baz=109
H20K Anotleneega Mo 68.47 336 P **P** **13 39 16.1 -0.6**
baz=107
O16K Kokwok River B 68.48 329 P **P** **13 39 15.7 -1.0**
baz=101
M17K Holitna River 68.54 331 P **P** **13 39 16.3 -0.8**
baz=103
S14K Fog Glacier 68.66 326 P **P** **13 39 16.8 -1.2**
baz=99
J18K Innoko River 68.70 333 P **P** **13 39 16.7 -1.4**
baz=104
D22K Ayikyak River 68.73 340 P **P** **13 39 17.3 -0.9**
baz=110
BORG Borgarnes 68.88 25 LR LR 14 08 38.4
comp=Z,42nm,19.7s,baz=254,slow=35
N16K Nishlik Lake 68.98 330 P **P** **13 39 19.0 -0.9**
baz=101
E21K Killik River 69.03 339 P **P** **13 39 19.4 -0.7**
baz=109
SDPT Sand Point 69.04 325 P **P** **13 39 18.7 -1.6**
baz=98
GCSA Galena City Sc 69.09 335 P **P** **13 39 19.8 -0.6**
baz=104
L17K Donlin 69.10 332 P **P** **13 39 19.7 -0.8**
baz=102
H19K Roundabout Mou 69.11 336 P **P** **13 39 19.8 -0.7**
baz=105
M16K Timber Creek 69.18 331 P **P** **13 39 19.8 -1.3**
baz=101
K17K Iditarod 69.23 333 P **P** **13 39 20.3 -1.0**
baz=102
F20K Avaraart Lake 69.25 337 P **P** **13 39 20.2 -1.2**
baz=106
TBI Tubuai 69.37 239 *e*LR LR 14 00 26.6
comp=Z,1μm,27.2s
B21K Ikpikpuk River 69.63 340 P **P** **13 39 23.6 0.0**
baz=108
J17K VABM Dome 69.72 333 P **P** **13 39 23.6 -0.7**
baz=102
E20K Nigu River 69.76 339 P **P** **13 39 23.9 -0.7**
baz=106
H18K Honhosa River 69.80 335 P **P** **13 39 24.0 -0.8**
baz=103
E19K Redstone River 69.92 338 P **P** **13 39 25.0 -0.6**
baz=105
M15K Kasigluk River 69.96 330 P **P** **13 39 25.1 -0.7**
baz=99
F19K Shaleruckik Mo 69.97 337 P **P** **13 39 25.5 -0.3**
baz=104
S12K Black Hills 69.98 325 P **P** **13 39 25.1 -1.1**
baz=96
O14K Tigyukauivet M 70.02 329 P **P** **13 39 24.8 -1.4**
baz=98
D20K Etivluk River 70.04 339 P **P** **13 39 24.6 -1.7**
baz=106
G18K Tagagawik 70.09 336 P **P** **13 39 27.1 +0.5**
baz=103
I17K Unalakleet 70.52 334 P **P** **13 39 28.9 -0.3**
baz=101
B20K Meade River 70.59 340 P **P** **13 39 29.5 0.0**
baz=106
JMIC Jan Mayen 74.73 20 LR LR 14 12 49.9
comp=Z,41nm,18.6s,baz=236,slow=36
EKA Eskdalemuir Ar 77.06 36 P **P** **13 40 05.0 -2.7**
comp=Z,0.9nm,0.6s,baz=276,slow=7.2,SNR=1.8
comp=Z,0.9nm,0.6s
ESDC Sonseca Array 77.98 52 P **P** **13 40 10.3 -2.9**
comp=Z,0.5nm,0.5s,baz=296,slow=5.3,SNR=4.4
ESDC LR LR 14 09 11.8
comp=Z,113nm,19.8s,baz=282,slow=32
comp=Z,0.5nm,0.5s
MDT Midelt 78.34 59 LR LR 14 08 39.6
comp=Z,120nm,21.3s,baz=237,slow=31
NOA NORSAR Array B 85.63 29 P **P** **13 40 42.1 -0.8**
comp=Z,0.8nm,0.9s,baz=285,slow=5.0,SNR=2.0
NOA LR LR 14 14 08.0
comp=Z,69nm,21.6s,baz=275,slow=33
comp=Z,0.8nm,0.9s
SHEM Shemya Is, Ala 84.07 323 LR LR 14 17 27.6
comp=Z,30nm,20.5s,baz=104,slow=35
HFS Hagfors 85.06 29 LR LR 14 14 36.7
comp=Z,73nm,21.7s,baz=39,slow=34
ARCES ARCESS Array B 86.20 19 P **P** **13 40 54.1 -1.5**
comp=Z,5.9nm,1.1s,baz=293,slow=6.5,SNR=3.6
ARCES LR LR 14 19 38.4
comp=Z,45nm,18.0s,baz=295,slow=36
comp=Z,5.9nm,1.1s
DAVOX Davos/Dischmat 86.59 43 LR LR 14 14 06.4
comp=Z,90nm,19.6s,baz=265,slow=32
TORD Torodi Ar. Bea 87.64 77 P **P** **13 41 01.2 -2.5**
comp=Z,0.3nm,0.4s,baz=305,slow=6.5,SNR=2.4
comp=Z,0.3nm,0.4s
KEST Kesra 89.09 54 LR LR 14 17 30.1
comp=Z,67nm,18.4s,baz=341,slow=33
VRAC Vranov 90.12 39 LR LR 14 17 04.9
comp=Z,114nm,21.1s,baz=276,slow=32
FINES FINESS Array B 90.16 26 LR LR 14 19 38.4
comp=Z,56nm,21.3s,baz=259,slow=34
SEY Seymchan 90.99 336 LR LR 14 26 53.8
comp=Z,75nm,18.9s,baz=34,slow=39
TIXI Tiksi 91.94 349 LR LR 14 25 35.9
comp=Z,111nm,21.8s,baz=46,slow=37
VAE Valguarnera 92.49 51 LR LR 14 17 26.1
comp=Z,196nm,18.8s,baz=312,slow=32
PETK Petropavlovsk- 93.26 326 LR LR 14 22 41.2
comp=Z,27nm,21.5s,baz=80,slow=35
MA2 Magadan 93.44 334 LR LR 14 28 52.6
comp=Z,48nm,18.3s,baz=41,slow=39
BELA Belgrano 2 95.53 170 P **P** **13 41 39.5 +0.6**
BELA IAmb IAmb 13 41 40.5
comp=Z,6.6nm,1.4s
YAK Yakutsk 99.43 343 LR LR 14 31 25.6
comp=Z,72nm,22.0s,baz=18,slow=38
DZM Mont Dzumac 108.21 251 *e*LR LR 14 18 30.0
comp=Z,110nm,23.1s
ZALV Zalesovo Beam 113.19 4 PKiKP **PKiKP** **13 46 51.6 -0.2**
comp=Z,0.6nm,0.4s,baz=343,slow=2.0,SNR=2.7
KURBB Kurchatov Arra 115.78 9 PKP **PKiKP** **13 46 55.6 -1.2**
comp=Z,0.8nm,0.7s,baz=2.6,slow=2.0,SNR=11
BOSA Boshof 117.12 116 PKP **PKPdf** **13 47 01.0 +0.8**
comp=Z,3.0nm,0.9s,baz=196,slow=5.5,SNR=3.2
SONM Songino Array 118.02 348 PKPdf **PKPdf** **13 47 01.1 -0.3**
SONM Songino Array 118.02 348 PKP **PKPdf** **13 47 01.6 +0.2**
comp=Z,1.3nm,0.7s,baz=132,slow=2.1,SNR=2.4
KSRS Korea Array 119.15 327 PKP **PKPdf** **13 47 04.7 +1.0**
comp=Z,2.2nm,0.8s,baz=8.1,slow=1.1,SNR=9.1
MK31 Makanchi Array 120.05 7 PKPdf **PKPdf** **13 47 04.8 -0.4**
MKAR Makanchi Array 120.05 7 PKPdf **PKPdf** **13 47 04.8 -0.4**
MKAR Makanchi Array 120.05 7 PKP **PKPdf** **13 47 02.9 -2.4**
comp=Z,0.6nm,0.7s,baz=34,slow=4.5,SNR=5.4
MAW Mawson 122.28 168 PKP **PKPdf** **13 47 09.4 +0.7**
comp=Z,1.9nm,0.8s,baz=150,slow=4.3,SNR=7.5
KMBO Kilima Mbogo 125.36 82 PKP **PKPdf** **13 47 16.2 -0.3**
comp=Z,2.0nm,0.4s,baz=271,slow=24,SNR=2.0
WRA Warramunga Arr 138.08 255 PKP **PKPdf** **13 47 41.2 +1.1**
comp=Z,3.5nm,0.9s,baz=93,slow=1.6,SNR=19
ASAR Alice Springs 138.16 249 PKhKP PKPpre 13 47 31.4
comp=Z,0.8nm,0.9s,baz=110,slow=3.2,SNR=6.2
CMAR Chiang Mai Arr 147.90 346 PKPbc **PKPbc** **13 48 00.2 -0.2**
comp=Z,3.9nm,0.7s,baz=315,slow=2.6,SNR=19

*SJA **06** 13:33:45.2±0.7, 24°.27S×67°.13W, h192km±8km, ML3.6, MW3.5*
*GUC **06** 13:33:47.9±0.5, 24°.16S×67°.47W, h221km±8km, ML3.8*
ISC 06 13:33:44.3±1.8, **24°.30S**±0°.04×**67°.17W**±0°.06, **h207**km±17km, **n32**, σ1§**28**/57, **1C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**1.92**	**88**	*e*P		**Pn**	**13 34 22.9**	**+0.1**
FSA	**Cafayete**	**2.10**	**149**	*e*P		**Pn**	**13 34 25.3**	**+0.7**
GO02	**Mina Guanaco**	**2.36**	**248**	*i* P		**Pn**	**13 34 28.8**	**+1.4**
GO02				IAML			13 35 02.2	
comp=E,440nm,0.3s								
GO02	**Mina Guanaco**	**2.36**	**248**	*e*P		**Pn**	**13 34 28.2**	**+0.8**
GO02				*e*S		**S**	**13 35 01.1**	**+0.5**
GO02				IAML			13 35 01.8	
comp=Z,267nm,0.1s								
PB06	**IPOC Station P**	**2.71**	**305**¶	*e*P		**Pn**	**13 34 32.6**	**+1.4**
PB06				*e*S		**S**	**13 35 06.0**	**-1.3**
PB06				IAML			13 35 08.4	
comp=N,325nm,0.3s								
PB06	**IPOC Station P**	**2.71**	**305**	*e*P		**Pn**	**13 34 32.0**	**+0.8**
PB06				*e*S		**S**	**13 35 06.9**	**-0.5**
PB06				IAML			13 35 09.4	
comp=Z,168nm,0.3s								
AC02	**Maricunga**	**3.08**	**215**	*e*P		**Pn**	**13 34 37.8**	**+2.0**
PB05	**IPOC Station P**	**3.13**	**297**	*e*P		**Pn**	**13 34 37.0**	**+1.1**
PB05				*e*S		**S**	**13 35 13.9**	**-2.0**
PB05				IAML			13 35 17.9	
comp=E,85nm,0.2s								
PB05	**IPOC Station P**	**3.13**	**297**	*e*P		**Pn**	**13 34 37.0**	**+1.1**
PB05				*e*S		**S**	**13 35 15.1**	**-0.8**
PB05				IAML			13 35 17.0	
comp=Z,58nm,0.6s								
PB09	**IPOC Station P**	**3.14**	**322**	*e*P		**Pn**	**13 34 37.9**	**+1.8**
PB09				*i* S		**S**	**13 35 15.5**	**-0.6**
PB09				IAML			13 35 19.1	
comp=E,87nm,0.2s								
PB09	**IPOC Station P**	**3.14**	**322**	*e*P		**Pn**	**13 34 37.7**	**+1.6**
PB10	**IPOC Station P**	**3.19**	**283**	*e*P		**Pn**	**13 34 38.0**	**+1.4**
PB10				*e*S		**S**	**13 35 15.2**	**-1.8**
PB10				IAML			13 35 21.4	
comp=N,89nm,0.2s								
PB10	**IPOC Station P**	**3.19**	**283**	*e*P		**Pn**	**13 34 37.5**	**+0.9**
PB10				*e*S		**S**	**13 35 16.6**	**-0.4**
PB10				*e*S		S	13 35 17.2	+0.2
PB10				IAML			13 35 22.6	
comp=Z,79nm,0.4s								
PB03	**IPOC Station P**	**3.27**	**313**	*e*P		**Pn**	**13 34 38.8**	**+1.2**
PB03				*e*S		**S**	**13 35 17.0**	**-1.9**
PB03				IAML			13 35 18.5	
comp=E,176nm,0.2s								
PB03	**IPOC Station P**	**3.27**	**313**	*e*P		**Pn**	**13 34 38.7**	**+1.2**
PB03				*e*S		**S**	**13 35 17.2**	**-1.6**
PB03				IAML			13 35 21.3	
comp=Z,164nm,0.3s								
AC01	**Pan de Azucar**	**3.61**	**239**	*e*P		**Pn**	**13 34 42.1**	**+0.6**
AC01				*i* S		**S**	**13 35 24.4**	**-1.6**
AC01	**Pan de Azucar**	**3.61**	**239**	*e*P		**Pn**	**13 34 42.2**	**+0.7**
AC01				*e*S		**S**	**13 35 25.1**	**-1.0**
AC01				IAML			13 35 28.6	
comp=Z,36nm,0.2s								
PB01	**IPOC Station P**	**3.88**	**326**	*e*P		**Pn**	**13 34 46.2**	**+1.2**
PB01				*i* S		**S**	**13 35 30.6**	**-1.7**
PB01	**IPOC Station P**	**3.88**	**326**	*e*P		**Pn**	**13 34 46.2**	**+1.2**
PB01				*e*S		**S**	**13 35 31.7**	**-0.5**
PB01				IAML			13 35 35.8	
comp=Z,59nm,0.2s								
PB02	**IPOC Station P**	**3.89**	**319**	*e*P		**Pn**	**13 34 46.4**	**+1.4**
PB02	**IPOC Station P**	**3.89**	**319**	*e*P		**Pn**	**13 34 46.1**	**+1.1**
PB02				*e*S		**S**	**13 35 31.2**	**-1.1**
PB02				IAML			13 35 34.4	
comp=Z,132nm,0.2s								
GO03	**Copiapo**	**4.29**	**219**	*e*P		**Pn**	**13 34 50.5**	**+0.6**
GO03				*i* S		**S**	**13 35 40.5**	**-0.7**
GO03	**Copiapo**	**4.29**	**219**	*e*P		**Pn**	**13 34 50.7**	**+0.8**
GO03				*e*S		**S**	**13 35 41.2**	**0.0**
GO03				IAML			13 35 42.5	
comp=Z,26nm,0.2s								
PATCX	**Punta Patache**	**4.42**	**321**	*e*P		**Pn**	**13 34 52.8**	**+1.1**
PATCX				*i* S		**S**	**13 35 42.6**	**-1.8**
PB08	**IPOC Station P**	**4.53**	**336**	*e*P		**Pn**	**13 34 55.2**	**+1.9**
PB08				*i* S		**S**	**13 35 47.1**	**-0.1**
PB08	**IPOC Station P**	**4.53**	**336**	*e*P		**Pn**	**13 34 54.8**	**+1.4**
PB08				*e*S		**S**	**13 35 47.3**	**+0.1**
HMBC	**Humberstone**	**4.73**	**327**	*e*P		**Pn**	**13 34 56.6**	**+1.0**
HMBC				*i* S		**S**	**13 35 48.8**	**-2.6**
HMBC	**Humberstone**	**4.73**	**327**	*e*P		**Pn**	**13 34 56.6**	**+1.0**
HMBC				*e*S		**S**	**13 35 49.8**	**-1.5**
HMBC				IAML			13 35 55.7	
comp=Z,35nm,0.2s								
GO01	**Chusmiza**	**4.97**	**337**	*e*P		**Pn**	**13 35 01.1**	**+2.0**
GO01				*i* S		**S**	**13 35 56.9**	**-0.8**
PB11	**IPOC Station P**	**5.07**	**332**	*e*P		**Pn**	**13 34 59.9**	**-0.1**
PB11	**IPOC Station P**	**5.07**	**332**	*e*P		**Pn**	**13 35 00.4**	**+0.5**
PB11				*e*S		**S**	**13 35 57.8**	**-1.5**
AC04	**Llanos de Chal**	**5.24**	**221**	*e*P		**Pn**	**13 35 02.0**	**+0.2**
AC04				*i* S		**S**	**13 36 01.2**	**-1.6**

*IDC **06** 13:33:47.9±0.6, 5°.82S×75°.39W, h138km±5km, mb3.7/12, mbtmp4.2/17, Error ellipse: s-maj=11.7km s-min=9.8km az=58.0*
*NEIC **06** 13:33:48.3±1.2, 5°.76S±0°.07×75°.32W±0°.07, h125km±7km, mb4.5/60, Error ellipse: s-maj=11.9km s-min=9.5km az=223.0*
ISC 06 13:33:48.8±0.4, **5°.84S**±0°.05×**75°.35W**±0°.06, **h150**km, **n80**, σ1§**50**/77, **mb4.3**/35, **Northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**3.23**	**126**			**Pn**	**13 34 38.6**	**-0.4**
ATAH	**Atahualpa**	**3.29**	**247**	P		**Pn**	**13 34 39.5**	**-0.8**
670nm,0.7s,baz=20,slow=6.3,SNR=320								
ATAH				S		**Sn**	**13 35 16.6**	**-3.4**
127nm,0.3s,baz=132,slow=23,SNR=4.6								
COHC	**Cochancay**	**5.14**	**311**	Pn		**Pn**	**13 35 02.3**	**-1.8**
TBTG	**Tabatinga, AM**	**5.66**	**73**			**Pn**	**13 35 08.7**	**-2.4**
NNA	**Nana**	**6.28**	**193**			**Pn**	**13 35 20.1**	**+0.7**
NNA	**Nana**	**6.28**	**193**	P		**Pn**	**13 35 19.6**	**+0.3**
26nm,0.3s,baz=12,slow=12,SNR=8.2								
NNA				S		**Sn**	**13 36 28.3**	**-2.0**
95nm,0.3s,baz=304,slow=22,SNR=4.1								
OTAV	**Otavalo**	**6.79**	**333**	Pn		**Pn**	**13 35 25.5**	**-1.1**
FLOC	**Florencia**	**7.38**	**358**	Pn		**Pn**	**13 35 31.5**	**-2.6**
ROSC	**El Rosal**	**10.66**	**6**	P		**Pn**	**13 36 17.1**	**-1.0**
6.4nm,0.3s,baz=50,slow=22,SNR=1.5								
RUSC	**La Rusia**	**11.87**	**11**			**Pn**	**13 36 33.2**	**-0.8**
LPAZ	**La Paz**	**12.56**	**146**	P		**Pn**	**13 36 42.1**	**-0.9**
2.5nm,0.4s,baz=12,slow=2.4,SNR=7.6								
LPAZ				S		**Sn**	**13 38 59.9**	**-2.4**
4.4nm,0.7s,baz=169,slow=18,SNR=2.0								
PB16	**IPOC Station P**	**13.66**	**156**			**P**	**13 36 58.7**	**-2.1**
PB11	**IPOC Station P**	**14.90**	**159**	Pn		**P**	**13 37 13.2**	**-1.0**
HMBC	**Humberstone**	**15.30**	**160**			**P**	**13 37 18.2**	**-0.4**
HMBC				IAmb	IAmb		13 37 25.9	
comp=Z,14nm,0.7s								
BOAV	**Boa Vista**	**16.92**	**61**			**Pn**	**13 37 36.1**	**-0.7**
PB09	**IPOC Station P**	**16.93**	**160**			**Pn**	**13 37 37.8**	**+0.7**
PB09				IAmb	IAmb		13 37 41.9	
comp=Z,25nm,1.0s								
SIV	**San Ignacio**	**17.25**	**127**	P		**Pn**	**13 37 40.9**	**0.0**
comp=Z,3.6nm,0.7s,baz=306,slow=13,SNR=3.8								
SIV				S		**Sn**	**13 40 57.7**	**+3.5**
comp=Z,4.0nm,0.8s,baz=97,slow=20,SNR=2.1								
PTLB	**Pontes e Lacer**	**18.56**	**122**	P		**Pn**	**13 37 55.9**	**-0.4**
AC01	**Pan de Azucar**	**20.70**	**168**	P		Pn	13 38 20.0	-1.5
HERN	**Volcan Telica**	**21.59**	**328**	P		**P**	**13 38 27.0**	**0.0**
HERN				IAmb	IAmb		13 38 31.7	
comp=Z,171nm,1.1s								
AQDB	**Aquidauana**	**23.99**	**129**			**P**	**13 38 50.4**	**+0.7**
AQDB				IAmb	IAmb		13 38 51.7	
comp=Z,12nm,0.7s								
MTO3	**Montecristo**	**24.45**	**325**	P		**P**	**13 38 54.2**	**+0.1**
MTO3				IAmb	IAmb		13 38 58.1	
comp=Z,13nm,0.9s								
CPUP	**Villa Florida**	**26.66**	**142**			**P**	**13 39 14.2**	**+0.3**
CPUP	**Villa Florida**	**26.66**	**142**	P		**P**	**13 39 14.1**	**+0.3**
comp=Z,3.4nm,0.7s,baz=183,slow=9.1,SNR=17								
comp=Z,3.4nm,0.7s								
PLCA	**Paso Flores**	**35.00**	**174**	P		**P**	**13 40 27.9**	**+0.9**
comp=Z,1.0nm,0.8s,baz=32,slow=13,SNR=1.8								
PLCA				pP		**pP**	**13 40 57.9**	**-1.4**
comp=Z,1.5nm,0.7s,baz=348,slow=11,SNR=2.7								
comp=Z,1.0nm,0.8s								
152A	**Waverly Hall**	**39.32**	**347**	P		**P**	**13 41 04.0**	**+0.6**
LRAL	**Lakeview Retre**	**40.22**	**345**	P		**P**	**13 41 11.0**	**+0.3**
Y49A	**Blount Mountai**	**40.85**	**346**	P		**P**	**13 41 15.9**	**0.0**
FPAL	**Fort Paine**	**41.32**	**347**	P		**P**	**13 41 20.2**	**+0.4**
FPAL				IAmb		IAmb	13 41 20.4	
comp=Z,7.6nm,0.8s								
HNDO	**Hondo**	**42.02**	**328**	P		**P**	**13 41 27.0**	**+1.4**
DRIO	**Del Rio**	**42.65**	**327**			**P**	**13 41 32.4**	**+1.7**
V48A	**Smith Brothers**	**42.74**	**346**	P		**P**	**13 41 31.1**	**-0.2**
SAND	**Sanderson**	**43.90**	**326**			**P**	**13 41 42.3**	**+1.6**
SAND				IAmb		IAmb	13 41 43.3	
comp=Z,5.5nm,0.7s								
TXAR	**Lajitas Array**	**44.32**	**324**	P		**P**	**13 41 45.2**	**+1.0**
TXAR	**Lajitas Array**	**44.32**	**324**	P		**P**	**13 41 45.5**	**+1.3**
comp=Z,2.7nm,0.8s,baz=147,slow=8.5,SNR=19								
TXAR				pP		**pP**	**13 42 16.1**	**-1.5**
comp=Z,0.2nm,0.5s,baz=128,slow=5.1,SNR=1.8								
comp=Z,2.7nm,0.8s								
TX31	**Lajitas Ar. Si**	**44.32**	**324**	P		**P**	**13 41 45.3**	**+1.1**
SGCY	**Sterling City**	**44.87**	**328**			**P**	**13 41 49.8**	**+1.3**
SGCY				IAmb		IAmb	13 41 50.4	
comp=Z,12nm,1.1s								
APMT	**Aspermont**	**45.49**	**331**			**P**	**13 41 54.4**	**+1.2**
APMT				IAmb		IAmb	13 41 55.4	
comp=Z,6.4nm,0.6s								
DKNS	**Dickens**	**46.16**	**330**	IAmb		IAmb	13 42 32.5	
comp=Z,9.2nm,0.8s								
319A	**Douglas**	**49.18**	**321**	IAmb		IAmb	13 42 24.6	
comp=Z,7.6nm,0.9s								
ANMO	**Albuquerque**	**50.05**	**326**			**P**	**13 42 29.9**	**+1.3**
ANMO				IAmb		IAmb	13 42 30.9	
comp=Z,5.6nm,0.7s								
TUC	**Tucson**	**50.76**	**321**			**P**	**13 42 34.9**	**+1.0**
X16A	**Lo Mia Camp, P**	**52.58**	**322**	IAmb		IAmb	13 42 50.0	
comp=Z,4.4nm,0.8s								
PV01	**Paradox Valley**	**53.55**	**328**	IAmb		IAmb	13 43 29.5	
comp=Z,3.6nm,0.7s								
PV13	**Radium Mtn., P**	**53.70**	**327**	IAmb		IAmb	13 43 30.5	
comp=Z,7.4nm,0.8s								
PV03	**Paradox Valley**	**53.79**	**327**	IAmb		IAmb	13 42 58.3	
comp=Z,7.2nm,1.1s								
PV05	**Paradox Valley**	**53.79**	**327**	IAmb		IAmb	13 43 30.8	
comp=Z,6.3nm,0.8s								
IRM	**Iron Mountain**	**54.74**	**319**			**P**	**13 43 04.7**	**+1.7**
IRM				IAmb		IAmb	13 43 05.5	
comp=Z,4.2nm,0.9s								
KNB	**Kanab**	**55.16**	**324**	IAmb		IAmb	13 43 08.9	
comp=Z,3.6nm,0.8s								
LCMT	**Little Creek M**	**55.40**	**323**	IAmb		IAmb	13 43 10.4	
comp=Z,4.0nm,0.8s								
PSUT	**Pine Spring**	**56.78**	**324**	IAmb		IAmb	13 43 20.1	
comp=Z,3.5nm,0.9s								
WSHM	**Spangler Hills**	**57.14**	**319**	P		**P**	**13 43 21.6**	**+1.6**
WSHM				IAmb		IAmb	13 43 22.3	
comp=Z,4.0nm,0.9s								
TPNV	**Topopah Spring**	**57.19**	**321**	IAmb		IAmb	13 43 23.3	
comp=Z,3.7nm,0.9s								
PDAR	**Pinedale Array**	**57.49**	**331**	P		**P**	**13 43 22.9**	**+0.4**
comp=Z,0.8nm,0.9s,baz=126,slow=7.5,SNR=5.8								
PDAR				PcP		**PcP**	**13 44 14.3**	**-0.2**
comp=Z,0.4nm,0.7s,baz=119,slow=5.2,SNR=3.5								
comp=Z,0.8nm,0.9s								
HWUT	**Hardware Ranch**	**57.65**	**328**	IAmb		IAmb	13 43 25.1	
comp=Z,3.9nm,0.7s								
DSP	**Deep Springs**	**58.52**	**321**	IAmb		IAmb	13 43 32.3	
comp=Z,5.0nm,1.1s								
ULM	**Lac du Bonnet**	**58.63**	**345**	P		**P**	**13 43 29.3**	**-0.7**
comp=Z,6.0nm,0.7s,baz=153,slow=4.5,SNR=8.4								
ULM				PcP		**sP**	**13 44 18.6**	**-3.1**
comp=Z,2.8nm,0.6s,baz=156,slow=4.6,SNR=5.6								
comp=Z,6.0nm,0.7s								
BOZ	**Bozeman (W)**	**60.59**	**332**	P		**P**	**13 43 44.8**	**+1.0**
BOZ				IAmb		IAmb	13 43 46.3	
comp=Z,7.5nm,1.4s								
MFID	**Camas Ranch**	**61.17**	**327**			**P**	**13 43 49.0**	**+1.3**
MFID				IAmb		IAmb	13 43 50.0	
comp=Z,7.2nm,0.9s								
DBIC	**Dimbokro**	**71.44**	**81**	P		**P**	**13 44 54.1**	**+0.6**
DBIC				IAmb		IAmb	13 44 55.2	
comp=Z,13nm,1.2s								
DBIC	**Dimbokro**	**71.44**	**81**	P		**P**	**13 44 53.8**	**+0.3**
comp=Z,2.6nm,0.4s,baz=278,slow=3.2,SNR=7.6								
comp=Z,2.6nm,0.4s								
YKA	**Yellowknife Ar**	**74.45**	**342**	P		**P**	**13 45 10.6**	**+0.4**
comp=Z,1.5nm,0.8s,baz=143,slow=6.0,SNR=6.6								
comp=Z,1.5nm,0.8s								
BELA	**Belgrano 2**	**75.03**	**172**	P		**P**	**13 45 16.4**	**+2.9**
TORD	**Torodi Ar. Bea**	**78.79**	**75**	P		**P**	**13 45 35.3**	**-0.4**
comp=Z,2.1nm,0.7s,baz=303,slow=6.1,SNR=15								
TORD				pP		**pP**	**13 46 09.1**	**-3.7**
comp=Z,0.4nm,0.6s,baz=298,slow=3.4,SNR=2.9								
comp=Z,2.1nm,0.7s								
SNAA	**Sanae**	**79.02**	**162**	P		**P**	**13 45 38.3**	**+2.4**
SNAA				IAmb		IAmb	13 46 12.9	
comp=Z,5.9nm,0.9s								
SNAA	**Sanae**	**79.02**	**162**	P		**P**	**13 45 37.7**	**+1.9**
comp=Z,1.0nm,0.8s,baz=263,slow=7.4,SNR=5.1								
SNAA				pP		**pP**	**13 46 11.6**	**-1.5**
comp=Z,4.5nm,0.8s,baz=282,slow=5.4,SNR=9.5								
comp=Z,1.0nm,0.8s								
QSPA	**South Pole Qui**	**84.25**	**180**	P		**P**	**13 46 06.3**	**+2.8**
QSPA				IAmb		IAmb	13 46 43.8	
comp=Z,11nm,1.4s								
QSPA	**South Pole Qui**	**84.25**	**180**	P		**P**	**13 46 04.5**	**+1.0**
comp=Z,1.4nm,1.0s,baz=170,slow=5.3,SNR=2.8								
QSPA				pP		**pP**	**13 46 39.3**	**-1.9**
comp=Z,3.0nm,0.7s,baz=170,slow=3.6,SNR=8.2								
comp=Z,1.4nm,1.0s								
CRQM	**Cirque**	**84.46**	**333**	P		**P**	**13 46 06.4**	**+1.7**
BCAR	**Beaver Creek A**	**84.77**	**335**	P		**P**	**13 46 07.7**	**+1.7**
ILAR	**Eielson Array**	**87.50**	**336**	P		**P**	**13 46 19.6**	**+0.4**
comp=Z,1.4nm,0.9s,baz=120,slow=3.5,SNR=13								
comp=Z,1.4nm,0.9s								
BMAR	**Burnt Mountain**	**87.54**	**339**	P		**P**	**13 46 21.1**	**+1.6**
IMAR	**Indian Mountai**	**90.59**	**336**	P		**P**	**13 46 35.2**	**+1.4**
VNDA	**Vanda**	**91.06**	**191**	P		**P**	**13 46 37.1**	**+1.3**
comp=Z,0.3nm,0.6s,baz=65,slow=6.2,SNR=1.8								
VNDA				pP		**pP**	**13 47 12.0**	**-1.9**
comp=Z,0.8nm,1.0s,baz=46,slow=1.0,SNR=3.6								
comp=Z,0.3nm,0.6s								
ZALV	**Zalesovo Beam**	**129.40**	**15**	PKP		**PKiKP**	**13 52 39.7**	**-0.6**
comp=Z,1.1nm,0.5s,baz=336,slow=3.3,SNR=8.5								
KURBB	**Kurchatov Arra**	**130.31**	**22**	PKP		**PKiKP**	**13 52 41.6**	**-0.6**
comp=Z,

FINES					Lg		Lg	13 52 41.2	
	comp=Z,1.5nm,0.3s,baz=110,slow=26,SNR=20								
PVF	**Pernaja**	**1.59**	**257**		PB		**Pn**	**13 52 22.7**	**+0.1**
PVF					MSG			13 52 43.3	
	comp=Z,6.8nm,0.2s								
PVF					SG		**Sg**	**13 52 46.0**	**+1.8**
KAF	**Kangasniemi**	**1.74**	**313**		PG		**Pb**	**13 52 26.3**	**+0.3**
KAF					MSG			13 52 47.2	
	comp=Z,8.4nm,0.2s								
KAF					SN		**Sb**	**13 52 48.8**	**+0.5**
ARBE	**Arbavere**	**2.13**	**226**	*e*	P		**Pb**	**13 52 33.0**	**+0.3**
ARBE				*e*	S		**Sg**	**13 53 02.3**	**+0.6**
ARBE					AML		AML	13 53 03.7	
	comp=Z,32nm,0.4s								
ARBE					AML		AML	13 53 04.0	
	comp=E,82nm,0.5s								
ARBE					AML		AML	13 53 04.4	
	comp=N,79nm,0.1s								
ARBE	**Arbavere**	**2.13**	**226**		SG		**Sg**	**13 53 02.8**	**+1.1**
HEL1	**Helsinki**	**2.17**	**251**		PB		**Pb**	**13 52 33.5**	**+0.1**
HEL1					MSG			13 52 59.9	
	comp=Z,5.2nm,0.2s								
HEL1					SN		**Sb**	**13 53 01.7**	**+1.0**
NUR	**Nurmijarvi**	**2.18**	**260**		MSG			13 53 00.1	
	comp=Z,3.4nm,0.2s								
NUR					SG		**Sg**	**13 53 03.4**	**+0.3**
SUF	**Sumiainen**	**2.23**	**324**		PG		**Pb**	**13 52 34.4**	**0.0**
SUF					MSG			13 53 01.2	
	comp=Z,2.6nm,0.2s								
SUF					SG		**Sb**	**13 53 03.4**	**+0.9**
HEL5	**Espoo, Suvisaa**	**2.26**	**250**		PN		**Pn**	**13 52 34.3**	**+2.5**
HEL5					MSG			13 53 02.5	
	comp=Z,2.6nm,0.2s								
JOF	**Joensuu**	**2.26**	**28**		PG		**Pn**	**13 52 33.9**	**+2.0**
JOF					SG		**Sn**	**13 53 02.0**	**+1.6**
KEF	**Keuruu**	**2.32**	**304**		PB		**Pb**	**13 52 35.5**	**-0.4**
	baz=118								
KEF					MSG			13 53 04.0	
	comp=Z,2.3nm,0.2s								
KEF					SB		**Sb**	**13 53 05.8**	**+0.7**
MEF	**Metsahovi**	**2.38**	**254**	*e*	P		**Pn**	**13 52 35.8**	**+2.3**
MEF				*e*	S		**Sb**	**13 53 06.7**	**-0.2**
MEF					AML		AML	13 53 11.7	
	comp=E,6.2nm,0.8s								
MEF					AML		AML	13 53 15.0	
	comp=N,9.3nm,0.7s								
MEF					AML		AML	13 53 25.3	
	comp=Z,9.4nm,0.8s								
MEF	**Metsahovi**	**2.38**	**254**		PB		**Pb**	**13 52 37.3**	**+0.3**
MEF					MSG			13 53 06.1	
	comp=Z,2.9nm,0.2s								
MEF					SN		**Sb**	**13 53 06.7**	**-0.2**
NIF	**Nilsia**	**2.51**	**348**		PG		**Pb**	**13 52 38.9**	**-0.3**
NIF					MSG			13 53 08.4	
	comp=Z,2.1nm,0.2s								
NIF					SG		**Sb**	**13 53 10.2**	**-0.4**
VSU	**Vasula**	**2.74**	**206**	*e*	S		**Sn**	**13 53 06.3**	**-6.0**
RMF	**Romuvaara**	**3.31**	**7**		SG		**Sb**	**13 53 31.9**	**-1.7**
RAF	**Rauma**	**3.52**	**274**		SG		**Sg**	**13 53 45.8**	**-0.5**
AAL	**Aland**	**4.51**	**264**		SG		**Sg**	**13 54 16.7**	**-1.2**
I43RU	**DUBNA INFRASON**	**6.01**	**131**		I		I	14 29 00.0	
	baz=321,slow=321,SNR=1.0								
HFS	**Hagfors**	**7.59**	**271**		Pn		**Pn**	**13 53 45.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=82,slow=15,SNR=2.2								
HFS					Lg		Lg	13 55 49.0	
	comp=Z,0.1nm,0.3s,baz=81,slow=31,SNR=2.0								
	comp=Z,3.3nm,1.0s								
ARCES	**ARCESS Array B**	**8.74**	**352**		Pn		**Pn**	**13 54 01.0**	**+0.2**
	baz=165,slow=14,SNR=1.8								
ARCES					Sn		**Sn**	**13 55 35.3**	**-4.6**
	baz=166,slow=23,SNR=1.0								
ARCES					Lg		Lg	13 56 26.2	
	comp=Z,0.1nm,0.3s,baz=171,slow=34,SNR=3.2								
	comp=Z,2.0nm,0.9s								

*UPP **06** 14:03:13.5±0.2, 65.˚40N×20.˚84E, h0km, ML2.1, Suspected explosion*
*IDC **06** 14:03:14.8±3.0, 65.˚41N×20.˚94E, h0km, mbtmp2.9/2, ML1.4/2, Error ellipse: s-maj=54.1km s-min=12.2km az=86.0*
*HEL **06** 14:03:14.0±0.2, 65.˚40N×20.˚81E, h0km, ML1.8, Explosion*
ISC 06 14:03:12.5±0.8, 65.˚42N±0.˚02×20.˚73E±0.˚03, h0km, n38, σ1§15/62, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SJUU	**Sjulsmark**	**0.37**	**76**	P		**Pg**		**14 03 20.0**	**+0.4**
SJUU				S		**Sg**		**14 03 25.1**	**+0.6**
HARU	**Harads**	**0.75**	**8**	P		**Pg**		**14 03 28.0**	**+1.2**
HARU				S		**Sb**		**14 03 38.6**	**-0.5**
KALU	**Kalix**	**1.17**	**67**	P		**Pg**		**14 03 34.6**	**-0.3**
KALU	**Kalix**	**1.17**	**67**	PG		**Pg**		**14 03 34.7**	**-0.3**
KALU				SG		**Sb**		**14 03 50.3**	**-1.0**
ERTU	**Ertsjaerv**	**1.28**	**27**	P		**Pg**		**14 03 37.1**	**+0.1**
ERTU	**Ertsjaerv**	**1.28**	**27**	PB		**Pg**		**14 03 37.2**	**+0.2**
	baz=207								
ERTU				SN		**Sn**		**14 03 56.3**	**+0.8**
UMAU	**Umeaa**	**1.55**	**181**	P		**Pn**		**14 03 41.7**	**+0.4**
UMAU				S		**Sn**		**14 04 01.7**	**-0.3**
UMAU	**Umeaa**	**1.55**	**181**	PG		**Pn**		**14 03 41.5**	**+0.3**
UMAU				SG		**Sn**		**14 04 01.7**	**-0.3**
OBF8	**Ulkokalla**	**1.59**	**132**	PG		**Pn**		**14 03 42.1**	**+0.2**
OBF8				MSG				14 04 00.7	
	comp=Z,6.9nm,0.2s								
OBF8				SN		**Sg**		**14 04 03.9**	**+0.2**
TOF	**Tornio**	**1.62**	**64**	PG		**Pb**		**14 03 42.9**	**-0.3**
TOF				MSG				14 04 01.9	
	comp=Z,3.2nm,0.2s								
TOF				SG		**Sb**		**14 04 03.8**	**-0.4**
OBF0	**Syolatti, Pyha**	**1.76**	**120**	PG		**Pn**		**14 03 44.7**	**+0.6**
	baz=306								
OBF0				MSG				14 04 05.3	
	comp=Z,8.2nm,0.2s								
OBF0				SG		**Sg**		**14 04 08.1**	**-0.8**
PAJU	**Pajala**	**1.88**	**30**	PG		**Pb**		**14 03 47.4**	**-0.1**
	baz=209								
PAJU				SG		**Sb**		**14 04 12.4**	**+0.8**
OBF4	**Vikkela, Lumij**	**1.95**	**106**	PG		**Pb**		**14 03 47.8**	**-1.0**
OBF4				MSG				14 04 10.8	
	comp=Z,8.2nm,0.2s								
OBF4				SG		**Sg**		**14 04 14.7**	**-0.2**
OUF	**Merijarvi**	**2.01**	**120**	PG		**Pb**		**14 03 48.8**	**-1.1**
	baz=306								
OUF				MSG				14 04 12.6	
	comp=Z,5.2nm,0.2s								
OUF				SG		**Sb**		**14 04 14.7**	**-0.6**
HUSU	**Husum**	**2.19**	**198**	PG		**Pb**		**14 03 52.6**	**-0.3**
	baz=18								
HUSU				SG		**Sb**		**14 04 20.9**	**+0.3**
OUL	**Oulu**	**2.20**	**97**	PB		**Pn**		**14 03 51.0**	**+0.8**
OUL				SG		**Sb**		**14 04 19.3**	**-1.5**
RANF	**Ranua**	**2.57**	**74**	PB		**Pb**		**14 03 58.1**	**-1.3**
	baz=260								
RANF				SG		**Sb**		**14 04 32.0**	**+0.4**
LANU	**Lannavaara**	**2.68**	**10**	PB		**Pn**		**14 03 58.8**	**+1.9**
LANU				SG		**Sg**		**14 04 38.1**	**-0.5**
HEMU	**Hemsoen**	**3.00**	**204**	PN		**Pn**		**14 04 02.7**	**+1.5**
HEMU				SB		**Sn**		**14 04 40.3**	**+2.4**
KU2	**Taivalkoski**	**3.13**	**81**	PG		**Pb**		**14 04 09.9**	**+1.0**
HEF	**Hetta**	**3.21**	**20**	PG		**Pb**		**14 04 10.3**	**0.0**
MSF	**Maaselka**	**3.47**	**78**	SN		**Sn**		**14 04 50.7**	**+1.2**
KIF	**Kilpisjarvi**	**3.60**	**0**	PB		**Pb**		**14 04 14.0**	**-2.9**
SUF	**Sumiainen**	**3.61**	**136**	PN		**Pn**		**14 04 11.8**	**+2.2**
OLKF	**Oulanka, Finla**	**3.67**	**72**	PN		**Pn**		**14 04 11.7**	**+1.2**
OLKF				SN		**Sn**		**14 04 56.0**	**+1.6**
KU1	**Kurvinen**	**3.68**	**84**	SN		**Sn**		**14 04 55.0**	**+0.4**
NIF	**Nilsia**	**3.69**	**120**	PN		**Pn**		**14 04 11.7**	**+1.0**
KTK1	**Kautokeino**	**3.73**	**14**	PB		**Pb**		**14 04 17.5**	**-1.7**
KEF	**Keuruu**	**3.75**	**149**	SN		**Sn**		**14 04 56.8**	**+0.6**
I37NO	**I37NO**	**3.76**	**348**	I		I		14 27 20.0	
	baz=167,slow=331,SNR=3.6								
KU6	**Riekki**	**3.83**	**77**	SN		**Sn**		**14 04 59.0**	**+0.7**
KAF	**Kangasniemi**	**4.14**	**141**	PN		**Pn**		**14 04 18.3**	**+1.4**
KAF				SN		**Sn**		**14 05 07.2**	**+1.3**
VRF	**Varrio**	**4.24**	**53**	PN		**Pn**		**14 04 18.2**	**-0.1**
VRF				SN		**Sn**		**14 05 08.2**	**-0.2**
RAJF	**Raja-Jooseppi**	**4.27**	**41**	SN		**Sn**		**14 05 08.6**	**-0.6**
RAF	**Rauma**	**4.44**	**174**	PN		**Pn**		**14 04 21.6**	**+0.6**
RAF				SG		**Sg**		**14 05 32.0**	**-3.1**
ARCES	**ARCESS Array B**	**4.52**	**22**	Pn		**Pn**		**14 04 22.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=203,slow=14,SNR=6.4								
ARCES				Sn		**Sn**		**14 05 13.5**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=204,slow=24,SNR=1.3								
ARCES					Lg		Lg	14 05 28.9	
	comp=Z,0.2nm,0.3s,baz=202,slow=28,SNR=6.6								
	comp=Z,4.1nm,1.1s								
FIA0	**FINESS Array S**	**4.66**	**147**	PN		**Pn**		**14 04 25.2**	**+1.2**
FIA0				SN		**Sn**		**14 05 19.9**	**+1.2**
FINES	**FINESS Array B**	**4.66**	**147**	Pn		**Pn**		**14 04 25.4**	**+1.4**
	baz=337,slow=12,SNR=1.3								
FINES					Pg		**Pb**	**14 04 34.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=332,slow=15,SNR=4.8								
FINES					Sn		**Sn**	**14 05 16.4**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=338,slow=21,SNR=1.8								
FINES					Lg		Lg	14 05 35.1	
	comp=Z,0.4nm,0.3s,baz=335,slow=26,SNR=6.9								
	comp=Z,2.1nm,1.1s								

*ROM **06** 14:11:33.9±0.1, 39.˚259N±0.˚004×16.˚117E±0.˚007, h32km, ML3.4/196, Error ellipse: s-maj=0.5km s-min=0.3km az=79.0*
*PDG **06** 14:11:35.1±0.1, 39.˚48N×16.˚32E, h13km, ML3.6/9, Error ellipse: s-maj=0.8km s-min=1.0km az=0.0*
*BEO **06** 14:11:41.9±1.5, 39.˚57N×16.˚45E, h48km, ML3.1/13*
ISC 06 14:11:34.2±0.9, 39.˚28N±0.˚02×16.˚17E±0.˚02, h32km±6km, n86, σ2§06/125, 14C-1D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAR1	**CAROLEI**	**0.05**	**129**	⇑*i*P		**Pb**		**14 11 39.7**	**0.0**
CAR1				S		**Sb**		**14 11 42.8**	**-0.6**
CAR1				AML		AML			
CAR1				AML		AML			
CAR1				AML		AML			
CAR1				AML		AML			
CAR1				AML		AML			
CAR1				AML		AML			
CAR1				AML		AML			
CAR1				AML		AML			
CAR1				AML		AML			
CAR1				AML		AML			
SPS2	**Spezzano della**	**0.13**	**85**	⇑*i*P		**Pb**		**14 11 40.1**	**0.0**
SPS2				S		**Sn**		**14 11 43.9**	**+0.1**
SPS2				AML		AML			
	comp=E,22800μm,0.1s								
SPS2				AML		AML			
	comp=N,69550μm,0.2s								
SPS2				AML		AML			
	comp=N,69543μm,0.2s								
SPS2				AML		AML			
	comp=E,22828μm,0.1s								
CELI	**Celico**	**0.29**	**66**	⇑*i*P		**Pb**		**14 11 42.1**	**+0.2**
CELI				S		**Sb**		**14 11 47.3**	**+0.2**
CELI				AML		AML			
	comp=E,21050μm,0.3s								
CELI				AML		AML			
	comp=E,52800μm,0.3s								
CELI				AML		AML			
	comp=N,26950μm,0.2s								
CELI				AML		AML			
	comp=N,69100μm,0.2s								
CELI				AML		AML			
	comp=N,69076μm,0.2s								
CELI				AML		AML			
	comp=N,26982μm,0.2s								
TIP	**Timpagrande**	**0.47**	**102**	⇑*i*P		**Pb**		**14 11 45.0**	**+0.6**
TIP				S		**Sb**		**14 11 51.7**	**+0.4**
TIP				AML		AML			
	comp=E,3440μm,1.0s								
TIP				AML		AML			
	comp=N,4205μm,1.0s								
TIP				AML		AML			
	comp=N,4190μm,1.0s								
TIP				AML		AML			
	comp=E,3400μm,1.0s								
TIP				AML		AML			
	comp=N,4181μm,0.3s								
TIP				AML		AML			
	comp=N,4174μm,0.3s								
TIP				AML		AML			
	comp=E,3251μm,0.5s								
TIP				AML		AML			
	comp=E,3210μm,0.5s								
GRI	**Girifalco**	**0.50**	**157**	⇑P		**Pb**		**14 11 44.9**	**+0.1**
GRI				S		**Sb**		**14 11 52.1**	**+0.1**
GRI				AML		AML			
	comp=N,25550μm,0.2s								
GRI				AML		AML			
	comp=E,18750μm,0.6s								
GRI				AML		AML			
	comp=N,25582μm,0.2s								
GRI				AML		AML			
	comp=E,18787μm,0.6s								
GRIS	**Grisolia**	**0.52**	**332**	⇑P		**Pb**		**14 11 45.1**	**0.0**
GRIS				S		**Sb**		**14 11 52.8**	**+0.3**
SALB	**San Lorenzo Be**	**0.61**	**13**	⇑P		**Pb**		**14 11 46.9**	**+0.3**
SALB				AML		AML			
	comp=E,4815μm,0.8s								
SALB				AML		AML			
	comp=N,3025μm,1.5s								
SALB				AML		AML			
	comp=N,3025μm,0.5s								
SALB				AML		AML			
	comp=N,2463μm,0.2s								
SALB				AML		AML			
	comp=E,4423μm,0.3s								
MMN	**Mormanno**	**0.62**	**347**	⇑P		**Pb**		**14 11 47.0**	**+0.2**
MMN				S		**Sb**		**14 11 56.2**	**+0.9**
MMN				AML		AML			
	comp=E,15450μm,0.3s								
MMN				AML		AML			
	comp=N,19050μm,0.2s								
MMN				AML		AML			
	comp=N,19057μm,0.2s								
MMN				AML		AML			
	comp=E,12392μm,0.2s								
LADO	**San Nicola del**	**0.63**	**90**	P		**Pb**		**14 11 47.2**	**+0.3**
LADO				S		**Sb**		**14 11 57.2**	**+1.6**
LADO				AML		AML			
	comp=E,246μm,1.1s								
LADO				AML		AML			
	comp=N,191μm,0.5s								
LADO				AML		AML			
	comp=N,191μm,1.5s								
LADO				AML		AML			
	comp=N,191μm,0.5s								
LADO				AML		AML			
	comp=E,225μm,0.3s								
CUC	**Castrocucco**	**0.76**	**339**	P		**Pn**		**14 11 48.3**	**-0.5**
CUC				AML		AML			
	comp=E,8120μm,0.4s								
CUC				AML		AML			
	comp=E,8050μm,0.4s								
CUC				AML		AML			
	comp=N,3695μm,0.6s								
CUC				AML		AML			
	comp=N,3815μm,0.6s								
CUC				AML		AML			
	comp=N,3815μm,1.4s								
CUC				AML		AML			
	comp=N,3695μm,1.4s								
CUC				AML		AML			
	comp=E,8050μm,0.4s								
CUC				AML		AML			
	comp=E,8123μm,0.4s								
CUC				AML		AML			
	comp=N,3527μm,0.3s								
CUC				AML		AML			
	comp=N,3648μm,0.3s								
ORI	**Oriolo Calabro**	**0.81**	**16**	P		**Pn**		**14 11 50.6**	**+1.1**
ORI				AML		AML			
	comp=N,5595μm,0.4s								
ORI				AML		AML			
	comp=N,5595μm,1.6s								
ORI				AML		AML			
	comp=E,6600μm,0.6s								
ORI				AML		AML			
	comp=N,5592μm,0.4s								
ORI				AML		AML			
	comp=E,6600μm,0.6s								
PLAC	**Placanica**	**0.86**	**166**	⇑P		**Pn**		**14 11 50.5**	**+0.3**
PLAC				S		**Sn**		**14 12 02.6**	**+1.0**
PLAC				AML		AML			
	comp=E,3665μm,0.3s								
PLAC				AML		AML			
	comp=N,3445μm,0.4s								
PLAC				AML		AML			
	comp=E,3665μm,1.7s								
PLAC				AML		AML			
	comp=E,2885μm,0.9s								
PLAC				AML		AML			
	comp=N,2920μm,0.9s								
PLAC				AML		AML			
	comp=N,3443μm,0.4s								
PLAC				AML		AML			
	comp=E,3668μm,0.3s								
PLAC				AML		AML			
	comp=N,2502μm,0.5s								
PLAC				AML		AML			
	comp=E,2360μm,0.5s								
IST3	**Stromboli F**	**0.87**	**237**	P		**Pn**		**14 11 50.1**	**-0.2**
IST3				AML		AML			
	comp=N,10020μm,0.2s								
IST3				AML		AML			
	comp=E,6835μm,0.4s								
IST3				AML		AML			
	comp=E,6149μm,0.1s								
IST3				AML		AML			
	comp=N,10024μm,0.2s								
ISTR	**Stromboli Gino**	**0.91**	**237**	P		**Pn**		**14 11 50.4**	**-0.3**
SIRI	**Monte Sirino -**	**0.93**	**346**	P		**Pn**		**14 11 51.1**	**0.0**
SIRI				AML		AML			
	comp=E,3135μm,0.9s								
SIRI				AML		AML			
	comp=E,3140μm,0.9s								
SIRI				AML		AML			
	comp=E,3295μm,0.9s								
SIRI				AML		AML			
	comp=N,3535μm,0.2s								
SIRI				AML		AML			
	comp=E,3295μm,1.1s								
SIRI				AML		AML			
	comp=E,3140μm,1.1s								
SIRI				AML		AML			
	comp=N,3420μm,0.2s								
SIRI				AML		AML			
	comp=E,3255μm,0.4s								
SIRI				AML		AML			
	comp=E,3126μm,0.4s								
SIRI				AML		AML			
	comp=N,3537μm,0.2s								
SIRI				AML		AML			
	comp=N,3416μm,0.2s								
MGR	**Morigerati**	**0.98**	**331**	⇑P		**Pn**		**14 11 51.5**	**-0.3**
MGR				S		**Sn**		**14 12 04.0**	**-0.5**
MGR				AML		AML			
	comp=E,4340μm,0.5s								
MGR				AML		AML			
	comp=N,3810μm,0.7s								
MGR				AML		AML			
	comp=N,3365μm,0.7s								
MGR				AML		AML			
	comp=E,3785μm,0.5s								
MGR				AML		AML			
	comp=E,4335μm,0.5s								
MGR				AML		AML			
	comp=N,3810μm,1.3s								
MGR				AML		AML			
	comp=N,3365μm,1.3s								
MGR				AML		AML			
	comp=E,3515μm,0.3s								
MGR				AML		AML			
	comp=E,3895μm,0.3s								
MGR				AML		AML			
	comp=N,3436μm,0.2s								
MGR				AML		AML			
	comp=N,3362μm,0.2s								
BULG	**Bulgheria - Ca**	**1.00**	**323**	⇑P		**Pn**		**14 11 52.6**	**+0.4**
BULG				S		**Sn**		**14 12 05.9**	**+0.7**
BULG				AML		AML			
	comp=N,4995μm,1.6s								
BULG				AML		AML			
	comp=E,2975μm,0.5s								
BULG				AML		AML			
	comp=N,5245μm,1.6s								
BULG				AML		AML			
	comp=E,2835μm,0.5s								
BULG				AML		AML			
	comp=E,2930μm,0.5s								
BULG				AML		AML			
	comp=E,2759μm,0.5s								
BULG				AML		AML			
	comp=N,4784μm,0.4s								
BULG				AML		AML			
	comp=N,5040μm,0.4s								
CEL	**Celeste**	**1.04**	**192**	⇑P		**Pn**		**14 11 52.4**	**-0.3**
CEL				S		**Sn**		**14 12 05.0**	**-1.2**
CEL				AML		AML			
	comp=E,2150μm,0.5s								
CEL				AML		AML			
	comp=N,1615μm,0.3s								
CEL				AML		AML			
	comp=E,2180μm,0.5s								
CEL				AML		AML			
	comp=E,2180μm,1.5s								
CEL				AML		AML			
	comp=E,2150μm,1.5s								
CEL				AML		AML			
	comp=N,1635μm,0.8s								
CEL				AML		AML			
	comp=E,1765μm,0.3s								
CEL				AML		AML			
	comp=E,1811μm,0.3s								
CEL				AML		AML			
	comp=N,1619μm,0.3s								
CEL				AML		AML			
	comp=N,1615μm,0.3s								
MCEL	**Monticello**	**1.08**	**345**	P		**Pn**		**14 11 53.5**	**+0.2**
MCEL				AML		AML			
	comp=E,1080μm,0.4s								
MCEL				AML		AML			
	comp=E,1108μm,0.4s								
MCEL				AML		AML			
	comp=N,1150μm,0.5s								
MCEL				AML		AML			
	comp=N,1185μm,0.5s								
MCEL				AML		AML			
	comp=N,1189μm,0.5s								
MCEL				AML		AML			
	comp=N,1151μm,0.5s								
MCEL				AML		AML			
	comp=E,1109μm,0.4s								
MCEL				AML		AML			
	comp=E,1079μm,0.4s								
SICLA	**Scilla**	**1.08**	**199**	P		**Pn**		**14 11 53.1**	**-0.1**
SICLA				S		**Sn**		**14 12 05.9**	**-1.2**
SICLA				AML		AML			
	comp=E,2115μm,0.9s								
SICLA				AML		AML			
	comp=N,2535μm,0.3s								
SICLA				AML		AML			
	comp=N,2535μm,1.7s								
SICLA				AML		AML			
	comp=N,2368μm,0.3s								
SICLA				AML		AML			
	comp=E,1954μm,0.3s								
MSRU	**Castanea**	**1.14**	**207**	⇑*i*P		**Pn**		**14 11 53.8**	**-0.2**
MSRU				S		**Sn**		**14 12 07.6**	**-1.0**
MSRU				AML		AML			
	comp=N,4250μm,0.8s								
MSRU				AML		AML			
	comp=N,4250μm,1.2s								
MSRU				AML		AML			
	comp=E,4525μm,0.5s								
MSRU				AML		AML			
	comp=N,4116μm,0.7s								
MSRU				AML		AML			
	comp=E,4334μm,0.4s								
GMB	**Gambarie**	**1.14**	**193**	AML		AML			
	comp=N,11800μm,0.2s								
GMB				AML		AML			
	comp=E,6460μm,0.2s								
GMB				AML		AML			
	comp=N,11786μm,0.2s								
GMB				AML		AML			
	comp=E,6461μm,0.2s								
SLCN	**Sala Consilina**	**1.18**	**340**	P		**Pn**		**14 11 54.6**	**0.0**
SLCN				AML		AML			
	comp=N,1690μm,0.3s								
SLCN				AML		AML			
	comp=E,2820μm,0.3s								
SLCN				AML		AML			
	comp=E,3165μm,0.3s								
SLCN				AML		AML			
	comp=N,1885μm,0.3s								

SLCN				AML	AML	
	comp=E,2820µm,1.7s					
SLCN				AML	AML	
	comp=E,2822µm,0.3s					
SLCN				AML	AML	
	comp=E,3165µm,0.3s					
SLCN				AML	AML	
	comp=N,1883µm,0.3s					
SLCN				AML	AML	
	comp=N,1688µm,0.3s					
SOI	**Samo**	**1.21**	**184**	P	**Pn**	**14 11 55.2 +0.2**
SOI				S	**Sn**	**14 12 10.0 -0.3**
SOI				AML	AML	
	comp=E,1025µm,0.4s					
SOI				AML	AML	
	comp=N,1014µm,0.5s					
SOI				AML	AML	
	comp=E,1025µm,1.6s					
SOI				AML	AML	
	comp=N,1013µm,0.5s					
SOI				AML	AML	
	comp=E,1023µm,0.4s					
CMPR	**Campora**	**1.23**	**328**	P	**Pn**	**14 11 55.8 +0.5**
CMPR				S	**Sn**	**14 12 11.2 +0.4**
CMPR				AML	AML	
	comp=E,1505µm,1.4s					
CMPR				AML	AML	
	comp=N,1530µm,0.3s					
CMPR				AML	AML	
	comp=E,1505µm,0.6s					
CMPR				AML	AML	
	comp=N,1526µm,0.3s					
CMPR				AML	AML	
	comp=E,1429µm,0.2s					
PTRP	**Pietrapertosa**	**1.24**	**356**	P	**Pn**	**14 11 57.4 +1.9**
PTRP				AML	AML	
	comp=N,818µm,0.8s					
PTRP				AML	AML	
	comp=E,825µm,0.7s					
PTRP				AML	AML	
	comp=N,818µm,1.2s					
PTRP				AML	AML	
	comp=E,825µm,0.7s					
PTRP				AML	AML	
	comp=N,818µm,0.8s					
LLI	**Lipari**	**1.27**	**229**	P	**Pn**	**14 11 56.2 +0.5**
LLI				S	**Sn**	**14 12 12.3 +0.7**
LLI				AML	AML	
	comp=E,10790µm,0.6s					
LLI				AML	AML	
	comp=N,18000µm,0.5s					
LLI				AML	AML	
	comp=N,17994µm,0.5s					
LLI				AML	AML	
	comp=E,10780µm,0.6s					
VPL	**Vulcano Piano**	**1.29**	**226**	P	**Pn**	**14 11 56.1 +0.1**
VPL				AML	AML	
	comp=E,3610µm,0.5s					
VPL				AML	AML	
	comp=N,2545µm,0.5s					
VPL				AML	AML	
	comp=E,3609µm,0.5s					
VPL				AML	AML	
	comp=N,2544µm,0.5s					
MPNC	**Port Mandanici**	**1.30**	**210**	P	**Pn**	**14 11 55.9 -0.4**
MPNC				S	**Sn**	**14 12 11.3 -1.2**
MPNC				AML	AML	
	comp=N,5100µm,0.6s					
MPNC				AML	AML	
	comp=E,3955µm,0.5s					
MPNC				AML	AML	
	comp=N,3466µm,0.3s					
MPNC				AML	AML	
	comp=E,3957µm,0.5s					
MTTG	**Motta San Giov**	**1.33**	**196**	P	**Pn**	**14 11 56.4 -0.2**
MTTG				AML	AML	
	comp=E,1116µm,0.4s					
MTTG				AML	AML	
	comp=N,1295µm,0.5s					
MTTG				AML	AML	
	comp=N,1295µm,0.5s					
MTTG				AML	AML	
	comp=E,1114µm,0.4s					
MIGL	**Miglionico**	**1.34**	**9**	P	**Pb**	**14 11 59.6 +0.8**
MIGL				AML	AML	
	comp=N,2830µm,0.9s					
MIGL				AML	AML	
	comp=E,2135µm,0.7s					
MIGL				AML	AML	
	comp=N,2830µm,1.1s					
MIGL				AML	AML	
	comp=E,2137µm,0.7s					
MIGL				AML	AML	
	comp=N,2831µm,0.9s					
CDRU	**Civita di Ruta**	**1.38**	**331**	P	**Pn**	**14 11 57.5 +0.2**
CDRU				S	**Sn**	**14 12 14.7 +0.2**
CDRU				AML	AML	
	comp=E,1610µm,0.3s					
CDRU				AML	AML	
	comp=N,736µm,0.5s					
CDRU				AML	AML	
	comp=E,1610µm,1.7s					
CDRU				AML	AML	
	comp=E,1608µm,0.3s					
CDRU				AML	AML	
	comp=N,694µm,0.2s					
PZUN	**Potenza**	**1.39**	**349**	P	**Pb**	**14 12 00.6 +1.0**
LTRZ	**Laterza**	**1.41**	**21**	P	**Pn**	**14 11 59.8 +2.0**
LTRZ				AML	AML	
	comp=N,1030µm,1.2s					
LTRZ				AML	AML	
	comp=E,580µm,0.3s					
LTRZ				AML	AML	
	comp=N,1030µm,0.8s					
LTRZ				AML	AML	
	comp=N,153µm,0.8s					
LTRZ				AML	AML	
	comp=E,576µm,0.3s					
LTRZ				AML	AML	
	comp=E,581µm,0.3s					
LTRZ				AML	AML	
	comp=N,699µm,0.3s					
MATE	**Matera**	**1.43**	**17**	P	**Pn**	**14 12 00.2 +2.3**
MATE				AML	AML	
	comp=E,890µm,0.7s					
MATE				AML	AML	
	comp=N,656µm,0.6s					
MATE				AML	AML	
	comp=E,890µm,0.7s					
MATE				AML	AML	
	comp=N,656µm,0.6s					
IFIL	**Filicudi I Eol**	**1.44**	**241**	P	**Pn**	**14 11 57.8 -0.3**
IFIL				AML	AML	
	comp=E,8405µm,0.4s					
IFIL				AML	AML	
	comp=N,2525µm,1.0s					
IFIL				AML	AML	
	comp=E,8018µm,0.3s					
IFIL				AML	AML	
	comp=N,2348µm,0.2s					
AIO	**Antillo**	**1.50**	**209**	P	**Pn**	**14 11 58.9 -0.1**
AIO				S	**Sn**	**14 12 17.0 -0.5**
AIO				AML	AML	
	comp=N,1145µm,0.6s					
AIO				AML	AML	
	comp=N,1145µm,1.4s					
AIO				AML	AML	
	comp=E,1188µm,0.2s					
AIO				AML	AML	
	comp=E,1187µm,0.2s					
AIO				AML	AML	
	comp=N,891µm,0.3s					
TAR1	**Taranto**	**1.51**	**34**	P	**Pn**	**14 12 00.9 +1.8**
TAR1				AML	AML	
	comp=N,782µm,0.3s					
TAR1				AML	AML	
	comp=E,854µm,0.6s					
TAR1				AML	AML	
	comp=E,854µm,1.4s					
TAR1				AML	AML	
	comp=N,782µm,1.7s					
TAR1				AML	AML	
	comp=N,783µm,0.3s					
TAR1				AML	AML	
	comp=E,764µm,0.3s					
ACER	**Acerenza**	**1.51**	**354**	P	**Pn**	**14 12 01.6 +2.5**
ACER				AML	AML	
	comp=E,1112µm,0.4s					
ACER				AML	AML	
	comp=E,1169µm,0.4s					
ACER				AML	AML	
	comp=N,916µm,0.6s					
ACER				AML	AML	
	comp=N,894µm,0.6s					
ACER				AML	AML	
	comp=N,918µm,0.6s					
ACER				AML	AML	
	comp=N,894µm,0.6s					
ACER				AML	AML	
	comp=E,1170µm,0.4s					
ACER				AML	AML	
	comp=E,1112µm,0.4s					
MRLC	**Muro Lucano**	**1.56**	**341**	P	**Pn**	**14 12 01.6 +1.8**
MRLC				AML	AML	
	comp=N,440µm,1.1s					
MRLC				AML	AML	
	comp=N,440µm,0.9s					
MRLC				AML	AML	
	comp=E,363µm,1.6s					
MRLC				AML	AML	
	comp=E,175µm,0.4s					
MRLC				AML	AML	
	comp=E,345µm,0.4s					
MRLC				AML	AML	
	comp=N,393µm,0.3s					
MRLC				AML	AML	
	comp=N,193µm,0.3s					
IACL	**Alicudi**	**1.60**	**243**	P	**Pn**	**14 12 00.2 0.0**
IACL				S	**Sn**	**14 12 18.8 -1.0**
IACL				AML	AML	
	comp=E,2110µm,0.4s					
IACL				AML	AML	
	comp=N,1660µm,0.4s					
IACL				AML	AML	
	comp=E,2112µm,0.4s					
IACL				AML	AML	
	comp=N,1660µm,0.4s					
MUCR	**Ucria**	**1.60**	**220**	P	**Pn**	**14 12 00.5 +0.1**
MUCR				S	**Sn**	**14 12 19.4 -0.6**
MUCR				AML	AML	
	comp=E,924µm,0.3s					
MUCR				AML	AML	
	comp=N,1215µm,0.6s					
MUCR				AML	AML	
	comp=E,924µm,1.7s					
MUCR				AML	AML	
	comp=E,718µm,0.4s					
MUCR				AML	AML	
	comp=N,976µm,0.7s					
ECTS	**Castiglione**	**1.62**	**211**	P	**Pn**	**14 12 01.4 +0.8**
ECTS				AML	AML	
	comp=E,834µm,1.4s					
ECTS				AML	AML	
	comp=N,906µm,0.7s					
ECTS				AML	AML	
	comp=E,834µm,0.6s					
ECTS				AML	AML	
	comp=N,906µm,1.3s					
ECTS				AML	AML	
	comp=E,820µm,0.7s					
ECTS				AML	AML	
	comp=N,853µm,0.3s					
NOCI	**Noci**	**1.66**	**24**	P	**Pn**	**14 12 02.9 +1.8**
NOCI				AML	AML	
	comp=E,536µm,1.5s					
NOCI				AML	AML	
	comp=N,650µm,0.7s					
NOCI				AML	AML	
	comp=N,650µm,1.3s					
NOCI				AML	AML	
	comp=E,536µm,0.5s					
NOCI				AML	AML	
	comp=E,504µm,0.4s					
NOCI				AML	AML	
	comp=N,609µm,0.4s					
AMUR	**Altamura**	**1.66**	**12**	P	**Pn**	**14 12 02.6 +1.5**
AMUR				AML	AML	
	comp=E,404µm,0.5s					
AMUR				AML	AML	
	comp=E,404µm,1.5s					
AMUR				AML	AML	
	comp=N,386µm,0.3s					
AMUR				AML	AML	
	comp=E,404µm,0.5s					
AMUR				AML	AML	
	comp=N,386µm,0.3s					
PALZ	**Palazzo San Ge**	**1.67**	**355**	P	**Pn**	**14 12 02.9 +1.6**
PALZ				AML	AML	
	comp=E,513µm,0.5s					
PALZ				AML	AML	
	comp=N,420µm,0.9s					
PALZ				AML	AML	
	comp=E,513µm,1.5s					
PALZ				AML	AML	
	comp=N,420µm,1.1s					
PALZ				AML	AML	
	comp=E,513µm,0.5s					
PALZ				AML	AML	
	comp=N,420µm,0.9s					
MCRV	**Calabrutti - M**	**1.68**	**333**	P	**Pn**	**14 12 02.6 +1.0**
MCRV				S	**Sn**	**14 12 24.0 +1.9**
MCRV				AML	AML	
	comp=N,942µm,1.0s					
MCRV				AML	AML	
	comp=E,1019µm,0.3s					
MCRV				AML	AML	
	comp=N,942µm,1.0s					
MCRV				AML	AML	
	comp=E,1021µm,0.3s					
MCRV				AML	AML	
	comp=N,915µm,0.3s					
EPIT	**Pozzo Pitarron**	**1.71**	**211**	P	**Pn**	**14 12 03.6 +1.7**
EMCN	**Etna Monte Con**	**1.73**	**211**	P	**Pn**	**14 12 04.2 +1.9**
MSFR	**San Fratello**	**1.75**	**225**	P	**Pn**	**14 12 03.0 +0.5**
MSFR				AML	AML	
	comp=E,1316µm,0.2s					
MSFR				AML	AML	
	comp=N,798µm,0.3s					
MSFR				AML	AML	
	comp=E,1314µm,0.2s					
MSFR				AML	AML	
	comp=N,798µm,0.3s					
MNO	**Monte Soro**	**1.77**	**221**	P	**Pn**	**14 12 03.8 +0.9**
MNO				AML	AML	
	comp=E,1002µm,0.7s					
MNO				AML	AML	
	comp=E,1002µm,1.3s					
MNO				AML	AML	
	comp=E,1004µm,0.7s					
MNO				AML	AML	
	comp=N,919µm,0.5s					
IFOR	**Ischia Forio P**	**2.28**	**310**	AML	AML	
	comp=E,1625µm,0.5s					
IFOR				AML	AML	
	comp=N,1934µm,0.7s					
PTRJ	**Pietraroja**	**2.43**	**329**	AML	AML	
	comp=E,16µm,0.5s					
PTRJ				AML	AML	
	comp=N,165µm,0.3s					
PTRJ				AML	AML	
	comp=E,174µm,0.5s					
PTRJ				AML	AML	
	comp=N,266µm,0.6s					
LRP	**Arpino**	**3.07**	**321**	AML	AML	
	comp=E,86µm,0.3s					
LRP				AML	AML	
	comp=E,86µm,0.3s					
LRP				AML	AML	
	comp=N,219µm,1.6s					
LRP				AML	AML	
	comp=N,219µm,0.4s					
LRP				AML	AML	
	comp=N,208µm,3.6s					
IGT	**Igoumenitsa**	**3.24**	**84**	*e*Pn	**Pn**	**14 12 24.7 +1.9**
IGT				*e*Sn	**Sn**	**14 13 00.2 -0.1**
ULC	**Ulcinj**	**3.56**	**40**	*e*Pn	**Pn**	**14 12 28.2 +0.9**
ULC				*i* Sn	**Sn**	**14 13 08.6 +0.4**
HCY	**Herceg Novi**	**3.62**	**28**	*e*Pn	**Pn**	**14 12 28.9 +0.8**
HCY				*i* Sn	**Sn**	**14 13 10.1 +0.4**
DRME	**Dracevica, Mon**	**3.70**	**37**	*i* Pn	**Pn**	**14 12 29.9 +0.7**
DRME				*i* Sn	**Sn**	**14 13 11.9 +0.3**
STON	**Ston**	**3.77**	**17**	AML	AML	
	comp=N,38µm,1.0s					
STON				AML	AML	
	comp=E,48µm,0.6s					
STON				AML	AML	
	comp=E,44µm,0.2s					
STON				AML	AML	
	comp=N,35µm,0.2s					
TREB	**Trebinje**	**3.81**	**25**	*e*Pn	**Pn**	**14 12 31.9 +1.2**
TREB				*e*Sn	**Sn**	**14 13 11.5 -2.9**
TERO	**Teramo**	**3.86**	**331**	AML	AML	
	comp=E,403µm,1.3s					
TERO				AML	AML	
	comp=E,18µm,0.6s					
TERO				AML	AML	
	comp=N,23µm,0.5s					
TERO				AML	AML	
	comp=N,82µm,0.8s					
CEME	**Cevo**	**3.87**	**32**	*e*Pn	**Pn**	**14 12 32.4 +0.8**
CEME				*i* Sn	**Sn**	**14 13 16.1 +0.1**
PDG	**Podgorica**	**3.92**	**36**	*e*Pn	**Pn**	**14 12 33.8 +1.6**
PDG				*e*Sn	**Sn**	**14 13 11.9 -5.2**
PDG	**Podgorica**	**3.92**	**36**	*e*Pn	**Pn**	**14 12 33.1 +0.9**
PDG				*i* Sn	**Sn**	**14 13 17.2 +0.1**
BRY	**Bratogost**	**4.04**	**26**	*i* Pn	**Pn**	**14 12 34.8 +0.9**
BRY				*i* Sn	**Sn**	**14 13 20.2 0.0**
FNA	**Florina**	**4.27**	**68**	*e*Pn	**Pn**	**14 12 39.7 +2.6**
FNA				*e*Sn	**Sn**	**14 13 23.0 -2.9**
KOME	**Kolasin**	**4.37**	**34**	*e*Pn	**Pn**	**14 12 39.5 +1.0**
KOME				*i* Sn	**Sn**	**14 13 28.2 -0.2**
UPM	**Unac-Piva**	**4.43**	**27**	*e*Pn	**Pn**	**14 12 40.2 +0.8**
UPM				*i* Sn	**Sn**	**14 13 29.7 -0.2**
IVA	**Berane**	**4.56**	**37**	*e*Pn	**Pn**	**14 12 42.0 +0.9**
IVA				*i* Sn	**Sn**	**14 13 32.8 -0.2**
SJES	**Sjenica**	**4.90**	**35**	*e*Pn	**Pn**	**14 12 49.0 +3.2**
SJES				*e*Sn	**Sn**	**14 13 35.8 -5.7**
RUDO	**Rudo**	**4.96**	**28**	*e*Pn	**Pn**	**14 12 48.6 +2.2**
RUDO				*e*Sn	**Sn**	**14 13 37.6 -5.0**
BBLS	**Lazi&#263i**	**5.18**	**27**	*e*Pn	**Pn**	**14 12 52.3 +2.7**
BBLS				*e*Sn	**Sn**	**14 13 42.7 -5.6**
IVAS	**Ivanjica**	**5.23**	**34**	*e*Pn	**Pn**	**14 12 52.1 +1.8**
IVAS				*e*Sn	**Sn**	**14 13 43.6 -5.9**
SELS	**Selova**	**5.42**	**42**	*e*Pn	**Pn**	**14 12 54.5 +1.6**
SELS				*e*Sn	**Sn**	**14 13 48.5 -5.7**
BARS	**Barje**	**5.54**	**49**	*e*Pn	**Pn**	**14 12 57.4 +2.9**
GOCS	**Kraljevo Serbi**	**5.55**	**38**	*e*Pn	**Pn**	**14 12 56.3 +1.6**
GOCS				*e*Sn	**Sn**	**14 13 50.4 -7.0**
DIVS	**Divibare**	**5.60**	**30**	*e*Pn	**Pn**	**14 12 56.5 +1.2**
DIVS				*e*Sn	**Sn**	**14 13 52.6 -6.0**
GRUS	**Gruza**	**5.73**	**35**	*e*Pn	**Pn**	**14 12 58.9 +1.9**
BOSS	**Bosilegrad**	**5.76**	**54**	*e*Pn	**Pn**	**14 12 59.2 +1.7**
TEKS	**Tekeris**	**5.83**	**24**	*e*Pn	**Pn**	**14 12 58.9 +0.5**
SRS	**Serrai**	**5.97**	**70**	*e*Pn	**Pn**	**14 13 02.9 +2.5**
BOVS	**Bovan**	**6.02**	**42**	*e*Pn	**Pn**	**14 13 02.5 +1.5**
BOVS				*e*Sn	**Sn**	**14 14 03.1 -5.7**
ZAPS	**Zavoj**	**6.29**	**49**	*e*Pn	**Pn**	**14 13 06.9 +2.0**
ZAPS				*e*Sn	Sn	14 14 08.1 -7.6
ZAGS	**Zajecar**	**6.42**	**43**	*e*Pn	**Pn**	**14 13 07.9 +1.4**
ZAGS				*e*Sn	**Sn**	**14 14 11.9 -6.7**
BORS2	**Bor- Borsko je**	**6.50**	**40**	*e*Pn	**Pn**	**14 13 07.9 +0.3**
VRSS	**Vrsac**	**6.98**	**32**	*e*Pn	**Pn**	**14 13 15.0 +0.8**

*IDC **06** 14:22:47.4±2.8,28°.39N×53°.82E,h0km,mb3.7/7,*
mbtmp3.7/7,Error ellipse: s-maj=63.8km s-min=27.1km
az=162.0
*TEH **06** 14:22:50.0,28°.49N×53°.91E,h12km±25km*
*OMAN **06** 14:22:52.7±0.1,28°.36N×54°.00E,h10km±2km, mb4.2/5,*
ml3.3/11,Error ellipse: s-maj=4.3km s-min=1.0km az=4.0

ISC 06 14:22:50.0±0.6,28°.49N±0°.03×53°.94E±0°.04,h10km,n58,
σ1§62/75,mb3.7/5,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHRM	**Jahrom**	**0.32**	**273**	Pg	**Pg**	**14 22 56.7**	**+0.2**
QIR1	**Qir**	**0.79**	**269**	Pg	**Pb**	**14 23 05.6**	**-0.2**
LAR1	**LAR**	**0.90**	**155**	Pg	**Pn**	**14 23 08.5**	**-0.4**
LMD1	**Lamerd**	**1.33**	**211**	Pg	**Pg**	**14 23 16.3**	**+0.6**
LMD1				Sg	**Sg**	**14 23 35.0**	**+2.0**
SHI	**Shiraz**	**1.69**	**313**	Pg	**Pg**	**14 23 22.4**	**-0.2**
GENO	**Geno**	**2.26**	**118**	Pn	**Pb**	**14 23 30.4**	**-0.6**
DSBU	**Dashti - Bushe**	**2.36**	**268**	Pn	**Pb**	**14 23 30.5**	**-2.2**
KRBR	**Kerman**	**2.88**	**58**	Pn	**Pn**	**14 23 39.3**	**+3.0**
KHGB	**Koh Gabri**	**2.91**	**49**	Pn	**Pn**	**14 23 39.2**	**+2.7**
IMEH	**Mehriz**	**2.95**	**11**	Pn	**Pb**	**14 23 40.4**	**-2.5**
KLNJ	**Kolanjah**	**3.23**	**321**	Pn	**Pn**	**14 23 43.1**	**+1.9**
BANOM	**Banah**	**3.31**	**140**	P	**Pn**	**14 23 42.8**	**+0.9**
BANOM				S	**Sn**	**14 24 22.5**	**+1.0**
ZRDN	**Zarand Kerman**	**3.35**	**42**	Pn	**Pn**	**14 23 45.4**	**+2.8**
IBAF	**Bafgh**	**3.40**	**24**	Pn	**Pn**	**14 23 46.1**	**+2.8**
CHMN	**Cheshme madani**	**3.43**	**66**	Pn	**Pn**	**14 23 47.1**	**+3.1**
IRAM	**Ramesheh**	**3.57**	**338**	Pn	**Pn**	**14 23 48.9**	**+3.2**
MASF	**Masafi**	**3.69**	**147**	P	**Pn**	**14 23 48.8**	**+1.6**
	SNR=6.7						
MASF				S	**Sn**	**14 24 32.1**	**+1.4**
ICHK	**Chekchek**	**3.76**	**6**	Pn	**Pn**	**14 23 51.1**	**+2.7**
NAZ	**Nazwa, Dubai**	**3.81**	**156**	P	**Pn**	**14 23 50.2**	**+1.3**
NAZ				S	**Sn**	**14 24 36.3**	**+2.5**
MDH	**Madha**	**3.81**	**146**	P	**Pn**	**14 23 49.8**	**+1.0**
MDH				S	**Sn**	**14 24 34.8**	**+1.0**
SAKB	**Bahrain**	**3.93**	**231**	P	**Pn**	**14 23 53.2**	**+2.8**
FAQ	**Al Faqa, Dubai**	**4.01**	**158**	P	**Pn**	**14 23 53.1**	**+1.5**
FAQ				S	**Sn**	**14 24 39.5**	**+0.8**
KBAM	**BAM**	**4.01**	**80**	Pn	**Pn**	**14 23 54.6**	**+2.9**
AJN	**Ajban**	**4.02**	**166**	P	**Pn**	**14 23 52.9**	**+1.2**
AJN				S	**Sn**	**14 24 39.1**	**+0.1**
ASUD	**Al Ashush, Dub**	**4.04**	**162**	P	**Pn**	**14 23 53.8**	**+1.8**
ASUD				S	**Sn**	**14 24 40.5**	**+1.0**
UOSS	**Minazif**	**4.07**	**150**	P	**Pn**	**14 23 53.4**	**+1.0**
UOSS				S	**Sn**	**14 24 39.8**	**-0.3**
UOSS	**Minazif**	**4.07**	**150**	Pn	**Pn**	**14 23 53.8**	**+1.4**
HATD	**Hatta, Dubai**	**4.14**	**151**	P	**Pn**	**14 23 54.7**	**+1.3**
HATD				S	**Sn**	**14 24 41.9**	**-0.1**
IGAR	**Gharneh**	**4.23**	**338**	Pn	**Pn**	**14 23 57.7**	**+2.9**
ASHO	**Ashiyiah**	**4.24**	**153**	P	**Pn**	**14 23 55.8**	**+1.1**
	SNR=12						
ASHO				S	**Sn**	**14 24 44.7**	**+0.3**
TRNA	**Turayna**	**4.46**	**214**	P	**Pn**	**14 23 59.6**	**+1.8**
	SNR=12						
TRNA				S	**Sn**	**14 24 51.0**	**+1.1**
	SNR=5.3						
ZNGN	**Zangian**	**4.49**	**324**	Pn	**Pn**	**14 24 00.8**	**+2.4**
IZEF	**Zefreh**	**4.61**	**343**	Pn	**Pn**	**14 24 01.9**	**+1.9**
SMRA	**Abu-Samra**	**4.66**	**217**	P	**Pn**	**14 24 02.5**	**+2.1**
SMRA				S	**Sn**	**14 24 55.7**	**+1.1**
	SNR=6.1						
ANAR	**Anarak**	**4.69**	**358**	Pn	**Pn**	**14 24 03.4**	**+2.4**
ALNE	**Al Ain**	**4.71**	**159**	P	**Pn**	**14 24 02.5**	**+1.3**
ALNE				S	**Sn**	**14 24 55.3**	**-0.5**
	SNR=6.0						
SOHO	**SOHO**	**4.92**	**151**	P	**Pn**	**14 24 04.1**	**0.0**
SOHO				S	**Sn**	**14 25 01.5**	**+0.4**
IPIR	**Pirpir**	**4.94**	**329**	Pn	**Pn**	**14 24 07.3**	**+2.7**
ARQ	**Araqi**	**5.63**	**155**	P	**Pn**	**14 24 14.5**	**+0.6**
	SNR=24						
ARQ				S	**Sn**	**14 25 18.4**	**-0.3**
	SNR=6.0						
KRSH	**Karshahi**	**5.68**	**345**	Pn	**Pn**	**14 24 17.1**	**+2.5**
HOQ	**Hoqain**	**5.75**	**147**	P	**Pn**	**14 24 16.6**	**+1.1**
HOQ				S	**Sn**	**14 25 20.0**	**-1.6**
UMZA	**Um Al Zommool**	**5.86**	**169**	P	**Pn**	**14 24 17.4**	**+0.5**
BIDO	**Bidbid**	**6.22**	**142**	P	**Pn**	**14 24 22.3**	**+0.4**
SMDO	**Samad**	**6.56**	**145**	P	**Pn**	**14 24 27.1**	**+0.5**
WSAR	**Wadi Sarin**	**6.72**	**140**	P	**Pn**	**14 24 29.3**	**+0.4**
	SNR=13						
JLN	**Jalan Bani Buh**	**8.02**	**141**	P	**Pn**	**14 24 45.8**	**-0.9**
MHTO	**MHTO**	**8.32**	**153**	P	**Pn**	**14 24 50.6**	**-0.1**
RAYN	**Ar Rayn**	**9.05**	**239**	P	**Pn**	**14 25 01.2**	**+0.3**
DOK	**Doka**	**9.83**	**179**	P	**Pn**	**14 25 11.5**	**0.0**
WHFO	**Wadi Hawf**	**10.52**	**181**	P	**Pn**	**14 25 20.7**	**-0.4**
DMTO	**DMTO**	**10.76**	**175**	P	**Pn**	**14 25 24.3**	**0.0**
BRTR	**Keskin Array B**	**20.15**	**309**	P	**P**	**14 27 23.9**	**-0.7**
	0.4nm,0.6s,baz=130,slow=8.6,SNR=1.5						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**28.71**	**43**	P	**P**	**14 28 47.5**	**+0.1**
	0.3nm,0.7s,baz=233,slow=8.7,SNR=2.1						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**28.88**	**33**	P	**P**	**14 28 49.0**	**+0.2**
	0.3nm,0.2s,baz=232,slow=8.7,SNR=2.3						
	0.3nm,0.2s						
ZALV	**Zalesovo Beam**	**33.97**	**33**	P	**P**	**14 29 33.7**	**+0.1**
	1.3nm,0.3s,baz=240,slow=8.8,SNR=6.1						
	1.3nm,0.3s						
FINES	**FINESS Array B**	**37.81**	**339**	P	**P**	**14 30 05.3**	**-1.0**
	3.5nm,1.2s,baz=152,slow=9.0,SNR=4.0						

3.5nm,1.2s
HFS Hagfors 41.66 331 P **P** **14 30 37.1 -1.3**
1.2nm,0.7s,baz=119,slow=8.9,SNR=1.4
1.2nm,0.7s
TORD Torodi Ar. Bea 50.78 264 P **P** **14 31 48.7 -2.1**
0.5nm,0.7s,baz=62,slow=7.9,SNR=2.9
0.5nm,0.7s

IDC 06 14:33:30.1±2.0, 0°22'N×125°79E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=166.2km s-min=27.9km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.72**	**158**	P	P	14 38 22.1	-1.0
	2.4nm,0.7s,baz=336,slow=12,SNR=12						
	2.4nm,0.7s						
ASAR	**Alice Springs**	**25.02**	**162**	P	P	14 38 56.7	+0.7
	1.0nm,0.6s,baz=344,slow=8.4,SNR=17						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**59.92**	**327**	P	P	14 43 37.9	-0.1
	0.2nm,0.3s,baz=125,slow=7.2,SNR=2.5						
	0.2nm,0.3s						

*NEIC **06** 14:41:39.5±1.0, 16°.20N±0°.10×122°.4E±0°.2, h35km±1km, mb4.5/14, Error ellipse: s-maj=27.3km s-min=14.9km az=253.0*
*IDC **06** 14:41:43.6±2.6, 16°.20N×122°.34E, h85km±24km, mb3.7/16, mbtmp4.0/17, MS3.5/12, Error ellipse: s-maj=24.8km s-min=11.7km az=73.0*
ISC 06 14:41:45.1±0.6, 16°24N±0°.07×122°3E±0°.1, h100km, n54, σ1§36/42, mb4.1/24, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.51**	**213**	P	**Pn**	**14 42 23.9**	**-0.5**
	475nm,0.5s,baz=31,slow=4.3,SNR=5.3						
TGY				S	**Sn**	**14 42 51.8**	**-2.8**
	1µm,0.7s,baz=65,slow=2.3,SNR=5.1						
YULB	**Yu-li**	**7.19**	**352**	Pn	**Pn**	**14 43 23.8**	**-3.8**
YHNB	**Yeheng**	**8.44**	**354**	Pn	**Pn**	**14 43 40.8**	**-3.9**
DAV	**Davao City (W)**	**9.65**	**160**	LR	LR	14 48 14.4	
	comp=Z,392nm,18.8s,baz=349,slow=41						
KSRS	**Korea Array**	**21.71**	**12**	P	**P**	**14 46 28.4**	**+0.4**
	3.1nm,0.7s,baz=197,slow=10,SNR=5.2						
	3.1nm,0.7s						
GUMO	**Guam**	**21.94**	**94**	LR	LR	14 53 58.0	
	comp=Z,67nm,18.6s,baz=268,slow=34						
CMAR	**Chiang Mai Arr**	**22.43**	**279**	P	**P**	**14 46 37.6**	**+1.8**
	0.4nm,0.4s,baz=96,slow=11,SNR=4.4						
CMAR				LR	LR	14 55 31.6	
	comp=Z,133nm,19.8s,baz=100,slow=37						
	0.4nm,0.4s						
MJAR	**Matsushiro Arr**	**24.66**	**32**	P	**P**	**14 46 55.9**	**-0.7**
JAY	**Jayapura**	**26.02**	**134**	LR	LR	14 58 56.4	
	comp=Z,65nm,18.3s,baz=354,slow=40						
ASAJ	**Asahikawa**	**32.67**	**28**	LR	LR	15 01 53.5	
	comp=Z,33nm,21.1s,baz=274,slow=37						
SONM	**Songino Array**	**34.14**	**341**	P	**P**	**14 48 21.0**	**+0.4**
	0.9nm,0.5s,baz=157,slow=8.7,SNR=3.9						
SONM				LR	LR	15 03 51.2	
	comp=Z,136nm,18.4s,baz=195,slow=39						
	0.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**34.27**	**174**	P	**P**	**14 48 21.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**34.27**	**174**	P	**P**	**14 48 21.2**	**-0.7**
	8.3nm,0.8s,baz=1.8,slow=7.5,SNR=14						
	8.3nm,0.8s						
PSA00	**Pilbara Seismi**	**37.65**	**184**	P	**P**	**14 48 50.5**	**-0.2**
WB0	**Warramunga Arr**	**37.69**	**161**	P	**P**	**14 48 50.4**	**-0.7**
WB0				IAmb	IAmb	14 48 51.0	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**37.84**	**161**	P	**P**	**14 48 51.4**	**-0.9**
	comp=Z,11nm,0.9s,baz=342,slow=9.4,SNR=41						
WRA				PcP	**PcP**	**14 51 08.1**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=353,slow=2.3,SNR=1.7						
	comp=Z,11nm,0.9s						
WR8	**Warramunga Arr**	**37.90**	**161**	P	**P**	**14 48 51.8**	**-1.0**
AS31	**Alice Springs**	**41.24**	**164**	P	**P**	**14 49 20.2**	**-0.3**
ASAR	**Alice Springs**	**41.24**	**164**	P	**P**	**14 49 20.2**	**-0.3**
ASAR	**Alice Springs**	**41.24**	**164**	P	**P**	**14 49 20.3**	**-0.2**
	comp=Z,4.9nm,0.6s,baz=359,slow=8.3,SNR=84						
ASAR				PcP	**PcP**	**14 51 19.1**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=14,slow=5.2,SNR=1.5						
	comp=Z,4.9nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**42.32**	**80**	T	T	15 34 41.2	
	baz=274,slow=75,SNR=324						
H11S1	**WAKE ISLAND Hy**	**42.33**	**80**	T	T	15 34 45.1	
	baz=274,slow=75,SNR=209						
H11S2	**WAKE ISLAND Hy**	**42.34**	**80**	T	T	15 34 43.0	
	baz=274,slow=75,SNR=280						
H11N1	**WAKE ISLAND Hy**	**42.44**	**78**	T	T	15 34 49.3	
	baz=273,slow=75,SNR=364						
H11N2	**WAKE ISLAND Hy**	**42.45**	**78**	T	T	15 34 52.1	
	baz=273,slow=75,SNR=462						
H11N3	**WAKE ISLAND Hy**	**42.46**	**78**	T	T	15 34 48.7	
	baz=273,slow=75,SNR=289						
MKAR	**Makanchi Array**	**44.99**	**321**	P	**P**	**14 49 51.1**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=114,slow=9.3,SNR=8.2						
	comp=Z,0.9nm,0.7s						
HNR	**Honiara**	**45.13**	**122**	LR	LR	15 05 34.7	
	comp=Z,60nm,19.8s,baz=348,slow=32						
YAK	**Yakutsk**	**46.04**	**5**	LR	LR	15 11 48.1	
	comp=Z,64nm,18.7s,baz=189,slow=39						
PETK	**Petropavlovsk-**	**46.06**	**29**	P	**P**	**14 49 59.0**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=229,slow=7.5,SNR=2.6						
	comp=Z,2.0nm,0.8s						
INKA	**Innaminka**	**47.22**	**158**	P	**P**	**14 50 08.7**	**+0.6**
INKA				IAmb	IAmb	14 50 10.2	
	comp=Z,3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**47.58**	**331**	P	**P**	**14 50 09.2**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=126,slow=7.3,SNR=5.7						
ZALV				LR	LR	15 11 31.9	
	comp=Z,50nm,19.2s,baz=107,slow=38						
	comp=Z,0.3nm,0.4s						
AAK	**Ala-Archa**	**48.44**	**313**	LR	LR	15 12 09.1	
	comp=Z,95nm,19.9s,baz=93,slow=38						
KURK	**Kurchatov**	**49.01**	**324**	P	**P**	**14 50 23.1**	**+1.5**
KURK				IAmb	IAmb	14 50 30.0	
	comp=Z,6.2nm,0.9s						
KURBB	**Kurchatov Arra**	**49.02**	**324**	P	**P**	**14 50 21.6**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=120,slow=7.9,SNR=11						
	comp=Z,3.1nm,0.8s						
KKAR	**Karatay Array**	**51.38**	**313**	P	**P**	**14 50 40.9**	**+1.2**
BVAR	**Borovoye Array**	**54.61**	**324**	P	**P**	**14 51 04.5**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=94,slow=7.7,SNR=7.3						
	comp=Z,0.8nm,0.5s						
TIXI	**Tiksi**	**55.54**	**3**	P	**P**	**14 51 09.6**	**0.0**
TIXI				IAmb	IAmb	14 51 14.0	
	comp=Z,10nm,1.4s						
TIXI	**Tiksi**	**55.54**	**3**	LR	LR	15 18 22.9	
	comp=Z,130nm,18.1s,baz=212,slow=40						
AB31	**Akbulak array**	**59.89**	**318**	P	**P**	**14 51 41.9**	**+1.4**
AB31				IAmb	IAmb	14 51 48.3	
	comp=Z,1.8nm,0.8s						
ABKAR	**Akbulak array**	**59.89**	**318**	P	**P**	**14 51 41.8**	**+1.4**
ARTI	**Arti**	**62.25**	**326**	LR	LR	15 20 13.8	
	comp=Z,26nm,19.5s,baz=115,slow=37						
IMAR	**Indian Mountai**	**72.83**	**25**	P	**P**	**14 53 03.2**	**+0.5**
MLY	**Manley**	**74.13**	**26**	P	**P**	**14 53 11.3**	**+0.9**
MLY				IAmb	IAmb	14 53 15.8	
	comp=Z,4.5nm,1.0s						
RND	**Reindeer**	**75.11**	**28**	P	**P**	**14 53 16.2**	**+0.1**
RND				IAmb	IAmb	14 53 17.5	
	comp=Z,6.6nm,0.9s						
ILAR	**Eielson Array**	**75.80**	**26**	P	**P**	**14 53 20.8**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=235,slow=6.2,SNR=5.5						
	comp=Z,0.4nm,0.6s						
BMAR	**Burnt Mountain**	**76.33**	**23**	P	**P**	**14 53 24.5**	**+1.5**
RIDG	**Independent Ri**	**76.83**	**27**	P	**P**	**14 53 27.4**	**+1.5**
RIDG				IAmb	IAmb	14 53 28.1	
	comp=Z,4.7nm,0.8s						
ARCES	**ARCESS Array B**	**77.29**	**339**	P	**P**	**14 53 29.0**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=105,slow=5.9,SNR=1.5						
	comp=Z,1.6nm,0.8s						
FINES	**FINESS Array B**	**78.85**	**331**	P	**P**	**14 53 38.4**	**+1.4**
FINES	**FINESS Array B**	**78.85**	**331**	P	**P**	**14 53 36.0**	**-1.0**
	comp=Z,2.5nm,0.8s,baz=52,slow=3.4,SNR=6.2						
	comp=Z,2.5nm,0.8s						
PCA	**Pinnacle**	**79.73**	**30**	P	**P**	**14 53 42.9**	**+1.0**
NOA	**NORSAR Array B**	**85.74**	**333**	P	**P**	**14 54 12.7**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=64,slow=4.9,SNR=1.8						
	comp=Z,0.4nm,0.6s						
YKA	**Yellowknife Ar**	**89.84**	**23**	P	**P**	**14 54 31.7**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=312,slow=5.5,SNR=2.3						
	comp=Z,0.6nm,0.8s						

*AEIC **06** 14:49:28.5±1.4, 50°.92N±0°.09×173°.94W±0°.09, h17km±8km, Error ellipse: s-maj=14.6km s-min=6.7km az=155.0*
NEIC 06 14:49:25.7±1.2, 50°.90N±0°.08×173°.90W±0°.09, h10km±2km, ML3.1/6, ML2.8(AEIC), Error ellipse: s-maj=13.3km s-min=9.4km az=158.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.32**	**352**		Sg	14 50 08.4	+0.4
ATKA				IAML		14 50 09.8	
	comp=N,103nm,0.5s						
ATKA	**Atka Island**	**1.32**	**352**		Pn	14 49 50.0	-0.1
GSIG	**Igitkin Island**	**1.67**	**311**		Pn	14 49 54.5	-0.5
GSCK	**Great Sitkin C**	**1.80**	**309**		Pn	14 49 56.5	-0.2
GSCK					Sn	14 50 18.5	-1.2
ETKA	**Kagalaska Isla**	**1.84**	**302**		Pn	14 49 57.1	-0.2
ETKA					Sn	14 50 19.7	-1.0
ADK	**Adak**	**2.00**	**301**	Pn	Pn	14 49 59.3	-0.2
ADK	**Adak**	**2.00**	**301**	IAML		14 50 25.6	
	comp=N,147nm,0.2s						
ADK				IAML		14 50 25.9	
	comp=N,148nm,0.3s						
KIRH	**Kanaga Island**	**2.24**	**298**		Pn	14 50 03.1	+0.4
KIWB	**Kanaga Island**	**2.25**	**296**		Pn	14 50 03.1	+0.2
KIWB				IAML		14 50 31.7	
	comp=E,184nm,0.4s						
KIMD	**Kanaga Island**	**2.26**	**294**		Pn	14 50 03.0	-0.1
KIMD					Sn	14 50 30.9	-0.1
KIKV	**Kanaga Island**	**2.27**	**297**		Pn	14 50 03.6	+0.4
TAFL	**Tanaga Flats**	**2.65**	**290**		Pn	14 50 08.9	+0.5
TAFP	**Tanaga Falls P**	**2.75**	**293**		Pn	14 50 10.4	+0.6
TASE	**Tanaga Southea**	**2.76**	**291**		Pn	14 50 10.8	+0.8
TASE					Sn	14 50 43.6	+0.3
GAKI	**Gareloi-Kavalg**	**3.16**	**284**		Pn	14 50 15.3	-0.1
GAKI					Sn	14 50 51.1	-2.0
AMKA	**Amchitka**	**4.31**	**279**		Pn	14 50 30.3	-0.9
OKWE	**Okmok W'ng Wal**	**4.33**	**51**		Pn	14 50 31.3	-0.2
MAPS	**Pakushin South**	**5.16**	**53**		Pn	14 50 41.9	-1.1
MGOD	**Makushin Gods**	**5.19**	**53**		Pn	14 50 42.4	-0.9
MNAT	**Makushin Natee**	**5.33**	**53**		Pn	14 50 45.1	-0.1
UNV	**Unalaska Valle**	**5.40**	**54**		Pn	14 50 45.4	-0.8
DT1	**Dutton Round H**	**8.17**	**54**		Pn	14 51 24.2	0.0
SDPT	**Sand Point**	**9.21**	**56**	Pn	Pn	14 51 37.9	-0.5

*IDC **06** 14:58:19.8±1.8, 6°.53S×146°.88E, h92km±16km, mb3.5/8, mbtmp3.8/11, Error ellipse: s-maj=24.6km s-min=12.5km az=96.0*
*NEIC **06** 14:58:21.0±0.8, 6°.5S±0°.1×146°.8E±0°.1, h94km±5km, mb4.1/14, Error ellipse: s-maj=17.9km s-min=14.4km az=69.0*
ISC 06 14:58:21.0±0.7, 6°.55S±0°.07×146°.8E±0°.1, h100km, n46, σ0§99/47, mb3.9/14, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.86**	**173**		**Pn**	**14 59 05.9**	**+1.0**
PMG	**Port Moresby**	**2.86**	**173**	P	**Pn**	**14 59 05.6**	**+0.7**
	98nm,0.3s,baz=357,slow=5.7,SNR=114						
PMG				S	**Sn**	**14 59 37.4**	**-1.2**
	113nm,0.4s,baz=12,slow=12,SNR=5.1						
PMG	**Port Moresby**	**2.86**	**173**	P	**Pn**	**14 59 05.9**	**+1.0**
JAY	**Jayapura**	**7.30**	**303**	P	**Pn**	**15 00 04.6**	**-0.5**
	3.8nm,0.9s,baz=170,slow=12,SNR=1.2						
COEN	**Coen**	**8.19**	**206**		**Pn**	**15 00 17.7**	**+0.5**
COEN	**Coen**	**8.19**	**206**	P	**Pn**	**15 00 17.8**	**+0.6**
CTA	**Charters Tower**	**13.47**	**182**	P	**P**	**15 01 32.3**	**-1.5**
CTAO	**Charters Tower**	**13.47**	**182**	P	**P**	**15 01 32.3**	**-1.5**
KDU	**Kakadu**	**15.40**	**246**	P	**Pn**	**15 01 53.1**	**+0.2**
QIS	**Mount Isa**	**15.58**	**206**	P	**P**	**15 01 57.4**	**0.0**
WRA	**Warramunga Arr**	**18.00**	**221**	P	**P**	**15 02 23.2**	**-0.9**
	0.7nm,0.3s,baz=42,slow=12,SNR=12						
KNRA	**Kununurra**	**19.89**	**241**	P	**P**	**15 02 44.0**	**-0.7**
KNRA				IAmb	IAmb	15 03 00.2	
	comp=Z,8.0nm,1.1s						
QLP	**Quilpie**	**20.07**	**187**	P	Pn	15 02 49.1	-0.2
AS01	**Alice Springs**	**21.04**	**215**	P	**P**	**15 02 58.2**	**+1.1**
AS31	**Alice Springs**	**21.07**	**215**	P	**P**	**15 02 56.7**	**-0.6**
ASAR	**Alice Springs**	**21.07**	**215**	P	**P**	**15 02 56.7**	**-0.6**
ASAR	**Alice Springs**	**21.07**	**215**	P	**P**	**15 02 57.2**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=43,slow=10,SNR=28						
ASAR				S	**S**	**15 06 48.0**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=29,slow=22,SNR=5.8						
	comp=Z,1.5nm,0.6s						
INKA	**Innaminka**	**21.85**	**195**	P	**P**	**15 03 05.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**23.63**	**239**	P	**P**	**15 03 22.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**23.63**	**239**	P	**P**	**15 03 22.2**	**-1.1**
STKA	**Stephens Creek**	**25.67**	**190**	P	**P**	**15 03 40.8**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=2.4,slow=14,SNR=1.1						
	comp=Z,0.8nm,0.3s						
HTT	**Hallett**	**27.73**	**194**	P	**P**	**15 04 04.3**	**+4.0**
KLBR	**Kellerberrin**	**36.85**	**224**	P	**P**	**15 05 19.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**53.36**	**299**	P	**P**	**15 07 31.0**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=141,slow=4.0,SNR=5.3						
	comp=Z,0.7nm,0.5s						
MK31	**Makanchi Array**	**77.81**	**321**	P	**P**	**15 10 07.5**	**0.0**
MK31				IAmb	IAmb	15 10 37.7	
	comp=Z,2.5nm,1.3s						
MKAR	**Makanchi Array**	**77.81**	**321**	P	**P**	**15 10 07.6**	**+0.1**
MKAR	**Makanchi Array**	**77.81**	**321**	P	**P**	**15 10 07.0**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=85,slow=7.9,SNR=6.5						
	comp=Z,0.3nm,0.4s						
MAKZ	**Makanchi**	**78.01**	**321**	P	**P**	**15 10 08.6**	**0.0**
MAKZ				IAmb	IAmb	15 10 34.2	
	comp=Z,3.0nm,1.1s						
ZALV	**Zalesovo Beam**	**79.38**	**328**	P	**P**	**15 10 15.3**	**-0.6**
ZALV	**Zalesovo Beam**	**79.38**	**328**	P	**P**	**15 10 14.6**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=111,slow=6.8,SNR=2.7						
	comp=Z,0.6nm,0.5s						
NIL	**Nilore**	**80.10**	**306**	P	**P**	**15 10 20.9**	**+0.5**
KURBB	**Kurchatov Arra**	**81.56**	**323**	P	**P**	**15 10 27.7**	**0.0**
	comp=Z,0.3nm,0.9s,baz=91,slow=4.1,SNR=2.9						
	comp=Z,0.3nm,0.9s						
QSPA	**South Pole Qui**	**83.42**	**180**	P	**P**	**15 10 38.5**	**+1.2**
QSPA				IAmb	IAmb	15 10 58.0	
	comp=Z,1.4nm,1.1s						
QSPA	**South Pole Qui**	**83.42**	**180**	P	**P**	**15 10 38.2**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=178,slow=1.7,SNR=8.5						
	comp=Z,0.6nm,0.7s						
KK31	**Karatay Array**	**84.55**	**314**	P	**P**	**15 10 43.3**	**0.0**
KK31				IAmb	IAmb	15 11 13.3	
	comp=Z,3.3nm,1.2s						
KKAR	**Karatay Array**	**84.55**	**314**	P	**P**	**15 10 43.3**	**0.0**
RND	**Reindeer**	**84.69**	**24**	P	**P**	**15 10 43.7**	**+0.1**
RND				IAmb	IAmb	15 10 44.0	
	comp=Z,2.0nm,0.7s						
MLY	**Manley**	**84.69**	**22**	P	**P**	**15 10 44.5**	**+1.0**
MLY				IAmb	IAmb	15 10 45.4	
	comp=Z,2.5nm,1.0s						
WRH	**Wood River Hil**	**85.46**	**23**	P	**P**	**15 10 47.8**	**+0.5**
IL31		**86.05**	**23**	P	**P**	**15 10 49.7**	**-0.5**
ILAR	**Eielson Array**	**86.05**	**23**	P	**P**	**15 10 49.7**	**-0.5**
ILAR	**Eielson Array**	**86.05**	**23**	P	**P**	**15 10 49.5**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=254,slow=5.3,SNR=20						
	comp=Z,1.4nm,0.7s						
BMAR	**Burnt Mountain**	**87.97**	**21**	P	**P**	**15 10 59.9**	**+0.4**
AB31	**Akbulak array**	**92.88**	**319**	P	**P**	**15 11 22.4**	**-0.3**
AB31				IAmb	IAmb	15 11 48.0	
	comp=Z,1.5nm,1.2s						
ABKAR	**Akbulak array**	**92.88**	**319**	P	**P**	**15 11 22.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**145.05**	**284**	PKPbc	**PKPbc**	**15 17 47.1**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=64,slow=4.4,SNR=10						

*IDC **06** 15:09:29.2±1.2, 1°.94N×127°.48E, h0km, mb4.2/8, mbtmp4.2/9, ML4.2/1, Error ellipse: s-maj=96.0km s-min=15.4km az=69.0*
*DJA **06** 15:09:42.6±0.4, 2°N±3°×12°7E±°, h77km±7km, M4.2/15, mB4.9/3, mb4.1/8, MLv4.2/15, Mw(mB)4.2/3*
ISC 06 15:09:42.3±0.9, 1°.89N±0°.09×127°.3E±0°.1, h112km, n19, σ1§34/20, mb4.0/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.11**	**177**	P	**Pn**	**15 10 03.8**	**-1.0**
SGSI	**Sangihe**	**2.51**	**315**	P	**Pn**	**15 10 19.5**	**-2.5**
KMSI	**Cibinong**	**3.57**	**249**	P	**Pn**	**15 10 35.3**	**-0.6**
SANI	**Sanana**	**4.13**	**199**	P	**Pn**	**15 10 40.9**	**-2.5**
NLAI	**Namlea**	**5.10**	**182**	P	**Pn**	**15 10 55.4**	**-1.1**
	0.2nm1µm26nm,0.9s						
LUWI	**Luwuk**	**5.39**	**237**	P	**Pn**	**15 11 01.1**	**+0.7**
	0.4nm817nm30nm,1.2s						

MRSI Marisa 5.54 255 P **Pn** **15 11 01.5 -1.0**
APSI Ampana 6.30 244 P **Pn** **15 11 11.8 -1.0**
0.2nm18nm,1.0s
FAKI Fak Fak 6.88 134 P **Pn** **15 11 21.2 +0.7**
0.1nm26nm,1.3s
TTSI Tana Toraja 8.95 237 P **Pn** **15 11 47.3 -1.3**
8.9nm,0.6s
FITZ Fitzroy Crossi 19.93 185 P **P** **15 14 04.7 -0.7**
0.5nm,0.3s,baz=17,slow=9.8,SNR=18
3.5nm,0.6s
WRA Warramunga Arr 22.77 163 P **P** **15 14 34.3 -1.1**
8.0nm,0.3s,baz=341,slow=11,SNR=49
8.0nm,0.3s
ASAR Alice Springs 26.20 166 P **P** **15 15 05.8 -0.9**
1.4nm,0.5s,baz=350,slow=7.4,SNR=34
ASAR PcP **PcP** **15 18 31.1 +0.1**
0.3nm,0.7s,baz=333,slow=2.3,SNR=2.5
1.4nm,0.5s
STKA Stephens Creek 36.22 159 P **P** **15 16 34.5 +0.1**
6.0nm,0.3s,baz=342,slow=7.7,SNR=22
6.0nm,0.3s
MKAR Makanchi Array 59.38 326 P **P** **15 19 34.5 +1.6**
1.1nm,0.4s,baz=116,slow=8.0,SNR=17
1.1nm,0.4s
KURBB Kurchatov Arra 63.59 328 P **P** **15 20 01.6 +0.6**
1.9nm,0.6s,baz=131,slow=6.2,SNR=30
1.9nm,0.6s
BVAR Borovoye Array 69.16 327 P **P** **15 20 38.8 +2.2**
0.5nm,0.4s,baz=125,slow=12,SNR=4.3
0.5nm,0.4s
VNDA Vanda 81.54 173 P **P** **15 21 46.9 0.0**
0.5nm,0.8s,baz=322,slow=5.8,SNR=3.5
0.5nm,0.8s
MAW Mawson 82.24 200 P **P** **15 21 51.4 +0.7**
1.3nm,0.8s,baz=28,slow=6.1,SNR=2.0
1.3nm,0.8s

*BGSI **06** 15:15:53.7±4.6, 24°.78S×27°.88E, h0km±69km, ML2.6*
PRE 06 15:15:27.0±1.1, 26°.38S×29°.29E, h0km, ML2.7, Suspected explosion, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**0.76**	**60**	*eP*	Pg	15 15 41.2	-0.4
CRLN				*eS*	Sg	15 15 51.4	-0.2
CRLN				IAML		15 15 58.8	
	comp=Z,106nm,0.9s						
NWCL	**Newcastle**	**1.45**	**158**	*eP*	Pb	15 15 55.1	+0.1
NWCL				*eS*	Sn	15 16 15.5	+1.0
NWCL				IAML		15 16 24.5	
	comp=Z,51nm,0.4s						
WDLM	**Western Deep L**	**1.68**	**268**	*eP*	Pn	15 15 57.9	+0.1
WDLM				*eS*	Sg	15 16 21.1	+0.3
WDLM				IAML		15 16 21.2	
	comp=Z,154nm,0.2s						
PRYS	**Parys**	**1.81**	**252**	*eP*	Pn	15 15 59.7	+0.1
PRYS				*eS*	Sb	15 16 24.0	-0.4
PRYS				IAML		15 16 25.3	
	comp=Z,104nm,0.3s						
PILG	**Pilgrimsrest,**	**1.93**	**42**	*eP*	Pn	15 16 02.1	+0.8
PILG				*eS*	Sn	15 16 27.1	+0.7
PILG				IAML		15 16 30.0	
	comp=Z,64nm,0.7s						
SNKL	**Senekal, Frees**	**2.32**	**215**	*eP*	Pn	15 16 07.1	+0.4
SNKL				*eS*	Sn	15 16 37.0	+1.1
SNKL				IAML		15 16 41.9	
	comp=Z,87nm,0.3s						
POGA	**Pongola**	**2.36**	**115**	*eP*	Pn	15 16 08.4	+1.4
POGA				*eS*	Sn	15 16 37.9	+1.1
POGA				IAML		15 16 41.6	
	comp=Z,90nm,0.4s						
HOED	**Hoedspruit, Li**	**2.46**	**37**	*eP*	Pn	15 16 08.6	+0.1
HOED				*eS*	Sn	15 16 39.9	+0.6
HOED				IAML		15 16 46.6	
	comp=Z,44nm,0.3s						
LEPH	**Lephalale, Lim**	**2.85**	**331**	*eP*	Pn	15 16 15.0	+1.1
LEPH				*eS*	Sn	15 16 50.4	+1.3
LEPH				IAML		15 16 56.5	
	comp=Z,56nm,0.3s						
TEMBE	**Tembe Elephant**	**2.88**	**104**	*eP*	Pn	15 16 14.5	+0.3
TEMBE				*eS*	Sn	15 16 49.9	+0.3
TEMBE				IAML		15 17 07.0	
	comp=Z,34nm,0.2s						
PMBG	**Pietermaritzbu**	**3.30**	**161**	*eP*	Pn	15 16 21.5	+1.5
PMBG				*eS*	Sn	15 17 00.4	+0.4
PMBG				IAML		15 17 15.3	
	comp=Z,26nm,0.4s						
MOPA	**Mopani**	**3.43**	**34**	*eP*	Pn	15 16 22.5	+0.6
MOPA				*eS*	Sn	15 17 03.3	+0.1
MOPA				IAML		15 17 17.1	
	comp=Z,45nm,0.5s						
LBTB	**Lobatse**	**3.60**	**291**	*eP*	Pn	15 16 25.4	+1.2
LBTB				*eS*	Sn	15 17 08.2	+0.8
LBTB				IAML		15 17 17.7	
	comp=Z,43nm,0.8s						
SWZ	**Schweizer**	**3.63**	**256**	*eP*	Pn	15 16 24.6	0.0
SWZ				*eS*	Sn	15 17 08.5	+0.3
SWZ				IAML		15 17 21.0	
	comp=Z,41nm,0.2s						
MAKGR	**Makgori**	**4.08**	**277**	*iP*	Pb	15 16 39.7	-0.1
MAKGR				*iS*	Sn	15 17 15.3	-4.0
MAKGR				IAML		15 17 36.9	
	comp=N,193nm,0.5s						
MUSN	**Musina, Limpop**	**4.11**	**7**	*eP*	Pn	15 16 32.6	+1.5
MUSN				*eS*	Sn	15 17 20.0	0.0
MUSN				IAML		15 17 42.5	
	comp=Z,17nm,0.5s						
KSTD	**Kokstad**	**4.22**	**180**	*eP*	Pn

ellipse: s-maj=3.9km s-min=1.5km az=127.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPG	**La Plagne**	**0.12**	**43**	*e*Pg	Pg	15 25 28.2	+0.3
LPG				*e*Sg	Sg	15 25 29.8	+0.2
LPL	**La Plagne**	**0.13**	**33**	*e*Pg	Pg	15 25 28.3	+0.2
LPL				*e*Sg	Sg	15 25 30.0	+0.2

STR 06 15:26:19.3±0.5, 45.7°N±2.2°×°±°, h0km, MLv1.4/7, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSL	**Roselend**	**0.22**	**347**	Pg	Pg	15 26 23.9	+0.4
RSL				Sg	Sg	15 26 27.1	+0.7
LSD	**Lago del Serru**	**0.31**	**93**	Pg	Pg	15 26 26.3	+1.1
LSD				Sg	Sg	15 26 29.6	+0.4
RSP	**Reno Superiore**	**0.52**	**129**	Pg	Pg	15 26 29.4	+0.2
RSP				Sg	Sg	15 26 36.1	+0.3
RRL	**Rocca Remolon**	**0.56**	**173**	Pg	Pg	15 26 30.5	+0.5
RRL				Sg	Sg	15 26 37.9	+0.7
DIX	**Grande Dixence**	**0.78**	**39**	Pg	Pg	15 26 34.8	+0.5
DIX				Sg	Sg	15 26 45.0	+0.5
CREF	**Crivoux**	**0.93**	**183**	Pg	Pg	15 26 37.5	+0.5
CREF				Sg	Sg	15 26 49.7	+0.7
JAUF	**Jausiers**	**1.05**	**178**	Pg	Pg	15 26 39.6	+0.3
JAUF				Sg	Sb	15 26 54.3	-0.4

*IDC **06** 15:27:51.2±0.3, 20.2°12S×169.2°19E, h0km, mb5.3/31, mbtmp5.3/34, ML4.9/3, MS5.4/50, Error ellipse: s-maj=13.0km s-min=9.2km az=90.0*

*MOS **06** 15:27:53.7±1.0, 20.1°15S×169.1°11E, h24km, mb6.1/46, MS5.5/39, Error ellipse: s-maj=9.6km s-min=6.7km az=115.1*

*BJI **06** 15:27:54.6, 19.9°93S×169.5°55E, h33km, mB6.0/61, mb5.6/81, Ms5.6/77, Ms7 5.3/83*

*BGR **06** 15:27:56.5, 19.5°58S×171.4°42E, h35km±1km, Ms5.5*

*NEIC **06** 15:27:56.8, 20.1°19S×169.0°7E, h31km*

*NEIC **06** 15:27:56.2±2.6, 20.1°8S±0.0°6×169.0°5E±0.0°8, h27km±1km, mb5.9/434, Ms_20 5.6/727, Mwb5.8/60, Mww5.9/29, Error ellipse: s-maj=13.0km s-min=8.7km az=116.0, Moment Tension Solution. Moment tensor: Scale 10^17 Nm; Mrr6.85; Mθθ-0.71; Mϕϕ-6.14; Mrθ0.14; Mθϕ2.83; Mϕr-1.51; Fault plane solution: M0 7.27000×10^17 NP1: ϕs332.80000°, δ39.39000°, λ83.77000°. NP2: ϕs160.84000°, δ50.89000°, λ95.09000°. Principal axes: T 7.0316, Plg83.0000°, Azm102.0000°; N 0.4612, Plg4.0000°, Azm338.0000°; P -7.4928, Plg6.0000°, Azm247.0000°;*

*ISC-PP **06** 15:27:56, 20.1°8S×169.0°5E, h29km, Mwppsm6.3, Moment Tensor Solution. s28 Moment tensor: Scale 10^18 Nm; Mrr0.18±.13; Mθθ-0.32±.13; Mϕϕ-0.78±.19; Mrθ-0.10±.08; Mθϕ0.35±.18; Mϕr0.01±.06; Fault plane solution: Ms 3.39000×10^18 NP1: ϕs349.90000°, δ63.60000°, λ82.20000°. NP2: ϕs187.10000°, δ27.50000°, λ105.30000°.*

*NEIC **06** 15:27:57.3, 20.1°8S×169.0°2E, h36km*

*NEIC **06** 15:27:57.3, 20.1°8S×168.9°1E, h36km, Moment Tensor Solution. Duration: 39.6 Moment tensor: Scale 10^17 Nm; Mrr6.90; Mθθ-0.40; Mϕϕ-6.49; Mrθ0.57; Mθϕ2.92; Mϕr-1.73; Fault plane solution: M0 7.53000×10^17 NP1: ϕs337.03000°, δ38.02000°, λ88.34000°. NP2: ϕs159.13000°, δ52.00000°, λ91.30000°. Principal axes: T 7.1202, Plg83.0000°, Azm77.0000°; N 0.7656, Plg1.0000°, Azm338.0000°; P -7.8857, Plg7.0000°, Azm248.0000°;*

*IPGP **06** 15:27:57.0, 20.1°7S×168.9°9E, h38km, Mw5.9, Fault plane solution: NP1: ϕs329.00000°, δ40.00000°, λ86.00000°. NP2: ϕs154.00000°, δ50.00000°, λ93.00000°.*

*NOU **06** 15:28:00.0, 20.1°2S×168.9°8E, h45km, mB6.2/166, Loyalty Islands*

*GCMT **06** 15:28:01.2±0.1, 20.2°1S±0.0°1×168.8°2E, h39km, MW5.9/157, Moment Tensor Solution. s157, c344; s154, c476; Duration: 2s1 Moment tensor: Scale 10^18 Nm; Mrr0.74±.01; Mθθ-0.05±.00; Mϕϕ-0.69±.00; Mrθ0.07±.01; Mθϕ0.33±.00; Mϕr-0.21±.01; Best double couple: M0 0.82000×10^18 NP1: ϕs335.00000°, δ37.00000°, λ87.00000°. NP2: ϕs159.00000°, δ53.00000°, λ92.00000°. Principal axes: T 0.7750, Plg82.0000°, Azm81.0000°; N 0.0890, Plg2.0000°, Azm337.0000°; P -0.8640, Plg8.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 06 15:27:56.6±0.3, 20.1°8S±0.0°3×169.2°0E±0.0°3, h35km±1km, h35km: pP-P, n1723, σ1.956/1440, mb5.9/321, MS5.6/439, 102C-76D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INH	**Isangel**	**0.63**	**6**	P	**Pb**	**15 28 11.2**	**+1.8**
DVP	**Devils Point**	**2.62**	**338**	P	**Pn**	**15 28 38.6**	**+2.1**
PINNC	**Pines Island,**	**2.92**	**214**		**Pn**	**15 28 39.5**	**-1.1**
PINNC	**Pines Island,**	**2.92**	**214**	P	**Pn**	**15 28 40.4**	**-0.2**
PINNC	**Pines Island,**	**2.92**	**214**	S	**Sn**	**15 29 14.1**	**-0.4**
OUENC	**Ouen Island, N**	**3.13**	**224**	P	**Pn**	**15 28 43.6**	**+0.1**
DZM	**Mont Dzumac**	**3.19**	**233**	*e*Pn	**Pn**	**15 28 43.0**	**-1.4**
DZM	28μm,1.1s			*e*Sn	**Sn**	**15 29 17.9**	**-3.4**
	37μm,1.3s						
DZM	**Mont Dzumac**	**3.19**	**233**		**Pn**	**15 28 42.5**	**-2.0**
DZM	**Mont Dzumac**	**3.19**	**233**	Pn	**Pn**	**15 28 43.2**	**-1.2**
DZM	273nm,0.3s,baz=62,slow=17,SNR=2305 2μm,0.3s,baz=300,slow=23,SNR=14			Sn	**Sn**	**15 29 16.0**	**-5.3**
DZM	comp=Z,66μm,19.9s,baz=136,slow=39 4μm,0.7s			LR	LR	15 29 55.2	
DZM	**Mont Dzumac**	**3.19**	**233**	P	**Pn**	**15 28 43.5**	**-0.9**
DZM	**Mont Dzumac**	**3.19**	**233**	⇓P	**Pn**	**15 28 42.8**	**-1.6**
ONTNC	**Ouen Toro**	**3.33**	**230**		**Pn**	**15 28 44.5**	**-1.7**
ONTNC	**Ouen Toro**	**3.33**	**230**	P	**Pn**	**15 28 45.7**	**-0.5**
ONTNC	**Ouen Toro**	**3.33**	**230**	⇓P	**Pn**	**15 28 45.0**	**-1.2**
KOUNC	**Koumac, New Ca**	**4.63**	**265**	P	**Pn**	**15 29 03.9**	**-0.2**
KOUNC	**Koumac, New Ca**	**4.63**	**265**	S	**Sn**	**15 29 55.1**	**-1.5**
KOUNC	**Koumac, New Ca**	**4.63**	**265**	⇑P	**Pn**	**15 29 03.0**	**-1.0**
SANVU	**Saraoutou**	**5.08**	**338**		**Pn**	**15 29 09.9**	**-0.4**
SANVU	**Saraoutou**	**5.08**	**338**	P	**Pn**	**15 29 12.0**	**+1.7**
SANVU	**Saraoutou**	**5.08**	**338**	⇑P	**Pn**	**15 29 11.4**	**+1.1**
MSVF	**Nonsavu**	**8.72**	**75**		Pn	15 30 08.0	+7.6
MSVF	**Nonsavu**	**8.72**	**75**	P	Pn	15 30 08.0	+7.6
MSVF	**Nonsavu**	**8.72**	**75**	P	Pn	15 30 08.0	+7.6
MSVF	**Nonsavu**	**8.72**	**75**	⇓P	Pn	15 30 08.5	+8.1
NFK	**Norfolk Island**	**8.90**	**187**	P	**Pn**	**15 30 04.8**	**+2.1**
NFK	comp=Z,0.0nmcomp=Z,1μm,0.8s			S	**Sn**	**15 31 40.4**	**-1.4**
NFK	**Norfolk Island**	**8.90**	**187**	P	**Pn**	**15 30 04.9**	**+2.1**
NFK	**Norfolk Island**	**8.90**	**187**	⇓P	**Pn**	**15 30 05.0**	**+2.3**
LUES	**Luesalemba Tem**	**9.98**	**341**	P	**Pn**	**15 30 20.1**	**+2.5**
DGTI	**Dogotuki**	**10.72**	**71**	P	Pn	15 30 34.8	+7.0
TAVE	**Taveuni**	**10.90**	**73**	P	Pn	15 30 36.7	+6.5
LKBA	**Tubou, Lakemba**	**11.48**	**82**	P	Pn	15 30 44.5	+6.3
HURO	**Huro Makira**	**11.95**	**323**	P	**Pn**	**15 30 45.7**	**+1.1**
NGOA	**Tingoa Renbel**	**12.28**	**313**	P	**Pn**	**15 30 49.7**	**+0.6**
FUTU	**Fugatoga**	**13.44**	**66**		**Pn**	**15 31 00.5**	**-4.5**
FUTU	**Fugatoga**	**13.44**	**66**	P	**P**	**15 31 11.3**	**-2.5**
HNR	**Honiara**	**13.93**	**319**	Pn	**Pn**	**15 31 09.9**	**-1.7**
HNR	comp=Z,3.8nm,0.3s,baz=283,slow=15,SNR=6.4 comp=Z,3.3nm,0.3s,baz=45,slow=18,SNR=1.4			Sn	**Sn**	**15 33 39.8**	**-5.3**
HNR	comp=Z,10μm,21.7s,baz=154,slow=33 comp=Z,49nm,0.8s			LR	LR	15 35 33.7	
HNR	**Honiara**	**13.93**	**319**	P	**Pn**	**15 31 12.7**	**+1.1**
HNR	**Honiara**	**13.93**	**319**	⇑P	**Pn**	**15 31 13.6**	**+1.9**
ALEG	**Aligegeo Malai**	**14.02**	**323**	P	**Pn**	**15 31 14.2**	**+1.3**
SAVO	**Savo Central**	**14.23**	**319**	P	**Pn**	**15 31 16.6**	**+0.8**
LHI	**Lord Howe Isla**	**14.51**	**217**	P	**Pn**	**15 31 19.1**	**-0.4**
LHI	**Lord Howe Isla**	**14.51**	**217**		**Pn**	**15 31 18.5**	**-1.0**
TATA	**Tatamba Isabel**	**14.84**	**321**	P	**Pn**	**15 31 24.9**	**+0.9**
FUNA	**Funafuti**	**15.09**	**41**		**Pn**	**15 31 24.5**	**-2.8**
FUNA	**Funafuti**	**15.09**	**41**	P	**P**	**15 31 32.0**	**-0.2**
OUZ	**Omahuta**	**15.48**	**166**	P	**P**	**15 31 36.5**	**+0.2**
OUZ	**Omahuta**	**15.48**	**166**	⇑P	**P**	**15 31 36.9**	**+0.5**
WCZ	**Waipu Caves**	**16.34**	**165**	P	**P**	**15 31 48.1**	**+2.2**
GC1S	**Gold Coast 1 S**	**16.36**	**238**	P	**Pn**	**15 31 44.7**	**+1.0**
GD1S	**Gladstone Soft**	**17.11**	**254**	P	**P**	**15 31 54.3**	**-0.3**
TW1H	**Toowoomba 1 Ha**	**17.37**	**242**	P	**P**	**15 31 57.5**	**0.0**
KUZ	**Kuaotunu**	**17.46**	**162**	P	**P**	**15 32 01.6**	**+3.2**
KUZ	**Kuaotunu**	**17.46**	**162**	P	**P**	**15 32 01.2**	**+2.8**
EIDS	**Eidsvold**	**17.49**	**249**	P	**P**	**15 31 58.6**	**-0.1**
EIDS	**Eidsvold**	**17.49**	**249**		**Pn**	**15 31 57.8**	**0.0**
EIDS	comp=Z,628nm,2.0s comp=Z,836nm,1.2s			IAmb	IAmb	15 32 02.0	
EIDS	**Eidsvold**	**17.49**	**249**	P	**P**	**15 31 58.6**	**-0.1**
EIDS	**Eidsvold**	**17.49**	**249**	⇓P	**P**	**15 31 58.5**	**-0.1**
TOZ	**Tahuroa Road**	**18.33**	**164**	Pn	**Pn**	**15 32 10.2**	**+2.1**
TOZ	**Tahuroa Road**	**18.33**	**164**	P	**Pn**	**15 32 11.4**	**+3.4**
ARMA	**Armidale**	**18.86**	**234**	P	**Pn**	**15 32 17.0**	**+2.4**
ARMA	**Armidale**	**18.86**	**234**	P	**Pn**	**15 32 15.5**	**+0.9**
ARMA	comp=Z,0.0nmcomp=Z,637nm,1.5s comp=Z,882nm,1.3s			IAmb	IAmb	15 32 19.9	
ARMA	**Armidale**	**18.86**	**234**	P	**Pn**	**15 32 16.5**	**+1.9**
ARMA	**Armidale**	**18.86**	**234**	⇓P	**Pn**	**15 32 16.8**	**+2.2**
HIZ	**Hauiti**	**18.91**	**166**	P	**Pn**	**15 32 17.5**	**+2.3**
HIZ	comp=Z,687nm,1.5s			IAmb	IAmb	15 32 21.0	
HIZ	**Hauiti**	**18.91**	**166**	P	**Pn**	**15 32 18.3**	**+3.1**
HAZ	**Te Kaha**	**19.04**	**159**	P	**Pn**	**15 32 20.2**	**+3.6**
MXZ	**Matakaoa Point**	**19.05**	**157**	P	**Pn**	**15 32 20.9**	**+4.1**
RUGZ	**Raukumara Rang**	**19.19**	**159**	P	**Pn**	**15 32 21.9**	**+3.3**
PKGZ	**Pakihiroa**	**19.24**	**158**	P	**Pn**	**15 32 22.8**	**+3.7**
URZ	**Urewera**	**19.28**	**161**	P	**P**	**15 32 18.4**	**+0.1**
URZ	comp=Z,2.3nm,0.3s,baz=2.0,slow=7.3,SNR=38 comp=Z,11nm,0.9s,baz=48,slow=19,SNR=1.1			S	**S**	**15 35 59.2**	**+4.5**
URZ	comp=Z,18μm,20.5s,baz=335,slow=33 comp=Z,109nm,1.0s			LR	LR	15 38 29.1	
URZ	**Urewera**	**19.28**	**161**	P	**Pn**	**15 32 23.0**	**+3.5**
URZ	**Urewera**	**19.28**	**161**	P	**Pn**	**15 32 22.0**	**+2.5**
URZ	**Urewera**	**19.28**	**161**	⇑P	**Pn**	**15 32 21.7**	**+2.2**
PRRZ	**Plateau Road**	**19.29**	**163**	P	**Pn**	**15 32 25.0**	**+5.4**
WMGZ	**Waiomatatini S**	**19.32**	**157**	P	**Pn**	**15 32 22.7**	**+2.7**
MUGZ	**Murupara**	**19.38**	**162**	P	**Pn**	**15 32 24.6**	**+3.9**
TWGZ	**Tauwhareparae**	**19.48**	**159**	P	**Pn**	**15 32 24.7**	**+2.6**
PUZ	**Puketiti**	**19.48**	**158**	P	**Pn**	**15 32 24.2**	**+2.1**
KHEZ	**Kahui Hut**	**19.50**	**169**	P	**Pn**	**15 32 27.2**	**+5.0**
RTZ	**Ruatahuna**	**19.57**	**162**		**Pn**	**15 32 25.0**	**+1.9**
RTZ	comp=Z,1μm,1.1s			IAmb	IAmb	15 32 27.3	
RTZ	**Ruatahuna**	**19.57**	**162**	P	**Pn**	**15 32 25.6**	**+2.5**
NIUE	**Niue**	**19.69**	**90**	P	**Pn**	**15 32 24.7**	**+0.1**
NIUE	comp=Z,502nm,1.1s			IAmb	IAmb	15 32 37.9	
MTHZ	**Maungataniwha**	**19.75**	**162**	P	**Pn**	**15 32 27.8**	**+2.6**
RMQ	**Roma**	**19.78**	**248**	P	**Pn**	**15 32 26.2**	**+0.5**
RMQ	**Roma**	**19.78**	**248**	P	**Pn**	**15 32 26.5**	**+0.8**
SNGZ	**Shannon Statio**	**19.83**	**161**	P	**Pn**	**15 32 28.2**	**+2.1**
CNGZ	**Carnagh Statio**	**19.84**	**159**	P	**Pn**	**15 32 27.6**	**+1.4**
RAHZ	**Arahi**	**19.88**	**162**	P	**Pn**	**15 32 29.0**	**+2.3**
RIGZ	**Rimuhau**	**19.89**	**160**	P	**Pn**	**15 32 28.6**	**+1.8**
BKZ	**Black Stump Fm**	**19.94**	**163**	P	**Pn**	**15 32 28.5**	**+1.1**
BKZ	comp=Z,530nm,1.1s			IAmb	IAmb	15 32 30.4	
BKZ	**Black Stump Fm**	**19.94**	**163**	P	**Pn**	**15 32 28.9**	**+1.5**
BKZ	**Black Stump Fm**	**19.94**	**163**	P	**Pn**	**15 32 29.0**	**+1.5**
NTLH	**Newcastle Hard**	**20.10**	**227**	P	Pn	15 32 30.4	+1.1
KNZ	**Kokohu**	**20.15**	**161**	P	Pn	15 32 30.3	+0.5
TSZ	**Takapari Road**	**20.64**	**165**	P	Pn	15 32 36.3	+0.7
MGCD	**Mangrove Creek**	**20.69**	**227**	P	Pn	15 32 36.6	+0.4
MGCD	**Mangrove Creek**	**20.69**	**227**	P	Pn	15 32 37.7	+1.5
QRZ	**Quartz Range**	**20.78**	**173**		Pn	15 32 37.5	+0.3
QRZ	comp=Z,384nm,1.0s comp=Z,921nm,1.5s			IAmb	IAmb	15 32 51.0	
QRZ	**Quartz Range**	**20.78**	**173**	P	Pn	15 32 38.2	+1.1
RIV	**Riverview**	**21.01**	**226**	P	**P**	**15 32 40.0**	**+2.8**
RIV	**Riverview**	**21.01**	**226**	P	**P**	**15 32 41.3**	**+4.1**
RIV	**Riverview**	**21.01**	**226**	⇑P	**P**	**15 32 40.9**	**+3.7**
TKNZ	**Takaka Hill**	**21.03**	**172**	P	**P**	**15 32 39.5**	**+2.1**
TV1H	**Townsville Har**	**21.11**	**269**	P	**P**	**15 32 39.9**	**+1.5**
MRZ	**Mangatainoka R**	**21.13**	**166**		**P**	**15 32 40.6**	**+2.2**
MRZ	comp=Z,788nm,1.0s			IAmb	IAmb	15 32 53.0	
MRZ	**Mangatainoka R**	**21.13**	**166**	P	**P**	**15 32 40.7**	**+2.3**
SYDH	**Sydney Hard Ro**	**21.25**	**227**	P	**P**	**15 32 42.5**	**+2.7**
NNZ	**Nelson**	**21.27**	**171**	P	**P**	**15 32 43.7**	**+3.8**
NNZ	comp=Z,1nm,21.0s comp=Z,339nm,1.0s			IAmb	IAmb	15 32 57.0	
NNZ	**Nelson**	**21.27**	**171**	P	**P**	**15 32 43.2**	**+3.3**
BFZ	**Birch Farm**	**21.30**	**165**	P	**P**	**15 32 41.8**	**+1.5**
BFZ	comp=Z,881nm,1.4s			IAmb	IAmb	15 32 53.2	
BFZ	**Birch Farm**	**21.30**	**165**	P	**P**	**15 32 42.5**	**+2.2**
BFZ	**Birch Farm**	**21.30**	**165**	P	**P**	**15 32 42.0**	**+1.8**
MRNZ	**Matariki Terra**	**21.37**	**173**	P	**P**	**15 32 44.4**	**+3.4**
TCW	**Tory Channel**	**21.41**	**169**	P	**P**	**15 32 44.6**	**+3.3**
CTA	**Charters Tower**	**21.55**	**266**	P	**P**	**15 32 45.1**	**+2.0**
CTAO	**Charters Tower**	**21.55**	**266**		**P**	**15 32 44.1**	**+1.0**
CTAO	comp=Z,459nm,1.1s			IAmb	IAmb	15 32 51.2	
CTAO	**Charters Tower**	**21.55**	**266**	P	**P**	**15 32 45.4**	**+2.3**
CTAO	**Charters Tower**	**21.55**	**266**	P	**P**	**15 32 44.1**	**+1.0**
CTAO	comp=Z,459nm,1.1s			pmax	pmax		
CTAO	**Charters Tower**	**21.55**	**266**	⇓P	**P**	**15 32 44.9**	**+1.8**
TUWZ	**Tuamarina**	**21.56**	**170**	P	**P**	**15 32 47.0**	**+4.0**
SNZO	**South Karori**	**21.58**	**169**		**P**	**15 32 45.9**	**+2.7**
SNZO	comp=Z,413nm,1.0s			IAmb	IAmb	15 32 57.8	
SNZO	**South Karori**	**21.58**	**169**	IAmb	IAmb	15 40 18.7	
SNZO	**South Karori**	**21.58**	**169**	P	**P**	**15 32 47.7**	**+4.5**
SNZO	**South Karori**	**21.58**	**169**	⇑P	**P**	**15 32 48.5**	**+5.3**
DSZ	**Denniston Nort**	**21.61**	**175**	P	**P**	**15 32 47.8**	**+4.2**
DSZ	comp=Z,292nm,1.0s			IAmb	IAmb	15 33 02.9	
DSZ	**Denniston Nort**	**21.61**	**175**	P	**P**	**15 32 46.9**	**+3.2**
BHW	**Baring Head**	**21.70**	**168**	P	**P**	**15 32 45.5**	**+1.0**
TARA	**Tarawa**	**21.71**	**10**	P	**P**	**15 32 47.0**	**+2.2**
THZ	**Tophouse**	**21.75**	**173**	P	**P**	**15 32 48.3**	**+3.2**
THZ	comp=Z,324nm,1.0s			IAmb	IAmb	15 33 02.8	
THZ	**Tophouse**	**21.75**	**173**	P	**P**	**15 32 48.0**	**+2.9**
MSWZ	**Moikau Station**	**21.79**	**168**	P	**P**	**15 32 48.8**	**+3.4**
BSWZ	**Blackbirch Sta**	**21.83**	**171**	P	**P**	**15 32 49.1**	**+3.2**
PLWZ	**Palliser**	**21.93**	**168**	P	**P**	**15 32 49.7**	**+2.6**
KHZ	**Kahutara**	**22.47**	**172**	P	**P**	**15 32 55.9**	**+3.1**
KHZ	comp=Z,711nm,1.5s			IAmb	IAmb	15 33 06.2	
KHZ	comp=Z,23μm,19.0s			IAmb_20	IAmb_20	15 41 01.8	
KHZ	**Kahutara**	**22.47**	**172**	P	**P**	**15 32 54.6**	**+1.8**
KHZ	**Kahutara**	**22.47**	**172**	⇑P	**P**	**15 32 55.4**	**+2.7**
INZ	**Inchbonnie**	**22.56**	**176**		**P**	**15 32 55.9**	**+2.2**
INZ	comp=Z,673nm,1.2s			IAmb	IAmb	15 32 58.3	
INZ	comp=Z,25μm,19.0s			IAmb_20	IAmb_20	15 40 47.6	
INZ	**Inchbonnie**	**22.56**	**176**	P	**P**	**15 32 55.5**	**+1.8**
LTZ	**Lake Taylor**	**22.68**	**174**	P	**P**	**15 32 57.9**	**+2.8**
LTZ	comp=Z,600nm,1.2s			IAmb	IAmb	15 33 08.9	
LTZ	comp=Z,20μm,20.0s			IAmb_20	IAmb_20	15 40 53.3	
LTZ	**Lake Taylor**	**22.68**	**174**	P	**P**	**15 32 57.5**	**+2.4**
GVZ	**Greta Valley S**	**22.95**	**173**	IAmb	IAmb	15 33 01.2	
GVZ	**Greta Valley S**	**22.95**	**173**	P	**P**	**15 32 58.8**	**+1.0**
RABL	**Rabaul**	**22.98**	**312**	P	**P**	**15 32 56.4**	**-2.0**
RABL	comp=Z,516nm,1.3s comp=Z,246nm,0.8s			IAmb	IAmb	15 33 17.9	
CNB	**Canberra Magne**	**23.08**	**225**	P	**P**	**15 33 01.6**	**+2.2**
CNB	**Canberra Magne**	**23.08**	**225**	P	**P**	**15 33 02.1**	**+2.8**
YNG	**Young**	**23.18**	**228**	P	**P**	**15 33 01.5**	**+1.3**
OXZ	**Oxford**	**23.20**	**175**	IAmb	IAmb	15 33 17.3	
OXZ	comp=Z,384nm,1.3s comp=Z,322nm,1.0s comp=Z,20μm,20.0s			IAmb_20	IAmb_20	15 41 26.7	
OXZ	**Oxford**	**23.20**	**175**	P	**P**	**15 33 02.3**	**+1.9**
FOZ	**Fox Glacier**	**23.29**	**179**	IAmb	IAmb	15 33 14.1	
FOZ	comp=Z,438nm,1.0s comp=Z,22μm,18.0s			IAMs_20	IAMs_20	15 41 40.6	
FOZ	**Fox Glacier**	**23.29**	**179**	P	**P**	**15 33 03.5**	**+2.3**
CAN	**Canberra**	**23.32**	**226**	IAmb	IAmb	15 33 16.6	
CAN	**Canberra**	**23.32**	**226**	P	**P**	**15 33 03.8**	**+2.1**
RPZ	**Rata Peaks**	**23.52**	**177**	IAMs_20	IAMs_20	15 42 02.9	
RPZ	**Rata Peaks**	**23.52**	**177**	LR	LR	15 41 57.0	
RPZ	**Rata Peaks**	**23.52**	**177**	P	**P**	**15 33 05.6**	**+2.1**
MTSU	**Mount Surprise**	**23.59**	**271**	P	**P**	**15 33 05.3**	**+0.9**
MTSU	**Mount Surprise**	**23.59**	**271**	P	**P**	**15 33 05.5**	**+1.0**
MQZ	**McQueen's Vall**	**23.64**	**174**	IAmb	IAmb	15 33 15.9	
MQZ	**McQueen's Vall**	**23.64**	**174**	P	**P**	**15 33 05.8**	**+1.3**
QLP	**Quilpie**	**23.77**	**250**	P	**P**	**15 33 06.6**	**+0.5**
QLP	**Quilpie**	**23.77**	**250**	P	**P**	**15 33 06.5**	**+0.5**
QLP	**Quilpie**	**23.77**	**250**	⇓P	**P**	**15 33 07.0**	**+1.0**
PMG	**Port Moresby**	**23.82**	**294**	P	**P**	**15 33 06.6**	**0.0**
PMG	comp=Z,321nm,0.9s			IAmb	IAmb	15 33 18.5	
PMG	**Port Moresby**	**23.82**	**294**	LR	LR	15 41 38.0	
PMG	**Port Moresby**	**23.82**	**294**	P	**P**	**15 33 07.2**	**+0.6**
PMG	**Port Moresby**	**23.82**	**294**	P	**P**	**15 33 07.0**	**+0.4**
PMG	**Port Moresby**	**23.82**	**294**	P	**P**	**15 33 06.6**	**0.0**
PMG	comp=Z,12μm,19.1s,baz=138,slow=35 comp=Z,321nm,1.0s			pmax	pmax		
PMG	**Port Moresby**	**23.82**	**294**	⇑P	**P**	**15 33 07.0**	**+0.4**
JCZ	**Jackson Bay**	**23.83**	**181**	P	**P**	**15 33 09.7**	**+3.2**
JCZ	**Jackson Bay**	**23.83**	**181**	P	**P**	**15 33 08.1**	**+1.6**
CMSA	**Cobar Meteorol**	**23.94**	**237**	P	**P**	**15 33 08.4**	**+0.8**
CMSA	**Cobar Meteorol**	**23.94**	**237**	P	**P**	**15 33 08.9**	**+1.3**
LBZ	**Lake Benmore**	**24.15**	**178**	IAMs_20	IAMs_20	15 41 53.4	
LBZ	**Lake Benmore**	**24.15**	**178**	P	**P**	**15 33 10.5**	**+1.1**
TMZ	**Timaru**	**24.18**	**177**	P	**P**	**15 33 10.7**	**+1.0**
MSZ	**Milford Sound**	**24.45**	**182**	P	**P**	**15 33 15.1**	**+3.0**
WKZ	**Wanaka**	**24.58**	**180**	IAmb	IAmb	15 33 36.6	
WKZ	comp=Z,351nm,1.1s comp=Z,22μm,19.0s			IAMs_20	IAMs_20	15 42 46.5	
WKZ	**Wanaka**	**24.58**	**180**	P	**P**	**15 33 15.0**	**+1.7**
ODZ	**Otahua Downs**	**24.83**	**178**	IAMs_20	IAMs_20	15 42 27.3	
ODZ	**Otahua Downs**	**24.83**	**178**	P	**P**	**15 33 17.1**	**+1.6**
ODZ	**Otahua Downs**	**24.83**	**178**	⇑P	**P**	**15 33 17.2**	**+1.7**
EAZ	**Earnscleugh**	**24.98**	**180**	P	**P**	**15 33 18.4**	**+1.4**
MLZ	**Mavora Lakes**	**25.14**	**182**	IAMs_20	IAMs_20	15 41 56.1	
MLZ	**Mavora Lakes**	**25.14**	**182**	P	**P**	**15 33 20.3**	**+1.9**
DCZ	**Deep Cove**	**25.27**	**183**	IAmb	IAmb	15 33 31.1	
DCZ	**Deep Cove**	**25.27**	**183**	P	**P**	**15 33 21.4**	**+1.8**
COEN	**Coen**	**25.62**	**280**	P	**P**	**15 33 23.8**	**+0.7**
COEN	**Coen**	**25.62**	**280**	P	**P**	**15 33 22.9**	**-0.2**
COEN	comp=Z,315nm,1.2s			IAmb	IAmb	15 33 54.3	
COEN	**Coen**	**25.62**	**280**	P	**P**	**15 33 24.2**	**+1.2**
COEN	**Coen**	**25.62**	**280**	⇑P	**P**	**15 33 24.1**	**+1.0**
WHZ	**Wether Hill Ro**	**25.67**	**182**	IAMs_20	IAMs_20	15 42 20.1	
WHZ	**Wether Hill Ro**	**25.67**	**182**	P	**P**	**15 33 24.5**	**+1.3**
TUZ	**Tuapeka**	**25.71**	**179**	P	**P**	**15 33 25.4**	**+1.8**
SYZ	**Scrubby Hill**	**26.29**	**180**	P	**P**	**15 33 32.1**	**+3.4**
SYZ	**Scrubby Hill**	**26.29**	**180**	P	**P**	**15 33 31.6**	**+2.9**
TOO	**Toolangi**	**26.93**	**225**	P	**P**	**15 33 36.8**	**+2.1**
TOO	**Toolangi**	**26.93**	**225**	P	**P**	**15 33 35.3**	**+0.6**
TOO	**Toolangi**	**26.93**	**225**	P	**P**	**15 33 35.3**	**+0.6**
TOO	comp=Z,97nm,1.2s			pmax	pmax		
TOO	comp=Z,5μm,20.0s			MLR	MLR		
TOO	**Toolangi**	**26.93**	**225**	⇓P	**P**	**15 33 36.9**	**+2.1**
STKA	**Stephens Creek**	**27.33**	**239**	P	**P**	**15 33 39.4**	**+1.0**
STKA	**Stephens Creek**	**27.33**	**239**	P	**P**	**15 33 38.0**	**-0.3**
STKA	**Stephens Creek**	**27.33**	**239**	P	**P**	**15 33 38.9**	**+0.6**
STKA	comp=Z,2μm,1.2s comp=Z,16nm,0.8s,baz=83,slow=14,SNR=17 comp=Z,5.0nm,0.7s,baz=13,slow=22,SNR=0.8			S	**S**	**15 38 18.1**	**+2.3**
STKA	comp=Z,13μm,20.4s,baz=106,slow=36 comp=Z,16nm,0.8s			LR	LR	15 44 02.1	
STKA	**Stephens Creek**	**27.33**	**239**	P	**P**	**15 33 39.3**	**+1.0**
STKA	**Stephens Creek**	**27.33**	**239**	P	**P**	**15 33 38.0**	**-0.3**
STKA	comp=Z,1μm,1.0s		

comp=Z,180nm,0.7s
ASAR Alice Springs 32.88 257 P **P** 15 34 26.9 -0.7
ASAR Alice Springs 32.88 257 P **P** 15 34 27.1 -0.5
comp=Z,138nm,0.8s,baz=86,slow=9.0,SNR=930
ASAR PcP **PcP** 15 37 11.7 -0.1
comp=Z,22nm,1.0s,baz=83,slow=3.4,SNR=4.0
ASAR S **S** 15 39 39.3 -3.9
comp=Z,4.3nm,0.9s,baz=91,slow=16,SNR=3.0
ASAR ScP **ScP** 15 40 57.2 +3.8
comp=Z,1.1nm,0.7s,baz=95,slow=3.8,SNR=1.5
ASAR LR LR 15 48 14.4
comp=Z,19μm,18.6s,baz=97,slow=37
comp=Z,138nm,0.8s
JAY Jayapura 32.89 299 LR LR 15 47 01.1
comp=Z,6μm,21.6s,baz=111,slow=35
JAY Jayapura 32.89 299 P **P** 15 34 26.9 -0.8
GENI Genyem 33.29 298 P **P** 15 34 32.2 +1.0
GENI Genyem 33.29 298 P **P** 15 34 29.9 -1.3
SMPI Sarmi 34.84 297 P **P** 15 34 43.7 -0.9
comp=Z,2μmcomp=Z,93nm,1.2s
KDU Kakadu 35.95 276 P **P** 15 34 53.7 -0.5
comp=Z,0.0nmcomp=Z,71nm,1.3s
KDU Kakadu 35.95 276 P **P** 15 34 54.4 +0.2
KDU Kakadu 35.95 276 ⇑P **P** 15 34 53.7 -0.5
SRPI Serui, Papua 36.98 295 P **P** 15 35 02.5 -0.5
comp=Z,92nm,0.8s
MTN Manton Dam 37.16 275 P **P** 15 35 03.9 -0.5
comp=Z,0.0nmcomp=Z,251nm,1.0s
MTN Manton Dam 37.16 275 IAmb IAmb 15 35 14.5
comp=Z,163nm,0.8s
MTN Manton Dam 37.16 275 P **P** 15 35 04.8 +0.3
MTN Manton Dam 37.16 275 ⇑P **P** 15 35 03.8 -0.7
BAKI Biak 37.45 296 P **P** 15 35 07.8 +0.8
comp=Z,6μmcomp=Z,4μmcomp=Z,289nm,0.8s
DRS Darwin Rock St 37.49 276 P **P** 15 35 07.9 +0.6
WRKA Warakurna 37.97 255 P **P** 15 35 11.1 -0.3
comp=Z,0.0nmcomp=Z,136nm,1.2s
TBI Tubuai 38.43 102 *e*P **P** 15 35 15.3 +0.1
comp=Z,5μm,26.8s
TBI *e*S **S** 15 41 10.9 +2.7
comp=Z,11μm,31.2s
TBI *e*LQ LQ 15 44 11.4
comp=Z,62μm,31.8s
TBI *e*LR LR 15 45 48.4
comp=Z,45μm,26.5s
TBI *e*LR LR 15 45 48.4
comp=Z,10μm,26.0s
KNRA Kununurra 38.67 270 P **P** 15 35 16.6 -0.6
comp=Z,330nm,0.8s
KNRA Kununurra 38.67 270 IAmb IAmb 15 35 27.1
comp=Z,230nm,0.8s
RKPI Ransiki, Papua 38.92 294 P **P** 15 35 18.9 -0.5
comp=Z,5μmcomp=Z,3μmcomp=Z,164nm,0.8s
PPT2 Papeete2 39.02 93 *e*PKP1 **P** 15 35 16.0 -4.3
comp=Z,1μm,26.2s
PPT2 *e*S **S** 15 41 19.1 +1.8
comp=Z,3μm,26.8s
PPT2 *e*LQ LQ 15 44 20.6
comp=Z,15μm,31.0s
PPT2 *e*LR LR 15 46 03.0
comp=Z,11μm,27.5s
PPT2 *e*LR LR 15 46 06.0
comp=Z,15μm,26.0s
PPT Papeete 39.02 93 LR LR 15 47 45.8
comp=Z,5μm,21.6s,baz=258,slow=31
XMAS Kiritimati 39.47 60 P **P** 15 35 25.5 +1.7
XMAS IAmb IAmb 15 35 42.3
comp=Z,165nm,1.2s
XMAS Kiritimati 39.47 60 P **P** 15 35 25.6 +1.7
FAKI Fak Fak 39.91 291 IAmb IAmb 15 35 28.2
comp=Z,178nm,0.9s
FAKI Fak Fak 39.91 291 P **P** 15 35 27.8 +0.2
FAKI Fak Fak 39.91 291 P **P** 15 35 26.6 -1.0
comp=Z,5μmcomp=Z,3μmcomp=Z,235nm,1.1s
FITZ Fitzroy Crossi 41.12 265 P **P** 15 35 37.9 +0.3
comp=Z,143nm,1.0s
FITZ Fitzroy Crossi 41.12 265 P **P** 15 35 37.2 -0.4
FITZ Fitzroy Crossi 41.12 265 LR LR 15 51 48.8
comp=Z,10μm,21.6s,baz=96,slow=35
FITZ Fitzroy Crossi 41.12 265 P **P** 15 35 38.3 +0.7
GUMO Guam 41.22 323 P **P** 15 35 39.0 +0.7
GUMO IAmb IAmb 15 35 59.5
comp=Z,192nm,1.1s
GUMO Guam 41.22 323 LR LR 15 52 17.9
comp=Z,3μm,20.1s,baz=144,slow=36
GUMO Guam 41.22 323 P **P** 15 35 39.0 +0.7
GUMO pmax pmax
comp=Z,193nm,1.1s
BNDI Bandanaira 41.27 287 P **P** 15 35 39.6 +0.7
BNDI Bandanaira 41.27 287 P **P** 15 35 36.2 -2.7
comp=Z,5μmcomp=Z,422nm,1.1s
SWI Sorong 41.77 293 P **P** 15 35 42.3 -0.6
comp=Z,5μmcomp=Z,3μmcomp=Z,287nm,0.9s
JOHN Johnston Islan 42.21 31 IAMs_20 IAMs_20 15 49 05.6
comp=Z,7μm,22.0s
AAI Ambon 43.17 287 P **P** 15 35 53.2 -1.2
comp=Z,6μmcomp=Z,3μmcomp=Z,207nm,1.0s
NLAI Namlea 44.35 287 P **P** 15 36 03.3 -0.5
comp=Z,6μmcomp=Z,4μmcomp=Z,277nm,1.8s
SOEI Soe 44.50 277 IAMs_20 IAMs_20 15 53 09.8
comp=Z,8μm,22.0s
SOEI Soe 44.50 277 P **P** 15 36 06.4 +1.2
SOEI Soe 44.50 277 P **P** 15 36 05.7 +0.5
comp=Z,6μmcomp=Z,5μmcomp=Z,274nm,1.3s
BATI Baumata 44.92 276 LR LR 15 55 01.1
comp=Z,11μm,20.9s,baz=144,slow=36
BATI Baumata 44.92 276 P **P** 15 36 09.3 +0.8
comp=Z,5μmcomp=Z,4μmcomp=Z,361nm,1.3s
SANI Sanana 45.86 288 P **P** 15 36 15.9 0.0
SANI Sanana 45.86 288 P **P** 15 36 14.7 -1.2
comp=Z,5μmcomp=Z,5μmcomp=Z,353nm,1.0s
TNTI Ternate 45.95 292 P **P** 15 36 17.5 +0.9
TNTI Ternate 45.95 292 P **P** 15 36 16.3 -0.3
PSA00 Pilbara Seismi 45.98 259 P **P** 15 36 16.9 +0.1
comp=Z,352nm,0.9s
PSA00 Pilbara Seismi 45.98 259 P **P** 15 36 16.6 -0.2
PSA00 Pilbara Seismi 45.98 259 P **P** 15 36 17.0 +0.2
MBWA Marble Bar 46.15 260 P **P** 15 36 18.2 +0.2
comp=Z,0.0nmcomp=Z,523nm,0.9s
MBWA Marble Bar 46.15 260 P **P** 15 36 17.6 -0.4
MBWA Marble Bar 46.15 260 P **P** 15 36 17.7 -0.4
MBWA P **P** 15 36 17.7 -0.4
MBWA S **S** 15 43 01.6 -0.4
MBWA S **S** 15 43 01.6 -0.4
MBWA Marble Bar 46.15 260 P **P** 15 36 18.3 +0.2
MBWA Marble Bar 46.15 260 ⇑P **P** 15 36 18.1 0.0
MEEK Meekatharra 46.63 252 P **P** 15 36 21.7 -0.1
comp=Z,0.0nmcomp=Z,658nm,0.8s
MEEK Meekatharra 46.63 252 P **P** 15 36 22.3 +0.5
MMRI Maumere 46.76 277 P **P** 15 36 23.9 +0.9
MMRI Maumere 46.76 277 P **P** 15 36 22.4 -0.6
comp=Z,5μmcomp=Z,5μmcomp=Z,276nm,1.1s
EDFI Ende, Flores 47.23 277 P **P** 15 36 25.9 -0.9
comp=Z,5μmcomp=Z,2μmcomp=Z,107nm,1.2s
KLBR Kellerberrin 47.28 245 P **P** 15 36 26.3 -0.6
comp=Z,1μm,0.9s
KLBR Kellerberrin 47.28 245 P **P** 15 36 27.3 +0.4
BBSI Bau Bau 47.57 281 P **P** 15 36 29.9 +0.6
comp=Z,5μmcomp=Z,3μmcomp=Z,207nm,1.1s
NWAO Narrogin (SRO) 47.76 243 P **P** 15 36 29.4 -1.1
NWAO Narrogin (SRO) 47.76 243 LR LR 15 56 52.3
comp=Z,17μm,19.6s,baz=96,slow=36
NWAO Narrogin (SRO) 47.76 243 P **P** 15 36 30.2 -0.4
NWAO P **P** 15 36 30.2 -0.4
NWAO S **S** 15 43 24.2 -0.6
NWAO S **S** 15 43 24.2 -0.6
NWAO Narrogin (SRO) 47.76 243 P **P** 15 36 30.7 +0.2
NWAO Narrogin (SRO) 47.76 243 P **P** 15 36 29.4 -1.1
NWAO pmax pmax
comp=Z,461nm,0.9s
NWAO MLR MLR
comp=Z,18μm,20.0s
BASI Baing, Sumba 47.81 274 P **P** 15 36 31.7 +0.6
comp=Z,5μmcomp=Z,473nm,1.5s
RKGY Rocky Gully 48.05 241 P **P** 15 36 33.0 +0.3
comp=Z,0.0nmcomp=Z,356nm,1.0s
BLDU Ballidu 48.18 247 P **P** 15 36 33.1 -0.7
comp=Z,247nm,0.9s
BLDU Ballidu 48.18 247 P **P** 15 36 34.6 +0.8
WSI Waingapu 48.24 275 P **P** 15 36 35.0 +0.6
comp=Z,5μmcomp=Z,421nm,1.4s
MUN Mundaring 48.61 245 P **P** 15 36 36.7 -0.3
comp=Z,0.0nmcomp=Z,250nm,1.0s
MUN Mundaring 48.61 245 P **P** 15 36 38.2 +1.1
MORW Morawa 48.79 249 P **P** 15 36 38.1 -0.5
comp=Z,0.0nmcomp=Z,215nm,1.1s
MORW Morawa 48.79 249 IAmb IAmb 15 36 51.5
comp=Z,193nm,0.9s
MORW Morawa 48.79 249 P **P** 15 36 39.6 +1.0
MORW Morawa 48.79 249 ⇑P **P** 15 36 37.9 -0.6
KMSI Cibinong 48.84 289 P **P** 15 36 39.0 0.0
MTKN Mount Kenneth 48.98 245 P **P** 15 36 41.1 +1.2
SGSI Sangihe 48.99 294 P **P** 15 36 39.9 -0.3
comp=Z,4μmcomp=Z,6μmcomp=Z,423nm,1.1s
WBSI Waikabubak, Su 49.10 275 P **P** 15 36 41.4 +0.3
comp=Z,4μmcomp=Z,3μmcomp=Z,272nm,1.1s
LUWI Luwuk 49.19 287 P **P** 15 36 42.1 +0.3
LUWI Luwuk 49.19 287 P **P** 15 36 42.4 +0.6
comp=Z,5μmcomp=Z,4μmcomp=Z,325nm,1.3s
BKSI Bulukumba 49.89 280 P **P** 15 36 46.4 -0.7
comp=Z,4μmcomp=Z,2μmcomp=Z,101nm,1.4s
TAOE Nuku Hiva Isla 50.13 85 *e*PKP1 **P** 15 36 44.7 -4.3
comp=Z,1μm,25.5s
TAOE *e*S **S** 15 43 58.8 +0.1
comp=Z,3μm,26.4s
TAOE *e*SS **SS** 15 47 34.6 +2.2
comp=Z,1μm,31.0s
TAOE *e*LR LR 15 51 14.5
comp=Z,7μm,25.8s
BNSI Bone 50.25 281 P **P** 15 36 49.4 -0.4
comp=Z,5μmcomp=Z,3μmcomp=Z,226nm,1.5s
APSI Ampana 50.26 286 P **P** 15 36 50.9 +1.0
comp=Z,3μmcomp=Z,227nm,1.2s
KAPI Kappang 50.35 281 P **P** 15 36 50.1 -0.4
KAPI Kappang 50.35 281 LR LR 16 00 33.8
comp=Z,2μm,20.2s,baz=140,slow=39
KAPI Kappang 50.35 281 P **P** 15 36 51.0 +0.4
KAPI P **P** 15 36 51.0 +0.4
KAPI S **S** 15 44 01.8 +0.3
KAPI S **S** 15 44 01.8 +0.3
KAPI Kappang 50.35 281 P **P** 15 36 51.4 +0.8
KAPI Kappang 50.35 281 *c i*P **P** 15 36 51.2 +0.7
KAPI pmax pmax
comp=Z,349nm,1.4s
KAPI MLR MLR
comp=Z,2μm,20.0s
KAPI Kappang 50.35 281 ⇑P **P** 15 36 51.3 +0.7
MRSI Marisa 50.61 288 P **P** 15 36 51.7 -0.8
comp=Z,4μmcomp=Z,2μmcomp=Z,127nm,1.2s
SPSI Sidrap Palu 50.73 282 P **P** 15 36 52.8 -0.6
comp=Z,2μmcomp=Z,102nm,1.0s
DAV Davao City (W) 50.73 298 LR LR 15 58 14.8
comp=Z,1μm,20.4s,baz=108,slow=36
PLAI Plampang 50.87 275 P **P** 15 36 55.0 +0.5
PLAI Plampang 50.87 275 P **P** 15 36 53.8 -0.7
comp=Z,5μmcomp=Z,4μmcomp=Z,262nm,1.1s
GIRL Giralia 50.99 257 IAmb IAmb 15 37 09.8
comp=Z,178nm,1.0s
TTSI Tana Toraja 51.04 283 P **P** 15 36 55.9 +0.1
comp=Z,4μmcomp=Z,2μmcomp=Z,111nm,1.1s
RKT Rikitea 51.71 104 *e*S **S** 15 44 24.5 +4.3
comp=Z,15μm,27.5s
RKT *e*LQ LQ 15 49 43.4
comp=Z,9μm,28.2s
RKT *e*LR LR 15 51 55.4
TWSI Taliwang, Sumb 51.73 275 P **P** 15 37 00.5 -0.5
comp=Z,5μmcomp=Z,4μmcomp=Z,258nm,1.3s
PCI Palu 51.90 285 P **P** 15 37 04.0 +1.8
TOLI2 Tolitoli 51.92 288 IAmb IAmb 15 37 03.4
comp=Z,212nm,1.0s
TOLI2 Tolitoli 51.92 288 P **P** 15 37 02.9 +0.5
HON Honolulu 52.25 40 IAMs_20 IAMs_20 15 54 39.8
comp=Z,6μm,20.0s
KIP Kipapa 52.32 40 IAMs_20 IAMs_20 15 53 57.7
comp=Z,6μm,20.0s
KIP Kipapa 52.32 40 P **P** 15 37 08.2 +3.1
KIP Kipapa 52.32 40 P **P** 15 37 08.1 +3.0
BYL Byron's Ledge 52.54 44 IAMs_20 IAMs_20 15 53 16.9
comp=Z,5μm,21.0s
STCH Steam Cracks 52.61 44 IAmb IAmb 15 37 19.3
comp=Z,181nm,1.0s
JOKA Jonika Flow 52.72 44 P **P** 15 37 08.7 +0.5
JOKA IAmb IAmb 15 37 20.3
comp=Z,220nm,1.0s
JOKA IAMs_20 IAMs_20 15 54 59.7
comp=Z,5μm,21.0s
KHLH Kahului Airpor 52.89 41 IAMs_20 IAMs_20 15 56 12.0
comp=Z,5μm,19.0s
JCJ Chichijima 53.80 330 P **P** 15 37 15.2 -0.7
JCJ IAmb IAmb 15 37 26.9
comp=Z,112nm,0.9s
JCJ Chichijima 53.80 330 P **P** 15 37 16.1 +0.2
JCJ Chichijima 53.80 330 ⇑P **P** 15 37 16.2 +0.3
JAGI Jajag, Banyuwa 54.37 274 P **P** 15 37 19.8 -0.7
JAGI Jajag, Banyuwa 54.37 274 P **P** 15 37 19.2 -1.3
MYLDM Lahad Datu 55.82 291 P **P** 15 37 31.0 +0.1
MYLDM IAmb IAmb 15 37 42.9
comp=Z,277nm,1.4s
MYLDM Lahad Datu 55.82 291 P **P** 15 37 32.2 +1.3
MYLDM Lahad Datu 55.82 291 ⇑P **P** 15 37 32.4 +1.6
VNDA Vanda 57.49 182 P **P** 15 37 42.3 +0.5
VNDA IAmb IAmb 15 37 56.1
comp=Z,127nm,1.4s
VNDA Vanda 57.49 182 P **P** 15 37 42.6 +0.8
comp=Z,29nm,1.1s,baz=358,slow=7.2,SNR=98
VNDA LR LR 15 58 48.5
comp=Z,3μm,21.1s,baz=18,slow=32
comp=Z,29nm,1.1s
VNDA Vanda 57.49 182 P **P** 15 37 42.3 +0.5
VNDA pmax pmax
comp=Z,127nm,1.4s
SBA Scott Base 57.73 181 P **P** 15 37 45.0 +1.6
SBA Scott Base 57.73 181 P **P** 15 37 45.0 +1.6
SBA pmax pmax
comp=Z,362nm,1.2s
UGM Wanagama 57.95 273 P **P** 15 37 44.5 -1.6
UGM IAmb IAmb 15 38 19.1
comp=Z,228nm,1.1s
KKM Kota Kinabalu 58.23 291 P **P** 15 37 47.1 -0.9
KKM Kota Kinabalu 58.23 291 P **P** 15 37 48.1 0.0
KKM Kota Kinabalu 58.23 291 ⇑P **P** 15 37 48.4 +0.4
CASY Casey 59.26 204 P **P** 15 37 53.8 -0.5
CASY Casey 59.26 204 ⇑P **P** 15 37 54.3 +0.1
SBUM Sibu 60.21 285 P **P** 15 38 01.6 -0.1
SBUM Sibu 60.21 285 P **P** 15 38 03.0 +1.3
SBUM Sibu 60.21 285 ⇑P **P** 15 38 02.2 +0.6
BBJI Bungbulang 60.79 273 P **P** 15 38 06.4 +0.6
LEM Lembang 61.03 273 LR LR 16 05 27.1
comp=Z,3μm,19.4s,baz=101,slow=37
JOW Kunigami 61.30 318 P **P** 15 38 08.4 -0.4
JOW Kunigami 61.30 318 LR LR 16 04 19.1
comp=Z,1μm,18.9s,baz=144,slow=36
JOW Kunigami 61.30 318 P **P** 15 38 10.0 +1.2
JOW Kunigami 61.30 318 ⇓P **P** 15 38 10.2 +1.3
KSM Kuching 61.55 283 P **P** 15 38 11.6 +0.8
KSM Kuching 61.55 283 ⇑P **P** 15 38 11.1 +0.3
JSG Sagara 62.01 331 P **P** 15 38 14.6 +1.2
INU Inuyama 63.10 331 IAmb IAmb 15 38 34.1
comp=Z,106nm,1.3s
INU Inuyama 63.10 331 P **P** 15 38 21.5 +0.8
INU Inuyama 63.10 331 ⇑P **P** 15 38 20.8 +0.1
JGF Kuroka 63.16 331 IAmb IAmb 15 38 34.4
comp=Z,263nm,2.0s
JGF Kuroka 63.16 331 P **P** 15 38 21.9 +0.8
JGF Kuroka 63.16 331 ⇑P **P** 15 38 20.9 -0.3
YOJ Yonaguni jima 63.17 313 P **P** 15 38 22.1 +0.8
JMN Monobe 63.31 327 IAmb IAmb 15 39 11.6
comp=Z,145nm,1.1s
JMN Monobe 63.31 327 P **P** 15 38 23.6 +1.5
JMN Monobe 63.31 327 ⇓P **P** 15 38 23.2 +1.1
TWGBT Beinan 63.49 310 P **P** 15 38 23.8 +0.3
TWG Pinlang 63.50 310 P **P** 15 38 22.6 -1.0
TWG IAmb IAmb 15 38 31.2
comp=Z,155nm,1.4s
MJAR Matsushiro Arr 63.56 332 P **P** 15 38 23.2 -0.5
MJAR IAmb IAmb 15 38 37.0
comp=Z,52nm,0.9s
MJAR Matsushiro Arr 63.56 332 P **P** 15 38 23.3 -0.5
comp=Z,42nm,1.1s,baz=163,slow=7.1,SNR=49
MJAR LR LR 16 03 32.5
comp=Z,1μm,21.9s,baz=128,slow=34
MJAR PKP2bc 16 07 25.9
comp=Z,6.5nm,1.1s,baz=297,slow=1.1,SNR=4.2
comp=Z,42nm,1.1s
MJAR Matsushiro Arr 63.56 332 P **P** 15 38 23.2 -0.5
MJAR pmax pmax
comp=Z,52nm,0.9s
MAJO Matsushiro 63.56 332 P **P** 15 38 23.4 -0.4
MAJO IAmb IAmb 15 38 39.7
comp=Z,89nm,1.1s
MAJO Matsushiro 63.56 332 P **P** 15 38 23.8 0.0
MAJO Matsushiro 63.56 332 *c i*P **P** 15 38 23.5 -0.2
MAJO pmax pmax
comp=Z,92nm,1.2s
MAJO MLR MLR
comp=Z,1μm,19.0s
MAJO Matsushiro 63.56 332 ⇑P **P** 15 38 23.6 -0.2
MJB9 Matsu-Tunnel 63.57 332 IAmb IAmb 15 38 39.7
comp=Z,86nm,1.1s
JMM Marumori 63.62 335 IAmb IAmb 15 38 35.2
comp=Z,107nm,0.8s
JMM Marumori 63.62 335 P **P** 15 38 25.5 +1.4
JMM Marumori 63.62 335 ⇑P **P** 15 38 24.5 +0.4
YULB Yu-li 63.69 310 IAmb IAmb 15 38 36.8
comp=Z,176nm,1.5s
YULB Yu-li 63.69 310 P **P** 15 38 26.2 +1.3
NACB Ninganchiao 63.97 311 P **P** 15 38 27.1 +0.4
TPUB Ta-pu 64.11 310 P **P** 15 38 27.6 -0.1
SSLB Suanglung 64.19 311 IAmb IAmb 15 38 28.9
comp=Z,173nm,1.2s
SSLB Suanglung 64.19 311 P **P** 15 38 28.4 +0.3
JNU Nakatsue 64.41 325 P **P** 15 38 30.3 +0.9
JNU Nakatsue 64.41 325 ⇓P **P** 15 38 29.9 +0.5
YHNB Yeheng 64.44 312 P **P** 15 38 31.1 +1.2
TATO Taipei 64.56 312 P **P** 15 38 28.9 -1.6
TATO Taipei 64.56 312 P **P** 15 38 30.6 +0.1
TATO P **P** 15 38 30.6 +0.1
TATO Taipei 64.56 312 P **P** 15 38 31.4 +0.9
JSD Sado 64.80 333 P **P** 15 38 32.9 +1.1
JSD Sado 64.80 333 ⇑P **P** 15 38 32.4 +0.5
PMBI Palembang 65.02 276 P **P** 15 38 34.0 +0.1
PMBI IAMs_20 IAMs_20 16 08 57.6
comp=Z,3μm,19.0s
PMBI Palembang 65.02 276 P **P** 15 38 35.3 +1.5
JTM Tenmabayashi 66.06 337 IAmb IAmb 15 38 50.5
comp=Z,135nm,0.9s
JTM IAMs_20 IAMs_20 16 02 28.9
comp=Z,4μm,22.0s
JTM Tenmabayashi 66.06 337 P **P** 15 38 40.5 +0.6
JTM Tenmabayashi 66.06 337 ⇑P **P** 15 38 39.9 0.0
MNAI Manna 66.22 274 IAMs_20 IAMs_20 16 07 32.4
comp=Z,3μm,21.0s
ERM Erimo 66.41 339 P **P** 15 38 42.0 -0.1
ERM Erimo 66.41 339 IAMs_20 IAMs_20 16 02 46.3
comp=Z,6μm,21.0s
ERM Erimo 66.41 339 P **P** 15 38 43.5 +1.4
ERM Erimo 66.41 339 ⇑*e*P **P** 15 38 42.2 +0.1
ERM pmax pmax
comp=Z,28nm,1.1s
ERM MLR MLR
comp=Z,2μm,19.0s
JEM Erimo 66.41 339 P **P** 15 38 43.6 +1.5
QZH Quanzhou 66.59 310 *e*P **P** 15 38 44.3 +0.7
QZH S **S** 15 47 35.6 +3.0
QZH LR LR
comp=Z,2μm,15.8s
YUK Yuzh-Kuril'sk 67.39 342 *e*P P 15 38 41.1 -7.1
YUK pmax pmax
comp=Z,269nm,1.6s
YUK pmax pmax
comp=Z,342nm,1.4s
YUK pmax pmax
comp=N,167nm,1.1s
YUK pmax pmax
comp=E,195nm,1.2s
BTDF Bukit Timah Da 67.52 280 P **P** 15 38 50.9 +1.1
DLV Lat 67.72 293 IAmb IAmb 15 38 53.8
comp=Z,163nm,1.4s
DLV Lat 67.72 293 P **P** 15 38 52.0 +0.8
KUR Kuril'sk 67.94 344 *e*P **P** 15 38 51.5 -0.2
KUR *e*S **S** 15 47 46.3 -1.7
KUR *e* 15 48 49.2
KUR pmax pmax
comp=Z,837nm,1.1s
KUR MLR MLR
comp=Z,2μm,19.0s
KUR MLR MLR
comp=N,2μm,17.0s
KUR MLR MLR
comp=E,700nm,14.0s
JKA Kamikawa-asahi IAMs_20 IAMs_20 16 03 59.7
comp=Z,5μm,21.0s
ASAJ Asahikawa 68.47 340 P **P** 15 38 55.5 +0.4
comp=Z,99nm,1.1s,baz=223,slow=15,SNR=36
ASAJ LR LR 16 04 00.2
comp=Z,5μm,21.7s,baz=166,slow=32
comp=Z,99nm,1.1s
TJN Taejon 68.76 325 P **P** 15 38 58.0 +0.9
TJN Taejon 68.76 325 ⇑*i*P **P** 15 38 57.0 -0.1
TJN pmax pmax
comp=Z,5.0nm,1.1s
TJN MLR MLR
comp=Z,50nm,20.0s
KSRS Korea Array 69.26 326 P **P** 15 39 00.5 +0.3
comp=Z,12nm,1.0s,baz=149,slow=6.3,SNR=31
KSRS PKP2bc 16 07 07.5
comp=Z,0.9nm,0.9s,baz=343,slow=3.9,SNR=4.8
comp=Z,12nm,1.0s
KSAR Wonju Array Be 69.27 326 P **P** 15 38 59.9 -0.3
KSAR Wonju Array Be 69.27 326 P **P** 15 38 59.9 -0.3
COCO West Island 69.50 264 IAMs_20 IAMs_20 16 09 33.1
comp=Z,5μm,20.0s
BKNI Bangkinang 69.67 278 IAMs_20 IAMs_20 16 12 36.8
comp=Z,3μm,19.0s
QSPA South Pole Qui 69.88 180 P **P** 15 39 05.5 +1.7
QSPA South Pole Qui 69.88 180 IAMs_20 IAMs_20 16 08 19.0
comp=Z,4μm,18.0s
QSPA South Pole Qui 69.88 180 P **P** 15 39 05.4 +1.6
comp=Z,170nm,1.0s,baz=19,slow=2.1,SNR=214
QSPA PKP2bc 16 07 07.2
comp=Z,11nm,1.1s,baz=223,slow=1.7,SNR=12
QSPA LR LR 16 08 20.4
comp=Z,4μm,18.0s,baz=30,slow=35
comp=Z,170nm,1.0s
QSPA South Pole Qui 69.88 180 ⇑P **P** 15 39 06.4 +2.5
INCN Inchon 69.97 325 P **P** 15 39 04.6 0.0
INCN Inchon 69.97 325 P **P** 15 39 04.2 -0.3
INCN Inchon 69.97 325 P **P** 15 39 05.9 +1.3
INCN Inchon 69.97 325 P **P** 15 39 04.6 0.0
INCN pmax pmax
comp=Z,306nm,1.3s
QIZ Qiongzhong 70.02 300 P **P** 15 39 06.7 +1.5
QIZ S **S** 15 48 16.8 +3.1
QIZ pmax pmax
comp=Z,1μm,11.1s
QIZ LR LR
comp=Z,570nm,18.6s
QIZ LR LR
comp=Z,860nm,15.9s
QIZ LR LR
comp=Z,1μm,21.0s
NJ2 Nanjing 70.86 316 ⇑P **P** 15 39 10.6 +0.5
NJ2 sP **pP** 15 39 20.1 -0.4
NJ2 S **S** 15 48 29.3 +6.3
NJ2 pmax pmax
comp=Z,100nm,1.0s
NJ2 LR LR
comp=Z,2μm,21.8s
YSS Yuzhno-Sakhali 70.95 341 P **P** 15 39 11.5 +1.2
YSS IAMs_20 IAMs_20 16 04 38.7
comp=Z,4μm,22.0s
YSS Yuzhno-Sakhali 70.95 341 P **P** 15 39 11.9 +1.6
YSS Yuzhno-Sakhali 70.95 341 *oe*P **P** 15 39 11.6 +1.3
YSS *e**SP **pP** 15 39 21.2 +0.4
YSS *e* 15 39 32.4
YSS *e*S **S** 15 48 24.6 +1.1
YSS *e*SS **SS** 15 52 57.8 +0.4
YSS pmax pmax
comp=Z,90nm,1.3s
YSS pmax pmax
comp=Z,1μm,5.2s
YSS pmax pmax
comp=N,600nm,4.6s
YSS pmax pmax
comp=E,300nm,7.9s
YSS smax smax
comp=N,600nm,8.0s
YSS smax smax
comp=E,400nm,6.4s
YSS Yuzhno-Sakhali 70.95 341 ⇑P **P** 15 39 11.7 +1.3
IPM Ipoh 71.24 282 IAmb IAmb 15 39 14.3
comp=Z,138nm,0.9s
IPM Ipoh 71.24 282 P **P** 15 39 13.1 +0.2
TEY Ternei 71.38 336 ⇓*e*P **P** 15 39 12.6 -0.3
TEY pmax pmax
comp=N,10.0nm,1.4s

TEY pmax pmax
comp=Z,10.0nm,1.4s
MSHR Mys Shultsa 71.63 331 *c iP* **P 15 39 15.3 +0.8**
MSHR pmax pmax
comp=Z,196nm,1.5s
MSHR MLR MLR
comp=Z,669nm,16.0s
AMKA Amchitka 71.80 7 P **P 15 39 13.7 -1.6**
UBPT Khong Chiam 71.86 294 P **P 15 39 17.5 +1.1**
KULM Kulim 71.90 283 IAmb IAmb 15 39 18.3
comp=Z,125nm,1.1s
KULM Kulim 71.90 283 P **P 15 39 18.2 +1.4**
RPSI Rantau Prapat 72.50 280 P **P 15 39 18.2 -2.2**
RPSI IAmb IAmb 15 39 21.4
comp=Z,170nm,1.1s
RPSI IAMs_20 IAMs_20 16 12 51.1
comp=Z,3µm,20.0s
PSI Prapat 72.54 280 LR LR 16 13 31.4
comp=Z,3µm,18.6s,baz=134,slow=38
PSI Prapat 72.54 280 P **P 15 39 20.1 -0.7**
PSI Prapat 72.54 280 P **P 15 39 18.2 -2.6**
PSI pmax pmax
comp=Z,170nm,1.1s
PSI MLR MLR
comp=Z,3µm,20.0s
USA0B Ussuriysk Arra 72.55 333 IAmb IAmb 15 39 22.5
comp=Z,284nm,1.4s
USA0B Ussuriysk Arra 72.55 333 ⇑ *i*P **P 15 39 20.8 +0.8**
USRK Ussuriysk Ar. 72.55 333 P **P 15 39 19.7 -0.3**
USRK Ussuriysk Ar. 72.55 333 P **P 15 39 20.8 +0.8**
comp=Z,96nm,1.1s,baz=131,slow=5.3,SNR=11
USRK LR LR 16 07 18.0
comp=Z,1µm,21.0s,baz=150,slow=33
comp=Z,96nm,1.1s
USRK Ussuriysk Ar. 72.55 333 P **P 15 39 19.7 -0.3**
KIWB Kanaga Island 72.71 9 IAmb IAmb 15 39 31.9
comp=Z,131nm,0.9s
SHEM Shemya Is, Ala 72.72 3 P **P 15 39 20.7 -0.1**
comp=Z,111nm,1.1s,baz=124,slow=18,SNR=8.6
SHEM LR LR 16 06 32.5
comp=Z,4µm,20.5s,baz=152,slow=32
comp=Z,111nm,1.1s
SMY Shemya 72.72 3 P **P 15 39 20.8 0.0**
SMY IAMs_20 IAMs_20 16 06 21.3
comp=Z,4µm,20.0s
SMY Shemya 72.72 3 P **P 15 39 22.8 +2.0**
SMY Shemya 72.72 3 P **P 15 39 20.8 0.0**
SMY pmax pmax
comp=Z,385nm,1.2s
SMY Shemya 72.72 3 ⇓ P **P 15 39 21.3 +0.5**
SMY ⇓ P **pP 15 39 31.5 +0.2**
ADK Adak 72.81 9 P **P 15 39 21.7 +0.4**
ADK IAmb IAmb 15 39 32.1
comp=Z,156nm,1.0s
ADK Adak 72.81 9 IAMs_20 IAMs_20 16 04 49.8
comp=Z,4µm,21.0s
ADK Adak 72.81 9 P **P 15 39 23.2 +1.9**
ADK Adak 72.81 9 P **P 15 39 21.7 +0.4**
ADK pmax pmax
comp=Z,156nm,1.0s
ADK Adak 72.81 9 ⇓ P P 15 39 31.8 +10
GULI GuiLin 72.88 306 P **P 15 39 23.8 +1.4**
GULI S **SKiKP 15 48 51.5 -1.8**
GULI pmax pmax
comp=Z,89nm,1.4s
GULI pmax pmax
comp=Z,830nm,4.6s
GULI LR LR
comp=Z,1µm,21.7s
GULI LR LR
comp=Z,2µm,19.5s
GULI LR LR
comp=Z,2µm,24.9s
WHN Wuhan 72.95 312 P **P 15 39 23.2 +0.5**
WHN sP **pP 15 39 32.9 -0.2**
WHN S **SKiKP 15 48 51.2 -2.1**
WHN SS **SS 15 53 28.4 -0.3**
WHN pmax pmax
comp=Z,440nm,1.1s
WHN LR LR
comp=Z,7µm,20.5s
GSTR Great Sitkin T 73.11 9 IAMs_20 IAMs_20 16 04 47.7
comp=Z,3µm,21.0s
GSI Gunungsitoli 73.25 278 P **P 15 39 26.0 +1.1**
PET Petropavlovsk 73.47 353 P **P 15 39 25.1 -0.1**
PET Petropavlovsk 73.47 353 P **P 15 39 25.8 +0.6**
PET Petropavlovsk 73.47 353 *ce*P **P 15 39 25.2 0.0**
PET *e**PP **pP 15 39 35.0 -0.7**
PET *e*S **SKiKP 15 48 54.5 +1.2**
PET pmax pmax
comp=Z,62nm,1.4s
PET pmax pmax
comp=Z,900nm,6.4s
PET pmax pmax
comp=Z,800nm,16.7s
ATKA Atka Island 73.52 11 IAMs_20 IAMs_20 16 04 37.6
comp=Z,5µm,22.0s
ATKA Atka Island 73.52 11 P **P 15 39 27.6 +2.1**
PEA0B Petropavlovsk- 73.66 353 ⇑ *i*P **P 15 39 26.9 +0.5**
PETK Petropavlovsk- 73.66 353 P **P 15 39 25.7 -0.6**
PETK Petropavlovsk- 73.66 353 P **P 15 39 26.5 +0.2**
comp=Z,51nm,1.1s,baz=117,slow=5.2,SNR=33
PETK LR LR 16 06 25.9
comp=Z,3µm,21.1s,baz=159,slow=32
comp=Z,51nm,1.1s
DL2 Dalian 73.74 323 ⇑ *i*P **P 15 39 27.9 +0.7**
DL2 pP **pP 15 39 37.6 +0.1**
DL2 S **S 15 48 58.0 +2.2**
DL2 pmax pmax
comp=Z,340nm,1.0s
DL2 pmax pmax
comp=Z,1µm,5.5s
DL2 LR LR
comp=Z,1µm,24.6s
DL2 LR LR
comp=Z,2µm,26.0s
DL2 LR LR
comp=Z,2µm,19.0s
RPN Rapa Nui 73.75 113 LR LR 16 04 36.4
comp=Z,2µm,21.3s,baz=250,slow=30
MDJ Mudanjiang 73.93 332 IAmb IAmb 15 39 39.8
comp=Z,164nm,1.0s
MDJ Mudanjiang 73.93 332 P **P 15 39 29.1 +1.0**
MDJ pP pP 15 39 39.2 +0.5
MDJ S **S 15 49 02.9 +5.2**
MDJ pmax pmax
comp=Z,170nm,1.2s
MDJ pmax pmax
comp=Z,1µm,9.6s
MDJ LR LR
comp=Z,990nm,19.9s
MDJ LR LR
comp=Z,950nm,18.6s
MDJ LR LR
comp=Z,2µm,23.4s
MDJ Mudanjiang 73.93 332 P **P 15 39 29.4 +1.3**
SURA Surathani 74.37 286 P **P 15 39 32.8 +1.4**
TYV Tymovskoe 74.50 343 *eP* **P 15 39 32.6 +1.3**
TYV *e*S **S 15 49 04.5 +0.7**
TYV pmax pmax
comp=Z,36nm,1.2s
TYV pmax pmax
comp=Z,500nm,4.0s
TYV smax smax
comp=N,300nm,6.3s
TYV smax smax
comp=E,200nm,6.3s
TIA Tai'an 74.62 319 P **P 15 39 32.8 +0.4**
TIA sP **pP 15 39 42.6 -0.2**
TIA pmax pmax
comp=E,170nm,1.2s
TIA pmax pmax
comp=E,2µm,7.7s
TIA LR LR
comp=E,1µm,19.1s
TIA LR LR
comp=E,880nm,19.0s
TIA LR LR
comp=E,2µm,21.7s
SNY Shenyang 74.74 326 ⇑ P **P 15 39 33.2 +0.3**
SNY S **S 15 49 10.0 +3.1**
SNY pmax pmax
comp=E,43nm,1.0s
SNY pmax pmax
comp=E,1µm,3.9s
SNY LR LR
comp=E,730nm,4.5s
SNY LR LR
comp=E,780nm,4.5s
SNY LR LR
comp=E,1µm,16.9s
CN2 Changchun 75.24 329 ⇑ *i*P **P 15 39 36.4 +0.6**
CN2 pP pP 15 39 46.0 -0.1
CN2 S **S 15 49 12.7 +0.3**
CN2 pmax pmax
comp=E,130nm,1.2s
CN2 pmax pmax
comp=E,2µm,5.0s
CN2 LR LR
comp=E,900nm,16.0s
CN2 LR LR
comp=E,1µm,16.0s
CN2 LR LR
comp=E,1µm,18.0s
BNX BinXian 75.78 331 ⇓ P **P 15 39 39.2 +0.4**
BNX pP **pP 15 39 48.5 -0.7**
BNX sP **sP 15 39 56.9 +3.7**
BNX S **S 15 49 21.2 +3.0**
BNX pmax pmax
comp=E,68nm,1.2s
BNX pmax pmax
comp=E,2µm,8.3s
BNX LR LR
comp=E,1µm,23.0s
BNX LR LR
comp=E,1µm,18.9s
BNX LR LR
comp=E,2µm,22.4s
SLVN Son La 76.00 299 P **P 15 39 41.8 +1.1**
GRNR Gornyy 76.31 339 ⇑ *i*P **P 15 39 43.3 +1.5**
GRNR pmax pmax
comp=E,20nm,1.2s
GRNR pmax pmax
comp=N,30nm,1.1s
GRNR pmax pmax
comp=Z,90nm,1.0s
GYA Guiyang 76.33 305 ⇑ P **P 15 39 42.9 +0.4**
GYA pmax pmax
comp=Z,58nm,1.4s
LYN LuoYang 76.60 315 ⇑ P **P 15 39 44.8 +1.0**
LYN pP PcP 15 39 54.7 -0.5
LYN S **S 15 49 29.5 +1.7**
LYN pmax pmax
comp=Z,480nm,1.1s
LYN pmax pmax
comp=Z,2µm,7.5s
LYN LR LR
comp=Z,2µm,17.5s
LYN LR LR
comp=Z,2µm,22.0s
LYN LR LR
comp=Z,3µm,19.6s
HNS HongShan 76.87 318 ⇑ P **P 15 39 46.4 +1.2**
HNS S **S 15 49 32.2 +1.6**
HNS pmax pmax
comp=Z,170nm,1.4s
HNS LR LR
comp=Z,1µm,20.2s
HNS LR LR
comp=Z,820nm,15.9s
HNS LR LR
comp=Z,2µm,23.7s
LVA Lava Point 77.04 15 IAMs_20 IAMs_20 16 09 18.5
comp=Z,4µm,21.0s
AKUT Akutan 77.08 15 IAMs_20 IAMs_20 16 06 28.0
comp=Z,4µm,22.0s
NKL Nikolayevsk 77.09 343 *eP* **P 15 39 45.2 -0.8**
NKL *eS* **S 15 49 35.8 +3.5**
NKL pmax pmax
comp=N,39nm,1.0s
NKL pmax pmax
comp=Z,393nm,1.5s
NKL pmax pmax
comp=E,137nm,1.4s
NKL smax smax
comp=E,199nm,2.5s
NKL smax smax
comp=N,158nm,1.8s
MAW Mawson 77.55 202 P **P 15 39 49.9 +1.3**
comp=N,50nm,1.0s,baz=111,slow=7.3,SNR=71
MAW LR LR 16 09 31.2
comp=N,3µm,21.2s,baz=103,slow=32
comp=N,50nm,1.0s
BJT Baijiatuau 77.63 321 IAmb IAmb 15 40 01.1
comp=Z,136nm,1.0s
BJT Baijiatuau 77.63 321 P **P 15 39 51.1 +1.7**
BJI Beijing 77.64 321 P **P 15 39 50.4 +1.0**
BJI sP **pP 15 40 00.4 +0.5**
BJI S **S 15 49 42.2 +3.4**
BJI sS **sS 15 49 56.0 -0.2**
BJI pmax pmax
comp=Z,660nm,4.5s
BJI LR LR
comp=Z,490nm,19.3s
BJI LR LR
comp=Z,530nm,21.0s
BJI LR LR
comp=Z,1µm,22.1s
FALS False Pass 78.31 16 IAMs_20 IAMs_20 16 07 04.7
comp=Z,4µm,22.0s
FALS False Pass 78.31 16 P **P 15 39 52.0 -0.8**
baz=206
TIY Taiyuan 78.50 317 P **P 15 39 55.5 +1.1**
TIY pP **pP 15 40 05.5 +0.6**
TIY S **S 15 49 52.1 +3.7**
TIY pmax pmax
comp=Z,120nm,1.4s
TIY pmax pmax
comp=Z,1µm,4.8s
TIY LR LR
comp=Z,960nm,16.7s
TIY LR LR
comp=Z,800nm,23.5s
TIY LR LR
comp=Z,1µm,23.1s
P08K Saint George I 78.55 12 P **P 15 39 53.6 -0.4**
baz=200
XAN Xi'an 78.72 313 ⇑ P **P 15 39 56.4 +0.8**
XAN pP pP 15 40 05.6 -0.6
XAN S **S 15 49 52.4 +1.6**
XAN pmax pmax
comp=Z,190nm,1.1s
XAN pmax pmax
comp=Z,2µm,5.7s
XAN LR LR
comp=Z,2µm,20.6s
XAN LR LR
comp=Z,1µm,18.8s
XAN LR LR
comp=Z,3µm,21.8s
KMI Kunming 78.74 302 ⇑ P **P 15 39 57.6 +1.4**
KMI pP pP 15 40 07.4 +0.7
KMI S **S 15 49 55.3 +3.5**
KMI pmax pmax
comp=Z,130nm,1.4s
KMI pmax pmax
comp=Z,1µm,3.5s
KMI LR LR
comp=Z,750nm,17.9s
KMI LR LR
comp=Z,1µm,20.7s
KMI LR LR
comp=Z,1µm,19.2s
CM31 Chiang Mai Arr 78.86 294 P **P 15 39 57.5 +0.9**
CM31 P **P 15 39 57.5 +0.9**
CMAR Chiang Mai Arr 78.86 294 P **P 15 39 57.4 +0.7**
CMAR Chiang Mai Arr 78.86 294 P **P 15 39 57.6 +0.9**
comp=Z,28nm,0.9s,baz=131,slow=4.1,SNR=132
CMAR PKKPbc **PKKPbc 15 58 50.8 +0.4**
comp=Z,3.4nm,0.9s,baz=297,slow=3.9,SNR=13
CMAR PKPPKP **P'P'df 16 06 53.6 +0.1**
comp=Z,5.3nm,1.2s,baz=278,slow=3.7,SNR=7.7
comp=Z,28nm,0.9s
CMAR Chiang Mai Arr 78.86 294 *i* P **P 15 39 58.2 +1.5**
CMAR pmax pmax
comp=Z,30nm,0.9s
SPIA Saint Paul Isl 78.96 11 IAMs_20 IAMs_20 16 07 19.6
comp=Z,4µm,22.0s
SPIA Saint Paul Isl 78.96 11 P **P 15 39 58.8 +2.5**
SPIA Saint Paul Isl 78.96 11 P **P 15 39 56.3 -0.1**
baz=200
CHTO Chiang Mai 79.01 295 P **P 15 39 58.3 +0.8**
CHTO IAmb IAmb 15 40 00.3
comp=Z,154nm,1.4s
CHTO Chiang Mai 79.01 295 P **P 15 39 58.9 +1.4**
CHTO P **P 15 39 58.9 +1.4**
CHTO Chiang Mai 79.01 295 P **P 15 39 58.7 +1.2**
CHTO Chiang Mai 79.01 295 P **P 15 39 58.3 +0.8**
CHTO pmax pmax
comp=Z,154nm,1.4s
HEH HeiHe 79.24 334 *eP* **P 15 39 58.2 +0.2**
HEH sP **pP 15 40 07.5 -0.9**
HEH S **S 15 49 56.3 +0.7**
HEH sS **pS 15 50 09.7 +0.9**
HEH pmax pmax
comp=Z,80nm,1.4s
HEH LR LR
comp=Z,780nm,19.5s
HEH LR LR
comp=Z,2µm,18.1s
HEH LR LR
comp=Z,2µm,19.3s
CNBA Chernabura Isl 79.32 18 IAMs_20 IAMs_20 16 08 19.8
comp=Z,4µm,21.0s
CHNA Chernabura Isl 79.33 18 P **P 15 39 57.9 -0.5**
baz=210
S12K Black Hills 79.42 16 P **P 15 39 57.9 -1.1**
baz=207
SDPT Sand Point 79.53 17 P **P 15 39 59.0 -0.5**
baz=209
XLT XiLinHaoTe 80.18 324 *eP* **P 15 40 03.8 +0.4**
XLT pP pP 15 40 14.2 +0.3
XLT S **S 15 50 05.0 -1.0**
XLT SS **SS 15 55 19.0 +1.2**
XLT pmax pmax
comp=Z,87nm,1.3s
XLT pmax pmax
comp=Z,1µm,3.9s
XLT LR LR
comp=Z,1µm,20.5s
XLT LR LR
comp=Z,2µm,25.3s
PZH PanZhiHua 80.19 303 P **P 15 40 04.0 +0.1**
PZH S **S 15 50 10.3 +3.5**
PZH SS **SS 15 55 18.9 +0.4**
PZH pmax pmax
comp=Z,50nm,1.4s
PZH pmax pmax
comp=Z,890nm,7.0s
PZH LR LR
comp=Z,470nm,19.7s
PZH LR LR
comp=Z,850nm,22.5s
PZH LR LR
comp=Z,1µm,19.8s
PAF Port-aux-Franc 80.59 221 P **P 15 40 06.2 +0.6**
PAF Port-aux-Franc 80.59 221 P **P 15 40 06.2 +0.6**
PAF pmax pmax
comp=Z,483nm,0.9s
CD2 Chengdu 80.78 308 P **P 15 40 07.5 +0.6**
CD2 PcP **PcP 15 40 13.2 -0.3**
CD2 pP pP 15 40 16.5 -1.0
CD2 PP **PP 15 43 12.7 +1.1**
CD2 S **S 15 50 13.3 +0.6**
CD2 SKS **SKSac 15 50 22.8 -0.3**
CD2 sS sS 15 50 29.8 -0.4
CD2 pmax pmax
comp=Z,130nm,1.3s
CD2 pmax pmax
comp=Z,2µm,7.5s
CD2 LR LR
comp=Z,2µm,18.2s
CD2 LR LR
comp=Z,2µm,21.8s
CD2 LR LR
comp=Z,3µm,21.8s
MA2 Magadan 80.89 351 P **P 15 40 08.0 +1.3**
MA2 IAMs_20 IAMs_20 16 12 01.3
comp=Z,3µm,21.0s
MA2 Magadan 80.89 351 P **P 15 40 07.4 +0.7**
comp=Z,9.5nm,0.9s,baz=178,slow=14,SNR=4.1
MA2 LR LR 16 11 51.6
comp=Z,2µm,21.5s,baz=176,slow=33
comp=Z,9.5nm,0.9s
MA2 Magadan 80.89 351 P **P 15 40 08.2 +1.5**
MA2 Magadan 80.89 351 P **P 15 40 08.0 +1.3**
MA2 pmax pmax
comp=Z,69nm,1.1s
HHC Hu-ho-hao-te 80.91 320 ⇑ *i*P **P 15 40 08.7 +1.3**
HHC sP pP 15 40 18.7 +0.8
HHC PP **PP 15 43 09.3 -3.3**
HHC S **S 15 50 14.0 +0.2**
HHC SKS **SKSac 15 50 20.7 -2.9**
HHC sS pS 15 50 28.4 +1.6
HHC pmax pmax
comp=Z,51nm,0.6s
HHC pmax pmax
comp=Z,440nm,4.9s
HHC LR LR
comp=Z,920nm,18.6s
HHC LR LR
comp=Z,610nm,18.6s
HHC LR LR
comp=Z,2µm,18.6s
CHGN Chignik 80.94 18 P **P 15 40 06.3 -0.7**
baz=211
BELA Belgrano 2 81.17 175 P **P 15 40 07.9 -0.3**
CHIR Chirikof Islan 81.36 19 P **P 15 40 09.3 0.0**
baz=213
BTO Baotou 81.72 319 *eP* **P 15 40 13.5 +1.8**
BTO pP **pP 15 40 23.6 +1.4**
BTO sP **sP 15 40 28.0 +1.8**
BTO PP **PP 15 43 23.6 +4.4**
BTO S **S 15 50 25.3 +3.1**
BTO sS **sS 15 50 41.6 +1.9**
BTO SS **SS 15 55 44.0 +3.2**
BTO pmax pmax
comp=Z,140nm,2.1s
BTO pmax pmax
comp=Z,3µm,7.8s
BTO LR LR
comp=Z,2µm,19.6s
BTO LR LR
comp=Z,2µm,19.4s
BTO LR LR
comp=Z,4µm,20.0s
HIA Hailar 81.90 330 IAmb IAmb 15 40 23.5
comp=Z,170nm,1.4s
HIA Hailar 81.90 330 P **P 15 40 13.8 +1.4**
ZEA Zeya 82.00 336 *eP* **P 15 40 13.7 +1.0**
ZEA *eS* **S 15 50 28.0 +3.7**
ZEA pmax pmax
comp=E,100nm,3.6s
ZEA pmax pmax
comp=N,200nm,1.7s
ZEA pmax pmax
comp=Z,700nm,4.7s
ZEA pmax pmax
comp=E,10.0nm,1.3s
ZEA pmax pmax
comp=N,50nm,1.6s
ZEA pmax pmax
comp=Z,110nm,1.7s
ZEA smax smax
comp=N,300nm,13.2s
TNCH TengChong 82.09 300 ⇑ P **P 15 40 15.1 +1.0**
TNCH pP pP 15 40 25.4 +0.6
TNCH PP **PP 15 43 26.5 +3.8**
TNCH S **S 15 50 26.8 0.0**
TNCH sS ScS 15 50 41.7 -1.2
TNCH pmax pmax
comp=N,120nm,1.7s
TNCH pmax pmax
comp=N,1µm,3.5s
TNCH LR LR
comp=N,400nm,18.4s
TNCH LR LR
comp=N,710nm,18.7s
TNCH LR LR
comp=N,840nm,18.1s
SII Sitkinak Islan 82.42 19 P **P 15 40 16.5 +1.6**
SII Sitkinak Islan 82.42 19 P **P 15 40 15.1 +0.2**
baz=214,SNR=6.3
R17L Mt. Peulik Vol 82.66 18 P **P 15 40 16.3 +0.1**
baz=212
M11K Mekoryuk 82.73 12 P **P 15 40 15.9 -0.4**
baz=203
O14K Tigyukauivet M 82.78 15 P **P 15 40 16.6 0.0**

baz=208
O15K Ungalikthiuk R 83.06 15 P P 15 40 17.7 -0.5
baz=209
R18K Karluk 83.17 19 P P 15 40 18.8 +0.1
baz=214
OHAK Old Harbor 83.25 19 P P 15 40 19.1 0.0
OHAK IAMs_20 IAMs_20 16 10 23.5
comp=Z,4µm,21.0s
OHAK Old Harbor 83.25 19 P P 15 40 19.8 +0.7
OHAK Old Harbor 83.25 19 P P 15 40 19.6 +0.5
baz=215,SNR=30
N14K Kuskokwak Cree 83.27 14 P P 15 40 19.7 +0.5
baz=208
LZH Lanzhou 83.33 312 ⇑P P 15 40 22.0 +1.7
LZH sP pP 15 40 31.9 +1.0
LZH PP **PP** 15 43 32.8 +0.1
LZH S **SKSac** 15 50 40.7 +0.5
LZH sS sS 15 51 00.1 +3.6
LZH SS **SS** 15 56 10.0 +4.9
LZH pmax pmax
comp=Z,190nm,1.1s
LZH pmax pmax
comp=Z,2µm,4.2s
LZH LR LR
comp=Z,770nm,17.5s
LZH LR LR
comp=Z,1µm,18.4s
LZH LR LR
comp=Z,2µm,21.3s
Q17K Contact Creek 83.33 18 P P 15 40 19.5 -0.2
baz=213
M13K Dall Lake 83.34 13 P P 15 40 20.2 +0.7
baz=206
LZDM Lanzhou Array 83.37 312 P P 15 40 21.8 +1.1
comp=Z,12nm,0.5s,baz=104,slow=9.3,SNR=22
comp=Z,12nm,0.5s
ACHA Angle Creek He 83.45 18 IAmb IAmb 15 40 36.5
comp=Z,72nm,1.2s
Q16K King Salmon 83.47 17 P P 15 40 20.3 +0.1
baz=212
N15K Kwethluk River 83.87 15 P P 15 40 22.9 +0.6
baz=209,SNR=12
O16K Kokwok River B 83.87 16 P P 15 40 21.3 -0.9
baz=211,SNR=6.1
SEY Seymchan 83.89 352 P P 15 40 22.1 -0.2
comp=Z,13nm,1.1s,baz=153,slow=6.5,SNR=14
SEY LR LR 16 13 30.8
comp=Z,5µm,21.1s,baz=162,slow=33
comp=Z,13nm,1.1s
SEY Seymchan 83.89 352 *e*P P 15 40 20.5 -1.8
SEY pmax pmax
comp=Z,42nm,1.2s
Q18K Katmai Hardscr 83.91 18 P P 15 40 22.4 -0.3
baz=214
KDAK Kodiak Island 83.93 19 P P 15 40 22.8 +0.2
KDAK Kodiak Island 83.93 19 P P 15 40 22.6 0.0
comp=Z,46nm,1.0s,baz=226,slow=2.8,SNR=41
KDAK LR LR 16 11 16.7
comp=Z,4µm,20.9s,baz=210,slow=31
comp=Z,46nm,1.0s
KDAK Kodiak Island 83.93 19 ⇑*i*P P 15 40 22.4 -0.2
KDAK pmax pmax
comp=Z,191nm,1.4s
KDAK MLR MLR
comp=Z,3µm,18.0s
KDAK Kodiak Island 83.93 19 P P 15 40 22.9 +0.3
baz=216
M14K Bethel 83.95 14 P P 15 40 23.1 +0.4
baz=207
P17K Kvichak River 83.97 17 P P 15 40 22.4 -0.4
baz=212
SYO Syowa Base 84.03 196 ⇑*i*P P 15 40 23.2 +0.1
SYO Syowa Base 84.03 196 ⇓*i*PcP PcP 15 40 27.6 +0.6
SYO Syowa Base 84.03 196 ⇑*ep*P pP 15 40 32.0 -1.7
M15K Kasigluk River 84.19 14 P P 15 40 24.2 +0.3
baz=208,SNR=12
O17K Koliganek Bris 84.28 16 P P 15 40 23.6 -0.8
baz=212
L14K Kuka Creek 84.32 13 P P 15 40 25.1 +0.6
baz=206,SNR=10
K13K Kusilvak Mount 84.45 12 P P 15 40 25.8 +0.7
baz=205
N16K Nishlik Lake 84.46 15 P P 15 40 26.4 +1.1
baz=210,SNR=11
P18K Big Mountain, 84.47 17 P P 15 40 25.1 -0.3
baz=213
Q19K Cape Douglas, 84.54 18 P P 15 40 25.6 -0.2
baz=215,SNR=12
Q20K Shuyak Island 84.66 19 P P 15 40 26.5 +0.2
baz=216,SNR=7.9
L15K Ungalak Mounta 84.88 14 P P 15 40 27.6 +0.3
baz=208,SNR=12
M16K Timber Creek 84.89 15 P P 15 40 28.4 +1.0
baz=210,SNR=29
N17K Nushagak Hills 84.90 16 P P 15 40 28.1 +0.5
baz=212,SNR=14
GAMB Gambell 85.00 8 P P 15 40 28.6 +0.7
baz=198,SNR=7.6
P19K Oil Pt 85.26 18 P P 15 40 29.1 -0.3
baz=215,SNR=11
L16K Owhat River 85.37 14 P P 15 40 30.3 +0.5
baz=209
N18K Kilae Creek 85.37 16 P P 15 40 30.0 0.0
baz=213,SNR=11
O19K Port Alsworth 85.40 17 P P 15 40 29.5 -0.5
baz=214,SNR=12
J14K Nanvaranak Lak 85.41 12 P P 15 40 30.7 +0.7
baz=206
K15K Wolf Creek Mou 85.42 13 P P 15 40 31.1 +1.0
baz=208,SNR=23
ILSW Iliamna Southw 85.56 18 IAMs_20 IAMs_20 16 13 17.0
comp=Z,3µm,20.0s
M17K Holitna River 85.59 15 P P 15 40 32.1 +1.2
baz=211,SNR=15
HOM Homer 85.73 19 P P 15 40 32.0 +0.3
baz=217
O20K Slope Mountain 85.79 18 P P 15 40 31.8 -0.3
baz=216,SNR=6.7
FARB Farallon Islan 85.83 47 P P 15 40 33.3 +0.7
FARB IAmb IAmb 15 40 45.2
comp=Z,79nm,0.9s
FARB IAMs_20 IAMs_20 16 11 16.6
comp=Z,2µm,20.0s
N19K Bonanza Creek 85.86 17 P P 15 40 31.9 -0.5
baz=214,SNR=5.9
L17K Donlin 86.01 15 P P 15 40 34.0 +1.0
baz=210,SNR=15
PMSA Palmer Station 86.04 160 P P 15 40 33.3 -0.1
PMSA Palmer Station 86.04 160 IAMs_20 IAMs_20 16 12 31.0
comp=Z,2µm,20.0s
PMSA Palmer Station 86.04 160 LR LR 16 12 43.6
comp=Z,2µm,21.4s,baz=220,slow=31
PMSA Palmer Station 86.04 160 *eP* P 15 40 33.9 +0.5
BRSE Bradley Lake S 86.08 19 P P 15 40 32.9 -0.5
baz=217
M18K Stony River 86.08 16 P P 15 40 34.0 +0.7
baz=213,SNR=31
MCCM Marconi Confer 86.13 47 IAmb IAmb 15 40 46.6
comp=Z,114nm,0.9s
MCCM IAMs_20 IAMs_20 16 12 05.6
comp=Z,2µm,20.0s
HULI Fort Hunter Li 86.27 50 IAmb IAmb 15 40 48.1
comp=Z,107nm,1.0s
HULI IAMs_20 IAMs_20 16 10 52.4
comp=Z,3µm,20.0s
RAMR Ramage Ranch 86.35 50 P P 15 40 35.5 +0.2
RAMR IAMs_20 IAMs_20 16 11 05.6
comp=Z,3µm,20.0s
KCPM Cahto Peak 86.41 45 IAMs_20 IAMs_20 16 15 27.9
comp=Z,3µm,19.0s
HOPS Hopland Field 86.41 46 IAmb IAmb 15 40 48.3
comp=Z,114nm,1.0s
SCZ Santa Cruz 86.42 49 P P 15 40 36.4 +0.7
SCZ IAmb IAmb 15 40 48.3
comp=Z,81nm,1.1s
SCZ IAMs_20 IAMs_20 16 10 47.4
comp=Z,3µm,20.0s
SAO San Andreas Ge 86.47 49 IAmb IAmb 15 40 48.6
comp=Z,75nm,1.1s
SAO IAMs_20 IAMs_20 16 12 55.6
comp=Z,3µm,20.0s
DCMP DeCamp, Califo 86.47 46 IAmb IAmb 15 40 48.6
comp=Z,77nm,0.9s
L18K Granite Mounta 86.48 15 P P 15 40 35.4 +0.1
baz=212,SNR=10.0
J16K Anvik River 86.50 13 P P 15 40 36.0 +0.6
baz=208
GDXM Geysers 86.51 47 IAmb IAmb 15 40 49.2
comp=Z,90nm,1.2s
GDXM IAMs_20 IAMs_20 16 12 29.6
comp=Z,2µm,20.0s
K17K Iditarod 86.52 14 P P 15 40 35.8 +0.4
baz=210,SNR=15
CVS Carmenet Viney 86.52 47 IAmb IAmb 15 40 48.6
comp=Z,122nm,1.1s
CVS IAMs_20 IAMs_20 16 12 27.8
comp=Z,2µm,20.0s
KMRM Mail Ridge 86.59 45 IAMs_20 IAMs_20 16 12 02.4
comp=Z,3µm,19.0s
BBGB Big Mountain B 86.67 49 IAmb IAmb 15 41 00.7
comp=Z,95nm,1.1s
PMPB Monarch Peak 86.67 50 IAmb IAmb 15 40 50.0
comp=Z,66nm,1.0s
PMPB IAMs_20 IAMs_20 16 11 15.0
comp=Z,3µm,21.0s
JCC Jacoby Creek, 86.68 44 IAmb IAmb 15 40 49.7
comp=Z,90nm,0.9s
JCC IAMs_20 IAMs_20 16 12 31.9
comp=Z,3µm,20.0s
CIT Chita 86.68 329 *e*P P 15 40 36.8 +0.2
CIT *e* 15 40 46.2
CIT *e* 15 44 00.6
CIT *e* 15 45 50.8
CIT *e*S SKSac 15 51 01.0 +0.4
CIT *e* 15 52 28.6
CIT pmax pmax
comp=Z,407nm,1.9s
ANM Nome 86.73 11 IAMs_20 IAMs_20 16 14 05.8
comp=Z,3µm,20.0s
ANM Nome 86.73 11 P P 15 40 36.9 +0.4
baz=204
SEW Seward 86.76 19 P P 15 40 35.9 -0.8
baz=218
CAPN Captain Cook N 86.77 18 P P 15 40 36.8 +0.1
baz=217
MNRC McLaughlin Min 86.78 47 IAMs_20 IAMs_20 16 12 37.9
comp=Z,3µm,20.0s
M19K Big River Lodg 86.80 16 P P 15 40 36.5 -0.5
baz=214
N20K Mount Spurr 86.82 18 P P 15 40 35.4 -1.7
baz=216
SPCR Spurr Chakacha 86.82 18 P P 15 40 35.5 -1.6
baz=216
SLKM Skilak Lake 86.84 19 IAmb IAmb 15 40 50.0
comp=Z,112nm,1.0s
SPU Mount Spurr 86.85 18 P P 15 40 37.4 +0.1
KRPM Rodgers 86.85 44 IAmb IAmb 15 40 51.0
comp=Z,129nm,1.0s
KRPM IAMs_20 IAMs_20 16 13 07.5
comp=Z,3µm,20.0s
MTOS Mt Oso, Westle 86.90 48 IAmb IAmb 15 40 50.9
comp=Z,85nm,1.1s
L19K White Mountain 86.91 16 P P 15 40 37.2 -0.3
baz=214,SNR=18
J17K VABM Dome 86.93 14 P P 15 40 37.7 +0.2
baz=210
O22K Cooper Landing 86.97 19 P P 15 40 36.4 -1.3
baz=218
I17K Unalakleet 87.01 13 P P 15 40 37.5 -0.4
baz=208
KRMB Red Mountain 87.11 44 IAmb IAmb 15 40 52.1
comp=Z,136nm,1.2s
M20K Styx River 87.12 17 P P 15 40 37.4 -1.1
baz=215
KHBM Hayfork Bally 87.13 45 IAMs_20 IAMs_20 16 12 30.4
comp=Z,2µm,20.0s
O02D Mt. Diablo Mer 87.18 45 IAMs_20 IAMs_20 16 12 24.4
comp=Z,3µm,21.0s
TNA Tin City 87.23 9 IAMs_20 IAMs_20 16 14 57.6
comp=Z,3µm,20.0s
TNA Tin City 87.23 9 P P 15 40 39.2 +0.3
baz=202
Q23K Middleton Isla 87.25 21 P P 15 40 38.2 -0.9
baz=221
KBO Bosley Butte 87.25 43 IAmb IAmb 15 40 52.8
comp=Z,137nm,1.3s
KSXB Camp Six Broad 87.29 43 IAmb IAmb 15 40 52.8
comp=Z,103nm,1.2s
G15K Niukluk 87.36 11 P P 15 40 39.4 -0.1
baz=205
H16K Elim 87.37 12 P P 15 40 39.0 -0.6
baz=207
F14K Arctic Creek 87.41 10 P P 15 40 38.8 -0.9
baz=203
L20K Farewell, AK 87.41 16 P P 15 40 39.5 -0.4
baz=214,SNR=18
OSI Osito Audit: C 87.45 52 IAmb IAmb 15 41 18.9
comp=Z,37nm,0.8s
OSI IAMs_20 IAMs_20 16 14 31.8
comp=Z,2µm,19.0s
SUA Susitna One 87.45 18 IAMs_20 IAMs_20 16 13 19.0
comp=Z,3µm,21.0s
SUA Susitna One 87.45 18 P P 15 40 38.8 -1.4
baz=217,SNR=6.0
RC01 Rabbit Creek A 87.45 19 IAmb IAmb 15 40 53.1
comp=Z,77nm,1.2s
RC01 Rabbit Creek A 87.45 19 P P 15 40 38.5 -1.6
baz=218,SNR=11
KEBM Edson Butte 87.52 42 IAmb IAmb 15 40 54.2
comp=Z,98nm,1.0s
KEBM IAMs_20 IAMs_20 16 14 43.0
comp=Z,3µm,19.0s
J18K Innoko River 87.53 15 P P 15 40 39.7 -0.8
baz=212
ULN Ulaanbaatar 87.59 323 P P 15 40 41.2 -0.1
ULN Ulaanbaatar 87.59 323 P P 15 40 41.9 +0.6
ULN P P 15 40 41.9 +0.6
ULN Ulaanbaatar 87.59 323 *c*P P 15 40 42.0 +0.6
ULN pmax pmax
comp=Z,273nm,1.2s
ULN MLR MLR
comp=Z,1µm,19.0s
TROLL Troll, Antarti 87.60 184 ⇑P P 15 40 41.1 +0.1
comp=Z,9µm,0.8s
TROLL ⇓pP **pP** 15 40 50.9 -0.7
TROLL ⇓sP **sP** 15 40 53.8 -1.8
TROLL ⇓S **S** 15 51 17.4 -2.6
N02D Trinity Center 87.63 45 IAMs_20 IAMs_20 16 13 05.1
comp=Z,3µm,20.0s
L02F Cave Junction 87.63 43 IAmb IAmb 15 40 54.3
comp=Z,70nm,1.2s
SKT Skwentna 87.64 17 P P 15 40 41.2 +0.2
SKT Skwentna 87.64 17 P P 15 40 38.9 -2.1
baz=217
PASC Pasadena Art C 87.65 52 IAmb IAmb 15 40 53.8
comp=Z,38nm,0.8s
PASC Pasadena Art C 87.65 52 IAMs_20 IAMs_20 16 11 02.2
comp=Z,3µm,21.0s
PWL Port Wells 87.70 19 P P 15 40 40.0 -1.3
baz=220,SNR=14
VES Vestal, Richgr 87.73 51 IAmb IAmb 15 40 54.0
comp=Z,50nm,0.8s
VES IAMs_20 IAMs_20 16 10 56.3
comp=Z,2µm,22.0s
M02C Callahan 87.73 44 IAMs_20 IAMs_20 16 12 38.9
comp=Z,3µm,20.0s
GTA Gaotai 87.75 313 ⇑P P 15 40 43.3 +1.1
GTA pP pP 15 40 53.4 +0.6
GTA PP **PP** 15 44 07.6 -0.8
GTA SKS **SKSac** 15 51 06.8 -1.1
GTA S **S** 15 51 24.8 +2.5
GTA SS **SS** 15 57 16.4 +6.5
GTA pmax pmax
comp=Z,86nm,1.4s
GTA pmax pmax
comp=Z,930nm,8.8s
GTA LR LR
comp=Z,530nm,17.5s
GTA LR LR
comp=Z,690nm,19.5s
GTA LR LR
comp=Z,960nm,22.7s
ORV Oroville 87.75 46 IAmb IAmb 15 40 54.5
comp=Z,79nm,1.1s
YAK Yakutsk 87.75 343 P P 15 40 41.0 -0.5
YAK Yakutsk 87.75 343 IAMs_20 IAMs_20 16 14 38.0
comp=Z,3µm,22.0s
YAK Yakutsk 87.75 343 P P 15 40 41.2 -0.2
comp=Z,28nm,1.0s,baz=147,slow=1.3,SNR=57
YAK LR LR 16 15 29.4
comp=Z,2µm,22.0s,baz=141,slow=33
comp=Z,28nm,1.0s
YAK Yakutsk 87.75 343 *c*P P 15 40 40.9 -0.5
YAK *e**PP **pP** 15 40 50.6 -1.6
YAK *e* 15 44 06.1
YAK *e*S **SKSac** 15 51 05.6 -0.9
YAK *e**SS **S** 15 51 20.8 -0.2
YAK *e*SS **SS** 15 57 10.4 +1.7
YAK *e*SSS SSS 16 00 42.7
YAK pmax pmax
comp=Z,93nm,1.5s
YAK pmax pmax
comp=N,33nm,1.6s
YAK pmax pmax
comp=E,18nm,1.6s
YAK pmax pmax
comp=Z,348nm,5.3s
YAK pmax pmax
comp=N,154nm,3.8s
YAK pmax pmax
comp=E,186nm,4.8s
YAK smax smax
comp=N,178nm,5.9s
YAK smax smax
comp=E,89nm,5.3s
YAK MLR MLR
comp=Z,2µm,21.0s
YAK MLR MLR
comp=N,1µm,24.0s
YAK MLR MLR
comp=E,607nm,22.0s
WELL Weller Preserv 87.76 48 IAMs_20 IAMs_20 16 12 28.8
comp=Z,2µm,20.0s
SHL Shillong 87.76 298 P P 15 40 42.9 +0.3
MWC Mount Wilson 87.77 52 IAmb IAmb 15 40 55.7
comp=Z,46nm,0.9s
MWC IAMs_20 IAMs_20 16 11 07.3
comp=Z,3µm,21.0s
BUCR Buckhorn Ranch 87.80 49 IAmb IAmb 15 40 54.8
comp=Z,105nm,1.5s
BUCR IAMs_20 IAMs_20 16 11 51.1
comp=Z,3µm,20.0s
CMB Columbia Colle 87.81 48 IAmb IAmb 15 40 54.7
comp=Z,51nm,0.9s
CMB IAMs_20 IAMs_20 16 13 29.1
comp=Z,3µm,20.0s
AFDM Forest Hills D 87.83 47 IAmb IAmb 15 40 54.9
comp=Z,101nm,1.1s
AFDM IAMs_20 IAMs_20 16 12 59.5
comp=Z,2µm,20.0s
K02D Willamette Mer 87.86 43 IAmb IAmb 15 40 55.3
comp=Z,125nm,1.3s
M22K Willow 87.86 18 P P 15 40 40.4 -1.5
baz=218
F15K North Star Dit 87.90 11 P P 15 40 42.3 +0.2
baz=205
CPE Camp Elliot 87.90 54 IAMs_20 IAMs_20 16 19 44.0
comp=Z,2µm,18.0s
HIN Hinchinbrook I 87.93 20 IAmb IAmb 15 40 53.6
comp=Z,58nm,1.2s
HIN IAMs_20 IAMs_20 16 15 22.9
comp=Z,2µm,20.0s
TPO Tropico Hills 87.93 52 IAmb IAmb 15 40 55.8
comp=Z,108nm,1.2s
TPO IAMs_20 IAMs_20 16 11 02.6
comp=Z,2µm,21.0s
SONM Songino Array 87.95 323 P P 15 40 42.6 -0.3
SONM Songino Array 87.95 323 P P 15 40 43.5 +0.5
comp=Z,80nm,1.0s,baz=140,slow=4.9,SNR=184
SONM PKKPbc **PKKPbc** 15 58 30.1 -0.7
comp=Z,1.2nm,0.5s,baz=250,slow=4.4,SNR=5.3
SONM PKPPKP **P'P'df** 16 06 36.9 +2.8
comp=Z,1.1nm,0.8s,baz=220,slow=1.2,SNR=3.8
SONM LR LR 16 18 01.1
comp=Z,767nm,21.7s,baz=130,slow=34
comp=Z,80nm,1.0s
SONM Songino Array 87.95 323 P P 15 40 42.6 -0.3
SONM pmax pmax
comp=Z,264nm,1.0s
BILL Bilibino 87.99 359 P P 15 40 41.0 -1.5
BILL IAmb IAmb 15 41 10.6
comp=Z,77nm,1.1s
BILL Bilibino 87.99 359 *c*P P 15 40 41.9 -0.6
BILL pmax pmax
comp=Z,40nm,1.3s
BILL MLR MLR
comp=Z,776nm,19.0s
ELS Elsinore Mount 87.99 53 IAMs_20 IAMs_20 16 10 39.3
comp=Z,2µm,22.0s
CBX Cerro Bola 87.99 55 IAmb IAmb 15 40 56.0
comp=Z,67nm,0.9s
CBX IAMs_20 IAMs_20 16 13 04.5
comp=Z,3µm,20.0s
YBH Yreka Blue Hor 88.00 44 P P 15 40 43.9 +0.6
comp=Z,2.2nm,0.9s,baz=182,slow=2.3,SNR=49
YBH LR LR 16 11 37.5
comp=Z,221nm,21.7s,baz=250,slow=30
comp=Z,2.2nm,0.9s
G16K Koyuk River 88.03 12 P P 15 40 42.5 -0.2
baz=207
PMR Palmer 88.03 19 IAmb IAmb 15 40 57.5
comp=Z,40nm,1.1s
PMR Palmer 88.03 19 P P 15 40 45.0 +2.2
PMR Palmer 88.03 19 P P 15 40 41.5 -1.3
baz=219
BFSC Mount Baldy Ra 88.07 52 IAMs_20 IAMs_20 16 10 54.4
comp=Z,3µm,20.0s
K20K Telida 88.09 16 P P 15 40 42.6 -0.5
baz=214
KNK Knik Glacier 88.09 19 IAmb IAmb 15 40 55.1
comp=Z,53nm,1.2s
KNK IAMs_20 IAMs_20 16 14 14.1
comp=Z,2µm,20.0s
KNK Knik Glacier 88.09 19 P P 15 40 42.0 -1.2
baz=219
ISA Isabella, Lake 88.10 51 IAmb IAmb 15 40 56.5
comp=Z,78nm,1.0s
ISA IAMs_20 IAMs_20 16 11 30.0
comp=Z,3µm,21.0s
H17K Granite Mounta 88.10 13 P P 15 40 42.8 -0.3
baz=209
GLI Glacier Island 88.10 20 IAmb IAmb 15 40 54.9
comp=Z,77nm,1.2s
GLI IAMs_20 IAMs_20 16 13 51.9
comp=Z,2µm,20.0s
GLI Glacier Island 88.10 20 P P 15 40 41.9 -1.3
baz=221
PPLA Purkeypile 88.20 17 IAMs_20 IAMs_20 16 15 57.8
comp=Z,2µm,20.0s
PPLA Purkeypile 88.20 17 P P 15 40 41.6 -2.2
baz=216
FID Port Fidalgo 88.20 20 IAmb IAmb 15 40 55.3
comp=Z,61nm,1.3s
FID IAMs_20 IAMs_20 16 12 48.7
comp=Z,3µm,22.0s
SNAA Sanae 88.23 183 ⇑P P 15 40 43.7 -0.2
comp=Z,2µm,0.8s
SNAA ⇓pP **pP** 15 40 53.5 -1.0
SNAA ⇓sP **sP** 15 40 58.6 +0.1
SNAA ⇑S **S** 15 51 23.2 -2.6
SNAA Sanae 88.23 183 P P 15 40 43.5 -0.4
SNAA IAMs_20 IAMs_20 16 20 26.4
comp=Z,2µm,18.0s
SNAA Sanae 88.23 183 P P 15 40 43.7 -0.2
comp=Z,72nm,1.0s,baz=185,slow=4.6,SNR=122
SNAA PKPPKP **P'P'df** 16 06 35.9 -3.0
comp=Z,2.8nm,1.0s,baz=30,slow=7.3,SNR=4.8
SNAA LR LR 16 18 18.2
comp=Z,2µm,19.6s,baz=166,slow=34
comp=Z,72nm,1.0s
SNAA Sanae 88.23 183 ⇑*i*P P 15 40 43.8 -0.1
SNAA pmax pmax
comp=Z,198nm,1.4s
SNAA MLR MLR
comp=Z,2µm,17.0s
GHO Glory Hole Cre 88.23 19 IAmb IAmb 15 40 56.4
comp=Z,45nm,1.0s
J19K Poorman 88.24 15 P P 15 40 43.6 -0.1
baz=213
KAIM Kayak Island 88.27 21 IAmb IAmb 15 40 59.6
comp=Z,58nm,1.2s
KAIM Kayak Island 88.27 21 P P 15 40 43.1 -0.9
baz=223
VTX Valle De La Tr 88.28 56 IAmb IAmb 15 40 57.6
comp=Z,91nm,1.3s
VTX IAMs_20 IAMs_20 16 13 26.2
comp=Z,2µm,20.0s
EYAK Cordova Ski Ar 88.29 20 IAMs_20 IAMs_20 16 15 33.8
comp=Z,3µm,20.0s
EYAK Cordova Ski Ar 88.29 20 P P 15 40 45.3 +1.3
EYAK Cordova Ski Ar 88.29 20 P P 15 40 42.7 -1.4
baz=222
CUT Chulitna 88.34 18 IAMs_20 IAMs_20 16 13 59.5

comp=Z,3µm,21.0s
CUT Chulitna 88.34 18 P P 15 40 42.3 -1.9
baz=218
HATC Hat Creek Radi 88.38 45 IAMs_20 IAMs_20 16 15 53.0
comp=Z,2µm,19.0s
ESJX Sierra Juarez 88.41 55 IAmb IAmb 15 40 57.7
comp=Z,117nm,1.9s
ESJX IAMs_20 IAMs_20 16 09 52.6
comp=Z,2µm,21.0s
G17K Kiwalik Mounta 88.45 12 P P 15 40 44.2 -0.5
baz=208
RAGM Ragged Mountai 88.53 21 IAMs_20 IAMs_20 16 18 37.7
comp=Z,3µm,19.0s
BBOR Butler Butte 88.58 43 IAmb IAmb 15 40 58.5
comp=Z,139nm,1.6s
BBOR IAMs_20 IAMs_20 16 12 04.1
comp=Z,2µm,20.0s
BORC Borrego Spring 88.59 54 IAMs_20 IAMs_20 16 13 00.1
comp=Z,2µm,20.0s
GCSA Galena City Sc 88.59 14 P P 15 40 45.2 -0.2
baz=212
LRMC Laurel Mtn Rad 88.59 51 IAMs_20 IAMs_20 16 15 26.2
comp=Z,3µm,19.0s
SUCK Suckling Hills 88.60 22 IAMs_20 IAMs_20 16 20 45.8
comp=Z,2µm,19.0s
M23K Glacier View 88.61 19 P P 15 40 43.9 -1.7
baz=220
H18K Honhosa River 88.61 13 P P 15 40 45.3 -0.2
baz=210
HMT Hamilton 88.63 21 IAMs_20 IAMs_20 16 18 50.8
comp=Z,3µm,19.0s
BEKR Beckworth 88.67 47 IAmb IAmb 15 40 59.1
comp=Z,127nm,1.4s
WAKR Walker 88.69 48 IAmb IAmb 15 40 59.6
comp=Z,126nm,1.3s
DIB Dawson Inlet, 88.69 31 IAmb IAmb 15 40 58.2
comp=Z,124nm,1.2s
PFO Pinyon Flats O 88.70 53 P P 15 40 46.7 -0.1
PFO IAmb IAmb 15 40 59.4
comp=Z,136nm,1.8s
PFO Pinyon Flats O 88.70 53 IAMs_20 IAMs_20 16 10 38.2
comp=Z,3µm,22.0s
PFO Pinyon Flats O 88.70 53 P P 15 40 47.2 +0.4
comp=Z,16nm,1.1s,baz=260,slow=5.4,SNR=19
PFO LR LR 16 11 35.3
comp=Z,2µm,21.6s,baz=260,slow=30
comp=Z,16nm,1.1s
PFO Pinyon Flats O 88.70 53⇑*i*P P 15 40 47.5 +0.6
PFO pmax pmax
comp=Z,63nm,1.4s
PFO MLR MLR
comp=Z,2µm,16.0s
DIV Divide 88.72 20 IAmb IAmb 15 40 58.2
comp=Z,42nm,1.2s
DIV IAMs_20 IAMs_20 16 13 17.7
comp=Z,3µm,22.0s
CWC Cottonwood Cre 88.73 50 IAmb IAmb 15 40 59.5
comp=Z,48nm,1.1s
CWC IAMs_20 IAMs_20 16 12 20.6
comp=Z,3µm,20.0s
J20K Nowinta River 88.75 15 P P 15 40 45.3 -0.9
baz=214
SCM Sheep Creek Mo 88.76 19 IAmb IAmb 15 41 13.9
comp=Z,44nm,1.0s
SCM Sheep Creek Mo 88.76 19 P P 15 40 44.6 -1.7
baz=220
PMD Palm Desert 88.78 53 IAmb IAmb 15 40 59.5
comp=Z,59nm,1.4s
PMD IAMs_20 IAMs_20 16 10 41.2
comp=Z,3µm,22.0s
WSHM Spangler Hills 88.79 51 IAmb IAmb 15 40 59.6
comp=Z,120nm,1.5s
WSHM IAMs_20 IAMs_20 16 15 31.2
comp=Z,3µm,19.0s
CLC China Lake 88.80 51 IAmb IAmb 15 40 59.9
comp=Z,106nm,1.2s
CLC IAMs_20 IAMs_20 16 12 02.7
comp=Z,3µm,21.0s
BGLC Bering Glacier 88.81 22 P P 15 40 45.4 -1.0
baz=224
VNA3 Neumayer Olymp 88.82 180 ⇑P P 15 40 46.4 -0.2
comp=Z,407nm,0.7s
VNA3 ⇓pP pP 15 40 56.2 -1.1
VNA3 ⇑sP sP 15 41 02.1 +0.9
VNA3 ⇑S S 15 51 30.3 -1.1
CCCA Chr Cany lake 88.85 51 IAMs_20 IAMs_20 16 11 41.9
comp=Z,3µm,22.0s
BERG Berg Lake 88.86 21 IAmb IAmb 15 40 57.4
comp=Z,50nm,0.9s
BERG IAMs_20 IAMs_20 16 19 07.0
comp=Z,2µm,19.0s
SFX San Felipe 88.86 56 P P 15 40 45.2 -2.3
SFX IAMs_20 IAMs_20 16 12 45.6
comp=Z,3µm,21.0s
TIN Tinemaha, Big 88.89 50 IAMs_20 IAMs_20 16 12 44.9
comp=Z,3µm,20.0s
MOBC Moresby Island 88.90 31 IAmb IAmb 15 40 59.5
comp=Z,120nm,1.2s
SALN Salton City 88.92 54 IAMs_20 IAMs_20 16 16 53.0
comp=Z,3µm,18.0s
TULE Intermountain 88.92 44 IAMs_20 IAMs_20 16 14 46.3
comp=Z,3µm,20.0s
KLU Klutina 88.94 20 IAMs_20 IAMs_20 16 13 56.6
comp=Z,2µm,21.0s
KLU Klutina 88.94 20 P P 15 40 45.6 -1.7
baz=222,SNR=7.3
CHUM Lake Minchumin 88.97 16 P P 15 40 45.8 -1.4
baz=216
BMRM Bremner River 88.98 21 IAMs_20 IAMs_20 16 15 56.7
comp=Z,2µm,20.0s
BMRM Bremner River 88.98 21 P P 15 40 46.0 -1.4
baz=223,SNR=6.0
MPMC Manual Prospec 88.99 51 IAmb IAmb 15 41 00.8
comp=Z,53nm,1.0s
MPMC IAMs_20 IAMs_20 16 15 49.6
comp=Z,3µm,19.0s
SNH Sunshine Point 89.00 22 IAmb IAmb 15 41 00.4
comp=Z,36nm,0.9s
SNH IAMs_20 IAMs_20 16 17 48.8
comp=Z,2µm,20.0s
COR Corvallis 89.02 41 IAMs_20 IAMs_20 16 16 55.7
comp=Z,3µm,18.0s
BUCK Buck Mountain 89.03 42 IAMs_20 IAMs_20 16 12 36.9
comp=Z,3µm,21.0s
KTH Kantishna Hill 89.07 17 IAMs_20 IAMs_20 16 16 02.8
comp=Z,2µm,20.0s
VNA2 Neumayer--Watz 89.11 181 ⇑P P 15 40 48.0 0.0
comp=Z,264nm,0.6s,baz=165,slow=4.4
VNA2 ⇑pP pP 15 40 57.8 -0.8
baz=156,slow=3.4
VNA2 ⇓sP sP 15 41 01.9 -0.7
baz=194,slow=9.3
VNA2 ⇑S S 15 51 31.8 -2.2
baz=330,slow=2.7
J04A Umpqua Nationa 89.12 43 IAMs_20 IAMs_20 16 12 32.3
comp=Z,3µm,20.0s
GSC Goldstone, Bar 89.16 52 IAmb IAmb 15 41 01.5
comp=Z,70nm,1.4s
GSC IAMs_20 IAMs_20 16 12 12.3
comp=Z,2µm,21.0s
TRF Thorofare Moun 89.16 17 P P 15 40 45.4 -3.0
baz=218
WAT1 Susitna Watana 89.17 18 P P 15 40 46.5 -1.7
baz=219
F17K Baldwin Pennin 89.17 11 P P 15 40 47.9 -0.2
baz=208
I20K Naaghedeneel 89.19 15 P P 15 40 47.4 -0.7
baz=214,SNR=6.1
WAX Waxell Ridge 89.19 22 IAmb IAmb 15 40 59.1
comp=Z,33nm,0.8s
G18K Tagagawik 89.20 13 P P 15 40 47.7 -0.5
baz=210
WAT6 Susitna Watana 89.21 18 P P 15 40 47.4 -1.2
baz=220,SNR=7.5
BELC Belle Mtn. Jos 89.21 53 IAMs_20 IAMs_20 16 11 06.7
comp=Z,2µm,22.0s
DSP Deep Springs 89.22 50 IAmb IAmb 15 41 01.8
comp=Z,56nm,0.9s
LHV Little Huntoon 89.23 49 IAmb IAmb 15 41 01.9
comp=Z,106nm,1.2s
ESPZ Base Esperanza 89.23 161 IAMs_20 IAMs_20 16 14 52.0
comp=Z,2µm,21.0s
PAHR Pah Rah Range 89.27 47 IAmb IAmb 15 41 01.9
comp=Z,110nm,1.2s
MESA MESA 89.31 22 IAmb IAmb 15 43 17.2
comp=Z,80nm,1.2s
MESA IAMs_20 IAMs_20 16 12 39.7
comp=Z,2µm,22.0s
MESA MESA 89.31 22 P P 15 40 48.4 -0.8
baz=225
CRQM Cirque 89.32 21 IAmb IAmb 15 41 21.4
comp=Z,52nm,1.2s
CRQM IAMs_20 IAMs_20 16 19 22.0
comp=Z,2µm,19.0s
M24K Tolsona, Glenn 89.32 19 P P 15 40 48.6 -0.4
baz=221
CRQE Cirque 89.33 21 P P 15 40 48.1 -1.0
baz=224
H04D Lebanon 89.34 42 IAMs_20 IAMs_20 16 15 10.3
comp=Z,3µm,19.0s
H19K Roundabout Mou 89.35 14 P P 15 40 48.7 -0.2
baz=212
G03D McMinnville, O 89.36 41 IAMs_20 IAMs_20 16 14 19.6
comp=Z,3µm,20.0s
RYN Ryan 89.38 48 IAmb IAmb 15 41 02.4
comp=Z,60nm,1.0s
VNA1 Neumayer--Stat 89.40 181 ⇑P P 15 40 49.5 +0.1
comp=Z,313nm,1.0s
VNA1 ⇓pP pP 15 40 59.4 -0.5
QSM Queen of Sheba 89.40 51 IAmb IAmb 15 41 02.3
comp=Z,48nm,0.9s
N25K Chitina, Valde 89.45 20 P P 15 40 48.7 -0.9
baz=223,SNR=14
BC3 Big Chuckawall 89.48 54 IAmb IAmb 15 41 03.4
comp=Z,56nm,1.1s
BPAW Bear Paw Mtn. 89.49 16 IAMs_20 IAMs_20 16 16 36.9
comp=Z,2µm,20.0s
BPAW Bear Paw Mtn. 89.49 16 P P 15 40 47.9 -1.9
baz=217
YAH Yahtse 89.52 22 IAMs_20 IAMs_20 16 17 56.9
comp=Z,2µm,20.0s
RND Reindeer 89.53 18 IAmb IAmb 15 41 03.4
comp=Z,70nm,1.2s
F03A Seaside 89.54 40 IAMs_20 IAMs_20 16 15 20.2
comp=Z,3µm,20.0s
GLB Gilahina Butte 89.59 21 IAmb IAmb 15 41 06.8
comp=Z,69nm,1.7s
GLB IAMs_20 IAMs_20 16 16 14.8
comp=Z,2µm,20.0s
F18K Selawik 89.61 12 P P 15 40 49.6 -0.5
baz=209
FURC Furnace Creek, 89.62 51 IAmb IAmb 15 41 03.5
comp=Z,92nm,0.8s
FURC IAMs_20 IAMs_20 16 12 41.3
comp=Z,3µm,20.0s
E17K Hotham Inlet 89.64 11 P P 15 40 50.4 +0.1
baz=207
RADR Rader Ridge 89.64 40 IAMs_20 IAMs_20 16 15 41.9
comp=Z,3µm,19.0s
GWY Greenwater Val 89.64 51 IAmb IAmb 15 41 03.5
comp=Z,53nm,0.9s
K05A Summer Lake 89.66 44 IAmb IAmb 15 41 03.9
comp=Z,90nm,0.9s
H20K Anotleneega Mo 89.67 14 P P 15 40 50.5 0.0
baz=214
YKU2 Yakutat 89.68 23 IAMs_20 IAMs_20 16 11 56.8
comp=Z,2µm,21.0s
DHY Denali Highway 89.70 18 P P 15 40 49.4 -1.5
baz=220
J05D Fort Rock, OR 89.70 43 IAMs_20 IAMs_20 16 14 12.8
comp=Z,3µm,20.0s
GLA Glennis 89.71 55 IAmb IAmb 15 41 04.5
comp=Z,86nm,0.9s
G19K Purcell Mounta 89.74 13 P P 15 40 50.8 0.0
baz=212
MCK McKinley 89.76 17 P P 15 40 49.5 -1.5
baz=219
CRAG Craig 89.76 29 IAmb IAmb 15 41 03.3
comp=Z,59nm,1.2s
CRAG IAMs_20 IAMs_20 16 12 08.1
comp=Z,3µm,21.0s
CRAG Craig 89.76 29 P P 15 40 52.8 +1.7
CRAG Craig 89.76 29 P P 15 40 51.7 +0.6
baz=233,SNR=6.1
H04A Detroit Lake 89.77 42 IAmb IAmb 15 41 03.5
comp=Z,85nm,0.8s
H04A IAMs_20 IAMs_20 16 15 33.4
comp=Z,3µm,20.0s
GRNC Granite Creek 89.78 22 IAMs_20 IAMs_20 16 21 06.8
comp=Z,2µm,18.0s
TABL Table Mountain 89.79 22 IAMs_20 IAMs_20 16 18 16.1
comp=Z,2µm,19.0s
SIT Sitka 89.79 27 IAmb IAmb 15 41 02.7
comp=Z,63nm,1.3s
SIT Sitka 89.79 27 P P 15 40 53.8 +2.7
SIT Sitka 89.79 27 P P 15 40 51.3 +0.2
baz=231,SNR=5.2
MCARA McCarthy VSAT 89.81 21 P P 15 40 49.9 -1.3
baz=224
SHOC Shoshone, Teco 89.81 51 IAmb IAmb 15 41 12.1
comp=Z,51nm,0.9s
SHOC IAMs_20 IAMs_20 16 12 13.3
comp=Z,2µm,21.0s
GOMU GeErMu 89.84 309 P P 15 40 53.5 +1.1
GOMU sP pP 15 41 03.5 +0.4
GOMU pmax pmax
comp=Z,32nm,1.8s
GOMU LR LR
comp=Z,550nm,18.4s
GOMU LR LR
comp=Z,960nm,18.1s
GOMU LR LR
comp=Z,2µm,18.6s
G04A Mulino 89.84 41 IAMs_20 IAMs_20 16 16 46.3
comp=Z,2µm,19.0s
E03A Lebam 89.84 40 IAMs_20 IAMs_20 16 15 56.2
comp=Z,2µm,19.0s
LPIG La Paz 89.85 64 LR LR 16 12 25.9
comp=Z,3µm,20.6s,baz=246,slow=30
HARP HAARP 89.86 19 P P 15 40 50.5 -0.9
baz=222
PCA Pinnacle 89.86 23 IAMs_20 IAMs_20 16 12 14.7
comp=Z,2µm,22.0s
PINM Pinnacle 89.87 23 P P 15 40 50.7 -0.9
baz=227
PNL Peninsula 89.89 23 P P 15 40 53.2 +1.6
PNL Peninsula 89.89 23 P P 15 40 50.9 -0.7
baz=227,SNR=5.0
IRM Iron Mountain 89.92 53 IAmb IAmb 15 41 05.3
comp=Z,120nm,1.4s
WCT Wildcat Mounta 89.93 51 IAmb IAmb 15 41 05.0
comp=Z,63nm,0.8s
DANC Danby, Needles 89.94 53 IAmb IAmb 15 41 05.3
comp=Z,140nm,1.5s
DANC IAMs_20 IAMs_20 16 12 13.0
comp=Z,2µm,22.0s
F04D Rainier, OR 89.94 40 IAMs_20 IAMs_20 16 15 42.0
comp=Z,2µm,19.0s
OZB Mont Ozard 89.96 37 IAmb IAmb 15 41 04.6
comp=Z,89nm,1.0s
BWN Browne 89.96 17 IAmb IAmb 15 43 42.5
comp=Z,128nm,1.0s
BWN IAMs_20 IAMs_20 16 13 59.9
comp=Z,2µm,22.0s
C03A Quillayute Air 89.96 38 IAMs_20 IAMs_20 16 13 59.2
comp=Z,2µm,20.0s
D17K Noatak River 89.97 10 P P 15 40 52.1 +0.3
baz=206
S31K Pelican 89.99 26 P P 15 40 52.1 0.0
baz=230,SNR=14
LSA Lhasa 89.99 302 IAmb IAmb 15 41 05.2
comp=Z,46nm,1.0s
LSA Lhasa 89.99 302 P P 15 40 52.1 -1.3
LSA pmax pmax
comp=Z,38nm,1.1s
LSA LR LR
comp=Z,410nm,21.2s
LSA LR LR
comp=Z,920nm,22.6s
LSA Lhasa 89.99 302 P P 15 40 53.9 +0.4
LSA P P 15 40 53.9 +0.4
LSA Lhasa 89.99 302 *i*P P 15 40 53.5 +0.1
SNR=9.6
BCPM Bancas Point 89.99 23 IAMs_20 IAMs_20 16 12 07.7
comp=Z,2µm,22.0s
TPH Tonopah 90.06 49 IAmb IAmb 15 41 05.6
comp=Z,77nm,1.1s
CTG Chitna Glacier 90.08 22 P P 15 40 52.1 -0.6
baz=226,SNR=9.5
NLWA Neilton Lookou 90.09 39 IAmb IAmb 15 41 05.6
comp=Z,105nm,1.1s
NLWA IAMs_20 IAMs_20 16 14 53.6
comp=Z,2µm,20.0s
I21K Tanana 90.11 15 P P 15 40 51.9 -0.6
baz=216
I05D Terrebonne, OR 90.13 42 IAmb IAmb 15 41 05.6
comp=Z,68nm,0.9s
I05D IAMs_20 IAMs_20 16 13 03.2
comp=Z,3µm,20.0s
C16K Lisburne Hills 90.14 9 P P 15 40 52.9 +0.3
baz=204
U33K Whale Pass 90.16 28 P P 15 40 53.2 +0.3
baz=233,SNR=18
BOD Bodaibo 90.16 334 *e*P P 15 40 52.3 -0.6
BOD pmax pmax
comp=Z,334nm,1.6s
E18K Tukpahlearik C 90.16 11 P P 15 40 52.4 -0.3
baz=208
PIX Pinacate 90.16 56 IAmb IAmb 15 41 06.4
comp=Z,46nm,0.8s
PIX IAMs_20 IAMs_20 16 14 05.1
comp=Z,3µm,21.0s
MTPC Mountain Pass 90.17 52 IAMs_20 IAMs_20 16 12 32.9
comp=Z,2µm,22.0s
PAX Paxson 90.19 19 IAMs_20 IAMs_20 16 16 03.9
comp=Z,2µm,20.0s
PAX Paxson 90.19 19 P P 15 40 51.4 -1.7
baz=222
F19K Shaleruckik Mo 90.19 12 P P 15 40 52.6 -0.2
baz=211
TPNV Topopah Spring 90.27 51 IAmb IAmb 15 41 06.7
comp=Z,76nm,0.8s
TPNV IAMs_20 IAMs_20 16 13 21.5
comp=Z,3µm,20.0s
BBB Bella Bella 90.28 33 IAmb IAmb 15 41 05.8
comp=Z,86nm,1.1s
BBB Bella Bella 90.28 33 LR LR 16 12 47.1
comp=Z,2µm,21.5s,baz=252,slow=30
H21K Melozitna Rive 90.30 15 P P 15 40 52.9 -0.5
baz=215,SNR=6.1
MLY Manley 90.30 16 IAMs_20 IAMs_20 16 17 24.7
comp=Z,2µm,20.0s
MLY Manley 90.30 16 P P 15 40 51.4 -2.1
baz=217
MG04 Isla Riesco 90.31 148 P P 15 40 55.3 +1.4
RDOG Red Dog Mine 90.33 10 IAMs_20 IAMs_20 16 14 46.2
comp=Z,3µm,22.0s
RDOG Red Dog Mine 90.33 10 P P 15 40 53.6 +0.1
baz=206
IMAR Indian Mountai 90.34 14 P P 15 40 53.0 -0.7
O28M Mount Upton 90.36 22 P P 15 40 53.4 -0.8
baz=227,SNR=14
V35K Ketchikan 90.37 29 P P 15 40 54.5 +0.6
baz=234,SNR=21
NEA2 Nenana 90.40 17 P P 15 40 52.9 -1.0
baz=219
HOOD Mount Hood Mea 90.41 41 IAMs_20 IAMs_20 16 17 33.3
comp=Z,3µm,18.0s
113A Mohawk Valley, 90.41 55 IAmb IAmb 15 41 07.3
comp=Z,37nm,0.9s
R31K City Hall, Gus 90.48 26 P P 15 40 54.2 -0.1
baz=230
P29M Windy Craggy 90.49 24 P P 15 40 54.0 -0.5
baz=229,SNR=22
MG05 Puerto Natales 90.51 147 P P 15 40 55.5 +0.6
MG05 IAmb IAmb 15 41 07.0
comp=Z,128nm,1.1s
MG05 IAMs_20 IAMs_20 16 16 31.9
comp=Z,2µm,18.0s
M26K Nabesna, AK 90.55 20 P P 15 40 53.8 -0.9
baz=224
NEE2 Needles Airpor 90.57 53 IAmb IAmb 15 41 08.2
comp=Z,62nm,0.9s
NEE2 IAMs_20 IAMs_20 16 12 42.6
comp=Z,2µm,21.0s
G05A Wamic 90.58 41 IAMs_20 IAMs_20 16 15 59.8
comp=Z,3µm,19.0s
CBB Campbell River 90.59 36 IAmb IAmb 15 41 07.7
comp=Z,104nm,1.0s
O29M Mount Kennedy 90.62 23 P P 15 40 54.6 -0.6
baz=228
B04A Port Angeles 90.63 38 IAmb IAmb 15 41 08.1
comp=Z,83nm,0.8s
CLRS Cowichan Lake 90.66 37 IAmb IAmb 15 41 07.8
comp=Z,87nm,1.1s
T33K Petersburg 90.66 28 P P 15 40 55.5 +0.3
baz=233
C17K DeLong Mountai 90.66 10 P P 15 40 55.3 +0.3
baz=206
WRAK Wrangell Islan 90.69 28 IAmb IAmb 15 41 07.2
comp=Z,89nm,0.9s
WRAK Wrangell Islan 90.69 28 P P 15 40 56.0 +0.6
baz=233,SNR=9.8
MENT Mentasta 90.71 20 IAMs_20 IAMs_20 16 15 24.7
comp=Z,2µm,20.0s
MENT Mentasta 90.71 20 P P 15 40 57.4 +2.0
K24K Donnelly Dome 90.72 18 P P 15 40 54.6 -0.9
baz=222
I23K Minto, Yukon-K 90.75 16 P P 15 40 54.4 -1.1
baz=218
CCB Clear Creek Bu 90.78 17 IAMs_20 IAMs_20 16 14 45.1
comp=Z,3µm,21.0s
GNW Green Mountain 90.79 39 IAMs_20 IAMs_20 16 13 05.1
comp=Z,2µm,20.0s
F20K Avaraart Lake 90.80 13 P P 15 40 55.5 -0.1
baz=213,SNR=8.9
214A Organ Pipe Nat 90.83 56 IAmb IAmb 15 41 09.5
comp=Z,39nm,0.9s
214A IAMs_20 IAMs_20 16 14 15.6
comp=Z,2µm,20.0s
E19K Redstone River 90.84 12 P P 15 40 55.6 -0.3
baz=211,SNR=6.5
H22K Ishtalitna Cre 90.84 15 P P 15 40 55.7 -0.2
baz=217
G21K Allakaket 90.84 14 P P 15 40 55.8 -0.1
baz=215,SNR=6.6
HDA Harding Lake 90.84 18 IAmb IAmb 15 41 07.7
comp=Z,50nm,1.3s
HDA Harding Lake 90.84 18 P P 15 40 54.4 -1.6
baz=221,SNR=13
YUK8 Steele Glacier 90.86 22 P P 15 40 55.7 -0.8
baz=227
M27K Edge Creek, AK 90.89 21 P P 15 40 55.8 -0.6
baz=225,SNR=12
L26K Log Cabin Wild 90.89 20 P P 15 40 55.2 -1.1
baz=224
R32K Eaglecrest 90.89 26 P P 15 40 56.3 0.0
baz=231
PLBC Pleasant Camp 90.90 25 P P 15 40 55.9 -0.4
baz=230,SNR=25
COLA College 90.95 17 P P 15 40 54.9 -1.5
COLA IAmb IAmb 15 41 07.2
comp=Z,52nm,0.8s
COLA College 90.95 17 IAMs_20 IAMs_20 16 15 00.3
comp=Z,3µm,22.0s
COLA College 90.95 17 P P 15 40 55.3 -1.1
COLA College 90.95 17⇑*i*P P 15 40 54.4 -2.0
COLA pmax pmax
comp=Z,23nm,1.0s
COLA MLR MLR
comp=Z,952nm,18.0s
COLA College 90.95 17 P P 15 40 54.7 -1.7
baz=220
JIS Juneau Island 90.95 26 P P 15 40 58.6 +2.1
MG01 Puerto William 90.95 151 IAMs_20 IAMs_20 16 11 56.1
comp=Z,2µm,22.0s
RIDG Independent Ri 90.95 19 IAmb IAmb 15 41 08.0
comp=Z,40nm,1.1s
RIDG IAMs_20 IAMs_20 16 16 26.6
comp=Z,2µm,21.0s
RIDG Independent Ri 90.95 19 P P 15 40 55.3 -1.2
baz=223,SNR=9.7
YUK3 Moose Creek 90.95 21 P P 15 40 55.7 -1.2
baz=226,SNR=7.6
PGC Sidney 90.96 38 IAmb IAmb 15 41 09.2
comp=Z,92nm,1.0s
LON Longmire 91.00 40 IAmb IAmb 15 41 09.0
comp=Z,151nm,1.7s
LON IAMs_20 IAMs_20 16 15 57.8
comp=Z,2µm,19.0s
G06A Carlson Farm, 91.00 42 IAmb IAmb 15 41 09.3
comp=Z,135nm,1.7s
G06A IAMs_20 IAMs_20 16 16 22.0
comp=Z,3µm,19.0s
WVOR Wild Horse Val 91.00 45 IAmb IAmb 15 41 09.9
comp=Z,68nm,0.9s
WVOR IAMs_20 IAMs_20 16 14 58.4
comp=Z,3µm,20.0s
ZAK Zakamensk 91.04 324 *e*P P 15 40 57.0 -0.3
ZAK pmax pmax
comp=Z,146nm,1.7s
PALK Pallekele 91.07 277 P P 15 40 56.5 -1.8
PALK Pallekele 91.07 277 IAMs_20 IAMs_20 16 20 18.2
comp=Z,2µm,20.0s

PALK	**Pallekele**	**91.07**	**277**	P	**P**	**15 40 56.6**	**-1.7**			
	comp=Z,29nm,1.2s,baz=122,slow=4.8,SNR=4.9									
PALK				LR	LR	16 21 25.7				
	comp=Z,1µm,21.8s,baz=110,slow=35									
	comp=Z,29nm,1.2s									
PALK	**Pallekele**	**91.07**	**277**	P	**P**	**15 40 56.5**	**-1.8**			
PALK				pmax	pmax					
	comp=Z,186nm,1.7s									
PALK				MLR	MLR					
	comp=Z,2µm,20.0s									
D05A	**Enumclaw**	**91.10**	**39**	IAMs_20	IAMs_20	16 16 47.5				
	comp=Z,2µm,19.0s									
P30M	**Million Dollar**	**91.11**	**24**	P	**P**	**15 40 57.2**	**-0.2**			
	baz=229									
DOT	**Dot Lake**	**91.12**	**19**	IAMs_20	IAMs_20	16 16 54.1				
	comp=Z,2µm,20.0s									
YUK6	**Outpost Mounta**	**91.13**	**23**	P	**P**	**15 40 57.0**	**-0.6**			
	baz=228,SNR=12									
ILAR	**Eielson Array**	**91.13**	**17**	P	**P**	**15 40 55.5**	**-1.9**			
	comp=Z,4.9nm,0.7s,baz=234,slow=6.6,SNR=22									
ILAR				PKPPKP	**P'P'df**	**16 06 28.9**	**+2.2**			
	comp=Z,1.1nm,1.1s,baz=279,slow=0.9,SNR=4.6									
ILAR				LR	LR	16 15 27.0				
	comp=Z,4µm,21.2s,baz=219,slow=31									
	comp=Z,4.9nm,0.7s									
C18K	**Utukok River**	**91.14**	**10**	P	**P**	**15 40 56.6**	**-0.7**			
	baz=208									
HSIG		**91.17**	**60**	IAmb	IAmb	15 41 14.3				
	comp=Z,34nm,0.9s									
HSIG				IAMs_20	IAMs_20	16 13 28.1				
	comp=Z,2µm,20.0s									
H23K	**Yukon River**	**91.24**	**16**	P	**P**	**15 40 56.9**	**-0.9**			
	baz=218									
POKR	**Poker Plat Res**	**91.25**	**17**	P	**P**	**15 40 56.0**	**-1.9**			
	baz=220									
W13A	**Hualapai Mount**	**91.25**	**53**	IAmb	IAmb	15 41 11.5				
	comp=Z,32nm,0.9s									
W13A				IAMs_20	IAMs_20	16 12 29.5				
	comp=Z,2µm,22.0s									
BVCY	**Beaver Creek**	**91.26**	**21**	P	**P**	**15 40 56.9**	**-1.1**			
	baz=226,SNR=6.7									
YUK4	**Talbot Arm**	**91.30**	**22**	P	**P**	**15 40 58.4**	**0.0**			
	baz=228,SNR=21									
SKAG	**Skagway**	**91.31**	**25**	IAMs_20	IAMs_20	16 13 37.8				
	comp=Z,3µm,21.0s									
SKAG	**Skagway**	**91.31**	**25**	P	**P**	**15 40 59.5**	**+1.3**			
SKAG	**Skagway**	**91.31**	**25**	P	**P**	**15 40 58.3**	**+0.1**			
	baz=231,SNR=13									
HYT	**Haines Junctio**	**91.36**	**23**	IAmb	IAmb	15 41 09.4				
	comp=Z,61nm,1.1s									
HYT	**Haines Junctio**	**91.36**	**23**	P	**P**	**15 40 57.9**	**-0.7**			
	baz=229,SNR=18									
SCRK	**Sand Creek**	**91.38**	**19**	P	**P**	**15 40 57.3**	**-1.3**			
	baz=223,SNR=14									
L27K	**Beaver Creek,**	**91.40**	**20**	P	**P**	**15 40 57.8**	**-0.9**			
	baz=225,SNR=7.3									
BCAR	**Beaver Creek A**	**91.42**	**20**	P	**P**	**15 40 56.3**	**-2.5**			
F21K	**Alatna River**	**91.43**	**14**	P	**P**	**15 40 58.0**	**-0.7**			
	baz=215,SNR=7.4									
U35K	**Hyder**	**91.44**	**29**	P	**P**	**15 40 59.5**	**+0.7**			
	baz=235									
J25K	**Salcha River,**	**91.44**	**18**	P	**P**	**15 40 57.7**	**-1.2**			
	baz=222,SNR=5.1									
Y14A	**Wickenburg**	**91.46**	**54**	IAMs_20	IAMs_20	16 14 56.2				
	comp=Z,2µm,20.0s									
IRK	**Irkutsk**	**91.47**	**326**	*e*P	**P**	**15 40 58.4**	**-0.8**			
IRK				pmax	pmax					
	comp=Z,152nm,1.8s									
D19K	**Kuna River**	**91.56**	**11**	P	**P**	**15 40 59.0**	**-0.3**			
	baz=211									
G22K	**Bettles**	**91.64**	**14**	P	**P**	**15 40 59.6**	**0.0**			
	baz=217									
H24K	**Noodor Dome**	**91.68**	**16**	P	**P**	**15 40 59.4**	**-0.5**			
	baz=220									
B18K	**Kokolik River**	**91.68**	**10**	P	**P**	**15 40 59.9**	**+0.2**			
	baz=207									
E20K	**Nigu River**	**91.73**	**12**	P	**P**	**15 41 00.2**	**+0.2**			
	baz=212,SNR=7.0									
G23K	**Bananza Creek**	**91.82**	**15**	P	**P**	**15 40 59.9**	**-0.6**			
	baz=218,SNR=5.7									
C19K	**Lookout Ridge**	**91.83**	**11**	P	**P**	**15 41 00.9**	**+0.4**			
	baz=209									
MXC	**Moxie City**	**91.83**	**41**	IAmb	IAmb	15 41 13.2				
	comp=Z,110nm,1.7s									
MXC				IAMs_20	IAMs_20	16 18 16.9				
	comp=Z,2µm,20.0s									
O30N	**Mendenhall**	**91.86**	**24**	P	**P**	**15 41 00.2**	**-0.6**			
	baz=230,SNR=8.3									
J26L	**Joseph Creek**	**91.89**	**19**	P	**P**	**15 41 00.3**	**-0.6**			
	baz=224,SNR=14									
LTY	**Liberty**	**91.92**	**40**	IAMs_20	IAMs_20	16 17 05.3				
	comp=Z,2µm,19.0s									
N30M	**Aishikik Lake**	**91.93**	**23**	P	**P**	**15 41 00.5**	**-0.7**			
	baz=229,SNR=11									
T35M	**Bob Quinn**	**91.95**	**28**	P	**P**	**15 41 02.0**	**+0.7**			
	baz=235,SNR=13									
F22K	**John River**	**91.96**	**14**	P	**P**	**15 41 01.0**	**-0.1**			
	baz=216									
K27K	**Chicken**	**92.01**	**19**	P	**P**	**15 41 01.1**	**-0.3**			
	baz=225									
D20K	**Etivluk River**	**92.03**	**12**	P	**P**	**15 41 01.7**	**+0.3**			
	baz=212,SNR=8.0									
P32M	**Atlin**	**92.04**	**25**	P	**P**	**15 41 01.8**	**+0.1**			
	baz=232,SNR=19									
G08A	**Pilot Rock**	**92.08**	**42**	IAmb	IAmb	15 41 14.4				
	comp=Z,39nm,0.9s									
G08A				IAMs_20	IAMs_20	16 15 43.5				
	comp=Z,3µm,20.0s									
PRP	**Porcupine Dome**	**92.08**	**17**	P	**P**	**15 41 00.4**	**-1.4**			
	baz=222									
E07A	**Sunnyside**	**92.09**	**41**	IAMs_20	IAMs_20	16 18 35.9				
	comp=Z,2µm,19.0s									
M29M	**Somme Creek**	**92.10**	**22**	P	**P**	**15 41 01.6**	**-0.4**			
	baz=228,SNR=13									
S34M	**Telegraph Cree**	**92.11**	**27**	P	**P**	**15 41 02.4**	**+0.4**			
	baz=234,SNR=30									
COLD	**Coldfoot**	**92.19**	**15**	IAmb	IAmb	15 41 13.7				
	comp=Z,39nm,1.1s									
COLD				IAMs_20	IAMs_20	16 18 31.0				
	comp=Z,3µm,20.0s									
COLD	**Coldfoot**	**92.19**	**15**	P	**P**	**15 41 02.0**	**-0.1**			
	baz=218,SNR=6.8									
HAWA	**Hanford**	**92.22**	**41**	IAmb	IAmb	15 41 16.1				
	comp=Z,117nm,1.4s									
HAWA				IAMs_20	IAMs_20	16 18 31.2				
	comp=Z,3µm,19.0s									
Q32M	**Nakina River**	**92.24**	**26**	P	**P**	**15 41 03.1**	**+0.3**			
	baz=233,SNR=18									
WHY	**Whitehorse**	**92.25**	**24**	P	**P**	**15 41 01.8**	**-0.9**			
	baz=231,SNR=14									
E21K	**Killik River**	**92.33**	**13**	P	**P**	**15 41 02.8**	**-0.1**			
	baz=214									
WAH2	**Wahluke Slope**	**92.36**	**41**	IAMs_20	IAMs_20	16 15 46.0				
	comp=Z,2µm,21.0s									
YPT	**Yellepit**	**92.41**	**41**	IAMs_20	IAMs_20	16 17 05.4				
	comp=Z,2µm,19.0s									
N31M	**Braeburn, Yuko**	**92.43**	**23**	P	**P**	**15 41 03.0**	**-0.4**			
	baz=230,SNR=17									
G24K	**Hadweenzic Riv**	**92.45**	**16**	P	**P**	**15 41 02.8**	**-0.6**			
	baz=220,SNR=7.7									
LCMT	**Little Creek M**	**92.49**	**51**	IAmb	IAmb	15 41 17.0				
	comp=Z,29nm,0.9s									
SPR3	**Spring Creek 3**	**92.50**	**49**	IAmb	IAmb	15 41 18.8				
	comp=Z,21nm,0.8s									
TUC	**Tucson**	**92.55**	**57**	P	**P**	**15 41 05.4**	**+0.7**			
TUC				IAmb	IAmb	15 41 17.6				
	comp=Z,29nm,0.9s									
TUC	**Tucson**	**92.55**	**57**	IAMs_20	IAMs_20	16 15 18.2				
	comp=Z,2µm,20.0s									
TUC	**Tucson**	**92.55**	**57**	P	**P**	**15 41 05.4**	**+0.7**			
TUC				pmax	pmax					
	comp=Z,29nm,1.0s									
A19K	**Wainwright**	**92.55**	**10**	P	**P**	**15 41 02.6**	**-1.1**			
	baz=208									
E08A	**Dider Farm, El**	**92.55**	**41**	IAMs_20	IAMs_20	16 18 42.1				
	comp=Z,3µm,18.0s									
H25L	**Birch Creek**	**92.56**	**17**	P	**P**	**15 41 02.5**	**-1.3**			
	baz=222									
ELK	**Elko**	**92.58**	**47**	IAMs_20	IAMs_20	16 16 21.3				
	comp=Z,2µm,19.0s									
ELK	**Elko**	**92.58**	**47**	P	**P**	**15 41 04.2**	**-0.6**			
	comp=Z,7.2nm,1.0s,baz=228,slow=4.3,SNR=15									
ELK				LR	LR	16 16 52.2				
	comp=Z,2µm,19.5s,baz=246,slow=32									
	comp=Z,7.2nm,1.0s									
I26K	**Coal Creek Min**	**92.60**	**18**	P	**P**	**15 41 03.1**	**-1.0**			
	baz=224									
L29M	**L29M**	**92.66**	**21**	P	**P**	**15 41 04.0**	**-0.4**			
	baz=228,SNR=22									
LNOR	**Lincton Mounta**	**92.76**	**42**	IAMs_20	IAMs_20	16 15 33.6				
	comp=Z,2µm,20.0s									
C21K	**Knifeblade Rid**	**92.77**	**12**	P	**P**	**15 41 05.2**	**+0.4**			
	baz=214									
M30M	**Minto, Yukon**	**92.77**	**22**	P	**P**	**15 41 04.4**	**-0.6**			
	baz=230,SNR=38									
P33M	**Teslin, Yukon**	**92.78**	**25**	P	**P**	**15 41 04.6**	**-0.5**			
	baz=233,SNR=19									
KNB	**Kanab**	**92.81**	**52**	IAmb	IAmb	15 41 19.9				
	comp=Z,40nm,1.1s									
LLLB	**Lillooet**	**92.81**	**37**	IAmb	IAmb	15 41 17.4				
	comp=Z,50nm,1.1s									
EGAK	**Eagle**	**92.82**	**19**	IAMs_20	IAMs_20	16 17 46.8				
	comp=Z,2µm,20.0s									
X16A	**Lo Mia Camp, P**	**92.84**	**54**	IAmb	IAmb	15 41 20.3				
	comp=Z,35nm,0.9s									
G25K	**Bearman Lake**	**92.86**	**16**	P	**P**	**15 41 04.8**	**-0.4**			
	baz=222									
DAWY	**Dawson**	**92.88**	**20**	IAmb	IAmb	15 41 16.2				
	comp=Z,41nm,1.3s									
DAWY	**Dawson**	**92.88**	**20**	P	**P**	**15 41 04.7**	**-0.8**			
	baz=227,SNR=5.0									
DLBC	**Dease Lake**	**92.89**	**27**	LR	LR	16 14 48.4				
	comp=Z,39µm,21.5s,baz=232,slow=30									
DLBC	**Dease Lake**	**92.89**	**27**	P	**P**	**15 41 05.9**	**+0.2**			
	baz=235,SNR=26									
D08A	**Wollman Farm,**	**92.89**	**41**	IAmb	IAmb	15 41 19.1				
	comp=Z,32nm,1.0s									
D08A				IAMs_20	IAMs_20	16 18 52.0				
	comp=Z,2µm,19.0s									
MOY	**Mondy**	**92.93**	**325**	*e*P	**P**	**15 41 06.3**	**+0.2**			
MOY				pmax	pmax					
	comp=Z,166nm,2.3s									
FYU	**Fort Yukon**	**92.94**	**17**	IAMs_20	IAMs_20	16 16 24.0				
	comp=Z,3µm,21.0s									
AY03	**Cochrane**	**92.95**	**143**	IAMs_20	IAMs_20	16 13 32.5				
	comp=Z,2µm,21.0s									
D22K	**Ayikyak River**	**92.97**	**13**	P	**P**	**15 41 06.3**	**+0.6**			
	baz=216,SNR=7.1									
U15A	**North Rim**	**92.97**	**52**	IAmb	IAmb	15 41 19.7				
	comp=Z,32nm,0.9s									
U15A				IAMs_20	IAMs_20	16 14 09.0				
	comp=Z,2µm,22.0s									
F24K	**Squaw Lake**	**92.98**	**15**	P	**P**	**15 41 05.9**	**+0.1**			
	baz=220									
E23K	**Chandalar**	**92.98**	**14**	P	**P**	**15 41 05.9**	**0.0**			
	baz=218,SNR=5.7									
B20K	**Meade River**	**93.04**	**11**	P	**P**	**15 41 06.3**	**+0.3**			
	baz=212									
R33M	**Jennings River**	**93.04**	**26**	P	**P**	**15 41 06.7**	**+0.3**			
	baz=234,SNR=31									
E09A	**Wood Farm, Sta**	**93.13**	**41**	IAmb	IAmb	15 41 49.4				
	comp=Z,54nm,1.8s									
E09A				IAMs_20	IAMs_20	16 17 45.3				
	comp=Z,2µm,19.0s									
B21K	**Ikpikpuk River**	**93.19**	**12**	P	**P**	**15 41 07.0**	**+0.3**			
	baz=214									
N32M	**Quiet Lake**	**93.24**	**24**	P	**P**	**15 41 06.8**	**-0.4**			
	baz=233									
I27K	**Kandik River**	**93.26**	**18**	P	**P**	**15 41 06.3**	**-0.9**			
	baz=226,SNR=5.8									
E24K	**Your Creek**	**93.26**	**15**	P	**P**	**15 41 06.8**	**-0.3**			
	baz=219									
WUAZ	**Wupatki**	**93.31**	**53**	IAmb	IAmb	15 41 25.0				
	comp=Z,53nm,1.2s									
K29M	**Barlow Dome**	**93.35**	**21**	P	**P**	**15 41 07.1**	**-0.6**			
	baz=229,SNR=13									
319A	**Douglas**	**93.39**	**58**	IAmb	IAmb	15 41 25.5				
	comp=Z,59nm,0.9s									
319A				IAMs_20	IAMs_20	16 15 29.6				
	comp=Z,2µm,20.0s									
M31M	**Drury Creek, Y**	**93.40**	**23**	P	**P**	**15 41 06.0**	**-1.8**			
	baz=232,SNR=12									
TOLK	**Toolik Lake Re**	**93.45**	**14**	P	**P**	**15 41 07.8**	**-0.2**			
	baz=218									
D23K	**Nanushuk River**	**93.47**	**13**	P	**P**	**15 41 08.0**	**0.0**			
	baz=217,SNR=11									
F10A	**Beach Ranch, E**	**93.47**	**42**	IAMs_20	IAMs_20	16 17 50.8				
	comp=Z,2µm,19.0s									
J29N	**Klondike Camp**	**93.53**	**20**	P	**P**	**15 41 08.1**	**-0.4**			
	baz=228									
F25K	**Christian Rive**	**93.60**	**16**	P	**P**	**15 41 08.4**	**-0.4**			
	baz=222,SNR=5.8									
G26K	**Porcupine Rive**	**93.61**	**17**	P	**P**	**15 41 08.7**	**0.0**			
	baz=224,SNR=16									
I28M	**Miner Creek**	**93.66**	**19**	P	**P**	**15 41 07.8**	**-1.3**			
	baz=227,SNR=8.1									
H27K	**Steamboat Moun**	**93.73**	**18**	P	**P**	**15 41 08.6**	**-0.7**			
	baz=226,SNR=12									
MAYO	**Mayo, Yukon**	**93.74**	**22**	P	**P**	**15 41 08.9**	**-0.5**			
	baz=230									
BMAR	**Burnt Mountain**	**93.75**	**16**	P	**P**	**15 41 08.9**	**-0.5**			
E25K	**Arctic Village**	**94.01**	**15**	P	**P**	**15 41 10.0**	**-0.6**			
	baz=222,SNR=5.4									
B22K	**Teshekpuk Lake**	**94.02**	**12**	P	**P**	**15 41 10.7**	**+0.2**			
	baz=215									
D24K	**Happy Valley**	**94.03**	**14**	P	**P**	**15 41 10.7**	**+0.2**			
	baz=219									
F26K	**Sheenjek River**	**94.06**	**16**	P	**P**	**15 41 10.7**	**-0.2**			
	baz=223									
G27K	**Doyon Strip**	**94.10**	**17**	P	**P**	**15 41 10.1**	**-0.9**			
	baz=226,SNR=8.8									
I29M	**Ogilvie Camp,**	**94.10**	**19**	P	**P**	**15 41 09.7**	**-1.4**			
	baz=228,SNR=20									
C23K	**Itkillik River**	**94.17**	**13**	P	**P**	**15 41 11.8**	**+0.5**			
	baz=218,SNR=6.5									
COYC	**Coyhaique**	**94.18**	**142**	IAmb	IAmb	15 41 24.1				
	comp=Z,56nm,1.2s									
J30M	**Hart River**	**94.22**	**21**	P	**P**	**15 41 11.1**	**-0.7**			
	baz=230,SNR=8.3									
A22K	**Sinclair Lake**	**94.28**	**11**	P	**P**	**15 41 10.9**	**-0.7**			
	baz=214									
WTLY	**Watson Lake, Y**	**94.36**	**26**	P	**P**	**15 41 11.8**	**-0.5**			
	baz=236,SNR=9.8									
C24K	**Franklin Bluff**	**94.50**	**14**	P	**P**	**15 41 12.9**	**+0.2**			
	baz=219,SNR=6.2									
NEW	**Newport**	**94.51**	**40**	LR	LR	16 18 54.9				
	comp=Z,µm,18.7s,baz=258,slow=32									
GO07	**Milladeo Hill,**	**94.60**	**139**	IAMs_20	IAMs_20	16 19 04.8				
	comp=Z,2µm,18.0s									
I30M	**Mount Dempster**	**94.63**	**20**	P	**P**	**15 41 12.6**	**-1.0**			
	baz=230,SNR=18									
H29M	**Whitestone**	**94.66**	**19**	P	**P**	**15 41 12.7**	**-0.9**			
	baz=228,SNR=10									
D25K	**Kavik River**	**94.72**	**14**	P	**P**	**15 41 12.7**	**-1.1**			
	baz=221									
MMPY	**Sheldon Lake,**	**94.81**	**24**	IAmb	IAmb	15 41 25.4				
	comp=Z,63nm,1.2s									
MMPY				IAMs_20	IAMs_20	16 19 53.1				
	comp=Z,3µm,19.0s									
MMPY	**Sheldon Lake,**	**94.81**	**24**	P	**P**	**15 41 13.4**	**-1.0**			
	baz=234,SNR=20									
E27K	**Coleen River**	**95.09**	**17**	P	**P**	**15 41 14.8**	**-0.8**			
	baz=226,SNR=12									
LIRD	**Liard River Hi**	**95.13**	**28**	P	**P**	**15 41 14.9**	**-1.0**			
	baz=229									
F28M	**Old Crow**	**95.16**	**17**	P	**P**	**15 41 15.6**	**-0.3**			
	baz=227									
TOAD	**Toad River Com**	**95.22**	**28**	P	**P**	**15 41 16.3**	**0.0**			
	baz=239									
G29M	**Pine Creek**	**95.22**	**18**	P	**P**	**15 41 15.5**	**-0.6**			
	baz=229,SNR=7.0									
EPYK	**Eagle Plains**	**95.26**	**19**	P	**P**	**15 41 15.5**	**-0.8**			
	baz=230,SNR=13									
TGTN	**Hyland Airport**	**95.35**	**25**	P	**P**	**15 41 17.1**	**+0.2**			
	baz=237									
TCUT	**Toone Canyon**	**95.39**	**48**	IAmb	IAmb	15 41 30.8				
	comp=Z,24nm,0.7s									
HWUT	**Hardware Ranch**	**95.47**	**48**	IAMs_20	IAMs_20	16 27 03.7				
	comp=Z,2µm,18.0s									
C26K	**Camden Bay**	**95.51**	**14**	P	**P**	**15 41 17.6**	**+0.3**			
	baz=223									
C27K	**Jago River**	**95.58**	**15**	P	**P**	**15 41 17.5**	**-0.2**			
	baz=224									
TIXI	**Tiksi**	**95.65**	**348**	P	**P**	**15 41 18.7**	**+0.8**			
	comp=Z,1.4nm,0.7s,baz=187,slow=3.0,SNR=4.9									
TIXI				LR	LR	16 24 20.1				
	comp=Z,1µm,18.9s,baz=142,slow=36									
	comp=Z,1.4nm,0.7s									
H31M	**Peel River**	**95.65**	**20**	P	**P**	**15 41 16.9**	**-1.3**			
	baz=232,SNR=6.3									
EPT	**El Paso**	**95.75**	**58**	IAMs_20	IAMs_20	16 16 23.0				
	comp=Z,2µm,21.0s									
G30M	**tAoh Zraii Nji**	**95.81**	**19**	P	**P**	**15 41 17.9**	**-0.9**			
	baz=230,SNR=29									
MSO	**Missoula**	**95.89**	**42**	IAMs_20	IAMs_20	16 19 26.5				
	comp=Z,2µm,19.0s									
E28M	**Babbage River**	**95.93**	**17**	P	**P**	**15 41 19.0**	**-0.3**			
	baz=228,SNR=16									
PV05	**Paradox Valley**	**95.94**	**52**	IAMs_20	IAMs_20	16 18 19.0				
	comp=Z,2µm,20.0s									
D27M	**Malcolm River**	**95.99**	**16**	P	**P**	**15 41 19.9**	**+0.3**			
	baz=226,SNR=12									
KAAM	**Kaadhehdhoo**	**96.00**	**268**	IAMs_20	IAMs_20	16 21 11.4				
	comp=Z,3µm,21.0s									
ZAIG	**Zacatecas**	**96.04**	**68**	IAMs_20	IAMs_20	16 14 22.3				
	comp=Z,2µm,22.0s									
MVCO	**Mesa Verde**	**96.08**	**53**	IAMs_20	IAMs_20	16 23 59.6				
	comp=Z,2µm,18.0s									
PV10	**Paradox Valley**	**96.09**	**51**	IAmb	IAmb	15 41 37.7				
	comp=Z,23nm,0.7s									
PV14	**Lion Creek, Pa**	**96.11**	**51**	IAMs_20	IAMs_20	16 27 00.0				
	comp=Z,2µm,21.0s									
PV19	**Morning Glory**	**96.11**	**52**	IAMs_20	IAMs_20	16 18 31.2				
	comp=Z,3µm,20.0s									
PV17	**East Wray Mesa**	**96.12**	**52**	IAMs_20	IAMs_20	16 19 46.4				
	comp=Z,2µm,20.0s									
Y22A	**Socorro**	**96.12**	**56**	IAMs_20	IAMs_20	16 18 11.9				
	comp=Z,2µm,19.0s									
PV23	**Carpenter Ridg**	**96.14**	**51**	IAmb	IAmb	15 41 36.7				
	comp=Z,38nm,0.9s									
PV16	**Nyswonger Mesa**	**96.16**	**52**	IAMs_20	IAMs_20	16 18 42.5				
	comp=Z,2µm,20.0s									
PV13	**Radium Mtn., P**	**96.18**	**52**	IAMs_20	IAMs_20	16 18 34.0				
	comp=Z,2µm,21.0s									
E29M	**Blow River**	**96.23**	**17**	P	**P**	**15 41 19.8**	**-0.8**			
	baz=229									
MOIG	**Morelia**	**96.24**	**71**	IAMs_20	IAMs_20	16 15 32.7				
	comp=Z,3µm,20.0s									
PV12	**Saucer Basin,**	**96.25**	**52**	IAmb	IAmb	15 41 37.0				
	comp=Z,70nm,1.6s									
PV22	**Blue Mesa, Par**	**96.34**	**51**	IAMs_20	IAMs_20	16 27 31.1				
	comp=Z,2µm,20.0s									
F30M	**Barrier River**	**96.34**	**18**	P	**P**	**15 41 20.4**	**-0.8**			
	baz=231,SNR=9.5									
PV01	**Paradox Valley**	**96.36**	**52**	IAMs_20	IAMs_20	16 18 48.7				
	comp=Z,2µm,21.0s									
G31M	**Satah River**	**96.37**	**19**	P	**P**	**15 41 20.5**	**-0.7**			
	baz=232,SNR=18									
KOTAN	**Kotaneelee Air**	**96.39**	**28**	P	**P**	**15 41 21.4**	**-0.1**			
	baz=240									
PV07	**Paradox Valley**	**96.41**	**52**	P	**P**	**15 41 22.4**	**0.0**			
HYB	**Hyderabad**	**96.44**	**286**	*e*P	**P**	**15 41 23.0**	**+0.1**			
PV15	**Paradox Valley**	**96.49**	**52**	P	**P**	**15 41 20.9**	**-2.1**			
MNTX	**Cornudas Mount**	**96.62**	**59**	IAMs_20	IAMs_20	16 16 51.3				
	comp=Z,2µm,21.0s									
D28M	**Stokes Point**	**96.63**	**16**	P	**P**	**15 41 21.8**	**-0.6**			
	baz=228									
F31M	**Tsiigehtchic**	**96.85**	**19**	P	**P**	**15 41 22.7**	**-0.8**			
	baz=233,SNR=22									
ANMO	**Albuquerque**	**96.86**	**55**	IAMs_20	IAMs_20	16 17 51.3				
	comp=Z,2µm,21.0s									
ANMO	**Albuquerque**	**96.86**	**55**	P	**P**	**15 41 24.5**	**-0.1**			
	comp=Z,2.3nm,0.6s,baz=315,slow=9.0,SNR=4.8									
ANMO				LR	LR	16 18 02.3				
	comp=Z,2µm,20.4s,baz=360,slow=31									
	comp=Z,2.3nm,0.6s									
TXAR	**Lajitas Array**	**97.24**	**62**	P	Pdif	15 41 26.6	+0.2			
	comp=Z,2.8nm,1.0s,baz=233,slow=5.1,SNR=18									
TXAR				LR	LR	16 16 45.7				
	comp=Z,2µm,21.4s,baz=259,slow=30									
	comp=Z,2.8nm,1.0s									
BW06	**Boulder Array**	**97.28**	**47**	IAMs_20	IAMs_20	16 22 38.2				
	comp=Z,1µm,18.0s									
PDAR	**Pinedale Array**	**97.28**	**47**	P	**P**	**15 41 26.1**	**-0.3**			
	comp=Z,1.4nm,0.8s,baz=219,slow=3.8,SNR=11									
PDAR				PP	**PP**	**15 45 22.5**	**-0.9**			
	comp=Z,1.1nm,0.9s,baz=258,slow=7.4,SNR=4.1									
PDAR				PKKPbc	**PKKPbc**	**15 58 04.6**	**-1.7**			
	comp=Z,1.9nm,0.

HUEH Huehuetenango 103.68 79 IAMs_20 IAMs_20 16 18 21.1
comp=Z,2µm,21.0s
OK029 Liberty Lake 104.14 57 IAMs_20 IAMs_20 16 23 31.1
comp=Z,2µm,21.0s
CO01 Juntas del Tor 104.22 130 IAMs_20 IAMs_20 16 18 19.8
comp=Z,2µm,22.0s
OK052 Battle Ridge R 104.70 57 IAMs_20 IAMs_20 16 23 54.9
comp=Z,2µm,20.0s
BGNE Belgrade 104.99 51 IAMs_20 IAMs_20 16 22 42.1
comp=Z,2µm,20.0s
TUL3 Leonard 105.47 57 IAMs_20 IAMs_20 16 24 10.5
comp=Z,2µm,20.0s
KSU1 Kansas State U 105.59 54 IAMs_20 IAMs_20 16 26 41.7
comp=Z,1µm,20.0s
KURBB **Kurchatov Arra 105.75 319** Pdiff **Pdif** **15 42 03.9 +0.3**
comp=Z,1.8nm,0.7s,baz=106,slow=3.3,SNR=16
KURBB PKiKP **PKiKP** **15 46 16.0 -0.3**
comp=Z,0.8nm,0.2s,baz=106,slow=4.6,SNR=5.0
KURBB PKKPbc **PKKPbc** **15 57 40.1 -1.4**
comp=Z,1.8nm,0.2s,baz=273,slow=3.9,SNR=4.5
AC01 Pan de Azucar 105.93 126 IAMs_20 IAMs_20 16 20 11.4
comp=Z,2µm,22.0s
L34A Svendsen Farm, 106.41 51 IAMs_20 IAMs_20 16 28 08.6
comp=Z,2µm,18.0s
U38A Gravette 106.70 57 IAMs_20 IAMs_20 16 24 20.0
comp=Z,2µm,20.0s
N35A Tabor 106.71 52 IAMs_20 IAMs_20 16 23 44.7
comp=Z,2µm,20.0s
MIAR Mount Ida 106.92 59 IAMs_20 IAMs_20 16 23 39.9
comp=Z,2µm,21.0s
HHAR Hobbs 107.02 57 IAMs_20 IAMs_20 16 29 37.4
comp=Z,2µm,19.0s
HERN Volcan Telica 107.20 83 IAMs_20 IAMs_20 16 27 09.5
comp=Z,1µm,18.0s
TGUH Tegucigalpa,Un 107.22 81 IAMs_20 IAMs_20 16 20 27.9
comp=Z,2µm,22.0s
F33A 5 Mile Ranch, 107.26 47 IAMs_20 IAMs_20 16 32 16.9
comp=Z,1µm,18.0s
P38A Dawn 108.03 54 IAMs_20 IAMs_20 16 32 38.0
comp=Z,2µm,18.0s
BOAB BOACO BROADBAN 108.24 83 IAMs_20 IAMs_20 16 27 05.0
comp=Z,2µm,18.0s
JTS Las Juntas de 108.26 85 IAMs_20 IAMs_20 16 21 49.5
comp=Z,2µm,20.0s
ULM Lac du Bonnet 108.34 42 PKKPab PKKPab 15 57 43.0 -0.9
comp=Z,3.6nm,0.7s,baz=47,slow=4.8,SNR=3.6
MGMO Mountain Grove 108.51 56 IAMs_20 IAMs_20 16 32 40.9
comp=Z,2µm,18.0s
SCIA State Center 108.71 51 IAMs_20 IAMs_20 16 29 13.5
comp=Z,2µm,18.0s
R40A Maddies Statio 108.74 55 IAMs_20 IAMs_20 16 30 35.8
comp=Z,2µm,18.0s
HDC Heredia 108.95 86 IAMs_20 IAMs_20 16 21 53.0
comp=Z,1µm,20.0s
PB02 IPOC Station P 109.02 122 IAMs_20 IAMs_20 16 20 47.8
comp=Z,1µm,22.0s
GAR Garm 109.15 305 IAMs_20 IAMs_20 16 32 06.8
comp=Z,1µm,22.0s
SIUN Universidad Ur 109.44 82 IAMs_20 IAMs_20 16 27 00.8
comp=Z,400nm,21.0s
CCM Cathedral Cave 109.49 56 IAMs_20 IAMs_20 16 26 30.6
comp=Z,2µm,20.0s
SPMN Marine on St. 109.57 48 IAMs_20 IAMs_20 16 26 10.0
comp=Z,1µm,20.0s
MET Memphis--Engin 109.97 59 IAMs_20 IAMs_20 16 25 43.8
comp=Z,1µm,21.0s
146A Union 110.20 62 IAMs_20 IAMs_20 16 24 32.1
comp=Z,2µm,21.0s
N41A Harden Midland 110.25 53 IAMs_20 IAMs_20 16 30 42.5
comp=Z,2µm,18.0s
OXF Oxford 110.28 60 IAMs_20 IAMs_20 16 26 35.9
comp=Z,2µm,20.0s
SLM Saint Louis 110.37 55 IAMs_20 IAMs_20 16 35 34.9
comp=Z,2µm,18.0s
CGM3 Cape Girardeau 110.59 57 IAMs_20 IAMs_20 16 27 28.8
comp=Z,2µm,20.0s
HALT Halls 110.59 58 IAMs_20 IAMs_20 16 28 10.1
comp=Z,2µm,18.0s
GLAT Glass 110.70 58 IAMs_20 IAMs_20 16 27 21.2
comp=Z,2µm,20.0s
BILN Bilwi Airport 110.83 82 IAMs_20 IAMs_20 16 26 04.8
comp=Z,731nm,20.0s
S44A Carbondale 110.97 56 IAMs_20 IAMs_20 16 33 01.0
comp=Z,2µm,18.0s
SIUC Southern Illin 111.00 56 IAMs_20 IAMs_20 16 26 54.2
comp=Z,2µm,19.0s
JFWS Jewell Farm 111.04 51 IAMs_20 IAMs_20 16 25 02.5
comp=Z,2µm,21.0s
BVA0 Borovoye Array 111.11 320 *i* PKiKP **PKiKP** **15 46 25.9 -0.4**
BVAR Borovoye Array 111.11 320 Pdiff **Pdif** **15 42 26.1 -1.3**
comp=Z,1.8nm,0.9s,baz=92,slow=4.9,SNR=7.8
BVAR PKiKP **PKiKP** **15 46 25.4 -0.8**
comp=Z,7.4nm,1.0s,baz=93,slow=2.7,SNR=9.2
BVAR PKKPbc **PKKPbc** **15 57 21.8 -2.7**
comp=Z,1.1nm,0.6s,baz=300,slow=3.3,SNR=4.6
Z47A Carrollton 111.12 61 IAMs_20 IAMs_20 16 26 34.5
comp=Z,2µm,20.0s
PB18 Visviri 111.27 119 IAMs_20 IAMs_20 16 22 47.2
comp=Z,2µm,22.0s
G40A Rib Lake 111.39 48 IAMs_20 IAMs_20 16 25 04.7
comp=Z,2µm,21.0s
HDIL Hopedale 111.40 53 IAMs_20 IAMs_20 16 28 03.3
comp=Z,2µm,20.0s
OLIL Olney 112.04 55 IAMs_20 IAMs_20 16 34 46.4
comp=Z,2µm,21.0s
250A Grady 112.40 63 IAMs_20 IAMs_20 16 25 19.6
comp=Z,1µm,22.0s
F42A Maple Grove Fa 112.89 48 IAMs_20 IAMs_20 16 30 21.3
comp=Z,2µm,20.0s
LPAZ La Paz 113.04 119 Pdiff **Pdif** **15 42 37.1 -0.5**
comp=Z,1.0nm,0.3s,baz=25,slow=19,SNR=4.6
LPAZ PKiKP **PKiKP** **15 46 31.7 -0.1**
comp=Z,3.5nm,0.7s,baz=341,slow=2.1,SNR=9.6
LPAZ PKKPab **PKKPab** **15 57 25.1 -2.0**
comp=Z,2.1nm,0.7s,baz=50,slow=7.3,SNR=5.8
LPAZ La Paz 113.04 119 *e*P **Pdif** **15 42 37.2 -0.5**
BLO Bloomington 113.31 55 IAMs_20 IAMs_20 16 29 42.2
comp=Z,2µm,20.0s
FPAL Fort Paine 113.37 60 IAMs_20 IAMs_20 16 30 31.2
comp=Z,1µm,20.0s
PLTB Pedras Altas 114.04 141 *e*P **Pdif** **15 42 40.0 -1.1**
CAMR Camarioca 114.92 73 IAMs_20 IAMs_20 16 26 03.5
comp=Z,10µm,21.0s
GLMI Grayling 115.29 49 IAMs_20 IAMs_20 16 27 30.9
comp=Z,2µm,20.0s
CPUP Villa Florida 115.38 134 **PKiKP** **15 46 33.0 -2.3**
CPUP Villa Florida 115.38 134 PKP **PKiKP** **15 46 34.1 -1.3**
CPUP PKKPbc **PKKPbc** **15 57 08.6 -0.7**
comp=Z,1.5nm,0.9s,baz=252,slow=3.4,SNR=5.5
comp=Z,1.0nm,1.0s,baz=43,slow=0.5,SNR=3.6
MHTO MHTO 116.11 284 P **PKPdf** **15 46 35.9 -0.9**
M50A Fremont 116.19 53 IAMs_20 IAMs_20 16 37 22.2
comp=Z,2µm,18.0s
SMDO Samad 116.47 286 P **PKPdf** **15 46 37.1 -0.5**
K50A Casco 116.60 51 IAMs_20 IAMs_20 16 31 51.8
comp=Z,2µm,20.0s
TULEG Thule 116.74 13 IAMs_20 IAMs_20 16 32 13.0
comp=Z,1µm,22.0s
SVE Sverdlovsk 116.80 324 *i* PKiKP **PKPdf** **15 46 36.8 -0.2**
SVE pmax pmax
comp=Z,41nm,1.0s
SVE MLR MLR
comp=Z,910nm,21.0s
TBTG Tabatinga, AM 117.14 106 IAMs_20 IAMs_20 16 25 41.0
comp=Z,2µm,22.0s
AB31 Akbulak array 117.52 316 *i* PKiKP **PKPdf** **15 46 38.1 -0.5**
ARQ Araqi 117.91 286 P **PKPdf** **15 46 38.7 -1.5**
SOHO SOHO 118.05 287 P **PKPdf** **15 46 39.5 -0.9**
SOHO SOHO 118.05 287 *i* P **PKPdf** **15 46 39.5 -0.9**
SNR=13
ARTI Arti 118.08 324 **PKPdf** **15 46 38.0 -1.6**
ARTI Arti 118.08 324 *i* PKiKP **PKPdf** **15 46 38.9 -0.6**
ARTI 15 53 48.3
ARTI SP SP 15 57 32.2 -3.6
ARTI SS **SS** **16 03 59.5 -7.5**
ARTI MLR MLR
comp=Z,864nm,19.0s
ITAB Concordia 118.16 138 IAMs_20 IAMs_20 16 30 32.3
comp=Z,1µm,20.0s
UOSS Minazif 118.49 288 **PKPdf** **15 46 38.8 -2.5**
UOSS Minazif 118.49 288 P **PKPdf** **15 46 40.9 -0.4**
HATD Hatta, Dubai 118.53 288 P **PKPdf** **15 46 41.4 0.0**
HATD Hatta, Dubai 118.53 288 P **PKPdf** **15 46 40.8 -0.6**
ASHO Ashiyiah 118.57 288 P **PKPdf** **15 46 40.7 -0.8**
ASHO Ashiyiah 118.57 288 P **PKPdf** **15 46 40.6 -0.8**
BANOM **Banah 118.58 289** P **PKPdf** **15 46 40.4 -1.0**
ALNE Al Ain 118.73 287 P **PKPdf** **15 46 41.4 -0.4**
ALNE Al Ain 118.73 287 *i* P **PKiKP** **15 46 42.0 +0.2**
SNR=7.7
CHIV Chivirico 118.77 78 IAMs_20 IAMs_20 16 29 59.5
comp=Z,2µm,21.0s
RBK Rabkut 118.77 279 P **PKiKP** **15 46 42.2 +0.1**
NAZ Nazwa, Dubai 118.98 288 P **PKiKP** **15 46 42.4 +0.1**
NAZ Nazwa, Dubai 118.98 288 P **PKPdf** **15 46 41.2 -1.0**
UMZA Um Al Zommool 119.01 285 P **PKPdf** **15 46 41.2 -1.1**
ASUD Al Ashush, Dub 119.22 288 P **PKPdf** **15 46 42.4 -0.3**
AMBA Amambai (Brazi 119.22 133 *e*P **PKiKP** **15 46 42.9 0.0**
WHFO Wadi Hawf 119.27 280 P **PKPdf** **15 46 41.9 -1.1**
NEEM North Greenlan 119.43 9 *i* P **PKPdf** **15 46 40.9 -1.1**
BDQN Bodoquena, MS 119.56 129 *e*P **PKiKP** **15 46 43.7 +0.1**
GTBY Guantanamo Bay 119.95 78 IAMs_20 IAMs_20 16 30 54.0
comp=Z,1µm,20.0s
PTGB Pitanga 119.97 136 *e*P **PKPdf** **15 46 43.9 -0.4**
NMDO Nuevo Mundo 120.20 77 IAMs_20 IAMs_20 16 30 28.6
comp=Z,2µm,20.0s
KULLO Kullorsuaq 120.24 13 *i* P **PKPdf** **15 46 42.8 -0.4**
KBS Kingsbay 120.26 355 *e*PKPdf **PKiKP** **15 46 43.8 +0.5**
KBS *e*pPKPdf **pPKPdf** **15 46 53.7 -0.6**
KBS *e*SP SP 15 57 58.5 +4.4
BOSA Boshof 120.29 217 PKP **PKPdf** **15 46 44.6 -0.3**
comp=Z,5.0nm,0.8s,baz=138,slow=2.0,SNR=7.3
AQDB Aquidauana 120.30 130 *e*P **PKPdf** **15 46 44.0 -0.9**
MZWR Madinat Zayed 120.36 286 P **PKPdf** **15 46 43.7 -1.2**
SPA0 Spitsbergen Ar 120.52 354 *e*PKPdf **PKPdf** **15 46 43.1 -0.5**
SPA0 *e*pPKPdf **pPKPdf** **15 46 53.1 -1.7**
SPA0 *e*SP SP 15 57 58.9 +2.4
SPA0 *e*SS **SS** **16 04 39.7 +2.4**
SPITS Spitsbergen Ar 120.52 354 PKP **PKPdf** **15 46 42.7 -1.0**
comp=Z,38nm,1.1s,baz=69,slow=7.9,SNR=13
SPITS Spitsbergen Ar 120.52 354 PKiKP **PKPdf** **15 46 43.2 -0.5**
MZR Muzera 120.59 285 *i* P **PKPdf** **15 46 45.3 0.0**
SNR=8.5
PTLB Pontes e Lacer 120.75 123 *e*P **PKPdf** **15 46 45.1 -0.7**
HOPEN Hopen 120.81 351 *e*PKPdf **PKiKP** **15 46 44.4 +0.1**
HOPEN IVmB_BB 15 46 45.7
comp=Z,791nm,2.3s
HOPEN *e*pPKPdf **pPKPdf** **15 46 53.2 -2.2**
HOPEN *e*SP SP 15 58 02.2 +3.2
HOPEN *e*SS **SS** **16 04 39.1 -1.8**
HOPEN IVmS_BB IVmS_BB 16 30 38.4
comp=Z,596nm,3.1s
SDMD Soldier's Deli 120.82 56 IAMs_20 IAMs_20 16 33 12.9
comp=Z,1µm,21.0s
TRCB Terra Rica 120.92 134 *e*P **PKiKP** **15 46 46.4 +0.1**
SDV Santo Domingo 121.27 92 **PKPdf** **15 46 43.5 -3.6**
SDV Santo Domingo 121.27 92 *e*P **PKPdf** **15 46 45.5 -1.6**
VILB Vilhena 121.30 120 *e*P **PKPdf** **15 46 46.0 -1.1**
GHWR Ruwais 121.31 286 P **PKPdf** **15 46 46.7 0.0**
J57A Williamstown 121.47 51 IAMs_20 IAMs_20 16 36 05.5
comp=Z,2µm,20.0s
LDASE Londrina, Braz 121.51 136 *e*P **PKPdf** **15 46 46.9 -0.4**
UPNV Upernavik 121.60 14 *i* P **PKPdf** **15 46 45.0 -0.8**
RPRD Ribas do Rio P 121.72 131 *e*P **PKPdf** **15 46 47.6 -0.1**
WUPA West Chester U 121.78 55 IAMs_20 IAMs_20 16 34 47.3
comp=Z,1µm,19.0s
TEFE Tefe 122.17 108 *e*P **PKPdf** **15 46 48.0 -0.7**
J59A Piesco 122.55 51 IAMs_20 IAMs_20 16 36 46.2
comp=Z,2µm,19.0s
PCMB Pacaembu 122.65 134 *e*P **PKPdf** **15 46 48.8 -0.7**
PP1B Ponte de Pedra 122.72 128 *e*P **PKiKP** **15 46 49.8 -0.1**
LBTB Lobatse 122.81 220 PKP **PKPdf** **15 46 49.7 -0.1**
comp=Z,5.8nm,0.9s,baz=135,slow=1.4,SNR=4.3
PAL Palisades 123.07 54 IAMs_20 IAMs_20 16 32 25.3
comp=Z,2µm,22.0s
SALV Santo Antonio 123.16 126 *e*P **PKPdf** **15 46 50.5 0.0**
DAG Danmarks Havn 123.23 2 *i* P **PKPdf** **15 46 47.6 -1.3**
SDDR Presa de Saban 123.28 80 IAMs_20 IAMs_20 16 31 37.2
comp=Z,2µm,21.0s
PET01 Itanhaem-SP 123.30 140 *e*P **PKPdf** **15 46 50.7 +0.1**
MREMI Moremi 123.44 223 *i* P pPKPdf 15 47 01.5 -0.7
C2SB Chapadao do Su 123.46 130 *e*P **PKiKP** **15 46 51.5 +0.2**
SPB Sao Paulo 123.72 139 *e*P **PKiKP** **15 46 51.8 +0.2**
LPHEP Lephephe 123.87 221 *i* P pPKPdf 15 47 01.9 -1.1
GRTK Grand Turk 123.91 77 IAMs_20 IAMs_20 16 30 58.9
comp=Z,2µm,21.0s
SAATT Saattut 123.96 15 *i* P **PKPdf** **15 46 49.7 -0.7**
MATP Matopo 124.25 226 PKP **PKiKP** **15 46 52.9 -0.1**
comp=Z,17nm,1.0s,baz=100,slow=6.1,SNR=17
VAO Valinhos 124.44 139 *e*P **PKPdf** **15 46 52.7 -0.2**
LVZ Lovozero 124.53 341 IAMs_20 IAMs_20 16 39 13.8
comp=Z,2µm,22.0s
BROLN Tlhalogang 124.56 224 *i* P pPKPdf 15 47 03.6 -0.8
ITRB Itarama 124.57 133 *e*P **PKPdf** **15 46 52.6 -0.6**
VADS Vadso 124.60 344 *e*PKPdf **PKPdf** **15 46 51.5 -0.1**
VADS IVmB_BB 15 47 02.2
comp=Z,1µm,1.2s
VADS *e*PP **PP** **15 48 38.1 -0.5**
VADS *e*SP SP 15 58 36.0 +3.2
VADS *e*SS **SS** **16 05 27.1 -2.0**
VADS IVmS_BB IVmS_BB 16 29 46.0
comp=Z,948nm,3.2s
BB19B Bebedouro 124.84 136 *e*P **PKiKP** **15 46 54.3 +0.2**
BELG Belogornoye 124.92 320 *c* PKiKP **PKPdf** **15 46 52.3 -0.4**
BELG MLR MLR
comp=Z,197nm,23.0s
APA Apatity 125.11 341 ⇓ PKiKP **PKPdf** **15 46 50.5 -2.2**
APA *i* PS **PS** **15 58 36.1 -6.9**
APA MLR MLR
comp=Z,2µm,22.5s
SUMG Summit 125.29 10 IAMs_20 IAMs_20 16 35 38.6
comp=Z,2µm,22.0s
SUMG Summit 125.29 10 *i* P **PKPdf** **15 46 52.6 -0.8**
SLP01 Ubatuba-SP 125.30 141 *e*P **PKiKP** **15 46 56.1 +1.1**
KEV Kevo 125.44 345 **PKPdf** **15 46 51.5 -1.7**
KEV IAMs_20 IAMs_20 16 41 36.8
comp=Z,2µm,22.0s
KEV Kevo 125.44 345 PKiKP **PKPdf** **15 46 51.6 -1.7**
KEV MLR MLR
comp=Z,2µm,22.0s
HAMF Hammerfest 125.56 347 *e*PKPdf **PKPdf** **15 46 51.3 -2.2**
HAMF IVmB_BB 15 47 04.0
comp=Z,1µm,1.1s
HAMF *e*PP **PP** **15 48 45.3 +0.4**
HAMF *e*SP SP 15 58 41.3 +0.2
HAMF IVmS_BB IVmS_BB 16 28 37.1
comp=Z,1µm,3.4s
DBG Daneborg 125.61 3 *i* P **PKPdf** **15 46 52.8 -0.7**
SOOWA Sowa 125.67 224 *i* P pPKPdf 15 47 06.3 -0.1
SCHQ Scheffervill 125.69 36 PKP **PKPdf** **15 46 53.4 -0.8**
comp=Z,264nm,1.3s,baz=297,slow=2.3,SNR=3.6
MACA Manacapuru-AM 125.84 110 *e*P **PKPdf** **15 46 55.4 -0.4**
ARA0 ARCESS Array S 125.96 345 *e*PKPdf **PKPdf** **15 46 54.3 0.0**
ARA0 IVmB_BB 15 47 04.7
comp=Z,1µm,1.2s
ARA0 *e*PP **PP** **15 48 46.5 -1.2**
ARA0 *e*SS SS 16 05 46.2 -0.1
ARA0 IVmS_BB IVmS_BB 16 29 17.2
comp=Z,739nm,3.7s
ARCES ARCESS Array B 125.96 345 PKP **PKPdf** **15 46 53.8 -0.5**
comp=Z,34nm,1.0s,baz=52,slow=2.2,SNR=34
CLDB Colider 126.03 121 *e*P **PKPdf** **15 46 55.5 -0.6**
LKGWB Lokgwabe 126.05 217 *i* P pPKPdf 15 47 06.3 -0.8
ARAG Araguaiana, MT 126.19 128 *e*P **PKPdf** **15 46 55.9 -0.4**
KLMR Klimovskoe 126.35 332 *e*PKIKP **PKPdf** **15 46 50.9 -4.3**
KLMR *e* 15 48 48.8
KLMR pmax pmax
comp=Z,234nm,1.4s
KLMR MLR MLR
comp=Z,1µm,21.0s
MAN01 Angra dos Reis 126.36 141 *e*P **PKPdf** **15 46 56.3 -0.3**
KGCAE Kacgae 126.46 219 *i* P pPKPdf 15 47 07.3 -0.7
AKT Akhty 126.50 307 *i* PKIKP **PKPdf** **15 46 56.1 -0.3**
AKT *e* 15 48 51.1
AKT *e*PPP PPP 15 51 58.5
AKT *e* 15 54 07.4
AKT *e*SP SP 15 58 50.8 -0.8
AKT pmax pmax
comp=Z,59nm,1.0s
AKT MLR MLR
comp=Z,2µm,26.0s
MAK Makhachkala 126.53 309 *e*P **Pdif** **15 43 35.4 -0.7**
MAK *i* 15 46 55.7
MAK *e* 15 48 52.1
MAK *e*PPP PPP 15 51 34.4
MAK *e* 15 54 00.5
MAK *e*PS **PS** **15 58 54.6 -1.9**
MAK *e*SS SS 16 05 58.7 +3.4
MAK *e*SSS SSS 16 10 37.3
MAK pmax pmax
comp=Z,332nm,1.4s
SFJD Kangerlussuaq 126.79 18 **PKPdf** **15 46 53.7 -2.2**
SFJD Kangerlussuaq 126.79 18 PKIKP **PKPdf** **15 46 53.7 -2.2**
SFJD MLR MLR
comp=Z,2µm,21.0s
SFJD Kangerlussuaq 126.79 18 *i* P **PKPdf** **15 46 54.6 -1.3**
KTK1 Kautokeino 126.89 345 *e*PKPdf **PKPdf** **15 46 54.9 -1.2**
KTK1 IVmB_BB 15 47 07.1
comp=Z,976nm,1.7s
KTK1 *e*PP **PP** **15 48 53.0 -0.9**
KTK1 *e*SP SP 15 58 54.1 +1.2
KTK1 *e*SS **SS** **16 05 58.4 +0.4**
KTK1 IVmS_BB IVmS_BB 16 31 14.9
comp=Z,606nm,3.6s
PHDHD Phuduhudu 127.02 223 IAMs_20 IAMs_20 16 37 22.0
comp=Z,2µm,20.0s
JETT Jettan, Norway 127.11 347 *e*PKPdf **PKPdf** **15 46 55.9 -0.6**
VAS01 Vassouras-RJ 127.11 141 *e*P **PKPdf** **15 46 57.8 -0.2**
IPMB Ipameri, GO 127.22 133 *e*P **PKPdf** **15 46 57.9 -0.4**
BSCB Bom Sucesso 127.28 139 *e*P **PKPdf** **15 46 57.8 -0.6**
TRO Tromso 127.36 347 *e*PKPdf **PKPdf** **15 46 56.4 -0.5**
TRO *e*pPKPdf **pPKPdf** **15 47 06.6 -1.4**
TRO IVmB_BB 15 47 07.0
comp=Z,1µm,1.1s
TRO *e*PP **PP** **15 48 59.7 +2.8**
TRO *e*SP SP 15 58 56.1 -0.7
TRO IVmS_BB IVmS_BB 16 32 12.1
comp=Z,782nm,3.8s
EMMW East Machias 127.49 49 **PKPdf** **15 46 56.5 -1.4**
KOOLE Kule 127.51 217 *i* P pPKPdf 15 47 09.7 -0.3
SJG San Juan 127.87 82 **PKPdf** **15 46 57.3 -2.1**
SJG San Juan 127.87 82 PKIKP **PKPdf** **15 46 57.3 -2.1**
SJG MLR MLR
comp=Z,800nm,21.0s
DUB01 Friburgo-RJ 127.89 142 *e*P **PKPdf** **15 46 59.6 +0.1**
RAYN Ar Rayn 127.91 285 **PKPdf** **15 46 58.1 -1.3**
RAYN Ar Rayn 127.91 285 *i* P **PKiKP** **15 46 59.9 -0.1**
SNR=11
RAYN Ar Rayn 127.91 285 ⇓ PKIKP **PKPdf** **15 46 59.7 +0.2**
LSZ Lusaka 127.94 230 **PKPdf** **15 46 59.9 +0.1**
LSZ Lusaka 127.94 230 PKP **PKPdf** **15 46 59.5 -0.4**
comp=Z,9.9nm,0.9s,baz=153,slow=2.3,SNR=12
LSZ Lusaka 127.94 230 PKIKP **PKPdf** **15 46 59.9 +0.1**
LSZ MLR MLR
comp=Z,2µm,20.0s
PMNB Patos De Minas 128.02 135 *e*P **PKPdf** **15 46 59.6 -0.3**
NUUK Nuuk 128.25 21 *i* P **PKPdf** **15 46 59.0 +0.2**
BOAV Boa Vista 128.39 103 *e*P **PKPdf** **15 47 00.2 -0.4**
KMBO Kilima Mbogo 128.40 252 PKP **PKPdf** **15 47 01.0 0.0**
comp=Z,8.6nm,0.8s,baz=99,slow=1.2,SNR=17
KMBO Kilima Mbogo 128.40 252 PKIKP **PKPdf** **15 47 01.0 0.0**
DY2G Dye2 128.40 17 *i* P **PKPdf** **15 46 58.1 -1.2**
CAM01 Campos-RJ 128.50 142 *e*P **PKPdf** **15 47 00.5 -0.1**
NPGB Novo Progresso 128.50 117 *e*P **PKPdf** **15 47 00.6 -0.2**
VRH Novokhopyorsk 128.77 320 *e*PKIKP **PKPdf** **15 46 58.3 -1.8**
VRH *e*PP **pPKPdf** **15 47 08.7 -2.5**
VRH pmax pmax
comp=Z,30nm,1.0s
GNI Garni 128.88 306 **PKPdf** **15 47 00.9 -0.1**
GNI Garni 128.88 306 P **PKiKP** **15 47 02.2 +0.6**
GNI Garni 128.88 306 *c* PKIKP **PKPdf** **15 47 01.3 +0.3**
SNDB Serra Nova Dou 128.93 125 *e*P **PKPdf** **15 47 01.1 -0.6**
BDFB Brasilia 128.96 131 PKP **PKPdf** **15 47 00.7 -1.0**
comp=Z,34nm,1.0s,baz=231,slow=1.6,SNR=18
GMARE Gumare 129.11 221 IAMs_20 IAMs_20 16 37 56.8
comp=Z,2µm,21.0s
SCO Scoresbysund 129.25 5 IAMs_20 IAMs_20 16 42 43.3
comp=Z,2µm,20.0s
SCO Scoresbysund 129.25 5 *i* P **PKPdf** **15 47 00.5 -0.1**
MOS Moscow 129.45 327 *e*PKIKP **PKPdf** **15 46 59.2 -2.1**
MOS *i* 15 47 10.4
MOS *e* 15 49 16.1
MOS pmax pmax
comp=Z,58nm,0.8s
MOS MLR MLR
comp=E,1µm,22.0s
MOS MLR MLR
comp=Z,2µm,22.0s
STEI Steigen 129.53 348 *e*P **PKPdf** **15 46 59.8 -1.3**
STEI *e*PP **PP** **15 49 11.0 -0.1**
QNGWA **Qangwa 129.62 220** *i* P pPKPdf 15 47 13.5 -0.5
QNGWA **Qangwa 129.62 220** IAMs_20 IAMs_20 16 43 36.1
comp=Z,1µm,19.0s
LOF Lofoten 129.69 348 *e*PKPdf **PKPdf** **15 47 01.1 -0.3**
LOF *e*PP **PP** **15 49 10.4 -1.7**
KBZ Khabaz 129.75 311 PKP **PKPdf** **15 47 01.9 -0.4**
comp=Z,4.4nm,0.8s,baz=150,slow=3.4,SNR=8.9
KIV Kislovodsk 129.86 311 **PKPdf** **15 47 01.8 -0.8**
KIV Kislovodsk 129.86 311 *i* P **PKiKP** **15 47 03.2 -0.2**
SNR=10.0
KIV Kislovodsk 129.86 311 *i* P **Pdif** **15 43 49.9 -1.2**
KIV *i* 15 47 02.6
KIV *e* 15 49 13.2
KIV *e*PS **PS** **15 59 23.5 -2.3**
KIV *e*SS SS 16 06 32.6 -4.1
KIV pmax pmax
comp=Z,22nm,1.1s
LPSR Galich'ya Gora 129.95 323 *e*PKIKP **PKPdf** **15 47 00.1 -2.2**
LPSR *e**PP **pPKPdf** **15 47 11.1 -2.4**
LPSR pmax pmax
comp=Z,60nm,1.1s
DIAM Diamantina, MG 129.98 138 *e*P **PKPdf** **15 47 03.7 0.0**
FAUS Fauske 129.98 347 *e*PKPdf **PKPdf** **15 47 02.0 0.0**
FAUS *e*pPKPdf **pPKPdf** **15 47 12.2 -0.9**
FAUS *e*PP **PP** **15 49 13.4 -0.6**
VORR Voronezh 130.11 321 *e*PKIKP **PKPdf** **15 47 01.9 -0.8**
VORR *e**PP **pPKPdf** **15 47 12.1 -1.7**
VORR pmax pmax
comp=Z,50nm,1.1s
OBN Obninsk 130.26 326 IAMs_20 IAMs_20 16 44 33.8
comp=Z,1µm,22.0s
OBN Obninsk 130.26 326 *d* PKIKP **PKPdf** **15 47 03.0 +0.2**
OBN *i* 15 47 12.5
OBN *i* 15 49 15.8
OBN *e*PPP PPP 15 52 01.5
OBN *e* 15 54 11.6
OBN *e*SS SS 16 06 34.1 -6.2
OBN pmax pmax
comp=Z,38nm,1.1s
OBN pmax pmax
comp=Z,94nm,1.2s
VSR Storozhevoye 130.29 321 *e*PKIKP **PKPdf** **15 47 00.7 -2.3**
VSR *e**PP **pPKPdf** **15 47 10.7 -3.4**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VORD Divnogorie 130.30 321 *e*PKIKP **PKPdf** **15 47 01.9 -1.1**
VORD *e**PP **pPKPdf** **15 47 12.0 -2.2**
VORD pmax pmax
comp=Z,10.0nm,1.0s
GEVA Gevas 130.36 304 IAMs_20 IAMs_20 16 54 02.1
comp=Z,1µm,21.0s
SABA Saba 130.48 84 IAMs_20 IAMs_20 16 37 30.5
comp=Z,1µm,20.0s
SEUS St. Eustatius 130.70 84 IAMs_20 IAMs_20 16 41 14.3
comp=Z,963nm,18.0s
GURO Guroymak-BITLI 131.13 304 IAMs_20 IAMs_20 16 57 29.6
comp=Z,1µm,19.0s
KONS Konsvik 131.19 348 *e*PKPdf **PKiKP** **15 47 05.1 -0.1**
KONS *e*pPKPdf **pPKPdf** **15 47 14.9 -0.5**
MOR8 Moi Rana 131.19 347 *e*PKPdf **PKPdf** **15 47 04.0 -0.3**
MOR8 IVmB_BB 15 47 07.6
comp=Z,814nm,3.1s
MOR8 *e*PP **PP** **15 49 20.7 -1.3**
MOR8 *e*SKPdf **SKPdf** **15 50 33.5 -3.5**
MOR8 *i* 16 01 17.5
MOR8 IVmS_BB IVmS_BB 16 29 07.4
comp=Z,1µm,3.3s
RIB01 Linhares ES 131.20 142 *e*P **PKPdf** **15 47 05.6 -0.2**
SJMB Sao Joao De Ma 131.21 140 *e*P **PKPdf** **15 47 05.7 -0.1**
STOK Stokkvaagen 131.35 347 *e*PKPdf **PKPdf** **15 47 04.7 +0.1**
STOK *e*pPKPdf **pPKPdf** **15 47 14.6 -1.1**
STOK IVmB_BB 15 47 15.8
comp=Z,2µm,3.1s
STOK *e*PP **PP** **15 49 22.3 -0.6**
STOK *e*SKPdf **SKPdf** **15 50 34.4 -2.9**
STOK IVmS_BB IVmS_BB 16 26 03.6
comp=Z,2µm,3.7s
FINES FINESS Array B 131.44 337 PKP **PKPdf** **15 47 03.6 -1.3**
comp=Z,13nm,1.0s,baz=33,slow=3.5,SNR=12
FINES SKPbc **SKPbc** **15 50 26.4 -1.1**
comp=Z,5.9nm,0.8s,baz=116,slow=8.7,SNR=4.3
FINES SKP 15 50 40.3
comp=Z,12nm,1.0s,baz=32,slow=7.6,SNR=6.0
LEIR Leirfjorden 131.52 347 *e*PKPdf **PKPdf** **15 47 03.5 -1.4**
LEIR *e*PP **PP** **15 49 24.2 +0.2**

LEIR				*e*SKPdf	**SKPdf**	**15 50 33.9**	**-3.8**		
GDHS	**Morne Mazeau,**	**131.58**	**86**	IAMs_20	IAMs_20	16 36 15.7			
	comp=Z,1µm,22.0s								
ABD	**La Joyeuse, An**	**131.88**	**86**	IAMs_20	IAMs_20	16 40 40.7			
	comp=Z,939nm,20.0s								
JANB	**Januaria**	**131.92**	**134**	*e*P	**PKPdf**	**15 47 07.1**	**-0.2**		
MAGL	**Barre de l'ile**	**131.96**	**86**	IAMs_20	IAMs_20	16 38 58.7			
	comp=Z,1µm,20.0s								
TSUM	**Tsumeb**	**131.98**	**217**	IAMs_20	IAMs_20	16 43 02.6			
	comp=Z,1µm,19.0s								
TSUM	**Tsumeb**	**131.98**	**217**	PKP	**PKPdf**	**15 47 07.4**	**-0.1**		
	comp=Z,6.4nm,1.0s,baz=170,slow=1.6,SNR=5.3								
SOC	**Sochi**	**132.04**	**311**	*e*PKIKP	**PKPdf**	**15 47 04.7**	**-1.9**		
SOC				*e*		15 49 24.3			
SOC				*e*PPP	PPP	15 52 16.6			
SOC				*e*SS	SS	16 07 01.7	-1.5		
SOC				*e*SSS	SSS	16 11 51.2			
SOC				pmax	pmax				
	comp=Z,23nm,1.1s								
SOC				MLR	MLR				
	comp=Z,747nm,21.0s								
NSS	**Namsos**	**133.14**	**347**	*e*PKPdf	**PKiKP**	**15 47 08.7**	**-0.5**		
NSS				*ep*PKPdf	**pPKPdf**	**15 47 18.3**	**-0.9**		
SDBA	**SAO DESIDERIO**	**133.37**	**131**	*e*P	**PKPdf**	**15 47 09.8**	**-0.3**		
PRPB	**Parauapebas**	**133.56**	**120**	*e*P	**PKPdf**	**15 47 10.2**	**-0.2**		
GUA01	**Guaratinga, BA**	**133.67**	**140**	*e*P	**PKPdf**	**15 47 10.3**	**-0.2**		
MBAR	**Mbarara**	**134.39**	**248**	IAMs_20	IAMs_20	16 47 22.0			
	comp=Z,1µm,19.0s								
CMC01	**Camacan, BA**	**134.79**	**139**	*e*P	**PKPdf**	**15 47 12.4**	**-0.2**		
MNK	**Minsk**	**134.93**	**329**	*i* PKIKP	**PKPdf**	**15 47 12.2**	**+0.5**		
MNK				*i*		15 49 45.1			
MNK				*i* PPP	PPP	15 52 40.7			
MNK				*i*		15 54 18.8			
MNK				*i* SS	SS	16 07 37.8	+0.8		
MNK				*i* SSS	SSS	16 12 38.5			
MNK				pmax	pmax				
	comp=N,14nm,0.8s								
MNK				pmax	pmax				
	comp=Z,52nm,1.2s								
MNK				pmax	pmax				
	comp=E,15nm,0.8s								
NACGM	**Naroch**	**135.23**	**330**	⇓ *i*PKP	**PKPdf**	**15 47 12.2**	**0.0**		
	comp=Z,43nm,1.1s,baz=55								
SIM	**Simferopol'**	**135.55**	**314**	*e*PKIKP	**pPKPdf**	**15 47 23.0**	**-1.3**		
SIM				pmax	pmax				
	comp=Z,86nm,1.2s								
MOL	**Molde**	**135.79**	**348**	*e*PKPdf	**PKPdf**	**15 47 12.8**	**-0.2**		
MOL				*ep*PKPdf	**pPKPdf**	**15 47 24.1**	**-0.1**		
DOMB	**Dombas**	**135.96**	**347**	*e*PKPdf	**PKPdf**	**15 47 14.0**	**+0.5**		
DOMB				*ep*PKPdf	**pPKPdf**	**15 47 23.8**	**-0.8**		
DOMB				*e*PP	**PP**	**15 49 54.6**	**+2.3**		
PABE	**Paberze**	**136.14**	**332**	IAMs_20	IAMs_20	16 49 17.0			
	comp=Z,1µm,22.0s								
AKASG	**Malin Array Be**	**136.23**	**324**	PKhKP	PKPpre	15 47 05.8			
	comp=Z,3.0nm,0.9s,baz=83,slow=1.7,SNR=8.5								
AKASG				PKP	**PKPdf**	**15 47 13.9**	**-0.4**		
	comp=Z,11nm,0.9s,baz=57,slow=2.1,SNR=21								
KIEV	**Kiev**	**136.24**	**324**	IAMs_20	IAMs_20	16 51 10.0			
	comp=Z,1µm,21.0s								
KIEV	**Kiev**	**136.24**	**324**	⇓P	**PKPdf**	**15 47 13.2**	**-1.0**		
KIEV	**Kiev**	**136.24**	**324**	*i* P	**PKPdf**	**15 47 14.0**	**-0.2**		
	SNR=8.6								
KIEV	**Kiev**	**136.24**	**324**	⇓PKIKP	**PKPdf**	**15 47 13.2**	**-1.0**		
NB2	**NORSAR Subarra**	**136.34**	**345**	PKPdf	**PKPdf**	**15 47 14.0**	**-0.2**		
	comp=Z,72nm,1.2s,baz=31,slow=1.9								
NB2	**NORSAR Subarra**	**136.34**	**345**	PKPdf	**PKPdf**	**15 47 14.0**	**-0.2**		
	comp=Z,72nm,1.2s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	**136.34**	**345**	PKP	**PKPdf**	**15 47 13.6**	**-0.7**		
	comp=Z,8.6nm,1.0s,baz=36,slow=2.1,SNR=9.1								
HFS	**Hagfors**	**136.45**	**342**	PKP	**PKPdf**	**15 47 12.5**	**-1.8**		
	comp=Z,5.5nm,0.6s,baz=90,slow=1.9,SNR=9.6								
GHAJ	**Ghor Haditha**	**137.07**	**295**	IAMs_20	IAMs_20	16 56 12.2			
	comp=Z,1µm,20.0s								
MMAI	**Mount Meron Ar**	**137.07**	**297**	PKP	**PKPdf**	**15 47 15.4**	**-1.1**		
	comp=Z,12nm,1.0s,baz=101,slow=4.6,SNR=10								
TMAB	**Tom-Au,PA,Br**	**137.10**	**117**	*e*P	**PKPdf**	**15 47 16.6**	**-0.5**		
FOO	**Floro**	**137.16**	**349**	*e*PKPdf	**PKPdf**	**15 47 14.9**	**-0.7**		
KIRS	**Kirsehir-Merke**	**137.28**	**306**	⇑P	**PKPdf**	**15 47 10.3**	**-6.4**		
SKAR	**Skarslia**	**137.34**	**346**	*e*PKPdf	**PKPdf**	**15 47 15.6**	**-0.5**		
SKAR				*e*PP	**PP**	**15 50 03.0**	**+2.0**		
HYA	**Hoyanger**	**137.34**	**348**	*e*PKPdf	**PKiKP**	**15 47 17.7**	**-0.1**		
HYA				*e*PP	**PP**	**15 50 02.2**	**+1.3**		
HYA				*e*PKSdf	**PKSdf**	**15 50 51.7**	**-0.1**		
BRTR	**Keskin Array B**	**137.36**	**307**		**PKPdf**	**15 47 14.4**	**-2.5**		
BRTR	**Keskin Array B**	**137.36**	**307**	PKP	**PKPdf**	**15 47 17.7**	**+0.8**		
	comp=Z,9.4nm,0.9s,baz=111,slow=1.8,SNR=31								
BRTR				PP	**PP**	**15 50 02.9**	**+0.4**		
	comp=Z,9.1nm,1.2s,baz=97,slow=4.2,SNR=3.8								
SUW	**Suwalki**	**137.44**	**331**	*e*PKPdf	**PKPdf**	**15 47 16.1**	**-0.2**		
SUW	**Suwalki**	**137.44**	**331**	IAMs_20	IAMs_20	16 46 58.4			
	comp=Z,1µm,22.0s								
KONO	**Kongsberg**	**137.95**	**345**		**PKPdf**	**15 47 17.2**	**+0.1**		
KONO	**Kongsberg**	**137.95**	**345**	IAMs_20	IAMs_20	16 47 37.2			
	comp=Z,2µm,22.0s								
KONO	**Kongsberg**	**137.95**	**345**	*e*PKPdf	**PKPdf**	**15 47 17.0**	**-0.2**		
KONO	**Kongsberg**	**137.95**	**345**	PKIKP	**PKPdf**	**15 47 17.2**	**+0.1**		
KONO				MLR	MLR				
	comp=Z,2µm,22.0s								
ANTO	**Ankara**	**137.95**	**308**		**PKPdf**	**15 47 17.9**	**0.0**		
ANTO	**Ankara**	**137.95**	**308**	PKIKP	**PKPdf**	**15 47 17.9**	**0.0**		
ASK	**Askoy**	**138.17**	**348**	*e*PKPdf	**PKPdf**	**15 47 17.6**	**+0.1**		
KMY	**Karmoy**	**139.33**	**347**	*e*P	**PKiKP**	**15 47 20.9**	**-1.1**		
TPGR	**Topolog**	**139.35**	**316**	⇓P	PKPdf	15 47 12.4	-7.9		
CFR	**Carcaliu**	**139.40**	**317**	⇓P	**PKPdf**	**15 47 14.8**	**-5.4**		
CFR	**Carcaliu**	**139.40**	**317**	⇓PKIKP	**PKPdf**	**15 47 14.8**	**-5.4**		
TIRR	**Tirgusor**	**139.51**	**316**	IAMs_20	IAMs_20	17 02 40.0			
	comp=Z,941nm,19.0s								
TIRR	**Tirgusor**	**139.51**	**316**	⇓P	**PKPdf**	**15 47 20.7**	**+0.2**		
TIRR	**Tirgusor**	**139.51**	**316**	PKIKP	**PKPdf**	**15 47 20.7**	**+0.2**		
TLBR	**Topalu**	**139.72**	**316**	⇓P	**PKiKP**	**15 47 22.4**	**-0.8**		
HARR	**Harsova**	**139.73**	**316**	⇑P	**PKiKP**	**15 47 23.2**	**0.0**		
HARR	**Harsova**	**139.73**	**316**	PKIKP	**PKiKP**	**15 47 23.2**	**0.0**		
VRI	**Vrincioaia**	**139.99**	**319**	⇓P	**PKiKP**	**15 47 23.2**	**-0.6**		
VRI	**Vrincioaia**	**139.99**	**319**	⇓PKIKP	**PKiKP**	**15 47 23.2**	**-0.6**		
PLOR	**Plostina**	**140.04**	**319**	⇑P	**PKPdf**	**15 47 20.8**	**-0.7**		
BURAR	**Bucovina Array**	**140.05**	**322**		**PKPdf**	**15 47 18.5**	**-3.0**		
BURAR	**Bucovina Array**	**140.05**	**322**	⇓P	**PKPdf**	**15 47 15.9**	**-5.6**		
BURAR	**Bucovina Array**	**140.05**	**322**	PKIKP	**PKPdf**	**15 47 15.9**	**-5.6**		
ISP	**Isparta**	**140.18**	**305**	IAMs_20	IAMs_20	17 00 49.5			
	comp=Z,1µm,19.0s								
KWP	**Kalwaria Pacla**	**140.34**	**326**	*e*PKPdf	**PKPdf**	**15 47 21.7**	**-0.2**		
GKP	**Gorka Klasztor**	**140.55**	**334**	*e*PKPdf	**PKPdf**	**15 47 21.9**	**-0.2**		
MLR	**Muntele Rosu**	**140.65**	**318**	IAMs_20	IAMs_20	16 50 25.8			
	comp=Z,1µm,22.0s								
MLR	**Muntele Rosu**	**140.65**	**318**	⇑P	**PKPdf**	**15 47 18.8**	**-3.9**		
MLR	**Muntele Rosu**	**140.65**	**318**	PKIKP	**PKPdf**	**15 47 18.8**	**-3.9**		
PRD	**Provadia**	**140.70**	**314**	*e*P	**PKPdf**	**15 47 23.1**	**+0.4**		
KOLS	**Kolonicke sedl**	**140.98**	**325**	*e*PKIKP	**PKPdf**	**15 47 19.3**	**-3.7**		
KOLS				*e*		15 47 24.3			
KOLS				*e*		15 47 30.2			
RGN	**Rugen**	**141.10**	**338**	IAMs_20	IAMs_20	16 47 09.8			
	comp=Z,1µm,22.0s								
STHS	**Stebnicka Huta**	**141.23**	**326**	*e*PKIKP	**PKPdf**	**15 47 19.0**	**-4.5**		
STHS				*e*		15 47 27.3			
OJC	**Ojcow**	**141.47**	**328**	*e*PKPdf	**PKPdf**	**15 47 23.6**	**-0.3**		
ARR	**Arges**	**141.52**	**319**	⇑P	**PKPdf**	**15 47 19.7**	**-4.5**		
JMB	**Yambol**	**141.56**	**314**	*e*P	**PKPdf**	**15 47 24.7**	**+0.4**		
NIE	**Niedzica**	**141.72**	**327**	*e*PKPdf	**PKPdf**	**15 47 24.9**	**+0.6**		
MARR	**Marisel-Cluj**	**141.76**	**322**	⇓P	**PKPdf**	**15 47 19.8**	**-4.8**		
DRGR		**141.94**	**322**	⇓P	**PKPdf**	**15 47 20.4**	**-4.5**		
DRGR		**141.94**	**322**	⇓PKIKP	**PKPdf**	**15 47 20.4**	**-4.5**		
LOT	**Lotru**	**142.01**	**320**	⇑P	**PKPdf**	**15 47 20.4**	**-4.7**		
LANS	**Liptovska Anna**	**142.31**	**327**	*e*PKIKP	**PKPdf**	**15 47 23.5**	**-2.0**		
LANS				*e*		15 47 35.5			
OKC	**Ostrava-Krasne**	**142.52**	**329**	AMS	AMS	16 49 10.0			
	comp=Z,2µm,23.3s								
GZR	**Gura Zlata**	**142.64**	**320**	⇑P	**PKPdf**	**15 47 22.0**	**-4.2**		
GZR	**Gura Zlata**	**142.64**	**320**	PKIKP	**PKPdf**	**15 47 22.0**	**-4.2**		
STEB	**Steborice**	**142.64**	**329**	*e*PKP	**PKPdf**	**15 47 24.4**	**-1.6**		
STEB				*ep*PKP	**pPKPdf**	**15 47 33.8**	**-3.3**		
KSP	**Ksiaz**	**142.69**	**332**	*e*PKPdf	**PKPdf**	**15 47 21.8**	**-4.3**		
KDZ	**Kurdzhali**	**142.72**	**313**	*e*P	**PKPdf**	**15 47 22.7**	**-3.7**		
SIRR	**Siria**	**142.83**	**322**	⇑P	**PKPdf**	**15 47 23.2**	**-3.2**		
SURR	**Surduc**	**142.84**	**321**	⇑P	**PKPdf**	**15 47 22.7**	**-3.8**		
MORC	**Moravsky Berou**	**142.85**	**329**	*e*PKP	**PKPdf**	**15 47 22.7**	**-3.7**		
MORC	**Moravsky Berou**	**142.85**	**329**	⇓P	**PKPdf**	**15 47 23.0**	**-3.4**		
MORC	**Moravsky Berou**	**142.85**	**329**	⇓PKIKP	**PKPdf**	**15 47 23.0**	**-3.4**		
PSZ	**Piszkesteto**	**142.85**	**325**	IAMs_20	IAMs_20	16 55 10.1			
	comp=Z,1µm,21.0s								
PSZ	**Piszkesteto**	**142.85**	**325**	⇓P	**PKPdf**	**15 47 23.2**	**-3.3**		
PSZ	**Piszkesteto**	**142.85**	**325**	⇓PKIKP	**PKPdf**	**15 47 23.2**	**-3.3**		
PLD	**Plovdiv**	**142.91**	**314**	*e*P	**PKPdf**	**15 47 23.6**	**-3.1**		
OSTC	**Ostas**	**142.93**	**331**	*e*PKHKP	PKPpre	15 47 20.2			
OSTC				*e*		15 50 35.1			
OSTC				MLR	MLR				
	comp=Z,2µm,22.8s								
OSTC	**Ostas**	**142.93**	**331**	*e*PKP	**PKPdf**	**15 47 20.2**	**-6.3**		
OSTC				*e*PP	**PP**	**15 50 35.1**	**-0.5**		
OSTC				AMS	AMS	16 51 10.0			
	comp=Z,2µm,22.8s								
CHVC	**Chvalec**	**142.98**	**331**	AMS	AMS	16 48 20.0			
	comp=Z,2µm,23.8s								
MAUC	**Maruska**	**142.99**	**329**	*e*PKP	**PKPdf**	**15 47 21.5**	**-5.2**		
MAUC				*e*PP	**PP**	**15 50 36.1**	**0.0**		
MAUC				AMS	AMS	16 49 10.0			
	comp=Z,3µm,22.0s								
KRLC	**Kraliky**	**143.01**	**330**	*e*PKIKP	PKPab	15 47 22.3	+0.4		
KRLC				*e*		15 47 34.0			
KRLC				MLR	MLR				
	comp=Z,2µm,24.0s								
KRLC	**Kraliky**	**143.01**	**330**	*e*PKP	PKPab	15 47 22.3	+0.4		
KRLC				*ep*PKP	pPKPdf	15 47 34.0	-3.8		
KRLC				AMS	AMS	16 49 50.0			
	comp=Z,2µm,24.0s								
DPC	**Dobruska-Polom**	**143.03**	**331**	*e*PKIKP	PKPbc	15 47 23.5	-0.1		
DPC				*e*		15 47 33.9			
DPC				MLR	MLR				
	comp=Z,2µm,21.5s								
DPC	**Dobruska-Polom**	**143.03**	**331**	*e*PKP	PKPbc	15 47 23.5	-0.1		
DPC				*ep*PKP	pPKPdf	15 47 33.9	-3.9		
DPC				*ex*	x	16 00 59.9			
DPC				AMS	AMS	16 51 30.0			
	comp=Z,2µm,21.5s								
MPEP	**Malo Peshtene**	**143.03**	**317**	*e*P	PKPbc	15 47 24.2	+0.5		
VYHS	**Vyhne**	**143.05**	**327**	*e*PKIKP	PKPbc	15 47 24.6	+1.0		
VYHS				*e*		15 47 30.4			
VYHS				*e*		15 47 35.3			
UPC	**Upice**	**143.06**	**331**	*e*PKIKP	PKPbc	15 47 23.5	-0.1		
UPC				*e*		15 47 33.8			
UPC				*e*		15 50 35.6			
UPC				MLR	MLR				
	comp=Z,2µm,20.9s								
UPC	**Upice**	**143.06**	**331**	*e*PKP	PKPbc	15 47 23.5	-0.1		
UPC				*ep*PKP	**PKiKP**	**15 47 33.8**	**+3.9**		
UPC				*e*PP	**PP**	**15 50 35.6**	**-0.8**		
UPC				AMS	AMS	16 51 30.0			
	comp=Z,2µm,20.9s								
RZN	**Rozhen**	**143.10**	**314**	*e*P	PKPbc	15 47 24.3	+0.1		
HERR	**Herculane**	**143.12**	**320**	⇑P	PKPbc	15 47 23.5	-0.4		
PGB	**Panagyurishte**	**143.13**	**315**	*e*P	PKPbc	15 47 24.6	+0.5		
BZS	**Buzias**	**143.21**	**321**	⇑P	PKPab	15 47 22.2	-0.6		
BZS	**Buzias**	**143.21**	**321**	⇑PKHKP	PKPpre	15 47 22.2			
JAVC	**Velka Javorina**	**143.40**	**328**	*e*PKP	PKPbc	15 47 25.6	+1.0		
MDVR	**Moldovita**	**143.60**	**320**	⇓P	PKPbc	15 47 24.9	-0.4		
FLTG	**Flechtingen**	**143.62**	**337**	*e*PKPbc	PKPab	15 47 24.1	-0.1		
	baz=35,slow=3.2								
FLTG				*ep*PKPbc	pPKPdf	15 47 34.8	-3.8		
VRAC	**Vranov**	**143.62**	**329**	*e*PKP	PKPbc	15 47 25.2	0.0		
VRAC	**Vranov**	**143.62**	**329**	⇓P	PKPbc	15 47 25.1	-0.1		
VRAC	**Vranov**	**143.62**	**329**	⇓PKIKP	PKPbc	15 47 25.1	-0.1		
PLNA	**Plana**	**143.64**	**315**	*e*P	**PKPdf**	**15 47 26.9**	**-1.2**		
PVCC	**Panska Ves**	**143.68**	**333**	*e*PKIKP	PKPbc	15 47 25.8	+0.5		
PVCC				*e*		15 47 35.5			
PVCC				MLR	MLR				
	comp=Z,2µm,24.1s								
PVCC	**Panska Ves**	**143.68**	**333**	*e*PKP	PKPbc	15 47 25.8	+0.5		
PVCC				*ep*PKP	pPKPdf	15 47 35.5	-3.4		
PVCC				AMS	AMS	16 48 00.0			
	comp=Z,2µm,24.1s								
BRG	**Berggiesshubel**	**143.69**	**333**	*e*PKPbc	**PKPdf**	**15 47 26.6**	**-1.2**		
	baz=35,slow=3.2								
BRG				*ep*PKPbc	**pPKPdf**	**15 47 37.3**	**-1.6**		
BRG	**Berggiesshubel**	**143.69**	**333**	*i* PKP	**PKPdf**	**15 47 27.2**	**-0.6**		
BRG				Amp		15 47 28.5			
	comp=Z,154nm,1.2s								
BRG				pPKP	**pPKPdf**	**15 47 37.5**	**-1.4**		
BRG				Amp		15 47 38.9			
	comp=Z,184nm,1.1s								
BRG	**Berggiesshubel**	**143.69**	**333**	PP	PP	15 50 43.0	+2.9		
VTS	**Vitosha**	**143.70**	**316**	*e*P	PKPbc	15 47 26.9	+1.1		
SHEL	**Horse Pasture**	**143.75**	**188**		**PKPdf**	**15 47 27.8**	**-1.2**		
SHEL	**Horse Pasture**	**143.75**	**188**	PKIKP	**PKPdf**	**15 47 27.8**	**-1.2**		
CLL	**Collm**	**143.75**	**335**	IAMs_20	IAMs_20	16 51 55.1			
	comp=Z,1µm,22.0s								
CLL	**Collm**	**143.75**	**335**	*i* PKIKP	**PKiKP**	**15 47 35.7**	**+4.4**		
CLL				*e*		15 50 41.0			
CLL				pmax	pmax				
	comp=Z,179nm,1.1s								
CLL				MLR	MLR				
	comp=Z,1µm,22.6s								
CLL	**Collm**	**143.75**	**335**	*e*PKPbc	PKPab	15 47 24.8	+0.1		
	baz=35,slow=3.2								
CLL				*ep*PKPbc	pPKPdf	15 47 35.4	-3.6		
SMOL	**Smolenice**	**143.75**	**328**	*e*PKIKP	**PKPdf**	**15 47 27.3**	**-0.7**		
SMOL				*e*		15 47 38.7			
MMB	**Musomishta**	**143.84**	**314**	*e*P	PKPbc	15 47 26.6	+0.5		
RICC	**Richard**	**143.87**	**333**	*e*PKP	PKPab	15 47 23.6	-1.6		
RICC				AMS	AMS	16 50 00.0			
	comp=Z,1µm,23.1s								
KRUC	**Moravsky**	**143.89**	**329**	*e*PKP	PKPbc	15 47 26.1	+0.1		
RETH	**Rethem/Aller,**	**143.94**	**339**	*e*PKPbc	PKPab	15 47 25.6	+0.3		
	baz=35,slow=3.2								
RETH				*ep*PKPbc	pPKPdf	15 47 36.3	-2.9		
ASSE	**Asse, Remlinge**	**143.99**	**337**	*e*PKPbc	PKPbc	15 47 25.9	-0.2		
	baz=35,slow=3.2								
ASSE				*ep*PKPbc	pPKPdf	15 47 36.4	-2.9		
PRA	**Prague**	**144.08**	**332**	*e*PKIKP	**PKiKP**	**15 47 37.3**	**+5.3**		
PRA				MLR	MLR				
	comp=Z,2µm,23.7s								
PRA	**Prague**	**144.08**	**332**	*e*PKP	**PKiKP**	**15 47 37.3**	**+5.3**		
PRA				AMS	AMS	16 47 50.0			
	comp=Z,2µm,23.7s								
ZST	**Bratislava**	**144.12**	**328**	*e*PKIKP	**PKPdf**	**15 47 29.4**	**+0.8**		
KKB	**Krupnik**	**144.13**	**315**	*e*P	**PKPdf**	**15 47 28.0**	**-0.9**		
TREC	**Trest**	**144.16**	**330**	*e*PKIKP	PKPbc	15 47 26.9	+0.1		
TREC				*e*		15 47 36.8			
TREC	**Trest**	**144.16**	**330**	*e*PKP	PKPbc	15 47 26.9	+0.1		
TREC				*ep*PKP	pPKPdf	15 47 36.8	-3.0		
BOVS	**Bovan**	**144.19**	**318**	⇑P	PKPbc	15 47 27.3	+0.2		
RCBR	**Riachuelo**	**144.26**	**134**		**PKPab**	**15 47 25.8**	**-2.1**		
RCBR	**Riachuelo**	**144.26**	**134**	IAMs_20	IAMs_20	16 45 27.1			
	comp=Z,1µm,21.0s								
RCBR	**Riachuelo**	**144.26**	**134**	PKHKP	PKPpre	15 47 25.8			
RCBR				MLR	MLR				
	comp=Z,1µm,21.0s								
RCBR	**Riachuelo**	**144.26**	**134**	*e*P	**PKPab**	**15 47 27.1**	**-0.7**		
NEUB	**Neuenburg**	**144.31**	**336**	*e*PKPbc	PKPbc	15 47 27.1	-0.1		
	baz=35,slow=3.2								
NEUB				*ep*PKPbc	pPKPdf	15 47 37.9	-2.1		
EKA	**Eskdalemuir Ar**	**144.43**	**352**	PKP	**PKPab**	**15 47 26.6**	**-0.5**		
	comp=Z,7.6nm,0.6s,baz=354,slow=2.7,SNR=20								
ESK	**Eskdalemuir**	**144.45**	**353**		PKPbc	15 47 27.7	+0.2		
ESK	**Eskdalemuir**	**144.45**	**353**	PKIKP	PKPbc	15 47 27.7	+0.2		
MORH	**Mrgy, Hungar**	**144.57**	**324**	⇑ *i*P	PKPbc	15 47 28.4	+0.2		
MORH	**Mrgy, Hungar**	**144.57**	**324**	⇑P	PKPbc	15 47 28.8	+0.6		
TANN	**Tannenbergstha**	**144.66**	**334**	*e*PKPbc	PKPbc	15 47 28.4	0.0		
	baz=35,slow=3.2								
TANN				*ep*PKPbc	pPKPdf	15 47 38.8	-1.8		
GTTG	**Gottingen**	**144.72**	**337**	*e*PKPbc	PKPbc	15 47 28.7	+0.2		
	baz=35,slow=3.2								
GTTG				*ep*PKPbc	pPKPdf	15 47 39.2	-1.5		
PLN	**Plauen**	**144.72**	**334**	*e*PKPbc	PKPbc	15 47 28.6	+0.1		
	baz=35,slow=3.2								
PLN				*ep*PKPbc	pPKPdf	15 47 39.2	-1.6		
VAY	**Valandovo**	**144.73**	**314**	⇑ *i*P	**PKPab**	**15 47 28.5**	**-0.2**		
EDMD	**Edmundbyers**	**144.76**	**351**	*e*P	**PKPab**	**15 47 28.2**	**-0.2**		
NEWG	**New Galloway**	**144.76**	**353**	*e*P	**PKPab**	**15 47 28.1**	**-0.3**		
MOX	**Moxa**	**144.82**	**335**	*e*PKPbc	**PKPab**	**15 47 28.8**	**0.0**		
	baz=35,slow=3.2								
MOX				*ep*PKPbc	**pPKPdf**	**15 47 39.4**	**-1.5**		
MOX				*e*L	L	16 55 04.5			
	comp=Z,908nm,21.1s								
IBBN	**Ibbenburen**	**144.83**	**340**	*e*PKPbc	**PKPab**	**15 47 28.6**	**-0.1**		
	baz=35,slow=3.2								
IBBN				*ep*PKPbc	**pPKPdf**	**15 47 39.4**	**-1.4**		
RONA	**Rosalia, Austr**	**144.86**	**328**	*e*PKP	**PKPdf**	**15 47 29.6**	**-0.4**		
	comp=Z,1µm,1.6s,SNR=184								
RONA				*i* pPKP	**pPKPdf**	**15 47 40.2**	**-0.9**		
	comp=Z,3µm,2.5s								
CONA	**Conrad Observa**	**144.92**	**328**	*i* PKP	PKPbc	15 47 29.6	+0.2		
	comp=Z,2µm,1.9s,SNR=188								
CONA				*i* pPKP	pPKPdf	15 47 40.0	-1.3		
	comp=Z,2µm,1.8s								
CLGH	**Cloghs, Cushen**	**144.97**	**355**	*e*P	**PKPdf**	**15 47 30.1**	**+0.2**		
GDLE	**Glaisdale, N Y**	**144.98**	**350**	*e*P	**PKPdf**	**15 47 29.6**	**-0.3**		
GAL1	**Galloway**	**145.06**	**354**	*e*P	**PKPab**	**15 47 29.5**	**0.0**		
IDGL	**Inch Island, C**	**145.07**	**357**	PKP	**PKPbc**	**15 47 29.1**	**-0.4**		
IDGL	**Inch Island, C**	**145.07**	**357**	*e*P	**PKPbc**	**15 47 29.2**	**-0.2**		
MANZ	**Manzenberg**	**145.13**	**334**	*e*PKPbc	**PKPab**	**15 47 30.1**	**+0.1**		
	baz=35,slow=3.2								
MANZ				*ep*PKPbc	pPKPab	15 47 40.7	-0.1		
KHC	**Kasperske Hory**	**145.14**	**332**	*e*PKIKP	**PKPbc**	**15 47 28.8**	**-1.2**		
KHC				*e*		15 47 40.7			
KHC				*e*		15 50 50.6			
KHC				MLR	MLR				
	comp=Z,2µm,24.3s								
KHC	**Kasperske Hory**	**145.14**	**332**	*e*PKP	**PKPbc**	**15 47 28.8**	**-1.2**		
KHC				*ep*PKP	pPKPab	15 47 40.7	-0.2		
KHC				*e*PP	**PP**	**15 50 50.6**	**+1.7**		
KHC				*ex*	x	16 00 18.0			
KHC				*ex*	x	16 00 49.0			
KHC				AMS	AMS	16 50 00.0			
	comp=Z,2µm,24.3s								
SKO	**Skopje**	**145.18**	**316**	*i* P	**PKPab**	**15 47 30.5**	**+0.1**		
ROTZ	**Rotzenmuhle**	**145.26**	**334**	*e*PKPbc	**PKPdf**	**15 47 30.7**	**+0.1**		
	baz=35,slow=3.2								
ROTZ				*ep*PKPbc	pPKPab	15 47 40.9	-0.3		
GEC2	**GERESS Array S**	**145.30**	**331**	*e*PKPbc	**PKPbc**	**15 47 30.6**	**0.0**		
	baz=35,slow=3.2								
GEC2				*ep*PKPbc	pPKPab	15 47 41.0	-0.4		
GERES	**GERESS Array B**	**145.30**	**331**	PKP

MOTA	**Moosalm**	**147.58**	**332**	*e*PKP	**PKPdf**	**15 47 33.8**	**-1.0**
	comp=Z,233nm,1.0s,SNR=76						
MOTA				*i* pPKP	**pPKPbc**	**15 47 47.3**	**-1.1**
	comp=Z,656nm,1.1s						
RETA	**Reutte**	**147.62**	**332**	*e*PKP	**PKPdf**	**15 47 34.2**	**-0.5**
	comp=Z,125nm,1.1s,SNR=53						
RETA				*i* pPKP	**pPKPbc**	**15 47 47.7**	**-0.8**
	comp=Z,287nm,1.1s						
WLF	**Walferdange**	**147.62**	**339**	IAMs_20	IAMs_20	16 54 15.2	
	comp=Z,2µm,22.0s						
WLF	**Walferdange**	**147.62**	**339**	*d*PKP	**PKPbc**	**15 47 37.9**	**+0.7**
WLF				*dp*PKP	**pPKPbc**	**15 47 48.3**	**0.0**
WLF	**Walferdange**	**147.62**	**339**	*e*PKPbc	**PKPbc**	**15 47 37.9**	**+0.7**
	baz=35,slow=3.2						
WLF				*ep*PKPbc	**pPKPbc**	**15 47 48.5**	**+0.2**
SQTA	**Sankt Quirin**	**147.62**	**332**	*i* PKP	**PKPdf**	**15 47 34.1**	**-0.7**
	comp=Z,424nm,1.3s,SNR=75						
SQTA				*i* pPKP	**pPKPbc**	**15 47 48.0**	**-0.6**
	comp=Z,469nm,0.9s						
STAL	**STALIGIAL**	**147.63**	**329**	IAMs_20	IAMs_20	16 58 51.2	
	comp=Z,960nm,20.0s						
MCH1	**Michaelchurch**	**147.66**	**351**	*e*P	**PKPbc**	**15 47 36.9**	**-0.4**
LPW	**Lampeter**	**147.70**	**352**	*e*P	**PKPbc**	**15 47 36.9**	**-0.5**
IWEX	**Carrickbyrne,**	**147.71**	**355**	PKP	**PKPbc**	**15 47 36.9**	**-0.5**
IWEX	**Carrickbyrne,**	**147.71**	**355**	*e*P	**PKPbc**	**15 47 36.9**	**-0.5**
DOU	**Dourbes**	**147.74**	**341**	*d*PKPdf	**PKPdf**	**15 47 34.4**	**-0.3**
DOU				*d*PKP	**PKPbc**	**15 47 37.9**	**+0.3**
STRD	**Stroud**	**147.75**	**350**	*e*P	**PKPbc**	**15 47 37.1**	**-0.4**
MONM	**Monmouth**	**147.79**	**351**	*e*P	**PKPbc**	**15 47 37.2**	**-0.4**
SWN1	**Swindon**	**147.94**	**349**	*e*P	**PKPbc**	**15 47 38.3**	**+0.2**
BFO	**Black Forest**	**147.96**	**336**		**PKPbc**	**15 47 37.5**	**-0.8**
BFO	**Black Forest**	**147.96**	**336**	PKP2	**PKPbc**	**15 47 37.5**	**-0.8**
BFO				MLR	MLR		
	comp=Z,600nm,20.0s						
BFO	**Black Forest**	**147.96**	**336**	*e*PKPbc	**PKPbc**	**15 47 38.1**	**-0.2**
	baz=35,slow=3.2						
BFO				*ep*PKPbc	**pPKPbc**	**15 47 48.5**	**-0.8**
FETA	**Feichten**	**147.99**	**332**	*e*PKP	**PKPdf**	**15 47 34.9**	**-0.6**
	comp=Z,190nm,0.9s,SNR=80						
FETA				*i* pPKP	**pPKPbc**	**15 47 49.2**	**-0.4**
	comp=Z,605nm,0.9s						
WOL	**Wolverton**	**148.03**	**349**	*e*P	**PKPbc**	**15 47 38.0**	**-0.3**
HMNX	**Herstmonceux**	**148.14**	**347**	*e*P	**PKPbc**	**15 47 38.9**	**+0.3**
DAVA	**Damuels**	**148.16**	**333**	*e*PKP	**PKPdf**	**15 47 34.8**	**-0.9**
	comp=Z,1µm,2.3s,SNR=34						
DAVA				*ep*PKP	**pPKPbc**	**15 47 49.1**	**-0.9**
	comp=Z,232nm,0.8s						
VAL	**Valentia**	**148.30**	**359**	PKP	**PKPbc**	**15 47 38.3**	**-0.6**
ECH	**Echery**	**148.50**	**337**	IAMs_20	IAMs_20	16 56 40.5	
	comp=Z,930nm,21.0s						
FUORN	**Ofenpass-Fuorn**	**148.50**	**332**	IAMs_20	IAMs_20	17 00 16.1	
	comp=Z,875nm,20.0s						
TUE	**Stuetta**	**149.02**	**332**	IAMs_20	IAMs_20	16 53 12.7	
	comp=Z,847nm,22.0s						
DYA	**Yadsworthy**	**149.32**	**351**	*e*P	**PKPbc**	**15 47 41.1**	**-0.5**
ACER	**Acerenza**	**149.33**	**318**		**PKPbc**	**15 47 41.2**	**-0.8**
GUMA	**Gualdo di Mace**	**149.50**	**324**	IAMs_20	IAMs_20	16 55 08.0	
	comp=Z,1µm,22.0s						
FDMO	**Fiordimonte**	**149.65**	**324**	IAMs_20	IAMs_20	16 55 11.0	
	comp=Z,1µm,22.0s						
TIP	**Timpagrande**	**149.66**	**315**	⇑P	**PKPbc**	**15 47 43.3**	**+0.4**
CCA1	**Carnmenellis**	**149.73**	**353**	*e*P	**PKPbc**	**15 47 42.4**	**-0.2**
SENIN	**Lac Senin/Sane**	**149.97**	**335**	IAMs_20	IAMs_20	17 10 32.5	
	comp=Z,1µm,20.0s						
CESX	**Cesi**	**150.21**	**324**	IAMs_20	IAMs_20	17 00 59.8	
	comp=Z,1µm,20.0s						
JSA	**Saint Aubin**	**150.24**	**349**	*e*P	**PKPbc**	**15 47 43.3**	**-0.6**
MSSA	**Maissana**	**150.59**	**330**	IAMs_20	IAMs_20	17 08 20.4	
	comp=Z,1µm,21.0s						
CEL	**Celeste**	**150.71**	**314**	IAMs_20	IAMs_20	17 09 02.4	
	comp=Z,866nm,21.0s						
SSB	**Saint Sauveur**	**151.94**	**337**	IAMs_20	IAMs_20	17 03 31.6	
	comp=Z,1µm,19.0s						
WDD	**Wied Dalam**	**152.85**	**310**	IAMs_20	IAMs_20	17 03 21.4	
	comp=Z,993nm,20.0s						
EDA	**Edea**	**153.87**	**234**		**PKPdf**	**15 47 43.4**	**-1.9**
KEST	**Kesra**	**156.48**	**315**	PKP	**PKPdf**	**15 47 47.3**	**-1.0**
	comp=Z,3,8nm,0.9s,baz=56,slow=3.6,SNR=2.1						
KEST				PKPab	**PKPab**	**15 48 16.9**	**-0.1**
	comp=Z,19nm,0.9s,baz=346,slow=0.8,SNR=5.2						
PBRG	**Braganca**	**158.17**	**352**	*e*PKPdf	**PKPdf**	**15 47 50.2**	**0.0**
PBRG				*et*x	tx	15 48 34.8	
PGAV	**Gavieira, Arco**	**158.18**	**355**	*e*PKPdf	**PKPdf**	**15 47 51.6**	**+1.3**
PGAV				*e*PP	**PP**	**15 52 04.6**	**+1.7**
PGAV				*e*LR	LR	16 43 16.9	
PGAV				*i* IAMs_20	IAMs_20	16 58 39.3	
	comp=Z,872nm,22.0s						
POLO	**Lamas de Olo**	**158.72**	**354**	*e*PKPdf	**PKPdf**	**15 47 51.0**	**+0.1**
POLO				*et*x	tx	15 48 37.3	
PVRL	**Vila Real**	**158.81**	**354**	*et*x	tx	15 48 37.2	
MVO	**Moncorvo**	**158.84**	**352**	*e*PKPdf	**PKPdf**	**15 47 50.7**	**-0.3**
MVO				*et*x	tx	15 48 13.8	
MVO				*e*PP	**PP**	**15 52 10.5**	**+4.0**
MVO				*e*LR	LR	16 43 43.6	
MVO				*i* IAMs_20	IAMs_20	17 02 09.4	
	comp=Z,2µm,20.0s						
PVIS	**Viseu**	**159.38**	**354**	*e*PKPdf	**PKPdf**	**15 47 50.7**	**-1.0**
PVIS				*et*x	tx	15 48 39.6	
MTE	**Manteigas**	**159.65**	**353**	*e*PKPdf	**PKPdf**	**15 47 53.1**	**+1.0**
MTE				*et*x	tx	15 48 42.1	
MTE				*e*PP	**PP**	**15 52 15.4**	**+4.5**
MTE				*e*LR	LR	16 43 12.4	
MTE				*i* IAMs_20	IAMs_20	17 01 35.0	
	comp=Z,2µm,20.0s						
ESDC	**Sonseca Array**	**159.70**	**345**		**PKPdf**	**15 47 50.6**	**-1.5**
ESDC	**Sonseca Array**	**159.70**	**345**	PKP	**PKPdf**	**15 47 51.0**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=75,slow=7.1,SNR=5.1						
ESDC				PKPab	**PKPab**	**15 48 30.9**	**+0.2**
	comp=Z,6.6nm,1.1s,baz=28,slow=3.3,SNR=7.3						
ESDC				PP	**PP**	**15 52 08.4**	**-3.0**
	comp=Z,1.9nm,0.9s,baz=0.6,slow=6.2,SNR=4.2						
PAB	**San Pablo**	**159.92**	**345**		**PKPdf**	**15 47 51.1**	**-1.3**
PAB	**San Pablo**	**159.92**	**345**	PKIKP	**PKPdf**	**15 47 51.1**	**-1.3**
PAB				MLR	MLR		
	comp=Z,2µm,21.0s						
COI	**Coimbra**	**159.93**	**355**	*e*PKPdf	**PKPdf**	**15 47 53.9**	**+1.7**
COI				*et*x	tx	15 48 41.6	
PCAS	**Casmilo, Conde**	**160.09**	**355**	*e*PKPdf	**PKPdf**	**15 47 53.9**	**+1.5**
PCAS				*et*x	tx	15 48 42.2	
PSARD	**Sardoal**	**160.51**	**354**	*e*PKPdf	**PKPdf**	**15 47 52.1**	**-0.8**
PMRV	**Marv??o**	**160.59**	**352**	*e*PKPdf	**PKPdf**	**15 47 53.6**	**+0.6**
PMRV				*e*PP	**PP**	**15 52 17.8**	**+1.9**
PMRV				*e*LR	LR	16 44 10.6	
PMRV				*i* IAMs_20	IAMs_20	17 02 06.8	
	comp=Z,1µm,22.0s						
PMTG	**Montargil**	**161.04**	**354**	*e*PKPdf	**PKPdf**	**15 47 53.9**	**+0.4**
PMTG				*et*x	tx	15 48 47.8	
PESTR	**Estremoz**	**161.17**	**352**	*e*PKPdf	**PKPdf**	**15 47 54.2**	**+0.5**
PESTR				*et*x	tx	15 48 47.0	
PMAFR	**Mafra**	**161.24**	**356**	*e*PKPdf	**PKPdf**	**15 47 53.9**	**+0.2**
PMAFR				*et*x	tx	15 48 48.4	
PARRA	**Arraiolos**	**161.37**	**356**	*et*x	tx	15 48 47.9	
LIS	**Lisbon**	**161.47**	**356**	*e*PKPdf	**PKPdf**	**15 47 54.7**	**+0.8**
LIS				IAMs_20	IAMs_20	16 57 23.6	
	comp=Z,3µm,22.4s						
LIS	**Lisbon**	**161.47**	**356**	*e*PKIKP	**PKPdf**	**15 47 54.7**	**+0.8**
EVO	**Evora**	**161.55**	**353**	*e*PKPdf	**PKPdf**	**15 47 53.9**	**-0.1**
EVO				*et*x	tx	15 48 46.0	
PBAR	**Barrancos**	**161.77**	**350**	*e*PKPdf	**PKPdf**	**15 47 55.8**	**+1.5**
PBAR				*et*x	tx	15 48 50.7	
MESJ	**Messejana**	**162.26**	**353**	*e*PKPdf	**PKPdf**	**15 47 55.5**	**+0.7**
MESJ				*e*PP	**PP**	**15 52 27.6**	**+2.7**
MESJ				IAMs_20	IAMs_20	17 03 51.0	
	comp=Z,2µm,26.7s						
MESJ	**Messejana**	**162.26**	**353**	*e*PKPdf	**PKPdf**	**15 47 56.0**	**+1.1**
MESJ				*et*x	tx	15 48 53.6	
MESJ	**Messejana**	**162.26**	**353**	*e*PKIKP	**PKPdf**	**15 47 55.5**	**+0.7**
MESJ				*e*		15 52 27.5	
PCVE	**Castro Verde**	**162.44**	**353**	*e*PKPdf	**PKPdf**	**15 47 55.8**	**+0.8**
PCVE				*et*x	tx	15 48 53.1	
PTEO	**Sao Teotonio**	**162.60**	**354**	*e*PKPdf	**PKPdf**	**15 47 56.0**	**+0.8**
PVAQ	**Vaqueiros**	**162.63**	**352**	*e*PKPdf	**PKPdf**	**15 47 55.7**	**+0.5**
PVAQ				*et*x	tx	15 48 54.0	
PVAQ				*e*PP	**PP**	**15 52 30.9**	**+4.2**
PVAQ				*e*LR	LR	16 49 05.5	
PVAQ				*i* IAMs_20	IAMs_20	17 03 36.1	
	comp=Z,2µm,22.0s						
PBDV	**Barranco-do-Ve**	**162.81**	**352**	*e*PKPdf	**PKPdf**	**15 47 57.8**	**+2.3**
MORF	**Marmelete**	**162.83**	**354**	*e*PKPdf	**PKPdf**	**15 47 56.4**	**+0.9**
MORF				*e*PP	**PP**	**15 52 30.6**	**+2.7**
MORF				IAMs_20	IAMs_20	17 01 43.7	
	comp=Z,1µm,21.0s						
MORF	**Marmelete**	**162.83**	**354**	*e*PKPdf	**PKPdf**	**15 47 58.3**	**+2.9**
MORF				*et*x	tx	15 48 56.5	
MORF	**Marmelete**	**162.83**	**354**	*e*PKIKP	**PKPdf**	**15 47 56.4**	**+0.9**
MORF				*e*		15 52 30.6	
PFVI	**Vila Bisbo**	**163.02**	**355**	*e*PKPdf	**PKPdf**	**15 47 57.2**	**+1.6**
PFVI				*et*x	tx	15 48 57.7	
DBIC	**Dimbokro**	**165.39**	**204**	PKP	**PKPdf**	**15 47 57.4**	**-1.0**
	comp=Z,5.7nm,1.0s,baz=186,slow=0.5,SNR=3.4						
DBIC				PKPab	**PKPab**	**15 48 56.5**	**+0.4**
	comp=Z,36nm,1.0s,baz=172,slow=3.6,SNR=11						
TORD	**Torodi Ar. Bea**	**166.14**	**242**		**PKPdf**	**15 47 57.4**	**-1.6**
TORD	**Torodi Ar. Bea**	**166.14**	**242**	PKP	**PKPdf**	**15 47 58.2**	**-0.8**
	comp=Z,4.3nm,1.0s,baz=66,slow=3.5,SNR=20						
TORD				PKPab	**PKPab**	**15 48 59.8**	**+0.1**
	comp=Z,16nm,1.0s,baz=106,slow=4.7,SNR=9.3						
PMOZ	**Porto Moniz, M**	**166.17**	**23**	*e*LR	LR	16 49 27.5	
PMOZ				*i* IAMs_20	IAMs_20	17 16 04.2	
	comp=Z,974nm,20.0s						
MDT	**Midelt**	**166.25**	**338**	PKP	**PKPdf**	**15 47 57.9**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=0.0,slow=2.0,SNR=7.6						
MDT				PKPab	**PKPab**	**15 48 59.2**	**-0.4**
	comp=Z,8.7nm,0.9s,baz=42,slow=6.3,SNR=6.1						
MD01	**Midelt array s**	**166.26**	**338**		**PKPdf**	**15 47 57.4**	**-1.4**
PMAR	**Madeira**	**166.36**	**22**	*e*PKPdf	**PKPdf**	**15 48 00.9**	**+2.1**

*IDC **06** 15:30:01.5±6.6,22.°09S×176.°46W,h376km±77km,mb3.7/3, mbtmp4.4/3,Error ellipse: s-maj=103.3km s-min=34.2km az=166.0*

ISC 06 15:30:00.0±1.2,**21.°9S**±0.°2×**176.°6W**±0.°3,**h350km,n9,** σ1s**84/8,mb3.9/3,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.41**	**189**	P	**Pn**	**15 31 47.2**	**0.0**
	1µm,0.3s,baz=64,slow=20,SNR=7.1						
ASAR	**Alice Springs**	**45.49**	**258**	P	**P**	**15 37 47.1**	**+1.1**
	3.9nm,0.6s,baz=97,slow=7.9,SNR=1.0						
	3.9nm,0.6s						
WRA	**Warramunga Arr**	**45.72**	**263**	P	**P**	**15 37 47.2**	**-0.6**
	7.0nm,0.9s,baz=102,slow=8.0,SNR=8.9						
	7.0nm,0.9s						
ILAR	**Eielson Array**	**89.39**	**12**	P	**P**	**15 42 18.1**	**+1.0**
	0.9nm,0.5s,baz=208,slow=5.1,SNR=0.5						
	0.9nm,0.5s						
BVAR	**Borovoye Array**	**120.99**	**320**	PKP	**PKPdf**	**15 48 10.1**	**-0.9**
	1.2nm,0.4s,baz=97,slow=2.6,SNR=5.4						
HFS	**Hagfors**	**141.12**	**352**	PKhKP	PKPpre	15 48 43.4	
	8.8nm,1.0s,baz=64,slow=3.4,SNR=1.9						
AKASG	**Malin Array Be**	**144.87**	**331**	PKPbc	**PKPdf**	**15 48 52.6**	**-2.9**
	3.1nm,0.4s,baz=44,slow=4.2,SNR=12						
BRTR	**Keskin Array B**	**148.75**	**312**	PKPbc	**PKPdf**	**15 49 04.8**	**+2.2**
	2.5nm,0.9s,baz=69,slow=3.9,SNR=2.1						
MMAI	**Mount Meron Ar**	**149.64**	**298**	PKPbc	**PKPbc**	**15 49 08.7**	**-0.5**
	1.6nm,0.4s,baz=90,slow=4.3,SNR=6.4						

*IDC **06** 15:47:30.7±24.0,23.°08S×179.°48W,h475km±246km, mb2.7/3,mbtmp3.6/3,Error ellipse: s-maj=161.4km s-min=136.9km az=146.0*
*NOU **06** 15:47:38.7,23.°79S×179.°82W,h481km,mb4.3/10,South of Fiji Islands*

ISC 06 15:47:37.1±1.1,**23.°7S**±0.°1×**179.°9W**±0.°2,**h500km,n17,** σ2s**40/16,mb3.3/3,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**5.54**	**11**	P	**P**	**15 49 11.5**	**+2.4**
MSVF	**Nonsavu**	**6.22**	**342**	P	**P**	**15 49 18.1**	**+2.3**
TAVE	**Taveuni**	**6.95**	**0**	P	**P**	**15 49 24.8**	**+1.9**
DGTI	**Dogotuki**	**7.36**	**358**	P	**P**	**15 49 28.4**	**+1.3**
URZ	**Urewera**	**14.74**	**189**	P	**P**	**15 50 45.4**	**+1.1**
BKZ	**Black Stump Fm**	**15.72**	**190**	P	**P**	**15 50 54.7**	**0.0**
QRZ	**Quartz Range**	**18.21**	**199**	P	**P**	**15 51 22.2**	**+2.9**
KHZ	**Kahutara**	**19.44**	**195**	P	**P**	**15 51 32.6**	**+2.2**
RPZ	**Rata Peaks**	**21.30**	**198**	P	**P**	**15 51 50.0**	**+2.6**
JCZ	**Jackson Bay**	**22.34**	**202**	P	**P**	**15 51 58.1**	**+1.3**
STKA	**Stephens Creek**	**34.85**	**248**	P	**P**	**15 53 46.4**	**+0.6**
	1.9nm,0.8s,baz=74,slow=7.4,SNR=1.4						
	1.9nm,0.8s						
ASAR	**Alice Springs**	**42.12**	**260**	P	**P**	**15 54 44.5**	**-0.6**
	0.4nm,1.0s,baz=101,slow=6.9,SNR=6.8						
	0.4nm,1.0s						
WRA	**Warramunga Arr**	**42.47**	**266**	P	**P**	**15 54 46.4**	**-1.5**
	0.3nm,0.3s,baz=102,slow=8.6,SNR=2.4						
	0.3nm,0.3s						
HFS	**Hagfors**	**142.35**	**349**	PKhKP	PKPpre	16 06 02.8	
	1.1nm,0.3s,baz=66,slow=3.5,SNR=15						
AKASG	**Malin Array Be**	**144.83**	**327**	PKP	**PKPdf**	**16 06 11.1**	**-5.4**
	0.4nm,0.4s,baz=46,slow=3.6,SNR=4.6						
MMAI	**Mount Meron Ar**	**147.66**	**295**	PKPbc	**PKPdf**	**16 06 21.5**	**-0.4**
	0.4nm,0.3s,baz=110,slow=3.8,SNR=2.2						
EKA	**Eskdalemuir Ar**	**148.31**	**3**	PKPbc	**PKPdf**	**16 06 20.2**	**-1.9**
	1.9nm,0.8s,baz=334,slow=2.4,SNR=1.6						

*IDC **06** 15:54:56.4±6.1,21.°18N×143.°12E,h123km±56km, mb3.5/11,mbtmp3.9/12,Error ellipse: s-maj=27.8km s-min=15.0km az=88.0*

ISC 06 15:54:53.8±1.0,**21.°2N**±0.°1×**143.°1E**±0.°2,**h100km,n19,** σ0s**91/13,mb4.0/11,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.89**	**345**	P	**Pn**	**15 58 31.0**	**-0.8**
	2.0nm,0.8s,baz=112,slow=11,SNR=6.2						
KSRS	**Korea Array**	**20.90**	**324**	P	**P**	**15 59 29.9**	**+1.7**
	1.5nm,0.8s,baz=150,slow=8.6,SNR=6.2						
	1.5nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**22.30**	**90**	T	T	16 21 27.8	
	baz=278,slow=75,SNR=55						
H11N2	**WAKE ISLAND Hy**	**22.30**	**89**	T	T	16 21 24.1	
	baz=278,slow=75,SNR=30						
H11S3	**WAKE ISLAND Hy**	**22.30**	**93**	T	T	16 21 25.8	
	baz=281,slow=75,SNR=63						
H11S1	**WAKE ISLAND Hy**	**22.31**	**93**	T	T	16 21 29.2	
	baz=281,slow=75,SNR=52						
H11N3	**WAKE ISLAND Hy**	**22.31**	**90**	T	T	16 21 30.7	
	baz=278,slow=75,SNR=33						
H11S2	**WAKE ISLAND Hy**	**22.32**	**93**	T	T	16 21 28.4	
	baz=281,slow=75,SNR=57						
WRA	**Warramunga Arr**	**41.78**	**192**	P	**P**	**16 02 33.6**	**+0.1**
	0.8nm,0.6s,baz=14,slow=8.9,SNR=5.2						
	0.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**42.64**	**205**	P	**P**	**16 02 40.5**	**-0.2**
	2.4nm,0.9s,baz=27,slow=9.0,SNR=3.0						
	2.4nm,0.9s						
ASAR	**Alice Springs**	**45.48**	**192**	P	**P**	**16 03 03.5**	**+0.3**
	0.3nm,0.6s,baz=12,slow=9.1,SNR=6.8						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**54.59**	**322**	P	**P**	**16 04 11.4**	**-0.3**
	0.4nm,0.3s,baz=120,slow=8.5,SNR=2.7						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**55.02**	**313**	P	**P**	**16 04 14.9**	**-0.1**
	0.6nm,0.8s,baz=90,slow=8.9,SNR=4.3						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**57.87**	**317**	P	**P**	**16 04 35.6**	**+0.5**
	3.1nm,0.7s,baz=95,slow=7.7,SNR=27						
	3.1nm,0.7s						
ILAR	**Eielson Array**	**62.51**	**27**	P	**P**	**16 05 07.0**	**+0.4**
	1.4nm,0.8s,baz=260,slow=5.5,SNR=15						
	1.4nm,0.8s						
BVAR	**Borovoye Array**	**63.03**	**320**	P	**P**	**16 05 10.6**	**+0.4**
	2.3nm,0.7s,baz=89,slow=6.4,SNR=9.5						
	2.3nm,0.7s						
DLBC	**Dease Lake**	**70.56**	**34**	P	**P**	**16 05 58.5**	**+0.5**
	5.4nm,0.4s,baz=270,slow=12,SNR=4.0						
KBZ	**Khabaz**	**82.69**	**314**	P	**P**	**16 07 06.6**	**+0.1**
	2.8nm,0.8s,baz=74,slow=3.5,SNR=5.1						
	2.8nm,0.8s						
FINES	**FINESS Array B**	**83.62**	**334**	P	**P**	**16 07 09.0**	**-1.9**
	1.1nm,0.6s,baz=62,slow=5.5,SNR=6.3						
	1.1nm,0.6s						

*TXNET **06** 15:55:09.0,31.°4N±0.°5×103.°1W±0.°4,h5km±1km,ML3.4/18, Error ellipse: s-maj=0.8km s-min=0.6km az=174.6,final*

NEIC 06 15:55:09.1±1.1,**31.°345N**±0.°008×**103.°09W**±0.°01, **h5km**±1**km,mb_Lg3.1/60,ML3.2/16,Error ellipse: s-maj=2.6km s-min=1.7km az=195.0,Western Texas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB15	**Southwest of C**	**0.13**	**179**	P	Pg	15 55 12.2	+0.4
TPB15				S	Sg	15 55 15.2	+1.5
TPB04	**Verhalen**	**0.22**	**225**	P	Pg	15 55 14.0	+0.5
TPB04				S	Sg	15 55 17.9	+1.5
TPB27	**North of Pyote**	**0.23**	**351**	P	Pg	15 55 14.2	+0.5
TPB27				S	Sg	15 55 18.3	+1.4
TPB16	**Coyonosa**	**0.26**	**213**	P	Pg	15 55 15.0	+0.8
TPB16				S	Sb	15 55 19.5	-1.6
MNHN	**Monahans**	**0.28**	**91**		Pg	15 55 14.9	+0.3
MNHN					Sg	15 55 19.5	+1.2
MNHN				IAML		15 55 20.2	
	2µm,0.6s						
MNHN	**Monahans**	**0.28**	**91**	P	Pg	15 55 14.9	+0.3
MNHN				S	Sg	15 55 19.5	+1.2
TPB06	**Permian Basin**	**0.32**	**340**	P	Pg	15 55 15.8	+0.4
TPB06				S	Sg	15 55 20.7	+1.0
PCOS	**Crockett Middl**	**0.37**	**280**		Pg	15 55 16.0	+0.6
PCOS					Sb	15 55 22.9	-1.4
PCOS	**Crockett Middl**	**0.37**	**280**		Pg	15 55 16.8	+0.6
PCOS					Sg	15 55 22.6	+1.6
PCOS	**Crockett Middl**	**0.37**	**280**	P	Pg	15 55 16.8	+0.6
PCOS				S	Sg	15 55 22.6	+1.6
PCOS	**Crockett Middl**	**0.37**	**280**	P	Pg	15 55 16.8	+0.6
PCOS				S	Sb	15 55 22.9	-1.4
LWM2	**Layne Water Mi**	**0.43**	**260**	P	Pg	15 55 17.8	+0.4
LWM2				S	Sb	15 55 24.8	-1.4
TPB03	**Saragosa**	**0.45**	**235**	P	Pg	15 55 18.4	+0.6
TPB03				S	Sg	15 55 25.0	+1.3
TPB05	**Hovey Rd**	**0.47**	**206**	P	Pg	15 55 18.6	+0.4
TPB05				S	Sb	15 55 27.1	-0.1
LWM1	**Layne Water Mi**	**0.48**	**256**	P	Pg	15 55 18.6	+0.3
LWM1				S	Sb	15 55 26.1	-1.4
TPB08	**Permian Basin**	**0.48**	**161**	P	Pg	15 55 19.1	+0.7
TPB08				S	Sb	15 55 26.7	-0.7
TPB07	**Mentone**	**0.55**	**295**	P	Pg	15 55 20.2	+0.5
TPB07				S	Sg	15 55 28.2	+1.3
TPB10	**Southeast of T**	**0.57**	**264**	P	Pg	15 55 20.1	-0.1
PECS	**Pecos**	**0.67**	**272**		Pg	15 55 21.5	-0.5
PECS				IAML		15 55 43.0	
	1µm,0.6s						
PECS	**Pecos**	**0.67**	**272**	P	Pg	15 55 21.5	-0.4
PECS				S	Sg	15 55 31.1	+0.5
TPB13	**Reeves - Culbe**	**0.68**	**288**	P	Pg	15 55 22.2	0.0
TPB13				S	Sb	15 55 32.3	-1.0
TPB01	**Permian Basin**	**0.72**	**236**	P	Pg	15 55 22.3	-0.6
TPB01				S	Sg	15 55 32.7	+0.5
TPB12	**Southwest of T**	**0.76**	**260**	P	Pg	15 55 23.1	-0.5
TPB12				S	Sg	15 55 33.6	+0.1
ODSA	**Odessa**	**0.90**	**31**		Pg	15 55 26.0	-0.4
ODSA	**Odessa**	**0.90**	**31**	P	Pg	15 55 25.9	-0.4
ODSA				S	Sg	15 55 38.6	+0.5
TMB01	**Midkiff**	**0.92**	**69**	P	Pg	15 55 26.7	0.0
TMB01				S	Sb	15 55 39.6	-0.5
TPB11	**China Draw**	**1.00**	**306**	S	Sg	15 55 41.3	+0.1
NM01	**Eunice**	**1.04**	**345**	S	Sg	15 55 42.8	+0.1
ALPN	**Alpine**	**1.08**	**206**		Pg	15 55 28.8	-1.0
ALPN	**Alpine**	**1.08**	**206**	P	Pg	15 55 29.1	-0.7
ALPN				S	Sg	15 55 43.4	-0.4
TPB09	**Culberson Coun**	**1.12**	**293**	P	Pg	15 55 28.7	-2.0
TPB09				S	Sg	15 55 44.7	-0.5
CLNB	**Carlsbad**	**1.14**	**324**	P	Pb	15 55 31.4	0.0
HTMS	**Hat Mesa**	**1.22**	**338**	P	Pg	15 55 32.2	-0.3
HTMS				S	Sb	15 55 48.8	+0.1
CLN7	**Carlsbad 7**	**1.23**	**330**		Pg	15 55 32.7	0.0
CLN7	**Carlsbad 7**	**1.23**	**330**	P	Pg	15 55 32.8	+0.1
TMB06	**Greenwood**	**1.27**	**60**	P	Pg	15 55 32.7	-0.7
TMB06			

FITZ Sn **Sn** **16 06 31.0 -0.7**
0.5nm,0.3s,baz=141,slow=14,SNR=5.9
1.1nm,0.3s
WRA **Warramunga Arr 12.11 163** Pn **Pn** **16 04 51.0 +0.9**
0.3nm,0.3s,baz=347,slow=13,SNR=5.1
WRA Sn **Sn** **16 07 02.9 -1.2**
0.8nm,0.3s,baz=347,slow=24,SNR=12
0.3nm,0.3s
ASAR **Alice Springs 15.57 168** Pn **Pn** **16 05 37.0 -0.2**
0.2nm,0.3s,baz=344,slow=14,SNR=15
ASAR Sn **Sn** **16 08 28.6 -0.1**
0.2nm,0.3s,baz=349,slow=25,SNR=5.0
0.5nm,0.5s
SONM **Songino Array 59.87 341** LR LR 16 39 23.6
comp=Z,660nm,18.8s,baz=182,slow=38
MKAR **Makanchi Array 69.62 327** P **P** **16 13 05.2 -0.7**
0.8nm,0.5s,baz=119,slow=7.2,SNR=13
0.8nm,0.5s
ZALV **Zalesovo Beam 73.01 334** P **P** **16 13 26.0 0.0**
0.4nm,0.4s,baz=134,slow=6.2,SNR=2.8
0.4nm,0.4s
KURBB **Kurchatov Arra 73.92 329** P **P** **16 13 31.0 -0.5**
0.9nm,0.2s,baz=122,slow=8.8,SNR=1.9
0.9nm,0.2s
BVAR **Borovoye Array 79.47 328** P **P** **16 14 03.0 +0.1**
0.8nm,0.8s,baz=101,slow=2.9,SNR=3.9
0.8nm,0.8s

*TXNET **06** 16:10:47.2, 31.4N±0.6×103.1W±0.6, h6km±1km, ML3.0/18, Error ellipse: s-maj=1.0km s-min=0.8km az=2.2, final*
NEIC 06 16:10:47.4±1.1, 31.353N±0.008×103.090W±0.006, h5km±1km, mb_Lg2.8/37, ML2.8/18, Error ellipse: s-maj=2.7km s-min=1.4km az=143.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
TPB15	**Southwest of C**	**0.14**	**178**	P		Pg	16 10 50.6	+0.3
TPB15				S		Sg	16 10 53.7	+1.5
TPB27	**North of Pyote**	**0.23**	**351**	P		Pg	16 10 52.4	+0.5
TPB27				S		Sg	16 10 56.5	+1.6
TPB04	**Verhalen**	**0.23**	**223**	P		Pg	16 10 52.4	+0.6
TPB04				S		Sg	16 10 57.5	+2.6
TPB16	**Coyonosa**	**0.27**	**211**	P		Pg	16 10 53.3	+0.7
TPB16				S		Sg	16 10 57.6	+1.4
MNHN	**Monahans**	**0.28**	**93**			Pg	16 10 53.0	0.0
MNHN						Sg	16 10 58.0	+1.4
MNHN					IAML		16 10 59.8	
	1μm,0.2s							
MNHN					IAML		16 11 00.7	
	1μm,0.3s							
MNHN	**Monahans**	**0.28**	**93**	P		Pg	16 10 53.2	+0.2
MNHN				S		Sg	16 10 58.0	+1.4
TPB06	**Permian Basin**	**0.31**	**339**	P		Pg	16 10 54.0	+0.4
TPB06				S		Sg	16 10 59.0	+1.3
PCOS	**Crockett Middl**	**0.36**	**279**			Pg	16 10 53.8	-0.7
PCOS						Sb	16 11 01.0	-1.5
PCOS	**Crockett Middl**	**0.36**	**279**	P		Pg	16 10 53.8	-0.7
PCOS				S		Sb	16 11 01.0	-1.5
LWM2	**Layne Water Mi**	**0.43**	**259**	P		Pg	16 10 56.0	+0.2
LWM2				S		Sb	16 11 04.2	-0.2
TPB03	**Saragosa**	**0.45**	**234**	P		Pg	16 10 56.5	+0.3
TPB05	**Hovey Rd**	**0.48**	**205**	P		Pg	16 10 56.9	+0.3
TPB05				S		Sb	16 11 06.7	+1.0
LWM1	**Layne Water Mi**	**0.48**	**255**	P		Pg	16 10 57.0	+0.3
LWM1				S		Sb	16 11 07.6	+1.8
TPB08	**Permian Basin**	**0.49**	**161**	P		Pg	16 10 57.7	+0.9
TPB08				S		Sb	16 11 05.3	-0.7
TPB07	**Mentone**	**0.54**	**295**	P		Pg	16 10 58.7	+0.8
TPB07				S		Sb	16 11 06.7	-1.0
TPB10	**Southeast of T**	**0.57**	**263**	P		Pg	16 10 58.6	+0.1
TPB10				S		Sb	16 11 09.8	+1.3
PECS	**Pecos**	**0.67**	**272**			Pg	16 10 59.7	-0.6
PECS						Sb	16 11 10.2	-1.0
PECS					IAML		16 11 16.6	
	462nm,0.4s							
PECS	**Pecos**	**0.67**	**272**	P		Pg	16 10 60.0	-0.3
PECS				S		Sb	16 11 10.1	-1.0
TPB13	**Reeves - Culbe**	**0.68**	**287**	P		Pg	16 11 00.6	+0.2
TPB13				S		Sg	16 11 10.3	+1.0
TPB01	**Permian Basin**	**0.72**	**236**	P		Pg	16 11 00.7	-0.5
TPB01				S		Sb	16 11 11.8	-1.0
TPB12	**Southwest of T**	**0.76**	**260**	P		Pg	16 11 01.6	-0.3
TPB12				S		Sg	16 11 12.1	+0.3
ODSA	**Odessa**	**0.89**	**31**	P		Pg	16 11 04.3	-0.3
ODSA				S		Sb	16 11 17.0	-0.7
TMB01	**Midkiff**	**0.92**	**70**	P		Pg	16 11 05.1	0.0
TMB01				S		Sb	16 11 18.4	0.0
TPB11	**China Draw**	**0.99**	**306**	S		Sb	16 11 20.9	+0.3
NM01	**Eunice**	**1.03**	**345**	P		Pg	16 11 07.6	+0.3
NM01				S		Sb	16 11 21.3	-0.5
ALPN	**Alpine**	**1.08**	**206**			Pg	16 11 06.5	-1.8
ALPN						Sg	16 11 22.6	+0.3
ALPN	**Alpine**	**1.08**	**206**	P		Pg	16 11 07.1	-1.1
ALPN				S		Sg	16 11 22.6	+0.3
TPB09	**Culberson Coun**	**1.12**	**292**	P		Pg	16 11 08.4	-0.4
TPB09				S		Sg	16 11 22.8	-0.5
CLNB	**Carlsbad**	**1.13**	**324**	P		Pg	16 11 09.3	+0.1
CLNB				S		Sb	16 11 24.7	+0.1
HTMS	**Hat Mesa**	**1.21**	**338**	P		Pn	16 11 11.1	0.0
HTMS				S		Sn	16 11 28.1	+0.1
CLN7	**Carlsbad 7**	**1.22**	**330**			Pg	16 11 10.5	-0.4
CLN7	**Carlsbad 7**	**1.22**	**330**	P		Pg	16 11 10.8	0.0
TMB06	**Greenwood**	**1.26**	**60**	P		Pg	16 11 11.2	-0.5
TMB06				S		Sn	16 11 29.6	+0.4
CBET	**Carlsbad E Tow**	**1.31**	**324**			Pn	16 11 12.4	-0.1
CBET	**Carlsbad E Tow**	**1.31**	**324**	P		Pn	16 11 12.4	-0.1
TMB04	**Seminole**	**1.37**	**22**	P		Pn	16 11 12.3	-1.0
TMB04				S		Sn	16 11 31.7	-0.2
SAND	**Sanderson**	**1.62**	**149**			Pn	16 11 16.9	+0.1
SAND						Sg	16 11 41.8	+2.1
SAND	**Sanderson**	**1.62**	**149**	P		Pn	16 11 17.1	+0.3
SAND				S		Sg	16 11 41.8	+2.1
TMB05	**Klondike**	**1.64**	**39**	P		Pn	16 11 17.4	+0.3
TMB05				S		Sg	16 11 40.3	-0.1
VHRN	**Van Horn**	**1.72**	**251**			Pn	16 11 18.0	-0.2
VHRN						Sb	16 11 41.4	-0.3
VHRN	**Van Horn**	**1.72**	**251**	P		Pn	16 11 18.5	+0.3
VHRN				S		Sb	16 11 41.4	-0.3
OZNA	**Ozona**	**1.74**	**104**			Pb	16 11 19.4	-0.4
OZNA						Sg	16 11 43.9	+0.6
OZNA	**Ozona**	**1.74**	**104**	P		Pb	16 11 19.4	-0.5
OZNA				S		Sg	16 11 43.9	+0.6
SGCY	**Sterling City**	**1.77**	**71**			Pn	16 11 19.5	+0.7
SGCY						Sg	16 11 44.4	+0.2
SGCY	**Sterling City**	**1.77**	**71**	P		Pb	16 11 19.8	-0.6
SGCY				S		Sg	16 11 44.4	+0.2
CPRX	**Cap Rock**	**1.80**	**339**			Pn	16 11 19.8	+0.6
CPRX	**Cap Rock**	**1.80**	**339**	P		Pn	16 11 20.1	+0.8
MNTX	**Cornudas Mount**	**1.99**	**281**			Pb	16 11 23.0	-1.1
MNTX						Sb	16 11 50.2	+1.0
MNTX					IAmb_Lg		16 11 55.7	
	comp=Z,38nm,0.8s							
MNTX	**Cornudas Mount**	**1.99**	**281**	P		Pb	16 11 23.2	-0.9
MNTX				S		Sb	16 11 50.2	+1.0
POST	**Post**	**2.17**	**38**			Pn	16 11 25.3	+0.9
POST	**Post**	**2.17**	**38**	P		Pn	16 11 25.3	+0.9
MSTX	**Muleshoe**	**2.62**	**6**			Pn	16 11 31.5	+0.9
MSTX					IAmb_Lg		16 12 16.3	
	comp=Z,30nm,0.9s							
DRIO	**Del Rio**	**2.87**	**131**			Pn	16 11 33.8	-0.1
DRIO					IAmb_Lg		16 12 16.6	
	comp=Z,25nm,0.7s							
DKNS	**Dickens**	**2.94**	**38**			Pn	16 11 35.5	+0.5
JCT	**Junction City**	**2.96**	**106**			Pn	16 11 35.0	-0.1
JCT					IAmb_Lg		16 12 26.9	
	comp=Z,34nm,0.7s							
APMT	**Aspermont**	**3.19**	**51**			Pn	16 11 38.4	+0.1
APMT					IAmb_Lg		16 12 31.4	
	comp=Z,44nm,1.1s							
ABTX	**Abilene, Hawle**	**3.19**	**66**			Pn	16 11 38.5	+0.2
ABTX					IAmb_Lg		16 12 35.5	
	comp=Z,31nm,0.8s							
BRDY	**Brady**	**3.50**	**90**			Pn	16 11 43.8	+1.2
BRDY					IAmb_Lg		16 12 47.6	
	comp=Z,34nm,0.8s							
AMTX	**Amarillo**	**3.71**	**18**		IAmb_Lg		16 12 52.7	
	comp=Z,29nm,0.9s							
HNDO	**Hondo**	**3.76**	**118**		IAmb_Lg		16 12 56.5	
	comp=Z,26nm,1.0s							
121A	**Cookes Peak, D**	**4.16**	**288**			Pn	16 11 51.6	-0.2
Y22A	**Socorro**	**4.16**	**309**		IAmb_Lg		16 13 05.1	
	comp=Z,29nm,0.8s							
PLPT	**Palo Pinto**	**4.30**	**69**		IAmb_Lg		16 13 10.6	
	comp=Z,21nm,0.7s							
LENM	**Lemitar**	**4.31**	**312**			Pg	16 12 07.7	-2.4
WMOK	**Wichita Mounta**	**4.95**	**46**			Pn	16 12 02.5	0.0
WMOK	**Wichita Mounta**	**4.95**	**46**		IAmb_Lg		16 13 26.5	
	comp=Z,11nm,0.7s							
Z35A	**Perchaven, San**	**5.32**	**67**		IAmb_Lg		16 13 48.7	
	comp=Z,22nm,1.0s							
MLDN	**Muldoon**	**5.42**	**105**		IAmb_Lg		16 13 50.9	
	comp=Z,24nm,0.8s							
T25A	**Trinidad**	**5.87**	**350**		IAmb_Lg		16 14 07.1	
	comp=Z,13nm,0.9s							
PV01	**Paradox Valley**	**8.13**	**328**		IAmb_Lg		16 15 24.4	
	comp=Z,6.1nm,1.3s							
PV18	**Skein Mesa, Pa**	**8.38**	**327**		IAmb_Lg		16 15 36.9	
	comp=Z,6.3nm,0.9s							

*IDC **06** 16:30:22.5±1.8, 0.50N×125.53E, h0km, mb3.2/4, mbtmp3.2/4, Error ellipse: s-maj=195.1km s-min=23.2km az=65.0*
*DJA **06** 16:30:24.8±0.3, 1.1N±3×12.6E±, h10km, M3.5/11, mb3.6/2, MLv3.5/11*
ISC 06 16:30:23.6±1.2, 0.9N±0.2×126.18E±0.07, h10km, n9, σ1§36/9, mb3.3/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
TNTI	**Ternate**	**1.20**	**96**	P		**Pn**	**16 30 47.2**	**+0.7**
KMSI	**Cibinong**	**2.22**	**261**	P		**Pn**	**16 30 59.5**	**-1.0**
LUWI	**Luwuk**	**3.92**	**240**	P		**Pn**	**16 31 25.3**	**+1.4**
APSI	**Ampana**	**4.87**	**248**	P		**Pn**	**16 31 38.2**	**+1.1**
TTSI	**Tana Toraja**	**7.47**	**238**	P		**Pn**	**16 32 13.7**	**+0.9**
WRA	**Warramunga Arr**	**22.21**	**159**	P		**P**	**16 35 18.4**	**-2.1**
	0.5nm,0.4s,baz=336,slow=12,SNR=4.6							
	0.5nm,0.4s							
ASAR	**Alice Springs**	**25.55**	**163**	P		**P**	**16 35 52.1**	**-0.9**
	0.2nm,0.5s,baz=344,slow=11,SNR=13							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**59.57**	**326**	P		**P**	**16 40 27.7**	**+0.1**
	0.1nm,0.3s,baz=125,slow=7.8,SNR=2.6							
	0.1nm,0.3s							
KURBB	**Kurchatov Arra**	**63.82**	**328**	P		**P**	**16 40 56.7**	**+0.6**
	0.2nm,0.7s,baz=126,slow=6.8,SNR=1.8							
	0.2nm,0.7s							

*IDC **06** 16:34:12.8±1.6, 8.14S×130.76E, h0km, mb3.7/3, mbtmp3.7/7, ML3.6/4, Error ellipse: s-maj=49.1km s-min=25.2km az=85.0*
ISC 06 16:34:18.6±1.2, 8.37S±0.08×130.5E±0.1, h35km, n7, σ1§57/11, mb3.5/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
BATI	**Baumata**	**7.02**	**254**	Pn		**Pn**	**16 36 01.3**	**+2.3**
	1.2nm,0.3s,baz=80,slow=6.1,SNR=1.7							
BATI				Sn		**Sn**	**16 37 16.2**	**-1.4**
	2.3nm,0.3s,baz=325,slow=22,SNR=1.7							
	8.4nm,0.7s							
FITZ	**Fitzroy Crossi**	**10.78**	**206**	Pn		**Pn**	**16 36 51.2**	**+0.7**
	0.5nm,0.3s,baz=34,slow=13,SNR=14							
FITZ				Sn		**Sn**	**16 38 48.5**	**-1.4**
	0.6nm,0.3s,baz=231,slow=16,SNR=5.6							
	1.0nm,0.3s							
WRA	**Warramunga Arr**	**12.08**	**163**	Pn		**Pn**	**16 37 09.3**	**+0.9**
	0.3nm,0.3s,baz=348,slow=13,SNR=6.6							
WRA				Sn		**Sn**	**16 39 23.0**	**+0.9**
	0.7nm,0.3s,baz=347,slow=24,SNR=12							
	0.3nm,0.3s							
ASAR	**Alice Springs**	**15.55**	**168**	Pn		**Pn**	**16 37 56.4**	**+1.0**
	0.2nm,0.3s,baz=345,slow=8.3,SNR=15							
ASAR				Sn		**Sn**	**16 40 44.3**	**-2.4**
	0.2nm,0.3s,baz=0.1,slow=30,SNR=5.5							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**69.65**	**327**	P		**P**	**16 45 24.1**	**-0.5**
	0.7nm,0.5s,baz=126,slow=7.3,SNR=13							
	0.7nm,0.5s							
KURBB	**Kurchatov Arra**	**73.94**	**329**	P		**P**	**16 45 49.4**	**-0.9**
	0.3nm,0.5s,baz=130,slow=5.1,SNR=5.5							
	0.3nm,0.5s							
BVAR	**Borovoye Array**	**79.49**	**328**	P		**P**	**16 46 20.9**	**-0.7**
	0.4nm,0.7s,baz=134,slow=6.2,SNR=2.5							
	0.4nm,0.7s							

ROM 06 16:36:15.4±0.1, 42.805N±0.005×13.117E±0.007, h10km, ML0.8/2, Error ellipse: s-maj=0.7km s-min=0.5km az=227.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
NRCA	**Norcia**	**0.03**	**356**	P		Pg	16 36 17.8	+0.3
NRCA				S		Sg	16 36 19.0	0.0
MC2	**Monte Cornacci**	**0.12**	**27**	P		Pg	16 36 19.1	+0.5
MC2				S		Sg	16 36 21.4	+0.6
MMO1	**Montemonaco**	**0.18**	**58**	P		Pg	16 36 19.9	+0.5
MMO1				S		Sg	16 36 23.2	+1.0
GAVE	**Gavelli**	**0.20**	**236**	AML		AML		
	comp=E,65μm,1.5s							
GAVE				AML		AML		
	comp=N,66μm,1.0s							
GAVE				AML		AML		
	comp=N,66μm,1.0s							
GAVE				AML		AML		
	comp=E,65μm,0.5s							
MTRA	**Matera**	**0.21**	**103**	P		Pg	16 36 20.5	+0.6
MTRA				S		Sg	16 36 24.3	+1.3
FDMO	**Fiordimonte**	**0.23**	**355**	P		Pg	16 36 20.9	+0.6
FDMO				S		Sg	16 36 24.7	+1.1
FDMO				AML		AML		
	comp=E,36μm,0.1s							
FDMO				AML		AML		
	comp=N,30μm,1.4s							
CSP1	**Cessapalombo**	**0.29**	**13**	P		Pg	16 36 22.0	+0.6
CSP1				S		Sb	16 36 26.8	-1.0

ROM 06 16:37:14.8±0.1, 41.870N±0.007×14.874E±0.007, h18km, ML2.1/58, 2C-1D, Error ellipse: s-maj=0.8km s-min=0.3km az=210.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
MCLF	**Montecilfone**	**0.04**	**320**	P		Pg	16 37 18.2	+0.1
MCLF				S		Sg	16 37 20.5	+0.2
GLNS	**Guglionesi**	**0.05**	**38**	⇑P		Pg	16 37 18.4	+0.2
GLNS				S		Sg	16 37 21.2	+0.7
PLTA	**Palata**	**0.07**	**285**	P		Pg	16 37 18.2	-0.1
PLTA				S		Sg	16 37 20.8	+0.2
LRNO	**Larino**	**0.07**	**151**	P		Pg	16 37 17.9	-0.4
LRNO				S		Sg	16 37 21.4	+0.7
FRES	**Fresagrandinar**	**0.18**	**304**	P		Pg	16 37 20.0	+0.5
FRES				S		Sg	16 37 23.5	+0.6
FRES				AML		AML		
	comp=E,821μm,1.4s							
FRES				AML		AML		
	comp=E,820μm,1.4s							
FRES				AML		AML		
	comp=N,598μm,0.7s							
FRES				AML		AML		
	comp=E,820μm,0.6s							
CIGN	**Sant'Elia a Pi**	**0.22**	**174**	P		Pg	16 37 20.1	+0.1
CIGN				S		Sg	16 37 23.9	+0.4
CIGN				AML		AML		
	comp=N,624μm,0.4s							
CIGN				AML		AML		
	comp=E,534μm,0.4s							
MELA	**Melanico ??? S**	**0.25**	**131**	P		Pg	16 37 20.5	0.0
MELA				S		Sb	16 37 24.9	+0.5
MELA				AML		AML		
	comp=N,732μm,0.4s							
MELA				AML		AML		
	comp=E,1200μm,0.6s							
MELA				AML		AML		
	comp=N,732μm,0.4s							
MELA				AML		AML		
	comp=E,1110μm,0.6s							
MELA				AML		AML		
	comp=N,732μm,0.4s							
MELA				AML		AML		
	comp=E,1200μm,1.4s							
MELA				AML		AML		
	comp=E,1110μm,1.4s							
TRIV	**Trivento**	**0.26**	**247**	P		Pb	16 37 21.4	+0.5
TRIV				S		Sb	16 37 26.6	+1.7
TRIV				AML		AML		
	comp=E,428μm,1.6s							
TRIV				AML		AML		
	comp=N,364μm,0.3s							
TRIV				AML		AML		
	comp=E,446μm,0.7s							
TRIV				AML		AML		
	comp=E,428μm,1.6s							
TRIV				AML		AML		
	comp=N,364μm,0.3s							
TRIV				AML		AML		
	comp=E,428μm,0.4s							
TRIV				AML		AML		
	comp=N,380μm,0.3s							
TRIV				AML		AML		
	comp=E,446μm,1.3s							
GATE	**Gambatesa**	**0.36**	**176**	P		Pb	16 37 23.2	+0.5
GATE				S		Sb	16 37 28.6	+0.7
GATE				AML		AML		
	comp=E,430μm,1.6s							
GATE				AML		AML		
	comp=N,300μm,1.5s							
GATE				AML		AML		
	comp=E,330μm,1.6s							
GATE				AML		AML		
	comp=N,278μm,1.5s							
GATE				AML		AML		
	comp=E,430μm,1.6s							
GATE				AML		AML		
	comp=N,300μm,1.5s							
GATE				AML		AML		
	comp=N,299μm,1.5s							
GATE				AML		AML		
	comp=E,430μm,0.4s							
GATE				AML		AML		
	comp=E,330μm,0.4s							
GATE				AML		AML		
	comp=N,300μm,0.5s							
GATE				AML		AML		
	comp=N,278μm,0.5s							
GATE				AML		AML		
	comp=E,430μm,0.4s							
BSSO	**Busso**	**0.39**	**213**	⇑P		Pb	16 37 23.2	0.0
BSSO				AML		AML		
	comp=E,57μm,1.5s							
BSSO				AML		AML		
	comp=N,55μm,0.3s							
BSSO				AML		AML		
	comp=E,57μm,0.5s							
SACR	**S. Croce Del S**	**0.49**	**195**	P		Pg	16 37 24.4	-0.2
SACR				AML		AML		
	comp=E,115μm,0.4s							
SACR				AML		AML		
	comp=N,72μm,1.4s							
SACR				AML		AML		
	comp=N,72μm,0.6s							
APRC	**Apricena**	**0.51**	**102**	P		Pg	16 37 24.4	-0.7
APRC				AML		AML		
	comp=E,255μm,0.7s							
APRC				AML		AML		
	comp=N,400μm,0.6s							
MIDA	**Miranda**	**0.52**	**244**	P		Pg	16 37 24.8	-0.4
MIDA				AML		AML		
	comp=N,336μm,0.6s							
MIDA				AML		AML		
	comp=E,296μm,0.2s							
MIDA				AML		AML		
	comp=N,370μm,0.2s							
MIDA				AML		AML		
	comp=E,334μm,0.2s							
MIDA				AML		AML		
	comp=N,336μm,1.4s							
MIDA				AML		AML		
	comp=E,334μm,0.2s							
LPEL	**Lama dei Pelig**	**0.55**	**289**	P		Pg	16 37 25.5	-0.2
LPEL				AML		AML		
	comp=E,210μm,0.7s							
LPEL				AML		AML		
	comp=N,190μm,1.1s							
LPEL				AML		AML		
	comp=N,190μm,0.9s							
RNI2	**Rionero Sannit**	**0.56**	**253**	P		Pg	16 37 26.1	0.0
RNI2				S		Sb	16 37 34.1	+0.3
RNI2				AML		AML		
	comp=E,344μm,0.2s							
RNI2				AML		AML		
	comp=N,606μm,0.2s							
RNI2				AML		AML		
	comp=N,652μm,0.2s							
RNI2				AML		AML		
	comp=N,606μm,0.2s							
RNI2				AML		AML		
	comp=E,386μm,0.2s							
SGRT	**San Giovanni R**	**0.66**	**100**	P		Pb	16 37 27.2	-0.6
SGRT				AML		AML		
	comp=E,179μm,0.9s							
SGRT				AML		AML		
	comp=N,178μm,1.2s							
SGRT				AML		AML		
	comp=N,178μm,0.8s							
SGRT				AML		AML		
	comp=E,179μm,1.1s							
VAGA	**Valle Agricola**	**0.66**	**227**	P		Pb	16 37 27.1	-0.6
VAGA				AML		AML		
	comp=E,127μm,0.7s							
VAGA				AML		AML		
	comp=N,156μm,1.0s							
VAGA				AML		AML		
	comp=N,156μm,1.0s							
CERA	**Filignano**	**0.69**	**247**	P		Pn	16 37 29.3	-0.5
INTR	**Introdacqua**	**0.74**	**281**	⇓P		Pb	16 37 28.5	-0.6
MSAG	**Monte S. Angel**	**0.79**	**101**	P		Pg	16 37 30.2	-0.1
MSAG				AML		AML		
	comp=N,460μm,0.2s							
MSAG				AML		AML		
	comp=N,196μm,0.2s							
MSAG				AML		AML		
	comp=N,461μm,1.8s							
MSAG				AML		AML		
	comp=E,64μm,0.4s							
MSAG				AML		AML		
	comp=N,196μm,1.8s							
MSAG				AML		AML		
	comp=E,172μm,0.4s							
SGTA	**Sant Agata di**	**0.82**	**153**	P		Pb	16 37 29.9	-0.7
SGTA				AML		AML		
	comp=N,152μm,0.5s							
SGTA				AML		AML		
	comp=E,297μm,0.7s							
POFI	**Posta Fibreno**	**0.88**	**260**	P		Pb	16 37 30.7	-0.9
POFI				AML		AML		
	comp=N,36μm,0.8s							
POFI				AML		AML		
	comp=E,52μm,0.4s							
CAFE	**Carife**	**0.88**	**162**	P		Pb	16 37 31.0	-0.6
CAFE				AML		AML		
	comp=E,190μm,0.3s							
CAFE				AML		AML		
	comp=N,77μm,0.6s							
T0110	**Collepietro**	**0.89**	**294**	P		Pb	16 37 31.3	-0.4
T0110				AML		AML		
	comp=E,134μm,1.2s							
T0110				AML		AML		
	comp=E,134μm,1.2s							
T0110				AML		AML		
	comp=N,108μm,1.6s							
T0110				AML		AML		
	comp=N,108μm,0.4s							
T0110				AML		AML		
	comp=E,134μm,0.8s							
VCEL	**Villa Celiera**	**0.93**	**305**	P		Pb	16 37 32.0	-0.4
VVLD	**Villa Vallelon**	**0.94**	**271**	P		Pb	16 37 31.5	-1.0
VVLD				AML		AML		
	comp=N,76μm,0.6s							
VVLD				AML		AML		
	comp=E,86μm,0.4s							
VULT	**Monte Vulture**	**1.07**	**148**	AML		AML		
	comp=N,311μm,1.0s							
VULT				AML		AML		
	comp=E,290μm,0.4s							
VULT				AML		AML		
	comp=N,350μm,0.4s							
VULT				AML		AML		
	comp=N,350μm,1.6s							
VULT				AML		AML		
	comp=E,282μm,0.4s							
VULT				AML		AML		

comp=N,311μm,1.0s
MRVN Minervino Murg 1.28 129 P Pb 16 37 38.6 +0.3
MRVN AML AML
comp=E,37μm,1.0s
MRVN AML AML
comp=N,35μm,0.9s
MRVN AML AML
comp=E,37μm,1.0s
MRVN AML AML
comp=N,35μm,1.1s
AMUR Altamura 1.62 126 P Pb 16 37 43.5 -0.6
AMUR AML AML
comp=E,41μm,0.2s
AMUR AML AML
comp=N,39μm,0.3s
CSP1 Cessapalombo 1.74 315 P Pb 16 37 45.9 -0.3

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*IDC **06** 16:38:55.0±0.5, 13°.14S×66°.35E, h0km, mb4.2/21, mbtmp4.2/21, MS4.2/3, Error ellipse: s-maj=16.7km s-min=15.8km az=96.0*

ISC 06 16:38:56.5±0.5, 13°.1S±0°.1×66°.3E±0°.1, h10km, n41, σ0s46/31, mb4.2/21, MS4.2/3, 3D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**8.13**	**48**	T	T	16 49 18.5	
	baz=227,slow=75,SNR=1396						
H08S2	**Diego Garcia H**	**8.14**	**49**	T	T	16 49 19.5	
	baz=227,slow=75,SNR=1456						
H08S3	**Diego Garcia H**	**8.15**	**48**	T	T	16 49 15.3	
	baz=227,slow=75,SNR=3503						
H04N2	**CROZET ISLANDS**	**35.15**	**198**	T	T	17 22 53.5	
	baz=25,slow=75,SNR=69						
H04N1	**CROZET ISLANDS**	**35.15**	**198**	T	T	17 22 54.6	
	baz=25,slow=75,SNR=53						
H04N3	**CROZET ISLANDS**	**35.16**	**198**	T	T	17 22 53.4	
	baz=25,slow=75,SNR=67						
PSI	**Prapat**	**36.01**	**66**	LR	LR	16 58 22.7	
	comp=Z,190nm,21.9s,baz=211,slow=32						
BOSA	**Boshof**	**41.14**	**241**	P	**P**	**16 46 41.2**	**-0.1**
	4.5nm,0.8s,baz=90,slow=7.3,SNR=5.6						
	4.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.93**	**46**	P	**P**	**16 47 11.9**	**0.0**
	0.4nm,0.4s,baz=229,slow=9.2,SNR=2.3						
	0.4nm,0.4s						
H01W3	**Cape Leeuwin H**	**48.20**	**125**	T	T	17 39 05.7	
	baz=285,slow=75,SNR=17						
H01W2	**Cape Leeuwin H**	**48.20**	**125**	T	T	17 39 02.4	
	baz=285,slow=75,SNR=21						
H01W1	**Cape Leeuwin H**	**48.21**	**125**	T	T	17 39 03.4	
	baz=285,slow=75,SNR=22						
BATI	**Baumata**	**56.12**	**94**	P	**P**	**16 48 37.2**	**+0.5**
	12nm,0.7s,baz=295,slow=5.9,SNR=2.1						
	12nm,0.7s						
FITZ	**Fitzroy Crossi**	**57.13**	**103**	LR	LR	17 09 04.9	
	comp=Z,214nm,21.7s,baz=231,slow=32						
BRTR	**Keskin Array B**	**60.76**	**331**	P	**P**	**16 49 09.2**	**+0.4**
	0.7nm,0.8s,baz=116,slow=8.4,SNR=4.0						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**61.34**	**12**	P	**P**	**16 49 12.2**	**-0.2**
	1.3nm,0.9s,baz=206,slow=7.8,SNR=8.1						
	1.3nm,0.9s						
KURBB	**Kurchatov Arra**	**64.37**	**9**	P	**P**	**16 49 32.9**	**+0.4**
	1.2nm,0.8s,baz=205,slow=6.7,SNR=12						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**64.47**	**110**	P	**P**	**16 49 33.5**	**-0.3**
	2.9nm,0.9s,baz=270,slow=5.9,SNR=25						
	2.9nm,0.9s						
WRA	**Warramunga Arr**	**65.17**	**106**	P	**P**	**16 49 38.5**	**0.0**
	5.1nm,0.9s,baz=271,slow=5.8,SNR=27						
	5.1nm,0.9s						
BVAR	**Borovoye Array**	**65.98**	**3**	P	**P**	**16 49 43.1**	**+0.2**
	3.4nm,0.9s,baz=165,slow=7.7,SNR=17						
	3.4nm,0.9s						
ZALV	**Zalesovo Beam**	**68.65**	**12**	P	**P**	**16 49 59.5**	**-0.2**
	1.0nm,0.6s,baz=205,slow=6.6,SNR=7.4						
	1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**69.19**	**290**	P	**P**	**16 50 04.1**	**+0.1**
	1.3nm,1.2s,baz=77,slow=6.4,SNR=4.0						
	1.3nm,1.2s						
TROLL	**Troll, Antarti**	**69.62**	**197**	⇓P	**P**	**16 50 06.1**	**+0.2**
	comp=Z,104nm,1.2s						
SONM	**Songino Array**	**70.39**	**27**	P	**P**	**16 50 11.6**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=214,slow=6.3,SNR=7.4						
	comp=Z,2.7nm,0.9s						
SNAA	**Sanae**	**71.11**	**198**	⇓P	**P**	**16 50 14.1**	**-0.8**
	comp=Z,48nm,0.7s						
SNAA	**Sanae**	**71.11**	**198**	P	**P**	**16 50 14.6**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=58,slow=12,SNR=16						
	comp=Z,2.9nm,0.9s						
AKASG	**Malin Array Be**	**71.35**	**336**	P	**P**	**16 50 15.9**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=140,slow=5.2,SNR=7.0						
	comp=Z,1.2nm,0.7s						
VNA3	**Neumayer Olymp**	**73.15**	**199**	⇓P	**P**	**16 50 27.1**	**+0.1**
	comp=Z,4.7nm,0.8s						
DBIC	**Dimbokro**	**73.39**	**281**	P	**P**	**16 50 29.9**	**+0.5**
	comp=Z,4.3nm,0.9s,baz=104,slow=4.2,SNR=4.3						
	comp=Z,4.3nm,0.9s						
KSRS	**Korea Array**	**76.57**	**46**	P	**P**	**16 50 46.5**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=228,slow=6.9,SNR=4.9						
	comp=Z,1.6nm,0.9s						
QSPA	**South Pole Qui**	**76.94**	**180**	P	**P**	**16 50 49.7**	**+0.6**
	comp=Z,2.7nm,1.0s,baz=268,slow=3.0,SNR=7.7						
	comp=Z,2.7nm,1.0s						
GERES	**GERESS Array B**	**77.23**	**327**	P	**P**	**16 50 50.3**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=192,slow=2.5,SNR=3.7						
	comp=Z,0.6nm,0.7s						
USRK	**Ussuriysk Ar.**	**82.41**	**41**	P	**P**	**16 51 18.6**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=245,slow=6.4,SNR=7.2						
	comp=Z,1.7nm,0.8s						
MJAR	**Matsushiro Arr**	**83.67**	**50**	P	**P**	**16 51 26.2**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=227,slow=7.2,SNR=2.4						
	comp=Z,1.2nm,0.7s						
ESDC	**Sonseca Array**	**83.69**	**313**	P	**P**	**16 51 26.4**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=101,slow=4.6,SNR=5.8						
	comp=Z,1.3nm,0.9s						
ARCES	**ARCESS Array B**	**87.25**	**347**	LR	LR	17 30 38.8	
	comp=Z,235nm,21.5s,baz=230,slow=36						
ILAR	**Eielson Array**	**123.59**	**16**	PKP	**PKPdf**	**16 57 53.2**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=307,slow=3.8,SNR=5.8						
LPAZ	**La Paz**	**126.33**	**238**	PKP	**PKiKP**	**16 58 01.2**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=44,slow=12,SNR=3.6						
YKA	**Yellowknife Ar**	**130.71**	**1**	PKP	**PKPdf**	**16 58 07.2**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=5.9,slow=2.6,SNR=4.1						
PDAR	**Pinedale Array**	**150.26**	**354**	PKP	**PKPdf**	**16 58 43.4**	**0.0**
	comp=Z,4.7nm,0.8s,baz=27,slow=1.7,SNR=22						
PDAR				PKPbc	**PKiKP**	**16 58 49.0**	**-0.4**
	comp=Z,4.8nm,0.8s,baz=70,slow=2.2,SNR=29						
TXAR	**Lajitas Array**	**161.40**	**332**	PKP	**PKPdf**	**16 58 58.2**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=39,slow=3.9,SNR=3.8						
TXAR				PKPab	**PKPab**	**16 59 42.4**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=23,slow=8.2,SNR=2.3						

IDC 06 16:41:01.1±6.8, 6°.22S×149°.30E, h64km±58km, mb3.1/2, mbtmp3.4/4, ML3.5/1, MS4.0/1, Error ellipse: s-maj=105.0km s-min=42.6km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.81**	**214**	P	Pn	16 41 59.3	+2.0
	9.8nm,0.3s,baz=42,slow=6.8,SNR=18						
PMG				S	Sn	16 42 40.7	-0.2
	7.3nm,0.4s,baz=24,slow=15,SNR=2.1						
WRA	**Warramunga Arr**	**19.93**	**225**	P	P	16 45 27.4	-0.6
	0.2nm,0.3s,baz=51,slow=11,SNR=2.8						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**22.81**	**219**	P	P	16 45 59.0	+0.1
	0.6nm,0.6s,baz=53,slow=9.0,SNR=12						
	0.6nm,0.6s						
NWAO	**Narrogin (SRO)**	**39.93**	**224**	LR	LR	17 05 19.2	
	comp=Z,198nm,18.4s,baz=246,slow=36						
MKAR	**Makanchi Array**	**79.13**	**320**	P	P	16 52 59.1	+0.2
	0.2nm,0.6s,baz=116,slow=6.6,SNR=2.4						
	0.2nm,0.6s						

IDC 06 16:51:28.6±6.6, 7°.64S×130°.06E, h160km±68km, mb3.1/1, mbtmp3.5/5, Error ellipse: s-maj=58.4km s-min=22.9km az=45.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.81**	**248**	P	Pn	16 53 06.2	-0.1
	7.3nm,0.5s,baz=69,slow=14,SNR=1.4						
BATI				S	Sn	16 54 24.1	+1.0
	8.8nm,0.3s,baz=285,slow=18,SNR=1.3						
FITZ	**Fitzroy Crossi**	**11.26**	**202**	P	Pn	16 54 04.9	-0.1
	0.6nm,0.3s,baz=36,slow=12,SNR=15						
FITZ				S	Sn	16 56 08.6	-1.1
	1.2nm,0.3s,baz=306,slow=23,SNR=7.1						
WRA	**Warramunga Arr**	**12.92**	**162**	P	Pn	16 54 25.9	-0.7
	0.3nm,0.4s,baz=344,slow=13,SNR=4.7						
WRA				S	Sn	16 56 45.2	-4.6
	1.0nm,0.5s,baz=336,slow=22,SNR=8.0						
ASAR	**Alice Springs**	**16.36**	**167**	P	Pn	16 55 11.1	+1.7
	0.2nm,0.5s,baz=343,slow=9.6,SNR=10						
ASAR				S	S	16 58 11.2	+0.4
	0.4nm,0.7s,baz=349,slow=26,SNR=6.9						
MKAR	**Makanchi Array**	**68.78**	**327**	P	P	17 02 15.4	-0.1
	0.3nm,0.5s,baz=111,slow=7.9,SNR=5.8						
	0.3nm,0.5s						

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*BJI **06** 17:25:33.5, 30°.79S×177°.33W, h8km, mb5.0/11, Ms7 4.8/3*
*IDC **06** 17:25:34.2±0.5, 31°.04S×177°.85W, h0km, mb4.4/14, mbtmp4.4/15, ML3.7/1, MS4.0/15, Error ellipse: s-maj=20.1km s-min=14.1km az=86.0*
*GCMT **06** 17:25:37.4±0.5, 31°.26S±0°.05×177°.64W±0°.04, h34km, MW5.1/58, Moment Tensor Solution. s36,c37; s58,c69; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.88±.38; Mθθ-1.19±.25; Mϕϕ-3.69±.25; Mrθ-0.46±.21; Mϕθ-0.85±.15; Mϕr1.93±.17; Best double couple: M0 4.81800×10^16 NP1:ϕs204.00000°, δ35.00000°, λ104.00000°. NP2: ϕs7.00000°, δ56.00000°, λ80.00000°. Principal axes: T 5.3550, Plg76.0000°, Azm246.0000°; N -1.0750, Plg8.0000°, Azm12.0000°; P -4.2800, Plg11.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **06** 17:25:38.0±0.8, 31°.10S×177°.89W, h33km, mb5.1/15 Error ellipse: s-maj=13.5km s-min=11.2km az=96.3*
*NEIC **06** 17:25:39.4±2.0, 31°.04S±0°.04×177°.8W±0°.1, h31km±4km, mb5.0/41, Error ellipse: s-maj=16.8km s-min=3.3km az=107.0*
*NOU **06** 17:26:11.2, 31°.26S×179°.43W, h228km, mb4.7/18, Kermadec Islands Region*

ISC 06 17:25:38.3±0.5, 31°.18S±0°.04×177°.74W±0°.06, h30km±2km, h31km: pP-P, n254, σ1s80/255, mb5.0/61, MS4.1/14, 8C-14D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.92**	**355**	P	**Pn**	**17 26 06.7**	**-2.2**
GLKZ				S	**Sn**	**17 26 34.4**	**+2.4**
RAO	**Raoul Island**	**1.93**	**355**		**Pn**	**17 26 06.5**	**-2.6**
RAO				Sn	**Sn**	**17 26 28.4**	**-3.9**
RAO	**Raoul Island**	**1.93**	**355**	Pn	**Pn**	**17 26 06.9**	**-2.1**
	567nm,0.3s,baz=56,slow=17,SNR=14						
RAO				Sn	**Sn**	**17 26 30.9**	**-1.4**
	2um,0.3s,baz=92,slow=18,SNR=7.9						
RAO	**Raoul Island**	**1.93**	**355**	P	**Pn**	**17 26 06.5**	**-2.6**
RAO						17 26 28.4	
RIZ	**Raoul Island**	**1.94**	**355**	P	**Pn**	**17 26 08.3**	**-0.8**
MXZ	**Matakaoa Point**	**7.15**	**206**	Pn	Pn	17 27 15.4	-5.3
MXZ				Sn	**Sn**	**17 28 38.6**	**-2.4**
HAZ	**Te Kaha**	**7.53**	**208**	P	**Pn**	**17 27 22.7**	**-3.3**
HAZ				S	**Sn**	**17 28 49.1**	**-1.1**
TWGZ	**Tauwhareparae**	**7.81**	**206**	P	**Pn**	**17 27 26.4**	**-3.5**
TWGZ				S	**Sn**	**17 28 53.8**	**-3.6**
OPRZ	**Ohinepanea**	**8.14**	**214**	P	**Pn**	**17 27 32.2**	**-2.2**
OPRZ				S	**Sn**	**17 29 05.2**	**-0.2**
TGRZ	**Tauranga**	**8.19**	**216**	P	**Pn**	**17 27 33.7**	**-1.4**
URZ	**Urewera**	**8.23**	**210**	Pn	Pn	17 27 30.5	-5.1
	7.7nm,0.3s,baz=273,slow=1.4,SNR=22						
URZ				Sn	**Sn**	**17 29 03.0**	**-4.5**
	25nm,0.3s,baz=19,slow=23,SNR=15						
URZ	**Urewera**	**8.23**	**210**	P	Pn	17 27 30.5	-5.1
URZ				S	**Sn**	**17 29 03.1**	**-4.5**
OUZ	**Omahuta**	**8.30**	**239**	P	**Pn**	**17 27 40.8**	**+4.3**
KMRZ	**Kaimai**	**8.44**	**216**	P	**Pn**	**17 27 38.8**	**+0.2**
MUGZ	**Murupara**	**8.56**	**210**	P	Pn	17 27 35.2	-4.9
MUGZ				S	**Sn**	**17 29 12.1**	**-3.5**
SNGZ	**Shannon Statio**	**8.59**	**207**	P	**Pn**	**17 27 37.1**	**-3.4**
SNGZ				S	**Sn**	**17 29 11.6**	**-4.7**
TOZ	**Tahuroa Road**	**8.59**	**219**	Pn	**Pn**	**17 27 40.1**	**-0.4**
TOZ	**Tahuroa Road**	**8.59**	**219**	P	**Pn**	**17 27 41.1**	**+0.6**
RAHZ	**Arahi**	**8.80**	**207**	P	**Pn**	**17 27 39.3**	**-4.2**
RAHZ				S	**Sn**	**17 29 18.2**	**-3.4**
NMHZ	**Naumai**	**9.07**	**208**	P	**Pn**	**17 27 43.6**	**-3.6**
MCHZ	**McNeill Hill**	**9.41**	**207**	P	**Pn**	**17 27 48.1**	**-3.6**
MOVZ	**Moawhango**	**9.77**	**211**	P	Pn	17 27 51.7	-5.1
MOVZ				S	**Sn**	**17 29 39.2**	**-6.4**
TUWZ	**Tuamarina**	**12.22**	**211**	Pn	Pn	17 28 22.7	-7.5
NNZ	**Nelson**	**12.31**	**213**	Pn	Pn	17 28 23.8	-7.6
TKNZ	**Takaka Hill**	**12.37**	**215**	Pn	Pn	17 28 24.5	-7.7
NFK	**Norfolk Island**	**12.58**	**276**	P	**Pn**	**17 28 38.1**	**+2.9**
	comp=Z,131nm,1.1s						
KHZ	**Kahutara**	**13.20**	**209**	Pn	Pn	17 28 35.4	-8.2
MSVF	**Nonsavu**	**13.93**	**343**	Pn	**Pn**	**17 28 53.9**	**+0.2**
MSVF	**Nonsavu**	**13.93**	**343**	P	**Pn**	**17 28 53.9**	**+0.2**
NIUE	**Niue**	**13.97**	**32**	P	Pn	17 28 47.5	-6.8
NIUE				S	Sn	17 31 05.0	-23
NIUE	**Niue**	**13.97**	**32**	Pn	**Pn**	**17 28 50.9**	**-3.3**
INZ	**Inchbonnie**	**14.39**	**214**	Pn	Pn	17 28 51.9	-7.9
OXZ	**Oxford**	**14.58**	**211**		Pn	17 28 54.2	-8.2
DGTI	**Dogotuki**	**14.99**	**351**	P	P	17 29 31.0	+18
RPZ	**Rata Peaks**	**15.33**	**212**	Pn	**Pn**	**17 29 06.4**	**-6.1**
	comp=Z,2.4nm,0.3s,baz=53,slow=5.5,SNR=9.4						
RPZ				Sn	Sn	17 31 43.3	-18
	comp=Z,3.4nm,0.3s,baz=86,slow=22,SNR=14						
PINNC	**Pines Island,**	**15.72**	**299**		**Pn**	**17 29 14.9**	**-2.7**
PINNC	**Pines Island,**	**15.72**	**299**	P	**P**	**17 29 26.3**	**+5.0**
OUENC	**Ouen Island, N**	**16.29**	**299**	P	**P**	**17 29 31.8**	**+4.2**
DZM	**Mont Dzumac**	**16.79**	**299**	*e*Pn	**P**	**17 29 35.3**	**+2.1**
	comp=Z,152nm,1.4s						
DZM				*e*LR	LR	17 33 29.7	
	comp=Z,1μm,23.4s						
DZM	**Mont Dzumac**	**16.79**	**299**		**Pn**	**17 29 27.0**	**-4.3**
DZM	**Mont Dzumac**	**16.79**	**299**	Pn	**Pn**	**17 29 30.0**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=114,slow=14,SNR=10						
DZM				LR	LR	17 34 57.1	
	comp=Z,1μm,18.4s,baz=177,slow=34						
	comp=Z,4.9nm,1.1s						
DZM	**Mont Dzumac**	**16.79**	**299**	P	**P**	**17 29 39.7**	**+6.5**
WHZ	**Wether Hill Ro**	**18.42**	**213**		P	17 29 43.6	-7.5
RAR	**Rarotonga**	**18.91**	**63**	LR	LR	17 37 19.2	
	comp=Z,145nm,18.9s,baz=262,slow=37						
TBI	**Tubuai**	**26.27**	**80**	*e*S	**S**	**17 35 40.7**	**-1.0**
	comp=Z,2μm,26.0s						
TBI				*e*LR	LR	17 37 43.9	
	comp=Z,960nm,31.8s						
TBI				*e*LR	LR	17 37 48.6	
	comp=Z,1μm,24.5s						
ARMA	**Armidale**	**26.28**	**264**	P	**P**	**17 31 12.1**	**+0.8**
ARMA	**Armidale**	**26.28**	**264**	P	**P**	**17 31 11.7**	**+0.5**
ARMA				IAmb	IAmb	17 31 39.0	
	comp=Z,65nm,1.4s						
TW1H	**Toowoomba 1 Ha**	**26.60**	**270**	P	**P**	**17 31 17.0**	**+2.9**
CNB	**Canberra Magne**	**27.74**	**253**	P	**P**	**17 31 24.8**	**+0.5**
	comp=Z,29nm,2.0s						
EIDS	**Eidsvold**	**28.00**	**274**	P	**P**	**17 31 27.8**	**+1.2**
	comp=Z,35nm,2.1s						
EIDS	**Eidsvold**	**28.00**	**274**		**P**	**17 31 26.5**	**-0.1**
EIDS				IAmb	IAmb	17 31 28.9	
	comp=Z,27nm,0.9s						
EIDS	**Eidsvold**	**28.00**	**274**	P	**P**	**17 31 28.2**	**+1.6**
CAN	**Canberra**	**28.04**	**253**	P	**P**	**17 31 27.4**	**+0.4**
CAN	**Canberra**	**28.04**	**253**	P	**P**	**17 31 27.4**	**+0.4**
CAN				pmax	pmax		
	comp=Z,89nm,1.6s						
PPT2	**Papeete2**	**28.90**	**69**	*e*P	**P**	**17 31 38.1**	**+3.4**
	comp=Z,116nm,26.2s						
PPT2				*e*S	**S**	**17 36 20.7**	**-2.8**
	comp=Z,153nm,22.2s						
PPT2				*e*LR	LR	17 38 56.7	
	comp=Z,276nm,24.2s						
PPT2				*e*LR	LR	17 38 58.1	
	comp=Z,249nm,27.8s						
PPT	**Papeete**	**28.91**	**69**	LR	LR	17 41 31.9	
	comp=Z,70nm,20.1s,baz=239,slow=33						
HNR	**Honiara**	**29.98**	**311**	LR	LR	17 42 09.5	
	comp=Z,184nm,19.4s,baz=222,slow=33						
TAU	**Tasmania Unive**	**30.04**	**237**	P	**P**	**17 31 45.0**	**+0.5**
TAU	**Tasmania Unive**	**30.04**	**237**	P	**P**	**17 31 45.0**	**+0.5**
TAU				pmax	pmax		
	comp=Z,137nm,1.7s						
TOO	**Toolangi**	**30.87**	**248**	P	**P**	**17 31 52.9**	**+1.0**
TOO				IAmb	IAmb	17 32 32.0	
	comp=Z,72nm,1.9s						
TOO	**Toolangi**	**30.87**	**248**	P	**P**	**17 31 52.9**	**+1.0**
TOO				pmax	pmax		
	comp=Z,72nm,2.0s						
CMSA	**Cobar Meteorol**	**31.14**	**260**	P	**P**	**17 31 55.5**	**+1.1**
	comp=Z,40nm,1.1s						
CMSA	**Cobar Meteorol**	**31.14**	**260**	P	**P**	**17 31 56.2**	**+1.9**
QLP	**Quilpie**	**33.50**	**268**	P	**P**	**17 32 15.7**	**+0.6**
	comp=Z,73nm,1.6s						
QLP	**Quilpie**	**33.50**	**268**	P	**P**	**17 32 16.6**	**+1.5**
ARPS	**Mount Arapiles**	**33.80**	**249**	P	**P**	**17 32 17.3**	**-0.3**
	comp=Z,15nm,2.5s						
TV1H	**Townsville Har**	**34.06**	**282**	P	**P**	**17 32 21.6**	**+1.6**
CTA	**Charters Tower**	**34.15**	**280**	P	**P**	**17 32 22.8**	**+2.0**
CTAO	**Charters Tower**	**34.15**	**280**		**P**	**17 32 21.1**	**+0.3**
CTAO	**Charters Tower**	**34.15**	**280**	P	**P**	**17 32 22.5**	**+1.7**
CTAO	**Charters Tower**	**34.15**	**280**	P	**P**	**17 32 21.1**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,183nm,1.7s						
CTAO	**Charters Tower**	**34.15**	**280**	P	**P**	**17 32 22.1**	**+1.3**
CTAO				sP	**pwP**	**17 32 34.4**	**+0.2**
STKA	**Stephens Creek**	**34.52**	**258**	P	**P**	**17 32 24.9**	**+0.9**
	comp=Z,219nm,1.0s						
STKA	**Stephens Creek**	**34.52**	**258**	P	**P**	**17 32 24.4**	**+0.5**
	comp=Z,16nm,0.7s,baz=102,slow=11,SNR=27						
STKA				LR	LR	17 44 39.5	
	comp=Z,284nm,20.6s,baz=48,slow=33						
	comp=Z,16nm,0.7s						
STKA	**Stephens Creek**	**34.52**	**258**	P	**P**	**17 32 26.2**	**+2.2**
STKA	**Stephens Creek**	**34.52**	**258**	⇓*i*P	**P**	**17 32 25.3**	**+1.3**
MGBR	**Mount Gambier**	**34.77**	**248**	P	**P**	**17 32 26.6**	**+0.6**
INKA	**Innaminka**	**36.16**	**265**		**P**	**17 32 38.6**	**+0.6**
INKA				IAmb	IAmb	17 32 52.0	
	comp=Z,27nm,0.8s						
HTT	**Hallett**	**36.50**	**255**	P	**P**	**17 32 41.1**	**0.0**
	comp=Z,12nm,1.9s						
HTT	**Hallett**	**36.50**	**255**	P	**P**	**17 32 42.7**	**+1.7**
MTSU	**Mount Surprise**	**36.66**	**282**	P	**P**	**17 32 43.7**	**+1.3**
	comp=Z,18nm,0.8s						
MTSU	**Mount Surprise**	**36.66**	**282**	P	**P**	**17 32 44.3**	**+1.8**
WHYH	**Whyalla**	**37.68**	**255**	P	**P**	**17 32 52.0**	**+1.1**
BBOO	**Buckleboo**	**38.98**	**255**	P	**P**	**17 33 01.4**	**-0.5**
	comp=Z,45nm,2.0s						
BBOO	**Buckleboo**	**38.98**	**255**	P	**P**	**17 33 00.7**	**-1.2**
BBOO				IAmb	IAmb	17 33 15.1	
	comp=Z,30nm,0.9s						
PMG	**Port Moresby**	**39.15**	**296**	LR	LR	17 45 55.2	
	comp=Z,166nm,20.0s,baz=128,slow=31						
PMG	**Port Moresby**	**39.15**	**296**	⇓*i*P	**P**	**17 33 02.8**	**-0.6**
PMG				pmax	pmax		
	comp=Z,18nm,1.1s						
QIS	**Mount Isa**	**39.60**	**275**	P	**P**	**17 33 07.7**	**+0.5**
	comp=Z,20nm,1.0s						
QIS	**Mount Isa**	**39.60**	**275**	P	**P**	**17 33 08.8**	**+1.6**
COEN	**Coen**	**39.70**	**287**	P	**P**	**17 33 08.7**	**+0.7**
	comp=Z,23nm,1.0s						
COEN	**Coen**	**39.70**	**287**	P	**P**	**17 33 07.6**	**-0.5**
COEN				IAmb	IAmb	17 33 21.2	
	comp=Z,17nm,0.8s						
COEN	**Coen**	**39.70**	**287**	P	**P**	**17 33 10.8**	**+2.7**
TAOE	**Nuku Hiva Isla**	**41.42**	**66**	*e*LR	LR	17 44 27.7	
	comp=Z,168nm,29.1s						
AS17	**Alice Springs**	**43.22**	**268**	P	**P**	**17 33 36.9**	**0.0**
	comp=Z,107nm,0.8s						
AS01	**Alice Springs**	**43.25**	**268**	P	**P**	**17 33 37.7**	**+0.5**
AS31	**Alice Springs**	**43.29**	**268**	P	**P**	**17 33 37.1**	**-0.4**
	comp=Z,29nm,0.7s						
ASAR	**Alice Springs**	**43.29**	**268**	P	**P**	**17 33 37.7**	**+0.2**
	comp=Z,34nm,0.7s,baz=105,slow=7.5,SNR=20						
ASAR				PcP	**PcP**	**17 35 25.3**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=102,slow=3.6,SNR=1.5						
ASAR				ScP	**ScP**	**17 39 17.6**	**+2.3**
	comp=Z,2.0nm,0.8s,baz=113,slow=4.2,SNR=6.6						
ASAR				LR	LR	17 51 15.1	
	comp=Z,321nm,18.4s,baz=127,slow=36						
	comp=Z,34nm,0.7s						
DRV	**Dumont d'Urvil**	**43.51**	**203**	P	**P**	**17 33 39.2**	**+0.7**
DRV				pP	**pP**	**17 33 47.9**	**+1.9**
WRAB	**Tennant Creek**	**44.35**	**273**		**P**	**17 33 45.1**	**-0.9**
WRAB	**Tennant Creek**	**44.35**	**273**	⇓*i*P	**P**	**17 33 46.2**	**+0.2**
WRAB				*i* *PP	**sP**	**17 33 56.4**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,49nm,0.9s						
WRA	**Warramunga Arr**	**44.35**	**273**	P	**P**	**17 33 46.1**	**+0.1**
	comp=Z,61nm,0.8s,baz=113,slow=7.6,SNR=17						
WRA				PcP	**PcP**	**17 35 29.4**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=121,slow=3.7,SNR=1.8						
WRA				ScP	**ScP**	**17 39 21.9**	**+2.2**
	comp=Z,4.5nm,1.1s,baz=110,slow=3.9,SNR=6.0						
WRA				LR	LR	17 51 46.1	
	comp=Z,339nm,18.2s,baz=168,slow=36						
SBA	**Scott Base**	**47.27**	**184**	P	**P**	**17 34 09.9**	**+1.6**
SBA				IAmb	IAmb	17 34 31.6	

KKM				IAmb	IAmb	17 37 30.9	
	comp=Z,23nm,1.1s						
MG03	**Isla Dawson**	**74.68**	**144**	P	**P**	**17 37 15.5**	**+0.8**
SYO	**Syowa Base**	**76.40**	**193**	*e*P	**P**	**17 37 24.6**	**+0.3**
TROLL	**Troll, Antarti**	**77.09**	**180**	⇓P	**P**	**17 37 29.6**	**+1.2**
	comp=Z,583nm,0.6s						
TROLL				⇑PcP	**PcP**	**17 37 38.4**	**-0.7**
SNAA	**Sanae**	**77.37**	**178**	⇓P	**P**	**17 37 30.6**	**+0.8**
	comp=Z,263nm,0.8s						
SNAA				⇓PcP	**pP**	**17 37 39.3**	**+1.6**
SNAA	**Sanae**	**77.37**	**178**		**P**	**17 37 29.9**	**+0.1**
SNAA				IAmb	IAmb	17 37 50.6	
	comp=Z,21nm,0.9s						
SNAA	**Sanae**	**77.37**	**178**	P	**P**	**17 37 30.7**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=192,slow=6.1,SNR=11						
	comp=Z,2.0nm,0.7s						
SNAA	**Sanae**	**77.37**	**178**	P	**P**	**17 37 29.9**	**+0.1**
SNAA				pmax	pmax		
	comp=Z,21nm,0.9s						
MDSI	**Maura Dua**	**77.50**	**272**	P	**P**	**17 37 29.5**	**-1.9**
	comp=Z,15nm,1.0s						
VNA3	**Neumayer Olymp**	**77.51**	**176**	⇑P	**P**	**17 37 31.1**	**+0.5**
	comp=Z,45nm,0.6s						
VNA3				⇓PcP	**PcP**	**17 37 40.4**	**-0.4**
VNA2	**Neumayer--Watz**	**77.95**	**177**	⇓P	**P**	**17 37 33.9**	**+0.9**
	comp=Z,34nm,0.6s,baz=170,slow=4.9						
VNA2				⇑PcP	**PcP**	**17 37 43.1**	**+0.4**
	baz=115,slow=2.9						
VNA1	**Neumayer--Stat**	**78.18**	**176**	⇓P	**P**	**17 37 35.4**	**+1.2**
	comp=Z,26nm,0.8s						
VNA1				⇑PcP	**sP**	**17 37 44.8**	**-0.2**
JGF	**Kuroka**	**78.69**	**324**	P	**P**	**17 37 35.5**	**-2.0**
JGF				IAmb	IAmb	17 38 13.3	
	comp=Z,22nm,1.4s						
H03S2	**Juan Fernandez**	**79.85**	**123**	T	T	19 06 54.4	
	baz=238,slow=74,SNR=23						
H03S1	**Juan Fernandez**	**79.86**	**123**	T	T	19 07 02.3	
	baz=238,slow=74,SNR=32						
H03S3	**Juan Fernandez**	**79.87**	**123**	T	T	19 07 07.3	
	baz=238,slow=74,SNR=36						
H03N3	**Juan Fernandez**	**80.05**	**123**	T	T	19 07 03.3	
	baz=241,slow=72,SNR=22						
H03N2	**Juan Fernandez**	**80.05**	**123**	T	T	19 07 05.7	
	baz=241,slow=72,SNR=17						
H03N1	**Juan Fernandez**	**80.06**	**123**	T	T	19 07 06.0	
	baz=241,slow=72,SNR=32						
SSLB	**Suanglung**	**80.19**	**305**	P	**P**	**17 37 45.1**	**-0.8**
PLCA	**Paso Flores**	**81.81**	**133**	P	**P**	**17 37 57.1**	**+2.5**
	comp=Z,1.5nm,0.9s,baz=194,slow=7.5,SNR=3.2						
	comp=Z,1.5nm,0.9s						
DLV	**Lat**	**82.62**	**289**	P	**P**	**17 37 57.9**	**-1.3**
KIWB	**Kanaga Island**	**82.68**	**0**	P	**P**	**17 37 57.7**	**-0.7**
JKA	**Kamikawa-asahi**	**83.23**	**332**	P	**P**	**17 38 01.6**	**+0.2**
JKA				IAmb	IAmb	17 38 09.7	
	comp=Z,12nm,1.1s						
ASAJ	**Asahikawa**	**83.23**	**332**	P	**P**	**17 38 01.6**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,12nm,1.1s						
LPIG	**La Paz**	**84.76**	**58**	LR	LR	18 09 06.4	
	comp=Z,129nm,18.5s,baz=57,slow=31						
YSS	**Yuzhno-Sakhali**	**85.55**	**334**		**P**	**17 38 13.1**	**0.0**
YSS				IAmb	IAmb	17 38 28.5	
	comp=Z,8.8nm,0.9s						
YSS	**Yuzhno-Sakhali**	**85.55**	**334**	*e*P	**P**	**17 38 13.3**	**+0.2**
YSS				*e**PP	**pwP**	**17 38 26.4**	**-1.1**
YSS				*e*S	**SKSac**	**17 48 39.0**	**+3.2**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS				pmax	pmax		
	comp=Z,100nm,5.8s						
PET	**Petropavlovsk**	**86.34**	**346**	⇓*e*P	**P**	**17 38 17.1**	**+0.2**
PET				*i* *PP	**pP**	**17 38 26.2**	**+1.1**
PET				pmax	pmax		
	comp=Z,27nm,1.2s						
PEA0B	**Petropavlovsk-**	**86.62**	**345**	⇓*e*P	**P**	**17 38 19.0**	**+0.7**
PETK	**Petropavlovsk-**	**86.62**	**345**	P	**P**	**17 38 18.1**	**-0.2**
	comp=Z,11nm,0.7s,baz=112,slow=7.1,SNR=18						
	comp=Z,11nm,0.7s						
NJ2	**Nanjing**	**86.92**	**310**	*e*P	**P**	**17 38 21.5**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CLC	**China Lake**	**87.33**	**45**	P	**P**	**17 38 22.7**	**+0.4**
CLC	**China Lake**	**87.33**	**45**	P	**P**	**17 38 22.7**	**+0.4**
CLC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
O02D	**Mt. Diablo Mer**	**87.36**	**39**	P	**P**	**17 38 22.8**	**+0.4**
O02D				IAmb	IAmb	17 39 11.6	
	comp=Z,22nm,1.7s						
IRM	**Iron Mountain**	**87.76**	**47**		**P**	**17 38 25.8**	**+1.5**
IRM				IAmb	IAmb	17 38 43.1	
	comp=Z,20nm,1.8s						
USA0B	**Ussuriysk Arra**	**87.93**	**326**	⇓*e*P	**P**	**17 38 25.3**	**+0.5**
USRK	**Ussuriysk Ar.**	**87.93**	**326**	P	**P**	**17 38 25.0**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=120,slow=2.9,SNR=12						
	comp=Z,2.0nm,0.7s						
TYV	**Tymovskoe**	**88.86**	**336**	*e*P	**P**	**17 38 25.0**	**-4.0**
TYV				pmax	pmax		
	comp=Z,100nm,4.2s						
TYV				pmax	pmax		
	comp=Z,4.0nm,1.2s						
X16A	**Lo Mia Camp, P**	**90.29**	**49**	P	**P**	**17 38 37.2**	**+0.7**
LCMT	**Little Creek M**	**90.77**	**46**	P	**P**	**17 38 40.0**	**+1.4**
LCMT				IAmb	IAmb	17 40 01.0	
	comp=Z,15nm,2.0s						
U15A	**North Rim**	**91.00**	**47**	P	**P**	**17 38 41.7**	**+1.9**
BNX	**BinXian**	**91.28**	**325**	⇑P	**P**	**17 38 40.5**	**0.0**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TXAR	**Lajitas Array**	**92.62**	**57**	P	**P**	**17 38 49.0**	**+1.7**
	comp=Z,0.3nm,0.8s,baz=259,slow=4.9,SNR=1.9						
	comp=Z,0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.87**	**289**	P	**P**	**17 38 53.7**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=133,slow=3.7,SNR=4.5						
	comp=Z,0.7nm,0.7s						
ATAH	**Atahualpa**	**94.28**	**101**	LR	LR	18 12 28.3	
	comp=Z,74nm,20.2s,baz=49,slow=30						
PZH	**PanZhiHua**	**95.86**	**297**	P	**P**	**17 39 03.9**	**+1.6**
PDAR	**Pinedale Array**	**96.55**	**43**	P	**P**	**17 39 06.5**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=242,slow=3.2,SNR=4.1						
PDAR				PKKP	**PKKPbc**	**17 55 50.1**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=64,slow=3.8,SNR=5.5						
	comp=Z,0.2nm,0.5s						
HHC	**Hu-ho-hao-te**	**96.94**	**314**	*e*P	**P**	**17 39 08.4**	**+1.6**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
LPAZ	**La Paz**	**97.62**	**114**	P	Pdif	17 39 13.5	+2.3
	comp=Z,1.1nm,0.6s,baz=219,slow=6.5,SNR=3.6						
	comp=Z,1.1nm,0.6s						
ILAR	**Eielson Array**	**98.64**	**13**	P	**P**	**17 39 13.9**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=246,slow=5.8,SNR=2.7						
	comp=Z,0.3nm,0.6s						
LZH	**Lanzhou**	**99.36**	**306**	*e*P	**Pdif**	**17 39 16.4**	**-1.5**
LZH				pP	pP	17 39 25.4	-0.7
LZH				sP	sP	17 39 29.7	+0.6
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
WMQ	**Urumqi**	**113.88**	**308**	*e*PKP	**PKiKP**	**17 44 15.3**	**+1.3**
WMQ				LR	LR		
	comp=Z,240nm,19.3s						
MK31	**Makanchi Array**	**118.44**	**310**	*c i* PKIKP	**PKPdf**	**17 44 21.6**	**-1.0**
MKAR	**Makanchi Array**	**118.44**	**310**	PKP	**PKPdf**	**17 44 21.9**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=94,slow=2.6,SNR=29						
ZALV	**Zalesovo Beam**	**118.76**	**318**	PKP	**PKPdf**	**17 44 21.9**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=156,slow=1.4,SNR=4.6						
KURK	**Kurchatov**	**121.75**	**313**		**PKPdf**	**17 44 27.9**	**-0.9**
KURK	**Kurchatov**	**121.75**	**313**	PKIKP	**PKPdf**	**17 44 27.9**	**-0.9**
KURBB	**Kurchatov Arra**	**121.78**	**313**	PKP	**PKPdf**	**17 44 28.4**	**-0.4**
	comp=Z,5.5nm,0.6s,baz=107,slow=1.9,SNR=66						
AAK	**Ala-Archa**	**122.73**	**303**	*d i* PKIKP	**PKPdf**	**17 44 31.4**	**+0.2**
KBL	**Kabul**	**124.73**	**293**		**PKPdf**	**17 44 35.0**	**-0.3**
KBL	**Kabul**	**124.73**	**293**	PKIKP	**PKPdf**	**17 44 35.1**	**-0.3**
SIMJ	**Simiganj**	**125.83**	**297**		**PKPdf**	**17 44 37.1**	**-0.1**
BVAR	**Borovoye Array**	**127.12**	**315**	PKP	**PKPdf**	**17 44 39.1**	**+0.1**
	comp=Z,5.9nm,0.6s,baz=94,slow=2.2,SNR=32						
ARTI	**Arti**	**133.94**	**320**		**PKPdf**	**17 44 50.0**	**-1.8**
ARTI	**Arti**	**133.94**	**320**	*i* PKIKP	**PKiKP**	**17 44 53.2**	**+0.1**
ARTI						17 47 19.8	
ARTI				SS	SS	18 05 02.3	-5.9
ARCES	**ARCESS Array B**	**139.40**	**348**	PKhKP	PKPpre	17 44 54.0	
	comp=Z,2.9nm,0.7s,baz=48,slow=1.7,SNR=7.6						
KLMR	**Klimovskoe**	**141.55**	**332**	*e*PKIKP	**PKPdf**	**17 45 01.9**	**-3.8**
KLMR				pmax	pmax		
	comp=Z,14nm,1.5s						
VRH	**Novokhopyorsk**	**144.76**	**316**	*e*PKIKP	**PKPab**	**17 45 09.9**	**-0.7**
VRH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MOS	**Moscow**	**145.10**	**325**	*e*PKIKP	**PKPbc**	**17 45 10.5**	**-1.1**
MOS				pmax	pmax		
	comp=Z,34nm,1.0s						
KBZ	**Khabaz**	**145.73**	**303**	PKPbc	**PKPbc**	**17 45 14.1**	**+0.1**
	comp=Z,5.7nm,0.9s,baz=81,slow=3.6,SNR=9.5						
KBZ	**Khabaz**	**145.73**	**303**	*e*PKP2	**PKPbc**	**17 45 14.4**	**+0.4**
KBZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV	**Kislovodsk**	**145.85**	**303**	*e*PKP2	**PKPdf**	**17 45 14.2**	**+0.3**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
LPSR	**Galich'ya Gora**	**145.85**	**320**	*e*PKIKP	**PKPdf**	**17 45 12.4**	**-1.1**
LPSR				pmax	pmax		
	comp=Z,40nm,1.0s						
OBN	**Obninsk**	**145.94**	**325**		**PKPdf**	**17 45 12.8**	**-0.7**
OBN	**Obninsk**	**145.94**	**325**	*c i* PKP2	**PKPdf**	**17 45 13.9**	**+0.4**
OBN				*e*		17 48 39.4	
OBN				*e*PPP	PPP	17 51 54.9	
OBN				pmax	pmax		
	comp=Z,52nm,0.9s						
FINES	**FINESS Array B**	**145.95**	**340**		**PKPdf**	**17 45 12.8**	**-0.6**
FINES	**FINESS Array B**	**145.95**	**340**	PKPbc	**PKPdf**	**17 45 13.9**	**+0.6**
	comp=Z,53nm,0.6s,baz=51,slow=3.7,SNR=310						
VORR	**Voronezh**	**146.06**	**318**	*e*PKIKP	**PKPdf**	**17 45 12.4**	**-1.5**
VORR				pmax	pmax		
	comp=Z,30nm,0.9s						
VSR	**Storozhevoye**	**146.26**	**317**	*e*PKIKP	**PKPdf**	**17 45 12.6**	**-1.6**
VSR				pmax	pmax		
	comp=Z,20nm,1.0s						
VORD	**Divnogorie**	**146.28**	**317**	*e*PKIKP	**PKPdf**	**17 45 13.5**	**-0.8**
VORD				pmax	pmax		
	comp=Z,20nm,1.0s						
KOPT	**Kop Dagi**	**147.88**	**297**		**PKPdf**	**17 45 19.3**	**+1.6**
NC303	**NORSAR Array S**	**149.36**	**351**		**PKPdf**	**17 45 21.4**	**+2.3**
NB2	**NORSAR Subarra**	**149.56**	**351**	PKP	**PKPbc**	**17 45 24.1**	**+0.1**
	comp=Z,9.9nm,0.9s,baz=20,slow=2.9						
NOA	**NORSAR Array B**	**149.56**	**351**	PKPbc	**PKPbc**	**17 45 23.9**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=15,slow=4.1,SNR=12						
HFS	**Hagfors**	**150.05**	**349**	PKPbc	**PKPbc**	**17 45 24.9**	**-0.3**
	comp=Z,3.6nm,0.5s,baz=104,slow=3.8,SNR=14						
MNK	**Minsk**	**150.37**	**329**	*i* PKIKP	**PKiKP**	**17 45 26.7**	**-0.2**
MNK				*i*		17 49 02.5	
MNK				*i* PPP	PPP	17 52 24.5	
MNK				*i*		17 52 27.7	
MNK				*i* SS	SS	18 08 22.3	+4.3
MNK				*i* SSS	SSS	18 14 03.7	
MNK				pmax	pmax		
	comp=E,17nm,1.3s						
MNK				pmax	pmax		
	comp=N,15nm,0.8s						
MNK				pmax	pmax		
	comp=Z,42nm,0.9s						
FKH	**Fakeheh**	**151.18**	**285**	*e*P	**PKiKP**	**17 45 29.8**	**+0.4**
BEIL	**Beino**	**151.38**	**286**	*e*P	**PKiKP**	**17 45 29.9**	**+0.2**
BNN	**Bunyan**	**151.57**	**295**		**PKPbc**	**17 45 27.6**	**-2.1**
GHAJ	**Ghor Haditha**	**151.58**	**279**	PKPdf	**PKPdf**	**17 45 20.2**	**-3.3**
GHAJ					**PKPbc**	**17 45 29.0**	**-0.7**
SIM	**Simferopol'**	**151.60**	**308**	*i* PKIKP	**PKiKP**	**17 45 29.9**	**+0.2**
SIM				*e*		17 45 38.8	
SIM				pmax	pmax		
	comp=Z,29nm,0.7s						
SIM				pmax	pmax		
	comp=Z,13nm,0.8s						
SHBL	**Chebaa**	**151.67**	**283**	*e*P	**PKiKP**	**17 45 31.0**	**+0.5**
QRWL	**Qaraoun**	**151.74**	**284**	*e*P	**PKiKP**	**17 45 30.9**	**+0.4**
BHL	**Bhannes**	**151.79**	**284**	*e*P	**PKiKP**	**17 45 30.8**	**+0.2**
DQRL	**Deir Qamar**	**151.84**	**284**	*e*P	**PKiKP**	**17 45 31.4**	**+0.7**
MMAI	**Mount Meron Ar**	**151.92**	**283**	PKPbc	**PKiKP**	**17 45 31.6**	**+0.7**
	comp=Z,13nm,0.4s,baz=83,slow=7.0,SNR=83						
AKASG	**Malin Array Be**	**152.05**	**322**	PKPbc	**PKPbc**	**17 45 30.2**	**0.0**
	comp=Z,14nm,0.6s,baz=52,slow=2.6,SNR=73						
KIEV	**Kiev**	**152.07**	**322**		**PKPbc**	**17 45 29.4**	**-0.8**
KIEV	**Kiev**	**152.07**	**322**	PKIKP	**PKPbc**	**17 45 29.4**	**-0.8**
BRTR	**Keskin Array B**	**153.16**	**297**	PKPbc	**PKPbc**	**17 45 33.0**	**-0.1**
	comp=Z,5.0nm,0.6s,baz=144,slow=3.4,SNR=23						
ANTO	**Ankara**	**153.78**	**298**		**PKPbc**	**17 45 34.0**	**-0.5**
ANTO	**Ankara**	**153.78**	**298**	PKIKP	**PKPbc**	**17 45 34.0**	**-0.5**
CLL	**Collm**	**158.38**	**341**	*i* PKP2	**PKPab**	**17 46 06.4**	**-0.2**
CLL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CLL	**Collm**	**158.38**	**341**	*i* PKPab	**PKPab**	**17 46 06.4**	**-0.2**
	comp=Z,9.0nm,0.8s						
BRG	**Berggiesshubel**	**158.50**	**340**	*i* PKP	**PKPab**	**17 46 09.0**	**+1.9**
BRG				Amp		17 46 09.7	
	comp=Z,7.0nm,0.9s						
VYHS	**Vyhne**	**158.61**	**329**	*e*PKP2	**PKPab**	**17 46 08.0**	**+0.2**
CONA	**Conrad Observa**	**160.31**	**332**	*i* PKP	**PKPab**	**17 46 15.8**	**+0.6**
	comp=Z,1.0nm,0.7s						
RONA	**Rosalia, Austr**	**160.31**	**331**	*i* PKP	**PKPab**	**17 46 15.7**	**+0.4**
	comp=Z,2.0nm,0.8s						
GERES	**GERESS Array B**	**160.34**	**337**	PKPab	**PKPab**	**17 46 15.0**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=54,slow=2.5,SNR=3.8						
BIOA	**Bad Ischl, Aus**	**161.35**	**335**	*i* PKP	**PKPab**	**17 46 20.7**	**+1.0**
	comp=Z,1.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**162.04**	**178**	PKPab	**PKPab**	**17 46 24.0**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=172,slow=2.8,SNR=8.5						
WTTA	**Wattenberg**	**162.40**	**338**	*i* PKP	**PKPab**	**17 46 25.1**	**+0.6**
	comp=Z,2.0nm,0.7s						
RETA	**Reutte**	**162.46**	**341**	*i* PKP	**PKPab**	**17 46 25.1**	**+0.4**
	comp=Z,5.5nm,1.4s						
MOTA	**Moosalm**	**162.49**	**340**	*i* PKP	**PKPab**	**17 46 25.4**	**+0.5**
	comp=Z,4.7nm,0.7s						
SQTA	**Sankt Quirin**	**162.57**	**339**	*i* PKP	**PKPab**	**17 46 25.6**	**+0.5**
	comp=Z,3.9nm,1.0s						
DAVA	**Damuels**	**162.88**	**342**	*i* PKP	**PKPab**	**17 46 26.6**	**0.0**
	comp=Z,3.3nm,0.6s						
FETA	**Feichten**	**162.89**	**340**	*e*PKP	**PKPab**	**17 46 27.2**	**+0.6**
	comp=Z,2.5nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**163.39**	**340**	PKPdf	**PKPdf**	**17 45 35.8**	**-2.2**
FUORN					**PKPab**	**17 46 29.1**	**+0.1**

*AZER **06** 17:27:02.2, 41.52N×49.48E, h62km, ml2.6*
*DRS **06** 17:27:04.6, 41.59N×49.49E, h30km*
ISC 06 17:27:06.1±1.5, 41.46N±0.03×49.28E±0.06, h75km±8km, n41, σ1.970/75, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIZA	**Siyzn**	**0.47**	**217**	P	**Pn**	**17 27 17.6**	**-1.6**
SIZA				S	**Sn**	**17 27 29.2**	**+0.3**
QUBA	**Quba, Azerbaij**	**0.60**	**261**	P	**Pn**	**17 27 19.1**	**-1.2**
QUBA				S	**Sn**	**17 27 30.6**	**-0.2**
ATGJ	**Altiaghaj**	**0.65**	**203**	P	**Pn**	**17 27 20.6**	**-0.3**
ATGJ				S	**Sn**	**17 27 34.1**	**+2.2**
QSAR	**Qusar**	**0.76**	**275**	P	**Pn**	**17 27 20.6**	**-1.5**
QSAR				S	**Sn**	**17 27 34.4**	**+0.4**
PQL	**Pirkuli**	**0.84**	**218**	P	**Pn**	**17 27 22.9**	**-0.3**
PQL				S	**Sn**	**17 27 37.2**	**+1.5**
KSMR	**Kasumkent**	**0.87**	**280**	*e*Pg	**Pn**	**17 27 22.2**	**-1.2**
	137nm,0.2s						
KSMR				*e*Sg	**Sn**	**17 27 36.6**	**+0.4**
	992nm,0.4s						
XNQ	**Khinaliq**	**0.90**	**252**	P	**Pn**	**17 27 22.7**	**-1.2**
XNQ				S	**Sn**	**17 27 37.8**	**+0.7**
DRN	**Derbent**	**0.91**	**309**	*e*Pg	**Pn**	**17 27 20.7**	**-3.0**
	89nm,0.1s						
DRN				*e*Sg	**Sn**	**17 27 34.4**	**-2.5**
	451nm,0.2s						
GBS	**Qobustan**	**0.95**	**195**	P	**Pn**	**17 27 24.8**	**+0.5**
IML	**Ismayilli**	**1.06**	**232**	P	**Pn**	**17 27 25.4**	**-0.3**
IML				S	**Sn**	**17 27 42.8**	**+2.6**
GOBA	**Gobu**	**1.11**	**162**	S	**Sn**	**17 27 46.0**	**+4.8**
AKT	**Akhty**	**1.16**	**272**	*e*Pg	**Pn**	**17 27 26.8**	**-0.2**
	125nm,0.2s						
AKT				*e*Sg	**Sn**	**17 27 44.7**	**+2.1**
	281nm,0.2s						
QBL	**Gabala**	**1.20**	**245**	Pn	**Pn**	**17 27 27.2**	**-0.1**
QBL				Sn	**Sn**	**17 27 45.0**	**+1.7**
GALA	**Gala**	**1.24**	**147**	S	Sn	17 27 51.7	+7.6
URKR	**Urkarakh**	**1.42**	**301**	*e*Pg	**Pn**	**17 27 29.3**	**-1.0**
	78nm,0.1s						
URKR				*e*Sg	**Sn**	**17 27 49.6**	**+1.1**
	200nm,0.2s						
ALIB	**&Aumlli-Bayram**	**1.51**	**188**	P	**Pn**	**17 27 32.8**	**+1.4**
SEKA	**Sheki**	**1.58**	**262**	Pn	**Pn**	**17 27 32.4**	**0.0**
SEKA				Sn	**Sn**	**17 27 53.0**	**+0.8**
ZRD	**Zardab**	**1.68**	**226**	Pn	**Pn**	**17 27 33.3**	**-0.4**
ZRD				Sn	**Sn**	**17 27 57.2**	**+2.7**
KMKR	**Kumukh**	**1.76**	**293**	*e*Pg	**Pn**	**17 27 34.3**	**-0.6**
	42nm,0.4s						
KMKR				*e*Sg	**Sn**	**17 27 59.2**	**+2.6**
	192nm,0.2s						
BRDA	**Brd**	**1.99**	**234**	Pn	**Pn**	**17 27 38.0**	**+0.3**
BRDA				Sn	**Sn**	**17 28 03.6**	**+1.9**
MAK	**Makhachkala**	**2.00**	**319**	*e*Pg	**Pn**	**17 27 36.2**	**-1.6**
	78nm,0.3s						
MAK				*e*Sg	**Sn**	**17 28 02.6**	**+0.6**
	208nm,0.5s						
ZKTA	**Zakatala**	**2.00**	**276**	Pn	**Pn**	**17 27 37.3**	**-0.6**
ZKTA				Sn	**Sn**	**17 28 03.4**	**+1.3**
ARKR	**Arakani**	**2.05**	**305**	*e*Pg	**Pn**	**17 27 38.5**	**-0.1**
	15nm,0.2s						
ARKR				*e*Sg	**Sn**	**17 28 06.6**	**+3.3**
	76nm,0.4s						
BUJR	**Buynaksk**	**2.12**	**311**	*e*Pg	**Pn**	**17 27 38.0**	**-1.4**
	32nm,0.3s						
BUJR				*e*Sg	**Sn**	**17 28 06.0**	**+1.2**
	148nm,0.4s						
AGDM	**Agdam**	**2.12**	**231**	Pn	**Pn**	**17 27 38.5**	**-1.0**
AGDM				Sn	**Sn**	**17 28 06.4**	**+1.3**
BLQ	**Beylaqan**	**2.17**	**218**	Sn	**Sn**	**17 28 06.8**	**+0.7**
XNZR	**Khunzakh**	**2.20**	**300**	*e*Pn	**Pn**	**17 27 40.1**	**-0.7**
	20nm,0.4s						
XNZR				*e*Sn	**Sn**	**17 28 09.5**	**+2.3**
	72nm,0.5s						
KRNR	**Karanay**	**2.23**	**309**	*e*Pn	**Pn**	**17 27 40.5**	**-0.6**
	12nm,0.3s						
KRNR				*e*Sn	**Sn**	**17 28 09.8**	**+2.0**
	71nm,0.3s						
UNCR	**Uncukul**	**2.23**	**305**	*e*Pn	**Pn**	**17 27 40.6**	**-0.5**
	10.0nm,0.4s						
UNCR				*e*Sn	**Sn**	**17 28 10.0**	**+2.2**
	72nm,0.6s						
TLTR	**Tlyarata**	**2.28**	**288**	*e*Pn	**Pn**	**17 27 42.4**	**+0.6**
	1.0nm,0.5s						
TLTR				*e*Sn	**Sn**	**17 28 13.0**	**+4.0**
	45nm,0.3s						
GLBA	**Clilabad**	**2.31**	**197**	Pn	**Pn**	**17 27 41.3**	**-0.7**
GLBA				Sn	**Sn**	**17 28 10.3**	**+0.8**
GANJ	**Ganja**	**2.38**	**251**	Pn	**Pn**	**17 27 41.4**	**-1.6**
GANJ				Sn	**Sn**	**17 28 09.7**	**-1.5**
DLMR	**Dylym**	**2.54**	**310**	*e*Pn	**Pn**	**17 27 44.5**	**-0.7**
	3.0nm,0.2s						
DLMR				*e*Sn	**Sn**	**17 28 17.4**	**+2.2**
	376nm,0.4s						
BTLR	**Botlikh**	**2.57**	**299**	*e*Pn	**Pn**	**17 27 45.4**	**-0.3**
	17nm,0.5s						
BTLR				*e*Sn	**Sn**	**17 28 19.5**	**+3.5**
	56nm,0.3s						
YRD	**Yardimli**	**2.66**	**198**	Pn	**Pn**	**17 27 45.2**	**-1.7**
YRD				Sn	**Sn**	**17 28 17.8**	**-0.4**
GDB	**GEDABAY**	**2.76**	**256**	Pn	**Pn**	**17 27 46.3**	**-2.0**
GDB				Sn	**Sn**	**17 28 19.1**	**-1.6**
LKRN	**Lenkeran, Azer**	**2.77**	**188**	Pn	**Pn**	**17 27 46.5**	**-1.8**
LKRN				Sn	**Sn**	**17 28 20.2**	**-0.4**
LRK	**Lerik**	**2.90**	**195**	Pn	**Pn**	**17 27 48.1**	**-2.1**
LRK				Sn	**Sn**	**17 28 23.6**	**-0.5**
ASTR	**Astara**	**2.92**	**187**	Pn	**Pn**	**17 27 48.3**	**-2.0**
ASTR				Sn	**Sn**	**17 28 22.2**	**-1.9**
QZX	**Qazax, Azerbai**	**2.97**	**264**	Pn	**Pn**	**17 27 49.3**	**-1.7**
QZX				Sn	**Sn**	**17 28 23.4**	**-2.1**
ORD	**Ordubad**	**3.56**	**226**	Sn	**Sn**	**17 28 41.7**	**+1.6**

IDC 06 17:29:19.9±4.7, 47.68N×92.50W, h0km, mbtmp2.5/1, ML0.8/1, Error ellipse: s-maj=89.4km s-min=29.2km az=50.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**3.40**	**320**	Pn	Pn	17 30 13.1	-1.0
	0.1nm,0.3s,baz=142,slow=12,SNR=2.3						
ULM				Sn	Sn	17 30 52.7	-2.4
	0.3nm,0.3s,baz=96,slow=19,SNR=1.3						
ULM				Lg	Lg	17 31 04.9	
	1.1nm,0.3s,baz=237,slow=20,SNR=9.9						
	2.1nm,0.8s						
I10CA	**LAC DU BONNET**	**3.43**	**319**	I	I	17 51 30.0	
	baz=134,slow=330,SNR=1.0						
I56US	**NEWPORT INFRAST**	**6.49**	**281**	I	I	19 04 05.0	
	baz

NMHZ	Naumai	9.98 200	P	Pn	17 50 14.3	-2.1
NMHZ			S	Sn	17 52 07.9	0.0
BKZ	Black Stump Fm	10.14 201	P	Pn	17 50 16.8	-1.5
BKZ			S	Sn	17 52 08.9	-2.7
HIZ	Hauiti	10.18 209	P	P	17 50 24.7	-1.9
MCHZ	McNeill Hill	10.34 200	P	Pn	17 50 20.4	-0.4
MCHZ			S	Sn	17 52 15.0	-1.2
KRVZ	Karewarewa	10.37 205	P	Pn	17 50 24.1	+2.7
WNVZ	Wahianoa	10.59 204	P	Pn	17 50 24.4	+0.2
WNVZ			S	S	17 52 23.4	+0.6
MOVZ	Moawhango	10.61 204	P	Pn	17 50 24.0	-0.3
MOVZ			S	Sn	17 52 20.6	-2.1
KRHZ	Kereru	10.62 201	P	Pn	17 50 21.0	-3.5
KRHZ			S	Sn	17 52 20.0	-2.9
VRZ	Vera Road	10.74 208	P	Pn	17 50 29.1	+3.1
PNHZ	Pukenui	10.92 201	P	Pn	17 50 25.2	-3.1
PNHZ			S	Sn	17 52 27.0	-3.1
TSZ	Takapari Road	11.13 201	P	Pn	17 50 29.6	-1.3
TSZ			S	Sn	17 52 32.3	-2.7
NEZ	North Egmont	11.14 210	P	P	17 50 36.4	-0.9
WAZ	Wanganui	11.19 206	P	Pn	17 50 32.3	+0.5
WAZ			S	S	17 52 37.1	+0.3
DVHZ	Dannevirke	11.28 200	P	Pn	17 50 33.7	+0.8
POWZ	Post Office Ro	11.49 201	P	Pn	17 50 34.8	-0.8
POWZ			S	Sn	17 52 41.2	-2.5
PRWZ	Pori Road	11.58 200	P	Pn	17 50 36.3	-0.4
PRWZ			S	Sn	17 52 43.9	-1.8
BFZ	Birch Farm	11.61 199	P	Pn	17 50 37.3	+0.2
BFZ			S	Sn	17 52 40.9	-5.6
MRZ	Mangatainoka R	11.79 201	Pn	Pn	17 50 35.7	-3.7
MRZ	Mangatainoka R	11.79 201	P	Pn	17 50 35.9	-3.6
MRZ			S	Sn	17 52 44.7	-6.2
HOWZ	Holdsworth Sta	12.03 201	P	Pn	17 50 40.3	-2.1
HOWZ			S	Sn	17 52 48.9	-7.7
OGWZ	Otaki Gorge	12.07 202	P	Pn	17 50 39.4	-3.6
OGWZ			S	Sn	17 52 52.2	-5.2
MSVF	Nonsavu	12.33 346	P	Pn	17 50 45.2	-1.3
CAW	Cannon Point	12.36 202	P	Pn	17 50 43.6	-3.1
CAW			S	Sn	17 52 58.5	-5.9
DUWZ	D'Urville Isla	12.51 206	P	Pn	17 50 47.5	-1.0
DUWZ			S	Sn	17 53 04.9	-3.0
MSWZ	Moikau Station	12.59 201	Pn	Pn	17 50 45.3	-4.1
PLWZ	Palliser	12.72 201	P	Pn	17 50 47.3	-4.0
TCW	Tory Channel	12.73 204	P	Pn	17 50 48.7	-2.6
TCW			S	Sn	17 53 06.4	-6.7
TUWZ	Tuamarina	13.04 205	P	Pn	17 50 51.8	-3.3
TUWZ			S	S	17 53 14.1	-6.4
NNZ	Nelson	13.07 207	P	Pn	17 50 54.8	-0.7
TKNZ	Takaka Hill	13.09 209	P	Pn	17 50 55.7	-0.1
BSWZ	Blackbirch Sta	13.31 205	Pn	Pn	17 50 56.1	-2.5
DZM	Mont Dzumac	15.33 297	P	P	17 51 27.0	+3.0
DZM	Mont Dzumac	15.33 297	P	P	17 51 27.7	+3.7
	22nm,0.7s,baz=116,slow=15,SNR=15					
RPZ	Rata Peaks	16.10 207	P	P	17 51 32.5	+0.2
	6.4nm,0.3s,baz=264,slow=1.9,SNR=8.3					
ODZ	Otahua Downs	17.38 206	P	P	17 51 46.7	+0.6
SANVU	Saraoutou	19.22 315	P	P	17 51 57.6	-8.8
EIDS	Eidsvold	27.03 272	P	P	17 53 23.9	+2.8
EIDS			IAmb	IAmb	17 53 37.5	
	comp=Z,16nm,1.2s					
CAN	Canberra	27.64 250	P	P	17 53 29.6	+3.2
CTAO	Charters Tower	33.02 279	P	P	17 54 15.8	+1.9
CTAO			IAmb	IAmb	17 54 17.4	
	comp=Z,5.5nm,0.9s					
STKA	Stephens Creek	33.96 256	P	P	17 54 23.8	+1.9
STKA	Stephens Creek	33.96 256	P	P	17 54 23.8	+1.9
	comp=Z,3.4nm,0.6s,baz=121,slow=15,SNR=5.1					
	comp=Z,3.4nm,0.6s					
INKA	Innaminka	35.41 263	P	P	17 54 36.1	+1.8
COEN	Coen	38.44 286	P	P	17 54 60.0	0.0
COEN			IAmb	IAmb	17 55 41.1	
	comp=Z,13nm,1.4s					
BBOO	Buckleboo	38.48 254	P	P	17 55 01.5	+1.4
BBOO			IAmb	IAmb	17 55 15.6	
	comp=Z,38nm,1.4s					
AS31	Alice Springs	42.46 267	P	P	17 55 33.6	+0.7
ASAR	Alice Springs	42.46 267	P	P	17 55 33.6	+0.7
	comp=Z,3.9nm,0.6s,baz=103,slow=7.3,SNR=47					
ASAR			PcP	PcP	17 57 23.4	+1.5
	comp=Z,1.1nm,0.6s,baz=107,slow=4.4,SNR=7.0					
	comp=Z,3.9nm,0.6s					
WR8	Warramunga Arr	43.25 272	P	P	17 55 39.7	+0.5
WR8			IAmb	IAmb	17 55 41.8	
	comp=Z,9.8nm,0.5s					
WRA	Warramunga Arr	43.39 272	P	P	17 55 40.7	+0.4
	comp=Z,8.2nm,0.5s,baz=110,slow=7.5,SNR=92					
WRA			PcP	PcP	17 57 25.2	0.0
	comp=Z,1.7nm,0.7s,baz=112,slow=3.0,SNR=8.4					
	comp=Z,8.2nm,0.5s					
WB0	Warramunga Arr	43.41 272	P	P	17 55 41.0	+0.5
WB0			IAmb	IAmb	17 55 42.6	
	comp=Z,12nm,0.5s					
SBA	Scott Base	48.61 184	P	P	17 56 23.1	+2.9
VNDA	Vanda	48.65 186	P	P	17 56 23.4	+2.9
VNDA	Vanda	48.65 186	P	P	17 56 23.6	+3.1
	comp=Z,0.6nm,0.8s,baz=19,slow=6.4,SNR=5.4					
	comp=Z,0.6nm,0.8s					
KNRA	Kununurra	49.98 274	P	P	17 56 31.6	+0.2
KNRA			IAmb	IAmb	17 56 39.2	
	comp=Z,20nm,1.4s					
KNRA			PcP	PcP	17 57 48.7	+0.3
FITZ	Fitzroy Crossi	51.68 270	P	P	17 56 44.9	+0.8
PSA00	Pilbara Seismi	55.36 263	P	P	17 57 10.9	+0.1
PSA00			PcP	PcP	17 58 07.8	-1.0
CASY	Casey	55.37 208	P	P	17 57 10.8	+0.6
CASY			IAmb	IAmb	17 57 12.5	
	comp=Z,5.7nm,0.7s					
MBWA	Marble Bar	55.61 264	P	P	17 57 11.4	-1.2
MBWA			IAmb	IAmb	17 57 15.1	
	comp=Z,8.3nm,1.1s					
MORW	Morawa	56.05 253	P	P	17 57 15.7	+0.1
MORW			IAmb	IAmb	17 57 41.7	
	comp=Z,23nm,1.4s					
QSPA	South Pole Qui	60.33 180	P	P	17 57 49.1	+4.2
QSPA	South Pole Qui	60.33 180	P	P	17 57 48.6	+3.8
	comp=Z,3.2nm,0.6s,baz=327,slow=0.9,SNR=39					
	comp=Z,3.2nm,0.6s					
KKM	Kota Kinabalu	71.71 288	P	P	17 58 58.0	0.0
MAW	Mawson	72.65 201	P	P	17 59 04.5	+1.9
	comp=Z,3.3nm,0.6s,baz=143,slow=7.2,SNR=14					
	comp=Z,3.3nm,0.6s					
JGF	Kuroka	77.02 325	P	P	17 59 26.3	-1.8
JGF			IAmb	IAmb	17 59 27.9	
	comp=Z,9.5nm,0.8s					
MJAR	Matsushiro Arr	77.34 326	P	P	17 59 28.6	-1.3
	comp=Z,3.5nm,0.8s,baz=157,slow=5.1,SNR=9.6					
	comp=Z,3.5nm,0.8s					
MAJO	Matsushiro	77.34 326	P	P	17 59 28.3	-1.5
MAJO			IAmb	IAmb	17 59 29.7	
	comp=Z,5.8nm,0.9s					
YULB	Yu-li	78.15 306	P	P	17 59 32.0	-2.6
YULB			IAmb	IAmb	17 59 49.0	
	comp=Z,14nm,1.0s					
TROLL	Troll, Antarti	78.49 180	⇑P	P	17 59 37.5	+1.6
	comp=Z,157nm,1.0s					
SSLB	Suanglung	78.64 306	P	P	17 59 34.4	-2.9
SSLB			IAmb	IAmb	17 59 42.9	
	comp=Z,11nm,0.9s					
SNAA	Sanae	78.80 179	⇑P	P	17 59 38.6	+1.1
	comp=Z,13nm,0.4s					
SNAA	Sanae	78.80 179	P	P	17 59 38.4	+0.9
SNAA	Sanae	78.80 179	P	P	17 59 38.4	+0.9
	comp=Z,0.6nm,0.4s,baz=207,slow=8.0,SNR=9.1					
	comp=Z,0.6nm,0.4s					
VNA3	Neumayer Olymp	78.97 176	⇑P	P	17 59 39.3	+0.9
	comp=Z,4.9nm,0.6s					
DLV	Lat	81.31 289	P	P	17 59 52.2	+0.2
KSRS	Korea Array	83.43 320	P	P	18 00 02.1	0.0
	comp=Z,1.9nm,0.7s,baz=141,slow=5.5,SNR=6.6					
	comp=Z,1.9nm,0.7s					
EFI	East Falkland	83.69 147	P	P	18 00 03.8	+0.4
IPM	Ipoh	83.72 279	P	P	18 00 03.3	-0.9
IPM			IAmb	IAmb	18 00 04.7	
	comp=Z,12nm,0.8s					
YSS	Yuzhno-Sakhali	83.89 335	P	P	18 00 03.1	-1.1
YSS			IAmb	IAmb	18 00 05.5	
	comp=Z,6.5nm,0.9s					
PEA0B	Petropavlovsk-	85.04 346	P	P	18 00 08.2	-1.7
PETK	Petropavlovsk-	85.04 346	P	P	18 00 07.5	-2.3
	comp=Z,5.3nm,0.8s,baz=155,slow=5.1,SNR=3.8					
	comp=Z,5.3nm,0.8s					
GSI	Gunungsitoli	85.11 274	P	P	18 00 11.4	+0.1
USRK	Ussuriysk Ar.	86.26 327	P	P	18 00 15.4	-0.7
	comp=Z,2.9nm,0.7s,baz=121,slow=4.0,SNR=14					
	comp=Z,2.9nm,0.7s					
CMAR	Chiang Mai Arr	92.55 290	P	P	18 00 46.9	+0.7
	comp=Z,0.8nm,0.6s,baz=144,slow=4.3,SNR=5.7					
	comp=Z,0.8nm,0.6s					
MKAR	Makanchi Array	116.85 310	PKP	PKPdf	18 06 15.4	-2.3
	comp=Z,0.3nm,0.4s,baz=121,slow=0.4,SNR=6.1					
ZALV	Zalesovo Beam	117.11 319	PKP	PKPdf	18 06 15.1	-2.8
	comp=Z,0.5nm,0.6s,baz=100,slow=6.2,SNR=4.0					
KURBB	Kurchatov Arra	120.16 314	PKP	PKPdf	18 06 21.6	-2.3
	comp=Z,0.9nm,0.6s,baz=100,slow=1.8,SNR=12					
BVAR	Borovoye Array	125.48 316	PKP	PKPdf	18 06 32.4	-1.7
	comp=Z,1.6nm,0.5s,baz=77,slow=1.9,SNR=11					
KBZ	Khabaz	144.19 305	PKP	PKPab	18 07 07.6	+0.2
	comp=Z,1.8nm,0.6s,baz=90,slow=3.0,SNR=4.4					
FIA1	FINESS Array S	144.32 340	PKPdf	PKPab	18 07 05.2	-2.1
FINES	FINESS Array B	144.32 340	PKPdf	PKPab	18 07 05.2	-2.1
FINES	FINESS Array B	144.32 340	PKP	PKPab	18 07 05.0	-2.3
	comp=Z,4.6nm,0.5s,baz=59,slow=3.7,SNR=54					
GEVA	Gevas	144.54 295	PKPbc		18 07 09.3	0.0
NC405	NORSAR Array S	147.89 350	PKPbc	PKPbc	18 07 17.5	-0.6
NOA	NORSAR Array B	148.03 351	PKPbc	PKPdf	18 07 16.2	+1.1
	comp=Z,2.1nm,0.6s,baz=15,slow=4.4,SNR=8.6					
NC602	NORSAR Array S	148.27 350	PKPdf	PKPdf	18 07 14.0	-1.4
HFS	Hagfors	148.49 348	PKPbc	PKPdf	18 07 17.6	+1.8
	comp=Z,4.8nm,0.7s,baz=36,slow=1.8,SNR=22					
AKASG	Malin Array Be	150.39 323	PKPbc	PKPbc	18 07 22.4	-2.2
	comp=Z,1.3nm,0.3s,baz=49,slow=2.8,SNR=15					
AKASG			PKPab	PKPab	18 07 30.5	-1.2
	comp=Z,2.3nm,0.6s,baz=49,slow=4.4,SNR=9.6					
MMAI	Mount Meron Ar	150.71 285	PKPbc	PKPbc	18 07 26.1	+0.1
	comp=Z,3.8nm,0.5s,baz=87,slow=5.2,SNR=26					
MMAI			PKPab	PKPab	18 07 34.4	+0.6
	comp=Z,0.8nm,0.4s,baz=106,slow=5.3,SNR=4.7					
BRTR	Keskin Array B	151.70 299	PKPbc	PKPbc	18 07 27.0	-1.2
	comp=Z,0.9nm,0.5s,baz=111,slow=3.2,SNR=6.9					
BRTR			PKPab	PKPab	18 07 37.1	-0.7
	comp=Z,1.1nm,0.7s,baz=109,slow=4.6,SNR=6.2					
TORD	Torodi Ar. Bea	163.45 182	PKPab	PKPab	18 08 28.8	+0.1
	comp=Z,1.1nm,0.7s,baz=164,slow=3.0,SNR=6.6					

AFAD ***06*** *17:53:44.9,35˚.11N×27˚.90E,h18km±2km,ML2.5*
ISK ***06*** *17:53:45.1,35˚.11N×27˚.89E,h3km,ML2.7/10*
GII ***06*** *17:53:46.4±0.0,35˚.039N±0˚.002×27˚.821E±0˚.001,h20km, Mws3.1,confirmed*
ATH ***06*** *17:53:46.8,35˚.13N×27˚.99E,h19km±9km,ML2.7/3, Manual Solution by F.Gkika First location: 2019/09/06 17:55:14, This location: 2021/07/07 14:54:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*

ISC 06 17:53:45.4±1.4,35˚.10N±0˚.03×27˚.95E±0˚.03,h6km±10km, n66,σ0°87/87,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.78	305	Pg	Pg	17 54 00.3	-0.1
KARP				Sg	Sg	17 54 10.8	+0.2
RGE1	Gennadi, Rhode	0.93	359	P	Pb	17 54 03.9	0.0
RGE1				S	Sg	17 54 15.5	+0.3
ARG	Arkhangelos	1.12	7	Pn	Pb	17 54 07.2	-0.1
ARG				Sn	Sn	17 54 23.5	0.0
ARG	Arkhangelos	1.12	7	P	Pg	17 54 07.1	+0.1
ARG				S	Sg	17 54 21.8	+0.2
ZKR	Zakros	1.42	271	Pn	Pb	17 54 12.1	-0.2
ZKR	Zakros	1.42	271	P	Pb	17 54 12.3	+0.1
ZKR				S	Sn	17 54 30.8	0.0
YAZI	Mula-Dat§a-	1.63	346	P	Pb	17 54 15.5	-0.4
YAZI				S	Sb	17 54 36.8	+0.1
YAZI				*i* IAML		17 54 41.0	
	comp=N,49nm,0.5s						
DAT	Datca	1.65	350	Pn	Pn	17 54 15.4	+0.3
DAT				Sn	Sb	17 54 37.8	+0.3
DAT	Datca	1.65	350	P	Pn	17 54 15.6	+0.5
DAT				S	Sb	17 54 37.3	-0.2
DAT				*i* IAML		17 54 47.0	
	comp=N,89nm,0.8s						
DAT				*i* IAML		17 54 49.0	
	comp=E,83nm,0.7s						
TURN	Turunc	1.69	8	Pn	Pb	17 54 16.2	-0.7
TURN				Sn	Sg	17 54 39.4	-0.3
TURN	Turunc	1.69	8	P	Pb	17 54 16.4	-0.5
TURN				S	Sg	17 54 39.5	-0.2
TURN				*i* IAML		17 54 44.0	
	comp=N,74nm,0.5s						
TURN				*i* IAML		17 54 47.0	
	comp=E,68nm,0.4s						
IZZE	Mula-Seydike	1.69	38	P	Pn	17 54 15.9	+0.4
IZZE				S	Sn	17 54 36.0	-1.6
IZZE				*i* IAML		17 54 44.0	
	comp=E,44nm,0.5s						
IZZE				*i* IAML		17 54 48.0	
	comp=N,67nm,0.4s						
SABU	Mula-Dalaman	1.91	25	P	Pn	17 54 19.6	+1.0
SABU				S	Sg	17 54 46.3	-0.5
SABU				*i* IAML		17 55 04.0	
	comp=E,42nm,0.7s						
SABU				*i* IAML		17 55 11.0	
	comp=N,38nm,1.0s						
NPS	Neapolis	1.92	276	P	Pn	17 54 19.0	+0.4
NPS				S	Sn	17 54 43.1	0.0
BDRM	Kayabasi	2.00	348	P	Pn	17 54 20.1	+0.3
BDRM				S	Sn	17 54 44.5	-0.7
BDRM				*i* IAML		17 54 58.0	
	comp=E,44nm,0.5s						
BDRM				*i* IAML		17 55 21.0	
	comp=N,39nm,1.0s						
CAME	Cameli-Denizli	2.14	30	Pn	Pn	17 54 22.9	+1.0
MULA	Mugla, Merkez-	2.17	8	P	Pb	17 54 24.6	-0.6
KNIK	Mula-Seydike	2.19	37	P	Pn	17 54 23.2	+0.8
AKUM	Antalya-Kumluc	2.30	57	P	Pb	17 54 26.5	-0.8
CAEL	Denizli, Camel	2.31	28	P	Pg	17 54 29.9	+0.3
CAEL	Denizli, Camel	2.31	28	P	Pg	17 54 30.3	+0.7
DNZT	Denizli-Tavas-	2.34	22	P	Pn	17 54 26.0	+1.5
DNZT	Denizli-Tavas-	2.34	22	P	Pn	17 54 25.5	+0.9
THERA	Ancient Thera,	2.38	303	P	Pn	17 54 25.1	+0.1
THERA				S	Sn	17 54 53.9	-0.5
TAVA	DENIZLI_Tavas	2.49	18	S	Sb	17 54 59.4	-2.1
TAVA	DENIZLI_Tavas	2.49	18	P	Pn	17 54 27.8	+1.3
TAVA				*i* IAML		17 55 11.0	
	comp=N,25nm,0.6s						
TAVA				*i* IAML		17 55 15.0	
	comp=E,24nm,0.5s						
GOLH	Golhisar	2.50	31	P	Pb	17 54 29.3	-1.5
IDI	Anoyia	2.51	275	Pn	Pn	17 54 27.5	+0.6
IDI	Anoyia	2.51	275	P	Pn	17 54 27.4	+0.6
AYDN	Tasoluk	2.56	359	P	Pn	17 54 28.2	+0.8
AYDN				*i* IAML		17 55 19.0	
	comp=E,27nm,1.7s						
AYDN				*i* IAML		17 55 20.0	
	comp=N,24nm,0.5s						
DNIZ	Denizli-Tavas-	2.67	19	P	Pn	17 54 29.1	0.0
DNIZ				S	Sn	17 55 03.5	+1.7
ESEN	Aydn-Nazilli	2.71	7	P	Pn	17 54 31.4	+1.9
ESEN				S	Sn	17 55 02.2	-0.5
KORT	Korkueli	2.72	45	Pn	Pn	17 54 31.2	+1.4
AYDB	Zeytinkoy-Aydi	2.84	359	Pn	Pn	17 54 32.1	+0.7
IZMR	zmir-demi	3.03	0	P	Pn	17 54 34.0	+0.1
IZMR				S	Sn	17 55 11.8	+1.2
KIRA	zmir-Kiraz	3.11	7	P	Pn	17 54 35.9	+0.7
ODEM	Odemis-Izmir	3.17	2	Pn	Pn	17 54 36.9	+1.0
ISP	Isparta	3.42	37	P	Pn	17 54 40.3	+0.9
ISP				S	Sn	17 55 18.0	-2.2
AKMS	Akamas	3.60	90	P	Pn	17 54 41.1	-0.7
USAK	Uak-Merkez	3.71	13	P	Pn	17 54 43.7	+0.4
USAK				*i* IAML		17 55 29.0	
	comp=E,16nm,0.5s						
USAK				*i* IAML		17 56 56.0	
	comp=N,10nm,4.1s						
YVAC	Isparta, Yalva	4.12	39	P	Pn	17 54 52.2	+3.1
ASGA	Asgata	4.37	93	P	Pn	17 54 51.8	-0.5
NATI	Neve Ativ	6.71	104	P	Pn	17 55 25.3	+0.9
NATI	Neve Ativ	6.71	104	S	Sn	17 56 42.7	+1.5
SALP	Salfit	6.76	115	P	Pn	17 55 26.0	+0.8
SALP	Salfit	6.76	115	S	Sn	17 56 43.1	+0.6
HMDT	Nahal Hemdat	6.93	112	P	Pn	17 55 28.3	+0.8
HMDT	Nahal Hemdat	6.93	112	S	Sn	17 56 47.5	+0.9
DSI	Dead Sea	7.15	117	P	Pn	17 55 31.2	+0.7
DSI	Dead Sea	7.15	117	S	Sn	17 56 52.3	+0.3
RMNI	Mount Ramon	7.28	126	P	Pn	17 55 33.1	+0.6
RMNI	Mount Ramon	7.28	126	S	Sn	17 56 56.3	+0.8
GHAJ	Ghor Haditha	7.42	119	P	Pn	17 55 34.9	+0.7
GHAJ	Ghor Haditha	7.42	119	S	Sn	17 56 59.4	+0.6
KRMI	Paran Flat	7.57	129	P	Pn	17 55 36.4	0.0
KRMI	Paran Flat	7.57	129	S	Sn	17 57 01.7	-0.9
ZFRI	Zfri	7.59	125	P	Pn	17 55 36.8	+0.3
ZFRI	Zfri	7.59	125	S	Sn	17 57 03.1	+0.3
PRNI	Paran	7.60	127	P	Pn	17 55 37.2	+0.5
PRNI	Paran	7.60	127	S	Sn	17 57 03.8	+0.6
HRFI	Mount Harif	7.83	128	P	Pn	17 55 40.4	+0.5
HRFI				P	Pn	17 55 40.6	+0.7
HRFI	Mount Harif	7.83	128	S	Sn	17 57 08.4	-0.5
HRFI				S	Sn	17 57 09.0	+0.2
MBRI	Mt Berech	7.91	130	P	Pn	17 55 41.4	+0.3
MBRI	Mt Berech	7.91	130	S	Sn	17 57 11.7	+0.7
EIL	Elat	8.02	130	P	Pn	17 55 42.6	+0.1
EIL	Elat	8.02	130	S	Sn	17 57 13.8	+0.2

NOU ***06*** *17:53:42.4,36˚.44S×178˚.19E,h252km,MLv4.5/11,Off E. Coast of N. Island, N.Z.*
WEL ***06*** *17:53:52.4±0.9,37˚.S±6˚×17˚.8E±˚,h162km±9km,M3.4/26, ML3.6/29,MLv3.4/26, Error ellipse: s-maj=9.0km s-min=5.7km az=48.0,confirmed*

ISC 06 17:53:46.7±2.5,36˚.56S±0˚.08×177˚.81E±0˚.09, h208km±14km,n59,σ1°62/72,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.08	159	P	Pn	17 54 19.1	+1.3
MXZ	Matakaoa Point	1.08	159	P	Pn	17 54 18.9	+1.2
MXZ				S	S	17 54 40.6	-1.4
HAZ	Te Kaha	1.20	181	P	Pn	17 54 19.1	+0.5
HAZ				S	S	17 54 40.5	-2.9
PKGZ	Pakihiroa	1.33	171	P	Pn	17 54 21.0	+1.4
PKGZ				S	S	17 54 43.3	-2.0
WMGZ	Waiomatatini S	1.35	159	P	Pn	17 54 21.3	+1.5
WMGZ				S	S	17 54 45.0	-0.5
RUGZ	Raukumara Rang	1.41	184	P	Pn	17 54 21.4	+1.0
PUZ	Puketiti	1.56	167	P	Pn	17 54 23.3	+1.8
TWGZ	Tauwhareparae	1.62	175	P	Pn	17 54 24.1	+1.8
TWGZ				S	S	17 54 48.8	-0.9
OPRZ	Ohinepanea	1.63	218	P	Pn	17 54 22.9	+0.7
MARZ	Manawahe	1.69	212	P	Pn	17 54 24.9	+2.1
KUZ	Kuaotunu	1.69	263	P	Pn	17 54 22.9	+0.1
KUZ	Kuaotunu	1.69	263	P	Pn	17 54 22.9	+0.1
TGRZ	Tauranga	1.71	226	P	Pn	17 54 23.7	+0.8
URZ	Urewera	1.79	198	P	Pn	17 54 25.0	+1.3
URZ	Urewera	1.79	198	P	Pn	17 54 24.4	+0.8
GRZ	Great Barrier	1.92	278	P	Pn	17 54 25.4	+0.4
OMRZ	Omania	1.93	216	P	Pn	17 54 27.4	+2.4
CNGZ	Carnagh Statio	1.95	171	P	Pn	17 54 27.5	+2.3
RAGZ	Rawiri	1.96	189	P	Pn	17 54 28.1	+2.8
KMRZ	Kaimai	1.97	229	P	Pn	17 54 26.8	+1.3
RRRZ	Republican Roa	2.06	210	P	Pn	17 54 28.8	+2.4
MUGZ	Murupara	2.09	203	P	Pn	17 54 28.3	+1.6
MUGZ				S	S	17 54 56.7	-0.9
RIGZ	Rimuhau	2.15	181	P	Pn	17 54 29.2	+1.9
RIGZ				S	S	17 54 57.2	-1.5
RTZ	Ruatahuna	2.16	198	P	Pn	17 54 29.3	+1.8
RTZ				S	S	17 54 57.8	-1.3
WIAZ	Waiheke Island	2.17	263	P	Pn	17 54 28.3	+0.8
TOZ	Tahuroa Road	2.19	237	P	Pn	17 54 29.3	+1.6
MKAZ	Moumakai	2.20	255	P	Pn	17 54 28.8	+1.1
PRRZ	Plateau Road	2.25	210	P	Pn	17 54 30.7	+2.4
GRRZ	Galatos Road	2.25	217	P	Pn	17 54 30.5	+2.2
SNGZ	Shannon Statio	2.25	189	P	Pn	17 54 30.5	+2.2
SNGZ				S	S	17 55 00.5	-0.2
ALRZ	Allen Road	2.32	210	P	Pn	17 54 31.0	+1.9
ETAZ	East Tamaki Re	2.35	259	P	Pn	17 54 30.7	+1.3
MBAZ	Motutapu North	2.35	264	P	Pn	17 54 30.6	+1.1
WPRZ	Whakapapatarin	2.36	213	P	Pn	17 54 32.3	+2.8
ABAZ	Army Bay	2.40	268	P	Pn	17 54 31.1	+1.1
MTHZ	Maungataniwha	2.42	198	P	Pn	17 54 32.1	+1.9
MTHZ				S	S	17 55 02.7	-1.2
RAHZ	Arahi	2.43	194	P	Pn	17 54 31.9	+1.6
RAHZ				S	S	17 55 02.1	-1.8
KNZ	Kokohu	2.46	183	P	Pn	17 54 32.1	+1.5
KNZ				S	S	17 55 03.8	-0.9
EPAZ	Eden Park BICE	2.49	262	P	Pn	17 54 31.6	+0.7
HBAZ	Herne Bay Bore	2.50	262	P	Pn	17 54 31.0	+0.1
KUTZ	Kaahu Road	2.50	219	P	Pn	17 54 33.4	+2.4
AWAZ	Awhitu Peninsu	2.59	258	P	Pn	17 54 33.8	+1.7
MHGZ	Mahia Peninsul	2.59	178	P	Pn	17 54 33.8	+1.7
RVAZ	Riverhead Bore	2.61	264	P	Pn	17 54 33.6	+1.3
WTAZ	Waiatarua	2.63	261	P	Pn	17 54 33.8	+1.3
NMHZ	Naumai	2.66	197	P	Pn	17 54 34.9	+2.1
BKZ	Black Stump Fm	2.81	201	P	Pn	17 54 35.3	+0.8
BKZ	Black Stump Fm	2.81	201	P	Pn	17 54 35.4	+0.8
WCZ	Waipu Caves	2.87	281	P	Pn	17 54 35.9	+0.7
HIZ	Hauiti	3.06	229	P

MANT *i* IAML 17 55 33.0
comp=N,29nm,0.3s
MANT *i* IAML 17 55 34.0
comp=E,22nm,0.2s

GII 06 17:57:12.1±0.0, 33°090N±0°003×35°635E±0°001, h16km, Mws1.1, confirmed, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEM	**Giv'at Ha'Em**	**0.12**	**11**	P	Pg	17 57 15.8	+0.1
GEM	**Giv'at Ha'Em**	**0.12**	**11**	S	Sb	17 57 19.1	+0.4
HDNS	**Had-Ness**	**0.16**	**178**	P	Pg	17 57 15.8	-0.4
HDNS	**Had-Ness**	**0.16**	**178**	S	Sg	17 57 19.4	+0.4
KSHT	**Keshet**	**0.18**	**126**	P	Pb	17 57 17.0	-0.1
KSHT	**Keshet**	**0.18**	**126**	S	Sb	17 57 20.5	+0.1
NATI	**Neve Ativ**	**0.19**	**26**	P	Pg	17 57 16.9	+0.3
NATI	**Neve Ativ**	**0.19**	**26**	S	Sb	17 57 20.8	+0.1
MMA0B	**Mount Meron ar**	**0.21**	**249**	P	Pb	17 57 17.4	-0.1
MMA0B	**Mount Meron ar**	**0.21**	**249**	S	Sb	17 57 21.4	+0.2
MMC7	**Mount Meron ar**	**0.21**	**252**	P	Pg	17 57 17.1	0.0
RMOT	**Ramot**	**0.24**	**174**	P	Pb	17 57 17.7	-0.3
RMOT	**Ramot**	**0.24**	**174**	S	Sb	17 57 22.2	+0.2
HNTI	**Hanita**	**0.39**	**269**	P	Pb	17 57 20.5	-0.1
HNTI	**Hanita**	**0.39**	**269**	S	Sb	17 57 26.0	-0.3

IDC 06 18:00:15.7±1.8, 3°63S×150°99E, h0km, mb3.3/5, mbtmp3.4/5, Error ellipse: s-maj=60.4km s-min=29.6km az=93.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.94**	**224**	P	P	18 05 22.2	+0.4
	0.3nm,0.6s,baz=52,slow=9.9,SNR=4.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**25.86**	**218**	P	P	18 05 48.8	-0.6
	0.4nm,0.7s,baz=44,slow=9.7,SNR=6.7						
	0.4nm,0.7s						
VNDA	**Vanda**	**74.06**	**178**	P	P	18 11 53.6	+0.5
	0.1nm,0.3s,baz=270,slow=2.0,SNR=6.5						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**78.27**	**319**	P	P	18 12 17.5	-0.1
	0.2nm,0.7s,baz=107,slow=4.8,SNR=2.2						
	0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**79.19**	**327**	P	P	18 12 22.3	-0.2
	0.4nm,0.5s,baz=108,slow=4.7,SNR=1.8						
	0.4nm,0.5s						

CATAC 06 18:02:51.5±0.4, 12°N±1°×87°W±°, h8km±2km, M2.6/11, MLv2.6/11, Error ellipse: s-maj=4.8km s-min=2.5km az=73.5, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAS3	**Al N del Volca**	**0.05**	**199**	P	Pg	18 02 52.9	-0.4
MAS3				S	Sg	18 02 55.1	+0.5
AERN	**Aeropuerto Man**	**0.07**	**353**	S	Sg	18 02 55.6	+0.7
AERN	**Aeropuerto Man**	**0.07**	**353**	P	Pg	18 02 53.2	-0.3
MASN	**Masaya**	**0.09**	**175**	P	Pg	18 02 54.2	+0.4
MASN				S	Sg	18 02 57.3	+1.9
WILN	**Americas 2**	**0.09**	**342**	P	Pg	18 02 54.0	+0.2
WILN				S	Sg	18 02 57.0	+1.5
MGAN	**Managua**	**0.11**	**311**	S	Sg	18 02 57.7	+1.7
MGAN	**Managua**	**0.11**	**311**	P	Pg	18 02 54.9	+0.7
R4DEC	**Barrio San Lui**	**0.12**	**311**	S	Sg	18 02 57.8	+1.8
UNAN	**Cigeo UNAN**	**0.12**	**289**	P	Pg	18 02 54.6	+0.4
UNAN				S	Sg	18 02 57.9	+1.8
TISN	**Laguna Tiscapa**	**0.13**	**303**	P	Pg	18 02 54.9	+0.5
NANN	**Nandasmo**	**0.14**	**164**	S	Sg	18 02 59.3	+2.7
NANN	**Nandasmo**	**0.14**	**164**	P	Pg	18 02 55.4	+0.9
ALLN	**Telcor Managua**	**0.14**	**306**	S	Sg	18 02 59.0	+2.4
BOAB	**BOACO BROADBAN**	**0.61**	**52**	S	Sb	18 03 1.2	-0.7
BOAB	**BOACO BROADBAN**	**0.61**	**52**	P	Pg	18 03 0.2	-0.4
MATN	**Matagalpa**	**0.88**	**15**	P	Pn	18 03 09.9	-0.4
MATN	**Matagalpa**	**0.88**	**15**	S	Sn	18 03 22.4	-0.9

*DNK **06** 18:08:43.3±3.8, 71°.29N×10°.10W, h0km±36km, ML2.5*
*BER **06** 18:08:44.8±3.1, 71°.27N×10°.00W, h0km±15km, mb(Pn)4.2, ML3.1, ML2.5(DNK), Confirmed Earthquake*

ISC 06 18:08:42.5±2.1, 71°.40N±0°.08×9°.89W±0°.08, h10km±19km, n23, σt§35/33, 3C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.60**	**128**	*i*P	**Pg**	**18 08 54.5**	**+0.4**
JNW				*e*S	**Sg**	**18 09 01.9**	**-0.1**
JNW				IAML		18 09 15.3	
	comp=Z,1μm,0.6s						
JMI	**Jan Mayen**	**0.60**	**141**	*e*P	**Pg**	**18 08 54.6**	**+0.4**
JMI				*e*S	**Sg**	**18 09 02.0**	**-0.1**
JMI				IAML		18 09 14.5	
	comp=Z,1μm,0.4s						
JMIC	**Jan Mayen**	**0.61**	**132**	⇑*i*P	**Pg**	**18 08 54.4**	**+0.1**
JMIC				*e*S	**Sg**	**18 09 01.6**	**-0.7**
JMIC				IAML		18 09 09.9	
	comp=Z,1μm,0.5s						
JMIC	**Jan Mayen**	**0.61**	**132**	*i*P	**Pg**	**18 08 54.4**	**+0.1**
JMIC				*i*S	**Sg**	**18 09 00.7**	**-1.6**
JNE	**Jan Mayen East**	**0.66**	**128**	⇑*i*P	**Pg**	**18 08 55.1**	**-0.1**
JNE				*e*S	**Sg**	**18 09 03.1**	**-0.8**
JNE				IAML		18 09 04.9	
	comp=Z,1μm,0.6s						
SCO	**Scoresbysund**	**4.06**	**263**	*e*P	**Pn**	**18 09 45.0**	**+0.5**
SCO				*e*S	**Sn**	**18 10 32.4**	**+0.3**
SCO	**Scoresbysund**	**4.06**	**263**	*e*P	**Pn**	**18 09 45.0**	**+0.5**
SCO				*e*S	**Sn**	**18 10 32.4**	**+0.3**
DBG	**Daneborg**	**4.22**	**318**	*i*P	**Pn**	**18 09 47.0**	**+0.2**
DBG				*e*S	**Sn**	**18 10 31.9**	**-4.1**
DBG				IAML		18 10 49.8	
	comp=Z,13nm,1.2s						
DBG	**Daneborg**	**4.22**	**318**	*i*P	**Pn**	**18 09 47.0**	**+0.2**
DBG				*i*S	**Sn**	**18 10 34.9**	**-1.1**
DBG				IAML		18 10 49.8	
	comp=Z,13nm,1.2s						
DAG	**Danmarks Havn**	**5.90**	**340**	*i*P	**Pn**	**18 10 10.0**	**+0.2**
DAG				*e*S	Sn	18 11 14.0	-3.3
DAG				IAML		18 11 21.9	
	comp=Z,16nm,0.5s						
DAG	**Danmarks Havn**	**5.90**	**340**	*i*P	**Pn**	**18 10 10.0**	**+0.2**
DAG				*e*S	**Sn**	**18 11 17.0**	**-0.4**
DAG				IAML		18 11 21.9	
	comp=Z,16nm,0.5s						
HSPB	**Hornsund (broa**	**8.83**	**39**	*e*P	**Pn**	**18 10 51.6**	**+1.7**
BJO1	**Bjornoya**	**8.96**	**56**	*e*P	**Pn**	**18 10 52.5**	**+0.7**
KBS	**Kingsbay**	**9.30**	**26**	*e*P	**Pn**	**18 10 58.2**	**+1.8**
KBS				*e*S	Sn	18 12 35.0	-5.9
KBS				IAML		18 12 42.4	
	comp=Z,4.9nm,0.4s						
KBS	**Kingsbay**	**9.30**	**26**	*i*P	**Pn**	**18 10 59.0**	**+2.6**
KBS				*i*S	Sn	18 12 37.4	-3.5
STEI	**Steigen**	**9.37**	**100**	*e*P	**Pn**	**18 10 56.6**	**-0.6**
VAGH	**Vaagaholmen**	**9.47**	**108**	*e*P	**Pn**	**18 10 57.6**	**-1.0**
VAGH				IAML		18 12 48.8	
	comp=Z,3.1nm,1.1s						
SPA0	**Spitsbergen Ar**	**9.56**	**33**	*e*P	**Pn**	**18 11 02.4**	**+2.5**
SPA0				IAML		18 12 22.9	
	comp=Z,2.9nm,0.9s						
KONS	**Konsvik**	**9.57**	**110**	*e*P	**Pn**	**18 10 59.0**	**-1.1**
KONS				IAML		18 12 50.3	
	comp=Z,2.3nm,0.6s						
STOK	**Stokkvaagen**	**9.65**	**110**	*e*P	**Pn**	**18 11 00.4**	**-0.7**
STOK				*e*S	Sn	18 12 41.8	-7.6
STOK				IAML		18 12 42.9	
	comp=Z,3.3nm,0.7s						
LEIR	**Leirfjorden**	**9.83**	**111**	*e*P	**Pn**	**18 11 02.7**	**-0.9**
LEIR				*e*S	Sn	18 12 46.9	-6.9
LEIR				IAML		18 12 49.6	
	comp=Z,2.0nm,0.6s						
NOR	**Nord**	**10.37**	**354**	*i*P	**Pn**	**18 11 11.0**	**+0.1**
NOR				*e*S	Sn	18 13 00.5	-6.4
NOR				IAML		18 13 12.5	
	comp=Z,21nm,1.6s						
HOPEN	**Hopen**	**10.75**	**46**	*e*P	**Pn**	**18 11 18.6**	**+2.4**

*DJA **06** 18:35:12.3±0.6, 19°N±4°×14°5E±°, h226km±5km, M4.8/29, mb4.8/29, mB5.2/7, MLv4.9/1, Mw(mB)4.6/7*
*NEIC **06** 18:35:12.5±1.6, 19°.00N±0°.06×145°.5E±0°.1, h232km±6km, mb4.5/157, Error ellipse: s-maj=14.3km s-min=8.5km az=80.0*

*IDC **06** 18:35:14.7±1.0, 18°.98N×145°.41E, h258km±9km, mb4.1/32, mbtmp4.7/36, Error ellipse: s-maj=11.6km s-min=5.7km az=91.0*

ISC 06 18:35:12.9±0.7, 18°.99N±0°.03×145°.42E±0°.06, h240km±6km, n508, σ0§99/500, mb4.5/112, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.39**	**186**		**Pn**	**18 36 32.7**	**-0.6**
GUMO				Sn	**S**	**18 37 34.4**	**-3.0**
GUMO	**Guam**	**5.39**	**186**	P	**Pn**	**18 36 33.9**	**+0.5**
	45nm,0.3s,baz=115,slow=5.3,SNR=34						
GUMO				S	**S**	**18 37 35.3**	**-2.1**
	208nm,0.3s,baz=17,slow=22,SNR=9.8						
GUMO	**Guam**	**5.39**	**186**	P	**Pn**	**18 36 33.0**	**-0.3**
JCJ	**Chichijima**	**8.60**	**340**	Pn	**Pn**	**18 37 11.8**	**-2.0**
JCJ				Sn	**S**	**18 38 43.3**	**-7.9**
JMZ	**Minamidaito 2**	**14.78**	**300**		**Pn**	**18 38 30.1**	**-0.7**
JHJ2	**Mitsune**	**14.93**	**341**		**P**	**18 38 33.3**	**+0.8**
JHJ2	**Mitsune**	**14.93**	**341**	P	**P**	**18 38 34.7**	**+2.2**
JHJ2	**Mitsune**	**14.93**	**341**	S	**S**	**18 41 19.9**	**+2.3**
JHJ	**Hachijo jima 2**	**14.95**	**341**	P	**P**	**18 38 33.9**	**+1.2**
	82nm,0.7s,baz=343,slow=21,SNR=7.7						
JHJ				S	**S**	**18 41 17.9**	**-0.1**
	139nm,0.8s,baz=73,slow=24,SNR=2.1						
PATS	**Pohnpei**	**17.41**	**132**	P	**P**	**18 39 00.5**	**+0.6**
JOW	**Kunigami**	**17.61**	**299**		**Pn**	**18 39 04.5**	**+0.2**
JOW	**Kunigami**	**17.61**	**299**	P	**Pn**	**18 39 04.4**	**+0.1**
	44nm,0.4s,baz=131,slow=12,SNR=3.1						
INU	**Inuyama**	**17.91**	**337**		**P**	**18 39 05.7**	**+0.6**
INU	**Inuyama**	**17.91**	**337**	P	**Pn**	**18 39 07.3**	**-0.5**
JMN	**Monobe**	**17.93**	**327**	P	**P**	**18 39 05.3**	**-0.1**
JMN	**Monobe**	**17.93**	**327**	P	**Pn**	**18 39 07.7**	**-0.4**
JGF	**Kuroka**	**18.02**	**338**		**P**	**18 39 07.0**	**+0.7**
JGF	**Kuroka**	**18.02**	**338**	P	**P**	**18 39 08.1**	**+1.8**
MJAR	**Matsushiro Ar**	**18.60**	**342**	P	**P**	**18 39 11.9**	**-0.7**
MJAR				IAmb	IAmb	18 39 21.9	
	comp=Z,34nm,1.4s						
MJAR	**Matsushiro Arr**	**18.60**	**342**	P	**P**	**18 39 12.7**	**+0.1**
	comp=Z,8.0nm,0.5s,baz=169,slow=10.0,SNR=25						
MJAR				S	**S**	**18 42 30.0**	**-1.7**
	comp=Z,5.1nm,1.0s,baz=132,slow=18,SNR=4.8						
MJAR				ScP	**ScP**	**18 46 39.9**	**-3.1**
	comp=Z,1.4nm,0.6s,baz=169,slow=4.0,SNR=5.5						
MAJO	**Matsushiro**	**18.60**	**342**		**P**	**18 39 12.8**	**+0.2**
MAJO	**Matsushiro**	**18.60**	**342**	P	**Pn**	**18 39 14.8**	**-1.2**
JMM	**Marumori**	**19.24**	**349**		**P**	**18 39 20.3**	**+0.9**
JMM	**Marumori**	**19.24**	**349**	P	**Pn**	**18 39 22.0**	**-1.4**
JSD	**Sado**	**19.98**	**343**	P	**P**	**18 39 28.6**	**+1.3**
MANU	**Manus Island**	**20.99**	**175**		**P**	**18 39 37.0**	**-1.1**
JAY	**Jayapura**	**21.87**	**193**	P	**P**	**18 39 47.0**	**+0.4**
	comp=Z,37nm,0.9s,baz=346,slow=5.0,SNR=21						
	comp=Z,37nm,0.9s						
JAY	**Jayapura**	**21.87**	**193**	P	**P**	**18 39 46.6**	**-0.1**
	comp=Z,68nm,0.9s						
SMPI	**Sarmi**	**21.87**	**198**	P	**P**	**18 39 48.5**	**+1.9**
JTM	**Tenmabayashi**	**22.04**	**351**		**P**	**18 39 48.3**	**+0.3**
JTM	**Tenmabayashi**	**22.04**	**351**	P	**P**	**18 39 49.9**	**+1.9**
GENI	**Genyem**	**22.06**	**194**	P	**P**	**18 39 49.9**	**+1.5**
	comp=Z,2μmcomp=Z,92nm,0.9s						
YULB	**Yu-li**	**22.90**	**285**	P	**P**	**18 39 57.5**	**+1.4**
YHNB	**Yeheng**	**23.01**	**289**	P	**P**	**18 39 57.3**	**+0.2**
YHNB	**Yeheng**	**23.01**	**289**	P	**P**	**18 39 59.3**	**+2.2**
ERM	**Erimo**	**23.03**	**356**	P	**P**	**18 39 57.8**	**+0.8**
ERM				IAmb	IAmb	18 40 14.7	
	comp=Z,15nm,0.8s						
ERM	**Erimo**	**23.03**	**356**	P	**P**	**18 39 59.1**	**+2.1**
SSLB	**Suanglung**	**23.26**	**286**	P	**P**	**18 39 59.6**	**+0.2**
SSLB	**Suanglung**	**23.26**	**286**	P	**P**	**18 40 01.1**	**+1.8**
KSRS	**Korea Array**	**23.93**	**324**	P	**P**	**18 40 05.5**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=144,slow=9.0,SNR=10						
	comp=Z,1.6nm,0.5s						
RABL	**Rabaul**	**23.97**	**163**	P	**P**	**18 40 05.1**	**-0.8**
JKA	**Kamikawa-asahi**	**25.16**	**355**		**P**	**18 40 17.4**	**+1.1**
JKA				IAmb	IAmb	18 40 20.9	
	comp=Z,12nm,0.6s						
FAKI	**Fak Fak**	**25.33**	**212**	P	**P**	**18 40 18.2**	**0.0**
FAKI	**Fak Fak**	**25.33**	**212**	P	**P**	**18 40 18.8**	**+0.7**
NJ2	**Nanjing**	**27.19**	**304**	*e*P	**P**	**18 40 36.6**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
USRK	**Ussuriysk Ar.**	**27.54**	**339**	P	**P**	**18 40 38.3**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=151,slow=9.8,SNR=5.6						
	comp=Z,1.7nm,0.6s						
YSS	**Yuzhno-Sakhali**	**27.98**	**356**		**P**	**18 40 40.9**	**-0.4**
YSS				IAmb	IAmb	18 40 42.7	
	comp=Z,9.9nm,0.6s						
AAI	**Ambon**	**28.20**	**219**	P	**P**	**18 40 44.1**	**+0.5**
	comp=Z,47nm,0.8s						
PMG	**Port Moresby**	**28.27**	**176**	P	**P**	**18 40 43.1**	**-1.1**
PMG	**Port Moresby**	**28.27**	**176**	P	**P**	**18 40 43.4**	**-0.8**
	comp=Z,19nm,0.6s,baz=353,slow=4.4,SNR=6.5						
	comp=Z,19nm,0.6s						
PMG	**Port Moresby**	**28.27**	**176**	P	**P**	**18 40 44.8**	**+0.5**
PMG	**Port Moresby**	**28.27**	**176**	P	**P**	**18 40 44.7**	**+0.5**
MRSI	**Marisa**	**29.48**	**234**	P	**P**	**18 40 55.3**	**+0.4**
	comp=Z,25nm,1.0s						
MYLDM	**Lahad Datu**	**29.62**	**246**	P	**P**	**18 40 57.5**	**+1.3**
LUWI	**Luwuk**	**29.85**	**231**	P	**P**	**18 40 58.3**	**+0.1**
LUWI	**Luwuk**	**29.85**	**231**	P	**P**	**18 40 58.8**	**+0.5**
LUWI	**Luwuk**	**29.85**	**231**	S	**S**	**18 45 38.1**	**+0.7**
TOLI2	**Tolitoli**	**29.98**	**237**	P	**P**	**18 41 00.4**	**+1.0**
TOLI2				IAmb	IAmb	18 41 09.9	
	comp=Z,8.8nm,0.8s						
TOLI2	**Tolitoli**	**29.98**	**237**	P	**P**	**18 41 00.8**	**+1.4**
TATA	**Tatamba Isabel**	**30.68**	**151**	P	**P**	**18 41 06.6**	**+1.1**
KKM	**Kota Kinabalu**	**31.21**	**249**	P	**P**	**18 41 11.1**	**+0.8**
KKM	**Kota Kinabalu**	**31.21**	**249**	P	**P**	**18 41 11.5**	**+1.2**
HNR	**Honiara**	**31.67**	**152**	P	**P**	**18 41 13.9**	**-0.3**
BJT	**Baijiatuau**	**32.73**	**316**	P	**P**	**18 41 24.6**	**+1.4**
BJT				IAmb	IAmb	18 41 39.2	
	comp=Z,11nm,1.2s						
COEN	**Coen**	**32.81**	**184**		**P**	**18 41 24.1**	**+0.1**
COEN	**Coen**	**32.81**	**184**	P	**P**	**18 41 24.6**	**+0.5**
TTSI	**Tana Toraja**	**33.37**	**232**	P	**P**	**18 41 29.6**	**+0.6**
	comp=Z,491nmcomp=Z,47nm,0.7s						
HURO	**Huro Makira**	**33.48**	**150**	P	**P**	**18 41 29.9**	**+0.1**
NGOA	**Tingoa Renbel**	**33.61**	**153**	P	**P**	**18 41 30.7**	**-0.2**
KDU	**Kakadu**	**33.96**	**203**	P	**P**	**18 41 34.5**	**+0.5**
SPSI	**Sidrap Palu**	**34.03**	**231**	P	**P**	**18 41 35.0**	**+0.4**
	comp=Z,525nmcomp=Z,45nm,0.7s						
BNSI	**Bone**	**34.08**	**230**	P	**P**	**18 41 36.4**	**+1.4**
	comp=Z,49nm,0.8s						
HEH	**HeiHe**	**34.34**	**339**	*e*P	**P**	**18 41 38.1**	**+1.2**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MTN	**Manton Dam**	**34.62**	**205**		**P**	**18 41 38.4**	**-1.2**
MTN	**Manton Dam**	**34.62**	**205**	P	**P**	**18 41 40.1**	**+0.5**
KAPI	**Kappang**	**34.76**	**229**		**P**	**18 41 40.9**	**0.0**
KAPI	**Kappang**	**34.76**	**229**	P	**P**	**18 41 41.4**	**+0.6**
	comp=Z,17nm,0.6s,baz=44,slow=2.6,SNR=6.3						
	comp=Z,17nm,0.6s						
PETK	**Petropavlovsk-**	**35.37**	**13**	P	**P**	**18 41 46.8**	**+1.2**
	comp=Z,3.5nm,0.7s,baz=163,slow=5.7,SNR=6.8						
	comp=Z,3.5nm,0.7s						
SOEI	**Soe**	**35.37**	**218**		**P**	**18 41 45.1**	**-1.0**
SOEI	**Soe**	**35.37**	**218**	P	**P**	**18 41 47.1**	**+0.9**
SOEI	**Soe**	**35.37**	**218**	P	**P**	**18 41 44.5**	**-1.7**
	comp=Z,50nm,0.7s						
MMRI	**Maumere**	**35.72**	**222**	P	**P**	**18 41 48.7**	**-0.4**
LUES	**Luesalemba Tem**	**35.73**	**144**	P	**P**	**18 41 49.6**	**+0.5**
BATI	**Baumata**	**36.08**	**218**	P	**P**	**18 41 51.0**	**-1.1**
	comp=Z,37nm,0.5s,baz=356,slow=0.8,SNR=9.6						
	comp=Z,37nm,0.5s						
BATI	**Baumata**	**36.08**	**218**	P	**P**	**18 41 50.3**	**-1.8**
	comp=Z,55nm,0.7s						
HHC	**Hu-ho-hao-te**	**36.21**	**314**	*e*P	**P**	**18 41 55.1**	**+2.0**
HHC				pmax	pmax		
	comp=Z,39nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,7.2s						
SBUM	**Sibu**	**36.41**	**247**		**P**	**18 41 55.0**	**+0.1**
MTSU	**Mount Surprise**	**36.91**	**182**	P	**P**	**18 41 59.8**	**+0.8**
TV1H	**Townsville Har**	**38.04**	**178**	P	**P**	**18 42 08.2**	**-0.2**
KNRA	**Kununurra**	**38.15**	**207**		**P**	**18 42 09.5**	**+0.1**
WBSI	**Waikabubak, Su**	**38.31**	**224**	P	**P**	**18 42 09.0**	**-1.9**
KSM	**Kuching**	**38.55**	**247**	P	**P**	**18 42 12.8**	**0.0**
KSM				IAmb	IAmb	18 42 14.3	
	comp=Z,12nm,0.7s						
PLAI	**Plampang**	**38.82**	**227**	P	**P**	**18 42 15.9**	**+0.9**
CTA	**Charters Tower**	**38.84**	**179**	P	**P**	**18 42 14.8**	**-0.3**
CTAO	**Charters Tower**	**38.84**	**179**		**P**	**18 42 13.9**	**-1.2**
CTAO				IAmb	IAmb	18 42 15.8	
	comp=Z,10nm,0.8s						
CTAO	**Charters Tower**	**38.84**	**179**	P	**P**	**18 42 15.1**	**0.0**
SLVN	**Son La**	**38.96**	**281**		**P**	**18 42 17.4**	**+1.2**
TWSI	**Taliwang, Sumb**	**39.38**	**228**	P	**P**	**18 42 19.3**	**-0.4**
QIS	**Mount Isa**	**39.71**	**189**	P	**P**	**18 42 22.6**	**+0.3**
WRAB	**Tennant Creek**	**40.17**	**196**		**P**	**18 42 26.5**	**+0.4**
WRA	**Warramunga Arr**	**40.19**	**196**	P	**P**	**18 42 25.4**	**-0.8**
WRA	**Warramunga Arr**	**40.19**	**196**	P	**P**	**18 42 26.9**	**+0.7**
	comp=Z,26nm,0.5s,baz=18,slow=8.9,SNR=205						
WRA				PcP	**PcP**	**18 44 25.1**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=17,slow=3.1,SNR=4.5						
WRA				ScP	**ScP**	**18 47 50.6**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=23,slow=3.8,SNR=3.2						
WRA				S	**S**	**18 48 11.8**	**-3.0**
	comp=Z,2.0nm,1.0s,baz=18,slow=17,SNR=5.9						
	comp=Z,26nm,0.5s						
SANVU	**Saraoutou**	**40.38**	**146**	P	**P**	**18 42 26.8**	**-1.1**
SANVU	**Saraoutou**	**40.38**	**146**	P	**P**	**18 42 28.5**	**+0.7**
MA2	**Magadan**	**40.72**	**4**	P	**P**	**18 42 31.8**	**+1.7**
MA2				IAmb	IAmb	18 42 48.6	
	comp=Z,21nm,1.2s						
PZH	**PanZhiHua**	**40.81**	**289**	P	**P**	**18 42 33.4**	**+1.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**41.66**	**209**		**P**	**18 42 38.8**	**+0.6**
FITZ				IAmb	IAmb	18 42 41.4	
	comp=Z,11nm,0.7s						
FITZ	**Fitzroy Crossi**	**41.66**	**209**	P	**P**	**18 42 38.9**	**+0.7**
	comp=Z,52nm,0.6s,baz=33,slow=11,SNR=202						
FITZ				S	**S**	**18 48 35.3**	**-1.3**
	comp=Z,2.4nm,1.1s,baz=89,slow=22,SNR=1.8						
	comp=Z,52nm,0.6s						
FITZ	**Fitzroy Crossi**	**41.66**	**209**	P	**P**	**18 42 39.1**	**+0.9**
AMKA	**Amchitka**	**41.90**	**32**	P	**P**	**18 42 41.1**	**+1.3**
ULN	**Ulaanbaatar**	**42.38**	**322**	P	**P**	**18 42 44.8**	**+0.9**
SONM	**Songino Array**	**42.75**	**321**	P	**P**	**18 42 47.1**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=137,slow=9.9,SNR=12						
SONM				ScP	**ScP**	**18 47 59.4**	**-2.2**
	comp=Z,0.9nm,0.8s,baz=116,slow=3.4,SNR=3.9						
	comp=Z,1.8nm,0.5s						
UGM	**Wanagama**	**43.56**	**235**	P	**P**	**18 42 53.9**	**+0.3**
AS01	**Alice Springs**	**43.85**	**195**	P	**P**	**18 42 56.2**	**+0.5**
ASAR	**Alice Springs**	**43.86**	**195**	P	**P**	**18 42 56.1**	**+0.3**
ASAR	**Alice Springs**	**43.86**	**195**	P	**P**	**18 42 56.0**	**+0.2**
	comp=Z,20nm,0.6s,baz=16,slow=7.6,SNR=414						
ASAR				ScP	**ScP**	**18 48 02.9**	**-3.3**
	comp=Z,0.6nm,0.9s,baz=25,slow=4.6,SNR=3.1						
ASAR				S	**S**	**18 49 08.6**	**0.0**
	comp=Z,1.8nm,0.9s,baz=19,slow=17,SNR=6.5						
	comp=Z,20nm,0.6s						
CMAR	**Chiang Mai Arr**	**43.92**	**277**	P	**P**	**18 42 58.4**	**+1.9**
	comp=Z,4.9nm,0.7s,baz=69,slow=6.7,SNR=29						
CMAR				PcP	**PcP**	**18 44 38.2**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=94,slow=3.6,SNR=6.0						
	comp=Z,4.9nm,0.7s						
KIWB	**Kanaga Island**	**43.97**	**33**	P	**P**	**18 42 56.3**	**0.0**
ADK	**Adak**	**44.22**	**33**	P	**P**	**18 42 57.1**	**-1.2**
ADK				PcP	**PcP**	**18 44 38.0**	**-0.4**
ADK	**Adak**	**44.22**	**33**	P	**P**	**18 42 59.7**	**+1.4**
YAK	**Yakutsk**	**44.39**	**349**		**P**	**18 42 59.0**	**-0.4**
YAK				IAmb	IAmb	18 43 00.7	
	comp=Z,17nm,0.7s						
EIDS	**Eidsvold**	**44.43**	**173**	P	**P**	**18 42 58.8**	**-1.5**
QLP	**Quilpie**	**45.31**	**181**	P	**P**	**18 43 06.6**	**-0.6**
IPM	**Ipoh**	**45.64**	**257**		**P**	**18 43 10.7**	**+0.7**
IPM				IAmb	IAmb	18 43 13.0	
	comp=Z,17nm,0.8s						
KULM	**Kulim**	**45.69**	**259**		**P**	**18 43 11.1**	**+0.7**
KULM				IAmb	IAmb	18 43 13.7	
	comp=Z,20nm,0.8s						
KULM				PcP	**PcP**	**18 44 43.5**	**-0.6**
KULM	**Kulim**	**45.69**	**259**	P	**P**	**18 43 11.7**	**+1.3**
DZM	**Mont Dzumac**	**45.70**	**152**		**P**	**18 43 10.2**	**-0.2**
DZM				PcP	**PcP**	**18 44 43.2**	**-0.9**
DZM	**Mont Dzumac**	**45.70**	**152**	P	**P**	**18 43 11.1**	**+0.8**
ONTNC	**Ouen Toro**	**45.91**	**152**	P	**P**	**18 43 10.8**	**-1.0**
OUENC	**Ouen Island, N**	**46.17**	**152**	P	**P**	**18 43 14.9**	**+1.0

F14K Arctic Creek 56.16 22 P P 18 44 28.5 +1.1
baz=238
M15K Kasigluk River 56.23 29 P P 18 44 28.2 +0.3
baz=247
TOO Toolangi 56.26 180 P P 18 44 28.6 +0.1
TOO IAmb IAmb 18 45 09.9
comp=Z,24nm,1.4s
L15K Ungalak Mounta 56.27 27 P P 18 44 28.3 +0.1
baz=245
N15K Kwethluk River 56.30 29 P P 18 44 29.6 +1.1
baz=248
K15K Wolf Creek Mou 56.51 27 P P 18 44 30.4 +0.4
baz=245
BLDU Ballidu 56.52 210 P P 18 44 30.7 +0.3
G15K Niukluk 56.75 23 P P 18 44 31.9 +0.4
baz=241
KLBR Kellerberrin 56.87 208 P P 18 44 33.3 +0.5
F15K North Star Dit 56.88 22 P P 18 44 32.2 -0.3
baz=240
P16K Nushagak River 56.89 31 P P 18 44 31.2 -1.4
baz=250
O16K Kokwok River B 57.03 30 P P 18 44 33.9 +0.3
baz=250
M16K Timber Creek 57.13 29 P P 18 44 35.0 +0.7
baz=248
H16K Elim 57.26 24 P P 18 44 34.9 -0.2
baz=243
R17L Mt. Peulik Vol 57.27 33 P P 18 44 35.2 -0.2
baz=253
J16K Anvik River 57.31 26 P P 18 44 35.2 -0.4
baz=245
I17K Unalakleet 57.53 25 P P 18 44 37.4 +0.4
baz=245
G16K Koyuk River 57.56 23 P P 18 44 37.4 +0.2
baz=242
O17K Koliganek Bris 57.57 30 P P 18 44 37.1 -0.3
baz=251
ZALV Zalesovo Beam 57.62 322 P P 18 44 36.7 -1.2
ZALV PcP 18 45 26.4 -1.7
ZALV Zalesovo Beam 57.62 322 P P 18 44 37.1 -0.8
comp=Z,1.9nm,0.7s,baz=105,slow=7.8,SNR=9.6
ZALV PcP PcP 18 45 27.7 -0.4
comp=Z,1.3nm,0.6s,baz=111,slow=6.3,SNR=3.8
ZALV ScP ScP 18 49 03.2 -1.7
comp=Z,0.3nm,0.3s,baz=95,slow=3.0,SNR=1.8
comp=Z,1.9nm,0.7s
Q17K Contact Creek 57.70 32 P P 18 44 38.2 -0.2
baz=253
P17K Kvichak River 57.70 31 P P 18 44 38.0 -0.3
baz=252
N17K Nushagak Hills 57.77 30 P P 18 44 39.3 +0.5
baz=250
L17K Donlin 57.84 27 P P 18 44 39.7 +0.5
baz=248
MUN Mundaring 57.90 209 P P 18 44 40.3 +0.3
M17K Holitna River 57.96 28 P P 18 44 40.6 +0.6
baz=250
C16K Lisburne Hills 57.98 19 P P 18 44 40.3 +0.2
baz=238
J17K VABM Dome 57.99 26 P P 18 44 40.9 +0.6
baz=247
K17K Iditarod 58.05 27 P P 18 44 40.9 +0.2
baz=248
MKAR Makanchi Array 58.07 314 P P 18 44 40.6 -0.6
MKAR PcP PcP 18 45 27.8 -2.4
MKAR Makanchi Array 58.07 314 P P 18 44 41.5 +0.4
comp=Z,3.5nm,0.6s,baz=90,slow=8.8,SNR=34
MKAR PcP PcP 18 45 29.7 -0.5
comp=Z,2.0nm,0.7s,baz=84,slow=5.4,SNR=5.6
MKAR ScP ScP 18 49 06.2 -1.0
comp=Z,0.2nm,0.5s,baz=92,slow=7.2,SNR=1.5
comp=Z,3.5nm,0.6s
SII Sitkinak Islan 58.12 35 P P 18 44 41.6 +0.3
SII Sitkinak Islan 58.12 35 P P 18 44 41.2 -0.1
baz=256
NWAO Narrogin (SRO) 58.23 208 P P 18 44 42.2 -0.1
NWAO PcP PcP 18 45 31.3 +0.5
NWAO Narrogin (SRO) 58.23 208 P P 18 44 42.9 +0.6
G17K Kiwalik Mounta 58.25 23 P P 18 44 42.4 +0.4
baz=244
Q18K Katmai Hardscr 58.25 32 P P 18 44 42.2 0.0
baz=254
H17K Granite Mounta 58.28 24 P P 18 44 42.6 +0.3
baz=245
P18K Big Mountain, 58.35 31 P P 18 44 42.8 0.0
baz=253
D17K Noatak River 58.41 21 P P 18 44 42.9 -0.2
baz=240
N18K Kilae Creek 58.43 30 P P 18 44 43.9 +0.5
baz=252
F17K Baldwin Pennin 58.45 22 P P 18 44 42.9 -0.5
baz=243
E17K Hotham Inlet 58.54 21 P P 18 44 43.5 -0.5
baz=242
M18K Stony River 58.72 29 P P 18 44 45.5 +0.2
baz=251
OHAK Old Harbor 58.76 34 P P 18 44 46.5 +0.9
OHAK IAmb IAmb 18 45 29.5
comp=Z,19nm,1.5s
OHAK Old Harbor 58.76 34 P P 18 44 46.8 +1.2
OHAK Old Harbor 58.76 34 P P 18 44 45.7 +0.1
baz=256
C17K DeLong Mountai 58.77 20 P P 18 44 45.8 +0.2
baz=240
H18K Honhosa River 58.97 24 P P 18 44 47.1 +0.1
baz=246
Q19K Cape Douglas, 59.01 32 P P 18 44 46.9 -0.5
baz=255
F18K Selawik 59.09 22 P P 18 44 47.8 +0.1
baz=244
E18K Tukpahlearik C 59.12 21 P P 18 44 48.2 +0.2
baz=243
N19K Bonanza Creek 59.13 30 P P 18 44 47.7 -0.5
baz=253
G18K Tagagawik 59.16 23 P P 18 44 48.4 +0.1
baz=246
KDAK Kodiak Island 59.26 33 P P 18 44 49.5 +0.4
KDAK IAmb IAmb 18 45 13.1
comp=Z,8.5nm,1.0s
KDAK Kodiak Island 59.26 33 P P 18 44 48.8 -0.2
baz=256
P19K Oil Pt 59.40 31 P P 18 44 49.9 -0.1
baz=255
C18K Utukok River 59.49 20 P P 18 44 51.6 +1.1
baz=242
Q20K Shuyak Island 59.56 32 P P 18 44 51.3 +0.2
baz=256
J19K Poorman 59.64 26 P P 18 44 52.6 +1.0
baz=250
B18K Kokolik River 59.65 19 P P 18 44 53.2 +1.7
baz=241
G19K Purcell Mounta 59.85 23 P P 18 44 54.7 +1.7
baz=247
H19K Roundabout Mou 59.86 24 P P 18 44 54.6 +1.7
baz=248
F19K Shaleruckik Mo 59.87 23 P P 18 44 53.9 +0.9
baz=246
L20K Farewell, AK 59.90 28 P P 18 44 53.8 +0.4
baz=252
M20K Styx River 60.06 29 P P 18 44 55.6 +1.0
baz=253
K20K Telida 60.09 27 P P 18 44 55.3 +0.7
baz=252
C19K Lookout Ridge 60.22 20 P P 18 44 56.1 +0.6
baz=243
A19K Wainwright 60.28 18 P P 18 44 56.7 +1.0
baz=241
E19K Redstone River 60.31 22 P P 18 44 57.0 +0.9
baz=246
J20K Nowinta River 60.31 26 P P 18 44 57.1 +1.0
baz=251
CNPM China Poot 60.35 32 P P 18 44 56.5 -0.1
CNPM IAmb IAmb 18 44 57.8
comp=Z,8.4nm,0.9s
D19K Kuna River 60.44 21 P P 18 44 57.7 +0.7
baz=245
H20K Anotleneega Mo 60.46 24 P P 18 44 57.9 +0.8
baz=250
BRLK Bradley Lake 60.58 31 P P 18 44 57.0 -1.1
F20K Avaraart Lake 60.70 23 P P 18 44 59.5 +0.9
baz=248
PPLA Purkeypile 60.77 28 P P 18 44 59.8 +0.4
PPLA IAmb IAmb 18 45 12.5
comp=Z,17nm,1.4s
SKT Skwentna 60.82 29 P 18 44 60.0 +0.4
SKT Skwentna 60.82 29 P P 18 44 59.6 0.0
baz=255

KURK Kurchatov 60.88 318 P 18 45 00.0 -0.1
KURBB Kurchatov Arra 60.93 318 P P 18 45 00.0 -0.5
comp=Z,6.6nm,0.8s,baz=97,slow=7.3,SNR=37
comp=Z,6.6nm,0.8s
CHUM Lake Minchumin 60.99 27 P P 18 45 01.8 +1.1
baz=253
E20K Nigu River 60.99 21 P P 18 45 01.8 +1.1
baz=247
D20K Etivluk River 61.03 21 P P 18 45 01.6 +0.7
baz=246
SUA Susitna One 61.05 30 P P 18 45 01.3 0.0
SUA Susitna One 61.05 30 P P 18 45 01.5 +0.2
baz=256
WCZ Waipu Caves 61.11 153 P P 18 45 03.2 +1.4
H21K Melozitna Rive 61.33 25 P P 18 45 03.0 +0.1
baz=252
G21K Allakaket 61.33 24 P P 18 45 03.3 +0.3
baz=251
SEW Seward 61.36 31 P P 18 45 02.9 -0.3
SEW IAmb IAmb 18 45 05.2
comp=Z,6.5nm,0.8s
SEW Seward 61.36 31 P P 18 45 03.2 +0.1
baz=258
B20K Meade River 61.38 19 P P 18 45 03.8 +0.6
baz=245
RC01 Rabbit Creek A 61.44 30 P P 18 45 03.2 -0.5
baz=257
CUT Chulitn 61.50 29 P P 18 45 03.6 -0.4
baz=256
I21K Tanana 61.51 25 P P 18 45 04.1 0.0
baz=253
F21K Alatna River 61.58 23 P P 18 45 05.5 +0.9
baz=250
BPAW Bear Paw Mtn. 61.62 27 P 18 45 05.8 +0.9
BPAW IAmb IAmb 18 45 07.0
comp=Z,9.9nm,0.9s
BPAW Bear Paw Mtn. 61.62 27 P P 18 45 05.2 +0.3
baz=254
TRF Thorofare Moun 61.75 27 P P 18 45 06.3 +0.3
baz=255
C21K Knifeblade Rid 61.81 21 P P 18 45 06.3 +0.2
baz=248
H22K Ishtalitna Cre 61.96 25 P P 18 45 07.4 +0.3
baz=253
GHO Glory Hole Cre 61.97 29 P P 18 45 07.6 +0.3
MLY Manley 61.97 26 P 18 45 07.9 +0.6
MLY Manley 61.97 26 P P 18 45 07.3 0.0
baz=254
B21K Ikpikpuk River 62.04 20 P P 18 45 08.0 +0.5
baz=248
PWL Port Wells 62.06 30 P P 18 45 08.3 +0.5
PWL IAmb IAmb 18 45 09.5
comp=Z,8.8nm,0.8s
PWL Port Wells 62.06 30 P P 18 45 08.1 +0.2
baz=258
KNK Knik Glacier 62.11 30 IAmb IAmb 18 45 47.5
comp=Z,8.4nm,0.8s
KNK Knik Glacier 62.11 30 P P 18 45 08.5 +0.2
baz=258
F22K John River 62.15 23 P P 18 45 08.5 +0.1
baz=251
G22K Bettles 62.22 23 P P 18 45 09.4 +0.6
baz=252
RND Reindeer 62.36 28 P P 18 45 10.4 +0.5
WAT1 Susitna Watana 62.37 28 P P 18 45 10.4 +0.5
baz=257
MCK McKinley 62.40 27 P P 18 45 10.5 +0.4
baz=256
D22K Ayikyak River 62.42 21 P P 18 45 11.0 +0.8
baz=250
M23K Glacier View 62.53 29 P P 18 45 11.4 +0.3
baz=259
NEA2 Nenana 62.55 26 P P 18 45 11.1 0.0
NEA2 Nenana 62.55 26 P P 18 45 11.8 +0.7
baz=256
I23K Minto, Yukon-K 62.57 26 P P 18 45 11.9 +0.8
baz=255
GLI Glacier Island 62.66 31 P P 18 45 12.1 +0.2
baz=260
H23K Yukon River 62.67 25 P P 18 45 12.1 +0.2
baz=255
WAT6 Susitna Watana 62.68 29 P P 18 45 12.5 +0.3
baz=258
B22K Teshekpuk Lake 62.69 19 P P 18 45 13.1 +1.3
baz=249
G23K Banza Creek 62.72 24 P P 18 45 12.4 +0.3
baz=254
SCM Sheep Creek Mo 62.72 29 IAmb IAmb 18 45 14.2
comp=Z,13nm,1.0s
SCM Sheep Creek Mo 62.72 29 P P 18 45 12.5 +0.2
baz=259
Q23K Middleton Isla 62.78 32 P P 18 45 12.6 -0.1
baz=261
COLD Coldfoot 62.79 23 P P 18 45 12.8 +0.2
baz=254
DHY Denali Highway 62.94 28 P P 18 45 14.4 +0.6
baz=258
D23K Nanushuk River 63.13 21 P P 18 45 16.5 +1.6
baz=252
E23K Chandalar 63.24 22 P P 18 45 16.5 +0.8
baz=254,SNR=6.6
KLU Klutina 63.32 30 P P 18 45 16.5 +0.3
baz=260
H24K Nood Dome 63.33 25 P P 18 45 16.6 +0.3
baz=256
POKR Poker Plat Res 63.35 26 P P 18 45 15.8 -0.6
baz=257
HDA Harding Lake 63.40 27 P P 18 45 16.9 +0.2
baz=258
TOLK Toolik Lake Re 63.42 22 P P 18 45 18.0 +1.2
baz=253
C23K Itkillik River 63.43 20 P P 18 45 18.5 +1.8
baz=252
ILAR Eielson Array 63.50 26 P P 18 45 15.9 -1.4
ILAR Eielson Array 63.50 26 P P 18 45 17.1 -0.2
comp=Z,2.7nm,0.8s,baz=255,slow=4.9,SNR=19
comp=Z,2.7nm,0.8s
E24K Your Creek 63.66 23 P P 18 45 19.9 +1.6
baz=255
G24K Hadweenzic Riv 63.69 24 P P 18 45 20.0 +1.5
baz=256
F24K Squaw Lake 63.73 23 P P 18 45 20.5 +1.6
baz=256
PAX Paxson 63.78 28 P 18 45 19.2 -0.1
PAX Paxson 63.78 28 P P 18 45 20.3 +1.1
baz=260
K24K Donnelly Dome 63.79 27 P P 18 45 19.6 +0.4
baz=259
KAIM Kayak Island 63.82 32 P P 18 45 20.4 +0.9
baz=263
HARP HAARP 63.83 29 P P 18 45 20.7 +1.2
baz=261
D24K Happy Valley 63.83 21 P P 18 45 20.4 +1.1
baz=254
BMRM Bremner River 63.87 31 P 18 45 20.2 +0.3
BMRM Bremner River 63.87 31 P P 18 45 20.8 +1.0
baz=262
N25K Chitina, Valde 63.97 30 P P 18 45 21.7 +1.2
baz=262
VRZ Vera Road 64.00 155 P P 18 45 22.2 +1.4
C24K Franklin Bluff 64.03 21 P P 18 45 20.8 +0.2
baz=254
J25K Salcha River, 64.11 27 P P 18 45 21.3 -0.1
baz=259
HAZ Te Kaha 64.13 152 P P 18 45 21.4 -0.3
RIDG Independent Ri 64.19 28 IAmb IAmb 18 45 34.9
comp=Z,6.7nm,0.9s
RIDG Independent Ri 64.19 28 P P 18 45 23.0 +1.2
baz=260,SNR=5.4
PRP Porcupine Dome 64.22 26 P P 18 45 23.1 +1.0
baz=259
G25K Bearman Lake 64.24 24 P P 18 45 23.6 +1.5
baz=258
H25L Birch Creek 64.25 25 P P 18 45 23.6 +1.5
baz=258
URZ Urewera 64.25 153 P P 18 45 22.4 -0.1
URZ Urewera 64.25 153 P P 18 45 21.3 -1.1
GLB Gilahina Butte 64.32 30 IAmb IAmb 18 45 24.8
comp=Z,8.9nm,1.2s
NNVZ North Ngauruho 64.36 154 P P 18 45 23.9 +0.5
NGZ Ngauruhoe 64.39 154 P P 18 45 23.5 0.0
RTZ Ruatahuna 64.49 153 P P 18 45 22.4 -1.7
RTZ Ruatahuna 64.49 153 P P 18 45 23.4 -0.7
FYU Fort Yukon 64.54 24 IAmb IAmb 18 45 26.1
comp=Z,8.1nm,1.0s
CRQM Cirque 64.56 31 IAmb IAmb 18 45 36.8
comp=Z,7.1nm,0.8s

CRQE Cirque 64.58 31 P P 18 45 25.0 +0.5
baz=263
F25K Christian Rive 64.59 23 P P 18 45 25.4 +1.0
baz=258,SNR=5.9
SCRK Sand Creek 64.60 27 P P 18 45 24.2 -0.4
baz=261,SNR=5.9
QRZ Quartz Range 64.62 157 P P 18 45 25.0 +0.2
QRZ Quartz Range 64.62 157 P P 18 45 24.7 -0.2
MTHZ Maungataniwha 64.63 153 P P 18 45 23.9 -1.1
MOVZ Moawhango 64.64 154 P P 18 45 24.6 -0.5
MCARA McCarthy VSAT 64.69 30 P P 18 45 24.4 -0.7
MCARA IAmb IAmb 18 45 41.1
comp=Z,6.3nm,0.8s
MCARA McCarthy VSAT 64.69 30 P P 18 45 25.8 +0.8
baz=263
D25K Kavik River 64.72 21 P P 18 45 26.3 +1.1
baz=256,SNR=5.9
E25K Arctic Village 64.73 23 P P 18 45 26.6 +1.3
baz=258
BKZ Black Stump Fm 64.75 154 P P 18 45 25.1 -0.7
BKZ Black Stump Fm 64.75 154 P P 18 45 24.8 -0.9
RAHZ Arahi 64.79 153 P P 18 45 25.9 -0.1
NMHZ Naumai 64.82 153 P P 18 45 26.6 +0.3
J26L Joseph Creek 64.86 27 P P 18 45 26.3 +0.1
baz=261,SNR=6.4
MESA MESA 65.08 32 P P 18 45 27.6 -0.3
baz=265
KRHZ Kereru 65.10 154 P P 18 45 27.0 -0.9
NIL Nilore 65.16 299 P P 18 45 28.9 +0.2
F26K Sheenjek River 65.17 23 P P 18 45 28.6 +0.5
baz=259,SNR=5.1
G26K Porcupine Rive 65.17 24 P P 18 45 28.6 +0.5
baz=260
YAH Yahtse 65.20 32 IAmb IAmb 18 45 31.0
comp=Z,9.4nm,1.1s
GRNC Granite Creek 65.23 31 P P 18 45 29.2 +0.3
PNHZ Pukenui 65.26 154 P P 18 45 28.4 -0.6
M27K Edge Creek, AK 65.33 29 P P 18 45 29.7 +0.3
baz=264
C26K Camden Bay 65.35 21 P P 18 45 29.9 +0.7
baz=257
L27K Beaver Creek, 65.44 29 P P 18 45 30.0 +0.1
baz=263
K27K Chicken 65.44 27 P P 18 45 30.5 +0.6
baz=263
CTG Chitna Glacier 65.45 31 P P 18 45 30.0 -0.2
baz=265
CTGM Chitina Glacie 65.46 31 IAmb IAmb 18 45 43.6
comp=Z,7.7nm,1.1s
TABL Table Mountain 65.51 31 IAmb IAmb 18 45 33.2
comp=Z,11nm,0.9s
MRZ Mangatainoka R 65.64 155 P P 18 45 30.9 -0.4
C27K Jago River 65.70 21 P P 18 45 31.9 +0.5
baz=259
SNZO South Karori 65.86 156 P P 18 45 32.0 -0.7
PINM Pinnacle 65.92 32 P P 18 45 34.0 +0.9
baz=266
BFZ Birch Farm 65.92 155 P P 18 45 33.1 -0.1
BFZ Birch Farm 65.92 155 P P 18 45 32.5 -0.7
YUK3 Moose Creek 65.94 30 P P 18 45 34.2 +0.8
baz=265
H27K Steamboat Moun 65.95 25 P P 18 45 33.8 +0.6
baz=262,SNR=7.3
G27K Doyon Strip 65.98 24 P P 18 45 34.4 +1.1
baz=262
O28M Mount Upton 66.00 31 P P 18 45 34.6 +0.7
baz=266,SNR=9.7
BVAR Borovoye Array 66.08 320 P P 18 45 34.0 -0.2
comp=Z,10.0nm,0.6s,baz=94,slow=7.5,SNR=58
comp=Z,10.0nm,0.6s
E27K Coleen River 66.20 23 P P 18 45 35.6 +0.9
baz=261
BCPM Bancas Point 66.22 32 IAmb IAmb 18 45 53.3
comp=Z,17nm,1.0s
PNL Peninsula 66.33 32 P P 18 45 35.1 -0.5
baz=267
KKAR Karatay Array 66.38 309 P P 18 45 36.2 0.0
KHZ Kahutara 66.38 158 P P 18 45 34.4 -1.6
I28M Miner Creek 66.51 26 P P 18 45 36.8 +0.1
baz=264
D27M Malcolm River 66.59 22 P P 18 45 38.1 +0.9
baz=262
O29M Mount Kennedy 66.77 32 P P 18 45 39.3 +0.8
baz=268
F28M Old Crow 66.78 24 P P 18 45 38.4 +0.1
baz=263
YUK6 Outpost Mounta 66.90 31 P P 18 45 40.0 +0.6
baz=268
M29M Somme Creek 66.93 29 P P 18 45 39.8 +0.3
baz=267,SNR=6.3
E28M Babbage River 67.02 23 P P 18 45 40.3 +0.5
baz=263
L29M L29M 67.12 29 P P 18 45 41.4 +0.8
baz=267,SNR=8.0
P29M Windy Craggy 67.17 32 P P 18 45 41.1 +0.2
baz=269,SNR=5.3
I29M Ogilvie Camp, 67.19 26 P P 18 45 41.6 +0.7
baz=266
H29M Whitestone 67.23 25 P P 18 45 41.2 +0.1
baz=265
HYT Haines Junctio 67.32 31 IAmb IAmb 18 45 44.7
comp=Z,7.7nm,1.0s
HYT Haines Junctio 67.32 31 P P 18 45 42.4 +0.5
baz=268,SNR=8.8
G29M Pine Creek 67.42 25 P P 18 45 42.9 +0.5
baz=265
K29M Barlow Dome 67.43 28 P P 18 45 43.4 +0.8
baz=267
N30M Aishikik Lake 67.54 30 P P 18 45 43.9 +0.7
baz=268,SNR=5.8
P30M Million Dollar 67.57 32 P P 18 45 44.4 +1.0
baz=269,SNR=8.2
E29M Blow River 67.59 23 P P 18 45 44.5 +1.1
baz=265
M30M Minto, Yukon 67.71 29 P P 18 45 45.0 +0.7
baz=268
PLBC Pleasant Camp 67.87 33 P P 18 45 45.8 +0.6
baz=270,SNR=5.8
EPYK Eagle Plains 67.90 25 P P 18 45 45.9 +0.5
baz=267
S31K Pelican 67.94 34 P P 18 45 45.6 -0.1
baz=271
SIMJ Simiganj 67.96 305 P 18 45 46.6 +0.2
SIMJ IAmb IAmb 18 45 48.1
comp=Z,7.1nm,0.8s
J30M Hart River 67.98 27 P P 18 45 46.7 +0.7
baz=268
I30M Mount Dempster 67.99 26 P P 18 45 47.3 +1.2
baz=268
G30M tAoh Zraii Nji 68.13 25 P P 18 45 48.3 +1.5
baz=267
N31M Braeburn, Yuko 68.17 30 P P 18 45 48.4 +1.3
baz=270,SNR=5.1
F30M Barrier River 68.33 24 P P 18 45 49.8 +1.8
baz=267
SKAG Skagway 68.40 33 P P 18 45 50.0 +1.5
baz=271
SIT Sitka 68.45 35 P P 18 45 49.9 +1.0
baz=272
KBL Kabul 68.50 300 P P 18 45 49.6 -0.3
KBL IAmb IAmb 18 45 51.4
comp=Z,9.4nm,0.9s
WHY Whitehorse 68.61 31 IAmb IAmb 18 45 52.4
comp=Z,18nm,1.3s
WHY Whitehorse 68.61 31 P P 18 45 51.2 +1.2
baz=271
M31M Drury Creek, Y 68.82 30 P P 18 45 52.4 +1.2
baz=270
R32K Eaglecrest 68.85 34 P P 18 45 52.4 +1.1
baz=272
H31M Peel River 68.85 26 P P 18 45 52.6 +1.4
baz=269
G31M Satah River 68.90 25 P P 18 45 52.2 +0.8
baz=269
F31M Tsiigehtchic 69.11 24 P P 18 45 53.6 +0.9
baz=269
INK Inuvik 69.21 23 P P 18 45 54.5 +1.1
baz=269
P32M Atlin 69.22 32 P P 18 45 54.7 +1.1
baz=272
P33M Teslin, Yukon 69.64 32 P P 18 45 57.3 +1.0
baz=273
U33K Whale Pass 69.72 36 P P 18 45 57.8 +1.2
baz=274
CRAG Craig 69.76 37 P P 18 45 58.0 +1.1
baz=274
Q32M Nakina River 69.99 33 P P 18 45 59.7 +1.1

	baz=274						
WRAK	**Wrangell Islan**	**70.13**	**36**	P	**P**	**18 46 00.4**	**+1.3**
	baz=274						
MMPY	**Sheldon Lake,**	**70.26**	**29**	P	**P**	**18 46 00.8**	**+0.8**
	baz=273						
R33M	**Jennings River**	**70.63**	**33**	P	**P**	**18 46 03.7**	**+1.4**
	baz=274						
MOBC	**Moresby Island**	**70.64**	**39**	IAmb	IAmb	18 46 02.0	
	comp=Z,9.6nm,0.6s						
S34M	**Telegraph Cree**	**70.66**	**34**	P	**P**	**18 46 03.2**	**+0.9**
	baz=275						
DLBC	**Dease Lake**	**71.20**	**34**	P	**P**	**18 46 07.2**	**+1.5**
	comp=Z,26nm,0.7s,baz=217,slow=5.1,SNR=8.3						
	comp=Z,26nm,0.7s						
DLBC	**Dease Lake**	**71.20**	**34**	P	**P**	**18 46 07.1**	**+1.5**
	baz=276						
T35M	**Bob Quinn**	**71.23**	**35**	P	**P**	**18 46 07.4**	**+1.6**
	baz=276						
TGTN	**Hyland Airport**	**71.76**	**30**	P	**P**	**18 46 10.3**	**+1.4**
	baz=276						
A36M	**Sachs Harbour**	**71.89**	**19**	P	**P**	**18 46 11.4**	**+1.9**
	baz=275						
C36M	**Paulatuk**	**72.58**	**22**	P	**P**	**18 46 14.0**	**+0.4**
	baz=277						
ARTI	**Arti**	**72.78**	**324**		**P**	**18 46 13.9**	**-1.0**
ARTI				IAmb	IAmb	18 46 16.3	
	comp=Z,7.6nm,0.8s						
ABKAR	**Akbulak array**	**72.95**	**317**	P	**P**	**18 46 14.9**	**-1.2**
WRGLY	**Wrigley**	**73.74**	**28**	P	**P**	**18 46 21.6**	**+1.2**
	baz=280						
NLWA	**Neilton Lookou**	**76.74**	**44**	IAmb	IAmb	18 46 40.8	
	comp=Z,14nm,1.1s						
GNW	**Green Mountain**	**77.39**	**44**		**P**	**18 46 41.0**	**-0.4**
GNW				IAmb	IAmb	18 46 44.2	
	comp=Z,13nm,1.1s						
YKA	**Yellowknife Ar**	**77.86**	**28**	P	**P**	**18 46 43.4**	**-0.3**
YKA	**Yellowknife Ar**	**77.86**	**28**	P	**P**	**18 46 44.0**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=298,slow=5.5,SNR=7.4						
	comp=Z,2.1nm,0.7s						
KHMM	**Horse Mountain**	**78.45**	**51**	P	**P**	**18 46 47.4**	**-0.2**
KHMM				IAmb	IAmb	18 46 50.3	
	comp=Z,6.9nm,0.8s						
H04A	**Detroit Lake**	**78.55**	**47**	IAmb	IAmb	18 46 49.8	
	comp=Z,14nm,1.1s						
SPITS	**Spitsbergen Ar**	**78.84**	**351**	P	**P**	**18 46 49.8**	**+0.9**
	comp=Z,4.3nm,0.9s,baz=97,slow=5.4,SNR=9.4						
	comp=Z,4.3nm,0.9s						
M02C	**Callahan**	**78.95**	**50**	IAmb	IAmb	18 46 53.0	
	comp=Z,8.5nm,1.1s						
YBH	**Yreka Blue Hor**	**78.97**	**50**		**P**	**18 46 49.5**	**-0.9**
YBH				IAmb	IAmb	18 46 52.8	
	comp=Z,7.3nm,1.0s						
N02D	**Trinity Center**	**79.18**	**50**	IAmb	IAmb	18 46 53.9	
	comp=Z,12nm,1.2s						
MXC	**Moxie City**	**79.32**	**44**	IAmb	IAmb	18 46 54.1	
	comp=Z,13nm,1.3s						
O02D	**Mt. Diablo Mer**	**79.33**	**51**	IAmb	IAmb	18 46 55.2	
	comp=Z,15nm,1.4s						
B08A	**Colville Reser**	**79.44**	**43**	IAmb	IAmb	18 46 54.4	
	comp=Z,7.9nm,0.7s						
E07A	**Sunnyside**	**79.61**	**44**	IAmb	IAmb	18 46 55.8	
	comp=Z,10nm,0.7s						
BELG	**Belogornoye**	**79.81**	**322**	P	**P**	**18 46 54.3**	**-0.1**
	comp=Z,21nm,0.7s,baz=37,slow=4.9,SNR=5.1						
	comp=Z,21nm,0.7s						
HAWA	**Hanford**	**79.88**	**44**	IAmb	IAmb	18 46 57.0	
	comp=Z,6.4nm,0.7s						
MNRC	**McLaughlin Min**	**79.94**	**52**	IAmb	IAmb	18 46 58.1	
	comp=Z,13nm,0.9s						
O03E	**Paynes Creek**	**80.02**	**51**	IAmb	IAmb	18 46 57.8	
	comp=Z,20nm,1.3s						
D08A	**Wollman Farm,**	**80.08**	**44**	IAmb	IAmb	18 46 57.5	
	comp=Z,6.3nm,0.8s						
E09A	**Wood Farm, Sta**	**80.75**	**44**	IAmb	IAmb	18 47 01.6	
	comp=Z,9.4nm,0.8s						
NEW	**Newport**	**80.88**	**42**	P	**P**	**18 46 59.8**	**-0.5**
NEW				IAmb	IAmb	18 47 02.1	
	comp=Z,6.1nm,0.8s						
BEKR	**Beckworth**	**81.21**	**51**	IAmb	IAmb	18 47 04.1	
	comp=Z,11nm,0.8s						
CMB	**Columbia Colle**	**81.73**	**53**		**P**	**18 47 04.6**	**-0.4**
CMB				IAmb	IAmb	18 47 06.9	
	comp=Z,9.0nm,0.8s						
PAHR	**Pah Rah Range**	**81.97**	**51**	IAmb	IAmb	18 47 08.2	
	comp=Z,10nm,1.1s						
ARCES	**ARCESS Array B**	**82.14**	**342**	P	**P**	**18 47 06.1**	**-0.4**
	comp=Z,4.2nm,0.7s,baz=80,slow=7.5,SNR=9.8						
	comp=Z,4.2nm,0.7s						
WAKR	**Walker**	**82.30**	**52**		**P**	**18 47 08.4**	**+0.2**
WAKR				IAmb	IAmb	18 47 10.4	
	comp=Z,7.6nm,0.7s						
PLID	**Pearl Lake**	**82.63**	**45**		**P**	**18 47 09.5**	**-0.3**
RYN	**Ryan**	**82.94**	**52**	IAmb	IAmb	18 47 13.4	
	comp=Z,8.9nm,0.8s						
LHV	**Little Huntoon**	**83.08**	**52**	IAmb	IAmb	18 47 13.9	
	comp=Z,6.0nm,0.7s						
NVAR	**Mina Array Bea**	**83.17**	**52**	P	**P**	**18 47 13.9**	**+1.2**
	comp=Z,11nm,0.6s,baz=289,slow=5.6,SNR=54						
	comp=Z,11nm,0.6s						
MFID	**Camas Ranch**	**83.31**	**46**	IAmb	IAmb	18 47 14.6	
	comp=Z,7.3nm,0.8s						
DSP	**Deep Springs**	**83.76**	**53**		**P**	**18 47 15.6**	**+0.2**
DSP				IAmb	IAmb	18 47 17.7	
	comp=Z,8.0nm,1.2s						
ELK	**Elko**	**84.63**	**49**	IAmb	IAmb	18 47 21.5	
	comp=Z,5.1nm,0.8s						
R11B	**Troy Canyon, C**	**85.21**	**51**		**P**	**18 47 21.7**	**-1.2**
KBZ	**Khabaz**	**85.75**	**315**	P	**P**	**18 47 24.3**	**-0.9**
	comp=Z,3.6nm,0.9s,baz=127,slow=1.0,SNR=6.1						
	comp=Z,3.6nm,0.9s						
SPR3	**Spring Creek 3**	**85.90**	**50**	IAmb	IAmb	18 47 28.7	
	comp=Z,15nm,1.5s						
FINES	**FINESS Array B**	**86.51**	**335**	P	**P**	**18 47 26.4**	**-2.0**
	comp=Z,3.9nm,0.5s,baz=69,slow=4.5,SNR=45						
	comp=Z,3.9nm,0.5s						
FFC	**Flin Flon**	**86.99**	**32**		**P**	**18 47 30.8**	**-0.1**
PDAR	**Pinedale Array**	**87.81**	**45**	P	**P**	**18 47 35.1**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=237,slow=1.9,SNR=11						
	comp=Z,1.2nm,0.7s						
HFS	**Hagfors**	**92.02**	**338**	P	**P**	**18 47 52.4**	**-2.0**
	comp=Z,0.7nm,0.4s,baz=58,slow=5.4,SNR=7.2						
	comp=Z,0.7nm,0.4s						
NOA	**NORSAR Array B**	**92.21**	**340**	P	**P**	**18 47 54.4**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=52,slow=4.3,SNR=1.9						
	comp=Z,0.3nm,0.5s						
BRTR	**Keskin Array B**	**93.72**	**314**	P	**P**	**18 48 01.6**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=84,slow=3.5,SNR=13						
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**96.79**	**176**	P	**P**	**18 48 17.1**	**+1.5**
	comp=Z,1.0nm,0.9s,baz=299,slow=5.3,SNR=6.5						
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**97.89**	**55**	P	Pdif	18 48 22.4	+0.5
	comp=Z,0.2nm,0.7s,baz=287,slow=4.1,SNR=4.0						
TXAR				PKKPbc	**PKKPbc**	**19 04 55.7**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=120,slow=4.7,SNR=6.7						
	comp=Z,0.2nm,0.7s						
SNAA	**Sanae**	**124.15**	**192**	PKP	**PKPdf**	**18 53 40.8**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=211,slow=3.2,SNR=10						
TORD	**Torodi Ar. Bea**	**132.07**	**309**	PKP	**PKPdf**	**18 53 57.8**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=12,slow=2.8,SNR=6.4						
TORD				SKPbc	**SKPbc**	**18 56 59.8**	**-2.7**
	comp=Z,1.6nm,0.7s,baz=42,slow=3.8,SNR=9.4						
ROSC	**El Rosal**	**134.26**	**63**	PKP	**PKiKP**	**18 54 05.5**	**+0.6**
	comp=Z,20nm,0.5s,baz=95,slow=17,SNR=4.3						
DBIC	**Dimbokro**	**141.16**	**308**	PKP	**PKPdf**	**18 54 16.1**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=55,slow=3.0,SNR=3.1						
PLCA	**Paso Flores**	**142.39**	**133**	PKhKP	PKPpre	18 54 13.2	
	comp=Z,1.8nm,0.4s,baz=241,slow=4.4,SNR=13						
LPAZ	**La Paz**	**147.94**	**91**	PKPbc	**PKPdf**	**18 54 28.1**	**0.0**
	comp=Z,7.5nm,1.0s,baz=294,slow=3.3,SNR=6.2						
CPUP	**Villa Florida**	**157.79**	**113**	PKPab	**PKPab**	**18 55 15.8**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=270,slow=3.0,SNR=8.7						

*CATAC **06** 18:38:01.0±0.7, 13°N±4°×9°0W±°, h22km±4km, M3.5/11, MLv3.5/11, Error ellipse: s-maj=9.1km s-min=4.1km az=21.7, confirmed*
*GCG **06** 18:38:02.2±0.9, 13°52N×90°38W, h23km±6km, MD4.0, ML3.7, MW3.0*
*SNET **06** 18:38:03.9±2.4, 13°56N×90°27W, h33km, ML3.2*
ISC 06 18:38:03.6±1.9, 13°40N±0°09×90°28W±0°05, h35km±3km, n47, σ1°55/54, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
NUBE	**Las Nubes**	**0.70**	**44**	*eP*		**Pb**	**18 38 16.2**	**-1.4**
NUBE	**Las Nubes**	**0.70**	**44**	*i* P		**Pb**	**18 38 16.2**	**-1.4**
NUBE	**Las Nubes**	**0.70**	**44**	P		**Pb**	**18 38 16.2**	**-1.4**
NUBE	**Las Nubes**	**0.70**	**44**	*eP*		**Sn**	**18 38 27.4**	**+0.6**
CEVE	**Cerro Verde**	**0.77**	**56**	*eP*		**Pn**	**18 38 17.5**	**-0.7**
CEVE				*eS*		**Sn**	**18 38 31.8**	**+3.1**
CEVE	**Cerro Verde**	**0.77**	**56**	P		**Pb**	**18 38 17.6**	**-1.2**
LOAL	**Lomas de Alarc**	**0.77**	**39**	*eP*		**Pb**	**18 38 17.6**	**-1.1**
LOAL				*eS*		**Sn**	**18 38 29.2**	**+0.7**
LOAL	**Lomas de Alarc**	**0.77**	**39**	P		**Pb**	**18 38 17.6**	**-1.1**
SBLS	**San Blas**	**0.77**	**56**	*eP*		**Pb**	**18 38 17.9**	**-1.1**
RTR	**El Retiro**	**0.79**	**51**	*eP*		**Pb**	**18 38 18.1**	**-1.1**
SNJE	**San Jose**	**0.80**	**55**	*eP*		**Pb**	**18 38 18.1**	**-1.3**
JAYA	**Jayaque - finc**	**0.85**	**73**	*eP*		**Pn**	**18 38 18.4**	**-0.9**
JAYA				*eS*		**Sb**	**18 38 31.6**	**+0.4**
JAYA	**Jayaque - finc**	**0.85**	**73**	*i* P		**Pn**	**18 38 18.4**	**-0.9**
JAYA				*i* S		**Sb**	**18 38 31.8**	**+0.5**
JAYA	**Jayaque - finc**	**0.85**	**73**	P		**Pn**	**18 38 18.5**	**-0.7**
FG16	**Alotenango, Sa**	**0.90**	**346**	*i* P		**Pb**	**18 38 21.2**	**+0.2**
FG16				*i* S		**Sb**	**18 38 37.1**	**+4.3**
FG16				IAML			18 38 44.5	
	comp=E,5μm,0.2s							
FG8	**Yepocapa, Chim**	**0.90**	**342**	*i* P		**Pb**	**18 38 22.1**	**+1.2**
FG8				*i* S		**Sb**	**18 38 37.5**	**+4.8**
UNIC	**Universidad Ca**	**0.92**	**51**	S		**Sb**	**18 38 33.3**	**+0.2**
PMON	**Piamonte**	**0.99**	**72**	*eP*		**Pn**	**18 38 20.9**	**-0.3**
PMON	**Piamonte**	**0.99**	**72**	P		**Pn**	**18 38 20.6**	**-0.5**
PMON	**Piamonte**	**0.99**	**72**	S		**Sb**	**18 38 35.5**	**+0.3**
BOQS	**Boqueron**	**1.03**	**71**	*eP*		**Pn**	**18 38 21.4**	**-0.4**
PIC2	**El Picacho**	**1.05**	**71**	*eP*		**Pn**	**18 38 22.2**	**+0.1**
UEES	**Universidad Ev**	**1.06**	**73**	P		**Pn**	**18 38 21.4**	**-0.7**
UEES	**Universidad Ev**	**1.06**	**73**	S		**Sb**	**18 38 37.9**	**+0.6**
LOMA	**Loma Larga**	**1.10**	**77**	*eP*		**Pn**	**18 38 22.0**	**-0.8**
LOMA	**Loma Larga**	**1.10**	**77**	P		**Pn**	**18 38 21.9**	**-0.8**
LOMA	**Loma Larga**	**1.10**	**77**	S		**Sb**	**18 38 39.2**	**+0.6**
ESSG	**Sabana Grande**	**1.11**	**331**	*i* P		**Pn**	**18 38 19.9**	**-2.9**
ESSG				*i* S		**Sn**	**18 38 33.4**	**-3.7**
ESSG				IAML			18 38 35.6	
	comp=E,1μm,0.2s							
LFRS	**El Faro**	**1.21**	**79**	*eP*		**Pn**	**18 38 24.3**	**+0.2**
LBRS	**Las Brisas**	**1.25**	**74**	*eP*		**Pn**	**18 38 24.8**	**+0.1**
MTO3	**Montecristo**	**1.33**	**42**	*eP*		**Pn**	**18 38 25.5**	**-0.6**
MTO3	**Montecristo**	**1.33**	**42**	*i* P		**Pn**	**18 38 25.5**	**-0.6**
MTO3	**Montecristo**	**1.33**	**42**	P		**Pn**	**18 38 25.5**	**-0.6**
PAVA	**Las Pavas**	**1.34**	**76**	*eP*		**Pn**	**18 38 26.3**	**+0.3**
PAVA	**Las Pavas**	**1.34**	**76**	P		**Pn**	**18 38 26.2**	**+0.1**
TECA	**Tecapa**	**1.73**	**87**	*eP*		**Pn**	**18 38 30.8**	**-0.6**
SOKI	**Kika Raxquin**	**1.78**	**322**	*eP*		**Pn**	**18 38 30.9**	**-1.5**
PACA	**Pacayal**	**1.90**	**88**	P		**Pn**	**18 38 34.4**	**+0.7**
PACA	**Pacayal**	**1.90**	**88**	S		**Sn**	**18 38 59.0**	**+2.4**
BLLM	**Bellamira**	**1.99**	**89**	*eP*		**Pn**	**18 38 35.0**	**+0.1**
SARH	**Santa Rosa de**	**2.01**	**47**	*i* P		**Pn**	**18 38 35.1**	**-0.1**
SARH	**Santa Rosa de**	**2.01**	**47**	P		**Pn**	**18 38 35.1**	**-0.1**
SARH	**Santa Rosa de**	**2.01**	**47**	S		**Sb**	**18 39 01.0**	**-3.4**
LCND	**La Caada**	**2.33**	**92**	*eP*		**Pn**	**18 38 39.1**	**-0.4**
CNCH	**Conchagua**	**2.38**	**93**	*eP*		**Pn**	**18 38 39.9**	**-0.5**
CNCH	**Conchagua**	**2.38**	**93**	P		**Pn**	**18 38 39.7**	**-0.6**
CNCH	**Conchagua**	**2.38**	**93**	S		**Sn**	**18 39 09.7**	**+1.2**

*NEIC **06** 18:44:45.5±2.2, 2°7N±0°1×123°5E±0°1, h460km±11km, mb4.1/18, Error ellipse: s-maj=23.5km s-min=14.7km az=218.0*
*IDC **06** 18:44:46.8±4.2, 2°56N×123°33E, h479km±59km, mb3.1/7, mbtmp4.0/8, Error ellipse: s-maj=40.8km s-min=16.2km az=68.0*
ISC 06 18:44:44.9±0.6, 2°65N±0°09×123°42E±0°09, h450km, n43, σ1°25/45, mb3.9/13, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
LUWI	**Luwuk**	**3.72**	**190**	P		**P**	**18 45 56.3**	**-1.4**
TNTI	**Ternate**	**4.37**	**115**	P		**P**	**18 46 04.0**	**+0.7**
TNTI				S		**S**	**18 47 07.1**	**0.0**
SANI	**Sanana**	**5.33**	**151**	P		**P**	**18 46 11.4**	**-1.1**
MYLDM	**Lahad Datu**	**5.51**	**297**	P		**P**	**18 46 14.9**	**+0.6**
FAKI	**Fak Fak**	**10.42**	**122**	P		**P**	**18 47 09.1**	**+2.4**
FAKI	**Fak Fak**	**10.42**	**122**	P		**P**	**18 47 09.4**	**+2.7**
SOEI	**Soe**	**12.35**	**176**	P		**P**	**18 47 28.3**	**+0.6**
BATI	**Baumata**	**12.77**	**179**	P		**P**	**18 47 32.7**	**+0.5**
	50nm,0.5s,baz=9.6,slow=2.0,SNR=9.9							
JAGI	**Jajag, Banyuwa**	**14.40**	**220**	P		**P**	**18 47 51.7**	**+1.9**
MTN	**Manton Dam**	**17.19**	**154**	P		**P**	**18 48 19.2**	**-0.1**
KDU	**Kakadu**	**17.69**	**150**	P		**P**	**18 48 24.3**	**-0.3**
JAY	**Jayapura**	**18.03**	**106**	P		**P**	**18 48 29.1**	**+1.0**
	2.9nm,0.8s,baz=248,slow=11,SNR=1.3							
JAY				S		S	18 51 15.9	-15
	2.8nm,0.3s,baz=214,slow=12,SNR=12							
KNRA	**Kununurra**	**18.96**	**164**	P		**P**	**18 48 35.9**	**-1.0**
KNRA				IAmb	IAmb	18 48 38.1		
	comp=Z,8.3nm,0.8s							
FITZ	**Fitzroy Crossi**	**20.73**	**174**	P		**P**	**18 48 52.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**20.73**	**174**	P		**P**	**18 48 52.5**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=2.8,slow=10,SNR=18							
	comp=Z,1.9nm,0.4s							
FITZ	**Fitzroy Crossi**	**20.73**	**174**	P		**P**	**18 48 52.5**	**-0.5**
MBWA	**Marble Bar**	**23.93**	**189**	P		**P**	**18 49 20.1**	**-1.8**
MBWA				IAmb	IAmb	18 50 04.1		
	comp=Z,18nm,1.4s							
PSA00	**Pilbara Seismi**	**24.32**	**188**	P		**P**	**18 49 23.8**	**-1.6**
PSA00				IAmb	IAmb	18 50 08.0		
	comp=Z,6.9nm,1.4s							
PSA00	**Pilbara Seismi**	**24.32**	**188**	P		**P**	**18 49 23.6**	**-1.8**
PSA00				IAmb	IAmb	18 49 43.0		
	comp=Z,25nm,1.5s							
WB0	**Warramunga Arr**	**24.75**	**155**	P		**P**	**18 49 28.1**	**-1.1**
WB0				IAmb	IAmb	18 50 03.2		
	comp=Z,6.5nm,1.1s							
WRA	**Warramunga Arr**	**24.88**	**155**	P		**P**	**18 49 28.8**	**-1.6**
WRA	**Warramunga Arr**	**24.88**	**155**	P		**P**	**18 49 29.1**	**-1.2**
	comp=Z,2.2nm,0.5s,baz=336,slow=9.6,SNR=15							
	comp=Z,2.2nm,0.5s							
WR8	**Warramunga Arr**	**24.96**	**155**	P		**P**	**18 49 30.2**	**-0.9**
WR8				IAmb	IAmb	18 50 12.0		
	comp=Z,6.8nm,1.2s							
GSI	**Gununguitoli**	**25.86**	**268**	P		**P**	**18 49 41.4**	**+2.2**
QIS	**Mount Isa**	**28.00**	**146**	P		**P**	**18 49 58.6**	**+0.6**
AS31	**Alice Springs**	**28.08**	**159**	P		**P**	**18 49 58.1**	**-0.5**
ASAR	**Alice Springs**	**28.08**	**159**	P		**P**	**18 49 58.0**	**-0.6**
ASAR	**Alice Springs**	**28.08**	**159**	P		**P**	**18 49 58.2**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=337,slow=6.9,SNR=17							
	comp=Z,0.7nm,0.3s							
AS01	**Alice Springs**	**28.09**	**159**	P		**P**	**18 49 58.5**	**-0.3**
CTAO	**Charters Tower**	**31.83**	**136**	P		**P**	**18 50 32.5**	**+1.2**
CTAO				IAmb	IAmb	18 51 10.7		
	comp=Z,12nm,1.5s							
INKA	**Innaminka**	**34.52**	**152**	P		**P**	**18 50 55.1**	**+1.1**
INKA				IAmb	IAmb	18 51 15.3		
	comp=Z,6.3nm,1.4s							
BBOO	**Buckleboo**	**37.24**	**162**	P		**P**	**18 51 16.5**	**-0.2**
STKA	**Stephens Creek**	**38.43**	**155**	P		**P**	**18 51 27.1**	**+0.6**
STKA	**Stephens Creek**	**38.43**	**155**	P		**P**	**18 51 26.8**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=331,slow=13,SNR=14							
	comp=Z,1.0nm,0.3s							
CAN	**Canberra**	**44.73**	**150**	P		**P**	**18 52 18.1**	**+1.3**
SONM	**Songino Array**	**47.35**	**344**	P		**P**	**18 52 37.3**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=156,slow=7.9,SNR=3.1							
	comp=Z,0.8nm,0.6s							
MKAR	**Makanchi Array**	**56.61**	**327**	P		**P**	**18 53 42.9**	**-0.8**
MKAR	**Makanchi Array**	**56.61**	**327**	P		**P**	**18 53 43.3**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=123,slow=8.5,SNR=16							
MKAR				PcP		**PcP**	**18 54 32.1**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=111,slow=4.2,SNR=2.7							
	comp=Z,0.7nm,0.4s							
MAKZ	**Makanchi**	**56.79**	**327**	P		**P**	**18 53 44.3**	**-0.6**
KURBB	**Kurchatov Arra**	**60.91**	**329**	P		**P**	**18 54 12.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=117,slow=6.2,SNR=5.0							
	comp=Z,0.3nm,0.3s							
KURK	**Kurchatov**	**60.92**	**329**	P		**P**	**18 54 10.2**	**-2.5**
KURK				IAmb	IAmb	18 54 12.9		
	comp=Z,3.2nm,0.3s							
RAO	**Raoul Island**	**64.43**	**124**	P		**P**	**18 54 34.0**	**-2.0**
ABKAR	**Akbulak array**	**70.91**	**322**	P		**P**	**18 55 15.0**	**-0.5**

*SNET **06** 19:00:47.6±1.3, 13°11N×89°57W, h38km, ML3.7*
*GCG **06** 19:00:48.5±0.4, 13°22N×89°59W, h54km±4km, MD3.7, ML3.7*
*CATAC **06** 19:00:48.0±0.5, 13°N±3°×9°0W±°, h28km±2km, M3.8/15, MLv3.8/15, Error ellipse: s-maj=6.7km s-min=3.7km az=21.7, confirmed*
ISC 06 19:00:50.9±1.4, 13°26N±0°06×89°47W±0°04, h32km±9km, n59, σ1°37/73, 1C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
JAYA	**Jayaque - finc**	**0.40**	**3**	*eP*		**Pb**	**19 00 59.4**	**-0.8**
JAYA				*eS*		**Sn**	**19 01 08.1**	**+1.0**
JAYA	**Jayaque - finc**	**0.40**	**3**	*i* P		**Pb**	**19 00 59.3**	**-0.8**
JAYA				*i* S		**Sn**	**19 01 08.1**	**+1.0**
JAYA	**Jayaque - finc**	**0.40**	**3**	P		**Pb**	**19 00 59.3**	**-0.8**
PANCS	**Alcalda de**	**0.45**	**39**	*eP*		**Pb**	**19 01 00.2**	**-0.6**
PANCS	**Alcalda de**	**0.45**	**39**	S		**Sb**	**19 01 09.4**	**+1.9**
PMON	**Piamonte**	**0.48**	**18**	*eP*		**Pb**	**19 01 00.5**	**-0.8**
PMON	**Piamonte**	**0.48**	**18**	P		**Pb**	**19 01 00.5**	**-0.8**
LOMA	**Loma Larga**	**0.48**	**37**	*eP*		**Pb**	**19 01 00.8**	**-0.5**
LOMA				*eS*		**Sn**	**19 01 11.0**	**+1.9**
LOMA	**Loma Larga**	**0.48**	**37**	P		**Pb**	**19 01 00.6**	**-0.7**
LOMA	**Loma Larga**	**0.48**	**37**	S		**Sn**	**19 01 10.5**	**+1.4**
UEES	**Universidad Ev**	**0.51**	**26**	P		**Pb**	**19 01 01.0**	**-0.7**
UEES	**Universidad Ev**	**0.51**	**26**	S		**Sn**	**19 01 11.1**	**+1.3**
BOQS	**Boqueron**	**0.51**	**21**	*eP*		**Pb**	**19 01 01.2**	**-0.6**
UTEC	**Universidad Te**	**0.51**	**30**	P		**Pn**	**19 01 02.7**	**+0.6**
UTEC	**Universidad Te**	**0.51**	**30**	S		**Sn**	**19 01 11.5**	**+1.7**
LFRS	**El Faro**	**0.54**	**47**	*eP*		**Pb**	**19 01 01.4**	**-0.8**
IGN	**Direccin Gen**	**0.54**	**33**	*eP*		**Pb**	**19 01 01.5**	**-0.7**
IGN	**Direccin Gen**	**0.54**	**33**	P		**Pb**	**19 01 01.6**	**-0.6**
IGN	**Direccin Gen**	**0.54**	**33**	S		**Sn**	**19 01 12.1**	**+1.6**
CEDA	**San Andres**	**0.55**	**8**	*eP*		**Pb**	**19 01 01.3**	**-1.0**
CEDA				*eS*		**Sn**	**19 01 11.8**	**+1.1**
CEDA	**San Andres**	**0.55**	**8**	P		**Pb**	**19 01 01.4**	**-1.0**
UDBS	**Universidad Do**	**0.55**	**34**	S		**Sn**	**19 01 12.2**	**+1.5**
UDBS	**Universidad Do**	**0.55**	**34**	P		**Pb**	**19 01 02.1**	**-0.2**
CEVE	**Cerro Verde**	**0.59**	**345**	*eP*		**Pb**	**19 01 01.8**	**-1.3**
CEVE				*eS*		**Sn**	**19 01 12.5**	**+0.5**
CEVE	**Cerro Verde**	**0.59**	**345**	P		**Pb**	**19 01 01.9**	**-1.3**
LBRS	**Las Brisas**	**0.63**	**41**	*eP*		**Pb**	**19 01 03.0**	**-0.7**
PAVA	**Las Pavas**	**0.69**	**49**	*eP*		**Pb**	**19 01 03.8**	**-0.9**
PAVA				*eS*		**Sn**	**19 01 15.9**	**+1.7**
PAVA	**Las Pavas**	**0.69**	**49**	P		**Pb**	**19 01 03.7**	**-1.0**
NUBE	**Las Nubes**	**0.71**	**335**	*eP*		**Pb**	**19 01 02.9**	**-2.1**
NUBE				*eS*		**Sb**	**19 01 13.8**	**-0.8**
NUBE	**Las Nubes**	**0.71**	**335**	*eP*		**Pb**	**19 01 02.6**	**-2.4**
NUBE				*i* S		**Sb**	**19 01 13.9**	**-0.8**
NUBE	**Las Nubes**	**0.71**	**335**	P		**Pb**	**19 01 02.7**	**-2.4**
UESV	**Universidad de**	**0.76**	**60**	P		**Pb**	**19 01 04.4**	**-1.4**
UESV	**Universidad de**	**0.76**	**60**	S		**Sb**	**19 01 16.8**	**+0.9**
LOAL	**Lomas de Alarc**	**0.80**	**338**	P		**Pb**	**19 01 04.4**	**-2.0**
PQSS	**Presa 15 de Se**	**0.96**	**67**	S		**Sb**	**19 01 21.3**	**-0.1**
LLGN	**La Laguna**	**1.03**	**29**	*eS*		**Sb**	**19 01 23.6**	**-0.2**
LLGN	**La Laguna**	**1.03**	**29**	S		**Sb**	**19 01 23.8**	**0.0**
PACA	**Pacayal**	**1.14**	**79**	*eP*		**Pn**	**19 01 09.9**	**-0.8**
PACA	**Pacayal**	**1.14**	**79**	P		**Pn**	**19 01 09.5**	**-1

KSRS **Korea Array** 12.06 253 P Pn 19 07 36.5 +2.8
0.7nm,0.3s,baz=68,slow=15,SNR=4.5
KSAR **Wonju Array Be** 12.09 253 Pn Pn 19 07 32.6 -1.5
YAK **Yakutsk** 21.55 343 P P 19 09 22.9 -5.5
6.4nm,0.5s,baz=357,slow=1.5,SNR=4.1
SEY **Seymchan** 21.85 12 P P 19 09 30.4 -1.2
1.3nm,0.6s,baz=205,slow=9.7,SNR=5.4
1.3nm,0.6s
SONM **Songino Array** 26.07 295 P P 19 10 12.9 +0.6
SONM **Songino Array** 26.07 295 P P 19 10 12.9 +0.6
0.7nm,0.6s,baz=97,slow=6.0,SNR=4.5
0.7nm,0.6s
H11N2 **WAKE ISLAND Hy** 30.29 129 T T 19 42 30.2
baz=323,slow=75,SNR=21
H11N1 **WAKE ISLAND Hy** 30.30 129 T T 19 42 29.0
baz=323,slow=75,SNR=29
H11N3 **WAKE ISLAND Hy** 30.31 129 T T 19 42 31.6
baz=323,slow=75,SNR=33
H11S1 **WAKE ISLAND Hy** 31.15 131 T T 19 43 29.3
baz=325,slow=76,SNR=36
H11S3 **WAKE ISLAND Hy** 31.15 131 T T 19 43 33.4
baz=325,slow=76,SNR=36
H11S2 **WAKE ISLAND Hy** 31.16 131 T T 19 43 39.8
baz=325,slow=76,SNR=25
ZALV **Zalesovo Beam** 39.39 308 P P 19 12 06.5 -1.3
ZALV **Zalesovo Beam** 39.39 308 P P 19 12 08.4 +0.5
1.3nm,0.6s,baz=90,slow=7.4,SNR=6.6
1.3nm,0.6s
MKAR **Makanchi Array** 42.39 298 P P 19 12 33.0 +0.3
MKAR **Makanchi Array** 42.39 298 P P 19 12 33.2 +0.5
1.7nm,0.8s,baz=82,slow=9.8,SNR=13
1.7nm,0.8s
MAKZ **Makanchi** 42.59 298 P P 19 12 34.0 -0.3
MAKZ IAmb IAmb 19 12 36.5
comp=Z,3.6nm,1.0s
CMAR **Chiang Mai Arr** 43.69 251 P P 19 12 44.7 +1.2
comp=Z,0.3nm,0.4s,baz=52,slow=8.3,SNR=1.8
comp=Z,0.3nm,0.4s
KURBB **Kurchatov Arra** 43.79 304 P P 19 12 44.1 +0.3
comp=Z,3.2nm,0.7s,baz=77,slow=8.6,SNR=18
comp=Z,3.2nm,0.7s
ILAR **Eielson Array** 44.98 35 P P 19 12 53.9 +0.7
comp=Z,0.2nm,0.5s,baz=261,slow=6.2,SNR=4.5
comp=Z,0.2nm,0.5s
GLI **Glacier Island** 45.35 40 P P 19 12 54.3 -1.9
GLI IAmb IAmb 19 13 07.4
comp=Z,3.5nm,1.0s
SCRK **Sand Creek** 46.32 36 P P 19 13 04.0 0.0
TARG **Taragay, Kyrgy** 47.13 293 P P 19 13 12.0 +1.1
BVAR **Borovoye Array** 48.00 309 P P 19 13 17.6 +0.5
comp=Z,1.2nm,0.4s,baz=77,slow=10,SNR=11
comp=Z,1.2nm,0.4s
AAK **Ala-Archa** 49.03 295 LR LR 19 34 56.0
comp=Z,32nm,18.4s,baz=110,slow=37
INK **Inuvik** 49.69 29 P P 19 13 30.1 +0.3
INK IAmb IAmb 19 13 34.4
comp=Z,4.6nm,1.4s
SIMJ **Simiganj** 54.52 293 P P 19 14 06.4 +0.2
AB31 **Akbulak array** 55.50 308 P P 19 14 13.1 +0.2
AB31 IAmb IAmb 19 14 14.4
comp=Z,2.8nm,1.3s
ABKAR **Akbulak array** 55.50 308 P P 19 14 13.6 +0.7
SPITS **Spitsbergen Ar** 55.90 348 P P 19 14 14.4 -1.0
comp=Z,4.6nm,0.9s,baz=23,slow=9.4,SNR=7.1
comp=Z,4.6nm,0.9s
KNRA **Kununurra** 58.69 195 P P 19 14 36.6 +0.9
WB0 **Warramunga Arr** 61.83 189 P P 19 14 56.9 -0.2
WR8 **Warramunga Arr** 62.00 188 P P 19 14 58.4 +0.2
WRA **Warramunga Arr** 62.01 189 P P 19 14 58.0 -0.2
comp=Z,0.5nm,0.5s,baz=6.8,slow=6.8,SNR=6.1
comp=Z,0.5nm,0.5s
FIA1 **FINESS Array S** 64.89 332 P P 19 15 16.7 -0.1
FINES **FINESS Array B** 64.89 332 P P 19 15 16.6 -0.2
FINES **FINESS Array B** 64.89 332 P P 19 15 16.9 0.0
comp=Z,1.2nm,0.5s,baz=55,slow=9.0,SNR=17
comp=Z,1.2nm,0.5s
ASAR **Alice Springs** 65.73 189 P P 19 15 23.5 +0.8
comp=Z,0.2nm,0.8s,baz=7.0,slow=7.5,SNR=5.4
comp=Z,0.2nm,0.8s
HFS **Hagfors** 69.98 335 P P 19 15 49.0 0.0
comp=Z,1.1nm,0.3s,baz=37,slow=5.7,SNR=17
comp=Z,1.1nm,0.3s
NB2 **NORSAR Subarra** 70.01 337 P P 19 15 49.1 -0.1
comp=Z,0.4nm,0.5s,baz=35,slow=6.5
NOA **NORSAR Array B** 70.01 337 P P 19 15 49.2 -0.1
comp=Z,1.0nm,0.8s,baz=36,slow=6.3,SNR=4.3
comp=Z,1.0nm,0.8s
AKASG **Malin Array Be** 70.95 322 P P 19 15 54.7 -0.4
comp=Z,0.5nm,0.4s,baz=45,slow=6.1,SNR=7.1
comp=Z,0.5nm,0.4s
GERES **GERESS Array B** 78.99 328 P P 19 16 42.0 +0.4
comp=Z,0.2nm,0.4s,baz=57,slow=3.6,SNR=2.8
comp=Z,0.2nm,0.4s
SNAA **Sanae** 145.64 199 PKPbc PKPdf 19 24 14.2 -0.3
comp=Z,0.4nm,0.3s,baz=30,slow=1.0,SNR=3.1
H03N2 **Juan Fernandez** 146.42 89 T T 22 07 37.4
baz=301,slow=76,SNR=12
H03N3 **Juan Fernandez** 146.44 89 T T 22 07 38.2
baz=301,slow=76,SNR=12
H03N1 **Juan Fernandez** 146.44 89 T T 22 07 38.7
baz=301,slow=76,SNR=12

IDC 06 19:43:46.1±14.0, 19°.89S×176°.14W, h380km±139km, mb2.9/4, mbtmp3.6/4, Error ellipse: s-maj=56.1km s-min=39.5km az=59.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	46.36	256	P	P	19 51 36.9	+0.7
	1.0nm,0.5s,baz=92,slow=7.5,SNR=18						
ASAR				PcP	PcP	19 53 04.3	+0.1
	0.3nm,0.5s,baz=99,slow=3.7,SNR=4.9						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	46.42	261	P	P	19 51 35.6	-1.1
	0.4nm,0.3s,baz=96,slow=7.9,SNR=7.7						
	0.4nm,0.3s						
VNDA	**Vanda**	58.67	185	P	P	19 53 04.2	-0.3
	0.2nm,0.4s,baz=68,slow=5.4,SNR=1.7						
	0.2nm,0.4s						
ILAR	**Eielson Array**	87.35	12	P	P	19 55 51.1	+0.6
	0.3nm,0.8s,baz=212,slow=4.5,SNR=1.9						
	0.3nm,0.8s						
BRTR	**Keskin Array B**	147.70	314	PKPbc	PKPbc	20 02 45.4	-1.6
	0.4nm,0.5s,baz=96,slow=2.7,SNR=2.1						

*IDC **06** 19:51:37.0±1.3, 32°.76S×71°.96W, h0km, mb3.6/4, mbtmp3.6/6, ML3.7/2, MS3.3/2, Error ellipse: s-maj=61.2km s-min=25.2km az=86.0*
*SJA **06** 19:51:37.1±0.7, 32°.97S×72°.19W, h11km±2km, ML3.8, MW3.8*
*GUC **06** 19:51:40.0±0.9, 32°.95S×72°.11W, h28km±10km, ML3.9*
ISC 06 19:51:39.7±1.3, 32°.98S±0°.03×72°.05W±0°.04, h18km±5km, n73, σ1s79/82, mb3.6/3, 2C-8D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	0.34	98	*e*P	Pg	19 51 47.9	+0.9
VA01	**Torpederas**	0.34	98	*e*P	Pg	19 51 47.4	+0.4
VA06	**Catapilco**	0.76	57	*i*P	Pb	19 51 54.4	0.0
VA06				*e*S	Sb	19 52 04.5	+0.2
VA06				IAML		19 52 06.0	
	comp=N,11μm,0.2s						
MT02	**Curacav**	0.82	110	*e*P	Pn	19 51 55.5	-0.8
MT02	**Curacav**	0.82	110	*e*P	Pb	19 51 54.9	-0.5
MT02				IAML		19 52 14.4	
	comp=Z,1μm,0.2s						
ROC1	**El Roble**	0.87	90	*e*P	Pg	19 51 51.0	-5.8
ROC1				*e*S	Sn	19 52 09.4	-0.3
ROCH	**El Roble**	0.87	90	*i*P	Pn	19 51 56.6	-0.8
ROCH				*e*S	Sn	19 52 08.6	-1.1
ROCH				IAML		19 52 11.8	
	comp=N,6μm,0.4s						
MT01	**Popeta**	1.11	143	*i*P	Pn	19 52 00.5	+0.1
MT01				*e*S	Sn	19 52 15.4	+0.1
MT01				IAML		19 52 16.8	
	comp=N,3μm,0.2s						
MT01	**Popeta**	1.11	143	*e*P	Pn	19 51 60.0	-0.4
MT01				*e*S	Sn	19 52 16.1	+0.8
MT01				IAML		19 52 19.0	
	comp=Z,2μm,0.2s						
PEL	**Peldehue**	1.16	99	*e*P	Pn	19 52 01.5	+0.4
PEL				*e*S	Sn	19 52 17.7	+1.2
PEL				IAML		19 52 22.9	
	comp=N,5μm,0.3s						
PEL	**Peldehue**	1.16	99	*e*P	Pn	19 52 01.6	+0.4
				*e*S	Sn	19 52 19.2	+2.7
PEL				IAML		19 52 24.6	
	comp=Z,2μm,0.4s						
MT05	**Renca**	1.18	111	*i*P	Pn	19 52 01.9	+0.6
MT05				IAML		19 52 26.9	
	comp=E,6μm,0.2s						
MT05	**Renca**	1.18	111	*e*P	Pn	19 52 02.0	+0.6
MT05				IAML		19 52 21.8	
	comp=Z,1μm,0.3s						
MT09	**Talagante**	1.20	132	*e*P	Pn	19 52 02.0	+0.3
MT09				*e*S	Sn	19 52 18.4	+0.8
MT09				IAML		19 52 20.0	
	comp=N,7μm,0.3s						
VA03	**San Esteban**	1.28	81	*i*P	Pg	19 52 03.0	-1.5
VA03				*e*S	Sn	19 52 20.7	+1.1
VA03				IAML		19 52 23.4	
	comp=N,6μm,0.4s						
VA03	**San Esteban**	1.28	81	*e*P	Pg	19 52 03.2	-1.3
VA03				*e*S	Sn	19 52 22.2	+2.6
VA03				IAML		19 52 24.9	
	comp=Z,3μm,0.5s						
CO04	**Los Peladeros**	1.30	45	*i*P	Pn	19 52 02.9	-0.4
CO04				IAML		19 52 24.4	
	comp=E,4μm,0.4s						
MT10	**Hacienda Santa**	1.30	104	*i*P	Pg	19 52 04.1	-0.9
MT10				*e*S	Sn	19 52 22.1	+1.8
MT10				IAML		19 52 24.2	
	comp=N,6μm,0.4s						
MT14	**Cerro Cal¡n**	1.34	109	*i*P	Pg	19 52 04.7	-0.9
MT14				IAML		19 52 30.1	
	comp=E,4μm,0.4s						
MT03	**Universidad Ad**	1.39	112	*i*P	Pg	19 52 05.4	-1.2
MT03				IAML		19 52 32.0	
	comp=E,7μm,0.4s						
MT03	**Universidad Ad**	1.39	112	*e*P	Pg	19 52 05.5	-1.1
MT03				*e*S	Sn	19 52 26.2	+3.9
MT03				IAML		19 52 30.3	
	comp=Z,2μm,0.5s						
MT12	**Pirque**	1.47	121	IAML		19 52 33.7	
	comp=E,5μm,0.5s						
BO03	**Pichilemu**	1.52	177	*e*P	Pn	19 52 06.1	+0.1
FCH	**Farellones**	1.52	104	*i*P	Pg	19 52 07.4	-1.7
FCH				IAML		19 52 33.2	
	comp=N,3μm,0.3s						
BO04	**La Punta**	1.57	130	*i*P	Pg	19 52 08.0	-2.1
BO04				IAML		19 52 36.1	
	comp=E,2μm,0.3s						
BO01	**Tunca**	1.63	151	*e*P	Pn	19 52 07.7	+0.2
BO01				IAML		19 52 40.6	
	comp=E,837nm,0.1s						
BO01	**Tunca**	1.63	151	*e*P	Pb	19 52 08.1	-1.1
BO01				*e*S	Sg	19 52 32.9	+0.7
BO01				IAML		19 52 37.7	
	comp=Z,458nm,0.3s						
MT04	**Ro Olivares**	1.66	105	*e*P	Pg	19 52 09.6	-2.2
MT04				IAML		19 52 37.5	
	comp=E,2μm,0.2s						
MT04	**Ro Olivares**	1.66	105	*e*P	Pg	19 52 09.9	-1.8
MT04				*e*S	Sg	19 52 34.7	+1.3
MT04				IAML		19 52 38.2	
	comp=Z,1μm,0.3s						
MT13	**San Alfonso**	1.66	118	*i*P	Pg	19 52 09.8	-2.0
MT13				IAML		19 52 37.8	
	comp=N,4μm,0.3s						
MT13	**San Alfonso**	1.66	118	*e*P	Pg	19 52 10.0	-1.8
MT13				*e*S	Sg	19 52 35.0	+1.5
MT13				IAML		19 52 35.6	
	comp=Z,2μm,0.3s						
MT08	**Bocatoma Ro**	1.77	106	*i*P	Pg	19 52 11.5	-2.3
MT08				IAML		19 52 42.2	
	comp=N,2μm,0.8s						
MT08	**Bocatoma Ro**	1.77	106	*e*P	Pg	19 52 11.7	-2.1
MT08				*e*S	Sg	19 52 37.0	+0.1
MT08				IAML		19 52 39.6	
	comp=Z,792nm,0.3s						
LMEL	**Las Melosas**	1.77	120	*i*P	Pg	19 52 11.4	-2.4
LMEL				IAML		19 52 40.3	
	comp=N,4μm,0.3s						
LMEL	**Las Melosas**	1.77	120	*e*P	Pg	19 52 11.8	-2.1
LMEL				*e*S	Sg	19 52 35.3	-1.7
LMEL				IAML		19 52 39.4	
	comp=Z,2μm,0.3s						
CO02	**Combarbal**	1.98	27	*i*P	Pn	19 52 12.3	-0.2
GO05	**Hualane**	2.03	177	*i*P	Pn	19 52 12.9	-0.2
GO05				IAML		19 52 50.1	
	comp=E,545nm,0.3s						
GO05	**Hualane**	2.03	177	*e*P	Pn	19 52 13.2	+0.1
GO05				*e*S	Sg	19 52 50.2	+5.0
GO05				IAML		19 52 52.6	
	comp=Z,264nm,0.9s						
BO02	**Sierra Bellavi**	2.10	150	*i*P	Pb	19 52 15.5	-1.8
BO02	**Sierra Bellavi**	2.10	150	*e*P	Pn	19 52 14.9	+0.9
BO02				IAML		19 52 56.6	
	comp=Z,568nm,0.4s						
CO06	**Fray Jorge**	2.32	9	*i*P	Pn	19 52 15.8	-1.3
CO06				IAML		19 52 57.8	
	comp=N,688nm,0.4s						
CO03	**El Pedregal**	2.42	29	IAML		19 53 04.6	
	comp=N,652nm,0.6s						
CO03	**El Pedregal**	2.42	29	*e*P	Pn	19 52 18.5	-0.1
CO03				*e*S	Sb	19 52 54.4	+1.9
CO03				IAML		19 52 55.9	
	comp=Z,523nm,0.5s						
RTLS	**Leoncito**	2.61	64	*e*P	Pb	19 52 24.9	-1.2
RTLS				IAML		19 53 07.4	
	comp=Z,763nm,0.4s						
ARCO	**CERRO ARCO**	2.63	88	*e*P	Pb	19 52 26.0	-0.3
ARCO				IAML		19 53 06.1	
	comp=Z,315nm,0.7s						
AAGR	**Agrelo**	2.71	93	*e*P	Pb	19 52 27.8	+0.1
AAGR				IAML		19 53 22.2	
	comp=Z,243nm,0.5s						
ASAL	**Salagasta**	2.74	83	*e*P	Pb	19 52 27.1	-1.1
ASAL				*e*S	Sb	19 53 01.1	-0.3
CO05	**La Serena**	3.13	13	IAML		19 53 24.8	
	comp=E,472nm,0.3s						
CO01	**Juntas del Tor**	3.42	30	*e*P	Pn	19 52 33.8	+1.4
CO01				IAML		19 53 26.7	
	comp=E,244nm,0.6s						
CO01	**Juntas del Tor**	3.42	30	*e*P	Pn	19 52 34.0	+1.5
CO01				*e*S	Sn	19 53 16.4	+3.7
CO01				IAML		19 53 26.0	
	comp=Z,162nm,0.5s						
RFA	**San Rafael**	3.48	122	*e*P	Pn	19 52 36.0	+2.9
RFA				*e*S	Sg	19 53 28.9	-2.6
RFA				IAML		19 53 40.4	
	comp=Z,90nm,1.3s						
CFA	**Coronel Fontan**	3.51	68	*e*P	Pn	19 52 36.9	+3.5
CFA				*e*S	Sb	19 53 19.7	-3.9
BI02	**San Fabin de**	3.73	170	*e*P	Pn	19 52 37.5	+1.0
BI02				IAML		19 53 45.4	
	comp=Z,118nm,0.6s						
BI05	**Punta Hualpn**	3.88	194	*e*P	Pn	19 52 39.2	+0.7
BI05				IAML		19 53 54.8	
	comp=Z,88nm,0.7s						
ACAN	**Cantantal**	4.16	82	*e*P	Pn	19 52 44.4	+2.0
ACAN				IAML		19 53 53.2	
	comp=Z,390nm,0.5s						
AVFE	**Valle Fertil**	4.54	61	*e*P	Pn	19 52 50.9	+3.2
AVFE				IAML		19 54 04.6	
	comp=Z,71nm,0.5s						
AGUA	**GUANDACOL**	4.62	42	*e*P	Pn	19 52 52.0	+3.1
H03N1	**Juan Fernandez**	5.77	264	T	T	19 59 52.8	
	baz=87,slow=73,SNR=213						
H03N3	**Juan Fernandez**	5.78	263	T	T	19 59 56.7	
	baz=87,slow=73,SNR=324						
H03N2	**Juan Fernandez**	5.79	264	T	T	19 59 58.0	
	baz=87,slow=73,SNR=194						
H03S1	**Juan Fernandez**	5.80	260	T	T	19 59 25.1	
	baz=85,slow=75,SNR=26						
H03S3	**Juan Fernandez**	5.80	260	T	T	19 59 25.0	
	baz=85,slow=75,SNR=17						
H03S2	**Juan Fernandez**	5.81	260	T	T	19 59 27.6	
	baz=85,slow=75,SNR=26						
PLCA	**Paso Flores**	7.83	172	Pn	Pn	19 53 33.8	+0.9
	comp=Z,0.3nm,0.3s,baz=322,slow=12,SNR=6.8						
PLCA				LR	LR	19 56 47.3	
	comp=Z,108nm,20.6s,baz=352,slow=39						
	comp=Z,0.9nm,0.4s						
LPAZ	**La Paz**	16.99	13	Pn	Pn	19 55 33.0	-4.1
	comp=Z,0.1nm,0.3s,baz=184,slow=14,SNR=1.6						
	comp=Z,0.5nm,0.4s						
SNAA	**Sanae**	52.54	158	P	P	20 00 51.9	+0.3
	comp=Z,0.6nm,0.8s,baz=225,slow=21,SNR=2.3						
	comp=Z,0.6nm,0.8s						
QSPA	**South Pole Qui**	57.26	180	P	P	20 01 28.4	+2.5
	comp=Z,0.9nm,0.8s,baz=118,slow=2.5,SNR=6.2						
	comp=Z,0.9nm,0.8s						
TXAR	**Lajitas Array**	68.84	331	P	P	20 02 42.1	-1.0
	comp=Z,0.1nm,0.4s,baz=148,slow=8.2,SNR=2.9						
	comp=Z,0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	83.87	70	P	P	20 04 08.7	0.0
	comp=Z,0.7nm,0.8s,baz=281,slow=4.1,SNR=4.4						
	comp=Z,0.7nm,0.8s						
LSZ	**Lusaka**	90.14	108	LR	LR	20 41 53.2	
	comp=Z,31nm,21.8s,baz=176,slow=34						
H11S2	**WAKE ISLAND Hy**	25.77	270	T	T	22 29 30.3	
	baz=118,slow=74,SNR=12						
H11S1	**WAKE ISLAND Hy**	25.78	270	T	T	22 29 28.6	
	baz=118,slow=74,SNR=9.7						
H11S3	**WAKE ISLAND Hy**	25.79	270	T	T	22 29 31.5	
	baz=118,slow=74,SNR=7.5						

*DJA **06** 20:23:10.6±0.2, 7°.S×12°.9E±°, h257km±4km, M4.4/17, mB5.0/6, mb4.3/17, MLv4.5/17, Mw(mB)4.4/6*
*IDC **06** 20:23:11.8±2.4, 6°.63S×128°.91E, h232km±23km, mb3.5/6, mbtmp4.2/10, Error ellipse: s-maj=24.7km s-min=12.3km az=64.0*
*NEIC **06** 20:23:11.0±1.3, 6°.49S±0°.08×128°.98E±0°.09, h226km±9km, mb4.1/15, Error ellipse: s-maj=14.7km s-min=9.3km az=123.0*
ISC 06 20:23:12.3±0.5, 6°.64S±0°.05×128°.91E±0°.05, h250km, n80, σ1s96/83, mb4.0/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	2.33	25	P	Pn	20 23 56.2	-1.7
BNDI	**Bandanaira**	2.33	25	P	Pn	20 23 55.6	-2.3
SAUI	**Saumlaki**	2.72	119	Pn	Pn	20 24 00.8	-1.0
SAUI	**Saumlaki**	2.72	119	P	Pn	20 24 01.2	-0.6
SAUI	**Saumlaki**	2.72	119	P	Pn	20 24 00.6	-1.2
SAUI				S	S	20 24 37.5	-3.4
AAI	**Ambon**	3.02	346	P	Pn	20 24 03.2	-1.9
MSAI	**Masohi**	3.28	0	P	Pn	20 24 05.6	-2.3
NLAI	**Namlea**	3.83	332	P	Pn	20 24 17.0	+2.8
FAKI	**Fak Fak**	4.97	42		Pn	20 24 23.4	-4.5
FAKI	**Fak Fak**	4.97	42	P	Pn	20 24 23.6	-4.3
SANI	**Sanana**	5.42	327	P	Pn	20 24 33.0	-0.3
SANI	**Sanana**	5.42	327	P	Pn	20 24 31.9	-1.4
	0.1nm13nm,0.4s						
SOEI	**Soe**	5.54	236		Pn	20 24 34.5	-0.4
SOEI	**Soe**	5.54	236	P	Pn	20 24 34.9	0.0
SOEI	**Soe**	5.54	236	S	S	20 25 37.9	-2.9
SOEI	**Soe**	5.54	236	P	Pn	20 24 34.8	-0.1
KMPI	**Kaimana, Papua**	5.62	58	P	Pn	20 24 33.2	-2.5
DRS	**Darwin Rock St**	6.08	161	P	Pn	20 24 42.1	+0.7
DRS	**Darwin Rock St**	6.08	161	S	S	20 25 50.3	-2.4
SWI	**Sorong**	6.20	22	P	Pn	20 24 38.8	-4.2
BATI	**Baumata**	6.28	235	P	Pn	20 24 44.4	+0.3
	223nm,0.4s,baz=110,slow=2.4,SNR=54						
BATI				S	S	20 25 55.4	-2.1
	64nm,0.5s,baz=20,slow=22,SNR=6.1						
BATI	**Baumata**	6.28	235	P	Pn	20 24 44.1	0.0
MTN	**Manton Dam**	6.54	161		Pn	20 24 46.7	-0.5
MMRI	**Maumere**	6.91	253	Pn	Pn	20 24 51.6	-0.2
MMRI	**Maumere**	6.91	253	P	Pn	20 24 52.0	+0.2
MMRI	**Maumere**	6.91	253	P	Pn	20 24 52.9	+1.1
RKPI	**Ransiki, Papua**	7.32	46	P	Pn	20 24 53.9	-3.2
EDFI	**Ende, Flores**	7.46	253	P	Pn	20 24 59.6	+0.7
	0.1nm22nm,0.8s						
KNRA	**Kununurra**	8.98	181		Pn	20 25 17.6	-0.5
WSI	**Waingapu**	9.04	250	P	Pn	20 25 17.6	-1.2
TTSI	**Tana Toraja**	9.74	291	P	Pn	20 25 26.7	-1.0
	13nm,0.5s						
WBSI	**Waikabubak, Su**	9.88	252	P	Pn	20 25 28.8	-0.8
	32nm,1.2s						
SMPI	**Sarmi**	10.81	65	P	Pn	20 25 39.9	-1.2
PLAI	**Plampang**	11.25	258	P	Pn	20 25 46.7	+0.1
PLAI	**Plampang**	11.25	258	P	Pn	20 25 44.6	-2.0
	31nm,1.1s						
FITZ	**Fitzroy Crossi**	11.82	195	P	Pn	20 25 52.8	-0.9
FITZ	**Fitzroy Crossi**	11.82	195	P	Pn	20 25 53.0	-0.7
	20nm,0.4s,baz=30,slow=11,SNR=150						
FITZ				S	S	20 27 59.0	-6.8
	7.5nm,0.4s,baz=273,slow=22,SNR=6.0						
FITZ	**Fitzroy Crossi**	11.82	195	P	Pn	20 25 54.3	+0.5
GENI	**Genyem**	11.92	71	P	Pn	20 25 49.9	-5.1
TWSI	**Taliwang, Sumb**	12.10	259	P	Pn	20 25 56.4	-0.9
	19nm,1.0s						
JAY	**Jayapura**	12.45	71	P	Pn	20 26 00.8	-0.8
	8.1nm,0.8s,baz=225,slow=4.3,SNR=4.2						
WB0	**Warramunga Arr**	14.09	158	Pn	Pn	20 26 20.2	-1.4
WRA	**Warramunga Arr**	14.23	159	P	Pn	20 26 22.8	-0.6
	1.3nm,0.4s,baz=334,slow=12,SNR=14						
WRA				S	S	20 28 58.6	-2.3
	3.4nm,0.4s,baz=332,slow=22,SNR=6.4						
WR8	**Warramunga Arr**	14.30	158	Pn	Pn	20 26 22.4	-1.8
JAGI	**Jajag, Banyuwa**	14.74	262	Pn	P	20 26 27.0	-2.4
JAGI	**Jajag, Banyuwa**	14.74	262	P	Pn	20 26 32.1	+2.5
JAGI	**Jajag, Banyuwa**	14.74	262	P	P	20 26 25.8	-3.7
	26nm,1.2s						
KMMI	**Kalianget**	14.85	268	P	Pn	20 26 30.3	-0.5
	79nm,1.7s						
COEN	**Coen**	15.80	119	P	P	20 26 39.0	-2.0
COEN				IAmb	IAmb	20 27 16.3	
	comp=Z,12nm,1.4s						
COEN	**Coen**	15.80	119	P	Pn	20 26 44.2	+2.0
MBWA	**Marble Bar**	16.95	211	P	Pn	20 26 54.9	-0.8
MBWA	**Marble Bar**	16.95	211	P	Pn	20 26 56.1	+0.5
PSA00	**Pilbara Seismi**	17.24	210	P	Pn	20 26 57.8	-1.2
PSA00				IAmb	IAmb	20 26 59.9	
	comp=Z,6.4nm,1.1s						
PSA00	**Pilbara Seismi**	17.24	210	P	Pn	20 26 57.8	-1.2
PSA00	**Pilbara Seismi**	17.24	210	P	Pn	20 26 59.4	+0.4
QIS	**Mount Isa**	17.29	144	P	Pn	20 27 00.3	+0.7
NGJI	**Ngawi**	17.34	267	P	P	20 26 54.0	-3.9
AS31	**Alice Springs**	17.59	165		Pn	20 27 03.4	+0.2
AS31				IAmb	IAmb	20 27 07.3	
	comp=Z,5.3nm,0.5s						
ASAR	**Alice Springs**	17.59	165	P	Pn	20 27 03.2	0.0
	comp=Z,8.3nm,0.5s,baz=347,slow=11,SNR=56						
ASAR				S	S	20 30 10.8	+0.4
	comp=Z,1.6nm,0.8s,baz=353,slow=22,SNR=8.4						
AS01	**Alice Springs**	17.60	165	P	Pn	20 27 03.9	+0.6
PMG	**Port Moresby**	18.27	100	P	Pn	20 27 13.2	+1.9
PMG	**Port Moresby**	18.27	100	P	Pn	20 27 13.4	+2.1
MEEK	**Meekatharra**	22.17	205	P	P	20 27 51.5	+3.5
KAVG	**Kaviengo**	22.19	81	P	P	20 27 54.4	+6.1
CMAR	**Chiang Mai Arr**	38.68	311	P	P	20 30 13.9	+1.5
	comp=Z,0.5nm,0.3s,baz=130,slow=7.6,SNR=5.1						
	comp=Z,0.5nm,0.3s						
EVN	**Everest**	53.24	312	P	P	20 32 06.7	+0.3

IDC 06 20:41:16.9±1.5, 6°54S×154°70E, h0km, mb3.6/3, mbtmp3.8/4, ML4.3/1, MS2.7/2, Error ellipse: s-maj=48.6km s-min=28.2km az=144.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.94**	**119**	Pn	Pn	20 42 45.6	-0.6
	7.4nm,0.3s,baz=336,slow=10.0,SNR=2.2						
HNR				Sn	Sn	20 43 47.6	-7.4
	8.1nm,0.3s,baz=261,slow=12,SNR=5.3						
	27nm,0.4s						
PMG	**Port Moresby**	**7.99**	**249**	LR	LR	20 46 09.4	
	comp=Z,41nm,21.2s,baz=54,slow=37						
WRA	**Warramunga Arr**	**23.84**	**234**	P	P	20 46 32.5	+0.5
	1.7nm,0.7s,baz=57,slow=9.0,SNR=8.0						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**26.26**	**227**	P	P	20 46 53.4	-0.6
	0.3nm,0.6s,baz=50,slow=9.9,SNR=6.6						
ASAR				LR	LR	20 56 11.4	
	comp=Z,21nm,18.8s,baz=32,slow=34						
	0.3nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**27.55**	**25**	T	T	21 15 54.3	
	baz=202,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.55**	**25**	T	T	21 15 42.8	
	baz=202,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.56**	**25**	T	T	21 15 59.4	
	baz=202						
ILAR	**Eielson Array**	**83.06**	**22**	P	P	20 53 44.4	+0.3
	0.3nm,0.4s,baz=233,slow=5.7,SNR=6.5						
	0.3nm,0.4s						

*IDC **06** 20:43:24.5±1.4, 8°18S×130°34E, h0km, mb3.8/4, mbtmp3.7/7, ML3.6/3, Error ellipse: s-maj=74.1km s-min=21.4km az=75.0*

ISC 06 20:43:29.8±1.2, 8°38S±0°09×130°4E±0°1, h35km, n8, σ1§36/11, mb3.6/4, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.85**	**254**	Sn	**Sn**	**20 46 25.1**	**+0.3**
	1.5nm,0.3s,baz=153,slow=2.2,SNR=2.0						
FITZ	**Fitzroy Crossi**	**10.70**	**205**	Pn	**Pn**	**20 46 01.6**	**+1.0**
	0.6nm,0.3s,baz=31,slow=11,SNR=19						
FITZ				Sn	**Sn**	**20 47 56.8**	**-2.4**
	0.6nm,0.3s,baz=141,slow=14,SNR=5.9						
	1.2nm,0.3s						
WRA	**Warramunga Arr**	**12.13**	**162**	Pn	**Pn**	**20 46 19.9**	**-0.2**
	0.4nm,0.3s,baz=344,slow=13,SNR=7.7						
WRA				Sn	**Sn**	**20 48 33.3**	**-1.0**
	1.1nm,0.3s,baz=346,slow=24,SNR=12						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**15.58**	**168**	Pn	**Pn**	**20 47 07.5**	**+0.6**
	0.2nm,0.3s,baz=348,slow=11,SNR=14						
ASAR				Sn	**Sn**	**20 49 59.1**	**+0.6**
	0.2nm,0.3s,baz=359,slow=28,SNR=4.8						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**69.56**	**327**	P	**P**	**20 54 34.5**	**-0.7**
	1.3nm,0.6s,baz=125,slow=8.1,SNR=15						
	1.3nm,0.6s						
VNDA	**Vanda**	**71.05**	**173**	P	**P**	**20 54 45.6**	**+1.9**
	0.2nm,0.4s,baz=310,slow=7.9,SNR=7.2						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**73.86**	**329**	P	**P**	**20 54 59.9**	**-1.1**
	0.4nm,0.5s,baz=128,slow=4.7,SNR=3.1						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**79.41**	**328**	P	**P**	**20 55 31.2**	**-1.1**
	0.3nm,0.5s,baz=134,slow=4.2,SNR=2.5						
	0.3nm,0.5s						

*IDC **06** 20:49:04.5±1.8, 36°49S×177°23E, h243km±8km, mb3.4/5, mbtmp4.0/6, Error ellipse: s-maj=39.8km s-min=14.5km az=58.0*

*NOU **06** 20:49:05.3, 36°78S×177°03E, h270km, MLv4.2/15, Off E. Coast of N. Island, N.Z.*

*NEIC **06** 20:49:07.0±1.6, 36°9S±0°1×176°9E±0°1, h257km±8km, mb4.0/14, Error ellipse: s-maj=15.5km s-min=14.7km az=159.0*

*WEL **06** 20:49:08.2±1.3, 37°S±7°×17°7E±°, h236km±9km, M4.2/73, MLv4.2/73, Error ellipse: s-maj=12.5km s-min=5.9km az=45.2, confirmed*

ISC 06 20:49:06.0±0.7, 36°79S±0°05×177°07E±0°06, h268km±6km, n209, σ1§57/223, mb3.9/10, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**1.08**	**272**	P	**Pn**	**20 49 42.6**	**-0.7**
KUZ	**Kuaotunu**	**1.08**	**272**	P	**Pn**	**20 49 42.7**	**-0.7**
HAZ	**Te Kaha**	**1.12**	**150**	P	**Pn**	**20 49 42.8**	**-0.8**
HAZ				S	**S**	**20 50 10.6**	**-2.6**
OPRZ	**Ohinepanea**	**1.13**	**201**	P	**Pn**	**20 49 44.1**	**+0.5**
TGRZ	**Tauranga**	**1.14**	**214**	P	**Pn**	**20 49 45.4**	**+1.7**
MARZ	**Manawahe**	**1.23**	**195**	P	**Pn**	**20 49 43.5**	**-0.8**
MXZ	**Matakaoa Point**	**1.26**	**128**			**20 49 43.5**	**-0.8**
MXZ				Sn	**S**	**20 50 10.7**	**-4.0**
MXZ	**Matakaoa Point**	**1.26**	**128**	P	**Pn**	**20 49 43.9**	**-0.5**
MXZ	**Matakaoa Point**	**1.26**	**128**	P	**Pn**	**20 49 43.8**	**-0.6**
MXZ				S	**S**	**20 50 11.8**	**-2.9**
RUGZ	**Raukumara Rang**	**1.27**	**158**	P	**Pn**	**20 49 43.6**	**-1.0**
RUGZ				S	**S**	**20 50 11.5**	**-3.6**
PKGZ	**Pakihiroa**	**1.34**	**143**	P	**Pn**	**20 49 45.0**	**+0.1**
GRZ	**Great Barrier**	**1.40**	**292**	P	**Pn**	**20 49 44.3**	**-1.1**
URZ	**Urewera**	**1.47**	**179**	P	**Pn**	**20 49 45.5**	**-0.2**
	62nm,0.4s,baz=352,slow=3.2,SNR=388						
URZ				S	**S**	**20 50 15.7**	**-1.6**
	106nm,0.3s,baz=26,slow=22,SNR=23						
URZ	**Urewera**	**1.47**	**179**	P	**Pn**	**20 49 45.7**	**0.0**
URZ	**Urewera**	**1.47**	**179**	S	**S**	**20 50 17.1**	**-0.2**
URZ	**Urewera**	**1.47**	**179**	P	**Pn**	**20 49 45.6**	**-0.2**
WMGZ	**Waiomatatini S**	**1.49**	**134**	P	**Pn**	**20 49 45.8**	**-0.1**
WMGZ				S	**S**	**20 50 15.4**	**-2.1**
WIAZ	**Waiheke Island**	**1.55**	**269**	P	**Pn**	**20 49 46.5**	**0.0**
MKAZ	**Moumakai**	**1.56**	**258**	P	**Pn**	**20 49 46.9**	**+0.5**
TOZ	**Tahuroa Road**	**1.56**	**233**	Pn	**Pn**	**20 49 46.8**	**+0.4**
TOZ	**Tahuroa Road**	**1.56**	**233**	P	**Pn**	**20 49 47.5**	**+1.1**
TWGZ	**Tauwhareparae**	**1.56**	**153**	P	**Pn**	**20 49 47.2**	**+0.7**
PUZ	**Puketiti**	**1.59**	**144**	P	**Pn**	**20 49 46.7**	**0.0**
RRRZ	**Republican Roa**	**1.61**	**196**	P	**Pn**	**20 49 47.7**	**+0.9**
MUGZ	**Murupara**	**1.70**	**188**	P	**Pn**	**20 49 47.7**	**+0.2**
ETAZ	**East Tamaki Re**	**1.72**	**264**	P	**Pn**	**20 49 48.2**	**+0.6**
RAGZ	**Rawiri**	**1.73**	**171**	P	**Pn**	**20 49 48.3**	**+0.5**
GRRZ	**Galatos Road**	**1.73**	**206**	P	**Pn**	**20 49 50.4**	**+2.6**
MBAZ	**Motutapu North**	**1.74**	**270**	P	**Pn**	**20 49 48.1**	**+0.3**
PRRZ	**Plateau Road**	**1.79**	**197**	P	**Pn**	**20 49 50.0**	**+1.8**
ABAZ	**Army Bay**	**1.81**	**275**	P	**Pn**	**20 49 48.5**	**+0.1**
RTZ	**Ruatahuna**	**1.82**	**182**			**20 49 48.6**	**+0.1**
RTZ				Sn	**S**	**20 50 20.4**	**-1.9**
RTZ	**Ruatahuna**	**1.82**	**182**	P	**Pn**	**20 49 48.8**	**+0.2**
ALRZ	**Allen Road**	**1.86**	**198**	P	**Pn**	**20 49 49.8**	**+1.0**
EPAZ	**Eden Park BICE**	**1.86**	**267**	P	**Pn**	**20 49 49.1**	**+0.3**
HBAZ	**Herne Bay Bore**	**1.88**	**267**	P	**Pn**	**20 49 49.0**	**+0.1**
CNGZ	**Carnagh Statio**	**1.92**	**152**	P	**Pn**	**20 49 50.1**	**+0.8**
TLZ	**Tolley Road**	**1.96**	**218**	P	**Pn**	**20 49 51.8**	**+2.1**
AWAZ	**Awhitu Peninsu**	**1.96**	**261**	P	**Pn**	**20 49 50.0**	**+0.4**
KUTZ	**Kaahu Road**	**1.96**	**210**	P	**Pn**	**20 49 52.5**	**+2.8**
RIGZ	**Rimuhau**	**1.99**	**164**	P	**Pn**	**20 49 50.6**	**+0.7**
RVAZ	**Riverhead Bore**	**2.00**	**270**	P	**Pn**	**20 49 49.9**	**0.0**
SNGZ	**Shannon Statio**	**2.00**	**174**	P	**Pn**	**20 49 50.5**	**+0.6**
WTAZ	**Waiatarua**	**2.00**	**265**	P	**Pn**	**20 49 50.4**	**+0.4**
MTHZ	**Maungataniwha**	**2.07**	**185**	P	**Pn**	**20 49 50.9**	**+0.3**
MRHZ	**Matea Rd**	**2.10**	**194**	P	**Pn**	**20 49 51.5**	**+0.5**
RAHZ	**Arahi**	**2.12**	**189**	P	**Pn**	**20 49 51.8**	**+0.7**
WATZ	**Wairara**	**2.19**	**208**	P	**Pn**	**20 49 53.2**	**+1.5**
PRGZ	**Paritu Road**	**2.23**	**163**	P	**Pn**	**20 49 53.0**	**+1.0**
KNZ	**Kokohu**	**2.28**	**168**	P	**Pn**	**20 49 52.7**	**+0.3**
WHHZ	**Waihua**	**2.29**	**177**	P	**Pn**	**20 49 53.3**	**+0.8**
NMHZ	**Naumai**	**2.31**	**185**	P	**Pn**	**20 49 53.9**	**+1.1**
RATZ	**Rangitukua**	**2.31**	**206**	P	**Pn**	**20 49 54.2**	**+1.4**
WCZ	**Waipu Caves**	**2.35**	**290**	P	**Pn**	**20 49 52.7**	**-0.5**
BKZ	**Black Stump Fm**	**2.42**	**191**		**Pn**	**20 49 53.5**	**-0.3**
BKZ				Sn	**S**	**20 50 29.9**	**-1.8**
BKZ	**Black Stump Fm**	**2.42**	**191**	P	**Pn**	**20 49 53.8**	**0.0**
BKZ	**Black Stump Fm**	**2.42**	**191**	S	**S**	**20 50 32.0**	**+0.3**
BKZ	**Black Stump Fm**	**2.42**	**191**	P	**Pn**	**20 49 53.9**	**+0.1**
MHGZ	**Mahia Peninsul**	**2.45**	**165**	P	**Pn**	**20 49 55.0**	**+0.9**
HIZ	**Hauiti**	**2.46**	**225**	Pn	**Pn**	**20 49 53.9**	**-0.2**
HIZ	**Hauiti**	**2.46**	**225**	P	**Pn**	**20 49 56.8**	**+2.7**
ARHZ	**Aropaoanui**	**2.47**	**181**	P	**Pn**	**20 49 55.1**	**+0.8**
TMVZ	**Te Maari**	**2.56**	**204**	P	**Pn**	**20 49 56.4**	**+1.1**
KRVZ	**Karewarewa**	**2.56**	**206**	P	**Pn**	**20 49 56.4**	**+1.2**
ETVZ	**East Tongariro**	**2.58**	**204**	P	**Pn**	**20 49 56.6**	**+1.2**
WTVZ	**West Tongariro**	**2.60**	**206**	P	**Pn**	**20 49 56.9**	**+1.3**
OTVZ	**Oturere**	**2.62**	**205**	P	**Pn**	**20 49 57.0**	**+1.1**
TWVZ	**Taurewa**	**2.62**	**209**	P	**Pn**	**20 49 57.3**	**+1.5**
SNVZ	**South Ngauruho**	**2.65**	**205**	P	**Pn**	**20 49 57.3**	**+1.2**
NGZ	**Ngauruhoe**	**2.65**	**205**	P	**Pn**	**20 49 57.7**	**+1.5**
MCHZ	**McNeill Hill**	**2.67**	**186**	P	**Pn**	**20 49 57.1**	**+1.0**
KWHZ	**Kaweka Forest**	**2.68**	**191**	P	**Pn**	**20 49 57.1**	**+0.7**
COVZ	**Chateau Observ**	**2.69**	**206**	P	**Pn**	**20 49 58.0**	**+1.5**
TUVZ	**Tukino**	**2.71**	**204**	P	**Pn**	**20 49 57.8**	**+1.0**
FWVZ	**Far West T-bar**	**2.74**	**205**	P	**Pn**	**20 49 58.3**	**+1.1**
MAVZ	**Matarangi**	**2.75**	**205**	P	**Pn**	**20 49 58.4**	**+1.1**
WHVZ	**Whangaehu Hut**	**2.75**	**205**	P	**Pn**	**20 49 58.1**	**+0.9**
TRVZ	**Turoa**	**2.78**	**205**	P	**Pn**	**20 49 58.5**	**+1.0**
WNVZ	**Wahianoa**	**2.79**	**204**	P	**Pn**	**20 49 58.3**	**+0.8**
MOVZ	**Moawhango**	**2.81**	**201**	P	**Pn**	**20 49 57.8**	**+0.2**
PKVZ	**Pokaka**	**2.84**	**208**	P	**Pn**	**20 49 58.9**	**+0.9**
CKHZ	**Cape Kidnapper**	**2.86**	**180**	P	**Pn**	**20 49 58.8**	**+0.7**
MTVZ	**Mangateitei**	**2.88**	**205**	P	**Pn**	**20 49 59.3**	**+0.9**
KRHZ	**Kereru**	**2.90**	**191**	P	**Pn**	**20 49 58.9**	**+0.3**
VRZ	**Vera Road**	**2.96**	**217**	P	**Pn**	**20 50 01.5**	**+2.4**
KAHZ	**Kahuranaki**	**3.00**	**183**	P	**Pn**	**20 50 00.3**	**+0.6**
PNHZ	**Pukenui**	**3.19**	**192**	P	**Pn**	**20 50 01.7**	**0.0**
OUZ	**Omahuta**	**3.22**	**298**	P	**Pn**	**20 50 01.3**	**-0.7**
OUZ	**Omahuta**	**3.22**	**298**	P	**Pn**	**20 50 01.3**	**-0.7**
PXZ	**Pawanui**	**3.24**	**183**	P	**Pn**	**20 50 02.3**	**+0.2**
DREZ	**Durham Road**	**3.29**	**223**	P	**Pn**	**20 50 05.9**	**+3.2**
WPHZ	**Waipukurau**	**3.31**	**188**	P	**Pn**	**20 50 03.0**	**+0.2**
TSZ	**Takapari Road**	**3.38**	**195**	P	**Pn**	**20 50 03.6**	**0.0**
WAZ	**Wanganui**	**3.38**	**208**	P	**Pn**	**20 50 04.6**	**+0.9**
LREZ	**Lake Rotokare**	**3.39**	**217**	P	**Pn**	**20 50 06.1**	**+2.4**
NEZ	**North Egmont**	**3.41**	**229**	P	**Pn**	**20 50 07.2**	**+3.1**
PKE	**Pukeiti**	**3.42**	**224**	P	**Pn**	**20 50 07.3**	**+3.3**
PREZ	**Palmer Road**	**3.43**	**221**	P	**Pn**	**20 50 07.3**	**+3.1**
KHEZ	**Kahui Hut**	**3.47**	**223**	P	**Pn**	**20 50 07.8**	**+3.1**
PRHZ	**Porangahau**	**3.49**	**185**	P	**Pn**	**20 50 05.0**	**+0.2**
NBEZ	**Newall Road No**	**3.54**	**225**	P	**Pn**	**20 50 09.4**	**+4.1**
DVHZ	**Dannevirke**	**3.57**	**191**	P	**Pn**	**20 50 05.4**	**-0.4**
ANWZ	**Angora Road**	**3.69**	**187**	P	**Pn**	**20 50 07.2**	**+0.1**
POWZ	**Post Office Ro**	**3.74**	**195**	P	**Pn**	**20 50 07.4**	**-0.2**
PRWZ	**Pori Road**	**3.86**	**193**	P	**Pn**	**20 50 09.2**	**+0.3**
BFZ	**Birch Farm**	**3.94**	**189**		**Pn**	**20 50 09.2**	**-0.6**
BFZ				Sn	**S**	**20 50 56.4**	**-4.4**
BFZ	**Birch Farm**	**3.94**	**189**	P	**Pn**	**20 50 09.5**	**-0.4**
BFZ	**Birch Farm**	**3.94**	**189**	P	**Pn**	**20 50 09.8**	**-0.1**
MRZ	**Mangatainoka R**	**4.04**	**196**		**Pn**	**20 50 10.1**	**-0.9**
MRZ	**Mangatainoka R**	**4.04**	**196**	P	**Pn**	**20 50 10.3**	**-0.6**
TIWZ	**Tintock**	**4.09**	**193**	P	**Pn**	**20 50 12.3**	**+0.7**
HOWZ	**Holdsworth Sta**	**4.28**	**196**	P	**Pn**	**20 50 13.0**	**-0.8**
OGWZ	**Otaki Gorge**	**4.29**	**200**	P	**Pn**	**20 50 13.3**	**-0.6**
KIW	**Kapiti Island**	**4.40**	**202**	P	**Pn**	**20 50 14.7**	**-0.5**
TMWZ	**Te Maipa**	**4.41**	**192**	P	**Pn**	**20 50 15.5**	**+0.2**
MTW	**Mount Morrison**	**4.53**	**195**	P	**Pn**	**20 50 16.1**	**-0.6**
CAW	**Cannon Point**	**4.58**	**199**	P	**Pn**	**20 50 16.6**	**-0.8**
DUWZ	**D'Urville Isla**	**4.70**	**211**	P	**Pn**	**20 50 18.1**	**-0.6**
TRWZ	**Traveller**	**4.72**	**193**	P	**Pn**	**20 50 19.1**	**+0.1**
PAWZ	**Paruwai Farm**	**4.76**	**195**	P	**Pn**	**20 50 18.6**	**-0.9**
MSWZ	**Moikau Station**	**4.83**	**196**		**Pn**	**20 50 18.5**	**-1.8**
MSWZ				Sn	**S**	**20 51 16.2**	**-3.5**
MSWZ	**Moikau Station**	**4.83**	**196**	P	**Pn**	**20 50 19.7**	**-0.6**
WEL	**Wellington**	**4.83**	**201**	P	**Pn**	**20 50 19.8**	**-0.5**
SNZO	**South Karori**	**4.87**	**201**		**Pn**	**20 50 18.8**	**-1.9**
SNZO	**South Karori**	**4.87**	**201**	P	**Pn**	**20 50 20.1**	**-0.6**
BHW	**Baring Head**	**4.92**	**200**		**Pn**	**20 50 19.6**	**-1.7**
TCW	**Tory Channel**	**4.92**	**205**		**Pn**	**20 50 20.2**	**-1.1**
TCW				Sn	**S**	**20 51 17.9**	**-3.7**
TCW	**Tory Channel**	**4.92**	**205**	P	**Pn**	**20 50 20.5**	**-0.8**
PLWZ	**Palliser**	**4.98**	**196**		**Pn**	**20 50 20.8**	**-1.3**
PLWZ	**Palliser**	**4.98**	**196**	P	**Pn**	**20 50 21.1**	**-1.0**
TUWZ	**Tuamarina**	**5.23**	**207**		**Pn**	**20 50 24.7**	**-0.3**
TUWZ				Sn	**S**	**20 51 26.2**	**-2.1**
TUWZ	**Tuamarina**	**5.23**	**207**	P	**Pn**	**20 50 25.2**	**+0.1**
NNZ	**Nelson**	**5.27**	**212**		**Pn**	**20 50 24.3**	**-1.2**
NNZ				Sn	**S**	**20 51 26.8**	**-2.5**
NNZ	**Nelson**	**5.27**	**212**	P	**Pn**	**20 50 24.4**	**-1.1**
TKNZ	**Takaka Hill**	**5.31**	**216**		**Pn**	**20 50 24.4**	**-1.7**
TKNZ				Sn	**S**	**20 51 27.6**	**-2.5**
TKNZ	**Takaka Hill**	**5.31**	**216**	P	**Pn**	**20 50 24.9**	**-1.1**
QRZ	**Quartz Range**	**5.37**	**220**		**Pn**	**20 50 25.1**	**-1.6**
QRZ	**Quartz Range**	**5.37**	**220**	P	**Pn**	**20 50 25.7**	**-1.0**
QRZ	**Quartz Range**	**5.37**	**220**	P	**Pn**	**20 50 25.6**	**-1.1**
CMWZ	**Cape Campbell**	**5.42**	**203**		**Pn**	**20 50 25.9**	**-1.5**
CMWZ	**Cape Campbell**	**5.42**	**203**	P	**Pn**	**20 50 28.3**	**+0.9**
BSWZ	**Blackbirch Sta**	**5.51**	**206**		**Pn**	**20 50 26.6**	**-1.8**
BSWZ	**Blackbirch Sta**	**5.51**	**206**	P	**Pn**	**20 50 27.2**	**-0.1**
MRNZ	**Matariki Terra**	**5.69**	**215**		**Pn**	**20 50 28.6**	**-2.1**
MRNZ	**Matariki Terra**	**5.69**	**215**	P	**Pn**	**20 50 29.3**	**-1.4**
THZ	**Tophouse**	**5.92**	**212**		**Pn**	**20 50 32.4**	**-1.2**
THZ	**Tophouse**	**5.92**	**212**	P	**Pn**	**20 50 32.3**	**-1.3**
KHZ	**Kahutara**	**6.24**	**205**		**Pn**	**20 50 36.0**	**-1.4**
KHZ	**Kahutara**	**6.24**	**205**	P	**Pn**	**20 50 36.8**	**-0.6**
KHZ	**Kahutara**	**6.24**	**205**	P	**Pn**	**20 50 36.9**	**-0.6**
DSZ	**Denniston Nort**	**6.41**	**218**	Pn	**Pn**	**20 50 37.6**	**-1.9**
DSZ	**Denniston Nort**	**6.41**	**218**	P	**Pn**	**20 50 37.7**	**-1.9**
GVZ	**Greta Valley S**	**6.90**	**205**	Pn	**Pn**	**20 50 44.6**	**-1.0**
GVZ	**Greta Valley S**	**6.90**	**205**	P	**Pn**	**20 50 44.8**	**-0.8**
LTZ	**Lake Taylor**	**7.03**	**210**	Pn	**Pn**	**20 50 45.3**	**-2.0**
LTZ	**Lake Taylor**	**7.03**	**210**	P	**Pn**	**20 50 46.1**	**-1.1**
AMCZ	**Amberley**	**7.22**	**207**	Pn	**Pn**	**20 50 47.6**	**-2.0**
AMCZ	**Amberley**	**7.22**	**207**	P	**Pn**	**20 50 48.5**	**-1.0**
INZ	**Inchbonnie**	**7.34**	**214**		**Pn**	**20 50 49.0**	**-2.0**
INZ	**Inchbonnie**	**7.34**	**214**	P	**Pn**	**20 50 49.8**	**-1.2**
OKCZ	**Okains Bay**	**7.57**	**203**	P	**Pn**	**20 50 53.3**	**-0.7**
OXZ	**Oxford**	**7.58**	**209**		**Pn**	**20 50 51.7**	**-2.3**
OXZ	**Oxford**	**7.58**	**209**	P	**Pn**	**20 50 52.4**	**-1.6**
MQZ	**McQueen's Vall**	**7.69**	**205**	Pn	**Pn**	**20 50 52.5**	**-2.9**
MQZ	**McQueen's Vall**	**7.69**	**205**	P	**Pn**	**20 50 54.0**	**-1.3**
AKCZ	**Akaroa Harbour**	**7.75**	**203**	P	**Pn**	**20 50 55.8**	**-0.4**
RACZ	**Rakaia**	**7.88**	**207**	P	**Pn**	**20 50 56.6**	**-1.2**
WVZ	**Waitaha Valley**	**7.94**	**216**	P	**Pn**	**20 50 57.1**	**-1.4**
MHCZ	**Mount Hutt**	**7.94**	**210**	P	**Pn**	**20 50 57.0**	**-1.6**
WACZ	**Wakanui South**	**8.18**	**208**	P	**Pn**	**20 51 00.3**	**-1.2**
RPZ	**Rata Peaks**	**8.30**	**212**	Pn	**Pn**	**20 51 01.0**	**-2.1**
RPZ	**Rata Peaks**	**8.30**	**212**	P	**Pn**	**20 51 01.7**	**-1.4**
	23nm,0.4s,baz=34,slow=2.0,SNR=43						
RPZ				S	**S**	**20 52 32.4**	**-5.3**
	29nm,0.5s,baz=128,slow=22,SNR=13						
RPZ	**Rata Peaks**	**8.30**	**212**	P	**Pn**	**20 51 01.9**	**-1.2**
RPZ	**Rata Peaks**	**8.30**	**212**	P	**Pn**	**20 51 01.6**	**-1.5**
GCSZ	**Gaunt Creek Bo**	**8.32**	**216**	P	**Pn**	**20 51 01.5**	**-1.8**
ARCZ	**Arundel**	**8.44**	**210**	P	**Pn**	**20 51 03.3**	**-1.6**
RAO	**Raoul Island**	**8.61**	**31**	Pn	**Pn**	**20 51 07.4**	**+0.3**
FOZ	**Fox Glacier**	**8.72**	**217**	Pn	**Pn**	**20 51 05.9**	**-2.4**
LBZ	**Lake Benmore**	**9.21**	**212**	Pn	**Pn**	**20 51 12.6**	**-1.9**
ODZ	**Otahua Downs**	**9.57**	**208**	Pn	**Pn**	**20 51 17.6**	**-1.2**
ODZ	**Otahua Downs**	**9.57**	**208**	P	**Pn**	**20 51 18.4**	**-0.5**
JCZ	**Jackson Bay**	**9.63**	**218**	P	**Pn**	**20 51 18.2**	**-1.5**
WKZ	**Wanaka**	**10.08**	**215**	Pn	**Pn**	**20 51 22.0**	**-3.2**
MLZ	**Mavora Lakes**	**10.90**	**215**	Pn	**Pn**	**20 51 34.2**	**-1.3**
WHZ	**Wether Hill Ro**	**11.38**	**214**	Pn	**Pn**	**20 51 39.7**	**-1.7**
SYZ	**Scrubby Hill**	**11.39**	**209**	P	**Pn**	**20 51 40.9**	**-0.6**
DZM	**Mont Dzumac**	**17.32**	**325**	P	**P**	**20 52 50.1**	**-0.3**
	4.2nm,0.8s,baz=137,slow=18,SNR=12						
MSVF	**Nonsavu**	**19.00**	**3**	P	**P**	**20 53 02.9**	**-5.6**
INKA	**Innaminka**	**31.85**	**276**	P	**P**	**20 55 07.5**	**+1.1**
INKA				IAmb	IAmb	20 55 24.0	
	comp=Z,6.4nm,1.3s						
BBOO	**Buckleboo**	**33.72**	**264**	P	**P**	**20 55 23.9**	**+1.4**
COEN	**Coen**	**37.83**	**298**	P	**P**	**20 55 57.7**	**+0.4**
AS31	**Alice Springs**	**39.20**	**277**	P	**P**	**20 56 08.8**	**+0.1**
AS31				IAmb	IAmb	20 56 10.7	
	comp=Z,2.5nm,0.6s						
ASAR	**Alice Springs**	**39.20**	**277**	P	**P**	**20 56 08.3**	**-0.5**
ASAR	**Alice Springs**	**39.20**	**277**	P	**P**	**20 56 10.2**	**+1.4**
	comp=Z,5.9nm,0.7s,baz=118,slow=7.8,SNR=50						
	comp=Z,5.9nm,0.7s						
WR8	**Warramunga Arr**	**40.67**	**282**	P	**P**	**20 56 21.0**	**+0.2**
WR8				IAmb	IAmb	20 56 22.5	
	comp=Z,5.4nm,1.1s						
WB2	**Warramunga Arr**	**40.79**	**282**	P	**P**	**20 56 21.9**	**+0.1**
WRA	**Warramunga Arr**	**40.80**	**282**	P	**P**	**20 56 22.6**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=121,slow=7.6,SNR=20						
	comp=Z,2.7nm,0.7s						
WB0	**Warramunga Arr**	**40.86**	**283**	P	**P**	**20 56 22.3**	**0.0**
WB0				IAmb	IAmb	20 56 23.4	
	comp=Z,4.4nm,0.7s						
VNDA	**Vanda**		**41.36**	**185**	P	**P**	**20 56 27.3**	**+1.7**
VNDA	**Vanda**		**41.36**	**185**	P	**P**	**20 56 27.8**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=35,slow=2.2,SNR=3.7							
	comp=Z,0.4nm,0.7s							
KNRA	**Kununurra**		**47.58**	**283**	P	**P**	**20 57 15.1**	**-0.3**
KNRA				IAmb	IAmb	20 57 39.1	
	comp=Z,13nm,1.4s						
NWAO	**Narrogin (SRO)**		**48.56**	**256**	P	**P**	**20 57 22.9**	**+0.3**
FITZ	**Fitzroy Crossi**		**48.68**	**278**	P	**P**	**20 57 24.3**	**+0.5**
QSPA	**South Pole Qui**		**53.33**	**180**	P	**P**	**20 58 02.4**	**+4.7**
QSPA				IAmb	IAmb	20 58 04.3	
	comp=Z,5.5nm,1.2s						
QSPA	**South Pole Qui**		**53.33**	**180**	P	**P**	**20 58 02.2**	**+4.5**
	comp=Z,2.0nm,0.7s,baz=38,slow=0.9,SNR=15						
	comp=Z,2.0nm,0.7s						
SNAA	**Sanae**		**71.84**	**180**	P	**P**	**20 59 57.8**	**-1.5**
SNAA				IAmb	IAmb	21 00 27.7	
	comp=Z,5.8nm,1.5s						
SNAA	**Sanae**		**71.84**	**180**	P	**P**	**21 00 01.0**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=207,slow=4.5,SNR=1.9						
	comp=Z,0.4nm,0.5s						
MMAI	**Mount Meron Ar**		**148.47**	**275**	PKPbc	**PKiKP**	**21 08 22.1**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=83,slow=6.1,SNR=3.5							
FINES	**FINESS Array B**		**149.35**	**333**	PKPbc	**PKPbc**	**21 08 21.1**	**-1.2**
	comp=Z,2.8nm,0.9s,baz=48,slow=2.1,SNR=5.2							

*IDC **06** 21:11:51.0±2.0, 1°80N×127°03E, h0km, mb3.6/3, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=120.8km s-min=25.6km az=69.0*

*DJA **06** 21:12:02.9±0.6, 2°N±4°×12°7E±°, h92km±12km, M3.8/10, mB4.8/1, mb3.8/4, MLv3.8/10, Mw(mB)4.1/1*

ISC 06 21:12:02.3±1.3, 1°83N±0°09×127°3E±0°1, h100km, n9, σ0§94/9, mb3.6/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.05**	**178**	P	**Pn**	**21 12 24.8**	**+1.5**
**S

BATI Sn Sn 21 19 49.4 +14
1.6nm,0.3s,baz=89,slow=19,SNR=1.3
BATI LR LR 21 22 40.8
comp=Z,2µm,18.6s,baz=27,slow=41
76nm,0.8s
BATI Baumata 12.13 214 P **Pn** **21 17 21.4 +1.6**
110nm,1.2s
DRS Darwin Rock St 12.22 178 P **Pn** **21 17 22.9 +2.0**
EDFI Ende, Flores 12.30 226 P **Pn** **21 17 24.9 +2.7**
33nm,0.8s
KDU Kakadu 12.61 171 P Pn 21 17 23.2 -3.1
KDU Kakadu 12.61 171 P Pn 21 17 24.3 -2.0
MTN Manton Dam 12.64 177 P Pn 21 17 24.3 -2.4
comp=Z,0.0nmcomp=Z,261nm,1.1s
MTN Manton Dam 12.64 177 Pn Pn 21 17 24.6 -2.0
MTN Manton Dam 12.64 177 P Pn 21 17 25.0 -1.7
MYLDM Lahad Datu 13.16 294 **Pn** **21 17 33.3 -0.5**
MYLDM Lahad Datu 13.16 294 P **Pn** **21 17 37.8 +4.0**
SMKI Samarinda 13.36 269 P P 21 17 51.4 +5.1
WSI Waingapu 13.93 227 P **Pn** **21 17 48.2 +3.8**
BASI Baing, Sumba 14.11 224 P **Pn** **21 17 50.5 +3.7**
WBSI Waikabubak, Su 14.59 229 P **Pn** **21 17 54.8 +1.3**
comp=Z,2µmcomp=Z,166nm,1.0s
PLAI Plampang 15.39 236 P **Pn** **21 18 07.7 +3.6**
PLAI Plampang 15.39 236 P **Pn** **21 18 05.6 +1.5**
comp=Z,2µmcomp=Z,3µmcomp=Z,131nm,1.0s
KNRA Kununurra 15.54 187 P Pn 21 18 02.0 -4.1
KNRA Kununurra 15.54 187 **Pn** **21 18 03.6 -2.5**
KNRA IAmb IAmb 21 18 12.8
comp=Z,171nm,1.0s
KKM Kota Kinabalu 15.59 293 **Pn** **21 18 06.8 0.0**
KKM Kota Kinabalu 15.59 293 P **Pn** **21 18 07.5 +0.7**
TWSI Taliwang, Sumb 16.09 238 P **Pn** **21 18 14.1 +0.9**
comp=Z,2µmcomp=Z,2µmcomp=Z,128nm,1.2s
MANU Manus Island 16.90 97 P **Pn** **21 18 24.9 +1.3**
MANU IAmb IAmb 21 18 33.3
comp=Z,250nm,1.1s
TGY Tagaytay City 17.06 326 P **Pn** **21 18 27.8 +2.2**
comp=Z,79nm,0.3s,baz=140,slow=16,SNR=1.3
TGY LR LR 21 25 44.0
comp=Z,342nm,19.4s,baz=126,slow=40
SRBI Singaraja 17.22 242 P **Pn** **21 18 29.8 +2.2**
comp=Z,3µmcomp=Z,142nm,1.2s
DNP Denpasar 17.49 241 P **Pn** **21 18 32.0 +1.0**
comp=Z,202nm,1.1s
KMMI Kalianget 17.93 247 P **Pn** **21 18 39.3 +3.0**
ABJI Asem Bagus 17.97 245 P **Pn** **21 18 39.5 +2.6**
comp=Z,4µmcomp=Z,109nm,1.2s
JAGI Jajag, Banyuwa 18.33 243 **Pn** **21 18 40.1 -1.2**
JAGI Jajag, Banyuwa 18.33 243 P **Pn** **21 18 42.7 +1.4**
JAGI Jajag, Banyuwa 18.33 243 P **Pn** **21 18 41.8 +0.5**
comp=Z,2µmcomp=Z,115nm,1.1s
FITZ Fitzroy Crossi 18.49 195 P **P** **21 18 41.4 -1.7**
comp=Z,6.4nm,0.7s
FITZ Fitzroy Crossi 18.49 195 **P** **21 18 40.2 -2.9**
FITZ Fitzroy Crossi 18.49 195 P P 21 18 38.9 -4.3
comp=Z,16nm,0.8s,baz=22,slow=12,SNR=29
FITZ S **Sn** **21 22 04.3 -5.8**
comp=Z,13nm,0.8s,baz=184,slow=16,SNR=3.4
FITZ LR LR 21 27 29.3
comp=Z,566nm,18.5s,baz=22,slow=42
FITZ Fitzroy Crossi 18.49 195 P **P** **21 18 42.9 -0.2**
SBUM Sibu 18.52 278 **P** **21 18 43.4 -0.1**
SBUM Sibu 18.52 278 P **P** **21 18 45.9 +2.4**
BLJI Banyuglugur 18.53 246 P **P** **21 18 45.8 +2.2**
comp=Z,3µmcomp=Z,183nm,1.3s
COEN Coen 18.55 138 P **P** **21 18 43.6 -0.3**
comp=Z,0.0nmcomp=Z,100nm,1.2s
COEN Coen 18.55 138 **P** **21 18 43.3 -0.5**
COEN Coen 18.55 138 P **P** **21 18 44.2 +0.4**
GMJI Gumukmas 18.88 244 P **P** **21 18 48.5 +1.1**
comp=Z,139nm,1.3s
PMG Port Moresby 18.91 120 **P** **21 18 48.5 +0.8**
PMG IAmb IAmb 21 18 55.4
comp=Z,164nm,1.1s
PMG Port Moresby 18.91 120 P **P** **21 18 48.3 +0.7**
comp=Z,1.5nm,0.3s,baz=325,slow=9.7,SNR=13
PMG S **Sn** **21 22 22.2 +2.0**
comp=Z,5.3nm,0.8s,baz=92,slow=23,SNR=1.2
PMG LR LR 21 27 08.2
comp=Z,2µm,19.8s,baz=295,slow=40
comp=Z,76nm,1.0s
PMG Port Moresby 18.91 120 P **P** **21 18 48.4 +0.7**
PMG Port Moresby 18.91 120 P **P** **21 18 50.4 +2.7**
STKI Sintang 19.09 271 P **P** **21 18 51.8 +2.0**
GUMO Guam 19.66 46 P **P** **21 18 57.3 +1.3**
comp=Z,110nm,0.8s,baz=202,slow=2.2,SNR=6.5
GUMO LR LR 21 24 56.1
comp=Z,256nm,20.9s,baz=234,slow=32
GUMO Guam 19.66 46 P **P** **21 18 58.3 +2.3**
WRAB Tennant Creek 20.02 170 **P** **21 18 59.2 -0.7**
WRA Warramunga Arr 20.03 170 **P** **21 18 58.4 -1.5**
WRA Warramunga Arr 20.03 170 P **P** **21 18 59.2 -0.7**
comp=Z,36nm,0.9s,baz=349,slow=11,SNR=97
WRA S S 21 22 31.3 -14
comp=Z,30nm,0.9s,baz=359,slow=22,SNR=7.7
WRA LR LR 21 28 16.3
comp=Z,1µm,18.5s,baz=339,slow=42
comp=Z,36nm,0.9s
KSM Kuching 20.32 275 **P** **21 19 03.6 +0.4**
KSM IAmb IAmb 21 19 06.1
comp=Z,205nm,1.1s
KSM Kuching 20.32 275 P **P** **21 19 06.3 +3.1**
NGJI Ngawi 20.36 249 P **P** **21 19 08.0 +4.3**
comp=Z,129nm,1.2s
PCJI Pacitan 20.92 247 P **P** **21 19 09.9 +0.2**
comp=Z,116nm,1.1s
WOJI Wonogiri, Jawa 21.02 248 P **P** **21 19 13.2 +2.4**
comp=Z,113nm,1.8s
SMRI Semarang 21.22 251 **P** **21 19 11.2 -1.8**
SMRI IAmb IAmb 21 19 21.2
comp=Z,170nm,1.1s
SMRI Semarang 21.22 251 P **P** **21 19 14.4 +1.5**
SMRI Semarang 21.22 251 P **P** **21 19 15.6 +2.7**
comp=Z,3µmcomp=Z,146nm,1.0s
UGM Wanagama 21.42 248 P **P** **21 19 17.2 +2.0**
comp=Z,134nm,1.3s
QIS Mount Isa 22.14 157 **P** **21 19 22.3 -0.5**
comp=Z,239nm,1.1s
QIS Mount Isa 22.14 157 P **P** **21 19 22.8 +0.1**
MTSU Mount Surprise 22.42 144 P **P** **21 19 25.6 -0.2**
comp=Z,60nm,0.9s
MTSU Mount Surprise 22.42 144 P **P** **21 19 27.3 +1.5**
KPJI Karang Pucung 22.73 251 P **P** **21 19 28.6 -0.5**
comp=Z,2µmcomp=Z,163nm,1.6s
TPI Tanjungpandan 23.05 263 P **P** **21 19 34.9 +2.4**
comp=Z,44nm,1.1s
MBWA Marble Bar 23.42 206 P **P** **21 19 35.1 -1.0**
comp=Z,144nm,1.2s
MBWA Marble Bar 23.42 206 **P** **21 19 34.8 -1.3**
MBWA IAmb IAmb 21 19 42.0
comp=Z,179nm,1.1s
MBWA Marble Bar 23.42 206 P **P** **21 19 36.2 0.0**
AS15 Alice Springs 23.58 172 P **P** **21 19 37.8 0.0**
comp=Z,138nm,1.3s
ASAR Alice Springs 23.61 172 **P** **21 19 37.3 -0.8**
ASAR Alice Springs 23.61 172 P **P** **21 19 37.8 -0.3**
comp=Z,60nm,0.9s,baz=353,slow=7.3,SNR=259
ASAR PcP **PcP** **21 23 19.9 -3.2**
comp=Z,2.9nm,0.9s,baz=349,slow=1.9,SNR=2.9
ASAR S **S** **21 23 52.5 -0.2**
comp=Z,3.2nm,0.9s,baz=343,slow=18,SNR=3.0
ASAR LR LR 21 30 31.5
comp=Z,989nm,19.4s,baz=344,slow=41
comp=Z,60nm,0.9s
AS01 Alice Springs 23.62 172 P **P** **21 19 38.5 +0.4**
PSA00 Pilbara Seismi 23.74 205 P **P** **21 19 38.4 -0.8**
comp=Z,94nm,1.3s
PSA00 Pilbara Seismi 23.74 205 **P** **21 19 38.1 -1.1**
PSA00 IAmb IAmb 21 19 45.8
comp=Z,138nm,1.3s
PSA00 Pilbara Seismi 23.74 205 P **P** **21 19 37.6 -1.7**
PSA00 IAmb IAmb 21 19 45.0
comp=Z,82nm,1.2s
PSA00 Pilbara Seismi 23.74 205 P **P** **21 19 40.1 +0.8**
LEM Lembang 23.84 253 P **P** **21 19 39.9 -0.7**
comp=Z,31nm,0.8s,baz=48,slow=13,SNR=5.1
LEM S **S** **21 24 00.8 +4.0**
comp=Z,67nm,0.4s,baz=357,slow=19,SNR=14
comp=Z,31nm,0.8s
LEM Lembang 23.84 253 P **P** **21 19 39.8 -0.8**
comp=Z,1µmcomp=Z,62nm,1.1s
BBJI Bungbulang 23.98 252 P **P** **21 19 40.8 -1.0**
CNJI Cibinong 24.44 253 P **P** **21 19 44.7 -1.2**
comp=Z,657nmcomp=Z,56nm,1.2s
TWGBT Beinan 24.62 339 P **P** **21 19 46.4 -1.0**

TV1H Townsville Har 24.79 141 P **P** **21 19 50.0 +1.0**
WRKA Warakurna 24.85 185 P **P** **21 19 49.1 -0.5**
comp=Z,68nm,0.9s
DLV Lat 25.00 299 **P** **21 19 49.7 -1.5**
DLV IAmb IAmb 21 19 53.5
comp=Z,81nm,1.1s
DLV Lat 25.00 299 P **P** **21 19 53.0 +1.8**
CTA Charters Tower 25.08 143 P **P** **21 19 52.6 +0.9**
CTAO Charters Tower 25.08 143 **P** **21 19 51.2 -0.5**
CTAO IAmb IAmb 21 19 59.4
comp=Z,70nm,1.1s
CTAO Charters Tower 25.08 143 P **P** **21 19 52.7 +1.0**
TPUB Ta-pu 25.22 338 P **P** **21 19 52.3 -0.6**
TPUB IAmb IAmb 21 19 54.9
comp=Z,105nm,1.3s
TPUB Ta-pu 25.22 338 P **P** **21 19 55.1 +2.2**
SSLB Suanglung 25.55 339 **P** **21 19 54.1 -1.8**
SSLB IAmb IAmb 21 19 56.3
comp=Z,50nm,1.0s
SSLB Suanglung 25.55 339 P **P** **21 19 54.8 -1.1**
NACB Ninganchiao 25.69 341 **P** **21 19 56.1 -1.0**
NACB IAmb IAmb 21 20 01.9
comp=Z,122nm,1.4s
NACB Ninganchiao 25.69 341 P **P** **21 19 57.7 +0.6**
DSRI Dabo 25.99 269 P **P** **21 20 02.0 +2.0**
comp=Z,50nm,1.1s
YHNB Yeheng 26.22 341 **P** **21 20 01.3 -0.7**
YHNB Yeheng 26.22 341 P **P** **21 20 03.3 +1.3**
KASI Kota Agung 26.58 258 P **P** **21 20 08.5 +3.2**
comp=Z,70nm,1.0s
MDSI Maura Dua 26.71 260 P **P** **21 20 04.7 -1.9**
comp=Z,699nmcomp=Z,35nm,1.4s
BTDF Bukit Timah Da 26.84 273 P **P** **21 20 08.9 +1.2**
JOW Kunigami 26.91 355 LR LR 21 29 01.1
comp=Z,1µm,21.1s,baz=105,slow=33
KNMB Chin-men Tao 27.16 335 P **P** **21 20 09.0 -1.4**
KNMB IAmb IAmb 21 20 27.5
comp=Z,137nm,1.3s
HKPS Hong Kong Po S 27.44 325 P **P** **21 20 12.7 -0.2**
QZH Quanzhou 27.50 336 *e*P **P** **21 20 12.9 -0.5**
QIZ Qiongzhong 27.87 314 P **P** **21 20 16.8 -0.1**
QIZ S **S** **21 25 00.9 +0.4**
QIZ LR LR
comp=Z,520nm,13.8s
QIZ LR LR
comp=Z,530nm,13.6s
QIZ LR LR
comp=Z,410nm,12.7s
KSI Kapahiang 28.17 263 P **P** **21 20 19.9 +0.2**
comp=Z,78nm,0.9s
MASI Maura Aman, Be 28.47 264 P **P** **21 20 22.1 -0.3**
MEEK Meekatharra 28.75 203 P **P** **21 20 23.4 -1.3**
comp=Z,43nm,1.0s
MEEK Meekatharra 28.75 203 P **P** **21 20 25.0 +0.3**
INKA Innaminka 29.13 161 **P** **21 20 27.4 -0.6**
QLP Quilpie 29.40 154 P **P** **21 20 29.4 -1.0**
comp=Z,42nm,1.4s
QLP Quilpie 29.40 154 P **P** **21 20 30.9 +0.5**
IPM Ipoh 29.87 279 **P** 21 20 33.0 -1.8
IPM Ipoh 29.87 279 P **P** **21 20 37.3 +2.5**
KULM Kulim 30.36 281 **P** 21 20 37.5 -1.6
KULM Kulim 30.36 281 P **P** **21 20 39.7 +0.6**
RPSI Rantau Prapat 31.76 275 **P** 21 20 50.5 -1.0
PSI Prapat 31.77 276 LR LR 21 35 08.4
comp=Z,332nm,18.4s,baz=114,slow=39
PSI Prapat 31.77 276 P **P** **21 20 51.9 +0.2**
MORW Morawa 31.94 205 P **P** **21 20 51.7 -1.1**
comp=Z,25nm,2.2s
MORW Morawa 31.94 205 P P 21 20 51.0 -1.8
MORW Morawa 31.94 205 P **P** **21 20 52.7 -0.1**
EIDS Eidsvold 31.97 143 P **P** **21 20 52.5 -0.6**
comp=Z,23nm,2.1s
EIDS Eidsvold 31.97 143 P **P** **21 20 54.0 +0.9**
SURA Surathani 32.16 288 P **P** **21 20 56.6 +1.6**
BBOO Buckleboo 32.91 171 P **P** **21 21 01.2 -0.1**
comp=Z,58nm,1.3s
BBOO Buckleboo 32.91 171 **P** **21 21 00.5 -0.8**
BBOO IAmb IAmb 21 21 02.1
comp=Z,41nm,0.8s
BBOO Buckleboo 32.91 171 P **P** **21 21 01.4 +0.1**
BLDU Ballidu 33.05 202 P **P** **21 21 01.6 -0.9**
comp=Z,46nm,1.6s
BLDU Ballidu 33.05 202 P **P** **21 21 03.0 +0.5**
STKA Stephens Creek 33.25 163 P **P** **21 21 04.1 -0.1**
comp=Z,289nm,1.4s
STKA Stephens Creek 33.25 163 **P** **21 21 03.2 -1.0**
STKA Stephens Creek 33.25 163 P **P** **21 21 03.8 -0.4**
comp=Z,21nm,0.7s,baz=337,slow=9.6,SNR=31
comp=Z,21nm,0.7s
STKA Stephens Creek 33.25 163 P **P** **21 21 04.9 +0.7**
WHYH Whyalla 33.38 169 P **P** **21 21 06.4 +1.1**
KLBR Kellerberrin 33.55 200 P **P** **21 21 05.8 -1.1**
comp=Z,86nm,1.0s
KLBR Kellerberrin 33.55 200 P **P** **21 21 07.1 +0.2**
SLVN Son La 33.67 311 **P** **21 21 08.3 +0.2**
SLVN IAmb IAmb 21 21 10.7
comp=Z,33nm,1.1s
SLVN Son La 33.67 311 P **P** **21 21 09.5 +1.4**
NJ2 Nanjing 33.88 342 *e*P **P** **21 21 10.4 +0.7**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
LHMI Lhok Sumawe 34.00 280 P **P** **21 21 10.3 -0.7**
HTT Hallett 34.04 167 P **P** **21 21 11.6 +0.4**
comp=Z,9.8nm,1.3s
HTT Hallett 34.04 167 P **P** **21 21 12.0 +0.8**
TW1H Toowoomba 1 Ha 34.13 145 P **P** **21 21 12.8 +0.8**
WHN Wuhan 34.19 335 P **P** **21 21 13.6 +1.2**
JHJ Hachijo jima 2 34.20 14 LR LR 21 32 58.3
comp=Z,916nm,18.7s,baz=113,slow=33
CMSA Cobar Meteorol 34.36 157 P **P** **21 21 14.3 +0.4**
comp=Z,106nm,1.0s
CMSA Cobar Meteorol 34.36 157 P **P** **21 21 14.8 +0.9**
MUN Mundaring 34.46 202 P **P** **21 21 13.7 -1.0**
comp=Z,23nm,1.2s
MUN Mundaring 34.46 202 P **P** **21 21 15.0 +0.2**
NWAO Narrogin (SRO) 34.95 200 P **P** **21 21 19.7 +0.6**
comp=Z,65nm,2.1s
NWAO Narrogin (SRO) 34.95 200 LR LR 21 36 21.8
comp=Z,472nm,20.1s,baz=4.0,slow=38
GYA Guiyang 35.07 321 ⇓P **P** **21 21 20.8 +0.5**
GYA pmax pmax
comp=Z,28nm,1.5s
INU Inuyama 35.81 9 P 21 21 24.6 -1.8
INU IAmb IAmb 21 21 30.5
comp=Z,31nm,0.9s
INU Inuyama 35.81 9 P **P** **21 21 26.2 -0.2**
JGF Kuroka 36.12 9 P **P** 21 21 27.1 -1.9
JGF Kuroka 36.12 9 P **P** **21 21 28.4 -0.6**
CMAR Chiang Mai Arr 36.15 302 P **P** **21 21 30.1 +0.6**
comp=Z,22nm,0.9s,baz=124,slow=7.0,SNR=22
CMAR PcP **PcP** **21 23 55.5 +0.2**
comp=Z,3.8nm,0.9s,baz=138,slow=1.7,SNR=5.7
comp=Z,22nm,0.9s
ARMA Armidale 36.16 148 P **P** **21 21 28.8 -0.8**
comp=Z,46nm,0.8s
ARMA Armidale 36.16 148 **P** **21 21 29.0 -0.6**
ARMA IAmb IAmb 21 21 31.3
comp=Z,33nm,0.8s
ARMA Armidale 36.16 148 P **P** **21 21 30.6 +1.0**
ENH Enshi 36.29 328 P **P** **21 21 31.2 +0.6**
CHTO Chiang Mai 36.31 303 **P** **21 21 30.5 -0.4**
CHTO IAmb IAmb 21 21 33.1
comp=Z,49nm,0.9s
CHTO Chiang Mai 36.31 303 P **P** **21 21 31.9 +1.0**
KMI Kunming 36.81 315 ⇑P **P** **21 21 35.9 +0.5**
KMI S **S** **21 27 21.9 +2.0**
KMI pmax pmax
comp=Z,34nm,1.2s
KMI LR LR
comp=Z,440nm,25.1s
MAJO Matsushiro 37.18 10 P 21 21 35.9 -2.2
MAJO Matsushiro 37.18 10 P **P** **21 21 37.4 -0.7**
MJAR Matsushiro Arr 37.18 10 P 21 21 36.1 -2.0
MJAR **PcP** **21 23 58.5 +0.3**
MJAR Matsushiro Arr 37.18 10 P P 21 21 34.8 -3.3
comp=Z,18nm,1.0s,baz=187,slow=8.7,SNR=30
MJAR PcP **PcP** **21 23 57.1 -1.0**
comp=Z,5.5nm,0.9s,baz=189,slow=2.9,SNR=9.9
MJAR LR LR 21 35 24.1
comp=Z,245nm,19.7s,baz=188,slow=34
comp=Z,18nm,1.0s
KSAR Wonju Array Be 37.48 356 P P 21 21 37.8 -2.7
KSRS Korea Array 37.48 357 P P 21 21 39.2 -1.3
comp=Z,2.9nm,0.9s,baz=175,slow=9.6,SNR=8.5
KSRS PcP **PcP** **21 23 58.6 -0.4**
comp=Z,7.6nm,0.9s,baz=186,slow=3.6,SNR=13
KSRS LR LR 21 36 53.7
comp=Z,202µm,19.2s,baz=180,slow=36
comp=Z,2.9nm,0.9s
YNG Young 37.87 156 P **P** **21 21 44.3 +0.3**
comp=Z,42nm,1.6s
ARPS Mount Arapiles 37.92 165 P **P** **21 21 44.7 +0.4**
comp=Z,65nm,2.4s
TIA Tai'an 38.27 342 P **P** **21 21 46.4 -0.9**
TIA pmax pmax
comp=Z,22nm,0.9s
PZH PanZhiHua 38.37 316 P **P** **21 21 49.1 +0.6**
PZH pmax pmax
comp=Z,20nm,1.2s
LYN LuoYang 38.45 336 P **P** **21 21 48.9 +0.1**
LYN pmax pmax
comp=Z,36nm,1.5s
JSD Sado 38.64 10 P P 21 21 49.3 -1.1
JMM Marumori 38.98 13 P **P** **21 21 52.3 -0.9**
JMM IAmb IAmb 21 21 55.6
comp=Z,77nm,1.1s
JMM Marumori 38.98 13 P **P** **21 21 54.5 +1.3**
CAN Canberra 39.00 156 P **P** **21 21 54.1 +0.6**
comp=Z,56nm,2.1s
CAN Canberra 39.00 156 **P** **21 21 53.6 +0.2**
CAN Canberra 39.00 156 P **P** **21 21 54.1 +0.6**
CNB Canberra Magne 39.14 155 P **P** **21 21 54.4 -0.4**
comp=Z,35nm,2.5s
BRAT Ballarat 39.22 163 P **P** **21 21 56.0 +0.8**
SANVU Saraoutou 39.24 115 **P** **21 21 55.6 -0.1**
SANVU IAmb IAmb 21 22 08.6
comp=Z,89nm,1.0s
SANVU Saraoutou 39.24 115 P **P** **21 21 57.2 +1.5**
XAN Xi'an 39.60 331 ⇓P **P** **21 21 57.9 -0.7**
XAN pP pP 21 22 05.2 +3.5
XAN pmax pmax
comp=Z,45nm,1.3s
TOO Toolangi 39.72 161 P **P** **21 22 00.2 +0.8**
comp=Z,25nm,1.8s
TOO Toolangi 39.72 161 P **P** **21 22 01.3 +1.9**
TNCH TengChong 39.83 311 P **P** **21 22 00.5 -0.3**
TNCH pmax pmax
comp=Z,44nm,1.2s
TNCH pmax pmax
comp=Z,240nm,4.2s
GEXS Deakin Univers 39.93 163 P **P** **21 22 02.0 +0.9**
CD2 Chengdu 40.02 323 P **P** **21 22 01.7 -0.4**
CD2 S **S** **21 28 09.0 +1.1**
CD2 pmax pmax
comp=Z,40nm,1.1s
CD2 pmax pmax
comp=Z,790nm,4.8s
CD2 LR LR
comp=Z,1µm,15.7s
CD2 LR LR
comp=Z,1µm,13.3s
CD2 LR LR
comp=Z,1µm,17.5s
H11S3 WAKE ISLAND Hy 40.02 60 T T 22 04 58.9
baz=247
H11S2 WAKE ISLAND Hy 40.03 60 T T 22 05 06.9
baz=247
H11S1 WAKE ISLAND Hy 40.03 60 T T 22 05 47.3
baz=247
HNS HongShan 40.13 340 ⇓P **P** **21 22 02.3 -0.5**
HNS pmax pmax
comp=Z,43nm,1.5s
H11N1 WAKE ISLAND Hy 40.69 59 T T 22 05 08.1
baz=245,slow=75,SNR=116
H11N2 WAKE ISLAND Hy 40.70 59 T T 22 05 13.0
baz=245,slow=75,SNR=87
H11N3 WAKE ISLAND Hy 40.71 59 T T 22 05 09.6
baz=245,slow=75,SNR=92
DZM Mont Dzumac 41.19 124 *e*P P 21 22 10.1 -1.9
comp=Z,131nm,1.4s
DZM *e*S S 21 28 17.7 -8.1
comp=Z,318nm,31.9s
DZM *e*SS **SS** **21 31 24.8 -4.1**
comp=Z,233nm,22.4s
DZM *e*LR LR 21 33 28.5
comp=Z,620nm,23.0s
DZM Mont Dzumac 41.19 124 P **P** **21 22 11.3 -0.6**
DZM IAmb IAmb 21 22 18.5
comp=Z,86nm,1.4s
DZM Mont Dzumac 41.19 124 P **P** **21 22 12.8 +0.8**
ONTNC Ouen Toro 41.31 125 **P** **21 22 11.4 -1.3**
ONTNC IAmb IAmb 21 22 18.4
comp=Z,90nm,1.1s
ONTNC Ouen Toro 41.31 125 P **P** **21 22 13.0 +0.2**
JTM Tenmabayashi 41.84 12 P P 21 22 15.6 -1.2
JTM IAmb IAmb 21 22 21.7
comp=Z,84nm,1.2s
JTM Tenmabayashi 41.84 12 P **P** **21 22 17.5 +0.7**
BJT Baijiatuau 42.07 343 **P** **21 22 18.4 -0.4**
BJT Baijiatuau 42.07 343 P **P** **21 22 19.1 +0.3**
BJI Beijing 42.09 343 P **P** **21 22 18.1 -0.8**
BJI PcP **PcP** **21 24 13.7 +0.1**
BJI S **S** **21 28 40.6 +2.2**
BJI pmax pmax
comp=Z,15nm,1.2s
BJI LR LR
comp=Z,210nm,10.8s
BJI LR LR
comp=Z,170nm,9.8s
BJI LR LR
comp=Z,240nm,14.5s
PINNC Pines Island, 42.26 124 P **P** **21 22 19.8 -0.8**
PINNC IAmb IAmb 21 22 27.0
comp=Z,127nm,1.3s
PINNC Pines Island, 42.26 124 P **P** **21 22 21.4 +0.8**
LZDM Lanzhou Array 43.75 328 P **P** **21 22 32.4 -0.5**
comp=Z,56nm,1.1s,baz=148,slow=11,SNR=16
comp=Z,56nm,1.1s
LZH Lanzhou 43.77 328 *e*P **P** **21 22 33.5 +0.6**
LZH S **S** **21 29 06.3 +2.6**
LZH SS **SS** **21 32 15.4 -4.2**
LZH pmax pmax
comp=Z,90nm,1.0s
LZH LR LR
comp=Z,520nm,14.8s
LZH LR LR
comp=Z,380nm,15.6s
LZH LR LR
comp=Z,410nm,17.7s
CN2 Changchun 43.98 355 P **P** **21 22 33.6 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
USRK Ussuriysk Ar. 44.16 1 P **P** **21 22 34.7 -0.9**
USRK Ussuriysk Ar. 44.16 1 P **P** **21 22 35.1 -0.5**
comp=Z,19nm,0.9s,baz=179,slow=6.2,SNR=33
USRK LR LR 21 40 07.6
comp=Z,243nm,19.2s,baz=179,slow=35
comp=Z,19nm,0.9s
HHC Hu-ho-hao-te 44.30 339 *e*P **P** **21 22 37.0 +0.1**
HHC S **S** **21 29 10.8 -0.3**
HHC pmax pmax
comp=Z,31nm,0.7s
HHC pmax pmax
comp=Z,240nm,5.0s
HHC LR LR
comp=Z,310nm,18.1s
HHC LR LR
comp=Z,240nm,17.7s
HHC LR LR
comp=Z,470nm,18.4s
MDJ Mudanjiang 44.57 359 P P 21 22 37.8 -1.1
MDJ IAmb IAmb 21 22 43.8
comp=Z,61nm,1.6s
MDJ Mudanjiang 44.57 359 P **P** **21 22 38.6 -0.3**
MDJ pmax pmax
comp=Z,19nm,1.1s
MDJ LR LR
comp=Z,700nm,15.8s
MDJ Mudanjiang 44.57 359 P **P** **21 22 39.2 +0.3**
BTO Baotou 44.65 338 *e*P **P** **21 22 39.3 -0.5**
BTO PP **PP** **21 24 25.3 +1.2**
BTO S **S** **21 29 19.2 +3.0**
BTO pmax pmax
comp=Z,12nm,0.5s
BTO pmax pmax
comp=Z,410nm,5.6s
BTO LR LR
comp=Z,750nm,23.2s
BTO LR LR
comp=Z,510nm,15.7s
BTO LR LR

MOO **Moorlands** 44.69 162 P P 21 22 40.9 +1.0
comp=Z,153nm,2.8s
ASAJ **Asahikawa** 45.35 12 LR LR 21 40 26.4
comp=Z,352nm,20.7s,baz=198,slow=34
JKA **Kamikawa-asahi** 45.35 12 P P 21 22 44.4 -0.7
XLT **XiLinHaoTe** 45.72 345 eP P 21 22 47.7 -0.4
XLT PP PP 21 24 34.9 -0.4
XLT SS SS 21 32 49.8 -6.0
XLT pmax pmax
comp=Z,26nm,1.3s
XLT LR LR
comp=Z,380nm,14.3s
BNX **BinXian** 45.77 357 ⇑P P 21 22 47.7 -0.7
BNX pmax pmax
comp=Z,11nm,1.4s
LSA **Lhasa** 47.86 312 P P 21 23 04.7 -0.9
LSA IAmb IAmb 21 23 07.6
comp=Z,32nm,1.1s
LSA **Lhasa** 47.86 312 P P 21 23 04.0 -1.6
LSA pmax pmax
comp=Z,27nm,1.2s
YSS **Yuzhno-Sakhali** 48.10 11 P P 21 23 05.6 -1.0
YSS IAmb IAmb 21 23 10.9
comp=Z,24nm,1.1s
YSS **Yuzhno-Sakhali** 48.10 11 P P 21 23 06.2 -0.4
GTA **Gaotai** 48.38 328 P P 21 23 09.2 +0.1
GTA PcP PcP 21 24 36.2 +0.6
GTA S S 21 30 08.1 -1.6
GTA pmax pmax
comp=Z,60nm,1.3s
GTA pmax pmax
comp=Z,190nm,5.2s
GOMU **GeErMu** 49.08 321 P P 21 23 14.7 -0.1
GOMU S S 21 30 17.0 -3.2
GOMU pmax pmax
comp=Z,8.0nm,1.1s
GOMU LR LR
comp=Z,120nm,14.3s
GOMU LR LR
comp=Z,160nm,14.5s
GOMU LR LR
comp=Z,210nm,14.2s
FUNA **Funafuti** 49.15 101 P P 21 23 14.6 -0.7
MSVF **Nonsavu** 49.85 113 P P 21 23 19.6 -1.0
MSVF IAmb IAmb 21 23 22.9
comp=Z,46nm,1.0s
MSVF **Nonsavu** 49.85 113 P P 21 23 21.4 +0.8
PALK **Pallekele** 50.27 280 LR LR 21 46 00.8
comp=Z,157nm,21.0s,baz=98,slow=38
HEH **HeiHe** 50.27 357 eP P 21 23 21.8 -1.4
HEH pmax pmax
comp=Z,23nm,1.3s
EVN **Everest** 50.37 307 P P 21 23 23.8 -1.3
EVN IAmb IAmb 21 23 26.2
comp=Z,66nm,1.3s
DGTI **Dogotuki** 51.05 111 P P 21 23 30.3 +0.6
ULN **Ulaanbaatar** 52.00 340 P P 21 23 35.4 -1.1
ULN IAmb IAmb 21 23 38.1
comp=Z,60nm,1.2s
SONM **Songino Array** 52.20 340 P P 21 23 37.2 -0.7
SONM IAmb IAmb 21 23 39.4
comp=Z,35nm,1.2s
SONM **Songino Array** 52.20 340 P P 21 23 37.2 -0.7
comp=Z,17nm,1.1s,baz=160,slow=6.3,SNR=43
SONM PcP PcP 21 24 49.4 0.0
comp=Z,4.1nm,1.0s,baz=158,slow=5.4,SNR=2.1
SONM LR LR 21 46 40.7
comp=Z,298nm,22.0s,baz=200,slow=37
comp=Z,17nm,1.1s
HYB **Hyderabad** 54.07 292 eP P 21 23 51.6 -0.5
HYB ePcP PcP 21 24 55.7 -1.4
JCZ **Jackson Bay** 55.39 147 P P 21 24 02.1 +0.8
DCZ **Deep Cove** 55.47 149 P P 21 24 00.8 -0.9
DCZ IAmb IAmb 21 24 08.2
comp=Z,47nm,1.1s
DSZ **Denniston Nort** 55.64 143 P P 21 24 01.8 -1.3
LBZ **Lake Benmore** 56.36 147 P P 21 24 07.7 -0.4
TUWZ **Tuamarina** 56.76 142 P P 21 24 10.9 -0.1
URZ **Urewera** 57.12 137 LR LR 21 50 09.9
comp=Z,762nm,18.1s,baz=310,slow=38
RTZ **Ruatahuna** 57.21 138 P P 21 24 13.3 -1.1
PETK **Petropavlovsk-** 57.68 19 P P 21 24 16.3 -1.0
PETK **Petropavlovsk-** 57.68 19 P P 21 24 17.5 +0.2
comp=Z,8.3nm,0.8s,baz=189,slow=6.6,SNR=7.7
PETK LR LR 21 45 04.1
comp=Z,149nm,21.7s,baz=202,slow=32
comp=Z,8.3nm,0.8s
WMQ **Urumqi** 58.08 325 eP P 21 24 21.1 +0.7
WMQ pmax pmax
comp=Z,55nm,0.7s
WMQ pmax pmax
comp=Z,170nm,4.1s
WMQ LR LR
comp=Z,250nm,22.1s
MA2 **Magadan** 61.60 12 LR LR 21 50 13.8
comp=Z,160nm,20.1s,baz=190,slow=35
YAK **Yakutsk** 62.01 360 P 21 24 45.6 -1.3
YAK **Yakutsk** 62.01 360 LR LR 21 51 31.6
comp=Z,144nm,19.8s,baz=182,slow=36
MKAR **Makanchi Array** 62.90 325 P 21 24 52.5 -0.8
MKAR **Makanchi Array** 62.90 325 P P 21 24 52.8 -0.5
comp=Z,28nm,0.9s,baz=116,slow=8.2,SNR=96
MKAR LR LR 21 54 01.4
comp=Z,131nm,19.8s,baz=118,slow=38
comp=Z,28nm,0.9s
NIL **Nilore** 63.31 308 P 21 24 54.7 -1.6
KSH **Kashi** 63.47 315 P P 21 24 58.0 +0.7
KSH S S 21 33 24.8 -5.9
KSH SS SS 21 37 38.9 +1.0
KSH pmax pmax
comp=Z,28nm,1.0s
KSH LR LR
comp=Z,210nm,16.5s
KSH LR LR
comp=Z,190nm,15.1s
KSH LR LR
comp=Z,160nm,17.9s
SHEM **Shemya Is, Ala** 63.96 28 LR LR 21 47 12.4
comp=Z,241nm,21.8s,baz=135,slow=31
NRN **Naryn** 64.26 317 P P 21 25 01.5 -1.2
SEY **Seymchan** 65.00 11 LR LR 21 51 52.4
comp=Z,155nm,20.3s,baz=176,slow=35
AMKA **Amchitka** 65.70 31 P 21 25 10.7 -0.7
ZALV **Zalesovo Beam** 65.76 332 P 21 25 10.0 -1.8
ZALV **Zalesovo Beam** 65.76 332 P P 21 25 10.5 -1.3
comp=Z,31nm,1.0s,baz=107,slow=5.1,SNR=84
ZALV LR LR 21 58 12.1
comp=Z,74nm,18.2s,baz=142,slow=40
comp=Z,31nm,1.0s
AAK **Ala-Archa** 65.78 318 P P 21 25 11.5 -0.9
AAK **Ala-Archa** 65.78 318 LR LR 21 57 58.5
comp=Z,116nm,18.7s,baz=88,slow=40
KBL **Kabul** 66.91 308 P 21 25 18.2 -1.6
KBL IAmb IAmb 21 25 20.0
comp=Z,56nm,1.6s
KURK **Kurchatov** 67.05 327 P 21 25 19.1 -1.0
KURBB **Kurchatov Arra** 67.05 327 P P 21 25 19.1 -1.0
comp=Z,86nm,0.9s,baz=121,slow=5.9,SNR=222
comp=Z,86nm,0.9s
GAR **Garm** 67.35 313 P 21 25 21.0 -1.4
CASY **Casey** 67.53 189 P 21 25 21.8 -1.0
CASY IAmb IAmb 21 27 45.6
comp=Z,19nm,0.5s
KIWB **Kanaga Island** 67.81 32 P P 21 25 24.1 -0.9
CHGR **Chuyangaron** 68.09 312 P P 21 25 25.3 -1.7
SIMJ **Simiganj** 68.20 312 P P 21 25 26.6 -1.2
SIMJ IAmb IAmb 21 25 28.4
comp=Z,22nm,1.2s
KKAR **Karatay Array** 68.66 317 P 21 25 29.3 -1.1
TIXI **Tiksi** 71.68 359 P 21 25 48.2 -0.1
TIXI IAmb IAmb 21 25 49.2
comp=Z,19nm,0.9s
TIXI **Tiksi** 71.68 359 LR LR 21 55 44.1
comp=Z,209nm,21.4s,baz=191,slow=35
BVAR **Borovoye Array** 72.64 327 P P 21 25 53.8 -0.7
comp=Z,51nm,1.0s,baz=123,slow=5.5,SNR=85
BVAR LR LR 21 58 48.6
comp=Z,118nm,20.6s,baz=111,slow=37
comp=Z,51nm,1.0s
SPIA **Saint Paul Isl** 73.92 29 P P 21 26 01.8 -0.1
baz=243
P08K **Saint George I** 74.01 30 P P 21 26 02.8 +0.4
baz=244
MHA **Mahukona** 74.60 69 P P 21 26 07.9 +1.3
UOSS **Minazif** 75.90 296 P P 21 26 11.1 -2.9

GAMB **Gambell** 76.40 23 P P 21 26 15.2 -0.9
GAMB **Gambell** 76.40 23 P P 21 26 16.4 +0.3
baz=240
FALS **False Pass** 76.52 33 P P 21 26 16.2 -0.7
baz=250
M11K **Mekoryuk** 77.19 27 P P 21 26 21.1 +0.4
baz=246
S12K **Black Hills** 77.53 32 P P 21 26 22.9 +0.2
baz=251
ABKAR **Akbulak array** 77.55 321 P 21 26 21.2 -1.7
SDPT **Sand Point** 78.28 33 P P 21 26 25.9 -0.9
baz=252
K13K **Kusilvak Mount** 78.49 26 P P 21 26 27.9 +0.1
baz=247
M13K **Dall Lake** 78.51 28 P P 21 26 28.0 +0.1
baz=249
CHNA **Chernabura Isl** 78.61 34 P P 21 26 28.6 -0.1
baz=253
TNA **Tin City** 78.68 22 P P 21 26 29.4 +0.6
baz=244
AKTO **Aktyubinsk** 79.05 322 LR LR 22 05 16.7
comp=Z,68nm,18.8s,baz=124,slow=39
S14K **Fog Glacier** 79.06 32 P P 21 26 31.0 -0.2
baz=253
O14K **Tigyukauivet M** 79.10 29 P P 21 26 31.4 +0.2
baz=251
N14K **Kuskokwak Cree** 79.12 28 P P 21 26 31.6 +0.3
baz=250
VNDA **Vanda** 79.15 173 P P 21 26 30.0 -1.2
comp=Z,9.6nm,0.9s,baz=318,slow=6.0,SNR=43
comp=Z,9.6nm,0.9s
L14K **Kuka Creek** 79.15 27 P P 21 26 31.9 +0.5
baz=249
ANM **Nome** 79.24 23 P P 21 26 32.0 +0.1
baz=246
F14K **Arctic Creek** 79.24 22 P P 21 26 32.0 +0.1
baz=245
M14K **Bethel** 79.28 27 P P 21 26 32.6 +0.4
baz=250
J14K **Nanvaranak Lak** 79.28 25 P P 21 26 32.6 +0.4
baz=248
CHGN **Chignik** 79.67 32 P P 21 26 33.8 -0.5
baz=254
O15K **Ungalikthiuk R** 79.78 29 P P 21 26 34.8 -0.1
baz=252
L15K **Ungalak Mounta** 79.81 27 P P 21 26 35.0 -0.1
baz=250,SNR=6.8
M15K **Kasigluk River** 79.85 28 P P 21 26 35.3 0.0
baz=251
G15K **Niukluk** 79.93 23 P P 21 26 35.7 0.0
baz=247
N15K **Kwethluk River** 79.96 28 P P 21 26 36.0 0.0
baz=252
F15K **North Star Dit** 79.97 22 P P 21 26 36.3 +0.4
baz=247,SNR=6.1
K15K **Wolf Creek Mou** 80.00 26 P P 21 26 35.8 -0.3
baz=250,SNR=8.5
SBA **Scott Base** 80.02 173 P P 21 26 35.6 -0.3
SBA IAmb IAmb 21 26 50.0
comp=Z,43nm,1.6s
PPT2 **Papeete2** 80.28 108 eLR LR 21 51 33.1
comp=Z,196nm,22.8s
PPT2 eLR LR 21 51 34.1
comp=Z,194nm,24.2s
ARTI **Arti** 80.32 328 P 21 26 36.4 -1.5
ARTI **Arti** 80.32 328 LR LR 22 03 31.9
comp=Z,81nm,21.3s,baz=94,slow=37
R16K **Pilot Point** 80.46 31 P P 21 26 38.5 -0.1
baz=254
H16K **Elim** 80.51 24 P P 21 26 38.9 +0.1
baz=249
P16K **Nushagak River** 80.64 30 P P 21 26 39.6 0.0
baz=254
N16K **Nilik Lake** 80.68 28 P P 21 26 40.5 +0.6
baz=253
L16K **Owhat River** 80.72 27 P P 21 26 40.3 +0.3
baz=252,SNR=7.1
J16K **Anvik River** 80.73 25 P P 21 26 40.7 +0.7
baz=251,SNR=11
TBI **Tubuai** 80.73 114 eLR LR 21 51 45.3
comp=Z,823nm,26.2s
TBI eLR LR 21 51 48.2
comp=Z,833nm,35.2s
G16K **Koyuk River** 80.74 23 P P 21 26 40.0 0.0
baz=249,SNR=6.7
O16K **Kokwok River B** 80.75 29 P P 21 26 40.3 +0.1
baz=254
M16K **Timber Creek** 80.75 28 P P 21 26 40.1 -0.1
baz=253,SNR=5.2
C16K **Lisburne Hills** 80.77 20 P P 21 26 40.4 +0.4
baz=246
I17K **Unalakleet** 80.89 25 P P 21 26 41.1 +0.3
baz=251,SNR=5.5
R17L **Mt. Peulik Vol** 81.11 31 P P 21 26 41.8 -0.4
baz=256
O17K **Koliganek Bris** 81.29 29 P P 21 26 42.7 -0.3
baz=255
D17K **Noatak River** 81.32 21 P P 21 26 43.9 +0.9
baz=248,SNR=12
L17K **Donlin** 81.38 27 P P 21 26 44.1 +0.6
baz=253,SNR=6.9
J17K **VABM Dome** 81.42 25 P P 21 26 44.2 +0.5
baz=252,SNR=12
G17K **Kiwalik Mounta** 81.44 23 P P 21 26 43.5 -0.3
baz=250
N17K **Nushagak Hills** 81.45 28 P P 21 26 44.0 +0.1
baz=254
P17K **Kvichak River** 81.46 30 P P 21 26 44.0 0.0
baz=255
Q17K **Contact Creek** 81.51 31 P P 21 26 43.2 -1.2
baz=256
MAW **Mawson** 81.51 201 P P 21 26 43.2 -0.9
comp=Z,4.0nm,1.0s,baz=85,slow=9.1,SNR=6.9
comp=Z,4.0nm,1.0s
RDOG **Red Dog Mine** 81.52 20 P P 21 26 43.5 -0.7
RDOG IAmb IAmb 21 26 45.9
comp=Z,41nm,1.1s
RDOG **Red Dog Mine** 81.52 20 P P 21 26 44.5 +0.4
baz=248
F17K **Baldwin Pennin** 81.53 22 P P 21 26 44.6 +0.4
baz=250
E17K **Hotham Inlet** 81.55 21 P P 21 26 45.0 +0.7
baz=249
K17K **Iditarod** 81.55 26 P P 21 26 45.1 +0.8
baz=253,SNR=8.7
H17K **Granite Mounta** 81.55 24 P P 21 26 45.0 +0.6
baz=251,SNR=6.7
M17K **Holitna River** 81.57 28 P P 21 26 45.1 +0.6
baz=254
C17K **DeLong Mountai** 81.58 20 P P 21 26 45.3 +0.8
baz=248
ACHA **Angle Creek He** 81.78 31 P P 21 26 44.7 -1.1
ACHA IAmb IAmb 21 26 48.6
comp=Z,36nm,1.5s
SII **Sitkinak Islan** 82.01 33 P P 21 26 47.2 +0.2
baz=258
Q18K **Katmai Hardscr** 82.05 31 P P 21 26 46.5 -0.8
baz=257
R18K **Karluk** 82.09 32 P P 21 26 46.7 -0.6
baz=257
N18K **Kilae Creek** 82.10 28 P P 21 26 48.0 +0.6
baz=256
E18K **Tukpahlearik C** 82.11 21 P P 21 26 48.0 +0.7
baz=250,SNR=22
P18K **Big Mountain,** 82.11 30 P P 21 26 47.5 0.0
baz=256
L18K **Granite Mounta** 82.13 27 P P 21 26 48.1 +0.7
baz=255,SNR=6.4
F18K **Selawik** 82.19 22 P P 21 26 48.2 +0.6
baz=251
H18K **Honhosa River** 82.25 24 P P 21 26 48.1 0.0
baz=253,SNR=6.2
C18K **Utukok River** 82.32 20 P P 21 26 48.9 +0.5
baz=250
M18K **Stony River** 82.34 28 P P 21 26 48.9 +0.4
baz=255,SNR=8.0
G18K **Tagagawik** 82.35 23 P P 21 26 48.6 0.0
baz=252,SNR=15
B18K **Kokolik River** 82.38 19 P P 21 26 49.6 +1.0
baz=249,SNR=7.8
J18K **Innoko River** 82.45 26 P P 21 26 49.3 +0.1
baz=254
OHAK **Old Harbor** 82.63 32 P P 21 26 49.3 -0.8
OHAK IAmb IAmb 21 26 55.2
comp=Z,51nm,1.3s
OHAK **Old Harbor** 82.63 32 P P 21 26 50.7 +0.6
OHAK **Old Harbor** 82.63 32 P P 21 26 49.9 -0.2
baz=258,SNR=5.2

GCSA **Galena City Sc** 82.73 24 P P 21 26 50.6 +0.1
baz=254,SNR=7.7
O19K **Port Alsworth** 82.74 29 P P 21 26 50.8 +0.1
baz=257
Q19K **Cape Douglas,** 82.80 30 P P 21 26 51.2 +0.2
baz=258
N19K **Bonanza Creek** 82.81 28 P P 21 26 51.4 +0.3
baz=257,SNR=12
A19K **Wainwright** 82.91 19 P P 21 26 51.5 +0.2
baz=250
L19K **White Mountain** 82.95 27 P P 21 26 52.0 +0.2
baz=256,SNR=6.0
F19K **Shaleruckik Mo** 82.97 22 P P 21 26 51.6 -0.1
baz=253,SNR=10
C19K **Lookout Ridge** 83.03 20 P P 21 26 52.9 +0.8
baz=251,SNR=18
G19K **Purcell Mounta** 83.04 23 P P 21 26 52.6 +0.5
baz=254,SNR=26
J19K **Poorman** 83.06 25 P P 21 26 52.7 +0.4
baz=255,SNR=12
M19K **Big River Lodg** 83.10 27 P P 21 26 52.7 +0.2
baz=257
KDAK **Kodiak Island** 83.11 32 P P 21 26 52.1 -0.5
KDAK **Kodiak Island** 83.11 32 LR LR 21 58 10.1
comp=Z,143nm,21.5s,baz=244,slow=32
KDAK **Kodiak Island** 83.11 32 P P 21 26 52.5 -0.1
baz=259
H19K **Roundabout Mou** 83.12 24 P P 21 26 52.9 +0.4
baz=254,SNR=35
P19K **Oil Pt** 83.16 30 P P 21 26 53.3 +0.4
baz=258
D19K **Kuna River** 83.34 21 P P 21 26 54.0 +0.3
baz=252,SNR=25
E19K **Redstone River** 83.36 22 P P 21 26 54.2 +0.5
baz=253,SNR=46
Q20K **Shuyak Island** 83.37 31 P P 21 26 53.4 -0.6
baz=259
L20K **Farewell, AK** 83.47 27 P P 21 26 54.4 0.0
baz=257,SNR=9.6
O20K **Slope Mountain** 83.55 29 P P 21 26 55.3 +0.4
baz=258
K20K **Telida** 83.58 26 P P 21 26 55.5 +0.6
baz=257,SNR=14
M20K **Styx River** 83.68 28 P P 21 26 55.9 +0.3
baz=258,SNR=17
J20K **Nowinta River** 83.74 25 P P 21 26 56.3 +0.5
baz=257,SNR=24
I20K **Naaghedeneel** 83.74 25 P P 21 26 56.2 +0.5
baz=256,SNR=6.0
H20K **Anotleneega Mo** 83.75 24 P P 21 26 55.9 +0.2
baz=256,SNR=11
F20K **Avaraart Lake** 83.81 22 P P 21 26 56.4 +0.4
baz=255,SNR=26
D20K **Etivluk River** 83.94 21 P P 21 26 56.9 +0.2
baz=254,SNR=11
E20K **Nigu River** 83.96 21 P P 21 26 57.1 +0.2
baz=254,SNR=26
N20K **Mount Spurr** 83.97 28 P P 21 26 57.4 +0.3
baz=259
SPCR **Spurr Chakacha** 83.97 28 P P 21 26 57.5 +0.4
baz=259
SPU **Mount Spurr** 84.04 28 P P 21 26 56.6 -0.9
SPU IAmb IAmb 21 27 01.8
comp=Z,20nm,1.3s
B20K **Meade River** 84.12 19 P P 21 26 58.1 +0.5
baz=253
CNPM **China Poot** 84.13 30 P P 21 26 56.4 -1.5
CNPM IAmb IAmb 21 27 06.2
comp=Z,14nm,0.9s
STLK **Strandline Lak** 84.21 28 P P 21 26 56.5 -1.8
IMAR **Indian Mountai** 84.32 23 P P 21 26 58.2 -0.5
PPLA **Purkeypile** 84.32 27 P 21 26 57.7 -1.2
PPLA **Purkeypile** 84.32 27 P P 21 26 58.4 -0.5
baz=259,SNR=12
BRLK **Bradley Lake** 84.35 30 P P 21 26 58.0 -1.0
BRLK IAmb IAmb 21 27 02.7
comp=Z,16nm,1.0s
BRSE **Bradley Lake S** 84.42 30 P P 21 26 58.6 -0.8
baz=260
SKT **Skwentna** 84.44 28 IAmb IAmb 21 27 03.4
comp=Z,36nm,1.1s
SKT **Skwentna** 84.44 28 P P 21 26 58.1 -1.3
baz=259,SNR=21
CHUM **Lake Minchumin** 84.46 26 P P 21 26 59.7 +0.3
baz=258,SNR=26
G21K **Allakaket** 84.53 23 P P 21 26 59.9 +0.1
baz=257,SNR=11
H21K **Melozitna River** 84.62 24 P P 21 27 00.4 +0.1
baz=258,SNR=10.0
C21K **Knifeblade Rid** 84.69 20 P P 21 27 00.9 +0.4
baz=256
F21K **Alatna River** 84.70 22 P P 21 26 59.7 -1.0
baz=257
SUA **Susitna One** 84.71 28 P P 21 26 59.8 -1.1
SUA **Susitna One** 84.71 28 P P 21 26 59.8 -1.1
baz=260,SNR=14
E21K **Killik River** 84.80 21 P P 21 27 00.9 -0.2
baz=256
SLKM **Skilak Lake** 84.80 29 P P 21 26 59.9 -1.4
I21K **Tanana** 84.86 24 P P 21 27 01.1 -0.3
baz=258
B21K **Ikpikpuk River** 84.86 20 P P 21 27 01.2 -0.1
baz=256
KTH **Kantishna Hill** 85.00 26 P P 21 27 01.5 -0.8
O22K **Cooper Landing** 85.04 29 P P 21 27 01.0 -1.4
baz=261
M22K **Willow** 85.06 28 P P 21 27 01.4 -1.0
baz=260,SNR=8.1
BPAW **Bear Paw Mtn.** 85.08 26 P 21 27 01.6 -1.0
BPAW IAmb IAmb 21 27 05.2
comp=Z,26nm,1.2s
BPAW **Bear Paw Mtn.** 85.08 26 P P 21 27 02.2 -0.4
baz=260,SNR=18
A22K **Sinclair Lake** 85.09 18 P P 21 27 02.1 -0.4
baz=255
CUT **Chulitna** 85.10 27 P 21 27 01.4 -1.2
CUT **Chulitna** 85.10 27 P P 21 27 01.8 -0.9
baz=260
SEW **Seward** 85.12 30 P 21 27 01.5 -1.3
SEW **Seward** 85.12 30 P P 21 27 02.1 -0.7
baz=261,SNR=9.4
RC01 **Rabbit Creek A** 85.13 29 P P 21 27 01.0 -1.9
RC01 **Rabbit Creek A** 85.13 29 P P 21 27 02.0 -0.9
baz=261,SNR=15
H22K **Ishtalitna Cre** 85.25 24 P P 21 27 03.1 -0.3
baz=259
F22K **John River** 85.26 22 P P 21 27 03.1 -0.3
baz=258
TRF **Thorofare Moun** 85.27 26 P 21 27 02.6 -1.2
TRF IAmb IAmb 21 27 08.2
comp=Z,36nm,1.1s
TRF **Thorofare Moun** 85.27 26 P P 21 27 02.7 -1.0
baz=260,SNR=12
MLY **Manley** 85.35 25 P P 21 27 03.4 -0.5
MLY IAmb IAmb 21 27 06.9
comp=Z,17nm,1.1s
MLY **Manley** 85.35 25 P P 21 27 03.8 -0.1
baz=260,SNR=20
D22K **Ayikyak River** 85.36 21 P P 21 27 04.1 +0.2
baz=258
G22K **Bettles** 85.39 23 P P 21 27 04.4 +0.4
baz=259
B22K **Teshekpuk Lake** 85.44 19 P P 21 27 04.7 +0.5
baz=257
PMR **Palmer** 85.50 28 P 21 27 03.3 -1.4
PMR IAmb IAmb 21 27 09.0
comp=Z,27nm,0.9s
PMR **Palmer** 85.50 28 P P 21 27 06.5 +1.8
PMR **Palmer** 85.50 28 P P 21 27 04.2 -0.5
baz=261
RAYN **Ar Rayn** 85.53 293 P 21 27 04.3 -1.5
RAYN IAmb IAmb 21 27 06.4
comp=Z,24nm,0.8s
GHO **Glory Hole Cre** 85.62 28 P P 21 27 04.7 -0.8
GHO IAmb IAmb 21 27 10.0
comp=Z,31nm,1.2s
PWL **Port Wells** 85.78 29 P P 21 27 05.4 -0.7
PWL **Port Wells** 85.78 29 P P 21 27 05.5 -0.7
baz=262,SNR=16
KNK **Knik Glacier** 85.79 28 P P 21 27 05.3 -0.9
KNK **Knik Glacier** 85.79 28 P P 21 27 05.7 -0.5
baz=262,SNR=24
RND **Reindeer** 85.90 26 P P 21 27 05.9 -0.8
MCK **McKinley** 85.91 26 P 21 27 05.8 -0.9
MCK **McKinley** 85.91 26 P P 21 27 06.2 -0.5
baz=261
G23K **Bananza Creek** 85.93 23 P P 21 27 07.0 +0.1

baz=260
I23K Minto, Yukon-K 85.94 25 P P 21 27 06.7 -0.1
baz=261,SNR=13
WAT1 Susitna Watana 85.95 27 P P 21 27 06.0 -0.9
baz=262
COLD Coldfoot 85.95 23 P 21 27 06.7 -0.1
COLD Coldfoot 85.95 23 P P 21 27 06.6 -0.2
baz=260
H23K Yukon River 85.98 24 P P 21 27 06.8 -0.3
baz=261
NEA2 Nenana 85.98 25 P P 21 27 06.3 -0.8
NEA2 Nenana 85.98 25 P P 21 27 06.3 -0.8
baz=261
D23K Nanushuk River 86.09 21 P P 21 27 07.4 -0.1
baz=259
M23K Glacier View 86.19 28 P P 21 27 07.5 -0.7
baz=263
C23K Itkillik River 86.27 20 P P 21 27 08.6 +0.2
baz=259,SNR=9.6
WAT6 Susitna Watana 86.28 27 P P 21 27 08.2 -0.6
baz=263,SNR=10
E23K Chandalar 86.32 22 P P 21 27 08.5 -0.3
baz=260
GLI Glacier Island 86.38 29 P P 21 27 07.5 -1.6
GLI IAmb IAmb 21 27 13.9
comp=Z,37nm,1.0s
GLI Glacier Island 86.38 29 P P 21 27 08.4 -0.7
baz=263,SNR=23
SCM Sheep Creek Mo 86.38 28 P P 21 27 08.8 -0.3
SCM Sheep Creek Mo 86.38 28 P P 21 27 08.7 -0.5
baz=263,SNR=39
WRH Wood River Hil 86.38 25 P P 21 27 07.5 -1.5
WRH IAmb IAmb 21 27 09.7
comp=Z,23nm,1.1s
TOLK Toolik Lake Re 86.43 21 P P 21 27 08.8 -0.4
baz=260
DHY Denali Highway 86.51 27 P 21 27 09.5 -0.4
DHY IAmb IAmb 21 27 15.4
comp=Z,18nm,0.9s
DHY Denali Highway 86.51 27 P P 21 27 09.0 -0.9
baz=263,SNR=17
CCB Clear Creek Bu 86.53 25 P 21 27 08.2 -1.5
COLA College 86.54 25 P P 21 27 09.9 +0.1
Q23K Middleton Isla 86.59 31 P P 21 27 08.8 -1.3
baz=264
HIN Hinchinbrook I 86.61 30 P 21 27 07.5 -2.8
HIN IAmb IAmb 21 27 15.3
comp=Z,32nm,1.0s
H24K Noodor Dome 86.66 24 P P 21 27 09.3 -1.2
baz=262
FID Port Fidalgo 86.66 29 P P 21 27 09.1 -1.4
FID IAmb IAmb 21 27 11.2
comp=Z,25nm,1.1s
E24K Your Creek 86.74 22 P P 21 27 09.5 -1.3
baz=262
POKR Poker Plat Res 86.75 25 P P 21 27 10.3 -0.6
baz=263
D24K Happy Valley 86.78 21 P P 21 27 10.6 -0.3
baz=261
HDA Harding Lake 86.87 26 P P 21 27 08.8 -2.6
HDA Harding Lake 86.87 26 P P 21 27 10.8 -0.6
baz=263
F24K Squaw Lake 86.88 22 P P 21 27 11.4 -0.1
baz=262
GNI Garni 86.89 310 P P 21 27 10.8 -1.5
GNI Garni 86.89 310 LR LR 22 12 23.6
comp=Z,52nm,18.9s,baz=81,slow=40
C24K Franklin Bluff 86.91 20 P P 21 27 10.7 -0.8
baz=261
G24K Hadweenzic Riv 86.93 23 P P 21 27 11.2 -0.5
baz=263
ILAR Eielson Array 86.94 25 P 21 27 09.1 -2.7
ILAR Eielson Array 86.94 25 P P 21 27 09.8 -1.9
comp=Z,2.5nm,0.8s,baz=255,slow=4.9,SNR=19
comp=Z,2.5nm,0.8s
M24K Tolsona, Glenn 86.95 28 P P 21 27 11.9 0.0
baz=264,SNR=7.9
EYAK Cordova Ski Ar 87.00 29 P P 21 27 11.1 -1.0
EYAK IAmb IAmb 21 27 17.3
comp=Z,14nm,1.0s
EYAK Cordova Ski Ar 87.00 29 P P 21 27 12.5 +0.4
EYAK Cordova Ski Ar 87.00 29 P P 21 27 11.3 -0.8
baz=264
KLU Klutina 87.01 29 P P 21 27 12.0 -0.2
KLU Klutina 87.01 29 P P 21 27 11.6 -0.7
baz=264,SNR=11
K24K Donnelly Dome 87.31 26 P P 21 27 13.0 -0.6
baz=264
PAX Paxson 87.37 27 P P 21 27 12.8 -1.2
PAX IAmb IAmb 21 27 19.1
comp=Z,21nm,1.2s
PAX Paxson 87.37 27 P P 21 27 13.7 -0.2
baz=265,SNR=13
HARP HAARP 87.46 28 P P 21 27 13.6 -0.7
baz=265
G25K Bearman Lake 87.48 23 P P 21 27 13.8 -0.5
baz=264
RAGM Ragged Mountai 87.52 30 P P 21 27 14.0 -0.7
H25L Birch Creek 87.54 24 P P 21 27 13.9 -0.7
baz=264
J25K Salcha River, 87.57 25 P P 21 27 14.8 -0.1
baz=265
PRP Porcupine Dome 87.59 25 P P 21 27 14.3 -0.7
baz=264
BMRM Bremner River 87.60 29 P P 21 27 14.6 -0.5
BMRM IAmb IAmb 21 27 20.3
comp=Z,26nm,1.0s
BMRM Bremner River 87.60 29 P P 21 27 14.6 -0.5
baz=265
KAIM Kayak Island 87.61 30 P 21 27 15.0 -0.1
KAIM Kayak Island 87.61 30 P P 21 27 14.5 -0.6
baz=266
N25K Chitina, Valde 87.65 28 P P 21 27 15.1 -0.3
baz=265,SNR=10
D25K Kavik River 87.67 21 P P 21 27 14.1 -1.1
baz=264
RIDG Independent Ri 87.72 26 P 21 27 14.7 -1.0
RIDG IAmb IAmb 21 27 20.4
comp=Z,29nm,1.4s
RIDG Independent Ri 87.72 26 P P 21 27 14.5 -1.1
baz=265,SNR=9.1
HMT Hamilton 87.72 30 P P 21 27 13.8 -1.8
HMT IAmb IAmb 21 27 21.0
comp=Z,34nm,1.2s
F25K Christian Rive 87.75 22 P P 21 27 15.5 -0.2
baz=264
ATD Arta Tunnel 87.80 281 P P 21 27 15.9 -1.1
ATD IAmb IAmb 21 27 18.7
comp=Z,21nm,1.0s
FYU Fort Yukon 87.81 23 P P 21 27 15.8 -0.1
FYU IAmb IAmb 21 27 22.4
comp=Z,50nm,1.8s
E25K Arctic Village 87.83 22 P P 21 27 15.6 -0.4
baz=264,SNR=6.9
SUCK Suckling Hills 87.94 30 P P 21 27 17.0 +0.3
SUCK IAmb IAmb 21 27 25.0
comp=Z,25nm,1.2s
BERG Berg Lake 88.00 30 P P 21 27 16.2 -0.8
GLB Gilahina Butte 88.02 29 P 21 27 15.8 -1.3
GLB IAmb IAmb 21 27 22.9
comp=Z,22nm,1.1s
DOT Dot Lake 88.06 26 P 21 27 16.4 -0.8
DOT IAmb IAmb 21 27 22.2
comp=Z,29nm,1.8s
SCRK Sand Creek 88.11 26 P 21 27 16.7 -0.9
SCRK IAmb IAmb 21 27 22.7
comp=Z,28nm,1.9s
SCRK Sand Creek 88.11 26 P P 21 27 16.9 -0.6
baz=266
GEVA Gevas 88.13 308 P 21 27 17.0 -1.3
BMAR Burnt Mountain 88.14 23 P 21 27 16.9 -0.6
MENT Mentasta 88.16 27 P P 21 27 17.1 -0.7
MENT Mentasta 88.16 27 P P 21 27 18.9 +1.2
VRDI Verde Repeater 88.17 29 P P 21 27 16.6 -1.4
C26K Camden Bay 88.24 20 P P 21 27 17.8 -0.1
baz=265
CRQM Cirque 88.30 29 P P 21 27 18.5 -0.1
CRQM IAmb IAmb 21 27 24.6
comp=Z,30nm,1.2s
CRQE Cirque 88.32 29 P P 21 27 18.4 -0.3
baz=267,SNR=8.2
F26K Sheenjek River 88.33 22 P P 21 27 18.1 -0.3
baz=266
J26L Joseph Creek 88.34 26 P P 21 27 17.7 -0.9
baz=266
MCARA McCarthy VSAT 88.39 29 P P 21 27 18.7 -0.1
MCARA IAmb IAmb 21 27 34.5
comp=Z,15nm,1.1s
MCARA McCarthy VSAT 88.39 29 P P 21 27 18.1 -0.7
baz=267
KBZ Khabaz 88.41 314 P P 21 27 18.3 -0.9
comp=Z,2.8nm,1.0s,baz=121,slow=5.9,SNR=3.8
KBZ LR LR 22 11 45.8
comp=Z,32nm,20.0s,baz=98,slow=39
comp=Z,2.8nm,1.0s
G26K Porcupine Rive 88.41 23 P P 21 27 18.0 -0.7
baz=266
SNH Sunshine Point 88.42 30 P P 21 27 19.5 +0.5
SNH IAmb IAmb 21 27 25.4
comp=Z,24nm,1.0s
WAX Waxell Ridge 88.42 30 P P 21 27 18.6 -0.5
WAX IAmb IAmb 21 27 24.6
comp=Z,35nm,1.3s
TGL Tana Glacier 88.45 29 P P 21 27 18.7 -0.5
TGL IAmb IAmb 21 27 25.2
comp=Z,28nm,1.2s
M26K Nabesna, AK 88.46 28 P P 21 27 18.5 -0.7
baz=267
KVAR Kislovodsk Arr 88.56 314 LR LR 22 11 27.7
comp=Z,36nm,19.7s,baz=310,slow=39
I26K Coal Creek Min 88.56 25 P P 21 27 18.3 -1.2
baz=267
KIV Kislovodsk 88.57 314 P 21 27 18.3 -1.9
C27K Jago River 88.63 20 P P 21 27 19.4 -0.4
baz=266,SNR=7.1
ISLE Juniper Island 88.68 30 P P 21 27 19.4 -1.0
MESA MESA 88.86 30 P P 21 27 20.8 -0.5
MESA MESA 88.86 30 P P 21 27 20.5 -0.8
baz=268
GURO Guroymak-BITLI 88.94 308 P P 21 27 21.2 -0.8
GURO IAmb IAmb 21 27 23.2
comp=Z,13nm,0.9s
K27K Chicken 88.96 26 P P 21 27 20.5 -0.9
baz=268
YAH Yahtse 88.97 30 P P 21 27 19.0 -2.8
GRNC Granite Creek 88.98 29 P P 21 27 21.0 -0.9
GRNC IAmb IAmb 21 27 28.1
comp=Z,17nm,1.0s
M27K Edge Creek, AK 88.98 28 P P 21 27 21.3 -0.4
baz=268
L27K Beaver Creek, 89.03 27 P P 21 27 21.3 -0.6
baz=268
BARN Barnard Glacie 89.03 29 P P 21 27 21.2 -0.8
BARN IAmb IAmb 21 27 26.9
comp=Z,16nm,1.2s
BCAR Beaver Creek A 89.05 27 P 21 27 21.2 -0.8
CTG Chitna Glacier 89.19 29 P P 21 27 21.3 -1.5
baz=268
CTGM Chitina Glacie 89.19 29 P P 21 27 22.0 -0.8
CTGM IAmb IAmb 21 27 27.6
comp=Z,14nm,1.0s
I27K Kandik River 89.22 25 P P 21 27 21.9 -0.8
baz=268
G27K Doyon Strip 89.25 23 P P 21 27 22.1 -0.6
baz=268
TABL Table Mountain 89.27 30 P P 21 27 22.5 -0.7
TABL IAmb IAmb 21 27 36.4
comp=Z,14nm,0.9s
TAOE Nuku Hiva Isla 89.27 99 *e*LR LR 21 55 39.9
comp=Z,113nm,21.3s
H27K Steamboat Moun 89.28 24 P P 21 27 22.8 -0.2
baz=268,SNR=6.9
E27K Coleen River 89.32 22 P P 21 27 21.9 -1.2
baz=268
BVCY Beaver Creek 89.45 28 P P 21 27 23.3 -0.6
baz=269
D27M Malcolm River 89.58 21 P P 21 27 23.7 -0.6
baz=268
YUK3 Moose Creek 89.63 28 P P 21 27 23.8 -1.1
baz=269
PCA Pinnacle 89.70 30 P P 21 27 24.9 -0.1
PCA IAmb IAmb 21 27 35.0
comp=Z,18nm,1.0s
PINM Pinnacle 89.71 30 P P 21 27 24.4 -0.7
baz=269
O28M Mount Upton 89.75 29 P P 21 27 24.8 -0.8
baz=269
QSPA South Pole Qui 89.79 180 P 21 27 25.3 -0.1
QSPA IAmb IAmb 21 27 27.2
comp=Z,29nm,1.0s
QSPA South Pole Qui 89.79 180 P P 21 27 25.3 -0.1
comp=Z,20nm,1.0s,baz=313,slow=1.8,SNR=53
QSPA LR LR 22 07 23.0
comp=Z,316nm,21.9s,baz=2.5,slow=35
comp=Z,20nm,1.0s
I28M Miner Creek 89.91 25 P P 21 27 25.5 -0.5
baz=270,SNR=8.1
MARD Mardin 89.92 307 P 21 27 25.4 -1.3
F28M Old Crow 89.96 23 P P 21 27 25.7 -0.4
baz=270
YUK8 Steele Glacier 89.96 29 P P 21 27 25.6 -0.9
baz=270
E28M Babbage River 90.09 22 P P 21 27 25.8 -0.9
baz=270
PNL Peninsula 90.14 30 P P 21 27 26.0 -1.0
baz=270
DAWY Dawson 90.14 26 P P 21 27 26.1 -0.9
DAWY Dawson 90.14 26 P P 21 27 26.4 -0.6
baz=270
KOPT Kop Dagi 90.14 310 P 21 27 27.4 -0.5
KOPT IAmb IAmb 21 27 32.5
comp=Z,28nm,1.1s
SYO Syowa Base 90.22 201⇑ *e*P P 21 27 26.6 -0.6
SYO Syowa Base 90.22 201⇑ *e*PcP P 21 27 29.6 +2.4
D28M Stokes Point 90.37 21 P P 21 27 27.1 -0.8
baz=271
O29M Mount Kennedy 90.54 30 P P 21 27 28.1 -1.0
baz=271
H29M Whitestone 90.56 24 P P 21 27 28.6 -0.2
baz=271
M29M Somme Creek 90.57 28 P P 21 27 28.4 -0.8
baz=271,SNR=7.2
I29M Ogilvie Camp, 90.59 25 P P 21 27 28.4 -0.6
baz=270
G29M Pine Creek 90.68 23 P P 21 27 28.8 -0.6
baz=271
E29M Blow River 90.69 22 P P 21 27 28.7 -0.7
baz=271
L29M L29M 90.71 27 P P 21 27 28.9 -0.8
baz=271
K29M Barlow Dome 90.97 26 P P 21 27 29.7 -1.3
baz=272
P29M Windy Craggy 90.98 31 P P 21 27 29.8 -1.2
baz=271
HYT Haines Junctio 91.06 29 P P 21 27 30.7 -0.8
baz=272
EPYK Eagle Plains 91.22 24 P P 21 27 30.5 -1.4
baz=272
N30M Aishikik Lake 91.25 29 P P 21 27 30.8 -1.5
baz=272
M30M Minto, Yukon 91.34 28 P P 21 27 31.2 -1.5
baz=273
G30M tAoh Zraii Nji 91.39 23 P P 21 27 31.7 -1.1
baz=273
I30M Mount Dempster 91.41 25 P P 21 27 32.1 -0.9
baz=273
J30M Hart River 91.46 26 P P 21 27 31.6 -1.7
baz=273
F30M Barrier River 91.52 22 P P 21 27 32.9 -0.4
baz=273
PLBC Pleasant Camp 91.68 31 P P 21 27 33.3 -0.9
baz=273
S31K Pelican 91.82 32 P P 21 27 33.2 -1.6
baz=273
N31M Braeburn, Yuko 91.87 29 P P 21 27 34.6 -0.5
baz=273
FURI Furi 91.89 279 LR LR 22 08 30.5
comp=Z,63nm,20.0s,baz=96,slow=35
G31M Satah River 92.16 23 P P 21 27 35.2 -0.9
baz=275
SKAG Skagway 92.21 31 P P 21 27 36.2 -0.4
SKAG Skagway 92.21 31 P P 21 27 37.4 +0.8
H31M Peel River 92.22 24 P P 21 27 35.2 -1.4
baz=275
F31M Tsiigehtchic 92.32 23 P P 21 27 36.5 -0.5
baz=275
INK Inuvik 92.32 22 P 21 27 35.3 -1.6
INK IAmb IAmb 21 27 36.5
comp=Z,17nm,1.4s
INK Inuvik 92.32 22 LR LR 22 06 03.8
comp=Z,64nm,19.8s,baz=253,slow=34
INK Inuvik 92.32 22 P P 21 27 36.5 -0.5
baz=275
WHY Whitehorse 92.36 29 P 21 27 35.6 -1.8
WHY IAmb IAmb 21 27 38.1
comp=Z,14nm,1.1s
WHY Whitehorse 92.36 29 P P 21 27 36.3 -1.2
baz=274
M31M Drury Creek, Y 92.48 28 P P 21 27 36.4 -1.5
baz=274
BESE Bessie Mountai 92.51 32 P P 21 27 38.4 +0.2
KIBK Kibwezi 92.52 268 P P 21 27 38.3 -0.9
KIBK IAmb IAmb 21 27 40.8
comp=Z,19nm,1.4s
R32K Eaglecrest 92.71 32 P P 21 27 38.3 -0.7
baz=274
GAZ Gaziantep 92.76 307 P P 21 27 38.2 -1.6
GAZ IAmb IAmb 21 27 41.5
comp=Z,11nm,1.0s
P32M Atlin 93.02 30 P P 21 27 40.1 -0.4
baz=275
ASF Jabal al Asfar 93.19 302 P P 21 27 41.5 -0.4
comp=Z,13nm,0.9s,baz=242,slow=7.1,SNR=23
ASF LR LR 22 17 08.9
comp=Z,45nm,18.8s,baz=153,slow=40
comp=Z,13nm,0.9s
N32M Quiet Lake 93.19 29 P P 21 27 40.2 -1.0
baz=276
KMBO Kilima Mbogo 93.31 269 P P 21 27 42.3 -0.8
comp=Z,8.8nm,1.1s,baz=42,slow=2.1,SNR=6.9
comp=Z,8.8nm,1.1s
P33M Teslin, Yukon 93.42 30 P P 21 27 42.0 -0.3
baz=276
U33K Whale Pass 93.64 34 P P 21 27 42.5 -0.8
baz=275
CRAG Craig 93.70 35 P P 21 27 42.3 -1.3
baz=275
Q32M Nakina River 93.82 31 P P 21 27 43.2 -1.2
baz=276
MMPY Sheldon Lake, 93.89 27 P P 21 27 43.2 -1.2
MMPY Sheldon Lake, 93.89 27 P P 21 27 43.4 -1.0
baz=277
WRAK Wrangell Islan 94.04 34 P P 21 27 44.6 -0.5
baz=276
RKT Rikitea 94.05 113 *e*LR LR 21 57 51.6
comp=Z,9µm,34.2s
MMAI Mount Meron Ar 94.41 303 P P 21 27 46.5 -1.0
comp=Z,5.3nm,0.9s,baz=76,slow=3.5,SNR=6.6
comp=Z,5.3nm,0.9s
R33M Jennings River 94.44 31 P P 21 27 45.8 -1.3
baz=277
EIL Elat 94.96 300 LR LR 22 19 21.0
comp=Z,28nm,18.1s,baz=118,slow=41
SPITS Spitsbergen Ar 94.98 349 P P 21 27 46.5 -2.6
comp=Z,1.8nm,0.6s,baz=59,slow=17,SNR=1.1
SPITS LR LR 22 14 35.0
comp=Z,87nm,19.7s,baz=47,slow=38
comp=Z,1.8nm,0.6s
DLBC Dease Lake 95.05 31 LR LR 22 08 05.7
comp=Z,624nm,19.5s,baz=223,slow=34
T35M Bob Quinn 95.13 33 P P 21 27 49.1 -1.0
baz=278
LODK Lodwar 95.21 273 P 21 27 48.9 -2.6
ARCES ARCESS Array B 95.37 340 P 21 27 49.3 -1.7
ARCES ARCESS Array B 95.37 340 P P 21 27 49.4 -1.6
comp=Z,16nm,0.9s,baz=77,slow=5.4,SNR=14
ARCES LR LR 22 19 27.7
comp=Z,64nm,18.1s,baz=84,slow=41
comp=Z,16nm,0.9s
WTLY Watson Lake, Y 95.42 30 P P 21 27 49.8 -1.6
BRTR Keskin Array B 95.43 310 P 21 27 48.5 -3.6
BRTR Keskin Array B 95.43 310 P P 21 27 49.5 -2.5
comp=Z,3.6nm,1.0s,baz=108,slow=4.0,SNR=11
comp=Z,3.6nm,1.0s
C36M Paulatuk 95.52 20 P P 21 27 50.9 -0.7
baz=284
ANTO Ankara 96.06 310 P P 21 27 52.2 -2.7
ANTO IAmb IAmb 21 30 40.9
comp=Z,33nm,1.9s
FINES FINESS Array B 97.03 332 P P 21 27 55.7 -2.9
comp=Z,5.1nm,1.0s,baz=132,slow=5.4,SNR=5.2
FINES LR LR 22 16 50.1
comp=Z,110nm,19.6s,baz=71,slow=39
comp=Z,5.1nm,1.0s
BBB Bella Bella 97.05 37 LR LR 22 02 33.9
comp=Z,91nm,21.9s,baz=254,slow=30
AKASG Malin Array Be 97.29 321 LR LR 22 14 56.4
comp=Z,71nm,18.2s,baz=72,slow=37
MLR Muntele Rosu 100.33 316 P Pdif 21 28 12.3 -1.7
comp=Z,2.1nm,0.9s,baz=62,slow=17,SNR=3.9
BRG Berggiesshubel 106.61 324 *e*P PKiKP 21 32 53.0 +0.7
BRG Amp 21 32 54.7
comp=Z,2.8nm,1.1s
CLL Collm 107.00 324 *e*PKiKP PKiKP 21 32 52.0 -0.9
CLL *e*PS PS 21 42 29.0 -0.9
CLL *e*PPS PPS 21 43 27.0
GERES GERESS Array B 107.48 322 PKiKP PKiKP 21 32 52.5 -1.6
comp=Z,0.7nm,0.7s,baz=106,slow=3.2,SNR=5.9
GERES PP PP 21 33 15.4 +2.3
comp=Z,0.6nm,0.7s,baz=98,slow=8.1,SNR=3.9
TXAR Lajitas Array 120.76 56 PKP PKPdf 21 33 19.4 -0.6
comp=Z,1.7nm,0.8s,baz=224,slow=1.3,SNR=14
TXAR PKKPab PKKPbc 21 43 21.9 -2.9
comp=Z,0.2nm,0.8s,baz=68,slow=8.3,SNR=3.9
ESDC Sonseca Array 122.87 319 PKP PKPdf 21 33 22.2 -1.5
comp=Z,1.2nm,0.8s,baz=35,slow=3.0,SNR=6.2
L40A Anamosa 123.83 37 PKPdf 21 33 24.1 -1.2
MDT Midelt 126.77 312 PKP PKPdf 21 33 30.4 -1.1
comp=Z,1.2nm,0.5s,baz=17,slow=4.1,SNR=3.5
TORD Torodi Ar. Bea 127.73 286 PKPdf 21 33 32.2 -1.3
TORD Torodi Ar. Bea 127.73 286 PKP PKPdf 21 33 31.9 -1.7
comp=Z,5.8nm,1.0s,baz=31,slow=3.2,SNR=20
PLCA Paso Flores 135.02 157 PKP PKPdf 21 33 46.0 -0.8
comp=Z,2.0nm,0.8s,baz=233,slow=5.1,SNR=5.0
DBIC Dimbokro 135.06 279 PKP PKPdf 21 33 46.1 -1.3
comp=Z,4.0nm,1.1s,baz=184,slow=6.7,SNR=4.6
BO02 Sierra Bellavi 139.92 152 PKPpre 21 33 48.7
LCO Las Campanas 144.59 147 PKPab 21 34 03.1 -0.1
PLTB Pedras Altas 148.03 173 PKPdf 21 34 13.1 +3.0
PLTB Pedras Altas 148.03 173 *e*P PKPdf 21 34 03.9 -6.3
CPSB Cacapava Do Su 149.39 173 *e*P PKPdf 21 34 08.4 -3.9
COHC Cochancay 150.07 95 PKPdf 21 34 14.7 +0.8
CPUP Villa Florida 152.60 164 PKP PKPdf 21 34 15.4 -2.0
comp=Z,0.6nm,0.8s,baz=108,slow=3.2,SNR=3.0
ROSC El Rosal 154.71 79 PKPbc PKPdf 21 34 28.0 +6.7
comp=Z,13nm,0.3s,baz=287,slow=11,SNR=4.4
LPAZ La Paz 155.37 132 PKP PKPdf 21 34 21.1 -1.2
comp=Z,3.0nm,1.1s,baz=329,slow=1.9,SNR=8.1
LPAZ PKPab PKPab 21 34 48.5 +0.9
comp=Z,6.1nm,1.0s,baz=210,slow=4.6,SNR=5.7
VAO Valinhos 156.87 186 *e*P PKPdf 21 34 18.8 -4.7
SDV Santo Domingo 157.16 67 *e*P PKPdf 21 34 18.4 -5.9
BAUV El Baul 159.50 64 PKPdf 21 34 25.6 -1.3
SALV Santo Antonio 162.91 159 *e*P PKPdf 21 34 24.4 -6.0
BOAV Boa Vista 168.69 78 *e*P PKPdf 21 34 27.9 -7.2
NPGB Novo Progresso 170.73 140 *e*P PKPdf 21 34 31.1 -5.3
ITTB Itaituba 172.27 125 *e*P PKPdf 21 34 30.2 -6.9
PRPB Parauapebas 173.72 177 *e*P PKPdf 21 34 33.3 -4.4

*IGIL **06** 21:15:55.4,36°.69N×11°.27W,h28km,ML1.9*
*INMG **06** 21:15:55.6±1.7,36°.69N×11°.27W,h28km±19km,ML2.0,*
Error ellipse: s-maj=13.0km s-min=6.2km az=74.0,
#DIST_RANGE: REGIONAL #IPMA_REGION: Gorringe
*CNRM **06** 21:15:57.0,36°.29N×10°.58W,h26km,ML3.2*
ISC 06 21:15:46.9±1.9,36°.45N±0°.04×11°.4W±0°.1,h10km,n45,
σ3s38/62, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.17**	**71**	*e*P	**Pn**	**21 16 26.3**	**+3.2**
PFVI				*e*S	**Sn**	**21 16 48.5**	**-1.6**
PFVI				*i* IAML		21 16 49.4	
PFVI				*i* IAML		21 16 49.9	
PFVI				*i* IAML		21 16 51.2	
MORF	**Marmelete**	**2.36**	**68**	*e*P	**Pn**	**21 16 28.4**	**+2.7**
MORF				*e*S	**Sn**	**21 16 52.6**	**-2.2**
MORF				IAML		21 16 54.3	
	comp=E,11nm,0.1s						
MORF	**Marmelete**	**2.36**	**68**	*e*P	**Pn**	**21 16 28.5**	**+2.7**
MORF				*e*S	**Sn**	**21 16 52.6**	**-2.2**
MORF				*i* IAML		21 16 54.3	
MORF				*i* IAML		21 16 55.4	
MORF				*i* IAML		21 16 56.8	
PTEO	**Sao Teotonio**	**2.40**	**62**	*e*P	**Pn**	**21 16 29.0**	**+2.7**
PTEO				*e*S	**Sn**	**21 16 53.2**	**-2.5**
PTEO				*i* IAML		21 16 55.1	
PTEO				*i* IAML		21 16 57.1	

PTEO				*i* IAML			21 17 04.6		
PBDV	**Barranco-do-Ve**	**2.89**	**73**	*eS*		**Sn**	**21 17 07.0**	**-0.9**	
PBDV				*i* IAML			21 17 13.0		
PBDV				*i* IAML			21 17 14.9		
PBDV				*i* IAML			21 17 15.9		
MESJ	**Messejana**	**2.89**	**60**	*eP*		**Pn**	**21 16 35.6**	**+2.6**	
MESJ				*eS*		**Sn**	**21 17 04.8**	**-3.1**	
MESJ				IAML			21 17 07.9		
	comp=N,3.3nm,0.2s								
MESJ	**Messejana**	**2.89**	**60**	*eP*		**Pn**	**21 16 36.0**	**+3.0**	
MESJ				*eS*		**Sn**	**21 17 05.2**	**-2.6**	
MESJ				*i* IAML			21 17 11.7		
MESJ				*i* IAML			21 17 11.8		
MESJ				*i* IAML			21 17 19.6		
PCVE	**Castro Verde**	**2.93**	**65**	*eP*		**Pn**	**21 16 36.2**	**+2.6**	
PCVE				*eS*		**Sn**	**21 17 06.3**	**-2.6**	
PCVE				*i* IAML			21 17 09.6		
PCVE				*i* IAML			21 17 11.2		
PCVE				*i* IAML			21 17 12.2		
PMAFR	**Mafra**	**3.01**	**33**	*eP*		**Pn**	**21 16 35.5**	**+0.8**	
PMAFR				*eS*		**Sn**	**21 17 06.4**	**-4.4**	
PMAFR				*i* IAML			21 17 08.3		
PMAFR				*i* IAML			21 17 09.7		
PMAFR				*i* IAML			21 17 13.9		
PARRA	**Arraiolos**	**3.01**	**38**	*eP*		**Pb**	**21 16 44.1**	**+3.4**	
PARRA				*eS*		**Sb**	**21 17 19.9**	**+2.4**	
PARRA				*i* IAML			21 17 25.0		
PARRA				*i* IAML			21 17 28.0		
PARRA				*i* IAML			21 17 32.6		
PVAQ	**Vaqueiros**	**3.10**	**71**	*eP*		**Pn**	**21 16 38.8**	**+2.9**	
PVAQ				*eS*		**Sn**	**21 17 10.6**	**-2.3**	
PVAQ				*i* IAML			21 17 26.5		
PVAQ				*i* IAML			21 17 27.1		
PVAQ				*i* IAML			21 17 27.2		
PVAQ	**Vaqueiros**	**3.10**	**71**	P		**Pn**	**21 16 36.6**	**+0.8**	
PVAQ	**Vaqueiros**	**3.10**	**71**	S		**Sn**	**21 17 08.4**	**-4.5**	
PBEJ	**Beja**	**3.23**	**60**	*eS*		**Sn**	**21 17 12.7**	**-3.4**	
PBEJ				*i* IAML			21 17 14.3		
PBEJ				*i* IAML			21 17 17.1		
PBEJ				*i* IAML			21 17 18.2		
EVO	**Evora**	**3.40**	**51**	*eP*		**Pn**	**21 16 41.9**	**+1.9**	
EVO				*eS*		**Sn**	**21 17 16.3**	**-4.1**	
EVO				*i* IAML			21 17 20.0		
EVO				*i* IAML			21 17 20.8		
EVO				*i* IAML			21 17 20.8		
PMTG	**Montargil**	**3.62**	**43**	*eP*		**Pn**	**21 16 44.2**	**+1.1**	
PMTG				*eS*		**Sn**	**21 17 22.5**	**-3.5**	
PMTG				*i* IAML			21 17 24.8		
PMTG				*i* IAML			21 17 27.3		
PMTG				*i* IAML			21 17 28.3		
PESTR	**Estremoz**	**3.86**	**50**	*eS*		**Sn**	**21 17 28.1**	**-3.8**	
PESTR	**Estremoz**	**3.86**	**50**	P		**Pn**	**21 16 48.7**	**+2.2**	
PESTR	**Estremoz**	**3.86**	**50**	S		**Sn**	**21 17 30.8**	**-1.1**	
PBAR	**Barrancos**	**3.88**	**62**	*eP*		**Pn**	**21 16 49.6**	**+3.0**	
PBAR				*eS*		**Sn**	**21 17 28.6**	**-3.6**	
PBAR				*i* IAML			21 17 30.3		
PBAR				*i* IAML			21 17 31.4		
PBAR				*i* IAML			21 17 41.6		
PSARD	**Sardoal**	**4.05**	**38**	*eP*		**Pn**	**21 16 50.8**	**+1.8**	
PSARD				*eS*		**Sn**	**21 17 32.2**	**-4.3**	
PSARD				*i* IAML			21 17 34.0		
PSARD				*i* IAML			21 17 34.6		
PSARD				*i* IAML			21 17 34.8		
PCAS	**Casmilo, Conde**	**4.26**	**32**	*eP*		**Pn**	**21 16 52.9**	**+1.1**	
PCAS				*eS*		**Sn**	**21 17 36.8**	**-4.8**	
PCAS				*i* IAML			21 17 39.3		
PCAS				*i* IAML			21 17 39.9		
PCAS				*i* IAML			21 17 45.6		
PMRV	**Marv??o**	**4.34**	**46**	*eP*		**Pn**	**21 16 53.9**	**+0.9**	
PMRV				*eS*		**Sn**	**21 17 38.7**	**-5.0**	
PMRV				*i* IAML			21 17 41.3		
PMRV				*i* IAML			21 17 42.6		
PMRV				*i* IAML			21 17 45.9		
PCBR	**Castelo Branco**	**4.58**	**41**	*eP*		**Pn**	**21 16 57.5**	**+1.3**	
PCBR				*eS*		**Sn**	**21 17 45.2**	**-4.3**	
SRHM	**Skhour des Reh**	**4.91**	**143**	P		**Pn**	**21 17 04.3**	**+3.4**	
SRHM	**Skhour des Reh**	**4.91**	**143**	S		**Sn**	**21 17 57.8**	**+0.1**	
ZHG	**ZHG**	**4.92**	**126**	P		**Pn**	**21 16 59.8**	**-1.2**	
ZHG	**ZHG**	**4.92**	**126**	S		**Sn**	**21 17 51.8**	**-6.3**	
PVIS	**Viseu**	**5.07**	**32**	*eP*		**Pn**	**21 17 04.0**	**+1.0**	
PVIS				*eS*		**Sn**	**21 17 56.1**	**-5.4**	
POLO	**Lamas de Olo**	**5.66**	**29**	*eS*		**Sn**	**21 18 09.5**	**-6.8**	
MVO	**Moncorvo**	**5.81**	**35**	*eS*		**Sn**	**21 18 13.8**	**-6.1**	
MVO				*i* IAML			21 18 15.6		
MVO				*i* IAML			21 18 16.8		
MVO				*i* IAML			21 18 18.9		
OUK	**Oukaimeden**	**6.00**	**150**	P		**Pn**	**21 17 18.4**	**+2.3**	
OUK	**Oukaimeden**	**6.00**	**150**	S		**Sn**	**21 18 21.6**	**-3.4**	
PGAV	**Gavieira, Arco**	**6.02**	**23**	*eP*		**Pn**	**21 17 16.7**	**+0.6**	
PGAV				*eS*		**Sn**	**21 18 18.2**	**-6.9**	
PGAV				*i* IAML			21 18 21.9		
PGAV				*i* IAML			21 18 24.7		
PGAV				*i* IAML			21 18 27.5		
TISM	**Timmit**	**6.26**	**138**	P		**Pn**	**21 17 20.5**	**+1.2**	
TISM	**Timmit**	**6.26**	**138**	S		Sn	21 18 23.2	-7.6	
PBRG	**Braganca**	**6.45**	**33**	*eS*		**Sn**	**21 18 29.5**	**-6.3**	
TIO	**Tiouine**	**6.50**	**147**	P		**Pn**	**21 17 24.7**	**+2.0**	
TIO	**Tiouine**	**6.50**	**147**	S		**Sn**	**21 18 34.3**	**-2.7**	
MD31	**MD31**	**6.53**	**121**	P		**Pn**	**21 17 22.9**	**-0.3**	
MD31	**MD31**	**6.53**	**121**	S		Sn	21 18 28.4	-9.4	
MDT	**Midelt**	**6.67**	**121**	P		**Pn**	**21 17 24.8**	**-0.1**	
MDT	**Midelt**	**6.67**	**121**	S		**Sn**	**21 18 35.2**	**-6.0**	
OUZM	**OUZ**	**6.74**	**144**	P		**Pn**	**21 17 27.5**	**+1.4**	
OUZM	**OUZ**	**6.74**	**144**	S		**Sn**	**21 18 40.7**	**-2.3**	

*CNRM **06** 21:25:28.9, 36°.70N×9°.07W, h12km, ML2.4*
*SFS **06** 21:25:30.2, 36°.99N×9°.29W, h32km, ML2.8/10, ML2.6/13, MLv2.1/13*
*IGIL **06** 21:25:31.5, 37°.04N×9°.25W, h27km, ML1.7*
*INMG **06** 21:25:31.4±1.3, 37°.04N×9°.25W, h28km±3km, ML1.8, Error ellipse: s-maj=4.4km s-min=2.3km az=73.0, #DIST_RANGE: LOCAL #IPMA_REGION: W Cabo S.Vicente*
*MDD **06** 21:25:31.6±1.0, 37°.10N×9°.21W, h26km±3km, mb_Lg2.6/7, Error ellipse: s-maj=7.9km s-min=4.6km az=37.0*

ISC 06 21:25:27.5±1.4, 36°.92N±0°.03×9°.32W±0°.06, h35km, n60, σ1°83/98, 4C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.45**	**61**	Pg	**Pn**	**21 25 38.9**	**+1.4**
PFVI				Sg	**Sn**	**21 25 44.2**	**-0.1**
PFVI	**Vila Bisbo**	**0.45**	**61**	*iP*	**Pn**	**21 25 38.9**	**+1.4**
PFVI				*eS*	**Sn**	**21 25 44.6**	**+0.3**
PFVI				*i* IAML		21 25 45.1	
PFVI				*i* IAML		21 25 45.4	
PFVI				*i* IAML		21 25 45.6	
PFVI	**Vila Bisbo**	**0.45**	**61**	P	**Pn**	**21 25 38.5**	**+1.0**
MORF	**Marmelete**	**0.66**	**54**	*eP*	**Pn**	**21 25 41.8**	**+1.3**
MORF				*eS*	**Sn**	**21 25 49.3**	**-0.3**
MORF				IAML		21 25 51.1	
	comp=E,63nm,0.1s						
MORF	**Marmelete**	**0.66**	**54**	*iP*	**Pn**	**21 25 41.7**	**+1.3**
MORF				*eS*	**Sn**	**21 25 49.8**	**+0.2**
MORF				*i* IAML		21 25 50.1	
MORF				*i* IAML		21 25 50.5	
MORF				*i* IAML		21 25 51.1	
PTEO	**Sao Teotonio**	**0.79**	**37**	*eP*	**Pn**	**21 25 43.3**	**+1.2**
PTEO				*eS*	**Sn**	**21 25 52.5**	**-0.2**
PTEO				*i* IAML		21 25 53.0	
PTEO				*i* IAML		21 25 53.8	
PTEO				*i* IAML		21 25 55.1	
PBDV	**Barranco-do-Ve**	**1.16**	**73**	Pn	**Pn**	**21 25 50.5**	**+3.2**
PBDV				Sn	**Sn**	**21 26 02.6**	**+0.7**
PBDV	**Barranco-do-Ve**	**1.16**	**73**	*eP*	**Pn**	**21 25 49.5**	**+2.3**
PBDV				*eS*	**Sn**	**21 26 02.2**	**+0.4**
PBDV				*i* IAML		21 26 09.2	
PBDV				*i* IAML		21 26 10.3	
PBDV				*i* IAML		21 26 11.7	
PCVE	**Castro Verde**	**1.24**	**55**	Sn	**Sn**	**21 26 03.6**	**-0.3**
PCVE				Pn	**Pn**	**21 25 50.1**	**+1.6**
PCVE	**Castro Verde**	**1.24**	**55**	*eP*	**Pn**	**21 25 50.0**	**+1.6**
PCVE				*eS*	**Sn**	**21 26 03.9**	**-0.1**
PCVE				*i* IAML		21 26 08.4	
PCVE				*i* IAML		21 26 09.5	
PCVE				*i* IAML		21 26 11.8	
MESJ	**Messejana**	**1.27**	**43**	*eP*	**Pn**	**21 25 50.1**	**+1.3**
MESJ				*eS*	**Sn**	**21 26 04.2**	**-0.4**
MESJ				IAML		21 26 05.3	
	comp=N,5.9nm,0.1s						
MESJ	**Messejana**	**1.27**	**43**	*eP*	**Pn**	**21 25 50.1**	**+1.3**
MESJ				*eS*	**Sn**	**21 26 04.5**	**-0.1**
MESJ				*i* IAML		21 26 08.5	
MESJ				*i* IAML		21 26 10.2	
MESJ				*i* IAML		21 26 16.2	
PVAQ	**Vaqueiros**	**1.37**	**69**	*eP*	**Pn**	**21 25 52.2**	**+2.1**
PVAQ				*eS*	**Sn**	**21 26 07.1**	**+0.1**
PVAQ				*i* IAML		21 26 13.2	
PVAQ				*i* IAML		21 26 14.8	
PVAQ				*i* IAML		21 26 15.6	
PVAQ	**Vaqueiros**	**1.37**	**69**	P	**Pn**	**21 25 53.4**	**+3.1**
PVAQ	**Vaqueiros**	**1.37**	**69**	S	**Sn**	**21 26 10.4**	**+3.3**
EGRO	**El Granado**	**1.59**	**67**	Pn	**Pn**	**21 25 55.0**	**+1.9**
EGRO				Sn	**Sn**	**21 26 12.2**	**-0.2**
EGRO	**El Granado**	**1.59**	**67**	Pn	**Pn**	**21 25 55.1**	**+1.9**
EGRO				Sn	**Sn**	**21 26 11.3**	**-1.2**
EGRO				*i* lVmb_Lg		21 26 25.4	
PBEJ	**Beja**	**1.60**	**46**	*eP*	**Pn**	**21 25 54.3**	**+1.0**
PBEJ				*eS*	**Sn**	**21 26 12.0**	**-0.8**
PBEJ				*i* IAML		21 26 23.1	
PBEJ				*i* IAML		21 26 23.6	
PBEJ				*i* IAML		21 26 28.4	
PARRA	**Arraiolos**	**1.91**	**7**	*eP*	**Pn**	**21 26 01.5**	**+4.0**
PARRA				*eS*	**Sn**	**21 26 24.4**	**+4.1**
PARRA				*i* IAML		21 26 24.8	
PARRA				*i* IAML		21 26 27.6	
PARRA				*i* IAML		21 26 34.2	
EVO	**Evora**	**1.91**	**32**	Sn	**Sn**	**21 26 19.0**	**-1.5**
EVO	**Evora**	**1.91**	**32**	*eS*	**Sn**	**21 26 19.4**	**-1.1**
EVO				*i* IAML		21 26 20.6	
EVO				*i* IAML		21 26 20.6	
EVO				*i* IAML		21 26 22.4	
PMAFR	**Mafra**	**2.03**	**1**	Pn	**Pn**	**21 26 00.5**	**+1.2**
PMAFR				Sn	**Sn**	**21 26 23.1**	**-0.4**
PMAFR	**Mafra**	**2.03**	**1**	*eP*	**Pn**	**21 26 00.7**	**+1.4**
PMAFR				*eS*	**Sn**	**21 26 22.7**	**-0.8**
PMAFR				*i* IAML		21 26 24.7	
PMAFR				*i* IAML		21 26 25.7	
PMAFR				*i* IAML		21 26 26.4	
PBAR	**Barrancos**	**2.20**	**55**	Pn	**Pn**	**21 26 02.9**	**+1.3**
PBAR	**Barrancos**	**2.20**	**55**	*eP*	**Pn**	**21 26 03.1**	**+1.4**
PBAR				*eS*	**Sn**	**21 26 26.9**	**-0.7**
PBAR				*i* IAML		21 26 38.6	
PBAR				*i* IAML		21 26 39.2	
PBAR				*i* IAML		21 26 46.6	
EMIN	**Mina Concepcio**	**2.27**	**67**	Sn	**Sn**	**21 26 29.1**	**-0.3**
EMIN				Pn	**Pn**	**21 26 04.1**	**+1.6**
EMIN	**Mina Concepcio**	**2.27**	**67**	Pn	**Pn**	**21 26 04.2**	**+1.6**
EMIN				Sn	**Sn**	**21 26 28.4**	**-0.9**
PMTG	**Montargil**	**2.31**	**22**	*eP*	**Pn**	**21 26 04.3**	**+1.2**
PMTG				*eS*	**Sn**	**21 26 28.6**	**-1.8**
PMTG				*i* IAML		21 26 30.6	
PMTG				*i* IAML		21 26 30.8	
PMTG				*i* IAML		21 26 31.3	
PESTR	**Estremoz**	**2.38**	**35**	*eS*	**Sn**	**21 26 30.9**	**-1.1**
EBAD	**Badajoz**	**2.59**	**44**	Pn	**Pn**	**21 26 07.5**	**+0.6**
EBAD				Sn	**Sn**	**21 26 36.7**	**-0.4**
EBAD	**Badajoz**	**2.59**	**44**	Pn	**Pn**	**21 26 07.4**	**+0.5**
EBAD				Sn	**Sn**	**21 26 35.1**	**-2.0**
EBAD				*i* lVmb_Lg		21 26 38.1	
ESPR	**Espera**	**2.78**	**90**	Pn	**Pn**	**21 26 12.3**	**+2.8**
ESPR				Sn	**Sn**	**21 26 42.3**	**+0.5**
ESPR	**Espera**	**2.78**	**90**	Pn	**Pn**	**21 26 12.3**	**+2.8**
ESPR				Sn	**Sn**	**21 26 41.9**	**+0.1**
ESPR				*i* lVmb_Lg		21 26 44.4	
PSARD	**Sardoal**	**2.83**	**18**	*eP*	**Pn**	**21 26 11.2**	**+1.0**
PSARD				*eS*	**Sn**	**21 26 41.6**	**-1.4**
PSARD				*i* IAML		21 26 43.7	
PSARD				*i* IAML		21 26 43.9	
PSARD				*i* IAML		21 26 44.1	
PMRV	**Marv??o**	**2.93**	**31**	*eP*	**Pn**	**21 26 12.5**	**+0.9**
PMRV				*eS*	**Sn**	**21 26 43.6**	**-2.0**
PMRV				*i* IAML		21 26 44.9	
PMRV				*i* IAML		21 26 45.2	
PMRV				*i* IAML		21 26 46.0	
PCAS	**Casmilo, Conde**	**3.19**	**11**	*eP*	**Pn**	**21 26 17.3**	**+2.0**
PCAS				*i* IAML		21 26 51.8	
PCAS				*eS*	**Sn**	**21 26 51.9**	**-0.2**
PCAS				*i* IAML		21 26 52.9	
PCAS				*i* IAML		21 26 53.0	
ECAB	**El Cabril**	**3.31**	**68**	Pn	**Pn**	**21 26 18.7**	**+1.9**
ECAB				Sn	**Sn**	**21 26 54.0**	**-1.0**
ECAB	**El Cabril**	**3.31**	**68**	Pn	**Pn**	**21 26 18.7**	**+1.9**
ECAB				Sn	**Sn**	**21 26 52.8**	**-2.2**
ECAB				*i* lVmb_Lg		21 27 47.6	
EADA	**Adamuz**	**3.97**	**70**	Pn	**Pn**	**21 26 27.8**	**+1.9**
EADA				Sn	**Sn**	**21 27 10.1**	**-1.2**
EADA	**Adamuz**	**3.97**	**70**	Pn	**Pn**	**21 26 27.6**	**+1.7**
EADA				Sn	**Sn**	**21 27 09.9**	**-1.4**
EADA				*i* lVmb_Lg		21 27 13.1	
EPLA	**Plasencia**	**4.04**	**38**	Pn	**Pn**	**21 26 28.1**	**+1.2**
EPLA				Sn	**Sn**	**21 27 10.6**	**-2.4**
EPLA				*i* lVmb_Lg		21 27 13.6	
ZHG	**ZHG**	**4.10**	**147**	P	**Pn**	**21 26 28.8**	**+1.0**
ZHG	**ZHG**	**4.10**	**147**	S	**Sn**	**21 27 14.6**	**0.0**
PVRL	**Vila Real**	**4.53**	**15**	*eS*	**Sn**	**21 27 21.9**	**-3.1**
PVRL				*i* IAML		21 27 23.2	
PVRL				*i* IAML		21 27 24.4	
PVRL				*i* IAML		21 27 25.4	
MVO	**Moncorvo**	**4.60**	**22**	*eS*	**Sn**	**21 27 24.6**	**-2.3**
POLO	**Lamas de Olo**	**4.60**	**14**	*eS*	**Sn**	**21 27 23.4**	**-3.6**
POLO				*i* IAML		21 27 25.7	
POLO				*i* IAML		21 27 26.2	
PAB	**San Pablo**	**4.71**	**55**	Pn	**Pn**	**21 26 37.2**	**+1.0**
PAB				Sn	**Sn**	**21 27 26.7**	**-2.9**
PAB				*i* lVmb_Lg		21 27 40.1	
PSIM	**Granatula de C**	**4.79**	**65**	Sn	**Sn**	**21 27 30.3**	**-1.3**
ELOB	**Lobios**	**5.04**	**11**	Pn	**Pn**	**21 26 41.3**	**+0.6**
ELOB				Sn	**Sn**	**21 27 32.2**	**-5.4**
AKLM	**AKL**	**5.05**	**117**	P	**Pn**	**21 26 39.5**	**-1.3**
AKLM	**AKL**	**5.05**	**117**	S	**Sn**	**21 27 34.9**	**-3.0**
EQES	**Quesada**	**5.05**	**78**	Sn	**Sn**	**21 27 36.5**	**-1.6**
PGAV	**Gavieira, Arco**	**5.10**	**9**	*eP*	**Pn**	**21 26 42.7**	**+1.1**
PGAV				*eS*	**Sn**	**21 27 35.3**	**-4.0**
MD31	**MD31**	**5.51**	**136**	P	**Pn**	**21 26 47.4**	**+0.2**
MD31	**MD31**	**5.51**	**136**	S	**Sn**	**21 27 47.2**	**-2.2**
MDT	**Midelt**	**5.64**	**135**	P	**Pn**	**21 26 48.1**	**-0.8**
MDT	**Midelt**	**5.64**	**135**	S	**Sn**	**21 27 50.7**	**-1.8**
TIO	**Tiouine**	**6.22**	**163**	Pn	**Pn**	**21 27 00.1**	**+3.2**
TIO				Sn	**Sn**	**21 28 04.3**	**-2.6**
TIO	**Tiouine**	**6.22**	**163**	P	**Pn**	**21 26 57.8**	**+0.9**
TIO	**Tiouine**	**6.22**	**163**	S	**Sn**	**21 28 05.6**	**-1.2**

*IDC **06** 21:47:53.6±11.0, 6°.08S×130°.59E, h157km±115km, mb3.1/1, mbtmp3.9/5, Error ellipse: s-maj=113.1km s-min=32.0km az=49.0*
*DJA **06** 21:47:54.5±1.3, 5°.5S×94°.4×13°.1E±°, h32km±21km, M4.2/12, mB5.0/1, mb4.2/4, MLv4.1/12, Mw(mB)4.3/1*

ISC 06 21:47:47.5±1.0, 5°.75S±0°.07×130°.89E±0°.07, h150km, n18, σ2°25/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.56**	**321**	P	**Pn**	**21 48 18.4**	**+0.7**
BNDI				S	**Sn**	**21 48 39.9**	**-1.0**
SAUI	**Saumlaki**	**2.26**	**170**	P	Pn	21 48 35.7	+10
MSAI	**Masohi**	**3.08**	**320**	P	**Pn**	**21 48 37.0**	**+1.0**
MSAI				S	**Sn**	**21 49 11.1**	**-2.4**
FAKI	**Fak Fak**	**3.12**	**26**	P	**Pn**	**21 48 36.3**	**-0.1**
AAI	**Ambon**	**3.38**	**307**	P	**Pn**	**21 48 40.6**	**+0.9**
KMPI	**Kaimana, Papua**	**3.48**	**54**	P	**Pn**	**21 48 41.8**	**+0.8**
KMPI				S	**Sn**	**21 49 20.2**	**-2.4**
NLAI	**Namlea**	**4.53**	**303**	P	Pn	21 49 01.0	+6.3
SWI	**Sorong**	**4.86**	**4**	P	**Pn**	**21 48 59.4**	**+0.3**
RKPI	**Ransiki, Papua**	**5.33**	**38**	P	**Pn**	**21 49 06.9**	**+1.5**
SANI	**Sanana**	**6.12**	**307**	P	**Pn**	**21 49 17.7**	**+1.9**
	0.1nm12nm,0.7s						
BAKI	**Biak**	**6.89**	**49**	P	**Pn**	**21 49 30.3**	**+4.1**
	47nm,0.5s						
BATI	**Baumata**	**8.42**	**238**	P	**Pn**	**21 49 48.2**	**+1.6**
	15nm,0.5s,baz=55,slow=4.3,SNR=4.0						
WSI	**Waingapu**	**11.20**	**249**	P	P	21 50 50.2	+19
WBSI	**Waikabubak, Su**	**12.04**	**251**	P	P	21 51 04.5	+24
FITZ	**Fitzroy Crossi**	**13.31**	**202**	P	**Pn**	**21 50 49.5**	**-1.1**
	3.1nm,0.3s,baz=34,slow=12,SNR=28						
FITZ				S	Sn	21 53 06.2	-12
	1.0nm,0.3s,baz=124,slow=16,SNR=2.5						
WRA	**Warramunga Arr**	**14.51**	**167**	P	**Pn**	**21 51 06.8**	**+1.0**
	0.7nm,0.4s,baz=346,slow=13,SNR=9.2						
WRA				S	Sn	21 53 36.5	-10
	1.5nm,0.6s,baz=346,slow=24,SNR=8.9						
ASAR	**Alice Springs**	**18.05**	**171**	P	**Pn**	**21 51 51.6**	**+2.6**
	0.7nm,0.4s,baz=343,slow=9.0,SNR=17						
ASAR				S	**S**	**21 55 02.1**	**-4.6**
	0.6nm,0.6s,baz=347,slow=25,SNR=5.1						
MKAR	**Makanchi Array**	**67.68**	**326**	P	P	21 58 34.5	+6.0
	0.2nm,0.4s,baz=113,slow=7.8,SNR=5.9						
	0.2nm,0.4s						

*IDC **06** 22:10:02.4±1.1, 24°.90N×121°.95E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=54.4km s-min=20.2km az=69.0*
*TAP **06** 22:10:04.5, 25°.01N×122°.28E, h11km, ML3.4, C*
*JMA **06** 22:10:05.3±0.6, 25°.N±2°×122°.3E±0°.6, h0km±4km, MV3.4/9, TAIWAN REGION*

ISC 06 22:10:04.0±1.1, 25°.01N±0°.02×122°.33E±0°.02, h14km±7km, n102, σ0°78/158, mb3.7/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.31**	**271**	*iP*	**Pg**	**22 10 10.5**	**+0.1**
TWB1				*iS*	**Sg**	**22 10 14.6**	**-0.1**
EGS		**0.39**	**246**	*iP*	**Pb**	**22 10 12.4**	**-0.3**
SXI1	**Grass Mountain**	**0.42**	**282**	*iP*	**Pb**	**22 10 13.0**	**-0.2**
SXI1				*iS*	**Sb**	**22 10 19.0**	**-0.4**
TIPB	**Shuangxi**	**0.46**	**266**	*iP*	**Pb**	**22 10 13.6**	**-0.3**
TIPB				*iS*	**Sg**	**22 10 19.6**	**+0.3**
NWF	**Wu-fen Shan**	**0.50**	**278**	*iP*	**Pb**	**22 10 14.6**	**0.0**
NWF				*iS*	**Sb**	**22 10 21.2**	**-0.6**
WFSB	**Wu-fen Shan**	**0.50**	**278**	*iP*	**Pb**	**22 10 14.5**	**0.0**
WFSB				*iS*	**Sb**	**22 10 21.2**	**-0.4**
TNOU	**National Taiwa**	**0.52**	**286**	*iP*	**Pb**	**22 10 14.9**	**0.0**
TNOU				*iS*	**Sb**	**22 10 21.9**	**-0.5**
TWC	**Suao**	**0.59**	**228**	*iP*	**Pg**	**22 10 15.3**	**-0.2**
TWC				*eS*	**Sg**	**22 10 23.1**	**-0.1**
EOS2	**EOS2**	**0.59**	**188**	*iP*	**Pn**	**22 10 16.9**	**-0.9**
ESAO	**Su ao**	**0.61**	**226**	P	**Pb**	**22 10 15.9**	**-0.5**
ESAO				S	**Sg**	**22 10 24.2**	**+0.1**
PCYT	**Pengchaiyu**	**0.66**	**340**	*iP*	**Pn**	**22 10 18.1**	**-0.8**
PCYT				S	**Sn**	**22 10 28.7**	**-0.5**
TWE	**Neicheng**	**0.66**	**245**	*iP*	**Pb**	**22 10 17.2**	**-0.1**
TWE				S	**Sb**	**22 10 26.5**	**+0.1**
TWA	**Mucha**	**0.68**	**268**	P	**Pn**	**22 10 18.2**	**-0.9**
TWA				S	**Sb**	**22 10 28.0**	**+1.2**
YM08	**YM08**	**0.69**	**285**	*iP*	**Pb**	**22 10 18.1**	**+0.2**
YM08				S	**Sb**	**22 10 28.3**	**+1.0**
YM01	**YM01**	**0.70**	**282**	*iP*	**Pn**	**22 10 18.5**	**-1.0**
YM01				*eS*	**Sb**	**22 10 28.6**	**+1.1**
TWY	**Chenhua**	**0.71**	**292**	P	**Pn**	**22 10 18.9**	**-0.7**
TWY				S	**Sb**	**22 10 28.4**	**+0.6**
FUSB	**Fushanzhiwuyua**	**0.71**	**250**	*iP*	**Pb**	**22 10 17.9**	**-0.3**
FUSB				*eS*	**Sb**	**22 10 29.0**	**+1.1**
EOS3	**EOS3**	**0.72**	**181**	*iP*	**Pn**	**22 10 19.1**	**-0.5**
EOS3				S	**Sn**	**22 10 30.2**	**-0.1**
ZUZH	**Zhuzihu**	**0.73**	**283**	P	**Pn**	**22 10 18.9**	**-1.0**
NHDH	**Xindian Distri**	**0.73**	**267**	*eP*	**Pn**	**22 10 19.2**	**-0.6**
NHDH				*eS*	**Sb**	**22 10 29.0**	**+0.7**
TAP	**Taipei**	**0.74**	**273**	*eS*	**Sn**	**22 10 30.1**	**-1.1**
ANP	**Anpu**	**0.75**	**284**	P	**Pn**	**22 10 19.4**	**-0.9**
ANP				*eS*	**Sb**	**22 10 29.8**	**+0.7**
TATO	**Taipei**	**0.76**	**268**	P	**Pn**	**22 10 19.6**	**-0.7**
ENTT	**Nioudou**	**0.78**	**242**	P	**Pb**	**22 10 19.2**	**-0.1**
NWLT	**Wulai**	**0.78**	**253**	P	**Pb**	**22 10 19.5**	**+0.2**
NWLT				*eS*	**Sb**	**22 10 30.1**	**+0.3**
ENA	**Nanau**	**0.78**	**223**	P	**Pb**	**22 10 19.1**	**-0.3**
ENA				S	**Sb**	**22 10 29.8**	**-0.1**
JYNG	**Yonagunijimaku**	**0.79**	**134**	*eP*	**Pn**	**22 10 20.3**	**-0.4**
JYNG				*eS*	**Sn**	**22 10 30.4**	**-1.8**
NTST	**Danshui**	**0.81**	**281**	*eP*	**Pn**	**22 10 21.0**	**0.0**
YOJ	**Yonaguni jima**	**0.82**	**131**	P	**Pn**	**22 10 20.7**	**-0.5**
YOJ	**Yonaguni jima**	**0.82**	**131**	*eP*	**Pn**	**22 10 20.6**	**-0.5**
YOJ	**

STYH	**Taoyuan**	**2.31**	**218**	*eP*	**Pb**	**22 10 43.8**	**-1.7**
STYH				*eS*	**Sb**	**22 11 13.9**	**+0.1**
WTP	**Ta-pu**	**2.35**	**222**	*eP*	**Pb**	**22 10 45.5**	**-0.6**
WTP				*eS*	**Sb**	**22 11 13.9**	**-1.0**
LONT	**Longtian**	**2.36**	**208**	*eP*	**Pn**	**22 10 43.9**	**+1.6**
LONT				*eS*	**Sn**	**22 11 12.7**	**+1.6**
TWK	**Hsinying**	**2.41**	**225**	*eP*	**Pb**	**22 10 46.2**	**-0.9**
TWK				*eS*	**Sb**	**22 11 18.2**	**+1.4**
MATB	**Ma-tsu**	**2.43**	**298**	*eP*	**Pn**	**22 10 42.7**	**-0.6**
XPSS	**Dashiqiu**	**2.71**	**315**	*eP*	**Pn**	**22 10 46.0**	**-1.2**
XPSS				*eS*	**Sn**	**22 11 21.9**	**+2.0**
MASBT	**Mashibuluo**	**2.84**	**213**	*eP*	**Pn**	**22 10 50.6**	**+1.7**
MASBT				*eS*	**Sn**	**22 11 24.4**	**+1.4**
EAST	**Anshuo**	**2.94**	**208**	*eP*	**Pn**	**22 10 52.1**	**+1.8**
AXDP	**Jialang**	**3.96**	**269**	*eP*	**Pn**	**22 11 04.2**	**0.0**
AXDP				*eS*	**Sn**	**22 11 51.4**	**+1.0**
USRK	**Ussuriysk Ar.**	**20.71**	**20**	P	Pn	22 14 46.4	+0.3
	0.9nm,0.7s,baz=197,slow=12,SNR=4.5 0.9nm,0.7s						
MKAR	**Makanchi Array**	**38.49**	**315**	P	**P**	**22 17 24.2**	**-1.4**
	0.9nm,0.9s,baz=96,slow=10,SNR=3.9 0.9nm,0.9s						
ZALV	**Zalesovo Beam**	**40.13**	**326**	P	**P**	**22 17 38.4**	**-0.8**
	0.4nm,0.5s,baz=134,slow=10,SNR=2.2 0.4nm,0.5s						
WRA	**Warramunga Arr**	**46.18**	**164**	P	**P**	**22 18 28.7**	**+0.2**
	1.2nm,0.8s,baz=344,slow=7.7,SNR=6.6 1.2nm,0.8s						
BVAR	**Borovoye Array**	**47.71**	**320**	P	**P**	**22 18 40.0**	**-0.1**
	0.6nm,0.5s,baz=111,slow=7.9,SNR=3.4 0.6nm,0.5s						
ASAR	**Alice Springs**	**49.67**	**166**	P	**P**	**22 18 56.1**	**+0.6**
	0.3nm,0.8s,baz=345,slow=10,SNR=5.4 0.3nm,0.8s						
FINES	**FINESS Array B**	**71.26**	**330**	P	**P**	**22 21 23.4**	**+0.8**
	1.1nm,0.8s,baz=71,slow=6.4,SNR=4.2 1.1nm,0.8s						

IDC ***06*** *22:35:36.9±1.5, 30°.75S×177°.46W, h0km, mb3.9/3, mbtmp3.9/4, ML3.6/1, MS3.5/4, Error ellipse: s-maj=43.0km s-min=20.9km az=85.0*

ISC 06 22:35:40.5±1.5, 30°.75S±0°.08×177°.5W±0°.3, h27km, n9, σ0§94/8, mb3.9/3, MS3.6/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.53**	**347**	Pn	**Pn**	**22 36 05.5**	**-0.6**
	127nm,0.3s,baz=180,slow=20,SNR=4.4						
RAO				Sn	**Sb**	**22 36 27.0**	**-0.3**
	162nm,0.3s,baz=90,slow=20,SNR=2.4						
URZ	**Urewera**	**8.70**	**209**	Pn	**Pn**	**22 37 43.3**	**-1.2**
	0.7nm,0.3s,baz=341,slow=20,SNR=1.3						
URZ				Sn	Sn	22 39 12.7	-8.9
	5.2nm,0.3s,baz=357,slow=17,SNR=11 3.2nm,0.3s						
ASAR	**Alice Springs**	**43.49**	**267**	P	**P**	**22 43 43.0**	**+1.1**
	0.5nm,0.3s,baz=109,slow=8.0,SNR=4.1						
ASAR				LR	LR	23 03 00.3	
	comp=Z,47nm,18.4s,baz=102,slow=38 0.5nm,0.3s						
WRA	**Warramunga Arr**	**44.52**	**272**	P	**P**	**22 43 50.9**	**+0.8**
	1.9nm,0.6s,baz=112,slow=7.6,SNR=9.6						
WRA				LR	LR	23 02 10.1	
	comp=Z,78nm,18.0s,baz=118,slow=36 1.9nm,0.6s						
BATI	**Baumata**	**58.10**	**277**	LR	LR	23 09 55.5	
	comp=Z,49nm,19.6s,baz=92,slow=35						
QSPA	**South Pole Qui**	**59.36**	**180**	P	**P**	**22 45 40.6**	**+0.5**
	0.6nm,0.6s,baz=27,slow=2.3,SNR=5.9 0.6nm,0.6s						
TXAR	**Lajitas Array**	**92.24**	**57**	LR	LR	23 22 50.2	
	comp=Z,21nm,19.3s,baz=266,slow=31						
KURBB	**Kurchatov Arra**	**121.62**	**313**	PKP	**PKPdf**	**22 54 30.9**	**-0.4**
	0.2nm,0.3s,baz=100,slow=2.8,SNR=2.1						
FINES	**FINESS Array B**	**145.61**	**340**	PKPbc	**PKPab**	**22 55 16.8**	**+0.6**
	2.7nm,0.8s,baz=44,slow=4.2,SNR=14						

NIED ***06*** *22:40:27.7, 40°.40N×143°.06E, h6km, MW3.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.85; Mθθ0.25; Mφφ -1.11; Mrθ0.42; Mθφ0.13; Mφr0.35; Fault plane solution: M₀1.15000×10¹⁴ NP1: φs149.00000°, δ42.00000°, λ49.00000°. NP2:φs19.00000°, δ60.00000°, λ121.00000°.*

JMA 06 22:40:27.7±0.3, 40°.4N±0°.6×143°.1E±1°.0, h6km±2km, MV3.5/35, NE OFF IWATE PREF, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.02**	**244**	*i* P	Pg	22 40 47.5	+0.1
JTH				S	Sb	22 41 01.2	-0.3
JKEN	**Kujiedanarisaw**	**1.05**	**260**	P	Pg	22 40 47.5	-0.3
JKEN				*eS*	Sb	22 41 02.2	-0.1
JANG	**Nango**	**1.18**	**269**	*i* P	Pg	22 40 49.7	-0.7
MIYJ	**Miyakonagasawa**	**1.25**	**230**	P	Pg	22 40 51.1	-0.6
JKZ	**Kuzumaki**	**1.39**	**253**	*i* P	Pn	22 40 53.2	-0.5
JKZ				*eS*	Sb	22 41 11.5	-0.6
JTM	**Tenmabayashi**	**1.56**	**285**	P	Pn	22 40 56.3	+0.3
JTM				S	Sn	22 41 16.4	-0.3
JOM	**Ohasama**	**1.64**	**236**	*i* P	Pn	22 40 57.3	+0.2
JOT	**Ohata**	**1.81**	**304**	P	Pn	22 40 59.9	+0.4
JOT				S	Sn	22 41 22.9	+0.1
JAH	**Hinai**	**1.86**	**264**	P	Pn	22 41 00.9	+0.7
JAH				S	Sn	22 41 24.4	+0.3
JNBK	**Urakawa-nobuka**	**1.90**	**353**	*eP*	Pb	22 41 02.1	-0.6
JMK	**Ichinoseki**	**2.02**	**225**	P	Pb	22 41 03.8	-1.1
JMK				*eS*	Sb	22 41 29.2	-1.1
JRG	**Rokugo**	**2.12**	**243**	P	Pb	22 41 05.9	-0.6
JKB	**Kayabe**	**2.13**	**315**	P	Pn	22 41 05.0	+1.1
JKB				S	Sn	22 41 30.2	-0.5

CATAC 06 22:44:48.4±0.5, 15°N±3°×8°5W±°, h1km, M3.9/10, MLv3.9/10, Error ellipse: s-maj=6.2km s-min=4.0km az=16.6, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIUN	**Universidad Ur**	**1.20**	**171**	P	Pg	22 45 08.1	-3.3
SIUN				S	Sg	22 45 23.1	-3.7
BILN	**Bilwi Airport**	**1.75**	**119**	P	Pn	22 45 18.7	-1.2
BILN				S	Sn	22 45 42.6	-0.3
RCPN	**Sur Rio San Ju**	**1.76**	**219**	S	Sn	22 45 40.6	-2.7
RCPN	**Sur Rio San Ju**	**1.76**	**219**	P	Pn	22 45 17.5	-2.6
RCVN	**Varillal2**	**1.78**	**223**	S	Sn	22 45 41.2	-2.6
RCVN	**Varillal2**	**1.78**	**223**	P	Pn	22 45 17.9	-2.6
YUSH	**Yuscaran**	**2.06**	**243**	S	Sn	22 45 50.0	-0.6
YUSH	**Yuscaran**	**2.06**	**243**	P	Pn	22 45 22.2	-2.0
MATN	**Matagalpa**	**2.18**	**206**	S	Sn	22 45 51.1	-2.4
MATN	**Matagalpa**	**2.18**	**206**	P	Pn	22 45 23.2	-2.7
TGUH	**Tegucigalpa,Un**	**2.40**	**250**	P	Pn	22 45 29.9	+0.9
TGUH				S	Sb	22 46 01.9	-0.7
BOAB	**BOACO BROADBAN**	**2.54**	**196**	S	Sn	22 46 02.7	+0.4
BOAB	**BOACO BROADBAN**	**2.54**	**196**	P	Pn	22 45 29.4	-1.3
CHOHN	**Orocuina**	**2.56**	**237**	S	Sb	22 46 05.5	-1.8
CHOHN	**Orocuina**	**2.56**	**237**	P	Pn	22 45 31.5	+0.4
ESPN	**Las Esperanzas**	**2.77**	**167**	S	Sn	22 46 10.5	+2.5
MOM2	**El Cardon**	**2.87**	**211**	S	Sb	22 46 13.4	-2.6
ACON	**Acoyapa**	**2.93**	**184**	P	Pn	22 45 36.0	0.0
ACON	**Acoyapa**	**2.93**	**184**	S	Sn	22 46 13.5	+1.6
CNGN	**Cerro Negro**	**2.93**	**216**	P	Pn	22 46 36.5	+0.4
CNGN	**Cerro Negro**	**2.93**	**216**	S	Sb	22 46 15.4	-2.4
SOCE	**Pocosol**	**4.51**	**176**	P	Pn	22 46 00.5	+2.6

JMA ***06*** *22:55:57.1±0.1, 36°.7N±0°.2×141°.2E±0°.5, h30km, MD4.1/33, MV4.1/33, E OFF IBARAKI PREF*
JMA Felt II J1 at E OFF IBARAKI PREF .
NIED ***06*** *22:55:57.1, 36°.74N×141°.16E, h30km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-0.64; Mθθ-2.33; Mφφ2.98; Mrθ-0.69; Mθφ2.68; Mφr0.90; Fault plane solution: M₀3.96000×10¹⁴ NP1:φs67.00000°, δ73.00000°, λ-8.00000°. NP2:φs159.00000°, δ82.00000°, λ-162.00000°.*
IDC ***06*** *22:55:59.9±1.0, 36°.65N×140°.95E, h0km, mb3.9/10, mbtmp3.8/14, ML3.2/4, MS2.8/3 Error ellipse: s-maj=24.4km s-min=16.5km az=75.0*

ISC 06 22:55:60.0±0.7, 36°.75N±0°.03×141°.01E±0°.06, h10km, n47, σ1§80/35, mb3.9/10, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.38**	**249**	P	**Pb**	**22 56 07.1**	**-1.8**
JHO				*eS*	**Sb**	**22 56 14.3**	**-0.6**
JHO	**Hitachi**	**0.38**	**249**	A	A	22 56 07.1	
	comp=N,13nm,1.1s,comp=E,11nm,0.3s						
ONAJ	**Iwakimizuishiy**	**0.39**	**334**	P	**Pg**	**22 56 06.7**	**-1.0**
ONAJ				*eS*	**Sg**	**22 56 13.8**	**+0.9**
ONAJ	**Iwakimizuishiy**	**0.39**	**334**	A	A	22 56 06.7	
	comp=N,18nm,0.5s,comp=E,27nm,0.4s						
JFFD	**Fukushimafurud**	**0.50**	**313**	P	**Pg**	**22 56 08.8**	**-0.9**
JFFD				*eS*	**Sg**	**22 56 17.1**	**+0.8**
JFFD	**Fukushimafurud**	**0.50**	**313**	A	A	22 56 08.8	
	comp=N,14nm,0.7s,comp=E,9.0nm,0.6s						
JHYU	**Hitachinakayam**	**0.53**	**220**	*eP*	**Pb**	**22 56 09.1**	**-2.3**
JHYU				*eS*	**Sb**	**22 56 18.0**	**-1.1**
JHYU	**Hitachinakayam**	**0.53**	**220**	A	A	22 56 09.1	
	comp=N,50nm,0.3s,comp=E,12nm,0.6s						
JFK	**Kawauchi**	**0.63**	**350**	⇓*eP*	**Pg**	**22 56 09.8**	**-2.3**
JFK				⇓*eS*	**Sg**	**22 56 19.0**	**-1.3**
JFK	**Kawauchi**	**0.63**	**350**	A	A	22 56 09.8	
	comp=N,3.0nm,0.8s,comp=E,8.0nm,1.0s						
JYT	**Yasato**	**0.84**	**232**	*eP*	**Pg**	**22 56 14.0**	**-2.2**
JYT				*eS*	**Sb**	**22 56 26.4**	**-1.6**
JYT	**Yasato**	**0.84**	**232**	A	A	22 56 14.0	
	comp=N,9.0nm,0.4s,comp=E,13nm,0.3s						
JIHU	**Itakohorinouch**	**0.88**	**207**	A	A	22 56 13.9	
	comp=N,22nm,2.0s,comp=E,21nm,0.8s						
JSB	**Shiboa**	**0.90**	**284**	A	A	22 56 15.5	
	comp=N,9.0nm,1.1s,comp=E,13nm,1.6s						
JOTO	**OTAMA OYAMA**	**0.97**	**326**	*eP*	**Pg**	**22 56 16.6**	**-2.1**
JOTO				*eS*	**Sg**	**22 56 30.6**	**-0.8**
JMM	**Marumori**	**1.13**	**351**	⇓P	Pn	22 56 17.5	-4.4
JMM				⇓S	**Sb**	**22 56 32.8**	**-3.5**
JFY	**Yanaizu**	**1.23**	**302**	P	**Pn**	**22 56 21.2**	**-2.1**
JFY				*eS*	**Sb**	**22 56 39.1**	**-0.3**
JYAR	**Yonezawaarcadi**	**1.35**	**329**	A	A	22 56 21.6	
	comp=N,8.0nm,1.0s,comp=E,8.0nm,1.4s						
JOU	**Okura**	**1.64**	**350**	A	A	22 56 25.4	
	comp=N,6.0nm,0.6s,comp=E,7.0nm,1.6s						
JYS	**Shirataka**	**1.65**	**333**	A	A	22 56 26.0	
	comp=N,4.0nm,2.2s,comp=E,4.0nm,0.7s						
JOFO	**Osakifurukawao**	**1.85**	**358**	A	A	22 56 28.1	
	comp=N,14nm,0.9s,comp=E,12nm,2.1s						
MJAR	**Matsushiro Arr**	**2.27**	**266**	Pn	**Pn**	**22 56 36.4**	**-1.1**
	comp=E,4.1nm,0.3s,baz=324,slow=15,SNR=31						
MJAR				Sn	**Sb**	**22 57 07.8**	**-1.2**
	comp=E,7.0nm,0.3s,baz=24,slow=42,SNR=5.5						
MJAR				LR	LR	22 57 37.5	
	comp=E,42nm,19.1s,baz=92,slow=44 comp=E,8.9nm,0.4s						
JHJ	**Hachijo jima 2**	**3.76**	**196**	Pn	**Pn**	**22 56 56.4**	**-1.6**
	comp=E,14nm,0.3s,baz=263,slow=23,SNR=5.0						
JHJ				Sn	**Sn**	**22 57 40.9**	**-1.5**
	comp=E,18nm,0.3s,baz=75,slow=21,SNR=2.0 comp=E,191nm,0.9s						
ASAJ	**Asahikawa**	**7.46**	**9**	Pn	**Pn**	**22 57 45.7**	**-3.1**
	comp=E,0.4nm,0.3s,baz=212,slow=13,SNR=2.0						
ASAJ				Sn	**Sn**	**22 59 11.3**	**-2.1**
	comp=E,0.3nm,0.3s,baz=227,slow=31,SNR=1.3						
USRK	**Ussuriysk Ar.**	**10.12**	**320**	Pn	**Pn**	**22 58 26.8**	**+1.5**
	comp=E,0.1nm,0.3s,baz=131,slow=14,SNR=6.6 comp=E,0.5nm,0.5s						
KSRS	**Korea Array**	**10.48**	**278**	Pn	**Pn**	**22 58 30.8**	**+0.6**
	comp=E,0.1nm,0.3s,baz=95,slow=12,SNR=1.7 comp=E,1.0nm,0.8s						
SONM	**Songino Array**	**27.68**	**305**	P	**P**	**23 01 50.5**	**+2.4**
	comp=E,1.8nm,0.7s,baz=98,slow=8.1,SNR=7.2 comp=E,1.8nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.28**	**120**	T	T	23 31 14.7	
	baz=313,slow=75,SNR=266						
H11N1	**WAKE ISLAND Hy**	**28.29**	**120**	T	T	23 31 15.0	
	baz=313,slow=75,SNR=223						
H11N3	**WAKE ISLAND Hy**	**28.30**	**120**	T	T	23 31 18.9	
	baz=313,slow=75,SNR=298						
H11S1	**WAKE ISLAND Hy**	**28.98**	**122**	T	T	23 32 33.3	
	baz=314,slow=76,SNR=180						
H11S3	**WAKE ISLAND Hy**	**28.98**	**122**	T	T	23 32 28.8	
	baz=314,slow=76,SNR=140						
H11S2	**WAKE ISLAND Hy**	**28.99**	**122**	T	T	23 32 36.5	
	baz=314,slow=76,SNR=149						
CMAR	**Chiang Mai Arr**	**41.11**	**255**	LR	LR	23 20 43.4	
	comp=E,9.0nm,20.8s,baz=65,slow=36						
ZALV	**Zalesovo Beam**	**41.87**	**313**	P	**P**	**23 03 52.0**	**+2.0**
	comp=E,0.9nm,0.4s,baz=74,slow=9.0,SNR=5.1 comp=E,0.9nm,0.4s						
MKAR	**Makanchi Array**	**44.00**	**302**	P	**P**	**23 04 09.4**	**+1.9**
	comp=E,1.4nm,0.8s,baz=90,slow=10,SNR=6.3 comp=E,1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**45.92**	**308**	P	**P**	**23 04 24.3**	**+1.6**
	comp=E,2.9nm,0.6s,baz=83,slow=7.6,SNR=7.7 comp=E,2.9nm,0.6s						
ILAR	**Eielson Array**	**49.91**	**32**	P	**P**	**23 04 55.6**	**+2.3**
	comp=E,0.3nm,0.7s,baz=270,slow=6.8,SNR=2.2 comp=E,0.3nm,0.7s						
BVAR	**Borovoye Array**	**50.53**	**312**	P	**P**	**23 05 00.2**	**+2.0**
	comp=E,0.9nm,0.6s,baz=76,slow=8.8,SNR=4.9 comp=E,0.9nm,0.6s						
WRA	**Warramunga Arr**	**56.74**	**188**	P	**P**	**23 05 44.7**	**+0.7**
	comp=E,0.9nm,0.5s,baz=5.2,slow=7.4,SNR=8.9 comp=E,0.9nm,0.5s						
ASAR	**Alice Springs**	**60.46**	**187**	P	**P**	**23 06 11.7**	**+1.7**
	comp=E,0.5nm,0.6s,baz=9.6,slow=8.4,SNR=7.4 comp=E,0.5nm,0.6s						
OBN	**Obninsk**	**68.13**	**323**	LR	LR	23 38 49.7	
	comp=E,57nm,20.1s,baz=122,slow=38						
FINES	**FINESS Array B**	**68.92**	**332**	P	**P**	**23 07 06.0**	**+1.4**
	comp=E,2.5nm,0.9s,baz=64,slow=9.4,SNR=5.1 comp=E,2.5nm,0.9s						
AKASG	**Malin Array Be**	**74.33**	**322**	P	**P**	**23 07 38.1**	**+0.7**
	comp=E,0.6nm,0.5s,baz=49,slow=6.0,SNR=5.4 comp=E,0.6nm,0.5s						
H03N2	**Juan Fernandez**	**147.31**	**96**	T	T	02 00 37.1	
	baz=291,slow=76,SNR=15						
H03N3	**Juan Fernandez**	**147.32**	**96**	T	T	02 00 37.8	
	baz=291,slow=76,SNR=11						
H03N1	**Juan Fernandez**	**147.33**	**96**	T	T	02 00 29.2	
	baz=291,slow=76,SNR=11						

UCR ***06*** *23:16:49.4±0.9, 8°.29N×82°.97W, h22km±2km, MW3.9*
UPA ***06*** *23:16:50.0±0.8, 8°.35N×82°.94W, h18km±15km, MW3.6, Fault plane solution: NP1:φs98.00000°, δ13.00000°, λ38.00000°.*
CATAC ***06*** *23:16:50.3±0.4, 8°.N±3°×8°.3W±°, h14km±1km, M4.0/13, MLv4.0/13, Error ellipse: s-maj=6.4km s-min=3.3km az=4.3, confirmed*

ISC 06 23:16:50.4±0.9, 8°.36N±0°.03×82°.97W±0°.02, h32km±5km, n131, σ1§26/160, 4C-20D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTPM	**Petroterminale**	**0.17**	**150**	⇑*iP*	**Pb**	**23 16 56.0**	**-0.6**
PTPM				*i* S	**Sb**	**23 17 01.5**	**+0.6**
LPPC	**Paso Canoas**	**0.21**	**36**	*eP*	**Pb**	**23 16 56.1**	**-1.0**
CDITO	**Canoas**	**0.23**	**23**	P	**Pb**	**23 16 56.4**	**-0.9**
CDITO	**Canoas**	**0.23**	**23**	S	**Sb**	**23 17 01.6**	**-0.3**
NELY	**Ciudad Neily**	**0.29**	**4**	*eP*	**Pb**	**23 16 57.0**	**-1.0**
NELY				*eS*	**Sb**	**23 17 02.9**	**-0.2**
FITO	**Golfito**	**0.33**	**325**	*eP*	**Pb**	**23 16 56.7**	**-1.7**
EDAD	**Golfito**	**0.35**	**326**	*eP*	**Pb**	**23 16 57.2**	**-1.7**
EDAD				*eS*	**Sb**	**23 17 03.4**	**-1.2**
PIRO	**Carate, Puerto**	**0.37**	**277**	*eP*	**Pb**	**23 16 57.8**	**-1.2**
PIRO	**Carate, Puerto**	**0.37**	**277**	*eP*	**Pb**	**23 16 57.8**	**-1.2**
PIRO	**Carate, Puerto**	**0.37**	**277**	P	**Pb**	**23 16 57.6**	**-1.4**
PIRO	**Carate, Puerto**	**0.37**	**277**	S	**Sb**	**23 17 04.9**	**0.0**
PTJ1	**Puerto Jimnez**	**0.38**	**298**	*eP*	**Pb**	**23 16 58.4**	**-0.7**
PTJ1	**Puerto Jimnez**	**0.38**	**298**	*eP*	**Pb**	**23 16 58.2**	**-0.9**
PTJ1	**Puerto Jimnez**	**0.38**	**298**	P	**Pb**	**23 16 58.1**	**-1.0**
PTJ1	**Puerto Jimnez**	**0.38**	**298**	S	**Sn**	**23 17 05.7**	**-0.1**
JIME	**Puerto Jimenez**	**0.40**	**297**	*eP*	**Pb**	**23 16 58.2**	**-1.2**
BAGA3	**Bagala, Chiriq**	**0.45**	**76**	⇓*iP*	**Pb**	**23 16 59.8**	**-0.4**
BAGA3				*i* S	**Sb**	**23 17 06.6**	**-0.3**
VITO	**San Vito**	**0.46**	**359**	*eP*	**Pb**	**23 16 60.0**	**-0.5**
RSRNO	**Rio Sereno**	**0.47**	**13**	*eP*	**Pb**	**23 17 00.3**	**-0.3**
RSRNO				*eS*	**Sb**	**23 17 06.9**	**-0.6**
RSRNO	**Rio Sereno**	**0.47**	**13**	*eP*	**Pb**	**23 17 00.3**	**-0.3**
BRU2	**Volcan**	**0.51**	**32**	⇓*iP*	**Pb**	**23 17 00.7**	**-0.6**
BRU2				*eS*	**Sn**	**23 17 09.4**	**0.0**
BRU2	**Volcan**	**0.51**	**32**	⇓*iP*	**Pb**	**23 17 00.7**	**-0.6**
BRU2				*i* S	**Sb**	**23 17 08.2**	**-0.5**
BRU2	**Volcan**	**0.51**	**32**	*eP*	**Pb**	**23 17 00.6**	**-0.6**
BRU2				*eS*	**Sb**	**23 17 09.3**	**+0.5**
BRU2	**Volcan**	**0.51**	**32**	P	**Pb**	**23 17 00.7**	**-0.6**
DVD	**David**	**0.52**	**81**	⇓*iP*	**Pb**	**23 17 00.4**	**-0.8**
DVD				*i* S	**Sb**	**23 17 07.8**	**-0.8**
CLLRA	**Cordillera,**	**0.52**	**42**	⇓*iP*	**Pb**	**23 17 00.9**	**-0.5**
CLLRA				*eS*	**Sn**	**23 17 09.8**	**+0.2**
JEFFS	**S de V. Baru**	**0.53**	**54**	*eP*	**Pb**	**23 17 00.9**	**-0.6**
TBS2		**0.53**	**35**	*eP*	**Pb**	**23 17 01.9**	**+0.3**
PEDE3	**Pedregal, Chir**	**0.54**	**87**	⇓*eP*	**Pb**	**23 17 00.7**	**-0.9**
PEDE3				*i* S	**Sb**	**23 17 08.3**	**-1.0**
LOCO3	**Loma Colorada,**	**0.55**	**84**	*eP*	**Pb**	**23 17 01.1**	**-0.6**
BANCO	**falda S V. Bar**	**0.56**	**50**	*eP*	**Pb**	**23 17 01.4**	**-0.7**
PTAR3	**Potrerillos Ar**	**0.57**	**54**	⇓*eP*	**Pb**	**23 17 01.4**	**-0.8**
PTAR3				*eS*	**Sb**	**23 17 08.9**	**-1.5**
LOMA3	**Las Lomas, Chi**	**0.57**	**83**	⇓*eP*	**Pb**	**23 17 01.2**	**-0.9**
LOMA3				*i* S	**Sb**	**23 17 09.7**	**-0.5**
BC3P	**Paso Ancho**	**0.58**	**38**	⇓*iP*	**Pb**	**23 17 01.5**	**-0.8**
BC3P				*i* S	**Sb**	**23 17 10.6**	**+0.1**
ALCO	**Alturas Coton,**	**0.60**	**12**	*eP*	**Pb**	**23 17 01.8**	**-1.0**
ALCO				*eS*	**Sb**	**23 17 11.1**	**-0.1**
CGUAY	**Guayabal, Coch**	**0.62**	**80**	⇓*iP*	**Pb**	**23 17 01.9**	**-0.9**
CGUAY				*eS*	**Sb**	**23 17 10.4**	**-1.0**
CGUAY	**Guayabal, Coch**	**0.62**	**80**	*eP*	**Pb**	**23 17 01.9**	**-0.9**
CHIR3	**Chiriqui UPA,**	**0.63**	**86**	⇓*iP*	**Pb**	**23 17 01.9**	**-1.2**
BQTLY	**Boquete Panama**	**0.64**	**51**	⇓*iP*	**Pb**	**23 17 02.3**	**-1.1**
BQTLY				*eS*	**Sb**	**23 17 12.2**	**0.0**
BQTLY	**Boquete Panama**	**0.64**	**51**	*eP*	**Pb**	**23 17 02.2**	**-1.1**
BQSF3	**Alto Boquete,**	**0.65**	**54**	⇓*iP*	**Pb**	**23 17 02.4**	**-1.1**
BQSF3				*i* S	**Sb**	**23 17 11.6**	**-0.9**
WILLF	**Boquete**	**0.66**	**53**	*eP*	**Pb**	**23 17 02.4**	**-1.1**
LNBQ3	**Los Naranjos,**	**0.68**	**50**	⇓*iP*	**Pb**	**23 17 03.8**	**-0.1**
LNBQ3				*i* S	**Sn**	**23 17 14.1**	**+0.7**
DAP26	**falda E V. Bar**	**0.69**	**51**	*eP*	**Pb**	**23 17 02.8**	**-1.4**
EDP2	**Potrero Grande**	**0.69**	**342**	*eP*	**Pb**	**23 17 03.3**	**-0.8**
FIMO	**Fila Mora**	**0.74**	**329**	*eP*	**Pb**	**23 17 03.9**	**-1.1**
PANP	**Palmar Norte**	**0.77**	**321**	*eP*	**Pb**	**23 17 04.1**	**-1.3**
BURE	**Buenos Aires**	**0.89**	**336**	*eP*	**Pb**	**23 17 06.2**	**-1.3**
PBNVO	**Pueblo Nuevo,**	**0.93**	**55**	*eP*	**Pb**	**23 17 06.3**	**-1.8**
DRK0	**Durika**	**0.94**	**343**	⇑*iP*	**Pb**	**23 17 06.8**	**-1.6**
DRK0	**Durika**	**0.94**	**343**	*eP*	**Pb**	**23 17 06.8**	**-1.6**
DRK0				*eS*	**Sb**	**23 17 19.9**	**-0.8**
DRK0	**Durika**	**0.94**	**343**	P	**Pb**	**23 17 06.9**	**-1.5**
RBALA	**Bur**	**0.96**	**57**	⇓*iP*	**Pb**	**23 17 07.0**	**-1.5**
RBALA				*eS*	**Sb**	**23 17 19.8**	**-1.1**
RBALA	**Bur**	**0.96**	**57**	*eP*	**Pb**	**23 17 07.0**	**-1.5**
CHGR2	**Aguacate**	**1.00**	**55**	⇓*iP*	**Pb**	**23 17 07.4**	**-1.8**
CHGR2				*i* S	**Sb**	**23 17 20.5**	**-1.6**
EDPE	**Pejibaye, P**	**1.00**	**323**	*eP*	**Pb**	**23 17 07.7**	**-1.5**
OCHAL	**Ojochal**	**1.00**	**318**	P	**Pb**	**23 17 07.5**	**-1.7**
OCHAL	**Ojochal**	**1.00**	**318**	S	**Sn**	**23 17 22.6**	**+1.4**
CNI2	**El Empalme, Bo**	**1.17**	**25**	⇑*iP*	**Pn**	**23 17 10.6**	**+0.1**
CNI2				*i* S	**Sb**	**23 17 25.8**	**-1.1**
KKNTU	**Kakint@**	**1.24**	**67**	⇓*eP*	**Pn**	**23 17 10.9**	**-0.7**
KKNTU				*eS*	**Sb**	**23 17 27.0**	**-2.1**
KKNTU	**Kakint@**	**1.24**	**67**	*eP*	**Pn**	**23 17 10.9**	**-0.7**
CEUA	**Cerro Uatsi, L**	**1.26**	**1**	*eP*	**Pb**	**23 17 13.5**	**-0.1**
LAES	**El Progreso Va**	**1.40**	**357**	*eP*	**Pn**	**23 17 14.6**	**+0.9**
BUS1	**Rivas**	**1.42**	**327**	*eP*	**Pn**	**23 17 14.1**	**-0.3**
VERH	**Veragua Rainfo**	**1.58**	**352**	*eP*	**Pn**	**23 17 16.8**	**+0.6**
LLNJ	**Naranjito**	**1.58**	**315**	*eP*	**Pn**	**23

*SNET **06** 23:22:57.8±0.9, 12°.98N×88°.93W, h49km, MLJ.3.7*
*CATAC **06** 23:22:57.8±0.4, 13°.N±3°.8'.9W±°., h34km±4km, M3.9/24, MLv3.9/24, Error ellipse: s-maj=6.8km s-min=2.4km az=30.6, confirmed*
*GCG **06** 23:22:58.8±1.2, 13°.04N×88°.92W, h52km±33km, MD4.0, ML4.1*

ISC 06 23:22:57.3±1.4, **12°.94N**±0°.07×**88°.93W**±0°.04, **h49**km±21km, **n84**, σ0.972/103, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.69**	**350**	*eP*	**Pn**	**23 22 10.9**	**-0.1**
TECA	**Tecapa**	**0.69**	**37**	*eP*	**Pn**	**23 23 11.5**	**+0.4**
TECA				*eP*	**Pn**	**23 23 11.5**	**+0.4**
TECA				*eS*	**Sn**	**23 23 22.1**	**+1.1**
UESV	**Universidad de**	**0.70**	**12**	*eP*	**Pn**	**23 23 11.5**	**+0.4**
UESV				*eS*	**Sn**	**23 23 22.0**	**+0.8**
UESV	**Universidad de**	**0.70**	**12**	P	**Pn**	**23 23 11.5**	**+0.4**
UESV	**Universidad de**	**0.70**	**12**	S	**Sn**	**23 23 22.2**	**+1.1**
PANCS	**Alcalda de**	**0.71**	**340**	*eP*	**Pn**	**23 23 11.7**	**+0.5**
PANCS	**Alcalda de**	**0.71**	**340**	S	**Sn**	**23 23 20.8**	**-0.4**
LOMA	**Loma Larga**	**0.73**	**342**	*eP*	**Pn**	**23 23 11.7**	**+0.1**
LOMA	**Loma Larga**	**0.73**	**342**	P	**Pn**	**23 23 11.8**	**+0.1**
LOMA	**Loma Larga**	**0.73**	**342**	S	**Sn**	**23 23 22.4**	**+0.4**
PAVA	**Las Pavas**	**0.77**	**360**	*eP*	**Pn**	**23 23 12.3**	**+0.3**
PAVA				*eS*	**Sn**	**23 23 23.0**	**+0.4**
PAVA	**Las Pavas**	**0.77**	**360**	P	**Pn**	**23 23 12.5**	**+0.5**
PQSS	**Presa 15 de Se**	**0.77**	**28**	S	**Sn**	**23 23 23.8**	**+1.2**
LCY	**Lacayo**	**0.79**	**52**	*eP*	**Pn**	**23 23 12.6**	**+0.4**
PACA	**Pacayal**	**0.79**	**49**	*eP*	**Pn**	**23 23 12.6**	**+0.4**
PACA				*eS*	**Sn**	**23 23 24.4**	**+1.1**
PACA	**Pacayal**	**0.79**	**49**	P	**Pn**	**23 23 13.1**	**+0.7**
LBRS	**Las Brisas**	**0.80**	**352**	*eP*	**Pn**	**23 23 12.9**	**+0.5**
UDBS	**Universidad Do**	**0.80**	**344**	*eP*	**Pn**	**23 23 13.2**	**+0.8**
IGN	**Direccin Gen**	**0.80**	**343**	*eP*	**Pn**	**23 23 12.6**	**+0.2**
IGN	**Direccin Gen**	**0.80**	**343**	S	**Sn**	**23 23 24.0**	**+0.6**
IGN	**Direccin Gen**	**0.80**	**343**	P	**Pn**	**23 23 12.8**	**+0.4**
VSM	**San Miguel**	**0.80**	**53**	*eP*	**Pn**	**23 23 13.1**	**+0.4**
UESS	**Universidad de**	**0.82**	**341**	*eP*	**Pn**	**23 23 13.3**	**+0.7**
LFU	**La Fuente**	**0.82**	**348**	*eP*	**Pn**	**23 23 13.1**	**+0.4**
LFU				*eS*	**Sn**	**23 23 24.5**	**+0.6**
UEES	**Universidad Ev**	**0.82**	**339**	*eP*	**Pn**	**23 23 13.7**	**+0.9**
UEES				*eS*	**Sn**	**23 23 24.4**	**+0.4**
UEES	**Universidad Ev**	**0.82**	**339**	P	**Pn**	**23 23 12.8**	**0.0**
BLLM	**Bellamira**	**0.84**	**54**	*eP*	**Pn**	**23 23 13.3**	**+0.4**
PMON	**Piamonte**	**0.85**	**334**	*eP*	**Pn**	**23 23 13.3**	**+0.2**
PMON				*eS*	**Sn**	**23 23 24.9**	**+0.3**
PMON	**Piamonte**	**0.85**	**334**	P	**Pn**	**23 23 13.4**	**+0.3**
BQQS	**Boqueron**	**0.86**	**337**	*eP*	**Pn**	**23 23 13.6**	**+0.3**
PIC2	**El Picacho**	**0.86**	**339**	*eP*	**Pn**	**23 23 13.7**	**+0.4**
JAYA	**Jayaque - finc**	**0.87**	**325**	*eP*	**Pn**	**23 23 13.2**	**-0.2**
JAYA				*eS*	**Sn**	**23 23 25.2**	**+0.1**
JAYA	**Jayaque - finc**	**0.87**	**325**	*i* P	**Pn**	**23 23 13.7**	**+0.3**
JAYA				*i* S	**Sn**	**23 23 25.9**	**+0.8**
JAYA	**Jayaque - finc**	**0.87**	**325**	P	**Pn**	**23 23 13.7**	**+0.3**
CEDA	**San Andres**	**0.97**	**332**	*eP*	**Pn**	**23 23 14.8**	**+0.2**
CEDA				*eS*	**Sn**	**23 23 27.3**	**0.0**
CEDA	**San Andres**	**0.97**	**332**	P	**Pn**	**23 23 14.9**	**+0.3**
LCND	**La Caada**	**1.08**	**70**	*eP*	**Pn**	**23 23 16.5**	**+0.4**
LCND				*eP*		23 23 17.0	
LCND	**La Caada**	**1.08**	**70**	P	**Pn**	**23 23 16.6**	**+0.6**
CAHU	**Cacacuatique**	**1.08**	**40**	*eP*	**Pn**	**23 23 16.7**	**+0.3**
CEVE	**Cerro Verde**	**1.11**	**323**	*eP*	**Pn**	**23 23 17.6**	**+0.9**
CEVE				*eS*	**Sn**	**23 23 32.4**	**+1.4**
CEVE	**Cerro Verde**	**1.11**	**323**	P	**Pn**	**23 23 17.6**	**+0.9**
SBLS	**San Blas**	**1.12**	**323**	*eP*	**Pn**	**23 23 17.7**	**+0.9**
CNCH	**Conchagua**	**1.12**	**73**	*eP*	**Pn**	**23 23 17.0**	**+0.2**
CNCH				*eS*	**Sn**	**23 23 31.8**	**+0.6**
CNCH	**Conchagua**	**1.12**	**73**	P	**Pn**	**23 23 17.2**	**+0.4**
CNCH	**Conchagua**	**1.12**	**73**	S	**Sn**	**23 23 32.5**	**+1.3**
SNJE	**San Jose**	**1.13**	**325**	*eP*	**Pn**	**23 23 17.7**	**+0.7**
SNJE				*eS*	**Sn**	**23 23 32.7**	**+1.2**
RTR	**El Retiro**	**1.18**	**324**	*eP*	**Pn**	**23 23 18.2**	**+0.7**
UNIC	**Universidad Ca**	**1.19**	**330**	*eP*	**Pn**	**23 23 18.3**	**+0.6**
UNIC	**Universidad Ca**	**1.19**	**330**	P	**Pn**	**23 23 18.5**	**+0.8**
UNIC	**Universidad Ca**	**1.19**	**330**	S	**Sn**	**23 23 33.9**	**+1.0**
LLGN	**La Laguna**	**1.21**	**359**	*eP*	**Pn**	**23 23 18.2**	**+0.2**
LLGN	**La Laguna**	**1.21**	**359**	S	**Sn**	**23 23 34.8**	**+1.4**
LLGN	**La Laguna**	**1.21**	**359**	P	**Pn**	**23 23 18.4**	**+0.4**
NUBE	**Las Nubes**	**1.26**	**319**	*eP*	**Pn**	**23 23 19.1**	**+0.4**
NUBE				*eS*	**Sn**	**23 23 35.0**	**+0.4**
NUBE	**Las Nubes**	**1.26**	**319**	*i* P	**Pn**	**23 23 19.1**	**+0.4**
NUBE				*i* S	**Sn**	**23 23 35.1**	**+0.5**
NUBE	**Las Nubes**	**1.26**	**319**	P	**Pn**	**23 23 19.1**	**+0.4**
CSGN	**Cosiguina Volc**	**1.34**	**88**	P	**Pn**	**23 23 20.4**	**+0.7**
CSGN				S	**Sn**	**23 23 36.6**	**+0.2**
POTN	**Potosi Cosigui**	**1.39**	**87**	P	**Pn**	**23 23 21.2**	**+0.8**
POTN				S	**Sn**	**23 23 38.1**	**+0.5**
MARCA	**Marcala la Paz**	**1.49**	**36**	*i* P	**Pn**	**23 23 22.3**	**+0.4**
MARCA	**Marcala la Paz**	**1.49**	**36**	P	**Pn**	**23 23 22.3**	**+0.4**
MTO3	**Montecristo**	**1.51**	**344**	*eP*	**Pn**	**23 23 22.2**	**+0.1**
MTO3	**Montecristo**	**1.51**	**344**	*i* P	**Pn**	**23 23 22.5**	**+0.4**
MTO3	**Montecristo**	**1.51**	**344**	P	**Pn**	**23 23 22.5**	**+0.4**
MTO3	**Montecristo**	**1.51**	**344**	S	**Sn**	**23 23 40.6**	**-0.1**
ESQI	**Esquipulas**	**1.66**	**346**	*eP*	**Pn**	**23 23 24.9**	**+0.8**
ESQI	**Esquipulas**	**1.66**	**346**	P	**Pn**	**23 23 24.9**	**+0.8**
CHOHN	**Orocuina**	**1.81**	**73**	P	**Pn**	**23 23 26.0**	**-0.1**
SARH	**Santa Rosa de**	**1.83**	**5**	*i* P	**Pn**	**23 23 27.5**	**+1.0**
SARH	**Santa Rosa de**	**1.83**	**5**	P	**Pn**	**23 23 27.5**	**+1.0**
CRIN	**San Cristobal**	**1.85**	**97**	P	**Pn**	**23 23 28.4**	**+1.7**
CRIN	**San Cristobal**	**1.85**	**97**	S	**Sn**	**23 23 50.0**	**+1.0**
PKGN	**Cerro Pekin**	**1.93**	**98**	P	**Pn**	**23 23 28.5**	**+0.8**
PKGN				S	**Sn**	**23 23 50.2**	**-0.6**
TGUH	**Tegucigalpa,Un**	**1.96**	**55**	P	**Pn**	**23 23 28.6**	**+0.4**
FG16	**Alotenango, Sa**	**2.02**	**311**	*eP*	Pn	23 23 36.1	+6.9
FG16				IAML		23 24 13.0	
	comp=N,1μm,0.2s						
CNGA	**Al SSO del Vol**	**2.22**	**101**	P	**Pn**	**23 23 32.9**	**+1.1**
CNGA				S	**Sn**	**23 23 57.3**	**-0.8**
CNGN	**Cerro Negro**	**2.22**	**101**	P	**Pn**	**23 23 34.5**	**+2.7**
CNGN	**Cerro Negro**	**2.22**	**101**	S	**Sn**	**23 23 58.7**	**+0.6**
YUSH	**Yuscaran**	**2.27**	**63**	P	**Pn**	**23 23 32.8**	**+0.3**
COPN	**Copaltepe**	**2.41**	**108**	P	**Pn**	**23 23 35.1**	**+0.8**
RCVN	**Varillal2**	**2.74**	**76**	P	**Pn**	**23 23 38.9**	**-0.1**
RCVN	**Varillal2**	**2.74**	**76**	S	**Sn**	**23 24 10.5**	**-0.5**
RCPN	**Sur Rio San Ju**	**2.83**	**78**	P	**Pn**	**23 23 40.9**	**+0.8**
MATN	**Matagalpa**	**2.93**	**90**	P	**Pn**	**23 23 40.6**	**-0.9**
BOAB	**BOACO BROADBAN**	**3.23**	**98**	P	**Pn**	**23 23 45.4**	**-0.1**

*IDC **06** 23:28:22.2±1.2, 0°.06N×130°.92E, h0km, mb4.2/9, mbtmp4.2/9, MS3.2/3, Error ellipse: s-maj=79.9km s-min=16.9km az=69.0*
*NEIC **06** 23:28:24.5±1.1, 0°.02S±0°.10×130°.8E±0°.1, h10km±2km, mb4.7/11, Error ellipse: s-maj=25.0km s-min=8.4km az=52.0*
*DJA **06** 23:28:25.8±0.5, 0°.S±4°×13°.1E±°, h12km±3km, M4.4/12, mb4.5/1, MLv4.4/12*

ISC 06 23:28:24.5±0.6, **0°.11S**±0°.07×**130°.60E**±0°.06, **h10**km, **n41**, σ1§27/36, **mb4.3**/15, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.00**	**138**	P	**Pb**	**23 28 43.5**	**-0.4**
SWI				S	**Sn**	**23 28 57.7**	**-1.0**
FAKI	**Fak Fak**	**3.24**	**149**		**Pn**	**23 29 15.3**	**-0.1**
FAKI	**Fak Fak**	**3.24**	**149**	P	**Pn**	**23 29 15.6**	**+0.2**
FAKI				S	**Sn**	**23 29 53.9**	**-0.2**
TNTI	**Ternate**	**3.34**	**285**	Pn	**Pn**	**23 29 18.4**	**+1.6**
TNTI	**Ternate**	**3.34**	**285**	P	**Pn**	**23 29 17.7**	**+0.8**
MSAI	**Masohi**	**3.62**	**207**	P	**Pn**	**23 29 23.2**	**+2.6**
RKPI	**Ransiki, Papua**	**3.84**	**111**	P	**Pn**	**23 29 25.8**	**+2.1**
AAI	**Ambon**	**4.29**	**214**	P	**Pn**	**23 29 29.7**	**-0.1**
BNDI	**Bandanaira**	**4.43**	**189**	P	**Pn**	**23 29 32.8**	**+1.0**
NLAI	**Namlea**	**4.67**	**228**	P	**Pn**	**23 29 35.1**	**0.0**
KMPI	**Kaimana, Papua**	**4.70**	**139**	P	**Pn**	**23 29 38.4**	**+2.9**
PMG	**Port Moresby**	**18.90**	**120**	LR	LR	23 41 37.7	
	comp=Z,66nm,19.3s,baz=322,slow=42						
WRA	**Warramunga Arr**	**20.05**	**170**	P	**P**	**23 32 58.4**	**+0.5**
	3.0nm,0.7s,baz=349,slow=11,SNR=9.5 3.0nm,0.7s						
ASAR	**Alice Springs**	**23.63**	**172**	P	**P**	**23 33 36.6**	**+0.5**
	5.0nm,0.8s,baz=349,slow=8.9,SNR=7.5						
ASAR				LR	LR	23 44 21.3	
	comp=Z,59nm,21.1s,baz=286,slow=40 5.0nm,0.8s						
CTAO	**Charters Tower**	**25.09**	**143**	P	**P**	**23 33 49.2**	**-0.3**
CTAO				IAmb	IAmb	23 33 51.7	
	comp=Z,4.9nm,0.9s						
GIRL	**Giralia**	**27.48**	**214**	P	**P**	**23 34 12.7**	**+1.6**
GIRL				IAmb	IAmb	23 34 18.8	
	comp=Z,32nm,1.1s						
STKA	**Stephens Creek**	**33.26**	**163**	P	**P**	**23 35 01.9**	**-0.3**
STKA				IAmb	IAmb	23 35 19.7	
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**33.26**	**163**	P	**P**	**23 35 02.0**	**-0.2**
	comp=Z,3.2nm,0.7s,baz=346,slow=6.9,SNR=4.7 comp=Z,3.2nm,0.7s						
LHMI	**Lhok Sumawe**	**34.02**	**279**	P	**P**	**23 35 09.9**	**+1.0**
NWAO	**Narrogin (SRO)**	**34.98**	**200**	P	**P**	**23 35 18.1**	**+1.1**
NWAO				IAmb	IAmb	23 35 29.3	
	comp=Z,12nm,1.1s						
CMAR	**Chiang Mai Arr**	**36.16**	**302**	P	**P**	**23 35 28.2**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=118,slow=6.5,SNR=10 comp=Z,1.2nm,0.3s						
ARMA	**Armidale**	**36.17**	**148**	P	**P**	**23 35 26.6**	**-0.8**
CAN	**Canberra**	**39.01**	**156**	P	**P**	**23 35 47.2**	**-4.2**
CAN				IAmb	IAmb	23 35 50.1	
	comp=Z,13nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**40.65**	**59**	T	T	00 19 07.9	
	baz=245,slow=75,SNR=16						
H11N2	**WAKE ISLAND Hy**	**40.67**	**59**	T	T	00 18 59.9	
	baz=245,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**40.67**	**59**	T	T	00 19 03.2	
	baz=245,slow=75,SNR=18						
SONM	**Songino Array**	**52.19**	**340**	P	**P**	**23 37 34.8**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=132,slow=6.0,SNR=4.1 comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**62.90**	**325**	P	**P**	**23 38 50.7**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=118,slow=7.4,SNR=7.4 comp=Z,2.1nm,0.9s						
ZALV	**Zalesovo Beam**	**65.75**	**332**	P	**P**	**23 39 08.5**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=120,slow=5.6,SNR=7.1 comp=Z,1.6nm,0.7s						
KURK	**Kurchatov**	**67.04**	**327**	P	**P**	**23 39 17.6**	**-0.1**
KURK				IAmb	IAmb	23 39 18.6	
	comp=Z,7.7nm,0.8s						
KURBB	**Kurchatov Arra**	**67.04**	**327**	P	**P**	**23 39 17.5**	**-0.3**
	comp=Z,5.8nm,0.9s,baz=123,slow=6.0,SNR=40 comp=Z,5.8nm,0.9s						
BVAR	**Borovoye Array**	**72.63**	**327**	P	**P**	**23 39 51.8**	**-0.4**
	comp=Z,4.3nm,1.0s,baz=120,slow=6.0,SNR=14 comp=Z,4.3nm,1.0s						
VNDA	**Vanda**	**79.17**	**173**	P	**P**	**23 40 28.7**	**-0.4**
VNDA	**Vanda**	**79.17**	**173**	LR	LR	00 14 40.4	
	comp=Z,19nm,18.1s,baz=158,slow=35						
VNDA	**Vanda**	**79.17**	**173**	P	**P**	**23 40 28.5**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=317,slow=7.0,SNR=5.9						
VNDA	**Vanda**	**79.17**	**173**				
	comp=Z,0.9nm,0.9s						
QSPA	**South Pole Qui**	**89.82**	**180**	P	**P**	**23 41 23.5**	**+0.2**
QSPA				IAmb	IAmb	23 41 27.8	
	comp=Z,2.3nm,1.1s						
QSPA	**South Pole Qui**	**89.82**	**180**	P	**P**	**23 41 24.0**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=72,slow=3.2,SNR=5.5						
QSPA	**South Pole Qui**	**89.82**	**180**				
	comp=Z,1.2nm,0.7s						
CSS	**Mathiatis**	**96.03**	**305**	P	**P**	**23 41 51.8**	**-0.7**
FINES	**FINESS Array B**	**97.02**	**332**	P	**P**	**23 41 55.6**	**-0.8**

*IDC **06** 23:29:30.1±2.9, 6°.76S×128°.08E, h285km±28km, mb3.4/9, mbtmp4.3/13, Error ellipse: s-maj=34.5km s-min=11.1km az=66.0*

ISC 06 23:29:32.1±0.8, **6°.84S**±0°.08×**127°.9E**±0°.1, **h309**km, **n11**, σ1§01/15, **mb3.8**/7, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.39**	**231**	P	**Pn**	**23 30 54.8**	**+0.3**
	111nm,0.3s,baz=74,slow=1.9,SNR=25						
BATI				S	**S**	**23 32 00.3**	**-0.6**
	61nm,0.3s,baz=72,slow=19,SNR=8.4						
FITZ	**Fitzroy Crossi**	**11.41**	**191**	P	**Pn**	**23 32 06.8**	**-0.6**
	7.6nm,0.3s,baz=24,slow=10.0,SNR=43						
FITZ				S	**S**	**23 34 14.8**	**-0.3**
	1.2nm,0.3s,baz=124,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**14.44**	**155**	P	**P**	**23 32 41.4**	**-1.2**
	5.3nm,0.3s,baz=339,slow=12,SNR=36						
WRA				S	**S**	**23 35 22.6**	**+1.7**
	0.9nm,0.6s,baz=337,slow=22,SNR=2.4						
ASAR	**Alice Springs**	**17.69**	**162**	P	**P**	**23 33 18.0**	**-0.1**
	29nm,0.5s,baz=344,slow=11,SNR=617						
ASAR				S	**S**	**23 36 27.8**	**+2.1**
	1.7nm,0.7s,baz=340,slow=18,SNR=4.9						
STKA	**Stephens Creek**	**27.99**	**155**	P	**P**	**23 34 55.0**	**-0.1**
	1.3nm,0.4s,baz=331,slow=9.2,SNR=3.6 1.3nm,0.4s						
SONM	**Songino Array**	**57.66**	**343**	P	**P**	**23 38 51.1**	**+0.2**
	0.5nm,0.4s,baz=158,slow=4.7,SNR=2.9 0.5nm,0.4s						
PETK	**Petropavlovsk-**	**64.83**	**19**	P	**P**	**23 39 37.4**	**-1.0**
	2.7nm,0.8s,baz=210,slow=7.8,SNR=1.7 2.7nm,0.8s						
MKAR	**Makanchi Array**	**66.98**	**328**	P	**P**	**23 39 53.0**	**+0.8**
	1.1nm,0.5s,baz=117,slow=8.1,SNR=18 1.1nm,0.5s						
ZALV	**Zalesovo Beam**	**70.54**	**335**	P	**P**	**23 40 13.8**	**0.0**
	0.8nm,0.5s,baz=126,slow=6.3,SNR=4.2 0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**71.31**	**329**	P	**P**	**23 40 19.3**	**+0.8**
	1.3nm,0.6s,baz=131,slow=5.0,SNR=6.2 1.3nm,0.6s						
BVAR	**Borovoye Array**	**76.84**	**328**	P	**P**	**23 40 50.7**	**+0.4**
	0.5nm,0.5s,baz=134,slow=4.2,SNR=2.1 0.5nm,0.5s						

*NEIC **06** 23:32:28.4, 64°.59N×152°.36W, h12km*
*NEIC **06** 23:32:28.4, 64°.49N×152°.13W, h12km, Moment Tensor Solution. Duration: 0 Moment tensor: Scale 10^15^Nm; Mrr=0.03; Mθθ=1.88; Mϕϕ=1.92; Mrθ=1.59; Mθϕ=-2.71; Mϕr=1.10; Fault plane solution: M0=3.83000×10^15^ NP1: ϕs=290.62000°, δ=68.97000°, λ=-165.35000°. NP2: ϕs=195.26000°, δ=76.35000°, λ=-21.67000°. Principal axes: T 3.3461, Pl=5.0000°, Azm=244.0000°; N 0.8338, Pl=65.0000°, Azm=345.0000°; P -4.1799, Pl=25.0000°, Azm=152.0000°;*
*ANF **06** 23:32:28.8±0.5, 64°.60N×152°.40W, h8km±3km, ML5.0/142 Error ellipse: s-maj=1.5km s-min=1.4km az=99.0*
*NEIC **06** 23:32:28.4, 64°.61N×152°.31W, h6km*
*NEIC **06** 23:32:28.8±1.6, 64°.596N±0°.006×152°.33W±0°.04, h10km±1km, Error ellipse: s-maj=2.9km s-min=2.8km az=251.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr=0.82; Mθθ=0.89; Mϕϕ=1.71; Mrθ=0.93; Mθϕ=-2.62; Mϕr=0.10; Fault plane solution: M0=3.15000×10^15^ NP1: ϕs=285.34000°, δ=81.02000°, λ=-159.29000°. NP2: ϕs=191.96000°, δ=69.55000°, λ=-9.59000°. Principal axes: T 3.4102, Pl=8.0000°, Azm=57.0000°; N -0.6170, Pl=68.0000°, Azm=308.0000°; P -2.7932, Pl=21.0000°, Azm=150.0000°;*
*AEIC **06** 23:32:28.5±1.7, 64°.60N±0°.02×152°.37W±0°.04, h11km±1km, ML4.6, mb4.2/26(NEIC), ML4.7/102(NEIC), Mwr4.3/70(NEIC), Mww4.3/14(NEIC) Error ellipse: s-maj=3.0km s-min=2.5km az=157.0*
*IDC **06** 23:32:29.7±0.6, 64°.85N×152°.33W, h0km, mb4.1/18, mbtmp4.1/23, ML4.3/5, MS3.5/34, Error ellipse: s-maj=12.4km s-min=8.3km az=19.0*

ISC 06 23:32:28.5±1.1, **64°.60N**±0°.02×**152°.35W**±0°.02, **h2**km±7km, **n469**, σ1§22/468, **mb4.3**/31, **MS3.5**/33, **Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I21K	**Tanana**	**0.60**	**15**		**Pg**	**23 32 40.6**	**+0.5**
I21K					**Sg**	**23 32 49.0**	**+1.1**
I21K	**Tanana**	**0.60**	**15**	P	**Pg**	**23 32 40.7**	**+0.7**
	baz=195,SNR=1000						
I21K				S	**Sg**	**23 32 48.7**	**+0.8**
	baz=195						
CHUM	**Lake Minchumin**	**0.72**	**179**		**Pg**	**23 32 42.4**	**0.0**
CHUM					**Sg**	**23 32 51.9**	**+0.3**
CHUM	**Lake Minchumin**	**0.72**	**179**	P	**Pg**	**23 32 42.3**	**0.0**
	baz=358,SNR=1000						
CHUM				S	**Sg**	**23 32 51.8**	**+0.3**
	baz=358						
BPAW	**Bear Paw Mtn.**	**0.78**	**130**		**Pg**	**23 32 43.2**	**-0.2**
BPAW				IAML		23 32 57.3	
	comp=E,41μm,0.5s						
BPAW	**Bear Paw Mtn.**	**0.78**	**130**	P	**Pg**	**23 32 43.2**	**-0.2**
	baz=310,SNR=1000						
MLY	**Manley**	**0.81**	**57**		**Pg**	**23 32 43.9**	**-0.2**
MLY				Sg	**Sg**	**23 32 54.3**	**-0.3**
MLY				IAML		23 32 58.4	
	comp=N,27μm,0.6s						
MLY	**Manley**	**0.81**	**57**	P	**Pg**	**23 32 43.7**	**-0.4**
	baz=238,SNR=1000						
MLY				S	**Sg**	**23 32 55.2**	**+0.6**
	baz=238						
J20K	**Nowinta River**	**0.89**	**242**		**Pg**	**23 32 44.5**	**-1.0**
J20K					**Sg**	**23 32 57.5**	**+0.5**
J20K	**Nowinta River**	**0.89**	**242**	P	**Pg**	**23 32 44.5**	**-1.0**
	baz=61,SNR=1000						
J20K				S	**Sg**	**23 32 57.3**	**+0.3**
	baz=61						
I20K	**Naaghedeneel**	**0.94**	**283**		**Pg**	**23 32 46.5**	**+0.1**
I20K					**Sg**	**23 32 59.1**	**+0.6**
I20K	**Naaghedeneel**	**0.94**	**283**	P	**Pg**	**23 32 46.6**	**+0.3**
	baz=102,SNR=1000						
H21K	**Melozitna Rive**	**1.08**	**350**		**Pg**	**23 32 49.2**	**+0.1**
H21K					**Sg**	**23 33 03.0**	**0.0**
H21K	**Melozitna Rive**	**1.08**	**350**	P	**Pg**	**23 32 49.4**	**+0.3**
	baz=170,SNR=1000						
H21K				S	**Sg**	**23 33 03.1**	**0.0**
	baz=170						
KTH	**Kantishna Hill**	**1.23**	**149**		**Pn**	**23 32 51.6**	**-1.1**
KTH				IAML		23 33 10.0	
	comp=E,10μm,0.8s						
KTH	**Kantishna Hill**	**1.23**	**149**		**Sb**	**23 33 07.7**	**-0.9**
BWN	**Browne**	**1.33**	**108**		**Pb**	**23 32 53.8**	**-0.3**
BWN	**Browne**	**1.33**	**108**		**Sg**	**23 33 11.8**	**+0.7**
H22K	**Ishtalitna Cre**	**1.36**	**17**		**Pn**	**23 32 53.6**	**-0.9**
H22K	**Ishtalitna Cre**	**1.36**	**17**	P	**Pn**	**23 32 53.5**	**-0.9**
	baz=198,SNR=1000						
H22K				S	**Sb**	**23 33 11.0**	**-1.5**
	baz=198						
I23K	**Minto, Yukon-K**	**1.39**	**65**	P	**Pn**	**23 32 53.3**	**-1.5**
	baz=248,SNR=1000						
H20K	**Anotleneega Mo**	**1.40**	**311**		**Pn**	**23 32 54.0**	**-1.0**
H20K	**Anotleneega Mo**	**1.40**	**311**	P	**Pn**	**23 32 54.0**	**-1.0**
	baz=129,SNR=1000						
H20K				S	**Sb**	**23 33 13.4**	**-0.1**
	baz=129						
NEA2	**Nenana**	**1.42**	**89**		**Pn**	**23 32 53.6**	**-1.6**
NEA2				IAML		23 33 14.9	
	comp=N,10μm,0.4s						
NEA2				IAML		23 33 15.0	
	comp=E,10μm,0.3s						
NEA2	**Nenana**	**1.42**	**89**		**Sn**	**23 33 12.9**	**-1.5**
NEA2	**Nenana**	**1.42**	**89**	P	**Pn**	**23 32 53.3**	**-1.9**
	baz=271,SNR=1000						
NEA2				S	**Sn**	**23 33 12.9**	**-1.5**
	baz=271						
K20K	**Telida**	**1.46**	**212**		**Pn**	**23 32 54.0**	**-1.9**
K20K	**Telida**	**1.46**	**212**	P	**Pn**	**23 32 54.2**	**-1.7**
	baz=31,SNR=1000						
K20K				S	**Sn**	**23 33 14.1**	**-1.4**
	baz=31						
TRF	**Thorofare Moun**	**1.47**	**141**		**Pn**	**23 32 55.0**	**-1.1**
TRF				IAML		23 33 17.9	
	comp=N,10μm,0.8s						
TRF				IAML		23 33 19.1	
	comp=E,8μm,1.0s						
TRF	**Thorofare Moun**	**1.47**	**141**	P	**Pn**	**23 32 55.0**	**-1.1**
	baz=322,SNR=1000						
TRF				S	**Sn**	**23 33 13.8**	**-2.2**
	baz=322						
IMAR	**Indian Mountai**	**1.51**	**338**		**Pn**	**23 32 55.4**	**-1.1**
IMAR				Pg	**Pg**	**23 32 57.7**	**+0.3**
IMAR				Sg	**Sg**	**23 33 17.2**	**+0.3**
J19K	**Poorman**	**1.55**	**248**		**Pn**	**23 32 55.5**	**-1.5**
J19K	**Poorman**	**1.55**	**248**	P	**Pn**	**23 32 55.8**	**-1.3**
	baz=66,SNR=1000						
J19K				Sb	**Sb**	**23 33 18.1**	**+0.2**
	baz=66						
H23K	**Yukon River**	**1.71**	**43**	P	**Pn**	**23 32 57.9**	**-1.3**
	baz=225						
H23K				Sb	**Sg**	**23 33 22.8**	**-0.5**
	baz=225						
PPLA	**Purkeypile**	**1.71**	**178**		**Pn**	**23 32 58.3**	**-1.1**
PPLA				Pg	**Pb**	**23 33 01.0**	**+0.2**
PPLA	**Purkeypile**	**1.71**	**178**	P	**Pn**	**23 32 58.4**	**-1.1**
	baz=358,SNR=1000						
PPLA				Sb	**Sb**	**23 33 22.4**	**-0.3**
	baz=358						
MCK	**McKinley**	**1.73**	**119**		**Pn**	**23 32 58.3**	**-1.2**
MCK				Pg	**Pb**	**23 33 00.9**	**-0.1**
MCK	

SKT	Skwentna	2.66	172			Pn	23	33 12.1	-0.2
SKT	Skwentna	2.66	172	P		Pn	23	33 11.8	-0.5
	baz=352,SNR=197								
SKT				Sb		Sb	23	33 50.2	+0.4
	baz=352								
F21K	Alatna River	2.67	351			Pn	23	33 12.2	-0.3
F21K	Alatna River	2.67	351	P		Pn	23	33 12.2	-0.3
	baz=170,SNR=281								
F21K				S		Sn	23	33 44.7	-0.7
	baz=170								
L19K	White Mountain	2.68	206			Pn	23	33 10.8	-1.8
L19K	White Mountain	2.68	206	P		Pn	23	33 10.8	-1.8
	baz=24,SNR=177								
DHY	Denali Highway	2.68	123			Pn	23	33 12.3	-0.4
DHY				IAML			23	33 51.7	
	comp=N,3µm,0.7s								
DHY				IAML			23	33 52.5	
	comp=E,3µm,0.6s								
DHY	Denali Highway	2.68	123	P		Pn	23	33 12.4	-0.4
	baz=307,SNR=227								
DHY				S		Sn	23	33 44.1	-1.7
	baz=307								
M20K	Styx River	2.75	188	P		Pn	23	33 12.5	-1.1
	baz=7.0								
M20K				Sb		Sb	23	33 53.4	+0.9
	baz=7.0								
COLD	Coldfoot	2.78	18			Pn	23	33 13.0	-1.0
COLD	Coldfoot	2.78	18	P		Pn	23	33 12.9	-1.0
	baz=199,SNR=62								
F20K	Avaraart Lake	2.82	332			Pn	23	33 14.3	-0.2
F20K	Avaraart Lake	2.82	332	P		Pn	23	33 14.4	-0.2
	baz=149								
M19K	Big River Lodg	2.86	200	P		Pn	23	33 13.4	-1.6
	baz=18,SNR=272								
M19K				S		Sn	23	33 49.0	-1.0
	baz=18								
WAT6	Susitna Watana	2.89	132	P		Pn	23	33 15.0	-0.7
	baz=316,SNR=783								
WAT6				S		Sn	23	33 49.3	-1.7
	baz=316								
G24K	Hadweenzic Riv	2.92	42			Pn	23	33 14.6	-1.3
G24K	Hadweenzic Riv	2.92	42	P		Pn	23	33 14.6	-1.3
	baz=226,SNR=198								
F22K	John River	2.92	1			Pn	23	33 16.4	+0.5
F22K	John River	2.92	1	P		Pn	23	33 16.0	+0.1
	baz=182								
F22K				Sb		Sb	23	33 58.8	+1.5
	baz=182								
G18K	Tagagawik	2.95	299			Pn	23	33 15.8	-0.5
G18K	Tagagawik	2.95	299	P		Pn	23	33 15.8	-0.5
	baz=114,SNR=50								
G18K				Sb		Sb	23	34 00.1	+1.8
	baz=114								
K24K	Donnelly Dome	2.98	103	P		Pn	23	33 15.1	-1.6
	baz=288,SNR=17								
K24K				Sb		Sb	23	34 00.6	+1.4
	baz=288								
J25K	Salcha River,	3.01	87			Pn	23	33 15.3	-1.9
J25K	Salcha River,	3.01	87	P		Pn	23	33 14.9	-2.2
	baz=273,SNR=99								
J25K				Sb		Sb	23	34 01.1	+1.2
	baz=273								
M22K	Willow	3.03	160	P		Pn	23	33 16.5	-0.8
	baz=341,SNR=12								
M22K				Sb		Sb	23	34 01.9	+1.5
	baz=341								
PRP	Porcupine Dome	3.04	69			Pn	23	33 15.8	-1.8
PRP				IAML			23	34 11.5	
	comp=E,2µm,0.7s								
PRP				IAML			23	34 11.7	
	comp=N,2µm,0.7s								
PRP	Porcupine Dome	3.04	69	P		Pn	23	33 15.9	-1.7
	baz=255,SNR=157								
PRP				Sb		Sb	23	34 02.6	+1.9
	baz=255								
L18K	Granite Mounta	3.08	221	P		Pn	23	33 16.6	-1.6
	baz=37,SNR=770								
L18K				S		Sn	23	33 54.3	-1.2
	baz=37								
STLK	Strandline Lak	3.12	175	IAML			23	34 09.6	
	comp=E,2µm,0.7s								
F19K	Shaleruckik Mo	3.17	317	P		Pn	23	33 18.6	-0.7
	baz=133,SNR=67								
J17K	VABM Dome	3.20	251			Pn	23	33 17.9	-1.7
J17K	VABM Dome	3.20	251	P		Pn	23	33 18.0	-1.7
	baz=65,SNR=120								
H25L	Birch Creek	3.20	56			Pn	23	33 18.2	-1.4
H25L	Birch Creek	3.20	56	P		Pn	23	33 18.2	-1.4
	baz=241,SNR=231								
SUA	Susitna One	3.23	166	Pn		Pn	23	33 19.7	-0.6
SUA				IAML			23	34 12.4	
	comp=E,2µm,0.9s								
SUA				IAML			23	34 15.3	
	comp=N,2µm,1.0s								
SUA	Susitna One	3.23	166	P		Pn	23	33 19.6	-0.6
	baz=348,SNR=97								
GHO	Glory Hole Cre	3.24	150	IAML			23	34 13.0	
	comp=E,2µm,0.7s								
GHO				IAML			23	34 21.7	
	comp=N,2µm,1.1s								
H17K	Granite Mounta	3.26	279	P		Pn	23	33 19.6	-0.8
	baz=93,SNR=53								
K17K	Iditarod	3.26	237			Pn	23	33 18.7	-1.8
K17K	Iditarod	3.26	237	P		Pn	23	33 18.9	-1.6
	baz=52,SNR=231								
PMR	Palmer	3.36	153			Pn	23	33 21.6	-0.3
PMR				IAML			23	34 18.6	
	comp=E,2µm,1.1s								
PMR				IAML			23	34 20.8	
	comp=N,1µm,1.0s								
PMR	Palmer	3.36	153	P		Pn	23	33 21.5	-0.3
PMR	Palmer	3.36	153	P		Pn	23	33 21.6	-0.3
	baz=335,SNR=108								
G25K	Bearman Lake	3.38	47	P		Pn	23	33 20.7	-1.4
	baz=233,SNR=286								
RIDG	Independent Ri	3.40	101			Pn	23	33 20.6	-1.9
RIDG				IAML			23	34 22.4	
	comp=E,2µm,0.9s								
RIDG	Independent Ri	3.40	101	P		Pn	23	33 20.6	-1.9
	baz=288,SNR=32								
SPCR	Spurr Chakacha	3.41	179	P		Pn	23	33 22.7	0.0
	baz=359,SNR=42								
N20K	Mount Spurr	3.42	179	P		Pn	23	33 22.7	0.0
	baz=359								
SPU	Mount Spurr	3.44	178			Pn	23	33 22.6	-0.3
F24K	Squaw Lake	3.45	30			Pn	23	33 22.2	-0.9
F24K	Squaw Lake	3.45	30	P		Pn	23	33 22.2	-0.9
	baz=214,SNR=108								
PAX	Paxson	3.46	115	IAML			23	34 17.4	
	comp=E,2µm,0.8s								
PAX	Paxson	3.46	115	P		Pn	23	33 22.6	-0.8
	baz=301,SNR=150								
E19K	Redstone River	3.49	327			Pn	23	33 23.7	0.0
E19K	Redstone River	3.49	327	P		Pn	23	33 23.7	0.0
	baz=143,SNR=157								
M18K	Stony River	3.50	208			Pn	23	33 22.1	-1.7
M18K	Stony River	3.50	208	P		Pn	23	33 22.1	-1.7
	baz=25,SNR=83								
M23K	Glacier View	3.51	141			Pn	23	33 23.4	-0.6
M23K	Glacier View	3.51	141	P		Pn	23	33 23.1	-0.9
	baz=325,SNR=374								
FYU	Fort Yukon	3.55	53			Pn	23	33 22.6	-2.0
FYU				IAML			23	34 30.9	
	comp=N,1µm,1.1s								
FYU				IAML			23	34 36.2	
	comp=E,2µm,1.0s								
SCM	Sheep Creek Mo	3.59	138	IAML			23	34 29.6	
	comp=E,2µm,1.2s								
SCM				IAML			23	34 34.2	
	comp=N,1µm,1.0s								
SCM	Sheep Creek Mo	3.59	138	P		Pn	23	33 24.4	-0.8
	baz=323,SNR=339								
FIS	Fire Island	3.60	163			Pn	23	33 26.2	+1.0
G17K	Kiwalik Mounta	3.63	288	P		Pn	23	33 24.8	-0.9
	baz=101,SNR=16								
F18K	Selawik	3.63	307	P		Pn	23	33 25.4	-0.2
	baz=120,SNR=23								
E23K	Chandalar	3.64	16	P		Pn	23	33 25.3	-0.6
	baz=199,SNR=83								
L17K	Donlin	3.65	230	P		Pn	23	33 24.4	-1.5
	baz=45,SNR=135								
KNK	Knik Glacier	3.66	149			Pn	23	33 25.8	-0.2
KNK				IAML			23	34 15.2	
	comp=E,2µm,0.5s								
KNK				IAML			23	34 26.4	
	comp=N,1µm,1.0s								
KNK	Knik Glacier	3.66	149	P		Pn	23	33 26.1	0.0
	baz=333,SNR=523								
SCRK	Sand Creek	3.70	96			Pn	23	33 24.7	-2.0
SCRK				IAML			23	34 32.5	
	comp=N,998nm,0.7s								
SCRK				IAML			23	34 33.2	
	comp=E,928nm,0.7s								
SCRK	Sand Creek	3.70	96	P		Pn	23	33 24.4	-2.3
	baz=283,SNR=25								
I17K	Unalakleet	3.71	263			Pn	23	33 25.8	-1.0
I17K	Unalakleet	3.71	263	P		Pn	23	33 25.5	-1.2
	baz=75,SNR=67								
RC01	Rabbit Creek A	3.72	160	Pn		Pn	23	33 26.9	0.0
RC01	Rabbit Creek A	3.72	160	P		Pn	23	33 26.9	0.0
	baz=342,SNR=59								
M24K	Tolsona, Glenn	3.74	129	P		Pn	23	33 27.5	+0.3
	baz=315,SNR=243								
DOT	Dot Lake	3.76	101			Pn	23	33 25.4	-2.0
DOT				IAML			23	34 29.8	
	comp=N,1µm,0.7s								
J26L	Joseph Creek	3.79	88	P		Pn	23	33 25.9	-2.1
	baz=275,SNR=119								
E24K	Your Creek	3.82	22	P		Pn	23	33 27.8	-0.5
	baz=206								
J16K	Anvik River	3.87	254			Pn	23	33 27.2	-1.8
J16K	Anvik River	3.87	254	P		Pn	23	33 27.2	-1.8
	baz=66,SNR=38								
CAPN	Captain Cook N	3.89	171			Pn	23	33 30.8	+1.7
CAPN	Captain Cook N	3.89	171	P		Pn	23	33 30.5	+1.4
	baz=352								
HARP	HAARP	3.91	121			Pn	23	33 30.4	+0.9
HARP	HAARP	3.91	121	P		Pn	23	33 30.4	+0.9
	baz=308,SNR=106								
E21K	Killik River	3.91	351	P		Pn	23	33 29.2	-0.3
	baz=170								
N19K	Bonanza Creek	3.93	195	P		Pn	23	33 28.2	-1.6
	baz=14,SNR=35								
M17K	Holitna River	3.96	218			Pn	23	33 28.6	-1.6
M17K	Holitna River	3.96	218	P		Pn	23	33 28.5	-1.6
	baz=34,SNR=52								
I26K	Coal Creek Min	3.98	76	P		Pn	23	33 28.7	-1.6
	baz=264								
E20K	Nigu River	3.98	339	P		Pn	23	33 31.0	+0.5
	baz=156,SNR=57								
F25K	Christian Rive	4.06	39	P		Pn	23	33 30.3	-1.2
	baz=225,SNR=135								
F17K	Baldwin Pennin	4.14	301	P		Pn	23	33 32.0	-0.5
	baz=113								
MENT	Mentasta	4.18	110			Pn	23	33 32.7	-0.5
PWL	Port Wells	4.18	152	IAML			23	34 44.8	
	comp=E,981nm,0.7s								
PWL	Port Wells	4.18	152	P		Pn	23	33 33.6	+0.3
	baz=336,SNR=402								
RED	Redoubt Volcan	4.20	183			Pn	23	33 33.2	-0.3
RED				IAML			23	34 43.4	
	comp=N,1µm,0.7s								
TOLK	Toolik Lake Re	4.21	14			Pn	23	33 34.5	+0.9
TOLK	Toolik Lake Re	4.21	14	P		Pn	23	33 34.2	+0.6
	baz=197,SNR=22								
SLKM	Skilak Lake	4.22	166			Pn	23	33 34.4	+0.5
SLKM	Skilak Lake	4.22	166	IAML			23	34 40.1	
	comp=E,676nm,1.0s								
G26K	Porcupine Rive	4.24	52	P		Pn	23	33 32.0	-2.0
	baz=240,SNR=132								
BMAR	Burnt Mountain	4.26	45			Pn	23	33 32.7	-1.5
H16K	Elim	4.26	275	P		Pn	23	33 33.6	-0.6
	baz=86,SNR=7.5								
N18K	Kilae Creek	4.26	204	P		Pn	23	33 32.3	-2.0
	baz=21,SNR=20								
KLU	Klutina	4.28	134	IAML			23	34 45.0	
	comp=E,653nm,1.1s								
KLU				IAML			23	34 50.0	
	comp=N,820nm,0.9s								
KLU	Klutina	4.28	134	P		Pn	23	33 34.1	-0.4
	baz=320,SNR=653								
L26K	Log Cabin Wild	4.29	108	P		Pn	23	33 33.6	-1.1
	baz=296,SNR=26								
D22K	Ayikyak River	4.30	358			Pn	23	33 35.4	+0.5
D22K	Ayikyak River	4.30	358	P		Pn	23	33 35.0	+0.2
	baz=178,SNR=26								
O22K	Cooper Landing	4.31	162	P		Pn	23	33 36.3	+1.4
	baz=345,SNR=21								
G16K	Koyuk River	4.32	285	P		Pn	23	33 34.7	-0.4
	baz=96								
L16K	Owhat River	4.34	231	P		Pn	23	33 33.8	-1.5
	baz=45,SNR=218								
E18K	Tukpahlearik C	4.40	314	P		Pn	23	33 36.4	+0.3
	baz=126,SNR=36								
D23K	Nanuhuk River	4.43	8	P		Pn	23	33 37.2	+0.5
	baz=189								
GLI	Glacier Island	4.45	145	IAML			23	35 00.1	
	comp=N,737nm,0.9s								
GLI	Glacier Island	4.45	145	P		Pn	23	33 37.1	+0.2
	baz=329,SNR=180								
D20K	Etivluk River	4.46	340	P		Pn	23	33 37.2	+0.1
	baz=156,SNR=28								
E25K	Arctic Village	4.46	35	P		Pn	23	33 35.6	-1.5
	baz=221,SNR=14								
K27K	Chicken	4.51	93	P		Pn	23	33 36.3	-1.4
	baz=282								
O19K	Port Alsworth	4.52	193	P		Pn	23	33 37.3	-0.5
	baz=11								
D19K	Kuna River	4.54	332	P		Pn	23	33 37.6	-0.5
	baz=147,SNR=23								
O20K	Slope Mountain	4.54	182	P		Pn	23	33 36.8	-1.4
	baz=1.4								
F26K	Sheenjek River	4.55	43	P		Pn	23	33 36.9	-1.5
	baz=231,SNR=168								
DIV	Divide	4.61	136	IAML			23	34 58.2	
	comp=N,617nm,1.1s								
E17K	Hotham Inlet	4.62	307	P		Pn	23	33 38.9	-0.3
	baz=118,SNR=19								
N25K	Chitina, Valde	4.63	127			Pn	23	33 39.9	+0.5
N25K	Chitina, Valde	4.63	127	P		Pn	23	33 40.2	+0.8
	baz=314,SNR=256								
I27K	Kandik River	4.65	73	P		Pn	23	33 38.0	-1.6
	baz=262,SNR=28								
ILSW	Iliamna Southw	4.65	185	IAML			23	35 03.2	
	comp=E,610nm,0.9s								
ILSW				IAML			23	35 03.2	
	comp=N,545nm,1.1s								
N17K	Nushagak Hills	4.66	211			Pn	23	33 38.1	-1.6
N17K	Nushagak Hills	4.66	211	P		Pn	23	33 38.0	-1.8
	baz=27,SNR=22								
C21K	Knifeblade Rid	4.68	349	P		Pn	23	33 40.4	+0.4
	baz=167,SNR=35								
M16K	Timber Creek	4.70	223	P		Pn	23	33 38.2	-2.0
	baz=37,SNR=51								
SEW	Seward	4.71	162			Pn	23	33 41.4	+0.9
SEW	Seward	4.71	162	P		Pn	23	33 40.7	+0.3
	baz=345,SNR=21								
FID	Port Fidalgo	4.72	142	IAML			23	35 07.2	
	comp=N,454nm,1.0s								
FID				IAML			23	35 10.2	
	comp=E,479nm,1.0s								
K15K	Wolf Creek Mou	4.72	245	P		Pn	23	33 38.8	-1.9
	baz=57,SNR=26								
M26K	Nabesna, AK	4.74	114	P		Pn	23	33 40.5	-0.3
	baz=302,SNR=15								
D24K	Happy Valley	4.78	15	P		Pn	23	33 39.7	-1.7
	baz=199								
H27K	Steamboat Moun	4.81	65	P		Pn	23	33 39.6	-2.2
	baz=255,SNR=96								
L27K	Beaver Creek,	4.91	104	P		Pn	23	33 41.1	-2.1
	baz=293								
BCAR	Beaver Creek A	4.92	103			Pn	23	33 41.0	-2.5
BRSE	Bradley Lake S	4.94	170			Pn	23	33 43.9	+0.3
BRSE	Bradley Lake S	4.94	170	P		Pn	23	33 44.3	+0.7
	baz=352,SNR=14								
G27K	Doyon Strip	4.94	59	P		Pn	23	33 41.8	-1.8
	baz=248,SNR=55								
HOM	Homer	4.97	176			Pn	23	33 43.5	-0.5
HOM	Homer	4.97	176	P		Pn	23	33 43.7	-0.3
	baz=356								
P19K	Oil Pt	4.98	185	P		Pn	23	33 45.6	+1.4
	baz=4.3								
G15K	Niukluk	5.01	280	P		Pn	23	33 44.1	-0.5
	baz=89								
HIN	Hinchinbrook I	5.01	145			Pn	23	33 43.9	-0.8
HIN				IAML			23	35 16.6	
	comp=N,490nm,0.9s								
GLB	Gilahina Butte	5.02	125			Pn	23	33 44.8	+0.1
L15K	Ungalak Mounta	5.08	239	P		Pn	23	33 43.6	-1.9
	baz=51,SNR=83								
EYAK	Cordova Ski Ar	5.08	140			Pn	23	33 44.9	-0.6
EYAK	Cordova Ski Ar	5.08	140	P		Pn	23	33 45.5	0.0
EYAK	Cordova Ski Ar	5.08	140	P		Pn	23	33 45.9	+0.4
	baz=326,SNR=51								
BMRM	Bremner River	5.09	132			Pn	23	33 44.9	-0.8
BMRM				IAML			23	35 13.3	
	comp=E,487nm,1.1s								
BMRM	Bremner River	5.09	132	P		Pn	23	33 45.7	0.0
	baz=319,SNR=116								
N16K	Nishlik Lake	5.09	219	P		Pn	23	33 44.3	-1.4
	baz=33,SNR=27								
B21K	Ikpikpuk River	5.12	351	P		Pn	23	33 46.6	+0.6
	baz=169,SNR=15								
CNPM	China Poot	5.12	174			Pn	23	33 45.8	-0.3
CNPM				IAML			23	35 17.8	
	comp=N,377nm,0.9s								
CNPM				IAML			23	35 26.3	
	comp=E,415nm,0.9s								
M27K	Edge Creek, AK	5.21	111	P		Pn	23	33 50.3	+2.9
	baz=300								
D25K	Kavik River	5.29	24	P		Pn	23	33 48.9	+0.5
	baz=209,SNR=15								
C23K	Itkillik River	5.30	7	P		Pn	23	33 48.8	+0.2
	baz=188								
F15K	North Star Dit	5.30	288	P		Pn	23	33 48.9	+0.3
	baz=97								
J14K	Nanvaranak Lak	5.32	255	P		Pn	23	33 47.6	-1.2
	baz=65,SNR=7.6								
O17K	Koliganek Bris	5.33	207	P		Pn	23	33 46.9	-2.0
	baz=23								
I28M	Miner Creek	5.33	75	P		Pn	23	33 47.7	-1.3
	baz=266,SNR=43								
C24K	Franklin Bluff	5.33	14	P		Pn	23	33 49.2	+0.2
	baz=197								
MCARA	McCarthy VSAT	5.34	123			Pn	23	33 47.3	-1.7
MCARA				IAML			23	35 15.7	
	comp=N,453nm,1.0s								
MCARA				IAML			23	35 33.7	
	comp=E,527nm,0.9s								
MCARA	McCarthy VSAT	5.34	123	P		Pn	23	33 49.4	+0.3
	baz=311,SNR=18								
C19K	Lookout Ridge	5.35	331	P		Pn	23	33 48.6	-0.6
	baz=144								
D17K	Noatak River	5.35	310	P		Pn	23	33 49.3	+0.1
	baz=121								
C18K	Utukok River	5.37	323	P		Pn	23	33 49.7	+0.1
	baz=135								
P18K	Big Mountain,	5.40	196	P		Pn	23	33 49.0	-1.0
	baz=13,SNR=8.2								
RDOG	Red Dog Mine	5.48	314			Pn	23	33 50.5	-0.5
RDOG	Red Dog Mine	5.48	314	P		Pn	23	33 48.7	-2.3
	baz=124								
M15K	Kasigluk River	5.49	228	P		Pn	23	33 49.3	-1.8
	baz=41,SNR=26								
RAGM	Ragged Mountai	5.52	136			Pn	23	33 50.6	-1.1
ANM	Nome	5.61	276	P		Pn	23	33 51.3	-1.5
	baz=84								
E27K	Coleen River	5.62	45	P		Pn	23	33 51.0	-1.9
	baz=235,SNR=59								
DAWY	Dawson	5.66	90	P		Pn	23	33 51.8	-1.7
	baz=281,SNR=12								
PTPK	Patty Peak	5.67	123			Pn	23	33 54.8	+1.0
HMT	Hamilton	5.69	135	Pn		Pn	23	33 53.3	-0.6
O16K	Kokwok River B	5.70	211	P		Pn	23	33 51.4	-2.6
	baz=26,SNR=7.2								
N15K	Kwethluk River	5.72	223	P		Pn	23	33 52.0	-2.3
	baz=36,SNR=9.8								
Q19K	Cape Douglas,	5.73	187	P		Pn	23	33 53.3	-1.1
	baz=5.6								
CRQM	Cirque	5.73	128	Pn		Pn	23	33 54.1	-0.5
L14K	Kuka Creek	5.73	240	P		Pn	23	33 52.4	-2.0
	baz=51,SNR=31								
B20K	Meade River	5.74	343	P		Pn	23	33 55.1	+0.6
	baz=159								
CRQE	Cirque	5.75	128	P		Pn	23	33 54.3	-0.6
	baz=316,SNR=5.8								
P17K	Kvichak River	5.76	201	P		Pn	23	33 53.7	-1.1
	baz=18,SNR=9.6								
B22K	Teshekpuk Lake	5.78	356			Pn	23	33 55.0	0.0
B22K	Teshekpuk Lake	5.78	356	P		Pn	23	33 55.7	+0.6
	baz=176,SNR=11								
C17K	DeLong Mountai	5.81	317	P		Pn	23	33 55.7	+0.1
	baz=127								
BALM	Baldy	5.81	123			Pn	23	33 56.1	+0.4
TGL	Tana Glacier	5.84	127			Pn	23	33 55.4	-0.6
NICHA	Nichawak Mount	5.86	135			Pn	23	33 56.7	+0.5
M14K	Bethel	5.87	233	P		Pn	23	33 55.1	-1.2
	baz=45,SNR=60								
KIAG	Kiagna River	5.88	124			Pn	23	33 56.6	-0.1
F28M	Old Crow	5.90	54	P		Pn	23	33 55.5	-1.2
	baz=245,SNR=7.1								
Q23K	Middleton Isla	5.91	149	P		Pn	23	33 57.8	+1.0
	baz=334								
KHIT	Khitrov Hills	5.93	131			Pn	23	33 57.2	0.0
KAIM	Kayak Island	5.97	138			Pn	23	33 56.9	-0.9
KAIM	Kayak Island	5.97	138	P		Pn	23	33 57.0	-0.8
	baz=325,SNR=14								
F14K	Arctic Creek	5.98	285	P		Pn	23	33 57.4	-0.4
	baz=92								
I29M	Ogilvie Camp,	6.01	76	P		Pn	23	33 57.7	-0.6
	baz=269,SNR=17								
Q20K	Shuyak Island	6.01	180	P		Pn	23	33 59.8	+1.5
	baz=0.1,SNR=12								
SYI	Shuyak Island	6.01	180			Pn	23	33 58.9	+0.6
GRIN	Grindle Hills	6.03	132			Pn	23	33 58.9	+0.4
B18K	Kokolik River	6.04	326	P		Pn	23	33 58.8	+0.1
	baz=138								
BARN	Barnard Glacie	6.05	121			Pn	23	33 58.6	-0.4
WAX	Waxell Ridge	6.05	129			Pn	23	33 58.8	-0.1
H29M	Whitestone	6.06	68	P		Pn	23	33 57.0	-1.9
	baz=261,SNR=26								
C27K	Jago River	6.06	30	P		Pn	23	33 58.7	-0.3
	baz=218,SNR=32								
C26K	Camden Bay	6.07	25	P		Pn	23	33 58.7	-0.3
	baz=212								
YUK3	Moose Creek	6.08	112			Pn	23	33 58.0	-1.5
YUK3	Moose Creek	6.08	112	P		Pn	23	33 58.8	-0.7
	baz=303,SNR=6.8								
J29N	Klondike Camp

baz=310,SNR=32
O14K Tigyukauivet M 6.81 222 P **Pn** 23 34 06.9 -2.4
baz=34
I30M Mount Dempster 6.82 78 P **Pn** 23 34 07.6 -1.9
baz=272,SNR=44
KDAK Kodiak Island 6.84 181 **Pn** 23 34 09.6 -0.1
KDAK Kodiak Island 6.84 181 Pn **Pn** 23 34 10.5 +0.9
comp=E,2.3nm,0.3s,baz=33,slow=5.1,SNR=28
KDAK Sn **Sn** 23 35 28.6 +0.6
comp=E,2.7nm,0.3s,baz=36,slow=19,SNR=1.1
KDAK Lg Lg 23 36 03.8
comp=E,0.4nm,0.3s,baz=151,slow=22,SNR=2.0
KDAK LR LR 23 37 11.2
comp=E,246nm,20.0s,baz=6.3,slow=40
comp=E,16nm,0.7s
KDAK Kodiak Island 6.84 181 P **Pn** 23 34 09.4 -0.3
baz=0.8
J30M Hart River 6.89 83 P **Pn** 23 34 09.1 -1.4
baz=277,SNR=19
E29M Blow River 6.91 50 P **Pn** 23 34 08.7 -1.9
baz=243,SNR=73
CHX Chaix Hills 6.93 126 **Pn** 23 34 10.5 -0.5
SAMH Samovar Hills 7.00 125 **Pn** 23 34 12.5 +0.5
G30M tAoh Zraii Nji 7.04 63 P **Pn** 23 34 10.3 -2.2
baz=258,SNR=29
D28M Stokes Point 7.13 42 P **Pn** 23 34 14.8 +1.2
baz=235,SNR=14
R18K Karluk 7.13 189 P **Pn** 23 34 14.0 +0.4
baz=7.3
PCA Pinnacle 7.21 123 **Pn** 23 34 14.2 -0.7
PINM Pinnacle 7.21 123 P **Pn** 23 34 15.9 +1.1
baz=314,SNR=13
M30M Minto, Yukon 7.23 99 P **Pn** 23 34 13.6 -1.4
baz=293,SNR=14
R17L Mt. Peulik Vol 7.26 197 P **Pn** 23 34 12.9 -2.5
baz=14
F30M Barrier River 7.36 58 P **Pn** 23 34 16.4 -0.5
baz=254,SNR=16
YUK6 Outpost Mounta 7.39 113 P **Pn** 23 34 18.5 +1.1
baz=306
OHAK Old Harbor 7.42 184 P **Pn** 23 34 18.0 +0.4
OHAK Old Harbor 7.42 184 P **Pn** 23 34 17.8 +0.3
baz=3.1
BCPM Bancas Point 7.54 122 **Pn** 23 34 19.1 -0.1
N30M Aishikik Lake 7.62 107 P **Pn** 23 34 19.2 -1.2
baz=301
H31M Peel River 7.66 73 P **Pn** 23 34 18.4 -2.6
baz=269,SNR=12
M11K Mekoryuk 7.67 243 P **Pn** 23 34 18.8 -2.2
baz=51
G31M Satah River 7.79 65 P **Pn** 23 34 20.7 -1.9
baz=261,SNR=21
PNL Peninsula 7.82 123 **Pn** 23 34 22.5 -0.6
PNL Peninsula 7.82 123 P **Pn** 23 34 23.1 0.0
PNL Peninsula 7.82 123 P **Pn** 23 34 23.8 +0.7
baz=315,SNR=10
F31M Tsiigehtchic 8.09 61 P **Pn** 23 34 25.8 -0.9
baz=258
SII Sitkinak Islan 8.12 187 P **Pn** 23 34 28.0 +0.8
SII Sitkinak Islan 8.12 187 P **Pn** 23 34 27.3 +0.1
baz=5.6
N31M Braeburn, Yuko 8.14 105 P **Pn** 23 34 26.9 -0.6
baz=300
INK Inuvik 8.38 55 **Pn** 23 34 28.8 -1.9
INK Inuvik 8.38 55 Pn **Pn** 23 34 29.1 -1.6
comp=E,3.6nm,0.3s,baz=249,slow=11,SNR=36
INK Sn **Sn** 23 36 01.1 -4.7
comp=E,4.6nm,0.3s,baz=163,slow=20,SNR=5.1
INK Lg Lg 23 36 51.4
baz=288,slow=24
INK LR LR 23 38 14.1
comp=E,411nm,21.5s,baz=233,slow=42
comp=E,14nm,0.5s
INK Inuvik 8.38 55 P **Pn** 23 34 30.0 -0.8
baz=253,SNR=33
M31M Drury Creek, Y 8.40 98 P **Pn** 23 34 30.5 -0.6
baz=294,SNR=8.1
P30M Million Dollar 8.44 115 P **Pn** 23 34 32.7 +1.0
baz=309
P29M Windy Craggy 8.46 119 P **Pn** 23 34 33.0 +1.1
baz=312,SNR=7.1
GAMB Gambell 8.48 273 P **Pn** 23 34 32.4 +0.3
baz=76
CHGN Chignik 8.84 203 P **Pn** 23 34 37.9 +0.8
baz=17
WHY Whitehorse 8.95 108 Pn **Pn** 23 34 36.6 -2.1
S14K Fog Glacier 9.06 206 P **Pn** 23 34 40.9 +0.7
baz=20
PLBC Pleasant Camp 9.10 117 P **Pn** 23 34 41.4 +0.8
baz=311
N32M Quiet Lake 9.44 103 P **Pn** 23 34 46.0 +0.7
baz=300
SKAG Skagway 9.49 115 P **Pn** 23 34 47.8 +1.7
baz=310
MMPY Sheldon Lake, 9.58 92 Pn **Pn** 23 34 47.0 -0.3
MMPY Sheldon Lake, 9.58 92 P **Pn** 23 34 47.4 +0.1
baz=291
P33M Teslin, Yukon 10.05 107 P **Pn** 23 34 53.9 +0.2
baz=304
P32M Atlin 10.05 111 P **Pn** 23 34 53.5 -0.2
baz=308
SDPT Sand Point 10.12 207 P **Pn** 23 34 56.8 +2.2
SDPT Sand Point 10.12 207 S **Sn** 23 36 47.6 -0.9
S31K Pelican 10.20 123 P **Pn** 23 34 54.0 -1.6
baz=317
BESE Bessie Mountai 10.27 118 Pn **Pn** 23 34 55.1 -1.6
CHNA Chernabura Isl 10.45 204 P **Pn** 23 34 58.8 -0.3
baz=17
R32K Eaglecrest 10.61 118 P **Pn** 23 35 01.5 +0.2
baz=314
Q32M Nakina River 11.03 112 P **Pn** 23 35 07.2 0.0
baz=309
SIT Sitka 11.20 125 Pn **Pn** 23 35 09.2 -0.1
SIT Sitka 11.20 125 P **Pn** 23 35 09.5 +0.2
SIT Sitka 11.20 125 P **Pn** 23 35 09.9 +0.6
baz=319,SNR=6.9
FALS False Pass 11.23 215 P **Pn** 23 35 09.9 +0.1
baz=25
R33M Jennings River 11.29 108 P **Pn** 23 35 11.4 +0.7
baz=306
SPIA Saint Paul Isl 11.42 238 Pn **Pn** 23 35 11.9 -0.5
SPIA Saint Paul Isl 11.42 238 S **Sn** 23 37 24.0 +3.6
SPIA Saint Paul Isl 11.42 238 P Pn 23 35 17.5 +5.1
C36M Paulatuk 11.96 54 P **Pn** 23 35 16.8 -3.0
baz=260,SNR=16
S34M Telegraph Cree 12.17 114 P **Pn** 23 35 22.9 +0.4
baz=312
DLBC Dease Lake 12.27 110 Pn **Pn** 23 35 27.5 +3.5
comp=E,4.8nm,0.3s,baz=301,slow=12,SNR=3.7
DLBC Lg Lg 23 38 46.5
comp=E,4.9nm,0.3s,baz=326,slow=18,SNR=4.8
DLBC LR LR 23 39 53.2
comp=E,1μm,21.1s,baz=322,slow=36
comp=E,7.5nm,0.4s
DLBC Dease Lake 12.27 110 P **Pn** 23 35 26.7 +2.7
baz=310
A36M Sachs Harbour 12.34 42 P **Pn** 23 35 24.7 -0.2
baz=247
AKUT Akutan 12.49 219 Pn **Pn** 23 35 27.0 0.0
LVA Lava Point 12.54 220 Pn **Pn** 23 35 26.6 -1.1
U33K Whale Pass 12.71 123 P **Pn** 23 35 30.6 +0.7
baz=320
WRGLY Wrigley 12.73 83 Pn **Pn** 23 35 30.5 +0.3
WRGLY Wrigley 12.73 83 P **Pn** 23 35 30.6 +0.3
baz=289
WRAK Wrangell Islan 12.76 121 Pn **Pn** 23 35 30.7 0.0
CRAG Craig 13.21 125 P **Pn** 23 35 36.1 -0.7
baz=322
KOTAN Kotaneelee Air 13.80 96 P **Pn** 23 35 45.4 +0.6
baz=301
V35K Ketchikan 13.86 122 P **Pn** 23 35 46.3 +0.7
baz=320
DIB Dawson Inlet, 15.27 129 Pn **Pn** 23 36 03.9 -0.9
DIB IAmb IAmb 23 36 14.8
comp=Z,10nm,0.9s
YKA Yellowknife Ar 16.78 80 Pn **Pn** 23 36 22.8 -1.5
YKA Yellowknife Ar 16.78 80 Pn **Pn** 23 36 23.0 -1.2
comp=Z,0.4nm,0.3s,baz=300,slow=11,SNR=8.2
YKA LR LR 23 43 25.0
comp=Z,274nm,19.3s,baz=258,slow=39
comp=Z,4.5nm,1.0s
BBB Bella Bella 17.62 123 LR LR 23 42 46.3
comp=E,211nm,19.3s,baz=339,slow=35
KIWB Kanaga Island 18.10 237 **P** 23 36 40.5 -0.6
KIWB IAmb IAmb 23 36 57.6
comp=Z,23nm,1.0s
AMKA Amchitka 19.79 241 **P** 23 36 56.9 -2.8

SHEM Shemya Is, Ala 20.81 251 LR LR 23 45 17.2
comp=Z,80nm,18.3s,baz=76,slow=37
LLLB Lillooet 21.22 117 P **P** 23 37 15.1 -0.1
LLLB IAmb IAmb 23 37 24.4
comp=Z,5.2nm,0.6s
OZB Mount Ozzard 21.23 125 P **P** 23 37 16.5 +1.1
RES Resolute Bay 21.34 38 LR LR 23 48 22.0
comp=Z,103nm,19.0s,baz=286,slow=45
BLKN Baker Lake 23.62 65 **P** 23 37 40.6 +0.3
MA2 Magadan 26.29 286 LR LR 23 50 16.1
comp=Z,67nm,20.4s,baz=13,slow=41
PETK Petropavlovsk- 27.49 269 LR LR 23 49 31.6
comp=Z,103nm,19.8s,baz=22,slow=37
TIXI Tiksi 28.07 319 LR LR 23 51 32.3
comp=Z,68nm,19.7s,baz=104,slow=41
YBH Yreka Blue Hor 28.09 129 LR LR 23 47 57.0
comp=Z,5.1nm,21.8s,baz=306,slow=32
HLID Hailey 29.91 116 IAmb IAmb 23 38 45.5
comp=Z,2.5nm,0.8s
ELK Elko 32.02 120 LR LR 23 51 12.2
comp=Z,116nm,18.2s,baz=344,slow=35
ULM Lac du Bonnet 32.36 89 P **P** 23 38 59.5 +0.7
comp=Z,4.2nm,0.8s,baz=336,slow=5.9,SNR=4.1
ULM LR LR 23 51 19.3
comp=Z,53nm,20.4s,baz=341,slow=35
comp=Z,4.2nm,0.8s
PDAR Pinedale Array 32.49 111 P **P** 23 39 01.6 +1.3
PDAR Pinedale Array 32.49 111 P **P** 23 39 02.1 +1.8
comp=Z,1.9nm,0.6s,baz=331,slow=5.8,SNR=12
PDAR LR LR 23 53 33.2
comp=Z,38nm,18.0s,baz=330,slow=39
comp=Z,1.9nm,0.6s
BSUT Blindstream Ca 33.91 115 IAmb IAmb 23 39 21.1
comp=Z,4.7nm,1.1s
FRB Frobisher Bay 34.03 52 LR LR 23 54 50.2
comp=Z,40nm,19.1s,baz=299,slow=40
PSUT Pinning 34.47 120 IAmb IAmb 23 39 31.1
comp=Z,3.6nm,0.8s
CCUT Cedar City 35.51 121 P **P** 23 39 30.3 +3.7
KNB Kanab 36.19 120 P 23 39 37.6 +5.3
KNB IAmb IAmb 23 39 45.7
comp=Z,4.8nm,0.9s
PV22 Blue Mesa, Par 36.40 114 P P 23 39 39.2 +5.0
PV22 IAmb IAmb 23 39 41.9
comp=Z,4.2nm,0.9s
V12A Nelson 36.59 124 P 23 39 41.2 +5.5
V12A IAmb IAmb 23 39 45.4
comp=Z,3.4nm,1.1s
SFJD Kangerlussuaq 37.33 39 LR LR 23 56 03.5
comp=Z,74nm,19.8s,baz=324,slow=38
PFO Pinyon Flats O 37.94 127 LR LR 23 56 52.5
comp=Z,70nm,19.2s,baz=256,slow=38
WUAZ Wupatki 38.05 120 IAmb IAmb 23 40 02.0
comp=Z,5.5nm,0.8s
ANMO Albuquerque 40.44 115 LR LR 23 56 18.2
comp=Z,79nm,20.1s,baz=70,slow=35
SCHQ Schefville 40.94 62 LR LR 23 56 48.3
comp=Z,1μm,20.3s,baz=325,slow=36
Y22A Socorro 41.13 116 P **P** 23 40 16.5 +2.6
Y22A IAmb IAmb 23 40 23.4
comp=Z,3.8nm,0.9s
SADO Sadowa 43.78 80 LR LR 23 59 25.5
comp=Z,1μm,20.6s,baz=345,slow=37
BORG Borgarnes 46.09 27 LR LR 00 01 55.9
comp=Z,31nm,19.4s,baz=264,slow=38
TXAR Lajitas Array 46.50 115 P **P** 23 40 58.1 +1.2
comp=Z,1.0nm,0.6s,baz=330,slow=6.0,SNR=6.9
comp=Z,1.0nm,0.6s
LPIG La Paz 48.77 126 LR LR 00 03 13.6
comp=Z,60nm,18.6s,baz=312,slow=38
TKL Tuckaleechee C 49.31 91 LR LR 00 02 07.2
comp=Z,85nm,20.2s,baz=333,slow=36
SONM Songino Array 52.41 303 P **P** 23 41 41.4 -0.5
comp=Z,0.6nm,0.5s,baz=31,slow=6.1,SNR=4.4
comp=Z,0.6nm,0.5s
ZALV Zalesovo Beam 53.88 322 P **P** 23 41 52.5 +0.1
comp=Z,2.4nm,0.7s,baz=37,slow=8.6,SNR=8.4
comp=Z,2.4nm,0.7s
NOA NORSAR Array B 54.07 10 P **P** 23 41 53.8 0.0
comp=Z,0.5nm,0.6s,baz=353,slow=7.2,SNR=3.7
comp=Z,0.5nm,0.6s
FINES FINESS Array B 54.26 1 P **P** 23 41 54.8 -0.4
comp=Z,1.7nm,0.7s,baz=15,slow=9.8,SNR=6.2
comp=Z,1.7nm,0.7s
HFS Hagfors 55.14 8 P **P** 23 42 00.9 -0.6
comp=Z,2.7nm,0.9s,baz=335,slow=6.5,SNR=2.2
comp=Z,2.7nm,0.9s
KIRV Kirov 56.03 346 LR LR 00 06 37.9
comp=Z,32nm,21.2s,baz=49,slow=37
HHC Hu-ho-hao-te 56.41 295 *eP* **P** 23 42 08.9 -2.2
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,120nm,6.4s
HHC LR LR
comp=N,210nm,15.5s
HHC LR LR
comp=E,350nm,15.7s
HHC LR LR
comp=Z,230nm,15.5s
ARTI Arti 57.07 340 LR LR 00 08 24.0
comp=Z,50nm,18.9s,baz=10,slow=38
EKA Eskdalemuir Ar 58.08 20 P **P** 23 42 22.9 +0.5
comp=Z,2.3nm,0.6s,baz=336,slow=5.5,SNR=14
comp=Z,2.3nm,0.6s
BVAR Borovoye Array 58.15 331 P **P** 23 42 23.7 +0.7
comp=Z,3.2nm,0.7s,baz=45,slow=6.7,SNR=13
BVAR LR LR 00 10 31.5
comp=Z,66nm,20.4s,baz=12,slow=39
comp=Z,3.2nm,0.7s
KURBB Kurchatov Arra 58.52 325 P **P** 23 42 25.6 -0.1
comp=Z,1.2nm,0.8s,baz=24,slow=6.6,SNR=4.6
KURBB LR LR 00 09 49.7
comp=Z,31nm,19.5s,baz=166,slow=38
comp=Z,1.2nm,0.8s
CMIG Matias Romero 60.97 113 LR LR 00 10 46.8
comp=Z,48nm,18.7s,baz=350,slow=38
NJ2 Nanjing 61.04 284 *eP* **P** 23 42 41.7 -1.5
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 61.05 320 P **P** 23 42 42.8 -0.4
comp=Z,1.0nm,0.7s,baz=38,slow=7.4,SNR=5.5
MKAR LR LR 00 13 07.6
comp=Z,30nm,18.5s,baz=14,slow=40
comp=Z,1.0nm,0.7s
WMQ Urumqi 62.18 315 *eP* **P** 23 42 51.7 +0.8
WMQ pmax pmax
comp=Z,32nm,0.9s
LZH Lanzhou 63.53 299 *eP* P 23 43 05.4 +5.3
LZH sP sP 23 43 15.7 +14
LZH pmax pmax
comp=Z,15nm,1.0s
AKASG Malin Array Be 65.03 359 P **P** 23 43 09.6 +0.1
comp=Z,1.4nm,0.5s,baz=3.6,slow=6.3,SNR=10
comp=Z,1.4nm,0.5s
GERES GERESS Array B 66.37 10 P **P** 23 43 18.2 -0.1
comp=Z,0.4nm,0.5s,baz=17,slow=4.9,SNR=5.3
comp=Z,0.4nm,0.5s
AAK Ala-Archa 66.97 324 LR LR 00 14 37.5
comp=Z,34nm,18.3s,baz=31,slow=38
DAVOX Davos/Dischmat 68.09 13 P **P** 23 43 30.1 +0.8
comp=Z,1.4nm,0.5s,baz=5.8,slow=11,SNR=2.7
comp=Z,1.4nm,0.5s
KBZ Khabaz 71.35 348 LR LR 00 17 42.3
comp=Z,28nm,21.0s,baz=44,slow=38
CHGR Chuyangaron 72.04 327 **P** 23 43 55.4 +1.8
SJG San Juan 72.19 85 LR LR 00 16 50.2
comp=Z,50nm,20.0s,baz=326,slow=37
PZH PanZhiHua 72.87 296 **P** 23 43 56.5 -2.2
ESDC Sonseca Array 73.13 25 P **P** 23 44 00.5 +0.4
comp=Z,1.0nm,0.8s,baz=347,slow=5.5,SNR=6.1
comp=Z,1.0nm,0.8s
GNI Garni 74.72 346 LR LR 00 21 32.9
comp=Z,23nm,18.2s,baz=27,slow=40
BRTR Keskin Array B 75.31 355 P **P** 23 44 16.6 +0.3
comp=Z,0.8nm,0.8s,baz=31,slow=7.5,SNR=4.1
comp=Z,0.8nm,0.8s
MDT Midelt 79.66 27 LR LR 00 20 44.2
comp=Z,14nm,20.8s,baz=208,slow=36
PCRV Puerto La Cruz 79.90 88 LR LR 00 21 23.5
comp=Z,41nm,19.1s,slow=37
CMAR Chiang Mai Arr 81.22 295 P **P** 23 44 48.3 +2.6
comp=Z,1.2nm,0.3s,baz=22,slow=5.4,SNR=4.2
comp=Z,1.2nm,0.3s
MDP Montagnes des 89.58 79 LR LR 00 26 03.7
comp=Z,34nm,19.8s,baz=104,slow=36
KAPI Kappang 93.59 266 LR LR 00 28 56.3
comp=Z,11nm,21.0s,baz=52,slow=36
BOSA Boshof 143.97 4 PKP **PKPdf** 23 52 04.2 -0.7
comp=Z,1.9nm,0.7s,baz=33,slow=6.3,SNR=4.1
VNDA Vanda 144.61 196 PKP **PKiKP** 23 52 06.0 -2.1
comp=Z,0.5nm,0.9s,baz=97,slow=2.2,SNR=1.4
QSPA South Pole Qui 154.42 180 PKPbc **PKiKP** 23 52 30.2 +1.5
comp=Z,0.6nm,0.7s,baz=334,slow=5.3,SNR=1.8

IDC ***07*** *00:05:47.4±7.4, 8.°47S×130.°45E, h75km±79km, mb3.7/4, mbtmp3.8/7, ML3.6/3, MS2.8/1, Error ellipse: s-maj=53.1km s-min=43.4km az=32.0*

ISC 07 00:05:44.0±1.3, 8.°31S±0.°09×130.°4E±0.°2, h35km, n7, σ0°80/10, mb3.9/4, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.78**	**205**	P	**Pn**	**00 08 16.7**	**+0.8**
	0.7nm,0.3s,baz=45,slow=12,SNR=14						
FITZ				S	**Sn**	**00 10 14.7**	**-0.8**
	8.3nm,0.8s,baz=107,slow=22,SNR=8.6						
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**12.16**	**162**	P	**Pn**	**00 08 34.9**	**0.0**
	0.3nm,0.3s,baz=341,slow=12,SNR=5.2						
WRA				S	**Sn**	**00 10 49.3**	**-0.1**
	1.3nm,0.5s,baz=346,slow=24,SNR=8.6						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**15.62**	**168**	P	**Pn**	**00 09 22.9**	**+1.1**
	0.1nm,0.3s,baz=345,slow=11,SNR=12						
ASAR				S	**Sn**	**00 12 12.7**	**-1.1**
	0.8nm,0.8s,baz=351,slow=24,SNR=4.4						
ASAR				LR	LR	00 14 37.2	
	comp=Z,43nm,21.6s,baz=98,slow=34						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**69.55**	**327**	P	**P**	**00 16 49.5**	**+0.2**
	2.6nm,0.7s,baz=128,slow=7.4,SNR=14						
	2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**72.94**	**334**	P	**P**	**00 17 09.3**	**-0.3**
	0.3nm,0.3s,baz=114,slow=7.2,SNR=3.6						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**73.84**	**329**	P	**P**	**00 17 14.7**	**-0.4**
	0.4nm,0.4s,baz=124,slow=5.1,SNR=5.8						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**79.39**	**328**	P	**P**	**00 17 45.7**	**-0.7**
	1.3nm,0.8s,baz=104,slow=6.3,SNR=6.0						
	1.3nm,0.8s						

IDC ***07*** *00:09:24.8±0.5, 35.°84N×144.°12E, h0km, mb4.3/24, mbtmp4.3/30, ML4.2/5, MS3.6/44, Error ellipse: s-maj=15.1km s-min=13.9km az=85.0*

NEIC ***07*** *00:09:26.9, 35.°93N×143.°96E, h10km*

NEIC ***07*** *00:09:26.8±1.2, 35.°92N±0.°06×144.°0E±0.°1, h10km±1km, mb4.7/96, Mwr4.4/13, Error ellipse: s-maj=13.8km s-min=10.3km az=101.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=4.72; Mθθ 0.86; Mϕϕ 3.87; Mrθ -1.73; Mθϕ 2.23; Mϕr 0.38; Fault plane solution: Ms 5.21000×10¹⁵ NP1:ϕs 46.02000°, δ50.77000°, λ -65.53000°. NP2:ϕs 190.27000°, δ45.17000°, λ -116.91000°. Principal axes: T 5.0786, Plg3.0000°, Azm119.0000°; N 0.2471, Plg19.0000°, Azm210.0000°; P -5.3257, Plg71.0000°, Azm20.0000°;*

JMA ***07*** *00:09:29.0±0.4, 36.°N±1.°×14.°4E±.°, h67km, MD4.7/34, MW4.6/34, FAR E OFF CENTRAL HONSHU*

NIED ***07*** *00:09:29.0, 36.°01N×143.°82E, h67km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=7.02; Mθθ 1.59; Mϕϕ 5.44; Mrθ 3.85; Mθϕ 2.90; Mϕr 1.62; Fault plane solution: Ms 8.13000×10¹⁵ NP1:ϕs 13.00000°, δ35.00000°, λ -118.00000°. NP2:ϕs 226.00000°, δ60.00000°, λ -72.00000°.*

GCMT ***07*** *00:09:29.8±0.4, 35.°78N±0.°04×143.°85E±0.°04, h16km±1km, MW4.8/82, Moment Tensor Solution. s12,c13; s82,c110; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr -1.10±.12; Mθθ 0.10±.08; Mϕϕ 1.00±.08; Mrθ -0.74±.32; Mθϕ 0.85±.06; Mϕr 0.66±.25; Best double couple: Mo 1.66300×10¹⁶ NP1:ϕs 60.00000°, δ50.00000°, λ -42.00000°. NP2: ϕs 180.00000°, δ59.00000°, λ -132.00000°. Principal axes: T 1.5260, Plg5.0000°, Azm299.0000°; N 0.2700, Plg35.0000°, Azm205.0000°; P -1.8000, Plg55.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***07*** *00:09:36.5, 36.°15N×142.°09E, h36km, mb5.2*

ISC 07 00:09:29.8±0.8, 35.°99N±0.°05×143.°97E±0.°06, h32km±4km, h32km:pP-P, n262, σ1°66/244, mb4.6/89, MS3.7/42, 14C-7D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**2.76**	**278**	*i* P	**Pn**	**00 10 10.4**	**-1.4**
JHYU				*e*S	**Sn**	**00 10 41.0**	**-3.0**
JHYU	**Hitachinakayam**	**2.76**	**278**	A	A	00 10 10.4	
	comp=N,6.0nm,0.7s,comp=E,9.0nm,1.3s						
BSO1	**Boso 1**	**2.79**	**242**	P	**Pn**	**00 10 09.6**	**-2.0**
BSO1				*e*S	**Sn**	**00 10 40.9**	**-2.9**
ONAJ	**Iwakimizuishiy**	**2.79**	**294**	*i* P	**Pn**	**00 10 10.7**	**-1.5**
ONAJ				*e*S	**Sn**	**00 10 41.3**	**-3.5**
JHO	**Hitachi**	**2.82**	**284**	*i* P	**Pn**	**00 10 11.0**	**-1.6**
JHO				S	**Sn**	**00 10 42.2**	**-3.2**
JMM	**Marumori**	**3.16**	**307**		**Pn**	**00 10 16.0**	**-1.3**
JMM				Sn	**Sn**	**00 10 50.2**	**-3.7**
JMM	**Marumori**	**3.16**	**307**	P	**Pn**	**00 10 15.9**	**-1.4**
JMM	**Marumori**	**3.16**	**307**	S	**Sn**	**00 10 50.5**	**-3.4**
JOTO	**OTAMA OYAMA**	**3.32**	**299**	*e*S	**Sn**	**00 10 55.1**	**-2.6**
JSB	**Shiboa**	**3.41**	**288**	A	A	00 10 19.3	
	comp=N,6.0nm,1.8s,comp=E,5.0nm,1.3s						
JOFO	**Osakifurukawao**	**3.57**	**318**	A	A	00 10 21.9	
	comp=N,10.0nm,3.4s,comp=E,15nm,2.4s						
JMK	**Ichinoseki**	**3.68**	**324**	*e*P	**Pn**	**00 10 22.6**	**-1.8**
JMK				*e*S	**Sn**	**00 11 03.3**	**-3.4**
JOD2	**Odawara 2**	**4.04**	**261**	*i* P	**Pn**	**00 10 27.7**	**-1.7**
JOD2				S	**Sn**	**00 11 11.7**	**-4.0**
JRY	**Ryogami san**	**4.11**	**272**	P	**Pn**	**00 10 29.3**	**-1.1**
JHJ2	**Mitsune**	**4.47**	**231**		**Pn**	**00 10 32.8**	**-2.5**
JHJ2				Sn	**Sn**	**00 11 20.8**	**-5.4**
JHJ2	**Mitsune**	**4.47**	**231**	*e*P	**Pn**	**00 10 32.3**	**-3.0**
JHJ2				S	**Sn**	**00 11 20.6**	**-5.6**
JHJ	**Hachijo jima 2**	**4.49**	**232**	Pn	**Pn**	**00 10 33.1**	**-2.4**
	comp=E,114nm,0.3s,baz=61,slow=19,SNR=91						
JHJ				Sn	**Sn**	**00 11 20.6**	**-5.9**
	comp=E,286nm,0.3s,baz=77,slow=23,SNR=14						
	comp=E,408nm,0.2s						
MJAR	**Matsushiro Arr**	**4.69**	**278**	Pn	**Pn**	**00 10 38.3**	**0.0**
	comp=E,2.3nm,0.3s,baz=101,slow=9.1,SNR=111						
MJAR				Sn	**Sn**	**00 11 33.9**	**+2.3**
	comp=E,1.7nm,0.3s,baz=126,slow=14,SNR=5.6						
MJAR				LR	LR	00 12 34.5	
	comp=E,728nm,20.1s,baz=50,slow=39						
	comp=E,37nm,0.6s						
MAJO	**Matsushiro**	**4.69**	**278**		**Pn**	**00 10 38.4**	**+0.1**
MAJO	**Matsushiro**	**4.69**	**278**	P	**Pn**	**00 10 38.5**	**+0.1**
JSD	**Sado**	**5.01**	**296**	P	**Pn**	**00 10 42.5**	**-0.1**
JTM	**Tenmabayashi**	**5.31**	**335**		**Pn**	**00 10 46.1**	**-0.7**
JTM	**Tenmabayashi**	**5.31**	**335**	S	**Sn**	**00 11 42.6**	**-4.2**
JGF	**Kuroka**	**5.39**	**268**		**Pn**	**00 10 48.2**	**+0.2**
JGF	**Kuroka**	**5.39**	**268**	P	**Pn**	**00 10 48.7**	**+0.7**
JGF	**Kuroka**	**5.39**	**268**	S	**Sn**	**00 11 48.6**	**-0.3**
INU	**Inuyama**	**5.70**	**266**		**Pn**	**00 10 52.2**	**+0.1**
INU	**Inuyama**	**5.70**	**266**	P	**Pn**	**00 10 52.6**	**+0.5**
JOT	**Ohata**	**5.85**	**338**	P	**Pn**	**00 10 53.4**	**-0.8**
ERM	**Erimo**	**6.05**	**354**		**Pn**	**00 10 54.4**	**-2.6**
ERM	**Erimo**	**6.05**	**354**	P	**Pn**	**00 10 54.7**	**-2.3**
ERM	**Erimo**	**6.05**	**354**	S	**Sn**	**00 12 01.1**	**-4.0**
JEM	**Erimo**	**6.05**	**354**	P	**Pn**	**00 10 54.7**	**-2.3**
JEM	**Erimo**	**6.05**	**354**	S	**Sn**	**00 12 01.3**	**-3.9**
JIE	**Ise**	**6.16**	**257**	P	**Pn**	**00 10 58.0**	**-0.5**
JCH	**Churui**	**6.64**	**356**	P	**Pn**	**00 11 02.0**	**-3.0**
JCH				*e*S	**Sn**	**00 12 11.9**	**-7.5**
JOSM	**Okushiri--Mats**	**7.02**	**331**	P	**Pn**	**00 11 09.7**	**-0.5**
JTNC	**Tanabenakahech**	**7.20**	**255**	P	**Pn**	**00 11 12.3**	**-0.5**
NEM2	**Nemuro 2**	**7.50**	**10**	*e*P	Pn	00 11 11.9	-4.9
NEM2				*e*S	Sn	00 12 29.9	-11
JTKR	**Abashiri--Toko**	**7.98**	**360**	*e*P	**Pn**	**00 11 19.6**	**-3.7**
JTKR				*e*S	**Sn**	**00 12 44.7**	**-7.7**
JKA	**Kamikawa-asahi**	**8.19**	**353**		**Pn**	**00 11 24.9**	**-1.4**
ASAJ	**Asahikawa**	**8.19**	**353**	Pn	**Pn**	**00 11 25.2**	**-1.1**
	comp=E,9.0nm,0.3s,baz=189,slow=13,SNR=16						
ASAJ				Sn	**Sn**	**00 12 52.9**	**-4.8**
	comp=E,2.9nm,0.3s,baz=97,slow=15,SNR=7.1						
ASAJ				LR	LR	00 15 15.7	
	comp=E,508nm,18.7s,baz=180,slow=42						
	comp=E,16nm,0.3s						

JMN Monobe 8.60 258 Pn **Pn** **00 11 31.5 -0.5**
JHS Saijyo 8.91 267 *e*P **Pn** **00 11 36.5 +0.3**
YSS Yuzhno-Sakhali 11.00 356 Pn **Pn** **00 12 02.3 -2.4**
USRK Ussuriysk Ar. 12.30 315 Pn **Pn** **00 12 24.3 +1.7**
comp=E,0.9nm,0.3s,baz=136,slow=11,SNR=16
USRK LR LR 00 16 45.6
comp=E,283nm,20.2s,baz=140,slow=35
comp=E,3.3nm,0.4s
KSRS Korea Array 12.96 281 Pn **Pn** **00 12 33.2 +1.6**
comp=E,0.3nm,0.3s,baz=102,slow=13,SNR=8.1
comp=E,6.3nm,1.0s
JOW Kunigami 16.20 240 LR LR 00 18 17.6
comp=E,136nm,21.4s,baz=246,slow=33
PETK Petropavlovsk- 19.66 25 P **P** **00 13 56.5 +0.7**
comp=E,6.2nm,1.0s,baz=206,slow=13,SNR=4.2
GUMO Guam 22.32 178 LR LR 00 20 59.8
comp=E,101nm,20.7s,baz=1.0,slow=31
XLT XiLinHaoTe 22.72 299 *e*P **P** **00 14 27.8 -1.2**
XLT sP pP 00 14 35.6 -0.6
XLT pmax pmax
comp=Z,14nm,1.1s
HNS HongShan 23.47 282 ⇑P **P** **00 14 38.8 +2.3**
HNS pmax pmax
comp=Z,17nm,1.0s
MA2 Magadan 24.02 9 LR LR 00 25 17.2
comp=Z,66nm,18.8s,baz=226,slow=39
LYN LuoYang 25.71 276 P **P** **00 14 58.4 +1.3**
LYN pP pP 00 15 02.0 -2.5
LYN pmax pmax
comp=Z,32nm,0.9s
HHC Hu-ho-hao-te 25.76 291 *e*P **P** **00 14 57.7 0.0**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,120nm,8.1s
HHC LR LR
comp=N,240nm,10.6s
HHC LR LR
comp=E,210nm,10.1s
HHC LR LR
comp=Z,240nm,10.8s
H11N2 WAKE ISLAND Hy 25.84 123 T T 00 41 30.9
baz=314,slow=75,SNR=112
H11N1 WAKE ISLAND Hy 25.85 123 T T 00 41 34.3
baz=314,slow=75,SNR=132
H11N3 WAKE ISLAND Hy 25.86 123 T T 00 41 32.3
baz=314,slow=75,SNR=105
H11S1 WAKE ISLAND Hy 26.57 125 T T 00 42 25.1
baz=316,slow=76,SNR=44
H11S3 WAKE ISLAND Hy 26.57 125 T T 00 42 23.3
baz=316,slow=76,SNR=43
H11S2 WAKE ISLAND Hy 26.58 125 T T 00 42 22.2
baz=316,slow=76,SNR=50
SEY Seymchan 27.47 8 LR LR 00 27 26.5
comp=Z,80nm,18.8s,baz=213,slow=39
YAK Yakutsk 27.57 345 LR LR 00 27 50.7
comp=Z,105nm,19.2s,baz=151,slow=40
XAN Xi'an 28.68 276 ⇑P **P** **00 15 25.7 +1.9**
XAN pP pP 00 15 30.9 -0.5
XAN pmax pmax
comp=Z,12nm,1.2s
ULN Ulaanbaatar 29.64 305 **P** **00 15 31.9 -0.4**
SONM Songino Array 30.08 305 **P** **00 15 36.8 +0.6**
SONM Songino Array 30.08 305 P **P** **00 15 38.6 +2.4**
comp=Z,2.9nm,0.8s,baz=114,slow=10,SNR=11
SONM LR LR 00 28 48.1
comp=Z,107nm,18.3s,baz=87,slow=38
comp=Z,2.9nm,0.8s
LZDM Lanzhou Array 32.43 282 P **P** **00 15 59.1 +1.9**
comp=Z,1.1nm,0.3s,baz=106,slow=11,SNR=1.6
LZDM LR LR 00 30 43.2
comp=Z,130nm,18.1s,baz=130,slow=39
comp=Z,1.1nm,0.3s
DAV Davao City (W) 33.35 215 LR LR 00 28 53.1
comp=Z,41nm,19.3s,baz=358,slow=35
GTA Gaotai 34.85 289 *e*P **P** **00 16 19.4 +1.4**
GTA pP pP 00 16 25.0 -0.6
GTA pmax pmax
comp=Z,7.0nm,1.3s
PZH PanZhiHua 37.08 267 P **P** **00 16 37.5 +0.3**
CHTO Chiang Mai 43.07 259 **P** **00 17 27.3 +0.4**
WMQ Urumqi 43.15 298 *e*P **P** **00 17 29.8 +2.5**
WMQ LR LR
comp=N,280nm,13.1s
WMQ LR LR
comp=E,270nm,14.9s
WMQ LR LR
comp=Z,250nm,24.5s
CMAR Chiang Mai Arr 43.27 258 P **P** **00 17 27.6 -0.9**
CMAR Chiang Mai Arr 43.27 258 P **P** **00 17 29.3 +0.8**
comp=Z,0.9nm,0.3s,baz=51,slow=8.2,SNR=4.0
CMAR LR LR 00 37 16.7
comp=Z,44nm,18.0s,baz=70,slow=39
comp=Z,0.9nm,0.3s
ZALV Zalesovo Beam 44.14 313 **P** **00 17 35.5 +0.5**
ZALV Zalesovo Beam 44.14 313 P **P** **00 17 36.3 +1.3**
comp=Z,5.5nm,0.9s,baz=91,slow=7.4,SNR=16
ZALV PcP **PcP** **00 19 19.4 -0.1**
comp=Z,6.8nm,0.8s,baz=94,slow=3.6,SNR=10
ZALV LR LR 00 36 26.3
comp=Z,80nm,20.0s,baz=74,slow=37
comp=Z,5.5nm,0.9s
SBUM Sibu 44.45 229 P **P** **00 17 37.1 -0.8**
PMG Port Moresby 45.25 176 P **P** **00 17 42.1 -2.1**
PMG IAmb IAmb 00 18 00.9
comp=Z,11nm,1.1s
KSM Kuching 46.39 230 P **P** **00 17 54.1 +0.8**
MKAR Makanchi Array 46.42 303 P **P** **00 17 53.8 +0.5**
MKAR Makanchi Array 46.42 303 P **P** **00 17 54.2 +1.0**
comp=Z,1.3nm,0.7s,baz=86,slow=9.3,SNR=5.6
MKAR LR LR 00 37 49.7
comp=Z,87nm,19.9s,baz=75,slow=37
comp=Z,1.3nm,0.7s
IMAR Indian Mountai 46.52 30 P **P** **00 17 54.1 +0.4**
SPU Mount Spurr 46.83 37 **P** **00 17 57.4 +1.1**
SPU IAmb IAmb 00 18 08.6
comp=Z,8.3nm,1.1s
PPLA Purkeypile 46.86 34 P **P** **00 17 57.2 +0.6**
STLK Strandline Lak 46.95 36 P **P** **00 17 58.4 +1.1**
BRDH Bariadhala 47.00 268 LR LR 00 38 14.0
comp=Z,90nm,21.6s,baz=308,slow=37
SKT Skwentna 47.11 36 IAmb IAmb 00 18 00.3
comp=Z,5.3nm,1.0s
SUA Susitna One 47.47 36 P **P** **00 18 01.3 -0.1**
SUA IAmb IAmb 00 18 15.4
comp=Z,6.7nm,0.9s
KTH Kantishna Hill 47.47 33 P **P** **00 18 01.8 +0.5**
KTH IAmb IAmb 00 18 03.3
comp=Z,6.7nm,1.2s
HNR Honiara 47.62 158 LR LR 00 36 10.1
comp=Z,36nm,20.6s,baz=347,slow=34
MLY Manley 47.66 31 **P** **00 18 03.6 +0.9**
MLY IAmb IAmb 00 18 15.3
comp=Z,5.7nm,1.1s
SEW Seward 48.10 38 P **P** **00 18 07.2 +1.1**
BWN Browne 48.15 33 P **P** **00 18 07.8 +1.4**
KURK Kurchatov 48.19 309 **P** **00 18 07.2 +0.2**
KURBB Kurchatov Arra 48.27 309 P **P** **00 18 08.1 +0.6**
comp=Z,8.3nm,0.9s,baz=83,slow=7.9,SNR=53
KURBB LR LR 00 39 32.3
comp=Z,112nm,19.1s,baz=204,slow=37
comp=Z,8.3nm,0.9s
NEA2 Nenana 48.34 32 P **P** **00 18 09.0 +1.1**
NEA2 IAmb IAmb 00 18 20.2
comp=Z,10.0nm,1.1s
GHO Glory Hole Cre 48.34 36 P **P** **00 18 08.9 +0.8**
MCK McKinley 48.37 33 P **P** **00 18 08.4 +0.2**
MCK IAmb IAmb 00 18 11.4
comp=Z,7.6nm,1.2s
RND Reindeer 48.40 34 P **P** **00 18 08.3 -0.1**
RND IAmb IAmb 00 18 19.8
comp=Z,8.1nm,1.0s
EVN Everest 48.55 277 P **P** **00 18 10.0 -0.8**
EVN IAmb IAmb 00 18 23.2
comp=Z,3.8nm,0.6s
KNK Knik Glacier 48.57 36 P **P** **00 18 10.2 +0.5**
KNK IAmb IAmb 00 18 22.5
comp=Z,8.2nm,0.8s
PWL Port Wells 48.64 37 P **P** **00 18 10.8 +0.5**
PWL IAmb IAmb 00 18 21.5
comp=Z,7.9nm,0.8s
MMRI Maumere 48.88 209 P **P** **00 18 11.6 -1.0**
DHY Denali Highway 49.06 34 **P** **00 18 14.5 +0.9**
SCM Sheep Creek Mo 49.10 36 P **P** **00 18 14.7 +0.8**
GLI Glacier Island 49.24 37 P **P** **00 18 15.0 +0.1**
GLI IAmb IAmb 00 18 28.1
comp=Z,5.2nm,0.8s
HDA Harding Lake 49.25 32 P **P** **00 18 14.2 -0.7**
ILAR Eielson Array 49.28 32 **P** **00 18 14.6 -0.5**
ILAR Eielson Array 49.28 32 P **P** **00 18 15.5 +0.3**
comp=Z,0.8nm,0.7s,baz=273,slow=5.8,SNR=9.6
ILAR PcP **PcP** **00 19 36.8 -0.8**
comp=Z,1.1nm,1.0s,baz=274,slow=5.2,SNR=4.0
comp=Z,0.8nm,0.7s
FID Port Fidalgo 49.55 37 P **P** **00 18 17.2 -0.1**
FID IAmb IAmb 00 18 29.7
comp=Z,6.9nm,0.9s
HIN Hinchinbrook I 49.56 38 **P** **00 18 17.2 -0.2**
KLU Klutina 49.78 36 P **P** **00 18 19.8 +0.7**
KLU IAmb IAmb 00 18 32.8
comp=Z,7.6nm,0.9s
PRP Porcupine Dome 49.87 31 P **P** **00 18 20.2 +0.4**
DIV Divide 49.88 37 P **P** **00 18 19.3 -0.5**
DIV IAmb IAmb 00 18 32.0
comp=Z,10nm,0.8s
EYAK Cordova Ski Ar 49.92 37 P **P** **00 18 20.8 +0.7**
EYAK IAmb IAmb 00 18 32.3
comp=Z,8.1nm,1.0s
MTN Manton Dam 50.06 196 **P** **00 18 20.0 -1.6**
BMRM Bremner River 50.45 37 P **P** **00 18 24.6 +0.5**
BMRM IAmb IAmb 00 18 36.4
comp=Z,7.9nm,0.9s
GLB Gilahina Butte 50.80 36 **P** **00 18 28.0 +1.3**
GLB IAmb IAmb 00 18 31.2
comp=Z,8.9nm,1.2s
SUCK Suckling Hills 50.94 38 P **P** **00 18 28.0 +0.2**
SUCK IAmb IAmb 00 18 40.4
comp=Z,10nm,0.8s
BERG Berg Lake 50.95 38 P **P** **00 18 28.2 +0.4**
BERG IAmb IAmb 00 18 31.6
comp=Z,12nm,1.0s
VRDI Verde Repeater 50.99 36 IAmb IAmb 00 18 40.6
comp=Z,7.5nm,1.0s
BCAR Beaver Creek A 51.60 34 **P** **00 18 34.4 +1.7**
GRNC Granite Creek 51.87 37 IAmb IAmb 00 18 47.0
comp=Z,6.3nm,0.7s
BARN Barnard Glacie 51.87 37 P **P** **00 18 35.9 +0.9**
BARN IAmb IAmb 00 18 39.7
comp=Z,4.8nm,0.7s
YAH Yahtse 51.92 37 P **P** **00 18 36.1 +0.8**
YAH IAmb IAmb 00 18 48.0
comp=Z,7.6nm,0.8s
CTGM Chitina Glacie 52.04 37 P **P** **00 18 36.5 +0.3**
PCA Pinnacle 52.69 38 P **P** **00 18 41.5 +0.6**
PCA IAmb IAmb 00 18 54.8
comp=Z,8.1nm,1.0s
KSH Kashi 52.72 296 P **P** **00 18 43.8 +2.3**
KSH pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 52.79 313 P **P** **00 18 42.9 +1.2**
comp=Z,1.1nm,0.5s,baz=72,slow=9.5,SNR=9.1
BVAR PcP **PcP** **00 19 51.4 +0.6**
comp=Z,3.6nm,0.8s,baz=98,slow=4.4,SNR=6.0
BVAR LR LR 00 41 54.2
comp=Z,77nm,20.1s,baz=76,slow=37
comp=Z,1.1nm,0.5s
AAK Ala-Archa 52.80 300 LR LR 00 43 01.5
comp=Z,182nm,18.3s,baz=72,slow=38
SMRI Semarang 53.15 223 P **P** **00 18 43.4 -1.3**
KNRA Kununurra 53.36 198 **P** **00 18 45.3 -0.8**
INK Inuvik 54.38 27 **P** **00 18 53.9 +0.9**
INK IAmb IAmb 00 19 05.3
comp=Z,4.5nm,0.9s
WHY Whitehorse 55.21 36 **P** **00 19 00.1 +0.8**
WHY IAmb IAmb 00 19 01.3
comp=Z,9.3nm,1.1s
SKAG Skagway 55.26 38 P **P** **00 19 00.4 +0.8**
SKAG IAmb IAmb 00 19 04.3
comp=Z,5.0nm,1.0s
KKAR Karatay Array 55.43 301 **P** **00 19 00.6 -0.5**
WRAB Tennant Creek 56.35 191 P **P** **00 19 06.2 -1.6**
WRA Warramunga Arr 56.37 191 **P** **00 19 05.7 -2.2**
WRA Warramunga Arr 56.37 191 P **P** **00 19 06.5 -1.4**
comp=Z,16nm,0.9s,baz=8.5,slow=7.4,SNR=43
WRA LR LR 00 43 33.5
comp=Z,29nm,18.7s,baz=132,slow=36
comp=Z,16nm,0.9s
MMPY Sheldon Lake, 56.43 34 P **P** **00 19 08.2 +0.2**
FITZ Fitzroy Crossi 56.52 201 **P** **00 19 08.1 -0.9**
NIL Nilore 56.90 290 **P** **00 19 11.6 -0.2**
NIL IAmb IAmb 00 19 13.6
comp=Z,9.6nm,1.1s
CHGR Chuyangaron 57.98 297 **P** **00 19 19.3 0.0**
SIMJ Simiganj 58.08 297 **P** **00 19 20.1 -0.1**
SIMJ IAmb IAmb 00 19 21.9
comp=Z,8.4nm,1.1s
WTLY Watson Lake, Y 58.27 36 P **P** **00 19 20.8 -0.2**
ARTI Arti 58.61 319 **P** **00 19 23.7 +0.4**
ARTI Arti 58.61 319 LR LR 00 47 19.3
comp=Z,102nm,18.1s,baz=72,slow=39
KBL Kabul 59.72 293 P **P** **00 19 31.5 -0.1**
KBL IAmb IAmb 00 19 33.3
comp=Z,6.3nm,1.1s
ASAR Alice Springs 60.09 191 P **P** **00 19 32.4 -1.5**
ASAR Alice Springs 60.09 191 P **P** **00 19 32.6 -1.2**
comp=Z,6.0nm,0.9s,baz=13,slow=5.7,SNR=37
ASAR LR LR 00 44 00.9
comp=Z,16nm,21.8s,baz=292,slow=35
comp=Z,6.0nm,0.9s
ABKAR Akbulak array 60.18 311 **P** **00 19 34.3 0.0**
AKTO Aktyubinsk 60.90 313 LR LR 00 46 50.8
comp=Z,58nm,21.3s,baz=178,slow=37
SPITS Spitsbergen Ar 61.94 349 LR LR 00 50 53.5
comp=Z,35nm,18.1s,baz=30,slow=40
KIRV Kirov 62.32 324 LR LR 00 51 19.5
comp=Z,46nm,18.4s,baz=67,slow=40
YKA Yellowknife Ar 63.67 31 P **P** **00 19 57.7 +0.2**
comp=Z,1.6nm,0.8s,baz=300,slow=7.6,SNR=5.1
comp=Z,1.6nm,0.8s
PALK Pallekele 64.18 260 LR LR 00 51 20.8
comp=Z,24nm,19.2s,baz=36,slow=39
ARCES ARCESS Array B 65.69 340 LR LR 00 53 22.4
comp=Z,44nm,19.4s,baz=26,slow=40
STKA Stephens Creek 67.54 182 P **P** **00 20 21.8 -1.0**
comp=Z,5.2nm,0.9s,baz=320,slow=9.9,SNR=5.9
STKA LR LR 00 50 24.2
comp=Z,26nm,20.1s,baz=35,slow=36
comp=Z,5.2nm,0.9s
H04A Detroit Lake 68.21 50 P **P** **00 20 27.4 +0.3**
H04A IAmb IAmb 00 20 31.2
comp=Z,7.2nm,1.0s
J04A Umpqua Nationa 68.97 51 P **P** **00 20 32.4 +0.3**
D08A Wollman Farm, 69.00 47 P **P** **00 20 32.5 +0.5**
YBH Yreka Blue Hor 69.34 53 **P** **00 20 35.6 +1.4**
PINE Pine Mountain 69.43 50 P **P** **00 20 35.6 +0.6**
PINE IAmb IAmb 00 20 48.1
comp=Z,7.8nm,1.1s
BLKN Baker Lake 69.53 24 P **P** **00 20 35.3 +0.4**
O03E Paynes Creek 70.66 54 **P** **00 20 42.8 +0.4**
O03E IAmb IAmb 00 20 55.3
comp=Z,4.3nm,1.1s
FINES FINESS Array B 70.69 333 P **P** **00 20 42.1 +0.1**
FINES FINESS Array B 70.69 333 P **P** **00 20 43.1 +1.1**
comp=Z,7.4nm,0.8s,baz=45,slow=7.2,SNR=12
FINES LR LR 00 53 33.0
comp=Z,86nm,21.8s,baz=56,slow=37
comp=Z,7.4nm,0.8s
CMB Columbia Colle 72.78 55 P **P** **00 20 56.0 +0.8**
KBZ Khabaz 73.14 312 P **P** **00 20 58.5 +1.5**
comp=Z,5.6nm,0.8s,baz=33,slow=3.7,SNR=12
KBZ LR LR 00 56 20.7
comp=Z,45nm,19.2s,baz=51,slow=38
comp=Z,5.6nm,0.8s
KIV Kislovodsk 73.14 312 ⇑P **P** **00 20 59.9 +2.7**
FFC Flin Flon 73.45 34 P **P** **00 20 58.8 +0.1**
FFC IAmb IAmb 00 21 10.0
comp=Z,6.0nm,0.9s
LHV Little Huntoon 73.92 54 **P** **00 21 03.6 +1.9**
LHV IAmb IAmb 00 21 04.1
comp=Z,6.3nm,1.2s
GNI Garni 73.98 308 P **P** **00 21 02.7 +0.4**
GNI IAmb IAmb 00 21 12.6
comp=Z,7.5nm,1.0s
PABE Paberze 75.50 329 P **P** **00 21 10.2 -0.3**
R11B Troy Canyon, C 75.77 53 **P** **00 21 12.4 -0.3**
LOHW Long Hollow 75.79 46 P **P** **00 21 13.2 +0.4**
MPMC Manual Prospec 75.81 56 P **P** **00 21 13.9 +0.9**
CLC China Lake 75.87 56 P **P** **00 21 12.7 -0.5**
CLC IAmb IAmb 00 21 12.7
comp=Z,3.9nm,0.4s
HFS Hagfors 75.88 337 P **P** **00 21 13.9 +1.3**
comp=Z,3.0nm,0.8s,baz=46,slow=4.2,SNR=8.1
HFS LR LR 00 56 59.4
comp=Z,67nm,21.4s,baz=34,slow=38
comp=Z,3.0nm,0.8s
BGU Big Grassy Mou 75.91 50 P **P** **00 21 14.1 +0.7**
NB2 NORSAR Subarra 75.93 338 P **P** **00 21 13.4 +0.4**
comp=Z,3.2nm,0.6s,baz=38,slow=5.9
NOA NORSAR Array B 75.93 338 P **P** **00 21 14.1 +1.1**
comp=Z,2.7nm,0.7s,baz=38,slow=5.7,SNR=11
NOA LR LR 00 59 34.2
comp=Z,58nm,19.2s,baz=20,slow=40
comp=Z,2.7nm,0.7s
QSM Queen of Sheba 76.27 56 P **P** **00 21 16.0 +0.6**
QSM IAmb IAmb 00 21 27.5
comp=Z,8.4nm,1.2s
GWY Greenwater Val 76.28 55 P **P** **00 21 14.2 -1.4**
GWY IAmb IAmb 00 21 19.1
comp=Z,8.2nm,1.2s
AKASG Malin Array Be 76.37 324 P **P** **00 21 15.6 0.0**
AKASG IAmb IAmb 00 21 17.5
comp=Z,5.1nm,0.9s
AKASG Malin Array Be 76.37 324 P **P** **00 21 16.5 +0.9**
comp=Z,0.8nm,0.3s,baz=47,slow=5.6,SNR=20
AKASG LR LR 00 56 38.9
comp=Z,28nm,21.6s,baz=46,slow=37
comp=Z,0.8nm,0.3s
KIEV Kiev 76.39 324 **P** **00 21 15.6 -0.1**
KIEV IAmb IAmb 00 21 17.2
comp=Z,7.3nm,1.0s
KIEV Kiev 76.39 324 ⇑P **P** **00 21 16.6 +0.9**
LAO LASA Array 76.40 42 P **P** **00 21 15.1 -0.9**
HWUT Hardware Ranch 76.40 48 **P** **00 21 16.7 +0.5**
GURO Guroymak-BITLI 76.61 308 P **P** **00 21 19.0 +1.6**
GURO IAmb IAmb 00 21 20.1
comp=Z,7.7nm,0.9s
GSC Goldstone, Bar 76.69 56 P **P** **00 21 18.0 +0.1**
SFJD Kangerlussuaq 76.73 6 LR LR 00 55 32.2
comp=Z,18nm,21.8s,baz=310,slow=36
PDAR Pinedale Array 76.91 46 P **P** **00 21 19.4 +0.2**
comp=Z,0.4nm,0.7s,baz=315,slow=3.9,SNR=4.5
comp=Z,0.4nm,0.7s
PFO Pinyon Flats O 77.89 57 LR LR 00 52 13.8
comp=Z,58nm,20.0s,baz=244,slow=33
SORM Soroca 78.50 322 ⇑P **P** **00 21 28.3 +0.8**
PV20 West Nyswonger 79.96 50 P **P** **00 21 36.4 +0.4**
PV20 IAmb IAmb 00 21 47.8
comp=Z,8.5nm,0.8s
PV05 Paradox Valley 80.04 50 P **P** **00 21 37.1 +0.6**
PV05 IAmb IAmb 00 21 48.3
comp=Z,7.2nm,1.0s
PV03 Paradox Valley 80.09 50 P **P** **00 21 36.7 -0.1**
BURAR Bucovina Array 80.40 323 ⇓P **P** **00 21 39.7 +1.6**
TESR Tescani 80.45 322 ⇓P **P** **00 21 39.7 +1.5**
VRI Vrincioaia 80.85 321 ⇓P **P** **00 21 42.5 +2.1**
OJC Ojcow 81.04 327 P **P** **00 21 42.3 +1.0**
BRTR Keskin Array B 81.08 313 P **P** **00 21 42.4 +0.4**
BRTR Keskin Array B 81.08 313 P **P** **00 21 43.2 +1.3**
comp=Z,4.2nm,1.1s,baz=182,slow=4.1,SNR=15
comp=Z,4.2nm,1.1s
DOPR Dopca 81.45 322 ⇑P **P** **00 21 45.6 +2.0**
MLR Muntele Rosu 81.50 321 LR LR 01 01 03.7
comp=Z,72nm,18.2s,baz=43,slow=38
S22A 4UR Ranch, Cre 81.65 49 P **P** **00 21 45.8 +0.6**
MARR Marisel-Cluj 82.08 323 ⇑P **P** **00 21 48.2 +1.2**
STEB Steborice 82.13 328 *e*P **P** **00 21 48.1 +1.0**
STEB *e*pP **sP** **00 21 58.7 +0.3**
ARR Arges 82.25 322 ⇓P **P** **00 21 48.4 +0.5**
MORC Moravsky Berou 82.35 328 *e*P **P** **00 21 48.8 +0.5**
MORC Moravsky Berou 82.35 328 ⇓P **P** **00 21 49.1 +0.8**
DPC Dobruska-Polom 82.42 329 *e*P **P** **00 21 49.7 +1.0**
DPC *e*pP **sP** **00 22 00.8 +0.8**
KRLC Kraliky 82.44 329 *e*P **P** **00 21 49.7 +0.9**
KRLC *e*pP **sP** **00 22 00.2 +0.1**
LOT Lotru 82.63 322 ⇑P **P** **00 21 50.6 +0.7**
JAVC Velka Javorina 82.98 328 *e*P **P** **00 21 53.9 +2.3**
CLL Collm 83.01 331 P **P** **00 21 51.3 -0.4**
CLL Collm 83.01 331 *i* P **P** **00 21 51.8 +0.1**
comp=Z,7.0nm,0.9s
CLL *i* x x 00 22 02.4
comp=Z,10.0nm,0.9s
CLL LmH 00 55 00.0
comp=N,100nm,18.7s
CLL LmH 00 55 00.0
comp=E,100nm,19.7s
CLL LmV 01 04 00.0
comp=Z,100nm,18.6s
VRAC Vranov 83.11 328 LR LR 01 02 22.7
comp=Z,59nm,18.7s,baz=41,slow=38
VRAC Vranov 83.11 328 *e*P **P** **00 21 52.8 +0.6**
VRAC Vranov 83.11 328 ⇓P **P** **00 21 52.1 -0.1**
GZR Gura Zlata 83.16 323 ⇑P **P** **00 21 53.7 +1.1**
SURR Surduc 83.22 323 ⇑P **P** **00 21 53.9 +1.1**
ELND Elena 83.31 319 ⇑P **P** **00 21 53.9 +0.6**
KRUC Moravsky 83.38 328 *e*P **P** **00 21 54.4 +0.8**
BZS Buzias 83.56 323 ⇑P **P** **00 21 54.9 +0.3**
TREC Trest 83.58 329 *e*P **P** **00 21 55.2 +0.5**
PLVB Pleven 83.65 320 ⇓P **P** **00 21 56.1 +1.0**
ANMO Albuquerque 83.66 51 P **P** **00 21 55.2 -0.4**
ANMO IAmb IAmb 00 21 57.8
comp=Z,3.7nm,1.1s
ASF Jabal al Asfar 83.80 305 P **P** **00 21 57.3 +1.1**
comp=Z,1.9nm,0.6s,baz=17,slow=7.2,SNR=5.1
ASF LR LR 01 02 50.9
comp=Z,22nm,21.2s,baz=153,slow=38
comp=Z,1.9nm,0.6s
SBM South Baldy 83.82 52 P **P** **00 21 57.5 +0.8**
MMAI Mount Meron Ar 84.25 307 P **P** **00 21 59.7 +1.3**
comp=Z,3.7nm,0.8s,baz=42,slow=10,SNR=6.6
MMAI LR LR 01 02 46.0
comp=Z,27nm,21.7s,baz=31,slow=38
comp=Z,3.7nm,0.8s
RONA Rosalia, Austr 84.46 328 *e*pP **P** **00 22 00.4 +1.2**
comp=Z,3.5nm,0.7s
CONA Conrad Observa 84.47 328 *e*P **P** **00 21 59.9 +0.5**
comp=Z,1.4nm,0.5s
KHC Kasperske Hory 84.50 330 *e*P **P** **00 22 00.2 +0.8**
KHC *e*pP **sP** **00 22 10.6 -0.1**
MORH Mrgy, Hungar 84.53 325 ⇑P **P** **00 21 59.1 -0.4**
GERES GERESS Array B 84.67 330 P **P** **00 22 00.8 +0.4**
comp=Z,1.7nm,0.8s,baz=40,slow=6.9,SNR=14
comp=Z,1.7nm,0.8s
EKA Eskdalemuir Ar 84.79 342 P **P** **00 22 01.8 +1.2**
comp=Z,2.7nm,0.8s,baz=27,slow=5.6,SNR=3.9
comp=Z,2.7nm,0.8s
BOVS Bovan 84.96 322 ⇑P **P** **00 22 02.6 +0.8**
GRF Grafenberg Arr 84.99 331 *e*P **P** **00 22 02.9 +1.1**
comp=Z,16nm,1.1s,baz=43,slow=4.5
GRF *e*pP **sP** **00 22 13.5 +0.4**
MOA Molln 85.22 329 *i* P **P** **00 22 02.9 -0.1**
comp=Z,1.5nm,0.6s
BIOA Bad Ischl, Aus 85.60 329 *i* P **P** **00 22 04.7 -0.3**
comp=Z,0.7nm,0.3s
SOKA Soboth 85.80 328 *i* P **P** **00 22 05.3 -0.7**
comp=Z,0.5nm,0.3s
EIL Elat 86.67 304 LR LR 01 05 09.5
comp=Z,16nm,20.7s,baz=56,slow=38
MOTA Moosalm 86.92 330 *i* P **P** **00 22 10.6 -0.9**
comp=Z,0.8nm,0.5s
RETA Reutte 86.94 330 *e*PcP **P** **00 22 12.3 +0.7**
comp=Z,0.9nm,0.4s
PDG Podgorica 87.06 322 P **P** **00 22 12.0 -0.1**
PDG IAmb IAmb 00 22 25.2
comp=Z,6.8nm,1.1s
FETA Feichten 87.33 330 *i* PcP **P** **00 22 13.9 +0.3**
comp=Z,0.8nm,0.5s
DAVA Damuels 87.46 331 *i* PcP **P** **00 22 15.1 +0.9**
comp=Z,1.4nm,0.5s
DAVOX Davos/Dischmat 87.87 330 LR LR 01 04 43.2
comp=Z,41nm,20.3s,baz=62,slow=38
TXAR Lajitas Array 89.10 54 P **P** **00 22 22.8 +0.5**
comp=Z,0.6nm,0.7s,baz=323,slow=3.7,SNR=5.8
comp=Z,0.6nm,0.7s
VAE Valguarnera 93.24 322 LR LR 01 08 42.2
comp=Z,40nm,19.2s,baz=132,slow=38
FURI Furi 96.98 286 LR LR 01 13 30.5
comp=Z,20nm,18.2s,baz=211,slow=40
ESDC Sonseca Array 99.12 335 LR LR 01 12 40.3
comp=Z,29nm,20.4s,baz=20,slow=38
QSPA South Pole Qui 125.73 180 PKP **PKiKP** **00 28 27.7 +0.2**
comp=Z,2.1nm,1.1s,baz=82,slow=2.1,SNR=3.7
SNAA Sanae 140.33 196 PKP **PKiKP** **00 28 55.7 -1.2**
comp=Z,1.0nm,0.8s,baz=14,slow=3.4,SNR=4.3
H03N2 Juan Fernandez 144.85 99 T T 03 10 27.3
baz=290,slow=76
H03N3 Juan Fernandez 144.86 99 T T 03 10 28.2
baz=290,slow=76
H03N1 Juan Fernandez 144.86 99 T T 03 10 27.0

baz=290,slow=76
LPAZ La Paz 145.37 64 PKPbc **PKPbc** **00 29 05.5 0.0**
comp=Z,3.3nm,0.7s,baz=312,slow=2.3,SNR=8.7

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*KRNET **07** 00:30:14.9±0.1, 43°.18N×76°.77E, h25km, mb3.8*
*SOME **07** 00:30:15.3, 43°.20N×76°.78E, h20km*
*NNC **07** 00:30:15.7±0.3, 43°.24N×76°.72E, h0km, mb3.8, mpv3.9, Error ellipse: s-maj=3.8km s-min=1.8km az=8.0*
*NEIC **07** 00:30:16.3±1.8, 43°.19N±0°.04×76°.86E±0°.06, h10km±2km, ML3.1/8, Error ellipse: s-maj=9.1km s-min=4.9km az=49.0*
*KNET **07** 00:30:16.5±0.4, 43°.14N×76°.66E, h20km±7km, ml3.2, Error ellipse: s-maj=3.0km s-min=1.4km az=52.0*

ISC 07 00:30:16.1±0.7, **43°.18N**±0°.02×**76°.76E**±0°.01, **h15**km±4km, **n84,σ1§47**/151, **32C-26D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAA	**Alma-Ata**	**0.11**	**76**	P	**Pg**	**00 30 19.1**	**-0.6**
	4μm,0.2s						
AAA				S	**Sg**	**00 30 21.7**	**-0.3**
	16μm,0.2s						
AAA	**Alma-Ata**	**0.11**	**76**	*e*P	**Pg**	**00 30 19.1**	**-0.6**
AAA				*e*S	**Sg**	**00 30 21.7**	**-0.3**
AAA	**Alma-Ata**	**0.11**	**76**	*e*P	**Pg**	**00 30 19.1**	**-0.6**
	5μm,0.1s						
AAA				*e*S	**Sg**	**00 30 21.7**	**-0.3**
	17μm,0.1s						
KNDC	**Almaty**	**0.15**	**76**	⇓P	**Pg**	**00 30 19.5**	**-0.7**
	480nm,0.2s						
KNDC				⇑S	**Sg**	**00 30 22.4**	**-0.4**
	2μm,0.3s						
TNSS	**Tian-Shan**	**0.20**	**137**	P	**Pg**	**00 30 20.1**	**-1.0**
	74nm,0.2s						
TNSS				S	**Sg**	**00 30 23.6**	**-0.8**
	743nm,0.2s						
TNSS	**Tian-Shan**	**0.20**	**137**	*e*P	**Pg**	**00 30 20.1**	**-1.0**
TNSS				*e*S	**Sg**	**00 30 23.6**	**-0.8**
TNSS	**Tian-Shan**	**0.20**	**137**	*e*P	**Pg**	**00 30 20.1**	**-1.0**
	38nm,0.1s						
TNSS				*e*S	**Sg**	**00 30 23.6**	**-0.8**
	712nm,0.2s						
MDOK	**Medeo**	**0.21**	**95**	Pg	**Pg**	**00 30 20.1**	**-1.0**
	149nm,0.2s						
MDOK				Lg	Lg	00 30 23.4	
	4μm,0.3s						
MTBS	**Maitube**	**0.25**	**258**	P	**Pg**	**00 30 21.1**	**-0.5**
	2μm,0.2s						
MTBS				S	**Sg**	**00 30 25.0**	**-0.3**
	4μm,0.4s						
MTBS	**Maitube**	**0.25**	**258**	*e*P	**Pg**	**00 30 21.1**	**-0.5**
MTBS				*e*S	**Sg**	**00 30 25.1**	**-0.3**
MTBS	**Maitube**	**0.25**	**258**	*e*P	**Pg**	**00 30 21.1**	**-0.5**
	2μm,0.1s						
MTBS				*e*S	**Sg**	**00 30 25.1**	**-0.3**
	4μm,0.2s						
KOTS	**Kotyrbulak**	**0.26**	**78**	P	**Pg**	**00 30 21.1**	**-0.7**
	415nm,0.2s						
KOTS				S	**Sg**	**00 30 25.2**	**-0.6**
	4μm,0.3s						
KOTS	**Kotyrbulak**	**0.26**	**78**	*e*P	**Pg**	**00 30 21.1**	**-0.7**
KOTS				*e*S	**Sg**	**00 30 25.2**	**-0.6**
KOTS	**Kotyrbulak**	**0.26**	**78**	*e*P	**Pg**	**00 30 21.1**	**-0.7**
	415nm,0.2s						
KOTS				*e*S	**Sg**	**00 30 25.1**	**-0.6**
	4μm,0.3s						
KTBS	**Karatobe**	**0.53**	**354**	P	**Pg**	**00 30 25.8**	**-0.9**
	174nm,0.2s						
KTBS				S	**Sg**	**00 30 33.2**	**-0.7**
	4μm,0.3s						
KTBS	**Karatobe**	**0.53**	**354**	*e*P	**Pg**	**00 30 25.8**	**-0.9**
KTBS				*e*S	**Sg**	**00 30 33.2**	**-0.7**
KST	**Kastek**	**0.60**	**257**	P	**Pg**	**00 30 27.2**	**-0.8**
	95nm,0.2s						
KST				S	**Sg**	**00 30 35.6**	**-0.4**
	2μm,0.4s						
KST	**Kastek**	**0.60**	**257**	*e*P	**Pg**	**00 30 27.2**	**-0.8**
KST				*e*S	**Sg**	**00 30 35.7**	**-0.4**
KST	**Kastek**	**0.60**	**257**	*e*P	**Pg**	**00 30 27.2**	**-0.8**
	95nm,0.2s						
KST				*e*S	**Sg**	**00 30 35.6**	**-0.4**
	2μm,0.4s						
KUU	**Kurty**	**0.78**	**337**	P	**Pg**	**00 30 29.7**	**-1.5**
	28nm,0.2s						
KUU				S	**Sg**	**00 30 40.0**	**-1.5**
	539nm,0.4s						
KUU	**Kurty**	**0.78**	**337**	*e*P	**Pg**	**00 30 29.7**	**-1.5**
KUU				*e*S	**Sg**	**00 30 39.9**	**-1.5**
KUU	**Kurty**	**0.78**	**337**	*e*P	**Pg**	**00 30 29.7**	**-1.5**
	28nm,0.2s						
KUU				*e*S	**Sg**	**00 30 40.0**	**-1.5**
	539nm,0.4s						
TKM2	**Tokmak 2**	**0.89**	**253**	⇓P	**Pg**	**00 30 32.0**	**-1.5**
	55nm,0.2s,SNR=354						
TKM2				⇓S	**Sg**	**00 30 44.5**	**-0.8**
	1μm,0.1s						
TKM2	**Tokmak 2**	**0.89**	**253**	⇑*i*P	**Pg**	**00 30 32.4**	**-1.1**
TKM2				⇑*i*S	**Sg**	**00 30 44.6**	**-0.7**
ULHL	**Ulahol**	**1.01**	**203**	P	**Pg**	**00 30 34.4**	**-1.4**
	73nm,0.2s,SNR=278						
ULHL				⇓S	**Sg**	**00 30 48.2**	**-0.8**
	73nm,0.1s						
ULHL	**Ulahol**	**1.01**	**203**	⇑*i*P	**Pg**	**00 30 34.3**	**-1.4**
ULHL				⇑*i*S	**Sg**	**00 30 47.8**	**-1.1**
KURS	**Kuram**	**1.07**	**73**	P	**Pg**	**00 30 35.2**	**-1.6**
	33nm,0.3s						
KURS				S	**Sg**	**00 30 49.3**	**-1.5**
	93nm,0.5s						
KURS	**Kuram**	**1.07**	**73**	*e*P	**Pg**	**00 30 35.2**	**-1.6**
KURS				*e*S	**Sg**	**00 30 49.3**	**-1.5**
KDJ	**Kajisay**	**1.09**	**164**		**Pg**	**00 30 35.8**	**-1.4**
KDJ				Sn	**Sg**	**00 30 50.1**	**-1.5**
KDJ	**Kajisay**	**1.09**	**164**	⇑*i*P	**Pg**	**00 30 35.4**	**-1.9**
KDJ				⇑*i*S	**Sg**	**00 30 50.3**	**-1.3**
SATY	**Saty**	**1.21**	**95**	P	**Pg**	**00 30 37.3**	**-2.1**
	69nm,0.4s						
SATY				S	**Sg**	**00 30 53.7**	**-1.6**
	597nm,0.2s						
SATY	**Saty**	**1.21**	**95**	*e*P	**Pg**	**00 30 37.3**	**-2.1**
SATY				*e*S	**Sg**	**00 30 53.6**	**-1.6**
ARXS	**Arharly**	**1.29**	**36**	P	**Pg**	**00 30 38.8**	**-2.1**
	166nm,0.2s						
ARXS				S	**Sg**	**00 30 55.8**	**-1.9**
	484nm,0.3s						
ARXS	**Arharly**	**1.29**	**36**	*e*P	**Pg**	**00 30 38.8**	**-2.1**
ARXS				*e*S	**Sg**	**00 30 55.8**	**-1.9**
PRZ	**Przheval'sk**	**1.39**	**120**	⇓*i*P	**Pn**	**00 30 40.3**	**-0.8**
PRZ				⇓*i*S	**Sg**	**00 30 58.8**	**-2.2**
KPKS	**Kokpek**	**1.43**	**78**	P	**Pn**	**00 30 41.4**	**-0.2**
	0.6nm,0.4s						
KPKS				S	**Sb**	**00 31 00.1**	**-0.4**
	897nm,0.4s						
KPKS	**Kokpek**	**1.43**	**78**	*e*P	**Pn**	**00 30 41.4**	**-0.2**
KPKS				*e*S	**Sb**	**00 31 00.1**	**-0.4**
KBK	**Karagaybulak**	**1.43**	**249**	⇑P	**Pn**	**00 30 41.5**	**-0.1**
	71nm,0.2s,SNR=25						
KBK				⇓S	**Sb**	**00 31 00.5**	**-0.3**
	514nm,0.2s						
KBK	**Karagaybulak**	**1.43**	**249**	⇑*i*P	**Pn**	**00 30 41.6**	**-0.1**
KBK				⇑*i*S	**Sb**	**00 31 00.3**	**-0.4**
CHMS	**Chumysh**	**1.49**	**264**	⇑P	**Pn**	**00 30 42.2**	**-0.1**
	58nm,0.2s,SNR=11						
CHMS				⇑S	**Sn**	**00 31 01.8**	**+0.4**
	413nm,0.2s						
CHMS	**Chumysh**	**1.49**	**264**	⇓*i*P	**Pn**	**00 30 42.4**	**+0.1**
CHMS				⇓*i*S	**Sn**	**00 31 01.6**	**+0.2**
SGDS	**Sogindy**	**1.58**	**281**	P	**Pn**	**00 30 43.8**	**+0.2**
	15nm,0.2s						
SGDS				S	**Sn**	**00 31 04.5**	**+0.7**
	137nm,0.2s						
FRU1	**Bishkek**	**1.61**	**257**		**Pn**	**00 30 45.6**	**+1.6**
FRU1				Sn	**Sb**	**00 31 06.7**	**+1.1**
FRU1				IAML		00 31 10.7	
	comp=E,378nm,0.6s						
FRU1	**Bishkek**	**1.61**	**257**	⇑*i*P	**Pn**	**00 30 44.5**	**+0.5**
FRU1				⇑*i*S	**Sn**	**00 31 05.2**	**+0.7**
TARG	**Taragay, Kyrgy**	**1.64**	**152**		**Pn**	**00 30 45.1**	**+0.4**
TARG					**Sn**	**00 31 07.1**	**+1.2**
TARG				IAML		00 31 08.7	
	comp=N,487nm,0.3s						
UZB	**Uzynbulak**	**1.65**	**90**	P	**Pn**	**00 30 45.0**	**+0.3**
	comp=N,76nm,0.3s						
UZB				S	**Sn**	**00 31 06.2**	**+0.5**
	comp=N,402nm,0.4s						
UZB	**Uzynbulak**	**1.65**	**90**	*e*P	**Pn**	**00 30 45.0**	**+0.3**
UZB				*e*S	**Sn**	**00 31 06.2**	**+0.5**
UZB	**Uzynbulak**	**1.65**	**90**	*e*P	**Pn**	**00 30 45.0**	**+0.3**
	comp=N,76nm,0.3s						
UZB				*e*S	**Sn**	**00 31 06.2**	**+0.5**
	comp=N,402nm,0.4s						
USP	**Ospenovka**	**1.66**	**274**	⇑P	**Pn**	**00 30 45.1**	**+0.4**
	comp=N,116nm,0.3s,SNR=127						
USP				⇓S	**Sn**	**00 31 07.1**	**+1.4**
	comp=N,188nm,0.2s						
USP	**Ospenovka**	**1.66**	**274**	⇑*i*P	**Pn**	**00 30 45.1**	**+0.4**
USP				⇑*i*S	**Sn**	**00 31 06.7**	**+1.0**
AAK	**Ala-Archa**	**1.75**	**253**	⇓P	**Pn**	**00 30 47.2**	**+1.1**
	comp=N,22nm,0.1s,SNR=36						
AAK				⇓S	**Sn**	**00 31 10.3**	**+2.1**
	comp=N,251nm,0.4s						
AAK	**Ala-Archa**	**1.75**	**253**		**Pn**	**00 30 47.4**	**+1.3**
AAK				Sn	**Sn**	**00 31 10.5**	**+2.3**
AAK	**Ala-Archa**	**1.75**	**253**	⇑Pn	**Pn**	**00 30 47.4**	**+1.3**
	comp=N,2.5nm,0.3s						
AAK				⇑Sn	**Sb**	**00 31 10.9**	**+1.0**
	comp=N,39nm,0.5s						
AAK	**Ala-Archa**	**1.75**	**253**	⇑*i*P	**Pn**	**00 30 46.5**	**+0.4**
AAK				⇑*i*S	**Sn**	**00 31 09.1**	**+0.9**
NRN	**Naryn**	**1.84**	**198**		**Pn**	**00 30 49.2**	**+1.9**
NRN				Sn	**Sb**	**00 31 13.8**	**+1.4**
NRN				IAML		00 31 15.4	
	comp=E,114nm,0.3s						
NRN				IAML		00 31 15.4	
	comp=N,74nm,0.3s						
NRN	**Naryn**	**1.84**	**198**	⇑*i*P	**Pn**	**00 30 47.8**	**+0.4**
NRN				⇑*i*S	**Sn**	**00 31 11.4**	**+0.9**
UCH	**Uchtor**	**1.91**	**241**	⇓*i*P	**Pn**	**00 30 48.9**	**+0.4**
UCH				⇓*i*S	**Sn**	**00 31 12.7**	**+0.1**
SHLS	**Shalkode**	**1.97**	**90**	Pg	**Pg**	**00 30 56.8**	**+2.8**
	comp=N,37nm,0.4s						
SHLS				Lg	Lg	00 31 26.6	
	comp=N,168nm,0.2s						
SHLS	**Shalkode**	**1.97**	**90**	*e*P	**Pg**	**00 30 56.8**	**+2.8**
	comp=N,37nm,0.4s						
SHLS				*e*S	**Sg**	**00 31 26.6**	**+7.0**
	comp=N,168nm,0.2s						
PDGK	**Podgornoye**	**2.00**	**85**	⇓Pn	**Pn**	**00 30 50.4**	**+1.0**
	comp=N,32nm,0.4s						
PDGK				⇑Lg	Lg	00 31 17.4	
	comp=N,408nm,0.8s						
KNOS	**Konyrlen**	**2.11**	**55**	Pg	**Pb**	**00 30 53.3**	**-0.8**
	comp=N,36nm,0.2s						
KNOS				Lg	Lg	00 31 20.6	
	comp=N,205nm,0.3s						
TDK	**Taldyqorghan**	**2.17**	**32**	Pg	**Pn**	**00 30 53.6**	**+1.9**
	comp=N,202nm,0.4s						
TDK				Lg	Lg	00 31 21.0	
	comp=N,312nm,0.4s						
TDK	**Taldyqorghan**	**2.17**	**32**	*e*P	**Pn**	**00 30 53.6**	**+1.9**
	comp=N,202nm,0.4s						
TDK				*e*S	**Sb**	**00 31 21.0**	**-0.8**
	comp=N,312nm,0.4s						
EKS2	**Erkin-Say**	**2.25**	**258**	⇓P	**Pn**	**00 30 55.0**	**+2.0**
	comp=N,29nm,0.2s,SNR=45						
EKS2	**Erkin-Say**	**2.25**	**258**	⇑*i*P	**Pn**	**00 30 53.4**	**+0.5**
EKS2				⇑*i*S	**Sn**	**00 31 21.1**	**+0.6**
JNKS	**Jany-Kuch**	**2.28**	**202**	⇓*i*P	**Pn**	**00 30 53.7**	**+0.3**
JNKS				⇓*i*S	**Sn**	**00 31 21.6**	**+0.3**
MRKS	**Merke**	**2.63**	**262**	Pg	**Pb**	**00 31 02.7**	**-0.3**
	comp=N,49nm,0.5s						
MRKS				Lg	Lg	00 31 36.7	
	comp=N,132nm,0.5s						
MRKS	**Merke**	**2.63**	**262**	*e*P	**Pb**	**00 31 02.7**	**-0.3**
	comp=N,10nm,0.2s						
MRKS				*e*S	**Sb**	**00 31 36.7**	**+1.6**
	comp=N,160nm,0.3s						
BTLS	**Baital**	**2.70**	**314**	Pg	**Pb**	**00 31 03.7**	**-0.4**
	comp=N,9.4nm,0.2s						
BTLS				Lg	Lg	00 31 38.6	
	comp=N,22nm,0.5s						
BTLS	**Baital**	**2.70**	**314**	*e*P	**Pb**	**00 31 03.7**	**-0.4**
	comp=N,3.5nm,0.2s						
BTLS				*e*S	**Sb**	**00 31 38.6**	**+1.6**
	comp=N,35nm,0.1s						
TRKS	**Terek-Say**	**4.48**	**250**	⇑*i*P	**Pn**	**00 31 24.3**	**+0.7**
TRKS				⇑*i*S	**Sn**	**00 32 14.9**	**-0.6**
KK31	**Karatay Array**	**4.58**	**271**	Pg	**Pb**	**00 31 39.7**	**+3.7**
	comp=N,1.8nm,0.3s,baz=86,slow=15,SNR=66						
KK31				⇓Lg	Lg	00 32 39.4	
	comp=N,8.1nm,0.3s,baz=87,slow=28,SNR=11						
KKAR	**Karatay Array**	**4.58**	**271**		**Pn**	**00 31 26.9**	**+2.1**
BRLS	**Boroldaу**	**5.08**	**271**	Pg	**Pg**	**00 31 50.1**	**-3.2**
	comp=N,1.2nm,0.5s						
BRLS				Lg	Lg	00 32 57.7	
	comp=N,7.4nm,0.3s						
BRLS	**Boroldaу**	**5.08**	**271**	*e*P	**Pg**	**00 31 50.1**	**-3.2**
	comp=N,0.6nm,0.1s						
BRLS				*e*S	**Sg**	**00 32 57.7**	**-1.2**
	comp=N,14nm,0.4s						
MK31	**Makanchi Array**	**5.33**	**45**	⇓Pn	**Pn**	**00 31 36.1**	**+1.1**
	comp=N,2.4nm,0.3s,baz=211,slow=11,SNR=41						
MK31				⇑Sn	**Sn**	**00 32 36.2**	**0.0**
	comp=N,1.6nm,0.4s,baz=221,slow=22,SNR=4.2						
MK31				⇓Lg	Lg	00 32 58.5	
	comp=N,3.6nm,0.4s,baz=226,slow=28,SNR=5.1						
MKAR	**Makanchi Array**	**5.33**	**45**		**Pn**	**00 31 35.7**	**+0.6**
GAR	**Garm**	**6.42**	**232**	Pn	**Pn**	**00 31 52.8**	**+2.7**
GAR	**Garm**	**6.42**	**232**	⇓*i*P	**Pn**	**00 31 50.6**	**+0.5**
GAR				⇓*i*S	**Sn**	**00 33 00.4**	**-2.7**
CHGR	**Chuyangaron**	**7.32**	**234**	⇑*i*P	**Pn**	**00 32 03.1**	**+0.6**
CHGR				⇑*i*S	**Sn**	**00 33 21.9**	**-3.4**
KURBB	**Kurchatov Arra**	**7.54**	**9**	⇑Sn	**Sn**	**00 33 34.2**	**+3.6**
	comp=N,6.4nm,0.6s						
KURBB				⇓Lg	Lg	00 34 13.4	
	comp=N,26nm,0.7s						
KURK	**Kurchatov**	**7.64**	**9**	Pn	**Pn**	**00 32 07.4**	**+0.6**
KURK	**Kurchatov**	**7.64**	**9**	⇓Sn	**Sn**	**00 33 37.6**	**+4.5**
	comp=N,0.7nm,0.5s						
KURK				⇓Lg	Lg	00 34 16.6	
	comp=N,3.6nm,0.7s						
ABKAR	**Akbulak array**	**13.12**	**303**	Pn	**Pn**	**00 33 21.8**	**-0.1**

IDC 07 00:43:41.0±5.6, **6°.13N×124°.94E, h118**km±29km, **mb3.3/4, mbtmp3.7/4, Error ellipse: s-maj=150.4km s-min=21.7km az=93.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.13**	**34**	P	Pn	00 44 04.5	+0.2
	206nm,0.3s,baz=331,slow=3.1,SNR=3.6						
DAV				S	Sn	00 44 22.0	+0.1
	423nm,0.4s,baz=248,slow=22,SNR=9.2						
WRA	**Warramunga Arr**	**27.51**	**161**	P	P	00 49 15.8	-0.8
	0.2nm,0.3s,baz=336,slow=9.8,SNR=1.4						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**30.88**	**164**	P	P	00 49 47.0	+0.5
	0.2nm,0.3s,baz=342,slow=7.6,SNR=7.3						
	0.2nm,0.3s						
PETK	**Petropavlovsk-**	**53.93**	**24**	P	P	00 52 52.4	+0.1
	1.5nm,0.8s,baz=228,slow=8.2,SNR=4.2						
	1.5nm,0.8s						
ILAR	**Eielson Array**	**83.72**	**26**	P	P	00 55 56.2	-0.3
	0.4nm,0.5s,baz=273,slow=5.3,SNR=2.4						
	0.4nm,0.5s						

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*VAO **07** 00:52:41.8±2.4, 20°.07S×70°.10W, h61km±11km, mb4.5*
*NEIC **07** 00:52:55.0±1.4, 19°.66S±0°.04×69°.33W±0°.07, h99km±3km, mb4.2/7, ML4.1(GUC), Error ellipse: s-maj=10.8km s-min=4.5km az=118.0*
*SJA **07** 00:52:54.3±0.7, 19°.74S×69°.33W, h102km±3km, ML4.1, MW4.0*
*GUC **07** 00:52:56.5±0.9, 19°.77S×69°.29W, h94km±3km, ML4.1*
*IDC **07** 00:52:59.3±2.5, 19°.62S×68°.87W, h128km±23km, mb3.4/5, mbtmp3.8/7, Error ellipse: s-maj=27.0km s-min=20.8km az=92.0*

ISC 07 00:52:54.2±0.6, **19°.70S**±0°.03×**69°.28W**±0°.05, **h102**km±5km, **n106,σ1§53**/122, **mb4.0**/4, **5C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO01	**Chusmiza**	**0.08**	**65**		**Pn**	**00 53 09.4**	**+0.4**
GO01				Sn	**Sn**	**00 53 20.4**	**+0.4**
GO01	**Chusmiza**	**0.08**	**65**	⇓*i*P	**Pn**	**00 53 09.7**	**+0.7**
GO01				*e*S	**Sn**	**00 53 20.7**	**+0.7**
GO01				IAML		00 53 22.4	
	comp=E,39μm,0.2s						
GO01	**Chusmiza**	**0.08**	**65**	*e*P	**Pn**	**00 53 09.8**	**+0.7**
GO01				*e*S	**Sn**	**00 53 21.4**	**+1.4**
GO01				IAML		00 53 22.9	
	comp=Z,9μm,0.2s						
PB11	**IPOC Station P**	**0.36**	**261**		**Pn**	**00 53 09.8**	**+0.3**
PB11				Sn	**Sn**	**00 53 20.7**	**-0.3**
PB11	**IPOC Station P**	**0.36**	**261**	⇑*i*P	**Pn**	**00 53 09.8**	**+0.3**
PB11				*e*S	**Sn**	**00 53 21.0**	**+0.1**
PB11				IAML		00 53 21.8	
	comp=E,19μm,0.2s						
PB11	**IPOC Station P**	**0.36**	**261**	*e*P	**Pn**	**00 53 09.1**	**-0.4**
PB11				*e*S	**Sn**	**00 53 21.4**	**+0.5**
PB11				IAML		00 53 22.2	
	comp=Z,7μm,0.2s						
PB08	**IPOC Station P**	**0.45**	**165**		**Pn**	**00 53 11.0**	**+0.7**
PB08				Sn	**Sn**	**00 53 23.0**	**+0.7**
PB08	**IPOC Station P**	**0.45**	**165**	⇓*i*P	**Pn**	**00 53 11.3**	**+1.0**
PB08				*e*S	**Sn**	**00 53 23.1**	**+0.7**
PB08				IAML		00 53 24.6	
	comp=N,12μm,0.2s						
PB08	**IPOC Station P**	**0.45**	**165**	*e*P	**Pn**	**00 53 11.1**	**+0.7**
PB08				*e*S	**Sn**	**00 53 23.6**	**+1.3**
PB08				IAML		00 53 24.4	
	comp=Z,11μm,0.2s						
HMBC	**Humberstone**	**0.81**	**225**		**Pn**	**00 53 13.0**	**0.0**
HMBC				Sn	**Sn**	**00 53 27.1**	**+0.1**
HMBC	**Humberstone**	**0.81**	**225**	⇑*i*P	**Pn**	**00 53 13.4**	**+0.4**
HMBC				*e*S	**Sn**	**00 53 27.2**	**+0.1**
HMBC				IAML		00 53 29.1	
	comp=N,16μm,0.2s						
HMBC	**Humberstone**	**0.81**	**225**	*e*P	**Pn**	**00 53 13.3**	**+0.4**
HMBC				*e*S	**Sn**	**00 53 27.5**	**+0.4**
HMBC				IAML		00 53 28.5	
	comp=Z,11μm,0.3s						
TA02	**Huaiquique**	**0.98**	**235**	*e*P	**Pn**	**00 53 14.9**	**+0.4**
TA02	**Huaiquique**	**0.98**	**235**	*e*P	**Pn**	**00 53 14.9**	**+0.4**
TA02				*e*S	**Sn**	**00 53 30.1**	**+0.3**
TA02				IAML		00 53 34.7	
	comp=Z,5μm,0.1s						
TA01	**Diego Aracena**	**1.21**	**225**		**Pn**	**00 53 17.0**	**0.0**
TA01	**Diego Aracena**	**1.21**	**225**	⇑*i*P	**Pn**	**00 53 17.1**	**0.0**
TA01				*e*S	**Sn**	**00 53 33.8**	**-0.5**
TA01	**Diego Aracena**	**1.21**	**225**	*e*P	**Pn**	**00 53 16.4**	**-0.7**
TA01				*e*S	**Sn**	**00 53 34.5**	**+0.2**
TA01				IAML		00 53 37.7	
	comp=Z,1μm,0.4s						
PB01	**IPOC Station P**	**1.35**	**188**		**Pn**	**00 53 20.1**	**+1.3**
PB01				Sn	**Sn**	**00 53 38.8**	**+1.3**
PB01	**IPOC Station P**	**1.35**	**188**	⇑*i*P	**Pn**	**00 53 19.5**	**+0.7**
PB01				*e*S	**Sn**	**00 53 38.2**	**+0.8**
PB01				IAML		00 53 39.9	
	comp=E,5μm,0.2s						
PB01	**IPOC Station P**	**1.35**	**188**	*e*P	**Pn**	**00 53 19.6**	**+0.7**
PB01				*e*S	**Sn**	**00 53 39.0**	**+1.6**
PB01				IAML		00 53 41.2	
	comp=Z,3μm,0.4s						
PB16	**IPOC Station P**	**1.38**	**351**		**Pn**	**00 53 19.9**	**+0.2**
PB16	**IPOC Station P**	**1.38**	**351**	*e*P	**Pn**	**00 53 21.4**	**+1.7**
PB16				*e*S	**Sn**	**00 53 40.6**	**+1.7**
PB16	**IPOC Station P**	**1.38**	**351**	*e*P	**Pn**	**00 53 21.4**	**+1.7**
PB16				*e*S	**Sn**	**00 53 41.8**	**+2.9**
PATCX	**Punta Patache**	**1.38**	**216**		**Pn**	**00 53 19.3**	**+0.1**
PATCX				Sn	**Sn**	**00 53 38.4**	**+0.2**
PATCX	**Punta Patache**	**1.38**	**216**	⇑*i*P	**Pn**	**00 53 19.3**	**+0.1**
PATCX				IAML		00 53 44.5	
	comp=E,2μm,0.4s						
PATCX	**Punta Patache**	**1.38**	**216**	*e*P	**Pn**	**00 53 19.4**	**+0.1**
PATCX				*e*S	**Sn**	**00 53 39.1**	**+0.9**
PATCX				IAML		00 53 44.2	
	comp=Z,1μm,0.6s						
PB02	**IPOC Station P**	**1.71**	**200**		**Pn**	**00 53 23.4**	**+0.2**
PB02	**IPOC Station P**	**1.71**	**200**	*e*P	**Pn**	**00 53 23.8**	**+0.5**
PB02				*e*S	**Sn**	**00 53 44.9**	**-0.5**
PB02				IAML		00 53 52.5	
	comp=N,3μm,0.4s						
PB02	**IPOC Station P**	**1.71**	**200**	*e*P	Pn	00 53 18.2	-5.0
PB02				*e*S	**Sn**	**00 53 45.5**	**+0.1**
PB02				IAML		00 53 56.0	
	comp=Z,3μm,0.2s						
PB09	**IPOC Station P**	**2.08**	**179**		**Pn**	**00 53 29.3**	**+1.2**
PB09	**IPOC Station P**	**2.08**	**179**	*e*P	**Pn**	**00 53 29.4**	**+1.2**
PB09	**IPOC Station P**	**2.08**	**179**	*e*P	**Pn**	**00 53 29.6**	**+1.5**
PB09				*e*S	**Sn**	**00 53 56.1**	**+2.2**
PB09				IAML		00 54 02.1	
	comp=Z,694nm,0.6s						
PB18	**Visviri**	**2.11**	**355**		**Pn**	**00 53 30.3**	**+1.5**
PB18	**Visviri**	**2.11**	**355**	*e*P	**Pn**	**00 53 32.1**	**+3.3**
PB03	**IPOC Station P**	**2.38**	**191**		**Pn**	**00 53 32.2**	**+0.4**
PB03	**IPOC Station P**	**2.38**	**191**	*e*P	**Pn**	**00 53 32.1**	**+0.2**
PB03				IAML		00 54 08.8	
	comp=E,712nm,0.1s						
PB03	**IPOC Station P**	**2.38**	**191**	*e*P	**Pn**	**00 53 32.1**	**+0.2**
PB03				*e*S	**Sn**	**00 54 00.5**	**-0.3**
PB03				IAML		00 54 10.8	
	comp=Z,724nm,0.3s						
PB06	**IPOC Station P**	**3.00**	**185**		**Pn**	**00 53 41.5**	**+1.3**
PB06	**IPOC Station P**	**3.00**	**185**	*e*P	**Pn**	**00 53 40.3**	**+0.2**
PB06				IAML		00 54 24.6	
	comp=E,650nm,0.4s						
PB06	**IPOC Station P**	**3.00**	**185**	*e*P	**Pn**	**00 53 40.4**	**+0.2**
PB06				*e*S	Sn	00 54 04.3	-11
PB06				IAML		00 54 24.6	
	comp=Z,403nm,0.9s						

LR05	**Currie**	**20.59**	**186**	P		Pn	00 57 27.0	-1.2
LR05				IAmb		IAmb	00 57 39.7	
	comp=Z,5.9nm,1.0s							
BDFB	**Brasilia**	**20.65**	**82**	P		**P**	**00 57 26.0**	**0.0**
	comp=Z,5.7nm,0.6s,baz=273,slow=4.3,SNR=8.5							
	comp=Z,5.7nm,0.6s							
PLCA	**Paso Flores**	**20.99**	**183**	P		**P**	**00 57 32.3**	**+2.9**
	comp=Z,1.8nm,0.8s,baz=350,slow=15,SNR=3.9							
	comp=Z,1.8nm,0.8s							
VAO	**Valinhos**	**21.03**	**103**	*eP*		**P**	**00 57 27.4**	**-2.6**
PMNB	**Patos De Minas**	**21.61**	**91**	*eP*		**P**	**00 57 34.9**	**-1.3**
MAL2	**Monte Alegre,**	**22.95**	**42**	P		**P**	**00 57 48.3**	**-1.8**
MAL2				IAmb		IAmb	00 57 48.9	
	comp=Z,16nm,0.7s							
PRPB	**Parauapebas**	**23.21**	**57**	*eP*		**P**	**00 57 51.4**	**-1.1**
BOAV	**Boa Vista**	**23.58**	**22**	P		**P**	**00 57 55.6**	**-0.2**
BOAV				IAmb		IAmb	00 57 56.7	
	comp=Z,6.3nm,0.7s							
BOAV	**Boa Vista**	**23.58**	**22**	*eP*		**P**	**00 57 53.3**	**-2.5**
SMTB	**Santa Maria do**	**23.59**	**66**	*eP*		**P**	**00 57 55.3**	**-0.6**
MAN01	**Angra dos Reis**	**23.79**	**102**	*eP*		**P**	**00 57 53.0**	**-4.6**
JANB	**Januaria**	**24.26**	**83**	*eP*		**P**	**00 58 01.9**	**0.0**
SDBA	**SAO DESIDERIO**	**24.50**	**76**	*eP*		**P**	**00 58 03.9**	**-0.3**
ABR01	**Abrolhos, BA**	**28.98**	**92**	*eP*		**P**	**00 58 43.3**	**-1.0**
NBAN	**Anadia - AL**	**33.38**	**77**	*eP*		**P**	**00 59 21.7**	**-1.4**
TXAR	**Lajitas Array**	**58.97**	**325**	P		**P**	**01 02 46.8**	**+3.6**
	comp=Z,0.1nm,0.5s,baz=128,slow=5.4,SNR=1.9							
	comp=Z,0.1nm,0.5s							
QSPA	**South Pole Qui**	**70.48**	**180**	P		**P**	**01 04 01.4**	**+3.9**
	comp=Z,0.7nm,0.5s,baz=312,slow=2.3,SNR=9.5							
	comp=Z,0.7nm,0.5s							
TORD	**Torodi Ar. Bea**	**77.08**	**71**	P		**P**	**01 04 36.2**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=256,slow=5.3,SNR=29							
	comp=Z,0.8nm,0.3s							
H11S2	**WAKE ISLAND Hy**	**27.29**	**279**	T		T	03 31 23.2	
	baz=101,slow=75,SNR=75							
H11S1	**WAKE ISLAND Hy**	**27.30**	**279**	T		T	03 31 23.4	
	baz=101,slow=75,SNR=64							
H11S3	**WAKE ISLAND Hy**	**27.31**	**279**	T		T	03 31 24.1	
	baz=101,slow=75,SNR=50							
H11N3	**WAKE ISLAND Hy**	**27.33**	**280**	T		T	03 31 40.0	
	baz=102,slow=75,SNR=31							
H11N2	**WAKE ISLAND Hy**	**27.34**	**280**	T		T	03 31 27.9	
	baz=102,slow=75,SNR=34							
H11N1	**WAKE ISLAND Hy**	**27.34**	**280**	T		T	03 31 41.2	
	baz=102,slow=75,SNR=27							
ASAR	**Alice Springs**	**131.33**	**209**	PKP		**PKiKP**	**01 11 55.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=137,slow=1.9,SNR=5.8							
WRA	**Warramunga Arr**	**134.31**	**212**	PKP		**PKiKP**	**01 12 02.9**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=148,slow=1.7,SNR=5.1							

TRN 07 01:15:43.4, 17.45N×62.04W, h17km, MD3.7, South-west of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.33**	**48**	*eP*	Pn	01 15 52.2	-1.1
ANWB				*eS*	Sb	01 15 57.0	+1.4
SKI	**Saint Kitts**	**0.68**	**260**	*eP*	Pn	01 16 00.0	+1.8
SKI				*eS*	Sn	01 16 10.1	+1.7
SKOC	**St. Kitts, UWI**	**0.68**	**257**	*eP*	Pn	01 15 58.9	+0.7
SKOC				*eS*	Sn	01 16 09.4	+1.0
MBFL	**Flemmings, Mon**	**0.72**	**193**	*eP*	Pn	01 16 00.3	+1.6
MBFL				*eS*	Sn	01 16 11.1	+1.8
MBWH		**0.72**	**192**	*eP*	Pn	01 16 00.2	+1.4
MBWH				*eS*	Sn	01 16 10.8	+1.4
DHSZ	**Broadband at M**	**1.20**	**167**	*eP*	Pg	01 16 07.0	+0.4
DHSZ				*eS*	Sg	01 16 24.4	+2.1
ATGZ	**Broadband at L**	**1.38**	**167**	*eP*	Pg	01 16 10.1	+0.1
ATGZ				*eS*	Sg	01 16 28.2	+0.2
MMLZ	**Guadeloupe Bro**	**1.44**	**166**	*eP*	Pg	01 16 10.7	-0.5
MMLZ				*eS*	Sg	01 16 29.2	-0.8
DSDZ	**La Diserade, G**	**1.47**	**140**	*eP*	Pb	01 16 10.1	0.0
DSDZ				*eS*	Sb	01 16 29.4	+0.9
TBG	**Guadaloupe-3**	**1.63**	**167**	*eP*	Pb	01 16 13.8	+0.7
TBG				*eS*	Sg	01 16 35.0	-1.1
DSLB	**Salisbury**	**2.09**	**163**	*eP*	Pb	01 16 20.6	-0.2
DSLB				*eS*	Sb	01 16 46.8	+0.4
SVN	**Savane Anatole**	**2.73**	**162**	*eP*	Pb	01 16 29.5	-2.2
BIM	**Bigot**	**3.06**	**162**	*eP*	Pn	01 16 33.7	+2.7

*NIED **07** 01:35:31.8, 39.24N×143.09E, h17km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.15; $M_{\theta\theta}$2.81; $M_{\phi\phi}$-0.65; $M_{r\theta}$-0.23; $M_{\theta\phi}$-0.79; $M_{\phi r}$0.70; Fault plane solution: $M_0$2.72000×10^{14} NP1: ϕ_s261.00000°, δ45.00000°, λ-121.00000°. NP2: ϕ_s122.00000°, δ53.00000°, λ-63.00000°.*

*JMA **07** 01:35:31.8±0.2, 39.2N±0.4×143.1E±0.7, h17km±1km, MV3.6/34, FAR E OFF SANRIKU*

*IDC **07** 01:35:40.0±2.6, 39.19N×143.09E, h86km±20km, mb3.4/7, mbtmp3.7/9, Error ellipse: s-maj=29.4km s-min=13.3km az=115.0*

ISC 07 01:35:31.2±4.2, 39°35N±0.06×143°11E±0.08, h9km±26km, n24, σ1§69/26, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.02**	**283**	P	**Pb**	**01 35 51.0**	**-0.1**
MIYJ				S	**Sb**	**01 36 04.9**	**+0.3**
JTH	**Tanohata**	**1.12**	**302**	P	**Pn**	**01 35 53.1**	**0.0**
JTH				S	**Sb**	**01 36 08.4**	**+0.9**
OFUJ	**Ofunato**	**1.15**	**257**	P	**Pn**	**01 35 52.2**	**-1.2**
OFUJ				*eS*	**Sb**	**01 36 06.8**	**-1.4**
JKMT	**Kesennumamotoy**	**1.38**	**248**	P	**Pn**	**01 35 55.5**	**-1.1**
JKMT				S	**Sn**	**01 36 12.4**	**-2.5**
JOM	**Ohasama**	**1.41**	**276**	P	**Pn**	**01 35 57.0**	**-0.1**
JOM				S	**Sb**	**01 36 15.3**	**-0.4**
JKZ	**Kuzumaki**	**1.51**	**295**	P	**Pn**	**01 35 59.2**	**+0.7**
JMK	**Ichinoseki**	**1.52**	**255**	P	**Pn**	**01 35 58.0**	**-0.5**
JMK				*eS*	**Sn**	**01 36 16.9**	**-1.5**
JANG	**Nango**	**1.59**	**310**	P	**Pn**	**01 36 00.5**	**+0.9**
JIO	**Ouri**	**1.64**	**237**	P	**Pn**	**01 35 59.1**	**-1.0**
JIO				S	**Sn**	**01 36 19.0**	**-2.2**
ASAJ	**Asahikawa**	**4.78**	**356**	P	Pb	01 36 50.9	-4.1
	3.9nm,0.4s,baz=291,slow=7.4,SNR=3.1						
ASAJ				S	**Sb**	**01 37 49.0**	**-3.5**
	3.4nm,0.3s,baz=69,slow=28,SNR=1.1						
MJAR	**Matsushiro Arr**	**4.78**	**236**	P	**Pn**	**01 36 46.1**	**+2.8**
	6.7nm,0.7s,baz=39,slow=12,SNR=29						
MJAR				S	**Sn**	**01 37 42.9**	**+4.0**
	1.4nm,0.5s,baz=38,slow=8.8,SNR=1.1						
SONM	**Songino Array**	**27.69**	**300**	P	**P**	**01 41 20.2**	**+0.5**
	0.3nm,0.4s,baz=99,slow=9.1,SNR=1.9						
	0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.32**	**127**	T	T	02 10 58.6	
	baz=319,slow=74,SNR=57						
H11N1	**WAKE ISLAND Hy**	**28.34**	**127**	T	T	02 11 00.1	
	baz=319,slow=74,SNR=37						
H11N3	**WAKE ISLAND Hy**	**28.34**	**127**	T	T	02 11 03.0	
	baz=319,slow=74,SNR=56						
H11S1	**WAKE ISLAND Hy**	**29.13**	**129**	T	T	02 12 02.0	
	baz=320,slow=76,SNR=6.7						
H11S3	**WAKE ISLAND Hy**	**29.13**	**129**	T	T	02 11 58.9	
	baz=320,slow=76,SNR=6.5						
H11S2	**WAKE ISLAND Hy**	**29.15**	**129**	T	T	02 12 00.5	
	baz=320,slow=76,SNR=6.1						
ZALV	**Zalesovo Beam**	**41.38**	**310**	P	**P**	**01 43 17.9**	**+0.5**
	0.6nm,0.4s,baz=92,slow=9.0,SNR=2.8						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**44.06**	**300**	P	**P**	**01 43 39.6**	**+0.3**
	0.6nm,0.6s,baz=85,slow=9.1,SNR=3.6						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**45.66**	**306**	P	**P**	**01 43 52.2**	**+0.2**
	1.5nm,0.5s,baz=79,slow=8.5,SNR=8.9						
	1.5nm,0.5s						
ILAR	**Eielson Array**	**46.83**	**34**	P	**P**	**01 44 02.0**	**+1.1**
	0.4nm,0.6s,baz=274,slow=6.7,SNR=4.5						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**50.03**	**311**	P	**P**	**01 44 26.4**	**+0.7**
	0.8nm,0.4s,baz=73,slow=6.3,SNR=4.9						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**59.55**	**190**	P	**P**	**01 45 33.6**	**-1.4**
	0.3nm,0.4s,baz=8.6,slow=6.8,SNR=2.4						
	0.3nm,0.4s						

*NEIC **07** 01:56:49.0±1.1, 16.4S±0.2×175.8W±0.1, h320km±8km, mb4.3/22, Error ellipse: s-maj=34.2km s-min=7.0km az=144.0*

*IDC **07** 01:56:50.5±7.0, 16.31S×175.80W, h336km±67km, mb3.4/7, mbtmp4.1/8, Error ellipse: s-maj=39.6km s-min=25.9km az=144.0*

ISC 07 01:56:52.8±0.7, 16.5S±0.2×175.8W±0.2, h364km, n40, σ0§74/39, mb4.1/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.62**	**57**		Pn	01 58 02.1	-7.1
DZM	**Mont Dzumac**	**17.68**	**249**	P	**P**	**02 00 36.6**	**+0.9**
DZM				IAmb	IAmb	02 01 17.7	
	comp=Z,20nm,1.4s						
DZM	**Mont Dzumac**	**17.68**	**249**	P	**P**	**02 00 36.7**	**+1.0**
	comp=Z,3.3nm,0.6s						
BKZ	**Black Stump Fm**	**23.61**	**195**	P	**P**	**02 01 29.8**	**-2.7**
ARMA	**Armidale**	**32.83**	**239**	P	**P**	**02 02 53.6**	**-0.3**
STKA	**Stephens Creek**	**41.52**	**240**	P	**P**	**02 04 06.5**	**+0.4**
STKA				IAmb	IAmb	02 04 45.8	
	comp=Z,20nm,1.0s						
STKA	**Stephens Creek**	**41.52**	**240**	P	**P**	**02 04 06.9**	**+0.8**
	comp=Z,1.9nm,0.3s,baz=104,slow=4.2,SNR=4.7						
	comp=Z,1.9nm,0.3s						
BBOO	**Buckleboo**	**46.30**	**240**	P	**P**	**02 04 43.5**	**-0.1**
BBOO				IAmb	IAmb	02 04 54.6	
	comp=Z,34nm,1.5s						
WR8	**Warramunga Arr**	**47.22**	**258**	P	**P**	**02 04 50.2**	**-0.7**
WB0	**Warramunga Arr**	**47.34**	**258**	P	**P**	**02 04 51.3**	**-0.5**
WRA	**Warramunga Arr**	**47.37**	**258**	P	**P**	**02 04 51.7**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=92,slow=7.3,SNR=24						
	comp=Z,0.9nm,0.4s						
AS31	**Alice Springs**	**47.60**	**253**	P	**P**	**02 04 53.8**	**0.0**
ASAR	**Alice Springs**	**47.60**	**253**	P	**P**	**02 04 53.1**	**-0.7**
ASAR	**Alice Springs**	**47.60**	**253**	P	**P**	**02 04 53.6**	**-0.2**
	comp=Z,9.3nm,0.5s,baz=88,slow=8.1,SNR=176						
	comp=Z,9.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**55.75**	**259**	P	**P**	**02 05 54.3**	**+0.8**
PSA00	**Pilbara Seismi**	**60.71**	**254**	P	**P**	**02 06 27.3**	**-0.1**
PSA00	**Pilbara Seismi**	**60.71**	**254**	P	**P**	**02 06 27.5**	**+0.1**
PSA00				IAmb	IAmb	02 07 03.4	
	comp=Z,21nm,1.4s						
MBWA	**Marble Bar**	**60.87**	**255**	P	**P**	**02 06 28.2**	**-0.2**
QSPA	**South Pole Qui**	**73.59**	**180**	P	**P**	**02 07 48.2**	**+1.3**
QSPA	**South Pole Qui**	**73.59**	**180**	P	**P**	**02 07 48.2**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=257,slow=13,SNR=2.0						
	comp=Z,0.8nm,0.7s						
WAKR	**Walker**	**75.96**	**42**	P	**P**	**02 08 00.6**	**-0.3**
WAKR				IAmb	IAmb	02 08 01.8	
	comp=Z,2.5nm,0.8s						
KDAK	**Kodiak Island**	**76.42**	**13**	P	**P**	**02 08 02.3**	**-0.4**
TPNV	**Topopah Spring**	**77.22**	**45**	P	**P**	**02 08 08.0**	**+0.1**
TPNV				IAmb	IAmb	02 08 08.7	
	comp=Z,2.4nm,0.9s						
J05D	**Fort Rock, OR**	**77.64**	**38**	P	**P**	**02 08 09.5**	**-0.5**
J05D				IAmb	IAmb	02 08 45.0	
	comp=Z,6.5nm,1.3s						
SUA	**Susitna One**	**80.18**	**12**	P	**P**	**02 08 22.6**	**-0.6**
SUA				IAmb	IAmb	02 08 23.9	
	comp=Z,3.9nm,0.7s						
TABL	**Table Mountain**	**81.55**	**17**	P	**P**	**02 08 30.1**	**-0.4**
TABL				IAmb	IAmb	02 08 49.8	
	comp=Z,6.8nm,1.1s						
GLB	**Gilahina Butte**	**81.71**	**15**	P	**P**	**02 08 30.9**	**-0.2**
GLB				IAmb	IAmb	02 08 31.5	
	comp=Z,3.4nm,0.5s						
PV12	**Saucer Basin,**	**83.03**	**47**	P	**P**	**02 08 38.9**	**+0.2**
PV12				IAmb	IAmb	02 08 39.4	
	comp=Z,4.6nm,0.7s						
TXAR	**Lajitas Array**	**83.11**	**57**	P	**P**	**02 08 40.1**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=257,slow=4.0,SNR=3.5						
	comp=Z,0.3nm,0.7s						
CCB	**Clear Creek Bu**	**83.64**	**12**	P	**P**	**02 08 40.4**	**-0.4**
CCB				IAmb	IAmb	02 08 40.9	
	comp=Z,4.3nm,0.6s						
ILAR	**Eielson Array**	**83.93**	**12**	P	**P**	**02 08 41.5**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=214,slow=5.4,SNR=21						
	comp=Z,1.4nm,0.6s						
PDAR	**Pinedale Array**	**84.58**	**43**	P	**P**	**02 08 45.7**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=281,slow=5.1,SNR=4.9						
	comp=Z,0.6nm,0.8s						
EGAK	**Eagle**	**85.18**	**14**	P	**P**	**02 08 48.4**	**0.0**
EGAK				IAmb	IAmb	02 08 48.8	
	comp=Z,2.4nm,1.0s						
BUR08	**Bucovina Ar. S**	**144.41**	**335**	PKPdf	**PKPdf**	**02 15 46.6**	**+0.3**
BURAR	**Bucovina Array**	**144.43**	**335**	PKPdf	**PKPdf**	**02 15 46.4**	**+0.1**
BRTR	**Keskin Array B**	**145.47**	**318**	PKPbc	**PKPab**	**02 15 49.6**	**-0.4**
BRTR	**Keskin Array B**	**145.47**	**318**	PKPbc	**PKPab**	**02 15 49.9**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=73,slow=1.4,SNR=5.3						
GERES	**GERESS Array B**	**146.78**	**349**	PKPbc	**PKPbc**	**02 15 52.6**	**0.0**
	comp=Z,0.2nm,0.5s,baz=19,slow=9.3,SNR=2.6						
MMAI	**Mount Meron Ar**	**147.39**	**306**	PKPbc	**PKiKP**	**02 15 56.1**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=79,slow=7.5,SNR=1.6						
FUORN	**Ofenpass-Fuorn**	**149.50**	**352**	PKPbc	**PKiKP**	**02 16 00.6**	**-0.1**

*HLW **07** 02:01:30.1, 29.17N×34.86E, h6km, Md3.1, Ml3.2*

*JSO **07** 02:01:30.0±1.0, 29°N±6°×3°5E±°, h6km±4km, M3.6/11, Md4.0/11, ML3.5/11, MLv3.6/11, MLv3.6/11*

*SGS **07** 02:01:30.5, 29.23N×34.84E, h21km, Ml2.8*

*GII **07** 02:01:31.4±0.0, 29.257N±0.002×34.795E±0.001, h10km, Mws2.9, confirmed*

ISC 07 02:01:30.5±0.8, 29.20N±0.02×34.80E±0.03, h16km±6km, n72, σ0§61/76, 1D, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HBST	**Basata**	**0.06**	**289**	P	**Pg**	**02 01 33.0**	**-0.6**
HAQS	**Haql**	**0.18**	**144**	S	**Sg**	**02 01 39.3**	**+1.3**
HAQS	**Haql**	**0.18**	**144**	P	**Pg**	**02 01 39.4**	**+1.4**
NUB	**Nuweibaa**	**0.21**	**218**	P	**Pb**	**02 01 35.8**	**-0.2**
HQLS		**0.25**	**66**	P	**Pg**	**02 01 35.8**	**-0.4**
HQLS		**0.25**	**66**	S	**Sg**	**02 01 39.5**	**-0.6**
JMOS	**Jabal al Moall**	**0.28**	**96**	S	**Sg**	**02 01 40.3**	**-0.3**
JMOS				P	**Pg**	**02 01 36.2**	**-0.3**
ELOT	**Eilot**	**0.41**	**21**	P	**Pg**	**02 01 38.7**	**-0.2**
EIL	**Elat**	**0.49**	**16**	P	**Pg**	**02 01 39.9**	**-0.4**
EIL	**Elat**	**0.49**	**16**	S	**Sg**	**02 01 45.8**	**-1.1**
HDHB	**Dhahab**	**0.50**	**198**	P	**Pg**	**02 01 40.3**	**-0.2**
BEOR	**Beer Ora**	**0.54**	**18**	P	**Pg**	**02 01 41.0**	**-0.2**
BEOR	**Beer Ora**	**0.54**	**18**	S	**Sb**	**02 01 48.4**	**-0.6**
AQBJ	**Aqaba**	**0.57**	**23**	P	**Pb**	**02 01 42.1**	**-0.1**
MBRI	**Mt Berech**	**0.60**	**10**	P	**Pb**	**02 01 42.3**	**-0.4**
MBRI	**Mt Berech**	**0.60**	**10**	P	**Pg**	**02 01 42.2**	**-0.3**
ELFZ	**Elifaz**	**0.63**	**17**	P	**Pg**	**02 01 42.8**	**-0.1**
TAYS	**Tayyib Ism**	**0.65**	**174**	P	**Pb**	**02 01 42.8**	**-0.6**
SAMR	**Samar**	**0.66**	**17**	P	**Pb**	**02 01 43.1**	**-0.6**
YTVT	**Yotvata**	**0.73**	**18**	P	**Pg**	**02 01 44.6**	**-0.2**
JLOS		**0.76**	**127**	P	**Pb**	**02 01 44.4**	**-1.1**
BDAS	**Al Bad`**	**0.81**	**161**	P	**Pb**	**02 01 45.5**	**-0.7**
HRFI	**Mount Harif**	**0.86**	**14**	P	**Pb**	**02 01 46.5**	**-0.7**
HRFI	**Mount Harif**	**0.86**	**14**	S	**Sg**	**02 01 58.9**	**+0.2**
KRMI	**Paran Flat**	**0.92**	**356**	P	**Pb**	**02 01 47.9**	**-0.2**
KRMI	**Paran Flat**	**0.92**	**356**	P	**Pb**	**02 01 47.6**	**-0.5**
KRMI	**Paran Flat**	**0.92**	**356**	S	**Sb**	**02 01 59.7**	**-0.3**
YAHL	**Yahel**	**0.93**	**18**	P	**Pb**	**02 01 48.0**	**-0.3**
HKAT	**Jabal Katrina**	**0.97**	**227**	P	**Pb**	**02 01 48.7**	**-0.4**
AYUS	**`Aynunah**	**1.09**	**157**	P	**Pb**	**02 01 50.2**	**-0.7**
KRABS	**KRABS**	**1.16**	**160**	P	**Pn**	**02 01 51.8**	**-0.3**
PRNI	**Paran**	**1.17**	**9**	P	**Pb**	**02 01 52.0**	**-0.3**
PRNI				S	**Sg**	**02 02 08.5**	**+0.2**
PRNI	**Paran**	**1.17**	**9**	⇓P	**Pb**	**02 01 52.2**	**-0.1**
PRNI	**Paran**	**1.17**	**9**	S	**Sg**	**02 02 07.9**	**-0.4**
TR2	**Tor 2**	**1.24**	**230**	P	**Pb**	**02 01 53.5**	**-0.1**
HSNJ	**Maan**	**1.31**	**36**	P	**Pb**	**02 01 54.7**	**-0.1**
ZUKM	**Zukim**	**1.33**	**14**	P	**Pb**	**02 01 55.1**	**0.0**
ZUKM	**Zukim**	**1.33**	**14**	S	**Sg**	**02 02 12.8**	**-0.7**
ZFRI	**Zfri**	**1.39**	**14**	P	**Pb**	**02 01 56.0**	**-0.1**
ZFRI				S	**Sg**	**02 02 15.2**	**-0.3**
ZFRI	**Zfri**	**1.39**	**14**	P	**Pb**	**02 01 55.6**	**-0.5**
ZFRI	**Zfri**	**1.39**	**14**	S	**Sg**	**02 02 14.7**	**-0.8**
RMNI	**Mount Ramon**	**1.40**	**359**	P	**Pb**	**02 01 55.8**	**-0.5**
RMNI	**Mount Ramon**	**1.40**	**359**	S	**Sb**	**02 02 14.2**	**+0.4**
TR1	**Tor 1**	**1.40**	**212**	P	**Pn**	**02 01 54.9**	**-0.4**
HRDS	**Abu Rudays**	**1.40**	**250**	P	**Pb**	**02 01 56.0**	**-0.3**
HRDS				S	**Sg**	**02 02 14.9**	**-0.8**
MSPR	**Moshav SAPIR**	**1.45**	**13**	P	**Pb**	**02 01 56.9**	**-0.2**
MSPR	**Moshav SAPIR**	**1.45**	**13**	S	**Sg**	**02 02 16.6**	**-0.8**
WTBKS	**WTBKS**	**1.48**	**138**	P	**Pn**	**02 01 56.0**	**-0.6**
EYHV	**Ein Yahav**	**1.51**	**15**	P	**Pb**	**02 01 57.8**	**-0.2**
MWLHS	**Almuwaylih**	**1.58**	**156**	P	**Pn**	**02 01 57.3**	**-0.4**
HZVA	**Hazeva**	**1.62**	**15**	P	**Pb**	**02 01 59.4**	**-0.6**
IDAN	**Idan**	**1.68**	**14**	P	**Pb**	**02 02 00.2**	**-0.9**
KZIT	**Kziot**	**1.74**	**349**	P	**Pn**	**02 02 00.6**	**+0.6**
KZIT	**Kziot**	**1.74**	**349**	S	**Sb**	**02 02 23.9**	**+0.3**
TBKS	**Tabuk**	**1.81**	**122**	P	**Pn**	**02 02 01.2**	**+0.2**
ZAF	**Zafarana**	**1.97**	**273**	P	**Pn**	**02 02 04.2**	**+1.1**
GRB	**Gharib**	**1.99**	**243**	P	**Pn**	**02 02 03.7**	**+0.2**
MSBI	**Mazada**	**2.16**	**13**	P	**Pn**	**02 02 06.0**	**+0.2**
YTIR	**Yattir**	**2.18**	**7**	P	**Pn**	**02 02 06.7**	**+0.6**
YTIR	**Yattir**	**2.18**	**7**	S	**Sn**	**02 02 33.7**	**+1.0**
URD07	**Al Anba**	**2.19**	**133**	P	**Pb**	**02 02 09.3**	**-0.5**
GHAJ	**Ghor Haditha**	**2.20**	**17**	P	**Pn**	**02 02 07.2**	**+0.8**
URD10	**Hayder**	**2.27**	**116**	P	**Pn**	**02 02 07.8**	**+0.5**
AMAZ	**Amatzia**	**2.33**	**2**	P	**Pn**	**02 02 08.8**	**+0.6**
DSI	**Dead Sea**	**2.42**	**12**	P	**Pn**	**02 02 09.8**	**+0.4**
DSI	**Dead Sea**	**2.42**	**12**	P	**Pn**	**02 02 09.8**	**+0.4**
KOT	**Kottamia**	**2.69**	**286**	P	**Pn**	**02 02 14.0**	**+0.9**
SALP	**Salfit**	**2.88**	**7**	P	**Pn**	**02 02 16.2**	**+0.4**
SLTI	**Sal'it**	**3.04**	**4**	P	**Pn**	**02 02 19.1**	**+1.2**
QLABS	**Al Qalibar**	**3.06**	**115**	P	**Pb**	**02 02 26.1**	**+1.5**
HMDT	**Nahal Hemdat**	**3.11**	**11**	P	**Pn**	**02 02 19.6**	**+0.7**
HMDT	**Nahal Hemdat**	**3.11**	**11**	P	**Pn**	**02 02 19.6**	**+0.7**

WEL 07 02:22:37.3±0.9, 33°S±18°×17°9E±3°6, h383km±19km, M4.0/8, mB4.3/8, ML4.6/9, MLv4.5/7, Mw(mB)3.5/8, Error ellipse: s-maj=51.5km s-min=9.5km az=115.1, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.57**	**188**	P	Pn	02 23 54.9	+1.0
WMGZ				S	S	02 24 56.2	+0.1
HAZ	**Te Kaha**	**4.61**	**194**	P	Pn	02 23 54.0	-0.3
HAZ				S	S	02 24 56.0	-0.9
PKGZ	**Pakihiroa**	**4.67**	**191**	P	Pn	02 23 56.4	+1.5
PKGZ				S	S	02 24 57.6	-0.3
RUGZ	**Raukumara Rang**	**4.84**	**194**	P	Pn	02 23 56.2	-0.6
RUGZ				S	S	02 24 59.8	-1.6
PUZ	**Puketiti**	**4.84**	**189**	P	Pn	02 23 57.1	+0.3
PUZ				S	S	02 24 59.1	-2.2
TWGZ	**Tauwhareparae**	**4.99**	**191**	P	Pn	02 23 58.8	+0.5
TWGZ				S	S	02 25 05.3	+1.2
URZ	**Urewera**	**5.25**	**198**	P	Pn	02 24 01.6	+0.6
URZ				S	S	02 25 10.5	+1.5
CNGZ	**Carnagh Statio**	**5.25**	**189**	P	Pn	02 24 01.3	+0.3
RAGZ	**Rawiri**	**5.40**	**195**	P	Pn	02 24 04.2	+1.4
RAGZ				S	S	02 25 13.1	+0.8
MUGZ	**Murupara**	**5.55**	**200**	P	Pn	02 24 06.0	+1.8
MUGZ				S	S	02 25 16.2	+1.2
RTZ	**Ruatahuna**	**5.62**	**198**	P	Pn	02 24 06.2	+1.1
SNGZ	**Shannon Statio**	**5.69**	**195**	P	Pn	02 24 05.1	-0.7
SNGZ				S	S	02 25 20.1	+2.3
RAHZ	**Arahi**	**5.88**	**196**	P	Pn	02 24 06.4	-1.4
RAHZ				S	S	02 25 22.7	+1.1
MTHZ	**Maungataniwha**	**5.88**	**198**	P	Pn	02 24 07.8	-0.1
MTHZ				S	S	02 25 22.7	+1.1
NMHZ	**Naumai**	**6.12**	**198**	P	Pn	02 24 09.5	-1.0
NMHZ				S	S	02 25 27.6	+1.0
ARHZ	**Aropaoanui**	**6.23**	**196**	P	Pn	02 24 11.4	-0.3
BKZ	**Black Stump Fm**	**6.27**	**200**	P	Pn	02 24 11.8	-0.5
BKZ				S	S	02 25 26.5	-3.1
KWHZ	**Kaweka Forest**	**6.53**	**199**	P	P	02 24 16.8	+0.8
KWHZ				S	S	02 25 37.0	+2.1

comp=Z,212nm,38.2s
PPT2 eS S 03 07 57.7 -17
comp=Z,583nm,25.8s
PPT2 eLR LR 03 09 42.8
comp=Z,2µm,24.0s
PPT2 eLR LR 03 09 50.5
comp=Z,2µm,25.8s
TBI Tubuai 25.07 111 eP P 03 03 54.1 -8.3
comp=Z,437nm,30.8s
TBI eS S 03 08 17.1 -10
comp=Z,7µm,26.0s
TBI eLR LR 03 10 10.3
comp=Z,17µm,27.0s
TBI eLR LR 03 10 13.8
comp=Z,2µm,21.8s
HNR Honiara 25.36 281 LR LR 03 12 29.1
comp=Z,5µm,20.7s,baz=118,slow=33
RPZ Rata Peaks 30.33 200 LR LR 03 17 14.3
comp=Z,2µm,18.2s,baz=21,slow=37
TAOE Nuku Hiva Isla 34.57 83 eP P 03 05 14.6 -12
comp=Z,53nm,22.0s
TAOE eS S 03 10 36.4 -20
comp=Z,140nm,28.5s
TAOE eLR LR 03 14 24.3
comp=Z,2µm,25.3s
PMG Port Moresby 37.56 275 LR LR 03 19 15.9
comp=Z,755nm,20.7s,baz=88,slow=33
H11S2 WAKE ISLAND Hy 38.58 331 T T 03 47 16.5
baz=149,slow=75,SNR=106
H11S3 WAKE ISLAND Hy 38.59 331 T T 03 47 16.9
baz=149,slow=75,SNR=44
H11S1 WAKE ISLAND Hy 38.60 331 T T 03 47 16.1
baz=149,slow=75,SNR=56
H11N3 WAKE ISLAND Hy 39.56 332 T T 03 48 27.7
baz=151,slow=76,SNR=239
H11N1 WAKE ISLAND Hy 39.56 332 T T 03 48 27.9
baz=151,slow=76,SNR=275
H11N2 WAKE ISLAND Hy 39.58 332 T T 03 48 29.0
baz=151,slow=76,SNR=236
COEN Coen 40.55 267 P 03 06 16.1 -1.5
COEN IAmb IAmb 03 06 19.2
comp=Z,22nm,1.1s
STKA Stephens Creek 42.63 240 P P 03 06 32.7 -1.7
comp=Z,3.7nm,0.9s,baz=0.9,slow=8.2,SNR=3.2
STKA LR LR 03 23 00.7
comp=Z,364nm,19.0s,baz=72,slow=34
comp=Z,3.7nm,0.9s
JAY Jayapura 45.68 282 LR LR 03 24 30.5
comp=Z,561nm,20.5s,baz=161,slow=34
WRA Warramunga Arr 48.39 257 P P 03 07 19.1 -1.1
comp=Z,0.3nm,0.3s,baz=92,slow=6.8,SNR=5.9
WRA LR LR 03 26 27.5
comp=Z,537nm,19.5s,baz=66,slow=35
comp=Z,0.3nm,0.3s
ASAR Alice Springs 48.66 252 P P 03 07 20.5 -1.8
ASAR Alice Springs 48.66 252 P P 03 07 21.1 -1.2
comp=Z,8.4nm,0.9s,baz=88,slow=8.4,SNR=48
ASAR LR LR 03 26 23.5
comp=Z,1µm,19.9s,baz=97,slow=34
comp=Z,8.4nm,0.9s
FITZ Fitzroy Crossi 56.76 258 LR LR 03 30 39.3
comp=Z,1µm,20.4s,baz=102,slow=34
SOEI Soe 59.51 268 P P 03 08 40.4 -1.3
BATI Baumata 59.99 267 LR LR 03 33 33.0
comp=Z,327nm,21.5s,baz=110,slow=35
RPN Rapa Nui 61.45 113 LR LR 03 29 44.6
comp=Z,197nm,21.0s,baz=292,slow=30
VNDA Vanda 62.87 186 P P 03 09 02.4 -1.0
comp=Z,2.4nm,1.1s,baz=12,slow=7.2,SNR=11
VNDA LR LR 03 34 45.6
comp=Z,158nm,18.1s,baz=22,slow=34
comp=Z,2.4nm,1.1s
DAV Davao City (W) 63.19 287 LR LR 03 35 15.6
comp=Z,225nm,18.4s,baz=121,slow=35
NWAO Narrogin (SRO) 63.21 241 LR LR 03 35 19.7
comp=Z,246nm,18.3s,baz=47,slow=35
KAPI Kappang 64.98 272 LR LR 03 38 14.7
comp=Z,70nm,19.3s,baz=93,slow=37
JHJ Hachijo jima 2 65.11 319 LR LR 03 36 27.4
comp=Z,67nm,18.1s,baz=240,slow=35
MJAR Matsushiro Arr 68.32 321 P P 03 09 38.9 -0.3
comp=Z,0.6nm,0.4s,baz=150,slow=5.4,SNR=5.4
comp=Z,0.6nm,0.4s
SHEM Shemya Is, Ala 68.88 353 LR LR 03 33 21.1
comp=Z,587nm,21.2s,baz=114,slow=30
CASY Casey 69.49 205 P 03 09 48.4 +2.5
JOW Kunigami 69.57 307 LR LR 03 34 06.2
comp=Z,231nm,21.4s,baz=126,slow=31
TGY Tagaytay City 70.05 292 LR LR 03 36 00.4
comp=Z,662nm,22.0s,baz=165,slow=32
H06E1 SOCORRO T-PHAS 71.68 64 T T 04 28 13.2
SNR=22
PETK Petropavlovsk- 72.56 343 P P 03 10 05.3 +0.6
comp=Z,4.4nm,0.8s,baz=106,slow=9.4,SNR=5.4
PETK LR LR 03 35 40.1
comp=Z,246nm,21.3s,baz=150,slow=31
comp=Z,4.4nm,0.8s
ISA Isabella, Lake 73.90 45 P P 03 10 14.7 +1.6
BUCR Buckhorn Ranch 73.92 42 P P 03 10 13.6 +0.4
CMB Columbia Colle 73.97 42 P P 03 10 14.2 +0.8
WELL Weller Preserv 73.99 41 P P 03 10 14.4 +0.9
PFO Pinyon Flats O 74.20 48 LR LR 03 38 21.8
comp=Z,225nm,18.1s,baz=232,slow=32
QSPA South Pole Qui 74.28 180 P P 03 10 17.5 +2.5
QSPA IAmb IAmb 03 10 21.6
comp=Z,12nm,1.1s
QSPA South Pole Qui 74.28 180 P P 03 10 16.5 +1.6
comp=Z,9.1nm,1.1s,baz=53,slow=2.7,SNR=9.9
QSPA LR LR 03 36 53.6
comp=Z,216nm,21.7s,baz=38,slow=31
comp=Z,9.1nm,1.1s
LPIG La Paz 74.43 59 LR LR 03 34 31.3
comp=Z,109nm,20.4s,baz=237,slow=29
CLC China Lake 74.58 45 P P 03 10 18.6 +1.5
CLC IAmb IAmb 03 10 28.3
comp=Z,13nm,1.5s
CCCA Chr Cany lake 74.58 46 P P 03 10 18.3 +1.2
CWC Cottonwood Cre 74.59 44 P P 03 10 18.3 +1.1
YBH Yreka Blue Hor 74.75 38 P P 03 10 18.5 +0.6
YBH IAmb IAmb 03 10 29.0
comp=Z,9.5nm,1.4s
YBH Yreka Blue Hor 74.75 38 LR LR 03 35 46.7
comp=Z,16nm,21.1s,baz=252,slow=30
MPMC Manual Prospec 74.79 45 P P 03 10 19.2 +0.7
MPMC IAmb IAmb 03 10 29.7
comp=Z,11nm,1.4s
WAKR Walker 74.85 42 P 03 10 19.6 +0.8
HATC Hat Creek Radi 74.94 39 P P 03 10 21.3 +2.3
BEKR Beckworth 75.06 40 P P 03 10 20.8 +0.9
BEKR IAmb IAmb 03 10 31.8
comp=Z,9.0nm,1.3s
QSM Queen of Sheba 75.16 45 P P 03 10 21.1 +0.7
QSM IAmb IAmb 03 10 28.2
comp=Z,6.0nm,1.0s
DSP Deep Springs 75.18 44 P P 03 10 23.0 +2.7
DSP IAmb IAmb 03 10 32.8
comp=Z,11nm,1.5s
LHV Little Huntoon 75.32 43 P P 03 10 22.2 +1.0
IRM Iron Mountain 75.42 48 P 03 10 23.7 +1.7
IRM IAmb IAmb 03 10 33.2
comp=Z,9.1nm,1.4s
DANC Danby, Needles 75.50 47 P P 03 10 22.7 +0.4
DANC IAmb IAmb 03 10 34.2
comp=Z,10.0nm,1.1s
RYN Ryan 75.52 42 P P 03 10 22.9 +0.3
RYN IAmb IAmb 03 10 33.7
comp=Z,6.1nm,1.2s
KDAK Kodiak Island 75.57 12 LR LR 03 39 09.8
comp=Z,397nm,19.2s,baz=220,slow=32
PAHR Pah Rah Range 75.58 41 P P 03 10 22.4 -0.5
GMN Gold Mountain 75.61 44 P P 03 10 23.4 +0.1
113A Mohawk Valley, 75.72 50 P P 03 10 25.9 +2.3
WCT Wildcat Mounta 75.77 45 P P 03 10 25.3 +1.3
TPH Tonopah 76.06 43 P 03 10 26.2 +0.5
TPH IAmb IAmb 03 10 34.2
comp=Z,12nm,1.4s
TPNV Topopah Spring 76.11 45 P P 03 10 27.5 +1.5
LEM Lembang 76.20 267 LR LR 03 43 33.8
comp=Z,170nm,20.9s,baz=348,slow=35
V12A Nelson 76.43 46 P P 03 10 29.2 +1.5
V12A IAmb IAmb 03 10 39.5
comp=Z,11nm,1.4s
J05D Fort Rock, OR 76.56 37 P 03 10 29.1 +0.8
J05D IAmb IAmb 03 10 55.0
comp=Z,8.9nm,1.4s
SHPR Sheep Range 76.62 46 P P 03 10 30.4 +1.5
W13A Hualapai Mount 76.79 47 P 03 10 30.5 +0.5
W13A IAmb IAmb 03 10 41.0
comp=Z,12nm,1.5s
USRK Ussuriysk Ar. 76.84 324 LR LR 03 38 03.3
comp=Z,142nm,21.0s,baz=118,slow=31
PINE Pine Mountain 77.03 37 P 03 10 32.5 +1.4
PRN Pahroc Range 77.16 45 P P 03 10 33.7 +1.8
PRN IAmb IAmb 03 10 44.0
comp=Z,9.9nm,1.2s
R11B Troy Canyon, C 77.30 44 P P 03 10 33.0 +0.3
TUC Tucson 77.71 51 P P 03 10 36.0 +0.9
H02S2 DAWSON INLET T 77.75 25 T T 04 36 03.9
SNR=12
X16A Lo Mia Camp, P 78.22 49 P P 03 10 38.3 +0.3
CCUT Cedar City 78.39 45 P P 03 10 40.3 +1.4
CCUT IAmb IAmb 03 10 58.2
comp=Z,8.9nm,1.4s
SPR3 Spring Creek 3 78.47 44 P 03 10 40.8 +1.4
SPR3 IAmb IAmb 03 10 49.9
comp=Z,11nm,1.4s
PSUT Pine Spring 78.55 44 P P 03 10 39.8 +0.1
PSUT IAmb IAmb 03 10 49.9
comp=Z,7.5nm,1.3s
SLKM Skilak Lake 78.56 12 P P 03 10 39.0 0.0
SLKM IAmb IAmb 03 10 44.5
comp=Z,8.8nm,1.0s
U15A North Rim 78.58 47 P 03 10 41.4 +1.4
SZCU Shurtz Canyon 78.60 46 P P 03 10 40.8 +0.8
SZCU IAmb IAmb 03 10 51.3
comp=Z,13nm,1.5s
WUAZ Wupatki 78.79 48 P P 03 10 42.9 +1.9
WUAZ IAmb IAmb 03 10 52.4
comp=Z,12nm,1.4s
ELK Elko 78.79 42 LR LR 03 38 24.3
comp=Z,103nm,20.8s,baz=249,slow=30
BBB Bella Bella 78.85 27 LR LR 03 38 30.4
comp=Z,227nm,20.1s,baz=220,slow=30
PKCU Pink Cliffs 79.06 46 P 03 10 44.5 +1.9
MTPU Mount Pierson 79.44 46 P P 03 10 46.7 +1.9
GLI Glacier Island 79.56 13 P P 03 10 43.3 -1.1
GLI IAmb IAmb 03 10 50.3
comp=Z,8.2nm,1.1s
BMRM Bremner River 80.22 14 P P 03 10 48.3 +0.3
BMRM IAmb IAmb 03 10 59.4
comp=Z,9.3nm,1.0s
SCM Sheep Creek Mo 80.36 13 P P 03 10 49.3 +0.4
SCM IAmb IAmb 03 10 57.0
comp=Z,8.3nm,1.0s
TMUT Trail Mountain 80.72 45 P P 03 10 51.9 +0.3
TMUT IAmb IAmb 03 11 01.5
comp=Z,11nm,1.4s
VRDI Verde Repeater 80.72 15 IAmb IAmb 03 11 01.6
comp=Z,13nm,1.4s
HLID Hailey 80.81 40 P 03 10 52.1 +0.3
GLB Gilahina Butte 80.82 15 P 03 10 51.4 +0.1
GLB IAmb IAmb 03 11 01.2
comp=Z,7.0nm,1.2s
MCARA McCarthy VSAT 80.96 15 P 03 10 51.4 -0.6
Y22A Socorro 81.31 51 P P 03 10 55.9 +1.2
RND Reindeer 81.47 12 P P 03 10 56.2 +1.5
NEW Newport 81.81 35 LR LR 03 39 59.7
comp=Z,203nm,20.2s,baz=236,slow=30
PV02 Paradox Valley 81.91 47 P P 03 10 58.9 +1.0
PV02 IAmb IAmb 03 11 05.7
comp=Z,12nm,1.3s
TXAR Lajitas Array 81.99 57 P P 03 10 58.7 +0.4
comp=Z,2.6nm,1.2s,baz=235,slow=5.7,SNR=6.8
TXAR LR LR 03 39 29.7
comp=Z,103nm,19.6s,baz=236,slow=30
comp=Z,2.6nm,1.2s
ANMO Albuquerque 82.12 50 P 03 11 01.0 +2.1
ANMO IAmb IAmb 03 11 09.4
comp=Z,14nm,1.4s
ANMO Albuquerque 82.12 50 LR LR 03 41 14.9
comp=Z,207nm,18.7s,baz=328,slow=31
PV15 Paradox Valley 82.15 47 P P 03 10 59.4 +0.3
PV15 IAmb IAmb 03 11 06.7
comp=Z,7.1nm,1.1s
MCMT McKenzie Canyo 82.43 39 P P 03 11 00.5 +0.1
SEY Seymchan 82.52 346 LR LR 03 44 00.7
comp=Z,240nm,19.3s,baz=148,slow=33
DLBC Dease Lake 82.56 22 LR LR 03 39 23.2
comp=Z,3µm,21.9s,baz=218,slow=30
WRH Wood River Hil 82.58 11 P P 03 11 00.8 +0.3
DOT Dot Lake 82.68 13 P P 03 11 01.4 +0.3
DOT IAmb IAmb 03 11 10.1
comp=Z,7.6nm,1.2s
CCB Clear Creek Bu 82.80 11 P P 03 11 00.5 -1.1
CCB IAmb IAmb 03 11 11.0
comp=Z,9.1nm,1.4s
TPAW Teton Pass 82.94 41 P P 03 11 03.7 +0.5
TPAW IAmb IAmb 03 11 20.7
comp=Z,6.1nm,1.2s
S22A 4UR Ranch, Cre 83.06 48 P 03 11 04.8 +0.9
ILAR Eielson Array 83.08 12 P 03 11 02.3 -0.7
ILAR Eielson Array 83.08 12 P P 03 11 03.1 +0.1
comp=Z,0.4nm,0.5s,baz=218,slow=5.5,SNR=8.4
comp=Z,0.4nm,0.5s
YHL Hebgen Lake 83.46 40 P 03 11 07.0 +1.2
PDAR Pinedale Array 83.48 42 P P 03 11 05.6 -0.3
comp=Z,1.5nm,0.9s,baz=220,slow=3.0,SNR=8.5
PDAR LR LR 03 44 00.4
comp=Z,92nm,18.4s,baz=238,slow=33
comp=Z,1.5nm,0.9s
LYMT Lyon Mountain 83.86 38 P P 03 11 08.9 +1.1
HRY Holter Researc 84.00 38 P P 03 11 10.2 +1.8
PRP Porcupine Dome 84.01 12 P P 03 11 08.8 +0.7
DAWY Dawson 84.13 15 P P 03 11 08.4 -0.1
DAWY IAmb IAmb 03 11 18.0
comp=Z,8.7nm,1.2s
PMSA Palmer Station 84.41 156 LR LR 03 40 38.1
comp=Z,122nm,20.7s,baz=244,slow=30
CMIG Matias Romero 85.33 71 LR LR 03 41 21.6
comp=Z,248nm,19.5s,baz=252,slow=30
H03S2 Juan Fernandez 86.17 124 T T 04 46 22.7
baz=251,slow=75,SNR=15
H03S1 Juan Fernandez 86.18 124 T T 04 46 21.1
baz=251,slow=75,SNR=13
H03S3 Juan Fernandez 86.18 124 T T 04 46 19.9
baz=251,slow=75,SNR=11
H03N2 Juan Fernandez 86.27 124 T T 04 46 21.9
baz=257,slow=73,SNR=8.0
H03N3 Juan Fernandez 86.28 124 T T 04 46 21.9
baz=257,slow=73,SNR=6.3
H03N1 Juan Fernandez 86.29 124 T T 04 46 24.6
baz=257,slow=73,SNR=7.3
ABTX Abilene, Hawle 86.42 55 P P 03 11 21.3 +0.6
MAW Mawson 86.99 199 P P 03 11 23.0 +0.2
comp=Z,4.2nm,0.9s,baz=120,slow=8.1,SNR=8.2
MAW LR LR 03 48 35.4
comp=Z,413nm,18.2s,baz=112,slow=34
comp=Z,4.2nm,0.9s
PSI Prapat 87.11 274 LR LR 03 51 47.3
comp=Z,112nm,20.1s,baz=116,slow=37
YAK Yakutsk 88.90 337 LR LR 03 48 45.6
comp=Z,67nm,19.2s,baz=122,slow=34
PLCA Paso Flores 90.30 133 LR LR 03 44 21.5
comp=Z,84nm,21.5s,baz=248,slow=30
YKA Yellowknife Ar 91.00 24 P P 03 11 39.6 -2.0
comp=Z,1.0nm,0.9s,baz=247,slow=4.3,SNR=1.9
YKA LR LR 03 48 48.2
comp=Z,270nm,18.1s,baz=226,slow=33
comp=Z,1.0nm,0.9s
CMAR Chiang Mai Arr 91.40 289 P P 03 11 44.3 -0.3
comp=Z,0.6nm,0.3s,baz=94,slow=2.6,SNR=4.6
CMAR LR LR 03 48 19.4
comp=Z,118nm,21.7s,baz=115,slow=33
comp=Z,0.6nm,0.3s
SYO Syowa Base 91.96 192 ⇓eP P 03 11 47.0 +0.9
SNAA Sanae 92.61 177 ⇑P P 03 11 39.7 -10
comp=Z,33nm,1.0s
SNAA Sanae 92.61 177 P P 03 11 47.1 -2.1
comp=Z,1.2nm,1.0s,baz=167,slow=8.3,SNR=3.7
SNAA LR LR 03 50 01.2
comp=Z,74nm,20.7s,baz=235,slow=33
comp=Z,1.2nm,1.0s
JTS Las Juntas de 92.66 80 LR LR 03 43 10.9
comp=Z,262nm,21.3s,baz=268,slow=29
VNA2 Neumayer--Watz 93.09 176 ⇑P P 03 11 48.7 -2.7
comp=Z,3.2nm,0.9s,baz=202,slow=0.7
VNA1 Neumayer--Stat 93.30 176 ⇓P P 03 11 43.9 -8.4
comp=Z,7.3nm,1.1s
SONM Songino Array 94.19 319 P P 03 11 56.2 -0.7
comp=Z,0.3nm,0.5s,baz=116,slow=6.6,SNR=1.9
comp=Z,0.3nm,0.5s
ATAH Atahualpa 94.26 99 LR LR 03 44 36.6
comp=Z,474nm,21.6s,baz=264,slow=29
TIXI Tiksi 94.98 345 LR LR 03 48 55.2
comp=Z,185nm,21.2s,baz=166,slow=32
ULM Lac du Bonnet 95.10 39 LR LR 03 48 41.9
comp=Z,186nm,19.7s,baz=280,slow=32
BRDH Bariadhala 99.08 291 LR LR 03 53 37.2
comp=Z,188nm,20.9s,baz=60,slow=33
TKL Tuckaleechee C 99.88 56 LR LR 03 51 12.3
comp=Z,96nm,18.3s,baz=264,slow=32
BVAR Borovoye Array 117.31 322 PKP **PKPdf 03 17 21.8 -1.4**
comp=Z,0.3nm,0.4s,baz=96,slow=2.9,SNR=1.5
DPC Dobruska-Polom 144.34 348 ePKP **PKiKP 03 18 19.1 +1.4**
STEB Steborice 144.41 346 ePKP **PKPdf 03 18 16.6 +2.5**
MAUC Maruska 144.93 346 ePKP **PKiKP 03 18 20.8 +1.9**
UCC Uccle 145.05 1 dPKPdf **PKPab 03 18 15.2 +0.7**
MEM Membach 145.24 359 dPKPdf **PKPdf 03 18 17.1 +1.5**
BTNL Ternell 145.26 359 dPKP **PKPdf 03 18 17.6 +1.9**
BHOU Houvegnez 145.50 359 dPKP **PKPbc 03 18 16.3 +0.3**
BRTR Keskin Array B 145.54 319 PKPbc **PKPbc 03 18 16.9 +0.2**
comp=Z,15nm,1.2s,baz=93,slow=2.6,SNR=14
KHC Kasperske Hory 146.02 350 ePKP **PKiKP 03 18 23.6 +2.4**
GERES GERESS Array B 146.28 350 PKPbc **PKPdf 03 18 18.9 +1.4**
comp=Z,1.8nm,1.1s,baz=46,slow=5.8,SNR=7.9
MMAI Mount Meron Ar 147.69 308 PKPbc **PKPbc 03 18 23.8 +0.7**
comp=Z,3.4nm,0.8s,baz=87,slow=3.0,SNR=6.1
TORD Torodi Ar. Bea 175.76 128 PKP **PKPdf 03 18 47.2 -1.8**
comp=Z,1.2nm,1.0s,baz=234,slow=1.1,SNR=4.6
TORD PKPab **PKPab 03 20 25.3 -1.9**
comp=Z,0.9nm,1.1s,baz=256,slow=3.1,SNR=3.5

GCG ***07*** *03:12:40.7±0.5, 13°.44N×91°.86W, h17km±3km, MD4.0, ML3.8,MW3.4*
SNET ***07*** *03:12:44.2±1.1, 13°.74N×91°.67W, h13km±19km, ML3.3*
ISC 07 03:12:37.4±3.5, 13°.5N±0°.1×91°.9W±0°.1, h12km±13km, n12, σ1§40/18, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**1.08**	**10**	*e*P	**Pn**	**03 12 58.7**	**+0.3**
RTAL				*e*S	**Sg**	**03 13 09.0**	**-3.3**
ESSG	**Sabana Grande**	**1.38**	**48**	*i* P	**Pg**	**03 13 05.2**	**+1.2**
ESSG				*i* S	**Sg**	**03 13 23.8**	**+1.8**
ESSG				IAML		03 13 24.9	
comp=E,416nm,0.3s							
FG8	**Yepocapa, Chim**	**1.52**	**58**	*i* P	**Pn**	**03 13 04.5**	**-0.1**
FG8				*i* S	**Sn**	**03 13 23.1**	**-1.1**
FG16	**Alotenango, Sa**	**1.57**	**59**	*i* P	**Pn**	**03 13 05.8**	**+0.5**
FG16				IAML		03 13 31.5	
comp=N,5µm,0.2s							
HUEH	**Huehuetenango**	**1.89**	**11**	*e*P	**Pb**	**03 13 12.4**	**+0.4**
HUEH				*e*S	**Sn**	**03 13 34.2**	**+0.6**
NUBE	**Las Nubes**	**2.10**	**78**	*e*P	**Pb**	**03 13 15.1**	**-0.4**
NUBE				*e*S	**Sn**	**03 13 38.6**	**-0.1**
RTR	**El Retiro**	**2.23**	**78**	*e*P	**Pb**	**03 13 17.6**	**-0.1**
SNJE	**San Jose**	**2.26**	**79**	*e*P	**Pb**	**03 13 17.8**	**-0.4**
JAYA	**Jayaque - finc**	**2.38**	**85**	*e*P	**Pb**	**03 13 19.8**	**-0.6**
JAYA				IAML		03 13 54.9	
comp=Z,218nm,0.3s							
PMON	**Piamonte**	**2.52**	**84**	*e*P	**Pb**	**03 13 21.5**	**-1.1**
MTO3	**Montecristo**	**2.63**	**69**	*e*P	**Pb**	**03 13 22.9**	**-1.8**
ESQI	**Esquipulas**	**2.71**	**66**	*e*P	**Pb**	**03 13 24.0**	**-1.9**
ESQI				*e*S	**Sn**	**03 13 54.7**	**+1.1**

BJI ***07*** *03:19:58.4, 47°.85N×154°.98E, h29km, mB5.1/7, mb4.8/48, Ms4.6/19, Ms7.4,4/22*
IDC ***07*** *03:19:59.5±0.5, 47°.64N×154°.30E, h0km, mb4.4/27, mbtmp4.4/32, ML3.8/3, MS3.9/21, Error ellipse: s-maj=14.7km s-min=11.8km az=123.0*
SKHL ***07*** *03:20:04.9±0.2, 47°.50N×154°.60E, h61km±9km, mb5.3/9, mbv5.2/3*
BGR ***07*** *03:20:05.0, 47°.78N×155°.77E, h33km, mb4.7*
MOS ***07*** *03:20:04.0±1.0, 47°.70N×154°.27E, h39km, mb5.0/33, MS3.7/9, Error ellipse: s-maj=7.8km s-min=5.2km az=84.5*
MOS Felt (II) at Okha.
NEIC ***07*** *03:20:06.7±1.6, 47°.71N±0°.05×154°.30E±0°.08, h44km±7km, mb4.7/129, Error ellipse: s-maj=10.2km s-min=3.4km az=49.0*
ISC 07 03:20:03.8±0.4, 47°.55N±0°.05×154°.47E±0°.05, h31km, n641, σ1§06/611, mb4.7/156, MS4.1/30, 23C-26D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.32**	**18**	*e*PN	**Pn**	**03 20 53.5**	**0.0**
SKR				*e*S	**Sn**	**03 21 31.1**	**-0.8**
SKR				pmax	pmax		
comp=Z,849nm,0.9s							
SKR				smax	smax		
comp=E,1µm,0.7s							
SKR				smax	smax		
comp=N,1µm,0.9s							
SKR				MLR	MLR		
comp=Z,2µm,13.0s							
SKR	**Severo-Kuril's**	**3.32**	**18**	*e*P	**Pn**	**03 20 53.8**	**+0.3**
SKR				AMB	AMB	03 21 01.7	
comp=Z,410nm,0.5s							
SKR				*e*S	**Sn**	**03 21 30.6**	**-1.3**
SKR				A	A	03 21 34.7	
comp=Z,480nm,0.5s							
SKR				A	A	03 21 34.7	
comp=Z,590nm,0.5s							
PAU	**Pauzhetka**	**4.21**	**20**	*e*P	**Pn**	**03 21 07.0**	**+1.2**
PAU				AMB	AMB	03 21 11.1	
comp=Z,210nm,0.6s							
PAU				*e*S	**Sn**	**03 21 53.4**	**-0.4**
PAU				A	A	03 22 11.9	
comp=Z,1µm,0.8s							
KUR	**Kuril'sk**	**5.12**	**246**	*e*PN	**Pn**	**03 21 18.8**	**+0.4**
KUR				*e*S	**Sn**	**03 22 17.4**	**+1.0**
KUR				pmax	pmax		
comp=Z,702nm,2.6s							
KUR				pmax	pmax		
comp=Z,343nm,0.5s							
KUR				pmax	pmax		
comp=E,70nm,0.3s							
KUR				pmax	pmax		
comp=N,101nm,0.4s							
KUR				smax	smax		
comp=E,1µm,0.6s							
KUR				smax	smax		
comp=N,1µm,0.5s							
KUR	**Kuril'sk**	**5.12**	**246**	*e*P	**Pn**	**03 21 20.7**	**+2.3**
KUR				AMB	AMB	03 21 22.1	
comp=N,700nm,2.6s							
KUR				AMB	AMB	03 21 22.7	
comp=N,430nm,0.7s							
KUR				*e*S	**Sn**	**03 22 17.4**	**+1.0**
KUR				A	A	03 22 40.7	
comp=N,1µm,0.5s							
KUR				A	A	03 22 40.7	
comp=N,1µm,0.5s							
PEA0B	**Petropavlovsk-**	**5.94**	**19**	Pn	**Pn**	**03 21 30.9**	**+1.4**
PEA0B	**Petropavlovsk-**	**5.94**	**19**	⇑*e*PN	**Pn**	**03 21 30.5**	**+1.0**
PETK	**Petropavlovsk-**	**5.94**	**19**		**Pn**	**03 21 29.9**	**+0.3**
PETK	**Petropavlovsk-**	**5.94**	**19**	Pn	**Pn**	**03 21 29.7**	**+0.2**
comp=N,24nm,0.6s,baz=204,slow=14,SNR=5.4							
PETK				Sn	**Sn**	**03 22 39.1**	**+2.7**
baz=299,slow=32							
PETK				LR	LR	03 24 05.8	
comp=N,1µm,18.6s,baz=182,slow=42							
PET	**Petropavlovsk**	**6.10**	**24**	*i* PN	**Pn**	**03 21 31.8**	**+0.1**
PET	**Petropavlovsk**	**6.10**	**24**	*e*P	**Pn**	**03 21 32.8**	**+1.1**
PET				AMB	AMB	03 21 34.1	
comp=N,50nm,0.4s							
PET				*e*S	**Sn**	**03 22 40.8**	**+0.4**
PET				A	A	03 22 57.1	
comp=N,190nm,1.0s							
PET				A	A	03 22 57.1	
comp=N,190nm,1.0s							
SHO	**Shikotan**	**6.49**	**238**	*e*P	**Pn**	**03 21 39.6**	**+2.4**
SHO				AMB	AMB	03 21 45.4	
comp=N,70nm,0.5s							
SHO				*e*S	**Sn**	**03 22 50.1**	**0.0**
YUK	**Yuzh-Kuril'sk**	**6.97**	**243**	*e*PN	**Pn**	**03 21 46.0**	**+2.3**
YUK				*e*S	**Sn**	**03 23 05.5**	**+3.6**
YUK				pmax	pmax		
comp=Z,252nm,0.4s							
YUK				pmax	pmax		
comp=N,130nm,0.3s							
YUK				pmax	pmax		
comp=E,107nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**6.97**	**243**	*e*P	**Pn**	**03 21 46.0**	**+2.3**
YUK				AMB	AMB	03 21 51.0	
comp=E,250nm,0.3s							

YUK				*e*S	**Sn**	**03 23 02.9 +1.0**			
YUK				A	A	03 23 29.9			
	comp=E,1µm,0.8s								
YUK				A	A	03 23 29.9			
	comp=E,2µm,0.8s								
RUSJ	**Misakicho**	**7.31**	**245**	*e*PN	**Pn**	**03 21 50.9 +2.6**			
RUSJ				*i* S	**Sn**	**03 23 15.3 +5.2**			
NMR	**Nemuro--Hokkai**	**7.43**	**239**	*e*PN	**Pn**	**03 21 48.3 -1.8**			
NMR	**Nemuro--Hokkai**	**7.43**	**239**	*e*P	**Pn**	**03 21 48.8 -1.3**			
NMR				*i* S	**Sn**	**03 23 10.0 -3.3**			
YSS	**Yuzhno-Sakhali**	**8.00**	**270**		**Pn**	**03 21 59.5 +1.8**			
YSS	**Yuzhno-Sakhali**	**8.00**	**270**	*e*PN	**Pn**	**03 22 00.7 +2.9**			
YSS				*e*S	**Sn**	**03 23 29.1 +2.0**			
YSS				pmax	pmax				
	comp=Z,100nm,2.9s								
YSS				pmax	pmax				
	comp=Z,60nm,0.9s								
YSS				smax	smax				
	comp=N,80nm,0.4s								
YSS				smax	smax				
	comp=E,70nm,0.6s								
YSS				MLR	MLR				
	comp=Z,900nm,16.0s								
YSS				MLR	MLR				
	comp=E,600nm,15.0s								
YSS	**Yuzhno-Sakhali**	**8.00**	**270**	*e*P	**Pn**	**03 21 59.6 +1.8**			
YSS				AMB	AMB	03 22 01.5			
	comp=E,50nm,0.4s								
YSS				AMB	AMB	03 22 03.5			
	comp=E,100nm,2.9s								
YSS				*e*S	**Sn**	**03 23 27.1 0.0**			
YSS				A	A	03 23 36.5			
	comp=E,70nm,0.4s								
YSS				A	A	03 23 36.5			
	comp=E,60nm,0.4s								
AKK	**Akkeshi**	**8.16**	**240**	*e*P	**Pn**	**03 22 00.7 +0.6**			
TYV	**Tymovskoe**	**8.42**	**298**	*e*PN	**Pn**	**03 22 07.9 +4.4**			
TYV				*e*S	**Sn**	**03 23 41.1 +3.7**			
TYV				pmax	pmax				
	comp=Z,19nm,1.1s								
TYV				pmax	pmax				
	comp=Z,100nm,2.9s								
TYV				smax	smax				
	comp=N,100nm,3.3s								
TYV				smax	smax				
	comp=E,100nm,3.3s								
TYV				smax	smax				
	comp=N,11nm,1.3s								
TYV				smax	smax				
	comp=E,7.0nm,1.3s								
TYV				MLR	MLR				
	comp=Z,700nm,17.0s								
TYV				MLR	MLR				
	comp=E,600nm,16.0s								
TYV	**Tymovskoe**	**8.42**	**298**	*e*P	**Pn**	**03 22 06.8 +3.3**			
TYV				AMB	AMB	03 22 10.5			
	comp=E,100nm,2.9s								
JKA	**Kamikawa-asahi**	**8.97**	**252**		**Pn**	**03 22 13.4 +2.3**			
JKA	**Kamikawa-asahi**	**8.97**	**252**	*e*P	**Pn**	**03 22 13.5 +2.3**			
ASAJ	**Asahikawa**	**8.97**	**252**	Pn	**Pn**	**03 22 13.2 +1.9**			
	comp=E,0.9nm,0.3s,baz=73,slow=11,SNR=52								
ASAJ	**Asahikawa**	**8.97**	**252**	PN	**Pn**	**03 22 13.5 +2.3**			
OKH	**Okha**	**9.48**	**314**	*de*PN	**Pn**	**03 22 14.3 -3.8**			
OKH				MLR	MLR				
	comp=N,700nm,14.0s								
OKH				MLR	MLR				
	comp=E,1µm,14.0s								
OKH				MLR	MLR				
	comp=Z,500nm,13.0s								
ERM	**Erimo**	**9.76**	**240**		**Pn**	**03 22 22.4 +0.4**			
ERM	**Erimo**	**9.76**	**240**	PN	**Pn**	**03 22 22.4 +0.4**			
NKL	**Nikolayevsk**	**10.44**	**308**	*e*P	**Pn**	**03 22 35.0 +3.8**			
NKL				AMB	AMB	03 22 37.3			
	comp=Z,120nm,0.8s								
JTM	**Tenmabayashi**	**11.75**	**240**		**Pn**	**03 22 46.2 -3.0**			
GRNR	**Gornyy**	**12.24**	**292** ⇓	*i*PN	Pn	03 23 01.2 +5.2			
GRNR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
GRNR				MLR	MLR				
	comp=E,420nm,12.0s								
GRNR				MLR	MLR				
	comp=N,240nm,14.0s								
GRNR				MLR	MLR				
	comp=Z,520nm,15.0s								
MA2	**Magadan**	**12.24**	**351**		**Pn**	**03 22 56.6 +0.7**			
MA2	**Magadan**	**12.24**	**351**	Pn	**Pn**	**03 22 56.9 +1.1**			
	comp=Z,11nm,0.5s,baz=151,slow=9.5,SNR=6.3								
MA2				LR	LR	03 28 15.5			
	comp=Z,757nm,18.2s,baz=140,slow=41								
MA2	**Magadan**	**12.24**	**351**	*ce*PN	**Pn**	**03 22 57.3 +1.4**			
MA2				pmax	pmax				
	comp=Z,19nm,1.0s								
MA2	**Magadan**	**12.24**	**351**	*e*P	**Pn**	**03 22 57.3 +1.4**			
TEY	**Ternei**	**12.61**	**265**	*e*PN	**Pn**	**03 23 03.2 +2.2**			
TEY	**Ternei**	**12.61**	**265**	*e*P	**Pn**	**03 23 03.2 +2.2**			
SEY	**Seymchan**	**15.46**	**356**	Pn	**Pn**	**03 23 38.0 -1.5**			
	comp=Z,0.4nm,0.3s,baz=164,slow=22,SNR=4.7								
SEY				LR	LR	03 30 36.7			
	comp=Z,404nm,18.8s,baz=159,slow=42								
	comp=Z,0.7nm,0.3s								
SEY	**Seymchan**	**15.46**	**356**	*i* P	**Pn**	**03 23 38.7 -0.7**			
SEY				pmax	pmax				
	comp=Z,10.0nm,1.1s								
SEY	**Seymchan**	**15.46**	**356**	*e*P	**Pn**	**03 23 38.7 -0.7**			
USRK	**Ussuriysk Ar.**	**16.00**	**266**		**Pn**	**03 23 46.5 0.0**			
USRK	**Ussuriysk Ar.**	**16.00**	**266**	Pn	**Pn**	**03 23 46.1 -0.3**			
	comp=Z,1.2nm,0.3s,baz=53,slow=11,SNR=26								
	comp=Z,2.8nm,0.4s								
USRK	**Ussuriysk Ar.**	**16.00**	**266**	P	**Pn**	**03 23 46.5 0.0**			
MAJO	**Matsushiro**	**16.30**	**233**		**Pn**	**03 23 48.1 -2.3**			
MAJO	**Matsushiro**	**16.30**	**233**	*i* P	**Pn**	**03 23 47.8 -2.6**			
MAJO				pmax	pmax				
	comp=Z,19nm,1.0s								
MJAR	**Matsushiro Arr**	**16.30**	**233**		**Pn**	**03 23 50.0 -0.4**			
MJAR	**Matsushiro Arr**	**16.30**	**233**	Pn	**Pn**	**03 23 47.6 -2.8**			
	comp=Z,0.1nm,0.3s,baz=29,slow=11,SNR=16								
MJAR				LR	LR	03 30 12.9			
	comp=Z,265nm,19.6s,baz=108,slow=38								
	comp=Z,5.1nm,0.9s								
MJAR	**Matsushiro Arr**	**16.30**	**233**	P	**Pn**	**03 23 50.0 -0.4**			
MJAR				pmax	pmax				
	comp=Z,7.0nm,1.0s								
JGF	**Kuroka**	**17.46**	**233**		**Pn**	**03 24 03.3 -1.6**			
MDJ	**Mudanjiang**	**17.49**	**270**	P	**P**	**03 24 07.5 +1.4**			
MDJ				pmax	pmax				
	comp=Z,22nm,1.6s								
HEH	**HeiHe**	**17.96**	**289**	*e*P	**P**	**03 24 12.1 +0.8**			
HEH				pmax	pmax				
	comp=Z,14nm,1.2s								
HEH				LR	LR				
	comp=Z,380nm,13.2s								
HEH				LR	LR				
	comp=Z,780nm,13.9s								
HEH				LR	LR				
	comp=Z,890nm,14.4s								
ZEA	**Zeya**	**18.27**	**300**	*e*P	**Pn**	**03 24 17.9 +3.2**			
ZEA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
ZEA				MLR	MLR				
	comp=E,400nm,15.0s								
ZEA				MLR	MLR				
	comp=N,200nm,13.0s								
ZEA				MLR	MLR				
	comp=Z,400nm,11.0s								
ZEA	**Zeya**	**18.27**	**300**	*e*P	**Pn**	**03 24 17.9 +3.2**			
YAK	**Yakutsk**	**20.17**	**325**	P	Pn	03 24 38.0 +0.6			
YAK				IAmb	IAmb	03 24 42.5			
	comp=Z,53nm,1.0s								
YAK	**Yakutsk**	**20.17**	**325**	P	**P**	**03 24 35.1 -0.3**			
	comp=Z,21nm,0.4s,baz=102,slow=1.8,SNR=6.0								
	comp=Z,21nm,0.4s								
YAK	**Yakutsk**	**20.17**	**325**	*e*P	Pn	03 24 38.6 +1.2			
YAK				pmax	pmax				
	comp=Z,55nm,1.2s								
YAK				pmax	pmax				
	comp=N,7.0nm,0.9s								
YAK				pmax	pmax				
	comp=E,15nm,1.8s								
YAK				pmax	pmax				
	comp=Z,349nm,5.7s								
YAK				pmax	pmax				
	comp=N,246nm,7.1s								
YAK				pmax	pmax				
	comp=E,149nm,6.8s								
YAK				MLR	MLR				
	comp=N,283nm,25.0s								

YAK				MLR	MLR				
	comp=E,95nm,13.0s								
CN2	**Changchun**	**20.57**	**270**	P	**P**	**03 24 41.0 +1.2**			
CN2				pmax	pmax				
	comp=E,10.0nm,0.5s								
BILL	**Bilibino**	**21.41**	**12**	P	**P**	**03 24 48.0 -0.7**			
BILL	**Bilibino**	**21.41**	**12**	*i* P	**P**	**03 24 47.2 -1.5**			
KSRS	**Korea Array**	**21.92**	**252**	P	**P**	**03 24 55.1 +0.7**			
	comp=E,30nm,0.9s,baz=58,slow=10,SNR=38								
	comp=E,30nm,0.9s								
KSAR	**Wonju Array Be**	**21.95**	**252**	P	**P**	**03 24 54.0 -0.8**			
KSAR	**Wonju Array Be**	**21.95**	**252**	P	**P**	**03 24 54.0 -0.8**			
SPIA	**Saint Paul Isl**	**23.35**	**53**	P	**P**	**03 25 09.4 +0.2**			
	baz=261								
P08K	**Saint George I**	**23.65**	**54**	P	**P**	**03 25 12.6 +0.5**			
	baz=263								
GAMB	**Gambell**	**24.63**	**36**	P	**P**	**03 25 21.1 0.0**			
	baz=245								
M11K	**Mekoryuk**	**26.01**	**46**	P	**P**	**03 25 34.2 +0.6**			
	baz=258								
TNA	**Tin City**	**26.85**	**34**	P	**P**	**03 25 41.7 +0.5**			
	baz=246								
FALS	**False Pass**	**27.03**	**59**	P	**P**	**03 25 44.3 +1.4**			
	baz=272								
K13K	**Kusilvak Mount**	**27.08**	**43**	P	**P**	**03 25 43.9 +0.6**			
	baz=257								
M13K	**Dall Lake**	**27.41**	**46**	P	**P**	**03 25 47.0 +0.8**			
	baz=261								
F14K	**Arctic Creek**	**27.43**	**35**	P	**P**	**03 25 47.1 +0.7**			
	baz=248								
ANM	**Nome**	**27.49**	**37**	P	**P**	**03 25 47.8 +0.8**			
	baz=251								
J14K	**Nanvaranak Lak**	**27.77**	**41**	P	**P**	**03 25 50.3 +0.9**			
	baz=257								
S12K	**Black Hills**	**27.79**	**57**	P	**P**	**03 25 49.9 +0.2**			
	baz=272								
L14K	**Kuka Creek**	**27.88**	**45**	P	**P**	**03 25 50.3 -0.1**			
	baz=260								
F15K	**North Star Dit**	**28.16**	**35**	P	**P**	**03 25 52.7 -0.3**			
	baz=250								
N14K	**Kuskokwak Cree**	**28.17**	**48**	P	**P**	**03 25 52.5 -0.5**			
	baz=264								
G15K	**Niukluk**	**28.17**	**37**	P	**P**	**03 25 52.6 -0.5**			
	baz=252								
K15K	**Wolf Creek Mou**	**28.59**	**43**	P	**P**	**03 25 57.0 +0.2**			
	baz=260								
SDPT	**Sand Point**	**28.70**	**57**	P	**P**	**03 25 58.2 +0.4**			
	baz=273								
M15K	**Kasigluk River**	**28.75**	**46**	P	**P**	**03 25 58.0 -0.2**			
	baz=263								
C16K	**Lisburne Hills**	**28.91**	**30**	P	**P**	**03 25 59.4 -0.2**			
	baz=245								
G16K	**Koyuk River**	**28.97**	**36**	P	**P**	**03 25 60.0 -0.1**			
	baz=253								
N15K	**Kwethluk River**	**28.99**	**47**	P	**P**	**03 26 00.6 +0.2**			
	baz=265								
O15K	**Ungalikthiuk R**	**29.05**	**49**	P	**P**	**03 26 00.8 -0.1**			
	baz=267								
S14K	**Fog Glacier**	**29.17**	**55**	P	**P**	**03 26 02.3 +0.2**			
	baz=272								
J16K	**Anvik River**	**29.20**	**41**	P	**P**	**03 26 02.7 +0.5**			
	baz=259								
CHNA	**Chernabura Isl**	**29.25**	**58**	P	**P**	**03 26 02.8 +0.1**			
	baz=275								
I17K	**Unalakleet**	**29.28**	**40**	P	**P**	**03 26 02.9 0.0**			
	baz=258								
D17K	**Noatak River**	**29.46**	**32**	P	**P**	**03 26 04.4 -0.1**			
	baz=248								
H11N2	**WAKE ISLAND Hy**	**29.54**	**156**	T	T	03 57 12.1			
	baz=342,slow=74								
H11N1	**WAKE ISLAND Hy**	**29.55**	**156**	T	T	03 57 21.8			
	baz=342,slow=74								
H11N3	**WAKE ISLAND Hy**	**29.55**	**156**	T	T	03 57 21.8			
	baz=342								
N16K	**Nishlik Lake**	**29.67**	**47**	P	**P**	**03 26 06.9 +0.5**			
	baz=266								
G17K	**Kiwalik Mounta**	**29.68**	**36**	P	**P**	**03 26 06.8 +0.4**			
	baz=255								
E17K	**Hotham Inlet**	**29.70**	**33**	P	**P**	**03 26 06.9 +0.4**			
	baz=251								
F17K	**Baldwin Pennin**	**29.71**	**34**	P	**P**	**03 26 07.0 +0.3**			
	baz=253								
C17K	**DeLong Mountai**	**29.72**	**30**	P	**P**	**03 26 07.0 +0.2**			
	baz=247								
H17K	**Granite Mounta**	**29.85**	**38**	P	**P**	**03 26 08.4 +0.5**			
	baz=257								
J17K	**VABM Dome**	**29.89**	**41**	P	**P**	**03 26 08.4 +0.1**			
	baz=260								
O16K	**Kokwok River B**	**29.96**	**49**	P	**P**	**03 26 09.5 +0.6**			
	baz=268								
L17K	**Donlin**	**30.06**	**44**	P	**P**	**03 26 10.4 +0.5**			
	baz=263								
K17K	**Iditarod**	**30.14**	**42**	P	**P**	**03 26 10.9 +0.4**			
	baz=262								
R16K	**Pilot Point**	**30.21**	**53**	P	**P**	**03 26 11.3 +0.1**			
	baz=272								
E18K	**Tukpahlearik C**	**30.26**	**33**	P	**P**	**03 26 11.2 -0.3**			
	baz=252								
F18K	**Selawik**	**30.37**	**35**	P	**P**	**03 26 13.0 +0.5**			
	baz=254								
M17K	**Holitna River**	**30.39**	**45**	P	**P**	**03 26 13.1 +0.3**			
	baz=265								
N17K	**Nushagak Hills**	**30.45**	**47**	P	**P**	**03 26 13.4 +0.1**			
	baz=267								
C18K	**Utukok River**	**30.46**	**30**	P	**P**	**03 26 13.3 -0.1**			
	baz=249								
O17K	**Koliganek Bris**	**30.47**	**48**	P	**P**	**03 26 13.8 +0.3**			
	baz=268								
B18K	**Kokolik River**	**30.53**	**29**	P	**P**	**03 26 13.8 0.0**			
	baz=247								
H18K	**Honhosa River**	**30.54**	**38**	P	**P**	**03 26 14.0 0.0**			
	baz=258								
G18K	**Tagagawik**	**30.58**	**36**	P	**P**	**03 26 14.3 -0.1**			
	baz=256								
H11S1	**WAKE ISLAND Hy**	**30.65**	**157**	T	T	03 58 37.6			
	baz=344,slow=76,SNR=735								
H11S3	**WAKE ISLAND Hy**	**30.66**	**157**	T	T	03 58 32.2			
	baz=344,slow=76,SNR=930								
H11S2	**WAKE ISLAND Hy**	**30.66**	**157**	T	T	03 58 31.7			
	baz=344,slow=76,SNR=587								
Q16K	**King Salmon**	**30.68**	**50**	P	**P**	**03 26 15.8 +0.5**			
	baz=271								
HNS	**HongShan**	**30.73**	**265**	⇑P	**P**	**03 26 16.7 +0.7**			
HNS				pmax	pmax				
	comp=E,15nm,1.0s								
P17K	**Kvichak River**	**30.79**	**49**	P	**P**	**03 26 16.5 +0.2**			
	baz=270								
L18K	**Granite Mounta**	**30.82**	**44**	P	**P**	**03 26 16.9 +0.4**			
	baz=265								
J18K	**Innoko River**	**30.95**	**41**	P	**P**	**03 26 18.2 +0.5**			
	baz=262								
A19K	**Wainwright**	**31.09**	**28**	P	**P**	**03 26 19.2 +0.4**			
	baz=247								
Q17K	**Contact Creek**	**31.09**	**51**	P	**P**	**03 26 19.5 +0.4**			
	baz=272								
N18K	**Kilae Creek**	**31.10**	**47**	P	**P**	**03 26 19.6 +0.6**			
	baz=268								
NJ2	**Nanjing**	**31.12**	**253**	*e*P	**P**	**03 26 21.6 +2.2**			
NJ2				pmax	pmax				
	comp=E,11nm,0.5s								
F19K	**Shaleruckik Mo**	**31.16**	**34**	P	**P**	**03 26 19.5 +0.1**			
	baz=256								
HHC	**Hu-ho-hao-te**	**31.16**	**274**	*e*P	**P**	**03 26 20.9 +1.0**			
HHC				pmax	pmax				
	comp=E,10.0nm,0.5s								
HHC				pmax	pmax				
	comp=E,160nm,3.8s								
HHC				LR	LR				
	comp=E,180nm,11.4s								
HHC				LR	LR				
	comp=E,260nm,11.8s								
HHC				LR	LR				
	comp=E,190nm,11.1s								
C19K	**Lookout Ridge**	**31.17**	**30**	P	**P**	**03 26 19.6 0.0**			
	baz=250								
M18K	**Stony River**	**31.17**	**45**	P	**P**	**03 26 19.9 +0.3**			
	baz=267								
H19K	**Roundabout Mou**	**31.40**	**37**	P	**P**	**03 26 21.8 +0.2**			
	baz=259								
CHIR	**Chirikof Islan**	**31.41**	**56**	P	**P**	**03 26 22.1 +0.4**			
	baz=276								
P18K	**Big Mountain,**	**31.41**	**49**	P	**P**	**03 26 21.8 0.0**			
	baz=271								
D19K	**Kuna River**	**31.48**	**31**	P	**P**	**03 26 22.3 0.0**			
	baz=253								
J19K	**Poorman**	**31.50**	**40**	P	**P**	**03 26 22.7 +0.2**			
	baz=263								
E19K	**Redstone River**	**31.52**	**33**	P	**P**	**03 26 22.7 0.0**			

	baz=256								
Q18K	**Katmai Hardscr**	**31.54**	**50**	P	**P**	**03 26 23.2 +0.1**			
	baz=272								
L19K	**White Mountain**	**31.68**	**44**	P	**P**	**03 26 23.9 -0.2**			
	baz=266								
N19K	**Bonanza Creek**	**31.80**	**46**	P	**P**	**03 26 25.6 +0.3**			
	baz=269								
M19K	**Big River Lodg**	**31.88**	**44**	P	**P**	**03 26 26.1 +0.2**			
	baz=267								
R18K	**Karluk**	**31.89**	**53**	P	**P**	**03 26 26.3 +0.3**			
	baz=274								
SONM	**Songino Array**	**31.95**	**289**	P	**P**	**03 26 25.1 -1.7**			
	comp=E,1.0nm,0.5s,baz=84,slow=9.0,SNR=5.6								
SONM				PcP	**PcP**	**03 29 15.8 -0.5**			
	comp=E,1.5nm,0.8s,baz=104,slow=3.1,SNR=5.5								
SONM				LR	LR	03 39 37.9			
	comp=E,178nm,21.9s,baz=88,slow=37								
	comp=E,1.0nm,0.5s								
F20K	**Avaraart Lake**	**31.99**	**34**	P	**P**	**03 26 27.1 +0.4**			
	baz=258								
H20K	**Anotleneega Mo**	**32.03**	**37**	P	**P**	**03 26 27.3 +0.1**			
	baz=261								
D20K	**Etivluk River**	**32.07**	**31**	P	**P**	**03 26 27.0 -0.5**			
	baz=254,SNR=8.4								
I20K	**Naaghedeneel**	**32.10**	**39**	P	**P**	**03 26 27.8 +0.1**			
	baz=263								
E20K	**Nigu River**	**32.10**	**32**	P	**P**	**03 26 27.3 -0.5**			
	baz=255								
K20K	**Telida**	**32.12**	**42**	P	**P**	**03 26 28.1 0.0**			
	baz=265								
SII	**Sitkinak Islan**	**32.13**	**54**	P	**P**	**03 26 27.7 -0.4**			
	baz=276								
L20K	**Farewell, AK**	**32.15**	**43**	P	**P**	**03 26 27.7 -0.5**			
	baz=267								
J20K	**Nowinta River**	**32.17**	**40**	P	**P**	**03 26 27.9 -0.5**			
	baz=264								
Q19K	**Cape Douglas,**	**32.24**	**50**	P	**P**	**03 26 28.7 -0.4**			
	baz=273								
B20K	**Meade River**	**32.27**	**29**	P	**P**	**03 26 28.9 -0.3**			
	baz=252								
BTO	**Baotou**	**32.32**	**274**	*e*P	**P**	**03 26 30.9 +0.8**			
BTO				pP	**pwP**	**03 26 40.3 -0.4**			
BTO				sP	**sP**	**03 26 44.5 +2.3**			
BTO				PP	**PnPn**	**03 27 37.8 +0.9**			
BTO				pmax	pmax				
	comp=E,19nm,1.0s								
BTO				pmax	pmax				
	comp=E,280nm,5.3s								
P19K	**Oil Pt**	**32.43**	**49**	P	**P**	**03 26 30.4 -0.3**			
	baz=272								
OHAK	**Old Harbor**	**32.55**	**53**	P	**P**	**03 26 31.1 -0.6**			
	baz=276								
IMAR	**Indian Mountai**	**32.57**	**37**	P	**P**	**03 26 32.3 +0.4**			
O20K	**Slope Mountain**	**32.72**	**48**	P	**P**	**03 26 33.0 -0.3**			
	baz=272								
G21K	**Allakaket**	**32.75**	**36**	P	**P**	**03 26 33.1 -0.3**			
	baz=261								
C21K	**Knifeblade Rid**	**32.83**	**31**	P	**P**	**03 26 33.5 -0.6**			
	baz=256,SNR=5.3								
A21K	**Barrow**	**32.88**	**27**	P	**P**	**03 26 34.1 -0.3**			
	baz=250								
KDAK	**Kodiak Island**	**32.88**	**52**	P	**P**	**03 26 34.2 -0.4**			
	baz=275								
F21K	**Alatna River**	**32.88**	**34**	P	**P**	**03 26 34.8 +0.2**			
	baz=260								
N20K	**Mount Spurr**	**32.91**	**46**	P	**P**	**03 26 34.6 -0.4**			
	baz=270								
SPCR	**Spurr Chakacha**	**32.91**	**46**	P	**P**	**03 26 34.7 -0.3**			
	baz=270								
Q20K	**Shuyak Island**	**32.91**	**50**	P	**P**	**03 26 34.9 0.0**			
	baz=274								
H21K	**Melozitna Rive**	**32.91**	**37**	P	**P**	**03 26 35.0 +0.1**			
	baz=263,SNR=6.8								
E21K	**Killik River**	**32.95**	**32**	P	**P**	**03 26 34.6 -0.5**			
	baz=258								
CHUM	**Lake Minchumin**	**32.95**	**41**	P	**P**	**03 26 34.6 -0.5**			
	baz=266								
PPLA	**Purkeypile**	**32.95**	**42**	P	**P**	**03 26 34.2 -1.2**			
	baz=268								
B21K	**Ikpikpuk River**	**33.01**	**30**	P	**P**	**03 26 35.8 +0.2**			
	baz=255								
I21K	**Tanana**	**33.20**	**38**	P	**P**	**03 26 37.8 +0.5**			
	baz=264								
HOM	**Homer**	**33.23**	**48**	P	**P**	**03 26 38.1 +0.4**			
	baz=273								
SKT	**Skwentna**	**33.23**	**44**	P	**P**	**03 26 38.2 +0.5**			
	baz=270								
A22K	**Sinclair Lake**	**33.28**	**27**	P	**P**	**03 26 37.8 -0.1**			
	baz=253								
F22K	**John River**	**33.43**	**34**	P	**P**	**03 26 39.3 -0.1**			
	baz=261								
D22K	**Ayikyak River**	**33.50**	**32**	P	**P**	**03 26 39.3 -0.7**			
	baz=258								
H22K	**Ishtalitna Cre**	**33.53**	**37**	P	**P**	**03 26 40.2 -0.1**			
	baz=264								
BPAW	**Bear Paw Mtn.**	**33.55**	**40**		**P**	**03 26 41.7 +1.3**			
BPAW	**Bear Paw Mtn.**	**33.55**	**40**	P	**P**	**03 26 40.4 0.0**			
	baz=267								
KTH	**Kantishna Hill**	**33.55**	**41**	P	**P**	**03 26 42.0 +1.5**			
KTH				IAmb	IAmb	03 26 43.5			
	comp=Z,19nm,1.2s								
B22K	**Teshekpuk Lake**	**33.59**	**29**	P	**P**	**03 26 41.0 +0.3**			
	baz=255								
G22K	**Bettles**	**33.60**	**35**	P	**P**	**03 26 40.6 -0.2**			
	baz=262,SNR=12								
MLY	**Manley**	**33.71**	**39**		**P**	**03 26 42.7 +0.8**			
MLY	**Manley**	**33.71**	**39**	P	**P**	**03 26 42.0 +0.1**			
	baz=266,SNR=6.1								
LYN	**LuoYang**	**33.82**	**263**	P	**P**	**03 26 43.4 +0.3**			
LYN				pmax	pmax				
	comp=Z,26nm,0.4s								
TRF	**Thorofare Mount**	**33.83**	**42**	P	**P**	**03 26 43.1 0.0**			
	baz=269								
RC01	**Rabbit Creek A**	**34.11**	**46**	P	**P**	**03 26 45.8 +0.4**			
	baz=273								
COLD	**Coldfoot**	**34.15**	**35**		**P**	**03 26 46.1 +0.5**			
COLD				IAmb	IAmb	03 26 47.7			
	comp=Z,6.4nm,1.0s								
COLD	**Coldfoot**	**34.15**	**35**	P	**P**	**03 26 45.6 0.0**			
	baz=263,SNR=5.3								
G23K	**Bananza Creek**	**34.16**	**36**	P	**P**	**03 26 45.4 -0.4**			
	baz=264								
BWN	**Browne**	**34.22**	**40**	P	**P**	**03 26 48.0 +1.8**			
D23K	**Nanushuk River**	**34.23**	**32**	P	**P**	**03 26 45.6 -0.7**			
	baz=260,SNR=8.9

E24K Your Creek 34.90 33 P P 03 26 52.3 +0.1
baz=264
D24K Happy Valley 34.92 32 P P 03 26 52.3 +0.1
baz=262
COLA College 34.93 39 P P 03 26 53.8 +1.5
COLA IAmb IAmb 03 27 04.3
comp=Z,14nm,0.9s
COLA College 34.93 39 P P 03 26 53.8 +1.5
COLA pmax pmax
comp=Z,14nm,0.9s
COLA College 34.93 39 P P 03 26 53.1 +0.7
baz=269
CCB Clear Creek Bu 34.95 39 P P 03 26 53.2 +0.7
H24K Noodor Dome 34.95 37 P P 03 26 53.3 +0.6
baz=267
WAT6 Susitna Watana 35.00 43 P P 03 26 53.4 +0.2
baz=272
WHN Wuhan 35.03 256 P P 03 26 53.6 0.0
M23K Glacier View 35.04 44 P P 03 26 54.6 +1.3
baz=273
C24K Franklin Bluff 35.05 31 P P 03 26 54.0 +0.7
baz=261
F24K Squaw Lake 35.07 34 P P 03 26 54.3 +0.7
baz=265
POKR Poker Plat Res 35.12 39 P P 03 26 54.7 +0.7
baz=269,SNR=5.0
DHY Denali Highway 35.15 42 P 03 26 54.6 +0.2
DHY IAmb IAmb 03 27 08.3
comp=Z,7.7nm,0.9s
DHY Denali Highway 35.15 42 P P 03 26 55.0 +0.5
baz=272,SNR=5.1
G24K Hadweenzic Riv 35.17 36 P P 03 26 55.0 +0.5
baz=266,SNR=11
SCM Sheep Creek Mo 35.23 44 P P 03 26 56.1 +1.1
SCM IAmb IAmb 03 27 11.0
comp=Z,8.6nm,0.8s
SCM Sheep Creek Mo 35.23 44 P P 03 26 56.2 +1.1
SCM pmax pmax
comp=Z,9.0nm,0.8s
SCM Sheep Creek Mo 35.23 44 P P 03 26 55.3 +0.3
baz=274
HDA Harding Lake 35.32 40 P P 03 26 56.1 +0.4
HDA IAmb IAmb 03 27 07.6
comp=Z,4.6nm,0.7s
HDA Harding Lake 35.32 40 P P 03 26 56.1 +0.4
baz=270
ILAR Eielson Array 35.34 39 P 03 26 56.4 +0.5
ILAR Eielson Array 35.34 39 P P 03 26 56.1 +0.2
comp=Z,3.6nm,1.1s,baz=258,slow=8.0,SNR=20
comp=Z,3.6nm,1.1s
ILAR Eielson Array 35.34 39 P P 03 26 56.4 +0.5
GLI Glacier Island 35.41 46 P P 03 26 56.9 +0.4
baz=275
G25K Bearman Lake 35.72 36 P P 03 26 59.5 +0.5
baz=268
M24K Tolsona, Glenn 35.75 44 P P 03 26 59.2 -0.3
baz=274
D25K Kavik River 35.80 31 P P 03 26 59.8 -0.1
baz=264
H25L Birch Creek 35.81 37 P P 03 27 00.0 +0.1
baz=269
K24K Donnelly Dome 35.84 41 P P 03 27 00.4 +0.2
baz=272
KLU Klutina 35.92 45 P P 03 27 01.8 +0.8
KLU Klutina 35.92 45 P P 03 27 01.2 +0.2
baz=275
PRP Porcupine Dome 35.92 38 P 03 27 02.2 +1.2
PRP IAmb IAmb 03 27 03.2
comp=Z,7.1nm,1.0s
PRP Porcupine Dome 35.92 38 P P 03 27 01.4 +0.4
baz=270,SNR=6.7
F25K Christian Rive 35.93 34 P P 03 27 00.8 -0.2
baz=267
Q23K Middleton Isla 35.94 48 P P 03 27 01.3 +0.3
baz=278
E25K Arctic Village 35.99 34 P P 03 27 01.5 0.0
baz=266,SNR=7.5
J25K Salcha River, 36.00 40 P P 03 27 02.2 +0.6
baz=271
PAX Paxson 36.02 42 P P 03 27 02.8 +0.9
PAX Paxson 36.02 42 P P 03 27 02.8 +0.9
PAX pmax pmax
comp=Z,2.0nm,0.7s
PAX Paxson 36.02 42 P P 03 27 02.3 +0.5
baz=274
FYU Fort Yukon 36.05 36 P 03 27 03.2 +1.2
EYAK Cordova Ski Ar 36.10 46 P P 03 27 02.9 +0.5
baz=277
HARP HAARP 36.20 43 P P 03 27 03.8 +0.4
baz=275
BMAR Burnt Mountain 36.34 35 P P 03 27 05.6 +1.2
C26K Camden Bay 36.38 30 P P 03 27 05.2 +0.5
baz=265
F26K Sheenjek River 36.51 34 P P 03 27 06.2 +0.2
baz=268
N25K Chitina, Valde 36.54 45 P P 03 27 06.0 -0.3
baz=276
BMRM Bremner River 36.61 46 P P 03 27 08.0 +1.1
BMRM IAmb IAmb 03 27 21.3
comp=Z,6.1nm,0.8s
BMRM Bremner River 36.61 46 P P 03 27 06.5 -0.4
baz=277
DOT Dot Lake 36.61 41 P 03 27 06.7 -0.1
SCRK Sand Creek 36.62 41 P P 03 27 07.2 +0.1
baz=274
G26K Porcupine Rive 36.63 36 P P 03 27 06.3 -0.6
baz=270,SNR=8.4
C27K Jago River 36.77 31 P P 03 27 08.3 +0.2
baz=266
J26L Joseph Creek 36.78 40 P P 03 27 07.6 -0.7
baz=273
KAIM Kayak Island 36.84 47 P P 03 27 08.4 -0.3
baz=279
I26K Coal Creek Min 36.92 38 P P 03 27 09.9 +0.5
baz=272
GLB Gilahina Butte 36.93 45 P P 03 27 10.6 +0.9
L26K Log Cabin Wild 36.98 42 P P 03 27 10.0 0.0
baz=275
VRDI Verde Repeater 37.13 45 P P 03 27 12.8 +1.3
M26K Nabesna, AK 37.20 43 P P 03 27 11.8 -0.1
baz=276,SNR=6.8
MCARA McCarthy VSAT 37.31 45 P P 03 27 13.3 +0.5
baz=278
CRQM Cirque 37.35 46 P P 03 27 14.2 +0.9
CRQM IAmb IAmb 03 27 27.8
comp=Z,12nm,0.8s
CRQE Cirque 37.37 46 P P 03 27 13.2 -0.2
baz=278
K27K Chicken 37.46 40 P P 03 27 14.2 +0.2
baz=275
G27K Doyon Strip 37.48 36 P P 03 27 14.1 0.0
baz=272
E27K Coleen River 37.48 33 P P 03 27 14.1 0.0
baz=270
I27K Kandik River 37.55 38 P P 03 27 14.0 -0.7
baz=273
H27K Steamboat Moun 37.55 37 P P 03 27 14.3 -0.5
baz=273,SNR=7.7
L27K Beaver Creek, 37.67 42 P P 03 27 16.4 +0.6
baz=276,SNR=9.3
BCAR Beaver Creek A 37.69 42 P 03 27 17.2 +1.2
D27M Malcolm River 37.72 32 P P 03 27 16.9 +0.7
baz=269
M27K Edge Creek, AK 37.73 43 P P 03 27 17.6 +1.1
baz=277
BARN Barnard Glacie 38.02 45 P P 03 27 19.7 +0.8
BARN IAmb IAmb 03 27 34.0
comp=Z,4.8nm,0.6s
MESA MESA 38.02 47 P P 03 27 19.5 +0.5
baz=280
GRNC Granite Creek 38.02 46 P P 03 27 20.1 +1.0
GRNC IAmb IAmb 03 27 43.5
comp=Z,7.2nm,1.0s
YAH Yahtse 38.09 46 P P 03 27 19.4 -0.2
YAH IAmb IAmb 03 27 33.8
comp=Z,4.6nm,0.6s
F28M Old Crow 38.14 34 P P 03 27 20.8 +1.1
baz=272,SNR=7.0
CTG Chitna Glacier 38.18 45 P P 03 27 21.1 +0.8
baz=280
CTGM Chitina Glacie 38.19 45 P P 03 27 21.7 +1.4
CTGM IAmb IAmb 03 27 36.1
comp=Z,9.4nm,0.8s
BVCY Beaver Creek 38.19 43 P P 03 27 21.2 +1.0
baz=278
E28M Babbage River 38.24 33 P P 03 27 20.8 +0.3
baz=271

I28M Miner Creek 38.25 38 P P 03 27 21.4 +0.6
baz=275,SNR=9.9
LOGN Logan Glacier 38.37 45 P P 03 27 21.9 0.0
YUK3 Moose Creek 38.47 44 P P 03 27 23.5 +0.7
baz=279,SNR=6.3
DAWY Dawson 38.63 40 P P 03 27 24.3 +0.4
baz=277
O28M Mount Upton 38.77 45 P P 03 27 25.6 +0.1
baz=281
LZH Lanzhou 38.79 272 *e*P P 03 27 26.2 +0.5
LZH pP pP 03 27 34.2 -0.2
LZH pmax pmax
comp=Z,24nm,1.0s
H29M Whitestone 38.83 37 P P 03 27 26.2 +0.7
baz=275,SNR=6.7
E29M Blow River 38.85 33 P P 03 27 26.7 +1.1
baz=273,SNR=7.0
PCA Pinnacle 38.87 46 P P 03 27 25.9 -0.1
PINM Pinnacle 38.87 46 P P 03 27 26.7 +0.7
baz=282
YUK8 Steele Glacier 38.88 45 P P 03 27 26.7 +0.4
baz=280
G29M Pine Creek 38.91 35 P P 03 27 26.5 +0.4
baz=275,SNR=8.4
I29M Ogilvie Camp, 38.94 38 P P 03 27 27.3 +0.8
baz=277,SNR=6.1
LZDM Lanzhou Array 38.96 272 P P 03 27 27.8 +0.5
comp=Z,1.4nm,0.3s,baz=26,slow=3.8,SNR=6.6
comp=Z,1.4nm,0.3s
M29M Somme Creek 39.29 43 P P 03 27 30.0 +0.5
baz=280
L29M L29M 39.33 41 P P 03 27 30.8 +1.1
baz=280,SNR=5.3
YUK4 Talbot Arm 39.40 44 P P 03 27 31.9 +1.4
baz=281
EPYK Eagle Plains 39.48 36 P P 03 27 31.8 +0.9
baz=275,SNR=5.6
K29M Barlow Dome 39.48 40 P P 03 27 32.0 +0.8
baz=279,SNR=6.1
G30M tAoh Zraii Nji 39.60 35 P P 03 27 32.0 0.0
baz=276
YUK6 Outpost Mounta 39.62 45 P P 03 27 32.2 -0.2
baz=282
F30M Barrier River 39.70 34 P P 03 27 33.6 +0.8
baz=276,SNR=5.3
GTA Gaotai 39.76 279 *e*P P 03 27 33.4 -0.4
GTA sP pP 03 27 42.3 -0.1
GTA pmax pmax
comp=Z,9.0nm,1.0s
I30M Mount Dempster 39.76 38 P P 03 27 33.7 +0.2
baz=278,SNR=13
J30M Hart River 39.88 39 P P 03 27 34.4 0.0
baz=279
M30M Minto, Yukon 40.02 42 P P 03 27 36.0 +0.5
baz=281
HYT Haines Junctio 40.05 45 P P 03 27 36.1 +0.2
baz=283
N30M Aishikik Lake 40.11 44 P P 03 27 36.7 +0.3
baz=282
P29M Windy Craggy 40.21 47 P P 03 27 37.6 +0.5
baz=284
MAYO Mayo, Yukon 40.24 40 P P 03 27 39.0 +1.7
MAYO Mayo, Yukon 40.24 40 P P 03 27 38.1 +0.8
baz=281
G31M Satah River 40.37 35 P P 03 27 38.9 +0.6
baz=278
INK Inuvik 40.48 33 P 03 27 40.1 +1.1
INK Inuvik 40.48 33 P P 03 27 40.2 +1.1
INK pmax pmax
comp=Z,7.0nm,0.8s
INK Inuvik 40.48 33 P P 03 27 40.2 +1.1
baz=277,SNR=6.7
P30M Million Dollar 40.48 46 P P 03 27 39.7 +0.4
baz=284
F31M Tsiigehtchic 40.51 34 P P 03 27 40.2 +0.9
baz=278,SNR=5.1
H31M Peel River 40.51 37 P P 03 27 40.2 +0.7
baz=279,SNR=6.4
N31M Braeburn, Yuko 40.72 44 P P 03 27 42.2 +0.9
baz=283
O30N Mendenhall 40.74 45 P P 03 27 42.3 +0.8
baz=284
PLBC Pleasant Camp 40.93 47 P P 03 27 43.7 +0.7
baz=285
M31M Drury Creek, Y 41.20 42 P P 03 27 45.9 +0.7
baz=283,SNR=7.0
WHY Whitehorse 41.34 45 P P 03 27 46.8 +0.3
baz=285
CD2 Chengdu 41.87 265 P P 03 27 50.2 -0.9
CD2 pP pP 03 27 58.6 -1.2
CD2 pmax pmax
comp=Z,60nm,0.8s
N32M Quiet Lake 42.06 44 P P 03 27 52.5 +0.2
baz=286
SIT Sitka 42.15 50 P P 03 27 53.0 0.0
baz=288
P33M Teslin, Yukon 42.45 45 P P 03 27 55.9 +0.4
baz=287,SNR=5.1
MMPY Sheldon Lake, 42.51 41 P 03 27 57.7 +1.8
MMPY Sheldon Lake, 42.51 41 P P 03 27 56.5 +0.6
baz=285
A36M Sachs Harbour 42.72 27 P P 03 27 58.1 +0.6
baz=280
ZALV Zalesovo Beam 42.90 305 P P 03 27 57.7 -1.4
ZALV Zalesovo Beam 42.90 305 P P 03 27 57.3 -1.8
comp=Z,1.7nm,0.6s,baz=69,slow=8.1,SNR=6.2
ZALV PcP PcP 03 29 48.9 -0.6
comp=Z,3.6nm,1.0s,baz=110,slow=2.2,SNR=4.4
ZALV LR LR 03 46 54.2
comp=Z,225nm,18.6s,baz=68,slow=38
comp=Z,1.7nm,0.6s
ZALV Zalesovo Beam 42.90 305 *i* P P 03 27 59.0 -0.1
ZALV pmax pmax
comp=Z,2.0nm,0.6s
Q32M Nakina River 43.09 47 P P 03 28 01.1 +0.2
baz=288
R33M Jennings River 43.59 46 P P 03 28 05.3 +0.5
baz=289
U33K Whale Pass 43.61 51 P P 03 28 05.8 +1.0
baz=291
C36M Paulatuk 43.66 31 P P 03 28 05.4 +0.4
baz=284,SNR=6.1
CRAG Craig 43.84 52 P P 03 28 07.5 +0.8
baz=291
S34M Telegraph Cree 44.00 48 P P 03 28 08.4 +0.4
baz=290
TGTN Hyland Airport 44.17 42 P P 03 28 09.8 +0.5
baz=289
DLBC Dease Lake 44.37 47 P P 03 28 11.4 +0.4
baz=290
WTLY Watson Lake, Y 44.39 44 P P 03 28 12.1 +0.9
baz=290
V35K Ketchikan 44.69 51 P P 03 28 14.8 +1.3
baz=292
T35M Bob Quinn 44.78 49 P P 03 28 14.9 +0.7
baz=292
WMQ Urumqi 45.50 291 *e*P P 03 28 19.6 -0.6
WMQ pP pP 03 28 30.7 +1.7
WMQ pmax pmax
comp=Z,85nm,0.9s
WMQ LR LR
comp=Z,270nm,16.1s
WRGLY Wrigley 45.72 39 P P 03 28 23.1 +1.5
baz=291
LIRD Liard River Hi 45.92 44 P P 03 28 24.5 +1.3
baz=292
QIZ Qiongzhong 46.01 247 P P 03 28 26.2 +1.8
QIZ S S 03 35 07.2 -0.4
QIZ LR LR
comp=Z,310nm,10.0s
QIZ LR LR
comp=Z,330nm,16.4s
QIZ LR LR
comp=Z,460nm,25.9s
PZH PanZhiHua 46.04 262 P P 03 28 26.4 +1.7
KMI Kunming 46.30 260 P P 03 28 28.4 +1.5
KMI pmax pmax
comp=Z,14nm,1.1s
KMI LR LR
comp=Z,320nm,17.0s
KMI LR LR
comp=Z,450nm,20.4s
KMI LR LR
comp=Z,230nm,19.2s
TOAD Toad River Com 46.55 45 P P 03 28 29.0 +0.8
baz=293
KOTAN Kotaneelee Air 46.60 43 P P 03 28 28.9 +0.4
baz=293

MK31 Makanchi Array 47.40 297 *i* P P 03 28 33.2 -1.8
MKAR Makanchi Array 47.40 297 03 28 34.0 -1.0
MKAR Makanchi Array 47.40 297 P P 03 28 33.5 -1.5
comp=Z,8.6nm,0.9s,baz=66,slow=7.3,SNR=43
MKAR LR LR 03 49 50.8
comp=Z,119nm,19.2s,baz=68,slow=38
comp=Z,8.6nm,0.9s
MAKZ Makanchi 47.58 297 P P 03 28 35.3 -1.1
KURK Kurchatov 47.69 304 P P 03 28 36.1 -1.1
KURK IAmb IAmb 03 28 36.8
comp=Z,10nm,0.8s
KURK Kurchatov 47.69 304 P P 03 28 36.1 -1.1
KURK Kurchatov 47.69 304 *e*P P 03 28 36.1 -1.1
KURBB Kurchatov Arra 47.79 303 P P 03 28 36.1 -1.8
comp=Z,9.5nm,0.8s,baz=67,slow=8.2,SNR=29
comp=Z,9.5nm,0.8s
YKA Yellowknife Ar 49.73 37 P P 03 28 53.2 +0.6
comp=Z,2.8nm,1.0s,baz=303,slow=7.4,SNR=6.7
comp=Z,2.8nm,1.0s
YKA Yellowknife Ar 49.73 37 *ce*P P 03 28 53.5 +0.9
YKA pmax pmax
comp=Z,3.0nm,1.0s
RES Resolute Bay 49.78 19 LR LR 03 54 33.6
comp=Z,219nm,18.9s,baz=232,slow=42
BVAR Borovoye Array 51.07 309 P P 03 29 01.7 -1.2
comp=Z,1.9nm,0.4s,baz=54,slow=7.7,SNR=12
BVAR PcP PcP 03 30 18.6 +0.2
comp=Z,2.2nm,0.7s,baz=86,slow=2.2,SNR=4.5
BVAR LR LR 03 52 42.8
comp=Z,280nm,18.1s,baz=74,slow=39
comp=Z,1.9nm,0.4s
LSA Lhasa 51.15 273 P P 03 29 04.2 -0.2
LSA pmax pmax
comp=Z,24nm,0.6s
SPITS Spitsbergen Ar 51.99 350 P P 03 29 09.0 -0.5
comp=Z,4.9nm,0.9s,baz=76,slow=12,SNR=2.0
comp=Z,4.9nm,0.9s
CHTO Chiang Mai 53.20 257 P 03 29 19.9 +0.7
CHTO IAmb IAmb 03 29 21.1
comp=Z,11nm,0.9s
CHTO Chiang Mai 53.20 257 P P 03 29 19.9 +0.7
CHTO pmax pmax
comp=Z,11nm,1.0s
CMAR Chiang Mai Arr 53.46 257 P P 03 29 20.7 -0.4
CMAR Chiang Mai Arr 53.46 257 P P 03 29 20.4 -0.6
comp=Z,1.5nm,0.3s,baz=32,slow=7.3,SNR=14
comp=Z,1.5nm,0.3s
CMAR Chiang Mai Arr 53.46 257 *ce*P P 03 29 22.2 +1.1
CMAR pmax pmax
comp=Z,3.0nm,0.6s
AAK Ala-Archa 54.31 297 LR LR 03 54 01.0
comp=Z,147nm,18.7s,baz=65,slow=38
AAK Ala-Archa 54.31 297 *ce*P P 03 29 26.3 -0.9
AAK pmax pmax
comp=Z,8.0nm,1.0s
AAK Ala-Archa 54.31 297 *e*P P 03 29 26.3 -0.9
ARTI Arti 55.15 318 P P 03 29 31.8 -1.1
ARTI IAmb IAmb 03 29 37.7
comp=Z,5.3nm,0.7s
ARTI Arti 55.15 318 *c i*P P 03 29 31.5 -1.4
ARTI 03 30 33.1
ARTI 03 31 33.7
ARTI S S 03 37 13.4 -0.2
ARTI SS SS 03 40 50.4 -6.6
ARTI pmax pmax
comp=Z,4.0nm,0.7s
KSH Kashi 55.20 293 P P 03 29 36.1 +2.4
KSH pmax pmax
comp=Z,6.0nm,1.1s
KSH LR LR
comp=Z,300nm,21.3s
BLKN Baker Lake 55.71 30 P 03 29 37.2 +0.5
KSXB Camp Six Broad 55.79 63 P P 03 29 40.1 +2.3
J04A Umpqua Nationa 56.02 61 IAmb IAmb 03 29 56.1
comp=Z,7.7nm,0.9s
KKAR Karatay Array 56.42 299 P P 03 29 40.5 -1.8
KKAR Karatay Array 56.42 299 P P 03 29 40.5 -1.8
J05D Fort Rock, OR 56.51 61 P 03 29 45.0 +1.9
J05D IAmb IAmb 03 29 59.8
comp=Z,5.2nm,0.8s
YBH Yreka Blue Hor 56.55 63 P 03 29 45.8 +2.5
YBH Yreka Blue Hor 56.55 63 P P 03 29 45.8 +2.5
HNR Honiara 56.94 174 LR LR 03 52 43.5
comp=Z,70nm,19.4s,baz=334,slow=34
K05A Summer Lake 57.05 61 IAmb IAmb 03 30 08.3
comp=Z,11nm,1.2s
ARCES ARCESS Array B 57.40 341 P P 03 29 47.3 -1.4
comp=Z,5.1nm,1.0s,baz=33,slow=10,SNR=1.8
comp=Z,5.1nm,1.0s
BMO Blue Mountains 57.86 57 IAmb IAmb 03 30 09.3
comp=Z,5.8nm,1.3s
O03E Paynes Creek 57.96 64 IAmb IAmb 03 30 08.4
comp=Z,7.6nm,1.0s
PLID Pearl Lake 58.46 56 IAmb IAmb 03 30 03.2
comp=Z,8.7nm,0.8s
MSO Missoula 58.54 54 P 03 29 58.2 +1.0
MSO IAmb IAmb 03 30 11.8
comp=Z,10nm,1.3s
WVOR Wild Horse Val 58.55 60 P P 03 29 58.8 +1.4
WVOR IAmb IAmb 03 30 13.9
comp=Z,5.1nm,0.9s
WVOR Wild Horse Val 58.55 60 P P 03 29 58.8 +1.4
AB31 Akbulak array 58.62 310 P P 03 29 55.9 -1.7
ABKAR Akbulak array 58.62 310 P P 03 29 56.8 -0.8
AKTO Aktyubinsk 58.88 312 LR LR 03 57 36.2
comp=Z,138nm,18.2s,baz=78,slow=38
MFID Camas Ranch 59.58 58 P P 03 30 06.7 +2.2
SUMG Summit 59.83 4 P 03 30 05.9 -0.2
SUMG Summit 59.83 4 P P 03 30 05.9 -0.2
SUMG Summit 59.83 4 *i* P P 03 30 06.0 -0.1
CHGR Chuyangaron 59.94 296 P P 03 30 05.0 -2.0
CHGR Chuyangaron 59.94 296 P P 03 30 05.0 -2.0
CHGR pmax pmax
comp=Z,13nm,0.9s
SIMJ Simiganj 60.03 296 P 03 30 06.7 -1.0
SIMJ IAmb IAmb 03 30 07.8
comp=Z,7.2nm,0.9s
HLID Hailey 60.29 57 P 03 30 10.5 +1.0
NIL Nilore 60.53 289 P 03 30 10.9 -0.2
NIL Nilore 60.53 289 P P 03 30 10.9 -0.2
NIL pmax pmax
comp=Z,31nm,0.9s
BOZ Bozeman (W) 60.56 54 IAmb IAmb 03 30 26.6
comp=Z,5.2nm,0.8s
LHV Little Huntoon 61.23 64 P P 03 30 16.1 +0.4
LHV IAmb IAmb 03 30 39.2
comp=Z,4.7nm,0.9s
ELK Elko 61.60 60 LR LR 03 56 27.0
comp=Z,49nm,19.2s,baz=262,slow=36
TPH Tonopah 62.12 63 IAmb IAmb 03 30 34.2
comp=Z,5.1nm,1.3s
TPAW Teton Pass 62.28 55 P P 03 30 24.9 +1.9
TPAW IAmb IAmb 03 30 41.3
comp=Z,7.2nm,0.9s
HVU Hansel Valley 62.36 57 P P 03 30 25.4 +1.9
HVU Hansel Valley 62.36 57 P P 03 30 25.4 +1.9
LOHW Long Hollow 62.40 55 P P 03 30 25.1 +1.4
LOHW IAmb IAmb 03 30 37.4
comp=Z,6.6nm,1.2s
KBL Kabul 62.63 292 P 03 30 23.7 -1.7
KBL Kabul 62.63 292 P P 03 30 23.7 -1.7
KBL pmax pmax
comp=Z,17nm,1.2s
SPR3 Spring Creek 3 63.26 61 IAmb IAmb 03 30 46.5
comp=Z,4.6nm,0.8s
PDAR Pinedale Array 63.53 55 P P 03 30 32.6 +1.3
PDAR Pinedale Array 63.53 55 P P 03 30 32.4 +1.1
comp=Z,8.8nm,1.1s,baz=307,slow=3.2,SNR=14
comp=Z,2.8nm,1.1s
FINES FINESS Array B 63.71 335 P P 03 30 30.9 -1.0
comp=Z,4.4nm,0.5s,baz=37,slow=5.8,SNR=38
comp=Z,4.4nm,0.5s
FRB Frobisher Bay 63.99 20 LR LR 04 02 02.2
comp=Z,174nm,18.7s,baz=302,slow=40
SFJD Kangerlussuaq 64.20 11 LR LR 03 59 43.7
comp=Z,202nm,21.9s,baz=319,slow=37
P17A Butcher Ranch, 65.04 58 IAmb IAmb 03 30 56.7
comp=Z,4.0nm,0.8s
MTPU Mount Pierson 65.15 60 IAmb IAmb 03 30 58.8
comp=Z,4.4nm,0.8s
OBN Obninsk 65.17 326 *eP* P 03 30 40.1 -1.4
OBN *e* 03 31 14.0
OBN *e* 03 33 06.4
OBN pmax pmax
comp=Z,7.0nm,0.4s

OBN					MLR	MLR			
	comp=Z,105nm,19.0s								
OBN	**Obninsk**	**65.17**	**326**	*eP*		**P**	**03 30 40.1**	**-1.4**
LCMT	**Little Creek M**	**65.21**	**62**	IAmb		IAmb	03 30 58.8		
	comp=Z,5.6nm,0.9s								
SRU	**San Rafael Swe**	**65.41**	**58**	IAmb		IAmb	03 30 59.8		
	comp=Z,9.0nm,0.8s								
KNB	**Kanab**	**65.46**	**62**	IAmb		IAmb	03 31 00.7		
	comp=Z,5.5nm,0.8s								
IRM	**Iron Mountain**	**65.96**	**65**			**P**	**03 30 49.5**	**+2.5**
HMU	**Henry Mountain**	**66.07**	**60**	IAmb		IAmb	03 31 04.2		
	comp=Z,6.7nm,1.0s								
PV22	**Blue Mesa, Par**	**66.79**	**58**	IAmb		IAmb	03 31 08.1		
	comp=Z,4.8nm,0.8s								
PV20	**West Nyswonger**	**66.82**	**58**	IAmb		IAmb	03 31 14.8		
	comp=Z,9.4nm,0.8s								
PV17	**East Wray Mesa**	**66.87**	**58**	P		**P**	**03 30 53.2**	**+0.2**
PV17				IAmb		IAmb	03 31 08.7		
	comp=Z,7.5nm,0.7s								
PV16	**Nyswonger Mesa**	**66.87**	**58**	IAmb		IAmb	03 31 02.8		
	comp=Z,5.7nm,1.0s								
PV05	**Paradox Valley**	**66.93**	**58**	IAmb		IAmb	03 31 08.9		
	comp=Z,6.7nm,0.8s								
PV03	**Paradox Valley**	**66.95**	**58**	P		**P**	**03 30 54.6**	**+1.1**
PV03				IAmb		IAmb	03 31 15.2		
	comp=Z,6.3nm,1.1s								
PV13	**Radium Mtn., P**	**67.03**	**58**	P		**P**	**03 30 55.4**	**+1.4**
PV13				IAmb		IAmb	03 31 09.4		
	comp=Z,5.5nm,0.8s								
NB2	**NORSAR Subarra**	**67.77**	**342**	P		**P**	**03 30 58.4**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**67.77**	**342**	P		**P**	**03 30 58.1**	**0.0**
	comp=Z,1.1nm,0.6s,baz=27,slow=6.5,SNR=12								
	comp=Z,1.1nm,0.6s								
HFS	**Hagfors**	**68.03**	**340**	P		**P**	**03 30 59.4**	**-0.3**
	comp=Z,3.0nm,0.4s,baz=57,slow=5.5,SNR=39								
	comp=Z,3.0nm,0.4s								
MNK	**Minsk**	**68.78**	**330**	*i* P		**P**	**03 31 02.6**	**-1.8**
MNK				*i*			03 33 36.9		
MNK				*i* PPP		PPP	03 35 16.1		
MNK				*i* S		**S**	**03 40 04.3**	**-1.2**
MNK				*i* SS		**SS**	**03 44 30.4**	**+0.8**
MNK				pmax		pmax			
	comp=E,5.0nm,0.9s								
MNK				pmax		pmax			
	comp=Z,9.0nm,0.8s								
MNK				pmax		pmax			
	comp=N,12nm,0.9s								
MNK				MLR		MLR			
	comp=N,101nm,21.0s								
MNK				MLR		MLR			
	comp=Z,101nm,18.0s								
MNK				MLR		MLR			
	comp=E,65nm,18.0s								
WRA	**Warramunga Arr**	**69.58**	**200**	P		**P**	**03 31 09.9**	**+0.2**
	comp=E,3.9nm,0.9s,baz=19,slow=6.6,SNR=16								
	comp=E,3.9nm,0.9s								
WRA	**Warramunga Arr**	**69.58**	**200**	*i* P		**P**	**03 31 11.1**	**+1.4**
WRA				pmax		pmax			
	comp=Z,3.0nm,0.9s								
DZM	**Mont Dzumac**	**70.13**	**168**	*e*LR		LR	03 52 35.1		
	comp=Z,125nm,21.9s								
DZM	**Mont Dzumac**	**70.13**	**168**	LR		LR	03 57 54.6		
	comp=Z,107nm,18.9s,baz=8.5,slow=32								
AKT	**Akhty**	**70.20**	**310**	*e*P		**P**	**03 31 12.4**	**-1.2**
AKT				*e*			03 31 32.1		
AKT				*e*			03 33 46.4		
AKT				pmax		pmax			
	comp=Z,22nm,1.7s								
AKT				MLR		MLR			
	comp=Z,310nm,17.0s								
FITZ	**Fitzroy Crossi**	**70.29**	**209**	P		**P**	**03 31 14.2**	**+0.1**
NCK	**Nalchík**	**70.80**	**314**	*i* P		**P**	**03 31 18.3**	**+1.2**
NCK				pmax		pmax			
	comp=Z,7.0nm,0.8s								
KIV	**Kislovodsk**	**70.90**	**315**	*e*P		**P**	**03 31 15.4**	**-2.4**
KIV				pmax		pmax			
	comp=Z,11nm,1.1s								
KIV				MLR		MLR			
	comp=Z,66nm,17.0s								
KBZ	**Khabaz**	**70.97**	**315**	P		**P**	**03 31 18.4**	**+0.4**
	comp=Z,4.8nm,0.7s,baz=307,slow=5.1,SNR=8.4								
	comp=Z,4.8nm,0.7s								
KBZ	**Khabaz**	**70.97**	**315**	*i* P		**P**	**03 31 18.9**	**+0.9**
KBZ				pmax		pmax			
	comp=Z,7.0nm,0.9s								
AKASG	**Malin Array Be**	**71.39**	**327**	P		**P**	**03 31 20.0**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=36,slow=5.6,SNR=14								
	comp=Z,0.9nm,0.3s								
KIEV	**Kiev**	**71.40**	**327**			**P**	**03 31 20.3**	**-0.3**
KIEV				IAmb		IAmb	03 31 20.6		
	comp=Z,5.7nm,0.8s								
KIEV	**Kiev**	**71.40**	**327**	P		**P**	**03 31 20.3**	**-0.3**
KIEV				pmax		pmax			
	comp=Z,6.0nm,0.9s								
GNI	**Garni**	**72.71**	**311**	LR		LR	04 07 15.6		
	comp=Z,138nm,19.0s,baz=38,slow=39								
ASAR	**Alice Springs**	**73.27**	**200**	P		**P**	**03 31 32.6**	**+0.6**
ASAR	**Alice Springs**	**73.27**	**200**	P		**P**	**03 31 33.1**	**+1.2**
	comp=Z,4.0nm,0.9s,baz=13,slow=5.8,SNR=29								
ASAR				LR		LR	04 01 00.1		
	comp=Z,36nm,22.0s,baz=322,slow=34								
	comp=Z,4.0nm,0.9s								
ASAR	**Alice Springs**	**73.27**	**200**	P		**P**	**03 31 32.6**	**+0.6**
SORM	**Soroca**	**73.82**	**326**	⇓P		**P**	**03 31 34.3**	**-0.7**
SORM	**Soroca**	**73.82**	**326**	P		**P**	**03 31 34.3**	**-0.7**
KWP	**Kalwaria Pacla**	**74.61**	**330**	*e*P		**P**	**03 31 39.7**	**+0.1**
OJC	**Ojcow**	**75.06**	**332**	*e*P		**P**	**03 31 42.1**	**-0.1**
STHS	**Stebnicka Huta**	**75.28**	**331**	*e*P		**P**	**03 31 43.6**	**+0.1**
STHS				pmax		pmax			
	comp=Z,9.0nm,1.0s								
GURO	**Guroymak-BITLI**	**75.30**	**311**	P		**P**	**03 31 43.7**	**-0.2**
GURO				IAmb		IAmb	03 31 46.5		
	comp=Z,6.6nm,0.8s								
KOLS	**Kolonicke sedl**	**75.35**	**330**	*e*P		**P**	**03 31 44.3**	**+0.4**
KOLS				pmax		pmax			
	comp=Z,10.0nm,1.0s								
BURAR	**Bucovina Array**	**75.42**	**327**			**P**	**03 31 44.9**	**+0.4**
BURAR				IAmb		IAmb	03 31 45.6		
	comp=Z,9.1nm,0.9s								
BURAR	**Bucovina Array**	**75.42**	**327**	⇑P		**P**	**03 31 44.6**	**+0.1**
BURAR	**Bucovina Array**	**75.42**	**327**	P		**P**	**03 31 44.6**	**+0.1**
NIE	**Niedzica**	**75.59**	**331**	*e*P		**P**	**03 31 45.5**	**+0.2**
KSP	**Ksiaz**	**75.59**	**334**	*e*P		**P**	**03 31 45.1**	**-0.1**
FLTG	**Flechtingen**	**75.65**	**338**	*e*P		**P**	**03 31 45.4**	**-0.1**
	comp=Z,7.3nm,1.0s,baz=24,slow=5.6								
EKA	**Eskdalemuir Ar**	**75.77**	**347**	P		**P**	**03 31 46.2**	**0.0**
	comp=Z,2.0nm,0.6s,baz=21,slow=4.9,SNR=8.6								
	comp=Z,2.0nm,0.6s								
OSTC	**Ostas**	**75.87**	**334**	*e*P		**P**	**03 31 47.0**	**+0.1**
OSTC	**Ostas**	**75.87**	**334**	*e*P		**P**	**03 31 47.0**	**+0.1**
CHVC	**Chvalec**	**75.89**	**334**	*e*P		**P**	**03 31 47.1**	**+0.1**
CHVC	**Chvalec**	**75.89**	**334**	*e*P		**P**	**03 31 47.1**	**+0.1**
OKC	**Ostrava-Krasne**	**75.92**	**333**	AMS		AMS	04 18 20.0		
	comp=Z,300nm,13.4s								
STEB	**Steborice**	**75.95**	**333**	*e*P		**P**	**03 31 47.6**	**+0.3**
LPIG	**La Paz**	**75.97**	**70**	LR		LR	04 00 02.3		
	comp=Z,28nm,22.0s,baz=194,slow=32								
UPC	**Upice**	**75.97**	**334**	*e*P		**P**	**03 31 47.6**	**+0.2**
UPC	**Upice**	**75.97**	**334**	*e*P		**P**	**03 31 47.6**	**+0.2**
ASSE	**Asse, Remlinge**	**75.98**	**338**	*e*P		**P**	**03 31 47.1**	**-0.2**
	comp=Z,3.3nm,0.9s,baz=24,slow=5.6								
DPC	**Dobruska-Polom**	**76.02**	**334**	AMS		AMS	04 09 50.0		
	comp=Z,300nm,19.0s								
LANS	**Liptovska Anna**	**76.10**	**331**	*e*P		**P**	**03 31 48.8**	**+0.6**
LANS				pmax		pmax			
	comp=Z,9.0nm,1.1s								
CLL	**Collm**	**76.11**	**336**	⇑*i*P		**P**	**03 31 47.7**	**-0.5**
CLL				pmax		pmax			
	comp=Z,18nm,0.9s								
CLL	**Collm**	**76.11**	**336**	*e*P		**P**	**03 31 48.0**	**-0.2**
	comp=Z,12nm,0.8s,baz=24,slow=5.6								
CLL	**Collm**	**76.11**	**336**	⇑*i*P		**P**	**03 31 47.7**	**-0.5**
	comp=Z,18nm,0.9s								
CLL				L		L	04 17 00.0		
	comp=Z,200nm,21.6s								
KRLC	**Kraliky**	**76.13**	**333**	*e*P		**P**	**03 31 48.7**	**+0.3**
KRLC				MLR		MLR			
	comp=Z,300nm,26.6s								
KRLC	**Kraliky**	**76.13**	**333**	*e*P		**P**	**03 31 48.7**	**+0.3**
KRLC				AMS		AMS	04 16 50.0		
	comp=Z,300nm,26.6s								
MORC	**Moravsky Berou**	**76.16**	**333**	IAmb		IAmb	03 31 49.8		
	comp=Z,14nm,1.0s								
MORC	**Moravsky Berou**	**76.16**	**333**	*e*P		**P**	**03 31 48.9**	**+0.4**
MORC	**Moravsky Berou**	**76.16**	**333**	⇓P		**P**	**03 31 49.2**	**+0.7**
MORC	**Moravsky Berou**	**76.16**	**333**	P		**P**	**03 31 49.3**	**+0.8**
BRG	**Berggiesshubel**	**76.24**	**336**	*e*P		**P**	**03 31 49.8**	**+0.9**
	comp=Z,3.7nm,0.9s,baz=24,slow=5.6								
BRG	**Berggiesshubel**	**76.24**	**336**	*i* P		**P**	**03 31 50.7**	**+1.8**
BRG				Amp			03 31 51.5		
	comp=Z,5.0nm,0.9s								
TXAR	**Lajitas Array**	**76.29**	**62**	P		**P**	**03 31 49.8**	**+0.1**
TXAR	**Lajitas Array**	**76.29**	**62**	P		**P**	**03 31 50.6**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=302,slow=4.5,SNR=23								
	comp=Z,1.3nm,0.7s								
TXAR	**Lajitas Array**	**76.29**	**62**	P		**P**	**03 31 49.8**	**+0.1**
VRI	**Vrincioaia**	**76.32**	**325**	⇑P		**P**	**03 31 48.8**	**-0.7**
VRI	**Vrincioaia**	**76.32**	**325**	P		**P**	**03 31 48.8**	**-0.7**
KECS	**Kecovo**	**76.34**	**330**	*e*P		**P**	**03 31 49.8**	**+0.2**
KECS				pmax		pmax			
	comp=Z,12nm,1.0s								
CFR	**Carcaliu**	**76.34**	**324**	⇓P		**P**	**03 31 49.3**	**-0.3**
CFR	**Carcaliu**	**76.34**	**324**	P		**P**	**03 31 49.2**	**-0.3**
PVCC	**Panska Ves**	**76.38**	**335**	*e*P		**P**	**03 31 50.5**	**+0.8**
PVCC	**Panska Ves**	**76.38**	**335**	*e*P		**P**	**03 31 50.5**	**+0.8**
TURR	**Turia**	**76.44**	**326**	⇑P		**P**	**03 31 51.0**	**+0.9**
OZUR		**76.49**	**326**	⇑P		**P**	**03 31 51.0**	**+0.5**
TPGR	**Topolog**	**76.50**	**324**	⇓P		**P**	**03 31 50.3**	**-0.2**
NEUB	**Neuenburg**	**76.53**	**337**	*e*P		**P**	**03 31 50.9**	**+0.3**
	comp=Z,8.4nm,0.8s,baz=24,slow=5.6								
COVR	**Voineasa-Covas**	**76.54**	**326**	⇑P		**P**	**03 31 51.6**	**+0.8**
GTTG	**Gottingen**	**76.70**	**338**	*e*P		**P**	**03 31 51.6**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=24,slow=5.6								
PRA	**Prague**	**76.83**	**335**	*e*P		**P**	**03 31 53.1**	**+0.9**
PRA	**Prague**	**76.83**	**335**	*e*P		**P**	**03 31 53.1**	**+0.9**
VRAC	**Vranov**	**76.86**	**333**	*e*P		**P**	**03 31 52.8**	**+0.3**
VRAC	**Vranov**	**76.86**	**333**	⇓P		**P**	**03 31 53.0**	**+0.4**
VRAC	**Vranov**	**76.86**	**333**	P		**P**	**03 31 52.9**	**+0.4**
VYHS	**Vyhne**	**76.87**	**331**	*e*P		**P**	**03 31 52.9**	**+0.3**
VYHS				pmax		pmax			
	comp=Z,13nm,1.2s								
MARD	**Mardin**	**76.88**	**311**			**P**	**03 31 53.5**	**+0.5**
JAVC	**Velka Javorina**	**76.92**	**332**	*e*P		**P**	**03 31 54.3**	**+1.4**
MLR	**Muntele Rosu**	**76.94**	**326**	⇑P		**P**	**03 31 53.8**	**+0.6**
MLR	**Muntele Rosu**	**76.94**	**326**	P		**P**	**03 31 54.3**	**+1.2**
ISR	**Istrita**	**77.02**	**325**	⇓P		**P**	**03 31 54.3**	**+0.8**
ISR	**Istrita**	**77.02**	**325**	P		**P**	**03 31 54.3**	**+0.8**
PSZ	**Piszkesteto**	**77.03**	**331**	IAmb		IAmb	03 31 54.9		
	comp=Z,11nm,1.1s								
DRGR		**77.03**	**328**	⇑P		**P**	**03 31 53.5**	**-0.1**
DRGR		**77.03**	**328**	P		**P**	**03 31 53.4**	**-0.1**
TANN	**Tannenbergstha**	**77.07**	**336**	*e*P		**P**	**03 31 54.1**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=24,slow=5.6								
MOX	**Moxa**	**77.09**	**337**	*e*P		**P**	**03 31 54.1**	**+0.3**
	comp=Z,7.7nm,1.0s,baz=24,slow=5.6								
KRUC	**Moravsky**	**77.14**	**333**	*e*P		**P**	**03 31 54.4**	**+0.3**
SMOL	**Smolenice**	**77.31**	**332**	*e*P		**P**	**03 31 56.0**	**+1.0**
SMOL				pmax		pmax			
	comp=Z,7.0nm,1.1s								
UBBA	**Unterbreizbach**	**77.35**	**338**	*e*P		**P**	**03 31 55.5**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=24,slow=5.6								
ICOR	**Ion Corvin**	**77.36**	**324**	⇑P		**P**	**03 31 56.3**	**+0.9**
KASTN	**Kahler Asten**	**77.39**	**339**	*e*P		**P**	**03 31 55.5**	**0.0**
	comp=Z,7.2nm,0.9s,baz=24,slow=5.6								
BUG	**Bochum-Univer**	**77.45**	**340**	*e*P		**P**	**03 31 56.0**	**+0.3**
	comp=Z,9.6nm,1.1s,baz=24,slow=5.6								
ARR	**Arges**	**77.54**	**326**	⇑P		**P**	**03 31 57.2**	**+0.8**
MANZ	**Manzenberg**	**77.55**	**336**	*e*P		**P**	**03 31 56.7**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=24,slow=5.6								
SRO	**Srobarova**	**77.64**	**331**	*e*P		**P**	**03 31 57.8**	**+1.0**
SRO				pmax		pmax			
	comp=Z,10.0nm,0.9s								
ROTZ	**Rotzenmuhle**	**77.72**	**336**	*e*P		**P**	**03 31 57.8**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=24,slow=5.6								
KHC	**Kasperske Hory**	**77.91**	**335**	*e*P		**P**	**03 31 58.9**	**+0.5**
KHC				MLR		MLR			
	comp=Z,300nm,21.0s								
KHC	**Kasperske Hory**	**77.91**	**335**	*e*P		**P**	**03 31 58.9**	**+0.5**
KHC				AMS		AMS	04 11 50.0		
	comp=Z,300nm,21.0s								
GRF	**Grafenberg Arr**	**78.06**	**337**	*e*P		**P**	**03 31 59.6**	**+0.4**
	comp=Z,13nm,0.8s,baz=24,slow=5.6								
GRFO	**Grafenberg**	**78.06**	**337**	P		**P**	**03 32 00.4**	**+1.2**
GRFO	**Grafenberg**	**78.06**	**337**	P		**P**	**03 32 00.4**	**+1.2**
GRFO				pmax		pmax			
	comp=Z,17nm,0.7s								
WET	**Wettzell**	**78.10**	**335**	*e*P		**P**	**03 31 59.9**	**+0.5**
	comp=Z,8.5nm,0.8s,baz=24,slow=5.6								
BNN	**Bunyan**	**78.10**	**316**			**P**	**03 31 59.6**	**-0.1**
SURR	**Surduc**	**78.13**	**328**	⇑P		**P**	**03 32 00.2**	**+0.6**
GEC2	**GERESS Array S**	**78.14**	**335**	*e*P		**P**	**03 31 59.9**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=24,slow=5.6								
GERES	**GERESS Array B**	**78.14**	**335**	P		**P**	**03 31 59.6**	**-0.1**
	comp=Z,4.8nm,0.7s,baz=29,slow=5.1,SNR=39								
	comp=Z,4.8nm,0.7s								
GZR	**Gura Zlata**	**78.20**	**327**	⇓P		**P**	**03 32 00.4**	**+0.2**
GZR	**Gura Zlata**	**78.20**	**327**	P		**P**	**03 32 00.3**	**+0.2**
TNS	**Taunus Mts**	**78.29**	**338**	*e*P		**P**	**03 32 00.8**	**+0.2**
	comp=Z,9.8nm,1.1s,baz=24,slow=5.6								
CONA	**Conrad Observa**	**78.31**	**333**	*i* P		**P**	**03 32 01.3**	**+0.6**
	comp=Z,8.5nm,0.8s,SNR=6.3								
RONA	**Rosalia, Austr**	**78.38**	**333**	*i* P		**P**	**03 32 01.8**	**+0.8**
	comp=Z,13nm,1.0s,SNR=7.2								
BZS	**Buzias**	**78.43**	**328**	⇓P		**P**	**03 32 00.7**	**-0.6**
BZS	**Buzias**	**78.43**	**328**	P		**P**	**03 32 00.8**	**-0.5**
BR131	**Keskin Array S**	**78.44**	**317**	*i* P		**P**	**03 32 01.5**	**-0.1**
BRTR	**Keskin Array B**	**78.44**	**317**	P		**P**	**03 32 01.8**	**+0.2**
	comp=Z,10nm,1.0s,baz=67,slow=3.3,SNR=31								
	comp=Z,10nm,1.0s								
LOZB	**Loznitsa**	**78.46**	**324**	⇓P		**P**	**03 32 01.4**	**-0.1**
BTNL	**Ternell**	**78.51**	**340**	*d*P		**P**	**03 32 01.6**	**-0.1**
	comp=Z,6.1nm,1.2s								
MEM	**Membach**	**78.52**	**340**	*d*P		**P**	**03 32 01.4**	**-0.3**
	comp=Z,14nm,1.0s								
BSTI	**Sart Tilman**	**78.64**	**340**	*d*P		**P**	**03 32 03.7**	**+1.4**
	comp=Z,3.2nm,0.8s								
ANTO	**Ankara**	**78.70**	**318**			**P**	**03 32 03.6**	**+0.6**
ANTO	**Ankara**	**78.70**	**318**	P		**P**	**03 32 03.6**	**+0.6**
ANTO				pmax		pmax			
	comp=Z,14nm,0.9s								
BHOU	**Houvegnez**	**78.76**	**340**	*d*P		**P**	**03 32 01.2**	**-1.8**
	comp=Z,6.8nm,1.1s								
HERR	**Herculane**	**78.77**	**327**	⇑P		**P**	**03 32 02.7**	**-0.5**
KIRS	**Kirsehir-Merke**	**78.78**	**317**	⇑P		**P**	**03 32 03.7**	**+0.2**
SZH	**Strazhitsa**	**78.79**	**324**	*e*P		**P**	**03 32 03.4**	**+0.1**
BCLA	**Clavier**	**78.86**	**340**	*d*P		**P**	**03 32 04.1**	**+0.6**
MOA	**Molln**	**78.86**	**334**	*i* P		**P**	**03 32 03.9**	**+0.3**
	comp=Z,5.6nm,0.7s								
MORH	**Mrgy, Hungar**	**78.93**	**330**	⇑P		**P**	**03 32 03.5**	**-0.5**
BGES	**Gesves**	**78.94**	**341**	*d*P		**P**	**03 32 02.2**	**-1.8**
	comp=Z,6.6nm,1.0s								
ARSA	**Arzberg**	**79.02**	**333**	IAmb		IAmb	03 32 05.9		
	comp=Z,10nm,1.2s								
ARSA	**Arzberg**	**79.02**	**333**	*i* P		**P**	**03 32 04.9**	**+0.4**
	comp=Z,5.0nm,1.0s								
BMRD	**Maredsous**	**79.08**	**341**	*d*P		**P**	**03 32 04.9**	**+0.1**
	comp=Z,8.1nm,1.1s								
RCHB	**Rochefort**	**79.12**	**340**	*d*P		**P**	**03 32 05.1**	**+0.1**
	comp=Z,5.5nm,1.0s								
BIOA	**Bad Ischl, Aus**	**79.19**	**334**	*i* P		**P**	**03 32 06.0**	**+0.5**
	comp=Z,8.0nm,0.7s								
PLVB	**Pleven**	**79.22**	**325**	⇓P		**P**	**03 32 05.3**	**-0.3**
MPEP	**Malo Peshtene**	**79.58**	**326**	*e*P		**P**	**03 32 07.9**	**+0.2**
SOKA	**Soboth**	**79.68**	**333**	*e*P		**P**	**03 32 08.4**	**+0.1**
	comp=Z,15nm,1.1s,SNR=8.2								
LESA	**Schwarzleotal**	**79.71**	**335**	*i* P		**P**	**03 32 09.0**	**+0.6**
	comp=Z,11nm,0.6s,SNR=6.0								
KBA	**Koelnbreinsper**	**79.83**	**334**	*i* P		**P**	**03 32 10.0**	**+0.8**
	comp=Z,24nm,0.9s,SNR=7.5								
OBKA	**Obir**	**79.98**	**333**	*i* P		**P**	**03 32 09.8**	**-0.1**
	comp=Z,4.1nm,0.7s								
BFO	**Black Forest**	**80.07**	**338**			**P**	**03 32 10.3**	**+0.1**
BFO				IAmb		IAmb	03 32 11.8		
	comp=Z,10nm,1.0s								
BFO	**Black Forest**	**80.07**	**338**	P		**P**	**03 32 10.3**	**+0.1**
BFO				pmax		pmax			
	comp=Z,10.0nm,1.0s								
BFO	**Black Forest**	**80.07**	**338**	*e*P		**P**	**03 32 10.5**	**+0.2**
	comp=Z,8.8nm,1.0s,baz=24,slow=5.6								
BOVS	**Bovan**	**80.11**	**327**	⇓P		**P**	**03 32 09.9**	**-0.6**
WATA	**Walderalm**	**80.11**	**335**	*i* P		**P**	**03 32 11.3**	**+0.7**
	comp=Z,28nm,1.3s,SNR=6.0								
PGB	**Panagyurishte**	**80.14**	**325**	*e*P		**P**	**03 32 11.3**	**+0.6**
MYKA	**Terra Mystica**	**80.15**	**334**	*i* P		**P**	**03 32 10.6**	**-0.2**
	comp=Z,7.2nm,0.9s								
WTTA	**Wattenberg**	**80.16**	**335**	*i* P		**P**	**03 32 11.6**	**+0.7**
	comp=Z,19nm,0.7s,SNR=8.2								
RETA	**Reutte**	**80.20**	**336**	*i* P		**P**	**03 32 11.5**	**+0.5**
	comp=Z,7.6nm,0.8s								
MOTA	**Moosalm**	**80.23**	**336**	*i* P		**P**	**03 32 11.7**	**+0.4**
	comp=Z,31nm,1.2s,SNR=9.4								
SQTA	**Sankt Quirin**	**80.32**	**336**	*i* P		**P**	**03 32 12.3**	**+0.6**
	comp=Z,19nm,1.1s,SNR=8.0								
VTS	**Vitosha**	**80.41**	**326**	*e*P		**P**	**03 32 12.7**	**+0.4**
TAOE	**Nuku Hiva Isla**	**80.42**	**114**	*e*LR		LR	03 57 15.9		
	comp=Z,96nm,21.5s								
PLNA	**Plana**	**80.45**	**326**	*e*P		**P**	**03 32 13.3**	**+0.8**
ECH	**Echery**	**80.47**	**339**	IAmb		IAmb	03 32 13.6		
	comp=Z,14nm,1.0s								
DAVA	**Damuels**	**80.62**	**336**	*i* P		**P**	**03 32 13.2**	**-0.2**
	comp=Z,9.9nm,0.8s								
FETA	**Feichten**	**80.63**	**336**	*i* P		**P**	**03 32 14.1**	**+0.6**
	comp=Z,8.0nm,0.9s								
MMB	**Musomishta**	**81.12**	**325**	*e*P		**P**	**03 32 16.2**	**+0.2**
FUORN	**Ofenpass-Fuorn**	**81.13**	**336**	IAmb		IAmb	03 32 18.0		
	comp=Z,13nm,1.2s								
TUE	**Stuetta**	**81.52**	**336**	IAmb		IAmb	03 32 19.8		
	comp=Z,13nm,0.8s								
MANT	**Manisa**	**81.71**	**320**			**P**	**03 32 18.8**	**-0.6**
PPT	**Papeete**	**81.89**	**127**	LR		LR	04 03 16.2		
	comp=Z,78nm,19.0s,baz=327,slow=32								
PPT2	**Papeete2**	**81.90**	**127**	*e*LR		LR	03 57 53.3		
PPT2	comp=Z,129nm,25.8s								
				*e*LR		LR	03 58 04.4		
	comp=Z,120nm,21.8s								
PDG	**Podgorica**	**82.04**	**328**	⇓P		**P**	**03 32 20.2**	**-0.6**
FNA	**Florina**	**82.69**	**326**	IAmb		IAmb	03 32 24.6		
	comp=Z,6.2nm,0.9s								
MMAI	**Mount Meron Ar**	**82.97**	**312**	P		**P**	**03 32 26.8**	**+0.8**
	comp=Z,9.0nm,0.7s,baz=24,slow=4.6,SNR=13								
	comp=Z,9.0nm,0.7s								
RAYN	**Ar Rayn**	**84.85**	**299**	P		**P**	**03 32 35.4**	**-0.2**
RAYN				IAmb		IAmb	03 32 36.4		
	comp=Z,4.9nm,0.6s								
RAYN	**Ar Rayn**	**84.85**	**299**	P		**P**	**03 32 35.4**	**-0.2**
RAYN				pmax		pmax			
	comp=Z,5.0nm,0.6s								
TBI	**Tubuai**	**86.69**	**130**	*e*LR		LR	04 00 11.1		
	comp=Z,721nm,31.2s								
TBI				*e*LR		LR	04 00 13.0		
	comp=Z,896nm,25.8s								
URZ	**Urewera**	**87.79**	**162**	LR		LR	04 07 12.5		
	comp=Z,52nm,18.3s,baz=349,slow=32								
ESDC	**Sonseca Array**	**91.06**	**344**	P		**P**	**03 33 04.5**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=19,slow=3.7,SNR=5.7								
	comp=Z,1.6nm,0.9s								
TORD	**Torodi Ar. Bea**	**114.87**	**331**	PKiKP		**PKiKP**	**03 38 41.2**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=5.7,slow=3.2,SNR=4.9								
H03N2	**Juan Fernandez**	**137.83**	**90**	T		T	06 12 53.3		
	baz=307,slow=74								
H03N1	**Juan Fernandez**	**137.84**	**90**	T		T	06 12 54.7		
	baz=

*IDC **07** 03:32:35.4±0.8,2.64S×138.27E,h0km,mb3.8/7, mbtmp3.9/11,ML3.7/3,MS3.3/7,Error ellipse: s-maj=22.4km s-min=19.3km az=82.0*

*NEIC **07** 03:32:42.2±1.7,2.9S±0.1×138.43E±0.07,h35km±2km, mb4.1/8,Error ellipse: s-maj=21.9km s-min=11.2km az=349.0*

*DJA **07** 03:32:42.0±0.9,3°S±4°×13°8E±°,h32km±15km,M4.2/6, mb4.1/1,MLv4.2/6*

ISC 07 03:32:40.7±0.6,**2.87S**±0.05×**138.41E**±0.04,**h35**km,**n35,** σ**2.50/37,mb3.9/8,MS3.4/4,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.92**	**19**	P	**Pn**	**03 32 56.1**	**-1.0**
SMPI				S	**Sn**	**03 33 08.1**	**-1.1**
GENI	**Genyem**	**1.78**	**81**	P	**Pn**	**03 33 09.9**	**+1.0**
JAY	**Jayapura**	**2.32**	**81**	Pn	**Pn**	**03 33 16.6**	**+0.2**
	5.0nm,0.3s,baz=246,slow=10,SNR=12						
JAY				Sn	**Sn**	**03 33 47.0**	**+3.2**
	4.7nm,0.3s,baz=323,slow=20,SNR=5.6 11nm,0.5s						
JAY	**Jayapura**	**2.32**	**81**	P	**Pn**	**03 33 16.7**	**+0.3**
SRPI	**Serui, Papua**	**2.38**	**295**	P	**Pn**	**03 33 18.8**	**+1.5**
SRPI				S	**Sn**	**03 33 46.0**	**+0.7**
BAKI	**Biak**	**2.84**	**306**	P	Pn	03 33 27.7	+4.2
BAKI				S	**Sn**	**03 33 58.2**	**+1.6**
FAKI	**Fak Fak**	**6.15**	**269**	Pn	**Pn**	**03 34 10.5**	**+1.4**
FAKI	**Fak Fak**	**6.15**	**269**	P	**Pn**	**03 34 12.6**	**+3.5**
PMG	**Port Moresby**	**10.85**	**127**	Pn	**Pn**	**03 35 17.4**	**+3.8**
	3.8nm,0.4s,baz=355,slow=6.5,SNR=3.7						
PMG				LR	LR	03 39 33.5	
	comp=Z,122nm,21.0s,baz=346,slow=38						
COEN	**Coen**	**11.98**	**157**	Pn	**Pn**	**03 35 29.8**	**+0.7**
MTN	**Manton Dam**	**12.25**	**216**		**Pn**	**03 35 34.4**	**+1.6**
SOEI	**Soe**	**15.63**	**243**	P	**P**	**03 36 23.1**	**+0.7**
KNRA	**Kununurra**	**15.88**	**216**		**Pn**	**03 36 23.1**	**+1.3**
KNRA				IAmb	IAmb	03 36 27.1	
	comp=Z,21nm,1.2s						
BATI	**Baumata**	**16.36**	**243**	Pn	**P**	**03 36 32.3**	**+1.9**
	comp=Z,10.0nm,0.3s,baz=113,slow=13,SNR=4.9						
WB0	**Warramunga Arr**	**17.25**	**193**	Pn	**Pn**	**03 36 39.3**	**+0.3**
WB0				IAmb	IAmb	03 36 47.4	
	comp=Z,20nm,1.1s						
WR8	**Warramunga Arr**	**17.41**	**192**	Pn	**Pn**	**03 36 40.9**	**0.0**
WR8				IAmb	IAmb	03 36 49.5	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**17.43**	**193**	P	**Pn**	**03 36 41.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=15,slow=12,SNR=13						
WRA				S	**Sn**	**03 39 47.2**	**-7.1**
	comp=Z,1.5nm,0.8s,baz=10,slow=23,SNR=4.5						
WRA				LR	LR	03 44 14.5	
	comp=Z,122nm,19.8s,baz=46,slow=40 comp=Z,2.4nm,0.7s						
GUMO	**Guam**	**17.56**	**21**	LR	LR	03 41 57.4	
	comp=Z,81nm,21.9s,baz=260,slow=32						
FITZ	**Fitzroy Crossi**	**19.64**	**219**	P	**P**	**03 37 07.9**	**+1.4**
FITZ	**Fitzroy Crossi**	**19.64**	**219**	P	**P**	**03 37 07.0**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=47,slow=14,SNR=11						
FITZ				S	**S**	**03 40 38.2**	**-8.2**
	comp=Z,6.4nm,0.8s,baz=111,slow=17,SNR=5.3 comp=Z,4.6nm,1.1s						
AS31	**Alice Springs**	**21.13**	**192**	P	**P**	**03 37 23.6**	**+0.9**
ASAR	**Alice Springs**	**21.13**	**192**		**P**	**03 37 23.0**	**+0.3**
ASAR	**Alice Springs**	**21.13**	**192**	P	**P**	**03 37 23.2**	**+0.6**
	comp=Z,5.9nm,0.8s,baz=22,slow=10,SNR=22						
ASAR				S	**S**	**03 41 13.3**	**-2.7**
	comp=Z,2.6nm,1.0s,baz=12,slow=24,SNR=7.6						
ASAR				LR	LR	03 46 00.6	
	comp=Z,113nm,18.3s,baz=341,slow=38 comp=Z,5.9nm,0.8s						
INKA	**Innaminka**	**24.84**	**175**	P	**P**	**03 37 59.3**	**-0.6**
INKA				IAmb	IAmb	03 38 24.8	
	comp=Z,6.2nm,1.1s						
NWAO	**Narrogin (SRO)**	**35.89**	**211**	LR	LR	03 56 33.3	
	comp=Z,104nm,18.0s,baz=266,slow=40						
ASAJ	**Asahikawa**	**46.92**	**4**	LR	LR	03 59 03.7	
	comp=Z,53nm,21.2s,baz=176,slow=34						
USRK	**Ussuriysk Ar.**	**47.21**	**354**	P	**P**	**03 41 07.7**	**-2.3**
	comp=Z,1.0nm,0.7s,baz=214,slow=7.0,SNR=1.7 comp=Z,1.0nm,0.7s						
PETK	**Petropavlovsk-**	**58.08**	**14**	LR	LR	04 04 29.6	
	comp=Z,14nm,21.6s,baz=130,slow=33						
MKAR	**Makanchi Array**	**69.73**	**323**	P	**P**	**03 43 46.1**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=119,slow=7.1,SNR=3.7 comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**73.68**	**325**	P	**P**	**03 44 09.8**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=115,slow=4.9,SNR=4.0 comp=Z,0.5nm,0.7s						
BVAR	**Borovoye Array**	**79.27**	**325**	P	**P**	**03 44 41.4**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=109,slow=6.9,SNR=4.4 comp=Z,1.1nm,0.8s						
ILAR	**Eielson Array**	**86.10**	**24**	P	**P**	**03 45 16.1**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=256,slow=5.1,SNR=5.6 comp=Z,0.6nm,0.8s						
QSPA	**South Pole Qui**	**87.08**	**180**	P	**P**	**03 45 25.5**	**+2.8**
QSPA	**South Pole Qui**	**87.08**	**180**	P	**P**	**03 45 25.5**	**+2.8**
	comp=Z,1.1nm,1.1s,baz=60,slow=8.0,SNR=1.8 comp=Z,1.1nm,1.1s						
LPAZ	**La Paz**	**147.59**	**127**	PKPbc	**PKPbc**	**03 52 23.9**	**+0.7**
	comp=Z,2.0nm,0.9s,baz=139,slow=2.4,SNR=6.5						

*DJA **07** 03:56:11.3±0.5,8°S±2°×10°7E±°,h19km±4km,M4.8/30, mB5.5/6,mb4.8/13,MLv4.6/30,Mw(mB)5.0/6*

*NEIC **07** 03:56:12.6±2.5,8.2S±0.08×107.23E±0.05,h54km±8km, mb4.3/13,Error ellipse: s-maj=12.4km s-min=4.8km az=203.0*

*IDC **07** 03:56:15.2±1.5,7.90S×107.27E,h83km±13km,mb3.7/16, mbtmp4.0/16,MS3.8/1,Error ellipse: s-maj=24.6km s-min=12.7km az=62.0*

ISC 07 03:56:12.3±1.0,**8.09S**±0.05×**107.29E**±0.04,**h56**km±9km, **n93,**σ**1.975/91,mb4.1/20,1C,Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBJI	**Bungbulang**	**0.72**	**30**	P	**Pn**	**03 56 25.1**	**-1.6**
BBJI	**Bungbulang**	**0.72**	**30**	S	**Sn**	**03 56 36.0**	**-1.2**
CNJI	**Cibinong**	**0.79**	**349**	P	**Pn**	**03 56 26.6**	**-0.9**
CNJI				S	**Sn**	**03 56 37.3**	**-1.4**
CMJI	**Cimerak**	**1.19**	**75**	P	**Pn**	**03 56 31.8**	**-0.9**
LEM	**Lembang**	**1.30**	**15**	P	**Pn**	**03 56 34.9**	**+0.5**
	2μm,0.6s,baz=244,slow=19,SNR=100						
LEM				S	**Sn**	**03 56 52.2**	**+1.4**
	1μm,0.4s,baz=274,slow=19,SNR=5.9						
LEM				LR	LR	03 57 18.7	
	comp=Z,359nm,18.1s,baz=214,slow=57						
LEM	**Lembang**	**1.30**	**15**	P	**Pn**	**03 56 34.7**	**+0.3**
LEM				S	**Sn**	**03 56 52.4**	**+1.6**
SKJI	**Sukabumi**	**1.30**	**326**	P	**Pn**	**03 56 34.0**	**-0.2**
SKJI				S	**Sn**	**03 56 50.7**	**+0.1**
DBJI	**Dramaga**	**1.62**	**341**	P	**Pn**	**03 56 38.2**	**-0.4**
DBJI				S	**Sn**	**03 56 59.1**	**+0.7**
KPJI	**Karang Pucung**	**1.79**	**65**	P	**Pn**	**03 56 41.1**	**+0.2**
KPJI				S	**Sn**	**03 57 05.8**	**+3.2**
JCJI	**Jatiwangi**	**1.87**	**32**	P	**Pn**	**03 56 39.6**	**-2.3**
JCJI				S	**Sn**	**03 57 01.9**	**-2.5**
TNG	**Tangerang**	**2.01**	**342**	P	**Pn**	**03 56 44.9**	**+1.0**
TNG				S	**Sn**	**03 57 08.4**	**+0.5**
SBJI	**Serang**	**2.27**	**330**	P	**Pn**	**03 56 48.4**	**+1.0**
SBJI				S	**Sn**	**03 57 16.0**	**+1.7**
XMI	**Christmas Isla**	**2.82**	**214**	P	**Pn**	**03 56 53.8**	**-1.2**
UGM	**Wanagama**	**3.21**	**87**		**Pn**	**03 57 00.2**	**-0.1**
UGM	**Wanagama**	**3.21**	**87**	P	**Pn**	**03 57 00.1**	**-0.2**
UGM	**Wanagama**	**3.21**	**87**	P	**Pn**	**03 57 00.1**	**-0.2**
SMRI	**Semarang**	**3.29**	**72**		**Pn**	**03 57 02.8**	**+1.4**
SMRI	**Semarang**	**3.29**	**72**	P	**Pn**	**03 57 03.7**	**+2.2**
SMRI	**Semarang**	**3.29**	**72**	S	**Sn**	**03 57 43.0**	**+3.6**
SMRI	**Semarang**	**3.29**	**72**	P	**Pn**	**03 57 02.6**	**+1.1**
SMRI				S	**Sn**	**03 57 40.6**	**+1.2**
WOJI	**Wonogiri, Jawa**	**3.61**	**86**	P	**Pn**	**03 57 06.4**	**+0.6**
KASI	**Kota Agung**	**3.77**	**312**	P	**Pn**	**03 57 07.8**	**-0.1**
PCJI	**Pacitan**	**3.85**	**92**	P	**Pn**	**03 57 09.2**	**+0.1**
NGJI	**Ngawi**	**4.20**	**80**	P	**Pn**	**03 57 15.4**	**+1.6**
LWLI	**Liwa**	**4.43**	**313**	P	**Pn**	**03 57 18.2**	**+1.1**
TBJI	**Tambak Boyo**	**4.70**	**75**	P	**Pn**	**03 57 21.2**	**+0.5**
MDSI	**Maura Dua**	**4.73**	**319**	P	**Pn**	**03 57 21.3**	**+0.2**
TPI	**Tanjungpandan**	**5.31**	**4**	P	**Pn**	**03 57 29.1**	**0.0**
LHSI	**Lahat**	**5.65**	**318**	P	**Pn**	**03 57 35.7**	**+1.9**
	0.3nm49nm,0.7s						
MNAI	**Manna**	**5.68**	**310**	Pn	**Pn**	**03 57 34.0**	**-0.2**
MNAI	**Manna**	**5.68**	**310**	P	**Pn**	**03 57 34.3**	**+0.1**
MNAI	**Manna**	**5.68**	**310**	P	**Pn**	**03 57 35.2**	**+1.0**
	1.1nm7μm158nm,0.5s						
GMJI	**Gumukmas**	**6.10**	**92**	P	**Pn**	**03 57 42.3**	**+2.4**
	0.3nm55nm,1.0s						
BLJI	**Banyuglugur**	**6.26**	**87**	P	**Pn**	**03 57 43.1**	**+1.0**
	0.4nm2μm53nm,0.5s						
KSI	**Kapahiang**	**6.42**	**313**	P	**Pn**	**03 57 43.7**	**-0.7**
JAGI	**Jajag, Banyuwa**	**6.80**	**94**		**Pn**	**03 57 51.2**	**+1.6**
JAGI	**Jajag, Banyuwa**	**6.80**	**94**	P	**Pn**	**03 57 51.4**	**+1.8**
JAGI	**Jajag, Banyuwa**	**6.80**	**94**	P	**Pn**	**03 57 50.9**	**+1.3**
	0.5nm2μm90nm,0.8s						
ABJI	**Asem Bagus**	**6.89**	**88**	P	**Pn**	**03 57 52.9**	**+2.2**
MASI	**Maura Aman, Be**	**7.03**	**314**	P	**Pn**	**03 57 52.0**	**-0.7**
	0.4nm74nm,0.9s						
SRBI	**Singaraja**	**7.85**	**91**	P	**Pn**	**03 58 05.5**	**+1.6**
	0.4nm88nm,1.0s						
PLAI	**Plampang**	**10.40**	**95**	P	**Pn**	**03 58 39.4**	**+0.5**
PLAI	**Plampang**	**10.40**	**95**	P	**Pn**	**03 58 39.6**	**+0.7**
GIRL	**Giralia**	**15.94**	**156**	Pn	**Pn**	**03 59 51.4**	**-1.6**
PSA00	**Pilbara Seismi**	**18.06**	**139**	P	**P**	**04 00 19.2**	**0.0**
FITZ	**Fitzroy Crossi**	**20.44**	**121**	P	**P**	**04 00 46.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**20.44**	**121**	P	**P**	**04 00 46.4**	**+1.2**
	8.4nm,0.7s,baz=292,slow=6.7,SNR=26						
FITZ				S	**S**	**04 04 21.1**	**-10**
	0.5nm,0.5s,baz=260,slow=14,SNR=1.3 8.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.44**	**121**	P	**P**	**04 00 46.5**	**+1.2**
KNRA	**Kununurra**	**22.31**	**112**	P	**P**	**04 01 07.0**	**+1.6**
KNRA				IAmb	IAmb	04 01 14.3	
	comp=Z,18nm,1.4s						
MTN	**Manton Dam**	**23.91**	**103**	P	**P**	**04 01 21.0**	**-0.3**
MTN				IAmb	IAmb	04 01 44.0	
	comp=Z,6.8nm,0.7s						
H01W3	**Cape Leeuwin H**	**27.40**	**168**	T	T	04 31 36.4	
	baz=348,slow=76,SNR=7.4						
H01W1	**Cape Leeuwin H**	**27.41**	**168**	T	T	04 31 40.3	
	baz=348,slow=76,SNR=7.4						
H01W2	**Cape Leeuwin H**	**27.41**	**168**	T	T	04 31 41.0	
	baz=348,slow=76,SNR=8.4						
WB0	**Warramunga Arr**	**28.70**	**117**	P	**P**	**04 02 04.1**	**-0.3**
WB0				IAmb	IAmb	04 02 15.3	
	comp=Z,8.3nm,1.4s						
WRA	**Warramunga Arr**	**28.71**	**117**	P	**P**	**04 02 04.5**	**-0.1**
WRA	**Warramunga Arr**	**28.71**	**117**	P	**P**	**04 02 04.8**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=288,slow=10,SNR=6.6 comp=Z,0.9nm,0.7s						
ASAR	**Alice Springs**	**29.83**	**124**	P	**P**	**04 02 15.8**	**+1.4**
	comp=Z,0.7nm,0.9s,baz=306,slow=9.1,SNR=7.2						
ASAR				PcP	**PcP**	**04 05 17.2**	**+0.4**
	comp=Z,0.4nm,0.9s,baz=309,slow=2.8,SNR=1.3 comp=Z,0.7nm,0.9s						
H08S2	**Diego Garcia H**	**34.46**	**268**	T	T	04 38 36.1	
	baz=91,slow=74						
H08S3	**Diego Garcia H**	**34.47**	**268**	T	T	04 38 36.9	
	baz=91,slow=74						
H08S1	**Diego Carcia H**	**34.48**	**268**	T	T	04 38 38.3	
	baz=91						
COEN	**Coen**	**35.67**	**103**	P	**P**	**04 03 04.9**	**-0.6**
COEN				IAmb	IAmb	04 03 24.3	
	comp=Z,8.2nm,1.2s						
STKA	**Stephens Creek**	**39.71**	**131**	P	**P**	**04 03 40.5**	**+1.1**
	comp=Z,2.4nm,0.3s,baz=306,slow=9.1,SNR=4.0 comp=Z,2.4nm,0.3s						
SONM	**Songino Array**	**55.69**	**359**	P	**P**	**04 05 41.8**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=192,slow=11,SNR=6.1 comp=Z,0.3nm,0.4s						
USRK	**Ussuriysk Ar.**	**56.64**	**21**	P	**P**	**04 05 50.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=210,slow=7.8,SNR=2.0 comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**59.00**	**340**	P	**P**	**04 06 04.7**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=152,slow=8.2,SNR=5.3 comp=Z,0.2nm,0.4s						
H04N2	**CROZET ISLANDS**	**60.63**	**221**	T	T	05 12 46.2	
	baz=69,slow=75,SNR=18						
H04N1	**CROZET ISLANDS**	**60.64**	**221**	T	T	05 12 44.7	
	baz=69,slow=75,SNR=28						
H04N3	**CROZET ISLANDS**	**60.65**	**221**	T	T	05 12 43.4	
	baz=69,slow=75,SNR=27						
H04S1	**CROZET ISLANDS**	**60.80**	**220**	T	T	05 12 56.6	
	baz=67						
H04S3	**CROZET ISLANDS**	**60.81**	**220**	T	T	05 12 56.0	
	baz=67						
H04S2	**CROZET ISLANDS**	**60.81**	**220**	T	T	05 13 02.5	
	baz=67						
KURBB	**Kurchatov Arra**	**63.57**	**340**	P	**P**	**04 06 35.3**	**-1.7**
	comp=Z,2.2nm,0.2s,baz=145,slow=6.4,SNR=1.7 comp=Z,2.2nm,0.2s						
ZALV	**Zalesovo Beam**	**64.65**	**346**	P	**P**	**04 06 41.3**	**-2.8**
	comp=Z,0.6nm,0.3s,baz=128,slow=9.3,SNR=1.7 comp=Z,0.6nm,0.3s						
MAW	**Mawson**	**66.41**	**197**	P	**P**	**04 06 56.4**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=59,slow=5.6,SNR=6.5 comp=Z,2.1nm,0.6s						
BVAR	**Borovoye Array**	**68.48**	**337**	P	**P**	**04 07 06.9**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=150,slow=9.9,SNR=3.2 comp=Z,0.5nm,0.3s						
BKZ	**Black Stump Fm**	**68.82**	**129**	P	**P**	**04 07 11.5**	**+0.4**
KMBO	**Kilima Mbogo**	**70.08**	**272**	P	**P**	**04 07 18.8**	**-0.7**
	comp=Z,2.6nm,0.3s,baz=101,slow=10,SNR=4.9 comp=Z,2.6nm,0.3s						
AB31	**Akbulak array**	**70.49**	**329**	P	**P**	**04 07 19.8**	**-1.2**
AB31				IAmb	IAmb	04 07 25.5	
	comp=Z,4.2nm,1.2s						
ABKAR	**Akbulak array**	**70.49**	**329**	P	**P**	**04 07 19.8**	**-1.1**
VNDA	**Vanda**	**74.85**	**169**	P	**P**	**04 07 46.7**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=320,slow=5.5,SNR=3.0 comp=Z,0.4nm,0.6s						
QSPA	**South Pole Qui**	**81.91**	**180**	P	**P**	**04 08 28.4**	**+2.7**
QSPA				IAmb	IAmb	04 08 47.3	
	comp=Z,3.9nm,1.3s						
QSPA	**South Pole Qui**	**81.91**	**180**	P	**P**	**04 08 27.9**	**+2.2**
	comp=Z,1.4nm,0.7s,baz=301,slow=1.4,SNR=9.5 comp=Z,1.4nm,0.7s						
BRTR	**Keskin Array B**	**82.76**	**312**	P	**P**	**04 08 29.0**	**-1.7**
	comp=Z,0.3nm,0.5s,baz=133,slow=9.4,SNR=2.5 comp=Z,0.3nm,0.5s						
TROLL	**Troll, Antarti**	**86.87**	**198**	⇑P	**P**	**04 08 51.0**	**+0.3**
	comp=Z,46nm,0.8s						
SNAA	**Sanae**	**88.58**	**197**	P	**P**	**04 09 01.0**	**+2.2**
SNAA	**Sanae**	**88.58**	**197**	P	**P**	**04 09 00.1**	**+1.3**
SNAA				IAmb	IAmb	04 09 01.4	
	comp=Z,2.1nm,0.7s						
SNAA	**Sanae**	**88.58**	**197**	P	**P**	**04 09 00.2**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=112,slow=5.4,SNR=13 comp=Z,1.6nm,0.7s						
MLR	**Muntele Rosu**	**89.69**	**316**	LR	LR	04 54 19.9	
	comp=Z,55nm,21.7s,baz=179,slow=39						
VNA2	**Neumayer--Watz**	**90.22**	**197**	P	**P**	**04 09 08.7**	**+2.2**
	baz=93,slow=3.0						
VNA3	**Neumayer Olymp**	**90.74**	**197**	P	**P**	**04 09 11.2**	**+2.3**
BELA	**Belgrano 2**	**91.61**	**187**	P	**P**	**04 09 14.0**	**+1.2**
TXAR	**Lajitas Array**	**144.06**	**50**	PKP	PKPbc	04 15 41.7	+1.2
	comp=Z,0.3nm,0.7s,baz=318,slow=1.7,SNR=5.4						
BDFB	**Brasilia**	**146.02**	**226**	PKPbc	**PKPbc**	**04 15 47.1**	**0.0**
	comp=Z,1.5nm,0.5s,baz=45,slow=4.3,SNR=3.4						

*IDC **07** 04:07:27.2±2.3,23.77S×179.81W,h508km±25km,mb3.1/8, mbtmp4.0/9,Error ellipse: s-maj=23.1km s-min=16.7km az=167.0*

ISC 07 04:07:28.0±0.8,**23.9S**±0.1×**179.8W**±0.1,**h518**km,**n16,** σ**0.893/16,mb3.5/8,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.62**	**163**	P	**P**	**04 09 00.1**	**-1.4**
	220nm,0.3s,baz=319,slow=19,SNR=1.4						
URZ	**Urewera**	**14.59**	**190**	P	**P**	**04 10 33.4**	**-0.1**
	4.3nm,0.3s,baz=273,slow=3.0,SNR=7.5						
URZ				S	**S**	**04 13 05.7**	**-0.8**
	7.9nm,0.9s,baz=0.0,slow=9.1,SNR=1.2						
RPZ	**Rata Peaks**	**21.19**	**199**	P	**P**	**04 11 36.2**	**-0.1**
	7.2nm,0.4s,baz=43,slow=3.4,SNR=7.3 7.2nm,0.4s						
STKA	**Stephens Creek**	**34.93**	**248**	P	**P**	**04 13 36.7**	**+0.4**
	1.5nm,0.5s,baz=114,slow=18.4,SNR=1.7 1.5nm,0.5s						
ASAR	**Alice Springs**	**42.25**	**261**	P	**P**	**04 14 36.0**	**+0.2**
	1.3nm,0.8s,baz=95,slow=7.1,SNR=18						
ASAR				S	**S**	**04 20 18.3**	**-0.5**
	0.4nm,0.9s,baz=119,slow=15,SNR=2.7 1.3nm,0.8s						
WRA	**Warramunga Arr**	**42.62**	**266**	P	**P**	**04 14 38.2**	**-0.5**
	1.2nm,0.4s,baz=103,slow=8.1,SNR=16 1.2nm,0.4s						
VNDA	**Vanda**	**54.43**	**185**	P	**P**	**04 16 06.8**	**+1.1**
	0.4nm,0.8s,baz=6.3,slow=2.6,SNR=2.1 0.4nm,0.8s						
QSPA	**South Pole Qui**	**66.22**	**180**	P	**P**	**04 17 25.4**	**+1.3**
	1.2nm,0.9s,baz=94,slow=2.6,SNR=2.9 1.2nm,0.9s						
TXAR	**Lajitas Array**	**90.23**	**58**	P	**P**	**04 19 34.4**	**+0.8**
	0.4nm,0.8s,baz=201,slow=6.6,SNR=7.0 0.4nm,0.8s						
ILAR	**Eielson Array**	**91.95**	**13**	P	**P**	**04 19 39.3**	**-1.2**
	0.3nm,0.9s,baz=214,slow=6.3,SNR=4.1 0.3nm,0.9s						
NOA	**NORSAR Array B**	**142.08**	**351**	PKhKP	PKPpre	04 25 55.5	
	0.5nm,0.8s,baz=27,slow=3.4,SNR=1.2						
HFS	**Hagfors**	**142.55**	**349**	PKhKP	PKPpre	04 25 57.2	
	1.3nm,0.3s,baz=49,slow=3.5,SNR=18						
AKASG	**Malin Array Be**	**145.06**	**327**	PKP	**PKPdf**	**04 26 05.5**	**-0.4**
	0.4nm,0.3s,baz=49,slow=4.8,SNR=3.2						
BRTR	**Keskin Array B**	**147.72**	**307**	PKPbc	**PKPdf**	**04 26 12.2**	**+1.2**
	0.5nm,0.5s,baz=122,slow=1.6,SNR=3.7						
MMAI	**Mount Meron Ar**	**147.88**	**294**	PKPbc	**PKPbc**	**04 26 15.3**	**+0.2**
	1.0nm,0.4s,baz=71,slow=9.0,SNR=4.6						
EKA	**Eskdalemuir Ar**	**148.47**	**4**	PKPbc	**PKPbc**	**04 26 14.6**	**-1.1**
	1.7nm,0.8s,baz=328,slow=3.0,SNR=3.6						

UPA 07 04:30:49.1±1.3,**7.64N**×**82.35W,h22**km±6km,**MD3.9, ML3.5,MW3.7,3C-1D,South of Panama**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEDE3	**Pedregal, Chir**	**0.74**	**354**	*e*P	Pb	04 31 02.8	-0.5
PEDE3				*i* Sg	Sb	04 31 12.0	-1.0
CHIR3	**Chiriqui UPA,**	**0.75**	**1**	*e*P	Pb	04 31 02.5	-0.9
CHIR3				AMP		04 31 03.3	
	comp=Z,2μm,0.3s						
CHIR3				*e*S	Sb	04 31 12.2	-1.0
PTPM	**Petroterminale**	**0.77**	**317**	*e*P	Pb	04 31 03.5	-0.3
PTPM				*e*S	Sb	04 31 13.6	-0.3
DVD	**David**	**0.80**	**352**	*e*P	Pb	04 31 03.7	-0.6
DVD				*e*S	Sb	04 31 14.0	-0.6
CGUAY	**Guayabal, Coch**	**0.81**	**360**⇑	*e*P	Pb	04 31 03.9	-0.6
CGUAY				*e*S	Sb	04 31 14.9	-0.1
PTAR3	**Potrerillos Ar**	**1.05**	**352**	*e*P	Pn	04 31 07.5	-1.2
BQSF3	**Alto Boquete,**	**1.10**	**355**	*e*P	Pn	04 31 08.1	-1.2
BQSF3				*e*S	Sb	04 31 22.9	-0.4
GMAL	**Guarumal, Vera**	**1.11**	**84**	*e*P	Pn	04 31 08.0	-1.4
GMAL				*e*S	Sb	04 31 22.3	-1.3
BQTLY	**Boquete Panama**	**1.11**	**354**	*e*P	Pn	04 31 08.5	-1.1
LNBQ3	**Los Naranjos,**	**1.15**	**355**	*e*P	Pb	04 31 10.3	0.0
LNBQ3				*e*S	Sn	04 31 25.7	+0.6
BC3P	**Paso Ancho**	**1.20**	**347**	*e*P	Pn	04 31 09.9	-0.9
BC3P				AMP		04 31 10.9	
	comp=Z,1μm,0.0s						
BC3P				*e*S	Sb	04 31 23.4	-3.0
BRU2	**Volcan**	**1.20**	**343**	*e*P	Pn	04 31 09.8	-0.9
BRU2				⇑*e*S	Sb	04 31 25.1	-1.1
BRU2	**Volcan**	**1.20**	**343**	*e*P	Pn	04 31 09.9	-0.8
BRU2				*e*S	Sb	04 31 21.1	-5.2
BRU2	**Volcan**	**1.20**	**343**	*e*P	Pn	04 31 09.9	-0.8
BRU2				*e*S	Sb	04 31 26.2	-0.1
PIRO	**Carate, Puerto**	**1.24**	**308**	*e*P	Pn	04 31 09.6	-1.6
PIRO				*e*S	Sn	04 31 25.7	-1.5
RBALA	**Bur**	**1.24**	**9**⇑	*e*P	Pn	04 31 10.4	-0.9
PTJ1	**Puerto Jimnez**	**1.30**	**313**	*e*P	Pn	04 31 10.4	-1.5
CHGR2	**Aguacate**	**1.30**	**9**	*e*P	Pn	04 31 11.2	-0.9
CHGR2				*e*S	Sn	04 31 27.5	-1.4
KKNTU	**Kakint**[g]	**1.30**	**24**⇓	*i*P	Pn	04 31 11.6	-0.5
KKNTU				*e*S	Sn	04 31 27.2	-1.7
CACAO	**El Cacao, Vera**	**1.50**	**101**	*e*P	Pn	04 31 14.0	-0.8
CACAO				*e*S	Sn	04 31 31.4	-2.3
CNI2	**El Empalme, Bo**	**1.77**	**356**	*e*P	Pn	04 31 18.5	-0.1
CNI2				*e*S	Sn	04 31 40.2	-0.2
CRIS3	**El Cristo, Coc**	**1.82**	**70**	*e*P	Pn	04 31 18.5	-0.6
CRIS3				*e*S	Sn	04 31 40.5	-1.0
DRK0	**Durika**	**1.84**	**331**	*e*P	Pn	04 31 19.7	+0.1
DRK0				*e*S	Sn	04 31 42.1	-0.3
CHIT3	**Chit

H11S2	**WAKE ISLAND Hy**	**37.97**	**176**	T	T	05 24 28.1		
	baz=359							
TXAR	**Lajitas Array**	**67.27**	**71**	P	**P**	**04 47 48.6**	**+0.8**	
	0.4nm,0.9s,baz=324,slow=6.0,SNR=3.7 0.4nm,0.9s							

*IDC **07** 04:44:19.4±0.8, 6°.50S×143°.83E, h0km, mb3.9/14, mbtmp3.9/17, ML3.4/3, MS3.5/16, Error ellipse: s-maj=28.8km s-min=15.7km az=82.0*

ISC 07 04:44:24.2±0.6, 6°.65S±0°.07×143°.73E±0°.09, h35km, n28, σ1§88/21, mb3.9/13, MS3.4/14, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.36**	**129**	Pn	**Pn**	**04 45 26.9**	**-1.2**
	24nm,0.3s,baz=24,slow=3.3,SNR=36						
PMG				Sn	**Sn**	**04 46 15.7**	**-1.9**
	9.0nm,0.3s,baz=345,slow=20,SNR=6.8 60nm,0.4s						
JAY	**Jayapura**	**5.10**	**324**	Pn	**Pn**	**04 45 37.8**	**-0.4**
	2.8nm,0.3s,baz=179,slow=16,SNR=9.1						
JAY				Sn	**Sn**	**04 46 33.3**	**-2.5**
	2.4nm,0.3s,baz=165,slow=19,SNR=4.0						
JAY				LR	LR	04 48 13.7	
	comp=Z,2μm,18.7s,baz=110,slow=46 4.5nm,0.6s						
WRA	**Warramunga Arr**	**16.05**	**214**	Pn	**Pn**	**04 48 05.0**	**-2.5**
	1.0nm,0.3s,baz=30,slow=13,SNR=62						
WRA				Sn	Sn	04 50 55.8	-8.7
	0.4nm,0.3s,baz=25,slow=23,SNR=1.8						
ASAR	**Alice Springs**	**19.38**	**208**	P	**P**	**04 48 49.0**	**+1.8**
	0.7nm,0.3s,baz=40,slow=9.7,SNR=80						
ASAR				S	**S**	**04 52 20.1**	**-4.5**
	1.0nm,0.6s,baz=15,slow=29,SNR=1.5						
ASAR				LR	LR	04 56 10.4	
	comp=Z,176nm,21.7s,baz=36,slow=36 7.1nm,0.6s						
GUMO	**Guam**	**20.14**	**3**	LR	LR	04 55 22.3	
	comp=Z,89nm,21.6s,baz=196,slow=33						
BATI	**Baumata**	**20.16**	**259**	P	Pn	04 49 01.3	+3.5
	18nm,0.3s,baz=45,slow=7.1,SNR=1.9						
FITZ	**Fitzroy Crossi**	**20.99**	**236**	P	**P**	**04 49 05.7**	**+1.0**
	5.8nm,0.6s,baz=64,slow=11,SNR=23						
FITZ				S	S	04 52 48.6	-8.2
	2.8nm,0.5s,baz=76,slow=17,SNR=2.2						
FITZ				LR	LR	04 56 52.7	
	comp=Z,152nm,20.4s,baz=56,slow=36 5.8nm,0.6s						
DAV	**Davao City (W)**	**22.66**	**307**	LR	LR	04 58 37.4	
	comp=Z,64nm,19.8s,baz=160,slow=38						
STKA	**Stephens Creek**	**25.18**	**184**	P	**P**	**04 49 48.7**	**+2.2**
	1.1nm,0.6s,baz=39,slow=13,SNR=1.3						
STKA				LR	LR	05 00 28.6	
	comp=Z,206nm,20.0s,baz=356,slow=38 1.1nm,0.6s						
NWAO	**Narrogin (SRO)**	**35.91**	**220**	LR	LR	05 06 20.6	
	comp=Z,100nm,20.2s,baz=4.5,slow=37						
URZ	**Urewera**	**43.62**	**141**	LR	LR	05 10 09.7	
	comp=Z,151nm,20.8s,baz=330,slow=36						
PSI	**Prapat**	**45.70**	**280**	LR	LR	05 14 30.0	
	comp=Z,56nm,21.5s,baz=126,slow=40						
KSRS	**Korea Array**	**46.29**	**343**	P	**P**	**04 52 47.0**	**+0.5**
	1.0nm,0.6s,baz=162,slow=8.7,SNR=1.7 1.0nm,0.6s						
ASAJ	**Asahikawa**	**50.54**	**359**	LR	LR	05 13 33.6	
	comp=Z,24nm,21.9s,baz=168,slow=35						
CMAR	**Chiang Mai Arr**	**50.73**	**300**	P	**P**	**04 53 22.4**	**+1.4**
	0.9nm,0.3s,baz=125,slow=6.3,SNR=5.4						
CMAR				LR	LR	05 16 21.9	
	comp=Z,17nm,21.0s,baz=135,slow=38 0.9nm,0.3s						
USRK	**Ussuriysk Ar.**	**51.71**	**349**	P	**P**	**04 53 27.8**	**-0.1**
	1.7nm,0.7s,baz=178,slow=8.4,SNR=5.8 1.7nm,0.7s						
RAR	**Rarotonga**	**56.43**	**111**	LR	LR	05 16 47.3	
	comp=Z,24nm,20.9s,baz=356,slow=34						
PETK	**Petropavlovsk-**	**60.70**	**10**	P	**P**	**04 54 31.1**	**-0.8**
	2.4nm,0.9s,baz=182,slow=7.4,SNR=3.8						
PETK				LR	LR	05 17 16.0	
	comp=Z,22nm,21.4s,baz=148,slow=33 2.4nm,0.9s						
SONM	**Songino Array**	**63.44**	**333**	P	**P**	**04 54 51.4**	**+0.8**
	0.4nm,0.4s,baz=149,slow=3.4,SNR=1.5 0.4nm,0.4s						
SHEM	**Shemya Is, Ala**	**64.54**	**20**	LR	LR	05 21 40.7	
	comp=Z,49nm,18.3s,baz=88,slow=35						
VNDA	**Vanda**	**71.48**	**176**	P	**P**	**04 55 43.1**	**+2.3**
	0.6nm,1.0s,baz=310,slow=9.0,SNR=3.0 0.6nm,1.0s						
MKAR	**Makanchi Array**	**75.95**	**322**	P	**P**	**04 56 06.3**	**-1.4**
	0.3nm,0.5s,baz=95,slow=8.6,SNR=6.4 0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**77.85**	**329**	P	**P**	**04 56 19.1**	**+1.0**
	0.4nm,0.4s,baz=108,slow=7.7,SNR=1.8						
ZALV				LR	LR	05 30 36.4	
	comp=Z,33nm,19.9s,baz=62,slow=36 0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**79.82**	**324**	P	**P**	**04 56 27.3**	**-1.6**
	0.5nm,0.2s,baz=113,slow=4.2,SNR=4.7 0.5nm,0.2s						
QSPA	**South Pole Qui**	**83.32**	**180**	P	**P**	**04 56 48.7**	**+1.3**
	1.5nm,0.9s,baz=294,slow=3.3,SNR=5.3 1.5nm,0.9s						
BVAR	**Borovoye Array**	**85.39**	**325**	P	**P**	**04 56 57.9**	**-0.1**
	0.4nm,0.6s,baz=98,slow=6.3,SNR=1.8 0.4nm,0.6s						
ILAR	**Eielson Array**	**87.37**	**24**	P	**P**	**04 57 07.0**	**-0.3**
	0.3nm,0.8s,baz=292,slow=4.8,SNR=2.8 0.3nm,0.8s						
BBB	**Bella Bella**	**94.07**	**38**	LR	LR	05 31 08.8	
	comp=Z,33nm,21.8s,baz=186,slow=30						

*IDC **07** 05:01:05.0±1.5, 41°.64S×73°.97W, h0km, mb3.6/3, mbtmp3.6/5, ML3.7/2, MS2.5/1, Error ellipse: s-maj=32.9km s-min=29.9km az=3.0*

*GUC **07** 05:01:11.3±0.7, 41°.64S×73°.65W, h50km±4km, ML3.8*

ISC 07 05:01:11.2±0.9, 41°.62S±0°.03×73°.74W±0°.07, h47km±9km, n27, σ1§61/39, mb3.6/3, 1C-5D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LL05	**Los Muermos**	**0.30**	**43**	⇑*i*P	**Pn**	**05 01 20.4**	**+0.4**
LL05				*i* S	**Sn**	**05 01 27.1**	**+0.8**
LL05				IAML		05 01 27.7	
	comp=E,15μm,0.2s						
LL06	**Loncomilla**	**0.60**	**172**	*e*P	**Pn**	**05 01 23.5**	**0.0**
LL06				*i* S	**Sn**	**05 01 33.0**	**+0.7**
LL06				IAML		05 01 33.8	
	comp=N,12μm,0.3s						
LL03	**Petrohue**	**1.12**	**65**	⇓*i*P	**Pn**	**05 01 30.1**	**-0.4**
LL03				*i* S	**Sn**	**05 01 44.5**	**-0.3**
LL03				IAML		05 01 48.1	
	comp=E,7μm,0.5s						
LL01	**San Ignacio de**	**1.25**	**128**	⇓*i*P	**Pn**	**05 01 32.2**	**0.0**
LL01				*i* S	**Sn**	**05 01 47.5**	**-0.3**
LL01				IAML		05 01 48.3	
	comp=E,4μm,0.4s						
GO07	**Milladeo Hill,**	**1.49**	**178**	*e*P	**Pn**	**05 01 35.4**	**-0.2**
GO07				*i* S	**Sn**	**05 01 52.5**	**-1.3**
GO07				IAML		05 02 07.1	
	comp=E,2μm,0.4s						
VNTQ	**Ventisquero**	**1.58**	**143**	⇓*i*P	**Pn**	**05 01 37.0**	**+0.1**
VNTQ				*i* S	**Sn**	**05 01 55.9**	**-0.1**
PDRA	**Piedra**	**1.61**	**140**	⇓*i*P	**Pn**	**05 01 37.2**	**-0.1**
PDRA				*i* S	**Sn**	**05 01 56.8**	**-0.2**
LR02	**Universidad Au**	**1.85**	**12**	*e*P	**Pn**	**05 01 41.7**	**+1.2**
LR05	**Currie**	**1.92**	**44**	⇓*i*P	**Pn**	**05 01 41.4**	**0.0**
LR05				*i* S	**Sn**	**05 02 04.9**	**+0.6**
LR05				IAML		05 02 06.4	
	comp=E,1μm,0.3s						
LL02	**Futaleuf**	**2.10**	**139**	*e*P	**Pn**	**05 01 44.3**	**+0.4**
LR03	**Panguipulli**	**2.25**	**29**	*e*P	**Pn**	**05 01 46.1**	**0.0**
LR03				*i* S	**Sn**	**05 02 11.1**	**-1.6**
LR03				IAML		05 02 17.7	
	comp=N,415nm,0.2s						
PLCA	**Paso Flores**	**2.57**	**71**	Pn	**Pn**	**05 01 51.1**	**+0.7**
	comp=N,3.7nm,0.3s,baz=251,slow=10,SNR=72						
PLCA				Sn	**Sn**	**05 02 25.3**	**+4.8**
	comp=N,6.3nm,0.3s,baz=209,slow=9.3,SNR=4.0						
PLCA				LR	LR	05 03 12.1	
	comp=N,79nm,20.4s,baz=238,slow=46 comp=N,12nm,0.3s						
GO06	**Curarrehue**	**2.67**	**41**	*e*P	**Pn**	**05 01 52.7**	**+0.8**
GO06				*i* S	**Sn**	**05 02 23.6**	**+0.5**
MGDN	**Magdalena**	**3.07**	**169**	*e*P	**Pn**	**05 01 57.8**	**+0.6**
MGDN				*i* S	**Sn**	**05 02 32.5**	**-0.1**
LC01	**Cunco**	**3.08**	**28**	*e*P	**Pn**	**05 01 57.9**	**+0.6**
LC01				*i* S	**Sn**	**05 02 33.1**	**+0.3**
LC01				IAML		05 02 38.4	
	comp=E,189nm,0.1s						
ETRA	**Estrella**	**3.56**	**175**	*e*P	**Pn**	**05 02 04.6**	**+0.7**
ETRA				*i* S	**Sn**	**05 02 45.0**	**+0.2**
COYC	**Coyhaique**	**4.13**	**164**	*e*P	**Pn**	**05 02 11.8**	**+0.1**
H03S1	**Juan Fernandez**	**8.78**	**331**	T	T	05 12 08.0	
	baz=153,slow=75,SNR=8.9						
H03S2	**Juan Fernandez**	**8.79**	**331**	T	T	05 12 16.9	
	baz=153,slow=75,SNR=8.6						
H03S3	**Juan Fernandez**	**8.79**	**331**	T	T	05 12 07.0	
	baz=153,slow=75,SNR=9.8						
H03N3	**Juan Fernandez**	**9.13**	**332**	Pn	**Pn**	**05 03 21.5**	**+1.3**
	baz=341,slow=28						
H03N1	**Juan Fernandez**	**9.14**	**332**	Pn	**Pn**	**05 03 21.3**	**+1.1**
	baz=341,slow=28						
H03N2	**Juan Fernandez**	**9.15**	**332**	Pn	**Pn**	**05 03 21.5**	**+1.2**
	baz=341,slow=28						
CFA	**Coronel Fontan**	**10.93**	**26**	Pn	**Pn**	**05 03 42.0**	**-3.0**
	comp=E,0.3nm,0.3s,baz=211,slow=18,SNR=9.1						
CFA				Sn	**Sn**	**05 05 39.3**	**-6.6**
	comp=E,0.1nm,0.3s,baz=221,slow=20,SNR=6.8 comp=E,0.6nm,0.4s						
SNAA	**Sanae**	**45.14**	**155**	P	**P**	**05 09 22.7**	**0.0**
	comp=E,0.8nm,0.8s,baz=275,slow=12,SNR=1.7 comp=E,0.8nm,0.8s						
TXAR	**Lajitas Array**	**75.83**	**333**	P	**P**	**05 12 53.1**	**+0.8**
	comp=E,0.3nm,0.8s,baz=160,slow=9.7,SNR=4.6 comp=E,0.3nm,0.8s						
PDAR	**Pinedale Array**	**90.00**	**334**	P	**P**	**05 14 05.9**	**+0.4**
	comp=E,0.4nm,0.7s,baz=211,slow=6.2,SNR=4.6 comp=E,0.4nm,0.7s						

*IDC **07** 05:04:49.0±1.6, 30°.59S×177°.36W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=39.4km s-min=22.3km az=83.0*

ISC 07 05:04:53.4±1.5, 30°.5S±0°.1×177°.3W±0°.3, h33km, n8, σ0§43/8, mb3.8/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.38**	**336**	Pn	**Pn**	**05 05 16.7**	**+0.3**
	383nm,0.3s,baz=97,slow=16,SNR=9.1						
RAO				Sn	**Sb**	**05 05 35.9**	**-0.1**
	326nm,0.3s,baz=89,slow=23,SNR=5.2						
URZ	**Urewera**	**9.00**	**209**	Pn	Pn	05 06 54.2	-6.8
	0.5nm,0.3s,baz=342,slow=20,SNR=1.6						
URZ				Sn	Sn	05 08 32.1	-9.0
	0.4nm,0.3s,baz=87,slow=14,SNR=1.5						
STKA	**Stephens Creek**	**35.05**	**257**	P	**P**	**05 11 43.7**	**+0.4**
	2.0nm,0.8s,baz=110,slow=12,SNR=3.0 2.0nm,0.8s						
ASAR	**Alice Springs**	**43.72**	**267**	P	**P**	**05 12 55.3**	**-0.4**
	0.4nm,0.6s,baz=109,slow=7.7,SNR=5.5 0.4nm,0.6s						
WRA	**Warramunga Arr**	**44.72**	**272**	P	**P**	**05 13 03.3**	**-0.4**
	0.7nm,0.5s,baz=111,slow=7.8,SNR=7.5 0.7nm,0.5s						
QSPA	**South Pole Qui**	**59.59**	**180**	P	**P**	**05 14 54.0**	**+0.3**
	0.7nm,1.0s,baz=31,slow=3.2,SNR=2.5 0.7nm,1.0s						
FINES	**FINESS Array B**	**145.47**	**340**	PKPbc	**PKPbc**	**05 24 27.2**	**-0.1**
	1.9nm,0.7s,baz=48,slow=2.1,SNR=9.5						
NOA	**NORSAR Array B**	**148.96**	**352**	PKPbc	**PKiKP**	**05 24 38.1**	**-0.5**
	0.5nm,0.8s,baz=18,slow=3.0,SNR=1.4						

*IDC **07** 05:14:16.2±1.5, 10°.40N×123°.67E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=172.7km s-min=21.5km az=67.0*

ISC 07 05:14:21.9±1.3, 10°.0N±0°.4×12°.3E±°, h35km, n6, σ1§20/6, mb3.6/6, Panay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.88**	**159**	P	**P**	**05 20 44.4**	**+0.4**
	0.9nm,1.1s,baz=344,slow=8.4,SNR=2.3 0.9nm,1.1s						
ASAR	**Alice Springs**	**35.20**	**162**	P	**P**	**05 21 12.5**	**-0.4**
	0.2nm,0.5s,baz=340,slow=9.3,SNR=2.4 0.2nm,0.5s						
SONM	**Songino Array**	**40.15**	**343**	P	**P**	**05 21 53.8**	**-0.8**
	0.4nm,0.4s,baz=162,slow=6.1,SNR=1.5 0.4nm,0.4s						
MKAR	**Makanchi Array**	**50.18**	**325**	P	**P**	**05 23 14.9**	**+0.7**
	0.7nm,0.7s,baz=130,slow=6.3,SNR=5.6 0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**53.24**	**333**	P	**P**	**05 23 38.4**	**+1.6**
	0.5nm,0.4s,baz=127,slow=9.3,SNR=2.3 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**54.36**	**327**	P	**P**	**05 23 44.4**	**-0.6**
	0.3nm,0.3s,baz=128,slow=6.9,SNR=5.1 0.3nm,0.3s						

*NEIC **07** 05:16:57.4±1.2, 34°.9S±0°.1×107°.79W±0°.06, h10km±2km, mb4.6/18, Error ellipse: s-maj=19.8km s-min=9.1km az=174.0*

*IDC **07** 05:16:58.4±0.7, 35°.27S×107°.49W, h0km, mb4.1/9, mbtmp4.1/9, MS3.9/15, Error ellipse: s-maj=27.7km s-min=20.1km az=86.0*

*GCMT **07** 05:16:59.4±0.2, 35°.04S±0°.01×108°.12W±0°.01, h14km±1km, MW5.0/114, Moment Tensor Solution. s58,c72; s114,c174; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.68±.11; Mθθ=0.78±.10; Mϕϕ=1.46±.10; Mrθ=0.50±.21; Mθϕ=-3.51±.09; Mϕr=1.29±.25; Best double couple: M=3.96800×10^16 NP1=ϕs100.00000°, δ69.00000°, λ-171.00000°. NP2=ϕs7.00000°, δ82.00000°, λ-22.00000°. Principal axes: T 4.1440, Plg9.0000°, Azm55.0000°; N -0.3530, Plg67.0000°, Azm167.0000°; P -3.7920, Plg21.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 05:16:58.8±0.7, 35°.04S±0°.1×107°.4W±0°.1, h10km, n60, σ1§90/42, mb4.4/20, MS3.9/14, 3C-2D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA02	**Isla de Pascua**	**8.04**	**347**	Pn	**Pn**	**05 18 51.8**	**-3.8**
RPN	**Rapa Nui**	**8.06**	**348**	LR	LR	05 21 00.2	
	comp=Z,567nm,19.6s,baz=148,slow=29						
H03S2	**Juan Fernandez**	**23.52**	**95**	T	T	05 47 05.1	
	baz=258,slow=76,SNR=26						
H03S1	**Juan Fernandez**	**23.53**	**95**	T	T	05 47 10.3	
	baz=258,slow=76,SNR=27						
H03S3	**Juan Fernandez**	**23.53**	**95**	T	T	05 47 08.8	
	baz=258,slow=76,SNR=37						
H03N2	**Juan Fernandez**	**23.59**	**94**	T	T	05 47 20.9	
	baz=262,slow=73,SNR=3.8						
H03N3	**Juan Fernandez**	**23.59**	**94**	T	T	05 47 19.9	
	baz=262,slow=73,SNR=4.7						
H03N1	**Juan Fernandez**	**23.61**	**94**	T	T	05 47 19.4	
	baz=262,slow=73,SNR=7.2						
AY03	**Cochrane**	**28.70**	**126**	P	**P**	**05 22 56.9**	**+1.0**
AY03				IAmb	IAmb	05 22 58.6	
	comp=Z,7.5nm,1.1s						
COYC	**Coyhaique**	**28.73**	**122**	P	**P**	**05 22 57.0**	**+0.8**
PLCA	**Paso Flores**	**29.51**	**112**	P	**P**	**05 23 03.3**	**-0.1**
PLCA				IAmb	IAmb	05 23 15.1	
	comp=Z,7.7nm,1.1s						
PLCA	**Paso Flores**	**29.51**	**112**	P	**P**	**05 23 05.7**	**+2.4**
	comp=Z,3.1nm,0.8s,baz=250,slow=6.6,SNR=7.1						
PLCA				LR	LR	05 31 25.3	
	comp=Z,172nm,21.9s,baz=272,slow=29 comp=Z,3.1nm,0.8s						
GO09	**Cerro Castillo**	**29.95**	**134**	P	**P**	**05 23 08.1**	**+1.1**
GO09				IAmb	IAmb	05 23 16.9	
	comp=Z,12nm,1.0s						
MG05	**Puerto Natales**	**29.99**	**134**	P	**P**	**05 23 07.4**	**+0.1**
CO06	**Fray Jorge**	**30.29**	**92**	P	**P**	**05 23 10.8**	**+0.6**
CO02	**Combarbal**	**30.65**	**93**	P	**P**	**05 23 13.5**	**0.0**
CO02				IAmb	IAmb	05 23 29.3	
	comp=Z,7.7nm,1.1s						
MT08	**Bocatoma Ro**	**30.86**	**98**	P	**P**	**05 23 15.9**	**+0.4**
MT08				IAmb	IAmb	05 23 21.6	
	comp=Z,4.9nm,0.8s						
CFA	**Coronel Fontan**	**32.79**	**95**	LR	LR	05 32 32.5	
	comp=Z,64nm,20.4s,baz=226,slow=28						
PATCX	**Punta Patache**	**35.64**	**77**	P	**P**	**05 23 56.9**	**-0.2**
PATCX				IAmb	IAmb	05 24 02.3	
	comp=Z,18nm,1.1s						
TA01	**Diego Aracena**	**35.75**	**76**	P	**P**	**05 23 58.1**	**+0.1**
TA01				IAmb	IAmb	05 24 02.3	
	comp=Z,14nm,0.9s						
PB09	**IPOC Station P**	**35.87**	**79**	P	**P**	**05 23 59.2**	**0.0**
PB09				IAmb	IAmb	05 24 12.9	
	comp=Z,15nm,1.1s						
NNA	**Nana**	**36.00**	**58**	LR	LR	05 35 21.7	
	comp=Z,302nm,18.7s,baz=216,slow=30						
ATAH	**Atahualpa**	**38.52**	**51**	LR	LR	05 36 18.2	
	comp=Z,397nm,18.6s,baz=246,slow=30						
LPAZ	**La Paz**	**39.73**	**72**	P	**P**	**05 24 32.8**	**+0.4**
LPAZ	**La Paz**	**39.73**	**72**	P	**P**	**05 24 34.2**	**+1.8**
	comp=Z,3.9nm,0.7s,baz=217,slow=4.2,SNR=20						
LPAZ				LR	LR	05 37 19.2	
	comp=Z,125nm,18.1s,baz=227,slow=31 comp=Z,3.9nm,0.7s						
PPT	**Papeete**	**41.24**	**284**	LR	LR	05 37 32.7	
	comp=Z,166nm,20.0s,baz=120,slow=30						
TBTG	**Tabatinga, AM**	**46.34**	**57**	P	**P**	**05 25 23.2**	**-2.0**
RAR	**Rarotonga**	**47.67**	**272**	LR	LR	05 40 15.7	
	comp=Z,66nm,18.3s,baz=96,slow=29						
JTS	**Las Juntas de**	**49.86**	**29**	LR	LR	05 41 46.0	
	comp=Z,343nm,20.1s,baz=198,slow=30						
ROSC	**El Rosal**	**50.44**	**45**	P	**P**	**05 25 56.6**	**-0.6**
ROSC	**El Rosal**	**50.44**	**45**	P	**P**	**05 25 57.7**	**+0.5**
	comp=Z,12nm,0.8s,baz=221,slow=9.3,SNR=5.5						
ROSC				LR	LR	05 43 23.5	
	comp=Z,310nm,21.8s,baz=232,slow=31 comp=Z,12nm,0.8s						
RUSC	**La Rusia**	**52.01**	**45**	P	**P**	**05 26 07.6**	**-1.5**
RUSC				IAmb	IAmb	05 26 34.6	
	comp=Z,5.6nm,0.9s						
CMIG	**Matias Romero**	**53.20**	**15**	LR	LR	05 43 15.8	
	comp=Z,100nm,18.7s,baz=190,slow=30						
QSPA	**South Pole Qui**	**55.16**	**180**	P	**P**	**05 26 30.8**	**-0.5**
QSPA	**South Pole Qui**	**55.16**	**180**	P	**P**	**05 26 30.9**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=198,slow=0.7,SNR=5.3 comp=Z,1.6nm,0.9s						
SDV	**Santo Domingo**	**55.84**	**46**	LR	LR	05 47 04.3	
	comp=Z,186nm,20.2s,baz=244,slow=32						
BAUV	**El Baul**	**57.44**	**48**	P	**P**	**05 26 46.0**	**-2.0**
URZ	**Urewera**	**59.02**	**243**	LR	LR	05 45 46.2	
	comp=Z,278nm,21.9s,baz=110,slow=29						
VNA3	**Neumayer Olymp**	**59.67**	**158**	P	**P**	**05 27 01.0**	**-1.8**
VNA3	**Neumayer Olymp**	**59.67**	**158**	⇑P	**P**	**05 27 01.0**	**-1.8**
	comp=Z,3.2nm,0.7s						
VNA1	**Neumayer--Stat**	**60.31**	**158**	P	P	05 27 02.9	-4.3
VNA1	**Neumayer--Stat**	**60.31**	**158**	⇑P	P	05 27 02.9	-4.3
	comp=Z,2.6nm,1.0s						
VNA2	**Neumayer--Watz**	**60.48**	**158**	P	**P**	**05 27 06.5**	**-1.9**
	baz=236,slow=3.4						
VNA2	**Neumayer--Watz**	**60.48**	**158**	⇓P	**P**	**05 27 06.5**	**-1.9**
	comp=Z,2.5nm,0.9s,baz=236,slow=3.4						
SNAA	**Sanae**	**61.52**	**160**	P	**P**	**05 27 11.3**	**-4.2**
SNAA	**Sanae**	**61.52**	**160**	⇑P	**P**	**05 27 11.3**	**-4.2**
	comp=Z,32nm,0.9s						
SNAA	**Sanae**	**61.52**	**160**	IAmb	IAmb	05 27 13.8	
	comp=Z,2.7nm,1.1s						
SNAA				P	**P**	**05 27 14.0**	**-1.5**
SNAA	**Sanae**	**61.52**	**160**	P	**P**	**05 27 13.4**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=265,slow=4.4,SNR=4.3 comp=Z,1.2nm,0.8s						
TROLL	**Troll, Antarti**	**62.86**	**161**	P	**P**	**05 27 22.5**	**-2.0**
TROLL	**Troll, Antarti**	**62.86**	**161**	⇓P	**P**	**05 27 22.5**	**-2.0**
	comp=Z,68nm,0.7s						
TXAR	**Lajitas Array**	**64.13**	**4**	P	**P**	**05 27 36.5**	**+3.2**
	comp=Z,0.5nm,0.9s,baz=196,slow=8.6,SNR=4.8 comp=Z,0.5nm,0.9s						
ELK	**Elko**	**75.76**	**354**	P	**P**	**05 28 48.8**	**+4.0**
	comp=Z,0.4nm,0.4s,baz=260,slow=6.1,SNR=2.4						
ELK				LR	LR	05 55 42.6	
	comp=Z,53nm,20.3s,baz=172,slow=31 comp=Z,0.4nm,0.4s						
MAW	**Mawson**	**77.41**	**176**	P	**P**	**05 28 53.5**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=195,slow=12,SNR=2.6 comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**77.46**	**358**	P	**P**	**05 28 56.5**	**+2.2**
	comp=Z,1.0nm,0.8s,baz=164,slow=5.7,SNR=11 comp=Z,1.0nm,0.8s						
HNR	**Honiara**	**86.78**	**261**	LR	LR	05 59 55.6	
	comp=Z,52nm,21.2s,baz=160,slow=30						
TIRR	**Tirgusor**	**145.15**	**61**		**PKPbc**	**05 36 34.6**	**-1.1**
AKASG	**Malin Array Be**	**145.15**	**50**	PKPbc	**PKPab**	**05 36 36.5**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=277,slow=3.5,SNR=5.3						
BRTR	**Keskin Array B**	**148.89**	**70**	PKPbc	**PKiKP**	**05 36 48.9**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=327,slow=2.4,SNR=2.1						
CMAR	**Chiang Mai Arr**	**151.35**	**242**	PKPbc	**PKiKP**	**05 36 55.5**	**+1.8**
	comp=Z,0.7nm,0.2s,baz=178,slow=2.3,SNR=5.1						
SONM	**Songino Array**	**151.84**	**307**	PKP	**PKPdf**	**05 36 48.4**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=151,slow=3.4,SNR=4.4						
SONM				PKPab	**PKPab**	**05 37 02.0**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=135,slow=0.6,SNR=5.2						

IDC 07 05:18:13.6±6.0, 13°.58S×167°.67E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=157.8km s-min=42.0km az=14.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.04**	**228**	P	P	05 24 24.1	-0.4
	1.1nm,0.4s,baz=52,slow=9.2,SNR=3.1 1.1nm,0.4s						
WRA	**Warramunga Arr**	**32.49**	**254**	P	P	05 24 46.9	+0.6
	0.2nm,0.6s,baz=84,slow=9.1,SNR=1.3 0.2nm,0.6s						
ASAR	**Alice Springs**	**33.45**	**248**	P	P	05 24 54.4	-0.2
	0.3nm,0.4s,baz=78,slow=9.2,SNR=8.3 0.3nm,0.4s						
QSPA	**South Pole Qui**	**76.44**	**180**	P	P	05 30 05.6	+0.5
	1.3nm,0.8s,baz=38,slow=5.1,SNR=6.9 1.3nm,0.8s						
SNAA	**San

1.2nm,0.3s
LZDM Lanzhou Array 22.63 88 P **P 05 36 02.1 -2.8**
1.1nm,0.4s,baz=288,slow=5.9,SNR=1.4
1.1nm,0.4s
SONM Songino Array 24.33 57 P **P 05 36 21.0 +0.9**
2.1nm,0.6s,baz=252,slow=10,SNR=7.2
2.1nm,0.6s
BRTR Keskin Array B 32.24 286 P **P 05 37 32.1 +1.6**
0.7nm,0.5s,baz=80,slow=8.9,SNR=3.8
0.7nm,0.5s
AKASG Malin Array Be 34.55 306 P **P 05 37 51.3 +1.1**
0.3nm,0.3s,baz=78,slow=8.6,SNR=3.0
0.3nm,0.3s
FINES FINESS Array B 37.91 324 P **P 05 38 20.4 +1.9**
2.4nm,0.9s,baz=109,slow=11,SNR=7.2
2.4nm,0.9s
ARCES ARCESS Array AB 40.75 336 P **P 05 38 44.5 +2.5**
2.4nm,0.7s,baz=98,slow=7.5,SNR=5.9
2.4nm,0.7s
HFS Hagfors 43.75 320 P **P 05 39 08.1 +1.6**
1.6nm,0.7s,baz=133,slow=6.1,SNR=1.6
1.6nm,0.7s
NOA NORSAR Array B 44.98 322 P **P 05 39 16.6 +0.4**
0.5nm,0.6s,baz=92,slow=8.3,SNR=1.9
0.5nm,0.6s
TORD Torodi Ar. Bea 69.24 271 P **P 05 42 06.9 -0.4**
0.7nm,0.5s,baz=47,slow=5.9,SNR=7.8
0.7nm,0.5s
WRA Warramunga Arr 80.14 125 P **P 05 43 09.2 -0.5**
0.2nm,0.2s,baz=336,slow=5.9,SNR=2.0
0.2nm,0.2s

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*MOS **07** 05:34:59.5±1.0,46°.90S×10°.59W,h10km,mb5.4/8,Error ellipse: s-maj=16.1km s-min=12.6km az=79.9*
*IDC **07** 05:34:59.5±0.5,46°.88S×10°.60W,h0km,mb4.6/15, mbtmp4.6/15,MS4.4/43,Error ellipse: s-maj=16.9km s-min=14.8km az=76.0*
*NEIC **07** 05:35:01.4±1.5,46°.9S±0°.1×10°.7W±0°.1,h10km±1km, mb5.3/63,Mww5.3/9,Error ellipse: s-maj=18.9km s-min=13.7km az=168.0*
*GCMT **07** 05:35:04.4±0.1,47°.08S±0°.01×10°.28W±0°.01,h15km, MW5.2/139,Moment Tensor Solution. s91,c133; s139,c251; Duration: 1ṣ0 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.16±.02; $M_{\theta\theta}$=0.56±.02; $M_{\phi\phi}$=-0.40±.02; $M_{r\theta}$=0.18±.04; $M_{\theta\phi}$=-0.76±.01; $M_{\phi r}$=-0.26±.05; Best double couple: M_0=0.94800×10^{17} NP1:ϕ=73.00000°,δ=72.00000°, λ=179.00000°. NP2:ϕ=164.00000°,δ=89.00000°,λ=18.00000°. Principal axes: T 1.0450, Plg13.0000°, Azm30.0000°; N -0.1950, Plg72.0000°, Azm166.0000°; P -0.8510, Plg12.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 05:35:01.3±0.3,46°.87S±0°.06×10°.61W±0°.06,h10km,n455, σ1ṣ12/403,mb5.2/79,MS4.5/45,7C-4D,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**23.88**	**178**	⇑P	**P**		**05 40 14.2**	**-0.4**
	comp=Z,28nn,1.0s							
VNA2	**Neumayer--Watz**	**24.18**	**177**	⇑P	**P**		**05 40 16.6**	**-0.8**
	comp=Z,24nn,0.8s,baz=350,slow=11							
VNA3	**Neumayer Olymp**	**24.45**	**179**	⇑P	**P**		**05 40 19.1**	**-0.8**
	comp=Z,16nn,0.8s							
SNAA	**Sanae**	**25.15**	**174**	⇑P	**P**		**05 40 25.7**	**-0.5**
	comp=Z,446nn,0.8s							
SNAA				⇓S	**S**		**05 44 55.8**	**+5.0**
SNAA	**Sanae**	**25.15**	**174**		**P**		**05 40 25.4**	**-0.9**
SNAA	**Sanae**	**25.15**	**174**	P	**P**		**05 40 25.1**	**-1.1**
	comp=Z,25nn,1.0s,baz=340,slow=9.8,SNR=25							
	comp=Z,25nn,1.0s							
TROLL	**Troll, Antarti**	**25.95**	**171**	⇑P	**P**		**05 40 32.9**	**-0.7**
	comp=Z,861nn,0.8s							
TROLL				⇓S	S		05 45 20.6	+17
SUR	**Sutherland**	**27.98**	**70**	P	**P**		**05 40 51.1**	**-1.2**
SUR				lAmb	lAmb		05 41 31.1	
	comp=Z,76nn,1.5s							
EFI	**East Falkland**	**30.89**	**243**	P	**P**		**05 41 17.8**	**0.0**
EFI	**East Falkland**	**30.89**	**243**	*i* P	**P**		**05 41 17.7**	**0.0**
EFI				pmax	pmax			
	comp=Z,68nn,1.0s							
BELA	**Belgrano 2**	**32.48**	**189**	P	**P**		**05 41 30.9**	**-0.5**
BELA				lAmb	lAmb		05 41 37.9	
	comp=Z,19nn,0.7s							
SYO	**Syowa Base**	**33.19**	**150**	⇑*e*pP	**P**		**05 41 38.0**	**+0.4**
SYO	**Syowa Base**	**33.19**	**150**	⇓*es*P	sP		05 41 39.9	-0.6
SYO	**Syowa Base**	**33.19**	**150**	⇑*e*PnPn	PnPn		05 42 42.0	-5.3
BOSA	**Boshof**	**33.34**	**70**	P	**P**		**05 41 37.8**	**-1.8**
BOSA				lAmb	lAmb		05 41 39.7	
	comp=Z,52nn,1.2s							
BOSA	**Boshof**	**33.34**	**70**	P	**P**		**05 41 38.0**	**-1.5**
	comp=Z,21nn,1.0s,baz=227,slow=9.5,SNR=14							
BOSA				LR	LR		05 52 53.7	
	comp=Z,848nn,18.2s,baz=234,slow=32							
	comp=Z,21nn,1.0s							
BOSA	**Boshof**	**33.34**	**70**	P	**P**		**05 41 37.8**	**-1.8**
BOSA				pmax	pmax			
	comp=Z,52nn,1.2s							
PMSA	**Palmer Station**	**33.65**	**218**	P	**P**		**05 41 41.6**	**-0.1**
PMSA	**Palmer Station**	**33.65**	**218**	LR	LR		05 52 39.4	
	comp=Z,1μm,21.8s,baz=82,slow=32							
PMSA	**Palmer Station**	**33.65**	**218**	*e*P	**P**		**05 41 43.2**	**+1.5**
LKGWB	**Lokgwabe**	**34.08**	**59**		**P**		**05 41 47.7**	**+1.6**
MAKGR	**Makgori**	**35.01**	**66**		**P**		**05 41 52.8**	**-1.3**
MAKGR				lAmb	lAmb		05 41 54.1	
	comp=Z,44nn,1.1s							
CAM01	**Campos-RJ**	**35.41**	**304**	*e*P	**P**		**05 41 58.6**	**+1.2**
DUB01	**Friburgo-RJ**	**35.62**	**303**	*e*P	**P**		**05 42 00.7**	**+1.4**
KGCAE	**Kacgae**	**35.63**	**59**	*i* P	**P**		**05 41 59.0**	**-0.5**
KGCAE	**Kacgae**	**35.63**	**59**		**P**		**05 41 58.4**	**-1.0**
CNLB	**Canela**	**35.73**	**285**	*e*P	**P**		**05 42 02.2**	**+2.0**
MG01	**Puerto William**	**35.94**	**236**	P	**P**		**05 42 01.5**	**0.0**
MAN01	**Angra dos Reis**	**35.94**	**300**	*e*P	**P**		**05 42 02.9**	**+0.9**
TSUM	**Tsumeb**	**35.97**	**49**		**P**		**05 42 01.6**	**-0.8**
TSUM				lAmb	lAmb		05 42 03.6	
	comp=Z,66nn,1.1s							
TSUM	**Tsumeb**	**35.97**	**49**	LR	LR		05 53 47.7	
	comp=Z,801nn,19.1s,baz=150,slow=31							
PLTB	**Pedras Altas**	**36.04**	**279**	P	**P**		**05 42 02.6**	**-0.2**
PLTB	**Pedras Altas**	**36.04**	**279**	*e*P	**P**		**05 42 04.0**	**+1.2**
LBTB	**Lobatse**	**36.08**	**66**	P	**P**		**05 42 02.5**	**-0.8**
LBTB	**Lobatse**	**36.08**	**66**	LR	LR		05 54 34.5	
	comp=Z,843nn,18.5s,baz=224,slow=33							
LBTB	**Lobatse**	**36.08**	**66**	P	**P**		**05 42 02.5**	**-0.8**
LBTB				pmax	pmax			
	comp=Z,21nn,0.9s							
VAS01	**Vassouras-RJ**	**36.08**	**301**	*e*P	**P**		**05 42 04.3**	**+1.2**
GRTLG	**Ghanzi**	**36.21**	**56**	*i* P	**P**		**05 42 03.8**	**-0.6**
GRTLG	**Ghanzi**	**36.21**	**56**		**P**		**05 42 03.1**	**-1.3**
GRTLG				lAmb	lAmb		05 42 05.1	
	comp=Z,71nn,1.3s							
USHA	**Ushuaia**	**36.41**	**236**	LR	LR		05 53 42.1	
	comp=Z,692nn,20.9s,baz=106,slow=31							
KDWAN	**Kaudwane**	**36.70**	**63**		**P**		**05 42 07.8**	**-0.7**
KDWAN				lAmb	lAmb		05 42 09.1	
	comp=Z,60nn,1.1s							
CPSB	**Cacapava Do Su**	**36.77**	**281**	*e*P	**P**		**05 42 10.2**	**+1.2**
ABR01	**Abrolhos, BA**	**36.95**	**312**	*e*P	**P**		**05 42 08.2**	**-2.4**
LPHEP	**Lephephe**	**37.45**	**64**	*i* P	**P**		**05 42 14.1**	**-0.9**
LPHEP	**Lephephe**	**37.45**	**64**		**P**		**05 42 14.0**	**-0.9**
QNGWA	**Qangwa**	**37.65**	**54**	*i* P	**P**		**05 42 16.4**	**-0.2**
QNGWA	**Qangwa**	**37.65**	**54**		**P**		**05 42 15.6**	**-1.0**
QNGWA				lAmb	lAmb		05 42 17.7	
	comp=Z,47nn,1.1s							
SJMB	**Sao Joao De Ma**	**37.65**	**308**	*e*P	**P**		**05 42 17.1**	**+0.6**
BSCB	**Bom Sucesso**	**37.85**	**301**	*e*P	**P**		**05 42 19.4**	**+1.0**
H10S2	**ASCENSION HYDR**	**37.94**	**354**	T	T		06 22 51.8	
	baz=45,slow=74,SNR=23							
H10S3	**ASCENSION HYDR**	**37.95**	**353**	T	T		06 22 51.0	
	baz=175,slow=74,SNR=27							
ITAB	**Concordia**	**37.95**	**286**	*e*P	**P**		**05 42 20.8**	**+1.7**
TRQA	**Tornquist**	**38.30**	**264**		**P**		**05 42 21.1**	**-0.9**
TRQA				lAmb	lAmb		05 42 23.1	
	comp=Z,54nn,1.1s							
TRQA	**Tornquist**	**38.30**	**264**	P	**P**		**05 42 21.1**	**-0.9**
TRQA				pmax	pmax			
	comp=Z,54nn,1.1s							
GMARE	**Gumare**	**38.31**	**56**	P	**P**		**05 42 21.5**	**-0.8**
GMARE				lAmb	lAmb		05 42 23.4	
	comp=Z,41nn,0.9s							
GO10	**Punta Arenas**	**38.31**	**238**	P	**P**		**05 42 22.0**	**+0.1**
GO10				lAmb	lAmb		05 42 27.7	
	comp=Z,76nn,0.9s							
RCLB	**Rio Claro- Sao**	**38.43**	**297**	*e*P	**P**		**05 42 24.5**	**+1.4**
XAUDM	**Khaudum**	**38.53**	**54**		**P**		**05 42 22.8**	**-1.3**
XAUDM				lAmb	lAmb		05 42 25.8	
	comp=Z,62nn,1.1s							
GUA01	**Guaratinga, BA**	**38.68**	**312**	*e*P	**P**		**05 42 26.4**	**+1.2**
FRTB	**Fartura**	**39.01**	**293**	*e*P	**P**		**05 42 29.6**	**+1.6**
MREMI	**Moremi**	**39.02**	**65**	P	**P**		**05 42 27.1**	**-1.0**
H10N1	**ASCENSION HYDR**	**39.03**	**354**	T	T		06 24 17.2	
	baz=175,slow=78,SNR=5.5							
H10N3	**ASCENSION HYDR**	**39.03**	**354**	T	T		06 24 17.0	
	baz=175,slow=78,SNR=11							
H10N2	**ASCENSION HYDR**	**39.05**	**354**	T	T		06 24 16.5	
	baz=175,slow=78,SNR=3.4							
PHDHD	**Phuduhudu**	**39.05**	**59**	⇓*i* P	**P**		**05 42 28.4**	**0.0**
PHDHD	**Phuduhudu**	**39.05**	**59**	P	**P**		**05 42 27.5**	**-0.9**
PHDHD				lAmb	lAmb		05 42 29.1	
	comp=Z,168nn,1.8s							
PSAL	**Palomas, Salto**	**39.18**	**277**	*e*P	**P**		**05 42 29.5**	**+0.2**
DIAM	**Diamantina, MG**	**39.35**	**305**	*e*P	**P**		**05 42 31.1**	**+0.1**
ITQB	**Itaqui**	**39.38**	**279**	*e*P	**P**		**05 42 31.4**	**+0.5**
CMC01	**Camacan, BA**	**39.56**	**313**	*e*P	**P**		**05 42 33.6**	**+1.0**
MG05	**Puerto Natales**	**39.60**	**240**	P	**P**		**05 42 31.5**	**-1.1**
PTGB	**Pitanga**	**39.63**	**289**	*e*P	**P**		**05 42 34.6**	**+1.3**
SOOWA	**Sowa**	**39.77**	**61**	*i* P	**P**		**05 42 33.2**	**-1.2**
LDASE	**Londrina, Braz**	**39.96**	**292**	*e*P	**P**		**05 42 38.3**	**+2.3**
BROLN	**Tlhalogang**	**40.04**	**63**	*i* P	**P**		**05 42 35.9**	**-0.8**
BB19B	**Bebedouro**	**40.05**	**297**	*e*P	**P**		**05 42 37.7**	**+1.0**
PMNB	**Patos De Minas**	**40.74**	**302**	*e*P	**P**		**05 42 42.9**	**+0.3**
MATP	**Matopo**	**41.26**	**64**	LR	LR		05 57 30.3	
	comp=Z,690nn,19.1s,baz=222,slow=33							
PCMB	**Pacaembu**	**41.35**	**293**	*e*P	**P**		**05 42 48.4**	**+1.0**
TRCB	**Terra Rica**	**41.36**	**291**	P	**P**		**05 42 48.3**	**+0.8**
TRCB				lAmb	lAmb		05 42 49.7	
	comp=Z,105nn,1.6s							
MAW	**Mawson**	**41.69**	**146**	P	**P**		**05 42 49.6**	**0.0**
	comp=Z,1.7nn,0.9s							
MAW	**Mawson**	**41.69**	**146**	P	**P**		**05 42 49.4**	**-0.2**
	comp=Z,8.1nn,0.9s,baz=271,slow=8.9,SNR=16							
MAW				LR	LR		05 58 22.9	
	comp=Z,211nn,18.2s,baz=260,slow=34							
	comp=Z,8.1nn,0.9s							
H04S2	**CROZET ISLANDS**	**41.71**	**114**	T	T		06 27 32.6	
	baz=247,slow=76,SNR=138							
H04S3	**CROZET ISLANDS**	**41.71**	**114**	T	T		06 27 33.2	
	baz=247,slow=76,SNR=151							
H04S1	**CROZET ISLANDS**	**41.73**	**114**	T	T		06 27 37.0	
	baz=247,slow=76,SNR=19							
CPUP	**Villa Florida**	**42.01**	**283**	P	**P**		**05 42 52.0**	**-0.7**
	comp=Z,6.4nn,0.8s,baz=80,slow=19,SNR=32							
CPUP				LR	LR		05 56 56.4	
	comp=Z,80nn,21.9s,baz=3.5,slow=31							
	comp=Z,6.4nn,0.8s							
CPUP	**Villa Florida**	**42.01**	**283**	P	**P**		**05 42 52.0**	**-0.7**
SJPY	**San Joaquin**	**42.09**	**285**	*e*P	**P**		**05 42 55.1**	**+1.7**
IPMB	**Ipameri, GO**	**42.22**	**300**	*e*P	**P**		**05 42 55.7**	**+1.1**
JANB	**Januaria**	**42.33**	**307**	*e*P	**P**		**05 42 55.7**	**+0.2**
LL02	**Futaleuf**	**42.47**	**252**		**P**		**05 42 55.8**	**-0.5**
LL02				lAmb	lAmb		05 42 57.5	
	comp=Z,89nn,1.1s							
PLCA	**Paso Flores**	**42.77**	**256**	P	**P**		**05 42 58.8**	**-0.1**
	comp=Z,64nn,1.4s,baz=127,slow=4.8,SNR=19							
PLCA				LR	LR		06 00 42.4	
	comp=Z,320nn,18.9s,baz=118,slow=36							
	comp=Z,64nn,1.4s							
AMBA	**Amambai (Brazi**	**42.79**	**288**	*e*P	**P**		**05 43 00.1**	**+1.0**
LL01	**San Ignacio de**	**43.22**	**252**	P	**P**		**05 43 03.1**	**+0.7**
QSPA	**South Pole Qui**	**43.39**	**180**	P	**P**		**05 43 04.3**	**+0.6**
	comp=Z,5.1nn,0.8s,baz=224,slow=5.6,SNR=24							
QSPA				LR	LR		05 59 09.2	
	comp=Z,1μm,20.5s,baz=208,slow=33							
	comp=Z,5.1nn,0.8s							
RPRD	**Ribas do Rio P**	**43.72**	**292**	*e*P	**P**		**05 43 08.5**	**+1.8**
BDFB	**Brasilia**	**43.95**	**303**	P	**P**		**05 43 09.3**	**+0.6**
	comp=Z,32nn,0.9s,baz=134,slow=6.1,SNR=31							
BDFB				LR	LR		05 58 25.0	
	comp=Z,961nn,18.8s,baz=142,slow=32							
	comp=Z,32nn,0.9s							
C2SB	**Chapadao do Su**	**44.44**	**295**	*e*P	**P**		**05 43 14.4**	**+2.0**
SDBA	**SAO DESIDERIO**	**44.84**	**309**	*e*P	**P**		**05 43 16.8**	**+1.1**
AQDB	**Aquidauana**	**45.00**	**290**	P	**P**		**05 43 16.6**	**-0.3**
AQDB				lAmb	lAmb		05 43 18.3	
	comp=Z,42nn,1.0s							
AQDB	**Aquidauana**	**45.00**	**290**	*e*P	**P**		**05 43 17.2**	**+0.4**
LSZ	**Lusaka**	**45.05**	**59**	LR	LR		06 00 07.1	
	comp=Z,797nn,19.1s,baz=214,slow=34							
BI02	**San Fabin de**	**45.35**	**260**	P	**P**		**05 43 18.1**	**-1.6**
BDQN	**Bodoquena, MS**	**45.70**	**289**	*e*P	**P**		**05 43 22.5**	**+0.1**
BO02	**Sierra Bellavi**	**46.04**	**263**	P	**P**		**05 43 24.4**	**-0.8**
BO02				lAmb	lAmb		05 43 26.2	
	comp=Z,31nn,0.8s							
ARAG	**Araguaiana, MT**	**46.14**	**298**	*e*P	**P**		**05 43 28.1**	**+2.1**
CFA	**Coronel Fontan**	**46.15**	**268**	LR	LR		06 00 41.1	
	comp=Z,164nn,19.8s,baz=3.0,slow=33							
LMEL	**Las Melosas**	**46.19**	**264**	P	**P**		**05 43 25.5**	**-0.9**
LMEL				lAmb	lAmb		05 43 27.9	
	comp=Z,21nn,0.8s							
RCBR	**Riachuelo**	**46.33**	**324**	LR	LR		05 58 19.0	
	comp=Z,209nn,20.8s,baz=160,slow=30							
BO01	**Tunca**	**46.48**	**263**	P	**P**		**05 43 28.1**	**-0.4**
PP1B	**Ponte de Pedra**	**46.59**	**294**	*e*P	**P**		**05 43 30.9**	**+1.3**
VA03	**San Esteban**	**47.05**	**265**		**P**		**05 43 32.8**	**-0.3**
MT02	**Curacav**	**47.16**	**264**	P	**P**		**05 43 33.4**	**-0.4**
MT02				lAmb	lAmb		05 43 34.1	
	comp=Z,20nn,0.9s							
CO03	**El Pedregal**	**48.28**	**267**	P	**P**		**05 43 42.1**	**-0.6**
CO03				lAmb	lAmb		05 43 43.5	
	comp=Z,26nn,0.8s							
SALV	**Santo Antonio**	**48.38**	**294**	*e*P	**P**		**05 43 44.8**	**+1.4**
CO01	**Juntas del Tor**	**48.40**	**268**	P	**P**		**05 43 44.5**	**+0.7**
GO04	**Tololo Observa**	**48.76**	**268**	P	**P**		**05 43 45.8**	**-0.8**
SNDB	**Serra Nova Dou**	**48.77**	**302**	*e*P	**P**		**05 43 47.2**	**+0.7**
SMTB	**Santa Maria do**	**49.23**	**308**	*e*P	**P**		**05 43 50.8**	**+0.7**
GO03	**Copiapo**	**49.98**	**271**	P	**P**		**05 43 55.0**	**-0.6**
GO03				lAmb	lAmb		05 44 00.2	
	comp=Z,26nn,0.8s							
PTLB	**Pontes e Lacer**	**50.90**	**291**	*e*P	**P**		**05 44 02.3**	**-0.3**
GO02	**Mina Guanaco**	**51.10**	**274**	P	**P**		**05 44 04.5**	**+0.1**
PAF	**Port-aux-Franc**	**51.54**	**124**	P	**P**		**05 44 06.8**	**-0.2**
PAF	**Port-aux-Franc**	**51.54**	**124**	P	**P**		**05 44 06.8**	**-0.2**
PAF				pmax	pmax			
	comp=Z,542nn,1.6s							
SIV	**San Ignacio**	**51.74**	**289**	LR	LR		06 03 03.1	
	comp=Z,438nn,21.2s,baz=112,slow=32							
PDRB	**Porto dos Gac**	**52.31**	**297**	*e*P	**P**		**05 44 14.6**	**+1.5**
CLDB	**Colider**	**52.31**	**298**	*e*P	**P**		**05 44 14.6**	**+1.4**
PRPB	**Parauapebas**	**52.68**	**308**	*e*P	**P**		**05 44 17.0**	**+1.1**
PB06	**IPOC Station P**	**52.71**	**276**	P	**P**		**05 44 15.8**	**-0.6**
PB05	**IPOC Station P**	**53.04**	**275**	P	**P**		**05 44 17.9**	**-0.8**
PB09	**IPOC Station P**	**53.10**	**277**	P	**P**		**05 44 19.1**	**0.0**
VILB	**Vilhena**	**53.44**	**292**	*e*P	**P**		**05 44 23.4**	**+1.8**
DBIC	**Dimbokro**	**53.55**	**7**	P	**P**		**05 44 21.8**	**-0.4**
	comp=Z,12nn,1.0s,baz=199,slow=8.3,SNR=6.5							
DBIC				LR	LR		06 01 29.5	
	comp=Z,506nn,20.4s,baz=198,slow=30							
	comp=Z,12nn,1.0s							
EDA	**Edea**	**53.66**	**26**	P	**P**		**05 44 22.4**	**-0.7**
PB01	**IPOC Station P**	**53.78**	**278**	P	**P**		**05 44 23.9**	**-0.2**
TMAB	**Tom-Au,PA,Br**	**54.98**	**312**	*e*P	**P**		**05 44 33.5**	**+0.7**
NPGB	**Novo Progresso**	**55.09**	**302**	*e*P	**P**		**05 44 34.2**	**+0.6**
SBA	**Scott Base**	**55.54**	**179**	P	**P**		**05 44 35.8**	**-0.2**
SBA	**Scott Base**	**55.54**	**179**	P	**P**		**05 44 35.8**	**-0.2**
SBA				pmax	pmax			
	comp=Z,22nn,1.4s							
VNDA	**Vanda**	**55.80**	**178**	P	**P**		**05 44 38.2**	**+0.3**
	comp=Z,1.9nn,1.0s,baz=219,slow=9.5,SNR=9.7							
VNDA				LR	LR		06 06 22.8	
	comp=Z,733nn,20.7s,baz=180,slow=34							
	comp=Z,1.9nn,1.0s							
LPAZ	**La Paz**	**56.18**	**283**	P	**P**		**05 44 41.0**	**-1.2**
	comp=Z,5.8nn,0.8s,baz=113,slow=6.3,SNR=23							
LPAZ				LR	LR		06 08 32.2	
	comp=Z,164nn,18.5s,baz=120,slow=36							
	comp=Z,5.8nn,0.8s							
ITTB	**Itaituba**	**57.47**	**303**	*e*P	**P**		**05 44 51.5**	**+0.9**
MBAR	**Mbarara**	**58.49**	**51**	P	**P**		**05 44 58.8**	**+0.9**
MBAR				lAmb	lAmb		05 45 00.8	
	comp=Z,24nn,1.1s							
MBAR	**Mbarara**	**58.49**	**51**	*i* P	**P**		**05 44 56.8**	**-1.1**
MAL2	**Monte Alegre,**	**58.52**	**306**	P	**P**		**05 44 58.6**	**+0.7**
CASY	**Casey**	**58.55**	**156**	P	**P**		**05 44 58.4**	**+0.9**
TORD	**Torodi Ar. Bea**	**60.76**	**14**	P	**P**		**05 45 12.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**60.76**	**14**	P	**P**		**05 45 12.5**	**-0.7**
	comp=Z,3.3nn,0.6s,baz=196,slow=6.4,SNR=27							
TORD				LR	LR		06 06 06.2	
	comp=Z,672nn,21.1s,baz=169,slow=31							
	comp=Z,3.3nn,0.6s							
KIBK	**Kibwezi**	**61.16**	**59**	P	**P**		**05 45 16.8**	**+0.6**
KIBK				lAmb	lAmb		05 45 19.9	
	comp=Z,29nn,1.2s							
KMBO	**Kilima Mbogo**	**61.68**	**57**	LR	LR		06 09 46.7	
	comp=Z,590nn,20.8s,baz=205,slow=34							
KMBO	**Kilima Mbogo**	**61.68**	**57**	*i* P	**P**		**05 45 18.9**	**-1.0**
TEFE	**Tefe**	**63.48**	**295**	*e*P	**P**		**05 45 31.6**	**0.0**
MDP	**Montagnes des**	**63.68**	**312**	LR	LR		06 10 35.8	
	comp=Z,748nn,20.2s,baz=146,slow=34							
LODK	**Lodwar**	**64.35**	**53**	P	**P**		**05 45 38.4**	**+1.0**
NNA	**Nana**	**65.12**	**279**	P	**P**		**05 45 42.9**	**+0.4**
NNA				lAmb	lAmb		05 45 46.9	
	comp=Z,23nn,1.0s							
NNA	**Nana**	**65.12**	**279**	*i* P	**P**		**05 45 42.0**	**-0.5**
NNA				pmax	pmax			
	comp=Z,33nn,1.0s							
CZSB	**Cruzeiro do Su**	**65.45**	**286**	*e*P	**P**		**05 45 43.4**	**-1.2**
BOAV	**Boa Vista**	**65.72**	**303**	P	**P**		**05 45 45.5**	**-0.7**
BOAV	**Boa Vista**	**65.72**	**303**	*e*P	**P**		**05 45 46.1**	**-0.1**
BOAV	**Boa Vista**	**65.72**	**303**	P	**P**		**05 45 45.9**	**-0.3**
	comp=Z,7.9nn,1.7s							
TBTG	**Tabatinga, AM**	**66.29**	**291**	*e*P	**P**		**05 45 49.0**	**-0.9**
ATAH	**Atahualpa**	**69.69**	**282**	LR	LR		06 16 48.4	
	comp=Z,162nn,21.4s,baz=141,slow=36							
TAM	**Tamanrasset**	**70.85**	**16**	P	**P**		**05 46 18.6**	**+0.3**
TAM				lAmb	lAmb		05 46 20.9	
	comp=Z,26nn,0.9s							
TAM	**Tamanrasset**	**70.85**	**16**	P	**P**		**05 46 18.6**	**+0.3**
TAM				pmax	pmax			
	comp=Z,26nn,0.9s							
MCRA	**Macar, Loja**	**72.76**	**282**	P	**P**		**05 46 29.5**	**-0.5**
	comp=Z,10nn,1.4s							
MACC	**Macarena, Meta**	**73.64**	**292**	P	**P**		**05 46 35.1**	**0.0**
	comp=Z,20nn,1.0s							
COHC	**Cochancay**	**73.70**	**284**	P	**P**		**05 46 36.1**	**+0.6**
	comp=Z,13nn,1.1s							
PIAT	**Ana Tenorio**	**74.13**	**286**	P	**P**		**05 46 39.6**	**+1.1**
	comp=Z,19nn,0.9s							
FLOC	**Florencia**	**74.37**	**290**	P	**P**		**05 46 38.8**	**-0.6**
	comp=Z,15nn,1.4s							
PCRV	**Puerto La Cruz**	**74.39**	**304**	LR	LR		06 16 06.6	
	comp=Z,694nn,21.9s,slow=33							
URMC	**La Uribe, Meta**	**74.82**	**292**	P	**P**		**05 46 42.3**	**+0.2**
	comp=Z,14nn,0.9s							
VILC	**Villavicencio,**	**75.05**	**293**	P	**P**		**05 46 44.0**	**+0.5**
ATD	**Arta Tunnel**	**75.17**	**55**	LR	LR		06 19 15.8	
	comp=Z,24nn,18.1s,baz=188,slow=35							
GCUF	**Volcan Galeras**	**75.20**	**288**	P	**P**		**05 46 44.4**	**+1.6**
BAUV	**El Baul**	**75.37**	**301**	P	**P**		**05 46 44.4**	**-0.7**
BAUV				lAmb	lAmb		05 47 00.4	
	comp=Z,62nn,1.6s							
PRAC	**Prado**	**75.50**	**292**	P	**P**		**05 46 45.2**	**-0.8**
	comp=Z,580nmcomp=Z,26nn,1.6s							
BBAC	**Balboa, Cauca**	**75.74**	**289**	P	**P**		**05 46 47.3**	**-0.2**
	comp=Z,519nmcomp=Z,8.5nn,1.2s							
POPC	**Popayan, Colom**	**75.76**	**290**	P	**P**		**05 46 47.6**	**-0.1**
	comp=Z,8.6nn,1.1s							
ORTC	**Ortega, Tolima**	**75.88**	**292**	P	**P**		**05 46 47.7**	**-0.4**
	comp=Z,16nn,1.1s							
ROSC	**El Rosal**	**76.01**	**293**	LR	LR		06 19 12.6	
	comp=Z,301nn,18.8s,baz=70,slow=35							
RUSC	**La Rusia**	**76.04**	**295**	P	**P**		**05 46 48.7**	**-0.9**
RUSC				lAmb	lAmb		05 46 57.2	
	comp=Z,21nn,0.9s							
RUSC	**La Rusia**	**76.04**	**295**	P	**P**		**05 46 49.2**	**-0.4**
	comp=Z,515nmcomp=Z,27nn,1.2s							
FDF	**Fort de France**	**76.23**	**310**	P	**P**

comp=Z,22nm,1.2s
MVO Moncorvo 87.71 3 *e*LR LR 06 18 37.4
MVO *i* IAMs_20 IAMs_20 06 21 43.1
comp=Z,241nm,20.0s
NWAO Narrogin (SRO) 87.73 138 LR LR 06 18 23.4
comp=Z,211nm,20.8s,baz=224,slow=30
IDI Anoyia 87.79 28 LR LR 06 24 19.7
comp=Z,67nm,21.0s,baz=150,slow=34
POLO Lamas de Olo 87.90 2 *e*P **P 05 47 52.9 +2.2**
PBRG Braganca 88.36 3 *e*P **P 05 47 55.4 +2.6**
PBRG *i* IAmb IAmb 05 47 55.7
comp=Z,27nm,1.4s
PGAV Gavieira, Arco 88.48 2 *e*P **P 05 47 55.2 +1.8**
PGAV *i* IAmb IAmb 05 48 30.6
comp=Z,67nm,1.8s
PGAV *e*LR LR 06 16 52.3
PGAV *i* IAMs_20 IAMs_20 06 25 07.3
comp=Z,186nm,18.0s
MMAI Mount Meron Ar 89.67 37 P **P 05 48 00.7 +1.5**
comp=Z,2.2nm,0.8s,baz=197,slow=4.5,SNR=2.3
comp=Z,2.2nm,0.8s
PAOL Paolisi 90.35 19 P **P 05 48 03.3 +1.1**
PAOL IAmb IAmb 05 48 04.5
comp=Z,33nm,1.6s
CSS Mathiatis 90.53 35 P **P 05 48 04.6 +1.4**
CSS IAmb IAmb 05 48 26.8
comp=Z,17nm,1.1s
URZ Urewera 94.97 186 LR LR 06 28 43.2
comp=Z,210nm,18.1s,baz=174,slow=34
DAVOX Davos/Dischmat 94.98 14 LR LR 06 29 43.4
comp=Z,152nm,18.2s,baz=198,slow=35
PALK Pallekele 96.15 86 LR LR 06 23 19.3
comp=Z,116nm,19.9s,baz=224,slow=30
GERES GERESS Array B 97.65 16 P Pdif 05 48 36.5 +0.9
comp=Z,0.5nm,0.9s,baz=146,slow=9.7,SNR=3.7
GERES LR LR 06 29 18.7
comp=Z,255nm,20.1s,baz=216,slow=33
comp=Z,0.5nm,0.9s
STKA Stephens Creek 97.70 156 LR LR 06 29 02.0
comp=Z,156nm,19.0s,baz=196,slow=33
STKA Stephens Creek 97.70 156 *i* P **P 05 48 35.8 -0.6**
KHC Kasperske Hory 97.90 16 *i* P Pdif 05 48 36.7 0.0
KHC pmax pmax
comp=Z,2.0nm,1.2s
CMIG Matias Romero 98.46 286 LR LR 06 34 14.4
comp=Z,58nm,19.1s,baz=172,slow=36
VRAC Vranov 98.67 18 LR LR 06 31 02.4
comp=Z,189nm,19.7s,baz=218,slow=34
GNI Garni 99.69 40 LR LR 06 33 47.7
comp=Z,218nm,18.1s,baz=210,slow=35
CLL Collm 99.89 15 *e*Pdif **Pdif 05 48 48.0 +2.6**
CLL *e*PS PS 06 01 54.0 +5.2
CLL *e*SS SS 06 07 17.0 +4.3
SOC Sochi 100.46 35 *e*P **Pdif 05 48 42.8 -5.3**
SOC *e* 05 52 53.7
TBI Tubuai 100.84 218 *e*SS SS 06 07 26.5 +1.9
comp=Z,545nm,28.0s
TBI Tubuai 100.84 218 *e*LQ LQ 06 17 28.0
comp=Z,1μm,39.5s
TBI *e*LR LR 06 21 34.6
comp=Z,2μm,32.0s
TBI *e*LR LR 06 21 48.0
comp=Z,774nm,28.0s
SHA1 Shidzhatmaz 101.76 36 *i* P **Pdif 05 48 55.5 +1.3**
KBZ Khabaz 101.85 37 *i* P **Pdif 05 48 55.7 +1.4**
KBZ pmax pmax
comp=Z,8.0nm,1.8s
KIV Kislovodsk 101.95 36 *e*P **Pdif 05 48 53.3 -1.6**
KIV *e* 05 53 04.1
KIV *e*SS SS 06 07 39.6 -2.2
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,92nm,20.0s
PPT2 Papeete2 105.97 221 *e*S **Sdif 06 01 05.5 -6.2**
comp=Z,87nm,27.5s
PPT2 Papeete2 105.97 221 *e*LR LR 06 24 02.3
comp=Z,449nm,23.8s
PPT2 *e*LR LR 06 24 08.0
comp=Z,468nm,31.8s
TBJI Tambak Boyo 106.25 119 P **Pdif 05 49 13.8 -0.9**
TAOE Nuku Hiva Isla 108.69 234 *e*SS SS 06 09 09.3 -3.7
comp=Z,129nm,25.6s
TAOE Nuku Hiva Isla 108.69 234 *e*LR LR 06 25 27.7
comp=Z,243nm,30.7s
DZM Mont Dzumac 111.33 177 *e*LR LR 06 26 33.0
comp=Z,234nm,21.4s
TXAR Lajitas Array 112.74 289 PKiKP **PKiKP 05 53 36.6 -1.5**
comp=Z,0.3nm,1.0s,baz=118,slow=4.6,SNR=3.4
AAK Ala-Archa 116.60 55 *i* PKiKP **PKPdf 05 53 43.9 -1.3**
ARTI Arti 117.90 36 *i* PKiKP **PKPdf 05 53 46.6 -0.4**
ARTI 05 55 00.9
ARTI 06 00 58.7
MSAI Masohi 118.61 132 PKP **PKiKP 05 53 52.2 +2.4**
BVAR Borovoye Array 121.00 44 PKP **PKPdf 05 53 52.2 -0.9**
comp=Z,0.7nm,0.5s,baz=300,slow=2.8,SNR=2.9
MK31 Makanchi Array 123.54 55 *i* PKiKP **PKPdf 05 53 57.2 -1.0**
MKAR Makanchi Array 123.54 55 PKP **PKPdf 05 53 57.0 -1.1**
comp=Z,0.6nm,0.7s,baz=260,slow=3.3,SNR=4.6
MKAR Makanchi Array 123.54 55 *e*PKiKP **PKPdf 05 53 56.7 -1.5**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
KURBB Kurchatov Arra 123.66 50 PKP **PKPdf 05 53 57.8 -0.4**
comp=Z,1.1nm,0.2s,baz=240,slow=2.4,SNR=4.8
KURK Kurchatov 123.76 50 PKiKP **PKPdf 05 53 57.8 -0.6**
PZH PanZhiHua 123.83 86 PKP **PKiKP 05 53 59.8 0.0**
PDAR Pinedale Array 124.81 298 PKP **PKPdf 05 53 59.4 -1.6**
comp=Z,1.0nm,0.7s,baz=131,slow=3.2,SNR=14
PDAR PP **PP 05 55 48.3 -1.3**
comp=Z,2.0nm,1.1s,baz=116,slow=4.8,SNR=4.5
WMQ Urumqi 125.01 61 *e*PKP **PKiKP 05 54 02.0 +0.5**
WMQ LR LR
comp=Z,160nm,24.9s
ZALV Zalesovo Beam 128.70 49 PKP **PKPdf 05 54 06.6 -1.2**
comp=Z,0.7nm,0.4s,baz=284,slow=2.4,SNR=1.9
GTA Gaotai 130.20 72 PKP **PKiKP 05 54 12.3 +0.2**
YKA Yellowknife Ar 136.17 319 PKP **PKPdf 05 54 22.3 +0.8**
comp=Z,0.9nm,0.7s,baz=94,slow=2.0,SNR=3.8
SONM Songino Array 138.37 65 PKhKP PKPpre 05 54 18.9
comp=Z,0.3nm,0.5s,baz=207,slow=0.6,SNR=1.7
HHC Hu-ho-hao-te 138.69 77 *e*P **PKPdf 05 54 23.5 -3.6**
NJ2 Nanjing 138.98 93 *e*P **PKPdf 05 54 28.3 +0.5**
NJ2 pmax pmax
comp=Z,15nm,0.5s
WRGLY Wrigley 140.29 319 P **PKPdf 05 54 29.8 +0.7**
baz=98
C36M Paulatuk 141.00 329 P **PKPdf 05 54 29.7 -0.6**
baz=90
WTLY Watson Lake, Y 142.38 314 P **PKPdf 05 54 33.2 +0.2**
baz=98
T35M Bob Quinn 142.62 308 P **PKPdf 05 54 33.3 -0.3**
baz=101
DLBC Dease Lake 142.75 311 P **PKPdf 05 54 33.3 -0.5**
baz=99
V35K Ketchikan 143.03 305 P **PKPdf 05 54 34.1 -0.1**
baz=102
S34M Telegraph Cree 143.25 310 P **PKPdf 05 54 33.9 -0.6**
baz=99
R33M Jennings River 143.37 312 P **PKPdf 05 54 34.7 -0.2**
baz=97
MMPY Sheldon Lake, 143.79 318 P **PKPdf 05 54 35.1 -0.4**
baz=92
Q32M Nakina River 143.98 311 P **PKPdf 05 54 35.8 -0.4**
baz=97
P33M Teslin, Yukon 144.38 313 P **PKPdf 05 54 36.5 -0.2**
baz=95
INK Inuvik 144.49 328 P **PKPab 05 54 34.3 -0.5**
baz=82
N32M Quiet Lake 144.58 315 P **PKPab 05 54 35.1 -0.4**
baz=93
F31M Tsiigehtchic 144.68 326 P PKPbc 05 54 35.8 +0.1
baz=84
P32M Atlin 144.78 312 P **PKPab 05 54 36.2 -0.1**
baz=95,SNR=13
G31M Satah River 144.94 325 P PKPbc 05 54 36.6 +0.1
baz=84
H31M Peel River 145.07 323 P **PKPdf 05 54 37.4 -0.2**
baz=85
R32K Eaglecrest 145.08 310 P **PKPdf 05 54 37.6 -0.1**
baz=96,SNR=12
M31M Drury Creek, Y 145.23 317 P **PKPdf 05 54 38.9 +0.9**
baz=90,SNR=22
SIT Sitka 145.37 308 P **PKPab 05 54 38.6 +0.2**
baz=97
F30M Barrier River 145.43 327 P **PKPab 05 54 38.5 +0.1**
baz=81
WHY Whitehorse 145.43 314 P **PKPab 05 54 38.8 0.0**
baz=92
SKAG Skagway 145.59 312 P **PKPab 05 54 39.8 +0.6**
baz=94
G30M tAoh Zraii Nji 145.69 325 P **PKPab 05 54 39.7 +0.3**
baz=82
N31M Braeburn, Yuko 145.89 316 P **PKPab 05 54 41.7 +1.4**
baz=90
S31K Pelican 145.95 309 P **PKiKP 05 54 42.1 -1.3**
baz=95
I30M Mount Dempster 145.97 322 P **PKPbc 05 54 40.2 +0.1**
baz=84,SNR=8.9
EPYK Eagle Plains 145.97 324 P **PKPbc 05 54 39.9 0.0**
baz=82,SNR=9.1
J30M Hart River 146.01 321 P **PKPdf 05 54 39.7 +0.3**
baz=85
O30N Mendenhall 146.03 314 P **PKPdf 05 54 39.8 +0.4**
baz=91,SNR=19
E29M Blow River 146.07 328 P **PKPbc 05 54 40.1 0.0**
baz=78,SNR=9.3
PLBC Pleasant Camp 146.12 312 P **PKPdf 05 54 39.9 +0.3**
baz=93
D28M Stokes Point 146.15 330 P **PKPbc 05 54 40.2 -0.1**
baz=76
M30M Minto, Yukon 146.34 318 P **PKPbc 05 54 40.9 -0.3**
baz=88,SNR=11
G29M Pine Creek 146.40 326 P **PKPbc 05 54 41.0 -0.2**
baz=80
P30M Million Dollar 146.45 313 P **PKPbc 05 54 41.7 +0.1**
baz=91,SNR=8.7
N30M Aishikik Lake 146.51 316 P **PKPbc 05 54 41.4 -0.3**
baz=89,SNR=14
K29M Barlow Dome 146.59 320 P **PKPbc 05 54 41.5 -0.4**
baz=85,SNR=8.6
E28M Babbage River 146.61 329 P **PKPbc 05 54 41.5 -0.3**
baz=76
H29M Whitestone 146.66 324 P **PKPbc 05 54 41.3 -0.6**
baz=81,SNR=18
HYT Haines Junctio 146.72 314 P **PKPdf 05 54 41.4 +0.7**
baz=90,SNR=26
I29M Ogilvie Camp, 146.76 323 P **PKPbc 05 54 42.3 0.0**
baz=82
P29M Windy Craggy 146.83 312 P **PKPbc 05 54 42.5 -0.2**
baz=91
J29N Klondike Camp 146.84 321 P **PKPbc 05 54 42.3 -0.3**
baz=84
L29M L29M 146.93 319 P **PKPbc 05 54 42.4 -0.4**
baz=86,SNR=14
D27M Malcolm River 146.94 330 P **PKPbc 05 54 42.5 -0.3**
baz=73,SNR=9.7
F28M Old Crow 146.97 327 P **PKPbc 05 54 43.0 +0.1**
baz=77,SNR=6.8
M29M Somme Creek 147.13 317 P **PKPbc 05 54 43.0 -0.5**
baz=86,SNR=19
YUK6 Outpost Mounta 147.14 315 P **PKPbc 05 54 44.2 +0.4**
baz=89,SNR=5.3
O29M Mount Kennedy 147.26 313 P **PKPbc 05 54 43.8 -0.2**
baz=90
YUK4 Talbot Arm 147.27 315 P **PKPbc 05 54 43.4 -0.7**
baz=88,SNR=18
DAWY Dawson 147.39 320 P **PKPab 05 54 45.3 -0.9**
baz=83
I28M Miner Creek 147.42 323 P **PKPbc 05 54 45.2 +0.9**
baz=80,SNR=27
E27K Coleen River 147.46 328 P **PKPab 05 54 45.9 -0.3**
baz=74,SNR=5.9
PNL Peninsula 147.67 312 P **PKiKP 05 54 46.2 -0.8**
baz=90
C27K Jago River 147.74 331 P **PKiKP 05 54 46.1 -0.7**
baz=70,SNR=11
YUK8 Steele Glacier 147.81 315 P **PKPbc 05 54 46.2 +0.5**
baz=87
G27K Doyon Strip 147.83 326 P **PKPbc 05 54 45.5 +0.3**
baz=76,SNR=6.7
H27K Steamboat Moun 147.91 325 P **PKPbc 05 54 45.9 +0.4**
baz=77,SNR=7.5
C26K Camden Bay 148.02 332 P **PKPbc 05 54 45.8 +0.2**
baz=68
O28M Mount Upton 148.04 314 P **PKPbc 05 54 46.0 -0.3**
baz=87,SNR=13
I27K Kandik River 148.08 324 P **PKPbc 05 54 46.2 +0.3**
baz=78,SNR=6.3
PINM Pinnacle 148.10 313 P **PKPbc 05 54 46.5 +0.3**
baz=88
YUK3 Moose Creek 148.11 316 P **PKiKP 05 54 47.4 -0.6**
baz=86
KSRS Korea Array 148.18 92 PKPbc **PKPbc 05 54 45.9 -1.1**
comp=Z,2.8nm,0.9s,baz=274,slow=3.4,SNR=3.5
BVCY Beaver Creek 148.24 318 P **PKPbc 05 54 47.1 +0.6**
baz=84
F26K Sheenjek River 148.52 328 P **PKiKP 05 54 48.0 -0.6**
baz=72
K27K Chicken 148.57 321 P **PKiKP 05 54 48.6 0.0**
baz=80
CTG Chitna Glacier 148.59 315 P **PKiKP 05 54 48.7 -0.3**
baz=86
L27K Beaver Creek, 148.60 319 P **PKPbc 05 54 48.0 +0.6**
baz=82,SNR=13
G26K Porcupine Rive 148.61 327 P **PKiKP 05 54 48.3 -0.3**
baz=74,SNR=17
M27K Eagle Creek, AK 148.72 318 P **PKPbc 05 54 48.1 +0.3**
baz=83,SNR=6.2
D25K Kavik River 148.73 331 P **PKiKP 05 54 49.3 +0.4**
baz=67
I26K Coal Creek Min 148.77 323 P **PKiKP 05 54 48.4 -0.7**
baz=77
TIXI Tiksi 148.79 23 *i* PKiKP **PKPdf 05 54 43.7 +0.1**
TIXI pmax pmax
comp=Z,8.0nm,0.9s
E25K Arctic Village 148.89 329 P **PKiKP 05 54 49.2 0.0**
baz=70,SNR=8.9
MESA MESA 148.94 313 P **PKPbc 05 54 48.8 +0.3**
baz=87
F25K Christian Rive 149.10 328 P **PKiKP 05 54 49.2 -0.5**
baz=71,SNR=10
J26L Joseph Creek 149.12 322 P **PKiKP 05 54 49.6 -0.3**
baz=78,SNR=19
M26K Nabesna, AK 149.23 318 P **PKPbc 05 54 49.4 +0.5**
baz=82
L26K Log Cabin Wild 149.29 319 P **PKiKP 05 54 50.0 -0.2**
baz=81
C24K Franklin Bluff 149.31 333 P **PKiKP 05 54 50.0 0.0**
baz=64
MCARA McCarthy VSAT 149.37 316 P **PKiKP 05 54 51.0 +0.6**
baz=84
SCRK Sand Creek 149.40 321 P **PKiKP 05 54 50.7 +0.2**
baz=78
CRQE Cirque 149.46 315 P **PKiKP 05 54 51.0 +0.2**
baz=85
G25K Bearman Lake 149.53 327 P **PKiKP 05 54 50.2 -0.4**
baz=72
H25L Birch Creek 149.58 326 P **PKiKP 05 54 51.1 +0.5**
baz=73
D24K Happy Valley 149.59 332 P **PKiKP 05 54 51.6 +1.0**
baz=64
PRP Porcupine Dome 149.68 324 P **PKiKP 05 54 50.8 -0.3**
baz=74,SNR=6.1
RIDG Independent Ri 149.82 321 P **PKiKP 05 54 51.5 +0.2**
baz=78,SNR=12
C23K Itkillik River 149.84 334 P **PKiKP 05 54 51.2 +0.1**
baz=61
J25K Salcha River, 149.85 322 P **PKiKP 05 54 51.2 -0.2**
baz=76
E24K Your Creek 149.93 330 P **PKiKP 05 54 51.3 -0.1**
baz=67
F24K Squaw Lake 149.93 329 P **PKiKP 05 54 51.6 +0.1**
baz=68,SNR=7.3
TOLK Toolik Lake Re 150.06 331 P **PKPbc 05 54 51.1 +0.3**
baz=64,SNR=6.9
G24K Hadweenzic Riv 150.07 327 P **PKiKP 05 54 51.8 +0.1**
baz=70
N25K Chitina, Valde 150.09 316 P **PKPbc 05 54 51.4 +0.2**
baz=82,SNR=9.1
BMRM Bremner River 150.18 315 P **PKPbc 05 54 51.2 -0.2**
baz=83,SNR=8.6
KAIM Kayak Island 150.20 313 P **PKiKP 05 54 51.9 -0.3**
baz=85
K24K Donnelly Dome 150.22 321 P **PKiKP 05 54 52.0 -0.1**
baz=77
HARP HAARP 150.22 318 P **PKiKP 05 54 52.3 +0.1**
baz=80
PAX Paxson 150.26 319 P **PKiKP 05 54 52.3 0.0**
baz=78
D23K Nanushuk River 150.27 332 P **PKiKP 05 54 52.8 +0.7**
baz=63
E23K Chandalar 150.32 330 P **PKiKP 05 54 53.8 +1.5**
baz=65
B22K Teshekpuk Lake 150.41 336 P **PKiKP 05 54 52.5 +0.3**
baz=57
ILAR Eielson Array 150.44 323 PKPbc **PKPbc 05 54 51.1 -0.6**
comp=Z,5.8nm,0.7s,baz=19,slow=0.9,SNR=21
A22K Sinclair Lake 150.46 337 P **PKiKP 05 54 53.1 +0.7**
baz=54
H24K Noodor Dome 150.51 325 P **PKiKP 05 54 53.5 +0.8**
baz=71,SNR=5.8
HDA Harding Lake 150.56 322 P **PKiKP 05 54 52.5 -0.2**
baz=74,SNR=13
POKR Poker Plat Res 150.56 324 P **PKiKP 05 54 52.7 -0.1**
baz=73
A21K Barrow 150.69 338 P **PKiKP 05 54 54.0 +1.2**
baz=52
KLU Klutina 150.73 316 P **PKiKP 05 54 53.2 -0.2**
baz=81,SNR=9.4
M24K Tolsona, Glenn 150.74 318 P **PKiKP 05 54 53.7 +0.4**
baz=79
EYAK Cordova Ski Ar 150.79 314 P **PKiKP 05 54 53.5 +0.2**
baz=82
COLA College 150.81 324 P **PKiKP 05 54 53.7 +0.5**
baz=73
COLD Coldfoot 150.87 329 P **PKiKP 05 54 53.9 +0.6**
baz=66
D22K Ayikyak River 150.95 333 P **PKiKP 05 54 53.9 +0.4**
baz=60
G23K Bananza Creek 151.01 328 P **PKiKP 05 54 54.0 +0.3**
baz=67,SNR=6.0
DHY Denali Highway 151.08 320 P **PKiKP 05 54 55.2 +1.1**
baz=76
B21K Ikpikpuk River 151.15 335 P **PKiKP 05 54 54.7 +0.9**
baz=57
H23K Yukon River 151.16 326 P **PKiKP 05 54 54.9 +0.9**
baz=69
Q23K Middleton Isla 151.22 312 P **PKiKP 05 54 54.5 +0.2**
baz=84
I23K Minto, Yukon-K 151.33 324 P **PKiKP 05 54 54.8 +0.5**
baz=70
SCM Sheep Creek Mo 151.33 317 P **PKiKP 05 54 55.0 +0.4**
baz=79
WAT6 Susitna Watana 151.36 319 P **PKiKP 05 54 55.2 +0.5**
baz=77
NEA2 Nenana 151.39 323 P **PKiKP 05 54 55.4 +0.9**
baz=72
GLI Glacier Island 151.39 315 P **PKiKP 05 54 55.2 +0.6**
baz=81
F22K John River 151.44 330 P **PKiKP 05 54 55.6 +1.0**
baz=63
C21K Knifeblade Rid 151.45 334 P **PKiKP 05 54 55.8 +1.3**
baz=57
G22K Bettles 151.46 329 P **PKiKP 05 54 55.6 +1.1**
baz=65
M23K Glacier View 151.53 317 P **PKiKP 05 54 55.9 +1.1**
baz=78
E21K Killik River 151.58 332 P **PKiKP 05 54 55.8 +1.0**
baz=59
MCK McKinley 151.59 322 P **PKiKP 05 54 55.8 +0.9**
baz=73
B20K Meade River 151.65 336 P **PKiKP 05 54 56.1 +1.3**
baz=53
WAT1 Susitna Watana 151.66 320 P **PKiKP 05 54 55.7 +0.5**
baz=76
H22K Ishtalitna Cre 151.84 327 P **PKiKP 05 54 56.4 +1.0**
baz=67
MLY Manley 151.91 325 P **PKiKP 05 54 56.4 +0.8**
baz=69
KNK Knik Glacier 151.94 317 P **PKiKP 05 54 56.5 +0.7**
baz=78
PWL Port Wells 151.99 315 P **PKiKP 05 54 56.8 +0.9**
baz=79
F21K Alatna River 152.02 330 P **PKiKP 05 54 56.6 +0.8**
baz=62
PMR Palmer 152.22 317 P **PKiKP 05 54 56.8 +0.5**
baz=77
D20K Etivluk River 152.25 334 P **PKiKP 05 54 56.9 +0.7**
baz=55
TRF Thorofare Moun 152.25 321 P **PKiKP 05 54 58.0 +1.5**
baz=72
BPAW Bear Paw Mtn. 152.34 323 P **PKiKP 05 54 57.6 +1.1**
baz=70
I21K Tanana 152.35 325 P **PKiKP 05 54 57.4 +1.0**
baz=67
G21K Allakaket 152.35 329 P **PKiKP 05 54 57.0 +0.6**
baz=63
E20K Nigu River 152.38 333 P **PKiKP 05 54 57.8 +1.3**
baz=57
H21K Melozitna Rive 152.47 327 P **PKiKP 05 54 57.7 +1.0**
baz=65
CUT Chulitna 152.54 319 P **PKiKP 05 54 57.8 +0.9**
baz=74
A19K Wainwright 152.54 339 P **PKiKP 05 54 57.8 +1.1**
baz=47
RC01 Rabbit Creek A 152.62 316 P **PKiKP 05 54 58.0 +0.9**
baz=77
M22K Willow 152.64 318 P **PKiKP 05 54 58.2 +1.1**
baz=76
SEW Seward 152.68 314 P **PKiKP 05 54 58.3 +1.1**
baz=80
D19K Kuna River 152.83 334 P **PKiKP 05 54 58.3 +0.9**
baz=54
F20K Avaraart Lake 152.87 331 P **PKiKP 05 54 58.5 +1.1**
baz=59
C19K Lookout Ridge 152.88 336 P **PKiKP 05 54 58.4 +0.9**
baz=51
CHUM Lake Minchumin 152.96 323 P **PKiKP 05 54 58.7 +1.0**
baz=69
SUA Susitna One 153.00 317 P **PKiKP 05 54 58.6 +0.5**
baz=76
E19K Redstone River 153.15 332 P **PKiKP 05 54 58.7 +0.6**
baz=57
SKT Skwentna 153.23 319 P **PKiKP 05 54 59.5 +1.1**
baz=74
PPLA Purkeypile 153.24 321 P **PKiKP 05 54 59.3 +0.7**
baz=71
B18K Kokolik River 153.30 338 P **PKiKP 05 54 59.7 +1.4**
baz=47
H20K Anotleneega Mo 153.32 327 P **PKiKP 05 54 58.9 +0.4**
baz=63
CAPN Captain Cook N 153.37 316 P **PKiKP 05 54 59.7 +1.1**
baz=76
BRSE Bradley Lake S 153.38 314 P **PKiKP 05 54 59.7 +0.9**
baz=79
I20K Naaghedeneel 153.47 326 P **PKiKP 05 54 59.7 +1.0**
baz=65
J20K Nowinta River 153.60 324 P **PKiKP 05 54 60.0 +0.9**
baz=66
C18K Utukok River 153.62 336 P **PKiKP 05 55 00.5 +1.4**
baz=49
F19K Shaleruckit Mo 153.67 331 P **PKiKP 05 55 00.5 +1.4**
baz=57
N20K Mount Spurr 153.75 317 P **PKiKP 05 55 00.6 +1.0**
baz=74
SPCR Spurr Chakacha 153.75 317 P **PKiKP 05 55 00.2 +0.7**
baz=74
G19K Purcell Mounta 153.80 329 P **PKiKP 05 55 00.7 +1.3**
baz=59
H19K Roundabout Mou 153.88 328 P **PKiKP 05 55 01.0 +1.4**
baz=61
K20K Telida 153.88 322 P **PKiKP 05 55 00.9 +1.2**
baz=68
M20K Styx River 153.98 319 P **PKiKP 05 55 00.9 +0.8**
baz=72
L20K Farewell, AK 154.12 320 P **PKiKP 05 55 01.2 +1.0**
baz=70
E18K Tukpahlearik C 154.23 334 P **PKiKP 05 55 01.8 +1.5**
baz=52
O20K Slope Mountain 154.24 315 P **PKPbc 05 54 59.4 -1.2**
baz=76
MJAR Matsushiro Arr 154.69 103 PKP **PKPdf 05 54 54.3 +0.7**
comp=Z,0.5nm,0.3s,baz=233,slow=1.4,SNR=1.5
MJAR PKPab **PKPab 05 55 16.1 -1.0**
comp=Z,0.7nm,0.3s,baz=230,slow=4.1,SNR=6.2
YSS Yuzhno-Sakhali 161.83 80 *e*PKP2 **PKPab 05 55 46.9 -0.8**
YSS pmax pmax
comp=Z,20nm,1.1s
PET Petropavlovsk 170.74 44 *e*PKP2 **PKPab 05 56 30.8 +4.0**
PET *e* 06 00 22.5
PET *e*SS SS 06 21 22.6 +2.3

HVO ***07*** *05:58:44.4±1.3, 19°.417N±0°.005×155°.283W±0°.007, h-0km±2km, ML3.2/40, ML3.0/37(NEIC), Error ellipse: s-maj=0.9km s-min=0.7km az=77.0*
NEIC 07 05:58:45.3±1.6, 19°.409N±0°.007×155°.295W±0°.007, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.1km az=163.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.01**	**243**			Pg	05 58 45.4	-1.0

WRMHI					Sg		05 58 46.5	-0.7
UWE	**Uwekahuna**	**0.01**	**9**		Pg		05 58 45.3	-1.2
OBL	**Observatory Le**	**0.01**	**51**		Sg		05 58 44.7	-1.7
OBL					Sg		05 58 45.1	-2.1
SDHHI	**Sand Hill**	**0.02**	**177**		Pg		05 58 45.7	-0.7
SDHHI					Sg		05 58 47.1	-0.1
UWB	**Uwekahuna Bluf**	**0.02**	**46**		Pg		05 58 44.9	-1.5
UWB					Sg		05 58 45.3	-2.0
RIM	**Rim**	**0.02**	**124**		Pg		05 58 45.7	-0.8
RIM					Sg		05 58 46.4	-0.9
KKO	**Keanakako'i**	**0.03**	**112**		Pg		05 58 45.7	-0.8
KKO					Sg		05 58 46.3	-1.1
SBLHI	**Steaming Bluff**	**0.03**	**55**		Pg		05 58 45.2	-1.3
SBLHI					Sg		05 58 45.9	-1.6
BYL	**Byron's Ledge**	**0.03**	**85**		Pg		05 58 45.6	-0.9
BYL				Sg	Sg		05 58 47.7	+0.2
HATHI	**Halema'uma'u T**	**0.04**	**66**		Pg		05 58 45.4	-1.2
HATHI	**Halema'uma'u T**	**0.04**	**66**		Sg		05 58 46.4	-1.0
HATHI	**Halema'uma'u T**	**0.04**	**66**	IAML			05 58 45.5	
	comp=N,87nm,1.0s							
RSD	**Rainshed**	**0.06**	**17**		Pg		05 58 46.1	-0.7
RSD					Sg		05 58 47.8	-0.2
PUH	**Pauahi**	**0.08**	**115**		Pg		05 58 47.0	-0.2
PUH	**Pauahi**	**0.08**	**115**	IAML			05 58 47.9	
	comp=E,767nm,0.6s							
PUH				IAML			05 58 48.1	
	comp=N,2µm,0.4s							
PUH					Sg	Sg	05 58 48.8	+0.2
HLP	**Hilina Pali**	**0.11**	**186**			Pg	05 58 48.0	+0.3
HLP				IAML			05 58 51.0	
	comp=E,7µm,0.5s							
MLH	**Mauna Loa**	**0.12**	**315**			Pg	05 58 48.1	+0.2
MLH				IAML			05 58 51.0	
	comp=E,5µm,0.4s							
KNHH	**Kane Nui o Ham**	**0.12**	**104**		Pg		05 58 47.4	-0.5
AIN	**Ainahou**	**0.16**	**257**		Pg		05 58 49.2	+0.7
AIN				IAML			05 58 53.5	
	comp=N,4µm,0.5s							
STCH	**Steam Cracks**	**0.16**	**98**		Pg		05 58 48.0	-0.6
STCH				IAML			05 58 52.6	
	comp=N,6µm,0.5s							
NPOC	**North of Pu'u**	**0.18**	**95**		Pg		05 58 48.5	-0.4
NPOC					Sg		05 58 52.4	+1.2
JCUZ	**Jacuzzi**	**0.18**	**98**		Pg		05 58 48.8	-0.2
JCUZ					Sg		05 58 52.4	+0.9
HTC	**Hot Caves**	**0.20**	**210**		Pg		05 58 49.5	+0.3
HMH	**Humu'ula Sheep**	**0.26**	**317**		Pg		05 58 50.7	+0.1
HMH				IAML			05 58 56.6	
	comp=N,2µm,0.6s							
HMH				IAML			05 58 57.0	
	comp=E,3µm,0.5s							
JOKA	**Jonika Flow**	**0.28**	**85**		Pg		05 58 49.9	-0.8
JOKA				IAML			05 58 57.7	
	comp=N,4µm,0.9s							
JOKA				IAML			05 58 58.9	
	comp=E,2µm,0.9s							
JOKA	**Jonika Flow**	**0.28**	**85**		Sg		05 58 55.4	+1.0
MWH	**Mokuaweoweo**	**0.29**	**285**		Pg		05 58 51.5	+0.2
KHU	**Kahuku**	**0.34**	**242**		Pg		05 58 51.9	-0.1
KHU					Sb		05 58 59.1	-0.8
ALEP	**Alea Permanent**	**0.35**	**292**		Pg		05 58 52.0	-0.3
ALEP					Sg		05 58 58.6	+1.6
HPO	**Honuapo**	**0.40**	**218**		Pg		05 58 53.9	+0.8
HPO					Sb		05 59 01.6	+0.2
POHA	**Pohakuloa**	**0.41**	**327**		Pg		05 58 53.6	+0.3
POHA				IAML			05 59 06.2	
	comp=E,3µm,1.0s							
POHA	**Pohakuloa**	**0.41**	**327**		Sg		05 59 00.4	+1.6
HUH	**Hualalai**	**0.58**	**298**		Pg		05 58 56.6	+0.1
CPH	**Captain Cook**	**0.59**	**278**		Pg		05 58 56.5	-0.2
HPAH	**Hawaii Prepara**	**0.72**	**329**	Pg	Pg		05 58 57.7	-1.6
HPAH				IAML			05 59 19.9	
	comp=E,999nm,0.8s							
HPAH				IAML			05 59 23.7	
	comp=N,884nm,0.9s							
HPAH	**Hawaii Prepara**	**0.72**	**329**		Sg		05 59 08.7	0.0
MHA	**Mahukona**	**0.96**	**324**	Pg	Pg		05 59 01.6	-2.2

*NOU **07** 07:00:40.4, 37°.14S×177°.00E, h265km, MLv4.0/14, North Island, New Zealand*
*WEL **07** 07:00:46.3±1.1, 37°.5±4°×17°.7E±°, h209km±8km, M3.1/12, ML3.2/7, MLv3.1/12, Error ellipse: s-maj=7.6km s-min=4.7km az=97.8, confirmed*

ISC 07 07:00:40.6±2.2, 37°.21S±0°.07×176°.87E±0°.07, h252km±12km, n114, σ1§87/144, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.71**	**223**	P	**Pn**	**07 01 16.8**	**+2.4**
MARZ	**Manawahe**	**0.79**	**191**	P	**Pn**	**07 01 16.5**	**+1.8**
HAZ	**Te Kaha**	**0.91**	**127**	P	**Pn**	**07 01 16.2**	**+0.9**
HAZ				S	**S**	**07 01 40.4**	**-2.1**
RUGZ	**Raukumara Rang**	**0.99**	**140**	P	**Pn**	**07 01 17.0**	**+0.6**
RUGZ				S	**S**	**07 01 39.8**	**-3.8**
KUZ	**Kuaotunu**	**1.03**	**296**	P	**Pn**	**07 01 16.5**	**+0.6**
KUZ	**Kuaotunu**	**1.03**	**296**	P	**Pn**	**07 01 16.4**	**+0.4**
URZ	**Urewera**	**1.07**	**170**	P	**Pn**	**07 01 17.1**	**+1.0**
URZ	**Urewera**	**1.07**	**170**	P	**Pn**	**07 01 17.1**	**+1.0**
URZ				S	**S**	**07 01 41.4**	**-2.7**
PKGZ	**Pakihiroa**	**1.17**	**125**	P	**Pn**	**07 01 18.7**	**+2.0**
PKGZ				S	**S**	**07 01 44.0**	**-1.2**
MXZ	**Matakaoa Point**	**1.20**	**108**	P	**Pn**	**07 01 18.3**	**+1.4**
MXZ	**Matakaoa Point**	**1.20**	**108**	P	**Pn**	**07 01 18.5**	**+1.6**
MXZ				S	**S**	**07 01 43.9**	**-1.6**
TOZ	**Tahuroa Road**	**1.21**	**244**	P	**Pn**	**07 01 18.3**	**+1.4**
MUGZ	**Murupara**	**1.27**	**184**	P	**Pn**	**07 01 18.7**	**+1.4**
MUGZ				S	**S**	**07 01 43.4**	**-3.1**
RAGZ	**Rawiri**	**1.36**	**162**	P	**Pn**	**07 01 20.1**	**+2.0**
RAGZ				S	**S**	**07 01 46.1**	**-1.6**
MKAZ	**Moumakai**	**1.37**	**274**	P	**Pn**	**07 01 19.2**	**+1.2**
WMGZ	**Waiomatatini S**	**1.37**	**117**	P	**Pn**	**07 01 20.2**	**+2.1**
WMGZ				S	**S**	**07 01 46.7**	**-0.8**
PUZ	**Puketiti**	**1.40**	**128**	P	**Pn**	**07 01 20.2**	**+1.9**
PUZ				S	**S**	**07 01 46.1**	**-1.9**
RTZ	**Ruatahuna**	**1.41**	**176**	P	**Pn**	**07 01 19.9**	**+1.5**
WIAZ	**Waiheke Island**	**1.45**	**286**	P	**Pn**	**07 01 19.7**	**+1.1**
TLZ	**Tolley Road**	**1.54**	**223**	P	**Pn**	**07 01 21.3**	**+2.0**
SNGZ	**Shannon Statio**	**1.61**	**167**	P	**Pn**	**07 01 21.9**	**+2.0**
SNGZ				S	**S**	**07 01 49.9**	**-1.1**
MTHZ	**Maungataniwha**	**1.64**	**181**	P	**Pn**	**07 01 21.8**	**+1.6**
MTHZ				S	**S**	**07 01 49.9**	**-1.5**
RIGZ	**Rimuhau**	**1.65**	**155**	P	**Pn**	**07 01 22.7**	**+2.5**
RIGZ				S	**S**	**07 01 51.3**	**-0.3**
CNGZ	**Carnagh Statio**	**1.66**	**141**	P	**Pn**	**07 01 23.0**	**+2.9**
CNGZ				S	**S**	**07 01 49.4**	**-2.1**
RAHZ	**Arahi**	**1.71**	**174**	P	**Pn**	**07 01 22.9**	**+2.2**
RAHZ				S	**S**	**07 01 51.5**	**-1.0**
RATZ	**Rangitukua**	**1.87**	**207**	P	**Pn**	**07 01 24.2**	**+2.2**
NMHZ	**Naumai**	**1.89**	**182**	P	**Pn**	**07 01 24.7**	**+2.5**
NMHZ				S	**S**	**07 01 54.5**	**-0.7**
WHHZ	**Waihua**	**1.89**	**171**	P	**Pn**	**07 01 24.5**	**+2.4**
WHHZ				S	**S**	**07 01 53.9**	**-1.0**
PRGZ	**Paritu Road**	**1.89**	**155**	P	**Pn**	**07 01 24.6**	**+2.4**
PRGZ				S	**S**	**07 01 53.9**	**-1.2**
KNZ	**Kokohu**	**1.92**	**161**	P	**Pn**	**07 01 24.4**	**+2.0**
RITZ	**Rihia Road**	**1.94**	**204**	P	**Pn**	**07 01 24.9**	**+2.3**
RITZ				S	**S**	**07 01 55.4**	**-0.5**
BKZ	**Black Stump Fm**	**1.98**	**189**	P	**Pn**	**07 01 24.5**	**+1.5**
BKZ	**Black Stump Fm**	**1.98**	**189**	P	**Pn**	**07 01 24.5**	**+1.5**
ARHZ	**Aropaoanui**	**2.05**	**177**	P	**Pn**	**07 01 26.1**	**+2.5**
ARHZ				S	**S**	**07 01 56.6**	**-1.0**
HIZ	**Hauiti**	**2.06**	**230**	P	**Pn**	**07 01 26.2**	**+2.5**
HIZ	**Hauiti**	**2.06**	**230**	P	**Pn**	**07 01 26.1**	**+2.5**
MHGZ	**Mahia Peninsul**	**2.11**	**157**	P	**Pn**	**07 01 26.6**	**+2.5**
TMVZ	**Te Maari**	**2.12**	**205**	P	**Pn**	**07 01 26.6**	**+2.3**
ETVZ	**East Tongariro**	**2.13**	**205**	P	**Pn**	**07 01 26.5**	**+2.2**
ETVZ				S	**S**	**07 01 58.5**	**-0.7**
WTVZ	**West Tongariro**	**2.15**	**208**	P	**Pn**	**07 01 26.9**	**+2.2**
NNVZ	**North Ngauruho**	**2.16**	**207**	P	**Pn**	**07 01 27.0**	**+2.3**
OTVZ	**Oturere**	**2.17**	**206**	P	**Pn**	**07 01 27.2**	**+2.3**
TWVZ	**Taurewa**	**2.18**	**211**	P	**Pn**	**07 01 27.0**	**+2.1**
SNVZ	**South Ngauruho**	**2.20**	**206**	P	**Pn**	**07 01 27.5**	**+2.4**
NGZ	**Ngauruhoe**	**2.20**	**207**	P	**Pn**	**07 01 27.7**	**+2.5**
MCHZ	**McNeill Hill**	**2.24**	**183**	P	**Pn**	**07 01 27.8**	**+2.5**
KWHZ	**Kaweka Forest**	**2.24**	**189**	P	**Pn**	**07 01 27.5**	**+2.1**
COVZ	**Chateau Observ**	**2.25**	**207**	P	**Pn**	**07 01 27.7**	**+2.2**
TUVZ	**Tukino**	**2.27**	**205**	P	**Pn**	**07 01 27.8**	**+2.0**
FWVZ	**Far West T-bar**	**2.29**	**207**	P	**Pn**	**07 01 28.1**	**+2.0**
MAVZ	**Matarangi**	**2.30**	**206**	P	**Pn**	**07 01 28.3**	**+2.0**
WHVZ	**Whangaehu Hut**	**2.30**	**206**	P	**Pn**	**07 01 28.2**	**+2.0**
TRVZ	**Turoa**	**2.33**	**206**	P	**Pn**	**07 01 28.5**	**+2.0**
WNVZ	**Wahianoa**	**2.34**	**205**	P	**Pn**	**07 01 28.4**	**+1.9**
MOVZ	**Moawhango**	**2.36**	**201**	P	**Pn**	**07 01 28.2**	**+1.6**
WCZ	**Waipu Caves**	**2.40**	**301**	P	**Pn**	**07 01 28.3**	**+1.3**
PKVZ	**Pokaka**	**2.40**	**210**	P	**Pn**	**07 01 29.1**	**+2.1**
MTVZ	**Mangateitei**	**2.44**	**206**	P	**Pn**	**07 01 29.4**	**+2.1**
CKHZ	**Cape Kidnapper**	**2.45**	**176**	P	**Pn**	**07 01 28.8**	**+1.4**
CKHZ				S	**S**	**07 02 03.1**	**-1.4**
KRHZ	**Kereru**	**2.46**	**189**	P	**Pn**	**07 01 29.4**	**+1.8**
KRHZ				S	**S**	**07 02 02.6**	**-2.1**
VRZ	**Vera Road**	**2.54**	**220**	P	**Pn**	**07 01 31.3**	**+3.1**
KAHZ	**Kahuranaki**	**2.58**	**180**	P	**Pn**	**07 01 31.1**	**+2.4**
KAHZ				S	**S**	**07 02 06.8**	**-0.1**
PNHZ	**Pukenui**	**2.75**	**191**	P	**Pn**	**07 01 32.1**	**+1.6**
PNHZ				S	**S**	**07 02 08.4**	**-1.7**
PXZ	**Pawanui**	**2.82**	**180**	P	**Pn**	**07 01 33.0**	**+1.9**
PXZ				S	**S**	**07 02 09.8**	**-1.4**
WPHZ	**Waipukurau**	**2.87**	**187**	P	**Pn**	**07 01 33.5**	**+1.8**
WPHZ				S	**S**	**07 02 09.9**	**-2.4**
TSZ	**Takapari Road**	**2.93**	**194**	P	**Pn**	**07 01 34.1**	**+1.7**
TSZ				S	**S**	**07 02 12.0**	**-1.5**
LREZ	**Lake Rotokare**	**2.97**	**220**	P	**Pn**	**07 01 35.4**	**+2.6**
NEZ	**North Egmont**	**3.00**	**226**	P	**Pn**	**07 01 37.0**	**+3.7**
PKE	**Pukeiti**	**3.02**	**228**	P	**Pn**	**07 01 37.4**	**+4.1**
PREZ	**Palmer Road**	**3.02**	**224**	P	**Pn**	**07 01 37.3**	**+4.0**
PRHZ	**Porangahau**	**3.06**	**183**	P	**Pn**	**07 01 35.6**	**+1.9**
PRHZ				S	**S**	**07 02 14.1**	**-1.8**
KHEZ	**Kahui Hut**	**3.06**	**226**	P	**Pn**	**07 01 37.6**	**+3.7**
KHEZ	**Kahui Hut**	**3.06**	**226**	P	**Pn**	**07 01 38.1**	**+4.2**
DVHZ	**Dannevirke**	**3.13**	**190**	P	**Pn**	**07 01 35.9**	**+1.4**
DVHZ				S	**S**	**07 02 14.7**	**-2.7**
ANWZ	**Angora Road**	**3.26**	**185**	P	**Pn**	**07 01 37.9**	**+2.4**
ANWZ				S	**S**	**07 02 18.4**	**-1.4**
POWZ	**Post Office Ro**	**3.29**	**195**	P	**Pn**	**07 01 37.8**	**+1.5**
OUZ	**Omahuta**	**3.31**	**306**	P	**Pn**	**07 01 37.9**	**+1.3**
PRWZ	**Pori Road**	**3.41**	**192**	P	**Pn**	**07 01 39.5**	**+1.8**
BFZ	**Birch Farm**	**3.50**	**188**	P	**Pn**	**07 01 40.5**	**+1.9**
BFZ	**Birch Farm**	**3.50**	**188**	P	**Pn**	**07 01 40.3**	**+1.7**
MRZ	**Mangatainoka R**	**3.59**	**196**	P	**Pn**	**07 01 40.7**	**+1.1**
TIWZ	**Tintock**	**3.64**	**192**	P	**Pn**	**07 01 41.9**	**+1.6**
HOWZ	**Holdsworth Sta**	**3.83**	**196**	P	**Pn**	**07 01 43.2**	**+0.8**
OGWZ	**Otaki Gorge**	**3.84**	**200**	P	**Pn**	**07 01 43.6**	**+1.1**
KIW	**Kapiti Island**	**3.95**	**202**	P	**Pn**	**07 01 44.7**	**+0.8**
TMWZ	**Te Maipa**	**3.97**	**191**	P	**Pn**	**07 01 45.4**	**+1.4**
MTW	**Mount Morrison**	**4.08**	**195**	P	**Pn**	**07 01 46.1**	**+0.7**
CAW	**Cannon Point**	**4.14**	**199**	P	**Pn**	**07 01 46.8**	**+0.8**
DUWZ	**D'Urville Isla**	**4.26**	**212**	P	**Pn**	**07 01 48.3**	**+0.9**
TRWZ	**Traveller**	**4.28**	**192**	P	**Pn**	**07 01 48.7**	**+1.0**
PAWZ	**Paruwai Farm**	**4.32**	**195**	P	**Pn**	**07 01 48.6**	**+0.5**
WEL	**Wellington**	**4.38**	**201**	P	**Pn**	**07 01 49.7**	**+0.8**
MSWZ	**Moikau Station**	**4.39**	**196**	P	**Pn**	**07 01 49.5**	**+0.6**
SNZO	**South Karori**	**4.43**	**202**	P	**Pn**	**07 01 50.3**	**+0.9**
BHW	**Baring Head**	**4.47**	**200**	P	**Pn**	**07 01 50.4**	**+0.5**
TCW	**Tory Channel**	**4.47**	**206**	P	**Pn**	**07 01 50.8**	**+0.9**
PLWZ	**Palliser**	**4.53**	**196**	P	**Pn**	**07 01 51.2**	**+0.5**
TUWZ	**Tuamarina**	**4.79**	**207**	P	**Pn**	**07 01 55.4**	**+1.6**
NNZ	**Nelson**	**4.83**	**213**	P	**Pn**	**07 01 54.5**	**+0.2**
TKNZ	**Takaka Hill**	**4.88**	**217**	P	**Pn**	**07 01 55.4**	**+0.5**
QRZ	**Quartz Range**	**4.95**	**222**	P	**Pn**	**07 01 56.6**	**+0.9**
QRZ	**Quartz Range**	**4.95**	**222**	P	**Pn**	**07 01 56.1**	**+0.4**
BSWZ	**Blackbirch Sta**	**5.06**	**206**	P	**Pn**	**07 01 58.0**	**+0.9**
MRNZ	**Matariki Terra**	**5.26**	**216**	P	**Pn**	**07 02 00.1**	**+0.5**
THZ	**Tophouse**	**5.49**	**213**	P	**Pn**	**07 02 02.9**	**+0.6**
KHZ	**Kahutara**	**5.80**	**205**	P	**Pn**	**07 02 07.2**	**+1.1**
KHZ	**Kahutara**	**5.80**	**205**	P	**Pn**	**07 02 07.0**	**+0.9**
DSZ	**Denniston Nort**	**5.99**	**219**	P	**Pn**	**07 02 08.4**	**-0.2**
GVZ	**Greta Valley S**	**6.46**	**206**	P	**Pn**	**07 02 15.1**	**+0.7**
LTZ	**Lake Taylor**	**6.59**	**211**	P	**Pn**	**07 02 16.3**	**+0.3**
AMCZ	**Amberley**	**6.78**	**207**	P	**Pn**	**07 02 18.9**	**+0.6**
RPZ	**Rata Peaks**	**7.87**	**212**	P	**Pn**	**07 02 32.9**	**+0.8**
ODZ	**Otahua Downs**	**9.13**	**209**	P	**Pn**	**07 02 49.8**	**+1.8**
JCZ	**Jackson Bay**	**9.20**	**219**	P	**Pn**	**07 02 49.9**	**+0.8**

GCG 07 07:13:19.9±0.3, 12°.95N×90°.33W, h8km±10km, MD3.5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.09**	**29**	*i* P	Pg	07 13 40.1	-0.8
JAYA	**Jayaque - finc**	**1.11**	**51**	*i* P	Pg	07 13 39.9	-1.4
JAYA				*i* S	Sg	07 13 55.5	-0.2
MTO3	**Montecristo**	**1.72**	**33**	*i* P	Pn	07 13 50.3	-0.1
MTO3				*i* S	Sb	07 14 14.2	+0.3

*IDC **07** 07:38:56.3±1.2, 17°.46N×145°.56E, h309km±13km, mb3.3/18, mbtmp4.0/19, Error ellipse: s-maj=19.9km s-min=12.6km az=81.0*
*NEIC **07** 07:38:58.5±1.4, 17°.4N±0°.1×145°.45E±0°.09, h324km±13km, mb4.1/14, Error ellipse: s-maj=22.3km s-min=8.7km az=154.0*

ISC 07 07:38:55.9±0.6, 17°.50N±0°.07×145°.5E±0°.1, h300km, n36, σ1§12/40, mb3.7/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.92**	**188**	P	**Pn**	**07 40 03.6**	**+2.2**
	63nm,0.3s,baz=68,slow=5.4,SNR=16						
GUMO				S	**S**	**07 40 54.1**	**+0.3**
	124nm,0.3s,baz=6.7,slow=23,SNR=10						
MJAR	**Matsushiro Arr**	**20.02**	**343**	P	**P**	**07 43 06.5**	**-0.5**
	1.0nm,0.5s,baz=166,slow=10,SNR=4.2						
	1.0nm,0.5s						
JNU	**Nakatsue**	**20.35**	**323**	P	**P**	**07 43 09.8**	**-0.7**
JNU				IAmb	IAmb	07 43 34.4	
	comp=Z,7.3nm,1.0s						
JMM	**Marumori**	**20.70**	**350**	P	**P**	**07 43 14.8**	**+1.0**
JMM				IAmb	IAmb	07 43 17.2	
	comp=Z,17nm,1.0s						
YOJ	**Yonaguni jima**	**22.05**	**292**	P	**P**	**07 43 25.5**	**-0.9**
YHNB	**Yeheng**	**23.55**	**292**	P	**P**	**07 43 41.0**	**+0.9**
YHNB				IAmb	IAmb	07 43 59.7	
	comp=Z,11nm,1.0s						
KSRS	**Korea Array**	**25.16**	**326**	P	**P**	**07 43 56.4**	**+2.0**
	comp=Z,1.7nm,0.8s,baz=152,slow=11,SNR=2.2						
	comp=Z,1.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**28.94**	**340**	P	**P**	**07 44 29.4**	**+1.4**
	comp=Z,1.6nm,0.9s,baz=132,slow=10,SNR=1.8						
	comp=Z,1.6nm,0.9s						
PETK	**Petropavlovsk-**	**36.81**	**12**	P	**P**	**07 45 36.1**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=205,slow=14,SNR=1.5						
	comp=Z,1.4nm,0.8s						
WB0	**Warramunga Arr**	**38.59**	**197**	P	**P**	**07 45 50.1**	**-0.8**
WRA	**Warramunga Arr**	**38.77**	**197**	P	**P**	**07 45 50.2**	**-2.1**
WRA	**Warramunga Arr**	**38.77**	**197**	P	**P**	**07 45 51.7**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=6.5,slow=8.6,SNR=1.7						
WRA				PcP	**PcP**	**07 47 55.4**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=22,slow=3.5,SNR=1.4						
	comp=Z,0.1nm,0.4s						
LZDM	**Lanzhou Array**	**41.21**	**305**	P	**P**	**07 46 14.2**	**+1.6**
	comp=Z,3.2nm,0.4s,baz=133,slow=8.5,SNR=4.7						
	comp=Z,3.2nm,0.4s						
ASAR	**Alice Springs**	**42.44**	**196**	P	**P**	**07 46 23.2**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=8.8,slow=7.1,SNR=2.2						
ASAR				PcP	**PcP**	**07 48 07.8**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=13,slow=4.4,SNR=1.9						
	comp=Z,0.3nm,0.8s						
ULN	**Ulaanbaatar**	**43.57**	**323**	P	**P**	**07 46 31.3**	**+0.3**
ULN				IAmb	IAmb	07 46 32.8	
	comp=Z,3.4nm,0.8s						
SONM	**Songino Array**	**43.94**	**322**	P	**P**	**07 46 35.2**	**+1.3**
SONM	**Songino Array**	**43.94**	**322**	P	**P**	**07 46 34.3**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=133,slow=6.9,SNR=9.0						
	comp=Z,2.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.15**	**279**	P	**P**	**07 46 34.8**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=75,slow=11,SNR=1.3						
	comp=Z,0.5nm,0.3s						
ADK	**Adak**	**45.46**	**32**	P	**P**	**07 46 46.8**	**+1.2**
ZALV	**Zalesovo Beam**	**58.82**	**323**	P	**P**	**07 48 22.7**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=101,slow=7.7,SNR=4.1						
	comp=Z,0.9nm,0.5s						
MKAR	**Makanchi Array**	**59.12**	**314**	P	**P**	**07 48 26.0**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=95,slow=7.7,SNR=3.9						
MKAR				PcP	**PcP**	**07 49 09.2**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=113,slow=3.1,SNR=4.0						
	comp=Z,1.4nm,0.7s						
CNPM	**China Poot**	**61.61**	**31**	P	**P**	**07 48 42.3**	**+0.2**
CNPM				IAmb	IAmb	07 48 51.8	
	comp=Z,7.9nm,1.1s						
BRLK	**Bradley Lake**	**61.84**	**31**	P	**P**	**07 48 43.4**	**-0.1**
BRLK				IAmb	IAmb	07 49 07.9	
	comp=Z,6.5nm,0.9s						
KURK	**Kurchatov**	**62.01**	**319**		P	**07 48 44.8**	**0.0**
KURK				IAmb	IAmb	07 48 45.5	
	comp=Z,7.0nm,0.9s						
KURBB	**Kurchatov Arra**	**62.05**	**318**	P	**P**	**07 48 45.1**	**0.0**
	comp=Z,9.7nm,0.8s,baz=97,slow=7.0,SNR=105						
	comp=Z,9.7nm,0.8s						
IMAR	**Indian Mountai**	**62.41**	**24**	P	**P**	**07 48 47.7**	**+0.5**
PWL	**Port Wells**	**63.33**	**30**	P	**P**	**07 48 53.7**	**+0.4**
ILAR	**Eielson Array**	**64.83**	**26**	P	**P**	**07 49 01.4**	**-1.5**
	comp=Z,8nm,0.7s,baz=247,slow=6.3,SNR=6.5						
	comp=Z,0.8nm,0.7s						
BVAR	**Borovoye Array**	**67.25**	**321**	P	**P**	**07 49 18.4**	**-0.1**
	comp=Z,4.5nm,0.5s,baz=97,slow=7.4,SNR=23						
	comp=Z,4.5nm,0.5s						
HYT	**Haines Junctio**	**68.58**	**31**	P	**P**	**07 49 27.9**	**+1.2**
HYT				IAmb	IAmb	07 49 28.9	
	comp=Z,3.1nm,0.8s						
INK	**Inuvik**	**70.57**	**23**	P	**P**	**07 49 37.8**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=233,slow=4.0,SNR=4.3						
	comp=Z,1.3nm,0.8s						
YKA	**Yellowknife Ar**	**79.16**	**28**	P	**P**	**07 50 26.4**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=292,slow=5.9,SNR=3.9						
	comp=Z,1.1nm,0.9s						
ARCES	**ARCESS Array B**	**83.56**	**342**	P	**P**	**07 50 49.4**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=58,slow=3.0,SNR=3.8						
	comp=Z,1.7nm,0.8s						
FINES	**FINESS Array B**	**87.87**	**335**	P	**P**	**07 51 09.8**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=128,slow=3.1,SNR=4.1						
	comp=Z,0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**133.01**	**308**	PKP	**PKPdf**	**07 57 35.5**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=48,slow=2.1,SNR=1.5						
LPAZ	**La Paz**	**147.87**	**93**	PKPbc	**PKPbc**	**07 58 07.2**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=326,slow=5.7,SNR=5.1						

*KRNET **07** 07:43:58.1±0.1, 39°.13N×70°.90E, mb2.7*

ISC 07 07:43:57.3±3.0, 39°.0N±0°.1×71°.0E±0°.2, h10km, n4, σ1§13/8, 6C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.51**	**268**	⇑*i*P	**Pg**	**07 44 07.4**	**0.0**
GAR				⇑*i*S	**Sg**	**07 44 13.8**	**-0.4**
CHGR	**Chuyangaron**	**1.47**	**250**	⇓*i*P	**Pn**	**07 44 24.8**	**+0.9**
CHGR				⇑*i*S	**Sg**	**07 44 44.8**	**+0.3**
TRKS	**Terek-Say**	**2.51**	**3**	⇓*i*P	**Pn**	**07 44 39.1**	**+0.8**
TRKS				⇓*i*S	**Sn**	**07 45 09.6**	**+0.5**
KK31	**Karatay Array**	**4.09**	**355**	⇑P	**Pb**	**07 45 07.7**	**-1.8**
	0.4nm,0.4s,baz=175,slow=13,SNR=4.5						
KK31				⇑S	**Sg**	**07 46 09.9**	**+1.1**
	3.9nm,0.7s,baz=172,slow=30,SNR=11						

*JMA **07** 08:01:46.3±0.1, 39°.6N±0°.2×142°.1E±0°.6, h48km, MD4.0/35, MV4.2/35, E OFF IWATE PREF*
JMA Felt II J1 at E OFF IWATE PREF .
*NIED **07** 08:01:46.3, 39°.64N×142°.11E, h48km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}5.24; $M_{\theta\theta}$-0.64;

NB2	**NORSAR Subarra**	**72.05**	**337**	P	**P**	**08**	**13**	**04.3 -0.1**
	comp=Z,0.6nm,0.5s,baz=36,slow=6.2							
NOA	**NORSAR Array B**	**72.05**	**337**	P	**P**	**08**	**13**	**03.8 -0.7**
	comp=Z,0.8nm,0.5s,baz=52,slow=7.0,SNR=4.5							
	comp=Z,0.8nm,0.5s							
AKASG	**Malin Array Be**	**72.65**	**322**	P	**P**	**08**	**13**	**07.7 -0.4**
	comp=Z,0.9nm,0.5s,baz=45,slow=6.2,SNR=6.3							
	comp=Z,0.9nm,0.5s							
PDAR	**Pinedale Array**	**75.42**	**46**	P	**P**	**08**	**13**	**26.1 +1.4**
	comp=Z,0.3nm,0.7s,baz=318,slow=2.0,SNR=4.3							
	comp=Z,0.3nm,0.7s							

IDC 07 08:24:52.5±3.8, 20.94S×176.07W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=277.7km s-min=71.0km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.18**	**257**	P	P	08 33 19.9	+0.4
	0.7nm,0.5s,baz=95,slow=8.0,SNR=11						
ASAR				PcP	PcP	08 34 54.5	-1.0
	0.5nm,1.0s,baz=110,slow=3.0,SNR=1.6						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**46.33**	**262**	P	P	08 33 20.1	-0.5
	0.4nm,0.3s,baz=98,slow=8.0,SNR=11						
	0.4nm,0.3s						
AKASG	**Malin Array Be**	**144.26**	**332**	PKP	PKPdf	08 44 30.6	+0.2
	0.5nm,0.4s,baz=45,slow=3.3,SNR=5.3						

TRN 07 08:32:55.0, 15.90N×60.80W, h29km, MD3.5, North-east of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DSDZ	**La Diserade, G**	**0.48**	**328**	*e*P	Pn	08 33 06.3	+0.3
DSDZ				*e*S	Sn	08 33 13.8	+0.3
DWS	**Wesley**	**0.59**	**236**	*e*P	Pn	08 33 08.4	+0.9
DWS				*e*S	Sn	08 33 19.6	+3.4
DSLB	**Salisbury**	**0.76**	**233**	*e*P	Pn	08 33 11.4	+1.6
DSLB				*e*S	Sn	08 33 22.0	+1.8
DLDT	**Laudat, Domini**	**0.78**	**223**	*e*P	Pn	08 33 11.2	+1.1
DLDT				*e*S	Sn	08 33 22.8	+2.0
MDN	**Morne-Daniel**	**0.81**	**225**	*e*P	Pb	08 33 12.1	+1.5
MDN				*e*S	Sn	08 33 23.8	+2.1
TBG	**Guadaloupe-3**	**0.82**	**267**	*e*P	Pb	08 33 12.6	+1.9
TBG				*e*S	Sn	08 33 24.4	+2.7
MMLZ	**Guadeloupe Bro**	**0.85**	**280**	*e*P	Pb	08 33 12.7	+1.5
MMLZ				*e*S	Sn	08 33 26.0	+3.5
ATGZ	**Broadband at L**	**0.91**	**282**	*e*P	Pb	08 33 14.1	+1.8
ATGZ				*e*S	Sn	08 33 27.3	+3.2
DHSZ	**Broadband at M**	**1.00**	**292**	*e*P	Pb	08 33 15.2	+1.5
DHSZ				*e*S	Sb	08 33 28.7	+2.2
SVN	**Savane Anatole**	**1.11**	**199**	*e*P	Pb	08 33 16.8	+1.1
SVN				*e*S	Sb	08 33 31.1	+1.3
ILAM	**Ilet Lapin Mar**	**1.12**	**184**	*e*P	Pb	08 33 16.5	+0.7
ILAM				*e*S	Sb	08 33 30.8	+0.8
BIM	**Bigot**	**1.40**	**191**	*e*P	Pb	08 33 21.2	+0.6
BIM				*e*S	Sb	08 33 38.5	+0.4
MBFL	**Flemmings, Mon**	**1.60**	**302**	*e*P	Pb	08 33 23.6	-0.2
MBFL				*e*S	Sb	08 33 42.8	-0.9
SLBI	**Saint Lucia, B**	**1.88**	**185**	*e*P	Pb	08 33 27.3	-1.3
SLBI				*e*S	Sb	08 33 49.7	-1.9

*IDC **07** 08:40:38.7±2.5, 4.69S×143.81E, h157km±21km, mb3.6/5, mbtmp4.0/8, Error ellipse: s-maj=43.8km s-min=26.1km az=51.0*

ISC 07 08:40:37.3±1.6, 4.7S±0.2×143.8E±0.2, h150km, n8, σ3°10/10, mb3.8/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.81**	**305**	P	**Pn**	**08**	**41**	**36.6 +1.5**
	5.0nm,0.4s,baz=203,slow=12,SNR=6.8							
JAY				S	**Sn**	**08**	**42**	**14.8 -5.2**
	6.7nm,0.4s,baz=80,slow=21,SNR=2.0							
PMG	**Port Moresby**	**5.72**	**145**	P	**Pn**	**08**	**42**	**01.6 +1.3**
	3.0nm,0.3s,baz=109,slow=19,SNR=1.9							
PMG				S	**Sn**	**08**	**42**	**59.4 -5.8**
	4.5nm,0.4s,baz=289,slow=23,SNR=1.4							
WRA	**Warramunga Arr**	**17.75**	**211**	P	**Pn**	**08**	**44**	**35.5 +0.2**
	3.5nm,0.4s,baz=31,slow=11,SNR=29							
ASAR	**Alice Springs**	**21.15**	**206**	P	**P**	**08**	**45**	**11.4 +0.7**
	1.7nm,0.5s,baz=22,slow=12,SNR=36							
	1.7nm,0.5s							
STKA	**Stephens Creek**	**27.12**	**184**	P	**P**	**08**	**46**	**07.3 +1.0**
	3.7nm,1.1s,baz=0.0,slow=13,SNR=3.8							
	3.7nm,1.1s							
VNDA	**Vanda**	**73.41**	**176**	P	**P**	**08**	**51**	**52.4 0.0**
	0.5nm,0.8s,baz=318,slow=6.8,SNR=3.7							
	0.5nm,0.8s							
MAW	**Mawson**	**82.23**	**202**	P	**P**	**08**	**52**	**42.0 +0.6**
	0.7nm,0.5s,baz=72,slow=9.6,SNR=6.4							
	0.7nm,0.5s							
QSPA	**South Pole Qui**	**85.26**	**180**	P	**P**	**08**	**52**	**58.1 +1.1**
	1.8nm,0.6s,baz=348,slow=0.8,SNR=20							
	1.8nm,0.6s							

*SJA **07** 09:13:27.8±0.8, 30.69S×71.92W, h14km±2km, ML3.7, MW3.6*

*GUC **07** 09:13:32.0±0.6, 30.75S×71.70W, h33km±2km, ML3.7*

ISC 07 09:13:31.3±1.1, 30.76S±0.02×71.75W±0.04, h33km±6km, n51, σ2°71/93, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.13**	**48**	*i*P	**Pb**	**09**	**13**	**37.2 -0.1**
CO06				*i* S	**Sb**	**09**	**13**	**40.7 -0.7**
CO02	**Combarbal**	**0.78**	**125**	⇓*i*P	**Pn**	**09**	**13**	**46.3 +0.2**
CO02				*i* S	**Sn**	**09**	**13**	**56.3 -0.5**
CO02				IAML		09 13 59.4		
	comp=N,10μm,0.1s							
CO02	**Combarbal**	**0.78**	**125**	*e*P	**Pn**	**09**	**13**	**46.4 +0.2**
CO02				*e*S	**Sb**	**09**	**13**	**57.2 +0.2**
CO02				IAML		09 13 58.9		
	comp=Z,3μm,0.5s							
CO03	**El Pedregal**	**0.91**	**95**	⇓*i*P	**Pn**	**09**	**13**	**48.1 +0.1**
CO03				*i* S	**Sn**	**09**	**13**	**59.9 -0.2**
CO03				IAML		09 14 00.7		
	comp=N,5μm,0.5s							
CO03	**El Pedregal**	**0.91**	**95**	*e*P	**Pn**	**09**	**13**	**48.1 +0.1**
CO03				*e*S	**Sb**	**09**	**14**	**00.2 -0.5**
CO03				IAML		09 14 00.6		
	comp=Z,2μm,0.3s							
CO05	**La Serena**	**0.95**	**28**	*e*P	**Pn**	**09**	**13**	**48.4 +0.1**
CO05				*i* S	**Sn**	**09**	**14**	**01.0 +0.3**
CO05				IAML		09 14 03.2		
	comp=E,4μm,0.2s							
GO04	**Tololo Observa**	**1.01**	**55**	⇓*i*P	**Pn**	**09**	**13**	**49.9 +0.5**
GO04				*i* S	**Sb**	**09**	**14**	**03.2 -0.3**
GO04	**Tololo Observa**	**1.01**	**55**	*e*P	**Pn**	**09**	**13**	**49.8 +0.5**
GO04				*e*S	**Sb**	**09**	**14**	**04.1 +0.6**
CO04	**Los Peladeros**	**1.44**	**153**	*e*P	**Pn**	**09**	**13**	**56.5 +1.1**
CO04				*i* S	**Sb**	**09**	**14**	**16.0 +0.1**
CO04				IAML		09 14 19.9		
	comp=N,2μm,0.2s							
CO01	**Juntas del Tor**	**1.63**	**62**	⇓*i*P	**Pb**	**09**	**13**	**59.6 -1.3**
CO01				*i* S	**Sb**	**09**	**14**	**20.3 -0.9**
CO01				IAML		09 14 22.4		
	comp=N,944nm,0.4s							
CO01	**Juntas del Tor**	**1.63**	**62**	*e*P	**Pb**	**09**	**13**	**59.7 -1.2**
CO01				*e*S	**Sb**	**09**	**14**	**21.6 +0.3**
CO01				IAML		09 14 21.6		
	comp=Z,768nm,0.5s							
VA06	**Catapilco**	**1.84**	**168**	*e*P	**Pn**	**09**	**14**	**01.8 +1.2**
LCO	**Las Campanas**	**1.97**	**28**	*e*P	**Pn**	**09**	**14**	**03.8 +1.2**
LCO				*e*S	**Sb**	**09**	**14**	**32.5 +1.6**
LCO				IAML		09 14 35.0		
	comp=Z,1μm,0.7s							
AROD	**Rodeo**	**2.05**	**74**	*e*P	**Pb**	**09**	**14**	**07.6 -0.5**
AROD				*e*S	**Sb**	**09**	**14**	**35.0 +1.6**
VA03	**San Esteban**	**2.24**	**153**	*e*P	**Pn**	**09**	**14**	**08.7 +2.4**
VA03				*i* S	**Sb**	**09**	**14**	**36.6 -2.0**
VA03				IAML		09 14 46.8		
	comp=E,1μm,0.5s							
VA03	**San Esteban**	**2.24**	**153**	*e*P	**Pn**	**09**	**14**	**08.7 +2.4**
VA03				*e*S	**Sb**	**09**	**14**	**39.3 +0.6**
VA03				IAML		09 14 48.2		
	comp=Z,460nm,0.3s							
VA01	**Torpederas**	**2.26**	**178**	*e*P	**Pn**	**09**	**14**	**07.5 +1.2**
VA01				IAML		09 14 43.8		
	comp=Z,200nm,0.4s							

ROCH	**El Roble**	**2.29**	**164**	*e*P	**Pn**	**09**	**14**	**08.6 +1.5**
ROCH				*i* S	**Sb**	**09**	**14**	**39.5 -0.8**
ROC1	**El Roble**	**2.29**	**164**	*e*P	**Pn**	**09**	**14**	**08.7 +1.6**
ROC1				*e*S	**Sb**	**09**	**14**	**42.3 +2.0**
ACCO	**Cerro Coronel**	**2.32**	**86**	*e*P	**Pb**	**09**	**14**	**12.1 -0.6**
ACCO				*e*S	**Sb**	**09**	**14**	**46.0 +5.0**
RTLS	**Leoncito**	**2.34**	**117**	*e*P	**Pb**	**09**	**14**	**12.7 -0.4**
RTLS				*e*S	**Sb**	**09**	**14**	**43.0 +1.4**
RTLS				IAML		09 14 50.5		
	comp=Z,1μm,0.5s							
ACDV	**Cuesta del Vie**	**2.34**	**76**	*e*P	**Pb**	**09**	**14**	**12.9 -0.1**
ACDV				IAML		09 14 50.8		
	comp=Z,240nm,0.9s							
PEL	**Peldehue**	**2.54**	**159**	*e*P	**Pn**	**09**	**14**	**12.8 +2.5**
PEL				*e*S	**Sn**	**09**	**14**	**34.6 -5.5**
PEL				IAML		09 14 57.2		
	comp=Z,231nm,0.4s							
MT02	**Curacav**	**2.54**	**168**	*e*P	**Pn**	**09**	**14**	**11.3 +0.9**
MT02				*i* S	**Sb**	**09**	**14**	**44.9 -2.4**
MT02				IAML		09 14 53.2		
	comp=E,443nm,0.1s							
MT02	**Curacav**	**2.54**	**168**	*e*P	**Pn**	**09**	**14**	**11.8 +1.5**
MT02				*e*S	**Sb**	**09**	**14**	**48.5 +1.3**
MT02				IAML		09 14 50.4		
	comp=Z,214nm,0.5s							
AC04	**Llanos de Chal**	**2.61**	**13**	*e*P	**Pn**	**09**	**14**	**11.7 +0.4**
AC04				*i* S	**Sn**	**09**	**14**	**43.6 +1.7**
AC04				IAML		09 14 57.3		
	comp=E,325nm,0.4s							
AC04	**Llanos de Chal**	**2.61**	**13**	*e*P	**Pn**	**09**	**14**	**11.8 +0.4**
AC04				*e*S	**Sn**	**09**	**14**	**44.4 +2.5**
AC04				IAML		09 15 00.3		
	comp=Z,177nm,0.3s							
MT05	**Renca**	**2.76**	**162**	*e*P	**Pn**	**09**	**14**	**16.9 +3.5**
MT05				*e*S	**Sn**	**09**	**14**	**48.6 +3.1**
MT05				IAML		09 15 05.5		
	comp=Z,294nm,0.7s							
SJA	**San Juan**	**2.84**	**106**	*e*P	**Pn**	**09**	**14**	**12.6 -1.8**
RTLL	**Cerro Villicun**	**2.87**	**102**	*e*P	**Pb**	**09**	**14**	**19.2 -2.6**
RTLL				*e*S	**Sb**	**09**	**14**	**55.5 -1.0**
RTLL				IAML		09 15 11.2		
	comp=Z,217nm,0.4s							
MT03	**Universidad Ad**	**2.92**	**159**	*e*P	**Pn**	**09**	**14**	**18.7 +3.1**
MT03				*e*S	**Sb**	**09**	**14**	**58.5 +0.4**
MT03				IAML		09 15 04.9		
	comp=Z,224nm,0.4s							
MT04	**Ro Olivares**	**2.97**	**153**	⇑*e*P	**Pn**	**09**	**14**	**20.1 +3.8**
MT04				*i* S	**Sb**	**09**	**14**	**56.7 -3.0**
MT04				IAML		09 15 04.9		
	comp=E,357nm,0.4s							
MT04	**Ro Olivares**	**2.97**	**153**	*e*P	**Pn**	**09**	**14**	**20.2 +3.8**
MT04				*e*S	**Sb**	**09**	**14**	**57.2 -2.5**
MT04				IAML		09 15 06.3		
	comp=Z,230nm,0.7s							
MT08	**Bocatoma Ro**	**3.05**	**152**	*e*P	**Pb**	**09**	**14**	**22.0 -3.2**
MT08				*e*S	**Sb**	**09**	**15**	**00.5 -1.6**
MT08				IAML		09 15 08.8		
	comp=Z,163nm,0.5s							
ASAL	**Salagasta**	**3.08**	**127**	*e*P	**Pn**	**09**	**14**	**17.6 -0.1**
ASAL				*e*S	**Sb**	**09**	**15**	**04.6 +1.9**
AGUA	**GUANDACOL**	**3.09**	**67**	*e*P	**Pb**	**09**	**14**	**24.0 -1.7**
AGUA				IAML		09 15 14.5		
	comp=Z,406nm,0.3s							
CFA	**Coronel Fontan**	**3.12**	**107**	*e*P	**Pn**	**09**	**14**	**22.0 +3.7**
CFA				*e*S	**Sb**	**09**	**15**	**02.6 -1.3**
MT01	**Popeta**	**3.12**	**172**	*e*P	**Pn**	**09**	**14**	**19.5 +1.2**
MT01				*e*S	**Sb**	**09**	**14**	**59.9 -4.0**
MT01				IAML		09 15 14.2		
	comp=Z,151nm,0.3s							
ARCO	**CERRO ARCO**	**3.17**	**132**	*e*P	**Pb**	**09**	**14**	**25.0 -2.1**
ARCO				*e*S	Sb	09 15 16.9	+12	
ARCO				IAML		09 15 18.3		
	comp=Z,184nm,0.7s							
MT13	**San Alfonso**	**3.22**	**158**	*e*P	**Pn**	**09**	**14**	**22.7 +3.0**
MT13				*e*S	**Sn**	**09**	**14**	**58.2 +1.1**
MT13				IAML		09 15 12.5		
	comp=Z,189nm,0.3s							
LMEL	**Las Melosas**	**3.34**	**157**	*e*P	**Pn**	**09**	**14**	**24.8 +3.3**
LMEL				*e*S	**Sn**	**09**	**15**	**03.6 +3.4**
LMEL				IAML		09 15 17.5		
	comp=Z,184nm,0.4s							
AAGR	**Agrelo**	**3.40**	**134**	*e*S	**Sb**	**09**	**15**	**19.8 +8.0**
GO03	**Copiapo**	**3.42**	**23**	*e*P	**Pn**	**09**	**14**	**24.0 +1.6**
GO03				*e*S	**Sn**	**09**	**15**	**04.5 +2.6**
GO03				IAML		09 15 21.7		
	comp=Z,223nm,0.4s							
BO01	**Tunca**	**3.66**	**171**	*e*P	**Pn**	**09**	**14**	**27.9 +2.2**
BO01				*e*S	**Sb**	**09**	**15**	**16.0 -3.4**
BO01				IAML		09 15 28.9		
	comp=Z,60nm,0.5s							
VCA	**Vinchina**	**3.68**	**58**	*e*P	**Pb**	**09**	**14**	**31.6 -4.2**
VCA				*e*S	**Sb**	**09**	**15**	**15.3 -4.7**
VCA				IAML		09 15 30.6		
	comp=Z,325nm,0.7s							
AVFE	**Valle Fertil**	**3.70**	**90**	*e*P	**Pn**	**09**	**14**	**29.6 +3.3**
AVFE				*e*S	**Sb**	**09**	**15**	**17.4 -3.1**
AVFE				IAML		09 15 24.1		
	comp=Z,128nm,0.4s							
BO02	**Sierra Bellavi**	**4.10**	**169**	*e*P	**Pn**	**09**	**14**	**34.3 +2.5**
BO02				*e*S	**Sb**	**09**	**15**	**26.8 -5.3**
BO02				IAML		09 15 36.8		
	comp=Z,111nm,0.6s							
ACLC	**CERRO LA CRUZ**	**4.36**	**73**	*e*P	**Pn**	**09**	**14**	**39.2 +3.7**
ACLC				*e*S	**Sb**	**09**	**15**	**32.1 -7.6**
ACLC				IAML		09 15 43.4		
	comp=Z,107nm,0.6s							
ACHE	**Chepes**	**4.38**	**97**	*e*P	**Pn**	**09**	**14**	**39.4 +3.7**
APLL	**PUNTA DE LOS L**	**4.51**	**87**	*e*P	**Pn**	**09**	**14**	**40.7 +3.2**
APLL				*e*S	**Sb**	**09**	**15**	**36.3 -7.6**
RFA	**San Rafael**	**4.86**	**146**	*e*P	**Pn**	**09**	**14**	**46.3 +4.0**
RFA				IAML		09 16 12.8		
	comp=Z,26nm,1.0s							

*NEIC **07** 09:22:35.6±0.5, 13.93N±0.08×144.5E±0.3, h191km±5km, mb4.1/6, Error ellipse: s-maj=36.1km s-min=7.1km az=103.0*

*IDC **07** 09:22:37.5±0.5, 13.85N×144.44E, h172km±8km, mb3.5/4, mbtmp4.0/4, Error ellipse: s-maj=50.2km s-min=20.3km az=73.0*

ISC 07 09:22:36.5±0.8, 13.5N±0.2×143.8E±0.1, h150km, n15, σ19°28/16, mb4.1/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.05**	**87**	P	**Pn**	**09**	**23**	**02.1 +0.4**
GUMO				Sn	**Sn**	**09**	**23**	**20.7 -0.2**
GUMO	**Guam**	**1.05**	**87**	P	**Pn**	**09**	**23**	**02.3 +0.7**
	161nm,0.3s,baz=198,slow=1.0,SNR=59							
GUMO				S	**Sn**	**09**	**23**	**20.8 0.0**
	172nm,0.3s,baz=152,slow=22,SNR=27							
BKB	**Balikpapan**	**30.45**	**243**	P	**P**	**09**	**28**	**36.4 +1.2**
WB0	**Warramunga Arr**	**34.36**	**196**	P	**P**	**09**	**29**	**08.8 -0.4**
WB0				IAmb	IAmb	09 29 36.5		
	comp=Z,2.6nm,1.1s							
WR8	**Warramunga Arr**	**34.52**	**196**	P	**P**	**09**	**29**	**10.0 -0.6**
WRAB	**Tennant Creek**	**34.53**	**196**	P	**P**	**09**	**29**	**10.0 -0.6**
WRAB				IAmb	IAmb	09 29 32.8		
	comp=Z,2.9nm,1.0s							
WRA	**Warramunga Arr**	**34.54**	**196**	P	**P**	**09**	**29**	**13.9 +3.1**
	comp=Z,0.2nm,0.5s,baz=16,slow=9.4,SNR=8.1							
WRA				PcP	**PcP**	**09**	**31**	**42.4 +0.1**
	comp=Z,0.5nm,1.1s,baz=17,slow=2.9,SNR=2.3							
	comp=Z,0.2nm,0.5s							
HIA	**Hailar**	**40.75**	**336**	P	P	09	29	56.8 -5.8
HIA				IAmb	IAmb	09 30 01.9		
	comp=Z,7.6nm,0.9s							
NWAO	**Narrogin (SRO)**	**52.71**	**208**	P	**P**	**09**	**31**	**34.7 -1.1**
NWAO				IAmb	IAmb	09 31 36.9		
	comp=Z,13nm,1.0s							
MKAR	**Makanchi Array**	**60.80**	**316**	P	P	09	32	28.4 -4.3
MKAR	**Makanchi Array**	**60.80**	**316**	P	**P**	**09**	**32**	**33.2 +0.5**
	comp=Z,0.7nm,0.5s,baz=95,slow=6.7,SNR=6.2							
	comp=Z,0.7nm,0.5s							
KURBB	**Kurchatov Arra**	**63.99**	**320**	P	**P**	**09**	**32**	**53.4 -0.4**
	comp=Z,1.8nm,0.6s,baz=101,slow=6.9,SNR=11							
	comp=Z,1.8nm,0.6s							
BVAR	**Borovoye Array**	**69.32**	**322**	P	**P**	**09**	**33**	**26.8 -0.7**
	comp=Z,1.5nm,0.4s,baz=109,slow=7.1,SNR=7.9							
	comp=Z,1.5nm,0.4s							
SNAA	**Sanae**	**118.53**	**191**	PKP	**PKPdf**	**09**	**41**	**03.4 -2.4**
	comp=Z,0.5nm,0.5s,baz=207,slow=4.5,SNR=10							
LPAZ	**La Paz**	**149.05**	**99**	PKPbc	**PKPdf**	**09**	**42**	**05.2 +0.9**
	comp=Z,1.1nm,0.7s,baz=270,slow=1.0,SNR=3.7							

*BGR **07** 09:35:43.9, 42.08N×146.06E, h33km, mb4.8*

*BJI **07** 09:35:43.9, 41.49N×142.59E, h45km, mB5.2/30, mb5.0/72, Ms4.6/58, Ms7 4.5/58*

*MOS **07** 09:35:49.1±1.0, 41.59N×142.02E, h55km, mb5.4/70, MS4.7/19, Error ellipse: s-maj=5.5km s-min=3.9km az=111.4*

*NEIC **07** 09:35:50.8, 41.49N×142.35E, h60km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10^16Nm; Mrr5.91; Mθθ-0.81; Mϕϕ-5.09; Mrθ1.96; Mθϕ-2.83; Mϕr2.96; Fault plane solution: M0 7.16000×10^16 NP1: ϕs202.16000°, δ30.35000°, λ83.04000°. NP2:ϕs30.22000°, δ59.89000°, λ94.06000°. Principal axes: T 6.8652, Plg75.0000°, Azm311.0000°; N 0.5634, Plg4.0000°, Azm208.0000°; P -7.4286, Plg15.0000°, Azm117.0000°;*

*NIED **07** 09:35:50.9, 41.57N×142.07E, h64km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr4.56; Mθθ-0.65; Mϕϕ-3.90; Mrθ1.99; Mθϕ-1.20; Mϕr4.79; Fault plane solution: M0 6.82000×10^16 NP1: ϕs195.00000°, δ20.00000°, λ84.00000°. NP2:ϕs21.00000°, δ70.00000°, λ92.00000°.*

*NEIC **07** 09:35:51.0±1.0, 41.59N±0.05×142.1E±0.1, h57km±4km, mb5.1/398, Mww5.2/21 Error ellipse: s-maj=12.1km s-min=5.2km az=115.0*

*JMA **07** 09:35:50.9±0.1, 41.6N±0.4×142.1E±0.5, h64km±1km, MD5.0/40, MW5.2/40, E OFF AOMORI PREF*

JMA Felt III J1 at E OFF AOMORI PREF .

*NEIC **07** 09:35:50.8, 41.59N×142.08E, h60km*

*IDC **07** 09:35:51.1±1.5, 41.58N×142.00E, h59km±12km, mb4.7/29, mbtmp4.9/33, MS4.3/80, Error ellipse: s-maj=13.0km s-min=8.7km az=111.0*

*GCMT **07** 09:35:52.0±0.1, 41.60N±0.01×142.19E±0.01, h58km, MW5.2/140, Moment Tensor Solution. s114, c191; s140, c251; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.67±.01; Mθθ-0.01±.01; Mϕϕ-0.66±.01; Mrθ0.23±.01; Mθϕ-0.20±.01; Mϕr0.51±.01; Best double couple: M0 0.88900×10^17 NP1:ϕs190.00000°, δ26.00000°, λ80.00000°. NP2:ϕs21.00000°, δ64.00000°, λ95.00000°. Principal axes: T 0.8670, Plg70.0000°, Azm301.0000°; N 0.0440, Plg4.0000°, Azm199.0000°; P -0.9100, Plg19.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 09:35:50.4±0.3, 41.55N±0.03×142.14E±0.03, h56km±2km, h56km:pP-P, n1216, σ1s37/1028, mb5.1/352, MS4.5/107, 58C-74D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.67**	**245**	⇓*i*P	**Pn**	**09**	**36**	**05.0 +1.0**
JAHD				⇓S	**Sn**	**09**	**36**	**15.3 +1.5**
JAHD	**Aomorihigashid**	**0.67**	**245**	A	A	09 36 05.0		
	comp=N,742nm,1.1s,comp=E,838nm,0.7s							
JARK	**Aomorirokkasho**	**0.79**	**228**	⇓*i*P	**Pn**	**09**	**36**	**06.1 +0.5**
JARK				⇓S	**Sn**	**09**	**36**	**17.4 +0.8**
JARK	**Aomorirokkasho**	**0.79**	**228**	A	A	09 36 06.1		
	comp=N,91nm,2.6s,comp=E,96nm,3.7s							
JOT	**Ohata**	**0.84**	**259**	⇓*i*P	**Pn**	**09**	**36**	**06.5 +0.4**
JOT				⇓*e*S	**Sn**	**09**	**36**	**17.9 +0.2**
JOT	**Ohata**	**0.84**	**259**	A	A	09 36 06.5		
	comp=N,52nm,4.4s,comp=E,41nm,3.7s							
JNBK	**Urakawa-nobuka**	**0.86**	**32**	*i* P	**Pn**	**09**	**36**	**07.1 +0.7**
JNBK	**Urakawa-nobuka**	**0.86**	**32**	A	A	09 36 07.1		
	comp=N,155nm,3.9s,comp=E,154nm,1.7s							
ERM	**Erimo**	**0.89**	**58**		**Pn**	**09**	**36**	**08.2 +1.4**
ERM	**Erimo**	**0.89**	**58**	P	**Pn**	**09**	**36**	**08.1 +1.3**
ERM	**Erimo**	**0.89**	**58**	*i* P	**Pn**	**09**	**36**	**07.8 +1.0**
JEM	**Erimo**	**0.89**	**58**	P	**Pn**	**09**	**36**	**08.3 +1.4**
JEM	**Erimo**	**0.89**	**58**	*i* P	**Pn**	**09**	**36**	**08.2 +1.3**
JEM				*e*S	**Sn**	**09**	**36**	**21.4 +2.4**
JEM	**Erimo**	**0.89**	**58**	A	A	09 36 08.2		
	comp=N,51nm,1.1s,comp=E,127nm,3.7s							
JKB	**Kayabe**	**0.90**	**293**	⇓*i*P	**Pn**	**09**	**36**	**06.8 -0.1**
JKB				⇓*e*S	**Sn**	**09**	**36**	**18.5 -0.5**
JKB	**Kayabe**	**0.90**	**293**	A	A	09 36 06.8		
	comp=N,22nm,1.9s,comp=E,22nm,3.6s							
JSHD	**Hidakashinhida**	**0.90**	**16**	A	A	09 36 07.8		
	comp=N,120nm,3.5s,comp=E,175nm,2.5s							
JIAM	**Iburiatsuma**	**1.09**	**351**	*i* P	**Pn**	**09**	**36**	**10.9 +1.4**
JIAM				S	**Sn**	**09**	**36**	**26.6 +3.1**
JIAM	**Iburiatsuma**	**1.09**	**351**	A	A	09 36 10.9		
	comp=N,118nm,0.6s,comp=E,192nm,1.1s							
JTM	**Tenmabayashi**	**1.11**	**227**		**Pn**	**09**	**36**	**10.8 +1.1**
JTM				Sn	**Sn**	**09**	**36**	**24.6 +0.6**
JTM	**Tenmabayashi**	**1.11**	**227**	P	**Pn**	**09**	**36**	**10.5 +0.9**
JTM	**Tenmabayashi**	**1.11**	**227**	⇓*i*P	**Pn**	**09**	**36**	**10.6 +0.9**
JTM				⇓S	**Sn**	**09**	**36**	**24.7 +0.7**
JTM	**Tenmabayashi**	**1.11**	**227**	A	A	09 36 10.6		
	comp=N,49nm,3.

comp=N,14nm,3.0s,comp=E,15nm,4.2s
JAK Akkeshi 2.39 52 A A 09 36 28.9
comp=N,29nm,2.4s,comp=E,33nm,2.4s
JRG Rokugo 2.44 209 A A 09 36 29.1
comp=N,14nm,3.0s,comp=E,19nm,4.7s
JYW Yuwa 2.49 217 A A 09 36 29.7
comp=N,30nm,3.8s,comp=E,27nm,2.7s
OFUJ Ofunato 2.49 188 A A 09 36 30.2
comp=N,9.0nm,2.4s,comp=E,16nm,3.0s
ASAJ Asahikawa 2.59 7 P **Pn 09 36 31.5 +1.6**
comp=E,427nm,0.3s,baz=204,slow=16,SNR=460
ASAJ S **Sn 09 37 01.6 +1.5**
comp=E,3μm,0.8s,baz=329,slow=26,SNR=11
ASAJ Asahikawa 2.59 7 A A 09 36 31.1
comp=N,15nm,4.5s,comp=E,15nm,6.0s
JKA Kamikawa-asahi 2.59 7 Pn 09 36 31.6 +1.7
JKA Sn **Sn 09 36 59.7 -0.4**
JMP Maruseppu 2.62 20 A A 09 36 31.7
comp=N,12nm,2.8s,comp=E,22nm,2.5s
JKHN Kushirohamanak 2.72 55 A A 09 36 33.5
comp=N,22nm,2.1s,comp=E,26nm,2.3s
JTKR Abashiri--Toko 2.75 28 A A 09 36 33.7
comp=N,13nm,2.4s,comp=E,22nm,1.9s
JKMT Kesennumamotoy 2.78 191 A A 09 36 34.2
comp=N,6.0nm,5.4s,comp=E,11nm,4.6s
JNK Nakash 2.79 42 A A 09 36 34.4
comp=N,9.0nm,1.9s,comp=E,10.0nm,1.8s
JOG3 Oga3 2.84 236 A A 09 36 28.5
comp=N,19nm,1.7s,comp=E,24nm,3.1s
JSS Shosan 2.86 356 A A 09 36 34.8
comp=N,20nm,5.7s,comp=E,22nm,3.3s
JYK Kaneyama 2.96 208 A A 09 36 36.5
comp=N,11nm,2.6s,comp=E,10.0nm,2.6s
JYYZ Yamagatayuza 3.04 214 A A 09 36 37.6
comp=N,19nm,2.3s,comp=E,18nm,3.8s
JNSB Nemuroshibetsu 3.07 43 A A 09 36 38.3
comp=N,33nm,3.5s,comp=E,18nm,4.3s
JOFO Osakifurukawao 3.09 198 A A 09 36 38.5
comp=N,49nm,2.4s,comp=E,48nm,2.9s
JIO Ouri 3.15 191 A A 09 36 39.4
comp=N,6.0nm,3.6s,comp=E,11nm,2.4s
NMR Nemuro--Hokkai 3.22 54⇓*i*P **Pn 09 36 37.9 -0.5**
NMR *i* S **Sn 09 37 13.2 -2.3**
JRA Rausu 3.25 42 A A 09 36 40.8
comp=N,14nm,1.9s,comp=E,14nm,2.4s
GLVR Golovnino 3.32 48⇓*i*P **Pn 09 36 40.4 +0.6**
GLVR *i* S **Sn 09 37 17.3 -0.6**
GLVR pmax pmax
comp=Z,2μm,0.5s
GLVR pmax pmax
comp=N,959nm,0.3s
GLVR pmax pmax
comp=E,741nm,0.2s
GLVR smax smax
comp=E,6μm,0.3s
GLVR smax smax
comp=N,11μm,0.4s
JOU Okura 3.37 200 A A 09 36 42.4
comp=N,10.0nm,1.8s,comp=E,9.0nm,2.5s
JSE Soyaes 3.43 5 A A 09 36 42.8
comp=N,7.0nm,5.7s,comp=E,9.0nm,3.5s
RUSJ Misakicho 3.43 41⇓*i*P **Pn 09 36 42.8 +1.5**
RUSJ *i* S **Sn 09 37 22.6 +1.9**
JYA Atsumi 3.49 213 A A 09 36 43.9
comp=N,18nm,1.2s,comp=E,13nm,3.6s
JRR Rishiri 3.64 351 A A 09 36 45.7
comp=N,30nm,4.4s,comp=E,31nm,3.4s
JYS Shirataka 3.68 206 A A 09 36 46.7
comp=N,12nm,2.9s,comp=E,12nm,3.2s
YUK Yuzh-Kuril'sk 3.70 47*d i*P **Pn 09 36 45.8 +0.8**
YUK *i* S **Sn 09 37 25.8 -1.5**
YUK pmax pmax
comp=Z,3μm,0.3s
YUK pmax pmax
comp=N,2μm,0.4s
YUK pmax pmax
comp=E,817nm,0.4s
YUK smax smax
comp=N,8μm,0.4s
YUK smax smax
comp=E,14μm,0.4s
JWK2 Keihoku 3.77 357 A A 09 36 47.6
comp=N,9.0nm,4.4s,comp=E,10.0nm,3.7s
JMM Marumori 3.82 196 Pn 09 36 47.4 +0.7
JMM Marumori 3.82 196 P **Pn 09 36 48.7 +2.0**
JMST Minamisoumatoc 3.94 195 A A 09 36 50.4
comp=N,7.0nm,4.7s,comp=E,8.0nm,2.8s
JYAR Yonezawaarcadi 3.94 204 A A 09 36 50.4
comp=N,16nm,1.2s,comp=E,13nm,1.0s
JFK Kawauchi 4.29 194 A A 09 36 55.3
comp=N,6.0nm,3.8s,comp=E,7.0nm,5.3s
JFY Yanaizu 4.54 205 A A 09 36 58.7
comp=N,4.0nm,3.2s,comp=E,4.0nm,3.9s
ONAJ Iwakimizuishiy 4.56 194 A A 09 36 59.1
comp=N,5.0nm,5.8s,comp=E,7.0nm,5.6s
JSD Sado 4.61 222 P **Pn 09 36 59.6 +2.2**
JIZZ Izumozaki 4.81 215 A A 09 37 02.3
comp=N,11nm,3.1s,comp=E,9.0nm,4.5s
JSB Shiboa 4.88 201 A A 09 37 03.6
comp=N,8.0nm,6.1s,comp=E,10.0nm,2.9s
YSS Yuzhno-Sakhali 5.42 4 Pn 09 37 10.5 +1.9
YSS Yuzhno-Sakhali 5.42 4 P **Pn 09 37 10.5 +1.9**
YSS Yuzhno-Sakhali 5.42 4*αe*P **Pn 09 37 10.5 +1.9**
YSS *e*S **Sn 09 38 11.1 +1.4**
YSS pmax pmax
comp=Z,1.0nm,4.9s
YSS pmax pmax
comp=N,500nm,3.6s
YSS pmax pmax
comp=E,200nm,4.1s
YSS pmax pmax
comp=Z,200nm,0.7s
YSS smax smax
comp=N,900nm,4.1s
YSS smax smax
comp=E,400nm,3.2s
YSS smax smax
comp=N,120nm,0.7s
YSS smax smax
comp=E,180nm,0.8s
YSS MLR MLR
comp=Z,3μm,11.0s
YSS MLR MLR
comp=N,2μm,12.0s
YSS MLR MLR
comp=E,2μm,15.0s
JAG Ashikaga 5.53 203 A A 09 37 12.5
comp=N,3.0nm,3.7s,comp=E,4.0nm,4.1s
KUR Kuril'sk 5.57 47 *e*P **Pn 09 37 10.9 +0.3**
KUR *e*S **Sn 09 38 13.0 -0.1**
KUR pmax pmax
comp=Z,459nm,0.6s
KUR smax smax
comp=E,662nm,0.6s
KUR smax smax
comp=N,526nm,0.5s
JGK Kuni 5.67 210 A A 09 37 14.4
comp=N,4.0nm,4.4s,comp=E,5.0nm,3.0s
JIHU Itakohorinouch 5.71 193 A A 09 37 15.3
comp=N,15nm,3.2s,comp=E,20nm,3.0s
MAJO Matsushiro 5.86 213 Pn 09 37 16.6 +2.0
MAJO Matsushiro 5.86 213 P **Pn 09 37 17.9 +3.3**
MAJO Matsushiro 5.86 213 *i* P **Pn 09 37 16.8 +2.2**
MJAR Matsushiro Arr 5.86 213 Pn 09 37 17.1 +2.4
MJAR Matsushiro Arr 5.86 213 P **Pn 09 37 16.8 +2.2**
comp=E,23nm,0.9s,baz=21,slow=14,SNR=50
MJAR LR LR 09 39 56.0
comp=E,3μm,21.4s,baz=28,slow=42
MJAR Matsushiro Arr 5.86 213 P **Pn 09 37 17.1 +2.4**
JGF Kuroka 7.02 214 Pn 09 37 32.9 +2.3
JGF Kuroka 7.02 214 P Pn 09 37 35.5 +4.9
INU Inuyama 7.38 215 Pn 09 37 36.8 +1.4
INU Inuyama 7.38 215 P **Pn 09 37 38.9 +3.5**
JSG Sagara 7.53 206 Pn **Pn 09 37 38.3 +0.7**
USA0B Ussuriysk Arra 7.91 293 *i* P **Pn 09 37 44.3 +1.6**
USRK Ussuriysk Ar. 7.91 293 Pn 09 37 42.9 +0.2
USRK Ussuriysk Ar. 7.91 293 P **Pn 09 37 43.4 +0.7**
comp=E,34nm,0.5s,baz=100,slow=16,SNR=70
USRK LR LR 09 40 48.9
comp=E,3μm,18.8s,baz=120,slow=38
MSHR Mys Shultsa 8.24 281 *i* P **Pn 09 37 46.7 -0.4**
PSTR Posyet 8.50 281 *i* P **Pn 09 37 49.6 -1.2**
JHJ Hachijo jima 2 8.62 193 P **Pn 09 37 51.1 -1.3**
comp=E,94nm,0.3s,baz=111,slow=23,SNR=12
JHJ S **Sn 09 39 23.1 -5.1**
comp=E,261nm,1.0s,baz=74,slow=23,SNR=2.3
JHJ LR LR 09 41 54.9
comp=E,664nm,21.2s,baz=34,slow=42
JHJ2 Mitsune 8.62 193 Pn **Pn 09 37 52.4 0.0**
TYV Tymovskoe 9.33 2 *e*P **Pn 09 38 03.4 +1.4**
TYV *e*S **Sn 09 39 47.6 +2.3**
TYV pmax pmax
comp=Z,200nm,2.9s
TYV pmax pmax
comp=Z,39nm,0.8s
TYV smax smax
comp=N,12nm,1.6s
TYV smax smax
comp=E,11nm,1.6s
TYV smax smax
comp=N,200nm,4.9s
TYV smax smax
comp=E,500nm,4.9s
TYV MLR MLR
comp=Z,1μm,20.0s
TYV MLR MLR
comp=N,2μm,20.0s
MDJ Mudanjiang 9.68 293 Pn 09 38 09.6 +2.7
MDJ Mudanjiang 9.68 293 P **Pn 09 38 10.5 +3.6**
MDJ S **Sn 09 40 02.7 +8.6**
MDJ pmax pmax
comp=N,130nm,2.2s
MDJ LR LR
comp=N,1μm,18.2s
MDJ LR LR
comp=N,3μm,22.6s
MDJ LR LR
comp=N,3μm,19.6s
MDJ Mudanjiang 9.68 293 P **Pn 09 38 09.5 +2.6**
GRNR Gornyy 10.04 339⇑*i*P **Pn 09 38 14.1 +2.3**
GRNR pmax pmax
comp=E,20nm,1.0s
GRNR pmax pmax
comp=N,30nm,0.8s
GRNR pmax pmax
comp=Z,30nm,0.9s
GRNR MLR MLR
comp=E,900nm,12.0s
GRNR MLR MLR
comp=N,1μm,18.0s
GRNR MLR MLR
comp=Z,1μm,17.0s
JMN Monobe 10.18 223 Pn 09 38 14.5 +0.7
JMN Monobe 10.18 223 P **Pn 09 38 17.5 +3.6**
BNX BinXian 11.47 296⇓P **Pn 09 38 34.1 +2.8**
BNX S **Sn 09 40 44.9 +7.1**
BNX pmax pmax
comp=Z,41nm,1.1s
BNX pmax pmax
comp=Z,380nm,4.4s
BNX LR LR
comp=Z,640nm,10.8s
BNX LR LR
comp=Z,1μm,16.3s
BNX LR LR
comp=Z,2μm,17.9s
NKL Nikolayevsk 11.65 356 *e*P **Pn 09 38 35.1 +1.4**
NKL *e*S **Sn 09 40 38.3 -3.8**
NKL pmax pmax
comp=E,132nm,0.9s
NKL pmax pmax
comp=N,45nm,0.8s
NKL pmax pmax
comp=Z,158nm,0.8s
NKL smax smax
comp=E,354nm,2.6s
NKL smax smax
comp=N,163nm,1.4s
NKL MLR MLR
comp=E,12μm,18.0s
NKL MLR MLR
comp=N,2μm,16.0s
NKL MLR MLR
comp=Z,6μm,21.0s
KSRS Korea Array 11.72 254 P **Pn 09 38 37.6 +2.9**
comp=Z,30nm,0.6s,baz=63,slow=14,SNR=57
KSRS S **Sn 09 40 49.6 +5.7**
comp=Z,26nm,0.6s,baz=68,slow=24,SNR=13
KSAR Wonju Array Be 11.75 254 Pn **Pn 09 38 34.6 -0.6**
KSAR Wonju Array Be 11.75 254 P **Pn 09 38 34.6 -0.6**
OKH Okha 12.02 2*c i*P **Pn 09 38 36.7 -2.1**
OKH *e*S **Sn 09 40 49.3 -1.9**
OKH pmax pmax
comp=Z,100nm,13.0s
OKH smax smax
comp=E,500nm,16.8s
OKH MLR MLR
comp=N,2μm,22.0s
OKH MLR MLR
comp=Z,2μm,21.0s
OKH MLR MLR
comp=E,2μm,20.0s
JNU Nakatsue 12.28 230 Pn 09 38 45.8 +3.3
CN2 Changchun 12.49 286 P **Pn 09 38 50.0 +4.7**
CN2 pmax pmax
comp=E,10.0nm,0.8s
CN2 LR LR
comp=E,1μm,15.0s
CN2 LR LR
comp=E,3μm,15.0s
CN2 LR LR
comp=E,3μm,15.0s
TJN Taejon 12.60 251 Pn 09 38 48.4 +1.6
TJN Taejon 12.60 251 P **Pn 09 38 50.9 +4.1**
TJN Taejon 12.60 251 P **Pn 09 38 48.4 +1.6**
SKR Severo-Kuril's 13.30 42 *i* P **Pn 09 38 55.3 -1.0**
HEH HeiHe 13.43 315 *e*P **Pn 09 38 58.9 +0.8**
HEH pmax pmax
comp=E,37nm,0.9s
HEH LR LR
comp=E,2μm,12.6s
HEH LR LR
comp=E,2μm,12.7s
HEH LR LR
comp=E,3μm,15.2s
SNY Shenyang 13.88 277⇓P **P 09 39 07.5 -3.2**
SNY pmax pmax
comp=E,23nm,0.9s
SNY LR LR
comp=E,770nm,10.4s
SNY LR LR
comp=E,820nm,11.1s
SNY LR LR
comp=E,770nm,9.9s
PETK Petropavlovsk- 15.61 37 Pn **Pn 09 39 25.3 -1.4**
PETK Petropavlovsk- 15.61 37 P **Pn 09 39 24.8 -1.9**
comp=E,1.6nm,0.4s,baz=221,slow=7.2,SNR=18
PETK LR LR 09 45 29.2
comp=E,993nm,21.7s,baz=215,slow=37
PETK Petropavlovsk- 15.61 37 P **Pn 09 39 25.3 -1.4**
ZEA Zeya 15.75 326 *e*P **Pn 09 39 27.6 -0.9**
ZEA *e* 09 42 24.7
ZEA pmax pmax
comp=N,50nm,0.8s
ZEA pmax pmax
comp=E,50nm,0.8s
ZEA pmax pmax
comp=Z,100nm,1.0s
ZEA MLR MLR
comp=E,800nm,15.0s
ZEA MLR MLR
comp=N,600nm,17.0s
ZEA MLR MLR
comp=Z,900nm,19.0s
DL2 Dalian 15.88 267 P **P 09 39 33.6 +0.6**
DL2 pmax pmax
comp=Z,210nm,1.1s
DL2 pmax pmax
comp=Z,1μm,4.7s
DL2 LR LR
comp=Z,1μm,19.2s
DL2 LR LR
comp=Z,2μm,20.3s
DL2 LR LR
comp=Z,2μm,33.1s
PET Petropavlovsk 16.00 39 *e*P **P 09 39 39.9 +5.8**
PET *e*S **S 09 42 35.1 -3.8**
PET pmax pmax
comp=Z,200nm,4.4s
PET pmax pmax
comp=Z,100nm,3.8s
PET MLR MLR
comp=Z,800nm,15.0s
PET MLR MLR
comp=Z,800nm,16.0s
HIA Hailar 17.48 304 Pn 09 39 48.5 -1.6
HIA Hailar 17.48 304 P **Pn 09 39 49.5 -0.6**
HIA Hailar 17.48 304 P **Pn 09 39 48.5 -1.6**
HIA pmax pmax
comp=Z,47nm,1.2s
JOW Kunigami 18.59 222 P **P 09 40 02.8 -0.1**
JOW IAmb IAmb 09 40 09.4
comp=Z,177nm,1.6s
JOW Kunigami 18.59 222 P **P 09 40 01.8 -1.2**
comp=Z,44nm,0.9s,baz=89,slow=19,SNR=7.9
JOW LR LR 09 47 37.4
comp=Z,976nm,21.3s,baz=94,slow=38
MA2 Magadan 18.84 14 P 09 40 05.0 -0.4
MA2 Magadan 18.84 14 P **P 09 40 03.0 -2.4**
comp=Z,26nm,0.9s,baz=193,slow=10,SNR=15
MA2 LR LR 09 48 24.0
comp=Z,495nm,19.4s,baz=198,slow=40
MA2 Magadan 18.84 14 P **Pn 09 40 06.0 -0.5**
MA2 Magadan 18.84 14*ce*P **P 09 40 05.4 0.0**
MA2 pmax pmax
comp=Z,27nm,0.9s
XLT XiLinHaoTe 19.27 286 *e*P **P 09 40 08.9 -1.5**
XLT pP pP 09 40 22.6 +0.1
XLT pmax pmax
comp=Z,26nm,0.9s
XLT LR LR
comp=Z,1μm,15.5s
XLT LR LR
comp=Z,1μm,15.2s
BJI Beijing 19.70 274 P **P 09 40 13.8 -1.2**
BJI S **Sn 09 43 56.6 -0.7**
BJI pmax pmax
comp=Z,40nm,1.1s
BJI pmax pmax
comp=Z,140nm,3.6s
BJI LR LR
comp=Z,460nm,15.1s
BJI LR LR
comp=Z,440nm,20.6s
BJI LR LR
comp=Z,710nm,15.1s
BJT Baijiatuau 19.71 274 P **P 09 40 14.0 -1.1**
BJT Baijiatuau 19.71 274 P **P 09 40 14.7 -0.4**
BJT Baijiatuau 19.71 274 P **P 09 40 14.0 -1.1**
BJT pmax pmax
comp=Z,71nm,1.0s
TIA Tai'an 20.16 263 P **P 09 40 18.4 -1.7**
TIA pmax pmax
comp=Z,40nm,0.9s
TIA LR LR
comp=Z,970nm,7.6s
TIA LR LR
comp=Z,1μm,7.6s
TIA LR LR
comp=Z,2μm,16.9s
NJ2 Nanjing 20.86 250 *e*P **P 09 40 28.4 +0.7**
NJ2 pmax pmax
comp=Z,41nm,1.1s
NJ2 pmax pmax
comp=Z,890nm,3.8s
NJ2 LR LR
comp=Z,930nm,14.7s
NJ2 LR LR
comp=Z,1μm,16.6s
NJ2 LR LR
comp=Z,2μm,18.0s
HNS HongShan 21.54 268⇑P **P 09 40 32.2 -2.6**
HNS pmax pmax
comp=Z,48nm,1.2s
HNS LR LR
comp=Z,480nm,10.4s
HNS LR LR
comp=Z,770nm,13.6s
HNS LR LR
comp=Z,730nm,13.1s
YAK Yakutsk 21.84 344 P **P 09 40 34.6 -3.3**
YAK Yakutsk 21.84 344 P **P 09 40 34.5 -3.3**
comp=Z,143nm,0.8s,baz=354,slow=4.9,SNR=26
YAK LR LR 09 49 40.1
comp=Z,747nm,18.4s,baz=150,slow=38
YAK Yakutsk 21.84 344 *e*P **P 09 40 34.5 -3.3**
YAK *e**PP **sP 09 40 53.7 -3.2**
YAK *e*S **S 09 44 29.1 -6.8**
YAK pmax pmax
comp=Z,128nm,0.7s
YAK pmax pmax
comp=N,58nm,1.3s
YAK pmax pmax
comp=E,24nm,1.2s
YAK smax smax
comp=N,267nm,4.1s
YAK smax smax
comp=E,251nm,4.3s
SEY Seymchan 22.26 12 P **P 09 40 39.7 -2.7**
comp=E,14nm,0.8s,baz=211,slow=7.2,SNR=35
SEY LR LR 09 50 24.7
comp=E,498nm,20.6s,baz=195,slow=39
SEY Seymchan 22.26 12 *e*P **P 09 40 39.5 -2.9**
SEY pmax pmax
comp=Z,19nm,0.9s
HHC Hu-ho-hao-te 22.96 278 *e*P **P 09 40 48.1 -2.0**
HHC sS Sn 09 45 14.3 -1.4
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,85nm,4.8s
HHC LR LR
comp=Z,260nm,12.3s
HHC LR LR
comp=Z,690nm,12.6s
HHC LR LR
comp=Z,1μm,15.9s
TATO Taipei 23.81 232 P **P 09 40 57.9 -0.2**
TATO Taipei 23.81 232 P **P 09 40 56.0 -2.1**
TATO Taipei 23.81 232 P **P 09 41 01.1 +3.0**
YHNB Yeheng 24.10 232 P **P 09 41 00.1 -0.8**
YHNB Yeheng 24.10 232 P **P 09 41 03.7 +2.8**
BTO Baotou 24.16 279 *e*P **P 09 40 59.7 -1.7**
BTO pP **pP 09 41 13.9 -1.2**
BTO sP **sP 09 41 21.4 -0.1**
BTO PP 09 41 36.3
BTO S **S 09 45 09.6 -6.0**
BTO sS **sS 09 45 34.5 -3.9**
BTO pmax pmax
comp=Z,30nm,0.9s
BTO pmax pmax
comp=Z,420nm,6.6s
BTO LR LR
comp=Z,1μm,22.1s
BTO LR LR
comp=Z,2μm,24.9s
BTO LR LR
comp=Z,4μm,24.8s
BOD Bodaibo 24.16 322 *e*P **P 09 41 00.2 -0.9**
BOD pmax pmax
comp=Z,90nm,1.0s
SHEM Shemya Is, Ala 24.25 52 LR LR 09 52 37.0
comp=Z,103nm,19.0s,baz=270,slow=41
LYN LuoYang 24.31 263 P **P 09 41 01.9 -0.7**
LYN pmax pmax
comp=Z,36nm,1.2s
NACB Ninganchiao 24.35 231 P **P 09 41 00.0 -3.1**
WHN Wuhan 24.91 253 P **P 09 41 08.3 +0.2**
WHN S **S 09 45 23.2 -4.2**
WHN pmax pmax
comp=Z,110nm,1.1s
WHN LR LR
comp=Z,3μm,20.1s
SSLB Suanglung 25.02 232 P **P 09 41 06.8 -2.5**
SSLB Suanglung 25.02 232 P **P 09 41 13.7 +4.5**
YULB Yu-li 25.13 230 P **P 09 41 08.0 -2.2**
YULB Yu-li 25.13 230 P **P 09 41 13.4 +3.2**
ULN Ulaanbaatar 25.57 296 P **P 09 41 14.4 +0.2**
ULN Ulaanbaatar 25.57 296 P **P 09 41 14.2 +0.1**
ULN P **P 09 41 14.2 +0.1**
ULN S **S 09 45 36.0 -2.0**
ULN S **S 09 45 36.0 -2.0**
ULN Ulaanbaatar 25.57 296*c i*P **P 09 41 12.4 -1.8**
ULN pmax pmax
comp=Z,30nm,1.0s
TPUB Ta-pu 25.59 231 P **P 09 41 14.4 +0.1**
TPUB IAmb IAmb 09 41 18.0
comp=Z,69nm,1.4s
TPUB Ta-pu 25.59 231 P **P 09 41 17.8 +3.5**

QZH Quanzhou 25.61 237 P **P** 09 41 14.5 0.0
QZH S **S** 09 45 40.0 +1.4
QZH pmax pmax
comp=Z,62nm,1.1s
TWGBT Beinan 25.70 230 P **P** 09 41 17.4 +2.1
SONM Songino Array 26.01 296 P **P** 09 41 18.1 0.0
SONM IAmb IAmb 09 41 20.3
comp=Z,58nm,1.1s
SONM Songino Array 26.01 296 P **P** 09 41 16.8 -1.3
comp=Z,32nm,0.8s,baz=94,slow=7.8,SNR=80
SONM LR LR 09 52 17.0
comp=Z,1μm,18.7s,baz=84,slow=38
comp=Z,32nm,0.8s
SONM Songino Array 26.01 296 P **P** 09 41 18.1 0.0
SONM pmax pmax
comp=Z,58nm,1.1s
KNMB Chin-men Tao 26.08 237 P **P** 09 41 18.5 -0.3
KNMB IAmb IAmb 09 41 25.5
comp=Z,88nm,0.8s
XAN Xi'an 27.18 265 ⇑P **P** 09 41 28.3 -0.4
XAN pmax pmax
comp=Z,48nm,1.0s
XAN pmax pmax
comp=Z,270nm,5.2s
XAN LR LR
comp=Z,1μm,22.5s
XAN LR LR
comp=Z,1μm,23.0s
XAN LR LR
comp=Z,1μm,24.9s
IRK Irkutsk 27.70 306 *e*P **P** 09 41 32.3 -0.8
IRK *e* 09 41 47.3
IRK pmax pmax
comp=Z,48nm,1.0s
GUMO Guam 27.95 174 LR LR 09 51 25.0
comp=Z,323nm,21.0s,baz=12,slow=33
ZAK Zakamensk 28.14 302 *e*P **P** 09 41 36.0 -1.2
ZAK pmax pmax
comp=Z,22nm,1.4s
ENH Enshi 28.58 257 P **P** 09 41 40.2 -1.0
ENH Enshi 28.58 257 P **P** 09 41 43.2 +2.0
BILL Bilibino 29.56 18 P **P** 09 41 49.7 +0.3
BILL IAmb IAmb 09 42 10.2
comp=Z,17nm,0.5s
BILL Bilibino 29.56 18 *e*P **P** 09 41 49.4 0.0
BILL pmax pmax
comp=Z,13nm,0.9s
BILL MLR MLR
comp=Z,622nm,20.0s
LZH Lanzhou 30.16 272 *e*P **P** 09 41 55.3 0.0
LZH sP sP 09 42 12.3 -3.2
LZH S **S** **09 46 52.4 +1.9**
LZH pmax pmax
comp=Z,34nm,1.1s
LZH LR LR
comp=Z,550nm,16.0s
LZH LR LR
comp=Z,700nm,15.5s
LZH LR LR
comp=Z,860nm,17.2s
H11N2 WAKE ISLAND Hy 30.25 128 T T 10 14 29.1
baz=321,slow=76,SNR=1124
H11N1 WAKE ISLAND Hy 30.26 128 T T 10 14 29.7
baz=321,slow=76,SNR=1177
H11N3 WAKE ISLAND Hy 30.27 128 T T 10 14 30.3
baz=321,slow=76,SNR=1014
LZDM Lanzhou Array 30.32 272 P **P** 09 41 55.6 -1.3
comp=Z,4.1nm,0.5s,baz=81,slow=9.2,SNR=6.4
LZDM LR LR 09 54 04.3
comp=Z,532nm,21.3s,baz=25,slow=36
comp=Z,4.1nm,0.5s
TIXI Tiksi 30.89 352 LR LR 09 55 36.9
comp=Z,369nm,18.5s,baz=174,slow=38
TIXI Tiksi 30.89 352 *i* P **P** 09 42 01.0 -0.2
TIXI pmax pmax
comp=Z,11nm,0.9s
H11S1 WAKE ISLAND Hy 31.09 130 T T 10 15 30.6
baz=324,slow=74
H11S3 WAKE ISLAND Hy 31.10 130 T T 10 14 38.7
baz=324
H11S2 WAKE ISLAND Hy 31.11 130 T T 10 15 33.6
baz=324,slow=74
GTA Gaotai 32.03 280 P **P** 09 42 11.4 -0.3
GTA pP pP 09 42 20.9 -4.6
GTA PcP **PcP** **09 45 01.5 +1.2**
GTA pmax pmax
comp=Z,15nm,1.0s
GTA pmax pmax
comp=Z,130nm,9.2s
GTA LR LR
comp=Z,530nm,19.1s
GTA LR LR
comp=Z,1μm,17.1s
GTA LR LR
comp=Z,1μm,19.5s
CD2 Chengdu 32.49 263 P **P** 09 42 13.8 -1.9
CD2 S **S** **09 47 25.7 -1.1**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 LR LR
comp=Z,760nm,17.1s
CD2 LR LR
comp=Z,1μm,19.8s
CD2 LR LR
comp=Z,860nm,22.0s
GYA Guiyang 32.78 254 ⇑P **P** 09 42 20.5 +2.2
GYA pmax pmax
comp=Z,18nm,0.5s
P08K Saint George I 34.25 47 P **P** 09 42 30.8 +0.1
baz=265
GAMB Gambell 34.62 34 P **P** 09 42 33.9 +0.2
baz=252
QIZ Qiongzhong 35.47 241 P **P** 09 42 42.6 +1.0
QIZ S **S** **09 48 12.8 -0.1**
QIZ LR LR
comp=Z,440nm,18.0s
QIZ LR LR
comp=Z,460nm,16.4s
QIZ LR LR
comp=Z,510nm,18.6s
PZH PanZhiHua 36.34 259 P **P** 09 42 49.1 0.0
KMI Kunming 36.41 256 P **P** 09 42 49.6 -0.2
KMI pmax pmax
comp=Z,20nm,1.1s
KMI LR LR
comp=Z,470nm,24.1s
KMI LR LR
comp=Z,470nm,23.2s
KMI LR LR
comp=Z,620nm,26.2s
M11K Mekoryuk 36.41 41 P **P** 09 42 49.4 +0.2
baz=263
TNA Tin City 36.70 32 P **P** 09 42 51.7 +0.2
baz=254
GOMU GeErMu 36.86 278 P **P** 09 42 52.5 -1.3
GOMU S **S** **09 48 30.2 -4.5**
GOMU SS **SnSn** **09 51 03.6 -7.1**
GOMU pmax pmax
comp=Z,13nm,0.9s
GOMU LR LR
comp=Z,360nm,15.2s
GOMU LR LR
comp=Z,380nm,16.0s
GOMU LR LR
comp=Z,800nm,15.7s
F14K Arctic Creek 37.31 33 P **P** 09 42 57.0 +0.2
baz=256
DAV Davao City (W) 37.36 208 LR LR 09 57 42.6
comp=Z,151nm,21.2s,baz=36,slow=35
K13K Kusilvak Mount 37.37 39 P **P** 09 42 57.6 +0.4
baz=262
ANM Nome 37.50 34 P **P** 09 42 58.4 0.0
baz=258
FALS False Pass 37.68 50 P **P** 09 43 00.1 +0.1
baz=273
M13K Dall Lake 37.83 41 P **P** 09 43 01.5 +0.4
baz=265
SLVN Son La 37.94 250 **P** 09 43 02.9 +0.3
SLVN IAmb IAmb 09 43 06.7
comp=Z,33nm,1.1s
SLVN Son La 37.94 250 P **P** 09 43 03.9 +1.3
J14K Nanvaranak Lak 37.99 37 P **P** 09 43 03.1 +0.7
baz=262
F15K North Star Dit 38.05 33 P **P** 09 43 03.4 +0.4
baz=257
G15K Niukluk 38.15 34 P **P** 09 43 04.4 +0.6
baz=259

L14K Kuka Creek 38.23 40 P **P** 09 43 05.1 +0.5
baz=265
S12K Black Hills 38.42 49 P **P** 09 43 06.9 +0.7
baz=272
C16K Lisburne Hills 38.44 28 P **P** 09 43 06.1 -0.1
baz=254
M14K Bethel 38.53 41 P **P** 09 43 07.8 +0.7
baz=266
N14K Kuskokwak Cree 38.62 42 P **P** 09 43 08.3 +0.5
baz=268
L15K Ungalak Mounta 38.83 39 P **P** 09 43 09.9 +0.4
baz=266
H16K Elim 38.84 35 P **P** 09 43 09.8 +0.1
baz=261
K15K Wolf Creek Mou 38.87 38 P **P** 09 43 10.2 +0.3
baz=265,SNR=5.7
G16K Koyuk River 38.92 33 P **P** 09 43 10.5 +0.2
baz=260
D17K Noatak River 39.11 30 P **P** 09 43 11.8 0.0
baz=256,SNR=7.1
M15K Kasigluk River 39.16 41 P **P** 09 43 12.6 +0.3
baz=268,SNR=6.7
C17K DeLong Mountai 39.27 28 P **P** 09 43 13.2 +0.1
baz=256
SDPT Sand Point 39.34 49 P **P** 09 43 14.2 +0.4
baz=274
J16K Anvik River 39.39 37 P **P** 09 43 14.3 +0.1
baz=264
I17K Unalakleet 39.41 36 P **P** 09 43 14.8 +0.4
baz=264
ZALV Zalesovo Beam 39.42 308 P **P** 09 43 14.2 -0.5
comp=Z,27nm,0.5s,baz=87,slow=7.6,SNR=87
ZALV PcP **PcP** 09 45 22.0 +0.3
comp=Z,13nm,0.7s,baz=86,slow=3.3,SNR=5.2
ZALV LR LR 10 00 30.4
comp=Z,847nm,19.1s,baz=78,slow=38
comp=Z,27nm,0.5s
ZALV Zalesovo Beam 39.42 308 *i* P **P** 09 43 14.6 0.0
ZALV pmax pmax
comp=Z,27nm,0.5s
N15K Kwethluk River 39.43 42 P **P** 09 43 14.9 +0.2
baz=269
E17K Hotham Inlet 39.45 31 P **P** 09 43 14.9 +0.2
baz=259,SNR=11
WMQ Urumqi 39.48 292 *e*P **P** 09 43 17.2 +1.8
F17K Baldwin Pennin 39.55 32 P **P** 09 43 15.7 +0.2
baz=260
O15K Ungalikthiuk R 39.55 43 P **P** 09 43 16.0 +0.3
baz=270
TNCH TengChong 39.56 259 P **P** 09 43 17.2 +0.9
TNCH pmax pmax
comp=Z,110nm,0.9s
G17K Kiwalik Mounta 39.64 33 P **P** 09 43 16.5 +0.2
baz=262,SNR=7.1
L16K Owhat River 39.79 39 P **P** 09 43 17.8 +0.3
baz=267,SNR=9.8
H17K Granite Mounta 39.87 34 P **P** 09 43 18.5 +0.3
baz=263
CHNA Chernabura Isl 39.89 50 P **P** 09 43 18.8 +0.3
baz=276
B18K Kokolik River 39.97 27 P **P** 09 43 19.2 +0.2
baz=256
E18K Tukpahlearik C 39.98 30 P **P** 09 43 19.4 +0.3
baz=259
M16K Timber Creek 40.01 40 P **P** 09 43 19.8 +0.3
baz=269
C18K Utukok River 40.02 28 P **P** 09 43 19.5 +0.1
baz=257
J17K VABM Dome 40.08 37 P **P** 09 43 21.1 +1.1
baz=266,SNR=18
N16K Nishlik Lake 40.10 41 P **P** 09 43 20.7 +0.5
baz=269
F18K Selawik 40.21 32 P **P** 09 43 21.5 +0.6
baz=261,SNR=6.8
L17K Donlin 40.37 39 P **P** 09 43 23.7 +1.3
baz=268,SNR=5.5
K17K Iditarod 40.39 38 P **P** 09 43 24.0 +1.5
baz=267
CHGN Chignik 40.42 48 P **P** 09 43 24.4 +1.5
baz=275
O16K Kokwok River B 40.44 43 P **P** 09 43 23.9 +0.9
baz=271
ZSN Zaisan 40.48 298 *e*P **P** 09 43 23.1 -0.5
comp=Z,19nm,0.9s
ZSN Zaisan 40.48 298 *e*P **P** 09 43 23.0 -0.5
ZSN pmax pmax
comp=Z,19nm,0.9s
P16K Nushagak River 40.50 44 P **P** 09 43 24.1 +0.6
baz=272
G18K Tagagawik 40.51 33 P **P** 09 43 24.2 +0.7
baz=263,SNR=18
H18K Honhosa River 40.55 34 P **P** 09 43 24.7 +0.9
baz=264
C19K Lookout Ridge 40.68 28 P **P** 09 43 25.5 +0.5
baz=258
M17K Holitna River 40.76 40 P **P** 09 43 26.3 +0.7
baz=270,SNR=6.3
R16K Pilot Point 40.79 46 P **P** 09 43 27.0 +1.1
baz=274
N17K Nushagak Hills 40.88 41 P **P** 09 43 27.0 +0.4
baz=271
O17K Koliganek Bris 40.94 42 P **P** 09 43 27.9 +0.9
baz=272
F19K Shaleruckik Mo 40.98 32 P **P** 09 43 27.5 +0.1
baz=263,SNR=13
D19K Kuna River 41.09 29 P **P** 09 43 28.3 0.0
baz=261
L18K Granite Mounta 41.12 39 P **P** 09 43 29.2 +0.6
baz=269,SNR=6.9
GCSA Galena City Sc 41.15 35 P **P** 09 43 29.0 +0.3
baz=266,SNR=6.3
J18K Innoko River 41.15 37 P **P** 09 43 29.4 +0.6
baz=268,SNR=14
G19K Purcell Mounta 41.18 33 P **P** 09 43 29.2 +0.2
baz=264,SNR=14
Q16K King Salmon 41.21 44 P **P** 09 43 29.9 +0.5
baz=273
E19K Redstone River 41.27 31 P **P** 09 43 30.3 +0.6
baz=263
P17K Kvichak River 41.30 43 P **P** 09 43 30.2 +0.2
baz=273
H19K Roundabout Mou 41.38 34 P **P** 09 43 31.1 +0.5
baz=266,SNR=28
R17L Mt. Peulik Vol 41.44 46 P **P** 09 43 31.7 +0.5
baz=275
N18K Kilae Creek 41.52 41 P **P** 09 43 32.9 +1.0
baz=272
M18K Stony River 41.53 40 P **P** 09 43 32.7 +0.7
baz=271
Q17K Contact Creek 41.64 45 P **P** 09 43 33.9 +0.9
baz=274
J19K Poorman 41.65 36 P **P** 09 43 33.9 +0.9
baz=268,SNR=34
D20K Etivluk River 41.67 29 P **P** 09 43 33.0 0.0
baz=262
B20K Meade River 41.69 27 P **P** 09 43 33.1 0.0
baz=260,SNR=12
E20K Nigu River 41.77 29 P **P** 09 43 33.8 -0.1
baz=263
F20K Avaraart Lake 41.81 31 P **P** 09 43 34.4 +0.3
baz=265
P18K Big Mountain, 41.91 43 P **P** 09 43 35.5 +0.4
baz=274
L19K White Mountain 41.98 39 P **P** 09 43 36.3 +0.6
baz=271
CHIR Chirikof Islan 42.03 48 P **P** 09 43 36.9 +0.8
baz=277
H20K Anotleneega Mo 42.03 34 P **P** 09 43 36.5 +0.5
baz=267,SNR=12
Q18K Katmai Hardscr 42.07 44 P **P** 09 43 36.9 +0.3
baz=275
I20K Naaghedeneel 42.18 35 P **P** 09 43 37.9 +0.7
baz=268,SNR=5.6
N19K Bonanza Creek 42.20 41 P **P** 09 43 38.1 +0.6
baz=273
M19K Big River Lodg 42.21 39 P **P** 09 43 38.4 +0.9
baz=272
J20K Nowinta River 42.30 36 P **P** 09 43 39.0 +0.8
baz=269,SNR=52
O19K Port Alsworth 42.31 42 P **P** 09 43 39.3 +1.0
baz=274
K20K Telida 42.34 37 P **P** 09 43 39.3 +0.8
baz=270,SNR=18
MK31 Makanchi Array 42.34 298 *ce*P **P** 09 43 38.3 -0.5
MK31 pmax pmax
comp=Z,44nm,0.7s
MKAR Makanchi Array 42.34 298 P **P** 09 43 38.4 -0.4
MKAR Makanchi Array 42.34 298 P **P** 09 43 38.5 -0.3

comp=Z,55nm,1.0s,baz=80,slow=9.2,SNR=82
MKAR PcP **PcP** **09 45 31.5 +0.2**
comp=Z,2.1nm,0.3s,baz=70,slow=5.4,SNR=6.6
MKAR LR LR 10 02 42.3
comp=Z,619nm,18.4s,baz=86,slow=38
comp=Z,55nm,1.0s
C21K Knifeblade Rid 42.39 28 P **P** 09 43 39.1 +0.2
baz=263,SNR=5.6
L20K Farewell, AK 42.43 38 P **P** 09 43 39.7 +0.4
baz=271,SNR=7.0
R18K Karluk 42.47 46 P **P** 09 43 40.1 +0.5
baz=276
B21K Ikpikpuk River 42.51 28 P **P** 09 43 40.1 +0.3
baz=263,SNR=8.0
IMAR Indian Mountai 42.52 33 P **P** 09 43 40.6 +0.6
LSA Lhasa 42.54 271 P **P** 09 43 41.1 0.0
LSA IAmb IAmb 09 43 44.5
comp=Z,60nm,1.4s
LSA Lhasa 42.54 271 P **P** 09 43 41.4 +0.3
LSA Lhasa 42.54 271 P **P** 09 43 42.3 +1.2
LSA Lhasa 42.54 271 P **P** 09 43 41.1 0.0
LSA pmax pmax
comp=Z,60nm,1.4s
MAKZ Makanchi 42.55 298 P **P** 09 43 39.9 -0.6
MAKZ Makanchi 42.55 298 P **P** 09 43 40.0 -0.4
A22K Sinclair Lake 42.58 26 P **P** 09 43 40.5 +0.1
baz=261
E21K Killik River 42.60 29 P **P** 09 43 40.5 -0.1
baz=265
G21K Allakaket 42.65 32 P **P** 09 43 41.1 +0.1
baz=267
F21K Alatna River 42.70 31 P **P** 09 43 41.4 0.0
baz=267,SNR=22
Q19K Cape Douglas, 42.76 43 P **P** 09 43 42.0 +0.1
baz=276
M20K Styx River 42.80 39 P **P** 09 43 42.7 +0.3
baz=273,SNR=6.3
H21K Meloztna Rive 42.90 34 P **P** 09 43 43.3 +0.2
baz=269,SNR=8.7
B22K Teshekpuk Lake 43.00 27 P **P** 09 43 43.9 +0.1
baz=263
CHTO Chiang Mai 43.10 252 **P** 09 43 44.6 -0.6
CHTO IAmb IAmb 09 43 51.0
comp=Z,20nm,0.8s
CHTO Chiang Mai 43.10 252 P **P** 09 43 45.2 0.0
CHTO P **P** 09 43 45.2 0.0
CHTO Chiang Mai 43.10 252 P **P** 09 43 46.4 +1.2
CHTO Chiang Mai 43.10 252 P **P** 09 43 44.6 -0.6
CHTO pmax pmax
comp=Z,20nm,0.8s
CHUM Lake Minchumin 43.11 36 P **P** 09 43 45.0 +0.3
baz=271,SNR=21
D22K Ayikyak River 43.11 29 P **P** 09 43 44.8 0.0
baz=266,SNR=13
OHAK Old Harbor 43.14 46 P **P** 09 43 45.1 +0.1
baz=278
O20K Slope Mountain 43.17 42 P **P** 09 43 45.9 +0.5
baz=275
PPLA Purkeypile 43.20 38 IAmb IAmb 09 43 50.6
comp=Z,96nm,1.7s
PPLA Purkeypile 43.20 38 P **P** 09 43 46.1 +0.4
baz=272
F22K John River 43.22 31 P **P** 09 43 45.9 +0.3
baz=268
I21K Tanana 43.24 34 P **P** 09 43 46.4 +0.6
baz=270
N20K Mount Spurr 43.28 40 P **P** 09 43 47.1 +0.8
baz=274
SPCR Spurr Chakacha 43.28 40 P **P** 09 43 47.0 +0.7
baz=274
CMAR Chiang Mai Arr 43.34 251 P **P** 09 43 46.4 -0.7
CMAR Chiang Mai Arr 43.34 251 P **P** 09 43 46.9 -0.2
comp=Z,6.7nm,0.8s,baz=39,slow=8.3,SNR=19
CMAR PcP **PcP** **09 45 36.3 +1.2**
comp=Z,3.0nm,0.5s,baz=22,slow=2.2,SNR=6.3
CMAR LR LR 10 02 27.1
comp=Z,364nm,20.6s,baz=45,slow=37
comp=Z,6.7nm,0.8s
SPU Mount Spurr 43.36 40 P **P** 09 43 47.5 +0.6
Q20K Shuyak Island 43.44 44 P **P** 09 43 48.0 +0.6
baz=277
KDAK Kodiak Island 43.44 45 P **P** 09 43 47.9 +0.5
baz=278
SMPI Sarmi 43.44 185 P **P** 09 43 46.5 -1.4
comp=Z,24nm,1.0s
STLK Strandline Lak 43.45 40 P **P** 09 43 48.5 +1.0
G22K Bettles 43.46 32 P **P** 09 43 48.1 +0.7
baz=269
H22K Ishtalitna Cre 43.49 33 P **P** 09 43 48.5 +0.7
baz=270,SNR=16
BPAW Bear Paw Mtn. 43.69 36 P **P** 09 43 50.6 +1.2
BPAW IAmb IAmb 09 43 52.3
comp=Z,26nm,0.8s
BPAW Bear Paw Mtn. 43.69 36 P **P** 09 43 50.0 +0.5
baz=272,SNR=28
HOM Homer 43.70 42 P **P** 09 43 50.2 +0.6
baz=276
KURK Kurchatov 43.71 305 **P** 09 43 49.3 -0.4
KURK Kurchatov 43.71 305 P **P** 09 43 49.7 -0.1
KURK P **P** 09 43 49.7 -0.1
KURK S **S** 09 50 19.2 +3.5
KURK S **S** 09 50 19.2 +3.5
KURK Kurchatov 43.71 305 P **P** 09 43 49.3 -0.4
KURK pmax pmax
comp=Z,61nm,0.9s
KURK Kurchatov 43.71 305 P **P** 09 43 49.0 -0.8
KTH Kantishna Hill 43.74 37 P **P** 09 43 51.6 +1.6
MLY Manley 43.77 34 IAmb IAmb 09 43 53.4
comp=Z,24nm,0.9s
MLY Manley 43.77 34 P **P** 09 43 50.6 +0.5
baz=271,SNR=26
KURBB Kurchatov Arra 43.79 304 P **P** 09 43 50.0 -0.4
comp=Z,53nm,0.8s,baz=78,slow=8.7,SNR=234
KURBB LR LR 10 02 55.4
comp=Z,432nm,18.2s,baz=161,slow=37
comp=Z,53nm,0.8s
KURBB Kurchatov Arra 43.79 304 P **P** 09 43 49.2 -1.2
D23K Nanushuk River 43.84 29 P **P** 09 43 50.8 +0.3
baz=267,SNR=5.0
JAY Jayapura 43.87 182 LR LR 10 04 19.8
comp=Z,42nm,18.2s,baz=1.0,slow=39
C23K Itkillik River 43.91 27 P **P** 09 43 51.0 -0.1
baz=266,SNR=7.1
SUA Susitna One 43.97 40 P **P** 09 43 51.9 +0.1
baz=275,SNR=8.5
COLD Coldfoot 43.97 31 P **P** 09 43 51.8 +0.2
baz=270,SNR=9.7
TRF Thorofare Moun 44.03 37 IAmb IAmb 09 43 55.6
comp=Z,24nm,0.8s
TRF Thorofare Moun 44.03 37 P **P** 09 43 53.0 +0.6
baz=274,SNR=24
G23K Bananza Creek 44.04 32 P **P** 09 43 52.9 +0.6
baz=270,SNR=28
CUT Chulitna 44.11 38 IAmb IAmb 09 44 38.3
comp=Z,25nm,0.8s
CUT Chulitna 44.11 38 P **P** 09 43 53.1 +0.3
baz=275
BRSE Bradley Lake S 44.15 42 P **P** 09 43 53.5 +0.3
baz=277
E23K Chandalar 44.20 30 P **P** 09 43 54.0 +0.4
baz=269,SNR=16
TOLK Toolik Lake Re 44.23 29 P **P** 09 43 54.0 +0.3
baz=269,SNR=7.2
H23K Yukon River 44.25 33 P **P** 09 43 54.7 +0.8
baz=272
I23K Minto, Yukon-K 44.35 34 P **P** 09 43 55.5 +0.8
baz=273,SNR=20
RC01 Rabbit Creek A 44.49 40 IAmb IAmb 09 44 17.9
comp=Z,38nm,1.4s
RC01 Rabbit Creek A 44.49 40 P **P** 09 43 56.5 +0.6
baz=276
NEA2 Nenana 44.50 35 P **P** 09 43 57.1 +1.2
baz=273,SNR=68
D24K Happy Valley 44.52 28 P **P** 09 43 56.1 +0.2
baz=269
O22K Cooper Landing 44.57 41 P **P** 09 43 57.1 +0.7
baz=277
C24K Franklin Bluff 44.57 28 P **P** 09 43 56.4 0.0
baz=268
MCK McKinley 44.62 36 IAmb IAmb 09 43 59.8
comp=Z,41nm,1.0s
MCK McKinley 44.62 36 P **P** 09 43 57.4 +0.5
baz=274,SNR=20
E24K Your Creek 44.63 30 P **P** 09 43 57.2 +0.2
baz=270,SNR=15
RND Reindeer 44.68 37 IAmb IAmb 09 43 59.5
comp=Z,22nm,0.9s

PMR **Palmer** 44.73 39 P 09 43 57.4 -0.2
PMR **Palmer** 44.73 39 P P 09 43 58.7 +1.0
PMR **Palmer** 44.73 39 P P 09 43 57.4 -0.2
PMR pmax pmax
comp=Z,14nm,0.8s
PMR **Palmer** 44.73 39 P P 09 43 58.0 +0.4
baz=276,SNR=14
SEW **Seward** 44.75 41 P 09 43 58.0 +0.2
SEW IAmb IAmb 09 44 29.6
comp=Z,21nm,0.9s
SEW **Seward** 44.75 41 P P 09 43 58.1 +0.2
baz=278
MRSI **Marisa** 44.77 209 P P 09 43 58.6 +0.1
comp=Z,2µmcomp=Z,62nm,1.0s
GHO **Glory Hole Cre** 44.80 39 IAmb IAmb 09 44 07.8
comp=Z,30nm,0.7s
F24K **Squaw Lake** 44.87 31 P P 09 43 58.9 +0.1
baz=272,SNR=16
WAT1 **Susitna Watana** 44.87 38 P P 09 43 59.4 +0.5
baz=276
WRH **Wood River Hil** 44.93 35 IAmb IAmb 09 44 08.2
comp=Z,19nm,0.8s
H24K **Noodor Dome** 44.93 33 P P 09 44 00.2 +0.8
baz=273,SNR=45
COLA **College** 45.01 35 P P 09 44 00.7 +0.8
COLA **College** 45.01 35 P P 09 44 01.5 +1.6
COLA **College** 45.01 35*c i*P P 09 44 00.9 +1.0
COLA pmax pmax
comp=Z,91nm,0.9s
COLA **College** 45.01 35 P P 09 44 00.9 +1.0
baz=274
COLA **College** 45.01 35 P P 09 44 01.4 +1.5
COLA pP pP 09 44 15.5 +1.5
COLA sP sP 09 44 20.8 +0.4
G24K **Hadweenzic Riv** 45.05 32 P P 09 44 01.0 +0.7
baz=273,SNR=13
KNK **Knik Glacier** 45.07 39 IAmb IAmb 09 44 22.9
comp=Z,24nm,1.0s
KNK **Knik Glacier** 45.07 39 P P 09 44 01.2 +0.8
baz=277,SNR=9.3
FAKI **Fak Fak** 45.16 194 P P 09 44 01.9 +0.3
FAKI IAmb IAmb 09 44 06.7
comp=Z,42nm,1.0s
FAKI **Fak Fak** 45.16 194 P P 09 44 04.1 +2.5
POKR **Poker Plat Res** 45.16 34 P P 09 44 02.4 +1.2
baz=274,SNR=16
PWL **Port Wells** 45.20 40 IAmb IAmb 09 44 04.5
comp=Z,24nm,1.0s
PWL **Port Wells** 45.20 40 P P 09 44 02.4 +0.9
baz=278,SNR=10.0
WAT6 **Susitna Watana** 45.27 38 P P 09 44 02.7 +0.5
baz=277,SNR=8.1
PDGK **Podgornoye** 45.30 294 P P 09 44 00.9 -1.8
M23K **Glacier View** 45.37 39 P P 09 44 03.3 +0.4
baz=277,SNR=10
DHY **Denali Highway** 45.38 37 IAmb IAmb 09 44 32.8
comp=Z,17nm,0.8s
DHY **Denali Highway** 45.38 37 P P 09 44 03.4 +0.3
baz=276,SNR=23
SHLS **Shalkode** 45.38 294 *e*P P 09 44 00.5 -2.8
comp=Z,6.2nm,0.5s
SHLS **Shalkode** 45.38 294 *e*P P 09 44 00.5 -2.8
SHLS pmax pmax
comp=Z,6.0nm,0.5s
D25K **Kavik River** 45.39 28 P P 09 44 02.7 -0.2
baz=271,SNR=14
ILAR **Eielson Array** 45.42 35 P P 09 44 03.8 +0.6
ILAR **Eielson Array** 45.42 35 P P 09 44 03.6 +0.4
comp=Z,42nm,0.9s,baz=264,slow=5.5,SNR=238
comp=Z,42nm,0.9s
ILAR **Eielson Array** 45.42 35 P P 09 44 03.8 +0.6
HDA **Harding Lake** 45.43 35 IAmb IAmb 09 44 05.6
comp=Z,26nm,0.9s
HDA **Harding Lake** 45.43 35 P P 09 44 03.7 +0.4
baz=275,SNR=25
TDK **Taldyqorghan** 45.47 297 *e*P P 09 44 03.7 -0.2
comp=Z,23nm,0.9s
TDK **Taldyqorghan** 45.47 297 *e*P P 09 44 03.7 -0.2
TDK pmax pmax
comp=Z,23nm,0.9s
SCM **Sheep Creek Mo** 45.55 39 IAmb IAmb 09 44 06.8
comp=Z,28nm,0.8s
SCM **Sheep Creek Mo** 45.55 39 P P 09 44 05.0 +0.7
baz=278,SNR=14
G25K **Bearman Lake** 45.60 32 P P 09 44 05.4 +0.9
baz=274,SNR=8.3
UZB **Uzynbulak** 45.68 294⇑ *i*P P 09 44 05.3 -0.5
comp=Z,9.6nm,1.0s
UZB **Uzynbulak** 45.68 294*c i*P P 09 44 05.2 -0.5
UZB pmax pmax
comp=Z,10.0nm,1.0s
E25K **Arctic Village** 45.72 30 P P 09 44 06.3 +0.7
baz=273,SNR=7.5
F25K **Christian Rive** 45.72 31 P P 09 44 06.4 +0.8
baz=273,SNR=6.6
H25L **Birch Creek** 45.74 33 P P 09 44 06.6 +0.9
baz=275,SNR=18
GLI **Glacier Island** 45.79 40 IAmb IAmb 09 44 33.4
comp=Z,18nm,0.8s
GLI **Glacier Island** 45.79 40 P P 09 44 06.3 +0.1
baz=279,SNR=8.5
C26K **Camden Bay** 45.89 27 P P 09 44 07.7 +0.9
baz=272
PRP **Porcupine Dome** 45.93 34 P P 09 44 07.8 +0.4
baz=276,SNR=84
FYU **Fort Yukon** 45.96 32 IAmb IAmb 09 44 14.2
comp=Z,31nm,0.8s
K24K **Donnelly Dome** 46.01 36 P P 09 44 08.3 +0.5
baz=277,SNR=11
BRDH **Bariadhala** 46.03 262 LR LR 10 03 50.7
comp=Z,310nm,21.2s,baz=142,slow=37
M24K **Tolsona, Glenn** 46.05 38 P P 09 44 09.4 +1.1
baz=278,SNR=7.0
J25K **Salcha River,** 46.09 35 P P 09 44 08.5 -0.1
baz=277,SNR=16
ARXS **Arharly** 46.12 296 *e*P P 09 44 08.8 -0.3
SATY **Saty** 46.13 294⇑ *i*P P 09 44 09.0 -0.3
SATY **Saty** 46.13 294*c i*P P 09 44 09.0 -0.3
BMAR **Burnt Mountain** 46.14 31 P P 09 44 10.1 +1.2
APSI **Ampana** 46.16 209 P P 09 44 09.6 +0.1
comp=Z,2µmcomp=Z,38nm,1.0s
PAX **Paxson** 46.25 37 P P 09 44 10.3 +0.4
baz=278
KLU **Klutina** 46.26 39 P P 09 44 11.1 +1.1
KLU IAmb IAmb 09 44 34.1
comp=Z,24nm,0.9s
KLU **Klutina** 46.26 39 P P 09 44 10.9 +1.0
baz=279,SNR=20
F26K **Sheenjek River** 46.29 30 P P 09 44 11.0 +1.0
baz=275,SNR=26
C27K **Jago River** 46.32 28 P P 09 44 10.5 +0.3
baz=273,SNR=20
DIV **Divide** 46.39 40 IAmb IAmb 09 44 33.8
comp=Z,39nm,1.3s
Q23K **Middleton Isla** 46.40 42 P P 09 44 11.9 +0.9
baz=281
RIDG **Independent Ri** 46.43 36 P P 09 44 11.2 +0.1
RIDG IAmb IAmb 09 44 16.4
comp=Z,20nm,0.8s
RIDG **Independent Ri** 46.43 36 P P 09 44 11.5 +0.4
baz=278,SNR=22
HARP **HAARP** 46.48 38 P P 09 44 12.7 +1.2
baz=279,SNR=20
G26K **Porcupine Rive** 46.49 31 P P 09 44 12.7 +1.1
baz=276,SNR=21
EYAK **Cordova Ski Ar** 46.50 40 IAmb IAmb 09 44 34.7
comp=Z,18nm,0.9s
EYAK **Cordova Ski Ar** 46.50 40 P P 09 44 13.4 +1.7
EYAK **Cordova Ski Ar** 46.50 40 P P 09 44 12.7 +1.0
baz=280,SNR=13
SCRK **Sand Creek** 46.77 36 P P 09 44 14.6 +0.6
baz=278,SNR=58
DOT **Dot Lake** 46.78 36 P P 09 44 14.3 +0.3
DOT IAmb IAmb 09 44 16.9
comp=Z,17nm,0.8s
CHKK **Chushkaly** 46.81 296 *e*P P 09 44 14.1 -0.4
CHKK **Chushkaly** 46.81 296 *e*P P 09 44 14.0 -0.4
N25K **Chitina, Valde** 46.87 39 P P 09 44 15.4 +0.7
baz=280
J26L **Joseph Creek** 46.88 35 P P 09 44 15.6 +0.8
baz=278,SNR=7.6
I26K **Coal Creek Min** 46.94 34 P P 09 44 15.2 +0.1
baz=278
BMRM **Bremner River** 46.98 40 P P 09 44 16.4 +0.9
baz=281,SNR=9.5
MDOK **Medeo** 47.02 295 *e*P P 09 44 15.9 -0.4
MDOK **Medeo** 47.02 295 *e*P P 09 44 15.9 -0.4

TARG **Taragay, Kyrgy** 47.04 293 IAmb IAmb 09 44 22.5
comp=Z,44nm,1.0s
TARG **Taragay, Kyrgy** 47.04 293 P P 09 44 17.1 +0.4
TARG pmax pmax
comp=Z,40nm,0.9s
MENT **Mentasta** 47.05 37 IAmb IAmb 09 44 34.0
comp=Z,17nm,0.9s
MENT **Mentasta** 47.05 37 P P 09 44 18.0 +2.0
AAA **Alma-Ata** 47.10 295 *e*P P 09 44 16.4 -0.4
comp=Z,12nm,0.5s
AAA **Alma-Ata** 47.10 295 *e*P P 09 44 16.3 -0.4
AAA pmax pmax
comp=Z,12nm,0.5s
TNSS **Tian-Shan** 47.14 295 *e*P P 09 44 16.8 -0.7
TNSS **Tian-Shan** 47.14 295 *e*P P 09 44 16.7 -0.7
E27K **Coleen River** 47.20 30 P P 09 44 18.2 +1.0
baz=276
L26K **Log Cabin Wild** 47.20 37 P P 09 44 18.4 +1.1
baz=280,SNR=24
HMT **Hamilton** 47.27 41 P P 09 44 18.5 +0.8
HMT IAmb IAmb 09 44 57.8
comp=Z,18nm,0.9s
KAIM **Kayak Island** 47.27 41 IAmb IAmb 09 44 57.8
comp=Z,20nm,0.9s
KAIM **Kayak Island** 47.27 41 P P 09 44 18.5 +0.8
baz=282
SBUM **Sibu** 47.31 223 P P 09 44 18.1 -0.4
SBUM **Sibu** 47.31 223 P P 09 44 22.0 +3.5
D27M **Malcolm River** 47.31 28 P P 09 44 18.5 +0.5
baz=276
KDJ **Kajisay** 47.32 294 IAmb IAmb 09 44 19.8
comp=Z,18nm,0.9s
G27K **Doyon Strip** 47.34 32 P P 09 44 19.6 +1.4
baz=278,SNR=11
M26K **Nabesna, AK** 47.47 38 P P 09 44 20.5 +1.1
baz=281,SNR=28
H27K **Steamboat Moun** 47.48 32 P P 09 44 20.2 +0.9
baz=278,SNR=51
BERG **Berg Lake** 47.53 40 IAmb IAmb 09 44 46.9
comp=Z,43nm,1.3s
I27K **Kandik River** 47.53 33 P P 09 44 20.7 +0.9
baz=279,SNR=27
BRZS **Berezniki** 47.58 305 *e*P P 09 44 19.9 -0.5
BRZS **Berezniki** 47.58 305 *e*P P 09 44 19.8 -0.5
K27K **Chicken** 47.59 35 P P 09 44 21.5 +1.3
baz=280
MCARA **McCarthy VSAT** 47.65 39 IAmb IAmb 09 44 43.6
comp=Z,32nm,0.9s
MCARA **McCarthy VSAT** 47.65 39 P P 09 44 22.3 +1.6
baz=282,SNR=8.9
CRQE **Cirque** 47.75 40 P P 09 44 22.8 +1.2
baz=282,SNR=13
BGLC **Bering Glacier** 47.79 41 P P 09 44 22.3 +0.6
baz=282
TGL **Tana Glacier** 47.87 40 IAmb IAmb 09 44 51.4
comp=Z,16nm,0.9s
L27K **Beaver Creek,** 47.88 37 P P 09 44 23.3 +0.8
baz=281,SNR=42
BCAR **Beaver Creek A** 47.90 37 P 09 44 24.4 +1.7
E28M **Babbage River** 47.91 29 P P 09 44 23.3 +0.7
baz=278,SNR=10
F28M **Old Crow** 47.92 30 P P 09 44 23.6 +0.9
baz=278,SNR=27
WAX **Waxell Ridge** 47.93 40 P P 09 44 22.6 -0.4
WAX IAmb IAmb 09 44 47.6
comp=Z,25nm,0.8s
M27K **Edge Creek, AK** 47.99 38 P P 09 44 24.6 +1.1
baz=282,SNR=30
SNH **Sunshine Point** 47.99 41 IAmb IAmb 09 44 48.5
comp=Z,24nm,0.8s
BVA0 **Borovoye Array** 48.05 310 *e*P P 09 44 23.0 -0.9
BVAR **Borovoye Array** 48.05 310 P P 09 44 24.1 +0.2
comp=Z,26nm,0.4s,baz=78,slow=9.5,SNR=108
BVAR PP PP 09 46 17.7 +1.6
comp=Z,9.1nm,0.8s,baz=70,slow=1.7,SNR=3.5
BVAR LR LR 10 05 48.0
comp=Z,688nm,19.7s,baz=74,slow=38
comp=Z,26nm,0.4s
BORK **Borovoye** 48.08 310 P P 09 44 24.0 -0.1
D28M **Stokes Point** 48.09 28 P P 09 44 24.9 +1.0
baz=278
TKM2 **Tokmak 2** 48.10 295 P P 09 44 25.0 +0.3
SNR=82
ISLE **Juniper Island** 48.14 40 IAmb IAmb 09 44 55.9
comp=Z,20nm,0.8s
I28M **Miner Creek** 48.25 33 P P 09 44 26.6 +1.3
baz=280,SNR=68
BTLS **Baital** 48.35 298 *e*P P 09 44 25.6 -0.7
comp=Z,8.4nm,0.8s
BTLS **Baital** 48.35 298 *e*P P 09 44 25.6 -0.7
BTLS pmax pmax
comp=Z,8.0nm,0.8s
BARN **Barnard Glacie** 48.37 39 IAmb IAmb 09 44 55.1
comp=Z,21nm,1.2s
GRNC **Granite Creek** 48.39 40 IAmb IAmb 09 44 50.3
comp=Z,20nm,0.9s
MESA **MESA** 48.42 40 P P 09 44 28.3 +1.4
baz=283
BVCY **Beaver Creek** 48.44 37 P P 09 44 28.1 +1.3
baz=282,SNR=12
YAH **Yahtse** 48.48 40 IAmb IAmb 09 44 50.7
comp=Z,30nm,1.2s
E29M **Blow River** 48.53 29 P P 09 44 28.6 +1.2
baz=280,SNR=19
CTG **Chitna Glacier** 48.54 39 P P 09 44 28.9 +1.1
baz=283,SNR=11
CTGM **Chitina Glacie** 48.54 39 IAmb IAmb 09 44 50.9
comp=Z,26nm,1.1s
SGDS **Sogindy** 48.55 296 *e*P P 09 44 27.7 -0.3
comp=Z,9.8nm,1.0s
KBK **Karagaybulak** 48.64 295 P P 09 44 29.2 +0.4
SNR=12
USP **Ospenovka** 48.71 296 P P 09 44 29.1 -0.1
SNR=7.7
H29M **Whitestone** 48.74 32 P P 09 44 30.4 +1.4
baz=281,SNR=25
DAWY **Dawson** 48.75 35 P P 09 44 30.6 +1.5
baz=282,SNR=6.4
G29M **Pine Creek** 48.75 31 P P 09 44 30.6 +1.5
baz=281,SNR=26
YUK3 **Moose Creek** 48.77 38 P P 09 44 30.9 +1.4
baz=283,SNR=15
I29M **Ogilvie Camp,** 48.94 33 P P 09 44 32.0 +1.5
baz=282,SNR=77
AAK **Ala-Archa** 48.96 295 P P 09 44 31.2 0.0
SNR=11
AAK **Ala-Archa** 48.96 295 P P 09 44 30.8 -0.4
AAK IAmb IAmb 09 44 32.0
comp=Z,14nm,0.4s
AAK **Ala-Archa** 48.96 295 LR LR 10 06 56.6
comp=Z,666nm,20.2s,baz=84,slow=38
AAK **Ala-Archa** 48.96 295 P P 09 44 31.1 -0.2
AAK P P 09 44 31.1 -0.2
AAK **Ala-Archa** 48.96 295 *i* P P 09 44 31.1 -0.2
SNR=11
AAK **Ala-Archa** 48.96 295*ce*P P 09 44 31.0 -0.2
AAK pmax pmax
comp=Z,13nm,1.1s
AAK **Ala-Archa** 48.96 295 P P 09 44 31.2 0.0
AAK PcP PcP 09 45 54.8 +0.2
KSM **Kuching** 49.12 224 P 09 44 31.8 -0.8
KSM IAmb IAmb 09 44 35.8
comp=Z,30nm,1.0s
KSM **Kuching** 49.12 224 P P 09 44 34.1 +1.6
O28M **Mount Upton** 49.13 39 P P 09 44 33.4 +1.0
baz=284,SNR=6.9
J29N **Klondike Camp** 49.16 34 P P 09 44 34.2 +1.8
baz=283
KSH **Kashi** 49.20 291 P P 09 44 36.5 +3.4
KSH pP sP 09 44 50.9 -2.9
KSH pmax pmax
comp=Z,19nm,0.9s
YUK8 **Steele Glacier** 49.21 39 P P 09 44 34.3 +1.4
baz=284
PINM **Pinnacle** 49.27 40 P P 09 44 34.1 +0.9
baz=285
EPYK **Eagle Plains** 49.36 32 P P 09 44 35.5 +1.7
baz=282,SNR=53
SURA **Surathani** 49.39 242 P P 09 44 36.2 +1.6
G30M **tAoh Zraii Nji** 49.43 31 P P 09 44 35.5 +1.2
baz=282,SNR=36
EKS2 **Erkin-Say** 49.44 296 P P 09 44 34.8 0.0
SNR=18
F30M **Barrier River** 49.46 30 P P 09 44 36.5 +1.9
baz=282,SNR=70
L29M **L29M** 49.51 36 P P 09 44 36.7 +1.7
baz=284,SNR=31

M29M **Somme Creek** 49.52 37 P P 09 44 36.5 +1.3
baz=284,SNR=7.6
K29M **Barlow Dome** 49.60 35 P P 09 44 37.1 +1.3
baz=284,SNR=34
YUK4 **Talbot Arm** 49.71 38 P P 09 44 38.2 +1.4
baz=285
I30M **Mount Dempster** 49.76 33 P P 09 44 38.2 +1.3
baz=284,SNR=147
PNL **Peninsula** 49.80 41 P P 09 44 38.5 +1.3
baz=286
J30M **Hart River** 49.93 34 P P 09 44 40.0 +1.7
baz=284,SNR=18
BNSI **Bone** 49.95 209 P P 09 44 37.3 -1.5
comp=Z,841nmcomp=Z,30nm,1.1s
YUK6 **Outpost Mounta** 49.95 39 P P 09 44 40.2 +1.6
baz=286
O29M **Mount Kennedy** 50.02 40 P P 09 44 40.2 +1.1
baz=286
INK **Inuvik** 50.14 29 P P 09 44 40.6 +1.0
INK **Inuvik** 50.14 29 LR LR 10 07 55.1
comp=Z,185nm,19.4s,baz=266,slow=38
INK **Inuvik** 50.14 29 P P 09 44 40.6 +1.0
INK pmax pmax
comp=Z,39nm,0.9s
INK **Inuvik** 50.14 29 P P 09 44 40.6 +1.0
baz=283,SNR=39
G31M **Satah River** 50.19 31 P P 09 44 41.0 +1.1
baz=284,SNR=40
M30M **Minto, Yukon** 50.24 37 P P 09 44 41.9 +1.4
baz=285,SNR=14
F31M **Tsiigehtchic** 50.27 30 P P 09 44 41.5 +1.0
baz=284,SNR=32
MAYO **Mayo, Yukon** 50.37 35 P P 09 44 43.0 +1.6
baz=285,SNR=8.2
HYT **Haines Junctio** 50.39 39 P P 09 44 43.6 +1.8
baz=286,SNR=55
N30M **Aishikik Lake** 50.41 38 P P 09 44 43.5 +1.7
baz=286,SNR=5.4
H31M **Peel River** 50.44 32 P P 09 44 43.2 +1.2
baz=285,SNR=88
P29M **Windy Craggy** 50.62 40 P P 09 44 45.0 +1.5
baz=287,SNR=21
KAPI **Kappang** 50.65 209 LR LR 10 06 34.6
comp=Z,83nm,21.2s,baz=357,slow=36
P30M **Million Dollar** 50.85 40 P P 09 44 46.8 +1.6
baz=287
PMG **Port Moresby** 50.91 174 LR LR 10 02 33.9
comp=Z,51nm,21.1s,baz=336,slow=32
DZA **Taraz** 50.99 297 *e*P P 09 44 46.4 -0.2
comp=Z,12nm,0.6s
DZA **Taraz** 50.99 297 *e*P P 09 44 46.3 -0.2
DZA pmax pmax
comp=Z,11nm,0.6s
N31M **Braeburn, Yuko** 51.00 38 P P 09 44 48.0 +1.7
baz=287,SNR=25
O30N **Mendenhall** 51.07 39 P P 09 44 48.1 +1.3
baz=287,SNR=12
PLBC **Pleasant Camp** 51.34 40 P P 09 44 50.3 +1.5
baz=288,SNR=8.0
M31M **Drury Creek, Y** 51.42 37 P P 09 44 50.7 +1.3
baz=288,SNR=12
KK31 **Karatay Array** 51.45 297 *i* P P 09 44 49.0 -0.9
KKAR **Karatay Array** 51.45 297 P P 09 44 49.2 -0.7
KKAR **Karatay Array** 51.45 297 P P 09 44 49.2 -0.7
KULM **Kulim** 51.65 237 P P 09 44 52.1 +0.5
KULM IAmb IAmb 09 44 54.8
comp=Z,28nm,0.8s
KULM **Kulim** 51.65 237 P P 09 44 53.0 +1.4
WHY **Whitehorse** 51.67 39 IAmb IAmb 09 45 15.2
comp=Z,40nm,1.3s
WHY **Whitehorse** 51.67 39 P P 09 44 52.8 +1.4
baz=288,SNR=10
SKAG **Skagway** 51.84 40 IAmb IAmb 09 45 16.5
comp=Z,17nm,1.0s
SKAG **Skagway** 51.84 40 P P 09 44 54.0 +1.5
SKAG **Skagway** 51.84 40 P P 09 44 54.2 +1.8
baz=289
A36M **Sachs Harbour** 51.88 23 P P 09 44 54.2 +1.6
baz=288,SNR=7.5
S31K **Pelican** 51.88 42 P P 09 44 54.3 +1.4
baz=289
BRLS **Borolday** 51.94 297⇑ *i*P P 09 44 54.5 +1.0
BRLS **Borolday** 51.94 297*c i*P P 09 44 54.5 +1.0
IPM **Ipoh** 52.04 236 P P 09 44 55.3 +0.7
IUG **Iuzhnay** 52.18 296 *e*P P 09 44 55.3 -0.2
comp=Z,11nm,1.0s
IUG **Iuzhnay** 52.18 296 *e*P P 09 44 55.2 -0.2
IUG pmax pmax
comp=Z,11nm,1.0s
SVE **Sverdlovsk** 52.20 317*de*P P 09 44 55.5 +0.3
SVE pmax pmax
comp=Z,58nm,0.9s
SVE MLR MLR
comp=Z,1µm,17.0s
N32M **Quiet Lake** 52.34 38 P P 09 44 57.8 +1.5
baz=289
CHM **Chimkent** 52.39 297 *e*P P 09 44 56.7 -0.2
comp=Z,9.8nm,0.4s
CHM **Chimkent** 52.39 297 *e*P P 09 44 56.7 -0.2
CHM pmax pmax
comp=Z,10.0nm,0.4s
P32M **Atlin** 52.57 40 P P 09 44 59.8 +1.8
baz=290
R32K **Eaglecrest** 52.63 41 P P 09 45 00.3 +1.9
baz=290,SNR=5.9
SIT **Sitka** 52.65 43 P P 09 45 00.2 +1.7
baz=291
MMPY **Sheldon Lake,** 52.67 35 IAmb IAmb 09 45 21.8
comp=Z,39nm,1.6s
MMPY **Sheldon Lake,** 52.67 35 P P 09 45 00.3 +1.6
baz=290,SNR=5.3
JIS **Juneau Island** 52.70 41 P P 09 45 01.3 +2.5
P33M **Teslin, Yukon** 52.78 39 P P 09 45 00.7 +1.1
baz=290,SNR=26
C36M **Paulatuk** 53.12 26 P P 09 45 02.7 +0.9
baz=291,SNR=12
HNR **Honiara** 53.30 158 LR LR 10 06 07.9
comp=Z,296nm,21.7s,baz=356,slow=34
Q32M **Nakina River** 53.49 40 P P 09 45 06.0 +1.1
baz=292
ARTI **Arti** 53.52 317 P P 09 45 04.7 -0.3
ARTI **Arti** 53.52 317 LR LR 10 10 32.2
comp=Z,1µm,18.1s,baz=68,slow=39
ARTI **Arti** 53.52 317*c i*P P 09 45 04.6 -0.3
ARTI *PP pP 09 45 18.7 -0.8
ARTI 09 46 08.1
ARTI 09 47 01.8
ARTI S S 09 52 36.2 +2.7
ARTI SS SS 09 56 09.8 -4.0
ARTI pmax pmax
comp=Z,48nm,0.9s
ARTI MLR MLR
comp=Z,1µm,18.0s
ARTI **Arti** 53.52 317 P P 09 45 04.8 -0.1
ARTI PcP PcP 09 46 08.5 -2.6
SOEI **Soe** 53.63 202 P P 09 45 06.0 -0.3
SOEI **Soe** 53.63 202 P P 09 45 09.3 +3.0
SOEI **Soe** 53.63 202 P P 09 45 05.5 -0.8
comp=Z,58nm,1.0s
NIL **Nilore** 53.85 285 P P 09 45 07.2 -0.5
NIL **Nilore** 53.85 285 P P 09 45 08.5 +0.8
NIL P P 09 45 08.5 +0.8
NIL **Nilore** 53.85 285 P P 09 45 07.2 -0.5
NIL pmax pmax
comp=Z,47nm,1.1s
R33M **Jennings River** 53.95 39 P P 09 45 09.7 +1.5
baz=292,SNR=7.9
U33K **Whale Pass** 54.13 43 P P 09 45 11.2 +1.8
baz=293
BATI **Baumata** 54.23 203 LR LR 10 08 34.5
comp=Z,57nm,21.3s,baz=38,slow=36
TGTN **Hyland Airport** 54.37 36 P P 09 45 12.9 +1.7
baz=293,SNR=6.0
WRAK **Wrangell Islan** 54.41 43 P P 09 45 13.5 +2.1
baz=293
S34M **Telegraph Cree** 54.44 41 P P 09 45 13.4 +1.8
baz=293
SIMJ **Simiganj** 54.44 293 P 09 45 11.5 -0.6
SIMJ **Simiganj** 54.44 293 P P 09 45 11.6 -0.6
PSI **Prapat** 54.66 237 LR LR 10 10 26.8
comp=Z,114nm,19.2s,baz=24,slow=38
PSI **Prapat** 54.66 237 P P 09 45 17.6 +3.7
PSI **Prapat** 54.66 237 P P 09 45 14.0 +0.1
PSI pmax pmax
comp=Z,17nm,1.0s
WTLY **Watson Lake, Y** 54.69 38 P P 09 45 15.3 +1.9

baz=293,SNR=9.1
RPSI Rantau Prapat 54.74 237 P 09 45 14.0 -0.4
RPSI IAmb IAmb 09 45 16.2
comp=Z,17nm,1.0s
DLBC Dease Lake 54.77 40 LR LR 10 11 26.3
comp=Z,2µm,19.0s,baz=290,slow=39
DLBC Dease Lake 54.77 40 P **P 09 45 15.5 +1.4**
baz=293,SNR=6.0
MTN Manton Dam 55.06 193 P **P 09 45 16.7 +0.1**
comp=Z,21nm,0.9s
MTN Manton Dam 55.06 193 IAmb IAmb 09 45 18.2
comp=Z,15nm,0.8s
MTN Manton Dam 55.06 193 P **P 09 45 19.3 +2.8**
V35K Ketchikan 55.23 44 P **P 09 45 19.0 +1.7**
baz=294
COEN Coen 55.23 179 P **P 09 45 18.1 +0.4**
comp=Z,19nm,1.1s
COEN Coen 55.23 179 P **P 09 45 17.9 +0.2**
COEN Coen 55.23 179 P **P 09 45 20.9 +3.1**
T35M Bob Quinn 55.25 42 P **P 09 45 19.2 +1.7**
baz=294
AB31 Akbulak array 55.53 308 *i* P **P 09 45 19.2 -0.5**
ABKAR Akbulak array 55.53 308 P **P 09 45 19.7 0.0**
ALE Alert 55.58 4 P **P 09 45 19.5 0.0**
DIB Dawson Inlet, 55.66 47 P **P 09 45 20.7 +0.3**
DIB IAmb IAmb 09 45 44.4
comp=Z,35nm,1.4s
WRGLY Wrigley 55.74 33 IAmb IAmb 09 45 42.7
comp=Z,27nm,1.3s
WRGLY Wrigley 55.74 33 P **P 09 45 22.3 +1.4**
baz=295
AKTO Aktyubinsk 56.14 310 LR LR 10 10 55.7
comp=Z,701nm,20.6s,baz=77,slow=38
AKTO Aktyubinsk 56.14 310 P **P 09 45 22.8 -1.2**
SPB2 Spitsbergen Ar 56.22 348 P **P 09 45 24.3 +0.1**
SPB2 IAmb IAmb 09 46 08.0
comp=Z,23nm,0.9s
SPITS Spitsbergen Ar 56.22 348 P **P 09 45 24.2 0.0**
comp=Z,8.0nm,0.7s,baz=72,slow=8.0,SNR=16
SPITS LR LR 10 12 06.8
comp=Z,266nm,19.4s,baz=29,slow=39
comp=Z,8.0nm,0.7s
SPITS Spitsbergen Ar 56.22 348 P **P 09 45 24.1 0.0**
SPITS pmax pmax
comp=Z,93nm,1.9s
LIRD Liard River Hi 56.22 38 P **P 09 45 26.2 +1.8**
baz=296,SNR=8.1
KBS Kingsbay 56.32 350 P **P 09 45 24.0 -0.9**
KBS IAmb IAmb 09 45 26.5
comp=Z,30nm,0.9s
KBS Kingsbay 56.32 350 P **P 09 45 24.0 -0.9**
KBS pmax pmax
comp=Z,30nm,0.9s
KBS Kingsbay 56.32 350 *i* P **P 09 45 23.4 -1.4**
SMRI Semarang 56.40 219 P **P 09 45 25.2 -1.0**
KBL Kabul 56.42 289 **P 09 45 25.5 -1.0**
KBL Kabul 56.42 289 P **P 09 45 25.6 -0.9**
KBL P **P 09 45 25.6 -0.9**
KBL Kabul 56.42 289 P **P 09 45 25.5 -1.0**
KBL pmax pmax
comp=Z,31nm,0.9s
NOR Nord 56.59 356 *i* P **P 09 45 25.7 -1.0**
NOR IAmb IAmb 09 45 28.0
comp=Z,20nm,0.8s
TOAD Toad River Com 56.87 38 P **P 09 45 30.7 +1.6**
baz=297,SNR=6.0
KIRV Kirov 57.03 321 LR LR 10 12 32.1
comp=Z,491nm,18.8s,baz=58,slow=39
KIRV Kirov 57.03 321 *c i* P **P 09 45 29.9 -0.2**
LHSI Lahat 57.22 228 P **P 09 45 31.7 -0.3**
KPJI Karang Pucung 57.37 220 P **P 09 45 31.7 -1.3**
comp=Z,58nm,1.0s
MDSI Maura Dua 57.41 227 P **P 09 45 31.9 -1.4**
comp=Z,923nmcomp=Z,47nm,1.2s
RES Resolute Bay 58.10 15 LR LR 10 14 19.6
comp=Z,128nm,19.9s,baz=342,slow=40
KNRA Kununurra 58.26 195 P **P 09 45 38.9 -0.4**
comp=Z,37nm,0.8s
KNRA Kununurra 58.26 195 P **P 09 45 39.4 +0.2**
BBB Bella Bella 58.49 46 LR LR 10 10 09.7
comp=Z,62nm,21.0s,baz=290,slow=35
APA Apatity 58.83 335 ⇓ *eP* P 09 45 37.7 -4.9
APA *e* 09 46 27.3
APA MLR MLR
comp=Z,846nm,23.8s
HYB Hyderabad 58.98 266 *eP* **P 09 45 44.1 -0.4**
MTSU Mount Surprise 59.41 178 P **P 09 45 48.3 +1.1**
comp=Z,4.2nm,1.0s
MTSU Mount Surprise 59.41 178 P **P 09 45 50.5 +3.3**
YKA Yellowknife Ar 59.65 32 P **P 09 45 47.9 -0.5**
YKA Yellowknife Ar 59.65 32 P **P 09 45 48.3 -0.1**
comp=Z,3.7nm,0.8s,baz=308,slow=7.0,SNR=15
YKA LR LR 10 13 47.9
comp=Z,186nm,20.6s,baz=284,slow=38
comp=Z,3.7nm,0.8s
YKA Yellowknife Ar 59.65 32 *c e* P **P 09 45 48.9 +0.5**
YKA pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 59.99 339 P **P 09 45 50.6 0.0**
ARCES ARCESS Array B 59.99 339 P **P 09 45 49.6 -1.0**
comp=Z,8.7nm,0.9s,baz=73,slow=6.4,SNR=20
ARCES LR LR 10 16 39.7
comp=Z,233nm,18.5s,baz=48,slow=41
comp=Z,8.7nm,0.9s
ARCES ARCESS Array B 59.99 339 P **P 09 45 50.6 0.0**
ARCES pmax pmax
comp=Z,78nm,1.8s
KLMR Klimovskoe 60.27 327 *eP* P 09 45 47.8 -4.8
KLMR *e* 09 46 33.8
KLMR *e* 09 48 01.8
KLMR pmax pmax
comp=Z,46nm,1.2s
KLMR MLR MLR
comp=Z,488nm,17.0s
TULEG Thule 60.56 8 *i* P **P 09 45 53.9 -0.5**
TULEG IAmb IAmb 09 45 54.6
comp=Z,95nm,0.8s
BELG Belogornoye 60.93 316 LR LR 10 14 43.0
comp=Z,1µm,19.1s,baz=95,slow=38
BELG Belogornoye 60.93 316 *c i* P **P 09 45 56.9 -0.3**
BELG pmax pmax
comp=Z,16nm,1.1s
NEEM North Greenlan 61.00 3 *i* P **P 09 45 57.5 -0.3**
NEEM IAmb IAmb 09 45 59.4
comp=Z,104nm,0.9s
FITZ Fitzroy Crossi 61.28 198 P **P 09 45 60.0 +0.1**
comp=Z,2.6nm,1.0s
FITZ Fitzroy Crossi 61.28 198 **P 09 46 00.0 +0.1**
FITZ Fitzroy Crossi 61.28 198 P **P 09 46 00.2 +0.3**
comp=Z,6.7nm,0.9s,baz=26,slow=7.9,SNR=9.4
comp=Z,6.7nm,0.9s
FITZ Fitzroy Crossi 61.28 198 P **P 09 46 01.7 +1.8**
DAG Danmarks Havn 61.33 355 *i* P **P 09 45 58.0 -1.6**
DAG IAmb IAmb 09 46 00.4
comp=Z,43nm,0.9s
WRAB Tennant Creek 61.59 188 *i* P **P 09 46 01.8 -0.2**
WRAB pmax pmax
comp=Z,16nm,0.9s
WR8 Warramunga Arr 61.60 188 P **P 09 46 01.7 -0.3**
WR8 IAmb IAmb 09 46 03.6
comp=Z,21nm,0.8s
WRA Warramunga Arr 61.60 188 P **P 09 46 00.4 -1.7**
WRA Warramunga Arr 61.60 188 P **P 09 46 01.6 -0.5**
comp=Z,18nm,0.8s,baz=4.6,slow=7.0,SNR=123
WRA LR LR 10 13 17.1
comp=Z,68nm,21.0s,baz=18,slow=36
comp=Z,18nm,0.8s
WRA Warramunga Arr 61.60 188 *c e* P **P 09 46 01.6 -0.5**
WRA pmax pmax
comp=Z,22nm,0.9s
QIS Mount Isa 61.83 183 P **P 09 46 03.5 -0.1**
comp=Z,15nm,0.9s
JOF Joensuu 62.27 331 *eP* **P 09 46 05.3 -0.8**
POIN Pond Inlet 62.70 13 P **P 09 46 08.8 0.0**
B04A Port Angeles 63.15 49 P **P 09 46 12.5 +0.3**
B04A IAmb IAmb 09 46 34.9
comp=Z,28nm,1.3s
SJUU Sjulsmark 63.79 336 *eP* **P 09 46 15.5 -0.7**
DBG Daneborg 63.83 355 *i* P **P 09 46 15.9 -0.4**
DBG IAmb IAmb 09 46 17.2
comp=Z,18nm,1.1s
PALK Pallekele 63.95 256 LR LR 10 15 08.8
comp=Z,226nm,21.8s,baz=47,slow=37
PALK Pallekele 63.95 256 P **P 09 46 18.6 +0.6**
MOS Moscow 63.99 322 *eP* **P 09 46 15.8 -1.8**
MOS *e* 09 46 35.6
MOS *e* 09 58 55.0
MOS pmax pmax
comp=Z,40nm,1.0s
MOS MLR MLR
comp=Z,600nm,19.0s
VRH Novokhopyorsk 64.65 317 *eP* **P 09 46 20.3 -1.7**
VRH pmax pmax
comp=Z,30nm,1.0s
ILON Igloolik, Nuna 64.76 16 **P 09 46 21.6 -0.8**
OBN Obninsk 64.85 322 ⇓ *eP* **P 09 46 23.2 0.0**
OBN *e* 09 46 58.2
OBN *e* 09 48 52.2
OBN *eSS* SS 09 59 06.8 -4.4
OBN pmax pmax
comp=Z,45nm,1.0s
OBN MLR MLR
comp=Z,493nm,17.0s
BLKN Baker Lake 65.03 24 **P 09 46 24.4 +0.1**
BLKN IAmb IAmb 09 46 25.7
comp=Z,34nm,0.9s
KEF Kaurusu 65.04 333 *eP* **P 09 46 23.4 -1.0**
FIA1 FINESS Array S 65.10 332 P **P 09 46 24.4 -0.4**
FINES FINESS Array B 65.10 332 P **P 09 46 24.5 -0.2**
FINES FINESS Array B 65.10 332 P **P 09 46 24.2 -0.5**
comp=Z,54nm,0.9s,baz=29,slow=8.7,SNR=117
FINES LR LR 10 17 04.8
comp=Z,874nm,20.1s,baz=40,slow=38
comp=Z,54nm,0.9s
FINES FINESS Array B 65.10 332 *c e* P **P 09 46 24.2 -0.5**
FINES pmax pmax
comp=Z,21nm,0.4s
LTY Liberty 65.18 48 IAmb IAmb 09 46 48.1
comp=Z,45nm,1.6s
LPSR Galich'ya Gora 65.23 319 *eP* **P 09 46 23.4 -2.3**
LPSR pmax pmax
comp=Z,40nm,1.0s
UPNV Upernavik 65.26 6 *i* P **P 09 46 25.4 -0.3**
UPNV IAmb IAmb 09 46 27.0
comp=Z,49nm,1.0s
B08A Colville Reser 65.29 47 IAmb IAmb 09 46 48.8
comp=Z,50nm,1.7s
G04A Mulino 65.32 51 IAmb IAmb 09 47 19.6
comp=Z,24nm,0.8s
AS01 Alice Springs 65.32 188 P **P 09 46 27.6 +1.0**
AS31 Alice Springs 65.33 188 P **P 09 46 26.8 +0.1**
comp=Z,4.7nm,0.7s
ASAR Alice Springs 65.33 188 P **P 09 46 27.0 +0.3**
ASAR Alice Springs 65.33 188 P **P 09 46 26.8 +0.1**
comp=Z,9.7nm,0.8s,baz=6.3,slow=6.9,SNR=67
ASAR LR LR 10 14 56.6
comp=Z,121nm,21.9s,baz=353,slow=36
comp=Z,9.7nm,0.8s
VORR Voronezh 65.65 318 *eP* **P 09 46 26.8 -1.6**
VORR pmax pmax
comp=Z,30nm,0.9s
I03D Drain, OR 65.67 53 IAmb IAmb 09 46 50.4
comp=Z,14nm,0.8s
HOOD Mount Hood Mea 65.73 50 IAmb IAmb 09 46 52.3
comp=Z,35nm,1.0s
MXC Moxie City 65.78 49 IAmb IAmb 09 46 52.4
comp=Z,45nm,1.5s
H04A Detroit Lake 65.79 51 **P 09 46 29.9 +0.3**
H04A IAmb IAmb 09 46 52.3
comp=Z,23nm,1.2s
JMIC Jan Mayen 65.81 350 LR LR 10 16 55.9
comp=Z,70nm,19.0s,baz=240,slow=38
VSR Storozhevoye 65.94 318 *eP* **P 09 46 28.7 -1.7**
VSR pmax pmax
comp=Z,20nm,0.9s
KBO Bosley Butte 65.99 54 P **P 09 46 31.1 +0.1**
VORD Divnogorie 66.03 318 *eP* **P 09 46 29.0 -1.9**
VORD pmax pmax
comp=Z,20nm,1.0s
E07A Sunnyside 66.04 48 IAmb IAmb 09 46 53.3
comp=Z,24nm,1.1s
WAH2 Wahluke Slope 66.09 48 IAmb IAmb 09 46 53.2
comp=Z,27nm,1.2s
SUMG Summit 66.18 0 *i* P **P 09 46 32.0 -0.1**
SUMG IAmb IAmb 09 46 34.6
comp=Z,82nm,1.0s
D08A Wollman Farm, 66.27 48 IAmb IAmb 09 46 54.3
comp=Z,69nm,1.9s
I05D Terrebonne, OR 66.48 51 IAmb IAmb 09 46 59.8
comp=Z,44nm,1.8s
ARBE Arbavere 66.49 330 *eP* **P 09 46 32.6 -1.1**
E08A Dider Farm, El 66.53 48 IAmb IAmb 09 46 56.9
comp=Z,70nm,2.0s
BBOR Butler Butte 66.53 53 IAmb IAmb 09 46 58.0
comp=Z,20nm,1.2s
NEW Newport 66.54 46 IAmb IAmb 09 46 56.9
comp=Z,44nm,1.9s
NEW Newport 66.54 46 LR LR 10 16 13.9
comp=Z,111nm,21.6s,baz=304,slow=36
MEF Metsahovi 66.54 331 *eP* **P 09 46 33.1 -0.9**
J04A Umpqua Nationa 66.67 52 IAmb IAmb 09 46 57.8
comp=Z,20nm,0.9s
VSU Vasula 66.87 329 *eP* **P 09 46 35.0 -1.2**
VSU Vasula 66.87 329 *c e* P **P 09 46 35.8 -0.3**
VSU pmax pmax
comp=Z,45nm,1.0s
AKT Akhty 66.88 305 *eP* **P 09 46 36.1 -0.6**
AKT *e* SP **pP 09 46 48.8 -2.9**
AKT *e* 09 47 01.8
AKT pmax pmax
comp=Z,42nm,1.0s
AKT MLR MLR
comp=Z,555nm,18.0s
RAF Rauma 66.91 333 *eP* **P 09 46 35.7 -0.6**
PINE Pine Mountain 67.04 51 **P 09 46 37.8 0.0**
PINE IAmb IAmb 09 46 59.3
comp=Z,14nm,0.8s
KHMM Horse Mountain 67.06 55 IAmb IAmb 09 46 59.7
comp=Z,15nm,0.8s
DZM Mont Dzumac 67.19 156 *eP* **P 09 46 40.3 +1.7**
comp=Z,58nm,25.4s
DZM Mont Dzumac 67.19 156 *e* PP **PP 09 49 05.3 -2.3**
comp=Z,48nm,25.9s
DZM *eS* **S 09 55 21.5 -7.6**
comp=Z,85nm,25.8s
DZM *eSS* **SS 09 59 55.8 +6.0**
comp=Z,119nm,29.5s
DZM *e* LQ LQ 10 03 36.9
comp=Z,702nm,37.6s
DZM *e* LR LR 10 06 55.4
comp=Z,519nm,22.9s
DZM Mont Dzumac 67.19 156 LR LR 10 12 11.4
comp=Z,211nm,21.9s,baz=25,slow=32
YBH Yreka Blue Hor 67.19 54 **P 09 46 38.9 +0.3**
YBH Yreka Blue Hor 67.19 54 LR LR 10 12 27.8
comp=Z,8.0nm,22.0s,baz=290,slow=33
YBH Yreka Blue Hor 67.19 54 P **P 09 46 38.9 +0.3**
YBH pmax pmax
comp=Z,8.0nm,0.8s
LNOR Lincton Mounta 67.33 48 IAmb IAmb 09 47 01.5
comp=Z,65nm,2.0s
NIAQ Niaqornat 67.39 6 *i* P **P 09 46 39.7 +0.4**
NIAQ IAmb IAmb 09 46 42.1
comp=Z,36nm,1.0s
WRKA Warakurna 67.48 194 P **P 09 46 40.6 +0.2**
SAATT Saattut 67.51 5 *i* P **P 09 46 40.2 +0.2**
SAATT IAmb IAmb 09 46 41.9
comp=Z,106nm,1.0s
GOF Gofitskoye 67.54 311 *c e* P **P 09 46 41.0 +0.3**
N02D Trinity Center 67.64 55 IAmb IAmb 09 47 03.1
comp=Z,13nm,0.8s
K05A Summer Lake 67.69 52 IAmb IAmb 09 47 04.6
comp=Z,19nm,1.0s
O02D Mt. Diablo Mer 68.05 55 IAmb IAmb 09 47 05.8
comp=Z,16nm,0.9s
SAQQ Saqqaq 68.28 5 *i* P **P 09 46 44.6 -0.3**
SAQQ IAmb IAmb 09 46 46.6
comp=Z,40nm,0.9s
JTMT Jette 68.37 45 P **P 09 46 46.0 -0.1**
KVAR Kislovodsk Arr 68.40 310 LR LR 10 21 59.2
comp=Z,330nm,18.0s,slow=40
KIV Kislovodsk 68.41 310 P **P 09 46 46.2 0.0**
KIV Kislovodsk 68.41 310 P **P 09 46 47.7 +1.4**
KIV P **P 09 46 47.7 +1.4**
KIV Kislovodsk 68.41 310 ⇓ P **P 09 46 47.7 +1.4**
KIV Kislovodsk 68.41 310 *i* P **P 09 46 47.0 +0.7**
SNR=6.0
KIV Kislovodsk 68.41 310 *eP* **P 09 46 46.6 +0.3**
KIV pmax pmax
comp=Z,115nm,1.1s
KIV MLR MLR
comp=Z,367nm,17.0s
KIV Kislovodsk 68.41 310 P **P 09 46 47.8 +1.5**
KBZ Khabaz 68.42 310 P **P 09 46 46.2 0.0**
comp=Z,24nm,0.9s,baz=52,slow=3.0,SNR=27
KBZ LR LR 10 20 22.1
comp=Z,289nm,21.6s,baz=36,slow=39
comp=Z,24nm,0.9s
KBZ Khabaz 68.42 310 *c i* P **P 09 46 46.2 0.0**
KBZ pmax pmax
comp=Z,35nm,0.9s
HATC Hat Creek Radi 68.49 54 IAmb IAmb 09 47 08.1
comp=Z,22nm,0.9s
BMO Blue Mountains 68.49 49 IAmb IAmb 09 47 08.7
comp=Z,36nm,1.8s
SHA1 Shidzhatmaz 68.56 310 *c i* P **P 09 46 47.5 +0.1**
O03E Paynes Creek 68.59 55 IAmb IAmb 09 47 08.1
comp=Z,25nm,0.9s
GDH Godhavn 68.91 6 *i* P **P 09 46 48.2 -0.6**
GDH IAmb IAmb 09 46 49.1
comp=Z,76nm,1.3s
INKA Innaminka 68.95 181 **P 09 46 49.9 +0.4**
MNRC McLaughlin Min 69.04 56 IAmb IAmb 09 47 12.0
comp=Z,17nm,0.9s
PLID Pearl Lake 69.08 48 P **P 09 46 50.7 +0.1**
MNK Minsk 69.09 325 *i* P **P 09 46 50.8 +0.6**
comp=E,30nm,0.9s
MNK *i* P **P 09 46 50.8 +0.6**
comp=N,18nm,1.0s
MNK *i* P **P 09 46 50.8 +0.6**
comp=Z,49nm,0.9s,baz=47
MNK *i* pP **pP 09 47 03.4 -1.8**
MNK *i* PP **PP 09 49 23.5 +0.7**
MNK *i* PPP PPP 09 51 04.4
MNK *i* S **S 09 55 52.9 +1.9**
MNK *i* SS **SS 10 00 20.4 +3.5**
MNK *i* SSS SSS 10 03 37.9
MNK *i* LQ LQ 10 12 27.4
MNK *i* LR LR 10 17 36.5
MNK *i* LRM MLR 10 19 45.6
comp=E,402nm,19.3s
MNK *i* LRM MLR 10 19 49.2
comp=N,337nm,18.0s
MNK *i* LRM MLR 10 19 49.2
comp=Z,658nm,19.9s
MNK Minsk 69.09 325 *i* P **P 09 46 50.8 +0.6**
MNK *i* *PP **pP 09 47 03.4 -1.8**
MNK *i* 09 49 23.5
MNK *i* PPP PPP 09 51 04.4
MNK *i* S **S 09 55 52.9 +1.9**
MNK *i* SS **SS 10 00 20.4 +3.5**
MNK pmax pmax
comp=N,18nm,1.0s
MNK pmax pmax
comp=Z,49nm,0.9s
MNK pmax pmax
comp=E,30nm,0.9s
MNK MLR MLR
comp=E,402nm,19.0s
MNK MLR MLR
comp=Z,658nm,20.0s
MNK MLR MLR
comp=N,337nm,18.0s
ISAL Salakas 69.09 327 *eP* **P 09 46 51.2 +1.0**
ILULI Ilulissat 69.12 5 *i* P **P 09 46 49.5 -0.7**
ILULI IAmb IAmb 09 46 51.2
comp=Z,26nm,0.8s
WVOR Wild Horse Val 69.20 51 IAmb IAmb 09 47 14.4
comp=Z,65nm,1.9s
NACGM Naroch 69.28 326 ⇑ *i* P **P 09 46 51.1 -0.3**
GNI Garni 69.50 306 LR LR 10 20 15.8
comp=Z,149nm,18.8s,baz=53,slow=38
GNI Garni 69.50 306 P **P 09 46 54.6 +1.5**
GNI P **P 09 46 54.6 +1.5**
GNI Garni 69.50 306 *i* P **P 09 46 53.2 0.0**
GNI pmax pmax
comp=Z,23nm,1.2s
FFC Flin Flon 69.63 34 P **P 09 46 53.7 +0.2**
FFC IAmb IAmb 09 47 15.6
comp=Z,22nm,0.9s
FFC Flin Flon 69.63 34 P **P 09 46 53.7 +0.2**
FFC pmax pmax
comp=Z,22nm,1.0s
FFC Flin Flon 69.63 34 P **P 09 46 53.9 +0.4**
FFC pP **pP 09 47 09.2 +0.6**
FCC Fort Churchill 69.73 28 IAmb IAmb 09 47 10.7
comp=Z,36nm,1.4s
AFDM Forest Hills D 69.91 56 IAmb IAmb 09 47 17.3
comp=Z,67nm,2.0s
HFS Hagfors 70.22 335 P **P 09 46 56.7 -0.3**
comp=Z,8.2nm,0.3s,baz=36,slow=5.3,SNR=134
HFS LR LR 10 21 05.4
comp=Z,254nm,19.8s,baz=42,slow=39
comp=Z,8.2nm,0.3s
NB2 NORSAR Subarra 70.25 337 P **P 09 46 56.7 -0.6**
comp=Z,32nm,1.1s,baz=35,slow=6.5
NB2 NORSAR Subarra 70.25 337 P **P 09 46 56.7 -0.6**
comp=Z,32nm,1.1s,baz=35,slow=6.5
NOA NORSAR Array B 70.25 337 P **P 09 46 56.8 -0.5**
comp=Z,16nm,0.9s,baz=37,slow=6.1,SNR=32
NOA LR LR 10 20 47.2
comp=Z,396nm,22.0s,baz=30,slow=38
comp=Z,16nm,0.9s
WSAR Wadi Sarin 70.29 284 P **P 09 46 59.0 +0.9**
SOC Sochi 70.33 311 *eP* **P 09 46 57.0 -1.0**
SOC *e* 09 49 31.4
SOC *e* PPP PPP 09 51 12.6
SOC *eS* **S 09 56 06.0 0.0**
SOC *eSS* **SS 10 00 37.3 +0.8**
SOC pmax pmax
comp=Z,6.0nm,0.2s
BANOM Banah 70.35 288 P **P 09 46 58.8 +0.4**
BANOM Banah 70.35 288 *i* P **P 09 46 58.5 0.0**
SNR=14
WELL Weller Preserv 70.38 56 IAmb IAmb 09 47 20.6
comp=Z,55nm,1.9s
JLN Jalan Bani Buh 70.38 282 P **P 09 46 59.2 +0.5**
SHME Shamm 70.38 288 P **P 09 46 58.4 -0.2**
SNR=6.5
SHME Shamm 70.38 288 *i* P **P 09 46 58.5 -0.1**
SNR=24
BIDO Bidbid 70.48 284 P **P 09 46 58.8 -0.4**
MDH Madha 70.73 287 P **P 09 47 00.7 0.0**
DLMT Dillon 70.78 46 IAmb IAmb 09 47 22.6
comp=Z,39nm,1.4s
MASF Masafi 70.78 287 P **P 09 47 01.4 +0.2**
SNR=5.1
MASF P **P 09 47 01.4 +0.2**
SNR=5.1
MSFE Esma-Masafi 70.79 287 *i* P **P 09 47 01.1 0.0**
SNR=10
SMDO Samad 70.82 284 P **P 09 47 02.2 +0.8**
ANN Anapa 70.83 313 *eP* **P 09 47 00.1 -0.9**
ANN pmax pmax
comp=Z,45nm,1.0s
ANN MLR MLR
comp=N,2µm,25.0s
ANN MLR MLR
comp=E,1µm,24.0s
ANN MLR MLR
comp=Z,913nm,23.0s
UOSS Minazif 71.01 287 P **P 09 47 00.7 -1.7**
UOSS Minazif 71.01 287 P **P 09 47 02.4 0.0**
UOSS P **P 09 47 02.4 0.0**
UOSS Minazif 71.01 287 *i* P **P 09 47 02.1 -0.3**
SNR=18
UOSS Minazif 71.01 287 P **P 09 47 02.5 0.0**
HOQ Hoqain 71.04 285 P **P 09 47 02.7 +0.1**
AKASG Malin Array Be 71.09 322 P **P 09 47 02.3 -0.2**
AKASG Malin Array Be 71.09 322 P **P 09 47 02.0 -0.5**
comp=Z,28nm,0.9s,baz=46,slow=6.2,SNR=68
AKASG LR LR 10 20 51.6
comp=Z,446nm,18.6s,baz=50,slow=38
comp=Z,28nm,0.9s
AKASG Malin Array Be 71.09 322 *c e* P **P 09 47 02.0 -0.5**
AKASG pmax pmax
comp=Z,29nm,0.9s
AKBB Malin Array Si 71.09 322 P **P 09 47 01.9 -0.6**
AKBB IAmb IAmb 09 47 03.9
comp=Z,34nm,0.9s
AKBB Malin Array Si 71.09 322 P **P 09 47 01.9 -0.6**
AKBB pmax pmax
comp=Z,34nm,0.9s
KIEV Kiev 71.10 322 P **P 09 47 01.9 -0.6**
KIEV IAmb IAmb 09 47 03.9
comp=Z,31nm,0.9s
KIEV Kiev 71.10 322 ⇓ P **P 09 47 01.8 -0.6**
KIEV Kiev 71.10 322 *i* P **P 09 47 01.9 -0.6**

SNR=24
KIEV **Kiev** 71.10 322 P P 09 47 01.9 -0.6
KIEV pmax pmax
comp=Z,31nm,0.9s
KIEV **Kiev** 71.10 322 P P 09 47 02.0 -0.6
KIEV sP sP 09 47 25.6 +1.8
HATD **Hatta, Dubai** 71.13 287 P P 09 47 03.3 +0.1
SNR=12
HATD P P 09 47 03.3 +0.1
SNR=12
HATD **Hatta, Dubai** 71.13 287 *i* P P 09 47 03.5 +0.3
SNR=18
BOZ **Bozeman (W)** 71.14 45 IAmb IAmb 09 47 24.1
comp=Z,27nm,1.5s
JMDO **Jabal Madar** 71.20 283 P P 09 47 03.7 0.0
JMDO P P 09 47 03.7 0.0
SOHO **SOHO** 71.27 286 P P 09 47 04.0 0.0
SOHO **SOHO** 71.27 286 *i* P P 09 47 04.0 0.0
SNR=14
ASHO **Ashiyiah** 71.27 287 P P 09 47 04.4 +0.3
SNR=9.5
ASHO **Ashiyiah** 71.27 287 *i* P P 09 47 05.0 +0.9
SNR=25
SFJD **Kangerlussuaq** 71.35 5 LR LR 10 19 21.5
comp=Z,361nm,21.9s,baz=348,slow=37
SFJD **Kangerlussuaq** 71.35 5 *i* P P 09 47 03.5 -0.2
SFJD IAmb IAmb 09 47 04.9
comp=Z,28nm,1.0s
NAZ **Nazwa, Dubai** 71.37 287 P P 09 47 05.1 +0.5
NAZ P P 09 47 05.1 +0.5
NAZ **Nazwa, Dubai** 71.37 287 P P 09 47 04.5 -0.1
FAQ **Al Faqa, Dubai** 71.57 287 P P 09 47 06.3 +0.4
FAQ P P 09 47 06.3 +0.4
FAQ **Al Faqa, Dubai** 71.57 287 P P 09 47 05.6 -0.3
ARQ **Araqi** 71.76 285 P P 09 47 07.4 +0.3
SNR=6.9
ASUD **Al Ashush, Dub** 71.83 287 *i* P P 09 47 07.7 +0.3
SNR=12
LHV **Little Huntoon** 71.86 55 IAmb IAmb 09 47 29.4
comp=Z,26nm,0.9s
STRU **Stroemstad** 71.87 336 *e*P P 09 47 06.8 -0.2
ALNE **Al Ain** 71.88 286 P P 09 47 07.5 -0.2
SNR=7.3
ALNE **Al Ain** 71.88 286 *i* P P 09 47 07.7 0.0
SNR=6.9
DY2G **Dye2** 72.12 4 *i* P P 09 47 08.4 -0.3
DY2G IAmb IAmb 09 47 09.8
comp=Z,62nm,0.8s
KOPT **Kop Dagi** 72.13 308 IAmb IAmb 09 47 12.8
comp=Z,22nm,1.0s
GURO **Guroymak-BITLI** 72.13 306 IAmb IAmb 09 47 11.8
comp=Z,27nm,0.9s
MHTO **MHTO** 72.15 282 P P 09 47 09.5 +0.1
SNR=5.4
ELK **Elko** 72.24 51 IAmb IAmb 09 47 32.3
comp=Z,43nm,2.0s
ELK **Elko** 72.24 51 LR LR 10 15 09.3
comp=Z,83nm,21.1s,baz=310,slow=33
FRB **Frobisher Bay** 72.26 14 LR LR 10 22 18.3
comp=Z,281nm,20.0s,baz=326,slow=39
Q09A **Carvers** 72.30 54 IAmb IAmb 09 47 31.5
comp=Z,39nm,0.9s
YFT **Old Faithful** 72.32 46 IAmb IAmb 09 47 37.9
comp=Z,21nm,1.1s
SIM **Simferopol'** 72.53 315 *e*P P 09 47 11.7 +0.5
SIM pmax pmax
comp=Z,35nm,0.9s
SIM MLR MLR
comp=Z,350nm,20.0s
RLMT **Red Lodge** 72.71 45 IAmb IAmb 09 47 34.7
comp=Z,31nm,1.6s
TPAW **Teton Pass** 72.89 47 IAmb IAmb 09 47 36.3
comp=Z,43nm,1.6s
LOHW **Long Hollow** 73.00 46 IAmb IAmb 09 47 37.9
comp=Z,56nm,1.8s
STKA **Stephens Creek** 73.06 180 P P 09 47 15.1 +0.8
comp=Z,2.9nm,0.6s,baz=344,slow=11,SNR=5.1
STKA LR LR 10 18 48.0
comp=Z,102nm,21.8s,baz=22,slow=35
comp=Z,2.9nm,0.6s
UMZA **Um Al Zommool** 73.13 286 P P 09 47 14.8 -0.3
ANGG **Ammassalik, Gr** 73.17 360 ⇓*i* P P 09 47 14.0 -0.6
LAO **LASA Array** 73.22 42 IAmb IAmb 09 47 38.3
comp=Z,70nm,1.9s
BORG **Borgarnes** 73.25 353 LR LR 10 20 32.5
comp=Z,69nm,19.5s,baz=291,slow=37
SORM **Soroca** 73.28 320 ⇓P P 09 47 15.4 -0.2
SORM **Soroca** 73.28 320 ⇓P P 09 47 15.4 -0.2
MZWR **Madinat Zayed** 73.41 287 P P 09 47 16.5 -0.3
MZWR P P 09 47 16.5 -0.3
JRN **Qarnain Island** 73.41 289 P P 09 47 15.7 -1.0
JRN P P 09 47 15.7 -1.0
R11B **Troy Canyon, C** 73.57 53 IAmb IAmb 09 47 39.9
comp=Z,48nm,2.0s
MARD **Mardin** 73.68 305 IAmb IAmb 09 47 21.1
comp=Z,43nm,0.9s
BSD **Bornholm Skovb** 73.75 332 ⇑*i* P P 09 47 17.6 -0.6
BSD IAmb IAmb 09 47 19.4
comp=Z,30nm,0.8s
HWUT **Hardware Ranch** 73.79 49 IAmb IAmb 09 47 42.3
comp=Z,39nm,1.6s
MPMC **Manual Prospec** 73.88 56 IAmb IAmb 09 47 27.8
comp=Z,29nm,0.6s
MILM **Milestii Mici** 73.90 319 ⇓P P 09 47 18.6 -0.7
MILM **Milestii Mici** 73.90 319 ⇓P P 09 47 18.6 -0.7
BEL **Belsk** 73.99 327 *e*P P 09 47 20.2 +0.5
GHWR **Ruwais** 74.00 288 P P 09 47 19.2 -1.0
GHWR P P 09 47 19.2 -1.0
NUUK **Nuuk** 74.05 6 *i* P P 09 47 19.7 -0.1
NUUK IAmb IAmb 09 47 21.9
comp=Z,67nm,0.9s
TPNV **Topopah Spring** 74.07 55 IAmb IAmb 09 47 42.0
comp=Z,19nm,0.9s
PDAR **Pinedale Array** 74.13 47 P P 09 47 21.0 0.0
PDAR **Pinedale Array** 74.13 47 P P 09 47 21.6 +0.5
comp=Z,4.9nm,0.8s,baz=272,slow=2.4,SNR=50
PDAR LR LR 10 20 38.9
comp=Z,60nm,21.7s,baz=319,slow=36
comp=Z,4.9nm,0.8s
MZR **Muzera** 74.16 287 P P 09 47 21.0 -0.2
SNR=9.4
MZR P P 09 47 21.0 -0.2
SNR=9.4
MZR **Muzera** 74.16 287 *i* P P 09 47 20.7 -0.5
SNR=20
SAKB **Bahrain** 74.40 291 P P 09 47 22.4 -0.1
BZK **Bozkurt** 74.58 313 ⇑P P 09 47 24.5 +1.2
VASR **Vaslui** 74.59 319 ⇓P P 09 47 22.9 -0.4
TRNA **Turayna** 74.70 290 P P 09 47 23.3 -1.0
SLWR **Sila** 74.78 289 P P 09 47 24.2 -0.6
GSC **Goldstone, Bar** 74.79 56 IAmb IAmb 09 47 39.7
comp=Z,21nm,0.6s
MPU **Maple Canyon** 74.81 50 IAmb IAmb 09 47 48.1
comp=Z,55nm,2.0s
SMRA **Abu-Samra** 74.97 290 P P 09 47 24.9 -1.0
SHPR **Sheep Range** 75.03 54 IAmb IAmb 09 47 48.7
comp=Z,37nm,2.0s
BURAR **Bucovina Array** 75.13 321 P P 09 47 26.7 +0.2
BURAR IAmb IAmb 09 47 28.1
comp=Z,15nm,0.8s
BURAR **Bucovina Array** 75.13 321 ⇑P P 09 47 26.9 +0.4
BURAR **Bucovina Array** 75.13 321 ⇑P P 09 47 26.9 +0.4
TESR **Tescani** 75.24 320 ⇓P P 09 47 27.4 +0.3
TCRU **Three Creeks R** 75.27 51 IAmb IAmb 09 47 59.9
comp=Z,31nm,1.7s
ILGA **Ilgaz** 75.35 312 IAmb IAmb 09 47 30.4
comp=Z,36nm,0.8s
ULM **Lac du Bonnet** 75.44 34 P P 09 47 29.4 +1.3
comp=Z,4.1nm,0.8s,baz=334,slow=5.4,SNR=4.6
ULM LR LR 10 22 53.5
comp=Z,156nm,19.9s,baz=334,slow=37
comp=Z,4.1nm,0.8s
MTPC **Mountain Pass** 75.45 55 IAmb IAmb 09 47 50.8
comp=Z,63nm,2.0s
CFR **Carcaliu** 75.46 318 ⇑P P 09 47 28.5 +0.2
CFR **Carcaliu** 75.46 318 ⇑P P 09 47 28.5 +0.2
KOLS **Kolonicke sedl** 75.51 324 *e*P P 09 47 29.2 +0.6
KOLS pmax pmax
comp=Z,16nm,0.9s
TPGR **Topolog** 75.54 318 ⇓P P 09 47 29.3 +0.5
OJC **Ojcow** 75.62 326 *e*P P 09 47 29.5 +0.4
BNN **Bunyan** 75.62 309 IAmb IAmb 09 47 32.3
comp=Z,39nm,1.0s
VRI **Vrincioaia** 75.67 319 ⇓P P 09 47 29.4 -0.1
VRI **Vrincioaia** 75.67 319 ⇓P P 09 47 29.4 -0.1
PLOR **Plostina** 75.71 319 ⇑P P 09 47 30.8 +1.0
PLOR **Plostina** 75.71 319 ⇑P P 09 47 30.8 +1.0
V12A **Nelson** 75.72 55 IAmb IAmb 09 47 52.5
comp=Z,34nm,1.6s
MTPU **Mount Pierson** 75.80 52 IAmb IAmb 09 47 52.8
comp=Z,44nm,1.8s
K22A **Casper** 75.85 45 IAmb IAmb 09 47 53.2
comp=Z,67nm,1.6s
LCMT **Little Creek M** 75.85 53 IAmb IAmb 09 47 53.5
comp=Z,45nm,1.9s
P18A **Preston Nutter** 75.86 49 IAmb IAmb 09 47 54.4
comp=Z,44nm,1.7s
HARR **Harsova** 75.91 318 ⇓P P 09 47 23.9 -7.0
HARR **Harsova** 75.91 318 ⇓P P 09 47 23.9 -7.0
GAZ **Gaziantep** 75.93 307 IAmb IAmb 09 47 34.5
comp=Z,30nm,1.0s
NIE **Niedzica** 76.01 325 *e*P P 09 47 33.2 +1.7
SRU **San Rafael Swe** 76.05 50 IAmb IAmb 09 47 55.1
comp=Z,77nm,2.0s
PFO **Pinyon Flats O** 76.10 57 LR LR 10 16 26.9
comp=Z,155nm,19.9s,baz=278,slow=32
KNB **Kanab** 76.10 53 IAmb IAmb 09 47 55.1
comp=Z,52nm,1.8s
RSSD **Black Hills** 76.11 43 P P 09 47 32.5 +0.1
RSSD IAmb IAmb 09 47 54.7
comp=Z,26nm,1.4s
RSSD **Black Hills** 76.11 43 P P 09 47 32.5 +0.1
RSSD pmax pmax
comp=Z,26nm,1.5s
KLBR **Kellerberrin** 76.17 201 P P 09 47 33.3 +0.9
comp=Z,22nm,1.0s
ISR **Istrita** 76.29 319 ⇓P P 09 47 34.2 +1.1
ISR **Istrita** 76.29 319 ⇓P P 09 47 34.2 +1.1
BR131 **Keskin Array S** 76.30 311 P P 09 47 33.8 +0.4
SNR=5.6
BR131 P P 09 47 33.8 +0.4
SNR=5.6
BR131 **Keskin Array S** 76.30 311 *i* P P 09 47 33.1 -0.3
BRTR **Keskin Array B** 76.30 311 P P 09 47 32.5 -0.9
BRTR **Keskin Array B** 76.30 311 P P 09 47 33.5 +0.1
comp=Z,6.0nm,0.8s,baz=54,slow=3.9,SNR=22
BRTR PP PP 09 50 25.2 +0.5
comp=Z,2.4nm,1.0s,baz=46,slow=7.1,SNR=4.0
BRTR LR LR 10 27 06.7
comp=Z,181nm,19.0s,baz=336,slow=40
comp=Z,6.0nm,0.8s
BRTR **Keskin Array B** 76.30 311 *ce*P P 09 47 33.5 +0.1
BRTR pmax pmax
comp=Z,8.0nm,0.9s
MLR **Muntele Rosu** 76.32 319 LR LR 10 23 22.2
comp=Z,298nm,21.8s,baz=52,slow=37
MLR **Muntele Rosu** 76.32 319 ⇑P P 09 47 34.9 +1.5
MLR **Muntele Rosu** 76.32 319 ⇑P P 09 47 34.9 +1.5
CEI **Carei** 76.35 323 ⇓P P 09 47 32.3 -1.1
CEI **Carei** 76.35 323 ⇓P P 09 47 32.3 -1.1
ICOR **Ion Corvin** 76.38 318 ⇓P P 09 47 34.4 +0.9
DMTO **DMTO** 76.42 282 P P 09 47 33.9 -0.2
DOK **Doka** 76.44 283 P P 09 47 33.6 -0.7
KIRS **Kirsehir-Merke** 76.54 311 ⇓P P 09 47 35.5 +0.7
LANS **Liptovska Anna** 76.57 325 *e*P P 09 47 35.8 +1.2
LANS pmax pmax
comp=Z,8.0nm,1.0s
KSP **Ksiaz** 76.57 328 *e*P P 09 47 34.9 +0.3
OKC **Ostrava-Krasne** 76.60 327 AMS AMS 10 23 40.0
comp=Z,500nm,19.3s
ANTO **Ankara** 76.67 312 P P 09 47 34.9 -0.6
ANTO IAmb IAmb 09 47 37.5
comp=Z,46nm,1.1s
ANTO **Ankara** 76.67 312 ⇑P P 09 47 36.9 +1.4
ANTO **Ankara** 76.67 312 ⇑P P 09 47 36.9 +1.4
STEB **Steborice** 76.68 327 *e*P P 09 47 35.6 +0.4
STEB *ep*P **sP** 09 47 55.5 -1.0
EPLO **Experimental L** 76.78 34 IAmb IAmb 09 47 57.1
comp=Z,23nm,1.1s
MARR **Marisel-Cluj** 76.80 322 ⇓P P 09 47 36.7 +0.7
U15A **North Rim** 76.81 53 IAmb IAmb 09 48 03.7
comp=Z,69nm,2.0s
OSTC **Ostas** 76.82 328 *e*P P 09 47 36.6 +0.6
OSTC MLR MLR
comp=Z,300nm,16.2s
OSTC **Ostas** 76.82 328 *e*P P 09 47 36.6 +0.6
OSTC AMS AMS 10 24 20.0
comp=Z,300nm,16.2s
CHVC **Chvalec** 76.86 328 *e*P P 09 47 36.9 +0.6
CHVC MLR MLR
comp=Z,300nm,12.6s
CHVC **Chvalec** 76.86 328 *e*P P 09 47 36.9 +0.6
CHVC AMS AMS 10 24 10.0
comp=Z,300nm,12.6s
MORC **Moravsky Berou** 76.89 327 IAmb IAmb 09 47 39.1
comp=Z,29nm,1.0s
MORC **Moravsky Berou** 76.89 327 *e*P P 09 47 36.7 +0.2
MORC **Moravsky Berou** 76.89 327 ⇓P P 09 47 37.3 +0.8
MORC **Moravsky Berou** 76.89 327 ⇓P P 09 47 37.3 +0.8
DRGR 76.90 322 ⇑P P 09 47 37.1 +0.5
DRGR 76.90 322 ⇑P P 09 47 37.1 +0.5
DPC **Dobruska-Polom** 76.94 328 *e*P P 09 47 37.7 +1.0
DPC MLR MLR
comp=Z,300nm,15.1s
DPC **Dobruska-Polom** 76.94 328 *e*P P 09 47 37.7 +1.0
DPC AMS AMS 10 24 20.0
comp=Z,300nm,15.1s
UPC **Upice** 76.94 328 *e*P P 09 47 37.4 +0.7
UPC MLR MLR
comp=Z,300nm,15.3s
UPC **Upice** 76.94 328 *e*P P 09 47 37.4 +0.7
UPC AMS AMS 10 24 10.0
comp=Z,300nm,15.3s
KRLC **Kraliky** 76.97 327 *e*P P 09 47 37.3 +0.4
KRLC MLR MLR
comp=Z,300nm,18.2s
KRLC **Kraliky** 76.97 327 *e*P P 09 47 37.3 +0.4
KRLC AMS AMS 10 24 00.0
comp=Z,300nm,18.2s
ARR **Arges** 77.04 320 ⇓P P 09 47 38.4 +1.0
MAUC **Maruska** 77.09 326 *e*P P 09 47 38.3 +0.7
WHFO **Wadi Hawf** 77.15 283 P P 09 47 37.5 -0.9
PRD **Provadia** 77.26 317 *e*P P 09 47 34.6 -3.9
FLTG **Flechtingen** 77.29 332 *e*P P 09 47 38.1 -0.4
comp=Z,27nm,0.9s,baz=32,slow=5.4
PSZ **Piszkesteto** 77.32 324 IAmb IAmb 09 47 41.1
comp=Z,14nm,0.9s
PSZ **Piszkesteto** 77.32 324 ⇑P P 09 47 40.5 +1.6
PSZ **Piszkesteto** 77.32 324 *e*P P 09 47 39.4 +0.5
PSZ **Piszkesteto** 77.32 324 ⇑P P 09 47 40.5 +1.6
VYHS **Vyhne** 77.34 325 *e*P P 09 47 39.6 +0.7
VYHS pmax pmax
comp=Z,12nm,1.0s
PV14 **Lion Creek, Pa** 77.41 50 IAmb IAmb 09 48 11.8
comp=Z,23nm,1.3s
BRG **Berggiesshubel** 77.46 329 *e*P P 09 47 40.1 +0.6
comp=Z,6.6nm,1.0s,baz=32,slow=5.4
BRG **Berggiesshubel** 77.46 329 *i* P P 09 47 41.4 +1.8
BRG Amp 09 47 42.5
comp=Z,6.6nm,0.9s
BRG **Berggiesshubel** 77.46 329 P P 09 47 50.3 +11
BRG Amp 09 47 51.2
comp=Z,3.9nm,0.9s
CLL **Collm** 77.47 330 IAmb IAmb 09 47 41.4
comp=Z,25nm,1.1s
CLL **Collm** 77.47 330 *i* P P 09 47 39.3 -0.3
CLL *e*S S 09 57 21.0 -4.9
CLL pmax pmax
comp=Z,19nm,1.0s
CLL MLR MLR
comp=Z,500nm,21.2s
CLL **Collm** 77.47 330 *e*P P 09 47 39.1 -0.5
comp=Z,21nm,1.0s,baz=32,slow=5.4
CLL **Collm** 77.47 330 *i* P P 09 47 39.3 -0.3
comp=Z,19nm,1.0s
CLL *i* pP **pP** 09 47 57.4 +2.6
CLL *e*PP **PP** 09 50 36.0 +2.0
CLL *e*S **S** 09 57 24.0 -1.9
CLL *e*PS **PnS** 09 58 14.0 +2.6
CLL *ex* x 10 04 00.0
CLL Lm MLR 10 24 00.0
comp=N,400nm,20.5s
CLL Lm MLR 10 24 00.0
comp=E,300nm,21.3s
CLL Lm MLR 10 24 00.0
comp=Z,500nm,21.2s
PVCC **Panska Ves** 77.50 329 *e*P P 09 47 40.7 +1.0
PVCC MLR MLR
comp=Z,400nm,16.5s
PVCC **Panska Ves** 77.50 329 *e*P P 09 47 40.7 +1.0
PVCC AMS AMS 10 24 50.0
comp=Z,400nm,16.5s
LOZB **Loznitsa** 77.52 318 ⇓P P 09 47 40.9 +0.8
JAVC **Velka Javorina** 77.55 326 *e*P P 09 47 41.5 +1.3
PV03 **Paradox Valley** 77.59 50 IAmb IAmb 09 48 02.9
comp=Z,58nm,1.7s
RETH **Rethem/Aller,** 77.61 333 *e*P P 09 47 39.5 -0.7
comp=Z,14nm,1.0s,baz=32,slow=5.4
VRAC **Vranov** 77.65 327 LR LR 10 25 02.7
comp=Z,434nm,18.6s,baz=28,slow=38
VRAC **Vranov** 77.65 327 *e*P P 09 47 40.9 +0.3
VRAC **Vranov** 77.65 327 ⇓P P 09 47 41.8 +1.2
VRAC **Vranov** 77.65 327 ⇓P P 09 47 41.8 +1.2
SIRR **Siria** 77.78 322 ⇓P P 09 47 42.1 +0.7
PV01 **Paradox Valley** 77.83 50 IAmb IAmb 09 48 06.8
comp=Z,26nm,1.5s
ABTO **Aybut** 77.86 282 P P 09 47 41.9 -0.4
GZR **Gura Zlata** 77.91 321 ⇓P P 09 47 42.6 +0.4
GZR **Gura Zlata** 77.91 321 ⇓P P 09 47 42.6 +0.4
SZH **Strazhitsa** 77.91 318 *e*P P 09 47 43.7 +1.5
PRA **Prague** 77.91 329 AMS AMS 10 25 00.0
comp=Z,400nm,18.9s
SMOL **Smolenice** 77.92 326 *e*P P 09 47 43.2 +1.0
SMOL pmax pmax
comp=Z,8.0nm,1.0s
KRUC **Moravsky** 77.92 327 *e*P P 09 47 42.4 +0.2
SURR **Surduc** 77.94 322 ⇓P P 09 47 42.9 +0.6
NEUB **Neuenburg** 78.00 331 *e*P P 09 47 42.3 -0.2
comp=Z,19nm,0.8s,baz=32,slow=5.4
SRO **Srobarova** 78.09 325 *e*P P 09 47 44.4 +1.3
SRO pmax pmax
comp=Z,35nm,1.2s
JMB **Yambol** 78.19 317 *e*P P 09 47 44.6 +0.9
ELND **Elena** 78.20 318 ⇑P P 09 47 44.1 +0.2
BZS **Buzias** 78.28 322 ⇑P P 09 47 44.2 0.0
BZS **Buzias** 78.28 322 ⇑P P 09 47 44.2 0.0
ISCO **Idaho Springs** 78.33 47 IAmb IAmb 09 48 08.4
comp=Z,44nm,1.8s
TANN **Tannenbergstha** 78.39 330 *e*P P 09 47 45.1 +0.3
comp=Z,4.8nm,1.1s,baz=32,slow=5.4
PLN **Plauen** 78.45 330 *e*P P 09 47 45.0 0.0
comp=Z,1.9nm,1.0s,baz=32,slow=5.4
MVCO **Mesa Verde** 78.51 50 IAmb IAmb 09 48 08.0
comp=Z,57nm,1.9s
IBBN **Ibbenburen** 78.51 333 *e*P P 09 47 44.7 -0.7
comp=Z,29nm,1.0s,baz=32,slow=5.4
MOX **Moxa** 78.52 330 *e*P P 09 47 45.0 -0.4
comp=Z,12nm,1.1s,baz=32,slow=5.4
MANZ **Manzenberg** 78.87 330 *e*P P 09 47 47.9 +0.4
comp=Z,3.3nm,1.1s,baz=32,slow=5.4
BAND **Balkesir-Ban** 78.90 315 ⇓P P 09 47 48.2 +0.5
MPEP **Malo Peshtene** 78.95 319 *e*P P 09 47 49.0 +1.0
KHC **Kasperske Hory** 79.00 328 *i* P P 09 47 48.1 0.0
KHC pmax pmax
comp=Z,5.0nm,1.0s
KHC **Kasperske Hory** 79.00 328 *e*P P 09 47 48.7 +0.6
KHC *ep*P **sP** 09 48 08.4 -1.1
KHC AMS AMS 10 25 30.0
comp=Z,400nm,21.6s
ROTZ **Rotzenmuhle** 79.01 330 *e*P P 09 47 48.5 +0.3
comp=Z,2.3nm,1.0s,baz=32,slow=5.4
RONA **Rosalia, Austr** 79.03 326 *e*P P 09 47 49.3 +0.9
comp=Z,22nm,1.2s,SNR=11
CONA **Conrad Observa** 79.03 326 *e*P P 09 47 49.2 +0.8
comp=Z,8.9nm,0.9s,SNR=7.2
EKA **Eskdalemuir Ar** 79.07 341 P P 09 47 48.1 -0.2
comp=Z,11nm,0.8s,baz=29,slow=4.9,SNR=15
comp=Z,11nm,0.8s
MORH **Mrgy, Hungar** 79.17 324 ⇓P P 09 47 49.0 -0.1
GEC2 **GERESS Array S** 79.18 328 *e*P P 09 47 49.2 0.0
comp=Z,5.6nm,1.0s,baz=32,slow=5.4
GERES **GERESS Array B** 79.18 328 P P 09 47 48.6 -0.6
comp=Z,4.3nm,0.8s,baz=38,slow=6.8,SNR=21
GERES LR LR 10 26 15.0
comp=Z,284nm,18.3s,baz=38,slow=38
comp=Z,4.3nm,0.8s
KASTN **Kahler Asten** 79.21 332 *e*P P 09 47 48.3 -1.0
comp=Z,9.7nm,1.0s,baz=32,slow=5.4
WET **Wettzell** 79.26 329 *e*P P 09 47 50.2 +0.6
comp=Z,16nm,1.0s,baz=32,slow=5.4
K30B **Basset** 79.38 41 IAmb IAmb 09 48 10.8
comp=Z,45nm,1.4s
BUG **Bochum-Univer** 79.41 333 *e*P P 09 47 48.8 -1.4
comp=Z,27nm,1.1s,baz=32,slow=5.4
KDZ **Kurdzhali** 79.42 317 *e*P P 09 47 52.4 +1.9
GRA1 **Grafenberg Arr** 79.45 330 IAmb IAmb 09 47 52.2
comp=Z,24nm,0.9s
GRF **Grafenberg Arr** 79.45 330 *e*P P 09 47 50.7 +0.2
comp=Z,24nm,0.9s,baz=32,slow=5.4
GRFO **Grafenberg** 79.45 330 P P 09 47 50.4 -0.1
GRFO IAmb IAmb 09 47 53.1
comp=Z,25nm,1.0s
GRFO **Grafenberg** 79.45 330 P P 09 47 50.4 -0.1
GRFO pmax pmax
comp=Z,25nm,1.0s
ASF **Jabal al Asfar** 79.47 304 LR LR 10 27 51.1
comp=Z,79nm,18.1s,baz=153,slow=39
RAYN **Ar Rayn** 79.48 292 P P 09 47 50.6 -0.6
RAYN **Ar Rayn** 79.48 292 P P 09 47 51.1 -0.1
RAYN **Ar Rayn** 79.48 292 *i* P P 09 47 51.3 +0.1
SNR=30
RAYN **Ar Rayn** 79.48 292 P P 09 47 50.6 -0.6
RAYN pmax pmax
comp=Z,72nm,1.4s
RAYN **Ar Rayn** 79.48 292 P P 09 47 51.1 -0.1
X18A **Snowflake** 79.50 53 IAmb IAmb 09 48 13.8
comp=Z,32nm,1.7s
RDO **Rodhopi** 79.67 317 IAmb IAmb 09 47 54.1
comp=Z,24nm,1.0s
ARSA **Arzberg** 79.71 326 *i* P P 09 47 51.6 -0.5
comp=Z,7.6nm,1.2s
BOVS **Bovan** 79.73 320 ⇑P P 09 47 51.1 -1.0
CSS **Mathiatis** 79.74 308 IAmb IAmb 09 47 54.5
comp=Z,32nm,1.1s
MOA **Molln** 79.75 327 *i* P P 09 47 52.5 +0.3
comp=Z,3.6nm,0.8s
VTS **Vitosha** 79.75 319 *e*P P 09 47 53.7 +1.2
PLNA **Plana** 79.76 319 *e*P P 09 47 53.8 +1.3
MMAI **Mount Meron Ar** 79.82 305 P P 09 47 53.4 +0.4
comp=Z,29nm,0.9s,baz=42,slow=6.7,SNR=18
MMAI LR LR 10 26 58.8
comp=Z,229nm,19.7s,baz=27,slow=38
comp=Z,29nm,0.9s
TNS **Taunus Mts** 80.02 332 *e*P P 09 47 53.6 -0.1
comp=Z,14nm,1.2s,baz=32,slow=5.4
ECSD **EROS Data Cent** 80.04 39 IAmb IAmb 09 48 15.1
comp=Z,66nm,2.0s
BIOA **Bad Ischl, Aus** 80.13 328 *i* P P 09 47 54.6 +0.3
comp=Z,14nm,0.9s,SNR=7.7
MMB **Musomishta** 80.29 318 *e*P P 09 47 56.4 +1.1
GROS **Grobnik** 80.34 326 *i* P P 09 47 55.4 -0.2
SOKA **Soboth** 80.37 326 *e*P P 09 47 55.5 -0.2
comp=Z,28nm,1.1s,SNR=10
KKB **Krupnik** 80.38 318 *e*P P 09 47 56.9 +1.2
BEBN **Eben Emael** 80.49 334 *d*P P 09 47 55.4 -0.7
comp=Z,26nm,0.6s
BTNL **Ternell** 80.51 333 *d*P P 09 47 55.3 -1.0
comp=Z,8.9nm,1.1s
MEM **Membach** 80.53 333 *d*P P 09 47 56.3 -0.1
comp=Z,11nm,1.0s
OBKA **Obir** 80.70 326 *i* P P 09 47 56.6 -0.8
comp=Z,10.0nm,0.8s
LESA **Schwarzleotal** 80.73 328 *e*P P 09 47 57.8 +0.2
comp=Z,18nm,0.9s,SNR=9.6
KBA **Koelnbreinsper** 80.74 327 *i* P P 09 47 57.8 +0.1
comp=Z,25nm,0.8s
SCHQ **Schefferville** 80.85 16 P P 09 47 58.5 +0.5
comp=Z,158nm,0.8s,baz=12,slow=6.4,SNR=12
SCHQ LR LR 10 28 10.9
comp=Z,2μm,18.8s,baz=328,slow=39
T25A **Trinidad** 80.88 48 IAmb IAmb 09 48 21.6
comp=Z,32nm,1.3s
GHAJ **Ghor Haditha** 80.89 304 IAmb IAmb 09 48 00.3
comp=Z,20nm,0.8s
BCLA **Clavier** 80.93 334 *d*P P 09 47 58.1 -0.4
comp=Z,5.9nm,1.0s
STU **Stuttgart** 80.96 331 IAmb IAmb 09 48 00.3
comp=Z,25nm,1.1s
BLY **Banja Luka** 80.96 324 ⇑P P 09 47 59.6 +0.8
MYKA **Terra Mystica** 80.98 327 *i* P P 09 47 58.6 -0.3
comp=Z,10nm,0.9s
BGES **Gesves** 81.03 334 *d*P P 09 47 58.5 -0.6
comp=Z,8.0nm,1.1s
BGNE **Belgrade** 81.05 41 IAmb IAmb 09 48 01.2
comp=Z,21nm,0.8s
LJU **Ljubljana** 81.08 326 *e*P P 09 47 59.3 -0.1
RCHB **Rochefort** 81.18 334 *d*P P 09 47 59.5 -0.3

comp=Z,9.8nm,1.0s
BMRD Maredsous 81.21 334 *d*P **P 09 47 59.7 -0.2**
comp=Z,17nm,1.0s
WATA Walderalm 81.24 328 *i* P **P 09 48 00.5 +0.1**
comp=Z,22nm,1.2s,SNR=5.4
WTTA Wattenberg 81.27 328 *i* P **P 09 47 58.8 -1.8**
comp=Z,9.5nm,0.7s
ANMO Albuquerque 81.27 51 P **P 09 48 01.6 +0.7**
ANMO Albuquerque 81.27 51 LR LR 10 21 48.1
comp=Z,123nm,22.0s,baz=64,slow=34
ANMO Albuquerque 81.27 51 P **P 09 48 01.6 +0.7**
ANMO pmax pmax
comp=Z,18nm,1.6s
I37A Lemond, Waseca 81.31 37 IAmb IAmb 09 48 25.1
comp=Z,38nm,1.3s
ABTA Abfaltersbach 81.34 328 *i* P **P 09 48 00.2 -0.6**
comp=Z,5.0nm,0.6s
MOTA Moosalm 81.41 329 *i* P **P 09 48 01.6 +0.3**
comp=Z,30nm,1.0s,SNR=10.0
RETA Reutte 81.43 329 *e*P **P 09 48 01.5 +0.1**
comp=Z,27nm,1.0s,SNR=9.1
DOU Dourbes 81.44 334 *d*P **P 09 48 00.7 -0.5**
comp=Z,4.7nm,1.0s
SQTA Sankt Quirin 81.47 329 *i* P **P 09 48 01.8 +0.2**
comp=Z,17nm,1.1s,SNR=5.0
L34A Svendsen Farm, 81.50 40 IAmb IAmb 09 48 30.3
comp=Z,13nm,0.7s
BFO Black Forest 81.64 331 P **P 09 48 02.0 -0.4**
BFO Black Forest 81.64 331 P **P 09 48 02.0 -0.4**
BFO pmax pmax
comp=Z,14nm,1.0s
BFO Black Forest 81.64 331 *e*P **P 09 48 02.2 -0.2**
comp=Z,16nm,1.1s,baz=32,slow=5.4
BFO Black Forest 81.64 331 P **P 09 48 02.1 -0.2**
STAL STALIGIAL 81.66 327 IAmb IAmb 09 48 03.2
comp=Z,21nm,1.2s
PDG Podgorica 81.81 321 IAmb IAmb 09 48 24.5
comp=Z,29nm,0.9s
PDG Podgorica 81.81 321 ⇓P **P 09 48 02.7 -0.6**
FETA Feichten 81.83 329 *e*P **P 09 48 03.7 +0.2**
comp=Z,17nm,1.0s,SNR=7.9
DAVA Damuels 81.93 329 *i* P **P 09 48 03.7 -0.4**
comp=Z,26nm,0.9s,SNR=12
121A Cookes Peak, D 82.19 53 IAmb IAmb 09 48 32.1
comp=Z,26nm,1.3s
FUORN Ofenpass-Fuorn 82.34 329 IAmb IAmb 09 48 08.7
comp=Z,28nm,0.9s
DAVOX Davos/Dischmat 82.35 329 LR LR 10 28 09.9
comp=Z,373nm,18.2s,baz=86,slow=38
RAR Rarotonga 82.38 127 LR LR 10 19 35.5
comp=Z,205nm,20.4s,baz=314,slow=32
EIL Elat 82.39 303 LR LR 10 29 33.0
comp=Z,172nm,19.4s,baz=324,slow=39
TUE Stuetta 82.81 329 P **P 09 48 08.4 -0.3**
TEOL Teolo 82.81 327 IAmb IAmb 09 48 10.1
comp=Z,38nm,1.2s
SCIA State Center 83.04 38 IAmb IAmb 09 48 11.2
comp=Z,19nm,0.9s
L40A Anamosa 83.83 37 IAmb IAmb 09 48 15.8
comp=Z,17nm,1.1s
FDMO Fiordimonte 84.11 325 IAmb IAmb 09 48 17.5
comp=Z,35nm,1.1s
NRCA Norcia 84.27 325 IAmb IAmb 09 48 37.0
comp=Z,27nm,0.9s
IDI Anoyia 84.33 313 LR LR 10 29 47.9
comp=Z,122nm,22.0s,baz=88,slow=38
CAMP Campotosto 84.38 325 IAmb IAmb 09 48 18.9
comp=Z,23nm,1.1s
MATE Matera 84.40 321 ⇓P **P 09 48 16.6 0.0**
OSSC Osservatorio P 84.49 326 IAmb IAmb 09 48 18.6
comp=Z,17nm,1.0s
INTR Introdacqua 84.58 324 IAmb IAmb 09 48 19.0
comp=Z,26nm,1.0s
SMWD Samnorwood 84.67 47 IAmb IAmb 09 48 42.7
comp=Z,14nm,0.9s
P38A Dawn 84.68 40 IAmb IAmb 09 48 48.3
comp=Z,14nm,0.9s
CESX Cesi 84.68 325 IAmb IAmb 09 48 19.6
comp=Z,17nm,1.2s
BNI Bardonecchia 85.02 330 IAmb IAmb 09 48 29.2
comp=Z,15nm,1.0s
T35A Sooner Cattle 85.29 43 IAmb IAmb 09 48 55.3
comp=Z,14nm,1.2s
PECS Pecos 85.34 52 IAmb IAmb 09 48 24.6
comp=Z,18nm,1.4s
DKNS Dickens 85.36 48 IAmb IAmb 09 48 45.1
comp=Z,12nm,0.8s
P40A Paris 85.46 39 IAmb IAmb 09 48 45.1
comp=Z,19nm,1.1s
POST Post 85.47 49 IAmb IAmb 09 48 45.2
comp=Z,12nm,0.9s
TIP Timpagrande 85.53 321 IAmb IAmb 09 48 24.7
comp=Z,22nm,1.2s
TIP Timpagrande 85.53 321 ⇓P **P 09 48 22.9 +0.4**
ODSA Odessa 85.57 50 IAmb IAmb 09 48 47.1
comp=Z,11nm,0.8s
URZ Urewera 85.60 153 LR LR 10 24 06.4
comp=Z,102nm,20.9s,baz=321,slow=34
PPT Papeete 86.17 117 LR LR 10 20 48.3
comp=Z,380nm,21.9s,baz=318,slow=31
PPT2 Papeete2 86.19 117 *e*P **P 09 48 23.5 -2.4**
comp=Z,53nm,27.2s
PPT2 Papeete2 86.19 117 *e*S **S 09 58 52.8 -3.8**
comp=Z,120nm,25.5s
PPT2 Papeete2 86.19 117 *e*LR LR 10 15 35.3
PPT2 *e*LR LR 10 15 45.2
comp=Z,635nm,26.5s
SADO Sadowa 86.45 28 LR LR 10 31 45.1
comp=Z,1μm,18.9s,baz=338,slow=39
LPIG La Paz 86.48 61 LR LR 10 20 50.0
comp=Z,77nm,19.2s,baz=315,slow=31
SGCY Sterling City 86.53 50 IAmb IAmb 09 48 51.7
comp=Z,22nm,0.9s
CEL Celeste 86.67 321 IAmb IAmb 09 48 29.2
comp=Z,19nm,0.9s
TAOE Nuku Hiva Isla 86.74 105 *e*P **P 09 48 25.8 -3.0**
comp=Z,37nm,24.6s
TAOE Nuku Hiva Isla 86.74 105 *e*S **SKSac 09 58 54.3 +3.2**
comp=Z,114nm,25.7s
TAOE Nuku Hiva Isla 86.74 105 *e*LQ LQ 10 12 09.4
comp=Z,611nm,41.1s
TAOE *e*LR LR 10 15 54.7
comp=Z,624nm,23.7s
TXAR Lajitas Array 86.94 53 P **P 09 48 29.9 +0.3**
TXAR Lajitas Array 86.94 53 P **P 09 48 30.5 +0.8**
comp=Z,1.9nm,0.8s,baz=292,slow=3.8,SNR=24
comp=Z,1.9nm,0.8s
TXAR Lajitas Array 86.94 53 P **P 09 48 29.9 +0.3**
CCM Cathedral Cave 87.01 39 P **P 09 48 29.2 -0.5**
CCM IAmb IAmb 09 48 31.7
comp=Z,19nm,1.1s
CCM Cathedral Cave 87.01 39 P **P 09 48 29.2 -0.5**
CCM pmax pmax
comp=Z,19nm,1.1s
P46A Rosedale 87.60 36 IAmb IAmb 09 48 34.1
comp=Z,15nm,0.8s
VAE Valguarnera 88.00 321 LR LR 10 31 21.0
comp=Z,342nm,18.4s,baz=109,slow=38
BRDY Brady 88.21 49 IAmb IAmb 09 48 38.9
comp=Z,24nm,2.0s
S44A Carbondale 88.24 38 IAmb IAmb 09 48 57.4
comp=Z,18nm,0.8s
FCAR Ozark Folk Cen 88.30 41 IAmb IAmb 09 48 55.8
comp=Z,22nm,1.5s
PBMO Poplar Bluff 88.42 40 IAmb IAmb 09 48 59.5
comp=Z,18nm,1.1s
MIAR Mount Ida 88.63 43 IAmb IAmb 09 48 39.9
comp=Z,15nm,1.1s
WHAR Wooly Hollow 88.69 42 IAmb IAmb 09 48 38.9
comp=Z,8.7nm,0.9s
ACSO Alum Creek Sta 88.88 33 IAmb IAmb 09 48 40.5
comp=Z,14nm,0.8s
J59A Piesco 89.18 26 P **P 09 48 40.2 +0.3**
WLAR White Oak Lake 89.54 43 IAmb IAmb 09 48 43.5
comp=Z,14nm,1.0s
T47A Sharon Grove 89.80 37 IAmb IAmb 09 48 44.3
comp=Z,8.4nm,0.8s
R50A Paris 89.96 35 IAmb IAmb 09 48 45.9
comp=Z,14nm,1.1s
TBI Tubuai 90.37 121 *e*P **P 09 48 43.9 -1.6**
comp=Z,399nm,31.8s
TBI Tubuai 90.37 121 *e*S **S 09 59 32.2 -3.6**
comp=Z,594nm,31.5s
TBI *e*SS **SS 10 05 36.7 -0.9**
comp=Z,310nm,30.8s
TBI Tubuai 90.37 121 *e*LR LR 10 17 33.6
comp=Z,3μm,31.5s
TBI *e*LR LR 10 17 42.3
comp=Z,1μm,27.0s
SSPA Standing Stone 90.50 29 P **P 09 48 44.9 -1.3**
KEST Kesra 91.76 323 P **P 09 48 51.2 -0.9**
comp=Z,6.5nm,0.9s,baz=318,slow=6.1,SNR=4.9
KEST LR LR 10 34 51.7
comp=Z,437nm,19.9s,baz=21,slow=39
comp=Z,6.5nm,0.9s
TKL Tuckaleechee C 92.40 36 LR LR 10 34 44.8
comp=Z,141nm,18.5s,baz=338,slow=38
ESDC Sonseca Array 93.48 334 P **P 09 48 58.9 -1.1**
ESDC Sonseca Array 93.48 334 P **P 09 48 59.3 -0.7**
comp=Z,3.1nm,0.9s,baz=24,slow=3.4,SNR=14
ESDC PP **PP 09 52 46.3 +2.4**
comp=Z,3.8nm,1.2s,baz=34,slow=6.2,SNR=6.2
ESDC LR LR 10 36 34.8
comp=Z,253nm,19.5s,baz=16,slow=39
comp=Z,3.1nm,0.9s
FURI Furi 94.08 286 LR LR 10 37 14.9
comp=Z,126nm,18.9s,baz=12,slow=39
MDT Midelt 99.92 332 LR LR 10 38 25.6
comp=Z,134nm,21.5s,baz=41,slow=38
CMLA Cha da Macela 100.27 350 *i* P **Pdif 09 49 31.0 +0.4**
TORD Torodi Ar. Bea 114.48 317 PKP **PKiKP 09 54 23.6 -0.9**
comp=Z,0.5nm,0.5s,baz=22,slow=1.5,SNR=4.2
VNDA Vanda 119.42 175 PKP **PKiKP 09 54 32.3 +0.1**
comp=Z,0.3nm,0.8s,baz=329,slow=5.2,SNR=3.8
QSPA South Pole Qui 131.28 180 **PKiKP 09 54 56.8 +0.7**
QSPA South Pole Qui 131.28 180 PKP **PKiKP 09 54 56.0 0.0**
comp=Z,3.8nm,1.0s,baz=317,slow=1.3,SNR=7.0
QSPA SKPbc **SKPab 09 58 16.8 +1.2**
comp=Z,3.5nm,1.1s,baz=355,slow=4.2,SNR=3.7
SYO Syowa Base 132.46 208 ⇑*e*pPdiff pPdif 09 52 12.0 +3.6
NVL N'lazarevskaya 141.66 204 *e*PKiKP **PKiKP 09 55 20.1 +3.1**
NVL *e* 09 58 25.0
NVL *e*PPP PPP 10 01 31.9
NVL *e* 10 02 24.2
NVL *e*SS SS 10 16 51.2 +5.6
NVL *e*SSS SSS 10 22 10.2
NVL pmax pmax
comp=Z,12nm,1.0s
TROLL Troll, Antarti 143.68 200 ⇑P PKPbc 09 55 15.4 -0.2
comp=Z,930nm,0.9s
LPAZ La Paz 143.78 55 PKP **PKPdf 09 55 20.3 0.0**
comp=Z,2.3nm,0.9s,baz=24,slow=5.0,SNR=8.0
SNAA Sanae 145.21 199 ⇑P **PKPbc 09 55 19.9 -0.4**
comp=Z,228nm,0.7s
SNAA Sanae 145.21 199 **PKPdf 09 55 20.4 0.0**
SNAA Sanae 145.21 199 PKPbc **PKPbc 09 55 19.8 -0.4**
comp=Z,17nm,1.0s,baz=163,slow=4.1,SNR=37
SNAA Sanae 145.21 199 PKIKP **PKPdf 09 55 20.5 0.0**
H03N2 Juan Fernandez 146.68 90 T T 12 40 16.0
baz=300,slow=77,SNR=66
H03N3 Juan Fernandez 146.69 90 T T 12 40 21.2
baz=300,slow=77,SNR=76
H03N1 Juan Fernandez 146.69 89 T T 12 40 18.0
baz=300,slow=77,SNR=75
VNA2 Neumayer--Watz 146.79 198 ⇑P **PKPdf 09 55 23.6 +0.5**
comp=Z,8.1nm,0.6s,baz=126,slow=2.9
VNA3 Neumayer Olymp 147.06 196 ⇑P **PKPbc 09 55 25.2 -0.6**
comp=Z,9.8nm,1.0s
VNA1 Neumayer--Stat 147.19 198 ⇑P **PKPbc 09 55 25.1 -0.9**
comp=Z,12nm,0.8s
PTLB Pontes e Lacer 148.15 42 **PKPbc 09 55 31.0 +0.7**
BDFB Brasilia 152.73 22 PKPab **PKPab 09 55 52.1 -0.1**
comp=Z,8.6nm,0.8s,baz=259,slow=2.9,SNR=7.3
AQDB Aquidauana 154.12 41 **PKiKP 09 55 45.5 +1.2**

RSNC 07 10:02:02.3±0.0, 7°N±1°×7°3W±°, h142km±1km, M2.9, mB4.5, mb3.2, ML2.6, Mw(mB)3.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**183**	P		Pn	10 02 21.5	-0.5
BARC				S		Sn	10 02 36.7	-0.3
BRJC	**Barrancabermej**	**0.59**	**284**	P		Pn	10 02 23.2	0.0
BRJC				S		Sn	10 02 40.2	+1.1
PAMC	**Pamplona, Colo**	**0.69**	**43**	P		Pn	10 02 24.2	-0.3
PAMC				S		Sn	10 02 41.0	-0.2
RUSC	**La Rusia**	**0.94**	**175**	P		Pn	10 02 25.5	-0.9
RUSC				S		Sn	10 02 43.8	-0.8
PTBC	**PUERTO BERRIO,**	**1.31**	**257**	P		Pn	10 02 28.3	-1.0
PTBC				S		Sn	10 02 49.9	0.0
OCAC	**Ocana**	**1.41**	**354**	P		Pn	10 02 29.6	-0.9
OCAC				S		Sn	10 02 51.3	-0.7
NORC	**Norcasia**	**2.11**	**233**	P		Pn	10 02 37.9	-0.4
NORC				S		Sn	10 03 05.7	-0.2
ROSC	**El Rosal**	**2.28**	**210**	P		Pn	10 02 41.4	+0.6
ROSC				S		Sn	10 03 11.0	+0.7
HELC	**Santa Helena**	**2.43**	**255**	P		Pn	10 02 42.0	-0.5
HELC				S		Sn	10 03 13.2	-0.2
UREC	**San Jos de Ur**	**2.52**	**291**	P		Pn	10 02 42.0	-1.3
UREC				S		Sn	10 03 13.6	-1.2
GUY2C	**Guyana, Caldas**	**2.70**	**234**	P		Pn	10 02 46.2	+0.1
GUY2C				S		Sn	10 03 19.6	-0.1
VILC	**Villavicencio,**	**2.75**	**191**	P		Pn	10 02 45.5	-0.9
VILC				S		Sn	10 03 19.1	-1.2
RECRC	**Villamaria, Ca**	**2.86**	**230**	P		Pn	10 02 49.0	+0.9
RECRC				S		Sn	10 03 21.4	-1.9
NIZA	**Niza - Manizal**	**2.89**	**233**	P		Pn	10 02 46.5	-1.7
NIZA				S		Sn	10 03 22.9	-0.7
CBOC	**Ciudad Bolivar**	**2.98**	**251**	P		Pn	10 02 49.3	0.0
CBOC				S		Sn	10 03 24.5	-1.1
DBBC	**Dabeiba**	**3.02**	**274**	P		Pn	10 02 49.6	-0.1
DBBC				S		Sn	10 03 25.8	-0.6
ARGC	**Ariguani, Magd**	**3.19**	**341**	P		Pn	10 02 52.2	+0.3
ARGC				S		Sn	10 03 29.8	-0.4
ANIL	**Santa Ana**	**3.21**	**224**	P		Pn	10 02 53.1	+0.7
ANIL				S		Sn	10 03 30.9	-0.2
PRAC	**Prado**	**3.54**	**209**	P		Pn	10 02 54.9	-1.5
PRAC				S		Sn	10 03 37.8	-0.4
APAC	**Apartado, Choc**	**3.54**	**288**	P		Pn	10 02 56.1	-0.3
APAC				S		Sn	10 03 37.8	-0.5
ORTC	**Ortega, Tolima**	**3.56**	**216**	P		Pn	10 02 56.1	-0.6
ORTC				S		Sn	10 03 38.9	0.0
SJCC	**San Jacinto, C**	**3.64**	**327**	P		Pn	10 02 55.6	-2.1
SJCC				S		Sn	10 03 38.4	-2.2
URMC	**La Uribe, Meta**	**3.76**	**199**	P		Pn	10 02 58.8	-0.5
URMC				S		Sn	10 03 44.1	+0.6
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	P		Pn	10 03 02.0	-2.7
CRJC				S		Sn	10 03 48.6	-4.7
YOTC	**Yotoco, Valle**	**4.24**	**228**	P		Pn	10 03 05.6	-0.1
YOTC				S		Sn	10 03 54.5	-0.4
CAPC	**Capurgana**	**4.51**	**294**	P		Pn	10 03 08.0	-1.2
CAPC				S		Sn	10 03 58.6	-2.6
MACC	**Macarena, Meta**	**4.70**	**188**	P		Pn	10 03 08.9	-2.8
MACC				S		Sn	10 04 01.9	-3.8
URIC	**Uribia, Colomb**	**4.98**	**13**	P		Pn	10 03 12.1	-3.2
URIC				S		Sn	10 04 08.7	-3.5
GARC	**Garzon, Huila**	**5.16**	**207**	P		Pn	10 03 16.0	-2.0
GARC				S		Sn	10 04 15.1	-1.9
POPC	**Popayan, Colom**	**5.51**	**220**	P		Pn	10 03 22.3	-0.4
	2.4nm,0.9s							
POPC				S		Sn	10 04 24.7	-0.6
	2.4nm,0.9s							
FLOC	**Florencia**	**5.77**	**206**	P		Pn	10 03 24.7	-1.3
FLOC				S		Sn	10 04 29.2	-2.1

*ECX **07** 10:08:51.1±0.3, 30.51N×114.07W, h19km±5km, ML3.1*
*MEX **07** 10:08:54.4±0.3, 30.51N×114.38W, h10km, MD4.0*
ISC 07 10:08:49.5±1.1, 30.55N±0.03×114.11W±0.02, h14km±10km, n20, σ1°±41/31, 2C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SLGB	**San Luis Gonza**	**0.76**	**199**	*e*P		**Pg**	**10 09 04.0**	**-0.3**
SLGB				*e*S		**Sb**	**10 09 14.6**	**-0.2**
SLGB				IAML			10 09 46.9	
	comp=E,751nm,0.5s							
SFX	**San Felipe**	**0.80**	**307**	*e*P		**Pn**	**10 09 06.1**	**-0.2**
SFX				*e*S		**Sn**	**10 09 17.6**	**-0.4**
SFX				IAML			10 09 51.2	
	comp=N,466nm,0.7s							
SFX				⇓*e*			10 09 51.2	
SFX	**San Felipe**	**0.80**	**307**	*e*P		**Pn**	**10 09 07.0**	**+0.7**
SFX				*e*S		Sn	10 09 27.9	+10
PPXB	**Puerto Peasco**	**0.88**	**28**	*e*P		**Pg**	**10 09 06.6**	**0.0**
PPXB				*e*S		**Sb**	**10 09 19.1**	**+0.9**
ECBX	**El Chinero**	**1.22**	**319**	*e*P		**Pg**	**10 09 12.8**	**-0.2**
SPIG	**San Pedro Mart**	**1.26**	**293**	*e*P		**Pg**	**10 09 13.7**	**-0.2**
SPIG				*e*S		**Sn**	**10 09 31.2**	**+1.1**
SPIG				IAML			10 09 45.3	
	comp=E,183nm,1.0s							
SPIG				⇑*e*			10 09 45.3	
SPIG	**San Pedro Mart**	**1.26**	**293**	*e*P		**Pg**	**10 09 13.8**	**0.0**
SPIG				*e*S		**Sn**	**10 09 30.2**	**+0.2**
PLIB	**Puerto Liberta**	**1.38**	**117**	*e*P		**Pn**	**10 09 12.0**	**-2.3**
PLIB				*e*S		**Sn**	**10 09 29.4**	**-3.1**
PLIB				IAML			10 09 59.3	
	comp=E,337nm,0.9s							
PLIB				⇓*e*			10 09 59.3	
EDOMX	**El Doctor, EDO**	**1.50**	**339**	*e*P		**Pb**	**10 09 17.1**	**0.0**
SQX	**San Quintin**	**1.52**	**271**	*e*P		**Pb**	**10 09 17.3**	**-0.2**
SQX				*e*S		**Sg**	**10 09 37.8**	**-0.7**
SQX				⇑*e*			10 10 00.2	
SQX				IAML			10 10 00.2	
	comp=E,358nm,0.5s							
LAPR	**La Primavera**	**1.55**	**91**	*e*P		**Pn**	**10 09 15.2**	**-1.5**
LAPR				*e*S		**Sn**	**10 09 35.1**	**-1.5**
VTX	**Valle De La Tr**	**1.66**	**301**	*e*P		**Pb**	**10 09 19.8**	**-0.1**
BAHB	**Baha de los**	**1.67**	**163**	*e*P		**Pg**	**10 09 22.1**	**+0.5**
BAHB				*e*S		**Sg**	**10 09 42.9**	**-0.5**
SV2X	**San Vicente**	**1.99**	**294**	*e*P		**Pb**	**10 09 24.6**	**-0.9**
CBX	**Cerro Bola**	**2.80**	**309**	*e*P		**Pg**	**10 09 42.8**	**-0.4**
HSIG		**3.15**	**118**	*e*P		**Pb**	**10 09 46.4**	**+1.2**
TUC	**Tucson**	**3.34**	**58**	*e*P		**Pg**	**10 09 52.3**	**-1.2**
TUC				*e*S		**Sb**	**10 10 31.6**	**+2.4**
GUYB	**Guaymas**	**3.87**	**132**	*e*P		**Pb**	**10 10 00.7**	**+3.1**
NZIG	**Nacozari, Sono**	**3.94**	**91**	*e*P		**Pb**	**10 09 57.2**	**-1.6**
NZIG				*e*S		**Sg**	**10 10 56.7**	**+0.6**
CGIG		**5.30**	**90**	*e*P		**Pn**	**10 10 11.2**	**+2.8**

IDC 07 10:45:54.3±1.5, 6°28N×126°90E, h0km, mb3.5/5, mbtmp3.5/5, MS3.3/1, Error ellipse: s-maj=114.4km s-min=22.6km az=73.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.26**	**183**	P		P	10 51 14.4	+1.1
	0.6nm,0.5s,baz=4.1,slow=9.8,SNR=7.1							
	0.6nm,0.5s							
WRA	**Warramunga Arr**	**27.07**	**164**	P		P	10 51 39.4	+0.6
	0.2nm,0.4s,baz=343,slow=10,SNR=7.6							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**30.54**	**167**	P		P	10 52 08.1	-1.6
	0.2nm,0.5s,baz=342,slow=8.1,SNR=7.1							
	0.2nm,0.5s							
SONM	**Songino Array**	**44.96**	**340**	LR		LR	11 16 00.5	
	comp=Z,34nm,18.7s,baz=358,slow=40							
KURBB	**Kurchatov Arra**	**59.71**	**327**	P		P	10 56 00.9	+0.2
	0.2nm,0.4s,baz=124,slow=7.2,SNR=4.2							
	0.2nm,0.4s							
ARCES	**ARCESS Array B**	**88.13**	**340**	P		P	10 58 46.4	-0.4
	1.4nm,0.7s,baz=76,slow=5.8,SNR=4.5							
	1.4nm,0.7s							

*LDG **07** 10:55:24.4±0.1, 45.96N×7.61E, h5km, Md2.6/2, Ml2.4/11, Error ellipse: s-maj=2.9km s-min=2.1km az=106.0*
ISC 07 10:55:23.1±1.1, 45.94N±0.03×7.59E±0.03, h12km±10km, n20, σ1°±44/37, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPG	**La Plagne**	**0.73**	**233**	*e*Pg		**Pg**	**10 55 37.1**	**-0.3**
LPG				*e*Sg		**Sb**	**10 55 48.0**	**-0.1**
	6.5nm,0.2s							
LPL	**La Plagne**	**0.73**	**235**	*e*Pg		**Pb**	**10 55 37.4**	**-0.5**
LPL				*e*Sg		**Sb**	**10 55 48.5**	**+0.5**
	21nm,0.3s							
CABF	**La Chapelle**	**1.24**	**303**	*e*Pg		**Pn**	**10 55 46.8**	**+0.5**
CABF				*e*Sg		**Sn**	**10 56 06.0**	**+3.0**
	14nm,0.4s							
MBDF	**Montbardon**	**1.34**	**206**	*e*Pg		**Pn**	**10 55 47.5**	**-0.3**
MBDF				*e*Sg		**Sn**	**10 56 06.4**	**+0.7**
	19nm,0.5s							
ORIF	**Oris-en-Rattie**	**1.58**	**230**	*e*Pg		**Pg**	**10 55 52.9**	**-0.5**
ORIF				*e*Sg		**Sg**	**10 56 14.3**	**+0.5**
	33nm,0.7s							
HINF	**Hinteralfeld**	**1.94**	**345**	*e*Pn		**Pn**	**10 55 55.8**	**-0.2**
HINF				*e*Sg		**Sn**	**10 56 20.9**	**+0.5**
	11nm,0.5s							
DAVA	**Damuels**	**2.08**	**49**	*e*Pg		**Pg**	**10 56 03.3**	**+0.3**
	7.1nm,0.5s							
DAVA				*e*Sg		**Sg**	**10 56 33.1**	**+3.2**
	29nm,0.4s							
HAU	**Haudompre**	**2.23**	**338**	*e*Pn		**Pn**	**10 56 00.0**	**0.0**
HAU				*e*Sg		**Sg**	**10 56 33.4**	**-1.5**
	7.1nm,0.4s							
VIVF	**Saint-Julien-l**	**2.32**	**243**	*e*Pg		**Pb**	**10 56 04.9**	**0.0**
VIVF				*e*Sg		**Sg**	**10 56 36.7**	**-1.0**
	3.1nm,0.3s							
FETA	**Feichten**	**2.43**	**62**	*e*Pg		**Pg**	**10 56 09.6**	**-0.1**
	0.1nm,0.1s							
FETA				*i* Sg		**Sg**	**10 56 41.5**	**+0.4**
	3.3nm,0.6s							
SMRF	**Simiane la Rot**	**2.43**	**217**	*e*Pg		**Pb**	**10 56 06.6**	**-0.1**
SMRF				*e*Sg		**Sg**	**10 56 40.8**	**-0.3**
	4.4nm,0.4s							
CDF	**Champ du Feu**	**2.48**	**355**	*e*Pg		**Pg**	**10 56 10.9**	**+0.2**
CDF				*e*Sg		**Sg**	**10 56 42.3**	**-0.6**
	5.1nm,0.5s							
SMF	**Signal de Mont**	**2.69**	**287**	*e*Sn		**Sn**	**10 56 37.0**	**-1.7**
SMF				*e*Sg		**Sg**	**10 56 51.1**	**+1.6**
	12nm,0.4s							
LMR	**La Mourre**	**2.72**	**197**	*e*Pg		**Pg**	**10 56 14.2**	**-1.0**
LMR				*e*Sg		**Sb**	**10 56 47.2**	**+2.3**
	2.0nm,0.4s							
MOTA	**Moosalm**	**2.80**	**59**	*e*Pn		**Pb**	**10 56 11.7**	**-1.5**
MOTA	1.8nm,0.4s			*e*Sg		**Sg**	**10 56 53.1**	**0.0**
	2.8nm,0.4s							
SQTA	**Sankt Quirin**	**2.81**	**62**	*e*Sg		**Sg**	**10 56 53.7**	**+0.4**
	4.9nm,0.4s							
AVF	**Avril sur Loir**	**3.05**	**288**	*e*Sg		**Sg**	**10 57 02.0**	**+0.9**
	1.0nm,0.2s							
WATA	**Walderalm**	**3.08**	**62**	*e*Pg		**Pg**	**10 56 23.5**	**+1.3**
	1.0nm,0.2s							
WATA				*e*Sg		**Sg**	**10 57 04.6**	**+2.4**
	5.9nm,0.6s							
WTTA	**Wattenberg**	**3.09**	**63**	*e*Pg		**Pg**	**10 56 22.0**	**-0.4**
	1.7nm,0.3s							
WTTA				Sg		**Sg**	**10 57 04.4**	**+2.0**
	2.0nm,0.4s							
LESA	**Schwarzleotal**	**3.81**	**65**	*i* Sn		**Sb**	**10 57 12.3**	**-4.1**
	1.7nm,0.5s							

*ATH **07** 11:02:24.7, 38.98N×25.97E, h14km±1km, ML2.3/4, Manual Solution by S.Liakopoulos First location: 2019/09/07 11:03:50, This location: 2019/09/07 15:30:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 3 km*
*ISK **07** 11:02:24.0, 39.05N×26.08E, h5km, ML2.5/11*
*AFAD **07** 11:02:24.8, 39.06N×25.91E, h7km±4km, ML2.2*
ISC 07 11:02:24.1±1.0, 39.03N±0.02×26.01E±0.04, h17km±9km, n25, σ0°50/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.22**	**328**	Pg		**Pb**	**11 02 29.9**	**+0.2**
SIGR				Sg		**Sb**	**11 02 34.4**	**+1.0**
SIGR	**SIGRI**	**0.22**	**328**	P		**Pb**	**11 02 30.0**	**+0.3**
SIGR				S		**Sb**	**11 02 34.0**	**+0.6**
GPNR	**Gulpinar-Canak**	**0.44**	**13**	Pg		**Pb**	**11 02 33.3**	**-0.2**
KOCA	**Canakkale, Ayv**	**0.49**	**12**	P		**Pb**	**11 02 34.4**	**+0.2**
KOCA				S		**Sn**	**11 02 44.0**	**-0.4**
KOCA				*i* IAML			11 02 47.0	
	comp=N,150nm,0.4s							
KOCA				*i* IAML			11 02 49.0	
	comp=E,141nm,0.3s							
EAG2	**Marmaro, Chios**	**0.49**	**171**	P		**Pb**	**11 02 33.9**	**-0.4**
EAG2				S		**Sg**	**11 02 40.2**	**-0.3**
CHOS	**Chios island**	**0.64**	**177**	Pg		**Pb**	**11 02 37.4**	**+0.5**
CHOS				Sg		**Sn**	**11 02 48.1**	**-0.2**
CHOS	**Chios island**	**0.64**	**177**	P		**Pb**	**11 02 36.7**	**-0.2**
CHOS				S		**Sg**	**11 02 44.8**	**-0.5**
FOCM	**Foa**	**0.65**	**119**	Pg		**Pb

comp=N,121nm,0.3s
BOZC *i* IAML 11 02 54.0
comp=E,102nm,0.4s
BAYC CANAKKALE_Bayr 0.83 30 P **Pg** **Sn** **11 02 40.5 +0.1**
BAYC S **11 02 53.2 +0.3**
BAYC *i* IAML 11 02 55.0
comp=N,85nm,0.4s
BAYC *i* IAML 11 02 55.0
comp=E,99nm,0.3s
EZN Ezine 0.84 17 Pg **Pb** **11 02 40.0 -0.2**
YAYO Edremit-Balk 1.01 54 Pg **Pb** **11 02 43.2 0.0**
ECEA Canakkale, Ece 1.02 7 P **Pb** **11 02 42.8 -0.6**
ECEA S **Sn** **11 02 57.9 +0.2**
BLCB Balcova 1.03 128 Pg **Pg** **11 02 44.4 +0.3**
LIA Limnos Island 1.08 324 P **Pg** **11 02 45.8 +0.7**
LIA S **Sg** **11 02 59.9 +0.7**
CNKL anakkale-Mer 1.08 16 P **Pg** **11 02 45.0 -0.1**
CNKL S **Sg** **11 02 59.3 +0.1**
CNKL *i* IAML 11 03 04.0
comp=N,56nm,0.3s
SMG Samos 1.47 153 P **Pb** **11 02 50.8 -0.2**
SMTH Samothraki Isl 1.49 346 P **Pg** **11 02 52.0 -0.8**
SMTH S **Sg** **11 03 11.6 -0.6**
GORD Gordes-Manisa 1.70 93 Pn **Pb** **11 02 54.9 0.0**
ODEM Odemis-Izmir 1.78 114 Pn **Pb** **11 02 56.4 0.0**
AYDB Zeytinkoy-Aydi 1.83 126 Pn **Pb** **11 02 57.1 -0.1**
THAS Thassos island 1.86 328 P **Pb** **11 02 56.7 -1.0**
ALN Alexandroupoli 1.87 1 P **Pb** **11 02 56.6 -1.2**

*JMA **07** 11:29:29.4±0.2,23.6′N±0.6′×12.2′E±*, h36km±4km, MV2.7/10, TAIWAN REGION*
*TAP **07** 11:29:30.1,23.58′N×121.81′E, h24km, ML2.7, C*
ISC 07 11:29:29.5±0.9,**23.56N**±0.02×**121.82E**±0.02,**h26**km±7km, **n87**,σ0.81/156,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.29**	**300**	*eP*	**Pb**	**11 29 36.6**	**+0.1**
TEGC				eS	**Sb**	**11 29 41.7**	**+0.3**
SHUL	**Shoufeng**	**0.33**	**314**	P	**Pb**	**11 29 37.3**	**+0.3**
SHUL				*i* S	**Sb**	**11 29 42.8**	**+0.7**
TEYL	**Yanliau Villag**	**0.37**	**327**	P	**Pb**	**11 29 38.1**	**+0.5**
TEYL				eS	**Sn**	**11 29 44.4**	**-1.1**
HGSD	**Ruisui**	**0.37**	**259**	P	**Pb**	**11 29 37.7**	**+0.1**
HGSD				S	**Sb**	**11 29 43.1**	**0.0**
EGFH	**Guangfu**	**0.37**	**287**	P	**Pb**	**11 29 37.8**	**+0.1**
EGFH				S	**Sb**	**11 29 43.5**	**+0.2**
ECBN	**Changbin**	**0.42**	**234**	P	**Pb**	**11 29 38.8**	**+0.4**
ECBN				S	**Sb**	**11 29 45.2**	**+0.8**
WARBT	**Fenglin Townsh**	**0.43**	**292**	P	**Pb**	**11 29 38.3**	**-0.3**
WARBT				S	**Sb**	**11 29 44.8**	**0.0**
ESL	**Shilin**	**0.43**	**306**	*i* P	**Pb**	**11 29 38.3**	**-0.4**
ESL				S	**Sb**	**11 29 44.6**	**-0.4**
EHYH	**Wanrong**	**0.44**	**261**	P	**Pb**	**11 29 39.3**	**+0.5**
EHYH				S	**Sn**	**11 29 46.1**	**-1.2**
HWA	**Hwalien**	**0.46**	**335**	*i* P	**Pb**	**11 29 39.0**	**-0.1**
HWA				S	**Sn**	**11 29 46.8**	**-1.0**
EHY	**Hungye**	**0.46**	**263**	*i* P	**Pb**	**11 29 39.4**	**+0.3**
EHY				S	**Sb**	**11 29 46.5**	**+0.9**
ETM	**Tongmen**	**0.50**	**324**	P	**Pb**	**11 29 39.4**	**-0.4**
ETM				eS	**Sb**	**11 29 47.2**	**+0.4**
EYUL	**Yuli**	**0.51**	**245**	P	**Pb**	**11 29 40.3**	**+0.5**
EYUL				S	**Sn**	**11 29 48.4**	**-0.5**
YULB	**Yu-li**	**0.51**	**251**	P	**Pb**	**11 29 39.9**	**0.0**
YULB				S	**Sb**	**11 29 47.6**	**+0.6**
TWF1	**Yuli**	**0.52**	**247**	*eP*	**Pb**	**11 29 40.3**	**+0.2**
TWF1				eS	**Sb**	**11 29 47.6**	**+0.3**
CHKH	**Chenggong**	**0.53**	**227**	P	**Pb**	**11 29 40.4**	**+0.1**
CHKH				eS	**Sb**	**11 29 47.1**	**-0.6**
TWD	**Chiawan**	**0.56**	**339**	P	**Pb**	**11 29 40.2**	**-0.5**
TWD				S	**Sb**	**11 29 48.2**	**-0.1**
LXIB	**Xiulin Townshi**	**0.59**	**321**	*eP*	**Pb**	**11 29 41.1**	**-0.3**
LXIB				S	**Sb**	**11 29 49.6**	**+0.2**
FULB	**Fuli**	**0.60**	**233**	P	**Pb**	**11 29 41.4**	**-0.1**
FULB				eS	**Sb**	**11 29 49.8**	**+0.2**
CHKT	**Chengkung**	**0.62**	**222**	P	**Pb**	**11 29 41.1**	**-0.7**
CHKT				S	**Sb**	**11 29 49.0**	**-1.1**
ETL	**Fush Village**	**0.62**	**343**	P	**Pb**	**11 29 41.2**	**-0.7**
ETL				eS	**Sn**	**11 29 50.8**	**-1.0**
NACB	**Ninganchiao**	**0.64**	**342**	P	**Pb**	**11 29 41.5**	**-0.7**
NACB				S	**Sb**	**11 29 50.1**	**-0.7**
EHD	**Haiduan**	**0.70**	**234**	*i* P	**Pb**	**11 29 42.5**	**-0.5**
EHD				S	**Sb**	**11 29 52.5**	**+0.2**
OWD	**Renai**	**0.71**	**304**	P	**Pb**	**11 29 43.2**	**-0.1**
OWD				S	**Sb**	**11 29 52.2**	**-0.5**
ETLH	**Xiulin Townshi**	**0.71**	**334**	*eP*	**Pb**	**11 29 43.0**	**-0.4**
ETLH				eS	**Sb**	**11 29 52.6**	**-0.3**
ECS	**Chishang**	**0.72**	**230**	P	**Pn**	**11 29 44.1**	**+0.1**
ECS				eS	**Sn**	**11 29 54.4**	**+0.2**
EOS4	**EOS4**	**0.72**	**39**	*eP*	**Sn**	**11 29 43.5**	**-0.2**
EOS4				eS	**Sn**	**11 29 53.3**	**-0.4**
EDH	**Donghe**	**0.75**	**219**	P	**Pn**	**11 29 43.2**	**-1.2**
EDH				eS	**Sb**	**11 29 52.9**	**-1.0**
EAHA	**Aohua**	**0.77**	**355**	*eP*	**Pn**	**11 29 44.0**	**-0.7**
WHF	**Hehuan Shan**	**0.77**	**319**	P	**Pb**	**11 29 44.2**	**-0.3**
WHF				eS	**Sb**	**11 29 54.2**	**-0.7**
WUSB	**Renai**	**0.77**	**304**	P	**Pn**	**11 29 44.4**	**-0.4**
WUSB				eS	**Sb**	**11 29 54.5**	**-0.1**
ELDTW	**Lidau**	**0.82**	**243**	*eP*	**Pn**	**11 29 44.7**	**-0.8**
ELDTW				eS	**Sb**	**11 29 54.5**	**-1.5**
SSLB	**Suanglung**	**0.82**	**286**	P	**Pn**	**11 29 45.1**	**-0.3**
SSLB				S	**Sn**	**11 29 56.1**	**-0.7**
EOS3	**EOS3**	**0.85**	**32**	*eP*	**Pb**	**11 29 46.0**	**+0.3**
EOS3				eS	**Sb**	**11 29 57.4**	**+0.8**
FUSS	**Fushou**	**0.86**	**323**	*eP*	**Pb**	**11 29 46.1**	**0.0**
FUSS				eS	**Sn**	**11 29 57.3**	**-0.8**
ENA	**Nanau**	**0.87**	**355**	*eP*	**Pn**	**11 29 45.6**	**-0.5**
ENA				eS	**Sb**	**11 29 56.7**	**-0.5**
WHYT	**Xinyi Township**	**0.90**	**279**	*i* P	**Pb**	**11 29 47.0**	**+0.6**
WHYT				S	**Sb**	**11 29 58.7**	**+0.7**
SMLT	**Sun Moon Lake**	**0.90**	**291**	P	**Pb**	**11 29 46.7**	**+0.1**
SMLT				S	**Sb**	**11 29 59.0**	**+0.8**
LONT	**Longtian**	**0.91**	**224**	P	**Pn**	**11 29 45.8**	**-0.8**
LONT				S	**Sn**	**11 29 57.9**	**-1.0**
TDCB	**Techi**	**0.92**	**319**	*eP*	**Pb**	**11 29 47.2**	**+0.3**
TDCB				eS	**Sn**	**11 29 58.1**	**-1.2**
ALS	**Alishan**	**0.93**	**267**	*eP*	**Pb**	**11 29 47.8**	**+0.6**
ALS				eS	**Sb**	**11 29 59.7**	**+0.4**
TYC	**Yuchr**	**0.94**	**291**	*eP*	**Pn**	**11 29 46.9**	**-0.2**
TYC				eS	**Sb**	**11 30 00.0**	**+0.7**
NNSB	**Datong**	**0.95**	**335**	P	**Pn**	**11 29 47.1**	**-0.2**
NNSB				S	**Sn**	**11 29 59.2**	**-0.9**
NNS	**Nan Shan**	**0.97**	**335**	P	**Pn**	**11 29 47.3**	**-0.2**
NNS				S	**Sn**	**11 29 59.8**	**-0.7**
WCS	**Beigang Elemen**	**0.97**	**301**	*eP*	**Pb**	**11 29 47.8**	**+0.1**
WCS				S	**Sb**	**11 29 59.8**	**-0.2**
TWGBT	**Beinan**	**1.00**	**223**	P	**Pn**	**11 29 47.0**	**-1.0**
TWGBT				eS	**Sn**	**11 30 00.1**	**-1.1**
LATG	**Datong**	**1.01**	**345**	P	**Pn**	**11 29 47.9**	**-0.1**
TWG	**Pinlang**	**1.01**	**223**	*eP*	**Pn**	**11 29 47.1**	**-0.8**
TWG				eS	**Sn**	**11 30 00.1**	**-1.1**
ESAO	**Su ao**	**1.01**	**1**	*eP*	**Pn**	**11 29 48.0**	**0.0**
STYH	**Taoyuan**	**1.03**	**248**	*eP*	**Pb**	**11 29 48.9**	**+0.2**
STYH				S	**Sb**	**11 30 02.6**	**+0.7**
TWC	**Suao**	**1.04**	**2**	*eP*	**Pb**	**11 29 48.8**	**-0.2**
TWC				eS	**Sn**	**11 30 01.5**	**-0.7**
CHN5	**Tsauling**	**1.05**	**272**	*eP*	**Pb**	**11 29 50.8**	**+1.8**
CHN5				eS	**Sb**	**11 30 05.1**	**+2.7**
WHP	**Taichung City**	**1.07**	**312**	P	**Pb**	**11 29 49.6**	**+0.2**
WHP				S	**Sb**	**11 30 03.4**	**+0.3**
WNT	**Mingjian**	**1.09**	**287**	*eP*	**Pb**	**11 29 51.4**	**+1.8**
WNT				eS	**Sb**	**11 30 05.6**	**+2.2**
ENTT	**Nioudou**	**1.10**	**348**	*eP*	**Pb**	**11 29 49.7**	**-0.2**
WCKO	**Fanlu**	**1.12**	**264**	*eP*	**Pb**	**11 29 50.9**	**+0.7**
TPUB	**Ta-pu**	**1.12**	**257**	*eP*	**Pb**	**11 29 51.0**	**+0.8**
TPUB				eS	**Sb**	**11 30 06.0**	**+1.5**
WTP	**Ta-pu**	**1.15**	**254**	*eP*	**Pb**	**11 29 51.0**	**+0.3**
WTP				eS	**Sb**	**11 30 07.1**	**+1.8**
WGK	**Gukeng**	**1.16**	**276**	*eP*	**Pb**	**11 29 53.8**	**+2.9**
WGK				eS	**Sb**	**11 30 07.7**	**+2.2**
TWE	**Neicheng**	**1.16**	**353**	*eP*	**Pb**	**11 29 50.4**	**-0.5**
YHNB	**Yeheng**	**1.18**	**340**	*eP*	**Pb**	**11 29 50.7**	**-0.5**
YHNB				eS	**Sn**	**11 30 05.3**	**-0.3**
WDLH	**Douliu**	**1.18**	**276**	*eP*	**Pb**	**11 29 51.6**	**+0.3**
WDLH				eS	**Sb**	**11 30 07.7**	**+1.5**
NSK	**Sanguang**	**1.19**	**339**	*eP*	**Pn**	**11 29 50.6**	**+0.1**
NSK				eS	**Sb**	**11 30 05.9**	**-0.5**
FUSB	**Fushanzhiwuyua**	**1.21**	**350**	P	**Pn**	**11 29 51.1**	**+0.3**
TWQ1	**Liyutan**	**1.24**	**310**	*eP*	**Pb**	**11 29 52.9**	**+0.7**
NWLT	**Wulai**	**1.25**	**347**	*eP*	**Pb**	**11 29 51.8**	**-0.6**
ECL	**Taimali**	**1.25**	**220**	*eP*	**Pn**	**11 29 49.5**	**-1.8**
ECL				eS	**Sn**	**11 30 05.3**	**-1.9**
TWK	**Hsinying**	**1.26**	**257**	*eP*	**Pb**	**11 29 53.3**	**+0.7**
TWK				eS	**Sb**	**11 30 10.4**	**+2.0**
SNST	**Tainan City**	**1.26**	**255**	*eP*	**Pb**	**11 29 52.8**	**+0.2**
SNST				eS	**Sb**	**11 30 09.9**	**+1.5**
NSTT	**Nanjuang**	**1.30**	**325**	*eP*	**Pb**	**11 29 53.6**	**+0.3**
NSTT				eS	**Sb**	**11 30 09.9**	**+0.3**
LIOB	**Emei**	**1.31**	**326**	*eP*	**Pb**	**11 29 53.9**	**+0.5**
LIOB				eS	**Sb**	**11 30 10.1**	**+0.3**
KSHI	**Guanxi Townshi**	**1.34**	**334**	*eP*	**Pb**	**11 29 55.0**	**+0.9**
SSD	**Sandimen**	**1.36**	**234**	*eP*	**Pn**	**11 29 53.4**	**+0.6**
TIPB	**Shuangxi**	**1.41**	**0**	*eP*	**Pb**	**11 29 54.7**	**-0.4**
YOJ	**Yonaguni jima**	**1.41**	**50**	*eP*	**Pn**	**11 29 54.1**	**+0.6**
YOJ				S	**Sb**	**11 30 12.5**	**-0.2**
MASBT	**Mashibuluo**	**1.44**	**229**	*eP*	**Pn**	**11 29 54.2**	**+0.3**
TWB1	**Santiao Chiao**	**1.45**	**6**	*eP*	**Pb**	**11 29 54.9**	**-0.9**
TWB1				eS	**Sn**	**11 30 12.5**	**+0.3**
EAST	**Anshuo**	**1.47**	**218**	*eP*	**Pn**	**11 29 53.8**	**-0.6**
NWF	**Wu-fen Shan**	**1.50**	**359**	*i* P	**Pb**	**11 29 57.0**	**+0.2**
SXI1	**Grass Mountain**	**1.53**	**2**	*eP*	**Pb**	**11 29 56.5**	**-0.7**
SXI1				eS	**Sb**	**11 30 16.7**	**+0.5**
ZUZH	**Zhuzihu**	**1.61**	**351**	*eP*	**Pn**	**11 29 57.1**	**+0.8**
SCZT	**Fangliau**	**1.62**	**223**	*eP*	**Pb**	**11 29 59.2**	**+0.5**
HATJ	**Hateruma jima**	**1.89**	**74**	*eS*	**Sn**	**11 30 22.8**	**-0.1**
IRIF	**Iriomote-Funau**	**1.91**	**66**	*eP*	**Pn**	**11 30 00.8**	**+0.4**
IRIF				eS	**Sn**	**11 30 24.5**	**+0.9**
JKRS	**Kuro-shima**	**2.12**	**71**	*eP*	**Pn**	**11 30 04.1**	**+0.9**
JKRS				eS	**Sn**	**11 30 29.5**	**+0.8**
JIJ	**Ishigaki jima**	**2.27**	**69**	*eP*	**Pn**	**11 30 06.0**	**+0.7**
JIJ				eS	**Sn**	**11 30 33.0**	**+0.5**
JISG	**Ishigakijimahi**	**2.50**	**65**	*eP*	**Pn**	**11 30 08.9**	**+0.4**
JISG				eS	**Sn**	**11 30 37.5**	**-0.5**

*SNET **07** 11:29:43.6±1.0, 13.22′N×89.53′W, h45km±14km, ML2.8*
*GCG **07** 11:29:43.2±0.3, 13.24′N×89.59′W, h51km±7km, MD3.7*
ISC 07 11:29:43.2±5.7,**13.2N**±0.1×**89.58W**±0.08,**h38**km±7km,**n22**, σ0.38/34,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.51**	**15**	*eP*	**Pn**	**11 29 53.7**	**-0.3**
JAYA				eS	**Sn**	**11 30 01.2**	**-0.4**
JAYA				IAML		11 30 03.2	
	comp=Z,385nm,0.2s						
JAYA	**Jayaque - finc**	**0.51**	**15**	*eP*	**Pn**	**11 29 53.8**	**-0.3**
JAYA				*i* S	**Sn**	**11 30 01.9**	**+0.3**
PMON	**Piamonte**	**0.60**	**25**	*eP*	**Pn**	**11 29 55.1**	**-0.4**
LOMA	**Loma Larga**	**0.62**	**40**	*eP*	**Pn**	**11 29 55.9**	**+0.2**
LOMA				eS	**Sn**	**11 30 05.1**	**+0.6**
BOQS	**Boqueron**	**0.64**	**27**	*eP*	**Pn**	**11 29 55.9**	**-0.2**
BOQS				eS	**Sn**	**11 30 05.7**	**+0.6**
UEES	**Universidad Ev**	**0.64**	**31**	*eP*	**Pn**	**11 29 55.8**	**-0.2**
UEES				eS	**Sn**	**11 30 05.2**	**+0.3**
SBLS	**San Blas**	**0.67**	**357**	*eP*	**Pn**	**11 29 56.4**	**-0.1**
LFRS	**El Faro**	**0.68**	**48**	*eP*	**Pn**	**11 29 55.9**	**-0.6**
LFRS				eS	**Sn**	**11 30 06.0**	**+0.1**
SNJE	**San Jose**	**0.70**	**358**	*eP*	**Pn**	**11 29 56.8**	**0.0**
RTR	**El Retiro**	**0.73**	**355**	*eP*	**Pn**	**11 29 57.5**	**+0.3**
LFU	**La Fuente**	**0.74**	**38**	*eP*	**Pn**	**11 29 57.2**	**0.0**
NUBE	**Las Nubes**	**0.76**	**345**	*eP*	**Pn**	**11 29 57.3**	**-0.2**
NUBE	**Las Nubes**	**0.76**	**345**	*i* P	**Pn**	**11 29 57.3**	**-0.2**
NUBE				*i* S	**Sn**	**11 30 08.3**	**+0.5**
LBRS	**Las Brisas**	**0.78**	**42**	*eP*	**Pn**	**11 29 57.8**	**+0.2**
LBRS				eS	**Sn**	**11 30 08.6**	**+0.5**
PAVA	**Las Pavas**	**0.83**	**49**	*eP*	**Pn**	**11 29 58.4**	**-0.1**
PAVA				eS	**Sn**	**11 30 09.7**	**+0.1**
PAVA				IAML		11 30 11.5	
	comp=Z,518nm,0.4s						
UESV	**Universidad de**	**0.91**	**59**	*eP*	**Pn**	**11 29 58.8**	**-0.6**
UESV				eS	**Sn**	**11 30 10.8**	**-0.5**
PQSS	**Presa 15 de Se**	**1.09**	**65**	*eP*	**Pn**	**11 30 01.9**	**-0.1**
MTO3	**Montecristo**	**1.25**	**10**	*eP*	**Pn**	**11 30 04.0**	**-0.2**
MTO3	**Montecristo**	**1.25**	**10**	*i* P	**Pn**	**11 30 04.2**	**-0.1**
PACA	**Pacayal**	**1.26**	**76**	*eP*	**Pn**	**11 30 05.3**	**+0.9**
PACA				eS	**Sn**	**11 30 19.8**	**-0.4**
BLLM	**Bellamira**	**1.34**	**78**	*eP*	**Pn**	**11 30 05.3**	**0.0**
CNCH	**Conchagua**	**1.71**	**86**	*eP*	**Pn**	**11 30 10.2**	**-0.2**
CNCH				eS	**Sn**	**11 30 31.5**	**+0.4**

*SOME **07** 11:35:32.0,43.67′N×69.70′E*
NNC 07 11:35:34.6±2.2,**43.59N×69.74E**,**h0**km,**mb3.7**,**mpv3.0, 3D,Error ellipse: s-maj=15.7km s-min=6.5km az=131.0, Suspected Mining explosion.,Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.56**	**173**	P	**Pn**	**11 35 49.3**	**-0.6**
	3.8nm,0.2s						
BRLS				S	**Sn**	**11 36 02.0**	**+2.1**
	18nm,0.3s						
KK31	**Karatay Array**	**0.74**	**130**	P	**Pg**	**11 35 48.2**	**-0.6**
	1.6nm,0.2s,baz=314,slow=16,SNR=181						
KK31				⇓S	**Sg**	**11 35 59.6**	**+1.2**
	49nm,0.6s,baz=319,slow=37,SNR=14						
MRKS	**Merke**	**2.69**	**107**	Pg	**Pb**	**11 36 23.8**	**+0.2**
	7.9nm,0.5s						
MRKS				Lg	**Lg**	**11 37 00.8**	
	9.4nm,0.4s						
BTLS	**Baital**	**3.42**	**63**	Pg	**Pg**	**11 36 38.8**	**-1.3**
	17nm,0.8s						
BTLS				Lg	**Lg**	**11 37 27.3**	
	4.2nm,0.8s						
AAK	**Ala-Archa**	**3.61**	**104**	⇓Pg	**Pb**	**11 36 39.4**	**0.0**
	1.9nm,0.4s						
AAK				⇓Lg	**Lg**	**11 37 27.8**	
	2.4nm,0.5s						
KST	**Kastek**	**4.57**	**95**	Pg	**Pb**	**11 36 58.8**	**+3.0**
	2.6nm,0.7s						
KST				Lg	**Lg**	**11 38 00.8**	
	7.6nm,0.8s						

*IDC **07** 11:37:39.3±5.7, 17.87′S×178.03′W, h512km±62km, mb3.4/14, mbtmp4.3/14, Error ellipse: s-maj=24.8km s-min=15.4km az=71.0*
*NEIC **07** 11:37:43.5±1.6, 18.0′S±0.1′×178.0′W±0.1′, h553km±8km, mb4.3/28, Error ellipse: s-maj=18.8km s-min=16.0km az=142.0*
ISC 07 11:37:42.4±0.5,**17.97S**±0.09×**178.02W**±0.08,**h550**km, **n58**,σ0.99/58,**mb4.2**/31,**4C**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.75**	**273**	P	**P**	**11 39 04.8**	**+2.2**
AFI	**Afiamalu**	**7.23**	**57**	P	**P**	**11 39 31.5**	**-1.3**
RAO	**Raoul Island**	**11.23**	**180**	P	**P**	**11 40 13.3**	**+0.5**
PINNC	**Pines Island,**	**14.40**	**249**	P	**P**	**11 40 45.0**	**-0.7**
DZM	**Mont Dzumac**	**15.16**	**252**	P	**P**	**11 40 55.6**	**+1.9**
DZM				IAmb	IAmb	11 40 56.1	
	comp=Z,9.7nm,0.8s						
DZM	**Mont Dzumac**	**15.16**	**252**	P	**P**	**11 40 55.1**	**+1.4**
	comp=Z,8.3nm,0.7s,baz=87,slow=19,SNR=14						
EIDS	**Eidsvold**	**29.59**	**250**	P	**P**	**11 43 03.0**	**-0.5**
EIDS				IAmb	IAmb	11 43 03.2	
	comp=Z,7.3nm,0.8s						
ARMA	**Armidale**	**30.23**	**240**	P	**P**	**11 43 09.2**	**+0.2**
CTAO	**Charters Tower**	**33.80**	**261**	P	**P**	**11 43 38.9**	**-0.5**
CTAO				IAmb	IAmb	11 43 39.5	
	comp=Z,8.6nm,0.7s						
CAN	**Canberra**	**33.96**	**233**	P	**P**	**11 43 40.6**	**+0.1**
PMG	**Port Moresby**	**34.84**	**279**		**P**	**11 43 48.8**	**+0.7**
PMG	**Port Moresby**	**34.84**	**279**	P	**P**	**11 43 48.1**	**0.0**
	comp=Z,19nm,0.8s,baz=91,slow=7.9,SNR=5.6						
	comp=Z,19nm,0.8s						
TOO	**Toolangi**	**37.42**	**231**	P	**P**	**11 44 09.8**	**+0.6**
TOO				IAmb	IAmb	11 44 32.3	
	comp=Z,17nm,1.4s						
COEN	**Coen**	**37.48**	**270**		**P**	**11 44 10.1**	**+0.2**
STKA	**Stephens Creek**	**38.93**	**241**	P	**P**	**11 44 21.6**	**+0.1**
STKA	**Stephens Creek**	**38.93**	**241**	P	**P**	**11 44 20.8**	**-0.7**
	comp=Z,7.4nm,0.7s,baz=98,slow=11,SNR=12						
	comp=Z,7.4nm,0.7s						
INKA	**Innaminka**	**39.07**	**248**		**P**	**11 44 23.0**	**+0.4**
INKA				IAmb	IAmb	11 44 23.6	
	comp=Z,5.7nm,0.8s						
JAY	**Jayapura**	**43.28**	**286**	P	**P**	**11 44 55.9**	**-0.3**
	comp=Z,13nm,0.6s,baz=178,slow=8.9,SNR=7.2						
	comp=Z,13nm,0.6s						
BBOO	**Buckleboo**	**43.70**	**241**	P	**P**	**11 44 58.8**	**-0.4**
BBOO				IAmb	IAmb	11 44 59.2	
	comp=Z,16nm,0.8s						
WRA	**Warramunga Arr**	**44.99**	**260**		**P**	**11 45 07.8**	**-1.6**
WRA	**Warramunga Arr**	**44.99**	**260**	P	**P**	**11 45 08.1**	**-1.2**
	comp=Z,5.7nm,0.7s,baz=96,slow=6.9,SNR=129						
	comp=Z,5.7nm,0.7s						
AS31	**Alice Springs**	**45.13**	**254**	P	**P**	**11 45 09.7**	**-0.7**
ASAR	**Alice Springs**	**45.13**	**254**	P	**P**	**11 45 09.7**	**-0.8**
	comp=E,55nm,0.5s,baz=88,slow=8.7,SNR=384						
KNRA	**Kununurra**	**50.85**	**264**	P	**P**	**11 45 52.3**	**-0.8**
KNRA				IAmb	IAmb	11 45 52.8	
	comp=Z,7.5nm,0.7s						
PSA00	**Pilbara Seismi**	**58.25**	**255**	P	**P**	**11 46 43.9**	**-1.0**
PSA00	**Pilbara Seismi**	**58.25**	**255**	P	**P**	**11 46 43.9**	**-1.0**
PSA00				IAmb	IAmb	11 46 56.6	
	comp=Z,15nm,1.3s						
VNDA	**Vanda**	**60.41**	**185**	P	**P**	**11 46 59.5**	**+1.2**
VNDA	**Vanda**	**60.41**	**185**	P	**P**	**11 46 58.5**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=2.7,slow=6.5,SNR=2.0						
	comp=Z,0.4nm,0.7s						
MJAR	**Matsushiro Arr**	**68.18**	**323**		**P**	**11 47 48.1**	**-0.1**
MJAR	**Matsushiro Arr**	**68.18**	**323**	P	**P**	**11 47 47.6**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=162,slow=6.1,SNR=16						
	comp=Z,2.3nm,0.5s						
MAJO	**Matsushiro**	**68.18**	**323**	P	**P**	**11 47 48.2**	**0.0**
MAJO				IAmb	IAmb	11 47 48.7	
	comp=Z,9.1nm,1.1s						
JKA	**Kamikawa-asahi**	**71.51**	**331**	P	**P**	**11 48 09.2**	**+1.4**
JKA				IAmb	IAmb	11 48 09.5	
	comp=Z,3.6nm,0.7s						
QSPA	**South Pole Qui**	**72.08**	**180**	P	**P**	**11 48 12.5**	**+1.4**
QSPA	**South Pole Qui**	**72.08**	**180**	P	**P**	**11 48 12.1**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=306,slow=0.3,SNR=21						
	comp=Z,2.2nm,0.7s						
PEA0B	**Petropavlovsk-**	**73.83**	**345**	P	**P**	**11 48 21.2**	**+0.2**
PETK	**Petropavlovsk-**	**73.83**	**345**	P	**P**	**11 48 21.2**	**+0.2**
PETK	**Petropavlovsk-**	**73.83**	**345**	P	**P**	**11 48 19.8**	**-1.2**
	comp=Z,2.5nm,0.6s,baz=114,slow=7.8,SNR=6.1						
	comp=Z,2.5nm,0.6s						
KSRS	**Korea Array**	**75.00**	**318**	P	**P**	**11 48 27.6**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=137,slow=4.9,SNR=4.7						
	comp=Z,0.7nm,0.6s						
BEKR	**Beckworth**	**78.69**	**42**	P	**P**	**11 48 49.4**	**+1.2**
K05A	**Summer Lake**	**80.01**	**39**	P	**P**	**11 48 56.6**	**+1.4**
J05D	**Fort Rock, OR**	**80.14**	**38**	P	**P**	**11 48 56.9**	**+1.2**
J05D				IAmb	IAmb	11 48 57.4	
	comp=Z,3.6nm,0.5s						
BELA	**Belgrano 2**	**82.06**	**173**	P	**P**	**11 49 04.3**	**-0.6**
BELA				IAmb	IAmb	11 49 05.1	
	comp=Z,4.0nm,0.8s						
TX31	**Lajitas Ar. Si**	**85.71**	**57**	P	**P**	**11 49 24.5**	**+0.6**
TX31				IAmb	IAmb	11 49 26.4	
	comp=Z,2.3nm,0.9s						
TXAR	**Lajitas Array**	**85.72**	**57**	P	**P**	**11 49 24.5**	**+0.6**
TXAR	**Lajitas Array**	**85.72**	**57**	P	**P**	**11 49 25.1**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=218,slow=6.2,SNR=24						
	comp=Z,1.7nm,0.8s						
ILAR	**Eielson Array**	**85.86**	**13**	P	**P**	**11 49 22.8**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=223,slow=5.3,SNR=4.5						
	comp=Z,0.2nm,0.7s						
PDAR	**Pinedale Array**	**87.14**	**43**	P	**P**	**11 49 29.9**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=274,slow=2.4,SNR=6.3						
	comp=Z,0.6nm,0.7s						
CM31	**Chiang Mai Arr**	**89.25**	**290**	P	**P**	**11 49 41.0**	**+0.3**
CM31				IAmb	IAmb	11 50 15.0	
	comp=Z,9.1nm,1.4s						
CMAR	**Chiang Mai Arr**	**89.25**	**290**	P	**P**	**11 49 40.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**89.25**	**290**	P	**P**	**11 49 41.4**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=110,slow=1.8,SNR=9.2						
	comp=Z,1.4nm,0.8s						
TROLL	**Troll, Antarti**	**90.25**	**180**	⇑P	**P**	**11 49 41.1**	**-3.3**
	comp=Z

ISC 07 12:03:58.1±0.8, **43°92N**±0°05×**147°05E**±0°06, **h81**km±6km, **n67**, σ1°27/83, **mb3.6**/12, **4C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.17**	**252**	*i* P	**Pn**	**12 04 12.5**	**+2.6**
SHO	830nm,0.3s			AMB	AMB	12 04 12.9	
SHO				*i* S	**Sn**	**12 04 19.9**	**+1.3**
SHO	11μm,0.4s			A	A	12 04 20.8	
SHO	26μm,0.4s			A	A	12 04 20.8	
YUK	**Yuzh-Kuril'sk**	**0.86**	**278***c*	*i* PN	**Pn**	**12 04 14.3**	**-1.3**
YUK				*i* S	**Sn**	**12 04 26.6**	**-2.1**
YUK	comp=N,2μm,0.2s			pmax	pmax		
YUK	comp=Z,3μm,0.2s			pmax	pmax		
YUK	comp=E,737nm,0.1s			pmax	pmax		
YUK	comp=E,4μm,0.1s			smax	smax		
YUK	comp=N,11μm,0.2s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**0.86**	**278**	*i* P	**Pn**	**12 04 14.3**	**-1.3**
YUK				AMB	AMB	12 04 14.7	
YUK	comp=N,2μm,0.2s			*i* S	**Sn**	**12 04 26.6**	**-2.1**
YUK				A	A	12 04 29.0	
YUK	comp=N,8μm,0.5s			A	A	12 04 29.0	
NEM2	**Nemuro 2**	**1.10**	**240**	P	**Pn**	**12 04 17.4**	**-1.0**
NEM2				S	**Sn**	**12 04 32.0**	**-1.6**
NMR	**Nemuro--Hokkai**	**1.11**	**241**	*i* PN	**Pn**	**12 04 17.4**	**-1.1**
NMR				*i* S	**Sn**	**12 04 31.9**	**-1.8**
NMR	**Nemuro--Hokkai**	**1.11**	**241**	*i* P	**Pn**	**12 04 17.4**	**-1.1**
NMR				*i* S	**Sn**	**12 04 31.9**	**-1.8**
GLVR	**Golovnino**	**1.12**	**261**	*i* PN	**Pn**	**12 04 18.0**	**-0.7**
GLVR				*i* S	**Sn**	**12 04 33.3**	**-0.8**
GLVR	comp=N,33nm,0.1s			pmax	pmax		
GLVR	comp=E,66nm,0.1s			pmax	pmax		
GLVR	comp=Z,2μm,0.1s			pmax	pmax		
GLVR	comp=N,8μm,0.2s			smax	smax		
GLVR	comp=E,3μm,0.2s			smax	smax		
GLVR	**Golovnino**	**1.12**	**261**	*i* P	**Pn**	**12 04 18.0**	**-0.7**
GLVR				AMB	AMB	12 04 18.1	
GLVR	comp=E,2μm,0.2s			*i* S	**Sn**	**12 04 33.3**	**-0.8**
GLVR				A	A	12 04 35.9	
GLVR	comp=E,8μm,0.2s			A	A	12 04 35.9	
RUSJ	**Misakicho**	**1.31**	**279**	*i* PN	**Pn**	**12 04 20.7**	**-0.4**
RUSJ	comp=E,3μm,0.2s			*i* S	**Sn**	**12 04 38.6**	**+0.3**
JRA	**Rausu**	**1.39**	**271**	P	**Pn**	**12 04 22.0**	**-0.1**
JRA				S	**Sn**	**12 04 40.1**	**0.0**
KUR	**Kuril'sk**	**1.44**	**24***d*	*i* PN	**Pn**	**12 04 20.1**	**-2.5**
KUR	comp=Z,200nm,0.6s			pmax	pmax		
KUR	**Kuril'sk**	**1.44**	**24**	*i* P	**Pn**	**12 04 21.3**	**-1.3**
KUR	comp=Z,370nm,0.3s			AMB	AMB	12 04 21.8	
KUR				*e*S	**Sn**	**12 04 39.2**	**-1.9**
KUR	comp=Z,2μm,0.3s			A	A	12 04 39.9	
KUR	comp=Z,920nm,0.3s			A	A	12 04 39.9	
JNSB	**Nemuroshibetsu**	**1.49**	**265**	P	**Pn**	**12 04 23.3**	**+0.1**
JNSB				S	**Sn**	**12 04 42.3**	**0.0**
JKHN	**Kushirohamanak**	**1.61**	**239**	P	**Pn**	**12 04 24.3**	**-0.5**
JKHN				*e*S	**Sn**	**12 04 44.1**	**-1.0**
JNK	**Nakash**	**1.72**	**260**	P	**Pn**	**12 04 25.9**	**-0.4**
JNK				*e*S	**Sn**	**12 04 47.0**	**-0.8**
AKK	**Akkeshi**	**1.84**	**241**	*i* P	**Pn**	**12 04 27.2**	**-0.7**
JAK	**Akkeshi**	**1.95**	**242**	P	**Pn**	**12 04 28.6**	**-0.7**
JAK				S	**Sn**	**12 04 51.3**	**-1.7**
JTKR	**Abashiri--Toko**	**2.27**	**272**	P	**Pn**	**12 04 33.7**	**+0.1**
JAR	**Ashorobuto**	**2.46**	**256**	P	**Pn**	**12 04 36.7**	**+0.5**
JAR				S	**Sn**	**12 05 05.8**	**+0.4**
JOB	**Onbets**	**2.55**	**248**	P	**Pn**	**12 04 37.5**	**+0.1**
JOB				*e*S	**Sn**	**12 05 07.1**	**-0.4**
JMP	**Maruseppu**	**2.67**	**273**	P	**Pn**	**12 04 39.5**	**+0.5**
JCH	**Churui**	**2.99**	**245**	P	**Pn**	**12 04 43.0**	**-0.4**
JCH				S	**Sn**	**12 05 16.7**	**-1.5**
JKK2	**Kamakawa 2**	**3.11**	**271**	P	**Pn**	**12 04 46.0**	**+1.1**
JKA	**Kamikawa-asahi**	**3.22**	**275**	*e*P	**Pn**	**12 04 47.0**	**+0.6**
ASAJ	**Asahikawa**	**3.22**	**275**	P	**Pn**	**12 04 47.0**	**+0.6**
ASAJ	**Asahikawa**	**3.22**	**275**	P	**Pn**	**12 04 47.5**	**+1.1**
JFR	**Furan**	**3.33**	**258**	P	**Pn**	**12 04 49.0**	**+1.1**
JSE	**Soyaes**	**3.36**	**290**	P	**Pn**	**12 04 48.6**	**+0.3**
ERM	**Erimo**	**3.43**	**238**	*i* PN	**Pn**	**12 04 50.7**	**+1.4**
JEM	**Erimo**	**3.43**	**238**	P	**Pn**	**12 04 50.7**	**+1.4**
JEM				*e*S	**Sn**	**12 05 30.4**	**+1.6**
JNBK	**Urakawa-nobuka**	**3.55**	**244**	P	**Pn**	**12 04 50.3**	**-0.5**
YSS	**Yuzhno-Sakhali**	**4.28**	**317**	*e*PN	**Pn**	**12 05 00.5**	**-0.3**
YSS	comp=Z,100nm,3.0s			*e*S	**Sn**	**12 05 48.2**	**-1.3**
YSS	comp=Z,60nm,0.6s			pmax	pmax		
YSS	comp=N,10.0nm,0.6s			smax	smax		
YSS	comp=E,10.0nm,0.7s			smax	smax		
YSS	**Yuzhno-Sakhali**	**4.28**	**317**	*e*P	**Pn**	**12 05 01.0**	**+0.2**
YSS				*e*S	**Sn**	**12 05 48.2**	**-1.3**
TYV	**Tymovskoe**	**7.56**	**338**	*e*PN	**Pn**	**12 05 47.8**	**+2.4**
TYV				*e*S	**Sn**	**12 07 10.5**	**+1.1**
TYV	comp=Z,100nm,2.6s			pmax	pmax		
TYV	comp=Z,6.0nm,1.2s			pmax	pmax		
TYV	comp=N,100nm,2.4s			smax	smax		
TYV	comp=E,100nm,2.4s			smax	smax		
TYV	comp=N,8.0nm,1.7s			smax	smax		
TYV	comp=E,6.0nm,1.7s			smax	smax		
TYV	**Tymovskoe**	**7.56**	**338**	*e*P	**Pn**	**12 05 46.4**	**+1.0**
MJA0	**Matsu Arr-Jizo**	**9.97**	**225**	*e*PN	**Pn**	**12 06 17.8**	**-0.8**
MAJO	**Matsushiro**	**9.99**	**225**	*i* PN	**Pn**	**12 06 18.5**	**-0.3**
MJAR	**Matsushiro Arr**	**9.99**	**225**	P	**Pn**	**12 06 18.1**	**-0.8**
NKL	**Nikolayevsk**	**10.15**	**338**	*e*P	**Pn**	**12 06 20.9**	**+0.1**
MA2	**Magadan**	**15.84**	**7**	*i* P	**Pn**	**12 07 36.6**	**+0.6**
MA2	comp=Z,15nm,1.1s			pmax	pmax		
MA2	**Magadan**	**15.84**	**7**	*e*P	**Pn**	**12 07 36.6**	**+0.6**
SEY	**Seymchan**	**19.30**	**7**	*i* P	**P**	**12 08 17.6**	**+1.4**
SEY	comp=Z,4.0nm,1.3s			pmax	pmax		
SEY	**Seymchan**	**19.30**	**7**	*e*P	**P**	**12 08 17.6**	**+1.4**
YAK	**Yakutsk**	**20.81**	**337**	*i* P	**P**	**12 08 34.1**	**+1.5**
YAK	comp=Z,4.0nm,1.0s			pmax	pmax		
YAK	**Yakutsk**	**20.81**	**337**	*e*P	**P**	**12 08 34.1**	**+1.5**
BILL	**Bilibino**	**26.22**	**16**	*i* P	**P**	**12 09 27.2**	**+2.3**
BILL	comp=Z,2.0nm,0.9s			pmax	pmax		
BILL	**Bilibino**	**26.22**	**16**	*e*P	**P**	**12 09 27.2**	**+2.3**
SONM	**Songino Array**	**28.34**	**292**	P	**P**	**12 09 44.6**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=90,slow=7.2,SNR=3.0 comp=Z,0.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.28**	**139**	T	T	12 40 51.8	
	baz=330,slow=75,SNR=114						
H11N1	**WAKE ISLAND Hy**	**29.29**	**139**	T	T	12 40 47.3	
	baz=330,slow=75,SNR=50						
H11N3	**WAKE ISLAND Hy**	**29.30**	**139**	T	T	12 40 47.7	
	baz=330,slow=75,SNR=93						
H11S1	**WAKE ISLAND Hy**	**30.25**	**141**	T	T	12 41 56.5	
	baz=331,slow=76,SNR=133						
H11S3	**WAKE ISLAND Hy**	**30.25**	**141**	T	T	12 41 59.1	
	baz=331,slow=76,SNR=84						
H11S2	**WAKE ISLAND Hy**	**30.26**	**141**	T	T	12 41 57.9	
	baz=331,slow=76,SNR=90						
LZDM	**Lanzhou Array**	**33.86**	**272**	P	**P**	**12 10 33.7**	**+0.5**
	comp=Z,1.7nm,0.3s,baz=124,slow=7.5,SNR=3.6 comp=Z,1.7nm,0.3s						
MK31	**Makanchi Array**	**44.44**	**297**	*i* P	**P**	**12 12 03.9**	**+3.1**
MKAR	**Makanchi Array**	**44.44**	**297**	P	**P**	**12 11 59.5**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=78,slow=8.2,SNR=5.7 comp=Z,0.5nm,0.5s						
KURK	**Kurchatov**	**45.37**	**304**	P	**P**	**12 12 07.6**	**-0.5**
KURK	**Kurchatov**	**45.37**	**304**	*e*P	**P**	**12 12 07.6**	**-0.5**
KURBB	**Kurchatov Arra**	**45.46**	**304**	P	**P**	**12 12 07.6**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=73,slow=8.5,SNR=6.1 comp=Z,0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**47.50**	**253**	P	**P**	**12 12 25.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=43,slow=7.8,SNR=2.1 comp=Z,0.3nm,0.3s						
WRA	**Warramunga Arr**	**64.61**	**193**	P	**P**	**12 14 26.8**	**-0.1**
	comp=Z,0.1nm,0.6s,baz=9.2,slow=6.6,SNR=1.4 comp=Z,0.1nm,0.6s						
FINES	**FINESS Array B**	**64.69**	**333**	P	**P**	**12 14 24.0**	**-3.0**
	comp=Z,0.7nm,0.6s,baz=9.4,slow=7.4,SNR=5.5 comp=Z,0.7nm,0.6s						
AKASG	**Malin Array Be**	**71.40**	**324**	P	**P**	**12 15 08.5**	**-0.6**
	comp=Z,0.3nm,0.2s,baz=39,slow=6.5,SNR=7.5 comp=Z,0.3nm,0.2s						
BRTR	**Keskin Array B**	**77.37**	**314**	P	**P**	**12 15 43.3**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=103,slow=3.1,SNR=2.4 comp=Z,0.4nm,0.6s						
EKA	**Eskdalemuir Ar**	**77.94**	**343**	P	**P**	**12 15 45.6**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=14,slow=6.6,SNR=3.7 comp=Z,0.5nm,0.5s						
TXAR	**Lajitas Array**	**82.61**	**56**	P	**P**	**12 16 14.1**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=301,slow=6.6,SNR=2.3 comp=Z,0.1nm,0.5s						

*IDC **07** 12:16:32.3±4.4, 29°.18N×142°.35E, h0km, mb4.0/7, mbtmp4.0/8, ML3.2/1, Error ellipse: s-maj=118.7km s-min=78.7km az=71.0*
*NEIC **07** 12:16:34.0±1.1, 29°.48N±0°.10×142°.7E±0°.2, h10km±1km, mb4.3/11, Error ellipse: s-maj=29.0km s-min=16.5km az=82.0*

ISC 07 12:16:35.5±0.8, **29°43N**±0°09×**142°7E**±0°2, **h24**km, **n32**, σ0°76/32, **mb4.2**/14, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JGF	**Kuroka**	**7.63**	**325**	Pn	**Pn**	**12 18 23.9**	**-1.4**
MJAR	**Matsushiro Arr**	**8.04**	**333**		**Pn**	**12 18 30.1**	**-0.7**
MJAR	**Matsushiro Arr**	**8.04**	**333**	Pn	**Pn**	**12 18 31.2**	**+0.5**
	0.3nm,0.3s,baz=282,slow=6.4,SNR=26 2.7nm,0.4s						
MAJO	**Matsushiro**	**8.04**	**333**	Pn	**Pn**	**12 18 32.1**	**+1.4**
MJB9	**Matsu-Tunnel**	**8.04**	**333**	Pn	**Pn**	**12 18 32.1**	**+1.3**
JMM	**Marumori**	**8.56**	**350**		**Pn**	**12 18 38.1**	**+0.1**
ERM	**Erimo**	**12.56**	**2**	Pn	**Pn**	**12 19 32.1**	**-0.6**
YSS	**Yuzhno-Sakhali**	**17.49**	**0**		**Pn**	**12 20 37.8**	**+0.1**
PEA0B	**Petropavlovsk-**	**26.09**	**21**	P	**P**	**12 22 06.6**	**-0.6**
PEA0B	comp=Z,56nm,1.5s			IAmb	IAmb	12 22 44.9	
PETK	**Petropavlovsk-**	**26.09**	**21**	P	**P**	**12 22 06.8**	**-0.4**
SONM	**Songino Array**	**33.40**	**314**	P	**P**	**12 23 12.9**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=111,slow=8.0,SNR=2.9 comp=Z,0.4nm,0.5s						
SOEI	**Soe**	**42.83**	**207**	P	**P**	**12 24 31.6**	**-0.3**
ZALV	**Zalesovo Beam**	**48.06**	**318**	P	**P**	**12 25 12.3**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=119,slow=5.3,SNR=2.4 comp=Z,0.4nm,0.3s						
CTAO	**Charters Tower**	**49.35**	**176**	P	**P**	**12 25 23.0**	**0.0**
CTAO	comp=Z,11nm,1.4s			IAmb	IAmb	12 25 35.8	
MK31	**Makanchi Array**	**49.38**	**308**	P	**P**	**12 25 22.7**	**-0.5**
MK31	comp=Z,1.3nm,1.1s			IAmb	IAmb	12 25 32.6	
MKAR	**Makanchi Array**	**49.38**	**308**	P	**P**	**12 25 22.7**	**-0.5**
MKAR	**Makanchi Array**	**49.38**	**308**	P	**P**	**12 25 22.1**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=94,slow=9.7,SNR=5.2 comp=Z,0.5nm,0.6s						
WB0	**Warramunga Arr**	**49.57**	**190**	P	**P**	**12 25 24.9**	**+0.2**
WB0	comp=Z,7.2nm,1.4s			IAmb	IAmb	12 25 30.1	
WRA	**Warramunga Arr**	**49.75**	**190**	P	**P**	**12 25 25.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**50.05**	**201**	P	**P**	**12 25 26.7**	**-1.6**
KURBB	**Kurchatov Arra**	**51.77**	**313**	P	**P**	**12 25 41.1**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=90,slow=6.1,SNR=17 comp=Z,1.1nm,0.4s						
AS31	**Alice Springs**	**53.47**	**190**	P	**P**	**12 25 54.9**	**+1.0**
AS31	comp=Z,1.5nm,1.4s			IAmb	IAmb	12 26 00.5	
ASAR	**Alice Springs**	**53.47**	**190**	P	**P**	**12 25 54.9**	**+1.0**
BVAR	**Borovoye Array**	**56.66**	**316**	P	**P**	**12 26 17.3**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=92,slow=7.3,SNR=8.5 comp=Z,1.7nm,0.6s						
KK31	**Karatay Array**	**58.12**	**305**	P	**P**	**12 26 26.7**	**-0.5**
KK31	comp=Z,1.8nm,0.6s			IAmb	IAmb	12 26 27.7	
KKAR	**Karatay Array**	**58.12**	**305**	P	**P**	**12 26 26.7**	**-0.5**
AB31	**Akbulak array**	**63.82**	**314**	P	**P**	**12 27 05.7**	**0.0**
AB31	comp=Z,1.9nm,1.1s			IAmb	IAmb	12 27 49.2	
ABKAR	**Akbulak array**	**63.82**	**314**	P	**P**	**12 27 05.7**	**0.0**
FIA1	**FINESS Array S**	**76.06**	**334**	P	**P**	**12 28 20.5**	**-0.2**
FINES	**FINESS Array B**	**76.06**	**334**	P	**P**	**12 28 20.5**	**-0.2**
FINES	**FINESS Array B**	**76.06**	**334**	P	**P**	**12 28 21.8**	**+1.1**
	comp=Z,3.6nm,1.2s,baz=76,slow=8.0,SNR=4.3 comp=Z,3.6nm,1.2s						
KBZ	**Khabaz**	**76.77**	**313**	P	**P**	**12 28 25.9**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=65,slow=6.0,SNR=4.6 comp=Z,2.5nm,0.8s						

AUST 07 12:44:09.6±0.3, **18°S**±3°×**12°0E**±°, **h10**km, **mb4.3**/11, **ML3.5**/6, **ML4.1**/4, **Error ellipse: s-maj=7.8km s-min=5.5km az=118.7, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAAN	**Eighty Mile Be**	**1.59**	**130**	P	Pb	12 44 39.6	+0.4
CAAN				S	Sb	12 44 59.3	-0.1
AUBRM	**Broome Senior**	**1.94**	**82**	P	Pb	12 44 44.6	-0.4
AUBRM				S	Sb	12 45 09.6	+0.4
MBWA	**Marble Bar**	**2.94**	**189**	P	Pn	12 44 57.3	+0.9
MBWA				S	Sn	12 45 30.1	-1.7
PSA00	**Pilbara Seismi**	**3.33**	**186**	P	Pn	12 45 02.4	+0.5
PSA00				S	Sn	12 45 38.3	-3.2
FITZ	**Fitzroy Crossi**	**5.16**	**89**	P	Pn	12 45 26.5	-0.4
GIRL	**Giralia**	**7.12**	**231**	P	Pn	12 45 54.8	+1.0
	comp=Z,184μmcomp=Z,0.1nmcomp=Z,51nm,0.4s						
CVQOZ	**Cooralya Stati**	**8.42**	**222**	P	Pn	12 46 11.8	+0.1
	comp=Z,0.8nmcomp=Z,234nm,1.8s						
MEEK	**Meekatharra**	**8.49**	**190**	P	Pn	12 46 12.4	-0.3
MEEK	**Meekatharra**	**8.49**	**190**	S	Sn	12 47 39.8	-8.8
KNRA	**Kununurra**	**8.56**	**74**	P	Pn	12 46 14.0	+0.3
	comp=Z,0.1nmcomp=Z,11nm,0.5s						
KNRA				S	Sn	12 47 44.4	-6.1
EDFI	**Ende, Flores**	**9.54**	**9**	P	Pn	12 46 27.1	-0.2
	comp=Z,0.0nmcomp=Z,5.2nm,1.0s						
PLAI	**Plampang**	**9.65**	**345**	P	Pn	12 46 29.0	+0.3
	comp=Z,0.0nmcomp=Z,23nm,1.6s						
TWSI	**Taliwang, Sumb**	**9.99**	**341**	P	Pn	12 46 33.1	-0.1
	comp=Z,0.1nmcomp=Z,23nm,1.3s						
WRKA	**Warakurna**	**10.11**	**133**	P	Pn	12 46 33.8	-1.1
	comp=Z,0.0nmcomp=Z,3.6nm,2.1s						
MORW	**Morawa**	**11.44**	**199**	P	Pn	12 46 50.2	-2.8
	comp=Z,14nm,1.8s						
MTN	**Manton Dam**	**11.80**	**65**	P	Pn	12 46 57.3	-0.9
	comp=Z,16nm,0.4s						
DRS	**Darwin Rock St**	**11.81**	**62**	P	Pn	12 46 58.8	+0.7
	comp=Z,9.4nm,0.9s						
BLDU	**Ballidu**	**12.73**	**194**	P	Pn	12 47 08.4	-2.3

*ISK **07** 12:46:01.4, 37°.15N×30°.68E, h18km, ML2.3/9*
*AFAD **07** 12:46:01.8, 37°.13N×30°.68E, h7km±3km, ML2.5*

ISC 07 12:46:01.6±1.1, **37°13N**±0°03×**30°70E**±0°03, **h13**km±8km, **n18**, σ1°02/28, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUCA	**Burdur, Bucak-**	**0.22**	**331**	P	**Pg**	**12 46 05.9**	**-0.6**
BUCA				S	**Sg**	**12 46 09.6**	**-0.1**
BUCA	comp=E,2μm,0.7s			*i* IAML		12 46 12.0	
BUCA	comp=N,939nm,0.8s			*i* IAML		12 46 16.0	
ANTB	**Antalya**	**0.23**	**188**	Pg	**Pb**	**12 46 07.6**	**-0.1**
ANTB				Sg	**Sb**	**12 46 12.0**	**+0.2**
KORT	**Korkueli**	**0.30**	**245**	Pg	**Pg**	**12 46 07.8**	**-0.1**
KORT				Sg	**Sb**	**12 46 13.4**	**-0.6**
KORT	**Korkueli**	**0.30**	**245**	P	**Pg**	**12 46 07.4**	**-0.5**
KORT				S	**Sb**	**12 46 13.1**	**-0.9**
KORT	comp=E,1μm,0.4s			*i* IAML		12 46 14.0	
ISP	**Isparta**	**0.70**	**349**	Pg	**Pg**	**12 46 15.3**	**0.0**
ISP				Sg	**Sb**	**12 46 25.6**	**+0.1**
BAGO	**Egridir - ISPA**	**0.86**	**5**	P	**Pb**	**12 46 18.7**	**+0.2**
BAGO				S	**Sn**	**12 46 31.1**	**-1.0**
GOLH	**Golhisar**	**0.91**	**277**	P	**Pn**	**12 46 18.8**	**-0.4**
GOLH				S	**Sn**	**12 46 34.6**	**+1.3**
BASM	**Basmaki-Afyon**	**0.94**	**327**	Pg	**Pg**	**12 46 20.2**	**-0.4**
KNIK	**Mula-Seydike**	**0.94**	**253**	P	**Pb**	**12 46 19.8**	**-0.1**
KNIK				S	**Sn**	**12 46 35.2**	**+1.1**
SEYD	**Seydisehir-KON**	**0.95**	**73**	Pg	**Pb**	**12 46 20.3**	**+0.3**
CAEL	**Denizli, Camel**	**1.10**	**270**	P	**Pn**	**12 46 23.4**	**+0.6**
CAEL	comp=N,127nm,0.9s			*i* IAML		12 46 50.0	
CAEL	comp=E,113nm,1.3s			*i* IAML		12 46 51.0	
CAME	**Cameli-Denizli**	**1.13**	**261**	Pn	**Pb**	**12 46 23.0**	**-0.1**
APMY	**Acipayam-Deniz**	**1.16**	**287**	Pn	**Pb**	**12 46 23.1**	**-0.5**
DNZT	**Denizli-Tavas-**	**1.34**	**277**	P	**Pb**	**12 46 26.6**	**-0.1**
DNZT				S	**Sg**	**12 46 47.5**	**+2.7**
IZZE	**Mula-Seydike**	**1.37**	**240**	P	**Pn**	**12 46 25.0**	**-1.4**
IZZE	comp=N,84nm,0.5s			*i* IAML		12 46 57.0	
IZZE	comp=E,84nm,1.0s			*i* IAML		12 47 01.0	
SABU	**Mula-Dalaman**	**1.42**	**258**	P	**Pn**	**12 46 24.9**	**-2.2**
SABU				S	**Sg**	**12 46 49.2**	**+2.0**
HDMB	**Hadim**	**1.44**	**96**	Pn	**Pn**	**12 46 27.4**	**-0.3**
LADK	**Ladik-KONYA**	**1.70**	**51**	Pn	**Pn**	**12 46 30.8**	**-0.3**

*IDC **07** 12:52:11.4±4.0, 21°.38N×95°.93E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=345.5km s-min=28.9km az=60.0*

ISC 07 12:52:03.5±1.4, **21°4N**±0°4×**93°5E**±0°4, **h10**km, **n12**, σ3°24/18, **mb3.6**/3, **Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ODAN	**Odare**	**7.84**	**316**	Pn	**Pn**	**12 54 01.3**	**+3.3**
	baz=312,slow=0.0						
ODAN				Sn	**Sn**	**12 55 24.6**	**-2.4**
	13nm,0.2s,baz=312,slow=0.0						
GUN	**Gumba**	**9.54**	**315**	Pn	**Pn**	**12 54 24.9**	**+3.5**
	baz=312,slow=0.0						
GUN				Sn	**Sn**	**12 56 04.6**	**-4.3**
	19nm,0.4s,baz=312,slow=0.0						
PKI	**Pulchoki**	**9.64**	**312**	Pn	**Pn**	**12 54 26.9**	**+4.1**
	baz=308,slow=0.0						
PKI				Sn	**Sn**	**12 56 09.3**	**-2.1**
	11nm,0.4s,baz=308,slow=0.0						
PKIN	**Phulchoki**	**9.66**	**312**	Pn	**Pn**	**12 54 26.6**	**+3.7**
	baz=308,slow=0.0						
PKIN				Sn	**Sn**	**12 56 09.6**	**-2.0**
	8.5nm,0.2s,baz=308,slow=0.0						
KKN	**Kakani**	**9.87**	**312**	Pn	Pn	12 54 30.9	+5.2
	baz=309,slow=0.0						
KKN				Sn	**Sn**	**12 56 15.1**	**-1.7**
	8.8nm,0.2s,baz=309,slow=0.0						
DMN	**Daman**	**9.88**	**311**	Sn	**Sn**	**12 56 14.5**	**-2.6**
	13nm,0.4s,baz=308,slow=0.0						
GKN	**Gorkha**	**10.45**	**311**	Pn	**Pn**	**12 54 36.2**	**+2.6**
	baz=308,slow=0.0						
GKN				Sn	**Sn**	**12 56 28.6**	**-2.3**
	22nm,0.3s,baz=308,slow=0.0						
KOLN	**Koldanda**	**11.06**	**307**	Pn	**Pn**	**12 54 44.7**	**+2.6**
	baz=304,slow=0.0						
KOLN				Sn	**Sn**	**12 56 43.1**	**-3.0**
	7.8nm,0.3s,baz=304,slow=0.0						
PYUN	**Piuthan**	**11.70**	**307**	Pn	**Pn**	**12 54 55.2**	**+4.4**
	baz=305,slow=0.0						
PYUN				Sn	**Sn**	**12 56 58.5**	**-3.1**
	baz=305,slow=0.0						
MKAR	**Makanchi Array**	**26.98**	**343**	P	P	12 58 01.0	+16
	0.4nm,0.7s,baz=148,slow=9.3,SNR=3.7 0.4nm,0.7s						
WRA	**Warramunga Arr**	**57.24**	**133**	P	**P**	**13 01 49.6**	**-1.9**
	0.3nm,0.5s,baz=321,slow=7.4,SNR=14 0.3nm,0.5s						
ASAR	**Alice Springs**	**59.56**	**136**	P	**P**	**13 02 06.5**	**-1.1**
	0.3nm,0.4s,baz=320,slow=7.0,SNR=15 0.3nm,0.4s						

*IDC **07** 13:15:22.8±1.8, 30°.53S×177°.75W, h0km, mb3.6/3, mbtmp3.8/4, ML3.2/1, Error ellipse: s-maj=45.8km s-min=22.6km az=96.0*

ISC 07 13:15:27.9±1.6, **30°43S**±0°08×**177°8W**±0°3, **h46**km, **n12**, σ1°46/8, **mb3.8**/3, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.18**	**355**	Pn	**Pn**	**13 15 47.8**	**-0.1**
	9.6nm,0.3s,baz=85,slow=21,SNR=1.1						
RAO				Sn	**Sn**	**13 16 01.1**	**-1.7**
	346nm,0.3s,baz=145,slow=23,SNR=9.6						
URZ	**Urewera**	**8.87**	**207**	Pn	**Pn**	**13 17 31.9**	**-1.6**
	0.3nm,0.3s,baz=31,slow=22,SNR=2.7						
URZ				Sn	**Sn**	**13 19 11.5**	**-0.4**
	0.5nm,0.3s,baz=220,slow=23,SNR=6.8 14nm,0.9s						
ASAR	**Alice Springs**	**43.28**	**267**	P	**P**	**13 23 26.6**	**+1.3**
	0.3nm,0.7s,baz=104,slow=7.4,SNR=6.1 0.3nm,0.7s						
WRA	**Warramunga Arr**	**44.28**	**272**	P	**P**	**13 23 34.5**	**+1.3**
	0.7nm,0.4s,baz=111,slow=8.1,SNR=20 0.7nm,0.4s						
VNDA	**Vanda**	**48.08**	**186**	P	**P**	**13 24 02.6**	**+0.2**
	0.8nm,0.8s,baz=49,slow=11,SNR=5.1 0.8nm,0.8s						
H03S2	**Juan Fernandez**	**80.30**	**123**	T	T	14 56 47.5	
	baz=238,slow=74,SNR=4.9						
H03S1	**Juan Fernandez**	**80.31**	**123**	T	T	14 56 46.4	
	baz=238,slow=74,SNR=4.8						
H03S3	**Juan Fernandez**	**80.32**	**123**	T	T	14 56 46.7	
	baz=238,slow=74,SNR=4.8						
H03N3	**Juan Fernandez**	**80.49**	**123**	T	T	14 57 01.4	
	baz=234						
H03N2	**Juan Fernandez**	**80.49**	**123**	T	T	14 57 01.2	
	baz

NWAO	**Narrogin (SRO)**	**16.19**	**348**	Pn		**Pn**	**13 51 02.5**	**+2.2**	
	comp=Z,0.6nm,0.3s,baz=180,slow=9.1,SNR=6.2								
NWAO				LR		LR	13 56 00.8		
	comp=Z,269nm,18.9s,baz=128,slow=32								
	comp=Z,5.3nm,0.9s								
CASY	**Casey**	**18.30**	**194**	P		**Pn**	**13 51 24.5**	**-1.9**	
TAU	**Tasmania Unive**	**19.15**	**82**	P		**P**	**13 51 34.7**	**-1.4**	
TAU				IAmb		IAmb	13 52 18.5		
	comp=Z,39nm,1.4s								
MORW	**Morawa**	**20.15**	**347**	P		**P**	**13 51 47.2**	**+0.1**	
MORW				IAmb		IAmb	13 52 03.8		
	comp=Z,32nm,1.4s								
TOO	**Toolangi**	**20.97**	**67**	P		**P**	**13 51 57.8**	**+1.8**	
TOO				IAmb		IAmb	13 52 01.2		
	comp=Z,37nm,1.5s								
ASAR	**Alice Springs**	**27.11**	**26**	P		**P**	**13 52 53.8**	**-2.1**	
ASAR	**Alice Springs**	**27.11**	**26**	P		**P**	**13 52 56.1**	**+0.2**	
	comp=Z,2.1nm,0.9s,baz=183,slow=9.6,SNR=15								
ASAR				LR		LR	14 02 30.6		
	comp=Z,233nm,21.3s,baz=196,slow=34								
	comp=Z,2.1nm,0.9s								
AS31	**Alice Springs**	**27.12**	**26**	P		**P**	**13 52 55.9**	**0.0**	
PSA00	**Pilbara Seismi**	**27.26**	**357**	P		**P**	**13 52 52.8**	**-4.3**	
PSA00				IAmb		IAmb	13 53 25.3		
	comp=Z,17nm,1.3s								
ARMA	**Armidale**	**29.59**	**63**	P		**P**	**13 53 17.8**	**-0.2**	
WRA	**Warramunga Arr**	**30.76**	**25**	P		**P**	**13 53 28.8**	**+0.5**	
	comp=Z,2.2nm,1.2s,baz=197,slow=9.2,SNR=4.1								
WRA				LR		LR	14 04 47.3		
	comp=Z,154nm,21.0s,baz=192,slow=34								
	comp=Z,2.2nm,1.2s								
FITZ	**Fitzroy Crossi**	**30.91**	**8**	P		**P**	**13 53 28.7**	**-0.9**	
FITZ	**Fitzroy Crossi**	**30.91**	**8**	P		**P**	**13 53 31.1**	**+1.4**	
	comp=Z,1.3nm,1.0s,baz=196,slow=12,SNR=6.3								
FITZ				LR		LR	14 05 21.9		
	comp=Z,76nm,21.0s,baz=190,slow=35								
	comp=Z,1.3nm,1.0s								
WB0	**Warramunga Arr**	**30.95**	**25**	P		**P**	**13 53 30.0**	**+0.1**	
WB0				IAmb		IAmb	13 53 46.2		
	comp=Z,11nm,1.4s								
VNDA	**Vanda**	**32.66**	**165**	P		**P**	**13 53 43.0**	**-1.5**	
VNDA				IAmb		IAmb	13 53 46.4		
	comp=Z,6.7nm,0.9s								
VNDA	**Vanda**	**32.66**	**165**	P		**P**	**13 53 43.1**	**-1.4**	
	comp=Z,5.0nm,0.8s,baz=308,slow=9.2,SNR=25								
VNDA				LR		LR	14 05 34.2		
	comp=Z,366nm,21.7s,baz=318,slow=34								
	comp=Z,5.0nm,0.8s								
KNRA	**Kununurra**	**33.69**	**13**	P		**P**	**13 53 53.2**	**-0.8**	
KNRA				IAmb		IAmb	13 54 25.1		
	comp=Z,7.0nm,1.1s								
SBA	**Scott Base**	**33.72**	**164**	P		**P**	**13 53 54.4**	**+0.7**	
SBA				IAmb		IAmb	13 54 02.8		
	comp=Z,6.8nm,1.3s								
MAW	**Mawson**	**34.22**	**215**	P		**P**	**13 53 59.2**	**+1.1**	
	comp=Z,7.9nm,1.0s,baz=80,slow=11,SNR=14								
MAW				LR		LR	14 05 59.0		
	comp=Z,83nm,20.0s,baz=88,slow=33								
	comp=Z,7.9nm,1.0s								
INZ	**Inchbonnie**	**35.10**	**99**	P		**P**	**13 54 07.3**	**+1.3**	
THZ	**Tophouse**	**36.51**	**99**	P		**P**	**13 54 18.9**	**+0.7**	
BATI	**Baumata**	**38.60**	**4**	LR		LR	14 09 17.5		
	comp=Z,127nm,21.8s,baz=192,slow=34								
URZ	**Urewera**	**41.09**	**97**	LR		LR	14 08 56.8		
	comp=Z,165nm,18.6s,baz=222,slow=32								
QSPA	**South Pole Qui**	**41.25**	**180**	P		**P**	**13 54 59.1**	**+1.3**	
QSPA				IAmb		IAmb	13 55 02.7		
	comp=Z,11nm,1.1s								
QSPA	**South Pole Qui**	**41.25**	**180**	P		**P**	**13 54 58.2**	**+0.4**	
	comp=Z,2.5nm,0.5s,baz=315,slow=4.6,SNR=47								
QSPA				LR		LR	14 11 30.2		
	comp=Z,158nm,18.4s,baz=343,slow=35								
	comp=Z,2.5nm,0.5s								
LEM	**Lembang**	**43.42**	**340**	LR		LR	14 11 14.2		
	comp=Z,38nm,19.2s,baz=312,slow=33								
KAPI	**Kappang**	**43.71**	**358**	LR		LR	14 13 00.7		
	comp=Z,32nm,19.6s,baz=175,slow=35								
PMG	**Port Moresby**	**44.99**	**38**	LR		LR	14 15 07.1		
	comp=Z,134nm,18.3s,baz=198,slow=37								
HNR	**Honiara**	**50.98**	**53**	LR		LR	14 16 28.0		
	comp=Z,158nm,18.7s,baz=180,slow=34								
TROLL	**Troll, Antarti**	**51.99**	**200**	⇓P		**P**	**13 56 21.2**	**-0.5**	
	comp=Z,252nm,0.8s								
BELA	**Belgrano 2**	**52.64**	**186**	P		**P**	**13 56 24.5**	**-1.8**	
SNAA	**Sanae**	**53.43**	**199**	⇓P		**P**	**13 56 32.3**	**0.0**	
	comp=Z,237nm,0.9s								
SNAA	**Sanae**	**53.43**	**199**	P		**P**	**13 56 31.9**	**-0.4**	
SNAA	**Sanae**	**53.43**	**199**	P		**P**	**13 56 32.8**	**+0.5**	
	comp=Z,7.8nm,1.0s,baz=146,slow=11,SNR=28								
SNAA				LR		LR	14 18 28.7		
	comp=Z,189nm,18.1s,baz=130,slow=35								
	comp=Z,7.8nm,1.0s								
PSI	**Prapat**	**54.95**	**333**	LR		LR	14 15 47.8		
	comp=Z,53nm,20.8s,baz=158,slow=31								
VNA2	**Neumayer--Watz**	**54.96**	**198**	⇑P		**P**	**13 56 44.0**	**+0.6**	
	comp=Z,8.4nm,0.8s,baz=144,slow=7.9								
VNA3	**Neumayer Olymp**	**55.17**	**197**	⇑P		**P**	**13 56 45.0**	**+0.1**	
	comp=Z,5.2nm,0.7s								
VNA1	**Neumayer--Stat**	**55.35**	**198**	⇓P		**P**	**13 56 46.9**	**+0.7**	
	comp=Z,12nm,1.0s								
H08S2	**Diego Garcia H**	**57.85**	**299**	T		T	15 00 09.0		
	baz=144,slow=76,SNR=25								
H08S1	**Diego Garcia H**	**57.87**	**299**	T		T	15 00 06.8		
	baz=144,slow=76,SNR=19								
H08S3	**Diego Garcia H**	**57.88**	**299**	T		T	15 00 04.3		
	baz=144,slow=76,SNR=38								
GUMO	**Guam**	**65.66**	**25**	LR		LR	14 25 25.1		
	comp=Z,116nm,21.7s,baz=10,slow=35								
PALK	**Pallekele**	**66.14**	**315**	LR		LR	14 20 54.1		
	comp=Z,91nm,21.7s,baz=136,slow=30								
PMSA	**Palmer Station**	**66.62**	**178**	LR		LR	14 25 45.6		
	comp=Z,40nm,21.2s,baz=186,slow=35								
RAR	**Rarotonga**	**67.28**	**97**	LR		LR	14 22 20.1		
	comp=Z,91nm,21.1s,baz=215,slow=31								
CMAR	**Chiang Mai Arr**	**69.87**	**338**	P		**P**	**13 58 25.9**	**+2.2**	
	comp=Z,0.2nm,0.4s,baz=164,slow=6.4,SNR=5.4								
CMAR				LR		LR	14 25 34.4		
	comp=Z,21nm,21.8s,baz=220,slow=33								
	comp=Z,0.2nm,0.4s								
BOSA	**Boshof**	**72.62**	**246**	LR		LR	14 24 58.3		
	comp=Z,104nm,18.6s,baz=197,slow=31								
LBTB	**Lobatse**	**75.02**	**249**	LR		LR	14 25 27.6		
	comp=Z,138nm,19.4s,baz=146,slow=30								
BRDH	**Bariadhala**	**75.93**	**332**	LR		LR	14 29 56.2		
	comp=Z,66nm,20.4s,baz=360,slow=34								
USHA	**Ushuaia**	**76.36**	**174**	LR		LR	14 30 01.3		
	comp=Z,771nm,21.8s,baz=330,slow=34								
MATP	**Matopo**	**76.56**	**254**	LR		LR	14 26 04.2		
	comp=Z,97nm,21.5s,baz=158,slow=30								
LSZ	**Lusaka**	**80.54**	**258**	LR		LR	14 31 43.1		
	comp=Z,77nm,18.4s,baz=159,slow=33								
TSUM	**Tsumeb**	**84.28**	**247**	LR		LR	14 32 01.1		
	comp=Z,98nm,19.4s,baz=161,slow=32								
PLCA	**Paso Flores**	**90.19**	**171**	LR		LR	14 38 05.3		
	comp=Z,45nm,19.5s,baz=212,slow=34								
TXAR	**Lajitas Array**	**140.84**	**103**	PKP		**PKPdf**	**14 06 43.3**	**+0.5**	
	comp=Z,0.4nm,0.9s,baz=198,slow=4.2,SNR=3.5								
PDAR	**Pinedale Array**	**144.72**	**80**	PKP		**PKPdf**	**14 06 51.6**	**+2.1**	
	comp=Z,1.0nm,0.8s,baz=238,slow=2.3,SNR=5.5								
YKA	**Yellowknife Ar**	**146.92**	**45**	PKPbc		**PKPbc**	**14 06 55.5**	**+1.3**	
	comp=Z,2.1nm,0.8s,baz=267,slow=2.5,SNR=7.0								

*IDC **07** 14:09:50.1±10.0,56.2°S×27.6°W×10.3,**h112**km,**n17**, σ0.5**89**/**12**,**mb3.9**/**4**,**3C-2D**,**South Sandwich Islands region***

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.78**	**158**	⇓P			**Pn**	**14 13 37.9**	**-0.7**
	comp=Z,1.8nm,0.4s								
VNA3	**Neumayer Olymp**	**16.96**	**160**	⇑P			**Pn**	**14 13 40.0**	**-0.9**
	comp=Z,5.3nm,0.7s								
VNA2	**Neumayer--Watz**	**17.18**	**157**	⇑P			**Pn**	**14 13 43.5**	**+0.1**
	comp=Z,5.1nm,0.6s,baz=318,slow=11								
SNAA	**Sanae**	**18.73**	**156**	⇓P			**P**	**14 13 60.0**	**-0.4**
	comp=Z,141nm,0.4s								
SNAA	**Sanae**	**18.73**	**156**	P			**P**	**14 13 60.0**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=312,slow=13,SNR=98								
	comp=Z,6.4nm,0.5s								
TROLL	**Troll, Antarti**	**20.25**	**153**	⇑P			**P**	**14 14 16.2**	**-0.6**
	comp=Z,496nm,0.5s								
QSPA	**South Pole Qui**	**34.10**	**180**	P			**P**	**14 16 26.0**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=208,slow=14,SNR=14								
	comp=Z,1.7nm,0.7s								

MAW	**Mawson**	**40.19**	**144**	P			**P**	**14 17 15.3**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=258,slow=9.3,SNR=4.4								
	comp=Z,0.9nm,0.4s								
VNDA	**Vanda**	**46.46**	**183**	P			**P**	**14 18 05.7**	**0.0**
	comp=Z,0.9nm,0.6s,baz=174,slow=5.1,SNR=9.4								
	comp=Z,0.9nm,0.6s								
H10S2	**ASCENSION HYDR**	**48.15**	**17**	T			T	15 11 08.2	
	baz=190,slow=74,SNR=9.2								
H10S3	**ASCENSION HYDR**	**48.16**	**17**	T			T	15 11 08.5	
	baz=30,slow=74,SNR=8.3								
H10N1	**ASCENSION HYDR**	**49.27**	**17**	T			T	15 12 32.5	
	baz=196								
H10N3	**ASCENSION HYDR**	**49.27**	**17**	T			T	15 12 32.4	
	baz=196								
H10N2	**ASCENSION HYDR**	**49.29**	**17**	T			T	15 12 34.0	
	baz=196								
LPAZ	**La Paz**	**50.27**	**306**	P			**P**	**14 18 36.0**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=153,slow=7.3,SNR=9.1								
	comp=Z,1.5nm,0.4s								
TORD	**Torodi Ar. Bea**	**73.24**	**30**	P			**P**	**14 21 10.2**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=197,slow=6.4,SNR=4.2								
	comp=Z,0.3nm,0.4s								
ILAR	**Eielson Array**	**150.03**	**312**	PKPbc			**PKPbc**	**14 29 25.2**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=94,slow=2.7,SNR=2.4								

*BJI **07** 14:16:08.8,27.°43N×143.°15E,h10km,mB5.1/9,mb4.7/43, Ms4.4/15,Ms7 4.0/12*

*IDC **07** 14:16:13.0±0.5,27.°69N×142.°73E,h0km,mb4.4/24, mbtmp4.4/27,ML3.8/3,MS3.6/32,Error ellipse: s-maj=18.4km s-min=12.3km az=85.0*

*NEIC **07** 14:16:17.1±1.9,27.°83N±0.°04×142.°75E±0.°08,h25km±5km, mb4.7/108,Error ellipse: s-maj=10.1km s-min=5.5km az=108.0*

*JMA **07** 14:16:18.8±0.1,27.°8N±0.°8×14.°2E±.°,h61km,MV4.5/13, NEAR CHICHIJIMA ISLAND*

ISC 07 14:16:14.3±1.6,27.°84N±0.°04×142.°77E±0.°06,h8km**±9**km**, n204,σ1.5**57**/172,mb4.7/84,MS3.9/34,3D,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.90**	**215**	P			**Pn**	**14 16 33.9**	**+0.6**
CBIJ				*eS*			**Sg**	**14 16 44.9**	**+1.6**
CBIJ	**Chichi jima**	**0.90**	**215**	A			A	14 16 33.9	
	comp=N,34nm,1.0s,comp=E,39nm,1.0s								
JCJ	**Chichijima**	**0.90**	**215**				**Pn**	**14 16 33.6**	**+0.3**
JCJ					Sg		**Sb**	**14 16 44.9**	**+0.6**
JHH2	**Haha-jima-NKT2**	**1.31**	**204**	*eP*			**Pb**	**14 16 39.7**	**+0.6**
JHH2				*eS*			**Sb**	**14 16 55.5**	**-0.6**
JHJ2	**Mitsune**	**5.84**	**335**	Pn			**Pn**	**14 17 42.7**	**+1.5**
JHJ2					Sn		**Sn**	**14 18 44.9**	**-3.5**
JHJ2	**Mitsune**	**5.84**	**335**	*eS*			**Sn**	**14 18 45.1**	**-3.3**
JHJ	**Hachijo jima 2**	**5.86**	**335**	Pn			**Pn**	**14 17 43.2**	**+1.7**
	comp=E,11nm,0.3s,baz=76,slow=23,SNR=1.9								
JHJ					Sn		**Sn**	**14 18 46.1**	**-2.8**
	comp=E,41nm,0.3s,baz=107,slow=19,SNR=5.8								
JHJ				LR			LR	14 20 01.7	
	comp=E,350nm,20.5s,baz=232,slow=38								
	comp=E,135nm,0.7s								
JMKN	**Mikurajimanish**	**6.62**	**336**	*eS*			**Sn**	**14 19 05.2**	**-2.5**
BSO1	**Boso 1**	**6.96**	**348**	*eP*			**Pn**	**14 17 55.9**	**-0.3**
BSO3	**Boso 3**	**7.21**	**345**	*eP*			**Pn**	**14 18 00.1**	**+0.4**
BSO4	**Boso 4**	**7.43**	**344**	*eP*			**Pn**	**14 18 03.4**	**+0.5**
BSO4				*eS*			**Sn**	**14 19 24.4**	**-2.9**
JOD2	**Odawara 2**	**8.04**	**338**	*eP*			**Pn**	**14 18 11.9**	**+0.5**
JOD2				*eS*			**Sn**	**14 19 38.0**	**-4.6**
JGF	**Kuroka**	**9.00**	**331**	Pn			**Pn**	**14 18 25.4**	**+0.7**
MJAR	**Matsushiro Arr**	**9.50**	**337**				**Pn**	**14 18 31.6**	**+0.2**
MJAR	**Matsushiro Arr**	**9.50**	**337**	Pn			**Pn**	**14 18 32.0**	**+0.6**
	comp=E,0.4nm,0.3s,baz=148,slow=9.9,SNR=32								
MJAR					Sn		**Sn**	**14 20 16.4**	**-2.1**
	comp=E,0.2nm,0.3s,baz=154,slow=21,SNR=6.2								
MJAR				LR			LR	14 22 12.4	
	comp=E,372nm,18.4s,baz=141,slow=37								
	comp=E,3.4nm,0.4s								
MAJO	**Matsushiro**	**9.50**	**337**				**Pn**	**14 18 32.1**	**+0.7**
MJB9	**Matsu-Tunnel**	**9.50**	**337**				**Pn**	**14 18 32.4**	**+0.9**
JMM	**Marumori**	**10.14**	**351**				**Pn**	**14 18 38.3**	**-1.8**
JOW	**Kunigami**	**12.92**	**269**	LR			LR	14 24 08.2	
	comp=E,369nm,18.8s,baz=110,slow=37								
ERM	**Erimo**	**14.15**	**1**	Pn			Pn	14 19 30.8	-4.2
KSRS	**Korea Array**	**15.74**	**311**	Pn			**P**	**14 20 01.8**	**+1.4**
	comp=E,0.7nm,0.3s,baz=118,slow=11,SNR=16								
KSAR	**Kanju Array Be**	**15.76**	**311**	Pn			**Pn**	**14 19 55.0**	**-1.5**
JKA	**Kamikawa-asahi**	**16.25**	**360**				**Pn**	**14 19 59.0**	**-3.8**
ASAJ	**Asahikawa**	**16.25**	**360**	Pn			**Pn**	**14 20 00.2**	**-2.6**
	comp=E,0.6nm,0.3s,baz=225,slow=13,SNR=11								
ASAJ					Sn		Sn	14 22 50.1	-13
	comp=E,0.3nm,0.3s,baz=122,slow=19,SNR=1.8								
ASAJ				LR			LR	14 26 49.4	
	comp=E,190nm,21.3s,baz=191,slow=39								
USA0B	**Ussuriysk Arra**	**18.48**	**335**	P			**P**	**14 20 25.9**	**-4.7**
USRK	**Ussuriysk Ar.**	**18.48**	**335**	P			**P**	**14 20 25.4**	**-5.3**
USRK	**Ussuriysk Ar.**	**18.48**	**335**	P			**Pn**	**14 20 31.6**	**+0.9**
	comp=E,0.5nm,0.3s,baz=161,slow=7.6,SNR=8.3								
USRK				LR			LR	14 27 14.2	
	comp=E,235nm,18.5s,baz=144,slow=36								
	comp=E,4.5nm,0.9s								
YSS	**Yuzhno-Sakhali**	**19.08**	**360**	P			**P**	**14 20 34.9**	**-2.4**
TATO	**Taipei**	**19.27**	**266**	P			**P**	**14 20 38.3**	**-1.2**
TATO				IAmb			IAmb	14 20 42.0	
	comp=Z,43nm,1.0s								
NACB	**Ninganchiao**	**19.37**	**264**	P			**P**	**14 20 39.8**	**-0.8**
YHNB	**Yeheng**	**19.44**	**266**				**P**	**14 20 41.8**	**+0.3**
YHNB				IAmb			IAmb	14 20 44.0	
	comp=Z,30nm,0.8s								
YULB	**Yu-li**	**19.85**	**262**	P			**P**	**14 20 46.8**	**+0.9**
YULB				IAmb			IAmb	14 20 54.1	
	comp=Z,37nm,0.9s								
SSLB	**Suanglung**	**20.04**	**263**				**P**	**14 20 47.6**	**-0.3**
SSLB				IAmb			IAmb	14 20 54.5	
	comp=Z,54nm,0.9s								
TWG	**Pinlang**	**20.23**	**261**	P			**P**	**14 20 49.5**	**-0.5**
TWG				IAmb			IAmb	14 21 08.7	
	comp=Z,26nm,0.7s								
TPUB	**Ta-pu**	**20.46**	**262**	P			**P**	**14 20 53.2**	**+0.6**
NJ2	**Nanjing**	**21.13**	**287**	*eP*			**P**	**14 21 00.3**	**+0.7**
NJ2				pmax			pmax		
	comp=Z,15nm,0.6s								
BNX	**BinXian**	**21.63**	**330**	⇓P			**P**	**14 21 05.3**	**+0.4**
BNX				pmax			pmax		
	comp=Z,12nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**23.48**	**105**	T			T	14 45 54.8	
	baz=297,slow=75,SNR=18								
H11N1	**WAKE ISLAND Hy**	**23.48**	**105**	T			T	14 46 24.1	
	baz=297,slow=75,SNR=15								
H11N3	**WAKE ISLAND Hy**	**23.50**	**105**	T			T	14 45 56.0	
	baz=297,slow=75,SNR=18								
H11S3	**WAKE ISLAND Hy**	**23.84**	**108**	T			T	14 46 51.1	
	baz=269,slow=75,SNR=17								
H11S1	**WAKE ISLAND Hy**	**23.85**	**108**	T			T	14 46 36.5	
	baz=269,slow=75,SNR=6.6								
H11S2	**WAKE ISLAND Hy**	**23.86**	**108**	T			T	14 46 47.6	
	baz=269,slow=75,SNR=6.5								
WHN	**Wuhan**	**24.93**	**283**	P			**P**	**14 21 39.4**	**+1.4**
WHN				pmax			pmax		
	comp=Z,42nm,0.7s								
HEH	**HeiHe**	**25.26**	**337**	*eP*			**P**	**14 21 42.9**	**+2.0**
HEH				pmax			pmax		
	comp=Z,8.0nm,1.2s								
HEH				LR			LR		
	comp=Z,290nm,12.2s								
HEH				LR			LR		
	comp=Z,320nm,10.6s								
HEH				LR			LR		
	comp=Z,250nm,13.0s								
DAV	**Davao City (W)**	**26.30**	**221**	LR			LR	14 31 55.1	
	comp=Z,77nm,20.5s,baz=63,slow=36								
PETK	**Petropavlovsk-**	**27.57**	**20**	P			**P**	**14 22 01.1**	**-0.6**
PETK	**Petropavlovsk-**	**27.57**	**20**	LR			LR	14 34 16.9	
	comp=Z,26nm,20.0s,baz=182,slow=39								
HIA	**Hailar**	**27.77**	**327**	P			**P**	**14 22 04.2**	**+0.7**
HIA				IAmb			IAmb	14 22 25.2	
	comp=Z,9.8nm,0.7s								
HHC	**Hu-ho-hao-te**	**28.68**	**305**	*eP*			**P**	**14 22 13.2**	**+1.3**
HHC				pmax			pmax		
	comp=Z,14nm,0.6s								
HHC				pmax			pmax		
	comp=Z,110nm,4.0s								
HHC				LR			LR		
	comp=Z,210nm,14.1s								
HHC				LR			LR		
	comp=Z,180nm,14.3s								
ENH	**Enshi**	**29.14**	**283**				**P**	**14 22 14.9**	**-1.0**
ENH				IAmb			IAmb	14 22 15.9	
	comp=Z,16nm,0.7s								
QIZ	**Qiongzhong**	**31.38**	**261**	P			**P**	**14 22 36.9**	**+1.1**
QIZ				S			**S**	**14 27 46.3**	**+2.7**
QIZ				LR			LR		
	comp=Z,250nm,14.3s								
QIZ				LR			LR		
	comp=Z,230nm,16.2s								
QIZ				LR			LR		
	comp=Z,240nm,13.3s								
GYA	**Guiyang**	**32.08**	**276**	⇓P			**P**	**14 22 41.9**	**-0.2**
GYA				pmax			pmax		
	comp=Z,13nm,0.6s								
MA2	**Magadan**	**32.20**	**8**	P			**P**	**14 22 42.8**	**+0.2**
MYLDM	**Lahad Datu**	**32.25**	**230**	P			**P**	**14 22 43.7**	**+0.2**
MYLDM				IAmb			IAmb	14 23 26.2	
	comp=Z,18nm,1.1s								
KKM	**Kota Kinabalu**	**33.24**	**234**	P			**P**	**14 22 52.2**	**-0.1**
MRSI	**Marisa**	**33.74**	**220**	P			**P**	**14 22 57.6**	**+1.1**
	comp=Z,1μmcomp=Z,48nm,0.9s								
LZH	**Lanzhou**	**33.85**	**294**	*eP*			**P**	**14 22 53.8**	**-3.8**
LZH				pmax			pmax		
	comp=Z,17nm,1.0s								
LZH				LR			LR		
	comp=Z,240nm,16.3s								
LZH				LR			LR		
	comp=Z,200nm,15.5s								
TOLI2	**Tolitoli**	**33.90**	**222**				**P**	**14 22 56.7**	**-1.2**
TOLI2				IAmb			IAmb	14 23 09.1	
	comp=Z,12nm,1.0s								
LZDM	**Lanzhou Array**	**33.97**	**294**	P			**P**	**14 22 58.4**	**-0.3**
	comp=Z,5.5nm,0.4s,baz=89,slow=14,SNR=1.5								
	comp=Z,5.5nm,0.4s								
CD2	**Chengdu**	**34.02**	**285**	P			**P**	**14 22 58.5**	**-0.4**
CD2				pP			pP	14 23 02.5	+2.2
CD2				sP			sP	14 23 04.5	+4.0
CD2				S			**S**	**14 28 24.4**	**-0.2**
CD2				pmax			pmax		
	comp=Z,90nm,0.7s								
CD2				LR			LR		
	comp=Z,720nm,14.7s								
CD2				LR			LR		
	comp=Z,500nm,12.8s								
CD2				LR			LR		
	comp=Z,210nm,12.1s								
ULN	**Ulaanbaatar**	**34.15**	**316**	P			**P**	**14 22 60.0**	**0.0**
ULN				IAmb			IAmb	14 23 21.4	
	comp=Z,7.0nm,1.1s								
SONM	**Songino Array**	**34.55**	**315**	P			**P**	**14 23 03.2**	**-0.2**
SONM	**Songino Array**	**34.55**	**315**	P			**P**	**14 23 03.3**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=130,slow=8.4,SNR=6.1								
SONM				PcP			**PcP**	**14 25 39.9**	**+1.8**
	comp=Z,0.4nm,0.4s,baz=132,slow=2.1,SNR=1.5								
SONM				ScP			**ScP**	**14 29 27.0**	**+3.2**
	comp=Z,0.8nm,0.6s,baz=174,slow=1.4,SNR=2.2								
SONM				LR			LR	14 38 01.8	
	comp=Z,134nm,18.0s,baz=97,slow=38								
	comp=Z,1.1nm,0.6s								
YAK	**Yakutsk**	**35.28**	**349**	LR			LR	14 40 08.4	
	comp=Z,69nm,18.2s,baz=161,slow=40								
SEY	**Seymchan**	**35.66**	**8**	P			**P**	**14 23 13.8**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=194,slow=9.8,SNR=6.1								
	comp=Z,1.9nm,0.7s								
SLVN	**Son La**	**35.82**	**268**				**P**	**14 23 14.5**	**-0.1**
SLVN				IAmb			IAmb	14 23 16.9	
	comp=Z,7.5nm,0.8s								
KMI	**Kunming**	**35.82**	**275**	P			**P**	**14 23 14.2**	**-0.6**
KMI				pmax			pmax		
	comp=Z,17nm,0.9s								
KMI				LR			LR		
	comp=Z,170nm,15.8s								
KMI				LR			LR		
	comp=Z,240nm,15.0s								
KMI				LR			LR		
	comp=Z,190nm,15.9s								
PCI	**Palu**	**36.08**	**221**	P			**P**	**14 23 18.1**	**+1.4**
	comp=Z,43nm,0.9s								
PZH	**PanZhiHua**	**36.40**	**278**	P			**P**	**14 23 21.2**	**+1.6**
GTA	**Gaotai**	**37.26**	**299**	P			**P**	**14 23 27.4**	**+0.6**
GTA				pP			sP	14 23 33.0	+4.6
GTA				PP			**PnPn**	**14 24 58.4**	**+6.3**
GTA				pmax			pmax		
	comp=Z,13nm,0.8s								
GTA				LR			LR		
	comp=Z,230nm,12.7s								
GTA				LR			LR		
	comp=Z,130nm,11.5s								
SBUM	**Sibu**	**38.58**	**235**				**P**	**14 23 37.5**	**-0.5**
KAPI	**Kappang**

comp=Z,0.9nm,0.4s,baz=9.8,slow=7.1,SNR=36
ASAR LR LR 14 46 17.5
comp=Z,105nm,21.4s,baz=356,slow=35
comp=Z,0.9nm,0.4s
KURK Kurchatov 52.84 314 P **P** **14 25 29.6 -0.7**
KURBB Kurchatov Arra 52.89 314 P **P** **14 25 31.4 +0.7**
comp=Z,13nm,0.7s,baz=91,slow=7.3,SNR=70
KURBB LR LR 14 49 44.8
comp=Z,83nm,18.3s,baz=183,slow=38
comp=Z,13nm,0.7s
EIDS Eidsvold 53.50 171 P **P** **14 25 34.6 -0.7**
EIDS IAmb IAmb 14 26 07.5
comp=Z,14nm,1.3s
PSA00 Pilbara Seismi 53.88 207 P **P** **14 25 37.2 -1.1**
TARG Taragay, Kyrgy 53.94 303 P **P** **14 25 38.6 -0.5**
TARG IAmb IAmb 14 25 41.5
comp=Z,6.9nm,0.9s
IMAR Indian Mountai 54.15 27 P **P** **14 25 39.6 -0.1**
CNPM China Poot 54.32 35 P **P** **14 25 40.1 -1.0**
DZM Mont Dzumac 54.64 153 *e*S **S** **14 33 28.4 +4.3**
comp=Z,47nm,23.8s
DZM *e*SS **SS** **14 37 05.5 -1.9**
comp=Z,45nm,25.4s
DZM *e*LR LR 14 41 34.8
comp=Z,169nm,25.2s
DZM Mont Dzumac 54.64 153 P **P** **14 25 43.2 -0.6**
DZM IAmb IAmb 14 25 58.8
comp=Z,12nm,1.0s
BOOM Boomskoye usch 55.22 304 P P 14 25 38.1 -10
INKA Innaminka 55.30 182 P **P** **14 25 46.0 -2.4**
INKA IAmb IAmb 14 26 10.8
comp=Z,6.4nm,1.2s
NRN Naryn 55.33 303 **P** **14 25 47.2 -1.9**
NRN IAmb IAmb 14 25 50.5
comp=Z,3.7nm,0.8s
KSH Kashi 55.64 301 P **P** **14 25 54.5 +3.4**
KSH pP pwP 14 26 02.0 +5.7
KSH pmax pmax
comp=Z,7.0nm,1.2s
HDA Harding Lake 56.76 29 P **P** **14 25 57.8 -0.7**
HDA IAmb IAmb 14 26 02.6
comp=Z,9.8nm,1.4s
IL31 56.82 29 P **P** **14 25 59.2 +0.3**
IL31 IAmb IAmb 14 26 03.7
comp=Z,11nm,1.2s
ILAR Eielson Array 56.82 29 P **P** **14 25 57.6 -1.3**
ILAR Eielson Array 56.82 29 P **P** **14 26 00.0 +1.1**
comp=Z,3.2nm,1.0s,baz=261,slow=5.8,SNR=16
comp=Z,3.2nm,1.0s
KLU Klutina 57.06 33 P **P** **14 26 00.5 -0.3**
KLU IAmb IAmb 14 26 15.1
comp=Z,7.8nm,1.2s
PAX Paxson 57.33 31 P **P** **14 26 03.9 +1.2**
PAX IAmb IAmb 14 26 09.0
comp=Z,14nm,1.4s
ARSB Arslanbob 57.58 303 **P** **14 26 04.7 -0.3**
ARSB IAmb IAmb 14 26 06.7
comp=Z,12nm,1.2s
BMRM Bremner River 57.69 33 P **P** **14 26 07.5 +2.3**
BMRM IAmb IAmb 14 26 17.8
comp=Z,16nm,1.2s
BVAR Borovoye Array 57.85 317 P **P** **14 26 07.7 +1.3**
comp=Z,11nm,0.6s,baz=96,slow=8.3,SNR=38
comp=Z,11nm,0.6s
BMAR Burnt Mountain 57.97 26 P **P** **14 26 08.4 +1.3**
SCRK Sand Creek 58.03 30 P **P** **14 26 07.5 -0.1**
SCRK IAmb IAmb 14 26 34.3
comp=Z,5.2nm,0.9s
GLB Gilahina Butte 58.08 33 P **P** **14 26 08.3 +0.4**
GLB IAmb IAmb 14 26 15.2
comp=Z,11nm,1.4s
BCAR Beaver Creek A 59.01 31 P **P** **14 26 15.3 +0.9**
NIL Nilore 59.02 294 P **P** **14 26 15.7 +0.8**
NIL IAmb IAmb 14 26 16.4
comp=Z,6.8nm,0.8s
KK31 Karatay Array 59.07 306 P **P** **14 26 15.5 +0.4**
KKAR Karatay Array 59.07 306 P **P** **14 26 15.5 +0.3**
GRNC Granite Creek 59.09 34 pP 14 26 20.0 +3.5
SIMJ Simiganj 61.12 301 **P** **14 26 30.0 +0.5**
SIMJ IAmb IAmb 14 26 30.7
comp=Z,8.7nm,0.9s
PALK Pallekele 61.96 263 LR LR 14 53 51.0
comp=Z,18nm,19.1s,baz=66,slow=36
ARTI Arti 64.26 322 **P** **14 26 50.4 +0.5**
ABKAR Akbulak array 64.95 314 **P** **14 26 55.0 +0.5**
AKTO Aktyubinsk 65.86 316 LR LR 14 56 58.7
comp=Z,85nm,18.7s,baz=90,slow=37
SPITS Spitsbergen Ar 69.75 350 P **P** **14 27 23.3 -1.1**
comp=Z,2.2nm,0.5s,baz=169,slow=14,SNR=5.7
comp=Z,2.2nm,0.5s
YKA Yellowknife Ar 71.25 29 P **P** **14 27 33.9 +0.1**
comp=Z,2.9nm,1.0s,baz=302,slow=5.7,SNR=6.3
comp=Z,2.9nm,1.0s
ARCES ARCESS Array B 73.01 341 P **P** **14 27 44.9 +0.6**
comp=Z,9.4nm,1.1s,baz=57,slow=4.5,SNR=4.9
ARCES LR LR 15 04 22.9
comp=Z,61nm,18.5s,baz=54,slow=40
comp=Z,9.4nm,1.1s
URZ Urewera 73.19 152 LR LR 14 58 43.2
comp=Z,38nm,18.8s,baz=330,slow=35
K02D Willamette Mer 74.15 50 pP 14 27 55.3 +2.4
H04A Detroit Lake 74.34 48 P **P** **14 27 53.2 +0.6**
H04A IAmb IAmb 14 27 58.4
comp=Z,13nm,1.5s
HOOD Mount Hood Mea 74.43 47 IAmb IAmb 14 28 38.9
comp=Z,8.0nm,0.6s
J04A Umpqua Nationa 74.97 49 pP 14 28 00.2 +2.4
YBH Yreka Blue Hor 75.18 51 P **P** **14 27 57.6 +0.1**
PINE Pine Mountain 75.52 48 IAmb IAmb 14 28 05.3
comp=Z,7.3nm,1.0s
J05D Fort Rock, OR 75.54 49 IAmb IAmb 14 28 06.0
comp=Z,11nm,1.5s
K05A Summer Lake 76.00 49 IAmb IAmb 14 28 08.7
comp=Z,13nm,1.3s
E09A Wood Farm, Sta 76.15 45 **P** **14 28 06.5 +3.6**
OBN Obninsk 76.22 325 LR LR 15 05 25.3
comp=Z,57nm,18.1s,baz=131,slow=39
BMO Blue Mountains 77.42 46 IAmb IAmb 14 28 15.4
comp=Z,5.6nm,1.1s
FINES FINESS Array B 77.51 334 P **P** **14 28 10.7 +0.4**
comp=Z,2.2nm,0.6s,baz=68,slow=5.2,SNR=18
comp=Z,2.2nm,0.6s
BEKR Beckworth 77.59 51 IAmb IAmb 14 28 16.1
comp=Z,5.9nm,0.9s
KBZ Khabaz 77.88 313 **P** **14 28 13.1 +0.4**
comp=Z,6.6nm,0.9s,baz=105,slow=4.2,SNR=9.5
KBZ LR LR 15 05 35.2
comp=Z,34nm,18.2s,baz=102,slow=38
comp=Z,6.6nm,0.9s
MFID Camas Ranch 79.02 47 IAmb IAmb 14 28 24.4
comp=Z,9.1nm,1.2s
PPT2 Papeete2 79.54 116 *e*LR LR 14 53 03.1
comp=Z,64nm,22.8s
PPT2 *e*LR LR 14 53 10.4
comp=Z,102nm,23.8s
BOZ Bozeman (W) 80.59 43 IAmb IAmb 14 28 32.8
comp=Z,6.8nm,1.4s
ELK Elko 80.67 49 LR LR 15 00 20.1
comp=Z,50nm,19.0s,baz=282,slow=33
YHL Hebgen Lake 81.24 44 IAmb IAmb 14 28 38.2
comp=Z,9.7nm,1.2s
LRMC Laurel Mtn Rad 81.46 54 IAmb IAmb 14 28 37.2
comp=Z,7.0nm,1.3s
R11B Troy Canyon, C 81.58 51 P **P** **14 28 33.5 +0.4**
QSM Queen of Sheba 81.82 54 IAmb IAmb 14 28 55.4
comp=Z,7.3nm,1.2s
TPAW Teton Pass 82.08 45 P **P** **14 28 36.2 +0.5**
AKASG Malin Array Be 82.32 324 P **P** **14 28 36.2 -0.3**
comp=Z,0.3nm,0.3s,baz=43,slow=5.5,SNR=5.8
comp=Z,0.3nm,0.3s
HWUT Hardware Ranch 82.65 47 IAmb IAmb 14 28 44.1
comp=Z,6.9nm,1.2s
TBI Tubuai 82.83 121 *e*LR LR 14 54 33.8
comp=Z,640nm,32.0s
TAOE Nuku Hiva Isla 82.85 104 *e*LR LR 14 54 34.6
comp=Z,66nm,24.8s
HFS Hagfors 82.95 337 P **P** **14 28 39.7 +0.1**
comp=Z,2.7nm,0.7s,baz=72,slow=6.1,SNR=6.7
HFS LR LR 15 08 06.3
comp=Z,42nm,18.3s,baz=69,slow=38
comp=Z,2.7nm,0.7s
NB2 NORSAR Subarra 83.11 338 P **P** **14 28 40.2 -0.3**
comp=Z,6.0nm,1.0s,baz=42,slow=5.1
NOA NORSAR Array B 83.11 338 P **P** **14 28 40.4 -0.2**
comp=Z,1.4nm,0.8s,baz=42,slow=5.3,SNR=4.6
NOA LR LR 15 08 41.3
comp=Z,37nm,19.7s,baz=55,slow=38
comp=Z,1.4nm,0.8s
PFO Pinyon Flats O 83.24 56 LR LR 14 58 56.5
comp=Z,49nm,20.0s,baz=244,slow=31
PDAR Pinedale Array 83.33 45 P **P** **14 28 43.0 +0.8**
comp=Z,1.2nm,0.8s,baz=267,slow=3.0,SNR=7.0
PDAR LR LR 14 57 51.2
comp=Z,50nm,21.3s,baz=252,slow=30
comp=Z,1.2nm,0.8s
KNB Kanab 84.14 51 **P** **14 28 50.1 +3.6**
SRU San Rafael Swe 84.62 48 IAmb IAmb 14 29 17.5
comp=Z,3.5nm,0.8s
U15A North Rim 84.81 51 pP 14 28 53.7 +2.4
HMU Henry Mountain 85.09 50 IAmb IAmb 14 28 54.7
comp=Z,2.9nm,0.8s
RAYN Ar Rayn 85.32 294 **P** **14 28 52.3 -0.2**
BRTR Keskin Array B 85.88 313 P **P** **14 28 55.2 +0.2**
comp=Z,1.5nm,0.8s,baz=99,slow=3.1,SNR=5.9
comp=Z,1.5nm,0.8s
PV21 Cone Mtn., Par 85.94 48 IAmb IAmb 14 29 00.5
comp=Z,9.3nm,1.4s
PV13 Radium Mtn., P 86.26 49 IAmb IAmb 14 29 02.4
comp=Z,7.7nm,1.4s
ULM Lac du Bonnet 86.54 33 LR LR 15 07 48.7
comp=Z,22nm,20.6s,baz=193,slow=36
MLR Muntele Rosu 87.19 321 LR LR 15 10 45.9
comp=Z,55nm,18.5s,baz=66,slow=38
MMAI Mount Meron Ar 88.29 307 P **P** **14 29 06.9 +0.1**
comp=Z,1.7nm,0.6s,baz=18,slow=6.1,SNR=2.6
comp=Z,1.7nm,0.6s
VRAC Vranov 89.48 328 LR LR 15 10 48.0
comp=Z,44nm,21.6s,baz=49,slow=37
ANMO Albuquerque 89.61 50 LR LR 15 04 47.7
comp=Z,46nm,19.7s,baz=322,slow=32
GERES GERESS Array B 91.14 329 P **P** **14 29 19.6 -0.4**
comp=Z,0.3nm,0.3s,baz=39,slow=8.6,SNR=5.9
comp=Z,0.3nm,0.3s
LPIG La Paz 92.69 61 LR LR 15 03 24.2
comp=Z,48nm,20.6s,baz=262,slow=30
DAVOX Davos/Dischmat 94.40 330 LR LR 15 14 09.4
comp=Z,55nm,18.7s,baz=64,slow=37
TXAR Lajitas Array 94.75 53 P **P** **14 29 37.0 +0.1**
TXAR Lajitas Array 94.75 53 P **P** **14 29 37.6 +0.6**
comp=Z,1.1nm,1.0s,baz=310,slow=1.7,SNR=8.2
comp=Z,1.1nm,1.0s
QSPA South Pole Qui 117.61 180 PKP **PKiKP** **14 35 01.4 +1.1**
comp=Z,0.6nm,0.7s,baz=270,slow=2.0,SNR=1.5
TORD Torodi Ar. Bea 124.48 312 PKP **PKiKP** **14 35 15.6 +0.3**
comp=Z,0.6nm,0.8s,baz=15,slow=4.7,SNR=2.6
LPAZ La Paz 149.24 75 PKPbc **PKPbc** **14 36 03.5 -1.6**
comp=Z,2.6nm,0.6s,baz=332,slow=1.2,SNR=9.4
PLCA Paso Flores 149.80 124 PKPbc **PKiKP** **14 36 06.8 +0.7**
comp=Z,1.8nm,0.8s,baz=204,slow=3.0,SNR=7.5

IDC 07 15:14:08.8±3.2, 20°.00N×121°.65E, h0km, mb3.5/4, mbtmp3.5/4, MS2.6/1, Error ellipse: s-maj=275.2km s-min=22.8km az=62.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**21.49**	**270**	LR	LR	15 27 06.6	
	comp=Z,14nm,18.4s,baz=290,slow=36						
WRA	**Warramunga Arr**	**41.60**	**162**	P	P	15 21 58.1	-0.6
	0.8nm,0.6s,baz=343,slow=9.1,SNR=13						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**41.70**	**319**	P	P	15 21 59.1	-0.3
	0.2nm,0.7s,baz=106,slow=9.2,SNR=2.8						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**45.02**	**164**	P	P	15 22 26.8	+0.4
	0.4nm,0.5s,baz=344,slow=6.8,SNR=21						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**45.62**	**322**	P	P	15 22 30.8	0.0
	0.5nm,0.7s,baz=121,slow=7.8,SNR=2.5						
	0.5nm,0.7s						

*IDC **07** 15:23:58.9±2.0, 43°.71N×83°.56E, h0km, mb3.6/2, mbtmp3.4/7, ML2.8/5, Error ellipse: s-maj=24.5km s-min=14.7km az=98.0*
*SOME **07** 15:23:58.6, 43°.53N×83°.62E, h20km*
*NNC **07** 15:24:01.8±2.3, 43°.83N×83°.44E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=19.0km s-min=9.2km az=132.0*

ISC 07 15:24:01.3±1.3, 43°.76N±0°.06×83°.40E±0°.06, h10km, n37, σ28°37/53, 6C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**2.88**	**263**	⇑Pn	**Pb**	**15 24 52.1**	**-0.7**
	4.5nm,0.3s						
PDGK				⇑Lg	Lg	15 25 32.5	
	52nm,0.5s						
SHLS	**Shalkode**	**2.93**	**260**	Pg	**Pn**	**15 24 49.4**	**+1.2**
	50nm,0.3s						
SHLS				Lg	Lg	15 25 26.2	
	426nm,0.4s						
SHLS	**Shalkode**	**2.93**	**260**	*e*P	**Pn**	**15 24 49.4**	**+1.2**
	22nm,0.2s						
SHLS				*e*S	**Sn**	**15 25 26.5**	**+3.0**
	379nm,0.2s						
KNOS	**Konyrlen**	**3.10**	**283**	Pg	**Pb**	**15 24 58.6**	**+1.9**
KNOS				Lg	Lg	15 25 41.6	
	54nm,0.3s						
MK31	**Makanchi Array**	**3.14**	**346**	⇓Pn	**Pn**	**15 24 53.5**	**+2.6**
	0.4nm,0.3s,baz=304,slow=15,SNR=460						
MK31				⇓Pg	**Pg**	**15 25 01.1**	**-0.3**
	3.6nm,0.2s,baz=156,slow=17,SNR=7.1						
MK31				⇓Sn	**Sn**	**15 25 29.8**	**+1.5**
	2.3nm,0.2s,baz=156,slow=24,SNR=4.1						
MK31				⇑Lg	Lg	15 25 40.1	
	17nm,0.3s,baz=156,slow=27,SNR=7.7						
MKAR	**Makanchi Array**	**3.14**	**346**	Pn	**Pn**	**15 24 53.4**	**+2.6**
	0.8nm,0.3s,baz=162,slow=15,SNR=36						
MKAR				Sn	**Sb**	**15 25 32.7**	**-2.8**
	9.0nm,0.3s,baz=158,slow=24,SNR=2.5						
MKAR				Lg	Lg	15 25 40.3	
	22nm,0.3s,baz=162,slow=30,SNR=3.1						
	1.3nm,0.2s						
UZB	**Uzynbulak**	**3.25**	**261**	Pg	**Pg**	**15 25 02.4**	**-1.2**
	4.4nm,0.2s						
UZB				Lg	Lg	15 25 47.8	
	45nm,0.4s						
UZB	**Uzynbulak**	**3.25**	**261**	*e*P	**Pb**	**15 24 59.7**	**+0.5**
	8.5nm,0.2s						
UZB				*e*S	**Sg**	**15 25 44.0**	**-1.7**
	45nm,0.2s						
KPKS	**Kokpek**	**3.44**	**267**	Pg	**Pb**	**15 25 03.0**	**+0.6**
	0.3nm,0.4s						
KPKS				Lg	Lg	15 25 49.0	
	72nm,0.4s						
SATY	**Saty**	**3.71**	**261**	Pg	**Pg**	**15 25 11.1**	**-1.3**
	8.1nm,0.2s						
SATY				Lg	Lg	15 26 02.8	
	67nm,0.1s						
TDK	**Taldyqorghan**	**3.79**	**291**	*e*P	**Pg**	**15 25 11.4**	**-2.6**
	9.8nm,0.1s						
TDK				*e*S	**Sg**	**15 26 04.0**	**+0.9**
	108nm,0.3s						
ZSN	**Zaisan**	**3.83**	**15**	*e*P	**Pg**	**15 25 11.9**	**-2.8**
	6.3nm,0.2s						
ZSN				*e*S	**Sg**	**15 26 04.8**	**+0.4**
	49nm,0.2s						
ARXS	**Arharly**	**4.05**	**278**	Pg	**Pg**	**15 25 18.6**	**-0.3**
	18nm,0.3s						
ARXS				Lg	Lg	15 26 16.2	
	67nm,0.3s						
ARXS	**Arharly**	**4.05**	**278**	*e*P	**Pb**	**15 25 15.2**	**+2.4**
ARXS				*e*S	**Sg**	**15 26 10.7**	**-0.7**
KOTS	**Kotyrbulak**	**4.61**	**266**	Pg	**Pg**	**15 25 26.8**	**-2.8**
	6.2nm,0.5s						
KOTS				Lg	Lg	15 26 30.0	
	57nm,0.8s						
KOTS	**Kotyrbulak**	**4.61**	**266**	*e*P	**Pb**	**15 25 24.5**	**+2.2**
	3.7nm,0.2s						
KOTS				*e*S	**Sg**	**15 26 26.7**	**-2.6**
	58nm,0.5s						
CHKK	**Chushkaly**	**4.64**	**273**	Pg	**Pb**	**15 25 24.3**	**+1.4**
	24nm,0.5s						
CHKK				Lg	Lg	15 26 26.3	
	28nm,0.4s						
CHKK	**Chushkaly**	**4.64**	**273**	*e*P	**Pb**	**15 25 25.4**	**+2.5**
	3.5nm,0.1s						
CHKK				*e*S	**Sg**	**15 26 28.1**	**-2.3**
	33nm,0.2s						
MDOK	**Medeo**	**4.66**	**265**	Pg	**Pg**	**15 25 27.8**	**-2.9**
	4.2nm,0.4s						
MDOK				Lg	Lg	15 26 31.4	
	11nm,0.5s						
TNSS	**Tian-Shan**	**4.76**	**264**	Pg	**Pg**	**15 25 29.6**	**-2.9**
	0.9nm,0.3s						
TNSS				Lg	Lg	15 26 34.6	
	3.7nm,0.8s						
TNSS	**Tian-Shan**	**4.76**	**264**	*e*P	**Pb**	**15 25 27.8**	**+2.7**
	0.2nm,0.0s						
TNSS				*e*S	**Sg**	**15 26 32.3**	**-1.9**
	3.8nm,0.3s						
KTBS	**Karatobe**	**4.87**	**272**	Pg	**Pb**	**15 25 30.4**	**+3.6**
	3.6nm,0.2s						
KTBS				Lg	Lg	15 26 36.6	
	34nm,0.9s						
KUU	**Kurty**	**5.11**	**274**	Pg	**Pg**	**15 25 35.3**	**-4.0**
	3.7nm,0.1s						
KUU				Lg	Lg	15 26 44.3	
	36nm,0.4s						
KUU	**Kurty**	**5.11**	**274**	*e*P	**Pg**	**15 25 36.2**	**-3.0**
	2.2nm,0.1s						
KUU				*e*S	**Sg**	**15 26 46.7**	**+1.3**
	22nm,0.1s						
MTBS	**Maitube**	**5.12**	**265**	Pg	**Pg**	**15 25 35.1**	**-4.2**
	2.5nm,0.2s						
MTBS				Lg	Lg	15 26 44.2	
	16nm,0.4s						
MTBS	**Maitube**	**5.12**	**265**	*e*P	**Pg**	**15 25 35.7**	**-3.6**
	0.9nm,0.1s						
MTBS				*e*S	**Sg**	**15 26 45.8**	**+0.2**
	15nm,0.2s						
KST	**Kastek**	**5.47**	**265**	Pg	**Pb**	**15 25 40.9**	**+3.9**
	2.7nm,0.6s						
KST				Lg	Lg	15 26 53.9	
	19nm,0.6s						
KST	**Kastek**	**5.47**	**265**	*e*P	**Pg**	**15 25 42.1**	**-4.0**
	1.8nm,0.2s						
KST				*e*S	**Sg**	**15 26 56.7**	**-0.1**
	15nm,0.3s						
AAK	**Ala-Archa**	**6.61**	**263**	Pn	**Pn**	**15 25 40.9**	**+2.3**
	0.5nm,0.3s,baz=82,slow=7.1,SNR=4.5						
AAK				Lg	Lg	15 27 32.4	
	0.7nm,0.3s,baz=53,slow=20,SNR=3.6						
	1.8nm,0.4s						
KURBB	**Kurchatov Arra**	**7.63**	**336**	⇑Sn	**Sn**	**15 27 19.9**	**+1.1**
	6.6nm,0.7s						
KURBB				⇓Lg	Lg	15 28 08.0	
	43nm,0.6s						
KURBB	**Kurchatov Arra**	**7.63**	**336**	Pn	**Pn**	**15 25 53.9**	**+1.5**
	0.1nm,0.3s,baz=152,slow=12,SNR=1.8						
KURBB				Sn	**Sn**	**15 27 19.7**	**+0.9**
	0.2nm,0.3s,baz=156,slow=19,SNR=9.7						
KURBB				Lg	Lg	15 28 05.1	
	0.3nm,0.3s,baz=155,slow=29,SNR=8.5						
	0.2nm,0.4s						
KURK	**Kurchatov**	**7.68**	**337**	⇑Sn	**Sn**	**15 27 18.5**	**-1.7**
	2.3nm,0.7s						
KURK				⇑Lg	Lg	15 28 06.5	
	3.7nm,0.5s						
KK31	**Karatay Array**	**9.40**	**270**	⇓Lg	Lg	15 29 02.1	
	2.4nm,0.6s						
ZALV	**Zalesovo Beam**	**10.24**	**5**	Pn	**Pn**	**15 26 27.7**	**-0.5**
	0.5nm,0.3s,baz=184,slow=13,SNR=6.5						
ZALV				Sn	**Sn**	**15 28 17.2**	**-5.9**
	1.5nm,0.3s,baz=176,slow=25,SNR=13						
ZALV				Lg	Lg	15 29 23.3	
	baz=181,slow=26						
	0.7nm,0.2s						
BVAR	**Borovoye Array**	**12.66**	**322**	Pn	**Pn**	**15 27 02.0**	**+0.6**
	baz=125,slow=13,SNR=2.6						
BVAR				Sn	**Sn**	**15 29 20.5**	**-1.8**
	baz=108,slow=23,SNR=1.9						
BVAR				Lg	Lg	15 30 42.7	
	baz=113,slow=22,SNR=2.3						
	0.3nm,0.3s						
NOA	**NORSAR Array B**	**44.77**	**319**	P	**P**	**15 32 15.3**	**+0.5**
	0.3nm,0.4s,baz=78,slow=8.2,SNR=1.9						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**75.08**	**274**	P	**P**	**15 35 43.4**	**-0.2**
	0.4nm,0.5s,baz=29,slow=6.5,SNR=3.0						
	0.4nm,0.5s						

*VIE **07** 15:26:47.0±3.0, 44°.29N×20°.13E, h8km, mb2.8/2, ml2.7/1, ms3.1/1, Error ellipse: s-maj=50.4km s-min=19.6km az=19.0 67 km SSW of Beograd*
*PDG **07** 15:26:50.8±0.1, 43°.14N×17°.94E, h12km, MD3.0/2, ML2.9/11, Error ellipse: s-maj=0.3km s-min=0.3km az=90.0*
*BEO **07** 15:26:51.3±0.3, 43°.15N×17°.92E, h7km±3km, ML2.6/16*
*RHSSO **07** 15:26:51.0±0.2, 43°.15N×17°.95E, h6km±3km, ML2.8/7*

ISC 07 15:26:50.6±1.0, 43°.17N±0°.02×17°.94E±0°.01, h5km±9km, n55, σ1822/105, 4C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.35**	**211**	⇓*i*Pg	**Pg**	**15 26 57.0**	**-0.2**
STON				*e*Sg	**Sg**	**15 27 02.9**	**+1.1**
STON	**Ston**	**0.35**	**211**	*e*Pg	**Pg**	**15 26 57.1**	**-0.2**
STON				Sg	**Sg**	**15 27 02.1**	**+0.4**
STON	**Ston**	**0.35**	**211**	*e*Pg	**Pg**	**15 26 57.2**	**-0.1**
STON				*e*Sg	**Sg**	**15 27 03.1**	**+1.3**
KLINJ	**Klinje**	**0.47**	**90**	*e*Pg	**Pg**	**15 26 58.8**	**-0.9**
KLINJ				*e*Sg	**Sg**	**15 27 06.9**	**+1.0**
BRY	**Bratogost**	**0.52**	**121**	*e*Pg	**Pg**	**15 27 00.2**	**-0.3**
BRY				*i* Sg	**Sg**	**15 27 08.4**	**+1.2**
DBRK	**Dubrovnik**	**0.52**	**163**	*e*Pg	**Pg**	**15 27 00.3**	**-0.3**
DBRK				Sg	**Sg**	**15 27 07.9**	**+0.5**
TREB	**Trebinje**	**0.54**	**146**	⇓*i*Pg	**Pg**	**15 27 00.5**	**-0.5**
TREB				*e*Sg	**Sg**	**15 27 09.0**	**+0.9**
TREB	**Trebinje**	**0.54**	**146**	*e*Pg	**Pg**	**15 27 00.6**	**-0.5**
TREB				*e*Sg	**Sb**	**15 27 09.5**	**-1.2**
RICI	**Ricice**	**0.67**	**299**	*e*Pg	**Pg**	**15 27 02.5**	**-1.0**
RICI				Sg	**Sg**	**15 27 12.4**	**+0.2**
MAKA	**Makarska**	**0.68**	**280**	*e*Pg	**Pg**	**15 27 02.7**	**-1.0**
MAKA				Sg	**Sg**	**15 27 12.9**	**+0.4**
UPM	**Unac-Piva**	**0.71**	**87**	*e*Pg	**Pg**	**15 27 03.9**	**-0.3**
UPM				*i* Sg	**Sb**	**15 27 15.2**	**-0.4**
HCY	**Herceg Novi**	**0.83**	**150**	⇑*i*Pg	**Pg**	**15 27 05.9**	**-0.6**
HCY				*i* Sg	**Sb**	**15 27 18.9**	**0.0**
NKME	**Niksic**	**0.85**	**118**	*e*Pg	**Pg**	**15 27 06.2**	**-0.6**
NKME				*i* Sg	**Sb**	**15 27 19.7**	**+0.3**
LSTV	**Lastovo**	**0.87**	**243**	*e*Pg	**Pg**	**15 27 05.8**	**-1.4**
LSTV				Sg	**Sg**	**15 27 17.9**	**-0.6**
CEME	**Cevo**	**0.95**	**131**	⇓*i*Pg	**Pg**	**15 27 07.9**	**-0.9**
CEME				*i* Sg	**Sn**	**15 27 23.1**	**-1.5**
BUM	**Brajici-Budva**	**1.12**	**141**	*e*Pg	**Pg**	**15 27 11.0**	**-1.0**
BUM				*i* Sg	**Sn**	**15 27 28.7**	**0.0**
RUDO	**Rudo**	**1.14**	**66**	⇑*i*Pg	**Pg**	**15 27 10.8**	**-1.6**
RUDO				*e*Sg	**Sg**	**15 27 27.3**	**+0.2**
RUDO	**Rudo**	**1.14**	**66**	*e*Pg	**Pg**	**15 27 11.3**	**-1.1**
RUDO				*e*Sg	**Sg**	**15 27 26.8**	**-0.3**
KOME	**Kolasin**	**1.20**	**105**	*e*Pg	**Pg**	**15 27 12.8**	**-0.8**
KOME				*i* Sg	**Sn**	**15 27 31.6**	**+0.8**
PDG	**Podgorica**	**1.22**	**127**	*e*Pg	**Pb**	**15 27 12.5**	**-1.6**
PDG				*e*Sg	**Sn**	**15 27 31.4**	**+0.3**
PDG	**Podgorica**	**1.22**	**127**	*e*Pg	**Pb**	**15 27 13.0**	**-1.1**
PDG				*i* Sg	**Sn**	**15 27 32.0**	**+0.9**
BBLS	**Lazi&#263i**	**1.27**	**56**	*e*Pg	**Pn**	**15 27 14.5**	**-0.6**
BBLS				*e*Sg	**Sn**	**15 27 32.4**	**-0.2**
DRME	**Dracevica, Mon**	**1.34**	**137**	⇓*i*Pn	**Pn**	**15 27 15.3**	**-0.7**
DRME				*i* Sg	**Sn**	**15 27 36.2**	**+2.0**
KIJV	**Kijevo**	**1.39**	**307**	⇑*i*Pg	**Pn**	**15 27 15.9**	**-0.8**
KIJV				*e*Sg	**Sg**	**15 27 36.1**	**+0.8**
KIJV	**Kijevo**	**1.39**	**307**	*e*Pg	**Pb**	**15 27 17.4**	**+0.3**
KIJV				Sg	**Sn**	**15 27 35.8**	**+0.4**
IVA	**Berane**	**1.46**	**101**	*e*Pg	**Pn**	**15 27 17.5**	**-0.2**
IVA				*i* Sg	**Sg**	**15 27 40.3**	**+2.7**
SJES	**Sjenica**	**1.49**	**86**	*e*Pg	**Pb**	**15 27 18.9**	**+0.1**
SJES				*e*Sg	**Sg**	**15 27 39.8**	**+1.3**
ULC	**Ulcinj**	**1.54**	**141**	*e*Pg	**Pn**	**15 27 18.7**	**0.0**
ULC				*i* Sg	**Sg**	**15 27 42.2**	**+2.0**
IVAS	**Ivanjica**	**1.66**	**75**	*e*Pg	**Pn**	**15 27 20.5**	**+0.1**
IVAS				*e*Sg	**Sg**	**15 27 45.6**	**+1.5**
BLY	**Banja Luka**	**1.67**	**341**	⇓*i*Pn	**Pn**	**15 27 20.8**	**+0.3**
BLY				*e*Sn	**Sn**	**15 27 42.9**	**+0.6**
BLY	**Banja Luka**	**1.67**	**341**	*e*Pg	**Pb**	**15 27 21.9**	**+0.1**
BLY				*e*Sg	**Sg**	**15 27 45.9**	**+1.7**
ZIRJ	**Zirje**	**1.74**	**287**	*e*Pn	**

TRUS					*e*Sg		**Sg**	15 27 58.6	+1.3
UDBI	**Udbina**	**2.08**	**312**		*e*Pn		**Pb**	15 27 28.4	-0.4
UDBI					Sn		**Sb**	15 27 54.9	0.0
GRUS	**Gruza**	**2.14**	**69**		*e*Pn		**Pn**	15 27 28.0	+1.0
GRUS					*e*Sg		**Sg**	15 28 00.4	+1.0
GOCS	**Kraljevo Serbi**	**2.18**	**79**		*e*Pg		**Pb**	15 27 30.0	-0.5
GOCS					*e*Sg		**Sg**	15 28 01.1	+0.6
DUGI	**Dugi Otok**	**2.25**	**292**		*e*Pn		**Pn**	15 27 29.7	+1.2
DUGI					Sn		**Sb**	15 27 59.0	-0.7
SELS	**Selova**	**2.33**	**88**		*e*Pn		**Pn**	15 27 30.6	+1.1
SELS					*e*Sg		**Sg**	15 28 04.0	-1.3
VIRC	**Vir**	**2.37**	**299**		*e*Pn		**Pn**	15 27 31.6	+1.5
VIRC					Sn		**Sb**	15 28 02.9	-0.5
PLIT	**Plitvice**	**2.39**	**316**		*e*Pn		**Pn**	15 27 32.1	+1.7
PLIT					Sn		**Sb**	15 28 02.1	+2.0
FRGS	**Fruska Gora**	**2.40**	**33**		*e*Pg		**Pg**	15 27 36.1	-0.5
FRGS					*e*Sg		**Sg**	15 28 09.6	+1.9
MOSL	**Moslavina**	**2.59**	**341**		*e*Pn		**Pn**	15 27 34.2	+1.1
MOSL					*e*Sn		**Sn**	15 28 05.9	+1.0
NVLJ	**Novalja**	**2.62**	**303**		*e*Pn		**Pn**	15 27 35.4	+1.9
NVLJ					Sn		**Sn**	15 28 07.6	+1.9
BARS	**Barje**	**2.87**	**96**		*e*Pn		**Pn**	15 27 38.5	+1.6
OZLJ	**Ozalj**	**3.02**	**325**		*e*Pn		**Pn**	15 27 39.9	+0.9
OZLJ					*e*Sn		**Sn**	15 28 16.1	+0.6
MORH	**Mrgy, Hungar**	**3.09**	**9**	⇑	*i*Pn		**Pn**	15 27 40.9	+1.0
MORH					*e*Sn		**Sn**	15 28 17.5	+0.3
ZAGS	**Zajecar**	**3.19**	**77**		*e*Pn		**Pn**	15 27 40.2	-1.1
ZAPS	**Zavoj**	**3.43**	**87**		*e*Pn		**Pn**	15 27 46.2	+1.5
BRJN	**Brijuni**	**3.48**	**301**		*e*Pn		**Pn**	15 27 45.5	+0.1
BRJN					*e*Sn		**Sn**	15 28 27.0	+0.1
OBKA	**Obir**	**4.12**	**325**		*i* Pn		**Pn**	15 27 57.0	+2.8
	0.4nm,0.2s								
OBKA					*i* Sn		**Sb**	15 28 49.0	-4.7
	0.9nm,0.2s								
ABTA	**Abfaltersbach**	**5.25**	**315**		*i* Sn		**Sb**	15 29 24.3	-2.1
	0.7nm,0.2s								
FETA	**Feichten**	**6.39**	**310**		*e*Sn		**Sb**	15 29 54.7	-4.4
	4.8nm,1.5s								

NNC 07 16:09:41.7±8.4, 37°.91N × 71°.76E, h0 km, mb 3.6, mpv 3.4, 3C-1D, Error ellipse: s-maj=73.0km s-min=57.2km az=152.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.17**	**23**	⇑	P	Pn	16 11 00.7	+0.2
	1.4nm,0.5s							
AAK				⇑	S	Sn	16 12 01.6	+0.7
	1.6nm,0.7s							
KK31	**Karatay Array**	**5.28**	**350**		P	Pn	16 11 02.8	+0.9
	2.5nm,0.2s,baz=162,slow=12,SNR=46							
KK31				⇓	S	Sn	16 12 04.8	+1.4
	1.7nm,0.3s,baz=189,slow=28,SNR=12							
AB31	**Akbulak array**	**14.19**	**327**	⇑	P	Pn	16 12 59.0	-4.9
	0.2nm,0.5s,baz=0.0,slow=0.1,SNR=5.7							

*IDC **07** 16:37:10.1±5.5, 30°.47S × 179°.70W, h266 km ± 47 km, mb 2.7/3, mbtmp 3.5/4, Error ellipse: s-maj=44.3km s-min=24.1km az=49.0*
*WEL **07** 16:37:20.8±0.8, 31°.5S ± 7°.7 × 17°.9W ± 1°.8, h277 km ± 11 km, M4.4/12, mB4.6/6, ML5.0/12, MLv4.9/12, Mw(mB) 3.8/6, Error ellipse: s-maj=24.2km s-min=4.8km az=109.1, confirmed*

ISC 07 16:37:18.0±0.9, 31°.29S ± 0°.09 × 178°.8W ± 0°.2, h300 km, n51, σ 2s 03/72, mb 2.4/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.15**	**21**		P	**Pn**	**16 38 05.6**	**-0.5**
GLKZ					S	**S**	**16 38 45.1**	**+0.7**
WMGZ	**Waiomatatini S**	**6.91**	**199**		P	**Pn**	**16 39 01.1**	**+2.9**
WMGZ					S	**S**	**16 40 22.3**	**+3.1**
HAZ	**Te Kaha**	**7.05**	**203**		P	**Pn**	**16 39 01.5**	**+1.7**
HAZ					S	**S**	**16 40 24.0**	**+1.8**
PKGZ	**Pakihiroa**	**7.05**	**201**		P	**Pn**	**16 39 03.0**	**+3.1**
PKGZ					S	**S**	**16 40 23.3**	**+1.0**
PUZ	**Puketiti**	**7.19**	**199**		P	**Pn**	**16 39 03.3**	**+1.7**
PUZ					S	**S**	**16 40 26.4**	**+1.0**
RUGZ	**Raukumara Rang**	**7.27**	**203**		P	**Pn**	**16 39 05.0**	**+2.3**
RUGZ					S	**S**	**16 40 25.2**	**-2.2**
TWGZ	**Tauwhareparae**	**7.37**	**200**		P	**Pn**	**16 39 07.3**	**+3.5**
TWGZ					S	**S**	**16 40 31.4**	**+1.9**
WCZ	**Waipu Caves**	**7.37**	**229**		P	**Pn**	**16 39 04.8**	**+1.0**
OUZ	**Omahuta**	**7.49**	**236**		P	Pn	16 39 15.8	+11
CNGZ	**Carnagh Statio**	**7.59**	**198**		P	**Pn**	**16 39 10.9**	**+4.4**
CNGZ					S	**S**	**16 40 37.8**	**+3.5**
MARZ	**Manawahe**	**7.66**	**208**		P	**Pn**	**16 39 08.7**	**+1.4**
MARZ					S	**S**	**16 40 38.7**	**+2.8**
MKAZ	**Moumakai**	**7.67**	**219**		P	**Pn**	**16 39 09.2**	**+1.8**
ETAZ	**East Tamaki Re**	**7.69**	**221**		P	**Pn**	**16 39 10.2**	**+2.6**
URZ	**Urewera**	**7.73**	**205**		P	**Pn**	**16 39 07.1**	**-1.1**
	4.2nm,0.3s,baz=350,slow=18,SNR=51							
URZ					S	**S**	**16 40 36.6**	**-0.8**
	26nm,0.5s,baz=288,slow=20,SNR=16							
URZ	**Urewera**	**7.73**	**205**		P	**Pn**	**16 39 06.3**	**-1.8**
RAGZ	**Rawiri**	**7.84**	**202**		P	**Pn**	**16 39 11.4**	**+1.8**
WTAZ	**Waiatarua**	**7.87**	**223**		P	**Pn**	**16 39 14.5**	**+4.5**
RIGZ	**Rimuhau**	**7.92**	**200**		P	**Pn**	**16 39 11.0**	**+0.4**
MUGZ	**Murupara**	**8.05**	**206**		P	**Pn**	**16 39 12.0**	**-0.1**
MUGZ					S	**S**	**16 40 44.1**	**-0.4**
RTZ	**Ruatahuna**	**8.09**	**204**		P	**Pn**	**16 39 13.3**	**+0.5**
RTZ					S	**S**	**16 40 43.7**	**-2.0**
SNGZ	**Shannon Statio**	**8.12**	**202**		P	**Pn**	**16 39 12.9**	**-0.2**
SNGZ					S	**S**	**16 40 46.1**	**-0.2**
RAHZ	**Arahi**	**8.33**	**203**		P	**Pn**	**16 39 16.2**	**+0.7**
RAHZ					S	**S**	**16 40 49.7**	**-1.2**
MTHZ	**Maungataniwha**	**8.35**	**204**		P	**Pn**	**16 39 15.8**	**0.0**
MTHZ					S	**S**	**16 40 50.0**	**-1.6**
TLZ	**Tolley Road**	**8.43**	**212**		P	**Pn**	**16 39 20.3**	**+3.5**
KUTZ	**Kaahu Road**	**8.44**	**210**		P	**Pn**	**16 39 20.0**	**+3.1**
MRHZ	**Matea Rd**	**8.49**	**206**		P	**Pn**	**16 39 18.9**	**+1.4**
MRHZ					S	**S**	**16 40 51.9**	**-2.8**
NMHZ	**Naumai**	**8.59**	**204**		P	**Pn**	**16 39 20.1**	**+1.4**
NMHZ					S	**S**	**16 40 54.9**	**-1.9**
BKZ	**Black Stump Fm**	**8.76**	**205**		P	**Pn**	**16 39 19.3**	**-1.5**
BKZ					S	**S**	**16 40 58.1**	**-2.5**
MCHZ	**McNeill Hill**	**8.93**	**203**		P	**Pn**	**16 39 23.7**	**+0.8**
MCHZ					S	**S**	**16 41 03.9**	**-0.7**
KWHZ	**Kaweka Forest**	**9.01**	**204**		P	**Pn**	**16 39 23.7**	**-0.2**
KWHZ					S	**S**	**16 41 04.5**	**-1.9**
ETVZ	**East Tongariro**	**9.03**	**208**		P	**Pn**	**16 39 25.0**	**+0.7**
ETVZ					S	**S**	**16 41 04.1**	**-2.9**
SNVZ	**South Ngauruho**	**9.10**	**209**		P	**Pn**	**16 39 24.9**	**-0.3**
KAHZ	**Kahuranaki**	**9.19**	**201**		P	**Pn**	**16 39 25.4**	**-0.7**
KAHZ					S	**S**	**16 41 09.0**	**-1.5**
FWVZ	**Far West T-bar**	**9.20**	**209**		P	**Pn**	**16 39 25.2**	**-1.2**
WHVZ	**Whangaehu Hut**	**9.21**	**208**		P	**Pn**	**16 39 26.8**	**+0.3**
WHVZ					S	**S**	**16 41 09.6**	**-1.5**
KRHZ	**Kereru**	**9.22**	**204**		P	**Pn**	**16 39 24.2**	**-2.3**
KRHZ					S	**S**	**16 41 06.6**	**-4.6**
WNVZ	**Wahianoa**	**9.24**	**208**		P	**Pn**	**16 39 25.7**	**-1.1**
PXZ	**Pawanui**	**9.41**	**201**		P	**Pn**	**16 39 27.4**	**-1.4**
VRZ	**Vera Road**	**9.43**	**212**		P	**Pn**	**16 39 31.1**	**+2.0**
WPHZ	**Waipukurau**	**9.58**	**203**		P	**Pn**	**16 39 30.5**	**-0.4**
PRHZ	**Porangahau**	**9.70**	**201**		P	**Pn**	**16 39 32.3**	**0.0**
TSZ	**Takapari Road**	**9.74**	**205**		P	**Pn**	**16 39 32.5**	**-0.3**
TSZ					S	**S**	**16 41 18.7**	**-4.0**
DVHZ	**Dannevirke**	**9.88**	**203**		P	**Pn**	**16 39 33.1**	**-1.5**
BFZ	**Birch Farm**	**10.20**	**202**		P	**Pn**	**16 39 37.6**	**-0.9**
ASAR	**Alice Springs**	**42.40**	**268**		P	P	16 44 33.1	-11
	0.2nm,0.8s,baz=113,slow=8.0,SNR=7.6							
	0.2nm,0.8s							
WRA	**Warramunga Arr**	**43.47**	**274**		P	P	16 44 41.0	-11
	0.1nm,0.4s,baz=111,slow=8.1,SNR=5.0							
	0.1nm,0.4s							
QSPA	**South Pole Qui**	**58.82**	**180**		P	**P**	**16 46 46.7**	**+1.4**
	0.8nm,0.6s,baz=34,slow=3.9,SNR=11							
	0.8nm,0.6s							
KURBB	**Kurchatov Arra**	**121.21**	**313**		PKP	PKPdf	16 55 27.6	-7.2
	0.2nm,0.5s,baz=114,slow=1.6,SNR=2.2							
FINES	**FINESS Array B**	**145.74**	**339**		PKP	PKPdf	16 56 13.7	-6.4
	1.8nm,0.4s,baz=52,slow=3.7,SNR=32							
HFS	**Hagfors**	**149.97**	**348**		PKPbc	**PKPdf**	**16 56 25.1**	**-2.0**
	1.2nm,0.6s,baz=128,slow=2.4,SNR=5.1							
HFS					PKPab	**PKPbc**	**16 56 30.7**	**-1.6**
	2.9nm,1.0s,baz=57,slow=5.3,SNR=5.0							
BRTR	**Keskin Array B**	**152.41**	**297**		PKPbc	**PKPdf**	**16 56 31.7**	**+0.1**
	0.4nm,0.5s,baz=127,slow=3.8,SNR=2.8							

*UCR **07** 17:20:39.1±0.6, 11°.32N × 85°.64W, h189 km ± 11 km, MW4.1*
*CATAC **07** 17:20:39.1±0.3, 11°.N ± 2°.× 8°.6W ± °, h196 km ± 2 km, M3.5/34, MLv3.5/34, Error ellipse: s-maj=6.5km s-min=2.2km az=50.0, confirmed*

ISC 07 17:20:38.7±1.6, 11°.29N ± 0°.05 × 85°.61W ± 0°.06, h202 km ± 9 km, n86, σ 0s 66/96, 15C-13D, Nicaragua

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
CARN	**Rivas**	**0.13**	**141**		*e*P	**Pn**	**17 21 05.2**	**-0.1**
CARN	**Rivas**	**0.13**	**141**		P	**Pn**	**17 21 05.3**	**+0.1**
CARN					S	**Sn**	**17 21 26.3**	**+0.5**
LCRUZ	**La Cruz**	**0.21**	**186**		*e*P	**Pn**	**17 21 05.2**	**-0.3**
JAPN	**Al SSO del Vol**	**0.24**	**343**		P	**Pn**	**17 21 06.0**	**+0.5**
MORN	**Al O del Volca**	**0.26**	**351**	⇑	P	**Pn**	**17 21 05.9**	**+0.4**
PEJA	**Penjamo Buenos**	**0.49**	**144**		*e*P	**Pn**	**17 21 06.2**	**0.0**
BUAI	**Buenos Aires**	**0.49**	**147**		*e*P	**Pn**	**17 21 06.3**	**+0.1**
LAPC	**Finca la Perla**	**0.55**	**162**		*e*P	**Pn**	**17 21 05.7**	**-0.8**
NADN	**Granada**	**0.62**	**317**	⇓	P	**Pn**	**17 21 07.0**	**+0.4**
NADN					S	**Sn**	**17 21 29.2**	**+0.9**
ELI1	**Hacienda Flor**	**0.65**	**175**		*e*P	**Pn**	**17 21 06.6**	**-0.2**
ELI1	**Hacienda Flor**	**0.65**	**175**		S	**Sn**	**17 21 28.8**	**+0.3**
ELI1	**Hacienda Flor**	**0.65**	**175**	⇑	P	**Pn**	**17 21 06.6**	**-0.2**
VMAR	**Armenia, Volca**	**0.68**	**135**		*e*P	**Pn**	**17 21 06.9**	**-0.1**
MESS	**Mesas**	**0.68**	**144**		*e*P	**Pn**	**17 21 07.0**	**-0.1**
ALIBA	**Liberia Airpor**	**0.70**	**175**		*e*P	**Pn**	**17 21 07.2**	**+0.2**
COLC	**Colonia**	**0.74**	**148**		*e*P	**Pn**	**17 21 07.2**	**-0.1**
ACON	**Acoyapa**	**0.79**	**32**		*e*P	**Pn**	**17 21 06.5**	**-1.0**
ACON	**Acoyapa**	**0.79**	**32**	S		**Sn**	**17 21 29.0**	**-0.9**
ACON	**Acoyapa**	**0.79**	**32**	⇓	P	**Pn**	**17 21 06.8**	**-0.7**
NANN	**Nandasmo**	**0.82**	**322**		P	**Pn**	**17 21 09.2**	**+1.6**
NANN	**Nandasmo**	**0.82**	**322**	S		**Sn**	**17 21 32.2**	**+2.0**
DELF	**Filadelfia**	**0.84**	**176**		*e*P	**Pn**	**17 21 07.9**	**+0.1**
SABN	**Sabanita**	**0.86**	**321**	⇓	P	**Pn**	**17 21 07.4**	**-0.5**
TIMP	**Tierras Morena**	**0.91**	**141**		*e*P	**Pn**	**17 21 08.0**	**-0.3**
CRUN	**El Crucero**	**0.97**	**315**	⇑	P	**Pn**	**17 21 06.5**	**-2.2**
INVE	**Universidad In**	**0.97**	**147**		*e*P	**Pn**	**17 21 08.6**	**-0.1**
WILN	**Americas 2**	**1.03**	**327**	⇓	P	**Pn**	**17 21 09.3**	**+0.3**
WILN					S	**Sn**	**17 21 33.6**	**+1.1**
UNAN	**Cigeo UNAN**	**1.04**	**321**	⇓	P	**Pn**	**17 21 09.3**	**+0.3**
UNAN					S	**Sn**	**17 21 33.5**	**+0.8**
MGAN	**Managua**	**1.06**	**324**		S	**Sn**	**17 21 33.8**	**+1.0**
MGAN	**Managua**	**1.06**	**324**	⇓	P	**Pn**	**17 21 09.7**	**+0.6**
R4DEC	**Barrio San Lui**	**1.06**	**324**		S	**Sn**	**17 21 33.4**	**+0.6**
R4DEC	**Barrio San Lui**	**1.06**	**324**	⇑	P	**Pn**	**17 21 09.4**	**+0.3**
TISN	**Laguna Tiscapa**	**1.07**	**323**	⇓	P	**Pn**	**17 21 09.6**	**+0.4**
ABCN	**Banco Central**	**1.07**	**320**		P	**Pn**	**17 21 09.6**	**+0.3**
JUD3	**Juan Diaz 3**	**1.12**	**177**		*e*P	**Pn**	**17 21 09.5**	**-0.2**
BOAB	**BOACO BROADBAN**	**1.15**	**357**		P	**Pn**	**17 21 09.7**	**-0.1**
BOAB	**BOACO BROADBAN**	**1.15**	**357**	S		**Sn**	**17 21 33.6**	**-0.5**
SAPS	**Ciudad Sandino**	**1.17**	**318**	S		**Sn**	**17 21 34.8**	**+0.5**
SAPS	**Ciudad Sandino**	**1.17**	**318**	⇑	P	**Pn**	**17 21 09.9**	**-0.1**
JTS	**Las Juntas de**	**1.18**	**147**		*e*P	**Pn**	**17 21 09.8**	**-0.3**
JTS	**Las Juntas de**	**1.18**	**147**	⇑	P	**Pn**	**17 21 10.0**	**-0.1**
JTS					S	**Sn**	**17 21 33.0**	**-1.5**
ARE1	**Arenal 1**	**1.20**	**133**		*e*P	**Pn**	**17 21 10.8**	**+0.5**
VARE2	**V. Arenal**	**1.20**	**133**		*e*P	**Pn**	**17 21 10.8**	**+0.5**
CMARA	**Lajas Hojancha**	**1.28**	**172**	S		**Sn**	**17 21 35.6**	**-0.4**
CMARA	**Lajas Hojancha**	**1.28**	**172**	⇑	P	**Pn**	**17 21 10.3**	**-0.6**
COPN	**Copaltepe**	**1.31**	**313**		*e*P	**Pn**	**17 21 10.3**	**-0.7**
COPN	**Copaltepe**	**1.31**	**313**	⇑	P	**Pn**	**17 21 10.6**	**-0.4**
COPN					S	**Sn**	**17 21 35.4**	**-0.8**
COVE	**Coope Vega, Sa**	**1.31**	**116**	S		**Sn**	**17 21 35.6**	**-0.5**
COVE	**Coope Vega, Sa**	**1.31**	**116**	⇓	P	**Pn**	**17 21 10.8**	**-0.3**
SOCE	**Pocosol**	**1.33**	**133**	S		**Sn**	**17 21 36.3**	**-0.2**
SOCE	**Pocosol**	**1.33**	**133**	⇓	P	**Pn**	**17 21 11.6**	**+0.3**
INDI	**Punta indio, G**	**1.42**	**176**	S		**Sn**	**17 21 37.2**	**-0.7**
INDI	**Punta indio, G**	**1.42**	**176**	⇑	P	**Pn**	**17 21 12.0**	**-0.1**
MOM2	**El Cardon**	**1.43**	**323**	⇓	P	**Pn**	**17 21 12.3**	**+0.3**
MOM2					S	**Sn**	**17 21 38.9**	**+0.9**
MOM3	**MOM3**	**1.50**	**324**		P	**Pn**	**17 21 12.7**	**0.0**
MOM3					S	**Sn**	**17 21 39.0**	**-0.2**
ESPN	**Las Esperanzas**	**1.56**	**55**	S		**Sn**	**17 21 40.0**	**0.0**
ESPN	**Las Esperanzas**	**1.56**	**55**	⇓	P	**Pn**	**17 21 13.3**	**+0.1**
CNGN	**Cerro Negro**	**1.61**	**318**	S		**Sn**	**17 21 40.8**	**-0.1**
CNGN	**Cerro Negro**	**1.61**	**318**	⇑	P	**Pn**	**17 21 13.2**	**-0.5**
ROCN	**Rota Cerro Neg**	**1.65**	**318**		P	**Pn**	**17 21 13.6**	**-0.5**
ROCN					S	**Sn**	**17 21 41.3**	**-0.2**
QUEN	**Al S del Volca**	**1.78**	**317**		P	**Pn**	**17 21 15.1**	**-0.1**
TCS1	**Tacares**	**1.79**	**134**		P	**Pn**	**17 21 16.1**	**+0.7**
TCS1	**Tacares**	**1.79**	**134**	S		**Sn**	**17 21 44.6**	**+0.6**
POLN	**Al Sur del Vol**	**1.79**	**319**		P	Pn	17 21 07.2	-8.3
PKGN	**Cerro Pekin**	**1.92**	**316**	⇑	P	**Pn**	**17 21 16.1**	**-0.5**
PKGN					S	**Sn**	**17 21 46.8**	**+0.7**
CRIN	**San Cristobal**	**1.99**	**315**		P	**Pn**	**17 21 16.1**	**-1.3**
CRIN	**San Cristobal**	**1.99**	**315**	S		**Sn**	**17 21 47.1**	**-0.5**
PICV	**PH. Pirrs**	**2.16**	**140**		*e*P	**Pn**	**17 21 19.7**	**+0.5**
LCR2	**La Lucha 2**	**2.20**	**134**		*e*P	**Pn**	**17 21 19.8**	**-0.1**
LCR2	**La Lucha 2**	**2.20**	**134**		P	**Pn**	**17 21 20.2**	**+0.4**
LCR2	**La Lucha 2**	**2.20**	**134**	S		**Sn**	**17 21 50.6**	**-1.2**
QUEP	**Quepos**	**2.33**	**142**		P	**Pn**	**17 21 21.6**	**+0.6**
QUEP	**Quepos**	**2.33**	**142**	S		**Sn**	**17 21 54.1**	**+0.2**
BUS1	**Rivas**	**2.52**	**133**		*e*P	**Pn**	**17 21 23.7**	**+0.2**
POTN	**Potosi Cosigui**	**2.52**	**313**		P	**Pn**	**17 21 22.9**	**-0.1**
POTN					S	**Sn**	**17 21 56.3**	**-1.3**
SIUN	**Universidad Ur**	**2.54**	**19**	⇓	P	**Pn**	**17 21 22.9**	**-0.4**
CHOHN	**Orocuina**	**2.65**	**325**	S		**Sn**	**17 22 00.2**	**-0.3**
CHOHN	**Orocuina**	**2.65**	**325**	⇑	P	**Pn**	**17 21 25.3**	**+0.7**
YUSH	**Yuscaran**	**2.91**	**336**	S		**Sn**	**17 22 05.4**	**-0.4**
YUSH	**Yuscaran**	**2.91**	**336**	⇓	P	**Pn**	**17 21 28.2**	**+0.6**
OCHAL	**Ojochal**	**2.91**	**138**	S		**Sn**	**17 22 06.3**	**+0.6**
OCHAL	**Ojochal**	**2.91**	**138**	⇑	P	**Pn**	**17 21 28.5**	**+1.0**
DRK0	**Durika**	**3.08**	**131**	S		**Sn**	**17 22 08.3**	**-1.1**
DRK0	**Durika**	**3.08**	**131**	⇑	P	**Pn**	**17 21 30.0**	**+0.4**
PIRO	**Carate, Puerto**	**3.64**	**142**	S		**Sn**	**17 22 21.0**	**-0.3**
PIRO	**Carate, Puerto**	**3.64**	**142**	⇑	P	**Pn**	**17 21 36.9**	**+0.7**

*IDC **07** 17:24:37.1±1.1, 32°.51N × 132°.14E, h0 km, mb 3.5/5, mbtmp 3.5/7, ML 2.9/2, MS 3.3/20, Error ellipse: s-maj=21.4km s-min=16.7km az=76.0*
*NIED **07** 17:24:40.9, 32°.63N × 132°.27E, h34 km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.22; $M_{\theta\theta}$-0.49; $M_{\phi\phi}$0.27; $M_{r\theta}$0.66; $M_{\theta\phi}$-0.20; $M_{\phi r}$0.65; Fault plane solution: $M_0$1.03000×10^{15} NP1: ϕ_s296.00000°, δ23.00000°, λ160.00000°. NP2: ϕ_s45.00000°, δ82.00000°, λ69.00000°.*
*JMA **07** 17:24:40.9±0.0, 32°.6N ± 0°.2 × 132°.3E ± 0°.1, h34 km, MD3.8/40, MV3.7/40, HYUGANADA REGION*
JMA Felt II J1 at HYUGANADA REGION .

ISC 07 17:24:41.1±1.0, 32°.63N ± 0°.05 × 132°.25E ± 0°.04, h30 km ± 7 km, n47, σ 1s 73/30, mb 3.7/5, MS 3.3/19, 6D, Shikoku

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
JSKE	**Saikikamae**	**0.34**	**299**	⇓	*i*P	**Pb**	**17 24 48.9**	**-0.1**
JSKE				⇓	*e*S	**Sb**	**17 24 55.1**	**+0.7**
JSKE	**Saikikamae**	**0.34**	**299**		A	A	17 24 48.9	
	comp=N,18nm,0.8s,comp=E,14nm,0.8s							
JTO	**Tosashimizu**	**0.52**	**64**	⇓	P	**Pb**	**17 24 51.3**	**-0.5**
JTO				⇓	S	**Sb**	**17 24 58.9**	**-0.3**
JTO	**Tosashimizu**	**0.52**	**64**		A	A	17 24 51.3	
	comp=N,12nm,0.5s,comp=E,18nm,0.6s							
JHHC	**Hyugahichiya**	**0.55**	**250**		*i* P	**Pn**	**17 24 52.0**	**-0.9**
JHHC					S	**Sb**	**17 24 60.0**	**-0.1**
JUS	**Usuki**	**0.60**	**316**	⇓	P	**Pn**	**17 24 53.0**	**-0.6**
JUS				⇓	S	**Sn**	**17 25 02.0**	**-0.3**
JUS	**Usuki**	**0.60**	**316**		A	A	17 24 53.0	
	comp=N,23nm,0.3s,comp=E,22nm,1.1s							
UWA2	**Uwa jima 2**	**0.66**	**29**		P	**Pn**	**17 24 53.4**	**-1.1**
UWA2					S	**Sn**	**17 25 02.6**	**-1.3**
JTSN	**Tsuno**	**0.74**	**239**		P	**Pn**	**17 24 54.8**	**-0.7**
JTSN					S	**Sb**	**17 25 05.6**	**+0.3**
JTSN	**Tsuno**	**0.74**	**239**		A	A	17 24 54.8	
	comp=N,5.0nm,1.6s,comp=E,3.0nm,1.0s							
JNA	**Nagahama**	**0.94**	**12**		P	**Pn**	**17 24 57.7**	**-0.6**
JNA					S	**Sn**	**17 25 09.8**	**-1.0**
JNA	**Nagahama**	**0.94**	**12**		A	A	17 24 57.7	
	comp=N,3.0nm,2.3s,comp=E,5.0nm,1.5s							
JKU	**Kubokawa**	**0.96**	**45**		P	**Pn**	**17 24 57.8**	**-0.8**
JKU					S	**Sn**	**17 25 09.6**	**-1.7**
JIU3	**Izumi3**	**1.22**	**266**		P	**Pn**	**17 25 02.7**	**+0.6**
JTZ	**Takazaki**	**1.23**	**234**		P	**Pn**	**17 25 02.4**	**+0.2**
JTZ					S	**Sn**	**17 25 18.1**	**+0.4**
JET	**Tanbara**	**1.32**	**30**		P	**Pn**	**17 25 03.1**	**-0.5**
JET					S	**Sn**	**17 25 18.8**	**-1.5**
JET	**Tanbara**	**1.32**	**30**		A	A	17 25 03.1	
	comp=N,3.0nm,1.7s							
KSRS	**Korea Array**	**5.98**	**325**		Pn	**Pn**	**17 26 08.4**	**+0.9**
	comp=N,0.4nm,0.3s,baz=143,slow=15,SNR=7.7							
KSRS					Sn	**Sn**	**17 27 16.0**	**+1.1**
	comp=N,0.4nm,0.3s,baz=63,slow=28,SNR=4.2							
KSRS					Lg	Lg	17 27 48.8	
	comp=N,0.6nm,0.3s,baz=155,slow=29,SNR=9.3							
	comp=N,0.7nm,0.3s							
MJAR	**Matsushiro Arr**	**6.27**	**50**		Pn	**Pn**	**17 26 12.8**	**+1.2**
	comp=N,0.2nm,0.3s,baz=230,slow=14,SNR=22							
MJAR					Sn	**Sn**	**17 27 29.9**	**+7.6**
	baz=200,slow=21							
MJAR					Lg	Lg	17 28 01.2	
	baz=235,slow=31							
	comp=N,1.6nm,0.3s							
USRK	**Ussuriysk Ar.**	**11.55**	**359**		LR	LR	17 31 39.2	
	comp=N,101nm,19.6s,baz=151,slow=36							
GUMO	**Guam**	**22.19**	**146**		LR	LR	17 38 04.8	
	comp=N,21nm,18.0s,baz=30,slow=36							
SONM	**Songino Array**	**24.74**	**315**		P	**P**	**17 30 00.5**	**+0.5**
	comp=N,0.5nm,0.6s,baz=132,slow=10,SNR=5.6							
SONM					LR	LR	17 40 57.8	
	comp=N,113nm,18.7s,baz=177,slow=40							
	comp=N,0.5nm,0.6s							
DAV	**Davao City (W)**	**26.18**	**195**		LR	LR	17 39 06.4	
	comp=N,15nm,21.9s,baz=338,slow=33							
YAK	**Yakutsk**	**29.46**	**358**		LR	LR	17 42 36.5	
	comp=N,46nm,18.7s,baz=169,slow=36							
MA2	**Magadan**	**29.64**	**19**		LR	LR	17 43 30.3	
	comp=N,29nm,19.1s,baz=242,slow=38							
CMAR	**Chiang Mai Arr**	**33.04**	**253**		P	**P**	**17 31 12.7**	**-1.4**
	comp=N,0.5nm,0.4s,baz=66,slow=9.1,SNR=1.7							
CMAR					LR	LR	17 46 55.5	
	comp=N,21nm,18.4s,baz=50,slow=41							
	comp=N,0.5nm

SHTL				S		Sg	17 29 41.5	-0.2
SHTL	**Shatili**	**1.49**	**259**	PG		**Pb**	**17 29 21.0**	**+0.1**
SHTL				S		Sg	17 29 41.4	-0.2
KSMR	**Kasumkent**	**1.55**	**151**	*e*PG		**Pg**	**17 29 22.5**	**-0.9**
KSMR				*e*S		Sg	17 29 43.7	+0.2
KSMR				pmax	pmax			
	comp=Z,315nm,0.5s							
KSMR	**Kasumkent**	**1.55**	**151**	*e*Pg		**Pg**	**17 29 22.5**	**-0.9**
KSMR				*e*Sg		Sg	17 29 43.7	+0.2
AKT	**Akhty**	**1.55**	**163**	*e*PG		**Pb**	**17 29 22.2**	**+0.3**
AKT				*e*S		Sg	17 29 43.3	-0.3
AKT				pmax	pmax			
	comp=Z,277nm,0.3s							
AKT	**Akhty**	**1.55**	**163**	*i* Pg		**Pg**	**17 29 22.6**	**-0.8**
AKT				*e*Sg		Sg	17 29 44.2	+0.7
KMGR	**Komgaron**	**1.67**	**274**	*e*PN		**Pg**	**17 29 25.4**	**-0.1**
KMGR				*e*S		Sg	17 29 49.8	+2.6
KMGR	**Komgaron**	**1.67**	**274**	*e*Pg		**Pg**	**17 29 25.4**	**-0.1**
KMGR				*e*Sg		Sg	17 29 50.6	+3.4
VLKR	**Vladikavkaz**	**1.80**	**273**	*e*PN		**Pg**	**17 29 28.0**	**-0.1**
VLKR				*e*S		Sg	17 29 54.6	+3.0
VLKR	**Vladikavkaz**	**1.80**	**273**	*e*Pg		**Pg**	**17 29 28.1**	**-0.1**
VLKR				*e*Sg		Sg	17 29 54.6	+3.0
VSHL	**Vashlovani**	**1.82**	**198**	P		**Pg**	**17 29 28.8**	**+0.3**
TRKR	**Terskaya**	**1.91**	**294**	*e*PN		**Pg**	**17 29 29.9**	**-0.2**
TRKR				*e*S		Sg	17 29 57.7	+2.8
TRKR	**Terskaya**	**1.91**	**294**	*e*Pg		**Pg**	**17 29 29.9**	**-0.2**
TRKR				*e*Sg		Sg	17 29 57.7	+2.8
BTKR	**Batakoyurt**	**1.94**	**283**	*e*PN		**Pg**	**17 29 30.6**	**-0.1**
BTKR				*e*S		Sg	17 29 59.4	+3.5
BTKR	**Batakoyurt**	**1.94**	**283**	*e*Pg		**Pg**	**17 29 30.6**	**-0.1**
BTKR				*e*Sg		Sg	17 29 56.8	+0.9
DGRG	**David-gareji**	**2.00**	**221**	P		**Pg**	**17 29 31.1**	**-0.8**
DGRG	**David-gareji**	**2.00**	**221**	PN		**Pg**	**17 29 31.1**	**-0.8**
LACR	**Lac**	**2.09**	**267**	*e*PN		**Pb**	**17 29 29.8**	**-1.3**
LACR				*e*S		Sg	17 29 59.1	-1.6
LACR	**Lac**	**2.09**	**267**	*e*Pg		**Pb**	**17 29 29.8**	**-1.3**
LACR				*e*Sg		Sg	17 29 59.1	-1.6
ARNR	**Ardon**	**2.10**	**277**	*e*PN		**Pg**	**17 29 32.9**	**-0.9**
ARNR				*e*S		Sg	17 30 01.1	+0.1
ARNR	**Ardon**	**2.10**	**277**	*e*Pg		**Pg**	**17 29 33.3**	**-0.5**
ARNR				*e*Sg		Sg	17 30 01.1	+0.1
TBLG	**Delisi**	**2.17**	**236**	P		**Pb**	**17 29 32.9**	**+0.5**
TBLG	**Delisi**	**2.17**	**236**	PN		**Pb**	**17 29 32.8**	**+0.5**
PRTR	**Priterechnaya**	**2.22**	**292**	*e*PN		**Pb**	**17 29 32.3**	**-0.9**
PRTR				*e*S		Sb	17 30 02.2	+1.7
PRTR	**Priterechnaya**	**2.22**	**292**	*e*Pg		**Pb**	**17 29 32.3**	**-0.9**
PRTR				*e*Sg		Sb	17 30 02.2	+1.7
KORR	**Kora**	**2.25**	**274**	*e*PN		**Pb**	**17 29 32.7**	**-1.1**
KORR				*e*S		Sb	17 30 02.1	+0.7
KORR	**Kora**	**2.25**	**274**	*e*Pg		**Pb**	**17 29 32.7**	**-1.1**
KORR				*e*Sg		Sb	17 30 02.1	+0.7
STDR	**Stavd-Durt**	**2.28**	**281**	*e*PN		**Pb**	**17 29 34.5**	**+0.3**
STDR				*e*S		Sg	17 30 05.6	-1.2
STDR	**Stavd-Durt**	**2.28**	**281**	*e*Pn		**Pb**	**17 29 34.5**	**+0.3**
STDR				*e*Sn		Sg	17 30 05.6	-1.2
LSNR	**Lesken**	**2.44**	**278**	*e*PN		**Pb**	**17 29 34.9**	**-2.1**
LSNR				*e*S		Sb	17 30 05.6	-1.3
LSNR	**Lesken**	**2.44**	**278**	*e*Pn		**Pb**	**17 29 34.9**	**-2.1**
LSNR				*e*Sn		Sb	17 30 05.6	-1.3
DIGR	**Digorskoe uzhe**	**2.61**	**270**	*e*PN		**Pn**	**17 29 36.3**	**+1.1**
DIGR				*e*S		Sn	17 30 08.7	+2.1
DIGR	**Digorskoe uzhe**	**2.61**	**270**	*e*Pn		**Pn**	**17 29 36.3**	**+1.1**
DIGR				*e*Sn		Sn	17 30 08.7	+2.1
NCK	**Nalchik**	**2.64**	**283**	*e*PN		**Pn**	**17 29 36.1**	**+0.7**
NCK				*e*S		Sn	17 30 09.2	+2.1
NCK	**Nalchik**	**2.64**	**283**	*e*Pn		**Pn**	**17 29 36.1**	**+0.7**
NCK				*e*Sn		Sn	17 30 09.2	+2.1
TRLG	**Trialeti**	**2.67**	**239**	P		**Pb**	**17 29 39.4**	**-1.5**
TRLG	**Trialeti**	**2.67**	**239**	PN		**Pb**	**17 29 39.4**	**-1.5**
ALIG	**Mtskhetisjvari**	**2.72**	**253**	PN		**Pb**	**17 29 39.9**	**-1.8**
GARIG	**Gari**	**2.72**	**264**	P		**Pb**	**17 29 40.4**	**-1.4**
KBTC	**Kuba-Taba**	**2.84**	**289**	*e*PN		**Pn**	**17 29 39.5**	**+1.3**
KBTC				*e*S		Sn	17 30 14.7	+2.5
KBTC	**Kuba-Taba**	**2.84**	**289**	*e*Pn		**Pn**	**17 29 39.5**	**+1.3**
KBTC				*e*Sn		Sn	17 30 14.7	+2.5
PYA1	**Pyatigorsk**	**3.13**	**292**	*i* PN		**Pn**	**17 29 43.3**	**+1.1**
PYA1				*i* S		Sn	17 30 21.4	+2.1
KBZ	**Khabaz**	**3.18**	**285**	Pn		**Pn**	**17 29 43.6**	**+0.8**
	comp=Z,2.3nm,0.3s,baz=180,slow=1.9,SNR=35							
KBZ				Sn		Sn	17 30 20.1	-0.3
	comp=Z,7.8nm,0.3s,baz=97,slow=19,SNR=6.5							
KBZ				Lg	Lg		17 30 31.1	
	comp=Z,14nm,0.3s,baz=120,slow=20,SNR=6.9							
	comp=Z,9.7nm,0.5s							
KBZ	**Khabaz**	**3.18**	**285**	*i* Pn		**Pn**	**17 29 43.4**	**+0.6**
KBZ				*e*Sn		Sn	17 30 24.1	+3.7
NEUR	**Neytrino**	**3.26**	**277**	*e*Pn		**Pn**	**17 29 46.5**	**+2.4**
NEUR				*e*S		Sn	17 30 24.3	+1.7
GNI	**Garni**	**3.34**	**213**	Pn		**Pn**	**17 29 48.9**	**+3.8**
	comp=Z,7.6nm,0.3s,baz=28,slow=4.1,SNR=20							
GNI				Lg	Lg		17 30 34.6	
	comp=Z,3.0nm,0.3s,baz=60,slow=20,SNR=1.6							
GNI				LR	LR		17 31 30.7	
	comp=Z,64nm,20.6s,baz=41,slow=48							
	comp=Z,36nm,0.6s							
GNI	**Garni**	**3.34**	**213**	*e*PN		**Pn**	**17 29 49.0**	**+3.8**
GNI				*e*S		Sb	17 30 30.8	-2.1
GNI	**Garni**	**3.34**	**213**	*e*Pn		**Pn**	**17 29 49.0**	**+3.8**
GNI				*e*Sn		Sb	17 30 30.8	-2.1
SHA1	**Shidzhatmaz**	**3.35**	**285**	*e*PN		**Pn**	**17 29 46.4**	**+1.0**
SHA1				*e*S		Sn	17 30 24.0	+3.0
KIV	**Kislovodsk**	**3.38**	**288**	*e*PN		**Pn**	**17 29 46.8**	**+1.1**
KIV				*e*S		Sn	17 30 27.5	+1.9
KIV	**Kislovodsk**	**3.38**	**288**	*e*Pn		**Pn**	**17 29 46.9**	**+1.1**
KIV				*e*Sn		Sn	17 30 27.5	+1.9
GOF	**Gofitskoye**	**3.62**	**307**	*ce*PN		**Pg**	**17 30 03.0**	**+0.3**
GOF				*e*S		Sg	17 30 48.1	-1.4
GHRG	**Ghorjomi**	**3.76**	**252**	P		**Pb**	**17 29 55.5**	**-4.0**
ARXR	**Arkhyz**	**4.32**	**280**	*e*PN		**Pn**	**17 30 00.1**	**+1.5**
ARXR	**Arkhyz**	**4.32**	**280**	*e*Pn		**Pn**	**17 30 00.1**	**+1.5**
ARXR				*e*Sn		Sn	17 30 52.1	+3.4
SOC	**Sochi**	**5.45**	**279**	*e*P		**Pn**	**17 30 13.4**	**-0.6**
SOC				*e*			17 31 16.1	
SOC				MLR	MLR			
	comp=Z,19nm,9.0s							
BELG	**Belogornoye**	**9.44**	**2**	Pn		**Pn**	**17 31 09.2**	**+0.7**
	comp=Z,1.8nm,0.3s,baz=202,slow=12,SNR=2.1							
BELG				Sn		Sn	17 32 52.4	-1.8
	comp=Z,1.4nm,0.3s,baz=168,slow=23,SNR=5.7							
	comp=Z,8.7nm,0.5s							
BELG	**Belogornoye**	**9.44**	**2**	*i* P		Pn	17 31 15.0	+6.4
BELG				pmax	pmax			
	comp=Z,3.0nm,0.9s							
AKTO	**Aktyubinsk**	**10.56**	**41**	⇑P		**Pn**	**17 31 25.0**	**+1.0**
	comp=Z,1.7nm,0.5s							
AKTO				⇑S		Sn	17 33 14.4	-7.4
	comp=Z,4.6nm,0.6s							
AKTO	**Aktyubinsk**	**10.56**	**41**	Pn		**Pn**	**17 31 25.0**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=232,slow=6.1,SNR=15							
AKTO				Sn		Sn	17 33 14.9	-6.8
	comp=Z,1.0nm,0.3s,baz=74,slow=19,SNR=11							
AKTO				LR	LR		17 36 54.1	
	comp=Z,36nm,19.1s,baz=258,slow=45							
	comp=Z,2.0nm,0.3s							
BR131	**Keskin Array S**	**10.65**	**257**	*i* P		**Pn**	**17 31 28.9**	**+3.4**
AB31	**Akbulak array**	**10.88**	**50**	P		**Pn**	**17 31 28.9**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=232,slow=14,SNR=24							
AB31				⇑S		Sn	17 33 26.3	-3.5
	comp=Z,2.8nm,0.5s,baz=244,slow=22,SNR=6.2							
MMAI	**Mount Meron Ar**	**13.56**	**227**	LR		LR	17 37 46.4	
	comp=Z,21nm,20.4s,baz=56,slow=40							
OBN	**Obninsk**	**13.97**	**334**	*de*P		**P**	**17 32 17.2**	**-1.3**
OBN				*e*S		Sn	17 34 41.3	-3.8
OBN				pmax	pmax			
	comp=Z,6.0nm,0.4s							
OBN				MLR	MLR			
	comp=Z,51nm,5.0s							
AKBB	**Malin Array Si**	**14.47**	**308**	*i* P		**P**	**17 32 21.8**	**-2.3**
ARTI	**Arti**	**15.25**	**24**	Pn		**Pn**	**17 32 25.3**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=204,slow=11,SNR=7.2							
ARTI				LR	LR		17 39 15.7	
	comp=Z,21nm,18.6s,baz=290,slow=41							
ARTI	**Arti**	**15.25**	**24**	P		**P**	**17 32 33.3**	**+0.6**
ARTI				S		Sn	17 35 21.9	+5.7
KIRV	**Kirov**	**15.70**	**4**	LR		LR	17 39 50.9	
	comp=Z,31nm,21.4s,baz=246,slow=42							
SVE	**Sverdlovsk**	**16.33**	**27**	*e*P		**Pn**	**17 32 40.9**	**-0.9**
BVAR	**Borovoye Array**	**18.45**	**49**	P		**P**	**17 33 06.5**	**-1.7**
BVAR				S		Sn	17 36 25.5	-8.4
	comp=Z,2.7nm,0.6s,baz=247,slow=22,SNR=6.2							
WSAR	**Wadi Sarin**	**21.87**	**151**	P		**P**	**17 33 47.2**	**+1.8**
	baz=323,slow=20,SNR=5.2							
FINES	**FINESS Array B**	**22.37**	**333**	P		**P**	**17 33 50.6**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=132,slow=12,SNR=8.8							
	comp=Z,0.8nm,0.5s							
FINES	**FINESS Array B**	**22.37**	**333**	*i* P		**P**	**17 33 57.4**	**+6.8**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KURBB	**Kurchatov Arra**	**22.69**	**59**	P		**P**	**17 33 55.9**	**+1.9**
	comp=Z,2.9nm,1.0s,baz=265,slow=12,SNR=13							
	comp=Z,2.9nm,1.0s							
KURK	**Kurchatov**	**22.75**	**59**	P		**P**	**17 33 55.9**	**+1.1**
GERES	**GERESS Array B**	**23.86**	**296**	P		**P**	**17 34 05.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=92,slow=12,SNR=2.0							
	comp=Z,0.2nm,0.3s							
MKAR	**Makanchi Array**	**25.07**	**69**	P		**P**	**17 34 19.0**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=270,slow=8.6,SNR=3.4							
	comp=Z,0.3nm,0.5s							
HFS	**Hagfors**	**26.55**	**322**	P		**P**	**17 34 30.0**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=97,slow=11,SNR=1.9							
	comp=Z,2.4nm,0.9s							
ZALV	**Zalesovo Beam**	**26.98**	**53**	P		**P**	**17 34 35.3**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=280,slow=8.7,SNR=2.0							
	comp=Z,0.3nm,0.3s							
ARCES	**ARCESS Array B**	**28.87**	**344**	P		**P**	**17 34 52.9**	**+2.0**
	comp=Z,2.1nm,0.9s,baz=125,slow=8.7,SNR=1.8							
	comp=Z,2.1nm,0.9s							
EKA	**Eskdalemuir Ar**	**34.38**	**309**	P		**P**	**17 35 38.6**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=85,slow=8.2,SNR=1.8							
	comp=Z,0.9nm,0.7s							
TORD	**Torodi Ar. Bea**	**49.07**	**247**	P		**P**	**17 37 39.9**	**0.0**
	comp=Z,0.5nm,0.7s,baz=56,slow=11,SNR=3.0							
	comp=Z,0.5nm,0.7s							

SKHL ***07*** *17:44:32.9±0.7, 45°.50N×151°.90E, h50km±9km, mb4.4/4*
JMA ***07*** *17:44:32.8±1.2, 46°.N±8°.×15°.2E±1°.0, h30km, MV3.8/11,*
KURILE ISLANDS REGION

ISC 07 17:44:31.2±2.1, 45°.4N±0°.1×152°.0E±0°.1, h30km, n18, σ1s89/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.88**	**269**	*e*P		**Pn**		**17 45 14.7**	**-0.3**
KUR				AMB	AMB			17 45 16.5	
	70nm,0.6s								
KUR				*e*S		**Sn**		**17 45 45.8**	**-2.9**
KUR				A	A			17 45 53.6	
	120nm,0.5s								
KUR				A	A			17 45 53.6	
	120nm,0.5s								
SHO	**Shikotan**	**3.94**	**250**	*e*P		Pn		17 45 34.0	+4.4
SHO				AMB	AMB			17 45 34.7	
	10.0nm,0.2s								
SHO				*e*S		**Sn**		**17 46 14.2**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**4.53**	**255**	*e*P		**Pn**		**17 45 39.9**	**+2.2**
YUK				AMB	AMB			17 45 40.7	
	50nm,0.3s								
YUK				*i* S		**Sn**		**17 46 30.3**	**+0.9**
YUK				A	A			17 46 45.9	
	90nm,0.4s								
YUK				A	A			17 46 45.9	
	70nm,0.4s								
GLVR	**Golovnino**	**4.87**	**253**	*e*P		**Pn**		**17 45 44.8**	**+2.5**
GLVR				AMB	AMB			17 45 47.1	
	40nm,0.3s								
GLVR				*e*S		**Sn**		**17 46 38.6**	**+1.0**
GLVR				A	A			17 46 42.8	
	30nm,0.4s								
GLVR				A	A			17 46 42.8	
	70nm,0.4s								
NEM2	**Nemuro 2**	**4.87**	**248**	*e*P		**Pn**		**17 45 43.0**	**+0.7**
NEM2				*e*S		**Sn**		**17 46 35.3**	**-2.4**
NMR	**Nemuro--Hokkai**	**4.88**	**248**	*e*P		**Pn**		**17 45 43.7**	**+1.2**
NMR				*i* S		**Sn**		**17 46 36.6**	**-1.3**
JRA	**Rausu**	**5.07**	**256**	*e*P		**Pn**		**17 45 47.9**	**+2.9**
JNK	**Nakash**	**5.46**	**254**	*e*P		**Pn**		**17 45 52.6**	**+2.1**
AKK	**Akkeshi**	**5.62**	**248**	*e*P		**Pn**		**17 45 54.9**	**+2.3**
JAK	**Akkeshi**	**5.72**	**248**	*e*P		**Pn**		**17 45 54.5**	**+0.5**
SKR	**Severo-Kuril's**	**6.03**	**26**	*e*S		**Sn**		**17 47 04.6**	**-1.5**
JAR	**Ashorobuto**	**6.21**	**254**	P		**Pn**		**17 46 02.9**	**+2.1**
JOB	**Onbets**	**6.33**	**250**	P		**Pn**		**17 46 04.0**	**+1.6**
YSS	**Yuzhno-Sakhali**	**6.58**	**287**	*e*P		**Pn**		**17 46 07.2**	**+1.3**
JKK2	**Kamakawa 2**	**6.73**	**261**	*e*P		**Pn**		**17 46 10.1**	**+2.2**
JCH	**Churui**	**6.77**	**249**	P		**Pn**		**17 46 09.7**	**+1.3**
JCH				*e*S		**Sn**		**17 47 21.7**	**-2.8**
JNBK	**Urakawa-nobuka**	**7.32**	**248**	*e*P		**Pn**		**17 46 16.9**	**+0.8**
JANG	**Nango**	**9.13**	**241**	*e*P		**Pn**		**17 46 39.9**	**-0.9**

KRNET ***07*** *17:45:50.1±0.1, 39°.26N×71°.48E, mb3.0*

ISC 07 17:45:47.6±1.6, 39°.32N±0°.08×71°.58E±0°.09, h10km, n5, σ0s22/10, 6C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**1.03**	**253**	⇑*i*P		**Pn**		**17 46 08.2**	**0.0**
GAR				⇑*i*S		**Sb**		**17 46 21.5**	**+0.2**
CHGR	**Chuyangaron**	**2.00**	**252**	⇓*e*P		**Pg**		**17 46 25.9**	**0.0**
CHGR				⇓*i*S		**Sg**		**17 46 51.8**	**-0.1**
TRKS	**Terek-Say**	**2.24**	**351**	⇑*e*P		**Pg**		**17 46 30.3**	**-0.2**
TRKS				⇑*i*S		**Sg**		**17 46 59.9**	**+0.4**
KK31	**Karatay Array**	**3.87**	**348**	Pn		**Pb**		**17 46 55.9**	**0.0**
	1.0nm,0.2s,baz=169,slow=13,SNR=36								
KK31				⇑Sn		**Sb**		**17 47 42.5**	**-0.3**
	1.9nm,0.3s,baz=167,slow=23,SNR=6.0								
AAK	**Ala-Archa**	**3.98**	**33**	⇑Pn		**Pb**		**17 46 57.9**	**0.0**
	0.6nm,0.4s								
AAK				⇓Sn		**Sb**		**17 47 46.3**	**+0.1**
	1.4nm,0.6s								

IDC 07 17:50:08.2±1.8, 39°.20S×77°.97E, h0km, mb3.6/5, mbtmp3.6/5, MS3.3/3, Error ellipse: s-maj=50.7km s-min=31.0km az=119.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**20.40**	**242**	T		T	T	18 16 00.3	
	baz=79,slow=75,SNR=89								
H04N1	**CROZET ISLANDS**	**20.41**	**242**	T		T	T	18 15 59.8	
	baz=79,slow=75,SNR=119								
H04N3	**CROZET ISLANDS**	**20.42**	**242**	T		T	T	18 16 00.1	
	baz=79,slow=75,SNR=110								
H01W2	**Cape Leeuwin H**	**29.05**	**93**	T		T	T	18 26 22.4	
	baz=250,slow=74,SNR=296								
H01W3	**Cape Leeuwin H**	**29.06**	**93**	T		T	T	18 26 21.7	
	baz=250,slow=74,SNR=250								
H01W1	**Cape Leeuwin H**	**29.07**	**93**	T		T	T	18 26 26.9	
	baz=250,slow=74,SNR=286								
MAW	**Mawson**	**29.67**	**192**	P		P	P	17 56 14.9	-0.3
	0.6nm,0.5s,baz=70,slow=12,SNR=2.0								
	0.6nm,0.5s								
H08S2	**Diego Garcia H**	**31.80**	**350**	T		T	T	18 29 55.0	
	baz=172,slow=76,SNR=4.5								
H08S1	**Diego Garcia H**	**31.81**	**350**	T		T	T	18 30 00.4	
	baz=172,slow=76,SNR=3.9								
H08S3	**Diego Garcia H**	**31.82**	**350**	T		T	T	18 30 01.1	
	baz=172,slow=76,SNR=15								
BOSA	**Boshof**	**44.46**	**267**	LR		LR	LR	18 12 47.2	
	comp=Z,25nm,20.0s,baz=174,slow=31								
LBTB	**Lobatse**	**45.97**	**272**	LR		LR	LR	18 14 29.9	
	comp=Z,37nm,19.0s,baz=130,slow=32								
ASAR	**Alice Springs**	**49.43**	**89**	P		P	P	17 59 00.2	+0.1
	0.3nm,0.7s,baz=243,slow=5.2,SNR=11								
ASAR				LR		LR	LR	18 18 15.5	
	comp=Z,43nm,18.8s,baz=192,slow=34								
	0.3nm,0.7s								
VNDA	**Vanda**	**50.77**	**164**	P		P	P	17 59 09.7	+0.2
	0.3nm,0.6s,baz=290,slow=5.0,SNR=4.5								
	0.3nm,0.6s								
WRA	**Warrantanga Arr**	**51.81**	**85**	P		P	P	17 59 17.6	-0.5
	0.6nm,0.4s,baz=234,slow=7.5,SNR=7.7								
	0.6nm,0.4s								
MKAR	**Makanchi Array**	**85.70**	**3**	P		P	P	18 02 48.6	+0.1
	0.3nm,0.6s,baz=181,slow=5.8,SNR=3.0								
	0.3nm,0.6s								

UPA ***07*** *18:03:42.3±1.2, 8°.46N×82°.84W, h18km±2km, ML3.2, MW3.3*
CATAC ***07*** *18:03:42.2±0.7, 8°.N±4°.×8°.3W±°., h12km±2km, M3.0/7, MLv3.0/7, Error ellipse: s-maj=9.2km s-min=4.4km az=153.6, confirmed*

ISC 07 18:03:41.4±1.0, 8°.41N±0°.04×82°.88W±0°.03, h30km±6km, n27, σ1s14/40, 1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.08**	**91**	*e*P		**Pb**		**18 03 46.4**	**-0.2**
LESP3				*e*S		**Sb**		**18 03 48.2**	**-1.9**
CDITO	**Canoas**	**0.16**	**1**	P		**Pb**		**18 03 46.8**	**-0.4**
CDITO	**Canoas**	**0.16**	**1**	S		**Sb**		**18 03 51.8**	**+0.6**
PTPM	**Petroterminale**	**0.20**	**181**	*e*P		**Pb**		**18 03 47.5**	**-0.1**
PTPM				*e*S		**Sb**		**18 03 53.8**	**+1.9**
DVD	**David**	**0.42**	**86**	*e*P		**Pb**		**18 03 50.3**	**-0.3**
DVD				*e*S		**Sb**		**18 03 57.1**	**+0.3**
BRU2	**Volcan**	**0.42**	**25**	⇓*e*P		**Pb**		**18 03 50.5**	**-0.2**
BRU2				*e*S		**Sb**		**18 03 58.4**	**+1.2**
BRU2	**Volcan**	**0.42**	**25**	P		**Pb**		**18 03 50.6**	**-0.2**
PEDE3	**Pedregal, Chir**	**0.45**	**93**	*e*P		**Pb**		**18 03 51.0**	**+0.1**
PEDE3				*e*S		**Sb**		**18 03 58.0**	**+0.5**
LOCO3	**Loma Colorada,**	**0.45**	**90**	*e*P		**Pb**		**18 03 51.5**	**+0.4**
LOCO3				*e*S		**Sb**		**18 03 58.1**	**+0.5**
PIRO	**Carate, Puerto**	**0.46**	**270**	P		**Pb**		**18 03 49.9**	**-1.2**
PIRO	**Carate, Puerto**	**0.46**	**270**	S		**Sb**		**18 03 56.4**	**-1.4**
PTAR3	**Potrerillos Ar**	**0.47**	**53**	*e*P		**Pb**		**18 03 51.2**	**-0.2**
PTAR3				*e*S		**Sb**		**18 03 58.4**	**+0.1**
BC3P	**Paso Ancho**	**0.48**	**33**	*e*P		**Pb**		**18 03 51.3**	**-0.4**
BC3P				AMP				18 03 51.6	
	comp=Z,3μm,0.1s								
BC3P				*e*S		**Sb**		**18 03 59.1**	**+0.4**
CHIR3	**Chiriqui UPA,**	**0.54**	**91**	*e*P		**Pb**		**18 03 50.9**	**-1.6**
CHIR3				*e*S		**Sb**		**18 04 00.4**	**+0.4**
BQSF3	**Alto Boquete,**	**0.55**	**53**	*e*P		**Pb**		**18 03 52.1**	**-0.6**
BQSF3				AMP				18 03 52.2	
	comp=Z,1μm,0.1s								
BQSF3				*e*S		**Sb**		**18 03 59.4**	**-1.0**
LNBQ3	**Los Naranjos,**	**0.57**	**48**	*e*P		**Pb**		**18 03 53.3**	**+0.2**
LNBQ3				*e*S		**Sb**		**18 04 01.0**	**-0.1**
CHGR2	**Aguacate**	**0.89**	**54**	*e*P		**Pn**		**18 03 57.3**	**-0.6**
CHGR2				*e*S		**Sn**		**18 04 09.0**	**-1.0**
DRK0	**Durika**	**0.93**	**337**	P		**Pn**		**18 03 57.0**	**-1.6**
DRK0	**Durika**	**0.93**	**337**	S		**Sn**		**18 04 09.6**	**-1.3**
OCHAL	**Ojochal**	**1.02**	**312**	P		**Pn**		**18 03 58.5**	**-1.3**
OCHAL	**Ojochal**	**1.02**	**312**	S		**Sn**		**18 04 12.2**	**-0.9**
CNI2	**El Empalme, Bo**	**1.08**	**22**	*e*P		**Pn**		**18 04 00.7**	**+0.1**
LCR2	**La Lucha 2**	**1.73**	**320**	P		**Pn**		**18 04 09.9**	**+0.2**
LCR2	**La Lucha 2**	**1.73**	**320**	S		**Sn**		**18 04 33.1**	**+2.2**
SOCE	**Pocosol**	**2.61**	**319**	P		**Pn**		**18 04 24.4**	**+2.8**
SOCE	**Pocosol**	**2.61**	**319**	S		**Sn**		**18 04 54.9**	**+2.5**
JTS	**Las Juntas de**	**2.78**	**313**	P		**Pn**		**18 04 25.0**	**+1.1**
JTS				S		**Sn**		**18 04 56.3**	**-0.2**

IDC ***07*** *18:30:29.0±1.1, 67°.24N×21°.51E, h0km, mbtmp2.9/2, ML1.6/2, Error ellipse: s-maj=17.7km s-min=7.1km az=110.0*
UPP ***07*** *18:30:29.8±0.1, 67°.19N×20°.66E, h0km, ML2.2, Confirmed Induced event*
BER ***07*** *18:30:30.2±1.9, 66°.89N×21°.25E, h31km±70km, ML1.7, Confirmed Induced event*
HEL ***07*** *18:30:30.5±0.0, 67°.18N×20°.64E, h1km, ML1.6, ML2.2(UPP), ML1.7(BER), Confirmed Induced event*

ISC 07 18:30:28.3±0.7, 67°.21N±0°.02×20°.79E±0°.02, h0km, n41, σ0s94/59, Sweden

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

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.16**	**25**	P	**Pn**	**18 34 23.6**	**-0.2**
JAGI				S	**Sn**	**18 34 49.4**	**-0.3**
GMJI	**Gumukmas**	**2.17**	**5**	P	**Pn**	**18 34 23.5**	**-0.4**
GMJI				S	**Sn**	**18 34 47.4**	**-2.5**
DNP	**Denpasar**	**2.62**	**48**	P	**Pn**	**18 34 30.7**	**+0.5**
DNP				S	**Sn**	**18 35 01.8**	**+0.7**
BLJI	**Banyuglugur**	**2.71**	**8**	P	**Pn**	**18 34 32.3**	**+1.0**
ABJI	**Asem Bagus**	**2.81**	**21**	P	**Pn**	**18 34 33.8**	**+1.0**
PCJI	**Pacitan**	**3.02**	**318**	P	**Pn**	**18 34 36.3**	**+0.6**
SRBI	**Singaraja**	**3.05**	**40**	P	**Pn**	**18 34 37.0**	**+0.9**
KMMI	**Kalianget**	**3.45**	**12**	P	**Pn**	**18 34 42.7**	**+1.1**
WOJI	**Wonogiri, Jawa**	**3.46**	**318**	P	**Pn**	**18 34 42.2**	**+0.6**
UGM	**Wanagama**	**3.68**	**313**	P	**Pn**	**18 34 45.7**	**+1.0**
UGM				S	**Sn**	**18 35 26.4**	**-0.8**
TWSI	**Taliwang, Sumb**	**3.97**	**65**	P	**Pn**	**18 34 49.7**	**+0.9**
PLAI	**Plampang**	**4.75**	**71**	P	**Pn**	**18 35 00.0**	**+0.5**
LEM	**Lembang**	**6.62**	**302**	LR	LR	18 37 47.4	
	comp=Z,19nm,19.9s,baz=174,slow=37						
CNJI	**Cibinong**	**6.79**	**297**	P	**Pn**	**18 35 27.7**	**+0.2**
	25nm,1.2s						
CGJI	**Cibinong**	**8.38**	**296**	P	**Pn**	**18 35 49.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**14.22**	**124**	Pn	**Pn**	**18 37 07.2**	**-2.1**
	0.1nm,0.3s,baz=298,slow=12,SNR=1.3						
FITZ				Sn	Sn	18 39 32.4	-14
	0.1nm,0.3s,baz=292,slow=19,SNR=1.8						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**22.42**	**117**	P	**P**	**18 38 47.5**	**+1.1**
	0.3nm,0.5s,baz=288,slow=12,SNR=2.4						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**23.69**	**126**	P	**P**	**18 39 00.3**	**+1.0**
	0.3nm,0.6s,baz=302,slow=9.3,SNR=7.4						
	0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**32.00**	**334**	P	**P**	**18 40 14.5**	**+0.7**
	0.3nm,0.4s,baz=144,slow=9.1,SNR=1.8						
	0.3nm,0.4s						

*NOU **07** 18:35:40.8,24˚.25S×179˚.53W,h527km,mb4.3/35,South of Fiji Islands*
*IDC **07** 18:35:40.7±1.9,24˚.29S×179˚.96W,h488km±18km, mb3.5/16,mbtmp4.3/17,Error ellipse: s-maj=18.7km s-min=13.7km az=66.0*
*NEIC **07** 18:35:42.5±1.8,24˚.31S±0˚.09×179˚.9W±0˚.1,h510km±10km, mb4.5/39,Error ellipse: s-maj=20.2km s-min=11.4km az=111.0*

ISC 07 18:35:41.7±0.4,**24˚35S**±0˚.06×**179˚88W**±0˚.07,**h505**km, **n141**,σ1♀**45**/146,**mb4.4**/34,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.18**	**161**	S	**S**	**18 38 24.0**	**+0.9**
GLKZ	**Green Lake**	**5.20**	**161**	P	**P**	**18 37 12.0**	**+1.4**
GLKZ				S	**S**	**18 38 19.0**	**-4.4**
MSVF	**Nonsavu**	**6.86**	**343**	P	**P**	**18 37 26.3**	**-0.6**
MSVF	**Nonsavu**	**6.86**	**343**	P	**P**	**18 37 26.0**	**-0.9**
TAVE	**Taveuni**	**7.60**	**360**	P	**P**	**18 37 32.5**	**-1.8**
DGTI	**Dogotuki**	**8.01**	**357**	P	**P**	**18 37 38.6**	**+0.1**
NIUE	**Niue**	**10.63**	**62**	P	**P**	**18 38 08.2**	**+2.3**
PINNC	**Pines Island,**	**11.76**	**276**	P	**P**	**18 38 19.2**	**+1.5**
PINNC	**Pines Island,**	**11.76**	**276**	P	**P**	**18 38 19.9**	**+2.1**
OUZ	**Omahuta**	**12.22**	**206**	P	**P**	**18 38 24.8**	**+2.3**
OUZ	**Omahuta**	**12.22**	**206**	P	**P**	**18 38 24.6**	**+2.1**
WCZ	**Waipu Caves**	**12.59**	**202**	P	**P**	**18 38 28.1**	**+1.8**
ONTNC	**Ouen Toro**	**12.72**	**276**	P	**P**	**18 38 31.8**	**+3.8**
DZM	**Mont Dzumac**	**12.78**	**277**	P	**P**	**18 38 29.6**	**+0.9**
DZM	**Mont Dzumac**	**12.78**	**277**	P	**P**	**18 38 28.2**	**-0.5**
	8.6nm,0.6s,baz=81,slow=18,SNR=12						
DZM	**Mont Dzumac**	**12.78**	**277**	P	**P**	**18 38 30.6**	**+1.9**
AFI	**Afiamalu**	**12.89**	**38**	P	**P**	**18 38 26.7**	**-3.3**
PUZ	**Puketiti**	**13.78**	**186**	P	**P**	**18 38 40.4**	**+1.6**
PUZ				S	**S**	**18 41 02.2**	**-2.7**
URZ	**Urewera**	**14.11**	**190**	P	**P**	**18 38 41.9**	**-0.4**
BKZ	**Black Stump Fm**	**15.09**	**191**	P	**P**	**18 38 50.0**	**-2.7**
BKZ				IAmb	IAmb	18 39 17.3	
	comp=Z,27nm,1.4s						
BKZ	**Black Stump Fm**	**15.09**	**191**	P	**P**	**18 38 53.2**	**+0.5**
TMVZ	**Te Maari**	**15.20**	**193**	P	**P**	**18 38 54.1**	**+0.3**
ETVZ	**East Tongariro**	**15.21**	**193**	P	**P**	**18 38 54.3**	**+0.2**
OTVZ	**Oturere**	**15.25**	**193**	P	**P**	**18 38 53.4**	**-1.1**
SNVZ	**South Ngauruho**	**15.28**	**193**	P	**P**	**18 38 54.5**	**-0.2**
KWHZ	**Kaweka Forest**	**15.36**	**191**	P	**P**	**18 38 57.1**	**+1.6**
KWHZ				S	**S**	**18 41 34.8**	**-0.5**
WHVZ	**Whangaehu Hut**	**15.38**	**193**	P	**P**	**18 38 54.4**	**-1.5**
WNVZ	**Wahianoa**	**15.42**	**193**	P	**P**	**18 38 54.0**	**-2.3**
MOVZ	**Moawhango**	**15.46**	**193**	P	**P**	**18 38 57.8**	**+1.2**
NEZ	**North Egmont**	**15.73**	**197**	P	**P**	**18 39 03.3**	**+3.9**
DVHZ	**Dannevirke**	**16.25**	**191**	P	**P**	**18 39 03.3**	**-1.4**
BFZ	**Birch Farm**	**16.61**	**190**	P	**P**	**18 39 08.7**	**+0.3**
BFZ	**Birch Farm**	**16.61**	**190**	P	**P**	**18 39 06.9**	**-1.5**
MRZ	**Mangatainoka R**	**16.71**	**192**	P	**P**	**18 39 06.5**	**-2.9**
OGWZ	**Otaki Gorge**	**16.94**	**193**	P	**P**	**18 39 06.6**	**-5.1**
HOWZ	**Holdsworth Sta**	**16.95**	**192**	P	**P**	**18 39 10.2**	**-1.7**
MTW	**Mount Morrison**	**17.21**	**192**	P	**P**	**18 39 08.9**	**-5.5**
DUWZ	**D'Urville Isla**	**17.21**	**196**	P	**P**	**18 39 13.4**	**-1.0**
CAW	**Cannon Point**	**17.24**	**193**	P	**P**	**18 39 13.0**	**-1.7**
PAWZ	**Paruwai Farm**	**17.44**	**192**	P	**P**	**18 39 15.8**	**-0.8**
SNZO	**South Karori**	**17.51**	**194**	P	**P**	**18 39 16.0**	**-1.2**
TCW	**Tory Channel**	**17.51**	**195**	P	**P**	**18 39 14.6**	**-2.6**
QRZ	**Quartz Range**	**17.62**	**199**	P	**P**	**18 39 17.5**	**-0.7**
QRZ	**Quartz Range**	**17.62**	**199**	P	**P**	**18 39 17.3**	**-0.9**
TKNZ	**Takaka Hill**	**17.69**	**198**	P	**P**	**18 39 18.0**	**-0.8**
NNZ	**Nelson**	**17.74**	**197**	P	**P**	**18 39 18.0**	**-1.3**
TUWZ	**Tuamarina**	**17.80**	**195**	P	**P**	**18 39 18.3**	**-1.6**
MRNZ	**Matariki Terra**	**18.08**	**198**	P	**P**	**18 39 21.7**	**-0.8**
THZ	**Tophouse**	**18.38**	**197**	P	**P**	**18 39 24.2**	**-1.0**
KHZ	**Kahutara**	**18.83**	**195**	P	**P**	**18 39 28.1**	**-1.1**
GVZ	**Greta Valley S**	**19.47**	**196**	P	**P**	**18 39 33.3**	**-1.8**
LTZ	**Lake Taylor**	**19.50**	**198**	P	**P**	**18 39 33.3**	**-2.1**
OXZ	**Oxford**	**20.07**	**197**	P	**P**	**18 39 38.4**	**-2.1**
RPZ	**Rata Peaks**	**20.71**	**199**	P	**P**	**18 39 44.8**	**-1.6**
	comp=Z,12nm,0.5s,baz=53,slow=2.1,SNR=11						
	comp=Z,12nm,0.5s						
RPZ	**Rata Peaks**	**20.71**	**199**	P	**P**	**18 39 45.8**	**-0.5**
WHZ	**Wether Hill Ro**	**23.64**	**202**	P	**P**	**18 40 11.2**	**-1.5**
ARMA	**Armidale**	**25.97**	**250**	P	**P**	**18 40 34.2**	**+0.4**
ARMA				IAmb	IAmb	18 40 35.5	
	comp=Z,22nm,1.3s						
EIDS	**Eidsvold**	**26.35**	**262**	P	**P**	**18 40 37.1**	**+0.2**
EIDS				IAmb	IAmb	18 40 38.2	
	comp=Z,8.7nm,0.6s						
CNB	**Canberra Magne**	**28.73**	**240**	P	**P**	**18 40 59.1**	**+1.3**
CAN	**Canberra**	**29.02**	**241**		**P**	**18 41 00.5**	**+0.2**
CAN	**Canberra**	**29.02**	**241**	P	**P**	**18 41 01.5**	**+1.2**
CMSA	**Cobar Meteorol**	**31.16**	**249**	P	**P**	**18 41 19.1**	**+0.3**
CTAO	**Charters Tower**	**31.59**	**271**		**P**	**18 41 23.0**	**+0.3**
CTAO	**Charters Tower**	**31.59**	**271**	P	**P**	**18 41 23.4**	**+0.7**
TOO	**Toolangi**	**32.30**	**238**	P	**P**	**18 41 29.2**	**+0.6**
TAU	**Tasmania Unive**	**32.72**	**227**	P	**P**	**18 41 32.4**	**+0.5**
TAU	**Tasmania Unive**	**32.72**	**227**	P	**P**	**18 41 32.6**	**+0.7**
PMG	**Port Moresby**	**34.75**	**290**	P	**P**	**18 41 49.2**	**-0.2**
PMG				IAmb	IAmb	18 41 50.0	
	comp=Z,15nm,0.7s						
INKA	**Innaminka**	**35.44**	**256**		**P**	**18 41 55.5**	**+0.5**
MGBR	**Mount Gambier**	**36.15**	**239**	P	**P**	**18 42 01.1**	**+0.3**
COEN	**Coen**	**36.30**	**280**		**P**	**18 42 02.5**	**+0.1**
COEN				IAmb	IAmb	18 42 03.7	
	comp=Z,21nm,1.4s						
HTT	**Hallett**	**36.99**	**246**	P	**P**	**18 42 08.0**	**0.0**
BBOO	**Buckleboo**	**39.38**	**247**	P	**P**	**18 42 26.8**	**-0.6**
BBOO	**Buckleboo**	**39.38**	**247**	P	**P**	**18 42 26.7**	**-0.6**
AS01	**Alice Springs**	**42.03**	**261**	P	**P**	**18 42 48.6**	**-0.1**
AS31	**Alice Springs**	**42.07**	**261**	P	**P**	**18 42 48.5**	**-0.5**
ASAR	**Alice Springs**	**42.08**	**261**	P	**P**	**18 42 48.1**	**-1.0**
ASAR	**Alice Springs**	**42.08**	**261**	P	**P**	**18 42 48.8**	**-0.3**
	comp=Z,4.5nm,0.4s,baz=93,slow=6.6,SNR=136						
	comp=Z,4.5nm,0.4s						
WR8	**Warramunga Arr**	**42.34**	**267**	P	**P**	**18 42 50.1**	**-1.1**
WR8				IAmb	IAmb	18 42 50.7	
	comp=Z,10nm,0.5s						
WB0	**Warramunga Arr**	**42.48**	**267**	P	**P**	**18 42 51.1**	**-1.2**
WRA	**Warramunga Arr**	**42.49**	**267**	P	**P**	**18 42 51.3**	**-1.1**
	comp=Z,15nm,0.5s,baz=103,slow=8.1,SNR=78						
	comp=Z,15nm,0.5s						
KDU	**Kakadu**	**46.44**	**276**	P	**P**	**18 43 22.0**	**-0.9**
MTN	**Manton Dam**	**47.60**	**275**		**P**	**18 43 30.5**	**-1.1**
MTN				IAmb	IAmb	18 44 03.1	
	comp=Z,19nm,1.4s						
MTN	**Manton Dam**	**47.60**	**275**	P	**P**	**18 43 30.9**	**-0.8**
DRS	**Darwin Rock St**	**47.96**	**275**	P	**P**	**18 43 33.6**	**-0.8**
KNRA	**Kununurra**	**48.80**	**270**		**P**	**18 43 40.4**	**-0.2**
KNRA				IAmb	IAmb	18 43 41.1	
	comp=Z,22nm,0.9s						
FAKI	**Fak Fak**	**50.82**	**287**	P	**P**	**18 43 54.8**	**-0.7**
FAKI	**Fak Fak**	**50.82**	**287**	P	**P**	**18 43 54.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**50.91**	**266**		**P**	**18 43 55.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**50.91**	**266**	P	**P**	**18 43 55.9**	**-0.2**
	comp=Z,15nm,0.6s,baz=120,slow=5.7,SNR=62						
	comp=Z,15nm,0.6s						
VNDA	**Vanda**	**53.95**	**185**	P	**P**	**18 44 18.3**	**+1.3**
VNDA	**Vanda**	**53.95**	**185**	P	**P**	**18 44 18.4**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=44,slow=7.7,SNR=2.7						
	comp=Z,0.3nm,0.6s						
KLBR	**Kellerberrin**	**54.92**	**247**	P	**P**	**18 44 23.6**	**-1.0**
MEEK	**Meekatharra**	**55.09**	**254**	P	**P**	**18 44 24.8**	**-1.2**
NWAO	**Narrogin (SRO)**	**55.16**	**246**	P	**P**	**18 44 25.1**	**-1.2**
NWAO				IAmb	IAmb	18 44 57.6	
	comp=Z,40nm,1.5s						
PSA00	**Pilbara Seismi**	**55.20**	**260**	P	**P**	**18 44 25.6**	**-1.1**
PSA00	**Pilbara Seismi**	**55.20**	**260**	P	**P**	**18 44 25.8**	**-0.9**
PSA00				IAmb	IAmb	18 44 32.3	
	comp=Z,3.4nm,1.1s						
PSA00	**Pilbara Seismi**	**55.20**	**260**	P	**P**	**18 44 25.6**	**-1.1**
BATI	**Baumata**	**55.37**	**274**	P	**P**	**18 44 28.9**	**+0.8**
	comp=Z,14nm,0.5s,baz=135,slow=7.1,SNR=2.7						
	comp=Z,14nm,0.5s						
MBWA	**Marble Bar**	**55.41**	**260**	P	**P**	**18 44 27.1**	**-1.1**
MBWA				IAmb	IAmb	18 44 28.2	
	comp=Z,17nm,1.1s						
MBWA	**Marble Bar**	**55.41**	**260**	P	**P**	**18 44 27.4**	**-0.8**
BLDU	**Ballidu**	**55.97**	**248**	P	**P**	**18 44 31.2**	**-0.8**
MUN	**Mundaring**	**56.16**	**247**	P	**P**	**18 44 33.0**	**-0.3**
MORW	**Morawa**	**56.83**	**250**	P	**P**	**18 44 37.0**	**-0.9**
MORW				IAmb	IAmb	18 44 37.7	
	comp=Z,8.4nm,0.6s						
MORW	**Morawa**	**56.83**	**250**	P	**P**	**18 44 37.4**	**-0.5**
MMRI	**Maumere**	**57.27**	**275**	P	**P**	**18 44 39.7**	**-1.5**
MMRI				IAmb	IAmb	18 44 58.9	
	comp=Z,21nm,1.1s						
CASY	**Casey**	**59.76**	**206**	P	**P**	**18 44 56.5**	**-0.6**
CASY				IAmb	IAmb	18 45 17.2	
	comp=Z,7.7nm,0.7s						
GIRL	**Giralia**	**59.92**	**257**	P	**P**	**18 44 60.0**	**+1.0**
LUWI	**Luwuk**	**60.04**	**284**	P	**P**	**18 45 00.3**	**+0.4**
LUWI				IAmb	IAmb	18 45 24.0	
	comp=Z,27nm,0.8s						
PLAI	**Plampang**	**61.26**	**273**	P	**P**	**18 45 07.5**	**-0.4**
TOLI2	**Tolitoli**	**62.80**	**285**		**P**	**18 45 16.0**	**-1.9**
TOLI2				IAmb	IAmb	18 45 17.5	
	comp=Z,8.4nm,1.0s						
TOLI2	**Tolitoli**	**62.80**	**285**	P	**P**	**18 45 17.2**	**-0.7**
QSPA	**South Pole Qui**	**65.74**	**180**	P	**P**	**18 45 38.4**	**+2.5**
	comp=Z,0.8nm,0.7s,baz=46,slow=4.4,SNR=7.2						
	comp=Z,0.8nm,0.7s						
KKM	**Kota Kinabalu**	**69.14**	**287**	P	**P**	**18 45 57.0**	**-0.6**
KKM				IAmb	IAmb	18 46 22.8	
	comp=Z,18nm,1.0s						
KKM	**Kota Kinabalu**	**69.14**	**287**	P	**P**	**18 45 57.7**	**+0.1**
JOW	**Kunigami**	**71.37**	**312**	P	**P**	**18 46 10.8**	**+0.3**
KSM	**Kuching**	**72.29**	**280**	P	**P**	**18 46 15.7**	**-0.5**
KSM				IAmb	IAmb	18 46 16.7	
	comp=Z,11nm,0.7s						
MJAR	**Matsushiro Arr**	**72.33**	**326**	P	**P**	**18 46 15.4**	**-0.4**
MJAR	**Matsushiro Arr**	**72.33**	**326**	P	**P**	**18 46 15.3**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=157,slow=5.7,SNR=7.7						
	comp=Z,1.7nm,0.8s						
YULB	**Yu-li**	**74.22**	**305**	P	**P**	**18 46 25.3**	**-1.7**
YULB				IAmb	IAmb	18 46 38.2	
	comp=Z,17nm,1.3s						
MAW	**Mawson**	**77.37**	**200**	P	**P**	**18 46 44.4**	**+0.7**
	comp=Z,2.9nm,0.5s,baz=112,slow=5.4,SNR=4.1						
	comp=Z,2.9nm,0.5s						
KSRS	**Korea Array**	**78.66**	**320**	P	**P**	**18 46 51.8**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=130,slow=5.6,SNR=5.4						
	comp=Z,1.1nm,0.6s						
PETK	**Petropavlovsk-**	**79.56**	**346**	P	**P**	**18 46 55.5**	**0.0**
	comp=Z,1.7nm,0.7s,baz=116,slow=7.4,SNR=4.8						
	comp=Z,1.7nm,0.7s						
NJ2	**Nanjing**	**81.03**	**311**	*eP*	**P**	**18 47 04.7**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
USRK	**Ussuriysk Ar.**	**81.20**	**327**	P	**P**	**18 47 05.0**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=164,slow=6.8,SNR=6.7						
	comp=Z,1.0nm,0.5s						
SNAA	**Sanae**	**84.22**	**179**	P	**P**	**18 47 19.4**	**+0.2**
	comp=Z,1.1nm,1.1s,baz=245,slow=6.2,SNR=6.3						
	comp=Z,1.1nm,1.1s						
PLCA	**Paso Flores**	**87.88**	**134**	P	**P**	**18 47 38.2**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=231,slow=5.1,SNR=3.3						
	comp=Z,0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.78**	**290**	P	**P**	**18 47 45.9**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=152,slow=2.8,SNR=8.7						
	comp=Z,0.6nm,0.3s						
TXAR	**Lajitas Array**	**90.57**	**58**	P	**P**	**18 47 51.4**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=212,slow=6.2,SNR=13						
	comp=Z,1.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**90.81**	**315**	*eP*	**P**	**18 47 51.8**	**+0.9**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,38nm,5.1s						
PZH	**PanZhiHua**	**90.99**	**299**	P	**P**	**18 47 52.4**	**+0.3**
KURBB	**Kurchatov Arra**	**115.64**	**316**	PKP	**PKPdf**	**18 53 24.9**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=107,slow=2.0,SNR=6.0						
BVAR	**Borovoye Array**	**120.85**	**319**	PKP	**PKiKP**	**18 53 35.2**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=118,slow=1.0,SNR=6.6						
ARCES	**ARCESS Array B**	**132.34**	**348**	PKP	**PKPdf**	**18 53 56.9**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=61,slow=2.7,SNR=7.4						
ARCES				SKPbc	**SKPab**	**18 56 38.1**	**-0.4**
	comp=Z,3.9nm,1.0s,baz=20,slow=4.0,SNR=5.7						
FINES	**FINESS Array B**	**138.90**	**341**	PKhKP	PKPpre	18 54 01.4	
	comp=Z,3.5nm,1.0s,baz=62,slow=4.9,SNR=6.0						
FINES				PKP	**PKiKP**	**18 54 10.6**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=101,slow=2.7,SNR=7.8						
FINES				SKPbc	**SKPbc**	**18 56 57.6**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=45,slow=3.1,SNR=16						
HFS	**Hagfors**	**143.00**	**349**	PKhKP	PKPpre	18 54 13.9	
	comp=Z,3.3nm,0.4s,baz=64,slow=3.4,SNR=39						
AKASG	**Malin Array B**	**145.40**	**327**	PKPbc	**PKPbc**	**18 54 21.8**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=47,slow=4.1,SNR=12						
BRTR	**Keskin Array B**	**147.93**	**307**	PKPbc	**PKPbc**	**18 54 29.7**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=148,slow=5.0,SNR=9.4						
MMAI	**Mount Meron Ar**	**147.98**	**294**	PKPbc	**PKiKP**	**18 54 31.4**	**-0.4**
	comp=Z,4.1nm,0.4s,baz=80,slow=6.0,SNR=24						
EKA	**Eskdalemuir Ar**	**148.95**	**4**	PKPbc	**PKPbc**	**18 54 31.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=336,slow=2.8,SNR=4.3						
GERES	**GERESS Array B**	**153.31**	**340**	PKPbc	**PKiKP**	**18 54 42.1**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=333,slow=1.1,SNR=2.0						
GERES				PKPab	**PKPab**	**18 54 56.5**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=304,slow=7.0,SNR=2.1						

*IDC **07** 18:49:55.5±0.7,13˚.26S×21˚.51E,h0km,mb3.9/16, mbtmp4.0/21,ML2.9/2,MS3.7/6,Error ellipse: s-maj=17.9km s-min=14.4km az=70.0*
*NEIC **07** 18:49:56.7±1.3,13˚.15S±0˚.07×21˚.50E±0˚.07,h10km±1km, mb4.6/29,Error ellipse: s-maj=15.6km s-min=6.5km az=222.0*

ISC 07 18:49:56.0±0.4,**13˚34S**±0˚.05×**21˚54E**±0˚.06,**h10**km,**n117**, σ2♀**34**/98,**mb4.5**/37,**MS3.7**/3,**12C-10D**,**Angola**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSANE	**Kasane**	**5.65**	**142**	*i* P	**Pn**	**18 51 23.8**	**+3.7**
KSANE				*i* S	**Sn**	**18 52 26.0**	**+0.9**
KSANE				IAML		18 53 03.6	
	comp=E,999nm,0.8s						
GMARE	**Gumare**	**6.05**	**174**	*i* P	Pn	18 51 31.2	+5.6
GMARE				*i* S	**Sn**	**18 52 35.0**	**0.0**
GMARE				IAML		18 53 36.3	
	comp=E,6μm,0.8s						
LSZ	**Lusaka**	**6.73**	**107**		**Pn**	**18 51 36.7**	**+1.7**
LSZ				Sn	**Sn**	**18 52 49.3**	**-2.5**
LSZ	**Lusaka**	**6.73**	**107**	Pn	**Pn**	**18 51 37.0**	**+2.0**
	comp=E,17nm,0.3s,baz=290,slow=12,SNR=28						
LSZ				Sn	**Sn**	**18 52 49.8**	**-2.1**
	comp=E,22nm,0.3s,baz=23,slow=21,SNR=5.8						
LSZ				Lg	Lg	18 53 30.5	
	comp=E,44nm,0.3s,baz=26,slow=22,SNR=10						
TSUM	**Tsumeb**	**6.96**	**213**		**Pn**	**18 51 40.1**	**+2.0**
TSUM				Sn	**Sn**	**18 52 54.6**	**-2.9**
TSUM	**Tsumeb**	**6.96**	**213**	Pn	**Pn**	**18 51 40.3**	**+2.1**
	comp=E,5.4nm,0.3s,baz=21,slow=12,SNR=41						
TSUM				Sn	**Sn**	**18 52 55.0**	**-2.5**
	comp=E,28nm,0.3s,baz=108,slow=20,SNR=7.1						
TSUM				Lg	Lg	18 53 40.0	
	comp=E,54nm,0.3s,baz=53,slow=20,SNR=5.1						
	comp=E,12nm,0.3s						
PHDHD	**Phuduhudu**	**7.40**	**158**	*i* P	**Pn**	**18 51 47.2**	**+3.0**
PHDHD				*i* S	**Sn**	**18 53 06.1**	**-2.3**
PHDHD				IAML		18 54 03.6	
	comp=N,1μm,0.8s						
GRTLG	**Ghanzi**	**7.99**	**182**	*i* P	**Pn**	**18 51 55.6**	**+3.3**
GRTLG				*i* S	**Sn**	**18 53 19.9**	**-2.9**
GRTLG				IAML		18 54 25.7	
	comp=E,414nm,0.8s						
SOOWA	**Sowa**	**8.47**	**149**	*i* P	**Pn**	**18 52 01.5**	**+2.7**
SOOWA				IAML		18 54 51.8	
	comp=N,765nm,0.7s						
KHWEE	**KHWEE**	**9.34**	**157**	*i* P	**Pn**	**18 52 13.7**	**+2.9**
KHWEE				*i* S	**Sn**	**18 53 51.6**	**-4.4**
KHWEE				IAML		18 55 02.9	
	comp=N,400nm,0.5s						
KGCAE	**Kacgae**	**9.49**	**176**	*i* P	**Pn**	**18 52 16.4**	**+3.5**
KGCAE				*i* S	**Sn**	**18 53 54.5**	**-5.2**
KGCAE				IAML		18 55 15.6	
	comp=N,491nm,1.0s						
BROLN	**Tlhalogang**	**9.50**	**145**	*i* P	**Pn**	**18 52 15.2**	**+2.2**
BROLN				*i* S	**Sn**	**18 53 54.1**	**-5.9**
BROLN				IAML		18 55 08.5	
	comp=E,292nm,1.5s						
KOOLE	**Kule**	**9.69**	**187**	*i* P	**Pn**	**18 52 18.7**	**+3.1**
KOOLE				*i* S	**Sn**	**18 53 58.9**	**-5.7**
KOOLE				IAML		18 55 15.4	
	comp=N,384nm,1.1s						
MATP	**Matopo**	**9.70**	**138**	Pn	Pn	18 52 22.1	+6.3
	comp=N,5.5nm,0.3s,baz=313,slow=13,SNR=110						
MATP				Sn	**Sn**	**18 54 04.8**	**-0.1**
	comp=N,4.6nm,0.3s,baz=318,slow=8.9,SNR=3.8						
MATP				Lg	Lg	18 55 08.4	
	comp=N,13nm,0.3s,baz=222,slow=23,SNR=12						
KDWAN	**Kaudwane**	**10.42**	**164**	*i* P	**Pn**	**18 52 28.2**	**+2.5**
KDWAN				*i* S	**Sn**	**18 54 15.7**	**-6.8**
KDWAN				IAML		18 55 35.3	
	comp=E,244nm,1.0s						
MREMI	**Moremi**	**10.76**	**149**	*i* P	**Pn**	**18 52 32.1**	**+1.7**
MREMI				*i* S	**Sn**	**18 54 23.6**	**-7.4**
MREMI				IAML		18 55 53.4	
	comp=E,278nm,0.7s						
LPHEP	**Lephephe**	**10.78**	**158**	*i* P	**Pn**	**18 52 33.0**	**+2.4**
LPHEP				*i* S	Sn	18 54 23.1	-8.3
LPHEP				IAML		18 55 47.0	
	comp=E,118nm,0.7s						
SKOMA	**Sekoma**	**11.35**	**169**	*i* P	**Pn**	**18 52 40.0**	**+1.7**
SKOMA				*i* S	Sn	18 54 36.0	-9.3
SKOMA				IAML		18 56 08.7	
	comp=N,79nm,1.2s						
LBTB	**Lobatse**	**12.23**	**162**		**Pn**	**18 52 50.7**	**+0.3**
LBTB	**Lobatse**	**12.23**	**162**	Pn	**Pn**	**18 52 51.7**	**+1.3**
	comp=N,6.4nm,0.4s,baz=325,slow=14,SNR=28						
LBTB				Sn	**Sn**	**18 55 01.7**	**-5.3**
	comp=N,2.3nm,0.3s,baz=49,slow=20,SNR=4.3						
LBTB				Lg	Lg	18 56 28.1	
	comp=N,4.1nm,0.3s,baz=240,slow=18,SNR=4.3						
LBTB				LR	LR	18

FETA	**Feichten**	**60.86**	**352**	*i* pP		P		19 00 14.6	+5.9
	comp=Z,4.6nm,1.3s								
WTTA	**Wattenberg**	**60.97**	**352**	*i* pP		P		19 00 15.4	+5.9
	comp=Z,6.1nm,1.0s								
PSZ	**Piszkesteto**	**60.99**	**359**	P		**P**		**19 00 09.1**	**-0.5**
PSZ				IAmb		IAmb		19 00 17.1	
	comp=Z,4.3nm,0.9s								
LESA	**Schwarzleotal**	**61.00**	**353**	*i* pP		P		19 00 15.5	+5.9
	comp=Z,3.1nm,0.7s								
WATA	**Walderalm**	**61.05**	**352**	*i* pP		P		19 00 16.1	+6.1
	comp=Z,4.6nm,0.9s								
MOTA	**Moosalm**	**61.12**	**352**	*i* pP		P		19 00 16.8	+6.3
	comp=Z,3.9nm,0.8s								
BIOA	**Bad Ischl, Aus**	**61.16**	**354**	*i* pP		P		19 00 16.4	+5.8
	comp=Z,2.9nm,0.9s								
CONA	**Conrad Observa**	**61.20**	**356**	*i* pP		P		19 00 17.8	+6.9
	comp=Z,5.5nm,1.6s								
DAVA	**Damuels**	**61.24**	**351**	*i* pP		P		19 00 18.3	+7.0
	comp=Z,7.0nm,0.9s								
MOA	**Molln**	**61.25**	**354**	*i* pP		P		19 00 18.0	+6.8
	comp=Z,3.5nm,0.5s								
SORM	**Soroca**	**61.49**	**5**	⇓P		P		19 00 19.3	+6.5
GEC2	**GERESS Array S**	**62.30**	**354**	P		**P**		**19 00 17.5**	**-0.8**
GEC2				IAmb		IAmb		19 00 25.9	
	comp=Z,3.3nm,0.9s								
GERES	**GERESS Array B**	**62.30**	**354**	P		**P**		**19 00 17.1**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=166,slow=6.6,SNR=14								
	comp=Z,0.2nm,0.6s								
OJC	**Ojcow**	**63.30**	**359**	P		**P**		**19 00 23.3**	**-1.5**
KIEV	**Kiev**	**64.11**	**5**	P		P		**19 00 27.7**	**-2.5**
KIEV	**Kiev**	**64.11**	**5**	⇑P		P		19 00 36.9	+6.8
AKASG	**Malin Array Be**	**64.12**	**5**	P		**P**		**19 00 29.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=193,slow=6.4,SNR=8.5								
	comp=Z,0.2nm,0.3s								
AKBB	**Malin Array Si**	**64.12**	**5**	P		**P**		**19 00 27.8**	**-2.4**
AB31	**Akbulak array**	**70.94**	**26**	P		**P**		**19 01 12.8**	**-0.7**
ABKAR	**Akbulak array**	**70.94**	**26**	P		**P**		**19 01 13.2**	**-0.2**
EKA	**Eskdalemuir Ar**	**71.51**	**345**	P		**P**		**19 01 18.7**	**+2.0**
	comp=Z,0.6nm,0.7s,baz=147,slow=4.8,SNR=5.4								
	comp=Z,0.6nm,0.7s								
KK31	**Karatay Array**	**71.83**	**36**	P		**P**		**19 01 18.9**	**-0.1**
KK31				IAmb		IAmb		19 01 28.3	
	comp=Z,7.3nm,1.0s								
KKAR	**Karatay Array**	**71.83**	**36**	P		**P**		**19 01 18.6**	**-0.3**
FINES	**FINESS Array B**	**74.62**	**2**	P		**P**		**19 01 34.3**	**-0.7**
FINES	**FINESS Array B**	**74.62**	**2**	P		**P**		**19 01 37.4**	**+2.4**
	comp=Z,2.1nm,0.8s,baz=161,slow=7.1,SNR=5.2								
	comp=Z,2.1nm,0.8s								
BOOM	**Boomskoye usch**	**74.64**	**39**	P		**P**		**19 01 33.9**	**-2.0**
KIRV	**Kirov**	**75.20**	**15**	P		**P**		**19 01 41.0**	**+2.6**
	comp=Z,7.6nm,0.6s,baz=202,slow=11,SNR=4.0								
ARTI	**Arti**	**75.95**	**20**	P		**P**		**19 01 42.0**	**-0.8**
ARTI	**Arti**	**75.95**	**20**	P		**P**		**19 01 45.0**	**+2.2**
	comp=Z,1.3nm,0.7s,baz=211,slow=4.1,SNR=3.3								
	comp=Z,1.3nm,0.7s								
BVAR	**Borovoye Array**	**78.22**	**28**	P		**P**		**19 01 56.5**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=236,slow=2.7,SNR=8.6								
	comp=Z,0.9nm,0.8s								
KURBB	**Kurchatov Arra**	**80.73**	**33**	P		**P**		**19 02 10.4**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=242,slow=5.6,SNR=5.9								
	comp=Z,0.8nm,0.7s								
MK31	**Makanchi Array**	**80.78**	**37**	P		**P**		**19 02 09.5**	**-0.3**
MKAR	**Makanchi Array**	**80.78**	**37**	P		**P**		**19 02 09.4**	**-0.4**
MKAR	**Makanchi Array**	**80.78**	**37**	P		**P**		**19 02 10.7**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=269,slow=4.5,SNR=5.2								
	comp=Z,0.4nm,0.6s								
CMAR	**Chiang Mai Arr**	**82.57**	**69**	P		**P**		**19 02 20.8**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=266,slow=5.9,SNR=6.4								
	comp=Z,0.8nm,0.5s								
ARCES	**ARCESS Array B**	**82.71**	**1**	P		**P**		**19 02 18.9**	**-0.5**
ARCES				IAmb		IAmb		19 02 41.5	
	comp=Z,7.4nm,1.2s								
ARCES	**ARCESS Array B**	**82.71**	**1**	P		**P**		**19 02 19.7**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=187,slow=4.5,SNR=3.5								
	comp=Z,1.7nm,0.9s								
ZALV	**Zalesovo Beam**	**85.77**	**32**	P		**P**		**19 02 35.4**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=232,slow=3.6,SNR=7.6								
	comp=Z,0.3nm,0.4s								
PZH	**PanZhiHua**	**87.33**	**62**	P		**P**		**19 02 44.8**	**+1.0**
KMI	**Kunming**	**87.81**	**64**	P		**P**		**19 02 49.7**	**+3.4**
KMI				pmax		pmax			
	comp=Z,11nm,0.8s								
HHC	**Hu-ho-hao-te**	**98.61**	**50**	*e*P		**P**		**19 03 34.9**	**-0.6**
HHC				pmax		pmax			
	comp=Z,21nm,0.6s								
HHC				pmax		pmax			
	comp=Z,78nm,4.6s								
NJ2	**Nanjing**	**103.08**	**60**	*e*P		**Pdif**		**19 03 56.1**	**+0.6**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
TXAR	**Lajitas Array**	**126.99**	**297**	PKP		**PKiKP**		**19 09 02.0**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=48,slow=1.8,SNR=4.8								
ILAR	**Eielson Array**	**128.01**	**354**	PKP		**PKiKP**		**19 09 02.5**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=307,slow=2.5,SNR=5.3								
PDAR	**Pinedale Array**	**128.77**	**315**	PKP		**PKiKP**		**19 09 05.0**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=105,slow=3.6,SNR=1.7								

*IDC **07** 18:50:36.7±0.4,58°.81S×26°.31W,h135km±3km,mb5.2/18, mbtmp5.6/20,MS4.0/26,Error ellipse: s-maj=9.8km s-min=8.7km az=41.0*

*NEIC **07** 18:50:37.4±1.9,58°.95S±0°.08×26°.6W±0°.2,h143km±4km, mb5.4/133,Mww5.3/14,Error ellipse: s-maj=13.3km s-min=11.1km az=55.0*

*NEIC **07** 18:50:37.9,58°.99S×26°.72W,h120km*

*MOS **07** 18:50:37.1±1.3,58°.96S×26°.67W,h148km,mb5.7/8,Error ellipse: s-maj=23.0km s-min=10.7km az=105.4*

*NEIC **07** 18:50:37.9,58°.79S×26°.14W,h120km,Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^17^Nm; Mrr=0.41; Mθθ0.49; Mφφ-0.08; Mrθ0.51; Mθφ-0.75; Mφr0.35; Fault plane solution: M0 1.07000×10^17^ NP1: φs161.75000°,δ54.07000°,λ-24.79000°. NP2: φs266.91000°,δ70.15000°,λ-141.40000°. Principal axes: T 1.0411, Plg10.0000°, Azm31.0000°; N 0.0499, Plg47.0000°, Azm290.0000°; P -1.0911, Plg41.0000°, Azm130.0000°;*

*GCMT **07** 18:50:38.3±0.1,59°.17S±0°.01×25°.92W±0°.02,h128km, MW5.3/159,Moment Tensor Solution. s122,c191; s159,c277; Duration: 1s1 Moment tensor: Scale 10^17^ Nm; Mrr-0.34±.01; Mθθ0.22±.02; Mφφ0.11±.02; Mrθ0.97±.01; Mθφ-0.69±.02; Mφr0.10±.01; Best double couple: M0 1.23000×10^17^ NP1:φs170.00000°,δ36.00000°, λ-17.00000°. NP2:φs274.00000°,δ80.00000°, λ-124.00000°. Principal axes: T 1.2010, Plg27.0000°, Azm30.0000°; N 0.0570, Plg34.0000°, Azm280.0000°; P -1.2580, Plg44.0000°, Azm150.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 18:50:36.0±0.3,58°.98S±0°.04×26°.47W±0°.04,h136km±2km, h135km:pP-P,n613,σ1°.49/659,mb5.4/126,8C-11D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.26**	**306**			**Pn**	**18 52 17.3**	**-2.0**
HOPE	**Hope Point**	**7.26**	**306**	P		**Pn**	**18 52 17.3**	**-2.0**
VNA1	**Neumayer--Stat**	**13.95**	**154**	⇓P		**Pn**	**18 53 46.8**	**-0.6**
	comp=Z,575nm,0.9s							
VNA1				⇑S		Sn	18 56 11.3	-10
VNA1				⇑ScP		**ScP**	**19 02 19.9**	**+1.7**
VNA3	**Neumayer Olymp**	**14.11**	**157**	⇓P		**Pn**	**18 53 48.4**	**-1.1**
	comp=Z,708nm,0.7s							
VNA3				⇑S		Sn	18 56 13.2	-12
VNA3				⇓ScP		**ScP**	**19 02 19.4**	**+0.8**
VNA2	**Neumayer--Watz**	**14.35**	**154**	⇓P		**Pn**	**18 53 51.0**	**-1.5**
	comp=Z,696nm,0.7s,baz=312,slow=13							
VNA2				⇓S		Sn	18 56 19.1	-12
	baz=209,slow=3.5							
VNA2				⇑ScP		**ScP**	**19 02 20.0**	**+1.0**
	baz=330,slow=4.6							
ESPZ	**Base Esperanza**	**15.27**	**240**			**Pn**	**18 54 03.0**	**-1.0**
SNAA	**Sanae**	**15.92**	**152**	⇓P		**Pn**	**18 54 12.5**	**+0.3**
	comp=Z,11μm,0.7s							
SNAA				⇓S		**Sn**	**18 57 00.6**	**-8.3**
SNAA				⇓ScP		**ScP**	**19 02 23.1**	**+1.2**
SNAA	**Sanae**	**15.92**	**152**			**Pn**	**18 54 12.0**	**-0.2**
SNAA	**Sanae**	**15.92**	**152**	P		**P**	**18 54 12.9**	**-0.1**
	comp=Z,538nm,0.8s,baz=318,slow=10,SNR=816							
SNAA				S		Sn	18 56 56.4	-13
	comp=Z,59nm,0.7s,baz=332,slow=18,SNR=6.9							
SNAA				LR		LR	18 59 19.2	
	comp=Z,255nm,19.8s,baz=318,slow=33							
SNAA				ScP		**ScP**	**19 02 23.1**	**+1.2**
	comp=Z,16nm,0.8s,baz=280,slow=5.8,SNR=14							
SNAA	**Sanae**	**15.92**	**152**	*i* P		**Pn**	**18 54 12.6**	**+0.4**
SNAA				pmax		pmax		
	comp=Z,593nm,0.9s							
TROLL	**Troll, Antarti**	**17.47**	**150**	⇓P		**Pn**	**18 54 30.9**	**-0.1**
	comp=Z,11μm,0.6s							
TROLL				⇑S		**S**	**18 57 39.4**	**-5.4**
TROLL				⇓ScP		**ScP**	**19 02 26.4**	**+1.2**
PMSA	**Palmer Station**	**18.41**	**236**	P		**P**	**18 54 40.5**	**+0.1**
PMSA	**Palmer Station**	**18.41**	**236**	P		**Pn**	**18 54 43.5**	**+1.5**
	comp=Z,93nm,0.7s,baz=77,slow=6.9,SNR=35							
PMSA				S		**Sn**	**18 58 09.8**	**+1.4**
	comp=Z,5.3nm,0.6s,baz=33,slow=17,SNR=1.1							
PMSA				ScP		**ScP**	**19 02 27.6**	**+0.6**
	comp=Z,46nm,1.0s,baz=65,slow=2.4,SNR=8.3							
PMSA	**Palmer Station**	**18.41**	**236**	*e*P		**P**	**18 54 40.7**	**+0.4**
BELA	**Belgrano 2**	**19.18**	**185**			**P**	**18 54 49.1**	**+0.5**
EFI	**East Falkland**	**19.26**	**278**			**P**	**18 54 49.8**	**+0.1**
EFI	**East Falkland**	**19.26**	**278**	P		**P**	**18 54 49.8**	**+0.1**
NVL	**N'lazarevskaya**	**19.64**	**142**	*e*P		**P**	**18 54 52.1**	**-1.5**
NVL				pmax		pmax		
	comp=Z,69nm,0.9s							
MG01	**Puerto William**	**22.54**	**262**	P		**P**	**18 55 23.5**	**-0.8**
MG01				IAmb		IAmb	18 55 38.0	
	comp=Z,106nm,0.7s							
MG02	**Cerro Sombrero**	**24.42**	**266**	P		**P**	**18 55 41.5**	**-0.1**
MG02				pP		**pP**	**18 56 09.7**	**+1.0**
MG03	**Isla Dawson**	**24.51**	**263**			**P**	**18 55 41.6**	**-0.8**
GO10	**Punta Arenas**	**25.17**	**264**	P		**P**	**18 55 48.0**	**-0.4**
GO10				IAmb		IAmb	18 55 52.7	
	comp=Z,107nm,0.8s							
MG04	**Isla Riesco**	**25.59**	**264**	P		**P**	**18 55 51.8**	**-0.3**
MG04				IAmb		IAmb	18 56 06.5	
	comp=Z,276nm,1.9s							
MG05	**Puerto Natales**	**26.72**	**265**	P		**P**	**18 56 02.0**	**-0.3**
MG05				IAmb		IAmb	18 56 02.9	
	comp=Z,88nm,0.6s							
GO09	**Cerro Castillo**	**26.86**	**266**	P		**P**	**18 56 03.2**	**-0.4**
GO09				pP		**pP**	**18 56 31.3**	**-0.1**
SYO	**Syowa Base**	**29.11**	**137**	⇑*i*P		**P**	**18 56 23.4**	**+0.1**
AY03	**Cochrane**	**29.45**	**273**	P		**P**	**18 56 26.2**	**-0.4**
COYC	**Coyhaique**	**30.31**	**276**	P		**P**	**18 56 34.8**	**+0.6**
TRQA	**Tornquist**	**30.92**	**297**			**P**	**18 56 41.0**	**+1.3**
TRQA				IAmb		IAmb	18 56 42.3	
	comp=Z,75nm,0.9s							
TRQA				pP		**pP**	**18 57 09.5**	**+1.7**
TRQA	**Tornquist**	**30.92**	**297**	P		**P**	**18 56 41.0**	**+1.3**
TRQA				*PP		**pP**	**18 57 09.5**	**+1.7**
TRQA				pmax		pmax		
	comp=Z,75nm,0.9s							
QSPA	**South Pole Qui**	**31.26**	**180**	P		**P**	**18 56 45.8**	**+3.2**
QSPA	**South Pole Qui**	**31.26**	**180**	P		**P**	**18 56 46.0**	**+3.4**
	comp=Z,215nm,0.5s,baz=205,slow=2.2,SNR=2402							
QSPA				PcP		**PcP**	**18 59 35.8**	**+2.5**
	comp=Z,16nm,0.6s,baz=0.0,slow=1.0,SNR=2.4							
QSPA				ScP		**ScP**	**19 03 04.3**	**+1.1**
	comp=Z,22nm,0.8s,baz=210,slow=2.4,SNR=11							
QSPA				LR		LR	19 08 29.0	
	comp=Z,351nm,20.3s,baz=190,slow=34							
QSPA				P3KPbc			19 28 23.5	
	comp=Z,1.4nm,0.8s,baz=321,slow=1.6,SNR=3.6							
	comp=Z,215nm,0.5s							
QSPA	**South Pole Qui**	**31.26**	**180**	P		**P**	**18 56 46.2**	**+3.6**
QSPA				ScP		**ScP**	**19 03 05.4**	**+2.1**
LL02	**Futaleuf**	**31.85**	**279**			**P**	**18 56 48.5**	**+0.7**
LL02						**S**	**19 01 46.5**	**-1.6**
LL02						**ScP**	**19 03 02.6**	**-2.9**
LL01	**San Ignacio de**	**32.72**	**280**	P		**P**	**18 56 55.4**	**0.0**
PLTB	**Pedras Altas**	**32.79**	**314**			**P**	**18 56 55.9**	**-0.2**
PLTB						**pwP**	**18 57 27.1**	**-1.6**
PLTB				IAmb		IAmb	18 57 29.6	
	comp=Z,60nm,1.1s							
PLTB	**Pedras Altas**	**32.79**	**314**	*e*P		**P**	**18 56 56.0**	**0.0**
GO07	**Milladeo Hill,**	**32.84**	**278**	P		**P**	**18 56 54.9**	**-1.4**
GO07				IAmb		IAmb	18 56 58.3	
	comp=Z,40nm,0.5s							
PLCA	**Paso Flores**	**32.99**	**284**	P		**P**	**18 56 57.9**	**0.0**
PLCA				pP		**pwP**	**18 57 28.6**	**-1.7**
PLCA	**Paso Flores**	**32.99**	**284**	P		**P**	**18 56 59.4**	**+1.5**
	comp=Z,7.0nm,0.6s,baz=132,slow=7.1,SNR=40							
PLCA				S		**S**	**19 02 05.5**	**-0.5**
	comp=Z,1.7nm,1.0s,baz=202,slow=19,SNR=2.4							
PLCA				ScP		**ScP**	**19 03 09.0**	**-0.5**
	comp=Z,6.4nm,0.7s,baz=106,slow=4.3,SNR=12							
PLCA				LR		LR	19 08 54.8	
	comp=Z,142nm,20.1s,baz=138,slow=33							
	comp=Z,7.0nm,0.6s							
PLCA	**Paso Flores**	**32.99**	**284**	*e*P		**P**	**18 56 59.2**	**+1.3**
PLCA				pmax		pmax		
	comp=Z,7.0nm,0.6s							
PLCA	**Paso Flores**	**32.99**	**284**	*e*P		**P**	**18 56 58.7**	**+0.8**
PLCA	**Paso Flores**	**32.99**	**284**	P		**P**	**18 56 58.7**	**+0.8**
PLCA				pP		**pwP**	**18 57 29.7**	**-0.5**
LL03	**Petrohue**	**33.63**	**281**	P		**P**	**18 57 03.0**	**-0.2**
LL03				IAmb		IAmb	18 57 40.8	
	comp=Z,60nm,0.9s							
LR05	**Currie**	**34.10**	**283**	P		**P**	**18 57 07.4**	**0.0**
ITAB	**Concordia**	**36.39**	**319**	P		**P**	**18 57 25.9**	**-1.2**
ITAB						**pP**	**18 57 55.8**	**+0.2**
ITAB				IAmb		IAmb	18 58 35.0	
	comp=Z,227nm,2.0s							
BI02	**San Fabin de**	**36.48**	**288**	P		**P**	**18 57 26.9**	**-1.0**
BI02				pP		**pP**	**18 57 56.9**	**+0.3**
BI05	**Punta Hualpn**	**37.37**	**286**			**P**	**18 57 34.1**	**-1.1**
BI05				pP		**pP**	**18 58 05.9**	**+1.9**
MAW	**Mawson**	**37.58**	**141**	P		**P**	**18 57 37.8**	**+1.2**
	comp=Z,40nm,1.2s							
MAW	**Mawson**	**37.58**	**141**	P		**P**	**18 57 37.6**	**+1.0**
	comp=Z,156nm,0.9s,baz=234,slow=8.4,SNR=145							
	comp=Z,156nm,0.9s							
BO02	**Sierra Bellavi**	**37.73**	**290**	P		**P**	**18 57 37.1**	**-1.3**
BO02				pP		**pP**	**18 58 08.6**	**+1.4**
BO02				IAmb		IAmb	18 58 13.6	
	comp=Z,49nm,0.9s							
BO02				S		**S**	**19 03 16.4**	**-2.2**
SLP01	**Ubatuba-SP**	**38.03**	**331**	*e*P		**P**	**18 57 40.9**	**-0.1**
MAN01	**Angra dos Reis**	**38.18**	**333**	*e*P		**P**	**18 57 43.8**	**+1.5**
BO01	**Tunca**	**38.20**	**290**			**P**	**18 57 40.6**	**-1.6**
BO01						**S**	**19 03 21.4**	**-4.1**
LMEL	**Las Melosas**	**38.22**	**292**	P		**P**	**18 57 41.5**	**-1.1**
LMEL						**S**	**19 03 24.4**	**-1.7**
BO04	**La Punta**	**38.30**	**291**	P		**P**	**18 57 42.1**	**-1.1**
BO04				IAmb		IAmb	18 57 46.4	
	comp=Z,34nm,0.6s							
BO04				S		**S**	**19 03 23.5**	**-3.6**
MT13	**San Alfonso**	**38.34**	**292**	P		**P**	**18 57 42.8**	**-0.8**
SPB	**Sao Paulo**	**38.37**	**328**	P		**P**	**18 57 44.0**	**+0.3**
SPB				IAmb		IAmb	18 57 45.9	
	comp=Z,59nm,1.0s							
SPB				pP		**pP**	**18 58 14.4**	**+1.8**
SPB	**Sao Paulo**	**38.37**	**328**	*e*P		**P**	**18 57 43.9**	**+0.2**
MT08	**Bocatoma Ro**	**38.46**	**292**	P		**P**	**18 57 45.2**	**+0.5**
MT08				IAmb		IAmb	18 58 20.5	
	comp=Z,47nm,0.8s							
DUB01	**Friburgo-RJ**	**38.59**	**336**	*e*P		**P**	**18 57 45.6**	**0.0**
MT03	**Universidad Ad**	**38.65**	**292**	IAmb		IAmb	18 58 24.2	
	comp=Z,72nm,1.0s							
MT09	**Talagante**	**38.66**	**291**	IAmb		IAmb	18 57 49.1	
	comp=Z,84nm,0.9s							
CAM01	**Campos-RJ**	**38.69**	**337**	*e*P		**P**	**18 57 46.3**	**-0.1**
PTGB	**Pitanga**	**38.70**	**321**	*e*P		**P**	**18 57 46.2**	**-0.4**
MT01	**Popeta**	**38.71**	**290**	P		**P**	**18 57 47.0**	**+0.4**
MT01				IAmb		IAmb	18 57 49.2	
	comp=Z,48nm,0.7s							
MT16	**CCHEN**	**38.71**	**292**	IAmb		IAmb	18 58 50.2	
	comp=Z,85nm,0.8s							
VAO	**Valinhos**	**38.80**	**329**			**P**	**18 57 47.6**	**+0.2**
VAO				IAmb		IAmb	18 57 49.5	
	comp=Z,81nm,0.9s							
VAO				pP		**pwP**	**18 58 19.4**	**-0.7**
VAO	**Valinhos**	**38.80**	**329**	*e*P		**P**	**18 57 47.7**	**+0.2**
PEL	**Peldehue**	**39.02**	**292**	P		**P**	**18 57 50.0**	**+0.8**
PEL				pP		**pP**	**18 58 19.6**	**+1.4**
PEL	**Peldehue**	**39.02**	**292**	P		**P**	**18 57 50.3**	**+1.1**
CPUP	**Villa Florida**	**39.08**	**313**	P		**P**	**18 57 48.9**	**-0.7**
CPUP				pP		**pP**	**18 58 19.8**	**+1.3**
CPUP	**Villa Florida**	**39.08**	**313**	P		**P**	**18 57 49.1**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=5.8,slow=7.9,SNR=15							
CPUP				pP		**pP**	**18 58 18.9**	**+0.4**
	comp=Z,11nm,1.0s,baz=17,slow=7.6,SNR=11							
CPUP				ScP		**ScP**	**19 03 32.0**	**0.0**
	comp=Z,1.8nm,0.8s,baz=15,slow=4.7,SNR=5.3							
CPUP	**Villa Florida**	**39.08**	**313**	P		**P**	**18 57 48.9**	**-0.7**
CPUP				*PP		**pP**	**18 58 19.8**	**+1.3**
CPUP				pmax		pmax		
	comp=Z,25nm,1.3s							
CPUP	**Villa Florida**	**39.08**	**313**	P		**P**	**18 57 49.0**	**-0.5**
CPUP				pP		**pP**	**18 58 19.2**	**+0.7**
CPUP				sP		**sP**	**18 58 34.9**	**+1.4**
MT02	**Curacav**	**39.15**	**291**	P		**P**	**18 57 50.4**	**+0.2**
MT02				pP		**pP**	**18 58 21.2**	**+2.1**
MT02				IAmb		IAmb	18 58 25.5	
	comp=Z,84nm,0.9s							
VA03	**San Esteban**	**39.27**	**292**	IAmb		IAmb	18 58 25.9	
	comp=Z,86nm,0.8s							
VA06	**Catapilco**	**39.80**	**292**			**P**	**18 57 56.2**	**+0.7**
VA06				IAmb		IAmb	18 57 59.6	
	comp=Z,53nm,0.6s							
SJPY	**San Joaquin**	**39.83**	**316**	*e*P		**P**	**18 57 53.2**	**-2.6**
BSCB	**Bom Sucesso**	**40.17**	**333**	*e*P		**P**	**18 57 58.8**	**0.0**
TRCB	**Terra Rica**	**40.67**	**321**	P		**P**	**18 58 02.1**	**-0.8**
TRCB				pP		**pwP**	**18 58 34.6**	**-1.5**
CO02	**Combarbal**	**40.77**	**293**	IAmb		IAmb	18 58 38.1	
	comp=Z,82nm,1.1s							
RIB01	**Linhares ES**	**40.89**	**340**	*e*P		**P**	**18 58 04.7**	**+0.1**
CO03	**El Pedregal**	**40.92**	**294**	P		**P**	**18 58 05.3**	**+0.3**
BB19B	**Bebedouro**	**41.07**	**328**	*e*P		**P**	**18 58 06.1**	**0.0**
SUR	**Sutherland**	**41.13**	**71**	P		**P**	**18 58 08.0**	**+1.2**
CO01	**Juntas del Tor**	**41.36**	**295**	IAmb		IAmb	18 58 44.3	
	comp=Z,88nm,0.9s							
GO04	**Tololo Observa**	**41.53**	**294**	IAmb		IAmb	18 58 44.4	
	comp=Z,171nm,1.5s							
SJMB	**Sao Joao De Ma**	**41.63**	**339**	*e*P		**P**	**18 58 10.8**	**+0.1**
CO05	**La Serena**	**41.95**	**294**	IAmb		IAmb	18 58 15.7	
	comp=Z,83nm,0.8s							
LCO	**Las Campanas**	**42.46**	**295**	P		**P**	**18 58 18.0**	**+0.4**
LCO				pP		**pP**	**18 58 47.0**	**0.0**
LCO				IAmb		IAmb	18 58 51.9	
	comp=Z,116nm,1.2s							
LCO	**Las Campanas**	**42.46**	**295**	*e*P		**P**	**18 58 18.0**	**+0.4**
LCO	**Las Campanas**	**42.46**	**295**	P		**P**	**18 58 18.5**	**+0.8**
PMNB	**Patos De Minas**	**42.94**	**332**	*e*P		**P**	**18 58 21.8**	**+0.4**
SBA	**Scott Base**	**43.17**	**184**	P		**P**	**18 58 24.6**	**+2.1**
SBA	**Scott Base**	**43.17**	**184**	P		**P**	**18 58 24.6**	**+2.1**
SBA				pmax		pmax		
	comp=Z,143nm,0.8s							
SBA	**Scott Base**	**43.17**	**184**	P		**P**	**18 58 24.9**	**+2.4**
SBA				ScP		**ScP**	**19 03 49.7**	**+2.3**
GO03	**Copiapo**	**43.44**	**297**			**pP**	**18 58 56.0**	**+1.2**
GO03				IAmb		IAmb	18 58 59.5	
	comp=Z,86nm,0.9s							
GUA01	**Guaratinga, BA**	**43.46**	**341**	*e*P		**P**	**18 58 26.1**	**+0.7**
AC02	**Maricunga**	**43.58**	**299**	P		**P**	**18 58 27.5**	**+0.6**
AC02						**pP**	**18 58 57.8**	**+1.4**
VNDA	**Vanda**	**43.65**	**183**	P		**P**	**18 58 27.9**	**+1.6**
VNDA	**Vanda**	**43.65**	**183**	P		**P**	**18 58 28.9**	**+2.6**
	comp=Z,181nm,0.6s,baz=185,slow=7.0,SNR=1280							
VNDA				ScP		**ScP**	**19 03 51.4**	**+2.0**
	comp=Z,6.7nm,0.9s,baz=258,slow=3.5,SNR=3.5							
VNDA				LR		LR	19 14 58.8	
	comp=Z,176nm,21.3s,baz=172,slow=33							
	comp=Z,181nm,0.6s							
VNDA	**Vanda**	**43.65**	**183**	P		**P**	**18 58 28.0**	**+1.6**
VNDA				pmax		pmax		
	comp=Z,192nm,0.7s							
VNDA	**Vanda**	**43.65**	**183**	P		**P**	**18 58 28.4**	**+2.0**
VNDA				ScP		**ScP**	**19 03 51.2**	**+1.8**
IPMB	**Ipameri, GO**	**43.92**	**329**	*e*P		**P**	**18 58 29.3**	**+0.1**
CMC01	**Camacan, BA**	**44.61**	**342**	*e*P		**P**	**18 58 35.2**	**+0.6**
AC01	**Pan de Azucar**	**44.84**	**297**	P		**P**	**18 58 36.2**	**-0.2**
AC01						**pP**	**18 59 07.1**	**+1.1**
AC01				IAmb	

comp=Z,23nm,0.5s,baz=152,slow=5.5,SNR=70
LPAZ pP **pP** **19 00 07.2 +1.7**
comp=Z,15nm,0.8s,baz=166,slow=8.8,SNR=2.8
LPAZ ScP **ScP** **19 04 26.9 -1.1**
comp=Z,3.4nm,0.8s,baz=82,slow=2.1,SNR=3.8
comp=Z,23nm,0.5s
LPAZ La Paz 52.41 306 *e*P **P** **18 59 35.8 +0.7**
LPAZ La Paz 52.41 306 P **P** **18 59 35.4 +0.4**
comp=Z,526nmcomp=Z,35nm,0.7s
LPAZ La Paz 52.41 306 P **P** **18 59 35.7 +0.7**
LPAZ pP **pwP** **19 00 09.0 -0.6**
LPAZ ScP **ScP** **19 04 26.0 -2.1**
PDRB Porto dos Gac 52.46 321 *e*P **P** **18 59 33.9 -0.7**
SMTB Santa Maria do 52.53 333 *e*P **P** **18 59 35.8 +0.6**
CLDB Colider 52.86 323 *e*P **P** **18 59 36.8 -0.8**
DRV Dumont d'Urvil 54.26 173 P **P** **18 59 48.4 +1.2**
MATP Matopo 54.86 70 P **P** **18 59 56.5 +4.2**
comp=Z,52nm,0.8s,baz=218,slow=7.8,SNR=6.2
MATP LR LR 19 19 53.3
comp=Z,146nm,20.4s,baz=205,slow=32
PRPB Parauapebas 55.66 331 *e*P **P** **18 59 58.4 +0.5**
NPGB Novo Progresso 56.34 325 *e*P **P** **19 00 02.0 -0.7**
LSZ Lusaka 59.13 67 LR LR 19 22 49.5
comp=Z,200nm,18.4s,baz=212,slow=33
NNA Nana 60.02 300 P **P** **19 00 27.1 -1.3**
NNA **pwP** **19 01 02.7 -0.9**
NNA Nana 60.02 300 P **P** **19 00 29.7 +1.4**
comp=Z,15nm,0.7s,baz=186,slow=7.1,SNR=2.8
NNA pP **pP** **19 01 01.6 +2.0**
comp=Z,44nm,1.1s,baz=145,slow=6.7,SNR=4.7
comp=Z,15nm,0.7s
MAL2 Monte Alegre, 60.78 328 P **P** **19 00 33.1 -0.4**
MAL2 IAmb IAmb 19 01 11.4
comp=Z,42nm,0.9s
CZSB Cruzeiro do Su 62.01 306 P **P** **19 00 40.7 -1.0**
CZSB IAmb IAmb 19 00 41.6
comp=Z,40nm,0.6s
ATAH Atahualpa 65.01 300 P **P** **19 01 03.9 +2.0**
comp=Z,17nm,0.9s,baz=152,slow=4.2,SNR=10
ATAH pP **PcP** **19 01 34.0 +0.2**
comp=Z,29nm,0.8s,baz=133,slow=4.3,SNR=3.2
ATAH LR LR 19 32 43.6
comp=Z,49nm,18.6s,baz=167,slow=39
comp=Z,17nm,0.9s
SGC2 Sao Gabriel da 66.67 315 P **P** **19 01 09.6 -2.4**
comp=Z,24nm,0.9s
BOAV Boa Vista 66.85 323 P **P** **19 01 11.7 -1.5**
BOAV Boa Vista 66.85 323 P **P** **19 01 11.5 -1.6**
comp=Z,33nm,1.3s
MPGF Montagnes des 67.22 332 P **P** **19 01 14.9 -0.5**
DBIC Dimbokro 67.69 23 P **P** **19 01 18.8 +0.4**
DBIC Dimbokro 67.69 23 P **P** **19 01 19.3 +0.9**
comp=Z,60nm,0.6s,baz=208,slow=6.2,SNR=111
DBIC pP **pP** **19 01 49.1 -1.9**
comp=Z,30nm,0.8s,baz=216,slow=7.3,SNR=4.9
DBIC LR LR 19 24 56.9
comp=Z,192nm,18.6s,baz=200,slow=30
comp=Z,60nm,0.6s
DBIC Dimbokro 67.69 23 P **P** **19 01 18.8 +0.4**
DBIC pmax pmax
comp=Z,69nm,0.6s
DBIC Dimbokro 67.69 23 P **P** **19 01 19.3 +0.9**
MCRA Macar, Loja 68.16 300 P **P** **19 01 21.8 +0.3**
comp=Z,36nm,0.7s
COHC Cochancay 69.55 302 P **P** **19 01 31.3 +1.3**
comp=Z,72nm,0.7s
PIAT Ana Tenorio 70.43 304 P P 19 01 27.4 -8.4
PPLP Puerto Lpez 71.04 301 P **P** **19 01 39.2 +0.1**
comp=Z,52nm,0.7s
MACC Macarena, Meta 71.42 309 P **P** **19 01 38.9 -2.5**
comp=Z,28nm,0.7s
OTAV Otavalo 71.61 304 P **P** **19 01 44.1 +1.0**
OTAV pP **pP** **19 02 16.8 +1.4**
FLOC Florencia 71.65 307 P **P** **19 01 42.0 -0.7**
FLOC **pP** **19 02 15.1 -0.2**
FLOC IAmb IAmb 19 02 20.2
comp=Z,62nm,1.3s
BETC Betania 72.56 308 P **P** **19 01 47.3 -0.9**
URMC La Uribe, Meta 72.64 309 P **P** **19 01 48.2 -0.5**
comp=Z,40nm,0.8s
POPC Popayan, Colom 72.94 307 P **P** **19 01 49.9 -0.7**
comp=Z,562nmcomp=Z,20nm,0.8s
VILC Villavicencio, 73.15 310 P **P** **19 01 53.2 +1.4**
comp=Z,469nmcomp=Z,42nm,0.6s
MBAR Mbarara 73.18 61 *i*P **P** **19 01 54.9 +2.9**
MBAR pmax pmax
comp=Z,19nm,1.1s
PRAC Prado 73.27 309 P **P** **19 01 51.8 -0.5**
comp=Z,36nm,0.6s
MBO M'Bour 73.52 10 P **P** **19 01 55.2 +1.6**
JAMC Jamundi, Valle 73.55 307 P **P** **19 01 53.7 -0.5**
comp=Z,18nm,0.9s
ORTC Ortega, Tolima 73.59 309 P **P** **19 01 53.9 -0.3**
comp=Z,771nmcomp=Z,60nm,0.8s
SACV Santiago Islan 73.72 3 P **P** **19 01 55.6 +0.8**
SACV IAmb IAmb 19 01 59.3
comp=Z,50nm,0.9s
APZ The Paps 73.88 190 P **P** **19 01 56.7 +1.1**
YOTC Yotoco, Valle 74.11 308 P **P** **19 01 55.4 -1.9**
comp=Z,11nm,0.5s
RUSC La Rusia 74.54 311 P **P** **19 01 58.5 -1.8**
RUSC La Rusia 74.54 311 P **P** **19 01 58.7 -1.5**
comp=Z,508nmcomp=Z,22nm,0.8s
TUZ Tuapeka 74.59 192 P **P** **19 02 01.0 +1.4**
WHZ Wether Hill Ro 74.81 190 IAmb IAmb 19 02 03.4
comp=Z,70nm,0.9s
WHZ Wether Hill Ro 74.81 190 P **P** **19 02 01.9 +1.0**
GUY2C Guyana, Caldas 74.83 309 P **P** **19 01 59.1 -2.8**
comp=Z,18nm,0.8s
NORC Norcasia 74.94 310 P **P** **19 01 59.1 -3.0**
comp=Z,33nm,0.7s
BARC Barichara 75.22 312 P **P** **19 02 01.3 -2.5**
DCZ Deep Cove 75.31 190 IAmb IAmb 19 02 10.9
comp=Z,47nm,0.9s
DCZ Deep Cove 75.31 190 P **P** **19 02 04.3 +0.5**
DCZ PcP **PcP** **19 02 16.1 -0.4**
MLZ Mavora Lakes 75.32 191 P **P** **19 02 04.9 +1.0**
MLZ IAmb IAmb 19 02 06.3
comp=Z,163nm,1.4s
MLZ Mavora Lakes 75.32 191 P **P** **19 02 05.0 +1.1**
EAZ Earnscleugh 75.33 191 P **P** **19 02 05.0 +1.0**
ODZ Otahua Downs 75.38 192 P **P** **19 02 05.4 +1.2**
TORD Torodi Ar. Bea 75.44 28 **P** **19 02 04.3 -0.5**
TORD pP **pP** **19 02 36.6 -1.2**
TORD Torodi Ar. Bea 75.44 28 P **P** **19 02 05.2 +0.5**
comp=Z,121nm,0.6s,baz=197,slow=5.1,SNR=375
TORD pP **pP** **19 02 36.6 -1.2**
comp=Z,42nm,0.7s,baz=194,slow=4.6,SNR=4.9
TORD S **S** **19 11 32.9 -0.8**
comp=Z,1.5nm,1.0s,baz=206,slow=6.7,SNR=4.5
comp=Z,121nm,0.6s
PCRV Puerto La Cruz 75.48 321 LR LR 19 35 57.2
comp=Z,129nm,19.9s,slow=36
PTBC PUERTO BERRIO, 75.67 310 P **P** **19 02 03.5 -2.6**
comp=Z,589mcomp=Z,57nm,0.6s
CBOC Ciudad Bolivar 75.67 309 P **P** **19 02 04.6 -1.8**
comp=Z,7.1nm,0.7s
KMBO Kilima Mbogo 75.76 68 LR LR 19 33 38.0
comp=Z,313nm,18.0s,baz=102,slow=34
WKZ Wanaka 75.77 191 IAmb IAmb 19 02 13.3
comp=Z,52nm,0.9s
WKZ Wanaka 75.77 191 P **P** **19 02 07.7 +1.3**
HELC Santa Helena 75.78 309 P **P** **19 02 06.0 -1.2**
comp=Z,14nm,0.7s
TMZ Timaru 75.99 193 P **P** **19 02 08.9 +1.3**
MSZ Milford Sound 76.02 191 P **P** **19 02 08.7 +0.9**
LBZ Lake Benmore 76.08 192 IAmb IAmb 19 02 10.9
comp=Z,52nm,0.8s
LBZ Lake Benmore 76.08 192 P **P** **19 02 09.5 +1.3**
WACZ Wakanui South 76.32 194 P **P** **19 02 11.3 +1.7**
SDV Santo Domingo 76.36 315 P **P** **19 02 10.2 -0.1**
comp=Z,11nm,0.4s,baz=161,slow=1.6,SNR=3.6
SDV LR LR 19 37 57.4
comp=Z,144nm,18.1s,baz=162,slow=37
comp=Z,11nm,0.4s
MQZ McQueen's Val 76.46 194 P **P** **19 02 11.7 +1.4**
RPZ Rata Peaks 76.64 193 LR LR 19 34 19.5
comp=Z,82nm,18.0s,baz=148,slow=34
RPZ Rata Peaks 76.64 193 P **P** **19 02 13.1 +1.8**
DBBC Dabeiba 76.80 309 P **P** **19 02 12.0 -0.6**
comp=Z,26µmcomp=Z,10nm,0.7s
OXZ Oxford 76.91 194 IAmb IAmb 19 02 15.3
comp=Z,71nm,1.1s
OXZ Oxford 76.91 194 P **P** **19 02 15.0 +2.2**
FOZ Fox Glacier 76.96 192 P **P** **19 02 14.5 +1.4**
GCSZ Gaunt Creek Bo 77.12 192 P **P** **19 02 15.8 +1.8**

GVZ Greta Valley S 77.14 195 P **P** **19 02 14.4 +0.3**
GVZ Greta Valley S 77.14 195 P **P** **19 02 15.8 +1.7**
WVZ Waitaha Valley 77.31 193 P **P** **19 02 16.3 +1.2**
LTZ Lake Taylor 77.42 194 P **P** **19 02 17.4 +1.6**
INZ Inchbonnie 77.57 193 IAmb IAmb 19 02 18.6
comp=Z,73nm,0.9s
INZ Inchbonnie 77.57 193 P **P** **19 02 17.7 +1.2**
KHZ Kahutara 77.61 195 IAmb IAmb 19 02 19.4
comp=Z,61nm,1.0s
APAC Apartado, Choc 77.75 309 P **P** **19 02 17.0 -0.8**
comp=Z,19nm,0.8s
BSWZ Blackbirch Sta 78.25 195 P **P** **19 02 22.1 +1.8**
THZ Tophouse 78.34 195 P **P** **19 02 21.5 +0.7**
THZ Tophouse 78.34 195 P **P** **19 02 22.3 +1.5**
TAU Tasmania Unive 78.34 175 **P** **19 02 21.2 +0.4**
TAU Tasmania Unive 78.34 175 P **P** **19 02 21.8 +1.0**
TAU Tasmania Unive 78.34 175 P **P** **19 02 21.2 +0.4**
TAU pmax pmax
comp=Z,157nm,1.0s
TAU Tasmania Unive 78.34 175 P **P** **19 02 21.2 +0.4**
DSZ Denniston Nort 78.49 194 P **P** **19 02 21.8 +0.1**
TUWZ Tuamarina 78.52 196 P **P** **19 02 23.4 +1.6**
SNZO South Karori 78.53 196 P **P** **19 02 22.4 +0.5**
ARGC Ariguani, Magd 78.61 312 P **P** **19 02 22.0 -0.6**
comp=Z,72nm,0.7s
TCW Tory Channel 78.69 196 P **P** **19 02 22.6 -0.1**
MRNZ Matariki Terra 78.71 195 P **P** **19 02 24.0 +1.1**
MOO Moorlands 78.80 175 P **P** **19 02 23.2 -0.2**
comp=Z,133nm,1.4s
MOO Moorlands 78.80 175 P **P** **19 02 24.9 +1.6**
NNZ Nelson 78.81 195 IAmb IAmb 19 02 26.6
comp=Z,78nm,0.9s
NNZ Nelson 78.81 195 P **P** **19 02 24.5 +1.1**
BFZ Birch Farm 78.92 197 P **P** **19 02 24.6 +0.6**
BFZ IAmb IAmb 19 02 26.7
comp=Z,109nm,1.0s
BFZ Birch Farm 78.92 197 P **P** **19 02 25.5 +1.5**
SJCC San Jacinto, C 79.01 311 P **P** **19 02 23.9 -0.9**
comp=Z,884nmcomp=Z,24nm,1.1s
MRZ Mangatainoka R 79.04 197 IAmb IAmb 19 02 26.9
comp=Z,66nm,0.8s
MRZ Mangatainoka R 79.04 197 P **P** **19 02 25.9 +1.2**
TKNZ Takaka Hill 79.05 195 P **P** **19 02 25.0 +0.3**
DUWZ D'Urville Isla 79.14 196 P **P** **19 02 26.6 +1.4**
CRJC Cerrejon, Guaj 79.16 314 P **P** **19 02 22.7 -2.9**
QRZ Quartz Range 79.31 195 P **P** **19 02 25.5 -0.6**
CORO Coronation Par 79.79 175 P **P** **19 02 30.2 +1.6**
WAZ Wanganui 80.02 197 P **P** **19 02 32.6 +2.7**
WAZ PcP **PcP** **19 02 35.6 -1.4**
GLAD Gladstone 80.29 176 P **P** **19 02 33.0 +1.6**
GDHS Morne Mazeau, 80.35 326 IAmb IAmb 19 02 34.0
comp=Z,49nm,0.6s
BKZ Black Stump Fm 80.36 198 P **P** **19 02 31.7 -0.2**
BKZ IAmb IAmb 19 02 34.3
comp=Z,41nm,0.7s
BKZ Black Stump Fm 80.36 198 P **P** **19 02 33.6 +1.7**
BKZ PcP **PcP** **19 02 39.5 +0.9**
NGZ Ngauruhoe 80.49 197 P **P** **19 02 34.2 +1.5**
NEZ North Egmont 80.62 196 P **P** **19 02 34.2 +0.9**
VRZ Vera Road 80.67 197 P **P** **19 02 34.3 +0.8**
RTZ Ruatahuna 80.82 198 P **P** **19 02 36.0 +1.6**
PUZ Puketiti 81.14 200 P **P** **19 02 38.0 +2.0**
URZ Urewera 81.15 199 LR LR 19 36 46.3
comp=Z,57nm,19.4s,baz=160,slow=34
URZ Urewera 81.15 199 P **P** **19 02 37.2 +1.2**
HIZ Hauiti 81.25 197 P **P** **19 02 36.9 +0.4**
TLZ Tolley Road 81.33 197 P **P** **19 02 38.3 +1.3**
HAZ Te Kaha 81.53 199 P **P** **19 02 39.5 +1.5**
RKGY Rocky Gully 81.92 150 P **P** **19 02 40.6 +0.5**
comp=Z,65nm,1.3s
TOZ Tahuroa Road 81.92 197 IAmb IAmb 19 02 41.6
comp=Z,72nm,0.9s
TOZ Tahuroa Road 81.92 197 P **P** **19 02 40.9 +0.9**
JTS Las Juntas de 83.42 302 P **P** **19 02 48.1 +0.1**
comp=Z,3.9nm,0.4s,baz=85,slow=22,SNR=3.0
comp=Z,3.9nm,0.4s
TOO Toolangi 83.57 174 P **P** **19 02 49.1 +0.5**
comp=Z,17nm,1.1s
NWAO Narrogin (SRO) 83.58 150 P **P** **19 02 48.8 0.0**
comp=Z,128nm,0.8s
NWAO Narrogin (SRO) 83.58 150 **P** **19 02 48.6 -0.1**
NWAO IAmb IAmb 19 02 50.0
comp=Z,50nm,0.8s
NWAO Narrogin (SRO) 83.58 150 P **P** **19 02 49.2 +0.5**
NWAO Narrogin (SRO) 83.58 150 P **P** **19 02 49.1 +0.4**
NWAO Narrogin (SRO) 83.58 150 P **P** **19 02 48.6 -0.1**
NWAO pmax pmax
comp=Z,50nm,0.9s
NWAO Narrogin (SRO) 83.58 150 P **P** **19 02 48.7 0.0**
WCZ Waipu Caves 83.85 197 P **P** **19 02 50.1 +0.1**
ARPS Mount Arapiles 84.11 171 P **P** **19 02 51.0 -0.3**
comp=Z,27nm,1.9s
MUN Mundaring 84.21 149 P **P** **19 02 52.4 +0.4**
comp=Z,197nm,0.8s
MUN Mundaring 84.21 149 P **P** **19 02 52.8 +0.9**
OUZ Omahuta 84.67 196 P **P** **19 02 55.0 +0.8**
KLBR Kellerberrin 84.98 150 P **P** **19 02 56.1 +0.2**
comp=Z,193nm,0.9s
KLBR Kellerberrin 84.98 150 P **P** **19 02 56.7 +0.9**
FURI Furi 85.20 64 LR LR 19 37 38.7
comp=Z,112nm,20.2s,baz=216,slow=33
TBI Tubuai 85.53 231 *e*P **P** **19 02 54.6 -4.0**
comp=Z,373nm,38.8s
TBI Tubuai 85.53 231 *e*S **S** **19 13 15.3 -3.4**
TBI comp=Z,1µm,32.8s *e*SS **SS** **19 18 52.5 -3.7**
TBI comp=Z,837nm,31.8s *e*LQ LQ 19 26 11.7
TBI comp=Z,846nm,32.5s *e*LR LR 19 29 58.5
TBI comp=Z,634nm,39.8s *e*LR LR 19 30 12.9
comp=Z,667nm,30.8s
BLDU Ballidu 85.63 149 P **P** **19 02 59.6 +0.5**
comp=Z,68nm,1.1s
BLDU Ballidu 85.63 149 P **P** **19 02 59.8 +0.7**
TAM Tamanrasset 85.65 29 IAmb IAmb 19 03 02.9
comp=Z,33nm,0.6s
CAN Canberra 85.97 176 P **P** **19 03 01.7 +1.0**
comp=Z,51nm,1.3s
CAN Canberra 85.97 176 IAmb IAmb 19 03 02.8
comp=Z,52nm,1.1s
CAN Canberra 85.97 176 P **P** **19 03 02.5 +1.8**
CAN Canberra 85.97 176 P **P** **19 03 01.8 +1.0**
SIUN Universidad Ur 86.40 304 IAmb IAmb 19 03 09.2
comp=Z,121nm,0.4s
MORW Morawa 86.92 148 P **P** **19 03 05.8 +0.4**
comp=Z,75nm,1.1s
MORW Morawa 86.92 148 **P** **19 03 05.5 +0.1**
MORW IAmb IAmb 19 03 07.0
comp=Z,45nm,0.8s
MORW Morawa 86.92 148 P **P** **19 03 06.3 +0.9**
HTT Hallett 87.13 168 P **P** **19 03 07.4 +0.9**
comp=Z,26nm,1.2s
BBOO Buckleboo 87.40 165 P **P** **19 03 08.0 +0.4**
comp=Z,116nm,0.9s
MGCD Mangrove Creek 88.13 178 P **P** **19 03 10.1 -1.0**
comp=Z,66nm,1.2s
ATD Arta Tunnel 89.46 66 LR LR 19 41 55.1
comp=Z,7.7nm,18.1s,baz=185,slow=34
CMSA Cobar Meteorol 89.58 173 P **P** **19 03 18.9 +1.0**
comp=Z,83nm,1.1s
CMSA Cobar Meteorol 89.58 173 P **P** **19 03 19.2 +1.2**
MEEK Meekatharra 89.92 149 P **P** **19 03 20.2 +0.5**
comp=Z,92nm,1.2s
MEEK Meekatharra 89.92 149 P **P** **19 03 20.3 +0.7**
PPT2 Papeete2 90.74 233 *e*S **S** **19 14 06.7 -1.6**
comp=Z,126nm,23.0s
PPT2 comp=Z,155nm,28.0s *e*SS **SS** **19 20 12.1 -0.2**
PPT2 Papeete2 90.74 233 *e*LR LR 19 32 33.3
comp=Z,204nm,31.0s
PPT2 comp=Z,110nm,40.5s *e*LR LR 19 32 40.3
PPT Papeete 90.76 233 LR LR 19 35 42.5
comp=Z,32nm,20.3s,baz=178,slow=30
ARMA Armidale 90.92 178 P **P** **19 03 25.2 +0.9**
comp=Z,26nm,1.1s
RAR Rarotonga 91.36 223 LR LR 19 38 40.4
comp=Z,28nm,19.5s,baz=20,slow=32
INKA Innaminka 92.95 169 IAmb IAmb 19 03 35.8
comp=Z,28nm,1.1s
MDT Midelt 93.25 18 LR LR 19 41 12.0
comp=Z,183nm,18.4s,baz=207,slow=33
MD01 Midelt array s 93.28 18 P **P** **19 03 36.9 +2.0**

TEIG Tepich 93.69 304 P **P** **19 03 36.6 -0.2**
TEIG IAmb IAmb 19 03 38.7
comp=Z,14nm,0.9s
WRKA Warakurna 93.72 157 P **P** **19 03 37.7 +0.5**
comp=Z,23nm,1.2s
TAOE Nuku Hiva Isla 94.29 245 *e*LR LR 19 34 15.6
comp=Z,240nm,31.9s
QLP Quilpie 94.41 172 P **P** **19 03 40.9 +0.6**
comp=Z,53nm,1.1s
QLP Quilpie 94.41 172 P **P** **19 03 41.3 +1.0**
PSA00 Pilbara Seismi 95.07 149 P **P** **19 03 43.6 +0.2**
comp=Z,35nm,1.0s
PSA00 Pilbara Seismi 95.07 149 P **P** **19 03 42.8 -0.6**
PSA00 IAmb IAmb 19 03 44.7
comp=Z,25nm,1.1s
PSA00 Pilbara Seismi 95.07 149 IAmb IAmb 19 03 44.6
comp=Z,32nm,1.1s
PSA00 Pilbara Seismi 95.07 149 P **P** **19 03 43.8 +0.4**
KAAM Kaadhehdhoo 95.30 98 P **P** **19 03 44.9 +0.4**
MBWA Marble Bar 95.43 149 P **P** **19 03 44.8 -0.3**
comp=Z,22nm,2.8s
MBWA Marble Bar 95.43 149 **P** **19 03 44.4 -0.7**
MBWA IAmb IAmb 19 03 45.7
comp=Z,15nm,0.8s
MBWA Marble Bar 95.43 149 P **P** **19 03 45.7 +0.7**
ASAR Alice Springs 96.07 162 **P** **19 03 48.2 +0.2**
ASAR Alice Springs 96.07 162 P **P** **19 03 48.5 +0.5**
comp=Z,47nm,0.7s,baz=183,slow=4.1,SNR=703
ASAR PP **PP** **19 07 34.3 -7.1**
comp=Z,6.3nm,0.9s,baz=190,slow=6.6,SNR=9.2
ASAR S **SKSac** **19 14 09.6 -2.0**
comp=Z,3.2nm,1.0s,baz=167,slow=8.5,SNR=14
ASAR PKKPbc **PKKPbc** **19 20 32.6 +1.0**
comp=Z,0.5nm,0.5s,baz=24,slow=2.5,SNR=11
ASAR LR LR 19 43 34.4
comp=Z,199nm,21.4s,baz=185,slow=33
comp=Z,47nm,0.7s
AS31 Alice Springs 96.07 162 P **P** **19 03 48.1 +0.1**
comp=Z,27nm,0.7s
OUENC Ouen Island, N 98.16 192 P Pdif 19 03 58.6 +1.2
DZM Mont Dzumac 98.55 192 *e*LR LR 19 36 10.6
comp=Z,192nm,36.0s
DZM Mont Dzumac 98.55 192 LR LR 19 45 30.6
comp=Z,52nm,19.7s,baz=184,slow=33
KEST Kesra 98.96 29 IAmb IAmb 19 07 38.5
comp=Z,24nm,1.6s
KEST Kesra 98.96 29 P Pdif 19 03 59.9 -0.6
comp=Z,2.4nm,0.8s,baz=219,slow=13,SNR=5.5
KEST LR LR 19 44 50.9
comp=Z,120nm,18.2s,baz=268,slow=33
comp=Z,2.4nm,0.8s
WRA Warramunga Arr 99.79 162 P **Pdif** **19 04 04.3 -0.4**
comp=Z,7.4nm,0.8s,baz=198,slow=4.1,SNR=40
WRA PP **PP** **19 08 02.8 -7.0**
comp=Z,6.0nm,1.0s,baz=191,slow=5.9,SNR=5.3
WRA S **SKSac** **19 14 29.2 -1.3**
comp=Z,3.2nm,1.1s,baz=210,slow=5.6,SNR=8.0
WRA PKKPbc **PKKPdf** **19 20 24.4 -0.1**
comp=Z,0.3nm,0.5s,baz=351,slow=2.9,SNR=5.3
WRA LR LR 19 45 50.5
comp=Z,182nm,21.8s,baz=354,slow=33
comp=Z,7.4nm,0.8s
WRAB Tennant Creek 99.80 162 *i*P **Pdif** **19 04 04.4 -0.3**
WRAB pmax pmax
comp=Z,8.0nm,1.0s
FITZ Fitzroy Crossi 99.86 153 P **Pdif** **19 04 05.8 +0.9**
comp=Z,6.3nm,0.7s,baz=209,slow=5.6,SNR=30
comp=Z,6.3nm,0.7s
FITZ Fitzroy Crossi 99.86 153 P **Pdif** **19 04 06.3 +1.3**
QIS Mount Isa 99.93 167 P **Pdif** **19 04 05.2 -0.1**
comp=Z,7.3nm,3.0s
QIS Mount Isa 99.93 167 P **Pdif** **19 04 06.1 +0.8**
ESDC Sonseca Array 100.06 17 P **Pdif** **19 04 07.5 +2.3**
comp=Z,0.8nm,0.6s,baz=189,slow=4.7,SNR=7.6
ESDC PKKPbc **PKKPbc** **19 20 24.0 +2.0**
comp=Z,0.6nm,0.6s,baz=360,slow=4.4,SNR=6.7
TXAR Lajitas Array 108.47 296 PKKPbc PKKPbc 19 19 58.2 +1.9
comp=Z,0.6nm,0.8s,baz=341,slow=4.1,SNR=5.2
TXAR PKKP **PKKPdf** **19 20 10.7 -0.2**
comp=Z,0.8nm,0.8s,baz=305,slow=4.4,SNR=6.3
DAVA Damuels 110.04 25 *i*PP **PP** **19 09 23.4 -3.3**
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 110.21 45 Pdiff **Pdif** **19 04 53.4 +2.9**
comp=Z,0.6nm,0.8s,baz=224,slow=3.4,SNR=3.6
BRTR PP **PP** **19 09 22.6 -5.5**
comp=Z,1.5nm,0.8s,baz=181,slow=7.4,SNR=5.2
BRTR PKKPbc **PKKPbc** **19 19 51.7 +0.6**
comp=Z,0.4nm,0.5s,baz=88,slow=3.3,SNR=4.0
SQTA Sankt Quirin 110.28 26 *e*PPKiKP pPKiKP 19 09 26.5 -0.2
comp=Z,10nm,1.0s
MOTA Moosalm 110.37 26 *i*PPKiKP pPKiKP 19 09 28.1 +1.2
comp=Z,3.3nm,0.9s
WTTA Wattenberg 110.42 27 *i*PPKiKP pPKiKP 19 09 27.7 +0.7
comp=Z,10.0nm,1.1s
RETA Reutte 110.43 26 *e*PPKiKP pPKiKP 19 09 27.1 +0.2
comp=Z,5.8nm,1.3s
WATA Walderalm 110.47 27 *i*PPKiKP pPKiKP 19 09 27.7 +0.6
comp=Z,9.5nm,1.3s
KBA Koelnbreinsper 110.65 28 *e*PPKiKP pPKiKP 19 09 28.6 +1.2
comp=Z,6.7nm,1.0s
SOKA Soboth 110.69 29 *e*PPKiKP pPKiKP 19 09 28.6 +1.1
comp=Z,8.2nm,1.8s
BIOA Bad Ischl, Aus 111.29 28 *i*PPKiKP pPKiKP 19 09 31.5 +3.1
comp=Z,4.2nm,1.0s
MOA Molln 111.59 28 *i*PPKiKP pPKiKP 19 09 33.2 +4.2
comp=Z,8.3nm,1.0s
RONA Rosalia, Austr 111.96 30 *e*PPKiKP pPKiKP 19 09 35.1 +5.3
comp=Z,8.8nm,1.2s
CONA Conrad Observa 112.06 29 *e*PPKiKP pPKiKP 19 09 36.9 +6.9
comp=Z,12nm,1.5s
GERES GERESS Array B 112.38 27 PP **PP** **19 09 40.5 -2.9**
comp=Z,1.5nm,0.7s,baz=210,slow=7.7,SNR=4.4
GERES SKP 19 12 17.4
comp=Z,0.8nm,0.8s,baz=264,slow=1.3,SNR=3.7
GERES PKKPbc **PKKPbc** **19 19 45.0 +0.8**
comp=Z,0.3nm,0.5s,baz=346,slow=2.8,SNR=4.7
KRUC Moravsky 113.25 29 *e*PP **PP** **19 09 47.1 -2.3**
JAVC Velka Javorina 113.39 30 *e*PP **PP** **19 09 49.7 -0.8**
VRAC Vranov 113.52 29 *e*PP **PP** **19 09 47.3 -4.1**
MORC Moravsky Berou 114.20 30 *e*PP **PP** **19 09 52.9 -3.3**
CLL Collm 114.52 26 *e*SP SP 19 19 23.0 +1.5
CLL *e*SS SS 19 25 54.0 +13
CLL *e*SSS SSS 19 30 00.0
EKA Eskdalemuir Ar 115.49 15 SKP 19 12 23.3
comp=Z,0.2nm,0.4s,baz=213,slow=2.8,SNR=3.5
EKA PKKPbc PKKPbc 19 19 34.3 +0.7
comp=Z,0.9nm,0.4s,baz=357,slow=2.7,SNR=20
KBZ Khabaz 117.19 50 PP **PP** **19 10 16.9 -0.2**
comp=Z,4.1nm,0.9s,baz=206,slow=9.6,SNR=4.0
KIV Kislovodsk 117.30 49 *i*PKiKP **PKiKP** **19 09 05.3 +1.0**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,40nm,22.0s
SCHQ Schefferville 118.00 335 PKP **PKiKP** **19 09 05.7 +0.5**
comp=Z,27nm,0.5s,baz=203,slow=1.7,SNR=1.8
SCHQ SKP 19 12 27.9
comp=Z,54nm,0.5s,baz=114,slow=4.0,SNR=8.1
AKASG Malin Array Be 118.33 37 PKP **PKiKP** **19 09 06.7 +0.7**
comp=Z,0.6nm,0.5s,baz=240,slow=1.7,SNR=2.5
AKASG PP **PP** **19 10 23.6 -1.4**
comp=Z,1.8nm,0.7s,baz=210,slow=6.6,SNR=10
AKASG SKP 19 12 27.4
comp=Z,0.9nm,0.6s,baz=245,slow=2.0,SNR=2.5
AKBB Malin Array Si 118.33 37 *i*PKiKP **PKiKP** **19 09 06.4 +0.4**
HWUT Hardware Ranch 122.19 298 **PKPdf** **19 09 13.5 -0.5**
PDAR Pinedale Array 122.20 300 SKP 19 12 35.8
comp=Z,1.3nm,0.3s,baz=160,slow=9.3,SNR=3.7
PDAR PKKPbc PKKPbc 19 19 10.9 +1.8
comp=Z,1.0nm,0.8s,baz=191,slow=0.4,SNR=7.9
ULM Lac du Bonnet 122.61 314 PKP **PKPdf** **19 09 14.2 +0.1**
comp=Z,4.1nm,0.8s,baz=96,slow=1.1,SNR=4.2
ULM SKP 19 12 36.0
comp=Z,7.1nm,0.8s,baz=175,slow=0.9,SNR=9.8
ULM PKKPbc **PKKPbc** **19 19 09.2 +1.8**
comp=Z,12nm,0.7s,baz=324,slow=4.0,SNR=20
HFS Hagfors 122.86 23 PKP **PKPdf** **19 09 14.0 -0.3**
comp=Z,0.9nm,0.4s,baz=163,slow=2.9,SNR=12
HFS PP **PP** **19 10 48.4 -7.3**
comp=Z,3.7nm,0.7s,baz=112,slow=15,SNR=5.9
HFS PKKPbc **PKKPbc** **19 19 07.6 +0.9**
comp=Z,5.1nm,0.5s,baz=70,slow=4.9,SNR=33
NB2 NORSAR Subarra123.22 21 PKPdf **PKPdf** **19 09 15.2 +0.1**
comp=Z,3.6nm,1.0s,baz=202,slow=1.9
NB2 PKKP **PKKPbc** **19 19 06.2 +0.8**
comp=Z,1.2nm,0.6s,baz=28,slow=4.4
NOA NORSAR Array B123.22 21 PKP **PKPdf** **19 09 13.9 -1.1**

comp=Z,0.1nm,0.4s,baz=82,slow=6.0,SNR=4.7
NOA PKKPbc **PKKPbc** **19 19 06.6 +1.2**
comp=Z,1.6nm,0.8s,baz=19,slow=2.2,SNR=8.8
CMAR Chiang Mai Arr 123.64 112 PKPdf 19 09 17.3 +0.1
CMAR Chiang Mai Arr 123.64 112 PKP **PKiKP 19 09 17.6 +0.1**
comp=Z,9.2nm,0.8s,baz=232,slow=3.8,SNR=57
CMAR pPKP **pPKPdf 19 09 52.5 -0.4**
comp=Z,2.9nm,0.8s,baz=231,slow=3.6,SNR=3.2
CMAR PP **PP 19 11 00.2 -0.9**
comp=Z,0.4nm,0.4s,baz=234,slow=7.4,SNR=4.9
CMAR SKP 19 12 39.1
comp=Z,1.9nm,0.9s,baz=236,slow=4.2,SNR=5.0
CHTO Chiang Mai 123.95 111 PKPdf 19 09 17.4 -0.3
CHTO Chiang Mai 123.95 111 PKIKP **PKPdf 19 09 17.5 -0.3**
OBN Obninsk 124.42 38 PKP **PKPdf 19 09 16.8 -0.6**
comp=Z,22nm,0.5s,baz=286,slow=8.6,SNR=4.3
OBN Obninsk 124.42 38 *i* PKIKP **PKPdf 19 09 17.6 +0.2**
OBN *e* 19 09 58.2
OBN *e* 19 11 08.1
OBN *e*PPP PPP 19 13 47.3
OBN pmax pmax
comp=Z,3.0nm,0.6s
AFDM Forest Hills D 124.56 289 PKPdf 19 09 18.1 -0.3
SIMJ Simiganj 124.81 72 PKiKP 19 09 19.4 0.0
FINES FINESS Array B 126.79 28 PKhKP PKPpre 19 09 09.6
comp=Z,2.2nm,0.8s,baz=284,slow=7.7,SNR=4.7
FINES PKP **PKiKP 19 09 22.8 +0.5**
comp=Z,5.4nm,0.7s,baz=151,slow=2.2,SNR=22
FINES SKP 19 12 41.8
comp=Z,1.5nm,0.6s,baz=222,slow=1.9,SNR=1.5
FINES FINESS Array B 126.79 28 *e*PKIKP **PKiKP 19 09 27.6 +5.3**
FINES pmax pmax
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 128.68 57 PKPdf 19 09 25.4 -0.4
KSH Kashi 128.94 76 PKP **PKPdf 19 09 27.0 +0.2**
KKAR Karatay Array 128.94 69 PKPdf 19 09 26.8 +0.2
KKAR Karatay Array 128.94 69 PKIKP **PKPdf 19 09 26.8 +0.2**
KLMR Klimovskoe 130.00 36 *e*PKIKP **PKiKP 19 09 30.0 +1.2**
KLMR pmax pmax
comp=Z,12nm,1.1s
AAK Ala-Archa 130.54 72 PKPdf 19 09 29.2 -0.6
AAK **pPKPdf 19 10 04.4 -1.3**
AAK Ala-Archa 130.54 72 *i* PKIKP **PKiKP 19 09 30.7 0.0**
KMI Kunming 131.14 111 PKP **PKiKP 19 09 32.2 -0.4**
KIRV Kirov 131.50 43 *i* PKIKP **PKiKP 19 09 32.6 +0.8**
PZH PanZhiHua 131.81 109 PKP **PKiKP 19 09 33.7 0.0**
ARCES ARCESS Array B 133.52 22 PKhKP PKPpre 19 09 19.1
comp=Z,2.6nm,0.9s,baz=333,slow=1.9,SNR=7.4
ARCES PKP **PKPdf 19 09 34.9 +0.5**
comp=Z,1.7nm,0.4s,baz=209,slow=3.2,SNR=23
ARCES pPKP pPKPdf 19 10 11.9 +1.4
comp=Z,6.2nm,0.8s,baz=212,slow=3.1,SNR=4.1
ARCES PP **PP 19 12 03.1 -2.3**
comp=Z,5.1nm,0.8s,baz=212,slow=5.4,SNR=7.0
ARCES SKPbc **SKPbc 19 12 49.5 -0.5**
comp=Z,10nm,0.5s,baz=209,slow=2.8,SNR=38
BVAR Borovoye Array 135.98 60 PKhKP PKPpre 19 09 28.0
comp=Z,1.4nm,0.8s,baz=208,slow=9.2,SNR=5.4
BVAR PKP **PKPdf 19 09 40.0 +0.5**
comp=Z,2.1nm,0.7s,baz=224,slow=4.1,SNR=5.3
BVAR PP **PP 19 12 21.1 -0.1**
comp=Z,3.7nm,0.8s,baz=232,slow=7.2,SNR=4.8
BVAR SKPbc **SKPbc 19 12 57.6 -0.7**
comp=Z,20nm,0.8s,baz=238,slow=2.6,SNR=19
GOMU GeErMu 136.10 95 PKP **PKiKP 19 09 43.9 +1.5**
CD2 Chengdu 136.44 108 PKP **PKPdf 19 09 41.4 +0.2**
MK31 Makanchi Array 137.39 74 *i* PKIKP **PKPdf 19 09 42.6 +0.2**
MKAR Makanchi Array 137.39 74 PKhKP PKPpre 19 09 31.9
comp=Z,1.0nm,0.7s,baz=212,slow=3.2,SNR=5.2
MKAR PKP **PKPdf 19 09 42.2 -0.1**
comp=Z,1.9nm,0.7s,baz=245,slow=2.6,SNR=6.1
MKAR pPKP pPKPdf 19 10 17.2 -1.0
comp=Z,2.1nm,0.8s,baz=249,slow=3.4,SNR=3.0
MKAR SKPbc **SKPbc 19 13 01.9 -1.0**
comp=Z,7.3nm,0.7s,baz=244,slow=2.2,SNR=20
BBB Bella Bella 137.60 297 SKPbc **SKPbc 19 13 03.0 -0.1**
comp=Z,2.5nm,0.7s,baz=177,slow=7.1,SNR=3.1
WMQ Urumqi 138.05 81 PKP **PKiKP 19 09 44.8 -1.0**
WMQ PP **PP 19 12 35.4 +1.1**
WMQ AMB AMB
comp=Z,220nm,8.5s
WMQ LR LR
comp=Z,130nm,16.5s
KURBB Kurchatov Arra 138.14 67 PKhKP PKPpre 19 09 34.8
comp=Z,1.0nm,0.6s,baz=237,slow=3.5,SNR=11
KURBB pPKP pPKPdf 19 10 21.0 +1.7
comp=Z,2.8nm,0.8s,baz=242,slow=2.1,SNR=2.0
KURBB PP **PP 19 12 34.0 -0.7**
comp=Z,1.4nm,0.9s,baz=237,slow=6.8,SNR=5.5
KURBB SKPbc **SKPbc 19 13 04.0 -0.8**
comp=Z,5.9nm,0.7s,baz=236,slow=3.2,SNR=19
YKA Yellowknife Ar 138.58 315 PKP **PKPdf 19 09 45.0 +1.0**
comp=Z,2.7nm,0.7s,baz=114,slow=2.1,SNR=11
YKA pPKP **pPKPdf 19 10 19.8 +0.1**
comp=Z,3.6nm,0.8s,baz=119,slow=2.1,SNR=3.8
YKA PP **PP 19 12 37.4 +0.2**
comp=Z,0.3nm,0.5s,baz=46,slow=8.2,SNR=3.6
YKA SKPbc **SKPbc 19 13 05.3 -0.3**
comp=Z,4.7nm,0.7s,baz=124,slow=2.8,SNR=14
SPITS Spitsbergen Ar 139.36 12 PKhKP PKPpre 19 09 37.4
comp=Z,2.6nm,0.4s,baz=182,slow=5.5,SNR=9.7
SPITS SKPbc **SKPbc 19 13 07.2 -0.2**
comp=Z,14nm,0.7s,baz=160,slow=3.2,SNR=8.5
LZDM Lanzhou Array 140.45 103 SKPbc **SKPbc 19 13 11.4 -0.7**
comp=Z,16nm,0.8s,baz=207,slow=6.3,SNR=7.1
LZH Lanzhou 140.63 103 PKP **PKPdf 19 09 43.7 -5.1**
LZH sPKP 19 10 36.6
U35K Hyder 140.84 300 P **PKPdf 19 09 48.8 +0.5**
baz=127
GTA Gaotai 141.11 96 *e*PKP **PKPdf 19 09 44.6 -4.9**
WHN Wuhan 141.16 120 PKP **PKiKP 19 09 51.3 -1.1**
V35K Ketchikan 141.20 298 P **PKiKP 19 09 50.8 -0.9**
baz=127
XAN Xi'an 141.51 110 PKP **PKPdf 19 09 45.6 -4.7**
T35M Bob Quinn 141.57 301 P **PKiKP 19 09 51.7 -0.8**
baz=126
CRAG Craig 141.98 298 P **PKiKP 19 09 53.1 -0.2**
baz=126
WRAK Wrangell Islan 142.18 299 P **PKiKP 19 09 52.2 -1.5**
baz=126
DLBC Dease Lake 142.32 303 SKPbc **SKPbc 19 13 15.3 -0.5**
comp=Z,130nm,0.9s,baz=67,slow=1.7,SNR=15
ZALV Zalesovo Beam 143.24 67 PKPpre 19 09 49.0
ZALV Zalesovo Beam 143.24 67 PKhKP PKPpre 19 09 50.0
comp=Z,4.9nm,0.3s,baz=224,slow=4.4,SNR=35
ZALV SKPbc **SKPbc 19 13 16.6 -1.4**
comp=Z,5.1nm,0.6s,baz=239,slow=3.7,SNR=10
ZALV Zalesovo Beam 143.24 67 *e*PKIKP PKPbc 19 09 49.8 -0.3
ZALV pmax pmax
comp=Z,5.0nm,0.3s
R33M Jennings River 143.26 304 P **PKPdf 19 09 54.3 +1.6**
baz=123
TGTN Hyland Airport 143.28 308 P **PKiKP 19 09 55.0 -0.9**
baz=122
Q32M Nakina River 143.59 303 P **PKiKP 19 09 55.2 -1.6**
baz=123
SIT Sitka 143.90 299 P **PKPdf 19 09 54.3 +0.6**
baz=124
R32K Eaglecrest 144.20 301 P **PKPdf 19 09 53.6 -0.6**
baz=123
NJ2 Nanjing 144.43 124 PKP **PKPdf 19 09 55.5 +0.1**
P33M Teslin, Yukon 144.49 304 P **PKPab 19 09 53.5 0.0**
baz=121
P32M Atlin 144.55 303 P **PKPdf 19 09 54.4 -0.4**
baz=122
S31K Pelican 144.80 300 P **PKPab 19 09 54.7 +0.1**
baz=122
R31K City Hall, Gus 144.82 300 P **PKPdf 19 09 55.5 +0.3**
baz=122
MMPY Sheldon Lake, 145.05 309 P **PKPdf 19 09 56.1 +0.5**
baz=119
N32M Quiet Lake 145.08 306 P **PKPab 19 09 56.5 +0.7**
baz=120
SKAG Skagway 145.19 302 P **PKPab 19 09 57.4 +1.3**
baz=121
C36M Paulatuk 145.50 322 P **PKPab 19 09 57.8 +0.9**
baz=115
WHY Whitehorse 145.60 304 PKPab 19 09 57.7 -0.1
WHY Whitehorse 145.60 304 P **PKPab 19 09 58.0 +0.2**
baz=120
PLBC Pleasant Camp 145.64 302 P **PKPab 19 09 57.8 0.0**
baz=120
M31M Drury Creek, Y 146.13 307 P **PKPdf 19 09 57.9 +0.5**
baz=118
O30N Mendenhall 146.17 304 P **PKPbc 19 09 59.2 +0.3**
baz=119
P30M Million Dollar 146.23 302 P **PKPbc 19 09 58.9 -0.1**
baz=119
P29M Windy Craggy 146.33 301 P **PKPbc 19 09 59.5 +0.1**
baz=120
N31M Braeburn, Yuko 146.38 305 P **PKPbc 19 09 59.7 +0.3**
baz=118
HYT Haines Junctio 146.81 303 P **PKPbc 19 10 00.6 -0.2**
A36M Sachs Harbour 146.89 326 P **PKPbc 19 10 00.3 -0.3**
baz=111
N30M Aishikik Lake 146.92 305 P **PKPbc 19 10 00.2 -0.9**
baz=118
HNS HongShan 147.00 114 ⇓PKPbc **PKPab 19 10 02.9 -0.8**
HNS pPKP pPKPab 19 10 38.8 +0.7
O29M Mount Kennedy 147.03 302 P **PKPdf 19 09 59.0 -0.1**
baz=118
PNL Peninsula 147.09 301 P **PKPdf 19 09 60.0 +0.9**
baz=119
BTO Baotou 147.20 105 *e*PKPbc **PKPdf 19 10 00.6 +0.6**
BTO PP **PP 19 13 32.6 +3.2**
YUK6 Outpost Mounta 147.23 303 P **PKPdf 19 09 59.4 -0.2**
baz=118
M30M Minto, Yukon 147.30 307 P **PKPbc 19 10 00.9 -1.1**
baz=116
YUK4 Talbot Arm 147.54 304 P **PKPbc 19 10 01.6 -1.3**
baz=117
H31M Peel River 147.67 313 P **PKPbc 19 10 02.2 -0.7**
baz=113
PINM Pinnacle 147.67 301 P **PKPdf 19 10 01.7 +1.5**
baz=118
M29M Somme Creek 147.94 306 P **PKPbc 19 10 02.7 -1.2**
baz=115
O28M Mount Upton 147.95 302 P **PKPdf 19 10 01.4 +0.5**
baz=117
J30M Hart River 147.95 310 P **PKPbc 19 10 02.7 -1.1**
baz=114
YUK8 Steele Glacier 148.00 303 P **PKPbc 19 10 03.1 -1.1**
baz=116
F31M Tsiigehtchic 148.06 316 P **PKPbc 19 10 02.7 -1.1**
baz=111
G31M Satah River 148.06 315 P **PKPbc 19 10 02.3 -1.5**
baz=111
L29M L29M 148.09 307 P **PKPbc 19 10 03.1 -1.0**
baz=114
K29M Barlow Dome 148.14 308 P **PKPbc 19 10 02.8 -1.5**
baz=114
HHC Hu-ho-hao-te 148.15 106 *e*PKPbc **PKPdf 19 10 02.6 +1.0**
I30M Mount Dempster 148.22 311 P **PKPdf 19 10 02.8 +1.8**
baz=112
INK Inuvik 148.28 317 P **PKPbc 19 10 03.0 -1.3**
baz=110
MESA MESA 148.47 300 P **PKPbc 19 10 03.8 -1.5**
baz=117
YUK3 Moose Creek 148.51 304 P **PKPbc 19 10 03.9 -1.5**
baz=115
CTG Chitna Glacier 148.54 302 P **PKPbc 19 10 03.6 -1.8**
baz=116
J29N Klondike Camp 148.66 309 P **PKPbc 19 10 04.9 -0.7**
baz=112
EPYK Eagle Plains 148.78 313 P **PKPbc 19 10 04.4 -1.3**
baz=110
G30M tAoh Zraii Nji 148.80 314 P **PKPbc 19 10 04.9 -0.9**
baz=110,SNR=33
F30M Barrier River 148.85 316 P **PKPbc 19 10 06.0 +0.1**
baz=109,SNR=15
BVCY Beaver Creek 148.95 305 P **PKPbc 19 10 05.6 -0.7**
baz=114
DAWY Dawson 148.98 308 P **PKPbc 19 10 05.7 -0.7**
baz=112
I29M Ogilvie Camp, 149.03 311 P **PKPbc 19 10 06.2 -0.2**
baz=111
CRQE Cirque 149.22 301 P **PKPbc 19 10 07.0 -0.1**
baz=115
H29M Whitestone 149.35 312 P **PKPbc 19 10 06.5 -0.6**
baz=109,SNR=21
M27K Edge Creek, AK 149.36 304 P **PKPbc 19 10 06.7 -0.7**
baz=114
G29M Pine Creek 149.45 314 P **PKPbc 19 10 07.2 -0.2**
baz=109
MCARA McCarthy VSAT 149.46 302 P **PKPbc 19 10 06.9 -0.7**
baz=114
KAIM Kayak Island 149.46 299 P **PKPbc 19 10 05.8 -1.8**
baz=116
BCAR Beaver Creek A 149.59 306 PKPdf **PKPdf 19 10 02.2 -0.9**
BCAR **PKPbc 19 10 08.1 +0.2**
L27K Beaver Creek, 149.61 306 P **PKPbc 19 10 07.5 -0.5**
baz=112
I28M Miner Creek 149.70 311 P **PKPbc 19 10 07.6 -0.5**
baz=110
BJI Beijing 149.79 112 PKPbc **PKiKP 19 10 10.0 +0.1**
E29M Blow River 149.85 317 P **PKPbc 19 10 08.6 +0.4**
baz=106
M26K Nabesna, AK 149.85 304 P **PKPbc 19 10 08.9 +0.4**
baz=113
MOY Mondy 149.94 81 *e*PKIKP **PKiKP 19 10 10.2 +0.2**
MOY pmax pmax
comp=Z,51nm,2.0s
BMRM Bremner River 149.99 301 P **PKiKP 19 10 09.5 -0.2**
baz=114
K27K Chicken 150.07 307 P **PKiKP 19 10 10.2 +0.4**
baz=111
L26K Log Cabin Wild 150.24 305 P **PKiKP 19 10 09.9 -0.3**
baz=112
N25K Chitina, Valde 150.24 302 P **PKiKP 19 10 11.0 +0.7**
baz=113
EYAK Cordova Ski Ar 150.33 299 P **PKiKP 19 10 09.8 +0.2**
baz=114
F28M Old Crow 150.34 315 P **PKPbc 19 10 09.5 0.0**
baz=106
ZAK Zakamensk 150.36 84 *e*PKIKP **PKPbc 19 10 10.4 +0.2**
ZAK pmax pmax
comp=Z,35nm,1.5s
D28M Stokes Point 150.39 318 P **PKPbc 19 10 09.8 +0.3**
baz=104,SNR=16
SONM Songino Array 150.40 91 PKPdf **PKPdf 19 10 05.0 0.0**
SONM **PKPbc 19 10 10.4 0.0**
SONM Songino Array 150.40 91 PKP **PKPdf 19 10 05.2 +0.2**
comp=Z,27nm,0.8s,baz=211,slow=2.6,SNR=3.6
SONM PKPbc **PKiKP 19 10 11.2 +0.1**
comp=Z,27nm,0.8s,baz=220,slow=2.8,SNR=86
SONM pPKP **pPKPdf 19 10 42.0 +1.1**
comp=Z,20nm,1.1s,baz=264,slow=1.4,SNR=2.4
SONM Songino Array 150.40 91 PKIKP **PKPbc 19 10 10.4 0.0**
I27K Kandik River 150.41 310 P **PKPbc 19 10 10.0 +0.2**
baz=111
E28M Babbage River 150.49 317 P **PKiKP 19 10 10.6 +0.1**
baz=105
H27K Steamboat Moun 150.57 312 P **PKPbc 19 10 10.0 -0.1**
baz=107,SNR=12
ULN Ulaanbaatar 150.76 92 PKPbc 19 10 10.9 -0.3
ULN Ulaanbaatar 150.76 92 PKIKP **PKPbc 19 10 11.0 -0.3**
KLU Klutina 150.78 301 P **PKiKP 19 10 11.3 -0.1**
baz=113
G27K Doyon Strip 150.79 313 P **PKiKP 19 10 11.0 -0.2**
baz=106
HARP HAARP 150.79 303 P **PKiKP 19 10 11.6 +0.3**
baz=112
J26L Joseph Creek 150.84 308 P **PKiKP 19 10 12.4 +0.9**
baz=109
SCRK Sand Creek 150.84 307 P **PKiKP 19 10 12.1 +0.6**
baz=110
I26K Coal Creek Min 150.93 309 P **PKiKP 19 10 12.2 +0.7**
baz=108
E27K Coleen River 151.12 316 P **PKPbc 19 10 11.6 +0.3**
baz=104
M24K Tolsona, Glenn 151.12 302 P **PKiKP 19 10 13.4 +1.4**
baz=111
RIDG Independent Ri 151.12 306 P **PKiKP 19 10 12.5 +0.5**
baz=109
PAX Paxson 151.13 304 P **PKiKP 19 10 12.0 -0.1**
baz=110
D27M Malcolm River 151.14 318 P **PKPbc 19 10 11.1 -0.3**
baz=103,SNR=21
DL2 Dalian 151.41 120 PKPbc **PKiKP 19 10 13.2 -0.1**
SCM Sheep Creek Mo 151.53 301 P **PKPbc 19 10 12.4 -0.1**
baz=111
J25K Salcha River, 151.62 307 P **PKiKP 19 10 13.2 +0.2**
baz=108
PWL Port Wells 151.62 299 P **PKPbc 19 10 12.1 -0.5**
baz=112
G26K Porcupine Rive 151.63 313 P **PKiKP 19 10 13.3 +0.4**
baz=104
M23K Glacier View 151.69 301 P **PKiKP 19 10 13.3 +0.1**
baz=111
PRP Porcupine Dome 151.94 309 P **PKPbc 19 10 13.2 -0.3**
baz=106
F26K Sheenjek River 151.95 314 P **PKPbc 19 10 13.0 -0.2**
baz=103,SNR=12
WAT6 Susitna Watana 151.97 303 P **PKPbc 19 10 13.2 -0.4**
baz=110
DHY Denali Highway 151.98 304 P **PKiKP 19 10 14.0 0.0**
baz=109
BMAR Burnt Mountain 152.05 313 PKPbc 19 10 11.4 -2.1
C27K Jago River 152.17 318 P **PKPbc 19 10 12.4 -1.2**
baz=100
HDA Harding Lake 152.21 307 P **PKPbc 19 10 12.5 -1.4**
baz=107
PMR Palmer 152.25 300 P **PKPbc 19 10 13.8 -0.2**
baz=111
H25L Birch Creek 152.25 311 P **PKPbc 19 10 13.8 -0.1**
baz=104
ILAR Eielson Array 152.29 307 PKPbc 19 10 13.4 -0.6
ILAR Eielson Array 152.29 307 PKP **PKPdf 19 10 07.3 +0.2**
comp=Z,0.2nm,0.6s,baz=113,slow=2.3,SNR=3.0
ILAR PKPbc **PKiKP 19 10 14.5 +0.2**
comp=Z,2.6nm,0.6s,baz=347,slow=0.1,SNR=20
ILAR pPKPbc **pPKPbc 19 10 50.1 +0.6**
comp=Z,8.3nm,0.9s,baz=148,slow=2.0,SNR=4.2
ILAR Eielson Array 152.29 307 PKIKP **PKPbc 19 10 13.5 -0.6**
BRSE Bradley Lake S 152.29 296 P **PKPbc 19 10 13.3 -0.9**
baz=113
RC01 Rabbit Creek A 152.34 299 P **PKPbc 19 10 12.9 -1.4**
baz=111
KDAK Kodiak Island 152.36 291 P **PKPbc 19 10 14.1 -0.2**
baz=116
WAT1 Susitna Watana 152.41 303 P **PKiKP 19 10 15.3 +0.7**
baz=109
OHAK Old Harbor 152.46 290 P **PKPbc 19 10 14.4 -0.2**
baz=116
G25K Bearman Lake 152.48 312 P **PKPbc 19 10 14.3 0.0**
baz=103
F25K Christian Rive 152.49 314 P **PKPbc 19 10 14.3 -0.1**
baz=102
E25K Arctic Village 152.56 315 P **PKiKP 19 10 14.9 +0.1**
baz=101
POKR Poker Plat Res 152.61 308 P **PKPbc 19 10 14.5 -0.2**
baz=105
C26K Camden Bay 152.63 319 P **PKiKP 19 10 15.3 +0.5**
baz=98
XLT XiLinHaoTe 152.66 107 *e*PKPbc **PKiKP 19 10 16.5 +0.7**
KSAR Wonju Array Be 152.80 131 PKPdf **PKPdf 19 10 08.4 -0.4**
KSAR PKPbc **PKiKP 19 10 16.2 0.0**
KSAR **PKPab 19 10 28.4 +0.8**
KSAR Wonju Array Be 152.80 131 PKIKP **PKiKP 19 10 16.2 0.0**
KSAR 19 10 28.4
KSRS Korea Array 152.83 131 PKP **PKPdf 19 10 10.7 +1.9**
comp=Z,0.7nm,0.7s,baz=216,slow=2.2,SNR=3.9
KSRS PKPbc **PKiKP 19 10 16.9 +0.7**
comp=Z,6.7nm,0.8s,baz=202,slow=2.1,SNR=16
KSRS PKPab **PKPab 19 10 29.3 +1.6**
comp=Z,22nm,0.9s,baz=196,slow=1.9,SNR=4.3
MCK McKinley 152.85 305 P **PKPbc 19 10 15.4 +0.1**
baz=107
CAPN Captain Cook N 152.87 298 P **PKiKP 19 10 16.1 +0.6**
baz=111
SUA Susitna One 152.93 299 P **PKiKP 19 10 15.9 0.0**
baz=110
H24K Noodor Dome 152.97 309 P **PKiKP 19 10 15.9 +0.2**
baz=104
CHIR Chirikof Islan 152.97 286 P **PKiKP 19 10 17.0 +1.1**
baz=118
G24K Hadweenzic Riv 153.00 311 P **PKiKP 19 10 16.2 +0.5**
baz=102
O20K Slope Mountain 153.30 296 P **PKPbc 19 10 16.6 +0.1**
baz=112
F24K Squaw Lake 153.32 313 P **PKiKP 19 10 17.3 +0.9**
baz=100
TRF Thorofare Moun 153.35 304 P **PKPbc 19 10 14.1 -2.5**
baz=106
I23K Minto, Yukon-K 153.40 308 P **PKPbc 19 10 15.8 -0.6**
baz=104
SKT Skwentna 153.45 300 P **PKPbc 19 10 16.1 -0.6**
baz=109
H23K Yukon River 153.63 309 P **PKPbc 19 10 16.2 -0.8**
baz=102
E24K Your Creek 153.63 314 P **PKPbc 19 10 16.5 -0.4**
baz=99
BPAW Bear Paw Mtn. 153.82 305 P **PKPbc 19 10 16.1 -1.4**
baz=105
D24K Happy Valley 153.90 317 P **PKPbc 19 10 15.3 -2.1**
baz=96
C24K Franklin Bluff 153.91 318 P **PKPbc 19 10 15.9 -1.6**
baz=95
MLY Manley 153.94 307 P **PKPbc 19 10 17.7 0.0**
baz=103
G23K Bananza Creek 154.00 311 P **PKiKP 19 10 17.9 +0.1**
baz=100
PPLA Purkeypile 154.02 302 P **PKPbc 19 10 18.0 -0.1**
baz=106
E23K Chandalar 154.05 314 P **PKPbc 19 10 17.8 -0.1**
baz=98
TOLK Toolik Lake Re 154.11 315 P **PKiKP 19 10 19.0 +1.0**
baz=97
M20K Styx River 154.14 299 P **PKiKP 19 10 20.1 +1.8**
baz=108
COLD Coldfoot 154.15 312 P **PKiKP 19 10 20.4 +2.3**
baz=99
H22K Ishtalitna Cre 154.38 309 P **PKiKP 19 10 21.9 +3.3**
baz=101
N19K Bonanza Creek 154.42 297 P **PKiKP 19 10 21.4 +2.5**
baz=109
I21K Tanana 154.49 307 P **PKiKP 19 10 21.3 +2.5**
baz=102
CHNA Chernabura Isl 154.50 281 P **PKiKP 19 10 21.8 +2.7**
baz=119
D23K Nanushuk River 154.54 316 P **PKiKP 19 10 21.8 +2.9**
baz=95
C23K Itkillik River 154.58 318 P **PKiKP 19 10 21.8 +3.0**
baz=93
G22K Bettles 154.61 311 P **PKiKP 19 10 21.7 +2.7**
baz=99
H21K Melozitna Rive 154.92 308 P **PKiKP 19 10 23.9 +4.2**
baz=100
F22K John River 154.95 312 P **PKiKP 19 10 24.3 +4.6**
baz=97
K20K Telida 154.97 302 P **PKiKP 19 10 24.3 +4.4**
baz=104
L19K White Mountain 155.01 300 P PKPdf 19 10 23.7 +13
baz=106
S14K Fog Glacier 155.15 284 P PKPab 19 10 24.7 -12
baz=116
J20K Nowinta River 155.19 304 P PKPdf 19 10 23.9 +13
baz=102
M18K Stony River 155.25 298 P PKPab 19 10 24.9 -12
baz=107
D22K Ayikyak River 155.26 316 P PKPab 19 10 25.1 -12
baz=94
G21K Allakaket 155.34 310 P PKPab 19 10 26.6 -11
baz=98
MAJO Matsushiro 155.42 149 PKPdf **PKPdf 19 10 12.4 -0.1**
MAJO **PKPab 19 10 38.8 0.0**
MAJO Matsushiro 155.42 149 PKIKP **PKPdf 19 10 12.4 -0.1**
MAJO 19 10 38.8
MJAR Matsushiro Arr 155.42 149 PKPdf 19 10 12.1 -0.4
MJAR PKPdif PKPab 19 10 22.4 -16
MJAR PKPab **pPKPdf 19 10 39.1 -10**
MJAR Matsushiro Arr 155.42 149 PKP **PKPdf 19 10 12.8 +0.2**
comp=Z,2.7nm,1.0s,baz=145,slow=2.6,SNR=7.4
MJAR PKPab **PKPab 19 10 39.5 +0.8**
comp=Z,18nm,0.7s,baz=178,slow=4.9,SNR=32
MJAR PP **PP 19 14 13.4 -2.3**
comp=Z,2.8nm,1.0s,baz=185,slow=6.0,SNR=5.4
BNX BinXian 159.43 119 ⇑P **PKPab 19 10 55.8 -0.1**
BNX pmax pmax
comp=Z,28nm,0.9s
USRK Ussuriysk Ar. 160.18 129 PKPab **PKPab 19 10 59.3 +0.2**
comp=Z,4.4nm,0.5s,baz=205,slow=3.1,SNR=15
HEH HeiHe 162.63 109 *e*P **PKPab 19 11 09.4 -0.4**
HEH pmax pmax
comp=Z,18nm,1.1s
ASAJ Asahikawa 163.67 151 PKPab **PKPab 19 11 15.7 +1.3**
comp=Z,16nm,0.8s,baz=211,slow=3.4,SNR=23
TIXI Tiksi 163.84 28 PKPdf **PKPdf 19 10 21.2 +0.3**
TIXI **PKPab 19 11 14.5 +0.1**
TIXI Tiksi 163.84 28 PKIKP **PKPdf 19 10 21.2 +0.3**
TIXI 19 11 14.5
ZEA Zeya 164.58 98 *e*PKP2 **PKPab 19 11 18.2 0.0**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
YSS Yuzhno-Sakhali 166.34 147 PKPdf **PKPdf 19 10 23.3 -0.5**
YSS **PKPab 19 11 25.9 -0.2**
YSS Yuzhno-Sakhali 166.34 147 *e*PKP2 **PKPab 19 11 26.7 +0.6**
YSS pmax pmax
comp=Z,30nm,0.9s
GRNR Gornyy 167.20 123 ⇑ *i*PKP2 **PKPab 19 11 30.4 +0.5**

GRNR pmax pmax
comp=Z,10.0nm,1.1s
YAK Yakutsk 167.88 65 ePKP2 **PKPab 19 11 33.7 +1.1**
YAK pmax pmax
comp=Z,7.0nm,0.6s
YAK pmax pmax
comp=N,3.0nm,1.4s
YAK pmax pmax
comp=E,3.0nm,1.4s
PETK Petropavlovsk- 173.67 203 PKPab **PKPab 19 11 58.9 +0.5**
comp=E,18nm,0.7s,baz=115,slow=6.7,SNR=22
PETK PP **PP 19 15 53.1 +2.3**
comp=E,8.0nm,0.9s,baz=210,slow=14,SNR=4.1

NEIC ***07*** *18:51:45.9±1.2,37.809N±0.007×113.22W±0.01, h7km±5km, Error ellipse: s-maj=1.6km s-min=0.7km az=122.0*
UUSS 07 18:51:46.0±1.2, 37.81N±0.01×113.20W±0.02, h8km±8km, ML2.5/3, ML2.4/107(NEIC), **Error ellipse: s-maj=1.8km s-min=1.6km az=113.0, Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARUT	**Antelope Range**	**0.19**	**263**		Pg	18 51 50.5	+0.5
SZCU	**Shurtz Canyon**	**0.23**	**157**		Pg	18 51 50.9	+0.1
SZCU					Sg	18 51 53.1	-1.0
SZCU				IAML		18 51 55.5	
	comp=N,768nm,0.3s						
SZCU				IAML		18 51 55.6	
	comp=E,596nm,0.3s						
CCUT	**Cedar City**	**0.29**	**206**		Pg	18 51 51.9	0.0
CCUT					Sg	18 51 55.7	-0.1
DWU	**Dry Willow Pea**	**0.33**	**29**		Pg	18 51 53.1	+0.4
ZNPU	**Zion National**	**0.46**	**173**		Pg	18 51 55.2	+0.2
ZNPU					Sg	18 52 01.9	+0.9
NMUT	**North Mineral**	**0.76**	**21**		Pg	18 52 00.6	0.0
PKCU	**Pink Cliffs**	**0.80**	**117**		Pg	18 52 01.8	+0.4
PKCU				Sg	Sg	18 52 11.8	+0.1
PKCU				IAML		18 52 14.5	
	comp=N,84nm,0.3s						
PKCU				IAML		18 52 17.6	
	comp=E,143nm,0.4s						
LCMT	**Little Creek M**	**0.80**	**183**		Pg	18 52 01.3	-0.2
LCMT				Sg	Sg	18 52 11.1	-0.8
LCMT				IAML		18 52 12.2	
	comp=E,311nm,0.2s						
LCMT				IAML		18 52 12.5	
	comp=N,196nm,0.1s						
IMU	**Iron Mountain**	**0.82**	**2**		Pg	18 52 02.0	+0.1
MTPU	**Mount Pierson**	**0.83**	**74**		Pg	18 52 02.5	+0.3
KNB	**Kanab**	**0.85**	**159**		Pg	18 52 02.1	-0.3
KNB				IAML		18 52 13.8	
	comp=N,67nm,0.7s						
ICU	**Indian Springs**	**0.88**	**221**		Pg	18 52 03.2	+0.3
PSUT	**Pine Spring**	**0.89**	**325**		Pg	18 52 03.1	0.0
PSUT				Sg	Sg	18 52 14.1	-0.6
EKU	**East Kanab**	**0.92**	**143**		Pg	18 52 04.0	+0.2
TCRU	**Three Creeks R**	**0.99**	**36**		Pg	18 52 05.2	0.0
BTU	**Barney Top**	**1.05**	**93**		Pb	18 52 06.9	+0.2
SPR3	**Spring Creek 3**	**1.48**	**323**		Pn	18 52 12.6	-0.7
SPR3				IAML		18 52 34.5	
	comp=N,25nm,0.2s						
PRN	**Pahroc Range**	**1.52**	**255**		Pn	18 52 13.9	+0.2
PRN				IAML		18 52 38.9	
	comp=E,91nm,0.5s						
PRN				IAML		18 52 43.4	
	comp=N,82nm,0.5s						
U15A	**North Rim**	**1.56**	**152**		Pn	18 52 14.6	+0.2
U15A				IAML		18 52 35.4	
	comp=N,31nm,0.4s						
U15A				IAML		18 52 37.0	
	comp=E,32nm,0.3s						
Q16A	**Castle Valley**	**1.94**	**55**	Pn	Pb	18 52 20.9	-0.8
HMU	**Henry Mountain**	**1.95**	**86**		Pb	18 52 21.2	-0.8
HMU				IAML		18 52 51.1	
	comp=E,25nm,0.5s						
HMU				IAML		18 53 00.7	
	comp=N,19nm,0.7s						
R11B	**Troy Canyon, C**	**1.96**	**287**		Pn	18 52 19.4	-0.2
R11B				IAML		18 52 50.9	
	comp=E,15nm,0.4s						
S11A	**Rachel**	**2.03**	**266**	Pn	Pn	18 52 20.1	-0.5
S11A				IAML		18 52 53.3	
	comp=N,49nm,0.6s						
S11A				IAML		18 52 54.1	
	comp=E,47nm,0.9s						
SHPR	**Sheep Range**	**2.04**	**231**		Pn	18 52 20.6	-0.2
TMUT	**Trail Mountain**	**2.15**	**46**		Pn	18 52 22.2	-0.3
TMUT				IAML		18 52 59.7	
	comp=E,12nm,4.7s						
TMUT				IAML		18 53 06.5	
	comp=N,15nm,4.5s						
V12A	**Nelson**	**2.47**	**213**	Pn	Pn	18 52 27.3	+0.7
SRU	**San Rafael Swe**	**2.47**	**57**	Pn	Pn	18 52 27.1	+0.4
TPNV	**Topopah Spring**	**2.58**	**251**		Pn	18 52 27.2	-1.0
TPNV				IAML		18 53 20.0	
	comp=N,8.8nm,3.9s						
TPNV				IAML		18 53 25.1	
	comp=N,10nm,4.2s						
WUAZ	**Wupatki**	**2.72**	**147**		Pn	18 52 28.7	-1.5
W13A	**Hualapai Mount**	**2.76**	**192**		Pn	18 52 30.0	-0.8
W13A				IAML		18 53 54.3	
	comp=N,7.6nm,4.8s						
P18A	**Preston Nutter**	**2.94**	**51**	Pn	Pn	18 52 31.9	-1.4
P18A				IAML		18 53 27.9	
	comp=N,12nm,4.8s						
P18A				IAML		18 53 32.9	
	comp=E,11nm,4.6s						
GWY	**Greenwater Val**	**3.22**	**241**		Pn	18 52 33.8	-3.2
GWY				IAML		18 53 30.9	
	comp=N,6.7nm,0.4s						
GWY				IAML		18 54 00.1	
	comp=E,8.6nm,4.8s						
FURC	**Furnace Creek,**	**3.22**	**246**		Pn	18 52 33.9	-3.0
FURC				IAML		18 53 31.6	
	comp=E,15nm,1.7s						
FURC				IAML		18 53 34.1	
	comp=N,12nm,0.6s						
PV05	**Paradox Valley**	**3.25**	**84**		Pn	18 52 36.9	-0.7
PV05				IAML		18 53 35.4	
	comp=N,15nm,3.2s						
PV05				IAML		18 53 57.3	
	comp=E,12nm,3.0s						
GMN	**Gold Mountain**	**3.27**	**262**		Pn	18 52 34.9	-2.9
PV10	**Paradox Valley**	**3.33**	**79**		Pn	18 52 35.6	-3.1
PV14	**Lion Creek, Pa**	**3.34**	**79**	Pn	Pn	18 52 35.8	-3.0
PV23	**Carpenter Ridg**	**3.36**	**78**		Pn	18 52 37.3	-1.8
PV19	**Morning Glory**	**3.37**	**80**		Pn	18 52 37.8	-1.3
PV20	**West Nyswonger**	**3.38**	**80**		Pn	18 52 36.8	-2.5
PV21	**Cone Mtn., Par**	**3.41**	**76**	Pn	Pn	18 52 37.7	-2.1
PV21				IAML		18 53 36.1	
	comp=E,17nm,2.6s						
PV21				IAML		18 54 42.5	
	comp=N,17nm,3.8s						
PV18	**Skein Mesa, Pa**	**3.42**	**81**		Pn	18 52 38.1	-1.7
PV16	**Nyswonger Mesa**	**3.42**	**80**		Pn	18 52 37.3	-2.5
PV16				IAML		18 53 17.7	
	comp=E,15nm,4.4s						
PV04	**Paradox Valley**	**3.44**	**79**	Pn	Pn	18 52 38.3	-1.7
PV11	**David Mesa, Pa**	**3.45**	**81**	Pn	Pn	18 52 38.0	-2.3
PV11				IAML		18 54 05.7	
	comp=E,17nm,2.8s						
PV03	**Paradox Valley**	**3.46**	**81**	Pn	Pn	18 52 38.5	-1.9
PV03				IAML		18 53 32.1	
	comp=N,15nm,4.2s						
PV03				IAML		18 53 36.7	
	comp=E,15nm,4.8s						
QSM	**Queen of Sheba**	**3.47**	**239**	Pn	Pn	18 52 38.3	-2.1
QSM				IAML		18 53 39.6	
	comp=N,7.1nm,4.7s						
QSM				IAML		18 54 14.4	
	comp=E,9.2nm,4.5s						
PV13	**Radium Mtn., P**	**3.48**	**83**		Pn	18 52 39.2	-1.4
PV13				IAML		18 53 25.4	
	comp=N,14nm,4.4s						
PV12	**Saucer Basin,**	**3.51**	**80**		Pn	18 52 39.5	-1.6
PV02	**Paradox Valley**	**3.55**	**82**		Pn	18 52 39.8	-1.8
PV22	**Blue Mesa, Par**	**3.55**	**77**	Pn	Pn	18 52 40.5	-1.2
PV22				IAML		18 53 41.9	
	comp=E,16nm,4.8s						
PV22				IAML		18 53 43.0	
	comp=N,14nm,4.6s						
X16A	**Lo Mia Camp, P**	**3.67**	**157**	IAML		18 53 45.1	
	comp=N,7.6nm,4.9s						
X16A				IAML		18 54 44.7	
	comp=E,9.2nm,4.6s						
MVCO	**Mesa Verde**	**3.79**	**98**	Pn	Pn	18 52 42.2	-2.7
DSP	**Deep Springs**	**3.81**	**265**	Pn	Pn	18 52 41.8	-3.2
DSP				IAML		18 54 23.0	
	comp=E,6.6nm,4.8s						
DSP				IAML		18 55 09.0	
	comp=N,6.6nm,4.6s						

IDC ***07*** *18:54:10.4±1.8,3.50S×129.79E, h0km, mb3.7/3, mbtmp3.6/5, ML3.2/2, Error ellipse: s-maj=103.8km s-min=21.7km az=73.0*
DJA ***07*** *18:54:13.9±0.4,4°S±3°×12°9E±°, h11km±3km, M3.9/12, mb4.2/2, MLv3.7/12*
ISC 07 18:54:13.3±0.8, 3.66S±0.06×129.37E±0.05, h10km, n14, σ0.89/17, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.54**	**305**	P	**Pb**	**18 54 24.9**	**+0.1**
MSAI				S	**Sb**	**18 54 32.5**	**-0.1**
BNDI	**Bandanaira**	**1.01**	**148**	P	**Pn**	**18 54 33.3**	**-0.2**
AAI	**Ambon**	**1.18**	**268**	P	**Pg**	**18 54 35.8**	**-0.1**
AAI				S	**Sn**	**18 54 51.8**	**-0.1**
NLAI	**Namlea**	**2.31**	**280**	P	**Pn**	**18 54 52.3**	**+1.0**
FAKI	**Fak Fak**	**2.96**	**76**	P	**Pn**	**18 55 01.5**	**+1.1**
SWI	**Sorong**	**3.35**	**34**	P	**Pn**	**18 55 06.1**	**+0.3**
SANI	**Sanana**	**3.74**	**295**	P	**Pn**	**18 55 11.1**	**+0.1**
KMPI	**Kaimana, Papua**	**4.32**	**90**	P	**Pn**	**18 55 19.3**	**+0.2**
RKPI	**Ransiki, Papua**	**5.25**	**66**	P	**Pn**	**18 55 32.4**	**+0.5**
	38nm,1.1s						
FITZ	**Fitzroy Crossi**	**14.81**	**194**	Pn	**Pn**	**18 57 43.4**	**+0.4**
	0.1nm,0.3s,baz=130,slow=23,SNR=1.5						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**16.90**	**164**	Pn	**Pn**	**18 58 07.9**	**-2.2**
	0.1nm,0.3s,baz=348,slow=13,SNR=4.7						
WRA				Sn	**Sn**	**19 01 19.7**	**+1.7**
	0.1nm,0.3s,baz=348,slow=23,SNR=1.5						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**20.37**	**168**	P	**P**	**18 58 50.5**	**+0.2**
	0.8nm,0.4s,baz=349,slow=12,SNR=18						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**65.11**	**326**	P	**P**	**19 04 53.7**	**-0.6**
	0.3nm,0.4s,baz=115,slow=8.2,SNR=9.1						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**69.35**	**328**	P	**P**	**19 05 20.5**	**-0.6**
	0.7nm,0.4s,baz=126,slow=5.8,SNR=11						
	0.7nm,0.4s						

NEIC ***07*** *19:01:27.9±0.7,43.62N±0.08×105.2W±0.1, h0km±1km, ML3.3/46, Error ellipse: s-maj=19.0km s-min=2.6km az=43.0*
IDC ***07*** *19:01:29.8±1.7,43.89N×105.56W, h0km, mbtmp3.2/2, ML2.2/1, Error ellipse: s-maj=44.7km s-min=10.0km az=149.0*
ISC 07 19:01:28.1±1.0, 43.65N±0.06×105.20W±0.07, h0km, n30, σ1.03/28, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.97**	**60**	Pg	**Pb**	**19 01 47.5**	**-0.4**
K22A	**Casper**	**1.39**	**225**	Pg	**Pg**	**19 01 53.9**	**-0.8**
RLMT	**Red Lodge**	**3.26**	**298**	Pn	**Pn**	**19 02 22.1**	**+1.4**
RLMT				IAML		19 04 09.9	
	46nm,2.6s						
PD31	**Pinedale Array**	**3.30**	**256**		**Pn**	**19 02 21.9**	**+0.7**
PDAR	**Pinedale Array**	**3.30**	**256**		**Pn**	**19 02 23.2**	**+1.9**
PDAR	**Pinedale Array**	**3.30**	**256**	Pn	**Pn**	**19 02 22.8**	**+1.5**
	2.2nm,0.4s,baz=78,slow=13,SNR=12						
PDAR				Lg	Lg	19 03 08.8	
	9.6nm,0.3s,baz=67,slow=34,SNR=4.3						
HAYD	**Hayden**	**3.48**	**207**		**Pn**	**19 02 24.7**	**+1.0**
OGNE	**Ogallala**	**3.58**	**138**		**Pn**	**19 02 25.6**	**+0.7**
YNE	**Yellowstone No**	**3.71**	**293**		**Pn**	**19 02 28.1**	**+1.3**
YNE				IAML		19 03 45.0	
	comp=N,48nm,0.6s						
YMP	**Mirror Lake Pl**	**3.73**	**289**		**Pn**	**19 02 28.0**	**+0.9**
YMP				IAML		19 03 45.1	
	comp=N,60nm,2.2s						
ISCO	**Idaho Springs**	**3.86**	**185**		**Pn**	**19 02 30.0**	**+1.0**
ISCO				IAML		19 04 15.1	
	comp=N,37nm,5.0s						
ISCO				IAML		19 04 38.8	
	comp=N,50nm,4.2s						
LOHW	**Long Hollow**	**3.92**	**271**		**Pn**	**19 02 29.9**	**+0.2**
SNOW	**Snow King Moun**	**4.04**	**269**		**Pn**	**19 02 34.1**	**+2.7**
SNOW				IAML		19 04 15.1	
	comp=N,50nm,1.6s						
YPP	**Pitchstone Pla**	**4.09**	**281**		**Pn**	**19 02 32.0**	**-0.1**
YPP				IAML		19 03 01.9	
	comp=E,26nm,4.5s						
O20A	**White River Ci**	**4.18**	**214**		**Pn**	**19 02 34.6**	**+1.3**
TPAW	**Teton Pass**	**4.18**	**270**		**Pn**	**19 02 33.3**	**0.0**
TPAW				IAML		19 03 52.6	
	comp=E,22nm,2.9s						
TPAW				IAML		19 04 16.6	
	comp=E,38nm,1.9s						
YHL	**Hebgen Lake**	**4.46**	**288**		**Pn**	**19 02 37.6**	**+0.4**
YHL				IAML		19 04 13.4	
	comp=N,23nm,1.4s						
YHL				IAML		19 04 20.0	
	comp=E,32nm,1.7s						
DGMT	**Dagmar**	**4.87**	**8**		**Pn**	**19 02 43.3**	**+0.7**
BOZ	**Bozeman (W)**	**4.98**	**295**		**Pn**	**19 02 44.3**	**+0.1**
BOZ				IAML		19 03 27.5	
	comp=E,14nm,4.9s						
BOZ				IAML		19 04 47.8	
	comp=E,19nm,4.6s						
HWUT	**Hardware Ranch**	**5.12**	**249**		**Pn**	**19 02 46.8**	**+0.7**
HWUT				IAML		19 04 33.1	
	comp=E,19nm,0.8s						
BSUT	**Blindstream Ca**	**5.17**	**235**		**Pn**	**19 02 47.4**	**+0.3**
BSUT				IAML		19 04 24.8	
	comp=N,21nm,2.9s						
TCUT	**Toone Canyon**	**5.25**	**243**		**Pn**	**19 02 48.4**	**+0.4**
EGMT	**Eagleton**	**5.41**	**326**		**Pn**	**19 02 50.8**	**+0.8**
HVU	**Hansel Valley**	**5.88**	**254**		**Pn**	**19 02 56.7**	**+0.1**
LYMT	**Lyon Mountain**	**6.00**	**306**	Pn	**Pn**	**19 02 58.9**	**+0.6**
SRU	**San Rafael Swe**	**6.05**	**223**		**Pn**	**19 02 58.4**	**-0.5**
ECSD	**EROS Data Cent**	**6.23**	**86**		**Pn**	**19 03 02.1**	**+0.9**
ULM	**Lac du Bonnet**	**9.18**	**41**	Pn	**Pn**	**19 03 41.7**	**+0.1**
	comp=N,0.4nm,0.3s,baz=236,slow=12,SNR=4.8						
ULM				Lg	Lg	19 06 11.8	
	comp=N,0.3nm,0.3s,baz=140,slow=19,SNR=3.3						
	comp=N,0.9nm,0.3s						
I56US	**NEWORT INFRAS**	**9.50**	**303**	I	I	19 55 38.4	
	baz=116,slow=318,SNR=4.2						
TXAR	**Lajitas Array**	**14.34**	**175**	Pg	Pg	19 05 57.0	
	comp=N,0.1nm,0.3s,baz=358,slow=16,SNR=5.9						

IDC ***07*** *19:02:48.0±0.8,6.28S×75.52W, h0km, mb4.1/5, mbtmp4.2/11, ML3.7/6, MS3.4/4, Error ellipse: s-maj=20.4km s-min=15.6km az=60.0*
NEIC ***07*** *19:02:50.1±1.8,6.38S±0.06×75.68W±0.05, h10km±1km, mb4.6/31, Error ellipse: s-maj=10.3km s-min=8.6km az=209.0*
VAO ***07*** *19:02:52.6±0.5,6.36S×75.71W, h41km, mb4.4*
ISC 07 19:02:51.9±0.4, 6.37S±0.04×75.70W±0.04, h29km, n81, σ1.15/89, mb4.4/19, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.78**	**254**	Pn	**Pn**	**19 03 36.4**	**+1.5**
	16nm,0.3s,baz=32,slow=7.1,SNR=99						
ATAH				Sn	**Sb**	**19 04 15.5**	**+0.5**
	69nm,0.3s,baz=318,slow=16,SNR=14						
ATAH				LR	LR	19 04 58.8	
	comp=Z,638nm,19.6s,baz=37,slow=44						
	91nm,0.3s						
CZSB	**Cruzeiro do Su**	**3.27**	**115**		**Pn**	**19 03 42.4**	**+1.1**
CZSB				Sn	**Sn**	**19 04 22.1**	**+3.0**
CZSB	**Cruzeiro do Su**	**3.27**	**115**	eP	**Pn**	**19 03 42.0**	**+0.8**
COHC	**Cochancay**	**5.25**	**317**		**Pn**	**19 04 09.3**	**+0.8**
COHC				Sn	**Sn**	**19 05 10.2**	**+2.0**
NNA	**Nana**	**5.69**	**191**		**Pn**	**19 04 15.7**	**+1.0**
NNA				Sn	**Sn**	**19 05 17.5**	**-1.6**
NNA	**Nana**	**5.69**	**191**	Pn	**Pn**	**19 04 15.0**	**+0.4**
	16nm,0.3s,baz=14,slow=7.7,SNR=19						
NNA				Sn	**Sn**	**19 05 17.9**	**-1.2**
	43nm,0.3s,baz=218,slow=14,SNR=12						
	36nm,0.3s						

TBTG	**Tabatinga, AM**	**6.16**	**70**		**Pn**	**19 04 22.3**	**+1.2**
TBTG	**Tabatinga, AM**	**6.16**	**70**	eP	**Pn**	**19 04 21.8**	**+0.7**
OTAV	**Otavalo**	**7.12**	**337**	Pn	**Pn**	**19 04 36.3**	**+1.7**
FLOC	**Florencia**	**7.90**	**0**		**Pn**	**19 04 45.4**	**+0.4**
ROSC	**El Rosal**	**11.22**	**7**	Pn	**Pn**	**19 05 28.0**	**-2.9**
	3.0nm,0.3s,baz=120,slow=20,SNR=1.8						
ROSC				Sn	**Sn**	**19 07 35.2**	**-0.4**
	6.5nm,0.3s,baz=204,slow=12,SNR=3.6						
ROSC				LR	LR	19 10 16.7	
	comp=Z,161nm,18.7s,baz=245,slow=40						
	9.8nm,0.4s						
TEFE	**Tefe**	**11.39**	**76**	eP	**Pn**	**19 05 33.1**	**+0.4**
LPAZ	**La Paz**	**12.33**	**144**	Pn	**Pn**	**19 05 46.4**	**+0.1**
LPAZ	**La Paz**	**12.33**	**144**	Pn	**Pn**	**19 05 45.4**	**-0.8**
	0.2nm,0.3s,baz=358,slow=9.7,SNR=2.6						
LPAZ				Sn	**Sn**	**19 08 07.4**	**+4.3**
	baz=9.2,slow=25						
	1.0nm,0.4s						
LPAZ	**La Paz**	**12.33**	**144**	eP	**Pn**	**19 05 46.0**	**-0.2**
RUSC	**La Rusia**	**12.46**	**12**		**Pn**	**19 05 48.2**	**+0.3**
PB11	**IPOC Station P**	**14.55**	**157**	Pn	**Pn**	**19 06 14.9**	**-1.2**
GO01	**Chusmiza**	**14.65**	**155**	Pn	**Pn**	**19 06 15.6**	**-2.2**
MACA	**Manacapuru-AM**	**15.30**	**79**	Pn	**Pn**	**19 06 24.7**	**-1.4**
SDV	**Santo Domingo**	**15.98**	**18**	Pn	**Pn**	**19 06 32.5**	**-2.5**
	1.7nm,0.3s,baz=348,slow=12,SNR=1.6						
SDV				Sn	**Sn**	**19 09 32.9**	**+1.4**
	1.2nm,0.3s,baz=45,slow=9.9,SNR=1.4						
SDV				LR	LR	19 12 43.6	
	comp=Z,115nm,20.8s,baz=254,slow=38						
	5.0nm,0.3s						
SDV	**Santo Domingo**	**15.98**	**18**	eP	**Pn**	**19 06 34.6**	**-0.4**
BRU2	**Volcan**	**16.60**	**335**	Pn	**Pn**	**19 06 42.4**	**-0.5**
VILB	**Vilhena**	**16.61**	**114**	eP	**Pn**	**19 06 43.1**	**+0.1**
BAUV	**El Baul**	**17.02**	**27**	Pn	**Pn**	**19 06 47.4**	**-0.6**
SIV	**San Ignacio**	**17.23**	**125**	P	**Pn**	**19 06 49.2**	**-1.5**
	baz=339,slow=12,SNR=4.4						
SIV				S	**Sn**	**19 10 02.4**	**+0.7**
	2.7nm,0.6s,baz=223,slow=20,SNR=2.0						
	0.8nm,0.4s						
BOAV	**Boa Vista**	**17.48**	**61**		**Pn**	**19 06 52.6**	**-1.2**
BOAV	**Boa Vista**	**17.48**	**61**	eP	**Pn**	**19 06 53.1**	**-0.6**
HDC	**Heredia**	**18.30**	**333**	eP	**P**	**19 07 03.0**	**-0.9**
PTLB	**Pontes e Lacer**	**18.59**	**120**	P	**P**	**19 07 06.4**	**-0.6**
PTLB	**Pontes e Lacer**	**18.59**	**120**	eP	**P**	**19 07 06.3**	**-0.6**
PDRB	**Porto dos Gac**	**19.44**	**107**	eP	**P**	**19 07 16.2**	**-0.1**
ITTB	**Itaituba**	**19.98**	**85**	eP	**P**	**19 07 21.9**	**-0.4**
CLDB	**Colider**	**20.18**	**104**	eP	**P**	**19 07 24.5**	**+0.1**
NPGB	**Novo Progresso**	**20.22**	**93**	eP	**P**	**19 07 23.7**	**-1.1**
AC01	**Pan de Azucar**	**20.26**	**167**	P	**P**	**19 07 24.8**	**-0.4**
SALV	**Santo Antonio**	**21.77**	**117**	eP	**P**	**19 07 41.4**	**-0.2**
MAL2	**Monte Alegre,**	**21.89**	**80**	P	**P**	**19 07 44.6**	**+1.7**
MAL2				IAmb	IAmb	19 08 13.6	
	comp=Z,21nm,1.2s						
AC04	**Llanos de Chal**	**22.15**	**169**	P	**P**	**19 07 46.2**	**+0.7**
BDQN	**Bodoquena, MS**	**23.10**	**129**	eP	**P**	**19 07 55.5**	**-0.1**
MURT	**Porto Murtinho**	**23.17**	**133**	eP	**P**	**19 07 56.4**	**0.0**
PP1B	**Ponto de Pedra**	**23.19**	**121**	eP	**P**	**19 07 56.3**	**-0.4**
AQDB	**Aquidauana**	**23.94**	**128**	eP	**P**	**19 08 03.1**	**-0.7**
MTDJ	**Mount Denham**	**24.51**	**356**	P	**P**	**19 08 10.2**	**+1.1**
MTO3	**Montecristo**	**24.69**	**327**		**P**	**19 08 11.0**	**+0.1**
MTO3				IAmb	IAmb	19 08 14.3	
	comp=Z,8.6nm,1.0s						
SNDB	**Serra Nova Dou**	**24.72**	**105**	eP	**P**	**19 08 10.5**	**-0.5**
ARAG	**Araguaiana, MT**	**25.19**	**114**	eP	**P**	**19 08 13.2**	**-2.1**
AMBA	**Amambai (Brazi**	**25.87**	**132**	eP	**P**	**19 08 20.3**	**-1.1**
CELP	**Cerrillos**	**25.91**	**20**	P	**P**	**19 08 20.9**	**-0.7**
CELP				IAmb	IAmb	19 08 49.1	
	comp=Z,16nm,1.2s						
PDPR	**Patillas Dam,**	**26.05**	**21**	P	**P**	**19 08 23.0**	**+0.1**
PDPR				IAmb	IAmb	19 08 35.3	
	comp=Z,6.4nm,0.9s						
SJG	**San Juan**	**26.09**	**21**	P	**P**	**19 08 23.1**	**-0.2**
SJG				IAmb	IAmb	19 08 35.7	
	comp=Z,13nm,0.8s						
SJPY	**San Joaquin**	**26.37**	**137**	eP	**P**	**19 08 24.4**	**-1.4**
GDHS	**Morne Mazeau,**	**26.39**	**31**	P	**P**	**19 08 25.4**	**-0.8**
GDHS				IAmb	IAmb	19 08 28.2	
	comp=Z,16nm,0.7s						
CPUP	**Villa Florida**	**26.48**	**141**	eP	**P**	**19 08 26.5**	**-0.3**
VA03	**San Esteban**	**26.69**	**170**	P	**P**	**19 08 29.3**	**+0.5**
VA03				IAmb	IAmb	19 08 38.1	
	comp=Z,10.0nm,0.8s						
GDSD	**La Dsirade Is**	**26.79**	**33**	P	**P**	**19 08 28.3**	**-1.4**
GDSD				IAmb	IAmb	19 08 50.9	
	comp=Z,6.6nm,0.7s						
SMRT	**St. Maarten**	**27.28**	**27**		**P**	**19 08 33.5**	**-0.6**
PLCA	**Paso Flores**	**34.52**	**173**	P	**P**	**19 09 37.7**	**-0.1**
PLCA				IAmb	IAmb	19 09 52.5	
	comp=Z,7.5nm,1.5s						
TXAR	**Lajitas Array**	**44.54**	**324**	P	**P**	**19 11 02.7**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=145,slow=8.1,SNR=7.6						
	comp=Z,1.1nm,0.7s						
DKNS	**Dickens**	**46.45**	**331**	P	**P**	**19 11 16.8**	**+0.4**
DKNS				IAmb	IAmb	19 11 18.6	
	comp=Z,11nm,0.9s						
SMWD	**Samnorwood**	**47.30**	**332**		**P**	**19 11 23.0**	**0.0**
ANMO	**Albuquerque**	**50.30**	**327**		**P**	**19 11 46.6**	**+0.3**
ANMO				IAmb	IAmb	19 11 48.4	
	comp=Z,3.7nm,0.9s						
ANMO	**Albuquerque**	**50.30**	**327**	P	**P**	**19 11 47.5**	**+1.3**
	comp=Z,4.2nm,0.9s,baz=169,slow=10,SNR=6.1						
	comp=Z,4.2nm,0.9s						
SDCO	**Great Sand Dun**	**51.94**	**330**	P	**P**	**19 11 59.0**	**+0.3**
X16A	**Lo Mia Camp, P**	**52.78**	**323**		**P**	**19 12 05.6**	**+0.7**
X16A				IAmb	IAmb	19 12 07.2	
	comp=Z,5.1nm,1.1s						
SHPR	**Sheep Range**	**56.43**	**322**	P	**P**	**19 12 32.0**	**+0.7**
PSUT	**Pine Spring**	**57.01**	**325**		**P**	**19 12 35.4**	**0.0**
PSUT				IAmb	IAmb	19 12 44.6	
	comp=Z,4.0nm,0.9s						
YHL	**Hebgen Lake**	**60.12**	**332**	P	**P**	**19 12 58.5**	**+1.4**
YHL				IAmb	IAmb	19 12 59.5	
	comp=Z,5.8nm,0.6s						
**M

RIM	**Rim**	**0.11**	**328**			Pg	19 11 28.4	+0.3
RIM						Sg	19 11 30.5	+0.7
SDHHI	**Sand Hill**	**0.12**	**318**			Pg	19 11 28.4	+0.2
SDHHI						Sg	19 11 30.7	+0.7
STCH	**Steam Cracks**	**0.12**	**45**			Pg	19 11 28.4	+0.3
STCH						Sg	19 11 30.7	+0.7
BYL	**Byron's Ledge**	**0.12**	**338**			Pg	19 11 28.4	+0.2
BYL						Sg	19 11 30.9	+0.8
BYL					IAML		19 11 31.2	
	comp=N,2µm,0.4s							
BYL					IAML		19 11 32.6	
	comp=E,2µm,0.4s							
HATHI	**Halema'uma'u T**	**0.13**	**339**			Pg	19 11 28.6	+0.3
HATHI						Sg	19 11 30.9	+0.5
HATHI					IAML		19 11 31.6	
	comp=E,2µm,0.5s							
JCUZ	**Jacuzzi**	**0.13**	**52**			Pg	19 11 28.8	+0.3
JCUZ						Sg	19 11 31.3	+0.9
NPOC	**North of Pu'u**	**0.13**	**47**			Pg	19 11 28.8	+0.4
NPOC						Sg	19 11 31.4	+1.0
WRMHI	**West Rim**	**0.13**	**321**			Pg	19 11 28.7	+0.2
WRMHI						Sg	19 11 31.3	+0.8
OBL	**Observatory Le**	**0.13**	**329**			Pg	19 11 28.8	+0.3
OBL						Sg	19 11 31.1	+0.7
SBLHI	**Steaming Bluff**	**0.13**	**337**			Pg	19 11 28.7	+0.2
SBLHI						Sg	19 11 31.3	+0.8
UWB	**Uwekahuna Bluf**	**0.14**	**333**			Pg	19 11 28.7	+0.2
UWB						Sg	19 11 31.2	+0.7
UWE	**Uwekahuna**	**0.14**	**327**			Pg	19 11 28.9	+0.3
UWE						Sg	19 11 31.7	+1.0
UWE					IAML		19 11 32.3	
	comp=E,1µm,0.5s							
HTC	**Hot Caves**	**0.19**	**250**			Pg	19 11 30.1	+0.7
JOKA	**Jonika Flow**	**0.24**	**56**			Pg	19 11 30.3	0.0
AIN	**Ainahou**	**0.24**	**287**			Pg	19 11 30.8	+0.3
AIN						Sg	19 11 34.8	+1.1
MLH	**Mauna Loa**	**0.25**	**319**			Pg	19 11 30.8	+0.2
MLH					IAML		19 11 37.0	
	comp=E,782nm,0.3s							
MLH					IAML		19 11 37.0	
	comp=N,674nm,0.4s							
KHU	**Kahuku**	**0.38**	**262**			Pg	19 11 33.0	-0.2
KHU						Sg	19 11 39.2	+1.0
HPO	**Honuapo**	**0.39**	**237**			Sg	19 11 39.2	+1.1
HMH	**Humu'ula Sheep**	**0.39**	**319**			Pg	19 11 33.2	-0.1
HMH						Sg	19 11 39.6	+1.1
HMH					IAML		19 11 40.4	
	comp=E,842nm,0.2s							
MWH	**Mokuaweoweo**	**0.41**	**297**			Pg	19 11 33.5	-0.1
MWH						Sg	19 11 40.2	+1.2
MWH					IAML		19 11 42.4	
	comp=N,624nm,0.3s							
MWH					IAML		19 11 42.4	
	comp=E,909nm,0.7s							
POHA	**Pohakuloa**	**0.54**	**326**			Pg	19 11 35.6	-0.5
POHA					IAML		19 11 44.2	
	comp=E,334nm,0.6s							
POHA					IAML		19 11 44.2	
	comp=E,604nm,0.5s							
HUH	**Hualalai**	**0.70**	**303**			Pg	19 11 39.1	0.0

*SNET **07** 19:28:49.4±1.4, 12°.36N×88°.28W, h19km, ML3.4*
*CATAC **07** 19:28:49.6±0.5, 12°.N±2°×8°.8W±°, h24km±3km, M3.8/30, MLv3.8/30, Error ellipse: s-maj=4.9km s-min=2.1km az=29.9, confirmed*

ISC 07 19:28:49.1±1.3, 12°.32N±0°.06×88°.27W±0°.04, h20km±7km, n60, σ0°.57/75, 13C-8D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.95**	**47**	⇑P		**Pb**	**19 29 07.0**	**+0.1**
CSGN				S		**Sn**	**19 29 19.8**	**-0.5**
POTN	**Potosi Cosigui**	**1.00**	**48**	⇑P		**Pn**	**19 29 08.0**	**0.0**
POTN				S		**Sb**	**19 29 20.7**	**+0.2**
CNCH	**Conchagua**	**1.04**	**24**	*e*P		**Pb**	**19 29 08.2**	**-0.3**
CNCH				*e*S		**Sb**	**19 29 21.7**	**+0.1**
CNCH	**Conchagua**	**1.04**	**24**	P		**Pb**	**19 29 08.4**	**-0.1**
LCND	**La Caada**	**1.05**	**21**	*e*P		**Pb**	**19 29 08.2**	**-0.4**
LCND	**La Caada**	**1.05**	**21**	⇓P		**Pb**	**19 29 08.3**	**-0.4**
BLLM	**Bellamira**	**1.11**	**2**	*e*P		**Pn**	**19 29 08.5**	**-0.1**
PACA	**Pacayal**	**1.14**	**357**	*e*P		**Pn**	**19 29 09.9**	**-0.1**
PACA	**Pacayal**	**1.14**	**357**	S		**Sn**	**19 29 24.7**	**-0.4**
PACA	**Pacayal**	**1.14**	**357**	⇓P		**Pn**	**19 29 10.0**	**-0.1**
CRIN	**San Cristobal**	**1.25**	**72**	P		**Pn**	**19 29 11.8**	**+0.3**
CRIN	**San Cristobal**	**1.25**	**72**	S		**Sb**	**19 29 27.8**	**+0.2**
PKGN	**Cerro Pekin**	**1.31**	**75**	P		**Pn**	**19 29 12.3**	**+0.1**
PKGN				S		**Sn**	**19 29 29.2**	**+0.2**
ALEN	**Leon**	**1.37**	**84**	P		**Pn**	**19 29 13.6**	**+0.5**
UESV	**Universidad de**	**1.40**	**339**	S		**Sn**	**19 29 30.4**	**-1.0**
UESV	**Universidad de**	**1.40**	**339**	P		**Pn**	**19 29 13.2**	**-0.3**
LFRS	**El Faro**	**1.50**	**329**	*e*P		**Pn**	**19 29 14.8**	**-0.3**
CNGA	**Al SSO del Vol**	**1.54**	**84**	⇑P		**Pn**	**19 29 15.3**	**-0.1**
CNGA				S		**Sn**	**19 29 35.2**	**+0.3**
CNGN	**Cerro Negro**	**1.54**	**83**	S		**Sb**	**19 29 36.3**	**+0.1**
CNGN	**Cerro Negro**	**1.54**	**83**	⇓P		**Pn**	**19 29 15.4**	**-0.1**
ILCN	**San Idelfonso**	**1.55**	**81**	⇓P		**Pn**	**19 29 15.2**	**-0.3**
ILCN				S		**Sn**	**19 29 34.6**	**-0.5**
LOMA	**Loma Larga**	**1.58**	**326**	*e*P		**Pn**	**19 29 15.9**	**-0.2**
LOMA	**Loma Larga**	**1.58**	**326**	P		**Pn**	**19 29 16.2**	**+0.1**
LOMA	**Loma Larga**	**1.58**	**326**	S		**Sb**	**19 29 37.2**	**-0.2**
LFU	**La Fuente**	**1.64**	**330**	*e*S		**Sn**	**19 29 37.4**	**0.0**
COPN	**Copaltepe**	**1.65**	**95**	⇑P		**Pn**	**19 29 17.1**	**+0.2**
BOQS	**Boqueron**	**1.71**	**325**	*e*P		**Pn**	**19 29 18.8**	**+0.7**
PMON	**Piamonte**	**1.71**	**324**	S		**Sb**	**19 29 41.2**	**0.0**
PMON	**Piamonte**	**1.71**	**324**	⇑P		**Pn**	**19 29 18.9**	**+1.0**
MOM3	**MOM3**	**1.72**	**84**	⇓P		**Pn**	**19 29 18.2**	**+0.3**
MOM3				S		**Sn**	**19 29 39.2**	**-0.1**
MOM2	**El Cardon**	**1.75**	**86**	⇑P		**Pn**	**19 29 17.7**	**-0.6**
MOM2				S		**Sn**	**19 29 40.0**	**+0.1**
JAYA	**Jayaque - finc**	**1.75**	**319**	*e*P		**Pn**	**19 29 18.5**	**0.0**
JAYA				*e*S		**Sn**	**19 29 39.2**	**-1.1**
JAYA	**Jayaque - finc**	**1.75**	**319**	⇓P		**Pn**	**19 29 18.5**	**0.0**
SAPS	**Ciudad Sandino**	**1.83**	**95**	S		**Sn**	**19 29 43.1**	**+1.1**
SAPS	**Ciudad Sandino**	**1.83**	**95**	⇑P		**Pn**	**19 29 19.6**	**+0.2**
APQ3	**Volcan Apoyequ**	**1.86**	**91**	⇓P		**Pn**	**19 29 19.8**	**+0.1**
APQ3				S		**Sn**	**19 29 42.7**	**+0.1**
CRUN	**El Crucero**	**1.96**	**100**	P		**Pn**	**19 29 20.1**	**-1.1**
UNAN	**Cigeo UNAN**	**1.96**	**96**	P		**Pn**	**19 29 20.8**	**-0.4**
UNAN				S		**Sn**	**19 29 45.8**	**+0.5**
R4DEC	**Barrio San Lui**	**1.98**	**95**	P		**Pn**	**19 29 20.3**	**-1.2**
R4DEC	**Barrio San Lui**	**1.98**	**95**	S		**Sn**	**19 29 46.0**	**+0.2**
MGAN	**Managua**	**1.98**	**95**	P		**Pn**	**19 29 21.0**	**-0.5**
MGAN	**Managua**	**1.98**	**95**	S		**Sn**	**19 29 45.9**	**+0.1**
WILN	**Americas 2**	**2.04**	**94**	P		**Pn**	**19 29 22.2**	**-0.1**
WILN				S		**Sn**	**19 29 47.2**	**0.0**
MAS3	**Al N del Volca**	**2.07**	**98**	P		**Pn**	**19 29 22.7**	**0.0**
MAS3				S		**Sn**	**19 29 47.2**	**-0.7**
NANN	**Nandasmo**	**2.13**	**100**	P		**Pn**	**19 29 24.2**	**+0.6**
NANN	**Nandasmo**	**2.13**	**100**	S		**Sn**	**19 29 49.6**	**+0.1**
NUBE	**Las Nubes**	**2.15**	**317**	*e*P		**Pn**	**19 29 24.2**	**+0.3**
NUBE				*e*S		**Sn**	**19 29 49.3**	**-0.9**
NUBE	**Las Nubes**	**2.15**	**317**	⇑P		**Pn**	**19 29 24.5**	**+0.5**
OCON	**Estacion meteo**	**2.18**	**53**	⇑P		**Pn**	**19 29 24.9**	**+0.6**
NADN	**Granada**	**2.26**	**104**	⇑P		**Pn**	**19 29 25.6**	**+0.2**
NADN				S		**Sn**	**19 29 51.5**	**-1.2**
MTO3	**Montecristo**	**2.32**	**333**	*e*P		**Pn**	**19 29 27.2**	**+0.8**
MTO3	**Montecristo**	**2.32**	**333**	S		**Sn**	**19 29 55.9**	**+1.5**
MTO3	**Montecristo**	**2.32**	**333**	⇑P		**Pn**	**19 29 27.8**	**+1.5**
MATN	**Matagalpa**	**2.37**	**75**	⇑P		**Pn**	**19 29 25.5**	**-1.4**
RCVN	**Varillal2**	**2.38**	**58**	⇓P		**Pn**	**19 29 27.5**	**+0.5**
RCVN	**Varillal2**	**2.38**	**58**	S		**Sn**	**19 29 55.5**	**-0.2**
RCPN	**Sur Rio San Ju**	**2.43**	**60**	P		**Pn**	**19 29 28.3**	**+0.5**
RCPN	**Sur Rio San Ju**	**2.43**	**60**	S		**Sn**	**19 29 57.0**	**0.0**
JAPN	**Al SSO del Vol**	**2.66**	**107**	⇑P		**Pn**	**19 29 31.6**	**+0.8**
ACON	**Acoyapa**	**3.05**	**96**	P		**Pn**	**19 29 35.6**	**-0.5**

*IDC **07** 19:32:44.0±1.0, 1°.90N×127°.47E, h0km, mb3.8/5, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=58.0km s-min=17.9km az=76.0*
*DJA **07** 19:32:49.7±0.6, 2°.N±3°×12°.7E±°, h17km±7km, M3.9/11, mB4.7/1, mb4.2/1, MLv3.8/11, Mw(mB)3.9/1*

ISC 07 19:32:49.1±1.0, 1°.87N±0°.08×127°.6E±0°.2, h35km, n11, σ0°.78/11, mb3.8/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.10**	**190**	P		**Pn**	**19 33 09.1**	**+1.0**
SGSI	**Sangihe**	**2.71**	**312**	P		**Pn**	**19 33 31.3**	**+1.0**
KMSI	**Cibinong**	**3.80**	**250**	P		**Pn**	**19 33 45.4**	**+0.2**
SANI	**Sanana**	**4.20**	**202**	P		**Pn**	**19 33 49.9**	**-0.8**
NLAI	**Namlea**	**5.09**	**185**	P		**Pn**	**19 34 04.1**	**+1.1**
FITZ	**Fitzroy Crossi**	**19.93**	**185**	P		**P**	**19 37 18.0**	**-0.1**
	0.2nm,0.3s,baz=20,slow=12,SNR=8.4 0.9nm,0.4s							
WRA	**Warramunga Arr**	**22.67**	**163**	P		**P**	**19 37 47.4**	**-0.3**
	0.9nm,0.6s,baz=338,slow=11,SNR=7.6 0.9nm,0.6s							
ASAR	**Alice Springs**	**26.12**	**167**	P		**P**	**19 38 20.5**	**+0.4**
	0.4nm,0.4s,baz=344,slow=11,SNR=10.0 0.4nm,0.4s							
MJAR	**Matsushiro Arr**	**35.88**	**15**	P		**P**	**19 39 45.1**	**-0.8**
	0.9nm,0.7s,baz=182,slow=10,SNR=4.5 0.9nm,0.7s							
MKAR	**Makanchi Array**	**59.55**	**326**	P		**P**	**19 42 49.2**	**0.0**
	1.2nm,0.5s,baz=120,slow=8.3,SNR=20 1.2nm,0.5s							
KURBB	**Kurchatov Arra**	**63.74**	**328**	P		**P**	**19 43 17.1**	**-0.3**
	0.7nm,0.4s,baz=130,slow=6.0,SNR=8.7 0.7nm,0.4s							

PGC 07 19:57:51.1±2.2, 50°.37N×130°.24W, h10km, MLSn2.9/26, Mw3.5/26, 197km west of Port Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BPEB	**Brooks Peninsu**	**1.60**	**97**	Pn	Pn		19 58 16.9	-2.5
BPEB				Sn	Sn		19 58 35.3	-4.8
PACB	**Port Alice, BC**	**1.76**	**87**	Pn	Pn		19 58 19.3	-2.2
PHC	**Port Hardy**	**1.82**	**78**	Pn	Pn		19 58 20.7	-1.7
PHC				Sn	Sn		19 58 41.1	-4.4
MAYB	**Maynard**	**1.96**	**88**	Pn	Pn		19 58 22.5	-2.0
JEDB	**Jedway, Haida**	**2.02**	**343**	Pn	Pn		19 58 23.1	-2.0
JEDB				Sn	Sn		19 58 46.5	-3.8
BBB	**Bella Bella**	**2.25**	**35**	Pn	Pn		19 58 26.9	-1.5
BBB				Sn	Sn		19 58 50.5	-5.7
BAIB	**Barry Inlet**	**2.40**	**337**	Pn	Pn		19 58 28.7	-1.8
BAIB				Sn	Sn		19 58 56.9	-3.1
NTKA	**Nootka**	**2.46**	**107**	Pn	Pn		19 58 29.0	-2.2
ETB	**Estevan Point**	**2.59**	**111**	Pn	Pn		19 58 32.0	-1.0
NCSB	**Newcastle Ridg**	**2.67**	**88**	Pn	Pn		19 58 32.8	-1.5
GDR	**Gold River**	**2.77**	**101**	Pn	Pn		19 58 34.0	-1.5
BUTB	**Butedale**	**2.91**	**22**	Pn	Pn		19 58 36.8	-0.7
BUTB				Sn	Sn		19 59 09.3	-3.3
MOBC	**Moresby Island**	**2.98**	**339**	Pn	Pn		19 58 37.0	-1.3
GRIB	**Gribbell Islan**	**3.05**	**12**	Pn	Pn		19 58 37.9	-1.4
CBB	**Campbell River**	**3.15**	**94**	Pn	Pn		19 58 39.8	-0.8
DI2B	**Dawson Inlet**	**3.16**	**335**	Pn	Pn		19 58 39.7	-1.1
DIB	**Dawson Inlet,**	**3.16**	**335**	Pn	Pn		19 58 39.5	-1.3
OZB	**Mount Ozzard**	**3.39**	**113**	Pn	Pn		19 58 43.2	-0.8
GRNB	**Grenville Isla**	**3.48**	**3**	Pn	Pn		19 58 44.2	-1.1
PCLB	**Port Clements**	**3.63**	**338**	Pn	Pn		19 58 46.5	-0.8
KITB	**Kitimat**	**3.84**	**14**	Pn	Pn		19 58 49.5	-0.6
MGRB	**Mount Grey**	**3.85**	**109**	Pn	Pn		19 58 50.2	-0.3
NDB	**Naden**	**3.96**	**336**	Pn	Pn		19 58 51.4	-0.4
CLRS	**Cowichan Lake**	**4.26**	**109**	Pn	Pn		19 58 56.4	+0.5
SYMB	**Survey Mountai**	**4.57**	**111**	Pn	Pn		19 59 00.6	+0.3
WPB	**Watts Point**	**4.59**	**96**	Pn	Pn		19 59 00.4	0.0
B010	**North Saanich**	**4.74**	**109**	Pn	Pn		19 59 03.4	+0.8
PGC	**Sidney**	**4.74**	**109**	Pn	Pn		19 59 03.3	+0.7
B009	**North Saanich**	**4.75**	**109**	Pn	Pn		19 59 03.6	+1.0
B011	**North Saanich**	**4.75**	**109**	Pn	Pn		19 59 03.6	+1.0
STW	**Striped Peak**	**4.84**	**115**	Pn	Pn		19 59 05.0	+1.1
SNB	**Saturna Island**	**4.87**	**106**	Pn	Pn		19 59 05.8	+1.5
V35K	**Ketchikan**	**5.03**	**351**	Pn	Pn		19 59 06.2	-0.3
LLLB	**Lillooet**	**5.34**	**84**	Pn	Pn		19 59 10.6	-0.2
VDDB	**Vedder Mountai**	**5.47**	**101**	Pn	Pn		19 59 13.6	+1.0
JCW	**Jim Creek**	**5.86**	**109**	Pn	Pn		19 59 19.1	+1.2
U33K	**Whale Pass**	**6.01**	**344**	Pn	Pn		19 59 19.6	-0.3
U33K				Sn	Sn		20 00 28.8	-1.8
T35M	**Bob Quinn**	**6.62**	**360**	Pn	Pn		19 59 29.8	+1.4
T35M				Sn	Sn		20 00 43.0	-0.9

*IDC **07** 19:59:56.5±1.4, 6°.22S×146°.94E, h0km, mb3.5/4, mbtmp3.6/7, ML3.1/2, MS3.0/4, Error ellipse: s-maj=38.7km s-min=21.4km az=89.0*

ISC 07 20:00:01.8±1.2, 6°.23S±0°.10×146°.8E±0°.2, h35km, n11, σ1°.31/9, mb3.6/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.18**	**174**	Pn		**Pn**	**20 00 48.2**	**-1.1**
	14nm,0.4s,baz=358,slow=11,SNR=14							
PMG				Sn		**Sn**	**20 01 28.1**	**+2.2**
	5.1nm,0.3s,baz=0.0,slow=20,SNR=7.7							
PMG				LR	LR		20 02 31.7	
	comp=Z,167nm,20.9s,baz=8.5,slow=49							
JAY	**Jayapura**	**7.11**	**301**	Pn		**Pn**	**20 01 43.5**	**+0.1**
	0.1nm,0.3s,baz=96,slow=15,SNR=1.3 4.7nm,0.9s							
WRA	**Warramunga Arr**	**18.23**	**220**	P		**Pn**	**20 04 10.8**	**-1.5**
	0.1nm,0.3s,baz=45,slow=12,SNR=9.7 4.0nm,1.1s							
GUMO	**Guam**	**19.78**	**354**	LR	LR		20 11 37.3	
	comp=Z,29nm,19.4s,baz=184,slow=35							
ASAR	**Alice Springs**	**21.32**	**214**	P		**P**	**20 04 46.0**	**+0.1**
	0.4nm,0.5s,baz=31,slow=13,SNR=14 0.4nm,0.5s							
DZM	**Mont Dzumac**	**24.66**	**132**	LR	LR		20 13 08.8	
	comp=Z,23nm,18.0s,baz=44,slow=32							
CMAR	**Chiang Mai Arr**	**53.19**	**298**	P		**P**	**20 09 17.5**	**+0.6**
	0.5nm,0.4s,baz=122,slow=6.1,SNR=7.3 0.5nm,0.4s							
SHEM	**Shemya Is, Ala**	**63.15**	**18**	LR	LR		20 31 54.0	
	comp=Z,39nm,21.4s,baz=258,slow=30							
MKAR	**Makanchi Array**	**77.55**	**321**	P		**P**	**20 11 55.4**	**+1.1**
	0.2nm,0.7s,baz=103,slow=7.8,SNR=2.1 0.2nm,0.7s							
ILAR	**Eielson Array**	**85.77**	**23**	P		**P**	**20 12 36.5**	**-0.7**
	0.6nm,0.6s,baz=254,slow=5.0,SNR=7.0 0.6nm,0.6s							
TORD	**Torodi Ar. Bea**	**144.96**	**284**	PKPbc		**PKPdf**	**20 19 36.2**	**-0.2**
	1.5nm,0.9s,baz=89,slow=3.3,SNR=6.8							

*BER **07** 20:05:10.7±2.1, 79°.53N×3°.35E, h10km, mb(Pn)4.8, ML2.6(DNK), Confirmed Earthquake*
*NAO **07** 20:05:11.9±1.7, 79°.96N×5°.09E, h16km±17km, ML4.5*
*IDC **07** 20:05:11.4±0.5, 79°.53N×3°.47E, h0km, mb4.2/27, mbtmp4.2/33, ML3.4/5, MS3.7/59, Error ellipse: s-maj=13.0km s-min=9.1km az=40.0*
*DNK **07** 20:05:12.3±1.0, 79°.50N×3°.50E, h35km±12km, ML2.6*
*NEIC **07** 20:05:12.5±1.8, 79°.50N±0°.08×4°.4E±0°.3, h10km±1km, mb4.6/67, Error ellipse: s-maj=13.5km s-min=10.0km az=13.0*
*GCMT **07** 20:05:13.6±0.2, 79°.47N±0°.02×3°.1E±0°.1, h14km±1km, MW4.7/95, Moment Tensor Solution. s25,c29; s95,c152; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.44±.09; Mθθ=0.53±.06; Mφφ=0.91±.06; Mrθ=-0.39±.15; Mθφ=0.78±.03; Mφr=0.16±.12; Best double couple: M0=1.54500×10^16 NP1:ϕs=203.00000°, δ45.00000°, λ=-112.00000°. NP2: ϕs=53.00000°, δ49.00000°, λ=-70.00000°. Principal axes: T 1.5350, Plg2.0000°, Azm129.0000°; N 0.0250, Plg15.0000°, Azm219.0000°; P -1.5550, Plg74.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*FCIAR **07** 20:05:13.0, 79°.78N×6°.06E, h10km, station OMEGA has station magnitude of 4.80 station ZFI2 has station magnitude of 4.80*
*KOLA **07** 20:05:17.6, 79°.56N×5°.48E, h0km, ML2.5, Error ellipse: s-maj=157.2km s-min=62.6km az=40.0, Greenland sea, Knipovich ridge, north*

ISC 07 20:05:11.7±2.5, 79°.48N±0°.05×4°.21E±0°.04, h6km±15km, n245, σ2°.51/237, mb4.5/70, MS3.7/58, 1C-5D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.56**	**107**			**Pn**	**20 05 38.9**	**-0.9**
KBS				Sn		**Sn**	**20 05 57.6**	**-2.7**
KBS	**Kingsbay**	**1.56**	**107**	Pn		**Pn**	**20 05 39.0**	**-0.9**
KBS				Sn		**Sn**	**20 05 57.7**	**-2.7**
KBS	**Kingsbay**	**1.56**	**107**	P		**Pn**	**20 05 38.7**	**-1.2**
KBS				S		**Sn**	**20 05 53.1**	**-7.3**
KBS	**Kingsbay**	**1.56**	**107**	*e*P		**Pn**	**20 05 39.0**	**-0.9**
KBS				*e*S		**Sn**	**20 05 57.7**	**-2.7**
KBS				IAML			20 06 08.0	
	comp=Z,2µm,0.4s							
KBS	**Kingsbay**	**1.56**	**107**	*i* P		**Pn**	**20 05 39.3**	**-0.6**
KBS				*i* S		**Sn**	**20 05 58.7**	**-1.7**
SPA0	**Spitsbergen Ar**	**2.70**	**113**	Pn		**Pn**	**20 05 55.9**	**+0.3**
	baz=314,slow=11							
SPA0				Sn		**Sn**	**20 06 27.4**	**-1.2**
	baz=309,slow=14							
SPA0	**Spitsbergen Ar**	**2.70**	**113**	*e*P		**Pn**	**20 05 55.3**	**-0.3**
SPA0				*e*S		**Sn**	**20 06 26.8**	**-1.7**
SPA0	**Spitsbergen Ar**	**2.70**	**113**	*e*P		**Pn**	**20 05 55.8**	**+0.2**
SPA0				*e*S		**Sn**	**20 06 26.7**	**-1.9**
SPA0				IAML			20 06 35.9	
	comp=Z,682nm,0.6s							
SPITS	**Spitsbergen Ar**	**2.70**	**113**	Pn		**Pn**	**20 05 55.8**	**+0.2**
	comp=Z,182nm,0.3s,baz=305,slow=8.8,SNR=718							
SPITS				Sn		**Sn**	**20 06 29.0**	**+0.5**
	baz=325,slow=10							
SPITS	**Spitsbergen Ar**	**2.70**	**113**	P		**Pn**	**20 05 55.5**	**-0.1**
SPITS				S		**Sn**	**20 06 25.5**	**-3.1**
SPB2	**Spitsbergen Ar**	**2.71**	**113**			**Pn**	**20 05 55.6**	**0.0**
SPB2				Sn		**Sn**	**20 06 26.4**	**-2.3**
HSPB	**Hornsund (broa**	**3.40**	**131**	*e*P		**Pn**	**20 06 05.0**	**-0.1**
HSPB				*e*S		**Sn**	**20 06 44.3**	**-1.3**
HSPB	**Hornsund (broa**	**3.40**	**131**	Pn		**Pn**	**20 06 04.9**	**-0.1**
HSPB				Sn		**Sn**	**20 06 43.2**	**-2.5**
HSPB	**Hornsund (broa**	**3.40**	**131**	P		**Pn**	**20 06 04.6**	**-0.6**
HSPB				S		**Sn**	**20 06 40.3**	**-5.4**
HSPB	**Hornsund (broa**	**3.40**	**131**	*e*P		**Pn**	**20 06 03.2**	**-1.9**
HSPB				*e*S		**Sn**	**20 06 43.1**	**-2.5**
HSPB	**Hornsund (broa**	**3.40**	**131**	*e*P		**Pn**	**20 06 05.1**	**-0.1**
HSPB				*e*S		**Sn**	**20 06 43.7**	**-2.0**
HSPB				IAML			20 06 45.5	
	comp=Z,239nm,0.4s							
NOR	**Nord**	**4.03**	**312**	Pn		**Pn**	**20 06 09.5**	**-4.2**
NOR	**Nord**	**4.03**	**312**	*i* P		**Pn**	**20 06 09.0**	**-4.7**
NOR				IAML			20 07 00.3	
	comp=Z,20nm,0.3s							
NOR	**Nord**	**4.03**	**312**	*i* P		**Pn**	**20 06 09.0**	**-4.7**
NOR				IAML			20 07 00.3	
	comp=Z,20nm,0.3s							
HOPEN	**Hopen**	**5.24**	**114**	Pn		**Pn**	**20 06 30.1**	**-0.3**
HOPEN				Sn		**Sn**	**20 07 29.1**	**-1.8**
HOPEN	**Hopen**	**5.24**	**114**	*e*P		**Pn**	**20 06 29.3**	**-1.0**
HOPEN				*e*S		**Sn**	**20 07 25.4**	**-5.5**
HOPEN	**Hopen**	**5.24**	**114**	*e*P		**Pn**	**20 06 30.0**	**-0.4**
HOPEN				*e*S		**Sn**	**20 07 26.9**	**-4.0**
HOPEN				IAML			20 07 32.3	
	comp=Z,180nm,0.4s							
DAG	**Danmarks Havn**	**5.41**	**252**	*i* P		Pn	20 06 27.0	-5.8
DAG				*i* S		Sn	20 07 23.7	-12
DAG				IAML			20 07 30.6	
	comp=Z,28nm,0.3s							
DAG	**Danmarks Havn**	**5.41**	**252**	*i* P		Pn	20 06 27.0	-5.8
DAG				*i* S		Sn	20 07 23.7	-12
DAG				IAML			20 07 30.6	
	comp=Z,28nm,0.3s							
BJO1	**Bjornoya**	**5.99**	**139**	*e*P		**Pn**	**20 06 38.8**	**-1.8**
BJO1				*e*S		**Sn**	**20 07 43.5**	**-6.0**
BJO1	**Bjornoya**	**5.99**	**139**	*e*P		**Pn**	**20 06 39.8**	**-0.9**
BEA6	**Bear Island, N**	**6.00**	**139**	Pn		**Pn**	**20 06 41.7**	**+0.9**
ZFI2	**Zemlya Franca-**	**7.42**	**59**	*e*P		**Pn**	**20 06 59.7**	**-0.4**
ZFI2				*e*S		**Sn**	**20 08 16.3**	**-8.2**
	comp=Z,280nm,0.6s							
OMEGA	**Omega**	**7.43**	**59**	*e*P		**Pn**	**20 06 59.7**	**-0.7**
OMEGA				*e*S		**Sn**	**20 08 14.8**	**-10**
	comp=Z,270nm,0.3s							
DBG	**Daneborg**	**7.52**	**239**	Pn		**Pn**	**20 06 58.1**	**-3.6**
DBG				Sn		Sn	20 08 14.2	-13
DBG	**Daneborg**	**7.52**	**239**	*i* P		Pn	20 06 56.4	-5.3
DBG				*i* P		**Pn**	**20 06 58.4**	**-3.2**
DBG				*i* S		Sn	20 08 12.9	-14
DBG				IAML			20 08 19.6	
	comp=Z,19nm,0.4s							
DBG

comp=Z,6.3nm,0.8s
HFS Hagfors 19.66 166 P **Pn** **20 09 44.0 +1.8**
baz=358,slow=9.3
HFS Hagfors 19.66 166 P **Pn** **20 09 42.3 +0.1**
comp=Z,0.2nm,0.3s,baz=9.9,slow=9.5,SNR=12
HFS LR LR 20 16 22.2
comp=Z,143nm,20.2s,baz=348,slow=34
comp=Z,17nm,1.0s
RES Resolute Bay 19.96 310 P **P** **20 09 41.5 -2.5**
comp=Z,1.1nm,0.3s,baz=44,slow=13,SNR=3.7
RES LR LR 20 17 03.0
comp=Z,272nm,19.6s,baz=28,slow=36
comp=Z,18nm,0.8s
KLMR Klimovskoe 21.48 129 *e*P **P** **20 10 06.5 +6.0**
KLMR *e*S **S** **20 13 52.2 -6.4**
SHIP Sredneye Shipi 21.71 121 *e*P **P** **20 10 02.2 -0.8**
SHIP *e*S S 20 13 51.7 -11
EKA Eskdalemuir Ar 24.38 190 P **P** **20 10 30.1 0.0**
comp=Z,1.0nm,0.6s,baz=7.3,slow=7.9,SNR=5.9
comp=Z,1.0nm,0.6s
PABE Paberze 24.94 153 P **P** **20 10 36.0 +0.8**
KIRV Kirov 25.16 119 P **P** **20 10 39.0 +1.9**
KIRV LR LR 20 21 38.2
comp=Z,15nm,0.8s,baz=337,slow=15,SNR=6.5
comp=Z,197nm,20.1s,baz=345,slow=39
comp=Z,15nm,0.8s
FRB Frobisher Bay 25.23 275 LR LR 20 20 12.5
comp=Z,218nm,20.4s,baz=36,slow=36
NACGM Naroch 25.79 149 *e*P P 20 10 51.7 +8.9
comp=Z,9.0nm,0.9s,baz=351
TIXI Tiksi 25.94 37 P **P** **20 10 44.3 +0.3**
TIXI IAmb IAmb 20 10 47.5
comp=Z,10nm,1.0s
MNK Minsk 26.29 148 *i* P **P** **20 10 48.5 +1.1**
comp=E,29nm,0.8s
MNK *i* P **P** **20 10 48.5 +1.1**
comp=N,14nm,1.0s
MNK *i* P **P** **20 10 48.5 +1.1**
comp=Z,26nm,0.8s,baz=352
MNK *i* PP **PnPn** **20 11 23.6 -2.4**
MNK *i* PPP PPP 20 11 33.8
MNK *i* S **S** **20 15 23.7 +3.8**
MNK *i* SS **SnSn** **20 16 19.1 +0.3**
MNK *i* SSS SSS 20 16 33.1
MNK *i* LQ LQ 20 18 52.4
MNK *i* LRM MLR 20 20 40.1
comp=E,176nm,22.2s
MNK *i* LRM MLR 20 20 45.0
comp=Z,279nm,20.7s
MNK *i* LRM MLR 20 20 48.7
comp=N,113nm,19.0s
SUW Suwalki 26.36 154 P **P** **20 10 49.1 +1.1**
OBN Obninsk 26.66 137 P **P** **20 10 51.3 +0.6**
OBN Obninsk 26.66 137 P **P** **20 10 52.6 +1.9**
comp=N,5.8nm,0.3s,baz=353,slow=4.9,SNR=5.6
OBN LR LR 20 21 24.3
comp=N,194nm,20.9s,baz=30,slow=36
comp=N,5.8nm,0.3s
BEL Belsk 28.34 158 *e*P **P** **20 11 09.9 +4.1**
CLL Collm 28.46 168 P **P** **20 11 08.0 +1.2**
CLL IAmb IAmb 20 11 12.8
comp=Z,9.3nm,1.4s
CLL Collm 28.46 168 *i* P **P** **20 11 11.0 +4.1**
comp=Z,24nm,1.9s
CLL *e*S **S** **20 15 59.0 +4.8**
CLL LmV 20 22 00.0
comp=Z,100nm,18.9s
ARTI Arti 28.75 110 **P** **20 11 10.8 +1.4**
ARTI Arti 28.75 110 P **P** **20 11 12.4 +2.9**
comp=Z,8.4nm,0.6s,baz=353,slow=4.8,SNR=19
ARTI LR LR 20 23 56.2
comp=Z,196nm,21.9s,baz=344,slow=39
comp=Z,8.4nm,0.6s
DPC Dobruska-Polom 29.56 164 *e*P **P** **20 11 20.5 +3.8**
KRLC Kraliky 29.86 164 *e*P **P** **20 11 22.7 +3.3**
OJC Ojcow 29.89 160 *e*P **P** **20 11 23.8 +4.2**
OJC Ojcow 29.89 160 **P** **20 11 21.6 +2.0**
STEB Steborice 30.05 162 *e*P **P** **20 11 25.7 +4.7**
AKASG Malin Array Be 30.18 148 P **P** **20 11 23.8 +1.7**
comp=Z,1.5nm,0.6s,baz=345,slow=9.0,SNR=14
AKASG LR LR 20 23 32.4
comp=Z,162nm,21.6s,baz=346,slow=36
comp=Z,1.5nm,0.6s
AKBB Malin Array Si 30.18 148 P **P** **20 11 20.8 -1.3**
AKBB IAmb IAmb 20 11 57.7
comp=Z,5.2nm,0.9s
KIEV Kiev 30.18 148 **P** **20 11 21.2 -0.9**
MORC Moravsky Berou 30.20 163 **P** **20 11 21.5 -0.9**
MORC IAmb IAmb 20 11 27.9
comp=Z,7.5nm,1.0s
MORC Moravsky Berou 30.20 163 *e*P **P** **20 11 24.2 +1.8**
MORC Moravsky Berou 30.20 163 ||P **P** **20 11 24.8 +2.4**
INK Inuvik 30.46 330 LR LR 20 26 40.9
comp=Z,131nm,19.1s,baz=42,slow=42
VRAC Vranov 30.61 164 P **P** **20 11 27.1 +1.1**
comp=Z,8.6nm,1.0s,baz=7.3,slow=11,SNR=9.4
VRAC LR LR 20 22 51.9
comp=Z,129nm,21.2s,baz=340,slow=34
comp=Z,8.6nm,1.0s
VRAC Vranov 30.61 164 *e*P **P** **20 11 28.4 +2.4**
VRAC Vranov 30.61 164 ||P **P** **20 11 29.4 +3.4**
KHC Kasperske Hory 30.66 168 AMS AMS 20 23 20.0
comp=Z,100nm,17.4s
NIE Niedzica 30.72 159 *e*P **P** **20 11 31.6 +4.6**
KRUC Moravsky 30.85 164 *e*P **P** **20 11 30.7 +2.6**
GEC2 GERESS Array S 30.95 168 P **P** **20 11 27.1 -2.0**
GERES GERESS Array B 30.95 168 P **P** **20 11 30.2 +1.2**
comp=Z,2.0nm,1.0s,baz=16,slow=7.1,SNR=9.8
comp=Z,2.0nm,1.0s
JAVC Velka Javorina 31.12 163 *e*P **P** **20 11 33.1 +2.6**
CONA Conrad Observa 31.95 165 *i* pP **P** **20 11 41.5 +3.6**
comp=Z,10nm,1.7s
MOA Molln 31.96 167 *e*pP P 20 11 43.5 +5.5
comp=Z,7.5nm,1.7s
PSZ Piszkesteto 32.19 160 P **P** **20 11 42.2 +2.2**
PSZ IAmb IAmb 20 11 46.1
comp=Z,17nm,1.3s
RONA Rosalia, Austr 32.20 165 *i* pP **P** **20 11 42.5 +2.4**
comp=Z,8.4nm,1.0s
BMAR Burnt Mountain 32.21 338 P **P** **20 11 38.7 -1.2**
LESA Schwarzleotal 32.33 169 *e*pP **P** **20 11 44.7 +3.5**
comp=Z,6.4nm,1.6s
DAVA Damuels 32.39 173 *i* pP **P** **20 11 46.4 +4.6**
comp=Z,5.8nm,1.3s
BUR08 Bucovina Ar. S 32.84 153 P **P** **20 11 46.1 +0.4**
BUR08 IAmb IAmb 20 11 52.5
comp=Z,8.4nm,1.2s
BURAR Bucovina Array 32.87 153 **P** **20 11 46.4 +0.4**
DAVOX Davos/Dischmat 32.89 173 LR LR 20 24 29.1
comp=Z,126nm,20.9s,baz=356,slow=35
SCHQ Schefferville 33.25 266 LR LR 20 25 20.5
comp=Z,2μm,19.0s,baz=0.0,slow=36
OBKA Obir 33.31 167 *e*pP **P** **20 11 52.7 +2.9**
comp=Z,5.5nm,1.4s
MARR Marisel-Cluj 33.64 156 ⇑P P 20 11 57.9 +5.2
SIRR Siria 33.95 158 ||P **P** **20 11 58.2 +2.9**
YKA Yellowknife Ar 33.95 313 LR LR 20 25 30.2
comp=Z,175nm,21.6s,baz=32,slow=36
BVAR Borovoye Array 34.09 100 P **P** **20 11 59.1 +2.7**
comp=Z,3.4nm,0.8s,baz=339,slow=7.9,SNR=11
BVAR LR LR 20 27 45.9
comp=Z,202nm,20.1s,baz=337,slow=40
comp=Z,3.4nm,0.8s
IMAR Indian Mountai 34.19 344 P **P** **20 11 58.8 +1.6**
AKTO Aktyubinsk 34.40 114 LR LR 20 27 11.3
comp=Z,120nm,21.4s,baz=250,slow=38
BZS Buzias 34.59 158 ||P **P** **20 12 02.9 +2.1**
ILAR Eielson Array 34.99 339 P **P** **20 12 05.0 +0.9**
ILAR Eielson Array 34.99 339 P **P** **20 12 04.2 0.0**
comp=Z,1.4nm,1.0s,baz=7.6,slow=7.8,SNR=9.7
ILAR PcP **PcP** **20 14 35.2 -0.6**
comp=Z,0.9nm,0.7s,baz=332,slow=3.7,SNR=6.9
ILAR LR LR 20 25 09.8
comp=Z,82nm,21.5s,baz=26,slow=34
comp=Z,1.4nm,1.0s
MLR Muntele Rosu 35.04 153 P **P** **20 12 04.3 -0.6**
MLR Muntele Rosu 35.04 153 P **P** **20 12 06.1 +1.2**
comp=Z,0.9nm,0.5s,baz=280,slow=4.8,SNR=4.1
MLR LR LR 20 26 39.3
comp=Z,147nm,19.5s,baz=338,slow=37
comp=Z,0.9nm,0.5s
YAK Yakutsk 35.25 42 **P** **20 12 05.9 -0.4**
MDVR Moldovita 35.43 158 ||P **P** **20 12 11.3 +3.2**
MMPY Sheldon Lake, 35.80 326 **P** **20 12 11.4 +0.2**
ZAA0 Zalesovo Array 35.85 85 P **P** **20 12 11.5 0.0**
ZALV Zalesovo Beam 35.85 85 **P** **20 12 11.2 -0.3**
comp=Z,1.3nm,0.6s,baz=342,slow=9.3,SNR=9.0
ZALV PcP **PcP** **20 14 40.7 +2.2**
comp=Z,1.9nm,0.7s,baz=318,slow=4.0,SNR=6.0
ZALV LR LR 20 29 48.8
comp=Z,48nm,20.4s,baz=350,slow=41
comp=Z,1.3nm,0.6s
AB31 Akbulak array 35.87 112 P **P** **20 12 12.1 +0.3**
ABKAR Akbulak array 35.87 112 **P** **20 12 11.8 +0.1**
BCAR Beaver Creek A 36.31 335 P **P** **20 12 15.7 +0.2**
NRCA Norcia 36.93 169 P **P** **20 12 22.1 +1.1**
NRCA IAmb IAmb 20 12 26.3
comp=Z,13nm,1.2s
KURK Kurchatov 37.80 92 **P** **20 12 29.3 +1.1**
KURK IAmb IAmb 20 12 31.6
comp=Z,13nm,0.9s
KURBB Kurchatov Arra 37.87 93 P **P** **20 12 31.1 +2.3**
comp=Z,7.8nm,0.9s,baz=340,slow=7.8,SNR=57
KURBB PcP **PcP** **20 14 44.9 +0.2**
comp=Z,0.8nm,0.8s,baz=340,slow=3.6,SNR=4.6
KURBB LR LR 20 31 49.1
comp=Z,133nm,19.4s,baz=176,slow=42
comp=Z,7.8nm,0.9s
KBZ Khabaz 38.64 133 P **P** **20 12 37.8 +2.5**
comp=Z,3.0nm,0.8s,baz=325,slow=5.4,SNR=7.3
KBZ LR LR 20 28 43.0
comp=Z,123nm,19.8s,baz=351,slow=36
comp=Z,3.0nm,0.8s
FNA Florina 39.39 159 **P** **20 12 41.4 -0.3**
DLBC Dease Lake 39.77 324 LR LR 20 29 16.2
comp=Z,1μm,21.1s,baz=350,slow=36
ESDC Sonseca Array 40.06 190 P **P** **20 12 48.2 +0.9**
comp=Z,2.2nm,1.1s,baz=3.4,slow=7.2,SNR=5.3
ESDC PcP **PcP** **20 14 54.0 +2.1**
comp=Z,1.2nm,1.0s,baz=350,slow=1.4,SNR=4.3
ESDC LR LR 20 27 47.7
comp=Z,47nm,20.9s,baz=352,slow=34
comp=Z,2.2nm,1.1s
PAB San Pablo 40.20 190 P **P** **20 12 49.5 +1.0**
BR131 Keskin Array S 41.49 145 P **P** **20 12 59.4 +0.2**
BRTR Keskin Array B 41.49 145 **P** **20 12 59.0 -0.2**
BRTR Keskin Array B 41.49 145 P **P** **20 13 01.7 +2.5**
comp=Z,2.6nm,1.0s,baz=328,slow=6.3,SNR=8.8
comp=Z,2.6nm,1.0s
MAKZ Makanchi 42.17 91 P **P** **20 13 04.9 +0.3**
MAKZ IAmb IAmb 20 13 10.5
comp=Z,18nm,1.2s
MK31 Makanchi Array 42.24 91 P **P** **20 13 06.0 +0.9**
MK31 IAmb IAmb 20 13 10.4
comp=Z,5.1nm,0.7s
MKAR Makanchi Array 42.24 91 **P** **20 13 06.4 +1.2**
MKAR Makanchi Array 42.24 91 P **P** **20 13 07.2 +2.0**
comp=Z,6.0nm,0.8s,baz=345,slow=7.4,SNR=46
MKAR LR LR 20 35 16.0
comp=Z,169nm,18.2s,baz=324,slow=43
comp=Z,6.0nm,0.8s
KDAK Kodak Island 42.30 342 LR LR 20 29 34.4
comp=Z,126nm,20.9s,baz=13,slow=35
VAE Valguarnera 42.32 168 LR LR 20 31 35.7
comp=Z,88nm,18.1s,baz=316,slow=37
GNI Garni 42.41 132 LR LR 20 31 13.1
comp=Z,95nm,21.8s,baz=337,slow=37
ARPR Arapgir-MALATY 42.64 140 P **P** **20 13 09.4 +0.8**
ARPR IAmb IAmb 20 13 15.7
comp=Z,14nm,1.0s
ULM Lac du Bonnet 42.86 292 P **P** **20 13 07.9 -2.2**
comp=Z,3.3nm,0.9s,baz=4.9,slow=7.6,SNR=3.4
ULM LR LR 20 30 53.1
comp=Z,217nm,20.0s,baz=11,slow=36
comp=Z,3.3nm,0.9s
EPLO Experimental L 43.05 289 P **P** **20 13 11.0 -0.6**
EPLO IAmb IAmb 20 13 12.0
comp=Z,7.5nm,0.8s
KK31 Karatay Array 43.67 104 P **P** **20 13 16.9 +0.2**
KKAR Karatay Array 43.67 104 **P** **20 13 17.3 +0.6**
KEST Kesra 43.91 174 LR LR 20 30 54.0
comp=Z,53nm,19.3s,baz=28,slow=35
AAK Ala-Archa 44.84 100 **P** **20 13 26.6 +0.3**
AAK IAmb IAmb 20 13 30.2
comp=Z,5.2nm,0.9s
AAK Ala-Archa 44.84 100 LR LR 20 34 28.6
comp=Z,168nm,21.8s,baz=348,slow=39
SADO Sadowa 45.16 274 LR LR 20 31 55.8
comp=Z,2μm,18.9s,baz=131,slow=36
SONM Songino Array 45.55 67 P **P** **20 13 33.4 +1.5**
comp=Z,2.1nm,0.8s,baz=342,slow=8.6,SNR=5.7
SONM PcP **PcP** **20 15 10.7 +0.5**
comp=Z,0.4nm,0.6s,baz=8.5,slow=2.9,SNR=2.8
SONM LR LR 20 34 57.9
comp=Z,107nm,18.0s,baz=34,slow=39
comp=Z,2.1nm,0.8s
ULN Ulaanbaatar 45.63 67 **P** **20 13 32.8 +0.3**
ULN IAmb IAmb 20 13 35.7
comp=Z,8.1nm,0.9s
BBB Bella Bella 45.70 321 LR LR 20 32 04.1
comp=Z,60nm,20.1s,baz=38,slow=35
WMQ Urumqi 46.11 86 *e*P **P** **20 13 38.6 +2.4**
WMQ LR LR
comp=N,180nm,10.3s
WMQ LR LR
comp=E,230nm,17.5s
WMQ LR LR
comp=Z,140nm,23.9s
TARG Taragay, Kyrgy 46.32 97 P **P** **20 13 39.1 +0.8**
TARG IAmb IAmb 20 13 45.5
comp=Z,7.5nm,0.8s
HEH HeiHe 46.44 48 *e*P **P** **20 13 40.0 +1.4**
HEH pmax pmax
comp=Z,8.0nm,1.2s
MD01 Midelt array s 46.87 190 P **P** **20 13 42.8 +0.4**
MDT Midelt 46.92 190 LR LR 20 32 29.2
comp=Z,42nm,19.8s,baz=54,slow=35
GAR Garm 47.62 105 **P** **20 13 49.2 +1.1**
SIMJ Simiganj 47.72 107 P **P** **20 13 49.6 +0.7**
SIMJ IAmb IAmb 20 14 03.0
comp=Z,6.3nm,1.1s
CHGR Chuyangaron 47.75 107 **P** **20 13 50.2 +1.1**
NEW Newport 48.12 310 LR LR 20 33 48.0
comp=Z,160nm,19.2s,baz=15,slow=36
MMAI Mount Meron Ar 48.31 144 P **P** **20 13 54.8 +1.3**
comp=Z,1.7nm,0.8s,baz=31,slow=7.0,SNR=2.0
MMAI LR LR 20 37 55.4
comp=Z,26nm,18.9s,baz=332,slow=41
comp=Z,1.7nm,0.8s
PAOC Oil Creek Stat 48.41 273 P **P** **20 13 53.7 -0.4**
OVMT Ovando 48.70 306 P **P** **20 13 55.5 -0.9**
HRY Holter Desearc 48.87 305 P **P** **20 13 56.3 -1.4**
MSO Missoula 49.07 307 **P** **20 13 58.8 -0.4**
MSO IAmb IAmb 20 14 03.3
comp=Z,9.9nm,1.1s
ECSD EROS Data Cent 49.30 290 **P** **20 13 59.9 -1.0**
ASF Jabal al Asfar 49.31 143 LR LR 20 37 28.5
comp=Z,36nm,19.5s,baz=333,slow=39
YPP Pitchstone Pla 51.10 303 P **P** **20 14 15.4 +0.6**
YPP IAmb IAmb 20 14 17.8
comp=Z,13nm,1.4s
BMO Blue Mountains 51.49 309 **P** **20 14 17.4 -0.1**
EIL Elat 51.57 145 LR LR 20 39 51.3
comp=Z,20nm,19.9s,baz=327,slow=40
PD31 Pinedale Array 52.37 302 P **P** **20 14 23.1 -1.2**
PDAR Pinedale Array 52.37 302 P **P** **20 14 22.9 -1.4**
PDAR Pinedale Array 52.37 302 P **P** **20 14 24.1 -0.2**
comp=Z,1.7nm,1.1s,baz=40,slow=4.8,SNR=6.4
PDAR LR LR 20 36 30.5
comp=Z,56nm,21.1s,baz=30,slow=36
comp=Z,1.7nm,1.1s
GTA Gaotai 52.58 76 P **P** **20 14 27.2 +1.5**
GTA sP pwP 20 14 37.0 +6.4
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA LR LR
comp=N,130nm,14.7s
GTA LR LR
comp=E,180nm,17.9s
GTA LR LR
comp=Z,180nm,14.7s
USRK Ussuriysk Ar. 52.99 45 P **P** **20 14 28.9 +0.4**
comp=Z,3.7nm,0.8s,baz=349,slow=5.8,SNR=5.0
comp=Z,3.7nm,0.8s
HHC Hu-ho-hao-te 53.21 65 *e*P **P** **20 14 31.0 +0.7**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,72nm,5.4s
HHC LR LR
comp=N,83nm,13.5s
HHC LR LR
comp=E,240nm,13.1s
HHC LR LR
comp=Z,140nm,13.4s
TZTN Tazewell 53.95 276 P **P** **20 14 34.7 -1.0**
O20A White River Ci 54.74 300 **P** **20 14 41.1 -0.5**
TKL Tuckaleechee C 54.85 276 P **P** **20 14 42.5 +0.2**
comp=Z,3.0nm,0.8s,baz=48,slow=5.3,SNR=5.6
TKL LR LR 20 37 34.4
comp=Z,142nm,19.7s,baz=30,slow=36
comp=Z,3.0nm,0.8s
ELK Elko 55.22 306 P **P** **20 14 44.9 -0.2**
comp=Z,0.6nm,0.6s,baz=23,slow=5.4,SNR=4.0
ELK LR LR 20 38 31.0
comp=Z,121nm,20.0s,baz=18,slow=36
comp=Z,0.6nm,0.6s
YBH Yreka Blue Hor 55.30 313 LR LR 20 37 24.1
comp=Z,7.1nm,21.5s,baz=360,slow=35
U38A Gravette 56.00 286 P **P** **20 14 51.4 +0.8**
U38A IAmb IAmb 20 14 52.9
comp=Z,6.4nm,1.0s
PV22 Blue Mesa, Par 56.39 300 **P** **20 14 53.6 +0.1**
PV22 IAmb IAmb 20 14 57.7
comp=Z,9.5nm,1.1s
Q16A Castle Valley 56.39 302 P **P** **20 14 53.1 -0.4**
Q16A IAmb IAmb 20 14 58.3
comp=Z,7.1nm,1.0s
LZH Lanzhou 56.53 73 P **P** **20 14 53.4 -1.1**
LZH sP pwP 20 14 59.2 -0.1
LZH pmax pmax
comp=Z,22nm,1.2s
MIAR Mount Ida 57.70 285 **P** **20 15 01.9 -0.7**
MIAR IAmb IAmb 20 15 17.0
comp=Z,8.7nm,1.2s
PKCU Pink Cliffs 58.01 303 P **P** **20 15 05.4 +0.3**
PKCU IAmb IAmb 20 15 10.8
comp=Z,9.2nm,1.0s
WMOK Wichita Mounta 58.43 290 P **P** **20 15 07.8 +0.1**
WMOK IAmb IAmb 20 15 11.7
comp=Z,3.2nm,0.8s
KNB Kanab 58.50 303 **P** **20 15 08.2 -0.2**
KNB IAmb IAmb 20 15 13.4
comp=Z,5.2nm,1.1s
RAYN Ar Rayn 58.88 135 **P** **20 15 10.4 -0.6**
RAYN IAmb IAmb 20 15 17.5
comp=Z,9.3nm,1.3s
ANMO Albuquerque 59.52 297 LR LR 20 41 19.8
comp=Z,207nm,18.3s,baz=118,slow=36
WUAZ Wupatki 59.75 302 **P** **20 15 16.9 -0.1**
WUAZ IAmb IAmb 20 15 21.5
comp=Z,6.2nm,0.9s
MJAR Matsushiro Arr 61.32 41 **P** **20 15 27.5 -0.1**
MJAR Matsushiro Arr 61.32 41 P **P** **20 15 28.3 +0.8**
comp=Z,7.8nm,1.1s,baz=352,slow=6.4,SNR=19
comp=Z,7.8nm,1.1s
BRDY Brady 61.83 289 P **P** **20 15 30.2 -0.9**
BRDY IAmb IAmb 20 15 34.6
comp=Z,4.1nm,1.0s
PFO Pinyon Flats O 62.39 306 LR LR 20 41 51.2
comp=Z,77nm,18.7s,baz=75,slow=35
TUC Tucson 62.80 300 P **P** **20 15 38.5 +0.9**
TUC IAmb IAmb 20 15 42.3
comp=Z,5.4nm,1.1s
NJ2 Nanjing 62.99 60 *e*P **P** **20 15 39.2 +0.4**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
TXAR Lajitas Array 64.54 293 P **P** **20 15 49.5 +0.4**
comp=Z,0.3nm,0.3s,baz=24,slow=5.6,SNR=5.6
TXAR LR LR 20 44 42.4
comp=Z,88nm,18.3s,baz=40,slow=37
comp=Z,0.3nm,0.3s
PZH PanZhiHua 65.50 77 P **P** **20 15 56.5 +1.0**
TORD Torodi Ar. Bea 66.36 183 **P** **20 16 00.8 -0.2**
TORD Torodi Ar. Bea 66.36 183 P **P** **20 16 01.6 +0.7**
comp=Z,2.8nm,0.9s,baz=351,slow=6.8,SNR=12
comp=Z,2.8nm,0.9s
SJG San Juan 68.75 254 LR LR 20 44 05.5
comp=Z,51nm,21.6s,baz=331,slow=34
LPIG La Paz 70.76 298 LR LR 20 48 04.0
comp=Z,154nm,19.5s,baz=18,slow=36
SLVN Son La 70.93 76 **P** **20 16 28.9 -0.6**
SLVN IAmb IAmb 20 16 31.4
comp=Z,4.9nm,0.9s
CHTO Chiang Mai 72.50 82 **P** **20 16 39.0 +0.1**
CHTO IAmb IAmb 20 16 40.2
comp=Z,6.0nm,0.9s
FURI Furi 72.50 144 LR LR 20 50 54.7
comp=Z,13nm,19.9s,baz=336,slow=38
CMAR Chiang Mai Arr 72.84 82 **P** **20 16 41.0 +0.1**
CMAR Chiang Mai Arr 72.84 82 P **P** **20 16 41.7 +0.8**
comp=Z,4.6nm,0.8s,baz=343,slow=7.2,SNR=30
CMAR LR LR 20 54 26.0
comp=Z,42nm,18.1s,baz=345,slow=40
comp=Z,4.6nm,0.8s
CMIG Matias Romero 74.97 282 LR LR 20 52 29.6
comp=Z,52nm,20.4s,baz=357,slow=38
PCRV Puerto La Cruz 76.24 251 LR LR 20 49 08.8
comp=Z,38nm,20.2s,slow=35
BAUV El Baul 78.05 254 P **P** **20 17 11.1 +0.3**
SDV Santo Domingo 78.56 257 LR LR 20 52 20.0
comp=Z,36nm,19.6s,baz=258,slow=36
JTS Las Juntas de 79.80 271 LR LR 20 55 05.7
comp=Z,76nm,18.6s,baz=348,slow=38
PALK Pallekele 80.43 102 LR LR 20 57 12.0
comp=Z,63nm,18.1s,baz=353,slow=39
KMBO Kilima Mbogo 82.26 147 LR LR 20 56 19.1
comp=Z,30nm,20.7s,baz=101,slow=37
PSI Prapat 88.13 85 LR LR 21 03 05.0
comp=Z,47nm,21.6s,baz=232,slow=39
ATAH Atahualpa 95.61 261 LR LR 21 04 01.9
comp=Z,38nm,18.7s,baz=22,slow=37
LEM Lembang 99.11 78 LR LR 21 08 19.7
comp=Z,35nm,21.6s,baz=308,slow=38
ASAR Alice Springs 120.00 55 PKP **PKPdf** **20 24 02.4 0.0**
comp=Z,0.7nm,0.8s,baz=358,slow=2.2,SNR=9.8
SNAA Sanae 151.02 185 PKPbc **PKiKP** **20 25 04.3 +0.4**
comp=Z,10nm,0.7s,baz=271,slow=0.7,SNR=70

CNRM ***07*** *20:07:58.9, 35˚.62N×8˚.67W, h81km, ML3.3*
MDD ***07*** *20:08:01.4±0.7, 35˚.76N×8˚.62W, h44km±35km, mb_Lg2.9/17, Error ellipse: s-maj=4.9km s-min=3.6km az=49.0*
SFS ***07*** *20:08:02.5, 35˚.76N×8˚.50W, h51km, ML3.1/10, ML2.7/15, MLv2.5/15*
INMG ***07*** *20:08:03.1±1.2, 35˚.76N×8˚.52W, h31km±7km, ML2.2, Error ellipse: s-maj=3.8km s-min=2.4km az=81.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Mar de Marrocos*
IGIL ***07*** *20:08:03.3, 35˚.76N×8˚.62W, h51km, ML1.9*
ISC 07 20:08:00.4±1.2, 35˚.76N±0˚.03×8˚.47W±0˚.04, h35km, n85,
σ1§88/132, 1D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.41**	**348**	||*i*P	**Pn**	**20 08 24.5 +1.0**
PFVI				*e*S	**Sn**	**20 08 41.3 +0.5**
PFVI				*i* IAML		20 08 44.1
PFVI				*i* IAML		20 08 45.6
PFVI				*i* IAML		20 08 46.4
PFVI	**Vila Bisbo**	**1.41**	**348**	P	**Pn**	**20 08 23.8 +0.3**
PFVI	**Vila Bisbo**	**1.41**	**348**	S	**Sn**	**20 08 45.0 +4.3**
PBDV	**Barranco-do-Ve**	**1.55**	**16**	Pn	**Pn**	**20 08 27.7 +2.2**
PBDV				Sn	**Sn**	**20 08 45.6 +1.3**
PBDV	**Barranco-do-Ve**	**1.55**	**16**	*e*P	**Pn**	**20 08 27.3 +1.8**
PBDV				*e*S	**Sn**	**20 08 45.4 +1.1**
PBDV				*i* IAML		20 08 48.4
PBDV				*i* IAML		20 08 49.2
PBDV				*i* IAML		20 08 49.7
MORF	**Marmelete**	**1.55**	**355**	*e*P	**Pn**	**20 08 26.5 +0.9**
MORF				*e*S	**Sn**	**20 08 43.6 -0.9**
MORF				IAML		20 08 47.8
	comp=N,17nm,0.3s					
MORF	**Marmelete**	**1.55**	**355**	*e*P	**Pn**	**20 08 26.5 +0.9**
MORF				*e*S	**Sn**	**20 08 45.3 +0.8**
MORF				*i* IAML		20 08 49.1
MORF				*i* IAML		20 08 49.4
MORF				*i* IAML		20 08 50.3
PVAQ	**Vaqueiros**	**1.75**	**20**	*e*P	**Pn**	**20 08 29.8 +1.5**
PVAQ				*e*S	**Sn**	**20 08 49.9 +0.5**
PVAQ				*i* IAML		20 08 55.1
PVAQ				*i* IAML		20 08 55.5
PVAQ				*i* IAML		20 08 55.5
PVAQ	**Vaqueiros**	**1.75**	**20**	P	**Pn**	**20 08 29.8 +1.5**
PVAQ	**Vaqueiros**	**1.75**	**20**	S	**Sn**	**20 08 53.8 +4.4**

PTEO	**Sao Teotonio**	**1.80**	**354**	*eP*	**Pn**	**20 08 30.0 +1.1**
PTEO				*eS*	**Sn**	**20 08 50.6 +0.1**
PTEO				*i* IAML		20 08 54.6
PTEO				*i* IAML		20 08 55.6
PTEO				*i* IAML		20 08 56.8
PCVE	**Castro Verde**	**1.91**	**10**	Pn	**Pn**	**20 08 32.0 +1.7**
PCVE				Sn	**Sn**	**20 08 52.5 -0.6**
PCVE	**Castro Verde**	**1.91**	**10**	*eP*	**Pn**	**20 08 32.0 +1.7**
PCVE				*eS*	**Sn**	**20 08 53.7 +0.6**
PCVE				*i* IAML		20 09 01.1
PCVE				*i* IAML		20 09 01.5
PCVE				*i* IAML		20 09 01.9
ARNO	**Arenosillo**	**1.94**	**46**	Sn	**Sn**	**20 08 55.0 +1.1**
EGRO	**El Granado**	**1.94**	**24**	Pn	**Pn**	**20 08 32.9 +2.0**
EGRO	**El Granado**	**1.94**	**24**	Pn	**Pn**	**20 08 32.7 +1.8**
EGRO				Sn	**Sn**	**20 08 53.6 -0.5**
EGRO				*i* IVmb_Lg		20 09 00.6
MESJ	**Messejana**	**2.09**	**5**	*eP*	**Pn**	**20 08 34.5 +1.6**
MESJ				*eS*	**Sn**	**20 08 56.8 -0.9**
MESJ				IAML		20 08 58.9
	comp=N,6.0nm,0.1s					
MESJ	**Messejana**	**2.09**	**5**	*eP*	**Pn**	**20 08 34.5 +1.6**
MESJ				*eS*	**Sn**	**20 08 57.9 +0.2**
MESJ				*i* IAML		20 08 59.0
MESJ				*i* IAML		20 09 03.3
MESJ				*i* IAML		20 09 05.7
PBEJ	**Beja**	**2.32**	**12**	*eS*	**Sn**	**20 09 03.0 -0.3**
PBEJ				*i* IAML		20 09 06.4
PBEJ				*i* IAML		20 09 06.5
PBEJ				*i* IAML		20 09 07.0
ESPR	**Espera**	**2.39**	**61**	Pn	**Pn**	**20 08 38.6 +1.6**
ESPR				Sn	**Sn**	**20 09 05.6 +0.6**
ESPR	**Espera**	**2.39**	**61**	Pn	**Pn**	**20 08 38.0 +1.0**
ESPR				Sn	**Sn**	**20 09 05.7 +0.7**
ESPR				*i* IVmb_Lg		20 09 07.9
EMIN	**Mina Concepcio**	**2.47**	**35**	Pn	**Pn**	**20 08 39.5 +1.4**
EMIN				Sn	**Sn**	**20 09 05.5 -1.6**
EMIN	**Mina Concepcio**	**2.47**	**35**	Pn	**Pn**	**20 08 39.7 +1.6**
EMIN				Sn	**Sn**	**20 09 05.7 -1.5**
EMIN				*i* IVmb_Lg		20 09 12.0
SMIR	**Smir Dam**	**2.51**	**91**	P	**Pn**	**20 08 39.0 +0.3**
SMIR	**Smir Dam**	**2.51**	**91**	S	**Sn**	**20 09 12.9 +4.8**
EJIF	**Jimena Fronter**	**2.53**	**73**	Pn	**Pn**	**20 08 41.2 +2.3**
EJIF				Sn	**Sn**	**20 09 10.3 +1.8**
PBAR	**Barrancos**	**2.67**	**25**	Pn	**Pn**	**20 08 42.5 +1.6**
PBAR				Sn	**Sn**	**20 09 11.6 -0.5**
PBAR	**Barrancos**	**2.67**	**25**	*eP*	**Pn**	**20 08 42.5 +1.6**
PBAR				*eS*	**Sn**	**20 09 11.7 -0.3**
PBAR				*i* IAML		20 09 23.3
PBAR				*i* IAML		20 09 23.6
PBAR				*i* IAML		20 09 24.8
ZHG	**ZHG**	**2.75**	**146**	P	**Pn**	**20 08 41.6 -0.5**
ZHG	**ZHG**	**2.75**	**146**	S	**Sn**	**20 09 15.6 +1.4**
EVO	**Evora**	**2.80**	**7**	Sn	**Sn**	**20 09 14.6 -0.5**
EVO	**Evora**	**2.80**	**7**	*eP*	**Pn**	**20 08 45.0 +2.4**
EVO				*eS*	**Sn**	**20 09 14.9 -0.2**
EVO				*i* IAML		20 09 16.9
EVO				*i* IAML		20 09 18.2
EVO				*i* IAML		20 09 18.2
PARRA	**Arraiolos**	**3.09**	**352**	*eP*	**Pn**	**20 08 47.5 +0.8**
PARRA				*eS*	**Sn**	**20 09 21.7 -0.7**
PARRA				*i* IAML		20 09 22.3
PARRA				*i* IAML		20 09 22.7
PARRA				*i* IAML		20 09 22.7
PESTR	**Estremoz**	**3.19**	**12**	*eS*	**Sn**	**20 09 24.3 -0.4**
PESTR				*i* IAML		20 09 25.8
PESTR				*i* IAML		20 09 26.6
PESTR				*i* IAML		20 09 29.0
EBAD	**Badajoz**	**3.21**	**21**	Pn	**Pn**	**20 08 50.4 +2.0**
EBAD				Sn	**Sn**	**20 09 25.2 -0.2**
EBAD	**Badajoz**	**3.21**	**21**	Pn	**Pn**	**20 08 49.7 +1.4**
EBAD				Sn	**Sn**	**20 09 22.8 -2.5**
EBAD				*i* IVmb_Lg		20 09 27.9
PMAFR	**Mafra**	**3.26**	**349**	Pn	**Pn**	**20 08 50.0 +1.0**
PMAFR	**Mafra**	**3.26**	**349**	*eP*	**Pn**	**20 08 50.5 +1.6**
PMAFR				*eS*	**Sn**	**20 09 25.5 -1.0**
PMAFR				*i* IAML		20 09 28.9
PMAFR				*i* IAML		20 09 31.3
SRHM	**Skhour des Reh**	**3.31**	**172**	P	**Pn**	**20 08 49.3 -0.5**
SRHM	**Skhour des Reh**	**3.31**	**172**	S	**Sn**	**20 09 27.7 -0.2**
PMTG	**Montargil**	**3.31**	**3**	*eP*	**Pn**	**20 08 50.8 +1.0**
PMTG				*eS*	**Sn**	**20 09 26.5 -1.4**
PMTG				*i* IAML		20 09 28.1
PMTG				*i* IAML		20 09 28.2
PMTG				*i* IAML		20 09 29.1
ECAB	**El Cabril**	**3.37**	**46**	Pn	**Pn**	**20 08 51.8 +1.3**
ECAB				Sn	**Sn**	**20 09 29.1 -0.1**
ECAB	**El Cabril**	**3.37**	**46**	Pn	**Pn**	**20 08 51.5 +1.0**
ECAB				Sn	**Sn**	**20 09 27.0 -2.2**
ECAB				*i* IVmb_Lg		20 09 32.5
PMRV	**Marv??o**	**3.77**	**13**	*eP*	**Pn**	**20 08 57.2 +1.3**
PMRV				*eS*	**Sn**	**20 09 38.2 -0.8**
PMRV				*i* IAML		20 09 40.2
PMRV				*i* IAML		20 09 40.3
PMRV				*i* IAML		20 09 40.8
EGOR	**Sierra Gorda,**	**3.77**	**68**	Pn	**Pn**	**20 08 58.4 +2.3**
EGOR				Sn	**Sn**	**20 09 40.7 +1.5**
PSARD	**Sardoal**	**3.85**	**4**	*eP*	**Pn**	**20 08 58.3 +1.2**
PSARD				*eS*	**Sn**	**20 09 40.4 -0.6**
PSARD				*i* IAML		20 09 41.5
PSARD				*i* IAML		20 09 41.6
PSARD				*i* IAML		20 09 42.0
EADA	**Adamuz**	**3.94**	**51**	Pn	**Pn**	**20 09 00.0 +1.7**
EADA				Sn	**Sn**	**20 09 41.7 -1.7**
EADA	**Adamuz**	**3.94**	**51**	Pn	**Pn**	**20 08 59.3 +0.9**
EADA				Sn	**Sn**	**20 09 42.4 -1.0**
EADA				*i* IVmb_Lg		20 09 44.7
AKLM	**AKL**	**3.97**	**107**	P	**Pn**	**20 08 57.8 -1.1**
AKLM	**AKL**	**3.97**	**107**	S	**Sn**	**20 09 43.0 -1.3**
ELGU	**Los Guajares,**	**4.07**	**73**	Pn	**Pn**	**20 09 02.8 +2.6**
ELGU	**Los Guajares,**	**4.07**	**73**	Pn	**Pn**	**20 09 02.3 +2.1**
ELGU				Sn	**Sn**	**20 09 46.1 -0.4**
ELGU				*i* IVmb_Lg		20 09 52.6
PCBR	**Castelo Branco**	**4.15**	**11**	*eS*	**Sn**	**20 09 48.1 -0.5**
PCBR				*i* IAML		20 09 48.3
PCBR				*i* IAML		20 09 48.7
PCBR				*i* IAML		20 09 49.8
MD31	**MD31**	**4.21**	**132**	P	**Pn**	**20 09 01.2 -0.9**
MD31	**MD31**	**4.21**	**132**	S	**Sn**	**20 09 49.2 -0.9**
PCAS	**Casmilo, Conde**	**4.29**	**360**	*eP*	**Pn**	**20 09 04.6 +1.4**
PCAS				*eS*	**Sn**	**20 09 49.7 -2.2**
PCAS				*i* IAML		20 09 52.2
PCAS				*i* IAML		20 09 56.1
MDT	**Midelt**	**4.34**	**131**	P	**Pn**	**20 09 03.0 -0.9**
MDT	**Midelt**	**4.34**	**131**	S	**Sn**	**20 09 51.1 -2.3**
GOG	**Mont Gurugu**	**4.50**	**95**	P	**Pn**	**20 09 05.7 -0.4**
GOG	**Mont Gurugu**	**4.50**	**95**	S	**Sn**	**20 10 01.3 +4.1**
E0803	**Jimena (Jaen)**	**4.52**	**61**	Pn	**Pn**	**20 09 07.9 +1.6**
E0803				Sn	**Sn**	**20 09 57.3 -0.3**
OUK	**Oukaimeden**	**4.56**	**173**	P	**Pn**	**20 09 05.2 -2.1**
OUK	**Oukaimeden**	**4.56**	**173**	S	**Sn**	**20 09 57.9 -1.3**
EPLA	**Plasencia**	**4.70**	**23**	Pn	**Pn**	**20 09 10.4 +1.6**
EPLA				Sn	**Sn**	**20 09 59.4 -2.7**
EPLA				*i* IVmb_Lg		20 10 06.4
EQES	**Quesada**	**4.79**	**63**	Pn	**Pn**	**20 09 11.7 +1.5**
EQES				Sn	**Sn**	**20 09 53.0 -1.2**
EQES				*i* IVmb_Lg		20 10 10.5
PSIM	**Granatula de C**	**4.85**	**49**	Pn	**Pn**	**20 09 12.0 +1.1**
PSIM				Sn	**Sn**	**20 10 03.6 -2.1**
TIO	**Tiouine**	**4.92**	**168**	Pn	**Pn**	**20 09 12.9 +1.0**
TIO	**Tiouine**	**4.92**	**168**	P	**Pn**	**20 09 10.0 -2.0**
TIO	**Tiouine**	**4.92**	**168**	S	**Sn**	**20 10 06.7 -1.1**
PVIS	**Viseu**	**4.97**	**5**	*eS*	**Sn**	**20 10 06.5 -2.4**
PAB	**San Pablo**	**5.00**	**40**	Pn	**Pn**	**20 09 14.2 +1.2**
PAB				Sn	**Sn**	**20 10 06.0 -3.6**
PAB				*i* IVmb_Lg		20 10 13.8
OUZM	**OUZ**	**5.04**	**163**	P	**Pn**	**20 09 12.7 -0.8**
OUZM	**OUZ**	**5.04**	**163**	S	**Sn**	**20 10 10.8 +0.1**
ESDC	**Sonseca Array**	**5.30**	**41**	Sn	**Sn**	**20 10 13.6 -3.3**
ESDC				*i* IVmb_Lg		20 10 24.2
ESBB	**Sonseca Array**	**5.30**	**41**	Sn	**Sn**	**20 10 13.7 -3.2**
MVO	**Moncorvo**	**5.52**	**11**	*eP*	**Pn**	**20 09 21.6 +1.5**
MVO				*eS*	**Sn**	**20 10 19.1 -3.3**
MVO				*i* IAML		20 10 21.4
MVO				*i* IAML		20 10 21.7
MVO				*i* IAML		20 10 22.1
POLO	**Lamas de Olo**	**5.63**	**5**	*eP*	**Pn**	**20 09 23.0 +1.3**
POLO				*eS*	**Sn**	**20 10 22.9 -2.3**
POLO				*i* IAML		20 10 25.9
POLO				*i* IAML		20 10 26.0
GUD	**Guadarrama**	**5.95**	**34**	Pn	**Pn**	**20 09 27.0 +1.0**
GUD				Sn	**Sn**	**20 10 29.4 -3.6**
PCAB	**Cabril**	**5.96**	**3**	*eS*	**Sn**	**20 10 30.0 -3.1**
PCAB				*i* IAML		20 10 30.6
PCAB				*i* IAML		20 10 30.9
ELOB	**Lobios**	**6.11**	**3**	Pn	**Pn**	**20 09 29.3 +1.0**
ELOB				Sn	**Sn**	**20 10 32.5 -4.4**
PGAV	**Gavieira, Arco**	**6.20**	**1**	*eP*	**Pn**	**20 09 30.4 +0.9**
PGAV				*eS*	**Sn**	**20 10 36.0 -3.2**
ECAL	**Calabor**	**6.32**	**12**	Pn	**Pn**	**20 09 32.2 +1.1**
ECAL				Sn	**Sn**	**20 10 36.8 -5.3**
AFON	**Font Roja**	**6.96**	**63**	Pn	**Pn**	**20 09 40.7 +0.8**
AFON				Sn	**Sn**	**20 10 53.1 -4.8**
ETOR	**Torete**	**7.14**	**43**	Pn	**Pn**	**20 09 43.3 +0.9**
ETOR				Sn	**Sn**	**20 10 59.2 -3.1**
E0901	**Celadas (Terue**	**7.46**	**49**	Sn	**Sn**	**20 11 07.4 -2.8**

GCG 07 20:15:51.3±0.8, **14°.55N**×**91°.71W**, **h59**km±27km, **MD3.5, ML3.3, MW3.6, Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOKI	**Kika Raxquin**	**0.39**	**48**	*i* P	Pn	20 16 03.7	+1.1
SMCA	**Catarina**	**0.47**	**310**	*i* P	Pn	20 16 02.8	-0.1
SMCA				*i* S	Sn	20 16 13.2	+2.0
SMCA				IAML		20 16 13.7	
	comp=N,1μm,0.2s						
ESSG	**Sabana Grande**	**0.86**	**101**	*i* P	Pn	20 16 07.6	0.0
ESSG				*i* S	Sn	20 16 21.1	+1.5
ESSG				IAML		20 16 22.1	
	comp=N,605nm,0.7s						
FG8	**Yepocapa, Chim**	**1.15**	**105**	*i* P	Pn	20 16 06.5	-4.9
FG8				*i* S	Sn	20 16 19.4	-6.8
FG16	**Alotenango, Sa**	**1.19**	**103**	*i* P	Pn	20 16 07.5	-4.5
FG16				*i* S	Sn	20 16 21.5	-5.9
FG16				IAML		20 16 26.4	
	comp=N,2μm,0.3s						
NUBE	**Las Nubes**	**1.98**	**109**	*i* P	Pn	20 16 23.8	+1.2
NUBE				*i* S	Sn	20 16 47.0	+0.6

*ISK **07** 20:31:45.9, 38°.89N×26°.15E, h9km, ML3.1/29*
*THE **07** 20:31:46.6, 38°.9N±0°.7×2°.6E±°, h14km±1km, M2.5/25, MLh2.5/25*
*AFAD **07** 20:31:46.3, 38°.87N×26°.18E, h7km±3km, ML2.9*
*ATH **07** 20:31:46.0, 38°.86N×26°.14E, h22km±1km, ML2.7/7, Manual Solution by A.Plessa First location: 2019/09/07 20:33:01, This location: 2019/09/08 07:35:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 2 km*

ISC 07 20:31:46.3±0.9, **38°.87N**±0°.02×**26°.15E**±0°.02, **h15**km±7km, **n85**, σ**0.57**/108, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARB	**zmir-Karabur**	**0.29**	**135**	P	**Pb**	**20 31 52.7**	**-0.5**
KARB				S	**Sg**	**20 31 56.6**	**0.0**
KARB				*i* IAML		20 31 57.0	
	comp=E,1μm,0.2s						
EAG2	**Marmaro, Chios**	**0.33**	**186**	P	**Pg**	**20 31 53.2**	**+0.1**
EAG2				S	**Sg**	**20 31 58.1**	**+0.5**
PRK	**Paraskevi**	**0.39**	**14**	P	**Pg**	**20 31 54.0**	**-0.1**
PRK				S	**Sb**	**20 31 59.9**	**-0.7**
SIGR	**SIGRI**	**0.41**	**326**	Pg	**Pg**	**20 31 54.9**	**+0.3**
SIGR				Sg	**Sg**	**20 32 00.0**	**-0.2**
SIGR	**SIGRI**	**0.41**	**326**	P	**Pg**	**20 31 54.9**	**+0.3**
SIGR				S	**Sb**	**20 32 01.1**	**-0.2**
SIGR	**SIGRI**	**0.41**	**326**	P	**Pg**	**20 31 54.9**	**+0.3**
SIGR				S	**Sg**	**20 32 00.5**	**+0.3**
FOCM	**Foa**	**0.48**	**109**	Pg	**Pb**	**20 31 55.9**	**-0.5**
FOCM				Sg	**Sb**	**20 32 03.1**	**-0.2**
CHOS	**Chios island**	**0.49**	**189**	Pg	**Pg**	**20 31 56.2**	**+0.2**
CHOS				Sg	**Sb**	**20 32 03.8**	**+0.2**
CHOS	**Chios island**	**0.49**	**189**	P	**Pg**	**20 31 56.1**	**+0.2**
CHOS				S	**Sb**	**20 32 04.1**	**+0.5**
CHOS	**Chios island**	**0.49**	**189**	P	**Pg**	**20 31 56.1**	**+0.2**
CHOS				S	**Sb**	**20 32 04.0**	**+0.4**
CESE	**eme**	**0.55**	**168**	Pg	**Pg**	**20 31 57.4**	**+0.3**
GPNR	**Gulpinar-Canak**	**0.58**	**359**	Pg	**Pg**	**20 31 57.4**	**-0.4**
AYVA	**Ayvalik**	**0.61**	**44**	P	**Pg**	**20 31 58.1**	**-0.1**
AYVA				*i* IAML		20 32 07.0	
	comp=N,902nm,0.3s						
IZMD	**zmir-Dikili-**	**0.62**	**79**	P	**Pb**	**20 31 58.4**	**-0.5**
IZMD				S	**Sg**	**20 32 05.8**	**-0.9**
KOCA	**Canakkale, Ayv**	**0.63**	**359**	P	**Pg**	**20 31 58.7**	**0.0**
KOCA				*i* IAML		20 32 12.0	
	comp=E,581nm,0.2s						
ZEYE	**Izmir, Urla-Ze**	**0.69**	**156**	P	**Pg**	**20 31 59.2**	**-0.5**
ZEYE				S	**Sb**	**20 32 09.3**	**+0.1**
ZEDA	**zmir-Bergama**	**0.73**	**82**	P	**Pb**	**20 32 00.4**	**-0.3**
ZEDA				S	**Sg**	**20 32 09.7**	**-0.4**
ZEDA				*i* IAML		20 32 12.0	
	comp=N,752nm,0.4s						
ZEDA				*i* IAML		20 32 12.0	
	comp=E,408nm,0.2s						
BLCB	**Balcova**	**0.85**	**124**	Pg	**Pb**	**20 32 02.9**	**+0.2**
BLCB	**Balcova**	**0.85**	**124**	P	**Pg**	**20 32 02.5**	**-0.3**
BLCB				S	**Sb**	**20 32 14.4**	**+0.4**
EZNE	**Ezine-Canakkal**	**0.90**	**11**	Pg	**Pb**	**20 32 03.6**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.92**	**19**	P	**Pb**	**20 32 03.2**	**-0.8**
BUHA	**Balikesir, Bur**	**0.96**	**49**	P	**Pb**	**20 32 04.1**	**-0.5**
BUHA				*i* IAML		20 32 18.0	
	comp=N,317nm,0.3s						
BUHA				*i* IAML		20 32 20.0	
	comp=E,458nm,0.5s						
EZN	**Ezine**	**0.96**	**8**	Pg	**Pg**	**20 32 04.9**	**0.0**
EZN	**Ezine**	**0.96**	**8**	P	**Pb**	**20 32 04.5**	**-0.2**
EZN				S	**Sg**	**20 32 17.9**	**+0.3**
BOZC	**Bozcaada**	**0.97**	**356**	Pg	**Pb**	**20 32 04.5**	**-0.4**
BOZC	**Bozcaada**	**0.97**	**356**	P	**Pb**	**20 32 04.5**	**-0.4**
BOZC				*i* IAML		20 32 19.0	
	comp=E,334nm,0.6s						
GMLD	**Gumuldur**	**0.99**	**143**	Pg	**Pg**	**20 32 05.4**	**-0.1**
DGB	**zmir**	**1.00**	**145**	P	**Pb**	**20 32 04.7**	**-0.6**
YAYO	**Edremit-Balk**	**1.03**	**44**	Pg	**Pb**	**20 32 05.7**	**-0.1**
SOMA	**Soma-Manisa**	**1.12**	**75**	Pn	**Pg**	**20 32 07.7**	**-0.1**
EFSA	**Agios Efstrati**	**1.12**	**307**	P	**Pb**	**20 32 06.0**	**-1.4**
KRL1	**Karlovasi Samo**	**1.16**	**158**	P	**Pb**	**20 32 07.2**	**-0.8**
ECEA	**Canakkale, Ece**	**1.17**	**1**	P	**Pn**	**20 32 07.5**	**-0.7**
ECEA				S	**Sn**	**20 32 23.9**	**0.0**
ECEA				*i* IAML		20 32 25.0	
	comp=E,456nm,0.6s						
ECEA				*i* IAML		20 32 26.0	
	comp=N,535nm,0.4s						
CNKL	**anakkale-Mer**	**1.21**	**9**	P	**Pn**	**20 32 08.4**	**-0.2**
CNKL				S	**Sg**	**20 32 25.4**	**+0.1**
CNKL				*i* IAML		20 32 27.0	
	comp=N,515nm,0.5s						
CNKL				*i* IAML		20 32 28.0	
	comp=E,292nm,0.3s						
SKY	**Skiros Island**	**1.25**	**271**	P	**Pn**	**20 32 09.1**	**-0.1**
SKY				S	**Sn**	**20 32 26.5**	**+0.8**
SKY	**Skiros Island**	**1.25**	**271**	P	**Pn**	**20 32 08.1**	**-1.1**
COMU	**Canakkale**	**1.25**	**11**	Pn	**Pn**	**20 32 09.4**	**+0.1**
LIA	**Limnos Island**	**1.27**	**324**	P	**Pn**	**20 32 09.4**	**-0.1**
LIA				S	**Sn**	**20 32 26.9**	**+0.6**
LIA	**Limnos Island**	**1.27**	**324**	P	**Pn**	**20 32 09.4**	**-0.1**
SMG	**Samos**	**1.28**	**155**	P	**Pn**	**20 32 08.6**	**-1.0**
SMG				S	**Sg**	**20 32 27.6**	**0.0**
SMG	**Samos**	**1.28**	**155**	P	**Pn**	**20 32 08.5**	**-1.2**
AKS	**Akhisar**	**1.30**	**89**	Pn	**Pg**	**20 32 10.7**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.32**	**67**	P	**Pn**	**20 32 10.0**	**-0.2**
STEP				*i* IAML		20 32 32.0	
	comp=N,180nm,0.3s						
STEP				*i* IAML		20 32 34.0	
	comp=E,232nm,0.4s						
GADA	**Gvkgeada**	**1.33**	**352**	Pn	**Pn**	**20 32 10.8**	**+0.4**
GADA	**Gvkgeada**	**1.33**	**352**	P	**Pn**	**20 32 10.3**	**0.0**
GADA				S	**Sn**	**20 32 28.3**	**+0.4**
CANM	**Can-anakkale**	**1.34**	**31**	Pn	**Pb**	**20 32 10.9**	**-0.2**
YENI	**Yenice-Canakka**	**1.36**	**38**	Pn	**Pb**	**20 32 11.3**	**-0.2**
GOMA	**Golmarmara-Man**	**1.39**	**96**	Pn	**Pg**	**20 32 12.2**	**-0.8**
BALY	**Balya**	**1.43**	**52**	P	**Pn**	**20 32 11.9**	**+0.1**
BALY				*i* IAML		20 32 35.0	
	comp=N,243nm,0.6s						
BALY				*i* IAML		20 32 40.0	
	comp=E,140nm,0.6s						
GCAM	**G?zelcaml?**	**1.45**	**144**	Pn	**Pb**	**20 32 13.1**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.55**	**9**	Pn	**Pn**	**20 32 13.7**	**+0.4**
GORD	**Gordes-Manisa**	**1.58**	**88**	Pn	**Pb**	**20 32 14.6**	**-0.7**
KARY	**Karystos**	**1.58**	**239**	P	**Pn**	**20 32 13.1**	**-0.7**
KARY				S	**Sn**	**20 32 35.1**	**+1.1**
IZMR	**zmir-demi**	**1.59**	**117**	P	**Pg**	**20 32 15.9**	**-1.0**
KYMI	**Kymi, Euboea I**	**1.62**	**262**	P	**Pn**	**20 32 13.9**	**-0.4**
KYMI				S	**Sb**	**20 32 36.5**	**+0.4**
KYMI	**Kymi, Euboea I**	**1.62**	**262**	P	**Pn**	**20 32 13.2**	**-1.1**
ODEM	**Odemis-Izmir**	**1.62**	**111**	Pn	**Pb**	**20 32 15.1**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.65**	**123**	Pn	**Pb**	**20 32 15.8**	**-0.7**
SMTH	**Samothraki Isl**	**1.67**	**344**	P	**Pn**	**20 32 14.6**	**-0.4**
SMTH	**Samothraki Isl**	**1.67**	**344**	P	**Pn**	**20 32 14.2**	**-0.8**
GONE	**Gonen-Balikesi**	**1.67**	**45**	Pn	**Pn**	**20 32 15.6**	**+0.6**
KRBG	**Karabiga-Canak**	**1.76**	**30**	Pn	**Pn**	**20 32 16.9**	**+0.7**
AOS	**Alonnisos**	**1.79**	**280**	P	**Pn**	**20 32 17.3**	**+0.6**
DION	**Dionisos Attik**	**1.91**	**246**	P	**Pn**	**20 32 17.7**	**-0.7**
DION	**Dionisos Attik**	**1.91**	**246**	P	**Pn**	**20 32 17.6**	**-0.7**
NAZL	**Nazilli-Aydin**	**1.91**	**118**	Pn	**Pn**	**20 32 19.3**	**+1.0**
PTL	**Penteli**	**1.97**	**246**	P	**Pn**	**20 32 19.1**	**-0.1**
EDC	**Edincik**	**1.98**	**41**	Pn	**Pn**	**20 32 19.9**	**+0.6**
KULA	**Kula-Manisa**	**2.00**	**99**	Pn	**Pn**	**20 32 20.6**	**+1.0**
ALN	**Alexandroupoli**	**2.03**	**358**	P	**Pn**	**20 32 19.6**	**-0.3**
DST	**Dursunbey**	**2.05**	**68**	Pn	**Pn**	**20 32 21.6**	**+1.3**
THAS	**Thassos island**	**2.06**	**328**	P	**Pn**	**20 32 19.9**	**-0.3**
ATH	**Athens Observa**	**2.11**	**246**	P	**Pn**	**20 32 21.3**	**+0.3**
VLY	**Voula,Athens**	**2.11**	**242**	P	**Pn**	**20 32 21.3**	**+0.2**
STFN	**Stefani**	**2.16**	**252**	P	**Pn**	**20 32 22.0**	**+0.3**
PAIG	**Paliouri**	**2.19**	**300**	P	**Pn**	**20 32 22.6**	**+0.6**
OUR	**Ouranopolis**	**2.22**	**312**	P	**Pn**	**20 32 22.8**	**+0.2**
RDO	**Rodhopi**	**2.32**	**349**	P	**Pn**	**20 32 23.9**	**-0.1**
VILL	**Villia**	**2.33**	**253**	P	**Pn**	**20 32 24.3**	**+0.1**
DAT	**Datca**	**2.42**	**152**	P	**Pn**	**20 32 25.3**	**-0.1**
ORLT	**Orhaneli**	**2.43**	**60**	Pn	**Pn**	**20 32 26.6**	**+1.1**
ATAL	**Atalanti**	**2.45**	**267**	P	**Pn**	**20 32 25.7**	**0.0**
KAVA	**Kavala**	**2.47**	**330**	P	**Pn**	**20 32 25.8**	**-0.2**
TVSB	**Tavsanli**	**2.64**	**76**	Pn	**Pn**	**20 32 29.6**	**+1.2**
APMY	**Acipayam-Deniz**	**2.85**	**118**	Pn	**Pn**	**20 32 32.6**	**+1.3**

*NEIC **07** 20:37:19.0±2.1, 35°.65N±0°.01×117°.52W±0°.01, h7km±1km, Error ellipse: s-maj=1.7km s-min=1.7km az=153.0*
PAS 07 20:37:19.6±1.7, **35°.66N**±0°.01×**117°.537W**±0°.007, **h9**km±4km, **ML3.0**/192, **ML2.7**/110(NEIC), **Error ellipse: s-maj=2.2km s-min=0.5km az=164.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.07**	**149**		Pg	20 37 21.7	-0.1
WSHM				Sg	Sg	20 37 23.3	+0.1
CLC	**China Lake**	**0.16**	**342**		Pg	20 37 23.1	-0.1
CCCA	**Chr Cany lake**	**0.20**	**134**		Pg	20 37 24.0	+0.3
LRMC	**Laurel Mtn Rad**	**0.21**	**213**		Pg	20 37 23.9	-0.2
LRMC				IAML		20 37 28.2	
	comp=E,2μm,0.3s						
LRMC				IAML		20 37 28.0	
	comp=N,2μm,0.2s						
JRC2	**Joshua Ridge**	**0.39**	**326**		Pg	20 37 27.1	-0.3
JRC2					Sg	20 37 32.6	+0.1
MPMC	**Manual Prospec**	**0.40**	**6**		Pg	20 37 27.1	-0.4
MPMC					Sg	20 37 32.8	-0.1
MPMC				IAML		20 37 33.3	
	comp=E,820nm,0.6s						
MPMC				IAML		20 37 33.3	
	comp=N,817nm,0.5s						
WCSM	**Coso Springs S**	**0.41**	**333**		Sg	20 37 33.0	-0.1
WRVM	**Rose V. Centra**	**0.45**	**321**		Pg	20 37 28.1	-0.4
DTP	**Desert Tortois**	**0.47**	**213**		Sg	20 37 34.6	-0.2
WORM	**Onyx Ranch**	**0.57**	**274**		Pg	20 37 30.3	-0.5
QSM	**Queen of Sheba**	**0.62**	**61**		Pg	20 37 31.2	-0.4
QSM				IAML		20 37 40.6	
	comp=E,589nm,0.2s						
QSM	**Queen of Sheba**	**0.62**	**61**		Sg	20 37 39.6	-0.3
CCAC	**Calif City Air**	**0.64**	**218**		Sg	20 37 40.4	0.0
WHFM	**Hanning Flat**	**0.66**	**273**		Sg	20 37 40.7	-0.4
GSC	**Goldstone, Bar**	**0.70**	**121**		Sg	20 37 41.8	-0.3
GSC	**Goldstone, Bar**	**0.70**	**121**	Pg	Pg	20 37 32.

ELS				IAML		20 38 26.4		
	comp=E,38nm,0.4s							
POB	**Polly Butte**	**2.03**	**165**		Pn	20 37 53.5	-0.6	
DANC	**Danby, Needles**	**2.04**	**119**		Pn	20 37 52.4	-1.8	
DANC				IAML		20 38 31.4		
	comp=N,93nm,0.7s							
BELC	**Belle Mtn. Jos**	**2.08**	**142**	Pn	Pn	20 37 53.6	-1.3	
BELC				IAML		20 38 27.2		
	comp=N,56nm,0.6s							
BELC				IAML		20 38 28.7		
	comp=E,49nm,0.4s							
SHPR	**Sheep Range**	**2.10**	**66**		Pn	20 37 54.2	-1.0	
V12A	**Nelson**	**2.19**	**87**		Pn	20 37 54.7	-1.5	
DNR	**Dunn Ranch,Anz**	**2.22**	**160**		Pn	20 37 55.6	-1.1	
PMD	**Palm Desert**	**2.22**	**154**		Pn	20 37 55.1	-1.5	
PMD				IAML		20 38 30.2		
	comp=E,34nm,0.6s							
PFO	**Pinyon Flats O**	**2.23**	**156**		Pn	20 37 55.4	-1.4	
PFO				IAML		20 38 31.9		
	comp=E,28nm,0.4s							
TPH	**Tonopah**	**2.42**	**6**		Pn	20 37 59.0	-0.6	
BORC	**Borrego Spring**	**2.56**	**158**		Pn	20 38 01.7	+0.4	
BORC				IAML		20 38 42.8		
	comp=E,42nm,0.7s							
BORC				IAML		20 38 43.8		
	comp=N,27nm,0.9s							
BC3	**Big Chuckawall**	**2.64**	**139**		Pn	20 38 00.6	-1.9	
BC3				IAML		20 38 47.2		
	comp=E,21nm,0.9s							
BC3				IAML		20 38 49.0		
	comp=N,31nm,0.6s							
PRN	**Pahroc Range**	**2.66**	**48**		Pn	20 38 03.6	+0.8	
PRN				IAML		20 38 53.0		
	comp=E,25nm,1.1s							
PRN				IAML		20 38 56.6		
	comp=N,23nm,0.8s							
DPP	**Dos Picos Cty**	**2.70**	**169**	Pn	Pn	20 38 01.9	-1.4	
DPP				IAML		20 39 30.5		
	comp=E,23nm,0.1s							
DPP				IAML		20 39 31.1		
	comp=N,24nm,0.1s							
LHV	**Little Huntoon**	**2.70**	**344**		Pn	20 38 02.9	-0.3	
LHV				IAML		20 38 51.9		
	comp=E,17nm,0.9s							
PMPB	**Monarch Peak**	**2.71**	**283**		Pn	20 38 03.0	-0.3	
PMPB				IAML		20 38 43.6		
	comp=N,38nm,4.6s							
PMPB				IAML		20 38 49.9		
	comp=E,34nm,2.8s							
BUCR	**Buckhorn Ranch**	**2.91**	**314**		Pn	20 38 06.8	+0.6	
BUCR				IAML		20 38 49.3		
	comp=E,16nm,0.6s							
BUCR				IAML		20 38 49.8		
	comp=N,22nm,0.8s							
W13A	**Hualapai Mount**	**3.04**	**100**		Pn	20 38 06.7	-1.4	
RYN	**Ryan**	**3.07**	**345**		Pn	20 38 07.9	-0.5	
R11B	**Troy Canyon, C**	**3.10**	**30**		Pn	20 38 07.9	-1.1	
PSUT	**Pine Spring**	**4.11**	**45**		Pn	20 38 22.4	-0.4	

*JMA **07** 20:40:38.0±0.1,24°N±1°×122°.6E±0°.4, h89km±1km, MV2.3/14,NW OFF ISHIGAKIJIMA IS*
*TAP **07** 20:40:37.7,24°.52N×122°.54E, h92km, ML3.2,B*
ISC 07 20:40:38.0±1.3,**24°.50N**±0°.03×**122°.58E**±0°.02,**h90**km±7km, **n112,σ0°76**/194,**2D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EOS3	**EOS3**	**0.32**	**228**	*i*	P	**Pn**	**20 40 52.1**	**+0.8**
EOS3					S	**Sn**	**20 41 02.9**	**+1.6**
EOS2	**EOS2**	**0.33**	**255**	*i*	P	**Pn**	**20 40 52.0**	**+0.6**
EOS2					S	**Sn**	**20 41 02.5**	**+1.1**
JYNG	**Yonagunijimaku**	**0.34**	**99**		P	**Pn**	**20 40 51.6**	**0.0**
JYNG					S	**Sn**	**20 41 01.6**	**-0.1**
YOJ	**Yonaguni jima**	**0.39**	**96**		P	**Pn**	**20 40 52.2**	**+0.3**
YOJ					S	**Sn**	**20 41 02.6**	**+0.3**
EOS4	**EOS4**	**0.45**	**212**	*i*	P	**Pn**	**20 40 52.1**	**+0.1**
EOS4					S	**Sn**	**20 41 03.3**	**+1.0**
ESAO	**Su ao**	**0.68**	**276**		P	**Pn**	**20 40 54.7**	**+0.4**
ESAO					S	**Sn**	**20 41 05.5**	**-0.9**
TWC	**Suao**	**0.68**	**279**	*i*	P	**Pn**	**20 40 53.8**	**-0.4**
TWC				*i*	S	**Sn**	**20 41 04.8**	**-1.6**
EGS		**0.68**	**300**		P	**Pn**	**20 40 54.4**	**+0.1**
EGS					S	**Sn**	**20 41 06.4**	**-0.1**
TWB1	**Santiao Chiao**	**0.74**	**313**	*i*	P	**Pn**	**20 40 54.7**	**-0.2**
TWB1				*i*	S	**Sn**	**20 41 06.3**	**-1.1**
ENA	**Nanau**	**0.77**	**265**	*i*	P	**Pn**	**20 40 55.2**	**0.0**
ENA				*i*	S	**Sn**	**20 41 08.3**	**+0.2**
EAHA	**Aohua**	**0.79**	**258**	*e*	P	**Pn**	**20 40 55.4**	**+0.1**
EAHA				*e*	S	**Sn**	**20 41 08.5**	**+0.2**
ILA	**Ilan**	**0.80**	**289**	*e*	S	**Sn**	**20 41 08.3**	**-0.3**
TIPB	**Shuangxi**	**0.83**	**304**		P	**Pn**	**20 40 55.9**	**0.0**
TIPB				*i*	S	**Sn**	**20 41 07.8**	**-1.5**
TWE	**Neicheng**	**0.86**	**285**		P	**Pn**	**20 40 56.4**	**+0.2**
TWE					S	**Sn**	**20 41 09.0**	**-0.7**
SXI1	**Grass Mountain**	**0.87**	**313**	*i*	P	**Pn**	**20 40 56.2**	**-0.1**
SXI1				*i*	S	**Sn**	**20 41 09.8**	**-0.2**
NWF	**Wu-fen Shan**	**0.92**	**308**	⇓	P	**Pn**	**20 40 57.0**	**+0.1**
NWF				*i*	S	**Sn**	**20 41 10.0**	**-0.7**
WFSB	**Wu-fen Shan**	**0.92**	**308**	⇓	P	**Pn**	**20 40 57.0**	**+0.2**
WFSB				*i*	S	**Sn**	**20 41 10.2**	**-0.7**
ENTT	**Nioudou**	**0.94**	**279**	*i*	P	**Pn**	**20 40 57.4**	**+0.4**
ENTT				*i*	S	**Sn**	**20 41 11.2**	**0.0**
ETL	**Fush Village**	**0.94**	**249**		P	**Pn**	**20 40 56.7**	**-0.3**
ETL				*e*	S	**Sn**	**20 41 10.6**	**-0.7**
FUSB	**Fushanzhiwuyua**	**0.94**	**286**	*e*	P	**Pn**	**20 40 57.5**	**+0.4**
FUSB				*e*	S	**Sn**	**20 41 11.6**	**+0.2**
NACB	**Ninganchiao**	**0.96**	**250**		P	**Pn**	**20 40 56.1**	**-1.1**
NACB				*e*	S	**Sn**	**20 41 11.6**	**0.0**
LATG	**Datong**	**0.96**	**272**		P	**Pn**	**20 40 57.4**	**0.0**
LATG					S	**Sn**	**20 41 12.0**	**+0.1**
TNOU	**National Taiwa**	**0.98**	**311**		P	**Pn**	**20 40 57.5**	**+0.1**
TNOU					S	**Sn**	**20 41 11.3**	**-0.7**
TWD	**Chiawan**	**0.99**	**245**		P	**Pn**	**20 40 57.1**	**-0.5**
TWD					S	**Sn**	**20 41 11.6**	**-0.7**
NWLT	**Wulai**	**1.02**	**286**		P	**Pn**	**20 40 58.7**	**+0.8**
NWLT				*i*	S	**Sn**	**20 41 12.3**	**-0.6**
TWA	**Mucha**	**1.02**	**298**		P	**Pn**	**20 40 57.6**	**-0.4**
TWA				*i*	S	**Sn**	**20 41 12.0**	**-1.0**
HWA	**Hwalien**	**1.03**	**240**	*e*	P	**Pn**	**20 40 57.8**	**-0.3**
HWA				*e*	S	**Sn**	**20 41 13.3**	**+0.2**
ETLH	**Xiulin Townshi**	**1.05**	**254**		P	**Pn**	**20 40 57.9**	**-0.4**
ETLH					S	**Sn**	**20 41 13.6**	**0.0**
IRIF	**Iriomote-Funau**	**1.06**	**99**		P	**Pn**	**20 40 58.6**	**+0.2**
IRIF					S	**Sn**	**20 41 13.6**	**-0.1**
NHDH	**Xindian Distri**	**1.06**	**296**	*e*	S	**Sn**	**20 41 13.2**	**-0.6**
NHY	**Taipei**	**1.06**	**300**	*e*	P	**Pn**	**20 40 58.6**	**+0.2**
NHY				*e*	S	**Sn**	**20 41 12.4**	**-1.4**
NNSB	**Datong**	**1.09**	**266**		P	**Pn**	**20 40 58.9**	**0.0**
NNSB					S	**Sn**	**20 41 14.3**	**-0.4**
TEYL	**Yanliau Villag**	**1.10**	**235**	*e*	P	**Pn**	**20 40 58.5**	**-0.3**
TEYL				*e*	S	**Sn**	**20 41 14.5**	**0.0**
NNS	**Nan Shan**	**1.10**	**267**	*e*	P	**Pn**	**20 40 59.0**	**0.0**
NNS				*e*	S	**Sn**	**20 41 14.4**	**-0.4**
YHNB	**Yeheng**	**1.11**	**279**		P	**Pn**	**20 40 59.4**	**+0.4**
YHNB				*e*	S	**Sn**	**20 41 14.7**	**-0.2**
TAP	**Taipei**	**1.11**	**299**	*e*	S	**Sn**	**20 41 14.3**	**-0.5**
YM01	**YM01**	**1.12**	**305**		P	**Pn**	**20 40 59.0**	**-0.2**
YM01					S	**Sn**	**20 41 14.5**	**-0.6**
NSK	**Sanguang**	**1.13**	**279**	*i*	P	**Pn**	**20 40 59.6**	**+0.3**
NSK				*i*	S	**Sn**	**20 41 14.5**	**-0.7**
ETM	**Tongmen**	**1.13**	**242**		P	**Pn**	**20 40 59.0**	**-0.2**
ETM				*e*	S	**Sn**	**20 41 14.3**	**-0.8**
YM08	**YM08**	**1.13**	**307**		P	**Pn**	**20 40 58.9**	**-0.4**
YM08				*e*	S	**Sn**	**20 41 14.4**	**-0.8**
ZUZH	**Zhuzihu**	**1.15**	**305**	*i*	P	**Pn**	**20 40 59.4**	**-0.1**
ZUZH				*i*	S	**Sn**	**20 41 14.4**	**-1.2**
LXIB	**Xiulin Townshi**	**1.17**	**246**		P	**Pn**	**20 40 59.1**	**-0.8**
LXIB					S	**Sn**	**20 41 15.0**	**-1.3**
SHUL	**Shoufeng**	**1.17**	**233**		P	**Pn**	**20 40 59.5**	**-0.2**
SHUL					S	**Sn**	**20 41 16.2**	**+0.1**
TWY	**Chenhua**	**1.18**	**311**		P	**Pn**	**20 40 60.0**	**+0.2**
TWY					S	**Sn**	**20 41 14.7**	**-1.5**
ANP	**Anpu**	**1.18**	**305**	*e*	P	**Pn**	**20 40 59.2**	**-0.7**
ANP				*e*	S	**Sn**	**20 41 15.2**	**-1.2**
PCYT	**Pengchaiyu**	**1.21**	**338**	*e*	P	**Pn**	**20 41 00.7**	**+0.5**
TWS1	**Kuangyinshan**	**1.21**	**300**	*i*	P	**Pn**	**20 41 00.2**	**0.0**
TWS1					S	**Sn**	**20 41 16.4**	**-0.6**
NTST	**Danshui**	**1.22**	**303**	*e*	P	**Pn**	**20 41 00.5**	**+0.2**
NTST				*i*	S	**Sn**	**20 41 16.7**	**-0.4**
TEGC	**Jichi Village**	**1.24**	**231**	*e*	P	**Pn**	**20 40 59.9**	**-0.6**
TEGC				*e*	S	**Sn**	**20 41 16.4**	**-1.0**
FUSS	**Fushou**	**1.25**	**259**	*e*	P	**Pn**	**20 41 01.2**	**+0.4**
FUSS					S	**Sn**	**20 41 17.5**	**-0.6**
ESL	**Shilin**	**1.25**	**237**		P	**Pn**	**20 41 00.7**	**0.0**
ESL				*e*	S	**Sn**	**20 41 16.4**	**-1.4**
WHF	**Hehuan Shan**	**1.25**	**254**		P	**Pn**	**20 41 01.0**	**-0.2**
WHF				*e*	S	**Sn**	**20 41 17.6**	**-0.9**
KSHI	**Guanxi Townshi**	**1.31**	**282**	*e*	P	**Pn**	**20 41 01.6**	**+0.2**
KSHI				*e*	S	**Sn**	**20 41 19.4**	**+0.5**
TDCB	**Techi**	**1.32**	**259**	*i*	P	**Pn**	**20 41 02.4**	**+0.7**
TDCB				*i*	S	**Sn**	**20 41 19.1**	**-0.4**
JKRS	**Kuro-shima**	**1.33**	**101**	*e*	P	**Pn**	**20 41 02.2**	**+0.6**
JKRS					S	**Sn**	**20 41 19.7**	**+0.3**
NFF1	**Wufeng Townshi**	**1.34**	**276**	*e*	P	**Pn**	**20 41 02.5**	**+0.7**
NFF				*e*	S	**Sn**	**20 41 19.6**	**-0.2**
EGFH	**Guangfu**	**1.34**	**232**	*e*	P	**Pn**	**20 41 01.6**	**-0.2**
EGFH					S	**Sn**	**20 41 19.2**	**-0.5**
WARBT	**Fenglin Townsh**	**1.34**	**235**	*i*	P	**Pn**	**20 41 01.2**	**-0.6**
WARBT					S	**Sn**	**20 41 18.6**	**-1.2**
NCUH	**Zhongli**	**1.35**	**290**	*e*	S	**Sn**	**20 41 19.8**	**-0.2**
OWD	**Renai**	**1.40**	**247**	*i*	P	**Pn**	**20 41 02.3**	**-0.3**
OWD				*i*	S	**Sn**	**20 41 19.7**	**-1.4**
JIJ	**Ishigaki jima**	**1.43**	**95**		P	**Pn**	**20 41 02.8**	**0.0**
JIJ					S	**Sn**	**20 41 20.6**	**-1.0**
WUSB	**Renai**	**1.43**	**249**		P	**Pn**	**20 41 03.3**	**+0.2**
WUSB					S	**Sn**	**20 41 21.8**	**-0.1**
LIOB	**Emei**	**1.43**	**276**	*e*	P	**Pn**	**20 41 03.8**	**+0.9**
LIOB					S	**Sn**	**20 41 21.5**	**-0.3**
NSTT	**Nanjuang**	**1.45**	**275**		P	**Pn**	**20 41 03.5**	**+0.4**
NSTT					S	**Sn**	**20 41 21.3**	**-0.7**
HGSD	**Ruisui**	**1.46**	**227**	*e*	P	**Pn**	**20 41 03.1**	**-0.2**
HGSD				*e*	S	**Sn**	**20 41 20.9**	**-1.4**
SBCB	**Hsinchu**	**1.48**	**282**	*e*	S	**Sn**	**20 41 23.1**	**+0.3**
HSN	**Hsinchu**	**1.50**	**282**	*e*	P	**Pn**	**20 41 03.9**	**+0.2**
HSN				*i*	S	**Sn**	**20 41 22.2**	**-0.9**
WHP	**Taichung City**	**1.51**	**262**		P	**Pn**	**20 41 04.8**	**+0.9**
WHP				*i*	S	**Sn**	**20 41 24.2**	**+0.6**
EHYH	**Wanrong**	**1.51**	**229**	*e*	P	**Pn**	**20 41 03.5**	**-0.4**
EHYH				*e*	S	**Sn**	**20 41 22.9**	**-0.6**
EHY	**Hungye**	**1.52**	**230**	*e*	P	**Pn**	**20 41 03.4**	**-0.7**
EHY				*e*	S	**Sn**	**20 41 23.2**	**-0.5**
ECBN	**Changbin**	**1.57**	**221**		P	**Pn**	**20 41 04.3**	**-0.3**
ECBN					S	**Sn**	**20 41 24.6**	**-0.2**
JISG	**Ishigakijimahi**	**1.58**	**87**		P	**Pn**	**20 41 04.8**	**+0.1**
JISG					S	**Sn**	**20 41 24.6**	**-0.4**
WCS	**Beigang Elemen**	**1.59**	**254**		P	**Pn**	**20 41 06.0**	**+1.1**
WCS				*e*	S	**Sn**	**20 41 26.6**	**+1.4**
YULB	**Yu-li**	**1.61**	**227**	*e*	P	**Pn**	**20 41 05.1**	**-0.1**
YULB				*e*	S	**Sn**	**20 41 25.8**	**-0.1**
EYUL	**Yuli**	**1.63**	**225**	*e*	P	**Pn**	**20 41 06.0**	**+0.5**
NMLH	**Miaoli**	**1.63**	**272**	*e*	P	**Pn**	**20 41 05.9**	**+0.5**
NMLH				*e*	S	**Sn**	**20 41 25.9**	**-0.4**
TWF1	**Yuli**	**1.64**	**226**		P	**Pn**	**20 41 05.0**	**-0.6**
TWF1					S	**Sn**	**20 41 27.7**	**+1.2**
SSLB	**Suanglung**	**1.65**	**245**	*e*	P	**Pn**	**20 41 05.5**	**-0.2**
SSLB				*e*	S	**Sn**	**20 41 26.1**	**-0.6**
SMLT	**Sun Moon Lake**	**1.66**	**248**		P	**Pn**	**20 41 06.4**	**+0.6**
SMLT				*e*	S	**Sn**	**20 41 27.9**	**+0.9**
TWQ1	**Liyutan**	**1.66**	**265**	*e*	P	**Pn**	**20 41 07.1**	**+1.4**
TWQ1					S	**Sn**	**20 41 26.8**	**0.0**
NSY	**Sanyi**	**1.66**	**267**		P	**Pn**	**20 41 06.9**	**+1.1**
NSY					S	**Sn**	**20 41 27.7**	**+0.7**
CHKH	**Chenggong**	**1.70**	**220**		P	**Pn**	**20 41 06.4**	**+0.1**
CHKH				*e*	S	**Sn**	**20 41 26.0**	**-1.7**
FULB	**Fuli**	**1.75**	**223**	*e*	P	**Pn**	**20 41 07.3**	**+0.2**
FULB				*e*	S	**Sn**	**20 41 28.7**	**-0.4**
WHYT	**Xinyi Township**	**1.77**	**243**	*i*	P	**Pn**	**20 41 07.5**	**+1.2**
CHKT	**Chengkung**	**1.79**	**219**	*e*	P	**Pn**	**20 41 06.2**	**-1.3**
WJS	**Zhushan**	**1.82**	**249**	*i*	P	**Pn**	**20 41 09.6**	**+1.7**
EHD	**Haiduan**	**1.84**	**223**	*i*	P	**Pn**	**20 41 07.5**	**-0.7**
EHD					S	**Sn**	**20 41 30.3**	**-0.9**
ECS	**Chishang**	**1.88**	**222**	*e*	P	**Pn**	**20 41 09.1**	**+0.5**
ALS	**Alishan**	**1.90**	**239**		P	**Pn**	**20 41 10.3**	**+1.1**
EDH	**Donghe**	**1.92**	**218**	*i*	P	**Pn**	**20 41 08.7**	**-0.5**
EDH				*i*	S	**Sn**	**20 41 31.4**	**-1.6**
JTJ	**Tarama**	**1.94**	**85**	*e*	P	**Pn**	**20 41 09.6**	**+0.3**
ELDTW	**Lidau**	**1.94**	**228**		P	**Pn**	**20 41 08.8**	**-0.7**
LONT	**Longtian**	**2.07**	**220**	*e*	P	**Pn**	**20 41 09.8**	**-1.4**
LDUT	**Ludao**	**2.09**	**210**	*e*	P	**Pn**	**20 41 10.1**	**-1.3**
WCKO	**Fanlu**	**2.10**	**240**		P	**Pn**	**20 41 12.7**	**+1.2**
WCKO					S	**Sn**	**20 41 38.6**	**+1.6**
STYH	**Taoyuan**	**2.12**	**232**	*e*	P	**Pn**	**20 41 12.1**	**+0.3**
TPUB	**Ta-pu**	**2.15**	**237**	*e*	P	**Pn**	**20 41 14.0**	**+1.7**
WTK	**Tuku**	**2.16**	**248**	*e*	P	**Pn**	**20 41 13.4**	**+1.0**
WTK					S	**Sn**	**20 41 40.9**	**-1.4**
TWGBT	**Beinan**	**2.17**	**220**	*i*	P	**Pn**	**20 41 12.3**	**-0.2**
TWGBT				*i*	S	**Sn**	**20 41 38.1**	**-0.7**
TWG	**Pinlang**	**2.17**	**220**		P	**Pn**	**20 41 12.2**	**-0.4**
TWG				*i*	S	**Sn**	**20 41 38.0**	**-0.9**
WTP	**Ta-pu**	**2.19**	**236**	*e*	P	**Pn**	**20 41 14.2**	**+1.4**
CHY	**Chiayi**	**2.21**	**244**	*e*	P	**Pn**	**20 41 14.8**	**+1.8**
TWK	**Hsinying**	**2.28**	**238**	*e*	P	**Pn**	**20 41 15.2**	**+1.2**
SNST	**Tainan City**	**2.30**	**237**	*e*	P	**Pn**	**20 41 15.7**	**+1.5**
WSL	**Shuilin Townsh**	**2.36**	**246**	*e*	P	**Pn**	**20 41 15.6**	**+0.6**
JIRB	**Irabujima**	**2.38**	**82**		P	**Pn**	**20 41 15.6**	**+0.4**
JIKM	**Ikemajima**	**2.46**	**80**	*e*	S	**Sn**	**20 41 45.4**	**-0.2**
SCST	**Cishan**	**2.50**	**230**	*e*	P	**Pn**	**20 41 18.6**	**+1.7**
SSD	**Sandimen**	**2.50**	**226**	*e*	P	**Pn**	**20 41 17.6**	**+0.7**
MASBT	**Mashibuluo**	**2.60**	**224**	*e*	P	**Pn**	**20 41 19.0**	**+0.9**
EAST	**Anshuo**	**2.64**	**217**	*e*	P	**Pn**	**20 41 19.3**	**+0.5**
TAWH	**Dawu Township**	**2.66**	**216**	*e*	P	**Pn**	**20 41 17.9**	**-1.0**

*SJA **07** 21:15:46.6±0.6,21°.29S×67°.98W,h176km±5km, ML4.2, MW4.0*
*VAO **07** 21:15:47.4±0.7,21°.22S×67°.81W,h140km±8km, mb4.4*
*NEIC **07** 21:15:48.3±1.4,21°.34S±0°.05×67°.89W±0°.09, h154km±8km, mb4.4/19, Mwr4.2(GUC), Error ellipse: s-maj=12.6km s-min=7.6km az=94.0*
*GUC **07** 21:15:49.8±0.6,21°.31S×68°.06W,h162km±5km, ML4.4*
*SCB **07** 21:15:49.7±1.8,21°.32S×67°.91W,h123km±21km, ML4.3/4, MW3.2, Error ellipse: s-maj=5.4km s-min=4.4km az=0.0*
*IDC **07** 21:15:49.1±1.8,21°.26S×67°.53W,h139km±18km, mb3.9/5, mbtmp4.3/12, Error ellipse: s-maj=17.9km s-min=13.7km az=68.0*
ISC 07 21:15:47.9±0.6,**21°.30S**±0°.03×**67°.88W**±0°.04,**h149**km±6km, **n145,σ1°61**/182,**mb4.3**/12,**7C-8D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.36**	**248**			**Pn**	**21 16 17.4**	**+1.2**
PB09					Sn	**Sn**	**21 16 38.8**	**+1.0**
PB09	**IPOC Station P**	**1.36**	**248**	⇓	*i*P	**Pn**	**21 16 17.5**	**+1.2**
PB09					*i* S	**Sn**	**21 16 38.4**	**+0.5**
PB09	**IPOC Station P**	**1.36**	**248**		*e*P	**Pn**	**21 16 17.0**	**+0.8**
PB09					*e*S	**Sn**	**21 16 39.5**	**+1.6**
PB09					IAML		21 16 40.0	
	comp=Z,938nm,1.2s							
PB09	**IPOC Station P**	**1.36**	**248**		Pg	**Pn**	**21 16 17.2**	**+1.0**
PB01	**IPOC Station P**	**1.53**	**279**			**Pn**	**21 16 18.0**	**+0.2**
PB01					Sn	**Sn**	**21 16 40.2**	**-0.4**
PB01	**IPOC Station P**	**1.53**	**279**	⇓	*i*P	**Pn**	**21 16 18.2**	**+0.2**
PB01					*i* S	**Sn**	**21 16 40.3**	**-0.4**
PB01	**IPOC Station P**	**1.53**	**279**		*e*P	**Pn**	**21 16 18.3**	**+0.5**
PB01					*e*S	**Sn**	**21 16 41.4**	**+0.8**
PB01					IAML		21 16 43.5	
	comp=Z,776nm,0.9s							
PB01	**IPOC Station P**	**1.53**	**279**		Pg	**Pn**	**21 16 17.9**	**+0.1**
PB01					Sg	**Sn**	**21 16 40.0**	**-0.6**
PB01					IAML		21 16 45.2	
	comp=Z,2μm,0.3s							
PB08	**IPOC Station P**	**1.66**	**314**			**Pn**	**21 16 20.9**	**+1.3**
PB08					Sn	**Sn**	**21 16 45.0**	**+1.2**
PB08	**IPOC Station P**	**1.66**	**314**	⇑	*i*P	**Pn**	**21 16 21.0**	**+1.4**
PB08					*i* S	**Sn**	**21 16 45.0**	**+1.2**
PB08					IAML		21 16 46.6	
	comp=N,4μm,0.5s							
PB08	**IPOC Station P**	**1.66**	**314**		*e*P	**Pn**	**21 16 20.4**	**+0.8**
PB08					*e*S	**Sn**	**21 16 45.6**	**+1.8**
PB08					IAML		21 16 46.1	
	comp=Z,2μm,0.8s							
PB08	**IPOC Station P**	**1.66**	**314**		Pg	**Pn**	**21 16 20.5**	**+0.9**
AF01	**San Pedro de A**	**1.67**	**190**			**Pn**	**21 16 21.5**	**+1.9**
AF01	**San Pedro de A**	**1.67**	**190**		Pg	**Pn**	**21 16 20.8**	**+1.2**
PB02	**IPOC Station P**	**1.88**	**269**			**Pn**	**21 16 21.7**	**-0.1**
PB02	**IPOC Station P**	**1.88**	**269**	⇓	*i*P	**Pn**	**21 16 22.0**	**+0.2**
PB02					*i* S	**Sn**	**21 16 46.1**	**-1.6**
PB02					IAML		21 16 48.3	
	comp=N,6μm,0.4s							
PB02	**IPOC Station P**	**1.88**	**269**		*e*P	**Pn**	**21 16 21.9**	**+0.2**
PB02					*e*S	**Sn**	**21 16 47.8**	**0.0**
PB02					IAML		21 16 52.2	
	comp=Z,2μm,0.3s							
PB02	**IPOC Station P**	**1.88**	**269**		Pg	**Pn**	**21 16 22.2**	**+0.4**
PB02					Sg	**Sn**	**21 16 47.4**	**-0.3**
PB02					IAML		21 16 48.6	
	comp=Z,5μm,0.3s							
PB03	**IPOC Station P**	**1.90**	**247**		Pn	**Pn**	**21 16 22.2**	**+0.2**
PB03	**IPOC Station P**	**1.90**	**247**	⇓	*i*P	**Pn**	**21 16 22.2**	**+0.2**
PB03					*i* S	**Sn**	**21 16 47.4**	**-0.8**
PB03					IAML		21 16 49.2	
	comp=E,2μm,0.3s							
PB03	**IPOC Station P**	**1.90**	**247**	*e*	P	**Pn**	**21 16 22.4**	**+0.4**
PB03					IAML		21 16 51.8	
	comp=Z,1μm,0.2s							
PB03	**IPOC Station P**	**1.90**	**247**		Pg	**Pn**	**21 16 22.9**	**+0.9**
GO01	**Chusmiza**	**2.04**	**322**			**Pn**	**21 16 24.9**	**+0.9**
GO01	**Chusmiza**	**2.04**	**322**	⇑	*i*P	**Pn**	**21 16 24.9**	**+0.9**
GO01					*i* S	**Sn**	**21 16 52.2**	**+0.6**
GO01					IAML		21 16 57.2	
	comp=N,3μm,0.4s							
GO01	**Chusmiza**	**2.04**	**322**	*e*	P	**Pn**	**21 16 24.7**	**+0.7**
GO01				*e*	S	**Sn**	**21 16 47.8**	**-3.8**
GO01				*e*	S		21 16 55.5	
GO01					IAML		21 16 57.4	
	comp=Z,846nm,0.3s							
GO01	**Chusmiza**	**2.04**	**322**		Pg	**Pn**	**21 16 25.2**	**+1.2**
MOCB	**Mochara**	**2.09**	**89**		Pg	**Pn**	**21 16 25.9**	**+1.4**
MOCB					Sg	**Sn**	**21 16 53.8**	**+1.3**
MOCB					IAML		21 16 55.0	
	comp=Z,294nm,0.3s							
PB06	**IPOC Station P**	**2.11**	**228**			**Pn**	**21 16 24.9**	**+0.5**
PB06	**IPOC Station P**	**2.11**	**228**	⇑	*i*P	**Pn**	**21 16 24.9**	**+0.5**
PB06					*i* S	**Sn**	**21 16 52.4**	**-0.1**
PB06					IAML		21 16 55.6	
	comp=E,1μm,0.4s							
PB06	**IPOC Station P**	**2.11**	**228**	*e*	P	**Pn**	**21 16 25.0**	**+0.6**
PB06				*e*	S	**Sn**	**21 16 54.0**	**+1.5**
PB06					IAML		21 16 55.5	
	comp=Z,932nm,0.6s							
PB06	**IPOC Station P**	**2.11**	**228**		Pg	**Pn**	**21 16 25.2**	**+0.8**
HMBC	**Humberstone**	**2.14**	**298**			**Pn**	**21 16 24.8**	**+0.1**
HMBC	**Humberstone**	**2.14**	**298**	⇓	*i*P	**Pn**	**21 16 24.9**	**+0.1**
HMBC					*i* S	**Sn**	**21 16 52.2**	**-0.9**
HMBC	**Humberstone**	**2.14**	**298**	*e*	P	**Pn**	**21 16 24.4**	**-0.4**
HMBC				*e*	S	**Sn**	**21 16 53.0**	**-0.1**
HMBC					IAML		21 16 56.4	
	comp=Z,3μm,0.3s							
HMBC	**Humberstone**	**2.14**	**298**		Pg	**Pn**	**21 16 25.8**	**+1.0**
PATCX	**Punta Patache**	**2.18**	**282**			**Pn**	**21 16 25.4**	**+0.2**
PB11	**IPOC Station P**	**2.26**	**312**			**Pn**	**21 16 26.6**	**+0.3**
PB11	**IPOC Station P**	**2.26**	**312**	⇓	*i*P	**Pn**	**21 16 26.8**	**+0.4**
PB11					*i* S	**Sn**	**21 16 55.3**	**-0.6**
PB11					IAML		21 16 58.0	
	comp=N,4μm,0.

BO02	Sierra Bellavi	13.69	190			Pn	21 18 54.5	-1.3
TRCB	Terra Rica	14.21	99			P	21 19 04.1	-1.5
ITAB	Concordia	15.52	115			Pn	21 19 18.3	-0.5
ITAB					IAmb	IAmb	21 19 46.8	
	comp=Z,25nm,1.2s							
BI02	San Fabin de	15.59	190			Pn	21 19 18.2	-1.5
ARAG	Araguaiana, MT	16.21	73	eP		Pn	21 19 26.3	-1.1
PLTB	Pedras Altas	16.47	132	P		P	21 19 29.3	-1.1
PLTB					IAmb	IAmb	21 19 48.5	
	comp=Z,32nm,1.5s							
ATAH	Atahualpa	17.37	323	P		Pn	21 19 45.1	+3.3
	comp=Z,23nm,0.6s,baz=90,slow=6.2,SNR=3.9							
TRQA	Tornquist	17.46	164	P		P	21 19 40.5	-0.7
BB19B	Bebedouro	18.05	93	eP		P	21 19 47.2	-0.7
SNDB	Serra Nova Dou	18.38	62	eP		P	21 19 51.4	-0.1
IPMB	Ipameri, GO	18.81	83	eP		P	21 19 55.8	-0.5
LR05	Ćurrie	19.20	190	P		P	21 19 59.4	-0.7
MACA	Manacapuru-AM	19.34	22	P		P	21 20 00.5	-1.4
VAO	Valinhos	19.44	99	P		P	21 20 01.6	-1.5
VAO					IAmb	IAmb	21 20 07.2	
	comp=Z,22nm,1.3s							
VAO	Valinhos	19.44	99	eP		P	21 20 02.7	-0.4
PLCA	Paso Flores	19.51	186	P		P	21 20 03.7	+0.1
PLCA					IAmb	IAmb	21 20 09.1	
	comp=Z,12nm,0.7s							
PLCA	Paso Flores	19.51	186	P		Pn	21 20 04.8	-1.6
	comp=Z,12nm,0.6s,baz=4.1,slow=13,SNR=38							
PLCA	Paso Flores	19.51	186	eP		Pn	21 20 04.8	-1.6
BDFB	Brasilia	19.65	77	P		P	21 20 05.3	-0.2
BDFB	Brasilia	19.65	77	P		P	21 20 05.0	-0.5
	comp=Z,3.0nm,0.4s,baz=249,slow=11,SNR=9.6							
ITTB	Itaituba	20.55	37	eP		P	21 20 14.1	-0.9
LL01	San Ignacio de	21.36	189	P		P	21 20 23.2	-0.1
LL01					IAmb	IAmb	21 20 26.8	
	comp=Z,30nm,1.2s							
LL02	Futaleuf	22.08	188	P		P	21 20 30.1	-0.8
LL02					IAmb	IAmb	21 20 32.8	
	comp=Z,21nm,1.3s							
JANB	Januaria	23.22	78	eP		P	21 20 41.0	-1.0
MAL2	Monte Alegre,	23.35	37	P		P	21 20 43.0	-0.1
MAL2					IAmb	IAmb	21 20 43.8	
	comp=Z,8.0nm,0.7s							
BOAV	Boa Vista	24.62	18	P		P	21 20 54.6	0.0
BOAV	Boa Vista	24.62	18	eP		P	21 20 54.1	-0.5
BAUV	El Baul	30.05	360	P		P	21 21 43.1	0.0
BAUV					IAmb	IAmb	21 21 51.6	
	comp=Z,7.1nm,1.1s							
CELP	Cerrillos	39.15	2	P		P	21 23 00.4	-0.8
CELP					IAmb	IAmb	21 23 06.1	
	comp=Z,11nm,1.1s							
VNA3	Neumayer Olymp	59.96	161	⇑P		P	21 25 39.8	+1.8
	comp=Z,2.7nm,0.8s							
VNA1	Neumayer--Stat	60.15	161	⇓P		P	21 25 41.8	+2.5
	comp=Z,2.7nm,1.0s							
VNA2	Neumayer--Watz	60.52	161	⇑P		P	21 25 43.7	+1.8
	comp=Z,3.3nm,0.8s,baz=274,slow=7.8							
SNAA	Sanae	62.16	161	⇑P		P	21 25 54.6	+1.7
	comp=Z,57nm,0.7s							
SNAA	Sanae	62.16	161	P		P	21 25 54.4	+1.4
SNAA					IAmb	IAmb	21 25 55.6	
	comp=Z,4.8nm,1.0s							
SNAA	Sanae	62.16	161	P		P	21 25 54.8	+1.9
	comp=Z,2.1nm,0.7s,baz=275,slow=7.1,SNR=29							
	comp=Z,2.1nm,0.7s							
TROLL	Troll, Antarti	63.87	161	⇑P		P	21 26 06.3	+2.0
	comp=Z,130nm,0.7s							
QSPA	South Pole Qui	68.89	180	P		P	21 26 39.9	+3.5
QSPA	South Pole Qui	68.89	180	P		P	21 26 39.7	+3.4
	comp=Z,1.7nm,0.6s,baz=190,slow=0.6,SNR=20							
	comp=Z,1.7nm,0.6s							
TORD	Torodi Ar. Bea	76.38	70	P		P	21 27 20.9	-0.4
TORD	Torodi Ar. Bea	76.38	70	P		P	21 27 21.6	+0.3
	comp=Z,2.3nm,0.4s,baz=255,slow=5.2,SNR=67							
	comp=Z,2.3nm,0.4s							
BOSA	Boshof	82.69	118	P		P	21 27 56.1	+0.7
BOSA					IAmb	IAmb	21 28 01.1	
	comp=Z,8.4nm,1.4s							
BOSA	Boshof	82.69	118	P		P	21 27 56.4	+1.0
	comp=Z,1.5nm,0.7s,baz=252,slow=2.5,SNR=3.7							
	comp=Z,1.5nm,0.7s							
YKA	Yellowknife Ar	91.32	340	P		P	21 28 37.5	+1.4
	comp=Z,1.0nm,0.7s,baz=137,slow=4.0,SNR=7.8							
	comp=Z,1.0nm,0.7s							
MKAR	Makanchi Array	144.90	36	PKP		PKPdf	21 35 08.5	+1.3
	comp=Z,0.7nm,0.4s,baz=328,slow=3.3,SNR=9.9							

*IDC **07** 21:37:09.4±4.7, 36°.69N×71°.41E, h212km±36km, mb3.4/6, mbtmp3.9/10, Error ellipse: s-maj=41.0km s-min=24.6km az=167.0*
*NNC **07** 21:37:15.9±3.1, 37°.09N×71°.17E, h222km±40km, mb2.3, mpv3.4, Error ellipse: s-maj=33.0km s-min=24.6km az=16.0*

ISC 07 21:37:08.2±1.5, 36°.6N±0°.1×71°.3E±0°.1, h200km, n15, σ1§38/18, mb3.7/5, 4C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	Ala-Archa	6.48	21	⇑P	Pn	21 38 44.5	+2.8
AAK	0.5nm,0.3s			⇑S	Sn	21 39 56.3	+0.5
	2.7nm,0.5s						
AAK	Ala-Archa	6.48	21	P	Pn	21 38 43.2	+1.5
AAK	4.3nm,0.3s,baz=192,slow=6.0,SNR=10			S	Sn	21 39 54.5	-1.4
	4.9nm,0.6s,baz=151,slow=19,SNR=11						
KK31	Karatay Array	6.49	355	P	Pn	21 38 44.1	+2.3
KK31	3.5nm,0.3s,baz=171,slow=11,SNR=114			⇑S	Sn	21 39 53.9	-2.1
	1.9nm,0.3s,baz=164,slow=16,SNR=8.8						
MKAR	Makanchi Array	13.03	35	P	Pn	21 40 05.5	-0.5
	0.4nm,0.5s,baz=219,slow=13,SNR=5.9						
AB31	Akbulak array	15.10	330	P	P	21 40 32.4	+0.5
	0.6nm,0.5s,baz=150,slow=11,SNR=12						
BVAR	Borovoye Array	16.41	358	P	Pn	21 40 47.1	-0.1
	0.8nm,0.4s,baz=164,slow=10,SNR=9.6						
AKTO	Aktyubinsk	16.80	329	⇑P	Pn	21 40 52.2	+0.3
	0.3nm,0.5s						
AKTO	Aktyubinsk	16.80	329	P	Pn	21 40 51.3	-0.6
	0.6nm,0.3s,baz=159,slow=8.1,SNR=6.0						
ZALV	Zalesovo Beam	19.69	24	P	P	21 41 21.4	-0.5
	0.6nm,0.3s,baz=210,slow=11,SNR=5.3						
FINES	FINESS Array B	37.52	326	P	P	21 44 02.0	-0.5
	3.6nm,1.0s,baz=123,slow=7.0,SNR=7.6						
	3.6nm,1.0s						
ARCES	ARCESS Array B	41.12	337	P	P	21 44 30.4	-1.8
	2.4nm,0.9s,baz=104,slow=8.9,SNR=5.6						
	2.4nm,0.9s						
HFS	Hagfors	43.12	322	P	P	21 44 49.7	+1.2
	1.6nm,0.7s,baz=108,slow=8.2,SNR=7.4						
	1.6nm,0.7s						
NOA	NORSAR Array B	44.43	323	P	P	21 44 59.3	+0.4
	0.9nm,0.8s,baz=96,slow=7.8,SNR=3.4						
	0.9nm,0.8s						
PETK	Petropavlovsk-	59.69	44	P	P	21 46 51.0	-0.4
	4.1nm,1.0s,baz=256,slow=10,SNR=3.7						
	4.1nm,1.0s						
TORD	Torodi Ar. Bea	65.98	269	P	P	21 47 33.1	-0.3
	0.4nm,0.5s,baz=49,slow=6.4,SNR=6.5						
	0.4nm,0.5s						

*NEIC **07** 21:44:21.0±1.9, 47°.44N±0°.02×121°.80W±0°.04, h22km±7km, Error ellipse: s-maj=4.4km s-min=2.6km az=60.0*

SEA 07 21:44:21.6±1.2, 47°.44N±0°.01×121°.81W±0°.03, h20km±2km, ML1.9/19, ML1.7/14(NEIC), Error ellipse: s-maj=3.1km s-min=1.8km az=109.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDMR	Cedar Moraine	0.04	112		Pg	21 44 25.0	-0.2
ELW	Echo Lake	0.07	325		Pg	21 44 25.1	-0.3
ELW					Sg	21 44 28.0	+0.2
RAW	Raver	0.13	219		Pg	21 44 25.7	-0.1
RAW					Sg	21 44 29.3	+0.6
ALCT	Alcott Element	0.26	324		Sg	21 44 33.0	+1.2
C05A	Tolt Reservoir	0.27	18		Pb	21 44 27.3	-0.5
C05A					Sb	21 44 31.7	-0.2
TTW	Tolt Reservoir	0.27	18		Pb	21 44 27.4	-0.4
TTW					Sb	21 44 31.6	-0.2
D05A	Enumclaw	0.28	206		Pb	21 44 27.7	-0.1
D05A				Sg	Sg	21 44 32.2	+0.1
D05A				IAML		21 44 32.8	
	comp=N,104nm,0.3s						
SP2	Seward Park 2	0.32	292		Pb	21 44 28.8	+0.1
SP2					Sb	21 44 34.8	+1.4
EARN	East Ridge Ele	0.34	333		Sb	21 44 35.1	+1.0
HTW	Haystack Looko	0.37	4		Pg	21 44 28.8	-0.7
HTW					Sg	21 44 34.1	-0.7
BLH	Bald Hill	0.43	340		Pg	21 44 29.7	-0.7
BLH					Sg	21 44 35.9	-0.5
MBPA	Monroe Substat	0.47	354		Pg	21 44 30.6	-0.5
MBPA					Sg	21 44 37.3	-0.3
EVGW	Everett Gatewa	0.48	331		Pb	21 44 30.9	-0.4
GHW	Garrison Hill	0.51	219		Pb	21 44 30.8	-1.0
RVC	Mount Rainier-	0.51	192		Pb	21 44 31.0	-0.9
FMW	Mount Fremont	0.51	169		Pb	21 44 30.9	-1.1
OBSR	Observation Ro	0.54	180		Pb	21 44 31.7	-0.8
RCS	Mount Rainier-	0.57	174		Pb	21 44 32.2	-0.9
PANH	Panhandle Gap,	0.59	169		Pb	21 44 32.3	-1.1
REMR	Mount Rainier-	0.62	182		Pb	21 44 32.7	-1.1
GMW	Gold Mountain	0.67	280		Pb	21 44 33.7	-1.0
LON	Longmire	0.69	180		Pb	21 44 33.7	-1.3
LON				Sg	Sb	21 44 42.9	-1.1
LON				IAML		21 44 43.6	
	comp=N,35nm,0.1s						
LON	Longmire	0.69	180		Pb	21 44 33.8	-1.2
GNW	Green Mountain	0.70	281		Pb	21 44 34.1	-1.0
GNW				Sg	Sb	21 44 43.7	-0.6
GNW				IAML		21 44 44.1	
	comp=N,35nm,0.3s						
WRW	Wenatchee Ridg	0.76	56		Pb	21 44 35.7	-0.4
JCW	Jim Creek	0.76	354		Pb	21 44 35.2	-1.0
LTY	Liberty	0.80	103		Pb	21 44 36.1	-0.7
LTY				Sg	Sb	21 44 46.8	-0.4
LTY				IAML		21 44 47.2	
	comp=E,23nm,0.2s						
LTY				IAML		21 44 47.7	
	comp=N,25nm,0.4s						
GPW	Glacier Peak	0.82	33		Pb	21 44 36.4	-0.9
GPW					Sb	21 44 47.4	-0.7
C04A	Brinnon	0.83	290		Pb	21 44 36.0	-1.4
C04A					Sb	21 44 47.3	-0.9
B05A	Bryant	0.85	347		Pb	21 44 36.8	-0.9
HDW	Hoodsport	0.87	285		Pb	21 44 36.6	-1.4
TBM	Table Mountain	0.87	108		Pb	21 44 37.6	-0.4
SLFW	Sugar Loaf	0.93	69		Pb	21 44 39.1	0.0
NAC	Naches	0.97	136		Pb	21 44 39.1	-0.7
EBG	Ellensburg	1.00	121		Pb	21 44 40.3	0.0
RPW	Rockport	1.03	11		Pb	21 44 39.8	-1.0
NLW	Nelson Butte	1.18	57		Pn	21 44 43.2	0.0
MXC	Moxie City	1.35	129	Pn	Pn	21 44 45.3	0.0
NLWA	Neilton Lookou	1.40	269	Pn	Pn	21 44 45.7	-0.4
NLWA				IAML		21 45 06.6	
	comp=N,10nm,0.5s						
MCW	Mount Constitu	1.42	332		Pn	21 44 46.1	-0.2
TRW	Toppenish Ridg	1.44	142		Pn	21 44 47.0	+0.4
E03A	Lebam	1.49	234	Pn	Pn	21 44 47.0	-0.3
PGC	Sidney	1.64	318	Pn	Pn	21 44 48.6	-0.7
RADR	Rader Ridge	1.70	234	Pn	Pn	21 44 50.4	+0.2
HAWA	Hanford	1.88	123	Pn	Pn	21 44 53.3	+0.7
HAWA				IAML		21 45 13.7	
	comp=N,7.2nm,4.3s						
B08A	Colville Reser	1.91	60	Pn	Pn	21 44 53.1	+0.1
B08A				IAML		21 45 21.1	
	comp=E,9.7nm,1.9s						
CLRS	Cowichan Lake	2.08	313	Pn	Pn	21 44 55.4	+0.1

*NEIC **07** 21:55:43.3±1.9, 14°.34S±0°.10×167°.0E±0°.2, h35km±14km, mb4.1/9, Error ellipse: s-maj=23.0km s-min=11.9km az=67.0*
*IDC **07** 21:55:43.9±4.3, 14°.35S×166°.82E, h46km±39km, mb3.6/9, mbtmp3.8/10, ML4.0/1, MS3.4/5, Error ellipse: s-maj=34.9km s-min=21.9km az=72.0*

ISC 07 21:55:45.7±0.8, 14°.43S±0°.08×167°.0E±0°.1, h67km, n25, σ1§47/25, mb4.0/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	Saraoutou	1.04	167	Pn	Pn	21 56 01.9	-2.6
SANVU				Sn	Sn	21 56 16.7	-1.8
DZM	Mont Dzumac	7.62	184	Pn	Pn	21 57 33.3	-0.8
DZM	Mont Dzumac	7.62	184	P	Pn	21 57 34.4	+0.3
	2.1nm,0.3s,baz=329,slow=7.4,SNR=7.7						
DZM				S	Sn	21 58 59.2	+0.2
	2.4nm,0.4s,baz=303,slow=22,SNR=1.2						
DZM				LR	LR	22 00 21.8	
	comp=Z,206nm,19.7s,baz=326,slow=36						
	2.5nm,0.3s						
ONTNC	Ouen Toro	7.85	183	Pn	Pn	21 57 37.4	+0.2
HNR	Honiara	8.47	305	LR	LR	22 00 21.8	
	comp=Z,142nm,19.8s,baz=166,slow=33						
EIDS	Eidsvold	18.46	231		Pn	21 59 56.7	-0.2
EIDS				IAmb	IAmb	22 00 02.6	
	comp=Z,3.2nm,0.9s						
BKZ	Black Stump Fm	26.03	163		P	22 01 13.6	+0.9
BKZ				IAmb	IAmb	22 01 20.1	
	comp=Z,5.3nm,0.9s						
WB0	Warramunga Arr	31.55	256	P	P	22 02 00.4	-1.6
WB0				IAmb	IAmb	22 02 22.3	
	comp=Z,3.3nm,1.1s						
WRA	Warramunga Arr	31.61	255	P	P	22 02 00.7	-1.8
	comp=Z,0.2nm,0.3s,baz=85,slow=9.3,SNR=1.9						
	comp=Z,0.2nm,0.3s						
AS31	Alice Springs	32.50	249	P	P	22 02 08.8	-1.6
ASAR	Alice Springs	32.51	249	P	P	22 02 08.6	-1.7
ASAR	Alice Springs	32.51	249	P	P	22 02 08.9	-1.5
	comp=Z,0.5nm,0.6s,baz=75,slow=9.3,SNR=8.3						
ASAR				LR	LR	22 14 41.5	
	comp=Z,69nm,18.7s,baz=99,slow=35						
	comp=Z,0.5nm,0.6s						
FITZ	Fitzroy Crossi	39.78	259	P	P	22 03 12.2	-0.3
FITZ	Fitzroy Crossi	39.78	259	LR	LR	22 19 25.7	
	comp=Z,77nm,18.6s,baz=146,slow=36						
SOEI	Soe	41.96	271	P	P	22 03 30.0	-0.7
NWAO	Narrogin (SRO)	48.65	239	P	P	22 04 24.1	+0.8
MJAR	Matsushiro Arr	57.51	333	P	P	22 05 27.8	-0.3
	comp=Z,1.2nm,0.8s,baz=181,slow=8.7,SNR=4.7						
	comp=Z,1.2nm,0.8s						
VNDA	Vanda	63.15	181	P	P	22 06 06.1	0.0
	comp=Z,0.4nm,0.6s,baz=8.4,slow=6.4,SNR=6.3						
	comp=Z,0.4nm,0.6s						
CMAR	Chiang Mai Arr	74.56	294	P	P	22 07 19.2	+1.2
	comp=Z,0.4nm,0.3s,baz=115,slow=8.1,SNR=2.1						
	comp=Z,0.4nm,0.3s						
QSPA	South Pole Qui	75.59	180	P	P	22 07 26.5	+3.3
QSPA				IAmb	IAmb	22 07 27.7	
	comp=Z,2.2nm,0.9s						
QSPA	South Pole Qui	75.59	180	P	P	22 07 25.8	+2.5
	comp=Z,1.5nm,0.9s,baz=22,slow=1.8,SNR=7.7						
QSPA				LR	LR	22 37 44.6	
	comp=Z,18nm,21.0s,baz=108,slow=33						
	comp=Z,1.5nm,0.9s						
ILAR	Eielson Array	86.34	18	P	P	22 08 19.2	-0.8
	comp=Z,0.7nm,0.7s,baz=240,slow=5.8,SNR=8.7						
	comp=Z,0.7nm,0.7s						
SNAA	Sanae	93.83	183	P	P	22 08 56.2	+0.9
SNAA				IAmb	IAmb	22 09 08.8	
	comp=Z,2.7nm,1.1s						
SNAA	Sanae	93.83	183	P	P	22 08 55.9	+0.6
	comp=Z,0.6nm,0.8s,baz=196,slow=14,SNR=6.1						
	comp=Z,0.6nm,0.8s						
MKAR	Makanchi Array	96.79	316	P	P	22 09 08.5	-0.7
	comp=Z,0.5nm,0.9s,baz=85,slow=6.8,SNR=3.4						
	comp=Z,0.5nm,0.9s						

*IDC **07** 22:30:44.9±1.2, 55°.27S×27°.29W, h0km, mb3.7/3, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=74.0km s-min=25.2km az=91.0*

ISC 07 22:30:46.3±1.4, 55°.2S±0°.2×27°.5W±0°.4, h10km, n15, σ1§08/10, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	17.62	159	⇑P	P	22 34 52.6	+0.1
	comp=Z,0.1nm,0.2s						
VNA3	Neumayer Olymp	17.82	161	⇑P	P	22 34 56.8	+2.0
	comp=Z,0.2nm,0.2s						
VNA2	Neumayer--Watz	18.01	159	⇑P	P	22 34 58.0	+1.2
	comp=Z,0.2nm,0.3s,baz=332,slow=16						
SNAA	Sanae	19.56	157	⇑P	P	22 35 13.0	-0.9
	comp=Z,3.4nm,0.3s						
SNAA	Sanae	19.56	157	P	P	22 35 12.9	-1.0
	comp=Z,0.1nm,0.3s,baz=287,slow=12,SNR=16						
	comp=Z,0.7nm,0.6s						
TROLL	Troll, Antarti	21.05	154	⇑P	P	22 35 29.9	-0.3
	comp=Z,7.1nm,0.2s						
QSPA	South Pole Qui	35.02	180	P	P	22 37 39.1	+0.3
	comp=Z,0.9nm,0.6s,baz=210,slow=2.0,SNR=14						
	comp=Z,0.9nm,0.6s						
H10S2	ASCENSION HYDR	47.26	17	T	T	23 31 06.0	
	baz=30,slow=74,SNR=6.1						
H10S3	ASCENSION HYDR	47.26	17	T	T	23 30 55.1	
	baz=190,slow=74,SNR=5.7						
VNDA	Vanda	47.39	183	P	P	22 39 19.1	-0.8
	comp=Z,0.8nm,0.7s,baz=186,slow=5.7,SNR=11						
	comp=Z,0.8nm,0.7s						
H10N1	ASCENSION HYDR	48.38	17	T	T	23 32 05.7	
	baz=189						
H10N3	ASCENSION HYDR	48.38	17	T	T	23 31 59.5	
	baz=189,slow=74						
H10N2	ASCENSION HYDR	48.39	17	T	T	23 32 04.9	
	baz=189,slow=74						
TORD	Torodi Ar. Bea	72.42	30	P	P	22 42 12.7	+0.1
	comp=Z,0.3nm,0.6s,baz=199,slow=6.0,SNR=5.0						
	comp=Z,0.3nm,0.6s						
ILAR	Eielson Array	149.45	313	PKPbc	PKPbc	22 50 34.2	+0.1
	comp=Z,0.9nm,0.7s,baz=129,slow=1.9,SNR=9.0						

*IDC **07** 22:36:01.1±1.0, 29°.78N×105°.37E, h0km, mb3.8/5, mbtmp3.8/6, ML4.2/1, Error ellipse: s-maj=98.4km s-min=17.8km az=60.0*

ISC 07 22:36:06.1±1.2, 29°.6N±0°.2×105°.1E±0°.4, h35km, n6, σ1§06/7, mb3.9/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LZDM	Lanzhou Array	6.42	350	Pn	Pn	22 37 37.1	-1.4
	baz=158,slow=17						
LZDM				Sn	Sn	22 38 52.3	+1.5
	baz=104,slow=22						
	2.9nm,0.3s						
MKAR	Makanchi Array	24.64	320	P	P	22 41 23.3	-0.1
	0.5nm,0.5s,baz=118,slow=10,SNR=5.8						
	0.5nm,0.5s						
KURBB	Kurchatov Arra	28.91	324	P	P	22 42 01.8	+0.1
	0.4nm,0.6s,baz=125,slow=9.2,SNR=4.8						
	0.4nm,0.6s						
WRA	Warramunga Arr	56.79	147	P	P	22 45 47.0	0.0
	1.4nm,0.7s,baz=338,slow=8.2,SNR=9.9						
	1.4nm,0.7s						
FINES	FINESS Array B	59.25	327	P	P	22 46 04.0	+0.3
	2.9nm,1.0s,baz=127,slow=8.2,SNR=4.9						
	2.9nm,1.0s						
ASAR	Alice Springs	59.80	149	P	P	22 46 08.6	+0.5
	0.9nm,0.8s,baz=337,slow=8.2,SNR=9.6						
	0.9nm,0.8s						

WEL 07 22:41:59.4±0.8, 34°S±11°×177°9E±1°3, h258km±18km, M4.1/13, mB4.5/1, ML4.3/16, MLv4.1/13, Mw(mB)3.6/1, Error ellipse: s-maj=19.3km s-min=11.1km az=126.3, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	3.23	197	P	Pn	22 42 55.0	+0.2
MXZ				S	S	22 43 38.8	-0.1
WMGZ	Waiomatatini S	3.46	194	P	Pn	22 42 57.2	-0.1
WMGZ				S	S	22 43 43.9	+0.6
HAZ	Te Kaha	3.56	202	P	Pn	22 42 57.9	-0.6
HAZ				S	S	22 43 47.2	+1.8
PKGZ	Pakihiroa	3.58	198	P	Pn	22 42 58.5	-0.2
PKGZ				S	S	22 43 47.3	+1.5
PUZ	Puketiti	3.73	195	P	Pn	22 42 59.6	-0.9
PUZ				S	S	22 43 48.7	-0.4
RUGZ	Raukumara Rang	3.78	202	P	Pn	22 43 01.1	0.0
TWGZ	Tauwhareparae	3.90	198	P	Pn	22 43 03.2	+0.9
TWGZ				S	S	22 43 53.1	+0.6
CNGZ	Carnagh Statio	4.14	194	P	Pn	22 43 05.5	+0.4
MARZ	Manawahe	4.18	212	P	Pn	22 43 06.5	+0.9
URZ	Urewera	4.24	206	P	Pn	22 43 05.9	-0.4
URZ				S	S	22 43 58.4	-1.2
RAGZ	Rawiri	4.35	202	P	Pn	22 43 07.8	+0.1
RAGZ				S	S	22 44 02.9	+0.8
WCZ	Waipu Caves	4.44	249	P	Pn	22 43 06.5	-2.2
RIGZ	Rimuhau	4.45	197	P	Pn	22 43 08.6	-0.2
RIGZ				S	S	22 44 04.3	+0.1
MUGZ	Murupara	4.56	208	P	Pn	22 43 09.8	-0.3
MUGZ				S	S	22 44 06.4	-0.1
TOZ	Tahuroa Road	4.58	223	P	Pn	22 43 14.2	+3.9
RTZ	Ruatahuna	4.60	205	P	Pn	22 43 09.2	-1.5
RTZ				S	S	22 44 06.3	-1.2
PRGZ	Paritu Road	4.63	195	P	Pn	22 43 10.9	-0.1
SNGZ	Shannon Statio	4.64	201	P	Pn	22 43 10.6	-0.4
SNGZ				S	S	22 44 09.1	+0.9
ALRZ	Allen Road	4.80	211	P	Pn	22 43 13.5	+0.5
RAHZ	Arahi	4.84	203	P	Pn	22 43 13.3	-0.2
MHGZ	Mahia Peninsul	4.84	195	P	Pn	22 43 14.1	+0.6
MTHZ	Maungataniwha	4.86	205	P	Pn	22 43 13.7	0.0
MTHZ				S	S	22 44 13.2	+0.1
TLZ	Tolley Road	4.99	218	P	Pn	22 43 16.5	+1.2
MRHZ	Matea Rd	5.00	208	P	Pn	22 43 15.5	0.0
MRHZ				S	S	22 44 16.7	+0.5
NMHZ	Naumai	5.09	204	P	Pn	22 43 16.5	-0.1
NMHZ				S	S	22 44 19.4	+1.1
ARHZ	Aropaoanui	5.18	202	P	Pn	22 43 17.4	-0.2
ARHZ				S	S	22 44 20.3	+0.2
BKZ	Black Stump Fm	5.26	206	P	Pn	22 43 18.0	-0.6
BKZ				S	S	22 44 21.8	-0.2
MCHZ	McNeill Hill	5.44	203	P	Pn	22 43 20.8	0.0
MCHZ				S	S	22 44 25.5	-0.4
TMVZ	Te Maari	5.54	212	P	Pn	22 43 22.0	-0.1
TMVZ				S	S	22 44 28.9	+0.8
OTVZ	Oturere

ENH	**Enshi**	**4.03**	**79**		**Pn**	**Pn**	**22 43 18.6**	**+2.2**
ENH				Sn	**Sn**	**22 44 05.3**	**+1.6**
PZH	**PanZhiHua**	**4.14**	**223**	Pn	**Pn**	**22 43 20.6**	**+2.6**
PZH				Sn	**Sn**	**22 44 09.0**	**+2.5**
PZH				Sg	**Sg**	**22 44 25.4**	**-2.2**
PZH				smax	smax			
	comp=N,1µm,0.6s							
PZH				smax	smax			
	comp=E,1µm,0.7s							
PZH				LR	LR			
	comp=N,15µm,5.0s							
PZH				LR	LR			
	comp=E,12µm,4.3s							
PZH				LR	LR			
	comp=Z,7µm,4.4s							
KMI	**Kunming**	**4.83**	**204**	Pn	**Pn**	**22 43 29.9**	**+2.4**
KMI				Sn	**Sn**	**22 44 26.5**	**+2.9**
KMI				smax	smax			
	comp=N,330nm,1.1s							
KMI				smax	smax			
	comp=E,350nm,1.0s							
KMI				LR	LR			
	comp=N,25µm,5.1s							
KMI				LR	LR			
	comp=E,14µm,5.0s							
KMI				LR	LR			
	comp=Z,14µm,6.0s							
XAN	**Xi'an**	**5.62**	**36**	Pn	**Pn**	**22 43 38.8**	**+0.6**
XAN				Sn	**Sn**	**22 44 41.7**	**-1.1**
XAN				Sg	**Sg**	**22 45 13.4**	**-1.5**
XAN				smax	smax			
	comp=N,13µm,1.2s							
XAN				smax	smax			
	comp=E,11µm,0.9s							
XAN				LR	LR			
	comp=N,45µm,4.8s							
XAN				LR	LR			
	comp=E,39µm,5.0s							
XAN				LR	LR			
	comp=Z,18µm,4.8s							
GULI	**GuiLin**	**6.45**	**130**	Pn	**Pn**	**22 43 49.0**	**-0.6**
GULI				smax	smax			
	comp=N,2µm,1.0s							
GULI				smax	smax			
	comp=E,2µm,1.1s							
GULI				LR	LR			
	comp=Z,24µm,4.7s							
LZDM	**Lanzhou Array**	**6.46**	**351**	Pn	**Pn**	**22 43 51.2**	**+1.3**
	baz=165,slow=12							
LZDM				Sn	**Sn**	**22 45 04.3**	**+0.5**
	baz=112,slow=39							
LZDM				Lg	Lg	22 45 40.0		
	baz=166,slow=30							
LZDM				LR	LR	22 46 34.2		
	comp=Z,4µm,21.7s,baz=100,slow=40 219nm,0.4s							
LZH	**Lanzhou**	**6.57**	**352**	Pn	**Pn**	**22 43 52.8**	**+1.5**
LZH				Sn	**Sn**	**22 45 05.8**	**-0.5**
LZH				Sg	**Sg**	**22 45 43.0**	**-2.3**
LZH				smax	smax			
	comp=N,3µm,1.2s							
LZH				smax	smax			
	comp=E,4µm,1.1s							
LZH				LR	LR			
	comp=N,46µm,5.2s							
LZH				LR	LR			
	comp=E,38µm,5.5s							
LZH				LR	LR			
	comp=Z,25µm,5.8s							
CNSH	**ChangSha**	**7.17**	**99**	Pn	**Pn**	**22 44 01.1**	**+1.7**
CNSH				Sn	**Sn**	**22 45 20.7**	**-0.1**
CNSH				smax	smax			
	comp=N,5µm,1.3s							
CNSH				smax	smax			
	comp=E,4µm,1.3s							
TNCH	**TengChong**	**7.26**	**233**	Pn	**Pn**	**22 44 02.1**	**+1.2**
TNCH				smax	smax			
	comp=N,800nm,3.6s							
TNCH				smax	smax			
	comp=E,840nm,2.8s							
TNCH				LR	LR			
	comp=N,14µm,6.5s							
TNCH				LR	LR			
	comp=E,25µm,6.7s							
TNCH				LR	LR			
	comp=Z,18µm,8.3s							
LYN	**LuoYang**	**8.11**	**50**	P	**Pn**	**22 44 12.9**	**+0.5**
LYN				pmax	pmax			
	comp=Z,480nm,0.9s							
LYN				LR	LR			
	comp=N,36µm,4.5s							
LYN				LR	LR			
	comp=E,19µm,4.6s							
LYN				LR	LR			
	comp=Z,16µm,5.2s							
WHN	**Wuhan**	**8.24**	**81**	P	**Pn**	**22 44 14.6**	**+0.5**
WHN				pmax	pmax			
	comp=Z,820nm,1.1s							
SLVN	**Son La**	**8.25**	**187**		**Pn**	**22 44 13.3**	**-1.0**
GZH	**Guangzhou**	**9.94**	**129**	P	**Pn**	**22 44 35.0**	**-2.4**
TIY	**Taiyuan**	**10.26**	**36**	⇓P	**Pn**	**22 44 41.7**	**-0.2**
TIY				pmax	pmax			
	comp=Z,120nm,0.8s							
TIY				LR	LR			
	comp=N,6µm,4.3s							
TIY				LR	LR			
	comp=E,3µm,4.3s							
TIY				LR	LR			
	comp=Z,3µm,3.8s							
GTA	**Gaotai**	**10.68**	**338**	P	**Pn**	**22 44 50.1**	**+2.4**
GTA				sP		22 44 56.7		
GTA				pmax	pmax			
	comp=Z,36nm,1.4s							
GTA				pmax	pmax			
	comp=Z,200nm,6.8s							
GTA				LR	LR			
	comp=N,10µm,11.9s							
GTA				LR	LR			
	comp=E,17µm,13.9s							
GTA				LR	LR			
	comp=Z,14µm,15.5s							
GOMU	**GeErMu**	**10.76**	**311**	P	**Pn**	**22 44 50.5**	**+1.5**
GOMU				pP		22 44 53.8		
GOMU				sP		22 44 58.4		
GOMU				S	**Sn**	**22 46 53.2**	**+3.5**
GOMU				pmax	pmax			
	comp=Z,4.0nm,0.9s							
GOMU				LR	LR			
	comp=N,7µm,10.6s							
GOMU				LR	LR			
	comp=E,9µm,10.4s							
GOMU				LR	LR			
	comp=Z,12µm,10.5s							
HKPS	**Hong Kong Po S**	**11.02**	**129**	Pn	**Pn**	**22 44 51.7**	**-0.6**
HKPS	**Hong Kong Po S**	**11.02**	**129**	P	Pn	22 45 01.7	+9.4
HNS	**HongShan**	**11.30**	**44**	⇑P	**Pn**	**22 44 59.0**	**+2.9**
HNS				S	**Sn**	**22 47 05.4**	**+2.9**
HNS				pmax	pmax			
	comp=Z,39nm,1.0s							
HNS				LR	LR			
	comp=N,6µm,6.0s							
HNS				LR	LR			
	comp=E,3µm,5.0s							
HNS				LR	LR			
	comp=Z,5µm,8.4s							
QIZ	**Qiongzhong**	**11.41**	**156**	Pn	**Pn**	**22 44 54.9**	**-2.7**
QIZ	**Qiongzhong**	**11.41**	**156**	P	**Pn**	**22 44 56.2**	**-1.4**
QIZ				S	**Sn**	**22 47 06.0**	**+0.8**
QIZ				smax	smax			
	comp=N,170nm,2.2s							
QIZ				smax	smax			
	comp=E,230nm,2.5s							
QIZ				LR	LR			
	comp=N,12µm,6.9s							
QIZ				LR	LR			
	comp=E,4µm,5.8s							
QIZ				LR	LR			
	comp=Z,10µm,9.1s							
BTO	**Baotou**	**11.78**	**19**	*e*P	**Pn**	**22 45 03.3**	**+0.6**
BTO				PP	**PnPn**	**22 45 13.8**	**+3.2**
BTO				sP		22 45 18.1		
BTO				S	**Sn**	**22 47 14.6**	**+0.3**
BTO				SS	**SnSn**	**22 47 29.8**	**+3.3**
BTO				pmax	pmax			
	comp=Z,88nm,1.0s							
BTO				pmax	pmax			
	comp=Z,480nm,6.3s							
BTO				LR	LR			
	comp=Z,15µm,10.1s							
BTO				LR	LR			
	comp=Z,23µm,11.3s							
BTO				LR	LR			
	comp=Z,13µm,11.0s							
LSA	**Lhasa**	**11.98**	**274**		**Pn**	**22 45 05.8**	**0.0**
LSA	**Lhasa**	**11.98**	**274**	P	**Pn**	**22 45 04.1**	**-1.7**
LSA				LR	LR			
	comp=Z,8µm,12.6s							
LSA	**Lhasa**	**11.98**	**274**	P	**Pn**	**22 45 05.8**	**0.0**
CHTO	**Chiang Mai**	**12.01**	**208**		**Pn**	**22 45 05.3**	**-0.5**
CHTO	**Chiang Mai**	**12.01**	**208**	P	**Pn**	**22 45 05.3**	**-0.5**
TIA	**Tai'an**	**12.21**	**54**	P	**Pn**	**22 45 09.6**	**+1.1**
TIA				pmax	pmax			
	comp=Z,150nm,1.1s							
TIA				pmax	pmax			
	comp=Z,840nm,4.3s							
TIA				LR	LR			
	comp=Z,5µm,8.3s							
TIA				LR	LR			
	comp=Z,6µm,8.9s							
TIA				LR	LR			
	comp=Z,7µm,12.0s							
NJ2	**Nanjing**	**12.24**	**75**	*e*P	**Pn**	**22 45 10.4**	**+1.5**
NJ2				PP	**PnPn**	**22 45 20.8**	**+4.1**
NJ2				S	**Sn**	**22 47 28.5**	**+3.1**
NJ2				pmax	pmax			
	comp=Z,27nm,0.8s							
NJ2				pmax	pmax			
	comp=Z,750nm,4.2s							
NJ2				LR	LR			
	comp=Z,10µm,6.6s							
NJ2				LR	LR			
	comp=Z,13µm,6.2s							
NJ2				LR	LR			
	comp=Z,7µm,5.9s							
CM31	**Chiang Mai Arr**	**12.32**	**208**	Pn	**Pn**	**22 45 11.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**12.32**	**208**		**Pn**	**22 45 11.3**	**+1.2**
CMAR	**Chiang Mai Arr**	**12.32**	**208**	Pn	**Pn**	**22 45 11.4**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=18,slow=12,SNR=17							
CMAR				LR	LR	22 50 28.6		
	comp=Z,2µm,21.8s,baz=25,slow=40 comp=Z,2.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**12.32**	**208**	P	**Pn**	**22 45 11.3**	**+1.2**
HHC	**Hu-ho-hao-te**	**12.50**	**24**	*e*P	**Pn**	**22 45 13.7**	**+1.2**
HHC				PP	**PnPn**	**22 45 23.8**	**+3.4**
HHC				S	**Sn**	**22 47 33.1**	**+1.2**
HHC				sS		22 47 39.5		
HHC				SS	**SnSn**	**22 47 51.2**	**+7.0**
HHC				pmax	pmax			
	comp=Z,10.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,84nm,5.2s							
HHC				LR	LR			
	comp=Z,7µm,8.8s							
HHC				LR	LR			
	comp=Z,10µm,8.2s							
HHC				LR	LR			
	comp=Z,5µm,9.2s							
QZH	**Quanzhou**	**13.01**	**107**	P	**Pn**	**22 45 22.0**	**+2.6**
QZH				S	Sn	22 47 54.0	+10	
QZH				LR	LR			
	comp=Z,6µm,8.6s							
QZH				LR	LR			
	comp=Z,13µm,8.8s							
QZH				LR	LR			
	comp=Z,15µm,8.8s							
KNMB	**Chin-men Tao**	**13.04**	**110**	Pn	**Pn**	**22 45 18.4**	**-1.5**
BRDH	**Bariadhala**	**13.75**	**243**	LR	LR	22 51 22.8		
	comp=Z,2µm,18.1s,baz=68,slow=40							
BJT	**Baijiatuau**	**13.93**	**39**		**Pn**	**22 45 30.5**	**-1.4**
BJT	**Baijiatuau**	**13.93**	**39**	P	**Pn**	**22 45 30.5**	**-1.4**
BJI	**Beijing**	**13.95**	**38**	P	**Pn**	**22 45 32.0**	**-0.1**
BJI				pP	P	22 45 34.2	-6.1	
BJI				pmax	pmax			
	comp=Z,22nm,1.0s							
BJI				pmax	pmax			
	comp=Z,160nm,3.7s							
SSE	**Sheshan**	**14.14**	**80**	P	**Pn**	**22 45 35.0**	**+0.1**
SSE				pmax	pmax			
	comp=Z,16nm,1.2s							
SSE				pmax	pmax			
	comp=Z,540nm,3.8s							
SSE				LR	LR			
	comp=Z,3µm,9.8s							
SSE				LR	LR			
	comp=Z,6µm,9.5s							
TPUB	**Ta-pu**	**15.39**	**110**		**Pn**	**22 45 51.3**	**-0.6**
TPUB				IAmb	IAmb	22 45 56.7		
	comp=Z,111nm,1.3s							
TPUB	**Ta-pu**	**15.39**	**110**	P	**P**	**22 45 56.1**	**-0.4**
TATO	**Taipei**	**15.43**	**103**	Pn	**Pn**	**22 45 50.4**	**-1.9**
SSLB	**Suanglung**	**15.45**	**108**		**Pn**	**22 45 52.8**	**+0.2**
SSLB				IAmb	IAmb	22 45 56.2		
	comp=Z,121nm,1.5s							
YHNB	**Yeheng**	**15.45**	**104**		**Pn**	**22 45 53.5**	**+0.9**
YHNB	**Yeheng**	**15.45**	**104**	P	**P**	**22 45 59.4**	**+2.2**
NACB	**Ninganchiao**	**15.82**	**106**		**Pn**	**22 45 56.8**	**-0.6**
YULB	**Yu-li**	**15.90**	**109**		**Pn**	**22 45 59.2**	**+0.7**
YULB	**Yu-li**	**15.90**	**109**	P	**P**	**22 46 02.2**	**0.0**
TWG	**Pinlang**	**15.97**	**111**		**Pn**	**22 45 59.9**	**+0.4**
TWGBT	**Beinan**	**15.98**	**111**	P	**P**	**22 46 04.2**	**+1.1**
DL2	**Dalian**	**16.65**	**52**	P	**P**	**22 46 09.1**	**-1.2**
DL2				pmax	pmax			
	comp=Z,130nm,1.0s							
DL2				pmax	pmax			
	comp=Z,370nm,3.7s							
DL2				LR	LR			
	comp=Z,3µm,6.2s							
DL2				LR	LR			
	comp=Z,4µm,8.6s							
DL2				LR	LR			
	comp=Z,3µm,6.8s							
XLT	**XiLinHaoTe**	**16.85**	**29**	*e*P	**Pn**	**22 46 10.7**	**+0.1**
XLT				S	**Sn**	**22 49 18.9**	**+1.0**
XLT				pmax	pmax			
	comp=Z,61nm,1.0s							
XLT				pmax	pmax			
	comp=Z,430nm,3.8s							
XLT				LR	LR			
	comp=Z,4µm,8.5s							
XLT				LR	LR			
	comp=Z,2µm,10.0s							
SONM	**Songino Array**	**18.28**	**3**		**Pn**	**22 46 27.8**	**-0.5**
SONM	**Songino Array**	**18.28**	**3**	P	**P**	**22 46 29.2**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=179,slow=12,SNR=19							
SONM				LR	LR	22 54 33.9		
	comp=Z,1µm,21.0s,baz=182,slow=40 comp=Z,11nm,1.0s							
SONM	**Songino Array**	**18.28**	**3**	P	**Pn**	**22 46 27.8**	**-0.5**
SONM				pmax	pmax			
	comp=Z,20nm,1.2s							
ULN	**Ulaanbaatar**	**18.35**	**5**		**P**	**22 46 29.6**	**+0.4**
ULN	**Ulaanbaatar**	**18.35**	**5**	*i* P	**Pn**	**22 46 29.1**	**-0.1**
ULN				pmax	pmax			
	comp=Z,20nm,1.0s							
SNY	**Shenyang**	**19.43**	**46**	⇓P	**Pn**	**22 46 42.0**	**-0.2**
SNY				S	**Sn**	**22 50 20.1**	**-0.1**
SNY				pmax	pmax			
	comp=Z,61nm,0.9s							
SNY				LR	LR			
	comp=Z,1µm,10.7s							
SNY				LR	LR			
	comp=Z,2µm,7.6s							
SNY				LR	LR			
	comp=Z,2µm,10.9s							
WMQ	**Urumqi**	**19.77**	**321**	*e*P	**Pn**	**22 46 46.8**	**+0.5**
WMQ				S	**S**	**22 50 24.9**	**-2.7**
WMQ				pmax	pmax			
	comp=Z,49nm,1.3s							
WMQ				pmax	pmax			
	comp=Z,790nm,5.5s							
WMQ				LR	LR			
	comp=Z,5µm,9.9s							
WMQ				LR	LR			
	comp=Z,4µm,11.7s							
WMQ				LR	LR			
	comp=Z,2µm,15.7s							
TJN	**Taejon**	**20.00**	**64**	P	**Pn**	**22 46 48.0**	**-1.0**
TJN	**Taejon**	**20.00**	**64**	P	**Pn**	**22 46 50.6**	**+1.6**
TJN	**Taejon**	**20.00**	**64**	P	**Pn**	**22 46 48.0**	**-1.0**
TJN				pmax	pmax			
	comp=Z,673nm,1.3s							
KSAR	**Wonju Array Be**	**20.67**	**62**	P	**P**	**22 46 54.5**	**0.0**
KSAR	**Wonju Array Be**	**20.67**	**62**	P	**P**	**22 46 54.6**	**0.0**
KS19	**Wonju Array Si**	**20.67**	**61**	P	**P**	**22 46 55.0**	**+0.5**
KS19				IAmb	IAmb	22 46 56.5		
	comp=Z,71nm,1.1s							
KSRS	**Korea Array**	**20.70**	**62**	P	**P**	**22 46 55.3**	**+0.4**
	comp=Z,48nm,1.0s,baz=244,slow=11,SNR=69 comp=Z,48nm,1.0s							
JOW	**Kunigami**	**20.76**	**92**	P	**P**	**22 46 56.3**	**+0.6**
JOW				IAmb	IAmb	22 47 02.2		
	comp=Z,59nm,0.5s							
JOW	**Kunigami**	**20.76**	**92**	P	**P**	**22 46 56.4**	**+0.8**
	comp=Z,45nm,0.3s,baz=194,slow=3.5,SNR=30							
JOW				LR	LR	22 55 32.1		
	comp=Z,1µm,20.1s,baz=297,slow=38 comp=Z,45nm,0.3s							
JOW	**Kunigami**	**20.76**	**92**	P	Pn	22 46 57.9	-0.1	
ZAK	**Zakamensk**	**20.83**	**357**	*e*P	**P**	**22 46 57.1**	**+0.8**
ZAK				pmax	pmax			
	comp=Z,54nm,1.6s							
SURA	**Surathani**	**20.89**	**195**	P	Pn	22 47 00.6	+1.1	
JTU	**Tsushima**	**21.32**	**70**	P	**P**	**22 47 05.0**	**+3.5**
TGY	**Tagaytay City**	**21.36**	**133**	LR	LR	22 55 26.7		
	comp=Z,976nm,18.9s,baz=2.5,slow=37							
CN2	**Changchun**	**21.67**	**43**	P	**P**	**22 47 06.1**	**+0.8**
CN2				pP	sP	22 47 09.6	0.0	
CN2				S	**S**	**22 51 00.5**	**-4.6**
CN2				PcP	**PcP**	**22 51 07.0**	**+0.6**
CN2				pmax	pmax			
	comp=Z,70nm,1.3s							
CN2				pmax	pmax			
	comp=Z,500nm,3.0s							
CN2				LR	LR			
	comp=Z,2µm,8.0s							
CN2				LR	LR			
	comp=Z,1µm,8.0s							
CN2				LR	LR			
	comp=Z,2µm,8.0s							
MOY	**Mondy**	**22.27**	**354**	*e*P	**P**	**22 47 10.0**	**-1.8**
MOY				pmax	pmax			
	comp=Z,17nm,1.9s							
JNU	**Nakatsue**	**22.44**	**74**	P	**P**	**22 47 13.2**	**-0.5**
JNU				IAmb	IAmb	22 47 20.9		
	comp=Z,125nm,1.1s							
IRK	**Irkutsk**	**22.66**	**359**	*e*P	**P**	**22 47 17.0**	**+1.2**
IRK				pmax	pmax			
	comp=Z,140nm,1.2s							
HIA	**Hailar**	**22.69**	**26**	P	**P**	**22 47 15.4**	**-0.8**
HIA	**Hailar**	**22.69**	**26**	P	**P**	**22 47 15.4**	**-0.8**
HIA				pmax	pmax			
	comp=Z,28nm,1.0s							
CIT	**Chita**	**23.34**	**14**	*e*P	**P**	**22 47 23.2**	**+0.4**
CIT				*e*		22 47 37.0		
CIT				*e*		22 47 48.8		
CIT				*e*		22 48 01.4		
CIT				*e*		22 51 30.7		
CIT				pmax	pmax			
	comp=Z,186nm,2.6s							
ZSN	**Zaisan**	**23.65**	**325**	*e*P	**P**	**22 47 26.8**	**+0.7**
	comp=Z,81nm,1.8s							
ZSN				*e*S	**S**	**22 51 43.2**	**+2.6**
ZSN	**Zaisan**	**23.65**	**325**	*e*P	**P**	**22 47 26.7**	**+0.7**
ZSN				*e*S	**S**	**22 51 43.2**	**+2.6**
ZSN				pmax	pmax			
	comp=Z,81nm,1.8s							
BNX	**BinXian**	**23.92**	**41**	⇑P	**P**	**22 47 28.6**	**+0.1**
BNX				pP	**sP**	**22 47 39.6**	**+6.7**
BNX				S	**S**	**22 51 45.6**	**+0.8**
BNX				pmax	pmax			
	comp=Z,66nm,1.6s							
BNX				pmax	pmax			
	comp=Z,1µm,4.0s							
BNX				LR	LR			
	comp=Z,2µm,7.9s							
BNX				LR	LR			
	comp=Z,2µm,9.0s							
BNX				LR	LR			
	comp=Z,1µm,8.9s							
SHLS	**Shalkode**	**24.46**	**311**	*e*P	**P**	**22 47 31.7**	**-2.1**
	comp=Z,37nm,1.0s							
SHLS				*e*S	**S**	**22 51 51.4**	**-2.5**
SHLS	**Shalkode**	**24.46**	**311**	*e*P	**P**	**22 47 31.7**	**-2.1**
SHLS				*e*S	**S**	**22 51 51.4**	**-2.5**
SHLS				pmax	pmax			
	comp=Z,37nm,1.0s							
KULM	**Kulim**	**24.48**	**190**	P	**P**	**22 47 32.6**	**-1.3**
PDGK	**Podgornoye**	**24.52**	**311**	P	**P**	**22 47 34.5**	**+0.2**
MK31	**Makanchi Array**	**24.60**	**321**	*ce*P	**P**	**22 47 34.7**	**-0.2**
MK31				pmax	pmax			
	comp=Z,52nm,1.0s							
MKAR	**Makanchi Array**	**24.60**	**321**		**P**	**22 47 34.6**	**-0.3**
MKAR	**Makanchi Array**	**24.60**	**321**	P	**P**	**22 47 35.0**	**+0.1**
	comp=Z,12nm,0.5s,baz=127,slow=12,SNR=60							
MKAR				LR	LR	22 58 08.7		
	comp=Z,3µm,20.9s,baz=134,slow=39 comp=Z,12nm,0.5s							
MKAR	**Makanchi Array**	**24.60**	**321**	P	**P**	**22 47 35.0**	**+0.1**
MDJ	**Mudanjiang**	**24.64**	**46**	P	**P**	**22 47 34.6**	**-0.5**
MDJ	**Mudanjiang**	**24.64**	**46**	P	**P**	**22 47 36.6**	**+1.5**
MDJ				pmax	pmax			
	comp=Z,84nm,1.5s							
MDJ				LR	LR			
	comp=Z,2µm,8.2s							
MDJ				LR	LR			
	comp=Z,2µm,7.7s							
MDJ				LR	LR			
	comp=Z,2µm,9.0s							
UZB	**Uzynbulak**	**24.75**	**310**	*e*P	**P**	**22 47 36.9**	**+0.5**
	comp=Z,17nm,0.8s							
UZB	**Uzynbulak**	**24.75**	**310**	*e*P	**P**	**22 47 36.9**	**+0.5**
UZB				pmax	pmax			
	comp=Z,17nm,0.8s							
MAKZ	**Makanchi**	**24.79**	**320**	P	**P**	**22 47 33.9**	**-2.6**
JMN	**Monobe**	**24.97**	**73**	P	**P**	**22 47 37.1**	**-1.2**
JMN				IAmb	IAmb	22 48 07.7		
	comp=Z,113nm,1.5s							
JMN	**Monobe**	**24.97**	**73**	P	**P**	**22 47 39.4**	**+1.1**
SATY	**Saty**	**25.13**	**310**	*e*P	**P**	**22 47 40.2**	**+0.4**
	comp=Z,17nm,0.7s							
SATY				*e*S	**S**	**22 52 06.6**	**+1.9**
SATY	**Saty**	**25.13**	**310**	*e*P	**P**	**22 47 40.2**	**+0.4**
SATY				*e*S	**S**	**22 52 06.5**	**+1.9**
SATY				pmax	pmax			
	comp=Z,17nm,0.7s							
IPM	**Ipoh**	**25.22**	**189**	P	**P**	**22 47 39.3**	**-1.4**
IPM	**Ipoh**	**25.22**	**189**	P	**P**	**22 47 39.9**	**-0.7**
KDJ	**Kajisay**	**25.62**	**307**	P	**P**	**22 47 45.0**	**+0.7**
KDJ				IAmb	IAmb	22 48 17.9		
	comp=Z,50nm,0.7s							
KDJ	**Kajisay**	**25.62**	**307**	P	**P**	**22 47 45.0**	**+0.7**
KDJ				pmax	pmax			
	comp=Z,50nm,0.7s							
KDJ	**Kajisay**	**25.62**	**307**	⇑*e*P	**P**	**22 47 45.3**	**+1.0**
KKM	**Kota Kinabalu**	**25.71**	**153**	P	**P**	**22 47 43.5**	**-1.7**
KSH	**Kashi**	**25.73**	**300**	P	**P**	**22 47 48.1**	**+2.8**
KSH				S	**S**	**22 52 18.2**	**+4.0**
KSH				LR	LR			
	comp=Z,1µm,11.2s							
KSH				LR	LR			
	comp=Z,1µm,12.5s							
KSH				LR	LR			
	comp=Z,2µm,13.2s							
TDK	**Taldyqorghan**	**25.96**	**314**	*e*P	**P**	**22 47 47.9**	**+0.7**
	comp=Z,27nm,1.3s							
TDK	**Taldyqorghan**	**25.96**	**314**	*e*P	**P**	**22 47 47.9**	**+0.7**
TDK				pmax	pmax			
	comp=Z,27nm,1.3s							
USA0B	**Ussuriysk Arra**	**25.97**	**48**	P	**P**	**22 47 46.8**	**-0.5**
USA0B				IAmb	IAmb	22 47 48.4		
	comp=Z,64nm,1.1s							
USA0B	**Ussuriysk Arra**	**25.97**	**48**	P	**P**	**22 47 46.8**	**-0.5**
USA0B				pmax	pmax			
	comp=Z,64nm,1.2s							
USRK	**Ussuriysk Ar.**	**25.97**	**48**		**P**	**22 47 47.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**25.97**	**48**	P	**P**	**22 47 47.2**	**0.0**
	comp=Z,56nm,1.1s,baz=248,slow=7.9,SNR=34							
USRK				LR	LR	22 58 44.1		
	comp=Z,524nm,20.3s,baz=246,slow=38 comp=Z,56nm,1.1s							
USRK	**Ussuriysk Ar.**	**25.97**	**48**	P	**P**	**22 47 47.1**	**-0.2**
ARXS	**Arharly**	**25.99**	**312**	*e*P	**P**	**22 47 47.8**	**+0.3**
MDOK	**Medeo**	**26.08**	**309**	*e*P	**P**	**22 47 49.0**	**+0.5**
MDOK				*e*S	**S**	**22 52 21.8**	**+1.9**
MDOK	**Medeo**	**26.08**	**309**	*e*P	**P**	**22 47 48.9**	**+0.5**
MDOK				*e*S	**S**	**22 52 21.7**	**+1.9**
TNSS	**Tian-Shan**	**26.10**	**309**	*e*P	**P**	**22 47 49.2**	**+0.3**

TNSS **Tian-Shan** 26.10 309 *e*P P 22 47 49.2 +0.3
AAA **Alma-Ata** 26.19 309 *e*P P 22 47 50.1 +0.8
comp=Z,48nm,1.4s
AAA **Alma-Ata** 26.19 309 *e*P P 22 47 50.1 +0.8
AAA pmax pmax
comp=Z,49nm,1.4s
TSI **Tuntungan** 26.61 194 P P 22 47 54.8 +1.6
comp=Z,100nm,1.3s
HEH **HeiHe** 26.74 33 *e*P P 22 47 54.5 +0.4
HEH S S 22 52 29.0 -0.6
HEH pmax pmax
comp=Z,33nm,1.3s
HEH LR LR
comp=Z,4μm,12.5s
HEH LR LR
comp=Z,3μm,12.8s
HEH LR LR
comp=Z,2μm,11.5s
TKM2 **Tokmak 2** 26.99 308 P P 22 47 57.8 +1.0
SNR=19
TKM2 **Tokmak 2** 26.99 308⇑ *i*P P 22 47 57.7 +1.0
NIL **Nilore** 27.21 287 P P 22 47 59.3 +0.7
NIL **Nilore** 27.21 287 P P 22 47 59.3 +0.7
NIL pmax pmax
comp=Z,24nm,0.9s
PSI **Prapat** 27.22 193 LR LR 22 58 27.7
comp=Z,821nm,20.1s,baz=338,slow=36
PSI **Prapat** 27.22 193 P P 22 47 58.3 -0.5
PSI pmax pmax
comp=Z,44nm,1.6s
RPSI **Rantau Prapat** 27.32 193 P P 22 47 58.3 -1.3
RPSI IAmb IAmb 22 48 00.0
comp=Z,44nm,1.6s
MYLDM **Lahad Datu** 27.45 149 P P 22 48 00.5 -0.2
MYLDM IAmb IAmb 22 48 07.0
comp=Z,83nm,1.2s
CHMS **Chumysh** 27.60 307 P P 22 48 03.7 +1.7
SNR=9.3
INU **Inuyama** 27.62 70 P P 22 48 01.4 -0.8
AAK **Ala-Archa** 27.66 306 P P 22 48 04.0 +1.3
SNR=8.7
AAK **Ala-Archa** 27.66 306 P P 22 48 02.8 0.0
comp=Z,9.1nm,0.5s,baz=156,slow=11,SNR=27
AAK LR LR 23 01 20.2
comp=Z,2μm,20.4s,baz=83,slow=42
comp=Z,9.1nm,0.5s
AAK **Ala-Archa** 27.66 306 *ce*P P 22 48 03.6 +0.9
AAK pmax pmax
comp=Z,40nm,1.7s
AAK **Ala-Archa** 27.66 306 ⇓Pg P 22 48 04.5 +1.8
comp=Z,7.4nm,0.7s
SGDS **Sogindy** 27.83 308 *e*P P 22 48 04.7 +0.6
SBUM **Sibu** 27.84 164 P P 22 48 04.0 -0.3
JGF **Kuroka** 27.91 69 P P 22 48 03.6 -1.3
JGF IAmb IAmb 22 48 14.9
comp=Z,23nm,0.8s
EKS2 **Erkin-Say** 28.17 306 P P 22 48 06.0 -1.2
SNR=14
ZAA0 **Zalesovo Array** 28.41 335 P P 22 48 08.9 -0.1
ZALV **Zalesovo Beam** 28.41 335 P P 22 48 09.3 +0.3
ZALV **Zalesovo Beam** 28.41 335 P P 22 48 09.2 +0.2
comp=Z,14nm,0.6s,baz=134,slow=9.2,SNR=48
ZALV LR LR 23 00 13.0
comp=Z,2μm,21.4s,baz=137,slow=38
comp=Z,14nm,0.6s
ZALV **Zalesovo Beam** 28.41 335 P P 22 48 09.3 +0.3
MJB9 **Matsu-Tunnel** 28.66 67 P P 22 48 10.0 -1.5
MJB9 IAmb IAmb 22 48 15.6
comp=Z,36nm,1.5s
MJAR **Matsushiro Arr** 28.66 67 P P 22 48 10.5 -1.0
MJAR **Matsushiro Arr** 28.66 67 P P 22 48 11.1 -0.4
comp=Z,12nm,1.0s,baz=262,slow=8.3,SNR=39
MJAR LR LR 23 01 09.8
comp=Z,520nm,20.5s,baz=188,slow=40
comp=Z,12nm,1.0s
BTLS **Baital** 28.79 311 *e*P P 22 48 13.2 +0.6
BTLS **Baital** 28.79 311 *e*P P 22 48 13.1 +0.6
KURBB **Kurchatov Arra** 28.89 324 P P 22 48 13.3 -0.1
comp=Z,11nm,0.6s,baz=128,slow=9.6,SNR=97
KURBB LR LR 23 00 39.4
comp=Z,2μm,20.9s,baz=140,slow=38
comp=Z,11nm,0.6s
KURBB **Kurchatov Arra** 28.89 324 P P 22 48 13.1 -0.2
KURK **Kurchatov** 28.90 324 P P 22 48 13.2 -0.2
KURK **Kurchatov** 28.90 324 P P 22 48 13.2 -0.2
KURK pmax pmax
comp=Z,154nm,1.9s
GSI **Gunungsitoli** 28.96 195 P P 22 48 12.3 -1.9
GSI IAmb IAmb 22 48 18.9
comp=Z,52nm,1.4s
ZEA **Zeya** 29.12 28 *e*P P 22 48 16.4 +1.0
ZEA *e*S S 22 53 04.2 -2.9
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,1.1s
ZEA smax smax
comp=E,100nm,9.4s
ZEA MLR MLR
comp=E,800nm,7.0s
ZEA MLR MLR
comp=N,1μm,12.0s
ZEA MLR MLR
comp=Z,2μm,10.0s
DAV **Davao City (W)** 29.65 135 LR LR 23 01 25.7
comp=Z,1μm,20.2s,baz=348,slow=39
JHJ **Hachijo jima 2** 29.91 74 LR LR 22 59 39.8
comp=Z,796nm,21.0s,baz=284,slow=35
GAR **Garm** 29.95 298 P P 22 48 23.1 +0.1
GAR IAmb IAmb 22 49 25.7
comp=Z,79nm,1.8s
KK31 **Karatay Array** 30.60 306 P P 22 48 28.4 -0.3
KK31 **Karatay Array** 30.60 306 *i*P P 22 48 28.9 +0.2
KKAR **Karatay Array** 30.60 306 P P 22 48 28.3 -0.4
KKAR **Karatay Array** 30.60 306 P P 22 48 28.3 -0.4
KBL **Kabul** 30.70 289 P P 22 48 29.4 -0.4
KBL **Kabul** 30.70 289 P P 22 48 29.4 -0.4
KBL pmax pmax
comp=Z,13nm,1.0s
IUG **Iuzhnay** 30.72 304 *e*P P 22 48 30.6 +0.7
comp=Z,24nm,1.6s
IUG **Iuzhnay** 30.72 304 *e*P P 22 48 30.5 +0.7
IUG pmax pmax
comp=Z,24nm,1.6s
CHGR **Chuyangaron** 30.80 297 P 22 48 30.3 -0.3
CHGR IAmb IAmb 22 48 38.6
comp=Z,17nm,0.5s
CHGR **Chuyangaron** 30.80 297 P P 22 48 30.3 -0.3
CHGR pmax pmax
comp=Z,17nm,0.5s
JMM **Marumori** 30.82 65 P P 22 48 29.3 -1.3
JMM IAmb IAmb 22 48 31.1
comp=Z,22nm,1.0s
SIMJ **Simiganj** 30.92 297 P P 22 48 31.1 -0.5
BRLS **Boroday** 31.06 305 *e*P P 22 48 33.9 +1.2
BRLS **Boroday** 31.06 305 *e*P P 22 48 33.9 +1.2
CHM **Chimkent** 31.07 304 *e*P P 22 48 33.5 +0.7
CHM **Chimkent** 31.07 304 *e*P P 22 48 33.5 +0.7
BRZS **Berezniki** 31.72 319 *e*P P 22 48 39.0 +0.5
BRZS **Berezniki** 31.72 319 *e*P P 22 48 38.9 +0.5
PALK **Pallekele** 31.79 231 P P 22 48 39.6 +0.2
PALK **Pallekele** 31.79 231 LR LR 23 03 00.1
comp=Z,480nm,20.7s,baz=32,slow=39
PALK **Pallekele** 31.79 231 P P 22 48 39.6 +0.2
PALK pmax pmax
comp=Z,108nm,1.8s
TOLI2 **Tolitoli** 32.08 149 P P 22 48 40.7 -1.2
ERM **Erimo** 33.15 58 P P 22 48 51.1 +0.1
ERM IAmb IAmb 22 48 55.1
comp=Z,25nm,0.9s
ERM **Erimo** 33.15 58 *ce*P P 22 48 50.8 -0.2
ERM pmax pmax
comp=Z,19nm,1.0s
ASAJ **Asahikawa** 33.16 54 LR LR 23 02 34.0
comp=Z,463nm,18.2s,baz=248,slow=37
ASAJ **Asahikawa** 33.16 54 P P 22 48 51.1 0.0
ASAJ pmax pmax
comp=Z,11nm,1.0s
JKA **Kamikawa-asahi** 33.16 54 P P 22 48 51.1 -0.1
MDSI **Maura Dua** 33.86 181 P P 22 48 58.4 +1.0
comp=Z,12nm,1.0s
YSS **Yuzhno-Sakhali** 34.01 49 P P 22 48 58.1 -0.3
YSS IAmb IAmb 22 49 00.6
comp=Z,13nm,0.6s
YSS **Yuzhno-Sakhali** 34.01 49 *e*P P 22 48 58.7 +0.3
*e*S S 22 54 20.2 -3.4
YSS pmax pmax
comp=Z,20nm,0.6s
YSS smax smax
comp=N,200nm,4.8s
YSS smax smax
comp=E,100nm,6.3s
YSS MLR MLR
comp=Z,900nm,12.0s
YSS MLR MLR
comp=N,900nm,13.0s
YSS MLR MLR
comp=E,1μm,12.0s
BVA0 **Borovoye Array** 34.43 323 P P 22 49 01.4 -0.7
BVAR **Borovoye Array** 34.43 323 P P 22 49 02.3 +0.2
comp=E,6.3nm,0.5s,baz=120,slow=9.5,SNR=42
BVAR PcP PcP 22 51 36.5 -0.8
comp=E,3.2nm,0.8s,baz=126,slow=3.9,SNR=4.1
BVAR LR LR 23 04 19.2
comp=E,2μm,19.8s,baz=111,slow=38
comp=E,6.3nm,0.5s
LUWI **Luwuk** 34.89 148 P P 22 49 05.6 -0.8
NKL **Nikolayevsk** 35.15 38 *e*P P 22 49 06.6 -1.6
NKL pmax pmax
comp=E,46nm,1.0s
NKL pmax pmax
comp=N,46nm,0.9s
NKL pmax pmax
comp=Z,136nm,1.1s
NKL MLR MLR
comp=E,6μm,12.0s
NKL MLR MLR
comp=N,6μm,22.0s
NKL MLR MLR
comp=Z,3μm,15.0s
TTSI **Tana Toraja** 35.43 154 P P 22 49 14.6 +3.6
comp=Z,23nm,1.1s
SPSI **Sidrap Palu** 36.26 154 P P 22 49 19.8 +1.8
comp=Z,4μmcomp=Z,24nm,1.8s
LEM **Lembang** 36.27 175 LR LR 23 05 35.5
comp=Z,1μm,18.4s,baz=342,slow=39
YAK **Yakutsk** 36.31 19 P 22 49 17.6 -0.3
YAK IAmb IAmb 22 50 01.3
comp=Z,20nm,0.7s
YAK **Yakutsk** 36.31 19 LR LR 23 05 46.7
comp=Z,358nm,21.7s,baz=214,slow=39
YAK **Yakutsk** 36.31 19 *e*P P 22 49 17.7 -0.3
YAK *e**PP sP 22 49 24.0 +1.5
YAK *e* 22 50 39.2
YAK *e* 22 51 40.1
YAK *e*S S 22 54 59.2 +0.7
YAK *e**SS sS 22 55 15.6 +12
YAK *e*SS SnSn 22 57 24.0 -1.3
YAK *e* 22 59 26.2
YAK pmax pmax
comp=Z,17nm,0.7s
YAK pmax pmax
comp=N,12nm,1.6s
YAK pmax pmax
comp=E,10.0nm,1.8s
YAK pmax pmax
comp=Z,178nm,6.4s
YAK pmax pmax
comp=N,120nm,5.5s
YAK pmax pmax
comp=E,132nm,4.6s
YAK smax smax
comp=E,199nm,6.2s
YAK smax smax
comp=N,158nm,5.5s
YAK MLR MLR
comp=Z,840nm,32.0s
YAK MLR MLR
comp=N,331nm,21.0s
YAK MLR MLR
comp=E,555nm,22.0s
HRA **Herat** 36.32 289 P P 22 49 18.0 -0.8
KPJI **Karang Pucung** 36.89 173 P P 22 49 26.1 +2.7
comp=E,55nm,1.1s
KAPI **Kappang** 37.22 155 LR LR 23 05 55.9
comp=E,249nm,19.5s,baz=316,slow=38
NLAI **Namlea** 38.93 143 P P 22 49 43.3 +2.6
comp=E,2μmcomp=E,41nm,0.9s
AB31 **Akbulak array** 39.22 313 P P 22 49 43.2 +0.3
AB31 **Akbulak array** 39.22 313 *i*P P 22 49 43.0 +0.1
ABKAR **Akbulak array** 39.22 313 P 22 49 42.9 0.0
MSAI **Masohi** 40.00 141 P P 22 49 52.5 +2.8
GUMO **Guam** 40.18 105 LR LR 23 07 24.6
comp=E,213nm,18.6s,baz=292,slow=38
AKTO **Aktyubinsk** 40.70 314 P P 22 49 54.9 -0.3
SVE **Sverdlovsk** 41.15 324 *e*P P 22 50 00.0 +1.3
SVE *e*S S 22 56 14.9 +3.1
SVE pmax pmax
comp=Z,48nm,1.6s
SVE MLR MLR
comp=Z,483nm,12.0s
EDFI **Ende, Flores** 41.38 154 P P 22 50 01.1 0.0
comp=Z,312nmcomp=Z,11nm,0.7s
MMRI **Maumere** 41.48 154 P P 22 50 00.9 -1.0
MMRI **Maumere** 41.48 154 P P 22 50 02.3 +0.4
RKPI **Ransiki, Papua** 41.68 133 P P 22 50 05.8 +2.3
comp=Z,64nm,1.0s
ARTI **Arti** 42.16 323 P 22 50 07.4 +0.4
ARTI IAmb IAmb 22 50 10.7
comp=Z,93nm,1.8s
ARTI **Arti** 42.16 323 LR LR 23 09 02.7
comp=Z,2μm,20.0s,baz=111,slow=38
ARTI **Arti** 42.16 323 *d*iP P 22 50 07.1 +0.1
ARTI 22 51 45.5
ARTI PPP PPP 22 52 15.6
ARTI S S 22 56 29.1 +2.4
ARTI SS SS 22 59 33.8 -0.4
ARTI pmax pmax
comp=Z,47nm,1.8s
ARTI MLR MLR
comp=Z,1μm,19.0s
MA2 **Magadan** 43.00 32 LR LR 23 10 20.4
comp=Z,208nm,19.4s,baz=233,slow=39
BATI **Baumata** 43.48 153 LR LR 23 11 33.0
comp=Z,360nm,18.8s,baz=344,slow=40
BATI **Baumata** 43.48 153 P P 22 50 17.8 -0.3
comp=Z,47nm,1.1s
TIXI **Tiksi** 44.13 11 P P 22 50 21.6 -1.1
TIXI IAmb IAmb 22 50 24.2
comp=Z,18nm,0.7s
TIXI **Tiksi** 44.13 11 LR LR 23 10 18.0
comp=Z,663nm,19.4s,baz=242,slow=38
TIXI **Tiksi** 44.13 11 *ce*P P 22 50 22.2 -0.5
TIXI pmax pmax
comp=Z,33nm,1.3s
PETK **Petropavlovsk-** 44.82 43 P P 22 50 28.4 -0.1
PETK **Petropavlovsk-** 44.82 43 P P 22 50 29.0 +0.5
comp=Z,6.7nm,0.9s,baz=248,slow=7.6,SNR=3.5
PETK LR LR 23 10 56.8
comp=Z,304nm,18.0s,baz=251,slow=38
comp=Z,6.7nm,0.9s
SMPI **Sarmi** 45.04 128 P P 22 50 32.4 +1.7
comp=Z,1μmcomp=Z,64nm,1.5s
SEY **Seymchan** 45.10 28 LR LR 23 12 07.8
comp=Z,128nm,18.5s,baz=242,slow=40
SEY **Seymchan** 45.10 28 *i*P P 22 50 30.6 0.0
SEY pmax pmax
comp=Z,9.0nm,1.0s
PET **Petropavlovsk** 45.38 43 *e*P P 22 50 33.7 +0.8
PET *e*S S 22 57 09.1 -4.6
PET *e*SS ScS 23 00 23.8 -5.7
PET pmax pmax
comp=Z,33nm,1.3s
PET MLR MLR
comp=Z,500nm,17.0s
PET MLR MLR
comp=Z,600nm,18.0s
GENI **Genyem** 46.48 127 P P 22 50 45.3 +3.2
LKRN **Lenkeran, Azer** 46.72 297 P P 22 50 43.5 -0.2
JAY **Jayapura** 46.79 127 LR LR 23 10 10.8
comp=Z,337nm,19.4s,baz=7.5,slow=36
MAK **Makhachkala** 47.33 303 *e*P P 22 50 42.9 -5.5
MAK *e* 22 52 35.0
MAK *e*PPP PPP 22 53 20.3
MAK *e*S S 22 57 33.6 -8.4
MAK *e*SS SS 23 01 04.6 -4.6
MAK pmax pmax
comp=Z,149nm,1.3s
MAK MLR MLR
comp=Z,472nm,13.0s
KIRV **Kirov** 47.42 324 LR LR 23 12 27.8
comp=Z,840nm,20.6s,baz=101,slow=38
KIRV **Kirov** 47.42 324 *i*P P 22 50 49.9 +1.1
BELG **Belogornoye** 47.43 316 LR LR 23 12 35.3
comp=Z,876nm,20.5s,baz=96,slow=38
BELG **Belogornoye** 47.43 316 *i*P P 22 50 50.2 +1.1
BELG pmax pmax
comp=Z,5.0nm,1.0s
SEKA **Sheki** 47.68 300 P P 22 50 50.5 -0.8
MNGR **Mingechevir, A** 47.80 300 P P 22 50 51.9 -0.3
GANJ **Ganja** 48.40 300 P P 22 50 56.6 -0.2
MTN **Manton Dam** 49.17 145 P P 22 51 01.3 -1.6
MTN IAmb IAmb 22 51 07.5
comp=Z,26nm,1.1s
NAX **Nakhchivan** 49.20 298 P P 22 51 03.1 0.0
GNI **Garni** 49.65 299 LR LR 23 15 52.0
comp=Z,403nm,20.4s,baz=78,slow=41
GOF **Gofitskoye** 50.40 306 *ce*P P 22 51 13.6 +1.6
KNRA **Kununurra** 50.52 150 P P 22 51 12.4 -0.7
KNRA IAmb IAmb 22 51 15.9
comp=Z,25nm,1.1s
KBZ **Khabaz** 50.62 304 P P 22 51 14.0 +0.4
comp=Z,3.4nm,0.8s,baz=119,slow=4.6,SNR=6.7
KBZ LR LR 23 15 37.5
comp=Z,763nm,18.5s,baz=84,slow=40
comp=Z,3.4nm,0.8s
KBZ **Khabaz** 50.62 304 *i*P P 22 51 14.7 +1.1
KBZ pmax pmax
comp=Z,5.0nm,1.0s
KVAR **Kislovodsk Arr** 50.74 304 LR LR 23 14 46.3
comp=Z,470nm,20.4s,baz=259,slow=38
KIV **Kislovodsk** 50.75 304 P P 22 51 15.6 +0.8
KIV **Kislovodsk** 50.75 304 ⇑P P 22 51 17.3 +2.6
KIV **Kislovodsk** 50.75 304 *e*P P 22 51 16.1 +1.3
KIV *e*S S 22 58 32.7 +2.3
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,361nm,16.0s
SHA1 **Shidzhatmaz** 50.79 304 *i*P P 22 51 16.0 +0.7
VRH **Novokhopyorsk** 51.04 314 *e*P P 22 51 15.5 -1.2
VRH pmax pmax
comp=Z,10.0nm,0.8s
GEVA **Gevas** 51.22 297 P P 22 51 18.2 -0.3
FITZ **Fitzroy Crossi** 51.43 154 P P 22 51 18.8 -1.1
FITZ **Fitzroy Crossi** 51.43 154 LR LR 23 15 51.2
comp=Z,242nm,19.5s,baz=335,slow=39
GURO **Guroymak-BITLI** 51.97 298 P P 22 51 24.4 +0.3
GURO IAmb IAmb 22 53 09.2
comp=Z,29nm,1.5s
ERBR **Yeremizino-Bor** 52.14 307 *e*P P 22 51 22.8 -2.3
ERBR *e*S S 22 58 46.2 -3.1
ERBR pmax pmax
comp=Z,12nm,0.8s
ERBR MLR MLR
comp=Z,948nm,17.0s
BILL **Bilibino** 52.27 25 *i*P P 22 51 25.6 -0.1
BILL pmax pmax
comp=Z,18nm,1.1s
MBWA **Marble Bar** 52.41 162 P P 22 51 26.0 -1.2
MBWA IAmb IAmb 22 52 15.6
comp=Z,19nm,0.9s
VORD **Divnogorie** 52.58 314 *e*P P 22 51 27.5 -0.7
VORD pmax pmax
comp=Z,6.0nm,0.9s
VORR **Voronezh** 52.60 314 *e*P P 22 51 27.5 -0.9
VORR pmax pmax
comp=Z,10.0nm,1.0s
VSR **Storozhevoye** 52.65 314 *e*P P 22 51 27.3 -1.4
VSR pmax pmax
comp=Z,8.0nm,0.9s
KLMR **Klimovskoe** 52.73 326 *e*P P 22 51 26.6 -2.5
KLMR *e* 22 53 27.0
KLMR S S 22 58 53.8 -3.0
KLMR SS SS 23 02 35.6 +0.6
KLMR pmax pmax
comp=Z,71nm,1.4s
LPSR **Galich'ya Gora** 52.75 316 *e*P P 22 51 28.8 -0.6
LPSR pmax pmax
comp=Z,10.0nm,1.1s
PSA00 **Pilbara Seismi** 52.84 162 P P 22 51 29.6 -0.8
PSA00 IAmb IAmb 22 51 31.2
comp=Z,28nm,1.6s
PSA00 **Pilbara Seismi** 52.84 162 P P 22 51 29.4 -0.9
PSA00 IAmb IAmb 22 51 31.2
comp=Z,42nm,1.6s
KOPT **Kop Dagi** 52.89 300 P P 22 51 31.1 0.0
SOC **Sochi** 52.93 304 *e*P P 22 51 28.1 -2.8
SOC *e* 22 53 28.9
SOC *e*PPP PPP 22 54 38.2
SOC *e*S S 22 58 56.9 -3.2
SOC pmax pmax
comp=Z,17nm,1.0s
SOC MLR MLR
comp=Z,289nm,14.0s
RAYN **Ar Rayn** 53.00 278 P P 22 51 31.9 0.0
RAYN **Ar Rayn** 53.00 278 P P 22 51 31.9 0.0
RAYN pmax pmax
comp=Z,10.0nm,1.0s
MARD **Mardin** 53.18 296 P P 22 51 33.4 +0.4
MARD IAmb IAmb 22 51 37.3
comp=Z,54nm,1.9s
MOS **Moscow** 53.48 320 *e*P P 22 51 35.4 +0.6
MOS *e*S S 22 59 05.7 -1.6
MOS pmax pmax
comp=Z,82nm,1.5s
MOS pmax pmax
comp=N,17nm,0.6s
MOS pmax pmax
comp=E,23nm,1.0s
MOS MLR MLR
comp=E,1μm,20.0s
MOS MLR MLR
comp=Z,1μm,20.0s
OBN **Obninsk** 54.09 319 P P 22 51 39.9 +0.7
OBN **Obninsk** 54.09 319 LR LR 23 15 57.5
comp=Z,1μm,19.0s,baz=22,slow=37
OBN **Obninsk** 54.09 319 *de*P P 22 51 40.0 +0.7
OBN *e* 22 52 45.3
OBN *e* 22 53 44.6
OBN pmax pmax
comp=Z,22nm,1.3s
OBN MLR MLR
comp=Z,1μm,18.0s
ANN **Anapa** 54.39 306 *e*P P 22 51 43.4 +1.8
ANN *e*S S 22 59 20.7 +0.9
ANN pmax pmax
comp=Z,55nm,1.9s
ANN MLR MLR
comp=E,574nm,15.0s
ANN MLR MLR
comp=Z,418nm,15.0s
SHEM **Shemya Is, Ala** 54.69 44 LR LR 23 16 25.0
comp=Z,109nm,19.5s,baz=314,slow=38
LVZ **Lovozero** 55.55 334 P P 22 51 49.9 +0.2
LVZ **Lovozero** 55.55 334 P P 22 51 49.9 +0.2
LVZ pmax pmax
comp=Z,79nm,1.5s
GAZ **Gaziantep** 55.99 297 P P 22 51 53.9 +0.5
PMG **Port Moresby** 56.17 127 P P 22 51 53.9 -0.9
PMG IAmb IAmb 22 53 16.7
comp=Z,23nm,1.1s
PMG **Port Moresby** 56.17 127 LR LR 23 16 41.8
comp=Z,106nm,19.7s,baz=278,slow=37
PMG **Port Moresby** 56.17 127 P P 22 51 53.9 -0.9
PMG pmax pmax
comp=Z,23nm,1.1s
WB0 **Warramunga Arr** 56.69 146 P P 22 51 57.5 -0.8
SIM **Simferopol'** 56.69 307 *e*P P 22 51 57.0 -1.2
SIM *e*S S 22 59 50.0 -0.7
SIM pmax pmax
comp=Z,180nm,4.4s
SIM smax smax
comp=E,140nm,6.3s
SIM MLR MLR
comp=Z,230nm,19.0s
JOF **Joensuu** 56.70 328 *e*P P 22 51 58.9 +1.0
WRAB **Tennant Creek** 56.81 146 *i*P P 22 51 58.8 -0.4
WRAB pmax pmax
comp=Z,59nm,1.0s
WRA **Warramunga Arr** 56.81 146 P 22 51 57.9 -1.3
WRA **Warramunga Arr** 56.81 146 P P 22 51 58.8 -0.4
comp=Z,25nm,0.6s,baz=338,slow=8.2,SNR=291
WRA LR LR 23 18 06.2
comp=Z,52nm,19.2s,baz=346,slow=38
comp=Z,25nm,0.6s

WRA Warramunga Arr 56.81 146 *ce* P **P 22 51 59.2 0.0**
WRA pmax pmax
comp=Z,28nm,0.4s

COEN Coen 56.87 134 P **P 22 51 59.7 -0.1**
COEN IAmb IAmb 22 52 01.4
comp=Z,31nm,1.2s

ASF Jabal al Asfar 57.54 291 LR LR 23 20 31.7
comp=Z,424nm,21.8s,baz=153,slow=40

VADS Vadso 57.61 337 *eP* **P 22 52 05.1 +0.8**
ILGA Ilgaz 57.76 302 P **P 22 52 06.7 +0.6**
ILGA IAmb IAmb 22 52 09.1
comp=Z,18nm,1.0s

KIRS Kirsehir-Merke 58.05 300 ⇑P **P 22 52 09.9 +1.9**
BR131 Keskin Array S 58.12 301 P **P 22 52 08.6 +0.1**
BR131 Keskin Array S 58.12 301 P **P 22 52 08.6 +0.1**
BR131 pmax pmax
comp=Z,7.0nm,0.9s

BRTR Keskin Array B 58.12 301 **P 22 52 08.9 +0.4**
BRTR Keskin Array B 58.12 301 P **P 22 52 08.7 +0.1**
comp=Z,4.1nm,0.8s,baz=124,slow=8.1,SNR=24
BRTR LR LR 23 22 44.2
comp=Z,172nm,18.1s,baz=60,slow=42
comp=Z,4.1nm,0.8s

BRTR Keskin Array B 58.12 301 *ce* P **P 22 52 10.0 +1.5**
BRTR pmax pmax
comp=Z,4.0nm,0.8s

KEV Kevo 58.42 336 P **P 22 52 10.2 +0.3**
KEV Kevo 58.42 336 P **P 22 52 10.2 +0.3**
KEV pmax pmax
comp=Z,96nm,1.7s

MMAI Mount Meron Ar 58.50 293 P **P 22 52 11.9 +0.7**
comp=Z,1.1nm,0.6s,baz=69,slow=7.9,SNR=1.9
MMAI LR LR 23 22 27.3
comp=Z,310nm,20.4s,baz=66,slow=41
comp=Z,1.1nm,0.6s

ANTO Ankara 58.71 301 **P 22 52 12.5 -0.1**
ANTO IAmb IAmb 22 52 15.3
comp=Z,24nm,0.9s

ANTO Ankara 58.71 301 ⇑P **P 22 52 14.5 +1.9**
ANTO Ankara 58.71 301 ⇑P **P 22 52 14.5 +1.9**
GHAJ Ghor Haditha 58.88 291 P **P 22 52 13.5 -0.2**
GHAJ IAmb IAmb 22 52 15.9
comp=Z,19nm,1.1s

ARA0 ARCESS Array S 58.95 336 *eP* **P 22 52 15.3 +1.7**
ARCES ARCESS Array B 58.95 336 P **P 22 52 13.7 +0.1**
ARCES ARCESS Array B 58.95 336 P **P 22 52 13.2 -0.5**
comp=Z,3.8nm,0.6s,baz=81,slow=7.2,SNR=24
ARCES LR LR 23 19 38.8
comp=Z,556nm,20.2s,baz=97,slow=38
comp=Z,3.8nm,0.6s

ARCES ARCESS Array B 58.95 336 P **P 22 52 13.7 +0.1**
ARCES pmax pmax
comp=Z,63nm,1.7s

AKASG Malin Array Be 58.95 314 P **P 22 52 13.7 -0.2**
comp=Z,2.6nm,0.4s,baz=68,slow=7.4,SNR=20
AKASG LR LR 23 19 05.1
comp=Z,723nm,20.6s,baz=80,slow=38
comp=Z,2.6nm,0.4s

AKASG Malin Array Be 58.95 314 *ce* P **P 22 52 13.6 -0.3**
AKASG pmax pmax
comp=Z,5.0nm,0.4s

AKBB Malin Array Si 58.95 314 P **P 22 52 13.2 -0.7**
AKBB IAmb IAmb 22 52 15.5
comp=Z,8.9nm,0.7s

AKBB Malin Array Si 58.95 314 P **P 22 52 13.2 -0.7**
AKBB pmax pmax
comp=Z,9.0nm,0.7s

KIEV Kiev 58.96 314 **P 22 52 12.8 -1.2**
KIEV IAmb IAmb 22 52 15.5
comp=Z,8.0nm,0.7s

KIEV Kiev 58.96 314 ⇓P **P 22 52 14.7 +0.8**
KIEV Kiev 58.96 314 P **P 22 52 12.8 -1.2**
KIEV pmax pmax
comp=Z,8.0nm,0.7s

MNK Minsk 59.15 319 *i* P **P 22 52 13.4 -1.8**
MNK *i* 22 54 25.9
MNK *i* PPP PPP 22 55 48.8
MNK *i* S **S 23 00 22.5 0.0**
MNK *i* SS **SS 23 04 18.4 +2.1**
MNK pmax pmax
comp=E,11nm,1.0s
MNK pmax pmax
comp=N,17nm,1.1s
MNK pmax pmax
comp=Z,14nm,0.8s
MNK MLR MLR
comp=E,381nm,16.0s
MNK MLR MLR
comp=Z,1μm,18.0s
MNK MLR MLR
comp=N,1μm,19.0s

FIA1 FINESS Array S 59.23 327 P **P 22 52 15.2 -0.5**
FINES FINESS Array B 59.23 327 P **P 22 52 15.3 -0.3**
comp=N,5.7nm,0.4s,baz=103,slow=6.7,SNR=69
FINES LR LR 23 20 07.4
comp=N,475nm,18.9s,baz=86,slow=38
comp=N,5.7nm,0.4s

FINES FINESS Array B 59.23 327 *ce* P **P 22 52 15.8 +0.1**
FINES pmax pmax
comp=Z,6.0nm,0.4s

VSU Vasula 59.24 323 *eP* **P 22 52 16.3 +0.5**
VSU Vasula 59.24 323 *i* P **P 22 52 15.2 -0.6**
VSU pmax pmax
comp=Z,22nm,1.0s

MORW Morawa 59.26 169 P **P 22 52 15.6 -0.6**
MORW IAmb IAmb 22 52 18.0
comp=Z,32nm,1.3s

ARBE Arbavere 59.51 324 *eP* **P 22 52 18.1 +0.5**
HAMF Hammerfest 59.53 338 *eP* **P 22 52 19.3 +1.7**
CSS Mathiatis 59.59 295 P **P 22 52 18.6 -0.1**
CSS IAmb IAmb 22 52 23.4
comp=Z,19nm,1.1s

NACGM Naroch 59.72 319 *eP* **P 22 52 20.0 +0.9**
comp=Z,14nm,0.9s,baz=81

KEF Keuruu 59.72 328 *eP* **P 22 52 19.8 +0.7**
MDUB Mudurnu 59.75 302 P **P 22 52 20.4 +0.6**
MDUB IAmb IAmb 22 52 22.4
comp=Z,23nm,1.0s

KTK1 Kautokeino 59.78 336 *eP* **P 22 52 20.9 +1.5**
AS31 Alice Springs 59.82 149 P **P 22 52 19.9 -0.3**
ASAR Alice Springs 59.82 149 **P 22 52 20.1 -0.1**
ASAR Alice Springs 59.82 149 P **P 22 52 20.0 -0.2**
comp=Z,15nm,0.6s,baz=330,slow=7.0,SNR=283
ASAR LR LR 23 22 03.6
comp=Z,125nm,18.7s,baz=308,slow=40
comp=Z,15nm,0.6s

EIL Elat 59.90 289 LR LR 23 21 40.5
comp=Z,428nm,21.9s,baz=120,slow=40

SORM Soroca 59.99 311 ⇑P **P 22 52 22.2 +1.1**
SORM Soroca 59.99 311 ⇑P **P 22 52 22.2 +1.1**
MEF Metsahovi 60.20 325 *eP* **P 22 52 23.2 +0.8**
TPGR Topolog 60.67 308 ⇓P **P 22 52 27.1 +1.2**
BJO1 Bjornoya 60.69 342 *eP* **P 22 52 26.0 +0.4**
JETT Jettan, Norway 60.73 336 *eP* **P 22 52 26.1 +0.2**
SJUU Sjulsmark 60.76 332 *eP* **P 22 52 26.3 +0.2**
TIRR Tirgusor 60.77 307 P **P 22 52 26.6 +0.1**
TIRR Tirgusor 60.77 307 ⇓P **P 22 52 28.6 +2.0**
TIRR Tirgusor 60.77 307 P **P 22 52 28.6 +2.0**
CFR Carcaliu 60.79 308 ⇓P **P 22 52 28.4 +1.7**
CFR Carcaliu 60.79 308 ⇓P **P 22 52 28.4 +1.7**
SPA0 Spitsbergen Ar 60.99 346 *eP* **P 22 52 28.1 +0.5**
SPITS Spitsbergen Ar 60.99 346 P **P 22 52 26.2 -1.4**
comp=Z,7.4nm,0.9s,baz=79,slow=7.5,SNR=5.7
SPITS LR LR 23 22 35.5
comp=Z,267nm,19.1s,baz=92,slow=40
comp=Z,7.4nm,0.9s

HORU Horodok 61.01 313 P **P 22 52 28.5 +0.4**
GAMB Gambell 61.03 30 P **P 22 52 26.0 -1.9**
baz=278

HARR Harsova 61.05 307 ⇓P **P 22 52 29.4 +1.0**
HARR Harsova 61.05 307 ⇓P **P 22 52 29.4 +1.0**
VSVD Vaisvydziai 61.13 321 *eP* **P 22 52 29.1 +0.3**
PABE Paberze 61.20 320 P **P 22 52 29.5 +0.2**
PABE Paberze 61.20 320 *eP* **P 22 52 30.4 +1.1**
ICOR Ion Corvin 61.28 307 ⇓P **P 22 52 31.7 +1.7**
RAF Rauma 61.36 327 *eP* **P 22 52 29.9 -0.3**
TESR Tescani 61.48 310 ⇓P **P 22 52 32.8 +1.4**
VRI Vrincioaia 61.59 309 ⇑P **P 22 52 33.5 +1.4**
VRI Vrincioaia 61.59 309 ⇑P **P 22 52 33.5 +1.4**
PLOR Plostina 61.64 309 ⇓P **P 22 52 34.5 +1.9**
PLOR Plostina 61.64 309 ⇓P **P 22 52 34.5 +1.9**
BISRR Bisoca 61.68 309 ⇑P **P 22 52 34.9 +2.1**
ONER Baraj Valea Uz 61.70 310 ⇑P **P 22 52 34.3 +1.4**
ISR Istrita 61.90 308 ⇓P **P 22 52 37.1 +2.8**
ISR Istrita 61.90 308 ⇓P **P 22 52 37.1 +2.8**

COVR Voineasa-Covas 61.95 309 ⇑P **P 22 52 35.3 +0.8**
SUW Suwalki 61.95 319 P **P 22 52 34.0 -0.4**
SUW Suwalki 61.95 319 P **P 22 52 34.0 -0.4**
NEHR Nehoiu 61.99 309 ⇓P **P 22 52 36.8 +1.9**
TURR Turia 62.02 309 ⇑P **P 22 52 36.5 +1.5**
KSV Kosov 62.09 312 P **P 22 52 35.7 +0.2**
BURAR Bucovina Array 62.17 311 P **P 22 52 36.3 +0.2**
BURAR Bucovina Array 62.17 311 ⇓P **P 22 52 37.2 +1.1**
BURAR Bucovina Array 62.17 311 ⇓P **P 22 52 37.2 +1.1**
BUR08 Bucovina Ar. S 62.17 311 P **P 22 52 35.8 -0.3**
MLR Muntele Rosu 62.21 309 P **P 22 52 37.1 +0.6**
MLR Muntele Rosu 62.21 309 LR LR 23 24 53.6
comp=Z,246nm,19.2s,baz=63,slow=41
MLR Muntele Rosu 62.21 309 ⇑P **P 22 52 38.0 +1.6**
MLR Muntele Rosu 62.21 309 P **P 22 52 37.1 +0.6**
MLR pmax pmax
comp=Z,67nm,2.0s

TNA Tin City 62.33 28 P **P 22 52 35.1 -1.6**
baz=281

DOPR Dopca 62.47 309 ⇓P **P 22 52 40.0 +2.0**
JMB Yambol 62.60 305 *i* P **P 22 52 39.9 +0.9**
RAK Rakhov 62.72 312 P **P 22 52 40.0 +0.3**
SZH Strazhitsa 62.78 306 *i* P **P 22 52 42.7 +2.5**
C16K Lisburne Hills 62.80 25 P **P 22 52 38.2 -1.6**
baz=282

STEI Steigen 62.85 335 *eP* **P 22 52 40.5 +0.4**
ARCR ARCALIA 62.87 311 ⇑P **P 22 52 42.4 +1.7**
FAUS Fauske 62.94 334 *eP* **P 22 52 43.2 +2.4**
ELND Elena 62.95 306 ⇓P **P 22 52 42.2 +0.9**
SPIA Saint Paul Isl 62.98 38 P **P 22 52 39.2 -1.9**
baz=283

F14K Arctic Creek 63.00 28 P **P 22 52 39.4 -1.8**
baz=282

ARR Arges 63.14 309 ⇑P **P 22 52 44.0 +1.4**
NWAO Narrogin (SRO) 63.24 168 P **P 22 52 42.8 -0.3**
NWAO IAmb IAmb 22 52 44.5
comp=Z,29nm,1.3s

NWAO Narrogin (SRO) 63.24 168 LR LR 23 20 49.6
comp=Z,196nm,20.5s,baz=0.5,slow=37

NWAO Narrogin (SRO) 63.24 168 P **P 22 52 42.8 -0.3**
NWAO pmax pmax
comp=Z,29nm,1.3s

KWP Kalwaria Pacla 63.27 314 *eP* **P 22 52 43.6 +0.3**
BMR Baia Mare 63.28 312 ⇓P **P 22 52 45.5 +2.1**
BMR Baia Mare 63.28 312 P **P 22 52 45.5 +2.1**
LOF Lofoten 63.43 335 *eP* **P 22 52 44.1 +0.1**
CTAO Charters Tower 63.44 136 P **P 22 52 44.5 -0.2**
CTAO Charters Tower 63.44 136 P **P 22 52 44.5 -0.2**
CTAO pmax pmax
comp=Z,34nm,1.3s

P08K Saint George I 63.48 38 P **P 22 52 42.1 -2.4**
baz=284

MOR8 Moi Rana 63.54 333 *eP* **P 22 52 44.6 -0.2**
C17K DeLong Mountai 63.54 24 P **P 22 52 43.1 -1.7**
baz=283

ANM Nome 63.60 29 P **P 22 52 43.2 -2.0**
baz=283

F15K North Star Dit 63.63 27 P **P 22 52 43.7 -1.7**
baz=284

KDZ Kurdzhali 63.70 305 *i* P **P 22 52 47.3 +1.0**
LOT Lotru 63.70 309 ⇓P **P 22 52 48.4 +2.1**
RDOG Red Dog Mine 63.74 25 P **P 22 52 44.5 -1.6**
baz=284

D17K Noatak River 63.76 25 P **P 22 52 45.3 -0.9**
baz=284,SNR=11

MARR Marisel-Cluj 63.79 311 ⇓P **P 22 52 47.9 +0.9**
B18K Kokolik River 63.81 23 P **P 22 52 46.6 +0.1**
baz=284,SNR=5.7

A19K Wainwright 63.85 22 P **P 22 52 46.0 -0.8**
baz=284

VAGH Vagaholmen 63.86 334 *eP* **P 22 52 48.8 +1.9**
BEL Belsk 63.88 317 *eP* **P 22 52 50.0 +2.7**
PLD Plovdiv 63.97 305 *i* P **P 22 52 50.4 +2.4**
DRGR 64.03 311 ⇓P **P 22 52 49.7 +1.2**
DRGR 64.03 311 ⇓P **P 22 52 49.7 +1.2**
G15K Niukluk 64.05 28 P **P 22 52 47.1 -1.1**
baz=284

STOK Stokkvaagen 64.06 333 *eP* **P 22 52 49.1 +1.0**
LEIR Leirfjorden 64.07 333 *eP* **P 22 52 48.6 +0.4**
RZN Rozhen 64.11 305 *i* P **P 22 52 51.7 +2.5**
C18K Utukok River 64.21 24 P **P 22 52 48.1 -1.2**
baz=285,SNR=9.2

M11K Mekoryuk 64.25 33 P **P 22 52 48.2 -1.3**
baz=285

MPEP Malo Peshtene 64.32 307 *i* P **P 22 52 53.5 +3.2**
E17K Hotham Inlet 64.39 26 P **P 22 52 50.0 -0.3**
baz=285,SNR=9.6

VALD Valchedram 64.43 307 *i* P **P 22 52 52.3 +1.3**
K13K Kusilvak Mount 64.57 32 P **P 22 52 50.7 -0.9**
baz=285

G16K Koyuk River 64.63 28 P **P 22 52 51.4 -0.6**
baz=286,SNR=5.5

C19K Lookout Ridge 64.64 23 P **P 22 52 51.2 -0.8**
baz=286,SNR=5.9

SURR Surduc 64.72 310 ⇓P **P 22 52 53.8 +0.9**
E18K Tukpahlearik C 64.75 25 P **P 22 52 52.4 -0.3**
baz=286,SNR=6.5

HERR Herculane 64.78 309 ⇓P **P 22 52 53.9 +0.6**
F17K Baldwin Pennin 64.78 26 P **P 22 52 52.9 0.0**
baz=286,SNR=6.2

PLNA Plana 64.81 306 *i* P **P 22 52 55.0 +1.3**
NIE Niedzica 64.84 314 *eP* **P 22 52 57.4 +3.8**
J14K Nanvaranak Lak 64.85 31 P **P 22 52 51.8 -1.5**
baz=286

MMB Musomishta 64.86 305 *i* P **P 22 52 54.5 +0.6**
SIRR Siria 64.88 310 ⇓P **P 22 52 54.6 +0.7**
H16K Elim 64.89 28 P **P 22 52 52.1 -1.5**
baz=286

VTS Vitosha 64.90 306 *i* P **P 22 52 56.8 +2.5**
OJC Ojcow 64.92 315 *eP* **P 22 52 56.8 +2.7**
A21K Barrow 64.95 21 P **P 22 52 53.5 -0.4**
baz=288

NSS Namsos 64.96 332 *eP* **P 22 52 56.2 +2.1**
B20K Meade River 65.19 22 P **P 22 52 55.0 -0.5**
baz=288

KKB Krupnik 65.21 305 *i* P **P 22 52 58.1 +1.9**
G17K Kivlik Mounta 65.29 27 P **P 22 52 55.5 -0.7**
baz=287

MDVR Moldovita 65.29 309 ⇑P **P 22 52 56.8 +0.2**
D19K Kuna River 65.33 24 P **P 22 52 56.1 -0.5**
baz=288,SNR=23

F18K Selawik 65.35 26 P **P 22 52 56.4 -0.2**
baz=287,SNR=8.1

HFS Hagfors 65.44 327 P **P 22 52 56.5 -0.8**
comp=Z,4.1nm,0.5s,baz=104,slow=6.3,SNR=31
HFS LR LR 23 24 31.4
comp=Z,462nm,19.3s,baz=69,slow=39
comp=Z,4.1nm,0.5s

A22K Sinclair Lake 65.56 21 P **P 22 52 57.5 -0.4**
baz=290

GKP Gorka Klasztor 65.56 319 *eP* **P 22 53 00.4 +2.2**
M13K Dall Lake 65.60 33 P **P 22 52 57.5 -0.8**
baz=287

HNR Honiara 65.62 117 LR LR 23 18 47.2
comp=Z,223nm,21.6s,baz=319,slow=33

L14K Kuka Creek 65.64 32 P **P 22 52 57.6 -0.9**
baz=287

I17K Unalakleet 65.75 29 P **P 22 52 58.2 -1.1**
baz=288

H17K Granite Mounta 65.75 28 P **P 22 52 58.3 -1.0**
baz=288

D20K Etivluk River 65.79 23 P **P 22 52 58.3 -1.1**
baz=289

K15K Wolf Creek Mou 65.88 31 P **P 22 52 59.5 -0.6**
baz=288

G18K Tagagawik 65.95 27 P **P 22 52 59.2 -1.3**
baz=288

J16K Anvik River 65.98 30 P **P 22 52 59.1 -1.6**
baz=288

E19K Redstone River 65.98 25 P **P 22 52 59.8 -0.9**
baz=289,SNR=13

F19K Shaleruckik Mo 65.99 25 P **P 22 53 00.5 -0.2**
baz=289,SNR=18

IDI Anoyia 66.06 298 P **P 22 53 01.7 -0.1**
IDI IAmb IAmb 22 54 13.9
comp=Z,25nm,1.1s

IDI Anoyia 66.06 298 LR LR 23 27 16.5
comp=Z,115nm,19.7s,baz=84,slow=41

NC405 NORSAR Array S 66.08 328 P **P 22 53 00.9 -0.5**
L15K Ungalak Mounta 66.08 31 P **P 22 53 01.2 -0.2**
baz=288

E20K Nigu River 66.09 24 P **P 22 53 01.5 0.0**
baz=290,SNR=20

B21K Ikpikpuk River 66.15 22 P **P 22 53 01.9 +0.2**
baz=290,SNR=11

M14K Bethel 66.15 32 P **P 22 53 01.2 -0.7**
baz=288

C21K Knifeblade Rid 66.26 23 P **P 22 53 02.7 +0.3**
baz=290,SNR=8.3

NC602 NORSAR Array S 66.27 328 *eP* **P 22 53 06.3 +3.6**
B22K Teshekpuk Lake 66.28 21 P **P 22 53 02.4 -0.1**
baz=291,SNR=6.5

H18K Honhosa River 66.31 27 P **P 22 53 02.5 -0.3**
baz=289

NB2 NORSAR Subarra 66.33 328 P **P 22 53 02.7 -0.4**
comp=Z,1.4nm,0.5s,baz=72,slow=6.9

NB2 NORSAR Subarra 66.33 328 P **P 22 53 02.7 -0.4**
comp=Z,1.4nm,0.5s,baz=72,slow=6.9

NOA NORSAR Array B 66.33 328 P **P 22 53 02.4 -0.7**
comp=Z,3.2nm,0.7s,baz=71,slow=9.0,SNR=13
NOA LR LR 23 24 18.4
comp=Z,494nm,19.2s,baz=55,slow=38
comp=Z,3.2nm,0.7s

G19K Purcell Mounta 66.48 26 P **P 22 53 03.5 -0.4**
baz=290,SNR=5.4

INKA Innaminka 66.50 146 P **P 22 53 03.8 -0.6**
INKA IAmb IAmb 22 53 06.4
comp=Z,28nm,1.5s

N14K Kuskokwak Cree 66.55 33 P **P 22 53 03.1 -1.3**
baz=289

J17K VABM Dome 66.59 29 P **P 22 53 03.9 -0.8**
baz=288

JAVC Velka Javorina 66.65 314 *eP* **P 22 53 07.7 +2.3**
F20K Avaraart Lake 66.67 25 P **P 22 53 04.7 -0.4**
baz=291

M15K Kasigluk River 66.77 32 P **P 22 53 05.0 -0.8**
baz=289

E21K Killik River 66.79 23 P **P 22 53 06.0 +0.1**
baz=292

KRLC Kraliky 66.81 316 AMS AMS 23 23 20.0
comp=Z,1μm,18.0s

KSP Ksiaz 66.86 316 *eP* **P 22 53 09.7 +3.0**
MORH Mrgy, Hungar 66.88 311 ⇑P **P 22 53 07.6 +0.8**
OSL Oslo 66.92 327 *eP* **P 22 53 08.1 +1.3**
H19K Roundabout Mou 66.94 27 P **P 22 53 06.4 -0.4**
baz=291,SNR=22

O14K Tigyukauivet M 66.97 34 P **P 22 53 06.9 -0.2**
baz=289

DOMB Dombas 66.98 329 *eP* **P 22 53 07.4 +0.2**
L16K Owhat River 66.98 31 P **P 22 53 07.4 +0.2**
baz=290

OSTC Ostas 67.00 316 *eS* **S 23 01 58.0 -3.0**
OSTC AMS AMS 23 23 40.0
comp=Z,1μm,17.1s

DPC Dobruska-Polom 67.00 316 *eP* **P 22 53 10.2 +2.6**
DPC MLR MLR
comp=Z,1μm,16.9s

DPC Dobruska-Polom 67.00 316 *eP* **P 22 53 10.2 +2.6**
DPC AMS AMS 23 23 40.0
comp=Z,1μm,16.9s

GCSA Galena City Sc 67.04 27 P **P 22 53 07.1 -0.4**
baz=290

D22K Ayikyak River 67.06 23 P **P 22 53 07.9 +0.2**
baz=292,SNR=22

CHVC Chvalec 67.09 316 AMS AMS 23 23 40.0
comp=Z,1μm,16.8s

UPC Upice 67.14 316 *eP* **P 22 53 12.5 +4.1**
UPC MLR MLR
comp=Z,1μm,16.7s

UPC Upice 67.14 316 *eP* **P 22 53 12.5 +4.1**
UPC AMS AMS 23 23 40.0
comp=Z,1μm,16.7s

K17K Iditarod 67.16 30 P **P 22 53 08.7 +0.4**
baz=290,SNR=7.4

VRAC Vranov 67.18 315 LR LR 23 24 44.2
comp=Z,643nm,19.0s,baz=70,slow=38

VRAC Vranov 67.18 315 *eP* **P 22 53 08.8 +0.1**
VRAC Vranov 67.18 315 ⇑P **P 22 53 09.4 +0.7**
VRAC Vranov 67.18 315 ⇑P **P 22 53 09.4 +0.7**
N15K Kwethluk River 67.22 33 P **P 22 53 09.0 +0.3**
baz=290

C23K Itkillik River 67.36 21 P **P 22 53 09.7 +0.3**
baz=294,SNR=22

L17K Donlin 67.36 30 P **P 22 53 09.4 -0.1**
baz=290

KRUC Moravsky 67.38 315 *eP* **P 22 53 08.0 -2.0**
F21K Alatna River 67.42 24 P **P 22 53 09.8 -0.2**
baz=292,SNR=18

M16K Timber Creek 67.45 32 P **P 22 53 09.4 -0.7**
baz=290

MOL Molde 67.46 330 *eP* **P 22 53 11.2 +1.1**
KONO Kongsberg 67.55 327 P **P 22 53 10.6 -0.2**
KONO Kongsberg 67.55 327 *eP* **P 22 53 10.9 +0.1**
KONO Kongsberg 67.55 327 P **P 22 53 10.6 -0.2**
KONO pmax pmax
comp=Z,52nm,1.6s

H20K Anotleneega Mo 67.56 26 P **P 22 53 10.5 -0.3**
baz=292,SNR=15

J18K Innoko River 67.57 29 P **P 22 53 10.5 -0.4**
baz=291

G21K Allakaket 67.69 25 P **P 22 53 11.2 -0.4**
baz=293,SNR=21

O15K Ungalikthiuk R 67.69 34 P **P 22 53 11.1 -0.5**
baz=290

D23K Nanushuk River 67.70 22 P **P 22 53 12.3 +0.7**
baz=294

N16K Nishlik Lake 67.73 32 P **P 22 53 12.3 +0.3**
baz=291

F22K John River 67.78 24 P **P 22 53 12.9 +0.8**
baz=293

IMAR Indian Mountai 67.80 26 **P 22 53 12.4 +0.1**
J19K Poorman 67.82 28 P **P 22 53 13.1 +0.6**
baz=292,SNR=6.6

TREC Trest 67.86 315 *eP* **P 22 53 15.2 +2.2**
TREC Trest 67.86 315 *eP* **P 22 53 15.2 +2.2**
RONA Rosalia, Austr 67.90 313 *eP* **P 22 53 13.2 -0.1**
comp=Z,7.3nm,1.3s

I20K Naaghedeneel 67.98 27 P **P 22 53 13.6 +0.2**
baz=292

PVCC Panska Ves 68.00 317 AMS AMS 23 24 10.0
comp=Z,800nm,15.8s

M17K Holitna River 68.00 31 P **P 22 53 13.8 +0.2**
baz=291,SNR=6.9

C24K Franklin Bluff 68.01 21 P **P 22 53 13.6 +0.1**
baz=296,SNR=12

L18K Granite Mounta 68.03 30 P **P 22 53 14.4 +0.5**
baz=292

CONA Conrad Observa 68.10 314 *i* pP **P 22 53 15.8 +1.2**
comp=Z,6.6nm,0.9s

TOLK Toolik Lake Re 68.20 22 P **P 22 53 15.1 +0.3**
baz=295,SNR=14

D24K Happy Valley 68.22 22 P **P 22 53 15.0 +0.2**
baz=296

PRA Prague 68.24 316 *eS* **S 23 02 16.9 +1.1**
PRA AMS AMS 23 24 20.0
comp=Z,1μm,16.4s

G22K Bettles 68.25 24 P **P 22 53 15.3 +0.2**
baz=294

BRG Berggiesshubel 68.26 317 *eP* **P 22 53 16.7 +1.2**
comp=Z,3.1nm,0.7s,baz=65,slow=6.1

BRG Berggiesshubel 68.26 317 S **S 23 02 20.0 +4.0**
H21K Melozitna Rive 68.29 26 P **P 22 53 16.0 +0.6**
baz=294,SNR=10

J20K Nowinta River 68.35 28 P **P 22 53 16.4 +0.6**
baz=293,SNR=9.8

O16K Kokwok River B 68.37 33 P **P 22 53 16.3 +0.4**
baz=292,SNR=6.1

E23K Chandalar 68.44 23 P **P 22 53 16.9 +0.6**
baz=295,SNR=18

N17K Nushagak Hills 68.44 32 P **P 22 53 16.2 -0.2**
baz=292

ARSA Arzberg 68.55 313 P **P 22 53 17.3 -0.1**
ARSA IAmb IAmb 22 53 20.3
comp=Z,27nm,1.9s

ARSA Arzberg 68.55 313 *i* P **P 22 53 17.0 -0.4**
comp=Z,2.8nm,0.9s

COLD Coldfoot 68.59 24 P **P 22 53 17.2 0.0**
COLD IAmb IAmb 22 53 19.0
comp=Z,30nm,1.3s

COLD Coldfoot 68.59 24 P **P 22 53 17.7 +0.4**
baz=295,SNR=7.4

P16K Nushagak River 68.62 33 P **P 22 53 17.9 +0.4**
baz=292

CLL Collm 68.66 318 **P 22 53 17.6 -0.3**
CLL IAmb IAmb 22 53 20.8
comp=Z,39nm,2.0s

CLL Collm 68.66 318 *i* P **P 22 53 18.1 +0.2**
CLL *eS* **S 23 02 22.0 +1.3**
CLL pmax pmax
comp=Z,41nm,2.3s
CLL MLR MLR
comp=Z,700nm,22.1s

CLL	Collm	68.66	318	eP		P		22 53 18.3	+0.4			
	comp=Z,2.3nm,0.8s,baz=65,slow=6.1											
M18K	Stony River	68.69	31	P		P		22 53 18.1	+0.2			
	baz=293											
BBOO	Buckleboo	68.70	152	P		P		22 53 17.7	-0.6			
K20K	Telida	68.71	28	P		P		22 53 18.0	0.0			
	baz=293,SNR=6.0											
SDPT	Sand Point	68.72	38	P		P		22 53 18.2	0.0			
	baz=291											
H22K	Ishtalitna Cre	68.73	25	P		P		22 53 18.5	+0.4			
	baz=295,SNR=8.3											
O17K	Koliganek Bris	68.77	33	P		P		22 53 18.7	+0.3			
	baz=292											
I21K	Tanana	68.80	26	P		P		22 53 18.8	+0.3			
	baz=294,SNR=12											
E24K	Your Creek	68.81	23	P		P		22 53 18.8	+0.1			
	baz=296											
L19K	White Mountain	68.84	30	P		P		22 53 19.3	+0.4			
	baz=293,SNR=7.3											
S14K	Fog Glacier	68.86	37	P		P		22 53 19.3	+0.1			
	baz=292											
G23K	Bananza Creek	68.88	24	P		P		22 53 19.3	+0.2			
	baz=296,SNR=11											
D25K	Kavik River	68.92	21	P		P		22 53 19.7	+0.3			
	baz=298,SNR=16											
N18K	Kilae Creek	68.97	31	P		P		22 53 20.2	+0.5			
	baz=293											
PERS	Pernice	69.03	312	*i* P		P		22 53 20.2	-0.2			
SOKA	Soboth	69.07	313	eP		P		22 53 20.6	-0.1			
	comp=Z,3.9nm,0.5s,SNR=5.2											
C26K	Camden Bay	69.09	20	P		P		22 53 20.5	+0.2			
	baz=299,SNR=6.5											
KHC	Kasperske Hory	69.09	315	eP		P		22 53 22.7	+1.9			
KHC				eS		S		23 02 27.3	+1.2			
KHC					MLR	MLR						
	comp=Z,1µm,20.3s											
KHC	Kasperske Hory	69.09	315	eP		P		22 53 22.7	+1.9			
KHC				eS		S		23 02 27.3	+1.2			
KHC					AMS	AMS		23 24 50.0				
	comp=Z,1µm,20.3s											
GEC2	GERESS Array S	69.12	315	P		P		22 53 21.2	+0.2			
GEC2					IAmb	IAmb		22 53 24.1				
	comp=Z,33nm,2.0s											
GEC2	GERESS Array S	69.12	315	eP		P		22 53 22.3	+1.3			
	comp=Z,2.7nm,0.8s,baz=65,slow=6.1											
GERES	GERESS Array B	69.12	315	P		P		22 53 21.5	+0.5			
	comp=Z,1.9nm,0.6s,baz=64,slow=9.1,SNR=25											
GERES					LR	LR		23 25 19.4				
	comp=Z,897nm,20.4s,baz=65,slow=37											
	comp=Z,1.9nm,0.6s											
MOA	Molln	69.13	314	*i* P		P		22 53 21.2	+0.2			
	comp=Z,12nm,1.6s											
L20K	Farewell, AK	69.14	29	P		P		22 53 21.4	+0.6			
	baz=294											
M19K	Big River Lodg	69.16	30	P		P		22 53 20.7	-0.2			
	baz=294,SNR=5.1											
CHUM	Lake Minchumin	69.21	27	P		P		22 53 21.6	+0.5			
	baz=295											
F24K	Squaw Lake	69.26	23	P		P		22 53 21.9	+0.4			
	baz=297,SNR=8.2											
P17K	Kvichak River	69.30	33	P		P		22 53 21.9	+0.2			
	baz=293											
TANN	Tannenbergstha	69.30	317	eP		P		22 53 22.3	+0.2			
	comp=Z,1.2nm,0.7s,baz=65,slow=6.1											
FLTG	Flechtingen	69.31	319	eP		P		22 53 21.8	-0.1			
	comp=Z,3.3nm,0.9s,baz=65,slow=6.1											
MLY	Manley	69.34	26	P		P		22 53 22.0	0.0			
MLY					IAmb	IAmb		22 53 26.3				
	comp=Z,11nm,0.7s											
MLY	Manley	69.34	26	P		P		22 53 22.4	+0.4			
	baz=296,SNR=16											
R16K	Pilot Point	69.38	35	P		P		22 53 22.4	+0.1			
	baz=293											
CHNA	Chernabura Isl	69.39	38	P		P		22 53 22.1	-0.3			
	baz=292											
NEUB	Neuenburg	69.41	318	eP		P		22 53 23.2	+0.6			
	comp=Z,4.4nm,0.8s,baz=65,slow=6.1											
H23K	Yukon River	69.44	25	P		P		22 53 23.2	+0.6			
	baz=296,SNR=14											
OBKA	Obir	69.44	312	eP		P		22 53 22.0	-1.0			
	comp=Z,2.6nm,0.6s											
CHGN	Chignik	69.44	36	P		P		22 53 22.9	+0.2			
	baz=292											
JMIC	Jan Mayen	69.50	341	LR		LR		23 28 05.7				
	comp=Z,284nm,18.1s,baz=277,slow=40											
VISS	Visnje	69.51	312	*i* P		P		22 53 24.9	+1.5			
WET	Wettzell	69.52	316	eP		P		22 53 24.8	+1.5			
	comp=Z,1.7nm,0.8s,baz=65,slow=6.1											
N19K	Bonanza Creek	69.56	31	P		P		22 53 23.7	+0.3			
	baz=294											
BIOA	Bad Ischl, Aus	69.58	314	eP		P		22 53 22.7	-1.1			
	comp=Z,8.1nm,0.9s											
C27K	Jago River	69.60	20	P		P		22 53 23.6	+0.1			
	baz=300,SNR=30											
BPAW	Bear Paw Mtn.	69.65	27	P		P		22 53 23.9	+0.1			
BPAW					IAmb	IAmb		22 53 26.6				
	comp=Z,25nm,1.0s											
BPAW	Bear Paw Mtn.	69.65	27	P		P		22 53 23.4	-0.5			
	baz=296,SNR=19											
PPLA	Purkeypile	69.68	28	P		P		22 53 24.6	+0.3			
PPLA	Purkeypile	69.68	28	P		P		22 53 23.9	-0.3			
	baz=295,SNR=7.0											
ROTZ	Rotzenmuhle	69.69	316	eP		P		22 53 24.9	+0.5			
	comp=Z,0.9nm,0.8s,baz=65,slow=6.1											
ASSE	Asse, Remlinge	69.71	319	eP		P		22 53 24.5	+0.2			
	comp=Z,2.5nm,1.0s,baz=65,slow=6.1											
M20K	Styx River	69.71	30	P		P		22 53 24.3	0.0			
	baz=295											
E25K	Arctic Village	69.76	22	P		P		22 53 25.1	+0.6			
	baz=299											
G24K	Hadweenzic Riv	69.79	24	P		P		22 53 25.3	+0.6			
	baz=298,SNR=12											
P18K	Big Mountain,	69.79	32	P		P		22 53 24.9	+0.1			
	baz=294											
I23K	Minto, Yukon-K	69.81	26	P		P		22 53 24.6	-0.2			
	baz=297,SNR=6.7											
O19K	Port Alsworth	69.88	32	P		P		22 53 25.5	+0.2			
	baz=294											
Q17K	Contact Creek	69.94	34	P		P		22 53 25.6	-0.3			
	baz=294											
R17L	Mt. Peulik Vol	69.96	34	P		P		22 53 25.8	0.0			
	baz=294											
F25K	Christian Rive	69.99	23	P		P		22 53 26.3	+0.4			
	baz=299,SNR=13											
H24K	Noodor Dome	70.05	25	P		P		22 53 26.7	+0.4			
	baz=298,SNR=11											
NEA2	Nenana	70.17	26	P		P		22 53 27.1	0.0			
NEA2	Nenana	70.17	26	P		P		22 53 27.0	-0.1			
	baz=297,SNR=22											
Q18K	Katmai Hardscr	70.20	33	P		P		22 53 27.0	-0.5			
	baz=294											
ROBS	Robic	70.21	312	*i* P		P		22 53 26.9	-0.8			
TRF	Thorofare Moun	70.21	27	P		P		22 53 27.1	-0.5			
	baz=296											
G25K	Bearman Lake	70.24	23	P		P		22 53 27.9	+0.6			
	baz=299,SNR=6.0											
LESA	Schwarzleotal	70.29	314	eP		P		22 53 28.2	0.0			
	comp=Z,8.2nm,0.6s,SNR=7.0											
GRA1	Grafenberg Arr	70.31	317	P		P		22 53 29.1	+0.9			
GRA1					IAmb	IAmb		22 54 55.2				
	comp=Z,26nm,1.3s											
GRF	Grafenberg Arr	70.31	317	P		P		22 53 29.1	+0.9			
GRF					pmax	pmax						
	comp=Z,26nm,1.3s											
GRF	Grafenberg Arr	70.31	317	eP		P		22 53 29.0	+0.7			
	comp=Z,219nm,2.1s,baz=65,slow=6.1											
GRFO	Grafenberg	70.31	317	P		P		22 53 28.7	+0.5			
GRFO					IAmb	IAmb		22 54 55.2				
	comp=Z,25nm,1.3s											
GRFO	Grafenberg	70.31	317	P		P		22 53 28.7	+0.5			
GRFO					pmax	pmax						
	comp=Z,25nm,1.3s											
EIDS	Eidsvold	70.33	136	P		P		22 53 28.4	-0.1			
EIDS					IAmb	IAmb		22 53 30.5				
	comp=Z,15nm,1.1s											
GTTG	Gottingen	70.34	319	eP		P		22 53 28.6	+0.3			
	comp=Z,5.6nm,0.7s,baz=65,slow=6.1											
SKT	Skwentna	70.35	29	P		P		22 53 27.7	-0.5			
SKT					IAmb	IAmb		22 53 30.1				
	comp=Z,33nm,1.2s											
SKT	Skwentna	70.35	29	P		P		22 53 28.0	-0.2			
	baz=296,SNR=11											
N20K	Mount Spurr	70.40	30	P		P		22 53 28.6	0.0			
	baz=296											
SPCR	Spurr Chakacha	70.40	30	P		P		22 53 28.4	-0.2			
	baz=296											
BMAR	Burnt Mountain	70.43	23	P		P		22 53 29.4	+0.7			
STLK	Strandline Lak	70.43	30	P		P		22 53 28.3	-0.5			
STLK					IAmb	IAmb		22 54 32.2				
	comp=Z,50nm,2.0s											
F26K	Sheenjek River	70.44	22	P		P		22 53 29.4	+0.7			
	baz=300,SNR=9.7											
COLA	College	70.51	26	⇓P		P		22 53 29.8	+0.7			
COLA	College	70.51	26	P		P		22 53 29.3	+0.3			
	baz=298											
POKR	Poker Plat Res	70.55	25	P		P		22 53 29.8	+0.5			
	baz=298,SNR=8.4											
LODK	Lodwar	70.55	263	P		P		22 53 29.9	-0.4			
H25L	Birch Creek	70.58	24	P		P		22 53 30.3	+0.8			
	baz=299,SNR=5.0											
WRH	Wood River Hil	70.61	26	P		P		22 53 29.3	-0.5			
WRH					IAmb	IAmb		22 53 31.5				
	comp=Z,17nm,1.3s											
P19K	Oil Pt	70.61	32	P		P		22 53 29.6	-0.2			
	baz=295											
MCK	McKinley	70.62	27	P		P		22 53 29.8	-0.1			
MCK	McKinley	70.62	27	P		P		22 53 29.8	-0.1			
MCK					pmax	pmax						
	comp=Z,9.0nm,1.1s											
MCK	McKinley	70.62	27	P		P		22 53 29.7	-0.1			
	baz=298											
D27M	Malcolm River	70.63	20	P		P		22 53 30.3	+0.5			
	baz=303,SNR=12											
FYU	Fort Yukon	70.64	23	P		P		22 53 29.9	+0.1			
ABTA	Abfaltersbach	70.65	313	*i* P		P		22 53 30.2	-0.2			
	comp=Z,5.5nm,1.3s											
CUT	Chulna	70.69	28	P		P		22 53 30.4	+0.1			
	baz=297											
O20K	Slope Mountain	70.70	31	P		P		22 53 30.6	+0.2			
	baz=296											
STAL	STALIGIAL	70.71	313	P		P		22 53 30.9	+0.1			
Q19K	Cape Douglas,	70.73	33	P		P		22 53 30.7	+0.1			
	baz=295											
FUR	Furstenfeldbru	70.87	315	eP		P		22 53 33.0	+1.3			
	comp=Z,9.7nm,0.8s,baz=65,slow=6.1											
SUA	Susitna One	70.92	29	P		P		22 53 31.6	-0.2			
SUA	Susitna One	70.92	29	P		P		22 53 31.9	+0.1			
	baz=297,SNR=8.5											
ILAR	Eielson Array	70.92	26			P		22 53 30.3	-1.3			
ILAR	Eielson Array	70.92	26	P		P		22 53 30.9	-0.7			
	comp=Z,2.8nm,0.6s,baz=282,slow=5.1,SNR=34											
ILAR					LR	LR		23 27 53.2				
	comp=Z,252nm,18.2s,baz=301,slow=39											
	comp=Z,2.8nm,0.6s											
ILAR	Eielson Array	70.92	26	P		P		22 53 31.0	-0.7			
R18K	Karluk	70.92	34	P		P		22 53 32.0	+0.3			
	baz=295											
M22K	Willow	71.05	29	P		P		22 53 32.4	0.0			
	baz=297											
PRP	Porcupine Dome	71.06	25	P		P		22 53 32.4	-0.3			
	baz=300,SNR=22											
CHIR	Chirikof Islan	71.07	36	P		P		22 53 32.9	+0.2			
	baz=295											
HDA	Harding Lake	71.07	26	P		P		22 53 31.7	-0.9			
HDA					IAmb	IAmb		22 53 32.7				
	comp=Z,18nm,1.3s											
HDA	Harding Lake	71.07	26	P		P		22 53 32.2	-0.4			
	baz=299,SNR=5.3											
WAT1	Susitna Watana	71.20	28	P		P		22 53 32.6	-0.8			
	baz=298											
D28M	Stokes Point	71.24	20	P		P		22 53 33.2	-0.3			
	baz=304											
KMBO	Kilima Mbogo	71.25	258	P		P		22 53 33.7	-1.0			
	comp=Z,1.9nm,0.4s,baz=54,slow=12,SNR=4.3											
	comp=Z,1.9nm,0.4s											
KMBO	Kilima Mbogo	71.25	258	ceP		P		22 53 37.5	+2.8			
KMBO					pmax	pmax						
	comp=Z,2.0nm,0.5s											
SQTA	Sankt Quirin	71.29	314	eP		P		22 53 33.4	-1.0			
	comp=Z,5.6nm,0.5s,SNR=6.6											
MOTA	Moosalm	71.30	314	eP		P		22 53 34.0	-0.5			
	comp=Z,5.8nm,1.0s,SNR=4.8											
HOM	Homer	71.33	31	P		P		22 53 33.9	-0.3			
	baz=297											
E28M	Babbage River	71.41	20	P		P		22 53 34.7	+0.1			
	baz=304,SNR=14											
Q20K	Shuyak Island	71.45	33	P		P		22 53 34.7	-0.2			
	baz=296											
RETA	Reutte	71.46	314	*i* P		P		22 53 34.7	-0.7			
	comp=Z,2.9nm,0.5s											
SII	Sitkinak Islan	71.48	35	P		P		22 53 34.7	-0.5			
	baz=296											
RC01	Rabbit Creek A	71.52	30	P		P		22 53 34.9	-0.4			
	baz=298											
PMR	Palmer	71.54	29			P		22 53 35.2	-0.2			
PMR	Palmer	71.54	29	P		P		22 53 35.2	-0.2			
PMR					pmax	pmax						
	comp=Z,35nm,1.0s											
PMR	Palmer	71.54	29	P		P		22 53 34.5	-0.9			
	baz=298,SNR=6.1											
DHY	Denali Highway	71.55	27	P		P		22 53 35.1	-0.6			
	baz=299											
J25K	Salcha River,	71.56	25	P		P		22 53 34.4	-1.2			
	baz=300,SNR=8.0											
INTR	Introdacqua	71.58	308	P		P		22 53 36.5	+0.3			
INTR					IAmb	IAmb		22 54 48.3				
	comp=Z,30nm,1.5s											
OHAK	Old Harbor	71.64	34	P		P		22 53 36.1	+0.1			
OHAK	Old Harbor	71.64	34	P		P		22 53 35.5	-0.6			
	baz=296											
WAT6	Susitna Watana	71.65	28	P		P		22 53 35.6	-0.7			
	baz=299											
FETA	Feichten	71.67	314	eP		P		22 53 35.9	-0.8			
	comp=Z,9.0nm,1.1s,SNR=9.6											
BRSE	Bradley Lake S	71.70	31	P		P		22 53 36.3	-0.1			
	baz=297											
G27K	Doyon Strip	71.73	22	P		P		22 53 36.4	-0.1			
	baz=303,SNR=16											
KDAK	Kodiak Island	71.73	33	LR		LR		23 26 40.2				
	comp=Z,245nm,18.0s,baz=292,slow=37											
KDAK	Kodiak Island	71.73	33	P		P		22 53 36.3	-0.3			
	baz=296											
TEOL	Teolo	71.74	312	P		P		22 53 36.9	-0.1			
TEOL					IAmb	IAmb		22 54 20.1				
	comp=Z,11nm,0.8s											
TNS	Taunus Mts	71.75	318	eP		P		22 53 37.0	+0.1			
	comp=Z,2.6nm,0.7s,baz=65,slow=6.1											
UBR	Ueerruh	71.79	315	eP		P		22 53 38.7	+1.5			
	comp=Z,4.8nm,0.7s,baz=65,slow=6.1											
O22K	Cooper Landing	71.81	30	P		P		22 53 36.5	-0.5			
	baz=298											
K24K	Donnelly Dome	71.82	26	P		P		22 53 36.6	-0.5			
	baz=300,SNR=9.0											
F28M	Old Crow	71.86	21	P		P		22 53 37.1	-0.2			
	baz=304,SNR=7.4											
STU	Stuttgart	71.90	316	P		P		22 53 38.3	+0.5			
STU					IAmb	IAmb		22 53 40.6				
	comp=Z,8.3nm,0.5s											
STU	Stuttgart	71.90	316	P		P		22 53 38.3	+0.5			
STU					pmax	pmax						
	comp=Z,8.0nm,0.5s											
STU	Stuttgart	71.90	316	eP		P		22 53 38.5	+0.7			
	comp=Z,16nm,0.7s,baz=65,slow=6.1											
KNK	Knik Glacier	71.91	29	P		P		22 53 37.4	-0.4			
KNK					IAmb	IAmb		22 53 39.1				
	comp=Z,32nm,1.2s											
KNK	Knik Glacier	71.91	29	P		P		22 53 37.5	-0.2			
	baz=299											
I26K	Coal Creek Min	72.02	24	P		P		22 53 38.3	0.0			
	baz=302											
E29M	Blow River	72.03	20	P		P		22 53 38.4	+0.1			
	baz=305,SNR=16											
M23K	Glacier View	72.04	28	P		P		22 53 38.5	0.0			
	baz=299,SNR=5.5											
H27K	Steamboat Moun	72.08	23	P		P		22 53 39.3	+0.6			
	baz=303,SNR=32											
SEW	Seward	72.11	30	P		P		22 53 38.4	-0.4			
	baz=298											
FUORN	Ofenpass-Fuorn	72.12	314	P		P		22 53 39.2	-0.3			
FUORN					IAmb	IAmb		22 55 04.1				
	comp=Z,15nm,1.1s											
SCM	Sheep Creek Mo	72.18	28	P		P		22 53 39.3	-0.1			
SCM	Sheep Creek Mo	72.18	28	P		P		22 53 39.3	-0.1			
SCM					pmax	pmax						
	comp=Z,37nm,1.2s											
SCM	Sheep Creek Mo	72.18	28	P		P		22 53 38.7	-0.7			
	baz=299,SNR=5.4											
RIDG	Independent Ri	72.21	26	P		P		22 53 38.7	-0.8			
	baz=301,SNR=16											
PWL	Port Wells	72.23	29	P		P		22 53 39.1	-0.5			
	baz=299											
NEEM	North Greenlan	72.25	355	*i* P		P		22 53 40.0	+0.2			
NEEM					IAmb	IAmb		22 53 43.5				
	comp=Z,47nm,1.2s											
J26L	Joseph Creek	72.29	25	P		P		22 53 39.8	-0.3			
	baz=302,SNR=22											
DAVOX	Davos/Dischmat	72.30	314	LR		LR		23 27 47.3				
	comp=Z,896nm,20.1s,baz=48,slow=38											
PAX	Paxson	72.36	27	P		P		22 53 40.1	-0.4			
PAX					IAmb	IAmb		22 53 43.3				
	comp=Z,29nm,1.6s											
PAX	Paxson	72.36	27	P		P		22 53 40.1	-0.4			
PAX					pmax	pmax						
	comp=Z,29nm,1.6s											
PAX	Paxson	72.36	27	P		P		22 53 40.7	+0.2			
	baz=301,SNR=6.4											
I27K	Kandik River	72.40	24	P		P		22 53 40.5	0.0			
	baz=303,SNR=15											
SCRK	Sand Creek	72.41	26	P		P		22 53 40.5	-0.3			
	baz=302,SNR=13											
M24K	Tolsona, Glenn	72.52	28	P		P		22 53 41.5	+0.1			
	baz=300,SNR=11											
ZCCA	Zocca	72.60	311	P		P		22 53 42.9	+0.7			
BFO	Black Forest	72.61	316	eP		P		22 53 42.9	+0.8			
	comp=Z,3.7nm,0.9s,baz=65,slow=6.1											
GLI	Glacier Island	72.75	29	P		P		22 53 43.0	+0.3			
	baz=300											
TUE	Stuetta	72.76	314	P		P		22 53 43.6	+0.3			
G29M	Pine Creek	72.86	22	P		P		22 53 42.8	-0.4			
	baz=306,SNR=6.8											
KLU	Klutina	72.93	28	P		P		22 53 44.1	+0.3			
KLU	Klutina	72.93	28	P		P		22 53 43.9	+0.1			
	baz=301,SNR=19											
A36M	Sachs Harbour	72.97	14	P		P		22 53 43.8	0.0			
	baz=316											
VAE	Valguarnera	73.06	304	LR		LR		23 30 20.8				
	comp=Z,157nm,21.7s,baz=116,slow=40											
I28M	Miner Creek	73.07	23	P		P		22 53 45.1	+0.5			
	baz=304,SNR=12											
K27K	Chicken	73.09	25	P		P		22 53 44.8	+0.1			
	baz=303											
F30M	Barrier River	73.14	20	P		P		22 53 44.6	-0.3			
	baz=307,SNR=14											
H29M	Whitestone	73.15	22	P		P		22 53 44.9	-0.1			
	baz=306,SNR=5.5											
L26K	Log Cabin Wild	73.16	26	P		P		22 53 45.3	+0.2			
	baz=302											
DIV	Divide	73.18	29	P		P		22 53 45.2	-0.1			
WLF	Walferdange	73.33	318	P		P		22 53 46.8	+0.5			
WLF					IAmb	IAmb		22 53 49.3				
	comp=Z,15nm,0.9s											
WLF	Walferdange	73.33	318	dP		P		22 53 46.9	+0.6			
	comp=Z,12nm,0.9s											
WLF	Walferdange	73.33	318	P		P		22 53 46.8	+0.5			
WLF					pmax	pmax						
	comp=Z,15nm,0.9s											
WLF	Walferdange	73.33	318	eP		P		22 53 47.3	+1.0			
	comp=Z,10nm,0.8s,baz=65,slow=6.1											
INK	Inuvik	73.37	19	P		P		22 53 46.3	+0.1			
INK					IAmb	IAmb		22 53 47.5				
	comp=Z,39nm,1.4s											
INK	Inuvik	73.37	19	LR		LR		23 32 13.7				
	comp=Z,126nm,18.1s,baz=258,slow=41											
INK	Inuvik	73.37	19	P		P		22 53 46.3	+0.1			
INK					pmax	pmax						
	comp=Z,39nm,1.4s											
INK	Inuvik	73.37	19	P		P		22 53 46.0	-0.2			
	baz=309,SNR=14											
G30M	tAoh Zraii Nji	73.39	21	P		P		22 53 46.0	-0.4			
	baz=307,SNR=19											
N25K	Chitina, Valde	73.42	28	P		P		22 53 47.2	+0.5			
	baz=302,SNR=9.2											
EYAK	Cordova Ski Ar	73.49	29	P		P		22 53 47.2	+0.2			
	baz=301											
EPYK	Eagle Plains	73.60	22	P		P		22 53 48.0	+0.3			
	baz=307											
M26K	Nabesna, AK	73.63	27	P		P		22 53 48.0	0.0			
	baz=303,SNR=14											
I29M	Ogilvie Camp,	73.67	23	P		P		22 53 48.0	-0.1			
	baz=306,SNR=6.4											
L27K	Beaver Creek,	73.72	26	P		P		22 53 49.2	+0.7			
	baz=304,SNR=17											
BCAR	Beaver Creek A	73.73	26	P		P		22 53 48.8	+0.2			
BMRM	Bremner River	73.75	28	P		P		22 53 48.8	+0.2			
BMRM	Bremner River	73.75	28	P

comp=Z,1.6nm,0.7s,baz=60,slow=5.7,SNR=6.7
comp=Z,1.6nm,0.7s
O28M Mount Upton 75.66 27 P **P** **22 53 59.7 -0.3**
baz=305,SNR=6.0
VOI Vohitsoka 75.81 234 P **P** **22 54 00.2 -0.9**
M30M Minto, Yukon 75.88 25 P **P** **22 54 01.4 +0.5**
baz=308,SNR=12
YUK4 Talbot Arm 75.93 26 P **P** **22 54 01.5 0.0**
baz=306
PINM Pinnacle 76.03 28 P **P** **22 54 02.5 +0.6**
baz=305
YUK6 Outpost Mounta 76.28 27 P **P** **22 54 03.9 +0.4**
baz=307
N30M Aishikik Lake 76.46 26 P **P** **22 54 04.2 -0.1**
baz=308,SNR=6.2
O29M Mount Kennedy 76.58 27 P **P** **22 54 05.4 +0.3**
baz=307
PNL Peninsula 76.63 28 P **P** **22 54 05.2 0.0**
baz=306
HYT Haines Junctio 76.69 27 P **P** **22 54 06.2 +0.5**
HYT IAmb IAmb 22 54 07.6
comp=Z,17nm,1.2s
HYT Haines Junctio 76.69 27 P **P** **22 54 05.9 +0.2**
baz=308,SNR=10
CAN Canberra 76.75 144 P **P** **22 54 07.0 +0.8**
CAN Canberra 76.75 144 P **P** **22 54 07.0 +0.8**
CAN pmax pmax
comp=Z,190nm,1.9s
TOO Toolangi 76.84 148 P **P** **22 54 07.0 +0.4**
TOO IAmb IAmb 22 54 07.8
comp=Z,51nm,1.9s
TOO Toolangi 76.84 148 P **P** **22 54 07.0 +0.4**
TOO pmax pmax
comp=Z,51nm,2.0s
N31M Braeburn, Yuko 76.94 25 P **P** **22 54 07.3 +0.4**
baz=309,SNR=9.5
M31M Drury Creek, Y 76.99 24 P **P** **22 54 07.6 +0.4**
baz=310
BORG Borgarnes 77.14 339 LR LR 23 32 02.2
comp=Z,308nm,18.1s,baz=50,slow=39
O30N Mendenhall 77.27 26 P **P** **22 54 08.9 +0.1**
baz=309,SNR=13
P29M Windy Craggy 77.32 28 P **P** **22 54 09.8 +0.7**
baz=308
P30M Million Dollar 77.33 27 P **P** **22 54 09.6 +0.4**
baz=308
KEST Kesra 77.49 304 P **P** **22 54 11.4 +0.9**
KEST Kesra 77.49 304 P **P** **22 54 11.2 +0.7**
comp=Z,1.6nm,0.8s,baz=260,slow=15,SNR=5.2
KEST LR LR 23 34 37.6
comp=Z,160nm,19.6s,baz=25,slow=41
comp=Z,1.6nm,0.8s
WHY Whitehorse 77.80 26 P **P** **22 54 11.9 0.0**
baz=310
MMPY Sheldon Lake, 77.82 23 P **P** **22 54 12.0 +0.1**
baz=312,SNR=9.6
PLBC Pleasant Camp 77.98 27 P **P** **22 54 13.0 +0.3**
baz=309
N32M Quiet Lake 78.15 25 P **P** **22 54 14.0 +0.2**
baz=311
DZM Mont Dzumac 78.36 124 *e*LR LR 23 18 33.0
comp=Z,329nm,30.2s
SKAG Skagway 78.39 27 P **P** **22 54 15.4 +0.4**
baz=310
P33M Teslin, Yukon 78.87 25 P **P** **22 54 17.8 0.0**
baz=311
P32M Atlin 78.94 26 P **P** **22 54 18.4 +0.3**
baz=311,SNR=5.9
S31K Pelican 78.98 28 P **P** **22 54 19.0 +0.7**
baz=309
TGTN Hyland Airport 79.59 23 P **P** **22 54 22.5 +0.8**
baz=315,SNR=9.4
Q32M Nakina River 79.91 26 P **P** **22 54 24.3 +0.7**
baz=312
SIT Sitka 79.93 29 P **P** **22 54 24.3 +0.8**
baz=310
R33M Jennings River 80.11 25 P **P** **22 54 25.0 +0.4**
baz=313,SNR=6.6
WTLY Watson Lake, Y 80.41 24 P **P** **22 54 26.6 +0.6**
baz=315
S34M Telegraph Cree 81.06 27 P **P** **22 54 30.3 +0.7**
baz=313
DLBC Dease Lake 81.13 26 LR LR 23 32 14.4
comp=Z,2μm,19.7s,baz=297,slow=37
DLBC Dease Lake 81.13 26 P **P** **22 54 30.6 +0.6**
baz=314
U33K Whale Pass 81.47 29 P **P** **22 54 32.4 +0.7**
baz=312
WRAK Wrangell Islan 81.59 28 P **P** **22 54 33.0 +0.7**
baz=312
DY2G Dye2 81.77 349 *i*P **P** **22 54 32.2 -1.2**
DY2G IAmb IAmb 22 54 39.5
comp=Z,5.0nm,0.6s
LIRD Liard River Hi 81.87 24 P **P** **22 54 33.9 +0.1**
baz=317
CRAG Craig 81.90 29 P **P** **22 54 34.3 +0.3**
baz=312
SFJD Kangerlussuaq 81.97 351 P **P** **22 54 34.2 0.0**
SFJD Kangerlussuaq 81.97 351 LR LR 23 34 06.5
comp=Z,422nm,18.7s,baz=28,slow=38
SFJD Kangerlussuaq 81.97 351 P **P** **22 54 34.2 0.0**
SFJD pmax pmax
comp=Z,77nm,1.7s
TAU Tasmania Unive 81.97 150 P **P** **22 54 35.0 +0.6**
TAU Tasmania Unive 81.97 150 P **P** **22 54 35.0 +0.6**
TAU pmax pmax
comp=Z,174nm,1.7s
KOTAN Kotaneelee Air 82.03 22 P **P** **22 54 35.6 +0.9**
baz=318
T35M Bob Quinn 82.05 27 P **P** **22 54 35.5 +0.6**
baz=314
TOAD Toad River Com 82.58 24 P **P** **22 54 38.0 +0.4**
baz=318
V35K Ketchikan 82.63 29 P **P** **22 54 38.3 +0.4**
baz=313
YKA Yellowknife Ar 82.95 17 P **P** **22 54 39.7 +0.3**
YKA Yellowknife Ar 82.95 17 P **P** **22 54 39.4 0.0**
comp=Z,5.8nm,1.1s,baz=329,slow=5.2,SNR=19
YKA LR LR 23 36 18.6
comp=Z,207nm,19.0s,baz=344,slow=39
comp=Z,5.8nm,1.1s
YKA Yellowknife Ar 82.95 17 *ce*P **P** **22 54 39.4 0.0**
YKA pmax pmax
comp=Z,3.0nm,0.8s
DIB Dawson Inlet, 83.70 31 **P** **22 54 43.8 +0.4**
DIB IAmb IAmb 22 54 45.8
comp=Z,25nm,1.3s
ESDC Sonseca Array 84.57 313 **P** **22 54 48.9 +0.6**
ESDC Sonseca Array 84.57 313 P **P** **22 54 48.2 0.0**
comp=Z,1.0nm,0.7s,baz=42,slow=6.3,SNR=13
ESDC LR LR 23 35 26.7
comp=Z,328nm,19.2s,baz=44,slow=38
comp=Z,1.0nm,0.7s
LSZ Lusaka 86.30 250 P **P** **22 54 57.2 0.0**
LSZ IAmb IAmb 22 55 58.8
comp=Z,16nm,1.1s
LSZ Lusaka 86.30 250 LR LR 23 31 52.2
comp=Z,123nm,20.9s,baz=86,slow=34
LSZ Lusaka 86.30 250 P **P** **22 54 57.2 0.0**
LSZ pmax pmax
comp=Z,16nm,1.2s
BBB Bella Bella 86.32 30 LR LR 23 34 59.8
comp=Z,127nm,18.5s,baz=346,slow=37
MATP Matopo 88.76 246 LR LR 23 31 47.9
comp=Z,127nm,21.9s,baz=38,slow=34
MDT Midelt 88.88 307 LR LR 23 39 45.0
comp=Z,55nm,19.3s,baz=48,slow=39
LLLB Lillooet 90.10 28 P **P** **22 55 14.9 +0.2**
LLLB IAmb IAmb 22 55 19.7
comp=Z,19nm,1.4s
NLWA Neilton Lookou 91.71 31 P **P** **22 55 22.8 +0.5**
NLWA IAmb IAmb 22 55 25.1
comp=Z,20nm,1.4s
GNW Green Mountain 92.04 30 **P** **22 55 24.0 +0.2**
GNW IAmb IAmb 22 55 26.4
comp=Z,9.5nm,1.2s
FFC Flin Flon 92.92 15 **P** **22 55 27.4 -0.2**
FFC Flin Flon 92.92 15 P **P** **22 55 27.4 -0.2**
FFC pmax pmax
comp=Z,46nm,2.0s
LBTB Lobatse 93.43 243 LR LR 23 36 00.9
comp=Z,107nm,21.4s,baz=53,slow=35
NEW Newport 93.85 27 LR LR 23 41 28.3
comp=Z,230nm,19.5s,baz=329,slow=38
TORD Torodi Ar. Bea 94.77 288 P **P** **22 55 36.8 -0.1**
comp=Z,0.4nm,0.8s,baz=50,slow=6.0,SNR=1.4
comp=Z,0.4nm,0.8s

BOSA Boshof 95.53 240 LR LR 23 35 04.6
comp=Z,115nm,21.6s,baz=35,slow=33
SCHQ Schefferville 95.65 355 P **P** **22 55 39.3 -0.9**
comp=Z,37nm,0.9s,baz=74,slow=4.0,SNR=5.6
SCHQ LR LR 23 43 33.6
comp=Z,2μm,18.0s,baz=146,slow=38
YBH Yreka Blue Hor 96.55 34 LR LR 23 38 58.2
comp=Z,6.1nm,20.7s,baz=304,slow=35
TSUM Tsumeb 97.01 252 LR LR 23 39 15.2
comp=Z,93nm,20.6s,baz=147,slow=35
ULM Lac du Bonnet 98.42 13 LR LR 23 42 58.8
comp=Z,138nm,21.4s,baz=2.0,slow=37
SYO Syowa Base 109.08 200 ⇑*e*Pdiff **Pdif** **22 56 43.2 +3.7**
PPT2 Papeete2 111.69 98 *e*LR LR 23 33 54.0
comp=Z,275nm,38.0s
PPT2 *e*LR LR 23 33 54.8
comp=Z,354nm,31.0s
TBI Tubuai 114.15 104 *e*LR LR 23 35 02.4
comp=Z,480nm,25.8s
TXAR Lajitas Array 115.39 28 PKP **PKiKP** **23 00 56.8 -0.3**
comp=Z,0.2nm,0.4s,baz=357,slow=1.5,SNR=5.7
TXAR PKKPbc **PKKPbc** **23 11 29.5 -1.3**
comp=Z,0.3nm,0.6s,baz=167,slow=6.0,SNR=3.7
TAOE Nuku Hiva Isla 115.98 85 *e*LR LR 23 35 54.2
comp=Z,211nm,23.1s
QSPA South Pole Qui 119.34 180 PKP **PKiKP** **23 01 03.6 +0.2**
comp=Z,4.9nm,1.1s,baz=288,slow=1.2,SNR=12
TROLL Troll, Antarti 121.64 201 ⇑PKPdf **PKPdf** **23 01 07.5 -0.2**
comp=Z,118nm,0.5s
SNAA Sanae 123.35 201 ⇑PKPdf **PKPdf** **23 01 09.9 -1.1**
comp=Z,26nm,0.5s
SNAA Sanae 123.35 201 PKP **PKPdf** **23 01 09.9 -1.1**
comp=Z,1.0nm,0.5s,baz=204,slow=4.4,SNR=15
VNA2 Neumayer--Watz 124.91 202 ⇑PKPdf **PKPdf** **23 01 13.3 -0.6**
comp=Z,3.2nm,0.6s,baz=64,slow=33
VNA1 Neumayer--Stat 125.25 202 ⇑PKPdf **PKPdf** **23 01 14.1 -0.4**
comp=Z,2.4nm,0.8s
VNA3 Neumayer Olymp 125.57 201 ⇑PKPdf **PKPdf** **23 01 14.0 -1.1**
comp=Z,3.0nm,0.7s
BELA Belgrano 2 128.31 190 **PKPdf** **23 01 19.2 -1.0**
RUSC La Rusia 144.69 357 **PKPab** **23 01 50.2 -1.4**
BOAV Boa Vista 145.30 334 **PKPbc** **23 01 52.1 -0.9**
ROSC El Rosal 145.78 359 PKPbc **PKPdf** **23 01 54.5 -0.2**
ROSC El Rosal 145.78 359 PKPbc **PKPbc** **23 01 55.2 +0.1**
comp=Z,18nm,0.6s,baz=343,slow=8.8,SNR=12
MAL2 Monte Alegre, 146.15 320 PKPdf **PKPdf** **23 01 54.1 -0.7**
FLOC Florencia 149.02 1 **PKPbc** **23 02 02.1 -1.6**
OTAV Otavalo 150.19 7 PKPdf **PKPdf** **23 02 00.4 -1.7**
OTAV Otavalo 150.19 7 PKIKP **PKPdf** **23 02 00.4 -1.7**
BDFB Brasilia 151.51 293 PKPbc **PKPbc** **23 02 08.9 -0.8**
comp=Z,1.6nm,0.5s,baz=191,slow=5.6,SNR=4.3

*SOME **07** 22:46:51.5, 39˚60N×76˚95E, h10km*
*NNC **07** 22:46:55.0±3.1, 39˚74N×77˚02E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=21.5km s-min=19.1km az=138.0*
*KRNET **07** 22:47:09.3±0.1, 40˚22N×76˚71E, mb3.4*
ISC 07 22:47:09.0±2.0, 40˚28N±0˚09×76˚78E±0˚05, h10km, n37, σ2§31/54, 19C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.30**	**333**	⇑	*e*P		**Pg**	**22 47 34.4**	**+0.4**
NRN				⇑	*i*S		**Sn**	**22 47 52.8**	**+1.7**
KDJ	**Kajisay**	**1.88**	**9**	⇑	*i*S		**Sg**	**22 48 11.6**	**+2.2**
ULHL	**Ulahol**	**2.01**	**349**	P			**Pg**	**22 47 47.5**	**0.0**
	SNR=20								
ULHL	**Ulahol**	**2.01**	**349**	⇑	*i*P		**Pg**	**22 47 47.1**	**-0.4**
ULHL				⇑	*i*S		**Sg**	**22 48 14.7**	**+1.1**
UCH	**Uchtor**	**2.59**	**319**	⇑	*i*P		**Pb**	**22 47 54.8**	**-1.1**
UCH				⇑	*i*S		**Sb**	**22 48 28.1**	**+0.2**
KBK	**Karagaybulak**	**2.75**	**331**	P			**Pg**	**22 47 59.1**	**-2.5**
	SNR=10								
KBK	**Karagaybulak**	**2.75**	**331**	⇑	*i*P		**Pb**	**22 47 57.0**	**-1.3**
KBK				⇑	*i*S		**Sb**	**22 48 31.9**	**-0.2**
TNSS	**Tian-Shan**	**2.76**	**3**	Pg			**Pn**	**22 47 53.5**	**-0.2**
	13nm,1.5s								
TNSS				Lg			Lg	22 48 38.6	
	7.5nm,1.1s								
TNSS	**Tian-Shan**	**2.76**	**3**	*e*P			**Pn**	**22 47 53.7**	**0.0**
	7.7nm,0.8s								
TNSS				*e*S			**Sg**	**22 48 38.6**	**+0.9**
	7.5nm,0.6s								
TKM2	**Tokmak 2**	**2.79**	**342**	⇑	*i*S		**Sb**	**22 48 33.1**	**-0.2**
KST	**Kastek**	**2.83**	**348**	Pg			**Pn**	**22 47 55.9**	**+1.4**
	23nm,1.7s								
KST				Lg			Lg	22 48 42.6	
	22nm,0.2s								
KST	**Kastek**	**2.83**	**348**	*e*P			**Pn**	**22 47 55.9**	**+1.4**
	10nm,0.8s								
KST				*e*S			**Sg**	**22 48 42.2**	**+2.3**
	23nm,0.5s								
MTBS	**Maitube**	**2.86**	**355**	Pg			**Pb**	**22 47 57.1**	**-3.2**
	17nm,1.0s								
MTBS				Lg			Lg	22 48 44.7	
	30nm,0.4s								
MTBS	**Maitube**	**2.86**	**355**	*e*P			**Pb**	**22 47 57.3**	**-2.9**
	11nm,0.5s								
MTBS				*e*S			**Sg**	**22 48 44.7**	**+3.7**
	35nm,0.3s								
MDOK	**Medeo**	**2.89**	**4**	Pg			**Pb**	**22 47 57.5**	**-3.3**
	16nm,1.0s								
MDOK				Lg			Lg	22 48 45.4	
	12nm,0.5s								
AAK	**Ala-Archa**	**2.92**	**325**	⇑Lg			Lg	22 48 44.9	
	14nm,0.7s								
AAK	**Ala-Archa**	**2.92**	**325**	⇑	*i*P		**Pb**	**22 47 59.3**	**-1.9**
AAK				⇑	*i*S		**Sb**	**22 48 35.9**	**-1.1**
KOTS	**Kotyrbulak**	**2.96**	**5**	Pg			**Pb**	**22 47 59.5**	**-2.6**
	14nm,1.3s								
KOTS				Lg			Lg	22 48 48.6	
	76nm,0.8s								
KOTS	**Kotyrbulak**	**2.96**	**5**	*e*P			**Pb**	**22 47 58.5**	**-3.6**
	10nm,0.7s								
KOTS				*e*S			**Sg**	**22 48 46.8**	**+2.5**
	81nm,0.5s								
FRU1	**Bishkek**	**3.00**	**328**	⇑	*i*P		**Pb**	**22 48 00.7**	**-1.9**
FRU1				⇑	*i*S		**Sb**	**22 48 38.2**	**-1.1**
SATY	**Saty**	**3.04**	**23**	Pg			**Pn**	**22 47 59.6**	**+2.3**
	26nm,1.3s								
SATY				Lg			Lg	22 48 49.0	
	40nm,0.9s								
CHMS	**Chumysh**	**3.12**	**331**	⇓	*i*P		**Pb**	**22 48 02.0**	**-2.5**
CHMS				⇓	*i*S		**Sb**	**22 48 40.6**	**-2.0**
EKS2	**Erkin-Say**	**3.28**	**318**	⇑	*i*P		**Pb**	**22 48 04.1**	**-3.3**
EKS2				⇑	*i*S		**Sb**	**22 48 44.1**	**-3.3**
KURS	**Kuram**	**3.37**	**17**	Pg			**Pn**	**22 48 04.3**	**+2.5**
	12nm,1.1s								
KURS				Lg			Lg	22 48 56.9	
	21nm,1.2s								
KTBS	**Karatobe**	**3.43**	**359**	Pg			**Pb**	**22 48 07.3**	**-2.6**
	5.2nm,0.8s								
KTBS				Lg			Lg	22 49 01.8	
	25nm,0.7s								
USP	**Osperovka**	**3.44**	**331**	P			**Pb**	**22 48 08.2**	**-1.8**
	SNR=7.1								
SHLS	**Shalkode**	**3.51**	**34**	*e*P			**Pb**	**22 48 08.7**	**-2.6**
	20nm,0.6s								
SHLS				*e*S			**Sg**	**22 49 04.2**	**+2.5**
	34nm,0.4s								
SGDS	**Sogindy**	**3.56**	**334**	Pg			**Pn**	**22 48 07.0**	**+2.7**
	6.1nm,0.8s								
SGDS				Lg			Lg	22 49 01.9	
	10nm,0.4s								
CHKK	**Chushkaly**	**3.58**	**2**	Pg			**Pb**	**22 48 09.3**	**-3.1**
	59nm,1.0s								
CHKK				Lg			Lg	22 49 05.4	
	21nm,0.4s								
CHKK	**Chushkaly**	**3.58**	**2**	*e*P			**Pb**	**22 48 09.3**	**-3.1**
	5.1nm,0.1s								
CHKK				*e*S			**Sg**	**22 49 05.4**	**+1.5**
	14nm,0.4s								
KUU	**Kurty**	**3.63**	**355**	Pg			**Pb**	**22 48 10.4**	**-2.9**
	6.3nm,0.1s								
KUU				Lg			Lg	22 49 07.1	
	35nm,0.7s								
KUU	**Kurty**	**3.63**	**355**	*e*P			**Pb**	**22 48 10.4**	**-2.9**
	2.3nm,0.1s								
KUU				*e*S			**Sg**	**22 49 07.1**	**+1.6**
	7.2nm,0.0s								
MRKS	**Merke**	**3.63**	**314**	Pg			**Pb**	**22 48 10.0**	**-3.4**
	4.8nm,0.4s								
MRKS				Lg			Lg	22 49 06.7	
	14nm,0.8s								
MRKS	**Merke**	**3.63**	**314**	*e*P			**Pb**	**22 48 10.0**	**-3.4**
	4.8nm,0.4s								
MRKS				*e*S			**Sg**	**22 49 06.7**	**+1.0**
	16nm,0.3s								
ARXS	**Arharly**	**4.01**	**11**	Pg			**Pb**	**22 48 17.1**	**-2.7**
	6.8nm,0.6s								
ARXS				Lg			Lg	22 49 18.5	
	15nm,0.6s								
ARXS	**Arharly**	**4.01**	**11**	*e*P			**Pb**	**22 48 17.1**	**-2.7**
ARXS				*e*S			**Sg**	**22 49 18.6**	**+0.8**
TRKS	**Terek-Say**	**4.45**	**288**	⇑	*i*P		**Pn**	**22 48 19.5**	**+2.7**
TRKS				⇑	*i*S		**Sn**	**22 49 10.4**	**+1.7**

IDC 07 22:52:10.5±7.4, 20˚16S×170˚39E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=317.8km s-min=55.8km az=148.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.82**	**264**	P		P	P	22 58 55.1	+0.4
	0.2nm,0.3s,baz=95,slow=8.3,SNR=2.7								
	0.2nm,0.3s								
ASAR	**Alice Springs**	**33.97**	**257**	P		P	P	22 58 55.6	-0.4
	0.7nm,0.7s,baz=86,slow=9.1,SNR=8.5								
	0.7nm,0.7s								
GERES	**GERESS Array B**	**145.80**	**332**	PKPbc		PKPdf		23 11 50.9	-0.4
	0.4nm,0.7s,baz=49,slow=4.6,SNR=5.2								

*NEIC **07** 22:57:41.3±1.0, 19˚75S±0˚07×170˚03E±0˚08, h31km±7km, mb4.4/11, Error ellipse: s-maj=13.7km s-min=7.4km az=133.0*
*IDC **07** 22:57:46.3±5.7, 19˚97S×169˚83E, h74km±45km, mb3.5/7, mbtmp3.8/8, ML2.9/1, MS2.9/1, Error ellipse: s-maj=39.1km s-min=30.9km az=64.0*
ISC 07 22:57:40.7±0.6, 19˚77S±0˚08×170˚01E±0˚09, h30km, n32, σ1§18/32, mb4.2/15, 5C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**3.71**	**220**				**Pn**	**22 58 35.6**	**-0.3**
DZM	**Mont Dzumac**	**4.04**	**235**				**Pn**	**22 58 41.0**	**+0.3**
DZM	**Mont Dzumac**	**4.04**	**235**	P			**Pn**	**22 58 41.4**	**+0.7**
	0.9nm,0.3s,baz=126,slow=22,SNR=14								
DZM				S			**Sn**	**22 59 26.9**	**-0.1**
	59nm,0.8s,baz=81,slow=16,SNR=3.6								
	6.6nm,0.6s								
ONTNC	**Ouen Toro**	**4.17**	**232**				**Pn**	**22 58 43.1**	**+0.8**
SANVU	**Saraoutou**	**5.06**	**328**	Pn			**Pn**	**22 58 54.2**	**-0.4**
MSVF	**Nonsavu**	**7.88**	**76**	Pn			**Pn**	**22 59 33.1**	**-0.3**
ARMA	**Armidale**	**19.71**	**234**	P			**Pn**	**23 02 08.9**	**-0.5**
ARMA				IAmb		IAmb	IAmb	23 02 36.9	
	comp=Z,32nm,1.4s								
RTZ	**Ruatahuna**	**19.73**	**164**	P			**P**	**23 02 08.0**	**0.0**
RTZ				IAmb		IAmb	IAmb	23 02 25.9	
	comp=Z,35nm,1.2s								
RAR	**Rarotonga**	**28.33**	**98**	LR		LR	23 12 18.9		
	comp=Z,27nm,21.3s,baz=270,slow=31								
WB0	**Warramunga Arr**	**33.48**	**264**	P			**P**	**23 04 19.2**	**+1.6**
WB0				IAmb		IAmb	IAmb	23 04 29.6	
	comp=Z,9.9nm,1.2s								
WRA	**Warramunga Arr**	**33.51**	**264**	P			**P**	**23 04 17.3**	**-0.6**
WRA	**Warramunga Arr**	**33.51**	**264**	P			**P**	**23 04 16.8**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=94,slow=8.3,SNR=6.5								
	comp=Z,0.7nm,0.8s								
AS31	**Alice Springs**	**33.71**	**257**	P			**P**	**23 04 18.6**	**-0.9**
AS31				IAmb		IAmb	IAmb	23 04 32.2	
	comp=Z,1.9nm,0.8s								
ASAR	**Alice Springs**	**33.71**	**257**	P			**P**	**23 04 18.9**	**-0.6**
ASAR	**Alice Springs**	**33.71**	**257**	P			**P**	**23 04 18.4**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=82,slow=8.6,SNR=13								
	comp=Z,1.8nm,0.8s								
MTN	**Manton Dam**	**37.87**	**274**	P			**P**	**23 04 55.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**41.91**	**265**	P			**P**	**23 05 28.6**	**-0.2**
SOEI	**Soe**	**45.21**	**276**	P			**P**	**23 05 55.7**	**+0.1**
VNDA	**Vanda**	**57.93**	**182**	P			**P**	**23 07 30.0**	**+0.4**
	comp=Z,1.1nm,1.1s,baz=0.5,slow=3.3,SNR=3.4								
	comp=Z,1.1nm,1.1s								
SBA	**Scott Base**	**58.15**	**181**	P			**P**	**23 07 31.9**	**+0.8**
SBA				IAmb		IAmb	IAmb	23 07 34.6	
	comp=Z,5.2nm,1.1s								
QSPA	**South Pole Qui**	**70.29**	**180**	P			**P**	**23 08 51.8**	**+0.6**
QSPA				IAmb		IAmb	IAmb	23 08 54.5	
	comp=Z,5.7nm,1.4s								
CMAR	**Chiang Mai Arr**	**79.38**	**294**	P			**P**	**23 09 45.4**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=125,slow=5.2,SNR=5.7								
	comp=Z,0.5nm,0.3s								
BELA	**Belgrano 2**	**81.51**	**175**	P			**P**	**23 09 54.7**	**-0.1**
BELA				IAmb		IAmb	IAmb	23 10 14.8	
	comp=Z,3.0nm,1.3s								
TROLL	**Troll, Antarti**	**88.06**	**184**	⇑P			**P**	**23 10 23.6**	**-4.4**
	comp=Z,78nm,0.8s								
SONM	**Songino Array**	**88.07**	**323**	P			**P**	**23 10 28.3**	**0.0**
	comp=Z,0.6nm,0.5s,baz=134,slow=6.2,SNR=5.3								
	comp=Z,0.6nm,0.5s								
SNAA	**Sanae**	**88.67**	**182**	⇑P			**P**	**23 10 29.9**	**-0.9**
	comp=Z,23nm,0.8s								
SNAA	**Sanae**	**88.67**	**182**	P			**P**	**23 10 28.6**	**-2.2**
	comp=Z,0.6nm,0.8s,baz=211,slow=5.5,SNR=5.9								
	comp=Z,0.6nm,0.8s								
VNA3	**Neumayer Olymp**	**89.23**	**180**	⇑P			**P**	**23 10 33.2**	**-0.2**
	comp=Z,3.1nm,0.8s								
VNA2	**Neumayer--Watz**	**89.53**	**181**	⇑P			**P**	**23 10 34.4**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=180,slow=3.9								
VNA1	**Neumayer--Stat**	**89.82**	**181**	⇑P			**P**	**23 10 36.3**	**+0.2**
	comp=Z,1.3nm,0.7s								
ILAR	**Eielson Array**	**90.52**	**17**	P			**P**	**23 10 41.2**	**+1.9**
	comp=Z,0.4nm,1.0s,baz=284,slow=5.1,SNR=1.8								
	comp=Z,0.4nm,1.0s								
GERES	**GERESS Array B**	**145.29**	**332**	PKPbc		**PKPbc**		**23 17 14.6**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=44,slow=6.5,SNR=3.8								

*NEIC **07** 23:22:00.9±2.2, 45˚42N±0˚06×26˚15E±0˚09, h140km±4km, mb4.1/10, Error ellipse: s-maj=10.2km s-min=7.8km az=46.0*
*CFUSG **07** 23:22:00.6, 45˚40N×26˚20E, h150km, mb3.3/6, MD3.7/4, Romania Magtype MSH 3.3 from 6 stations*
*SOF **07** 23:22:00.6, 45˚41N±0˚01×26˚12E±0˚01, h139km±9km, MD3.8/13*
*IDC **07** 23:22:00.9±0.4, 45˚52N×26˚04E, h141km±2km, mb3.5/12, mbtmp3.8/19, Error ellipse: s-maj=13.2km s-min=9.2km az=139.0*
*BUC **07** 23:22:01.2±0.2, 45˚41N×26˚19E, h136km±1km, ml4.2/87, Error ellipse: s-maj=1.2km s-min=1.0km az=18.0*
*SIGU **07** 23:22:01.1, 45˚43N×26˚19E, h136km*
*BEO **07** 23:22:05.3±1.0, 45˚31N×25˚96E, h101km±6km, ML3.4/21*
ISC 07 23:22:00.8±0.5, 45˚43N±0˚02×26˚17E±0˚02, h144km±4km, n275, σ0§91/359, mb3.9/14, 81C-72D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEHR	**Nehoiu**	**0.09**	**91**	⇑	P		**Pn**	**23 22 20.4**	**+0.2**
NEHR				⇑	S		**Sn**	**23 22 34.8**	**0.0**
MLR	**Muntele Rosu**	**0.17**	**291**	⇑	P		**Pn**	**23 22 20.7**	**+0.2**
MLR				⇑	S		**Sn**	**23 22 34.9**	**-0.5**
MLR	**Muntele Rosu**	**0.17**	**291**				**Pn**	**23 22 20.7**	**+0.2**
MLR						Sn	**Sn**	**23 22 34.5**	**-0.9**
MLR	**Muntele Rosu**	**0.17**	**291**	*i*	P		**Pn**	**23 22 20.7**	**+0.2**
MLR	**Muntele Rosu**	**0.17**	**291**	P			**Pn**	**23 22 20.5**	**+0.1**
	1μm,0.4s,baz=162,slow=3.2,SNR=5553								
MLR				S			**Sn**	**23 22 35.2**	**-0.2**
	775nm,0.3s,baz=315,slow=24,SNR=29								
MLR	**Muntele Rosu**	**0.17**	**291**	*e*	Pg		**Pn**	**23 22 20.6**	**+0.1**
MLR				*e*	Sg		**Sn**	**23 22 34.4**	**-0.9**
BISRR	**Bisoca**	**0.40**	**72**	⇓	P		**Pn**	**23 22 21.4**	**+0.3**
BISRR				⇓	S		**Sn**	**23 22 35.4**	**-1.0**
ISR	**Istrita**	**0.41**	**140**	⇑	P		**Pn**	**23 22 21.3**	**+0.2**
ISR				⇑	S		**Sn**	**23 22 36.1**	**-0.3**
COVR	**Voineasa-Covas**	**0.42**	**3**	⇑	P		**Pn**	**23 22 20.9**	**-0.2**
COVR				⇓	S		**Sn**	**23 22 35.8**	**-0.8**
PLAR	**PLOIESTI**	**0.53**	**191**	⇓	P		**Pn**	**23 22 22.0**	**+0.4**
PLAR				⇓	S		**Sn**	**23 22 36.3**	**-1.0**
PLOR	**Plostina**	**0.

DOPR	Dopca	0.77	315	⇑P	Pn	23 22 22.9	-0.3	KMPD	K-Podol'skiy	3.14	3	*e*Pn	Pn	23 22 48.6	-1.1				
DOPR				⇑S	Sn	23 22 39.7	-0.5	KMPD				*e*Sn	Sn	23 23 25.8	-1.7				
MTUR	Matau	0.81	256	⇑P	Pn	23 22 23.5	-0.1	BZS	Buzias	3.21	275	⇓P	Pn	23 22 49.9	-0.7				
PANC	Panciu	0.81	57	⇓P	Pn	23 22 24.0	+0.5	BZS				⇑S	Sn	23 23 30.2	+1.2				
PANC				⇑S	Sn	23 22 40.4	-0.3	BZS	Buzias	3.21	275	*e*P	Pn	23 22 56.5	+5.9				
COSR	Cosmesti PH	0.91	61	⇑P	Pn	23 22 24.3	+0.2	BZS	Buzias	3.21	275	*e*Pn	Pn	23 22 49.8	-0.7				
COSR				⇓S	Sn	23 22 41.1	-0.9	MDVR	Moldovita	3.22	260	⇓P	Pn	23 22 50.2	-0.6				
ONER	Baraj Valea Uz	0.92	10	⇑P	Pn	23 22 24.5	+0.2	MDVR	Moldovita	3.22	260	*e*Pn	Pn	23 22 50.2	-0.6				
ONER				⇓S	Sn	23 22 41.4	-0.9	MDVR				*e*Sn	Sn	23 23 15.7	-14				
INCR	INCERC-Sediu C	0.99	181	⇑P	Pn	23 22 25.1	+0.2	ZAGS	Zajecar	3.25	242	*e*Pn	Pn	23 22 49.8	-1.2				
INCR				⇓S	Sn	23 22 42.9	-0.2	ZAGS				*e*Sn	Sn	23 23 16.1	-14				
CIOR	Ciorogarla	1.00	192	⇑P	Pn	23 22 25.1	+0.1	BORS2	Bor- Borsko je	3.25	247	*e*Pn	Pn	23 22 48.5	-2.6				
CIOR				⇑S	Sn	23 22 42.9	-0.4	BORS2				*e*Sn	Sn	23 23 17.0	-13				
BUC	Bucharest	1.02	183	⇓P	Pn	23 22 25.4	+0.3	PGB	Panagyurishte	3.25	207	*i* P	Pn	23 22 51.2	0.0				
BUC				⇓S	Sn	23 22 43.2	-0.4	SIRR	Siria	3.27	286	⇓P	Pn	23 22 51.4	+0.1				
STFAR	Stefanesti-Arg	1.03	237	⇑P	Pn	23 22 25.3	+0.1	SIRR	Siria	3.27	286	*e*Pn	Pn	23 22 51.2	-0.1				
LEHL	Lehliu	1.06	154	⇑P	Pn	23 22 25.9	+0.4	NDNU	Novodnistrovsk	3.27	14	*e*Pn	Pn	23 22 50.9	-0.4				
TUDR		1.06	81	⇑P	Pn	23 22 25.2	-0.3	NDNU				Pm		23 23 00.3					
TUDR				⇓S	Sn	23 22 43.7	-0.7	NDNU				*e*Sn	Sn	23 23 29.2	-1.3				
GHRR		1.07	53	⇑P	Pn	23 22 26.1	+0.5	NDNU				Sm		23 23 29.5					
GHRR				⇑S	Sn	23 22 44.4	-0.1	ZAPS	Zavoj	3.33	231	*e*Pn	Pn	23 22 51.4	-0.8				
ARR	Arges	1.09	267	⇑P	Pn	23 22 25.9	+0.1	DIM	Dimitrovgrad	3.41	187	*e*P	Pn	23 22 53.2	0.0				
ARR				⇑S	Sn	23 22 44.4	-0.5	KORU	Korolevo	3.44	324	*e*Pn	Pn	23 22 53.2	-0.3				
IZVR	Izvoarele	1.13	84	⇑P	Pn	23 22 25.6	-0.5	VRSS	Vrsac	3.44	267	*e*Pn	Pn	23 22 52.7	-0.8				
TESR	Tescani	1.13	17	⇑P	Pn	23 22 26.2	0.0	VRSS				*e*Sn	Sn	23 23 22.3	-12				
AMRR	Amara	1.16	134	⇑P	Pn	23 22 26.8	+0.4	PLD	Plovdiv	3.44	198	*i* P	Pn	23 22 53.6	0.0				
AMRR				⇓S	Sn	23 22 45.7	-0.2	PLD	Plovdiv	3.44	198	P	Pn	23 22 53.4	-0.2				
SCHLR	Schela	1.17	87	⇑P	Pn	23 22 26.1	-0.4	PLD	Plovdiv	3.44	198	*e*Pn	Pn	23 22 53.8	+0.2				
SCHLR				⇑S	Sn	23 22 44.8	-1.2	PLD				*e*Sn	Sn	23 23 21.9	-13				
SCHLR	Schela	1.17	87	⇑P	Pn	23 22 26.1	-0.4	TRSU	Trosnyk	3.46	321	*e*Pn	Pn	23 22 54.4	+0.6				
SCHL	Schela	1.17	86	⇑P	Pn	23 22 26.2	-0.3	STNU	Starunia	3.48	341	*e*Pn	Pn	23 22 54.6	+0.6				
SCHL				⇓S	Sn	23 22 44.6	-1.4	VTS	Vitosha	3.52	218	*i* P	Pn	23 22 54.8	0.0				
NEGRR	Negrea	1.20	84	⇑P	Pn	23 22 26.8	0.0	VTS	Vitosha	3.52	218	*e*Pn	Pn	23 22 54.5	-0.3				
NEGRR				⇓S	Sn	23 22 45.5	-1.2	PLNA	Plana	3.56	215	*e*P	Pn	23 22 55.8	+0.6				
SGRR	Singureni	1.21	187	⇑P	Pn	23 22 27.0	+0.1	MEZ	Mezhgor'ye	3.58	330	*e*Pn	Pn	23 22 54.6	-0.8				
SGRR				⇓S	Sn	23 22 46.3	-0.6	EDRB	Edirne	3.60	173	*i* P	Pn	23 22 54.8	-0.9				
HUMR	Humele	1.24	224	⇑P	Pn	23 22 27.1	-0.1	BRIU	Brid	3.63	325	*e*Pn	Pn	23 22 56.2	+0.3				
HUMR				⇓S	Sn	23 22 46.8	-0.5	BOVS	Bovan	3.66	242	*e*Pn	Pn	23 22 56.0	-0.5				
VARL	Varlezi	1.27	68	⇑P	Pn	23 22 27.6	+0.2	BERU	Beregovo	3.71	320	*e*Pn	Pn	23 22 56.6	-0.4				
VARL				⇓S	Sn	23 22 47.2	-0.6	HORU	Horodok	3.79	3	*e*Pn	Pn	23 22 57.6	-0.5				
SCTR	Scanteiesti	1.30	78	⇑P	Pn	23 22 28.2	+0.4	KDZ	Kurdzhali	3.84	189	*i* P	Pn	23 22 58.7	-0.2				
SCTR				⇓S	Sn	23 22 48.0	-0.4	KDZ	Kurdzhali	3.84	189	*i* P	Pn	23 22 58.3	-0.6				
BIR	Birlad	1.32	50	⇓P	Pn	23 22 28.3	+0.3	MUKU	Mukachevo	3.85	323	*e*Pn	Pn	23 22 58.6	-0.3				
BIR				⇓S	Sn	23 22 47.9	-0.8	MUKU				Pm		23 22 59.5					
GISR	Galati	1.32	89	⇑P	Pn	23 22 28.1	+0.1	MUKU				*e*Sn	Sn	23 23 44.5	+0.5				
GISR				⇑S	Sn	23 22 48.1	-0.7	MUKU				Sm		23 23 57.5					
TATR	Tatarca	1.33	82	⇑P	Pn	23 22 28.4	+0.4	RZN	Rozhen	3.88	196	*i* P	Pn	23 22 59.6	+0.1				
TATR				⇓S	Sn	23 22 48.4	-0.4	RZN				S	Sn	23 23 43.6	-1.3				
TNR	Turnu Rosu	1.35	280	⇑P	Pn	23 22 28.2	-0.2	BOSS	Bosilegrad	3.96	224	*e*Pn	Pn	23 23 00.7	+0.3				
JOSR	Joseni	1.36	340	⇑P	Pn	23 22 28.1	-0.3	MORS	Morshin	4.02	338	*e*Pn	Pn	23 23 00.5	-0.5				
CICN	Ciocanesti	1.37	153	⇑P	Pn	23 22 28.6	0.0	HOLU	Holmets	4.04	321	*e*Pn	Pn	23 23 01.2	-0.1				
CICN				⇓S	Sn	23 22 49.6	0.0	AVAS	Avala Beograd	4.08	262	*e*Pn	Pn	23 23 00.3	-1.6				
VLDR	Vladesti	1.40	72	⇑P	Pn	23 22 29.1	+0.3	BARS	Barje	4.08	232	*e*Pn	Pn	23 23 01.9	-0.1				
VLDR				⇓S	Sn	23 22 49.5	-0.7	UZH	Uzhgorod	4.16	322	*e*Pn	Pn	23 23 02.8	-0.1				
CFR	Carcaliu	1.41	100	⇑P	Pn	23 22 28.5	-0.4	GRUS	Gruza	4.19	250	*e*Pn	Pn	23 23 02.8	-0.5				
GIUM	Giurgiulesti	1.43	87	⇑P	Pn	23 22 29.5	+0.4	KKB	Krupnik	4.21	213	*e*P	Pn	23 23 04.7	+1.0				
GIUM				⇓S	Sn	23 22 50.7	-0.1	GOCS	Kraljevo Serbi	4.23	246	*e*Pn	Pn	23 23 03.5	-0.4				
GIUM	Giurgiulesti	1.43	87	P	Sn	23 22 29.6	+0.5	GOCS				*e*Sn	Sn	23 23 38.8	-14				
GIUM				S	Sn	23 22 50.6	-0.1	CTYL	Yalikoy Yolu	4.24	158	*e*P	Pn	23 23 03.9	-0.2				
MDB	Medias	1.44	300	⇓P	Pn	23 22 30.1	+0.9	SELS	Selova	4.25	240	*e*Pn	Pn	23 23 03.6	-0.6				
MDB				⇓S	Sn	23 22 52.1	+1.0	SHIU	Shidnytsya	4.25	334	*e*Pn	Pn	23 23 03.7	-0.4				
HARR	Harsova	1.45	120	⇑P	Pn	23 22 29.4	0.0	MMB	Musomishta	4.26	205	*i* P	Pn	23 23 04.2	-0.2				
COPA	Copaceanca	1.46	208	⇓P	Pn	23 22 28.6	-0.9	TRUS	Trudelj	4.28	256	*e*Pn	Pn	23 23 03.7	-0.8				
COPA				⇓S	Sn	23 22 50.2	-1.1	RDO	Rodhopi	4.31	186		Pn	23 23 04.7	-0.3				
BIZ	Bicaz	1.51	358	⇓S	Sn	23 22 53.1	+0.7	RDO	Rodhopi	4.31	186	*i* P	Pn	23 23 04.6	-0.3				
GIRR	Girov	1.54	8	⇓P	Pn	23 22 31.0	+0.7	UKOP	Uzunkopru-Edir	4.31	175	*e*P	Pn	23 23 04.5	-0.5				
TGMR	Targu Mures	1.59	314	⇑P	Pn	23 22 31.1	+0.6	STZH	Stuzhytsa	4.33	327	*e*Pn	Pn	23 23 04.6	-0.5				
TGMR				⇓S	Sn	23 22 54.6	+0.7	TARU	Tarkhankut	4.48	88	*e*P	Pn	23 23 07.5	+0.4				
TLBR	Topalu	1.60	123	⇑P	Pn	23 22 31.0	+0.1	TARU				Pm		23 23 10.2					
TLBR				⇓S	Sn	23 22 52.4	-1.5		comp=Z,22nm,0.3s										
VASR	Vaslui	1.66	42	⇑P	Pn	23 22 31.7	+0.1	TARU				*e*S	Sn	23 23 57.1	-1.6				
TPGR	Topolog	1.69	109	⇑P	Pn	23 22 31.7	-0.3	TARU				Sm		23 24 12.6					
TPGR				⇓S	Sn	23 22 54.3	-1.5		comp=N,57nm,0.6s										
LOT	Lotru	1.69	272	⇓P	Pn	23 22 31.8	-0.3	TARU				Sm		23 24 12.6					
LOT				⇓S	Sn	23 22 55.2	-0.9		comp=E,87nm,0.6s										
LOT	Lotru	1.69	272	*e*P	Pn	23 22 32.8	+0.7	CTKS	Kestanelik-??a	4.52	157	*e*P	Pn	23 23 07.9	+0.1				
CVDA	Cernavoda	1.72	129	⇓P	Pn	23 22 32.5	+0.2	ALN	Alexandroupoli	4.53	181		Pn	23 23 07.7	-0.2				
CVDA				⇓S	Sn	23 22 55.2	-1.1	ALN	Alexandroupoli	4.53	181	*i* P	Pn	23 23 07.6	-0.3				
ICOR	Ion Corvin	1.75	138	⇓P	Pn	23 22 33.0	+0.4	DIVS	Vivibare	4.60	255	*e*Pn	Pn	23 23 07.4	-1.5				
ICOR				⇓S	Sn	23 22 56.7	-0.3	BGKT	Bogazkoy	4.65	155	*e*P	Pn	23 23 09.6	+0.1				
TIRR	Tirgusor	1.86	121	⇓P	Pn	23 22 34.0	0.0	KLYT	Kilyos	4.67	152	*e*P	Pn	23 23 10.3	+0.6				
TIRR				⇓S	Sn	23 22 57.9	-1.3	IVAS	Ivanjica	4.69	249	*e*Pn	Pn	23 23 09.0	-1.0				
TIRR	Tirgusor	1.86	121		Pn	23 22 34.0	0.0	SRS	Serrai	4.70	205	*e*Pn	Pn	23 23 09.9	-0.3				
TIRR				Sn	Sn	23 22 57.8	-1.4	ERIK	Erikli-Kesan	4.76	177	*e*P	Pn	23 23 10.6	-0.3				
TIRR	Tirgusor	1.86	121	*i* P	Pn	23 22 32.9	-1.0	TEKS	Tekeris	4.79	262	*e*Pn	Pn	23 23 10.4	-1.0				
ZIMR		1.86	198	⇑P	Pn	23 22 34.0	+0.1	ISK	Istanbul-Kandi	4.84	153	*e*P	Pn	23 23 12.0	0.0				
ZIMR				⇓S	Sn	23 22 58.3	-1.0	SJES	Sjenica	4.95	246	*e*Pn	Pn	23 23 12.0	-1.5				
RAZG	Razgrad	1.88	173	⇓P	Pn	23 22 34.1	-0.1	DNZ2	Donuzlav2	4.96	88	x	x	23 23 13.5					
RAZG				⇓S	Sn	23 22 59.3	-0.4	DNZ2				Pm		23 23 16.2					
TLCR		1.88	96	⇓P	Pn	23 22 34.1	0.0		comp=Z,28nm,0.4s										
TLCR				⇓S	Sn	23 22 59.0	-0.6	DNZ2				*e*S	Sn	23 24 07.9	-2.2				
VLAD	Vladila	1.91	222	⇑P	Pn	23 22 34.2	-0.3	DNZ2				Sm		23 24 09.6					
PRAR	RASCA	1.93	1	⇓P	Pn	23 22 35.6	+0.9		comp=N,79nm,0.6s										
IASR	Iasi	2.00	29	⇑P	Pn	23 22 35.6	+0.1	DNZ2				Sm		23 24 09.6					
JURR	Jurilovca	2.03	108	⇓P	Pn	23 22 36.3	+0.5		comp=E,65nm,0.5s										
MFTR	Murfatlar	2.03	127	⇓P	Pn	23 22 36.0	+0.1	PSZ	Piszkesteto	4.99	302		Pn	23 23 13.2	-0.7				
MFTR				⇓S	Sn	23 23 01.6	-1.2	GELI	Tayfur-Gelibol	5.03	177	*e*P	Pn	23 23 14.5	0.0				
LOZB	Loznitsa	2.08	172	⇓P	Pn	23 22 36.5	-0.1	BBLS	Lazi&#263i	5.08	254	*e*Pn	Pn	23 23 14.6	-0.6				
LOZB				⇓S	Sn	23 23 02.9	-1.0	HRT	Hereke	5.27	150	*e*P	Pn	23 23 18.1	+0.4				
ARCR	ARCALIA	2.08	323	⇓P	Pn	23 22 36.5	-0.1	MORH	Mrgy, Hungar	5.32	281	⇓P	Pn	23 23 18.8	+0.4				
SZH	Strazhitsa	2.17	184	*i* P	Pn	23 22 37.5	-0.1	COMU	Canakkale	5.33	178	*e*P	Pn	23 23 18.5	-0.1				
SZH				S	Sn	23 23 04.3	-1.5	SEV	Sevastopol'	5.39	97	P	Pn	23 23 19.1	-0.1				
TSCT	Constanta Port	2.17	125	⇓P	Pn	23 22 37.1	-0.2	SEV				Pm		23 23 19.8					
TSCT				⇓S	Sn	23 23 04.7	-1.1	SEV				S	Sn	23 24 20.2	-0.2				
EFOR	EFORIE	2.21	127	⇓P	Pn	23 22 38.3	+0.2	SEV				Sm		23 24 22.8					
EFOR				⇓S	Sn	23 23 05.9	-0.7	SEV	Sevastopol'	5.39	97	⇓*e*P	Pn	23 23 19.1	-0.1				
SRE	Strehaia	2.24	251	⇑P	Pn	23 22 38.1	-0.3	SEV				Pm		23 23 19.8					
BURAR	Bucovina Array	2.29	344	⇓P	Pn	23 22 40.4	+1.4		comp=Z,10.0nm,0.5s										
BURAR	Bucovina Array	2.29	344		Pn	23 22 39.9	+0.9	SEV				*ex*	x	23 23 31.1					
NEF	NEVSHA	2.30	160	*i* P	Pn	23 22 39.4	+0.2	SEV				*e*S	Sn	23 24 20.2	-0.2				
BUR08	Bucovina Ar. S	2.32	343		Pn	23 22 40.4	+0.9	SEV				Sm		23 24 22.8					
BUR08				Sn	Sn	23 23 09.7	+0.5		comp=N,97nm,1.3s										
PLVB	Pleven	2.33	209	⇓P	Pn	23 22 39.3	-0.1	SEV				Sm		23 24 22.8					
DEV	Deva	2.34	282	⇑P	Pn	23 22 39.6	0.0		comp=E,26nm,0.7s										
DEV				⇑S	Sn	23 23 09.9	+0.4	YLV	Yalova	5.39	153	*e*P	Pn	23 23 19.9	+0.5				
MANR	Mangalia	2.36	132	⇑P	Pn	23 22 40.2	+0.3	EZN	Ezine	5.60	179	*e*P	Pn	23 23 21.4	-0.7				
MANR				⇑S	Sn	23 23 08.8	-1.1	ADVT	Abdulvahap	5.64	151	*e*P	Pn	23 23 23.0	+0.4				
MILM	Milestii Mici	2.36	50	⇑P	Pn	23 22 39.2	-0.7	AKASG	Malin Array Be	5.66	20	Pn	Pn	23 23 20.4	-2.3				
MILM	Milestii Mici	2.36	50	*e*P	Pn	23 22 39.1	-0.7	AKASG	Malin Array Be	5.66	20	P	Pn	23 23 21.9	-0.9				
	130nm,0.1s								comp=E,6.7nm,0.4s,baz=208,slow=12,SNR=39										
MILM				*e*S	Sn	23 23 06.6	-3.4	AKASG				S	Sn	23 24 23.4	-3.4				
	3µm,0.3s								comp=E,1.5nm,0.3s,baz=197,slow=22,SNR=5.2										
GZR	Gura Zlata	2.39	270	⇑P	Pn	23 22 40.4	0.0	AKBB	Malin Array Si	5.66	20	Pn	Pn	23 23 22.2	-0.5				
GZR				⇑S	Sn	23 23 10.3	-0.4	YAL	Yalta	5.74	97	P	Pn	23 23 24.1	+0.2				
GZR	Gura Zlata	2.39	270	*e*Pn	Pn	23 22 40.2	-0.1	YAL				Pm		23 23 24.2					
KIS	Kishinev	2.42	49	⇑P	Pn	23 22 40.7	+0.2	YAL				S	Sn	23 24 29.4	+0.6				
KIS	Kishinev	2.42	49	*e*P	Pn	23 22 40.5	0.0	YAL				Sm		23 24 31.6					
	340nm,0.3s							YAL	Yalta	5.74	97	⇓*e*P	Pn	23 23 24.1	+0.2				
KIS				*e*S	Sn	23 23 08.8	-2.3	YAL				Pm		23 23 24.2					
	2µm,0.3s								comp=Z,6.0nm,0.3s										
KIS	Kishinev	2.42	49	P	Pn	23 22 40.7	+0.2	YAL				*e*S	Sn	23 24 29.4	+0.6				
PRD	Provadia	2.44	158	*i* P	Pn	23 22 41.0	+0.2	YAL				Sm		23 24 31.6					
PRD				S	Sn	23 23 11.4	-0.2		comp=N,17nm,0.8s										
MARR	Marisel-Cluj	2.47	301	⇓P	Pn	23 22 41.2	-0.1	YAL				Sm		23 24 31.6					
ROIA	ROIAK	2.49	159	*i* P	Pn	23 22 42.0	+0.5		comp=E,11nm,0.4s										
ELND	Elena	2.51	185	⇓P	Pn	23 22 41.8	0.0	FNA	Florina	5.82	219	Pn	Pn	23 23 23.9	-1.2				
AVR	AVREN	2.55	155	*i* P	Pn	23 22 42.5	+0.3	ALU	Alushta	5.88	94	P	Pn	23 23 25.4	-0.3				
PUNG	Punghina	2.58	245	⇑P	Pn	23 22 41.9	-0.7	ALU				Pm		23 23 25.6					
KALB	Balgarevo	2.58	141	⇑P	Pn	23 22 43.2	+0.5	ALU				S	Sn	23 24 32.8	+0.7				
RMGR	Halanga-Turnu	2.58	254	⇓P	Pn	23 22 41.9	-0.7	ALU				Sm		23 24 35.5					
VALD	Valchedram	2.62	229	*i* P	Pn	23 22 42.9	-0.2	ALU	Alushta	5.88	94	*e*P	Pn	23 23 25.4	-0.3				
MPEP	Malo Peshtene	2.71	221	*i* P	Pn	23 22 44.2	0.0	ALU				Pm		23 23 25.6					
MPEP				S	Sn	23 23 16.7	-1.0		comp=Z,13nm,0.6s										
HERR	Herculane	2.71	260	⇓P	Pn	23 22 43.5	-0.8	ALU				*e*S	Sn	23 24 32.8	+0.7				
DRGR		2.77	301	⇓P	Pn	23 22 44.9	-0.2	ALU				Sm		23 24 35.5					
DRGR		2.77	301	*e*Pn	Pn	23 22 44.6	-0.4		comp=N,14nm,0.4s										
DRBR	Darabani	2.80	6	⇓P	Pn	23 22 45.7	+0.4	ALU				Sm		23 24 35.5					
DRBR				⇓S	Sn	23 23 25.6	-0.1		comp=E,9.0nm,0.5s										
PURM	Purcari	2.80	66	⇑P	Pn	23 22 45.4	0.0	KURC	Kurucasile-Bar	5.96	125	*e*P	Pn	23 23 29.6	+2.7				
MESR	Meseseni	2.82	309	⇓P	Pn	23 22 45.5	-0.1	LIT	Litokhoron	5.97	208	Pn	Pn	23 23 25.8	-1.3				
SURR	Surduc	2.86	278	⇓P	Pn	23 22 45.9	-0.2	MDUB	Mudurnu	6.17	142		Pn	23 23 31.0	+1.1				
CHRU	Chernivtsi	2.88	357	*e*Pn	Pn	23 22 45.9	-0.4	SIGR	SIGRI	6.22	182	*e*P	Pn	23 23 30.5	+0.2				
CHRU				*e*Sn	Sn	23 23 21.0	-0.4	SUDU	Sudak	6.26	92	P	Pn	23 23 28.3	-2.6				
BMR	Baia Mare	2.91	322	⇓P	Pn	23 22 47.1	+0.4	SUDU				Pm		23 23 45.7					
RAKU	Rahkiv	2.94	333	*e*Pn	Pn	23 22 47.4	+0.3	SUDU				S	Sn	23 24 38.1	-3.3				
JMB	Yambol	2.95	175	*i* P	Pn	23 22 47.2	-0.1	SUDU				Sm		23 24 41.6					
KSV	Kosov	2.99	346	*e*Pn	Pn	23 22 47.2	-0.5	SUDU	Sudak	6.26	92	⇓*e*P	Pn	23 23 28.3	-2.6				
NSLU	Nyzhne Selyshc	3.01	338	*e*Pn	Pn	23 22 52.3	+4.3	SUDU				Pm		23 23 45.7					
SORM	Soroca	3.09	28	⇓P	Pn	23 22 48.6	-0.4		comp=Z,10.0nm,0.4s										
SORM	Soroca	3.09	28	P	Pn	23 22 48.6	-0.4	SUDU				*e*S	Sn	23 24 38.1	-3.3				
								SUDU				Sm		23 24 41.6					
									comp=N,23nm,0.5s										
								SUDU				Sm		23 24 41.6					
									comp=E,20nm,0.4s										
								TVSB	Tavsanli	6.45	157	*e*P	Pn	23 23 33.7	+0.1				
								YUVA	Yuva-Kibriscik	6.46	139	*e*P	Pn	23 23 35.0	+1.3				
								BZK	Bozkurt	6.65	119	Pn	Pn	23 23 35.0	-1.1				
								GORD	Gordes-Manisa	6.68	166	*e*P	Pn	23 23 36.5	-0.1				
								JAVC	Velka Javorina	6.74	304	*e*P	Pn	23 23 38.1	+0.8				
								MAUC	Maruska	6.90	308	*e*P	Pn	23 23 40.4	+1.0				
								ILGA	Ilgaz	7.03	126		Pn	23 23 42.1	+0.7				
								MANT	Manisa	7.16	165	Pn	Pn	23 23 42.0	-1.2				
								RONA	Rosalia, Austr	7.18	292	*i* Pn	Pn	23 23 43.7	+0.5				
									comp=E,1.9nm,0.5s										
								STEB	Steborice	7.28	312	*e*P	Pn	23 23 42.8	-1.2				
								MORC	Moravsky Berou	7.28	310	Pn	Pn	23 23 43.3	-1.2				
								MORC	Moravsky Berou	7.28	310	*e*P	Pn	23 23 43.6	-0.9				
								CONA	Conrad Óbserva	7.52	293	*e*Pn	Pn	23 23 48.4	+0.6				
									comp=E,1.5nm,0.7s										
								VRAC	Vranov	7.57	304	P	Pn	23 23 47.3	-1.1				
									comp=E,8.8nm,1.0s,baz=96,slow=12,SNR=10										
								VRAC	Vranov	7.57	304	*e*P	Pn	23 23 48.1	-0.3				
								KRUC	Moravsky	7.58	302	*e*P	Pn	23 23 48.4	-0.1				
								KRLC	Kraliky	7.85	310	*e*P	Pn	23 23 52.3	+0.1				
								SOKA	Soboth	7.85	283	*i* Pn	Pn	23 23 53.1	+0.8				
									comp=E,3.5nm,0.6s										
								BRTR	Keskin Array B	7.92	133	Pn	Pn	23 23 53.1	-0.2				
								BRTR	Keskin Array B	7.92	133	P	Pn	23 23 53.4	0.0				
									comp=E,2.5nm,0.8s,baz=317,slow=11,SNR=14										
								DPC	Dobruska-Polom	8.25	310	*e*P	Pn	23 23 58.4	+0.9				
								OSTC	Ostas	8.42	311	*e*P	Pn	23 23 59.4	-0.3				
								CHVC	Chvalec	8.52	311	*e*P	Pn	23 24 00.5	-0.6				
								MOA	Molln	8.54	291	*i* Pn	Pn	23 24 02.7	+1.3				
									comp=E,0.4nm,0.3s										
								GERES	GERESS Array B	9.16	296	P	Pn	23 24 09.1	-0.6				
									comp=E,0.2nm,0.4s,baz=108,slow=13,SNR=5.4										
								KHC	Kasperske Hory	9.33	298	*e*P	Pn	23 24 19.8	+7.9				
								NACGM	Naroch	9.49	2	*e*P	Pn	23 24 21.1	+7.1				
									comp=Z,7.0nm,0.7s,baz=182										
								BSD	Bornholm Skovb	12.06	328	*i* P	P	23 24 54.0	-0.5				
								BSD				IAmb	IA

PRAC	**Prado**	**7.58**	**97**	P	Pn	00 06 56.2 -14

*TAP **08** 00:49:15.4,24.′69N×122.′40E,h14km,ML3.4,C*
*JMA **08** 00:49:16.2±0.1,25.′1N±1.′1×122.′4E±0.′4,h29km±3km, MV2.4/12,NW OFF ISHIGAKIJIMA IS*
ISC 08 00:49:14.7±1.1,24.′66N±0.′02×122.′44E±0.′02,h7km±9km, n74,σ0s57/126,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.31**	**218**	P	**Pb**	**00 49 22.3**	**-0.2**
EOS2				S	**Sb**	**00 49 27.6**	**0.0**
EOS3	**EOS3**	**0.39**	**197**	P	**Pb**	**00 49 24.1**	**+0.3**
EOS3				S	**Sb**	**00 49 30.3**	**+0.3**
EGS		**0.50**	**292**	*i* P	**Pg**	**00 49 24.7**	**+0.4**
EGS				*i* S	**Sg**	**00 49 31.6**	**+0.8**
JYNG	**Yonagunijimaku**	**0.51**	**114**	P	**Pb**	**00 49 26.5**	**+0.6**
JYNG				*e*S	**Sb**	**00 49 33.5**	**+0.1**
TWB1	**Santiao Chiao**	**0.54**	**310**	*i* P	**Pb**	**00 49 25.8**	**-0.6**
TWB1				*i* S	**Sg**	**00 49 32.2**	**+0.1**
TWC	**Suao**	**0.54**	**265**	*i* P	**Pg**	**00 49 25.0**	**-0.1**
TWC				*i* S	**Sb**	**00 49 33.4**	**-1.0**
ESAO	**Su ao**	**0.55**	**261**	P	**Pg**	**00 49 25.4**	**+0.1**
ESAO				S	**Sb**	**00 49 33.6**	**-1.2**
EOS4	**EOS4**	**0.55**	**192**	P	**Pb**	**00 49 26.9**	**+0.5**
EOS4				S	**Sb**	**00 49 34.5**	**+0.1**
YOJ	**Yonaguni jima**	**0.56**	**111**	P	**Pb**	**00 49 27.5**	**+0.8**
YOJ				S	**Sb**	**00 49 35.4**	**+0.5**
YOJ	**Yonaguni jima**	**0.56**	**111**	*e*P	**Pb**	**00 49 27.5**	**+0.8**
YOJ				*e*S	**Sb**	**00 49 34.4**	**-0.5**
NTC	**Toucheng**	**0.59**	**289**	*e*P	**Pg**	**00 49 25.8**	**-0.2**
NTC				*e*S	**Sg**	**00 49 34.2**	**+0.6**
TIPB	**Shuangxi**	**0.64**	**299**	P	**Pb**	**00 49 27.9**	**-0.2**
TIPB				*e*S	**Sg**	**00 49 35.6**	**+0.3**
EWUT	**Wuta**	**0.64**	**250**	P	**Pb**	**00 49 27.4**	**-0.8**
EWUT				S	**Sb**	**00 49 36.1**	**-1.2**
SXI1	**Grass Mountain**	**0.67**	**310**	*i* P	**Pb**	**00 49 28.8**	**0.0**
SXI1				S	**Sb**	**00 49 38.2**	**-0.1**
ENA	**Nanau**	**0.68**	**250**	*i* P	**Pg**	**00 49 27.9**	**+0.2**
ENA				*i* S	**Sb**	**00 49 37.3**	**-1.2**
TWE	**Neicheng**	**0.71**	**275**	*i* P	**Pg**	**00 49 28.0**	**-0.2**
TWE				S	**Sg**	**00 49 37.7**	**+0.3**
EAHA	**Aohua**	**0.72**	**243**	*e*P	**Pb**	**00 49 28.9**	**-0.6**
EAHA				*e*S	**Sb**	**00 49 39.8**	**+0.2**
NWF	**Wu-fen Shan**	**0.72**	**304**	*i* P	**Pb**	**00 49 29.5**	**+0.2**
NWF				*i* S	**Sb**	**00 49 39.3**	**-0.6**
WFSB	**Wu-fen Shan**	**0.72**	**304**	P	**Pb**	**00 49 29.5**	**-0.1**
WFSB				S	**Sb**	**00 49 39.8**	**0.0**
TNOU	**National Taiwa**	**0.78**	**309**	P	**Pb**	**00 49 30.4**	**-0.1**
TNOU				S	**Sb**	**00 49 40.9**	**-0.4**
FUSB	**Fushanzhiwuyua**	**0.78**	**277**	P	**Pg**	**00 49 29.3**	**-0.4**
FUSB				S	**Sg**	**00 49 40.1**	**+0.3**
ENTT	**Nioudou**	**0.80**	**269**	*i* P	**Pb**	**00 49 30.4**	**-0.5**
ENTT				*i* S	**Sb**	**00 49 41.0**	**-0.8**
TWA	**Mucha**	**0.84**	**292**	*e*P	**Pb**	**00 49 32.2**	**+0.5**
TWA				S	**Sg**	**00 49 41.4**	**-0.4**
LATG	**Datong**	**0.84**	**262**	*e*P	**Pg**	**00 49 30.8**	**-0.1**
LATG				*i* S	**Sb**	**00 49 43.1**	**-0.1**
NWLT	**Wulai**	**0.86**	**278**	P	**Pg**	**00 49 31.3**	**+0.1**
NWLT				S	**Sg**	**00 49 41.8**	**-0.6**
NHY	**Taipei**	**0.88**	**296**	*e*S	**Sg**	**00 49 43.3**	**+0.4**
NHDH	**Xindian Distri**	**0.89**	**290**	P	**Pb**	**00 49 33.0**	**+0.6**
NHDH				*i* S	**Sg**	**00 49 43.6**	**+0.4**
ETL	**Fush Village**	**0.90**	**236**	*e*P	**Pb**	**00 49 31.9**	**-0.6**
NACB	**Ninganchiao**	**0.91**	**238**	P	**Pb**	**00 49 32.1**	**-0.7**
NACB				S	**Sg**	**00 49 43.9**	**-0.2**
YM01	**YM01**	**0.93**	**302**	P	**Pb**	**00 49 32.8**	**-0.3**
YM01				S	**Sg**	**00 49 45.0**	**+0.5**
TAP	**Taipei**	**0.93**	**294**	*e*S	**Sb**	**00 49 45.3**	**-0.4**
YM08	**YM08**	**0.93**	**304**	P	**Pb**	**00 49 33.4**	**+0.2**
YM08				S	**Sg**	**00 49 44.9**	**+0.1**
ZUZH	**Zhuzihu**	**0.95**	**302**	*e*P	**Pb**	**00 49 33.6**	**0.0**
ZUZH				*i* S	**Sg**	**00 49 45.6**	**+0.2**
TWD	**Chiawan**	**0.96**	**233**	P	**Pn**	**00 49 34.7**	**+0.1**
TWD				S	**Sb**	**00 49 47.5**	**+0.9**
YHNB	**Yeheng**	**0.97**	**271**	P	**Pb**	**00 49 33.5**	**-0.4**
YHNB				S	**Sg**	**00 49 45.3**	**-0.6**
ETLH	**Xiulin Townshi**	**0.98**	**243**	*e*P	**Pb**	**00 49 34.0**	**-0.1**
NSK	**Sanguang**	**0.98**	**271**	*i* P	**Pb**	**00 49 33.6**	**-0.5**
NSK				*i* S	**Sg**	**00 49 45.1**	**-1.3**
ANP	**Anpu**	**0.99**	**302**	*e*P	**Pb**	**00 49 34.0**	**-0.1**
NNSB	**Datong**	**0.99**	**257**	*e*P	**Pn**	**00 49 34.7**	**-0.4**
NNSB				*i* S	**Sb**	**00 49 47.8**	**+0.3**
NNS	**Nan Shan**	**1.00**	**257**	*e*P	**Pg**	**00 49 33.2**	**-0.6**
NNS				*e*S	**Sb**	**00 49 47.1**	**-0.7**
PCYT	**Pengchaiyu**	**1.02**	**341**	*e*P	**Pg**	**00 49 34.1**	**-0.1**
TWS1	**Kuangyinshan**	**1.03**	**295**	*e*P	**Pn**	**00 49 35.3**	**-0.1**
TWS1				S	**Sb**	**00 49 48.6**	**+0.2**
NTST	**Danshui**	**1.03**	**299**	*e*P	**Pn**	**00 49 35.3**	**-0.2**
NTST				*e*S	**Sb**	**00 49 48.7**	**+0.1**
ETM	**Tongmen**	**1.11**	**231**	*e*P	**Pb**	**00 49 35.8**	**-0.4**
LXIB	**Xiulin Townshi**	**1.13**	**236**	*e*P	**Pb**	**00 49 36.7**	**0.0**
KSHI	**Guanxi Townshi**	**1.16**	**276**	*e*P	**Pn**	**00 49 37.8**	**+0.6**
KSHI				*e*S	**Sn**	**00 49 53.4**	**0.0**
FUSS	**Fushou**	**1.17**	**250**	*i* P	**Pn**	**00 49 37.5**	**-0.2**
FUSS				*e*S	**Sb**	**00 49 52.4**	**-0.3**
NCUH	**Zhongli**	**1.18**	**285**	*e*P	**Pn**	**00 49 37.5**	**-0.1**
NCUH				*e*S	**Sn**	**00 49 55.5**	**+1.2**
SHUL	**Shoufeng**	**1.18**	**223**	*e*P	**Pb**	**00 49 37.4**	**-0.1**
WHF	**Hehuan Shan**	**1.19**	**245**	P	**Pb**	**00 49 37.6**	**-0.2**
WHF				*i* S	**Sn**	**00 49 55.3**	**+0.5**
NFF	**Wufeng Townshi**	**1.20**	**269**	*i* P	**Pn**	**00 49 38.3**	**+0.3**
NFF				*e*S	**Sn**	**00 49 54.5**	**-0.1**
IRIF	**Iriomote-Funau**	**1.22**	**105**	*e*P	**Pg**	**00 49 37.5**	**-0.6**
IRIF				*e*S	**Sg**	**00 49 53.2**	**-0.7**
TDCB	**Techi**	**1.24**	**251**	*i* P	**Pn**	**00 49 38.7**	**+0.2**
TDCB				*i* S	**Sb**	**00 49 55.1**	**+0.4**
ESL	**Shilin**	**1.25**	**228**	*e*P	**Pn**	**00 49 38.8**	**+0.3**
LIOB	**Emei**	**1.30**	**270**	*e*P	**Pb**	**00 49 39.9**	**+0.5**
NSTT	**Nanjuang**	**1.31**	**269**	*e*P	**Pb**	**00 49 40.0**	**+0.4**
SBCB	**Hsinchu**	**1.33**	**276**	*e*P	**Pb**	**00 49 40.1**	**+0.2**
WARBT	**Fenglin Townsh**	**1.35**	**226**	*e*P	**Pb**	**00 49 40.9**	**+0.7**
OWD	**Renai**	**1.35**	**239**	*e*P	**Pb**	**00 49 40.5**	**+0.1**
OWD				*e*S	**Sn**	**00 49 59.4**	**+1.0**
EGFH	**Guangfu**	**1.35**	**223**	*e*P	**Pn**	**00 49 39.9**	**-0.1**
WUSB	**Renai**	**1.38**	**241**	*e*P	**Pb**	**00 49 41.6**	**+0.8**
WUSB				*i* S	**Sn**	**00 50 00.6**	**+1.6**
HATJ	**Hateruma jima**	**1.38**	**116**	*e*S	**Sn**	**00 49 59.5**	**+0.6**
WHP	**Taichung City**	**1.42**	**255**	*i* P	**Pg**	**00 49 42.2**	**+0.4**
WHP				*e*S	**Sn**	**00 50 00.3**	**+0.5**
JKRS	**Kuro-shima**	**1.49**	**106**	*e*P	**Pn**	**00 49 41.8**	**-0.1**
JKRS				*e*S	**Sb**	**00 50 00.8**	**-1.0**
NMLH	**Miaoli**	**1.51**	**266**	*e*P	**Pg**	**00 49 44.7**	**+1.1**
EHY	**Hungye**	**1.54**	**222**	*e*P	**Pb**	**00 49 43.4**	**-0.1**
JIJ	**Ishigaki jima**	**1.58**	**101**	*e*P	**Pn**	**00 49 42.9**	**-0.2**
JIJ				*e*S	**Sn**	**00 50 02.2**	**-1.6**
SMLT	**Sun Moon Lake**	**1.61**	**241**	*e*P	**Pg**	**00 49 44.9**	**-0.6**
SSLB	**Suanglung**	**1.61**	**238**	*e*P	**Pg**	**00 49 45.3**	**-0.3**
TYC	**Yuchr**	**1.63**	**243**	*e*P	**Pg**	**00 49 46.1**	**+0.2**
TYC				*e*S	**Sg**	**00 50 07.9**	**+0.8**
YULB	**Yu-li**	**1.64**	**220**	*e*P	**Pn**	**00 49 43.3**	**-0.7**
YULB				S	**Sn**	**00 50 04.7**	**-0.7**
JISG	**Ishigakijimahi**	**1.70**	**92**	*e*P	**Pn**	**00 49 45.1**	**+0.4**
WHYT	**Xinyi Township**	**1.74**	**237**	*e*P	**Pb**	**00 49 46.7**	**+0.3**
WSL	**Shuilin Townsh**	**2.32**	**241**	*e*P	**Pb**	**00 49 55.5**	**-1.3**
WSL				S	**Sb**	**00 50 26.8**	**+1.1**

*ISN **08** 00:56:49.2±0.3,32.′53N×47.′79E,h18km±28km,ML2.6*
*TEH **08** 00:56:49.6,32.′54N×47.′68E,h10km±118km*
ISC 08 00:56:50.7±1.4,32.′57N±0.′07×47.′65E±0.′06,h10km,n10, σ1s37/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDOB	**Doab**	**1.29**	**20**	Pg	**Pg**	**00 57 14.9**	**-0.6**
IBDR	**Badra**	**1.55**	**291**	*e*Pn	**Pg**	**00 57 19.5**	**-0.9**
IBDR				*e*Sn	**Sg**	**00 57 41.5**	**+1.0**
RAFI	**Al-Rafai**	**1.56**	**237**	*e*Pg	**Pb**	**00 57 18.5**	**-1.1**
RAFI				*e*Sg	**Sg**	**00 57 40.0**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.60**	**311**	Pg	**Pg**	**00 57 21.3**	**-0.2**
BDRS	**Dareh Seyedi**	**1.72**	**36**	Pg	**Pb**	**00 57 22.3**	**-0.3**
IBZA	**Bozab**	**1.90**	**5**	Pn	**Pg**	**00 57 26.4**	**-0.8**
SNQR	**Sonqor, Kerman**	**2.28**	**359**	Pn	**Pb**	**00 57 31.0**	**-1.1**
IDHR	**Dehrash**	**2.37**	**334**	Pn	**Pb**	**00 57 31.3**	**-2.3**
HAGD	**Aghdareh**	**2.56**	**29**	Pn	**Pn**	**00 57 33.7**	**+1.1**
BHD	**Baghdad**	**2.84**	**285**	*e*Pn	**Pn**	**00 57 37.3**	**+1.2**
BHD				*e*Sn	**Sn**	**00 58 12.5**	**+2.2**

TRN 08 01:31:47.7,17.′00N×60.′98W,h7km,MD3.6,East of Antigua.,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSDZ	**La Diserade, G**	**0.69**	**187**	*e*P	Pn	01 32 03.4	-0.5
DSDZ				*e*S	Sn	01 32 15.9	+1.0
ANWB	**Willy Bob**	**1.02**	**311**	*e*P	Pn	01 32 09.0	+0.6
ANWB				x	x	01 32 22.0	
ANWB	**Willy Bob**	**1.02**	**311**	*e*	Sn	01 32 22.0	-1.0
DHSZ	**Broadband at M**	**1.05**	**226**	*e*P	Pn	01 32 09.5	+0.6
DHSZ				*e*S	Sn	01 32 26.0	+2.2
ATGZ	**Broadband at L**	**1.15**	**219**	*e*P	Pn	01 32 11.6	+1.3
MMLZ	**Guadeloupe Bro**	**1.16**	**215**	*e*P	Pn	01 32 11.2	+0.8
MMLZ				*e*S	Sn	01 32 29.5	+3.0
MBWH		**1.19**	**258**	*e*P	Pn	01 32 12.9	+2.0
MBWH				*e*S	Sn	01 32 30.8	+3.5
MBFL	**Flemmings, Mon**	**1.21**	**258**	*e*P	Pn	01 32 13.0	+1.9
MBFL				*e*S	Sn	01 32 30.8	+3.0
TBG	**Guadaloupe-3**	**1.31**	**209**	*e*P	Pg	01 32 13.8	+1.9
TBG				*e*S	Sn	01 32 33.1	+2.8
DSLB	**Salisbury**	**1.61**	**195**	*e*P	Pb	01 32 18.1	+0.3
DSLB				*e*S	Sg	01 32 41.7	+2.1
SKI	**Saint Kitts**	**1.72**	**281**	*e*P	Pb	01 32 20.0	+0.4
SKI				*e*S	Sg	01 32 43.8	+0.9

*AEIC **08** 01:45:31.6±1.0,53.′11N±0.′06×167.′42W±0.′07,h34km±5km, Error ellipse: s-maj=9.8km s-min=2.7km az=148.0*
NEIC 08 01:45:32.4±1.3,53.′14N±0.′02×167.′45W±0.′05,h35km±2km, ML2.8(AEIC),Error ellipse: s-maj=5.5km s-min=3.2km az=125.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.39**	**314**		Pn	01 45 41.6	+0.1
OKFG					Sn	01 45 48.5	+0.8
OKTU	**Okmok Mt. Tuli**	**0.43**	**305**		Pn	01 45 42.0	-0.2
OKTU					Sn	01 45 49.1	+0.2
OKCE	**Okmok Cone E**	**0.52**	**304**		Pn	01 45 43.4	0.0
OKCE					Sn	01 45 52.9	+1.9
OKSP	**Okmok Steeple**	**0.52**	**283**		Pn	01 45 42.6	-0.8
OKSP					Sn	01 45 51.0	0.0
MAPS	**Pakushin South**	**0.73**	**24**		Pn	01 45 45.6	-0.7
MAPS					Sn	01 45 56.2	-0.1
MGOD	**Makushin Gods**	**0.74**	**27**		Pn	01 45 45.6	-0.8
MREP	**Makushin Rep't**	**0.79**	**32**		Pn	01 45 46.5	-0.6
MSW	**Makushin Switc**	**0.87**	**27**		Pn	01 45 47.7	-0.5
MSW					Sn	01 46 00.4	+0.7
MNAT	**Makushin Natee**	**0.87**	**31**		Pn	01 45 47.6	-0.6
MTBL	**Makushin Table**	**0.95**	**29**		Sn	01 46 03.5	+1.8
AKMO	**Akutan Morgan**	**1.28**	**41**		Sn	01 46 10.8	+1.1
ZRN	**Akutan Zero**	**1.29**	**42**		Pn	01 45 54.0	0.0
LVA	**Lava Point**	**1.32**	**39**		Pn	01 45 54.7	+0.3
LVA	**Lava Point**	**1.32**	**39**		Sn	01 46 13.1	+2.2
AKLV	**Akutan Long Va**	**1.35**	**40**		Pn	01 45 54.8	-0.1
AKUT	**Akutan**	**1.41**	**44**		Pn	01 45 55.1	-0.5
AKSA	**Akutan Strait**	**1.44**	**46**		Pn	01 45 55.7	-0.3
KIWB	**Kanaga Island**	**6.07**	**262**	Pn	Pn	01 46 60.0	+0.4
CHGN	**Chignik**	**6.12**	**55**	Pn	Pn	01 47 01.4	+1.2

*SJA **08** 02:02:35.0±0.6,24.′23S×66.′98W,h212km±5km,ML4.0, MW3.9*
*IDC **08** 02:02:35.4±1.7,24.′09S×66.′92W,h176km±16km,mb3.5/4, mbtmp3.8/10,Error ellipse: s-maj=21.6km s-min=13.1km az=93.0*
*NEIC **08** 02:02:36.3±2.5,24.′21S±0.′06×67.′0W±0.′1,h196km±10km, mb4.2/8,ML4.2(GUC),Error ellipse: s-maj=17.3km s-min=8.4km az=89.0*
*GUC **08** 02:02:36.7±0.8,24.′27S×66.′99W,h198km±5km,ML4.2*
ISC 08 02:02:36.2±0.6,24.′20S±0.′04×67.′04W±0.′04,h201km±6km, n94,σ1s54/129,mb4.1/7,9C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.64**	**92**	⇑*i*P	**Pn**	**02 03 04.4**	**-0.2**
SALTA				*e*S	**Sn**	**02 03 25.9**	**-0.7**
SALTA		**0.64**	**92**	*e*P	Pn	02 02 58.7	-6.0
SALTA				*e*P		02 02 58.9	
SLA	**San Lorenzo**	**1.49**	**111**	⇓*i*P	**Pn**	**02 03 09.8**	**-0.3**
SLA	**San Lorenzo**	**1.49**	**111**	*e*P	**Pn**	**02 03 09.9**	**-0.3**
AF01	**San Pedro de A**	**1.62**	**320**		**Pn**	**02 03 12.5**	**+1.0**
AF01	**San Pedro de A**	**1.62**	**320**	⇑*i*P	**Pn**	**02 03 12.6**	**+1.1**
AF01				*e*S	**Sn**	**02 03 39.2**	**+0.4**
AF01				IAML		02 03 42.9	
	comp=N,702nm,0.4s						
AF01	**San Pedro de A**	**1.62**	**320**	*e*P	**Pn**	**02 03 13.2**	**+1.7**
AF01				*e*S	**Sn**	**02 03 46.2**	**+7.4**
AF01				IAML		02 03 59.6	
	comp=Z,305nm,1.4s						
HJA	**Humahuaca**	**1.79**	**57**	*e*P	**Pn**	**02 03 13.3**	**+0.1**
HJA				*e*S	**Sn**	**02 03 42.0**	**+0.2**
AZAP	**Zapla**	**1.81**	**91**	*e*P	**Pn**	**02 03 12.4**	**-0.7**
AZAP				*e*S	**Sn**	**02 03 41.0**	**-0.7**
FSA	**Cafayete**	**2.13**	**153**	*e*P	**Pn**	**02 03 15.9**	**-0.5**
YJA	**Yavi**	**2.46**	**35**	*e*P	**Pn**	**02 03 20.3**	**+0.1**
YJA				*e*S	**Sn**	**02 03 54.0**	**-0.4**
YJA	**Yavi**	**2.46**	**35**	*e*P	**Pn**	**02 03 20.5**	**+0.3**
YJA				*e*S	**Sn**	**02 03 54.2**	**-0.2**
GO02	**Mina Guanaco**	**2.51**	**247**		**Pn**	**02 03 21.0**	**+0.4**
GO02				Sn	**Sn**	**02 03 55.4**	**+0.2**
GO02	**Mina Guanaco**	**2.51**	**247**	⇓*i*P	**Pn**	**02 03 21.4**	**+0.8**
GO02				*e*S	**Sn**	**02 03 55.1**	**0.0**
GO02				IAML		02 03 56.2	
	comp=E,1μm,0.4s						
GO02	**Mina Guanaco**	**2.51**	**247**	*e*P	**Pn**	**02 03 21.4**	**+0.8**
GO02				*e*S	**Sn**	**02 03 55.6**	**+0.5**
GO02				IAML		02 03 56.8	
	comp=Z,786nm,0.4s						
PB06	**IPOC Station P**	**2.76**	**302**		**Pn**	**02 03 24.1**	**+0.8**
PB06				Sn	**Sn**	**02 03 59.2**	**-0.8**
PB06	**IPOC Station P**	**2.76**	**302**	⇑*i*P	**Pn**	**02 03 24.3**	**+1.0**
PB06	**IPOC Station P**	**2.76**	**302**	*e*P	**Pn**	**02 03 24.4**	**+1.0**
PB06				*e*S	**Sn**	**02 03 59.2**	**-0.8**
PB06				IAML		02 04 02.1	
	comp=Z,782nm,0.3s						
ALOL	**LOMAS DE OLMED**	**2.83**	**83**	*e*P	**Pn**	**02 03 23.3**	**-0.6**
PB14	**IPOC Station P**	**3.09**	**261**		**Pn**	**02 03 27.3**	**0.0**
PB14					**Sn**	**02 04 05.2**	**-2.0**
PB14	**IPOC Station P**	**3.09**	**261**	*e*P	**Pn**	**02 03 28.1**	**+0.7**
PB14				IAML		02 04 07.8	
	comp=E,207nm,0.3s						
PB14	**IPOC Station P**	**3.09**	**261**	*e*P	**Pn**	**02 03 28.2**	**+0.8**
PB14				*e*S	**Sn**	**02 04 06.9**	**-0.3**
PB14				IAML		02 04 08.1	
	comp=Z,236nm,0.5s						
PB09	**IPOC Station P**	**3.14**	**319**		**Pn**	**02 03 28.8**	**+1.0**
PB09	**IPOC Station P**	**3.14**	**319**	⇑*i*P	**Pn**	**02 03 28.7**	**+1.0**
PB09				IAML		02 04 12.0	
	comp=E,310nm,0.3s						
PB09	**IPOC Station P**	**3.14**	**319**	*e*P	**Pn**	**02 03 29.0**	**+1.2**
PB09				*e*S	**Sn**	**02 04 08.0**	**0.0**
PB09				IAML		02 04 13.1	
	comp=Z,254nm,0.3s						
PB05	**IPOC Station P**	**3.20**	**294**		**Pn**	**02 03 29.0**	**+0.6**
PB05				Sn	**Sn**	**02 04 07.3**	**-1.8**
PB05	**IPOC Station P**	**3.20**	**294**	*e*P	**Pn**	**02 03 29.1**	**+0.8**
PB05	**IPOC Station P**	**3.20**	**294**	*e*P	**Pn**	**02 03 29.1**	**+0.8**
PB05				*e*S	**Sn**	**02 04 07.9**	**-1.2**
PB05				IAML		02 04 14.3	
	comp=Z,246nm,0.3s						
AC02	**Maricunga**	**3.23**	**215**		**Pn**	**02 03 29.6**	**+0.5**
AC02	**Maricunga**	**3.23**	**215**	⇓*i*P	**Pn**	**02 03 29.9**	**+0.8**
AC02	**Maricunga**	**3.23**	**215**	*e*P	**Pn**	**02 03 30.1**	**+1.0**
AC02				*e*S	**Sn**	**02 04 13.9**	**+3.3**
PB10	**IPOC Station P**	**3.29**	**281**		**Pn**	**02 03 30.0**	**+0.6**
PB10				Sn	**Sn**	**02 04 09.6**	**-1.2**
PB10	**IPOC Station P**	**3.29**	**281**	*e*P	**Pn**	**02 03 30.1**	**+0.8**
PB10				*e*S	**Sn**	**02 04 09.8**	**-1.0**
PB10				IAML		02 04 14.7	
	comp=Z,321nm,0.4s						
PB03	**IPOC Station P**	**3.29**	**310**		**Pn**	**02 03 30.0**	**+0.5**
PB03				Sn	**Sn**	**02 04 09.5**	**-1.7**
PB03	**IPOC Station P**	**3.29**	**310**	*e*P	**Pn**	**02 03 30.1**	**+0.5**
PB03				*e*S	**Sn**	**02 04 10.1**	**-1.1**
PB03				IAML		02 04 11.1	
	comp=Z,414nm,0.7s						
AC01	**Pan de Azucar**	**3.76**	**238**		**Pn**	**02 03 34.6**	**-0.5**
AC01				Sn	**Sn**	**02 04 18.9**	**-2.4**
AC01	**Pan de Azucar**	**3.76**	**238**	*e*P	**Pn**	**02 03 34.5**	**-0.6**
AC01				*e*S	**Sn**	**02 04 19.8**	**-1.4**
AC01				IAML		02 04 24.0	
	comp=Z,80nm,0.2s						
PB01	**IPOC Station P**	**3.87**	**324**		**Pn**	**02 03 36.5**	**-0.1**
PB01				Sn	**Sn**	**02 04 22.3**	**-1.6**
PB01	**IPOC Station P**	**3.87**	**324**	*e*P	**Pn**	**02 03 36.8**	**+0.2**
PB01				*e*S	**Sn**	**02 04 22.9**	**-1.0**
PB01				IAML		02 04 27.3	
	comp=Z,146nm,0.3s						
PB02	**IPOC Station P**	**3.89**	**317**		**Pn**	**02 03 37.0**	**+0.1**
PB02				Sn	**Sn**	**02 04 22.3**	**-2.1**
PB02	**IPOC Station P**	**3.89**	**317**	*e*P	**Pn**	**02 03 37.0**	**+0.1**
PB02				*e*S	**Sn**	**02 04 23.5**	**-0.9**
PB02				IAML		02 04 32.5	
	comp=Z,414nm,0.4s						
CYA	**Choya**	**4.37**	**165**	*e*P	**Pn**	**02 03 42.8**	**+0.2**
CYA				*e*S	**Sn**	**02 04 33.8**	**-1.2**
PATCX	**Punta Patache**	**4.43**	**319**		**Pn**	**02 03 43.1**	**-0.4**
GO03	**Copiapo**	**4.43**	**220**		**Pn**	**02 03 42.6**	**-0.9**
GO03					**Sn**	**02 04 33.8**	**-2.8**
GO03	**Copiapo**	**4.43**	**220**	*e*P	**Pn**	**02 03 43.0**	**-0.6**
GO03				*e*S	**Sn**	**02 04 35.2**	**-1.3**
PB08	**IPOC Station P**	**4.49**	**334**		**Pn**	**02 03 45.2**	**+0.6**
PB08	**IPOC Station P**	**4.49**	**334**	*e*P	**Pn**	**02 03 45.5**	**+0.9**
PB08				*e*S	**Sn**	**02 04 37.7**	**-0.7**
PB08				IAML		02 04 41.9	
	comp=Z,102nm,0.3s						
VCA	**Vinchina**	**4.63**	**193**	*e*P	**Pn**	**02 03 47.6**	**+1.5**
VCA				*e*S	**Sn**	**02 04 43.0**	**+1.7**
TA01	**Diego Aracena**	**4.64**	**321**		**Pn**	**02 03 46.1**	**0.0**
TA01	**Diego Aracena**	**4.64**	**321**	*e*P	**Pn**	**02 03 46.0**	**-0.1**
TA01				*e*S		02 04 30.6	
TA01				IAML		02 04 44.6	
	comp=Z,78nm,0.3s						
GO01	**Chusmiza**	**4.93**	**336**		**Pn**	**02 03 50.8**	**+0.5**
PB11	**IPOC Station P**	**5.04**	**331**		**Pn**	**02 03 50.9**	**-0.4**
PB11	**IPOC Station P**	**5.04**	**331**	*e*S	**Sn**	**02 04 48.7**	**-1.9**
PB11				IAML		02 04 50.6	
	comp=Z,98nm,0.3s						
ACLC	**CERRO LA CRUZ**	**5.20**	**179**	*e*S	**Sn**	**02 04 52.0**	**-2.4**
AC04	**Llanos de Chal**	**5.38**	**221**		**Pn**	**02 03 54.5**	**-1.1**
AC04	**Llanos de Chal**	**5.38**	**221**	*e*P	**Pn**	**02 03 54.4**	**-1.1**
AC04				IAML		02 04 58.4	
	comp=Z,22nm,0.6s						
LCO	**Las Campanas**	**5.80**	**214**	Pn	**Pn**	**02 03 59.8**	**-1.4**
CO01	**Juntas del Tor**	**6.36**	**205**	Pn	**Pn**	**02 04 08.3**	**-0.1**
GO04	**Tololo Observa**	**6.82**	**209**	Pn	**Pn**	**02 04 12.3**	**-2.1**
PB18	**Visviri**	**6.96**	**340**		**Pn**	**02 04 19.1**	**+2.6**
CO03	**El Pedregal**	**7.36**	**205**	Pn	**Pn**	**02 04 19.2**	**-2.0**
CFA	**Coronel Fontan**	**7.45**	**188**	P	**Pn**	**02 04 22.1**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=356,slow=8.7,SNR=66						
CFA				S	**Sn**	**02 05 41.1**	**-5.6**
	comp=Z,7.1nm,0.5s,baz=214,slow=18,SNR=22						
CO02	**Combarbal**	**7.81**	**206**	Pn	**Pn**	**02 04 25.3**	**-1.7**
LPAZ	**La Paz**	**7.94**	**352**		**Pn**	**02 04 29.6**	**+0.3**
LPAZ	**La Paz**	**7.94**	**352**	P	**Pn**	**02 04 28.2**	**-1.1**
	comp=Z,4.8nm,0.4s,baz=150,slow=7.4,SNR=33						
LPAZ				S	**Sn**	**02 05 56.0**	**-3.3**
	comp=Z,4.4nm,0.5s,baz=10

IHES	**Hestalda**	**1.08**	**238**	P		**Pg**	**02 03 19.9**	**-3.1**
ISLY	**Slysaalda**	**1.08**	**222**	P		**Pg**	**02 03 19.8**	**-3.3**
IKVO	**Krokottuvotn**	**1.12**	**13**	P		**Pb**	**02 03 20.8**	**-3.0**
IFED	**Fedgar**	**1.14**	**239**	P		**Pb**	**02 03 21.3**	**-2.8**
IRJU	**Rjupnafell**	**1.14**	**208**	P		**Pb**	**02 03 20.6**	**-3.5**
IGRS	**Grimsstaoir**	**1.17**	**29**	P		**Pb**	**02 03 20.5**	**-4.0**
IGRS				S		**Sb**	**02 03 37.3**	**-2.4**
IAUS	**Austmannsbunga**	**1.19**	**217**	P		**Pb**	**02 03 21.8**	**-3.2**
IGYG	**Gygjarholskot**	**1.24**	**255**	P		**Pn**	**02 03 22.4**	**-3.2**
IHVO	**Lagu-Hvolar**	**1.26**	**209**	P		**Pn**	**02 03 22.6**	**-3.3**
ISKI	**Skildingahlsh**	**1.26**	**8**	P		**Pn**	**02 03 22.7**	**-3.3**
IHAU	**Haukadalur**	**1.27**	**240**	P		**Pn**	**02 03 23.1**	**-2.9**
IGRA	**Granastaoir**	**1.30**	**358**	P		**Pn**	**02 03 23.2**	**-3.2**
IDIM	**Dimmadalss**	**1.30**	**9**	P		**Pn**	**02 03 24.5**	**-2.9**
IHLA	**Hella**	**1.38**	**344**	P		**Pn**	**02 03 24.2**	**-3.3**
IESK	**Eystri-Skogar**	**1.41**	**219**	P		**Pn**	**02 03 25.3**	**-2.6**
IASM	**Asmuli**	**1.59**	**241**	P		**Pn**	**02 03 27.7**	**-2.7**
IASB	**sbjarnarstai**	**1.66**	**276**	P		**Pn**	**02 03 29.0**	**-2.5**
BORG	**Borgarnes**	**1.66**	**276**	Pg		**Pn**	**02 03 29.5**	**-1.9**
	29nm,0.3s,baz=97,slow=12,SNR=27							
BORG				Lg		Lg	02 03 52.6	
	22nm,0.3s,baz=230,slow=23,SNR=13							
IKRO	**Krokur**	**1.67**	**253**	P		**Pn**	**02 03 29.3**	**-2.3**
IKRO				S		**Sn**	**02 03 51.9**	**-1.2**
IHEI	**Heioarbar**	**1.69**	**257**	P		**Pn**	**02 03 29.1**	**-2.7**
IBJA	**Bjarnastaoir**	**1.81**	**249**	P		**Pn**	**02 03 31.3**	**-2.1**
IHRN	**Hraun**	**1.86**	**325**	P		**Pn**	**02 03 32.1**	**-2.1**
ISAN	**Sandskeio**	**1.87**	**254**	P		**Pn**	**02 03 32.1**	**-2.3**
IMOR	**Morastadir**	**1.88**	**262**	P		**Pn**	**02 03 32.4**	**-2.1**
EKA	**Eskdalemuir Ar**	**11.72**	**136**	Pn		**Pn**	**02 05 49.7**	**+0.3**
	baz=321,slow=14							
	1.4nm,0.5s							
FINES	**FINESS Array B**	**19.70**	**79**	LR		LR	02 15 33.9	
	comp=Z,58nm,18.5s,baz=286,slow=38							
CLL	**Collm**	**20.68**	**116**	*i* P		Pn	02 07 44.1	-0.3
	comp=Z,20nm,1.6s							
GRF	**Grafenberg Arr**	**21.30**	**121**	*e*P		**P**	**02 07 53.3**	**+4.5**
	comp=Z,11nm,1.2s,baz=325,slow=9.2							
GERES	**GERESS Array B**	**22.93**	**119**	P		**P**	**02 08 09.5**	**+3.2**
	comp=Z,0.9nm,0.9s,baz=347,slow=8.1,SNR=9.4							
GERES				LR		LR	02 18 00.9	
	comp=Z,71nm,20.0s,baz=302,slow=39							
	comp=Z,0.9nm,0.9s							
VRAC	**Vranov**	**23.67**	**114**	LR		LR	02 18 51.6	
	comp=Z,38nm,18.3s,baz=310,slow=40							
LSH	**Leshukonskoye**	**25.98**	**60**	*e*P		**P**	**02 08 34.1**	**-0.5**
SCHQ	**Schefferville**	**26.05**	**271**	P		**P**	**02 08 37.3**	**+1.9**
	comp=Z,39nm,0.7s,baz=68,slow=6.3,SNR=3.6							
ESDC	**Sonseca Array**	**26.21**	**156**	P		**P**	**02 08 40.8**	**+3.8**
	comp=Z,0.9nm,0.9s,baz=345,slow=9.2,SNR=4.1							
	comp=Z,0.9nm,0.9s							
KIRV	**Kirov**	**30.98**	**69**	LR		LR	02 22 57.4	
	comp=Z,39nm,18.2s,baz=319,slow=38							
ARTI	**Arti**	**36.05**	**66**	LR		LR	02 23 12.4	
	comp=Z,37nm,18.0s,baz=1.0,slow=34							
BRTR	**Keskin Array B**	**38.46**	**105**	P		**P**	**02 10 26.1**	**+1.9**
	comp=Z,0.8nm,0.8s,baz=338,slow=5.7,SNR=4.0							
	comp=Z,0.8nm,0.8s							
YKA	**Yellowknife Ar**	**39.25**	**313**	P		**P**	**02 10 32.5**	**+2.2**
	comp=Z,0.8nm,0.9s,baz=40,slow=9.0,SNR=4.2							
	comp=Z,0.8nm,0.9s							
BVAR	**Borovoye Array**	**43.21**	**62**	P		**P**	**02 11 04.3**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=317,slow=9.9,SNR=4.9							
	comp=Z,0.6nm,0.7s							
ILAR	**Eielson Array**	**45.73**	**332**	P		**P**	**02 11 25.1**	**+2.2**
	comp=Z,0.7nm,1.0s,baz=29,slow=7.5,SNR=5.8							
	comp=Z,0.7nm,1.0s							
KURBB	**Kurchatov Arra**	**48.17**	**58**	P		**P**	**02 11 43.8**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=326,slow=7.3,SNR=4.2							
	comp=Z,0.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**53.10**	**156**	P		**P**	**02 12 21.5**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=347,slow=8.2,SNR=7.5							
	comp=Z,1.2nm,0.8s							
PDAR	**Pinedale Array**	**53.20**	**293**	P		**P**	**02 12 21.6**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=60,slow=7.0,SNR=9.0							
	comp=Z,1.4nm,0.7s							
TXAR	**Lajitas Array**	**62.30**	**280**	P		**P**	**02 13 25.2**	**+0.7**
	comp=Z,0.6nm,1.0s,baz=16,slow=8.2,SNR=4.6							
	comp=Z,0.6nm,1.0s							

*NEIC **08** 02:05:01.8±0.8,36°105N±0°010×117°85W±0°01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.8km az=185.0*

PAS 08 02:05:02.2±1.0, 36°113N±0°009×117°85W±0°01, h4km±2km, ML3.5/82, ML3.3/192(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=59.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.01**	**326**		Pg	02 05 03.2	0.0
MFS					Sg	02 05 04.0	+0.2
WRVM	**Rose V. Centra**	**0.11**	**197**		Pg	02 05 04.5	+0.1
WRVM					Sg	02 05 06.3	+0.4
WCSM	**Coso Springs S**	**0.11**	**142**		Pg	02 05 04.7	+0.2
WCSM					Sg	02 05 06.5	+0.5
JRC2	**Joshua Ridge**	**0.13**	**165**		Pg	02 05 05.0	+0.1
JRC2					Sg	02 05 07.3	+0.5
WVPM	**Volcano Peak E**	**0.17**	**170**		Pg	02 05 05.6	+0.1
WVPM					Sg	02 05 08.1	+0.4
MPMC	**Manual Prospec**	**0.30**	**100**		Pg	02 05 08.0	-0.1
TOW	**Tower One**	**0.31**	**167**		Pg	02 05 08.7	+0.5
TOW					Sb	02 05 14.1	-1.8
CLC	**China Lake**	**0.36**	**145**		Pg	02 05 09.1	-0.1
CLC					Sg	02 05 14.2	+0.3
CWC	**Cottonwood Cre**	**0.38**	**331**		Pg	02 05 09.2	-0.3
CWC				Sg	Sg	02 05 14.6	+0.1
CWC				IAML		02 05 15.1	
	comp=N,4μm,0.2s						
SRTC	**Snort**	**0.43**	**169**		Pg	02 05 10.9	+0.5
SRTC					Sg	02 05 17.6	+1.6
CGO	**Cerro Gordo**	**0.44**	**5**		Pg	02 05 10.4	-0.3
CGO					Sg	02 05 17.2	+0.7
WORM	**Onyx Ranch**	**0.52**	**217**		Pg	02 05 11.9	-0.3
WORM					Sg	02 05 19.0	0.0
WHFM	**Hanning Flat**	**0.58**	**224**		Pg	02 05 13.1	-0.2
WHFM					Sg	02 05 21.0	+0.1
WSHM	**Spangler Hills**	**0.59**	**150**		Pg	02 05 13.3	-0.2
WSHM				Sg	Sg	02 05 21.4	+0.2
WSHM				IAML		02 05 22.0	
	comp=N,1μm,0.3s						
WSHM				IAML		02 05 23.2	
	comp=N,1μm,0.4s						
WBSM	**Bird Springs**	**0.62**	**202**		Sg	02 05 22.3	+0.1
LRMC	**Laurel Mtn Rad**	**0.65**	**168**		Pg	02 05 14.4	-0.2
LRMC					Sg	02 05 23.4	+0.4
LRMC				IAML		02 05 23.9	
	comp=E,978nm,0.5s						
LRMC				IAML		02 05 24.4	
	comp=N,946nm,0.1s						
ISA	**Isabella, Lake**	**0.68**	**229**		Pg	02 05 15.1	-0.1
ISA				Sg	Sg	02 05 24.0	+0.1
ISA				IAML		02 05 24.3	
	comp=E,2μm,0.4s						
ISA				IAML		02 05 24.6	
	comp=N,2μm,0.5s						
WASM	**Alta Sierra Ca**	**0.68**	**237**		Pg	02 05 15.1	-0.2
WASM					Sg	02 05 24.2	0.0
CCCA	**Chr Cany lake**	**0.71**	**146**		Pg	02 05 16.0	+0.2
CCCA				Sg	Sb	02 05 26.8	-0.5
CCCA				IAML		02 05 28.8	
	comp=N,2μm,0.6s						
SPG2	**Springville 2**	**0.75**	**277**		Pg	02 05 16.0	-0.5
SPG2					Sg	02 05 25.8	-0.4
QSM	**Queen of Sheba**	**0.81**	**100**		Pg	02 05 17.5	-0.2
QSM				Sg	Sg	02 05 28.9	+0.6
DTP	**Desert Tortois**	**0.84**	**180**		Pg	02 05 17.9	-0.5
DTP					Sg	02 05 29.6	+0.3
FURC	**Furnace Creek,**	**0.87**	**66**		Pg	02 05 19.1	+0.1
FURC				IAML		02 05 32.0	
	comp=N,2μm,0.5s						
FURC					Sg	02 05 31.0	+0.7
GWY	**Greenwater Val**	**0.96**	**85**		Pg	02 05 20.4	-0.2
GWY				IAML		02 05 37.1	
	comp=N,896nm,0.4s						
GWY				IAML		02 05 39.5	
	comp=E,1μm,0.9s						
TIN	**Tinemaha, Big**	**0.99**	**342**		Pg	02 05 21.0	-0.1
TIN	**Tinemaha, Big**	**0.99**	**342**		Sg	02 05 34.4	+0.4
VES	**Vestal, Richgr**	**1.04**	**255**		Pg	02 05 21.8	-0.3
SGV	**South Grapevin**	**1.09**	**37**		Pg	02 05 22.5	-0.6
GSC	**Goldstone, Bar**	**1.17**	**133**		Pg	02 05 24.0	-0.7
GSC				IAML		02 05 44.2	
	comp=N,461nm,0.5s						
GSC				IAML		02 05 44.4	
	comp=E,868nm,0.6s						
WCT	**Wildcat Mounta**	**1.20**	**55**		Pg	02 05 24.6	-0.6
WCT				IAML		02 05 45.4	
	comp=N,388nm,0.7s						
WCT				IAML		02 05 47.3	
	comp=E,626nm,0.9s						
TPO	**Tropico Hills**	**1.27**	**194**		Pg	02 05 25.2	-1.3
TPO				IAML		02 05 49.5	
	comp=N,364nm,1.0s						
TPO				IAML		02 05 50.9	
	comp=E,472nm,1.1s						
GMN	**Gold Mountain**	**1.28**	**22**		Pg	02 05 26.0	-0.7
GMN				IAML		02 05 50.7	
	comp=E,283nm,0.7s						
SHOC	**Shoshone, Teco**	**1.29**	**99**		Pg	02 05 25.8	-1.3
TPNV	**Topopah Spring**	**1.54**	**57**	IAML		02 05 53.1	
	comp=E,436nm,0.6s						
TPNV				IAML		02 05 57.5	
	comp=E,624nm,0.6s						
OSI	**Osito Audit: C**	**1.66**	**206**		Pb	02 05 32.8	-0.6
OSI				IAML		02 06 00.4	
	comp=E,461nm,0.8s						
OSI				IAML		02 06 00.7	
	comp=N,427nm,0.7s						
KCC	**Kaiser Creek**	**1.69**	**316**		Pn	02 05 32.9	+0.3
MDPB	**Devils Postpil**	**1.81**	**327**		Pn	02 05 35.2	+0.8
MWC	**Mount Wilson**	**1.89**	**185**	IAML		02 06 14.7	
	comp=E,132nm,0.8s						
MTPC	**Mountain Pass**	**1.97**	**108**		Pn	02 05 35.6	-1.0
MTPC				IAML		02 06 06.2	
	comp=N,146nm,0.8s						
MTPC				IAML		02 06 08.0	
	comp=E,162nm,0.2s						
TPH	**Tonopah**	**2.02**	**14**		Pn	02 05 37.2	-0.1
TPH				IAML		02 06 10.9	
	comp=E,118nm,0.8s						
TPH				IAML		02 06 15.5	
	comp=N,132nm,0.7s						
LHV	**Little Huntoon**	**2.20**	**346**		Pn	02 05 39.9	+0.4
LHV				IAML		02 06 19.2	
	comp=N,136nm,0.7s						
LHV				IAML		02 06 21.4	
	comp=E,112nm,0.6s						
SHPR	**Sheep Range**	**2.21**	**79**		Pn	02 05 39.6	-0.2
S11A	**Rachel**	**2.28**	**47**		Pb	02 05 43.8	-0.2
PMPB	**Monarch Peak**	**2.39**	**273**		Pn	02 05 43.5	+1.3
PMPB				IAML		02 06 30.0	
	comp=N,228nm,0.9s						
PMPB				IAML		02 06 30.4	
	comp=E,234nm,0.9s						
BUCR	**Buckhorn Ranch**	**2.41**	**311**		Pn	02 05 43.9	+1.3
BUCR				IAML		02 06 19.4	
	comp=N,238nm,0.3s						
V12A	**Nelson**	**2.46**	**98**		Pn	02 05 42.5	-0.8
ELS	**Elsinore Mount**	**2.48**	**172**		Pn	02 05 42.9	-0.7
DANC	**Danby, Needles**	**2.50**	**125**		Pn	02 05 42.4	-1.3
DANC				IAML		02 06 37.4	
	comp=N,172nm,0.8s						
POB	**Polly Butte**	**2.54**	**162**		Pn	02 05 44.0	-0.2
RYN	**Ryan**	**2.57**	**348**		Pn	02 05 45.4	+0.6
PRN	**Pahroc Range**	**2.59**	**59**		Pn	02 05 45.1	0.0
PRN				IAML		02 06 33.7	
	comp=E,197nm,0.9s						
PRN				IAML		02 06 33.7	
	comp=N,184nm,0.7s						
BELC	**Belle Mtn. Jos**	**2.60**	**144**	IAML		02 06 28.7	
	comp=E,84nm,0.8s						
BELC				IAML		02 06 32.7	
	comp=N,72nm,0.6s						
BBGB	**Big Mountain B**	**2.62**	**281**		Pn	02 05 45.6	+0.2
GATR	**Gnd/Air Tx Cnt**	**2.67**	**235**		Pb	02 05 48.5	-2.1
WAKR	**Walker**	**2.70**	**333**		Pn	02 05 46.5	-0.1
WAKR				IAML		02 06 31.4	
	comp=E,89nm,0.4s						
DNR	**Dunn Ranch,Anz**	**2.73**	**158**		Pn	02 05 46.4	-0.5
DNR				IAML		02 06 33.9	
	comp=E,159nm,0.4s						
DNR				IAML		02 06 41.2	
	comp=N,149nm,0.8s						
PMD	**Palm Desert**	**2.74**	**153**		Pn	02 05 46.4	-0.6
PMD				Pg	Pb	02 05 53.1	+1.3
HULI	**Fort Hunter Li**	**2.74**	**269**		Pn	02 05 48.1	+1.1
HULI				IAML		02 06 36.5	
	comp=N,91nm,1.0s						
HULI				IAML		02 06 48.5	
	comp=E,103nm,0.8s						
PFO	**Pinyon Flats O**	**2.75**	**155**		Pn	02 05 46.4	-0.8
Q09A	**Carvers**	**2.77**	**11**	Pn	Pn	02 05 48.2	+0.6
CMB	**Columbia Colle**	**2.79**	**314**		Pn	02 05 49.0	+1.2
CMB				IAML		02 06 29.9	
	comp=N,184nm,0.4s						
CMB				IAML		02 06 34.2	
	comp=E,116nm,0.6s						
R11B	**Troy Canyon, C**	**2.87**	**38**		Pn	02 05 49.9	+0.9
R11B				IAML		02 06 35.2	
	comp=E,76nm,0.8s						
SCZ	**Santa Cruz**	**2.91**	**281**		Pn	02 05 49.8	+0.5
IRM	**Iron Mountain**	**2.95**	**131**	IAML		02 06 46.9	
	comp=E,48nm,1.4s						
NEE2	**Needles Airpor**	**2.96**	**116**		Pn	02 05 49.4	-0.7
SAO	**San Andreas Ge**	**2.97**	**284**		Pn	02 05 49.3	-0.9
BORC	**Borrego Spring**	**3.07**	**157**	IAML		02 06 45.4	
	comp=E,57nm,1.0s						
MTOS	**Mt Oso, Westle**	**3.12**	**298**	IAML		02 06 42.8	
	comp=N,92nm,0.7s						
MTOS				IAML		02 06 48.0	
	comp=E,98nm,0.5s						
BC3	**Big Chuckawall**	**3.15**	**141**	IAML		02 06 56.0	
	comp=E,44nm,1.2s						
DPP	**Dos Picos Cty**	**3.20**	**166**	IAML		02 06 45.4	
	comp=E,43nm,0.8s						
CPE	**Camp Elliot**	**3.27**	**169**	IAML		02 06 53.1	
	comp=E,39nm,1.0s						
W13A	**Hualapai Mount**	**3.39**	**106**	IAML		02 06 53.0	
	comp=N,36nm,0.8s						
AFDM	**Forest Hills D**	**3.76**	**320**	IAML		02 07 06.2	
	comp=N,82nm,0.5s						
CBX	**Cerro Bola**	**3.92**	**165**	IAML		02 07 11.2	
CBX	comp=E,73nm,0.9s			IAML		02 07 15.8	
	comp=N,59nm,1.0s						
GLA	**Glamis**	**3.94**	**140**	IAML		02 07 16.2	
	comp=N,38nm,0.7s						
GLA				IAML		02 07 20.1	
	comp=E,64nm,0.8s						
PSUT	**Pine Spring**	**4.00**	**52**	IAML		02 07 14.5	
	comp=E,52nm,0.7s						
PSUT				IAML		02 07 15.8	
	comp=N,51nm,1.4s						
SPR3	**Spring Creek 3**	**4.01**	**43**	IAML		02 07 12.6	
	comp=E,39nm,1.1s						
SPR3				IAML		02 07 13.1	
	comp=N,38nm,0.9s						
KNB	**Kanab**	**4.15**	**76**	IAML		02 07 19.3	
	comp=N,24nm,1.2s						
KNB				IAML		02 07 23.5	
	comp=E,20nm,1.4s						
BEKR	**Beckworth**	**4.24**	**333**	IAML		02 07 17.8	
	comp=N,30nm,0.3s						
Y14A	**Wickenburg**	**4.53**	**117**	IAML		02 07 29.6	
	comp=E,22nm,0.8s						
Y14A				IAML		02 07 31.8	
	comp=N,25nm,1.0s						
PKCU	**Pink Cliffs**	**4.64**	**72**	IAML		02 07 55.9	
	comp=E,38nm,3.9s						
TCRU	**Three Creeks R**	**4.97**	**58**	IAML		02 07 51.1	
	comp=N,26nm,1.7s						
TCRU				IAML		02 07 52.0	
	comp=E,19nm,2.0s						
WUAZ	**Wupatki**	**5.30**	**95**	IAML		02 07 17.8	
	comp=E,16nm,2.8s						
WUAZ				IAML		02 08 15.1	
	comp=E,19nm,3.6s						

*GCG **08** 02:12:38.2±1.5, 14°30N×92°93W, h20km±20km, MD4.0, ML2.8*

*MEX **08** 02:12:39.3±0.6, 14°36N×93°06W, h47km±28km, MD3.9*

ISC 08 02:12:35.7±2.3, 14°43N±0°09×93°09W±0°04, h13km±12km, n18, σ1°24/29, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.93**	**59**	*i* P	**Pn**	**02 12 54.3**	**-0.2**
THIG				*e*S	**Sb**	**02 13 05.6**	**-0.5**
SMCA	**Catarina**	**1.07**	**66**	*i* P	**Pn**	**02 12 56.4**	**-0.1**
SMCA				*i* S	**Sb**	**02 13 09.6**	**-0.5**
PATR	**El Naranjo**	**1.08**	**50**	*e*P	**Pn**	**02 12 56.6**	**-0.2**
PATR				*e*S	**Sb**	**02 13 10.2**	**-0.3**
CHUJ	**Union Juarez**	**1.16**	**55**	*e*P	**Pn**	**02 12 57.7**	**-0.2**
CHUJ				*e*S	**Sb**	**02 13 12.7**	**-0.2**
PAVE	**Pavencul**	**1.17**	**49**	*e*P	**Pb**	**02 12 58.1**	**+0.2**
PAVE				*e*S	**Sb**	**02 13 12.8**	**-0.3**
PCIG		**1.28**	**355**	*e*P	**Pg**	**02 13 00.3**	**+0.1**
PCIG				*e*S	**Sb**	**02 13 14.2**	**-1.8**
CCIG	**Comitan**	**2.06**	**26**	*e*P	**Pb**	**02 13 13.7**	**+0.5**
CCIG				*e*S	**Sn**	**02 13 36.1**	**+0.1**
CCIG	**Comitan**	**2.06**	**26**	*i* P	**Pb**	**02 13 14.3**	**+1.1**
CCIG				*i* S	**Sg**	**02 13 42.1**	**0.0**
CCIG				IAML		02 13 47.4	
	comp=N,77nm,0.6s						
TGIG		**2.34**	**359**	*e*P	**Pb**	**02 13 17.4**	**-0.3**
TGIG				*e*S	**Sn**	**02 13 42.1**	**-0.5**
TGIG		**2.34**	**359**	*i* P	**Pb**	**02 13 17.4**	**-0.3**
TGIG				*i* S	**Sb**	**02 13 47.2**	**+0.6**
TGIG				IAML		02 13 49.6	
	comp=E,39nm,0.3s						
FG8	**Yepocapa, Chim**	**2.46**	**94**	*i* P	Pn	02 13 10.2	-5.5
FG16	**Alotenango, Sa**	**2.51**	**93**	*e*P	Pn	02 13 11.3	-5.1
UXUV	**UXUV**	**3.05**	**341**	*e*P	**Pb**	**02 13 27.9**	**-2.0**
UXUV				*e*S	**Sn**	**02 14 02.0**	**+2.0**
CMIG	**Matias Romero**	**3.16**	**327**	*e*P	**Pn**	**02 13 26.0**	**+0.8**
CMIG				*e*S	**Sn**	**02 14 05.4**	**+2.5**
NUBE	**Las Nubes**	**3.25**	**99**	*i* P	**Pn**	**02 13 26.8**	**+0.2**
NEUV	**Arroyo Zacate**	**4.18**	**322**	*e*P	**Pn**	**02 13 41.1**	**+1.9**
NEUV				*e*S	**Sn**	**02 14 24.5**	**-3.4**
TOIG	**Toxpalan**	**5.28**	**314**	*e*	**Sn**	**02 14 54.2**	**-1.1**
TXIG	**Tlaxiaco**	**5.30**	**303**	*e*	**Sn**	**02 14 56.9**	**+0.7**

*IDC **08** 02:15:42.5±1.6, 4°00S×11°79W, h0km, mb4.0/6, mbtmp4.0/6, MS3.4/6, Error ellipse: s-maj=128.0km s-min=21.9km az=104.0*

ISC 08 02:15:44.0±1.5, 4°1S±0°3×11°7W±0°8, h10km, n19, σ0°70/10, mb4.4/7, MS3.5/6, 4C, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**4.67**	**217**	T	T	02 21 30.8	
	baz=30,slow=74,SNR=427						
H10N1	**ASCENSION HYDR**	**4.68**	**216**	T	T	02 21 34.5	
	baz=30,slow=74,SNR=730						
H10N3	**ASCENSION HYDR**	**4.69**	**217**	T	T	02 21 33.6	
	baz=30,slow=74,SNR=519						
TORD	**Torodi Ar. Bea**	**21.64**	**38**	P	**P**	**02 20 34.6**	**-0.1**
	2.8nm,0.9s,baz=227,slow=9.0,SNR=7.7						
	2.8nm,0.9s						
LSZ	**Lusaka**	**40.77**	**109**	LR	LR	02 36 55.9	
	comp=Z,54nm,18.2s,baz=214,slow=31						
MATP	**Matopo**	**42.33**	**116**	LR	LR	02 39 07.9	
	comp=Z,64nm,18.1s,baz=251,slow=33						
BOSA	**Boshof**	**42.73**	**129**	LR	LR	02 40 39.5	
	comp=Z,17nm,18.1s,baz=353,slow=35						
CPUP	**Villa Florida**	**48.95**	**238**	LR	LR	02 43 59.2	
	comp=Z,16nm,19.0s,baz=250,slow=35						
LPAZ	**La Paz**	**56.70**	**253**	LR	LR	02 48 15.4	
	comp=Z,44nm,19.1s,baz=247,slow=34						
GERES	**GERESS Array B**	**57.14**	**20**	P	**P**	**02 25 31.8**	**+0.9**
	1.0nm,0.8s,baz=210,slow=7.4,SNR=8.9						
	1.0nm,0.8s						
SJG	**San Juan**	**58.03**	**294**	LR	LR	02 44 56.2	
	comp=Z,45nm,21.2s,baz=16,slow=30						
AKASG	**Malin Array Be**	**64.84**	**27**	P	**P**	**02 26 23.1**	**0.0**
	1.0nm,0.7s,baz=230,slow=7.0,SNR=2.9						
	1.0nm,0.7s						
VNA2	**Neumayer--Watz**	**66.83**	**178**	⇑P	**P**	**02 26 35.8**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=352,slow=7.2						
VNA3	**Neumayer Olymp**	**67.11**	**179**	⇑P	**P**	**02 26 36.8**	**-0.6**
	comp=Z,1.8nm,0.7s						
SNAA	**Sanae**	**67.75**	**177**	⇑P	**P**	**02 26 40.8**	**-0.8**
	comp=Z,60nm,1.0s						
SNAA	**Sanae**	**67.75**	**177**	P	**P**	**02 26 42.2**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=339,slow=6.5,SNR=8.1						
	comp=Z,2.5nm,0.9s						
TROLL	**Troll, Antarti**	**68.45**	**175**	⇑P	**P**	**02 26 45.7**	**-0.3**
	comp=Z,106nm,0.8s						
FINES	**FINESS Array B**	**71.50**	**18**	P	**P**	**02 27 03.7**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=207,slow=4.7,SNR=5.4						
	comp=Z,1.0nm,0.7s						
QSPA	**South Pole Qui**	**86.03**	**180**	P	**P**	**02 28 25.1**	**+0.4**
	comp=Z,4.7nm,1.0s,baz=233,slow=3.0,SNR=9.2						
	comp=Z,4.7nm,1.0s						

*NEIC **08** 02:17:50.5±1.1, 19°84N±0°04×155°39W±0°04, h28km±2km, Error ellipse: s-maj=6.6km s-min=6.0km az=166.0*

HVO 08 02:17:51.6±1.4, 19°85N±0°04×155°38W±0°03, h24km±8km, ML2.3/11, ML2.5/41(NEIC), Error ellipse: s-maj=6.5km s-min=4.2km az=201.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.17**	**237**		Pb	02 17 56.3	-0.7
POHA				Sg	Sb	02 18 00.0	-0.7
HMH	**Humu'ula Sheep**	**0.26**	**201**	Pg	Pb	02 17 57.8	-0.5
HMH				Sg	Sb	02 18 02.0	-0.8
HMH				IAML		02 18 03.3	
	comp=E,593nm,0.1s						
HPAH	**Hawaii Prepara**	**0.34**	**301**		Pb	02 17 58.0	-1.4
HPAH					Sb	02 18 02.7	-1.9
HPAH	**Hawaii Prepara**	**0.34**	**301**	IAML		02 18 02.8	
	comp=E,2μm,0.2s						
HPAH				IAML		02 18 03.0	
	comp=N,999nm,0.1s						
MLH	**Mauna

AIN	**Ainahou**	**0.48**	**188**		Pb	02	18	00.5 -1.1
AIN					Sb	02	18	07.1 -1.2
AIN	**Ainahou**	**0.48**	**188**	IAML		02	18	13.4
	comp=E,326nm,3.4s							
AIN				IAML		02	18	13.6
	comp=N,265nm,2.1s							
PUH	**Pauahi**	**0.50**	**161**		Pb	02	18	00.6 -1.3
PUH					Sb	02	18	07.0 -1.9
PUH	**Pauahi**	**0.50**	**161**	IAML		02	18	07.2
	comp=E,602nm,0.3s							
PUH				IAML		02	18	07.4
	comp=N,401nm,0.1s							
KNHH	**Kane Nui o Ham**	**0.51**	**157**		Pb	02	18	00.7 -1.4
NPOC	**North of Pu'u**	**0.52**	**150**		Pb	02	18	00.8 -1.5
NPOC					Sb	02	18	07.5 -2.0
STCH	**Steam Cracks**	**0.52**	**152**		Pb	02	18	00.7 -1.5
STCH	**Steam Cracks**	**0.52**	**152**	IAML		02	18	07.8
	comp=E,1µm,0.1s							
STCH				IAML		02	18	07.8
	comp=N,619nm,0.1s							
JCUZ	**Jacuzzi**	**0.54**	**150**		Pb	02	18	00.9 -1.6
JCUZ					Sb	02	18	07.7 -2.1
JOKA	**Jonika Flow**	**0.55**	**139**		Pb	02	18	01.1 -1.6
JOKA	**Jonika Flow**	**0.55**	**139**	IAML		02	18	13.2
	comp=N,277nm,3.6s							
HLP	**Hilina Pali**	**0.56**	**173**		Pb	02	18	01.2 -1.6
HLP				IAML		02	18	16.4
	comp=N,400nm,2.5s							
MHA	**Mahukona**	**0.59**	**305**	Pn	Pb	02	18	03.3 -0.1
HTC	**Hot Caves**	**0.61**	**181**		Pb	02	18	02.1 -1.6
KHU	**Kahuku**	**0.64**	**200**		Pb	02	18	02.4 -1.9
KHU					Sb	02	18	10.5 -2.4
HLK	**Haleakala**	**1.21**	**318**	Pn	Pn	02	18	11.9 -1.5

IDC ***08*** *02:20:10.5±1.4, 9°.80S×116°.77E, h0km, mb3.8/4, mbtmp3.9/7, ML3.7/3, Error ellipse: s-maj=49.1km s-min=19.8km az=47.0*

DJA ***08*** *02:20:22.7±0.5, 9°.5S×117°.8E±°, h28km±4km, M4.0/14, mb4.2/2, MLv4.0/14*

ISC 08 02:20:18.1±1.7, 9°.65S±0°.06×117°.60E±0°.04, h19km±5km, n21, σ1§53/27, mb4.0/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.84**	**12**	P		**Pn**	**02 20 35.4**	**+0.5**
PLAI				S		**Sn**	**02 20 46.0**	**-0.7**
TWSI	**Taliwang, Sumb**	**1.15**	**322**	P		**Pn**	**02 20 39.7**	**+0.4**
TWSI				S		**Sb**	**02 20 53.1**	**-1.0**
WBSI	**Waikabubak, Su**	**1.76**	**90**	P		**Pb**	**02 20 50.1**	**+0.2**
WBSI				S		**Sg**	**02 21 16.3**	**+1.2**
DNP	**Denpasar**	**2.55**	**292**	P		**Pn**	**02 21 00.1**	**+1.5**
DNP				S		**Sn**	**02 21 29.9**	**+0.8**
WSI	**Waingapu**	**2.66**	**91**	P		**Pb**	**02 21 05.0**	**-0.1**
SRBI	**Singaraja**	**2.83**	**303**	P		**Pn**	**02 21 03.2**	**+0.9**
SRBI				S		**Sn**	**02 21 35.6**	**-0.3**
BASI	**Baing, Sumba**	**2.98**	**101**	P		**Pg**	**02 21 13.1**	**-2.3**
JAGI	**Jajag, Banyuwa**	**3.60**	**289**	P		**Pn**	**02 21 13.3**	**+0.3**
JAGI				S		**Sn**	**02 21 53.6**	**-1.5**
ABJI	**Asem Bagus**	**3.81**	**299**	P		**Pn**	**02 21 18.3**	**+2.5**
GMJI	**Gumukmas**	**4.33**	**288**	P		**Pn**	**02 21 23.2**	**+0.2**
BLJI	**Banyuglugur**	**4.39**	**295**	P		**Pn**	**02 21 25.5**	**+1.6**
BSSI	**Bau Bau, Buton**	**4.51**	**40**	P		**Pn**	**02 21 27.6**	**+2.1**
BSSI				S		**Sn**	**02 22 17.7**	**+0.3**
KAPI	**Kappang**	**5.08**	**25**	Pn		**Pn**	**02 21 35.6**	**+2.4**
	1.9nm,0.3s,baz=203,slow=5.0,SNR=7.4							
KAPI				Sn		**Sn**	**02 22 30.7**	**-0.7**
	5.6nm,0.3s,baz=310,slow=22,SNR=8.0 6.1nm,0.2s							
BATI	**Baumata**	**6.00**	**96**	Sn		**Sn**	**02 22 56.9**	**+2.7**
	4.1nm,0.3s,baz=309,slow=15,SNR=1.9							
PCJI	**Pacitan**	**6.51**	**282**	P		**Pn**	**02 21 55.1**	**+2.1**
FITZ	**Fitzroy Crossi**	**11.46**	**138**	Pn		**Pn**	**02 23 01.4**	**+0.5**
	0.7nm,0.3s,baz=332,slow=8.5,SNR=23							
FITZ				Sn		**Sn**	**02 25 06.0**	**-2.5**
	0.5nm,0.3s,baz=191,slow=19,SNR=8.9 2.5nm,0.5s							
WRA	**Warramunga Arr**	**19.12**	**124**	P		**Pn**	**02 24 41.5**	**+0.4**
	0.2nm,0.3s,baz=304,slow=14,SNR=6.4 0.3nm,0.3s							
ASAR	**Alice Springs**	**20.90**	**134**	P		**P**	**02 25 00.4**	**+0.8**
	1.5nm,0.6s,baz=312,slow=10,SNR=21 1.5nm,0.6s							
PSI	**Prapat**	**22.34**	**303**	P		P	02 25 03.0	-12
	6.2nm,0.4s,baz=243,slow=7.0,SNR=4.3 6.2nm,0.4s							
MKAR	**Makanchi Array**	**64.42**	**334**	P		P	02 30 47.5	-5.7
	0.3nm,0.3s,baz=151,slow=6.1,SNR=5.4 0.3nm,0.3s							
ZALV	**Zalesovo Beam**	**69.17**	**340**	P		P	02 31 17.2	-6.0
	0.4nm,0.3s,baz=134,slow=8.3,SNR=2.0 0.4nm,0.3s							

CATAC ***08*** *02:28:28.6±1.1, 14°.N±5°×9°.2W±°, h30km±9km, M3.4/8, MLv3.4/8, Error ellipse: s-maj=10.9km s-min=4.2km az=30.3, confirmed*

GCG ***08*** *02:28:29.3±0.7, 14°.03N×91°.59W, h64km±14km, MD3.8, ML3.5, MW2.9*

ISC 08 02:28:30.2±2.0, 14°.1N±0°.2×91°.53W±0°.09, h61km, n13, σ1§66/16, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOKI	**Kika Raxquin**	**0.74**	**10**	*i* P		**Pn**	**02 28 46.4**	**+1.1**
SOKI				IAML			02 29 03.9	
	comp=E,508nm,0.6s							
ESSG	**Sabana Grande**	**0.74**	**67**	*i* P		**Pn**	**02 28 45.3**	**+0.2**
ESSG				*i* S		**Sn**	**02 28 57.8**	**+1.9**
ESSG				IAML			02 28 58.4	
	comp=N,805nm,0.1s							
SMCA	**Catarina**	**0.93**	**325**	*i* P		**Pn**	**02 28 46.8**	**-0.6**
SMCA				*e*S		**Sn**	**02 29 00.1**	**0.0**
FG8	**Yepocapa, Chim**	**0.95**	**80**	*i* P		**Pn**	**02 28 45.1**	**-2.8**
FG16	**Alotenango, Sa**	**1.00**	**79**	*i* P		**Pn**	**02 28 46.1**	**-2.4**
FG16				*i* S		**Sn**	**02 28 59.3**	**-2.8**
FG16				IAML			02 29 02.1	
	comp=N,6µm,0.2s							
THIG		**1.08**	**319**	*i* P		**Pn**	**02 28 48.5**	**-0.9**
THIG				*i* S		**Sn**	**02 29 04.3**	**+0.7**
THIG				IAML			02 29 05.2	
	comp=N,248nm,0.5s							
ESSJ	**San Jos, E**	**1.13**	**118**	*i* P		Pn	02 28 44.6	-5.4
NUBE	**Las Nubes**	**1.71**	**96**	*i* P		**Pn**	**02 28 57.9**	**0.0**
NUBE	**Las Nubes**	**1.71**	**96**	P		**Pn**	**02 28 57.6**	**-0.2**
NUBE	**Las Nubes**	**1.71**	**96**	S		**Sn**	**02 29 19.4**	**+0.6**
CEVE	**Cerro Verde**	**1.87**	**98**	P		**Pn**	**02 29 01.1**	**+1.0**
CEVE	**Cerro Verde**	**1.87**	**98**	S		**Sn**	**02 29 25.4**	**+2.6**
JAYA	**Jayaque - finc**	**2.07**	**102**	P		**Pn**	**02 29 02.9**	**+0.2**

IDC ***08*** *02:29:20.6±1.4, 33°.30N×76°.23E, h0km, mb3.7/10, mbtmp3.8/13, ML3.5/3, Error ellipse: s-maj=28.0km s-min=22.6km az=55.0*

NDI ***08*** *02:29:23.6±1.3, 32°.92N×76°.05E, h10km, ML3.6, MW3.6*

ISC 08 02:29:23.2±0.6, 33°.06N±0°.05×76°.22E±0°.05, h28km, n26, σ2§58/38, mb3.7/8, 3C-1D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TLWR	**Talawar**	**1.13**	**192**	*e*P		**Pn**	**02 29 41.9**	**-1.3**
TLWR				*e*S		**Sn**	**02 29 56.0**	**-1.7**
TLWR				IAML			02 30 03.7	
	comp=N,853nm,0.5s							
JMU	**Jammu**	**1.16**	**253**	*e*P		**Pn**	**02 29 43.8**	**+0.1**
JMU				*e*S		**Sn**	**02 29 58.3**	**-0.3**
JMU				IAML			02 30 03.9	
	comp=N,807nm,0.6s							
JMU				IAML			02 30 04.2	
	comp=E,1µm,0.7s							
ALCI	**Alchi Leh**	**1.40**	**35**	*e*P		**Pb**	**02 29 51.6**	**+2.6**
SRNI	**Srinagar**	**1.54**	**312**	*e*P		**Pb**	**02 29 51.8**	**+0.6**
SRNI				*e*S		**Sb**	**02 30 12.1**	**+1.8**
SRNI				IAML			02 30 18.1	
	comp=E,1µm,0.3s							
SRNI				IAML			02 30 18.1	
	comp=N,3µm,0.6s							
KLP	**Kalpa**	**2.30**	**131**	*e*P		**Pn**	**02 30 02.6**	**+3.1**
KLP				*e*S		**Sn**	**02 30 30.9**	**+3.8**
KLP				IAML			02 30 37.0	
	comp=N,485nm,0.3s							
KLP				IAML			02 30 40.3	
	comp=E,543nm,0.5s							
HNLY	**HANLEY**	**2.33**	**96**	*e*P		**Pn**	**02 30 04.6**	**+4.4**
HNLY				*e*S		**Sb**	**02 30 34.5**	**+1.1**
LGTI	**Lohaghat**	**4.99**	**135**	*e*S		**Sn**	**02 31 30.6**	**-2.4**
PYUN	**Piuthan**	**7.65**	**129**	Pn		**Pn**	**02 31 14.6**	**+1.6**
	baz=130,slow=0.0							
PYUN				Sn		**Sn**	**02 32 34.9**	**-4.0**
	baz=130,slow=0.0							
DMN	**Daman**	**9.40**	**123**	Pn		**Pn**	**02 31 36.9**	**-0.3**
	baz=125,slow=0.0							
DMN				Sn		**Sn**	**02 33 17.5**	**-4.6**
	comp=E,12nm,0.3s,baz=125,slow=0.0							
PKIN	**Phulchoki**	**9.63**	**122**	Pn		**Pn**	**02 31 40.5**	**+0.3**
	baz=124,slow=0.0							
PKIN				Sn		**Sn**	**02 33 24.2**	**-3.4**
	comp=E,12nm,0.2s,baz=124,slow=0.0							
PKI	**Pulchoki**	**9.64**	**122**	Pn		**Pn**	**02 31 40.3**	**-0.2**
	baz=124,slow=0.0							
PKI				Sn		**Sn**	**02 33 24.2**	**-3.8**
	comp=E,16nm,0.4s,baz=124,slow=0.0							
AAK	**Ala-Archa**	**9.65**	**352**	⇑P		**Pn**	**02 31 42.0**	**+1.6**
	comp=E,2.4nm,0.7s							
AAK				⇑S		**Sn**	**02 33 28.1**	**+0.1**
	comp=E,3.2nm,1.1s							
AAK	**Ala-Archa**	**9.65**	**352**	Pn		**Pn**	**02 31 37.9**	**-2.5**
	comp=E,0.9nm,0.3s,baz=158,slow=5.1,SNR=11							
AAK				Sn		**Sn**	**02 33 26.1**	**-1.9**
	comp=E,0.2nm,0.3s,baz=147,slow=22,SNR=1.2 comp=E,1.8nm,0.5s							
KK31	**Karatay Array**	**10.98**	**338**	⇑P		**Pn**	**02 31 57.5**	**-1.0**
	comp=E,0.4nm,0.3s,baz=147,slow=12,SNR=12							
KK31				⇓S		**Sn**	**02 33 52.4**	**-7.9**
	comp=E,2.3nm,0.5s,baz=156,slow=21,SNR=8.5							
MKAR	**Makanchi Array**	**14.47**	**17**	Pn		**Pn**	**02 32 44.8**	**-1.4**
	comp=E,0.3nm,0.3s,baz=204,slow=12,SNR=5.9							
MKAR				Sn		Sn	02 35 13.0	-13
	baz=209,slow=25 comp=E,0.7nm,0.5s							
KURBB	**Kurchatov Arra**	**17.63**	**5**	P		**Pn**	**02 33 23.9**	**-2.7**
	baz=189,slow=11,SNR=6.9 comp=E,1.0nm,0.7s							
BVAR	**Borovoye Array**	**20.39**	**350**	P		**P**	**02 33 56.8**	**-0.9**
	comp=E,1.9nm,0.5s,baz=162,slow=9.8,SNR=11 comp=E,1.9nm,0.5s							
ZALV	**Zalesovo Beam**	**21.76**	**14**	P		**P**	**02 34 12.0**	**-0.4**
	comp=E,0.8nm,0.4s,baz=210,slow=9.4,SNR=6.4 comp=E,0.8nm,0.4s							
AKTO	**Aktyubinsk**	**21.94**	**328**	P		**P**	**02 34 13.8**	**-0.6**
	comp=E,2.5nm,0.8s,baz=138,slow=6.5,SNR=5.6 comp=E,2.5nm,0.8s							
CMAR	**Chiang Mai Arr**	**25.03**	**120**	P		**P**	**02 34 46.7**	**+1.6**
	comp=E,1.4nm,0.3s,baz=314,slow=9.2,SNR=2.1 comp=E,1.4nm,0.3s							
SONM	**Songino Array**	**27.08**	**48**	P		**P**	**02 35 04.3**	**+0.8**
	comp=E,0.6nm,0.5s,baz=243,slow=10,SNR=3.6 comp=E,0.6nm,0.5s							
FINES	**FINESS Array B**	**42.71**	**327**	P		**P**	**02 37 16.4**	**-1.0**
	comp=E,1.8nm,1.0s,baz=113,slow=8.9,SNR=6.0 comp=E,1.8nm,1.0s							
ARCES	**ARCESS Array B**	**45.95**	**338**	P		**P**	**02 37 43.0**	**-0.3**
	comp=E,1.3nm,0.8s,baz=101,slow=6.5,SNR=5.9 comp=E,1.3nm,0.8s							
HFS	**Hagfors**	**48.40**	**324**	P		**P**	**02 38 01.8**	**-0.7**
	comp=E,1.7nm,0.9s,baz=94,slow=8.7,SNR=1.8 comp=E,1.7nm,0.9s							
NOA	**NORSAR Array B**	**49.68**	**325**	P		**P**	**02 38 13.0**	**+0.6**
	comp=E,0.5nm,0.8s,baz=94,slow=7.7,SNR=1.6 comp=E,0.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**70.06**	**273**	P		**P**	**02 40 35.9**	**+2.8**
	comp=E,0.3nm,0.4s,baz=44,slow=5.7,SNR=2.5 comp=E,0.3nm,0.4s							

BGR ***08*** *02:33:33.7, 26°.36N×82°.67E, h21km, mb4.4*

IDC ***08*** *02:34:30.3±0.6, 32°.99N×76°.06E, h0km, mb4.5/25, mbtmp4.5/28, ML4.3/3, MS3.9/37, Error ellipse: s-maj=12.8km s-min=12.0km az=22.0*

MOS ***08*** *02:34:31.5±1.1, 33°.16N×76°.17E, h15km, mb4.9/38, Error ellipse: s-maj=7.1km s-min=3.9km az=114.7*

BJI ***08*** *02:34:31.4, 33°.15N×76°.38E, h7km, mB4.8/1, mb4.9/24, ML4.4/2, Ms4.3/18, Ms7 4.0/19*

NEIC ***08*** *02:34:32.4±1.5, 33°.07N±0°.07×76°.18E±0°.04, h10km±1km, mb4.8/70, Error ellipse: s-maj=12.4km s-min=4.2km az=162.0*

NDI ***08*** *02:34:33.6±2.0, 33°.07N×76°.21E, h9km±9km, ML4.6, MW4.6*

NNC ***08*** *02:34:45.1±3.9, 33°.61N×76°.10E, h109km±31km, mb4.2, Error ellipse: s-maj=37.6km s-min=26.8km az=45.0*

ISC 08 02:34:34.7±0.8, 33°.11N±0°.03×76°.13E±0°.03, h30km±6km, n587, σ1§31/577, mb4.7/99, MS3.9/47, 20C-26D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**1.10**	**249**	*e*P		**Pb**	**02 34 55.6**	**+0.5**
JMU				*e*S		**Sb**	**02 35 14.0**	**+4.8**
JMU				IAML			02 35 16.5	
	comp=N,20µm,0.8s							
JMU				IAML			02 35 16.8	
	comp=E,18µm,0.5s							
TLWR	**Talawar**	**1.16**	**187**	*e*P		**Pn**	**02 34 54.6**	**-0.4**
TLWR				*e*S		**Sb**	**02 35 12.6**	**+1.7**
TLWR				IAML			02 35 17.7	
	comp=N,6µm,0.3s							
TLWR				IAML			02 35 17.9	
	comp=E,54µm,0.0s							
ALCI	**Alchi Leh**	**1.41**	**38**	*e*P		**Pb**	**02 35 00.9**	**+0.3**
SRNI	**Srinagar**	**1.45**	**313**	*e*P		**Pb**	**02 35 01.4**	**+0.3**
SRNI				*e*S		**Sb**	**02 35 22.1**	**+2.9**
SRNI				IAML			02 35 26.6	
	comp=N,39µm,0.8s							
SRNI				IAML			02 35 33.9	
	comp=E,24µm,0.6s							
BHK	**Bhakra**	**1.71**	**172**	*e*P		**Pb**	**02 35 04.4**	**-1.1**
BHK				*e*S		**Sb**	**02 35 27.4**	**+0.9**
BHK				IAML			02 35 28.0	
	comp=N,9µm,0.4s							
BHK				IAML			02 35 28.7	
	comp=E,9µm,0.2s							
NIL	**Nilore**	**2.46**	**283**			**Pn**	**02 35 15.0**	**+2.1**
NIL						**Sb**	**02 35 45.7**	**-2.6**
NIL	**Nilore**	**2.46**	**283**	P		**Pn**	**02 35 15.0**	**+2.1**
NIL							02 35 45.7	
JOSI	**Joshimath**	**3.88**	**130**	*e*P		**Pn**	**02 35 32.7**	**+0.2**
JOSI				IAML			02 36 38.2	
	comp=E,792nm,0.6s							
JOSI				IAML			02 36 38.2	
	comp=E,1µm,0.6s							
KBL	**Kabul**	**6.06**	**286**			**Pn**	**02 36 03.2**	**+0.6**
KBL	**Kabul**	**6.06**	**286**	P		**Pn**	**02 36 03.2**	**+0.6**
KSH	**Kashi**	**6.39**	**359**	Pn		**Pn**	**02 36 08.0**	**+1.0**
KSH				Sn		**Sn**	**02 37 16.8**	**-2.3**
KSH				smax		smax		
	comp=N,370nm,0.8s							
KSH				smax		smax		
	comp=E,490nm,0.7s							
GAR	**Garm**	**7.53**	**323**			**Pn**	**02 36 22.6**	**+0.1**
CHGR	**Chuyangaron**	**7.91**	**316**			**Pn**	**02 36 27.0**	**-0.8**
CHGR	**Chuyangaron**	**7.91**	**316**	P		**Pn**	**02 36 27.0**	**-0.8**
SIMJ	**Simíganj**	**8.00**	**316**			**Pn**	**02 36 28.2**	**-0.8**
NRN	**Naryn**	**8.31**	**359**			**Pn**	**02 36 35.1**	**+1.6**
NRN	**Naryn**	**8.31**	**359**	P		**Pn**	**02 36 35.1**	**+1.6**
ARSB	**Arslanbob**	**8.57**	**344**			**Pn**	**02 36 38.1**	**+1.2**
ARSB	**Arslanbob**	**8.57**	**344**	P		**Pn**	**02 36 38.1**	**+1.2**
TARG	**Taragay, Kyrgy**	**8.71**	**8**			**Pn**	**02 36 43.5**	**+4.5**
TARG	**Taragay, Kyrgy**	**8.71**	**8**	P		**Pn**	**02 36 43.5**	**+4.5**
KDJ	**Kajisay**	**9.04**	**5**			**Pn**	**02 36 44.6**	**+1.2**
KDJ	**Kajisay**	**9.04**	**5**	P		**Pn**	**02 36 44.6**	**+1.2**
ULHL	**Ulahol**	**9.12**	**1**	P		**Pn**	**02 36 48.4**	**+3.9**
	SNR=9.9							
TRKS	**Terek-Say**	**9.29**	**336**	P		**Pn**	**02 36 46.5**	**-0.3**
TRKS				pmax		pmax		
	comp=Z,17nm,0.8s							
KBK	**Karagaybulak**	**9.57**	**355**	P		**Pn**	**02 36 55.2**	**+4.5**
	SNR=5.3							
AAK	**Ala-Archa**	**9.60**	**353**	P		**Pn**	**02 36 54.0**	**+3.1**
	SNR=50							
AAK	**Ala-Archa**	**9.60**	**353**			**Pn**	**02 36 52.3**	**+1.4**
AAK	**Ala-Archa**	**9.60**	**353**	⇓P		**Pn**	**02 36 53.5**	**+2.5**
	comp=Z,22nm,0.6s							
AAK				⇑S		**Sn**	**02 38 38.4**	**+0.5**
	comp=Z,52nm,0.9s							
AAK	**Ala-Archa**	**9.60**	**353**	Pn		**Pn**	**02 36 53.4**	**+2.5**
	comp=Z,7.1nm,0.3s,baz=177,slow=8.3,SNR=87							
AAK				Sn		**Sn**	**02 38 37.8**	**-0.1**
	comp=Z,2.3nm,0.3s,baz=342,slow=24,SNR=7.1							
AAK				LR		LR	02 40 55.2	
	comp=Z,1µm,18.0s,baz=178,slow=40 comp=Z,53nm,0.7s							
AAK	**Ala-Archa**	**9.60**	**353**	*i* P		**Pn**	**02 36 53.4**	**+2.5**
AAK				pmax		pmax		
	comp=Z,160nm,0.7s							
EKS2	**Erkin-Say**	**9.71**	**350**	P		**Pn**	**02 36 55.3**	**+2.8**
	SNR=16							
FRU1	**Bishkek**	**9.76**	**353**	Pn		**Pn**	**02 36 54.2**	**+1.2**
FRU1	**Bishkek**	**9.76**	**353**	P		**Pn**	**02 36 54.3**	**+1.2**
TKM2	**Tokmak 2**	**9.80**	**358**	P		**Pn**	**02 36 57.1**	**+3.3**
	SNR=48							
CHMS	**Chumysh**	**9.93**	**354**	P		**Pn**	**02 36 58.4**	**+2.9**
	SNR=11							
USP	**Ospenovka**	**10.22**	**353**	P		**Pn**	**02 37 01.8**	**+2.4**
	SNR=6.7							
PDGK	**Podgornoye**	**10.54**	**14**	⇓P		**Pn**	**02 37 06.1**	**+2.3**
	comp=Z,33nm,0.7s							
PDGK				⇓S		**Sn**	**02 38 58.1**	**-2.8**
	comp=Z,40nm,0.9s							
PDGK	**Podgornoye**	**10.54**	**14**	P		**Pn**	**02 37 06.1**	**+2.3**
PDGK				S		**Sn**	**02 38 58.0**	**-2.8**
EVN	**Everest**	**10.55**	**116**	Pn		**Pn**	**02 37 02.8**	**-1.8**
KK31	**Karatay Array**	**10.91**	**338**			**Pn**	**02 37 08.7**	**-0.2**
KK31	**Karatay Array**	**10.91**	**338**	⇑P		**Pn**	**02 37 08.6**	**-0.2**
	comp=Z,12nm,0.5s,baz=149,slow=12,SNR=139							
KK31				⇓S		**Sn**	**02 39 07.3**	**-2.5**
	comp=Z,40nm,0.6s,baz=158,slow=22,SNR=11							
KK31	**Karatay Array**	**10.91**	**338**	*e*P		**Pn**	**02 37 08.5**	**-0.3**
KK31				*e*S		**Sn**	**02 39 03.7**	**-6.1**
KKAR	**Karatay Array**	**10.91**	**338**			**Pn**	**02 37 08.3**	**-0.5**
KKAR	**Karatay Array**	**10.91**	**338**	P		**Pn**	**02 37 08.3**	**-0.5**
WMQ	**Urumqi**	**14.00**	**37**	*e*P		**Pn**	**02 37 52.5**	**+1.4**
WMQ				pmax		pmax		
	comp=Z,52nm,0.9s							
WMQ				LR		LR		
	comp=Z,740nm,15.7s							
WMQ				LR		LR		
	comp=Z,960nm,14.7s							
WMQ				LR		LR		
	comp=Z,660nm,16.9s							
MAKZ	**Makanchi**	**14.39**	**16**	⇓P		**Pn**	**02 37 53.7**	**-2.6**
	comp=Z,62nm,1.5s							
MAKZ	**Makanchi**	**14.39**	**16**	P		**Pn**	**02 37 53.7**	**-2.6**
MK31	**Makanchi Array**	**14.45**	**17**	⇓P		**Pn**	**02 37 56.8**	**-0.4**
	comp=Z,13nm,0.7s,baz=200,slow=13,SNR=72							
MK31	**Makanchi Array**	**14.45**	**17**	*i* P		**Pn**	**02 37 56.3**	**-0.9**
MK31				pmax		pmax		
	comp=Z,13nm,0.7s							
MKAR	**Makanchi Array**	**14.45**	**17**	Pn		**Pn**	**02 37 56.6**	**-0.6**
MKAR	**Makanchi Array**	**14.45**	**17**	Pn		**Pn**	**02 37 57.2**	**0.0**
	comp=Z,1.6nm,0.3s,baz=204,slow=13,SNR=27							
MKAR				Sn		**Sn**	**02 40 33.4**	**-3.0**
	comp=Z,1.3nm,0.3s,baz=196,slow=24,SNR=5.1 comp=Z,13nm,0.7s							
MKAR	**Makanchi Array**	**14.45**	**17**	*i* P		**Pn**	**02 37 56.9**	**-0.3**
MKAR				pmax		pmax		
	comp=Z,13nm,0.7s							
GOMU	**GeErMu**	**15.69**	**73**	P		**Pn**	**02 38 12.8**	**-1.1**
GOMU				pP		P	02 38 16.5	-1.3
GOMU				sP		pP	02 38 19.9	-7.0
GOMU				pmax		pmax		
	comp=Z,10.0nm,0.9s							
GOMU				LR		LR		
	comp=Z,420nm,9.7s							
GOMU				LR		LR		
	comp=Z,490nm,9.2s							
GOMU				LR		LR		
	comp=Z,380nm,10.0s							
BRDH	**Bariadhala**	**17.19**	**123**	LR		LR	02 46 37.9	
	comp=Z,143nm,18.0s,baz=39,slow=42							
KURBB	**Kurchatov Arra**	**17.59**	**5**	⇑P		**Pn**	**02 38 35.8**	**-1.7**
	comp=Z,25nm,0.7s							
KURBB	**Kurchatov Arra**	**17.59**	**5**	P		**Pn**	**02 38 36.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=193,slow=11,SNR=73							
KURBB				S		**S**	**02 41 56.3**	**-3.1**
	comp=Z,0.5nm,0.7s,baz=228,slow=47,SNR=1.6							
KURBB				LR		LR	02 46 04.6	
	comp=Z,728nm,20.5s,baz=171,slow=39 comp=Z,13nm,0.7s							
KURBB	**Kurchatov Arra**	**17.59**	**5**	P		**Pn**	**02 38 35.7**	**-1.7**
KURK	**Kurchatov**	**17.69**	**5**			**Pn**	**02 38 37.1**	**-1.5**
KURK	**Kurchatov**	**17.69**	**5**	⇓P		**Pn**	**02 38 37.2**	**-1.5**
	comp=Z,11nm,0.9s							
KURK	**Kurchatov**	**17.69**	**5**	P		**Pn**	**02 38 37.2**	**-1.5**
KURK				pmax		pmax		
	comp=Z,26nm,0.9s							
WSAR	**Wadi Sarin**	**18.27**	**242**	P		**P**	**02 38 44.9**	**-1.1**
	comp=Z,0.1nm,1.0s,baz=78,slow=24,SNR=5.0							
UOSS	**Minazif**	**19.21**	**250**	P		**P**	**02 38 56.6**	**+0.3**
GTA	**Gaotai**	**20.08**	**65**	*e*P		**P**	**02 39 06.8**	**+0.9**
GTA				pP		Pn	02 39 10.9	+3.0
GTA				pmax		pmax		
	comp=Z,20nm,1.0s							
GTA				LR		LR		
	comp=Z,560nm,11.9s							
GTA				LR		LR		
	comp=Z,300nm,11.6s							
GTA				LR		LR		
	comp=Z,560nm,12.0s							
AB31	**Akbulak array**	**20.14**	**328**	P		**P**	**02 39 06.9**	**+0.6**
AB31	**Akbulak array**	**20.14**	**328**	⇓P		**P**	**02 39 06.8**	**+0.5**

CHTO pmax pmax
comp=Z,18nm,0.7s
GANJ Ganja 24.92 296 P **P** **02 39 57.4 +2.2**
CMAR Chiang Mai Arr 25.12 120 **P** **02 39 56.6 -0.6**
CMAR Chiang Mai Arr 25.12 120 P **P** **02 39 57.5 +0.4**
comp=Z,9.6nm,0.7s,baz=310,slow=9.4,SNR=36
comp=Z,9.6nm,0.7s
NAX Nakhchivan 25.39 293 P **P** **02 40 01.8 +2.2**
SVE Sverdlovsk 26.00 340 *eP* **P** **02 40 06.3 +1.5**
SVE pmax pmax
comp=Z,12nm,0.8s
SVE MLR MLR
comp=Z,575nm,15.0s
GNI Garni 26.05 295 **P** **02 40 07.1 +1.4**
GNI Garni 26.05 295 *i* P **P** **02 40 05.9 +0.2**
GNI pmax pmax
comp=Z,45nm,1.1s
PALK Pallekele 26.06 170 LR LR 02 50 35.1
comp=Z,577nm,19.1s,baz=354,slow=37
ARTI Arti 26.31 338 **P** **02 40 08.3 +0.7**
ARTI IAmb IAmb 02 40 09.9
comp=Z,26nm,0.8s
ARTI Arti 26.31 338 LR LR 02 51 18.4
comp=Z,566nm,18.4s,baz=132,slow=38
ARTI Arti 26.31 338*c i*P **P** **02 40 09.0 +1.4**
ARTI 02 40 49.1
ARTI S **S** **02 44 44.6 +6.3**
ARTI SS **SnSn** **02 45 43.5 +4.1**
ARTI pmax pmax
comp=Z,25nm,0.9s
ARTI MLR MLR
comp=Z,499nm,16.0s
SONM Songino Array 27.11 48 **P** **02 40 15.2 +0.1**
SONM Songino Array 27.11 48 P **P** **02 40 17.1 +2.1**
comp=Z,8.5nm,0.8s,baz=247,slow=9.7,SNR=34
SONM LR LR 02 52 10.0
comp=Z,338nm,18.4s,baz=189,slow=39
comp=Z,8.5nm,0.8s
SONM Songino Array 27.11 48 P **P** **02 40 15.2 +0.1**
SONM pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 27.53 48 P **P** **02 40 18.9 +0.1**
ULN Ulaanbaatar 27.53 48 *i* P **P** **02 40 18.8 -0.1**
ULN pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 27.94 302 P **P** **02 40 23.3 +1.0**
comp=Z,2.8nm,0.9s,baz=134,slow=10,SNR=3.6
comp=Z,2.8nm,0.9s
SHA1 Shidzhatmaz 28.11 302 *i* P **P** **02 40 24.4 +0.2**
KIV Kislovodsk 28.13 302 *eP* **P** **02 40 24.5 +0.3**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,55nm,15.0s
BELG Belogornoye 28.16 322 *i* P **P** **02 40 24.8 +0.6**
BELG pmax pmax
comp=Z,2.0nm,0.9s
RAYN Ar Rayn 28.51 258 P **P** **02 40 27.8 0.0**
RAYN Ar Rayn 28.51 258 P **P** **02 40 27.8 0.0**
RAYN pmax pmax
comp=Z,4.0nm,0.8s
HHC Hu-ho-hao-te 29.19 64 *eP* **P** **02 40 35.8 +2.1**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,72nm,4.1s
HHC LR LR
comp=Z,150nm,12.7s
HHC LR LR
comp=Z,180nm,13.4s
HHC LR LR
comp=Z,200nm,13.0s
SOC Sochi 30.19 301 *i* P **P** **02 40 38.0 -4.4**
SOC *e* 02 41 37.7
SOC *i* PPP PPP 02 41 49.1
SOC *eS* **S** **02 45 36.3 -3.4**
SOC *eSS* **SnSn** **02 47 15.7 +1.4**
SOC pmax pmax
comp=Z,24nm,0.7s
SOC MLR MLR
comp=Z,74nm,21.0s
VRH Novokhopyorsk 30.88 316 *eP* **P** **02 40 47.7 -0.6**
VRH pmax pmax
comp=Z,10.0nm,0.8s
KIRV Kirov 31.15 333 LR LR 02 54 32.7
comp=Z,378nm,18.1s,baz=130,slow=38
KIRV Kirov 31.15 333 *i* P **P** **02 40 51.2 +0.6**
VORD Divnogorie 32.22 315 *eP* **P** **02 40 58.5 -1.7**
VORD pmax pmax
comp=Z,7.0nm,1.0s
VSR Storozhevoye 32.38 315 *eP* **P** **02 40 59.2 -2.4**
VSR pmax pmax
comp=Z,8.0nm,1.0s
VORR Voronezh 32.51 316 *eP* **P** **02 41 00.8 -1.9**
VORR pmax pmax
comp=Z,10.0nm,0.9s
BJI Beijing 32.69 66 P **P** **02 41 04.5 +0.1**
BJI pmax pmax
comp=Z,3.0nm,1.4s
BJI LR LR
comp=Z,100nm,14.3s
XLT XiLinHaoTe 32.78 59 *eP* **P** **02 41 06.4 +1.1**
XLT sP pP 02 41 13.1 -2.1
XLT pmax pmax
comp=Z,10.0nm,0.8s
ASF Jabal al Asfar 32.92 279 LR LR 02 56 53.0
comp=Z,233nm,20.0s,baz=152,slow=41
LPSR Galich'ya Gora 33.01 317 *eP* **P** **02 41 05.8 -1.2**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
MMAI Mount Meron Ar 33.98 281 LR LR 02 57 46.3
comp=Z,213nm,18.3s,baz=74,slow=41
BR131 Keskin Array S 34.57 293 P **P** **02 41 21.3 +0.3**
BR131 IAmb IAmb 02 41 28.4
comp=Z,10.0nm,1.1s
BR131 Keskin Array S 34.57 293 P **P** **02 41 21.3 +0.3**
BR131 pmax pmax
comp=Z,10.0nm,1.1s
BRTR Keskin Array B 34.57 293 P **P** **02 41 21.3 +0.3**
BRTR Keskin Array B 34.57 293 P **P** **02 41 22.8 +1.8**
comp=Z,2.6nm,0.9s,baz=108,slow=8.2,SNR=11
comp=Z,2.6nm,0.9s
MOS Moscow 34.93 322 *eP* **P** **02 41 23.8 +0.2**
MOS pmax pmax
comp=Z,23nm,0.9s
EIL Elat 35.16 276 LR LR 02 58 05.9
comp=Z,148nm,20.4s,baz=96,slow=40
OBN Obninsk 35.24 321 **P** **02 41 26.0 -0.3**
OBN Obninsk 35.24 321 ⇓P **P** **02 41 27.3 +1.1**
OBN Obninsk 35.24 321 ⇑*i*P **P** **02 41 27.0 +0.7**
OBN *i* 02 41 32.3
OBN *e* 02 42 44.4
OBN pmax pmax
comp=Z,24nm,0.6s
OBN MLR MLR
comp=Z,76nm,17.0s
NJ2 Nanjing 35.84 80 *eP* **P** **02 41 31.2 -0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KLMR Klimovskoe 36.50 331 *eP* **P** **02 41 36.3 -0.7**
KLMR *e* 02 42 58.5
KLMR pmax pmax
comp=Z,19nm,1.3s
IPM Ipoh 36.76 135 **P** **02 41 38.4 -1.3**
IPM IAmb IAmb 02 41 49.2
comp=Z,26nm,1.1s
PSI Prapat 36.95 140 LR LR 02 57 38.6
comp=Z,68nm,21.3s,baz=270,slow=38
MILM Milestii Mici 38.20 305 ⇑P **P** **02 41 51.6 -0.1**
MILM Milestii Mici 38.20 305 P **P** **02 41 51.5 -0.1**
AKASG Malin Array Be 38.35 312 P **P** **02 41 52.1 -0.7**
AKASG Malin Array Be 38.35 312 P **P** **02 41 52.8 -0.1**
comp=Z,6.0nm,0.7s,baz=82,slow=6.8,SNR=34
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 38.35 312*ceP* **P** **02 41 52.7 -0.1**
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKBB Malin Array Si 38.35 312 P **P** **02 41 52.0 -0.8**
AKBB IAmb IAmb 02 41 53.6
comp=Z,13nm,0.7s
AKBB Malin Array Si 38.35 312 P **P** **02 41 52.0 -0.8**
AKBB pmax pmax
comp=Z,13nm,0.7s
KIEV Kiev 38.36 312 **P** **02 41 52.1 -0.8**
KIEV IAmb IAmb 02 41 53.6
comp=Z,11nm,0.7s
KIEV Kiev 38.36 312 ⇓P **P** **02 41 53.1 +0.2**
KIEV Kiev 38.36 312 P **P** **02 41 52.1 -0.8**
KIEV pmax pmax
comp=Z,11nm,0.7s
SORM Soroca 38.60 307 ⇓P **P** **02 41 55.1 +0.1**
SORM Soroca 38.60 307 P **P** **02 41 55.1 +0.1**
CVDA Cernavoda 38.65 301 ⇓P **P** **02 41 56.8 +1.3**
VARL Varlezi 38.81 304 ⇓P **P** **02 41 58.9 +2.1**
PLOR Plostina 39.65 304 ⇓P **P** **02 42 05.6 +1.8**
PLOR Plostina 39.65 304 P **P** **02 42 05.6 +1.8**
MNK Minsk 39.86 317 *i* P **P** **02 42 04.3 -1.1**
comp=E,13nm,0.9s
MNK *i* P **P** **02 42 04.3 -1.1**
comp=N,10.0nm,0.8s
MNK *i* P **P** **02 42 04.3 -1.1**
comp=Z,15nm,0.8s,baz=102
MNK *i* PP **PP** **02 43 36.1 -1.0**
MNK *i* PPP PPP 02 43 59.4
MNK *i* S **S** **02 48 10.2 +2.2**
MNK *i* SS **SnSn** **02 51 07.9 -0.1**
MNK *i* SSS SSS 02 51 28.5
MNK *i* LQ LQ 02 56 45.4
MNK *i* LR LR 02 58 40.9
MNK *i* LRM MLR 02 59 52.4
comp=E,202nm,21.8s
MNK *i* LRM MLR 02 59 59.2
comp=N,165nm,22.0s
MNK *i* LRM MLR 03 00 27.1
comp=Z,66nm,16.7s
MNK Minsk 39.86 317 *i* P **P** **02 42 04.2 -1.1**
MNK *i* 02 43 36.1
MNK *i* 02 44 09.5
MNK *i* S **S** **02 48 10.1 +2.2**
MNK *i* SSS SSS 02 51 28.5
MNK *i* 02 52 11.6
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=E,13nm,0.9s
MNK pmax pmax
comp=N,10.0nm,0.8s
MNK MLR MLR
comp=E,202nm,22.0s
MNK MLR MLR
comp=N,165nm,22.0s
MNK MLR MLR
comp=Z,66nm,17.0s
COVR Voineasa-Covas 39.96 304 ⇓P **P** **02 42 08.1 +1.6**
TURR Turia 40.09 304 ⇓P **P** **02 42 09.2 +1.6**
MLR Muntele Rosu 40.14 303 **P** **02 42 08.7 +0.6**
MLR Muntele Rosu 40.14 303 LR LR 03 02 12.5
comp=Z,50nm,19.9s,baz=26,slow=41
MLR Muntele Rosu 40.14 303 ⇑P **P** **02 42 10.2 +2.2**
MLR Muntele Rosu 40.14 303 P **P** **02 42 10.2 +2.2**
EZN Ezine 40.18 294 ⇓P **P** **02 42 08.7 +0.4**
EZN Ezine 40.18 294 P **P** **02 42 08.7 +0.4**
DOPR Dopca 40.53 304 ⇓P **P** **02 42 12.7 +1.6**
NACGM Naroch 40.57 318 ⇑*i*P **P** **02 42 11.9 +0.6**
comp=Z,15nm,0.8s,baz=102
BURAR Bucovina Array 40.68 306 P **P** **02 42 12.7 +0.3**
BURAR Bucovina Array 40.68 306 ⇑P **P** **02 42 13.2 +0.7**
BURAR Bucovina Array 40.68 306 P **P** **02 42 13.1 +0.7**
BUR08 Bucovina Ar. S 40.69 306 P **P** **02 42 12.3 -0.3**
ARCR ARCALIA 41.25 305 ⇓P **P** **02 42 20.2 +3.1**
ZEA Zeya 41.38 44 *eP* P 02 42 26.8 +8.8
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=E,200nm,16.0s
ZEA MLR MLR
comp=Z,200nm,15.0s
CBBR Cluj-Babes-Bol 41.80 305 ⇑P **P** **02 42 22.9 +1.3**
BMR Baia Mare 41.84 306 ⇓P **P** **02 42 23.4 +1.6**
BMR Baia Mare 41.84 306 P **P** **02 42 23.4 +1.6**
KSRS Korea Array 42.07 69 P **P** **02 42 24.9 +1.0**
comp=Z,2.2nm,0.8s,baz=270,slow=9.5,SNR=1.5
KSRS LR LR 03 01 21.9
comp=Z,44µm,20.8s,baz=260,slow=38
comp=Z,2.2nm,0.8s
MARR Marisel-Cluj 42.10 305 ⇑P **P** **02 42 25.6 +1.5**
DRGR 42.38 305 ⇑P **P** **02 42 27.6 +1.2**
DRGR 42.38 305 P **P** **02 42 27.5 +1.2**
FINES FINESS Array B 42.63 327 P **P** **02 42 29.2 +1.2**
comp=Z,8.7nm,0.6s,baz=113,slow=8.7,SNR=61
FINES LR LR 03 01 38.4
comp=Z,92nm,21.5s,baz=68,slow=38
comp=Z,8.7nm,0.6s
KOLS Kolonicke sedl 42.68 308 *eP* **P** **02 42 29.9 +1.2**
SURR Surduc 42.81 304 ⇑P **P** **02 42 31.1 +1.3**
SIRR Siria 43.12 304 ⇑P **P** **02 42 33.8 +1.5**
MDVR Moldovita 43.16 302 ⇓P **P** **02 42 33.8 +1.1**
FNA Florina 43.81 296 P **P** **02 42 38.7 +0.7**
FNA Florina 43.81 296 P **P** **02 42 38.7 +0.7**
FNA pmax pmax
comp=Z,3.0nm,0.7s
YAK Yakutsk 44.40 33 *i* P **P** **02 42 42.6 +0.3**
YAK pmax pmax
comp=Z,20nm,0.9s
VYHS Vyhne 44.96 308 *eP* **P** **02 42 49.4 +2.4**
VADS Vadso 44.96 339 *eP* **P** **02 42 48.1 +1.4**
MORH Mrgy, Hungar 45.21 304 ⇑P **P** **02 42 50.4 +1.4**
SRO Srobarova 45.33 307 *eP* **P** **02 42 51.6 +1.6**
MAUC Maruska 45.59 309 *eP* **P** **02 42 53.2 +1.1**
STEB Steborice 45.61 310 *eP* **P** **02 42 52.7 +0.5**
MORC Moravsky Berou 45.77 309 **P** **02 42 54.3 +0.8**
MORC Moravsky Berou 45.77 309 *eP* **P** **02 42 54.2 +0.8**
MORC Moravsky Berou 45.77 309 ⇓P **P** **02 42 54.8 +1.3**
MORC Moravsky Berou 45.77 309 P **P** **02 42 54.3 +0.8**
MORC pmax pmax
comp=Z,5.0nm,0.8s
ARA0 ARCESS Array S 45.87 338 *eP* **P** **02 42 55.7 +1.7**
ARCES ARCESS Array B 45.87 338 **P** **02 42 55.2 +1.2**
ARCES ARCESS Array B 45.87 338 P **P** **02 42 55.5 +1.6**
comp=Z,3.6nm,0.5s,baz=114,slow=7.8,SNR=50
ARCES LR LR 03 03 50.5
comp=Z,187nm,18.6s,baz=106,slow=38
comp=Z,3.6nm,0.5s
ARCES ARCESS Array B 45.87 338 P **P** **02 42 55.2 +1.2**
ARCES pmax pmax
comp=Z,65nm,2.0s
KRLC Kraliky 46.25 310 *eP* **P** **02 42 57.3 +0.1**
KRLC Kraliky 46.25 310 *eP* **P** **02 42 57.3 +0.1**
KTK1 Kautokeino 46.40 337 *eP* **P** **02 42 59.2 +1.1**
VRAC Vranov 46.40 309 LR LR 03 05 16.9
comp=Z,76nm,19.0s,baz=12,slow=40
VRAC Vranov 46.40 309 *eP* **P** **02 42 59.4 +1.0**
VRAC Vranov 46.40 309 ⇓P **P** **02 42 60.0 +1.5**
VRAC Vranov 46.40 309 P **P** **02 42 59.9 +1.5**
DPC Dobruska-Polom 46.54 310 *eP* **P** **02 43 00.5 +1.0**
DPC Dobruska-Polom 46.54 310 *eP* **P** **02 43 00.5 +1.0**
KRUC Moravsky 46.54 309 *eP* **P** **02 43 01.4 +1.9**
OSTC Ostas 46.60 311 *eP* **P** **02 43 01.3 +1.4**
OSTC Ostas 46.60 311 *eP* **P** **02 43 01.3 +1.4**
CHVC Chvalec 46.70 311 *eP* **P** **02 43 01.6 +0.9**
CHVC Chvalec 46.70 311 *eP* **P** **02 43 01.6 +0.9**
UPC Upice 46.73 311 *eP* **P** **02 43 02.1 +1.2**
UPC Upice 46.73 311 *eP* **P** **02 43 02.1 +1.2**
HAMF Hammerfest 46.91 339 *eP* **P** **02 43 03.9 +1.9**
CONA Conrad Observa 46.97 307 *eP* **P** **02 43 03.6 +0.6**
comp=Z,5.0nm,0.9s
GROS Grobnik 47.35 305 *eP* **P** **02 43 06.5 +0.6**
TIXI Tiksi 47.42 20 *i* P **P** **02 43 06.9 +0.9**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
JETT Jettan, Norway 47.53 337 *eP* **P** **02 43 09.1 +2.1**
PERS Pernice 47.60 305 *eP* **P** **02 43 08.5 +0.6**
SOKA Soboth 47.65 305 *eP* **P** **02 43 09.0 +0.7**
comp=Z,5.3nm,0.7s,SNR=12
OBKA Obir 48.00 305 *eP* **P** **02 43 12.1 +1.1**
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 48.03 311 *i* P **P** **02 43 14.0 +3.0**
BRG Amp 02 43 14.7
comp=Z,4.7nm,0.8s
BRG Berggiesshubel 48.03 311 P P 02 43 18.9 +7.9
BRG Amp 02 43 20.8
comp=Z,2.8nm,0.8s
MOA Molln 48.05 307 *eP* **P** **02 43 11.5 +0.2**
comp=Z,2.8nm,0.7s,SNR=6.0
TRO Tromso 48.05 337 *eP* **P** **02 43 12.1 +1.2**
CRNS Crni Vrh 48.25 305 *eP* **P** **02 43 14.1 +1.2**
HFS Hagfors 48.31 324 P **P** **02 43 13.9 +0.8**
comp=Z,10nm,0.8s,baz=104,slow=9.5,SNR=28
HFS LR LR 03 06 24.2
comp=Z,62nm,19.4s,baz=308,slow=40
comp=Z,10nm,0.8s
GERES GERESS Array B 48.33 308 P **P** **02 43 14.1 +0.6**
comp=Z,1.1nm,0.9s,baz=77,slow=5.8,SNR=7.5
comp=Z,1.1nm,0.9s
KHC Kasperske Hory 48.39 309 *eP* **P** **02 43 14.3 +0.4**
KHC Kasperske Hory 48.39 309 *eP* **P** **02 43 14.3 +0.4**
CLL Collm 48.59 312 *eP* **P** **02 43 16.0 +0.6**
CLL pmax pmax
comp=Z,6.0nm,1.3s
CLL Collm 48.59 312 *eP* **P** **02 43 16.0 +0.6**
comp=Z,6.0nm,1.3s
FAUS Fauske 48.73 333 *eP* **P** **02 43 17.9 +1.7**
MOR8 Moi Rana 48.81 332 *eP* **P** **02 43 16.8 -0.1**
STEI Steigen 48.88 334 *eP* **P** **02 43 19.4 +2.2**
LESA Schwarzleotal 49.17 307 *i* P **P** **02 43 19.8 -0.2**
comp=Z,4.0nm,1.0s
HOPEN Hopen 49.29 346 *eP* **P** **02 43 21.5 +1.1**
STAL STALIGIAL 49.30 305 P **P** **02 43 20.6 -0.3**
STAL IAmb IAmb 02 43 34.2
comp=Z,6.1nm,0.8s
LEIR Leirfjorden 49.33 331 *eP* **P** **02 43 21.9 +1.1**
NC405 NORSAR Array S 49.36 325 P **P** **02 43 21.2 +0.1**
VAGH Vaagaholmen 49.38 332 *eP* **P** **02 43 23.2 +2.1**
KONS Konsvik 49.40 332 *eP* **P** **02 43 23.0 +1.7**
STOK Stokkvaagen 49.41 332 *eP* **P** **02 43 22.2 +0.8**
CAMP Campotosto 49.41 300 P **P** **02 43 20.8 -1.2**
NC602 NORSAR Array S 49.42 324 *eP* **P** **02 43 22.2 +0.7**
NC303 NORSAR Array S 49.53 325 P **P** **02 43 23.2 +0.8**
NC303 IAmb IAmb 02 43 24.2
comp=Z,13nm,0.8s
LOF Lofoten 49.54 334 *eP* **P** **02 43 23.5 +1.1**
FDMO Fiordimonte 49.55 301 **P** **02 43 23.9 +1.0**
FDMO IAmb IAmb 02 43 30.7
comp=Z,8.2nm,0.7s
NRCA Norcia 49.57 301 **P** **02 43 23.9 +0.8**
NRCA IAmb IAmb 02 43 25.3
comp=Z,8.0nm,0.9s
NSS Namsos 49.58 329 *eP* **P** **02 43 23.6 +0.9**
NB2 NORSAR Subarra 49.60 325 P **P** **02 43 23.1 +0.1**
comp=Z,7.0nm,0.8s,baz=94,slow=7.4
NB2 NORSAR Subarra 49.60 325 P **P** **02 43 23.1 +0.1**
comp=Z,7.0nm,0.8s,baz=94,slow=7.4
NOA NORSAR Array B 49.60 325 P **P** **02 43 23.2 +0.3**
comp=Z,5.8nm,0.8s,baz=95,slow=7.5,SNR=30
NOA LR LR 03 06 14.9
comp=Z,79nm,18.2s,baz=80,slow=38
comp=Z,5.8nm,0.8s
LEM Lembang 49.72 137 LR LR 03 06 26.8
comp=Z,74nm,18.9s,baz=120,slow=39
NC204 NORSAR Array S 49.83 325 P **P** **02 43 25.8 +1.0**
NC204 IAmb IAmb 02 43 26.2
comp=Z,9.8nm,0.8s
GRF Grafenberg Arr 49.86 310 *eP* **P** **02 43 26.8 +1.7**
comp=Z,3.5nm,0.8s,baz=94,slow=6.3
GRF *eP* **pP** **02 43 32.6 -2.6**
WTTA Wattenberg 49.89 307 *i* P **P** **02 43 25.2 -0.4**
comp=Z,2.0nm,0.6s
WATA Walderalm 49.92 307 *eP* **P** **02 43 25.3 -0.5**
comp=Z,2.3nm,1.1s
CESX Cesi 50.00 300 P **P** **02 43 26.0 -0.3**
CESX IAmb IAmb 02 43 27.6
comp=Z,8.9nm,1.0s
KMBO Kilima Mbogo 50.01 235 P **P** **02 43 24.8 -2.1**
comp=Z,1.4nm,0.3s,baz=216,slow=16,SNR=3.9
comp=Z,1.4nm,0.3s
SQTA Sankt Quirin 50.18 307 *eP* **P** **02 43 27.1 -0.6**
comp=Z,3.2nm,0.8s
MOTA Moosalm 50.24 307 *eP* **P** **02 43 27.7 -0.5**
comp=Z,2.8nm,0.7s
MJB9 Matsu-Tunnel 50.30 68 P **P** **02 43 28.7 +0.1**
MAJO Matsushiro 50.30 68 **P** **02 43 28.6 -0.1**
MAJO Matsushiro 50.30 68 P **P** **02 43 28.6 -0.1**
MAJO pmax pmax
comp=Z,18nm,0.8s
MJAR Matsushiro Arr 50.30 68 **P** **02 43 29.1 +0.4**
MJAR Matsushiro Arr 50.30 68 P **P** **02 43 28.7 0.0**
comp=Z,9.5nm,0.8s,baz=288,slow=8.5,SNR=26
MJAR LR LR 03 05 23.6
comp=Z,87nm,18.1s,baz=258,slow=37
comp=Z,9.5nm,0.8s
FETA Feichten 50.54 306 *eP* **P** **02 43 29.9 -0.6**
comp=Z,2.7nm,1.0s
DAVA Damuels 51.07 307 *eP* **P** **02 43 34.0 -0.4**
comp=Z,6.3nm,0.7s
YSS Yuzhno-Sakhali 51.38 54 *eP* **P** **02 43 36.5 -0.1**
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS MLR MLR
comp=E,200nm,14.0s
MOL Molde 51.40 327 *eP* **P** **02 43 38.7 +2.2**
JTM Tenmabayashi 51.41 62 P **P** **02 43 35.7 -1.2**
SPA0 Spitsbergen Ar 51.74 347 *eP* **P** **02 43 41.1 +2.2**
SPITS Spitsbergen Ar 51.74 347 P **P** **02 43 40.0 +1.1**
comp=E,3.7nm,0.6s,baz=118,slow=8.8,SNR=4.8
SPITS LR LR 03 08 23.4
comp=E,136nm,20.5s,baz=108,slow=39
comp=E,3.7nm,0.6s
ASAJ Asahikawa 51.79 57 LR LR 03 07 48.7
comp=E,112nm,18.3s,baz=292,slow=38
JMM Marumori 51.94 65 P **P** **02 43 40.9 0.0**
SENIN Lac Senin/Sane 52.98 306 IAmb IAmb 02 43 57.2
comp=Z,7.4nm,0.7s
MEM Membach 53.06 311 *dP* **P** **02 43 49.8 +0.7**
comp=Z,4.7nm,1.0s
BCLA Clavier 53.54 311 *dP* **P** **02 43 52.3 -0.3**
KEST Kesra 54.17 293 IAmb IAmb 02 43 59.2
comp=Z,7.4nm,0.8s
KEST Kesra 54.17 293 P **P** **02 43 58.0 +0.5**
comp=Z,6.6nm,0.7s,baz=340,slow=0.6,SNR=13
comp=Z,6.6nm,0.7s
MA2 Magadan 54.47 37 LR LR 03 09 34.7
comp=Z,140nm,18.5s,baz=291,slow=38
SEY Seymchan 54.92 33 LR LR 03 09 42.9
comp=Z,266nm,18.4s,baz=280,slow=38
SEY Seymchan 54.92 33 *eP* **P** **02 44 02.5 +0.1**
SEY pmax pmax
comp=Z,11nm,1.1s
KAPI Kappang 56.08 124 LR LR 03 12 12.5
comp=Z,43nm,18.3s,baz=4.0,slow=40
JMIC Jan Mayen 57.36 337 LR LR 03 09 30.5
comp=Z,131nm,18.1s,baz=86,slow=37
EKA Eskdalemuir Ar 57.63 318 P **P** **02 44 22.2 +0.4**
comp=Z,1.2nm,0.7s,baz=79,slow=7.2,SNR=7.8
comp=Z,1.2nm,0.7s
PETK Petropavlovsk- 59.47 44 LR LR 03 12 27.2
comp=Z,145nm,20.3s,baz=295,slow=38
TAM Tamanrasset 62.18 280 **P** **02 44 52.7 -1.1**
TAM Tamanrasset 62.18 280 P **P** **02 44 52.7 -1.1**
TAM pmax pmax
comp=Z,7.0nm,0.6s
ESDC Sonseca Array 62.79 301 P **P** **02 44 57.9 +0.3**
ESDC Sonseca Array 62.79 301 P **P** **02 44 57.5 -0.1**
comp=Z,2.4nm,0.7s,baz=53,slow=6.9,SNR=21
comp=Z,2.4nm,0.7s
BORG Borgarnes 63.61 332 LR LR 03 12 47.6
comp=Z,90nm,19.4s,baz=58,slow=36
BORG Borgarnes 63.61 332*ceP* **P** **02 45 03.9 +1.5**
GUMO Guam 64.99 90 P **P** **02 45 14.0 +1.8**
comp=Z,46nm,0.3s,baz=166,slow=21,SNR=1.8
GUMO Guam 64.99 90 P **P** **02 45 14.0 +1.8**
SUMG Summit 65.59 342 *i* P **P** **02 45 15.9 +0.1**
LSZ Lusaka 66.40 231 LR LR 03 15 38.6
comp=Z,71nm,18.0s,baz=36,slow=37
SHEM Shemya Is, Ala 68.85 40 LR LR 03 18 15.0
comp=Z,111nm,18.8s,baz=46,slow=38
A19K Wainwright 69.13 18 P **P** **02 45 36.8 -0.8**
baz=311
C16K Lisburne Hills 69.19 20 P **P** **02 45 37.3 -0.8**
baz=308
A21K Barrow 69.45 16 P **P** **02 45 38.6 -1.0**
baz=314
B18K Kokolik River 69.49 19 P **P** **02 45 39.8 -0.1**
baz=311
C17K DeLong Mountai 69.68 20 P **P** **02 45 40.3 -0.8**
baz=310
GAMB Gambell 69.73 26 P **P** **02 45 40.8 -0.7**
baz=304
TORD Torodi Ar. Bea 69.98 273 **P** **02 45 41.9 -1.9**
TORD IAmb IAmb 02 45 51.2
comp=Z,3.4nm,0.8s
TORD Torodi Ar. Bea 69.98 273 P **P** **02 45 42.3 -1.5**
comp=Z,2.3nm,0.6s,baz=50,slow=6.0,SNR=28
comp=Z,2.3nm,0.6s
MATP Matopo 70.01 228 LR LR 03 17 41.7
comp=Z,31nm,19.0s,baz=82,slow=37

TNA **Tin City** 70.03 23 P P 02 45 43.0 -0.2
baz=307
A22K **Sinclair Lake** 70.06 16 P P 02 45 43.4 +0.1
baz=316
C18K **Utukok River** 70.13 19 P P 02 45 44.1 +0.1
baz=311
D17K **Noatak River** 70.21 20 P P 02 45 44.6 +0.2
baz=310
B20K **Meade River** 70.25 17 P P 02 45 44.7 +0.2
baz=314
C19K **Lookout Ridge** 70.25 18 P P 02 45 44.6 -0.1
baz=312,SNR=7.7
JAY **Jayapura** 70.35 107 P P 02 45 46.8 +0.7
comp=Z,5.1nm,0.8s,baz=338,slow=6.5,SNR=4.7
comp=Z,5.1nm,0.8s
F14K **Arctic Creek** 70.61 23 P P 02 45 46.7 -0.2
baz=308
B22K **Teshekpuk Lake** 70.89 16 P P 02 45 48.8 +0.3
baz=317
E17K **Hotham Inlet** 70.98 21 P P 02 45 49.3 +0.2
baz=311
F15K **North Star Dit** 71.01 22 P P 02 45 49.1 -0.2
baz=309
D19K **Kuna River** 71.06 18 P P 02 45 49.9 +0.3
baz=314,SNR=7.8
E18K **Tukpahlearik C** 71.11 20 P P 02 45 49.9 0.0
baz=312,SNR=7.7
B21K **Ikpikpuk River** 71.14 17 P P 02 45 50.2 +0.2
baz=317
D20K **Etivluk River** 71.30 18 P P 02 45 51.5 +0.4
baz=315
C21K **Knifeblade Rid** 71.44 17 P P 02 45 52.0 +0.1
baz=317
ANM **Nome** 71.49 24 P P 02 45 51.7 -0.5
baz=309
F17K **Baldwin Pennin** 71.58 21 P P 02 45 52.7 0.0
baz=312
G15K **Niukluk** 71.66 23 P P 02 45 53.3 +0.1
baz=310
E20K **Nigu River** 71.74 18 P P 02 45 54.2 +0.5
baz=316,SNR=7.5
C23K **Itkillik River** 71.91 15 P P 02 45 55.0 +0.4
baz=320,SNR=5.0
G16K **Koyuk River** 71.94 22 P P 02 45 54.8 0.0
baz=311
F18K **Selawik** 71.95 20 P P 02 45 55.0 +0.1
baz=313,SNR=7.5
E19K **Redstone River** 72.03 19 P P 02 45 55.6 +0.2
baz=315,SNR=5.1
D22K **Ayikyak River** 72.16 17 P P 02 45 55.9 -0.3
baz=318
E21K **Killik River** 72.17 17 P P 02 45 55.9 -0.4
baz=317
F19K **Shaleruckik Mo** 72.32 20 P P 02 45 57.1 0.0
baz=315
G17K **Kiwalik Mounta** 72.40 21 P P 02 45 57.3 -0.3
baz=312
C24K **Franklin Bluff** 72.42 15 P P 02 45 57.9 +0.3
baz=322
H16K **Elim** 72.48 23 P P 02 45 58.2 +0.1
baz=311
D23K **Nanushuk River** 72.56 16 P P 02 45 58.7 +0.1
baz=320
G18K **Tagagawik** 72.73 21 P P 02 45 59.5 -0.1
baz=314
F20K **Avaraart Lake** 72.73 19 P P 02 46 00.0 +0.5
baz=316
D24K **Happy Valley** 72.84 15 P P 02 46 00.5 +0.3
baz=322
G19K **Purcell Mounta** 73.01 20 P P 02 46 01.8 +0.5
baz=315,SNR=5.3
H17K **Granite Mounta** 73.01 22 P P 02 46 01.8 +0.5
baz=313
C26K **Camden Bay** 73.05 14 P P 02 46 02.4 +0.9
baz=325
TOLK **Toolik Lake Re** 73.07 16 P P 02 46 02.6 +0.9
baz=321,SNR=17
F21K **Alatna River** 73.20 18 P P 02 46 03.3 +0.8
baz=318,SNR=5.9
D25K **Kavik River** 73.23 15 P P 02 46 03.6 +0.9
baz=324
J14K **Nanvaranak Lak** 73.28 25 P P 02 46 03.3 +0.4
baz=311
F22K **John River** 73.32 17 P P 02 46 03.8 +0.7
baz=319
H18K **Honhosa River** 73.33 21 P P 02 46 03.9 +0.7
baz=314
K13K **Kusilvak Mount** 73.42 26 P P 02 46 03.8 0.0
baz=310
I17K **Unalakleet** 73.48 23 P P 02 46 04.8 +0.8
baz=313
E23K **Chandalar** 73.52 16 P P 02 46 05.2 +0.9
baz=321,SNR=6.8
C27K **Jago River** 73.53 14 P P 02 46 05.5 +1.2
baz=326
H19K **Roundabout Mou** 73.63 20 P P 02 46 06.2 +1.3
baz=316,SNR=5.9
G21K **Allakaket** 73.72 19 P P 02 46 06.4 +1.0
baz=318,SNR=6.1
E24K **Your Creek** 73.77 16 P P 02 46 06.6 +0.8
baz=322
M11K **Mekoryuk** 73.84 27 P P 02 46 06.5 +0.3
baz=309
J16K **Anvik River** 73.93 23 P P 02 46 07.3 +0.6
baz=313
G22K **Bettles** 73.94 18 P P 02 46 07.1 +0.4
baz=320
COLD **Coldfoot** 74.03 17 P 02 46 08.0 +0.8
COLD IAmb IAmb 02 46 09.5
comp=Z,14nm,0.9s
COLD **Coldfoot** 74.03 17 P P 02 46 07.8 +0.5
baz=321,SNR=8.9
IMAR **Indian Mountai** 74.06 19 P P 02 46 08.4 +0.9
H20K **Anotleneega Mo** 74.11 20 P P 02 46 08.3 +0.6
baz=317,SNR=6.1
SPIA **Saint Paul Isl** 74.17 31 P P 02 46 08.4 +0.2
baz=307
K15K **Wolf Creek Mou** 74.29 24 P P 02 46 09.4 +0.6
baz=313
J17K **VABM Dome** 74.35 23 P P 02 46 10.0 +0.8
baz=314
F24K **Squaw Lake** 74.35 16 P P 02 46 09.9 +0.7
baz=323
D27M **Malcolm River** 74.38 13 P P 02 46 10.5 +1.2
baz=328
E25K **Arctic Village** 74.39 15 P P 02 46 10.0 +0.6
baz=325,SNR=6.8
G23K **Bananza Creek** 74.47 17 P P 02 46 11.3 +1.4
baz=321,SNR=5.0
L14K **Kuka Creek** 74.53 25 P P 02 46 10.7 +0.5
baz=312
H21K **Melozitna Rive** 74.56 19 P P 02 46 10.9 +0.5
baz=319,SNR=8.0
D28M **Stokes Point** 74.71 12 P P 02 46 11.7 +0.6
baz=330
I20K **Naaghedeneel** 74.74 20 P P 02 46 11.9 +0.5
baz=318
H22K **Ishtalitna Cre** 74.76 18 P P 02 46 11.8 +0.2
baz=320
F25K **Christian Rive** 74.80 15 P P 02 46 12.3 +0.4
baz=325,SNR=8.1
P08K **Saint George I** 74.83 31 P P 02 46 12.2 +0.2
baz=308
M13K **Dall Lake** 74.90 26 P P 02 46 12.3 -0.1
baz=312
J19K **Poorman** 74.99 21 P P 02 46 13.4 +0.5
baz=317
F26K **Sheenjek River** 75.04 15 P P 02 46 13.3 +0.1
baz=326
J18K **Innoko River** 75.05 22 P P 02 46 13.4 +0.2
baz=316
K17K **Iditarod** 75.08 23 P P 02 46 13.1 -0.3
baz=315
G24K **Hadweenzic Riv** 75.10 16 P P 02 46 13.9 +0.4
baz=323,SNR=8.5
I21K **Tanana** 75.15 19 P P 02 46 14.3 +0.5
baz=320,SNR=5.4
E27K **Coleen River** 75.16 14 P P 02 46 13.9 0.0
baz=328,SNR=6.8
BMAR **Burnt Mountain** 75.17 15 P 02 46 15.4 +1.5
M14K **Bethel** 75.18 26 P P 02 46 14.7 +0.7
baz=312
E28M **Babbage River** 75.19 13 P P 02 46 14.7 +0.8
baz=330,SNR=7.2
LBTB **Lobatse** 75.20 226 LR LR 03 19 18.0
comp=Z,24nm,20.7s,baz=32,slow=36
H23K **Yukon River** 75.29 18 P P 02 46 15.0 +0.4
baz=322
J20K **Nowinta River** 75.30 20 P P 02 46 14.7 0.0
baz=318,SNR=7.2
G25K **Bearman Lake** 75.37 16 P P 02 46 14.9 -0.1
baz=324,SNR=9.2
L16K **Owhat River** 75.40 24 P P 02 46 14.4 -0.8
baz=314
L17K **Donlin** 75.49 23 P P 02 46 15.1 -0.7
baz=315
MLY **Manley** 75.60 19 IAmb IAmb 02 46 18.7
comp=Z,7.0nm,0.8s
MLY **Manley** 75.60 19 P P 02 46 15.8 -0.6
baz=321,SNR=12
M15K **Kasigluk River** 75.68 25 P P 02 46 17.3 +0.5
baz=314
E29M **Blow River** 75.68 12 P P 02 46 17.3 +0.6
baz=331,SNR=11
H24K **Noodor Dome** 75.70 17 P P 02 46 17.5 +0.5
baz=323,SNR=6.5
FYU **Fort Yukon** 75.74 16 P 02 46 18.7 +1.6
G26K **Porcupine Rive** 75.74 15 P P 02 46 17.6 +0.4
baz=326
H25L **Birch Creek** 75.85 16 P P 02 46 18.0 +0.3
baz=325
N14K **Kuskokwak Cree** 75.85 26 P P 02 46 18.1 +0.3
baz=313
I23K **Minto, Yukon-K** 75.87 18 P P 02 46 18.2 +0.3
baz=322,SNR=5.7
K20K **Telida** 75.93 21 P P 02 46 18.6 +0.3
baz=318
L18K **Granite Mounta** 75.96 23 P P 02 46 18.9 +0.5
baz=316
F28M **Old Crow** 75.99 13 P P 02 46 19.3 +0.7
baz=329
CHUM **Lake Minchumin** 76.05 20 P P 02 46 19.4 +0.5
baz=320
M16K **Timber Creek** 76.06 24 P P 02 46 19.4 +0.3
baz=315
BPAW **Bear Paw Mtn.** 76.25 19 P P 02 46 20.5 +0.3
baz=321,SNR=6.5
N15K **Kwethluk River** 76.26 25 P P 02 46 19.8 -0.4
baz=314
M17K **Holitna River** 76.30 23 P P 02 46 20.8 +0.3
baz=316
G27K **Doyon Strip** 76.32 14 P P 02 46 20.8 +0.4
baz=328,SNR=5.8
TSUM **Tsuneb** 76.34 236 LR LR 03 21 47.9
comp=Z,69nm,18.5s,baz=150,slow=37
NEA2 **Nenana** 76.39 18 P P 02 46 21.0 +0.1
baz=322,SNR=16
POKR **Poker Plat Res** 76.39 17 P P 02 46 20.8 -0.1
baz=324
O14K **Tigyukauivet M** 76.46 26 P P 02 46 21.6 +0.2
baz=313
COLA **College** 76.48 18 P P 02 46 22.6 +1.3
COLA **College** 76.48 18 P P 02 46 22.6 +1.3
COLA pmax pmax
comp=Z,18nm,0.8s
COLA **College** 76.48 18 P P 02 46 22.0 +0.6
baz=323
INK **Inuvik** 76.50 11 P P 02 46 21.8 +0.5
baz=335,SNR=5.7
PRP **Porcupine Dome** 76.53 17 P P 02 46 22.4 +0.5
baz=325
L19K **White Mountain** 76.57 22 P P 02 46 22.4 +0.4
baz=318
L20K **Farewell, AK** 76.65 21 P P 02 46 23.1 +0.6
baz=319
KTH **Kantishna Hill** 76.70 20 P P 02 46 24.1 +1.3
KTH IAmb IAmb 02 46 24.7
comp=Z,12nm,1.0s
WRH **Wood River Hil** 76.74 18 P P 02 46 22.7 -0.1
WRH IAmb IAmb 02 46 24.5
comp=Z,5.3nm,0.8s
F30M **Barrier River** 76.75 12 P P 02 46 23.9 +1.1
baz=333
C36M **Paulatuk** 76.77 7 P P 02 46 23.8 +1.0
baz=343
M18K **Stony River** 76.77 23 P P 02 46 22.8 -0.2
baz=317
IL31 76.81 17 P P 02 46 22.9 -0.3
IL31 IAmb IAmb 02 46 24.4
comp=Z,5.4nm,0.8s
ILAR **Eielson Array** 76.81 17 P P 02 46 22.7 -0.5
ILAR **Eielson Array** 76.81 17 P P 02 46 23.4 +0.2
comp=Z,5.0nm,0.8s,baz=314,slow=4.7,SNR=54
comp=Z,5.0nm,0.8s
H27K **Steamboat Moun** 76.84 15 P P 02 46 23.4 0.0
baz=328
PPLA **Purkeypile** 76.84 21 P P 02 46 23.0 -0.6
baz=320
M19K **Big River Lodg** 76.92 22 P P 02 46 23.5 -0.5
baz=318
G29M **Pine Creek** 76.96 13 P P 02 46 23.8 -0.3
baz=331
TRF **Thorofare Moun** 76.96 20 P P 02 46 23.7 -0.7
baz=321
N17K **Nushagak Hills** 77.02 24 P P 02 46 24.3 -0.2
baz=316
O15K **Ungalikthiuk R** 77.05 26 P P 02 46 24.3 -0.4
baz=314
HDA **Harding Lake** 77.09 18 IAmb IAmb 02 46 26.1
comp=Z,6.1nm,0.8s
HDA **Harding Lake** 77.09 18 P P 02 46 24.9 +0.1
baz=324,SNR=5.1
MCK **McKinley** 77.11 19 P P 02 46 25.2 +0.2
baz=322
G30M **tAoh Zraii Nji** 77.23 12 P P 02 46 24.7 -0.9
baz=333
F31M **Tsiigehtchic** 77.25 11 P P 02 46 25.3 -0.3
baz=335,SNR=5.3
I26K **Coal Creek Min** 77.26 16 P P 02 46 25.7 -0.1
baz=327
J25K **Salcha River,** 77.31 17 P P 02 46 26.3 +0.2
baz=325,SNR=6.7
M20K **Styx River** 77.33 22 P P 02 46 26.7 +0.3
baz=319
N18K **Kilae Creek** 77.35 23 P P 02 46 26.4 +0.1
baz=317
I27K **Kandik River** 77.36 15 P P 02 46 26.2 -0.2
baz=328
O16K **Kowok River B** 77.38 25 P P 02 46 26.2 -0.3
baz=316
H29M **Whitestone** 77.50 14 P P 02 46 26.9 -0.2
baz=331
O17K **Koliganek Bris** 77.60 25 P P 02 46 27.0 -0.7
baz=316
G31M **Satah River** 77.63 12 P P 02 46 27.4 -0.3
baz=334
EPYK **Eagle Plains** 77.68 13 P P 02 46 28.0 -0.1
baz=332
N19K **Bonanza Creek** 77.71 23 P P 02 46 28.1 -0.4
baz=318
SKT **Skwentna** 77.74 21 P P 02 46 29.2 +0.6
SKT **Skwentna** 77.74 21 P P 02 46 28.4 -0.2
baz=321
P16K **Nushagak River** 77.82 25 P P 02 46 29.0 0.0
baz=316
J26L **Joseph Creek** 77.84 16 P P 02 46 29.0 -0.2
baz=327,SNR=12
I28M **Miner Creek** 77.85 15 P P 02 46 29.3 +0.1
baz=330,SNR=8.9
K24K **Donnelly Dome** 77.88 18 P P 02 46 29.3 0.0
baz=325
WAT1 **Susitna Watana** 77.93 19 P P 02 46 29.8 +0.2
baz=323
DHY **Denali Highway** 78.06 19 P P 02 46 30.3 -0.2
DHY IAmb IAmb 02 46 32.4
comp=Z,6.6nm,0.7s
DHY **Denali Highway** 78.06 19 P P 02 46 30.2 -0.2
baz=324,SNR=5.5
BOSA **Boshof** 78.07 224 P P 02 46 29.6 -1.3
comp=Z,1.4nm,0.7s,baz=18,slow=6.3,SNR=5.7
BOSA LR LR 03 19 44.8
comp=Z,37nm,18.9s,baz=28,slow=35
comp=Z,1.4nm,0.7s
N20K **Mount Spurr** 78.14 22 P P 02 46 30.4 -0.5
baz=320
SPCR **Spurr Chakacha** 78.14 22 P P 02 46 30.6 -0.2
baz=320
RIDG **Independent Ri** 78.17 17 P P 02 46 31.2 +0.3
baz=326
SCRK **Sand Creek** 78.18 17 P P 02 46 31.4 +0.3
SCRK **Sand Creek** 78.18 17 P P 02 46 31.5 +0.4
baz=326,SNR=6.0
P17K **Kvichak River** 78.25 25 P P 02 46 31.2 -0.1
baz=317
I29M **Ogilvie Camp,** 78.26 14 P P 02 46 31.8 +0.5
baz=331
WAT6 **Susitna Watana** 78.36 19 P P 02 46 32.4 +0.2
baz=324
SUA **Susitna One** 78.38 21 P P 02 46 32.2 -0.1
baz=321
DOT **Dot Lake** 78.44 17 P P 02 46 32.8 +0.4
DOT IAmb IAmb 02 46 33.9
comp=Z,7.2nm,0.8s
P18K **Big Mountain,** 78.53 24 P P 02 46 33.2 +0.2
baz=318
K27K **Chicken** 78.59 16 P P 02 46 33.6 +0.4
baz=328
S12K **Black Hills** 78.59 29 P P 02 46 33.3 -0.1
baz=313
H31M **Peel River** 78.62 12 P P 02 46 33.8 +0.5
baz=334
PAX **Paxson** 78.65 18 P P 02 46 34.4 +0.8
PAX IAmb IAmb 02 46 36.5
comp=Z,6.1nm,0.6s
PAX **Paxson** 78.65 18 P P 02 46 34.4 +0.8
PAX pmax pmax
comp=Z,6.0nm,0.6s
PAX **Paxson** 78.65 18 P P 02 46 34.1 +0.4
baz=325,SNR=7.0
I30M **Mount Dempster** 78.77 13 P P 02 46 34.6 +0.3
baz=333,SNR=10
DBIC **Dimbokro** 78.85 271 LR LR 03 25 18.9
comp=Z,82nm,19.3s,baz=335,slow=39
O20K **Slope Mountain** 78.87 23 P P 02 46 35.3 +0.4
baz=320
M23K **Glacier View** 79.00 20 P P 02 46 35.9 +0.4
baz=324
SCM **Sheep Creek Mo** 79.08 19 P P 02 46 36.0 0.0
baz=324
J29N **Klondike Camp** 79.08 14 P P 02 46 36.2 +0.3
baz=331
KNK **Knik Glacier** 79.10 20 P P 02 46 35.7 -0.3
baz=323
Q17K **Contact Creek** 79.14 25 P P 02 46 35.9 -0.5
baz=318
L26K **Log Cabin Wild** 79.14 17 P P 02 46 36.4 +0.2
baz=327
Q18K **Katmai Hardscr** 79.16 24 P P 02 46 36.8 +0.3
baz=318
DAWY **Dawson** 79.17 15 IAmb IAmb 02 46 37.7
comp=Z,4.9nm,0.8s
DAWY **Dawson** 79.17 15 P P 02 46 36.7 +0.3
baz=330
M24K **Tolsona, Glenn** 79.17 19 P P 02 46 36.7 +0.2
baz=325
HARP **HAARP** 79.20 18 P P 02 46 36.9 +0.3
baz=326,SNR=8.1
J30M **Hart River** 79.36 14 P P 02 46 37.2 -0.4
baz=333
Q19K **Cape Douglas,** 79.41 24 P P 02 46 36.7 -1.1
baz=319
R17L **Mt. Peulik Vol** 79.43 26 P P 02 46 37.7 -0.2
baz=317
L27K **Beaver Creek,** 79.48 17 P P 02 46 37.8 -0.3
baz=328,SNR=5.6
FRB **Frobisher Bay** 79.49 345 LR LR 03 28 15.9
comp=Z,131nm,18.4s,baz=126,slow=40
SDPT **Sand Point** 79.49 29 P P 02 46 38.4 +0.2
baz=315
HOM **Homer** 79.51 22 P P 02 46 38.2 0.0
baz=321
PWL **Port Wells** 79.58 20 P P 02 46 39.2 +0.5
baz=323
CHGN **Chignik** 79.63 27 P P 02 46 39.3 +0.3
baz=316
BRSE **Bradley Lake S** 79.73 22 P P 02 46 39.9 +0.4
baz=322
KLU **Klutina** 79.75 19 P P 02 46 41.0 +1.4
KLU **Klutina** 79.75 19 P P 02 46 40.0 +0.3
baz=325
M26K **Nabesna, AK** 79.75 17 P P 02 46 40.1 +0.5
baz=327,SNR=5.9
K29M **Barlow Dome** 79.76 14 P P 02 46 40.6 +0.9
baz=332,SNR=11
SEW **Seward** 79.85 21 P P 02 46 40.1 0.0
baz=322
GLI **Glacier Island** 79.92 20 P P 02 46 40.1 -0.4
baz=324
N25K **Chitina, Valde** 80.01 18 P P 02 46 42.4 +1.3
baz=326
M27K **Edge Creek, AK** 80.07 17 P P 02 46 42.3 +0.8
baz=328,SNR=5.9
Q20K **Shuyak Island** 80.08 23 P P 02 46 42.0 +0.7
baz=320
R18K **Karluk** 80.17 25 P P 02 46 41.7 -0.1
baz=319
CHNA **Chernabura Isl** 80.22 29 P P 02 46 42.1 -0.1
baz=315
BVCY **Beaver Creek** 80.27 17 P P 02 46 42.9 +0.5
baz=329
L29M **L29M** 80.28 15 P P 02 46 43.1 +0.6
baz=331,SNR=8.5
MAYO **Mayo, Yukon** 80.32 14 P P 02 46 43.2 +0.5
baz=333
BMRM **Bremner River** 80.54 19 P P 02 46 44.5 +0.6
baz=326
EYAK **Cordova Ski Ar** 80.57 20 P P 02 46 44.4 +0.5
baz=325
MCARA **McCarthy VSAT** 80.61 18 P P 02 46 44.7 +0.5
baz=328
VRDI **Verde Repeater** 80.63 18 IAmb IAmb 02 46 46.7
comp=Z,9.4nm,0.8s
KDAK **Kodiak Island** 80.65 24 LR LR 03 26 23.9
comp=Z,190nm,18.4s,baz=52,slow=38
KDAK **Kodiak Island** 80.65 24 P P 02 46 45.4 +1.0
baz=320
M29M **Somme Creek** 80.79 16 P P 02 46 46.1 +0.7
baz=331,SNR=14
OHAK **Old Harbor** 80.84 25 P P 02 46 46.4 +1.0
baz=320
YUK3 **Moose Creek** 80.91 17 P P 02 46 46.2 +0.1
baz=330
SII **Sitkinak Islan** 81.03 26 P P 02 46 46.4 -0.1
baz=319
M30M **Minto, Yukon** 81.04 15 P P 02 46 46.8 +0.3
baz=332,SNR=5.5
CHIR **Chirikof Islan** 81.05 27 P P 02 46 46.7 0.0
baz=318
CRQE **Cirque** 81.12 18 P P 02 46 47.5 +0.4
baz=328
BARN **Barnard Glacie** 81.23 18 P P 02 46 48.4 +0.6
Q23K **Middleton Isla** 81.32 20 P P 02 46 48.1 +0.1
baz=325
CTG **Chitna Glacier** 81.39 17 P P 02 46 48.9 +0.3
baz=329
KAIM **Kayak Island** 81.46 19 P P 02 46 49.5 +0.7
baz=326
GRNC **Granite Creek** 81.49 18 IAmb IAmb 02 46 52.6
comp=Z,6.6nm,0.9s
YUK8 **Steele Glacier** 81.51 17 P P 02 46 49.8 +0.5
baz=330
YUK4 **Talbot Arm** 81.72 16 P P 02 46 50.5 +0.2
baz=331
O28M **Mount Upton** 81.85 17 P P 02 46 51.2 0.0
baz=330
M31M **Drury Creek, Y** 81.88 14 P P 02 46 51.9 +1.0
baz=334,SNR=7.2
MESA **MESA** 81.91 18 P P 02 46 51.5 +0.1
baz=328
N30M **Aishikik Lake** 81.97 15 P P 02 46 51.9 +0.4
baz=332
MMPY **Sheldon Lake,** 82.09 12 P P 02 46 52.7 +0.6
baz=337
YUK6 **Outpost Mounta** 82.14 16 P P 02 46 53.3 +0.7
baz=331
N31M **Braeburn, Yuko** 82.23 15 P P 02 46 53.2 +0.4
baz=333,SNR=8.2
PCA **Pinnacle** 82.42 17 IAmb IAmb 02 48 13.2
comp=Z,9.6nm,0.8s
PINM **Pinnacle** 82.42 17 P P 02 46 54.2 +0.3
baz=330
HYT **Haines Junctio** 82.44 16 IAmb IAmb 02 46 56.4
comp=Z,7.6nm,0.8s
HYT **Haines Junctio** 82.44 16 P P 02 46 54.5 +0.5
baz=332,SNR=9.0
O29M **Mount Kennedy** 82.65 17 P P 02 46 55.4 +0.2
baz=331
BCPM **Bancas Point** 82.70 17 P P 02 46 56.1 +0.9
WRGLY **Wrigley** 82.72 9 P P 02 46 55.9 +0.6
baz=344
O30N **Mendenhall** 82.81 15 P P 02 46 56.3 +0.4
baz=333,SNR=7.2
PNL **Peninsula** 83.00 17 P P 02 46 57.8 +0.9
baz=331

N32M	**Quiet Lake**	**83.10**	**14**	P	**P**	**02 46 57.9**	**+0.6**
	baz=336						
WHY	**Whitehorse**	**83.17**	**15**	P	**P**	**02 46 58.2**	**+0.4**
	baz=334						
P30M	**Million Dollar**	**83.19**	**16**	P	**P**	**02 46 59.2**	**+1.3**
	baz=332						
P29M	**Windy Craggy**	**83.44**	**17**	P	**P**	**02 47 00.3**	**+1.1**
	baz=332						
PLBC	**Pleasant Camp**	**83.92**	**16**	P	**P**	**02 47 02.5**	**+1.0**
	baz=333,SNR=7.2						
P33M	**Teslin, Yukon**	**84.01**	**14**	P	**P**	**02 47 02.9**	**+0.7**
	baz=336,SNR=7.8						
SKAG	**Skagway**	**84.16**	**16**	IAmb	IAmb	02 47 05.3	
	comp=Z,8.5nm,1.0s						
SKAG	**Skagway**	**84.16**	**16**	P	**P**	**02 47 03.5**	**+0.8**
	baz=334						
YKA	**Yellowknife Ar**	**84.34**	**5**	P	**P**	**02 47 03.3**	**-0.2**
YKA	**Yellowknife Ar**	**84.34**	**5**	P	**P**	**02 47 04.0**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=350,slow=5.7,SNR=23						
	comp=Z,1.5nm,0.6s						
P32M	**Atlin**	**84.39**	**15**	P	**P**	**02 47 04.9**	**+0.9**
	baz=335						
R33M	**Jennings River**	**85.13**	**14**	P	**P**	**02 47 08.4**	**+0.5**
	baz=337,SNR=5.5						
Q32M	**Nakina River**	**85.27**	**14**	P	**P**	**02 47 09.2**	**+0.6**
	baz=336						
S31K	**Pelican**	**85.29**	**17**	P	**P**	**02 47 09.5**	**+1.1**
	baz=333						
R32K	**Eaglecrest**	**85.41**	**16**	P	**P**	**02 47 09.9**	**+0.8**
	baz=335						
KOTAN	**Kotaneelee Air**	**85.62**	**10**	P	**P**	**02 47 10.7**	**+0.6**
	baz=343						
LIRD	**Liard River Hi**	**85.99**	**11**	P	**P**	**02 47 12.7**	**+0.7**
	baz=341						
DLBC	**Dease Lake**	**86.21**	**13**	P	**P**	**02 47 14.0**	**+0.8**
	baz=338						
SIT	**Sitka**	**86.32**	**17**	P	**P**	**02 47 14.6**	**+1.1**
	baz=334						
S34M	**Telegraph Cree**	**86.47**	**14**	P	**P**	**02 47 15.1**	**+0.8**
	baz=337						
TOAD	**Toad River Com**	**86.67**	**11**	P	**P**	**02 47 16.2**	**+0.9**
	baz=342						
T35M	**Bob Quinn**	**87.52**	**14**	P	**P**	**02 47 21.1**	**+1.7**
	baz=338						
WRAK	**Wrangell Islan**	**87.59**	**15**	P	**P**	**02 47 20.2**	**+0.5**
	baz=336						
U33K	**Whale Pass**	**87.69**	**16**	P	**P**	**02 47 21.1**	**+0.8**
	baz=336						
CRAG	**Craig**	**88.28**	**16**	P	**P**	**02 47 23.9**	**+0.8**
	baz=336						
M65A	**Busby, Falmout**	**99.64**	**335**	P	**Pdif**	**02 48 15.2**	**-0.3**
	baz=28						
Y22D	**IRIS PASSCAL I**	**113.11**	**3**	P	**PKiKP**	**02 53 10.2**	**+0.6**
	baz=357						
TXAR	**Lajitas Array**	**117.89**	**360**	PKP	**PKiKP**	**02 53 19.9**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=338,slow=3.5,SNR=6.4						
QSPA	**South Pole Qui**	**122.91**	**180**	PKP	**PKiKP**	**02 53 27.8**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=279,slow=0.9,SNR=7.8						
PPT2	**Papeete2**	**136.25**	**81**	*e*LR	LR	03 37 44.2	
	comp=Z,39nm,25.5s						

*BJI **08** 02:36:22.7,29.˙48N×104.˙51E,h7km,mB4.6/11,mb4.6/33, ML4.6/24,Ms4.2/26,Ms7 3.9/27*
*NEIC **08** 02:36:22.9±1.3,29.˙48N±0.˙07×104.˙60E±0.˙03,h10km±1km, mb4.9/48,Error ellipse: s-maj=11.9km s-min=4.6km az=173.0*
*IDC **08** 02:36:26.8±3.8,29.˙52N×104.˙63E,h35km±29km,mb4.0/24, mbtmp4.2/27,ML4.7/2,MS3.7/4,Error ellipse: s-maj=17.1km s-min=12.0km az=45.0*

ISC 08 02:36:22.9±0.3,29.˙51N±0.˙03×104.˙60E±0.˙04,h10km,n384, σ1s03/400,mb4.6/61,MS3.4/4,2D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.57**	**332**	Pg	**Pn**	**02 36 51.6**	**+0.7**
CD2				Sg	**Sg**	**02 37 13.9**	**+0.4**
CD2				smax	smax		
	comp=N,10μm,0.6s						
CD2				smax	smax		
	comp=E,15μm,0.5s						
GYA	**Guiyang**	**3.55**	**149**	⇓Pn	**Pn**	**02 37 19.2**	**+1.0**
PZH	**PanZhiHua**	**3.92**	**221**	Pn	**Pn**	**02 37 25.7**	**+2.4**
PZH				Pg	**Pg**	**02 37 35.5**	**-2.6**
PZH				Sn	**Sn**	**02 38 13.8**	**+4.3**
PZH				Sg	**Sg**	**02 38 25.6**	**-3.3**
PZH				smax	smax		
	comp=N,210nm,0.6s						
PZH				smax	smax		
	comp=E,590nm,1.3s						
ENH	**Enshi**	**4.31**	**79**		**Pn**	**02 37 30.9**	**+2.4**
KMI	**Kunming**	**4.68**	**201**	Pn	**Pn**	**02 37 35.8**	**+2.0**
KMI				Sn	**Sn**	**02 38 28.9**	**+0.7**
KMI				Sg	**Sg**	**02 38 50.8**	**-2.3**
KMI				LR	LR		
	comp=N,930nm,5.3s						
KMI				LR	LR		
	comp=E,2μm,5.8s						
KMI				LR	LR		
	comp=Z,540nm,4.2s						
XAN	**Xi'an**	**5.82**	**38**	Pn	**Pn**	**02 37 49.8**	**+0.5**
XAN				Pg	**Pg**	**02 38 10.7**	**-3.7**
XAN				Sg	**Sg**	**02 39 24.5**	**-5.3**
XAN				smax	smax		
	comp=N,1μm,1.2s						
XAN				smax	smax		
	comp=E,2μm,1.1s						
LZDM	**Lanzhou Array**	**6.47**	**353**	Pn	**Pn**	**02 38 00.2**	**+1.8**
	baz=179,slow=13						
LZDM				Sn	**Sn**	**02 39 12.9**	**+0.3**
	baz=184,slow=40						
LZDM				Lg	Lg	02 39 53.5	
	baz=116,slow=23						
	55nm,0.4s						
LZH	**Lanzhou**	**6.59**	**355**	Pn	**Pn**	**02 38 02.2**	**+2.3**
LZH				Sn	**Sn**	**02 39 13.9**	**-1.3**
LZH				Sg	**Sg**	**02 39 52.4**	**-1.9**
LZH				smax	smax		
	comp=N,280nm,1.1s						
LZH				smax	smax		
	comp=E,390nm,0.9s						
LZH				LR	LR		
	comp=N,910nm,5.7s						
LZH				LR	LR		
	comp=E,1μm,5.3s						
LZH				LR	LR		
	comp=Z,690nm,5.5s						
GULI	**GuiLin**	**6.63**	**128**	Pn	**Pn**	**02 38 00.5**	**+0.1**
GULI				smax	smax		
	comp=N,400nm,0.9s						
GULI				smax	smax		
	comp=E,310nm,1.3s						
GULI				LR	LR		
	comp=N,1μm,4.2s						
GULI				LR	LR		
	comp=E,890nm,3.6s						
TNCH	**TengChong**	**7.02**	**232**	Pg	**Pg**	**02 38 36.3**	**-1.0**
TNCH				Sg	**Sg**	**02 40 07.8**	**-0.4**
TNCH				smax	smax		
	comp=N,490nm,1.6s						
TNCH				smax	smax		
	comp=E,250nm,1.5s						
TNCH				LR	LR		
	comp=N,2μm,6.2s						
TNCH				LR	LR		
	comp=E,2μm,6.5s						
TNCH				LR	LR		
	comp=Z,1μm,10.6s						
CNSH	**ChangSha**	**7.42**	**98**	Pn	**Pn**	**02 38 14.4**	**+3.1**
CNSH				Sn	**Sn**	**02 39 36.5**	**+0.9**
CNSH				smax	smax		
	comp=Z,350nm,0.8s						
CNSH				smax	smax		
	comp=Z,300nm,0.7s						
SLVN	**Son La**	**8.17**	**185**		**Pn**	**02 38 22.0**	**+0.3**
LYN	**LuoYang**	**8.35**	**51**	P	**Pn**	**02 38 25.6**	**+1.6**
LYN				pmax	pmax		
	comp=Z,33nm,0.8s						
LYN				smax	smax		
	comp=Z,470nm,1.3s						
LYN				smax	smax		
	comp=Z,250nm,1.1s						
LYN				LR	LR		
	comp=Z,1μm,3.9s						
LYN				LR	LR		
	comp=Z,730nm,4.9s						
LYN				LR	LR		
	comp=Z,560nm,5.8s						
WHN	**Wuhan**	**8.51**	**81**	P	**Pn**	**02 38 29.1**	**+2.9**
WHN				S	**Sn**	**02 40 03.5**	**+1.1**
WHN				LR	LR		
	comp=Z,3μm,3.9s						
WHN				LR	LR		
	comp=Z,1μm,4.1s						
WHN				LR	LR		
	comp=Z,3μm,11.0s						
GTA	**Gaotai**	**10.63**	**339**	*e*P	**Pn**	**02 38 58.8**	**+3.4**
GTA				pmax	pmax		
	comp=Z,11nm,1.0s						
GTA				LR	LR		
	comp=Z,430nm,13.1s						
GTA				LR	LR		
	comp=Z,690nm,11.9s						
GTA				LR	LR		
	comp=Z,560nm,12.7s						
QIZ	**Qiongzhong**	**11.48**	**154**	P	**Pn**	**02 39 09.2**	**+2.3**
QIZ				S	**Sn**	**02 41 19.4**	**+4.2**
QIZ				LR	LR		
	comp=Z,390nm,8.7s						
QIZ				LR	LR		
	comp=Z,620nm,10.5s						
QIZ				LR	LR		
	comp=Z,450nm,9.1s						
HNS	**HongShan**	**11.53**	**44**	*e*P	Pn	02 39 13.3	+5.8
HNS				LR	LR		
	comp=Z,480nm,10.2s						
HNS				LR	LR		
	comp=Z,470nm,12.2s						
HNS				LR	LR		
	comp=Z,260nm,12.3s						
BTO	**Baotou**	**11.92**	**20**	*e*P	**Pn**	**02 39 13.8**	**+0.8**
BTO				pP		02 39 17.3	
BTO				sP		02 39 20.2	
BTO				PP	**PnPn**	**02 39 23.9**	**+3.0**
BTO				S	**Sn**	**02 41 28.4**	**+2.3**
BTO				SS	**SnSn**	**02 41 43.0**	**+4.7**
BTO				pmax	pmax		
	comp=Z,32nm,0.7s						
BTO				pmax	pmax		
	comp=Z,160nm,4.4s						
BTO				LR	LR		
	comp=Z,600nm,10.6s						
BTO				LR	LR		
	comp=Z,620nm,11.8s						
BTO				LR	LR		
	comp=Z,450nm,11.3s						
CMAR	**Chiang Mai Arr**	**12.16**	**206**	Pn	**Pn**	**02 39 18.5**	**+2.3**
	comp=Z,0.9nm,0.3s,baz=18,slow=12,SNR=8.8						
TIA	**Tai'an**	**12.46**	**54**	P	**Pn**	**02 39 21.8**	**+1.5**
TIA				pmax	pmax		
	comp=Z,17nm,0.7s						
NJ2	**Nanjing**	**12.51**	**75**	*e*P	**Pn**	**02 39 21.0**	**0.0**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**12.65**	**25**	*e*P	**Pn**	**02 39 25.9**	**+2.9**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,69nm,5.4s						
HHC				LR	LR		
	comp=Z,220nm,5.0s						
HHC				LR	LR		
	comp=Z,380nm,5.7s						
HHC				LR	LR		
	comp=Z,170nm,6.9s						
BJI	**Beijing**	**14.15**	**39**	P	**Pn**	**02 39 43.9**	**+0.5**
BJI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
XLT	**XiLinHaoTe**	**17.03**	**29**	*e*P	**P**	**02 40 25.2**	**+2.2**
XLT				sP	sP	02 40 31.6	+4.3
XLT				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,120nm,3.9s						
XLT				LR	LR		
	comp=Z,20nm,5.4s						
XLT				LR	LR		
	comp=Z,110nm,3.3s						
XLT				LR	LR		
	comp=Z,210nm,5.9s						
SONM	**Songino Array**	**18.35**	**4**		**Pn**	**02 40 37.6**	**+0.1**
SONM	**Songino Array**	**18.35**	**4**	P	**P**	**02 40 39.1**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=184,slow=10,SNR=9.9						
	comp=Z,5.0nm,0.6s						
ULN	**Ulaanbaatar**	**18.42**	**5**	P	**P**	**02 40 37.8**	**-0.6**
WMQ	**Urumqi**	**19.64**	**321**	*e*P	**Pn**	**02 40 55.2**	**+2.1**
KSRS	**Korea Array**	**20.97**	**62**	P	**P**	**02 41 06.8**	**+0.8**
	comp=Z,4.2nm,0.5s,baz=251,slow=10,SNR=15						
	comp=Z,4.2nm,0.5s						
JOW	**Kunigami**	**21.03**	**92**	P	**P**	**02 41 07.3**	**+0.4**
	comp=Z,12nm,0.7s,baz=140,slow=24,SNR=1.7						
JOW				LR	LR	02 50 00.2	
	comp=Z,125nm,20.1s,baz=268,slow=39						
	comp=Z,12nm,0.7s						
CN2	**Changchun**	**21.89**	**44**	*e*P	**P**	**02 41 16.3**	**+0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
JNU	**Nakatsue**	**22.71**	**74**	P	**P**	**02 41 24.8**	**-0.2**
JNU				IAmb	IAmb	02 41 33.8	
	comp=Z,131nm,2.0s						
BNX	**BinXian**	**24.13**	**42**	⇓P	**P**	**02 41 40.0**	**+1.1**
BNX				pmax	pmax		
	comp=Z,24nm,0.8s						
MKAR	**Makanchi Array**	**24.47**	**321**	P	**P**	**02 41 42.1**	**+0.1**
MKAR	**Makanchi Array**	**24.47**	**321**	P	**P**	**02 41 42.6**	**+0.5**
	comp=Z,8.3nm,0.6s,baz=125,slow=10,SNR=6.8						
	comp=Z,8.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**26.21**	**49**	P	**P**	**02 41 58.1**	**+0.3**
	comp=Z,5.2nm,0.7s,baz=252,slow=8.3,SNR=9.6						
USRK				LR	LR	02 53 41.1	
	comp=Z,100nm,19.3s,baz=283,slow=40						
	comp=Z,5.2nm,0.7s						
HEH	**HeiHe**	**26.93**	**33**	*e*P	**P**	**02 42 04.9**	**+0.7**
HEH				pmax	pmax		
	comp=Z,14nm,1.3s						
RPSI	**Rantau Prapat**	**27.21**	**192**	P	**P**	**02 42 06.1**	**-0.9**
RPSI				IAmb	IAmb	02 42 07.9	
	comp=Z,21nm,1.2s						
AAK	**Ala-Archa**	**27.48**	**307**	LR	LR	02 54 48.4	
	comp=Z,137nm,20.8s,baz=92,slow=40						
ZALV	**Zalesovo Beam**	**28.34**	**335**	P	**P**	**02 42 17.3**	**+0.5**
	comp=Z,4.8nm,0.8s,baz=137,slow=6.4,SNR=3.7						
	comp=Z,4.8nm,0.8s						
KURBB	**Kurchatov Arra**	**28.77**	**324**	P	**P**	**02 42 20.7**	**0.0**
	comp=Z,4.3nm,0.9s,baz=129,slow=9.6,SNR=7.9						
	comp=Z,4.3nm,0.9s						
MJAR	**Matsushiro Arr**	**28.93**	**67**	P	**P**	**02 42 21.6**	**-0.7**
	comp=Z,3.1nm,0.9s,baz=261,slow=9.3,SNR=8.3						
	comp=Z,3.1nm,0.9s						
BVAR	**Borovoye Array**	**34.31**	**323**	P	**P**	**02 43 09.9**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=120,slow=8.5,SNR=3.7						
BVAR				PcP	**PcP**	**02 45 45.1**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=129,slow=2.3,SNR=6.1						
	comp=Z,2.2nm,0.7s						
RAYN	**Ar Rayn**	**52.74**	**278**		**P**	**02 45 37.8**	**-0.5**
WRAB	**Tennant Creek**	**56.91**	**146**	P	**P**	**02 46 07.5**	**-0.9**
WRAB				IAmb	IAmb	02 46 29.1	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**56.92**	**146**	P	**P**	**02 46 08.2**	**-0.1**
	comp=Z,5.9nm,0.9s,baz=326,slow=7.1,SNR=22						
	comp=Z,5.9nm,0.9s						
WR8	**Warramunga Arr**	**57.01**	**146**	P	**P**	**02 46 08.0**	**-1.0**
WR8				IAmb	IAmb	02 46 32.6	
	comp=Z,13nm,1.4s						
BR131	**Keskin Array S**	**57.91**	**301**	P	**P**	**02 46 14.9**	**-0.5**
BRTR	**Keskin Array B**	**57.91**	**301**	P	**P**	**02 46 14.5**	**-0.9**
BRTR	**Keskin Array B**	**57.91**	**301**	P	**P**	**02 46 15.2**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=81,slow=7.1,SNR=6.1						
	comp=Z,1.7nm,0.9s						
ANTO	**Ankara**	**58.51**	**301**	P	**P**	**02 46 18.7**	**-0.8**
AKASG	**Malin Array Be**	**58.79**	**314**	P	**P**	**02 46 21.3**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=72,slow=6.3,SNR=8.2						
	comp=Z,2.0nm,0.6s						
AKBB	**Malin Array Si**	**58.79**	**314**	P	**P**	**02 46 20.4**	**-0.7**
KIEV	**Kiev**	**58.80**	**314**	P	**P**	**02 46 20.4**	**-0.8**
FINES	**FINESS Array B**	**59.13**	**327**	P	**P**	**02 46 22.8**	**-0.5**
FINES	**FINESS Array B**	**59.13**	**327**	P	**P**	**02 46 23.4**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=87,slow=7.1,SNR=4.7						
	comp=Z,3.2nm,0.8s						
MDUB	**Mudurnu**	**59.55**	**302**	P	**P**	**02 46 26.2**	**-0.5**
MDUB				IAmb	IAmb	02 46 29.2	
	comp=Z,14nm,1.0s						
AS31	**Alice Springs**	**59.91**	**149**	P	**P**	**02 46 28.4**	**-0.9**
ASAR	**Alice Springs**	**59.91**	**149**	P	**P**	**02 46 27.8**	**-1.5**
ASAR	**Alice Springs**	**59.91**	**149**	P	**P**	**02 46 29.3**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=334,slow=8.4,SNR=41						
	comp=Z,2.4nm,0.6s						
ASAR	**Alice Springs**	**59.91**	**149**	P	**P**	**02 46 29.3**	**+0.1**
SPITS	**Spitsbergen Ar**	**60.98**	**346**	P	**P**	**02 46 36.5**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=83,slow=12,SNR=0.8						
	comp=Z,3.6nm,0.8s						
GAMB	**Gambell**	**61.21**	**30**	P	**P**	**02 46 36.3**	**-1.2**
	baz=279						
BURAR	**Bucovina Array**	**62.00**	**311**	P	**P**	**02 46 42.6**	**-0.7**
BUR08	**Bucovina Ar. S**	**62.00**	**311**	P	**P**	**02 46 43.1**	**-0.2**
BUR08				IAmb	IAmb	02 46 44.5	
	comp=Z,13nm,1.6s						
MLR	**Muntele Rosu**	**62.03**	**309**	P	**P**	**02 46 43.9**	**+0.3**
TNA	**Tin City**	**62.50**	**28**	P	**P**	**02 46 45.4**	**-0.9**
	baz=281						
C16K	**Lisburne Hills**	**62.96**	**25**	P	**P**	**02 46 48.3**	**-1.0**
	baz=282						
F14K	**Arctic Creek**	**63.17**	**28**	P	**P**	**02 46 50.0**	**-0.7**
	baz=282						
SPIA	**Saint Paul Isl**	**63.18**	**37**	P	**P**	**02 46 50.0**	**-0.9**
	baz=283						
P08K	**Saint George I**	**63.69**	**38**	P	**P**	**02 46 53.2**	**-1.0**
	baz=284						
C17K	**DeLong Mountai**	**63.70**	**24**	P	**P**	**02 46 53.0**	**-1.3**
	baz=284						
ANM	**Nome**	**63.77**	**29**	P	**P**	**02 46 54.0**	**-0.7**
	baz=284						
F15K	**North Star Dit**	**63.80**	**27**	P	**P**	**02 46 54.5**	**-0.4**
	baz=284						
D17K	**Noatak River**	**63.92**	**25**	P	**P**	**02 46 55.1**	**-0.5**
	baz=284						
B18K	**Kokolik River**	**63.97**	**23**	P	**P**	**02 46 55.4**	**-0.5**
	baz=284						
A19K	**Wainwright**	**64.00**	**22**	P	**P**	**02 46 55.6**	**-0.5**
	baz=285						
G15K	**Niukluk**	**64.22**	**28**	P	**P**	**02 46 56.8**	**-0.8**
	baz=285						
C18K	**Utukok River**	**64.36**	**24**	P	**P**	**02 46 58.0**	**-0.6**
	baz=285						
M11K	**Mekoryuk**	**64.44**	**33**	P	**P**	**02 46 58.7**	**-0.4**
	baz=285						
E17K	**Hotham Inlet**	**64.55**	**26**	P	**P**	**02 46 59.4**	**-0.3**
	baz=286,SNR=5.7						
K13K	**Kusilvak Mount**	**64.75**	**32**	P	**P**	**02 47 00.6**	**-0.5**
	baz=286						
OJC	**Ojcow**	**64.77**	**315**	P	**P**	**02 47 01.9**	**+0.4**
C19K	**Lookout Ridge**	**64.80**	**23**	P	**P**	**02 47 00.8**	**-0.6**
	baz=287						
G16K	**Koyuk River**	**64.80**	**28**	P	**P**	**02 47 00.6**	**-0.8**
	baz=286						
E18K	**Tukpahlearik C**	**64.91**	**25**	P	**P**	**02 47 01.3**	**-0.8**
	baz=286						
F17K	**Baldwin Pennin**	**64.95**	**26**	P	**P**	**02 47 01.7**	**-0.7**
	baz=286						
J14K	**Nanvaranak Lak**	**65.03**	**30**	P	**P**	**02 47 02.1**	**-0.8**
	baz=286						
H16K	**Elim**	**65.06**	**28**	P	**P**	**02 47 02.1**	**-1.1**
	baz=286						
A21K	**Barrow**	**65.09**	**21**	P	**P**	**02 47 02.5**	**-0.7**
	baz=288						
HFS	**Hagfors**	**65.33**	**327**	P	**P**	**02 47 04.7**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=111,slow=12,SNR=4.4						
	comp=Z,2.4nm,0.6s						
B20K	**Meade River**	**65.34**	**22**	P	**P**	**02 47 04.4**	**-0.4**
	baz=288						
G17K	**Kiwalik Mounta**	**65.45**	**27**	P	**P**	**02 47 05.0**	**-0.7**
	baz=287						
D19K	**Kuna River**	**65.49**	**24**	P	**P**	**02 47 05.4**	**-0.5**
	baz=288,SNR=6.2						
F18K	**Selawik**	**65.51**	**26**	P	**P**	**02 47 05.0**	**-1.0**
	baz=288						
A22K	**Sinclair Lake**	**65.70**	**21**	P	**P**	**02 47 06.1**	**-1.1**
	baz=290						
M13K	**Dall Lake**	**65.79**	**33**	P	**P**	**02 47 06.6**	**-1.3**
	baz=287						
L14K	**Kuka Creek**	**65.83**	**32**	P	**P**	**02 47 07.0**	**-1.1**
	baz=287						
H17K	**Granite Mounta**	**65.92**	**28**	P	**P**	**02 47 08.0**	**-0.8**
	baz=288						
D20K	**Etivluk River**	**65.94**	**23**	P	**P**	**02 47 07.7**	**-1.1**
	baz=289						
K15K	**Wolf Creek Mou**	**66.06**	**31**	P	**P**	**02 47 08.0**	**-1.6**
	baz=288						
G18K	**Tagagawik**	**66.12**	**26**	P	**P**	**02 47 09.0**	**-1.0**
	baz=289						
E19K	**Redstone River**	**66.14**	**25**	P	**P**	**02 47 09.4**	**-0.7**
	baz=289						
F19K	**Shaleruckim Mo**	**66.15**	**25**	P	**P**	**02 47 09.5**	**-0.6**
	baz=289,SNR=6.0						
J16K	**Anvik River**	**66.15**	**30**	P	**P**	**02 47 08.4**	**-1.8**
	baz=288						
NB2	**NORSAR Subarra**	**66.23**	**328**	P	**P**	**02 47 09.7**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=73,slow=6.5						
NOA	**NORSAR Array B**	**66.23**	**328**	P	**P**	**02 47 10.0**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=73,slow=6.2,SNR=5.4						
	comp=Z,1.1nm,0.8s						
E20K	**Nigu River**	**66.24**	**24**	P	**P**	**02 47 09.1**	**-1.7**
	baz=290						
L15K	**Ungalak Mounta**	**66.27**	**31**	P	**P**	**02 47 10.2**	**-0.8**
	baz=288						
MORC	**Moravsky Berou**	**66.29**	**315**	*e*P	**P**	**02 47 11.6**	**+0.2**
B21K	**Ikpikpuk River**	**66.30**	**22**	P	**P**	**02 47 10.8**	**-0.2**
	baz=291						
M14K	**Bethel**	**66.34**	**32**	P	**P**	**02 47 11.0**	**-0.4**
	baz=288						
C21K	**Knifeblade Rid**	**66.41**	**23**	P	**P**	**02 47 11.4**	**-0.4**
	baz=291						
B22K	**Teshekpuk Lake**	**66.42**	**21**	P	**P**	**02 47 11.7**	**-0.1**
	baz=292						
H18K	**Honhosa River**	**66.48**	**27**	P	**P**	**02 47 11.9**	**-0.4**
	baz=289						
G19K	**Purcell Mounta**	**66.64**	**26**	P	**P**	**02 47 12.8**	**-0.5**
	baz=290						
N14K	**Kuskokwak Cree**	**66.73**	**33**	P	**P**	**02 47 13.5**	**-0.4**
	baz=289						
J17K	**VABM Dome**	**66.77**	**29**	P	**P**	**02 47 13.4**	**-0.8**
	baz=290						
F20K	**Avaraart Lake**	**66.83**	**25**	P	**P**	**02 47 13.7**	**-0.8**
	baz=291						
E21K	**Killik River**	**66.94**	**23**	P	**P**	**02 47 14.7**	**-0.5**
	baz=292						
M15K	**Kasigluk River**	**66.95**	**32**	P	**P**	**02 47 15.0**	**-0.4**
	baz=289						
VRAC	**Vranov**	**67.02**	**315**	*e*P	**P**	**02 47 16.5**	**+0.4**
H19K	**Roundabout Mou**	**67.10**	**27**	P	**P**	**02 47 15.6**	**-0.6**
	baz=291,SNR=8.6						
O14K	**Tigyukauivet M**	**67.16**	**34**	P	**P**	**02 47 16.4**	**-0.3**
	baz=289						
L16K	**Owhat River**	**67.17**	**31**	P	**P**	**02 47 16.6**	**-0.1**
	baz=290						
D22K	**Ayikyak River**	**67.22**	**23**	P	**P**	**02 47 17.2**	**+0.3**
	baz=293,SNR=5.4						
KRUC	**Moravsky**	**67.22**	**315**	*e*P	**P**	**02 47 17.6**	**+0.3**
K17K	**Iditarod**	**67.33**	**30**	P	**P**	**02 47 17.5**	**-0.2**
	baz=290						
N15K	**Kwethluk River**	**67.41**	**33**	P	**P**	**02 47 17.5**	**-0.8**
	baz=290						
C23K	**Itkillik River**	**67.51**	**21**	P	**P**	**02 47 19.0**	**+0.2**
	baz=294,SNR=11						
L17K	**Donlin**	**67.54**	**30**	P	**P**	**02 47 19.1**	**0.0**
	baz=291						
F21K	**Alatna River**	**67.58**	**24**	P	**P**	**02 47 19.2**	**-0.1**
	baz=293						
M16K	**Timber Creek**	**67.64**	**32**	P	**P**	**02 47 19.7**	**0.0**
	baz=290						
H20K	**Anotleneega Mo**	**67.72**	**26**	P	**P**	**02 47 20.3**	**+0.1**
	baz=292,SNR=5.7						
J18K	**Innoko River**	**67.74**	**29**	P	**P**	**02 47 20.2**	**-0.1**
	baz

BRG	**Berggiesshubel**	**68.11**	**317**	*e*P		**P**	02 47 25.2	**+2.3**
BRG				Amp			02 47 27.5	
	comp=Z,4.0nm,1.0s							
I20K	**Naaghedeneel**	**68.15**	**27**	P		**P**	02 47 22.8	**-0.1**
	baz=293							
C24K	**Franklin Bluff**	**68.16**	**21**	P		**P**	02 47 22.7	**-0.1**
	baz=296							
M17K	**Holitna River**	**68.19**	**31**	P		**P**	02 47 23.2	**+0.1**
	baz=292							
L18K	**Granite Mounta**	**68.21**	**30**	P		**P**	02 47 23.4	**+0.1**
	baz=292							
TOLK	**Toolik Lake Re**	**68.35**	**22**	P		**P**	02 47 24.2	**+0.1**
	baz=296							
D24K	**Happy Valley**	**68.37**	**22**	P		**P**	02 47 24.4	**+0.2**
	baz=296							
G22K	**Bettles**	**68.41**	**24**	P		**P**	02 47 23.8	**-0.6**
	baz=294							
H21K	**Melozitna Rive**	**68.45**	**26**	P		**P**	02 47 24.6	**-0.2**
	baz=294,SNR=5.5							
CLL	**Collm**	**68.52**	**318**	*i* P		**P**	02 47 25.1	**-0.3**
	comp=Z,9.0nm,1.4s							
J20K	**Nowinta River**	**68.52**	**27**	P		**P**	02 47 24.8	**-0.5**
	baz=293							
O16K	**Kokwok River B**	**68.56**	**33**	P		**P**	02 47 24.7	**-0.7**
	baz=292							
E23K	**Chandalar**	**68.59**	**23**	P		**P**	02 47 24.7	**-1.0**
	baz=296,SNR=5.4							
N17K	**Nushagak Hills**	**68.63**	**32**	P		**P**	02 47 25.1	**-0.9**
	baz=292							
COLD	**Coldfoot**	**68.75**	**24**	P		**P**	02 47 25.1	**-1.5**
	baz=296							
P16K	**Nushagak River**	**68.81**	**33**	P		**P**	02 47 26.1	**-1.0**
	baz=292							
M18K	**Stony River**	**68.87**	**30**	P		**P**	02 47 26.5	**-0.9**
	baz=293							
K20K	**Telida**	**68.88**	**28**	P		**P**	02 47 26.3	**-1.2**
	baz=294							
H22K	**Ishtalitna Cre**	**68.89**	**25**	P		**P**	02 47 26.9	**-0.6**
	baz=295							
SOKA	**Soboth**	**68.90**	**312**	*e*P		**P**	02 47 27.9	**-0.1**
	comp=Z,3.3nm,1.1s							
SDPT	**Sand Point**	**68.92**	**38**	P		**P**	02 47 26.3	**-1.6**
	baz=292							
O17K	**Koliganek Bris**	**68.96**	**32**	P		**P**	02 47 26.4	**-1.5**
	baz=292							
E24K	**Your Creek**	**68.96**	**23**	P		**P**	02 47 26.3	**-1.6**
	baz=297							
I21K	**Tanana**	**68.96**	**26**	P		**P**	02 47 26.6	**-1.3**
	baz=295							
GEC2	**GERESS Array S**	**68.97**	**315**	P		**P**	02 47 28.8	**+0.4**
GERES	**GERESS Array B**	**68.97**	**315**	P		**P**	02 47 28.9	**+0.5**
	comp=Z,1.2nm,0.8s,baz=68,slow=4.9,SNR=9.4							
	comp=Z,1.2nm,0.8s							
MOA	**Molln**	**68.97**	**314**	*e*P		**P**	02 47 28.4	**+0.1**
	comp=Z,6.1nm,1.9s							
L19K	**White Mountain**	**69.02**	**30**	P		**P**	02 47 27.1	**-1.3**
	baz=293							
G23K	**Bananza Creek**	**69.03**	**24**	P		**P**	02 47 26.5	**-2.0**
	baz=296							
S14K	**Fog Glacier**	**69.06**	**36**	P		**P**	02 47 26.9	**-1.9**
	baz=292							
D25K	**Kavik River**	**69.07**	**21**	P		**P**	02 47 27.4	**-1.3**
	baz=298							
N18K	**Kilae Creek**	**69.16**	**31**	P		**P**	02 47 28.0	**-1.2**
	baz=293							
C26K	**Camden Bay**	**69.23**	**20**	P		**P**	02 47 28.5	**-1.0**
	baz=299							
L20K	**Farewell, AK**	**69.32**	**29**	P		**P**	02 47 28.9	**-1.3**
	baz=294							
M19K	**Big River Lodg**	**69.33**	**30**	P		**P**	02 47 28.8	**-1.6**
	baz=294							
CHUM	**Lake Minchumin**	**69.38**	**27**	P		**P**	02 47 29.2	**-1.4**
	baz=295							
F24K	**Squaw Lake**	**69.42**	**23**	P		**P**	02 47 29.8	**-0.9**
	baz=297							
BIOA	**Bad Ischl, Aus**	**69.42**	**314**	*e*P		**P**	02 47 31.4	**+0.2**
	comp=Z,4.8nm,1.0s							
P17K	**Kvichak River**	**69.49**	**33**	P		**P**	02 47 30.7	**-0.6**
	baz=293							
MLY	**Manley**	**69.50**	**26**			**P**	02 47 32.0	**+0.6**
MLY				IAmb		IAmb	02 47 33.1	
	comp=Z,17nm,1.4s							
MLY	**Manley**	**69.50**	**26**	P		**P**	02 47 30.9	**-0.4**
	baz=296,SNR=6.7							
R16K	**Pilot Point**	**69.58**	**35**	P		**P**	02 47 31.2	**-0.6**
	baz=293							
CHNA	**Chernabura Isl**	**69.59**	**38**	P		**P**	02 47 31.3	**-0.7**
	baz=292							
H23K	**Yukon River**	**69.60**	**25**	P		**P**	02 47 31.4	**-0.5**
	baz=297							
CHGN	**Chignik**	**69.64**	**36**	P		**P**	02 47 32.0	**-0.3**
	baz=293							
N19K	**Bonanza Creek**	**69.74**	**31**	P		**P**	02 47 31.8	**-1.1**
	baz=294							
C27K	**Jago River**	**69.74**	**20**	P		**P**	02 47 32.3	**-0.4**
	baz=300							
BPAW	**Bear Paw Mtn.**	**69.81**	**27**			**P**	02 47 33.7	**+0.4**
BPAW				IAmb		IAmb	02 47 35.5	
	comp=Z,16nm,1.2s							
BPAW	**Bear Paw Mtn.**	**69.81**	**27**	P		**P**	02 47 32.6	**-0.6**
	baz=296,SNR=6.2							
PPLA	**Purkeypile**	**69.85**	**28**	P		**P**	02 47 33.1	**-0.6**
	baz=295							
M20K	**Styx River**	**69.89**	**30**	P		**P**	02 47 33.5	**-0.3**
	baz=295							
E25K	**Arctic Village**	**69.91**	**22**	P		**P**	02 47 33.8	**0.0**
	baz=299							
G24K	**Hadweenzic Riv**	**69.94**	**24**	P		**P**	02 47 34.1	**+0.1**
	baz=298							
I23K	**Minto, Yukon-K**	**69.97**	**26**	P		**P**	02 47 34.2	**0.0**
	baz=297							
P18K	**Big Mountain,**	**69.98**	**32**	P		**P**	02 47 33.9	**-0.5**
	baz=294							
Q17K	**Contact Creek**	**70.13**	**34**	P		**P**	02 47 34.8	**-0.6**
	baz=294							
LESA	**Schwarzleotal**	**70.13**	**314**	P		**P**	02 47 35.6	**0.0**
	comp=Z,3.2nm,1.0s							
F25K	**Christian Rive**	**70.14**	**23**	P		**P**	02 47 35.1	**-0.2**
	baz=299							
R17L	**Mt. Peulik Vol**	**70.15**	**34**	P		**P**	02 47 35.6	**+0.2**
	baz=294							
H24K	**Noodor Dome**	**70.20**	**25**	P		**P**	02 47 36.2	**+0.5**
	baz=298,SNR=5.3							
NEA2	**Nenana**	**70.34**	**26**	P		**P**	02 47 36.6	**+0.1**
NEA2				IAmb		IAmb	02 47 38.0	
	comp=Z,10nm,0.7s							
NEA2	**Nenana**	**70.34**	**26**	P		**P**	02 47 36.9	**+0.4**
	baz=297,SNR=6.8							
TRF	**Thorofare Moun**	**70.38**	**27**	P		**P**	02 47 36.9	**0.0**
	baz=297							
G25K	**Bearman Lake**	**70.39**	**23**	P		**P**	02 47 37.0	**+0.3**
	baz=299							
Q18K	**Katmai Hardscr**	**70.39**	**33**	P		**P**	02 47 37.4	**+0.4**
	baz=294							
BMAR	**Burnt Mountain**	**70.58**	**22**			**P**	02 47 38.5	**+0.5**
N20K	**Mount Spurr**	**70.58**	**30**	P		**P**	02 47 38.2	**+0.2**
	baz=296							
SPCR	**Spurr Chakacha**	**70.58**	**30**	P		**P**	02 47 38.5	**+0.4**
	baz=296							
F26K	**Sheenjek River**	**70.58**	**22**	P		**P**	02 47 38.0	**+0.1**
	baz=300							
COLA	**College**	**70.67**	**26**	P		**P**	02 47 38.4	**0.0**
COLA	**College**	**70.67**	**26**	P		**P**	02 47 38.2	**-0.2**
	baz=298							
POKR	**Poker Plat Res**	**70.71**	**25**	P		**P**	02 47 38.2	**-0.5**
	baz=299							
H25L	**Birch Creek**	**70.73**	**24**	P		**P**	02 47 38.6	**-0.2**
	baz=300							
D27M	**Malcolm River**	**70.77**	**20**	P		**P**	02 47 38.7	**-0.4**
	baz=303							
MCK	**McKinley**	**70.79**	**27**	P		**P**	02 47 38.4	**-0.9**
	baz=298							
P19K	**Oil Pt**	**70.79**	**32**	P		**P**	02 47 39.0	**-0.4**
	baz=296							
CCB	**Clear Creek Bu**	**70.80**	**26**			**P**	02 47 38.6	**-0.6**
CCB				IAmb		IAmb	02 47 43.8	
	comp=Z,5.8nm,1.3s							
WTTA	**Wattenberg**	**70.84**	**314**	*e*P		**P**	02 47 39.7	**-0.3**
	comp=Z,2.5nm,0.9s							
WATA	**Walderalm**	**70.85**	**314**	*e*P		**P**	02 47 39.5	**-0.6**
	comp=Z,6.3nm,1.3s							
CUT	**Chulitna**	**70.86**	**28**	P		**P**	02 47 39.2	**-0.5**
	baz=297							
O20K	**Slope Mountain**	**70.88**	**31**	P		**P**	02 47 39.0	**-1.0**
	baz=296							
Q19K	**Cape Douglas,**	**70.92**	**33**	P		**P**	02 47 38.8	**-1.3**
	baz=296							
KMBO	**Kilima Mbogo**	**70.97**	**257**	P		**P**	02 47 41.5	**+0.1**
	comp=Z,3.9nm,0.9s,baz=38,slow=15,SNR=5.4							
	comp=Z,3.9nm,0.9s							
ILAR	**Eielson Array**	**71.08**	**25**	P		**P**	02 47 39.9	**-1.1**
ILAR	**Eielson Array**	**71.08**	**25**	P		**P**	02 47 40.5	**-0.5**
	comp=Z,1.5nm,0.7s,baz=302,slow=6.1,SNR=6.5							
	comp=Z,1.5nm,0.7s							
G26K	**Porcupine Rive**	**71.09**	**23**	P		**P**	02 47 39.8	**-1.1**
	baz=301,SNR=6.0							
SUA	**Susitna One**	**71.09**	**29**	P		**P**	02 47 39.3	**-1.9**
	baz=297							
R18K	**Karluk**	**71.11**	**34**	P		**P**	02 47 39.9	**-1.3**
	baz=295							
SQTA	**Sankt Quirin**	**71.13**	**314**	*e*P		**P**	02 47 41.3	**-0.4**
	comp=Z,3.5nm,1.0s							
MOTA	**Moosalm**	**71.14**	**314**	*e*P		**P**	02 47 41.0	**-0.9**
	comp=Z,7.1nm,1.2s							
E27K	**Coleen River**	**71.15**	**21**	P		**P**	02 47 41.2	**-0.1**
	baz=303							
PRP	**Porcupine Dome**	**71.21**	**24**			**P**	02 47 42.3	**+0.4**
PRP	**Porcupine Dome**	**71.21**	**24**	P		**P**	02 47 42.3	**+0.4**
	baz=300,SNR=9.5							
M22K	**Willow**	**71.22**	**29**	P		**P**	02 47 40.9	**-0.9**
	baz=297							
HDA	**Harding Lake**	**71.23**	**26**	P		**P**	02 47 41.6	**-0.3**
	baz=299							
CHIR	**Chirikof Islan**	**71.27**	**36**	P		**P**	02 47 41.4	**-0.8**
	baz=295							
WAT1	**Susitna Watana**	**71.37**	**28**	P		**P**	02 47 42.6	**-0.2**
	baz=298							
D28M	**Stokes Point**	**71.38**	**20**	P		**P**	02 47 42.3	**-0.4**
	baz=305							
FETA	**Feichten**	**71.51**	**314**	*e*P		**P**	02 47 43.8	**-0.2**
	comp=Z,5.7nm,1.1s							
HOM	**Homer**	**71.52**	**31**	P		**P**	02 47 43.0	**-0.7**
	baz=297							
CAMP	**Campotosto**	**71.53**	**309**	P		**P**	02 47 44.8	**+0.5**
E28M	**Babbage River**	**71.55**	**20**	P		**P**	02 47 43.1	**-0.7**
	baz=304							
FDMO	**Fiordimonte**	**71.56**	**309**			**P**	02 47 44.0	**-0.3**
TEOL	**Teolo**	**71.57**	**312**	P		**P**	02 47 43.1	**-1.1**
NRCA	**Norcia**	**71.62**	**309**	P		**P**	02 47 44.5	**-0.2**
Q20K	**Shuyak Island**	**71.64**	**33**	P		**P**	02 47 43.4	**-1.0**
	baz=296							
SII	**Sitkinak Islan**	**71.68**	**35**	P		**P**	02 47 43.3	**-1.4**
	baz=296							
RC01	**Rabbit Creek A**	**71.70**	**30**	P		**P**	02 47 43.6	**-1.1**
	baz=298							
PMR	**Palmer**	**71.72**	**29**	P		**P**	02 47 44.7	**-0.2**
PMR				IAmb		IAmb	02 47 45.7	
	comp=Z,12nm,0.8s							
PMR	**Palmer**	**71.72**	**29**	P		**P**	02 47 43.6	**-1.2**
	baz=298							
GHO	**Glory Hole Cre**	**71.72**	**29**	P		**P**	02 47 44.6	**-0.3**
DHY	**Denali Highway**	**71.72**	**27**	P		**P**	02 47 43.7	**-1.4**
	baz=299							
J25K	**Salcha River,**	**71.73**	**25**	P		**P**	02 47 44.1	**-0.8**
	baz=300							
WAT6	**Susitna Watana**	**71.82**	**28**	P		**P**	02 47 44.6	**-1.1**
	baz=299							
OHAK	**Old Harbor**	**71.83**	**34**	P		**P**	02 47 44.8	**-0.8**
	baz=296							
G27K	**Doyon Strip**	**71.88**	**22**	P		**P**	02 47 45.0	**-0.8**
	baz=303,SNR=6.0							
BRSE	**Bradley Lake S**	**71.88**	**31**	P		**P**	02 47 44.3	**-1.6**
	baz=298							
KDAK	**Kodiak Island**	**71.92**	**33**	P		**P**	02 47 45.5	**-0.7**
	baz=297							
K24K	**Donnelly Dome**	**71.98**	**26**	P		**P**	02 47 45.6	**-0.9**
	baz=300							
O22K	**Cooper Landing**	**71.99**	**30**	P		**P**	02 47 46.0	**-0.5**
	baz=298							
F28M	**Old Crow**	**72.01**	**21**	P		**P**	02 47 46.1	**-0.5**
	baz=304							
KNK	**Knik Glacier**	**72.09**	**29**	P		**P**	02 47 46.4	**-0.7**
	baz=299							
I26K	**Coal Creek Min**	**72.17**	**24**	P		**P**	02 47 47.1	**-0.4**
	baz=302							
E29M	**Blow River**	**72.17**	**20**	P		**P**	02 47 47.4	**-0.1**
	baz=306,SNR=6.2							
M23K	**Glacier View**	**72.21**	**28**	P		**P**	02 47 47.3	**-0.6**
	baz=299							
H27K	**Steamboat Moun**	**72.24**	**23**	P		**P**	02 47 47.8	**-0.2**
	baz=303,SNR=9.6							
SEW	**Seward**	**72.29**	**30**	P		**P**	02 47 47.3	**-1.0**
	baz=298							
SCM	**Sheep Creek Mo**	**72.35**	**28**	P		**P**	02 47 47.9	**-0.9**
	baz=300							
RIDG	**Independent Ri**	**72.37**	**26**			**P**	02 47 48.5	**-0.4**
RIDG				IAmb		IAmb	02 47 49.2	
	comp=Z,10nm,0.7s							
RIDG	**Independent Ri**	**72.37**	**26**	P		**P**	02 47 47.9	**-0.9**
	baz=301,SNR=6.2							
PWL	**Port Wells**	**72.41**	**29**	P		**P**	02 47 48.4	**-0.7**
	baz=299							
J26L	**Joseph Creek**	**72.45**	**25**	P		**P**	02 47 48.6	**-0.8**
	baz=302,SNR=12							
BFO	**Black Forest**	**72.45**	**316**			**P**	02 47 49.3	**-0.3**
PAX	**Paxson**	**72.53**	**27**	P		**P**	02 47 49.2	**-0.7**
	baz=301							
I27K	**Kandik River**	**72.55**	**23**	P		**P**	02 47 49.0	**-0.9**
	baz=303,SNR=6.5							
SCRK	**Sand Creek**	**72.57**	**25**			**P**	02 47 49.8	**-0.3**
SCRK	**Sand Creek**	**72.57**	**25**	P		**P**	02 47 49.1	**-1.0**
	baz=302							
M24K	**Tolsona, Glenn**	**72.69**	**28**	P		**P**	02 47 50.0	**-0.7**
	baz=300							
GLI	**Glacier Island**	**72.93**	**29**	P		**P**	02 47 51.4	**-0.7**
	baz=300							
HARP	**HAARP**	**72.95**	**27**	P		**P**	02 47 51.2	**-1.0**
	baz=301							
G29M	**Pine Creek**	**73.00**	**21**	P		**P**	02 47 51.3	**-1.2**
	baz=306							
KLU	**Klutina**	**73.11**	**28**	P		**P**	02 47 52.4	**-0.9**
KLU				IAmb		IAmb	02 47 54.9	
	comp=Z,14nm,0.9s							
KLU	**Klutina**	**73.11**	**28**	P		**P**	02 47 52.2	**-1.0**
	baz=301							
I28M	**Miner Creek**	**73.22**	**23**	P		**P**	02 47 54.0	**+0.2**
	baz=305,SNR=5.1							
K27K	**Chicken**	**73.25**	**25**	P		**P**	02 47 53.8	**-0.2**
	baz=303							
F30M	**Barrier River**	**73.28**	**20**	P		**P**	02 47 53.7	**-0.4**
	baz=308							
H29M	**Whitestone**	**73.30**	**22**	P		**P**	02 47 53.5	**-0.7**
	baz=306							
L26K	**Log Cabin Wild**	**73.32**	**26**	P		**P**	02 47 53.8	**-0.7**
	baz=302							
INK	**Inuvik**	**73.51**	**19**			**P**	02 47 55.2	**-0.2**
INK				IAmb		IAmb	02 47 57.0	
	comp=Z,16nm,1.2s							
INK	**Inuvik**	**73.51**	**19**	P		**P**	02 47 54.9	**-0.4**
	baz=310,SNR=7.0							
G30M	**tAoh Zraii Nji**	**73.53**	**21**	P		**P**	02 47 55.0	**-0.7**
	baz=308,SNR=7.4							
N25K	**Chitina, Valde**	**73.59**	**28**	P		**P**	02 47 55.2	**-0.9**
	baz=302							
EYAK	**Cordova Ski Ar**	**73.67**	**29**	P		**P**	02 47 56.6	**+0.2**
EYAK	**Cordova Ski Ar**	**73.67**	**29**	P		**P**	02 47 54.7	**-1.7**
	baz=301							
EPYK	**Eagle Plains**	**73.74**	**22**	P		**P**	02 47 55.5	**-1.4**
	baz=307							
M26K	**Tanbesna, AK**	**73.80**	**27**	P		**P**	02 47 56.3	**-1.0**
	baz=303							
I29M	**Ogilvie Camp,**	**73.83**	**23**	P		**P**	02 47 56.7	**-0.7**
	baz=306							
L27K	**Beaver Creek,**	**73.88**	**26**	P		**P**	02 47 57.0	**-0.7**
	baz=304,SNR=8.6							
BCAR	**Beaver Creek A**	**73.90**	**26**			**P**	02 47 58.6	**+0.7**
BMRM	**Bremner River**	**73.92**	**28**	P		**P**	02 47 58.7	**+0.7**
BMRM				IAmb		IAmb	02 47 59.6	
	comp=Z,16nm,1.0s							
BMRM	**Bremner River**	**73.92**	**28**	P		**P**	02 47 57.2	**-0.9**
	baz=302							
GLB	**Gilahina Butte**	**74.00**	**28**			**P**	02 47 58.4	**0.0**
GLB				IAmb		IAmb	02 48 00.0	
	comp=Z,8.8nm,0.8s							
F31M	**Tsiigehtchic**	**74.00**	**20**	P		**P**	02 47 56.3	**-1.9**
	baz=310							
G31M	**Satah River**	**74.17**	**21**	P		**P**	02 47 59.1	**-0.1**
	baz=309							
DAWY	**Dawson**	**74.21**	**24**	P		**P**	02 47 59.7	**+0.1**
	baz=306							
VRDI	**Verde Repeater**	**74.26**	**28**	P		**P**	02 48 00.1	**-0.1**
VRDI				IAmb		IAmb	02 48 01.6	
	comp=Z,6.6nm,0.8s							
M27K	**Edge Creek, AK**	**74.26**	**26**	P		**P**	02 48 00.2	**+0.2**
	baz=304,SNR=7.0							
MCARA	**McCarthy VSAT**	**74.34**	**28**	P		**P**	02 48 01.2	**+0.7**
MCARA				IAmb		IAmb	02 48 02.3	
	comp=Z,9.8nm,0.8s							
MCARA	**McCarthy VSAT**	**74.34**	**28**	P		**P**	02 48 00.8	**+0.3**
	baz=303							
J29N	**Klondike Camp**	**74.40**	**24**	P		**P**	02 48 01.3	**+0.5**
	baz=306							
I30M	**Mount Dempster**	**74.56**	**22**	P		**P**	02 48 01.6	**-0.1**
	baz=308							
KAIM	**Kayak Island**	**74.56**	**29**	P		**P**	02 48 01.0	**-0.7**
	baz=302							
BERG	**Berg Lake**	**74.61**	**29**	P		**P**	02 48 02.0	**0.0**
BVCY	**Beaver Creek**	**74.62**	**26**	P		**P**	02 48 02.0	**-0.1**
	baz=305							
CRQM	**Cirque**	**74.64**	**28**	P		**P**	02 48 03.0	**+0.6**
CRQM				IAmb		IAmb	02 48 10.0	
	comp=Z,17nm,1.4s							
CRQE	**Cirque**	**74.66**	**28**	P		**P**	02 48 02.2	**-0.3**
	baz=303							
TGL	**Tana Glacier**	**74.77**	**28**	P		**P**	02 48 02.5	**-0.6**
TGL				IAmb		IAmb	02 48 04.5	
	comp=Z,9.0nm,0.8s							
H31M	**Peel River**	**74.86**	**21**	P		**P**	02 48 03.2	**-0.1**
	baz=309							
J30M	**Hart River**	**74.97**	**23**	P		**P**	02 48 03.8	**-0.4**
	baz=308							
K29M	**Barlow Dome**	**75.01**	**24**	P		**P**	02 48 03.9	**-0.5**
	baz=307,SNR=5.1							
BARN	**Barnard Glacie**	**75.07**	**27**	P		**P**	02 48 05.4	**+0.5**
BARN				IAmb		IAmb	02 48 06.7	
	comp=Z,5.5nm,0.6s							
YUK3	**Moose Creek**	**75.14**	**26**	P		**P**	02 48 04.9	**-0.4**
	baz=305							
GRNC	**Granite Creek**	**75.22**	**28**	P		**P**	02 48 05.8	**0.0**
GRNC				IAmb		IAmb	02 48 08.1	
	comp=Z,12nm,1.3s							
L29M	**L29M**	**75.23**	**25**	P		**P**	02 48 05.2	**-0.4**
	baz=307,SNR=6.6							
CTG	**Chitna Glacier**	**75.26**	**27**	P		**P**	02 48 05.8	**-0.1**
	baz=305							
CTGM	**Chitina Glacie**	**75.26**	**27**	P		**P**	02 48 06.4	**+0.5**
CTGM				IAmb		IAmb	02 48 07.8	
	comp=Z,8.6nm,0.7s							
C36M	**Paulatuk**	**75.28**	**16**	P		**P**	02 48 06.2	**+0.5**
	baz=317							
MESA	**MESA**	**75.45**	**28**	P		**P**	02 48 06.7	**-0.4**
	baz=304							
EKA	**Eskdalemuir Ar**	**75.50**	**326**	P		**P**	02 48 07.7	**+0.4**
	comp=Z,1.1nm,0.7s,baz=72,slow=5.4,SNR=2.2							
	comp=Z,1.1nm,0.7s							
M29M	**Somme Creek**	**75.51**	**25**	P		**P**	02 48 06.4	**-0.8**
	baz=307							
YUK8	**Steele Glacier**	**75.70**	**27**	P		**P**	02 48 08.1	**-0.5**
	baz=306							
MAYO	**Mayo, Yukon**	**75.73**	**24**	P		**P**	02 48 08.8	**+0.4**
	baz=308							
O28M	**Mount Upton**	**75.83**	**27**	P		**P**	02 48 09.3	**-0.1**
	baz=306							
M30M	**Minto, Yukon**	**76.04**	**25**	P		**P**	02 48 09.9	**-0.3**
	baz=308							
YUK4	**Talbot Arm**	**76.09**	**26**	P		**P**	02 48 10.2	**-0.6**
	baz=307							
PINM	**Pinnacle**	**76.20**	**28**	P		**P**	02 48 11.1	**-0.1**
	baz=306							
YUK6	**Outpost Mounta**	**76.45**	**27**	P		**P**	02 48 12.0	**-0.8**
	baz=307							
N30M	**Aishikik Lake**	**76.62**	**26**	P		**P**	02 48 13.3	**-0.2**
	baz=308,SNR=5.8							
O29M	**Mount Kennedy**	**76.75**	**27**	P		**P**	02 48 14.3	**-0.1**
	baz=307							
PNL	**Peninsula**	**76.80**	**28**	P		**P**	02 48 14.3	**-0.2**
	baz=306							
HYT	**Haines Junctio**	**76.85**	**26**	P		**P**	02 48 15.1	**+0.1**
HYT				IAmb		IAmb	02 48 16.7	
	comp=Z,8.5nm,1.2s							
HYT	**Haines Junctio**	**76.85**	**26**	P		**P**	02 48 14.7	**-0.3**
	baz=308							
N31M	**Braeburn, Yuko**	**77.10**	**25**	P		**P**	02 48 15.9	**-0.3**
	baz=309							
M31M	**Drury Creek, Y**	**77.15**	**24**	P		**P**	02 48 16.3	**-0.2**
	baz=310							
KEST	**Kesra**	**77.29**	**304**	P		**P**	02 48 18.2	**+0.4**
	comp=Z,3.2nm,1.0s,baz=212,slow=20,SNR=2.3							
	comp=Z,3.2nm,1.0s							
O30N	**Mendenhall**	**77.43**	**26**	P		**P**	02 48 17.8	**-0.3**
	baz=309,SNR=6.8							
P29M	**Windy Craggy**	**77.49**	**27**	P		**P**	02 48 18.0	**-0.5**
	baz=308							
P30M	**Million Dollar**	**77.50**	**27**	P		**P**	02 48 18.2	**-0.4**
	baz=308							
WHY	**Whitehorse**	**77.96**	**26**	P		**P**	02 48 20.5	**-0.7**
	baz=310							
MMPY	**Sheldon Lake,**	**77.97**	**23**	P		**P**	02 48 20.4	**-0.7**
	baz=312							
PLBC	**Pleasant Camp**	**78.15**	**27**	P		**P**	02 48 21.5	**-0.6**
	baz=309							
N32M	**Quiet Lake**	**78.31**	**25**	P		**P**	02 48 22.5	**-0.5**
	baz=311,SNR=5.1							
SKAG	**Skagway**	**78.56**	**27**	P		**P**	02 48 23.6	**-0.7**
	baz=310							
P33M	**Teslin, Yukon**	**79.03**	**25**	P		**P**	02 48 26.6	**-0.4**
	baz=312							
P32M	**Atlin**	**79.10**	**26**	P		**P**	02 48 26.8	**-0.6**
	baz=311							
R32K	**Eaglecrest**	**79.65**	**27**	P		**P**	02 48 29.9	**-0.5**
	baz=310							
WRGLY	**Wrigley**	**80.03**	**20**	P		**P**	02 48 32.0	**-0.2**
	baz=319							
Q32M	**Nakina River**	**80.08**	**26**	P		**P**	02 48 32.2	**-0.7**
	baz=312							
SIT	**

LMN	**Caledonia Moun**	**3.95**	**325**	PN	Pn	02 39 08.5	-0.3
LMN				SN	Sn	02 39 52.5	-2.1
LMN				Trac		02 39 56.4	
	comp=Z,543nm,1.7s						
WCNB	**Wards Creek**	**4.12**	**318**	PN	Pn	02 39 10.2	-1.0
WCNB				SN	Sn	02 39 56.4	-2.4
WCNB				Trac		02 40 02.5	
	comp=Z,6.2nm,0.2s						
GGN	**Saint George**	**4.54**	**305**	PN	Pn	02 39 16.2	-0.7
GGN				SN	Sn	02 40 06.8	-2.3
GGN				Trac		02 40 22.6	
	comp=Z,4µm,4.0s						
MCNB	**McAdam**	**5.08**	**307**	PN	Pn	02 39 23.3	-1.0
MCNB				SN	Sn	02 40 19.3	-3.1
MCNB				Trac		02 40 21.6	
	comp=Z,0.9nm,0.0s						
HSNB	**Heath Steele M**	**5.61**	**327**	PN	Pn	02 39 30.6	-1.0
HSNB				SN	Sn	02 40 31.1	-4.4
HSNB				Trac		02 40 33.0	
	comp=Z,3µm,3.2s						
DRLN	**Deer Lake**	**7.17**	**22**	PN	Pn	02 39 52.1	-1.0
DRLN				SN	Sn	02 41 09.4	-4.7
DRLN				Trac		02 41 20.3	
	comp=Z,226nm,1.5s						
PMAQ	**Port Menier**	**7.42**	**346**	PN	Pn	02 39 51.8	-4.6
PMAQ				SN	Sn	02 41 13.5	-6.5
PMAQ				Trac		02 41 19.2	
	comp=Z,352nm,1.2s						
SNFQ	**Sainte-Felicit**	**7.42**	**329**	PN	Pn	02 39 56.0	-0.4
SNFQ				Trac		02 40 47.5	
	comp=Z,30nm,0.4s						
BJBQ	**Baie Johan-Bee**	**7.68**	**354**	PN	Pn	02 39 59.0	-0.9
BJBQ				SN	Sn	02 41 20.5	-5.9
BJBQ				Trac		02 41 25.0	
	comp=Z,901nm,2.6s						
ICQ	**Pointe Anglais**	**7.92**	**332**	PN	Pn	02 40 02.1	-1.2
ICQ				Trac		02 41 26.2	
	comp=Z,2µm,4.0s						
ICQ				SN	Sn	02 41 26.4	-6.0
CNQ	**Baie Comeau**	**8.04**	**328**	PN	Pn	02 40 04.2	-0.8
CNQ				SN	Sn	02 41 27.4	-7.9
CNQ				Trac		02 41 33.8	
	comp=Z,0.6nm,0.1s						
SMQ	**Clarke City**	**8.35**	**337**	PN	Pn	02 40 08.1	-1.1
SMQ				SN	Sn	02 41 36.9	-6.1
SMQ				Trac		02 41 40.0	
	comp=Z,0.8nm,0.2s						

IDC 08 02:57:55.5±1.6, 28°08N×103°56E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=45.5km s-min=30.0km az=64.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.46**	**59**	P	P	03 02 55.6	-0.7
	0.8nm,0.5s,baz=247,slow=9.7,SNR=6.1						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**25.05**	**324**	P	P	03 03 21.6	+0.1
	0.3nm,0.4s,baz=122,slow=10,SNR=2.8						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**56.26**	**145**	P	P	03 07 39.2	+1.3
	0.2nm,0.3s,baz=325,slow=7.4,SNR=1.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**59.18**	**147**	P	P	03 07 57.5	-1.0
	0.2nm,0.7s,baz=329,slow=6.7,SNR=5.9						
	0.2nm,0.7s						

*NEIC **08** 03:06:17.5±0.5,22.°04S±0.°09×169.°8E±0.°1,h10km±1km, mb4.3/4, Error ellipse: s-maj=22.3km s-min=11.4km az=124.0*

*IDC **08** 03:06:19.8±6.7,21.°88S×169.°90E,h43km±53km, mb3.7/4, mbtmp3.9/5, ML3.4/1, MS3.1/6, Error ellipse: s-maj=47.8km s-min=34.7km az=51.0*

ISC 08 03:06:18.5±0.9, 22°08S±0.°1×169°9E±0.°1, h25km, n25, σ0°88/21, mb4.3/8, MS3.5/3, 5C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**2.34**	**254**		**Pn**	**03 06 55.2**	**-0.2**
DZM	**Mont Dzumac**	**3.20**	**268**	P	**Pn**	**03 07 07.6**	**+0.4**
	4.3nm,0.3s,baz=90,slow=19,SNR=110						
DZM				LR	LR	03 07 40.1	
	comp=Z,53nm,21.2s,baz=144,slow=25						
DZM				S	**Sn**	**03 07 45.4**	**+0.7**
	60nm,0.7s,baz=108,slow=20,SNR=10						
	13nm,0.3s						
ONTNC	**Quen Toro**	**3.20**	**264**		**Pn**	**03 07 06.9**	**-0.2**
SANVU	**Saraoutou**	**7.00**	**338**	Pn	**Pn**	**03 07 59.8**	**+0.4**
HNR	**Honiara**	**15.73**	**321**	LR	LR	03 14 23.1	
	comp=Z,52nm,21.7s,baz=270,slow=31						
URZ	**Urewera**	**17.35**	**161**	LR	LR	03 15 44.0	
	comp=Z,85nm,19.1s,baz=17,slow=32						
ASAR	**Alice Springs**	**33.15**	**260**	P	**P**	**03 12 53.5**	**+0.4**
ASAR	**Alice Springs**	**33.15**	**260**	P	**P**	**03 12 52.7**	**-0.5**
	1.4nm,0.9s,baz=79,slow=9.3,SNR=13						
	1.4nm,0.9s						
WRA	**Warramunga Arr**	**33.21**	**267**	P	**P**	**03 12 52.6**	**-1.1**
	0.3nm,0.3s,baz=99,slow=8.0,SNR=5.0						
	0.3nm,0.3s						
KNRA	**Kununurra**	**39.34**	**272**	P	**P**	**03 13 45.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**41.64**	**267**	P	**P**	**03 14 04.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**41.64**	**267**	LR	LR	03 30 43.7	
	comp=Z,63nm,18.8s,baz=186,slow=35						
SBA	**Scott Base**	**55.92**	**181**	P	**P**	**03 15 55.3**	**+1.5**
SBA				IAmb	IAmb	03 15 56.3	
	comp=Z,3.4nm,1.1s						
JOW	**Kunigami**	**63.08**	**318**	LR	LR	03 41 14.1	
	comp=Z,31nm,21.1s,baz=85,slow=33						
QSPA	**South Pole Qui**	**68.07**	**180**	P	**P**	**03 17 16.8**	**+1.0**
QSPA				IAmb	IAmb	03 17 53.9	
	comp=Z,3.6nm,1.4s						
QSPA	**South Pole Qui**	**68.07**	**180**	P	**P**	**03 17 16.4**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=197,slow=5.8,SNR=4.2						
	comp=Z,1.3nm,0.9s						
USRK	**Ussuriysk Ar.**	**74.46**	**333**	LR	LR	03 46 52.0	
	comp=Z,22nm,21.9s,baz=357,slow=33						
TROLL	**Troll, Antarti**	**85.83**	**184**	⇑P	**P**	**03 18 55.1**	**-0.6**
	comp=Z,270nm,0.7s						
SNAA	**Sanae**	**86.44**	**182**	⇑P	**P**	**03 18 57.7**	**-0.9**
	comp=Z,27nm,0.7s						
SNAA	**Sanae**	**86.44**	**182**	P	**P**	**03 18 57.0**	**-1.6**
	comp=Z,1.5nm,0.9s,baz=185,slow=4.5,SNR=7.5						
	comp=Z,1.5nm,0.9s						
VNA3	**Neumayer Olymp**	**87.01**	**180**	⇑P	**P**	**03 19 00.2**	**-1.1**
	comp=Z,5.4nm,0.8s						
VNA2	**Neumayer--Watz**	**87.31**	**181**	⇑P	**P**	**03 19 01.9**	**-0.8**
	comp=Z,4.2nm,0.6s,baz=165,slow=5.2						
VNA1	**Neumayer--Stat**	**87.59**	**181**	⇑P	**P**	**03 19 03.2**	**-0.9**
	comp=Z,4.4nm,0.9s						
EKA	**Eskdalemuir Ar**	**146.31**	**353**	PKPbc	**PKPdf**	**03 25 54.3**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=350,slow=2.6,SNR=4.2						
GERES	**GERESS Array B**	**147.19**	**331**	PKPbc	**PKPdf**	**03 25 57.6**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=35,slow=3.6,SNR=15						

*ISK **08** 03:09:01.9,38.°70N×42.°63E,h4km,ML2.7/9*
*AFAD **08** 03:09:02.1,38.°74N×42.°61E,h16km±1km, ML2.9*

ISC 08 03:09:02.2±0.9, 38°72N±0.°03×42°61E±0.°03, h12km±8km, n18, σ0°57/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADCV	**BITLIS_Adilcev**	**0.12**	**46**	P	**Pb**	**03 09 06.0**	**-0.6**
ADCV				S	**Sg**	**03 09 08.5**	**+0.6**
ADCV				*i* IAML		03 09 09.0	
	comp=N,3µm,0.1s						
ADCV				*i* IAML		03 09 09.0	
	comp=E,3µm,0.3s						
MLAZ	**Malazgirt-MUS**	**0.42**	**353**	Pg	**Pb**	**03 09 11.2**	**-0.5**
MLAZ				Sg	**Sb**	**03 09 18.0**	**-0.1**
GURO	**Guroymak-BITLI**	**0.49**	**249**	Pg	**Pb**	**03 09 12.2**	**-0.6**
GURO				Sg	**Sb**	**03 09 19.6**	**-0.3**
AKDM	**Akdamar-Van**	**0.49**	**144**	Pg	**Pg**	**03 09 11.7**	**-0.1**
AKDM				Sg	**Sg**	**03 09 18.7**	**+0.3**
BLIS	**Bitlis-Merkez**	**0.50**	**232**	P	**Pb**	**03 09 12.6**	**-0.4**
BLIS				S	**Sb**	**03 09 19.6**	**-0.7**
BLIS				*i* IAML		03 09 20.0	
	comp=N,875nm,0.4s						
BLIS				*i* IAML		03 09 20.0	
	comp=E,638nm,0.4s						
GEVA	**Gevas**	**0.54**	**139**	P	**Pg**	**03 09 12.9**	**0.0**
TVAN	**Van**	**0.65**	**107**	P	**Pb**	**03 09 15.3**	**-0.3**
TVAN				S	**Sb**	**03 09 24.8**	**0.0**
DORK	**Agr/Tutak/Do**	**0.68**	**11**	P	**Pg**	**03 09 15.0**	**-0.4**
DORK				S	**Sg**	**03 09 24.1**	**-0.2**
MUSM	**Mu-Merkez**	**0.86**	**270**	P	**Pg**	**03 09 18.4**	**-0.4**
MUSM				S	**Sg**	**03 09 29.8**	**-0.3**
AGRB	**Hanur-Agry**	**0.90**	**19**	Pg	**Pb**	**03 09 19.9**	**0.0**
SRTM	**Siirt_Merkez**	**0.91**	**217**	P	**Pn**	**03 09 20.9**	**0.0**
SRTM				S	**Sn**	**03 09 33.9**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.25**	**243**	Pn	**Pg**	**03 09 26.4**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.25**	**243**	P	**Pg**	**03 09 26.5**	**+0.3**
SVAN				S	**Sn**	**03 09 44.5**	**+2.2**
SLHN	**Bingol, Solhan**	**1.26**	**281**	P	**Pg**	**03 09 26.7**	**+0.2**
SLHN				S	**Sn**	**03 09 43.0**	**+0.2**
KARO	**Karliova-Bingo**	**1.35**	**296**	Pn	**Pg**	**03 09 28.5**	**+0.3**
KOPR	**Koprukoy-ERZUR**	**1.40**	**335**	Pn	**Pg**	**03 09 29.3**	**+0.2**
YEDI	**Yedisu-Bingol**	**1.76**	**295**	Pn	**Pb**	**03 09 34.4**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.78**	**45**	Pn	**Pb**	**03 09 34.6**	**-0.2**

*ISK **08** 03:10:49.8,38.°71N×42.°63E,h18km,ML2.6/8*
*AFAD **08** 03:10:50.0,38.°74N×42.°60E,h7km±5km,ML2.7*

ISC 08 03:10:50.1±0.9, 38.°74N±0.°03×42.°60E±0.°03, h15km±8km, n16, σ0°31/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADCV	**BITLIS_Adilcev**	**0.12**	**53**	P	**Pb**	**03 10 54.2**	**0.0**
ADCV				S	**Sg**	**03 10 57.0**	**+0.6**
MLAZ	**Malazgirt-MUS**	**0.41**	**354**	Pg	**Pb**	**03 10 59.3**	**+0.2**
MLAZ				Sg	**Sb**	**03 11 05.6**	**+0.4**
GURO	**Guroymak-BITLI**	**0.48**	**248**	Pg	**Pb**	**03 11 00.3**	**-0.1**
GURO				Sg	**Sb**	**03 11 07.4**	**+0.1**
BLIS	**Bitlis-Merkez**	**0.50**	**230**	P	**Pb**	**03 11 00.4**	**-0.3**
BLIS				S	**Sb**	**03 11 07.6**	**-0.1**
BLIS				*i* IAML		03 11 08.0	
	comp=N,648nm,0.6s						
AKDM	**Akdamar-Van**	**0.50**	**144**	Pg	**Pg**	**03 10 59.8**	**-0.4**
AKDM				Sg	**Sg**	**03 11 06.9**	**0.0**
GEVA	**Gevas**	**0.55**	**139**	P	**Pg**	**03 11 01.0**	**-0.2**
GEVA				S	**Sb**	**03 11 09.4**	**0.0**
ERCV	**ERCIS-VAN**	**0.64**	**63**	Pg	**Pg**	**03 11 02.4**	**-0.4**
TVAN	**Van**	**0.66**	**108**	P	**Pb**	**03 11 03.2**	**-0.2**
TVAN				S	**Sb**	**03 11 12.8**	**+0.2**
TVAN				*i* IAML		03 11 14.0	
	comp=E,523nm,0.5s						
TVAN				*i* IAML		03 11 15.0	
	comp=N,379nm,0.5s						
DORK	**Agr/Tutak/Do**	**0.67**	**12**	P	**Pg**	**03 11 02.9**	**-0.3**
DORK				S	**Sg**	**03 11 11.8**	**-0.3**
PERV	**Siirt/Pervari-**	**0.79**	**183**	P	**Pb**	**03 11 06.0**	**+0.5**
PERV				S	**Sb**	**03 11 16.8**	**+0.7**
PERV				*i* IAML		03 11 19.0	
	comp=E,215nm,0.4s						
PERV				*i* IAML		03 11 20.0	
	comp=N,268nm,0.4s						
VMUR	**Van-Muradiye**	**0.80**	**71**	P	**Pb**	**03 11 05.7**	**-0.1**
VMUR				S	**Sg**	**03 11 16.1**	**-0.2**
MUSM	**Mu-Merkez**	**0.85**	**270**	P	**Pg**	**03 11 06.4**	**-0.3**
MUSM				S	**Sb**	**03 11 18.1**	**+0.2**
AGRB	**Hanur-Agry**	**0.89**	**20**	Pg	**Pb**	**03 11 07.7**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.25**	**243**	Pn	**Pb**	**03 11 13.3**	**0.0**
KOPR	**Koprukoy-ERZUR**	**1.38**	**335**	Pn	**Pn**	**03 11 15.0**	**0.0**
TASB	**TASBURUN-IGDIR**	**1.78**	**45**	Pn	**Pn**	**03 11 20.6**	**+0.2**

*IDC **08** 03:15:56.5±2.2,25.°63N×142.°44E,h0km,mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=101.2km s-min=23.6km az=79.0*

ISC 08 03:16:01.9±2.5, 25°6N±0.°2×142°5E±0.°8, h38km, n7, σ0°36/7, mb3.8/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.98**	**191**	P	**P**	**03 24 21.3**	**-0.1**
	0.7nm,0.5s,baz=9.7,slow=8.6,SNR=6.5						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**49.70**	**190**	P	**P**	**03 24 50.4**	**+0.2**
	0.2nm,0.7s,baz=14,slow=7.9,SNR=1.1						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**51.63**	**310**	P	**P**	**03 25 04.6**	**-0.1**
	0.3nm,0.7s,baz=76,slow=6.1,SNR=1.7						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**54.27**	**315**	P	**P**	**03 25 23.9**	**-0.2**
	0.3nm,0.4s,baz=91,slow=7.8,SNR=5.4						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**59.32**	**318**	P	**P**	**03 26 00.2**	**+0.4**
	0.8nm,0.5s,baz=94,slow=5.7,SNR=3.8						
	0.8nm,0.5s						
FINES	**FINESS Array B**	**79.39**	**334**	P	**P**	**03 28 04.0**	**+0.3**
	0.9nm,0.6s,baz=64,slow=4.9,SNR=13						
	0.9nm,0.6s						
NOA	**NORSAR Array B**	**85.08**	**338**	P	**P**	**03 28 33.2**	**-0.4**
	0.4nm,0.6s,baz=49,slow=5.3,SNR=1.8						
	0.4nm,0.6s						

*AEIC **08** 03:30:30.0±1.8,52.°67N±0.°04×168.°2W±0.°1,h13km±5km, Error ellipse: s-maj=10.6km s-min=5.6km az=108.0*

NEIC 08 03:30:27.2±1.1, 52.°57N±0.°03×168.°06W±0.°09, h10km±1km, mb3.7/4, ML3.6/10, ML3.2(AEIC), Error ellipse: s-maj=9.9km s-min=4.8km az=289.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**0.70**	**348**		Pg	03 30 41.0	+0.3
OKSP					Sg	03 30 49.0	-0.9
OKTU	**Okmok Mt. Tuli**	**0.82**	**1**		Pb	03 30 43.3	-0.2
OKFG	**Magazine Ridge**	**0.85**	**6**		Pg	03 30 43.8	+0.2
OKFG					Sg	03 30 54.5	-0.1
OKCE	**Okmok Cone E**	**0.86**	**356**		Pg	03 30 43.8	0.0
OKNC	**Okmok New Cone**	**0.89**	**357**		Pg	03 30 44.5	+0.1
OKNC					Sg	03 30 55.1	-0.8
MAPS	**Pakushin South**	**1.41**	**28**		Pn	03 30 52.3	-0.7
MGOD	**Makushin Gods**	**1.42**	**30**		Pn	03 30 52.1	-1.0
MREP	**Makushin Rep't**	**1.47**	**32**		Pn	03 30 53.2	-0.6
MSW	**Makushin Switc**	**1.55**	**29**		Pn	03 30 54.6	-0.3
MSW					Sn	03 31 12.7	-2.4
MNAT	**Makushin Natee**	**1.56**	**32**		Pn	03 30 54.2	-0.7
MTBL	**Makushin Table**	**1.63**	**30**		Pn	03 30 56.2	+0.2
AKMO	**Akutan Morgan**	**1.96**	**38**		Pn	03 31 01.4	+1.0
LVA	**Lava Point**	**2.00**	**36**		Pn	03 31 02.4	+1.3
LVA				IAML		03 31 37.1	
	comp=E,788nm,0.7s						
AKUT	**Akutan**	**2.08**	**40**		Pn	03 31 02.2	+0.1
AKUT				IAML		03 31 34.2	
	comp=N,270nm,0.7s						
AKUT				IAML		03 31 36.9	
	comp=E,315nm,0.5s						
ATKA	**Atka Island**	**3.78**	**267**	Pn	Pn	03 31 25.5	+0.1
SPIA	**Saint Paul Isl**	**4.79**	**346**	Pn	Pn	03 31 39.3	0.0
SPIA				IAML		03 33 35.9	
	comp=N,109nm,1.0s						
ADK	**Adak**	**5.35**	**266**	Pn	Pn	03 31 48.5	+1.6
ADK	**Adak**	**5.35**	**266**	IAML		03 33 07.0	
	comp=N,38nm,0.9s						
ADK				IAML		03 33 23.6	
	comp=N,20nm,0.9s						
KIWB	**Kanaga Island**	**5.64**	**266**	Pn	Pn	03 31 53.0	+2.1
AMKA	**Amchitka**	**7.90**	**266**	Pn	Pn	03 32 22.3	+0.3
OHAK	**Old Harbor**	**9.70**	**55**	Pn	Pn	03 32 47.5	+0.9
KDAK	**Kodiak Island**	**10.27**	**53**	Pn	Pn	03 32 54.1	-0.3
BPAW	**Bear Paw Mtn.**	**14.56**	**31**	Pn	Pn	03 33 53.1	0.0
KLU	**Klutina**	**14.93**	**45**	Pn	Pn	03 33 58.0	-0.1
BCAR	**Beaver Creek A**	**17.36**	**43**	Pn	Pn	03 34 28.1	-1.3
EGAK	**Eagle**	**18.39**	**38**		Pn	03 34 41.0	-0.9
HYT	**Haines Junctio**	**18.55**	**52**	P	Pn	03 34 45.7	+1.7
BMAR	**Burnt Mountain**	**18.77**	**29**	P	P	03 34 45.3	-0.9
MMPY	**Sheldon Lake,**	**21.82**	**48**	P	P	03 35 19.5	+0.2
MMPY				IAmb	IAmb	03 35 42.0	
	comp=Z,2.2nm,0.9s						
INK	**Inuvik**	**22.74**	**33**	P	P	03 35 26.3	-2.7
INK				IAmb	IAmb	03 35 37.8	
	comp=Z,3.4nm,1.2s						

*BJI **08** 03:34:17.3,26.°34S×69.°10E,h6km,mB5.2/10,mb4.9/37, Ms4.7/11,Ms7 4.4/17*
*IDC **08** 03:34:18.7±0.4,25.°94S×68.°80E,h0km,mb4.5/21, mbtmp4.4/21,MS4.1/53,Error ellipse: s-maj=17.5km s-min=13.5km az=92.0*
*NEIC **08** 03:34:20.5,26.°00S×68.°76E,h18km*
*NEIC **08** 03:34:20.5,26.°00S×68.°65E,h18km,Moment Tensor Solution. Duration: 2±2 Moment tensor: Scale 10^16^Nm; Mrr=5.38; Mθθ=5.12; Mϕϕ=0.26; Mrθ=5.68; Mrϕ=0.30; Mθϕ=-2.92; Fault plane solution: M0=8.28000×10^16^ NP1:ϕs=72.14000°, δ=23.26000°, λ=-124.10000°. NP2:ϕs=288.53000°, δ=70.91000°, λ=-76.45000°. Principal axes: T 7.7235, Plg25.0000°, Azm8.0000°; N 1.0163, Plg13.0000°, Azm104.0000°; P -8.7398, Plg62.0000°, Azm219.0000°;*
*NEIC **08** 03:34:20.4±1.5, 26.°03S±0.°09×68.°8E±0.°1, h10km±1km, mb5.0/82, Mww5.2/13 Error ellipse: s-maj=18.1km s-min=14.0km az=228.0*
*GCMT **08** 03:34:22.4±0.2, 26.°09S±0.°01×68.°72E±0.°02, h12km, MW5.1/136, Moment Tensor Solution. s56,c71; s136,c213; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=4.59±.09; Mθθ=4.68±.08; Mϕϕ=0.08±.09; Mrθ=0.45±.24; Mθϕ=1.27±.07; Mrϕ=0.15±.32; Best double couple: M0=4.81800×10^16^ NP1:ϕs=252.00000°, δ=43.00000°, λ=-95.00000°. NP2:ϕs=79.00000°, δ=47.00000°, λ=-85.00000°. Principal axes: T 5.0140, Plg2.0000°, Azm166.0000°; N -0.3900, Plg3.0000°, Azm256.0000°; P -4.6220, Plg86.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 03:34:20.2±0.3, 26°00S±0.°06×68°79E±0.°06, h10km, n228, σ1°03/178, mb5.0/83, MS4.2/60, 6C-2D, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**7.97**	**320**	Pn	**Pn**	**03 36 16.2**	**0.0**
H08S1	**Diego Carcia H**	**18.59**	**12**	T	T	03 57 47.8	
	baz=190,slow=76,SNR=15						
H08S2	**Diego Garcia H**	**18.60**	**12**	T	T	03 57 46.6	
	baz=190,slow=76,SNR=70						
H08S3	**Diego Garcia H**	**18.61**	**12**	T	T	03 57 47.8	
	baz=190,slow=76,SNR=206						
H04N2	**CROZET ISLANDS**	**24.26**	**210**	T	T	04 04 54.7	
	baz=40,slow=74,SNR=2047						
H04N1	**CROZET ISLANDS**	**24.27**	**210**	T	T	04 04 54.6	
	baz=40,slow=74,SNR=1956						
H04N3	**CROZET ISLANDS**	**24.28**	**210**	T	T	04 05 02.5	
	baz=40,slow=74,SNR=2590						
MSEY	**Mahe Island**	**24.75**	**327**	P	**P**	**03 39 39.6**	**-2.5**
MSEY				IAmb	IAmb	03 39 56.4	
	comp=Z,49nm,1.1s						
KAAM	**Kaadhehdhoo**	**26.65**	**9**	P	**P**	**03 39 57.6**	**-1.7**
PALK	**Pallekele**	**35.05**	**21**	LR	LR	03 52 01.7	
	comp=Z,837nm,21.2s,baz=199,slow=30						
MATP	**Matopo**	**37.33**	**270**	LR	LR	03 53 57.1	
	comp=Z,117nm,20.8s,baz=68,slow=32						
BROLN	**Tlhalogang**	**38.20**	**268**	*i* P	**P**	**03 41 40.4**	**0.0**
BOSA	**Boshof**	**38.61**	**256**	P	**P**	**03 41 43.8**	**-0.1**
	comp=Z,3.8nm,0.6s,baz=103,slow=6.9,SNR=14						
BOSA				LR	LR	03 55 22.7	
	comp=Z,284nm,18.4s,baz=99,slow=33						
	comp=Z,3.8nm,0.6s						
LBTB	**Lobatse**	**38.86**	**262**	LR	LR	03 54 09.0	
	comp=Z,199nm,20.8s,baz=98,slow=31						
GSI	**Gunungsitoli**	**38.87**	**50**	P	**P**	**03 41 45.7**	**-0.3**
GSI				IAmb	IAmb	03 42 04.9	
	comp=Z,45nm,1.2s						
KMBO	**Kilima Mbogo**	**39.16**	**304**	LR	LR	03 54 35.5	
	comp=Z,224nm,19.9s,baz=113,slow=31						
LSZ	**Lusaka**	**39.32**	**278**		**P**	**03 41 48.9**	**-1.1**
LSZ	**Lusaka**	**39.32**	**278**	LR	LR	03 55 43.8	
	comp=Z,206nm,21.3s,baz=117,slow=33						
PDSI	**Padang**	**39.41**	**56**	P	**P**	**03 41 52.6**	**+2.1**
	comp=Z,7µmcomp=Z,49nm,1.3s						
PPI	**Padang Panjang**	**39.66**	**55**	P	**P**	**03 41 55.3**	**+2.7**
	comp=Z,37nm,1.1s						
KHWEE	**KHWEE**	**39.67**	**266**	*i* P	**P**	**03 41 53.4**	**+0.6**
H01W2	**Cape Leeuwin H**	**39.81**	**114**	T	T	04 24 33.5	
	baz=270,slow=74						
H01W3	**Cape Leeuwin H**	**39.81**	**114**	T	T	04 24 32.0	
	baz=270						
H01W1	**Cape Leeuwin H**	**39.82**	**114**	T	T	04 24 32.9	
	baz=270,slow=74						
KDWAN	**Kaudwane**	**40.04**	**264**	*i* P	**P**	**03 41 55.7**	**-0.2**
SKOMA	**Sekoma**	**40.44**	**262**	*i* P	**P**	**03 41 57.8**	**-1.3**
RPSI	**Rantau Prapat**	**40.80**	**50**	P	**P**	**03 42 02.2**	**+0.3**
PSI	**Prapat**	**40.87**	**50**	LR	LR	03 54 57.5	
	comp=Z,132nm,19.6s,baz=216,slow=30						
PHPEN	**Phepeng**	**41.21**	**260**	*i* P	**P**	**03 42 05.1**	**-0.4**
LHMI	**Lhok Sumawe**	**41.35**	**45**	P	**P**	**03 42 06.7**	**+0.2**
LEM	**Lembang**	**41.62**	**70**	LR	LR	03 55 17.0	
	comp=Z,65nm,20.9s,baz=263,slow=30						
MAW	**Mawson**	**41.77**	**183**	P	**P**	**03 42 09.9**	**+0.5**
	comp=Z,6.4nm,0.9s,baz=349,slow=10.0,SNR=6.7						
MAW				LR	LR	03 55 10.0	
	comp=Z,557nm,21.6s,baz=6.5,slow=30						
	comp=Z,6.4nm,0.9s						
MORW	**Morawa**	**41.80**	**105**	P	**P**	**03 42 09.6**	**-0.6**
KGCAE	**Kacgae**	**42.36**	**264**	*i* P	**P**	**03 42 15.5**	**+0.5**
NWAO	**Narrogin (SRO)**	**42.44**	**111**	LR	LR	03 55 35.0	
	comp=Z,196nm,21.0s,baz=5.0,slow=30						
IPM	**Ipoh**	**43.53**	**51**		**P**	**03 42 24.8**	**+0.4**
IPM				IAmb	IAmb	03 42 27.4	
	comp=Z,42nm,1.2s						
KULM	**Kulim**	**43.85**	**49**		**P**	**03 42 27.1**	**+0.2**
KULM				IAmb	IAmb	03 42 29.3	
	comp=Z,38nm,1.3s						
KOOLE	**Kule**	**44.12**	**263**	*i* P	**P**	**03 42 28.9**	**-0.3**
HYB	**Hyderabad**	**44.19**	**13**	*e*P	**P**	**03 42 30.1**	**+0.5**
HYB				*e*PP	**PcP**	**03 44 16.9**	**+2.6**
HYB				*e*S	**S**	**03 49 04.0**	**+1.0**
MBAR	**Mbarara**	**44.51**	**298**	P	**P**	**

	comp=Z,9.2nm,0.9s								
AS31	**Alice Springs**	**58.59**	**103**		P		**P**	**03 44 16.8**	**-0.8**
MTN	**Manton Dam**	**59.76**	**90**		P		**P**	**03 44 25.3**	**-0.4**
MTN					IAmb		IAmb	03 44 34.9	
	comp=Z,19nm,1.0s								
SNAA	**Sanae**	**59.77**	**200**	⇑	P		**P**	**03 44 25.7**	**+0.6**
	comp=Z,237nm,0.8s								
SNAA	**Sanae**	**59.77**	**200**				**P**	**03 44 24.7**	**-0.4**
SNAA					IAmb		IAmb	03 44 34.8	
	comp=Z,11nm,0.8s								
SNAA	**Sanae**	**59.77**	**200**		P		**P**	**03 44 26.0**	**+0.9**
	comp=Z,4.5nm,0.9s,baz=102,slow=7.2,SNR=19								
SNAA					LR		LR	04 04 04.4	
	comp=Z,145nm,21.8s,baz=111,slow=30								
	comp=Z,4.5nm,0.9s								
QIZ	**Qiongzhong**	**59.96**	**46**		P		**P**	**03 44 29.0**	**+2.0**
QIZ					S		**S**	**03 52 42.0**	**+2.5**
QIZ					pmax		pmax		
	comp=Z,190nm,3.9s								
QIZ					LR		LR		
	comp=Z,200nm,14.9s								
QIZ					LR		LR		
	comp=Z,170nm,15.2s								
QIZ					LR		LR		
	comp=Z,190nm,17.2s								
WRA	**Warramunga Arr**	**60.12**	**99**		P		**P**	**03 44 28.1**	**-0.1**
	comp=Z,11nm,0.9s,baz=253,slow=7.0,SNR=37								
WRA					PcP		**PcP**	**03 45 14.1**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=245,slow=2.7,SNR=4.5								
WRA					LR		LR	04 07 07.2	
	comp=Z,147nm,21.5s,baz=234,slow=33								
	comp=Z,11nm,0.9s								
WRAB	**Tennant Creek**	**60.13**	**99**		P		**P**	**03 44 27.3**	**-1.0**
WRAB					IAmb		IAmb	03 44 36.9	
	comp=Z,21nm,1.1s								
KBL	**Kabul**	**60.22**	**0**		P		**P**	**03 44 28.4**	**-0.2**
WB0	**Warramunga Arr**	**60.22**	**99**		P		**P**	**03 44 28.3**	**-0.7**
WB0					IAmb		IAmb	03 44 37.3	
	comp=Z,18nm,1.1s								
WR8	**Warramunga Arr**	**60.26**	**99**		P		**P**	**03 44 28.3**	**-0.9**
WR8					IAmb		IAmb	03 44 37.6	
	comp=Z,24nm,1.1s								
KMI	**Kunming**	**60.49**	**36**		P		**P**	**03 44 31.9**	**+1.1**
KMI					pmax		pmax		
	comp=Z,19nm,1.3s								
KMI					LR		LR		
	comp=Z,180nm,18.1s								
KMI					LR		LR		
	comp=Z,180nm,17.1s								
KMI					LR		LR		
	comp=Z,210nm,22.8s								
PZH	**PanZhiHua**	**61.11**	**34**		P		**P**	**03 44 38.1**	**+3.2**
VNA2	**Neumayer--Watz**	**61.15**	**201**	⇑	P		**P**	**03 44 34.8**	**+0.3**
	comp=Z,7.2nm,0.7s,baz=80,slow=6.2								
VNA1	**Neumayer--Stat**	**61.42**	**202**	⇑	P		**P**	**03 44 37.5**	**+1.3**
	comp=Z,15nm,0.9s								
VNA3	**Neumayer Olymp**	**61.91**	**201**	⇑	P		**P**	**03 44 40.4**	**+0.8**
	comp=Z,8.3nm,0.8s								
INKA	**Innaminka**	**63.33**	**109**		P		**P**	**03 44 49.5**	**-0.2**
INKA					IAmb		IAmb	03 45 02.5	
	comp=Z,18nm,1.4s								
EDA	**Edea**	**63.97**	**289**		P		**P**	**03 44 53.9**	**-0.3**
EDA					IAmb		IAmb	03 45 02.9	
	comp=Z,14nm,1.2s								
QSPA	**South Pole Qui**	**64.13**	**180**		P		**P**	**03 44 56.4**	**+1.8**
QSPA	**South Pole Qui**	**64.13**	**180**		P		**P**	**03 44 56.2**	**+1.6**
	comp=Z,15nm,1.0s,baz=277,slow=3.3,SNR=28								
QSPA					LR		LR	04 10 19.3	
	comp=Z,360nm,18.3s,baz=292,slow=34								
	comp=Z,15nm,1.0s								
DAV	**Davao City (W)**	**64.16**	**67**		LR		LR	04 10 43.6	
	comp=Z,20nm,21.6s,baz=172,slow=34								
EIL	**Elat**	**64.16**	**327**		LR		LR	04 10 05.6	
	comp=Z,315nm,18.4s,baz=132,slow=34								
GHAJ	**Ghor Haditha**	**65.23**	**329**		P		**P**	**03 45 02.9**	**+1.0**
GHAJ					IAmb		IAmb	03 45 33.5	
	comp=Z,11nm,0.8s								
ASF	**Jabal al Asfar**	**65.36**	**330**		LR		LR	04 11 13.1	
	comp=Z,273nm,18.1s,baz=153,slow=34								
VNDA	**Vanda**	**65.47**	**166**		P		**P**	**03 45 03.0**	**+0.1**
VNDA					IAmb		IAmb	03 45 12.2	
	comp=Z,12nm,1.2s								
VNDA	**Vanda**	**65.47**	**166**		P		**P**	**03 45 03.0**	**+0.1**
	comp=Z,4.2nm,0.9s,baz=274,slow=7.3,SNR=24								
VNDA					LR		LR	04 09 51.6	
	comp=Z,151nm,21.3s,baz=248,slow=32								
	comp=Z,4.2nm,0.9s								
KSH	**Kashi**	**65.53**	**6**		P		**P**	**03 45 06.5**	**+2.6**
KSH					pmax		pmax		
	comp=Z,7.0nm,0.8s								
CD2	**Chengdu**	**65.74**	**33**		P		**P**	**03 45 07.0**	**+1.7**
MMAI	**Mount Meron Ar**	**66.74**	**330**		LR		LR	04 10 46.6	
	comp=Z,175nm,21.1s,baz=137,slow=33								
BELA	**Belgrano 2**	**67.54**	**193**		P		**P**	**03 45 15.8**	**-0.4**
BELA					IAmb		IAmb	03 45 48.3	
	comp=Z,15nm,1.6s								
MARD	**Mardin**	**68.27**	**336**		P		**P**	**03 45 23.4**	**+2.0**
MARD					IAmb		IAmb	03 45 39.4	
	comp=Z,33nm,1.8s								
AAK	**Ala-Archa**	**68.50**	**5**		P		**P**	**03 45 22.8**	**0.0**
AAK	**Ala-Archa**	**68.50**	**5**		LR		LR	04 12 45.7	
	comp=Z,343nm,21.4s,baz=199,slow=34								
KK31	**Karatay Array**	**68.78**	**1**		P		**P**	**03 45 25.3**	**+0.9**
KK31					IAmb		IAmb	03 45 34.5	
	comp=Z,11nm,1.3s								
KKAR	**Karatay Array**	**68.78**	**1**		P		**P**	**03 45 24.4**	**+0.1**
GAZ	**Gaziantep**	**69.51**	**333**		P		**P**	**03 45 27.4**	**-1.6**
GAZ					IAmb		IAmb	03 45 33.4	
	comp=Z,9.3nm,1.0s								
GNI	**Garni**	**69.52**	**341**		LR		LR	04 14 19.5	
	comp=Z,252nm,20.1s,baz=170,slow=35								
LZDM	**Lanzhou Array**	**69.89**	**30**		P		**P**	**03 45 32.1**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=201,slow=5.7,SNR=4.6								
LZDM					LR		LR	04 14 44.2	
	comp=Z,75nm,21.9s,baz=160,slow=35								
	comp=Z,1.4nm,0.3s								
CTAO	**Charters Tower**	**70.58**	**103**		P		**P**	**03 45 35.4**	**-0.7**
CTAO					IAmb		IAmb	03 45 45.3	
	comp=Z,33nm,1.4s								
SSLB	**Suanglung**	**70.69**	**50**		P		**P**	**03 45 36.6**	**+0.1**
WHN	**Wuhan**	**71.15**	**41**		P		**P**	**03 45 40.7**	**+1.6**
GTA	**Gaotai**	**71.24**	**25**	*e*P			**P**	**03 45 40.3**	**+0.7**
GTA					pP		pwP	03 45 48.4	+1.4
GTA					pmax		pmax		
	comp=Z,10.0nm,1.4s								
GTA					LR		LR		
	comp=Z,150nm,21.1s								
GTA					LR		LR		
	comp=Z,110nm,15.1s								
GTA					LR		LR		
	comp=Z,220nm,17.5s								
NACB	**Ninganchiao**	**71.38**	**50**		P		**P**	**03 45 39.6**	**-1.1**
WMQ	**Urumqi**	**71.62**	**14**	*e*P			**P**	**03 45 44.1**	**+2.3**
WMQ					LR		LR		
	comp=Z,210nm,19.9s								
ARG	**Arkhangelos**	**72.81**	**327**		P		**P**	**03 45 50.0**	**+1.0**
EIDS	**Eidsvold**	**72.84**	**110**		P		**P**	**03 45 49.4**	**-0.2**
EIDS					IAmb		IAmb	03 45 58.6	
	comp=Z,31nm,1.3s								
BR131	**Keskin Array S**	**73.15**	**332**		P		**P**	**03 45 50.9**	**-0.2**
BRTR	**Keskin Array B**	**73.15**	**332**				**P**	**03 45 50.7**	**-0.4**
BRTR	**Keskin Array B**	**73.15**	**332**		P		**P**	**03 45 51.8**	**+0.7**
	comp=Z,3.5nm,1.1s,baz=150,slow=6.1,SNR=7.6								
	comp=Z,3.5nm,1.1s								
KBZ	**Khabaz**	**73.35**	**341**		LR		LR	04 16 28.6	
	comp=Z,138nm,18.9s,baz=149,slow=34								
MKAR	**Makanchi Array**	**73.48**	**10**				**P**	**03 45 51.6**	**-1.1**
MKAR	**Makanchi Array**	**73.48**	**10**		P		**P**	**03 45 52.2**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=180,slow=4.9,SNR=6.9								
MKAR					LR		LR	04 16 46.5	
	comp=Z,234nm,20.5s,baz=149,slow=35								
	comp=Z,1.5nm,0.9s								
MANT	**Manisa**	**74.40**	**328**		P		**P**	**03 45 57.6**	**-1.0**
MANT					IAmb		IAmb	03 46 09.6	
	comp=Z,16nm,1.1s								
NJ2	**Nanjing**	**74.92**	**42**	*e*P			**P**	**03 46 01.5**	**+0.1**
NJ2					pmax		pmax		
	comp=Z,6.0nm,0.5s								
AB31	**Akbulak array**	**75.33**	**354**		P		**P**	**03 46 03.1**	**-0.3**
ABKAR	**Akbulak array**	**75.33**	**354**				**P**	**03 46 03.2**	**-0.2**
PMG	**Port Moresby**	**75.54**	**94**		P		**P**	**03 46 04.5**	**-1.0**
PMG					IAmb		IAmb	03 46 15.6	
	comp=Z,13nm,1.1s								
PMG	**Port Moresby**	**75.54**	**94**		LR		LR	04 18 00.9	
	comp=Z,55nm,19.0s,baz=242,slow=35								
TORD	**Torodi Ar. Bea**	**75.95**	**292**				**P**	**03 46 07.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**75.95**	**292**		P		**P**	**03 46 07.1**	**-0.7**
	comp=Z,2.9nm,1.0s,baz=118,slow=5.1,SNR=9.6								
	comp=Z,2.9nm,1.0s								
HNS	**HongShan**	**76.42**	**36**	⇑	P		**P**	**03 46 10.4**	**+0.5**
HNS					pmax		pmax		
	comp=Z,15nm,1.0s								
BTO	**Baotou**	**76.55**	**31**	*e*P			**P**	**03 46 13.2**	**+2.5**
BTO					pP		**pwP**	**03 46 17.8**	**-0.3**
BTO					sP		**PcP**	**03 46 20.2**	**-2.1**
BTO					pmax		pmax		
	comp=Z,26nm,0.8s								
BTO					pmax		pmax		
	comp=Z,250nm,5.0s								
AKTO	**Aktyubinsk**	**76.70**	**353**		LR		LR	04 17 06.4	
	comp=Z,137nm,20.8s,baz=66,slow=34								
KURBB	**Kurchatov Arra**	**76.77**	**6**		P		**P**	**03 46 11.0**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=204,slow=6.2,SNR=11								
KURBB					LR		LR	04 17 58.0	
	comp=Z,134nm,21.1s,baz=179,slow=34								
	comp=Z,2.0nm,0.9s								
KURK	**Kurchatov**	**76.88**	**6**		P		**P**	**03 46 11.6**	**-0.5**
HHC	**Hu-ho-hao-te**	**77.47**	**32**	*e*P			**P**	**03 46 18.4**	**+2.5**
HHC					pmax		pmax		
	comp=Z,9.0nm,0.6s								
HHC					pmax		pmax		
	comp=Z,100nm,4.4s								
HHC					LR		LR		
	comp=Z,84nm,15.3s								
HHC					LR		LR		
	comp=Z,140nm,16.0s								
ALN	**Alexandroupoli**	**77.49**	**328**		P		**P**	**03 46 16.9**	**+1.1**
ALN					IAmb		IAmb	03 46 19.1	
	comp=Z,26nm,1.3s								
TAM	**Tamanrasset**	**78.13**	**303**		P		**P**	**03 46 20.5**	**+0.5**
DBIC	**Dimbokro**	**78.38**	**283**		LR		LR	04 19 17.5	
	comp=Z,127nm,19.5s,baz=152,slow=34								
BVAR	**Borovoye Array**	**78.70**	**1**		P		**P**	**03 46 22.6**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=174,slow=7.2,SNR=5.8								
BVAR					LR		LR	04 19 11.0	
	comp=Z,216nm,21.8s,baz=196,slow=34								
	comp=Z,0.5nm,0.3s								
BJI	**Beijing**	**79.15**	**35**		P		**P**	**03 46 25.1**	**+0.1**
BJI					LR		LR		
	comp=Z,120nm,26.9s								
FNA	**Florina**	**79.70**	**325**		P		**P**	**03 46 27.8**	**-0.4**
ZAA0	**Zalesovo Array**	**80.82**	**10**		IAmb		IAmb	03 46 43.5	
	comp=Z,12nm,0.8s								
ZALV	**Zalesovo Beam**	**80.82**	**10**				**P**	**03 46 33.5**	**-0.3**
ZALV	**Zalesovo Beam**	**80.82**	**10**		P		**P**	**03 46 33.6**	**-0.2**
	comp=Z,6.3nm,0.9s,baz=199,slow=4.1,SNR=17								
	comp=Z,6.3nm,0.9s								
SONM	**Songino Array**	**80.90**	**25**				**P**	**03 46 34.7**	**+0.2**
SONM					IAmb		IAmb	03 46 45.1	
	comp=Z,12nm,0.9s								
SONM	**Songino Array**	**80.90**	**25**		P		**P**	**03 46 34.4**	**-0.2**
	comp=Z,8.8nm,1.0s,baz=212,slow=5.2,SNR=31								
SONM					LR		LR	04 20 38.2	
	comp=Z,173nm,22.0s,baz=224,slow=34								
	comp=Z,8.8nm,1.0s								
MLR	**Muntele Rosu**	**81.13**	**331**		P		**P**	**03 46 36.0**	**+0.2**
MLR					IAmb		IAmb	03 46 46.1	
	comp=Z,22nm,1.2s								
MLR	**Muntele Rosu**	**81.13**	**331**		LR		LR	04 22 12.5	
	comp=Z,194nm,18.1s,baz=154,slow=35								
ULN	**Ulaanbaatar**	**81.18**	**25**		P		**P**	**03 46 35.9**	**-0.1**
ULN					IAmb		IAmb	03 46 45.9	
	comp=Z,14nm,0.9s								
VAE	**Valguarnera**	**81.21**	**319**		LR		LR	04 21 04.4	
	comp=Z,82nm,19.5s,baz=130,slow=35								
XLT	**XiLinHaoTe**	**81.96**	**32**	*e*P			**P**	**03 46 40.3**	**+0.1**
XLT					sP		pwP	03 46 48.8	+1.3
XLT					pmax		pmax		
	comp=Z,9.0nm,1.0s								
XLT					pmax		pmax		
	comp=Z,160nm,5.5s								
PMSA	**Palmer Station**	**82.43**	**198**		LR		LR	04 15 27.4	
	comp=Z,112nm,21.6s,baz=146,slow=30								
ARTI	**Arti**	**82.54**	**354**				**P**	**03 46 42.6**	**-0.1**
ARTI	**Arti**	**82.54**	**354**		LR		LR	04 23 26.9	
	comp=Z,60nm,18.3s,baz=146,slow=36								
BURAR	**Bucovina Array**	**83.11**	**332**				**P**	**03 46 46.6**	**+0.5**
BUR08	**Bucovina Ar. S**	**83.14**	**332**		IAmb		IAmb	03 46 50.6	
	comp=Z,16nm,1.4s								
KEST	**Kesra**	**83.18**	**315**		P		**P**	**03 46 47.9**	**+1.1**
	comp=Z,2.6nm,0.9s,baz=117,slow=4.5,SNR=3.3								
KEST					LR		LR	04 25 05.8	
	comp=Z,116nm,18.2s,baz=6.2,slow=37								
	comp=Z,2.6nm,0.9s								
AKASG	**Malin Array Be**	**83.99**	**336**		P		**P**	**03 46 50.0**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=139,slow=4.3,SNR=13								
AKASG					LR		LR	04 23 12.7	
	comp=Z,81nm,19.6s,baz=136,slow=35								
	comp=Z,2.4nm,0.8s								
AKBB	**Malin Array Si**	**83.99**	**336**		IAmb		IAmb	03 46 60.0	
	comp=Z,9.4nm,0.9s								
KIEV	**Kiev**	**83.99**	**336**				**P**	**03 46 49.8**	**-0.6**
KIEV					IAmb		IAmb	03 46 60.0	
	comp=Z,8.5nm,0.9s								
KSAR	**Wonju Array Be**	**84.04**	**43**		P		**P**	**03 46 49.8**	**-1.2**
KSRS	**Korea Array**	**84.07**	**43**		P		**P**	**03 46 49.9**	**-1.3**
	comp=Z,3.1nm,0.8s,baz=243,slow=5.6,SNR=7.8								
	comp=Z,3.1nm,0.8s								
INTR	**Introdacqua**	**84.55**	**322**		P		**P**	**03 46 52.4**	**-1.2**
OBN	**Obninsk**	**85.38**	**342**		P		**P**	**03 46 57.4**	**+0.1**
KIRV	**Kirov**	**85.80**	**350**		LR		LR	04 23 54.8	
	comp=Z,162nm,20.7s,baz=167,slow=35								
CN2	**Changchun**	**86.71**	**37**	*e*P			**P**	**03 47 04.4**	**+0.2**
CN2					pmax		pmax		
	comp=Z,10.0nm,0.6s								
HNR	**Honiara**	**86.96**	**99**		LR		LR	04 24 30.9	
	comp=Z,58nm,18.4s,baz=217,slow=35								
DZM	**Mont Dzumac**	**87.04**	**113**	*e*P			P	03 46 59.7	-6.9
	comp=Z,292nm,31.4s								
DZM	**Mont Dzumac**	**87.04**	**113**	*e*LR			LR	04 14 43.4	
	comp=Z,301nm,28.4s								
RONA	**Rosalia, Austr**	**87.22**	**328**	*e*P			**P**	**03 47 06.4**	**-0.2**
	comp=Z,9.7nm,1.4s								
ARSA	**Arzberg**	**87.28**	**327**		P		**P**	**03 47 06.8**	**-0.2**
ARSA					IAmb		IAmb	03 47 25.0	
	comp=Z,9.1nm,1.2s								
ARSA	**Arzberg**	**87.28**	**327**	*e*P			**P**	**03 47 07.0**	**+0.1**
	comp=Z,3.1nm,0.8s								
URZ	**Urewera**	**87.35**	**132**		LR		LR	04 20 01.5	
	comp=Z,118nm,18.7s,baz=244,slow=31								
JAVC	**Velka Javorina**	**87.38**	**329**	*e*P			**P**	**03 47 08.0**	**+0.6**
OJC	**Ojcow**	**87.41**	**331**		P		**P**	**03 47 06.7**	**-0.8**
CONA	**Conrad Observa**	**87.58**	**328**	*e*P			**P**	**03 47 07.9**	**-0.5**
	comp=Z,9.3nm,1.5s								
MAUC	**Maruska**	**87.67**	**329**	*e*P			**P**	**03 47 09.8**	**+1.0**
TEOL	**Teolo**	**87.98**	**324**		P		**P**	**03 47 10.8**	**+0.5**
STAL	**STALIGIAL**	**88.03**	**325**		P		**P**	**03 47 10.2**	**-0.3**
MORC	**Moravsky Berou**	**88.10**	**330**		IAmb		IAmb	03 47 20.6	
	comp=Z,6.8nm,0.9s								
MORC	**Moravsky Berou**	**88.10**	**330**	*e*P			**P**	**03 47 10.6**	**-0.2**
STEB	**Steborice**	**88.11**	**330**	*e*P			**P**	**03 47 11.8**	**+1.0**
STEB					*ex*		x	03 47 19.7	
KRUC	**Moravsky**	**88.12**	**329**	*e*P			**P**	**03 47 10.4**	**-0.5**
VRAC	**Vranov**	**88.20**	**329**		LR		LR	04 27 26.3	
	comp=Z,46nm,18.1s,baz=118,slow=36								
VRAC	**Vranov**	**88.20**	**329**	*e*P			**P**	**03 47 11.1**	**-0.2**
MOA	**Molln**	**88.31**	**327**	*e*P			**P**	**03 47 11.4**	**-0.5**
	comp=Z,10nm,1.5s								
ABTA	**Abfaltersbach**	**88.45**	**325**	*e*P			**P**	**03 47 12.4**	**-0.3**
	comp=Z,9.3nm,1.0s								
BIOA	**Bad Ischl, Aus**	**88.51**	**326**	*e*P			**P**	**03 47 12.5**	**-0.3**
	comp=Z,6.3nm,1.2s								
TREC	**Trest**	**88.71**	**328**	*e*P			**P**	**03 47 13.8**	**+0.1**
LESA	**Schwarzleotal**	**88.82**	**326**	*e*P			**P**	**03 47 13.1**	**-1.2**
	comp=Z,8.1nm,1.1s								
DPC	**Dobruska-Polom**	**89.06**	**329**	*e*P			**P**	**03 47 14.7**	**+2.1**
DPC					*ex*		x	03 47 24.9	
DPC					AMS		AMS	04 23 50.0	
	comp=Z,100nm,18.1s								
WTTA	**Wattenberg**	**89.25**	**325**	*e*P			**P**	**03 47 15.4**	**-1.0**
	comp=Z,12nm,1.0s								
OSTC	**Ostas**	**89.25**	**330**	*e*P			**P**	**03 47 16.7**	**+0.5**
OSTC					*ep*P		**pwP**	**03 47 25.7**	**+2.1**
GERES	**GERESS Array B**	**89.26**	**327**		P		**P**	**03 47 16.7**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=120,slow=5.8,SNR=9.0								
GERES					LR		LR	04 26 57.1	
	comp=Z,63nm,19.8s,baz=110,slow=35								
	comp=Z,1.2nm,0.9s								
WATA	**Walderalm**	**89.32**	**325**	*e*P			**P**	**03 47 15.9**	**-0.8**
	comp=Z,8.5nm,1.1s								
SQTA	**Sankt Quirin**	**89.44**	**325**	*e*P			**P**	**03 47 16.6**	**-0.7**
	comp=Z,14nm,1.7s								
KHC	**Kasperske Hory**	**89.51**	**327**	*e*P			**P**	**03 47 17.5**	**0.0**
KHC					*ex*		x	03 47 25.9	
FUORN	**Ofenpass-Fuorn**	**89.54**	**324**		P		**P**	**03 47 17.5**	**-0.5**
FUORN					IAmb		IAmb	03 47 21.5	
	comp=Z,18nm,1.2s								
FETA	**Feichten**	**89.56**	**325**	*e*P			**P**	**03 47 17.4**	**-0.5**
	comp=Z,12nm,1.0s								
MOTA	**Moosalm**	**89.57**	**325**	*e*P			**P**	**03 47 16.8**	**-1.2**
	comp=Z,4.8nm,1.0s								
DAVOX	**Davos/Dischmat**	**89.85**	**324**		LR		LR	04 27 40.2	
	comp=Z,69nm,18.9s,baz=36,slow=36								
TUE	**Stuetta**	**89.94**	**323**		P		**P**	**03 47 18.6**	**-1.1**
TUE					IAmb		IAmb	03 47 22.6	
	comp=Z,13nm,1.1s								
DAVA	**Damuels**	**90.17**	**324**	*e*P			**P**	**03 47 20.2**	**-0.6**
	comp=Z,12nm,1.2s								
MAJO	**Matsushiro**	**90.22**	**49**		P		**P**	**03 47 18.7**	**-2.4**
MJAR	**Matsushiro Arr**	**90.22**	**49**		P		**P**	**03 47 20.7**	**-0.4**
MJAR					IAmb		IAmb	03 48 18.1	
	comp=Z,15nm,1.8s								
BRG	**Berggiesshubel**	**90.52**	**329**	*e*P			**P**	**03 47 24.0**	**+1.9**
BRG					Amp			03 47 26.0	
	comp=Z,3.8nm,1.1s								
MDT	**Midelt**	**91.07**	**306**		LR		LR	04 29 04.7	
	comp=Z,95nm,19.0s,baz=74,slow=36								
CLL	**Collm**	**91.25**	**329**	*e*P			**P**	**03 47 25.0**	**-0.5**
CLL				*e*PS			**PnS**	**03 59 37.0**	**+2.7**
CLL				*e*SS			SS	04 04 42.0	+13
FINES	**FINESS Array B**	**93.71**	**341**		LR		LR	04 28 11.0	
	comp=Z,65nm,20.1s,baz=147,slow=34								
ESDC	**Sonseca Array**	**94.09**	**312**		P		**P**	**03 47 38.4**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=106,slow=2.8,SNR=7.1								
ESDC					LR		LR	04 30 35.4	
	comp=Z,121nm,18.8s,baz=110,slow=36								
	comp=Z,1.5nm,0.9s								
HFS	**Hagfors**	**96.88**	**336**		LR		LR	04 30 52.4	
	comp=Z,129nm,21.0s,baz=162,slow=35								
TBI	**Tubuai**	**118.53**	**140**	*e*SS			SS	04 10 36.3	-5.7
	comp=Z,550nm,31.2s								
TBI	**Tubuai**	**118.53**	**140**	*e*LQ			LQ	04 24 11.9	
TBI					*e*LR		LR	04 29 22.4	
	comp=Z,414nm,33.2s								
	comp=Z,590nm,25.5s								
PPT2	**Papeete2**	**122.82**	**135**	*e*SS			SS	04 11 34.1	-3.4
	comp=Z,120nm,29.2s								
PPT2	**Papeete2**	**122.82**	**135**	*e*LR			LR	04 31 13.7	
	comp=Z,367nm,30.0s								
PPT2					*e*LR		LR	04 31 16.3	
	comp=Z,215nm,32.5s								
ILAR	**Eielson Array**	**135.02**	**21**		PKP		**PKPdf**	**03 53 37.0**	**-2.0**
	comp=Z,0.2nm,0.8s,baz=305,slow=3.2,SNR=4.4								
TAOE	**Nuku Hiva Isla**	**135.37**	**137**	*e*LR			LR	04 37 00.3	
	comp=Z,101nm,23.0s								
YKA	**Yellowknife Ar**	**143.45**	**3**		PKP		PKPbc	03 53 52.2	+0.6
	comp=Z,0.9nm,0.8s,baz=341,slow=3.8,SNR=6.6								
FCC	**Fort Churchill**	**145.12**	**344**				**PKPbc**	**03 53 56.5**	**-0.4**
LONY	**Lake Ozonia**	**145.18**	**312**		PKPbc		**PKPbc**	**03 53 57.5**	**-0.1**
DIB	**Dawson Inlet,**	**148.52**	**25**				**PKPbc**	**03 54 07.1**	**+0.2**
SSPA	**Standing Stone**	**148.77**	**306**				**PKPbc**	**03 54 07.6**	**-0.4**
FFC	**Flin Flon**	**150.51**	**349**				**PKPbc**	**03 54 11.0**	**-0.8**
ULM	**Lac du Bonnet**	**153.06**	**338**		PKPbc		**PKPbc**	**03 54 16.9**	**-0.9**
	comp=Z,4.3nm,0.5s,baz=44,slow=4.0,SNR=14								
EYMN	**Ely**	**153.17**	**330**				**PKPbc**	**03 54 17.5**	**-0.6**
PDAR	**Pinedale Array**	**163.22**	**356**		PKP		**PKPdf**	**03 54 22.0**	**-1.4**
	comp=Z,0.9nm,1.1s,baz=8.7,slow=2.5,SNR=3.5								
PDAR					PKPab		**PKPab**	**03 55 14.3**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=6.6,slow=3.3,SNR=4.3								

SJA ***08*** *03:52:53.0±0.7,21.20S×68.61W,h143km±4km, ML4.0, MW3.9*

NEIC ***08*** *03:52:53.5±2.0,21.22S±0.05×68.5W±0.1,h134km±9km, mb4.4/6, ML4.1(GUC), Error ellipse: s-maj=16.2km s-min=6.9

PB06 *i* S **Sn** **03 53 49.9 +1.3**
PB06 IAML 03 53 50.6
comp=E,3μm,0.3s
PB06 **IPOC Station P** **1.70 211** *e*P **Pn** **03 53 25.9 +1.2**
PB06 *e*S **Sn** **03 53 50.0 +1.4**
PB06 IAML 03 53 53.7
comp=Z,1μm,0.1s
TA02 **Huaiquique** **1.71 304** *e*P **Pn** **03 53 25.0 +0.3**
TA02 *i* S **Sn** **03 53 47.9 -0.6**
TA02 IAML 03 53 51.9
comp=E,6μm,0.1s
TA02 **Huaiquique** **1.71 304** *e*P **Pn** **03 53 24.9 +0.3**
TA02 *e*S **Sn** **03 53 48.6 +0.1**
TA02 IAML 03 53 53.2
comp=Z,1μm,0.1s
AF01 **San Pedro de A** **1.75 166** **Pn** **03 53 26.7 +1.3**
AF01 **San Pedro de A** **1.75 166** *e*P **Pn** **03 53 27.0 +1.6**
AF01 *e*S **Sn** **03 53 51.0 +1.2**
AF01 IAML 03 54 08.4
comp=Z,789nm,1.6s
PB11 **IPOC Station P** **1.77 327** **Pn** **03 53 25.3 -0.2**
PB11 Sn **Sn** **03 53 49.3 -0.6**
PB11 **IPOC Station P** **1.77 327** *e*P **Pn** **03 53 25.3 -0.2**
PB11 *i* S **Sn** **03 53 48.8 -1.1**
PB11 IAML 03 53 50.7
comp=E,4μm,0.3s
PB11 **IPOC Station P** **1.77 327** *e*P **Pn** **03 53 25.1 -0.4**
PB11 *e*S **Sn** **03 53 49.4 -0.5**
PB11 IAML 03 53 50.3
comp=Z,2μm,0.2s
PB05 **IPOC Station P** **2.17 222** **Pn** **03 53 31.1 +0.9**
PB05 **IPOC Station P** **2.17 222** *e*P **Pn** **03 53 31.1 +0.9**
PB05 *i* S **Sn** **03 53 58.6 +0.2**
PB05 **IPOC Station P** **2.17 222** *e*P **Pn** **03 53 31.2 +0.9**
PB05 *e*S **Sn** **03 53 53.1 -5.3**
PB05 IAML 03 54 02.6
comp=Z,371nm,0.5s
PB10 **IPOC Station P** **2.88 218** **Pn** **03 53 39.5 +0.6**
PB10 **IPOC Station P** **2.88 218** *e*P **Pn** **03 53 39.6 +0.7**
PB10 *i* S **Sn** **03 54 11.7 -2.3**
PB10 IAML 03 54 36.5
comp=N,310nm,0.2s
PB10 **IPOC Station P** **2.88 218** *e*P **Pn** **03 53 39.7 +0.7**
PB10 *e*S **Sn** **03 54 12.5 -1.5**
PB10 IAML 03 54 15.0
comp=Z,210nm,0.3s
YJA **Yavi** **3.04 108** *e*P **Pn** **03 53 42.6 +1.2**
YJA *e*S **Sn** **03 54 14.2 -4.1**
HJA **Humahuaca** **3.56 124** *e*P **Pn** **03 53 49.7 +1.6**
HJA *e*S **Sn** **03 54 35.1 +4.7**
PB18 **Visviri** **3.73 347** **Pn** **03 53 50.2 -0.3**
PB14 **IPOC Station P** **3.74 206** **Pn** **03 53 51.0 +0.6**
PB14 **IPOC Station P** **3.74 206** *e*P **Pn** **03 53 51.1 +0.7**
PB14 *e*S Sn 03 54 21.4 -13
PB14 IAML 03 55 00.4
comp=Z,147nm,0.6s
GO02 **Mina Guanaco** **4.00 193** **Pn** **03 53 54.3 +0.5**
GO02 **Mina Guanaco** **4.00 193** *e*P **Pn** **03 53 54.5 +0.7**
GO02 *e*S **Sn** **03 54 43.6 +3.1**
GO02 IAML 03 55 15.3
comp=Z,212nm,0.4s
LPAZ **La Paz** **4.96 5** **Pn** **03 54 06.7 -0.1**
LPAZ **La Paz** **4.96 5** P **Pn** **03 54 07.3 +0.5**
comp=Z,30nm,0.4s,baz=182,slow=9.0,SNR=240
LPAZ S Sn 03 54 54.1 -10
comp=Z,3.7nm,0.5s,baz=281,slow=16,SNR=0.7
LPAZ **La Paz** **4.96 5** *e*P **Pn** **03 54 07.3 +0.5**
LPAZ **La Paz** **4.96 5** *e*P **Pn** **03 54 05.3 -1.5**
AC01 **Pan de Azucar** **5.20 200** **Pn** **03 54 08.6 -0.9**
AC01 **Pan de Azucar** **5.20 200** *e*P **Pn** **03 54 08.6 -0.9**
AC01 *e*S **Sn** **03 55 06.8 -2.0**
AC01 IAML 03 55 25.5
comp=Z,58nm,0.6s
AC02 **Maricunga** **5.58 185** **Pn** **03 54 15.2 +0.2**
GO03 **Copiapo** **6.49 193** **Pn** **03 54 25.1 -1.7**
AC04 **Llanos de Chal** **7.28 197** **Pn** **03 54 34.1 -3.1**
LCO **Las Campanas** **7.96 193** **Pn** **03 54 43.8 -2.8**
CO01 **Juntas del Tor** **8.79 188** **Pn** **03 54 56.7 -1.1**
SIV **San Ignacio** **8.86 55** P **Pn** 03 54 54.3 -4.3
comp=Z,30nm,0.4s,baz=244,slow=13,SNR=154
SIV S Sn 03 56 27.9 -9.1
comp=Z,1.2nm,0.6s,baz=323,slow=21,SNR=1.5
CO05 **La Serena** **8.95 195** Pn **Pn** **03 54 56.1 -3.5**
GO04 **Tololo Observa** **9.10 192** **Pn** **03 54 58.7 -3.2**
CO03 **El Pedregal** **9.73 191** **Pn** **03 55 07.1 -3.1**
CO06 **Fray Jorge** **9.77 195** Pn **Pn** **03 55 08.9 -1.7**
CO02 **Combarbal** **10.14 192** Pn **Pn** **03 55 12.1 -3.6**
CFA **Coronel Fontan** **10.32 178** P **Pn** **03 55 15.8 -2.3**
comp=Z,1.4nm,0.3s,baz=349,slow=14,SNR=14
CFA S **Sn** **03 57 04.8 -7.2**
comp=Z,1.2nm,0.5s,baz=232,slow=21,SNR=2.3
PTLB **Pontes e Lacer** **10.69 59** **Pn** **03 55 19.3 -3.7**
PTLB **Pontes e Lacer** **10.69 59** *e*P **Pn** **03 55 20.4 -2.6**
BDQN **Bodoquena, MS** **11.13 88** *e*P **Pn** **03 55 26.5 -2.3**
VA06 **Catapilco** **11.52 191** Pn **Pn** **03 55 30.6 -3.2**
VILB **Vilhena** **11.52 46** **Pn** **03 55 31.1 -2.9**
VILB **Vilhena** **11.52 46** *e*P **Pn** **03 55 31.2 -2.8**
VA03 **San Esteban** **11.60 188** Pn **Pn** **03 55 34.7 -0.3**
MT02 **Curacav** **12.17 190** Pn **Pn** **03 55 42.8 +0.5**
MT08 **Bocatoma Ro** **12.21 186** **Pn** **03 55 42.1 -1.0**
AMBA **Amambai (Brazi** **12.75 100** *e*P **P** **03 55 53.4 -2.1**
BO01 **Tunca** **13.27 189** **Pn** **03 55 57.1 +0.6**
SALV **Santo Antonio** **13.36 69** *e*P **Pn** **03 56 3.9 -1.6**
BO02 **Sierra Bellavi** **13.63 188** **P** **03 56 02.5 -2.8**
RPRD **Ribas do Rio P** **13.97 90** *e*P **Pn** **03 56 04.9 -0.7**
PDRB **Porto dos Gac** **14.89 52** *e*P **Pn** **03 56 14.4 -2.8**
TRCB **Terra Rica** **14.91 99** P **P** **03 56 19.6 +0.1**
TRCB **Terra Rica** **14.91 99** *e*P **Pn** **03 56 17.6 +0.2**
BI02 **San Fabin de** **15.53 188** P **P** **03 56 25.8 -0.6**
BI02 IAmb IAmb 03 56 28.4
comp=Z,14nm,0.8s
PTGB **Pitanga** **15.63 106** *e*P **P** **03 56 27.5 -0.2**
PCMB **Pacaembu** **16.17 94** *e*P **P** **03 56 34.9 +1.4**
ITAB **Concordia** **16.17 115** **Pn** **03 56 32.1 -0.9**
ITAB IAmb IAmb 03 56 35.0
comp=Z,13nm,1.0s
ITAB **Concordia** **16.17 115** *e*P **P** **03 56 34.2 +0.8**
LDASE **Londrina, Braz** **16.34 101** *e*P **P** **03 56 36.1 +0.7**
ARAG **Araguaiana, MT** **16.87 74** *e*P **P** **03 56 39.5 -1.8**
TBTG **Tabatinga, AM** **17.00 356** P **Pn** **03 56 42.5 -0.7**
TBTG IAmb IAmb 03 56 45.0
comp=Z,67nm,0.8s
TBTG **Tabatinga, AM** **17.00 356** *e*P **Pn** **03 56 44.1 +1.0**
FRTB **Fartura** **17.76 100** *e*P **P** **03 56 51.2 +0.1**
BB19B **Bebedouro** **18.75 93** *e*P **P** **03 57 01.2 -0.6**
SNDB **Serra Nova Dou** **18.98 64** *e*P **P** **03 57 03.1 -1.3**
NPGB **Novo Progresso** **19.08 44** *e*P **P** **03 57 04.8 -0.6**
PLCA **Paso Flores** **19.49 184** P **Pn** **03 57 13.1 +0.6**
comp=Z,0.6nm,0.4s,baz=4.4,slow=13,SNR=3.4
IPMB **Ipameri, GO** **19.50 84** *e*P **P** **03 57 09.5 -0.5**
RCLB **Rio Claro- Sao** **19.62 97** *e*P **P** **03 57 10.9 -0.4**
VAO **Valinhos** **20.14 99** *e*P **P** **03 57 17.7 +0.8**
BDFB **Brasilia** **20.32 78** P **P** **03 57 16.2 -2.8**
comp=Z,2.3nm,0.6s,baz=261,slow=12,SNR=5.7
ITTB **Itaituba** **20.94 38** *e*P **P** **03 57 23.5 -1.9**
SMTB **Santa Maria do** **23.71 62** *e*P **P** **03 57 52.5 -0.5**
JANB **Januaria** **23.89 79** *e*P **P** **03 57 53.3 -1.3**
SDBA **SAO DESIDERIO** **24.32 73** *e*P **P** **03 57 58.9 +0.4**
BOAV **Boa Vista** **24.80 20** *e*P **P** **03 58 03.5 +0.7**
RUSC **La Rusia** **27.32 350** P **P** **03 58 26.4 +0.5**
RUSC IAmb IAmb 03 58 34.8
comp=Z,5.2nm,0.5s
656A **Willston** **52.08 345** P **P** **04 01 49.7 +0.5**
SNAA **Sanae** **62.43 161** P **P** **04 03 03.9 +2.5**
comp=Z,0.8nm,0.7s,baz=270,slow=7.9,SNR=9.9
comp=Z,0.8nm,0.7s
DBIC **Dimbokro** **68.41 73** P **P** **04 03 41.2 +0.5**
comp=Z,4.3nm,0.9s,baz=269,slow=7.6,SNR=2.1
comp=Z,4.3nm,0.9s
QSPA **South Pole Qui** **68.94 180** P P 04 03 48.7 +5.4
comp=Z,1.7nm,0.5s,baz=166,slow=3.1,SNR=16
comp=Z,1.7nm,0.5s
TORD **Torodi Ar. Bea** **77.02 70** P **P** **04 04 31.0 -0.6**
TORD **Torodi Ar. Bea** **77.02 70** P **P** **04 04 31.8 +0.2**
comp=Z,2.8nm,0.5s,baz=256,slow=5.2,SNR=30
comp=Z,2.8nm,0.5s
MAW **Mawson** **84.49 163** P **P** **04 05 13.4 +3.0**
comp=Z,1.0nm,0.6s,baz=200,slow=5.1,SNR=4.7
comp=Z,1.0nm,0.6s
ESDC **Sonseca Array** **85.47 44** P **P** **04 05 17.3 +1.6**
comp=Z,0.7nm,0.9s,baz=246,slow=5.0,SNR=4.0
comp=Z,0.7nm,0.9s
ASAR **Alice Springs** **130.26 207** PKP **PKiKP** **04 11 50.5 +1.7**
comp=Z,0.4nm,0.5s,baz=130,slow=1.7,SNR=9.2
WRA **Warramunga Arr** **133.31 210** PKP **PKiKP** **04 11 56.1 +1.1**
comp=Z,0.3nm,0.3s,baz=175,slow=1.6,SNR=7.7
MKAR **Makanchi Array** **145.27 36** PKP **PKiKP** **04 12 16.8 -1.8**
comp=Z,2.8nm,0.7s,baz=314,slow=3.0,SNR=19

ANF ***08*** *04:01:38.8±0.1, 60.0°01N×140.0°60W, h0km, ML4.9/67, Error ellipse: s-maj=2.0km s-min=1.3km az=16.0*
IDC ***08*** *04:01:38.3±0.5, 60.1°15N×140.5°59W, h0km, mb4.2/20, mbtmp4.2/27, ML3.9/7, MS3.8/32, Error ellipse: s-maj=12.3km s-min=6.9km az=39.0*
PGC ***08*** *04:01:39.9±0.0, 60.0°03N×140.1°63W, h1km, ML4.5/32, Mw4.6, ML4.5(AEIC), 70km northwest of Yakutat, Ak Southeastern Alaska*
NEIC ***08*** *04:01:39.5, 60.0°07N×140.1°59W, h16km*
NEIC ***08*** *04:01:39.4±2.0, 60.0°05N±0.0°04×140.1°68W±0.0°09, h9km±4km, Error ellipse: s-maj=7.3km s-min=5.5km az=224.0, Moment Tensor Solution. Moment tensor: Scale 1016Nm; Mrr=0.15; Mθθ=0.21; Mφφ=0.06; Mrθ=1.06; Mrφ=-0.12; Mθφ=-0.02; Fault plane solution: M0=1.08000×10^16 NP1:φ=91.16000°, δ=85.22000°, λ=96.41000°. NP2:φ=217.74000°, δ=7.99000°, λ=36.85000°. Principal axes: T 1.0468, Plg49.0000°, Azm8.0000°; N 0.0612, Plg6.0000°, Azm271.0000°; P -1.1080, Plg40.0000°, Azm175.0000°;*
NEIC ***08*** *04:01:39.9, 60.0°03N×140.1°63W, h6km, Moment Tensor Solution. Moment tensor: Scale 1015Nm; Mrr=0.65; Mθθ=0.04; Mφφ=0.38; Mrθ=8.96; Mrφ=-0.19; Mθφ=-1.99; Fault plane solution: M0=9.20000×10^15 NP1:φ=159.00000°, δ=2.00000°, λ=-34.00000°. NP2:φ=283.00000°, δ=89.00000°, λ=-92.00000°. Principal axes: T 9.0023, Plg44.0000°, Azm14.0000°; N 0.3790, Plg2.0000°, Azm283.0000°; P -9.3813, Plg46.0000°, Azm191.0000°;*
NEIC ***08*** *04:01:39.5, 60.0°07N×140.1°59W, h16km*
AEIC ***08*** *04:01:39.5±2.1, 60.0°07N±0.0°05×140.1°63W±0.0°06, h11km±4km, ML4.5, mb4.4/35(NEIC), ML4.6/70(NEIC), Mwr4.6(OTT), Mwr4.6/72(NEIC), Mww4.6/20(NEIC), Error ellipse: s-maj=7.6km s-min=3.6km az=203.0*
NEIC ***08*** *04:01:39.5, 59.8°87N×140.1°59W, h16km, Moment Tensor Solution. Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.50; Mθθ=0.51; Mφφ=0.01; Mrθ=0.91; Mrφ=0.01; Mθφ=0.11; Fault plane solution: M0=1.05000×10^16 NP1: φ=277.96000°, δ=14.64000°, λ=103.16000°. NP2: φ=84.37000°, δ=75.75000°, λ=86.59000°. Principal axes: T 1.0463, Plg59.0000°, Azm350.0000°; N 0.0024, Plg3.0000°, Azm85.0000°; P -1.0487, Plg31.0000°, Azm177.0000°;*

ISC 08 04:01:40.0±0.5, 60.07N±0.02×140.63W±0.01, h12km±2km, n593, σ1°22/650, mb4.5/48, MS3.9/28, 1D, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAMH	**Samovar Hills**	**0.10**	**309**			**Pg**	**04 01 41.8**	**-1.1**
SAMH						**Sg**	**04 01 44.4**	**-0.6**
SAMH	**Samovar Hills**	**0.10**	**309**	P		**Pg**	**04 01 41.9**	**-1.1**
SAMH				S		**Sg**	**04 01 44.0**	**-1.0**
PCA	**Pinnacle**	**0.19**	**81**	Pg		**Pg**	**04 01 43.8**	**-0.4**
PCA				Sg		**Sg**	**04 01 47.4**	**+0.3**
PCA	comp=N,147μm,0.6s			IAML			04 01 51.0	
PCA	comp=E,142μm,0.8s			IAML			04 01 51.0	
PCA	**Pinnacle**	**0.19**	**81**	P		**Pg**	**04 01 43.8**	**-0.4**
PINM	**Pinnacle**	**0.19**	**81**	P		**Pg**	**04 01 43.6**	**-0.6**
PINM	baz=262,SNR=1000			S		**Sg**	**04 01 47.1**	**-0.1**
CHX	**Chaix Hills**	**0.24**	**269**			**Pg**	**04 01 45.1**	**-0.1**
CHX						**Sg**	**04 01 49.7**	**+1.1**
RKAV	**Rock Avalanche**	**0.43**	**303**			**Pg**	**04 01 48.0**	**-0.4**
RKAV						**Sb**	**04 01 56.6**	**+0.6**
RKAV	**Rock Avalanche**	**0.43**	**303**	P		**Pg**	**04 01 48.9**	**+0.4**
RKAV				S		**Sb**	**04 01 56.9**	**+0.9**
TABL	**Table Mountain**	**0.45**	**326**	Pg		**Pg**	**04 01 48.5**	**-0.4**
TABL				Sg		**Sb**	**04 01 56.4**	**-0.4**
TABL	**Table Mountain**	**0.45**	**326**	P		**Pg**	**04 01 48.9**	**0.0**
TABL				S		**Sb**	**04 01 57.0**	**+0.2**
BCPM	**Bancas Point**	**0.51**	**103**	Pg		**Pg**	**04 01 49.3**	**-0.7**
BCPM				Sg		**Sg**	**04 01 57.5**	**+0.8**
YAH	**Yahtse**	**0.63**	**298**			**Pg**	**04 01 52.3**	**0.0**
YAH	comp=E,41μm,1.2s			IAML			04 02 05.4	
YAH	**Yahtse**	**0.63**	**298**			**Sb**	**04 02 03.7**	**+1.8**
MESA	**MESA**	**0.67**	**280**			**Pg**	**04 01 52.8**	**-0.2**
MESA	**MESA**	**0.67**	**280**			**Sb**	**04 02 04.7**	**+1.6**
MESA	**MESA**	**0.67**	**280**	P		**Pg**	**04 01 53.1**	**+0.1**
MESA				S		**Sb**	**04 02 04.2**	**+1.2**
MESA	**MESA**	**0.67**	**280**	P		**Pg**	**04 01 53.1**	**+0.1**
MESA	baz=98,SNR=1000			S		**Sb**	**04 02 03.5**	**+0.5**
O28M	**Mount Upton**	**0.74**	**17**			**Pg**	**04 01 53.3**	**-1.0**
O28M						**Sg**	**04 02 04.8**	**+0.7**
O28M	**Mount Upton**	**0.74**	**17**	P		**Pg**	**04 01 53.5**	**-0.8**
O28M				S		**Sg**	**04 02 04.2**	**+0.2**
O28M	**Mount Upton**	**0.74**	**17**	P		**Pg**	**04 01 53.5**	**-0.8**
O28M	baz=196,SNR=1000			S		**Sg**	**04 02 04.2**	**+0.2**
YKU2	**Yakutat**	**0.74**	**139**			**Pg**	**04 01 53.7**	**-0.5**
YKU2	comp=E,20μm,0.8s			IAML			04 02 19.0	
YKU2	comp=N,20μm,0.9s			IAML			04 02 20.2	
YKU2	**Yakutat**	**0.74**	**139**	P		**Pg**	**04 01 54.0**	**-0.2**
PNL	**Peninsula**	**0.74**	**122**			**Pg**	**04 01 52.6**	**-1.6**
PNL	**Peninsula**	**0.74**	**122**	P		**Pg**	**04 01 53.0**	**-1.3**
PNL	**Peninsula**	**0.74**	**122**	P		**Pg**	**04 01 53.0**	**-1.3**
PNL	baz=305,SNR=1000			S		**Sg**	**04 02 02.5**	**-1.5**
LOGN	**Logan Glacier**	**0.78**	**346**			**Sg**	**04 02 05.9**	**+0.6**
LOGN	**Logan Glacier**	**0.78**	**346**	Pg		**Pg**	**04 01 54.1**	**-1.0**
LOGN				IAML			04 02 10.1	
LOGN	**Logan Glacier**	**0.78**	**346**	P		**Pg**	**04 01 54.2**	**-0.9**
LOGN				S		**Sg**	**04 02 05.9**	**+0.6**
GRNC	**Granite Creek**	**0.87**	**321**			**Sb**	**04 02 09.8**	**+1.0**
GRNC	**Granite Creek**	**0.87**	**321**	Pg		**Pg**	**04 01 55.5**	**-1.2**
GRNC	comp=E,15μm,0.9s			IAML			04 02 13.3	
GRNC	**Granite Creek**	**0.87**	**321**	P		**Pg**	**04 01 55.6**	**-1.2**
GRNC				S		**Sb**	**04 02 09.5**	**+0.7**
CTGM	**Chitina Glacie**	**0.96**	**339**			**Pb**	**04 01 57.0**	**-1.7**
CTGM	comp=N,15μm,0.8s			IAML			04 02 13.7	
CTGM	**Chitina Glacie**	**0.96**	**339**			**Sg**	**04 02 11.6**	**+0.5**
CTGM	**Chitina Glacie**	**0.96**	**339**	P		**Pb**	**04 01 57.1**	**-1.6**
CTGM				S		**Sg**	**04 02 11.7**	**+0.5**
CTG	**Chitna Glacier**	**0.97**	**339**	P		**Pb**	**04 01 57.1**	**-1.6**
CTG	baz=157,SNR=1000			S		**Sb**	**04 02 11.8**	**+0.3**
BARK	**Barkley Ridge**	**0.99**	**291**			**Pb**	**04 01 58.0**	**-1.0**
BARK						**Sn**	**04 02 13.3**	**-0.3**
ISLE	**Juniper Island**	**1.00**	**303**	Pg		**Pb**	**04 01 58.0**	**-1.3**
ISLE	comp=E,18μm,1.2s			IAML			04 02 17.9	
ISLE	comp=N,24μm,1.2s			IAML			04 02 24.2	
O29M	**Mount Kennedy**	**1.05**	**76**			**Pb**	**04 01 58.5**	**-1.7**
O29M						**Sg**	**04 02 14.1**	**+0.1**
O29M	**Mount Kennedy**	**1.05**	**76**	P		**Pb**	**04 01 58.6**	**-1.7**
O29M				S		**Sb**	**04 02 13.8**	**-0.2**
O29M	**Mount Kennedy**	**1.05**	**76**	P		**Pb**	**04 01 58.5**	**-1.7**
O29M	baz=258,SNR=1000			S		**Sb**	**04 02 13.4**	**-0.5**
SNH	**Sunshine Point**	**1.11**	**277**			**Pb**	**04 01 59.9**	**-1.2**
SNH	comp=N,23μm,0.8s			IAML			04 02 19.4	
SNH	comp=E,13μm,0.6s			IAML			04 02 19.9	
BARN	**Barnard Glacie**	**1.12**	**333**			**Pb**	**04 01 59.4**	**-2.0**
BARN	comp=E,13μm,1.0s			IAML			04 02 20.0	
BARN	comp=N,11μm,1.1s			IAML			04 02 20.3	
WAX	**Waxell Ridge**	**1.17**	**290**			**Pn**	**04 02 01.0**	**-1.3**
WAX	**Waxell Ridge**	**1.17**	**290**			**Sn**	**04 02 18.4**	**+0.2**
KIAG	**Kiagna River**	**1.21**	**316**	P		**Pn**	**04 02 01.2**	**-1.7**
KIAG				S		**Sb**	**04 02 19.0**	**+0.4**
BALM	**Baldy**	**1.29**	**320**	P		**Pn**	**04 02 02.4**	**-1.5**
BALM				S		**Sn**	**04 02 21.5**	**+0.3**
TGL	**Tana Glacier**	**1.29**	**303**			**Pn**	**04 02 02.5**	**-1.4**
TGL	comp=N,9μm,1.0s			IAML			04 02 30.3	
YUK8	**Steele Glacier**	**1.29**	**19**			**Pn**	**04 02 03.0**	**-1.1**
YUK8	**Steele Glacier**	**1.29**	**19**	P		**Pn**	**04 02 03.3**	**-0.8**
YUK8				S		**Sn**	**04 02 21.5**	**0.0**
YUK8	**Steele Glacier**	**1.29**	**19**	P		**Pn**	**04 02 03.2**	**-0.8**
YUK8	baz=199,SNR=1000			S		**Sg**	**04 02 22.1**	**+0.4**
YUK7	**Dusty Glacier**	**1.32**	**68**	P		**Pn**	**04 02 03.9**	**-0.6**
YUK7				S		**Sg**	**04 02 22.9**	**+0.3**
BGLC	**Bering Glacier**	**1.33**	**273**	P		**Pn**	**04 02 04.0**	**-0.3**
BGLC	baz=91			S		**Sg**	**04 02 24.1**	**+1.3**
CRQE	**Cirque**	**1.40**	**300**	P		**Pn**	**04 02 04.4**	**-1.1**
CRQE	baz=118			S		**Sg**	**04 02 25.7**	**+0.6**
CRQM	**Cirque**	**1.42**	**300**			**Pn**	**04 02 04.3**	**-1.5**
CRQM	comp=E,13μm,0.8s			IAML			04 02 32.7	
YUK6	**Outpost Mounta**	**1.42**	**51**	P		**Pn**	**04 02 06.0**	**+0.1**
YUK6				S		**Sb**	**04 02 25.1**	**+0.4**
YUK6	**Outpost Mounta**	**1.42**	**51**	P		**Pn**	**04 02 06.0**	**+0.1**
YUK6	baz=232,SNR=1000			S		**Sg**	**04 02 25.9**	**+0.1**
PTPK	**Patty Peak**	**1.44**	**322**	Pn		**Pn**	**04 02 05.0**	**-1.1**
PTPK				Sg		**Sb**	**04 02 26.1**	**+0.8**
BRWY	**Burwash Landin**	**1.52**	**30**	Pn		**Pn**	**04 02 07.7**	**+0.6**
BRWY				Sn		**Sn**	**04 02 27.1**	**+0.3**
P29M	**Windy Craggy**	**1.52**	**105**	Pn		**Pn**	**04 02 06.1**	**-1.0**
P29M				Sn		**Sn**	**04 02 25.3**	**-1.5**
P29M	**Windy Craggy**	**1.52**	**105**	P		**Pn**	**04 02 06.1**	**-1.0**
P29M	baz=288,SNR=484			S		**Sn**	**04 02 26.4**	**-0.4**
BERG	**Berg Lake**	**1.57**	**283**			**Pn**	**04 02 07.2**	**-0.5**
SUCK	**Suckling Hills**	**1.58**	**272**			**Pn**	**04 02 07.7**	**-0.1**
SUCK	comp=E,9μm,0.9s			IAML			04 02 31.7	
YUK4	**Talbot Arm**	**1.61**	**36**	Pn		**Pg**	**04 02 11.1**	**+0.1**
YUK4				Sg		**Sg**	**04 02 34.6**	**+2.9**
YUK4	**Talbot Arm**	**1.61**	**36**	P		**Pg**	**04 02 11.0**	**+0.1**
YUK4	baz=217,SNR=1000			S		**Sg**	**04 02 34.3**	**+2.6**
YUK3	**Moose Creek**	**1.71**	**3**	Pn		**Pn**	**04 02 10.5**	**+0.7**
YUK3				Sg		**Sg**	**04 02 35.0**	**-0.1**
YUK3	**Moose Creek**	**1.71**	**3**	P		**Pn**	**04 02 10.3**	**+0.4**
YUK3	baz=182,SNR=1000			S		**Sg**	**04 02 35.2**	**+0.1**
HYT	**Haines Junctio**	**1.73**	**63**			**Pn**	**04 02 10.0**	**+0.2**
HYT	**Haines Junctio**	**1.73**	**63**	Pn		**Pn**	**04 02 10.1**	**+0.2**
HYT				Sg		**Sb**	**04 02 34.2**	**+0.8**
HYT	**Haines Junctio**	**1.73**	**63**	P		**Pn**	**04 02 10.1**	**+0.2**
HYT	baz=245,SNR=1000			S		**Sb**	**04 02 33.4**	**+0.1**
YUK2	**White River**	**1.73**	**357**	Pn		**Pn**	**04 02 10.6**	**+0.7**
YUK2				Sg		**Sg**	**04 02 35.0**	**-0.5**
YUK5	**Granite Creek**	**1.73**	**51**	Pn		**Pn**	**04 02 11.1**	**+1.0**
YUK5				Sg		**Sg**	**04 02 35.2**	**-0.5**
MCARA	**McCarthy VSAT**	**1.77**	**319**			**Pn**	**04 02 09.7**	**-0.6**
MCARA	comp=N,8μm,1.0s			IAML			04 02 49.1	
MCARA	**McCarthy VSAT**	**1.77**	**319**	Pn		**Pn**	**04 02 10.0**	**-0.4**
MCARA	**McCarthy VSAT**	**1.77**	**319**	P		**Pn**	**04 02 09.8**	**-0.6**
MCARA	baz=137,SNR=1000			S		**Sg**	**04 02 36.6**	**-0.1**
VRDI	**Verde Repeater**	**1.81**	**311**			**Pn**	**04 02 10.3**	**-0.8**
VRDI	comp=N,5μm,1.1s			IAML			04 02 43.5	
HMT	**Hamilton**	**1.83**	**280**			**Pn**	**04 02 10.9**	**-0.4**
P30M	**Million Dollar**	**1.84**	**87**	Pn		**Pn**	**04 02 11.4**	**0.0**
P30M	**Million Dollar**	**1.84**	**87**	P		**Pn**	**04 02 11.4**	**0.0**
P30M	baz=270			S		**Sb**	**04 02 36.3**	**-0.2**
KAIM	**Kayak Island**	**1.91**	**267**			**Pn**	**04 02 11.7**	**-0.6**
KAIM	comp=E,5μm,1.0s			IAML			04 02 40.8	
KAIM	**Kayak Island**	**1.91**	**267**	P		**Pn**	**04 02 11.9**	**-0.4**
KAIM	baz=84			S		**Sb**	**04 02 37.7**	**-0.8**
RAGM	**Ragged Mountai**	**2.04**	**281**	Pn		**Pn**	**04 02 13.5**	**-0.7**
GLB	**Gilahina Butte**	**2.08**	**313**			**Pn**	**04 02 14.1**	**-0.6**
GLB	comp=N,4μm,1.0s			IAML			04 02 50.8	
BMRM	**Bremner River**	**2.16**	**296**			**Pn**	**04 02 15.2**	**-0.7**
BMRM	comp=E,6μm,1.0s			IAML			04 02 57.1	
BMRM	**Bremner River**	**2.16**	**296**	P		**Pn**	**04 02 15.5**	**-0.4**
BMRM	baz=113			S		**Sb**	**04 02 45.1**	**-0.8**
N30M	**Aishikik Lake**	**2.23**	**50**	Pn		**Pn**	**04 02 17.1**	**+0.3**
N30M				Pg		**Pb**	**04 02 20.7**	**+0.5**
N30M				Sg		**Sg**	**04 02 51.1**	**-0.4**
N30M	**Aishikik Lake**	**2.23**	**50**	P		**Pn**	**04 02 17.1**	**+0.3**
N30M	baz=232,SNR=1000			Sb		**Sg**	**04 02 50.4**	**-1.1**
PLBC	**Pleasant Camp**	**2.24**	**104**	Pn		**Pn**	**04 02 16.6**	**-0.2**
PLBC				Sg		**Sn**	**04 02 45.6**	**+1.2**
PLBC	**Pleasant Camp**	**2.24**	**104**	P		**Pn**	**04 02 16.8**	**-0.1**
PLBC	baz=288,SNR=232			S		**Sn**	**04 02 45.6**	**+1.2**
BVCY	**Beaver Creek**	**2.36**	**357**	Pn		**Pn**	**04 02 19.7**	**+1.2**
BVCY	**Beaver Creek**	**2.36**	**357**	P		**Pn**	**04 02 19.5**	**+1.0**
O30N	baz=177,SNR=1000 **Mendenhall**	**2.36**	**71**	Pn		**Pn**	**04 02 18.5**	**0.0**
O30N				Sn		**Sn**	**04 02 49.3**	**+1.9**
O30N	**Mendenhall**	**2.36**	**71**	P		**Pn**	**04 02 18.6**	**0.0**
O30N	baz=254,SNR=305			S		**Sn**	**04 02 49.4**	**+1.9**
M27K	**Edge Creek, AK**	**2.38**	**346**	Pn		**Pn**	**04 02 20.1**	**+1.2**
M27K	**Edge Creek, AK**	**2.38**	**346**	P		**Pn**	**04 02 19.8**	**+1.0**
N25K	**Chitina, Valde**	**2.48**	**310**	Pn		**Pn**	**04 02 20.5**	**+0.2**
N25K	**Chitina, Valde**	**2.48**	**310**	P		**Pn**	**04 02 20.3**	**+0.1**
EYAK	**Cordova Ski Ar**	**2.59**	**283**			**Pn**	**04 02 20.9**	**-0.7**
EYAK	comp=N,3μm,1.1s			IAML			04 03 19.1	
EYAK	**Cordova Ski Ar**	**2.59**	**283**	P		**Pn**	**04 02 21.2**	**-0.5**
M29M	**Somme Creek**	**2.60**	**23**	Pn		**Pn**	**04 02 23.0**	**+1.0**
M29M				Sg		**Sg**	**04 03 03.2**	**-0.4**
M29M	**Somme Creek**	**2.60**	**23**	P		**Pn**	**04 02 22.9**	**+1.0**
M26K	**Nabesna, AK**	**2.61**	**335**	Pn		**Pn**	**04 02 22.7**	**+0.7**

N31M	**Braeburn, Yuko**	2.77	57	P		Pn	04 02 24.7	+0.5	
	baz=241,SNR=359								
WHY	**Whitehorse**	2.92	76			Pn	04 02 26.3	0.0	
WHY	**Whitehorse**	2.92	76	Pn		Pn	04 02 26.3	0.0	
WHY				Sn		Sn	04 03 03.5	+2.3	
WHY	**Whitehorse**	2.92	76	P		Pn	04 02 26.2	0.0	
	baz=261,SNR=64								
HIN	**Hinchinbrook I**	2.95	279			Pn	04 02 26.0	-0.6	
HIN				IAML			04 03 23.9		
	comp=E,2µm,1.1s								
HIN				IAML			04 03 25.5		
	comp=N,2µm,0.9s								
KLU	**Klutina**	2.96	301	IAML			04 03 17.6		
	comp=E,2µm,0.9s								
KLU				IAML			04 03 22.4		
	comp=N,3µm,0.9s								
KLU	**Klutina**	2.96	301	P		Pn	04 02 26.4	-0.4	
	baz=116								
Q23K	**Middleton Isla**	2.96	260	P		Pn	04 02 25.9	-0.9	
	baz=75								
FID	**Port Fidalgo**	2.98	286	IAML			04 03 13.8		
	comp=N,3µm,0.8s								
FID				IAML			04 03 13.9		
	comp=E,3µm,0.7s								
R31K	**City Hall, Gus**	3.01	121	Pn		Pb	04 02 32.3	-1.1	
R31K	**City Hall, Gus**	3.01	121	P		Pn	04 02 26.0	-1.4	
	baz=306								
BCAR	**Beaver Creek A**	3.06	350			Pn	04 02 28.3	+0.2	
L27K	**Beaver Creek,**	3.06	350	Pn		Pn	04 02 28.6	+0.5	
L27K	**Beaver Creek,**	3.06	350	P		Pn	04 02 28.4	+0.3	
	baz=168,SNR=436								
S31K	**Pelican**	3.10	131	Pn		Pn	04 02 28.1	-0.6	
S31K	**Pelican**	3.10	131	P		Pn	04 02 27.8	-0.9	
	baz=315,SNR=25								
M30M	**Minto, Yukon**	3.12	35	Pn		Pn	04 02 29.8	+0.7	
M30M				Pg		Pb	04 02 37.3	+1.9	
M30M				Sg		Sg	04 03 19.6	-0.6	
M30M	**Minto, Yukon**	3.12	35	P		Pn	04 02 29.7	+0.7	
	baz=218,SNR=404								
HARP	**HAARP**	3.20	319	P		Pn	04 02 31.0	+0.9	
	baz=135								
MENT	**Mentasta**	3.24	334				04 02 31.0	+0.4	
MENT				IAML			04 03 29.9		
	comp=E,1µm,1.2s								
MENT				IAML			04 03 51.9		
	comp=N,1µm,1.0s								
MENT	**Mentasta**	3.24	334	P		Pn	04 02 31.8	+1.2	
L26K	**Log Cabin Wild**	3.24	338	Pn		Pn	04 02 31.7	+1.1	
L26K	**Log Cabin Wild**	3.24	338	P		Pn	04 02 31.5	+0.9	
	baz=155,SNR=19								
L29M	**L29M**	3.28	20	Pn		Pn	04 02 32.4	+1.3	
L29M				Pg		Pb	04 02 40.0	+2.0	
L29M	**L29M**	3.28	20	P		Pn	04 02 32.5	+1.4	
	baz=202,SNR=1000								
GLI	**Glacier Island**	3.30	287	IAML			04 03 24.3		
	comp=E,2µm,0.9s								
GLI				IAML			04 03 27.1		
	comp=N,2µm,1.2s								
GLI	**Glacier Island**	3.30	287	P		Pn	04 02 30.2	-1.2	
	baz=101								
BESE	**Bessie Mountai**	3.31	114			Pn	04 02 30.8	-0.9	
BESE	**Bessie Mountai**	3.31	114	Pn		Pn	04 02 31.0	-0.7	
M24K	**Tolsona, Glenn**	3.38	310	P		Pn	04 02 32.8	+0.3	
	baz=124								
P32M	**Atlin**	3.52	95	Pn		Pn	04 02 33.6	-0.9	
P32M				Pg		Pb	04 02 42.3	0.0	
P32M				Sg		Sb	04 03 28.2	+3.3	
P32M	**Atlin**	3.52	95	P		Pn	04 02 33.7	-0.9	
	baz=281,SNR=48								
R32K	**Eaglecrest**	3.62	117	Pn		Pn	04 02 35.5	-0.4	
R32K	**Eaglecrest**	3.62	117	P		Pn	04 02 35.2	-0.7	
	baz=303								
M31M	**Drury Creek, Y**	3.71	52	Pn		Pn	04 02 37.8	+0.8	
M31M				Pg		Pb	04 02 47.6	+2.3	
M31M				Sg		Sg	04 03 36.8	-2.0	
M31M	**Drury Creek, Y**	3.71	52	P		Pn	04 02 37.8	+0.8	
	baz=237,SNR=44								
SCM	**Sheep Creek Mo**	3.72	301	P		Pn	04 02 37.3	+0.1	
	baz=115								
PAX	**Paxson**	3.72	324	Pn		Pn	04 02 37.7	+0.4	
PAX	**Paxson**	3.72	324	P		Pn	04 02 37.2	-0.1	
	baz=139								
M23K	**Glacier View**	3.87	300	P		Pn	04 02 38.8	-0.4	
	baz=113								
N32M	**Quiet Lake**	3.88	70	Pn		Pn	04 02 39.1	-0.3	
N32M	**Quiet Lake**	3.88	70	P		Pn	04 02 39.0	-0.3	
	baz=257								
PWL	**Port Wells**	3.90	285	IAML			04 03 53.1		
	comp=N,849nm,1.1s								
PWL	**Port Wells**	3.90	285	P		Pn	04 02 38.9	-0.7	
	baz=98								
P33M	**Teslin, Yukon**	3.91	85	Pn		Pn	04 02 38.7	-1.2	
P33M	**Teslin, Yukon**	3.91	85	P		Pn	04 02 39.0	-0.9	
	baz=271,SNR=58								
DOT	**Dot Lake**	3.94	337			Pn	04 02 40.9	+0.6	
DOT	**Dot Lake**	3.94	337	Pn		Pn	04 02 40.6	+0.3	
K27K	**Chicken**	4.03	351	Pn		Pn	04 02 42.2	+0.7	
K27K	**Chicken**	4.03	351	P		Pn	04 02 42.1	+0.7	
	baz=169								
DAWY	**Dawson**	4.05	8			Pn	04 02 43.0	+1.2	
DAWY	**Dawson**	4.05	8	Pn		Pn	04 02 42.6	+0.8	
DAWY	**Dawson**	4.05	8	P		Pn	04 02 43.0	+1.2	
	baz=188,SNR=60								
K29M	**Barlow Dome**	4.06	20	Pn		Pn	04 02 43.6	+1.6	
K29M	**Barlow Dome**	4.06	20	P		Pn	04 02 43.6	+1.6	
	baz=202,SNR=1000								
KNK	**Knik Glacier**	4.07	293	P		Pn	04 02 41.9	-0.2	
	baz=106								
SIT	**Sitka**	4.10	135			Pn	04 02 41.5	-0.9	
SIT	**Sitka**	4.10	135	P		Pn	04 02 41.5	-0.9	
SIT	**Sitka**	4.10	135	P		Pn	04 02 41.9	-0.5	
	baz=320								
RIDG	**Independent Ri**	4.19	333	P		Pn	04 02 44.2	+0.6	
	baz=149								
MAYO	**Mayo, Yukon**	4.19	30	Pn		Pn	04 02 45.1	+1.4	
MAYO				Pg		Pg	04 02 57.3	-2.9	
MAYO	**Mayo, Yukon**	4.19	30	P		Pn	04 02 44.5	+0.9	
	baz=214								
SCRK	**Sand Creek**	4.23	340	P		Pn	04 02 44.5	+0.2	
	baz=156,SNR=462								
WAT6	**Susitna Watana**	4.25	309	P		Pn	04 02 44.3	-0.3	
	baz=123								
Q32M	**Nakina River**	4.40	101	Pn		Pn	04 02 45.9	-0.9	
Q32M	**Nakina River**	4.40	101	P		Pn	04 02 45.8	-0.9	
	baz=288,SNR=38								
DHY	**Denali Highway**	4.42	316	P		Pn	04 02 47.0	+0.1	
	baz=130								
SEW	**Seward**	4.42	274			Pn	04 02 45.5	-1.3	
SEW	**Seward**	4.42	274	P		Pn	04 02 45.9	-0.9	
	baz=87								
PMR	**Palmer**	4.43	294			Pn	04 02 47.4	+0.5	
PMR	**Palmer**	4.43	294	P		Pn	04 02 47.7	+0.8	
PMR	**Palmer**	4.43	294	S		Sn	04 03 39.9	+1.5	
PMR	**Palmer**	4.43	294	P		Pn	04 02 47.2	+0.2	
	baz=106								
K24K	**Donnelly Dome**	4.47	329	P		Pn	04 02 47.9	+0.4	
	baz=144								
J29N	**Klondike Camp**	4.54	13			Pn	04 02 50.0	+1.5	
J29N	**Klondike Camp**	4.54	13	Pn		Pn	04 02 49.8	+1.3	
J29N	**Klondike Camp**	4.54	13	P		Pn	04 02 50.1	+1.5	
	baz=195,SNR=56								
O22K	**Cooper Landing**	4.55	279	P		Pn	04 02 48.3	-0.2	
	baz=91								
RC01	**Rabbit Creek A**	4.61	287	P		Pn	04 02 49.2	-0.1	
	baz=99								
J26L	**Joseph Creek**	4.66	344	P		Pn	04 02 50.9	+0.8	
	baz=161,SNR=613								
WAT1	**Susitna Watana**	4.70	309	P		Pn	04 02 52.1	+1.4	
	baz=122								
SLKM	**Skilak Lake**	4.79	279			Pn	04 02 51.0	-0.9	
M22K	**Willow**	4.93	294	P		Pn	04 02 53.7	0.0	
	baz=106								
R33M	**Jennings River**	4.94	94	Pn		Pn	04 02 53.1	-0.9	
R33M				Sg		Sb	04 04 11.3	+5.7	
R33M	**Jennings River**	4.94	94	P		Pn	04 02 53.3	-0.7	
	baz=282,SNR=27								
J30M	**Hart River**	4.95	22	Pn		Pn	04 02 55.8	+1.7	
J30M				Sg		Sg	04 04 15.9	-2.7	
J30M	**Hart River**	4.95	22	P		Pn	04 02 55.9	+1.7	
	baz=206,SNR=154								
J25K	**Salcha River,**	5.07	336	Pn		Pn	04 02 55.8	+0.1	
J25K	**Salcha River,**	5.07	336	P		Pn	04 02 55.9	+0.2	
	baz=152								
BRSE	**Bradley Lake S**	5.10	271			Pn	04 02 55.8	-0.4	
BRSE	**Bradley Lake S**	5.10	271	P		Pn	04 02 56.5	+0.3	
	baz=82								
SUA	**Susitna One**	5.15	290			Pn	04 02 56.2	-0.8	
SUA	**Susitna One**	5.15	290	P		Pn	04 02 57.2	+0.3	
	baz=101								
MMPY	**Sheldon Lake,**	5.18	56			Pn	04 02 58.3	+1.0	
MMPY	**Sheldon Lake,**	5.18	56	Pn		Pn	04 02 58.1	+0.8	
MMPY				Pg		Pg	04 03 15.4	-3.7	
MMPY				Sg		Sg	04 04 21.9	-4.2	
MMPY	**Sheldon Lake,**	5.18	56	P		Pn	04 02 58.1	+0.8	
	baz=244,SNR=145								
CUT	**Chulitna**	5.21	301			Pn	04 02 58.3	+0.7	
CUT	**Chulitna**	5.21	301	P		Pn	04 02 58.7	+1.0	
	baz=112								
HDA	**Harding Lake**	5.26	329	P		Pn	04 02 58.5	+0.2	
	baz=143								
CAPN	**Captain Cook N**	5.26	282	P		Pn	04 02 59.1	+0.8	
	baz=93								
S34M	**Telegraph Cree**	5.37	110	Pn		Pn	04 02 59.5	-0.3	
S34M	**Telegraph Cree**	5.37	110	P		Pn	04 02 59.7	-0.1	
	baz=298,SNR=13								
MCK	**McKinley**	5.38	317			Pn	04 03 00.5	+0.5	
MCK	**McKinley**	5.38	317	P		Pn	04 03 01.1	+1.2	
	baz=129								
CNPM	**China Poot**	5.38	269			Pn	04 03 00.5	+0.5	
I26K	**Coal Creek Min**	5.38	349	Pn		Pn	04 03 01.1	+1.1	
I26K				Sg		Sg	04 04 30.9	-1.7	
I26K	**Coal Creek Min**	5.38	349	P		Pn	04 03 01.3	+1.2	
	baz=166								
I28M	**Miner Creek**	5.41	3	Pn		Pn	04 03 01.4	+1.0	
I28M	**Miner Creek**	5.41	3	P		Pn	04 03 01.8	+1.3	
	baz=184,SNR=321								
I29M	**Ogilvie Camp,**	5.42	10	Pn		Pn	04 03 01.7	+1.2	
I29M	**Ogilvie Camp,**	5.42	10	P		Pn	04 03 02.2	+1.7	
	baz=192,SNR=6.7								
I30M	**Mount Dempster**	5.53	19	Pn		Pn	04 03 03.9	+1.8	
I30M				Sn		Sn	04 04 07.8	+2.1	
I30M	**Mount Dempster**	5.53	19	P		Pn	04 03 03.9	+1.8	
	baz=202,SNR=408								
ILAR	**Eielson Array**	5.54	331	Pn		Pn	04 03 01.6	-0.5	
	comp=N,1.7nm,0.3s,baz=151,slow=13,SNR=90								
ILAR				Lg		Lg	04 04 31.8		
	comp=N,2.6nm,0.3s,baz=140,slow=14,SNR=5.0								
ILAR				LR		LR	04 05 31.5		
	comp=N,1µm,18.7s,baz=132,slow=43								
	comp=N,8.1nm,0.4s								
HOM	**Homer**	5.57	271			Pn	04 03 03.4	+0.9	
HOM	**Homer**	5.57	271	P		Pn	04 03 03.1	+0.6	
	baz=81								
I27K	**Kandik River**	5.58	356	Pn		Pn	04 03 04.0	+1.4	
I27K				Sg		Sg	04 04 37.3	-1.4	
I27K	**Kandik River**	5.58	356	P		Pn	04 03 03.7	+1.0	
	baz=175,SNR=136								
U33K	**Whale Pass**	5.62	132	Pn		Pn	04 03 03.0	-0.2	
U33K	**Whale Pass**	5.62	132	P		Pn	04 03 03.5	+0.3	
	baz=318								
SKT	**Skwentna**	5.64	295	P		Pn	04 03 04.4	+0.9	
	baz=105								
DLBC	**Dease Lake**	5.68	102	Pn		Pn	04 03 03.4	-0.8	
	comp=N,5.9nm,0.3s,baz=287,slow=11,SNR=21								
DLBC				Sn		Sn	04 04 07.4	-1.8	
	comp=N,48nm,0.3s,baz=252,slow=20,SNR=3.3								
DLBC				Lg		Lg	04 04 34.7		
	comp=N,76nm,0.3s,baz=338,slow=19,SNR=8.6								
DLBC				LR		LR	04 05 16.4		
	comp=N,6µm,20.5s,baz=188,slow=38								
	comp=N,121nm,0.8s								
DLBC	**Dease Lake**	5.68	102	P		Pn	04 03 04.4	+0.2	
	baz=291,SNR=14								
WRAK	**Wrangell Islan**	5.70	126	Pn		Pn	04 03 04.6	+0.2	
WRAK	**Wrangell Islan**	5.70	126	P		Pn	04 03 05.0	+0.7	
	baz=314								
TRF	**Throfare Moun**	5.70	311	P		Pn	04 03 05.4	+0.8	
	baz=122								
SPU	**Mount Spurr**	5.73	286			Pn	04 03 04.9	0.0	
N20K	**Mount Spurr**	5.81	286	P		Pn	04 03 06.1	+0.2	
	baz=96								
SPCR	**Spurr Chakacha**	5.81	286			Pn	04 03 05.9	-0.1	
SPCR	**Spurr Chakacha**	5.81	286	P		Pn	04 03 06.1	+0.2	
	baz=96								
COLA	**College**	5.87	328			Pn	04 03 08.6	+2.0	
COLA	**College**	5.87	328	P		Pn	04 03 08.2	+1.6	
COLA	**College**	5.87	328	P		Pn	04 03 07.9	+1.3	
	baz=142								
CKL	**Chakachamna La**	5.87	286			Pn	04 03 06.1	-0.8	
RDT	**Redoubt**	5.87	280			Pn	04 03 06.2	-0.6	
SPBG	**Spurr Blockage**	5.89	287			Pn	04 03 06.5	-0.6	
PRP	**Porcupine Dome**	5.91	340	P		Pn	04 03 07.6	+0.2	
	baz=155								
WTLY	**Watson Lake, Y**	5.92	84			Pn	04 03 08.4	+1.0	
WTLY	**Watson Lake, Y**	5.92	84	Pn		Pn	04 03 07.7	+0.3	
WTLY	**Watson Lake, Y**	5.92	84	P		Pn	04 03 07.6	+0.1	
	baz=275								
POKR	**Poker Plat Res**	5.96	331	P		Pn	04 03 07.9	0.0	
	baz=145								
SPWE	**Spurr West**	5.99	287			Pn	04 03 07.8	-0.6	
NEA2	**Nenana**	6.00	323	P		Pn	04 03 08.3	-0.2	
	baz=135								
O20K	**Slope Mountain**	6.01	275	P		Pn	04 03 08.6	0.0	
	baz=85								
DFR	**Drift River**	6.01	280			Pn	04 03 07.4	-1.3	
RDSO	**Redoubt South**	6.04	279			Pn	04 03 08.8	-0.4	
SPNN	**North Nagishla**	6.07	288			Pn	04 03 08.6	-0.9	
RDJH	**Redoubt Jeurge**	6.07	280			Pn	04 03 09.6	+0.1	
CRAG	**Craig**	6.11	136			Pn	04 03 10.3	+0.3	
CRAG	**Craig**	6.11	136	P		Pn	04 03 10.0	0.0	
CRAG	**Craig**	6.11	136	P		Pn	04 03 10.0	0.0	
	baz=322								
Q20K	**Shuyak Island**	6.20	261	P		Pn	04 03 11.5	+0.4	
	baz=71								
H27K	**Steamboat Moun**	6.20	357	Pn		Pn	04 03 12.4	+1.2	
H27K	**Steamboat Moun**	6.20	357	P		Pn	04 03 11.1	-0.1	
	baz=176,SNR=106								
PPLA	**Purkeypile**	6.22	302			Pn	04 03 12.3	+0.7	
PPLA	**Purkeypile**	6.22	302	P		Pn	04 03 11.9	+0.3	
	baz=112								
T35M	**Bob Quinn**	6.25	115	Pn		Pn	04 03 12.1	+0.1	
T35M				Pg		Pg	04 03 38.4	-1.2	
T35M				Sn		Sn	04 04 24.0	+0.7	
T35M	**Bob Quinn**	6.25	115	P		Pn	04 03 12.1	+0.1	
	baz=304								
H29M	**Whitestone**	6.26	8	Pn		Pn	04 03 12.1	+0.1	
H29M	**Whitestone**	6.26	8	P		Pn	04 03 12.3	+0.3	
	baz=190,SNR=144								
BPAW	**Bear Paw Mtn.**	6.32	314	P		Pn	04 03 13.3	+0.4	
	baz=125								
M20K	**Styx River**	6.35	292	P		Pn	04 03 13.8	+0.5	
	baz=101								
P19K	**Oil Pt**	6.36	272	P		Pn	04 03 14.0	+0.6	
	baz=81								
H31M	**Peel River**	6.43	24	Pn		Pn	04 03 15.6	+1.2	
H31M	**Peel River**	6.43	24	P		Pn	04 03 14.9	+0.5	
	baz=209,SNR=82								
I23K	**Minto, Yukon-K**	6.49	325	P		Pn	04 03 15.6	+0.4	
	baz=138								
EPYK	**Eagle Plains**	6.57	14	Pn		Pn	04 03 17.7	+1.4	
EPYK	**Eagle Plains**	6.57	14	P		Pn	04 03 17.1	+0.8	
	baz=197								
KDAK	**Kodiak Island**	6.60	255	Pn		Pn	04 03 16.3	-0.3	
	comp=N,13nm,0.3s,baz=60,slow=5.2,SNR=1187								
KDAK				Sn		Sn	04 04 27.3	-4.4	
	comp=N,12nm,0.3s,baz=131,slow=20,SNR=15								
KDAK				LR		LR	04 06 04.0		
	comp=N,359nm,20.1s,baz=34,slow=40								
	comp=N,38nm,0.2s								
KDAK	**Kodiak Island**	6.60	255	P		Pn	04 03 16.9	+0.2	
	baz=65								
H25L	**Birch Creek**	6.65	342	P		Pn	04 03 18.4	+1.1	
	baz=157								
H24K	**Noodor Dome**	6.66	333	P		Pn	04 03 18.3	+0.7	
	baz=147								
CHUM	**Lake Minchumin**	6.70	310	P		Pn	04 03 18.5	+0.4	
	baz=119								
Q19K	**Cape Douglas,**	6.72	266	P		Pn	04 03 19.1	+0.7	
	baz=75								
V35K	**Ketchikan**	6.77	131	P		Pn	04 03 19.9	+0.8	
	baz=318								
G27K	**Doyon Strip**	6.78	357	Pn		Pn	04 03 20.3	+1.1	
G27K	**Doyon Strip**	6.78	357	P		Pn	04 03 21.0	+1.8	
	baz=176,SNR=59								
MLY	**Manley**	6.82	321	P		Pn	04 03 19.6	-0.2	
	baz=132								
L20K	**Farewell, AK**	6.83	296	P		Pn	04 03 20.3	+0.5	
	baz=105								
O19K	**Port Alsworth**	6.84	277	P		Pn	04 03 20.4	+0.5	
	baz=85								
N19K	**Bonanza Creek**	6.90	282	P		Pn	04 03 20.9	0.0	
	baz=90								
M19K	**Big River Lodg**	6.94	291	P		Pn	04 03 21.2	-0.2	
	baz=99								
G29M	**Pine Creek**	6.97	9	Pn		Pn	04 03 21.6	-0.1	
G29M	**Pine Creek**	6.97	9	P		Pn	04 03 22.2	+0.5	
	baz=191,SNR=52								
G26K	**Porcupine Rive**	7.05	350	Pn		Pn	04 03 23.9	+1.0	
G26K	**Porcupine Rive**	7.05	350	P		Pn	04 03 24.4	+1.6	
	baz=167,SNR=35								
H23K	**Yukon River**	7.06	329	P		Pn	04 03 23.7	+0.8	
	baz=141								
G25K	**Bearman Lake**	7.15	342	Pn		Pn	04 03 25.1	+0.8	
G25K				Sg		Sg	04 05 26.5	-2.7	
G25K	**Bearman Lake**	7.15	342	P		Pn	04 03 24.9	+0.7	
	baz=157								
K20K	**Telida**	7.18	303	P		Pn	04 03 25.1	+0.4	
	baz=111								
OHAK	**Old Harbor**	7.19	252	P		Pn	04 03 24.3	-0.5	
	baz=61								
L19K	**White Mountain**	7.21	293	P		Pn	04 03 24.9	-0.1	
	baz=101								
G30M	**tAoh Zraii Nji**	7.21	14	Pn		Pn	04 03 25.5	+0.4	
G30M	**tAoh Zraii Nji**	7.21	14	P		Pn	04 03 25.5	+0.4	
	baz=198,SNR=84								
I21K	**Tanana**	7.32	319	P		Pn	04 03 26.3	-0.2	
	baz=129								
G24K	**Hadweenzic Riv**	7.33	338	P		Pn	04 03 27.3	+0.6	
	baz=152								
P18K	**Big Mountain,**	7.41	271	P		Pn	04 03 27.1	-0.7	
	baz=78								
NDB	**Naden**	7.42	142	Pn		Pn	04 03 26.6	-1.5	
G31M	**Satah River**	7.44	20	Pn		Pn	04 03 28.6	+0.4	
G31M	**Satah River**	7.44	20	P		Pn	04 03 28.9	+0.7	
	baz=205,SNR=97								
Q18K	**Katmai Hardscr**	7.49	265	P		Pn	04 03 28.8	-0.1	
	baz=73								
J20K	**Nowinta River**	7.55	309	P		Pn	04 03 30.1	+0.4	
	baz=117								
M18K	**Stony River**	7.57	287	P		Pn	04 03 30.2	+0.2	
	baz=94								
F28M	**Old Crow**	7.58	2	Pn		Pn	04 03 30.2	+0.1	
F28M	**Old Crow**	7.58	2	P		Pn	04 03 31.4	+1.2	
	baz=183,SNR=28								
N18K	**Kilae Creek**	7.59	281	P		Pn	04 03 30.3	0.0	
	baz=88								
BMAR	**Burnt Mountain**	7.59	348			Pn	04 03 31.7	+1.4	
R18K	**Karluk**	7.60	257	P		Pn	04 03 30.2	-0.2	
	baz=65								
H22K	**Ishtalitna Cre**	7.62	325	P		Pn	04 03 30.8	+0.2	
	baz=135								
PCLB	**Port Clements**	7.76	142	Pn		Pn	04 03 31.4	-1.2	
F26K	**Sheenjek River**	7.81	350	Pn		Pn	04 03 34.6	+1.3	
F26K	**Sheenjek River**	7.81	350	P		Pn	04 03 34.8	+1.5	
	baz=167,SNR=177								
F30M	**Barrier River**	7.87	14	Pn		Pn	04 03 33.7	-0.3	
F30M	**Barrier River**	7.87	14	P		Pn	04 03 35.5	+1.4	
	baz=198,SNR=19								
F25K	**Christian Rive**	7.87	346	Pn		Pn	04 03 35.5	+1.4	
F25K	**Christian Rive**	7.87	346	P		Pn	04 03 35.7	+1.6	
	baz=161,SNR=79								
G23K	**Bananza Creek**	7.88	332	P		Pn	04 03 34.6	+0.4	
	baz=143								
H21K	**Melozitna Rive**	7.89	320	P		Pn	04 03 34.9	+0.5	
	baz=130								
TOAD	**Toad River Com**	7.94	92	P		Pn	04 03 34.9	-0.2	
	baz=286								
SII	**Sitkinak Islan**	7.95	250			Pn	04 03 34.7	-0.6	
SII	**Sitkinak Islan**	7.95	250	P		Pn	04 03 34.9	-0.4	
	baz=58								
I20K	**Naaghedeneel**	7.97	312	P		Pn	04 03 35.4	-0.1	
	baz=120								
F31M	**Tsiigehtchic**	8.00	19	Pn		Pn	04 03 35.6	-0.2	
F31M	**Tsiigehtchic**	8.00	19	P		Pn	04 03 35.8	0.0	
	baz=205,SNR=20								
Q17K	**Contact Creek**	8.04	264	P		Pn	04 03 36.7	+0.1	
	baz=70								
L18K	**Granite Mounta**	8.06	292	P		Pn	04 03 37.2	+0.5	
	baz=98								
P17K	**Kvichak River**	8.06	271	P		Pn	04 03 37.3	+0.7	
	baz=77								
J19K	**Poorman**	8.06	306	P		Pn	04 03 37.3	+0.6	
	baz=112								
F24K	**Squaw Lake**	8.13	340	P		Pn	04 03 38.8	+1.1	
	baz=153								
E27K	**Coleen River**	8.16	357			Pn	04 03 39.1	+1.0	
E27K	**Coleen River**	8.16	357	Pn		Pn	04 03 39.5	+1.4	
E27K	**Coleen River**	8.16	357	P		Pn	04 03 39.6	+1.4	
	baz=176,SNR=45								
DI2B	**Dawson Inlet**	8.21	143	Pn		Pn	04 03 37.7	-1.1	
DIB	**Dawson Inlet,**	8.21

M16K Timber Creek 9.08 284 P **Pn** 04 03 51.8 +1.1
baz=88
F21K Alatna River 9.16 327 P **Pn** 04 03 53.0 +1.2
baz=135
D27M Malcolm River 9.21 359 Pn **Pn** 04 03 54.2 +1.7
D27M Malcolm River 9.21 359 P **Pn** 04 03 54.9 +2.3
baz=179
GRIB Gribbell Islan 9.23 132 Pn **Pn** 04 03 54.0 +1.2
L16K Owhat River 9.33 288 P **Pn** 04 03 55.1 +1.1
baz=92
D28M Stokes Point 9.33 4 Pn **Pn** 04 03 56.4 +2.3
D28M Stokes Point 9.33 4 P **Pn** 04 03 56.1 +2.1
baz=186
J17K VABM Dome 9.36 299 P **Pn** 04 03 56.0 +1.5
baz=102
JEDB Jedway, Haida 9.39 142 Pn **Pn** 04 03 58.4 +3.4
TOLK Toolik Lake Re 9.43 340 P **Pn** 04 03 58.2 +2.8
baz=152
G19K Purcell Mounta 9.60 316 P **Pn** 04 03 59.9 +2.1
baz=122
D25K Kavik River 9.61 348 Pn **Pn** 04 04 00.7 +2.8
D25K Kavik River 9.61 348 P **Pn** 04 04 01.1 +3.2
baz=162
H18K Honhosa River 9.61 310 P **Pn** 04 04 00.1 +2.2
baz=114
NBC5 NorthernBC 5 9.65 97 P **Pn** 04 03 58.4 -0.3
C27K Jago River 9.69 354 Pn **Pn** 04 04 01.7 +2.8
C27K Jago River 9.69 354 P **Pn** 04 04 02.1 +3.2
baz=171,SNR=67
F20K Avaraart Lake 9.69 323 P **Pn** 04 04 00.8 +1.8
baz=129
BUTB Butedale 9.70 131 Pn **Pn** 04 04 01.2 +1.9
N15K Kwethluk River 9.71 279 P **Pn** 04 04 00.5 +1.2
baz=82
O15K Ungalikthiuk R 9.76 273 P **Pn** 04 04 01.0 +1.0
baz=76
D24K Happy Valley 9.76 342 P **Pn** 04 04 03.0 +3.0
baz=155
D23K Nanushuk River 9.91 339 P **Pn** 04 04 04.6 +2.7
baz=149
M15K Kasigluk River 9.95 282 P **Pn** 04 04 03.4 +0.9
baz=85
NBC6 NorthernBC 6 9.97 90 P **Pn** 04 04 04.5 +1.7
J16K Anvik River 10.01 297 P **Pn** 04 04 04.5 +1.2
baz=100
G18K Tagagawik 10.04 313 P **Pn** 04 04 04.8 +1.0
baz=117
C26K Camden Bay 10.05 352 Pn **Pn** 04 04 06.5 +2.6
C26K Camden Bay 10.05 352 P **Pn** 04 04 04.6 +0.7
baz=168
CHGN Chignik 10.11 256 P **Pn** 04 04 05.2 +0.4
baz=61
H17K Granite Mounta 10.14 307 P **Pn** 04 04 06.4 +1.2
baz=110
I17K Unalakleet 10.17 301 P **Pn** 04 04 06.7 +1.2
baz=103
E21K Killik River 10.18 331 P **Pn** 04 04 09.3 +3.6
baz=139
NBC8 Simpson Ranch 10.20 102 P **Pn** 04 04 07.8 +1.7
F19K Shaleruckik Mo 10.21 319 P **Pn** 04 04 07.3 +1.3
baz=123
D22K Ayikyak River 10.23 335 P **Pn** 04 04 08.0 +1.5
baz=144
C24K Franklin Bluff 10.27 344 P **Pn** 04 04 09.1 +2.2
baz=157
L15K Ungalak Mounta 10.29 288 P **Pn** 04 04 07.7 +0.6
baz=90
K15K Wolf Creek Mou 10.32 291 P **Pn** 04 04 08.2 +0.5
baz=93
E19K Redstone River 10.40 322 P **Pn** 04 04 10.2 +1.5
baz=127
BBB Bella Bella 10.53 133 Pn **Pn** 04 04 11.4 +0.9
comp=N,0.4nm,0.3s,baz=319,slow=15,SNR=5.9
BBB Sn **Sn** 04 06 08.5 +0.3
comp=N,0.2nm,0.3s,baz=342,slow=20,SNR=1.4
BBB Lg Lg 04 07 13.4
comp=N,0.1nm,0.3s,baz=344,slow=15,SNR=2.1
BBB LR LR 04 07 42.1
comp=N,204nm,21.8s,baz=324,slow=34
comp=N,12nm,0.9s
BBB Bella Bella 10.53 133 Pn **Pn** 04 04 11.8 +1.3
N14K Kuskokwak Cree 10.54 278 P **Pn** 04 04 12.7 +2.1
baz=80
M14K Bethel 10.56 283 P **Pn** 04 04 11.8 +0.9
baz=84
E20K Nigu River 10.62 327 P **Pn** 04 04 14.6 +2.8
baz=133
G17K Kiwalik Mounta 10.63 309 P **Pn** 04 04 14.6 +2.7
baz=111
C23K Itkillik River 10.66 341 P **Pn** 04 04 14.8 +2.5
baz=152
F18K Selawik 10.73 316 P **Pn** 04 04 13.7 +0.5
baz=118
L14K Kuka Creek 10.87 286 P **Pn** 04 04 16.0 +0.9
baz=87
C21K Knifeblade Rid 10.92 332 P **Pn** 04 04 18.0 +2.2
baz=140
H16K Elim 11.00 304 P **Pn** 04 04 19.1 +2.2
baz=104
D20K Etivluk River 11.05 328 P **Pn** 04 04 19.9 +2.3
baz=134
F17K Baldwin Pennin 11.23 313 P **Pn** 04 04 21.5 +1.5
baz=115
B21K Ikpikpuk River 11.24 334 P **Pn** 04 04 22.2 +2.0
baz=142
M13K Dall Lake 11.28 282 P **Pn** 04 04 22.4 +1.7
baz=82
J14K Nanvaranak Lak 11.29 294 P **Pn** 04 04 23.1 +2.3
baz=93
D19K Kuna River 11.31 326 P **Pn** 04 04 23.0 +1.8
baz=130
E18K Tukpahlearik C 11.46 318 P **Pn** 04 04 24.8 +1.7
baz=120
CHNA Chernabura Isl 11.46 251 P **Pn** 04 04 22.7 -0.5
baz=55
B22K Teshekpuk Lake 11.59 338 P **Pn** 04 04 27.2 +2.4
baz=146
C36M Paulatuk 11.64 30 Pn **Pn** 04 04 24.7 -1.0
C36M Paulatuk 11.64 30 P **Pn** 04 04 26.1 +0.5
baz=225,SNR=18
E17K Hotham Inlet 11.71 316 P **Pn** 04 04 27.5 +0.8
baz=117
K13K Kusilvak Mount 11.79 289 P **Pn** 04 04 27.2 -0.4
baz=88
B20K Meade River 12.11 332 P **Pn** 04 04 33.6 +1.5
baz=137
C19K Lookout Ridge 12.12 326 P **Pn** 04 04 33.7 +1.5
baz=129
S12K Black Hills 12.19 258 P **Pn** 04 04 34.9 +1.7
baz=60
PACB Port Alice, BC 12.19 137 P **Pn** 04 04 33.3 0.0
C18K Utukok River 12.31 323 P **Pn** 04 04 36.5 +1.6
baz=124
MAYB Maynard 12.33 136 P **Pn** 04 04 37.5 +2.2
BPEB Brooks Peninsu 12.33 138 P Pn 04 04 40.5 +5.2
A22K Sinclair Lake 12.43 338 P **Pn** 04 04 34.8 -1.5
baz=145
YKAW3 Yellowknife Wh 12.71 67 **Pn** 04 04 40.2 0.0
YKAW3 Yellowknife Wh 12.71 67 P **Pn** 04 04 37.9 -2.4
YKA Yellowknife Ar 12.71 68 Pn **Pn** 04 04 38.2 -2.0
comp=N,0.2nm,0.3s,baz=272,slow=13,SNR=14
YKA Lg Lg 04 08 14.1
baz=273,slow=28
YKA LR LR 04 09 26.7
comp=N,362nm,18.4s,baz=256,slow=37
comp=N,2.9nm,0.9s
YKAW1 Yellowknife Wh 12.77 68 P **Pn** 04 04 39.8 -1.3
BDMTA Bald Mountain 12.79 105 P **Pn** 04 04 42.0 +0.5
F14K Arctic Creek 12.89 306 P **Pn** 04 04 43.9 +1.3
baz=103
A19K Wainwright 13.22 329 P **Pn** 04 04 46.1 -1.0
baz=130
CBB Campbell River 13.29 132 P **P** 04 04 53.3 -4.7
KUKN Kugluktuk,NWT 13.55 44 P **Pn** 04 04 51.5 -0.1
CLRS Cowichan Lake 14.75 132 **Pn** 04 05 07.8 -0.3
CLRS Cowichan Lake 14.75 132 P **P** 04 05 11.8 -2.4
PTRF Port Renfrew 14.87 134 P **P** 04 05 13.1 -2.5
B010 North Saanich 15.14 131 P **P** 04 05 21.1 +2.5
PGC Sidney 15.14 131 P **P** 04 05 21.2 +2.7
NLWA Neilton Lookou 16.04 135 P **Pn** 04 05 26.9 +1.7
NLWA IAmb IAmb 04 05 35.4
comp=Z,17nm,0.8s
GNW Green Mountain 16.28 132 **P** 04 05 29.8 -1.4
GNW Green Mountain 16.28 132 P **P** 04 05 34.6 +3.4
CPW Capitol Peak 16.66 134 P **P** 04 05 37.8 +2.3
D05A Enumclaw 16.90 131 P **P** 04 05 41.8 +3.7
B08A Colville Reser 17.01 124 P **Pn** 04 05 38.0 +0.5
B08A IAmb IAmb 04 05 46.8
comp=Z,26nm,1.1s
B08A Colville Reser 17.01 124 P **P** 04 05 42.7 +3.4
FMW Mount Fremont 17.24 131 P **P** 04 05 44.1 +2.1
LON Longmire 17.34 132 P **P** 04 05 43.2 +0.2
LTY Liberty 17.35 129 P **P** 04 05 43.6 +0.5
LTY IAmb IAmb 04 05 50.6
comp=Z,26nm,1.0s
LTY Liberty 17.35 129 P **P** 04 05 45.4 +2.2
F03A Seaside 17.41 137 P **Pn** 04 05 43.0 +0.5
F03A IAmb IAmb 04 06 04.0
comp=Z,28nm,1.1s
NEW Newport 18.02 121 P **P** 04 05 50.3 -0.2
NEW Newport 18.02 121 P **Pn** 04 05 49.3 -0.7
comp=Z,0.1nm,0.3s,baz=320,slow=10,SNR=3.0
NEW Lg Lg 04 11 06.5
comp=Z,0.1nm,0.3s,baz=307,slow=20,SNR=3.8
comp=Z,2.5nm,1.0s
E07A Sunnyside 18.25 129 **P** 04 05 54.2 +1.3
HAWA Hanford 18.51 128 P **P** 04 05 55.4 -0.5
G05A Wamic 18.80 134 P **Pn** 04 06 00.3 +0.7
G05A IAmb IAmb 04 06 43.4
comp=Z,37nm,1.3s
H04A Detroit Lake 18.97 136 P **P** 04 06 01.1 +0.2
JTMT Jette 19.66 117 P **P** 04 06 08.7 +0.1
JTMT Jette 19.66 117 P **Pn** 04 06 10.6 +0.6
MSO Missoula 20.51 118 P **P** 04 06 18.2 +0.5
MSO IAmb IAmb 04 06 27.3
comp=Z,50nm,1.2s
BMO Blue Mountains 20.66 127 P **P** 04 06 20.3 +0.9
OVMT Ovando 20.75 116 P **P** 04 06 20.1 -0.3
BLKN Baker Lake 20.90 59 P **P** 04 06 22.7 +1.0
BLKN IAmb IAmb 04 06 43.2
comp=Z,30nm,1.3s
BLKN Baker Lake 20.90 59 P **P** 04 06 22.9 +1.2
LYMT Lyon Mountain 21.14 116 P **P** 04 06 26.8 +2.0
FFC Flin Flon 21.27 87 P **P** 04 06 26.5 +0.7
YBH Yreka Blue Hor 21.43 141 P **P** 04 06 28.0 +0.3
YBH IAmb IAmb 04 06 34.9
comp=Z,13nm,1.1s
YBH Yreka Blue Hor 21.43 141 P **P** 04 06 29.7 +2.0
comp=Z,0.7nm,1.0s,baz=344,slow=19,SNR=22
YBH Lg Lg 04 12 47.8
baz=345,slow=12,SNR=1.4
M02C Callahan 21.69 142 P **P** 04 06 30.3 -0.2
M02C IAmb IAmb 04 06 37.9
comp=Z,10.0nm,1.0s
RES Resolute Bay 22.02 31 LR LR 04 16 13.7
comp=Z,86nm,21.8s,baz=196,slow=40
N02D Trinity Center 22.12 142 P **P** 04 06 35.5 +0.4
TPAW Teton Pass 24.44 119 P **P** 04 06 58.7 +0.2
TPAW IAmb IAmb 04 07 21.9
comp=Z,14nm,1.2s
ELK Elko 24.94 129 P **P** 04 07 02.8 -0.4
ELK IAmb IAmb 04 07 10.8
comp=Z,8.3nm,1.3s
PDAR Pinedale Array 25.63 119 P **P** 04 07 10.6 +1.3
comp=Z,0.4nm,0.7s,baz=305,slow=10,SNR=4.5
PDAR LR LR 04 18 03.5
comp=Z,294nm,18.7s,baz=329,slow=38
SHEM Shemya Is, Ala 25.66 274 LR LR 04 17 06.0
comp=Z,109nm,20.9s,baz=82,slow=36
R11B Troy Canyon, C 26.90 133 P **P** 04 07 21.2 +0.5
R11B IAmb IAmb 04 07 27.6
comp=Z,9.1nm,1.2s
SEY Seymchan 30.79 305 LR LR 04 21 33.8
comp=Z,132nm,18.7s,baz=62,slow=39
PFO Pinyon Flats O 30.85 138 LR LR 04 20 27.5
comp=Z,165nm,19.1s,baz=153,slow=36
FRB Frobisher Bay 32.49 52 LR LR 04 21 47.7
comp=Z,510nm,18.0s,baz=284,slow=37
ANMO Albuquerque 33.47 123 LR LR 04 22 37.1
comp=Z,197nm,18.1s,baz=71,slow=38
PETK Petropavlovsk- 33.52 286 P **P** 04 08 17.4 -1.6
comp=Z,11nm,1.0s,baz=60,slow=10,SNR=4.3
comp=Z,11nm,1.0s
WMOK Wichita Mounta 37.02 114 P **P** 04 08 50.6 +1.3
WMOK IAmb IAmb 04 08 55.8
comp=Z,8.2nm,1.3s
SFJD Kangerlussuaq 37.30 40 LR LR 04 24 53.8
comp=Z,241nm,18.0s,baz=296,slow=38
SCHQ Schefferville 38.13 64 P **P** 04 08 58.1 -0.3
comp=Z,36nm,1.0s,baz=345,slow=1.9,SNR=1.5
TXAR Lajitas Array 39.51 124 P **P** 04 09 12.6 +2.3
comp=Z,0.9nm,0.8s,baz=335,slow=8.7,SNR=8.8
TXAR PcP **PcP** 04 11 18.9 +1.1
comp=Z,0.4nm,0.7s,baz=314,slow=1.9,SNR=2.7
TXAR LR LR 04 26 50.5
comp=Z,100nm,19.5s,baz=8.5,slow=38
comp=Z,0.9nm,0.8s
SPITS Spitsbergen Ar 41.29 7 P **P** 04 09 22.5 -1.9
comp=Z,5.0nm,0.8s,baz=336,slow=13,SNR=1.9
comp=Z,5.0nm,0.8s
LPIG La Paz 41.68 136 LR LR 04 28 28.1
comp=Z,58nm,18.6s,baz=29,slow=39
ARCES ARCESS Array B 50.31 6 P **P** 04 10 35.5 -0.2
comp=Z,3.2nm,0.9s,baz=354,slow=7.6,SNR=7.6
ARCES LR LR 04 33 32.7
comp=Z,125nm,19.6s,baz=133,slow=38
comp=Z,3.2nm,0.9s
H11N2 WAKE ISLAND Hy 54.68 246 T T 05 09 57.1
baz=30,slow=76
H11N3 WAKE ISLAND Hy 54.69 246 T T 05 09 49.6
baz=30,slow=76
H11N1 WAKE ISLAND Hy 54.70 246 T T 05 10 06.5
baz=30,slow=76
H11S1 WAKE ISLAND Hy 55.84 246 T T 05 11 18.2
baz=30,slow=75
H11S2 WAKE ISLAND Hy 55.85 246 T T 05 11 46.1
baz=30,slow=75
H11S3 WAKE ISLAND Hy 55.85 246 T T 05 11 18.8
baz=30,slow=75
NB2 NORSAR Subarra 57.28 16 P **P** 04 11 26.6 -0.2
comp=Z,23nm,1.7s,baz=346,slow=7.4
NOA NORSAR Array B 57.28 16 P **P** 04 11 25.7 -1.1
comp=Z,4.4nm,1.2s,baz=343,slow=7.1,SNR=6.2
NOA LR LR 04 37 31.4
comp=Z,55nm,18.3s,baz=130,slow=38
comp=Z,4.4nm,1.2s
FINES FINESS Array B 58.38 7 P **P** 04 11 33.6 -0.9
comp=Z,2.0nm,0.5s,baz=357,slow=8.5,SNR=35
comp=Z,2.0nm,0.5s
HFS Hagfors 58.48 15 P **P** 04 11 35.2 0.0
comp=Z,2.9nm,0.9s,baz=354,slow=1.4,SNR=9.4
comp=Z,2.9nm,0.9s
XLT XiLinHaoTe 59.04 305 *e*P **P** 04 11 39.7 +0.2
XLT pP pP 04 11 44.0 +0.4
XLT sP sP 04 11 46.5 +1.5
XLT PP **PP** 04 13 51.6 +2.1
XLT pmax pmax
comp=Z,7.0nm,1.0s
KSRS Korea Array 59.08 292 P **P** 04 11 39.2 -0.5
comp=Z,1.7nm,0.9s,baz=32,slow=6.9,SNR=3.3
comp=Z,1.7nm,0.9s
SONM Songino Array 59.51 314 **P** 04 11 43.6 +0.9
SONM Songino Array 59.51 314 P **P** 04 11 43.5 +0.8
comp=Z,3.2nm,0.8s,baz=35,slow=8.2,SNR=16
comp=Z,3.2nm,0.8s
EKA Eskdalemuir Ar 60.08 26 P **P** 04 11 46.9 +0.6
comp=Z,4.3nm,0.9s,baz=336,slow=7.0,SNR=8.8
comp=Z,4.3nm,0.9s
ZALV Zalesovo Beam 60.67 331 P **P** 04 11 49.4 -1.0
ZALV Zalesovo Beam 60.67 331 P **P** 04 11 49.1 -1.2
comp=Z,1.1nm,0.5s,baz=17,slow=6.0,SNR=7.3
ZALV LR LR 04 41 08.4
comp=Z,69nm,18.1s,baz=8.5,slow=39
comp=Z,1.1nm,0.5s
ARTI Arti 62.91 348 **P** 04 12 05.0 -0.5
ARTI Arti 62.91 348 LR LR 04 41 31.6
comp=Z,53nm,18.8s,baz=6.5,slow=38
HHC Hu-ho-hao-te 63.42 306 *e*P **P** 04 12 07.3 -1.9
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,58nm,4.7s
HHC LR LR
comp=N,120nm,14.5s
HHC LR LR
comp=E,170nm,14.5s
HHC LR LR
comp=Z,85nm,14.5s
BTO Baotou 64.25 307 *e*P **P** 04 12 15.0 +0.3
BTO pP **pP** 04 12 19.8 +1.0
BTO sP **sP** 04 12 21.9 +1.7
BTO pmax pmax
comp=Z,11nm,0.8s
BTO pmax pmax
comp=Z,200nm,3.9s
BVAR Borovoye Array 64.54 340 P **P** 04 12 15.6 -0.7
comp=Z,4.2nm,0.9s,baz=26,slow=11,SNR=6.7
BVAR LR LR 04 46 30.2
comp=Z,121nm,18.0s,baz=16,slow=42
comp=Z,4.2nm,0.9s
KURK Kurchatov 65.11 334 **P** 04 12 19.4 -0.6
KURK IAmb IAmb 04 12 28.1
comp=Z,3.4nm,1.1s
KURBB Kurchatov Arra 65.21 334 P **P** 04 12 19.7 -1.0
comp=Z,1.8nm,0.7s,baz=21,slow=5.6,SNR=12
comp=Z,1.8nm,0.7s
BCLA Clavier 66.47 23 *d*P **P** 04 12 31.9 +3.2
CLL Collm 66.95 18 *e*P **P** 04 12 32.0 +0.2
comp=Z,6.0nm,1.2s
CLL *e*pP **pP** 04 12 35.0 -0.9
CLL *i* sP **sP** 04 12 36.3 -1.1
BRG Berggiesshubel 67.52 17 *e*P **P** 04 12 38.0 +2.6
BRG Amp 04 12 44.7
comp=Z,8.0nm,1.2s
NJ2 Nanjing 67.72 296 *e*P **P** 04 12 35.7 -1.2
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
MKAR Makanchi Array 67.89 330 P **P** 04 12 36.9 -1.0
comp=Z,0.5nm,0.5s,baz=21,slow=5.9,SNR=2.6
MKAR LR LR 04 47 11.5
comp=Z,83nm,18.2s,baz=5.0,slow=40
comp=Z,0.5nm,0.5s
TAOE Nuku Hiva Isla 68.70 179 *e*LR LR 04 33 29.6
comp=Z,77nm,25.0s
MORC Moravsky Berou 69.09 15 *e*P **P** 04 12 45.5 +0.2
GTA Gaotai 69.18 314 *e*P **P** 04 12 46.3 +0.1
GTA pP pP 04 12 50.2 -0.2
GTA pmax pmax
comp=Z,7.0nm,1.1s
AKASG Malin Array Be 69.28 7 P **P** 04 12 45.5 -0.9
comp=Z,5.2nm,0.7s,baz=356,slow=6.1,SNR=18
AKASG LR LR 04 46 28.5
comp=Z,74nm,18.5s,baz=339,slow=39
comp=Z,5.2nm,0.7s
KIEV Kiev 69.29 7 **P** 04 12 45.6 -0.8
VRAC Vranov 69.42 16 *e*P **P** 04 12 47.4 0.0
GEC2 GERESS Array S 69.46 18 IAmb IAmb 04 12 56.1
comp=Z,9.4nm,1.5s
GERES GERESS Array B 69.46 18 P **P** 04 12 45.8 -1.9
comp=Z,0.2nm,0.6s,baz=357,slow=6.9,SNR=4.5
comp=Z,0.2nm,0.6s
KRUC Moravsky 69.64 16 *e*P **P** 04 12 48.9 +0.2
ABKAR Akbulak array 69.76 346 **P** 04 12 49.2 -0.2
BIOA Bad Ischl, Aus 70.57 18 *e*P **P** 04 12 54.8 +0.4
comp=Z,2.2nm,0.7s
WATA Walderalm 70.58 20 *e*P **P** 04 12 55.2 +0.5
comp=Z,7.3nm,1.2s
LZH Lanzhou 70.59 309 *e*P **P** 04 12 54.6 -0.3
LZH pP pP 04 12 59.3 +0.2
LZH pmax pmax
comp=Z,19nm,1.1s
LZH LR LR
comp=N,460nm,13.4s
LZH LR LR
comp=E,210nm,13.7s
LZH LR LR
comp=Z,370nm,13.6s
SQTA Sankt Quirin 70.63 20 *e*P **P** 04 12 53.8 -1.2
comp=Z,8.1nm,1.1s
WTTA Wattenberg 70.66 20 *e*P **P** 04 12 55.9 +0.7
comp=Z,8.7nm,1.4s
CONA Conrad Observa 70.67 17 *e*P **P** 04 12 55.7 +0.6
comp=Z,3.4nm,1.2s
KBA Koelnbreinsper 71.12 18 *e*P **P** 04 12 58.9 +0.9
comp=Z,3.3nm,0.8s
ARSA Arzberg 71.28 17 *e*P **P** 04 12 59.0 +0.2
comp=Z,3.9nm,1.4s
SOKA Soboth 71.77 17 *e*P **P** 04 13 02.2 +0.4
comp=Z,4.0nm,1.2s
OBKA Obir 71.86 18 *e*P **P** 04 13 02.6 +0.3
comp=Z,4.0nm,0.9s
SDV Santo Domingo 72.41 103 LR LR 04 46 14.1
comp=Z,76nm,20.4s,baz=70,slow=37
AAK Ala-Archa 73.67 334 LR LR 04 51 49.5
comp=Z,55nm,18.6s,baz=40,slow=41
KK31 Karatay Array 74.06 337 IAmb IAmb 04 13 15.4
comp=Z,4.4nm,1.0s
KKAR Karatay Array 74.06 337 **P** 04 13 14.8 -0.5
ROSC El Rosal 74.14 108 LR LR 04 49 17.2
comp=Z,69nm,19.2s,baz=63,slow=39
MLR Muntele Rosu 74.23 10 LR LR 04 49 42.4
comp=Z,58nm,18.8s,baz=354,slow=39
ESDC Sonseca Array 74.42 33 **P** 04 13 18.4 +0.9
ESDC IAmb IAmb 04 13 19.6
comp=Z,8.3nm,1.2s
ESDC Sonseca Array 74.42 33 P **P** 04 13 18.1 +0.6
comp=Z,3.4nm,1.0s,baz=337,slow=5.6,SNR=10
comp=Z,3.4nm,1.0s
KBZ Khabaz 76.52 357 LR LR 04 52 09.3
comp=Z,48nm,19.7s,baz=358,slow=40
PPT2 Papeete2 77.72 189 *e*LR LR 04 37 42.3
comp=Z,113nm,28.2s
FNA Florina 78.42 14 P **P** 04 13 39.8 -0.4
FNA IAmb IAmb 04 13 40.8
comp=Z,12nm,1.3s
SIMJ Simiganj 78.64 337 **P** 04 13 41.0 -0.5
SIMJ IAmb IAmb 04 13 46.4
comp=Z,7.5nm,0.9s
PZH PanZhiHua 79.89 306 P **P** 04 13 47.4 -1.1
GNI Garni 80.04 356 LR LR 04 55 08.7
comp=Z,35nm,18.1s,baz=14,slow=40
BRTR Keskin Array B 80.45 4 P **P** 04 13 51.9 +0.5
comp=Z,0.8nm,0.8s,baz=360,slow=4.8,SNR=3.9
comp=Z,0.8nm,0.8s
VAE Valguarnera 80.65 20 LR LR 04 52 08.9
comp=Z,50nm,18.2s,baz=324,slow=38
KEST Kesra 81.39 24 P **P** 04 13 56.9 +0.5
comp=Z,3.2nm,0.9s,baz=8.1,slow=7.1,SNR=3.7
comp=Z,3.2nm,0.9s
TBI Tubuai 83.43 188 *e*LR LR 04 40 14.7
comp=Z,478nm,35.8s
DAV Davao City (W) 85.82 277 LR LR 04 50 50.6
comp=Z,44nm,20.2s,baz=345,slow=34
CMAR Chiang Mai Arr 88.21 305 **P** 04 14 31.3 +0.4
CMAR Chiang Mai Arr 88.21 305 P **P** 04 14 30.5 -0.4
comp=Z,2.9nm,0.9s,baz=24,slow=4.9,SNR=19
comp=Z,2.9nm,0.9s
SIV San Ignacio 98.59 107 LR LR 05 01 17.6
comp=Z,60nm,20.3s,baz=108,slow=36
QSPA South Pole Qui 149.88 180 PKPbc **PKiKP** 04 21 29.7 +0.4
comp=Z,4.5nm,0.8s,baz=108,slow=0.4,SNR=7.1

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*IDC **08** 04:12:49.2±1.3,28.00S×177.82W,h0km,mb3.7/3, mbtmp3.7/3,MS3.4/2,Error ellipse: s-maj=45.5km s-min=42.5km az=163.0*

ISC 08 04:12:54.6±1.2,28.0S±0.3×177.9W±0.3,h35km,n19, σ1s41/9,mb3.7/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**18.01**	**207**	LR	LR	04 23 27.8		
	comp=Z,75nm,20.4s,baz=110,slow=35							
ASAR	**Alice Springs**	**43.41**	**264**	P	**P**	**04 20 53.0**	**-1.2**	
	0.4nm,0.7s,baz=101,slow=8.1,SNR=5.3							
ASAR				PcP	**PcP**	**04 22 45.1**	**+2.8**	
	1.0nm,1.1s,baz=90,slow=3.6,SNR=2.9							
	0.4nm,0.7s							
WRA	**Warramunga Arr**	**44.19**	**270**	P	**P**	**04 21 00.6**	**+0.1**	
	1.2nm,0.9s,baz=108,slow=8.0,SNR=3.9							
	1.2nm,0.9s							
QSPA	**South Pole Qui**	**62.06**	**180**	P	**P**	**04 23 11.2**	**-0.2**	
	2.0nm,1.0s,baz=2.3,slow=3.1,SNR=1.7							
	2.0nm,1.0s							
H03S2	**Juan Fernandez**	**81.66**	**124**	T	T	05 54 42.7		
	baz=239,slow=74,SNR=3.4							
H03S1	**Juan Fernandez**	**81.67**	**124**	T	T	05 54 48.1		
	baz=239,slow=74,SNR=4.7							
H03S3	**Juan Fernandez**	**81.68**	**124**	T	T	05 54 53.1		
	baz=239,slow=74,SNR=4.8							
H03N3	**Juan Fernandez**	**81.84**	**123**	T	T	05 55 06.5		
	baz=237							
H03N2	**Juan Fernandez**	**81.84**	**123**	T	T	05 55 07.8		
	baz=237							
H03N1	**Juan Fernandez**	**81.86**	**123**	T	T	05 55 06.2		
	baz=237							
LPAZ	**La Paz**	**98.98**	**114**	LR	LR	05 01 50.8		
	comp=Z,29nm,20.2s,baz=359,slow=30							
H10N3	**ASCENSION HYDR**	**140.87**	**153**	T	T	07 09 34.4		
	baz=204,slow=75,SNR=2.7							
H10N1	**ASCENSION HYDR**	**140.87**	**153**	T	T	07 09 29.3		
	baz=204,slow=75,SNR=2.9							

H10N2	**ASCENSION HYDR**	**40.88**	**153**	T	T	07 09 14.1		
	baz=204,slow=75,SNR=3.5							
FINES	**FINESS Array B**	**142.97**	**341**	PKhKP	PKPpre	04 32 18.5		
	1.4nm,1.0s,baz=23,slow=4.7,SNR=1.5							
FINES				PKP	**PKPdf**	**04 32 23.8**	**-0.1**	
	1.1nm,0.8s,baz=29,slow=3.2,SNR=4.7							
NOA	**NORSAR Array B**	**146.45**	**352**	PKPbc	**PKPdf**	**04 32 29.3**	**-0.7**	
	0.7nm,0.9s,baz=15,slow=2.8,SNR=2.4							
HFS	**Hagfors**	**146.96**	**349**	PKPbc	**PKPbc**	**04 32 32.1**	**-0.8**	
	1.3nm,0.8s,baz=339,slow=2.0,SNR=4.1							
AKASG	**Malin Array Be**	**149.47**	**325**	PKPbc	**PKPbc**	**04 32 39.1**	**-0.7**	
	0.7nm,0.4s,baz=50,slow=2.9,SNR=4.3							
BRTR	**Keskin Array B**	**151.52**	**302**	PKPbc	**PKiKP**	**04 32 46.5**	**+0.8**	
	0.5nm,0.5s,baz=90,slow=2.9,SNR=2.4							

NEIC ***08*** *04:20:10.8±1.4, 6.29S±0.09×128.1E±0.1, h345km±9km, mb4.3/6, Error ellipse: s-maj=16.3km s-min=11.7km az=114.0*

IDC ***08*** *04:20:12.3±1.7, 6.44S×127.91E, h370km±20km, mb3.1/5, mbtmp4.0/10, Error ellipse: s-maj=22.8km s-min=10.2km az=67.0*

ISC 08 04:20:10.6±0.6, 6.38S±0.06×128.10E±0.07, h353km, n34, σ1$08/38, mb3.5/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.55**	**117**	Pn	**Pn**	**04 21 14.8**	**-0.6**
SANI	**Sanana**	**4.79**	**334**	P	**Pn**	**04 21 26.8**	**-1.3**
SOEI	**Soe**	**5.06**	**228**		**Pn**	**04 21 31.6**	**+0.4**
SOEI	**Soe**	**5.06**	**228**	P	**Pn**	**04 21 31.1**	**-0.1**
FAKI	**Fak Fak**	**5.38**	**50**		**Pn**	**04 21 33.8**	**-0.8**
FAKI	**Fak Fak**	**5.38**	**50**	P	**Pn**	**04 21 33.7**	**-0.9**
BATI	**Baumata**	**5.81**	**229**	P	**Pn**	**04 21 40.1**	**+0.7**
	132nm,0.4s,baz=36,slow=17,SNR=13						
BATI				S	**S**	**04 22 50.2**	**-1.1**
	50nm,0.4s,baz=47,slow=19,SNR=7.0						
DRS	**Darwin Rock St**	**6.62**	**156**	P	**P**	**04 21 49.8**	**-0.1**
MTN	**Manton Dam**	**7.08**	**155**		**P**	**04 21 55.4**	**-0.1**
MTN	**Manton Dam**	**7.08**	**155**	P	**P**	**04 21 55.2**	**-0.2**
KDU	**Kakadu**	**7.61**	**146**	P	**P**	**04 22 01.2**	**-0.2**
KAPI	**Kappang**	**8.42**	**279**	P	**Pn**	**04 22 09.9**	**+0.1**
	3.4nm,0.3s,baz=77,slow=18,SNR=1.9						
KNRA	**Kununurra**	**9.26**	**176**		**Pn**	**04 22 20.8**	**+1.0**
PLAI	**Plampang**	**10.52**	**256**	P	**Pn**	**04 22 35.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**11.89**	**191**	P	**P**	**04 22 51.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**11.89**	**191**	P	**P**	**04 22 51.4**	**+0.5**
	2.5nm,0.4s,baz=0.0,slow=12,SNR=20						
FITZ				S	**S**	**04 25 00.6**	**-2.7**
	1.3nm,0.3s,baz=0.0,slow=7.1,SNR=2.4						
WB0	**Warramunga Arr**	**14.64**	**156**	P	**P**	**04 23 22.6**	**+1.3**
WRA	**Warramunga Arr**	**14.78**	**156**	P	**Pn**	**04 23 24.2**	**-0.7**
	8.0nm,0.6s,baz=335,slow=12,SNR=59						
WRA				S	**S**	**04 26 00.5**	**-1.6**
	4.1nm,0.8s,baz=330,slow=21,SNR=14						
WR8	**Warramunga Arr**	**14.86**	**156**	P	**P**	**04 23 24.7**	**+1.1**
COEN	**Coen**	**16.63**	**118**	P	**Pn**	**04 23 44.6**	**-1.7**
COEN				IAmb	IAmb	04 23 45.2	
	comp=Z,11nm,0.7s						
PSA00	**Pilbara Seismi**	**17.08**	**207**	P	**P**	**04 23 47.2**	**-0.5**
PSA00	**Pilbara Seismi**	**17.08**	**207**	P	**P**	**04 23 47.7**	**+0.1**
PSA00				IAmb	IAmb	04 24 29.4	
	comp=Z,10nm,1.3s						
ASAR	**Alice Springs**	**18.07**	**163**	P	**P**	**04 23 60.0**	**+1.8**
ASAR	**Alice Springs**	**18.07**	**163**	P	**P**	**04 23 59.7**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=343,slow=12,SNR=14						
ASAR				S	**S**	**04 27 07.3**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=345,slow=20,SNR=15						
PMG	**Port Moresby**	**19.11**	**100**	P	**P**	**04 24 12.0**	**+2.7**
	comp=Z,7.6nm,0.9s,baz=260,slow=12,SNR=2.5						
GIRL	**Giralia**	**20.98**	**218**	P	**P**	**04 24 28.3**	**+0.9**
GIRL				IAmb	IAmb	04 25 06.0	
	comp=Z,59nm,1.4s						
KSRS	**Korea Array**	**43.61**	**360**	P	**P**	**04 27 40.8**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=185,slow=9.7,SNR=3.8						
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**57.28**	**343**	P	**P**	**04 29 23.0**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=169,slow=8.5,SNR=4.6						
	comp=Z,0.4nm,0.3s						
MKAR	**Makanchi Array**	**66.69**	**328**	P	**P**	**04 30 24.1**	**-0.4**
MKAR	**Makanchi Array**	**66.69**	**328**	P	**P**	**04 30 23.9**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=126,slow=7.3,SNR=9.5						
	comp=Z,0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**71.01**	**329**	P	**P**	**04 30 50.6**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=128,slow=5.0,SNR=6.7						
	comp=Z,0.5nm,0.5s						
GSTR	**Great Sitkin T**	**75.08**	**32**	P	**P**	**04 31 14.5**	**+0.1**
QSPA	**South Pole Qui**	**83.59**	**180**	P	**P**	**04 32 01.2**	**+1.3**
QSPA				IAmb	IAmb	04 32 42.3	
	comp=Z,5.0nm,1.4s						
QSPA	**South Pole Qui**	**83.59**	**180**	P	**P**	**04 32 00.9**	**+1.0**
	comp=Z,0.9nm,1.0s,baz=14,slow=4.2,SNR=2.1						
	comp=Z,0.9nm,1.0s						

IDC ***08*** *04:34:15.5±4.5, 34.86N×22.96E, h0km, mb3.5/4, mbtmp3.4/7, ML2.9/3, Error ellipse: s-maj=82.0km s-min=25.4km az=30.0*

ATH ***08*** *04:34:24.5, 35.06N×23.27E, h31km±5km, ML3.3/7, Manual Solution by K.Orfanogiannaki First location: 2019/09/08 04:35:40, This location: 2019/09/09 04:39:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*

THE ***08*** *04:34:27.4, 35°N×6°×2°3E±°, h33km, M2.9/19, MLh2.9/19*

AFAD ***08*** *04:34:30.0, 34.58N×24.41E, h194km, ML2.9*

ISC 08 04:34:25.4±1.1, 35.16N±0.06×23.39E±0.06, h60km±9km, n57, σ1$25/73, mb3.3/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHAN	**Chania**	**0.64**	**56**	P	**Pn**	**04 34 39.5**	**+0.6**
CHAN				S	**Sn**	**04 34 49.6**	**+0.8**
CHAN	**Chania**	**0.64**	**56**	P	**Pn**	**04 34 39.4**	**+0.5**
GVD	**Gavdhos**	**0.66**	**119**	P	**Pn**	**04 34 38.2**	**-0.9**
GVD				S	**Sn**	**04 34 51.1**	**+2.0**
GVD	**Gavdhos**	**0.66**	**119**	P	**Pn**	**04 34 38.2**	**-0.9**
GVD				S	**Sn**	**04 34 47.9**	**-1.2**
ANKY	**Antikythira Is**	**0.71**	**354**	P	**Pn**	**04 34 39.3**	**-0.4**
ANKY				S	**Sn**	**04 34 49.9**	**-0.3**
ANKY	**Antikythira Is**	**0.71**	**354**	P	**Pn**	**04 34 39.3**	**-0.4**
ANKY				S	**Sn**	**04 34 50.5**	**+0.4**
PRNS	**Prines Rethymn**	**0.93**	**77**	P	**Pn**	**04 34 42.5**	**0.0**
PRNS				S	**Sn**	**04 34 54.3**	**-0.8**
PRNS	**Prines Rethymn**	**0.93**	**77**	P	**Pn**	**04 34 42.2**	**-0.2**
KTHA	**Kythira Island**	**1.12**	**346**	P	**Pn**	**04 34 45.0**	**-0.1**
TMBK	**Timbaki Herakl**	**1.13**	**94**	P	**Pn**	**04 34 45.9**	**+0.8**
IDI	**Anoyia**	**1.23**	**84**	P	**Pn**	**04 34 47.5**	**+1.0**
IDI				S	**Sn**	**04 35 02.8**	**+0.5**
IDI	**Anoyia**	**1.23**	**84**	Pn	**Pn**	**04 34 47.5**	**+1.0**
	7.7nm,0.3s,baz=323,slow=20,SNR=6.7						
IDI				Sn	**Sn**	**04 35 05.1**	**+2.8**
	25nm,0.3s,baz=319,slow=11,SNR=6.1						
IDI	**Anoyia**	**1.23**	**84**	P	**Pn**	**04 34 47.3**	**+0.8**
IDI				S	**Sn**	**04 35 04.0**	**+1.7**
IACM	**Heraklion**	**1.38**	**84**	S	**Sn**	**04 35 07.1**	**+1.4**
VLI	**Veliai**	**1.59**	**347**	P	**Pn**	**04 34 52.6**	**+1.2**
VLI				S	**Sn**	**04 35 10.3**	**-0.6**
VLI	**Veliai**	**1.59**	**347**	P	**Pn**	**04 34 52.3**	**+1.0**
MHLO	**Agia Marina, M**	**1.73**	**28**	P	**Pn**	**04 34 53.7**	**+0.5**
MHLO				S	**Sn**	**04 35 13.9**	**-0.2**
MHLO	**Agia Marina, M**	**1.73**	**28**	P	**Pn**	**04 34 54.3**	**+1.2**
MHLO				S	**Sn**	**04 35 17.1**	**+2.9**
NPS	**Neapolis**	**1.82**	**86**	P	**Pn**	**04 34 56.2**	**+1.8**
NPS				S	**Sn**	**04 35 17.2**	**+0.8**
NPS	**Neapolis**	**1.82**	**86**	P	**Pn**	**04 34 56.0**	**+1.6**
SAP3	**Santorini-Thir**	**2.03**	**51**	P	**Pn**	**04 34 56.4**	**-0.8**
SNT5	**Nea Kammeni, S**	**2.04**	**52**	P	**Pn**	**04 34 57.5**	**+0.1**
THR3	**Thira Island,**	**2.05**	**52**	P	**Pn**	**04 34 57.9**	**+0.4**
THERA	**Ancient Thera,**	**2.08**	**54**	P	**Pn**	**04 34 58.0**	**+0.1**
ZKR	**Zakros**	**2.31**	**90**	P	**Pn**	**04 35 02.3**	**+1.2**
MET5	**Makryloggos,Me**	**2.45**	**359**	P	**Pn**	**04 35 04.4**	**+1.4**
MET4	**Agioi Theodoro**	**2.45**	**0**	P	**Pn**	**04 35 04.1**	**+1.1**
VLY	**Voula,Athens**	**2.70**	**7**	P	**Pn**	**04 35 06.6**	**+0.2**
VLY	**Voula,Athens**	**2.70**	**7**	P	**Pn**	**04 35 06.9**	**+0.5**
LTK	**Loutraki**	**2.87**	**353**	P	**Pn**	**04 35 09.4**	**+0.6**
LTK	**Loutraki**	**2.87**	**353**	P	**Pn**	**04 35 09.7**	**+0.9**
GUR	**Goura**	**2.89**	**343**	P	**Pn**	**04 35 10.0**	**+0.9**
PTL	**Penteli**	**2.91**	**7**	P	**Pn**	**04 35 09.8**	**+0.6**
PTL	**Penteli**	**2.91**	**7**	P	**Pn**	**04 35 09.6**	**+0.4**
DION	**Dionisos Attik**	**2.94**	**8**	P	**Pn**	**04 35 10.0**	**+0.3**
KARY	**Karystos**	**2.98**	**16**	P	**Pn**	**04 35 10.4**	**+0.2**
VILL	**Villia**	**3.00**	**359**	P	**Pn**	**04 35 10.5**	**0.0**
STFN	**Stefani**	**3.01**	**2**	P	**Pn**	**04 35 11.0**	**+0.4**
KARP	**Karpathos**	**3.10**	**82**	P	**Pn**	**04 35 13.2**	**+1.3**
SERG	**Sergoula**	**3.42**	**342**	P	**Pn**	**04 35 16.0**	**-0.2**
AXS	**Araxos**	**3.43**	**332**	P	**Pn**	**04 35 16.3**	**-0.1**
EFP	**Efpalio**	**3.47**	**340**	P	**Pn**	**04 35 17.9**	**+1.1**
LKR	**Lokris**	**3.49**	**355**	P	**Pn**	**04 35 17.6**	**+0.4**
ATAL	**Atalanti**	**3.54**	**355**	P	**Pn**	**04 35 18.2**	**+0.4**
SABU	**Mula-Dalaman**	**4.81**	**68**	P	**Pn**	**04 35 37.1**	**+1.8**
SABU				S	**Sn**	**04 36 29.8**	**0.0**
SABU				*i* IAML		04 36 31.0	
	comp=N,19nm,0.9s						
SABU				*i* IAML		04 37 03.0	
	comp=E,11nm,1.0s						
IZZE	**Mula-Seydike**	**4.91**	**73**	P	**Pn**	**04 35 35.8**	**-0.8**
IZZE				S	**Sn**	**04 36 28.9**	**-3.2**
IZZE				*i* IAML		04 36 39.0	
	comp=N,35nm,0.3s						
DNZT	**Denizli-Tavas-**	**5.02**	**63**	P	**Pn**	**04 35 39.5**	**+1.3**
DNZT				S	**Sn**	**04 36 31.1**	**-3.8**
DNZT				*i* IAML		04 36 56.0	
	comp=N,8.1nm,1.5s						
DNZT				*i* IAML		04 37 42.0	
	comp=E,8.2nm,2.3s						
GOLH	**Golhisar**	**5.40**	**66**	P	**Pn**	**04 35 44.9**	**+1.5**
GOLH				S	**Sn**	**04 36 42.5**	**-1.7**
GOLH				*i* IAML		04 37 01.0	
	comp=E,8.5nm,0.6s						
GOLH				*i* IAML		04 37 22.0	
	comp=N,22nm,1.7s						
BRTR	**Keskin Array B**	**9.33**	**58**	Pn	**Pn**	**04 36 39.5**	**+2.2**
	baz=248,slow=16,SNR=1.6						
	0.4nm,0.7s						
MMAI	**Mount Meron Ar**	**10.19**	**99**	Sn	Sn	04 38 33.2	-8.5
	3.0nm,0.3s,baz=294,slow=28,SNR=4.4						
EIL	**Elat**	**11.20**	**116**	Pn	**Pn**	**04 36 59.9**	**-2.8**
	0.7nm,0.3s,baz=258,slow=20,SNR=1.7						
EIL				Sn	Sn	04 38 54.9	-11
	0.6nm,0.3s,baz=22,slow=11,SNR=1.5						
	3.9nm,0.8s						
DAVOX	**Davos/Dischmat**	**15.43**	**323**	Pn	**Pn**	**04 37 59.1**	**-0.2**
	baz=155,slow=19,SNR=2.2						
GERES	**GERESS Array B**	**15.43**	**335**	Pn	**Pn**	**04 37 58.3**	**-1.1**
	baz=151,slow=13,SNR=5.0						
	0.1nm,0.3s						
HFS	**Hagfors**	**25.77**	**349**	P	**P**	**04 39 50.7**	**+0.5**
	1.3nm,0.7s,baz=170,slow=10,SNR=2.4						
	1.3nm,0.7s						
FINES	**FINESS Array B**	**26.36**	**3**	P	**P**	**04 39 54.9**	**-0.6**
	1.2nm,0.9s,baz=180,slow=11,SNR=1.2						
	1.2nm,0.9s						
KURBB	**Kurchatov Arra**	**42.24**	**51**	P	**P**	**04 42 12.4**	**-0.1**
	0.1nm,0.3s,baz=280,slow=8.5,SNR=2.1						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**44.98**	**56**	P	**P**	**04 42 35.8**	**+1.2**
	0.2nm,0.5s,baz=260,slow=9.8,SNR=2.3						
	0.2nm,0.5s						

IDC ***08*** *04:34:27.7±0.6, 36.85N×143.37E, h0km, mb4.2/23, mbtmp4.2/27, ML4.0/4, MS3.3/6, Error ellipse: s-maj=16.1km s-min=14.9km az=170.0*

NEIC ***08*** *04:34:30.7±1.8, 37.04N±0.07×143.31E±0.09, h10km±1km, mb4.6/36, Error ellipse: s-maj=12.3km s-min=11.1km az=133.0*

NIED ***08*** *04:34:31.6, 37.00N×143.21E, h55km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=1.28; Mθθ0.51; Mφφ0.77; Mrθ-0.23; Mθφ0.73; Mφr-0.73; Fault plane solution: M0 1.54000×10^15 NP1: φs232.00000°, δ32.00000°, λ-70.00000°. NP2:φs29.00000°, δ60.00000°, λ-102.00000°.*

JMA ***08*** *04:34:31.6±0.2, 37.0N±0.6×14.3E±°, h55km, MV4.4/32, FAR E OFF FUKUSHIMA PREF*

ISC 08 04:34:32.3±0.8, 36.99N±0.05×143.32E±0.05, h29km±4km, n372, σ1$25/388, mb4.4/48, MS3.5/8, 1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.98**	**313**	*i* P	**Pn**	**04 35 02.3**	**-1.5**
JIKH				*e*S	**Sn**	**04 35 24.4**	**-3.1**
JFK	**Kawauchi**	**1.99**	**282**	P	**Pn**	**04 35 02.4**	**-1.6**
JFK				*e*S	**Sn**	**04 35 25.0**	**-2.9**
ONAJ	**Iwakimizuishiy**	**2.02**	**274**	P	**Pn**	**04 35 02.6**	**-1.8**
ONAJ				*e*S	**Sn**	**04 35 26.0**	**-2.7**
JMST	**Minamisoumatoc**	**2.07**	**292**	P	**Pn**	**04 35 03.5**	**-1.6**
JMST				*e*S	**Sn**	**04 35 27.1**	**-2.7**
JMM	**Marumori**	**2.19**	**294**		**Pn**	**04 35 05.5**	**-1.2**
JMM				Sn	**Sn**	**04 35 29.9**	**-3.0**
JOTO	**OTAMA OYAMA**	**2.45**	**284**	*e*P	**Pn**	**04 35 09.7**	**-0.7**
JOTO				*e*S	**Sn**	**04 35 37.1**	**-2.2**
JMK	**Ichinoseki**	**2.57**	**320**	P	**Pn**	**04 35 10.9**	**-1.1**
JMK				*e*S	**Sn**	**04 35 39.8**	**-2.4**
JOM	**Ohasama**	**2.95**	**328**	P	**Pn**	**04 35 16.2**	**-1.0**
JOM				*e*S	**Sn**	**04 35 49.6**	**-1.9**
BSO1	**Boso 1**	**3.01**	**220**	P	**Pn**	**04 35 16.3**	**-1.2**
BSO1				*e*S	**Sn**	**04 35 50.4**	**-1.8**
JYK	**Kaneyama**	**3.03**	**310**	P	**Pn**	**04 35 17.8**	**-0.5**
JAG	**Ashikaga**	**3.15**	**261**	P	**Pn**	**04 35 18.8**	**-1.3**
JAG				*e*S	**Sn**	**04 35 53.8**	**-2.9**
JANG	**Nango**	**3.66**	**338**	P	**Pn**	**04 35 25.4**	**-1.6**
JANG				*e*S	**Sn**	**04 36 05.6**	**-3.6**
JRY	**Ryogami san**	**3.69**	**256**	*e*P	**Pn**	**04 35 25.9**	**-1.5**
JRY				*e*S	**Sn**	**04 36 06.3**	**-3.5**
JOD2	**Odawara 2**	**3.83**	**245**	*e*P	**Pn**	**04 35 27.9**	**-1.5**
JOD2				*e*S	**Sn**	**04 36 09.8**	**-3.6**
MJAR	**Matsushiro Arr**	**4.12**	**265**		**Pn**	**04 35 33.8**	**+0.4**
MJAR	**Matsushiro Arr**	**4.12**	**265**	Pn	**Pn**	**04 35 33.3**	**-0.1**
	3.3nm,0.3s,baz=84,slow=12,SNR=126						
MJAR				Sn	**Sn**	**04 36 21.9**	**+1.3**
	1.0nm,0.3s,baz=155,slow=18,SNR=6.9						
MJAR				LR	LR	04 37 24.6	
	comp=Z,309nm,20.3s,baz=71,slow=42						
	30nm,0.5s						
MAJO	**Matsushiro**	**4.13**	**265**		**Pn**	**04 35 33.9**	**+0.5**
MAJO	**Matsushiro**	**4.13**	**265**	P	**Pn**	**04 35 33.7**	**+0.3**
MAT	**Matsushiro**	**4.13**	**265**	P	**Pn**	**04 35 33.7**	**+0.3**
MJB9	**Matsu-Tunnel**	**4.13**	**265**		**Pn**	**04 35 34.8**	**+1.3**
JYN	**Shimob**	**4.13**	**250**	*e*P	**Pn**	**04 35 32.8**	**-0.7**
JSD	**Sado**	**4.15**	**286**	P	**Pn**	**04 35 33.3**	**-0.4**
JSD	**Sado**	**4.15**	**286**	*e*P	**Pn**	**04 35 32.6**	**-1.2**
JTM	**Tenmabayashi**	**4.18**	**336**	P	**Pn**	**04 35 32.9**	**-1.2**
JTM	**Tenmabayashi**	**4.18**	**336**	P	**Pn**	**04 35 33.2**	**-0.9**
JHJ	**Hachijo jima 2**	**4.83**	**218**	Sn	**Sn**	**04 36 32.2**	**-5.8**
	74nm,0.3s,baz=72,slow=20,SNR=2.1						
JGF	**Kuroka**	**5.01**	**256**		**Pn**	**04 35 46.2**	**+0.7**
JGF	**Kuroka**	**5.01**	**256**	P	**Pn**	**04 35 46.2**	**+0.7**
ERM	**Erimo**	**5.02**	**359**		**Pn**	**04 35 43.9**	**-1.8**
ERM	**Erimo**	**5.02**	**359**	P	**Pn**	**04 35 43.6**	**-2.0**
JEM	**Erimo**	**5.02**	**359**	P	**Pn**	**04 35 43.7**	**-2.0**
INU	**Inuyama**	**5.35**	**254**		**Pn**	**04 35 50.0**	**-0.2**
INU	**Inuyama**	**5.35**	**254**	P	**Pn**	**04 35 50.6**	**+0.4**
JKA	**Kamikawa-asahi**	**7.14**	**356**		**Pn**	**04 36 13.5**	**-1.2**
ASAJ	**Asahikawa**	**7.14**	**356**	Pn	**Pn**	**04 36 13.6**	**-1.1**
	11nm,0.3s,baz=205,slow=12,SNR=89						
ASAJ				Sn	**Sn**	**04 37 30.2**	**-4.7**
	6.4nm,0.3s,baz=229,slow=19,SNR=9.2						
ASAJ				LR	LR	04 40 01.1	
	comp=Z,232nm,18.0s,baz=184,slow=46						
	23nm,0.3s						
JMN	**Monobe**	**8.37**	**250**		**Pn**	**04 36 31.8**	**+0.2**
YSS	**Yuzhno-Sakhali**	**9.97**	**358**	Pn	**Pn**	**04 36 52.6**	**-0.9**
JNU	**Nakatsue**	**10.90**	**253**	Pn	**Pn**	**04 37 06.7**	**+0.3**
USA0B	**Ussuriysk Arra**	**11.22**	**313**	Pn	**Pn**	**04 37 10.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**11.22**	**313**	Pn	**Pn**	**04 37 11.2**	**+0.5**
	0.6nm,0.3s,baz=124,slow=14,SNR=6.6						
USRK				Sn	**Sn**	**04 39 13.4**	**-1.6**
	0.2nm,0.3s,baz=147,slow=28,SNR=1.7						
	3.7nm,0.6s						
KSRS	**Korea Array**	**12.28**	**277**	Pn	**Pn**	**04 37 26.6**	**+1.4**
	0.2nm,0.3s,baz=90,slow=14,SNR=15						
	6.0nm,0.9s						
KSAR	**Wonju Array Be**	**12.31**	**277**	Pn	**Pn**	**04 37 25.4**	**-0.3**
HEH	**HeiHe**	**17.51**	**324**	*e*P	**Pn**	**04 38 31.8**	**-2.3**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NJ2	**Nanjing**	**20.73**	**263**	*e*P	**P**	**04 39 09.7**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TIA	**Tai'an**	**21.03**	**276**	P	**P**	**04 39 15.6**	**+1.9**
TIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BJI	**Beijing**	**21.43**	**287**	P	**P**	**04 39 18.2**	**+0.3**
BJI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BJI				LR	LR		
	comp=N,150nm,10.9s						
BJI				LR	LR		
	comp=E,110nm,9.3s						
BJI				LR	LR		
	comp=Z,150nm,9.8s						
XLT	**XiLinHaoTe**	**21.79**	**297**	*e*P	**P**	**04 39 20.6**	**-1.2**
XLT				sP	sP	04 39 31.8	+0.8
XLT				PP	**pwP**	**04 39 38.0**	**+1.8**
XLT				pmax	pmax		
	comp=Z,15nm,0.9s						
XLT				AMB	AMB		
	comp=Z,140nm,6.0s						
XLT				LR	LR		
	comp=N,24nm,9.4s						
XLT				LR	LR		
	comp=Z,260nm,13.6s						
HNS	**HongShan**	**22.76**	**280**	||P	**P**	**04 39 29.8**	**-2.4**
HHC	**Hu-ho-hao-te**	**24.93**	**289**	*e*P	**P**	**04 39 52.7**	**-0.3**
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,37nm,4.3s						
HHC				LR	LR		
	comp=N,440nm,9.9s						
HHC				LR	LR		
	comp=E,260nm,10.7s						
BTO	**Baotou**	**26.11**	**288**	*e*P	**P**	**04 40 05.0**	**+1.3**
BTO				pP	**pP**	**04 40 10.7**	**+0.2**
BTO				sP	**sP**	**04 40 13.8**	**+0.4**
BTO				PP	**PnPn**	**04 40 46.2**	**+3.7**
BTO				S	**S**	**04 44 32.7**	**-0.7**
BTO				sS	**sS**	**04 44 44.0**	**-1.1**
BTO				SS	**SnSn**	**04 45 39.1**	**+6.5**
BTO				pmax	pmax		
	comp=Z,12nm,1.0s						
BTO				pmax	pmax		
	comp=Z,170nm,5.3s						
BTO				LR	LR		
	comp=N,930nm,12.8s						
BTO				LR	LR		
	comp=E,1μm,13.4s						
BTO				LR	LR		
	comp=Z,920nm,11.5s						
YAK	**Yakutsk**	**26.47**	**346**	P	**P**	**04 40 06.0**	**-0.6**
H11N2	**WAKE ISLAND Hy**	**26.83**	**123**	T	T	05 08 19.3	
	baz=315,slow=75,SNR=8.5						
H11N1	**WAKE ISLAND Hy**	**26.84**	**123**	T	T	05 08 18.9	
	baz=315,slow=75,SNR=8.1						
H11N3	**WAKE ISLAND Hy**	**26.85**	**123**	T	T	05 08 22.8	
	baz=315,slow=75,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**27.57**	**126**	T	T	05 09 13.7	
	baz=317,slow=76,SNR=8.5						
H11S3	**WAKE ISLAND Hy**	**27.58**	**126**	T	T	05 09 12.5	
	baz=317,slow=76,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**27.59**	**126**	T	T	05 09 14.0	
	baz=317,slow=76,SNR=9.2						
ULN	**Ulaanbaatar**	**28.64**	**304**	P	**P**	**04 40 26.3**	**-0.1**
ULN				IAmb	IAmb	04 40 41.4	
	comp=Z,11nm,1.2s						
SONM	**Songino Array**	**29.08**	**304**	P	**P**	**04 40 29.2**	**-1.0**
SONM	**Songino Array**	**29.08**	**304**	P	**P**	**04 40 31.6**	**+1.4**
	comp=Z,4.3nm,0.8s,baz=99,slow=8.2,SNR=14						
SONM				PcP	**PcP**	**04 43 38.5**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=72,slow=2.1,SNR=2.6						
	comp=Z,4.3nm,0.8s						
LZH	**Lanzhou**	**31.57**	**280**	P	**P**	**04 40 53.6**	**+1.1**
LZH				sP	pP	04 40 58.6	-0.7
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
LZDM	**Lanzhou Array**	**31.72**	**280**	P	**P**	**04 40 54.9**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=64,slow=6.7,SNR=1.7						
	comp=Z,0.8nm,0.3s						
SPIA	**Saint Paul Isl**	**36.59**	**41**	P	**P**	**04 41 34.3**	**-1.1**
	baz=257						
PZH	**PanZhiHua**	**36.61**	**266**	P	**P**	**04 41 39.4**	**+3.2**
P08K	**Saint George I**	**36.84**	**43**	P	**P**	**04 41 35.4**	**-2.2**
	baz=258						
GAMB	**Gambell**	**37.97**	**31**	P	**P**	**04 41 44.9**	**-2.1**
	baz=247						
M11K	**Mekoryuk**	**39.38**	**37**	P	**P**	**04 41 57.7**	**-1.2**
	baz=257						
FALS	**False Pass**	**40.03**	**46**	P	**P**	**04 42 02.3**	**-2.

J17K	VABM Dome	43.28	34	P		P	04 42 29.3	-1.6
	baz=260							
O16K	Kokwok River B	43.28	39	P		P	04 42 29.5	-1.4
	baz=266							
P16K	Nushagak River	43.29	40	P		P	04 42 30.6	-0.5
	baz=266							
R16K	Pilot Point	43.43	42	P		P	04 42 32.1	-0.1
	baz=268							
L17K	Donlin	43.45	36	P		P	04 42 31.6	-0.7
	baz=263							
E18K	Tukpahlearik C	43.52	28	P		P	04 42 32.7	-0.2
	baz=255							
K17K	Iditarod	43.52	35	P		P	04 42 32.4	-0.5
	baz=262							
C18K	Utukok River	43.65	26	P		P	04 42 32.9	-1.1
	baz=253							
B18K	Kokolik River	43.66	25	P		P	04 42 33.4	-0.5
	baz=252							
F18K	Selawik	43.68	29	P		P	04 42 33.1	-0.9
	baz=257							
M17K	Holitna River	43.77	37	P		P	04 42 34.0	-0.9
	baz=264							
O17K	Koliganek Bris	43.80	39	P		P	04 42 34.4	-0.7
	baz=266							
N17K	Nushagak Hills	43.81	38	P		P	04 42 34.4	-0.8
	baz=265							
H18K	Honhosa River	43.89	31	P		P	04 42 35.2	-0.6
	baz=259							
G18K	Tagagawik	43.92	30	P		P	04 42 34.9	-1.2
	baz=258							
Q16K	King Salmon	43.96	41	P		P	04 42 35.9	-0.6
	baz=268							
P17K	Kvichak River	44.10	40	P		P	04 42 38.0	+0.4
	baz=267							
A19K	Wainwright	44.17	24	P		P	04 42 37.7	-0.3
	baz=252							
L18K	Granite Mounta	44.20	36	P		P	04 42 37.2	-1.2
	baz=264							
C19K	Lookout Ridge	44.34	26	P		P	04 42 39.0	-0.4
	baz=254							
J18K	Innoko River	44.34	34	P		P	04 42 39.0	-0.5
	baz=263							
Q17K	Contact Creek	44.35	41	P		P	04 42 39.1	-0.7
	baz=269							
GCSA	Galena City Sc	44.45	32	P		P	04 42 39.8	-0.5
	baz=261							
N18K	Kilae Creek	44.46	38	P		P	04 42 39.1	-1.4
	baz=266							
F19K	Shaleruckik Mo	44.46	29	P		P	04 42 39.9	-0.4
	baz=258							
CHIR	Chirikof Islan	44.50	45	P		P	04 42 40.4	-0.5
	baz=272							
M18K	Stony River	44.55	37	P		P	04 42 40.3	-0.8
	baz=266							
G19K	Purcell Mounta	44.59	30	P		P	04 42 41.0	-0.4
	baz=260							
D19K	Kuna River	44.70	27	P		P	04 42 41.9	-0.4
	baz=256							
P18K	Big Mountain,	44.73	40	P		P	04 42 42.3	-0.4
	baz=268							
H19K	Roundabout Mou	44.75	31	P		P	04 42 42.1	-0.6
	baz=261							
E19K	Redstone River	44.79	28	P		P	04 42 42.7	-0.3
	baz=258							
Q18K	Katmai Hardscr	44.82	41	P		P	04 42 42.6	-0.9
	baz=269							
J19K	Poorman	44.89	33	P		P	04 42 43.1	-0.7
	baz=263							
L19K	White Mountain	45.06	36	P		P	04 42 44.6	-0.7
	baz=266							
R18K	Karluk	45.12	42	P		P	04 42 44.6	-1.0
	baz=271							
N19K	Bonanza Creek	45.15	38	P		P	04 42 44.8	-1.3
	baz=268							
O19K	Port Alsworth	45.21	39	P		P	04 42 45.6	-0.8
	baz=268							
M19K	Big River Lodg	45.26	36	P		P	04 42 45.5	-1.3
	baz=266							
D20K	Etivluk River	45.28	26	P		P	04 42 44.6	-2.3
	baz=258							
SII	Sitkinak Islan	45.29	44	P		P	04 42 45.5	-1.6
	baz=272							
F20K	Avaraart Lake	45.29	29	P		P	04 42 45.0	-2.0
	baz=260							
E20K	Nigu River	45.34	27	P		P	04 42 45.1	-2.4
	baz=258							
H20K	Anotleneega Mo	45.39	31	P		P	04 42 46.6	-1.2
	baz=262							
B20K	Meade River	45.40	25	P		P	04 42 46.4	-1.3
	baz=256							
MKAR	Makanchi Array	45.43	302	P		P	04 42 48.2	-0.2
MKAR	Makanchi Array	45.43	302	P		P	04 42 48.6	+0.1
	comp=Z,1.0nm,0.5s,baz=88,slow=10,SNR=7.4							
MKAR				PcP		PcP	04 44 27.7	+0.5
	comp=Z,0.8nm,0.7s,baz=54,slow=3.7,SNR=1.7							
	comp=Z,1.0nm,0.5s							
I20K	Naaghedeneel	45.47	32	P		P	04 42 46.3	-2.1
	baz=264							
K20K	Telida	45.51	34	P		P	04 42 47.2	-1.6
	baz=265							
L20K	Farewell, AK	45.53	35	P		P	04 42 47.9	-1.1
	baz=266							
Q19K	Cape Douglas,	45.53	40	P		P	04 42 47.9	-1.2
	baz=270							
J20K	Nowinta River	45.55	33	P		P	04 42 47.9	-1.2
	baz=264							
P19K	Oil Pt	45.75	39	P		P	04 42 49.6	-1.2
	baz=270							
OHAK	Old Harbor	45.76	43	P		P	04 42 51.3	+0.5
OHAK	Old Harbor	45.76	43	P		P	04 42 49.2	-1.5
	baz=272							
M20K	Styx River	45.85	36	P		P	04 42 50.2	-1.4
	baz=268							
IMAR	Indian Mountai	45.92	30	P		P	04 42 52.9	+0.9
C21K	Knifeblade Rid	46.02	26	P		P	04 42 51.8	-1.0
	baz=259							
O20K	Slope Mountain	46.06	39	P		P	04 42 51.9	-1.4
	baz=270							
G21K	Allakaket	46.08	30	P		P	04 42 51.3	-1.9
	baz=263							
KDAK	Kodiak Island	46.12	42	P		P	04 42 54.2	+0.6
KDAK	Kodiak Island	46.12	42	P		P	04 42 51.9	-1.7
	baz=272							
B21K	Ikpikpuk River	46.17	25	P		P	04 42 52.3	-1.6
	baz=259							
F21K	Alatna River	46.18	29	P		P	04 42 52.8	-1.3
	baz=262							
E21K	Killik River	46.19	27	P		P	04 42 52.3	-1.8
	baz=260							
Q20K	Shuyak Island	46.19	41	P		P	04 42 52.9	-1.2
	baz=271							
H21K	Melozitna Rive	46.27	31	P		P	04 42 53.5	-1.3
	baz=264							
N20K	Mount Spurr	46.27	37	P		P	04 42 53.4	-1.5
	baz=269							
SPCR	Spurr Chakacha	46.27	37	P		P	04 42 54.0	-0.9
	baz=269							
CHUM	Lake Minchumin	46.33	33	P		P	04 42 53.7	-1.5
	baz=266							
PPLA	Purkeypile	46.33	35	P		P	04 42 56.9	+1.4
PPLA				IAmb		IAmb	04 43 09.3	
	comp=Z,12nm,1.2s							
PPLA	Purkeypile	46.33	35	P		P	04 42 53.6	-1.8
	baz=268							
A22K	Sinclair Lake	46.35	23	P		P	04 42 53.3	-1.9
	baz=257							
HOM	Homer	46.55	39	P		P	04 42 56.2	-0.8
	baz=271							
I21K	Tanana	46.57	32	P		P	04 42 55.6	-1.4
	baz=266							
SKT	Skwentna	46.61	36	P		P	04 42 59.4	+1.9
SKT				IAmb		IAmb	04 43 15.6	
	comp=Z,13nm,1.4s							
SKT	Skwentna	46.61	36	P		P	04 42 56.4	-1.1
	baz=269							
B22K	Teshekpuk Lake	46.72	25	P		P	04 42 57.2	-0.9
	baz=259							
F22K	John River	46.72	28	P		P	04 42 57.4	-0.8
	baz=263							
D22K	Ayikyak River	46.72	27	P		P	04 42 57.1	-1.2
	baz=261							
CAPN	Captain Cook N	46.79	38	P		P	04 42 58.5	-0.3
	baz=270							
H22K	Ishtalitna Cre	46.88	31	P		P	04 42 58.7	-0.8
	baz=265							
G22K	Bettles	46.92	29	P		P	04 42 58.7	-1.0
	baz=264							
BPAW	Bear Paw Mtn.	46.93	33	P		P	04 43 01.3	+1.3
	baz=267							
BPAW	Bear Paw Mtn.	46.93	33	P		P	04 42 59.0	-0.9
	baz=267							
SUA	Susitna One	46.98	37	P		P	04 43 01.4	+0.9
SUA	Susitna One	46.98	37	P		P	04 43 00.5	0.0
	baz=270							
BRSE	Bradley Lake S	47.01	39	P		P	04 43 00.5	-0.2
	baz=272							
MLY	Manley	47.08	32	P		P	04 43 01.4	+0.3
	baz=267,SNR=9.5							
KURK	Kurchatov	47.16	308	P		P	04 43 01.5	-0.4
TRF	Thorofare Moun	47.21	34	P		P	04 43 02.3	-0.1
	baz=269							
KURBB	Kurchatov Arra	47.23	308	P		P	04 43 02.8	+0.4
	comp=Z,4.6nm,0.7s,baz=82,slow=8.0,SNR=49							
KURBB				PcP		PcP	04 44 33.7	+0.3
	comp=Z,1.0nm,0.6s,baz=92,slow=3.2,SNR=2.4							
	comp=Z,4.6nm,0.7s							
COLD	Coldfoot	47.45	29	P		P	04 43 03.9	0.0
	baz=265							
RC01	Rabbit Creek A	47.47	37	P		P	04 43 04.0	-0.2
	baz=271							
G23K	Bananza Creek	47.48	30	P		P	04 43 03.6	-0.6
	baz=266							
O22K	Cooper Landing	47.50	38	P		P	04 43 04.2	-0.1
	baz=272							
C23K	Itkillik River	47.58	25	P		P	04 43 05.5	+0.5
	baz=262,SNR=8.0							
H23K	Yukon River	47.62	31	P		P	04 43 05.2	-0.2
	baz=267,SNR=5.5							
I23K	Minto, Yukon-K	47.67	32	P		P	04 43 05.6	-0.1
	baz=268							
E23K	Chandalar	47.75	28	P		P	04 43 06.1	-0.3
	baz=265							
PMR	Palmer	47.75	37	P		P	04 43 06.6	+0.3
	baz=271							
NEA2	Nenana	47.78	33	IAmb		IAmb	04 43 09.3	
	comp=Z,6.4nm,0.8s							
NEA2	Nenana	47.78	33	P		P	04 43 06.7	+0.2
	baz=269,SNR=5.2							
TOLK	Toolik Lake Re	47.82	27	P		P	04 43 06.9	+0.1
	baz=265							
MCK	McKinley	47.82	34	P		P	04 43 06.8	-0.1
	baz=270							
WAT1	Susitna Watana	48.00	35	P		P	04 43 07.6	-0.7
	baz=271							
KNK	Knik Glacier	48.08	37	P		P	04 43 08.3	-0.7
	baz=272							
D24K	Happy Valley	48.13	26	P		P	04 43 08.8	-0.4
	baz=265							
PWL	Port Wells	48.16	38	P		P	04 43 09.8	+0.3
	baz=273							
E24K	Your Creek	48.17	28	P		P	04 43 09.5	-0.1
	baz=266							
C24K	Franklin Bluff	48.23	26	P		P	04 43 09.2	-0.7
	baz=264							
H24K	Noodor Dome	48.31	31	P		P	04 43 09.3	-1.3
	baz=269							
F24K	Squaw Lake	48.37	29	P		P	04 43 10.5	-0.6
	baz=267							
WAT6	Susitna Watana	48.38	35	P		P	04 43 10.6	-0.8
	baz=272							
M23K	Glacier View	48.41	36	P		P	04 43 11.5	0.0
	baz=272							
POKR	Poker Flat Res	48.48	32	P		P	04 43 11.7	-0.3
	baz=270							
G24K	Hadweenzic Riv	48.49	30	P		P	04 43 12.0	-0.1
	baz=268							
DHY	Denali Highway	48.53	35	P		P	04 43 12.5	-0.1
	baz=272							
SCM	Sheep Creek Mo	48.60	36	P		P	04 43 14.1	+1.0
SCM				IAmb		IAmb	04 43 28.5	
	comp=Z,15nm,1.2s							
SCM	Sheep Creek Mo	48.60	36	P		P	04 43 13.3	+0.3
	baz=273							
HDA	Harding Lake	48.70	33	P		P	04 43 13.4	-0.2
	baz=271							
ILAR	Eielson Array	48.72	32	P		P	04 43 14.6	+0.8
ILAR	Eielson Array	48.72	32	P		P	04 43 14.4	+0.7
	comp=Z,3.6nm,0.7s,baz=270,slow=7.6,SNR=52							
	comp=Z,3.6nm,0.7s							
D25K	Kavik River	49.02	26	P		P	04 43 16.4	+0.3
	baz=267,SNR=9.6							
G25K	Bearman Lake	49.04	30	P		P	04 43 16.1	-0.1
	baz=270							
M24K	Tolsona, Glenn	49.13	36	P		P	04 43 17.3	+0.3
	baz=274							
H25L	Birch Creek	49.15	30	P		P	04 43 17.4	+0.3
	baz=270							
K24K	Donnelly Dome	49.23	34	P		P	04 43 17.9	+0.2
	baz=272							
F25K	Christian Rive	49.23	29	P		P	04 43 17.9	+0.2
	baz=269,SNR=5.8							
E25K	Arctic Village	49.27	28	P		P	04 43 16.5	-1.5
	baz=269							
PRP	Porcupine Dome	49.28	31	P		P	04 43 17.1	-1.1
	baz=271							
KLU	Klutina	49.29	37	P		P	04 43 18.0	-0.3
	baz=274							
J25K	Salcha River,	49.37	33	P		P	04 43 18.2	-0.7
	baz=272							
PAX	Paxson	49.41	35	P		P	04 43 18.5	-0.7
	baz=273							
EYAK	Cordova Ski Ar	49.45	38	P		P	04 43 18.9	-0.5
	baz=275							
C26K	Camden Bay	49.56	26	P		P	04 43 20.1	+0.1
	baz=268							
HARP	HAARP	49.59	35	P		P	04 43 19.9	-0.6
	baz=274							
BMAR	Burnt Mountain	49.64	29	P		P	04 43 23.0	+2.2
RIDG	Independent Ri	49.64	34	P		P	04 43 20.4	-0.5
	baz=273							
F26K	Sheenjek River	49.80	28	P		P	04 43 21.2	-0.9
	baz=270,SNR=8.7							
N25K	Chitina, Valde	49.91	36	P		P	04 43 22.4	-0.7
	baz=275							
G26K	Porcupine Rive	49.96	29	P		P	04 43 23.5	+0.3
	baz=272							
C27K	Jago River	49.97	26	P		P	04 43 23.7	+0.5
	baz=269,SNR=5.1							
BMRM	Bremner River	49.97	37	P		P	04 43 23.0	-0.5
	baz=276							
SCRK	Sand Creek	50.01	33	P		P	04 43 23.2	-0.5
	baz=274							
J26L	Joseph Creek	50.16	33	P		P	04 43 23.9	-0.9
	baz=274							
KAIM	Kayak Island	50.18	39	P		P	04 43 24.9	-0.1
	baz=277							
L26K	Log Cabin Wild	50.37	35	P		P	04 43 25.7	-0.7
	baz=275							
MCARA	McCarthy VSAT	50.69	37	P		P	04 43 28.4	-0.5
	baz=277							
BGLC	Bering Glacier	50.72	38	P		P	04 43 28.7	-0.3
	baz=278							
CRQE	Cirque	50.73	37	P		P	04 43 28.7	-0.6
	baz=277							
E27K	Coleen River	50.75	28	P		P	04 43 29.5	+0.2
	baz=272,SNR=5.1							
G27K	Gun Strip	50.80	30	P		P	04 43 29.0	-0.7
	baz=274							
K27K	Chicken	50.84	33	P		P	04 43 29.2	-0.7
	baz=275							
H27K	Steamboat Moun	50.89	30	P		P	04 43 29.5	-0.8
	baz=274,SNR=5.7							
I27K	Kandik River	50.90	31	P		P	04 43 29.7	-0.7
	baz=275							
D27M	Malcolm River	50.94	26	P		P	04 43 29.7	-1.0
	baz=272							
L27K	Beaver Creek,	51.05	34	P		P	04 43 30.9	-0.7
	baz=276							
M27K	Edge Creek, AK	51.11	35	P		P	04 43 31.2	-1.0
	baz=277							
MESA	MESA	51.37	38	P		P	04 43 33.2	-1.0
	baz=279							
F28M	Old Crow	51.44	28	P		P	04 43 33.0	-1.4
	baz=274							
E28M	Babbage River	51.49	27	P		P	04 43 34.0	-0.8
	baz=274							
CTG	Chitna Glacier	51.55	37	P		P	04 43 33.7	-1.8
	baz=278							
BVCY	Beaver Creek	51.58	35	P		P	04 43 34.5	-1.0
	baz=278							
I28M	Miner Creek	51.61	31	P		P	04 43 34.6	-1.2
	baz=276,SNR=5.9							
BVAR	Borovoye Array	51.73	313	P		P	04 43 37.3	+0.6
	comp=Z,1.3nm,0.7s,baz=69,slow=7.9,SNR=4.7							
BVAR				PcP		PcP	04 44 50.6	+0.9
	comp=Z,2.2nm,0.6s,baz=78,slow=2.9,SNR=5.6							
	comp=Z,1.3nm,0.7s							
KSH	Kashi	51.81	295	P		P	04 43 40.4	+2.7
YUK3	Moose Creek	51.85	36	P		P	04 43 36.4	-1.4
	baz=279							
DAWY	Dawson	52.01	33	P		P	04 43 37.2	-1.5
	baz=278							
E29M	Blow River	52.11	27	P		P	04 43 38.5	-0.9
	baz=276,SNR=8.6							
O28M	Mount Upton	52.14	37	P		P	04 43 38.3	-1.7
	baz=280							
H29M	Whitestone	52.17	30	P		P	04 43 38.5	-1.3
	baz=277							
G29M	Pine Creek	52.22	29	P		P	04 43 39.8	-0.5
	baz=277,SNR=6.0							
PINM	Pinnacle	52.23	38	P		P	04 43 39.7	-0.7
	baz=280							
YUK8	Steele Glacier	52.26	37	P		P	04 43 39.0	-1.9
	baz=280							
I29M	Ogilvie Camp,	52.30	31	P		P	04 43 40.5	-0.3
	baz=278,SNR=6.5							
M29M	Somme Creek	52.67	35	P		P	04 43 43.4	-0.4
	baz=280							
L29M	L29M	52.71	34	P		P	04 43 43.6	-0.3
	baz=280							
PNL	Peninsula	52.73	38	P		P	04 43 43.8	-0.2
	baz=281							
YUK4	Talbot Arm	52.78	36	P		P	04 43 44.3	-0.4
	baz=280							
EPYK	Eagle Plains	52.81	30	P		P	04 43 43.9	-0.7
	baz=278,SNR=7.5							
K29M	Barlow Dome	52.86	33	P		P	04 43 45.0	-0.1
	baz=280							
G30M	tAoh Zraii Nji	52.92	29	P		P	04 43 44.8	-0.6
	baz=278,SNR=7.5							
YUK6	Outpost Mounta	52.99	37	P		P	04 43 45.0	-1.3
	baz=281							
F30M	Barrier River	52.99	28	P		P	04 43 44.8	-1.1
	baz=278							
O29M	Mount Kennedy	53.01	38	P		P	04 43 44.6	-1.7
	baz=281							
I30M	Mount Dempster	53.12	31	P		P	04 43 46.2	-0.8
	baz=279,SNR=8.4							
J30M	Hart River	53.25	32	P		P	04 43 47.3	-0.7
	baz=280							
M30M	Minto, Yukon	53.41	35	P		P	04 43 48.8	-0.3
	baz=281							
HYT	Haines Junctio	53.42	37	P		P	04 43 51.8	+2.5
HYT				IAmb		IAmb	04 43 53.6	
	comp=Z,3.9nm,0.8s							
HYT	Haines Junctio	53.42	37	P		P	04 43 48.7	-0.6
	baz=282,SNR=6.6							
N30M	Aishikik Lake	53.49	36	P		P	04 43 49.3	-0.5
	baz=282							
P29M	Windy Craggy	53.56	38	P		P	04 43 50.2	-0.1
	baz=282							
G31M	Satah River	53.68	29	P		P	04 43 51.4	+0.5
	baz=280							
INK	Inuvik	53.73	27	P		P	04 43 52.4	+1.2
INK				IAmb		IAmb	04 43 53.6	
	comp=Z,5.5nm,0.7s							
INK	Inuvik	53.73	27	P		P	04 43 51.6	+0.4
	baz=280,SNR=5.2							
F31M	Tsiigehtchic	53.80	28	P		P	04 43 51.8	+0.1
	baz=280							
P30M	Million Dollar	53.84	38	P		P	04 43 51.5	-0.8
	baz=283							
H31M	Peel River	53.86	30	P		P	04 43 52.1	-0.2
	baz=281,SNR=5.2							
N31M	Braeburn, Yuko	54.10	36	P		P	04 43 53.1	-1.1
	baz=283							
O30N	Mendenhall	54.11	37	P		P	04 43 53.7	-0.6
	baz=283							
PLBC	Pleasant Camp	54.28	38	P		P	04 43 55.0	-0.5
	baz=284							
KK31	Karatay Array	54.46	301	P		P	04 43 56.9	-0.1
KK31				IAmb		IAmb	04 44 12.4	
	comp=Z,4.6nm,1.1s							
KKAR	Karatay Array	54.46	301	P		P	04 43 57.3	+0.3
M31M	Drury Creek, Y	54.59	35	P		P	04 43 56.9	-0.8
	baz=283							
S31K	Pelican	54.71	40	P		P	04 43 58.5	-0.1
	baz=285							
WHY	Whitehorse	54.72	37	P		P	04 43 58.3	-0.4
	baz=284							
N32M	Quiet Lake	55.45	36	P		P	04 44 04.0	+0.1
	baz=285							
R32K	Eaglecrest	55.51	39	P		P	04 44 04.0	-0.4
	baz=286							
P32M	Atlin	55.55	38	P		P	04 44 04.5	-0.2
	baz=286							
P33M	Teslin, Yukon	55.82	37	P		P	04 44 07.2	+0.5
	baz=286							
MMPY	Sheldon Lake,	55.89	34	P		P	04 44 06.8	-0.3
	baz=286							
NIL	Nilore	56.07	289	P		P	04 44 09.3	+0.5
NIL				IAmb		IAmb	04 44 10.9	
	comp=Z,10nm,0.8s							
C36M	Paulatuk	56.83	25	P		P	04 44 12.9	-0.7
	baz=287							
U33K	Whale Pass	56.87	42	P		P	04 44 13.9	-0.2
	baz=288							
R33M	Jennings River	56.95	37	P		P	04 44 14.7	-0.1
	baz=288							
CHGR	Chuyangaron	57.06	296	P		P	04 44 16.1	+0.2
CRAG	Craig	57.07	42	P		P	04 44 15.3	-0.1
	baz=289							
WB0	Warramunga Arr	57.07	190	P		P	04 44 15.2	-0.7
WB0				IAmb		IAmb	04 44 33.5	
	comp=Z,4.3nm,0.8s							
SIMJ	Simiganj	57.16	296	P		P	04 44 16.6	0.0
SIMJ				IAmb		IAmb	04 44 18.3	
	comp=Z,8.0nm,0.9s							
WRA	Warramunga Arr	57.25	190	P		P	04 44 15.5	-1.6
WRA	Warramunga Arr	57.25	190	P		P	04 44 15.2	-1.9
	comp=Z,1.2nm,0.3s,baz=8.9,slow=7.3,SNR=14							
	comp=Z,1.2nm,0.3s							
S34M	Telegraph Cree	57.34	39	P		P	04 44 17.3	0.0
	baz=289							
TGTN	Hyland Airport	57.56	35	P		P	04 44 19.2	+0.3
	baz=289							
DLBC	Dease Lake	57.72	38	P		P	04 44 20.0	-0.1
	baz=289							
WTLY	Watson Lake, Y	57.77	36	P		P	04 44 20.0	-0.5
	baz=289							
T35M	Bob Quinn	58.09	40	P		P	04 44 22.1	-0.6
	baz=290							
AB31	Akbulak array	59.13	311	P		P	04 44 30.1	+0.1
AB31				IAmb		IAmb	04 44 55.6	
	comp=Z,2.5nm,0.8s							
ABKAR	Akbulak array	59.13	311	P		P	04 44 29.9	-0.1
LIRD	Liard River Hi	59.30	36	P		P	04 44 30.4	-0.6
	baz=291							
TOAD	Toad River Com	59.92	37	P		P	04 44 34.3	-1.0
	baz=292							
KOTAN	Kotaneelee Air	59.99	35	P		P	04 44 35.0	-0.8
	baz=293							
ASAR	Alice Springs	60.98	190	P		P	04 44 42.6	-0.3
ASAR	Alice Springs	60.98	190	P		P	04 44 41.6	-1.3
	comp=Z,1.8nm,0.9s,baz=9.6,slow=7.5,SNR=9.7							
	comp=Z,1.8nm,0.9s							
YKA	Yellowknife Ar	63.08	31	P		P	04 44 56.8	+0.2
	comp=Z,1.2nm,0.8s,baz=305,slow=7.4,SNR=12							
YKA				PcP		PcP	04 45 34.3	+0.2
	comp=Z,0.6nm,0.6s,baz=309,slow=4.4,SNR=7.9							
	comp=Z,1.2nm,0.8s							
ARCES	ARCESS Array B	64.57	340	P		P	04 45 06.5	+0.2
ARCES	ARCESS Array B	64.57	340	P		P	04 45 06.8	+0.5
	comp=Z,1.7nm,0.8s,baz=56,slow=6.8,SNR=8.1							
ARCES				LR		LR	05 20 31.6	
	comp=Z,26nm,18.2s,baz=240,slow=43							
	comp=Z,1.7nm,0.8s							
PINE	Pine Mountain	69.20	50	IAmb		IAmb	04 45 39.6	
	comp=Z,5.6nm,0.9s							
FINES	FINESS Array B	69.56	333	P		P	04 45 38.8	+0.8
	comp=Z,4.4nm,0.7s,baz=48,slow=5.5,SNR=20							
	comp=Z,4.4nm,0.7s							
KBZ	Khabaz	72.08	311	P		P	04 45 55.3	+1.6
	comp=Z,2.0nm,0.7s,baz=27,slow=4.5,SNR=4.4							
	comp=Z,

comp=Z,24nm,18.6s,baz=275,slow=39
comp=Z,2.0nm,0.7s

AKASG Malin Array Be 75.26 323 P **P** 04 46 12.3 +0.1
comp=Z,1.2nm,0.4s,baz=46,slow=5.8,SNR=10
comp=Z,1.2nm,0.4s

R11B Troy Canyon, C 75.58 53 P **P** 04 46 15.9 +1.3

PDAR Pinedale Array 76.61 46 P **P** 04 46 21.1 +0.7
comp=Z,0.7nm,0.7s,baz=306,slow=4.0,SNR=8.9
comp=Z,0.7nm,0.7s

LCMT Little Creek M 77.87 53 IAmb IAmb 04 46 30.1
comp=Z,2.8nm,0.8s

P17A Butcher Ranch, 77.93 50 IAmb IAmb 04 46 30.4
comp=Z,8.0nm,1.1s

U15A North Rim 78.83 53 P **P** 04 46 34.4 +1.4

HMU Henry Mountain 78.88 51 P **P** 04 46 34.5 +1.3
HMU IAmb IAmb 04 46 35.1
comp=Z,4.4nm,0.7s

RAR Rarotonga 78.91 127 LR LR 05 20 50.8
comp=Z,15nm,18.7s,baz=324,slow=35

ESJX Sierra Juarez 79.09 58 P **P** 04 46 35.2 +0.9
ESJX IAmb IAmb 04 47 08.0
comp=Z,9.2nm,1.4s

BURAR Bucovina Array 79.28 323 P **P** 04 46 35.0 0.0

BRTR Keskin Array B 80.01 312 P **P** 04 46 39.1 -0.1
comp=Z,0.7nm,0.8s,baz=31,slow=3.4,SNR=2.2
comp=Z,0.7nm,0.8s

CLL Collm 81.88 331 *i* P **P** 04 46 49.4 +0.7
comp=Z,4.0nm,0.8s

MMAI Mount Meron Ar 83.23 306 P **P** 04 46 57.8 +1.6
comp=Z,0.8nm,0.3s,baz=12,slow=7.7,SNR=2.0
comp=Z,0.8nm,0.3s

GERES GERESS Array B 83.54 329 P **P** 04 46 58.2 +0.6
comp=Z,0.5nm,0.4s,baz=29,slow=6.4,SNR=8.8
comp=Z,0.5nm,0.4s

EKA Eskdalemuir Ar 83.67 341 P **P** 04 46 59.6 +1.7
comp=Z,0.6nm,0.6s,baz=26,slow=5.6,SNR=3.9
comp=Z,0.6nm,0.6s

EIL Elat 85.67 304 LR LR 05 30 22.2
comp=Z,16nm,20.1s,baz=116,slow=39

TXAR Lajitas Array 88.93 53 P **P** 04 47 25.5 +1.1
comp=Z,0.9nm,0.7s,baz=312,slow=5.7,SNR=14
comp=Z,0.9nm,0.7s

M65A Busby, Falmout 95.88 25 P **P** 04 47 55.5 -0.6
baz=333

QSPA South Pole Qui 126.73 180 PKP **PKiKP** 04 53 32.3 -0.2
comp=Z,1.6nm,1.0s,baz=331,slow=1.3,SNR=3.8

LPAZ La Paz 145.39 62 PKPbc **PKPab** 04 54 08.9 +0.2
comp=Z,1.3nm,0.6s,baz=329,slow=6.5,SNR=5.7

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*IDC **08** 04:34:45.8±14.0, 23.52S×177.65W, h273km±120km, mb3.2/4, mbtmp4.0/5, Error ellipse: s-maj=84.7km s-min=29.2km az=51.0*

ISC 08 04:34:42.6±2.0, 23.5S±0.4×177.4W±0.2, h250km, n6, σ1ᵍ07/8, mb3.5/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.94**	**272**	P		**Pn**	**04 38 03.0**	**+0.8**
	8.0nm,0.9s,baz=90,slow=18,SNR=7.6							
ASAR	**Alice Springs**	**44.43**	**260**	P		**P**	**04 42 28.2**	**-1.0**
	0.6nm,0.4s,baz=101,slow=7.9,SNR=6.3							
ASAR				PcP		**PcP**	**04 44 08.9**	**+0.6**
	0.2nm,0.5s,baz=110,slow=3.7,SNR=1.7							
	0.6nm,0.4s							
WRA	**Warramunga Arr**	**44.79**	**265**	P		**P**	**04 42 31.0**	**-1.1**
	1.6nm,0.7s,baz=102,slow=7.8,SNR=11							
WRA				PcP		**PcP**	**04 44 10.0**	**+0.5**
	0.5nm,0.9s,baz=96,slow=3.1,SNR=1.7							
	1.6nm,0.7s							
QSPA	**South Pole Qui**	**66.59**	**180**	P		**P**	**04 45 07.0**	**+1.1**
	0.9nm,0.6s,baz=23,slow=1.0,SNR=7.7							
	0.9nm,0.6s							
SNAA	**Sanae**	**85.02**	**178**	P		**P**	**04 46 48.7**	**-1.0**
	0.6nm,0.8s,baz=176,slow=14,SNR=1.1							
	0.6nm,0.8s							
AKASG	**Malin Array Be**	**145.86**	**329**	PKPbc		**PKPdf**	**04 53 51.4**	**+0.1**
	0.5nm,0.4s,baz=45,slow=3.8,SNR=2.9							

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*IDC **08** 04:35:58.9±1.0, 24.79N×122.01E, h0km, mb4.1/6, mbtmp4.0/8, ML3.2/2, MS3.3/3, Error ellipse: s-maj=30.4km s-min=19.3km az=68.0*
*TAP **08** 04:35:59.6, 24.86N×122.24E, h13km, ML4.5, C*
*JMA **08** 04:35:60.0±0.1, 25°N±1°×122.3E±0.5, h47km, MV3.4/13, TAIWAN REGION*

ISC 08 04:35:59.7±1.0, 24.83N±0.02×122.26E±0.02, h10km±7km, n171, σ0ᵍ78/264, mb4.2/6, MS3.2/3, 18C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.30**	**273**	*eP*		**Pb**	**04 36 06.3**	**-0.8**
EGS				*eS*		**Sg**	**04 36 10.6**	**+0.7**
TWB1	**Santiao Chiao**	**0.31**	**306**	⇑*iP*		**Pg**	**04 36 05.7**	**-0.2**
TWB1				S		**Sg**	**04 36 09.7**	**-0.4**
NTC	**Toucheng**	**0.40**	**274**	*eP*		**Pb**	**04 36 08.1**	**-0.7**
NTC				*eS*		**Sg**	**04 36 12.9**	**+0.1**
EOS2	**EOS2**	**0.41**	**184**	⇑*iP*		**Pb**	**04 36 08.8**	**-0.1**
EOS2				S		**Sb**	**04 36 16.0**	**+1.0**
TIPB	**Shuangxi**	**0.42**	**290**	⇑*iP*		**Pg**	**04 36 08.1**	**0.0**
TIPB				*i* S		**Sg**	**04 36 14.1**	**+0.4**
TWC	**Suao**	**0.43**	**240**	⇑*iP*		**Pg**	**04 36 08.2**	**-0.1**
TWC				*eS*		**Sg**	**04 36 14.5**	**+0.5**
SXI1	**Grass Mountain**	**0.44**	**307**	⇑*iP*		**Pg**	**04 36 08.5**	**+0.1**
SXI1				*eS*		**Sg**	**04 36 14.4**	**+0.1**
ESAO	**Su ao**	**0.46**	**237**	⇑P		**Pg**	**04 36 08.7**	**0.0**
ESAO				S		**Sg**	**04 36 14.2**	**-0.5**
ILA	**Ilan**	**0.47**	**263**	*eP*		**Pb**	**04 36 10.5**	**+0.4**
ILA				*eS*		**Sb**	**04 36 16.6**	**-0.5**
NWF	**Wu-fen Shan**	**0.50**	**299**	*eP*		**Pg**	**04 36 09.9**	**+0.4**
NWF				*eS*		**Sb**	**04 36 17.2**	**-0.8**
WFSB	**Wu-fen Shan**	**0.50**	**299**	⇑*iP*		**Pg**	**04 36 09.7**	**+0.2**
WFSB				*eS*		**Sg**	**04 36 16.3**	**+0.2**
EOS3	**EOS3**	**0.54**	**175**	⇑P		**Pb**	**04 36 11.3**	**+0.1**
EOS3				*eS*		**Sb**	**04 36 20.1**	**+1.2**
TNOU	**National Taiwa**	**0.55**	**306**	⇑P		**Pg**	**04 36 10.5**	**+0.1**
TNOU				*eS*		**Sg**	**04 36 18.2**	**+0.6**
TWE	**Neicheng**	**0.55**	**259**	⇑*iP*		**Pg**	**04 36 10.3**	**-0.1**
TWE				*i* S		**Sg**	**04 36 18.1**	**+0.4**
EWUT	**Wuta**	**0.58**	**229**	*eP*		**Pg**	**04 36 11.1**	**+0.1**
EWUT				*eS*		**Sb**	**04 36 19.2**	**-1.0**
FUSB	**Fushanzhiwuyua**	**0.62**	**264**	*eP*		**Pg**	**04 36 11.7**	**0.0**
FUSB				S		**Sg**	**04 36 19.8**	**-0.1**
ENA	**Nanau**	**0.62**	**230**	⇑*eP*		**Pg**	**04 36 11.4**	**-0.3**
ENA				*eS*		**Sg**	**04 36 20.2**	**+0.3**
TWA	**Mucha**	**0.64**	**284**	⇓*iP*		**Pb**	**04 36 13.0**	**+0.1**
TWA				*i* S		**Sb**	**04 36 22.1**	**+0.2**
ENTT	**Nioudou**	**0.66**	**254**	*eP*		**Pg**	**04 36 12.5**	**0.0**
ENTT				*eS*		**Sb**	**04 36 22.4**	**-0.2**
NHY	**Taipei**	**0.66**	**289**	*eP*		**Pg**	**04 36 12.6**	**0.0**
NHY				*eS*		**Sb**	**04 36 22.9**	**+0.3**
EAHA	**Aohua**	**0.69**	**224**	*eP*		**Pg**	**04 36 13.1**	**+0.1**
EAHA				S		**Sb**	**04 36 23.1**	**-0.2**
NWLT	**Wulai**	**0.69**	**266**	⇓*eP*		**Pb**	**04 36 13.6**	**-0.2**
NWLT				*eS*		**Sg**	**04 36 21.8**	**-0.5**
EHP	**Heping Village**	**0.70**	**223**	*eP*		**Pg**	**04 36 13.1**	**-0.2**
EHP				S		**Sb**	**04 36 23.1**	**-0.6**
EOS4	**EOS4**	**0.70**	**176**	⇑P		**Pb**	**04 36 14.2**	**+0.4**
EOS4				*eS*		**Sn**	**04 36 26.5**	**+0.4**
YM01	**YM01**	**0.70**	**297**	⇑*iP*		**Pb**	**04 36 13.8**	**-0.3**
YM01				*eS*		**Sb**	**04 36 23.7**	**-0.1**
YM08	**YM08**	**0.71**	**301**	⇓*iP*		**Pg**	**04 36 13.6**	**+0.1**
YM08				*eS*		**Sb**	**04 36 23.2**	**-0.7**
TAP	**Taipei**	**0.72**	**287**	*eP*		**Pb**	**04 36 14.4**	**+0.2**
TAP				S		**Sg**	**04 36 23.2**	**+0.2**
TATO	**Taipei**	**0.72**	**282**	P		**Pb**	**04 36 14.6**	**+0.3**
TATO	**Taipei**	**0.72**	**282**	S		**Sb**	**04 36 24.6**	**+0.4**
TATO	**Taipei**	**0.72**	**282**	P		**Pb**	**04 36 14.3**	**0.0**
TATO	**Taipei**	**0.72**	**282**	S		**Sb**	**04 36 24.4**	**+0.2**
JYNG	**Yonagunijimaku**	**0.72**	**121**	P		**Pg**	**04 36 13.6**	**-0.1**
JYNG				S		**Sb**	**04 36 24.6**	**+0.3**
LATG	**Datong**	**0.73**	**247**	⇓P		**Pb**	**04 36 14.1**	**-0.5**
LATG				*i* S		**Sb**	**04 36 23.8**	**-0.8**
ZUZH	**Zhuzihu**	**0.73**	**297**	*eP*		**Pg**	**04 36 14.0**	**+0.1**
ANP	**Anpu**	**0.76**	**298**	*eP*		**Pg**	**04 36 14.6**	**+0.1**
YOJ	**Yonaguni jima**	**0.77**	**118**	P		**Pb**	**04 36 14.9**	**-0.3**
YOJ	**Yonaguni jima**	**0.77**	**118**	S		**Sb**	**04 36 26.0**	**+0.3**
YOJ	**Yonaguni jima**	**0.77**	**118**	*eP*		**Pg**	**04 36 14.4**	**-0.2**
YOJ				S		**Sb**	**04 36 25.3**	**-0.3**
YOJ	**Yonaguni jima**	**0.77**	**118**	P		**Pg**	**04 36 14.5**	**-0.2**
YOJ				S		**Sb**	**04 36 25.4**	**-0.3**
NTST	**Danshui**	**0.81**	**295**	*eP*		**Pb**	**04 36 15.7**	**-0.2**
NTST				*eS*		**Sb**	**04 36 26.7**	**-0.2**
TWS1	**Kuangyinshan**	**0.81**	**290**	*eP*		**Pb**	**04 36 15.9**	**-0.1**
TWS1				*eS*		**Sg**	**04 36 25.8**	**-0.2**
PCYT	**Pengchaiyu**	**0.82**	**348**	*eP*		**Pg**	**04 36 14.7**	**-0.8**
PCYT				*eS*		**Sb**	**04 36 27.1**	**0.0**
YHNB	**Yeheng**	**0.82**	**259**	P		**Pg**	**04 36 15.6**	**0.0**
YHNB	**Yeheng**	**0.82**	**259**	S		**Sb**	**04 36 27.8**	**+0.5**
YHNB	**Yeheng**	**0.82**	**259**	P		**Pb**	**04 36 15.8**	**-0.3**
YHNB	**Yeheng**	**0.82**	**259**	S		**Sb**	**04 36 27.7**	**+0.5**
YHNB	**Yeheng**	**0.82**	**259**	*eP*		**Pg**	**04 36 15.6**	**0.0**
YHNB				*eS*		**Sg**	**04 36 25.1**	**-1.2**
NSK	**Sanguang**	**0.84**	**260**	*eP*		**Pg**	**04 36 15.8**	**0.0**
NSK				*eS*		**Sg**	**04 36 25.7**	**-1.1**
ETL	**Fush Village**	**0.89**	**221**	*eP*		**Pg**	**04 36 16.7**	**-0.1**
ETL				*eS*		**Sb**	**04 36 28.4**	**-0.6**
NACB	**Ninganchiao**	**0.89**	**223**	P		**Pb**	**04 36 16.8**	**-0.4**
NACB	**Ninganchiao**	**0.89**	**223**	P		**Pb**	**04 36 17.2**	**0.0**
NACB	**Ninganchiao**	**0.89**	**223**	S		**Sb**	**04 36 28.5**	**-0.7**
NACB	**Ninganchiao**	**0.89**	**223**	⇑*iP*		**Pg**	**04 36 16.4**	**-0.5**
NACB				S		**Sb**	**04 36 28.4**	**-0.7**
NNSB	**Datong**	**0.89**	**244**	P		**Pg**	**04 36 16.7**	**-0.3**
NNSB				*i* S		**Sb**	**04 36 29.2**	**-0.2**
NNS	**Nan Shan**	**0.90**	**245**	*eP*		**Pg**	**04 36 16.7**	**-0.3**
NNS				S		**Sb**	**04 36 28.8**	**-0.7**
ETLH	**Xiulin Townshi**	**0.94**	**229**	⇑P		**Pb**	**04 36 17.8**	**-0.3**
ETLH				*eS*		**Sg**	**04 36 29.9**	**-0.3**
TWD	**Chiawan**	**0.96**	**219**	*eP*		**Pg**	**04 36 17.7**	**-0.5**
TWD				*eS*		**Sg**	**04 36 30.3**	**-0.4**
NCU	**National Centr**	**0.99**	**279**	*eP*		**Pg**	**04 36 18.0**	**-0.8**
KSHI	**Guanxi Townshi**	**0.99**	**267**	*eP*		**Pn**	**04 36 19.5**	**-0.1**
KSHI				*eS*		**Sn**	**04 36 32.8**	**-0.9**
NCUH	**Zhongli**	**0.99**	**278**	*eP*		**Pn**	**04 36 19.0**	**+0.1**
HWA	**Hwalien**	**1.04**	**215**	*eP*		**Pn**	**04 36 20.9**	**+0.7**
HWA				*eS*		**Sn**	**04 36 33.7**	**-1.1**
NFF	**Wufeng Townshi**	**1.06**	**260**	*eP*		**Pn**	**04 36 20.3**	**-0.3**
NFF				*i* S		**Sn**	**04 36 34.9**	**-0.6**
FUSS	**Fushou**	**1.09**	**238**	*eP*		**Pb**	**04 36 20.6**	**-0.2**
FUSS				*eS*		**Sb**	**04 36 35.3**	**+0.1**
ETM	**Tongmen**	**1.11**	**219**	*eP*		**Pb**	**04 36 20.6**	**-0.4**
ETM				*eS*		**Sn**	**04 36 36.6**	**0.0**
TEYL	**Yanliau Villag**	**1.13**	**213**	*eP*		**Pn**	**04 36 22.5**	**+0.9**
TEYL				*eS*		**Sn**	**04 36 36.7**	**-0.4**
WHF	**Hehuan Shan**	**1.14**	**233**	*eP*		**Pg**	**04 36 21.3**	**-0.3**
WHF				*eS*		**Sb**	**04 36 36.8**	**+0.2**
LIOB	**Emei**	**1.15**	**261**	*eP*		**Pn**	**04 36 21.9**	**+0.1**
TDCB	**Techi**	**1.16**	**241**	*eP*		**Pn**	**04 36 22.2**	**+0.1**
TDCB				*i* S		**Sn**	**04 36 37.7**	**-0.3**
SBCB	**Hsinchu**	**1.16**	**269**	*eP*		**Pb**	**04 36 21.4**	**-0.4**
SBCB				*eS*		**Sb**	**04 36 36.4**	**-0.6**
NSTT	**Nanjuang**	**1.16**	**261**	⇓P		**Pb**	**04 36 21.4**	**-0.5**
NSTT				*eS*		**Sn**	**04 36 37.4**	**-0.6**
SHUL	**Shoufeng**	**1.22**	**212**	*eP*		**Pg**	**04 36 23.1**	**0.0**
SHUL				*eS*		**Sn**	**04 36 40.7**	**+1.5**
ESL	**Shilin**	**1.26**	**217**	*eP*		**Pb**	**04 36 23.4**	**-0.1**
ESL				*eS*		**Sg**	**04 36 39.8**	**-0.6**
OWD	**Renai**	**1.32**	**229**	*eP*		**Pg**	**04 36 24.7**	**-0.3**
OWD				*eS*		**Sg**	**04 36 41.9**	**-0.3**
WHP	**Taichung City**	**1.32**	**246**	⇓*eP*		**Pg**	**04 36 25.2**	**+0.1**
WHP				*eS*		**Sg**	**04 36 41.9**	**-0.3**
WUSB	**Renai**	**1.33**	**232**	⇑P		**Pb**	**04 36 24.5**	**-0.4**
WUSB				S		**Sg**	**04 36 42.5**	**-0.2**
WARBT	**Fenglin Townsh**	**1.36**	**216**	P		**Pb**	**04 36 24.9**	**-0.4**
WARBT				*eS*		**Sn**	**04 36 42.7**	**-0.2**
NMLH	**Miaoli**	**1.37**	**258**	*eP*		**Pg**	**04 36 26.2**	**+0.2**
NMLH				*eS*		**Sg**	**04 36 44.6**	**+0.8**
EGFH	**Guangfu**	**1.38**	**214**	*eP*		**Pn**	**04 36 24.8**	**-0.2**
EGFH				*eS*		**Sn**	**04 36 43.1**	**-0.3**
IRIF	**Iriomote-Funau**	**1.42**	**110**	P		**Pn**	**04 36 33.3**	**-2.2**
NSY	**Sanyi**	**1.43**	**254**	*eP*		**Pb**	**04 36 26.1**	**-0.3**
TWQ1	**Liyutan**	**1.44**	**251**	*eP*		**Pg**	**04 36 27.3**	**-0.1**
TWQ1				*eS*		**Sg**	**04 36 45.5**	**-0.6**
HGSD	**Ruisui**	**1.53**	**210**	*eP*		**Pn**	**04 36 27.1**	**0.0**
HGSD				*eS*		**Sb**	**04 36 47.3**	**-0.4**
WDJ	**Dajia District**	**1.55**	**252**	*eP*		**Pb**	**04 36 27.8**	**-0.8**
SMLT	**Sun Moon Lake**	**1.56**	**233**	⇓P		**Pg**	**04 36 29.2**	**-0.4**
SMLT				*eS*		**Sg**	**04 36 49.0**	**-0.9**
EHYH	**Wanrong**	**1.57**	**212**	P		**Pn**	**04 36 27.8**	**+0.2**
EHYH				*eS*		**Sb**	**04 36 48.0**	**-0.7**
EHY	**Hungye**	**1.57**	**213**	P		**Pn**	**04 36 27.2**	**-0.4**
EHY				*eS*		**Sn**	**04 36 47.7**	**-0.3**
TYC	**Yuchr**	**1.58**	**235**	⇑P		**Pb**	**04 36 29.2**	**+0.2**
TYC				*eS*		**Sb**	**04 36 49.0**	**+0.1**
SSLB	**Suanglung**	**1.58**	**229**	P		**Pg**	**04 36 29.5**	**-0.6**
SSLB	**Suanglung**	**1.58**	**229**	S		**Sg**	**04 36 50.9**	**+0.3**
SSLB	**Suanglung**	**1.58**	**229**	P		**Pg**	**04 36 29.4**	**-0.4**
SSLB	**Suanglung**	**1.58**	**229**	S		**Sg**	**04 36 50.3**	**-0.3**
SSLB	**Suanglung**	**1.58**	**229**	⇑*iP*		**Pb**	**04 36 29.0**	**0.0**
SSLB				*eS*		**Sb**	**04 36 48.9**	**-0.2**
TCU	**Taichung**	**1.60**	**245**	*eP*		**Pg**	**04 36 30.9**	**+0.5**
HATJ	**Hateruma jima**	**1.60**	**118**	P		**Pn**	**04 36 26.6**	**-1.4**
ECBN	**Changbin**	**1.68**	**206**	*eP*		**Pn**	**04 36 28.4**	**-0.7**
ECBN				*eS*		**Sn**	**04 36 49.8**	**-0.8**
YULB	**Yu-li**	**1.68**	**212**	P		**Pb**	**04 36 30.0**	**-0.7**
YULB	**Yu-li**	**1.68**	**212**	S		**Sg**	**04 36 53.1**	**-0.6**
YULB	**Yu-li**	**1.68**	**212**	P		**Pb**	**04 36 30.8**	**+0.1**
YULB	**Yu-li**	**1.68**	**212**	*eP*		**Pn**	**04 36 29.4**	**+0.3**
YULB				*eS*		**Sn**	**04 36 49.7**	**-1.0**
JKRS	**Kuro-shima**	**1.69**	**110**	P		**Pn**	**04 36 27.8**	**-1.5**
EYUL	**Yuli**	**1.71**	**211**	*eP*		**Pn**	**04 36 29.6**	**+0.1**
EYUL				*eS*		**Sb**	**04 36 52.5**	**-0.1**
WHYT	**Xinyi Township**	**1.71**	**229**	*eP*		**Pg**	**04 36 31.9**	**-0.7**
WHYT				*eS*		**Sg**	**04 36 54.0**	**-0.8**
TWF1	**Yuli**	**1.71**	**211**	*eP*		**Pn**	**04 36 29.2**	**-0.4**
TWF1				*eS*		**Sn**	**04 36 51.6**	**0.0**
WJS	**Zhushan**	**1.72**	**235**	*eP*		**Pb**	**04 36 31.6**	**+0.2**
WJS				*eS*		**Sg**	**04 36 55.9**	**+0.8**
WNT	**Mingjian**	**1.72**	**237**	*eP*		**Pg**	**04 36 32.5**	**-0.3**
WNT				*eS*		**Sg**	**04 36 55.5**	**+0.4**
JIJ	**Ishigaki jima**	**1.77**	**105**	P		**Pn**	**04 36 28.9**	**-1.4**
CHKH	**Chenggong**	**1.81**	**206**	*eP*		**Pn**	**04 36 30.9**	**0.0**
CHKH				*eS*		**Sn**	**04 36 53.2**	**-0.7**
FULB	**Fuli**	**1.85**	**209**	*eP*		**Pn**	**04 36 31.8**	**+0.3**
ALS	**Alishan**	**1.87**	**226**	*eP*		**Pb**	**04 36 34.3**	**+0.2**
JISG	**Ishigakijimahi**	**1.88**	**97**	*eP*		**Pn**	**04 36 32.2**	**+0.4**
CHKT	**Chengkung**	**1.91**	**206**	*eP*		**Pn**	**04 36 31.3**	**-1.0**
CHKT				*eS*		**Sn**	**04 36 55.3**	**-0.9**
WGK	**Gukeng**	**1.92**	**234**	*eP*		**Pb**	**04 36 35.0**	**+0.1**
WGK				*eS*		**Sg**	**04 37 00.8**	**-0.8**
EHD	**Haiduan**	**1.93**	**210**	*eP*		**Pn**	**04 36 31.6**	**-1.0**
WDJH	**Douliu**	**1.94**	**235**	*eP*		**Pb**	**04 36 36.2**	**+0.1**
WDLH				*eS*		**Sg**	**04 37 01.1**	**-1.0**
ECS	**Chishang**	**1.97**	**209**	*eP*		**Pn**	**04 36 33.5**	**+0.3**
ELDTW	**Lidau**	**1.99**	**215**	*eP*		**Pn**	**04 36 34.4**	**+0.9**
EDH	**Donghe**	**2.04**	**206**	*eP*		**Pn**	**04 36 33.5**	**-0.7**
EDH				*eS*		**Sn**	**04 36 57.8**	**-1.9**
WTCT	**Ta-ch'eng**	**2.05**	**242**	*eP*		**Pn**	**04 36 33.7**	**-0.5**
WCKO	**Fanlu**	**2.05**	**228**	*eP*		**Pb**	**04 36 36.4**	**-0.7**
WCKO				*eS*		**Sg**	**04 37 04.9**	**-0.8**
WTK	**Tuku**	**2.05**	**237**	*eP*		**Pb**	**04 36 35.7**	**-1.3**
WTK				*eS*		**Sb**	**04 37 03.4**	**+0.8**
CHN2	**Minshiung**	**2.08**	**232**	*eP*		**Pb**	**04 36 37.1**	**-0.4**
TPUB	**Ta-pu**	**2.13**	**225**	P		**Pb**	**04 36 37.6**	**-0.8**
TPUB	**Ta-pu**	**2.13**	**225**	P		**Pb**	**04 36 38.5**	**+0.1**
TPUB	**Ta-pu**	**2.13**	**225**	*eP*		**Pb**	**04 36 37.7**	**-0.8**
STYH	**Taoyuan**	**2.14**	**220**	*eP*		**Pb**	**04 36 37.1**	**-1.4**
STYH				*eS*		**Sb**	**04 37 04.4**	**-0.7**
CHY	**Chiayi**	**2.14**	**232**	*eP*		**Pb**	**04 36 37.7**	**-0.9**
CHY				*eS*		**Sb**	**04 37 06.2**	**+1.1**
LONT	**Longtian**	**2.17**	**209**	*eP*		**Pb**	**04 36 37.5**	**-1.7**
LONT				*eS*		**Sn**	**04 37 03.0**	**+0.1**
WTP	**Ta-pu**	**2.18**	**224**	*eP*		**Pb**	**04 36 38.8**	**-0.4**
WTP				*eS*		**Sb**	**04 37 07.0**	**+0.7**
WSF	**Szhu**	**2.21**	**238**	*eP*		**Pn**	**04 36 36.5**	**+0.1**
WSF				*eS*		**Sb**	**04 37 07.8**	**+0.7**
JTJ	**Tarama**	**2.23**	**94**	P		**Pn**	**04 36 37.0**	**+0.4**
TWK	**Hsinying**	**2.25**	**227**	*eP*		**Pb**	**04 36 39.9**	**-0.5**
TWK				*eS*		**Sg**	**04 37 10.0**	**-2.0**
LDUT	**Ludao**	**2.26**	**199**	*eP*		**Pn**	**04 36 36.5**	**-0.7**
WSL	**Shuilin Townsh**	**2.27**	**235**	*eP*		**Pb**	**04 36 39.0**	**-1.8**
WSL				S		**Sb**	**04 37 09.5**	**+0.7**
SNST	**Tainan City**	**2.27**	**226**	*eP*		**Pb**	**04 36 40.3**	**-0.5**
SNST				*eS*		**Sb**	**04 37 09.8**	**+0.8**
TWGBT	**Beinan**	**2.27**	**209**	P		**Pn**	**04 36 37.6**	**+0.3**
TWGBT	**Beinan**	**2.27**	**209**	S		**Sb**	**04 37 07.4**	**-1.6**
TWGBT	**Beinan**	**2.27**	**209**	P		**Pb**	**04 36 40.1**	**-0.8**
TWGBT	**Beinan**	**2.27**	**209**	*eP*		**Pn**	**04 36 37.2**	**-0.1**
TWGBT				*eS*		**Sn**	**04 37 06.3**	**+0.9**
TWG	**Pinlang**	**2.28**	**209**	*eP*		**Pn**	**04 36 37.5**	**+0.2**
TWG				*eS*		**Sn**	**04 37 04.2**	**-1.2**
MATB	**Ma-tsu**	**2.48**	**303**	*eP*		**Pn**	**04 36 38.2**	**-1.9**
SCST	**Cishan**	**2.52**	**220**	*eP*		**Pb**	**04 36 44.6**	**-0.5**
SCST				*eS*		**Sb**	**04 37 15.8**	**-0.4**
ECL	**Taimali**	**2.52**	**209**	*eP*		**Pn**	**04 36 41.8**	**+1.1**
SSD	**Sandimen**	**2.55**	**216**	*eP*		**Pb**	**04 36 43.5**	**-2.1**
VWUC	**VWUC**	**2.56**	**274**	*eP*		**Pn**	**04 36 39.6**	**-1.6**
TSCK	**Chigu Township**	**2.60**	**230**	*eP*		**Pn**	**04 36 43.6**	**+1.8**
TSCK				*eS*		**Sb**	**04 37 16.6**	**-1.8**
MASBT	**Mashibuluo**	**2.66**	**214**	*eP*		**Pn**	**04 36 44.2**	**+1.6**
MASBT				*eS*		**Sb**	**04 37 17.3**	**-3.0**
EAST	**Anshuo**	**2.76**	**208**	*eP*		**Pn**	**04 36 44.6**	**+0.6**
PNG	**Penghu**	**2.77**	**244**	*eP*		**Pn**	**04 36 44.8**	**+0.7**
PNG				*eS*		**Sn**	**04 37 18.7**	**+1.0**
PHUB	**P'eng-hu**	**2.78**	**243**	*eP*		**Pn**	**04 36 43.8**	**-0.5**
PHUB				S		**Sn**	**04 37 18.4**	**+0.5**
XPSS	**Dashiqiu**	**2.81**	**319**	*eP*		**Pn**	**04 36 43.2**	**-1.4**
WDGT	**Dungji**	**2.85**	**237**	*eP*		**Pn**	**04 36 47.0**	**+1.9**
WDGT				*eS*		**Sn**	**04 37 21.1**	**+1.6**
LAY	**Lan-yu**	**2.85**	**193**	*eP*		**Pn**	**04 36 45.5**	**+0.2**
PTMZ	**Houxiangcun**	**2.86**	**275**	*eP*		**Pn**	**04 36 43.9**	**-1.4**
SCZT	**Fangliau**	**2.87**	**212**	*eP*		**Pn**	**04 36 47.6**	**+2.1**
VCHM	**Qimei**	**3.05**	**239**	*eP*		**Pn**	**04 36 48.0**	**0.0**
MHZQ	**Yeshan**	**3.19**	**294**	*eP*		**Pn**	**04 36 47.6**	**-2.2**
KNMB	**Chin-men Tao**	**3.54**	**265**	*eP*		**Pn**	**04 36 53.8**	**-1.0**
AXDP	**Jialang**	**3.90**	**272**	*eP*		**Pn**	**04 36 58.2**	**-1.4**
ZPLA	**Ao Xicun**	**4.21**	**259**	*eP*		**Pn**	**04 37 03.3**	**-0.6**
DSXP	**Dongshan**	**4.55**	**257**	*eP*		**Pn**	**04 37 08.2**	**-0.4**
JOW	**Kunigami**	**5.77**	**68**	Pn		Pn	04 37 30.3	+4.9
	1.0nm,0.3s,baz=250,slow=12,SNR=6.0							
	7.5nm,0.5s							
KSRS	**Korea Array**	**13.48**	**20**	Pn		**Pn**	**04 39 14.3**	**+3.3**
	0.2nm,0.3s,baz=193,slow=11,SNR=6.4							
	0.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**22.57**	**258**	P		**P**	**04 41 00.3**	**0.0**
	2.4nm,0.3s,baz=69,slow=10,SNR=1.9							
	2.4nm,0.3s							
ASAJ	**Asahikawa**	**25.40**	**36**	LR		LR	04 52 39.8	
	comp=Z,46nm,19.4s,baz=163,slow=39							
SONM	**Songino Array**	**26.18**	**335**	P		**P**	**04 41 34.8**	**+0.4**
	6.4nm,1.1s,baz=154,slow=10,SNR=9.2

TDCB	**Techi**	**1.17 240**	*e*P		**Pg**	**04 36 52.5**	**+0.5**
TDCB			*i* S		**Sg**	**04 37 08.0**	**+0.7**
ESL	**Shilin**	**1.28 217**	*e*P		**Pg**	**04 36 54.8**	**+0.8**
ESL			*e*S		**Sg**	**04 37 10.1**	**-0.7**
WHP	**Taichung City**	**1.33 245**	*e*P		**Pg**	**04 36 55.5**	**+0.5**
WHP			*e*S		**Sg**	**04 37 12.2**	**-0.2**
OWD	**Renai**	**1.34 228**	*e*P		**Pg**	**04 36 54.6**	**-0.5**
OWD			*e*S		**Sg**	**04 37 12.2**	**-0.4**
WUSB	**Renai**	**1.35 231**	P		**Pg**	**04 36 54.8**	**-0.6**
WUSB			S		**Sg**	**04 37 12.8**	**-0.3**
IRIF	**Iriomote-Funau**	**1.43 111**	*e*P		**Pb**	**04 36 55.1**	**-0.1**
IRIF			*e*S		**Sn**	**04 37 13.0**	**+0.6**
SMLT	**Sun Moon Lake**	**1.58 233**	P		**Pg**	**04 36 59.5**	**-0.1**
SMLT			*e*S		**Sg**	**04 37 19.3**	**-0.8**
EHYH	**Wanrong**	**1.59 212**	P		**Pb**	**04 36 58.1**	**0.0**
EHYH			*e*S		**Sb**	**04 37 18.3**	**+0.5**
SSLB	**Suanglung**	**1.60 229**	*i* P		**Pg**	**04 36 59.3**	**-0.7**
SSLB			*e*S		**Sb**	**04 37 19.2**	**+1.2**
TCU	**Taichung**	**1.61 245**	*e*P		**Pg**	**04 37 01.2**	**+1.0**
YULB	**Yu-li**	**1.70 212**	*e*P		**Pb**	**04 36 59.7**	**-0.2**
YULB			*e*S		**Sn**	**04 37 20.0**	**+0.8**
TWF1	**Yuli**	**1.73 211**	*e*P		**Pn**	**04 36 59.5**	**+1.1**
TWF1			*e*S		**Sb**	**04 37 21.9**	**-0.1**
WJS	**Zhushan**	**1.74 234**	*e*P		**Pg**	**04 37 01.9**	**-0.8**
WJS			*e*S		**Sg**	**04 37 26.2**	**+0.9**
TPUB	**Ta-pu**	**2.15 224**	P		**Pn**	**04 37 04.8**	**+0.7**
KSRS	**Korea Array**	**13.46 20**	Pn		**P**	**04 39 47.2**	**-1.3**
	0.2nm,0.3s,baz=200,slow=13,SNR=4.4						
CMAR	**Chiang Mai Arr**	**22.58 258**	P		**P**	**04 41 27.5**	**-1.2**
	2.0nm,0.3s,baz=72,slow=11,SNR=2.0						
	2.0nm,0.3s						
SONM	**Songino Array**	**26.16 335**	P		**P**	**04 42 04.7**	**+2.2**
	4.6nm,1.0s,baz=152,slow=9.4,SNR=5.8						
	4.6nm,1.0s						
ZALV	**Zalesovo Beam**	**40.23 326**	P		**P**	**04 44 04.9**	**+0.3**
	0.8nm,0.5s,baz=114,slow=7.1,SNR=1.5						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**46.05 164**	P		**P**	**04 44 52.8**	**+0.8**
	3.3nm,0.8s,baz=346,slow=8.6,SNR=12						
	3.3nm,0.8s						
BVAR	**Borovoye Array**	**47.79 320**	P		**P**	**04 45 03.7**	**-1.6**
	1.4nm,0.7s,baz=90,slow=8.9,SNR=1.8						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**49.53 166**	P		**P**	**04 45 17.5**	**-1.4**
	1.0nm,0.8s,baz=347,slow=7.8,SNR=5.1						
	1.0nm,0.8s						

*PGC **08** 04:52:56.3±0.1,59.96N×140.68W,h0km,ML3.6/32, ML3.5(AEIC),68km northwest of Yakutat, Ak Southeastern Alaska*

*ANF **08** 04:52:56.3±0.2,60.04N×140.63W,h4km±1km,ML3.8/54, Error ellipse: s-maj=1.9km s-min=1.1km az=7.0*

*AEIC **08** 04:52:56.9±1.4,60.05N±0.02×140.64W±0.03,h10km±5km, ML3.5,ML3.6/64(NEIC),Mwr3.7/17(NEIC),Error ellipse: s-maj=3.8km s-min=1.6km az=204.0*

*NEIC **08** 04:52:57.0±1.8,60.09N±0.02×140.64W±0.03,h10km±1km, Error ellipse: s-maj=3.6km s-min=2.8km az=203.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr0.20; Mθθ-1.58; Mφφ1.39; Mrθ3.67; Mθφ-0.55; Mφr-1.21; Fault plane solution: M0 4.18000×10¹⁴ NP1: φs112.10000°,δ86.84000°,λ109.98000°. NP2: φs210.72000°,δ20.22000°,λ9.18000°. Principal axes: T 3.7807, Plg45.0000°, Azm42.0000°; N 0.7063, Plg20.0000°, Azm291.0000°; P -4.4870, Plg39.0000°, Azm184.0000°;*

*NEIC **08** 04:52:57.2,60.10N×140.63W,h10km*

ISC 08 04:52:57.4±0.7, 60°08N±0°02×140°60W±0°01, h14km±4km, n296,σ1s38/393, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAMH	**Samovar Hills**	**0.10**	**299**		**Pg**	**04 53 01.8**	**+1.1**
SAMH					**Sg**	**04 53 01.9**	**-1.0**
SAMH	**Samovar Hills**	**0.10**	**299**	P	**Pg**	**04 52 59.1**	**-1.6**
SAMH				S	**Pg**	**04 53 01.9**	**+1.1**
PCA	**Pinnacle**	**0.17**	**84**		**Pg**	**04 53 01.2**	**-0.4**
PCA				IAML		04 53 06.5	
	comp=E,11μm,0.6s						
PCA				IAML		04 53 08.5	
	comp=N,15μm,0.7s						
PCA	**Pinnacle**	**0.17**	**84**	P	**Pg**	**04 53 01.3**	**-0.4**
PCA				S	**Sg**	**04 53 04.9**	**+0.4**
PINM	**Pinnacle**	**0.18**	**85**	P	**Pg**	**04 53 01.1**	**-0.6**
	baz=259,SNR=1000						
PINM				S	**Sg**	**04 53 04.7**	**+0.2**
	baz=259						
CHX	**Chaix Hills**	**0.26**	**267**		**Pg**	**04 53 06.2**	**+3.1**
CHX					**Sg**	**04 53 06.6**	**-0.2**
RKAV	**Rock Avalanche**	**0.43**	**301**		**Pg**	**04 53 05.5**	**-0.6**
RKAV					**Sg**	**04 53 11.0**	**-1.0**
RKAV	**Rock Avalanche**	**0.43**	**301**	P	**Pg**	**04 53 05.7**	**-0.4**
RKAV				S	**Sg**	**04 53 11.8**	**-0.1**
TABL	**Table Mountain**	**0.45**	**324**		**Pg**	**04 53 05.6**	**-0.8**
TABL				Sg	**Sb**	**04 53 14.3**	**+0.4**
TABL	**Table Mountain**	**0.45**	**324**	P	**Pg**	**04 53 06.1**	**-0.4**
TABL				S	**Sb**	**04 53 13.7**	**-0.2**
BCPM	**Bancas Point**	**0.50**	**104**		**Pg**	**04 53 06.8**	**-0.6**
BCPM					**Sb**	**04 53 15.9**	**+0.7**
BCPM	**Bancas Point**	**0.50**	**104**	IAML		04 53 15.9	
	comp=N,2μm,0.7s						
BCPM				IAML		04 53 16.3	
	comp=E,3μm,0.5s						
YAH	**Yahtse**	**0.64**	**297**		**Pg**	**04 53 09.6**	**-0.3**
YAH				Sg	**Sb**	**04 53 20.9**	**+1.6**
YAH				IAML		04 53 23.8	
	comp=E,3μm,0.9s						
YAH				IAML		04 53 24.1	
	comp=N,5μm,1.1s						
MESA	**MESA**	**0.68**	**279**		**Pg**	**04 53 10.2**	**-0.6**
MESA				Sg	**Sb**	**04 53 21.4**	**+0.9**
MESA				IAML		04 53 27.7	
	comp=N,3μm,0.9s						
MESA				IAML		04 53 27.9	
	comp=E,3μm,0.8s						
MESA	**MESA**	**0.68**	**279**	P	**Pg**	**04 53 10.1**	**-0.6**
MESA				S	**Sg**	**04 53 17.6**	**-2.2**
MESA	**MESA**	**0.68**	**279**	P	**Pg**	**04 53 10.1**	**-0.6**
	baz=100,SNR=139						
MESA				S	**Sg**	**04 53 19.0**	**-0.8**
	baz=100						
O28M	**Mount Upton**	**0.72**	**16**		**Pg**	**04 53 11.1**	**-0.5**
O28M					Pn	04 53 22.1	+8.6
O28M					**Sb**	**04 53 22.5**	**+0.6**
O28M	**Mount Upton**	**0.72**	**16**	P	**Pg**	**04 53 11.1**	**-0.5**
O28M				S	**Sb**	**04 53 22.4**	**+0.6**
O28M	**Mount Upton**	**0.72**	**16**	P	**Pg**	**04 53 11.1**	**-0.5**
	baz=198,SNR=1000						
O28M				S	**Sg**	**04 53 21.8**	**+0.7**
	baz=198						
PNL	**Peninsula**	**0.73**	**124**		**Pg**	**04 53 10.2**	**-1.5**
PNL	**Peninsula**	**0.73**	**124**	P	**Pg**	**04 53 10.2**	**-1.5**
PNL	**Peninsula**	**0.73**	**124**	P	**Pg**	**04 53 10.3**	**-1.5**
	baz=302,SNR=1000						
PNL				Sb	**Sg**	**04 53 21.1**	**-0.2**
	baz=302						
YKU2	**Yakutat**	**0.74**	**140**		**Pn**	**04 53 15.3**	**+2.0**
YKU2				IAML		04 53 24.2	
	comp=E,2μm,0.7s						
YKU2				IAML		04 53 34.3	
	comp=N,3μm,0.6s						
LOGN	**Logan Glacier**	**0.77**	**345**		**Pg**	**04 53 11.6**	**-0.9**
LOGN				Sg	**Sb**	**04 53 23.8**	**+0.6**
LOGN	**Logan Glacier**	**0.77**	**345**	P	**Pg**	**04 53 11.7**	**-0.8**
LOGN				S	**Sb**	**04 53 23.9**	**+0.7**
GRNC	**Granite Creek**	**0.87**	**319**		**Pg**	**04 53 12.8**	**-1.5**
GRNC				IAML		04 53 28.2	
	comp=E,2μm,0.7s						
GRNC	**Granite Creek**	**0.87**	**319**		**Sb**	**04 53 26.6**	**+0.6**
GRNC					**Sn**	**04 53 27.4**	**-0.6**
GRNC	**Granite Creek**	**0.87**	**319**	P	**Pg**	**04 53 13.0**	**-1.2**
GRNC				S	**Sb**	**04 53 26.2**	**+0.3**
CYK	**Cape Yakataga**	**0.94**	**271**		**Pg**	**04 53 14.2**	**-1.4**
CYK					**Pb**	**04 53 14.9**	**-0.6**
CTGM	**Chitina Glacie**	**0.96**	**338**		**Pg**	**04 53 14.6**	**-1.5**
CTGM					**Sg**	**04 53 28.5**	**0.0**
CTGM				IAML		04 53 34.1	
	comp=E,1μm,1.0s						
CTGM	**Chitina Glacie**	**0.96**	**338**	P	**Pg**	**04 53 14.5**	**-1.5**
CTGM				S	**Sb**	**04 53 28.9**	**+0.4**
CTG	**Chitna Glacier**	**0.96**	**338**	P	**Pg**	**04 53 14.6**	**-1.4**
	baz=159,SNR=172						
CTG				S	**Sg**	**04 53 28.7**	**+0.1**
	baz=159						
ISLE	**Juniper Island**	**1.01**	**302**		**Pg**	**04 53 15.3**	**-1.7**
ISLE				IAML		04 53 35.5	
	comp=E,1μm,0.7s						
ISLE				IAML		04 53 41.5	
	comp=N,2μm,0.9s						
O29M	**Mount Kennedy**	**1.04**	**77**		**Pg**	**04 53 15.9**	**-1.5**
O29M					**Sb**	**04 53 31.7**	**+1.0**
O29M	**Mount Kennedy**	**1.04**	**77**	P	**Pg**	**04 53 16.0**	**-1.5**
O29M				S	**Sg**	**04 53 30.7**	**-0.3**
O29M	**Mount Kennedy**	**1.04**	**77**	P	**Pg**	**04 53 15.9**	**-1.5**
	baz=257,SNR=233						
O29M				S	**Sg**	**04 53 31.2**	**+0.2**
	baz=257						
BARN	**Barnard Glacie**	**1.11**	**332**		**Pg**	**04 53 17.0**	**-1.9**
BARN				IAML		04 53 38.8	
	comp=E,2μm,0.6s						
BARN				IAML		04 53 41.9	
	comp=N,1μm,0.8s						
SNH	**Sunshine Point**	**1.12**	**276**		**Pg**	**04 53 17.1**	**-1.9**
SNH				IAML		04 53 36.5	
	comp=N,1μm,0.9s						
WAX	**Waxell Ridge**	**1.18**	**289**		**Pb**	**04 53 18.1**	**-1.5**
WAX				IAML		04 53 45.8	
	comp=E,2μm,0.7s						
KIAG	**Kiagna River**	**1.21**	**315**		**Sb**	**04 53 36.0**	**+0.2**
KIAG	**Kiagna River**	**1.21**	**315**	P	**Pb**	**04 53 18.5**	**-1.8**
KIAG				S	**Sb**	**04 53 35.9**	**0.0**
YUK8	**Steele Glacier**	**1.28**	**18**		**Pn**	**04 53 20.7**	**-0.4**
YUK8	**Steele Glacier**	**1.28**	**18**	P	**Pn**	**04 53 20.7**	**-0.4**
YUK8				S	**Sn**	**04 53 39.6**	**+1.4**
YUK8	**Steele Glacier**	**1.28**	**18**	P	**Pn**	**04 53 20.7**	**-0.4**
	baz=200,SNR=621						
YUK8				S	**Sg**	**04 53 39.0**	**+0.4**
	baz=200						
BALM	**Baldy**	**1.29**	**319**		**Sn**	**04 53 38.8**	**+0.6**
BALM	**Baldy**	**1.29**	**319**	P	**Pn**	**04 53 19.7**	**-1.4**
BALM				S	**Sn**	**04 53 38.8**	**+0.6**
TGL	**Tana Glacier**	**1.30**	**303**		**Pn**	**04 53 19.9**	**-1.3**
YUK7	**Dusty Glacier**	**1.31**	**69**	P	**Pn**	**04 53 21.9**	**+0.5**
YUK7				S	**Sb**	**04 53 39.5**	**+0.9**
BGLC	**Bering Glacier**	**1.34**	**273**	P	**Pn**	**04 53 21.2**	**-0.5**
	baz=92						
BGLC				S	**Sg**	**04 53 40.9**	**+0.2**
	baz=92						
KHIT	**Khitrov Hills**	**1.37**	**287**		**Sg**	**04 53 41.4**	**-0.2**
YUK6	**Outpost Mounta**	**1.41**	**51**		**Pn**	**04 53 23.4**	**+0.6**
YUK6	**Outpost Mounta**	**1.41**	**51**	Pn	**Pn**	**04 53 23.4**	**+0.6**
YUK6				Sn	**Sg**	**04 53 43.5**	**+0.8**
YUK6	**Outpost Mounta**	**1.41**	**51**	P	**Pn**	**04 53 23.4**	**+0.6**
	baz=233,SNR=1000						
YUK6				S	**Sg**	**04 53 43.5**	**+0.8**
	baz=233						
CRQE	**Cirque**	**1.41**	**300**	P	**Pn**	**04 53 21.7**	**-1.1**
	baz=119						
CRQE				S	**Sg**	**04 53 42.8**	**0.0**
	baz=119						
CRQM	**Cirque**	**1.43**	**299**		**Pn**	**04 53 21.6**	**-1.5**
CRQM				IAML		04 53 44.0	
	comp=E,994nm,0.7s						
CRQM				IAML		04 53 48.4	
	comp=N,1μm,0.6s						
PTPK	**Patty Peak**	**1.44**	**321**	Pn	**Pn**	**04 53 22.2**	**-1.0**
PTPK				Sn	**Sb**	**04 53 43.0**	**+0.6**
BRWY	**Burwash Landin**	**1.51**	**30**	Pn	**Pn**	**04 53 24.9**	**+0.9**
BRWY				Sn	**Sg**	**04 53 46.6**	**+0.7**
P29M	**Windy Craggy**	**1.51**	**106**		**Pn**	**04 53 23.2**	**-1.0**
P29M					**Sn**	**04 53 43.5**	**-0.1**
P29M	**Windy Craggy**	**1.51**	**106**	Pn	**Pn**	**04 53 23.3**	**-0.8**
P29M				Sn	**Sn**	**04 53 42.6**	**-1.0**
P29M	**Windy Craggy**	**1.51**	**106**	P	**Pn**	**04 53 23.1**	**-1.0**
	baz=288,SNR=60						
P29M				S	**Sn**	**04 53 44.1**	**+0.5**
	baz=288						
BERG	**Berg Lake**	**1.58**	**283**		**Pn**	**04 53 24.5**	**-0.5**
BERG	**Berg Lake**	**1.58**	**283**		**Sg**	**04 53 46.6**	**-1.6**
SUCK	**Suckling Hills**	**1.59**	**271**		**Pn**	**04 53 25.2**	**0.0**
YUK4	**Talbot Arm**	**1.59**	**36**	Pn	**Pg**	**04 53 28.8**	**+0.8**
YUK4				Sn	**Sg**	**04 53 51.9**	**+3.2**
YUK4	**Talbot Arm**	**1.59**	**36**	Pb	**Pg**	**04 53 28.6**	**+0.6**
	baz=218,SNR=663						
YUK3	**Moose Creek**	**1.70**	**2**		**Pn**	**04 53 27.7**	**+0.8**
YUK3	**Moose Creek**	**1.70**	**2**	Pn	**Pb**	**04 53 28.1**	**-0.5**
YUK3				Sn	**Sg**	**04 53 51.8**	**-0.5**
YUK3	**Moose Creek**	**1.70**	**2**	P	**Pn**	**04 53 27.6**	**+0.8**
	baz=183,SNR=1000						
YUK3				Sb	**Sg**	**04 53 53.1**	**+0.8**
	baz=183						
HYT	**Haines Junctio**	**1.71**	**63**		**Pn**	**04 53 27.4**	**+0.5**
HYT	**Haines Junctio**	**1.71**	**63**	Pn	**Pn**	**04 53 27.4**	**+0.5**
HYT				Sn	**Sb**	**04 53 51.1**	**+1.1**
HYT	**Haines Junctio**	**1.71**	**63**	P	**Pn**	**04 53 27.4**	**+0.5**
	baz=245,SNR=396						
HYT				S	**Sb**	**04 53 51.1**	**+1.1**
	baz=245						
YUK5	**Granite Creek**	**1.72**	**51**		**Pb**	**04 53 28.7**	**-0.1**
YUK5	**Granite Creek**	**1.72**	**51**	Pn	**Pb**	**04 53 28.5**	**-0.3**
YUK5				Sn	**Sg**	**04 53 52.1**	**-0.5**
YUK2	**White River**	**1.72**	**356**	Pn	**Pn**	**04 53 28.1**	**+1.2**
YUK2				Sn	**Sb**	**04 53 51.9**	**+1.6**
MCARA	**McCarthy VSAT**	**1.77**	**319**		**Pn**	**04 53 27.2**	**-0.4**
MCARA				IAML		04 54 04.7	
	comp=E,878nm,0.6s						
MCARA				IAML		04 54 06.9	
	comp=N,835nm,0.8s						
MCARA	**McCarthy VSAT**	**1.77**	**319**	Pn	**Pn**	**04 53 28.2**	**+0.6**
MCARA				Sn	**Sb**	**04 53 52.2**	**+0.6**
MCARA	**McCarthy VSAT**	**1.77**	**319**	P	**Pn**	**04 53 27.4**	**-0.2**
	baz=138,SNR=127						
MCARA				S	**Sb**	**04 53 52.4**	**+0.8**
	baz=138						
VRDI	**Verde Repeater**	**1.82**	**311**		**Pn**	**04 53 27.9**	**-0.5**
VRDI				IAML		04 53 59.8	
	comp=N,461nm,0.9s						
P30M	**Million Dollar**	**1.82**	**87**		**Pn**	**04 53 28.8**	**+0.4**
P30M	**Million Dollar**	**1.82**	**87**	Pn	**Pn**	**04 53 28.6**	**+0.2**
P30M				Sn	**Sb**	**04 53 53.4**	**+0.2**
P30M	**Million Dollar**	**1.82**	**87**	P	**Pn**	**04 53 28.7**	**+0.4**
	baz=270						
P30M				S	**Sb**	**04 53 53.5**	**+0.2**
	baz=270						
HMT	**Hamilton**	**1.84**	**280**		**Pn**	**04 53 28.2**	**-0.4**
KAIM	**Kayak Island**	**1.92**	**267**		**Pn**	**04 53 29.4**	**-0.3**
KAIM				IAML		04 54 13.7	
	comp=N,412nm,0.7s						
KAIM	**Kayak Island**	**1.92**	**267**	P	**Pn**	**04 53 29.0**	**-0.7**
	baz=84						
KAIM				Sb	**Sb**	**04 53 56.5**	**+0.5**
	baz=84						
RAGM	**Ragged Mountai**	**2.06**	**280**		**Pn**	**04 53 30.9**	**-0.6**
GLB	**Gilahina Butte**	**2.08**	**312**		**Pn**	**04 53 31.7**	**-0.3**
GLB				IAML		04 54 09.8	
	comp=N,355nm,0.8s						
BMRM	**Bremner River**	**2.17**	**296**		**Pn**	**04 53 32.8**	**-0.4**
BMRM	**Bremner River**	**2.17**	**296**	P	**Pn**	**04 53 32.7**	**-0.5**
	baz=113						
BMRM				S	**Sn**	**04 54 01.6**	**+1.7**
	baz=113						
N30M	**Aishikik Lake**	**2.21**	**50**		**Pn**	**04 53 34.4**	**+0.7**
N30M	**Aishikik Lake**	**2.21**	**50**	Pn	**Pn**	**04 53 34.5**	**+0.7**
N30M				Sn	**Sb**	**04 54 04.3**	**-0.1**
N30M	**Aishikik Lake**	**2.21**	**50**	P	**Pn**	**04 53 34.0**	**+0.3**
	baz=233,SNR=60						
N30M				Sb	**Sg**	**04 54 07.7**	**-0.7**
	baz=233						
PLBC	**Pleasant Camp**	**2.23**	**104**	Pn	**Pn**	**04 53 34.2**	**+0.3**
PLBC				Sn	**Sn**	**04 54 01.6**	**+0.4**
PLBC	**Pleasant Camp**	**2.23**	**104**	P	**Pn**	**04 53 33.8**	**-0.1**
	baz=287,SNR=47						
PLBC				S	**Sn**	**04 54 03.0**	**+1.8**
	baz=287						
O30N	**Mendenhall**	**2.34**	**71**		**Pn**	**04 53 35.9**	**+0.4**
O30N	**Mendenhall**	**2.34**	**71**	Pn	**Pn**	**04 53 35.7**	**+0.2**
O30N				Sn	**Sn**	**04 54 06.1**	**+2.0**
O30N	**Mendenhall**	**2.34**	**71**	P	**Pn**	**04 53 35.9**	**+0.4**
	baz=254,SNR=84						
O30N				S	**Sn**	**04 54 05.9**	**+1.9**
	baz=254						
BVCY	**Beaver Creek**	**2.35**	**357**	Pn	**Pb**	**04 53 37.9**	**-1.5**
BVCY				Sn	**Sb**	**04 54 08.2**	**-0.1**
BVCY	**Beaver Creek**	**2.35**	**357**	P	**Pn**	**04 53 36.8**	**+1.2**
	baz=177,SNR=165						
M27K	**Edge Creek, AK**	**2.37**	**345**	Pn	**Pn**	**04 53 37.3**	**+1.4**
M27K	**Edge Creek, AK**	**2.37**	**345**	P	**Pn**	**04 53 37.1**	**+1.2**
	baz=165,SNR=177						
N25K	**Chitina, Valde**	**2.48**	**310**	Pn	**Pn**	**04 53 38.0**	**+0.5**
N25K					Sn	**Sn**	**04 54 09.6**	**+2.0**
N25K	**Chitina, Valde**	**2.48**	**310**	P	**Pn**	**04 53 37.7**	**+0.2**
	baz=127						
M29M	**Somme Creek**	**2.59**	**23**		**Pn**	**04 53 40.4**	**+1.4**
M29M	**Somme Creek**	**2.59**	**23**	Pn	**Pn**	**04 53 40.4**	**+1.4**
M29M					Sn	**Sb**	**04 54 14.7**	**-0.6**
M29M	**Somme Creek**	**2.59**	**23**	P	**Pn**	**04 53 39.9**	**+1.0**
	baz=205,SNR=330						
M26K	**Nabesna, AK**	**2.60**	**335**	Pn	**Pn**	**04 53 39.9**	**+0.9**
M26K	**Nabesna, AK**	**2.60**	**335**	P	**Pn**	**04 53 39.9**	**+0.9**
	baz=153,SNR=58						
EYAK	**Cordova Ski Ar**	**2.60**	**283**		**Pn**	**04 53 38.7**	**-0.3**
EYAK	**Cordova Ski Ar**	**2.60**	**283**	P	**Pn**	**04 53 38.6**	**-0.4**
	baz=99						
SKAG	**Skagway**	**2.74**	**101**		**Pn**	**04 53 41.2**	**+0.3**
SKAG				IAML		04 54 23.8	
	comp=E,167nm,0.7s						
N31M	**Braeburn, Yuko**	**2.75**	**57**	Pn	**Pn**	**04 53 42.1**	**+1.0**
N31M					Sn	**Sn**	**04 54 16.7**	**+2.5**
N31M	**Braeburn, Yuko**	**2.75**	**57**	P	**Pn**	**04 53 42.0**	**+0.8**
	baz=241,SNR=177						
DIV	**Divide**	**2.76**	**295**		**Pn**	**04 53 40.8**	**-0.5**
DIV				IAML		04 54 26.1	
	comp=N,204nm,0.8s						
DIV	**Divide**	**2.76**	**295**	Pn	**Pn**	**04 53 41.1**	**-0.2**
DIV					Sn	**Sn**	**04 54 15.1**	**+0.8**
WHY	**Whitehorse**	**2.90**	**76**		**Pn**	**04 53 43.8**	**+0.5**
WHY	**Whitehorse**	**2.90**	**76**	Pn	**Pn**	**04 53 43.7**	**+0.5**
WHY					Sn	**Sn**	**04 54 20.3**	**+2.4**
WHY	**Whitehorse**	**2.90**	**76**	P	**Pn**	**04 53 43.6**	**+0.5**
	baz=261,SNR=87						
HIN	**Hinchinbrook I**	**2.96**	**279**		**Pn**	**04 53 44.1**	**+0.1**
HIN				IAML		04 54 43.0	
	comp=E,225nm,1.0s						
HIN				IAML		04 54 48.6	
	comp=N,193nm,1.0s						
KLU	**Klutina**	**2.97**	**301**		**Pn**	**04 53 44.3**	**+0.1**
KLU				IAML		04 54 37.0	
	comp=E,285nm,0.9s						
KLU	**Klutina**	**2.97**	**301**	P	**Pn**	**04 53 44.1**	**0.0**
	baz=117						
FID	**Port Fidalgo**	**2.99**	**286**		**Pn**	**04 53 44.2**	**-0.2**
FID				IAML		04 54 31.3	
	comp=N,220nm,0.7s						
FID				IAML		04 54 39.1	
	comp=E,264nm,0.7s						
BCAR	**Beaver Creek A**	**3.05**	**350**		**Pn**	**04 53 45.6**	**+0.4**
L27K	**Beaver Creek,**	**3.05**	**349**	Pn	**Pn**	**04 53 46.0**	**+0.8**
L27K	**Beaver Creek,**	**3.05**	**349**	P	**Pn**	**04 53 45.8**	**+0.5**
	baz=169,SNR=73						
S31K	**Pelican**	**3.10**	**131**	Pn	**Pn**	**04 53 46.8**	**+0.9**
S31K					Sn	**Sn**	**04 54 20.6**	**-2.0**
S31K	**Pelican**	**3.10**	**131**	P	**Pn**	**04 53 45.2**	**-0.7**
	baz=314						
M30M	**Minto, Yukon**	**3.11**	**35**		**Pn**	**04 53 47.2**	**+1.2**
M30M	**Minto, Yukon**	**3.11**	**35**	Pn	**Pn**	**04 53 47.1**	**+1.1**
M30M					Sg	**Sg**	**04 54 36.4**	**-0.7**
M30M	**Minto, Yukon**	**3.11**	**35**	P	**Pn**	**04 53 47.1**	**+1.1**
	baz=218,SNR=49						
HARP	**HAARP**	**3.20**	**319**		**Pn**	**04 53 48.9**	**+1.6**
HARP	**HAARP**	**3.20**	**319**	P	**Pn**	**04 53 48.3**	**+1.0**
	baz=135						
MENT	**Mentasta**	**3.23**	**334**	IAML		04 54 44.6	
	comp=N,178nm,0.2s						
MENT				IAML		04 54 54.6	
	comp=E,150nm,1.1s						
L26K	**Log Cabin Wild**	**3.23**	**337**	Pn	**Pn**	**04 53 49.2**	**+1.5**
L26K					Sn	**Sn**	**04 54 28.6**	**+2.6**
L26K	**Log Cabin Wild**	**3.23**	**337**	P	**Pn**	**04 53 49.0**	**+1.3**
	baz=155,SNR=12						
L29M	**L29M**	**3.26**	**20**		**Pn**	**04 53 49.9**	**+1.8**
L29M	**L29M**	**3.26**	**20**	Pn	**Pn**	**04 53 50.0**	**+1.9**
L29M					Sg	**Sg**	**04 54 41.8**	**-0.3**
L29M	**L29M**	**3.26**	**20**	P	**Pn**	**04 53 49.9**	**+1.8**
	baz=202,SNR=90						
BESE	**Bessie Mountai**	**3.31**	**115**		**Pn**	**04 53 48.5**	**-0.3**
BESE	**Bessie Mountai**	**3.31**	**115**	Pn	**Pn**	**04 53 49.2**	**+0.5**
BESE					Sn	**Sn**	**04 54 27.4**	**-0.4**
GLI	**Glacier Island**	**3.31**	**287**		**Pn**	**04 53 47.7**	**-1.1**
GLI	**Glacier Island**	**3.31**	**287**	P	**Pn**	**04 53 48.2**	**-0.6**
	baz=102						
M24K	**Tolsona, Glenn**	**3.38**	**309**		**Pn**	**04 53 50.5**	**+0.6**
M24K	**Tolsona, Glenn**	**3.38**	**309**	P	**Pn**	**04 53 50.2**	**+0.4**
	baz=125						
P32M	**Atlin**	**3.51**	**95**		**Pn**	**04 53 51.0**	**-0.5**
P32M	**Atlin**	**3.51**	**95**	Pn	**Pn**	**04 53 51.2**	**-0.4**
P32M					Sn	**Sn**	**04 54 33.2**	**+0.3**
P32M	**Atlin**	**3.51**	**95**	P	**Pn**	**04 53 50.7**	**-0.8**
	baz=281,SNR=16						
M31M	**Drury Creek, Y**	**3.69**	**52**	Pn	**Pn**	**04 53 55.5**	**+1.6**
M31M					Sg	**Sg**	**04 54 54.5**	**-1.2**
M31M	**Drury Creek, Y**	**3.69**	**52**	P	**Pn**	**04 53 55.2**	**+1.2**
	baz=237,SNR=9.0						
PAX	**Paxson**	**3.72**

EGAK				Sg	Sg	04 55 26.2	-2.7			
SLKM	**Skilak Lake**	**4.81**	**279**		**Pb**	**04 54 24.6**	**+3.3**			
WAT7	**Susitna Watana**	**4.82**	**308**		**Pn**	**04 54 11.5**	**+1.9**			
R33M	**Jennings River**	**4.92**	**94**	Pn	**Pn**	**04 54 10.5**	**-0.5**			
R33M				Sn	**Sn**	**04 55 05.9**	**-1.9**			
R33M	**Jennings River** baz=282	**4.92**	**94**	P	**Pn**	**04 54 10.4**	**-0.7**			
J30M	**Hart River**	**4.93**	**22**	Pn	**Pn**	**04 54 13.1**	**+2.0**			
J30M				Sg	**Sg**	**04 55 33.8**	**-1.7**			
J30M	**Hart River** baz=206,SNR=24	**4.93**	**22**	P	**Pn**	**04 54 13.1**	**+2.0**			
J25K	**Salcha River,**	**5.06**	**336**	Pn	**Pn**	**04 54 13.1**	**+0.2**			
J25K	**Salcha River,** baz=152	**5.06**	**336**	P	**Pn**	**04 54 13.1**	**+0.2**			
RND	**Reindeer**	**5.15**	**314**		**Pn**	**04 54 14.5**	**+0.5**			
SUA	**Susitna One**	**5.16**	**290**		**Pn**	**04 54 15.3**	**+1.0**			
SUA	**Susitna One** baz=102	**5.16**	**290**	P	**Pn**	**04 54 14.1**	**-0.2**			
MMPY	**Sheldon Lake,**	**5.17**	**56**	Pn	**Pn**	**04 54 15.5**	**+1.2**			
MMPY				Sn	**Sn**	**04 55 14.0**	**+0.3**			
MMPY				Sg	**Sg**	**04 55 39.3**	**-3.8**			
MMPY	**Sheldon Lake,** baz=244,SNR=49	**5.17**	**56**	P	**Pn**	**04 54 15.4**	**+1.2**			
HDA	**Harding Lake**	**5.26**	**328**		**Pn**	**04 54 16.5**	**+1.0**			
HDA	**Harding Lake** baz=143	**5.26**	**328**	P	**Pn**	**04 54 16.3**	**+0.8**			
S34M	**Telegraph Cree**	**5.36**	**110**	Sn	**Sn**	**04 55 15.9**	**-2.3**			
I26K	**Coal Creek Min**	**5.38**	**348**	Pn	**Pn**	**04 54 18.3**	**+1.2**			
I26K				Sg	**Sg**	**04 55 46.0**	**-3.8**			
I26K	**Coal Creek Min** baz=166,SNR=25	**5.38**	**348**	P	**Pn**	**04 54 18.5**	**+1.4**			
I28M	**Miner Creek**	**5.40**	**3**	Pn	**Pn**	**04 54 18.9**	**+1.4**			
I28M				Sn	**Sn**	**04 55 19.4**	**0.0**			
I28M				Sg	**Sg**	**04 55 47.5**	**-3.0**			
I28M	**Miner Creek** baz=184,SNR=26	**5.40**	**3**	P	**Pn**	**04 54 18.8**	**+1.3**			
I29M	**Ogilvie Camp,** baz=192	**5.41**	**10**	P	**Pn**	**04 54 18.4**	**+0.8**			
I30M	**Mount Dempster**	**5.52**	**19**	Pn	**Pn**	**04 54 21.1**	**+2.0**			
I30M				Sn	**Sn**	**04 55 23.5**	**+1.1**			
I30M	**Mount Dempster** baz=203,SNR=51	**5.52**	**19**	P	**Pn**	**04 54 20.0**	**+0.9**			
IL31		**5.54**	**331**		**Pn**	**04 54 20.9**	**+1.7**			
I27K	**Kandik River**	**5.56**	**356**	Pn	**Pn**	**04 54 21.2**	**+1.5**			
I27K				Sg	**Sg**	**04 55 52.3**	**-3.5**			
I27K	**Kandik River** baz=175,SNR=14	**5.56**	**356**	P	**Pn**	**04 54 20.9**	**+1.1**			
SKT	**Skwentna**	**5.64**	**294**		**Pn**	**04 54 22.6**	**+1.8**			
SKT	**Skwentna** baz=105	**5.64**	**294**	P	**Pn**	**04 54 21.4**	**+0.6**			
DLBC	**Dease Lake** baz=291	**5.67**	**102**	P	**Pn**	**04 54 21.3**	**+0.1**			
TRF	**Thorofare Moun**	**5.71**	**310**		**Pn**	**04 54 23.0**	**+1.3**			
TRF	**Thorofare Moun** baz=122	**5.71**	**310**	P	**Pn**	**04 54 23.1**	**+1.3**			
PRP	**Porcupine Dome** baz=156	**5.91**	**340**	P	**Pn**	**04 54 25.5**	**+1.1**			
H27K	**Steamboat Moun**	**6.19**	**357**	Pn	**Pn**	**04 54 29.8**	**+1.5**			
H27K				Sg	**Sg**	**04 56 12.0**	**-3.8**			
H27K	**Steamboat Moun** baz=176,SNR=14	**6.19**	**357**	P	**Pn**	**04 54 29.6**	**+1.3**			
PPLA	**Purkeypile** baz=112	**6.22**	**302**	P	**Pn**	**04 54 29.5**	**+0.6**			
H29M	**Whitestone**	**6.25**	**8**	Pn	**Pn**	**04 54 30.0**	**+0.9**			
H29M				Sn	**Sn**	**04 55 39.9**	**-0.2**			
H29M	**Whitestone** baz=190,SNR=22	**6.25**	**8**	P	**Pn**	**04 54 29.9**	**+0.9**			
T35M	**Bob Quinn**	**6.25**	**115**	Sn	**Sn**	**04 55 36.3**	**-3.9**			
BPAW	**Bear Paw Mtn.** baz=125	**6.32**	**314**	P	**Pn**	**04 54 30.5**	**+0.4**			
M20K	**Styx River** baz=101	**6.36**	**292**	P	**Pn**	**04 54 31.2**	**+0.5**			
P19K	**Oil Pt** baz=81	**6.38**	**272**	P	**Pn**	**04 54 31.3**	**+0.5**			
H31M	**Peel River**	**6.41**	**24**	Pn	**Pn**	**04 54 33.0**	**+1.6**			
H31M	**Peel River** baz=209,SNR=13	**6.41**	**24**	P	**Pn**	**04 54 32.4**	**+1.0**			
I23K	**Minto, Yukon-K** baz=138	**6.49**	**325**	P	**Pn**	**04 54 32.2**	**-0.2**			
EPYK	**Eagle Plains** baz=197	**6.55**	**14**	P	**Pn**	**04 54 33.9**	**+0.7**			
KDAK	**Kodiak Island** baz=65	**6.62**	**255**	P	**Pn**	**04 54 33.5**	**-0.6**			
H25L	**Birch Creek** baz=157	**6.64**	**341**	P	**Pn**	**04 54 35.1**	**+0.7**			
H24K	**Noodor Dome** baz=147	**6.66**	**333**	P	**Pn**	**04 54 35.3**	**+0.6**			
CHUM	**Lake Minchumin** baz=120	**6.71**	**310**	P	**Pn**	**04 54 36.0**	**+0.7**			
Q19K	**Cape Douglas,** baz=75	**6.74**	**266**	P	**Pn**	**04 54 35.8**	**0.0**			
G27K	**Doyon Strip**	**6.77**	**356**	Pn	**Pn**	**04 54 37.9**	**+1.7**			
G27K				Sg	**Sg**	**04 56 31.1**	**-3.3**			
G27K	**Doyon Strip** baz=176	**6.77**	**356**	P	**Pn**	**04 54 37.1**	**+0.8**			
L20K	**Farewell, AK** baz=105	**6.83**	**296**	P	**Pn**	**04 54 37.4**	**+0.3**			
G29M	**Pine Creek**	**6.96**	**8**	Pn	**Pn**	**04 54 40.4**	**+1.6**			
G29M				Sg	**Sg**	**04 56 36.4**	**-3.9**			
G26K	**Porcupine Rive**	**7.04**	**350**	Pn	**Pn**	**04 54 41.9**	**+2.0**			
G26K				Sg	**Sg**	**04 56 37.5**	**-5.6**			
G26K	**Porcupine Rive** baz=167	**7.04**	**350**	P	**Pn**	**04 54 40.7**	**+0.8**			
H23K	**Yukon River** baz=141	**7.05**	**329**	P	**Pn**	**04 54 40.3**	**+0.1**			
G25K	**Bearman Lake**	**7.15**	**342**		**Pn**	**04 54 42.9**	**+1.6**			
G25K	**Bearman Lake**	**7.15**	**342**	Pn	**Pn**	**04 54 42.9**	**+1.6**			
G25K				Sg	**Sg**	**04 56 40.6**	**-5.8**			
G25K	**Bearman Lake** baz=158	**7.15**	**342**	P	**Pn**	**04 54 42.3**	**+0.9**			
K20K	**Telida** baz=111	**7.19**	**303**	P	**Pn**	**04 54 41.7**	**-0.3**			
G30M	**tAoh Zraii Nji**	**7.20**	**14**	Pn	**Pn**	**04 54 43.0**	**+0.9**			
G30M				Sn	**Sn**	**04 56 03.2**	**-0.3**			
G30M	**tAoh Zraii Nji** baz=198,SNR=7.9	**7.20**	**14**	P	**Pn**	**04 54 42.8**	**+0.7**			
OHAK	**Old Harbor** baz=61	**7.21**	**252**	P	**Pn**	**04 54 41.1**	**-1.1**			
I21K	**Tanana** baz=129	**7.32**	**319**	P	**Pn**	**04 54 44.2**	**+0.4**			
G24K	**Hadweenzic Riv** baz=152	**7.32**	**338**	P	**Pn**	**04 54 44.4**	**+0.6**			
G31M	**Satah River**	**7.43**	**20**	Pn	**Pn**	**04 54 46.1**	**+0.9**			
G31M				Sg	**Sg**	**04 56 50.1**	**-5.2**			
G31M	**Satah River** baz=205,SNR=6.4	**7.43**	**20**	P	**Pn**	**04 54 46.1**	**+0.9**			
Q18K	**Katmai Hardscr** baz=73	**7.50**	**265**	P	**Pn**	**04 54 45.9**	**-0.5**			
J20K	**Nowinta River** baz=117	**7.55**	**309**	P	**Pn**	**04 54 47.4**	**+0.4**			
F28M	**Old Crow**	**7.57**	**2**	Pn	**Pn**	**04 54 48.6**	**+1.4**			
F28M	**Old Crow** baz=183	**7.57**	**2**	P	**Pn**	**04 54 48.9**	**+1.7**			
M18K	**Stony River** baz=94	**7.58**	**287**	P	**Pn**	**04 54 47.1**	**-0.2**			
N18K	**Kilae Creek** baz=88	**7.60**	**281**	P	**Pn**	**04 54 47.8**	**+0.2**			
H22K	**Ishtalitna Cre** baz=135	**7.61**	**325**	P	**Pn**	**04 54 48.5**	**+0.7**			
F26K	**Sheenjek River**	**7.80**	**350**	Pn	**Pn**	**04 54 51.5**	**+1.1**			
F26K	**Sheenjek River** baz=167,SNR=11	**7.80**	**350**	P	**Pn**	**04 54 51.9**	**+1.5**			
F30M	**Barrier River** baz=198	**7.85**	**14**	P	**Pn**	**04 54 52.1**	**+1.0**			
F25K	**Christian Rive**	**7.86**	**346**	Pn	**Pn**	**04 54 52.7**	**+1.4**			
F25K				Sg	Sg	04 57 03.4	-6.0			
F25K	**Christian Rive** baz=161	**7.86**	**346**	P	**Pn**	**04 54 52.8**	**+1.6**			
G23K	**Bananza Creek** baz=144	**7.88**	**332**	P	**Pn**	**04 54 52.2**	**+0.8**			
H21K	**Melozitna Rive** baz=130	**7.89**	**320**	P	**Pn**	**04 54 51.9**	**+0.4**			
F24K	**Squaw Lake** baz=154	**8.13**	**340**	P	**Pn**	**04 54 56.1**	**+1.3**			
E27K	**Coleen River**	**8.15**	**357**	Pn	**Pn**	**04 54 56.4**	**+1.3**			
E27K	**Coleen River** baz=177	**8.15**	**357**	P	**Pn**	**04 54 56.7**	**+1.6**			
KOTAN	**Kotaneelee Air**	**8.27**	**82**	Sn	**Sn**	**04 56 24.4**	**-5.4**			
COLD	**Coldfoot** baz=145	**8.34**	**333**	P	**Pn**	**04 54 57.8**	**+0.1**			
M17K	**Holitna River** baz=92	**8.35**	**286**	P	**Pn**	**04 54 57.7**	**-0.2**			
E25K	**Arctic Village**	**8.36**	**347**	Pn	**Pn**	**04 54 58.5**	**+0.6**			
E25K	**Arctic Village** baz=163	**8.36**	**347**	P	**Pn**	**04 54 59.0**	**+1.0**			
G22K	**Bettles** baz=140	**8.41**	**329**	P	**Pn**	**04 54 59.4**	**+0.8**			
E29M	**Blow River**	**8.43**	**7**	Pn	**Pn**	**04 54 59.8**	**+0.9**			
E29M	**Blow River** baz=189	**8.43**	**7**	P	**Pn**	**04 54 59.8**	**+0.9**			
NBC1	**NorthernBC 1**	**8.45**	**86**	Sg	Sg	04 57 19.5	-8.8			
E28M	**Babbage River**	**8.57**	**3**	Pn	**Pn**	**04 55 01.9**	**+1.0**			
E28M				Sg	Sg	04 57 26.1	-6.0			
E28M	**Babbage River** baz=184	**8.57**	**3**	P	**Pn**	**04 55 02.3**	**+1.4**			
E24K	**Your Creek** baz=153	**8.73**	**340**	P	**Pn**	**04 55 03.9**	**+0.8**			
INK	**Inuvik**	**8.81**	**17**	Pn	**Pn**	**04 55 05.2**	**+1.1**			
E23K	**Chandalar** baz=150	**8.92**	**338**	P	**Pn**	**04 55 07.3**	**+1.6**			
D27M	**Malcolm River**	**9.20**	**359**	Pn	**Pn**	**04 55 11.0**	**+1.4**			
D27M	**Malcolm River** baz=179	**9.20**	**359**	P	**Pn**	**04 55 11.0**	**+1.4**			
TOLK	**Toolik Lake Re** baz=152	**9.42**	**340**	P	**Pn**	**04 55 14.3**	**+1.8**			
D25K	**Kavik River** baz=163	**9.60**	**348**	P	**Pn**	**04 55 16.8**	**+1.8**			
C27K	**Jago River** baz=171	**9.68**	**354**	P	**Pn**	**04 55 18.0**	**+2.0**			
N15K	**Kwethluk River** baz=82	**9.72**	**279**	P	**Pn**	**04 55 17.8**	**+1.1**			
D24K	**Happy Valley** baz=155	**9.76**	**342**	P	**Pn**	**04 55 19.6**	**+2.5**			
E17K	**Hotham Inlet** baz=117	**11.72**	**316**	P	**Pn**	**04 55 43.8**	**-0.1**			
K13K	**Kusilvak Mount** baz=88	**11.79**	**289**	P	**Pn**	**04 55 45.3**	**+0.3**			

*NEIC **08** 05:23:55.6±0.8,29.˚19N±0.˚05×142.˚5E±0.˚2,h10km±1km, mb4.5/11,Error ellipse: s-maj=29.3km s-min=3.7km az=76.0*

*IDC **08** 05:23:56.1±0.9,29.˚25N×141.˚96E,h0km,mb4.0/16, mbtmp3.9/19,ML3.3/3,MS3.2/4,Error ellipse: s-maj=29.5km s-min=18.1km az=77.0*

ISC 08 05:23:59.7±0.7,29.˚21N±0.˚08×142.˚0E±0.˚1,h30km,n52, σ1§27/45,mb4.2/22,MS3.3/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.12**	**175**	Pn	**Pn**	**05 24 30.6**	**-2.5**
JSG	**Sagara**	**6.33**	**330**	Pn	**Pn**	**05 25 30.5**	**-0.5**
INU	**Inuyama**	**7.42**	**327**	Pn	**Pn**	**05 25 46.6**	**+0.6**
JGF	**Kuroka**	**7.48**	**330**	Pn	**Pn**	**05 25 47.6**	**+0.8**
MJAR	**Matsushiro Arr**	**7.97**	**337**		**Pn**	**05 25 51.9**	**-1.7**
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=160,slow=12,SNR=27	**7.97**	**337**	Pn	**Pn**	**05 25 53.7**	**+0.2**
MJAR	baz=160,slow=16,SNR=1.7			Sn	**Sn**	**05 27 20.1**	**-2.5**
MJAR	comp=Z,124nm,19.3s,baz=184,slow=39 5.5nm,0.4s			LR	LR	05 29 02.9	
MAJO	**Matsushiro**	**7.97**	**337**		**Pn**	**05 25 53.5**	**0.0**
MJB9	**Matsu-Tunnel**	**7.97**	**337**		**Pn**	**05 25 54.4**	**+0.8**
JMM	**Marumori**	**8.69**	**354**		**Pn**	**05 26 01.3**	**-2.0**
ERM	**Erimo**	**12.81**	**4**	Pn	**Pn**	**05 26 57.0**	**-2.7**
KSRS	**Korea Array** 0.1nm,0.3s,baz=122,slow=12,SNR=1.1 0.2nm,0.3s	**14.34**	**309**	Pn	**Pn**	**05 27 18.4**	**-2.1**
USRK	**Ussuriysk Ar.** 0.1nm,0.3s,baz=156,slow=19,SNR=1.3 1.1nm,0.6s	**16.95**	**335**	Pn	**Pn**	**05 27 52.5**	**-2.0**
H11N2	**WAKE ISLAND Hy** baz=297,slow=74,SNR=6.6	**24.51**	**107**	T	T	05 54 49.0	
H11N1	**WAKE ISLAND Hy** baz=297,slow=74,SNR=6.1	**24.52**	**107**	T	T	05 54 52.0	
H11N3	**WAKE ISLAND Hy** baz=297,slow=74,SNR=8.3	**24.53**	**107**	T	T	05 54 54.8	
H11S3	**WAKE ISLAND Hy** baz=302	**24.93**	**110**	T	T	05 55 25.5	
H11S1	**WAKE ISLAND Hy** baz=302	**24.93**	**110**	T	T	05 55 25.9	
H11S2	**WAKE ISLAND Hy** baz=302	**24.95**	**110**	T	T	05 55 23.5	
SONM	**Songino Array** 0.4nm,0.4s,baz=123,slow=8.5,SNR=3.8 0.4nm,0.4s	**33.10**	**314**	P	**P**	**05 30 34.0**	**+1.0**
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=96,slow=7.6,SNR=2.3	**40.61**	**265**	P	**P**	**05 31 36.1**	**-0.9**
CMAR	comp=Z,28nm,18.0s,baz=290,slow=39 0.7nm,0.3s			LR	LR	05 50 29.9	
ZAA0	**Zalesovo Array**	**47.79**	**318**	P	**P**	**05 32 35.0**	**+0.8**
ZAA0	comp=Z,4.8nm,1.1s			IAmb	IAmb	05 32 36.9	
ZALV	**Zalesovo Beam**	**47.79**	**318**	P	**P**	**05 32 35.0**	**+0.8**
ZALV	**Zalesovo Beam** comp=Z,1.6nm,0.8s,baz=106,slow=9.3,SNR=8.0 comp=Z,1.6nm,0.8s	**47.79**	**318**	P	**P**	**05 32 35.1**	**+0.9**
MK31	**Makanchi Array**	**49.02**	**308**	P	**P**	**05 32 44.0**	**+0.3**
MKAR	**Makanchi Array**	**49.02**	**308**	P	**P**	**05 32 44.1**	**+0.4**
MKAR	**Makanchi Array** comp=Z,1.1nm,0.7s,baz=94,slow=12,SNR=8.4 comp=Z,1.1nm,0.7s	**49.02**	**308**	P	**P**	**05 32 45.0**	**+1.2**
WB0	**Warramunga Arr**	**49.24**	**189**	P	**P**	**05 32 44.0**	**-1.6**
WB0	comp=Z,5.1nm,1.1s			IAmb	IAmb	05 32 52.7	
WR8	**Warramunga Arr**	**49.41**	**189**	P	**P**	**05 32 45.1**	**-1.9**
WRA	**Warramunga Arr** comp=Z,0.9nm,0.5s,baz=8.8,slow=7.6,SNR=9.2 comp=Z,0.9nm,0.5s	**49.42**	**189**	P	**P**	**05 32 48.4**	**+1.4**
FITZ	**Fitzroy Crossi**	**49.62**	**201**	P	**P**	**05 32 47.6**	**-0.9**
KURK	**Kurchatov**	**51.40**	**313**	P	**P**	**05 33 02.6**	**+0.9**
KURBB	**Kurchatov Arra** comp=Z,2.1nm,0.5s,baz=92,slow=9.6,SNR=24 comp=Z,2.1nm,0.5s	**51.45**	**313**	P	**P**	**05 33 03.5**	**+1.4**
ASAR	**Alice Springs** comp=Z,0.4nm,0.9s,baz=6.7,slow=6.4,SNR=6.7 comp=Z,0.4nm,0.9s	**53.15**	**189**	P	**P**	**05 33 16.6**	**+1.7**
AAK	**Ala-Archa** comp=Z,22nm,18.4s,baz=88,slow=37	**54.93**	**304**	LR	LR	05 57 48.8	
ILAR	**Eielson Array** comp=Z,0.2nm,0.7s,baz=248,slow=6.1,SNR=4.5 comp=Z,0.2nm,0.7s	**55.95**	**29**	P	**P**	**05 33 36.6**	**+1.8**
BVAR	**Borovoye Array** comp=Z,2.7nm,0.5s,baz=90,slow=8.6,SNR=14 comp=Z,2.7nm,0.5s	**56.38**	**317**	P	**P**	**05 33 39.2**	**+1.2**
KK31	**Karatay Array**	**57.73**	**305**	P	**P**	**05 33 48.3**	**+0.6**
KK31	comp=Z,2.7nm,0.9s			IAmb	IAmb	05 33 50.0	
KKAR	**Karatay Array**	**57.73**	**305**	P	**P**	**05 33 48.4**	**+0.7**
NIL	**Nilore**	**57.84**	**293**		**P**	**05 33 49.6**	**+0.8**
NIL	comp=Z,5.8nm,1.1s			IAmb	IAmb	05 33 49.6	
AB31	**Akbulak array**	**63.51**	**314**	P	**P**	**05 34 27.8**	**+0.8**
AB31	comp=Z,2.1nm,0.6s			IAmb	IAmb	05 34 29.7	
ABKAR	**Akbulak array**	**63.51**	**314**	P	**P**	**05 34 27.6**	**+0.6**
ARCES	**ARCESS Array B** comp=Z,2.1nm,0.8s,baz=57,slow=6.5,SNR=1.4 comp=Z,2.1nm,0.8s	**71.49**	**341**	P	**P**	**05 35 17.7**	**+0.6**
FINES	**FINESS Array B** comp=Z,1.2nm,0.7s,baz=67,slow=6.7,SNR=9.6 comp=Z,1.2nm,0.7s	**75.98**	**334**	P	**P**	**05 35 44.2**	**+0.6**
KBZ	**Khabaz** comp=Z,2.8nm,0.8s,baz=63,slow=7.5,SNR=6.0 comp=Z,2.8nm,0.8s	**76.45**	**313**	P	**P**	**05 35 47.7**	**+1.1**
AKASG	**Malin Array Be** comp=Z,0.2nm,0.3s,baz=54,slow=5.3,SNR=2.1 comp=Z,0.2nm,0.3s	**80.81**	**324**	P	**P**	**05 36 09.7**	**-0.7**
HFS	**Hagfors** comp=Z,1.1nm,0.8s,baz=106,slow=5.3,SNR=6.2 comp=Z,1.1nm,0.8s	**81.42**	**337**	P	**P**	**05 36 13.3**	**-0.2**
NOA	**NORSAR Array B** comp=Z,16nm,16.5s,baz=275,slow=39	**81.59**	**338**	LR	LR	06 17 17.4	
RAYN	**Ar Rayn**	**84.14**	**294**	P	**P**	**05 36 28.9**	**+0.4**
RAYN	comp=Z,2.6nm,0.8s			IAmb	IAmb	05 36 32.0	
BR131	**Keskin Array S**	**84.44**	**313**	P	**P**	**05 36 29.6**	**-0.2**
BR131	comp=Z,3.5nm,0.9s			IAmb	IAmb	05 36 48.0	
BRTR	**Keskin Array B**	**84.44**	**313**	P	**P**	**05 36 29.8**	**0.0**
BRTR	**Keskin Array B** comp=Z,1.3nm,0.8s,baz=67,slow=3.7,SNR=4.9 comp=Z,1.3nm,0.8s	**84.44**	**313**	P	**P**	**05 36 30.2**	**+0.3**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.6s,baz=319,slow=4.8,SNR=1.9 comp=Z,0.2nm,0.6s	**94.47**	**53**	P	**P**	**05 37 17.5**	**0.0**

*IDC **08** 05:38:23.0±5.3,37.˚13N×71.˚83E,h107km±44km, mb3.4/9, mbtmp3.7/15,Error ellipse: s-maj=53.0km s-min=33.9km az=136.0*

*NNC **08** 05:38:31.8±3.9,37.˚80N×71.˚52E,h188km±48km,mb3.0, mpv3.8,Error ellipse: s-maj=39.3km s-min=23.9km az=29.0*

ISC 08 05:38:27.0±1.2,37.˚53N±0.˚10×71.˚31E±0.˚10,h109km,n25, σ1§68/31,mb3.7/8,6C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say** SNR=9.1	**5.46**	**19**	P	**Pn**	**05 39 47.2**	**+1.1**
KK31	**Karatay Array** 18nm,0.3s,baz=175,slow=12,SNR=353	**5.60**	**354**	⇑P	**Pn**	**05 39 50.0**	**+2.2**
KK31	9.6nm,0.4s,baz=169,slow=20,SNR=12			⇑S	**Sn**	**05 40 53.3**	**+2.3**
AAK	**Ala-Archa** SNR=9.2	**5.66**	**25**	⇑P	**Pn**	**05 39 50.0**	**+1.2**
AAK	**Ala-Archa** 1.3nm,0.4s	**5.66**	**25**	⇑P	**Pn**	**05 39 49.7**	**+1.0**
AAK	4.6nm,0.5s			⇓S	**Sn**	**05 40 52.8**	**+0.3**
AAK	**Ala-Archa** 6.7nm,0.3s,baz=186,slow=5.6,SNR=13	**5.66**	**25**	P	**Pn**	**05 39 48.7**	**0.0**
AAK	4.9nm,0.4s,baz=162,slow=19,SNR=3.6			S	**Sn**	**05 40 53.2**	**+0.8**
CHMS	**Chumysh** SNR=8.4	**6.06**	**25**	P	**Pn**	**05 39 55.3**	**+1.2**
USP	**Ospenovka** SNR=13	**6.23**	**22**	P	**Pn**	**05 39 56.9**	**+0.5**
TKM2	**Tokmak 2** SNR=9.0	**6.30**	**30**	P	**Pn**	**05 39 58.7**	**+1.1**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=224,slow=16,SNR=5.0	**12.32**	**38**	P	**Pn**	**05 41 17.1**	**-1.5**
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=200,slow=11,SNR=1.6	**14.07**	**19**	P	**Pn**	**05 41 40.1**	**-1.2**
AB31	**Akbulak array** 1.7nm,0.4s,baz=137,slow=15,SNR=62	**14.32**	**329**	⇓P	**Pn**	**05 41 44.9**	**+0.4**
AB31	5.2nm,0.6s,baz=156,slow=22,SNR=11			⇑S	**Sn**	**05 44 19.9**	**-2.4**
BVAR	**Borovoye Array** 0.9nm,0.5s,baz=165,slow=12,SNR=4.9	**15.51**	**358**	P	**Pn**	**05 41 59.4**	**-0.1**
AKTO	**Aktyubinsk** 2.8nm,0.7s	**16.03**	**328**	⇑P	**P**	**05 42 07.9**	**+0.6**
AKTO	4.5nm,0.8s			⇑S	**Sn**	**05 45 00.3**	**-3.2**
AKTO	**Aktyubinsk** 4.0nm,0.5s,baz=142,slow=9.7,SNR=10	**16.03**	**328**	P	**P**	**05 42 09.2**	**+1.9**
AKTO	3.2nm,0.7s,baz=196,slow=12,SNR=8.1			S	**Sn**	**05 44 59.0**	**-4.5**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=213,slow=9.3,SNR=4.8	**18.88**	**25**	P	**P**	**05 42 35.7**	**-2.8**
BRTR	**Keskin Array B** 0.6nm,0.6s,baz=82,slow=9.8,SNR=2.2 0.6nm,0.6s	**29.37**	**286**	P	**P**	**05 44 20.6**	**+0.8**
AKASG	**Malin Array Be** 0.4nm,0.5s,baz=82,slow=7.6,SNR=2.4 0.4nm,0.5s	**32.51**	**308**	P	**P**	**05 44 47.0**	**-0.1**
FINES	**FINESS Array B** 0.7nm,0.5s,baz=110,slow=8.0,SNR=7.0 0.7nm,0.5s	**36.78**	**325**	P	**P**	**05 45 25.1**	**+1.4**
ARCES	**ARCESS Array B** 0.7nm,0.4s,baz=120,slow=8.2,SNR=16 0.7nm,0.4s	**40.29**	**337**	P	**P**	**05 45 53.9**	**+0.9**
HFS	**Hagfors** 2.9nm,0.4s,baz=104,slow=10,SNR=30 2.9nm,0.4s	**42.42**	**321**	P	**P**	**05 46 11.4**	**+1.0**
NB2	**NORSAR Subarra** comp=Z,0.6nm,0.5s,baz=94,slow=7.9	**43.71**	**322**	P	**P**	**05 46 21.7**	**+0.8**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.5s,baz=93,slow=7.9,SNR=6.9 comp=Z,0.8nm,0.5s	**43.71**	**322**	P	**P**	**05 46 21.2**	**+0.3**
EKA	**Eskdalemuir Ar** comp=Z,0.5nm,0.5s,baz=73,slow=6.8,SNR=5.6 comp=Z,0.5nm,0.5s	**51.73**	**315**	P	**P**	**05 47 23.3**	**+0.5**
ESDC	**Sonseca Array** comp=Z,0.4nm,0.6s,baz=60,slow=7.6,SNR=6.3 comp=Z,0.4nm,0.6s	**57.20**	**297**	P	**P**	**05 48 02.8**	**0.0**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.5s,baz=48,slow=7.7,SNR=1.6 comp=Z,0.3nm,0.5s	**65.99**	**268**	P	**P**	**05 49 00.0**	**-2.0**

*DJA **08** 05:39:21.8±0.5,8.˚3S×6.˚12˚4E±˚,h171km±8km,M4.1/9, mB4.7/2,mb4.2/3,MLv4.1/9,Mw(mB)4.0/2*

*IDC **08** 05:39:21.2±4.2,8.˚10S×123.˚98E,h168km±50km,mb3.3/3, mbtmp4.0/7,Error ellipse: s-maj=93.6km s-min=25.2km az=52.0*

*NEIC **08** 05:39:22.7±0.8,8.˚4S±0.˚1×123.˚8E±0.˚1,h189km±6km, mb4.2/6, Error ellipse: s-maj=20.3km s-min=7.0km az=47.0*

ISC 08 05:39:22.6±0.7,8.˚30S±0.˚07×123.˚80E±0.˚06,h189km,n49, σ1§99/56,mb3.7/4,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.52**	**162**		**Pn**	**05 39 55.3**	**-0.4**
SOEI				Sn	**Sn**	**05 40 19.8**	**-1.6**
SOEI	**Soe**	**1.52**	**162**	P	**Pn**	**05 39 55.4**	**-0.3**
SOEI	**Soe**	**1.52**	**162**	P	**Pn**	**05 39 55.1**	**-0.6**
SOEI				S	**Sn**	**05 40 20.0**	**-1.4**
MMRI	**Maumere**	**1.58**	**258**		**Pn**	**05 39 55.9**	**-0.1**
MMRI	**Maumere**	**1.58**	**258**	P	**Pn**	**05 39 56.5**	**+0.4**
MMRI	**Maumere**	**1.58**	**258**	P	**Pn**	**05 39 56.1**	**0.0**
BATI	**Baumata** 140nm,0.3s,baz=17,slow=5.4,SNR=21	**1.90**	**184**	P	**Pn**	**05 39 59.6**	**+0.4**
BATI	153nm,0.2s,baz=107,slow=19,SNR=11			S	**Sn**	**05 40 28.2**	**+0.2**
BATI	**Baumata**	**1.90**	**184**	P	**Pn**	**05 39 59.7**	**+0.4**
BATI				S	**Sn**	**05 40 28.8**	**+0.8**
EDFI	**Ende, Flores**	**2.13**	**258**	P	**Pn**	**05 40 03.4**	**+1.6**
BASI	**Baing, Sumba**	**3.71**	**239**	P	**Pn**	**05 40 20.5**	**+0.2**
BASI				S	**Sn**	**05 41 05.7**	**+0.2**
WSI	**Waingapu**	**3.71**	**248**	P	**Pn**	**05 40 20.5**	**+0.1**
WSI				S	**Sn**	**05 41 04.0**	**-1.7**
WBSI	**Waikabubak, Su**	**4.55**	**253**	P	**Pn**	**05 40 29.7**	**-1.4**
WBSI				S	**Sn**	**05 41 22.6**	**-2.2**
**PL

comp=Z,0.4nm,0.4s,baz=160,slow=8.9,SNR=2.2
comp=Z,0.4nm,0.4s

CASY	**Casey**	**58.61**	**186**	P	**P**	**05 48 59.0**	**-0.4**
CASY				IAmb	IAmb	05 49 18.6	
	comp=Z,2.1nm,0.4s						
MKAR	**Makanchi Array**	**66.11**	**330**	P	**P**	**05 49 49.9**	**+0.4**
MKAR	**Makanchi Array**	**66.11**	**330**	P	**P**	**05 49 50.6**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=132,slow=5.6,SNR=4.2						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**70.18**	**337**	P	**P**	**05 50 14.7**	**+0.2**
KKAR	**Karatay Array**	**70.39**	**321**	P	**P**	**05 50 14.9**	**-1.2**
KURBB	**Kurchatov Arra**	**70.54**	**331**	P	**P**	**05 50 16.2**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=138,slow=6.2,SNR=1.0						
	comp=Z,0.7nm,0.4s						
QSPA	**South Pole Qui**	**81.69**	**180**	P	**P**	**05 51 18.9**	**-0.9**

*IDC **08** 05:42:30.3±1.7,54˚.08N×162˚.69W, h0km, mb3.6/9, mbtmp3.6/13, ML3.7/4, Error ellipse: s-maj=41.6km s-min=19.6km az=170.0*
*AEIC **08** 05:42:36.3±1.2,54˚.21N±0˚.04×162˚.51W±0˚.05, h36km±10km, Error ellipse: s-maj=6.1km s-min=2.6km az=212.0*
*NEIC **08** 05:42:36.9±1.4,54˚.20N±0˚.03×162˚.52W±0˚.04, h35km±2km, ML3.7/12, ML3.5(AEIC), Error ellipse: s-maj=6.2km s-min=3.1km az=216.0*

ISC 08 05:42:32.4±1.6,54˚.07N±0˚.06×162˚.45W±0˚.03,h14km±9km, n55,σ1s74/55,mb3.7/9,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.97**	**325**		**Pg**	**05 42 51.0**	**-0.1**
FALS					**Sb**	**05 43 03.2**	**-0.3**
DT1	**Dutton Round H**	**1.04**	**5**		**Pn**	**05 42 52.2**	**-0.3**
DT1					**Sb**	**05 43 04.6**	**-1.0**
ISNN	**Isanotski Nort**	**1.09**	**315**		**Pn**	**05 42 54.2**	**+1.0**
ISNN					**Sg**	**05 43 07.3**	**-0.2**
SSLS	**Shishaldin Sou**	**1.11**	**306**		**Pn**	**05 42 54.6**	**+1.1**
SSLS					**Sg**	**05 43 08.1**	**-0.2**
DOL	**Dolgoi Island**	**1.13**	**17**		**Pg**	**05 42 53.7**	**-0.5**
DOL					**Sb**	**05 43 07.2**	**-1.0**
SSBA	**Shishaldin**	**1.21**	**306**		**Pg**	**05 42 55.7**	**+0.1**
SSBA					**Sb**	**05 43 09.7**	**-0.7**
HAG	**Hague Volcano**	**1.29**	**14**		**Pg**	**05 42 56.8**	**-0.4**
PS4A	**Pavlof South-4**	**1.32**	**15**		**Pg**	**05 42 57.2**	**-0.6**
PS4A					**Sn**	**05 43 13.7**	**-0.1**
PS1A	**Pavlof South-1**	**1.41**	**17**		**Pb**	**05 42 58.5**	**+0.1**
PS1A					**Sn**	**05 43 14.9**	**-1.1**
S12K	**Black Hills**	**1.65**	**8**		**Pb**	**05 43 02.8**	**+0.3**
SDPT	**Sand Point**	**1.72**	**41**		**Pb**	**05 43 03.8**	**+0.1**
SDPT				IAML		05 43 31.8	
	comp=E,1μm,0.5s						
CNBA	**Chernabura Isl**	**1.83**	**65**		**Pn**	**05 43 04.4**	**+1.1**
AKUT	**Akutan**	**1.96**	**273**		**Pb**	**05 43 07.3**	**-0.4**
AKUT				IAML		05 43 36.2	
	comp=E,464nm,0.6s						
AKUT				IAML		05 43 38.8	
	comp=N,519nm,0.6s						
AKLV	**Akutan Long Va**	**2.07**	**274**		**Pb**	**05 43 09.0**	**-0.6**
ZRO	**Akutan Zero**	**2.08**	**272**		**Pn**	**05 43 08.7**	**+1.9**
AKMO	**Akutan Morgan**	**2.10**	**272**		**Pb**	**05 43 09.2**	**-1.0**
LVA	**Lava Point**	**2.11**	**274**	Pn	**Pn**	**05 43 08.9**	**+1.7**
LVA				IAML		05 43 43.8	
	comp=N,788nm,0.6s						
AKRB	**Akutan Reef Bi**	**2.13**	**273**		**Pb**	**05 43 10.2**	**-0.5**
MTBL	**Makushin Table**	**2.50**	**269**		**Pb**	**05 43 15.4**	**-1.6**
MNAT	**Makushin Natee**	**2.51**	**267**		**Pn**	**05 43 14.4**	**+1.8**
MREP	**Makushin Rep't**	**2.55**	**266**		**Pn**	**05 43 15.2**	**+1.9**
MSW	**Makushin Switc**	**2.56**	**268**		**Pn**	**05 43 15.2**	**+1.8**
MGOD	**Makushin Gods**	**2.63**	**266**		**Pb**	**05 43 17.7**	**-1.6**
VNFG	**Fog Glacier, M**	**2.77**	**36**		**Pn**	**05 43 18.1**	**+1.8**
VNHG	**Veniaminof 1**	**2.86**	**40**		**Pb**	**05 43 20.6**	**-2.5**
CHGN	**Chignik**	**3.22**	**44**		**Pn**	**05 43 25.1**	**+2.8**
CHGN				IAML		05 44 08.6	
	comp=E,228nm,0.6s						
CHGN				IAML		05 44 10.9	
	comp=N,173nm,0.7s						
ANPB	**Aniakchak Plen**	**3.62**	**39**		**Pn**	**05 43 30.7**	**+2.7**
O17K	**Koliganek Bris**	**6.42**	**25**		**Pn**	**05 44 09.1**	**+2.8**
KDAK	**Kodiak Island**	**6.67**	**52**	Pn	**Pn**	**05 44 10.5**	**+0.7**
	comp=N,0.4nm,0.3s,baz=243,slow=9.8,SNR=11						
KDAK				Sn	**Sn**	**05 45 19.9**	**-5.5**
	comp=N,0.8nm,0.3s,baz=302,slow=19,SNR=7.6						
	comp=N,5.5nm,0.8s						
M15K	**Kasigluk River**	**6.71**	**7**		**Pn**	**05 44 12.8**	**+2.5**
N16K	**Nishlik Lake**	**6.72**	**16**		**Pn**	**05 44 13.8**	**+3.3**
M16K	**Timber Creek**	**7.22**	**14**		**Pn**	**05 44 20.0**	**+2.8**
K15K	**Wolf Creek Mou**	**8.26**	**3**		**Pn**	**05 44 34.2**	**+2.7**
L18K	**Granite Mounta**	**8.72**	**18**		**Pn**	**05 44 40.0**	**+2.2**
ILAR	**Eielson Array**	**13.28**	**30**	Pn	**Pn**	**05 45 38.0**	**-2.2**
	comp=N,0.1nm,0.3s,baz=220,slow=11,SNR=4.3						
	comp=N,0.1nm,0.4s						
DLBC	**Dease Lake**	**18.42**	**63**	P	**Pn**	**05 46 49.4**	**+2.4**
	comp=N,0.6nm,0.3s,baz=219,slow=13,SNR=1.9						
	comp=N,4.5nm,0.6s						
INK	**Inuvik**	**19.65**	**32**	P	**P**	**05 46 59.8**	**-0.5**
	comp=N,0.1nm,0.3s,baz=252,slow=9.6,SNR=5.3						
	comp=N,0.5nm,0.3s						
PETK	**Petropavlovsk-**	**23.46**	**284**	P	**P**	**05 47 40.9**	**-0.2**
	comp=N,1.0nm,0.4s,baz=72,slow=10,SNR=5.6						
	comp=N,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**25.95**	**52**	P	**P**	**05 48 06.9**	**+3.1**
	comp=N,0.3nm,0.7s,baz=269,slow=8.7,SNR=7.6						
	comp=N,0.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**41.52**	**226**	T	T	06 34 52.0	
	baz=27,slow=76,SNR=9.4						
H11N3	**WAKE ISLAND Hy**	**41.53**	**226**	T	T	06 34 49.2	
	baz=27,slow=76,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**41.54**	**226**	T	T	06 34 48.1	
	baz=27,slow=76,SNR=6.7						
H11S1	**WAKE ISLAND Hy**	**42.69**	**226**	T	T	06 36 10.1	
	baz=26						
H11S2	**WAKE ISLAND Hy**	**42.70**	**226**	T	T	06 36 11.2	
	baz=26						
H11S3	**WAKE ISLAND Hy**	**42.71**	**226**	T	T	06 36 11.4	
	baz=26						
TXAR	**Lajitas Array**	**48.66**	**96**	P	**P**	**05 51 16.2**	**+0.3**
	comp=N,0.2nm,0.6s,baz=316,slow=4.7,SNR=2.1						
	comp=N,0.2nm,0.6s						
BVAR	**Borovoye Array**	**64.61**	**328**	P	**P**	**05 53 08.9**	**+0.1**
	comp=N,1.0nm,0.6s,baz=34,slow=6.8,SNR=6.8						
	comp=N,1.0nm,0.6s						
MKAR	**Makanchi Array**	**65.53**	**317**	P	**P**	**05 53 14.5**	**-0.4**
	comp=N,0.2nm,0.5s,baz=46,slow=6.2,SNR=2.3						
	comp=N,0.2nm,0.5s						
HFS	**Hagfors**	**66.10**	**2**	P	**P**	**05 53 17.8**	**-0.5**
	comp=N,0.7nm,0.4s,baz=8.1,slow=3.1,SNR=4.3						
	comp=N,0.7nm,0.4s						
EKA	**Eskdalemuir Ar**	**69.63**	**12**	P	**P**	**05 53 41.4**	**+0.8**
	comp=N,1.1nm,0.7s,baz=352,slow=3.8,SNR=3.7						
	comp=N,1.1nm,0.7s						
AKASG	**Malin Array Be**	**75.14**	**352**	P	**P**	**05 54 12.8**	**-0.7**
	comp=N,0.4nm,0.5s,baz=5.8,slow=5.1,SNR=1.3						
	comp=N,0.4nm,0.5s						
GERES	**GERESS Array B**	**77.41**	**3**	P	**P**	**05 54 25.9**	**-0.7**
	comp=N,0.1nm,0.4s,baz=358,slow=2.3,SNR=1.4						
	comp=N,0.1nm,0.4s						
H03N2	**Juan Fernandez**	**112.80**	**116**	T	T	08 04 05.7	
	baz=323,slow=78,SNR=9.9						
H03N1	**Juan Fernandez**	**112.81**	**116**	T	T	08 04 07.0	
	baz=323,slow=78,SNR=10						
H03N3	**Juan Fernandez**	**112.81**	**116**	T	T	08 04 06.1	
	baz=323,slow=78,SNR=7.1						

*IDC **08** 05:55:51.8±1.5,0˚.85N×126˚.03E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=147.7km s-min=25.6km az=66.0*
*DJA **08** 05:56:00.0±0.5,1˚N±4˚×12˚7E±˚, h37km±14km, M3.8/8, MLv3.8/8*

ISC 08 05:55:57.9±0.9,1˚.12N±0˚.06×126˚.66E±0˚.08,h39km,n9, σ1s53/11,mb3.8/5,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.79**	**116**	P	**Pn**	**05 56 13.7**	**+1.1**
TNTI				S	**Sn**	**05 56 24.8**	**+1.6**
KMSI	**Cibinong**	**2.73**	**259**	P	Pn	05 56 43.9	+4.6
KMSI				S	Sn	05 57 19.0	+7.9
SGSI	**Sangihe**	**2.79**	**336**	P	**Pn**	**05 56 41.9**	**+1.9**
SGSI				S	**Sn**	**05 57 13.8**	**+1.4**
SANI	**Sanana**	**3.22**	**192**	P	**Pn**	**05 56 48.1**	**+2.1**
SANI				S	**Sn**	**05 57 23.5**	**+0.4**
WRA	**Warramunga Arr**	**22.25**	**161**	P	**P**	**06 00 50.0**	**-1.6**
	1.2nm,0.3s,baz=337,slow=10,SNR=12						
	1.2nm,0.3s						
SONM	**Songino Array**	**49.74**	**342**	P	**P**	**06 04 46.1**	**-0.4**
	0.3nm,0.3s,baz=161,slow=9.2,SNR=2.1						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**59.66**	**326**	P	**P**	**06 05 57.3**	**-1.0**
	0.8nm,0.4s,baz=122,slow=7.4,SNR=10.0						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**63.89**	**328**	P	**P**	**06 06 25.7**	**-0.9**
	1.6nm,0.5s,baz=130,slow=6.2,SNR=22						
	1.6nm,0.5s						
BVAR	**Borovoye Array**	**69.46**	**328**	P	**P**	**06 07 01.4**	**-0.8**
	0.4nm,0.4s,baz=121,slow=5.6,SNR=3.5						
	0.4nm,0.4s						

*IDC **08** 06:00:52.7±21.0,20˚.15S×177˚.51W, h469km±189km, mb2.8/4, mbtmp3.7/4, Error ellipse: s-maj=300.5km s-min=69.4km az=140.0*

ISC 08 06:00:53.2±4.9,19˚S±1˚×177˚.9W±0˚.9,h450km,n6,σ0s49/6, mb3.2/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.81**	**261**	P	**P**	**06 08 25.9**	**0.0**
	0.3nm,0.3s,baz=98,slow=8.5,SNR=5.2						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**44.82**	**256**	P	**P**	**06 08 25.8**	**-0.1**
	0.8nm,0.6s,baz=100,slow=7.7,SNR=13						
	0.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.23**	**262**	P	**P**	**06 09 28.8**	**+0.2**
	1.0nm,0.8s,baz=106,slow=7.2,SNR=1.7						
	1.0nm,0.8s						
ILAR	**Eielson Array**	**87.31**	**13**	P	**P**	**06 12 50.7**	**+0.1**
	0.2nm,0.7s,baz=201,slow=4.4,SNR=2.0						
	0.2nm,0.7s						
BRTR	**Keskin Array B**	**146.20**	**313**	PKPbc	**PKPdf**	**06 19 41.2**	**+0.4**
	0.4nm,0.4s,baz=144,slow=4.2,SNR=2.6						
GERES	**GERESS Array B**	**149.24**	**345**	PKPbc	**PKPbc**	**06 19 49.5**	**-0.7**
	0.2nm,0.5s,baz=9.5,slow=1.2,SNR=3.8						

IDC 08 06:02:19.8±1.7,14˚.21N×124˚.86E,h0km,mb3.3/3, mbtmp3.3/3,ML4.4/1,MS3.6/1,Error ellipse: s-maj=56.0km s-min=26.6km az=62.0,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.81**	**269**	Pn	Pn	06 03 20.0	+0.2
	28nm,0.3s,baz=90,slow=8.1,SNR=4.8						
BRDH	**Bariadhala**	**32.56**	**290**	LR	LR	06 22 50.6	
	comp=Z,96nm,18.2s,baz=76,slow=38						
WRA	**Warramunga Arr**	**35.20**	**164**	P	P	06 09 14.9	-0.9
	0.1nm,0.3s,baz=344,slow=8.3,SNR=1.3						
	0.1nm,0.3s						
SONM	**Songino Array**	**36.87**	**339**	P	P	06 09 29.9	-0.1
	0.2nm,0.4s,baz=142,slow=5.4,SNR=1.4						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**38.67**	**167**	P	P	06 09 45.8	+0.4
	0.2nm,0.3s,baz=342,slow=7.8,SNR=8.3						
	0.2nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**40.29**	**78**	T	T	06 53 44.7	
	baz=270,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**40.31**	**78**	T	T	06 53 34.9	
	baz=270,slow=75,SNR=32						
H11S2	**WAKE ISLAND Hy**	**40.31**	**78**	T	T	06 53 36.8	
	baz=270,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**40.49**	**76**	T	T	06 53 47.4	
	baz=267						
H11N2	**WAKE ISLAND Hy**	**40.50**	**76**	T	T	06 53 54.4	
	baz=267						
H11N3	**WAKE ISLAND Hy**	**40.51**	**76**	T	T	06 53 50.5	
	baz=267						

*IDC **08** 07:16:57.5±4.2,35˚.31N×70˚.77E, h0km, mb3.6/5, mbtmp3.5/7, ML3.0/2, Error ellipse: s-maj=88.1km s-min=28.5km az=142.0*

ISC 08 07:17:13.8±1.8,36˚.1N±0˚.2×70˚.7E±0˚.2,h110km,n10, σ1s78/10,mb3.7/3,2C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.96**	**359**	⇓P	Pn	07 18 59.9	+6.8
	1.1nm,0.4s,baz=178,slow=14,SNR=16						
KK31				⇓S	**Sn**	**07 20 09.2**	**-1.6**
	5.8nm,0.6s,baz=183,slow=21,SNR=15						
AAK	**Ala-Archa**	**7.12**	**23**	⇑P	Pn	07 19 01.5	+6.1
	1.1nm,0.5s						
AAK				⇑S	**Sn**	**07 20 14.5**	**-0.3**
	5.1nm,0.9s						
MKAR	**Makanchi Array**	**13.72**	**36**	Pn	**Pn**	**07 20 23.2**	**-0.3**
	0.1nm,0.3s,baz=220,slow=8.8,SNR=6.4						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**15.54**	**19**	Pn	**Pn**	**07 20 46.3**	**-0.3**
	baz=204,slow=12,SNR=1.8						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**20.34**	**24**	P	**P**	**07 21 41.7**	**+0.6**
	0.9nm,0.5s,baz=223,slow=9.9,SNR=3.6						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**37.66**	**326**	P	**P**	**07 24 19.8**	**+1.9**
	0.9nm,0.9s,baz=109,slow=8.8,SNR=5.3						
	0.9nm,0.9s						
HFS	**Hagfors**	**43.22**	**322**	P	**P**	**07 25 05.6**	**+2.0**
	2.3nm,0.8s,baz=103,slow=12,SNR=2.3						
	2.3nm,0.8s						
NB2	**NORSAR Subarra**	**44.54**	**323**	P	**P**	**07 25 16.0**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.54**	**323**	P	**P**	**07 25 16.0**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=96,slow=8.0,SNR=3.3						
	comp=Z,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**65.48**	**269**	P	**P**	**07 27 43.3**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=43,slow=6.5,SNR=1.9						
	comp=Z,0.2nm,0.4s						

RSNC 08 07:26:26.7±0.0,7˚N±1˚×7˚7W±˚,h5km±2km,M2.9,mb3.8, ML2.6,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.46**	**102**	P	Pg	07 26 34.6	-0.9
DBBC				S	Sg	07 26 41.6	+0.1
APAC	**Apartado, Choc**	**0.79**	**6**	S	Pg	07 26 40.4	-1.5
APAC				S	Sg	07 26 52.7	+0.6
PTAC	**Punta Ardita,**	**1.14**	**272**	P	Pg	07 26 45.9	-2.7
PTAC				S	Sg	07 27 02.5	-0.9
SOLC	**Bahia Solano**	**1.15**	**220**	P	Pg	07 26 46.8	-2.0
SOLC				S	Sg	07 27 03.3	-0.4
UREC	**San Jos de Ur**	**1.29**	**60**	P	Pn	07 26 48.4	-3.0
UREC				S	Sg	07 27 05.8	-2.3
MEDEC	**Medeln, Ant**	**1.35**	**128**	P	Pn	07 26 50.5	-1.9
MEDEC				S	Sg	07 27 09.7	-0.4
CBOC	**Ciudad Bolivar**	**1.40**	**152**	P	Pn	07 26 51.4	-1.6
CBOC				S	Sb	07 27 11.3	-0.3
HELC	**Santa Helena**	**1.45**	**129**	P	Pn	07 26 51.8	-2.1
HELC				S	Sb	07 27 12.4	-0.9
CAPC	**Capurgana**	**1.66**	**336**	P	Pn	07 26 54.9	-1.6
CAPC				S	Sn	07 27 18.0	-0.3
LCBC	**Los crdobas,**	**1.76**	**9**	P	Pn	07 26 55.9	-2.0
LCBC				S	Sn	07 27 20.8	+0.1
PTBC	**PUERTO BERRIO,**	**2.26**	**104**	P	Pn	07 27 03.9	-0.9
PTBC				S	Sn	07 27 33.3	+0.2
GUY2C	**Guyana, Caldas**	**2.27**	**145**	P	Pn	07 27 05.9	+0.5
GUY2C				S	Sn	07 27 33.6	-0.4
NORC	**Norcasia**	**2.35**	**131**	P	Pn	07 27 07.2	+1.1
NORC				S	Sn	07 27 35.3	-0.1
RECRC	**Villamaria, Ca**	**2.50**	**149**	P	Pn	07 27 09.7	+1.1
RECRC				S	Sn	07 27 38.5	-1.2
ANIL	**Santa Ana**	**2.89**	**154**	P	Pn	07 27 15.3	+1.6
ANIL				S	Sn	07 27 48.7	-0.2
BRJC	**Barrancabermej**	**2.90**	**93**	P	Pn	07 27 14.3	+0.8
BRJC				S	Sn	07 27 48.2	-0.6
YOTC	**Yotoco, Valle**	**3.12**	**174**	P	Pn	07 27 13.6	-3.1
YOTC				S	Sn	07 27 48.3	-6.2
SJCC	**San Jacinto, C**	**3.13**	**28**	P	Pn	07 27 17.7	+0.9
ORTC	**Ortega, Tolima**	**3.48**	**156**	P	Pn	07 27 23.7	+2.1
ORTC				S	Sn	07 28 04.7	+1.5
BARC	**Barichara**	**3.49**	**98**	P	Pn	07 27 23.2	+1.3
BARC				S	Sn	07 28 04.2	+0.4
OCAC	**Ocana**	**3.50**	**71**	P	Pn	07 27 21.2	-0.7
OCAC				S	Sn	07 28 01.9	-1.9
ARGC	**Ariguani, Magd**	**3.63**	**41**	P	Pn	07 27 23.7	+0.1
ARGC				S	Sn	07 28 06.7	-0.1
BCIP	**Isla Barro Col**	**3.75**	**303**	P	Pn	07 27 22.1	-3.2
BCIP				S	Sn	07 28 06.6	-3.3
RUSC	**La Rusia**	**3.75**	**109**	P	Pn	07 27 27.0	+1.2
RUSC				S	Sn	07 28 11.0	+0.4
PRAC	**Prado**	**3.81**	**152**	P	Pn	07 27 27.5	+1.4
JAMC	**Jamundi, Valle**	**3.87**	**180**	P	Pn	07 27 24.6	-2.5
JAMC				S	Sn	07 28 06.5	-6.6
POPC	**Popayan, Colom**	**4.54**	**180**	P	Pn	07 27 36.0	-0.4
POPC				S	Sn	07 28 25.7	-4.0
CRJC	**Cerrejon, Guaj**	**5.39**	**44**	P	Pn	07 27 46.7	-1.2
	8.0nm,0.6s						
CRJC				S	Sn	07 28 42.9	-7.5
	8.0nm,0.6s						
URIC	**Uribia, Colomb**	**6.48**	**45**	P	Pn	07 28 00.8	-2.0
URIC				S	Sn	07 29 09.4	-7.8

WEL 08 07:29:34.4±1.1,31˚S±9˚×17˚9E±1˚7,h12km,M4.4/5, mB4.9/5,ML4.8/8,MLv4.5/3,Mw(mB)4.2/5,Error ellipse: s-maj=25.2km s-min=4.3km az=116.8,confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.25**	**50**	P	Pn	07 30 25.8	+0.6
GLKZ				S	Sn	07 31 04.1	+0.3
WMGZ	**Waiomatatini S**	**6.46**	**186**	P	Pn	07 31 10.0	+0.7
WMGZ				S	Sn	07 32 24.8	+1.9
HAZ	**Te Kaha**	**6.47**	**190**	P	Pn	07 31 11.2	+1.8
HAZ				S	Sn	07 32 27.4	+4.2
RUGZ	**Raukumara Rang**	**6.69**	**191**	P	Pn	07 31 13.1	+0.5
RUGZ				S	Sn	07 32 29.5	+0.6
PUZ	**Puketiti**	**6.72**	**186**	P	Pn	07 31 11.9	-1.0
PUZ				S	Sn	07 32 29.3	-0.2
TWGZ	**Tauwhareparae**	**6.86**	**188**	P	Pn	07 31 16.8	+2.0
TWGZ				S	Sn	07 32 35.6	+2.8
URZ	**Urewera**	**7.08**	**194**	P	Pn	07 31 18.9	+1.1
URZ				S	Sn	07 32 40.4	+2.2
CNGZ	**Carnagh Statio**	**7.14**	**186**	P	Pn	07 31 17.1	-1.5
MUGZ	**Murupara**	**7.36**	**195**	P	Pn	07 31 22.7	+1.0
MUGZ				S	Sn	07 32 47.4	+2.3
RIGZ	**Rimuhau**	**7.41**	**189**	P	Pn	07 31 20.1	-2.3
RIGZ				S	Sn	07 32 47.3	+1.0
SNGZ	**Shannon Statio**	**7.54**	**191**	S	Sn	07 32 50.0	+0.3
RAHZ	**Arahi**	**7.72**	**192**	S	Pn	07 31 25.6	-1.0
RAHZ				S	Sn	07 32 53.8	-0.2
ARHZ	**Aropaoanui**	**8.07**	**192**	P	Pn	07 31 30.5	-1.0
PXZ	**Pawanui**	**8.84**	**192**	P	Pn	07 31 37.8	-4.1
PXZ				S	Sn	07 33 17.1	-4.4

NEIC 08 07:33:07.7±0.6,36˚.89N±0˚.01×104˚.87W±0˚.02,h5km±1km, mb_Lg3.0/129,ML3.1/44,Error ellipse: s-maj=2.9km s-min=2.4km az=274.0,New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.44**	**56**		Pg	07 33 16.6	+0.3
T25A				Sg	Sg	07 33 22.4	+0.4
SDCO	**Great Sand Dun**	**0.99**	**330**		Pg	07 33 26.3	-0.4
SDCO				Sg	Sg	07 33 39.4	-0.3
RTBA	**Rita Blanca**	**1.77**	**104**		Pb	07 33 40.3	-0.4
S22A	**4UR Ranch, Cre**	**1.78**	**299**		Pn	07 33 39.6	+0.2
S22A				IAML		07 34 06.6	
	comp=N,89nm,0.3s						
S22A				IAML		07 34 07.3	
	comp=E,148nm,0.1s						
ANMO	**Albuquerque**	**2.33**	**214**		Pb	07 33 48.8	-1.4
ANMO				IAML		07 34 22.2	
	comp=E,46nm,0.6s						
ANMO	**Albuquerque**	**2.33**	**214**	Pn	Pn	07 33 46.5	-0.3
ANMO				IAML		07 34 22.7	
	comp=E,40nm,0.5s						
ANMO				IAML		07 34 24.9	
	comp=E,49nm,0.6s						
KSCO	**Kaye Shedlock'**	**2.76**	**39**		Pn	07 33 54.0	+1.3
KSCO				IAmb_Lg		07 34 33.4	
	comp=Z,68nm,0.9s						
MVCO	**Mesa Verde**	**2.92**	**277**		Pb	07 33 59.5	-0.9
MVCO				IAML		07 34 39.8	
	comp=Z,115nm,0.7s						
MVCO				IAML		07 34 42.5	
	comp=Z,66nm,0.6s						
ISCO	**Idaho Springs**	**2.96**	**349**		Pn	07 33 56.6	+0.9
PV01	**Paradox Valley**	**3.19**	**294**		Pn	07 33 58.5	-0.2
PV01				IAML		07 34 51.7	
	comp=E,53nm,0.7s						
PV01				IAML		07 34 53.0	
	comp=N,37nm,1.2s						
AMTX	**Amarillo**	**3.27**	**127**	IAmb_Lg		07 34 51.9	
	comp=Z,56nm,0.8s						
PV21	**Cone Mtn., Par**	**3.66**	**298**	Pn	Pn	07 34 09.0	+3.8
PV21				IAML		07 35 06.7	
	comp=N,55nm,0.9s						
PV21				IAML		07 35 06.8	
	comp=E,40nm,0.7s						
SMWD	**Samnorwood**	**4.15**	**114**	IAmb_Lg		07 35 21.0	
	comp=Z,39nm,0.8s						
CBKS	**Cedar Bluff**	**4.49**	**63**		Pn	07 34 16.0	-0.4
CBKS				IAmb_Lg		07 35 36.8	
	comp=Z,39nm,0.8s						
DKNS	**Dickens**	**4.55**	**134**	IAmb_Lg		07 35 42.5	
	comp=Z,30nm,0.7s						
OGNE	**Ogallala**	**4.61**	**28**		Pn	07 34 18.7	+0.5
POST	**Post**	**4.71**	**143**	IAmb_Lg		07 35 44.9	
	comp=Z,27nm,0.8s			

ISC 08 07:36:49.7±0.9, 65°54N±0'01×139°79W±0'01, h5^km±7^km, n212, σ1°49/289, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I28M	**Miner Creek**	**0.11**	**213**	P	**Pg**	**07 36 52.8**	**+0.8**
I28M	**Miner Creek** baz=34,SNR=1000	**0.11**	**213**	P	**Pg**	**07 36 52.8**	**+0.8**
I28M				S	**Sg**	**07 36 54.6**	**+1.0**
I29M	**Ogilvie Camp,** baz=34	**0.65**	**105**	P	**Pb**	**07 37 03.2**	**-0.3**
I29M				S	**Sb**	**07 37 12.4**	**-0.4**
I29M	**Ogilvie Camp,** baz=288,SNR=92	**0.65**	**105**	P	**Pg**	**07 37 02.6**	**+0.5**
I27K	**Kandik River**	**0.76**	**276**	P	**Pb**	**07 37 05.2**	**-0.2**
I27K				S	**Sb**	**07 37 15.2**	**-0.9**
I27K	**Kandik River** baz=93,SNR=140	**0.76**	**276**	P	**Pb**	**07 37 05.2**	**-0.2**
I27K				S	**Sb**	**07 37 15.5**	**-0.6**
H29M	**Whitestone** baz=93	**0.90**	**40**	P	**Pn**	**07 37 08.2**	**-0.8**
H29M	**Whitestone** baz=221,SNR=1000	**0.90**	**40**	P	**Pb**	**07 37 07.8**	**0.0**
EGAK	**Eagle**	**0.96**	**218**	P	**Pg**	**07 37 08.5**	**+0.5**
EGAK				S	**Sb**	**07 37 21.5**	**-0.2**
H27K	**Steamboat Moun**	**0.99**	**315**	P	**Pg**	**07 37 09.1**	**+0.4**
H27K				S	**Sg**	**07 37 21.6**	**-0.1**
H27K	**Steamboat Moun** baz=133,SNR=227	**0.99**	**315**	P	**Pg**	**07 37 09.2**	**+0.4**
H27K				S	**Sb**	**07 37 22.5**	**-0.4**
J29N	**Klondike Camp** baz=133	**1.28**	**148**	P	**Pg**	**07 37 15.3**	**+1.1**
J29N				S	**Sn**	**07 37 32.0**	**+0.2**
J29N	**Klondike Camp** baz=330,SNR=79	**1.28**	**148**	P	**Pg**	**07 37 15.3**	**+1.1**
J29N				S	**Sn**	**07 37 32.7**	**+0.9**
I26K	**Coal Creek Min** baz=330	**1.43**	**262**	P	**Pg**	**07 37 17.1**	**+0.2**
I26K				S	**Sg**	**07 37 35.4**	**0.0**
I26K	**Coal Creek Min** baz=79	**1.43**	**262**	P	**Pg**	**07 37 17.0**	**0.0**
I26K				S	**Sg**	**07 37 36.7**	**+1.3**
I30M	**Mount Dempster** baz=79	**1.47**	**101**	P	**Pg**	**07 37 18.2**	**+0.4**
I30M				S	**Sg**	**07 37 36.8**	**+0.1**
I30M	**Mount Dempster** baz=285,SNR=332	**1.47**	**101**	P	**Pg**	**07 37 17.7**	**-0.1**
I30M				S	**Sg**	**07 37 37.7**	**+0.9**
G27K	**Doyon Strip** baz=285	**1.48**	**330**	P	**Pg**	**07 37 18.1**	**0.0**
G27K	**Doyon Strip** baz=148,SNR=224	**1.48**	**330**	P	**Pg**	**07 37 18.0**	**-0.1**
G27K				S	**Sg**	**07 37 38.9**	**+1.6**
DAWY	**Dawson** baz=148	**1.49**	**173**	Pn	**Pg**	**07 37 18.5**	**+0.3**
DAWY				Sn	**Sg**	**07 37 37.8**	**+0.3**
DAWY	**Dawson** baz=354,SNR=152	**1.49**	**173**	P	**Pb**	**07 37 18.0**	**+0.2**
DAWY				S	**Sg**	**07 37 39.3**	**+1.8**
EPYK	**Eagle Plains** baz=354	**1.51**	**55**	Pn	**Pb**	**07 37 18.1**	**-0.1**
EPYK				Sn	**Sg**	**07 37 38.1**	**-0.1**
EPYK	**Eagle Plains** baz=238,SNR=49	**1.51**	**55**	P	**Pb**	**07 37 17.9**	**-0.3**
EPYK				S	**Sg**	**07 37 39.1**	**+0.9**
G29M	**Pine Creek** baz=238	**1.56**	**27**	Pn	**Pb**	**07 37 18.9**	**-0.1**
G29M				Sn	**Sg**	**07 37 39.7**	**+0.1**
G29M	**Pine Creek** baz=208,SNR=862	**1.56**	**27**	P	**Pb**	**07 37 18.8**	**-0.2**
G29M				S	**Sg**	**07 37 40.5**	**+0.9**
J30M	**Hart River** baz=208	**1.76**	**122**	Pn	**Pb**	**07 37 22.4**	**-0.1**
J30M				Sn	**Sg**	**07 37 45.4**	**-0.7**
J30M	**Hart River** baz=306,SNR=224	**1.76**	**122**	P	**Pb**	**07 37 21.4**	**-1.0**
J30M				S	**Sg**	**07 37 46.1**	**0.0**
K27K	**Chicken** baz=306	**1.80**	**214**	Pn	**Pb**	**07 37 23.0**	**-0.1**
K27K				Sn	**Sg**	**07 37 47.0**	**-0.6**
K27K	**Chicken** baz=32	**1.80**	**214**	P	**Pb**	**07 37 22.4**	**-0.8**
K27K				S	**Sg**	**07 37 47.1**	**-0.4**
J26L	**Joseph Creek** baz=32	**1.91**	**239**	P	**Pb**	**07 37 24.2**	**-0.8**
J26L				S	**Sb**	**07 37 49.5**	**+0.4**
K29M	**Barlow Dome** baz=55	**1.96**	**149**	Pn	**Pb**	**07 37 25.5**	**-0.4**
K29M				Sn	**Sb**	**07 37 51.6**	**+0.9**
K29M	**Barlow Dome** baz=332,SNR=302	**1.96**	**149**	P	**Pb**	**07 37 25.0**	**-1.0**
K29M				Sb	**Sg**	**07 37 52.8**	**+0.2**
G30M	**tAoh Zraii Nji** baz=332	**2.05**	**43**	Pn	**Pb**	**07 37 26.3**	**-1.1**
G30M				Sn	**Sb**	**07 37 52.2**	**-0.9**
G30M	**tAoh Zraii Nji** baz=227,SNR=135	**2.05**	**43**	P	**Pn**	**07 37 24.9**	**+0.1**
G30M				S	**Sb**	**07 37 51.8**	**-1.2**
F28M	**Old Crow** baz=227	**2.08**	**359**	Pn	**Pb**	**07 37 26.4**	**-1.6**
F28M				Sn	**Sb**	**07 37 52.9**	**-1.2**
F28M	**Old Crow** baz=179,SNR=131	**2.08**	**359**	P	**Pn**	**07 37 25.8**	**+0.6**
F28M				Sb	**Sg**	**07 37 55.7**	**-0.9**
G26K	**Porcupine Rive** baz=179	**2.15**	**313**	Pn	**Pb**	**07 37 27.9**	**-1.2**
G26K				Sn	**Sb**	**07 37 54.9**	**-1.0**
G26K	**Porcupine Rive** baz=129	**2.15**	**313**	Sb	**Sg**	**07 37 58.0**	**-0.7**
H31M	**Peel River**	**2.27**	**81**	Pn	**Pb**	**07 37 30.0**	**-1.2**
H31M				Sn	**Sb**	**07 37 58.4**	**-1.2**
H31M	**Peel River** baz=266,SNR=152	**2.27**	**81**	P	**Pn**	**07 37 28.1**	**+0.2**
H31M				Sb	**Sg**	**07 38 01.3**	**-1.4**
SCRK	**Sand Creek** baz=266 baz=47	**2.38**	**231**	P	**Pn**	**07 37 30.5**	**+1.0**
PRP	**Porcupine Dome** baz=87	**2.39**	**272**	P	**Pn**	**07 37 30.2**	**+0.6**
J25K	**Salcha River,**	**2.54**	**251**	Sn	**Sn**	**07 38 04.6**	**+1.8**
J25K	**Salcha River,** baz=66	**2.54**	**251**	P	**Pn**	**07 37 32.4**	**+0.9**
J25K				S	**Sb**	**07 38 04.8**	**-2.4**
L29M	**L29M** baz=66	**2.54**	**163**	Pn	**Pn**	**07 37 33.2**	**+1.5**
L29M				Sn	**Sb**	**07 38 05.4**	**-2.0**
L29M	**L29M** baz=344,SNR=64	**2.54**	**163**	P	**Pn**	**07 37 32.7**	**+1.1**
L29M				Sb	**Sg**	**07 38 10.1**	**-1.3**
MAYO	**Mayo, Yukon**	**2.58**	**137**	Pn	**Pn**	**07 37 33.9**	**+1.8**
MAYO				Sn	**Sb**	**07 38 06.2**	**-2.1**
MAYO	**Mayo, Yukon** baz=321	**2.58**	**137**	P	**Pn**	**07 37 32.9**	**+0.8**
H25L	**Birch Creek** baz=103	**2.58**	**289**	P	**Pn**	**07 37 32.8**	**+0.8**
F30M	**Barrier River**	**2.62**	**36**	Pn	**Pn**	**07 37 33.8**	**+1.1**
F30M				Sn	**Sn**	**07 38 05.9**	**+1.0**
F30M	**Barrier River** baz=219,SNR=42	**2.62**	**36**	P	**Pn**	**07 37 32.8**	**+0.1**
G31M	**Satah River**	**2.63**	**56**	Pn	**Pn**	**07 37 34.2**	**+1.4**
G31M	**Satah River** baz=241,SNR=167	**2.63**	**56**	P	**Pn**	**07 37 32.5**	**-0.2**
L27K	**Beaver Creek,**	**2.64**	**201**	Pn	**Pn**	**07 37 34.2**	**+1.3**
L27K				Sn	**Sb**	**07 38 07.7**	**-2.4**
L27K	**Beaver Creek,** baz=19,SNR=12	**2.64**	**201**	P	**Pn**	**07 37 34.2**	**+1.3**
DOT	**Dot Lake**	**2.64**	**226**	Pn	**Pn**	**07 37 34.6**	**+1.7**
DOT				Sn	**Sn**	**07 38 06.9**	**+1.6**
E27K	**Coleen River**	**2.75**	**346**	Pn	**Pn**	**07 37 35.4**	**+1.0**
E27K				Sg	**Sg**	**07 38 16.7**	**-1.3**
E27K	**Coleen River** baz=164,SNR=78	**2.75**	**346**	P	**Pn**	**07 37 35.2**	**+0.8**
F26K	**Sheenjek River**	**2.77**	**323**	Pn	**Pn**	**07 37 36.4**	**+1.6**
F26K				Sn	**Sn**	**07 38 09.0**	**+0.4**
F26K				Sg	**Sg**	**07 38 17.5**	**-1.2**
F26K	**Sheenjek River** baz=139	**2.77**	**323**	P	**Pn**	**07 37 35.6**	**+0.9**
RIDG	**Independent Ri** baz=48	**2.83**	**233**	P	**Pn**	**07 37 36.7**	**+1.2**
G25K	**Bearman Lake** baz=112	**2.84**	**299**	P	**Pn**	**07 37 36.7**	**+1.1**
E29M	**Blow River**	**2.96**	**14**	Pn	**Pn**	**07 37 37.8**	**+0.6**
E29M				Sn	**Sn**	**07 38 13.8**	**+0.7**
E29M	**Blow River**	**2.96**	**14**	P	**Pn**	**07 37 37.5**	**+0.3**
	baz=195,SNR=94						
L26K	**Log Cabin Wild**	**2.96**	**213**	Pn	**Pn**	**07 37 38.4**	**+1.1**
L26K				Sg	**Sg**	**07 38 23.5**	**-1.2**
L26K	**Log Cabin Wild** baz=30	**2.96**	**213**	P	**Pn**	**07 37 38.4**	**+1.1**
E28M	**Babbage River**	**3.08**	**2**	Pn	**Pn**	**07 37 39.6**	**+0.6**
E28M	**Babbage River** baz=182,SNR=40	**3.08**	**2**	P	**Pn**	**07 37 39.2**	**+0.3**
F31M	**Tsiigehtchic**	**3.09**	**49**	Pn	**Pn**	**07 37 40.1**	**+1.1**
F31M				Sn	**Sn**	**07 38 17.4**	**+1.2**
F31M				Sg	**Sg**	**07 38 26.0**	**-2.8**
F31M	**Tsiigehtchic** baz=235,SNR=44	**3.09**	**49**	P	**Pn**	**07 37 38.7**	**-0.3**
ILAR	**Eielson Array** 1.2nm,0.3s,baz=74,slow=16,SNR=5.7	**3.09**	**259**	Pn	**Pn**	**07 37 39.4**	**+0.3**
ILAR	16nm,0.3s,baz=71,slow=27,SNR=11 2.1nm,0.4s			Lg	Lg	07 38 25.4	
F25K	**Christian Rive**	**3.12**	**314**	Sg	**Sg**	**07 38 27.1**	**-2.6**
M29M	**Somme Creek**	**3.16**	**169**	Pn	**Pn**	**07 37 41.3**	**+1.1**
M29M				Sg	**Sg**	**07 38 29.1**	**-2.1**
M29M	**Somme Creek** baz=350,SNR=37	**3.16**	**169**	P	**Pn**	**07 37 41.1**	**+1.0**
BVCY	**Beaver Creek**	**3.17**	**189**	Pn	**Pn**	**07 37 41.9**	**+1.7**
BVCY				Sg	**Sg**	**07 38 29.8**	**-1.7**
BVCY	**Beaver Creek** baz=8.2,SNR=27	**3.17**	**189**	P	**Pn**	**07 37 41.6**	**+1.3**
POKR	**Poker Plat Res** baz=79	**3.23**	**266**	P	**Pn**	**07 37 42.0**	**+1.0**
HDA	**Harding Lake** baz=66	**3.25**	**253**	P	**Pn**	**07 37 42.0**	**+0.8**
M30M	**Minto, Yukon**	**3.25**	**155**	Pn	**Pn**	**07 37 42.4**	**+1.0**
M30M				Sg	**Sg**	**07 38 32.7**	**-1.4**
M30M	**Minto, Yukon** baz=338,SNR=26	**3.25**	**155**	P	**Pn**	**07 37 41.9**	**+0.6**
M27K	**Edge Creek, AK**	**3.32**	**197**	Pn	**Pn**	**07 37 43.5**	**+1.0**
M27K				Sg	**Sg**	**07 38 34.6**	**-1.7**
M27K	**Edge Creek, AK** baz=15	**3.32**	**197**	P	**Pn**	**07 37 43.6**	**+1.2**
G24K	**Hadweenzic Riv** baz=107	**3.34**	**294**	P	**Pn**	**07 37 42.9**	**+0.5**
H24K	**Noodor Dome** baz=91	**3.36**	**279**	P	**Pn**	**07 37 43.3**	**+0.5**
M26K	**Nabesna, AK**	**3.45**	**206**	Pn	**Pn**	**07 37 45.3**	**+1.2**
M26K				Sg	**Sg**	**07 38 38.3**	**-2.2**
M26K	**Nabesna, AK** baz=23	**3.45**	**206**	P	**Pn**	**07 37 45.2**	**+1.1**
E25K	**Arctic Village**	**3.45**	**321**	Pn	**Pn**	**07 37 45.8**	**+1.7**
E25K	**Arctic Village** baz=136,SNR=34	**3.45**	**321**	P	**Pn**	**07 37 45.8**	**+1.7**
COLA	**College** baz=75	**3.46**	**263**	P	**Pn**	**07 37 45.2**	**+1.1**
PAX	**Paxson**	**3.58**	**226**	Pn	**Pn**	**07 37 47.4**	**+1.5**
PAX				Sg	**Sg**	**07 38 41.7**	**-2.7**
PAX	**Paxson** baz=41	**3.58**	**226**	P	**Pn**	**07 37 47.3**	**+1.5**
INK	**Inuvik**	**3.72**	**39**	Pn	**Pn**	**07 37 48.1**	**+0.5**
INK				Sn	**Sn**	**07 38 30.8**	**-0.8**
INK	**Inuvik** baz=224,SNR=37	**3.72**	**39**	P	**Pn**	**07 37 48.0**	**+0.4**
D27M	**Malcolm River**	**3.75**	**354**	Pn	**Pn**	**07 37 49.4**	**+1.2**
D27M				Sn	**Sn**	**07 38 32.7**	**0.0**
D27M	**Malcolm River** baz=172,SNR=124	**3.75**	**354**	P	**Pn**	**07 37 49.6**	**+1.4**
YUK3	**Moose Creek**	**3.79**	**185**	Pn	**Pn**	**07 37 50.2**	**+1.2**
YUK3				Sn	**Sn**	**07 38 35.1**	**+1.3**
YUK3	**Moose Creek** baz=4.3,SNR=73	**3.79**	**185**	P	**Pn**	**07 37 50.1**	**+1.2**
YUK2	**White River**	**3.80**	**188**	Pn	**Pn**	**07 37 50.2**	**+1.3**
YUK2				Sg	**Sg**	**07 38 49.6**	**-1.9**
F24K	**Squaw Lake** baz=118	**3.80**	**305**	P	**Pn**	**07 37 50.3**	**+1.5**
D28M	**Stokes Point**	**3.83**	**6**	Pn	**Pn**	**07 37 51.0**	**+1.8**
D28M	**Stokes Point** baz=186,SNR=36	**3.83**	**6**	P	**Pn**	**07 37 51.2**	**+2.1**
HARP	**HAARP** baz=34	**3.94**	**219**	P	**Pn**	**07 37 51.7**	**+0.9**
I23K	**Minto, Yukon-K** baz=80	**4.03**	**269**	P	**Pn**	**07 37 52.3**	**+0.4**
NEA2	**Nenana** baz=72	**4.04**	**261**	P	**Pn**	**07 37 52.6**	**+0.4**
H23K	**Yukon River** baz=89	**4.04**	**279**	P	**Pn**	**07 37 52.4**	**+0.2**
M31M	**Drury Creek, Y**	**4.11**	**142**	Sg	**Sg**	**07 38 58.3**	**-3.4**
M31M	**Drury Creek, Y** baz=327	**4.11**	**142**	P	**Pn**	**07 37 53.8**	**+0.6**
DHY	**Denali Highway** baz=50	**4.12**	**237**	P	**Pn**	**07 37 55.3**	**+1.9**
BRWY	**Burwash Landin**	**4.20**	**175**	Pn	**Pn**	**07 37 55.7**	**+1.4**
BRWY				Sn	**Sn**	**07 38 45.3**	**+1.6**
YUK4	**Talbot Arm**	**4.24**	**173**	Pn	**Pn**	**07 37 55.0**	**0.0**
YUK4				Sn	**Sn**	**07 38 43.8**	**-1.2**
YUK4	**Talbot Arm** baz=353,SNR=71	**4.24**	**173**	P	**Pn**	**07 37 55.1**	**0.0**
N30M	**Aishikik Lake**	**4.27**	**162**	Pn	**Pn**	**07 37 56.4**	**+1.1**
N30M	**Aishikik Lake** baz=345,SNR=23	**4.27**	**162**	P	**Pn**	**07 37 56.5**	**+1.1**
YUK8	**Steele Glacier**	**4.27**	**180**	Pn	**Pn**	**07 37 56.6**	**+1.1**
YUK8				Sn	**Sn**	**07 38 46.4**	**+0.6**
YUK8				Sg	**Sg**	**07 39 03.6**	**-3.1**
YUK8	**Steele Glacier** baz=360,SNR=58	**4.27**	**180**	P	**Pn**	**07 37 56.8**	**+1.2**
E24K	**Your Creek** baz=122	**4.28**	**310**	P	**Pn**	**07 37 56.6**	**+1.1**
G23K	**Bananza Creek** baz=101	**4.32**	**290**	P	**Pn**	**07 37 56.9**	**+0.9**
MCK	**McKinley** baz=61	**4.33**	**249**	P	**Pn**	**07 37 57.5**	**+1.3**
C27K	**Jago River**	**4.37**	**342**	Pn	**Pn**	**07 37 58.7**	**+2.1**
C27K				Sn	**Sn**	**07 38 47.5**	**-0.3**
C27K	**Jago River** baz=158,SNR=66	**4.37**	**342**	P	**Pn**	**07 37 58.7**	**+2.1**
MCARA	**McCarthy VSAT**	**4.42**	**201**	Sn	**Sn**	**07 38 49.1**	**+0.2**
MCARA	**McCarthy VSAT** baz=18	**4.42**	**201**	P	**Pn**	**07 37 58.9**	**+1.6**
N31M	**Braeburn, Yuko**	**4.45**	**154**	Pn	**Pn**	**07 37 59.4**	**+1.6**
N31M	**Braeburn, Yuko** baz=338,SNR=14	**4.45**	**154**	P	**Pn**	**07 37 59.7**	**+2.0**
M24K	**Tolsona, Glenn** baz=36	**4.46**	**222**	P	**Pn**	**07 37 59.6**	**+1.7**
N25K	**Chitina, Valde**	**4.49**	**211**	Sn	**Sn**	**07 38 51.0**	**0.0**
N25K	**Chitina, Valde** baz=26	**4.49**	**211**	P	**Pn**	**07 37 59.8**	**+1.4**
YUK5	**Granite Creek**	**4.51**	**168**	Sg	**Sg**	**07 39 11.3**	**-3.1**
COLD	**Coldfoot**	**4.52**	**297**	Pn	**Pn**	**07 38 00.3**	**+1.6**
COLD				Sn	**Sn**	**07 38 50.7**	**-0.7**
COLD	**Coldfoot** baz=107	**4.52**	**297**	P	**Pn**	**07 38 00.3**	**+1.6**
D25K	**Kavik River**	**4.57**	**329**	Pn	**Pn**	**07 38 01.0**	**+1.6**
D25K				Sn	**Sn**	**07 38 51.8**	**-0.9**
D25K	**Kavik River** baz=143,SNR=16	**4.57**	**329**	P	**Pn**	**07 38 01.2**	**+1.8**
WAT6	**Susitna Watana** baz=46	**4.58**	**233**	P	**Pn**	**07 38 01.6**	**+1.9**
MLY	**Manley** baz=79	**4.62**	**269**	P	**Pn**	**07 38 00.9**	**+0.7**
E23K	**Chandalar** baz=118	**4.63**	**307**	P	**Pn**	**07 38 01.8**	**+1.4**
CTGM	**Chitina Glacie**	**4.64**	**189**	Sn	**Sn**	**07 38 54.7**	**-0.1**
CTG	**Chitna Glacier** baz=8.1	**4.64**	**189**	P	**Pn**	**07 38 02.0**	**+1.5**
YUK6	**Outpost Mounta**	**4.66**	**171**	Pn	**Pn**	**07 38 02.6**	**+1.7**
YUK6				Sn	**Sn**	**07 38 55.6**	**+0.3**
YUK6	**Outpost Mounta** baz=353,SNR=52	**4.66**	**171**	P	**Pn**	**07 38 02.5**	**+1.7**
BALM	**Baldy**	**4.66**	**195**	Sn	**Sn**	**07 38 55.0**	**-0.2**
WAT1	**Susitna Watana** baz=51	**4.70**	**239**	P	**Pn**	**07 38 03.0**	**+1.8**
MMPY	**Sheldon Lake,**	**4.75**	**124**	Pn	**Pn**	**07 38 03.0**	**+1.1**
MMPY				Sn	**Sn**	**07 38 56.0**	**-1.4**
MMPY	**Sheldon Lake,** baz=312,SNR=35	**4.75**	**124**	P	**Pn**	**07 38 03.1**	**+1.2**
LOGN	**Logan Glacier**	**4.76**	**187**	Pn	**Pn**	**07 38 04.3**	**+2.1**
LOGN				Sn	**Sn**	**07 38 58.3**	**+0.5**
LOGN				Sg	**Sg**	**07 39 18.9**	**-3.7**
KIAG	**Kiagna River**	**4.78**	**195**	Pn	**Pn**	**07 38 04.3**	**+2.0**
O28M	**Mount Upton**	**4.79**	**182**	Pn	**Pn**	**07 38 04.7**	**+2.1**
O28M				Sn	**Sn**	**07 38 58.7**	**+0.1**
O28M	**Mount Upton** baz=2.1,SNR=8.2	**4.79**	**182**	P	**Pn**	**07 38 04.4**	**+1.8**
C26K	**Camden Bay**	**4.81**	**338**	Pn	**Pn**	**07 38 04.4**	**+1.7**
C26K				Sn	**Sn**	**07 38 55.7**	**-2.9**
C26K				Sg	**Sg**	**07 39 19.8**	**-4.2**
C26K	**Camden Bay** baz=154,SNR=15	**4.81**	**338**	P	**Pn**	**07 38 03.6**	**+1.0**
HYT	**Haines Junctio**	**4.84**	**167**	Pn	**Pn**	**07 38 04.5**	**+1.2**
HYT				Sg	**Sg**	**07 39 21.5**	**-3.6**
HYT	**Haines Junctio** baz=349,SNR=20	**4.84**	**167**	P	**Pn**	**07 38 04.8**	**+1.5**
KLU	**Klutina** baz=31	**4.90**	**217**	P	**Pn**	**07 38 06.6**	**+2.7**
GRNC	**Granite Creek**	**4.91**	**191**	Pn	**Pn**	**07 38 06.8**	**+2.6**
GRNC				Sn	**Sn**	**07 39 01.2**	**-0.2**
GRNC				Sg	**Sg**	**07 39 24.2**	**-2.9**
TOLK	**Toolik Lake Re** baz=124	**4.93**	**314**	P	**Pn**	**07 38 06.5**	**+2.2**
G22K	**Bettles** baz=101	**4.94**	**292**	P	**Pn**	**07 38 06.2**	**+1.8**
BPAW	**Bear Paw Mtn.** baz=68	**5.00**	**258**	P	**Pn**	**07 38 06.3**	**+1.1**
TRF	**Thorofare Moun** baz=60	**5.00**	**250**	P	**Pn**	**07 38 06.8**	**+1.4**
SCM	**Sheep Creek Mo** baz=39	**5.00**	**225**	P	**Pn**	**07 38 09.0**	**+3.5**
CRQE	**Cirque** baz=16	**5.03**	**199**	P	**Pn**	**07 38 08.1**	**+2.3**
D24K	**Happy Valley** baz=132	**5.03**	**320**	P	**Pn**	**07 38 08.7**	**+3.0**
O30N	**Mendenhall**	**5.07**	**159**	Pn	**Pn**	**07 38 07.8**	**+1.5**
O30N				Sg	**Sg**	**07 39 28.7**	**-3.7**
O30N	**Mendenhall** baz=342,SNR=15	**5.07**	**159**	P	**Pn**	**07 38 08.1**	**+1.8**
BMRM	**Bremner River** baz=23	**5.08**	**208**	P	**Pn**	**07 38 09.2**	**+2.8**
YUK7	**Dusty Glacier**	**5.08**	**171**	Sn	**Sn**	**07 39 05.3**	**-0.4**
TABL	**Table Mountain**	**5.16**	**187**	Pn	**Pn**	**07 38 09.5**	**+1.9**
DIV	**Divide**	**5.18**	**214**	Sg	**Sg**	**07 39 32.1**	**-3.7**
O29M	**Mount Kennedy**	**5.29**	**173**	Pn	**Pn**	**07 38 11.5**	**+2.2**
O29M				Sn	**Sn**	**07 39 10.9**	**+0.3**
O29M	**Mount Kennedy** baz=355,SNR=15	**5.29**	**173**	P	**Pn**	**07 38 11.5**	**+2.2**
RKAV	**Rock Avalanche**	**5.31**	**188**	Sn	**Sn**	**07 39 11.0**	**-0.1**
F22K	**John River** baz=106	**5.33**	**297**	P	**Pn**	**07 38 11.7**	**+1.8**
N32M	**Quiet Lake**	**5.34**	**142**	Sg	**Sg**	**07 39 36.7**	**-4.2**
WHY	**Whitehorse**	**5.38**	**153**	Pn	**Pn**	**07 38 11.8**	**+1.2**
WHY	**Whitehorse** baz=338,SNR=19	**5.38**	**153**	P	**Pn**	**07 38 11.4**	**+0.8**
C24K	**Franklin Bluff** baz=137	**5.40**	**325**	P	**Pn**	**07 38 12.2**	**+1.5**
D23K	**Nanushuk River** baz=124	**5.44**	**314**	P	**Pn**	**07 38 13.1**	**+1.7**
PINM	**Pinnacle** baz=2.1	**5.47**	**182**	P	**Pn**	**07 38 12.9**	**+1.1**
MESA	**MESA**	**5.47**	**191**	Sn	**Sn**	**07 39 14.7**	**-0.5**
P30M	**Million Dollar**	**5.59**	**165**	Sg	**Sg**	**07 39 45.0**	**-4.0**
CHUM	**Lake Minchumin** baz=67	**5.62**	**259**	P	**Pn**	**07 38 14.4**	**+0.6**
KNK	**Knik Glacier** baz=39	**5.67**	**227**	P	**Pn**	**07 38 15.3**	**+0.8**
G21K	**Allakaket** baz=94	**5.68**	**286**	P	**Pn**	**07 38 15.6**	**+1.0**
PMR	**Palmer** baz=42	**5.75**	**231**	P	**Pn**	**07 38 18.8**	**+3.2**
F21K	**Alatna River** baz=100	**5.76**	**293**	P	**Pn**	**07 38 17.6**	**+1.9**
PNL	**Peninsula**	**5.89**	**178**	Pn	**Pn**	**07 38 19.7**	**+2.1**
PNL	**Peninsula** baz=358	**5.89**	**178**	P	**Pn**	**07 38 20.0**	**+2.4**
C23K	**Itkillik River** baz=131	**5.96**	**321**	P	**Pn**	**07 38 19.9**	**+1.5**
PPLA	**Purkeypile** baz=58	**6.02**	**250**	P	**Pn**	**07 38 22.2**	**+2.8**
PWL	**Port Wells** baz=36	**6.08**	**223**	P	**Pn**	**07 38 23.1**	**+3.0**
P33M	**Teslin, Yukon** baz=332	**6.22**	**146**	P	**Pn**	**07 38 24.2**	**+2.1**
I20K	**Naaghedeneel** baz=76	**6.23**	**270**	P	**Pn**	**07 38 23.7**	**+1.6**
J20K	**Nowinta River** baz=71	**6.27**	**264**	P	**Pn**	**07 38 24.1**	**+1.5**
E21K	**Killik River** baz=111	**6.27**	**304**	P	**Pn**	**07 38 23.7**	**+1.0**
H20K	**Anotleneega Mo** baz=83	**6.27**	**276**	P	**Pn**	**07 38 23.5**	**+0.7**
SKT	**Skwentna** baz=50	**6.31**	**241**	P	**Pn**	**07 38 25.4**	**+2.1**
SUA	**Susitna One** baz=45	**6.38**	**235**	P	**Pn**	**07 38 26.3**	**+1.9**
TGTN	**Hyland Airport** baz=313	**6.53**	**123**	P	**Pn**	**07 38 28.1**	**+1.8**
F20K	**Avaraart Lake** baz=96	**6.60**	**290**	P	**Pn**	**07 38 28.4**	**+1.2**
H19K	**Roundabout Mou** baz=82	**6.92**	**277**	P	**Pn**	**07 38 32.1**	**+0.6**
J19K	**Poorman** baz=70	**6.94**	**264**	P	**Pn**	**07 38 32.3**	**+0.4**
M20K	**Styx River** baz=52	**6.96**	**244**	P	**Pn**	**07 38 33.6**	**+1.3**
B21K	**Ikpikpuk River** baz=119	**6.98**	**313**	P	**Pn**	**07 38 33.2**	**+0.8**
CAPN	**Captain Cook N** baz=42	**7.02**	**232**	P	**Pn**	**07 38 33.3**	**+0.4**
F19K	**Shaleruckik Mo** baz=92	**7.39**	**288**	P	**Pn**	**07 38 38.3**	**+0.3**
Q32M	**Nakina River**	**7.47**	**149**	Pn	**Pn**	**07 38 41.3**	**+1.9**
Q32M	**Nakina River** baz=335	**7.47**	**149**	P	**Pn**	**07 38 41.2**	**+1.9**
D19K	**Kuna River** baz=104	**7.75**	**301**	P	**Pn**	**07 38 44.7**	**+1.7**
G18K	**Tagagawik** baz=84	**7.78**	**281**	P	**Pn**	**07 38 44.6**	**+1.2**
H17K	**Granite Mounta** baz=77	**8.46**	**275**	P	**Pn**	**07 38 53.2**	**+0.5**
DLBC	**Dease Lake** baz=332	**8.47**	**143**	P	**Pn**	**07 38 54.1**	**+1.2**
YKA	**Yellowknife Ar** 0.3nm,0.3s,baz=295,slow=14,SNR=27	**11.42**	**94**	Pn	**Pn**	**07 39 31.0**	**-2.2**
YKA	0.5nm,0.3s,baz=298,slow=23,SNR=8.6 0.6nm,0.6s			Sn	Sn	07 41 29.3	-12
PDAR	**Pinedale Array** 0.5nm,0.8s,baz=329,slow=6.7,SNR=1.5 0.5nm,0.8s	**28.35**	**129**	P	**P**	**07 42 46.5**	**+2.0**
TXAR	**Lajitas Array** 0.6nm,1.1s,baz=340,slow=7.9,SNR=2.4 0.6nm,1.1s	**42.54**	**130**	P	**P**	**07 44 47.5**	**+1.5**

*NEIC **08** 07:39:24.9±0.3, 11°48S±0°06×122°3E±0°1, h10^km±2^km, mb4.0/5, Error ellipse: s-maj=18.6km s-min=7.4km az=116.0*

*DJA **08** 07:39:27.5±0.3, 11°S±3°×12°2E±°, h85^km±12^km, M4.3/10, mb4.4/5, mB5.0/1, MLv4.2/10, Mw(mB)4.3/1*

*IDC **08** 07:39:31.8±2.6, 11°45S×122°80E, h84^km±31^km, mb3.3/4, mbtmp3.9/7, MS3.0/1, Error ellipse: s-maj=47.7km s-min=10.5km az=86.0*

ISC 08 07:39:27.7±0.8, 11°41S±0°05×122°35E±0°05, h55^km±15^km, n57, σ2°13/62, mb3.8/4, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata** 277nm,0.3s,baz=263,slow=8.

TWSI	**Taliwang, Sumb**	**6.00**	**296**	P		**Pn**	07 40 55.7	**+1.7**
TWSI				S		**Sn**	07 41 59.0	**-2.5**
FITZ	**Fitzroy Crossi**	**7.37**	**155**			**Pn**	07 41 15.4	**+2.7**
FITZ	**Fitzroy Crossi**	**7.37**	**155**	P		**Pn**	07 41 14.9	**+2.2**
	6.3nm,0.4s,baz=340,slow=12,SNR=39							
FITZ				S		**Sn**	07 42 35.0	**+0.1**
	12nm,0.5s,baz=18,slow=20,SNR=7.1							
FITZ	**Fitzroy Crossi**	**7.37**	**155**	P		**Pn**	07 41 14.9	**+2.2**
KNRA	**Kununurra**	**7.54**	**125**			**Pn**	07 41 17.2	**+2.1**
DRS	**Darwin Rock St**	**8.43**	**98**	P		**Pn**	07 41 27.0	**-0.2**
JAGI	**Jajag, Banyuwa**	**8.59**	**289**	Pn		**Pn**	07 41 29.0	**-0.4**
JAGI	**Jajag, Banyuwa**	**8.59**	**289**	P		**Pn**	07 41 27.6	**-1.9**
JAGI				S		**Sn**	07 42 59.6	**-5.4**
MTN	**Manton Dam**	**8.70**	**100**			**Pn**	07 41 29.8	**-1.2**
SAUI	**Saumlaki**	**9.46**	**70**	Pn		**Pn**	07 41 40.9	**-0.4**
KDU	**Kakadu**	**9.98**	**98**	P		**Pn**	07 41 49.4	**+0.9**
MBWA	**Marble Bar**	**10.01**	**194**			**Pn**	07 41 50.5	**+1.6**
MBWA	**Marble Bar**	**10.01**	**194**	P		**Pn**	07 41 52.7	**+3.8**
PSA00	**Pilbara Seismi**	**10.39**	**193**	Pn		**Pn**	07 41 57.2	**+3.2**
PSA00	**Pilbara Seismi**	**10.39**	**193**	P		**Pn**	07 41 57.8	**+3.8**
UGM	**Wanagama**	**12.17**	**286**	Pn		**Pn**	07 42 18.4	**-0.1**
UGM	**Wanagama**	**12.17**	**286**	P		**Pn**	07 42 20.7	**+2.3**
GIRL	**Giralia**	**13.60**	**214**	Pn		**P**	07 42 41.3	**-3.8**
WB0	**Warramunga Arr**	**14.26**	**127**	Pn		**Pn**	07 42 45.0	**-1.8**
WRA	**Warramunga Arr**	**14.32**	**128**	Pn		**Pn**	07 42 46.6	**-0.9**
WRA	**Warramunga Arr**	**14.32**	**128**	P		**Pn**	07 42 45.8	**-1.7**
	2.0nm,0.4s,baz=299,slow=14,SNR=33							
WRA				S		Sn	07 45 15.8	-9.1
	3.2nm,0.4s,baz=306,slow=25,SNR=12							
WRA				LR		LR	07 49 09.1	
	comp=Z,64nm,18.7s,baz=170,slow=41							
WRAB	**Tennant Creek**	**14.32**	**128**	Pn		**Pn**	07 42 47.0	**-0.6**
WB2	**Warramunga Arr**	**14.32**	**128**	Pn		**Pn**	07 42 46.7	**-1.0**
WR8	**Warramunga Arr**	**14.45**	**127**			**Pn**	07 42 48.7	**-0.6**
MEEK	**Meekatharra**	**15.55**	**193**	P		**P**	07 43 08.0	**+1.1**
AS31	**Alice Springs**	**16.41**	**139**	Pn		**P**	07 43 14.7	**-1.8**
ASAR	**Alice Springs**	**16.41**	**139**			**P**	07 43 14.4	**-2.1**
ASAR	**Alice Springs**	**16.41**	**139**	P		**P**	07 43 15.2	**-1.3**
	6.2nm,0.7s,baz=321,slow=13,SNR=67							
ASAR				S		**Sn**	07 46 07.2	**-8.7**
	2.4nm,0.5s,baz=312,slow=23,SNR=15							
MORW	**Morawa**	**18.53**	**198**	P		Pn	07 43 45.6	+5.1
MORW				IAmb		IAmb	07 44 03.2	
	comp=Z,9.6nm,1.1s							
MORW	**Morawa**	**18.53**	**198**	P		Pn	07 43 45.4	+4.9
QIS	**Mount Isa**	**18.90**	**121**	P		**Pn**	07 43 48.7	**+3.7**
BLDU	**Ballidu**	**19.81**	**194**	P		Pn	07 44 00.5	+4.8
COEN	**Coen**	**20.47**	**99**	P		Pn	07 44 02.3	-1.3
COEN				IAmb		IAmb	07 44 25.1	
	comp=Z,6.9nm,1.2s							
COEN	**Coen**	**20.47**	**99**	P		Pn	07 44 04.7	+1.1
MUN	**Mundaring**	**21.24**	**195**	P		P	07 44 14.3	+5.1
NWAO	**Narrogin (SRO)**	**21.93**	**192**	P		**P**	07 44 17.5	**+1.0**
NWAO				IAmb		IAmb	07 44 28.3	
	comp=Z,12nm,1.1s							
NWAO	**Narrogin (SRO)**	**21.93**	**192**	P		**P**	07 44 18.1	**+1.6**
	comp=Z,2.8nm,0.7s,baz=19,slow=9.2,SNR=1.6							
NWAO				S		**S**	07 48 17.4	**+1.8**
	comp=Z,4.2nm,0.8s,baz=298,slow=18,SNR=2.3							
	comp=Z,2.8nm,0.7s							
BBOO	**Buckleboo**	**24.74**	**152**	P		**P**	07 44 44.9	**+0.8**
KSAR	**Wonju Array Be**	**48.87**	**6**	P		P	07 48 10.7	+2.9
SONM	**Songino Array**	**60.67**	**348**	P		**P**	07 49 33.6	**+0.4**
	comp=Z,0.3nm,0.5s,baz=159,slow=5.7,SNR=1.4							
	comp=Z,0.3nm,0.5s							
MKAR	**Makanchi Array**	**68.11**	**332**	P		P	07 50 24.6	+2.7
	comp=Z,0.8nm,0.7s,baz=135,slow=5.9,SNR=6.9							
	comp=Z,0.8nm,0.7s							
KURBB	**Kurchatov Arra**	**72.60**	**332**	P		P	07 50 52.8	+3.7
	comp=Z,0.2nm,0.4s,baz=140,slow=5.7,SNR=1.8							
	comp=Z,0.2nm,0.4s							

RSNC 08 07:43:25.9±0.0,7°N±1°×7°3W±°,h148km±1km,M3.0,mB4.5, mb3.6,ML2.7,Mw(mB)3.7,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**186**	P	Pn	07 43 45.8	-0.5
BARC				S	Sn	07 44 01.4	-0.5
BRJC	**Barrancabermej**	**0.60**	**285**	P	Pn	07 43 47.4	-0.2
BRJC				S	Sn	07 44 04.2	+0.2
PAMC	**Pamplona, Colo**	**0.69**	**41**	P	Pn	07 43 48.6	-0.1
PAMC				S	Sn	07 44 05.9	-0.1
RUSC	**La Rusia**	**0.93**	**175**	P	Pn	07 43 49.9	-0.6
RUSC				S	Sn	07 44 08.6	-0.5
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	P	Pn	07 43 52.3	-1.2
PTBC				S	Sn	07 44 14.1	-0.4
OCAC	**Ocana**	**1.42**	**354**	P	Pn	07 43 53.9	-0.8
OCAC				S	Sn	07 44 15.8	-0.9
NORC	**Norcasia**	**2.11**	**234**	P	Pn	07 44 01.7	-0.6
NORC				S	Sn	07 44 29.5	-0.7
ROSC	**El Rosal**	**2.28**	**210**	P	Pn	07 44 05.4	+0.7
ROSC				S	Sn	07 44 34.1	-0.3
HELC	**Santa Helena**	**2.44**	**255**	P	Pn	07 44 06.6	+0.1
HELC				S	Sn	07 44 37.6	-0.1
UREC	**San Jos de Ur**	**2.53**	**292**	P	Pn	07 44 06.0	-1.3
UREC				S	Sn	07 44 36.2	-3.0
GUY2C	**Guyana, Caldas**	**2.71**	**234**	P	Pn	07 44 09.7	-0.3
GUY2C				S	Sn	07 44 42.9	-1.0
VILC	**Villavicencio,**	**2.74**	**191**	P	Pn	07 44 09.2	-0.9
VILC				S	Sn	07 44 43.3	-0.9
NIZA	**Niza - Manizal**	**2.89**	**233**	P	Pn	07 44 15.6	+3.5
NIZA				S	Sn	07 44 48.4	+0.7
CBOC	**Ciudad Bolivar**	**2.99**	**252**	P	Pn	07 44 13.5	+0.3
CBOC				S	Sn	07 44 49.8	0.0
DBBC	**Dabeiba**	**3.03**	**274**	P	Pn	07 44 13.1	-0.6
DBBC				S	Sn	07 44 49.2	-1.5
ARGC	**Ariguani, Magd**	**3.20**	**340**	P	Pn	07 44 15.9	+0.1
ARGC				S	Sn	07 44 54.8	+0.3
ANIL	**Santa Ana**	**3.21**	**224**	P	Pn	07 44 17.1	+0.9
ANIL				S	Sn	07 44 55.3	+0.1
SDV	**Santo Domingo**	**3.24**	**50**	P	Pn	07 44 15.5	-0.9
SDV				S	Sn	07 44 52.8	-2.7
PRAC	**Prado**	**3.53**	**209**	P	Pn	07 44 19.4	-0.7
PRAC				S	Sn	07 45 01.1	-1.0
APAC	**Apartado, Choc**	**3.56**	**288**	P	Pn	07 44 19.6	-0.8
APAC				S	Sn	07 45 01.8	-0.8
ORTC	**Ortega, Tolima**	**3.56**	**216**	P	Pn	07 44 20.1	-0.4
ORTC				S	Sn	07 45 02.6	-0.2
SJCC	**San Jacinto, C**	**3.65**	**327**	P	Pn	07 44 19.4	-2.3
SJCC				S	Sn	07 45 01.0	-3.9
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	07 44 23.1	+0.1
URMC				S	Sn	07 45 07.0	-0.3
CRJC	**Cerrejon, Guaj**	**4.18**	**4**	P	Pn	07 44 26.1	-2.5
CRJC				S	Sn	07 45 13.4	-4.0
YOTC	**Yotoco, Valle**	**4.24**	**229**	P	Pn	07 44 28.3	-1.1
YOTC				S	Sn	07 45 19.3	+0.5
SMRC	**Santa Marta, M**	**4.44**	**346**	P	Pn	07 44 31.3	-0.6
SMRC				S	Sn	07 45 20.1	-3.3
MACC	**Macarena, Meta**	**4.69**	**188**	P	Pn	07 44 32.9	-2.4
MACC				S	Sn	07 45 24.1	-5.3
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	07 44 36.3	-2.8
URIC				S	Sn	07 45 34.1	-2.1
JAMC	**Jamundi, Valle**	**5.01**	**225**	P	Pn	07 44 39.0	-0.6
	11nm,1.4s						
JAMC				S	Sn	07 45 36.7	-0.4
	11nm,1.4s						
GARC	**Garzon, Huila**	**5.16**	**207**	P	Pn	07 44 39.9	-1.8
GARC				S	Sn	07 45 37.8	-2.9
POPC	**Popayan, Colom**	**5.51**	**220**	P	Pn	07 44 45.6	-0.7
	5.5nm,0.7s						
POPC				S	Sn	07 45 48.7	-0.4
	5.5nm,0.7s						
FLOC	**Florencia**	**5.77**	**206**	P	Pn	07 44 48.4	-1.2
FLOC				S	Sn	07 45 55.0	+0.1

*IDC **08** 08:21:50.4±2.5,72°.93N×6°.31E,h0km,mbtmp3.3/5, ML2.6/5,Error ellipse: s-maj=33.4km s-min=20.2km az=81.0*
*BER **08** 08:21:54.5±2.3,73°.08N×6°.36E,h10km,mb(Pn)3.9, Confirmed Earthquake*
*NAO **08** 08:21:55.6±1.5,73°.21N×7°.26E,h10km,ML2.5*
ISC 08 08:21:50.4±1.4,72°.99N±0°.06×6°.38E±0°.10,h11km,n36, s25s51/52,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEA6	**Bear Island, N**	**3.86**	**61**	Pn	**Pn**	**08 22 50.2**	**+0.7**
BJO1	**Bjornoya**	**3.86**	**61**	*eP*	**Pn**	**08 22 50.3**	**+0.8**
HSPB	**Hornsund (broa**	**4.68**	**26**	Pn	**Pn**	**08 23 00.2**	**-0.6**
HSPB	**Hornsund (broa**	**4.68**	**26**	*eP*	**Pn**	**08 23 00.0**	**-0.8**
HSPB				IAML		08 23 02.5	
	comp=Z,3.3nm,1.0s						
TRO	**Tromso**	**5.25**	**124**	Pn	**Pn**	**08 23 11.5**	**+2.9**
TRO				Sn	**Sn**	**08 24 06.4**	**-2.5**
TRO	**Tromso**	**5.25**	**124**	*eP*	**Pn**	**08 23 11.2**	**+2.6**
TRO				*eS*	**Sn**	**08 24 07.7**	**-1.3**
TRO				IAML		08 24 11.4	
	comp=Z,3.5nm,0.4s						
LOF	**Lofoten**	**5.43**	**150**	*eP*	**Pn**	**08 23 14.0**	**+2.9**
LOF				*eS*	**Sn**	**08 24 10.4**	**-3.0**
LOF				IAML		08 24 11.1	
	comp=Z,7.1nm,0.5s						
BRBA	**Barentsburg A**	**5.46**	**17**	Pn	**Pn**	**08 23 13.1**	**+1.6**
BRBA	**Barentsburg A**	**5.46**	**17**	*eP*	**Pn**	**08 23 12.9**	**+1.4**
BRBA				*e*		08 24 24.2	
JETT	**Jettan, Norway**	**5.67**	**120**	Pn	**Pn**	**08 23 17.9**	**+3.4**
JETT				Sn	**Sn**	**08 24 18.4**	**-1.1**
JETT	**Jettan, Norway**	**5.67**	**120**	*eP*	**Pn**	**08 23 18.1**	**+3.7**
JETT				*eS*	**Sn**	**08 24 20.0**	**+0.5**
JETT				IAML		08 24 22.9	
	comp=Z,3.1nm,0.9s						
SPA0	**Spitsbergen Ar**	**5.77**	**21**	Pn	**Pn**	**08 23 16.4**	**+0.6**
	baz=211,slow=16						
SPA0	**Spitsbergen Ar**	**5.77**	**21**	*eP*	**Pn**	**08 23 16.9**	**+1.1**
SPITS	**Spitsbergen Ar**	**5.77**	**21**	Pn	**Pn**	**08 23 16.1**	**+0.3**
	baz=206,slow=16						
	comp=Z,1.2nm,0.4s						
STEI	**Steigen**	**5.88**	**145**	*eP*	**Pn**	**08 23 20.6**	**+3.4**
STEI				*eS*	**Sn**	**08 24 24.1**	**-0.4**
STEI				IAML		08 24 26.4	
	comp=Z,2.7nm,0.6s						
HAMF	**Hammerfest**	**5.90**	**105**	*eP*	**Pn**	**08 23 18.7**	**+1.2**
HAMF				*eS*	**Sn**	**08 24 23.5**	**-1.4**
HAMF				IAML		08 24 25.9	
	comp=Z,2.1nm,0.4s						
KBS	**Kingsbay**	**6.12**	**10**	Pn	**Pn**	**08 23 19.9**	**-0.7**
KBS	**Kingsbay**	**6.12**	**10**	*eP*	**Pn**	**08 23 20.9**	**+0.3**
KIF	**Kilpisjarvi**	**6.17**	**123**	Pn	**Pn**	**08 23 23.6**	**+2.5**
KIF	**Kilpisjarvi**	**6.17**	**123**	*eP*	**Pn**	**08 23 23.7**	**+2.6**
KIF				*eS*	**Sn**	**08 24 29.8**	**-1.7**
FAUS	**Fauske**	**6.38**	**147**	*eP*	**Pn**	**08 23 28.2**	**+4.0**
FAUS				*eS*	**Sn**	**08 24 34.3**	**-2.6**
FAUS				IAML		08 24 41.6	
	comp=Z,2.2nm,0.6s						
VAGH	**Vaagaholmen**	**6.71**	**156**	*eP*	**Pn**	**08 23 31.4**	**+2.7**
VAGH				*eS*	**Sn**	**08 24 43.5**	**-1.5**
VAGH				IAML		08 24 58.4	
	comp=Z,4.4nm,0.7s						
KONS	**Konsvik**	**6.92**	**157**	*eP*	**Pn**	**08 23 34.4**	**+2.9**
KONS				*eS*	**Sn**	**08 24 47.8**	**-2.2**
KONS				IAML		08 24 52.3	
	comp=Z,3.9nm,0.5s						
SALU	**Saltoluokta**	**6.96**	**138**	*eP*	**Pn**	**08 23 35.4**	**+3.3**
SALU				*eS*	**Sn**	**08 24 49.1**	**-2.1**
ARA0	**ARCESS Array S**	**7.04**	**110**	Pn	**Pn**	**08 23 36.3**	**+3.0**
	baz=319,slow=14						
ARA0				Sn	**Sn**	**08 24 48.0**	**-5.2**
	baz=303,slow=22						
ARA0	**ARCESS Array S**	**7.04**	**110**	*eP*	**Pn**	**08 23 35.4**	**+2.2**
ARA0				*eS*	**Sn**	**08 24 51.1**	**-2.1**
ARA0				IAML		08 24 56.2	
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**7.04**	**110**	Pn	**Pn**	**08 23 35.4**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=322,slow=12,SNR=10						
ARCES				Sn	**Sn**	**08 24 51.7**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=304,slow=22,SNR=2.2						
	comp=Z,2.0nm,0.9s						
STOK	**Stokkvaagen**	**7.07**	**158**	*eP*	**Pn**	**08 23 36.6**	**+3.1**
STOK				IAML		08 24 54.0	
	comp=Z,3.6nm,0.4s						
LEIR	**Leirfjorden**	**7.29**	**158**	*eP*	**Pn**	**08 23 39.6**	**+3.0**
LEIR				*eS*	**Sn**	**08 24 54.3**	**-5.0**
HEF	**Hetta**	**7.32**	**120**	*eP*	**Pn**	**08 23 40.5**	**+3.5**
KEV	**Kevo**	**7.33**	**106**	*eP*	**Pn**	**08 23 38.8**	**+1.6**
MOR8	**Moi Rana**	**7.39**	**154**	*eP*	**Pn**	**08 23 40.5**	**+2.4**
MOR8				*eS*	**Sn**	**08 24 57.4**	**-4.4**
MOR8				IAML		08 25 04.2	
	comp=Z,3.0nm,0.5s						
DAG	**Danmarks Havn**	**7.51**	**312**	*eS*	Sn	08 24 50.2	-14
NOA	**NORSAR Array B**	**12.14**	**169**	Pn	**Pn**	**08 24 44.7**	**+1.7**
	baz=353,slow=8.8,SNR=1.7						
	comp=Z,0.4nm,0.9s						
HFS	**Hagfors**	**13.21**	**164**	Pn	**Pn**	**08 24 59.4**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=42,slow=20,SNR=1.8						
	comp=Z,1.1nm,0.8s						
FINES	**FINESS Array B**	**13.76**	**137**	Pn	**Pn**	**08 25 05.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=335,slow=16,SNR=1.8						
	comp=Z,1.4nm,0.9s						

WEL 08 08:57:58.5±0.9,31°S±7°×17°9E±1°1,h12km,M4.4/4, mB4.6/4,ML5.0/10,MLv4.5/4,Mw(mB)3.8/4,Error ellipse: s-maj=16.2km s-min=5.0km az=117.2,confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.19**	**60**	S	Sn	08 59 28.1	+1.5
MXZ	**Matakaoa Point**	**6.64**	**184**	P	Pn	08 59 36.7	+0.8
MXZ				S	Sn	09 00 53.7	+2.1
HAZ	**Te Kaha**	**6.88**	**188**	P	Pn	08 59 40.6	+1.4
HAZ				S	Sn	09 01 01.4	+4.0
WMGZ	**Waiomatatini S**	**6.89**	**183**	P	Pn	08 59 40.2	+0.8
WMGZ				S	Sn	09 00 57.9	+0.1
PKGZ	**Pakihiroa**	**6.96**	**186**	S	Sn	09 01 00.1	+0.6
RUGZ	**Raukumara Rang**	**7.10**	**188**	P	Pn	08 59 43.2	+0.8
RUGZ				S	Sn	09 01 04.6	+1.6
PUZ	**Puketiti**	**7.15**	**184**	P	Pn	08 59 42.7	-0.3
PUZ				S	Sn	09 01 04.6	+0.4
TWGZ	**Tauwhareparae**	**7.28**	**186**	P	Pn	08 59 45.6	+0.9
TWGZ				S	Sn	09 01 08.2	+0.8
TOZ	**Tahuroa Road**	**7.36**	**202**	P	Pn	08 59 53.1	+7.3
URZ	**Urewera**	**7.47**	**191**	P	Pn	08 59 44.8	-2.5
URZ				S	Sn	09 01 14.5	+2.5
CNGZ	**Carnagh Statio**	**7.57**	**184**	P	Pn	08 59 48.7	0.0
RAGZ	**Rawiri**	**7.66**	**189**	S	Sn	09 01 18.6	+1.9
MUGZ	**Murupara**	**7.74**	**193**	P	Pn	08 59 50.7	-0.4
MUGZ				S	Sn	09 01 20.3	+1.6
RIGZ	**Rimuhau**	**7.83**	**187**	P	Pn	08 59 51.0	-1.3
RIGZ				S	Sn	09 01 19.1	-1.6
TLZ	**Tolley Road**	**7.90**	**200**	P	Pn	08 59 58.2	+5.0
SNGZ	**Shannon Statio**	**7.95**	**189**	P	Pn	08 59 51.7	-2.2
SNGZ				S	Sn	09 01 23.2	-0.5
BKZ	**Black Stump Fm**	**8.46**	**193**	P	Pn	08 59 58.4	-2.6
BKZ				S	Sn	09 01 37.1	+0.6
NNVZ	**North Ngauruho**	**8.63**	**197**	P	Pn	09 00 07.9	+4.5
NGZ	**Ngauruhoe**	**8.67**	**197**	P	Pn	09 00 08.9	+4.9
MCHZ	**McNeill Hill**	**8.70**	**191**	P	Pn	08 59 59.9	-4.2
MCHZ				S	Sn	09 01 41.1	-1.0
WNVZ	**Wahianoa**	**8.82**	**197**	P	Pn	09 00 01.3	-4.7
WNVZ				S	Sn	09 01 46.9	+1.6
KRHZ	**Kereru**	**8.95**	**193**	P	Pn	09 00 03.9	-3.7
KRHZ				S	Sn	09 01 45.4	-3.0
KAHZ	**Kahuranaki**	**9.01**	**190**	P	Pn	09 00 05.3	-3.1
KAHZ				S	Sn	09 01 47.4	-2.5
PNHZ	**Pukenui**	**9.24**	**193**	P	Pn	09 00 07.2	-4.5
PNHZ				S	Sn	09 01 50.2	-5.5
PXZ	**Pawanui**	**9.24**	**190**	P	Pn	09 00 06.9	-4.7
PXZ				S	Sn	09 01 49.7	-5.9
WPHZ	**Waipukurau**	**9.34**	**192**	P	Pn	09 00 09.5	-3.6
WPHZ				S	Sn	09 01 52.9	-5.1
DVHZ	**Dannevirke**	**9.62**	**193**	P	Pn	09 00 12.2	-4.7
DVHZ				S	Sn	09 01 56.4	-8.5
BFZ	**Birch Farm**	**9.98**	**192**	P	Pn	09 00 14.3	-7.4
BFZ				S	Sn	09 02 05.1	-8.5
MRZ	**Mangatainoka R**	**10.09**	**195**	P	Pn	09 00 16.0	-7.2
MRZ				S	Sn	09 02 07.5	-8.9

*BGSI **08** 09:38:37.6±0.9,26°.27S×24°.87E,h136km±8km,ML2.7*
PRE 08 09:38:17.5±0.9,26°.98S×26°.58E,h2km,ML2.3,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.69**	**85**	*eP*	Pg	09 38 31.6	+0.7
PRYS				*eS*	Sg	09 38 40.4	+0.5
PRYS				IAML		09 38 47.3	
	comp=Z,125nm,0.6s						
WDLM	**Western Deep L**	**0.93**	**54**	*eP*	Pg	09 38 35.0	-0.5
WDLM				*eS*	Sg	09 38 48.4	+0.8
WDLM				IAML		09 38 55.9	
	comp=Z,58nm,0.2s						
SWZ	**Schweizer**	**1.13**	**260**	*eP*	Pb	09 38 39.9	0.0
SWZ				*eS*	Sb	09 38 55.0	-0.2
SWZ				IAML		09 38 59.9	
	comp=Z,130nm,0.5s						
HRAO	**HartRAO**	**1.47**	**42**	*eP*	Pg	09 38 46.2	+0.5
HRAO				*eS*	Sn	09 39 06.2	+1.1
HRAO				IAML		09 39 09.4	
	comp=Z,55nm,0.2s						
SNKL	**Senekal, Frees**	**1.66**	**141**	*eP*	Pb	09 38 48.8	-0.2
SNKL				*eS*	Sg	09 39 11.3	+0.3
SNKL				IAML		09 39 14.0	
	comp=Z,100nm,0.4s						
MAKGR	**Makgori**	**1.98**	**306**	*i* P	Pg	09 38 56.5	+1.0
MAKGR				*i* S	Sn	09 39 10.1	-7.5
MAKGR				IAML		09 39 23.0	
	comp=N,311nm,0.6s						
BOSA	**Boshof**	**2.01**	**216**	*eP*	Pn	09 38 52.7	+0.2
BOSA				*eS*	Sn	09 39 19.0	+0.7
BOSA				IAML		09 39 21.8	
	comp=Z,22nm,0.5s						
NWCL	**Newcastle**	**3.04**	**105**	*eP*	Pn	09 39 07.7	+1.0
NWCL				*eS*	Sn	09 39 43.7	0.0
NWCL				IAML		09 39 56.9	
	comp=Z,19nm,0.6s						
LEPH	**Lephalale, Lim**	**3.30**	**20**	*eP*	Pn	09 39 11.5	+1.2
LEPH				*eS*	Sn	09 39 49.7	-0.5
LEPH				IAML		09 40 04.8	
	comp=Z,18nm,0.6s						
LPHEP	**Lephephe**	**3.66**	**350**	*i* P	Pb	09 39 22.4	-0.7
LPHEP				*i* S	Sn	09 39 57.0	-2.2
LPHEP				IAML		09 40 16.2	
	comp=N,8.4nm,0.4s						
KDWAN	**Kaudwane**	**3.99**	**334**	*i* P	Pn	09 39 21.5	+1.8
KDWAN				IAML		09 40 25.9	
	comp=E,61nm,0.7s						
PMBG	**Pietermaritzbu**	**4.28**	**127**	*eP*	Pn	09 39 24.5	+0.7
PMBG				*eS*	Sn	09 40 13.2	-1.2
PMBG				IAML		09 40 34.7	
	comp=Z,8.3nm,0.5s						
KSTD	**Kokstad**	**4.34**	**147**	*eP*	Pn	09 39 26.1	+1.4
KSTD				*eS*	Sn	09 40 15.0	-0.9
KSTD				IAML		09 40 37.6	
	comp=Z,6.1nm,0.4s						
MREMI	**Moremi**	**4.46**	**10**	*i* P	Pg	09 39 40.5	-2.6
MREMI				IAML		09 40 40.8	
	comp=N,74nm,0.5s						
BRAK	**Brakfontein**	**5.76**	**213**	*eP*	Pn	09 39 44.4	+0.3
BRAK				*eS*	Sn	09 40 49.1	-1.9
BRAK				IAML		09 41 18.6	
	comp=Z,5.8nm,0.7s						
FRAZ	**Fraserburg**	**6.68**	**221**	*eP*	Pn	09 39 58.0	+1.2
FRAZ				*eS*	Sn	09 41 10.8	-2.8
FRAZ				IAML		09 41 45.9	
	comp=Z,3.7nm,0.5s						

*NEIC **08** 09:55:08.7±0.7,19°.09N±0°.04×155°.42W±0°.06,h35km±2km, Error ellipse: s-maj=9.3km s-min=6.0km az=278.0*
HVO 08 09:55:09.3±0.7,19°.05N±0°.03×155°.41W±0°.02,h37km±3km, ML2.5/22,ML2.6/40(NEIC),Error ellipse: s-maj=4.0km s-min=2.4km az=183.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.14**	**286**		Pn	09 55 15.2	-5.6
HPO					Sn	09 55 19.5	-13
HTC	**Hot Caves**	**0.19**	**4**		Pn	09 55 15.7	-3.3
HLP	**Hilina Pali**	**0.26**	**21**		Sn	09 55 21.6	-3.8
HLP	**Hilina Pali**	**0.26**	**21**		Pn	09 55 16.4	-1.3
KHU	**Kahuku**	**0.28**	**315**		Pn	09 55 16.3	-1.6
KHU					Sn	09 55 21.6	-3.8
AIN	**Ainahou**	**0.33**	**352**		Pn	09 55 17.0	-0.8
AIN	**Ainahou**	**0.33**	**352**		Sn	09 55 22.7	-2.2
SDHHI	**Sand Hill**	**0.36**	**18**		Pn	09 55 17.1	-1.0
SDHHI					Sn	09 55 22.7	-2.2
RIM	**Rim**	**0.37**	**20**		Pn	09 55 17.1	-1.0
RIM					Sn	09 55 23.3	-1.7
WRMHI	**West Rim**	**0.37**	**16**		Pn	09 55 17.1	-1.0
WRMHI					Sn	09 55 23.0	-2.1
PUH	**Pauahi**	**0.37**	**30**		Pn	09 55 17.1	-1.0
PUH					Sn	09 55 23.1	-2.0
PUH	**Pauahi**	**0.37**	**30**	IAML		09 55 24.7	
	comp=E,258nm,0.2s						
PUH				IAML		09 55 28.4	
	comp=N,388nm,0.9s						
KKO	**Keanakako'

EHD	**Haiduan**	**0.03**	**192**	*i* P	Pg	10 01 38.0	0.0
EHD				*i* S	Sg	10 01 39.3	+0.3
FULB	**Fuli**	**0.08**	**73**	*i* P	Pg	10 01 39.4	+0.7
FULB				*i* S	Sg	10 01 41.9	+1.8
ECS	**Chishang**	**0.08**	**175**	*i* P	Pg	10 01 39.5	+0.9
ECS				*i* S	Sg	10 01 41.6	+1.6
CHKT	**Chengkung**	**0.16**	**118**	P	Pg	10 01 40.5	+0.5
CHKT				S	Sg	10 01 44.3	+2.2
TWF1	**Yuli**	**0.19**	**24**	*i* P	Pg	10 01 40.9	+0.4
TWF1				*i* S	Sg	10 01 44.0	+0.8
YULB	**Yu-li**	**0.23**	**20**	*i* P	Pg	10 01 41.1	-0.2
YULB				S	Sg	10 01 45.2	+0.8

CATAC 08 10:07:55.3±0.7, 12°N±4′×8°6W±°, h133^{km}±6^{km}, M2.4/11, MLv2.4/11, Error ellipse: s-maj=13.2km s-min=4.1km az=49.9, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANN	**Nandasmo**	**0.20**	**40**	P	Pn	10 08 15.4	+1.8
NADN	**Granada**	**0.21**	**100**	P	Pn	10 08 14.4	+0.8
NADN				S	Sn	10 08 29.9	+2.6
UNAN	**Cigeo UNAN**	**0.32**	**356**	P	Pn	10 08 14.4	+0.4
UNAN				S	Sn	10 08 30.1	+2.0
COPN	**Copaltepe**	**0.52**	**319**	P	Pn	10 08 16.0	+1.2
CNGA	**Al SSO del Vol**	**0.83**	**328**	P	Pn	10 08 17.9	+0.8
CNGN	**Cerro Negro**	**0.83**	**328**	P	Pn	10 08 17.7	+0.6
BOAB	**BOACO BROADBAN**	**0.87**	**41**	P	Pn	10 08 17.0	-0.3
BOAB	**BOACO BROADBAN**	**0.87**	**41**	S	Sn	10 08 35.0	+0.9
POTN	**Potosi Cosigui**	**1.72**	**315**	P	Pn	10 08 25.6	-0.5
POTN				S	Sn	10 08 50.0	+0.3
CSGN	**Cosiguina Volc**	**1.74**	**313**	P	Pn	10 08 26.2	-0.2
CSGN				S	Sn	10 08 51.4	+1.1
CMARA	**Lajas Hojancha**	**1.94**	**155**	P	Pn	10 08 29.2	+0.4
CMARA	**Lajas Hojancha**	**1.94**	**155**	S	Sn	10 08 54.2	-0.1
JTS	**Las Juntas de**	**1.96**	**139**	P	Pn	10 08 30.7	+1.7
JTS				S	Sn	10 08 55.8	+1.0
INDI	**Punta indio, G**	**2.04**	**159**	S	Sn	10 08 56.1	-0.5
INDI	**Punta indio, G**	**2.04**	**159**	P	Pn	10 08 29.9	-0.1

*IDC **08** 10:15:29.8±1.2, 1°.05S×129°.13E, h0^{km}, mb3.8/4, mbtmp3.8/6, ML3.6/2, MS3.2/3, Error ellipse: s-maj=65.0km s-min=20.1km az=80.0*
*DJA **08** 10:15:32.3±0.2, 1°S±2′×12°9E±°, h10^{km}, M4.3/12, mB5.3/1, mb4.9/3, MLv4.0/12, Mw(mB)4.7/1*
ISC 08 10:15:31.3±2.2, 1°.08S±0°.04×128°.84E±0°.05, h10^{km}±15^{km}, n25, σ1^{s}39/31, mb4.0/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**2.25**	**178**	P	**Pb**	**10 16 11.6**	**-0.5**
MSAI				S	**Sb**	**10 16 40.7**	**+0.7**
TNTI	**Ternate**	**2.36**	**321**	P	**Pn**	**10 16 10.4**	**+0.3**
TNTI	**Ternate**	**2.36**	**321**	P	**Pn**	**10 16 09.7**	**-0.4**
TNTI				S	**Sn**	**10 16 40.6**	**+1.4**
SWI	**Sorong**	**2.43**	**85**	P	**Pb**	**10 16 13.8**	**-1.3**
SWI				S	**Sg**	**10 16 46.5**	**-2.9**
AAI	**Ambon**	**2.67**	**194**	P	**Pn**	**10 16 16.1**	**+1.7**
AAI				S	**Sn**	**10 16 48.7**	**+1.9**
NLAI	**Namlea**	**2.76**	**219**	P	**Pn**	**10 16 16.8**	**+1.2**
NLAI				S	**Sn**	**10 16 49.1**	**0.0**
SANI	**Sanana**	**3.01**	**251**	P	**Pn**	**10 16 17.5**	**-1.6**
SANI	**Sanana**	**3.01**	**251**	P	**Pn**	**10 16 16.9**	**-2.2**
FAKI	**Fak Fak**	**3.87**	**118**	P	**Pn**	**10 16 33.8**	**+2.9**
FAKI	**Fak Fak**	**3.87**	**118**	P	**Pn**	**10 16 33.5**	**+2.6**
FAKI				S	**Sn**	**10 17 19.3**	**+2.9**
LUWI	**Luwuk** 104nm,0.7s	**6.07**	**270**	P	**Pn**	**10 17 02.1**	**+0.9**
LUWI	**Luwuk** 108nm,0.7s	**6.07**	**270**	P	**Pn**	**10 16 59.7**	**-1.5**
APSI	**Ampana** 2um81nm,0.5s	**7.19**	**271**	P	**Pn**	**10 17 16.1**	**-0.5**
TOLI2	**Tolitoli** 11nm,1.1s	**8.35**	**285**	P	**Pn**	**10 17 34.0**	**+1.5**
MTN	**Manton Dam** 10nm,1.3s	**11.90**	**169**	P	**Pn**	**10 18 21.8**	**+0.5**
KDU	**Kakadu** 9.0nm,1.2s	**12.08**	**163**	P	**Pn**	**10 18 23.2**	**-0.5**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=24,slow=12,SNR=1.9 1.0nm,0.6s	**17.20**	**190**	P	**Pn**	**10 19 32.4**	**+0.5**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=347,slow=12,SNR=16	**19.50**	**164**	P	**P**	**10 19 57.9**	**-1.0**
WRA	0.1nm,0.3s,baz=337,slow=21,SNR=1.7			S	Sn	10 23 23.1	-16
WRA	comp=Z,28nm,18.4s,baz=197,slow=38 2.0nm,0.7s			LR	LR	10 27 46.8	
PMG	**Port Moresby** comp=Z,23nm,19.0s,baz=246,slow=47	**20.02**	**115**	LR	LR	10 30 50.0	
ASAR	**Alice Springs** 2.1nm,0.7s,baz=350,slow=11,SNR=28	**22.98**	**168**	P	**P**	**10 20 36.5**	**+0.1**
ASAR	0.3nm,0.8s,baz=349,slow=24,SNR=3.2 2.1nm,0.7s			S	**S**	**10 24 38.5**	**-8.5**
MJAR	**Matsushiro Arr** 1.5nm,0.9s,baz=178,slow=9.9,SNR=4.7 1.5nm,0.9s	**38.43**	**12**	P	**P**	**10 22 52.3**	**-1.0**
XLT	**XiLinHaoTe**	**46.22**	**347**	*e*P	**P**	**10 23 57.2**	**+0.5**
XLT				sP	sP	10 24 04.2	+4.0
XLT				PP	**PP**	**10 25 49.3**	**+4.0**
XLT	comp=Z,5.0nm,0.7s			pmax	pmax		
XLT	comp=Z,130nm,4.1s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,0.9nm,0.8s,baz=120,slow=8.5,SNR=3.8 comp=Z,0.9nm,0.8s	**62.69**	**326**	P	**P**	**10 25 58.8**	**+2.3**
KURBB	**Kurchatov Arra** comp=Z,0.6nm,0.5s,baz=124,slow=6.3,SNR=1.7 comp=Z,0.6nm,0.5s	**66.91**	**328**	P	**P**	**10 26 23.1**	**-0.7**
KBZ	**Khabaz** comp=Z,77nm,21.6s,baz=154,slow=38	**87.80**	**314**	LR	LR	11 10 25.5	

*IDC **08** 10:16:57.8±0.8, 14°.84S×174°.59W, h0^{km}, mb4.1/8, mbtmp4.1/8, Error ellipse: s-maj=32.0km s-min=23.0km az=121.0*
ISC 08 10:17:03.2±0.8, 14°.8S±0°.2×174°.7W±0°.2, h35^{km}, n10, σ1^{s}16/12, mb4.0/8, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=91,slow=6.8,SNR=8.3	**48.80**	**256**	P	**P**	**10 25 46.2**	**+0.9**
WRA	0.6nm,0.6s,baz=86,slow=3.6,SNR=3.2 0.5nm,0.3s			PcP	**PcP**	**10 27 08.4**	**-1.5**
ASAR	**Alice Springs** 3.4nm,0.3s,baz=90,slow=7.6,SNR=132	**49.14**	**251**	P	**P**	**10 25 48.5**	**+0.6**
ASAR	0.5nm,0.6s,baz=82,slow=3.8,SNR=4.4 3.4nm,0.3s			PcP	**PcP**	**10 27 09.9**	**-1.2**
FITZ	**Fitzroy Crossi** 0.8nm,0.6s,baz=90,slow=2.0,SNR=2.1 0.8nm,0.6s	**57.14**	**258**	P	**P**	**10 26 47.9**	**+1.0**
VNDA	**Vanda** 1.1nm,0.9s,baz=328,slow=5.0,SNR=6.6 1.1nm,0.9s	**63.84**	**186**	P	**P**	**10 27 31.7**	**+0.1**
QSPA	**South Pole Qui** 1.6nm,0.6s,baz=20,slow=0.3,SNR=13 1.6nm,0.6s	**75.23**	**180**	P	**P**	**10 28 43.1**	**+0.8**
ILAR	**Eielson Array** 0.3nm,0.4s,baz=223,slow=5.0,SNR=9.9 0.3nm,0.4s	**82.11**	**12**	P	**P**	**10 29 20.6**	**+0.9**
PDAR	**Pinedale Array** 0.3nm,0.5s,baz=211,slow=2.6,SNR=6.0 0.3nm,0.5s	**82.64**	**42**	P	**P**	**10 29 23.7**	**+0.3**
MAW	**Mawson** 2.6nm,0.7s,baz=141,slow=3.8,SNR=11 2.6nm,0.7s	**87.96**	**199**	P	**P**	**10 29 48.1**	**-1.0**
BRTR	**Keskin Array B** 1.1nm,0.6s,baz=56,slow=1.9,SNR=6.3	**144.93**	**320**	PKPbc	**PKPab**	**10 36 34.5**	**-1.8**
GERES	**GERESS Array B** 1.6nm,1.0s,baz=1.3,slow=5.7,SNR=6.5	**145.37**	**350**	PKPbc	**PKPbc**	**10 36 37.1**	**-0.3**

*IDC **08** 10:19:53.3±3.2, 36°.38N×70°.63E, h181^{km}±29^{km}, mb3.4/12, mbtmp4.1/17, MS3.0/1, Error ellipse: s-maj=23.0km s-min=13.3km az=40.0*
*NEIC **08** 10:19:55.3±0.9, 36°.53N±0°.08×70°.7E±0°.1, h190^{km}±9^{km}, mb4.2/16, Error ellipse: s-maj=16.6km s-min=11.4km az=91.0*
*NNC **08** 10:19:57.0±11.0, 36°.81N×69°.88E, h106^{km}±217^{km}, mb3.7, mpv4.4, Error ellipse: s-maj=85.6km s-min=66.2km az=18.0*
ISC 08 10:19:55.5±0.6, 36°.57N±0°.06×70°.65E±0°.06, h204^{km}, n71, σ1^{s}56/74, mb3.9/19, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**2.40**	**331**		**Pn**	**10 20 37.9**	**-0.7**
KBL	**Kabul**	**2.41**	**213**		**Pn**	**10 20 37.1**	**-1.9**
GAR	**Garm**	**2.44**	**354**		**Pn**	**10 20 39.1**	**0.0**
SIMJ	**Simiganj**	**2.46**	**329**		**Pn**	**10 20 38.5**	**-0.8**
KSH	**Kashi**	**5.13**	**53**	Pn	**Pn**	**10 21 08.0**	**-3.8**
KSH				Sn	S	10 22 00.4	-11
KSH	comp=N,250nm,0.7s			smax	smax		
KSH	comp=E,170nm,0.6s			smax	smax		
JMU	**Jammu**	**5.20**	**136**	*e*S	S	10 22 03.4	-10
JMU				IAML		10 22 11.6	
JMU	comp=E,198nm,0.7s			IAML		10 22 11.6	
JMU	comp=N,284nm,0.5s			IAML		10 22 11.6	
NRN	**Naryn**	**6.40**	**39**		**Pn**	**10 21 26.7**	**-1.5**
KK31	**Karatay Array**	**6.53**	**359**		**Pn**	**10 21 29.2**	**-0.4**
KK31	**Karatay Array** comp=N,15nm,0.3s,baz=190,slow=15,SNR=189	**6.53**	**359**	⇓P	**Pn**	**10 21 29.6**	**+0.1**
KK31	comp=N,70nm,0.5s,baz=192,slow=23,SNR=23			⇓S	**S**	**10 22 40.5**	**-3.5**
KKAR	**Karatay Array**	**6.53**	**359**		**Pn**	**10 21 29.5**	**-0.1**
EKS2	**Erkin-Say** SNR=69	**6.55**	**21**	P	**Pn**	**10 21 30.4**	**+0.5**
AAK	**Ala-Archa** SNR=25	**6.75**	**25**	P	**Pn**	**10 21 33.3**	**+0.8**
AAK	**Ala-Archa** comp=N,7.4nm,0.4s	**6.75**	**25**	⇓P	**Pn**	**10 21 32.9**	**+0.3**
AAK	comp=N,29nm,0.8s			⇑S	**S**	**10 22 47.7**	**-1.7**
AAK	**Ala-Archa** comp=N,34nm,0.3s,baz=168,slow=5.0,SNR=54	**6.75**	**25**	P	**Pn**	**10 21 33.1**	**+0.6**
AAK	comp=N,35nm,0.6s,baz=316,slow=20,SNR=10			S	**S**	**10 22 48.4**	**-1.0**
KBK	**Karagaybulak** SNR=18	**6.93**	**27**	P	**Pn**	**10 21 36.0**	**+1.1**
FRU1	**Bishkek**	**6.95**	**25**	Pn	**Pn**	**10 21 36.3**	**+1.3**
BHK	**Bhakra** comp=N,108nm,0.5s	**7.03**	**135**	IAML		10 22 54.4	
BHK	comp=E,114nm,0.4s			*e*S	**S**	**10 22 54.4**	**-1.5**
BHK				IAML		10 22 55.1	
ULHL	**Ulahol** SNR=8.6	**7.13**	**36**	P	**Pn**	**10 21 38.7**	**+1.1**
CHMS	**Chumysh** SNR=12	**7.16**	**25**	P	**Pn**	**10 21 38.5**	**+0.8**
USP	**Ospenovka** SNR=13	**7.31**	**23**	P	**Pn**	**10 21 40.0**	**+0.2**
TKM2	**Tokmak 2** SNR=18	**7.40**	**29**	P	**Pn**	**10 21 42.0**	**+1.0**
KDJ	**Kajisay**	**7.51**	**40**		**Pn**	**10 21 42.4**	**-0.1**
TARG	**Taragay, Kyrgy**	**7.58**	**45**		**Pn**	**10 21 43.2**	**-0.4**
HNLY	**HANLEY**	**7.83**	**116**	*e*P	**Pn**	**10 21 44.7**	**-2.4**
HNLY				*e*S	S	10 23 06.0	-10
KLP	**Kalpa**	**8.06**	**126**	*e*P	**Pn**	**10 21 47.2**	**-2.7**
KLP				*e*S	S	10 23 11.3	-10
KLP	comp=E,136nm,0.8s			IAML		10 23 18.0	
KLP	comp=N,117nm,0.7s			IAML		10 23 18.1	
PTH	**Pithoragarh**	**10.65**	**128**	*e*P	**Pn**	**10 22 21.8**	**-1.5**
PTH				*e*S	S	10 24 09.2	-13
MKAR	**Makanchi Array** comp=N,12nm,0.7s,baz=212,slow=12,SNR=38	**13.40**	**37**	P	**Pn**	**10 22 58.6**	**+0.8**
AB31	**Akbulak array**	**14.89**	**332**	P	**Pn**	**10 23 15.1**	**-0.9**
AB31	**Akbulak array** comp=N,0.9nm,0.3s,baz=142,slow=13,SNR=55	**14.89**	**332**	⇑P	**Pn**	**10 23 15.7**	**-0.2**
AB31	comp=N,2.3nm,0.6s,baz=152,slow=24,SNR=4.3			⇑S	**S**	**10 25 55.9**	**-5.0**
ABKAR	**Akbulak array**	**14.89**	**332**	P	**Pn**	**10 23 15.1**	**-0.9**
WMQ	**Urumqi**	**14.89**	**56**	*e*P	**P**	**10 23 17.5**	**+0.6**
KURBB	**Kurchatov Arra** comp=N,2.4nm,0.8s,baz=208,slow=12,SNR=12	**15.15**	**20**	P	**Pn**	**10 23 19.0**	**-0.2**
KURK	**Kurchatov**	**15.26**	**20**	P	**Pn**	**10 23 19.8**	**-0.7**
BVAR	**Borovoye Array** comp=N,3.8nm,0.5s,baz=163,slow=10,SNR=12	**16.45**	**359**	P	**Pn**	**10 23 35.7**	**+0.8**
AKTO	**Aktyubinsk** comp=N,4.2nm,0.7s	**16.58**	**331**	⇑P	**P**	**10 23 36.5**	**+1.2**
AKTO	comp=N,3.8nm,1.2s			⇑S	**S**	**10 26 35.8**	**-2.3**
AKTO	**Aktyubinsk** comp=N,6.5nm,0.6s,baz=143,slow=9.6,SNR=22	**16.58**	**331**	P	**P**	**10 23 36.8**	**+1.5**
ZAA0	**Zalesovo Array**	**19.97**	**25**	P	**P**	**10 24 12.2**	**+0.2**
ZALV	**Zalesovo Beam**	**19.97**	**25**	P	**P**	**10 24 12.7**	**+0.6**
ZALV	**Zalesovo Beam** comp=N,5.5nm,0.4s,baz=219,slow=11,SNR=31 comp=N,5.5nm,0.4s	**19.97**	**25**	P	**P**	**10 24 13.6**	**+1.6**
PZH	**PanZhiHua**	**28.23**	**102**	P	**P**	**10 25 31.9**	**+2.2**
SONM	**Songino Array** comp=N,30nm,18.5s,baz=358,slow=39	**28.53**	**56**	LR	LR	10 38 28.0	
CMAR	**Chiang Mai Arr** comp=N,0.6nm,0.3s,baz=303,slow=8.5,SNR=9.0 comp=N,0.6nm,0.3s	**30.74**	**118**	P	**P**	**10 25 52.6**	**+0.9**
HHC	**Hu-ho-hao-te**	**32.01**	**70**	*e*P	**P**	**10 26 00.9**	**-1.8**
HHC	comp=Z,40nm,0.7s			pmax	pmax		
HHC	comp=Z,80nm,5.0s			pmax	pmax		
XLT	**XiLinHaoTe**	**35.09**	**64**	*e*P	**P**	**10 26 27.6**	**-1.7**
XLT				pP	pP	10 27 07.0	-5.7
XLT				sP	sP	10 27 35.0	-1.7
XLT	comp=Z,8.0nm,0.7s			pmax	pmax		
FINES	**FINESS Array B** comp=Z,1.0nm,0.8s,baz=108,slow=6.2,SNR=3.8 comp=Z,1.0nm,0.8s	**37.27**	**326**	P	**P**	**10 26 49.2**	**+1.9**
ARCES	**ARCESS Array B**	**40.97**	**338**	P	**P**	**10 27 19.6**	**+1.7**
ARCES				IAmb	IAmb	10 27 30.8	
ARCES	**ARCESS Array B** comp=Z,1.3nm,0.7s,baz=107,slow=7.8,SNR=5.6 comp=Z,1.3nm,0.7s	**40.97**	**338**	P	**P**	**10 27 19.6**	**+1.7**
IPM	**Ipoh**	**42.40**	**132**	P	**P**	**10 27 30.6**	**+0.5**
IPM	comp=Z,6.2nm,0.6s			IAmb	IAmb	10 27 31.1	
HFS	**Hagfors** comp=Z,1.6nm,0.5s,baz=98,slow=11,SNR=10 comp=Z,1.6nm,0.5s	**42.84**	**322**	P	**P**	**10 27 34.2**	**+1.1**
NC405	**NORSAR Array S**	**43.92**	**323**	P	**P**	**10 27 42.4**	**+0.7**
NC405	comp=Z,15nm,1.4s			IAmb	IAmb	10 28 24.8	
NC303	**NORSAR Array S**	**44.10**	**323**	P	**P**	**10 27 44.5**	**+1.4**
NC303	comp=Z,17nm,1.4s			IAmb	IAmb	10 28 09.5	
NB2	**NORSAR Subarra** comp=Z,0.5nm,0.5s,baz=97,slow=7.9	**44.15**	**323**	P	**P**	**10 27 44.7**	**+1.1**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.4s,baz=104,slow=7.3,SNR=5.9 comp=Z,0.4nm,0.4s	**44.15**	**323**	P	**P**	**10 27 44.6**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.4s,baz=46,slow=6.4,SNR=6.5 comp=Z,0.6nm,0.4s	**65.43**	**268**	P	**P**	**10 30 15.9**	**-0.9**
GIRL	**Giralia**	**71.84**	**138**	P	**P**	**10 30 57.1**	**+1.0**
COLD	**Coldfoot**	**71.98**	**16**	P	**P**	**10 30 58.0**	**+1.6**
IMAR	**Indian Mountai**	**72.19**	**18**	P	**P**	**10 30 58.8**	**+1.1**
BMAR	**Burnt Mountain**	**72.94**	**13**	P	**P**	**10 31 04.3**	**+2.2**
FYU	**Fort Yukon**	**73.57**	**14**	P	**P**	**10 31 08.8**	**+3.1**
FYU	comp=Z,6.6nm,1.4s			IAmb	IAmb	10 31 11.9	
INK	**Inuvik**	**73.88**	**9**	P	**P**	**10 31 09.1**	**+1.7**
INK	comp=Z,5.8nm,1.2s			IAmb	IAmb	10 31 15.0	
BPAW	**Bear Paw Mtn.**	**74.41**	**18**	P	**P**	**10 31 12.3**	**+1.7**
BPAW	comp=Z,4.3nm,1.2s			IAmb	IAmb	10 31 42.5	
BWN	**Browne**	**74.72**	**17**	P	**P**	**10 31 13.8**	**+1.4**
ILAR	**Eielson Array** comp=Z,0.2nm,0.5s,baz=313,slow=6.0,SNR=8.5 comp=Z,0.2nm,0.5s	**74.79**	**16**	P	**P**	**10 31 14.2**	**+1.4**
KTH	**Kantishna Hill**	**74.89**	**18**	P	**P**	**10 31 15.1**	**+1.6**
KTH	comp=Z,8.0nm,1.4s			IAmb	IAmb	10 31 46.8	
PPLA	**Purkeypile**	**75.11**	**19**	P	**P**	**10 31 15.7**	**+0.8**
SCRK	**Sand Creek**	**76.10**	**15**	P	**P**	**10 31 22.2**	**+1.8**
DHY	**Denali Highway**	**76.14**	**17**	P	**P**	**10 31 22.4**	**+1.6**
BOSA	**Boshof** comp=Z,1.4nm,0.8s,baz=12,slow=14,SNR=1.4	**77.62**	**220**	P	**P**	**10 31 29.1**	**-0.2**
	comp=Z,1.4nm,0.8s						
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.6s,baz=135,slow=5.2,SNR=6.8 comp=Z,0.2nm,0.6s	**81.19**	**2**	P	**P**	**10 31 49.4**	**+1.4**
WRA	**Warramunga Arr** comp=Z,1.5nm,0.8s,baz=322,slow=4.8,SNR=11 comp=Z,1.5nm,0.8s	**82.27**	**122**	P	**P**	**10 31 53.3**	**-1.0**
ASAR	**Alice Springs** comp=Z,1.5nm,0.8s,baz=310,slow=4.7,SNR=24 comp=Z,1.5nm,0.8s	**84.53**	**125**	P	**P**	**10 32 04.8**	**-1.0**

*IDC **08** 10:26:49.7±1.4, 22°.72N×95°.48E, h0^{km}, mb3.7/6, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=79.7km s-min=15.8km az=58.0*
*BKK **08** 10:26:53.7±0.6, 23°N±8′×9°5E±°, h10^{km}, M4.5/14, mB5.8/7, mb4.4/12, Mjma3.8/14, ML4.8/13, MLv4.0/11, Mw(mB)5.3/7*
ISC 08 10:26:50.9±1.3, 22°.6N±0°.3×95°.3E±0°.4, h10^{km}, n15, σ1^{s}77/14, mb3.6/6, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai** 0.1nm0.2nm0.3nm8.2nm,0.8s	**5.07**	**138**	P	**Pn**	**10 28 08.5**	**+1.4**
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=314,slow=14,SNR=5.4	**5.34**	**140**	Pn	**Pn**	**10 28 10.9**	**0.0**
CMAR	2.0nm,0.3s,baz=244,slow=25,SNR=6.4 0.6nm,0.3s			Lg	Lg	10 29 38.7	
CM02	**Chiang Mai Arr** 0.1nm0.1nm7.6nm,0.8s	**5.37**	**140**	P	**Pn**	**10 28 12.8**	**+1.7**
CM01	**Chiang Mai Arr**	**5.38**	**140**	P	Pn	10 28 17.0	+5.6
CM09	**Chiang Mai Arr** 0.1nm0.1nm105nm9.9nm,0.8s	**5.38**	**140**	P	**Pn**	**10 28 13.0**	**+1.6**
CM05	**Chiang Mai Arr**	**5.39**	**141**	P	**Pg**	**10 28 31.8**	**-2.4**
CM04	**Chiang Mai Arr** 0.1nm0.1nm10nm,0.5s	**5.41**	**140**	P	**Pn**	**10 28 14.6**	**+2.9**
LAMP	**Lampang**	**5.73**	**135**	P	**Pn**	**10 28 19.2**	**+3.1**
UTHA	**Uthaitani** 2.4nm0.0nm0.0nm1.4nm,0.7s	**8.03**	**150**	P	**Pn**	**10 28 49.3**	**+1.6**
MKAR	**Makanchi Array** 1.1nm,0.5s,baz=148,slow=10,SNR=9.8 1.1nm,0.5s	**26.32**	**340**	P	**P**	**10 32 27.1**	**+0.2**
KURBB	**Kurchatov Arra** 0.4nm,0.5s,baz=139,slow=9.8,SNR=4.7 0.4nm,0.5s	**30.88**	**339**	P	**P**	**10 33 07.2**	**-0.2**
BVAR	**Borovoye Array** 0.7nm,0.3s,baz=143,slow=12,SNR=3.2 0.7nm,0.3s	**35.82**	**334**	P	**P**	**10 33 50.2**	**-0.3**
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=319,slow=7.2,SNR=3.5 0.4nm,0.7s	**56.92**	**135**	P	**P**	**10 36 36.7**	**+0.2**
ASAR	**Alice Springs** 0.2nm,0.4s,baz=321,slow=6.9,SNR=7.7 0.2nm,0.4s	**59.35**	**138**	P	**P**	**10 36 54.0**	**+0.4**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=308,slow=6.3,SNR=4.2 0.3nm,0.6s	**80.73**	**23**	P	**P**	**10 39 03.5**	**-0.7**

RSNC 08 10:38:54.3±0.0, 11°.63N×73°.42W, h22^{km}, M2.3, mB4.0, mb3.8, ML2.3, Mw(mB)3.0, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**0.80**	**139**	P	Pb	10 39 08.8	-0.9
CRJC				S	Sb	10 39 20.2	+0.1
SMRC	**Santa Marta, M**	**0.92**	**240**	P	Pb	10 39 10.7	-0.8
SMRC				S	Sb	10 39 23.0	-0.2
URIC	**Uribia, Colomb**	**1.40**	**87**	P	Pn	10 39 17.6	-0.9
URIC				S	Sn	10 39 35.6	-0.7
ARGC	**Ariguani, Magd**	**1.94**	**205**	P	Pn	10 39 25.3	-0.7
ARGC				S	Sn	10 39 49.1	-0.6
OCAC	**Ocana**	**3.37**	**178**	P	Pn	10 39 45.6	-0.2
OCAC				S	Sn	10 40 24.4	-0.9
PTBC	**PUERTO BERRIO,**	**5.16**	**192**	P	Pn	10 40 10.2	-0.1
PTBC				S	Sn	10 41 10.0	+0.8

WEL 08 10:44:17.7±0.7, 38°S±5°×18°0E±°, h12^{km}, M3.6/30, ML3.9/37, MLv3.6/30, Error ellipse: s-maj=6.2km s-min=5.4km az=155.4, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECLS	**East Cape Ligh**	**1.02**	**267**	P	Pn	10 44 39.1	+1.3
WMGZ	**Waiomatatini S**	**1.14**	**261**	P	Pn	10 44 39.4	0.0
WMGZ				S	Sn	10 44 55.7	+0.8
MXZ	**Matakaoa Point**	**1.21**	**273**	P	Pn	10 44 39.8	-0.7
MXZ				S	Sn	10 44 57.1	+0.2
PUZ	**Puketiti**	**1.32**	**251**	P	Pn	10 44 41.8	-0.2
PUZ				S	Sg	10 45 00.2	+0.1
PKGZ	**Pakihiroa**	**1.41**	**260**	P	Pn	10 44 42.7	-0.4
PKGZ				S	Sb	10 45 02.0	+0.2
CNGZ	**Carnagh Statio**	**1.53**	**236**	P	Pb	10 44 45.6	-0.5
HAZ	**Te Kaha**	**1.63**	**265**	P	Pn	10 44 46.1	0.0
HAZ				S	Sn	10 45 06.8	-0.2
RUGZ	**Raukumara Rang**	**1.74**	**259**	P	Pn	10 44 47.6	-0.2
RIGZ	**Rimuhau**	**1.94**	**236**	P	Pn	10 44 50.8	+0.2
RIGZ				S	Sb	10 45 16.2	-1.2
PRGZ	**Paritu Road**	**2.00**	**230**	P	Pn	10 44 51.5	+0.2
PRGZ				S	Sn	10 45 17.2	+0.9
RAGZ	**Rawiri**	**2.09**	**245**	P	Pn	10 44 53.1	+0.5
RAGZ				S	Sn	10 45 18.9	+0.3
MHGZ	**Mahia Peninsul**	**2.13**	**224**	P	Pn	10 44 53.3	+0.1
MHGZ				S	Sb	10 45 22.0	-0.8
KNZ	**Kokohu**	**2.19**	**230**	P	Pn	10 44 53.8	0.0
URZ	**Urewera**	**2.24**	**253**	P	Pn	10 44 55.0	+0.4
URZ				S	Sn	10 45 22.4	+0.3
SNGZ	**Shannon Statio**	**2.27**	**239**	P	Pn	10 44 55.6	+0.5
SNGZ				S	Sn	10 45 23.2	+0.3
RTZ	**Ruatahuna**	**2.45**	**246**	P	Pn	10 44 58.1	+0.6
RTZ				S	Sn	10 45 28.3	+0.9
EDRZ	**Edgecumbe**	**2.49**	**258**	P	Pn	10 44 57.9	-0.2
EDRZ				S	Sn	10 45 28.3	-0.1
RAHZ	**Arahi**	**2.51**	**239**	P	Pn	10 44 58.5	+0.2
RAHZ				S	Sn	10 45 28.4	-0.4
MARZ	**Manawahe**	**2.52**	**261**	P	Pb	10 45 01.6	-1.4
MUGZ	**Murupara**	**2.56**	**250**	P	Pn	10 44 58.9	-0.1
MUGZ				S	Sn	10 45 29.7	-0.3
OPRZ	**Ohinepanea**	**2.60**	**265**	P	Pn	10 44 59.1	-0.5
OPRZ				S	Sn	10 45 29.9	-1.3
MTHZ	**Maungataniwha**	**2.65**	**242**	P	Pn	10 45 00.2	0.0

MKAZ	**Moumakai**	**3.76**	**277**	P	Pn	10 45 14.7 -0.8
PKVZ	**Pokaka**	**3.88**	**244**	P	Pn	10 45 06.4 -11
DVHZ	**Dannevirke**	**3.90**	**226**	P	Pn	10 45 16.1 -1.3
HIZ	**Hauiti**	**4.02**	**256**	P	Pn	10 45 11.5 -7.5
MBAZ	**Motutapu North**	**4.03**	**281**	P	Pn	10 45 19.1 -0.1
PRWZ	**Pori Road**	**4.18**	**225**	P	Pn	10 45 20.0 -1.2
POWZ	**Post Office Ro**	**4.19**	**228**	P	Pn	10 45 21.4 0.0
WCZ	**Waipu Caves**	**4.72**	**289**	P	Pn	10 45 28.2 -0.5
OGWZ	**Otaki Gorge**	**4.81**	**227**	P	Pn	10 45 26.6 -3.3
MTW	**Mount Morrison**	**4.85**	**222**	P	Pn	10 45 28.1 -2.5
CAW	**Cannon Point**	**5.06**	**225**	P	Pn	10 45 30.9 -2.4
MSWZ	**Moikau Station**	**5.17**	**222**	P	Pn	10 45 31.6 -3.3
OUZ	**Omahuta**	**5.58**	**294**	P	Pn	10 45 40.1 -0.4
CTZ	**Chatham Island**	**6.66**	**157**	P	Pn	10 45 55.7 +0.5
LTZ	**Lake Taylor**	**7.73**	**226**	P	Pn	10 46 07.7 -2.4
INZ	**Inchbonnie**	**8.18**	**229**	P	Pn	10 46 15.9 -0.3

MOS ***08*** *10:53:26.8±0.9,26°.87N×55°.60E,h20km,mb4.8/27,Error ellipse: s-maj=8.2km s-min=4.7km az=117.2*

DSN ***08*** *10:53:26.9±1.5,27°.04N×55°.68E,h10km,ML4.4/15,Error ellipse: s-maj=20.2km s-min=5.7km az=42.0*

TEH ***08*** *10:53:27.1,26°.77N×55°.65E,h18km±29km*

NEIC ***08*** *10:53:27.9±1.3,26°.91N±0°.07×55°.61E±0°.02,h10km±1km, mb4.6/50,Error ellipse: s-maj=11.5km s-min=3.9km az=185.0*

OMAN ***08*** *10:53:28.4±0.0,26°.94N×55°.75E,h10km,mb5.0/10, ml4.4/23,Mwp4.5/5,Error ellipse: s-maj=1.3km s-min=0.6km az=228.0*

IDC ***08*** *10:53:30.6±5.0,26°.92N×55°.61E,h31km±37km,mb4.1/27, mbtmp4.3/31,ML4.4/4,MS3.7/40,Error ellipse: s-maj=14.5km s-min=11.1km az=13.0*

THR ***08*** *10:53:33.2±0.0,27°.36N×55°.34E,h10km±610km,ML4.5*

ISC 08 10:53:29.2±0.4,**26°.92N**±0°.03×**55°.66E**±0°.03,**h22**km±4km, **n365,**σ1**933**/390,**mb4.5**/81,**MS3.7**/40,**26C-17D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**0.94**	**56**	Pg	**Pb**	**10 53 46.6**	**-0.2**
IBND				Sg	**Sn**	**10 54 01.8**	**+1.9**
SHME	**Shamm**	**0.97**	**154**	P	**Pb**	**10 53 46.6**	**-0.6**
	SNR=133						
SHME				S	**Sn**	**10 54 00.5**	**0.0**
SHME	**Shamm**	**0.97**	**154**	*e*P	**Pb**	**10 53 46.1**	**-1.2**
	SNR=82						
SHME				S	**Sn**	**10 54 01.9**	**+1.4**
BANOM	**Banah**	**1.15**	**150**	P	**Pn**	**10 53 50.2**	**+0.2**
BANOM				P	**Pn**	**10 53 50.2**	**+0.2**
BANOM				S	**Sn**	**10 54 06.9**	**+1.9**
BANOM				S	**Sn**	**10 54 06.9**	**+1.9**
BANOM	**Banah**	**1.15**	**150**	*e*P	**Pn**	**10 53 49.6**	**-0.4**
	SNR=724						
LAR1	**LAR**	**1.37**	**303**	Pg	**Pb**	**10 53 54.5**	**+0.4**
UMQ	**Umm Al-Quwin**	**1.39**	**180**	P	**Pb**	**10 53 55.6**	**+1.2**
	SNR=25						
UMQ				P	**Pb**	**10 53 55.6**	**+1.2**
	SNR=25						
UMQ				S	**Sb**	**10 54 14.1**	**+2.4**
UMQ				S	**Sb**	**10 54 14.1**	**+2.4**
UMQ	**Umm Al-Quwin**	**1.39**	**180**	*e*P	**Pb**	**10 53 55.4**	**+1.0**
	SNR=145						
MASF	**Masafi**	**1.61**	**164**	P	**Pb**	**10 53 57.9**	**-0.3**
	SNR=117						
MASF				P	**Pb**	**10 53 57.9**	**-0.3**
	SNR=117						
MASF				S	**Sb**	**10 54 19.7**	**+1.6**
MASF				S	**Sb**	**10 54 19.7**	**+1.6**
MSFE	**Esma-Masafi**	**1.62**	**164**	*e*P	**Pb**	**10 53 57.6**	**-0.7**
	SNR=117						
MDH	**Madha**	**1.71**	**160**	P	**Pn**	**10 53 58.8**	**+1.1**
	SNR=51						
MDH				P	**Pn**	**10 53 58.8**	**+1.1**
	SNR=51						
MDH				S	**Sb**	**10 54 20.9**	**-0.1**
MDH				S	**Sb**	**10 54 20.9**	**-0.1**
MDH	**Madha**	**1.71**	**160**	*e*P	**Pn**	**10 53 58.5**	**+0.8**
	SNR=279						
NAZ	**Nazwa, Dubai**	**1.92**	**180**	P	**Pb**	**10 54 03.0**	**-0.6**
	SNR=11						
NAZ				P	**Pb**	**10 54 03.0**	**-0.6**
	SNR=11						
NAZ	**Nazwa, Dubai**	**1.92**	**180**	*e*P	**Pb**	**10 54 02.5**	**-1.1**
	SNR=108						
UOSS	**Minazif**	**2.03**	**166**		**Pn**	**10 54 02.0**	**0.0**
UOSS	**Minazif**	**2.03**	**166**	P	**Pn**	**10 54 03.2**	**+1.2**
UOSS				S	**Sb**	**10 54 28.8**	**-1.3**
UOSS	**Minazif**	**2.03**	**166**	Pn	**Pn**	**10 54 02.4**	**+0.3**
UOSS	**Minazif**	**2.03**	**166**	*e*P	**Pn**	**10 54 03.0**	**+1.0**
	SNR=114						
KHNJ	**Kahnooj**	**2.08**	**60**	Pn	**Pn**	**10 54 03.5**	**+0.7**
HATD	**Hatta, Dubai**	**2.13**	**168**	P	**Pn**	**10 54 05.0**	**+1.6**
HATD				S	**Sb**	**10 54 35.2**	**+2.1**
HATD	**Hatta, Dubai**	**2.13**	**168**	*e*P	**Pn**	**10 54 04.7**	**+1.3**
	SNR=116						
FAQ	**Al Faqa, Dubai**	**2.17**	**182**	P	**Pb**	**10 54 06.0**	**-1.7**
	SNR=73						
FAQ	**Al Faqa, Dubai**	**2.17**	**182**	*e*P	**Pn**	**10 54 05.6**	**+1.7**
	SNR=73						
ASHO	**Ashiyiah**	**2.26**	**171**	P	**Pn**	**10 54 07.0**	**+1.8**
	SNR=271						
ASHO				S	**Sb**	**10 54 35.3**	**-1.4**
ASHO	**Ashiyiah**	**2.26**	**171**	*e*P	**Pn**	**10 54 06.7**	**+1.4**
	SNR=248						
LMD1	**Lamerd**	**2.27**	**281**	Pn	**Pn**	**10 54 05.4**	**+0.1**
LMD1	**Lamerd**	**2.27**	**281**	*e*Pn	**Pb**	**10 54 08.0**	**-1.4**
LMD1				IAML		10 55 12.0	
	comp=Z,6.3nm,1.0s						
ASUD	**Al Ashush, Dub**	**2.31**	**188**	P	**Pb**	**10 54 08.5**	**-1.6**
	SNR=7.4						
ASUD	**Al Ashush, Dub**	**2.31**	**188**	*e*P	**Pb**	**10 54 08.2**	**-1.9**
	SNR=32						
AJN	**Ajban**	**2.43**	**195**	P	**Pn**	**10 54 09.1**	**+1.6**
	SNR=27						
AJN	**Ajban**	**2.43**	**195**	*e*P	**Pn**	**10 54 09.3**	**+1.8**
	SNR=11						
JHRM	**Jahrom**	**2.43**	**311**	Pn	**Pn**	**10 54 08.8**	**+1.1**
QIR1	**Qir**	**2.79**	**304**	Pn	**Pn**	**10 54 13.6**	**+1.0**
ALNE	**Al Ain**	**2.85**	**178**	P	**Pn**	**10 54 15.2**	**+1.8**
	SNR=22						
ALNE				S	**Sn**	**10 54 50.0**	**+2.9**
ALNE	**Al Ain**	**2.85**	**178**	*e*P	**Pn**	**10 54 14.9**	**+1.4**
	SNR=36						
NGRK	**Negar Kerman**	**2.87**	**19**	Pn	**Pn**	**10 54 15.6**	**+1.6**
SOHO	**SOHO**	**2.88**	**164**	P	**Pn**	**10 54 14.2**	**+0.4**
SOHO	**SOHO**	**2.88**	**164**	*i* P	**Pn**	**10 54 13.5**	**-0.3**
	SNR=48						
KRBR	**Kerman**	**3.20**	**17**	Pn	**Pn**	**10 54 20.7**	**+2.3**
KRBR	**Kerman**	**3.20**	**17**	*e*Pn	**Pn**	**10 54 21.1**	**+2.7**
KRBR				IAML		10 55 02.6	
	comp=Z,4.3nm,1.0s						
JRN	**Qarnain Island**	**3.21**	**233**	P	**Pn**	**10 54 20.3**	**+2.0**
JRN				S	**Sb**	**10 55 01.4**	**-2.7**
KBAM	**BAM**	**3.31**	**48**	Pn	**Pn**	**10 54 21.8**	**+2.1**
CHMN	**Cheshme madani**	**3.36**	**29**	Pn	**Pn**	**10 54 22.7**	**+2.0**
KHGB	**Koh Gabri**	**3.52**	**12**	Pn	**Pn**	**10 54 25.3**	**+2.6**
MZWR	**Madinat Zayed**	**3.54**	**208**	P	**Pn**	**10 54 24.5**	**+1.7**
MZWR				S	**Sn**	**10 55 05.1**	**+1.2**
HOQ	**Hoqain**	**3.64**	**155**	P	**Pn**	**10 54 24.6**	**+0.3**
ARQ	**Araqi**	**3.65**	**168**	P	**Pn**	**10 54 25.2**	**+0.8**
	SNR=123						
ARQ				S	**Sn**	**10 55 08.3**	**+1.5**
KRM1	**Kerman Provinc**	**3.84**	**21**	Pn	**Pn**	**10 54 29.7**	**+2.5**
GHWR	**Ruwais**	**3.88**	**221**	P	**Pn**	**10 54 28.9**	**+1.5**
GHWR				S	**Sn**	**10 55 14.8**	**+2.5**
SHI	**Shiraz**	**3.88**	**315**	Pn	**Pn**	**10 54 29.2**	**+1.5**
BIDO	**Bidbid**	**4.05**	**146**	P	**Pn**	**10 54 30.2**	**+0.3**
BIDO				S	**Sn**	**10 55 17.2**	**+0.5**
ZRDN	**Zarand Kerman**	**4.10**	**11**	Pn	**Pn**	**10 54 33.3**	**+2.5**
DSBU	**Dashti - Bushe**	**4.16**	**291**	Pn	**Pn**	**10 54 32.5**	**+1.0**
UMZA	**Um Al Zommool**	**4.21**	**186**	P	**Pn**	**10 54 33.0**	**+0.9**
UMZA				S	**Sn**	**10 55 21.3**	**+0.6**
SHMA	**Al-Shehemyia**	**4.35**	**257**	P	**Pn**	**10 54 35.8**	**+1.9**
	SNR=12						
SHMA				S	**Sn**	**10 55 26.3**	**+2.4**
MZR	**Muzera**	**4.38**	**207**	*i* P	**Pn**	**10 54 34.8**	**+0.4**
	SNR=7.0						
SMDO	**Samad**	**4.41**	**150**	P	**Pn**	**10 54 36.4**	**+1.4**
SMDO				S	**Sn**	**10 55 25.6**	**-0.1**
KAZ2	**Kazeron-Fars-I**	**4.43**	**308**	Pn	**Pn**	**10 54 36.8**	**+1.6**
WSAR	**Wadi Sarin**	**4.55**	**143**	Pn	**Pn**	**10 54 38.0**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=334,slow=24,SNR=69						
WSAR				Sn	**Sn**	**10 55 28.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=177,slow=24,SNR=7.3						
WSAR				LR	LR	10 57 00.4	
	comp=Z,4.4nm,18.7s,baz=349,slow=46						
WSAR	**Wadi Sarin**	**4.55**	**143**	P	**Pn**	**10 54 37.7**	**+1.0**
WSAR				S	**Sn**	**10 55 28.4**	**-0.5**
TRNA	**Turayna**	**4.56**	**243**	P	**Pn**	**10 54 38.4**	**+1.5**
	SNR=10						
TRNA				S	**Sn**	**10 55 31.1**	**+1.9**
SAKB	**Bahrain**	**4.69**	**260**	P	**Pn**	**10 54 40.5**	**+1.8**
SMRA	**Abu-Samra**	**4.87**	**245**	P	**Pn**	**10 54 43.0**	**+1.9**
	SNR=8.1						
SMRA				S	**Sn**	**10 55 39.1**	**+2.3**
JMDO	**Jabal Madar**	**5.04**	**153**	P	**Pn**	**10 54 44.6**	**+1.0**
JMDO				S	**Sn**	**10 55 40.5**	**-0.7**
NGCH	**Negor - Chabah**	**5.16**	**106**	Pn	**Pn**	**10 54 46.2**	**+1.1**
ZHSF	**Zahedan**	**5.24**	**58**	Pn	**Pn**	**10 54 48.0**	**+1.5**
KLNJ	**Kolanjah**	**5.41**	**320**	Pn	**Pn**	**10 54 50.5**	**+1.6**
KLNJ	**Kolanjah**	**5.41**	**320**	*e*Pn	**Pn**	**10 54 49.5**	**+0.6**
KLNJ				IAML		10 56 34.5	
	comp=Z,0.4nm,1.0s						
YZKH	**Yazd**	**5.53**	**351**	*e*Pn	**Pn**	**10 54 53.0**	**+2.7**
YZKH				IAML		10 56 55.1	
	comp=Z,0.2nm,1.0s						
IRAM	**Ramesheh**	**5.65**	**330**	Pn	**Pn**	**10 54 54.2**	**+2.1**
JLN	**Jalan Bani Buh**	**5.85**	**144**	P	**Pn**	**10 54 54.6**	**0.0**
BSRN	**Basiran**	**5.86**	**30**	Pn	**Pn**	**10 54 56.3**	**+1.4**
NHDN	**Nehbandan**	**5.88**	**40**	Pn	**Pn**	**10 54 57.2**	**+2.1**
SRVN	**Saravan**	**6.02**	**84**	Pn	**Pn**	**10 54 57.9**	**+0.8**
TPRV	**Parvadeh(Tabas**	**6.15**	**8**	Pn	**Pn**	**10 55 01.3**	**+2.5**
MHTO	**MHTO**	**6.27**	**160**	P	**Pn**	**10 55 01.4**	**+1.0**
MHTO				S	**Sn**	**10 56 11.2**	**-0.2**
IBRJ	**Brojen**	**6.28**	**323**	Pn	**Pn**	**10 55 02.3**	**+1.6**
NASN	**Na'in**	**6.36**	**338**	*e*Pn	**Pn**	**10 55 02.9**	**+1.0**
NASN				IAML		10 57 23.0	
	comp=Z,0.1nm,1.0s						
ANAR	**Anarak**	**6.47**	**345**	Pn	**Pn**	**10 55 04.9**	**+1.7**
ZNGN	**Zangian**	**6.66**	**322**	Pn	**Pn**	**10 55 08.2**	**+2.1**
TKDS	**Koohdasht(Taba**	**6.79**	**10**	Pn	**Pn**	**10 55 10.3**	**+2.7**
TABS	**Tabas**	**6.82**	**10**	*e*Pn	**Pn**	**10 55 11.0**	**+3.0**
TABS				IAML		10 57 23.2	
	comp=Z,0.2nm,1.0s						
JHBN	**Jahan bin**	**6.85**	**322**	Pn	**Pn**	**10 55 10.7**	**+2.1**
TNSJ	**Nastanj**	**7.07**	**6**	Pn	**Pn**	**10 55 13.3**	**+1.9**
DQM	**DQM**	**7.17**	**166**	P	**Pn**	**10 55 12.9**	**+0.1**
KRSH	**Karshahi**	**7.66**	**337**	Pn	**Pn**	**10 55 21.1**	**+1.6**
QAMS	**Qamsar**	**7.73**	**333**	Pn	**Pn**	**10 55 22.1**	**+1.4**
SHRT	**Shahrakht**	**7.80**	**30**	Pn	**Pn**	**10 55 24.0**	**+2.5**
GTMR	**Gotvand**	**7.94**	**316**	*e*Pn	**Pn**	**10 55 23.1**	**-0.2**
GTMR				IAML		10 57 17.1	
	comp=Z,0.2nm,1.0s						
ISFB	**Sefidab**	**7.97**	**339**	Pn	**Pn**	**10 55 26.1**	**+2.3**
TAPT	**Tabas- Tapeh t**	**8.04**	**9**	Pn	**Pn**	**10 55 26.7**	**+1.9**
DOK	**Doka**	**8.38**	**190**	P	**Pn**	**10 55 29.7**	**+0.3**
KHMZ	**Khomeyn**	**8.39**	**325**	*e*Pn	**Pn**	**10 55 30.4**	**+0.7**
KHMZ				IAML		10 57 11.8	
	comp=Z,0.1nm,1.0s						
GHVR	**GHOM**	**8.42**	**335**	*e*Pn	**Pn**	**10 55 30.5**	**+0.6**
GHVR				IAML		10 57 13.0	
	comp=Z,3.1nm,1.0s						
IVRN	**Varamin**	**8.73**	**338**	Pn	**Pn**	**10 55 35.9**	**+1.7**
SHAO	**Shalim**	**8.86**	**180**	P	**Pn**	**10 55 37.0**	**+1.1**
ASAO	**Ashtian**	**9.02**	**329**	*e*Pn	**Pn**	**10 55 39.0**	**+0.7**
WHFO	**Wadi Hawf**	**9.13**	**191**	P	**Pn**	**10 55 39.7**	**0.0**
	SNR=54						
IDMV	**Damavand**	**9.17**	**341**	Pn	**Pn**	**10 55 41.7**	**+1.3**
DMTO	**DMTO**	**9.18**	**184**	P	**Pn**	**10 55 40.1**	**-0.3**
TBJM	**Torbat-e-JAM**	**9.23**	**25**	Pn	**Pn**	**10 55 43.7**	**+2.6**
DAMV	**Damavand**	**9.24**	**341**	*e*Pn	**Pn**	**10 55 43.7**	**+2.4**
HRA	**Herat**	**9.35**	**36**	Pn	**Pn**	**10 55 44.1**	**+1.3**
RBK	**Rabkut**	**9.47**	**188**	P	**Pn**	**10 55 46.0**	**+1.6**
SBZV	**Sabzevar**	**9.58**	**9**	Pn	**Pn**	**10 55 49.0**	**+2.9**
HAGD	**Aghdareh**	**9.66**	**326**	Pn	**Pn**	**10 55 46.5**	**-0.6**
CHTH	**Charan**	**9.76**	**338**	*e*Pn	**Pn**	**10 55 49.1**	**+0.6**
ABTO	**Aybut**	**9.77**	**193**	P	**Pn**	**10 55 48.1**	**-0.4**
	SNR=47						
RAYN	**Ar Rayn**	**9.80**	**252**		**Pn**	**10 55 46.5**	**-2.4**
RAYN	**Ar Rayn**	**9.80**	**252**	P	**Pn**	**10 55 47.8**	**-1.1**
RAYN	**Ar Rayn**	**9.80**	**252**	Pn	**Pn**	**10 55 47.5**	**-1.4**
RAYN	**Ar Rayn**	**9.80**	**252**	P	**Pn**	**10 55 47.3**	**-1.6**
RAYN	**Ar Rayn**	**9.80**	**252**	P	**Pn**	**10 55 46.5**	**-2.4**
IPAY	**Payeh**	**9.91**	**16**	Pn	**Pn**	**10 55 53.4**	**+2.9**
IMYA	**Miami**	**10.12**	**21**	Pn	**Pn**	**10 55 54.3**	**+0.9**
QABG	**Abgarm-Qazvin**	**10.18**	**331**	Pn	**Pn**	**10 55 55.3**	**+1.0**
HGHA	**Hamedan- Ghaye**	**10.34**	**327**	Pn	**Pn**	**10 55 55.4**	**-0.9**
SNQR	**Sonqor, Kerman**	**10.49**	**321**	Pn	**Pn**	**10 55 59.1**	**+0.5**
ILBA	**Ilam Banvizeh**	**10.55**	**312**	Pn	**Pn**	**10 55 57.9**	**-1.3**
ILBA	**Ilam Banvizeh**	**10.55**	**312**	*i* P	**Pn**	**10 55 59.8**	**+0.6**
MRVT	**Maraveh tapeh**	**10.71**	**2**	*i* P	**Pn**	**10 56 05.6**	**+4.2**
IGHG	**Ghaleghazi**	**10.76**	**316**	Pn	**Pn**	**10 56 01.3**	**-0.9**
SRSL	**SARDASHT**	**12.71**	**319**	*i* P	**Pn**	**10 56 29.2**	**+0.4**
GEVA	**Gevas**	**15.53**	**320**	Pn	**Pn**	**10 57 05.2**	**-1.8**
GEVA				IAmb	IAmb	10 57 10.9	
	comp=Z,44nm,1.4s						
GNI	**Garni**	**16.01**	**328**		**Pn**	**10 57 14.0**	**+0.8**
GNI				IAmb	IAmb	10 57 19.9	
	comp=Z,38nm,0.9s						
GNI	**Garni**	**16.01**	**328**	Pn	**Pn**	**10 57 13.8**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=80,slow=0.6,SNR=7.9						
GNI				LR	LR	11 03 59.3	
	comp=Z,315nm,18.1s,baz=130,slow=39						
	comp=Z,8.6nm,0.7s						
GNI	**Garni**	**16.01**	**328**	⇓*e*P	**Pn**	**10 57 09.4**	**-3.8**
GURO	**Guroymak-BITLI**	**16.29**	**319**	P	**Pn**	**10 57 14.4**	**-2.3**
MARD	**Mardin**	**16.30**	**313**		**Pn**	**10 57 14.4**	**-2.5**
MARD				IAmb	IAmb	10 57 21.9	
	comp=Z,44nm,0.7s						
ASF	**Jabal al Asfar**	**17.14**	**292**	P	**Pn**	**10 57 26.0**	**-1.5**
	comp=Z,1.6nm,0.3s,baz=232,slow=17,SNR=14						
ASF				LR	LR	11 05 32.7	
	comp=Z,94nm,21.2s,baz=153,slow=42						
	comp=Z,7.1nm,0.3s						
ASF	**Jabal al Asfar**	**17.14**	**292**	P	**Pn**	**10 57 26.0**	**-1.5**
GAR	**Garm**	**17.18**	**42**	P	**Pn**	**10 57 26.4**	**-1.6**
MAK	**Makhachkala**	**17.33**	**340**	*c* P	**Pn**	**10 57 25.0**	**-4.6**
MAK				*e*S	**Sn**	**11 00 36.4**	**-5.3**
MAK				pmax	pmax		
	comp=Z,193nm,1.0s						
MAK				MLR	MLR		
	comp=Z,389nm,14.0s						
KOPT	**Kop Dagi**	**18.15**	**320**	P	**Pn**	**10 57 39.8**	**-0.3**
EIL	**Elat**	**18.44**	**283**	P	**Pn**	**10 57 43.5**	**0.0**
	comp=Z,0.8nm,0.3s,baz=125,slow=10,SNR=5.3						
EIL				LR	LR	11 06 33.2	
	comp=Z,302nm,20.4s,baz=135,slow=42						
	comp=Z,16nm,0.6s						
MMAI	**Mount Meron Ar**	**18.56**	**294**	P	**Pn**	**10 57 44.9**	**-0.1**
	comp=Z,2.5nm,0.3s,baz=103,slow=15,SNR=7.5						
MMAI				LR	LR	11 06 46.3	
	comp=Z,83nm,20.4s,baz=121,slow=43						
	comp=Z,10.0nm,0.8s						
GAZ	**Gaziantep**	**18.66**	**308**		**P**	**10 57 45.6**	**0.0**
GAZ				IAmb	IAmb	10 57 48.7	
	comp=Z,25nm,0.8s						
ARPR	**Arapgir-MALATY**	**18.90**	**314**		**Pn**	**10 57 49.3**	**+0.2**
NCK	**Nalchik**	**19.22**	**332**	⇑*e*P	**P**	**10 57 50.5**	**-1.2**
NCK				pmax	pmax		
	comp=Z,75nm,1.0s						
KBZ	**Khabaz**	**19.70**	**332**	P	**Pn**	**10 57 59.4**	**+1.0**
	comp=Z,19nm,0.9s,baz=136,slow=7.2,SNR=30						
KBZ	**Khabaz**	**19.70**	**332**	*c i*P	**Pn**	**10 57 58.3**	**-0.1**
KBZ				pmax	pmax		
	comp=Z,31nm,1.0s						
SHA1	**Shidzhatmaz**	**19.81**	**331**	*d i*P	**Pn**	**10 58 01.2**	**+1.2**
KVAR	**Kislovodsk Arr**	**19.97**	**332**	P	**Pn**	**10 58 03.3**	**+1.5**
KIV	**Kislovodsk**	**19.97**	**332**	*e*P	**Pn**	**10 58 01.8**	**0.0**
KIV				pmax	pmax		
	comp=Z,124nm,1.1s						
KIV				MLR	MLR		
	comp=Z,46nm,14.0s						
KK31	**Karatay Array**	**20.16**	**33**	P	**P**	**10 58 02.4**	**+0.4**
KK31	**Karatay Array**	**20.16**	**33**	P	**P**	**10 58 02.4**	**+0.4**
KK31				pmax	pmax		
	comp=Z,11nm,1.0s						
KKAR	**Karatay Array**	**20.16**	**33**		Pn	10 58 03.7	-0.3
KKAR	**Karatay Array**	**20.16**	**33**	P	Pn	10 58 03.7	-0.3
BNN	**Bunyan**	**20.41**	**311**	P	Pn	10 58 06.0	-1.0
BNN				IAmb	IAmb	10 58 10.5	
	comp=Z,30nm,0.9s						
CSS	**Mathiatis**	**20.74**	**298**	P	**P**	**10 58 09.1**	**+0.8**
VSLR	**Vesyoloye**	**20.81**	**326**	*de*P	**P**	**10 58 09.7**	**+0.7**
VSLR				pmax	pmax		
	comp=Z,67nm,1.0s						
KSH	**Kashi**	**21.07**	**48**	P	**P**	**10 58 06.0**	**-6.0**
KSH				pP	pP	10 58 09.3	-8.9
KSH				pmax	pmax		
	comp=Z,15nm,0.6s						
KSH				LR	LR		
	comp=N,170nm,9.4s						
KSH				LR	LR		
	comp=E,470nm,14.1s						
KSH				LR	LR		
	comp=Z,390nm,11.6s						
KIRS	**Kirsehir-Merke**	**21.86**	**309**	⇑P	**P**	**10 58 22.8**	**+2.3**
AAK	**Ala-Archa**	**21.95**	**40**		**P**	**10 58 21.5**	**+0.1**
AAK	**Ala-Archa**	**21.95**	**40**	P	**P**	**10 58 22.4**	**+1.0**
	comp=Z,1.4nm,0.4s,baz=228,slow=13,SNR=7.4						
AAK				LR	LR	11 08 07.6	
	comp=Z,149nm,18.7s,baz=242,slow=40						
	comp=Z,1.4nm,0.4s						
AAK	**Ala-Archa**	**21.95**	**40**	⇓*e*P	**P**	**10 58 22.7**	**+1.3**
AAK				pmax	pmax		
	comp=Z,19nm,1.7s						
NRN	**Naryn**	**22.12**	**44**	P	**P**	**10 58 22.2**	**-1.3**
NRN				IAmb	IAmb	10 58 32.0	
	comp=Z,16nm,0.8s						
NRN	**Naryn**	**22.12**	**44**	P	**P**	**10 58 22.2**	**-1.3**
NRN				pmax	pmax		
	comp=Z,16nm,0.8s						
BR131	**Keskin Array S**	**22.33**	**310**	P	**P**	**10 58 25.7**	**+0.1**
BR131				IAmb	IAmb	10 58 33.9	
	comp=Z,23nm,0.9s						
BR131	**Keskin Array S**	**22.33**	**310**	P	**P**	**10 58 26.7**	**+1.1**
	SNR=11						
BR131				P	**P**	**10 58 26.7**	**+1.1**
BR131	**Keskin Array S**	**22.33**	**310**	*c i*P	**P**	**10 58 25.5**	**-0.1**
BRTR	**Keskin Array B**	**22.33**	**310**	P	**P**	**10 58 25.4**	**-0.1**
BRTR	**Keskin Array B**	**22.33**	**310**	P	**P**	**10 58 26.2**	**+0.6**
	comp=Z,12nm,0.9s,baz=126,slow=12,SNR=40						
	comp=Z,12nm,0.9s						
AB31	**Akbulak array**	**22.55**	**7**	P	**P**	**10 58 27.9**	**+0.4**
ABKAR	**Akbulak array**	**22.55**	**7**	P	**P**	**10 58 27.5**	**0.0**
ANTO	**Ankara**	**22.97**	**310**		**P**	**10 58 31.4**	**-0.9**
ANTO				IAmb	IAmb	10 58 40.2	
	comp=Z,24nm,0.8s						
ANTO	**Ankara**	**22.97**	**310**	P	**P**	**10 58 31.4**	**-0.9**
ANTO				pmax	pmax		
	comp=Z,24nm,0.9s						
KDJ	**Kajisay**	**23.24**	**44**	P	**P**	**10 58 35.1**	**0.0**
KDJ				IAmb	IAmb	10 58 46.4	
	comp=Z,12nm,0.8s						
KDJ	**Kajisay**	**23.24**	**44**	P	**P**	**10 58 35.1**	**0.0**
KDJ				pmax	pmax		
	comp=Z,13nm,0.8s						
TARG	**Taragay, Kyrgy**	**23.41**	**45**	P	**P**	**10 58 37.2**	**+0.1**
TARG				IAmb	IAmb	10 59 01.1	
	comp=Z,17nm,1.3s						
TARG	**Taragay, Kyrgy**	**23.41**	**45**	P	**P**	**10 58 37.2**	**+0.1**
TARG				pmax	pmax		
	comp=Z,17nm,1.3s						
AKTO	**Aktyubinsk**	**23.55**	**4**	LR	LR	11 09 37.8	
	comp=Z,236nm,20.0s,baz=110,slow=41						
ISP	**Isparta**	**23.78**	**303**	P	**P**	**10 58 40.8**	**+0.4**
ISP				IAmb	IAmb	10 59 13.1	
	comp=Z,17nm,1.3s						
ISP	**Isparta**	**23.78**	**303**	⇓*e*P	**P**	**10 58 41.7**	**+1.3**
ISP				pmax	pmax		
	comp=Z,19nm,1.9s						
FURI	**Furi**	**24.08**	**225**	LR	LR	11 09 45.9	
	comp=Z,277nm,20.4s,baz=45,slow=40						
SIM	**Simferopol'**	**24.93**	**322**	*e*P	**P**	**10 58 52.9**	**+2.2**
SIM				S	**S**	**11 03 14.0**	**+1.0**
SIM				pmax	pmax		
	comp=Z,19nm,0.6s						
MANT	**Manisa**	**25.47**	**304**	P	**P**	**10 58 55.7**	**-0.2**
MANT				IAmb	IAmb	10 58 59.3	
	comp=Z,21nm,1.0s						
BELG	**Belogornoye**	**26.15**	**349**	⇓*i*P	**P**	**10 59 01.6**	**0.0**
BELG				pmax	pmax	

MNK *i* SSS SSS 11 08 03.8
MNK *i* LR LR 11 13 11.1
MNK *i* LRM MLR 11 14 11.2
comp=E,2μm,20.5s
MNK *i* LRM MLR 11 14 14.1
comp=N,1μm,22.2s
MNK *i* LRM MLR 11 14 15.1
comp=Z,96nm,20.0s
MNK Minsk 34.25 331 *i* P **P 11 00 10.7 -2.6**
MNK *i* 11 01 24.7
MNK *i* 11 02 47.0
MNK *i* S **S 11 05 38.2 -0.7**
MNK *i* SS **SnSn 11 07 47.9 -0.4**
MNK pmax pmax
comp=E,18nm,0.8s
MNK pmax pmax
comp=N,10.0nm,0.7s
MNK pmax pmax
comp=Z,24nm,0.8s
MNK MLR MLR
comp=E,2μm,21.0s
MNK MLR MLR
comp=N,1μm,22.0s
MNK MLR MLR
comp=Z,96nm,20.0s
ZAA0 Zalesovo Array 34.50 31 P **P 11 00 15.3 -0.2**
ZAA0 lAmb lAmb 11 00 23.5
comp=E,6.0nm,0.7s
ZALV Zalesovo Beam 34.50 31 P **P 11 00 15.0 -0.4**
ZALV Zalesovo Beam 34.50 31 P **P 11 00 15.3 -0.1**
comp=Z,4.2nm,0.5s,baz=234,slow=9.1,SNR=13
ZALV PcP **PcP 11 02 51.9 +1.8**
comp=E,1.0nm,0.5s,baz=224,slow=4.0,SNR=2.3
ZALV LR LR 11 16 08.2
comp=Z,66nm,19.5s,baz=233,slow=39
comp=Z,4.2nm,0.5s
ZALV Zalesovo Beam 34.50 31 *i* P **P 11 00 15.6 +0.2**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
TIP Timpagrande 34.57 301 P **P 11 00 16.4 0.0**
LANS Liptovska Anna 35.63 318 *eP* **P 11 00 26.6 +1.2**
LANS pmax pmax
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 35.66 346 *eP* **P 11 00 25.0 -0.3**
KLMR pmax pmax
comp=Z,14nm,1.4s
VYHS Vyhne 35.74 317 *eP* **P 11 00 27.3 +1.0**
OJC Ojcow 35.91 320 *eP* **P 11 00 27.8 +0.2**
OJC Ojcow 35.91 320 P **P 11 00 27.4 -0.3**
OJC Ojcow 35.91 320 P **P 11 00 27.4 -0.3**
SUW Suwalki 36.09 327 P **P 11 00 29.0 -0.2**
SUW Suwalki 36.09 327 P **P 11 00 29.0 -0.2**
JAVC Velka Javorina 36.60 317 *eP* **P 11 00 34.2 +0.6**
PABE Paberze 36.62 330 P **P 11 00 33.0 -0.7**
MAUC Maruska 36.70 318 *eP* **P 11 00 35.4 +0.9**
STEB Steborice 36.96 319 *eP* **P 11 00 36.3 -0.4**
RONA Rosalia, Austr 37.03 315 *eP* **P 11 00 37.6 +0.3**
comp=Z,1.7nm,0.5s,SNR=5.6
MORC Moravsky Berou 37.04 318 P **P 11 00 37.2 -0.1**
MORC lAmb lAmb 11 00 38.5
comp=E,8.8nm,0.9s
MORC Moravsky Berou 37.04 318 *eP* **P 11 00 37.3 -0.1**
MORC Moravsky Berou 37.04 318 ⇑P **P 11 00 37.7 +0.4**
MORC Moravsky Berou 37.04 318 ⇑P **P 11 00 37.7 +0.4**
ARSA Arzberg 37.38 314 *eP* **P 11 00 40.5 +0.3**
comp=Z,1.6nm,0.8s
CONA Conrad Observa 37.38 315 *i* P **P 11 00 40.4 0.0**
comp=Z,0.4nm,0.3s
VRAC Vranov 37.42 317 P **P 11 00 40.5 -0.1**
comp=Z,5.6nm,0.7s,baz=121,slow=9.8,SNR=7.5
comp=Z,5.6nm,0.7s
VRAC Vranov 37.42 317 *eP* **P 11 00 41.1 +0.5**
KRUC Moravsky 37.45 317 *eP* **P 11 00 41.0 +0.2**
VSU Vasula 37.45 335 *deP* **P 11 00 39.9 -0.8**
VSU pmax pmax
comp=Z,42nm,1.5s
KRLC Kraliky 37.61 318 *eP* **P 11 00 42.4 +0.2**
KRLC Kraliky 37.61 318 *eP* **P 11 00 42.4 +0.2**
CAMP Campotosto 37.65 306 P **P 11 00 43.0 +0.3**
DPC Dobruska-Polom 37.99 319 *eP* **P 11 00 45.7 +0.3**
DPC MLR MLR
comp=Z,100nm,16.7s
DPC Dobruska-Polom 37.99 319 *eP* **P 11 00 45.7 +0.3**
DPC AMS AMS 11 19 00.0
comp=Z,100nm,16.7s
OSTC Ostas 38.13 319 *eP* **P 11 00 47.0 +0.4**
OSTC Ostas 38.13 319 *eP* **P 11 00 47.0 +0.4**
CHVC Chvalec 38.24 319 *eP* **P 11 00 47.7 +0.2**
CHVC Chvalec 38.24 319 *eP* **P 11 00 47.7 +0.2**
CESX Cesi 38.26 305 P **P 11 00 48.1 +0.4**
CESX lAmb lAmb 11 00 49.6
comp=Z,15nm,0.9s
MOA Molln 38.37 314 P **P 11 00 49.1 +0.4**
comp=Z,2.4nm,0.7s,SNR=6.8
GTA Gaotai 38.64 60 *eP* **P 11 00 52.4 +1.2**
GTA pP pP 11 00 55.2 -2.7
GTA pmax pmax
comp=Z,7.0nm,0.9s
BIOA Bad Ischl, Aus 38.73 314 *eP* **P 11 00 51.9 +0.2**
comp=Z,0.7nm,0.2s
KBA Koelnbreinsper 38.74 313 *eP* **P 11 00 52.3 +0.3**
comp=Z,3.4nm,0.6s
GERES GERESS Array B 39.04 315 P **P 11 00 53.8 -0.6**
comp=Z,1.1nm,0.6s,baz=100,slow=7.3,SNR=11
comp=Z,1.1nm,0.6s
ABTA Abfaltersbach 39.20 312 *eP* **P 11 00 56.0 +0.2**
comp=Z,3.8nm,0.6s,SNR=6.9
KHC Kasperske Hory 39.21 316 *ceP* **P 11 00 55.4 -0.3**
KHC pmax pmax
comp=Z,8.0nm,1.0s
KHC Kasperske Hory 39.21 316 *eP* **P 11 00 55.8 +0.1**
LESA Schwarzleotal 39.28 313 *eP* **P 11 00 56.2 -0.2**
comp=Z,4.4nm,0.6s
BRG Berggiesshubel 39.59 319 *i* P **P 11 01 00.9 +2.2**
BRG Amp 11 01 01.6
comp=Z,7.9nm,1.0s
FINES FINESS Array B 39.82 338 P **P 11 01 00.6 +0.1**
FINES FINESS Array B 39.82 338 P **P 11 01 00.4 -0.1**
comp=Z,4.7nm,0.5s,baz=142,slow=10,SNR=53
comp=Z,4.7nm,0.5s
FINES FINESS Array B 39.82 338 *i* P **P 11 01 00.8 +0.3**
FINES pmax pmax
comp=Z,5.0nm,0.5s
WTTA Wattenberg 39.92 312 *i* P **P 11 01 01.6 -0.2**
comp=Z,8.3nm,0.6s,SNR=13
WATA Walderalm 39.98 313 *eP* **P 11 01 01.6 -0.6**
comp=Z,11nm,0.8s,SNR=8.3
SQTA Sankt Quirin 40.19 312 *i* P **P 11 01 03.6 -0.3**
comp=Z,16nm,0.5s,SNR=12
KEST Kesra 40.22 294 P **P 11 01 05.8 +1.5**
KEST lAmb lAmb 11 01 07.6
comp=Z,11nm,0.8s
KEST Kesra 40.22 294 P **P 11 01 04.5 +0.1**
comp=Z,12nm,0.9s,baz=101,slow=5.2,SNR=11
KEST LR LR 11 19 48.2
comp=Z,49nm,21.9s,baz=291,slow=39
comp=Z,12nm,0.9s
KEST Kesra 40.22 294 P **P 11 01 06.4 +2.1**
SNR=6.6
MOTA Moosalm 40.29 312 *eP* **P 11 01 04.1 -0.7**
comp=Z,18nm,1.1s,SNR=12
CLL Collm 40.30 319 P **P 11 01 04.3 -0.3**
CLL Collm 40.30 319 P **P 11 01 04.3 -0.3**
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 40.30 319 *i* P **P 11 01 04.6 0.0**
comp=Z,6.0nm,0.9s
CLL LmV 11 20 00.0
comp=Z,100nm,20.3s
FETA Feichten 40.46 312 *eP* **P 11 01 06.2 -0.1**
comp=Z,14nm,0.7s,SNR=23
RETA Reutte 40.55 313 *i* P **P 11 01 06.4 -0.4**
comp=Z,4.2nm,0.6s
CMAR Chiang Mai Arr 40.65 93 P **P 11 01 07.8 -0.1**
comp=Z,1.1nm,0.8s,baz=298,slow=9.3,SNR=4.6
CMAR PcP **PcP 11 03 10.4 +0.8**
comp=Z,0.9nm,0.5s,baz=287,slow=2.9,SNR=2.5
CMAR LR LR 11 21 53.3
comp=Z,37nm,19.2s,baz=285,slow=42
comp=Z,1.1nm,0.8s
GRA1 Grafenberg Arr 40.85 316 P **P 11 01 08.4 -0.8**
GRA1 lAmb lAmb 11 01 10.4
comp=Z,14nm,0.8s
GRF Grafenberg Arr 40.85 316 P **P 11 01 08.4 -0.8**
GRF pmax pmax
comp=Z,14nm,0.8s

DAVOX Davos/Dischmat 40.97 311 P **P 11 01 10.2 -0.3**
comp=Z,8.6nm,0.6s,baz=126,slow=5.0,SNR=18
DAVOX LR LR 11 21 22.1
comp=Z,138nm,18.9s,baz=81,slow=41
comp=Z,8.6nm,0.6s
PZH PanZhiHua 40.98 80 P **P 11 01 10.8 0.0**
DAVA Damuels 41.08 312 *eP* **P 11 01 11.0 -0.4**
comp=Z,34nm,0.5s,SNR=26
BFO Black Forest 42.34 313 P **P 11 01 21.3 -0.2**
BFO Black Forest 42.34 313 P **P 11 01 21.3 -0.2**
BFO pmax pmax
comp=Z,12nm,1.5s
SENIN Lac Senin/Sane 42.63 310 P **P 11 01 23.1 -1.0**
BNI Bardonecchia 42.86 308 P **P 11 01 25.0 -0.9**
BNI lAmb lAmb 11 01 26.1
comp=Z,10nm,0.9s
BNI Bardonecchia 42.86 308 P **P 11 01 25.0 -0.9**
BNI pmax pmax
comp=Z,11nm,1.0s
ECH Echery 43.08 313 P **P 11 01 27.0 -0.5**
ECH lAmb lAmb 11 01 27.9
comp=Z,9.4nm,0.9s
ECH Echery 43.08 313 P **P 11 01 27.0 -0.5**
ECH pmax pmax
comp=Z,9.0nm,0.9s
HFS Hagfors 43.77 331 P **P 11 01 32.7 -0.1**
comp=Z,10.0nm,0.7s,baz=133,slow=10,SNR=32
HFS LR LR 11 22 13.0
comp=Z,53nm,19.2s,baz=128,slow=39
comp=Z,10.0nm,0.7s
WLF Walferdange 44.03 315 *dP* **P 11 01 35.0 -0.1**
comp=Z,8.7nm,0.9s
SONM Songino Array 44.48 48 P **P 11 01 39.8 +0.9**
comp=Z,1.1nm,0.6s,baz=253,slow=10,SNR=5.9
SONM LR LR 11 21 53.6
comp=Z,104nm,20.3s,baz=262,slow=38
comp=Z,1.1nm,0.6s
RCHB Rochefort 44.72 315 *dP* **P 11 01 41.4 +0.8**
BCLA Clavier 44.72 316 *dP* **P 11 01 41.4 +0.8**
comp=Z,5.4nm,1.3s
BGES Gesves 44.85 315 *dP* **P 11 01 42.7 +1.1**
comp=Z,7.0nm,1.0s
BMRD Maredsous 45.03 315 *dP* **P 11 01 42.9 -0.2**
DOU Dourbes 45.10 315 *dP* **P 11 01 43.7 0.0**
comp=Z,12nm,1.0s
NC405 NORSAR Array S 45.10 332 P **P 11 01 43.1 -0.4**
NB201 NORSAR Array S 45.25 331 P **P 11 01 44.5 -0.2**
NB2 NORSAR Subarra 45.28 331 P **P 11 01 44.9 -0.1**
comp=Z,4.0nm,0.7s,baz=118,slow=7.9
NOA NORSAR Array B 45.28 331 P **P 11 01 44.6 -0.4**
comp=Z,5.4nm,0.7s,baz=117,slow=7.9,SNR=32
NOA LR LR 11 23 53.4
comp=Z,44nm,18.7s,baz=115,slow=40
comp=Z,5.4nm,0.7s
TAM Tamanrasset 45.45 276 P **P 11 01 46.2 -0.8**
TAM Tamanrasset 45.45 276 P **P 11 01 46.2 -0.8**
TAM pmax pmax
comp=Z,83nm,0.2s
ARCES ARCESS Array B 46.12 346 P **P 11 01 51.1 -0.4**
ARCES lAmb lAmb 11 02 05.7
comp=Z,7.2nm,1.2s
ARCES ARCESS Array B 46.12 346 P **P 11 01 51.6 +0.1**
comp=Z,2.1nm,0.9s,baz=139,slow=8.1,SNR=9.9
ARCES LR LR 11 22 29.1
comp=Z,77nm,18.1s,baz=56,slow=38
comp=Z,2.1nm,0.9s
ARCES ARCESS Array B 46.12 346 P **P 11 01 51.1 -0.4**
ARCES pmax pmax
comp=Z,7.0nm,1.2s
CEST Esterri de Car 46.58 304 P **P 11 01 55.6 0.0**
HHC Hu-ho-hao-te 47.69 58 *eP* **P 11 02 04.7 +0.4**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,130nm,3.7s
LSZ Lusaka 49.72 216 LR LR 11 23 06.8
comp=Z,115nm,18.4s,baz=282,slow=36
ESDC Sonseca Array 50.60 300 P **P 11 02 26.3 -0.2**
ESDC lAmb lAmb 11 02 27.6
comp=Z,5.5nm,1.1s
ESDC Sonseca Array 50.60 300 P **P 11 02 26.4 0.0**
comp=Z,4.8nm,0.9s,baz=68,slow=7.5,SNR=29
comp=Z,4.8nm,0.9s
EKA Eskdalemuir Ar 50.68 321 P **P 11 02 26.5 -0.2**
comp=Z,0.5nm,0.3s,baz=98,slow=7.5,SNR=9.4
comp=Z,0.5nm,0.3s
PAB San Pablo 50.90 300 P **P 11 02 29.1 +0.3**
PAB lAmb lAmb 11 02 30.1
comp=Z,10.0nm,0.8s
PAB San Pablo 50.90 300 P **P 11 02 29.1 +0.3**
PAB pmax pmax
comp=Z,10.0nm,0.9s
XLT XiLinHaoTe 50.96 54 *eP* **P 11 02 31.0 +1.8**
XLT sP sP 11 02 38.0 -0.8
XLT pmax pmax
comp=Z,8.0nm,1.0s
MD01 Midelt array s 52.11 292 P **P 11 02 37.9 -0.1**
TORD Torodi Ar. Bea 52.16 266 P **P 11 02 37.8 -0.6**
comp=Z,8nm,0.6s,baz=58,slow=7.9,SNR=32
comp=Z,4.8nm,0.6s
MVO Moncorvo 52.80 303 *eP* **P 11 02 43.1 +0.2**
PBAR Barrancos 53.14 299 *eP* **P 11 02 45.6 +0.2**
PMRV Marv??o 53.26 301 *eP* **P 11 02 46.6 +0.4**
PCBR Castelo Branco 53.28 301 *eP* **P 11 02 46.4 +0.1**
PVRL Vila Real 53.31 303 *eP* **P 11 02 47.2 +0.6**
POLO Lamas de Olo 53.36 303 *eP* **P 11 02 48.1 +1.1**
PESTR Estremoz 53.48 300 P **P 11 02 47.5 -0.4**
PESTR lAmb lAmb 11 03 13.4
comp=Z,12nm,1.2s
PVIS Viseu 53.50 302 *eP* **P 11 02 49.0 +0.9**
PVAQ Vaqueiros 53.77 298 *eP* **P 11 02 49.8 -0.2**
PSARD Sardoal 53.83 301 *eP* **P 11 02 50.5 0.0**
EVO Evora 53.85 299 *eP* **P 11 02 51.0 +0.5**
MATP Matopo 53.93 212 LR LR 11 26 23.2
comp=Z,136nm,18.3s,baz=36,slow=37
PCVE Castro Verde 53.99 298 *eP* **P 11 02 51.6 -0.1**
PCAS Casmilo, Conde 54.03 301 *eP* **P 11 02 52.9 +0.9**
SPITS Spitsbergen Ar 54.33 351 P **P 11 02 52.8 -0.7**
comp=Z,3.3nm,0.8s,baz=137,slow=11,SNR=2.1
SPITS LR LR 11 29 55.4
comp=Z,35nm,18.4s,baz=136,slow=40
comp=Z,3.3nm,0.8s
NJ2 Nanjing 54.56 68 *eP* **P 11 02 55.4 -0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
TSUM Tsumeb 58.87 223 LR LR 11 31 02.9
comp=Z,102nm,21.9s,baz=152,slow=38
TIXI Tiksi 59.41 21 LR LR 11 32 31.2
comp=Z,102nm,18.2s,baz=241,slow=39
LEM Lembang 60.45 116 LR LR 11 30 12.7
comp=Z,28nm,20.2s,baz=146,slow=36
KSRS Korea Array 60.71 60 P **P 11 03 39.1 +0.1**
comp=Z,2.6nm,0.6s,baz=275,slow=6.9,SNR=16
comp=Z,2.6nm,0.6s
DBIC Dimbokro 60.76 262 LR LR 11 33 36.5
comp=Z,38nm,20.7s,baz=22,slow=40
USRK Ussuriysk Ar. 62.31 52 LR LR 11 33 20.3
comp=Z,84nm,21.8s,baz=312,slow=38
BOSA Boshof 62.45 210 P **P 11 03 50.7 -0.3**
BOSA Boshof 62.45 210 P **P 11 03 50.9 0.0**
comp=Z,2.7nm,0.5s,baz=7.2,slow=6,SNR=12
BOSA LR LR 11 30 49.2
comp=Z,36nm,18.5s,baz=27,slow=36
comp=Z,2.7nm,0.5s
SEY Seymchan 69.35 29 LR LR 11 38 17.4
comp=Z,107nm,18.0s,baz=302,slow=39
ASAJ Asahikawa 69.71 50 LR LR 11 36 16.4
comp=Z,65nm,18.4s,baz=316,slow=37
SFJD Kangerlussuaq 71.60 337 LR LR 11 38 53.9
comp=Z,66nm,18.1s,baz=276,slow=38
BILL Bilibino 72.60 22 ⇑*eP* **P 11 04 54.9 +0.5**
BILL pmax pmax
comp=Z,3.0nm,1.0s
PETK Petropavlovsk- 75.70 37 LR LR 11 41 58.8
comp=Z,69nm,18.2s,baz=314,slow=38
COLD Coldfoot 84.14 10 P **P 11 05 57.7 -0.5**
COLD lAmb lAmb 11 06 02.2
comp=Z,4.6nm,1.0s
SHEM Shemya Is, Ala 84.32 33 LR LR 11 45 46.1
comp=Z,40nm,18.9s,baz=84,slow=37
IMAR Indian Mountai 84.69 12 P **P 11 06 00.7 -0.2**
BPAW Bear Paw Mtn. 86.90 11 P **P 11 06 12.5 +0.5**
ILAR Eielson Array 86.93 9 P **P 11 06 11.3 -0.8**
comp=Z,0.5nm,0.7s,baz=320,slow=4.5,SNR=10
ILAR LR LR 11 49 36.6
comp=Z,59nm,20.0s,baz=70,slow=39
comp=Z,0.5nm,0.7s

WRA Warramunga Arr 89.30 113 P **P 11 06 23.7 -0.4**
comp=Z,0.9nm,0.9s,baz=314,slow=4.3,SNR=4.5
comp=Z,0.9nm,0.9s
YKA Yellowknife Ar 90.56 355 P **P 11 06 29.6 +0.3**
comp=Z,0.4nm,0.8s,baz=92,slow=21,SNR=3.1
YKA LR LR 11 54 10.1
comp=Z,37nm,19.1s,baz=348,slow=40
comp=Z,0.4nm,0.8s
ASAR Alice Springs 90.74 116 P **P 11 06 30.8 0.0**
comp=Z,1.0nm,0.7s,baz=303,slow=4.3,SNR=13
comp=Z,1.0nm,0.7s
ULM Lac du Bonnet 99.13 342 LR LR 11 55 31.3
comp=Z,54nm,18.4s,baz=52,slow=38
QSPA South Pole Qui 116.77 180 PKP **PKiKP 11 12 11.9 +0.8**
comp=Z,1.2nm,1.0s,baz=238,slow=2.0,SNR=1.6
TXAR Lajitas Array 120.66 339 PKP **PKPdf 11 12 18.4 -1.6**
comp=Z,0.4nm,1.0s,baz=13,slow=2.5,SNR=3.1

*SNET **08** 10:53:42.9±0.7, 12°.62N×88°.18W, h50km±11km, ML2.6*
CATAC 08 10:53:42.4±0.6, 13°N±7°×8°8W±°, h44km±14km, M2.7/7, MLv2.7/7, Error ellipse: s-maj=17.3km s-min=4.3km az=29.4, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
POTN	**Potosi Cosigui**	**0.74**	**55**	P		Pn	10 53 57.4	+0.9
POTN				S		Sn	10 54 08.2	+1.4
CNCH	**Conchagua**	**0.76**	**23**	*eP*		Pn	10 53 57.5	+0.6
CNCH				*eS*		Sn	10 54 08.8	+1.5
CNCH	**Conchagua**	**0.76**	**23**	P		Pn	10 53 57.5	+0.6
CNCH	**Conchagua**	**0.76**	**23**	S		Sn	10 54 09.0	+1.7
LCND	**La Caada**	**0.77**	**18**	*eP*		Pn	10 53 57.4	+0.5
LCND	**La Caada**	**0.77**	**18**	P		Pn	10 53 57.4	+0.5
BLLM	**Bellamira**	**0.87**	**353**	*eP*		Pn	10 53 58.8	+0.4
CNRM	**Centro Naciona**	**0.90**	**358**	S		Sn	10 54 11.6	+1.1
PACA	**Pacayal**	**0.91**	**348**	*eP*		Pn	10 53 59.4	+0.4
PACA				*eS*		Sn	10 54 11.8	+0.8
PACA				lAML			10 54 14.8	
	comp=Z,794nm,0.2s							
PACA	**Pacayal**	**0.91**	**348**	P		Pn	10 53 59.4	+0.5
PACA	**Pacayal**	**0.91**	**348**	S		Sn	10 54 12.2	+1.2
TECA	**Tecapa**	**0.98**	**339**	*eP*		Pn	10 53 59.8	-0.2
PQSS	**Presa 15 de Se**	**1.12**	**338**	S		Sn	10 54 17.0	+1.0
PQSS	**Presa 15 de Se**	**1.12**	**338**	P		Pn	10 54 01.7	0.0
PKGN	**Cerro Pekin**	**1.13**	**85**	S		Sn	10 54 16.6	+0.3
CNGN	**Cerro Negro**	**1.40**	**93**	P		Pn	10 54 05.8	+0.2
CNGN	**Cerro Negro**	**1.40**	**93**	S		Sn	10 54 22.8	-0.2
JAYA	**Jayaque - finc**	**1.67**	**310**	S		Sn	10 54 28.8	-0.9
NUBE	**Las Nubes**	**2.08**	**310**	*eP*		Pn	10 54 14.6	-0.3
NUBE				lAML			10 54 41.8	
	comp=Z,11nm,0.2s							
NUBE	**Las Nubes**	**2.08**	**310**	S		Sn	10 54 39.0	-0.7
NUBE	**Las Nubes**	**2.08**	**310**	P		Pn	10 54 16.3	+1.4

CATAC 08 11:15:19.5±0.2, 9°N±2°×8°3W±°, h7km±2km, M2.6/8, MLv2.6/8, Error ellipse: s-maj=5.1km s-min=3.1km az=46.0, confirmed, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DRK0	**Durika**	**0.16**	**112**	P		Pg	11 15 24.4	+1.5
DRK0	**Durika**	**0.16**	**112**	S		Sg	11 15 27.8	+2.6
OCHAL	**Ojochal**	**0.34**	**228**	P		Pb	11 15 27.4	-0.4
OCHAL	**Ojochal**	**0.34**	**228**	S		Sb	11 15 32.9	-0.5
LCR2	**La Lucha 2**	**0.73**	**305**	P		Pg	11 15 33.2	-0.6
LCR2	**La Lucha 2**	**0.73**	**305**	S		Sg	11 15 43.1	-0.2
BRU2	**Volcan**	**0.87**	**127**	P		Pg	11 15 34.9	-1.4
BRU2	**Volcan**	**0.87**	**127**	S		Sb	11 15 48.3	-0.6
PIRO	**Carate, Puerto**	**0.91**	**177**	P		Pg	11 15 35.7	-1.4
PIRO	**Carate, Puerto**	**0.91**	**177**	S		Sg	11 15 49.5	+0.5
SOCE	**Pocosol**	**1.60**	**311**	S		Sb	11 16 09.7	-0.2
SOCE	**Pocosol**	**1.60**	**311**	P		Pn	11 15 48.5	+0.2
COVE	**Coope Vega, Sa**	**1.71**	**324**	P		Pn	11 15 49.7	0.0
COVE	**Coope Vega, Sa**	**1.71**	**324**	S		Sn	11 16 12.4	+0.6
JTS	**Las Juntas de**	**1.81**	**302**	P		Pn	11 15 51.4	+0.2
JTS				S		Sn	11 16 15.2	+0.8

*SDD **08** 11:33:52.5±2.2, 19°.17N×69°.83W, h12km±19km, MD3.7, ML3.7, MW3.6*
*OSPL **08** 11:33:53.0±3.1, 19°.29N×69°.78W, h12km±8km, ML3.4*
ISC 08 11:33:52.0±0.9, 19°.30N±0°.03×69°.82W±0°.03, h24km, n38, σ2s07/58, 18C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NADR	**Nagua**	**0.06**	**330**	⇑*ePg*		**Pb**	**11 33 55.1**	**-1.2**
NADR				⇑*eSg*		**Sb**	**11 33 58.5**	**-0.7**
NADR				lAML			11 33 58.8	
	comp=N,94μm,0.3s							
LONA1	**Toro Cenizo, N**	**0.09**	**334**	*i* P		**Pb**	**11 33 55.7**	**-0.8**
LONA1				*eS*		**Sb**	**11 33 59.4**	**-0.1**
LONA1				lAML			11 33 60.0	
	comp=Z,23μm,0.1s							
SFDR	**San Fco. de Ma**	**0.40**	**268**	⇓*ePg*		**Pb**	**11 33 59.4**	**-1.0**
SFDR				⇑*eSg*		**Sb**	**11 34 06.2**	**0.0**
SFDR				lAML			11 34 10.8	
	comp=N,10μm,0.5s							
SMDR	**Samana, DR**	**0.60**	**91**	⇑*ePg*		**Pb**	**11 34 03.3**	**-0.6**
SMDR				⇑*eSg*		**Sb**	**11 34 13.6**	**+1.6**
SMDR				lAML			11 34 17.5	
	comp=N,2μm,0.8s							
SDD	**Santo Domingo**	**0.84**	**186**	*i* P		**Pb**	**11 34 06.7**	**-1.2**
SDD				*eS*		**Sb**	**11 34 18.0**	**-0.8**
SODR	**Sosua Marina B**	**0.84**	**303**	⇑*ePg*		**Pb**	**11 34 07.5**	**-0.4**
SODR				⇑*eSg*		**Sn**	**11 34 22.7**	**+2.7**
SODR				lAML			11 34 30.6	
	comp=N,2μm,0.6s							
SC01	**Santiago de lo**	**0.86**	**279**	⇑*ePg*		**Pb**	**11 34 08.0**	**-0.3**
SC01				⇑*eSg*		**Sb**	**11 34 21.5**	**+2.0**
SC01				lAML			11 34 23.7	
	comp=N,4μm,0.5s							
SC01	**Santiago de lo**	**0.86**	**279**	*i* P		**Pb**	**11 34 08.4**	**0.0**
SC01				*eS*		**Sb**	**11 34 22.3**	**+2.7**
ABDR	**Alto Bandera**	**0.90**	**238**	⇓*ePg*		**Pb**	**11 34 07.3**	**-1.9**
ABDR				⇓*eSg*		**Sb**	**11 34 19.9**	**-1.0**
ABDR				lAML			11 34 21.5	
	comp=N,1μm,0.2s							
LOSC1	**San Cristbal**	**0.93**	**197**	*i* P		Pb	11 34 05.3	-4.1
LOSC1				*eS*		**Sb**	**11 34 18.2**	**-3.1**
LOSC1				lAML			11 34 23.0	
	comp=Z,2μm,4.3s							
LUDR	**Luperon**	**1.22**	**299**	⇑*ePg*		**Pn**	**11 34 15.3**	**+1.7**
LUDR				⇑*eSg*		**Sn**	**11 34 32.4**	**+3.1**
MADR	**Mao Valverde**	**1.24**	**283**	⇑*ePg*		**Pn**	**11 34 14.7**	**+0.9**
MADR				⇑*eSg*		**Sn**	**11 34 32.9**	**+3.1**
MADR				lAML			11 34 37.2	
	comp=N,4μm,0.4s							
HIDR	**Higuey Centro**	**1.26**	**124**	⇑*ePg*		**Pn**	**11 34 14.2**	**+0.1**
HIDR				⇑*eSg*		**Sn**	**11 34 30.8**	**+0.5**
HIDR				lAML			11 34 37.9	
	comp=N,848nm,0.2s							
LOPP1	**Punta Rusia, P**	**1.41**	**293**	*i* P		**Pn**	**11 34 16.9**	**+0.7**
LOPP1				*eS*		**Sn**	**11 34 36.8**	**+2.8**
LOPP1				lAML			11 34 46.9	
	comp=Z,1μm,0.7s							
SDDR	**Presa de Saban**	**1.42**	**257**	*eP*		**Pn**	**11 34 16.9**	**+0.5**
SDDR				*eS*		**Sn**	**11 34 35.5**	**+1.1**
SDDR				lAML			11 34 40.5	
	comp=Z,955nm,0.7s							
SDDR				lAML			11 34 41.2	
	comp=Z,1μm,0.6s							
SDDR	**Presa de Saban**	**1.42**	**257**	⇓*ePg*		**Pn**	**11 34 16.9**	**+0.5**
SDDR				⇑*eSg*		**Sn**	**11 34 35.7**	**+1.3**
SDDR				lAML			11 34 40.3	
	comp=N,1μm,1.3s							
SDDR	**Presa de Saban**	**1.42**	**257**	*i* P		**Pn**	**11 34 17.1**	**+0.7**
SDDR				*eS*		**Sn**	**11 34 36.1**	**+1.7**
SDDR				lAML			11 34 42.6	
	comp=Z,556nm,0.5s							
PODR	**Polo**	**1.78**	**231**	⇑*ePg*		**Pn**	**11 34 22.7**	**+1.2**
PODR				⇑*eSg*		**Sn**	**11 34 45.0**	**+1.5**
PODR				lAML			11 34 56.9	
	comp=N,246nm,0.6s							
PODR	**Polo**	**1.78**	**231**	*i* P		**Pn**	**11 34 22.9**	**+1.4**
LODA1	**ITESIL, Dajabo**	**1.79**	**278**	*i* P		**Pn**	**11 34 23.4**	**+2.0**
LODA1				*eS*		**Sn**	**11 34 45.9**	**+2.4**
LODA1				lAML			11 34 47.3	
	comp=Z,1μm,0.2s							
LODU1	**El Espartillar**	**1.82**	**239**	*i* P		**Pn**	**11 34 23.9**	**+2.0**
LODU1				lAML			11 35 07.6	

	comp=Z,429nm,0.8s							
LOVI	**El Cajuil, Ovi**	**2.09**	**225**	*i* P	**Pn**	**11 34 28.4**	**+2.9**
LOVI				IAML		11 35 09.3	
	comp=Z,179nm,0.6s							
LOBH	**Bahia de las A**	**2.24**	**231**	*i* P	**Pn**	**11 34 30.5**	**+2.9**
LOBH				IAML		11 35 10.5	
	comp=Z,186nm,0.6s							
PAPH	**Port-au-Prince**	**2.47**	**252**	*e*P	**Pn**	**11 34 33.5**	**+2.8**
PAPH				*e*S	**Sb**	**11 35 06.3**	**+0.6**
PAPH				IAML		11 35 09.8	
	comp=N,258nm,0.3s							
PAPH				IAML		11 35 14.3	
	comp=E,212nm,0.5s							
PAPH	**Port-au-Prince**	**2.47**	**252**	*i* P	**Pn**	**11 34 33.7**	**+3.0**
GRTK	**Grand Turk**	**2.52**	**331**	*e*P	**Pn**	**11 34 31.7**	**+0.2**
GRTK				*e*S	**Sn**	**11 35 01.1**	**-0.4**
GRTK				*e*Sg	**Sb**	**11 35 05.6**	**-1.6**
GRTK	**Grand Turk**	**2.52**	**331**	*i* P	**Pn**	**11 34 31.6**	**+0.2**
GRTK				*e*S	**Sn**	**11 35 01.5**	**+0.1**
GRTK				IAML		11 35 07.2	
	comp=Z,162nm,0.5s							
AGPR	**Aguadilla, PR**	**2.70**	**107**	IAML		11 35 20.6	
	comp=Z,107nm,0.2s							
CRPR	**Cabo Rojo, PR**	**2.88**	**116**	*i* P	**Pn**	**11 34 40.1**	**+3.7**
CRPR				IAML		11 35 32.6	
	comp=Z,81nm,0.4s							
QMBU	**Quimbuelo**	**4.78**	**282**	*e*P	Pn	11 34 60.0	-2.7
QMBU				*e*S	**Sn**	**11 35 55.2**	**-2.2**
QMBU				IAML		11 36 13.4	
	comp=E,69nm,0.2s							
QMBU				IAML		11 36 14.3	
	comp=N,54nm,0.3s							
NMDO	**Nuevo Mundo**	**5.01**	**285**	*e*P	Pn	11 35 02.8	-3.0
NMDO				*e*S	**Sn**	**11 35 59.4**	**-3.6**
NMDO				IAML		11 36 14.3	
	comp=E,24nm,0.8s							
NMDO				IAML		11 36 17.5	
	comp=N,26nm,0.6s							
GTBY	**Guantanamo Bay**	**5.02**	**278**	*e*P	Pn	11 35 03.8	-2.1
GTBY				*e*S	**Sn**	**11 36 00.6**	**-2.6**
GTBY				IAML		11 36 09.2	
	comp=N,27nm,1.2s							
GTBY				IAML		11 36 18.2	
	comp=N,36nm,0.7s							
RCC	**Rio Carpintero**	**5.58**	**278**	*e*P	Pn	11 35 10.9	-2.6
PINC	**Pinares de May**	**5.74**	**283**	*e*P	Pn	11 35 12.8	-2.9
PINC				*e*S	**Sn**	**11 36 15.4**	**-5.5**
PINC				IAML		11 36 30.6	
	comp=N,9.7nm,0.4s							
PINC				IAML		11 36 33.7	
	comp=E,14nm,0.5s							
MARVS	**Santiago de Cu**	**5.77**	**278**	*e*P	Pn	11 35 11.4	-4.8
MARVS				*e*S	Sn	11 36 15.8	-5.8
MARVS				IAML		11 36 28.1	
	comp=N,24nm,1.1s							
MARVS				IAML		11 36 42.2	
	comp=E,23nm,0.8s							
HLGC	**Holguin**	**6.07**	**286**	*e*P	Pn	11 35 18.2	-2.1
HLGC				*e*S	**Sn**	**11 36 25.8**	**-3.3**
HLGC				IAML		11 36 45.8	
	comp=N,21nm,1.0s							
HLGC				IAML		11 37 04.7	
	comp=E,21nm,1.0s							
STH	**Stony Hill**	**6.73**	**261**	*e*P	**Pn**	**11 35 29.3**	**-0.1**
LMGC	**Las Mercedes**	**6.81**	**278**	*e*P	**Pn**	**11 35 28.5**	**-1.9**
LMGC				*e*S	**Sn**	**11 36 43.2**	**-4.1**
LMGC				IAML		11 36 57.4	
	comp=E,17nm,0.7s							
LMGC				IAML		11 36 57.7	
	comp=N,16nm,0.7s							

*JMA **08** 11:51:52.8±0.8, 45˚N±4˚×14˚9E±˚, h30km, MV3.9/11, SE OFF ETOROFU*
*SKHL **08** 11:51:53.6±0.5, 44˚.60N×148˚.90E, h47km±7km, mb4.4/3*
ISC 08 11:51:51.1±3.9**, 44˚.6N**±0˚.1×**149˚.0E**±0˚.3**, h23**km±28km**, n13**, σ1°47/23**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KUR	**Kuril'sk**	**0.99**	**308**	*e*P		**Pb**	**11 52 09.1**	**-0.5**
KUR				AMB		AMB	11 52 09.6	
	140nm,0.3s							
KUR				*i* S		**Sn**	**11 52 21.2**	**-1.7**
KUR				A		A	11 52 23.8	
	3µm,0.6s							
KUR				A		A	11 52 23.8	
	2µm,0.6s							
SHO	**Shikotan**	**1.72**	**245**	*e*P		**Pn**	**11 52 20.9**	**+1.3**
SHO				AMB		AMB	11 52 24.3	
	40nm,0.2s							
SHO				*e*S		**Sn**	**11 52 38.8**	**-2.0**
SHO				A		A	11 52 45.4	
	180nm,0.3s							
SHO				A		A	11 52 45.4	
	250nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.31**	**256**	*i* P		**Pn**	**11 52 28.0**	**+0.3**
YUK				AMB		AMB	11 52 30.4	
	80nm,0.2s							
YUK				*i* S		**Sn**	**11 52 53.9**	**-1.6**
YUK				A		A	11 52 59.2	
	140nm,0.6s							
YUK				A		A	11 52 59.2	
	520nm,0.6s							
NEM2	**Nemuro 2**	**2.65**	**243**	*e*P		**Pn**	**11 52 32.4**	**0.0**
NEM2				*e*S		**Sn**	**11 53 01.9**	**-2.0**
NMR	**Nemuro--Hokkai**	**2.66**	**243**	*i* P		**Pn**	**11 52 32.4**	**-0.1**
NMR				*i* S		**Sn**	**11 53 01.8**	**-2.2**
JRA	**Rausu**	**2.85**	**257**	*e*P		**Pn**	**11 52 37.0**	**+1.9**
JRA				*e*S		**Sn**	**11 53 09.4**	**+0.6**
JNK	**Nakash**	**3.24**	**253**	*e*S		**Sn**	**11 53 18.7**	**+0.4**
AKK	**Akkeshi**	**3.40**	**243**	*e*P		**Pn**	**11 52 42.8**	**+0.1**
JAK	**Akkeshi**	**3.50**	**244**	*e*P		**Pn**	**11 52 44.5**	**+0.5**
JAK				*e*S		**Sn**	**11 53 24.3**	**-0.5**
JAR	**Ashorobuto**	**3.99**	**252**	*e*P		**Pn**	**11 52 52.9**	**+2.1**
JAR				*e*S		**Sn**	**11 53 39.2**	**+2.4**
JOB	**Onbets**	**4.10**	**247**	*e*P		**Pn**	**11 52 53.9**	**+1.5**
JOB				*e*S		**Sn**	**11 53 39.5**	**-0.1**
JCH	**Churui**	**4.55**	**246**	*e*P		**Pn**	**11 52 59.9**	**+1.5**
JCH				*e*S		**Sn**	**11 53 49.5**	**-1.1**
JNBK	**Urakawa-nobuka**	**5.10**	**245**	*e*P		**Pn**	**11 53 06.7**	**+0.6**

*RHSSO **08** 12:03:19.5±0.4, 44˚.62N×18˚.52E, h7km±2km, ML2.5/9*
*BEO **08** 12:03:20.8±0.3, 44˚.60N×18˚.54E, h4km±3km, ML2.3/11*
*VIE **08** 12:03:22.9±0.7, 44˚.79N×18˚.18E, h8km, mb2.4/4, ml2.2/8, Error ellipse: s-maj=13.1km s-min=4.9km az=36.0 43 km SSE of Slavonski Brod*
ISC 08 12:03:18.8±1.1**, 44˚.68N**±0˚.02×**18˚.54E**±0˚.02**, h9**km±9km**, n56**, σ0°95/99**, 6C-5D**, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TEKS	**Tekeri**	**0.72**	**100**	*e*Pg		**Pb**	**12 03 33.0**	**-0.5**
TEKS				*e*Sg		**Sb**	**12 03 42.8**	**-0.7**
BLY	**Banja Luka**	**0.97**	**275**	⇑*i*Pg		**Pg**	**12 03 37.1**	**-0.3**
BLY				*e*Sg		**Sb**	**12 03 50.2**	**-0.3**
BLY	**Banja Luka**	**0.97**	**275**	*e*Pg		**Pn**	**12 03 38.4**	**-0.1**
BLY				*e*Sg		**Sn**	**12 03 51.5**	**-0.8**
BBLS	**Lazi&#263i**	**1.02**	**142**	*e*Pg		**Pg**	**12 03 37.9**	**-0.5**
BBLS				*e*Sg		**Sb**	**12 03 52.1**	**-0.1**
FRGS	**Fruska Gora**	**1.03**	**61**	*e*Pg		**Pn**	**12 03 40.1**	**+0.7**
FRGS				*e*Sg		**Sn**	**12 03 54.7**	**+0.8**
DIVS	**Divibare**	**1.19**	**118**	*e*Pg		**Pn**	**12 03 42.0**	**+0.3**
DIVS				*e*Sg		**Sn**	**12 03 57.6**	**-0.4**
A051A	**Mrakovica**	**1.21**	**287**	*e*Pg		**Pn**	**12 03 41.9**	**0.0**
A051A				*e*Sg		**Sn**	**12 03 58.8**	**+0.4**
RUDO	**Rudo**	**1.22**	**150**	*e*Pg		**Pb**	**12 03 40.5**	**-1.4**
RUDO				*e*Sg		**Sb**	**12 03 56.7**	**-1.0**
AVAS	**Avala Beograd**	**1.41**	**88**	*e*Pg		**Pg**	**12 03 46.8**	**+1.0**
AVAS				*e*Sg		**Sg**	**12 04 06.1**	**+1.9**
TRUS	**Trudelj**	**1.41**	**108**	*e*Pg		**Pg**	**12 03 45.8**	**-0.1**
TRUS				*e*Sg		**Sg**	**12 04 05.4**	**+1.2**
KLINJ	**Klinje**	**1.50**	**179**	*e*Pg		**Pb**	**12 03 46.3**	**-0.6**
KLINJ				*e*Sg		**Sn**	**12 04 05.1**	**-0.7**
MORH	**Mrgy, Hungar**	**1.54**	**3**	*e*Pn		**Pg**	**12 03 48.1**	**-0.3**
MORH				*e*Sn		**Sg**	**12 04 08.6**	**+0.2**
RICI	**Ricice**	**1.55**	**221**	*e*Pn		**Pn**	**12 03 46.7**	**+0.1**
RICI				Sg		**Sb**	**12 04 07.3**	**-0.2**
MOSL	**Moslavina**	**1.57**	**307**	*e*Pn		**Pb**	**12 03 47.9**	**-0.1**
MOSL				*e*Sn		**Sg**	**12 04 09.2**	**-0.1**
MOSL	**Moslavina**	**1.57**	**307**	*e*Pn		**Pg**	**12 03 49.3**	**+0.4**
MOSL				Sn		**Sg**	**12 04 10.0**	**+0.7**

IVAS	**Ivanjica**	**1.60**	**133**	*e*Pn		**Pn**	**12 03 47.4**	**+0.1**
IVAS				*e*Sg		**Sb**	**12 04 08.3**	**-0.5**
KIJV	**Kijevo**	**1.67**	**247**	*e*Pn		**Pb**	**12 03 49.1**	**-0.6**
KIJV				*e*Sn		**Sn**	**12 04 09.6**	**-0.1**
KIJV	**Kijevo**	**1.67**	**247**	*e*Pn		**Pb**	**12 03 48.8**	**-0.8**
KIJV				Sn		**Sb**	**12 04 10.9**	**+0.1**
GRUS	**Gruza**	**1.75**	**116**	*e*Pn		**Pg**	**12 03 51.6**	**-0.8**
GRUS				*e*Sg		**Sg**	**12 04 14.0**	**-1.1**
SJES	**Sjenica**	**1.75**	**143**	*e*Pn		**Pb**	**12 03 51.3**	**+0.1**
SJES				*e*Sg		**Sb**	**12 04 13.7**	**+0.4**
MAKA	**Makarska**	**1.77**	**219**	*e*Pn		**Pn**	**12 03 49.8**	**+0.3**
MAKA				Sn		**Sb**	**12 04 12.8**	**-0.8**
STON	**Ston**	**1.90**	**199**	*e*Pn		**Pn**	**12 03 51.6**	**+0.3**
STON				*e*Sn		**Sn**	**12 04 15.8**	**+0.5**
STON	**Ston**	**1.90**	**199**	*e*Pn		**Pn**	**12 03 52.1**	**+0.8**
STON				Sn		**Sb**	**12 04 16.6**	**-0.8**
STON	**Ston**	**1.90**	**199**	*e*Pn		**Pb**	**12 03 53.1**	**-0.5**
STON				*e*Sg		**Sg**	**12 04 19.7**	**-0.1**
TREB	**Trebinje**	**1.96**	**184**	*e*Pn		**Pn**	**12 03 52.6**	**+0.4**
TREB				*e*Sn		**Sn**	**12 04 17.1**	**+0.2**
UDBI	**Udbina**	**1.98**	**267**	*e*Pn		**Pb**	**12 03 54.0**	**-1.1**
UDBI				Sn		**Sb**	**12 04 19.5**	**-0.4**
GOCS	**Kraljevo Serbi**	**2.02**	**123**	*e*Pn		**Pb**	**12 03 55.9**	**+0.2**
GOCS				*e*Sg		**Sg**	**12 04 24.6**	**+1.0**
DBRK	**Dubrovnik**	**2.02**	**188**	*e*Pn		**Pn**	**12 03 53.8**	**+0.7**
DBRK				Sn		**Sn**	**12 04 19.0**	**+0.6**
KALN	**Kalnik**	**2.07**	**316**	*e*Pn		**Pb**	**12 03 55.4**	**-1.0**
KALN				Sn		**Sb**	**12 04 22.4**	**+0.2**
PLIT	**Plitvice**	**2.08**	**277**	*e*Pn		**Pb**	**12 03 55.7**	**-1.0**
PLIT				Sn		**Sb**	**12 04 22.7**	**0.0**
MORI	**Morici**	**2.19**	**249**	*i* Pn		**Pb**	**12 03 56.8**	**-1.7**
MORI				Sn		**Sb**	**12 04 24.5**	**-1.2**
PTJ	**Puntijarka**	**2.19**	**305**	*e*Pn		**Pn**	**12 03 56.8**	**+1.4**
PTJ				Sn		**Sb**	**12 04 24.7**	**-1.2**
LSTV	**Lastovo**	**2.25**	**213**	*e*Pn		**Pn**	**12 03 57.3**	**+1.2**
LSTV				Sn		**Sn**	**12 04 24.5**	**+0.6**
MDVR	**Moldovita**	**2.27**	**86**	⇓P		**Pb**	**12 03 58.5**	**-1.4**
MDVR				⇓S		Sn	12 04 04.6	-20
ZIRJ	**Zirje**	**2.32**	**245**	*e*Pn		**Pn**	**12 03 58.7**	**+1.6**
ZIRJ				Sn		**Sn**	**12 04 26.8**	**+1.2**
OZLJ	**Ozalj**	**2.37**	**295**	*e*Pn		**Pn**	**12 03 58.6**	**+0.9**
OZLJ				*e*Sn		**Sb**	**12 04 28.9**	**-1.9**
BZS	**Buzias**	**2.38**	**66**	⇑P		**Pn**	**12 03 57.6**	**-0.3**
BZS				⇓S		Sn	12 04 06.0	-21
VIRC	**Vir**	**2.52**	**263**	*e*Pn		**Pn**	**12 04 00.9**	**+1.1**
VIRC				Sn		**Sn**	**12 04 32.3**	**+1.7**
DUGI	**Dugi Otok**	**2.59**	**256**	*e*Pn		**Pn**	**12 04 02.4**	**+1.6**
DUGI				Sn		**Sn**	**12 04 34.3**	**+2.0**
NVLJ	**Novalja**	**2.62**	**269**	*e*Pn		**Pn**	**12 04 02.9**	**+1.7**
NVLJ				Sn		**Sn**	**12 04 33.9**	**+0.8**
SIRR	**Siria**	**2.71**	**53**	⇓P		**Pg**	**12 04 09.7**	**-1.1**
SIRR	**Siria**	**2.71**	**53**	⇓S		**Sg**	**12 04 47.8**	**+1.8**
SURR	**Surduc**	**2.76**	**66**	⇑P		**Pn**	**12 04 03.5**	**+0.4**
SURR				⇑S		Sn	12 04 10.9	-26
HERR	**Herculane**	**2.77**	**84**	⇑S		**Sg**	**12 04 49.7**	**+1.9**
ZAGS	**Zajecar**	**2.79**	**107**	*e*Pn		**Pb**	**12 04 06.5**	**-2.3**
BARS	**Barje**	**3.02**	**127**	*e*Pn		**Pn**	**12 04 07.6**	**+0.9**
GZR	**Gura Zlata**	**3.09**	**75**	⇑P		**Pn**	**12 04 08.0**	**+0.2**
SOKA	**Soboth**	**3.17**	**310**	Pn		**Pn**	**12 04 09.2**	**+0.3**
	0.4nm,0.3s							
SOKA				Sn		**Sn**	**12 04 46.0**	**-0.9**
	0.6nm,0.3s							
ZAPS	**Zavoj**	**3.27**	**114**	*e*Pn		**Pn**	**12 04 11.0**	**+0.7**
ARSA	**Arzberg**	**3.32**	**322**	*i* Pn		**Pn**	**12 04 12.1**	**+1.1**
	2.7nm,0.3s							
ARSA				*e*Sn		**Sn**	**12 04 49.3**	**-1.3**
	0.7nm,0.3s							
OBKA	**Obir**	**3.35**	**305**	*e*Pn		**Pn**	**12 04 12.5**	**+1.2**
	0.5nm,0.4s							
RONA	**Rosalia, Austr**	**3.40**	**334**	*e*Pn		**Pn**	**12 04 12.5**	**+0.5**
	1.0nm,0.3s							
RONA				*e*Sn		**Sn**	**12 04 53.0**	**+0.5**
	2.9nm,0.6s							
CONA	**Conrad Observa**	**3.75**	**331**	*e*Pn		**Pn**	**12 04 17.6**	**+0.8**
	0.3nm,0.3s							
CONA				*e*Sn		**Sn**	**12 05 02.9**	**+1.9**
	1.8nm,0.4s							
MOA	**Molln**	**4.34**	**319**	*e*Pn		**Pn**	**12 04 24.6**	**-0.3**
	0.2nm,0.2s							
MOA				*e*Sn		**Sn**	**12 05 14.6**	**-1.0**
	0.7nm,0.3s							
BIOA	**Bad Ischl, Aus**	**4.55**	**313**	*i* Sn		**Sn**	**12 05 20.9**	**+0.2**
	3.4nm,0.4s							
LESA	**Schwarzleotal**	**4.92**	**306**	*e*Sn		**Sn**	**12 05 30.5**	**+0.5**
	1.6nm,0.5s							

*IDC **08** 12:05:13.8±1.3, 26˚.93N×55˚.57E, h0km, mb3.7/11, mbtmp3.7/12, ML1.3/1, Error ellipse: s-maj=28.0km s-min=23.3km az=13.0*
*DSN **08** 12:05:15.8±0.9, 27˚.04N×55˚.91E, h15km, ML3.4/12, Error ellipse: s-maj=16.1km s-min=5.9km az=63.0*
*TEH **08** 12:05:15.0, 26˚.91N×55˚.72E, h9km±3km*
*OMAN **08** 12:05:16.3±0.4, 26˚.90N×55˚.62E, h10km, ml3.4/18, Error ellipse: s-maj=4.7km s-min=2.4km az=40.0*
ISC 08 12:05:15.4±1.2**, 26˚.91N**±0˚.03×**55˚.69E**±0˚.04**, h12**km±9km**, n84**, σ1°44/105**, mb3.8/14**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GENO	**Geno**	**0.65**	**41**	Pg		**Pg**	**12 05 27.1**	**-1.1**
IBND	**Bandar-abas**	**0.93**	**55**	Pg		**Pb**	**12 05 33.2**	**-0.3**
SHME	**Shamm**	**0.95**	**154**	P		**Pn**	**12 05 34.9**	**+0.3**
	SNR=26							
SHME				S		**Sn**	**12 05 49.0**	**+1.0**
	SNR=7.3							
SHME	**Shamm**	**0.95**	**154**	*e*P		**Pn**	**12 05 34.7**	**+0.1**
	SNR=26							
SHME				S		**Sn**	**12 05 49.2**	**+1.2**
BANOM	**Banah**	**1.13**	**151**	P		**Pn**	**12 05 37.7**	**+0.6**
BANOM				S		**Sn**	**12 05 54.4**	**+1.9**
BANOM	**Banah**	**1.13**	**151**	*e*P		**Pn**	**12 05 37.3**	**+0.2**
	SNR=133							
UMQ	**Umm Al-Quwin**	**1.38**	**181**	P		**Pg**	**12 05 43.2**	**+1.3**
	SNR=7.0							
UMQ	**Umm Al-Quwin**	**1.38**	**181**	*e*P		**Pg**	**12 05 43.3**	**+1.3**
	SNR=9.4							
LAR1	**LAR**	**1.39**	**303**	Pg		**Pb**	**12 05 41.6**	**+0.2**
MASF	**Masafi**	**1.59**	**164**	P		**Pg**	**12 05 45.5**	**-0.5**
	SNR=19							
MASF				S		**Sg**	**12 06 06.5**	**-0.2**
MSFE	**Esma-Masafi**	**1.60**	**164**	*e*P		**Pg**	**12 05 45.5**	**-0.6**
	SNR=19							
MDH	**Madha**	**1.70**	**161**	P		**Pb**	**12 05 46.5**	**-0.1**
	SNR=12							
MDH				S		**Sg**	**12 06 09.2**	**-0.8**
MDH	**Madha**	**1.70**	**161**	*e*P		**Pb**	**12 05 46.3**	**-0.2**
	SNR=31							
NAZ	**Nazwa, Dubai**	**1.91**	**181**	P		**Pb**	**12 05 50.4**	**+0.1**
	SNR=10							
NAZ	**Nazwa, Dubai**	**1.91**	**181**	*e*P		**Pb**	**12 05 50.3**	**0.0**
	SNR=10							
UOSS	**Minazif**	**2.01**	**166**	P		**Pb**	**12 05 50.9**	**-1.0**
UOSS				S		**Sb**	**12 06 17.0**	**+0.1**
UOSS	**Minazif**	**2.01**	**166**	Pn		**Pb**	**12 05 50.7**	**-1.2**
UOSS	**Minazif**	**2.01**	**166**	*e*P		**Pb**	**12 05 50.7**	**-1.2**
	SNR=7.0							
KHNJ	**Kahnooj**	**2.07**	**60**	Pn		**Pn**	**12 05 50.8**	**+0.7**
HATD	**Hatta, Dubai**	**2.11**	**169**	P		**Pn**	**12 05 51.8**	**+1.2**
	SNR=19							
HATD				S		**Sb**	**12 06 19.4**	**-0.5**
HATD	**Hatta, Dubai**	**2.11**	**169**	*e*P		**Pb**	**12 05 52.8**	**-0.9**
	SNR=19							
FAQ	**Al Faqa, Dubai**	**2.16**	**182**	P		**Pn**	**12 05 52.5**	**+1.3**
FAQ				S		**Sb**	**12 06 20.8**	**-0.3**
FAQ	**Al Faqa, Dubai**	**2.16**	**182**	P		**Pb**	**12 05 53.6**	**-0.8**
ASHO	**Ashiyiah**	**2.24**	**171**	P		**Pb**	**12 05 54.6**	**-1.3**
	SNR=80							
ASHO				S		**Sb**	**12 06 22.5**	**-1.1**
ASHO	**Ashiyiah**	**2.24**	**171**	*e*P		**Pb**	**12 05 54.6**	**-1.3**
	SNR=80							
ASUD	**Al Ashush, Dub**	**2.30**	**188**	P		**Pb**	**12 05 56.2**	**-0.6**
ASUD				S		**Sb**	**12 06 23.8**	**-1.3**
ASUD	**Al Ashush, Dub**	**2.30**	**188**	P		**Pb**	**12 05 55.2**	**-1.6**
QIR1	**Qir**	**2.81**	**304**	Pn		**Pn**	**12 06 02.8**	**+2.4**
ALNE	**Al Ain**	**2.84**	**179**	P		**Pn**	**12 06 02.4**	**+1.7**
ALNE				S		**Sn**	**12 06 37.0**	**+2.2**
SOHO	**SOHO**	**2.87**	**164**	P		**Pn**	**12 06 03.1**	**+2.1**
SOHO	**SOHO**	**2.87**	**164**	*e*P		**Pn**	**12 06 01.5**	**+0.5**
	SNR=14							
NGRK	**Negar Kerman**	**2.88**	**18**	Pn		**Pn**	**12 06 03.1**	**+1.6**
KRBR	**Kerman**	**3.21**	**17**	Pn		**Pn**	**12 06 08.1**	**+2.2**

KBAM	**BAM**	**3.30**	**47**	Pn		**Pn**	**12 06 09.0**	**+1.9**
CHMN	**Cheshme madani**	**3.36**	**29**	Pn		**Pn**	**12 06 10.2**	**+2.0**
HOQ	**Hoqain**	**3.62**	**156**	P		**Pn**	**12 06 12.8**	**+1.4**
HOQ				S		**Sb**	**12 06 59.4**	**-4.0**
ARQ	**Araqi**	**3.64**	**168**	P		**Pn**	**12 06 13.0**	**+1.4**
	SNR=24							
ARQ				S		**Sn**	**12 06 54.9**	**+0.4**
GHWR	**Ruwais**	**3.88**	**222**	P		**Pn**	**12 06 15.2**	**+0.3**
GHWR				S		**Sn**	**12 06 59.1**	**-1.3**
ZRDN	**Zarand Kerman**	**4.11**	**10**	Pn		**Pn**	**12 06 20.5**	**+2.2**
DSBU	**Dashti - Bushe**	**4.18**	**291**	Pn		**Pn**	**12 06 21.3**	**+2.1**
UMZA	**Um Al Zommool**	**4.20**	**187**	P		**Pn**	**12 06 20.7**	**+1.3**
UMZA				S		**Sn**	**12 07 09.5**	**+1.1**
SMDO	**Samad**	**4.39**	**150**	P		**Pn**	**12 06 24.9**	**+2.8**
WSAR	**Wadi Sarin**	**4.53**	**143**	Pn		**Pn**	**12 06 25.3**	**+1.5**
	baz=14,slow=24,SNR=11							
WSAR						**Sn**	**12 07 14.6**	**-1.8**
	baz=216,slow=24,SNR=3.6							
WSAR	**Wadi Sarin**	**4.53**	**143**	P		**Pn**	**12 06 25.9**	**+2.1**
WSAR				S		**Sn**	**12 07 16.3**	**-0.1**
TRNA	**Turayna**	**4.58**	**243**	P		**Pn**	**12 06 25.5**	**+1.1**
	SNR=5.5							
TRNA				S		**Sn**	**12 07 17.9**	**+0.3**
SMRA	**Abu-Samra**	**4.88**	**245**	P		**Pn**	**12 06 28.6**	**-0.1**
SMRA				S		**Sn**	**12 07 22.6**	**-2.5**
ZHSF	**Zahedan**	**5.23**	**58**	Pn		**Pn**	**12 06 35.7**	**+2.0**
KLNJ	**Kolanjah**	**5.43**	**320**	Pn		**Pn**	**12 06 37.8**	**+1.2**
IRAM	**Ramesheh**	**5.67**	**330**	Pn		**Pn**	**12 06 41.8**	**+2.1**
JLN	**Jalan Bani Buh**	**5.83**	**144**	P		**Pn**	**12 06 42.5**	**+0.9**
SRVN	**Saravan**	**6.00**	**84**	Pn		**Pn**	**12 06 46.3**	**+2.1**
TPRV	**Parvadeh(Tabas**	**6.16**	**8**	Pn		**Pn**	**12 06 48.5**	**+2.2**
MHTO	**MHTO**	**6.25**	**160**	P		**Pn**	**12 06 48.6**	**+1.1**
MHTO				S		**Sn**	**12 07 60.0**	**+1.0**
	SNR=11							
IBRJ	**Brojen**	**6.30**	**323**	Pn		**Pn**	**12 06 50.8**	**+2.4**
ANAR	**Anarak**	**6.49**	**345**	Pn		**Pn**	**12 06 52.7**	**+1.9**
TKDS	**Koohdasht(Taba**	**6.80**	**10**	Pn		**Pn**	**12 06 57.2**	**+2.1**
TNSJ	**Nastanj**	**7.08**	**6**	Pn		**Pn**	**12 07 01.1**	**+2.2**
DQM	**DQM**	**7.15**	**166**	P		**Pn**	**12 07 03.0**	**+3.0**
KRSH	**Karshahi**	**7.67**	**337**	Pn		**Pn**	**12 07 09.0**	**+1.8**
ISFB	**Sefidab**	**7.99**	**339**	Pn		**Pn**	**12 07 13.1**	**+1.7**
TAPT	**Tabas- Tapeh t**	**8.05**	**9**	Pn		**Pn**	**12 07 14.7**	**+2.4**
DOK	**Doka**	**8.38**	**190**	P		**Pn**	**12 07 17.5**	**+0.8**
IVRN	**Varamin**	**8.75**	**338**	Pn		**Pn**	**12 07 23.5**	**+1.7**
WHFO	**Wadi Hawf**	**9.12**	**192**	P		**Pn**	**12 07 28.5**	**+1.5**
DMTO	**DMTO**	**9.17**	**184**	P		**Pn**	**12 07 29.3**	**+1.6**
ABTO	**Aybut**	**9.76**	**194**	P		**Pn**	**12 07 36.9**	**+1.1**
	SNR=7.9							
RAYN	**Ar Rayn**	**9.82**	**252**	P		**Pn**	**12 07 36.3**	**-0.2**
KBZ	**Khabaz**	**19.72**	**332**	P		**P**	**12 09 44.9**	**+0.1**
	2.7nm,0.8s,baz=142,slow=12,SNR=6.2							
BRTR	**Keskin Array B**	**22.35**	**310**	P		**P**	**12 10 13.4**	**0.0**
	1.6nm,0.9s,baz=130,slow=12,SNR=6.8							
	1.6nm,0.9s							
BVAR	**Borovoye Array**	**28.30**	**19**	P		**P**	**12 11 08.7**	**0.0**
	0.3nm,0.5s,baz=228,slow=5.4,SNR=4.1							
BVAR				PcP		**PcP**	**12 14 21.7**	**+0.2**
	0.3nm,0.3s,baz=197,slow=4.5,SNR=2.5							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**28.88**	**40**	P		**P**	**12 11 14.7**	**+0.7**
	0.1nm,0.3s,baz=219,slow=9.9,SNR=2.1							
	0.1nm,0.3s							
ZALV	**Zalesovo Beam**	**34.50**	**31**	P		**P**	**12 12 03.4**	**+0.2**
	0.5nm,0.4s,baz=248,slow=7.6,SNR=3.6					

	comp=N,477nm,0.8s							
AYDN	**Tasoluk**	**0.87**	**114**	P	**Pg**	**12 19 39.5**	**+0.2**
AYDN				*i* IAML		12 19 54.0		
	comp=E,539nm,0.3s							
ZEDA	**zmir-Bergama**	**0.96**	**9**	P	**Pg**	**12 19 41.2**	**+0.1**
ZEDA				S	**Sg**	**12 19 53.7**	**+0.1**
ZEDA				*i* IAML		12 19 57.0		
	comp=E,1µm,0.5s							
ZEDA				*i* IAML		12 19 58.0		
	comp=N,663nm,0.4s							
IZMD	**zmir-Dikili-**	**0.96**	**2**	P	**Pb**	**12 19 41.9**	**+0.5**
IZMD				S	**Sb**	**12 19 54.5**	**+0.4**
IZMD				*i* IAML		12 19 58.0		
	comp=E,418nm,0.6s							
ODEM	**Odemis-Izmir**	**0.97**	**74**	Pg	**Pg**	**12 19 41.6**	**+0.2**
BDRM	**Kayabasi**	**1.05**	**155**	P	**Pg**	**12 19 42.4**	**-0.4**
BDRM				S	**Sg**	**12 19 55.1**	**-1.4**
BDRM				*i* IAML		12 20 00.0		
	comp=E,434nm,0.8s							
GOMA	**Golmarmara-Man**	**1.06**	**49**	Pg	**Pn**	**12 19 43.8**	**+0.4**
NAZL	**Nazilli-Aydin**	**1.11**	**92**	Pn	**Pb**	**12 19 44.1**	**+0.3**
ESEN	**Aydn-Nazilli**	**1.18**	**100**	P	**Pb**	**12 19 44.7**	**-0.2**
KIRA	**zmir-Kiraz**	**1.21**	**81**	P	**Pb**	**12 19 45.8**	**+0.3**
SOMA	**Soma-Manisa**	**1.25**	**24**	Pn	**Pg**	**12 19 46.9**	**+0.4**
AYVA	**Ayvalik**	**1.30**	**353**	P	**Pg**	**12 19 47.9**	**+0.4**
AYVA				*i* IAML		12 20 08.0		
	comp=E,356nm,1.0s							
AYVA				*i* IAML		12 20 10.0		
	comp=N,334nm,0.5s							
PRK	**Paraskevi**	**1.32**	**339**	P	**Pn**	**12 19 46.7**	**-0.2**
PRK				S	**Sb**	**12 20 03.5**	**-0.6**
GORD	**Gordes-Manisa**	**1.35**	**48**	Pn	**Pg**	**12 19 48.7**	**+0.2**
MULA	**Mugla, Merkez-**	**1.37**	**123**	P	**Pn**	**12 19 47.8**	**+0.1**
MANT	**Manisa**	**1.40**	**70**	P	**Pg**	**12 19 49.8**	**+0.3**
MANT				S	**Sb**	**12 20 05.0**	**-1.8**
MANT				*i* IAML		12 20 10.0		
	comp=N,217nm,0.2s							
DAT	**Datca**	**1.40**	**157**	Pn	**Pn**	**12 19 48.5**	**+0.4**
DAT	**Datca**	**1.40**	**157**	P	**Pn**	**12 19 47.4**	**-0.7**
DAT	**Datca**	**1.40**	**157**	P	**Pn**	**12 19 47.4**	**-0.7**
DAT				S	**Sn**	**12 20 06.7**	**+0.1**
YAZI	**Mula-Dat§a-**	**1.41**	**161**	P	**Pn**	**12 19 47.2**	**-0.9**
YAZI				S	**Sn**	**12 20 06.3**	**-0.4**
NISR	**Nisiros**	**1.42**	**172**	S	**Sn**	**12 20 06.8**	**0.0**
SIGR	**SIGRI**	**1.44**	**326**	Pn	**Pn**	**12 19 48.8**	**+0.3**
SIGR	**SIGRI**	**1.44**	**326**	P	**Pn**	**12 19 48.4**	**-0.1**
SIGR				S	**Sn**	**12 20 06.5**	**-0.8**
SIGR	**SIGRI**	**1.44**	**326**	P	**Pn**	**12 19 48.3**	**-0.2**
KULA	**Kula-Manisa**	**1.48**	**70**	Pn	**Pb**	**12 19 50.7**	**+0.5**
BUHA	**Balikesir, Bur**	**1.49**	**6**	P	**Pn**	**12 19 49.1**	**-0.1**
BUHA				S	**Sn**	**12 20 09.0**	**+0.4**
BUHA				*i* IAML		12 20 12.0		
	comp=N,326nm,0.6s							
BUHA				*i* IAML		12 20 15.0		
	comp=E,376nm,0.5s							
STEP	**BALIKESIR_Sava**	**1.50**	**25**	P	**Pn**	**12 19 49.4**	**-0.1**
STEP				*i* IAML		12 20 15.0		
	comp=N,393nm,0.9s							
STEP				*i* IAML		12 20 17.0		
	comp=E,324nm,0.5s							
KOCA	**Canakkale, Ayv**	**1.59**	**339**	P	**Pn**	**12 19 50.7**	**+0.1**
KOCA				*i* IAML		12 20 18.0		
	comp=E,273nm,0.6s							
YAYO	**Edremit-Balk**	**1.60**	**5**	Pn	**Pb**	**12 19 52.2**	**+0.1**
TAVA	**DENIZLI_Tavas**	**1.70**	**108**	P	**Pn**	**12 19 52.3**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**1.74**	**351**	P	**Pn**	**12 19 52.3**	**-0.4**
DNIZ	**Denizli-Tavas-**	**1.75**	**102**	P	**Pn**	**12 19 54.0**	**+1.1**
DNIZ				*i* IAML		12 20 24.0		
	comp=E,143nm,0.3s							
DNIZ				*i* IAML		12 20 26.0		
	comp=N,146nm,0.6s							
DEMI	**Demirci**	**1.76**	**54**	P	**Pb**	**12 19 55.6**	**+0.7**
DEMI				*i* IAML		12 20 20.0		
	comp=E,182nm,0.4s							
BALY	**Balya**	**1.81**	**18**	P	**Pn**	**12 19 53.4**	**-0.3**
DNZT	**Denizli-Tavas-**	**1.85**	**113**	P	**Pn**	**12 19 54.8**	**+0.5**
EZN	**Ezine**	**1.86**	**347**	S	**Sn**	**12 20 17.2**	**-0.4**
BKES	**Balkesir-Mer**	**1.90**	**25**	P	**Pb**	**12 19 56.9**	**-0.3**
KARY	**Karystos**	**1.93**	**271**	P	**Pn**	**12 19 55.4**	**+0.1**
KARY				S	**Sn**	**12 20 19.4**	**-0.1**
KARY	**Karystos**	**1.93**	**271**	P	**Pn**	**12 19 54.4**	**-1.0**
THERA	**Ancient Thera,**	**2.00**	**215**	P	**Pn**	**12 19 56.6**	**+0.4**
THERA				S	**Sn**	**12 20 20.4**	**-0.7**
THR3	**Thira Island,**	**2.00**	**217**	P	**Pn**	**12 19 56.3**	**+0.1**
ARG	**Arkhangelos**	**2.06**	**151**	P	**Pn**	**12 19 58.0**	**+1.0**
ARG	**Arkhangelos**	**2.06**	**151**	P	**Pn**	**12 19 55.3**	**-1.7**
LIA	**Limnos Island**	**2.30**	**325**	P	**Pn**	**12 20 00.1**	**-0.2**
LIA	**Limnos Island**	**2.30**	**325**	P	**Pn**	**12 20 00.6**	**+0.3**
DION	**Dionisos Attik**	**2.33**	**272**	P	**Pn**	**12 20 00.7**	**-0.1**
VLY	**Voula,Athens**	**2.45**	**267**	P	**Pn**	**12 20 01.6**	**-0.8**

*NOU **08** 12:26:33.5, 37˚.56S×176˚.32E, h306km, mb4.0/13, North Island, New Zealand*
*WEL **08** 12:26:34.2±0.6, 37˚.5±4˚×17˚.6E±˚, h294km±5km, M2.8/24, MLv2.8/24, Error ellipse: s-maj=6.8km s-min=5.2km az=126.1, confirmed*
ISC 08 12:26:28.9±2.5, 37˚.40S±0˚.07×176˚.43E±0˚.07, h332km±14km, n92, σ1°§62/130, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	**Tahuroa Road**	**0.81**	**246**	P	**Pn**	**12 27 13.8**	**+1.9**
KUZ	**Kuaotunu**	**0.86**	**319**	P	**Pn**	**12 27 14.5**	**+2.2**
URZ	**Urewera**	**1.01**	**148**	P	**Pn**	**12 27 13.6**	**+0.9**
URZ	**Urewera**	**1.01**	**148**	S	**S**	**12 27 46.2**	**-1.6**
URZ	**Urewera**	**1.01**	**148**	P	**Pn**	**12 27 13.5**	**+0.8**
URZ				S	**S**	**12 27 45.6**	**-2.2**
MKAZ	**Moumakai**	**1.05**	**286**	P	**Pn**	**12 27 15.5**	**+2.6**
MKAZ				S	**S**	**12 27 45.4**	**-2.7**
MUGZ	**Murupara**	**1.11**	**166**	P	**Pn**	**12 27 14.4**	**+1.2**
MUGZ				S	**S**	**12 27 48.2**	**-0.4**
HAZ	**Te Kaha**	**1.13**	**109**	P	**Pn**	**12 27 13.9**	**+0.7**
HAZ				S	**S**	**12 27 45.6**	**-3.1**
RUGZ	**Raukumara Rang**	**1.14**	**120**	P	**Pn**	**12 27 13.8**	**+0.3**
RUGZ				S	**S**	**12 27 46.2**	**-2.9**
ALRZ	**Allen Road**	**1.16**	**183**	P	**Pn**	**12 27 15.2**	**+1.8**
TLZ	**Tolley Road**	**1.17**	**217**	P	**Pn**	**12 27 15.4**	**+2.0**
RTZ	**Ruatahuna**	**1.29**	**160**	P	**Pn**	**12 27 15.5**	**+1.4**
RTZ				S	**S**	**12 27 47.4**	**-2.9**
RAGZ	**Rawiri**	**1.34**	**145**	P	**Pn**	**12 27 16.2**	**+1.8**
RAGZ				S	**S**	**12 27 49.9**	**-1.0**
PKGZ	**Pakihiroa**	**1.39**	**110**	P	**Pn**	**12 27 16.5**	**+1.9**
PKGZ				S	**S**	**12 27 50.0**	**-1.2**
MRHZ	**Matea Rd**	**1.43**	**180**	P	**Pn**	**12 27 16.2**	**+1.4**
MRHZ				S	**S**	**12 27 48.9**	**-2.7**
TWGZ	**Tauwhareparae**	**1.45**	**123**	S	**S**	**12 27 51.6**	**-0.3**
MTHZ	**Maungataniwha**	**1.49**	**167**	P	**Pn**	**12 27 16.7**	**+1.5**
MTHZ				S	**S**	**12 27 50.5**	**-1.7**
MXZ	**Matakaoa Point**	**1.50**	**97**	P	**Pn**	**12 27 16.8**	**+1.6**
MXZ				S	**S**	**12 27 50.4**	**-1.9**
SNGZ	**Shannon Statio**	**1.56**	**153**	P	**Pn**	**12 27 17.3**	**+1.8**
SNGZ				S	**S**	**12 27 51.0**	**-1.9**
PUZ	**Puketiti**	**1.60**	**115**	P	**Pn**	**12 27 17.2**	**+1.4**
PUZ				S	**S**	**12 27 50.9**	**-2.5**
RAHZ	**Arahi**	**1.60**	**161**	P	**Pn**	**12 27 17.9**	**+2.1**
WMGZ	**Waiomatatini S**	**1.63**	**105**	P	**Pn**	**12 27 17.6**	**+1.6**
WMGZ				S	**S**	**12 27 51.9**	**-1.8**
RITZ	**Rihia Road**	**1.64**	**196**	P	**Pn**	**12 27 17.8**	**+1.8**
HIZ	**Hauiti**	**1.67**	**228**	P	**Pn**	**12 27 18.5**	**+2.3**
HIZ	**Hauiti**	**1.67**	**228**	P	**Pn**	**12 27 18.4**	**+2.3**
KATZ	**Kakaramea**	**1.68**	**200**	P	**Pn**	**12 27 18.4**	**+2.0**
RIGZ	**Rimuhau**	**1.68**	**142**	P	**Pn**	**12 27 18.2**	**+1.9**
NMHZ	**Naumai**	**1.72**	**170**	P	**Pn**	**12 27 18.9**	**+2.3**
BKZ	**Black Stump Fm**	**1.76**	**178**	P	**Pn**	**12 27 18.4**	**+1.5**
BKZ	**Black Stump Fm**	**1.76**	**178**	S	**S**	**12 27 53.8**	**-1.6**
BKZ	**Black Stump Fm**	**1.76**	**178**	P	**Pn**	**12 27 18.3**	**+1.5**
CNGZ	**Carnagh Statio**	**1.77**	**128**	P	**Pn**	**12 27 19.0**	**+2.1**
TMVZ	**Te Maari**	**1.81**	**198**	P	**Pn**	**12 27 18.7**	**+1.4**
ETVZ	**East Tongariro**	**1.82**	**198**	P	**Pn**	**12 27 19.0**	**+1.6**
WTVZ	**West Tongariro**	**1.84**	**201**	P	**Pn**	**12 27 19.1**	**+1.6**
TWVZ	**Taurewa**	**1.84**	**205**	P	**Pn**	**12 27 18.9**	**+1.4**
NNVZ	**North Ngauruho**	**1.84**	**200**	P	**Pn**	**12 27 19.5**	**+1.9**
OTVZ	**Oturere**	**1.86**	**199**	P	**Pn**	**12 27 19.4**	**+1.7**
NGZ	**Ngauruhoe**	**1.89**	**200**	P	**Pn**	**12 27 19.6**	**+1.7**
SNVZ	**South Ngauruho**	**1.89**	**199**	P	**Pn**	**12 27 19.6**	**+1.7**
PRGZ	**Paritu Road**	**1.90**	**143**	P	**Pn**	**12 27 19.5**	**+1.6**
ARHZ	**Aropaoanui**	**1.91**	**167**	P	**Pn**	**12 27 19.8**	**+2.0**
ARHZ				S	**S**	**12 27 56.9**	**-0.2**
TUVZ	**Tukino**	**1.96**	**198**	P	**Pn**	**12 27 19.9**	**+1.5**
TUVZ				S	**S**	**12 27 58.4**	**+0.3**
FWVZ	**Far West T-bar**	**1.98**	**200**	P	**Pn**	**12 27 20.4**	**+1.8**
WHVZ	**Whangaehu Hut**	**1.99**	**199**	P	**Pn**	**12 27 20.3**	**+1.6**
KWHZ	**Kaweka Forest**	**2.02**	**180**	P	**Pn**	**12 27 20.4**	**+1.7**
KWHZ				S	**S**	**12 27 57.8**	**-0.8**
WNVZ	**Wahianoa**	**2.03**	**198**	P	**Pn**	**12 27 20.3**	**+1.4**
WNVZ				S	**S**	**12 27 57.7**	**-1.3**
MCHZ	**McNeill Hill**	**2.05**	**174**	P	**Pn**	**12 27 21.0**	**+2.1**
MCHZ				S	**S**	**12 27 58.8**	**-0.1**
PKVZ	**Pokaka**	**2.07**	**204**	P	**Pn**	**12 27 20.5**	**+1.5**
MOVZ	**Moawhango**	**2.07**	**195**	P	**Pn**	**12 27 20.2**	**+1.1**
MOVZ				S	**S**	**12 27 57.3**	**-2.0**
MHGZ	**Mahia Peninsul**	**2.10**	**147**	P	**Pn**	**12 27 20.8**	**+1.5**
MTVZ	**Mangateitei**	**2.12**	**201**	P	**Pn**	**12 27 21.1**	**+1.6**
VRZ	**Vera Road**	**2.17**	**217**	P	**Pn**	**12 27 21.6**	**+1.9**
WCZ	**Waipu Caves**	**2.22**	**310**	P	**Pn**	**12 27 21.5**	**+1.2**
KRHZ	**Kereru**	**2.24**	**181**	P	**Pn**	**12 27 21.8**	**+1.4**
KRHZ				S	**S**	**12 28 00.4**	**-1.2**
KAHZ	**Kahuranaki**	**2.42**	**172**	P	**Pn**	**12 27 23.8**	**+2.1**
KAHZ				S	**S**	**12 28 04.9**	**+0.8**
PNHZ	**Pukenui**	**2.52**	**184**	P	**Pn**	**12 27 23.9**	**+1.4**
PNHZ				S	**S**	**12 28 04.5**	**-1.2**
WAZ	**Wanganui**	**2.61**	**205**	P	**Pn**	**12 27 24.9**	**+1.5**
NEZ	**North Egmont**	**2.62**	**224**	P	**Pn**	**12 27 26.1**	**+2.6**
PREZ	**Palmer Road**	**2.63**	**222**	P	**Pn**	**12 27 26.0**	**+2.4**
PXZ	**Pawanui**	**2.65**	**173**	P	**Pn**	**12 27 25.5**	**+1.9**
PXZ				S	**S**	**12 28 07.1**	**-0.5**
WPHZ	**Waipukurau**	**2.66**	**180**	P	**Pn**	**12 27 25.4**	**+1.7**
WPHZ				S	**S**	**12 28 07.7**	**-0.2**
KHEZ	**Kahui Hut**	**2.68**	**224**	P	**Pn**	**12 27 26.4**	**+2.3**
TSZ	**Takapari Road**	**2.68**	**188**	P	**Pn**	**12 27 25.2**	**+1.2**
TSZ				S	**S**	**12 28 07.2**	**-1.0**
PRHZ	**Porangahau**	**2.87**	**177**	P	**Pn**	**12 27 27.3**	**+1.7**
DVHZ	**Dannevirke**	**2.90**	**184**	P	**Pn**	**12 27 27.2**	**+1.2**
DVHZ				S	**S**	**12 28 10.3**	**-1.5**
OHWZ	**Ohakea**	**2.93**	**197**	P	**Pn**	**12 27 28.0**	**+1.8**
OHWZ				S	**S**	**12 28 12.4**	**+0.2**
POWZ	**Post Office Ro**	**3.03**	**190**	P	**Pn**	**12 27 28.7**	**+1.6**
ANWZ	**Angora Road**	**3.06**	**179**	P	**Pn**	**12 27 29.1**	**+1.8**
ANWZ				S	**S**	**12 28 14.3**	**0.0**
BFZ	**Birch Farm**	**3.28**	**182**	P	**Pn**	**12 27 31.0**	**+1.5**
BFZ	**Birch Farm**	**3.28**	**182**	P	**Pn**	**12 27 30.9**	**+1.4**
BFZ				S	**S**	**12 28 17.6**	**-0.6**
MRZ	**Mangatainoka R**	**3.32**	**191**	P	**Pn**	**12 27 30.7**	**+0.8**
MRZ				S	**S**	**12 28 17.3**	**-1.6**
TIWZ	**Tintock**	**3.40**	**187**	P	**Pn**	**12 27 32.0**	**+1.3**
TIWZ				S	**S**	**12 28 19.3**	**-1.1**
OGWZ	**Otaki Gorge**	**3.55**	**196**	P	**Pn**	**12 27 33.0**	**+0.9**
OGWZ				S	**S**	**12 28 21.4**	**-1.5**
HOWZ	**Holdsworth Sta**	**3.56**	**191**	P	**Pn**	**12 27 33.1**	**+0.8**
HOWZ				S	**S**	**12 28 21.2**	**-2.1**
KIW	**Kapiti Island**	**3.65**	**198**	P	**Pn**	**12 27 33.8**	**+0.7**
KIW				S	**S**	**12 28 22.2**	**-2.7**
TMWZ	**Te Maipa**	**3.73**	**186**	P	**Pn**	**12 27 35.0**	**+1.1**
TMWZ				S	**S**	**12 28 25.7**	**-0.6**
MTW	**Mount Morrison**	**3.82**	**191**	P	**Pn**	**12 27 35.5**	**+0.6**
MTW				S	**S**	**12 28 26.1**	**-1.9**
CAW	**Cannon Point**	**3.85**	**196**	P	**Pn**	**12 27 35.8**	**+0.6**
CAW				S	**S**	**12 28 26.5**	**-2.1**
DUWZ	**D'Urville Isla**	**3.92**	**209**	P	**Pn**	**12 27 36.4**	**+0.5**
TRWZ	**Traveller**	**4.03**	**188**	P	**Pn**	**12 27 38.3**	**+1.1**
PAWZ	**Paruwai Farm**	**4.05**	**191**	P	**Pn**	**12 27 38.0**	**+0.7**
WEL	**Wellington**	**4.09**	**198**	P	**Pn**	**12 27 38.6**	**+0.9**
MSWZ	**Moikau Station**	**4.11**	**192**	P	**Pn**	**12 27 38.5**	**+0.5**
SNZO	**South Karori**	**4.13**	**198**	P	**Pn**	**12 27 39.2**	**+1.2**
SNZO	**South Karori**	**4.13**	**198**	P	**S**	**12 28 32.7**	**-1.1**
TCW	**Tory Channel**	**4.16**	**203**	P	**Pn**	**12 27 39.2**	**+0.8**
NNZ	**Nelson**	**4.49**	**211**	P	**Pn**	**12 27 41.8**	**-0.1**
QRZ	**Quartz Range**	**4.57**	**220**	P	**Pn**	**12 27 43.0**	**+0.1**
QRZ	**Quartz Range**	**4.57**	**220**	P	**Pn**	**12 27 42.3**	**-0.6**
KHZ	**Kahutara**	**5.48**	**203**	P	**Pn**	**12 27 54.6**	**+1.6**
KHZ	**Kahutara**	**5.48**	**203**	S	**S**	**12 28 59.3**	**-1.7**

*CATAC **08** 12:32:15.5±0.8, 10˚.N±5˚×8˚.6W±˚, h15km±3km, M4.0/13, MLv4.0/13, Error ellipse: s-maj=12.5km s-min=5.3km az=43.9, confirmed*
*UCR **08** 12:32:18.5±0.9, 10˚.19N×86˚.01W, h24km±4km, MW4.5*
ISC 08 12:32:18.2±1.6, 10˚.12N±0˚.05×86˚.06W±0˚.08, h24km, n93, σ0§85/93, 7C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.49**	**73**	*e*P	**Pb**	**12 32 27.7**	**-0.5**
JUD3	**Juan Diaz 3**	**0.52**	**85**	*e*P	**Pb**	**12 32 28.1**	**+0.0**
DELF	**Filadelfia**	**0.60**	**57**	*e*P	**Pb**	**12 32 29.6**	**-0.4**
INDI	**Punta indio, G**	**0.61**	**115**	S	**Sb**	**12 32 38.2**	**-0.2**
INDI	**Punta indio, G**	**0.61**	**115**	⇑P	**Pb**	**12 32 28.9**	**-1.3**
CMARA	**Lajas Hojancha**	**0.64**	**99**	S	**Sb**	**12 32 39.8**	**+0.5**
CMARA	**Lajas Hojancha**	**0.64**	**99**	⇑P	**Pb**	**12 32 29.6**	**-1.2**
ALIBA	**Liberia Airpor**	**0.69**	**47**	*e*P	**Pb**	**12 32 31.6**	**0.0**
ELI1	**Hacienda Flor**	**0.72**	**44**	*e*P	**Pn**	**12 32 32.4**	**-0.5**
ELI1	**Hacienda Flor**	**0.72**	**44**	S	**Sn**	**12 32 45.8**	**+2.6**
ELI1	**Hacienda Flor**	**0.72**	**44**	⇑P	**Pn**	**12 32 32.5**	**-0.5**
ERIA	**Liberia**	**0.80**	**50**	*e*P	**Pb**	**12 32 33.3**	**-0.1**
LAPC	**Finca la Perla**	**0.89**	**44**	*e*P	**Pb**	**12 32 34.0**	**-1.0**
GPS2	**Hotel Rincn d**	**0.94**	**48**	*e*P	Pn	12 32 41.7	+5.7
VRLE	**La Escondida,**	**0.95**	**46**	*e*P	**Pn**	**12 32 35.1**	**-1.1**
GPS1	**Guardaparques**	**0.95**	**47**	*e*P	**Pn**	**12 32 35.3**	**-0.9**
COLC	**Colonia**	**1.00**	**57**	*e*P	**Pn**	**12 32 35.9**	**-1.0**
CNAS	**Canas**	**1.00**	**72**	*e*P	**Pn**	**12 32 37.3**	**+0.1**
CUI	**Cuipilapa**	**1.03**	**53**	*e*P	**Pb**	**12 32 35.4**	**-0.8**
BUAI	**Buenos Aires**	**1.04**	**44**	*e*P	**Pn**	**12 32 36.6**	**-0.7**
LCRUZ	**La Cruz**	**1.04**	**24**	*e*P	**Pn**	**12 32 36.6**	**-0.7**
INVE	**Universidad In**	**1.04**	**70**	*e*P	**Pn**	**12 32 36.6**	**-0.8**
MESS	**Mesas**	**1.05**	**54**	*e*P	**Pn**	**12 32 36.7**	**-0.9**
PEJA	**Penjamo Buenos**	**1.06**	**44**	*e*P	**Pn**	**12 32 37.3**	**-0.3**
CBL1	**Cabuya**	**1.09**	**119**	*e*P	**Pb**	**12 32 40.4**	**+1.9**
JUNT	**Juntas**	**1.10**	**82**	*e*P	**Pn**	**12 32 36.8**	**-1.3**
JTS	**Las Juntas de**	**1.10**	**81**	*e*P	**Pn**	**12 32 36.9**	**-1.3**
MOTZ	**Rio Naranjo**	**1.12**	**60**	*e*P	**Pn**	**12 32 37.7**	**-0.8**
TIMP	**Tierras Morena**	**1.12**	**66**	*e*P	**Pn**	**12 32 37.6**	**-1.0**
TILA	**Tilaran**	**1.13**	**72**	*e*P	**Pn**	**12 32 37.6**	**-1.0**
VMAR	**Armenia, Volca**	**1.16**	**54**	*e*P	**Pn**	**12 32 38.5**	**-0.5**
CHIK	**Chiripa**	**1.18**	**74**	*e*P	**Pn**	**12 32 38.5**	**-0.8**
CARN	**Rivas**	**1.18**	**27**	*e*P	**Pn**	**12 32 38.2**	**-1.0**
CARN	**Rivas**	**1.18**	**27**	⇑P	**Pn**	**12 32 38.9**	**-0.3**
TENO	**El Achiote**	**1.21**	**61**	*e*P	**Pn**	**12 32 38.3**	**-1.5**
MTEVE	**Monteverde**	**1.23**	**81**	*e*P	**Pn**	**12 32 39.1**	**-0.9**
QUEB	**Quebradon, Cot**	**1.25**	**66**	*e*P	**Pn**	**12 32 39.6**	**-0.6**
ROBF	**Roble, Puntare**	**1.31**	**96**	*e*P	**Pn**	**12 32 40.0**	**-1.1**
TABAC	**Tabacon**	**1.33**	**74**	*e*P	**Pn**	**12 32 41.1**	**-0.3**
CASO	**Castillo**	**1.34**	**77**	*e*P	**Pn**	**12 32 41.0**	**-0.5**
ARE1	**Arenal 1**	**1.36**	**76**	*e*P	**Pn**	**12 32 41.6**	**-0.2**
VARE2	**V. Arenal**	**1.36**	**76**	*e*P	**Pn**	**12 32 41.7**	**-0.1**
ARZA	**Esparza**	**1.38**	**95**	*e*P	**Pn**	**12 32 40.4**	**-1.5**
CEDE	**Laguna Cedeo**	**1.39**	**75**	*e*P	**Pn**	**12 32 42.1**	**0.0**
REZ	**Monterrey de S**	**1.40**	**73**	*e*P	**Pn**	**12 32 42.6**	**+0.3**
VACR	**Volcan Arenal**	**1.41**	**76**	*e*P	**Pn**	**12 32 42.0**	**-0.3**
FORC	**Fortuna**	**1.41**	**76**	*e*P	**Pn**	**12 32 42.6**	**+0.1**
JAPN	**Al SSO del Vol**	**1.45**	**15**	*e*P	**Pn**	**12 32 42.9**	**+0.1**
JAPN	**Al SSO del Vol**	**1.45**	**15**	⇓P	**Pn**	**12 32 43.0**	**+0.1**
SOCE	**Pocosol**	**1.45**	**80**	*e*P	**Pn**	**12 32 42.6**	**-0.2**
SOCE	**Pocosol**	**1.45**	**80**	⇓P	**Pn**	**12 32 42.7**	**-0.2**
MORN	**Al O del Volca**	**1.47**	**16**	⇑P	**Pn**	**12 32 43.1**	**-0.2**
SRA1	**San Ramn**	**1.56**	**91**	*e*P	**Pn**	**12 32 42.7**	**-1.8**
PALD	**Palmares**	**1.60**	**92**	*e*P	**Pn**	**12 32 44.3**	**-0.9**
LCHIL	**Los Chiles**	**1.61**	**55**	*e*P	**Pn**	**12 32 44.2**	**-0.8**
QUEU	**Ciudad Quesada**	**1.61**	**83**	*e*P	**Pn**	**12 32 45.8**	**+0.5**
NADN	**Granada**	**1.62**	**1**	*e*P	**Pn**	**12 32 45.1**	**-0.2**
ZARE	**Zarcero**	**1.65**	**88**	*e*P	**Pn**	**12 32 46.2**	**+0.4**
ATEO	**Atenas**	**1.66**	**95**	*e*P	**Pn**	**12 32 45.3**	**-0.6**
VPL2	**V. Platanar**	**1.66**	**84**	*e*P	**Pn**	**12 32 46.3**	**+0.3**
VPL1	**V. Platanar**	**1.68**	**85**	*e*P	**Pn**	**12 32 46.4**	**+0.1**
TCS1	**Tacares**	**1.74**	**92**	P	**Pn**	**12 32 47.1**	**+0.1**
COVE	**Coope Vega, Sa**	**1.74**	**70**	P	**Pn**	**12 32 46.5**	**-0.4**
ITAL	**Pital**	**1.79**	**79**	*e*P	**Pn**	**12 32 47.5**	**-0.2**
NANN	**Nandasmo**	**1.81**	**358**	P	**Pn**	**12 32 48.5**	**+0.6**
ARTO	**Ro Cuarto**	**1.83**	**83**	*e*P	**Pn**	**12 32 48.3**	**+0.1**
PAR1A	**Puntarenas Pro**	**1.86**	**106**	*e*P	**Pn**	**12 32 49.0**	**+0.5**
CRUN	**El Crucero**	**1.86**	**353**	P	**Pn**	**12 32 48.4**	**-0.4**
ACOS	**Acosta**	**1.90**	**100**	*e*P	**Pn**	**12 32 49.3**	**+0.1**
HEME	**Heredia, Merce**	**1.90**	**94**	*e*P	**Pb**	**12 32 50.6**	**-1.7**
PICV	**Pbl. Pirrs**	**1.91**	**105**	*e*P	**Pn**	**12 32 48.5**	**-0.7**
HDC	**Heredia**	**1.92**	**93**	*e*P	**Pn**	**12 32 49.6**	**-0.5**
ACON	**Acoyapa**	**2.03**	**25**	*e*P	**Pn**	**12 32 49.7**	**-1.2**
ACON	**Acoyapa**	**2.03**	**25**	⇑P	**Pn**	**12 32 49.9**	**-1.1**
LCR2	**La Lucha 2**	**2.06**	**100**	*e*P	**Pn**	**12 32 50.7**	**-0.9**
LCR2	**La Lucha 2**	**2.06**	**100**	⇑P	**Pn**	**12 32 51.0**	**-0.6**
LCR2				S	**Sn**	**12 33 16.9**	**+0.3**
COPN	**Copaltepe**	**2.11**	**346**	*e*P	**Pn**	**12 32 51.3**	**-0.7**
COPN	**Copaltepe**	**2.11**	**346**	⇓P	**Pn**	**12 32 51.4**	**-0.7**
PIEC	**Cerro El Cedra**	**2.13**	**103**	*e*P	**Pn**	**12 32 52.5**	**-0.1**
VICA	**Volcano Irazu**	**2.19**	**93**	*e*P	**Pn**	**12 32 53.5**	**0.0**
PCAYA	**Pacayas**	**2.23**	**95**	*e*P	**Pn**	**12 32 54.0**	**+0.2**
CVTQ	**Turrialba Volc**	**2.26**	**93**	*e*P	**Pn**	**12 32 55.3**	**+0.9**
VTR0	**Volcan Turrial**	**2.27**	**92**	*e*P	**Pn**	**12 32 55.4**	**+0.8**
CVTR	**Volcan Turrial**	**2.27**	**92**	*e*P	**Pn**	**12 32 55.5**	**+0.9**
VERB	**Verbena**	**2.34**	**94**	*e*P	**Pn**	**12 32 56.5**	**+1.3**
BUS1	**Rivas**	**2.35**	**104**	*e*P	**Pn**	**12 32 55.1**	**-0.7**
RESJ	**San Isidro (Tu**	**2.38**	**92**	*e*P	**Pn**	**12 32 57.3**	**+1.4**
SAJE	**San Jernim**	**2.63**	**107**	*e*P	**Pn**	**12 32 59.3**	**-0.1**
VERH	**Veragua Rainfo**	**2.83**	**94**	*e*P	**Pn**	**12 33 02.5**	**+0.4**
DRIU	**Durika**	**2.91**	**107**	*e*P	**Pn**	**12 33 02.5**	**-0.2**
LAES	**El Progreso Va**	**2.99**	**97**	*e*P	**Pn**	**12 33 04.8**	**+0.7**
CEUA	**Cerro Uatsi, L**	**3.12**	**99**	*e*P	**Pn**	**12 33 07.4**	**+1.5**
ALCO	**Alturas Coton,**	**3.39**	**110**	*e*P	**Pn**	**12 33 08.1**	**-1.7**

*CATAC **08** 12:41:15.6±0.7, 10˚.N±5˚×8˚.6W±˚, h18km±4km, M3.8/13, MLv3.8/13, Error ellipse: s-maj=13.7km s-min=5.2km az=42.9, confirmed*
*UCR **08** 12:41:18.0±1.1, 10˚.22N×85˚.98W, h28km±4km, MW4.4*
**

VPL2	V. Platanar	1.77	81	*e*P		Pb	12 53 57.3	-1.3
NANN	Nandasmo	1.88	1	P		Pb	12 53 59.2	-1.2
ACON	Acoyapa	2.14	27	*e*P		Pn	12 54 00.7	-0.2
ACON	Acoyapa	2.14	27	P		Pn	12 54 00.8	-0.2
ACON	Acoyapa	2.14	27	S		Sn	12 54 27.5	+0.8
BUS1	Rivas	2.43	101	*e*P		Pn	12 54 06.1	+0.8
BOAB	BOACO BROADBAN	2.44	11	P		Pn	12 54 05.8	+0.8
BOAB	BOACO BROADBAN	2.44	11	S		Sn	12 54 34.8	+0.8

DJA 08 13:04:30.2±0.9, 11°S±10'×11°8E±', h10km, M4.1/12, mB5.0/1, mb4.2/7, MLv4.1/12, Mw(mB)4.3/1, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.03**	**27**	P	Pn	13 05 04.0	-0.5
WBSI				S	Sn	13 05 25.5	-4.5
BASI	**Baing, Sumba**	**2.43**	**60**	P	Pn	13 05 10.3	+0.3
BASI				S	Sn	13 05 37.9	-1.8
WSI	**Waingapu**	**2.54**	**46**	P	Pn	13 05 12.4	+0.8
PLAI	**Plampang**	**2.70**	**346**	P	Pn	13 05 12.8	-0.9
TWSI	**Taliwang, Sumb**	**3.11**	**330**	P	Pn	13 05 18.7	-0.7
EDFI	**Ende, Flores**	**4.17**	**50**	P	Pn	13 05 33.6	-0.5
EDFI				S	Sn	13 06 16.6	-6.5
JAGI	**Jajag, Banyuwa** comp=Z,3nm1µm21nm,1.1s	**5.17**	**305**	P	Pn	13 05 47.3	-0.4
BSSI	**Bau Bau, Buton**	**5.66**	**21**	P	Pn	13 05 55.2	+0.8
GMJI	**Gumukmas** comp=Z,0.1nm20nm,1.1s	**5.86**	**302**	P	Pn	13 05 57.3	+0.1
SOEI	**Soe** comp=Z,0.1nm29nm,1.5s	**5.96**	**74**	P	Pn	13 05 57.9	-0.8
BKSI	**Bulukumba** comp=Z,0.1nm19nm,0.7s	**6.32**	**15**	P	Pn	13 06 04.3	+0.8
BKSI				S	Sn	13 07 09.6	-6.2
PCJI	**Pacitan** comp=Z,0.1nm19nm,0.7s	**7.87**	**294**	P	Pn	13 06 25.3	+0.5

*NEIC **08** 13:11:49.0±0.7, 39°.24N×0°.04×99°.40W±0°.07, h5km±2km, mb_Lg2.9/75, Error ellipse: s-maj=9.6km s-min=5.9km az=257.0*
*IDC **08** 13:11:48.9±1.2, 39°.31N×99°.81W, h0km, mbtmp3.3/3, ML4.0/2, Error ellipse: s-maj=16.8km s-min=9.4km az=97.0*
ISC 08 13:11:46.3±0.8, 39°.34N±0°.04×99°.45W±0°.05, h10km, n45, σ1°96/24, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBKS	**Cedar Bluff**	**0.57**	**203**	Pg	**Pg**	**13 11 57.4**	**0.0**
R32A	**Long Quarter,**	**1.08**	**148**		**Pb**	**13 12 06.6**	**-0.6**
BGHE	**Belgrade**	**2.29**	**25**	Pn	**Pb**	**13 12 28.1**	**+0.3**
KAN08	**Anthony NE Sta**	**2.41**	**151**	Pn	**Pn**	**13 12 27.6**	**+1.8**
KSCO	**Kaye Shedlock'**	**2.49**	**263**		**Pb**	**13 12 30.0**	**-1.2**
OGNE	**Ogallala** comp=Z,62nm,0.8s	**2.55**	**310**	IAmb_Lg	**Pb**	**13 12 32.4** 13 13 19.0	**+0.2**
OGNE							
KAN01	**Argonia South** comp=Z,69nm,0.9s	**2.56**	**148**	Pn	**Pn**	**13 12 29.1**	**+1.2**
KAN01				IAmb_Lg		13 13 06.7	
KAN14	**Manchester OK** comp=Z,36nm,0.8s	**2.66**	**153**	Pn	**Pn**	**13 12 30.8**	**+1.6**
KAN14				IAmb_Lg		13 13 10.3	
GC02	**Grant County #**	**2.79**	**153**	Pn	**Pn**	**13 12 32.4**	**+1.4**
OK038	**West end E0370**	**2.91**	**169**	Pn	**Pn**	**13 12 33.6**	**+0.8**
CROK	**Carrier**	**3.06**	**157**	Pn	**Pn**	**13 12 36.8**	**+2.0**
ELIS	**Ellis County**	**3.27**	**180**		**Pb**	**13 12 43.9**	**-0.6**
K30B	**Basset** comp=Z,38nm,0.8s	**3.33**	**358**	Pn	**Pb**	**13 12 43.3**	**-2.2**
K30B				IAmb_Lg		13 13 47.2	
L34A	**Svendsen Farm,**	**3.51**	**41**	Pn	**Pn**	**13 12 43.9**	**+2.9**
QUOK	**Quay**	**3.84**	**145**		**Pn**	**13 12 45.9**	**+0.4**
RTBA	**Rita Blanca** comp=Z,37nm,0.8s	**3.89**	**223**	IAmb_Lg		13 13 57.6	
OK052	**Battle Ridge R** comp=Z,20nm,0.7s	**3.95**	**147**	IAmb_Lg		13 13 59.7	
SMWD	**Sammorwood** comp=Z,19nm,0.8s	**4.28**	**189**	IAmb_Lg		13 13 58.9	
FNO	**Franklin** comp=Z,17nm,0.7s	**4.39**	**158**	IAmb_Lg		13 14 12.4	
T25A	**Trinidad**	**4.48**	**242**	Pn	**Pn**	**13 12 55.7**	**+1.3**
RLO	**Rose Lookout** comp=Z,28nm,0.9s	**4.73**	**131**	IAmb_Lg		13 14 17.1	
ECSD	**EROS Data Cent** comp=Z,32nm,1.1s	**4.88**	**25**	IAmb_Lg		13 14 24.2	
U38A	**Gravette** comp=Z,24nm,0.8s	**4.94**	**124**	IAmb_Lg		13 14 29.7	
N38A	**Joes South For** comp=Z,34nm,0.8s	**4.98**	**71**	IAmb_Lg		13 14 26.2	
SDCO	**Great Sand Dun** comp=Z,14nm,0.9s	**5.00**	**253**	IAmb_Lg		13 14 27.6	
HHAR	**Hobbs** comp=Z,19nm,0.9s	**5.33**	**123**	IAmb_Lg		13 14 39.1	
SCIA	**State Center** comp=Z,22nm,0.9s	**5.39**	**60**	IAmb_Lg		13 14 38.8	
LOOK	**Love County** comp=Z,29nm,1.2s	**5.64**	**160**	IAmb_Lg		13 14 58.9	
R40A	**Maddies Statio** comp=Z,19nm,0.8s	**5.71**	**98**	IAmb_Lg		13 14 52.0	
DKNS	**Dickens** comp=Z,18nm,0.8s	**5.79**	**192**	IAmb_Lg		13 14 59.7	
MSTX	**Muleshoe** comp=Z,17nm,0.8s	**5.99**	**207**	Pn	**Pn**	**13 13 17.1**	**+2.0**
MSTX				IAmb_Lg		13 15 03.4	
APMT	**Aspermont** comp=Z,19nm,1.1s	**6.03**	**185**	IAmb_Lg		13 15 06.1	
MGMO	**Mountain Grove** comp=Z,20nm,0.7s	**6.06**	**109**	IAmb_Lg		13 15 00.7	
HAYD	**Hayden** comp=Z,11nm,1.0s	**6.12**	**284**	IAmb_Lg		13 15 16.7	
POST	**Post** comp=Z,16nm,0.8s	**6.48**	**195**	IAmb_Lg		13 15 21.5	
MIAR	**Mount Ida** comp=Z,20nm,0.7s	**6.71**	**134**	IAmb_Lg		13 15 30.7	
FCAR	**Ozark Folk Cen** comp=Z,20nm,0.9s	**6.76**	**118**	IAmb_Lg		13 15 18.7	
F33A	**5 Mile Ranch,** comp=Z,12nm,0.9s	**6.90**	**19**	IAmb_Lg		13 15 40.9	
ANMO	**Albuquerque** comp=Z,0.4nm,0.3s,baz=58,slow=15,SNR=7.6	**7.11**	**234**	Pg	**Pb**	**13 13 52.9**	**+2.9**
ANMO	comp=Z,1.0nm,0.3s,baz=228,slow=23,SNR=8.1			Lg	Lg	13 15 24.0	
PDAR	**Pinedale Array** comp=Z,0.2nm,0.3s,baz=100,slow=12,SNR=4.1	**8.37**	**297**	Pn	**Pn**	**13 13 50.0**	**+2.1**
PDAR	comp=Z,0.4nm,0.3s,baz=110,slow=18,SNR=3.5			Sn	**Sn**	**13 15 21.9**	**-0.6**
PDAR	comp=Z,0.3nm,0.3s,baz=107,slow=31,SNR=4.0			Lg	Lg	13 16 06.0	
435B	**Jarrell** comp=Z,8.4nm,0.8s	**8.68**	**169**	IAmb_Lg		13 16 30.3	
RLMT	**Red Lodge** comp=Z,7.7nm,1.1s	**9.29**	**312**	IAmb_Lg		13 17 00.8	
TXAR	**Lajitas Array** comp=Z,0.3nm,0.3s,baz=24,slow=14,SNR=16	**10.57**	**200**	Pn	**Pn**	**13 14 18.3**	**+0.4**
TXAR	comp=Z,0.1nm,0.3s,baz=16,slow=18,SNR=1.5			Sn	**Sn**	**13 16 11.3**	**-5.2**
TXAR	comp=Z,0.2nm,0.3s,baz=15,slow=29,SNR=3.8			Lg	Lg	13 17 11.3	
ULM	**Lac du Bonnet** comp=Z,0.2nm,0.4nm,0.3s comp=Z,0.7nm,0.3s,baz=187,slow=13,SNR=4.9	**11.20**	**12**	Pn	**Pn**	**13 14 26.6**	**+0.3**
ULM	comp=Z,0.4nm,0.3s,baz=110,slow=9.2,SNR=4.2			Sn	**Sn**	**13 16 29.3**	**-2.1**
TKL	**Tuckaleechee C** comp=Z,0.1nm,0.3s,baz=9.4,slow=20,SNR=5.8	**12.98**	**102**	Lg	Lg	13 18 34.2	

*IDC **08** 13:15:13.3±0.7, 37°.24N×138°.27E, h219km±4km, mb3.1/10, mbtmp3.7/13, Error ellipse: s-maj=25.9km s-min=11.2km az=70.0*
*JMA **08** 13:15:13.7±0.2, 37°.2N±0°.8×13°8E±', h220km±1km, MV3.2/38, OFF S NIIGATA PREF*
ISC 08 13:15:13.6±0.7, 37°.19N±0°.05×138°.16E±0°.06, h219km±5km, n29, σ0°75/44, mb3.4/10, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJN	**Nakama**	**0.09**	**177**	*i* P	**Pn**	**13 15 42.7**	**+0.7**
JJN				*e*S	**S**	**13 16 04.9**	**+0.6**
MAT	**Matsushiro**	**0.65**	**176**	*i* P	**Pn**	**13 15 43.5**	**+0.1**
MAT				S	**S**	**13 16 06.5**	**-0.2**
MJAR	**Matsushiro Arr** 63nm,0.6s,baz=2.2,slow=3.3,SNR=173	**0.65**	**176**	P	**Pn**	**13 15 43.7**	**+0.2**
MJAR	13nm,0.8s,baz=285,slow=28,SNR=7.2			S	**S**	**13 16 08.1**	**+1.3**
JSZ	**Suzu**	**0.68**	**293**	P	**Pn**	**13 15 43.6**	**+0.1**
JSZ				S	**S**	**13 16 05.7**	**-1.2**
JSD	**Sado**	**0.85**	**6**	P	**Pn**	**13 15 44.7**	**+0.3**
JSD				S	**S**	**13 16 07.4**	**-1.2**
JNS	**Sasagawa**	**1.12**	**55**	P	**Pn**	**13 15 46.5**	**+0.5**
JNS				*e*S	**S**	**13 16 10.8**	**-0.5**
JHG	**Hegura jima**	**1.18**	**304**	P	**Pn**	**13 15 46.8**	**+0.3**
JHG				*e*S	**S**	**13 16 11.7**	**-0.3**
JAG	**Ashikaga**	**1.29**	**126**	*i* P	**Pn**	**13 15 47.5**	**+0.2**
JRY	**Ryogami san**	**1.31**	**153**	P	**Pn**	**13 15 47.5**	**-0.1**
JRY				*e*S	**S**	**13 16 13.5**	**-0.3**
JAW	**Awa shima**	**1.53**	**34**	P	**Pn**	**13 15 49.7**	**+0.6**
JAW				S	**S**	**13 16 16.7**	**-0.2**
JYN	**Shimob**	**1.72**	**169**	P	**Pn**	**13 15 50.8**	**-0.2**
JYN				S	**S**	**13 16 19.1**	**-0.8**
JOTO	**OTAMA OYAMA**	**1.77**	**77**	P	**Pn**	**13 15 52.4**	**+1.0**
JOTO				*e*S	**S**	**13 16 21.8**	**+1.2**
JYTA	**Yamagatataniai**	**1.96**	**216**	P	**Pn**	**13 15 53.6**	**+0.4**
JYTA				S	**S**	**13 16 24.4**	**+0.6**
JOD2	**Odawara 2**	**2.06**	**158**	*e*P	**Pn**	**13 15 53.8**	**-0.4**
JOD2				*e*S	**S**	**13 16 24.8**	**-0.8**
JYK	**Kaneyama**	**2.45**	**45**	P	**Pn**	**13 15 58.9**	**+0.9**
JYK				*e*S	**S**	**13 16 32.9**	**+0.2**
JWT	**Wachi**	**2.93**	**230**	P	**Pn**	**13 16 03.6**	**+0.2**
JHJ	**Hachijo jima 2** 67nm,0.4s,baz=74,slow=18,SNR=1.3	**4.27**	**161**	P	**Pn**	**13 16 18.9**	**-0.5**
JHJ				S	**S**	**13 17 10.7**	**-0.4**
ASAJ	**Asahikawa** 4.7nm,0.3s,baz=208,slow=12,SNR=43	**7.70**	**25**	P	**Pn**	**13 17 00.5**	**-2.2**
KSRS	**Korea Array** 1.8nm,0.7s,baz=83,slow=13,SNR=10	**8.16**	**275**	P	**Pn**	**13 17 10.2**	**+1.4**
SONM	**Songino Array** 0.4nm,0.6s,baz=120,slow=8.5,SNR=2.5 0.4nm,0.6s	**25.55**	**305**	P	**P**	**13 20 20.9**	**-1.4**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=92,slow=10,SNR=2.0 0.2nm,0.5s	**41.82**	**301**	P	**P**	**13 22 41.6**	**-0.3**
KURBB	**Kurchatov Arra** 1.6nm,0.5s,baz=84,slow=7.7,SNR=29 1.6nm,0.5s	**43.85**	**308**	P	**P**	**13 22 57.6**	**-0.3**
BVAR	**Borovoye Array** 0.9nm,0.5s,baz=97,slow=8.4,SNR=7.4 0.9nm,0.5s	**48.53**	**312**	P	**P**	**13 23 34.4**	**+0.1**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=0.2,slow=7.7,SNR=8.1 0.3nm,0.5s	**56.94**	**184**	P	**P**	**13 24 36.5**	**+0.4**
ASAR	**Alice Springs** 0.1nm,0.4s,baz=355,slow=5.5,SNR=5.2 0.1nm,0.4s	**60.66**	**184**	P	**P**	**13 25 02.4**	**+0.8**
ARCES	**ARCESS Array B** 0.8nm,0.6s,baz=42,slow=6.7,SNR=1.2 0.8nm,0.6s	**62.92**	**339**	P	**P**	**13 25 16.2**	**+0.1**
FINES	**FINESS Array B** 0.6nm,0.3s,baz=72,slow=6.2,SNR=8.2 0.6nm,0.3s	**67.44**	**331**	P	**P**	**13 25 45.5**	**+0.2**
AKASG	**Malin Array Be** 0.5nm,0.3s,baz=50,slow=7.1,SNR=2.3 0.5nm,0.3s	**72.56**	**321**	P	**P**	**13 26 16.5**	**0.0**
NOA	**NORSAR Array B** 0.3nm,0.5s,baz=26,slow=8.8,SNR=1.9 0.3nm,0.5s	**73.01**	**336**	P	**P**	**13 26 19.2**	**+0.1**

SDD 08 13:20:32.7±1.0, 19°.00N×69°.30W, h26km±11km, MD2.0, ML2.4, MW2.2, 4C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATOM	**Hato Mayor del**	**0.23**	**199**	↑*e*P	Pb	13 20 39.0	+0.2
HATOM				↑*e*S	Sb	13 20 42.0	-0.9
MIDR	**Miches**	**0.24**	**94**	↑*e*P	Pb	13 20 38.4	-0.6
MIDR				↑*e*S	Sb	13 20 42.5	-0.6
SMDR	**Samana, DR**	**0.31**	**21**	↓*e*S	Sb	13 20 44.2	-0.6
DR08	**Loma La Naviza**	**0.68**	**267**	*e*P	Pb	13 20 44.5	-1.6
DR08				*e*S	Sb	13 20 54.4	-0.7

*NEIC **08** 13:20:42.3±1.1, 17°.4S±0°.1×178°.8W±0°.1, h540km±10km, mb4.3/33, Error ellipse: s-maj=22.1km s-min=17.9km az=136.0*
*IDC **08** 13:20:45.0±6.4, 17°.43S×179°.18W, h553km±65km, mb3.5/6, mbtmp4.3/7, Error ellipse: s-maj=46.6km s-min=22.2km az=67.0*
ISC 08 13:20:42.1±0.6, 17°.4S±0°.1×178°.8W±0°.1, h539km, n50, σ0°94/51, mb4.2/24, 4C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.01**	**263**	P	**P**	**13 21 58.0**	**+1.7**
AFI	**Afiamalu**	**7.61**	**64**	P	**P**	**13 22 33.8**	**-2.0**
PINNC	**Pines Island,**	**13.92**	**246**	P	**P**	**13 23 39.8**	**-0.7**
DZM	**Mont Dzumac**	**14.64**	**249**	P	**P**	**13 23 48.8**	**+0.7**
DZM	**Mont Dzumac** 6.6nm,0.9s,baz=72,slow=20,SNR=11	**14.64**	**249**	P	**P**	**13 23 47.3**	**-0.8**
BFZ	**Birch Farm**	**23.62**	**189**	P	**P**	**13 25 12.4**	**+1.4**
LTZ	**Lake Taylor** comp=Z,22nm,1.1s	**26.44**	**195**	P	**P**	**13 25 34.0**	**-2.0**
LTZ				IAmb	IAmb	13 25 34.1	
FOZ	**Fox Glacier**	**27.80**	**198**	P	**P**	**13 25 46.8**	**-1.0**
EIDS	**Eidsvold** comp=Z,7.5nm,0.9s	**29.09**	**249**	P	**P**	**13 25 58.5**	**-0.8**
EIDS				IAmb	IAmb	13 25 59.1	
ARMA	**Armidale** comp=Z,29nm,1.4s	**29.87**	**239**	P	**P**	**13 26 06.3**	**+0.1**
ARMA				IAmb	IAmb	13 26 21.5	
MLZ	**Mavora Lakes**	**29.98**	**199**	P	**P**	**13 26 06.5**	**-0.2**
WHZ	**Wether Hill Ro**	**30.50**	**198**	P	**P**	**13 26 11.0**	**-0.2**
CTAO	**Charters Tower**	**33.15**	**260**	P	**P**	**13 26 33.6**	**-0.6**
CTAO	comp=Z,8.9nm,1.2s			IAmb	IAmb	13 27 03.6	
CAN	**Canberra**	**33.72**	**232**	P	**P**	**13 26 38.7**	**-0.2**
COEN	**Coen** comp=Z,7.0nm,0.9s	**36.71**	**270**	P	**P**	**13 27 03.9**	**0.0**
COEN				IAmb	IAmb	13 27 05.6	
TOO	**Toolangi** comp=Z,20nm,1.4s	**37.21**	**230**	P	**P**	**13 27 08.1**	**+0.3**
TOO				IAmb	IAmb	13 27 09.4	
BBOO	**Buckleboo**	**43.32**	**240**	P	**P**	**13 27 56.5**	**-0.2**
WR8	**Warramunga Arr**	**44.19**	**259**	P	**P**	**13 28 02.4**	**-1.2**
WB0	**Warramunga Arr**	**44.31**	**259**	P	**P**	**13 28 03.3**	**-1.2**
WB0	comp=Z,12nm,1.4s			IAmb	IAmb	13 28 18.8	
WRA	**Warramunga Arr**	**44.34**	**259**	P	**P**	**13 28 03.5**	**-1.3**
WRA	**Warramunga Arr** comp=Z,0.9nm,0.3s,baz=95,slow=7.1,SNR=29	**44.34**	**259**	P	**P**	**13 28 03.5**	**-1.3**
WRA	comp=Z,0.6nm,0.7s,baz=94,slow=3.0,SNR=3.5			PcP	**PcP**	**13 29 37.7**	**+0.5**
AS31	**Alice Springs** comp=Z,0.9nm,0.3s	**44.56**	**254**	P	**P**	**13 28 05.8**	**-0.6**
AS31	comp=Z,6.7nm,0.5s			IAmb	IAmb	13 28 06.6	
ASAR	**Alice Springs** comp=Z,20nm,0.7s,baz=88,slow=8.1,SNR=402	**44.56**	**254**	P	**P**	**13 28 05.9**	**-0.5**
ASAR	comp=Z,0.8nm,0.7s,baz=92,slow=3.8,SNR=4.5			PcP	**PcP**	**13 29 38.4**	**+0.4**
KNRA	**Kununurra** comp=Z,20nm,0.7s	**50.15**	**264**	P	**P**	**13 28 47.9**	**-0.6**
KNRA	comp=Z,11nm,0.7s			IAmb	IAmb	13 28 49.2	
FITZ	**Fitzroy Crossi**	**52.73**	**260**	P	**P**	**13 29 06.7**	**-0.3**
PSA00	**Pilbara Seismi**	**57.66**	**255**	P	**P**	**13 29 41.1**	**-0.4**
MBWA	**Marble Bar** comp=Z,12nm,1.3s	**57.82**	**256**	P	**P**	**13 29 41.8**	**-0.7**
MBWA				IAmb	IAmb	13 30 00.7	
MORW	**Morawa** comp=Z,19nm,1.4s	**60.34**	**246**	P	**P**	**13 29 58.7**	**-0.6**
MORW				IAmb	IAmb	13 30 25.6	
GIRL	**Giralia**	**62.67**	**253**	P	**P**	**13 30 14.1**	**-0.5**
MJAR	**Matsushiro Arr**	**67.24**	**323**	P	**P**	**13 30 43.4**	**+0.4**
MJAR	**Matsushiro Arr** comp=Z,2.0nm,0.7s,baz=150,slow=9.9,SNR=8.3 comp=Z,2.0nm,0.7s	**67.24**	**323**	P	**P**	**13 30 43.6**	**+0.6**
MAJO	**Matsushiro** comp=Z,23nm,1.5s	**67.24**	**323**	P	**P**	**13 30 43.4**	**+0.4**
MAJO				IAmb	IAmb	13 30 47.3	
QSPA	**South Pole Qui** comp=Z,6.9nm,1.4s	**72.68**	**180**	P	**P**	**13 31 17.0**	**+2.0**
QSPA				IAmb	IAmb	13 31 48.8	
QSPA	**South Pole Qui** comp=Z,1.7nm,0.6s,baz=64,slow=3.6,SNR=18	**72.68**	**180**	P	**P**	**13 31 17.0**	**+2.0**
M17K	**Holitna River** comp=Z,1.7nm,0.6s	**80.34**	**10**	P	**P**	**13 31 58.6**	**+1.8**
L18K	**Granite Mounta**	**81.24**	**10**	P	**P**	**13 32 02.4**	**+1.0**
L18K	comp=Z,12nm,1.4s			IAmb	IAmb	13 32 34.6	
J18K	**Innoko River**	**82.40**	**10**	P	**P**	**13 32 08.6**	**+1.3**
J18K	comp=Z,11nm,1.4s			IAmb	IAmb	13 32 26.8	
BELA	**Belgrano 2**	**82.75**	**173**	P	**P**	**13 32 08.7**	**-0.4**
SCM	**Sheep Creek Mo**	**82.81**	**14**	P	**P**	**13 32 09.8**	**+0.3**
SCM	comp=Z,14nm,1.2s			IAmb	IAmb	13 32 40.9	
N25K	**Chitina, Valde**	**83.29**	**16**	P	**P**	**13 32 12.8**	**+0.9**
GLB	**Gilahina Butte**	**83.36**	**16**	P	**P**	**13 32 12.8**	**+0.6**
MAW	**Mawson** comp=Z,1.7nm,0.6s,baz=139,slow=4.5,SNR=11 comp=Z,1.7nm,0.6s	**84.23**	**200**	P	**P**	**13 32 16.9**	**+0.4**
IMAR	**Indian Mountai**	**85.22**	**10**	P	**P**	**13 32 21.3**	**+0.1**
E19K	**Redstone River**	**86.07**	**8**	P	**P**	**13 32 25.8**	**+0.6**
E19K	comp=Z,2.9nm,1.0s			IAmb	IAmb	13 32 59.6	
TROLL	**Troll, Antarti** comp=Z,86nm,0.7s	**90.84**	**180**	⇑P	**P**	**13 32 47.9**	**+0.1**
SNAA	**Sanae** comp=Z,12nm,0.5s	**91.14**	**179**	⇑P	**P**	**13 32 48.8**	**-0.4**
SNAA	**Sanae** comp=Z,0.5nm,0.6s,baz=209,slow=8.6,SNR=2.3 comp=Z,0.5nm,0.6s	**91.14**	**179**	P	**P**	**13 32 48.4**	**-0.7**
VNA3	**Neumayer Olymp** comp=Z,3.4nm,0.7s	**91.30**	**177**	⇑P	**P**	**13 32 49.9**	**+0.1**
VNA2	**Neumayer--Watz** comp=Z,1.4nm,0.7s,baz=162,slow=4.0	**91.73**	**177**	⇑P	**P**	**13 32 51.9**	**+0.1**
LODK	**Lodwar**	**143.72**	**251**		PKPbc	13 39 16.7	+0.8

*ANF **08** 13:26:46.7±0.2, 59°.19N×136°.41W, h3km±2km, ML3.9/41, Error ellipse: s-maj=1.7km s-min=1.2km az=46.0*
*AEIC **08** 13:26:46.9±1.3, 59°.20N±0°.02×136°.40W±0°.02, h5km±7km, ML3.5, ML3.6/100(NEIC), Mwr3.5/13(NEIC), Error ellipse: s-maj=2.2km s-min=1.7km az=181.0*
*NEIC **08** 13:26:46.9, 59°.20N×136°.40W, h5km*
*NEIC **08** 13:26:47.1±1.3, 59°.20N±0°.02×136°.39W±0°.02, h7km±10km, Error ellipse: s-maj=2.2km s-min=1.7km az=182.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; M_{rr}=0.95; $M_{\theta\theta}$=2.25; $M_{\phi\phi}$=-1.30; $M_{r\theta}$=-0.82; $M_{\theta\phi}$=0.99; $M_{\phi r}$=0.65; Fault plane solution: M_0=2.43000×10¹⁴ NP1:ϕ=36.88000°, δ=78.66000°, λ=-145.52000°. NP2:ϕ=299.18000°, δ=56.28000°, λ=-13.68000°. Principal axes: T 2.7572, Plg15.0000°, Azm164.0000°; N -0.9371, Plg54.0000°, Azm53.0000°; P -1.8201, Plg32.0000°, Azm263.0000°;*
*PGC **08** 13:26:47.4±0.1, 59°.18N×136°.41W, h0km, ML3.8/37, ML3.5(AEIC), 71km southwest of Skagway, Ak Southeastern Alaska*
ISC 08 13:26:47.2±0.8, 59°.21N±0°.02×136°.38W±0°.02, h17km±6km, n208, σ1°88/291, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.25**	**2**		**Pg**	**13 26 52.6**	**-0.3**
PLBC					**Sg**	**13 26 56.1**	**-0.6**
PLBC	**Pleasant Camp**	**0.25**	**2**	P	**Pg**	**13 26 52.5**	**-0.3**
PLBC				S	**Sg**	**13 26 56.0**	**-0.7**
PLBC	**Pleasant Camp** baz=184,SNR=1000	**0.25**	**2**	P	**Pg**	**13 26 52.7**	**-0.2**
PLBC	baz=184			S	**Sg**	**13 26 56.2**	**-0.6**
SKAG	**Skagway**	**0.60**	**64**		**Pg**	**13 26 58.8**	**-0.2**
SKAG	comp=E,4µm,0.4s			IAML		13 27 07.4	
SKAG	**Skagway**	**0.60**	**64**		**Sg**	**13 27 07.0**	**0.0**
SKAG	**Skagway** baz=245,SNR=971	**0.60**	**64**	P	**Pg**	**13 26 59.0**	**0.0**
SKAG	baz=245			S	**Sg**	**13 27 07.0**	**0.0**
P29M	**Windy Craggy**	**0.81**	**302**		**Pg**	**13 27 02.1**	**-1.0**
P29M					**Sg**	**13 27 13.0**	**-0.8**
P29M	**Windy Craggy** comp=N,3µm,0.6s	**0.81**	**302**	IAML		13 27 13.7	
P29M	comp=E,2µm,0.4s			IAML		13 27 15.1	
P29M	**Windy Craggy**	**0.81**	**302**	P	**Pg**	**13 27 02.0**	**-1.0**
P29M				S	**Sg**	**13 27 12.2**	**-1.6**
P29M	**Windy Craggy** baz=122,SNR=341	**0.81**	**302**	P	**Pg**	**13 27 02.0**	**-1.1**
P29M	baz=122			S	**Sg**	**13 27 12.9**	**-1.0**
R31K	**City Hall, Gus**	**0.86**	**157**		**Pb**	**13 27 03.3**	**-0.4**
R31K					**Sg**	**13 27 15.4**	**+0.1**
R31K	**City Hall, Gus**	**0.86**	**157**	P	**Pb**	**13 27 03.0**	**-0.7**
R31K	**City Hall, Gus** baz=337,SNR=306	**0.86**	**157**	P	**Pb**	**13 27 03.3**	**-0.4**
R31K	baz=337			S	**Sb**	**13 27 15.2**	**+0.2**
P30M	**Million Dollar**	**0.96**	**343**		**Pb**	**13 27 05.1**	**-0.4**
P30M					**Sb**	**13 27 17.1**	**-0.9**
P30M	**Million Dollar**	**0.96**	**343**	P	**Pb**	**13 27 05.0**	**-0.6**
P30M				S	**Sb**	**13 27 17.4**	**-0.5**
P30M	**Million Dollar** baz=163,SNR=963	**0.96**	**343**	P	**Pb**	**13 27 04.9**	**-0.6**
P30M	baz=163			S	**Sb**	**13 27 17.5**	**-0.5**
BESE	**Bessie Mountai**	**1.01**	**128**		**Pb**	**13 27 05.5**	**-0.8**
BESE	comp=E,2µm,0.8s			IAML		13 27 20.9	
BESE	**Bessie Mountai**	**1.01**	**128**		**Sg**	**13 27 20.1**	**0.0**
BESE	**Bessie Mountai**	**1.01**	**128**	P	**Pb**	**13 27 05.8**	**-0.6**
BESE				S	**Sb**	**13 27 19.1**	**-0.3**
S31K	**Pelican**	**1.25**	**176**		**Pn**	**13 27 09.6**	**-0.3**
S31K	**Pelican**	**1.25**	**176**	P	**Pn**	**13 27 09.8**	**-0.1**
S31K				S	**Sb**	**13 27 25.6**	**-0.5**
S31K	**Pelican** baz=356,SNR=1000	**1.25**	**176**	P	**Pn**	**13 27 09.7**	**-0.3**
S31K	baz=356			S	**Sb**	**13 27 26.2**	**0.0**
R32K	**Eaglecrest**	**1.35**	**133**		**Pn**	**13 27 11.1**	**-0.2**
R32K	comp=E,881nm,0.3s			IAML		13 27 31.8	
R32K	comp=N,926nm,0.4s			IAML		13 27 32.4	
R32K	**Eaglecrest**	**1.35**	**133**	P	**Pn**	**13 27 11.3**	**0.0**
R32K				S	**Sn**	**13 27 29.0**	**+0.2**
R32K	**Eaglecrest** baz=314,SNR=137	**1.35**	**133**	P	**Pn**	**13 27 11.2**	**0.0**
R32K	baz=314			S	**Sg**	**13 27 30.4**	**-0.4**
JIS	**Juneau Island**	**1.40**	**131**		**Pn**	**13 27 12.0**	**+0.1**
P32M	**Atlin**	**1.42**	**73**		**Pb**	**13 27 13.3**	**+0.1**
P32M	comp=N,664nm,0.9s			IAML		13 27 34.8	
P32M	**Atlin**	**1.42**	**73**	P	**Pb**	**13 27 13.3**	**+0

WHY				Sn	Sb	13 27 38.8	+1.2	
WHY	**Whitehorse**	**1.64**	**27**	Pb	**Pb**	**13 27 17.6**	**+0.5**	
	baz=208,SNR=1000							
WHY				S	**Sb**	**13 27 39.0**	**+1.4**	
	baz=208							
YKU2	**Yakutat**	**1.71**	**282**		**Pb**	**13 27 18.2**	**0.0**	
HYT	**Haines Junctio**	**1.72**	**341**		**Pb**	**13 27 18.3**	**-0.1**	
HYT				IAML		13 27 43.8		
	comp=N,431nm,0.5s							
HYT				IAML		13 27 48.7		
	comp=E,452nm,0.6s							
HYT	**Haines Junctio**	**1.72**	**341**	Pn	**Pb**	**13 27 17.8**	**-0.6**	
HYT				Sn	**Sb**	**13 27 41.3**	**+1.5**	
HYT	**Haines Junctio**	**1.72**	**341**	P	**Pn**	**13 27 17.5**	**+1.0**	
	baz=161,SNR=504							
HYT				Sb	**Sg**	**13 27 42.2**	**-0.4**	
	baz=161							
BCPM	**Bancas Point**	**1.82**	**296**		**Pn**	**13 27 19.1**	**+1.4**	
BCPM				IAML		13 27 45.3		
	comp=E,765nm,0.3s							
YUK6	**Outpost Mounta**	**2.00**	**331**		**Pb**	**13 27 23.3**	**-0.1**	
YUK6	**Outpost Mounta**	**2.00**	**331**	Pn	**Pb**	**13 27 22.5**	**-0.9**	
YUK6	**Outpost Mounta**	**2.00**	**331**	Pb	**Pb**	**13 27 23.2**	**-0.1**	
	baz=150,SNR=235							
YUK6				Sb	**Sg**	**13 27 50.6**	**-1.2**	
	baz=150							
YUK5	**Granite Creek**	**2.07**	**340**	Pn	**Pb**	**13 27 23.2**	**-1.2**	
YUK5				Sn	**Sb**	**13 27 49.3**	**-0.5**	
P33M	**Teslin, Yukon**	**2.07**	**59**		**Pn**	**13 27 22.4**	**+1.2**	
P33M				IAML		13 27 53.7		
	comp=E,599nm,0.3s							
P33M	**Teslin, Yukon**	**2.07**	**59**	Pn	**Pb**	**13 27 23.3**	**-1.1**	
P33M				Sn	**Sb**	**13 27 50.0**	**+0.2**	
P33M	**Teslin, Yukon**	**2.07**	**59**	P	**Pn**	**13 27 22.6**	**+1.3**	
	baz=242,SNR=1000							
P33M				S	**Sb**	**13 27 49.1**	**-0.6**	
	baz=242							
Q32M	**Nakina River**	**2.14**	**95**		**Pn**	**13 27 23.0**	**+0.7**	
Q32M				IAML		13 27 57.0		
	comp=E,454nm,1.0s							
Q32M				IAML		13 27 59.3		
	comp=N,499nm,1.0s							
Q32M	**Nakina River**	**2.14**	**95**	Pn	**Pn**	**13 27 23.4**	**+1.1**	
Q32M				Sn	**Sb**	**13 27 51.2**	**-0.7**	
Q32M	**Nakina River**	**2.14**	**95**	P	**Pn**	**13 27 23.4**	**+1.1**	
	baz=278,SNR=124							
Q32M				S	**Sn**	**13 27 50.4**	**+1.9**	
	baz=278							
PINM	**Pinnacle**	**2.16**	**296**	P	**Pn**	**13 27 23.7**	**+1.2**	
	baz=113,SNR=74							
PINM				Sb	**Sb**	**13 27 53.4**	**+1.1**	
	baz=113							
PCA	**Pinnacle**	**2.16**	**296**		**Pn**	**13 27 23.3**	**+0.8**	
PCA	**Pinnacle**	**2.16**	**296**	Pn	**Pn**	**13 27 23.8**	**+1.3**	
PCA				Sn	**Sb**	**13 27 51.1**	**-1.2**	
SIT	**Sitka**	**2.23**	**165**		**Pn**	**13 27 23.6**	**+0.3**	
SIT				IAML		13 27 59.1		
	comp=E,323nm,0.7s							
SIT				IAML		13 28 05.4		
	comp=N,279nm,0.7s							
SIT	**Sitka**	**2.23**	**165**	P	**Pn**	**13 27 24.0**	**+0.7**	
	baz=346,SNR=101							
SIT				Sb	**Sb**	**13 27 56.2**	**+2.0**	
	baz=346							
N30M	**Aishikik Lake**	**2.29**	**351**	Pn	**Pn**	**13 27 25.9**	**+1.6**	
N30M	**Aishikik Lake**	**2.29**	**351**	P	**Pn**	**13 27 25.7**	**+1.5**	
	baz=171,SNR=79							
N30M				Sb	**Sg**	**13 27 58.9**	**-1.9**	
	baz=171							
N31M	**Braeburn, Yuko**	**2.31**	**7**	Pn	**Pb**	**13 27 27.0**	**-1.4**	
N31M	**Braeburn, Yuko**	**2.31**	**7**	P	**Pn**	**13 27 25.9**	**+1.4**	
	baz=188							
N31M				Pb	**Pb**	**13 27 29.0**	**+0.6**	
	baz=188,SNR=238							
N31M				Sb	**Sg**	**13 27 59.9**	**-1.4**	
	baz=188							
SAMH	**Samovar Hills**	**2.42**	**294**	Pn	**Pn**	**13 27 28.0**	**+2.0**	
SAMH				Sn	**Sn**	**13 27 57.8**	**+2.6**	
YUK4	**Talbot Arm**	**2.42**	**333**	Pn	**Pb**	**13 27 29.3**	**-1.2**	
YUK4				Sn	**Sb**	**13 27 59.8**	**-0.3**	
YUK4				Sg	**Sg**	**13 28 05.1**	**0.0**	
YUK4	**Talbot Arm**	**2.42**	**333**	P	**Pn**	**13 27 28.3**	**+2.1**	
	baz=154							
YUK4				Sb	**Sg**	**13 28 05.3**	**+0.2**	
	baz=154							
O28M	**Mount Upton**	**2.48**	**311**	IAML		13 28 09.5		
	comp=E,258nm,0.7s							
O28M				IAML		13 28 09.5		
	comp=N,294nm,0.6s							
O28M	**Mount Upton**	**2.48**	**311**	Pn	**Pn**	**13 27 29.2**	**+2.2**	
O28M				Sn	**Sn**	**13 27 59.2**	**+2.2**	
O28M	**Mount Upton**	**2.48**	**311**	P	**Pn**	**13 27 28.1**	**+1.0**	
	baz=128							
O28M				Sb	**Sb**	**13 28 03.7**	**+2.0**	
	baz=128							
BRWY	**Burwash Landin**	**2.54**	**330**	Pn	**Pn**	**13 27 29.9**	**+2.2**	
N32M	**Quiet Lake**	**2.55**	**39**	Pn	**Pn**	**13 27 30.3**	**+2.4**	
N32M				Sn	**Sn**	**13 28 01.5**	**+3.0**	
N32M	**Quiet Lake**	**2.55**	**39**	P	**Pn**	**13 27 29.5**	**+1.6**	
	baz=222							
N32M				Sb	**Sg**	**13 28 07.1**	**-2.1**	
	baz=222							
YUK8	**Steele Glacier**	**2.68**	**322**		**Pn**	**13 27 32.4**	**+2.6**	
YUK8	**Steele Glacier**	**2.68**	**322**	Pn	**Pn**	**13 27 32.0**	**+2.2**	
YUK8				Sg	**Sg**	**13 28 11.1**	**-2.2**	
YUK8	**Steele Glacier**	**2.68**	**322**	Pb	**Pb**	**13 27 35.5**	**+0.6**	
	baz=140,SNR=50							
YUK8				Sb	**Sg**	**13 28 11.0**	**-2.4**	
	baz=140							
TABL	**Table Mountain**	**2.70**	**299**		**Pn**	**13 27 31.2**	**+1.2**	
TABL				IAML		13 28 13.0		
	comp=E,197nm,0.8s							
TABL	**Table Mountain**	**2.70**	**299**	Pn	**Pn**	**13 27 31.9**	**+1.8**	
TABL				Sn	**Sn**	**13 28 04.8**	**+2.3**	
RKAV	**Rock Avalanche**	**2.74**	**296**	Pn	**Pn**	**13 27 32.5**	**+2.0**	
RKAV				Sn	**Sn**	**13 28 05.8**	**+2.5**	
R33M	**Jennings River**	**2.78**	**84**		**Pn**	**13 27 32.1**	**+1.0**	
R33M				IAML		13 28 20.3		
	comp=E,190nm,0.5s							
R33M	**Jennings River**	**2.78**	**84**	Pn	**Pn**	**13 27 32.2**	**+1.1**	
R33M				Sn	**Sn**	**13 28 06.7**	**+2.4**	
R33M	**Jennings River**	**2.78**	**84**	P	**Pn**	**13 27 32.4**	**+1.2**	
	baz=268,SNR=105							
R33M				S	**Sn**	**13 28 06.5**	**+2.2**	
	baz=268							
LOGN	**Logan Glacier**	**2.83**	**307**		**Pn**	**13 27 32.9**	**+1.1**	
LOGN				IAML		13 28 18.1		
	comp=N,161nm,0.8s							
LOGN	**Logan Glacier**	**2.83**	**307**	Pn	**Pn**	**13 27 32.9**	**+1.1**	
LOGN				Sn	**Sn**	**13 28 08.1**	**+2.6**	
MESA	**MESA**	**2.99**	**291**		**Pn**	**13 27 35.1**	**+1.1**	
MESA				IAML		13 28 17.7		
	comp=E,163nm,0.7s							
MESA				IAML		13 28 19.8		
	comp=N,256nm,0.5s							
MESA	**MESA**	**2.99**	**291**	Pn	**Pn**	**13 27 35.1**	**+1.1**	
MESA				Sn	**Sn**	**13 28 11.4**	**+2.0**	
MESA	**MESA**	**2.99**	**291**	P	**Pn**	**13 27 34.4**	**+0.5**	
	baz=107							
MESA				Sb	**Sb**	**13 28 16.5**	**+0.3**	
	baz=107							
S34M	**Telegraph Cree**	**3.04**	**113**	Pn	**Pn**	**13 27 35.4**	**+0.9**	
S34M				Sn	**Sn**	**13 28 12.4**	**+1.9**	
S34M	**Telegraph Cree**	**3.04**	**113**	P	**Pn**	**13 27 35.5**	**+0.9**	
	baz=297,SNR=28							
S34M				Sb	**Sg**	**13 28 22.3**	**-2.6**	
	baz=297							
CTGM	**Chitina Glacie**	**3.04**	**308**		**Pn**	**13 27 35.8**	**+1.1**	
CTGM	**Chitina Glacie**	**3.04**	**308**	Pn	**Pn**	**13 27 36.2**	**+1.5**	
CTGM				Sn	**Sn**	**13 28 13.5**	**+2.7**	
CTG	**Chitna Glacier**	**3.05**	**307**	P	**Pn**	**13 27 35.2**	**+0.5**	
	baz=124,SNR=20							
CTG				Sb	**Sb**	**13 28 21.0**	**+3.0**	
	baz=124							
GRNC	**Granite Creek**	**3.10**	**302**		**Pn**	**13 27 37.0**	**+1.5**	
GRNC				IAML		13 28 25.7		
	comp=N,114nm,0.6s							
GRNC	**Granite Creek**	**3.10**	**302**	Pn	**Pn**	**13 27 37.3**	**+1.7**	
GRNC				Sn	**Sn**	**13 28 14.6**	**+2.2**	
M31M	**Drury Creek, Y**	**3.16**	**17**	Pn	**Pn**	**13 27 38.6**	**+2.4**	
M31M				Sg	**Sg**	**13 28 25.9**	**-2.7**	
M31M	**Drury Creek, Y**	**3.16**	**17**	Pb	**Pb**	**13 27 43.9**	**+0.9**	
	baz=199							
M31M				Sb	**Sb**	**13 28 24.9**	**+3.8**	
	baz=199							

BARN	**Barnard Glacie**	**3.23**	**307**		**Pn**	**13 27 38.5**	**+1.3**	
YUK3	**Moose Creek**	**3.27**	**324**	Pn	**Pn**	**13 27 39.7**	**+1.8**	
YUK3				Sn	**Sn**	**13 28 18.9**	**+2.4**	
YUK3	**Moose Creek**	**3.27**	**324**	Pb	**Pb**	**13 27 45.1**	**+0.1**	
	baz=140							
YUK3				Sb	**Sb**	**13 28 28.4**	**+3.9**	
	baz=140							
ISLE	**Juniper Island**	**3.31**	**298**		**Pn**	**13 27 39.5**	**+1.2**	
ISLE				IAML		13 28 40.6		
	comp=N,97nm,0.8s							
M30M	**Minto, Yukon**	**3.39**	**357**	Pn	**Pn**	**13 27 41.3**	**+2.0**	
M30M				Sg	**Sg**	**13 28 33.1**	**-2.8**	
M30M	**Minto, Yukon**	**3.39**	**357**	P	**Pn**	**13 27 40.8**	**+1.5**	
	baz=177							
M30M				Sb	**Sb**	**13 28 31.6**	**+4.0**	
	baz=177							
DLBC	**Dease Lake**	**3.39**	**100**	P	**Pn**	**13 27 40.4**	**+1.0**	
	baz=286,SNR=32							
YUK2	**White River**	**3.40**	**321**	Pn	**Pn**	**13 27 41.1**	**+1.5**	
YUK2				Sn	**Sn**	**13 28 21.1**	**+1.6**	
M29M	**Somme Creek**	**3.40**	**343**		**Pn**	**13 27 40.8**	**+1.2**	
M29M				IAML		13 28 40.0		
	comp=N,137nm,0.6s							
M29M				IAML		13 28 44.5		
	comp=E,151nm,0.9s							
M29M	**Somme Creek**	**3.40**	**343**	Pn	**Pn**	**13 27 41.3**	**+1.7**	
M29M				Sn	**Sn**	**13 28 22.2**	**+2.6**	
M29M	**Somme Creek**	**3.40**	**343**	P	**Pn**	**13 27 41.3**	**+1.7**	
	baz=162							
SNH	**Sunshine Point**	**3.42**	**289**		**Pn**	**13 27 41.3**	**+1.6**	
SNH				IAML		13 28 44.6		
	comp=N,145nm,1.1s							
SNH				IAML		13 28 45.9		
	comp=E,103nm,0.7s							
KIAG	**Kiagna River**	**3.46**	**302**	Pn	**Pn**	**13 27 41.8**	**+1.4**	
KIAG				Sn	**Sn**	**13 28 22.9**	**+1.9**	
KIAG				Sg	**Sg**	**13 28 34.3**	**-3.8**	
WAX	**Waxell Ridge**	**3.50**	**294**	IAML		13 28 47.5		
	comp=E,111nm,1.1s							
BALM	**Baldy**	**3.50**	**304**	Pn	**Pn**	**13 27 42.4**	**+1.4**	
BALM				Sn	**Sn**	**13 28 23.8**	**+1.8**	
WRAK	**Wrangell Islan**	**3.53**	**141**		**Pn**	**13 27 40.9**	**-0.3**	
WRAK				IAML		13 28 45.9		
	comp=E,159nm,0.6s							
WRAK				IAML		13 28 48.2		
	comp=E,161nm,0.6s							
WRAK	**Wrangell Islan**	**3.53**	**141**	Pn	**Pn**	**13 27 42.4**	**+1.2**	
WRAK				Sn	**Sn**	**13 28 24.3**	**+1.8**	
WRAK	**Wrangell Islan**	**3.53**	**141**	P	**Pn**	**13 27 41.3**	**+0.1**	
	baz=324,SNR=14							
U33K	**Whale Pass**	**3.56**	**149**		**Pn**	**13 27 41.5**	**-0.2**	
U33K				IAML		13 28 47.3		
	comp=E,100nm,0.7s							
U33K				IAML		13 28 51.4		
	comp=N,82nm,0.8s							
U33K	**Whale Pass**	**3.56**	**149**	Pn	**Pn**	**13 27 42.0**	**+0.4**	
U33K				Sn	**Sn**	**13 28 24.8**	**+1.6**	
U33K	**Whale Pass**	**3.56**	**149**	P	**Pn**	**13 27 42.0**	**+0.4**	
	baz=332,SNR=7.7							
TGL	**Tana Glacier**	**3.59**	**298**		**Pn**	**13 27 42.3**	**+0.1**	
PTPK	**Patty Peak**	**3.63**	**306**	Pn	**Pn**	**13 27 44.1**	**+1.3**	
PTPK				Sn	**Sn**	**13 28 27.1**	**+1.9**	
CRQE	**Cirque**	**3.71**	**298**	P	**Pn**	**13 27 44.9**	**+1.0**	
	baz=112							
CRQM	**Cirque**	**3.73**	**297**		**Pn**	**13 27 44.7**	**+0.5**	
CRQM				IAML		13 28 39.4		
	comp=E,81nm,1.1s							
CRQM				IAML		13 28 51.1		
	comp=N,99nm,1.1s							
SUCK	**Suckling Hills**	**3.85**	**286**	Pn	**Pn**	**13 27 47.1**	**+1.4**	
SUCK				IAML		13 28 45.3		
	comp=N,70nm,0.7s							
BERG	**Berg Lake**	**3.88**	**291**		**Pn**	**13 27 47.6**	**+1.5**	
BERG				IAML		13 28 44.1		
	comp=N,116nm,0.5s							
BVCY	**Beaver Creek**	**3.89**	**328**	Pn	**Pn**	**13 27 47.5**	**+1.3**	
BVCY	**Beaver Creek**	**3.89**	**328**	Pb	**Pb**	**13 27 56.0**	**+0.6**	
	baz=144							
T35M	**Bob Quinn**	**3.95**	**122**		**Pn**	**13 27 47.6**	**+0.7**	
T35M	**Bob Quinn**	**3.95**	**122**	Pn	**Pn**	**13 27 47.9**	**+0.9**	
T35M				Sn	**Sn**	**13 28 34.3**	**+1.5**	
T35M	**Bob Quinn**	**3.95**	**122**	P	**Pn**	**13 27 47.9**	**+0.9**	
	baz=307,SNR=14							
WTLY	**Watson Lake, Y**	**3.96**	**73**	Sg	**Sg**	**13 28 50.2**	**-3.8**	
WTLY	**Watson Lake, Y**	**3.96**	**73**	Pg	**Pg**	**13 28 01.5**	**-1.4**	
	baz=260,SNR=14							
MCARA	**McCarthy VSAT**	**3.96**	**306**		**Pn**	**13 27 48.7**	**+1.5**	
MCARA				IAML		13 28 59.0		
	comp=E,98nm,1.0s							
MCARA				IAML		13 29 11.6		
	comp=N,77nm,0.9s							
MCARA	**McCarthy VSAT**	**3.96**	**306**	Pn	**Pn**	**13 27 48.9**	**+1.7**	
MCARA	**McCarthy VSAT**	**3.96**	**306**	P	**Pn**	**13 27 48.3**	**+1.1**	
	baz=121							
L29M	**L29M**	**4.01**	**349**	Pn	**Pn**	**13 27 49.8**	**+1.9**	
L29M				Sg	**Sg**	**13 28 52.6**	**-3.1**	
L29M	**L29M**	**4.01**	**349**	P	**Pn**	**13 27 49.6**	**+1.8**	
	baz=167,SNR=13							
CRAG	**Craig**	**4.14**	**153**	IAML		13 29 07.8		
	comp=N,51nm,0.8s							
CRAG				IAML		13 29 10.5		
	comp=E,51nm,0.8s							
CRAG	**Craig**	**4.14**	**153**	P	**Pn**	**13 27 49.9**	**+0.3**	
	baz=336							
M27K	**Edge Creek, AK**	**4.15**	**322**	Pn	**Pn**	**13 27 51.7**	**+1.8**	
M27K	**Edge Creek, AK**	**4.15**	**322**	P	**Pn**	**13 27 51.2**	**+1.3**	
	baz=137,SNR=6.8							
MMPY	**Sheldon Lake,**	**4.24**	**34**	Pn	**Pn**	**13 27 52.3**	**+1.3**	
MMPY				Sg	**Sg**	**13 28 59.8**	**-3.3**	
MMPY	**Sheldon Lake,**	**4.24**	**34**	P	**Pn**	**13 27 53.4**	**+2.4**	
	baz=218,SNR=28							
RAGM	**Ragged Mountai**	**4.35**	**289**	IAML		13 29 02.8		
	comp=E,82nm,0.5s							
MAYO	**Mayo, Yukon**	**4.41**	**3**	Sg	**Sg**	**13 29 04.6**	**-4.1**	
BMRM	**Bremner River**	**4.48**	**297**	IAML		13 29 08.9		
	comp=N,42nm,0.7s							
BMRM	**Bremner River**	**4.48**	**297**	P	**Pn**	**13 27 55.8**	**+1.5**	
	baz=110,SNR=5.4							
M26K	**Nabesna, AK**	**4.55**	**318**	Pn	**Pn**	**13 27 56.6**	**+1.3**	
M26K	**Nabesna, AK**	**4.55**	**318**	P	**Pn**	**13 27 57.4**	**+2.0**	
	baz=132							
TGTN	**Hyland Airport**	**4.65**	**57**	Pn	**Pn**	**13 27 58.6**	**+1.9**	
TGTN				Sg	**Sg**	**13 29 11.4**	**-4.9**	
TGTN	**Hyland Airport**	**4.65**	**57**	P	**Pn**	**13 27 58.8**	**+2.1**	
	baz=244,SNR=7.6							
V35K	**Ketchikan**	**4.67**	**144**	IAML		13 29 20.5		
	comp=E,35nm,0.7s							
V35K	**Ketchikan**	**4.67**	**144**	Pn	**Pn**	**13 27 58.2**	**+1.3**	
V35K				Sn	**Sn**	**13 28 50.2**	**-0.4**	
V35K	**Ketchikan**	**4.67**	**144**	P	**Pn**	**13 27 58.3**	**+1.4**	
	baz=328,SNR=19							
L27K	**Beaver Creek,**	**4.68**	**328**	Pn	**Pn**	**13 27 59.0**	**+2.0**	
L27K	**Beaver Creek,**	**4.68**	**328**	P	**Pn**	**13 27 59.1**	**+2.0**	
	baz=144,SNR=7.0							
K29M	**Barlow Dome**	**4.69**	**354**	IAML		13 29 15.7		
	comp=N,71nm,0.7s							
K29M				IAML		13 29 16.3		
	comp=E,71nm,0.8s							
K29M	**Barlow Dome**	**4.69**	**354**	Pn	**Pn**	**13 27 59.2**	**+2.0**	
K29M				Sg	**Sg**	**13 29 13.2**	**-4.3**	
K29M	**Barlow Dome**	**4.69**	**354**	P	**Pn**	**13 27 59.8**	**+2.6**	
	baz=173,SNR=21							
N25K	**Chitina, Valde**	**4.73**	**304**	Pn	**Pn**	**13 27 59.6**	**+1.8**	
N25K				Sn	**Sn**	**13 28 52.8**	**+0.6**	
N25K	**Chitina, Valde**	**4.73**	**304**	P	**Pn**	**13 27 59.7**	**+1.9**	
	baz=117							
DIV	**Divide**	**5.07**	**296**	Sn	**Sn**	**13 29 00.1**	**-0.5**	
DAWY	**Dawson**	**5.08**	**345**	Pn	**Pn**	**13 28 04.5**	**+1.9**	
DAWY				Sg	**Sg**	**13 29 26.1**	**-4.1**	
DAWY	**Dawson**	**5.08**	**345**	P	**Pn**	**13 28 04.0**	**+1.5**	
	baz=162							
MENT	**Mentasta**	**5.17**	**320**	IAML		13 29 46.1		
	comp=E,36nm,0.6s							
MENT				IAML		13 30 33.6		
	comp=N,34nm,0.6s							
KLU	**Klutina**	**5.26**	**300**	IAML		13 29 35.5		
	comp=E,24nm,1.1s							
KLU	**Klutina**	**5.26**	**300**	P	**Pn**	**13 28 07.1**	**+2.0**	
	baz=112,SNR=12							
J30M	**Hart River**	**5.39**	**0**	Pn	**Pn**	**13 28 08.5**	**+1.6**	
J30M				Sg	**Sg**	**13 29 36.3**	**-3.7**	
J30M	**Hart River**	**5.39**	**0**	P	**Pn**	**13 28 09.9**	**+3.1**	
	baz=180							
K27K	**Chicken**	**5.55**	**333**	Pn	**Pn**	**13 28 10.4**	**+1.5**	
K27K				Sn	**Sn**	**13 29 12.2**	**0.0**	

K27K	**Chicken**	**5.55**	**333**	P	**Pn**	**13 28 11.5**	**+2.6**	
	baz=148							
M24K	**Tolsona, Glenn**	**5.62**	**305**	P	**Pn**	**13 28 12.8**	**+2.8**	
	baz=117							
DOT	**Dot Lake**	**5.78**	**324**	Sg	**Sg**	**13 29 47.6**	**-4.9**	
PCLB	**Port Clements**	**5.91**	**157**	Pn	**Pn**	**13 28 14.8**	**+0.9**	
SCRK	**Sand Creek**	**6.00**	**326**	P	**Pn**	**13 28 17.6**	**+2.3**	
	baz=140							
SCM	**Sheep Creek Mo**	**6.01**	**301**	P	**Pn**	**13 28 18.0**	**+2.7**	
	baz=111							
EGAK	**Eagle**	**6.02**	**340**	Sg	**Sg**	**13 29 56.0**	**-4.4**	
I30M	**Mount Dempster**	**6.04**	**0**	Sn	**Sn**	**13 29 24.0**	**-0.4**	
I30M	**Mount Dempster**	**6.04**	**0**	P	**Pn**	**13 28 18.1**	**+2.4**	
	baz=180							
PWL	**Port Wells**	**6.21**	**291**	P	**Pn**	**13 28 20.3**	**+2.2**	
	baz=100							
I29M	**Ogilvie Camp,**	**6.24**	**353**	Sg	**Sg**	**13 30 02.5**	**-4.7**	
KOTAN	**Kotaneelee Air**	**6.32**	**76**	Sn	**Sn**	**13 29 30.0**	**-1.1**	
KOTAN	**Kotaneelee Air**	**6.32**	**76**	P	**Pn**	**13 28 21.9**	**+2.4**	
	baz=267							
DIB	**Dawson Inlet,**	**6.40**	**158**	Pn	**Pn**	**13 28 21.1**	**+0.5**	
NBC1	**NorthernBC 1**	**6.42**	**81**	Sn	**Sn**	**13 29 32.0**	**-1.8**	
GRNB	**Grenville Isla**	**6.44**	**144**	Pn	**Pn**	**13 28 21.8**	**+0.6**	
GRNB				Sn	**Sn**	**13 29 32.5**	**-1.8**	
I28M	**Miner Creek**	**6.48**	**347**	Sg	**Sg**	**13 30 08.9**	**-5.9**	
WAT6	**Susitna Watana**	**6.49**	**306**	P	**Pn**	**13 28 23.9**	**+1.9**	
	baz=116							
MOBC	**Moresby Island**	**6.56**	**156**	Pn	**Pn**	**13 28 23.4**	**+0.6**	
NAHA	**Nahanni Butte**	**6.75**	**69**	Sn	**Sn**	**13 29 40.1**	**-1.6**	
I27K	**Kandik River**	**6.86**	**342**	Sg	**Sg**	**13 30 20.3**	**-6.8**	
J25K	**Salcha River,**	**6.88**	**326**	Pn	**Pn**	**13 28 28.3**	**+1.1**	
J25K	**Salcha River,**	**6.88**	**326**	P	**Pn**	**13 28 29.3**	**+2.1**	
	baz=138							
I26K	**Coal Creek Min**	**6.88**	**336**	Pn	**Pn**	**13 28 28.4**	**+1.2**	
I26K				Sg	**Sg**	**13 30 21.3**	**-6.6**	
I26K	**Coal Creek Min**	**6.88**	**336**	P	**Pn**	**13 28 29.7**	**+2.5**	
	baz=150							
H29M	**Whitestone**	**7.10**	**353**	Pn	**Pn**	**13 28 31.5**	**+1.3**	
H29M				Sg	**Sg**	**13 30 27.9**	**-6.8**	
GRIB	**Gribbell Islan**	**7.13**	**142**	Pn	**Pn**	**13 28 31.5**	**+0.9**	
EPYK	**Eagle Plains**	**7.19**	**359**	Sg	**Sg**	**13 30 32.1**	**-5.6**	
BRSE	**Bradley Lake S**	**7.33**	**280**	P	**Pn**	**13 28 35.4**	**+1.9**	
	baz=88							
JEDB	**Jedway, Haida**	**7.52**	**155**	Pn	**Pn**	**13 28 36.7**	**+0.7**	
BUTB	**Butedale**	**7.58**	**141**	Pn	**Pn**	**13 28 37.6**	**+0.7**	
BUTB				Sn	**Sn**	**13 29 58.9**	**-3.4**	
G31M	**Satah River**	**7.80**	**6**	Pn	**Pn**	**13 28 41.3**	**+1.5**	
G31M	**Satah River**	**7.80**	**6**	P	**Pn**	**13 28 42.7**	**+2.9**	
	baz=188							
G30M	**tAoh Zraii Nji**	**7.80**	**0**	Pn	**Pn**	**13 28 41.3**	**+1.4**	
G27K	**Doyon Strip**	**8.00**	**345**	Pn	**Pn**	**13 28 43.6**	**+1.1**	
Q20K	**Shuyak Island**	**8.31**	**273**	P	**Pn**	**13 28 49.0**	**+2.2**	
	baz=79							
F31M	**Tsiigehtchic**	**8.35**	**7**	Pn	**Pn**	**13 28 48.7**	**+1.4**	
BBB	**Bella Bella**	**8.44**	**143**	Pn	**Pn**	**13 28 49.2**	**+0.6**	
F30M	**Barrier River**	**8.44**	**2**	Pn	**Pn**	**13 28 49.8**	**+1.2**	

*IDC **08** 13:42:02.4±2.4, 3˚.49S×128˚.87E, h0km, mb3.6/2, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=172.2km s-min=29.1km az=68.0*

*DJA **08** 13:42:04.9±0.4, 3˚S±3˚×13˚0E±˚, h22km±5km, M4.0/13, mb4.5/2, MLv3.7/13*

ISC 08 13:42:04.0±1.0, 2˚.92S±0˚.08×130˚.30E±0˚.06, h24km, n12, σ1$09/12, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**1.43**	**253**	P	**Pn**	**13 42 29.8**	**+1.3**
BNDI	**Bandanaira**	**1.64**	**194**	P	**Pn**	**13 42 32.7**	**+1.4**
FAKI	**Fak Fak**	**1.95**	**90**	P	**Pn**	**13 42 36.2**	**+0.5**
AAI	**Ambon**	**2.23**	**250**	P	**Pb**	**13 42 43.3**	**-0.4**
SWI	**Sorong**	**2.26**	**25**	P	**Pn**	**13 42 40.9**	**+1.0**
NLAI	**Namlea**	**3.21**	**264**	P	**Pn**	**13 42 53.5**	**+0.6**
RKPI	**Ransiki, Papua**	**4.12**	**70**	P	**Pn**	**13 43 06.2**	**+0.6**
SANI	**Sanana**	**4.39**	**281**	P	**Pn**	**13 43 08.8**	**-0.4**
BAKI	**Biak**	**6.06**	**74**	P	**Pn**	**13 43 33.8**	**+1.6**
WRA	**Warramunga Arr**	**17.37**	**167**	P	**Pn**	**13 46 04.5**	**-0.5**
	0.5nm,0.3s,baz=344,slow=12,SNR=13 0.5nm,0.3s						
ASAR	**Alice Springs**	**20.92**	**171**	P	**P**	**13 46 43.6**	**-1.4**
	3.6nm,0.7s,baz=350,slow=11,SNR=90 3.6nm,0.7s		

NLAI Namlea 9.36 170 P **Pn** **13 51 30.1 +0.5**
AAI Ambon 10.03 165 P **Pn** **13 51 40.8 +2.0**
TTSI Tana Toraja 10.70 213 P **Pn** **13 51 47.9 -0.1**
69nm,0.9s
FAKI Fak Fak 11.14 143 Pn **Pn** **13 51 57.1 +3.1**
FAKI Fak Fak 11.14 143 P **Pn** **13 51 55.6 +1.5**
FAKI Fak Fak 11.14 143 P **Pn** **13 51 56.8 +2.7**
1µm79nm,1.8s
RKPI Ransiki, Papua 11.42 131 P **Pn** **13 52 01.3 +3.3**
2µm196nm,1.6s
SPSI Sidrap Palu 11.51 210 P **Pn** **13 52 01.6 +2.5**
43nm,0.8s
BNSI Bone 11.72 208 P **Pn** **13 52 06.3 +4.3**
1µm47nm,1.0s
KAPI Kappang 12.43 208 **Pn** **13 52 10.4 -1.2**
KAPI Kappang 12.43 208 P **Pn** **13 52 15.6 +4.0**
18nm,0.5s,baz=23,slow=11,SNR=7.9
KAPI LR LR 13 57 35.9
comp=Z,648nm,21.7s,baz=50,slow=40
BKSI Bulukumba 12.53 206 P **Pn** **13 52 14.0 +0.9**
BAKI Biak 12.76 124 P Pn 13 52 21.2 +5.0
3µm3µm113nm,1.4s
SRPI Serui, Papua 13.26 126 P **Pn** **13 52 26.1 +3.1**
2µm69nm,0.9s
SBUM Sibu 13.77 256 **Pn** **13 52 27.3 -2.7**
SAUI Saumlaki 15.07 158 Pn **Pn** **13 52 47.2 -0.2**
SAUI Saumlaki 15.07 158 P **Pn** **13 52 48.6 +1.2**
STKI Sintang 15.26 248 P **P** **13 52 53.5 -0.6**
54nm,1.2s
SMPI Sarmi 15.37 121 P **Pn** **13 52 52.8 +1.4**
SOEI Soe 15.75 185 **Pn** **13 52 54.1 -2.3**
SOEI Soe 15.75 185 P **Pn** **13 52 57.4 +1.0**
SOEI Soe 15.75 185 P **P** **13 52 58.2 -1.5**
2µm110nm,0.8s
KSM Kuching 15.88 254 **Pn** **13 52 54.5 -3.4**
BATI Baumata 16.26 187 P **Pn** **13 53 03.0 +0.3**
104nm,0.6s,baz=102,slow=0.8,SNR=14
BATI LR LR 13 59 50.6
comp=Z,767nm,21.9s,baz=357,slow=39
BATI Baumata 16.26 187 P **Pn** **13 53 03.4 +0.7**
2µm174nm,1.1s
PLAI Plampang 16.69 208 P **P** **13 53 09.7 -0.3**
PLAI Plampang 16.69 208 P **P** **13 53 09.5 -0.5**
70nm,1.0s
WBSI Waikabubak, Su 16.75 202 P **P** **13 53 10.7 0.0**
42nm,0.7s
GENI Genyem 16.93 120 P **P** **13 53 15.5 +2.9**
2µm2µm106nm,0.6s
TWSI Taliwang, Sumb 17.05 211 P **P** **13 53 15.0 +1.1**
61nm,1.0s
JAY Jayapura 17.36 119 P **P** **13 53 19.6 +2.1**
12nm,0.6s,baz=220,slow=13,SNR=11
JAY LR LR 13 59 27.4
comp=Z,771nm,20.6s,baz=336,slow=35
JAY Jayapura 17.36 119 P **P** **13 53 19.1 +1.7**
YULB Yu-li 17.72 347 Pn **Pn** **13 53 17.4 -3.5**
TPUB Ta-pu 17.80 345 P **Pn** **13 53 17.9 -4.0**
SSLB Suanglung 18.18 346 **P** **13 53 22.7 -3.8**
JAGI Jajag, Banyuwa 18.37 218 **Pn** **13 53 29.2 +0.4**
JAGI Jajag, Banyuwa 18.37 218 P **Pn** **13 53 29.7 +0.8**
JAGI Jajag, Banyuwa 18.37 218 P **Pn** **13 53 31.4 +2.5**
1µm81nm,0.9s
GMJI Gumukmas 18.66 220 P **Pn** **13 53 35.3 +2.9**
1µm37nm,0.8s
NGJI Ngawi 19.38 227 P **Pn** **13 53 43.8 +2.8**
107nm,1.1s
KNMB Chin-men Tao 19.56 340 P **P** **13 53 40.2 -1.3**
MTN Manton Dam 19.57 164 P **P** **13 53 41.6 -0.1**
comp=Z,86nm,1.0s
MTN Manton Dam 19.57 164 P **P** **13 53 41.6 -0.1**
MTN IAmb IAmb 13 53 45.2
comp=Z,92nm,1.2s
MTN Manton Dam 19.57 164 P **P** **13 53 42.1 +0.4**
KDU Kakadu 19.84 160 P **P** **13 53 45.0 +0.4**
comp=Z,68nm,0.7s
KDU Kakadu 19.84 160 P **P** **13 53 45.2 +0.6**
TPI Tanjungpandan 19.90 244 P **Pn** **13 53 47.7 +0.4**
comp=Z,44nm,0.9s
QZH Quanzhou 19.94 341 *e*P **Pn** **13 53 48.4 +0.9**
QZH S **S** **13 57 26.8 -0.8**
QZH LR LR
comp=Z,1µm,21.0s
QZH LR LR
comp=Z,1µm,22.3s
QIZ Qiongzhong 20.02 312 **P** **13 53 47.4 +0.8**
QIZ IAmb IAmb 13 53 57.9
comp=Z,128nm,1.9s
QIZ Qiongzhong 20.02 312 P Pn 13 53 48.9 +0.3
QIZ S Sn 13 57 31.8 -1.2
QIZ pmax pmax
comp=Z,28nm,0.9s
QIZ pmax pmax
comp=Z,270nm,5.9s
QIZ LR LR
comp=Z,660nm,16.8s
QIZ LR LR
comp=Z,550nm,16.1s
QIZ LR LR
comp=Z,1µm,20.6s
GUMO Guam 20.44 67 P **P** **13 53 51.6 +0.4**
comp=Z,35nm,0.6s,baz=171,slow=17,SNR=4.5
GUMO LR LR 14 00 42.0
comp=Z,215nm,21.5s,baz=238,slow=33
comp=Z,35nm,0.6s
JOW Kunigami 20.83 7 P **P** **13 53 55.4 +0.1**
comp=Z,25nm,0.9s,baz=141,slow=14,SNR=2.0
JOW LR LR 14 02 15.6
comp=Z,646nm,20.6s,baz=160,slow=37
comp=Z,25nm,0.9s
KPJI Karang Pucung 21.26 232 P **P** **13 54 03.1 +3.1**
comp=Z,57nm,1.6s
KNRA Kununurra 21.82 172 P **P** **13 54 05.6 -0.4**
comp=Z,137nm,0.6s
KNRA Kununurra 21.82 172 P **P** **13 54 05.7 -0.2**
LEM Lembang 22.00 235 P **P** **13 54 08.2 +0.1**
comp=Z,52nm,0.7s,baz=345,slow=8.7,SNR=7.0
LEM LR LR 14 03 57.4
comp=Z,949nm,18.9s,baz=52,slow=40
comp=Z,52nm,0.7s
MYKOM Kota Tinggi 22.06 260 P **P** **13 54 09.7 +1.1**
BBJI Bungbulang 22.34 233 P **P** **13 54 13.5 +1.8**
CNJI Cibinong 22.67 234 P **P** **13 54 16.8 +1.6**
comp=Z,57nm,1.2s
CGJI Cibinong 23.48 238 P **P** **13 54 25.0 +1.8**
comp=Z,103nm,0.7s
MDSI Maura Dua 23.77 244 P **P** **13 54 27.7 +1.7**
comp=Z,898nmcomp=Z,52nm,0.9s
FITZ Fitzroy Crossi 24.00 180 LR LR 14 05 49.8
comp=Z,321nm,19.7s,baz=30,slow=41
GULI GuiLin 24.03 324 P P 13 54 36.7 +8.4
GULI S **S** **13 58 50.1 +7.4**
GULI pmax pmax
comp=Z,46nm,1.4s
GULI pmax pmax
comp=Z,290nm,4.3s
GULI LR LR
comp=N,970nm,16.8s
GULI LR LR
comp=E,680nm,17.4s
GULI LR LR
comp=Z,1µm,18.8s
IPM Ipoh 24.48 268 P **P** **13 54 32.9 +0.4**
IPM IAmb IAmb 13 54 58.8
comp=Z,78nm,1.3s
IPM Ipoh 24.48 268 P **P** **13 54 34.8 +2.2**
KULM Kulim 24.80 270 P **P** **13 54 35.9 +0.5**
KULM IAmb IAmb 13 54 38.4
comp=Z,63nm,0.9s
KULM Kulim 24.80 270 P **P** **13 54 37.6 +2.2**
MNAI Manna 24.82 246 P **P** **13 54 36.9 +1.2**
MASI Maura Aman, Be 25.01 249 P **P** **13 54 40.1 +2.7**
comp=Z,2µmcomp=Z,122nm,0.9s
CNSH ChangSha 25.06 333 P P 13 54 47.2 +10
CNSH S S 13 59 17.9 +19
CNSH LR LR
comp=N,920nm,20.3s
CNSH LR LR
comp=E,1µm,21.4s
CNSH LR LR
comp=Z,1µm,22.2s
SSE Sheshan 25.25 351 P **P** **13 54 44.2 +4.9**
SSE S **S** **13 59 05.4 +3.4**
SSE pmax pmax
comp=Z,30nm,1.4s
SSE LR LR
comp=Z,430nm,20.6s
SSE LR LR
comp=Z,280nm,23.4s
SLVN Son La 25.89 308 P **P** **13 54 45.9 +0.5**
PMG Port Moresby 26.44 125 P **P** **13 54 50.7 +0.4**
PMG IAmb IAmb 13 54 52.6
comp=Z,40nm,1.1s
PMG Port Moresby 26.44 125 LR LR 14 06 05.7
comp=Z,284nm,20.6s,baz=313,slow=38
COEN Coen 26.48 139 P **P** **13 54 50.6 0.0**
comp=Z,68nm,0.7s
COEN Coen 26.48 139 P **P** **13 54 50.9 +0.3**
COEN IAmb IAmb 13 55 07.2
comp=Z,78nm,1.2s
COEN Coen 26.48 139 P **P** **13 54 51.5 +0.9**
NJ2 Nanjing 26.62 347 *e*P **P** **13 54 52.7 +1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
PSI Prapat 26.74 264 LR LR 14 07 50.6
comp=Z,443nm,18.4s,baz=70,slow=42
RPSI Rantau Prapat 26.76 264 P **P** **13 54 51.1 -2.1**
WB0 Warramunga Arr 27.09 161 P **P** **13 54 54.3 -1.8**
WB0 IAmb IAmb 13 55 26.2
comp=Z,41nm,0.9s
WRAB Tennant Creek 27.23 162 P **P** **13 54 56.5 -0.9**
WRAB IAmb IAmb 13 55 13.9
comp=Z,62nm,1.2s
WRA Warramunga Arr 27.24 162 P **P** **13 54 55.4 -2.0**
WRA Warramunga Arr 27.24 162 P **P** **13 54 56.7 -0.7**
comp=Z,6.1nm,0.5s,baz=343,slow=10,SNR=70
WRA PcP **PcP** **13 58 16.2 -0.6**
comp=Z,1.5nm,0.5s,baz=336,slow=2.4,SNR=2.3
WRA ScP **ScP** **14 01 51.2 -2.7**
comp=Z,0.8nm,0.8s,baz=342,slow=3.4,SNR=2.6
WRA LR LR 14 07 46.1
comp=Z,133nm,18.7s,baz=329,slow=41
comp=Z,6.1nm,0.5s
WR8 Warramunga Arr 27.30 161 IAmb IAmb 13 55 21.7
comp=Z,46nm,1.2s
JNU Nakatsue 27.39 10 P **P** **13 54 58.0 -0.7**
SISI Saibi 27.42 255 P **P** **13 54 59.7 +0.5**
MBWA Marble Bar 27.64 192 P **P** **13 55 00.2 -0.8**
comp=Z,33nm,0.8s
MBWA Marble Bar 27.64 192 P **P** **13 54 58.9 -2.0**
MBWA Marble Bar 27.64 192 P **P** **13 55 01.9 +0.9**
KCSI Kotacane, Aceh 27.80 266 P **P** **13 55 02.3 -0.3**
comp=Z,20nm,0.8s
PSA00 Pilbara Seismi 28.02 191 P **P** **13 55 03.6 -0.7**
comp=Z,37nm,0.9s
PSA00 Pilbara Seismi 28.02 191 P **P** **13 55 03.2 -1.1**
PSA00 Pilbara Seismi 28.02 191 IAmb IAmb 13 55 04.7
comp=Z,24nm,0.7s
PSA00 Pilbara Seismi 28.02 191 P **P** **13 55 05.8 +1.5**
JMN Monobe 28.60 15 P **P** **13 55 11.2 +1.7**
CMAR Chiang Mai Arr 28.73 298 P **P** **13 55 11.6 +0.8**
CMAR Chiang Mai Arr 28.73 298 P **P** **13 55 10.7 -0.1**
comp=Z,1.3nm,0.6s,baz=118,slow=7.7,SNR=11
CMAR PcP **PcP** **13 58 18.6 -1.9**
comp=Z,0.3nm,0.3s,baz=132,slow=3.2,SNR=2.3
CMAR ScP **ScP** **14 01 56.4 -2.1**
comp=Z,0.8nm,0.6s,baz=98,slow=3.2,SNR=6.0
CMAR LR LR 14 06 46.0
comp=Z,664nm,19.4s,baz=115,slow=37
comp=Z,1.3nm,0.6s
CHTO Chiang Mai 28.86 298 P **P** **13 55 09.6 -2.4**
CHTO Chiang Mai 28.86 298 P **P** **13 55 15.4 +3.4**
KMI Kunming 28.93 313 P **P** **13 55 14.8 +2.0**
KMI pP pP 13 55 23.6 -1.1
KMI S **S** **14 00 01.6 +0.8**
KMI pmax pmax
comp=Z,35nm,1.4s
KMI LR LR
comp=Z,390nm,21.2s
KMI LR LR
comp=Z,650nm,19.8s
KMI LR LR
comp=Z,860nm,22.3s
QIS Mount Isa 29.83 153 P **P** **13 55 20.6 +0.1**
comp=Z,37nm,0.6s
QIS Mount Isa 29.83 153 P **P** **13 55 22.2 +1.7**
MTSU Mount Surprise 30.34 143 P **P** **13 55 25.8 +0.8**
comp=Z,15nm,0.9s
MTSU Mount Surprise 30.34 143 P **P** **13 55 26.3 +1.3**
PZH PanZhiHua 30.48 315 P **P** **13 55 27.2 +0.8**
PZH S **S** **14 00 26.1 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,230nm,5.7s
PZH LR LR
comp=Z,330nm,16.3s
PZH LR LR
comp=Z,490nm,20.0s
PZH LR LR
comp=Z,690nm,19.6s
AS31 Alice Springs 30.64 165 P **P** **13 55 27.6 0.0**
comp=Z,7.2nm,0.5s
ASAR Alice Springs 30.64 165 P **P** **13 55 27.1 -0.5**
ASAR Alice Springs 30.64 165 P **P** **13 55 27.4 -0.3**
comp=Z,9.5nm,0.5s,baz=343,slow=7.1,SNR=374
ASAR PcP **PcP** **13 58 24.6 -0.7**
comp=Z,3.7nm,0.4s,baz=350,slow=2.5,SNR=6.3
ASAR ScP **ScP** **14 02 02.4 -2.2**
comp=Z,1.2nm,0.7s,baz=354,slow=2.9,SNR=4.8
ASAR LR LR 14 10 19.3
comp=Z,213nm,18.2s,baz=332,slow=41
comp=Z,9.5nm,0.5s
AS01 Alice Springs 30.65 165 P **P** **13 55 28.1 +0.4**
LYN LuoYang 30.84 339 P **P** **13 55 34.0 +4.8**
LYN pmax pmax
comp=Z,14nm,0.6s
LYN LR LR
comp=Z,870nm,18.2s
LYN LR LR
comp=Z,760nm,17.2s
LYN LR LR
comp=Z,1µm,21.6s
TIA Tai'an 31.00 347 P P 13 55 38.8 +8.1
TIA pmax pmax
comp=Z,6.0nm,0.6s
INU Inuyama 31.01 18 P **P** **13 55 32.5 +1.7**
WRKA Warakurna 31.02 175 P **P** **13 55 30.6 -0.3**
comp=Z,10nm,0.7s
KSRS Korea Array 31.33 4 P **P** **13 55 34.2 +0.6**
comp=Z,2.6nm,0.7s,baz=178,slow=10,SNR=16
KSRS PcP **PcP** **13 58 26.9 +0.1**
comp=Z,1.5nm,0.6s,baz=176,slow=2.3,SNR=9.1
KSRS ScP **ScP** **14 02 06.0 -0.5**
comp=Z,1.9nm,0.9s,baz=181,slow=3.6,SNR=8.1
comp=Z,2.6nm,0.7s
TNCH TengChong 32.04 309 *e*P **P** **13 55 44.3 +4.1**
TNCH pP pP 13 55 54.5 +2.3
TNCH S **S** **14 00 51.8 +2.3**
TNCH pmax pmax
comp=Z,36nm,1.0s
TNCH pmax pmax
comp=Z,250nm,3.8s
TNCH LR LR
comp=Z,330nm,13.0s
TNCH LR LR
comp=Z,340nm,16.1s
TNCH LR LR
comp=Z,560nm,18.9s
CD2 Chengdu 32.09 323 P **P** **13 55 42.1 +1.7**
CD2 pP pP 13 55 49.7 -2.6
CD2 sP sP 13 55 55.1 -2.5
CD2 S **S** **14 00 50.9 +1.0**
CD2 pmax pmax
comp=Z,70nm,1.0s
CD2 pmax pmax
comp=Z,150nm,4.7s
CD2 LR LR
comp=Z,2µm,18.0s
CD2 LR LR
comp=Z,1µm,17.6s
CD2 LR LR
comp=Z,1µm,17.3s
MJAR Matsushiro Arr 32.49 19 P **P** **13 55 42.8 -1.0**
comp=Z,1.6nm,0.6s,baz=191,slow=9.6,SNR=7.6
MJAR PcP **PcP** **13 58 29.8 -0.3**
comp=Z,1.6nm,0.6s,baz=179,slow=3.2,SNR=5.3
MJAR ScP **ScP** **14 02 09.6 -0.9**
comp=Z,2.0nm,1.1s,baz=248,slow=1.3,SNR=2.7
MJAR LR LR 14 09 06.2
comp=Z,355nm,19.6s,baz=214,slow=36
comp=Z,1.6nm,0.6s
TV1H Townsville Har 32.72 141 P **P** **13 55 47.7 +1.8**
HNS HongShan 32.73 344 ||P **P** **13 55 48.3 +2.4**
HNS LR LR
comp=Z,570nm,19.2s
HNS LR LR
comp=Z,280nm,16.5s
HNS LR LR
comp=Z,680nm,19.4s
DL2 Dalian 32.90 354 P **P** **13 55 51.8 +4.5**
DL2 pmax pmax
comp=Z,24nm,0.9s
DL2 pmax pmax
comp=Z,210nm,6.3s
DL2 LR LR
comp=Z,390nm,15.2s
DL2 LR LR
comp=Z,380nm,18.3s
DL2 LR LR
comp=Z,500nm,15.5s
CTA Charters Tower 33.00 142 P **P** **13 55 49.6 +1.1**
CTAO Charters Tower 33.00 142 P **P** **13 55 49.8 +1.4**
CTAO IAmb IAmb 13 56 03.7
comp=Z,28nm,1.0s
CTAO Charters Tower 33.00 142 P **P** **13 55 49.5 +1.1**
CTAO Charters Tower 33.00 142 P **P** **13 55 50.2 +1.8**
MEEK Meekatharra 33.18 191 P **P** **13 55 49.7 -0.3**
comp=Z,27nm,0.7s
MEEK Meekatharra 33.18 191 P **P** **13 55 49.8 -0.2**
JMM Marumori 34.57 22 P **P** **13 56 02.2 +0.4**
JMM IAmb IAmb 13 56 14.6
comp=Z,36nm,1.0s
JMM Marumori 34.57 22 P **P** **13 56 03.8 +2.0**
BJT Baijiatuau 34.86 347 **P** **13 56 03.5 -0.8**
BJT IAmb IAmb 13 56 23.8
comp=Z,38nm,1.1s
BJI Beijing 34.88 347 P **P** **13 56 07.6 +3.2**
BJI pP **pP** **13 56 15.1 -1.3**
BJI sP **sP** **13 56 19.8 -1.9**
BJI S **S** **14 01 37.7 +5.1**
BJI sS **sS** **14 01 51.6 -1.3**
BJI pmax pmax
comp=Z,3.0nm,0.8s
BJI pmax pmax
comp=Z,38nm,3.6s
BJI LR LR
comp=Z,120nm,14.3s
BJI LR LR
comp=Z,160nm,14.3s
BJI LR LR
comp=Z,160nm,17.7s
LZDM Lanzhou Array 35.90 329 LR LR 14 11 58.6
comp=Z,321nm,18.6s,baz=195,slow=38
MORW Morawa 36.10 194 P **P** **13 56 14.8 -0.3**
BRDH Bariadhala 36.64 300 LR LR 14 12 49.0
comp=Z,394nm,18.1s,baz=110,slow=39
INKA Innaminka 36.66 157 IAmb IAmb 13 56 34.5
comp=Z,32nm,1.6s
HHC Hu-ho-hao-te 36.84 342 *e*P **P** **13 56 23.8 +2.3**
HHC sP pP 13 56 35.3 +1.7
HHC S **S** **14 02 09.4 +6.4**
HHC sS sS 14 02 21.4 -2.0
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,75nm,3.9s
HHC LR LR
comp=Z,430nm,19.1s
HHC LR LR
comp=Z,280nm,17.6s
HHC LR LR
comp=Z,520nm,18.3s
TATA Tatamba Isabel 37.04 112 P **P** **13 56 24.7 +1.4**
QLP Quilpie 37.15 152 P **P** **13 56 23.8 -0.3**
comp=Z,37nm,2.3s
QLP Quilpie 37.15 152 P **P** **13 56 25.0 +0.9**
BLDU Ballidu 37.43 193 P **P** **13 56 24.6 -1.8**
BLDU Ballidu 37.43 193 P **P** **13 56 25.9 -0.5**
HNR Honiara 37.56 114 P **P** **13 56 28.2 +0.5**
comp=Z,28nm,0.6s,baz=303,slow=1.2,SNR=5.2
HNR LR LR 14 12 25.1
comp=Z,164nm,18.3s,baz=314,slow=37
comp=Z,28nm,0.6s
CN2 Changchun 37.60 360 *e*P **P** **13 56 29.7 +2.0**
CN2 pmax pmax
comp=Z,20nm,0.7s
ALEG Aligegeo Malai 37.99 112 P **P** **13 56 32.0 +0.6**
KLBR Kellerberrin 38.16 191 P **P** **13 56 32.1 -0.4**
comp=Z,71nm,0.6s
KLBR Kellerberrin 38.16 191 P **P** **13 56 32.2 -0.4**
USRK Ussuriysk Ar. 38.41 7 P **P** **13 56 35.5 +1.0**
comp=Z,5.8nm,0.6s,baz=196,slow=8.7,SNR=8.8
USRK LR LR 14 12 33.9
comp=Z,294nm,20.8s,baz=186,slow=36
comp=Z,5.8nm,0.6s
XLT XiLinHaoTe 38.61 349 *e*P **P** **13 56 32.1 -4.2**
XLT pP pP 13 56 45.8 -2.6
XLT sP sP 13 56 54.0 +0.3
XLT pmax pmax
comp=Z,5.0nm,0.6s
XLT LR LR
comp=N,18nm,19.6s
XLT LR LR
comp=E,170nm,14.9s
XLT LR LR
comp=Z,200nm,17.0s
MUN Mundaring 38.85 193 P **P** **13 56 37.7 -0.6**
comp=Z,23nm,0.6s
MUN Mundaring 38.85 193 P **P** **13 56 38.3 0.0**
NWAO Narrogin (SRO) 39.56 191 P **P** **13 56 43.9 -0.4**
NWAO IAmb IAmb 13 56 44.7
comp=Z,19nm,0.7s
NWAO Narrogin (SRO) 39.56 191 P **P** **13 56 44.5 +0.2**
BNX BinXian 39.57 2 ||P **P** **13 56 46.5 +2.3**
BNX pmax pmax
comp=Z,13nm,1.9s
EIDS Eidsvold 39.89 143 P **P** **13 56 46.1 -1.1**
comp=Z,34nm,2.0s
EIDS Eidsvold 39.89 143 IAmb IAmb 13 57 01.1
comp=Z,24nm,0.8s
EIDS Eidsvold 39.89 143 P **P** **13 56 48.1 +1.0**
BBOO Buckleboo 39.91 166 P **P** **13 56 47.3 +0.1**
comp=Z,104nm,0.5s
BBOO Buckleboo 39.91 166 P **P** **13 56 47.5 +0.3**
BBOO Buckleboo 39.91 166 P **P** **13 56 47.8 +0.6**
LSA Lhasa 40.05 310 P P 13 56 57.3 +8.3
LSA pmax pmax
comp=Z,29nm,1.6s
WHYH Whyalla 40.51 164 P **P** **13 56 53.1 +1.0**
GTA Gaotai 40.52 329 *e*P **P** **13 56 53.2 +0.9**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA LR LR
comp=Z,490nm,17.9s
GTA LR LR
comp=Z,700nm,17.1s
GTA LR LR
comp=Z,840nm,17.5s
ASAJ Asahikawa 40.76 19 LR LR 14 13 05.6
comp=Z,297nm,21.6s,baz=190,slow=35
RKGY Rocky Gully 41.24 191 P **P** **13 56 58.9 +0.8**
comp=Z,78nm,0.9s
HTT Hallett 41.26 163 P **P** **13 56 59.3 +0.9**
comp=Z,7.0nm,1.4s
HTT Hallett 41.26 163 P **P** **13 56 59.5 +1.1**
H11S3 WAKE ISLAND Hy 41.94 69 T T 14 41 40.4
baz=258,slow=75,SNR=12
H11S1 WAKE ISLAND Hy 41.95 69 T T 14 41 42.1
baz=258,slow=75,SNR=8.9
H11S2 WAKE ISLAND Hy 41.95 69 T T 14 41 47.8
baz=258,slow=75,SNR=16
CMSA Cobar Meteorol 42.03 154 P **P** **13 57 05.5 +0.9**
comp=Z,26nm,1.8s
CMSA Cobar Meteorol 42.03 154 P **P** **13 57 05.8 +1.1**
ARMA Armidale 44.03 147 P **P** **13 57 21.8 +0.8**
comp=Z,30nm,1.6s
ARMA Armidale 44.03 147 P **P** **13 57 22.3 +1.3**
ARMA IAmb IAmb 13 57 30.8
comp=Z,58nm,1.4s
ARMA Armidale 44.03 147 P **P** **13 57 22.5 +1.5**
HEH HeiHe 44.08 2 *e*P **P** **13 57 21.1 +0.1**
HEH pmax pmax
comp=Z,9.0nm,0.6s
HEH LR LR
comp=Z,410nm,18.3s
HEH LR LR
comp=Z,320nm,14.4s
HEH LR LR

comp=Z,510nm,17.2s
PALK Pallekele 44.55 274 LR LR 14 17 15.4
comp=Z,252nm,21.0s,baz=100,slow=38
SONM Songino Array 44.74 342 P **P** **13 57 26.5 0.0**
comp=Z,1.4nm,0.8s,baz=164,slow=9.6,SNR=4.4
SONM PcP **PcP** **13 59 06.8 -1.4**
comp=Z,0.5nm,0.5s,baz=184,slow=2.2,SNR=1.7
SONM ScP **ScP** **14 02 56.0 -1.1**
comp=Z,0.8nm,1.0s,baz=132,slow=2.1,SNR=2.0
SONM LR LR 14 17 27.9
comp=Z,648nm,21.2s,baz=158,slow=38
comp=Z,1.4nm,0.8s
ARPS Mount Arapiles 45.24 162 P **P** **13 57 31.5 +1.1**
comp=Z,16nm,0.6s
YNG Young 45.57 153 P **P** **13 57 34.1 +1.1**
comp=Z,31nm,1.1s
CAN Canberra 46.70 153 P **P** **13 57 40.5 -1.5**
comp=Z,74nm,0.8s
CAN Canberra 46.70 153 P **P** **13 57 43.5 +1.5**
CAN Canberra 46.70 153 P **P** **13 57 43.9 +2.0**
CAN Canberra 46.70 153 P **P** **13 57 43.9 +2.0**
CAN pP **pP** **13 57 53.0 -1.2**
CNB Canberra Magne 46.85 153 P **P** **13 57 45.1 +1.9**
TOO Toolangi 47.21 158 P **P** **13 57 48.3 +2.3**
TOO IAmb IAmb 13 58 02.0
comp=Z,20nm,1.2s
HYB Hyderabad 47.26 288 *e*P **P** **13 57 47.6 +0.9**
HYB *e*PP **PP** **13 59 37.2 -1.0**
DZM Mont Dzumac 48.83 126 *e*P **P** **13 57 59.3 +0.5**
comp=Z,79nm,0.7s
DZM Mont Dzumac 48.83 126 *e*PP **PP** **13 59 52.1 -0.3**
comp=Z,62nm,24.9s
DZM *e*S **S** **14 04 54.8 -4.6**
comp=Z,142nm,33.5s
DZM *e*SS **SS** **14 08 29.4 -1.2**
comp=Z,235nm,30.6s
DZM *e*LQ LQ 14 09 53.1
comp=Z,1µm,35.4s
DZM *e*LR LR 14 11 52.0
comp=Z,511nm,25.5s
DZM Mont Dzumac 48.83 126 P **P** **13 57 60.0 +1.2**
comp=Z,56nm,0.6s,baz=285,slow=12,SNR=131
DZM Mont Dzumac 48.83 126 P **P** **13 58 00.3 +1.5**
DZM Mont Dzumac 48.83 126 P **P** **13 58 00.2 +1.4**
OUENC Ouen Island, N 49.32 126 P **P** **13 58 04.5 +2.1**
PINNC Pines Island, 49.90 126 P **P** **13 58 07.9 +1.1**
WMQ Urumqi 50.17 325 *e*P **P** **13 58 10.6 +2.0**
WMQ LR LR
comp=Z,680nm,16.3s
WMQ LR LR
comp=Z,620nm,18.9s
WMQ LR LR
comp=Z,400nm,18.1s
GLAD Gladstone 51.14 158 P **P** **13 58 16.9 +1.1**
TAU Tasmania Unive 52.59 160 P **P** **13 58 27.7 +1.1**
PETK Petropavlovsk- 53.76 23 P **P** **13 58 36.5 +1.4**
comp=Z,8.5nm,0.8s,baz=190,slow=3.7,SNR=16
PETK PcP **PcP** **13 59 40.1 -0.5**
comp=Z,1.4nm,0.6s,baz=333,slow=20,SNR=5.0
PETK LR LR 14 21 30.4
comp=Z,181nm,20.1s,baz=217,slow=36
comp=Z,8.5nm,0.8s
MKAR Makanchi Array 55.00 325 P **P** **13 58 43.1 -1.2**
MKAR Makanchi Array 55.00 325 P **P** **13 58 43.6 -0.7**
comp=Z,3.1nm,0.5s,baz=118,slow=7.3,SNR=47
MKAR ScP **ScP** **14 03 37.7 -3.1**
comp=Z,0.4nm,0.7s,baz=126,slow=5.5,SNR=2.8
comp=Z,3.1nm,0.5s
MAKZ Makanchi 55.18 325 P **P** **13 58 44.6 -1.1**
MAKZ pP **pP** **13 58 54.4 -4.0**
KSH Kashi 55.59 314 P P 13 58 58.4 +10
KSH pmax pmax
comp=Z,11nm,1.3s
KSH LR LR
comp=N,310nm,17.2s
KSH LR LR
comp=E,250nm,14.5s
KSH LR LR
comp=Z,430nm,16.7s
NIL Nilore 55.60 307 **P** **13 58 48.8 -0.1**
YAK Yakutsk 55.95 2 P **P** **13 58 50.4 -0.3**
YAK Yakutsk 55.95 2 LR LR 14 24 52.8
comp=Z,210nm,20.1s,baz=182,slow=38
YSA Yasawairara 56.18 115 P **P** **13 58 54.2 +1.0**
MA2 Magadan 56.77 15 P **P** **13 58 58.9 +2.2**
MSVF Nonsavu 56.95 116 P **P** **13 59 00.8 +2.1**
MSVF Nonsavu 56.95 116 P **P** **13 59 00.1 +1.4**
ZAA0 Zalesovo Array 58.00 333 P **P** **13 59 02.1 -3.3**
ZALV Zalesovo Beam 58.00 333 P **P** **13 59 02.6 -2.8**
ZALV Zalesovo Beam 58.00 333 P **P** **13 59 03.7 -1.8**
comp=Z,1.0nm,0.3s,baz=125,slow=7.1,SNR=6.1
comp=Z,1.0nm,0.3s
TAVE Taveuni 58.47 114 P **P** **13 59 10.3 +1.0**
KURBB Kurchatov Arra 59.17 327 P **P** **13 59 12.2 -1.4**
comp=Z,3.6nm,0.5s,baz=128,slow=7.1,SNR=50
KURBB LR LR 14 26 40.1
comp=Z,250nm,18.1s,baz=174,slow=38
comp=Z,3.6nm,0.5s
KURK Kurchatov 59.17 327 **P** **13 59 12.8 -0.9**
KURK IAmb IAmb 13 59 22.9
comp=Z,31nm,1.1s
KBL Kabul 59.20 307 P **P** **13 59 13.7 -0.8**
KBL IAmb IAmb 13 59 24.9
comp=Z,19nm,1.0s
GAR Garm 59.51 312 P **P** **13 59 15.8 -0.6**
SEY Seymchan 60.06 14 LR LR 14 28 24.5
comp=Z,74nm,18.1s,baz=200,slow=39
CHGR Chuyangaron 60.26 311 P **P** **13 59 19.5 -2.0**
CHGR IAmb IAmb 13 59 32.9
comp=Z,25nm,1.1s
SIMJ Simiganj 60.37 311 **P** **13 59 21.8 -0.6**
SIMJ IAmb IAmb 13 59 32.0
comp=Z,15nm,1.2s
KK31 Karatay Array 60.75 317 P **P** **13 59 24.1 -0.6**
KK31 IAmb IAmb 13 59 34.6
comp=Z,19nm,1.1s
KKAR Karatay Array 60.75 317 P **P** **13 59 23.6 -1.1**
JCZ Jackson Bay 63.27 146 P **P** **13 59 42.9 +1.3**
DCZ Deep Cove 63.32 148 P **P** **13 59 43.0 +1.2**
QRZ Quartz Range 63.46 142 P **P** **13 59 44.1 +1.3**
LBZ Lake Benmore 64.25 146 P **P** **13 59 49.0 +1.0**
RPZ Rata Peaks 64.32 145 LR LR 14 27 25.8
comp=Z,163nm,21.3s,baz=302,slow=36
RPZ Rata Peaks 64.32 145 P **P** **13 59 49.6 +1.2**
BVAR Borovoye Array 64.75 327 P **P** **13 59 49.7 -1.4**
comp=Z,1.4nm,0.5s,baz=146,slow=8.7,SNR=12
comp=Z,1.4nm,0.5s
KHZ Kahutara 65.00 143 P **P** **13 59 54.1 +1.2**
URZ Urewera 65.03 137 LR LR 14 27 55.3
comp=Z,232nm,20.8s,baz=307,slow=36
BKZ Black Stump Fm 65.08 138 P **P** **13 59 54.0 +0.5**
BKZ Black Stump Fm 65.08 138 P **P** **13 59 54.7 +1.2**
SNZO South Karori 65.09 141 P **P** **13 59 54.8 +1.4**
TIXI Tiksi 65.56 1 LR LR 14 29 58.8
comp=Z,296nm,20.8s,baz=202,slow=37
ADK Adak 65.73 35 P **P** **13 59 59.6 +2.1**
ATKA Atka Island 67.28 35 P **P** **14 00 08.5 +1.2**
AB31 Akbulak array 69.63 320 P **P** **14 00 20.4 -1.7**
ABKAR Akbulak array 69.63 320 P **P** **14 00 19.9 -2.2**
SPIA Saint Paul Isl 71.12 31 P **P** **14 00 32.0 +0.9**
baz=251
AKTO Aktyubinsk 71.13 321 LR LR 14 34 12.6
comp=Z,332nm,18.8s,baz=107,slow=38
GAMB Gambell 72.77 24 P **P** **14 00 41.9 +1.2**
baz=248
CASY Casey 72.97 186 P **P** **14 00 41.9 +0.1**
CASY IAmb IAmb 14 00 57.5
comp=Z,23nm,0.8s
M11K Mekoryuk 74.10 29 P **P** **14 00 49.1 +0.5**
baz=254
TNA Tin City 74.93 23 P **P** **14 00 53.9 +0.5**
baz=251
S12K Black Hills 75.13 34 P **P** **14 00 55.0 +0.2**
baz=259
K13K Kusilvak Mount 75.24 27 P **P** **14 00 56.4 +1.1**
baz=255
M13K Dall Lake 75.47 29 P **P** **14 00 57.2 +0.6**
baz=256
F14K Arctic Creek 75.53 24 P **P** **14 00 57.5 +0.6**
baz=252
ANM Nome 75.65 25 P **P** **14 00 58.2 +0.6**
baz=254
SDPT Sand Point 75.95 34 P **P** **14 01 00.5 +1.1**
SDPT Sand Point 75.95 34 P **P** **14 00 60.0 +0.6**
baz=260
L14K Kuka Creek 76.01 28 P **P** **14 00 60.0 +0.3**
baz=257
N14K Kuskokwak Cree 76.18 30 P **P** **14 01 01.3 +0.7**
baz=258
M14K Bethel 76.22 29 P **P** **14 01 01.4 +0.6**
baz=258
O14K Tigyukauivet M 76.25 30 P **P** **14 01 01.3 +0.2**
baz=259
F15K North Star Dit 76.27 24 P **P** **14 01 01.8 +0.7**
baz=254
G15K Niukluk 76.32 24 P **P** **14 01 02.1 +0.7**
baz=255
CHNA Chernabura Isl 76.36 35 P **P** **14 01 01.9 +0.1**
baz=261
S14K Fog Glacier 76.62 34 P **P** **14 01 02.3 -1.1**
baz=261
L15K Ungalak Mounta 76.64 28 P **P** **14 01 03.6 +0.3**
baz=258
C16K Lisburne Hills 76.75 21 P **P** **14 01 03.9 +0.2**
baz=253
K15K Wolf Creek Mou 76.75 27 P **P** **14 01 04.3 +0.4**
baz=258
M15K Kasigluk River 76.82 29 P **P** **14 01 04.3 +0.1**
baz=259
O15K Ungalikthiuk R 76.96 31 P **P** **14 01 05.2 0.0**
baz=260
H16K Elim 76.97 25 P **P** **14 01 05.2 +0.1**
baz=256
N15K Kwethluk River 77.01 30 P **P** **14 01 04.7 -0.7**
baz=259
G16K Koyuk River 77.11 24 P **P** **14 01 05.4 -0.4**
baz=256
CHGN Chignik 77.25 34 P **P** **14 01 06.3 -0.5**
baz=262
J16K Anvik River 77.38 26 P **P** **14 01 07.0 -0.4**
baz=258
D17K Noatak River 77.40 22 P **P** **14 01 07.7 +0.3**
baz=255
I17K Unalakleet 77.46 26 P **P** **14 01 08.3 +0.5**
baz=258
RDOG Red Dog Mine 77.56 21 P **P** **14 01 08.4 0.0**
baz=255
C17K DeLong Mountai 77.57 21 P **P** **14 01 08.9 +0.5**
baz=255
L16K Owhat River 77.59 28 P **P** **14 01 09.2 +0.6**
baz=260
N16K Nishlik Lake 77.71 29 P **P** **14 01 09.7 +0.3**
baz=260
M16K Timber Creek 77.71 29 P **P** **14 01 09.7 +0.4**
baz=260
E17K Hotham Inlet 77.72 22 P **P** **14 01 09.7 +0.5**
baz=256
F17K Baldwin Pennin 77.79 23 P **P** **14 01 10.0 +0.4**
baz=257
G17K Kiwalik Mounta 77.82 24 P **P** **14 01 10.4 +0.5**
baz=258
P16K Nushagak River 77.87 31 P **P** **14 01 10.6 +0.4**
baz=262
R16K Pilot Point 77.88 32 P **P** **14 01 10.8 +0.6**
baz=262
O16K Kokwok River B 77.91 30 P **P** **14 01 11.4 +1.0**
baz=261
H17K Granite Mounta 78.01 25 P **P** **14 01 11.8 +0.9**
baz=258
RAR Rarotonga 78.02 113 LR LR 14 31 11.3
comp=Z,42nm,20.7s,baz=245,slow=32
J17K VABM Dome 78.08 26 P **P** **14 01 11.7 +0.4**
baz=260
L17K Donlin 78.21 28 P **P** **14 01 12.8 +0.7**
baz=261
E18K Tukpahlearik C 78.26 22 P **P** **14 01 12.8 +0.6**
baz=257
B18K Kokolik River 78.28 20 P **P** **14 01 12.8 +0.5**
baz=256
K17K Iditarod 78.31 27 P **P** **14 01 13.8 +1.3**
baz=260
C18K Utukok River 78.32 21 P **P** **14 01 13.2 +0.6**
baz=257
O17K Koliganek Bris 78.43 30 P **P** **14 01 14.2 +0.9**
baz=262
F18K Selawik 78.45 23 P **P** **14 01 13.8 +0.6**
baz=258
N17K Nushagak Hills 78.49 29 P **P** **14 01 14.2 +0.6**
baz=262
M17K Holitna River 78.50 29 P **P** **14 01 14.0 +0.4**
baz=262
RAYN Ar Rayn 78.51 293 P **P** **14 01 13.0 -1.5**
Q16K King Salmon 78.51 31 P **P** **14 01 14.2 +0.5**
baz=263
R17L Mt. Peulik Vol 78.54 32 P **P** **14 01 14.0 0.0**
baz=263
P17K Kvichak River 78.69 31 P **P** **14 01 14.6 -0.1**
baz=263
H18K Honhosa River 78.70 25 P **P** **14 01 15.0 +0.3**
baz=260
G18K Tagagawik 78.71 24 P **P** **14 01 15.2 +0.4**
baz=260
A19K Wainwright 78.73 19 P **P** **14 01 14.9 +0.2**
baz=256
CHIR Chirikof Islan 78.74 34 S **S** **14 11 10.1 +0.8**
CHIR Chirikof Islan 78.74 34 P **P** **14 01 15.3 +0.3**
baz=264
Q17K Contact Creek 78.86 32 P **P** **14 01 16.2 +0.4**
baz=264
L18K Granite Mounta 78.97 28 P **P** **14 01 16.5 +0.2**
baz=262
C19K Lookout Ridge 78.99 21 P **P** **14 01 16.8 +0.5**
baz=258
J18K Innoko River 79.14 27 P **P** **14 01 17.7 +0.6**
baz=262
N18K Kilae Creek 79.15 29 P **P** **14 01 17.4 +0.2**
baz=263
F19K Shaleruckik Mo 79.23 23 P **P** **14 01 17.3 -0.2**
baz=260
GCSA Galena City Sc 79.25 25 P **P** **14 01 18.2 +0.5**
baz=261
M18K Stony River 79.28 29 P **P** **14 01 18.0 +0.1**
baz=263
Q18K Katmai Hardscr 79.36 32 P **P** **14 01 18.3 -0.3**
baz=264
D19K Kuna River 79.40 21 P **P** **14 01 18.6 +0.1**
baz=260
E19K Redstone River 79.54 22 P **P** **14 01 19.9 +0.6**
baz=260
H19K Roundabout Mou 79.55 24 P **P** **14 01 19.7 +0.4**
baz=262
R18K Karluk 79.55 33 P **P** **14 01 20.1 +0.6**
baz=265
SII Sitkinak Islan 79.61 34 P **P** **14 01 20.2 +0.3**
baz=265
J19K Poorman 79.69 26 P **P** **14 01 20.6 +0.5**
baz=263
L19K White Mountain 79.82 28 P **P** **14 01 21.3 +0.4**
baz=264
N19K Bonanza Creek 79.85 29 P **P** **14 01 21.6 +0.4**
baz=264
O19K Port Alsworth 79.87 30 P **P** **14 01 21.6 +0.4**
baz=258
D20K Etivluk River 79.98 21 P **P** **14 01 22.3 +0.7**
baz=261
B20K Meade River 80.00 20 P **P** **14 01 22.8 +1.1**
baz=260
M19K Big River Lodg 80.00 28 P **P** **14 01 22.6 +0.7**
baz=264
F20K Avaraart Lake 80.06 23 IAmb IAmb 14 01 40.2
comp=Z,20nm,1.3s
F20K Avaraart Lake 80.06 23 P **P** **14 01 22.8 +0.8**
baz=262
E20K Nigu River 80.06 22 P **P** **14 01 22.9 +0.8**
baz=261
Q19K Cape Douglas, 80.10 31 P **P** **14 01 23.6 +1.1**
baz=265
OHAK Old Harbor 80.15 33 P **P** **14 01 24.3 +1.6**
OHAK Old Harbor 80.15 33 P **P** **14 01 23.4 +0.7**
baz=266
H20K Anotleneega Mo 80.19 25 P **P** **14 01 23.2 +0.3**
baz=263
I20K Naaghedeneel 80.28 25 P **P** **14 01 23.9 +0.6**
baz=264
L20K Farewell, AK 80.30 28 P **P** **14 01 23.4 -0.1**
baz=264
K20K Telida 80.30 27 P **P** **14 01 23.8 +0.3**
baz=264
J20K Nowinta River 80.36 26 P **P** **14 01 24.0 +0.3**
baz=264
P19K Oil Pt 80.37 31 P **P** **14 01 24.2 +0.3**
baz=266
A21K Barrow 80.41 19 P **P** **14 01 24.3 +0.5**
baz=260
KDAK Kodiak Island 80.57 33 P **P** **14 01 25.8 +0.9**
KDAK Kodiak Island 80.57 33 LR LR 14 32 34.4
comp=Z,102nm,20.7s,baz=238,slow=32
KDAK Kodiak Island 80.57 33 P **P** **14 01 25.3 +0.4**
baz=266
M20K Styx River 80.60 28 P **P** **14 01 25.0 -0.2**
baz=265
C21K Knifeblade Rid 80.70 21 P **P** **14 01 25.5 0.0**
baz=262
O20K Slope Mountain 80.70 30 P **P** **14 01 25.6 -0.2**
baz=266
IMAR Indian Mountai 80.72 24 P **P** **14 01 25.4 -0.2**
Q20K Shuyak Island 80.72 32 P **P** **14 01 26.0 +0.3**
baz=266
B21K Ikpikpuk River 80.82 20 P **P** **14 01 26.5 +0.4**
baz=263
G21K Allakaket 80.87 24 P **P** **14 01 26.4 0.0**
baz=264
A22K Sinclair Lake 80.88 19 P **P** **14 01 26.6 +0.2**
baz=262
E21K Killik River 80.90 22 P **P** **14 01 26.7 +0.1**
baz=263
F21K Alatna River 80.95 23 P **P** **14 01 27.0 +0.1**
baz=264
N20K Mount Spurr 80.99 29 P **P** **14 01 26.8 -0.4**
baz=266
SPCR Spurr Chakacha 80.99 29 P **P** **14 01 27.4 +0.2**
baz=266
H21K Melozitna Rive 81.07 25 P **P** **14 01 27.4 -0.2**
baz=265
PPLA Purkeypile 81.11 27 IAmb IAmb 14 01 44.0
comp=Z,61nm,1.8s
PPLA Purkeypile 81.11 27 P **P** **14 01 28.0 0.0**
baz=266
CHUM Lake Minchumin 81.13 26 P **P** **14 01 27.1 -0.7**
baz=266
HOM Homer 81.17 31 P **P** **14 01 28.4 +0.3**
baz=267
B22K Teshekpuk Lake 81.31 20 P **P** **14 01 28.8 +0.1**
baz=264
SKT Skwentna 81.36 28 P **P** **14 01 28.9 -0.2**
baz=267
I21K Tanana 81.37 25 P **P** **14 01 29.2 +0.1**
baz=266
D22K Ayikyak River 81.42 21 P **P** **14 01 29.3 0.0**
baz=264
CAPN Captain Cook N 81.47 30 P **P** **14 01 29.9 +0.2**
baz=267
F22K John River 81.48 23 P **P** **14 01 29.7 0.0**
baz=265
BRSE Bradley Lake S 81.63 31 P **P** **14 01 30.4 -0.2**
baz=268
H22K Ishtalitna Cre 81.68 24 P **P** **14 01 30.9 +0.2**
baz=266
G22K Bettles 81.69 23 P **P** **14 01 31.2 +0.5**
baz=266
SUA Susitna One 81.70 29 IAmb IAmb 14 01 54.2
comp=Z,16nm,0.8s
SUA Susitna One 81.70 29 P **P** **14 01 31.0 -0.1**
baz=267
BPAW Bear Paw Mtn. 81.73 26 IAmb IAmb 14 01 48.0
comp=Z,21nm,1.0s
BPAW Bear Paw Mtn. 81.73 26 P **P** **14 01 31.3 +0.2**
baz=267
MLY Manley 81.89 25 IAmb IAmb 14 01 34.7
comp=Z,10nm,0.7s
MLY Manley 81.89 25 P **P** **14 01 31.9 0.0**
baz=267
SLKM Skilak Lake 81.92 30 IAmb IAmb 14 01 47.6
comp=Z,16nm,0.8s
CUT Chulitna 81.97 28 P **P** **14 01 32.6 +0.3**
baz=268
TRF Thorofare Moun 82.01 27 IAmb IAmb 14 01 51.6
comp=Z,14nm,1.0s
TRF Thorofare Moun 82.01 27 P **P** **14 01 32.2 -0.5**
baz=268
M22K Willow 82.02 29 P **P** **14 01 32.6 +0.1**
baz=268
D23K Nanushuk River 82.15 21 P **P** **14 01 33.4 +0.2**
baz=266
O22K Cooper Landing 82.17 30 P **P** **14 01 33.2 -0.2**
baz=268
RC01 Rabbit Creek A 82.18 29 P **P** **14 01 33.1 -0.3**
baz=268
COLD Coldfoot 82.22 23 P **P** **14 01 32.6 -0.9**
baz=267
C23K Itkillik River 82.23 20 P **P** **14 01 33.3 -0.2**
baz=266
G23K Bananza Creek 82.27 24 P **P** **14 01 33.0 -0.9**
baz=267
SEW Seward 82.29 30 IAmb IAmb 14 01 42.5
comp=Z,52nm,1.5s
SEW Seward 82.29 30 P **P** **14 01 32.9 -1.1**
baz=269
BWN Browne 82.40 26 IAmb IAmb 14 01 53.1
comp=Z,28nm,1.0s
H23K Yukon River 82.42 24 P **P** **14 01 33.8 -0.9**
baz=268
I23K Minto, Yukon-K 82.48 25 P **P** **14 01 34.4 -0.5**
baz=268
PMR Palmer 82.48 29 IAmb IAmb 14 02 02.2
comp=Z,48nm,1.7s
PMR Palmer 82.48 29 P **P** **14 01 34.8 -0.1**
baz=269
E23K Chandalar 82.49 22 P **P** **14 01 34.5 -0.6**
baz=268
TOLK Toolik Lake Re 82.53 22 P **P** **14 01 34.6 -0.7**
baz=268
NEA2 Nenana 82.58 26 IAmb IAmb 14 01 53.4
comp=Z,13nm,0.9s
NEA2 Nenana 82.58 26 P **P** **14 01 35.0 -0.5**
baz=268
MCK McKinley 82.62 27 IAmb IAmb 14 01 37.7
comp=Z,18nm,0.8s
MCK McKinley 82.62 27 P **P** **14 01 35.3 -0.4**
baz=269,SNR=12
RND Reindeer 82.65 27 IAmb IAmb 14 01 51.5
comp=Z,22nm,1.1s
WAT1 Susitna Watana 82.78 27 P **P** **14 01 36.0 -0.6**
baz=269
KNK Knik Glacier 82.80 29 IAmb IAmb 14 01 52.4
comp=Z,42nm,1.4s
KNK Knik Glacier 82.80 29 P **P** **14 01 36.2 -0.5**
baz=269
D24K Happy Valley 82.82 21 P **P** **14 01 36.3 -0.4**
baz=268
PWL Port Wells 82.86 29 IAmb IAmb 14 01 41.1
comp=Z,20nm,0.7s
PWL Port Wells 82.86 29 P **P** **14 01 36.7 -0.3**
baz=270
C24K Franklin Bluff 82.88 21 P **P** **14 01 37.0 0.0**
baz=268
E24K Your Creek 82.91 22 P **P** **14 01 37.2 0.0**
baz=269,SNR=5.7
WRH Wood River Hil 83.01 26 IAmb IAmb 14 01 40.2
comp=Z,9.8nm,0.8s
H24K Noodor Dome 83.11 24 IAmb IAmb 14 01 55.9
comp=Z,30nm,1.4s
H24K Noodor Dome 83.11 24 P **P** **14 01 38.3 0.0**
baz=269,SNR=9.1
COLA College 83.11 25 P **P** **14 01 37.7 -0.5**
COLA IAmb IAmb 14 01 54.9
comp=Z,21nm,1.3s
F24K Squaw Lake 83.13 23 P **P** **14 01 38.3 0.0**
baz=269,SNR=7.5
CCB Clear Creek Bu 83.13 26 IAmb IAmb 14 01 53.2
comp=Z,29nm,1.5s
WAT6 Susitna Watana 83.15 28 P **P** **14 01 38.3 -0.3**
baz=270,SNR=8.9
M23K Glacier View 83.16 29 P **P** **14 01 38.2 -0.4**
baz=270
G24K Hadweenzic Riv 83.28 24 P **P** **14 01 38.9 -0.2**
baz=270,SNR=5.8
POKR Poker Plat Res 83.29 25 P **P** **14 01 39.1 -0.1**
baz=270
DHY Denali Highway 83.32 27 IAmb IAmb 14 02 09.9
comp=Z,22nm,1.5s
DHY Denali Highway 83.32 27 P **P** **14 01 39.2 -0.3**
baz=270
SCM Sheep Creek Mo 83.34 28 P **P** **14 01 39.1 -0.5**
baz=270
GLI Glacier Island 83.46 29 P **P** **14 01 39.9 -0.3**
baz=271
HDA Harding Lake 83.50 26 IAmb IAmb 14 01 41.5
comp=Z,9.9nm,0.8s
HDA Harding Lake 83.50 26 P **P** **14 01 40.3 0.0**
baz=270,SNR=11
ILAR Eielson Array 83.53 26 P **P** **14 01 38.1 -2.2**

ILAR	Eielson Array	83.53	26	P		P	14 01 39.4	-1.0	
	comp=Z,3.9nm,0.8s,baz=252,slow=4.4,SNR=36								
	comp=Z,3.9nm,0.8s								
D25K	Kavik River	83.70	21	P		P	14 01 40.8	-0.5	
	baz=270,SNR=5.2								
G25K	Bearman Lake	83.83	24	P		P	14 01 41.6	-0.3	
	baz=271,SNR=7.9								
M24K	Tolsona, Glenn	83.89	28	P		P	14 01 41.2	-1.2	
	baz=271								
H25L	Birch Creek	83.95	24	P		P	14 01 43.1	+0.6	
	baz=271,SNR=9.3								
F25K	Christian Rive	83.99	23	P		P	14 01 43.6	+0.9	
	baz=271,SNR=7.1								
E25K	Arctic Village	84.01	22	P		P	14 01 43.0	+0.2	
	baz=271,SNR=11								
KLU	Klutina	84.02	29	IAmb		IAmb	14 02 05.7		
	comp=Z,13nm,1.0s								
KLU	Klutina	84.02	29	P		P	14 01 43.4	+0.3	
	baz=272								
K24K	Donnelly Dome	84.02	26	P		P	14 01 43.0	0.0	
	baz=272,SNR=9.1								
PRP	Porcupine Dome	84.09	25	P		P	14 01 43.7	+0.3	
	baz=272								
EYAK	Cordova Ski Ar	84.13	30	P		P	14 01 43.7	+0.2	
	baz=272								
J25K	Salcha River,	84.18	26	P		P	14 01 43.7	-0.1	
	baz=272,SNR=7.7								
PAX	Paxson	84.19	27	IAmb		IAmb	14 01 59.8		
	comp=Z,35nm,1.4s								
PAX	Paxson	84.19	27	P		P	14 01 43.6	-0.4	
	baz=272,SNR=6.1								
C26K	Camden Bay	84.20	20	P		P	14 01 43.8	+0.1	
	baz=272								
HARP	HAARP	84.35	28	P		P	14 01 44.5	-0.2	
	baz=272								
BMAR	Burnt Mountain	84.41	23	P		P	14 01 45.5	+0.6	
RIDG	Independent Ri	84.44	27	P		P	14 01 45.3	+0.1	
	baz=272,SNR=17								
F26K	Sheenjek River	84.56	23	P		P	14 01 46.1	+0.4	
	baz=273,SNR=7.6								
C27K	Jago River	84.63	21	P		P	14 01 45.9	0.0	
	baz=273,SNR=9.0								
N25K	Chitina, Valde	84.65	29	P		P	14 01 46.0	-0.3	
	baz=273,SNR=5.9								
BMRM	Bremner River	84.68	29	P		P	14 01 45.9	-0.5	
	baz=273								
G26K	Porcupine Rive	84.74	23	P		P	14 01 45.6	-0.9	
	baz=273,SNR=13								
DOT	Dot Lake	84.79	27	IAmb		IAmb	14 02 03.0		
	comp=Z,22nm,1.4s								
SCRK	Sand Creek	84.81	26	IAmb		IAmb	14 02 03.5		
	comp=Z,15nm,1.2s								
SCRK	Sand Creek	84.81	26	P		P	14 01 46.7	-0.3	
	baz=273,SNR=6.0								
KAIM	Kayak Island	84.82	30	P		P	14 01 47.4	+0.4	
	baz=273								
J26L	Joseph Creek	84.96	26	P		P	14 01 47.9	+0.1	
	baz=274,SNR=13								
MENT	Mentasta	84.99	27	IAmb		IAmb	14 02 15.2		
	comp=Z,22nm,1.3s								
I26K	Coal Creek Min	85.09	25	P		P	14 01 48.2	0.0	
	baz=274								
L26K	Log Cabin Wild	85.15	27	P		P	14 01 48.6	-0.1	
	baz=274								
VRDI	Verde Repeater	85.22	29	IAmb		IAmb	14 01 52.2		
	comp=Z,9.6nm,0.7s								
M26K	Nabesna, AK	85.36	28	P		P	14 01 49.8	+0.1	
	baz=274,SNR=5.1								
BGLC	Bering Glacier	85.38	30	P		P	14 01 50.4	+0.6	
	baz=274								
CRQM	Cirque	85.41	30	IAmb		IAmb	14 02 06.9		
	comp=Z,23nm,1.0s								
MCARA	McCarthy VSAT	85.42	29	IAmb		IAmb	14 02 17.1		
	comp=Z,13nm,0.8s								
MCARA	McCarthy VSAT	85.42	29	P		P	14 01 50.1	+0.1	
	baz=274								
CRQE	Cirque	85.43	30	P		P	14 01 50.5	+0.3	
	baz=274								
E27K	Coleen River	85.49	22	P		P	14 01 50.6	+0.3	
	baz=275,SNR=11								
MAW	Mawson	85.52	200	P		P	14 01 49.0	-1.2	
	comp=Z,4.4nm,0.6s,baz=81,slow=4.8,SNR=31								
MAW				LR		LR	14 34 55.0		
	comp=Z,93nm,21.8s,baz=54,slow=32								
	comp=Z,4.4nm,0.6s								
TGL	Tana Glacier	85.56	29	IAmb		IAmb	14 02 06.9		
	comp=Z,28nm,1.2s								
G27K	Doyon Strip	85.58	23	P		P	14 01 50.9	+0.1	
	baz=275								
D27M	Malcolm River	85.62	21	P		P	14 01 51.6	+0.6	
	baz=275								
K27K	Chicken	85.65	26	P		P	14 01 51.7	+0.6	
	baz=275								
ASF	Jabal al Asfar	85.69	302	LR		LR	14 46 25.0		
	comp=Z,56nm,18.8s,baz=153,slow=40								
H27K	Steamboat Moun	85.69	24	P		P	14 01 52.0	+0.7	
	baz=275,SNR=10								
I27K	Kandik River	85.71	25	P		P	14 01 52.1	+0.7	
	baz=275,SNR=23								
ISLE	Juniper Island	85.81	30	IAmb		IAmb	14 02 08.2		
	comp=Z,16nm,0.9s								
L27K	Beaver Creek,	85.84	27	P		P	14 01 52.3	+0.2	
	baz=275,SNR=6.6								
BCAR	Beaver Creek A	85.86	27	P		P	14 01 52.2	0.0	
VNDA	Vanda	85.86	173	P		P	14 01 50.7	-1.1	
VNDA	Vanda	85.86	173	P		P	14 01 51.3	-0.5	
	comp=Z,1.3nm,0.5s,baz=310,slow=6.9,SNR=22								
VNDA				LR		LR	14 42 28.0		
	comp=Z,55nm,18.5s,baz=335,slow=37								
	comp=Z,1.3nm,0.5s								
M27K	Edge Creek, AK	85.88	28	P		P	14 01 52.6	+0.2	
	baz=275								
FURI	Furi	86.01	278	LR		LR	14 41 10.9		
	comp=Z,65nm,18.0s,baz=96,slow=36								
MESA	MESA	86.04	30	P		P	14 01 53.0	-0.4	
	baz=275								
BARN	Barnard Glacie	86.10	29	IAmb		IAmb	14 01 57.3		
	comp=Z,13nm,0.6s								
F28M	Old Crow	86.20	22	P		P	14 01 54.3	+0.5	
	baz=277								
E28M	Babbage River	86.21	21	P		P	14 01 54.3	+0.5	
	baz=277								
CTG	Chitna Glacier	86.27	29	P		P	14 01 54.3	-0.1	
	baz=276								
CTGM	Chitina Glacie	86.27	29	P		P	14 01 54.0	-0.4	
BVCY	Beaver Creek	86.35	28	P		P	14 01 54.9	+0.3	
	baz=276								
D28M	Stokes Point	86.40	21	P		P	14 01 54.7	+0.1	
	baz=278								
I28M	Miner Creek	86.42	25	IAmb		IAmb	14 01 58.9		
	comp=Z,14nm,0.8s								
I28M	Miner Creek	86.42	25	P		P	14 01 55.4	+0.4	
	baz=277								
YUK3	Moose Creek	86.60	28	P		P	14 01 57.1	+1.0	
	baz=276								
DAWY	Dawson	86.82	26	P		P	14 01 57.8	+0.8	
	baz=277								
E29M	Blow River	86.83	22	IAmb		IAmb	14 02 17.6		
	comp=Z,14nm,1.4s								
E29M	Blow River	86.83	22	P		P	14 01 57.8	+1.0	
	baz=278								
O28M	Mount Upton	86.85	29	P		P	14 01 57.2	-0.2	
	baz=277								
MMAI	Mount Meron Ar	86.87	303	LR		LR	14 46 06.5		
	comp=Z,92nm,21.5s,baz=86,slow=39								
PINM	Pinnacle	86.89	30	P		P	14 01 57.6	+0.2	
	baz=277								
PPT	Papeete	86.94	108	LR		LR	14 35 42.7		
	comp=Z,102nm,20.1s,baz=288,slow=32								
PPT2	Papeete2	86.94	108	*e*P		P	14 01 53.2	-5.2	
	comp=Z,38nm,23.8s								
PPT2	Papeete2	86.94	108	*e*S		S	14 12 34.6	+0.3	
	comp=Z,74nm,24.2s								
PPT2				*e*SS		SS	14 18 16.6	-1.2	
	comp=Z,63nm,29.8s								
PPT2				*e*LQ		LQ	14 26 00.1		
	comp=Z,157nm,28.8s								
PPT2				*e*LR		LR	14 29 30.8		
	comp=Z,269nm,27.0s								
PPT2				*e*LR		LR	14 29 36.8		
	comp=Z,194nm,29.8s								
H29M	Whitestone	86.96	24	P		P	14 01 58.3	+0.8	
	baz=278								
YUK8	Steele Glacier	86.99	29	P		P	14 01 57.9	-0.1	
	baz=277								
G29M	Pine Creek	87.00	23	IAmb		IAmb	14 02 16.8		
	comp=Z,28nm,1.2s								
G29M	Pine Creek	87.00	23	P		P	14 01 57.7	0.0	
	baz=278								
I29M	Ogilvie Camp,	87.11	25	P		P	14 01 58.4	+0.1	
	baz=278								
J29N	Klondike Camp	87.27	26	P		P	14 01 59.4	+0.3	
	baz=278								
PNL	Peninsula	87.37	30	P		P	14 01 59.9	+0.2	
	baz=278								
M29M	Somma Creek	87.45	28	P		P	14 01 59.7	-0.4	
	baz=278								
L29M	L29M	87.51	27	P		P	14 02 00.3	0.0	
	baz=278								
YUK4	Talbot Arm	87.52	29	P		P	14 02 00.2	-0.4	
	baz=278								
EIL	Elat	87.57	299	LR		LR	14 47 07.9		
	comp=Z,90nm,18.2s,baz=163,slow=40								
EPYK	Eagle Plains	87.60	24	P		P	14 02 00.5	-0.1	
	baz=280								
BRTR	Keskin Array B	87.65	310	P		P	14 02 00.3	-1.3	
	comp=Z,1.5nm,0.9s,baz=62,slow=4.1,SNR=5.4								
	comp=Z,1.5nm,0.9s								
K29M	Barlow Dome	87.67	26	P		P	14 02 01.1	0.0	
	baz=279								
G30M	tAoh Zraii Nji	87.69	23	P		P	14 02 00.9	-0.1	
	baz=280								
O29M	Mount Kennedy	87.70	30	P		P	14 02 01.1	-0.2	
	baz=278								
YUK6	Outpost Mounta	87.71	29	P		P	14 02 01.3	-0.3	
	baz=278								
F30M	Barrier River	87.74	22	P		P	14 02 01.4	+0.1	
	baz=280								
TBI	Tubuai	87.78	114	*e*S		S	14 12 37.1	-4.9	
	comp=Z,1μm,28.2s								
TBI				*e*SS		SS	14 18 24.4	-5.4	
	comp=Z,674nm,32.5s								
TBI				*e*LQ		LQ	14 26 20.0		
	comp=Z,807nm,35.5s								
TBI				*e*LR		LR	14 29 49.9		
	comp=Z,955nm,30.0s								
TBI				*e*LR		LR	14 30 02.6		
	comp=Z,899nm,37.0s								
ARCES	ARCESS Array B	87.88	340	P		P	14 02 01.4	-0.5	
	comp=Z,1.4nm,0.7s,baz=82,slow=5.1,SNR=8.8								
ARCES				LR		LR	14 46 21.0		
	comp=Z,210nm,18.3s,baz=84,slow=39								
	comp=Z,1.4nm,0.7s								
I30M	Mount Dempster	87.93	25	P		P	14 02 02.3	-0.1	
	baz=280								
SPITS	Spitsbergen Ar	87.99	349	P		P	14 02 01.5	-0.8	
	comp=Z,1.6nm,0.5s,baz=93,slow=6.2,SNR=7.6								
SPITS				LR		LR	14 46 49.3		
	comp=Z,148nm,19.2s,baz=56,slow=39								
	comp=Z,1.6nm,0.5s								
J30M	Hart River	88.06	25	P		P	14 02 02.3	-0.7	
	baz=280								
HYT	Haines Junctio	88.14	29	P		P	14 02 03.0	-0.5	
	baz=279								
M30M	Minto, Yukon	88.19	27	P		P	14 02 02.8	-0.8	
	baz=280								
N30M	Aishikik Lake	88.24	28	P		P	14 02 03.4	-0.4	
	baz=279								
MAYO	Mayo, Yukon	88.42	26	P		P	14 02 04.3	-0.3	
	baz=280								
KMBO	Kilima Mbogo	88.43	269	LR		LR	14 41 50.7		
	comp=Z,90nm,19.5s,baz=101,slow=36								
INK	Inuvik	88.44	21	IAmb		IAmb	14 02 23.4		
	comp=Z,23nm,1.8s								
INK	Inuvik	88.44	21	LR		LR	14 42 01.8		
	comp=Z,68nm,22.0s,baz=254,slow=36								
INK	Inuvik	88.44	21	P		P	14 02 04.3	-0.2	
	baz=282								
G31M	Satah River	88.45	23	P		P	14 02 03.9	-0.7	
	baz=282								
P30M	Million Dollar	88.52	30	P		P	14 02 04.4	-0.8	
	baz=280								
F31M	Tsiigehtchic	88.55	22	IAmb		IAmb	14 02 37.7		
	comp=Z,15nm,1.4s								
F31M	Tsiigehtchic	88.55	22	P		P	14 02 04.0	-1.0	
	baz=282								
H31M	Peel River	88.65	24	P		P	14 02 04.5	-1.1	
	baz=282								
O30N	Mendenhall	88.84	29	P		P	14 02 06.1	-0.5	
	baz=280								
N31M	Braeburn, Yuko	88.86	28	P		P	14 02 06.4	-0.3	
	baz=280								
PLBC	Pleasant Camp	88.93	30	P		P	14 02 06.9	-0.1	
	baz=280								
FINES	FINESS Array B	89.25	332	P		P	14 02 06.8	-1.6	
	comp=Z,1.1nm,0.5s,baz=58,slow=4.1,SNR=18								
FINES				LR		LR	14 45 34.8		
	comp=Z,214nm,20.8s,baz=80,slow=38								
	comp=Z,1.1nm,0.5s								
S31K	Pelican	89.26	32	P		P	14 02 08.7	+0.1	
	baz=280								
M31M	Drury Creek, Y	89.36	27	P		P	14 02 09.3	+0.2	
	baz=282								
AKASG	Malin Array Be	89.37	321	LR		LR	14 46 21.7		
	comp=Z,169nm,20.4s,baz=70,slow=38								
R31K	City Hall, Gus	89.44	31	P		P	14 02 09.5	+0.1	
	baz=281								
WHY	Whitehorse	89.44	29	IAmb		IAmb	14 02 26.0		
	comp=Z,22nm,1.4s								
WHY	Whitehorse	89.44	29	P		P	14 02 09.3	-0.3	
	baz=281								
SKAG	Skagway	89.45	30	P		P	14 02 09.7	+0.3	
	baz=281								
SIT	Sitka	89.91	33	P		P	14 02 12.3	+0.7	
	baz=281								
R32K	Eaglecrest	90.10	31	P		P	14 02 13.1	+0.6	
	baz=282								
N32M	Quiet Lake	90.20	28	P		P	14 02 13.5	+0.5	
	baz=283								
P32M	Atlin	90.23	30	P		P	14 02 13.4	+0.2	
	baz=282								
P33M	Teslin, Yukon	90.54	29	P		P	14 02 15.1	+0.4	
	baz=283								
MMPY	Sheldon Lake,	90.69	27	IAmb		IAmb	14 02 31.1		
	comp=Z,24nm,1.8s								
MMPY	Sheldon Lake,	90.69	27	P		P	14 02 15.6	+0.4	
	baz=284								
Q32M	Nakina River	91.10	30	P		P	14 02 17.2	-0.2	
	baz=284								
U33K	Whale Pass	91.30	33	P		P	14 02 18.1	+0.1	
	baz=283								
C36M	Paulatuk	91.43	19	P		P	14 02 18.9	+0.4	
	baz=291								
CRAG	Craig	91.44	34	P		P	14 02 19.0	+0.3	
	baz=283								
R33M	Jennings River	91.64	30	P		P	14 02 19.2	-0.7	
	baz=285								
V35K	Ketchikan	92.31	34	P		P	14 02 22.3	-0.5	
	baz=284								
TGTN	Hyland Airport	92.34	27	P		P	14 02 23.3	+0.4	
	baz=287								
DLBC	Dease Lake	92.36	31	LR		LR	14 39 06.4		
	comp=Z,373nm,21.6s,baz=218,slow=32								
DLBC	Dease Lake	92.36	31	P		P	14 02 23.3	+0.2	
	baz=286								
MLR	Muntele Rosu	92.43	316	LR		LR	14 50 55.3		
	comp=Z,104nm,18.3s,baz=75,slow=40								
WTLY	Watson Lake, Y	92.50	29	P		P	14 02 24.1	+0.4	
	baz=287								
T35M	Bob Quinn	92.63	32	P		P	14 02 24.3	-0.1	
	baz=285								
WRGLY	Wrigley	93.90	25	P		P	14 02 29.9	-0.1	
	baz=292								
TOAD	Toad River Com	94.63	30	P		P	14 02 34.4	+0.9	
	baz=290								
KOTAN	Kotaneelee Air	94.75	28	P		P	14 02 34.1	+0.1	
	baz=291								
TAOE	Nuku Hiva Isla	95.14	98	*e*LR		LR	14 33 18.4		
	comp=Z,381nm,27.7s								
BBB	Bella Bella	95.14	36	LR		LR	14 42 31.9		
	comp=Z,38nm,19.8s,baz=70,slow=34								
IDI	Anoyia	95.19	306	LR		LR	14 51 24.2		
	comp=Z,56nm,20.2s,baz=92,slow=39								
HFS	Hagfors	95.43	332	P		P	14 02 35.2	-1.9	
	comp=Z,0.9nm,0.5s,baz=108,slow=8.4,SNR=6.6								
	comp=Z,0.9nm,0.5s								
RES	Resolute Bay	95.75	10	LR		LR	14 50 06.5		
	comp=Z,46nm,19.1s,baz=1.5,slow=38								
QSPA	South Pole Qui	95.94	180	P		P	14 02 39.1	-0.3	
	comp=Z,1.9nm,0.9s,baz=321,slow=0.5,SNR=10								
QSPA				LR		LR	14 44 53.1		
	comp=Z,84nm,21.9s,baz=350,slow=35								
	comp=Z,1.9nm,0.9s								
NOA	NORSAR Array B	96.20	334	P		P	14 02 38.1	-2.6	
	comp=Z,0.4nm,0.6s,baz=64,slow=4.6,SNR=2.3								
NOA				LR		LR	14 48 54.3		
	comp=Z,135nm,21.8s,baz=60,slow=37								
	comp=Z,0.4nm,0.6s								
JMIC	Jan Mayen	97.34	346	LR		LR	14 50 57.5		
	comp=Z,54nm,20.6s,baz=48,slow=38								
VRAC	Vranov	97.61	321	LR		LR	14 50 39.1		
	comp=Z,127nm,18.8s,baz=74,slow=38								
YKA	Yellowknife Ar	97.88	24	P		P	14 02 47.1	-1.0	
	comp=Z,1.1nm,0.8s,baz=302,slow=5.3,SNR=6.8								
	comp=Z,1.1nm,0.8s								
SCHQ	Schefferville	118.46	8	PKP		PKPdf	14 07 59.4	-0.8	
	comp=Z,25nm,0.7s,baz=27,slow=4.5,SNR=4.3								
TXAR	Lajitas Array	121.07	51	PKP		PKPdf	14 08 06.0	-0.1	
	comp=Z,0.4nm,0.6s,baz=268,slow=0.6,SNR=7.2								
TORD	Torodi Ar. Bea	121.07	289			PKPdf	14 08 04.2	-2.0	
TORD	Torodi Ar. Bea	121.07	289	PKP		PKPdf	14 08 04.1	-2.1	
	comp=Z,1.1nm,0.7s,baz=47,slow=2.0,SNR=9.1								
L40A	Anamosa	121.55	32			PKPdf	14 08 05.1	-1.3	
WVT	Waverly	127.65	34			PKPdf	14 08 15.7	-2.6	
PLAL	Pickwick Lake	128.33	35			PKPdf	14 08 18.6	-1.0	
PLCA	Paso Flores	142.57	160	PKhKP		PKPpre	14 08 41.6		
	comp=Z,2.0nm,0.6s,baz=198,slow=3.2,SNR=9.6								
ACON	Acoyapa	144.58	60			PKPab	14 08 48.2	-0.5	
TRQA	Tornquist	147.41	169			PKPbc	14 08 56.4	-0.5	
BO01	Tunca	147.87	154			PKPbc	14 08 57.1	-1.0	
LMEL	Las Melosas	148.72	154			PKPbc	14 09 00.4	-0.2	
LCO	Las Campanas	152.47	148			PKiKP	14 09 10.3	+0.2	
PDPR	Patillas Dam,	153.49	25			PKPbc	14 09 11.2	-0.8	
CPUP	Villa Florida	159.65	173	PKPab		PKPab	14 09 50.4	0.0	
	comp=Z,0.6nm,0.7s,baz=0.0,slow=5.9,SNR=3.5								
LPAZ	La Paz	163.17	128	PKP		PKPdf	14 09 15.1	-1.7	
	comp=Z,1.1nm,0.7s,baz=233,slow=5.1,SNR=4.2								
LPAZ				PKPab		PKPab	14 10 07.5	+0.5	
	comp=Z,1.4nm,0.5s,baz=210,slow=4.1,SNR=4.1								

IDC ***08*** *13:57:35.1±5.9, 11°.59S×166°.41E, h120km±51km, mb3.6/6, mbtmp4.0/7, Error ellipse: s-maj=34.3km s-min=29.1km az=34.0*

NEIC ***08*** *13:57:36.2±1.7, 11°.54S±0°.09×166°.6E±0°.2, h135km±8km, mb4.3/14, Error ellipse: s-maj=26.0km s-min=11.5km az=103.0*

ISC 08 13:57:38.0±0.8, **11°.71S**±0°.09×**166°.5E**±0°.2, **h150**km, **n24,** σ=1.1 **s11/26, mb4.2**/12, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	Saraoutou	3.77	170	Pn	Pn	13 58 34.6	-0.7
DZM	Mont Dzumac	10.30	180	Pn	Pn	14 00 01.4	-0.7
DZM	Mont Dzumac	10.30	180	P	Pn	14 00 03.2	+1.1
	2.0nm,0.4s,baz=318,slow=15,SNR=11						
DZM				S	Sn	14 01 54.2	-2.0
	5.0nm,1.0s,baz=217,slow=13,SNR=1.8						
EIDS	Eidsvold	19.95	225	P	P	14 01 59.7	+1.2
EIDS				IAmb	IAmb	14 02 19.7	
	comp=Z,15nm,1.2s						
ARMA	Armidale	23.18	214	P	P	14 02 33.0	+1.3
BKZ	Black Stump Fm	28.74	164	P	P	14 03 21.8	+0.4
LTZ	Lake Taylor	31.35	172	P	P	14 03 45.6	+1.1
LTZ				IAmb	IAmb	14 04 01.2	
	comp=Z,12nm,1.1s						
WR8	Warramunga Arr	31.84	251	P	P	14 03 48.0	-0.9
WR8				IAmb	IAmb	14 04 25.1	
	comp=Z,6.1nm,1.3s						
WB0	Warramunga Arr	31.91	251	P	P	14 03 48.7	-0.9
WB0				IAmb	IAmb	14 04 12.8	
	comp=Z,12nm,1.5s						
WRA	Warramunga Arr	31.98	251	P	P	14 03 48.8	-1.4
	comp=Z,0.8nm,0.6s,baz=85,slow=9.3,SNR=9.5						
	comp=Z,0.8nm,0.6s						
AS31	Alice Springs	33.19	245	P	P	14 03 59.4	-1.3
ASAR	Alice Springs	33.19	245	P	P	14 03 59.5	-1.3
	comp=Z,1.1nm,0.7s,baz=70,slow=9.3,SNR=11						
ASAR				PcP	PcP	14 06 40.0	-0.1
	comp=Z,0.3nm,0.5s,baz=81,slow=2.2,SNR=5.2						
	comp=Z,1.1nm,0.7s						
BBOO	Buckleboo	34.95	228	P	P	14 04 15.8	0.0
KNRA	Kununurra	36.87	259	P	P	14 04 31.6	-0.7
KNRA				IAmb	IAmb	14 05 11.4	
	comp=Z,11nm,1.4s						
FITZ	Fitzroy Crossi	39.95	256	P	P	14 04 58.1	0.0
VNDA	Vanda	65.84	181	P	P	14 08 07.2	+0.3
VNDA				IAmb	IAmb	14 08 29.3	
	comp=Z,5.1nm,1.4s						
CASY	Casey	66.04	202	P	P	14 08 08.0	-0.4
CASY				IAmb	IAmb	14 08 29.1	
	comp=Z,4.6nm,1.4s						
CMAR	Chiang Mai Arr	73.08	293	P	P	14 08 53.5	+1.2
	comp=Z,1.1nm,0.6s,baz=127,slow=5.0,SNR=7.5						
	comp=Z,1.1nm,0.6s						
QSPA	South Pole Qui	78.30	180	P	P	14 09 22.8	+1.4
QSPA				IAmb	IAmb	14 09 37.9	
	comp=Z,5.3nm,1.4s						
QSPA	South Pole Qui	78.30	180	P	P	14 09 23.2	+1.9
	comp=Z,1.7nm,0.8s,baz=346,slow=2.7,SNR=6.9						
	comp=Z,1.7nm,0.8s						
ILAR	Eielson Array	83.90	18	P	P	14 09 49.8	-0.9
	comp=Z,0.2nm,0.5s,baz=240,slow=5.0,SNR=2.1						
	comp=Z,0.2nm,0.5s						
J25K	Salcha River,	84.26	19	P	P	14 09 51.8	-0.8
MKAR	Makanchi Array	94.53	317	P	P	14 10 41.0	-0.6
	comp=Z,1.1nm,0.5s,baz=86,slow=6.4,SNR=14						
	comp=Z,1.1nm,0.5s						
ARCES	ARCESS Array B	117.17	346	PKP	PKiKP	14 16 04.0	-0.8
	comp=Z,1.3nm,0.8s,baz=67,slow=3.2,SNR=5.5						

NEIC ***08*** *14:07:22.7±1.2, 35°.58N±0°.02×117°.41W±0°.02, h10km±5km, Error ellipse: s-maj=2.5km s-min=1.8km az=149.0*

PAS ***08*** *14:07:23.3±0.7, 35°.58N±0°.01×117°.41W±0°.01, h6km±2km, Mwr3.6/6, ML3.5/192(NEIC), Error ellipse: s-maj=1.9km s-min=1.0km az=155.0*

ISC 08 14:07:22.9±0.9, **35°.57N**±0°.02×**117°.40W**±0°.02, **h12**km±7km, **n82,** σ=0.9 **s42/69, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCCA	Chr Cany lake	0.

WHFM					Sg	14 07 47.4	-0.8	
EDW2	**Edwards Air Fo**	**0.84**	**215**		**Pg**	**14 07 38.9**	**-0.3**	
EDW2					Sg	14 07 49.3	-0.9	
GWY	**Greenwater Val**	**0.85**	**44**		**Pg**	**14 07 39.3**	**-0.1**	
GWY				IAML		14 07 53.8		
	comp=N,3μm,0.4s							
GWY				IAML		14 07 56.4		
	comp=E,2μm,0.4s							
GWY	**Greenwater Val**	**0.85**	**44**		**Sg**	**14 07 50.5**	**-0.2**	
ISA	**Isabella, Lake**	**0.88**	**276**		**Pg**	**14 07 39.4**	**-0.5**	
ISA				IAML		14 07 53.9		
	comp=N,949nm,0.3s							
ISA				IAML		14 07 54.4		
	comp=E,1μm,0.5s							
WASM	**Alta Sierra Ca**	**0.95**	**280**		**Pg**	**14 07 40.8**	**-0.5**	
WASM					Sg	14 07 53.1	-0.7	
TPO	**Tropico Hills**	**0.97**	**224**		**Pg**	**14 07 41.5**	**-0.1**	
SHOC	**Shoshone, Teco**	**0.97**	**70**		**Pg**	**14 07 41.6**	**-0.1**	
FURC	**Furnace Creek,**	**0.99**	**26**		**Pg**	**14 07 41.9**	**-0.1**	
FURC				IAML		14 08 01.9		
	comp=N,2μm,0.6s							
CWC	**Cottonwood Cre**	**1.02**	**328**		**Pg**	**14 07 42.2**	**-0.4**	
CWC				IAML		14 07 59.3		
	comp=E,919nm,0.2s							
TUQ	**Turquoise Moun**	**1.22**	**96**		**Pg**	**14 07 45.5**	**-0.8**	
SPG2	**Springville 2**	**1.27**	**300**		**Pn**	**14 07 46.4**	**-0.2**	
BFSC	**Mount Baldy Ra**	**1.35**	**189**		**Pn**	**14 07 48.0**	**+0.2**	
BFSC				IAML		14 08 07.7		
	comp=E,1μm,0.6s							
BFSC				IAML		14 08 07.9		
	comp=N,1μm,0.6s							
WCT	**Wildcat Mounta**	**1.37**	**27**		**Pn**	**14 07 47.9**	**-0.1**	
WCT				IAML		14 08 09.0		
	comp=N,973nm,0.5s							
WCT				IAML		14 08 10.1		
	comp=E,1μm,0.5s							
VES	**Vestal, Richgr**	**1.39**	**282**		**Pn**	**14 07 48.3**	**+0.1**	
VES				IAML		14 07 54.0		
	comp=E,1μm,0.8s							
OSI	**Osito Audit: C**	**1.45**	**229**		**Pn**	**14 07 49.7**	**+0.7**	
MWC	**Mount Wilson**	**1.45**	**202**		**Pn**	**14 07 49.6**	**+0.4**	
MWC				IAML		14 08 11.8		
	comp=N,1μm,0.6s							
MWC				IAML		14 08 12.7		
	comp=E,1μm,0.6s							
MTPC	**Mountain Pass**	**1.51**	**93**		**Pn**	**14 07 49.6**	**-0.4**	
MTPC				IAML		14 08 12.7		
	comp=E,552nm,0.3s							
MTPC				IAML		14 08 12.8		
	comp=N,444nm,0.7s							
PASC	**Pasadena Art C**	**1.54**	**205**	IAML		14 08 15.4		
	comp=N,587nm,0.4s							
PASC				IAML		14 08 18.1		
	comp=E,647nm,0.7s							
TIN	**Tinemaha, Big**	**1.62**	**336**		**Pn**	**14 07 52.0**	**+0.5**	
TIN				IAML		14 08 21.0		
	comp=E,692nm,0.5s							
TIN				IAML		14 08 22.1		
	comp=N,947nm,0.8s							
TPNV	**Topopah Spring**	**1.66**	**34**		**Pn**	**14 07 52.3**	**+0.3**	
TPNV				IAML		14 08 17.6		
	comp=N,622nm,0.5s							
GMN	**Gold Mountain**	**1.73**	**4**		**Pn**	**14 07 53.4**	**+0.4**	
ELS	**Elsinore Mount**	**1.92**	**181**		**Pn**	**14 07 56.0**	**+0.5**	
CRGC	**Crocker Grade**	**1.93**	**261**		**Pb**	**14 07 58.6**	**+0.5**	
BELC	**Belle Mtn. Jos**	**1.95**	**143**		**Pn**	**14 07 56.0**	**0.0**	
BELC				IAML		14 08 28.6		
	comp=N,407nm,0.8s							
BELC				IAML		14 08 35.4		
	comp=E,328nm,0.7s							
SHPR	**Sheep Range**	**2.04**	**62**		**Pn**	**14 07 57.6**	**+0.3**	
V12A	**Nelson**	**2.08**	**85**		**Pn**	**14 07 57.7**	**-0.1**	
V12A				IAML		14 08 35.2		
	comp=N,194nm,0.5s							
PMD	**Palm Desert**	**2.10**	**156**		**Pn**	**14 07 57.8**	**-0.2**	
DNR	**Dunn Ranch,Anz**	**2.10**	**162**		**Pn**	**14 07 58.5**	**+0.4**	
PFO	**Pinyon Flats O**	**2.11**	**158**		**Pn**	**14 07 58.2**	**+0.1**	
IRM	**Iron Mountain**	**2.33**	**127**		**Pn**	**14 08 00.1**	**-1.1**	
IRM				IAML		14 08 42.4		
	comp=E,250nm,0.6s							
IRM				IAML		14 08 42.7		
	comp=N,175nm,0.7s							
BORC	**Borrego Spring**	**2.44**	**160**	Pn	**Pn**	**14 08 02.9**	**+0.3**	
BORC				IAML		14 08 42.1		
	comp=E,148nm,0.9s							
MDPB	**Devils Postpil**	**2.46**	**327**	IAML		14 08 43.3		
	comp=N,195nm,0.8s							
MDPB				IAML		14 08 46.3		
	comp=E,213nm,0.8s							
S11A	**Rachel**	**2.46**	**32**	Pn	**Pn**	**14 08 03.5**	**+0.5**	
S11A				IAML		14 09 02.4		
	comp=N,398nm,0.9s							
BC3	**Big Chuckawall**	**2.50**	**139**		**Pn**	**14 08 02.9**	**-0.7**	
BC3				IAML		14 08 48.9		
	comp=N,197nm,1.0s							
BC3				IAML		14 08 50.6		
	comp=E,158nm,0.6s							
TPH	**Tonopah**	**2.50**	**3**		**Pn**	**14 08 03.8**	**+0.1**	
TPH				IAML		14 08 47.1		
	comp=N,253nm,1.2s							
LHV	**Little Huntoon**	**2.81**	**342**	IAML		14 09 04.7		
	comp=N,112nm,1.1s							
LHV				IAML		14 09 05.4		
	comp=E,115nm,1.1s							
RAMR	**Ramage Ranch**	**2.83**	**272**	IAML		14 08 56.9		
	comp=N,305nm,0.7s							
W13A	**Hualapai Mount**	**2.92**	**98**	IAML		14 09 02.0		
	comp=N,133nm,0.8s							
BAR	**Barrett**	**2.95**	**168**	IAML		14 08 57.8		
	comp=E,98nm,0.7s							
BUCR	**Buckhorn Ranch**	**3.04**	**314**	IAML		14 08 58.9		
	comp=E,211nm,0.7s							
BUCR				IAML		14 09 04.1		
	comp=N,210nm,0.7s							
HULI	**Fort Hunter Li**	**3.15**	**279**	IAML		14 09 04.6		
	comp=N,92nm,1.2s							
HULI				IAML		14 09 29.7		
	comp=E,82nm,1.7s							
Q09A	**Carvers**	**3.26**	**3**	IAML		14 09 18.0		
	comp=N,205nm,1.2s							
Q09A				IAML		14 09 18.0		
	comp=E,164nm,1.5s							
GLA	**Glamis**	**3.30**	**139**	IAML		14 09 16.1		
	comp=N,145nm,1.1s							
WAKR	**Walker**	**3.35**	**332**	IAML		14 09 28.8		
	comp=N,65nm,0.9s							
CMB	**Columbia Colle**	**3.43**	**317**	IAML		14 09 13.3		
	comp=N,101nm,0.7s							
CMB				IAML		14 09 15.1		
	comp=E,89nm,0.9s							
MTOS	**Mt Oso, Westle**	**3.70**	**303**	IAML		14 09 22.4		
	comp=N,118nm,0.7s							
MTOS				IAML		14 09 24.4		
	comp=E,109nm,0.8s							
ESJX	**Sierra Juarez**	**3.76**	**161**	IAML		14 09 24.1		
	comp=E,51nm,0.7s							
WELL	**Weller Preserv**	**3.90**	**318**	IAML		14 09 32.9		
	comp=E,88nm,1.0s							
WELL				IAML		14 09 33.0		
	comp=N,82nm,1.0s							
KNB	**Kanab**	**3.97**	**67**	IAML		14 09 32.8		
	comp=N,45nm,1.7s							
Y14A	**Wickenburg**	**3.97**	**113**	IAML		14 09 43.6		
	comp=E,65nm,0.6s							
SZCU	**Shurtz Canyon**	**4.02**	**59**	IAML		14 09 31.4		
	comp=E,41nm,0.6s							
PSUT	**Pine Spring**	**4.10**	**43**	IAML		14 09 36.2		
	comp=N,55nm,0.7s							
PSUT				IAML		14 09 48.0		
	comp=E,55nm,1.2s							
SPR3	**Spring Creek 3**	**4.21**	**35**	IAML		14 09 37.6		
	comp=E,55nm,1.2s							
SPR3				IAML		14 09 45.5		
	comp=N,38nm,0.8s							
U15A	**North Rim**	**4.23**	**77**	IAML		14 09 35.6		
	comp=E,41nm,1.2s							
U15A				IAML		14 09 45.3		
	comp=N,67nm,0.9s							
VTX	**Valle De La Tr**	**4.38**	**162**	IAML		14 09 44.5		
	comp=E,30nm,0.7s							
VTX				IAML		14 09 44.8		
	comp=N,39nm,0.8s							
AFDM	**Forest Hills D**	**4.41**	**321**	IAML		14 09 47.5		
	comp=N,49nm,1.2s							
AFDM				IAML		14 09 47.5		
	comp=E,74nm,0.9s							
PKCU	**Pink Cliffs**	**4.51**	**64**	IAML		14 09 52.4		
	comp=N,64nm,1.2s							
PKCU				IAML		14 09 59.5		
	comp=E,64nm,1.4s							
BEKR	**Beckworth**	**4.88**	**332**	IAML		14 10 10.3		
	comp=N,38nm,0.8s							
TCRU	**Three Creeks R**	**4.99**	**51**	IAML		14 10 09.4		
	comp=N,54nm,1.1s							
TCRU				IAML		14 10 09.6		
	comp=E,45nm,1.4s							
X16A	**Lo Mia Camp, P**	**5.03**	**102**	IAML		14 10 05.9		
	comp=E,25nm,1.1s							
X16A				IAML		14 10 07.8		
	comp=N,22nm,1.0s							

*DJA **08** 14:12:40.2±0.3,8°S±4°×10°8E±°, h10km, M4.3/18, mb4.4/6, MLv4.3/18*
*IDC **08** 14:12:46.6±1.9,8°08S×108°23E, h95km±14km, mb3.4/7, mbtmp3.8/8, MS3.5/1, Error ellipse: s-maj=52.1km s-min=15.6km az=48.0*
ISC 08 14:12:42.4±0.8, 8°4S±0°1×108°08E±0°09, h55km, n35, σ1§15/28, mb3.8/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KPJI	**Karang Pucung**	**1.37**	**38**	P	**Pn**	**14 13 04.6**	**-0.6**
CNJI	**Cibinong**	**1.45**	**319**	P	**Pn**	**14 13 05.4**	**-0.9**
LEM	**Lembang**	**1.64**	**344**	P	**Pn**	**14 13 09.8**	**+0.6**
	824nm,0.3s,baz=139,slow=11,SNR=109						
LEM				LR	LR	14 13 21.2	
	comp=Z,246nm,18.2s,baz=42,slow=25						
LEM				S	**Sn**	**14 13 30.8**	**+1.5**
	523nm,0.4s,baz=302,slow=23,SNR=4.0						
LEM	**Lembang**	**1.64**	**344**	P	**Pn**	**14 13 09.7**	**+0.6**
SKJI	**Sukabumi**	**2.06**	**313**	P	**Pn**	**14 13 15.2**	**+0.6**
DBJI	**Dramaga**	**2.27**	**324**	P	**Pn**	**14 13 18.8**	**+1.3**
UGM	**Wanagama**	**2.47**	**79**	P	**Pn**	**14 13 19.3**	**-1.0**
SMRI	**Semarang**	**2.71**	**60**	P	**Pn**	**14 13 24.1**	**+0.6**
WOJI	**Wonogiri, Jawa**	**2.88**	**79**	P	**Pn**	**14 13 25.3**	**-0.5**
CGJI	**Cibinong**	**2.96**	**307**	P	**Pn**	**14 13 28.0**	**+1.0**
PCJI	**Pacitan**	**3.08**	**86**	P	**Pn**	**14 13 28.1**	**-0.5**
KASI	**Kota Agung**	**4.57**	**309**	P	**Pn**	**14 13 50.6**	**+1.6**
GMJI	**Gumukmas**	**5.31**	**89**	P	**Pn**	**14 13 59.2**	**0.0**
	0.2nm29nm,0.7s						
JAGI	**Jajag, Banyuwa**	**6.01**	**91**	P	**Pn**	**14 14 09.4**	**+0.6**
	0.3nm26nm,0.6s						
SRBI	**Singaraja**	**7.07**	**88**	P	**Pn**	**14 14 24.5**	**+1.1**
TWSI	**Taliwang, Sumb**	**8.71**	**93**	P	**Pn**	**14 14 46.0**	**+0.1**
	20nm,1.1s						
PLAI	**Plampang**	**9.60**	**93**	P	**Pn**	**14 14 58.1**	**+0.1**
BATI	**Baumata**	**15.48**	**98**	P	**Pn**	**14 16 18.3**	**+0.8**
	11nm,0.5s,baz=152,slow=14,SNR=1.6						
WRA	**Warramunga Arr**	**27.87**	**117**	P	**P**	**14 18 27.8**	**+0.5**
	0.3nm,0.7s,baz=290,slow=11,SNR=6.2						
WRA				PcP	**PcP**	**14 21 42.2**	**0.0**
	0.2nm,0.5s,baz=314,slow=2.7,SNR=1.5						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**29.01**	**125**	P	**P**	**14 18 38.1**	**+0.8**
	0.2nm,0.7s,baz=302,slow=8.6,SNR=7.0						
ASAR				PcP	**PcP**	**14 21 45.5**	**+0.5**
	0.3nm,0.6s,baz=300,slow=2.7,SNR=5.5						
	0.2nm,0.7s						
JAY	**Jayapura**	**32.99**	**82**	LR	LR	14 35 53.1	
	comp=Z,68nm,18.1s,baz=228,slow=42						
H08S2	**Diego Garcia H**	**35.24**	**269**	T	T	14 56 45.0	
	baz=93,slow=75,SNR=56						
H08S3	**Diego Garcia H**	**35.25**	**269**	T	T	14 56 53.9	
	baz=93,slow=75,SNR=148						
H08S1	**Diego Carcia H**	**35.25**	**269**	T	T	14 56 46.3	
	baz=93,slow=75,SNR=32						
MKAR	**Makanchi Array**	**59.57**	**340**	P	**P**	**14 22 37.0**	**-3.4**
	0.7nm,0.6s,baz=158,slow=8.2,SNR=5.9						
	0.7nm,0.6s						
H04N2	**CROZET ISLANDS**	**60.90**	**221**	T	T	15 29 44.0	
	baz=70,slow=75,SNR=46						
H04N1	**CROZET ISLANDS**	**60.91**	**221**	T	T	15 29 43.9	
	baz=70,slow=75,SNR=49						
H04N3	**CROZET ISLANDS**	**60.92**	**221**	T	T	15 29 42.9	
	baz=70,slow=75,SNR=44						
H04S1	**CROZET ISLANDS**	**61.06**	**221**	T	T	15 29 48.3	
	baz=69						
H04S3	**CROZET ISLANDS**	**61.07**	**221**	T	T	15 29 49.1	
	baz=69						
H04S2	**CROZET ISLANDS**	**61.08**	**221**	T	T	15 29 54.7	
	baz=69						
KURBB	**Kurchatov Arra**	**64.14**	**340**	P	**P**	**14 23 09.3**	**-1.6**
	0.4nm,0.5s,baz=151,slow=5.7,SNR=4.5						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**69.08**	**337**	P	**P**	**14 23 40.9**	**-1.6**
	0.6nm,0.5s,baz=130,slow=7.8,SNR=5.2						
	0.6nm,0.5s						
QSPA	**South Pole Qui**	**81.58**	**180**	P	**P**	**14 24 55.4**	**+1.2**
	1.5nm,1.1s,baz=314,slow=3.0,SNR=2.2						
	1.5nm,1.1s						
BRTR	**Keskin Array B**	**83.56**	**312**	P	**P**	**14 25 04.4**	**-0.7**
	1.0nm,0.8s,baz=130,slow=7.8,SNR=3.1						
	1.0nm,0.8s						

*IDC **08** 14:21:50.0±1.8, 4°42S×152°76E, h0km, mb3.7/5, mbtmp3.7/5, MS3.2/1, Error ellipse: s-maj=65.3km s-min=29.7km az=105.0*
ISC 08 14:21:57.2±1.8, 4°5S±0°2×152°8E±0°5, h50km, n6, σ0§89/6, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.63**	**228**	P	**P**	**14 27 04.2**	**+0.1**
	1.4nm,0.6s,baz=52,slow=9.9,SNR=22						
WRA				LR	LR	14 36 00.3	
	comp=Z,54nm,18.5s,baz=50,slow=36						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**26.36**	**222**	P	**P**	**14 27 28.6**	**-0.3**
	0.1nm,0.5s,baz=54,slow=9.1,SNR=7.9						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**80.06**	**319**	P	**P**	**14 34 02.7**	**+1.0**
	0.2nm,0.5s,baz=90,slow=6.5,SNR=4.3						
	0.2nm,0.5s						
QSPA	**South Pole Qui**	**85.48**	**180**	P	**P**	**14 34 29.9**	**+0.3**
	1.3nm,1.1s,baz=272,slow=1.7,SNR=1.9						
	1.3nm,1.1s						
BVAR	**Borovoye Array**	**88.96**	**323**	P	**P**	**14 34 45.6**	**-0.8**
	0.7nm,0.4s,baz=96,slow=5.8,SNR=6.5						
	0.7nm,0.4s						
TORD	**Torodi Ar. Bea**	**150.17**	**289**	PKPbc	**PKPbc**	**14 41 43.0**	**-0.7**
	0.6nm,0.4s,baz=64,slow=2.8,SNR=8.4						

GCG 08 14:25:57.1±0.7, 14°27N×91°73W, h63km±6km, MD3.4, ML3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QUEO	**Labor Ovalle**	**0.63**	**19**	*i* P	Pn	14 26 11.8	+0.8
QUEO				*e*S	Sn	14 26 23.4	+2.1
SOKI	**Kika Raxquin**	**0.63**	**30**	*i* P	Pn	14 26 11.5	+0.4
SOKI				*i* S	Sn	14 26 23.4	+2.0
SOKI				IAML		14 26 27.8	
	comp=E,882nm,0.5s						
SMCA	**Catarina**	**0.67**	**330**	*i* P	Pn	14 26 11.2	0.0
SMCA				*e*S	Sn	14 26 22.0	+0.5
SMCA				IAML		14 26 23.3	
	comp=N,2μm,0.2s						
THIG		**0.81**	**321**	*i* P	Pn	14 26 13.1	+0.2
THIG				*i* S	Sn	14 26 25.1	+0.5
THIG				IAML		14 26 26.2	
	comp=E,711nm,0.2s						
ESSG	**Sabana Grande**	**0.88**	**83**	*i* P	Pn	14 26 13.7	-0.1
ESSG				*i* S	Sn	14 26 27.0	+0.9
ESSG				IAML		14 26 27.5	
	comp=N,561nm,0.2s						
FG8	**Yepocapa, Chim**	**1.14**	**91**	*i* P	Pn	14 26 13.2	-4.0
FG8				*i* S	Sn	14 26 25.3	-6.7
FG16	**Alotenango, Sa**	**1.18**	**90**	*i* P	Pn	14 26 14.1	-3.8
FG16				*i* S	Sn	14 26 27.6	-5.7
FG16				IAML		14 26 32.5	
	comp=N,5μm,0.2s						
QUIS	**Sacapulas**	**1.19**	**31**	*i* P	Pn	14 26 18.3	+0.5
CCIG	**Comitan**	**2.04**	**349**	*i* P	Pn	14 26 30.2	+0.9
CCIG				*i* S	Sn	14 26 55.5	+1.8
CCIG				IAML		14 27 13.7	
	comp=N,52nm,0.4s						
JAYA	**Jayaque - finc**	**2.30**	**105**	*i* P	Pn	14 26 32.8	-0.1
JAYA				*i* S	Sn	14 27 00.6	+0.4

*SDD **08** 14:40:34.8±1.2,20°26N×72°89W, h119km±18km, MD3.5, ML2.7, MW3.0*
*SSNC **08** 14:40:36.9±1.2,20°10N×72°94W, h20km±9km, MD3.0, ML2.5, MW2.6*
*OSPL **08** 14:40:37.9±1.6, 19°96N×73°03W, h11km±13km, ML2.3*
ISC 08 14:40:35.8±1.2, 20°05N±0°07×72°98W±0°03, h26km±14km, n15, σ0§93/29, 4C-2D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**1.18**	**276**	*e*P	**Pb**	**14 40 57.4**	**-0.2**
MASC				*e*S	**Sb**	**14 41 12.7**	**+0.3**
MASC	**Masc**	**1.18**	**276**	*i* P	**Pb**	**14 40 57.1**	**-0.5**
MASC				*e*S	**Sb**	**14 41 14.2**	**+1.8**
MASC				IAML		14 41 15.1	
	comp=Z,60nm,0.4s						
MCDR	**Montecristi**	**1.26**	**97**	⇑*e*Pg	**Pn**	**14 40 57.2**	**-0.5**
MCDR				⇑*e*Sg	**Sb**	**14 41 15.1**	**+0.4**
MCDR				IAML		14 41 18.5	
	comp=N,182nm,0.2s						
PAPH	**Port-au-Prince**	**1.65**	**157**	*e*P	**Pn**	**14 41 02.9**	**-0.2**
PAPH				*e*S	**Sn**	**14 41 22.3**	**-1.1**
PAPH				IAML		14 41 27.2	
	comp=E,35nm,0.1s						
PAPH				IAML		14 41 28.8	
	comp=N,42nm,0.2s						
PAPH	**Port-au-Prince**	**1.65**	**157**	*i* P	**Pb**	**14 41 04.4**	**-1.2**
PAPH				*e*S	**Sn**	**14 41 23.7**	**+0.3**
LOPP1	**Punta Rusia, P**	**1.69**	**96**	*i* P	**Pb**	**14 41 06.1**	**-0.1**
LOPP1				*e*S	**Sb**	**14 41 26.7**	**-0.3**
LOPP1				IAML		14 41 28.5	
	comp=Z,46nm,0.9s						
QMBU	**Quimbuelo**	**1.73**	**275**	*e*P	**Pn**	**14 41 04.2**	**+0.1**
QMBU				*e*S	**Sn**	**14 41 24.4**	**-0.9**
QMBU				*e*Sg	**Sb**	**14 41 27.8**	**-0.4**
QMBU				IAML		14 41 28.4	
	comp=N,70nm,0.2s						
QMBU				IAML		14 41 30.0	
	comp=E,56nm,0.2s						
QMBU	**Quimbuelo**	**1.73**	**275**	⇑*e*Pg	**Pn**	**14 41 04.3**	**+0.1**
QMBU				⇑*e*Sg	**Sn**	**14 41 26.4**	**+1.1**
QMBU				IAML		14 41 28.4	
	comp=N,71nm,0.2s						
JIDR	**Jimani**	**1.88**	**145**	*e*Pg	**Pn**	**14 41 06.6**	**+0.3**
JIDR				IAML		14 41 44.5	
	comp=N,31nm,1.5s						
SDDR	**Presa de Saban**	**1.92**	**123**	⇓*e*Pg	**Pn**	**14 41 07.4**	**+0.6**
SDDR				⇓*e*Sg	**Sn**	**14 41 29.7**	**-0.4**
SDDR				IAML		14 41 38.0	
	comp=N,25nm,0.8s						
SDDR	**Presa de Saban**	**1.92**	**123**	*i* P	**Pn**	**14 41 08.2**	**+1.4**
SDDR				*e*S	**Sn**	**14 41 31.6**	**+1.4**
SDDR				IAML		14 41 42.9	
	comp=Z,26nm,0.3s						
NMDO	**Nuevo Mundo**	**1.94**	**286**	*e*P	**Pn**	**14 41 06.8**	**-0.3**
NMDO				*e*S	**Sn**	**14 41 28.9**	**-1.9**
NMDO				IAML		14 41 36.3	
	comp=E,21nm,0.3s						
NMDO				IAML		14 41 37.2	
	comp=N,20nm,0.1s						
GTBY	**Guantanamo Bay**	**2.00**	**267**	*i* P	**Pn**	**14 41 09.1**	**+1.1**
GTBY				*i* S	**Sn**	**14 41 32.0**	**-0.2**
GTBY				IAML		14 41 38.3	
	comp=Z,56nm,1.0s						
GTBY	**Guantanamo Bay**	**2.00**	**267**	*i* P	**Pn**	**14 41 09.4**	**+1.4**
GTBY				*e*S	**Sn**	**14 41 31.6**	**-0.6**
GTBY				IAML		14 41 37.4	
	comp=Z,25nm,1.9s						
LODU1	**El Espartillar**	**2.21**	**140**	*i* P	**Pn**	**14 41 11.7**	**+1.0**
LODU1				IAML		14 41 52.2	
	comp=Z,34nm,0.4s						

*NOU **08** 14:42:34.0, 17°53S×177°59W, h560km, mb4.3/21, Fiji Islands Region*
*NEIC **08** 14:42:35.5±1.8, 17°8S±0°1×178°0W±0°1, h522km±7km, mb4.1/51, Error ellipse: s-maj=18.6km s-min=13.5km az=148.0*
*IDC **08** 14:42:41.2±3.0, 17°66S×178°35W, h591km±34km, mb3.3/11, mbtmp4.2/12, Error ellipse: s-maj=17.4km s-min=14.1km az=135.0*
ISC 08 14:42:36.9±0.4, 17°72S±0°08×178°10W±0°07, h550km, n112, σ1§15/115, mb4.1/41, 4C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**2.00**	**300**	P	**P**	**14 43 46.9**	**+0.2**
DGTI	**Dogotuki**	**2.51**	**304**	P	**P**	**14 43 49.0**	**-0.2**
MSVF	**Nonsavu**	**3.67**	**269**	P	**P**	**14 43 57.1**	**+0.6**
MSVF	**Nonsavu**	**3.67**	**269**	P	**P**	**14 43 57.5**	**+0.9**
YSA	**Yasawairara**	**4.26**	**283**	P	**P**	**14 44 01.3**	**+0.5**
AFI	**Afiamalu**	**7.16**	**59**	P	**P**	**14 44 23.1**	**-3.6**
NIUE	**Niue**	**7.87**	**101**	P	**P**	**14 44 30.3**	**-3.1**
FUNA	**Funafuti**	**9.51**	**344**	P	**P**	**14 44 47.9**	**-2.1**
PINNC	**Pines Island,**	**14.42**	**248**	P	**P**	**14 45 39.4**	**-1.1**
DZM	**Mont Dzumac**	**15.17**	**251**	P	**P**	**14 45 46.1**	**-2.2**
DZM	**Mont Dzumac**	**15.17**	**251**	P	**P**	**14 45 49.9**	**+1.6**
	9.2nm,0.6s,baz=104,slow=13,SNR=15						
DZM	**Mont Dzumac**	**15.17**	**251**	P	**P**	**14 45 50.3**	**+2.0**
ONTNC	**Ouen Toro**	**15.22**	**250**	P	**P**	**14 45 46.9**	**-1.8**
RAR	**Rarotonga**	**17.62**	**104**	P	**P**	**14 46 11.8**	**+0.4**
OUZ	**Omahuta**	**18.93**	**201**	P	**P**	**14 46 24.8**	**+1.6**
KUZ	**Kuaotunu**	**19.72**	**195**	P	**P**	**14 46 31.6**	**+1.3**
TOZ	**Tahuroa Road**	**20.71**	**194**	P	**P**	**14 46 39.2**	**-0.1**
URZ	**Urewera**	**20.89**	**191**	P	**P**	**14 46 37.2**	**-3.7**
	4.5nm,0.3s,baz=250,slow=3.5,SNR=7.5						
URZ	**Urewera**	**20.89**	**191**	P	**P**	**14 46 38.8**	**-2.1**
BKZ	**Black Stump Fm**	**21.88**	**191**	P	**P**	**14 46 47.4**	**-2.5**
QRZ	**Quartz Range**	**24.40**	**197**	P	**P**	**14 47 11.6**	**-0.6**
JCZ	**Jackson Bay**	**28.50**	**200**	P	**P**	**14 47 47.1**	**-1.3**
EIDS	**Eidsvold**	**29.61**	**250**	P	**P**	**14 47 57.4**	**-0.7**
EIDS				IAmb	IAmb	14 47 58.5	
	comp=Z,5.4nm,0.7s						
ARMA	**Armidale**	**30.29**	**240**	P	**P**	**14 48 04.2**	**+0.1**
ARMA	**Armidale**	**30.29**	**240**	P	**P**	**14 48 04.6**	**+0.5**
CTAO	**Charters Tower**	**33.77**	**260**	P	**P**	**14 48 33.3**	**-0.4**
CTAO				IAmb	IAmb	14 48 34.3	
	comp=Z,4.4nm,0.8s						
CNB	**Canberra Magne**	**33.78**	**232**	P	**P**	**14 48 33.9**	**+0.3**
CAN	**Canberra**	**34.05**	**232**	P	**P**	**14 48

FITZ	**Fitzroy Crossi**	**53.35**	**260**	P	**P**		**14 51 05.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**53.35**	**260**	P	**P**		**14 51 05.8**	**+0.2**
PSA00	**Pilbara Seismi**	**58.25**	**255**	P	**P**		**14 51 39.1**	**-0.3**
MBWA	**Marble Bar**	**58.41**	**256**	P	**P**		**14 51 40.0**	**-0.5**
MBWA				IAmb	IAmb	14 52 20.7		
	comp=Z,13nm,1.5s							
NWAO	**Narrogin (SRO)**	**59.56**	**242**	P	**P**		**14 51 48.4**	**+0.3**
SBA	**Scott Base**	**60.62**	**184**	P	**P**		**14 51 56.0**	**+1.7**
VNDA	**Vanda**	**60.66**	**185**	P	**P**		**14 51 55.5**	**+0.9**
VNDA	**Vanda**	**60.66**	**185**	P	**P**		**14 51 55.3**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=353,slow=5.7,SNR=9.5							
	comp=Z,0.5nm,0.6s							
GIRL	**Giralia**	**63.23**	**253**	P	**P**		**14 52 13.2**	**+1.0**
CASY	**Casey**	**66.43**	**205**	P	**P**		**14 52 31.3**	**-0.2**
CASY				IAmb	IAmb	14 52 32.6		
	comp=Z,6.9nm,1.4s							
MJAR	**Matsushiro Arr**	**67.94**	**323**	P	**P**		**14 52 40.6**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=166,slow=5.8,SNR=2.6							
	comp=Z,1.1nm,0.7s							
QSPA	**South Pole Qui**	**72.33**	**180**	P	**P**		**14 53 08.7**	**+1.7**
QSPA				IAmb	IAmb	14 53 09.8		
	comp=Z,4.7nm,0.8s							
QSPA	**South Pole Qui**	**72.33**	**180**	P	**P**		**14 53 08.7**	**+1.7**
	comp=Z,3.9nm,0.6s,baz=328,slow=2.4,SNR=39							
	comp=Z,3.9nm,0.6s							
PETK	**Petropavlovsk-**	**73.58**	**345**	P	**P**		**14 53 14.2**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=172,slow=9.6,SNR=4.6							
	comp=Z,1.8nm,0.7s							
KRMB	**Red Mountain**	**77.35**	**39**	P	**P**		**14 53 37.1**	**+1.7**
KSXB	**Camp Six Broad**	**77.56**	**38**	P	**P**		**14 53 37.8**	**+1.2**
P16K	**Nushagak River**	**78.23**	**10**	P	**P**		**14 53 40.0**	**+0.4**
WAKR	**Walker**	**78.38**	**43**	P	**P**		**14 53 42.6**	**+1.4**
BEKR	**Beckworth**	**78.55**	**42**	P	**P**		**14 53 43.0**	**+0.9**
LHV	**Little Huntoon**	**78.85**	**44**	P	**P**		**14 53 44.9**	**+1.5**
K05A	**Summer Lake**	**79.87**	**39**	P	**P**		**14 53 50.2**	**+1.3**
K05A				IAmb	IAmb	14 53 51.2		
	comp=Z,6.7nm,1.1s							
J05D	**Fort Rock, OR**	**79.99**	**38**	P	**P**		**14 53 51.0**	**+1.5**
J05D				IAmb	IAmb	14 53 51.6		
	comp=Z,5.6nm,0.7s							
H04A	**Detroit Lake**	**80.27**	**37**	P	**P**		**14 53 51.5**	**+0.8**
H04A				IAmb	IAmb	14 54 33.9		
	comp=Z,9.9nm,1.4s							
L16K	**Owhat River**	**80.54**	**9**	P	**P**		**14 53 52.8**	**+1.1**
L16K				IAmb	IAmb	14 54 33.7		
	comp=Z,11nm,1.2s							
L18K	**Granite Mounta**	**81.46**	**10**	P	**P**		**14 53 57.6**	**+1.1**
M19K	**Big River Lodg**	**81.56**	**11**	P	**P**		**14 53 57.2**	**+0.2**
M19K				IAmb	IAmb	14 54 08.2		
	comp=Z,11nm,1.4s							
BELA	**Belgrano 2**	**82.31**	**173**	P	**P**		**14 54 00.4**	**-0.3**
BELA				IAmb	IAmb	14 54 01.2		
	comp=Z,5.2nm,0.9s							
PMR	**Palmer**	**82.35**	**14**	P	**P**		**14 54 00.8**	**-0.2**
PMR				IAmb	IAmb	14 54 04.2		
	comp=Z,5.7nm,1.2s							
G08A	**Pilot Rock**	**82.48**	**38**	P	**P**		**14 54 03.2**	**+1.0**
K20K	**Telida**	**82.97**	**11**	P	**P**		**14 54 04.5**	**+0.4**
K20K				IAmb	IAmb	14 54 05.3		
	comp=Z,4.2nm,0.8s							
VRDI	**Verde Repeater**	**83.42**	**16**	P	**P**		**14 54 06.6**	**0.0**
VRDI				IAmb	IAmb	14 54 41.0		
	comp=Z,7.8nm,1.4s							
RND	**Reindeer**	**84.02**	**13**	P	**P**		**14 54 09.5**	**+0.1**
RND				IAmb	IAmb	14 54 10.2		
	comp=Z,6.1nm,0.7s							
MAW	**Mawson**	**84.14**	**200**	P	**P**		**14 54 09.8**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=124,slow=5.7,SNR=6.4							
	comp=Z,1.3nm,0.5s							
M27K	**Edge Creek, AK**	**84.78**	**16**	P	**P**		**14 54 14.3**	**+1.1**
M27K				IAmb	IAmb	14 54 41.4		
	comp=Z,9.6nm,1.4s							
ILAR	**Eielson Array**	**85.64**	**13**	P	**P**		**14 54 16.6**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=223,slow=5.1,SNR=16							
	comp=Z,0.6nm,0.5s							
TX31	**Lajitas Ar. Si**	**85.64**	**58**	P	**P**		**14 54 19.8**	**+1.6**
TX31				IAmb	IAmb	14 54 21.0		
	comp=Z,5.5nm,1.1s							
TXAR	**Lajitas Array**	**85.64**	**58**	P	**P**		**14 54 19.9**	**+1.8**
	comp=Z,1.7nm,0.8s,baz=216,slow=5.6,SNR=21							
	comp=Z,1.7nm,0.8s							
J26L	**Joseph Creek**	**86.15**	**14**	P	**P**		**14 54 20.6**	**+0.9**
L29M	**L29M**	**86.40**	**17**	P	**P**		**14 54 22.0**	**+1.1**
L29M				IAmb	IAmb	14 54 29.5		
	comp=Z,7.4nm,1.5s							
PDAR	**Pinedale Array**	**87.01**	**43**	P	**P**		**14 54 25.1**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=224,slow=4.1,SNR=3.8							
	comp=Z,0.6nm,0.3s							
COLD	**Coldfoot**	**87.18**	**11**	P	**P**		**14 54 25.1**	**+0.8**
COLD				IAmb	IAmb	14 54 26.2		
	comp=Z,3.8nm,1.2s							
MMPY	**Sheldon Lake,**	**88.10**	**20**	P	**P**		**14 54 29.7**	**+0.9**
MMPY				IAmb	IAmb	14 54 30.6		
	comp=Z,2.3nm,0.8s							
BMAR	**Burnt Mountain**	**88.41**	**12**	P	**P**		**14 54 31.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**89.10**	**290**	P	**P**		**14 54 35.5**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=100,slow=4.5,SNR=5.0							
	comp=Z,0.3nm,0.5s							
TROLL	**Troll, Antarti**	**90.49**	**180**	⇑P	**P**		**14 54 39.9**	**-0.2**
	comp=Z,90nm,0.6s							
VNA3	**Neumayer Olymp**	**90.91**	**176**	⇑P	**P**		**14 54 41.7**	**-0.1**
	comp=Z,4.7nm,0.7s							
VNA2	**Neumayer--Watz**	**91.35**	**177**	⇑P	**P**		**14 54 43.0**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=170,slow=4.6							
VNA1	**Neumayer--Stat**	**91.58**	**177**	⇑P	**P**		**14 54 44.0**	**-0.9**
	comp=Z,3.9nm,0.9s							
YKA	**Yellowknife Ar**	**94.04**	**25**	P	**P**		**14 54 55.5**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=260,slow=3.7,SNR=4.1							
	comp=Z,0.4nm,0.7s							
ARCES	**ARCESS Array B**	**126.19**	**350**	PKP		**PKPdf**	**15 00 35.8**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=356,slow=1.3,SNR=6.4							
BUR08	**Bucovina Ar. S**	**144.57**	**333**			**PKPab**	**15 01 12.3**	**+0.4**
BRTR	**Keskin Array B**	**144.86**	**315**	PKP		**PKPdf**	**15 01 11.3**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=147,slow=2.9,SNR=5.7							
CLL	**Collm**	**145.35**	**348**	‖ *i* PKPbc		**PKPbc**	**15 01 13.6**	**+0.2**
	comp=Z,6.0nm,0.7s							
BRG	**Berggiesshubel**	**145.56**	**346**	*eP*		**PKiKP**	**15 01 16.6**	**-0.3**
BRG				Amp			15 01 18.0	
	comp=Z,3.1nm,0.8s							
MMAI	**Mount Meron Ar**	**146.29**	**303**	PKPbc		**PKPbc**	**15 01 16.6**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=338,slow=1.6,SNR=2.1							
GERES	**GERESS Array B**	**147.51**	**345**	PKPbc		**PKPbc**	**15 01 19.7**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=29,slow=3.0,SNR=13							
CONA	**Conrad Observa**	**147.78**	**342**	*i* P		**PKPbc**	**15 01 20.5**	**+0.2**
	comp=Z,0.9nm,0.6s							
RONA	**Rosalia, Austr**	**147.86**	**342**	*i* P		**PKPbc**	**15 01 20.6**	**+0.2**
	comp=Z,0.2nm,0.2s							
LESA	**Schwarzleotal**	**149.08**	**346**	*eP*		**PKPbc**	**15 01 23.7**	**+0.1**
	comp=Z,1.6nm,0.5s							
WATA	**Walderalm**	**149.41**	**347**	*eP*		**PKPbc**	**15 01 24.4**	**+0.1**
	comp=Z,0.8nm,0.3s							
WTTA	**Wattenberg**	**149.47**	**347**	*eP*		**PKPbc**	**15 01 24.9**	**+0.3**
	comp=Z,1.2nm,0.3s							
MOTA	**Moosalm**	**149.50**	**348**	*eP*		**PKiKP**	**15 01 25.0**	**-0.4**
	comp=Z,1.2nm,0.4s							
SQTA	**Sankt Quirin**	**149.60**	**347**	*eP*		**PKPbc**	**15 01 25.1**	**+0.3**
	comp=Z,0.8nm,0.3s							
ABTA	**Abfaltersbach**	**149.75**	**345**	*i* P		**PKPbc**	**15 01 24.8**	**-0.3**
	comp=Z,3.6nm,0.7s							
FETA	**Feichten**	**149.89**	**348**	*eP*		**PKiKP**	**15 01 26.1**	**-0.1**
	comp=Z,1.2nm,0.6s							

*IDC **08** 14:43:30.1±0.7,4.°89N×62.°10E,h0km,mb3.9/14, mbtmp3.9/14,MS3.6/22,Error ellipse: s-maj=21.9km s-min=17.3km az=170.0*
*NEIC **08** 14:43:30.9±1.0,4.°77N±0.°07×61.°81E±0.°10,h10km±1km, mb4.4/13,Error ellipse: s-maj=17.4km s-min=9.2km az=116.0*

ISC 08 14:43:31.6±0.5,4.°77N±0.°08×61.°92E±0.°08,h16km,n56, σ1°34/35,mb4.0/18,MS3.6/21,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**11.37**	**215**	Pn	**Pn**	**14 46 12.0**	**-1.7**
MSEY				Sn	**Sn**	**14 48 17.7**	**-2.8**
KAAM	**Kaadhehdhoo**	**11.85**	**111**	Pn	**Pn**	**14 46 20.7**	**+0.5**
PALK	**Pallekele**	**18.85**	**82**	P	**Pn**	**14 47 51.9**	**+0.1**
PALK				IAmb	IAmb	14 48 18.2	
	comp=Z,46nm,1.4s						
PALK	**Pallekele**	**18.85**	**82**	LR	LR	14 53 17.6	
	comp=Z,244nm,20.6s,baz=269,slow=32						
ATD	**Arta Tunnel**	**20.02**	**291**	P	**P**	**14 48 02.7**	**-1.4**
UOSS	**Minazif**	**20.80**	**345**	P	**P**	**14 48 11.5**	**-0.8**
UOSS				IAmb	IAmb	14 48 28.6	
	comp=Z,17nm,1.2s						

FURI	**Furi**	**23.43**	**281**	LR	LR	14 56 54.0		
	comp=Z,114nm,20.9s,baz=96,slow=34							
KMBO	**Kilima Mbogo**	**25.33**	**257**	P	**P**		**14 49 02.5**	**+4.2**
	comp=Z,1.3nm,0.4s,baz=53,slow=15,SNR=3.8							
KMBO				LR	LR	14 59 02.3		
	comp=Z,110nm,18.2s,baz=94,slow=36							
	comp=Z,1.3nm,0.4s							
BRDH	**Bariadhala**	**33.80**	**55**	LR	LR	15 03 56.9		
	comp=Z,252nm,19.4s,baz=238,slow=36							
ASF	**Jabal al Asfar**	**35.94**	**322**	LR	LR	15 04 57.5		
	comp=Z,58nm,18.2s,baz=152,slow=36							
PSI	**Prapat**	**36.98**	**92**	LR	LR	15 03 35.5		
	comp=Z,129nm,20.9s,baz=211,slow=33							
LSA	**Lhasa**	**37.12**	**45**	P	**P**		**14 50 41.9**	**-0.4**
LSA				IAmb	IAmb	14 50 50.0		
	comp=Z,9.6nm,1.3s							
MMAI	**Mount Meron Ar**	**37.43**	**322**	LR	LR	15 05 46.3		
	comp=Z,58nm,19.6s,baz=140,slow=36							
CMAR	**Chiang Mai Arr**	**38.63**	**66**	P	**P**		**14 50 54.4**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=250,slow=11,SNR=6.7							
CMAR				LR	LR	15 05 07.0		
	comp=Z,38nm,21.8s,baz=265,slow=34							
	comp=Z,1.0nm,0.8s							
LSZ	**Lusaka**	**38.90**	**239**	LR	LR	15 04 54.7		
	comp=Z,84nm,18.4s,baz=341,slow=33							
KKAR	**Karatay Array**	**38.93**	**10**	P	**P**		**14 50 56.4**	**-0.4**
AAK	**Ala-Archa**	**39.33**	**15**	LR	LR	15 07 17.1		
	comp=Z,68nm,21.5s,baz=216,slow=36							
MATP	**Matopo**	**41.28**	**232**	LR	LR	15 05 51.4		
	comp=Z,142nm,19.5s,baz=48,slow=32							
ABKAR	**Akbulak array**	**44.36**	**358**	P	**P**		**14 51 40.2**	**-1.0**
MKAR	**Makanchi Array**	**45.42**	**20**	P	**P**		**14 51 49.1**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=204,slow=8.6,SNR=6.2							
	comp=Z,1.0nm,1.0s							
AKTO	**Aktyubinsk**	**45.62**	**357**	LR	LR	15 11 14.1		
	comp=Z,40nm,21.2s,baz=80,slow=37							
LEM	**Lembang**	**47.05**	**104**	LR	LR	15 10 30.3		
	comp=Z,36nm,18.4s,baz=220,slow=34							
KURBB	**Kurchatov Arra**	**47.78**	**14**	P	**P**		**14 52 07.2**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=214,slow=8.1,SNR=4.0							
	comp=Z,0.2nm,0.3s							
BOSA	**Boshof**	**48.43**	**225**	P	**P**			
	comp=Z,2.9nm,0.9s,baz=59,slow=8.2,SNR=5.2							
BOSA				LR	LR	15 10 12.2		
	comp=Z,54nm,20.0s,baz=26,slow=33							
	comp=Z,2.9nm,0.9s							
BVAR	**Borovoye Array**	**48.60**	**7**	LR	LR	15 13 15.7		
	comp=Z,49nm,21.2s,baz=220,slow=37							
H04N1	**CROZET ISLANDS**	**51.50**	**189**	T	T	15 48 28.5		
	baz=10,slow=75,SNR=4.8							
H04N2	**CROZET ISLANDS**	**51.50**	**189**	T	T	15 48 27.1		
	baz=10,slow=75,SNR=5.4							
H04N3	**CROZET ISLANDS**	**51.52**	**189**	T	T	15 48 28.9		
	baz=10,slow=75,SNR=4.4							
ZAA0	**Zalesovo Array**	**52.46**	**17**	P	**P**		**14 52 42.5**	**-1.0**
ZAA0				IAmb	IAmb	14 52 50.6		
	comp=Z,3.9nm,1.1s							
ZALV	**Zalesovo Beam**	**52.46**	**17**	P	**P**		**14 52 42.2**	**-1.3**
ZALV	**Zalesovo Beam**	**52.46**	**17**	P	**P**		**14 52 42.9**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=246,slow=11,SNR=4.7							
	comp=Z,0.7nm,0.6s							
BURAR	**Bucovina Array**	**53.02**	**330**	P	**P**		**14 52 47.0**	**-1.0**
AKASG	**Malin Array Be**	**53.34**	**335**	P	**P**		**14 52 50.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=133,slow=6.8,SNR=4.1							
	comp=Z,0.1nm,0.3s							
SONM	**Songino Array**	**57.31**	**34**	P	**P**		**14 53 19.2**	**+0.3**
SONM	**Songino Array**	**57.31**	**34**	P	**P**		**14 53 19.7**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=218,slow=7.0,SNR=5.8							
	comp=Z,1.1nm,0.7s							
TORD	**Torodi Ar. Bea**	**59.95**	**282**	P	**P**		**14 53 38.0**	**+0.3**
TORD				IAmb	IAmb	14 53 41.9		
	comp=Z,5.3nm,1.5s							
TORD	**Torodi Ar. Bea**	**59.95**	**282**	P	**P**		**14 53 40.0**	**+2.3**
	comp=Z,2.7nm,1.1s,baz=67,slow=6.3,SNR=6.6							
	comp=Z,2.7nm,1.1s							
DBIC	**Dimbokro**	**66.42**	**275**	LR	LR	15 22 12.3		
	comp=Z,52nm,20.8s,baz=34,slow=35							
KSRS	**Korea Array**	**68.13**	**52**	P	**P**		**14 54 31.7**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=243,slow=8.0,SNR=4.1							
	comp=Z,0.5nm,0.8s							
ESDC	**Soseca Array**	**68.48**	**311**	P	**P**		**14 54 34.7**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=84,slow=4.8,SNR=14							
	comp=Z,1.5nm,0.8s							
EKA	**Eskdalemuir Ar**	**72.07**	**327**	P	**P**		**14 54 55.1**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=102,slow=5.2,SNR=4.0							
	comp=Z,0.7nm,0.7s							
EKB	**Eskdalemuir**	**72.09**	**327**	P	**P**		**14 54 54.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**72.44**	**45**	LR	LR	15 27 09.5		
	comp=Z,68nm,19.4s,baz=174,slow=36							
DSB	**Dublin**	**73.29**	**324**	P	**P**		**14 55 00.7**	**-1.5**
WRA	**Warramunga Arr**	**75.22**	**112**	P	**P**		**14 55 14.7**	**+0.5**
WRA	**Warramunga Arr**	**75.22**	**112**	P	**P**		**14 55 14.2**	**0.0**
	comp=Z,3.7nm,1.0s,baz=289,slow=5.4,SNR=11							
	comp=Z,3.7nm,1.0s							
WB0	**Warramunga Arr**	**75.24**	**112**	P	**P**		**14 55 14.3**	**0.0**
WB0				IAmb	IAmb	14 55 22.6		
	comp=Z,7.1nm,1.2s							
WR8	**Warramunga Arr**	**75.37**	**112**	P	**P**		**14 55 14.8**	**-0.3**
WR8				IAmb	IAmb	14 55 18.4		
	comp=Z,6.6nm,1.1s							
YAK	**Yakutsk**	**75.48**	**27**	LR	LR	15 29 30.9		
	comp=Z,66nm,18.9s,baz=199,slow=37							
ASAR	**Alice Springs**	**75.55**	**116**	P	**P**		**14 55 15.3**	**-0.8**
ASAR	**Alice Springs**	**75.55**	**116**	P	**P**		**14 55 16.1**	**+0.1**
	comp=Z,1.9nm,1.0s,baz=285,slow=5.2,SNR=10							
	comp=Z,1.9nm,1.0s							
ASAJ	**Asahikawa**	**80.01**	**46**	LR	LR	15 30 27.0		
	comp=Z,79nm,18.4s,baz=154,slow=35							
MA2	**Magadan**	**85.34**	**31**	LR	LR	15 36 22.3		
	comp=Z,61nm,18.2s,baz=265,slow=37							
QSPA	**South Pole Qui**	**94.73**	**180**	LR	LR	15 32 45.1		
	comp=Z,55nm,19.8s,baz=286,slow=31							
SHEM	**Shemya Is, Ala**	**99.39**	**35**	LR	LR	15 44 15.2		
	comp=Z,38nm,20.3s,baz=284,slow=37							
TXAR	**Lajitas Array**	**143.37**	**339**	PKP	**PKPdf**		**15 03 05.6**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=40,slow=5.1,SNR=3.5							

*CATAC **08** 15:39:56.8±1.5,10.°N±8.°×8.°6W±.°,h20km±12km,M3.7/9, MLv3.7/9,Error ellipse: s-maj=20.2km s-min=9.0km az=41.9,confirmed*
*UCR **08** 15:39:57.4±0.8,10.°24N×86.°31W,h22km±4km,MW4.5*

ISC 08 15:39:52.7±1.8,10.°06N±0.°09×86.°44W±0.°08,h17km,n48, σ1°08/51,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.87**	**77**	*eP*	**Pn**	**15 40 10.9**	**+0.8**
SACU				*eS*	**Sn**	**15 40 21.7**	**-0.8**
JUD3	**Juan Diaz 3**	**0.90**	**83**	*eP*	**Pn**	**15 40 11.3**	**+0.7**
JUD3				*eS*	**Sn**	**15 40 22.3**	**-0.9**
INDI	**Punta indio, G**	**0.95**	**102**	P	**Pn**	**15 40 12.4**	**+1.1**
INDI	**Punta indio, G**	**0.95**	**102**	S	**Sg**	**15 40 23.3**	**-0.3**
DELF	**Filadelfia**	**0.96**	**66**	*eP*	**Pn**	**15 40 12.3**	**+0.9**
CMARA	**Lajas Hojancha**	**1.00**	**92**	P	**Pn**	**15 40 12.9**	**+0.8**
CMARA	**Lajas Hojancha**	**1.00**	**92**	S	**Sn**	**15 40 25.4**	**-0.5**
ALIBA	**Liberia Airpor**	**1.03**	**59**	*eP*	**Pn**	**15 40 14.0**	**+1.6**
ELI1	**Hacienda Flor**	**1.05**	**57**	*eP*	**Pn**	**15 40 14.4**	**+1.7**
ELI1	**Hacienda Flor**	**1.05**	**57**	P	**Pn**	**15 40 14.4**	**+1.7**
PLVR	**Palo Verde**	**1.11**	**75**	*eP*	**Pn**	**15 40 14.5**	**+0.8**
LAPC	**Finca la Perla**	**1.22**	**55**	*eP*	**Pg**	**15 40 16.1**	**-0.1**
VRLE	**La Escondida,**	**1.28**	**56**	*eP*	**Pg**	**15 40 17.2**	**-0.3**
LCRUZ	**La Cruz**	**1.29**	**38**	*eP*	**Pg**	**15 40 17.7**	**+0.1**
COLC	**Colonia**	**1.36**	**64**	*eP*	**Pg**	**15 40 18.3**	**-0.7**
BUAI	**Buenos Aires**	**1.36**	**53**	*eP*	**Pg**	**15 40 18.5**	**-0.5**
CNAS	**Canas**	**1.38**	**75**	*eP*	**Pg**	**15 40 19.9**	**+0.6**
PEJA	**Penjamo Buenos**	**1.39**	**53**	*eP*	**Pg**	**15 40 19.7**	**+0.2**
CUI	**Cuipilapa**	**1.39**	**65**	*eP*	**Pg**	**15 40 18.8**	**-0.8**
MESS	**Mesas**	**1.40**	**61**	*eP*	**Pg**	**15 40 19.0**	**-0.8**
INVE	**Universidad In**	**1.42**	**73**	*eP*	**Pg**	**15 40 19.5**	**-0.6**
CARN	**Rivas**	**1.44**	**39**	P	**Pg**	**15 40 20.1**	**-0.4**
JUNT	**Juntas**	**1.48**	**81**	*eP*	**Pg**	**15 40 20.0**	**+0.3**
MOTZ	**El Naranjo**	**1.48**	**65**	*eP*	**Pg**	**15 40 20.5**	**-0.8**
JTS	**Las Juntas de**	**1.48**	**81**	*eP*	**Pb**	**15 40 20.0**	**+0.1**
VMAR	**Armenia, Volca**	**1.50**	**60**	*eP*	**Pg**	**15 40 20.8**	**-0.9**
TENO	**El Achiote**	**1.58**	**66**	*eP*	**Pb**	**15 40 20.9**	**-0.6**
QUEB	**Quebradon, Cot**	**1.62**	**70**	*eP*	**Pg**	**15 40 22.6**	**-1.4**
JAPN	**Al SSO del Vol**	**1.64**	**27**	P	**Pg**	**15 40 23.3**	**-0.9**
TABAC	**Tabacon**	**1.71**	**75**	*eP*	**Pb**	**15 40 24.1**	**+0.4**
CASO	**Castillo**	**1.72**	**78**	*eP*	**Pb**	**15 40 24.0**	**0.0**
ARE1	**Arenal 1**	**1.74**	**77**	*eP*	**Pb**	**15 40 24.8**	**+0.5**
VARE2	**V. Arenal**	**1.74**	**77**	*eP*	**Pb**	**15 40 24.8**	**+0.5**
CEDE	**Laguna Cedeo**	**1.76**	**76**	*eP*	**Pg**	**15 40 25.4**	**-1.3**
SOCE	**Pocosol**	**1.82**	**80**	*eP*	**Pb**	**15 40 25.8**	**+0.1**
SOCE	**Pocosol**	**1.82**	**80**	P	**Pb**	**15 40 25.6**	**-0.1**
COPN	**Copaltepe**	**2.11**	**356**	*eP*	**Pb**	**15 40 29.9**	**-0.6**
COPN	**Copaltepe**	**2.11**	**356**	P	**Pb**	**15 40 30.1**	**-0.4**
VPS8	**V Poas**	**2.17**	**87**	*eP*	**Pb**	**15 40 31.3**	**-0.5**
PICV	**PH. Pirrs**	**2.26**	**101**	*eP*	**Pb**	**15 40 32.1**	**-1.0**
ACOS	**Acosta**	**2.26**	**97**	*eP*	**Pb**	**15 40 33.2**	**-0.1**
ACON	**Acoyapa**	**2.27**	**33**	*eP*	**Pn**	**15 40 30.7**	**+1.3**
ACON	**Acoyapa**	**2.27**	**33**	P	**Pn**	**15 40 30.8**	**+1.3**
LCR2	**La Lucha 2**	**2.42**	**97**	P	**Pb**	**15 40 34.4**	**-1.6**
PIEC	**Cerro El Cedra**	**2.49**	**100**	*eP*	**Pb**	**15 40 35.8**	**-1.4**
BOAB	**BOACO BROADBAN**	**2.49**	**18**	P	**Pb**	**15 40 35.0**	**-2.1**
BUS1	**Rivas**	**2.71**	**101**	*eP*	**Pn**	**15 40 38.6**	**+2.7**
CSGN	**Cosiguina Volc**	**3.10**	**339**	P	**Pb**	**15 40 45.4**	**-2.0**
CSGN				S	**Sn**	**15 41 20.0**	**+2.4**

*IDC **08** 15:45:06.0±1.2,60.°81N×151.°20W,h100km±25km,mb3.5/8, mbtmp3.9/11,Error ellipse: s-maj=55.1km s-min=9.7km az=113.0*
*NEIC **08** 15:45:07.6±0.5,60.°91N±0.°04×151.°80W±0.°09,h88km±3km, Error ellipse: s-maj=6.8km s-min=5.0km az=111.0*
*AEIC **08** 15:45:08.5±0.8,60.°92N±0.°02×151.°77W±0.°08,h83km±5km, ML3.2,ML3.4/186(NEIC),Error ellipse: s-maj=6.5km s-min=0.9km az=118.0*

ISC 08 15:45:06.8±0.8,60.°90N±0.°03×151.°79W±0.°03,h95km±5km, n114,σ0°71/79,mb4.0/8,Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPU	**Mount Spurr**	**0.31**	**335**		**Pn**	**15 45 20.8**	**-0.1**
CAPN	**Captain Cook N**	**0.34**	**113**		**Pn**	**15 45 22.7**	**+1.8**
CAPN				IAML		15 45 36.5	
	comp=N,2μm,0.3s						
SPCR	**Spurr Chakacha**	**0.36**	**326**		**Pn**	**15 45 20.6**	**-0.7**
SPCR					**Sn**	**15 45 31.2**	**-0.8**
SPCR	**Spurr Chakacha**	**0.36**	**326**		**Pn**	**15 45 20.9**	**-0.3**
SPCR					**Sn**	**15 45 31.1**	**-0.9**
SPCN	**Chakachatna No**	**0.38**	**329**		**Pn**	**15 45 21.4**	**+0.1**
CKL	**Chakachamna La**	**0.40**	**318**		**Pn**	**15 45 21.2**	**-0.3**
SPCG	**Spurr Capps Gl**	**0.41**	**344**		**Pn**	**15 45 21.5**	**-0.1**
SPCG					**Sn**	**15 45 32.1**	**-0.5**
RDT	**Redoubt**	**0.45**	**223**		**Pn**	**15 45 21.5**	**-0.2**
SPBG	**Spurr Blockage**	**0.46**	**322**		**Pn**	**15 45 21.9**	**0.0**
SPBG					**Sn**	**15 45 32.3**	**-0.8**
SPWE	**Spurr West**	**0.53**	**315**		**Pn**	**15 45 22.6**	**+0.2**
DFR	**Drift River**	**0.54**	**235**		**Pn**	**15 45 22.5**	**0.0**
STLK	**Strandline Lak**	**0.60**	**358**		**Pn**	**15 45 22.9**	**0.0**
STLK				IAML		15 45 35.2	

comp=N,31nm,0.3s,baz=42,slow=3.4,SNR=10
BWN Browne 3.45 17 Pn 15 45 58.8 +0.4
BWN Browne 3.45 17 IAML 15 47 05.6
comp=N,105nm,0.8s
BWN IAML 15 47 19.5
comp=E,101nm,0.9s
J20K Nowinta River 3.46 343 IAML 15 46 37.9
comp=E,58nm,0.7s
J20K IAML 15 46 40.7
comp=N,64nm,0.8s
BMRM Bremner River 3.51 86 Pn 15 45 58.1 -1.0
BMRM Bremner River 3.51 86 IAML 15 46 43.8
comp=N,76nm,0.4s
BMRM IAML 15 46 49.3
comp=E,86nm,0.5s
RAGM Ragged Mountai 3.54 95 IAML 15 46 54.5
comp=E,103nm,0.4s
N25K Chitina, Valde 3.54 75 IAML 15 46 41.0
comp=N,77nm,0.4s
PAX Paxson 3.63 52 IAML 15 46 43.9
comp=N,62nm,0.7s
PAX IAML 15 46 44.7
comp=E,39nm,0.5s
P16K Nushagak River 3.64 242 IAML 15 46 57.7
comp=N,77nm,1.1s
P16K IAML 15 47 09.4
comp=E,93nm,0.7s
WACK Wrangell Chich 3.74 70 Pn 15 46 02.5 -0.1
HMT Hamilton 3.75 95 Pn 15 46 01.4 -1.1
OHAK Old Harbor 3.77 193 IAML 15 46 46.6
comp=N,39nm,1.0s
OHAK IAML 15 47 13.6
comp=E,49nm,0.9s
OHAK Old Harbor 3.77 193 P **Pn 15 46 02.1 -0.6**
OHAK Old Harbor 3.77 193 S **Sn 15 46 44.5 -1.5**
GLB Gilahina Butte 3.90 79 IAML 15 46 50.3
comp=E,54nm,0.4s
GLB IAML 15 46 59.2
comp=N,60nm,0.6s
PLK4 Peulik 4 4.03 218 IAML 15 46 58.0
comp=N,44nm,0.9s
PLK4 IAML 15 47 23.8
comp=E,47nm,1.0s
VRDI Verde Repeater 4.06 82 IAML 15 46 54.5
comp=N,35nm,0.6s
I20K Naaghedeneel 4.10 344 IAML 15 46 54.7
comp=E,79nm,1.1s
I20K IAML 15 47 44.4
comp=N,79nm,1.1s
HDA Harding Lake 4.17 30 IAML 15 46 56.5
comp=E,65nm,0.6s
HDA IAML 15 46 56.9
comp=N,56nm,0.5s
CCB Clear Creek Bu 4.18 24 IAML 15 47 32.3
comp=E,22nm,0.7s
MCARA McCarthy VSAT 4.28 80 IAML 15 47 07.0
comp=N,65nm,0.7s
MCARA IAML 15 47 22.7
comp=E,68nm,0.7s
RIDG Independent Ri 4.31 46 IAML 15 47 13.4
comp=N,64nm,1.1s
MENT Mentasta 4.33 58 IAML 15 47 15.0
comp=E,65nm,0.8s
MENT IAML 15 47 21.8
comp=N,61nm,0.6s
COLA College 4.37 23 IAML 15 47 03.6
comp=N,58nm,0.5s
COLA College 4.37 23 P **Pn 15 46 10.9 +0.1**
O15K Ungalikthiuk R 4.39 250 IAML 15 47 25.0
comp=N,20nm,1.1s
TGL Tana Glacier 4.39 88 IAML 15 47 03.1
comp=N,38nm,0.4s
TGL IAML 15 47 03.4
comp=E,47nm,0.3s
I23K Minto, Yukon-K 4.40 13 IAML 15 47 22.7
comp=N,19nm,0.7s
WAX Waxell Ridge 4.42 92 Pn 15 46 11.8 +0.3
WAX Waxell Ridge 4.42 92 IAML 15 47 05.1
comp=E,54nm,0.6s
M26K Nabesna, AK 4.45 66 IAML 15 47 06.4
comp=E,22nm,0.5s
M26K IAML 15 47 31.2
comp=N,24nm,0.6s
ILAR Eielson Array 4.49 28 P **Pn 15 46 12.4 +0.1**
comp=N,13nm,0.3s,baz=213,slow=13,SNR=227
ILAR S **Sn 15 47 00.9 -2.4**
comp=N,4.0nm,0.4s,baz=217,slow=26,SNR=3.3
SII Sitkinak Islan 4.53 197 P **Pn 15 46 13.2 +0.2**
DOT Dot Lake 4.54 49 IAML 15 47 20.1
comp=N,45nm,0.9s
KIAG Kiagna River 4.60 86 Pn 15 46 13.3 -0.8
POKR Poker Plat Res 4.67 23 IAML 15 47 11.9
comp=N,15nm,0.5s
POKR IAML 15 47 42.0
comp=E,17nm,1.0s
J25K Salcha River, 4.75 36 IAML 15 47 12.8
comp=N,26nm,0.7s
J25K IAML 15 47 13.0
comp=E,32nm,0.7s
SCRK Sand Creek 4.76 46 IAML 15 47 09.5
comp=E,17nm,0.5s
SCRK IAML 15 47 27.2
comp=N,19nm,0.6s
BAGL Bagley Icefiel 4.78 91 Pn 15 46 16.1 -0.2
BARN Barnard Glacie 4.94 84 Pn 15 46 18.8 +0.1
BARN Barnard Glacie 4.94 84 IAML 15 47 15.7
comp=N,28nm,0.7s
BARN IAML 15 47 18.6
comp=E,23nm,0.6s
CTGM Chitina Glacie 5.10 85 Pn 15 46 20.9 +0.1
CTGM Chitina Glacie 5.10 85 IAML 15 47 20.3
comp=N,16nm,0.6s
LOGN Logan Glacier 5.27 86 Pn 15 46 23.0 -0.2
LOGN Logan Glacier 5.27 86 IAML 15 47 23.0
comp=N,16nm,0.3s
LOGN IAML 15 47 25.0
comp=E,20nm,0.5s
L14K Kuka Creek 5.30 280 IAML 15 48 18.2
comp=N,14nm,1.1s
L14K IAML 15 48 59.8
comp=E,12nm,1.1s
CHIR Chirikof Islan 5.48 203 Pn 15 46 26.1 +0.3
CHIR Chirikof Islan 5.48 203 P **Pn 15 46 25.2 -0.6**
PNL Peninsula 6.29 96 Pn 15 46 37.1 +0.3
PNL Peninsula 6.29 96 P **Pn 15 46 37.6 +0.8**
INK Inuvik 10.75 39 P **Pn 15 47 36.8 -0.7**
comp=E,4.3nm,0.6s,baz=244,slow=14,SNR=20
KSRS Korea Array 53.57 283 P **P 15 54 19.2 +1.8**
comp=E,0.7nm,0.7s,baz=32,slow=7.4,SNR=4.8
comp=E,0.7nm,0.7s
SONM Songino Array 54.74 306 P **P 15 54 27.5 +1.4**
comp=E,0.9nm,0.4s,baz=44,slow=6.7,SNR=4.6
comp=E,0.9nm,0.4s
ZALV Zalesovo Beam 57.00 324 P **P 15 54 41.6 -0.3**
comp=E,1.0nm,0.5s,baz=26,slow=5.7,SNR=5.1
comp=E,1.0nm,0.5s
FINES FINESS Array B 57.97 1 P **P 15 54 47.0 -1.6**
comp=E,1.4nm,0.8s,baz=0.0,slow=5.7,SNR=3.5
comp=E,1.4nm,0.8s
BVAR Borovoye Array 61.55 333 P **P 15 55 13.3 +0.1**
comp=E,0.3nm,0.3s,baz=28,slow=8.1,SNR=2.8
comp=E,0.3nm,0.3s
KURBB Kurchatov Arra 61.73 326 P **P 15 55 14.3 -0.1**
comp=E,0.5nm,0.4s,baz=30,slow=6.7,SNR=7.2
comp=E,0.5nm,0.4s
MKAR Makanchi Array 64.10 322 P **P 15 55 30.2 -0.1**
comp=E,0.2nm,0.5s,baz=28,slow=5.7,SNR=2.8
comp=E,0.2nm,0.5s
AKASG Malin Array Be 68.75 359 P **P 15 55 59.7 0.0**
comp=E,0.7nm,0.3s,baz=2.4,slow=6.1,SNR=6.9
comp=E,0.7nm,0.3s

IDC 08 15:54:26.9±2.3,3°.84S×150°.90E,h0km,mb3.2/3, mbtmp3.3/3,Error ellipse: s-maj=213.2km s-min=31.0km az=125.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.73**	**224**	P	P	15 59 31.6	+0.8
	0.6nm,1.0s,baz=47,slow=11,SNR=2.6						
	0.6nm,1.0s						
ASAR	**Alice Springs**	**25.65**	**218**	P	P	15 59 58.0	-0.6
	0.3nm,0.9s,baz=56,slow=8.5,SNR=4.4						
	0.3nm,0.9s						
ILAR	**Eielson Array**	**82.00**	**23**	P	P	16 06 48.7	+0.1
	0.6nm,1.0s,baz=256,slow=6.7,SNR=4.2						
	0.6nm,1.0s						

IDC 08 16:00:27.8±1.5,2°.83S×147°.10E,h0km,mb3.4/4, mbtmp3.5/5,ML1.3/1,MS3.5/4,Error ellipse: s-maj=73.7km s-min=26.0km az=107.0,Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.54**	**179**	Pn	Pn	16 02 05.6	+0.3
	0.4nm,0.3s,baz=35,slow=12,SNR=2.3						
	4.4nm,0.8s						
WRA	**Warramunga Arr**	**21.09**	**215**	P	P	16 05 15.7	+1.6
	0.6nm,0.9s,baz=42,slow=10,SNR=2.1						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**24.33**	**211**	P	P	16 05 46.6	-0.9
	1.0nm,1.2s,baz=48,slow=9.2,SNR=5.4						
	1.0nm,1.2s						
URZ	**Urewera**	**44.68**	**146**	LR	LR	16 24 31.6	
	comp=Z,65nm,19.7s,baz=312,slow=32						
PETK	**Petropavlovsk-**	**56.44**	**8**	LR	LR	16 31 22.0	
	comp=Z,35nm,22.0s,baz=161,slow=33						
SHEM	**Shemya Is, Ala**	**59.85**	**19**	LR	LR	16 32 16.7	
	comp=Z,38nm,19.1s,baz=100,slow=32						
SEY	**Seymchan**	**65.71**	**3**	LR	LR	16 41 01.5	
	comp=Z,26nm,19.0s,baz=159,slow=37						
ILAR	**Eielson Array**	**82.55**	**23**	P	P	16 12 52.9	+0.5
	0.6nm,0.8s,baz=253,slow=5.7,SNR=5.4						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**84.28**	**324**	P	P	16 13 00.9	-0.7
	0.5nm,0.7s,baz=85,slow=6.1,SNR=3.6						
	0.5nm,0.7s						

*CNRM **08** 16:12:17.5,36°.57N×7°.64W,h9km,ML2.4*
*MDD **08** 16:12:21.0±0.6,36°.70N×7°.70W,h20km±3km,mb_Lg2.9/29, Error ellipse: s-maj=4.8km s-min=2.6km az=35.0*
*INMG **08** 16:12:21.9±1.4,36°.71N×7°.65W,h21km±3km,ML2.2,Error ellipse: s-maj=4.7km s-min=2.8km az=40.0, #DIST_RANGE: LOCAL #IPMA_REGION: Golfo de Cadiz*
*SFS **08** 16:12:21.0,36°.66N×7°.72W,h26km,ML2.9/12,ML2.9/20, MLv2.5/20*
*IGIL **08** 16:12:21.2,36°.68N×7°.68W,h21km,ML2.0*
ISC 08 16:12:20.3±1.2,36°.68N±0°.03×7°.68W±0°.03,h35km,n82, σ1**$**44/139**,5D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.60**	**340**	Pg	**Pn**	**16 12 33.1**	**+0.7**
PBDV				Sg	**Sn**	**16 12 40.6**	**-0.3**
PBDV	**Barranco-do-Ve**	**0.60**	**340**	*eP*	**Pn**	**16 12 33.0**	**+0.7**
PBDV				*eS*	**Sn**	**16 12 41.0**	**+0.2**
PBDV				*i* IAML		16 12 41.9	
PBDV				*i* IAML		16 12 42.1	
PBDV				*i* IAML		16 12 42.8	
PVAQ	**Vaqueiros**	**0.72**	**358**	*eP*	**Pn**	**16 12 34.8**	**+0.7**
PVAQ				*eS*	**Sn**	**16 12 44.0**	**+0.1**
PVAQ				*i* IAML		16 12 44.2	
PVAQ				*i* IAML		16 12 44.5	
PVAQ				*i* IAML		16 12 44.8	
PVAQ	**Vaqueiros**	**0.72**	**358**	P	**Pn**	**16 12 34.1**	**+0.1**
ARNO	**Arenosillo**	**0.87**	**61**	Sn	**Sn**	**16 12 48.6**	**+1.2**
EGRO	**El Granado**	**0.87**	**10**	Pg	**Pn**	**16 12 37.0**	**+1.0**
EGRO				Sn	**Sn**	**16 12 47.6**	**+0.2**
EGRO	**El Granado**	**0.87**	**10**	Pg	**Pn**	**16 12 36.9**	**+0.9**
EGRO				Sg	**Sn**	**16 12 47.5**	**0.0**
EGRO				*i* lVmb_Lg		16 12 49.3	
PCVE	**Castro Verde**	**0.99**	**343**	Pg	**Pn**	**16 12 38.7**	**+1.0**
PCVE				Sn	**Sn**	**16 12 50.6**	**+0.1**
PCVE	**Castro Verde**	**0.99**	**343**	*eP*	**Pn**	**16 12 38.8**	**+1.0**
PCVE				*eS*	**Sn**	**16 12 51.3**	**+0.7**
PCVE				*i* IAML		16 12 51.6	
PCVE				*i* IAML		16 12 51.9	
PCVE				*i* IAML		16 12 52.0	
MORF	**Marmelete**	**1.00**	**309**	*eP*	**Pn**	**16 12 38.2**	**+0.4**
MORF	**Marmelete**	**1.00**	**309**	*eP*	**Pn**	**16 12 38.2**	**+0.4**
MORF				*eS*	**Sn**	**16 12 51.7**	**+1.0**
MORF				*i* IAML		16 12 56.0	
MORF				*i* IAML		16 12 57.1	
MORF				*i* IAML		16 12 58.7	
PFVI	**Vila Bisbo**	**1.03**	**297**	Pg	**Pn**	**16 12 38.6**	**+0.4**
PFVI	**Vila Bisbo**	**1.03**	**297**	*eP*	**Pn**	**16 12 38.6**	**+0.4**
PFVI				*eS*	**Sn**	**16 12 51.0**	**-0.3**
PFVI				*i* IAML		16 12 59.3	
PFVI				*i* IAML		16 13 00.4	
PFVI				*i* IAML		16 13 01.4	
PFVI	**Vila Bisbo**	**1.03**	**297**	P	**Pn**	**16 12 38.7**	**+0.4**
PFVI	**Vila Bisbo**	**1.03**	**297**	S	**Sn**	**16 12 54.1**	**+2.8**
PTEO	**Sao Teotonio**	**1.20**	**316**	*eP*	**Pn**	**16 12 41.5**	**+0.9**
PTEO				*eS*	**Sn**	**16 12 56.4**	**+0.7**
PTEO				*i* IAML		16 13 03.0	
PTEO				*i* IAML		16 13 05.8	
MESJ	**Messejana**	**1.24**	**340**	*eP*	**Pn**	**16 12 42.0**	**+0.9**
MESJ				*eS*	**Sn**	**16 12 56.7**	**+0.2**
MESJ				IAML		16 12 59.5	
	comp=N,23nm,0.2s						
MESJ	**Messejana**	**1.24**	**340**	*eP*	**Pn**	**16 12 42.0**	**+0.9**
MESJ				*eS*	**Sn**	**16 12 57.8**	**+1.3**
MESJ				*i* IAML		16 13 08.4	
MESJ				*i* IAML		16 13 10.2	
MESJ				*i* IAML		16 13 10.3	
EMIN	**Mina Concepcio**	**1.35**	**36**	Pn	**Pn**	**16 12 43.3**	**+0.7**
EMIN				Sn	**Sn**	**16 12 59.2**	**-0.2**
EMIN	**Mina Concepcio**	**1.35**	**36**	Pn	**Pn**	**16 12 43.1**	**+0.5**
EMIN				Sn	**Sn**	**16 12 59.9**	**+0.6**
EMIN				*i* lVmb_Lg		16 13 05.5	
PBEJ	**Beja**	**1.35**	**354**	*eP*	**Pn**	**16 12 43.7**	**+1.0**
PBEJ				*eS*	**Sn**	**16 12 59.2**	**-0.2**
PBEJ				*i* IAML		16 13 02.5	
PBEJ				*i* IAML		16 13 04.1	
PBEJ				*i* IAML		16 13 07.2	
ESPR	**Espera**	**1.48**	**82**	Pn	**Pn**	**16 12 45.6**	**+1.3**
ESPR				Sn	**Sn**	**16 13 03.0**	**+0.6**
ESPR	**Espera**	**1.48**	**82**	Pn	**Pn**	**16 12 45.6**	**+1.3**
ESPR				Sn	**Sn**	**16 13 02.7**	**+0.3**
ESPR				*i* lVmb_Lg		16 13 04.5	
PBAR	**Barrancos**	**1.58**	**19**	Pn	**Pn**	**16 12 46.7**	**+0.9**
PBAR				Sn	**Sn**	**16 13 06.4**	**+1.4**
PBAR	**Barrancos**	**1.58**	**19**	*eP*	**Pn**	**16 12 46.6**	**+0.9**
PBAR				*eS*	**Sn**	**16 13 05.0**	**0.0**
PBAR				*i* IAML		16 13 10.6	
PBAR				*i* IAML		16 13 15.9	
PBAR				*i* IAML		16 13 17.0	
EJIF	**Jimena Fronter**	**1.79**	**97**	Pn	**Pn**	**16 12 50.6**	**+1.9**
EJIF				Sn	**Sn**	**16 13 11.6**	**+1.3**
EVO	**Evora**	**1.87**	**352**	Sn	**Sn**	**16 13 13.7**	**+1.5**
EVO				Pn	**Pn**	**16 12 50.8**	**+1.1**
EVO	**Evora**	**1.87**	**352**	*eP*	**Pn**	**16 12 50.9**	**+1.1**
EVO				*eS*	**Sn**	**16 13 12.1**	**-0.1**
EVO				*i* IAML		16 13 22.5	
EVO				*i* IAML		16 13 23.1	
EVO				*i* IAML		16 13 24.1	
SMIR	**Smir Dam**	**2.11**	**117**	P	**Pn**	**16 12 53.1**	**+0.1**
SMIR	**Smir Dam**	**2.11**	**117**	S	**Sn**	**16 13 18.0**	**0.0**
EBAD	**Badajoz**	**2.14**	**14**	Pn	**Pn**	**16 12 54.0**	**+0.5**
EBAD	**Badajoz**	**2.14**	**14**	Pn	**Pn**	**16 12 54.0**	**+0.5**
EBAD				Sn	**Sn**	**16 13 17.8**	**-1.1**
EBAD				*i* lVmb_Lg		16 13 20.9	
PESTR	**Estremoz**	**2.19**	**2**	Pn	**Pn**	**16 12 54.8**	**+0.6**
PESTR				Sn	**Sn**	**16 13 20.1**	**+0.1**
PESTR	**Estremoz**	**2.19**	**2**	*eP*	**Pn**	**16 12 55.0**	**+0.9**
PESTR				*eS*	**Sn**	**16 13 20.4**	**+0.4**
PESTR				*i* IAML		16 13 31.6	
PESTR				*i* IAML		16 13 33.0	
PESTR				*i* IAML		16 13 35.1	
PESTR	**Estremoz**	**2.19**	**2**	P	**Pn**	**16 12 54.6**	**+0.5**
PESTR	**Estremoz**	**2.19**	**2**	S	**Sn**	**16 13 25.9**	**+5.9**
ECAB	**El Cabril**	**2.28**	**52**	Pn	**Pn**	**16 12 56.1**	**+0.7**
ECAB	**El Cabril**	**2.28**	**52**	Pn	**Pn**	**16 12 55.9**	**+0.5**
ECAB				Sn	**Sn**	**16 13 20.9**	**-1.3**
ECAB				*i* lVmb_Lg		16 13 27.3	
PARRA	**Arraiolos**	**2.39**	**334**	*eP*	**Pn**	**16 12 54.5**	**-2.4**
PARRA				*eS*	**Sn**	**16 13 19.5**	**-5.5**
PARRA				*i* IAML		16 13 21.3	
PARRA				*i* IAML		16 13 21.9	
PARRA				*i* IAML		16 13 31.7	
PMTG	**Montargil**	**2.43**	**350**	*eP*	**Pn**	**16 12 58.4**	**+1.0**
PMTG				*eS*	**Sn**	**16 13 26.3**	**+0.4**
PMTG				*i* IAML		16 13 28.4	
PMTG				*i* IAML		16 13 28.4	
PMTG				*i* IAML		16 13 28.4	
PMAFR	**Mafra**	**2.60**	**331**	Pn	**Pn**	**16 13 01.2**	**+1.3**
PMAFR				Sn	**Sn**	**16 13 29.8**	**-0.5**
PMAFR	**Mafra**	**2.60**	**331**	*eP*	**Pn**	**16 13 01.1**	**+1.3**
PMAFR				*eS*	**Sn**	**16 13 30.4**	**+0.2**
PMAFR				*i* IAML		16 13 33.3	
PMAFR				*i* IAML		16 13 33.9	
EMAL	**Malaga-Limoner**	**2.61**	**87**	Sn	**Sn**	**16 13 31.3**	**+0.8**
PMRV	**Marv??o**	**2.75**	**5**	*eP*	**Pn**	**16 13 02.8**	**+0.8**
PMRV				*eS*	**Sn**	**16 13 33.7**	**-0.3**
PMRV				*i* IAML		16 13 34.9	
PMRV				*i* IAML		16 13 35.4	
PMRV				*i* IAML		16 13 36.5	
EGOR	**Sierra Gorda,**	**2.89**	**80**	Sn	**Sn**	**16 13 37.9**	**+0.4**
EGOR	**Sierra Gorda,**	**2.89**	**80**	Pn	**Pn**	**16 13 06.1**	**+2.1**
EGOR				Sn	**Sn**	**16 13 38.0**	**+0.4**
EGOR				*i* lVmb_Lg		16 13 56.6	
PSARD	**Sardoal**	**2.94**	**353**	*eP*	**Pn**	**16 13 05.7**	**+1.1**
PSARD				*eS*	**Sn**	**16 13 38.3**	**-0.3**
PSARD				*i* IAML		16 13 39.2	
PSARD				*i* IAML		16 13 39.2	
PSARD				*i* IAML		16 13 39.2	
PCBR	**Castelo Branco**	**3.16**	**3**	*eP*	**Pn**	**16 13 08.5**	**+1.0**
PCBR				*eS*	**Sn**	**16 13 43.4**	**-0.6**
PCBR				*i* IAML		16 13 44.2	
PCBR				*i* IAML		16 13 44.4	
PCBR				*i* IAML		16 13 45.8	
ELGU	**Los Guajares,**	**3.26**	**85**	Pn	**Pn**	**16 13 10.1**	**+1.2**
ELGU				Sn	**Sn**	**16 13 47.0**	**+0.5**
ELGU	**Los Guajares,**	**3.26**	**85**	Pn	**Pn**	**16 13 10.6**	**+1.7**
ELGU				Sn	**Sn**	**16 13 46.5**	**0.0**
ELGU				*i* lVmb_Lg		16 13 52.0	
PCAS	**Casmilo, Conde**	**3.43**	**349**	*eP*	**Pn**	**16 13 12.6**	**+1.4**
PCAS				*eS*	**Sn**	**16 13 50.3**	**-0.4**
EQUE	**Quentar**	**3.44**	**80**	Sn	**Sn**	**16 13 52.4**	**+1.5**
EQUE				*i* lVmb_Lg		16 14 03.4	
E0803	**Jimena (Jaen)**	**3.55**	**70**	Pn	**Pn**	**16 13 15.6**	**+2.7**
E0803				Sn	**Sn**	**16 13 53.7**	**0.0**
EPLA	**Plasencia**	**3.61**	**20**	Pn	**Pn**	**16 13 15.1**	**+1.4**
EPLA				Sn	**Sn**	**16 13 53.8**	**-1.3**
EPLA				*i* lVmb_Lg		16 13 55.5	
PSIM	**Granatula de C**	**3.77**	**54**	Pn	**Pn**	**16 13 16.9**	**+1.0**
PSIM				Sn	**Sn**	**16 13 59.1**	**-0.1**
EQES	**Quesada**	**3.84**	**72**	Pn	**Pn**	**16 13 17.9**	**+0.9**
EQES				Sn	**Sn**	**16 13 59.4**	**-1.6**
EQES				*i* lVmb_Lg		16 14 04.3	
PAB	**San Pablo**	**3.88**	**42**	Pn	**Pn**	**16 13 18.4**	**+0.9**
PAB				Sn	**Sn**	**16 13 59.3**	**-2.7**
PAB				*i* lVmb_Lg		16 14 01.2	
PVIS	**Viseu**	**4.04**	**358**	*eP*	**Pn**	**16 13 20.6**	**+1.0**
PVIS				*eS*	**Sn**	**16 14 04.7**	**-0.9**
ESDC	**Sonseca Array**	**4.19**	**43**	Pn	**Pn**	**16 13 22.6**	**+0.9**
ESDC				Sn	**Sn**	**16 14 07.3**	**-2.1**
ESDC				*i* lVmb_Lg		16 14 09.0	
ESBB	**Sonseca Array**	**4.19**	**43**	Pn	**Pn**	**16 13 22.4**	**+0.7**
ESBB				Sn	**Sn**	**16 14 08.4**	**-0.9**
MD31	**MD31**	**4.50**	**147**	P	**Pn**	**16 13 25.0**	**-1.0**
MD31	**MD31**	**4.50**	**147**	S	**Sn**	**16 14 17.8**	**+0.7**
MVO	**Moncorvo**	**4.51**	**6**	*eP*	**Pn**	**16 13 26.7**	**+0.6**
MVO				*eS*	**Sn**	**16 14 14.7**	**-2.7**
MVO				*i* IAML		16 14 16.7	
MVO				*i* IAML		16 14 17.1	
MDT	**Midelt**	**4.61**	**146**	P	**Pn**	**16 13 26.8**	**-0.7**
MDT	**Midelt**	**4.61**	**146**	S	**Sn**	**16 14 18.1**	**-1.8**
POLO	**Lamas de Olo**	**4.69**	**359**	*eP*	**Pn**	**16 13 29.4**	**+0.8**
POLO				*eS*	**Sn**	**16 14 20.2**	**-1.6**
POLO				*i* IAML		16 14 21.6	
POLO				*i* IAML		16 14 21.6	
POLO				*i* IAML		16 14 21.7	
JBK	**JBK**	**4.78**	**118**	P	**Pn**	**16 13 28.1**	**-1.9**
JBK	**JBK**	**4.78**	**118**	S	**Sn**	**16 14 21.3**	**-3.0**
GUD	**Guadarrama**	**4.83**	**34**	Pn	**Pn**	**16 13 31.2**	**+0.7**
GUD				Sn	**Sn**	**16 14 23.0**	**-2.3**
GUD				*i* lVmb_Lg		16 14 27.3	
UCM	**Universidad Co**	**5.02**	**42**	Sn	**Sn**	**16 14 28.5**	**-1.4**
UCM				Pn	**Pn**	**16 13 33.6**	**+0.5**
PCAB	**Cabril**	**5.03**	**357**	*eP*	**Pn**	**16 13 34.2**	**+1.0**
PCAB				*eS*	**Sn**	**16 14 28.4**	**-1.8**
TISM	**Timmit**	**5.05**	**168**	P	**Pn**	**16 13 31.1**	**-2.4**
PBRG	**Braganca**	**5.17**	**8**	*eP*	**Pn**	**16 13 35.9**	**+0.7**
PBRG				*eS*	**Sn**	**16 14 31.0**	**-2.6**
ELOB	**Lobios**	**5.19**	**357**	Pn	**Pn**	**16 13 36.2**	**+0.7**
ELOB				Sn	**Sn**	**16 14 33.3**	**-0.9**
ELOB				*i* lVmb_Lg		16 14 34.1	
EMUR	**La Murta**	**5.27**	**75**	Sn	**Sn**	**16 14 33.0**	**-3.0**
PGAV	**Gavieira, Arco**	**5.30**	**355**	*eP*	**Pn**	**16 13 37.9**	**+0.9**
PGAV				*eS*	**Sn**	**16 14 35.3**	**-1.6**
ECAL	**Calabor**	**5.31**	**8**	Pn	**Pn**	**16 13 37.9**	**+0.8**
ECAL				Sn	**Sn**	**16 14 34.0**	**-3.0**
ECAL	**Calabor**	**5.31**	**8**	Pn	**Pn**	**16 13 37.3**	**+0.2**
ECAL				Sn	**Sn**	**16 14 33.7**	**-3.4**
ECAL				*i* lVmb_Lg		16 14 40.8	
TIO	**Tiouine**	**5.75**	**176**	Sn	**Sn**	**16 14 43.9**	**-4.1**
TIO				Pn	**Pn**	**16 13 43.6**	**+0.4**
TIO	**Tiouine**	**5.75**	**176**	P	**Pn**	**16 13 42.2**	**-1.0**
OUZM	**OUZ**	**5.80**	**172**	P	**Pn**	**16 13 44.0**	**0.0**
EAGO	**Agolada(Pontev**	**6.13**	**357**	Pn	**Pn**	**16 13 49.1**	**+0.8**
EAGO				Sn	**Sn**	**16 14 54.8**	**-2.3**
EAGO				*i* lVmb_Lg		16 15 10.5	

IDC 08 16:47:45.7±1.9,2°.51N×125°.09E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=133.7km s-min=24.8km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.48**	**178**	P	P	16 52 25.9	+0.7
	1.7nm,0.4s,baz=11,slow=9.4,SNR=20						
	1.7nm,0.4s						
WRA	**Warramunga Arr**	**24.09**	**158**	P	P	16 53 03.5	+0.4
	1.0nm,0.5s,baz=336,slow=9.9,SNR=15						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**27.40**	**162**	P	P	16 53 32.1	-1.0
	0.3nm,0.8s,baz=332,slow=7.6,SNR=7.8						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**57.64**	**326**	P	P	16 57 37.9	+0.1
	0.2nm,0.4s,baz=130,slow=8.5,SNR=4.2						
	0.2nm,0.4s						

*SJA **08** 16:49:36.4±0.7,31°.18S×68°.89W,h112km±3km,ML3.5, MW3.6*
*IDC **08** 16:49:37.3±3.4,31°.36S×68°.99W,h118km±33km,mb3.2/2, mbtmp3.6/5,Error ellipse: s-maj=40.9km s-min=31.0km az=114.0*
*NEIC **08** 16:49:37.1±1.3,31°.24S±0°.06×69°.1W±0°.1,h137km±9km, mb4.4/5,Error ellipse: s-maj=14.8km s-min=8.0km az=95.0*
ISC 08 16:49:36.4±0.7,31°.21S±0°.03×68°.90W±0°.03,h120km±6km, n82,σ1$21/106,mb4.3/4,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.39**	**109**	*eP*	**Pn**	**16 49 53.1**	**-0.7**
RTLL				*eS*	**Sn**	**16 50 05.6**	**-1.3**
RTLL				IAML		16 50 06.7	
	comp=Z,2μm,0.3s						
SJA	**San Juan**	**0.43**	**138**	*eP*	**Pn**	**16 49 53.9**	**-0.1**
SJA				IAML		16 50 07.6	
	comp=Z,658nm,0.3s						
ACCO	**Cerro Coronel**	**0.63**	**347**	*eP*	**Pn**	**16 49 55.5**	**-0.2**
CFA	**Coronel Fontan**	**0.69**	**125**	*eP*	**Pn**	**16 49 55.5**	**-0.2**
CFA				*eS*	**Sn**	**16 50 10.1**	**-0.3**
ACDV	**Cuesta del Vie**	**1.05**	**350**	*eP*	**Pn**	**16 49 59.2**	**+0.1**
ACDV				*eS*	**Sn**	**16 50 16.1**	**-0.2**
ACDV				IAML		16 50 17.5	
	comp=Z,443nm,0.5s						
AROD	**Rodeo**	**1.15**	**334**	*eP*	**Pn**	**16 50 00.7**	**+0.4**
AVFE	**Valle Fertil**	**1.36**	**67**	*eP*	**Pn**	**16 50 02.7**	**+0.4**
AVFE				IAML		16 50 23.5	
	comp=Z,1

ARCO					IAML			16 50 29.0	
	comp=Z,810nm,1.1s								
AGUA	**GUANDACOL**	**1.75**	**12**	*eP*		**Pn**		**16 50 07.8**	**+0.9**
AGUA				*eS*		**Sn**		**16 50 32.5**	**+2.4**
AGUA					IAML			16 50 32.8	
	comp=Z,492nm,0.2s								
CO02	**Combarbal**	**1.80**	**270**			**Pn**		**16 50 07.3**	**-0.2**
CO02	**Combarbal**	**1.80**	**270**	*eP*		Pn		16 49 58.0	-10
CO02				*eS*		**Sn**		**16 50 31.4**	**+0.2**
CO02					IAML			16 50 32.6	
	comp=Z,359nm,0.2s								
ACAN	**Cantantal**	**1.81**	**127**	*eP*		**Pn**		**16 50 07.7**	**+0.2**
AAGR	**Agrelo**	**1.88**	**178**	*eP*		**Pn**		**16 50 09.4**	**+1.0**
AAGR				*eS*		**Sn**		**16 50 34.6**	**+1.8**
ACHE	**Chepes**	**1.92**	**89**	*eP*		**Pn**		**16 50 09.8**	**+0.8**
ACHE				*eS*		**Sn**		**16 50 33.7**	**-0.2**
GO04	**Tololo Observa**	**1.93**	**302**			**Pn**		**16 50 09.2**	**-0.1**
GO04	**Tololo Observa**	**1.93**	**302**	*eP*		**Pn**		**16 50 08.7**	**-0.6**
GO04				*eS*		**Sn**		**16 50 32.7**	**-1.6**
GO04					IAML			16 50 54.5	
	comp=Z,434nm,0.2s								
VA03	**San Esteban**	**2.09**	**222**			**Pn**		**16 50 11.5**	**+0.4**
VA03	**San Esteban**	**2.09**	**222**	*eP*		**Pn**		**16 50 11.9**	**+0.8**
VA03				*eS*		**Sn**		**16 50 40.4**	**+2.7**
VA03					IAML			16 50 46.4	
	comp=Z,248nm,1.0s								
APLL	**PUNTA DE LOS L**	**2.20**	**69**	*eP*		**Pn**		**16 50 12.8**	**+0.5**
APLL				*eS*		**Sn**		**16 50 40.0**	**+0.1**
AVIZ	**Vizcacheras**	**2.28**	**172**	*eP*		**Pn**		**16 50 14.7**	**+1.1**
AVIZ				*eS*		Sn		16 50 32.2	-10
CO05	**La Serena**	**2.39**	**302**			**Pn**		**16 50 14.1**	**-0.6**
CO06	**Fray Jorge**	**2.41**	**282**			**Pn**		**16 50 13.4**	**-1.6**
MT08	**Bocatoma Ro**	**2.42**	**203**			**Pn**		**16 50 16.0**	**+0.5**
MT08	**Bocatoma Ro**	**2.42**	**203**	*eP*		**Pn**		**16 50 16.9**	**+1.5**
MT08				*eS*		**Sn**		**16 50 44.3**	**-1.1**
MT08					IAML			16 50 51.0	
	comp=Z,105nm,0.3s								
MT04	**Ro Olivares**	**2.43**	**205**	*eP*		**Pn**		**16 50 17.6**	**+2.1**
MT04				*eS*		**Sn**		**16 50 46.9**	**+1.4**
MT04					IAML			16 50 54.7	
	comp=Z,73nm,0.6s								
VA06	**Catapilco**	**2.45**	**236**			**Pn**		**16 50 14.5**	**-0.9**
ACLC	**CERRO LA CRUZ**	**2.45**	**44**	*eP*		**Pn**		**16 50 16.0**	**+0.3**
ACLC				*eS*		**Sn**		**16 50 46.4**	**+0.6**
ACLC					IAML			16 50 47.8	
	comp=Z,149nm,0.3s								
PEL	**Peldehue**	**2.46**	**218**			**Pn**		**16 50 15.4**	**-0.2**
PEL	**Peldehue**	**2.46**	**218**	*eS*		**Sn**		**16 50 47.3**	**+1.5**
PEL					IAML			16 50 51.1	
	comp=Z,101nm,0.3s								
ROC1	**El Roble**	**2.52**	**225**	*eP*		**Pn**		**16 50 16.3**	**-0.3**
ROC1				*eS*		**Sn**		**16 50 49.4**	**+1.9**
VCA	**Vinchina**	**2.53**	**14**	*eP*		**Pn**		**16 50 17.7**	**+0.9**
VCA				*eS*		**Sn**		**16 50 49.4**	**+1.6**
VCA					IAML			16 50 54.0	
	comp=Z,241nm,0.2s								
MT16	**CCHEN**	**2.61**	**211**			**Pn**		**16 50 17.8**	**+0.1**
MT03	**Universidad Ad**	**2.66**	**210**			**Pn**		**16 50 18.8**	**+0.5**
MT03	**Universidad Ad**	**2.66**	**210**	*eP*		**Pn**		**16 50 19.4**	**+1.0**
MT03				*eS*		**Sn**		**16 50 52.2**	**+1.7**
MT03					IAML			16 50 56.8	
	comp=Z,209nm,0.2s								
MT05	**Renca**	**2.68**	**215**			**Pn**		**16 50 18.6**	**+0.1**
MT05	**Renca**	**2.68**	**215**	*eP*		**Pn**		**16 50 19.1**	**+0.5**
MT05				*eS*		**Sn**		**16 50 53.2**	**+2.2**
MT05					IAML			16 50 56.4	
	comp=Z,225nm,0.3s								
LCO	**Las Campanas**	**2.69**	**324**			**Pn**		**16 50 18.7**	**-0.2**
LCO	**Las Campanas**	**2.69**	**324**	*eP*		**Pn**		**16 50 18.3**	**-0.6**
LCO					IAML			16 50 52.1	
	comp=Z,589nm,0.2s								
MT13	**San Alfonso**	**2.79**	**204**			**Pn**		**16 50 20.3**	**+0.3**
MT13	**San Alfonso**	**2.79**	**204**	*eP*		**Pn**		**16 50 16.1**	**-3.9**
MT13				*eP*				16 50 21.2	
MT13				*eS*		**Sn**		**16 50 53.1**	**-0.5**
MT13					IAML			16 51 04.7	
	comp=Z,70nm,0.3s								
MT02	**Curacav**	**2.79**	**222**			**Pn**		**16 50 19.4**	**-0.5**
MT02	**Curacav**	**2.79**	**222**	*eP*		**Pn**		**16 50 19.5**	**-0.5**
MT02				*eS*		**Sn**		**16 50 55.1**	**+1.6**
MT02					IAML			16 50 59.7	
	comp=Z,56nm,0.8s								
LMEL	**Las Melosas**	**2.85**	**202**			**Pn**		**16 50 20.7**	**-0.2**
LMEL	**Las Melosas**	**2.85**	**202**	*eP*		**Pn**		**16 50 22.0**	**+1.1**
LMEL				*eS*		**Sn**		**16 50 58.1**	**+2.9**
LMEL					IAML			16 51 10.3	
	comp=Z,61nm,0.3s								
AANI	**Anillaco**	**2.93**	**36**	*eP*		**Pn**		**16 50 22.6**	**+0.6**
AANI				*eS*		Sn		16 51 14.5	+17
AANI					IAML			16 51 35.0	
	comp=Z,346nm,1.5s								
VA01	**Torpederas**	**2.95**	**231**			**Pn**		**16 50 20.8**	**-1.3**
MRA	**San Martin**	**2.97**	**115**	*eP*		**Pn**		**16 50 23.0**	**+0.7**
MRA				*eS*		**Sn**		**16 50 56.6**	**-1.1**
MRA					IAML			16 50 57.6	
	comp=Z,181nm,0.3s								
MT09	**Talagante**	**3.11**	**214**			**Pn**		**16 50 23.2**	**-1.1**
BO04	**La Punta**	**3.13**	**207**			**Pn**		**16 50 24.4**	**0.0**
MT01	**Popeta**	**3.31**	**216**			**Pn**		**16 50 25.1**	**-1.6**
MT01	**Popeta**	**3.31**	**216**	*eP*		Pn		16 50 10.4	-16
MT01				*eS*		**Sn**		**16 51 06.3**	**+0.6**
MT01					IAML			16 51 06.7	
	comp=Z,63nm,0.2s								
AC04	**Llanos de Chal**	**3.54**	**327**	*eP*		Pn		16 50 17.1	-13
AC04					IAML			16 51 19.4	
	comp=Z,83nm,0.8s								
RFA	**San Rafael**	**3.57**	**174**	*eP*		**Pn**		**16 50 30.2**	**-0.1**
RFA				*eS*		Sn		16 51 02.3	-10
RFA					IAML			16 51 14.2	
	comp=Z,131nm,0.4s								
BO01	**Tunca**	**3.67**	**209**			**Pn**		**16 50 30.1**	**-1.5**
BO01	**Tunca**	**3.67**	**209**	*eP*		Pn		16 50 20.1	-11
BO01				*eS*		**Sn**		**16 51 13.8**	**-0.4**
BO01					IAML			16 51 16.4	
	comp=Z,28nm,0.6s								
TCA	**Tanti**	**3.69**	**93**	*eP*		**Pn**		**16 50 32.4**	**+0.5**
TCA				*eS*		Sn		16 51 01.7	-13
TCA					IAML			16 51 14.7	
	comp=Z,101nm,0.8s								
GO03	**Copiapo**	**3.78**	**342**			**Pn**		**16 50 33.1**	**-0.1**
GO03	**Copiapo**	**3.78**	**342**	*eP*		**Pn**		**16 50 33.3**	**+0.2**
GO03				*eS*		**Sn**		**16 51 19.1**	**+2.0**
GO03					IAML			16 51 20.1	
	comp=Z,66nm,0.5s								
CYA	**Choya**	**3.85**	**45**	*eP*		**Pn**		**16 50 33.7**	**-0.3**
CYA				*eS*		**Sn**		**16 51 17.0**	**-1.6**
CYA					IAML			16 51 18.3	
	comp=Z,53nm,0.2s								
BO02	**Sierra Bellavi**	**3.91**	**203**			**Pn**		**16 50 34.3**	**-0.5**
BO02	**Sierra Bellavi**	**3.91**	**203**	*eP*		**Pn**		**16 50 34.8**	**0.0**
BO02					IAML			16 51 32.5	
	comp=Z,31nm,0.2s								
AC02	**Maricunga**	**4.36**	**357**			**Pn**		**16 50 42.0**	**+0.8**
AC02	**Maricunga**	**4.36**	**357**	*eS*		**Sn**		**16 51 29.2**	**-2.3**
AC02					IAML			16 51 36.4	
	comp=Z,63nm,0.5s								
BI02	**San Fabin de**	**5.79**	**199**			**Pn**		**16 50 58.2**	**-1.8**
TRQA	**Tornquist**	**8.90**	**142**	Pn		**Pn**		**16 51 41.7**	**-0.2**
PLCA	**Paso Flores**	**9.60**	**188**	P		**Pn**		**16 51 50.0**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=357,slow=10.0,SNR=11								
CPUP	**Villa Florida**	**11.25**	**67**	P		**Pn**		**16 52 17.2**	**+3.5**
	comp=Z,0.3nm,0.3s,baz=124,slow=13,SNR=3.1								
LPAZ	**La Paz**	**14.87**	**3**	Pn		**Pn**		**16 53 00.1**	**-1.1**
LPAZ	**La Paz**	**14.87**	**3**	P		**P**		**16 53 03.1**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=179,slow=7.3,SNR=6.9								
PMSA	**Palmer Station**	**33.73**	**176**	P		**P**		**16 56 04.3**	**-1.5**
PMSA					IAmb	IAmb		16 56 05.7	
	comp=Z,39nm,1.4s								
PRVC	**Isla de Provid**	**45.91**	**343**	P		**P**		**16 57 46.5**	**-0.6**
MAGL	**Barre de l'ile**	**47.45**	**10**	P		**P**		**16 57 58.2**	**-0.8**
TXAR	**Lajitas Array**	**68.69**	**328**	P		**P**		**17 00 29.0**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=147,slow=7.7,SNR=3.9								
	comp=Z,0.3nm,0.6s								
WVT	**Waverly**	**69.30**	**344**	P		**P**		**17 00 29.9**	**-0.6**
WVT					IAmb	IAmb		17 00 32.2	
	comp=Z,3.9nm,0.7s								
LCAR	**Lake Charles**	**70.11**	**341**	P		**P**		**17 00 34.4**	**-1.1**
LCAR					IAmb	IAmb		17 00 38.5	
	comp=Z,6.1nm,1.2s								
TORD	**Torodi Ar. Bea**	**80.75**	**69**	P		**P**		**17 01 38.2**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=281,slow=6.2,SNR=3.0								
	comp=Z,0.6nm,0.8s								
ZALV	**Zalesovo Beam**	**150.46**	**32**	PKPbc		**PKiKP**		**17 09 14.8**	**+0.8**

comp=Z,0.9nm,0.6s,baz=347,slow=4.8,SNR=4.1

*IDC **08** 16:55:26.7±6.2,51.69N×178.13E,h83km±72km, mb3.2/4, mbtmp3.7/6, ML4.1/2, MS2.3/1, Error ellipse: s-maj=65.8km s-min=40.9km az=159.0*

*NEIC **08** 16:55:26.8±0.8,51.66N±0.06×178.15E±0.04, h73km±5km, mb4.0/42, ML3.8/10, ML3.5(AEIC), Error ellipse: s-maj=9.5km s-min=3.6km az=186.0*

*AEIC **08** 16:55:27.3±1.3,51.72N±0.09×178.25E±0.09, h70km±4km, Error ellipse: s-maj=13.2km s-min=7.7km az=174.0*

ISC 08 16:55:26.6±1.1,51.7N±0.1×178.14E±0.05, h75km±6km, n76, σ0.967/65, mb4.0/20, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.36**	**39**		**Pn**	**16 55 38.6**	**-0.2**
LSSA					**Sn**	**16 55 48.1**	**+0.3**
LSSE	**Little Sitkin**	**0.37**	**45**		**Pn**	**16 55 38.8**	**-0.1**
LSNW	**Little Sitkin**	**0.38**	**38**		**Pn**	**16 55 38.7**	**-0.2**
LSPA	**Little Sitkin**	**0.39**	**43**		**Pn**	**16 55 38.8**	**-0.2**
LSPA					**Sn**	**16 55 48.1**	**0.0**
AMKA	**Amchitka**	**0.78**	**112**		**Pn**	**16 55 42.8**	**+0.1**
AMKA	**Amchitka**	**0.78**	**112**		**Sn**	**16 55 55.3**	**+0.6**
CETU	**Semis' Tuman**	**0.89**	**70**		**Pn**	**16 55 44.2**	**+0.1**
CEAP	**Semis' Anvil P**	**0.95**	**69**		**Pn**	**16 55 44.7**	**0.0**
CERB	**Semis' Cerberu**	**0.96**	**74**		**Pn**	**16 55 45.2**	**+0.4**
CERB					**Sn**	**16 55 57.4**	**-1.1**
CEPE	**Semis' Perret**	**0.98**	**72**		**Pn**	**16 55 45.0**	**-0.1**
GASW	**Gareloi Southw**	**1.87**	**86**		**Pn**	**16 55 57.1**	**+0.5**
GASW					**Sn**	**16 56 19.3**	**-0.1**
GAKI	**Gareloi-Kavalg**	**1.90**	**92**		**Pn**	**16 55 57.6**	**+0.6**
GANO	**Gareloi North**	**1.90**	**84**		**Pn**	**16 55 57.3**	**+0.3**
GANO					**Sn**	**16 56 20.1**	**-0.1**
GANE	**Gareloi Northe**	**1.92**	**84**		**Sn**	**16 56 20.5**	**-0.1**
GALAA	**Gareloi Lavp P**	**1.92**	**86**		**Sn**	**16 56 21.4**	**+0.8**
TANG	**Tanga North**	**2.33**	**83**		**Sn**	**16 56 30.7**	**+0.2**
SHEM	**Shemya Is, Ala**	**2.71**	**295**	P	**Pn**	**16 56 09.2**	**+1.5**
	30nm,0.3s,baz=114,slow=3.4,SNR=20						
SHEM				S	**Sn**	**16 56 39.7**	**+0.2**
	92nm,0.3s,baz=263,slow=2.7,SNR=4.9						
SHEM				LR	LR	16 57 18.7	
	comp=Z,48nm,18.4s,baz=74,slow=42						
	68nm,0.4s						
SMY	**Shemya**	**2.71**	**295**		**Pn**	**16 56 08.2**	**+0.5**
SMY				IAML		16 56 51.2	
	comp=E,470nm,0.5s						
SMY				IAML		16 56 57.4	
	comp=N,349nm,0.6s						
KIWB	**Kanaga Island**	**2.93**	**85**		**Pn**	**16 56 10.9**	**+0.1**
KIWB				IAML		16 56 51.3	
	comp=N,256nm,0.5s						
ADK	**Adak**	**3.22**	**84**		**Pn**	**16 56 15.1**	**+0.3**
ADK				IAML		16 57 01.1	
	comp=N,240nm,0.3s						
ADK				IAML		16 57 09.1	
	comp=N,201nm,0.4s						
ADAG	**Mount Adagdak**	**3.27**	**83**		**Pn**	**16 56 15.9**	**+0.4**
GSSP	**Great Sitkin S**	**3.54**	**81**		**Pn**	**16 56 19.6**	**+0.4**
GSTR	**Great Sitkin T**	**3.62**	**81**	Pn	**Pn**	**16 56 20.3**	**+0.1**
ATKA	**Atka Island**	**4.77**	**81**		**Pn**	**16 56 36.2**	**+0.3**
ATKA				IAML		16 57 50.2	
	comp=N,80nm,1.2s						
P08K	**Saint George I**	**8.75**	**51**	Pn	**Pn**	**16 57 31.0**	**+0.9**
SDPT	**Sand Point**	**13.23**	**65**	Pn	**Pn**	**16 58 29.9**	**-1.1**
O19K	**Port Alsworth**	**17.51**	**50**		**S**	**17 02 43.8**	**+1.1**
Q19K	**Cape Douglas,**	**17.52**	**55**		**Pn**	**16 59 25.8**	**+0.1**
J18K	**Innoko River**	**17.77**	**39**	P	**Pn**	**16 59 29.3**	**+0.7**
J18K				IAmb	IAmb	16 59 43.5	
	comp=Z,12nm,1.4s						
KDAK	**Kodiak Island**	**17.88**	**59**	P	**P**	**16 59 28.1**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=182,slow=1.8,SNR=27						
	comp=Z,6.5nm,0.9s						
SYI	**Shuyak Island**	**18.11**	**56**	P	**P**	**16 59 32.0**	**0.0**
J19K	**Poorman**	**18.46**	**38**	P	**P**	**16 59 36.4**	**+0.4**
J19K				IAmb	IAmb	17 00 10.9	
	comp=Z,9.2nm,1.4s						
K20K	**Telida**	**18.78**	**41**	P	**P**	**16 59 39.9**	**+0.4**
CNPM	**China Poot**	**18.86**	**53**	P	**P**	**16 59 40.3**	**-0.1**
CNPM				IAmb	IAmb	17 00 17.2	
	comp=Z,12nm,1.3s						
STLK	**Strandline Lak**	**19.06**	**47**	Pn	**Pn**	**16 59 44.6**	**+0.5**
STLK				IAmb	IAmb	16 59 47.3	
	comp=Z,9.1nm,1.3s						
J20K	**Nowinta River**	**19.11**	**38**	P	**P**	**16 59 44.0**	**+0.9**
J20K				IAmb	IAmb	16 59 53.4	
	comp=Z,9.1nm,1.4s						
IMAR	**Indian Mountai**	**20.16**	**34**	Pn	Pn	16 59 58.1	+1.2
BPAW	**Bear Paw Mtn.**	**20.33**	**40**	P	**P**	**16 59 57.3**	**+0.9**
TRF	**Thorofare Moun**	**20.38**	**42**	P	**P**	**16 59 58.0**	**+1.0**
TRF				IAmb	IAmb	17 00 00.7	
	comp=Z,12nm,1.3s						
I23K	**Minto, Yukon-K**	**21.39**	**38**	P	**P**	**17 00 08.1**	**+0.5**
DHY	**Denali Highway**	**21.51**	**45**	P	**P**	**17 00 09.1**	**0.0**
DHY				IAmb	IAmb	17 00 10.2	
	comp=Z,4.1nm,0.6s						
D22K	**Ayikyak River**	**22.13**	**28**	P	**P**	**17 00 16.9**	**+1.3**
D22K				IAmb	IAmb	17 00 18.5	
	comp=Z,13nm,1.4s						
ILAR	**Eielson Array**	**22.23**	**40**	P	**P**	**17 00 16.2**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=243,slow=10,SNR=16						
	comp=Z,0.4nm,0.5s						
HMT	**Hamilton**	**22.45**	**53**	P	**P**	**17 00 19.0**	**0.0**
E23K	**Chandalar**	**22.63**	**31**	IAmb	IAmb	17 00 22.9	
	comp=Z,6.8nm,1.3s						
G24K	**Hadweenzic Riv**	**22.73**	**36**	IAmb	IAmb	17 00 24.3	
	comp=Z,12nm,1.4s						
VRDI	**Verde Repeater**	**22.95**	**50**	P	**P**	**17 00 24.4**	**0.0**
VRDI				IAmb	IAmb	17 00 25.6	
	comp=Z,5.9nm,1.0s						
CRQM	**Cirque**	**23.05**	**52**	IAmb	IAmb	17 00 26.3	
	comp=Z,7.3nm,0.9s						
MCARA	**McCarthy VSAT**	**23.17**	**50**	IAmb	IAmb	17 00 29.4	
	comp=Z,8.7nm,1.0s						
J26L	**Joseph Creek**	**23.52**	**42**	P	**P**	**17 00 28.7**	**-1.0**
BARN	**Barnard Glacie**	**23.79**	**51**	IAmb	IAmb	17 00 34.0	
	comp=Z,4.9nm,0.9s						
L27K	**Beaver Creek,**	**23.97**	**46**	IAmb	IAmb	17 00 35.3	
	comp=Z,12nm,1.4s						
G26K	**Porcupine Rive**	**24.18**	**36**	IAmb	IAmb	17 00 37.5	
	comp=Z,8.0nm,1.3s						
F26K	**Sheenjek River**	**24.32**	**35**	P	**P**	**17 00 37.4**	**+0.6**
F26K				IAmb	IAmb	17 00 45.0	
	comp=Z,5.8nm,1.4s						
O28M	**Mount Upton**	**24.49**	**52**	IAmb	IAmb	17 00 40.9	
	comp=Z,7.7nm,0.8s						
DAWY	**Dawson**	**25.21**	**44**	IAmb	IAmb	17 00 47.0	
	comp=Z,5.2nm,1.0s						
HYT	**Haines Junctio**	**25.81**	**52**	IAmb	IAmb	17 00 54.4	
	comp=Z,2.6nm,0.8s						
H29M	**Whitestone**	**26.05**	**39**	P	**P**	**17 00 52.1**	**-0.3**
H29M				IAmb	IAmb	17 01 15.6	
	comp=Z,5.7nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**33.08**	**200**	T	T	17 37 25.5	
	baz=11,slow=76						
H11N3	**WAKE ISLAND Hy**	**33.09**	**200**	T	T	17 37 31.0	
	baz=11,slow=76						
H11N1	**WAKE ISLAND Hy**	**33.09**	**200**	T	T	17 37 27.8	
	baz=11,slow=76						
H11S1	**WAKE ISLAND Hy**	**34.30**	**200**	T	T	17 38 59.1	
	baz=11,slow=76,SNR=6.8						
H11S3	**WAKE ISLAND Hy**	**34.32**	**200**	T	T	17 38 46.2	
	baz=11,slow=76,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**34.32**	**200**	T	T	17 39 04.3	
	baz=11,slow=76,SNR=2.8						
YKA	**Yellowknife Ar**	**36.41**	**46**	P	**P**	**17 02 23.3**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=282,slow=13,SNR=3.6						
	comp=Z,0.7nm,0.8s						
KSXB	**Camp Six Broad**	**39.95**	**81**	P	**P**	**17 02 53.5**	**+0.1**
NEW	**Newport**	**40.56**	**68**	P	**P**	**17 02 57.3**	**-1.0**
NEW				IAmb	IAmb	17 02 59.1	
	comp=Z,1.3nm,0.8s						
PAHR	**Pah Rah Range**	**43.95**	**80**	P	**P**	**17 03 26.4**	**+0.3**
LYMT	**Lyon Mountain**	**44.02**	**67**	P	**P**	**17 03 25.6**	**-1.1**
BOZ	**Bozeman (W)**	**45.16**	**69**	P	**P**	**17 03 34.1**	**-1.5**
R11B	**Troy Canyon, C**	**47.12**	**79**	P	**P**	**17 03 51.1**	**-0.1**
PDAR	**Pinedale Array**	**48.03**	**71**	P	**P**	**17 03 56.5**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=315,slow=6.9,SNR=2.0						
	comp=Z,0.4nm,0.4s						
PV13	**Radium Mtn., P**	**51.34**	**75**	P	**P**	**17 04 22.9**	**-0.5**
TX31	**Lajitas Ar. Si**	**60.48**	**79**	P	**P**	**17 05 28.2**	**-0.4**
TXAR	**Lajitas Array**	**60.48**	**79**	P	**P**	**17 05 28.2**	**-0.4**
TXAR	**Lajitas Array**	**60.48**	**79**	P	**P**	**17 05 28.0**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=303,slow=5.6,SNR=13						

comp=Z,0.3nm,0.4s

IDC 08 17:31:09.0±3.0, 7.00S×117.82E, h0km, mb2.9/3, mbtmp3.0/3, Error ellipse: s-maj=274.8km s-min=28.9km az=52.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.55**	**130**	P	P	17 35 48.6	-0.8
	0.2nm,0.6s,baz=303,slow=13,SNR=1.2						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**22.66**	**139**	P	P	17 36 12.7	+0.6
	0.3nm,0.8s,baz=314,slow=10,SNR=5.9						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**62.16**	**333**	P	P	17 41 32.1	-0.1
	0.1nm,0.3s,baz=134,slow=6.2,SNR=1.8						
	0.1nm,0.3s						

*SOME **08** 17:43:11.5, 40.90N×78.25E, h15km*

*KRNET **08** 17:43:11.3±0.1, 40.93N×78.33E, mb2.6*

*NNC **08** 17:43:12.5±1.3, 40.93N×78.23E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=8.5km s-min=6.4km az=2.0*

ISC 08 17:43:13.9±2.7, 40.92N±0.09×78.18E±0.07, h0km±17km, n19, σ1.39/30, 4C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.43**	**328**	⇓*iP*	**Pn**	**17 43 38.7**	**-2.5**
KDJ				⇓*iS*	**Sn**	**17 43 58.9**	**-1.8**
NRN	**Naryn**	**1.73**	**288**	⇑*iP*	**Pn**	**17 43 45.6**	**+0.2**
NRN				⇑*iS*	**Sg**	**17 44 10.5**	**+1.2**
JNKS	**Jany-Kuch**	**1.92**	**275**	⇓*iP*	**Pn**	**17 43 48.3**	**+0.3**
JNKS				⇓*iS*	**Sb**	**17 44 15.6**	**+1.1**
ULHL	**Ulahol**	**1.97**	**313**	⇓*iP*	**Pn**	**17 43 48.8**	**+0.1**
ULHL				⇓*iS*	**Sb**	**17 44 16.0**	**+0.1**
SATY	**Saty**	**2.15**	**4**	Pg	**Pb**	**17 43 52.0**	**-1.7**
	2.1nm,0.3s						
SATY				Lg	Lg	17 44 21.1	
	4.8nm,0.4s						
TNSS	**Tian-Shan**	**2.31**	**337**	Pg	**Pb**	**17 43 55.4**	**-1.2**
	0.5nm,0.1s						
TNSS				Lg	Lg	17 44 27.3	
	0.8nm,0.2s						
TNSS	**Tian-Shan**	**2.31**	**337**	*eP*	**Pb**	**17 43 55.4**	**-1.2**
	0.5nm,0.1s						
TNSS				*eS*	**Sb**	**17 44 27.3**	**+1.5**
	0.8nm,0.2s						
MDOK	**Medeo**	**2.40**	**340**	Pg	**Pn**	**17 43 55.8**	**+1.3**
	3.8nm,0.3s						
MDOK				Lg	Lg	17 44 28.2	
	1.7nm,0.6s						
SHLS	**Shalkode**	**2.43**	**23**	Pg	**Pb**	**17 43 58.5**	**0.0**
	1.4nm,0.1s						
SHLS				Lg	Lg	17 44 32.3	
	8.1nm,0.6s						
SHLS	**Shalkode**	**2.43**	**23**	*eP*	**Pb**	**17 43 58.5**	**0.0**
	1.4nm,0.1s						
SHLS				*eS*	**Sg**	**17 44 32.4**	**+0.4**
	8.1nm,0.6s						
KOTS	**Kotyrbulak**	**2.45**	**341**	Pg	**Pb**	**17 43 57.4**	**-1.5**
	2.0nm,0.2s						
KOTS				Lg	Lg	17 44 30.6	
	7.0nm,0.3s						
KOTS	**Kotyrbulak**	**2.45**	**341**	*eP*	**Pb**	**17 43 57.4**	**-1.5**
	2.0nm,0.2s						
KOTS				*eS*	**Sb**	**17 44 30.6**	**+1.0**
	7.0nm,0.3s						
KPKS	**Kokpek**	**2.57**	**8**	Pg	**Pb**	**17 43 58.8**	**-2.2**
	0.2nm,0.2s						
KPKS				Lg	Lg	17 44 32.7	
	7.8nm,0.5s						
KST	**Kastek**	**2.69**	**323**	Pg	**Pb**	**17 44 01.6**	**-1.4**
	0.9nm,0.2s						
KST				Lg	Lg	17 44 37.5	
	2.4nm,0.3s						
KST	**Kastek**	**2.69**	**323**	*eP*	**Pb**	**17 44 01.6**	**-1.4**
	0.9nm,0.2s						
KST				*eS*	**Sb**	**17 44 37.5**	**+0.9**
	2.4nm,0.3s						
TKM2	**Tokmak 2**	**2.78**	**317**	⇑*iP*	**Pn**	**17 43 59.9**	**+0.1**
TKM2				⇑*iS*	**Sn**	**17 44 35.2**	**+1.0**
KTBS	**Karatobe**	**3.01**

AAA	**Alma-Ata**	**2.08**	**307**	*e*P	**Pg**	**17 58 07.0**	**-1.4**
	12nm,0.1s							
AAA				*e*S	**Sg**	**17 58 34.7**	**-0.7**
	8.0nm,0.1s							
ULHL	**Ulahol**	**2.21**	**278**	⇓*i*P	**Pb**	**17 58 08.2**	**-0.4**
ULHL				⇓*i*S	**Sb**	**17 58 36.8**	**+0.7**
MTBS	**Maitube**	**2.34**	**300**	Pg	**Pb**	**17 58 11.1**	**+0.3**
	7.6nm,0.1s							
MTBS				Lg	Lg	17 58 41.7		
	64nm,0.3s							
MTBS	**Maitube**	**2.34**	**300**	*e*P	**Pb**	**17 58 11.2**	**+0.3**
	7.6nm,0.1s							
MTBS				*e*S	**Sg**	**17 58 41.7**	**-2.0**
	64nm,0.3s							
KNOS	**Konyrlen**	**2.38**	**360**	Pg	**Pb**	**17 58 11.6**	**0.0**
	15nm,0.1s							
KNOS				Lg	Lg	17 58 43.1		
	39nm,0.1s							
NRN	**Naryn**	**2.44**	**258**	⇑*i*P	**Pb**	**17 58 11.8**	**-1.0**
NRN				⇑*i*S	**Sb**	**17 58 43.1**	**0.0**
ARXS	**Arharly**	**2.45**	**337**	Pg	**Pb**	**17 58 12.6**	**-0.1**
	6.2nm,0.2s							
ARXS				Lg	Lg	17 58 44.8		
	28nm,0.2s							
ARXS	**Arharly**	**2.45**	**337**	*e*P	**Pb**	**17 58 12.6**	**-0.1**
ARXS				*e*S	**Sg**	**17 58 44.8**	**-2.4**
CHKK	**Chushkaly**	**2.48**	**320**	Pg	**Pb**	**17 58 13.8**	**+0.6**
	7.5nm,0.2s							
CHKK				Lg	Lg	17 58 46.2		
	72nm,0.3s							
CHKK	**Chushkaly**	**2.48**	**320**	*e*P	**Pb**	**17 58 13.8**	**+0.6**
	7.5nm,0.2s							
CHKK				*e*S	**Sg**	**17 58 46.2**	**-1.8**
	72nm,0.3s							
KTBS	**Karatobe**	**2.53**	**314**	Pg	**Pb**	**17 58 14.7**	**+0.6**
	7.0nm,0.3s							
KTBS				Lg	Lg	17 58 47.8		
	60nm,0.2s							
KST	**Kastek**	**2.61**	**295**	Pg	**Pb**	**17 58 15.6**	**+0.2**
	6.4nm,0.3s							
KST				Lg	Lg	17 58 49.5		
KST	**Kastek**	**2.61**	**295**	*e*P	**Pb**	**17 58 15.6**	**+0.2**
	6.4nm,0.3s							
KST				*e*S	**Sg**	**17 58 49.5**	**-2.9**
JNKS	**Jany-Kuch**	**2.81**	**252**	⇑*i*P	**Pb**	**17 58 16.6**	**-2.3**
JNKS				⇑*i*S	**Sb**	**17 58 51.6**	**-1.8**
TKM2	**Tokmak 2**	**2.82**	**291**	⇑*i*P	**Pb**	**17 58 16.4**	**-2.7**
TKM2				⇑*i*S	**Sb**	**17 58 51.2**	**-2.5**
KUU	**Kurty**	**2.83**	**313**	Pg	**Pb**	**17 58 19.8**	**+0.6**
	3.8nm,0.1s							
KUU				Lg	Lg	17 58 56.7		
	46nm,0.2s							
KUU	**Kurty**	**2.83**	**313**	*e*P	**Pb**	**17 58 19.8**	**+0.6**
	3.8nm,0.1s							
KUU				*e*S	**Sg**	**17 58 56.8**	**-2.8**
	46nm,0.2s							
KBK	**Karagaybulak**	**3.21**	**284**	⇑*i*P	**Pb**	**17 58 22.2**	**-3.6**
KBK				⇑*i*S	**Sn**	**17 59 00.9**	**+3.2**
CHMS	**Chumysh**	**3.43**	**289**	⇑*i*P	**Pn**	**17 58 25.0**	**+2.9**
CHMS				⇑*i*S	**Sn**	**17 59 06.0**	**+3.1**
UCH	**Uchtor**	**3.48**	**276**	⇑*i*P	**Pn**	**17 58 26.1**	**+2.9**
UCH				⇑*i*S	**Sn**	**17 59 07.6**	**+2.9**
AAK	**Ala-Archa**	**3.54**	**282**	⇓Pg	**Pg**	**17 58 35.6**	**-0.7**
	0.8nm,0.5s							
AAK				⇑Lg	Lg	17 59 22.1		
	3.3nm,0.6s							
AAK	**Ala-Archa**	**3.54**	**282**	⇑*i*P	**Pn**	**17 58 26.5**	**+2.8**
AAK				⇑*i*S	**Sn**	**17 59 08.9**	**+3.2**
USP	**Ospenovka**	**3.69**	**292**	⇓*i*P	**Pn**	**17 58 28.8**	**+3.1**
USP				⇓*i*S	**Sn**	**17 59 12.2**	**+3.0**
EKS2	**Erkin-Say**	**4.07**	**282**	⇑*i*P	**Pn**	**17 58 33.9**	**+3.0**
EKS2				⇑*i*S	**Sn**	**17 59 21.2**	**+2.6**
MAKZ	**Makanchi**	**5.23**	**22**	Pn	**Pn**	**17 58 49.8**	**+3.0**
	0.4nm,0.5s							
MAKZ				Sn	**Sn**	**17 59 48.5**	**+1.3**
	0.4nm,0.3s							
MAKZ				Lg	Lg	18 00 09.3		
	1.0nm,0.7s							
MK31	**Makanchi Array**	**5.31**	**24**	⇓Pn	**Pn**	**17 58 50.6**	**+2.8**
	0.1nm,0.3s,baz=266,slow=7.7,SNR=12							
MK31				⇓Sn	**Sn**	**17 59 51.8**	**+2.7**
	0.2nm,0.3s,baz=208,slow=27,SNR=4.1							
MK31				Lg	Lg	18 00 12.4		
	0.3nm,0.3s,baz=212,slow=33,SNR=4.4							
KK31	**Karatay Array**	**6.50**	**283**	⇓Pg	**Pg**	**17 59 29.6**	**-3.4**
	0.1nm,0.3s,baz=95,slow=15,SNR=5.4							
KK31				Lg	Lg	18 00 57.9		
	1.0nm,0.5s,baz=96,slow=27,SNR=6.6							

*TAP **74**/157, **2C-3D, Taiwan region*

*JMA **74**/157, **2C-3D, Taiwan region*

ISC 08 18:04:33.0±1.0, **24°64'N**±0".02×**122°44'E**±0".02, **h14**km±**8**km, **n110**, **σ0°74**/157, **2C-3D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EOS2	**EOS2**	**0.29**	**221**	⇓*i*P		**Pb**	**18 04 40.7**	**+0.7**
EOS2				*i* S		**Sb**	**18 04 45.8**	**+1.2**
EOS3	**EOS3**	**0.37**	**198**	*i* P		**Pn**	**18 04 42.3**	**-1.5**
EOS3				*i* S		**Sn**	**18 04 48.5**	**-2.3**
JYNG	**Yonagunijimaku**	**0.50**	**112**	P		**Pn**	**18 04 44.7**	**-1.0**
JYNG				*e*S		**Sb**	**18 04 51.8**	**+1.1**
EGS		**0.51**	**294**	⇓*i*P		**Pg**	**18 04 43.1**	**+0.1**
EGS				S		**Sg**	**18 04 49.9**	**+0.1**
EOS4	**EOS4**	**0.53**	**192**	P		**Pn**	**18 04 45.1**	**-0.7**
EOS4				S		**Sn**	**18 04 53.7**	**-0.7**
TWC	**Suao**	**0.54**	**267**	*i* P		**Pg**	**18 04 43.3**	**-0.3**
TWC				S		**Sb**	**18 04 52.3**	**+0.4**
ESAO	**Su ao**	**0.55**	**263**	P		**Pg**	**18 04 43.6**	**-0.2**
ESAO				*e*S		**Sg**	**18 04 50.7**	**-0.4**
YOJ	**Yonaguni jima**	**0.55**	**109**	*i* P		**Pn**	**18 04 45.7**	**-0.8**
YOJ				*i* S		**Sb**	**18 04 53.5**	**+1.3**
YOJ	**Yonaguni jima**	**0.55**	**109**	P		**Pn**	**18 04 45.6**	**-0.8**
YOJ				*e*S		**Sb**	**18 04 53.2**	**+1.0**
TWB1	**Santiao Chiao**	**0.55**	**312**	*i* P		**Pg**	**18 04 44.0**	**+0.1**
TWB1				*i* S		**Sg**	**18 04 50.3**	**-0.9**
NTC	**Toucheng**	**0.59**	**291**	*e*P		**Pb**	**18 04 45.0**	**-0.2**
NTC				*e*S		**Sg**	**18 04 52.7**	**+0.1**
EWUT	**Wuta**	**0.63**	**252**	*e*P		**Pb**	**18 04 45.5**	**-0.4**
EWUT				*e*S		**Sb**	**18 04 54.2**	**-0.4**
ILA	**Ilan**	**0.64**	**281**	P		**Pb**	**18 04 46.0**	**0.0**
ILA				S		**Sg**	**18 04 53.9**	**-0.2**
TIPB	**Shuangxi**	**0.65**	**301**	P		**Pb**	**18 04 46.0**	**-0.2**
TIPB				S		**Sg**	**18 04 53.6**	**-0.8**
ENA	**Nanau**	**0.67**	**252**	*i* P		**Pg**	**18 04 45.9**	**-0.2**
ENA				*i* S		**Sb**	**18 04 55.6**	**-0.1**
SXI1	**Grass Mountain**	**0.68**	**312**	*i* P		**Pb**	**18 04 47.1**	**+0.3**
SXI1				*i* S		**Sb**	**18 04 56.3**	**+0.1**
TWE	**Neicheng**	**0.71**	**277**	*i* P		**Pg**	**18 04 46.6**	**-0.2**
TWE				*i* S		**Sg**	**18 04 55.9**	**-0.3**
EAHA	**Aohua**	**0.71**	**244**	P		**Pg**	**18 04 46.6**	**-0.3**
EAHA				S		**Sb**	**18 04 57.2**	**+0.5**
EHP	**Heping Village**	**0.72**	**243**	P		**Pn**	**18 04 47.7**	**-1.0**
EHP				S		**Sn**	**18 04 57.9**	**-1.7**
NWF	**Wu-fen Shan**	**0.74**	**306**	⇑*i*P		**Pn**	**18 04 48.4**	**-0.7**
NWF				*i* S		**Sb**	**18 04 58.2**	**+0.5**
WFSB	**Wu-fen Shan**	**0.74**	**306**	⇑*i*P		**Pn**	**18 04 48.4**	**-0.6**
WFSB				*i* S		**Sb**	**18 04 58.1**	**+0.5**
FUSB	**Fushanzhiwuyua**	**0.78**	**279**	*i* P		**Pg**	**18 04 48.2**	**-0.1**
FUSB				S		**Sg**	**18 04 58.5**	**-0.1**
TNOU	**National Taiwa**	**0.79**	**310**	P		**Pg**	**18 04 48.7**	**+0.2**
TNOU				S		**Sg**	**18 04 59.0**	**+0.1**
ENTT	**Nioudou**	**0.80**	**270**	*i* P		**Pg**	**18 04 48.3**	**-0.2**
ENTT				*i* S		**Sb**	**18 04 58.8**	**-0.5**
LATG	**Datong**	**0.84**	**263**	P		**Pb**	**18 04 49.1**	**-0.3**
LATG				S		**Sn**	**18 05 02.4**	**-0.3**
TWA	**Mucha**	**0.85**	**294**	P		**Pg**	**18 04 49.9**	**+0.4**
TWA				S		**Sb**	**18 05 00.4**	**-0.4**
NWLT	**Wulai**	**0.86**	**279**	*e*P		**Pb**	**18 04 49.5**	**-0.3**
NWLT				*e*S		**Sb**	**18 05 00.1**	**-1.2**
ETL	**Fush Village**	**0.89**	**237**	*e*P		**Pn**	**18 04 50.3**	**-0.8**
ETL				*e*S		**Sg**	**18 05 01.8**	**0.0**
NHY	**Taipei**	**0.89**	**297**	*e*P		**Pn**	**18 04 51.8**	**+0.7**
NHY				*e*S		**Sg**	**18 05 02.3**	**+0.5**
NHDH	**Xindian Distri**	**0.89**	**291**	P		**Pn**	**18 04 51.3**	**+0.1**
NHDH				S		**Sb**	**18 05 01.8**	**-0.2**
NACB	**Ninganchiao**	**0.90**	**239**	P		**Pg**	**18 04 50.3**	**-0.1**
NACB				*e*S		**Sg**	**18 05 02.6**	**+0.3**
YM08	**YM08**	**0.95**	**305**	P		**Pb**	**18 04 51.2**	**-0.1**
YM08				S		**Sb**	**18 05 03.1**	**-0.5**
TWD	**Chiawan**	**0.95**	**234**	P		**Pg**	**18 04 51.3**	**-0.1**
TWD				*e*S		**Sn**	**18 05 06.3**	**+1.0**
ZUZH	**Zhuzihu**	**0.96**	**303**	*e*P		**Pb**	**18 04 51.4**	**-0.2**
ZUZH				*e*S		**Sb**	**18 05 03.9**	**-0.3**
YHNB	**Yeheng**	**0.97**	**272**	P		**Pb**	**18 04 51.1**	**-0.5**
YHNB				S		**Sb**	**18 05 03.6**	**-0.7**
ETLH	**Xiulin Townshi**	**0.97**	**244**	P		**Pg**	**18 04 51.6**	**-0.3**
NNSB	**Datong**	**0.98**	**258**	P		**Pb**	**18 04 51.5**	**-0.5**
NNSB				*e*S		**Sg**	**18 05 05.0**	**-0.1**
NSK	**Sanguang**	**0.98**	**272**	*i* P		**Pb**	**18 04 51.7**	**-0.2**
NSK				*i* S		**Sb**	**18 05 04.1**	**-0.7**
NNS	**Nan Shan**	**0.99**	**259**	P		**Pb**	**18 04 51.9**	**-0.2**
NNS				S		**Sn**	**18 05 05.7**	**-0.9**
TWY	**Chenhua**	**0.99**	**310**	⇓*i*P		**Pg**	**18 04 52.2**	**0.0**
TWY				*i* S		**Sg**	**18 05 05.3**	**+0.1**
ANP	**Anpu**	**1.00**	**303**	*e*P		**Pg**	**18 04 52.3**	**-0.1**
HWA	**Hwalien**	**1.01**	**229**	*e*P		**Pn**	**18 04 53.3**	**+0.5**
TWS1	**Kuangyinshan**	**1.04**	**297**	*i* P		**Pg**	**18 04 53.2**	**+0.1**
TWS1				*i* S		**Sn**	**18 05 07.3**	**-0.2**
NTST	**Danshui**	**1.04**	**300**	*e*P		**Pg**	**18 04 53.3**	**+0.2**
NTST				S		**Sn**	**18 05 07.1**	**-0.4**
PCYT	**Pengchaiyu**	**1.04**	**341**	*e*P		**Pb**	**18 04 52.5**	**-0.4**
TEYL	**Yanliau Villag**	**1.09**	**225**	*e*P		**Pg**	**18 04 53.6**	**-0.4**
ETM	**Tongmen**	**1.09**	**232**	*e*P		**Pg**	**18 04 54.5**	**+0.4**
ETM				*e*S		**Sn**	**18 05 10.4**	**+1.5**
LXIB	**Xiulin Townshi**	**1.12**	**237**	*e*P		**Pg**	**18 04 54.5**	**-0.1**
LXIB				*e*S		**Sn**	**18 05 10.9**	**+1.1**
FUSS	**Fushou**	**1.16**	**251**	*e*P		**Pg**	**18 04 55.4**	**0.0**
KSHI	**Guanxi Townshi**	**1.16**	**277**	*e*P		**Pg**	**18 04 56.0**	**+0.6**
SHUL	**Shoufeng**	**1.17**	**224**	*e*P		**Pg**	**18 04 57.1**	**+1.5**
SHUL				*e*S		**Sg**	**18 05 13.1**	**+2.3**
WHF	**Hehuan Shan**	**1.18**	**246**	P		**Pg**	**18 04 55.4**	**-0.4**
WHF				S		**Sn**	**18 05 12.5**	**+1.0**
NCUH	**Zhongli**	**1.19**	**286**	*e*P		**Pn**	**18 04 55.0**	**-0.2**
NFF	**Wufeng Townshi**	**1.20**	**270**	*e*P		**Pg**	**18 04 55.9**	**-0.4**
IRIF	**Iriomote-Funau**	**1.21**	**104**	P		**Pb**	**18 04 55.6**	**-0.2**
TDCB	**Techi**	**1.23**	**252**	*e*P		**Pg**	**18 04 56.7**	**0.0**
ESL	**Shilin**	**1.23**	**228**	*e*P		**Pg**	**18 04 57.0**	**+0.2**
LIOB	**Emei**	**1.30**	**271**	*e*P		**Pg**	**18 04 58.5**	**+0.5**
NSTT	**Nanjuang**	**1.31**	**270**	P		**Pg**	**18 04 58.7**	**+0.5**
WARBT	**Fenglin Townsh**	**1.33**	**227**	*e*P		**Pg**	**18 04 59.0**	**+0.3**
SBCB	**Hsinchu**	**1.33**	**277**	*e*P		**Pb**	**18 04 57.9**	**+0.1**
OWD	**Renai**	**1.34**	**240**	*e*P		**Pg**	**18 04 59.2**	**+0.3**
HSN	**Hsinchu**	**1.35**	**277**	*e*P		**Pg**	**18 04 58.8**	**-0.1**
WUSB	**Renai**	**1.37**	**242**	*e*P		**Pg**	**18 04 59.5**	**+0.1**
HATJ	**Hateruma jima**	**1.37**	**115**	*e*P		**Pb**	**18 04 58.2**	**-0.4**
HATJ				*e*S		**Sn**	**18 05 14.3**	**-1.4**
WHP	**Taichung City**	**1.41**	**256**	*e*P		**Pg**	**18 05 00.3**	**+0.2**
HGSD	**Ruisui**	**1.47**	**219**	*e*P		**Pb**	**18 04 59.7**	**-0.5**
JKRS	**Kuro-shima**	**1.49**	**105**	P		**Pb**	**18 04 60.0**	**-0.4**
NMLH	**Miaoli**	**1.50**	**266**	*e*P		**Pg**	**18 05 02.6**	**+0.6**
EHY	**Hungye**	**1.52**	**222**	*e*P		**Pb**	**18 05 01.2**	**+0.2**
NSY	**Sanyi**	**1.54**	**262**	*e*P		**Pg**	**18 05 02.9**	**+0.2**
TWQ1	**Liyutan**	**1.55**	**260**	*e*P		**Pg**	**18 05 03.8**	**+1.0**
JIJ	**Ishigaki jima**	**1.58**	**100**	P		**Pn**	**18 05 00.7**	**+0.2**
JIJ				*e*S		**Sn**	**18 05 20.4**	**-0.4**
SMLT	**Sun Moon Lake**	**1.59**	**242**	*e*P		**Pg**	**18 05 03.8**	**+0.1**
ECBN	**Changbin**	**1.60**	**215**	*e*P		**Pn**	**18 05 00.3**	**-0.6**
SSLB	**Suanglung**	**1.60**	**238**	*e*P		**Pb**	**18 05 02.1**	**-0.3**
YULB	**Yu-li**	**1.62**	**220**	*e*P		**Pn**	**18 05 00.1**	**-1.1**
JISG	**Ishigakijimahi**	**1.70**	**91**	*e*P		**Pn**	**18 05 02.5**	**+0.2**
WHYT	**Xinyi Township**	**1.73**	**237**	*e*P		**Pg**	**18 05 05.3**	**-0.9**
WJS	**Zhushan**	**1.76**	**243**	*e*P		**Pb**	**18 05 05.1**	**-0.1**
WNT	**Mingjian**	**1.77**	**245**	*e*P		**Pg**	**18 05 07.1**	**+0.1**
FULB	**Fuli**	**1.78**	**216**	*e*P		**Pb**	**18 05 05.1**	**-0.3**
EHD	**Haiduan**	**1.86**	**218**	*e*P		**Pn**	**18 05 05.0**	**+0.4**
ALS	**Alishan**	**1.87**	**233**	*e*P		**Pg**	**18 05 08.3**	**-0.6**
ELDTW	**Lidau**	**1.94**	**222**	*e*P		**Pb**	**18 05 07.6**	**-0.7**
EDH	**Donghe**	**1.96**	**212**	*e*P		**Pn**	**18 05 06.5**	**+0.7**
WGK	**Gukeng**	**1.96**	**241**	*e*P		**Pb**	**18 05 07.9**	**-0.7**
WDLH	**Douliu**	**1.98**	**242**	*e*P		**Pg**	**18 05 09.8**	**-1.2**
JTJ	**Tarama**	**2.06**	**89**	*e*P		**Pn**	**18 05 08.3**	**+1.1**
WCKO	**Fanlu**	**2.06**	**235**	*e*P		**Pb**	**18 05 08.8**	**-1.4**
WTK	**Tuku**	**2.10**	**244**	*e*P		**Pb**	**18 05 11.2**	**+0.3**
LONT	**Longtian**	**2.10**	**215**	*e*P		**Pn**	**18 05 08.2**	**+0.4**
STYH	**Taoyuan**	**2.11**	**227**	*e*P		**Pn**	**18 05 08.7**	**+0.8**
TPUB	**Ta-pu**	**2.12**	**232**	*e*P		**Pb**	**18 05 11.6**	**+0.2**
CHY	**Chiayi**	**2.16**	**239**	*e*P		**Pb**	**18 05 12.2**	**+0.2**
WTP	**Ta-pu**	**2.17**	**231**	*e*P		**Pb**	**18 05 12.8**	**+0.6**
TWGBT	**Beinan**	**2.20**	**215**	*e*P		**Pn**	**18 05 07.9**	**-1.3**
TWG	**Pinlang**	**2.20**	**215**	*e*P		**Pn**	**18 05 09.3**	**+0.1**
TWK	**Hsinying**	**2.25**	**233**	*e*P		**Pb**	**18 05 13.5**	**+0.1**
SNST	**Tainan City**	**2.27**	**232**	*e*P		**Pb**	**18 05 13.7**	**-0.2**
WSL	**Shuilin Townsh**	**2.31**	**242**	*e*P		**Pb**	**18 05 13.8**	**-0.6**
SCST	**Cishan**	**2.50**	**226**	*e*P		**Pb**	**18 05 17.5**	**-0.1**
SSD	**Sandimen**	**2.51**	**222**	*e*P		**Pb**	**18 05 17.4**	**-0.5**
MASBT	**Mashibuluo**	**2.61**	**220**	*e*P		**Pb**	**18 05 17.4**	**-2.3**
MATB	**Ma-tsu**	**2.71**	**304**	*e*P		**Pn**	**18 05 15.9**	**-0.3**
PNG	**Penghu**	**2.84**	**249**	*e*P		**Pn**	**18 05 19.8**	**+1.8**
WDGT	**Dungji**	**2.89**	**242**	*e*P		**Pn**	**18 05 20.9**	**+2.2**
PTMZ	**Houxiangcun**	**3.04**	**278**	*e*P		**Pn**	**18 05 22.0**	**+1.2**
AXDP	**Jialang**	**4.07**	**275**	*e*P		**Pn**	**18 05 35.9**	**+1.0**
ZPLA	**Ao Xicun**	**4.34**	**262**	*e*P		**Pn**	**18 05 40.4**	**+1.9**

*BGR **74**/157, **2C-3D, Taiwan region*

*MOS **74**/157, **2C-3D, Taiwan region*

*BJI **74**/157, **2C-3D, Taiwan region*

*NEIC **74**/157, **2C-3D, Taiwan region*

*IDC **74**/157, **2C-3D, Taiwan region*

*GCMT **74**/157, **2C-3D, Taiwan region*

*DJA **74**/157, **2C-3D, Taiwan region*

ISC 08 18:10:32.7±0.3, **6°61S**±0".04×**155°01E**±0".04, **h379**km±**2**km, **h380**km:**pP-P, n862**, **σ1°08**/841, **mb5.0**/205, **34C-44D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RABL	**Rabaul**	**3.72**	**310**	Pn		**Pn**	**18 11 39.9**	**-0.9**
TATA	**Tatamba Isabel**	**5.07**	**111**	P		**Pn**	**18 11 55.1**	**+0.7**
SAVO	**Savo Central**	**5.38**	**118**	P		**Pn**	**18 11 58.1**	**+0.3**
HNR	**Honiara**	**5.63**	**120**	Pn		**Pn**	**18 12 00.2**	**-0.3**
HNR	**Honiara**	**5.63**	**120**	P		**Pn**	**18 12 00.9**	**+0.3**
	334nm,0.7s,baz=220,slow=2.8,SNR=52							
HNR				S		**S**	**18 13 11.1**	**-0.7**
	725nm,0.8s,baz=127,slow=21,SNR=3.8							
HNR	**Honiara**	**5.63**	**120**	P		**Pn**	**18 12 01.1**	**+0.6**
ALEG	**Aligegeo Malai**	**6.02**	**111**	P		**Pn**	**18 12 05.3**	**+0.5**
NGOA	**Tingoa Renbel**	**7.00**	**135**	P		**P**	**18 12 17.6**	**+0.8**
HURO	**Huro Makira**	**7.82**	**120**	P		**P**	**18 12 26.4**	**+0.3**
PMG	**Port Moresby**	**8.26**	**250**			**Pn**	**18 12 30.5**	**+0.1**
PMG	**Port Moresby**	**8.26**	**250**	P		**P**	**18 12 31.7**	**0.0**
	180nm,0.8s,baz=55,slow=4.4,SNR=54							
PMG				S		**S**	**18 14 08.8**	**+2.1**
	82nm,0.8s,baz=301,slow=22,SNR=3.8							
PMG	**Port Moresby**	**8.26**	**250**	P		**P**	**18 12 31.9**	**+0.3**
PMG	**Port Moresby**	**8.26**	**250**	P		**P**	**18 12 32.6**	**+1.0**
MANU	**Manus Island**	**8.87**	**300**			**P**	**18 12 38.4**	**-0.1**
LUES	**Luesalemba Tem**	**11.50**	**111**	P		**Pn**	**18 13 10.3**	**+1.9**
COEN	**Coen**	**13.74**	**237**			**Pn**	**18 13 34.9**	**+0.3**
COEN	**Coen**	**13.74**	**237**	P		**Pn**	**18 13 34.5**	**0.0**
PATS	**Pohnpei**	**13.76**	**14**	P		**P**	**18 13 33.3**	**+0.8**
JAY	**Jayapura**	**14.83**	**285**	P		**P**	**18 13 44.1**	**-0.2**
	350nm,0.7s,baz=131,slow=5.0,SNR=236							
JAY				S		**S**	**18 16 23.3**	**+0.2**
	40nm,0.8s,baz=354,slow=21,SNR=6.4							
JAY	**Jayapura**	**14.83**	**285**	P		**P**	**18 13 44.1**	**-0.2**
	5μm487nm,0.8s							
SANVU	**Saraoutou**	**14.83**	**127**			**P**	**18 13 44.2**	**-0.1**
SANVU	**Saraoutou**	**14.83**	**127**	P		**Pn**	**18 13 46.1**	**-0.8**
TV1H	**Townsville Har**	**14.90**	**212**	P		**P**	**18 13 46.4**	**+1.4**
GENI	**Genyem**	**15.32**	**284**	P		**Pn**	**18 13 51.9**	**-0.7**
GENI	**Genyem**	**15.32**	**284**	P		**P**	**18 13 49.5**	**-0.2**
MTSU	**Mount Surprise**	**15.49**	**221**	P		**Pn**	**18 13 54.5**	**0.0**
CTA	**Charters Tower**	**15.87**	**212**	P		**Pn**	**18 13 58.5**	**-0.3**
CTAO	**Charters Tower**	**15.87**	**212**			**P**	**18 13 56.3**	**+0.8**
CTAO	**Charters Tower**	**15.87**	**212**	P		**Pn**	**18 13 57.9**	**-0.9**
CTAO	**Charters Tower**	**15.87**	**212**	P		**P**	**18 13 56.3**	**+0.8**
SMPI	**Sarmi**	**16.89**	**285**	P		**P**	**18 14 06.6**	**+0.1**
DVP	**Devils Point**	**16.95**	**132**	P		**P**	**18 14 08.6**	**+1.4**
DZM	**Mont Dzumac**	**18.93**	**145**			**P**	**18 14 27.3**	**-0.9**
DZM	**Mont Dzumac**	**18.93**	**145**	P		**P**	**18 14 28.6**	**+0.4**
	48nm,0.6s,baz=338,slow=12,SNR=73							
DZM				S		**S**	**18 17 43.0**	**+0.7**
	5.8nm,0.8s,baz=248,slow=22,SNR=1.7							
DZM	**Mont Dzumac**	**18.93**	**145**	P		**P**	**18 14 28.9**	**+0.7**
EIDS	**Eidsvold**	**19.03**	**191**			**P**	**18 14 29.4**	**+0.2**
EIDS	**Eidsvold**	**19.03**	**191**	P		**P**	**18 14 30.3**	**+1.1**
ONTNC	**Quen Toro**	**19.12**	**146**			**P**	**18 14 29.9**	**-0.2**
ONTNC	**Quen Toro**	**19.12**	**146**	P		**P**	**18 14 31.7**	**+1.6**
SRPI	**Serui, Papua**	**19.30**	**283**	P		**P**	**18 14 30.4**	**-1.6**
	2μm213nm,0.8s							
OUENC	**Quen Island, N**	**19.42**	**145**	P		**P**	**18 14 34.3**	**+1.1**
BAKI	**Biak**	**19.61**	**285**	P		**P**	**18 14 35.1**	**0.0**
	3μm550nm,0.9s							
PINNC	**Pines Island,**	**19.92**	**144**			**P**	**18 14 38.4**	**+0.4**
PINNC	**Pines Island,**	**19.92**	**144**	P		**P**	**18 14 39.2**	**+1.2**
QIS	**Mount Isa**	**20.38**	**226**	P		**P**	**18 14 43.3**	**+1.0**
RKPI	**Ransiki, Papua**	**21.39**	**283**	P		**P**	**18 14 51.6**	**+0.2**
KMPI	**Kaimana, Papua**	**21.42**	**277**	P		**P**	**18 14 53.8**	**+2.0**
GC1S	**Gold Coast 1 S**	**21.48**	**184**	P		**P**	**18 14 53.8**	**+1.7**
QLP	**Quilpie**	**22.36**	**206**	P		**P**	**18 15 01.5**	**+1.3**
GUMO	**Guam**	**22.45**	**333**	P		**P**	**18 15 01.7**	**+0.6**
FAKI	**Fak Fak**	**22.98**	**278**	P		**P**	**18 15 04.7**	**-1.3**
FAKI				IAmb		IAmb	18 15 33.7	
	comp=Z,70nm,0.9s							
FAKI	**Fak Fak**	**22.98**	**278**	P		**P**	**18 15 06.8**	**+0.9**
FAKI	**Fak Fak**	**22.98**	**278**	P		**P**	**18 15 04.6**	**-1.3**
	comp=Z,85nm,0.7s							
KDU	**Kakadu**	**23.02**	**253**	P		**P**	**18 15 07.1**	**+0.8**
ARMA	**Armidale**	**23.90**	**187**	P		**P**	**18 15 15.2**	**+1.1**
ARMA				IAmb		IAmb	18 15 16.8	
	comp=Z,49nm,0.8s							
ARMA	**Armidale**	**23.90**	**187**	P		**P**	**18 15 15.8**	**+1.6**
WB0	**Warramunga Arr**	**23.92**	**235**	P		**P**	**18 15 14.1**	**-0.3**
WR8	**Warramunga Arr**	**23.93**	**234**	P		**P**	**18 15 14.9**	**+0.4**
WRAB	**Tennant Creek**	**24.04**	**235**	P		**P**	**18 15 15.7**	**+0.3**
WRAB	**Tennant Creek**	**24.04**	**235**	*d* P		**P**	**18 15 16.0**	**+0.6**
WRAB				pmax		pmax		
	comp=Z,83nm,1.2s							
WRA	**Warramunga Arr**	**24.05**	**235**	P		**P**	**18 15 14.5**	**-1.1**
WRA	**Warramunga Arr**	**24.05**	**235**	P		**P**	**18 15 15.8**	**+0.2**
	comp=Z,40nm,0.6s,baz=58,slow=9.1,SNR=244							
WRA				PcP		**PcP**	**18 18 45.8**	**+0.4**
	comp=Z,5.9nm,0.7s,baz=66,slow=2.8,SNR=5.7							
WRA				S		**S**	**18 19 02.5**	**-2.3**
	comp=Z,27nm,0.8s,baz=64,slow

MYLDM IAmb IAmb 18 17 21.2
comp=Z,168nm,1.4s
MYLDM Lahad Datu 38.28 287 P **P** **18 17 19.5 +0.8**
THZ Tophouse 38.45 158 P **P** **18 17 20.7 +1.0**
WPHZ Waipukurau 38.46 153 P **P** **18 17 20.8 +1.0**
DVHZ Dannevirke 38.53 154 P **P** **18 17 21.1 +0.7**
TUWZ Tuamarina 38.56 157 P **P** **18 17 21.6 +1.1**
MRZ Mangatainoka R 38.58 155 P **P** **18 17 21.3 +0.6**
PXZ Pawanui 38.63 153 P **P** **18 17 22.8 +1.7**
PRWZ Pori Road 38.66 154 P **P** **18 17 22.7 +1.3**
CAW Cannon Point 38.73 156 P **P** **18 17 23.2 +1.2**
HOWZ Holdsworth Sta 38.74 155 P **P** **18 17 22.7 +0.5**
INZ Inchbonnie 38.79 161 P **P** **18 17 24.6 +1.2**
BFZ Birch Farm 38.88 154 P **P** **18 17 24.1 +0.9**
MTW Mount Morrison 38.96 155 P **P** **18 17 24.3 +0.5**
FOZ Fox Glacier 39.01 163 P **P** **18 17 26.0 +1.8**
TMWZ Te Maipa 39.08 155 P **P** **18 17 25.7 +0.8**
PAWZ Paruwai Farm 39.11 155 P **P** **18 17 26.3 +1.1**
LTZ Lake Taylor 39.12 160 P **P** **18 17 26.4 +1.2**
PLWZ Palliser 39.20 156 P **P** **18 17 26.3 +0.4**
JCZ Jackson Bay 39.22 164 P **P** **18 17 28.0 +1.9**
KHZ Kahutara 39.25 158 P **P** **18 17 26.7 +0.5**
OXZ Oxford 39.52 160 P **P** **18 17 29.1 +0.7**
GVZ Greta Valley S 39.55 159 P **P** **18 17 29.4 +0.7**
RPZ Rata Peaks 39.55 162 P **P** **18 17 30.2 +1.5**
MSZ Milford Sound 39.56 166 P **P** **18 17 31.2 +2.6**
LBZ Lake Benmore 39.90 163 P **P** **18 17 32.5 +0.9**
MEEK Meekatharra 39.94 236 P **P** **18 17 32.6 +0.4**
MQZ McQueen's Vall 40.07 160 P **P** **18 17 33.7 +0.9**
TMZ Timaru 40.14 162 P **P** **18 17 33.5 +0.1**
MLZ Mavora Lakes 40.26 166 P **P** **18 17 35.4 +1.0**
MLZ Mavora Lakes 40.26 166 P **P** **18 17 35.5 +1.0**
EAZ Earnscleugh 40.43 164 P **P** **18 17 36.9 +1.1**
JAGI Jajag, Banyuwa 40.54 265 P **P** **18 17 34.5 -2.6**
JAGI Jajag, Banyuwa 40.54 265 P **P** **18 17 37.5 +0.4**
JAGI Jajag, Banyuwa 40.54 265 P **P** **18 17 33.6 -3.5**
comp=Z,48nm,0.8s
ODZ Otahua Downs 40.64 163 P **P** **18 17 38.6 +1.2**
WHZ Wether Hill Ro 40.71 166 P **P** **18 17 39.2 +1.2**
KKM Kota Kinabalu 40.71 287 P **P** **18 17 38.3 -0.4**
KKM Kota Kinabalu 40.71 287 P **P** **18 17 38.6 0.0**
GIRL Giralia 42.38 244 P **P** **18 17 51.7 -0.1**
GIRL IAmb IAmb 18 17 54.1
comp=Z,164nm,1.3s
KLBR Kellerberrin 42.75 230 P **P** **18 17 54.1 -0.5**
MORW Morawa 43.00 234 P **P** **18 17 56.2 -0.4**
MORW IAmb IAmb 18 17 57.3
comp=Z,64nm,1.1s
MORW Morawa 43.00 234 P **P** **18 17 56.6 0.0**
BLDU Ballidu 43.11 231 P **P** **18 17 57.7 +0.2**
PCJI Pacitan 43.48 265 P **P** **18 17 59.4 -1.3**
comp=Z,3µmcomp=Z,222nm,1.3s
SBUM Sibu 43.66 281 P **P** **18 18 01.3 -0.7**
SBUM Sibu 43.66 281 P **P** **18 18 02.6 +0.6**
NWAO Narrogin (SRO) 43.76 228 P **P** **18 18 02.2 -0.4**
NWAO IAmb IAmb 18 18 03.3
comp=Z,122nm,1.8s
NWAO Narrogin (SRO) 43.76 228 P **P** **18 18 02.7 +0.1**
NWAO Narrogin (SRO) 43.76 228 P **P** **18 18 02.2 -0.4**
NWAO pmax pmax
comp=Z,122nm,1.8s
STKI Sintang 43.94 277 P **P** **18 18 04.1 -0.2**
comp=Z,2µmcomp=Z,105nm,1.1s
MUN Mundaring 44.10 230 P **P** **18 18 06.0 +0.8**
SMRI Semarang 44.25 267 IAmb IAmb 18 18 08.3
comp=Z,79nm,0.8s
SMRI Semarang 44.25 267 P **P** **18 18 07.7 +1.0**
YULB Yu-li 44.43 313 P **P** **18 18 08.6 +0.6**
JMN Monobe 44.84 335 P **P** **18 18 10.9 -0.1**
JMN IAmb IAmb 18 18 12.4
comp=Z,120nm,0.9s
JMN Monobe 44.84 335 P **P** **18 18 11.6 +0.6**
SSLB Suanglung 44.92 313 P **P** **18 18 10.7 -1.2**
SSLB Suanglung 44.92 313 P **P** **18 18 12.2 +0.4**
INU Inuyama 45.05 339 P **P** **18 18 12.2 -0.2**
INU IAmb IAmb 18 18 13.4
comp=Z,61nm,0.8s
INU Inuyama 45.05 339 P **P** **18 18 12.8 +0.3**
INU Inuyama 45.05 339 P **P** **18 18 12.3 -0.2**
JGF Kuroka 45.15 340 IAmb IAmb 18 19 06.3
comp=Z,127nm,1.7s
JGF Kuroka 45.15 340 P **P** **18 18 13.7 +0.3**
YHNB Yeheng 45.17 315 P **P** **18 18 14.4 +0.6**
KSM Kuching 45.34 279 P **P** **18 18 14.5 -0.7**
KSM IAmb IAmb 18 18 15.9
comp=Z,101nm,0.8s
KSM Kuching 45.34 279 P **P** **18 18 15.7 +0.5**
JNU Nakatsue 45.68 331 P **P** **18 18 18.0 +0.4**
MJAR Matsushiro Arr 45.72 341 **P** **18 18 16.8 -1.0**
MJAR Matsushiro Arr 45.72 341 P **P** **18 18 16.4 -1.4**
comp=Z,13nm,0.8s,baz=164,slow=7.9,SNR=32
MJAR PcP **PcP** **18 19 48.2 -0.1**
comp=Z,7.9nm,0.8s,baz=147,slow=4.0,SNR=7.2
comp=Z,13nm,0.8s
MJAR Matsushiro Arr 45.72 341 P **P** **18 18 16.8 -1.0**
MJAR pmax pmax
comp=Z,10.0nm,0.7s
MAJO Matsushiro 45.73 341 P **P** **18 18 16.4 -1.4**
MAJO Matsushiro 45.73 341 P **P** **18 18 18.3 +0.5**
MAJO Matsushiro 45.73 341 *d iP* **P** **18 18 16.6 -1.2**
MAJO pmax pmax
comp=Z,15nm,0.8s
KPJI Karang Pucung 45.73 266 P **P** **18 18 17.3 -0.9**
comp=Z,148nm,0.8s
BBJI Bungbulang 47.00 266 P **P** **18 18 27.3 -0.7**
JSD Sado 47.08 342 P **P** **18 18 29.6 +1.5**
QZH Quanzhou 47.33 313 P **P** **18 18 30.7 +0.4**
QZH S **S** **18 25 01.3 +6.5**
QZH pmax pmax
comp=Z,50nm,0.9s
TPI Tanjungpandan 47.34 272 P **P** **18 18 31.0 +0.4**
comp=Z,906nmcomp=Z,104nm,0.9s
CNJI Cibinong 47.52 266 P **P** **18 18 29.9 -2.0**
comp=Z,1µmcomp=Z,112nm,1.0s
SKJI Sukabumi 48.10 267 P **P** **18 18 34.2 -2.2**
JTM Tenmabayashi 48.88 346 IAmb IAmb 18 18 42.5
comp=Z,48nm,0.9s
JTM Tenmabayashi 48.88 346 P **P** **18 18 42.1 +0.4**
PPBI Pangkal Pinang 48.91 273 P **P** **18 18 42.1 -0.4**
CGJI Cibinong 48.98 267 P **P** **18 18 40.4 -2.5**
DLV Lat 49.80 292 P **P** **18 18 50.0 +0.7**
TJN Taejon 50.01 331 P **P** **18 18 50.8 +0.6**
TJN Taejon 50.01 331 ⇑ *eP* **P** **18 18 49.5 -0.7**
KASI Kota Agung 50.23 268 P **P** **18 18 49.8 -2.5**
comp=Z,54nm,0.9s
KSRS Korea Array 50.61 332 P **P** **18 18 54.4 -0.2**
comp=Z,5.8nm,0.8s,baz=150,slow=8.1,SNR=33
KSRS PcP **PcP** **18 20 06.3 +0.3**
comp=Z,2.9nm,0.7s,baz=160,slow=4.1,SNR=9.8
comp=Z,5.8nm,0.8s
KSAR Wonju Array Be 50.62 332 P **P** **18 18 54.5 -0.2**
KSAR Wonju Array Be 50.62 332 P **P** **18 18 54.5 -0.2**
MDSI Maura Dua 50.62 270 P **P** **18 18 52.6 -2.6**
comp=Z,54nm,1.2s
DSRI Dabo 50.68 275 P **P** **18 18 54.4 -1.2**
comp=Z,799nmcomp=Z,92nm,0.9s
INCN Inchon 51.24 331 P **P** **18 19 00.6 +1.2**
QIZ Qiongzhong 51.28 301 P **P** **18 19 00.6 +0.7**
QIZ sP **sP** **18 20 56.3 -2.1**
QIZ S **S** **18 25 52.8 +3.4**
QIZ sS **ScS** **18 28 09.7 -0.5**
QIZ pmax pmax
comp=Z,44nm,0.9s
QIZ Qiongzhong 51.28 301 P **P** **18 19 00.9 +1.0**
QIZ Qiongzhong 51.28 301 P **P** **18 19 00.7 +0.7**
NJ2 Nanjing 51.63 320 *eP* **P** **18 19 03.1 +0.8**
NJ2 pmax pmax
comp=Z,19nm,0.5s
MASI Maura Aman, Be 52.67 271 P **P** **18 19 07.5 -2.8**
comp=Z,140nm,0.8s
CNSH ChangSha 53.33 312 P **P** **18 19 15.4 +0.7**
CNSH pmax pmax
comp=Z,41nm,1.2s
KRJI Kerinci 53.56 272 P **P** **18 19 14.4 -2.3**
comp=Z,2µmcomp=Z,256nm,0.9s
WHN Wuhan 53.68 316 P **P** **18 19 17.7 +0.6**
WHN S **S** **18 26 23.1 +1.8**
PSTR Posyet 53.75 338 *de* P **P** **18 19 16.6 -0.8**
BKNI Bangkinang 54.29 275 P **P** **18 19 22.1 +0.2**
YSS Yuzhno-Sakhali 54.43 350 ⇑ *eP* **P** **18 19 21.7 -0.4**
YSS pmax pmax
comp=Z,26nm,0.9s
USA0B Ussuriysk Arra 54.68 340 *de* P **P** **18 19 23.9 -0.1**

USRK Ussuriysk Ar. 54.68 340 P **P** **18 19 23.5 -0.5**
USRK Ussuriysk Ar. 54.68 340 P **P** **18 19 24.4 +0.4**
comp=Z,20nm,0.9s,baz=154,slow=6.9,SNR=18
comp=Z,20nm,0.9s
PDSI Padang 54.70 274 P **P** **18 19 22.1 -2.7**
comp=Z,789nmcomp=Z,58nm,0.6s
PPI Padang Panjang 54.82 274 P **P** **18 19 23.3 -2.3**
comp=Z,1µmcomp=Z,138nm,0.9s
IPM Ipoh 55.01 280 P **P** **18 19 26.4 -0.6**
TIA Tai'an 55.47 323 P **P** **18 19 29.0 -0.8**
TIA pmax pmax
comp=Z,10.0nm,0.8s
KULM Kulim 55.53 281 P **P** **18 19 30.4 -0.2**
MNSI Mandailing Nat 55.80 275 P **P** **18 19 29.8 -2.7**
comp=Z,1µmcomp=Z,145nm,0.9s
PSI Prapat 56.77 278 P **P** **18 19 39.9 +0.5**
CN2 Changchun 56.85 335 ⇑ P **P** **18 19 39.4 +0.1**
CN2 *ep*P pP 18 20 58.0 -0.4
CN2 *eS* **S** **18 27 02.7 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
ENH Enshi 56.99 313 IAmb IAmb 18 19 41.3
comp=Z,58nm,1.1s
ENH Enshi 56.99 313 P **P** **18 19 41.0 +0.4**
GYA Guiyang 57.23 307 ⇓ P **P** **18 19 42.9 +0.5**
GYA pmax pmax
comp=Z,38nm,1.0s
SLVN Son La 57.30 300 P **P** **18 19 44.2 +1.3**
LYN LuoYang 57.34 318 P **P** **18 19 42.7 -0.2**
LYN pmax pmax
comp=Z,39nm,1.2s
SURA Surathani 57.37 285 P **P** **18 19 44.0 +0.6**
BNX BinXian 57.66 337 ⇓ P **P** **18 19 44.2 -0.6**
BNX S **S** **18 27 14.3 +1.3**
BNX pmax pmax
comp=Z,32nm,1.0s
HNS HongShan 57.71 322 ⇑ P **P** **18 19 45.8 +0.5**
HNS pmax pmax
comp=Z,42nm,1.4s
GSI Gunungsitoli 57.86 276 P **P** **18 19 47.2 +0.3**
GSI Gunungsitoli 57.86 276 P **P** **18 19 44.7 -2.2**
comp=Z,172nm,1.0s
KCSI Kotacane, Aceh 58.02 278 P **P** **18 19 44.6 -3.4**
comp=Z,28nm,0.7s
BJI Beijing 58.61 326 P **P** **18 19 50.7 -0.7**
BJI PcP **PcP** **18 20 37.2 +0.2**
BJI S **S** **18 27 26.9 +1.5**
BJI pmax pmax
comp=Z,92nm,3.6s
PET Petropavlovsk 59.48 3 ⇓ *i* P **P** **18 19 57.3 +0.2**
PET *eS* **S** **18 27 37.7 +1.8**
PET pmax pmax
comp=Z,34nm,0.8s
MLSI Meulaboh, Aceh 59.50 279 P **P** **18 19 55.4 -2.6**
comp=Z,179nm,0.8s
PEA0B Petropavlovsk- 59.53 2 P **P** **18 19 57.5 0.0**
PEA0B IAmb IAmb 18 19 58.5
comp=Z,36nm,0.9s
PEA0B Petropavlovsk- 59.53 2 P **P** **18 19 57.5 0.0**
PEA0B pmax pmax
comp=Z,36nm,0.9s
PETK Petropavlovsk- 59.53 2 P **P** **18 19 56.6 -0.9**
PETK Petropavlovsk- 59.53 2 P **P** **18 19 56.7 -0.7**
comp=Z,25nm,0.8s,baz=141,slow=6.8,SNR=24
PETK pP **pP** **18 21 17.1 +0.1**
comp=Z,10nm,0.9s,baz=185,slow=7.1,SNR=4.5
comp=Z,25nm,0.8s
KMI Kunming 59.82 304 ⇓ P **P** **18 20 00.2 0.0**
KMI S **S** **18 27 40.4 -1.3**
KMI pmax pmax
comp=Z,93nm,1.1s
KMI pmax pmax
comp=Z,240nm,3.9s
CMAR Chiang Mai Arr 60.63 295 P **P** **18 20 05.5 -0.1**
CMAR Chiang Mai Arr 60.63 295 P **P** **18 20 06.5 +0.9**
comp=Z,75nm,0.8s,baz=120,slow=5.1,SNR=453
CMAR pP **pP** **18 21 25.9 +1.0**
comp=Z,2.3nm,0.8s,baz=110,slow=6.7,SNR=1.8
CMAR PKP2bc 18 49 26.6
comp=Z,1.2nm,0.6s,baz=304,slow=3.1,SNR=11
comp=Z,75nm,0.8s
CMAR Chiang Mai Arr 60.63 295 *i* P **P** **18 20 06.5 +0.9**
CMAR pmax pmax
comp=Z,80nm,0.8s
CHTO Chiang Mai 60.75 296 P **P** **18 20 06.0 -0.3**
CHTO Chiang Mai 60.75 296 P **P** **18 20 07.1 +0.8**
CHTO Chiang Mai 60.75 296 P **P** **18 20 06.0 -0.3**
CHTO pmax pmax
comp=Z,109nm,1.1s
CHTO Chiang Mai 60.75 296 P **P** **18 20 06.8 +0.5**
DRV Dumont d'Urvil 60.85 187 P **P** **18 20 07.0 +0.9**
DRV PcP **PcP** **18 20 38.0 -7.5**
PZH PanZhiHua 61.21 305 P **P** **18 20 09.3 -0.1**
PZH pmax pmax
comp=Z,40nm,0.8s
XLT XiLinHaoTe 61.34 329 *eP* **P** **18 20 09.9 +0.1**
XLT PcP **PcP** **18 20 48.0 0.0**
XLT pP pwP 18 21 32.5 -2.1
XLT sP sP 18 22 14.8 +4.7
XLT PP **PP** **18 22 33.7 +3.2**
XLT S **S** **18 27 58.1 -1.8**
XLT pmax pmax
comp=Z,30nm,0.8s
HEH HeiHe 61.48 340 *eP* **P** **18 20 10.2 -0.3**
HEH pmax pmax
comp=Z,23nm,0.8s
CD2 Chengdu 61.58 310 P **P** **18 20 11.7 +0.1**
CD2 pmax pmax
comp=Z,80nm,0.7s
CD2 pmax pmax
comp=Z,160nm,3.2s
HHC Hu-ho-hao-te 61.80 324 *eP* **P** **18 20 13.2 +0.3**
HHC S **S** **18 28 06.2 +0.5**
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,100nm,3.8s
BTO Baotou 62.56 323 *eP* **P** **18 20 19.1 +1.1**
BTO pP **pwP** **18 21 41.4 -2.1**
BTO sP **sP** **18 22 21.8 +3.5**
BTO PP **PP** **18 22 44.5 +3.2**
BTO S **S** **18 28 16.4 +1.2**
BTO sS **sS** **18 30 39.4 -0.4**
BTO SS **SS** **18 32 32.1 +4.4**
BTO pmax pmax
comp=Z,31nm,1.8s
BTO pmax pmax
comp=Z,220nm,7.6s
BTO LR LR
comp=Z,280nm,14.5s
BTO LR LR
comp=Z,340nm,14.6s
KIWB Kanaga Island 62.92 19 P **P** **18 20 20.4 +0.4**
TNCH TengChong 63.29 302 ⇓ *i* P **P** **18 20 23.6 +0.4**
TNCH pP pP 18 21 43.3 -0.3
TNCH sP sP 18 22 20.0 -4.2
TNCH PP **PP** **18 22 48.3 +0.2**
TNCH S S 18 28 14.4 -11
TNCH sS sS 18 30 44.9 -5.0
TNCH pmax pmax
comp=Z,110nm,0.9s
HIA Hailar 63.58 335 IAmb IAmb 18 20 25.6
comp=Z,20nm,0.8s
HIA Hailar 63.58 335 P **P** **18 20 25.1 +0.8**
HIA Hailar 63.58 335 *d iP* **P** **18 20 24.1 -0.2**
HIA pmax pmax
comp=Z,20nm,0.9s
LZH Lanzhou 64.05 315 P **P** **18 20 28.8 +1.0**
LZH pP pP 18 21 49.3 +1.0
LZH S **S** **18 28 34.4 +0.6**
LZH pmax pmax
comp=Z,85nm,1.0s
LZH pmax pmax
comp=Z,230nm,4.5s
LZDM Lanzhou Array 64.09 315 P **P** **18 20 29.2 +0.9**
comp=Z,39nm,0.8s,baz=139,slow=7.5,SNR=12
comp=Z,39nm,0.8s
CASY Casey 66.96 198 P **P** **18 20 45.7 +0.2**
CASY IAmb IAmb 18 20 46.9
comp=Z,21nm,0.9s
CASY Casey 66.96 198 P **P** **18 20 45.6 +0.2**
CIT Chita 68.27 334 *eP* **P** **18 20 54.6 +0.7**
CIT *e* 18 21 23.2
CIT *e* 18 22 14.4
CIT *e* 18 22 56.4
CIT *e* 18 25 09.2
CIT pmax pmax
comp=Z,83nm,1.9s
GTA Gaotai 68.47 317 ⇓ P **P** **18 20 56.4 +0.9**
GTA sP sP 18 22 56.0 -1.9
GTA S **S** **18 29 26.0 -0.4**
GTA pmax pmax
comp=Z,76nm,1.1s
GTA pmax pmax
comp=Z,230nm,8.4s
ULN Ulaanbaatar 68.69 328 P **P** **18 20 56.7 0.0**
ULN Ulaanbaatar 68.69 328 *d iP* **P** **18 20 56.9 +0.2**
ULN pmax pmax
comp=Z,42nm,1.2s
ULN Ulaanbaatar 68.69 328 P **P** **18 20 57.6 +1.0**
SONM Songino Array 69.02 327 P **P** **18 20 59.3 +0.7**
SONM IAmb IAmb 18 21 00.6
comp=Z,41nm,0.9s
SONM Songino Array 69.02 327 P **P** **18 20 59.4 +0.7**
comp=Z,30nm,0.8s,baz=139,slow=6.7,SNR=137
SONM PKP2bc 18 49 05.4
comp=Z,0.6nm,0.8s,baz=158,slow=1.6,SNR=4.9
comp=Z,30nm,0.8s
SONM Songino Array 69.02 327 P **P** **18 20 59.3 +0.7**
SONM pmax pmax
comp=Z,41nm,0.9s
SEY Seymchan 69.37 359 ⇓ *eP* **P** **18 21 00.3 0.0**
SEY pmax pmax
comp=Z,39nm,1.2s
GOMU GeErMu 70.60 312 P **P** **18 21 09.4 +0.7**
GOMU pmax pmax
comp=Z,12nm,1.0s
CCD Concordia, Ant 70.79 188 P **P** **18 21 10.0 +0.8**
CCD PcP **PcP** **18 21 28.0 +0.7**
CCD pP **pwP** **18 22 36.4 +1.2**
CCD sP **sP** **18 23 09.8 -2.2**
VNDA Vanda 70.97 178 P **P** **18 21 10.4 +0.8**
comp=Z,5.9nm,0.9s,baz=333,slow=6.4,SNR=34
VNDA pP **pP** **18 22 31.5 -0.5**
comp=Z,2.2nm,0.9s,baz=343,slow=7.1,SNR=2.8
comp=Z,5.9nm,0.9s
VNDA Vanda 70.97 178 P **P** **18 21 10.7 +1.0**
VNDA pP **pP** **18 22 30.8 -1.2**
LSA Lhasa 71.07 304 P **P** **18 21 10.9 -0.9**
LSA pmax pmax
comp=Z,56nm,1.0s
LSA Lhasa 71.07 304 P **P** **18 21 12.9 +1.1**
YAK Yakutsk 71.19 348 P **P** **18 21 11.4 +0.3**
YAK Yakutsk 71.19 348 *d iP* **P** **18 21 11.3 +0.2**
YAK *e* 18 21 28.6
YAK *e**PP **pP** **18 22 33.6 -0.7**
YAK *e* 18 23 54.7
YAK *e*PPP PPP 18 25 39.8
YAK *eS* **S** **18 29 57.5 +1.1**
YAK *e* 18 30 39.0
YAK pmax pmax
comp=Z,4.0nm,0.6s
YAK pmax pmax
comp=N,1.0nm,0.5s
YAK pmax pmax
comp=E,2.0nm,0.7s
YAK pmax pmax
comp=Z,32nm,3.3s
YAK pmax pmax
comp=N,57nm,3.0s
YAK pmax pmax
comp=E,24nm,1.9s
YAK smax smax
comp=E,43nm,1.1s
YAK smax smax
comp=N,233nm,2.8s
YAK Yakutsk 71.19 348 P **P** **18 21 11.5 +0.3**
SBA Scott Base 71.47 177 P **P** **18 21 14.3 +1.6**
SBA Scott Base 71.47 177 P **P** **18 21 14.3 +1.6**
SBA pmax pmax
comp=Z,9.0nm,1.0s
S12K Black Hills 71.49 24 P **P** **18 21 13.0 -0.1**
baz=226
SDPT Sand Point 71.89 25 P **P** **18 21 15.5 0.0**
baz=227
ZAK Zakamensk 72.18 328 *eP* **P** **18 21 17.0 -0.4**
ZAK pmax pmax
comp=Z,41nm,1.3s
BOD Bodaibo 72.27 338 *eP* **P** **18 21 16.8 -0.8**
BOD pmax pmax
comp=Z,41nm,1.2s
S14K Fog Glacier 72.91 25 P **P** **18 21 21.4 -0.2**
baz=228
CHGN Chignik 73.40 25 P **P** **18 21 24.8 +0.6**
baz=229
MOY Mondy 74.09 328 *eP* **P** **18 21 29.1 +0.6**
MOY pmax pmax
comp=Z,44nm,1.6s
O14K Tigyukauivet M 74.29 22 P **P** **18 21 29.7 +0.5**
baz=226
M13K Dall Lake 74.38 20 P **P** **18 21 30.6 +0.9**
baz=223
GAMB Gambell 74.54 15 P **P** **18 21 31.1 +0.5**
baz=214
R16K Pilot Point 74.58 24 P **P** **18 21 31.4 +0.5**
baz=229
N14K Kuskokwak Cree 74.61 21 P **P** **18 21 31.6 +0.5**
baz=225
O15K Ungalikthiuk R 74.77 22 P **P** **18 21 32.2 +0.2**
baz=227
BILL Bilibino 74.90 4 P **P** **18 21 32.8 +0.2**
BILL Bilibino 74.90 4 *d iP* **P** **18 21 32.8 +0.2**
BILL pmax pmax
comp=Z,74nm,1.0s
K13K Kusilvak Mount 75.08 18 P **P** **18 21 34.5 +0.7**
baz=222
M14K Bethel 75.10 20 P **P** **18 21 34.3 +0.4**
baz=224
R17L Mt. Peulik Vol 75.12 25 P **P** **18 21 34.3 +0.2**
baz=230
L14K Kuka Creek 75.28 20 P **P** **18 21 35.7 +0.8**
baz=224
N15K Kwethluk River 75.35 21 P **P** **18 21 35.8 +0.5**
baz=226
SII Sitkinak Islan 75.38 26 P **P** **18 21 36.0 +0.4**
baz=233
PALK Pallekele 75.40 279 P **P** **18 21 36.3 -0.3**
PALK Pallekele 75.40 279 *de* P **P** **18 21 35.9 -0.7**
PALK pmax pmax
comp=Z,67nm,1.0s
KNGR Kungurtug, Tuv 75.40 326 *de* P **P** **18 21 36.3 +0.3**
KNGR pmax pmax
comp=Z,42nm,0.9s
M15K Kasigluk River 75.51 21 P **P** **18 21 36.4 +0.3**
baz=226
O16K Kokwok River B 75.71 23 P **P** **18 21 37.7 +0.4**
baz=228
Q17K Contact Creek 75.71 24 P **P** **18 21 37.3 -0.2**
baz=231
R18K Karluk 75.88 25 P **P** **18 21 38.0 -0.3**
baz=232
ACHA Angle Creek He 75.91 25 IAmb IAmb 18 21 39.3
comp=Z,19nm,0.9s
L15K Ungalak Mounta 75.93 20 P **P** **18 21 38.6 +0.1**
baz=225
N16K Nishlik Lake 76.05 22 P **P** **18 21 39.8 +0.6**
baz=228,SNR=6.0
P17K Kvichak River 76.09 23 P **P** **18 21 39.7 +0.3**
baz=230
OHAK Old Harbor 76.17 26 P **P** **18 21 40.1 +0.2**
baz=233
O17K Koliganek Bris 76.21 23 P **P** **18 21 39.9 -0.2**
baz=229
Q18K Katmai Hardscr 76.32 24 P **P** **18 21 40.4 -0.4**
baz=232,SNR=14
M16K Timber Creek 76.35 21 P **P** **18 21 41.7 +0.9**
baz=227,SNR=9.7
K15K Wolf Creek Mou 76.35 19 P **P** **18 21 41.6 +0.7**
baz=225,SNR=12
L16K Owhat River 76.64 20 P **P** **18 21 43.0 +0.5**
baz=227,SNR=5.4
N17K Nushagak Hills 76.67 22 P **P** **18 21 43.4 +0.7**
baz=229
P18K Big Mountain, 76.69 24 P **P** **18 21 43.2 +0.4**
baz=231
KDAK Kodiak Island 76.81 26 *ce* P **P** **18 21 43.5 0.0**
KDAK pmax pmax
comp=Z,27nm,1.0s
KDAK Kodiak Island 76.81 26 P **P** **18 21 43.7 +0.3**

baz=234
ANM **Nome** 76.86 16 P P 18 21 44.5 +0.9
baz=221
Q19K **Cape Douglas,** 77.05 25 P P 18 21 44.4 -0.4
baz=233,SNR=7.4
M17K **Holitna River** 77.15 21 P P 18 21 46.8 +1.5
baz=229,SNR=5.2
N18K **Kilae Creek** 77.25 22 P P 18 21 46.7 +0.8
baz=230,SNR=14
F14K **Arctic Creek** 77.30 16 P P 18 21 46.4 +0.4
baz=220
L17K **Donlin** 77.33 21 P P 18 21 47.4 +1.1
baz=228,SNR=6.8
J16K **Anvik River** 77.36 19 P P 18 21 47.6 +1.2
baz=225,SNR=7.5
Q20K **Shuyak Island** 77.38 25 P P 18 21 46.8 +0.2
baz=234
O19K **Port Alsworth** 77.55 23 P P 18 21 47.2 -0.3
baz=232
P19K **Oil Pt** 77.66 24 P P 18 21 48.0 -0.1
baz=233,SNR=12
K17K **Iditarod** 77.72 20 P P 18 21 49.3 +0.9
baz=228,SNR=7.5
I17K **Unalakleet** 77.75 18 P P 18 21 49.3 +0.8
baz=225
M18K **Stony River** 77.80 22 P P 18 21 49.9 +1.0
baz=230,SNR=8.2
N19K **Bonanza Creek** 77.87 23 P P 18 21 49.5 +0.1
baz=232,SNR=5.6
ILSW **Iliamna Southw** 77.89 24 IAmb IAmb 18 21 49.9
comp=Z,56nm,1.5s
F15K **North Star Dit** 77.93 16 P P 18 21 49.8 +0.3
baz=221
J17K **VABM Dome** 77.93 19 P P 18 21 50.4 +0.9
baz=227,SNR=5.6
L18K **Granite Mounta** 77.96 21 P P 18 21 50.6 +0.9
baz=229,SNR=13
O20K **Slope Mountain** 78.16 24 P P 18 21 51.1 +0.2
baz=234
RED **Redoubt Volcan** 78.30 24 IAmb IAmb 18 21 52.0
comp=Z,73nm,1.9s
HOM **Homer** 78.31 25 P P 18 21 52.1 +0.5
baz=234,SNR=5.3
G16K **Koyuk River** 78.33 17 P P 18 21 52.5 +0.8
baz=223
WMQ **Urumqi** 78.56 317 *e*P P 18 21 53.0 -0.5
WMQ S S 18 31 12.8 -5.3
WMQ pmax pmax
comp=Z,44nm,0.9s
WMQ pmax pmax
comp=Z,270nm,3.8s
WMQ LR LR
comp=Z,120nm,24.3s
M19K **Big River Lodg** 78.59 22 P P 18 21 54.1 +0.9
baz=232,SNR=12
L19K **White Mountain** 78.59 22 P P 18 21 54.0 +0.8
baz=231,SNR=15
BRSE **Bradley Lake S** 78.73 25 P P 18 21 54.2 +0.2
baz=235
H17K **Granite Mounta** 78.73 18 P P 18 21 54.3 +0.5
baz=226
J18K **Innoko River** 78.76 20 P P 18 21 54.5 +0.4
baz=229,SNR=8.7
G17K **Kiwalik Mounta** 78.91 17 P P 18 21 55.3 +0.5
baz=225
N20K **Mount Spurr** 78.99 23 P P 18 21 55.6 +0.2
baz=234
SPCR **Spurr Chakacha** 78.99 23 P P 18 21 56.0 +0.5
baz=234
M20K **Styx River** 79.05 22 P P 18 21 56.1 +0.4
baz=233
L20K **Farewell, AK** 79.13 22 P P 18 21 56.8 +0.7
baz=232,SNR=8.1
HYB **Hyderabad** 79.16 289 *e*P P 18 21 57.0 -0.3
H18K **Honhosa River** 79.36 18 P P 18 21 57.1 -0.1
baz=227
SLKM **Skilak Lake** 79.38 24 IAmb IAmb 18 21 58.3
comp=Z,26nm,0.7s
F17K **Baldwin Pennin** 79.41 16 P P 18 21 57.1 -0.3
baz=224
SEW **Seward** 79.47 25 P P 18 21 57.4 -0.5
SEW IAmb IAmb 18 21 59.1
comp=Z,33nm,1.1s
SEW **Seward** 79.47 25 P P 18 21 57.9 +0.1
baz=236
J19K **Poorman** 79.48 20 P P 18 21 58.6 +0.7
baz=230,SNR=5.3
GCSA **Galena City Sc** 79.56 19 P P 18 21 58.8 +0.6
baz=229
K20K **Telida** 79.61 21 P P 18 21 59.2 +0.6
baz=232
C16K **Lisburne Hills** 79.70 14 P P 18 21 58.5 -0.4
baz=220
E17K **Hotham Inlet** 79.71 16 P P 18 21 59.5 +0.5
baz=224
SKT **Skwentna** 79.71 23 P P 18 21 57.7 -1.4
baz=234
SUA **Susitna One** 79.72 23 IAmb IAmb 18 21 59.6
comp=Z,15nm,0.9s
SUA **Susitna One** 79.72 23 P P 18 21 58.6 -0.8
baz=235,SNR=5.9
G18K **Tagagawik** 79.78 18 P P 18 21 59.6 +0.2
baz=227,SNR=9.5
D17K **Noatak River** 79.83 15 P P 18 22 00.1 +0.5
baz=222,SNR=9.1
RC01 **Rabbit Creek A** 79.91 24 IAmb IAmb 18 22 01.2
comp=Z,39nm,1.2s
RC01 **Rabbit Creek A** 79.91 24 P P 18 21 60.0 -0.2
baz=236,SNR=8.5
F18K **Selawik** 79.97 17 P P 18 22 00.6 +0.2
baz=226
PPLA **Purkeypile** 80.01 22 P P 18 22 00.5 -0.4
baz=233
J20K **Nowinta River** 80.10 20 P P 18 22 01.4 +0.3
baz=231,SNR=7.4
M22K **Willow** 80.13 23 P P 18 22 00.9 -0.4
baz=236
RDOG **Red Dog Mine** 80.14 15 P P 18 22 02.0 +0.7
baz=222
H19K **Roundabout Mou** 80.21 18 P P 18 22 02.2 +0.5
baz=229,SNR=15
E18K **Tukpahlearik C** 80.29 16 P P 18 22 02.6 +0.6
baz=225
PWL **Port Wells** 80.35 25 P P 18 22 02.6 +0.1
baz=237,SNR=14
I20K **Naaghedeneel** 80.37 20 P P 18 22 03.2 +0.7
baz=231
C17K **DeLong Mountai** 80.39 14 P P 18 22 03.0 +0.4
baz=222,SNR=5.6
G19K **Purcell Mounta** 80.42 18 P P 18 22 03.3 +0.5
baz=228,SNR=8.1
PMR **Palmer** 80.43 24 IAmb IAmb 18 22 03.7
comp=Z,24nm,1.1s
PMR **Palmer** 80.43 24 P P 18 22 03.8 +0.9
PMR **Palmer** 80.43 24 P P 18 22 02.8 -0.1
baz=236,SNR=5.5
CUT **Chulitna** 80.44 23 IAmb IAmb 18 22 03.2
comp=Z,26nm,1.0s
CUT **Chulitna** 80.44 23 P P 18 22 02.6 -0.4
baz=235
CHUM **Lake Minchumin** 80.55 21 P P 18 22 03.5 0.0
baz=233,SNR=7.5
KNK **Knik Glacier** 80.60 24 IAmb IAmb 18 22 05.3
comp=Z,29nm,1.1s
KNK **Knik Glacier** 80.60 24 P P 18 22 04.1 +0.2
baz=237,SNR=7.1
GHO **Glory Hole Cre** 80.61 24 IAmb IAmb 18 22 05.0
comp=Z,24nm,1.0s
F19K **Shaleruckik Mo** 80.68 17 P P 18 22 04.4 +0.3
baz=228,SNR=6.1
H20K **Anotleneega Mo** 80.68 19 P P 18 22 04.4 +0.2
baz=231,SNR=8.9
KTH **Kantishna Hill** 80.86 22 IAmb IAmb 18 22 05.4
comp=Z,19nm,1.0s
GLI **Glacier Island** 80.88 25 P P 18 22 05.2 -0.1
baz=238
C18K **Utukok River** 81.01 15 P P 18 22 06.0 0.0
baz=224
TRF **Thorofare Moun** 81.03 22 P P 18 22 05.3 -1.0
baz=235,SNR=6.4
FID **Port Fidalgo** 81.07 25 IAmb IAmb 18 22 07.4
comp=Z,52nm,1.2s
M23K **Glacier View** 81.10 24 P P 18 22 05.8 -0.7
baz=238
BPAW **Bear Paw Mtn.** 81.16 21 P P 18 22 06.1 -0.7
baz=234,SNR=6.0
E19K **Redstone River** 81.25 17 P P 18 22 07.7 +0.5
baz=228,SNR=28
EYAK **Cordova Ski Ar** 81.27 25 P P 18 22 07.5 +0.1
baz=240
SCM **Sheep Creek Mo** 81.28 24 IAmb IAmb 18 22 08.9
comp=Z,38nm,1.0s
SCM **Sheep Creek Mo** 81.28 24 P P 18 22 07.8 +0.3
baz=238,SNR=11
WAT1 **Susitna Watana** 81.34 23 P P 18 22 07.2 -0.6
baz=237
IMAR **Indian Mountai** 81.36 19 P P 18 22 07.4 -0.3
B18K **Kokolik River** 81.38 14 P P 18 22 08.4 +0.7
baz=223
F20K **Avaraart Lake** 81.42 17 P P 18 22 08.5 +0.5
baz=230,SNR=14
I21K **Tanana** 81.45 20 P P 18 22 08.7 +0.5
baz=233,SNR=11
H21K **Melozitna Rive** 81.46 19 P P 18 22 08.6 +0.3
baz=232
WAT6 **Susitna Watana** 81.52 23 P P 18 22 08.7 -0.1
baz=238,SNR=12
KAIM **Kayak Island** 81.54 26 P P 18 22 09.5 +0.7
baz=241
RND **Reindeer** 81.54 22 IAmb IAmb 18 22 09.2
comp=Z,24nm,1.0s
DIV **Divide** 81.56 25 IAmb IAmb 18 22 10.4
comp=Z,39nm,1.2s
RAGM **Ragged Mountai** 81.65 26 IAmb IAmb 18 22 11.0
comp=Z,31nm,1.2s
ZSN **Zaisan** 81.66 320 *e*P P 18 22 09.8 0.0
comp=Z,24nm,1.0s
ZSN *e*S S 18 31 47.9 -2.1
ZSN **Zaisan** 81.66 320 *e*P P 18 22 09.7 0.0
ZSN *e*S S 18 31 47.8 -2.1
ZSN pmax pmax
comp=Z,24nm,1.0s
KLU **Klutina** 81.68 25 P P 18 22 10.1 +0.5
baz=239,SNR=22
MCK **McKinley** 81.69 22 P P 18 22 08.6 -0.9
baz=236,SNR=25
D19K **Kuna River** 81.71 16 P P 18 22 09.7 +0.1
baz=227,SNR=9.0
C19K **Lookout Ridge** 81.75 15 P P 18 22 10.4 +0.7
baz=226,SNR=13
G21K **Allakaket** 81.77 18 P P 18 22 09.9 +0.1
baz=232,SNR=11
MLY **Manley** 81.79 20 P P 18 22 09.9 -0.2
baz=234,SNR=9.9
HMT **Hamilton** 81.81 26 IAmb IAmb 18 22 11.8
comp=Z,32nm,1.0s
M24K **Tolsona, Glenn** 81.89 24 P P 18 22 11.3 +0.7
baz=239,SNR=6.7
DHY **Denali Highway** 81.92 23 IAmb IAmb 18 22 12.0
comp=Z,24nm,1.2s
DHY **Denali Highway** 81.92 23 P P 18 22 10.8 -0.1
baz=238,SNR=11
BMRM **Bremner River** 81.97 25 IAmb IAmb 18 22 12.5
comp=Z,48nm,1.3s
BMRM **Brnner River** 81.97 25 P P 18 22 11.2 +0.1
baz=241,SNR=12
H22K **Ishtalitna Cre** 82.08 20 P P 18 22 11.8 +0.3
baz=234,SNR=9.7
E20K **Nigu River** 82.08 16 P P 18 22 12.2 +0.7
baz=229,SNR=15
NEA2 **Nenana** 82.12 21 IAmb IAmb 18 22 11.9
comp=Z,31nm,1.2s
NEA2 **Nenana** 82.12 21 P P 18 22 10.9 -0.8
baz=236,SNR=8.5
A19K **Wainwright** 82.17 14 P P 18 22 12.3 +0.6
baz=224
F21K **Alatna River** 82.21 18 P P 18 22 12.3 +0.1
baz=232,SNR=11
D20K **Etivluk River** 82.27 16 P P 18 22 12.7 +0.3
baz=228,SNR=13
N25K **Chitina, Valde** 82.29 25 P P 18 22 13.1 +0.4
baz=241,SNR=13
I23K **Minto, Yukon-K** 82.33 21 P P 18 22 13.1 +0.4
baz=236,SNR=5.8
WRH **Wood River Hil** 82.41 21 IAmb IAmb 18 22 13.4
comp=Z,24nm,1.0s
HARP **HAARP** 82.45 24 P P 18 22 13.9 +0.4
baz=240
WAX **Waxell Ridge** 82.48 26 IAmb IAmb 18 22 15.3
comp=Z,33nm,0.8s
CRQM **Cirque** 82.50 26 IAmb IAmb 18 22 15.9
comp=Z,42nm,1.1s
CRQE **Cirque** 82.52 26 P P 18 22 14.4 +0.4
baz=242,SNR=9.1
GLB **Gilahina Butte** 82.54 25 IAmb IAmb 18 22 15.4
comp=Z,32nm,0.9s
VRDI **Verde Repeater** 82.59 25 IAmb IAmb 18 22 15.7
comp=Z,24nm,0.9s
CCB **Clear Creek Bu** 82.61 21 IAmb IAmb 18 22 14.2
comp=Z,18nm,1.0s
PAX **Paxon** 82.61 23 P P 18 22 14.2 -0.2
baz=240
TGL **Tana Glacier** 82.63 26 IAmb IAmb 18 22 15.9
comp=Z,25nm,0.9s
G22K **Bettles** 82.64 19 P P 18 22 14.7 +0.4
baz=234
H23K **Yukon River** 82.65 20 P P 18 22 14.7 +0.2
baz=236
COLA **College** 82.72 21 P P 18 22 13.5 -1.1
COLA IAmb IAmb 18 22 14.8
comp=Z,27nm,0.7s
COLA **College** 82.72 21 P P 18 22 14.2 -0.5
COLA **College** 82.72 21 *d* *i*P P 18 22 13.4 -1.3
COLA pmax pmax
comp=Z,31nm,1.0s
MESA **MESA** 82.75 27 P P 18 22 15.5 +0.2
baz=243
ISLE **Juniper Island** 82.78 26 IAmb IAmb 18 22 16.6
comp=Z,27nm,0.9s
HDA **Harding Lake** 82.80 22 IAmb IAmb 18 22 15.6
comp=Z,25nm,1.3s
HDA **Harding Lake** 82.80 22 P P 18 22 14.5 -0.7
baz=238,SNR=12
E21K **Killik River** 82.83 17 P P 18 22 15.7 +0.4
baz=231
MCARA **McCarthy VSAT** 82.84 25 IAmb IAmb 18 22 17.1
comp=Z,27nm,1.0s
MCARA **McCarthy VSAT** 82.84 25 P P 18 22 15.9 +0.5
baz=242,SNR=13
K24K **Donnelly Dome** 82.92 23 P P 18 22 15.4 -0.4
baz=239,SNR=10
B20K **Meade River** 82.99 15 P P 18 22 16.5 +0.5
baz=228,SNR=7.3
POKR **Poker Plat Res** 83.00 21 P P 18 22 15.6 -0.6
baz=238
G23K **Bananza Creek** 83.00 19 P P 18 22 16.6 +0.4
baz=235,SNR=12
IL31 **83.01** 22 IAmb IAmb 18 22 16.1
comp=Z,18nm,1.0s
ILAR **Eielson Array** 83.01 22 P P 18 22 14.4 -1.8
ILAR **Eielson Array** 83.01 22 P P 18 22 14.8 -1.4
comp=Z,10nm,0.9s,baz=254,slow=5.0,SNR=82
ILAR pP pP 18 23 41.1 -0.8
comp=Z,4.4nm,1.0s,baz=209,slow=5.0,SNR=8.1
ILAR S SKSac 18 31 59.2 -1.6
comp=Z,0.4nm,0.9s,baz=216,slow=15,SNR=4.4
comp=Z,10nm,0.9s
C21K **Knifeblade Rid** 83.06 16 P P 18 22 17.1 +0.6
baz=230,SNR=14
GRNC **Granite Creek** 83.09 26 IAmb IAmb 18 22 18.3
comp=Z,15nm,0.7s
MK31 **Makanchi Array** 83.13 319 *d* *i*P P 18 22 17.4 +0.1
MKAR **Makanchi Array** 83.13 319 P P 18 22 17.8 +0.5
MKAR **Makanchi Array** 83.13 319 P P 18 22 17.6 +0.3
comp=Z,98nm,0.8s,baz=104,slow=5.9,SNR=716
MKAR S SKSac 18 31 58.7 -3.7
comp=Z,0.1nm,0.5s,baz=96,slow=13,SNR=1.8
MKAR PKKPbc PKKPbc 18 40 33.6 -4.5
comp=Z,1.0nm,0.9s,baz=298,slow=3.1,SNR=5.2
comp=Z,98nm,0.8s
H24K **Noodor Dome** 83.23 20 P P 18 22 17.6 +0.2
baz=237
COLD **Coldfoot** 83.24 19 P P 18 22 17.9 +0.6
baz=235,SNR=9.4
RIDG **Independent Ri** 83.24 23 IAmb IAmb 18 22 18.6
comp=Z,41nm,1.2s
RIDG **Independent Ri** 83.24 23 P P 18 22 17.3 -0.2
baz=240,SNR=15
BARN **Barnard Glacie** 83.28 26 IAmb IAmb 18 22 19.6
comp=Z,26nm,0.8s
MENT **Mentasta** 83.29 24 P P 18 22 18.6 +0.8
M26K **Nabesna, AK** 83.33 24 P P 18 22 18.4 +0.4
baz=242,SNR=9.1
QSPA **South Pole Qui** 83.36 180 P P 18 22 19.8 +1.6
QSPA IAmb IAmb 18 22 21.4
comp=Z,30nm,0.9s
QSPA **South Pole Qui** 83.36 180 P P 18 22 19.7 +1.5
comp=Z,21nm,0.6s,baz=331,slow=1.2,SNR=198
QSPA pP pP 18 23 43.7 -0.1
comp=Z,9.4nm,1.1s,baz=357,slow=4.1,SNR=3.8
QSPA S SKSac 18 32 02.8 -0.6
comp=Z,1.5nm,1.0s,baz=274,slow=12,SNR=7.5
QSPA PKKP PKKPdf 18 40 30.4 +2.2
comp=Z,2.2nm,1.0s,baz=194,slow=1.9,SNR=7.5
comp=Z,21nm,0.6s
CTG **Chitna Glacier** 83.38 26 P P 18 22 18.9 +0.6
baz=244,SNR=16
B21K **Ikpikpuk River** 83.40 16 P P 18 22 18.4 +0.4
baz=230,SNR=8.8
LOGN **Logan Glacier** 83.46 26 IAmb IAmb 18 22 20.3
comp=Z,20nm,0.8s
D22K **Ayikyak River** 83.48 17 P P 18 22 19.4 +0.9
baz=232,SNR=13
PINM **Pinnacle** 83.48 27 P P 18 22 19.2 +0.4
baz=245,SNR=6.0
L26K **Log Cabin Wild** 83.48 24 P P 18 22 19.3 +0.6
baz=242,SNR=9.3
J25K **Salcha River,** 83.49 22 P P 18 22 18.3 -0.4
baz=240,SNR=43
DOT **Dot Lake** 83.50 23 IAmb IAmb 18 22 20.0
comp=Z,28nm,0.9s
PNL **Peninsula** 83.69 28 P P 18 22 20.6 +0.8
PNL **Peninsula** 83.69 28 P P 18 22 20.2 +0.4
baz=246,SNR=7.2
SCRK **Sand Creek** 83.69 23 P P 18 22 19.9 +0.1
baz=241,SNR=18
BCPM **Bancas Point** 83.70 27 IAmb IAmb 18 22 21.6
comp=Z,26nm,1.0s
M27K **Edge Creek, AK** 83.77 25 P P 18 22 21.2 +0.9
baz=243,SNR=41
O28M **Mount Upton** 83.80 27 P P 18 22 21.0 +0.3
baz=245,SNR=18
G24K **Hadweenzic Riv** 83.84 20 P P 18 22 20.7 +0.4
baz=237,SNR=13
ZALV **Zalesovo Beam** 83.87 326 P P 18 22 19.7 -1.0
ZALV **Zalesovo Beam** 83.87 326 P P 18 22 19.9 -0.9
comp=Z,44nm,0.7s,baz=112,slow=5.8,SNR=201
ZALV S SKSac 18 32 02.9 -3.9
comp=Z,0.7nm,0.7s,baz=107,slow=12,SNR=3.8
comp=Z,44nm,0.7s
ZALV **Zalesovo Beam** 83.87 326 *i*P P 18 22 19.8 -1.0
ZALV pmax pmax
comp=Z,45nm,0.6s
PRP **Porcupine Dome** 83.89 21 P P 18 22 21.7 +0.9
baz=239
E23K **Chandalar** 83.90 18 P P 18 22 21.4 +0.6
baz=235,SNR=19
SHLS **Shalkode** 84.06 315 *e*P P 18 22 20.7 -1.5
comp=Z,20nm,0.9s
SHLS **Shalkode** 84.06 315 *e*P P 18 22 20.7 -1.5
SHLS pmax pmax
comp=Z,20nm,0.9s
D23K **Nanushuk River** 84.11 17 P P 18 22 22.7 +1.1
baz=234,SNR=26
J26L **Joseph Creek** 84.11 22 P P 18 22 22.2 +0.4
baz=241,SNR=12
YUK3 **Moose Creek** 84.11 26 P P 18 22 22.9 +0.8
baz=244,SNR=9.2
L27K **Beaver Creek,** 84.12 24 P P 18 22 22.6 +0.7
baz=238,SNR=19
BCAR **Beaver Creek A** 84.14 24 P P 18 22 22.2 +0.2
F24K **Squaw Lake** 84.15 19 P P 18 22 22.8 +0.8
baz=237,SNR=18
H25L **Birch Creek** 84.17 20 P P 18 22 22.8 +0.8
baz=239
B22K **Teshekpuk Lake** 84.18 15 P P 18 22 22.1 +0.2
baz=231
A22K **Sinclair Lake** 84.20 15 P P 18 22 22.2 +0.1
baz=230
YUK8 **Steele Glacier** 84.20 26 P P 18 22 23.6 +1.0
baz=245,SNR=14
BVCY **Beaver Creek** 84.22 25 P P 18 22 23.0 +0.6
baz=244,SNR=12
TOLK **Toolik Lake Re** 84.25 18 P P 18 22 22.9 +0.4
baz=235,SNR=8.2
E24K **Your Creek** 84.26 18 P P 18 22 22.8 +0.3
baz=236,SNR=8.0
O29M **Mount Kennedy** 84.33 27 P P 18 22 23.8 +0.7
baz=246,SNR=9.4
G25K **Bearman Lake** 84.33 20 P P 18 22 23.4 +0.6
baz=239,SNR=15
P29M **Windy Craggy** 84.45 28 P P 18 22 24.2 +0.7
baz=247,SNR=5.6
K27K **Chicken** 84.46 23 P P 18 22 24.6 +1.1
baz=243
FYU **Fort Yukon** 84.53 20 IAmb IAmb 18 22 25.4
comp=Z,35nm,1.3s
S31K **Pelican** 84.54 30 P P 18 22 24.5 +0.5
baz=248
C23K **Itkillik River** 84.64 16 P P 18 22 25.1 +0.8
baz=234,SNR=10
I26K **Coal Creek Min** 84.65 22 P P 18 22 24.8 +0.4
baz=242
SIT **Sitka** 84.67 31 P P 18 22 25.4 +0.7
baz=249
YUK6 **Outpost Mounta** 84.68 27 P P 18 22 25.9 +0.9
baz=246,SNR=6.6
YUK4 **Talbot Arm** 84.72 26 P P 18 22 26.7 +1.6
baz=246,SNR=14
MAW **Mawson** 84.76 203 P P 18 22 25.4 +0.5
comp=Z,19nm,0.6s,baz=95,slow=6.2,SNR=83
MAW pP pP 18 23 49.9 -0.5
comp=Z,14nm,1.1s,baz=91,slow=7.6,SNR=4.2
comp=Z,19nm,0.6s
D24K **Happy Valley** 84.76 17 P P 18 22 25.6 +0.7
baz=236
SATY **Saty** 84.79 314 *e*P P 18 22 25.8 0.0
comp=Z,12nm,0.9s
SATY **Saty** 84.79 314 *e*P P 18 22 25.7 0.0
SATY pmax pmax
comp=Z,12nm,0.9s
F25K **Christian Rive** 84.92 19 P P 18 22 26.6 +0.9
baz=239,SNR=17
P30M **Million Dollar** 85.00 28 P P 18 22 27.1 +0.8
baz=248
HYT **Haines Junctio** 85.02 27 IAmb IAmb 18 22 28.6
comp=Z,35nm,1.0s
HYT **Haines Junctio** 85.02 27 P P 18 22 27.6 +1.1
baz=247,SNR=36
PLBC **Pleasant Camp** 85.03 29 P P 18 22 26.9 +0.5
baz=248,SNR=5.3
C24K **Franklin Bluff** 85.12 17 P P 18 22 27.2 +0.6
baz=236
BMAR **Burnt Mountain** 85.19 20 P P 18 22 27.3 +0.3
E25K **Arctic Village** 85.21 19 P P 18 22 27.9 +0.7
baz=239,SNR=9.5
G26K **Porcupine Rive** 85.22 20 P P 18 22 28.3 +1.1
baz=241,SNR=58
M29M **Somme Creek** 85.25 25 P P 18 22 28.4 +0.8
baz=246,SNR=17
TDK **Taldyqorghan** 85.26 316 *e*P P 18 22 27.9 0.0
comp=Z,26nm,1.2s
TDK **Taldyqorghan** 85.26 316 *e*P P 18 22 27.9 0.0
TDK pmax pmax
comp=Z,26nm,1.2s
CRAG **Craig** 85.29 33 P P 18 22 28.4 +0.6
baz=251
I27K **Kandik River** 85.36 22 P P 18 22 28.7 +0.7
baz=243,SNR=24
BESE **Bessie Mountai** 85.44 30 IAmb IAmb 18 22 30.6
comp=Z,49nm,1.5s
KDJ **Kajisay** 85.45 313 IAmb IAmb 18 22 31.6
comp=Z,28nm,0.9s
N30M **Aishikik Lake** 85.45 27 P P 18 22 29.2 +0.7
baz=247,SNR=13
F26K **Sheenjek River** 85.46 20 P P 18 22 29.5 +1.1
baz=240,SNR=17
U33K **Whale Pass** 85.50 32 P P 18 22 29.6 +0.9
baz=251
R32K **Eaglecrest** 85.50 30 P P 18 22 29.9 +1.1
baz=250
SKAG **Skagway** 85.52 29 IAmb IAmb 18 22 30.9
comp=Z,16nm,1.1s
SKAG **Skagway** 85.52 29 P P 18 22 29.6 +0.8
SKAG **Skagway** 85.52 29 P P 18 22 29.6 +0.8
baz=249
DAWY **Dawson** 85.54 24 IAmb IAmb 18 22 31.0
comp=Z,44nm,1.3s
DAWY **Dawson** 85.54 24 P P 18 22 29.8 +0.9
baz=245,SNR=24
JIS **Juneau Island** 85.57 30 P P 18 22 29.8 +0.8
D25K **Kavik River** 85.59 18 P P 18 22 29.5 +0.4
baz=238
O30N **Mendenhall** 85.64 27 P P 18 22 30.3 +0.8

baz=248,SNR=9.4
L29M L29M 85.66 25 P P 18 22 30.6 +1.1
baz=246,SNR=28
H27K Steamboat Moun 85.67 21 P P 18 22 30.4 +0.9
baz=243,SNR=21
KSH Kashi 85.78 310 P P 18 22 32.6 +1.9
KSH pP pP 18 23 57.4 0.0
KSH pmax pmax
comp=Z,45nm,1.2s
MDOK Medeo 85.78 314 *e*P P 18 22 30.6 0.0
MDOK Medeo 85.78 314 *e*P P 18 22 30.6 0.0
AAA Alma-Ata 85.88 314 *e*P P 18 22 30.8 -0.3
comp=Z,12nm,0.6s
AAA Alma-Ata 85.88 314 *e*P P 18 22 30.7 -0.3
AAA pmax pmax
comp=Z,12nm,0.6s
G27K Doyon Strip 85.89 21 P P 18 22 31.4 +0.9
baz=243,SNR=15
I28M Miner Creek 85.92 22 P P 18 22 31.2 +0.5
baz=245,SNR=12
WRAK Wrangell Islan 86.00 32 IAmb IAmb 18 22 33.1
comp=Z,26nm,1.2s
WRAK Wrangell Islan 86.00 32 P P 18 22 31.9 +0.7
baz=252
M30M Minto, Yukon 86.01 26 P P 18 22 32.0 +0.8
baz=248,SNR=24
N31M Braeburn, Yuko 86.05 27 P P 18 22 32.3 +0.9
baz=249,SNR=25
V35K Ketchikan 86.06 33 P P 18 22 32.2 +0.7
baz=253
NRN Naryn 86.16 312 IAmb IAmb 18 22 34.6
comp=Z,36nm,1.4s
WHY Whitehorse 86.16 28 P P 18 22 32.5 +0.5
baz=249,SNR=5.4
J29N Klondike Camp 86.16 24 P P 18 22 33.2 +1.3
baz=246,SNR=6.9
K29M Barlow Dome 86.20 24 P P 18 22 33.4 +1.2
baz=247,SNR=47
C26K Camden Bay 86.34 17 P P 18 22 34.0 +1.4
baz=240,SNR=12
P32M Atlin 86.34 29 P P 18 22 33.6 +0.8
baz=250,SNR=7.4
I29M Ogilvie Camp, 86.50 23 P P 18 22 34.0 +0.6
baz=246,SNR=32
KURK Kurchatov 86.54 322 P P 18 22 33.3 -0.6
E27K Coleen River 86.55 20 P P 18 22 34.7 +1.1
baz=243,SNR=29
C27K Jago River 86.55 18 P P 18 22 34.5 +0.8
baz=241,SNR=16
KURBB Kurchatov Arra 86.57 322 P P 18 22 33.2 -0.8
comp=Z,11nm,0.8s,baz=108,slow=3.3,SNR=105
KURBB S **SKSac** 18 32 26.9 +3.2
comp=Z,0.1nm,0.3s,baz=162,slow=9.8,SNR=1.2
comp=Z,11nm,0.8s
TKM2 Tokmak 2 86.76 314 P P 18 22 35.5 0.0
SNR=20
MAYO Mayo, Yukon 86.78 25 P P 18 22 35.9 +1.1
baz=248,SNR=7.7
NIL Nilore 86.81 304 P P 18 22 34.8 -0.9
NIL Nilore 86.81 304 P P 18 22 34.8 -0.9
NIL pmax pmax
comp=Z,39nm,0.9s
H29M Whitestone 86.83 22 P P 18 22 35.3 +0.3
baz=246
Q32M Nakina River 86.84 30 P P 18 22 36.1 +0.7
baz=252,SNR=7.5
F28M Old Crow 86.87 20 P P 18 22 35.9 +0.7
baz=244,SNR=11
M31M Drury Creek, Y 86.92 26 P P 18 22 35.7 +0.2
baz=250,SNR=10
J30M Hart River 86.96 24 P P 18 22 36.9 +1.1
baz=248,SNR=29
P33M Teslin, Yukon 86.97 28 P P 18 22 36.2 +0.3
baz=251
S34M Telegraph Cree 87.09 31 P P 18 22 37.6 +1.2
baz=253,SNR=16
N32M Quiet Lake 87.15 27 P P 18 22 37.4 +0.7
baz=251
KBK Karagaybulak 87.18 313 P P 18 22 37.5 +0.1
SNR=11
I30M Mount Dempster 87.19 23 P P 18 22 37.5 +0.6
baz=248,SNR=23
D27M Malcolm River 87.23 19 P P 18 22 38.0 +1.0
baz=243,SNR=7.3
G29M Pine Creek 87.23 21 P P 18 22 37.5 +0.6
baz=246,SNR=15
T35M Bob Quinn 87.28 32 P P 18 22 37.9 +0.6
baz=254
CHMS Chumysh 87.39 314 P P 18 22 38.1 -0.1
SNR=15
E28M Babbage River 87.42 20 P P 18 22 38.5 +0.8
baz=245,SNR=12
EPYK Eagle Plains 87.50 22 P P 18 22 38.5 +0.4
baz=248,SNR=11
AAK Ala-Archa 87.50 313 P P 18 22 39.6 +0.7
SNR=8.8
SGDS Sogindy 87.56 314 *e*P P 18 22 38.8 -0.3
R33M Jennings River 87.61 29 P P 18 22 40.0 +1.1
baz=253,SNR=12
USP Ospenovka 87.62 314 P P 18 22 39.2 -0.1
SNR=24
DLBC Dease Lake 87.80 31 P P 18 22 40.7 +0.9
baz=254,SNR=9.2
E29M Blow River 87.88 20 P P 18 22 40.1 +0.2
baz=246
G30M tAoh Zraii Nji 87.91 22 P P 18 22 40.5 +0.4
baz=248,SNR=9.1
D28M Stokes Point 87.98 19 P P 18 22 41.1 +0.8
baz=246,SNR=5.8
EKS2 Erkin-Say 88.03 313 P P 18 22 42.1 +0.8
SNR=10
H31M Peel River 88.19 23 P P 18 22 41.8 +0.4
baz=250,SNR=5.9
BTLS Baital 88.28 316 *e*P P 18 22 42.2 -0.2
comp=Z,14nm,1.0s
BTLS Baital 88.28 316 *e*P P 18 22 42.1 -0.2
BTLS pmax pmax
comp=Z,14nm,1.0s
F30M Barrier River 88.31 21 P P 18 22 42.3 +0.4
baz=248,SNR=8.0
MMPY Sheldon Lake, 88.43 26 P P 18 22 43.4 +0.7
baz=253,SNR=5.4
G31M Satah River 88.61 22 P P 18 22 43.7 +0.4
baz=250,SNR=6.1
WTLY Watson Lake, Y 88.86 29 P P 18 22 45.4 +0.7
baz=255,SNR=5.1
F31M Tsiigehtchic 88.98 21 P P 18 22 45.1 +0.1
baz=250,SNR=5.7
O03E Paynes Creek 89.05 49 P P 18 22 45.4 -0.8
INK Inuvik 89.35 21 IAmb IAmb 18 22 47.7
comp=Z,20nm,1.4s
INK Inuvik 89.35 21 P P 18 22 46.9 +0.2
baz=250,SNR=8.2
AFDM Forest Hills D 89.47 51 P P 18 22 47.7 -0.4
TGTN Hyland Airport 89.48 28 P P 18 22 47.8 +0.2
baz=255
DZA Taraz 89.84 313 *e*P P 18 22 49.5 -0.2
DZA Taraz 89.84 313 *e*P P 18 22 49.5 -0.2
BUCR Buckhorn Ranch 89.92 52 IAmb IAmb 18 22 52.2
comp=Z,31nm,1.9s
LIRD Liard River Hi 90.02 30 P P 18 22 50.1 +0.1
baz=257
TOAD Toad River Com 90.33 31 P P 18 22 51.8 +0.2
baz=258
KBL Kabul 90.39 305 P P 18 22 51.2 -1.5
KBL IAmb IAmb 18 22 52.4
comp=Z,17nm,0.9s
KBL Kabul 90.39 305 P P 18 22 51.2 -1.5
KBL pmax pmax
comp=Z,17nm,0.9s
KKAR Karatay Array 90.47 313 P P 18 22 51.5 -1.0
KKAR Karatay Array 90.47 313 P P 18 22 51.5 -1.0
IUG luzhnay 90.68 312 *e*P P 18 22 53.3 -0.3
comp=Z,17nm,1.0s
IUG luzhnay 90.68 312 *e*P P 18 22 53.3 -0.3
IUG pmax pmax
comp=Z,17nm,1.0s
CHGR Chuyangaron 90.85 309 IAmb IAmb 18 23 00.2
comp=Z,23nm,0.9s
CHM Chimkent 91.02 312 *e*P P 18 22 54.9 -0.2
comp=Z,20nm,1.1s
CHM Chimkent 91.02 312 *e*P P 18 22 54.9 -0.2
CHM pmax pmax
comp=Z,20nm,1.1s
PASC Pasadena Art C 91.03 56 IAmb IAmb 18 22 57.6
comp=Z,23nm,0.8s
KOTAN Kotaneelee Air 91.18 30 P P 18 22 55.7 +0.2
baz=259
LHV Little Huntoon 91.29 52 IAmb IAmb 18 22 59.1
comp=Z,21nm,1.1s
RYN Ryan 91.32 51 IAmb IAmb 18 22 58.9
comp=Z,18nm,1.2s
CWC Cottonwood Cre 91.40 54 IAmb IAmb 18 22 59.4
comp=Z,18nm,1.2s
BFSC Mount Baldy Ra 91.47 56 IAmb IAmb 18 23 00.2
comp=Z,20nm,1.0s
DSP Deep Springs 91.60 53 IAmb IAmb 18 23 00.5
comp=Z,19nm,1.1s
LRMC Laurel Mtn Rad 91.60 55 IAmb IAmb 18 23 00.6
comp=Z,22nm,1.0s
CLC China Lake 91.71 54 IAmb IAmb 18 23 00.8
comp=Z,16nm,1.1s
WSHM Spangler Hills 91.77 55 IAmb IAmb 18 23 01.1
comp=Z,14nm,1.0s
MPMC Manual Prospec 91.83 54 IAmb IAmb 18 23 01.6
comp=Z,16nm,1.2s
DPP Dos Picos Cty 91.92 57 IAmb IAmb 18 23 02.8
comp=Z,31nm,1.2s
BVAR Borovoye Array 92.00 323 P **P** **18 22 57.9 -1.4**
comp=Z,20nm,0.8s,baz=102,slow=5.1,SNR=84
BVAR pP **pP** **18 24 28.3 +1.2**
comp=Z,3.5nm,0.7s,baz=108,slow=4.7,SNR=2.8
comp=Z,20nm,0.8s
TPH Tonopah 92.27 52 IAmb IAmb 18 23 03.4
comp=Z,23nm,1.3s
GSC Goldstone, Bar 92.29 55 IAmb IAmb 18 23 03.5
comp=Z,12nm,1.1s
QSM Queen of Sheba 92.31 54 IAmb IAmb 18 23 03.4
comp=Z,13nm,1.0s
PFO Pinyon Flats O 92.39 57 *de*P **P** **18 23 02.4 +0.6**
PFO pmax pmax
comp=Z,16nm,1.0s
PMD Palm Desert 92.46 57 P **P** **18 23 02.1 +0.1**
PMD IAmb IAmb 18 23 04.3
comp=Z,11nm,0.9s
WCT Wildcat Mounta 92.60 53 IAmb IAmb 18 23 04.8
comp=Z,15nm,0.9s
SYO Syowa Base 92.69 199 ⇓ *e*P **P** **18 23 02.2 0.0**
SYO Syowa Base 92.69 199 ⇓ *e*PcP **PcP** **18 23 03.1 +0.4**
SHOC Shoshone, Teco 92.79 54 IAmb IAmb 18 23 05.5
comp=Z,21nm,1.0s
BELC Belle Mtn. Jos 92.81 56 IAmb IAmb 18 23 06.2
comp=Z,19nm,1.0s
TPNV Topopah Spring 92.92 53 IAmb IAmb 18 23 06.4
comp=Z,12nm,0.9s
BC3 Big Chuckawall 93.23 57 IAmb IAmb 18 23 09.1
comp=Z,18nm,1.2s
NEW Newport 93.46 42 IAmb IAmb 18 23 07.0
comp=Z,15nm,1.6s
R11B Troy Canyon, C 93.58 52 IAmb IAmb 18 23 09.4
comp=Z,12nm,1.2s
PSUT Pine Spring 94.95 52 IAmb IAmb 18 23 16.6
comp=Z,25nm,1.8s
YKA Yellowknife Ar 95.99 28 P **P** **18 23 17.2 -0.1**
comp=Z,1.8nm,0.8s,baz=274,slow=4.7,SNR=9.5
YKA pP **pP** **18 24 44.7 0.0**
comp=Z,2.7nm,1.0s,baz=274,slow=4.5,SNR=6.5
comp=Z,1.8nm,0.8s
YKA Yellowknife Ar 95.99 28 *i* P **P** **18 23 17.6 +0.3**
YKA pmax pmax
comp=Z,2.0nm,0.8s
MTPU Mount Pierson 96.23 52 IAmb IAmb 18 23 22.6
comp=Z,8.3nm,1.1s
AB31 Akbulak array 98.27 319 IAmb IAmb 18 23 26.9
comp=Z,4.7nm,0.8s
ABKAR Akbulak array 98.27 319 P Pdif 18 23 26.1 -1.8
PDAR Pinedale Array 98.43 48 P Pdif 18 23 28.4 -0.6
comp=Z,0.8nm,0.7s,baz=243,slow=1.7,SNR=5.9
PDAR pP pP 18 24 57.7 +1.0
comp=Z,1.6nm,0.9s,baz=277,slow=4.8,SNR=5.2
PDAR PP **PP** **18 27 33.9 -1.1**
comp=Z,0.1nm,0.3s,baz=268,slow=8.6,SNR=3.9
comp=Z,0.8nm,0.7s
ARTI Arti 99.14 326 *d* iP **Pdif** **18 23 29.6 -2.0**
ARTI 18 27 38.0
ARTI S **SKSac** **18 33 28.2 -4.2**
ARTI pmax pmax
comp=Z,13nm,1.5s
TROLL Troll, Antarti 99.50 188 ⇑P **Pdif** **18 23 32.5 -0.7**
comp=Z,110nm,0.8s
SNAA Sanae 100.53 187 ⇑P **Pdif** **18 23 40.7 +3.0**
comp=Z,38nm,1.0s
SNAA Sanae 100.53 187 P **Pdif** **18 23 34.5 -3.2**
comp=Z,0.8nm,0.8s,baz=188,slow=7.0,SNR=4.9
TXAR Lajitas Array 103.06 62 PKKPbc PKKPbc 18 39 43.4 -2.1
comp=Z,0.3nm,0.7s,baz=74,slow=4.4,SNR=3.8
ARCES ARCESS Array B 109.23 343 PKiKP **PKiKP** **18 28 17.7 -0.1**
comp=Z,1.3nm,0.5s,baz=89,slow=1.5,SNR=13
FINES FINESS Array B 113.59 336 PKiKP **PKiKP** **18 28 26.2 0.0**
comp=Z,1.2nm,0.3s,baz=78,slow=2.4,SNR=18
ANN Anapa 114.06 316 *i* PKIKP PKPdf 18 28 26.9 -0.7
ANN pmax pmax
comp=Z,55nm,1.1s
MNK Minsk 116.27 329 *i* P **Pdif** **18 24 45.5 -2.3**
MNK *i* 18 28 29.4
MNK *i* 18 29 41.6
MNK *i* PPP PPP 18 32 12.4
MNK *i* 18 35 02.5
MNK *i* SS SS 18 45 14.5 -2.0
MNK *i* SSS SSS 18 49 38.2
MNK pmax pmax
comp=N,8.0nm,0.8s
MNK pmax pmax
comp=Z,4.0nm,0.7s
MNK pmax pmax
comp=E,10.0nm,0.8s
PLCA Paso Flores 117.02 142 PKP **PKPdf** **18 28 33.6 0.0**
comp=E,2.1nm,0.7s,baz=196,slow=3.2,SNR=3.9
PLCA PKKPbc **PKKPab** **18 39 04.3 -1.8**
comp=E,3.8nm,0.9s,baz=104,slow=8.3,SNR=4.9
AKASG Malin Array Be 117.24 325 PKP **PKPdf** **18 28 32.1 -1.5**
comp=E,3.4nm,0.6s,baz=66,slow=2.1,SNR=15
KIEV Kiev 117.25 325 ⇑P **PKPdf** **18 28 33.4 -0.2**
KIEV Kiev 117.25 325 ⇑PKIKP **PKPdf** **18 28 33.4 -0.2**
KIRS Kirsehir-Merke 118.09 311 ⇑P **PKPdf** **18 28 34.3 -1.4**
BR131 Keskin Array S 118.14 312 *de*PKIKP **PKPdf** **18 28 35.0 -0.9**
BRTR Keskin Array B 118.14 312 PKP **PKPdf** **18 28 34.4 -1.5**
comp=E,3.0nm,0.9s,baz=149,slow=2.6,SNR=12
BRTR PP **PP** **18 29 56.6 -0.5**
comp=E,1.3nm,1.0s,baz=46,slow=6.6,SNR=3.8
BRTR PKKPab **PKKPbc** **18 38 55.5 -1.8**
comp=E,1.1nm,0.8s,baz=360,slow=2.6,SNR=4.6
ANTO Ankara 118.73 312 ⇑P **PKiKP** **18 28 37.3 +0.3**
ANTO Ankara 118.73 312 ⇑PKIKP **PKiKP** **18 28 37.3 +0.3**
SORM Soroca 118.83 322 ⇑P **PKPdf** **18 28 35.8 -0.9**
SORM Soroca 118.83 322 PKIKP **PKPdf** **18 28 35.8 -0.9**
HFS Hagfors 119.15 339 PKP **PKPdf** **18 28 35.8 -1.2**
comp=E,2.5nm,0.6s,baz=123,slow=7.3,SNR=11
NB2 NORSAR Subarra 119.34 341 PKPdf **PKPdf** **18 28 36.2 -1.2**
comp=Z,1.6nm,0.8s,baz=44,slow=1.9
NOA NORSAR Array B 119.34 341 PKP **PKPdf** **18 28 36.5 -0.8**
comp=Z,2.6nm,0.7s,baz=46,slow=1.9,SNR=18
NOA pPKP **pPKPdf** **18 30 09.2 -1.2**
comp=Z,0.6nm,1.0s,baz=39,slow=1.9,SNR=2.8
VLDR Vladesti 119.94 320 ⇓P **PKPdf** **18 28 38.7 -0.2**
SCTR Scanteiesti 120.06 320 ⇓P **PKiKP** **18 28 39.6 +0.4**
CFR Carcaliu 120.16 319 ⇑P **PKPdf** **18 28 38.0 -1.4**
CFR Carcaliu 120.16 319 ⇑PKIKP **PKPdf** **18 28 38.0 -1.4**
BOSA Boshof 120.27 232 PKP **PKiKP** **18 28 40.6 +0.2**
comp=Z,5.5nm,0.7s,baz=118,slow=2.9,SNR=13
VRI Vrincioaia 120.79 320 ⇑P **PKPdf** **18 28 39.0 -1.6**
VRI Vrincioaia 120.79 320 ⇑PKIKP **PKPdf** **18 28 39.0 -1.6**
BURAR Bucovina Array 120.96 323 ⇑P **PKiKP** **18 28 41.4 +0.3**
BURAR Bucovina Array 120.96 323 ⇑PKIKP **PKiKP** **18 28 41.4 +0.3**
TURR Turia 121.16 321 ⇓P **PKPdf** **18 28 40.5 -0.8**
SCHQ Schefferville 121.43 27 PKP **PKPdf** **18 28 41.0 -0.6**
comp=Z,31nm,0.7s,baz=60,slow=8.1,SNR=2.0
MLR Muntele Rosu 121.44 320 ⇑P **PKPdf** **18 28 41.9 -0.1**
MLR Muntele Rosu 121.44 320 PKIKP **PKPdf** **18 28 41.9 -0.1**
BROLN Tlhalogang 121.74 240 *i* P **PKPdf** **18 28 43.4 +0.1**
MAKGR Makgori 121.91 234 *i* P **PKiKP** **18 28 43.8 +0.1**
KOLS Kolonicke sedl 122.04 325 *e*PKIKP **PKiKP** **18 28 43.8 +0.7**
ARR Arges 122.33 321 ⇑P **PKiKP** **18 28 44.2 +0.3**
ELND Elena 122.56 317 ⇑P **PKPdf** **18 28 44.0 -0.1**
DRGR 122.85 323 ⇑P **PKPdf** **18 28 44.7 +0.1**
DRGR 122.85 323 ⇑PKIKP **PKPdf** **18 28 44.7 +0.1**
NIE Niedzica 122.89 326 *e*PKPdf **PKiKP** **18 28 45.2 +0.4**
SOOWA Sowa 122.91 240 *i* P **PKiKP** **18 28 46.1 +0.4**
KDWAN Kaudwane 123.09 237 *i* P **PKiKP** **18 28 46.4 +0.3**
SKOMA Sekoma 123.19 235 *i* P **PKPdf** **18 28 46.3 +0.3**
PLVB Pleven 123.20 318 ⇑P **PKPdf** **18 28 45.3 0.0**
EZN Ezine 123.45 314 ⇓P **PKPdf** **18 28 45.5 -0.3**
EZN Ezine 123.45 314 ⇓PKIKP **PKPdf** **18 28 45.5 -0.3**
GZR Gura Zlata 123.48 321 ⇑P **PKPdf** **18 28 45.8 -0.1**
GZR Gura Zlata 123.48 321 ⇑PKIKP **PKPdf** **18 28 45.8 -0.1**
LANS Liptovska Anna 123.49 327 *e*PKiKP **PKiKP** **18 28 47.0 +1.0**
SURR Surduc 123.71 322 ⇑P **PKPdf** **18 28 46.3 +0.1**
SIRR Siria 123.74 323 ⇓P **PKPdf** **18 28 46.1 -0.1**
CFA Coronel Fontan 123.90 135 PKP **PKPdf** **18 28 46.8 -0.3**
comp=Z,6.0nm,0.8s,baz=256,slow=3.4,SNR=13
STEB Steborice 123.96 328 *e*PKPDF **PKiKP** **18 28 46.9 +0.1**
BZS Buzias 124.09 322 ⇑P **PKPdf** **18 28 47.1 +0.2**
BZS Buzias 124.09 322 ⇑PKIKP **PKPdf** **18 28 47.1 +0.2**
MORC Moravsky Berou 124.17 328 *e*PKIKP **PKiKP** **18 28 47.6 +0.3**
MORC Moravsky Berou 124.17 328 ⇑P **PKPdf** **18 28 47.2 +0.2**
MORC Moravsky Berou 124.17 328 ⇑PKIKP **PKPdf** **18 28 47.2 +0.2**
KSP Ksiaz 124.18 330 *e*PKPdf **PKiKP** **18 28 47.9 +0.6**
VYHS Vyhne 124.20 326 *e*PKIKP **PKPdf** **18 28 47.2 +0.1**
MAUC Maruska 124.26 327 *e*PKPDF **PKiKP** **18 28 48.2 +0.7**
OSTC Ostas 124.39 329 *e*PKIKP **PKiKP** **18 28 47.9 +0.2**
OSTC Ostas 124.39 329 *e*PKPDF **PKiKP** **18 28 47.9 +0.2**
KRLC Kraliky 124.39 329 *e*PKIKP **PKiKP** **18 28 48.1 +0.3**
KRLC Kraliky 124.39 329 *e*PKPDF **PKiKP** **18 28 48.1 +0.3**
CHVC Chvalec 124.45 329 *e*PKIKP **PKPdf** **18 28 47.2 -0.3**
CHVC Chvalec 124.45 329 *e*PKPDF **PKPdf** **18 28 47.2 -0.3**
DPC Dobruska-Polom 124.46 329 *e*PKIKP **PKiKP** **18 28 48.3 +0.4**
DPC Dobruska-Polom 124.46 329 *e*PKPDF **PKiKP** **18 28 48.3 +0.4**
JAVC Velka Javorina 124.64 327 *e*PKIKP **PKiKP** **18 28 49.5 +1.2**
SRO Srobarova 124.87 326 *e*PKIKP **PKiKP** **18 28 49.1 +0.4**
VRAC Vranov 124.95 328 *e*PKIKP **PKiKP** **18 28 49.0 +0.2**
SMOL Smolenice 124.97 327 *e*PKIKP **PKiKP** **18 28 49.4 +0.5**
BOVS Bovan 124.98 320 ⇑P **PKPdf** **18 28 48.8 +0.1**
ATAH Atahualpa 125.00 103 PKP **PKiKP** **18 28 51.2 +0.7**
comp=Z,8.1nm,0.8s,baz=270,slow=7.1,SNR=4.2
KRUC Moravsky 125.20 328 *e*PKIKP **PKiKP** **18 28 49.4 +0.1**
PVCC Panska Ves 125.23 330 *e*PKIKP **PKiKP** **18 28 50.0 +0.7**
PVCC Panska Ves 125.23 330 *e*PKPDF **PKiKP** **18 28 50.0 +0.7**
BRG Berggiesshubel 125.32 331 *e*PKP **PKiKP** **18 28 51.6 +2.1**
BRG Amp 18 28 52.4
comp=Z,16nm,1.0s
BRG pPKP **pPKPdf** **18 30 23.2 +1.1**
BRG Amp 18 30 29.9
comp=Z,5.0nm,1.2s
KGCAE Kacgae 125.35 236 *i* P **PKiKP** **18 28 50.9 +0.3**
CLL Collm 125.48 332 ⇓ *i* PKIKP **PKPdf** **18 28 49.5 +0.1**
CLL pmax pmax
comp=Z,14nm,0.9s
CLL Collm 125.48 332 ⇓ *i* PKPdf **PKPdf** **18 28 49.5 +0.1**
comp=Z,14nm,0.9s
MORH Mrgy, Hungar 125.56 324 ⇑P **PKPdf** **18 28 49.8 +0.1**
RONA Rosalia, Austr 126.06 327 *i* PKiKP **PKPdf** **18 28 50.9 +0.2**
comp=Z,1.9nm,0.5s
CONA Conrad Observa 126.16 327 *e*PKiKP **PKPdf** **18 28 51.1 +0.2**
comp=Z,3.5nm,0.8s,SNR=6.4
KHC Kasperske Hory 126.61 329 *de*PKIKP **PKPdf** **18 28 51.0 -0.7**
KHC Kasperske Hory 126.61 329 *e*PKPDF **PKiKP** **18 28 52.2 0.0**
GERES GERESS Array B 126.73 329 PKP **PKiKP** **18 28 52.4 -0.1**
comp=Z,6.4nm,0.8s,baz=64,slow=3.1,SNR=39
GERES pPKP **pPKPdf** **18 30 23.0 -1.8**
comp=Z,1.0nm,0.7s,baz=252,slow=0.6,SNR=5.1
GRTLG Ghanzi 126.83 237 *i* P **PKiKP** **18 28 53.9 +0.3**
KOOLE Kule 126.93 235 *i* P **PKiKP** **18 28 54.1 +0.4**
MOA Molln 127.06 328 *i* PKiKP **PKPdf** **18 28 52.5 0.0**
comp=Z,1.3nm,0.5s
SOKA Soboth 127.36 326 *e*PKiKP **PKPdf** **18 28 53.4 +0.1**
comp=Z,6.4nm,1.1s
GRF Grafenberg Arr 127.41 331 *e*PKPdf **PKiKP** **18 28 53.6 -0.1**
baz=45,slow=1.4
QNGWA Qangwa 127.66 239 *i* P **PKiKP** **18 28 55.3 +0.1**
KBA Koelnbreinsper 128.03 327 *e*PKiKP **PKPdf** **18 28 54.2 -0.4**
comp=Z,11nm,1.2s
LESA Schwarzleotal 128.16 328 *e*PKP **PKPdf** **18 28 54.1 -0.7**
comp=Z,9.6nm,1.0s
EKA Eskdalemuir Ar 128.37 344 PKP **PKPdf** **18 28 54.6 -0.2**
comp=Z,1.9nm,0.6s,baz=24,slow=4.8,SNR=7.9
ABTA Abfaltersbach 128.68 328 *e*PKP **PKPdf** **18 28 54.9 -0.9**
comp=Z,11nm,1.3s
WATA Walderalm 128.79 329 *e*PKiKP **PKPdf** **18 28 55.8 -0.2**
comp=Z,17nm,1.3s,SNR=4.5
WTTA Wattenberg 128.81 329 *e*PKiKP **PKPdf** **18 28 56.4 +0.2**
comp=Z,14nm,1.1s,SNR=5.2
MOTA Moosalm 129.03 329 *e*PKiKP **PKPdf** **18 28 56.3 -0.2**
comp=Z,12nm,1.4s
SQTA Sankt Quirin 129.06 329 *e*PKiKP **PKPdf** **18 28 56.4 -0.1**
comp=Z,11nm,1.4s
BTNL Ternell 129.07 335 *d*PKPdf **PKPdf** **18 28 56.6 +0.3**
PB08 IPOC Station P 129.08 123 PKPpre 18 28 46.5
MEM Membach 129.10 335 *d*PKP **PKiKP** **18 28 57.1 +0.1**
RETA Reutte 129.11 329 *e*PKiKP **PKPdf** **18 28 56.5 0.0**
comp=Z,8.1nm,1.2s
BHOU Houvegnez 129.30 335 *d*PKP **PKPdf** **18 28 57.1 +0.4**
FETA Feichten 129.44 329 *e*PKiKP **PKPdf** **18 28 57.5 +0.2**
comp=Z,12nm,1.1s
BCLA Clavier 129.54 335 *d*PKPdf **PKPdf** **18 28 56.5 -0.7**
UCC Uccle 129.63 336 *d*PKP **PKPdf** **18 28 57.6 +0.3**
DAVA Damuels 129.69 330 *e*PKiKP **PKPdf** **18 28 57.9 +0.1**
comp=Z,11nm,1.4s
WLF Walferdange 129.75 334 *d*PKP **PKiKP** **18 28 58.8 +0.4**
RCHB Rochefort 129.77 335 *d*PKP **PKPdf** **18 28 57.9 +0.2**
BMRD Maredsous 129.85 336 *d*PKP **PKPdf** **18 28 58.2 +0.5**
DOU Dourbes 130.08 335 *d*PKP **PKiKP** **18 28 59.4 +0.4**
ROSC El Rosal 130.90 89 PKP **PKiKP** **18 29 01.9 -0.3**
comp=Z,11nm,0.3s,baz=161,slow=17,SNR=4.5
ROSC El Rosal 130.90 89 PKiKP **PKiKP** **18 29 02.0 -0.3**
LPAZ La Paz 131.63 119 PKP **PKPdf** **18 29 03.4 +0.5**
comp=Z,5.5nm,0.7s,baz=277,slow=2.0,SNR=16
LPAZ pPKP **pPKPdf** **18 30 35.8 -0.1**
comp=Z,3.8nm,0.9s,baz=301,slow=2.9,SNR=4.0
LPAZ SKPac **SKPab** **18 31 53.6 +0.2**
comp=Z,7.2nm,0.8s,baz=176,slow=3.2,SNR=10
CPUP Villa Florida 134.65 138 PKP **PKPdf** **18 29 07.8 +0.2**
comp=Z,1.6nm,0.8s,baz=189,slow=1.6,SNR=10
KEST Kesra 137.22 318 PKP **PKPdf** **18 29 12.8 +0.6**
comp=Z,12nm,1.1s,baz=225,slow=1.4,SNR=5.1
BAUV El Baul 137.29 84 PKPpre 18 29 03.9
SIV San Ignacio 137.81 122 PKhKP PKPpre 18 29 03.4
comp=Z,1.3nm,0.7s,baz=207,slow=3.1,SNR=7.1
SIV PKP **PKPdf** **18 29 11.8 -1.9**
comp=Z,4.7nm,0.8s,baz=286,slow=3.3,SNR=8.9
SIV SKPbc **SKPbc** **18 32 12.5 +1.2**
comp=Z,2.9nm,0.9s,baz=266,slow=4.4,SNR=6.2
PDPR Patillas Dam, 138.44 70 PKPpre 18 29 06.4
HUMP Col San Antoni 138.57 70 PKPpre 18 29 06.8
SMRT St. Maarten 141.18 69 PKPpre 18 29 14.1
PGAV Gavieira, Arco 141.79 340 *e*PKP **PKPdf** **18 29 18.6 -1.7**
ESDC Sonseca Array 142.03 333 PKhKP PKPpre 18 29 17.0
comp=Z,2.8nm,0.9s,baz=19,slow=2.4,SNR=15
ESDC SKP 18 32 18.2
comp=Z,0.5nm,0.8s,baz=46,slow=4.8,SNR=2.5
MVO Moncorvo 142.04 338 *e*PKP **PKPdf** **18 29 17.4 -3.3**
POLO Lamas de Olo 142.14 339 *e*PKP **PKPdf** **18 29 17.6 -3.3**
PAB San Pablo 142.31 334 ⇓PKHKP PKPpre 18 29 15.0
PVIS Viseu 142.76 338 *e*PKP **PKPdf** **18 29 19.6 -2.4**
PCBR Castelo Branco 143.36 337 *e*PKP PKPbc 18 29 21.3 +0.3
PCAS Casmilo, Conde 143.56 338 *e*PKP PKPbc 18 29 22.0 +0.4
PMRV Marv??o 143.68 337 *e*PKP PKPbc 18 29 22.3 +0.3
PSARD Sardoal 143.83 338 *e*PKP PKPbc 18 29 22.8 +0.3
PESTR Estremoz 144.24 336 *e*PKP **PKPab** **18 29 23.8 +0.1**
PMTG Montargil 144.32 337 *e*PKP PKPbc 18 29 24.1 +0.2
PBAR Barrancos 144.61 335 *e*PKP **PKPdf** **18 29 25.3 +0.1**
EVO Evora 144.70 337 *e*PKP **PKPdf** **18 29 25.6 +0.3**
PMAFR Mafra 144.81 339 *e*PKP **PKPab** **18 29 26.1 +0.3**
PARRA Arraiolos 144.84 338 *e*PKP PKPbc 18 29 24.5 -1.1
PBEJ Beja 145.08 336 *e*PKP **PKPab** **18 29 27.0 +0.1**
MESJ Messejana 145.38 336 *e*PKPab **PKPab** **18 29 28.1 +0.1**
MESJ Messejana 145.38 336 *e*PKP **PKPab** **18 29 27.9 -0.1**
PCVE Castro Verde 145.49 336 *e*PKP **PKPab** **18 29 28.2 -0.2**
PVAQ Vaqueiros 145.55 335 *e*PKP **PKPbc** **18 29 28.2 +0.4**
PBDV Barranco-do-Ve 145.77 335 *e*PKP **PKPab** **18 29 29.4 -0.1**
PTEO Sao Teotonio 145.83 337 *e*PKP **PKPab** **18 29 29.3 -0.5**
MORF Marmelete 146.01 336 *e*PKPab **PKPab** **18 29 30.9 +0.3**
MORF Marmelete 146.01 336 *e*PKP **PKPab** **18 29 30.0 -0.5**
PFVI Vila Bisbo 146.23 336 *e*PKP **PKPbc** **18 29 30.5 +0.7**
BDFB Brasilia 148.24 134 PKPbc **PKPdf** **18 29 32.9 +0.8**
comp=Z,18nm,0.9s,baz=139,slow=0.6,SNR=15
CMLA Cha da Macela 148.98 1 *i* PKHKP PKPpre 18 29 33.3
TORD Torodi Ar. Bea 152.94 286 PKP **PKPdf** **18 29 38.2 -0.9**
comp=Z,2.8nm,0.8s,baz=26,slow=2.5,SNR=15
TORD PKPbc **PKPbc** **18 29 46.2 -0.6**
comp=Z,11nm,0.8s,baz=42,slow=3.2,SNR=40
TORD pPKP **pPKPdf** **18 31 11.9 +0.2**
comp=Z,3.6nm,0.8s,baz=71,slow=3.0,SNR=4.1
DBIC Dimbokro 160.00 271 PKP **PKPdf** **18 29 48.1 -0.2**
comp=Z,5.0nm,1.0s,baz=136,slow=4.5,SNR=3.9
DBIC PKPab **PKPab** **18 30 30.0 -0.3**
comp=Z,33nm,1.0s,baz=108,slow=4.3,SNR=18

*JMA **08** 18:11:20.8±0.1,24˚.6N±0˚.7×122˚.4E±0˚.2,h35km±1km, MV2.3/13,NW OFF ISHIGAKIJIMA IS*
*TAP **08** 18:11:20.2,24˚.67N×122˚.38E,h15km,ML3.0,C*
ISC 08 18:11:18.2±1.1,24˚.69N±0˚.02×122˚.50E±0˚.02,h5km±10km, n78,σ0°78/122,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.36**	**222**	*i*P	**Pb**	**18 11 26.9**	**-0.2**
EOS2				*i*S	**Sb**	**18 11 32.1**	**-0.9**
EOS3	**EOS3**	**0.43**	**202**	*i*P	**Pb**	**18 11 28.5**	**+0.2**
EOS3				S	**Sb**	**18 11 34.8**	**-0.3**
JYNG	**Yonaguni jima**	**0.47**	**120**	P	**Pn**	**18 11 30.9**	**-0.7**
JYNG				*e*S	**Sb**	**18 11 38.1**	**+1.9**
YOJ	**Yonaguni jima**	**0.52**	**116**	P	**Pn**	**18 11 31.8**	**-0.5**
YOJ				S	**Sb**	**18 11 40.8**	**+3.2**
YOJ	**Yonaguni jima**	**0.52**	**116**	P	**Pn**	**18 11 31.8**	**-0.5**
YOJ				*e*S	**Sb**	**18 11 39.8**	**+2.1**
EGS		**0.54**	**287**	*i*P	**Pb**	**18 11 29.4**	**-0.7**
EGS				*i*S	**Sg**	**18 11 36.9**	**+1.3**
TWB1	**Santiao Chiao**	**0.56**	**304**	*i*P	**Pb**	**18 11 30.5**	**0.0**
TWB1				*i*S	**Sg**	**18 11 36.6**	**+0.2**
EOS4	**EOS4**	**0.59**	**196**	P	**Pb**	**18 11 31.4**	**+0.6**
EOS4				S	**Sb**	**18 11 39.7**	**+0.4**
TWC	**Suao**	**0.60**	**262**	*i*P	**Pg**	**18 11 29.5**	**-0.2**
TWC				S	**Sg**	**18 11 38.2**	**+0.7**
ESAO	**Su ao**	**0.61**	**259**	P	**Pg**	**18 11 29.9**	**+0.1**
ESAO				*e*S	**Sg**	**18 11 38.6**	**+0.9**
TIPB	**Shuangxi**	**0.67**	**295**	*e*P	**Pb**	**18 11 31.9**	**-0.5**
ILA	**Ilan**	**0.69**	**276**	*e*P	**Pb**	**18 11 32.0**	**-0.6**
ILA				*e*S	**Sg**	**18 11 41.5**	**+1.2**
SXI1	**Grass Mountain**	**0.69**	**306**	P	**Pb**	**18 11 33.0**	**+0.2**
SXI1				S	**Sb**	**18 11 41.8**	**-1.0**
EWUT	**Wuta**	**0.70**	**250**	*e*P	**Pg**	**18 11 31.8**	**+0.1**
EWUT				*e*S	**Sg**	**18 11 40.6**	**-0.2**
ENA	**Nanau**	**0.74**	**249**	P	**Pg**	**18 11 32.4**	**0.0**
ENA				S	**Sg**	**18 11 42.3**	**+0.3**
NWF	**Wu-fen Shan**	**0.75**	**300**	P	**Pn**	**18 11 34.7**	**-0.9**
NWF				S	**Sb**	**18 11 44.5**	**0.0**
WFSB	**Wu-fen Shan**	**0.75**	**300**	*i*P	**Pn**	**18 11 34.7**	**-0.8**
WFSB				S	**Sb**	**18 11 44.3**	**-0.1**
TWE	**Neicheng**	**0.76**	**273**	P	**Pg**	**18 11 32.4**	**-0.4**
TWE				S	**Sg**	**18 11 42.5**	**-0.1**
EAHA	**Aohua**	**0.78**	**243**	*i*P	**Pg**	**18 11 33.5**	**+0.3**
EAHA				*e*S	**Sg**	**18 11 42.5**	**-0.9**
EHP	**Heping Village**	**0.79**	**241**	*e*P	**Pb**	**18 11 34.0**	**-0.4**
EHP				*e*S	**Sg**	**18 11 44.1**	**+0.5**
TNOU	**National Taiwa**	**0.80**	**305**	*e*P	**Pb**	**18 11 35.1**	**+0.4**
TNOU				*e*S	**Sb**	**18 11 45.3**	**-0.5**
FUSB	**Fushanzhiwuyua**	**0.83**	**275**	P	**Pb**	**18 11 34.6**	**-0.6**
FUSB				*i*S	**Sg**	**18 11 45.1**	**+0.1**
ENTT	**Nioudou**	**0.85**	**267**	*i*P	**Pg**	**18 11 34.5**	**-0.1**
ENTT				*i*S	**Sg**	**18 11 44.6**	**-1.0**
TWA	**Mucha**	**0.88**	**289**	*e*P	**Pn**	**18 11 36.6**	**-0.6**
TWA				S	**Sg**	**18 11 46.5**	**0.0**
LATG	**Datong**	**0.90**	**260**	P	**Pg**	**18 11 35.4**	**-0.1**
LATG				S	**Sg**	**18 11 47.7**	**+0.6**
NWLT	**Wulai**	**0.91**	**276**	*e*P	**Pb**	**18 11 35.9**	**-0.6**
NWLT				S	**Sg**	**18 11 46.8**	**-0.7**
NHY	**Taipei**	**0.91**	**293**	*e*P	**Pn**	**18 11 38.2**	**+0.5**
NHY				*e*S	**Sb**	**18 11 49.3**	**+0.3**
NHDH	**Xindian Distri**	**0.93**	**287**	*e*P	**Pn**	**18 11 37.7**	**-0.2**
NHDH				S	**Sg**	**18 11 48.6**	**+0.6**
ETL	**Fush Village**	**0.96**	**237**	*e*P	**Pb**	**18 11 36.9**	**-0.4**
ETL				*e*S	**Sg**	**18 11 49.3**	**+0.2**
YM08	**YM08**	**0.96**	**301**	P	**Pb**	**18 11 37.4**	**0.0**
YM08				S	**Sg**	**18 11 49.4**	**+0.1**
NACB	**Ninganchiao**	**0.97**	**238**	*i*P	**Pg**	**18 11 36.7**	**-0.2**
NACB				*e*S	**Sg**	**18 11 48.1**	**-1.3**
ZUZH	**Zhuzihu**	**0.98**	**299**	P	**Pn**	**18 11 38.1**	**-0.7**
ZUZH				S	**Sg**	**18 11 50.5**	**+0.5**
TWY	**Chenhua**	**1.00**	**306**	*i*P	**Pn**	**18 11 38.4**	**-0.6**
TWY				*i*S	**Sb**	**18 11 51.2**	**-0.4**
PCYT	**Pengchaiyu**	**1.01**	**338**	*i*P	**Pn**	**18 11 40.8**	**+1.7**
PCYT				*e*S	**Sn**	**18 11 53.6**	**-0.1**
ANP	**Anpu**	**1.02**	**299**	*e*P	**Pn**	**18 11 38.6**	**-0.7**
YHNB	**Yeheng**	**1.02**	**269**	*e*P	**Pg**	**18 11 37.9**	**+0.1**
YHNB				*e*S	**Sg**	**18 11 50.1**	**-1.0**
TWD	**Chiawan**	**1.02**	**234**	P	**Pb**	**18 11 38.8**	**-0.3**
TWD				S	**Sg**	**18 11 52.0**	**+0.8**
NSK	**Sanguang**	**1.04**	**269**	*i*P	**Pg**	**18 11 37.8**	**-0.3**
NSK				*i*S	**Sg**	**18 11 49.5**	**-2.2**
ETLH	**Xiulin Townshi**	**1.04**	**243**	*e*P	**Pg**	**18 11 38.0**	**-0.3**
ETLH				*e*S	**Sg**	**18 11 50.8**	**-1.1**
NNSB	**Datong**	**1.05**	**256**	*e*P	**Pg**	**18 11 38.1**	**-0.2**
NNSB				S	**Sg**	**18 11 52.0**	**0.0**
NNS	**Nan Shan**	**1.05**	**257**	*e*P	**Pg**	**18 11 38.4**	**-0.1**
NNS				*e*S	**Sg**	**18 11 51.5**	**-0.6**
NTST	**Danshui**	**1.06**	**297**	*e*P	**Pn**	**18 11 40.1**	**+0.4**
NTST				*e*S	**Sb**	**18 11 53.4**	**0.0**
TWS1	**Kuangyinshan**	**1.06**	**293**	*e*P	**Pn**	**18 11 40.7**	**+0.9**
TWS1				*e*S	**Sb**	**18 11 53.3**	**0.0**
ETM	**Tongmen**	**1.17**	**232**	*e*P	**Pg**	**18 11 40.1**	**-0.5**
IRIF	**Iriomote-Funau**	**1.18**	**107**	*e*P	**Pn**	**18 11 41.8**	**+0.5**
IRIF				*e*S	**Sn**	**18 11 57.0**	**-0.8**
LXIB	**Xiulin Townshi**	**1.19**	**236**	*e*P	**Pg**	**18 11 41.7**	**0.0**
KSHI	**Guanxi Townshi**	**1.21**	**274**	*e*P	**Pn**	**18 11 42.9**	**+1.1**
FUSS	**Fushou**	**1.23**	**249**	*e*P	**Pb**	**18 11 42.0**	**0.0**
SHUL	**Shoufeng**	**1.24**	**224**	*e*P	**Pn**	**18 11 42.9**	**+0.7**
WHF	**Hehuan Shan**	**1.25**	**244**	*e*P	**Pg**	**18 11 42.1**	**-0.1**
NFF	**Wufeng Townshi**	**1.26**	**268**	P	**Pn**	**18 11 42.9**	**+0.4**
TDCB	**Techi**	**1.30**	**251**	*e*P	**Pb**	**18 11 43.2**	**+0.1**
ESL	**Shilin**	**1.31**	**228**	*e*P	**Pb**	**18 11 43.9**	**+0.6**
HATJ	**Hateruma jima**	**1.35**	**118**	*e*S	**Sb**	**18 12 00.4**	**-1.1**
LIOB	**Emei**	**1.35**	**268**	*e*P	**Pb**	**18 11 45.3**	**+1.2**
NSTT	**Nanjuang**	**1.36**	**268**	*e*P	**Pb**	**18 11 45.2**	**+0.9**
SBCB	**Hsinchu**	**1.38**	**275**	*e*P	**Pb**	**18 11 45.8**	**+1.3**
WARBT	**Fenglin Townsh**	**1.40**	**227**	*e*P	**Pg**	**18 11 45.2**	**0.0**
OWD	**Renai**	**1.41**	**239**	*e*P	**Pg**	**18 11 45.0**	**-0.4**
WUSB	**Renai**	**1.44**	**241**	*e*P	**Pg**	**18 11 46.0**	**+0.2**
JKRS	**Kuro-shima**	**1.45**	**108**	P	**Pb**	**18 11 46.3**	**+0.6**
JKRS				*e*S	**Sn**	**18 12 04.6**	**+0.1**
WHP	**Taichung City**	**1.47**	**254**	*e*P	**Pg**	**18 11 46.8**	**+0.3**
JIJ	**Ishigaki jima**	**1.53**	**102**	*e*P	**Pg**	**18 11 47.1**	**-0.5**
JIJ				*e*S	**Sn**	**18 12 06.6**	**0.0**
HGSD	**Ruisui**	**1.54**	**220**	*e*P	**Pb**	**18 11 46.9**	**-0.4**
NMLH	**Miaoli**	**1.56**	**265**	*e*P	**Pg**	**18 11 48.6**	**+0.5**
WCS	**Beigang Elemen**	**1.58**	**247**	*e*P	**Pn**	**18 11 47.2**	**+0.4**
EHYH	**Wanrong**	**1.59**	**222**	*e*P	**Pb**	**18 11 48.0**	**-0.1**
EHY	**Hungye**	**1.59**	**223**	*e*P	**Pn**	**18 11 46.7**	**-0.4**
NSY	**Sanyi**	**1.60**	**261**	*e*P	**Pg**	**18 11 50.5**	**+1.4**
TWQ1	**Liyutan**	**1.61**	**258**	*e*P	**Pg**	**18 11 50.4**	**+1.3**
JISG	**Ishigakijimahi**	**1.65**	**93**	*e*P	**Pg**	**18 11 48.9**	**-1.0**
SMLT	**Sun Moon Lake**	**1.67**	**241**	*e*P	**Pg**	**18 11 50.5**	**+0.3**
SSLB	**Suanglung**	**1.67**	**238**	*e*P	**Pb**	**18 11 49.1**	**-0.4**
YULB	**Yu-li**	**1.70**	**221**	*e*P	**Pb**	**18 11 49.3**	**-0.6**
WHYT	**Xinyi Township**	**1.80**	**237**	*e*P	**Pb**	**18 11 51.9**	**+0.2**
WNT	**Mingjian**	**1.84**	**244**	*e*P	**Pg**	**18 11 54.0**	**+0.4**
ALS	**Alishan**	**1.94**	**233**	*e*P	**Pb**	**18 11 53.4**	**-0.9**
JTJ	**Tarama**	**2.00**	**91**	*e*P	**Pg**	**18 11 54.5**	**-2.1**

*NEIC **08** 18:40:09.7±0.4, 19˚.19N±0˚.03×155˚.49W±0˚.04, h42km±5km, Error ellipse: s-maj=5.9km s-min=2.2km az=121.0*
HVO 08 18:40:11.1±0.7,19˚.16N±0˚.05×155˚.46W±0˚.03,h35km±2km, ML2.6/33,ML2.7/40(NEIC),Error ellipse: s-maj=7.6km s-min=4.0km az=164.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.09**	**39**		Pn	18 40 16.8	-0.4
HPO	**Honuapo**	**0.12**	**230**		Pn	18 40 16.6	-2.3
HPO					Sn	18 40 20.8	-4.5
KHU	**Kahuku**	**0.17**	**299**		Pn	18 40 17.1	-1.9
KHU					Sn	18 40 21.4	-3.7
HLP	**Hilina Pali**	**0.20**	**48**		Pn	18 40 17.3	-1.4
HLP	comp=N,809nm,0.2s			IAML		18 40 23.9	
HLP	comp=E,993nm,0.2s			IAML		18 40 24.9	
AIN	**Ainahou**	**0.21**	**1**		Pn	18 40 17.5	-1.3
SDHHI	**Sand Hill**	**0.27**	**35**		Pn	18 40 17.9	-1.2
SDHHI					Sn	18 40 23.0	-2.0
WRMHI	**West Rim**	**0.28**	**32**		Pn	18 40 18.0	-1.2
WRMHI					Sn	18 40 23.2	-1.9
RIM	**Rim**	**0.29**	**37**		Pn	18 40 18.0	-1.2
KKO	**Keanakako'i**	**0.30**	**38**		Pn	18 40 18.1	-1.1
KKO					Sn	18 40 23.3	-2.0
UWE	**Uwekahuna**	**0.30**	**32**		Pn	18 40 18.1	-1.2
UWE					Sn	18 40 23.3	-2.0
UWE	**Uwekahuna**	**0.30**	**32**	IAML		18 40 26.9	
UWE	comp=N,802nm,0.5s			IAML		18 40 33.4	
OBL	**Observatory Le**	**0.30**	**33**		Pn	18 40 18.1	-1.2
OBL					Sn	18 40 23.3	-2.0
BYL	**Byron's Ledge**	**0.31**	**37**		Pn	18 40 18.2	-1.2
BYL	**Byron's Ledge**	**0.31**	**37**	IAML		18 40 23.8	
BYL	comp=E,455nm,0.8s			IAML		18 40 27.8	
PUH	**Pauahi**	**0.31**	**48**		Pn	18 40 18.2	-1.2
PUH					Sn	18 40 23.4	-1.9
PUH	**Pauahi**	**0.31**	**48**	IAML		18 40 23.8	
PUH	comp=E,665nm,0.3s			IAML		18 40 23.9	
UWB	**Uwekahuna Bluf**	**0.31**	**34**		Pn	18 40 18.1	-1.3
UWB					Sn	18 40 23.9	-1.5
SBLHI	**Steaming Bluff**	**0.32**	**35**		Pn	18 40 18.2	-1.3
SBLHI					Sn	18 40 23.5	-2.0
HATHI	**Halema'uma'u T**	**0.32**	**36**		Pn	18 40 18.3	-1.2
HATHI	comp=E,716nm,0.3s			IAML		18 40 24.0	
HATHI	comp=N,540nm,0.4s			IAML		18 40 24.8	
HATHI	**Halema'uma'u T**	**0.32**	**36**		Sn	18 40 23.5	-2.0
MLH	**Mauna Loa**	**0.34**	**12**		Pn	18 40 18.7	-1.1
MLH	comp=N,794nm,0.4s			IAML		18 40 24.6	
MLH	comp=E,696nm,0.2s			IAML		18 40 24.6	
MLH	**Mauna Loa**	**0.34**	**12**		Sn	18 40 24.2	-1.8
MWH	**Mokuaweoweo**	**0.34**	**338**		Pn	18 40 18.7	-1.5
MWH	**Mokuaweoweo**	**0.34**	**338**	IAML		18 40 26.7	
MWH	comp=E,347nm,0.8s			IAML		18 40 34.1	
MWH	comp=N,312nm,1.4s			IAML		18 40 27.3	
KNHH	**Kane Nui o Ham**	**0.35**	**52**		Pn	18 40 18.7	-1.1
STCH	**Steam Cracks**	**0.39**	**55**		Pn	18 40 19.0	-1.2
STCH					Sn	18 40 24.8	-1.8
STCH	**Steam Cracks**	**0.39**	**55**	IAML		18 40 25.3	
STCH	comp=E,528nm,0.1s			IAML		18 40 26.6	
STCH	comp=N,369nm,0.1s			IAML		18 40 34.1	
NPOC	**North of Pu'u**	**0.40**	**55**		Pn	18 40 19.2	-1.2
NPOC					Sn	18 40 25.0	-2.0
JCUZ	**Jacuzzi**	**0.40**	**57**		Pn	18 40 19.4	-1.1
ALEP	**Alea Permanent**	**0.41**	**335**		Pn	18 40 19.2	-1.6
ALEP					Sn	18 40 25.6	-2.1
HMH	**Humu'ula Sheep**	**0.44**	**357**		Pn	18 40 20.1	-1.1
HMH					Sn	18 40 26.9	-1.3
HMH	**Humu'ula Sheep**	**0.44**	**357**	IAML		18 40 27.0	
HMH	comp=N,886nm,0.3s			IAML		18 40 27.3	
HMH	comp=E,624nm,0.3s			IAML		18 40 27.3	
JOKA	**Jonika Flow**	**0.51**	**58**		Pn	18 40 20.4	-1.5
JOKA					Sn	18 40 27.2	-2.2
JOKA	**Jonika Flow**	**0.51**	**58**	IAML		18 40 27.8	
JOKA	comp=E,395nm,0.3s			IAML		18 40 30.8	
JOKA	comp=N,429nm,0.6s			IAML		18 40 30.8	
CPH	**Captain Cook**	**0.54**	**307**		Pn	18 40 20.4	-2.0
POHA	**Pohakuloa**	**0.59**	**353**		Pn	18 40 21.4	-2.0
POHA	**Pohakuloa**	**0.59**	**353**		Sn	18 40 29.0	-3.0
HUH	**Hualalai**	**0.63**	**326**		Pn	18 40 22.2	-1.6
HUH					Sn	18 40 30.3	-2.5
HUH	**Hualalai**	**0.63**	**326**	IAML		18 40 36.8	
HUH	comp=N,409nm,0.7s			IAML		18 40 48.5	
HUH	comp=E,320nm,0.4s			IAML		18 40 48.5	
HPAH	**Hawaii Prepara**	**0.89**	**346**		Pn	18 40 25.2	-2.0
HPAH					Sn	18 40 35.5	-3.5

*IDC **08** 18:52:12.2±6.9,28˚.36N×141˚.39E,h375km±38km,mb2.9/4, mbtmp3.7/6,Error ellipse: s-maj=314.2km s-min=18.0km az=84.0*
*JMA **08** 18:52:14.7±0.1,28˚.21N±1˚×14˚1E±˚,h385km,MV3.5/27,W OFF OGASAWARA*
ISC 08 18:52:13.6±0.9,28˚.21N±0˚.08×139˚.8E±0˚.2,h350km,n14, σ2°07/16,mb3.2/4,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.36**	**117**	*e*P	**Pn**	**18 53 08.9**	**+1.3**
CBIJ				*e*S	**S**	**18 53 51.5**	**+0.5**
JHH2	**Haha-jima-NKT2**	**2.61**	**126**	*e*S	**S**	**18 53 55.9**	**+1.3**
BSO1	**Boso 1**	**6.50**	**8**	*e*S	**S**	**18 55 07.8**	**+0.3**
BSO3	**Boso 3**	**6.60**	**5**	*e*P	**Pn**	**18 53 52.8**	**+1.9**
BSO3				*e*S	**S**	**18 55 08.7**	**-1.3**
JIE	**Ise**	**6.72**	**337**	*e*P	**Pn**	**18 53 57.3**	**+4.8**
JNY	**Yasuok**	**7.33**	**347**	*e*P	**Pn**	**18 54 02.6**	**+2.9**
JHO	**Hitachi**	**8.40**	**4**	*e*P	**P**	**18 54 13.1**	**-2.0**
MJAR	**Matsushiro Arr** 1.5nm,0.6s,baz=168,slow=5.6,SNR=7.9	**8.42**	**351**	P	**Pn**	**18 54 13.3**	**+0.6**
JMK	**Ichinoseki**	**10.78**	**6**	*e*P	**P**	**18 54 42.2**	**+0.8**
USRK	**Usuriysk Ar.** 4.0nm,0.6s,baz=143,slow=11,SNR=6.5	**17.16**	**341**	P	**P**	**18 55 52.5**	**+1.2**
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=4.4,slow=7.5,SNR=1.8 0.2nm,0.5s	**48.16**	**187**	P	**P**	**19 00 18.3**	**-1.5**
ASAR	**Alice Springs** 0.3nm,0.9s,baz=358,slow=6.0,SNR=5.5 0.3nm,0.9s	**51.89**	**187**	P	**P**	**19 00 46.5**	**-1.1**
ARCES	**ARCESS Array B** 1.5nm,0.9s,baz=58,slow=5.5,SNR=3.7 1.5nm,0.9s	**71.80**	**340**	P	**P**	**19 02 56.4**	**-1.9**
FINES	**FINESS Array B** 2.5nm,1.0s,baz=61,slow=5.0,SNR=9.3 2.5nm,1.0s	**76.02**	**333**	P	**P**	**19 03 21.5**	**-1.2**

IDC 08 18:55:57.3±1.5,30˚.45S×178˚.29W,h48km±15km,mb3.5/3, mbtmp3.8/4,ML3.3/1,Error ellipse: s-maj=32.9km s-min=12.0km az=111.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 447nm,0.2s,baz=119,slow=13,SNR=11	**1.23**	**15**	P	Pn	18 56 18.8	+0.7
RAO	2μm,0.3s,baz=98,slow=23,SNR=14			S	Sn	18 56 33.6	0.0
URZ	**Urewera** 0.3nm,0.3s,baz=4.6,slow=14,SNR=1.6	**8.67**	**205**	P	Pn	18 57 58.9	-1.2
URZ	9.4nm,0.8s,baz=195,slow=21,SNR=5.8 11nm,1.0s			S	Sn	18 59 33.6	-2.9
ASAR	**Alice Springs** 0.4nm,0.5s,baz=107,slow=7.6,SNR=17 0.4nm,0.5s	**42.85**	**267**	P	P	19 03 51.5	+0.5
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=111,slow=8.1,SNR=26 0.8nm,0.3s	**43.85**	**272**	P	P	19 03 59.6	+0.5
QSPA	**South Pole Qui** 0.9nm,0.8s,baz=207,slow=5.9,SNR=6.5 0.9nm,0.8s	**59.66**	**180**	P	P	19 05 58.1	+1.6
H03S2	**Juan Fernandez** baz=238,slow=74,SNR=4.6	**80.65**	**124**	T	T	20 37 06.6	
H03S1	**Juan Fernandez** baz=238,slow=74,SNR=5.1	**80.66**	**124**	T	T	20 37 10.8	
H03S3	**Juan Fernandez** baz=238,slow=74,SNR=5.7	**80.67**	**124**	T	T	20 37 09.6	
H03N3	**Juan Fernandez** baz=231,slow=78,SNR=6.2	**80.84**	**123**	T	T	20 37 31.0	
H03N2	**Juan Fernandez** baz=231,slow=78,SNR=4.0	**80.85**	**123**	T	T	20 37 31.5	
H03N1	**Juan Fernandez** baz=231,slow=78,SNR=7.6	**80.86**	**123**	T	T	20 37 27.1	
BVAR	**Borovoye Array** 0.3nm,0.4s,baz=26,slow=6.9,SNR=2.1	**126.26**	**316**	PKP	PKPdf	19 14 52.6	-1.5
FINES	**FINESS Array B** 1.6nm,0.4s,baz=54,slow=3.9,SNR=21	**145.10**	**340**	PKPbc	PKPbc	19 15 26.4	-1.8
NOA	**NORSAR Array B** 0.5nm,0.6s,baz=16,slow=2.5,SNR=5.2	**148.76**	**351**	PKPbc	PKPbc	19 15 37.5	-1.3
HFS	**Hagfors** 1.5nm,0.8s,baz=33,slow=3.4,SNR=1.9	**149.24**	**348**	PKPbc	PKPbc	19 15 38.7	-1.3

*IDC **08** 19:13:44.5±1.2,26˚.95N×55˚.65E,h0km,mb4.0/16, mbtmp4.0/20,ML3.8/4,MS3.0/5,Error ellipse: s-maj=25.4km s-min=17.2km az=177.0*
*DSN **08** 19:13:45.9±0.7,27˚.05N×55˚.86E,h10km,ML3.5/14,Error ellipse: s-maj=10.3km s-min=3.9km az=55.0*
*NEIC **08** 19:13:45.6±2.2,27˚.00N±0˚.04×55˚.59E±0˚.09,h10km±1km, mb4.3/26,Error ellipse: s-maj=14.7km s-min=4.0km az=65.0*
*TEH **08** 19:13:45.5,26˚.88N×55˚.70E,h17km,16km*
*OMAN **08** 19:13:46.7±0.7,26˚.95N×55˚.70E,h10km,mb4.4/4, ml3.6/22,Error ellipse: s-maj=8.4km s-min=4.3km az=45.0*
*THR **08** 19:13:46.5±0.0,26˚.90N×55˚.66E,h14km±20km,ML4.0*
ISC 08 19:13:45.9±1.1,26˚.98N±0˚.02×55˚.68E±0˚.03,h13km±8km, n152,σ1°86/174,mb4.1/33,MS2.8/5,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.90**	**58**	Pg	**Pb**	**19 14 04.4**	**+1.1**
SHME	**Shamm**	**1.02**	**156**	P	**Pg**	**19 14 05.6**	**+0.2**
SHME				S	**Sg**	**19 14 18.3**	**-0.4**
SHME	**Shamm** SNR=62	**1.02**	**156**	*e*P	**Pg**	**19 14 04.9**	**-0.6**
SHME				S	**Sb**	**19 14 20.1**	**+1.6**
BANOM	**Banah**	**1.19**	**152**	P	**Pn**	**19 14 08.6**	**+0.4**
BANOM				S	**Sb**	**19 14 24.5**	**+0.8**
BANOM	**Banah** SNR=325	**1.19**	**152**	*e*P	**Pn**	**19 14 07.9**	**-0.4**
LAR1	**LAR**	**1.35**	**301**	Pg	**Pg**	**19 14 13.5**	**+1.6**
LAR1				Sg	**Sn**	**19 14 34.0**	**+5.8**
UMQ	**Umm Al-Quwin** SNR=13	**1.45**	**181**	P	**Pg**	**19 14 14.3**	**+0.5**
UMQ				S	**Sg**	**19 14 35.0**	**+2.4**
UMQ	**Umm Al-Quwin** SNR=13	**1.45**	**181**	*e*P	**Pg**	**19 14 13.6**	**-0.2**
MASF	**Masafi** SNR=45	**1.66**	**165**	P	**Pb**	**19 14 16.4**	**+0.1**
MASF				S	**Sn**	**19 14 37.1**	**+1.2**
MSFE	**Esma-Masafi** SNR=14	**1.67**	**165**	*e*P	**Pn**	**19 14 16.0**	**+1.2**
MDH	**Madha** SNR=32	**1.77**	**162**	P	**Pn**	**19 14 17.2**	**+1.1**
MDH				S	**Sn**	**19 14 39.7**	**+1.3**
MDH	**Madha** SNR=32	**1.77**	**162**	*e*P	**Pn**	**19 14 17.2**	**+1.1**
NAZ	**Nazwa, Dubai**	**1.99**	**181**	P	**Pb**	**19 14 21.4**	**-0.5**
NAZ				S	**Sb**	**19 14 46.8**	**+0.3**
NAZ	**Nazwa, Dubai** SNR=15	**1.99**	**181**	*e*P	**Pb**	**19 14 21.1**	**-0.8**
KHNJ	**Kahnooj**	**2.04**	**61**	Pn	**Pn**	**19 14 21.9**	**+2.0**
UOSS	**Minazif**	**2.08**	**167**		**Pn**	**19 14 21.7**	**+1.2**
UOSS	**Minazif**	**2.08**	**167**	P	**Pn**	**19 14 21.8**	**+1.3**
UOSS				S	**Sn**	**19 14 48.8**	**+2.6**
UOSS	**Minazif**	**2.08**	**167**	Pn	**Pn**	**19 14 21.0**	**+0.5**
UOSS	**Minazif** SNR=14	**2.08**	**167**	*e*P	**Pn**	**19 14 21.3**	**+0.8**
HATD	**Hatta, Dubai** SNR=8.6	**2.19**	**169**	P	**Pn**	**19 14 23.6**	**+1.7**
HATD				S	**Sb**	**19 14 52.4**	**+0.1**
HATD	**Hatta, Dubai** SNR=33	**2.19**	**169**	*e*P	**Pn**	**19 14 23.1**	**+1.2**
FAQ	**Al Faqa, Dubai**	**2.23**	**182**	P	**Pb**	**19 14 24.6**	**-1.5**
FAQ				S	**Sb**	**19 14 53.2**	**-0.3**
FAQ	**Al Faqa, Dubai**	**2.23**	**182**	P	**Pb**	**19 14 24.5**	**-1.5**
LMD1	**Lamerd**	**2.27**	**280**	Pn	**Pb**	**19 14 25.8**	**-1.0**
LMD1	**Lamerd**	**2.27**	**280**	*e*Pn	**Pg**	**19 14 26.5**	**-2.9**
LMD1	comp=Z,1.2nm,1.0s			IAML		19 15 17.7	
ASHO	**Ashiyiah** SNR=210	**2.31**	**171**	P	**Pn**	**19 14 25.5**	**+1.8**
ASHO				S	**Sn**	**19 14 53.4**	**+1.4**
ASHO	**Ashiyiah** SNR=209	**2.31**	**171**	*e*P	**Pn**	**19 14 24.6**	**+0.9**
ASUD	**Al Ashush, Dub** SNR=9.7	**2.37**	**188**	P	**Pb**	**19 14 27.0**	**-1.4**
ASUD				S	**Sb**	**19 14 57.2**	**-0.3**
ASUD	**Al Ashush, Dub** SNR=9.9	**2.37**	**188**	*e*P	**Pb**	**19 14 26.9**	**-1.5**
JHRM	**Jahrom**	**2.40**	**310**	Pn	**Pb**	**19 14 28.4**	**-0.7**
AJN	**Ajban**	**2.49**	**195**	P	**Pn**	**19 14 28.1**	**+2.0**
GHIR	**Ghir-Karzin**	**2.72**	**299**	*i*P	**Pb**	**19 14 32.4**	**-2.1**
GHIR	comp=Z,0.1nm,1.0s			IAML		19 15 04.3	
QIR1	**Qir**	**2.77**	**303**	Pn	**Pb**	**19 14 32.9**	**-2.4**
NGRK	**Negar Kerman**	**2.81**	**19**	Pn	**Pb**	**19 14 34.2**	**-1.9**
ALNE	**Al Ain** SNR=7.5	**2.91**	**179**	P	**Pn**	**19 14 33.7**	**+1.7**
ALNE	**Al Ain** SNR=13	**2.91**	**179**	*e*P	**Pn**	**19 14 33.5**	**+1.6**
SOHO	**SOHO**	**2.94**	**165**	P	**Pn**	**19 14 32.0**	**-0.3**
SOHO	**SOHO** SNR=22	**2.94**	**165**	*e*P	**Pn**	**19 14 33.0**	**+0.7**
KRBR	**Kerman**	**3.14**	**17**	Pn	**Pb**	**19 14 39.1**	**-2.6**
KRBR	**Kerman**	**3.14**	**17**	*e*Pn	**Pb**	**19 14 39.7**	**-2.0**
KRBR				*e*Sg	**Sb**	**19 15 18.8**	**-1.1**
KRBR	comp=Z,1.1nm,1.0s			IAML		19 15 20.7	
KBAM	**BAM**	**3.25**	**48**	Pn	**Pn**	**19 14 39.7**	**+3.0**
CHMN	**Cheshme mad

KBL	Kabul	13.73	53	Pn	Pn	19 17 00.9	+0.5
GNI	Garni	15.97	328		Pn	19 17 26.6	-3.8
GNI				IAmb	IAmb	19 17 37.4	
	comp=Z,33nm,1.4s						
GNI	Garni	15.97	328	Pn	P	19 17 36.7	+2.9
	comp=Z,0.7nm,0.3s,baz=42,slow=1.0,SNR=5.3						
GNI	Garni	15.97	328	P	P	19 17 32.2	-1.7
MARD	Mardin	16.27	313		Pn	19 17 31.5	-2.7
MARD				IAmb	IAmb	19 17 40.5	
	comp=Z,17nm,0.6s						
ASF	Jabal al Asfar	17.13	292	Pn	Pn	19 17 43.7	-1.4
	comp=Z,0.4nm,0.3s,baz=253,slow=23,SNR=4.1						
	comp=Z,1.0nm,0.2s						
EIL	Elat	18.45	283	P	P	19 18 01.9	+0.7
	comp=Z,0.3nm,0.3s,baz=29,slow=5.2,SNR=4.7						
	comp=Z,6.9nm,0.8s						
MMAI	Mount Meron Ar	18.55	294	P	Pn	19 18 03.9	+1.3
	comp=Z,0.6nm,0.3s,baz=114,slow=12,SNR=4.1						
	comp=Z,2.9nm,0.7s						
KBZ	Khabaz	19.65	332	P	Pn	19 18 15.7	0.0
	comp=Z,0.1nm,0.3s,baz=146,slow=6.7,SNR=8.1						
	comp=Z,3.3nm,0.7s						
BNN	Bunyan	20.38	310	P	P	19 18 19.3	-3.1
BNN				IAmb	IAmb	19 18 28.7	
	comp=Z,7.3nm,0.8s						
KSH	Kashi	21.02	48	P	P	19 18 26.7	-2.7
KSH				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AAK	Ala-Archa	21.89	40	LR	LR	19 29 36.6	
	comp=Z,27nm,18.4s,baz=280,slow=43						
BR131	Keskin Array S	22.30	310	P	P	19 18 46.6	+3.5
BRTR	Keskin Array B	22.30	310	P	P	19 18 42.3	-0.9
BRTR	Keskin Array B	22.30	310	P	P	19 18 44.5	+1.4
	comp=Z,2.7nm,0.9s,baz=131,slow=12,SNR=11						
	comp=Z,2.7nm,0.9s						
AB31	Akbulak array	22.48	7	P	P	19 18 45.9	+1.1
ABKAR	Akbulak array	22.48	7	P	P	19 18 44.3	-0.5
AKTO	Aktyubinsk	23.49	4	LR	LR	19 29 01.5	
	comp=Z,36nm,19.8s,baz=248,slow=39						
BVAR	Borovoye Array	28.23	19	P	P	19 19 39.3	+0.9
	comp=Z,1.0nm,0.7s,baz=203,slow=8.0,SNR=6.1						
BVAR				LR	LR	19 33 34.5	
	comp=Z,9.6nm,20.2s,baz=202,slow=42						
	comp=Z,1.0nm,0.7s						
MAKZ	Makanchi	28.66	39	P	P	19 19 41.6	-0.6
MKAR	Makanchi Array	28.83	40	P	P	19 19 42.3	-1.5
MKAR	Makanchi Array	28.83	40	P	P	19 19 45.3	+1.6
	comp=Z,0.2nm,0.3s,baz=224,slow=9.0,SNR=6.0						
	comp=Z,0.2nm,0.3s						
AKASG	Malin Array Be	31.09	327	P	P	19 20 04.1	+0.4
	comp=Z,0.7nm,0.6s,baz=137,slow=8.4,SNR=6.5						
	comp=Z,0.7nm,0.6s						
AKBB	Malin Array Si	31.09	327	P	P	19 20 02.7	-1.0
AKBB				IAmb	IAmb	19 20 05.6	
	comp=Z,3.0nm,0.7s						
KIEV	Kiev	31.10	327	P	P	19 20 02.9	-0.8
KIEV				IAmb	IAmb	19 20 05.6	
	comp=Z,2.7nm,0.8s						
BURAR	Bucovina Array	31.49	319	P	P	19 20 07.6	+0.2
ZALV	Zalesovo Beam	34.44	31	P	P	19 20 34.2	+1.3
	comp=Z,0.7nm,0.4s,baz=228,slow=9.9,SNR=4.4						
	comp=Z,0.7nm,0.4s						
TIP	Timpagrande	34.56	301	P	P	19 20 33.2	-1.0
OJC	Ojcow	35.87	320	P	P	19 20 43.5	-1.9
MORC	Moravsky Berou	37.00	318	P	P	19 20 55.2	+0.2
GERES	GERESS Array B	39.01	315	P	P	19 21 12.7	+0.6
	comp=Z,0.6nm,0.5s,baz=103,slow=6.0,SNR=7.9						
	comp=Z,0.6nm,0.5s						
FIA1	FINESS Array S	39.77	338	P	P	19 21 17.4	-0.7
FINES	FINESS Array B	39.77	338	P	P	19 21 18.4	+0.3
FINES	FINESS Array B	39.77	338	P	P	19 21 19.1	+1.0
	comp=Z,1.7nm,0.5s,baz=140,slow=10,SNR=27						
	comp=Z,1.7nm,0.5s						
WTTA	Wattenberg	39.89	312	*i* P	P	19 21 19.8	+0.3
	comp=Z,3.5nm,0.5s,SNR=4.1						
WATA	Walderalm	39.95	312	*i* P	P	19 21 19.8	-0.1
	comp=Z,1.6nm,0.4s						
SQTA	Sankt Quirin	40.16	312	*i* P	P	19 21 21.9	+0.2
	comp=Z,7.1nm,0.5s,SNR=8.2						
KEST	Kesra	40.21	294	P	P	19 21 24.1	+1.9
	comp=Z,3.3nm,0.7s,baz=203,slow=0.3,SNR=4.5						
	comp=Z,3.3nm,0.7s						
MOTA	Moosalm	40.26	312	*i* P	P	19 21 22.4	-0.2
	comp=Z,0.9nm,0.3s,SNR=5.4						
VSL	Villasalto	40.28	300	P	P	19 21 20.9	-1.7
FETA	Feichten	40.43	312	*i* P	P	19 21 24.5	+0.5
	comp=Z,3.9nm,0.5s						
FUORN	Ofenpass-Fuorn	40.65	311	P	P	19 21 24.6	-1.3
FUORN				IAmb	IAmb	19 22 08.7	
	comp=Z,12nm,1.4s						
GRA1	Grafenberg Arr	40.82	316	P	P	19 21 25.0	-2.0
GRA1				IAmb	IAmb	19 21 39.7	
	comp=Z,14nm,1.4s						
GRFO	Grafenberg	40.82	316	P	P	19 21 24.8	-2.2
GRFO				IAmb	IAmb	19 21 39.7	
	comp=Z,14nm,1.4s						
DAVA	Damuels	41.05	312	*i* P	P	19 21 29.4	+0.2
	comp=Z,12nm,0.4s,SNR=29						
BFO	Black Forest	42.31	313	P	P	19 21 36.8	-2.4
BFO				IAmb	IAmb	19 21 49.7	
	comp=Z,4.4nm,1.1s						
SENIN	Lac Senin/Sane	42.61	310	P	P	19 21 39.3	-2.6
SENIN				IAmb	IAmb	19 21 41.3	
	comp=Z,9.7nm,1.4s						
BNI	Bardonecchia	42.84	308	P	P	19 21 40.9	-2.8
ECH	Echery	43.05	313	P	P	19 21 44.3	-1.0
ECH				IAmb	IAmb	19 22 21.7	
	comp=Z,4.6nm,1.2s						
HFS	Hagfors	43.72	331	P	P	19 21 51.3	+0.8
	comp=Z,2.2nm,0.4s,baz=128,slow=9.6,SNR=20						
	comp=Z,2.2nm,0.4s						
SSB	Saint Sauveur	44.37	308	P	P	19 21 53.5	-2.4
SSB				IAmb	IAmb	19 21 56.2	
	comp=Z,13nm,1.5s						
SONM	Songino Array	44.42	48	P	P	19 21 55.4	-1.1
NC405	NORSAR Array S	45.06	332	P	P	19 21 59.7	-1.4
NC405				IAmb	IAmb	19 22 02.3	
	comp=Z,6.4nm,0.8s						
NB201	NORSAR Array S	45.21	331	P	P	19 22 00.4	-2.0
NB2	NORSAR Subarra	45.24	331	P	P	19 22 03.1	+0.5
	comp=Z,1.1nm,0.6s,baz=117,slow=7.9						
NOA	NORSAR Array B	45.24	331	P	P	19 22 02.9	+0.3
	comp=Z,1.3nm,0.6s,baz=116,slow=7.9,SNR=11						
NOA				LR	LR	19 42 12.4	
	comp=Z,10nm,18.9s,baz=345,slow=38						
	comp=Z,1.3nm,0.6s						
ARCES	ARCESS Array B	46.07	346	P	P	19 22 09.9	+0.8
	comp=Z,11nm,1.4s,baz=134,slow=8.7,SNR=4.0						
	comp=Z,11nm,1.4s						
CEST	Esterri de Car	46.55	304	P	P	19 22 11.9	-1.5
ESDC	Sonseca Array	50.58	300	P	P	19 22 45.3	+0.9
	comp=Z,1.0nm,0.5s,baz=68,slow=6.8,SNR=17						
	comp=Z,1.0nm,0.5s						
EKA	Eskdalemuir Ar	50.64	321	P	P	19 22 44.8	+0.3
	comp=Z,0.2nm,0.3s,baz=98,slow=7.8,SNR=5.9						
	comp=Z,0.2nm,0.3s						
PAB	San Pablo	50.88	300	P	P	19 22 46.3	-0.4
PAB				IAmb	IAmb	19 22 52.5	
	comp=Z,6.3nm,1.2s						
MD01	Midelt array s	52.10	292	P	P	19 22 55.5	-0.5
TORD	Torodi Ar. Bea	52.19	266	P	P	19 22 54.8	-1.8
TORD	Torodi Ar. Bea	52.19	266	P	P	19 22 56.0	-0.6
	comp=Z,1.2nm,0.5s,baz=63,slow=7.7,SNR=17						
	comp=Z,1.2nm,0.5s						
SPITS	Spitsbergen Ar	54.27	351	P	P	19 23 11.0	-0.1
	comp=Z,4.0nm,0.9s,baz=130,slow=5.8,SNR=1.3						
	comp=Z,4.0nm,0.9s						
KSRS	Korea Array	60.67	60	P	P	19 23 57.4	+0.6
	comp=Z,0.3nm,0.4s,baz=280,slow=6.9,SNR=2.1						
	comp=Z,0.3nm,0.4s						
ASAR	Alice Springs	90.75	116	LR	LR	20 13 07.5	
	comp=Z,47nm,18.1s,baz=223,slow=39						

*IDC **08** 19:38:15.3±1.6, 4.°48S×139.°21E, h0km, mb3.3/1, mbtmp3.5/5, ML3.8/4, Error ellipse: s-maj=50.0km s-min=20.5km az=119.0*
*DJA **08** 19:38:19.2±0.8, 5.°5S×13.°9E±.°, h10km, M4.4/6, mb4.8/2, MLv4.1/6*
ISC 08 19:38:17.9±0.9, **4.°86S**±0.°07×**139.°58E**±0.°09, **h38**km, **n11, σ2s31/16, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	2.33	15	P	Pn	19 38 54.2	+0.5
GENI				S	Sn	19 39 20.5	-0.6
JAY	Jayapura	2.59	26	Pn	Pn	19 38 57.4	+0.2
	7.0nm,0.3s,baz=213,slow=32						
JAY				Sn	Sn	19 39 26.7	-0.8
	13nm,0.3s,baz=83,slow=9.5,SNR=8.0						
	32nm,0.4s						
JAY	Jayapura	2.59	26	P	Pn	19 38 57.2	-0.1
JAY				S	Sn	19 39 26.8	-0.7
SMPI	Sarmi	2.98	343	P	Pn	19 39 01.4	-1.2
BAKI	Biak	5.03	316	P	Pn	19 39 30.5	-0.3
KMPI	Kaimana, Papua	5.98	281	P	Pn	19 39 45.5	+1.7
	279nm,0.9s						
FAKI	Fak Fak	7.56	285	P	Pn	19 40 04.7	-0.9
WRA	Warramunga Arr	15.84	198	Pn	P	19 42 01.2	-0.3
	0.8nm,0.3s,baz=19,slow=11,SNR=19						
WRA				Sn	Sn	19 44 47.2	-5.4
	0.1nm,0.3s,baz=24,slow=23,SNR=2.3						
	0.3nm,0.4s						
FITZ	Fitzroy Crossi	18.94	225	P	Pn	19 42 37.9	+1.2
	0.1nm,0.3s,baz=46,slow=13,SNR=12						
FITZ				S	Sn	19 45 56.2	-12
	3.1nm,0.8s,baz=133,slow=7.5,SNR=5.4						
	1.9nm,0.9s						
ASAR	Alice Springs	19.48	196	P	Pn	19 42 48.0	+4.9
	0.3nm,0.3s,baz=27,slow=8.9,SNR=40						
ASAR				S	S	19 46 17.3	-2.7
	0.4nm,0.8s,baz=16,slow=26,SNR=2.7						
	1.2nm,0.6s						
MKAR	Makanchi Array	72.01	323	P	P	19 49 37.9	+0.1
	0.3nm,0.9s,baz=103,slow=4.6,SNR=2.4						
	0.3nm,0.9s						

*IDC **08** 19:44:55.1±7.3, 56.°73S×26.°87W, h134km±67km, mb3.6/6, mbtmp4.0/7, Error ellipse: s-maj=36.2km s-min=18.6km az=65.0*
ISC 08 19:44:51.3±0.8, **56.°7S**±0.°1×**26.°8W**±0.°3, **h101**km, **n10, σ0s69/10, mb4.0/5, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	18.05	156	P	Pn	19 48 54.9	-0.3
	2.3nm,0.6s,baz=297,slow=10,SNR=25						
QSPA	South Pole Qui	33.55	180	P	P	19 51 22.0	+0.9
	0.9nm,0.5s,baz=184,slow=2.0,SNR=18						
	0.9nm,0.5s						
BDFB	Brasilia	44.05	330	P	P	19 52 49.8	+0.7
	0.7nm,0.3s,baz=194,slow=21,SNR=1.4						
	0.7nm,0.3s						
VNDA	Vanda	45.93	183	P	P	19 53 03.1	-0.1
	0.2nm,0.5s,baz=43,slow=8.3,SNR=1.6						
	0.2nm,0.5s						
LPAZ	La Paz	50.95	305	P	P	19 53 42.7	-0.4
	1.5nm,0.4s,baz=167,slow=5.9,SNR=8.8						
	1.5nm,0.4s						
TORD	Torodi Ar. Bea	73.51	29	P	P	19 56 13.3	+0.5
	0.4nm,0.5s,baz=198,slow=5.5,SNR=7.7						
	0.4nm,0.5s						
PCRV	Puerto La Cruz	73.61	321	P	P	19 56 13.4	-0.1
	7.3nm,0.6s,baz=28,slow=1.9,SNR=7.9						
	7.3nm,0.6s						
FINES	FINESS Array B	124.85	28	PKP	PKPdf	20 03 37.0	-0.7
	1.2nm,0.7s,baz=214,slow=1.0,SNR=5.9						
SONM	Songino Array	150.52	87	PKPbc	PKPbc	20 04 29.7	-0.6
	0.4nm,0.5s,baz=219,slow=3.1,SNR=4.8						
ILAR	Eielson Array	150.72	311	PKPbc	PKPbc	20 04 29.3	-0.8
	1.3nm,0.8s,baz=129,slow=1.3,SNR=7.0						

*TIR **08** 19:57:36.7, 39.°82N×19.°90E, h8km, Md2.4/6, Ml2.9/3*
*THE **08** 19:57:38.8, 39.°8N±0.°7×2.°0E±.°, h0km±1km, M2.4/15, MLh2.4/15*
*ATH **08** 19:57:40.2, 39.°77N×19.°97E, h12km±2km, ML2.4/6, Manual Solution by A.Moschou First location: 2019/09/08 19:58:50, This location: 2019/09/09 11:01:57 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
ISC 08 19:57:38.7±0.8, **39.°83N**±0.°02×**19.°98E**±0.°02, **h9**km±5km, **n33, σ0s87/57, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	Sarande	0.05	20	Pg	Pg	19 57 39.6	-1.0
SRN				Sg	Sg	19 57 41.9	-0.2
SRN				AML	AML	19 57 42.4	
	17nm,0.3s						
SRN				AMd		19 58 09.5	
SRN	Sarande	0.05	20	P	Pg	19 57 40.3	-0.3
SRN				S	Sg	19 57 41.8	-0.2
KEK	Kerkira	0.18	229	P	Pg	19 57 43.8	+1.3
KEK				S	Sg	19 57 45.4	+0.3
KEK	Kerkira	0.18	229	P	Pg	19 57 43.9	+1.3
KEK				S	Sg	19 57 45.9	+0.7
LFKM	Lefkimmi	0.39	170	P	Pg	19 57 45.9	-0.5
LFKM				S	Sg	19 57 51.3	-0.2
IGT	Igoumenitsa	0.41	137	Pg	Pg	19 57 45.7	-1.0
IGT				Sg	Sg	19 57 52.4	+0.4
IGT				AMd		19 58 37.9	
IGT	Igoumenitsa	0.41	137	P	Pg	19 57 46.2	-0.4
IGT				S	Sb	19 57 53.1	-1.2
IGT	Igoumenitsa	0.41	137	P	Pg	19 57 46.2	-0.4
IGT				S	Sg	19 57 52.7	+0.7
JAN	Janina	0.70	104	P	Pg	19 57 51.7	-0.4
JAN				S	Sg	19 58 01.8	+0.6
JAN	Janina	0.70	104	P	Pg	19 57 52.1	0.0
JAN				S	Sg	19 58 02.1	+0.9
VLO	Vlora	0.74	330	Pn	Pg	19 57 50.5	-2.4
VLO				Sn	Sg	19 58 00.1	-2.4
VLO				AML	AML	19 58 08.7	
	1.8nm,0.4s						
VLO				AMd		19 58 45.1	
VLO	Vlora	0.74	330	P	Pg	19 57 52.3	-0.6
VLO				S	Sb	19 58 04.5	+0.7
PRMD	Pramanda	0.92	109	P	Pg	19 57 56.0	-0.3
PRMD				S	Sb	19 58 09.9	+0.9
PENT	Pentalofos	0.96	67	P	Pg	19 57 57.3	+0.1
PENT	Pentalofos	0.96	67	P	Pb	19 57 57.9	+0.3
PENT				S	Sn	19 58 12.6	+0.3
KBN	Korca	1.01	38	Pn	Pg	19 57 57.0	-1.0
KBN				Sn	Sg	19 58 12.2	+1.0
KBN				AMd		19 58 52.1	
KBN	Korca	1.01	38	P	Pg	19 57 57.9	-0.1
KBN				S	Sb	19 58 13.2	+1.6
TETR	Tetrakomo, Epi	1.11	115	P	Pg	19 57 59.0	-1.1
TETR				S	Sb	19 58 15.2	+0.5
TETR	Tetrakomo, Epi	1.11	115	P	Pn	19 58 01.6	+1.1
TETR				S	Sn	19 58 16.4	+0.5
TSLK	Tsoukalades, L	1.14	152	P	Pg	19 58 00.2	-0.3
TSLK				S	Sb	19 58 15.4	+0.2
TSLK	Tsoukalades, L	1.14	152	P	Pn	19 58 00.6	-0.1
TSLK				S	Sg	19 58 14.8	-0.4
LKD2	Lefkada island	1.17	153	P	Pg	19 57 59.7	-1.4
LKD2				S	Sn	19 58 17.4	+0.2
LKD2	Lefkada island	1.17	153	P	Pn	19 58 01.4	+0.3
LKD2				S	Sb	19 58 16.0	-0.2
DRAG	Dragano-Lefkad	1.24	158	P	Pb	19 58 01.3	-0.9
NYDR	Nydri-Lefkada	1.25	153	P	Pb	19 58 01.0	-1.3
EVGI	Lefkada island	1.32	156	P	Pn	19 58 02.8	-0.4
AMPL	Ampelaki	1.32	133	P	Pn	19 58 03.1	-0.1
FNA	Florina	1.43	48	Pn	Pn	19 58 05.3	+0.5
FNA				AMd		19 59 14.2	
FNA	Florina	1.43	48	P	Pn	19 58 05.7	+0.9
FSK	Fiskardo	1.44	161	P	Pn	19 58 05.2	+0.3
FSK	Fiskardo	1.44	161	P	Pn	19 58 05.1	+0.2
FSK				S	Sg	19 58 24.4	-0.7
THL	Klokotos Trika	1.59	99	P	Pb	19 58 08.0	-0.2
NOCI	Noci	2.42	294	Pn	Pn	19 58 19.8	+1.3
NOCI				Sn	Sb	19 58 52.1	-0.2
NOCI				AML	AML	19 58 59.8	
	0.5nm,0.4s						
NOCI				AMd		19 59 48.3	

*UPSL **08** 20:00:14.7, 37.°58N×21.°98E, h9km, Mw4.1, Moment Tensor Solution. s4 Moment tensor: Mrr=1.83; Mθθ=1.17; Mφφ=0.66; Mrθ=0.30; Mrφ=-0.87; Mθφ=0.28; Fault plane solution: NP1:φs125.00000°, δ39.00000°, λ-92.00000°. NP2:φs308.00000°, δ51.00000°, λ-88.00000°.*
*ATH **08** 20:00:14.7, 37.°58N×21.°98E, h9km±1km, ML3.9/12, Manual Solution by M.Papanikolaou First location: 2019/09/08 20:01:12, This location: 2021/06/27 22:12:40 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*IDC **08** 20:00:15.6±0.5, 37.°55N×21.°93E, h0km, mb4.2/18, mbtmp4.0/30, ML3.5/11, MS3.3/38, Error ellipse: s-maj=11.8km s-min=10.5km az=42.0*
*MOS **08** 20:00:15.3±0.9, 37.°48N×21.°86E, h10km, mb4.8/14, Error ellipse: s-maj=8.0km s-min=4.7km az=67.4*
*MED_RC **08** 20:00:16.0±0.6, 37.°57N×21.°98E, h10km, MW4.2/13, Moment Tensor Solution.Mantle waves: s13,c16; Duration: 1ꢀ0 Moment tensor: Scale 10¹⁵Nm; Mrr=2.60±.18; Mθθ2.49±.14; Mφφ0.10±.17; Mrθ-0.07±.59; Mθφ-1.06±.16; Mφr-0.92±.30; Best double couple: M◎2.91000×10¹⁵ NP1:φs93.00000°, δ45.00000°, λ-117.00000°. NP2:φs309.00000°, δ51.00000°, λ-66.00000°. Principal axes: T 2.9100, Plg3.0000°, Azm22.0000°; N 0.0000, Plg19.0000°, Azm113.0000°; P -2.9100, Plg71.0000°, Azm283.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*BEO **08** 20:00:17.9±2.2, 37.°20N×22.°09E, h56km±5km, ML3.4/13*
*NEIC **08** 20:00:17.8±1.6, 37.°50N±0.°07×21.°92E±0.°02, h10km±1km, mb4.5/23, Error ellipse: s-maj=11.7km s-min=2.9km az=195.0*
*NAO **08** 20:00:17.8, 37.°57N×21.°98E, h10km, MB4.5*
*THE **08** 20:00:17.3, 38.°N±1.°×2.°2E±.°, h11km±1km, M3.9/38, MLh3.9/38*
ISC 08 20:00:16.5±0.7, **37.°58N**±0.°02×**21.°98E**±0.°02, **h6**km±4km, **n270, σ1s70/286, mb4.5**/41, **MS3.3**/32, **7C-6D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLX	Vlachokerasia	0.38	123	P	Pb	20 00 20.5	-0.7
VLX				S	Sb	20 00 31.5	-0.4
ITM	Ithomi	0.40	186	Pg	Pg	20 00 24.2	0.0
ITM	Ithomi	0.40	186	P	Pg	20 00 24.3	0.0
ITM				S	Sb	20 00 30.6	-1.8
ITM	Ithomi	0.40	186	P	Pg	20 00 21.9	-2.4
ITM				S	Sg	20 00 28.4	-1.2
DRO	Drossia	0.43	330	P	Pb	20 00 25.9	-0.5
DRO				S	Sb	20 00 33.3	+0.1
GUR	Goura	0.46	39	P	Pb	20 00 26.1	-0.9
GUR				S	Sb	20 00 33.7	-0.4
GUR	Goura	0.46	39	P	Pg	20 00 24.1	-1.3
GUR				S	Sg	20 00 29.8	-1.6
KLV	Kalavryta, Ach	0.48	16	P	Pb	20 00 26.4	-1.0
KLV				S	Sb	20 00 34.8	0.0
KLV	Kalavryta, Ach	0.48	16	P	Pg	20 00 24.2	-1.6
KLV				S	Sg	20 00 30.9	-1.2
RLS	Riolos of Patr	0.62	320	P	Pb	20 00 30.2	+0.4
RLS				S	Sb	20 00 39.9	+1.1
RLS	Riolos of Patr	0.62	320	P	Pg	20 00 26.9	-1.6
UPR	University Cam	0.72	348	P	Pn	20 00 32.1	-1.0
CLEM	Kyllini,Ilia,G	0.74	295	P	Pg	20 00 29.6	-1.1
AXS	Araxos	0.78	322	P	Pb	20 00 32.5	+0.1
AXS	Araxos	0.78	322	P	Pg	20 00 29.6	-1.8
KALE	Kalithea	0.82	9	P	Pb	20 00 32.7	-0.5
KALE	Kalithea	0.82	9	P	Pb	20 00 33.1	-0.1
SERG	Sergoula	0.83	4	P	Pb	20 00 32.7	-0.7
EFP	Efpalio	0.85	356	P	Pb	20 00 33.1	-0.5
EFP	Efpalio	0.85	356	P	Pg	20 00 30.2	-2.5
LOUT	Loutraki	0.89	62	P	Pg	20 00 32.1	-1.4
LTK	Loutraki	0.90	60	P	Pb	20 00 34.3	-0.2
LTK	Loutraki	0.90	60	P	Pg	20 00 31.8	-1.9
LTHK	Lithakia	0.92	278	P	Pb	20 00 34.7	-0.1
LTHK	Lithakia	0.92	278	P	Pg	20 00 31.9	-2.1
KRI1	kERI	0.93	275	P	Pb	20 00 34.4	-0.6
KYPS	Kipseli, Zakin	0.95	285	P	Pg	20 00 33.5	-1.2
ANX	Ano Chora	1.01	357	P	Pb	20 00 36.2	-0.2
ANX	Ano Chora	1.01	357	P	Pg	20 00 33.7	-2.3
ORTH	Orthonies,Zaky	1.05	285	P	Pb	20 00 36.7	-0.4
MET2	Kameni Chora,	1.07	88	P	Pg	20 00 35.3	-1.8
RTZL	Ratzakli, Kefa	1.08	298	P	Pn	20 00 38.2	+0.1
PVO	Paravola	1.09	341	P	Pn	20 00 37.9	-0.5
PVO	Paravola	1.09	341	P	Pg	20 00 35.5	-2.0
MET6	Megalochori,Me	1.09	89	P	Pg	20 00 35.7	-1.8
MET5	Makryloggos,Me	1.10	87	P	Pg	20 00 36.1	-1.4
MET4	Agioi Theodoro	1.13	87	P	Pg	20 00 36.3	-1.9
VLI	Veliai	1.15	138	P	Pn	20 00 38.6	-0.5
VLI	Veliai	1.15	138	P	Pg	20 00 36.5	-2.1
AST1	Astakos	1.19	324	P	Pn	20 00 39.7	+0.1
VIL2	Platees	1.20	58	P	Pg	20 00 38.2	-1.3
VILL	Villia	1.21	61	P	Pn	20 00 40.7	+0.8
PSDA	Pessada-Kefalo	1.23	296	P	Pn	20 00 39.9	-0.2
VLS	Valsamata	1.25	299	P	Pn	20 00 40.5	0.0
VLS	Valsamata	1.25	299	P	Pg	20 00 40.3	-0.2
AXAR	Agios Charalam	1.30	24	P	Pn	20 00 40.7	-0.8
AXAR	Agios Charalam	1.30	24	P	Pg	20 00 39.7	-1.7
ARG2	Argostoli	1.32	297	P	Pb	20 00 41.8	+0.2
LKR	Lokris	1.34	37	P	Pb	20 00 42.4	+0.5
LKR	Lokris	1.34	37	P	Pn	20 00 39.6	-2.1
EVR	Evrytania	1.34	354	P	Pb	20 00 42.5	+0.4
EVR	Evrytania	1.34	354	P	Pg	20 00 39.8	-2.4
STFN	Stefani	1.37	64	P	Pn	20 00 41.7	-0.5
ATAL	Atalanti	1.38	36	P	Pn	20 00 41.3	-1.0
ATAL	Atalanti	1.38	36	P	Pn	20 00 40.1	-2.1
VSK1	VASILIKIADES	1.39	307	P	Pn	20 00 41.2	-1.2
FSK	Fiskardo	1.42	309	P	Pn	20 00 41.5	-1.3
FSK	Fiskardo	1.42	309	P	Pn	20 00 40.3	-2.6
DMLN	Damoulianata-K	1.43	298	P	Pn	20 00 42.3	-0.7
ATH	Athens Observa	1.43	74	P	Pn	20 00 42.8	-0.1
MAKR	Makrakomi, Fth	1.44	5	P	Pn	20 00 42.1	-1.0
VLY	Voula,Athens	1.47	79	P	Pn	20 00 42.8	-0.7
AMPL	Ampelaki	1.47	336	P	Pn	20 00 42.7	-0.8
EVGI	Lefkada island	1.47	315	P	Pn	20 00 43.4	-0.1
NYDR	Nydri-Lefkada	1.52	319

SJES Sjenica 5.88 346 *e*Pn **Pn 20 01 47.9 +3.7**
SJES *e*Sn **Sn 20 02 52.4 +0.5**
MPEP Malo Peshtene 5.92 13 P **Pg 20 02 10.2 +0.3**
VAE Valguarnera 6.01 271 Pn **Pn 20 01 46.9 +0.9**
13nm,0.7s,baz=99,slow=6.2,SNR=7.5
VAE Sn **Sn 20 02 55.6 +0.4**
1.6nm,0.3s,baz=341,slow=6.8,SNR=3.1
BOVS Bovan 6.05 358 *e*Pn **Pn 20 01 49.5 +3.0**
BLKB Belogradchik 6.06 5 *e*Pn **Pn 20 01 48.4 +1.8**
BLKB *e*Sn **Sn 20 02 54.3 -2.0**
RAFF Raffo Rosso 6.07 269 Pn **Pn 20 01 46.0 -0.8**
IVAS Ivanjica 6.15 348 *e*Pn **Pn 20 01 49.2 +1.4**
IVAS *e*Sn **Sn 20 02 59.9 +1.4**
ZAGS Zajecar 6.23 2 *e*Pn **Pn 20 01 51.4 +2.5**
GRUS Gruza 6.37 352 *e*Pn **Pn 20 01 52.4 +1.5**
GRUS *e*Sn **Sn 20 03 02.8 -1.1**
BORS2 Bor- Borsko je 6.50 0 *e*Pn **Pn 20 01 56.0 +3.3**
BBLS Lazi&#263i 6.58 344 *e*Pn **Pn 20 01 55.5 +1.8**
BBLS *e*Sn **Sn 20 03 09.2 +0.2**
DIVS Divibare 6.68 348 *e*Pn **Pn 20 01 57.0 +1.8**
DIVS *e*Sn **Sn 20 03 09.5 -2.2**
TRUS Trudelj 6.74 350 *e*Pn **Pn 20 01 58.2 +2.3**
ISP Isparta 6.78 85‖ *e*P **Pn 20 02 00.4 +3.8**
TEKS Tekeris 7.20 346 *e*Pn **Pn 20 02 03.2 +0.9**
TEKS *e*Sn **Sn 20 03 22.8 -1.6**
INTR Introdacqua 7.63 308 **Pn 20 02 08.7 +0.5**
MLR Muntele Rosu 8.44 19 **Pn 20 02 20.4 +1.0**
MLR Muntele Rosu 8.44 19 Pn **Pn 20 02 21.9 +2.5**
0.4nm,0.3s,baz=216,slow=13,SNR=9.4
MLR LR LR 20 06 21.3
comp=Z,312nm,21.6s,baz=232,slow=43
2.4nm,0.7s
MLR Muntele Rosu 8.44 19 P **Pn 20 02 20.4 +1.0**
BR131 Keskin Array S 9.37 73 *d*e P **Pn 20 02 36.3 +4.2**
BRTR Keskin Array B 9.37 73 Pn **Pn 20 02 33.9 +1.7**
0.6nm,0.3s,baz=256,slow=13,SNR=17
3.0nm,0.5s
BRTR Keskin Array B 9.37 73 *e*P Pn 20 02 36.8 +4.6
BRTR pmax pmax
comp=Z,1.0nm,0.3s
KEST Kesra 10.32 264 Pn **Pn 20 02 44.5 -0.5**
comp=Z,0.1nm,0.3s,baz=288,slow=22,SNR=1.7
KEST Sn **Sn 20 04 38.1 -2.9**
comp=Z,0.1nm,0.3s,baz=343,slow=19,SNR=1.4
KEST LR LR 20 06 40.3
comp=Z,117nm,21.4s,baz=34,slow=37
comp=Z,2.6nm,0.9s
SOKA Soboth 10.45 333 *e*Pn **Pn 20 02 46.0 -0.8**
comp=Z,0.7nm,0.5s
OBKA Obir 10.49 331 *e*Pn **Pn 20 02 48.2 +0.9**
comp=Z,2.8nm,0.5s
ARSA Arzberg 10.77 336 Pn **Pn 20 02 53.8 +2.6**
VYHS Vyhne 11.15 349 *e*P Pn 20 03 01.3 +5.0
KOLS Kolonicke sedl 11.35 1 *e*P Pn 20 03 05.0 +5.9
MOA Molln 11.72 334 *e*Pn **Pn 20 03 06.5 +2.4**
comp=Z,0.4nm,0.2s
MMAI Mount Meron Ar 11.87 109 Pn **Pn 20 03 06.7 +0.3**
comp=Z,1.0nm,0.3s,baz=305,slow=12,SNR=4.6
MMAI Sn **Sn 20 05 13.2 -6.0**
comp=Z,0.5nm,0.3s,baz=339,slow=23,SNR=1.7
comp=Z,0.4nm,0.4s
WTTA Wattenberg 12.32 325 *e*Pn **Pn 20 03 15.5 +3.0**
comp=Z,2.4nm,0.9s
VRAC Vranov 12.35 343 Pn **Pn 20 03 15.0 +2.2**
comp=Z,0.2nm,0.3s,baz=88,slow=13,SNR=1.6
VRAC Sn **Sn 20 05 30.0 -0.7**
comp=Z,0.3nm,0.3s,baz=78,slow=10,SNR=2.0
VRAC LR LR 20 09 35.3
comp=Z,72nm,19.2s,baz=166,slow=45
comp=Z,0.5nm,0.3s
VRAC Vranov 12.35 343 P **Pn 20 03 15.0 +2.2**
VRAC 20 05 30.0
WATA Walderalm 12.40 325 *e*Pn **Pn 20 03 15.4 +1.8**
comp=Z,2.3nm,0.7s
MOTA Moosalm 12.62 324 *e*Pn **Pn 20 03 18.0 +1.3**
comp=Z,0.8nm,0.4s
GERES GERESS Array B 12.76 335 Pn **Pn 20 03 19.5 +1.0**
baz=156,slow=13,SNR=4.8
GERES Sn **Sn 20 05 39.4 -1.5**
baz=136,slow=35,SNR=1.3
GERES LR LR 20 09 13.9
comp=Z,444nm,18.2s,baz=138,slow=42
comp=Z,0.3nm,0.5s
DAVOX Davos/Dischmat 12.83 320 Pn **Pn 20 03 19.6 +0.1**
comp=Z,0.1nm,0.3s,baz=206,slow=22,SNR=1.4
DAVOX Sn **Sn 20 05 38.8 -3.9**
comp=Z,0.1nm,0.3s,baz=14,slow=18,SNR=1.8
DAVOX LR LR 20 09 08.9
comp=Z,77nm,19.1s,baz=113,slow=42
comp=Z,0.6nm,0.5s
KHC Kasperske Hory 13.05 335 *e*P **P 20 03 28.5 -4.4**
KHC Kasperske Hory 13.05 335 *e*P **P 20 03 28.5 -4.4**
EIL Elat 13.37 122 Pn **Pn 20 03 26.2 -0.6**
comp=Z,0.6nm,0.3s,baz=341,slow=9.1,SNR=4.4
EIL Sn **Sn 20 05 49.1 -6.7**
comp=Z,0.8nm,0.3s,baz=82,slow=10,SNR=4.0
comp=Z,3.7nm,0.6s
ASF Jabal al Asfar 13.38 109 Pn **Pn 20 03 27.0 0.0**
comp=Z,0.2nm,0.3s,baz=65,slow=22,SNR=1.8
ASF Sn **Sn 20 05 56.6 +0.6**
baz=236,slow=23,SNR=1.6
comp=Z,1.2nm,0.5s
SENIN Lac Senin/Sane 13.99 313 Pn **Pn 20 03 36.7 +1.3**
AKASG Malin Array Be 14.10 19 Pn **Pn 20 03 34.9 -1.7**
comp=Z,0.2nm,0.3s,baz=210,slow=13,SNR=4.5
AKASG LR LR 20 09 07.5
comp=Z,91nm,21.5s,baz=192,slow=38
AKASG Malin Array Be 14.10 19 *i* P **Pn 20 03 39.5 +2.9**
AKBB Malin Array Si 14.10 19‖ *e*P **Pn 20 03 39.8 +3.2**
SOC Sochi 14.74 60 *e*P **Pn 20 03 46.8 +1.4**
SOC *e* 20 06 33.7
SOC MLR MLR
comp=Z,21nm,11.0s
CLL Collm 15.13 338 *i* P **P 20 03 58.4 +2.5**
CLL pmax pmax
comp=Z,16nm,1.6s
CLL Collm 15.13 338 *es*P **P 20 03 56.0 +0.1**
CLL *e*PP **sP 20 04 01.0 +2.3**
CLL *es*PP 20 04 05.0
CORI Orista 15.93 292 **P 20 04 04.5 -0.3**
CORI IAmb IAmb 20 04 38.7
comp=Z,23nm,1.2s
KBZ Khabaz 17.00 62 P **P 20 04 15.8 -0.9**
comp=Z,0.1nm,0.3s,baz=255,slow=11,SNR=9.8
KBZ LR LR 20 12 07.6
comp=Z,61nm,18.8s,baz=250,slow=42
comp=Z,1.1nm,0.9s
KBZ Khabaz 17.00 62⇑ *e*P **P 20 04 17.0 +0.3**
MNK Minsk 17.40 12 *i* P **Pn 20 04 16.3 -3.4**
MNK comp=E,7.0nm,1.1s *i* P **Pn 20 04 16.3 -3.4**
MNK comp=N,13nm,1.1s *i* P **Pn 20 04 16.3 -3.4**
MNK comp=Z,5.0nm,0.9s,baz=196 *i* PPP PPP 20 04 33.9
MNK *i* S **Sn 20 07 28.7 -4.8**
MNK *i* SS **S 20 07 43.4 +1.3**
MNK *i* SSS SSS 20 07 56.2
MNK *i* LQ LQ 20 09 24.6
MNK *i* LR LR 20 10 39.8
MNK *i* LRM MLR 20 11 53.2
comp=E,207nm,16.8s
MNK *i* LRM MLR 20 11 53.2
comp=N,117nm,16.3s
MNK *i* LRM MLR 20 11 59.5
comp=Z,200nm,17.6s
MNK Minsk 17.40 12 *i* P **Pn 20 04 16.3 -3.4**
MNK *i* S **Sn 20 07 28.7 -4.8**
MNK pmax pmax
comp=Z,5.0nm,0.9s
MNK pmax pmax
comp=N,13nm,1.1s
MNK pmax pmax
comp=E,7.0nm,1.1s
MNK MLR MLR
comp=N,117nm,16.0s
MNK MLR MLR
comp=E,207nm,17.0s
MNK MLR MLR
comp=Z,200nm,18.0s
NCK Nalchik 17.44 63‖ *e*P **P 20 04 23.9 +2.3**
NCK pmax pmax
comp=Z,7.0nm,0.6s
GNI Garni 17.91 75 LR LR 20 12 54.4
comp=Z,37nm,21.2s,baz=284,slow=42
VORD Divnogorie 18.18 37 *e*P **P 20 04 30.9 +1.3**
VORD pmax pmax
comp=Z,6.0nm,0.9s
VSR Storozhevoye 18.29 36 *e*P **P 20 04 32.7 +1.9**
VSR pmax pmax
comp=Z,4.0nm,0.9s
LPSR Galich'ya Gora 19.13 33 *e*P **Pn 20 04 40.8 -0.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VRH Novokhoyorsk 19.52 39 *e*P **Pn 20 04 46.3 +0.7**
VRH pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 20.15 25⇑ *e*P Pn 20 04 53.8 +0.8
OBN *e* 20 05 08.0
OBN *e*S Sn 20 08 41.9 +2.1
OBN pmax pmax
comp=Z,8.0nm,0.8s
OBN MLR MLR
comp=Z,57nm,16.0s
ESBB Sonseca Array 20.35 284 P Pn 20 04 54.8 -0.9
ESDC Sonseca Array 20.36 284 P **P 20 04 53.1 -0.6**
ESDC Sonseca Array 20.36 284 P **P 20 04 54.1 +0.5**
comp=Z,2.6nm,0.8s,baz=78,slow=10,SNR=23
ESDC LR LR 20 13 35.4
comp=Z,47nm,18.5s,baz=88,slow=39
comp=Z,2.6nm,0.8s
PAB San Pablo 20.66 284 P **P 20 04 57.8 +0.8**
PAB San Pablo 20.66 284 P **P 20 04 57.8 +0.8**
PAB pmax pmax
comp=Z,8.0nm,1.1s
MOS Moscow 21.01 25 *e*P **P 20 04 58.9 -1.6**
MOS *e* 20 05 18.5
MOS pmax pmax
comp=Z,33nm,0.7s
VSU Vasula 21.12 7*c i*P **P 20 05 01.9 +0.2**
VSU pmax pmax
comp=Z,25nm,0.9s
MDT Midelt 22.21 266 LR LR 20 14 55.5
comp=Z,34nm,19.7s,baz=79,slow=40
HFS Hagfors 23.18 349 P **P**
comp=Z,2.5nm,0.6s,baz=156,slow=11,SNR=12
HFS LR LR 20 14 43.2
comp=Z,59nm,20.4s,baz=176,slow=37
comp=Z,2.5nm,0.6s
BELG Belogornoye 23.25 42*d i*P **P 20 05 25.7 +1.4**
BELG pmax pmax
comp=Z,7.0nm,1.3s
FINES FINESS Array B 24.02 5 P **P 20 05 31.7 -0.1**
FINES FINESS Array B 24.02 5 P **P 20 05 31.0 -0.8**
comp=Z,2.4nm,0.9s,baz=160,slow=13,SNR=6.3
FINES LR LR 20 15 57.8
comp=Z,132nm,21.2s,baz=200,slow=39
comp=Z,2.4nm,0.9s
FINES FINESS Array B 24.02 5 P **P 20 05 31.7 -0.1**
NAO01 NORSAR Array S 24.32 347 P **P 20 05 36.0 +1.4**
NAO01 IAmb IAmb 20 05 44.7
comp=Z,18nm,1.2s
NC405 NORSAR Array S 24.42 348 P **P 20 05 36.7 +1.1**
NC405 IAmb IAmb 20 06 02.0
comp=Z,12nm,1.1s
NB201 NORSAR Array S 24.44 347 P **P 20 05 36.5 +0.8**
NB201 IAmb IAmb 20 05 47.6
comp=Z,22nm,1.4s
NB2 NORSAR Subarra 24.44 347 P **P 20 05 35.7 -0.1**
comp=Z,18nm,1.7s,baz=159,slow=9.3
NOA NORSAR Array B 24.44 347 P **P 20 05 35.4 -0.4**
comp=Z,1.0nm,0.7s,baz=279,slow=6.0,SNR=13
NOA LR LR 20 16 11.3
comp=Z,37nm,18.1s,baz=160,slow=39
comp=Z,1.0nm,0.7s
NBO00 NORSAR Array S 24.51 347 P **P 20 05 37.1 +0.8**
NBO00 IAmb IAmb 20 05 39.1
comp=Z,10nm,1.1s
EKA Eskdalemuir Ar 24.58 324 P **P 20 05 37.6 +0.5**
comp=Z,4.2nm,0.7s,baz=125,slow=9.7,SNR=19
comp=Z,4.2nm,0.7s
ESK Eskdalemuir 24.59 324 P **P 20 05 37.7 +0.6**
ESK IAmb IAmb 20 05 52.0
comp=Z,25nm,1.3s
ESK Eskdalemuir 24.59 324 P **P 20 05 37.7 +0.6**
ESK pmax pmax
comp=Z,25nm,1.3s
EKB Eskdalemuir 24.60 324 P **P 20 05 38.4 +1.2**
EKB IAmb IAmb 20 05 40.2
comp=Z,9.7nm,0.8s
NC204 NORSAR Array S 24.74 347 P **P 20 05 40.5 +2.0**
NC204 IAmb IAmb 20 05 42.3
comp=Z,8.3nm,0.9s
KLMR Klimovskoe 25.79 20 *e*P **P 20 05 47.8 -0.1**
KLMR pmax pmax
comp=Z,37nm,1.2s
KIRV Kirov 27.54 31 LR LR 20 17 17.5
comp=Z,34nm,20.2s,baz=233,slow=37
KIRV Kirov 27.54 31*de*P **P 20 06 05.3 +1.6**
AKTO Aktyubinsk 28.63 52 LR LR 20 20 12.7
comp=Z,60nm,19.4s,baz=236,slow=42
ABKAR Akbulak array 29.64 55 P **P 20 06 23.4 +1.0**
TORD Torodi Ar. Bea 30.32 222 P **P 20 06 28.5 -0.3**
comp=Z,1.8nm,0.7s,baz=30,slow=10,SNR=11
comp=Z,1.8nm,0.7s
ARTI Arti 30.65 40 P **P 20 06 32.6 +1.3**
ARTI IAmb IAmb 20 06 34.1
comp=Z,9.5nm,1.1s
ARTI Arti 30.65 40 LR LR 20 19 11.7
comp=Z,40nm,21.2s,baz=244,slow=37
ARTI Arti 30.65 40*c i*P **P 20 06 32.3 +1.0**
ARTI 20 07 30.2
ARTI 20 09 25.8
ARTI S **S 20 11 37.0 +3.2**
ARTI SS **SnSn 20 13 10.6 -0.1**
ARTI pmax pmax
comp=Z,6.0nm,0.8s
SVE Sverdlovsk 31.97 40 *e*P **P 20 06 43.9 +0.9**
SVE pmax pmax
comp=Z,13nm,1.5s
ARCES ARCESS Array B 32.07 2 P **P 20 06 44.3 +0.6**
ARCES IAmb IAmb 20 07 01.6
comp=Z,23nm,1.5s
ARCES ARCESS Array B 32.07 2 P **P 20 06 44.3 +0.6**
comp=Z,2.2nm,0.7s,baz=190,slow=11,SNR=15
ARCES LR LR 20 20 36.0
comp=Z,99nm,19.4s,baz=200,slow=38
comp=Z,2.2nm,0.7s
ARCES ARCESS Array B 32.07 2 *e*P **P 20 06 44.5 +0.8**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
FURI Furi 32.30 148 LR LR 20 21 16.6
comp=Z,55nm,20.2s,baz=348,slow=39
BVAR Borovoye Array 36.63 49 P **P 20 07 24.4 +1.0**
comp=Z,2.7nm,0.7s,baz=272,slow=5.1,SNR=12
BVAR LR LR 20 25 21.9
comp=Z,31nm,19.3s,baz=253,slow=41
comp=Z,2.7nm,0.7s
KK31 Karatay Array 36.98 66 P **P 20 07 27.4 +0.8**
KK31 Karatay Array 36.98 66 P **P 20 07 27.4 +0.8**
KK31 pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 36.98 66 P **P 20 07 27.6 +1.0**
KKAR Karatay Array 36.98 66 P **P 20 07 27.6 +1.0**
BORG Borgarnes 37.19 331 LR LR 20 25 26.9
comp=Z,59nm,18.4s,baz=121,slow=41
ARSB Arslanbob 39.10 68 P **P 20 07 45.9 +1.3**
ARSB Arslanbob 39.10 68 P **P 20 07 45.9 +1.3**
ARSB pmax pmax
comp=Z,7.0nm,1.3s
DBIC Dimbokro 39.26 225 P **P 20 07 45.3 -0.7**
DBIC IAmb IAmb 20 08 01.0
comp=Z,26nm,1.4s
DBIC Dimbokro 39.26 225 P **P 20 07 44.6 -1.3**
comp=Z,4.3nm,0.8s,baz=64,slow=12,SNR=4.9
DBIC LR LR 20 24 11.7
comp=Z,39nm,20.2s,baz=8.5,slow=37
comp=Z,4.3nm,0.8s
DBIC Dimbokro 39.26 225 P **P 20 07 45.3 -0.7**
DBIC pmax pmax
comp=Z,26nm,1.5s
AAK Ala-Archa 39.95 66 LR LR 20 25 12.6
comp=Z,25nm,20.0s,baz=273,slow=37
KURBB Kurchatov Arra 41.66 53 P **P 20 08 06.4 +0.9**
comp=Z,4.2nm,0.6s,baz=280,slow=8.7,SNR=28
KURBB PcP **PcP 20 10 03.6 +1.5**
comp=Z,0.2nm,0.4s,baz=277,slow=3.6,SNR=4.1
comp=Z,4.2nm,0.6s
KURK Kurchatov 41.71 53 P **P 20 08 06.4 +0.5**
KURK 20 10 03.6
MK31 Makanchi Array 44.63 58⇑ *i*P **P 20 08 29.9 +0.2**
MKAR Makanchi Array 44.63 58 P **P 20 08 30.3 +0.6**
comp=Z,2.4nm,0.5s,baz=271,slow=7.7,SNR=32
MKAR PcP **PP 20 10 13.4 -0.2**
comp=Z,0.6nm,0.7s,baz=273,slow=5.1,SNR=2.4
MKAR LR LR 20 30 26.0
comp=Z,36nm,19.0s,baz=272,slow=40
comp=Z,2.4nm,0.5s
MKAR Makanchi Array 44.63 58 *e*P **P 20 08 30.2 +0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
ZAA0 Zalesovo Array 45.23 48 P **P 20 08 34.7 +0.4**
ZAA0 IAmb IAmb 20 08 36.6
comp=Z,10nm,0.9s
ZALV Zalesovo Beam 45.23 48 P **P 20 08 34.5 +0.2**
ZALV Zalesovo Beam 45.23 48 P **P 20 08 35.0 +0.7**
comp=Z,11nm,0.8s,baz=276,slow=8.5,SNR=37
ZALV LR LR 20 28 13.3
comp=Z,29nm,21.7s,baz=302,slow=37
comp=Z,1.1nm,0.8s
SFJD Kangerlussuaq 49.32 330 LR LR 20 30 06.5
comp=Z,58nm,21.0s,baz=96,slow=36
LSZ Lusaka 52.90 172 LR LR 20 33 25.4
comp=Z,25nm,18.8s,baz=271,slow=38
FRB Frobisher Bay 57.27 328 LR LR 20 35 17.3
comp=Z,103nm,18.2s,baz=83,slow=37
GTA Gaotai 59.09 62 *e*P **P 20 10 17.8 +0.1**
GTA pP sP 20 10 22.0 +1.2
GTA pmax pmax
comp=Z,4.0nm,1.0s
SCHQ Schefferville 59.68 318 P **P 20 10 22.0 +0.6**
comp=Z,49nm,0.8s,baz=45,slow=10.0,SNR=2.4
SONM Songino Array 59.94 51 P **P 20 10 24.0 +0.5**
comp=Z,1.6nm,0.9s,baz=290,slow=8.9,SNR=10
SONM PcP **PcP 20 11 11.2 +1.5**
comp=Z,0.8nm,0.9s,baz=286,slow=5.4,SNR=3.6
comp=Z,1.6nm,0.9s
ULN Ulaanbaatar 60.34 51⇑ *e*P **P 20 10 25.6 -0.6**
ULN pmax pmax
comp=Z,2.0nm,0.9s
BATG Bathurst New B 62.40 310 P **P 20 10 41.2 +1.2**
LZH Lanzhou 63.44 64 *e*P **P 20 10 49.4 +2.1**
LZH sP sP 20 10 59.0 +8.7
LZH pmax pmax
comp=Z,19nm,1.1s
YAK Yakutsk 65.06 30 LR LR 20 40 27.0
comp=Z,28nm,19.9s,baz=319,slow=37
YAK Yakutsk 65.06 30‖ *e*P **P 20 10 57.0 -0.2**
YAK pmax pmax
comp=Z,7.0nm,0.9s
BOSA Boshof 65.92 177 P **P 20 11 01.9 -1.3**
comp=Z,3.0nm,1.1s,baz=121,slow=12,SNR=1.5
BOSA LR LR 20 41 46.6
comp=Z,40nm,20.4s,baz=18,slow=38
comp=Z,3.0nm,1.1s
BOSA Boshof 65.92 177 P **P 20 11 02.0 -1.3**
HHC Hu-ho-hao-te 66.42 56 *e*P **P 20 11 07.4 +0.8**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,67nm,4.9s
PZH PanZhiHua 66.67 74 P **P 20 11 10.0 +1.6**
CMAR Chiang Mai Arr 68.83 83 P **P 20 11 21.9 0.0**
comp=Z,1.2nm,0.8s,baz=302,slow=7.6,SNR=10
CMAR LR LR 20 47 06.1
comp=Z,10nm,18.4s,baz=290,slow=41
comp=Z,1.2nm,0.8s
DELO Deloro Mine 70.76 312 P **P 20 11 34.2 +0.8**
SEY Seymchan 72.27 21 LR LR 20 47 59.0
comp=Z,38nm,18.7s,baz=338,slow=40
I49A Point Hope 74.14 313 P **P 20 11 53.6 0.0**
YKA Yellowknife Ar 74.34 341 LR LR 20 47 14.8
comp=Z,36nm,18.4s,baz=355,slow=38
MA2 Magadan 74.37 24 LR LR 20 49 46.5
comp=Z,54nm,18.2s,baz=254,slow=40
V61A Roper 75.08 304 P **P 20 11 59.0 -0.2**
NJ2 Nanjing 76.11 60 *e*P **P 20 12 05.0 -0.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
USA0B Ussuriysk Arra 76.92 44 P **P 20 12 09.9 +0.3**
USA0B Ussuriysk Arra 76.92 44 P **P 20 12 09.9 +0.3**
USA0B pmax pmax
comp=Z,13nm,1.2s
USRK Ussuriysk Ar. 76.92 44 P **P 20 12 10.0 +0.5**
USRK Ussuriysk Ar. 76.92 44 P **P 20 12 09.8 +0.3**
comp=Z,4.4nm,0.8s,baz=294,slow=4.3,SNR=6.2
comp=Z,4.4nm,0.8s
USRK Ussuriysk Ar. 76.92 44 P **P 20 12 10.0 +0.5**
MCK McKinley 78.77 356 P **P 20 12 20.3 +0.8**
MCK IAmb IAmb 20 12 53.0
comp=Z,6.6nm,1.4s
MCK McKinley 78.77 356 P **P 20 12 20.3 +0.8**
MCK pmax pmax
comp=Z,7.0nm,1.4s
KSAR Wonju Array Be 78.79 51 P **P 20 12 20.6 +0.5**
KSAR Wonju Array Be 78.79 51 P **P 20 12 20.6 +0.5**
KSRS Korea Array 78.81 51 P **P 20 12 20.6 +0.4**
comp=Z,2.6nm,0.6s,baz=312,slow=4.9,SNR=16
comp=Z,2.6nm,0.6s
DLBC Dease Lake 81.52 346 LR LR 20 50 14.2
comp=Z,470nm,18.2s,baz=102,slow=37
PETK Petropavlovsk- 81.86 25 LR LR 20 55 16.7
comp=Z,28nm,18.2s,baz=308,slow=40
BDFB Brasilia 84.31 245 LR LR 20 50 08.2
comp=Z,36nm,19.6s,baz=163,slow=36
KDAK Kodiak Island 84.89 357 LR LR 20 54 25.9
comp=Z,57nm,20.3s,baz=275,slow=38
MJAR Matsushiro Arr 85.57 46 P **P 20 12 56.5 +0.8**
comp=Z,3.3nm,0.9s,baz=321,slow=3.8,SNR=7.0
comp=Z,3.3nm,0.9s
MJA0 Matsu Arr-Jizo 85.59 46 *e*P **P 20 12 56.5 +0.6**
MJA0 pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 92.76 329 LR LR 20 56 43.8
comp=Z,35nm,19.3s,baz=278,slow=36
CPUP Villa Florida 97.80 243 LR LR 20 59 08.4
comp=Z,10nm,18.6s,baz=278,slow=36
WRA Warramunga Arr 119.36 93 PKP **PKPdf 20 19 05.8 -1.3**
comp=Z,0.4nm,0.8s,baz=313,slow=2.7,SNR=2.3
ASAR Alice Springs 120.96 97 PKP **PKPdf 20 19 09.8 -0.4**
comp=Z,0.2nm,0.5s,baz=307,slow=1.6,SNR=5.0
QSPA South Pole Qui 127.44 180 PKP **PKiKP 20 19 22.8 +1.1**
comp=Z,1.2nm,0.9s,baz=276,slow=8.6,SNR=2.6

IDC 08 20:31:25.4±3.9, 20.04S×175.52W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=263.4km s-min=77.8km az=160.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.89**	**256**	P	P	20 39 58.2	+0.3
	0.4nm,0.5s,baz=98,slow=7.4,SNR=9.0						
ASAR				PcP	PcP	20 41 29.7	-1.1
	0.3nm,0.7s,baz=95,slow=3.1,SNR=2.3						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**46.97**	**261**	P	P	20 39 58.2	-0.4
	0.2nm,0.5s,baz=98,slow=7.8,SNR=2.3						
	0.2nm,0.5s						
AKASG	**Malin Array Be**	**143.70**	**333**	PKP	PKPdf	20 51 02.6	+0.4
	0.9nm,0.5s,baz=44,slow=4.0,SNR=8.6						

*FUNV **08** 20:35:49.1, 11.32N×72.11W, h5km, MW3.2*
*RSNC **08** 20:35:49.6±0.0, 11.1°N±1.7×72.2W±.2°, h17km±1km, M2.2, ML2.3*
ISC 08 20:35:48.9±1.0, 11.39N±0.05×72.12W±0.04, h29km, n9, s0.91/18, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URIC	**Uribia, Colomb**	**0.34**	**23**	P	**Pb**	**20 35 56.6**	**-0.2**
URIC				S	**Sb**	**20 36 02.1**	**-0.1**
CRJC	**Cerrejon, Guaj**	**0.83**	**244**	P	**Pn**	**20 36 03.8**	**-0.9**
CRJC				S	**Sb**	**20 36 14.8**	**-0.9**
MCQV	**Machiques**	**1.39**	**197**	*e*P	**Pn**	**20 36 12.7**	**+0.4**
MCQV				*e*S	**Sb**	**20 36 31.6**	**0.0**
SMRC	**Santa Marta, M**	**2.07**	**264**	P	**Pn**	**20 36 21.6**	**-0.1**
SMRC				S	**Sn**	**20 36 47.6**	**+1.0**
OCAC	**Ocana**	**3.34**	**201**	P	**Pn**	**20 36 39.9**	**+0.5**
OCAC				S	**Sn**	**20 37 17.3**	**-0.9**
SJCC	**San Jacinto, C**	**3.35**	**244**	P	**Pn**	**20 36 39.8**	**+0.4**
SJCC				S	**Sn**	**20 37 19.7**	**+1.5**
CAPV	**Capacho**	**3.51**	**183**	*e*P	**Pn**	**20 36 42.6**	**+1.0**
CAPV				*e*S	**Sn**	**20 37 21.9**	**-0.4**
BENV	**Beln**	**4.67**	**107**	*e*P	**Pn**	**20 36 58.5**	**+1.0**
BENV				*e*S	**Sn**	**20 37 49.6**	**-1.2**
BAUV	**El Baul**	**4.70**	**121**	*e*P	**Pn**	**20 36 58.9**	**+1.0**
BAUV				*e*S	**Sn**	**20 37 50.1**	**-1.3**

*SJA **08** 20:40:16.4±0.9,20°.32S×70°.08W,h78km±3km, ML4.1, MW4.0*
*NEIC **08** 20:40:18.0±1.0,20°.37S±0°.04×70°.04W×0°.09,h70km±4km, mb4.3/13,Mwr4.4(GUC), Error ellipse: s-maj=12.8km s-min=5.5km az=104.0*
*GUC **08** 20:40:18.6±0.6,20°.32S×70°.03W,h74km±2km, ML4.4*
*IDC **08** 20:40:20.7±3.2,20°.36S×69°.65W,h90km±28km, mb3.5/5, mbtmp3.9/7,Error ellipse: s-maj=45.9km s-min=22.0km az=113.0*
*VAO **08** 20:40:20.7±0.8,19°.92S×69°.77W,h65km±7km, mb4.3*

ISC 08 20:40:17.1±0.6,20°.35S±0°.03×70°.07W±0°.05,h76km±4km, n110,σ1§25/123,mb4.2/7,10C-6D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.09**	**324**	⇓	*iP*		**Pn**	**20 40 28.7**	**+0.6**
TA02					*eS*		**Sn**	**20 40 36.6**	**+0.5**
TA02	**Huaiquique**	**0.09**	**324**		*eP*		**Pn**	**20 40 28.7**	**+0.6**
TA02					*eS*		**Sn**	**20 40 37.0**	**+0.9**
HMBC	**Humberstone**	**0.19**	**69**				**Pn**	**20 40 28.8**	**+0.3**
HMBC						Sn	**Sn**	**20 40 37.0**	**+0.1**
HMBC	**Humberstone**	**0.19**	**69**		*eP*		**Pn**	**20 40 28.9**	**+0.3**
HMBC					*i* S		**Sn**	**20 40 37.2**	**+0.3**
HMBC	**Humberstone**	**0.19**	**69**		*eP*		**Pn**	**20 40 28.8**	**+0.3**
HMBC					*eS*		**Sn**	**20 40 38.1**	**+1.2**
HMBC					IAML			20 40 39.6	
	comp=Z,7μm,0.3s								
TA01	**Diego Aracena**	**0.24**	**205**				**Pn**	**20 40 29.3**	**+0.6**
TA01						Sn	**Sn**	**20 40 37.4**	**+0.3**
TA01	**Diego Aracena**	**0.24**	**205**	⇓	*iP*		**Pn**	**20 40 29.4**	**+0.8**
TA01					*i* S		**Sn**	**20 40 37.8**	**+0.7**
TA01					IAML			20 40 38.3	
	comp=E,55μm,0.3s								
TA01	**Diego Aracena**	**0.24**	**205**		*eP*		**Pn**	**20 40 28.4**	**-0.3**
TA01					*eS*		**Sn**	**20 40 38.1**	**+1.0**
TA01					IAML			20 40 38.8	
	comp=Z,7μm,0.1s								
PX03	**IPOC Station P**	**0.42**	**98**	⇓	*iP*		**Pn**	**20 40 29.7**	**-0.2**
PX03					*i* S		**Sn**	**20 40 39.5**	**+0.1**
PX03					IAML			20 40 39.8	
	comp=N,31μm,0.4s								
PATCX	**Punta Patache**	**0.48**	**189**				**Pn**	**20 40 31.0**	**+0.5**
PB11	**IPOC Station P**	**0.70**	**34**				**Pn**	**20 40 33.0**	**+0.3**
PB11	**IPOC Station P**	**0.70**	**34**	⇓	*iP*		**Pn**	**20 40 33.0**	**+0.3**
PB11					*i* S		**Sn**	**20 40 44.4**	**+0.3**
PB11					IAML			20 40 45.2	
	comp=E,25μm,0.2s								
PB11	**IPOC Station P**	**0.70**	**34**		*eP*		**Pn**	**20 40 32.3**	**-0.4**
PB11					IAML			20 40 45.1	
	comp=Z,9μm,0.3s								
PB01	**IPOC Station P**	**0.88**	**142**				**Pn**	**20 40 34.6**	**0.0**
PB01	**IPOC Station P**	**0.88**	**142**	⇓	*iP*		**Pn**	**20 40 35.6**	**+1.0**
PB01					*i* S		**Sn**	**20 40 48.6**	**+0.9**
PB01					IAML			20 40 49.2	
	comp=N,21μm,0.3s								
PB01	**IPOC Station P**	**0.88**	**142**		*eP*		**Pn**	**20 40 35.5**	**+0.8**
PB01					IAML			20 40 50.9	
	comp=Z,5μm,0.2s								
PB08	**IPOC Station P**	**0.89**	**77**				**Pn**	**20 40 35.3**	**+0.3**
PB08	**IPOC Station P**	**0.89**	**77**	⇓	*iP*		**Pn**	**20 40 36.0**	**+1.0**
PB08					*i* S		**Sn**	**20 40 49.0**	**+0.8**
PB08					IAML			20 40 50.1	
	comp=E,10μm,0.2s								
PB08	**IPOC Station P**	**0.89**	**77**		*eP*		**Pn**	**20 40 35.9**	**+0.9**
PB08					*eS*		**Sn**	**20 40 49.2**	**+1.0**
PB08					IAML			20 40 49.7	
	comp=Z,4μm,0.4s								
PB02	**IPOC Station P**	**0.98**	**170**				**Pn**	**20 40 36.2**	**+0.4**
PB02	**IPOC Station P**	**0.98**	**170**	⇑	*iP*		**Pn**	**20 40 37.0**	**+1.1**
PB02					*i* S		**Sn**	**20 40 50.9**	**+1.1**
PB02					IAML			20 40 53.3	
	comp=E,11μm,0.1s								
PB02	**IPOC Station P**	**0.98**	**170**		*eP*		**Pn**	**20 40 36.9**	**+1.0**
PB02					IAML			20 40 54.7	
	comp=Z,9μm,0.1s								
GO01	**Chusmiza**	**1.07**	**51**				**Pn**	**20 40 37.9**	**+0.6**
GO01	**Chusmiza**	**1.07**	**51**	⇑	*iP*		**Pn**	**20 40 37.8**	**+0.6**
GO01					*i* S		**Sn**	**20 40 53.0**	**+0.8**
GO01					IAML			20 40 54.6	
	comp=N,48μm,0.1s								
GO01	**Chusmiza**	**1.07**	**51**		*eP*		**Pn**	**20 40 37.8**	**+0.6**
GO01					IAML			20 40 54.3	
	comp=Z,5μm,0.3s								
PB09	**IPOC Station P**	**1.64**	**152**				**Pn**	**20 40 45.9**	**+1.6**
PB09	**IPOC Station P**	**1.64**	**152**	⇑	*iP*		**Pn**	**20 40 46.0**	**+1.6**
PB09					*i* S		**Sn**	**20 41 06.9**	**+2.1**
PB09	**IPOC Station P**	**1.64**	**152**		*eP*		**Pn**	**20 40 45.7**	**+1.4**
PB09					IAML			20 41 12.9	
	comp=Z,2μm,0.5s								
PB03	**IPOC Station P**	**1.72**	**170**				**Pn**	**20 40 45.6**	**+0.2**
PB03	**IPOC Station P**	**1.72**	**170**	⇑	*iP*		**Pn**	**20 40 46.5**	**+1.1**
PB03					*i* S		**Sn**	**20 41 07.1**	**+0.4**
PB03	**IPOC Station P**	**1.72**	**170**		*eP*		**Pn**	**20 40 46.4**	**+1.1**
PB03					IAML			20 41 12.9	
	comp=Z,2μm,0.2s								
PB16	**IPOC Station P**	**2.07**	**15**				**Pn**	**20 40 51.2**	**+0.8**
PB16	**IPOC Station P**	**2.07**	**15**	⇑	*iP*		**Pn**	**20 40 51.4**	**+1.0**
PB16					*i* S		**Sn**	**20 41 15.9**	**+0.3**
PB16	**IPOC Station P**	**2.07**	**15**		*eP*		**Pn**	**20 40 51.4**	**+1.0**
PB16					*eS*		**Sn**	**20 41 16.7**	**+1.0**
PB16					IAML			20 41 17.2	
	comp=Z,511nm,0.4s								
PB06	**IPOC Station P**	**2.39**	**169**				**Pn**	**20 40 54.5**	**+0.1**
PB06	**IPOC Station P**	**2.39**	**169**	⇑	*iP*		**Pn**	**20 40 54.9**	**+0.6**
PB06					*i* S		**Sn**	**20 41 22.5**	**-0.4**
PB06					IAML			20 41 23.0	
	comp=E,1μm,0.2s								
PB06	**IPOC Station P**	**2.39**	**169**		*eP*		**Pn**	**20 40 54.8**	**+0.4**
PB06					IAML			20 41 28.1	
	comp=Z,703nm,0.5s								
PB05	**IPOC Station P**	**2.50**	**183**				**Pn**	**20 40 55.1**	**-0.6**
PB05	**IPOC Station P**	**2.50**	**183**	⇑	*iP*		**Pn**	**20 40 55.7**	**0.0**
PB05					*i* S		**Sn**	**20 41 23.8**	**-1.5**
PB05	**IPOC Station P**	**2.50**	**183**		*eP*		**Pn**	**20 40 55.5**	**-0.2**
PB05					IAML			20 41 50.6	
	comp=Z,444nm,0.4s								
PB18	**Visviri**	**2.80**	**12**				**Pn**	**20 41 01.0**	**+0.8**
AF01	**San Pedro de A**	**3.13**	**146**		*eP*		Pn	20 41 16.3	+12
AF01					*eS*		Sn	20 41 55.8	+15
AF01					IAML			20 42 30.1	
	comp=Z,1μm,0.6s								
PB10	**IPOC Station P**	**3.18**	**188**				**Pn**	**20 41 04.1**	**-0.8**
PB10	**IPOC Station P**	**3.18**	**188**	⇑	*iP*		**Pn**	**20 41 04.3**	**-0.5**
PB10	**IPOC Station P**	**3.18**	**188**		*eP*		**Pn**	**20 41 04.4**	**-0.5**
PB10					*eS*		**Sn**	**20 41 42.0**	**+0.2**
PB14	**IPOC Station P**	**4.27**	**184**		Pn		**Pn**	**20 41 18.7**	**-1.3**
PB14	**IPOC Station P**	**4.27**	**184**		*eP*		**Pn**	**20 41 19.4**	**-0.6**
PB14					*eS*		**Sn**	**20 42 07.1**	**-1.7**
PB14					IAML			20 42 08.5	
	comp=Z,132nm,0.5s								
LPAZ	**La Paz**	**4.44**	**25**		P		**Pn**	**20 41 24.7**	**+2.1**
	comp=Z,6.9nm,0.5s,baz=206,slow=8.6,SNR=26								
LPAZ	**La Paz**	**4.44**	**25**		*eP*		**Pn**	**20 41 26.2**	**+3.6**
LPAZ	**La Paz**	**4.44**	**25**		*eP*		**Pn**	**20 41 18.4**	**-4.1**
GO02	**Mina Guanaco**	**4.81**	**175**				**Pn**	**20 41 26.7**	**-0.7**
GO02	**Mina Guanaco**	**4.81**	**175**		*eP*		**Pn**	**20 41 27.3**	**-0.1**
GO02					*eS*		**Sn**	**20 42 22.6**	**+0.6**
GO02					IAML			20 42 48.1	
	comp=Z,169nm,1.2s								
AC01	**Pan de Azucar**	**5.79**	**185**				**Pn**	**20 41 38.1**	**-2.4**
AC02	**Maricunga**	**6.52**	**173**				**Pn**	**20 41 50.7**	**-0.1**
SIV	**San Ignacio**	**9.59**	**65**		P		**Pn**	**20 42 30.8**	**-1.6**
	comp=Z,6.1nm,0.5s,baz=250,slow=11,SNR=37								
GO04	**Tololo Observa**	**9.81**	**184**		Pn		**Pn**	**20 42 31.9**	**-3.6**
CFA	**Coronel Fontan**	**11.33**	**172**		P		**Pn**	**20 42 52.5**	**-3.6**
	comp=Z,0.7nm,0.3s,baz=343,slow=12,SNR=6.8								
PTLB	**Pontes e Lacer**	**11.49**	**67**				**Pn**	**20 42 57.8**	**-0.5**
PTLB	**Pontes e Lacer**	**11.49**	**67**		*eP*		**Pn**	**20 42 56.9**	**-1.4**
MURT	**Porto Murtinho**	**11.71**	**99**		*eP*		**Pn**	**20 42 59.2**	**-2.1**
VILB	**Vilhena**	**11.98**	**54**				**Pn**	**20 43 05.3**	**+0.3**
VILB	**Vilhena**	**11.98**	**54**		*eP*		**Pn**	**20 43 03.4**	**-1.6**
CZSB	**Cruzeiro do Su**	**12.80**	**348**		*eP*		**Pn**	**20 43 14.7**	**-1.4**
MT02	**Curacav**	**12.90**	**184**		Pn		**Pn**	**20 43 17.7**	**+0.4**
AMBA	**Amambai (Brazi**	**14.26**	**103**		*eP*		**P**	**20 43 38.3**	**-2.1**
SALV	**Santo Antonio**	**14.36**	**74**		*eP*		**Pn**	**20 43 36.9**	**+0.1**
BO02	**Sierra Bellavi**	**14.40**	**182**		Pn		**Pn**	**20 43 37.6**	**+0.4**
H03N1	**Juan Fernandez**	**15.23**	**209**		P		**Pn**	**20 43 48.2**	**+0.7**
	baz=109,slow=14,SNR=58								
H03N1					T		T	20 59 15.7	
	baz=34,slow=72,SNR=67								
H03N2	**Juan Fernandez**	**15.24**	**209**		P		**Pn**	**20 43 48.2**	**+0.6**
	baz=109,slow=14,SNR=34								
H03N2					T		T	20 59 07.7	
	baz=34,slow=72,SNR=68								
H03N3	**Juan Fernandez**	**15.25**	**209**		P		**Pn**	**20 43 47.9**	**+0.1**
	baz=109,slow=14,SNR=83								
H03N3					T		T	20 58 56.6	
	baz=34,slow=72,SNR=49								
VA04	**Juan Fernndez**	**15.36**	**209**		Pn		**Pn**	**20 43 50.1**	**+0.7**
PDRB	**Porto dos Gac**	**15.48**	**58**		*eP*		**Pn**	**20 43 49.0**	**-2.1**
H03S3	**Juan Fernandez**	**15.55**	**208**		P		**Pn**	**20 43 52.1**	**+0.5**
	baz=197,slow=74,SNR=26								
H03S1	**Juan Fernandez**	**15.56**	**208**		P		**Pn**	**20 43 51.6**	**-0.2**
	baz=197,slow=74,SNR=16								
H03S2	**Juan Fernandez**	**15.57**	**209**		P		**Pn**	**20 43 52.2**	**+0.4**
	baz=197,slow=74,SNR=20								
BI02	**San Fabin de**	**16.29**	**183**		Pn		**Pn**	**20 44 01.3**	**0.0**
TEFE	**Tefe**	**17.55**	**18**		*eP*		**P**	**20 44 15.6**	**-1.3**
TRQA	**Tornquist**	**18.99**	**160**		P		**Pn**	**20 44 33.4**	**-0.7**
MACA	**Manacapuru-AM**	**19.38**	**29**		P		**Pn**	**20 44 37.0**	**-1.8**
NPGB	**Novo Progresso**	**19.45**	**49**		*eP*		**P**	**20 44 37.1**	**-0.7**
LR05	**Currie**	**19.89**	**184**		P		**Pn**	**20 44 43.8**	**-0.8**
PLCA	**Paso Flores**	**20.33**	**181**		P		Pn	20 44 48.4	-1.4
PLCA						IAmb	IAmb	20 45 18.3	
	comp=Z,10nm,1.2s								
PLCA	**Paso Flores**	**20.33**	**181**		P		Pn	20 44 48.5	-1.3
	comp=Z,2.4nm,0.8s,baz=0.1,slow=14,SNR=3.7								
	comp=Z,2.4nm,0.8s								
RCLB	**Rio Claro- Sao**	**21.09**	**100**		*eP*		**P**	**20 44 58.3**	**+2.7**
ITTB	**Itaituba**	**21.14**	**43**		*eP*		**P**	**20 44 54.3**	**-1.7**
BDFB	**Brasilia**	**21.49**	**81**		P		**P**	**20 44 58.9**	**-1.0**
	comp=Z,2.0nm,0.4s,baz=243,slow=6.8,SNR=5.1								
	comp=Z,2.0nm,0.4s								
VAO	**Valinhos**	**21.63**	**101**		P		**P**	**20 45 02.5**	**+1.2**
VAO						IAmb	IAmb	20 45 03.0	
	comp=Z,20nm,1.3s								
MAL2	**Monte Alegre,**	**23.93**	**42**		P		**P**	**20 45 23.9**	**-0.4**
MAL2						IAmb	IAmb	20 45 25.9	
	comp=Z,12nm,0.5s								
BOAV	**Boa Vista**	**24.46**	**24**				**P**	**20 45 29.2**	**+0.2**
BOAV						IAmb	IAmb	20 45 31.7	
	comp=Z,12nm,0.9s								
BOAV	**Boa Vista**	**24.46**	**24**		*eP*		**P**	**20 45 29.4**	**+0.3**
JANB	**Januaria**	**25.08**	**82**		*eP*		**P**	**20 45 36.2**	**+1.3**
PMSA	**Palmer Station**	**44.59**	**176**		*eP*		P	20 48 29.4	+8.1
SNAA	**Sanae**	**63.72**	**161**	⇑	P		**P**	**20 50 41.6**	**+1.2**
	comp=Z,34nm,0.7s								
SNAA	**Sanae**	**63.72**	**161**		P		**P**	**20 50 41.6**	**+1.2**
SNAA						IAmb	IAmb	20 51 02.2	
	comp=Z,3.2nm,1.1s								
SNAA	**Sanae**	**63.72**	**161**		P		**P**	**20 50 41.4**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=283,slow=7.0,SNR=13								
	comp=Z,1.3nm,0.7s								
TROLL	**Troll, Antarti**	**65.44**	**161**	⇑	P		**P**	**20 50 53.2**	**+1.5**
	comp=Z,75nm,0.8s								
QSPA	**South Pole Qui**	**69.84**	**180**		P		**P**	**20 51 22.3**	**+2.9**
QSPA						IAmb	IAmb	20 51 23.7	
	comp=Z,5.8nm,1.2s								
QSPA	**South Pole Qui**	**69.84**	**180**		P		**P**	**20 51 22.4**	**+2.9**
	comp=Z,1.7nm,0.8s,baz=112,slow=7.5,SNR=12								
	comp=Z,1.7nm,0.8s								
LHV	**Little Huntoon**	**73.91**	**322**		P		**P**	**20 51 45.9**	**+2.0**
LHV						IAmb	IAmb	20 52 08.9	
	comp=Z,2.7nm,1.1s								
TORD	**Torodi Ar. Bea**	**78.00**	**71**		P		**P**	**20 52 07.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**78.00**	**71**		P		**P**	**20 52 07.4**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=248,slow=5.2,SNR=8.0								
	comp=Z,0.5nm,0.7s								
H11S2	**WAKE ISLAND Hy**	**26.64**	**278**		T		T	23 18 46.0	
	baz=102,slow=75,SNR=130								
H11S1	**WAKE ISLAND Hy**	**26.65**	**278**		T		T	23 18 45.3	
	baz=102,slow=75,SNR=243								
H11S3	**WAKE ISLAND Hy**	**26.66**	**278**		T		T	23 18 48.8	
	baz=102,slow=75,SNR=122								
H11N3	**WAKE ISLAND Hy**	**26.70**	**280**		T		T	23 18 47.2	
	baz=102,slow=75,SNR=139								
H11N2	**WAKE ISLAND Hy**	**26.71**	**280**		T		T	23 18 50.7	
	baz=102,slow=75,SNR=103								
H11N1	**WAKE ISLAND Hy**	**26.72**	**280**		T		T	23 18 49.3	
	baz=102,slow=75,SNR=109								
PETK	**Petropavlovsk-**	**130.99**	**324**		PKhKP		PKPpre	20 59 15.2	
	comp=Z,1.4nm,0.6s,baz=76,slow=6.1,SNR=4.1								
WRA	**Warramunga Arr**	**133.37**	**212**		PKP		**PKiKP**	**20 59 26.0**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=141,slow=1.6,SNR=2.3								
MKAR	**Makanchi Array**	**145.32**	**34**		PKPbc		**PKPab**	**20 59 46.5**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=299,slow=3.0,SNR=5.9								

*IDC **08** 20:54:11.7±15.0,35°.32N×23°.70E,h0km,mb3.7/5, mbtmp3.6/6,ML2.9/1,Error ellipse: s-maj=313.6km s-min=34.9km az=29.0*

ISC 08 20:54:17.5±15.0,35°N±2°×2°4E±°,h30km,n6,σ0§42/6, mb3.6/5,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GERES	**GERESS Array B**	**15.30**	**334**			Pn	**Pn**	**20 57 51.6**	**+0.3**
	baz=148,slow=19,SNR=2.5								
	0.1nm,0.3s								
HFS	**Hagfors**	**25.53**	**348**		P		**P**	**20 59 42.9**	**-0.3**
	1.9nm,0.9s,baz=155,slow=10,SNR=5.0								
	1.9nm,0.9s								
KURBB	**Kurchatov Arra**	**41.77**	**51**		P		**P**	**21 02 04.2**	**+0.3**
	0.7nm,0.2s,baz=274,slow=8.7,SNR=5.7								
	0.7nm,0.2s								
MKAR	**Makanchi Array**	**44.51**	**57**		P		**P**	**21 02 26.4**	**+0.2**
	0.2nm,0.3s,baz=271,slow=8.3,SNR=8.1								
	0.2nm,0.3s								
ZALV	**Zalesovo Beam**	**45.58**	**46**		P		**P**	**21 02 34.0**	**-0.4**
	0.4nm,0.4s,baz=266,slow=8.8,SNR=2.9								
	0.4nm,0.4s								
SONM	**Songino Array**	**60.13**	**50**		P		**P**	**21 04 22.1**	**0.0**
	0.2nm,0.4s,baz=292,slow=7.3,SNR=2.6								
	0.2nm,0.4s								

*JMA **08** 21:03:04.4±0.2,32°.2N±0°.8×140°.7E±0°.8,h27km,MV3.5/26, E OFF HACHIJOJIMA ISLAND*
*IDC **08** 21:03:11.2±3.1,31°.87N×140°.13E,h140km±28km,mb3.1/6, mbtmp3.4/8,MS2.6/1,Error ellipse: s-maj=43.5km s-min=21.2km az=78.0*

ISC 08 21:03:03.7±1.1,32°.05N±0°.09×140°.5E±0°.1,h73km,n24, σ1§33/17,mb3.5/6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**0.76**	**303**		*eP*		**Pn**	**21 03 19.7**	**+0.3**
JAOM					*eS*		**Sn**	**21 03 30.9**	**-0.3**
JHCJ	**Hachijojimakas**	**1.19**	**330**		*eS*		**Sn**	**21 03 38.7**	**-1.7**
JHJ2	**Mitsune**	**1.21**	**331**		*eP*		**Pn**	**21 03 25.2**	**+0.2**
JHJ2					*eS*		**Sn**	**21 03 39.1**	**-1.8**
BSO3	**Boso 3**	**2.75**	**360**		*eP*		**Pn**	**21 03 46.5**	**+1.3**
BSO3					*eS*		**Sn**	**21 04 17.0**	**-0.2**
TTO1	**TONANKAI O.B.S**	**3.51**	**298**		*eP*		**Pn**	**21 03 57.0**	**+1.5**
JIE	**Ise**	**3.95**	**307**		*eP*		**Pn**	**21 04 03.3**	**+1.4**
JNY	**Yasuok**	**3.97**	**327**		*eP*		Pn	21 04 06.4	+4.1
JTNC	**Tanabenakahech**	**4.48**	**295**		P		**Pn**	**21 04 10.6**	**+1.5**
JWY	**Kouya**	**4.66**	**299**		*eP*		**Pn**	**21 04 13.8**	**+2.2**
MJAR	**Matsushiro Arr**	**4.87**	**338**		P		Pn	21 04 22.7	+8.3
	1.6nm,0.5s,baz=160,slow=13,SNR=4.0								
MJAR					S		Sn	21 05 19.8	+10
	0.8nm,0.3s,baz=145,slow=19,SNR=1.8								
KSRS	**Korea Array**	**11.67**	**301**		P		Pn	21 05 51.5	+4.3
	1.1nm,0.8s,baz=117,slow=15,SNR=5.0								
H11N2	**WAKE ISLAND Hy**	**26.64**	**111**		T		T	21 37 13.3	
	baz=303,slow=75,SNR=7.8								
H11N1	**WAKE ISLAND Hy**	**26.65**	**111**		T		T	21 37 27.7	
	baz=303,slow=75,SNR=4.6								
H11N3	**WAKE ISLAND Hy**	**26.66**	**111**		T		T	21 37 27.2	
	baz=303,slow=75,SNR=6.4								
H11S3	**WAKE ISLAND Hy**	**27.16**	**113**		T		T	21 37 12.4	
	baz=304,slow=76,SNR=26								
H11S1	**WAKE ISLAND Hy**	**27.16**	**113**		T		T	21 37 14.4	
	baz=304,slow=76,SNR=29								
H11S2	**WAKE ISLAND Hy**	**27.18**	**113**		T		T	21 37 19.2	
	baz=304,slow=76,SNR=19								
CMAR	**Chiang Mai Arr**	**39.71**	**260**		LR		LR	21 29 11.8	
	comp=Z,7.8nm,19.3s,baz=305,slow=40								
MKAR	**Makanchi Array**	**46.29**	**306**		P		**P**	**21 11 21.7**	**-0.3**
	0.2nm,0.7s,baz=70,slow=8.4,SNR=1.5								
	0.2nm,0.7s								
KURBB	**Kurchatov Arra**	**48.61**	**311**		P		**P**	**21 11 39.2**	**-0.6**
	0.3nm,0.6s,baz=86,slow=7.6,SNR=2.8								
	0.3nm,0.6s								
WRA	**Warramunga Arr**	**52.03**	**187**		P		**P**	**21 12 04.5**	**-1.4**
	0.3nm,0.6s,baz=4.0,slow=7.7,SNR=6.1								
	0.3nm,0.6s								
ASAR	**Alice Springs**	**55.76**	**187**		P		**P**	**21 12 32.3**	**-0.8**
	0.4nm,0.8s,baz=20,slow=12,SNR=1.9								
	0.4nm,0.8s								
FINES	**FINESS Array B**	**72.88**	**333**		P		**P**	**21 14 24.2**	**-0.3**
	0.9nm,0.8s,baz=130,slow=17,SNR=1.2								
	0.9nm,0.8s								
TXAR	**Lajitas Array**	**93.76**	**52**		P		**P**	**21 16 14.5**	**+1.6**
	0.1nm,0.5s,baz=313,slow=4.5,SNR=2.1								
	0.1nm,0.5s								

DJA 08 21:05:22.3±0.3,8°S±4°×11°7E±°,h10km,M3.6/10,mb3.6/1, MLv3.6/10,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.43**	**164**			P	Pg	21 05 31.2	+0.4
PLAI	**Plampang**	**1.12**	**117**			P	Pb	21 05 43.3	-0.6
PLAI						S	Sn	21 05 59.6	-0.1
SRBI	**Singaraja**	**1.55**	**279**			P	Pn	21 05 49.8	-0.2
SRBI						S	Sn	21 06 10.4	+0.3
JAGI	**Jajag, Banyuwa**	**2.58**	**267**			P	Pn	21 06 02.7	-1.5
WBSI	**Waikabubak, Su**	**2.91**	**117**			P	Pn	21 06 09.1	+0.3
GMJI	**Gumukmas**	**3.28**	**271**			P	Pn	21 06 13.8	0.0
BSSI	**Bau Bau, Buton**	**4.29**	**60**			P	Pn	21 06 26.2	-1.5
BKSI	**Bulukumba**	**4.47**	**48**			P	Pn	21 06 28.6	-1.6
EDFI	**Ende, Flores**	**4.89**	**95**			P	Pn	21 06 36.4	+0.3
BNSI	**Bone**	**5.12**	**41**			P	Pn	21 06 39.7	+0.6

*RHSSO **08** 21:05:46.3±0.2,43°.45N×17°.46E,h6km±2km,ML3.0/11*
*PDG **08** 21:05:46.5±0.9,43°.33N×17°.48E,h18km±2km, MD3.1/2, ML3.0/10,Error ellipse: s-maj=1.3km s-min=1.9km az=0.0*
*BEO **08** 21:05:46.5±0.3,43°.45N×17°.40E,h0km,ML2.7/21*
*PRU **08** 21:05:48.4,43°.49N×17°.67E,h10km*

ISC 08 21:05:46.0±1.1,43°.46N±0°.02×17°.48E±0°.01,h4km±9km, n96,σ1§16/176,28C-10D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RICI	**Ricice**	**0.25**	**279**		*i* Pg		**Pg**	**21 05 51.0**	**+0.1**
RICI						Sg	**Sg**	**21 05 54.9**	**+0.7**
MAKA	**Makarska**	**0.37**	**243**		*i* Pg		**Pg**	**21 05 52.6**	**-0.5**
MAKA						Sg	**Sg**	**21 05 57.7**	**-0.3**
STON	**Ston**	**0.61**	**164**	⇓	*iP*		**Pg**	**21 05 56.8**	**-0.8**
STON					*eSg*		**Sg**	**21 06 06.2**	**+0.8**
STON	**Ston**	**0.61**	**164**		*eP*		**Pg**	**21 05 57.0**	**-0.7**
STON						Sg	**Sg**	**21 06 05.6**	**+0.2**
STON	**Ston**	**0.61**	**164**		*eP*		**Pg**	**21 05 56.9**	**-0.7**
STON					*eSg*		**Sg**	**21 06 06.1**	**+0.7**
LSTV	**Lastovo**	**0.81**	**212**		*eP*		**Pg**	**21 06 00.0**	**-1.5**
LSTV						Sg	**Sg**	**21 06 11.9**	**-0.1**
KLINJ	**Klinje**	**0.86**	**109**		*eP*		**Pg**	**21 06 02.3**	**-0.1**
KLINJ					*eSg*		**Sg**	**21 06 14.6**	**+1.1**
DBRK	**Dubrovnik**	**0.93**	**148**		*eP*		**Pg**	**21 06 03.1**	**-0.7**
DBRK						Sg	**Sg**	**21 06 16.1**	**+0.4**
KIJV	**Kijevo**	**0.95**	**306**	⇑	*iP*		**Pg**	**21 06 03.5**	**-0.7**
KIJV					*eSg*		**

BARS	**Barje**	**3.24**	**100**	*e*Pn		**Pn**	**21 06 39.1**	**+1.5**
BARS				*e*Sn		**Sn**	**21 07 19.2**	**+2.6**
GROS	**Grobnik**	**3.32**	**336**	*i* Pn		**Pn**	**21 06 38.9**	**+0.2**
BORS2	**Bor- Borsko je**	**3.35**	**78**	*e*Pn		**Pn**	**21 06 40.7**	**+1.6**
BORS2				*e*Sn		**Sn**	**21 07 22.0**	**+2.7**
ZAGS	**Zajecar**	**3.47**	**82**	*e*Pn		**Pn**	**21 06 41.7**	**+1.0**
ZAGS				*e*Sn		**Sn**	**21 07 22.9**	**+0.6**
SOKA	**Soboth**	**3.66**	**333**	*i* Pn		**Pn**	**21 06 44.1**	**+0.7**
	7.5nm,0.3s,SNR=22							
SOKA				*e*Sn		**Sn**	**21 07 26.2**	**-0.8**
	7.5nm,0.5s							
BZS	**Buzias**	**3.66**	**52**	⇑P		**Pn**	**21 06 43.3**	**-0.1**
BZS				⇑S		**Sn**	**21 07 26.5**	**-0.6**
OBKA	**Obir**	**3.69**	**327**	*e*Pn		**Pn**	**21 06 45.5**	**+1.6**
	2.6nm,0.3s							
ZAPS	**Zavoj**	**3.76**	**91**	*e*Pn		**Pn**	**21 06 46.9**	**+2.1**
ZAPS				*e*Sn		**Sn**	**21 07 32.4**	**+2.8**
BLKB	**Belogradchik**	**3.78**	**86**	⇑S		**Sn**	**21 07 28.2**	**-1.8**
BOSS	**Bosilegrad**	**3.79**	**103**	*e*Pn		**Pn**	**21 06 46.3**	**+1.1**
BOSS				*e*Sn		**Sn**	**21 07 31.7**	**+1.4**
HERR	**Herculane**	**3.83**	**66**	⇑P		**Pn**	**21 06 46.3**	**+0.6**
HERR				⇑S		**Sn**	**21 07 29.5**	**-1.6**
SURR	**Surduc**	**4.04**	**54**	⇑P		**Pn**	**21 06 48.3**	**-0.2**
ARSA	**Arzberg**	**4.04**	**341**	*i* Pn		**Pn**	**21 06 49.2**	**+0.7**
	5.1nm,0.3s,SNR=15							
ARSA				*e*Sn		**Sn**	**21 07 36.1**	**-0.2**
	5.0nm,0.5s							
SIRR	**Siria**	**4.09**	**45**	⇓S		**Sn**	**21 07 35.4**	**-2.2**
MYKA	**Terra Mystica**	**4.18**	**321**	*e*Pn		**Pn**	**21 06 52.3**	**+1.8**
	0.9nm,0.2s							
GZR	**Gura Zlata**	**4.26**	**61**	⇓P		**Pn**	**21 06 50.9**	**-0.7**
GZR				⇓S		**Sn**	**21 07 41.1**	**-0.7**
RONA	**Rosalia, Austr**	**4.33**	**349**	*e*Pn		**Pn**	**21 06 52.7**	**+0.2**
	1.4nm,0.2s							
RONA				*e*Sn		**Sn**	**21 07 43.8**	**+0.4**
	6.3nm,0.6s							
CONA	**Conrad Observa**	**4.61**	**346**	*i* Pn		**Pn**	**21 06 57.1**	**+0.5**
	1.2nm,0.3s,SNR=9.3							
CONA				*e*Sn		**Sn**	**21 07 49.2**	**-1.4**
	3.2nm,0.4s							
PSZ	**Piszkesteto**	**4.77**	**20**	⇑P		**Pn**	**21 06 57.9**	**-0.8**
ABTA	**Abfaltersbach**	**4.81**	**315**	*i* Pn		**Pn**	**21 07 00.1**	**+0.8**
	0.5nm,0.2s,SNR=5.2							
ABTA				*e*Sn		**Sn**	**21 07 55.8**	**+0.3**
	1.8nm,0.3s							
MOA	**Molln**	**4.94**	**334**	*e*Pn		**Pn**	**21 07 02.5**	**+1.6**
	5.5nm,0.3s							
MOA				*e*Sn		**Sn**	**21 07 59.1**	**+0.7**
	3.2nm,0.4s							
DRGR		**4.98**	**46**	⇑S		**Sn**	**21 07 58.7**	**-0.9**
BIOA	**Bad Ischl, Aus**	**5.02**	**329**	*e*Pn		**Pn**	**21 07 03.6**	**+1.6**
	1.1nm,0.3s							
MARR	**Marisel-Cluj**	**5.13**	**49**	⇑S		**Sn**	**21 08 01.2**	**-2.1**
LESA	**Schwarzleotal**	**5.21**	**321**	*e*Pn		**Pn**	**21 07 06.3**	**+1.6**
	6.6nm,0.7s,SNR=9.3							
LESA				Sn		**Sn**	**21 08 07.0**	**+1.7**
	3.3nm,0.5s							
WTTA	**Wattenberg**	**5.61**	**315**	*e*Pn		**Pn**	**21 07 12.0**	**+1.7**
	6.4nm,0.4s,SNR=8.8							
WTTA				*e*Sn		**Sn**	**21 08 17.6**	**+2.5**
	5.0nm,0.5s							
KRUC	**Moravsky**	**5.66**	**353**	*e*PN		**Pn**	**21 07 11.6**	**+0.8**
KRUC				*e*SN		**Sn**	**21 08 15.3**	**-0.9**
WATA	**Walderalm**	**5.68**	**315**	*i* Pn		**Pn**	**21 07 13.0**	**+1.7**
	1.8nm,0.3s,SNR=7.2							
WATA				*e*Sn		**Sn**	**21 08 19.5**	**+2.4**
	2.3nm,0.3s							
SQTA	**Sankt Quirin**	**5.80**	**313**	*e*Pn		**Pn**	**21 07 14.9**	**+2.0**
	1.7nm,0.2s							
SQTA				*e*Sn		**Sn**	**21 08 22.5**	**+2.5**
	3.3nm,0.4s							
MOTA	**Moosalm**	**5.94**	**313**	*e*Pn		**Pn**	**21 07 16.2**	**+1.5**
	1.1nm,0.2s							
MOTA				*e*Sn		**Sn**	**21 08 25.1**	**+1.8**
	3.6nm,0.5s							
FETA	**Feichten**	**5.95**	**309**	*e*Pn		**Pn**	**21 07 18.0**	**+3.0**
	0.5nm,0.3s							
KHC	**Kasperske Hory**	**6.29**	**336**	*e*PN		**Pn**	**21 07 21.2**	**+1.8**
KHC				*e*SN		**Sn**	**21 08 30.5**	**-1.2**
MORC	**Moravsky Berou**	**6.32**	**0**	*e*PN		**Pn**	**21 07 19.7**	**-0.3**
MORC				*e*SN		**Sn**	**21 08 31.4**	**-1.2**
MORC	**Moravsky Berou**	**6.32**	**0**	⇑S		**Sn**	**21 08 30.9**	**-1.7**
DAVA	**Damuels**	**6.58**	**308**	*e*Pn		**Pn**	**21 07 25.5**	**+1.9**
	1.0nm,0.4s							
DPC	**Dobruska-Polom**	**6.94**	**354**	*e*SN		**Sn**	**21 08 44.5**	**-3.4**

*IDC **08** 21:09:16.7±5.2,36°.56N×69°.01E, h0km, mb3.2/2, mbtmp3.3/6, ML3.0/4, Error ellipse: s-maj=87.4km s-min=30.0km az=153.0*
ISC 08 21:09:17.0±2.8,36°.6N±0°.2×68°.6E±0°.2, h24km, n8, σ1℘81/10, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.67**	**12**	⇑P		**Pn**	**21 10 54.4**	**+0.9**
	0.4nm,0.3s,baz=183,slow=10.0,SNR=19							
KK31				⇓S		**Sb**	**21 12 31.7**	**+0.3**
	8.2nm,0.6s,baz=194,slow=28,SNR=8.5							
AAK	**Ala-Archa**	**7.58**	**35**	⇑P		**Pn**	**21 11 05.7**	**-0.3**
	1.0nm,0.4s							
AAK				⇑S		**Sb**	**21 12 56.0**	**-1.6**
	4.7nm,0.9s							
AAK	**Ala-Archa**	**7.58**	**35**	Pn		**Pn**	**21 11 08.4**	**+2.4**
	1.3nm,0.3s,baz=225,slow=7.1,SNR=7.0							
AAK				Sn		**Sn**	**21 12 32.3**	**+1.2**
	0.2nm,0.3s,baz=234,slow=22,SNR=1.5							
	4.1nm,0.4s							
MKAR	**Makanchi Array**	**14.44**	**41**	Pn		**Pn**	**21 12 39.1**	**-0.7**
	baz=230,slow=11,SNR=3.0							
	0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**15.75**	**24**	Pn		**Pn**	**21 12 54.4**	**-2.7**
	0.1nm,0.3s,baz=212,slow=12,SNR=2.3							
	0.1nm,0.4s							
BVAR	**Borovoye Array**	**16.47**	**4**	Pn		**Pn**	**21 13 04.3**	**-2.1**
	baz=184,slow=10,SNR=5.3							
	0.2nm,0.3s							
ZALV	**Zalesovo Beam**	**20.70**	**28**	P		**P**	**21 13 55.8**	**+0.6**
	1.1nm,0.6s,baz=213,slow=11,SNR=5.9							
	1.1nm,0.6s							
NOA	**NORSAR Array B**	**43.11**	**323**	P		P	21 17 20.8	+5.7
	0.1nm,0.4s,baz=98,slow=8.0,SNR=1.8							
	0.1nm,0.4s							

*IDC **08** 21:26:28.5±0.7,58°.40N×31°.65W, h0km, mb3.8/18, mbtmp3.9/21, ML3.6/3, MS3.6/50, Error ellipse: s-maj=17.9km s-min=13.4km az=7.0*
*NEIC **08** 21:26:32.0±1.8,58°.42N±0°.10×31°.5W±0°.1, h10km±1km, mb4.6/54, Error ellipse: s-maj=16.4km s-min=12.5km az=173.0*
ISC 08 21:26:31.2±0.5,58°.52N±0°.07×31°.59W±0°.06, h10km, n135, σ1℘66/95, mb4.5/46, MS3.6/45, 4D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NRS	**Narsarsuaq**	**7.45**	**297**	Pn		**Pn**	**21 28 21.4**	**+1.6**
ANGG	**Ammassalik, Gr**	**7.67**	**341**	Pn		**Pn**	**21 28 20.7**	**-2.1**
BORG	**Borgarnes**	**7.93**	**34**	Pn		**Pn**	**21 28 28.7**	**+2.4**
BORG	**Borgarnes**	**7.93**	**34**	Pn		**Pn**	**21 28 27.0**	**+0.7**
	1.5nm,0.3s,baz=201,slow=11,SNR=7.0							
BORG				Sn		**Sn**	**21 29 58.3**	**+2.3**
	0.3nm,0.3s,baz=289,slow=11,SNR=3.8							
BORG				LR		LR	21 30 42.7	
	comp=Z,420nm,20.4s,baz=250,slow=32							
	7.7nm,0.4s							
SFJD	**Kangerlussuaq**	**12.12**	**322**	Pn		**Pn**	**21 29 22.9**	**-0.7**
	0.4nm,0.3s,baz=131,slow=6.1,SNR=2.7							
SFJD				Sn		**Sn**	**21 31 31.6**	**-7.0**
	0.3nm,0.3s,baz=144,slow=19,SNR=3.0							
SFJD				LR		LR	21 33 22.8	
	comp=Z,788nm,18.1s,baz=132,slow=34							
	4.9nm,0.7s							
JMIC	**Jan Mayen**	**15.75**	**28**	LR		LR	21 34 42.6	
	comp=Z,155nm,18.4s,baz=222,slow=31							
EKA	**Eskdalemuir Ar**	**15.79**	**89**	Pn		**Pn**	**21 30 09.2**	**-4.2**
	baz=296,slow=7.0							
FRB	**Frobisher Bay**	**18.39**	**302**	LR		LR	21 36 56.8	
	comp=Z,472nm,18.7s,baz=97,slow=34							
SCHQ	**Schefferville**	**19.56**	**274**	P		**P**	**21 30 59.1**	**+0.2**
SCHQ	**Schefferville**	**19.56**	**274**	P		**P**	**21 30 57.2**	**-1.7**
	1.2nm,0.3s,baz=28,slow=18,SNR=1.3							
SCHQ				LR		LR	21 37 18.4	
	comp=Z,2μm,18.4s,baz=110,slow=33							
	22nm,0.6s							
NC204	**NORSAR Array S**	**21.15**	**64**	P		**P**	**21 31 16.3**	**+0.2**
NOA	**NORSAR Array B**	**21.41**	**65**	P		**P**	**21 31 17.8**	**-1.1**
	0.6nm,0.8s,baz=281,slow=9.1,SNR=4.3							
NOA				LR		LR	21 38 36.7	
	comp=Z,46nm,20.5s,baz=290,slow=34							
	0.6nm,0.8s							
CLF	**Chambon-Foret**	**22.56**	**103**			**P**	**21 31 31.6**	**+0.4**
BSTI	**Sart Tilman**	**22.71**	**94**	*d*P		**P**	**21 31 35.0**	**+2.1**
HFS	**Hagfors**	**22.82**	**67**	P		**P**	**21 31 32.4**	**-1.5**
	1.9nm,0.9s,baz=255,slow=12,SNR=3.6							
HFS				LR		LR	21 39 17.8	
	comp=Z,43nm,18.7s,baz=298,slow=34							
	1.9nm,0.9s							
BTNL	**Ternell**	**23.00**	**94**	*d*P		**P**	**21 31 37.4**	**+1.4**
BHOU	**Houvegnez**	**23.07**	**94**	*d*P		**P**	**21 31 37.7**	**+1.0**
WLF	**Walferdange**	**23.55**	**96**	*d*P		**P**	**21 31 43.1**	**+1.6**
PESTR	**Estremoz**	**25.01**	**131**	P		**P**	**21 31 54.9**	**-0.2**
PESTR				IAmb		IAmb	21 31 56.9	
	comp=Z,19nm,1.2s							
D62A	**Allapoint, All**	**25.02**	**259**	P		**P**	**21 31 54.4**	**-0.7**
D62A				IAmb		IAmb	21 32 03.1	
	comp=Z,13nm,1.1s							
ESDC	**Sonseca Array**	**25.83**	**125**	P		**P**	**21 32 01.4**	**-1.1**
ESDC	**Sonseca Array**	**25.83**	**125**	P		**P**	**21 32 01.6**	**-0.9**
	comp=Z,2.1nm,0.9s,baz=326,slow=9.1,SNR=10							
ESDC				LR		LR	21 40 31.4	
	comp=Z,93nm,19.4s,baz=308,slow=33							
	comp=Z,2.1nm,0.9s							
CLL	**Collm**	**26.20**	**86**	*e*Px		Px	21 32 10.0	
	comp=Z,6.0nm,1.4s							
CLL				LmV			21 41 00.0	
	comp=Z,100nm,19.1s							
ARCES	**ARCESS Array B**	**26.22**	**42**	P		**P**	**21 32 04.2**	**-1.5**
	comp=Z,5.2nm,1.0s,baz=287,slow=9.2,SNR=6.3							
ARCES				LR		LR	21 40 26.1	
	comp=Z,103nm,19.2s,baz=316,slow=32							
	comp=Z,5.2nm,1.0s							
DAVOX	**Davos/Dischmat**	**27.30**	**97**	LR		LR	21 42 02.8	
	comp=Z,111nm,21.7s,baz=298,slow=34							
RES	**Resolute Bay**	**27.96**	**330**	LR		LR	21 42 26.3	
	comp=Z,102nm,18.9s,baz=26,slow=34							
GERES	**GERESS Array B**	**28.00**	**90**	LR		LR	21 43 03.1	
	comp=Z,93nm,19.5s,baz=304,slow=36							
FINES	**FINESS Array B**	**28.19**	**59**	P		**P**	**21 32 23.8**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=268,slow=11,SNR=1.2							
FINES				LR		LR	21 42 21.9	
	comp=Z,42nm,19.8s,baz=278,slow=34							
	comp=Z,1.0nm,0.8s							
VRAC	**Vranov**	**29.24**	**87**	LR		LR	21 43 00.6	
	comp=Z,59nm,21.5s,baz=304,slow=34							
MDT	**Midelt**	**31.47**	**133**	LR		LR	21 44 40.3	
	comp=Z,106nm,18.8s,baz=344,slow=35							
SADO	**Sadowa**	**31.82**	**266**	LR		LR	21 44 19.1	
	comp=Z,622nm,19.1s,baz=144,slow=34							
AKASG	**Malin Array Be**	**34.95**	**76**	P		**P**	**21 33 22.5**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=308,slow=8.4,SNR=4.1							
	comp=Z,0.6nm,0.6s							
KEST	**Kesra**	**35.17**	**112**	LR		LR	21 47 18.2	
	comp=Z,128nm,18.3s,baz=13,slow=36							
OBN	**Obninsk**	**36.01**	**65**	LR		LR	21 47 18.7	
	comp=Z,93nm,19.2s,baz=258,slow=35							
VAE	**Valguarnera**	**36.32**	**105**	LR		LR	21 47 26.7	
	comp=Z,142nm,19.3s,baz=322,slow=35							
MLR	**Muntele Rosu**	**36.57**	**85**	LR		LR	21 49 06.8	
	comp=Z,62nm,18.3s,baz=268,slow=37							
ULM	**Lac du Bonnet**	**36.98**	**286**	LR		LR	21 46 41.1	
	comp=Z,86nm,19.8s,baz=26,slow=33							
FNA	**Florina**	**37.45**	**95**			**P**	**21 33 45.5**	**+1.0**
YKA	**Yellowknife Ar**	**38.41**	**312**	P		**P**	**21 33 52.2**	**-0.1**
	comp=Z,4.3nm,1.0s,baz=57,slow=9.1,SNR=9.9							
YKA				LR		LR	21 48 57.0	
	comp=Z,174nm,19.1s,baz=61,slow=35							
	comp=Z,4.3nm,1.0s							
KIRV	**Kirov**	**39.82**	**54**	LR		LR	21 51 04.7	
	comp=Z,38nm,19.2s,baz=303,slow=37							
INK	**Inuvik**	**41.42**	**327**	LR		LR	21 51 01.2	
	comp=Z,97nm,19.5s,baz=59,slow=36							
MMPY	**Sheldon Lake,**	**44.44**	**319**			**P**	**21 34 43.8**	**+2.0**
MMPY				IAmb		IAmb	21 34 51.5	
	comp=Z,8.6nm,1.2s							
BRTR	**Keskin Array B**	**44.65**	**85**	P		**P**	**21 34 41.0**	**-2.9**
	comp=Z,1.2nm,1.1s,baz=307,slow=4.5,SNR=4.3							
	comp=Z,1.2nm,1.1s							
ARTI	**Arti**	**44.96**	**52**	LR		LR	21 52 35.7	
	comp=Z,88nm,18.2s,baz=318,slow=35							
BMAR	**Burnt Mountain**	**45.08**	**330**	P		**P**	**21 34 49.9**	**+3.0**
DAWY	**Dawson**	**46.05**	**324**			**P**	**21 34 56.0**	**+1.4**
SCRK	**Sand Creek**	**47.49**	**326**			**P**	**21 35 07.8**	**+1.9**
BCAR	**Beaver Creek A**	**47.52**	**325**			**P**	**21 35 07.2**	**+1.1**
SJG	**San Juan**	**47.62**	**227**	LR		LR	21 54 24.2	
	comp=Z,19nm,18.8s,baz=50,slow=35							
IL31		**47.70**	**328**	P		**P**	**21 35 07.9**	**+0.6**
IL31				IAmb		IAmb	21 35 14.4	
	comp=Z,8.3nm,1.2s							
ILAR	**Eielson Array**	**47.70**	**328**	P		**P**	**21 35 08.8**	**+1.4**
ILAR	**Eielson Array**	**47.70**	**328**	P		**P**	**21 35 06.7**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=30,slow=5.9,SNR=13							
ILAR				PcP		**PcP**	**21 36 35.6**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=15,slow=3.7,SNR=3.1							
ILAR				LR		LR	21 54 08.9	
	comp=Z,77nm,21.0s,baz=44,slow=35							
	comp=Z,0.7nm,0.6s							
DOT	**Dot Lake**	**47.76**	**326**			**P**	**21 35 09.7**	**+1.8**
HYT	**Haines Junctio**	**47.81**	**321**			**P**	**21 35 09.9**	**+1.5**
RIDG	**Independent Ri**	**47.92**	**327**	P		**P**	**21 35 11.2**	**+2.0**
RIDG				IAmb		IAmb	21 35 20.0	
	comp=Z,6.2nm,1.0s							
BOZ	**Bozeman (W)**	**47.94**	**291**	P		**P**	**21 35 10.6**	**+0.9**
BOZ				IAmb		IAmb	21 35 15.4	
	comp=Z,3.5nm,0.9s							
NEW	**Newport**	**48.65**	**297**	LR		LR	21 54 42.0	
	comp=Z,172nm,20.3s,baz=34,slow=35							
PAX	**Paxson**	**48.69**	**326**			**P**	**21 35 17.1**	**+1.9**
PAX				IAmb		IAmb	21 35 22.0	
	comp=Z,7.2nm,1.1s							
AKTO	**Aktyubinsk**	**48.95**	**58**	LR		LR	21 55 32.0	
	comp=Z,65nm,18.1s,baz=51,slow=36							
CTGM	**Chitina Glacie**	**48.96**	**322**	P		**P**	**21 35 18.8**	**+1.4**
CTGM				IAmb		IAmb	21 35 26.5	
	comp=Z,8.6nm,1.1s							
PD31	**Pinedale Array**	**48.97**	**287**	P		**P**	**21 35 18.2**	**+0.5**
PDAR	**Pinedale Array**	**48.97**	**287**	P		**P**	**21 35 15.3**	**-2.5**
	comp=Z,0.5nm,0.4s,baz=64,slow=6.8,SNR=8.5							
PDAR				LR		LR	21 54 55.8	
	comp=Z,65nm,18.4s,baz=40,slow=35							
	comp=Z,0.5nm,0.4s							
BARN	**Barnard Glacie**	**48.99**	**323**	P		**P**	**21 35 19.0**	**+1.4**
BARN				IAmb		IAmb	21 35 24.9	
	comp=Z,8.7nm,1.2s							
TPAW	**Teton Pass**	**49.13**	**289**	P		**P**	**21 35 21.1**	**+2.0**
TPAW				IAmb		IAmb	21 35 23.9	
	comp=Z,11nm,1.5s							
ISCO	**Idaho Springs**	**49.16**	**282**			**P**	**21 35 20.8**	**+1.5**
DHY	**Denali Highway**	**49.16**	**327**			**P**	**21 35 21.4**	**+2.5**
DHY				IAmb		IAmb	21 35 27.5	
	comp=Z,8.0nm,1.2s							
GRNC	**Granite Creek**	**49.27**	**323**	P		**P**	**21 35 22.9**	**+3.1**
RND	**Reindeer**	**49.31**	**328**	P		**P**	**21 35 20.3**	**+0.4**
RND				IAmb		IAmb	21 35 25.8	
	comp=Z,5.8nm,1.0s							
ISLE	**Juniper Island**	**49.56**	**323**	P		**P**	**21 35 23.6**	**+1.7**
B08A	**Colville Reser**	**49.61**	**299**			**P**	**21 35 22.7**	**+0.3**
B08A				IAmb		IAmb	21 35 27.5	
	comp=Z,3.9nm,0.9s							
KLU	**Klutina**	**49.97**	**325**	P		**P**	**21 35 27.8**	**+2.9**
KLU				IAmb		IAmb	21 35 31.9	
	comp=Z,12nm,1.2s							
BMRM	**Bremner River**	**49.98**	**324**	P		**P**	**21 35 27.5**	**+2.4**
PLID	**Pearl Lake**	**50.43**	**294**			**P**	**21 35 32.1**	**+3.2**
PLID				IAmb		IAmb	21 35 34.4	
	comp=Z,7.2nm,1.1s							
T25A	**Trinidad**	**50.53**	**279**	P		**P**	**21 35 29.4**	**-0.3**
T25A				IAmb		IAmb	21 35 35.4	
	comp=Z,4.8nm,0.9s							
SDCO	**Great Sand Dun**	**50.64**	**280**			**P**	**21 35 30.4**	**-0.2**
BBB	**Bella Bella**	**50.65**	**308**	LR		LR	21 56 28.5	
	comp=Z,63nm,21.9s,baz=46,slow=36							
AB31	**Akbulak array**	**50.66**	**58**	P		**P**	**21 35 31.6**	**+1.4**
ABKAR	**Akbulak array**	**50.66**	**58**			**P**	**21 35 31.8**	**+1.6**
SKT	**Skwentna**	**51.20**	**328**	P		**P**	**21 35 35.8**	**+1.7**
SKT				IAmb		IAmb	21 35 40.3	
	comp=Z,15nm,1.4s							
BMO	**Blue Mountains**	**51.23**	**295**			**P**	**21 35 35.0**	**+0.3**
S22A	**4UR Ranch, Cre**	**51.32**	**281**	P		**P**	**21 35 36.5**	**+0.7**
SUA	**Susitna One**	**51.40**	**328**	P		**P**	**21 35 36.2**	**+0.4**
STLK	**Strandline Lak**	**51.67**	**328**	P		**P**	**21 35 38.9**	**+1.2**
STLK				IAmb		IAmb	21 35 46.1	
	comp=Z,6.3nm,1.0s							
TORD	**Torodi Ar. Bea**	**51.70**	**137**	P		**P**	**21 35 36.7**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=345,slow=8.9,SNR=9.4							
	comp=Z,1.5nm,0.8s							
PV01	**Paradox Valley**	**51.92**	**283**	P		**P**	**21 35 41.9**	**+1.7**
PV01				IAmb		IAmb	21 36 00.3	
	comp=Z,13nm,1.3s							
PV18	**Skein Mesa, Pa**	**52.01**	**283**	P		**P**	**21 35 42.5**	**+1.7**
BVAR	**Borovoye Array**	**52.22**	**48**	P		**P**	**21 35 42.1**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=318,slow=6.0,SNR=4.6							
	comp=Z,0.6nm,0.6s							
TMUT	**Trail Mountain**	**52.39**	**286**			**P**	**21 35 44.6**	**+0.9**
TMUT				IAmb		IAmb	21 35 50.1	
	comp=Z,5.5nm,0.9s							
J08A	**Circle Bar Ran**	**52.90**	**294**			**P**	**21 35 48.4**	**+1.2**
J08A				IAmb		IAmb	21 35 52.6	
	comp=Z,6.6nm,1.0s							
ANMO	**Albuquerque**	**53.28**	**278**	LR		LR	21 56 04.2	
	comp=Z,67nm,19.1s,baz=134,slow=33							
ELK	**Elko**	**53.30**	**290**	P		**P**	**21 35 51.4**	**+1.0**
SPR3	**Spring Creek 3**	**54.18**	**288**	P		**P**	**21 35 58.0**	**+1.1**
SAND	**Sanderson**	**54.92**	**271**	P		**P**	**21 36 03.7**	**+1.7**
SAND				IAmb		IAmb	21 36 33.4	
	comp=Z,3.3nm,0.5s							
KDAK	**Kodiak Island**	**54.97**	**326**	LR		LR	21 59 52.5	
	comp=Z,73nm,18.7s,baz=31,slow=36							
DBIC	**Dimbokro**	**55.68**	**147**	P		**P**	**21 36 06.0**	**-1.5**
	comp=Z,2.9nm,0.7s,baz=1.9,slow=5.2,SNR=4.2							
DBIC				LR		LR	21 57 19.2	
	comp=Z,78nm,19.0s,baz=3.0,slow=33							
	comp=Z,2.9nm,0.7s							
MDP	**Montagnes des**	**55.73**	**206**	LR		LR	21 53 47.6	
	comp=Z,47nm,18.9s,baz=322,slow=30							
PAHR	**Pah Rah Range**	**56.13**	**292**	P		**P**	**21 36 11.4**	**+0.7**
PAHR				IAmb		IAmb	21 36 17.4	
	comp=Z,5.3nm,1.0s							
YBH	**Yreka Blue Hor**	**56.16**	**296**	LR		LR	21 58 13.9	
	comp=Z,7.4nm,21.9s,baz=30,slow=34							
TXAR	**Lajitas Array**	**56.23**	**272**	P		**P**	**21 36 10.3**	**-1.2**
	comp=Z,0.3nm,0.9s,baz=108,slow=4.1,SNR=4.9							
	comp=Z,0.3nm,0.9s							
X16A	**Lo Mia Camp, P**	**56.26**	**282**	P		**P**	**21 36 12.6**	**+0.8**
X16A				IAmb		IAmb	21 36 16.6	
	comp=Z,5.4nm,0.7s							
TPH	**Tonopah**	**56.34**	**289**	P		**P**	**21 36 11.3**	**-1.0**
TPH				IAmb		IAmb	21 36 18.3	
	comp=Z,4.6nm,1.0s							
ZALV	**Zalesovo Beam**	**56.73**	**39**	P		**P**	**21 36 14.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=334,slow=9.6,SNR=1.8							
	comp=Z,0.2nm,0.3s							
BAUV	**El Baul**	**56.73**	**225**	P		**P**	**21 36 15.2**	**+0.1**
GMN	**Gold Mountain**	**56.96**	**288**	P		**P**	**21 36 16.8**	**0.0**
KURBB	**Kurchatov Arra**	**57.23**	**45**	P		**P**	**21 36 17.7**	**-0.5**
	comp=Z,2.0nm,0.2s,baz=321,slow=7.6,SNR=4.1							
	comp=Z,2.0nm,0.2s							
GWY	**Greenwater Val**	**57.53**	**287**	P		**P**	**21 36 21.2**	**+0.5**
GWY				IAmb		IAmb	21 36 26.4	
	comp=Z,5.9nm,1.1s							
BUCR	**Buckhorn Ranch**	**58.09**	**291**			**P**	**21 36 25.4**	**+0.8**
BUCR				IAmb		IAmb	21 36 32.6	
	comp=Z,7.2nm,1.2s							
CCCA	**Chr Cany lake**	**58.40**	**287**	P		**P**	**21 36 27.8**	**+1.1**
CMIG	**Matias Romero**	**61.69**	**256**	LR		LR	22 05 06.0	
	comp=Z,52nm,18.1s,baz=170,slow=38							
MK31	**Makanchi Array**	**61.80**	**45**	P		**P**	**21 36 50.5**	**+0.7**
MKAR	**Makanchi Array**	**61.80**	**45**	P		**P**	**21 36 50.7**	**+0.8**
MKAR	**Makanchi Array**

AB31	**Akbulak array**	**72.59**	**317**	P	**P**	**21 38 33.1**	**+0.3**
AB31				IAmb	IAmb	21 38 33.8	
	comp=Z,1.4nm,0.9s						
ABKAR	**Akbulak array**	**72.59**	**317**	P	**P**	**21 38 32.7**	**-0.1**
FINES	**FINESS Array B**	**86.25**	**335**	P	**P**	**21 39 45.6**	**-1.0**
	comp=Z,1.7nm,0.9s,baz=70,slow=6.5,SNR=4.1						
	comp=Z,1.7nm,0.9s						

*IDC **08** 21:35:28.1±1.2,57.88N×31.32W,h0km,mb3.5/7, mbtmp3.5/7,MS2.9/4, Error ellipse: s-maj=41.5km s-min=22.6km az=34.0*
ISC 08 21:35:29.6±1.0, 57.9N±0.2×31.4W±0.2, h10km, n11, σ0s74/7, mb3.7/6, MS2.6/3, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**8.42**	**31**	LR	LR	21 39 41.1	
	comp=Z,94nm,19.0s,baz=259,slow=30						
FRB	**Frobisher Bay**	**18.86**	**304**	LR	LR	21 45 47.7	
	comp=Z,75nm,19.3s,baz=105,slow=33						
NOA	**NORSAR Array B**	**21.58**	**64**	LR	LR	21 47 02.9	
	comp=Z,21nm,18.3s,baz=295,slow=32						
ESDC	**Sonseca Array**	**25.35**	**124**	P	**P**	**21 40 57.0**	**+0.5**
	0.2nm,0.6s,baz=327,slow=7.7,SNR=1.8						
ESDC				LR	LR	21 49 02.9	
	comp=Z,19nm,21.1s,baz=288,slow=32						
	0.2nm,0.6s						
SADO	**Sadowa**	**31.90**	**267**	LR	LR	21 54 39.0	
	comp=Z,383nm,18.1s,baz=150,slow=36						
YKA	**Yellowknife Ar**	**38.95**	**313**	P	**P**	**21 42 56.3**	**+1.1**
	0.2nm,0.4s,baz=62,slow=11,SNR=1.4						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**48.33**	**329**	P	**P**	**21 44 10.3**	**-0.3**
	0.6nm,1.0s,baz=43,slow=6.4,SNR=5.2						
	0.6nm,1.0s						
PDAR	**Pinedale Array**	**49.29**	**288**	P	**P**	**21 44 17.9**	**-0.7**
	0.3nm,0.3s,baz=47,slow=7.6,SNR=1.1						
	0.3nm,0.3s						
TORD	**Torodi Ar. Bea**	**51.13**	**137**	P	**P**	**21 44 32.4**	**-0.1**
	0.4nm,0.8s,baz=345,slow=7.5,SNR=2.3						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**57.61**	**45**	P	**P**	**21 45 19.2**	**0.0**
	0.5nm,0.2s,baz=321,slow=7.1,SNR=0.8						
	0.5nm,0.2s						
MKAR	**Makanchi Array**	**62.18**	**45**	P	**P**	**21 45 50.3**	**-0.4**
	0.3nm,0.5s,baz=344,slow=6.5,SNR=5.1						
	0.3nm,0.5s						

*IDC **08** 21:37:34.0±1.2,27.47S×69.47W,h0km,mb3.7/2, mbtmp3.5/3,ML3.2/1, Error ellipse: s-maj=47.0km s-min=31.1km az=150.0*
*GUC **08** 21:37:48.1±0.7,27.90S×69.03W,h128km±6km,ML3.5*
ISC 08 21:37:48.2±0.8, 27.94S±0.05×68.86W±0.08, h102km, n16, σ0s94/20, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AC02	**Maricunga**	**1.13**	**348**	↑ eP	**Pn**	**21 38 11.8**	**+1.1**
AC02				eS	**Sn**	**21 38 29.3**	**+1.7**
AC02				IAML		21 38 30.1	
	comp=E,997nm,0.4s						
GO03	**Copiapo**	**1.27**	**286**	↑ iP	**Pn**	**21 38 11.9**	**0.0**
GO03				eS	**Sn**	**21 38 29.5**	**-0.3**
GO03				IAML		21 38 31.3	
	comp=N,807nm,0.1s						
LCO	**Las Campanas**	**1.94**	**236**	eP	**Pn**	**21 38 20.6**	**+0.2**
AC04	**Llanos de Chal**	**1.98**	**262**	eP	**Pn**	**21 38 20.1**	**-0.4**
CO01	**Juntas del Tor**	**2.30**	**208**	eP	**Pn**	**21 38 26.0**	**+1.1**
AC01	**Pan de Azucar**	**2.37**	**319**	eP	**Pn**	**21 38 25.5**	**-0.2**
AC01				IAML		21 38 53.8	
	comp=N,121nm,0.2s						
GO04	**Tololo Observa**	**2.80**	**217**	eP	**Pn**	**21 38 31.4**	**-0.1**
GO04				eS	**Sn**	**21 39 05.4**	**+0.6**
GO02	**Mina Guanaco**	**2.85**	**346**	eP	**Pn**	**21 38 32.5**	**+0.2**
GO02				IAML		21 39 09.1	
	comp=E,175nm,0.1s						
CO05	**La Serena**	**2.87**	**226**	eP	**Pn**	**21 38 31.5**	**-0.7**
CO05				IAML		21 39 06.7	
	comp=N,237nm,0.2s						
CO03	**El Pedregal**	**3.30**	**209**	eP	**Pn**	**21 38 38.3**	**+0.3**
CO03				eS	**Sn**	**21 39 17.2**	**+0.7**
CO03				IAML		21 39 22.9	
	comp=E,128nm,0.3s						
CPUP	**Villa Florida**	**10.39**	**84**	Pn	**Pn**	**21 40 12.7**	**-1.5**
	baz=315,slow=17,SNR=1.4						
CPUP				Lg	Lg	21 43 20.1	
	baz=218,slow=8.6,SNR=1.9						
	comp=E,0.1nm,0.3s						
QSPA	**South Pole Qui**	**62.28**	**180**	P	**P**	**21 48 01.2**	**+2.0**
	comp=E,0.6nm,0.5s,baz=214,slow=14,SNR=7.2						
	comp=E,0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**79.54**	**69**	P	**P**	**21 49 43.5**	**-0.7**
	comp=E,0.4nm,0.9s,baz=241,slow=5.1,SNR=2.2						
	comp=E,0.4nm,0.9s						
WRA	**Warramunga Arr**	**127.37**	**208**	PKP	**PKPdf**	**21 56 40.5**	**-1.1**
	comp=E,0.3nm,0.5s,baz=149,slow=1.8,SNR=1.7						
ZALV	**Zalesovo Beam**	**147.64**	**29**	PKPbc	**PKPbc**	**21 57 20.3**	**0.0**
	comp=E,0.8nm,0.4s,baz=289,slow=4.4,SNR=4.9						
MKAR	**Makanchi Array**	**150.59**	**42**	PKPbc	**PKPbc**	**21 57 27.7**	**-0.3**
	comp=E,1.2nm,0.6s,baz=300,slow=2.5,SNR=16						

*NOU **08** 21:50:24.4,38.54S×176.15E,h143km,MLv3.9/15,North Island, New Zealand*
*IDC **08** 21:50:24.4±1.0,37.85S×176.37E,h140km±12km,mb3.2/3, mbtmp3.6/3,Error ellipse: s-maj=58.4km s-min=32.2km az=42.0*
*WEL **08** 21:50:26.5±1.2,38°S±6°×17°6E±°,h122km±10km,M3.5/67, ML3.0/5,MLv3.5/67,Error ellipse: s-maj=9.3km s-min=7.6km az=123.0,confirmed*
ISC 08 21:50:23.9±1.0, 38.50S±0.03×176.09E±0.04, h152km±6km, n152, σ1s04/159, mb3.5/3, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WPRZ	**Whakapapatarin**	**0.06**	**111**	P	**Pn**	**21 50 44.1**	**-0.1**
TIRS	**Atiamuri Tiroh**	**0.14**	**281**	P	**Pn**	**21 50 44.3**	**-0.1**
GRRZ	**Galatos Road**	**0.15**	**7**	P	**Pn**	**21 50 44.2**	**-0.2**
HRRZ	**Handcock Road**	**0.19**	**55**	P	**Pn**	**21 50 44.3**	**-0.1**
KUTZ	**Kaahu Road**	**0.21**	**272**	P	**Pn**	**21 50 44.3**	**-0.2**
ALRZ	**Allen Road**	**0.21**	**108**	P	**Pn**	**21 50 44.4**	**-0.1**
HSRZ	**Hossack Road**	**0.22**	**34**	P	**Pn**	**21 50 44.4**	**-0.2**
PRRZ	**Plateau Road**	**0.24**	**91**	P	**Pn**	**21 50 43.9**	**-0.6**
HLRZ	**Highlands Stat**	**0.32**	**40**	P	**Pn**	**21 50 44.8**	**0.0**
UTU	**Utuhina**	**0.33**	**15**	P	**Pn**	**21 50 44.9**	**0.0**
WATZ	**Wairara**	**0.35**	**233**	P	**Pn**	**21 50 45.4**	**+0.5**
RRRZ	**Republican Roa**	**0.37**	**65**	P	**Pn**	**21 50 44.9**	**-0.1**
HATZ	**Hinemaiaia**	**0.39**	**180**	P	**Pn**	**21 50 45.5**	**+0.4**
NGRZ	**Ngongotaha**	**0.40**	**11**	P	**Pn**	**21 50 45.2**	**0.0**
MRHZ	**Matea Rd**	**0.42**	**143**	P	**Pn**	**21 50 45.4**	**+0.1**
RATZ	**Rangitukua**	**0.44**	**214**	P	**Pn**	**21 50 45.6**	**+0.3**
OMRZ	**Omania**	**0.45**	**30**	P	**Pn**	**21 50 45.3**	**-0.1**
TLZ	**Tolley Road**	**0.46**	**291**	P	**Pn**	**21 50 45.6**	**+0.2**
TLZ				S	**Sn**	**21 51 00.6**	**-1.0**
KARZ	**Kaharoa**	**0.49**	**15**	P	**Pn**	**21 50 45.4**	**-0.1**
RITZ	**Rihia Road**	**0.51**	**200**	P	**Pn**	**21 50 46.6**	**+1.0**
MUGZ	**Murupara**	**0.54**	**88**	P	**Pn**	**21 50 45.6**	**-0.1**
KATZ	**Kakaramea**	**0.57**	**213**	P	**Pn**	**21 50 46.7**	**+0.7**
EDRZ	**Edgecumbe**	**0.64**	**53**	P	**Pn**	**21 50 46.1**	**-0.3**
TMVZ	**Te Maari**	**0.69**	**206**	P	**Pn**	**21 50 47.3**	**+0.6**
MTHZ	**Maungataniwha**	**0.69**	**121**	P	**Pn**	**21 50 47.1**	**+0.5**
MARZ	**Manawahe**	**0.69**	**42**	P	**Pn**	**21 50 46.8**	**+0.2**
KRVZ	**Karewarewa**	**0.69**	**210**	P	**Pn**	**21 50 47.5**	**+0.8**
ETVZ	**East Tongariro**	**0.70**	**205**	P	**Pn**	**21 50 47.7**	**+0.9**
RTZ	**Ruatahuna**	**0.71**	**100**	P	**Pn**	**21 50 46.9**	**+0.1**
RTZ				S	**Sn**	**21 51 02.8**	**-1.4**
WTVZ	**West Tongariro**	**0.73**	**212**	P	**Pn**	**21 50 47.6**	**+0.7**
NNVZ	**North Ngauruho**	**0.73**	**210**	P	**Pn**	**21 50 47.9**	**+0.9**
BKZ	**Black Stump Fm**	**0.74**	**155**	P	**Pn**	**21 50 46.9**	**-0.1**
BKZ	**Black Stump Fm**	**0.74**	**155**	S	**Sn**	**21 51 03.7**	**-0.9**
BKZ	**Black Stump Fm**	**0.74**	**155**	P	**Pn**	**21 50 47.5**	**+0.6**
BKZ				S	**Sn**	**21 51 04.0**	**-0.6**
OTVZ	**Oturere**	**0.74**	**206**	P	**Pn**	**21 50 47.9**	**+0.8**
OPRZ	**Ohinepanea**	**0.75**	**30**	P	**Pn**	**21 50 46.7**	**-0.3**
OPRZ				S	**Sn**	**21 51 02.8**	**-1.7**
TWVZ	**Taurewa**	**0.77**	**221**	P	**Pn**	**21 50 47.9**	**+0.7**
SNVZ	**South Ngauruho**	**0.77**	**207**	P	**Pn**	**21 50 48.2**	**+0.9**
NGZ	**Ngauruhoe**	**0.78**	**209**	P	**Pn**	**21 50 48.1**	**+0.7**
TGRZ	**Tauranga**	**0.78**	**10**	P	**Pn**	**21 50 46.8**	**-0.4**
TGRZ				S	**Sn**	**21 51 03.0**	**-1.9**
COVZ	**Chateau Observ**	**0.82**	**211**	P	**Pn**	**21 50 48.4**	**+0.8**
NMHZ	**Naumai**	**0.82**	**137**	P	**Pn**	**21 50 49.2**	**+1.7**
URZ	**Urewera**	**0.84**	**74**	P	**Pn**	**21 50 47.1**	**-0.4**
	192nm,0.4s,baz=243,slow=6.9,SNR=256						
URZ				S	**Sn**	**21 51 03.1**	**-2.5**
	500nm,0.4s,baz=138,slow=22,SNR=83						
URZ	**Urewera**	**0.84**	**74**	P	**Pn**	**21 50 47.0**	**-0.6**
URZ	**Urewera**	**0.84**	**74**	P	**Pn**	**21 50 47.1**	**-0.4**
URZ				S	**Sn**	**21 51 03.0**	**-2.5**
TUVZ	**Tukino**	**0.84**	**204**	P	**Pn**	**21 50 48.8**	**+1.0**
FWVZ	**Far West T-bar**	**0.86**	**209**	P	**Pn**	**21 50 48.8**	**+0.7**
MAVZ	**Matarangi**	**0.87**	**208**	P	**Pn**	**21 50 48.9**	**+0.7**
WHVZ	**Whangaehu Hut**	**0.88**	**206**	P	**Pn**	**21 50 49.0**	**+0.8**
RAHZ	**Arahi**	**0.89**	**119**	P	**Pn**	**21 50 49.1**	**+1.1**
TOZ	**Tahuroa Road**	**0.89**	**329**	P	**Pn**	**21 50 48.0**	**0.0**
TRVZ	**Turoa**	**0.91**	**208**	P	**Pn**	**21 50 49.4**	**+1.0**
WNVZ	**Wahianoa**	**0.91**	**205**	P	**Pn**	**21 50 49.2**	**+0.9**
MOVZ	**Moawhango**	**0.95**	**196**	P	**Pn**	**21 50 49.1**	**+0.6**
KWHZ	**Kaweka Forest**	**0.96**	**164**	P	**Pn**	**21 50 49.9**	**+1.2**
HIZ	**Hauiti**	**0.97**	**269**	P	**Pn**	**21 50 49.1**	**+0.5**
HIZ	**Hauiti**	**0.97**	**269**	S	**Sn**	**21 51 07.8**	**+0.4**
HIZ	**Hauiti**	**0.97**	**269**	P	**Pn**	**21 50 49.2**	**+0.6**
PKVZ	**Pokaka**	**0.98**	**216**	P	**Pn**	**21 50 49.6**	**+0.9**
MTVZ	**Mangateitei**	**1.01**	**208**	P	**Pn**	**21 50 50.0**	**+1.0**
SNGZ	**Shannon Statio**	**1.02**	**107**	P	**Pn**	**21 50 50.3**	**+1.2**
RAGZ	**Rawiri**	**1.04**	**90**	P	**Pn**	**21 50 49.9**	**+0.6**
ARHZ	**Aropaoanui**	**1.04**	**137**	P	**Pn**	**21 50 50.7**	**+1.5**
MCHZ	**McNeill Hill**	**1.06**	**154**	P	**Pn**	**21 50 51.2**	**+1.8**
WHHZ	**Waihua**	**1.07**	**123**	P	**Pn**	**21 50 50.9**	**+1.4**
KRHZ	**Kereru**	**1.17**	**169**	P	**Pn**	**21 50 51.5**	**+1.1**
VRZ	**Vera Road**	**1.21**	**238**	P	**Pn**	**21 50 51.9**	**+1.2**
MYRZ	**Mayor Island**	**1.22**	**6**	P	**Pn**	**21 50 50.8**	**-0.1**
RIGZ	**Rimuhau**	**1.33**	**100**	P	**Pn**	**21 50 53.0**	**+1.1**
KNZ	**Kokohu**	**1.35**	**113**	P	**Pn**	**21 50 53.1**	**+1.1**
RUGZ	**Raukumara Rang**	**1.36**	**68**	P	**Pn**	**21 50 51.6**	**-0.8**
CKHZ	**Cape Kidnapper**	**1.39**	**147**	P	**Pn**	**21 50 54.0**	**+1.5**
PNHZ	**Pukenui**	**1.42**	**177**	P	**Pn**	**21 50 53.6**	**+0.8**
KAHZ	**Kahuranaki**	**1.43**	**155**	P	**Pn**	**21 50 54.5**	**+1.5**
WAZ	**Wanganui**	**1.52**	**214**	P	**Pn**	**21 50 55.3**	**+1.4**
HAZ	**Te Kaha**	**1.53**	**62**	P	**Pn**	**21 50 53.5**	**-0.4**
TSZ	**Takapari Road**	**1.56**	**184**	P	**Pn**	**21 50 55.3**	**+1.0**
MHGZ	**Mahia Peninsul**	**1.56**	**115**	P	**Pn**	**21 50 55.7**	**+1.4**
MKAZ	**Moumakai**	**1.57**	**332**	P	**Pn**	**21 50 54.4**	**0.0**
WPHZ	**Waipukurau**	**1.59**	**170**	P	**Pn**	**21 50 55.8**	**+1.2**
DREZ	**Durham Road**	**1.63**	**244**	P	**Pn**	**21 50 56.8**	**+1.8**
LREZ	**Lake Rotokare**	**1.63**	**233**	P	**Pn**	**21 50 56.6**	**+1.7**
PXZ	**Pawanui**	**1.65**	**159**	P	**Pn**	**21 50 54.7**	**-0.4**
CNGZ	**Carnagh Statio**	**1.66**	**90**	P	**Pn**	**21 50 56.6**	**+1.3**
PKGZ	**Pakihiroa**	**1.69**	**69**	P	**Pn**	**21 50 56.2**	**+0.5**
PREZ	**Palmer Road**	**1.73**	**240**	P	**Pn**	**21 50 58.2**	**+2.1**
NEZ	**North Egmont**	**1.74**	**243**	P	**Pn**	**21 50 58.1**	**+1.9**
PUZ	**Puketiti**	**1.76**	**77**	P	**Pn**	**21 50 56.7**	**+0.3**
KUZ	**Kuaotunu**	**1.77**	**350**	P	**Pn**	**21 50 56.2**	**-0.4**
KUZ	**Kuaotunu**	**1.77**	**350**	P	**Pn**	**21 50 56.3**	**-0.2**
ETAZ	**East Tamaki Re**	**1.79**	**329**	P	**Pn**	**21 50 56.8**	**0.0**
DVHZ	**Dannevirke**	**1.80**	**178**	P	**Pn**	**21 50 57.5**	**+0.6**
KHEZ	**Kahui Hut**	**1.80**	**243**	P	**Pn**	**21 50 58.4**	**+1.4**
KHEZ	**Kahui Hut**	**1.80**	**243**	P	**Pn**	**21 50 58.6**	**+1.6**
OHWZ	**Ohakea**	**1.81**	**199**	P	**Pn**	**21 50 58.2**	**+1.2**
PRHZ	**Porangahau**	**1.82**	**167**	P	**Pn**	**21 50 58.2**	**+1.1**
AWAZ	**Awhitu Peninsu**	**1.83**	**321**	P	**Pn**	**21 50 57.5**	**+0.2**
WIAZ	**Waiheke Island**	**1.86**	**336**	P	**Pn**	**21 50 57.7**	**+0.1**
NBEZ	**Newall Road No**	**1.90**	**245**	P	**Pn**	**21 50 59.7**	**+1.8**
POWZ	**Post Office Ro**	**1.91**	**187**	P	**Pn**	**21 50 58.8**	**+0.7**
WMGZ	**Waiomatatini S**	**1.96**	**70**	P	**Pn**	**21 50 58.9**	**+0.2**
MBAZ	**Mohutapu North**	**1.97**	**331**	P	**Pn**	**21 50 58.8**	**0.0**
WTAZ	**Waiatarua**	**1.97**	**322**	P	**Pn**	**21 50 59.3**	**+0.4**
ANWZ	**Angora Road**	**1.98**	**171**	P	**Pn**	**21 50 60.0**	**+1.1**
MXZ	**Matakaoa Point**	**1.98**	**63**	P	**Pn**	**21 50 59.4**	**+0.4**
MXZ	**Matakaoa Point**	**1.98**	**63**	P	**Pn**	**21 50 59.8**	**+0.9**
PRWZ	**Pori Road**	**2.06**	**182**	P	**Pn**	**21 51 00.7**	**+0.9**
ABAZ	**Army Bay**	**2.14**	**332**	P	**Pn**	**21 51 01.1**	**+0.3**
BFZ	**Birch Farm**	**2.19**	**177**	P	**Pn**	**21 51 01.6**	**+0.3**
BFZ	**Birch Farm**	**2.19**	**177**	P	**Sn**	**21 51 29.6**	**-0.6**
BFZ	**Birch Farm**	**2.19**	**177**	P	**Pn**	**21 51 01.8**	**+0.5**
MRZ	**Mangatainoka R**	**2.20**	**190**	P	**Pn**	**21 51 01.7**	**+0.3**
TIWZ	**Tintock**	**2.28**	**184**	P	**Pn**	**21 51 02.9**	**+0.4**
GRZ	**Great Barrier**	**2.30**	**347**	P	**Pn**	**21 51 02.8**	**+0.1**
CPWZ	**Castlepoint**	**2.41**	**178**	P	**Pn**	**21 51 05.1**	**+1.2**
OGWZ	**Otaki Gorge**	**2.42**	**197**	P	**Pn**	**21 51 04.6**	**+0.4**
HOWZ	**Holdsworth Sta**	**2.44**	**190**	P	**Pn**	**21 51 04.3**	**-0.1**
KIW	**Kapiti Island**	**2.53**	**201**	P	**Pn**	**21 51 05.4**	**-0.1**
TMWZ	**Te Maipa**	**2.61**	**183**	P	**Pn**	**21 51 06.6**	**+0.1**
MTW	**Mount Morrison**	**2.70**	**189**	P	**Pn**	**21 51 07.1**	**-0.4**
CAW	**Cannon Point**	**2.72**	**196**	P	**Pn**	**21 51 07.7**	**-0.1**
DUWZ	**D'Urville Isla**	**2.84**	**215**	P	**Pn**	**21 51 09.2**	**-0.2**
WCZ	**Waipu Caves**	**2.91**	**331**	P	**Pn**	**21 51 10.5**	**+0.3**
TRWZ	**Traveller**	**2.91**	**186**	P	**Pn**	**21 51 10.0**	**-0.3**
PAWZ	**Paruwai Farm**	**2.93**	**190**	P	**Pn**	**21 51 09.8**	**-0.6**
WEL	**Wellington**	**2.96**	**200**	P	**Pn**	**21 51 11.0**	**+0.1**
MSWZ	**Moikau Station**	**2.99**	**192**	P	**Pn**	**21 51 10.5**	**-0.6**
SNZO	**South Karori**	**3.00**	**200**	P	**Pn**	**21 51 11.0**	**-0.3**
SNZO	**South Karori**	**3.00**	**200**	S	**Sn**	**21 51 47.1**	**-1.0**
TCW	**Tory Channel**	**3.05**	**207**	P	**Pn**	**21 51 11.4**	**-0.5**
BHW	**Baring Head**	**3.06**	**197**	P	**Pn**	**21 51 11.4**	**-0.6**
PLWZ	**Palliser**	**3.13**	**192**	P	**Pn**	**21 51 12.4**	**-0.7**
TUWZ	**Tuamarina**	**3.36**	**209**	P	**Pn**	**21 51 15.5**	**-0.3**
NNZ	**Nelson**	**3.42**	**217**	P	**Pn**	**21 51 16.5**	**-0.2**
TKNZ	**Takaka Hill**	**3.50**	**223**	P	**Pn**	**21 51 17.0**	**-0.6**
QRZ	**Quartz Range**	**3.60**	**229**	P	**Pn**	**21 51 18.3**	**-0.6**
QRZ	**Quartz Range**	**3.60**	**229**	P	**Pn**	**21 51 18.4**	**-0.6**
BSWZ	**Blackbirch Sta**	**3.63**	**207**	P	**Pn**	**21 51 17.3**	**-2.1**
OUZ	**Omahuta**	**3.83**	**328**	P	**Pn**	**21 51 23.1**	**+1.1**
OUZ	**Omahuta**	**3.83**	**328**	P	**Pn**	**21 51 22.9**	**+0.8**
MRNZ	**Matariki Terra**	**3.87**	**220**	P	**Pn**	**21 51 21.6**	**-0.8**
THZ	**Tophouse**	**4.07**	**216**	P	**Pn**	**21 51 24.8**	**-0.4**
KHZ	**Kahutara**	**4.37**	**206**	P	**Pn**	**21 51 28.6**	**-0.4**
KHZ	**Kahutara**	**4.37**	**206**	P	**Pn**	**21 51 27.9**	**-1.0**
GVZ	**Greta Valley S**	**5.03**	**206**	P	**Pn**	**21 51 36.2**	**-1.5**
LTZ	**Lake Taylor**	**5.17**	**213**	P	**Pn**	**21 51 38.2**	**-1.4**
OXZ	**Oxford**	**5.72**	**211**	P	**Pn**	**21 51 44.6**	**-2.2**
RPZ	**Rata Peaks**	**6.45**	**214**	P	**Pn**	**21 51 55.0**	**-1.6**
	9.6nm,0.7s,baz=47,slow=3.6,SNR=5.8						
RPZ				S	**Sn**	**21 53 03.9**	**-5.3**
	8.3nm,0.6s,baz=56,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**38.69**	**280**	P	**P**	**21 57 35.5**	**+2.5**
	0.9nm,0.9s,baz=116,slow=8.4,SNR=5.8						
	0.9nm,0.9s						
WRA	**Warramunga Arr**	**40.45**	**285**	P	**P**	**21 57 49.2**	**+1.5**
	0.2nm,0.3s,baz=120,slow=8.2,SNR=2.0						
	0.2nm,0.3s						
QSPA	**South Pole Qui**	**51.63**	**180**	P	P	21 59 21.1	+6.5
	1.8nm,1.0s,baz=7.2,slow=1.9,SNR=2.8						
	1.8nm,1.0s						
FINES	**FINESS Array B**	**150.48**	**331**	PKPbc	**PKPbc**	**22 09 56.7**	**+0.2**
	1.1nm,0.9s,baz=29,slow=4.4,SNR=5.7						

*KRSC **08** 21:56:04.5±1.2,55.25N×160.81E,h150km±12km,Ml3.7*
*IDC **08** 21:56:05.0±1.9,55.37N×160.37E,h134km±24km,mb3.2/7, mbtmp3.6/9,MS3.2/1,Error ellipse: s-maj=26.7km s-min=19.8km az=176.0*
ISC 08 21:56:05.9±0.7, 55.28N±0.03×160.66E±0.04, h149km±5km, n54, σ1s15/81, mb3.3/7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUMD	**Tumrok D**	**0.17**	**242**	eP	**Pn**	**21 56 25.2**	**-0.8**
TUMD				eS	**Sn**	**21 56 40.4**	**-0.9**
KMNR	**Kamenistaya**	**0.53**	**334**	eP	**Pn**	**21 56 27.4**	**0.0**
KMNR				eS	**Sn**	**21 56 46.2**	**+2.4**
BZP	**Bezymyannyi-Pe**	**0.64**	**354**	eP	**Pn**	**21 56 27.4**	**-0.6**
BZP				eS	**Sn**	**21 56 45.8**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**0.66**	**2**	eP	**Pn**	**21 56 28.0**	**-0.1**
BZGR				eS	**Sn**	**21 56 45.9**	**+0.7**
BZMR	**Bezymyannaya**	**0.66**	**352**	eP	**Pn**	**21 56 28.0**	**-0.1**
BZMR				eS	**Sn**	**21 56 45.5**	**+0.2**
BZWR	**Bezymyannyi-We**	**0.69**	**353**	eP	**Pn**	**21 56 28.1**	**-0.3**
BZWR				eS	**Sn**	**21 56 46.2**	**+0.6**
KIRR	**Kirishev**	**0.70**	**345**	eP	**Pn**	**21 56 27.4**	**-1.0**
KIRR				eS	**Sn**	**21 56 45.3**	**-0.4**
KPT	**Kopyto**	**0.73**	**340**	eP	**Pn**	**21 56 28.2**	**-0.4**
KPT				eS	**Sn**	**21 56 47.1**	**+1.2**
ZLN	**Zelenaya**	**0.74**	**6**	eP	**Pn**	**21 56 29.2**	**+0.5**
ZLN				eS	**Sn**	**21 56 48.0**	**+1.9**
LGNR	**Loginova**	**0.80**	**1**	eP	**Pn**	**21 56 29.0**	**-0.2**
LGNR				eS	**Sn**	**21 56 47.6**	**+0.4**
CIRR	**Tsirk**	**0.84**	**4**	eP	**Pn**	**21 56 29.7**	**+0.4**
CIRR				eS	**Sn**	**21 56 48.1**	**+0.7**
KOZ	**Kozyrevsk**	**0.90**	**331**	eP	**Pn**	**21 56 29.6**	**-0.1**
KOZ				eS	**Sn**	**21 56 47.8**	**-0.1**
MKZ	**Mys Kozlova**	**0.95**	**139**	eP	**Pn**	**21 56 29.8**	**-0.3**
MKZ				eS	**Sn**	**21 56 48.6**	**0.0**
KLY	**Klyuchi**	**1.03**	**360**	eS	**Sn**	**21 56 50.5**	**+0.6**
SRDR	**Sredinnyy**	**1.17**	**333**	eP	**Pn**	**21 56 31.1**	**-0.9**
ESO	**Esso**	**1.28**	**301**	eP	**Pn**	**21 56 32.5**	**-0.6**
ESO				eS	**Sn**	**21 56 53.1**	**-0.9**
KII	**Karymskiy**	**1.43**	**210**	eP	**Pn**	**21 56 34.9**	**+0.2**
KII				eS	**Sn**	**21 56 58.1**	**+1.4**
KBG	**Krutoberegovo**	**1.51**	**49**	eP	**Pn**	**21 56 35.6**	**+0.2**
KBG				eS	**Sn**	**21 56 58.0**	**-0.1**
KBTR	**Krutoberegovo**	**1.54**	**52**	eP	**Pn**	**21 56 36.0**	**+0.3**
KBTR				eS	**Sn**	**21 56 58.0**	**-0.5**
SPN	**Mys Shipunski**	**2.22**	**190**	eP	**Pn**	**21 56 41.8**	**-1.7**
SPN				eS	**Sn**	**21 57 09.2**	**-3.2**
GNL	**Ganaly**	**2.24**	**226**	eP	**Pn**	**21 56 43.9**	**0.0**
GNL				eS	**Sn**	**21 57 14.4**	**+1.3**
NLC	**Nalytchevo**	**2.25**	**201**	eP	**Pn**	**21 56 43.8**	**0.0**
NLC				eS	**Sn**	**21 57 12.3**	**-0.7**
KRX	**Arik**	**2.26**	**212**	eP	**Pn**	**21 56 44.7**	**+0.6**
KRX				eS	**Sn**	**21 57 15.1**	**+1.7**
SDLR	**Sedlovina**	**2.26**	**208**	eP	**Pn**	**21 56 44.6**	**+0.5**
SDLR				eS	**Sn**	**21 57 14.0**	**+0.5**
KRER	**Koryakskii**	**2.27**	**210**	eP	**Pn**	**21 56 45.7**	**+1.3**
SMAR	**Somma**	**2.30**	**209**	eP	**Pn**	**21 56 45.3**	**+0.6**
SMAR				eS	**Sn**	**21 57 15.3**	**+0.9**
AVH	**Avacha**	**2.31**	**210**	eP	**Pn**	**21 56 44.8**	**+0.1**
AVH				eS	**Sn**	**21 57 15.6**	**+1.0**
KOK	**Koryaka**	**2.32**	**212**	eP	**Pn**	**21 56 45.5**	**+0.7**
UGLR	**Uglovaya**	**2.34**	**208**	eP	**Pn**	**21 56 45.8**	**+0.7**
DALK	**Dalny**	**2.52**	**207**	eP	**Pn**	**21 56 47.3**	**+0.2**
DALK				eS	**Sn**	**21 57 18.6**	**-0.2**
PET	**Petropavlovsk**	**2.55**	**208**	eP	**Pn**	**21 56 48.2**	**+0.7**
PET				eS	**Sn**	**21 57 19.4**	**-0.2**
PETK	**Petropavlovsk-**	**2.79**	**220**	P	**Pn**	**21 56 49.7**	**-0.7**
	18nm,0.6s,baz=34,slow=8.8,SNR=72						
PETK				S	**Sn**	**21 57 21.9**	**-2.9**
	4.9nm,0.3s,baz=31,slow=17,SNR=1.

*IDC **08** 22:37:33.7±1.9,34°.10N×25°.28E,h52$^{km}_{\pm}$16^{km},mb3.4/9, mbtmp3.5/15,ML3.5/5,Error ellipse: s-maj=19.9km s-min=12.3km az=46.0*
*THE **08** 22:37:34.8,34°.16N±5°×2°.5E±°,h11^{km},M2.7/7,MLh2.7/7*
*ATH **08** 22:37:34.8,34°.16N×25°.21E,h35$^{km}_{\pm}$10^{km},ML2.8/4, Manual Solution by A.Moschou First location: 2019/09/08 22:38:49, This location: 2019/09/09 07:27:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*

ISC 08 22:37:33.7±1.4,34°.13N±0°.09×25°.25E±0°.05,h54$^{km}_{\pm}$13^{km}, n39,σ1§16/53,mb3.8/9,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TMBK	**Timbaki Herakl**	**1.02**	**337**	P	**Pn**	**22 37 52.3**	**+0.4**
TMBK				S	**Sn**	**22 38 05.5**	**+0.2**
TMBK	**Timbaki Herakl**	**1.02**	**337**	P	**Pn**	**22 37 52.0**	**+0.1**
NPS	**Neapolis**	**1.17**	**15**	P	**Pn**	**22 37 54.9**	**+1.1**
NPS				S	**Sn**	**22 38 09.1**	**+0.3**
NPS	**Neapolis**	**1.17**	**15**	P	**Pn**	**22 37 54.5**	**+0.6**
NPS				S	**Sn**	**22 38 09.1**	**+0.3**
IACM	**Heraklion**	**1.19**	**353**	P	**Pn**	**22 37 54.8**	**+0.8**
IACM				S	**Sn**	**22 38 09.1**	**-0.1**
GVD	**Gavdhos**	**1.20**	**307**	P	**Pn**	**22 37 54.1**	**0.0**
GVD				S	**Sn**	**22 38 08.8**	**-0.6**
GVD	**Gavdhos**	**1.20**	**307**	P	**Pn**	**22 37 54.2**	**0.0**
IDI	**Anoyia**	**1.20**	**346**	P	**Pn**	**22 37 54.5**	**+0.2**
IDI				S	**Sn**	**22 38 08.5**	**-1.1**
IDI	**Anoyia**	**1.20**	**346**	P	**Pn**	**22 37 54.5**	**+0.2**
	28nm,0.3s,baz=174,slow=11,SNR=94						
IDI				S	**Sn**	**22 38 10.3**	**+0.7**
	74nm,0.5s,baz=51,slow=13,SNR=16						
IDI	**Anoyia**	**1.20**	**346**	P	**Pn**	**22 37 54.3**	**0.0**
IDI				S	**Sn**	**22 38 09.7**	**+0.1**
ZKR	**Zakros**	**1.27**	**39**	P	**Pn**	**22 37 57.5**	**+2.3**
ZKR	**Zakros**	**1.27**	**39**	P	**Pn**	**22 37 56.7**	**+1.5**
ZKR				S	**Sn**	**22 38 11.5**	**+0.4**
PRNS	**Prines Rethymn**	**1.38**	**334**	P	**Pn**	**22 37 56.8**	**+0.1**
PRNS				S	**Sn**	**22 38 13.2**	**-0.6**
PRNS	**Prines Rethymn**	**1.38**	**334**	P	**Pn**	**22 37 57.4**	**+0.7**
PRNS				S	**Sn**	**22 38 14.2**	**+0.3**
CHAN	**Chania**	**1.71**	**325**	P	**Pn**	**22 38 01.0**	**-0.2**
KARP	**Karpathos**	**2.12**	**47**	P	**Pn**	**22 38 08.8**	**+2.1**
KARP	**Karpathos**	**2.12**	**47**	P	**Pn**	**22 38 08.2**	**+1.5**
KARP				S	**Sn**	**22 38 33.0**	**+1.1**
THERA	**Ancient Thera,**	**2.24**	**5**	P	**Pn**	**22 38 08.5**	**0.0**
SNT5	**Nea Kammeni, S**	**2.27**	**3**	P	**Pn**	**22 38 09.2**	**+0.3**
SNT5	**Nea Kammeni, S**	**2.27**	**3**	P	**Pn**	**22 38 09.5**	**+0.6**
SNT5				S	**Sn**	**22 38 35.7**	**0.0**
THR3	**Thira Island,**	**2.28**	**3**	P	**Pn**	**22 38 09.5**	**+0.6**
SAP3	**Santorini-Thir**	**2.31**	**2**	P	**Pn**	**22 38 10.2**	**+0.9**
ANKY	**Antikythira Is**	**2.36**	**318**	P	**Pn**	**22 38 10.7**	**+0.6**
MMAI	**Mount Meron Ar**	**8.54**	**95**	P	**Pn**	**22 39 33.4**	**-1.4**
	1.7nm,0.3s,baz=263,slow=12,SNR=12						
MMAI				S	**Sn**	**22 41 05.2**	**-4.6**
	0.8nm,0.4s,baz=259,slow=22,SNR=5.5 0.7nm,0.3s						
BRTR	**Keskin Array B**	**8.73**	**48**	P	**Pn**	**22 39 38.7**	**+1.2**
	0.2nm,0.5s,baz=201,slow=14,SNR=1.3						
EIL	**Elat**	**9.36**	**116**	P	**Pn**	**22 39 45.0**	**-1.0**
	1.5nm,0.3s,baz=243,slow=6.8,SNR=16						
EIL				S	Sn	22 41 22.4	-7.4
	2.1nm,0.3s,baz=210,slow=11,SNR=5.7 3.3nm,0.4s						
ASF	**Jabal al Asfar**	**9.96**	**98**	P	**Pn**	**22 39 53.0**	**-1.2**
	0.2nm,0.3s,baz=250,slow=24,SNR=1.7 0.7nm,0.3s						
AKASG	**Malin Array Be**	**16.82**	**9**	P	**Pn**	**22 41 24.4**	**-0.9**
	0.8nm,0.3s,baz=196,slow=9.3,SNR=4.4 0.3nm,0.5s						
GERES	**GERESS Array B**	**17.03**	**333**	P	**Pn**	**22 41 28.1**	**0.0**
	baz=147,slow=11,SNR=4.4 0.5nm,0.7s						
ESDC	**Sonseca Array**	**23.95**	**292**	P	**P**	**22 42 44.1**	**+1.1**
	0.5nm,0.9s,baz=85,slow=8.9,SNR=4.0 0.5nm,0.9s						
HFS	**Hagfors**	**27.10**	**347**	P	**P**	**22 43 10.9**	**-0.2**
	2.5nm,0.9s,baz=160,slow=14,SNR=2.2 2.5nm,0.9s						
FINES	**FINESS Array B**	**27.34**	**1**	P	**P**	**22 43 10.3**	**-3.0**
	3.3nm,1.1s,baz=181,slow=11,SNR=2.0						
NOA	**NORSAR Array B**	**28.42**	**346**	P	**P**	**22 43 22.1**	**-0.9**
	0.2nm,0.6s,baz=150,slow=9.2,SNR=1.8 0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.89**	**231**	P	**P**	**22 43 36.9**	**+0.4**
	1.0nm,0.9s,baz=34,slow=9.2,SNR=5.7 1.0nm,0.9s						
ARCES	**ARCESS Array B**	**35.46**	**0**	P	**P**	**22 44 23.7**	**-0.8**
	1.3nm,0.9s,baz=185,slow=8.8,SNR=1.1 1.3nm,0.9s						
KURBB	**Kurchatov Arra**	**41.72**	**50**	P	**P**	**22 45 17.1**	**0.0**
	0.3nm,0.3s,baz=276,slow=8.2,SNR=3.1 0.3nm,0.3s						
MKAR	**Makanchi Array**	**44.29**	**56**	P	**P**	**22 45 39.4**	**+1.3**
	0.4nm,0.4s,baz=268,slow=6.6,SNR=4.5 0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**45.67**	**45**	P	**P**	**22 45 49.4**	**+0.5**
	0.4nm,0.3s,baz=278,slow=7.7,SNR=2.6 0.4nm,0.3s						
SONM	**Songino Array**	**60.08**	**50**	P	**P**	**22 47 35.9**	**+0.5**
	0.4nm,0.4s,baz=297,slow=6.3,SNR=2.3 0.4nm,0.4s						

*IDC **08** 22:39:24.6±1.3,1°.22N×126°.73E,h0^{km},mb3.8/6, mbtmp3.8/7,ML3.3/1,Error ellipse: s-maj=109.2km s-min=16.7km az=68.0*
*DJA **08** 22:39:32.3±0.7,1°.1N±4°×12°.7E±°,h27$^{km}_{\pm}$8^{km},M3.6/7, MLv3.6/7*

ISC 08 22:39:32.8±0.9,1°.23N±0°.07×126°.97E±0°.08,h72^{km},n10, σ1§18/13,mb3.8/6,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.60**	**139**	P	**Pn**	**22 39 45.6**	**-1.2**
TNTI				S	**Sn**	**22 39 56.2**	**-1.0**
SGSI	**Sangihe**	**2.84**	**330**	P	**Pn**	**22 40 14.8**	**-1.1**
SGSI				S	**Sn**	**22 40 48.7**	**-0.3**
KMSI	**Cibinong**	**3.06**	**258**	P	**Pn**	**22 40 18.9**	**+0.1**
KMSI				S	**Sn**	**22 40 52.6**	**-1.7**
FITZ	**Fitzroy Crossi**	**19.25**	**184**	P	**P**	**22 43 50.5**	**-1.0**
	0.1nm,0.3s,baz=8.3,slow=14,SNR=1.4 0.7nm,0.7s						
WRA	**Warramunga Arr**	**22.25**	**161**	P	**P**	**22 44 23.1**	**-0.9**
	0.7nm,0.4s,baz=340,slow=11,SNR=6.7 0.7nm,0.4s						
ASAR	**Alice Springs**	**25.65**	**165**	P	**P**	**22 44 56.9**	**+0.9**
	0.8nm,0.3s,baz=344,slow=11,SNR=13 0.8nm,0.3s						
STKA	**Stephens Creek**	**35.72**	**158**	P	**P**	**22 46 26.6**	**+2.0**
	0.8nm,0.4s,baz=348,slow=20,SNR=4.8 0.8nm,0.4s						
MKAR	**Makanchi Array**	**59.74**	**326**	P	**P**	**22 49 31.1**	**+0.9**
	1.0nm,0.4s,baz=126,slow=7.1,SNR=21 1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**63.97**	**328**	P	**P**	**22 49 58.5**	**0.0**
	0.8nm,0.5s,baz=129,slow=5.8,SNR=13 0.8nm,0.5s						
BVAR	**Borovoye Array**	**69.54**	**327**	P	**P**	**22 50 34.0**	**+0.1**
	0.3nm,0.3s,baz=134,slow=6.2,SNR=1.9 0.3nm,0.3s						

*IDC **08** 22:39:52.1±6.5,18°.36S×177°.68W,h529$^{km}_{\pm}$68^{km},mb3.2/7, mbtmp4.0/7,Error ellipse: s-maj=40.6km s-min=22.5km az=36.0*
*NEIC **08** 22:39:53.7±1.4,18°.2S±0°.2×177°.4W±0°.2,h591$^{km}_{\pm}$14^{km}, mb4.6/17,Error ellipse: s-maj=28.3km s-min=26.1km az=82.0*

ISC 08 22:39:55.9±1.2,18°.2S±0°.2×177°.7W±0°.2,h600^{km},n34, σ1§34/34,mb4.2/13,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.05**	**276**	P	**P**	22 41 27.5	+5.7
URZ	**Urewera**	**20.47**	**192**	P	**P**	**22 43 51.6**	**-2.1**
	6.3nm,0.3s,baz=342,slow=19,SNR=16 6.3nm,0.3s						
RTZ	**Ruatahuna**	**20.84**	**192**	P	**P**	**22 43 55.4**	**-1.8**
RTZ					IAmb	IAmb	22 44 03.9
	comp=Z,30nm,1.3s						
BKZ	**Black Stump Fm**	**21.47**	**192**	P	**P**	**22 44 00.3**	**-2.5**
BFZ	**Birch Farm**	**22.98**	**192**	P	**P**	**22 44 13.6**	**-2.6**
MRZ	**Mangatainoka R**	**23.10**	**193**	P	**P**	**22 44 15.8**	**-1.4**
MRZ					IAmb	IAmb	22 44 24.3
	comp=Z,46nm,1.5s						
PLWZ	**Palliser**	**24.04**	**193**	P	**P**	**22 44 24.0**	**-1.6**
QRZ	**Quartz Range**	**24.04**	**198**	P	**P**	**22 44 25.5**	**0.0**
TKNZ	**Takaka Hill**	**24.11**	**197**	P	**P**	**22 44 25.7**	**-0.4**
THZ	**Tophouse**	**24.80**	**197**	P	**P**	**22 44 32.0**	**-0.2**
KHZ	**Kahutara**	**25.24**	**195**	P	**P**	**22 44 35.0**	**-1.0**
GVZ	**Greta Valley S**	**25.89**	**196**	P	**P**	**22 44 40.3**	**-1.5**
LTZ	**Lake Taylor**	**25.92**	**197**	P	**P**	**22 44 40.6**	**-1.5**
LTZ					IAmb	IAmb	22 44 48.3
	comp=Z,6.7nm,0.7s						
FOZ	**Fox Glacier**	**27.34**	**200**	P	**P**	**22 44 53.7**	**-0.8**
LBZ	**Lake Benmore**	**28.00**	**199**	P	**P**	**22 44 58.7**	**-1.5**
WKZ	**Wanaka**	**28.76**	**200**	IAmb	IAmb	22 45 05.3	
	comp=Z,60nm,1.3s						
WKZ				P	**P**	**22 45 05.5**	**-1.3**
WHZ	**Wether Hill Ro**	**30.05**	**200**	P	**P**	**22 45 16.9**	**-0.9**
WHZ					IAmb	IAmb	22 45 21.9
	comp=Z,25nm,1.3s						
TOO	**Toolangi**	**37.48**	**231**	P	**P**	**22 46 20.2**	**0.0**
TOO					IAmb	IAmb	22 46 25.2
	comp=Z,11nm,1.1s						
COEN	**Coen**	**37.76**	**271**	P	**P**	**22 46 22.6**	**0.0**
STKA	**Stephens Creek**	**39.05**	**242**	P	**P**	**22 46 33.2**	**+0.3**
STKA					IAmb	IAmb	22 46 37.4
	comp=Z,42nm,1.4s						
STKA	**Stephens Creek**	**39.05**	**242**	P	**P**	**22 46 34.4**	**+1.5**
	comp=Z,1.9nm,0.5s,baz=84,slow=7.8,SNR=3.0 comp=Z,1.9nm,0.5s						
BBOO	**Buckleboo**	**43.83**	**241**	P	**P**	**22 47 11.0**	**+0.6**
BBOO					IAmb	IAmb	22 47 16.5
	comp=Z,8.0nm,1.1s						
WR8	**Warramunga Arr**	**45.06**	**260**	P	**P**	**22 47 20.5**	**+0.4**
WB0	**Warramunga Arr**	**45.18**	**260**	P	**P**	**22 47 21.0**	**0.0**
WB0					IAmb	IAmb	22 47 24.3
	comp=Z,9.4nm,1.5s						
WRA	**Warramunga Arr**	**45.22**	**260**	P	**P**	**22 47 21.9**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=97,slow=7.7,SNR=8.3 comp=Z,0.6nm,0.4s						
ASAR	**Alice Springs**	**45.33**	**254**	P	**P**	**22 47 21.9**	**-0.2**
ASAR	**Alice Springs**	**45.33**	**254**	P	**P**	**22 47 23.1**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=90,slow=7.5,SNR=15						
ASAR				PcP	**PcP**	**22 48 50.5**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=91,slow=5.4,SNR=1.7						
ASAR				S	**S**	**22 53 18.6**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=91,slow=16,SNR=7.5 comp=Z,1.3nm,0.6s						
VNDA	**Vanda**	**60.20**	**185**	P	**P**	**22 49 06.5**	**-0.1**
CASY	**Casey**	**66.13**	**205**	P	**P**	**22 49 44.5**	**-0.1**
QSPA	**South Pole Qui**	**71.84**	**180**	P	**P**	**22 50 20.1**	**+1.1**
QSPA	**South Pole Qui**	**71.84**	**180**	P	**P**	**22 50 21.2**	**+2.2**
	comp=Z,1.9nm,0.6s,baz=107,slow=14,SNR=18 comp=Z,1.9nm,0.6s						
TXAR	**Lajitas Array**	**85.61**	**57**	P	P	22 51 35.5	+2.9
	comp=Z,0.4nm,0.8s,baz=237,slow=4.0,SNR=4.4 comp=Z,0.4nm,0.8s						
SNAA	**Sanae**	**90.27**	**178**	P	**P**	**22 51 53.9**	**+0.5**
	comp=Z,0.5nm,1.0s,baz=175,slow=11,SNR=5.2 comp=Z,0.5nm,1.0s						
E28M	**Babbage River**	**90.86**	**13**	P	**P**	**22 51 54.4**	**-1.6**

*IDC **08** 22:46:39.0±0.7,28°.32S×177°.31W,h0^{km},mb4.1/7, mbtmp4.1/7,MS3.3/6,Error ellipse: s-maj=28.1km s-min=19.5km az=96.0*
*NEIC **08** 22:46:48.4±1.0,28°.7S±0°.1×177°.5W±0°.2,h57$^{km}_{\pm}$6^{km}, mb4.5/10,Error ellipse: s-maj=29.2km s-min=10.4km az=129.0*

ISC 08 22:46:46.9±0.8,28°.53S±0°.09×177°.5W±0°.2,h54^{km},n51, σ0§87/36,mb4.2/12,MS3.5/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.81**	**208**	Pn	**Pn**	**22 47 02.4**	**+0.1**
RAO					**Sn**	**22 47 13.2**	**-0.4**
RAO	**Raoul Island**	**0.81**	**208**	Pn	**Pn**	**22 47 02.6**	**+0.3**
	2µm,0.3s,baz=91,slow=6.4,SNR=150						
RAO				Sn	**Sn**	**22 47 14.0**	**+0.4**
	10µm,0.3s,baz=34,slow=22,SNR=37						
URZ	**Urewera**	**10.70**	**204**	Pn	Pn	22 49 10.4	-6.9
	0.3nm,0.3s,baz=42,slow=12,SNR=1.0						
URZ				Sn	Sn	22 51 04.8	-11
	2.5nm,0.3s,baz=273,slow=19,SNR=13						
RTZ	**Ruatahuna**	**11.06**	**203**	Pn	**Pn**	**22 49 21.8**	**-0.6**
NNZ	**Nelson**	**14.70**	**208**	Pn	**Pn**	**22 50 11.2**	**-0.4**
THZ	**Tophouse**	**15.35**	**208**	Pn	**Pn**	**22 50 19.9**	**-0.2**
KHZ	**Kahutara**	**15.65**	**205**	Pn	**Pn**	**22 50 24.1**	**+0.3**
KHZ					IAmb	IAmb	22 50 32.2
	comp=Z,48nm,1.2s						
DZM	**Mont Dzumac**	**15.89**	**290**	LR	LR	22 54 48.1	
	comp=Z,70nm,18.6s,baz=87,slow=31						
PPT	**Papeete**	**27.83**	**73**	LR	LR	23 00 42.9	
	comp=Z,24nm,19.5s,baz=194,slow=31						
HNR	**Honiara**	**28.48**	**307**	LR	LR	23 02 41.4	
	comp=Z,64nm,18.4s,baz=298,slow=34						
TOO	**Toolangi**	**32.15**	**244**	P	**P**	**22 53 08.9**	**-0.5**
TOO					IAmb	IAmb	22 53 17.4
	comp=Z,23nm,1.5s						
STKA	**Stephens Creek**	**35.38**	**254**	P	**P**	**22 53 38.1**	**+0.6**
STKA	**Stephens Creek**	**35.38**	**254**	P	**P**	**22 53 37.3**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=90,slow=14,SNR=1.8 comp=Z,0.7nm,0.4s						
BBOO	**Buckleboo**	**39.94**	**252**	P	**P**	**22 54 15.9**	**-0.1**
BBOO					IAmb	IAmb	22 54 22.8
	comp=Z,17nm,1.4s						
ASAR	**Alice Springs**	**43.69**	**265**	P	**P**	**22 54 46.8**	**0.0**
	comp=Z,1.7nm,0.5s,baz=100,slow=6.7,SNR=35 comp=Z,1.7nm,0.5s						
WR8	**Warramunga Arr**	**44.37**	**270**	P	**P**	**22 54 52.7**	**+0.5**
WR8					IAmb	IAmb	22 54 54.4
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**44.51**	**270**	P	**P**	**22 54 53.7**	**+0.3**
WRA	**Warramunga Arr**	**44.51**	**270**	P	**P**	**22 54 53.7**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=109,slow=7.5,SNR=8.9						
WRA				PcP	**PcP**	**22 56 37.1**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=106,slow=2.9,SNR=2.7 comp=Z,2.0nm,0.6s						
WB0	**Warramunga Arr**	**44.53**	**270**	P	**P**	**22 54 53.8**	**+0.3**
KNRA	**Kununurra**	**51.04**	**273**	P	**P**	**22 55 44.4**	**+0.4**
KNRA					IAmb	IAmb	22 55 47.9
	comp=Z,4.1nm,0.9s						
CASY	**Casey**	**57.00**	**207**	P	**P**	**22 56 24.9**	**-1.8**
CASY					IAmb	IAmb	22 56 34.0
	comp=Z,4.1nm,1.1s						
BATI	**Baumata**	**57.88**	**276**	LR	LR	23 22 36.6	
	comp=Z,74nm,18.1s,baz=196,slow=37						
QSPA	**South Pole Qui**	**61.57**	**180**	P	**P**	**22 56 59.5**	**+1.0**
QSPA	**South Pole Qui**	**61.57**	**180**	P	**P**	**22 57 00.5**	**+2.0**
	comp=Z,1.1nm,0.6s,baz=322,slow=1.8,SNR=12 comp=Z,1.1nm,0.6s						
MAW	**Mawson**	**74.21**	**200**	P	**P**	**22 58 17.7**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=108,slow=5.9,SNR=3.8 comp=Z,1.2nm,0.5s						
MJAR	**Matsushiro Arr**	**76.98**	**325**	P	**P**	**22 58 34.9**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=158,slow=5.2,SNR=3.1 comp=Z,1.7nm,0.7s						
SNAA	**Sanae**	**80.00**	**178**	P	**P**	**22 58 49.2**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=172,slow=11,SNR=11						
SNAA				LR	LR	23 30 16.6	
	comp=Z,21nm,21.5s,baz=176,slow=33 comp=Z,0.6nm,0.9s						
H03S2	**Juan Fernandez**	**81.12**	**124**	T	T	00 28 38.8	
	baz=240,slow=74,SNR=7.8						
H03S1	**Juan Fernandez**	**81.13**	**124**	T	T	00 28 40.0	
	baz=240,slow=74,SNR=6.7						
H03S3	**Juan Fernandez**	**81.14**	**124**	T	T	00 28 40.7	
	baz=240,slow=74,SNR=7.9						
H03N3	**Juan Fernandez**	**81.30**	**123**	T	T	00 28 50.2	
	baz=245,slow=73,SNR=12						
H03N2	**Juan Fernandez**	**81.30**	**123**	T	T	00 28 53.0	
	baz=245,slow=73,SNR=9.0						
H03N1	**Juan Fernandez**	**81.31**	**123**	T	T	00 28 52.5	
	baz=245,slow=73,SNR=14						
PLCA	**Paso Flores**	**83.45**	**133**	LR	LR	23 31 33.5	
	comp=Z,18nm,19.5s,baz=231,slow=32						
MKAR	**Makanchi Array**	**116.91**	**311**	PKP	**PKPdf**	**23 05 24.5**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=60,slow=3.5,SNR=2.3						
KURBB	**Kurchatov Arra**	**120.12**	**314**	PKP	**PKPdf**	**23 05 30.6**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=112,slow=1.9,SNR=5.9						
BVAR	**Borovoye Array**	**125.37**	**317**	PKP	**PKPdf**	**23 05 40.4**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=211,slow=2.4,SNR=4.9						
ARCES	**ARCESS Array B**	**136.86**	**348**	PKP	**PKPdf**	**23 06 01.4**	**-1.2**
	comp=Z,2.5nm,0.9s,baz=52,slow=3.1,SNR=1.9						
H10S3	**ASCENSION HYDR**	**139.21**	**153**	T	T	01 41 58.1	
	baz=15,slow=74,SNR=22						
H10S2	**ASCENSION HYDR**	**139.21**	**153**	T	T	01 41 57.0	
	baz=205,slow=74,SNR=18						
H10N3	**ASCENSION HYDR**	**140.28**	**153**	T	T	01 43 24.7	
	baz=204,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**140.29**	**153**	T	T	01 43 24.8	
	baz=204,slow=75,SNR=12						
H10N2	**ASCENSION HYDR**	**140.30**	**153**	T	T	01 43 27.0	
	baz=204,slow=75,SNR=12						
FINES	**FINESS Array B**	**143.54**	**341**	PKP	PKPbc	23 06 12.3	0.0
	comp=Z,2.4nm,0.8s,baz=46,slow=5.5,SNR=6.9						
KBZ	**Khabaz**	**144.41**	**306**	PKP	**PKPdf**	**23 06 17.6**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=80,slow=6.1,SNR=1.6						
NOA	**NORSAR Array B**	**146.97**	**352**	PKPbc	**PKPbc**	**23 06 23.0**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=14,slow=4.5,SNR=6.9						
HFS	**Hagfors**	**147.50**	**350**	PKPbc	**PKPbc**	**23 06 23.5**	**-0.8**
	comp=Z,2.7nm,0.7s,baz=56,slow=7.9,SNR=8.5						
AKASG	**Malin Array Be**	**150.06**	**325**	PKPbc	**PKPbc**	**23 06 29.9**	**-1.2**
	comp=Z,2.0nm,0.6s,baz=46,slow=3.3,SNR=9.5						
MMAI	**Mount Meron Ar**	**151.46**	**287**	PKPbc	**PKiKP**	**23 06 35.3**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=83,slow=7.0,SNR=4.5						
BRTR	**Keskin Array B**	**152.06**	**302**	PKPbc	**PKPbc**	**23 06 36.2**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=142,slow=3.3,SNR=6.7						
TORD	**Torodi Ar. Bea**	**164.67**	**177**	PKPab	**PKPab**	**23 07 42.9**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=202,slow=2.7,SNR=5.6						

*IDC **08** 22:48:36.5±1.2,10°.13S×161°.40E,h0^{km},mb3.8/5, mbtmp3.9/6,ML4.3/1,Error ellipse: s-maj=46.0km s-min=30.3km az=83.0*
*NOU **08** 22:48:45.1,10°.50S×161°.61E,h28^{km},MLv4.1/7,Solomon Islands*
*NEIC **08** 22:48:46.3±2.0,10°.3S±0°.1×161°.63E±0°.06,h71$^{km}_{\pm}$9^{km}, mb4.5/12,Error ellipse: s-maj=16.3km s-min=6.2km az=200.0*

ISC 08 22:48:44.9±0.6,10°.41S±0°.08×161°.71E±0°.08,h61^{km},n36, σ1§52/31,mb4.1/11,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HURO	**Huro Makira**	**0.20**	**105**	P	**Pn**	**22 48 53.2**	**-1.2**
HURO	**Huro Makira**	**0.20**	**105**	S	**Sn**	**22 49 00.5**	**-0.8**
ALEG	**Aligegeo Malai**	**1.93**	**329**	P	**Pn**	**22 49 16.2**	**+0.8**
ALEG	**Aligegeo Malai**	**1.93**	**329**	S	**Sn**	**22 49 40.5**	**+1.9**
HNR	**Honiara**	**1.99**	**299**		**Pn**	**22 49 16.2**	**0.0**
HNR				Sn	**Sn**	**22 49 39.4**	**-0.7**
SAVO	**Savo Central**	**2.25**	**304**	P	**Pn**	**22 49 20.1**	**+0.3**
TATA	**Tatamba Isabel**	**2.75**	**317**	P	**Pn**	**22 49 27.8**	**+1.2**
TATA	**Tatamba Isabel**	**2.75**	**317**	S	**Sn**	**22 50 00.0**	**+1.2**
DZM	**Mont Dzumac**	**12.45**	**159**	Pn	**Pn**	**22 51 42.2**	**+2.8**
DZM	**Mont Dzumac**	**12.45**	**159**	Pn	**Pn**	**22 51 41.5**	**+2.1**
	1.6nm,0.3s,baz=342,slow=13,SNR=26 3.4nm,0.3s						
TARA	**Tarawa**	**16.16**	**44**	Pn	**Pn**	**22 52 28.2**	**0.0**
WR8	**Warramunga Arr**	**27.88**	**247**	P	**P**	**22 54 27.3**	**-1.9**
WB0	**Warramunga Arr**	**27.93**	**247**	P	**P**	**22 54 27.9**	**-1.7**
WB0					IAmb	IAmb	22 54 34.8
	comp=Z,5.7nm,1.2s						
WRA	**Warramunga Arr**	**28.02**	**247**	P	**P**	**22 54 28.4**	**-2.1**
	comp=Z,0.8nm,0.8s,baz=74,slow=8.4,SNR=3.3 comp=Z,0.8nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**29.14**	**10**	T	T	23 23 35.5	
	baz=194						
H11S3	**WAKE ISLAND Hy**	**29.14**	**10**	T	T	23 23 34.6	
	baz=194						
H11S1	**WAKE ISLAND Hy**	**29.16**	**10**	T	T	23 23 38.1	
	baz=194						
AS31	**Alice Springs**	**29.60**	**240**	P	**P**	**22 54 46.8**	**+2.4**
ASAR	**Alice Springs**	**29.60**	**240**	P	**P**	**22 54 45.1**	**+0.7**
H11N1	**WAKE ISLAND Hy**	**30.37**	**10**	T	T	23 25 34.0	
	baz=193						
H11N3	**WAKE ISLAND Hy**	**30.38**	**10**	T	T	23 25 10.5	
	baz=193						
H11N2	**WAKE ISLAND Hy**	**30.39**	**10**	T	T	23 25 38.4	
	baz=193						
BKZ	**Black Stump Fm**	**31.53**	**158**	P	**P**	**22 55 02.2**	**+0.9**
KNRA	**Kununurra**	**32.49**	**257**	P	**P**	**22 55 08.2**	**-1.8**
KNRA					IAmb	IAmb	22 55 11.7
	comp=Z,9.3nm,1.4s						
MBWA	**Marble Bar**	**41.66**	**250**	P	**P**	**22 56 25.9**	**-1.9**
MBWA					IAmb	IAmb	22 56 26.1
	comp=Z,4.5nm,0.8s						
CASY	**Casey**	**65.56**	**200**	P	**P**	**22 59 22.3**	**+0.5**
CASY					IAmb	IAmb	22 59 26.7
	comp=Z,4.6nm,0.8s						
SBA	**Scott Base**	**67.48**	**179**	P	**P**	**22 59 34.4**	**+0.5**
SONM	**Songino Array**	**75.85**	**325**	P	**P**	**23 00 22.7**	**-2.1**
	com

YUCAX	**Ej. Yucatɲn**	**0.43**	**20**	⇓*i*P		Pb	22 50 29.8	+0.6
YUCAX				*e*S		Sb	22 50 37.1	+1.4
UABX	**UABC, Campus M**	**0.46**	**341**			Pb	22 50 30.2	+0.6
UABX	**UABC, Campus M**	**0.46**	**341**	*e*S		Sb	22 50 38.0	+1.5
EDOMX	**El Doctor, EDO**	**0.50**	**118**	⇑*i*P		Pb	22 50 31.1	+0.7
EDOMX				*e*S		Sb	22 50 39.2	+1.4
5053	**Calexico**	**0.51**	**338**			Pb	22 50 31.1	+0.6
5053						Sb	22 50 39.2	+1.3
EMSC	**East Mesa**	**0.59**	**24**			Pb	22 50 32.0	+0.1
EMSC	**East Mesa**	**0.59**	**24**	⇓*e*P		Pb	22 50 32.1	+0.2
EMSC				*e*S		Sb	22 50 40.8	+0.4
SGL	**Mount Signal**	**0.59**	**319**			Pb	22 50 31.9	0.0
SGL	**Mount Signal**	**0.59**	**319**	*e*P		Pb	22 50 31.9	0.0
SGL				*e*S		Sb	22 50 40.1	-0.3
ESJX	**Sierra Juarez**	**0.61**	**252**			Pb	22 50 32.7	+0.4
ESJX						Sb	22 50 41.1	0.0
ESJX	**Sierra Juarez**	**0.61**	**252**	IAML			22 50 41.9	
	comp=N,1µm,0.2s							
ESJX				IAML			22 50 42.6	
	comp=E,1µm,0.2s							
DREC	**Desert Rsrch C**	**0.62**	**346**			Pb	22 50 32.9	+0.4
COA	**Coachella**	**0.67**	**10**			Pb	22 50 33.1	-0.2
COA	**Coachella**	**0.67**	**10**	*e*P		Pb	22 50 33.1	-0.2
SNR	**Schaffner Ranc**	**0.68**	**348**			Pb	22 50 33.9	+0.5
WESC	**Westside Schoo**	**0.68**	**325**			Pb	22 50 33.8	+0.3
WESC						Sb	22 50 44.3	+1.3
YUH	**Yuha Desert**	**0.71**	**309**			Pb	22 50 33.8	-0.2
YUH						Pn	22 50 43.5	+7.8
YUH	**Yuha Desert**	**0.71**	**309**	IAML			22 50 44.0	
	comp=E,333nm,0.5s							
YUH				IAML			22 50 44.2	
	comp=N,271nm,0.3s							
SJX	**San Joaquin**	**0.73**	**234**	⇑*i*P		Pg	22 50 32.7	-0.8
IMPE	**Imperial**	**0.74**	**341**			Pb	22 50 34.5	0.0
COK2	**Cook Ranch 2**	**0.76**	**329**			Pb	22 50 34.8	0.0
COK2						Pn	22 50 45.7	+9.5
COK2	**Cook Ranch 2**	**0.76**	**329**	*e*P		Pb	22 50 34.8	0.0
RMX	**La Rumorosa**	**0.80**	**301**			Pg	22 50 34.4	-0.3
RMX						Sg	22 50 44.3	-0.8
RUN	**Ruthven**	**0.81**	**18**			Pg	22 50 34.8	-0.2
RUN						Pn	22 50 45.2	+8.2
IKP	**In-Ko-Pah, Jac**	**0.84**	**302**			Pb	22 50 36.0	-0.3
IKP						Pn	22 50 47.3	+10
SWSC	**Sam W. Stewart**	**0.87**	**329**			Pg	22 50 35.7	-0.5
CRR	**Carrizo Plain**	**0.91**	**319**			Pg	22 50 36.5	-0.3
CRR						Sb	22 50 49.9	+0.4
CRR	**Carrizo Plain**	**0.91**	**319**	*e*P		Pg	22 50 36.5	-0.3
VTX	**Valle De La Tr**	**0.92**	**209**			Pn	22 50 38.1	-0.5
VTX				IAML			22 50 50.8	
	comp=E,254nm,0.6s							
VTX				IAML			22 50 51.1	
	comp=N,188nm,0.7s							
GLA	**Glamis**	**0.93**	**23**			Pg	22 50 36.6	-0.6
GLA	**Glamis**	**0.93**	**23**	IAML			22 50 49.2	
	comp=N,251nm,0.3s							
GLA				IAML			22 50 50.3	
	comp=E,271nm,0.6s							
SLVP	**Salvation Pass**	**1.04**	**358**			Pg	22 50 38.1	-1.2
SPIG	**San Pedro Mart**	**1.16**	**188**	*e*P		Pg	22 50 41.3	-0.5
SPIG				*e*S		Sg	22 50 56.4	-0.5
CBX	**Cerro Bola**	**1.19**	**276**			Pb	22 50 41.7	-0.5
CBX	**Cerro Bola**	**1.19**	**276**			Sg	22 50 57.3	-0.4
CBX	**Cerro Bola**	**1.19**	**276**	*e*P		Pb	22 50 41.6	-0.6
CBX				*e*S		Sg	22 50 57.2	-0.5
SFX	**San Felipe**	**1.21**	**163**			Pn	22 50 42.6	+0.1
SFX				IAML			22 51 00.7	
	comp=N,145nm,0.3s							
SFX				IAML			22 51 00.7	
	comp=E,118nm,0.4s							
SFX	**San Felipe**	**1.21**	**163**	*e*P		Pb	22 50 41.9	-0.6
SFX				*e*S		Sb	22 50 58.3	+0.1
TJIG	**Tijuana**	**1.21**	**281**	*e*P		Pb	22 50 41.9	-0.6
TJIG				*e*S		Sb	22 50 57.8	-0.6
CCX	**Cicese**	**1.23**	**255**			Pn	22 50 42.4	-0.4
BAR	**Barrett**	**1.28**	**292**	Pn	Pn	Pn	22 50 43.0	-0.6
BAR				IAML			22 51 01.6	
	comp=E,350nm,0.2s							
JUEM	**Julian Eagle M**	**1.43**	**308**			Sg	22 51 05.5	+0.2
BORC	**Borrego Spring**	**1.44**	**318**			Pn	22 50 44.2	-1.5
BC3	**Big Chuckawall**	**1.46**	**354**			Pn	22 50 44.5	-1.5
SDRC	**San Diego Road**	**1.51**	**291**			Sb	22 51 07.5	+0.5
TJX	**Tijuana**	**1.54**	**282**	Pn	Pn	Pn	22 50 46.6	-0.5
DPP	**Dos Picos Cty**	**1.62**	**300**			Pn	22 50 47.5	-0.8
DPP				IAML			22 51 12.8	
	comp=E,147nm,0.3s							
DPP				IAML			22 51 13.3	
	comp=N,76nm,0.4s							
PIX	**Pinacate**	**1.66**	**112**	Pn	Pn	Pn	22 50 48.0	-0.7
PIX				IAML			22 51 26.8	
	comp=N,61nm,0.7s							
CPE	**Camp Elliot**	**1.70**	**294**			Pn	22 50 48.9	-0.4
CPE				IAML			22 51 13.2	
	comp=N,282nm,0.5s							
FRD	**Ford Ranch, An**	**1.71**	**319**			Pn	22 50 48.3	-1.2
PMD	**Palm Desert**	**1.72**	**327**	Pn	Pn	Pn	22 50 48.2	-1.4
PFO	**Pinyon Flats O**	**1.73**	**325**			Pn	22 50 48.1	-1.7
DNR	**Dunn Ranch,Anz**	**1.78**	**320**			Pn	22 50 49.6	-0.9
DNR				IAML			22 51 20.9	
	comp=E,138nm,0.7s							
DNR				IAML			22 51 23.4	
	comp=N,148nm,0.9s							
BELC	**Belle Mtn. Jos**	**1.90**	**341**	Pn	Pn	Pn	22 50 51.4	-0.7
IRM	**Iron Mountain**	**1.96**	**3**	Pn	Pn	Pn	22 50 52.7	-0.1
ELS	**Elsinore Mount**	**2.32**	**309**	Pn	Pn	Pn	22 50 57.4	-0.4
ELS				IAML			22 51 39.9	
	comp=E,38nm,0.6s							
DANC	**Danby, Needles**	**2.43**	**358**	Pn	Pn	Pn	22 50 58.8	-0.6
MWC	**Mount Wilson**	**3.09**	**312**	Pn	Pn	Pn	22 51 06.8	-1.7
MWC				IAML			22 51 59.0	
	comp=N,24nm,0.9s							
MWC				IAML			22 52 05.2	
	comp=E,19nm,0.9s							
W13A	**Hualapai Mount**	**3.11**	**21**	Pn	Pn	Pn	22 51 07.9	-1.0
TUC	**Tucson**	**3.80**	**87**	*e*P		Pn	22 51 22.1	+3.9
TUC				*e*S		Sn	22 52 05.7	+2.6
X16A	**Lo Mia Camp, P**	**3.89**	**54**			Pn	22 51 18.9	-0.7

IDC 08 22:52:57.0±6.1, 18°00N×145°85E, h292km±58km, mb3.1/6, mbtmp3.7/7, Error ellipse: s-maj=115.2km s-min=20.6km az=83.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**19.67**	**341**	P	P	22 57 04.5	-0.4
	0.5nm,0.4s,baz=150,slow=12,SNR=1.4						
KSRS	**Korea Array**	**24.97**	**325**	P	P	22 57 55.0	+0.6
	0.4nm,0.3s,baz=134,slow=8.6,SNR=1.6 0.4nm,0.3s						
WRA	**Warramunga Arr**	**39.36**	**197**	P	P	22 59 58.8	-0.2
	0.2nm,0.3s,baz=20,slow=7.9,SNR=5.3 0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.05**	**314**	P	P	23 02 28.6	+1.6
	0.3nm,0.8s,baz=95,slow=7.2,SNR=1.6 0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**61.93**	**318**	P	P	23 02 44.8	-1.3
	0.4nm,0.4s,baz=88,slow=7.5,SNR=8.4 0.4nm,0.4s						
BVAR	**Borovoye Array**	**67.10**	**321**	P	P	23 03 19.7	+0.3
	1.0nm,0.5s,baz=90,slow=7.6,SNR=6.4 1.0nm,0.5s						
FINES	**FINESS Array B**	**87.58**	**335**	P	P	23 05 12.4	+0.3
	2.1nm,0.9s,baz=55,slow=5.3,SNR=4.4 2.1nm,0.9s						

*JMA **08** 22:54:18.6±0.9, 45°N×151°E±°, h30km, MV4.4/9, KURILE ISLANDS REGION*

SKHL 08 22:54:19.0±0.3, 45°10N×150°70E, h57km±7km, mb4.6/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.01**	**275**	*e*P	Pn	22 54 49.0	-1.5
KUR				AMB	AMB	22 54 51.5	
	170nm,0.3s						
KUR				*i* S	Sn	22 55 11.6	-2.9
KUR				A	A	22 55 16.0	
	500nm,0.4s						
KUR				A	A	22 55 16.0	
	270nm,0.4s						
SHO	**Shikotan**	**3.03**	**247**	*e*P	Pn	22 55 04.8	+0.4
SHO				AMB	AMB	22 55 09.2	
	40nm,0.5s						
SHO				*e*S	Sn	22 55 37.9	-1.6
SHO				A	A	22 55 44.7	
	100nm,0.5s						
SHO				A	A	22 55 44.7	
	80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.62**	**255**	*e*P	Pn	22 55 12.6	+0.1
YUK				AMB	AMB	22 55 15.5	
	180nm,0.3s						
YUK				*e*S	Sn	22 55 52.6	-1.3
YUK				A	A	22 56 02.6	
	180nm,0.7s						
YUK				A	A	22 56 02.6	
	410nm,0.7s						
NEM2	**Nemuro 2**	**3.96**	**246**	*e*P	Pn	22 55 16.6	-0.6
NEM2				*e*S	Sn	22 55 59.4	-3.0
NMR	**Nemuro--Hokkai**	**3.97**	**246**	*e*P	Pn	22 55 16.4	-0.9
NMR				*e*S	Sn	22 55 59.6	-2.9
JRA	**Rausu**	**4.16**	**256**	*e*P	Pn	22 55 21.2	+1.4
JNK	**Nakash**	**4.55**	**253**	*e*P	Pn	22 55 26.6	+1.3
AKK	**Akkeshi**	**4.71**	**246**	*e*P	Pn	22 55 27.1	-0.3
JAK	**Akkeshi**	**4.81**	**246**	*e*P	Pn	22 55 27.7	-1.1
JAR	**Ashorobuto**	**5.30**	**253**	P	Pn	22 55 36.9	+1.3
JAR				*e*S	Sn	22 56 34.9	-0.3
JOB	**Onbets**	**5.42**	**248**	*e*P	Pn	22 55 37.4	+0.2
JOB				*e*S	Sn	22 56 35.6	-2.5
JNBK	**Urakawa-nobuka**	**6.41**	**247**	*e*P	Pn	22 55 50.2	-0.6
JNBK				*e*S	Sn	22 57 02.4	-0.2

*CATAC **08** 22:56:32.5±1.0, 10°N±4°×8°6W±°, h14km±5km, M3.5/8, MLv3.5/8, Error ellipse: s-maj=12.7km s-min=7.8km az=75.2, confirmed*

*UCR **08** 22:56:33.0±0.7, 10°07N×86°22W, h24km±3km, MW4.2*

ISC 08 22:56:35.0±1.9, 10°03N±0°07×86°13W±0°08, h24km, n57, σ1§04/60, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.59**	**66**	*e*P	**Pb**	**22 56 45.8**	**-0.9**
SACU				*e*S	**Sb**	**22 56 55.1**	**+0.5**
JUD3	**Juan Diaz 3**	**0.60**	**76**	*e*P	**Pb**	**22 56 46.1**	**-0.8**
JUD3				*e*S	**Sb**	**22 56 55.8**	**+0.8**
INDI	**Punta indio, G**	**0.64**	**104**	P	**Pb**	**22 56 46.6**	**-0.9**
CMARA	**Lajas Hojancha**	**0.69**	**90**	P	**Pb**	**22 56 46.6**	**-1.9**
DELF	**Filadelfia**	**0.71**	**53**	*e*P	**Pb**	**22 56 47.8**	**-0.9**
ALIBA	**Liberia Airpor**	**0.81**	**45**	*e*P	**Pb**	**22 56 49.8**	**-0.5**
ELI1	**Hacienda Flor**	**0.84**	**43**	*e*P	**Pn**	**22 56 50.5**	**-0.8**
ELI1	**Hacienda Flor**	**0.84**	**43**	P	**Pn**	**22 56 50.4**	**-0.9**
ELI1	**Hacienda Flor**	**0.84**	**43**	S	**Sn**	**22 57 06.1**	**+3.2**
ERIA	**Liberia**	**0.91**	**48**	*e*P	**Pn**	**22 56 51.3**	**-1.0**
LAPC	**Finca la Perla**	**1.01**	**43**	*e*P	**Pn**	**22 56 52.2**	**-1.4**
GPS3	**Bodega del ICE**	**1.04**	**46**	*e*P	**Pb**	**22 56 56.1**	**+1.6**
GPS2	**Hotel Rincn d**	**1.05**	**47**	*e*P	**Pn**	**22 56 53.0**	**-1.3**
VRLE	**La Escondida,**	**1.07**	**45**	*e*P	**Pn**	**22 56 53.2**	**-1.4**
GPS1	**Guardaparques**	**1.07**	**46**	*e*P	**Pn**	**22 56 53.4**	**-1.2**
CNAS	**Canas**	**1.10**	**68**	*e*P	**Pb**	**22 56 55.1**	**-0.2**
VORI	**VORI**	**1.10**	**44**	*e*P	**Pn**	**22 56 53.7**	**-1.4**
COLC	**Colonia**	**1.11**	**55**	*e*P	**Pn**	**22 56 54.0**	**-1.1**
CUI	**Cuipilapa**	**1.14**	**56**	*e*P	**Pn**	**22 56 54.6**	**-1.0**
INVE	**Universidad In**	**1.14**	**67**	*e*P	**Pn**	**22 56 54.6**	**-0.9**
BUAI	**Buenos Aires**	**1.15**	**43**	*e*P	**Pn**	**22 56 54.7**	**-1.1**
LCRUZ	**La Cruz**	**1.16**	**25**	*e*P	**Pn**	**22 56 54.8**	**-0.9**
MESS	**Mesas**	**1.16**	**52**	*e*P	**Pn**	**22 56 54.6**	**-1.3**
JUNT	**Juntas**	**1.18**	**77**	*e*P	**Pn**	**22 56 54.8**	**-1.2**
PEJA	**Penjamo Buenos**	**1.18**	**43**	*e*P	**Pn**	**22 56 55.2**	**-0.9**
JTS	**Las Juntas de**	**1.19**	**77**	*e*P	**Pn**	**22 56 54.8**	**-1.4**
JTS	**Las Juntas de**	**1.19**	**77**	P	**Pn**	**22 56 54.8**	**-1.4**
TILA	**Tilaran**	**1.22**	**69**	*e*P	**Pn**	**22 56 55.7**	**-1.0**
TIMP	**Tierras Morena**	**1.23**	**63**	*e*P	**Pn**	**22 56 55.7**	**-1.1**
MOTZ	**Rio Naranjo**	**1.23**	**58**	*e*P	**Pn**	**22 56 55.9**	**-0.9**
VMAR	**Armenia, Volca**	**1.27**	**52**	*e*P	**Pn**	**22 56 56.7**	**-0.6**
CARN	**Rivas**	**1.30**	**27**	*e*P	**Pn**	**22 56 56.3**	**-1.4**
CARN	**Rivas**	**1.30**	**27**	P	**Pn**	**22 56 57.1**	**-0.6**
CARN				S	**Sn**	**22 57 14.1**	**-0.2**
MTEVE	**Monteverde**	**1.31**	**77**	*e*P	**Pn**	**22 56 57.1**	**-0.9**
TENO	**El Achiote**	**1.32**	**59**	*e*P	**Pn**	**22 56 56.3**	**-1.7**
QUEB	**Quebradon, Cot**	**1.35**	**64**	*e*P	**Pn**	**22 56 57.6**	**-0.9**
TABAC	**Tabacon**	**1.42**	**71**	*e*P	**Pn**	**22 56 59.2**	**-0.3**
ARE1	**Arenal 1**	**1.45**	**73**	*e*P	**Pn**	**22 56 59.7**	**-0.1**
VARE2	**V. Arenal**	**1.45**	**73**	*e*P	**Pn**	**22 56 59.6**	**-0.3**
CEDE	**Laguna Cedeo**	**1.48**	**72**	*e*P	**Pn**	**22 57 00.4**	**+0.2**
VACR	**Volcan Arenal**	**1.50**	**73**	*e*P	**Pn**	**22 57 00.1**	**-0.3**
FORC	**Fortuna**	**1.50**	**73**	*e*P	**Pn**	**22 56 59.9**	**-0.5**
SOCE	**Pocosol**	**1.53**	**76**	*e*P	**Pn**	**22 57 00.5**	**-0.4**
SOCE	**Pocosol**	**1.53**	**76**	P	**Pn**	**22 57 00.5**	**-0.4**
JAPN	**Al SSO del Vol**	**1.56**	**17**	*e*P	**Pn**	**22 57 00.7**	**-0.5**
MORN	**Al O del Volca**	**1.58**	**17**	P	**Pn**	**22 57 01.2**	**-0.4**
VPL2	**V. Platanar**	**1.74**	**81**	*e*P	**Pn**	**22 57 03.9**	**0.0**
PICV	**PH. Pirrs**	**1.95**	**102**	*e*P	**Pn**	**22 57 06.5**	**-0.2**
LCR2	**La Lucha 2**	**2.11**	**97**	*e*P	**Pn**	**22 57 08.9**	**-0.1**
LCR2	**La Lucha 2**	**2.11**	**97**	P	**Pn**	**22 57 08.8**	**-0.1**
ACON	**Acoyapa**	**2.15**	**26**	*e*P	**Pn**	**22 57 07.8**	**-1.5**
ACON	**Acoyapa**	**2.15**	**26**	P	**Pn**	**22 57 07.9**	**-1.5**
PIEC	**Cerro El Cedra**	**2.18**	**100**	*e*P	**Pn**	**22 57 10.3**	**+0.3**
BUS1	**Rivas**	**2.39**	**101**	*e*P	**Pn**	**22 57 13.1**	**-0.1**
BOAB	**BOACO BROADBAN**	**2.45**	**11**	P	**Pn**	**22 57 12.7**	**-0.8**
DRK0	**Durika**	**2.94**	**105**	P	**Pn**	**22 57 21.0**	**+0.6**
CSGN	**Cosiguina Volc**	**3.25**	**335**	P	**Pn**	**22 57 24.7**	**+0.1**

*IDC **08** 23:28:24.9±4.3, 52°58N×32°06W, h0km, mb3.7/6, mbtmp3.7/6, MS3.2/4, Error ellipse: s-maj=95.5km s-min=33.9km az=78.0*

ISC 08 23:28:26.9±4.2, 52°6N±0°2×32°1W±0°6, h13km, n9, σ0§85/6, mb4.0/5, MS3.1/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**23.18**	**113**	P	**P**	**23 33 33.5**	**+0.3**
	0.3nm,0.8s,baz=320,slow=10.0,SNR=1.9 0.3nm,0.8s						
NOA	**NORSAR Array B**	**24.72**	**53**	LR	LR	23 42 08.0	
	comp=Z,22nm,18.0s,baz=275,slow=33						
FINES	**FINESS Array B**	**31.83**	**51**	P	**P**	**23 34 49.9**	**-1.0**
	3.4nm,1.0s,baz=277,slow=9.3,SNR=7.6						
FINES				LR	LR	23 45 58.6	
	comp=Z,27nm,19.7s,baz=334,slow=33 3.4nm,1.0s						
ULM	**Lac du Bonnet**	**38.72**	**293**	LR	LR	23 50 23.4	
	comp=Z,43nm,18.4s,baz=359,slow=34						
BRTR	**Keskin Array B**	**45.73**	**79**	P	**P**	**23 36 48.4**	**+0.6**
	1.8nm,0.6s,baz=284,slow=6.6,SNR=9.0 1.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**47.67**	**133**	P	**P**	**23 37 02.5**	**-0.5**
	0.3nm,0.5s,baz=344,slow=7.8,SNR=5.6 0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**61.58**	**37**	P	**P**	**23 38 43.9**	**+0.5**
	0.6nm,0.5s,baz=335,slow=6.4,SNR=3.1 0.6nm,0.5s						
MKAR	**Makanchi Array**	**66.25**	**43**	P	**P**	**23 39 14.8**	**+0.5**
	0.8nm,0.8s,baz=331,slow=6.2,SNR=5.3 0.8nm,0.8s						
ASAJ	**Asahikawa**	**83.57**	**4**	LR	LR	00 18 32.0	
	comp=Z,30nm,18.7s,baz=80,slow=36						

UPP 08 23:28:30.4±0.0, 67°86N×20°20E, h0km, ML1.7, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**27**	P	Pg	23 28 32.4	-0.1
KUA				S	Sg	23 28 34.1	+0.2
KUA	**Kurravaara**	**0.11**	**27**	P	Pg	23 28 32.7	+0.2
KUA				S	Sg	23 28 34.3	+0.4
RATU	**Laukkuluspa**	**0.23**	**262**	P	Pg	23 28 34.5	-0.3
RATU				S	Sg	23 28 38.0	+0.1
RATU	**Laukkuluspa**	**0.23**	**262**	P	Pg	23 28 35.1	+0.3
RATU				S	Sg	23 28 38.5	+0.6
KOVU	**Salmi**	**0.37**	**358**	P	Pg	23 28 37.1	-0.3
KOVU	**Salmi**	**0.37**	**358**	P	Pg	23 28 37.7	+0.3
NIKU	**Nikkaluokta**	**0.44**	**272**	P	Pg	23 28 38.4	-0.4
NIKU	**Nikkaluokta**	**0.44**	**272**	P	Pg	23 28 38.8	-0.1
NIKU				S	Sg	23 28 44.9	+0.3
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	23 28 43.2	-0.6
LANU				S	Sg	23 28 52.9	0.0
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	23 28 43.9	0.0
LANU				S	Sg	23 28 53.1	+0.2
DUNU	**Dundret**	**0.75**	**169**	P	Pg	23 28 43.8	-1.0
DUNU				S	Sg	23 28 54.1	-0.4
DUNU	**Dundret**	**0.75**	**169**	P	Pg	23 28 44.6	-0.2
SALU	**Saltoluokta**	**0.81**	**234**	P	Pg	23 28 45.0	-0.8
KIF	**Kilpisjarvi**	**1.17**	**11**	*e*P	Pb	23 28 53.6	+0.1
PAJU	**Pajala**	**1.40**	**125**	P	Pn	23 28 55.5	-1.6
HEF	**Hetta**	**1.41**	**65**	*e*P	Pn	23 28 56.1	-1.2
ERTU	**Ertsjaerv**	**1.52**	**148**	P	Pn	23 28 57.6	-1.2
HARU	**Harads**	**1.73**	**170**	P	Pn	23 29 01.6	-0.1

*HEL **08** 23:28:36.7±0.6, 67°84N×20°29E, h0km, ML1.5, Suspected explosion*

UPP 08 23:28:35.5±0.0, 67°85N×20°09E, h0km, ML1.7, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**42**	P	Pg	23 28 38.4	+0.3
	baz=235						
KUA				S	Sg	23 28 40.2	+0.3
RATU	**Laukkuluspa**	**0.19**	**261**	P	Pg	23 28 39.4	+0.2
KOVU	**Salmi**	**0.37**	**4**	P	Pg	23 28 42.7	+0.1
KOVU	**Salmi**	**0.37**	**4**	S	Pg	23 28 42.4	-0.2
KOVU	**Salmi**	**0.37**	**4**	S	Pg	23 28 42.7	+0.1
LANU	**Lannavaara**	**0.74**	**74**	P	Pg	23 28 49.5	-0.2
LANU	**Lannavaara**	**0.74**	**74**	PG	Pg	23 28 48.0	-1.7
LANU				SG	Sg	23 28 59.2	-0.1
DUNU	**Dundret**	**0.76**	**166**	P	Pg	23 28 49.8	-0.2
KIF	**Kilpisjarvi**	**1.19**	**12**	PG	Pn	23 28 59.2	-0.1
KIF				MSG		23 29 13.8	
	comp=Z,5.9nm,0.2s						
PAJU	**Pajala**	**1.43**	**124**	PG	Pn	23 29 01.4	-1.3
PAJU				SG	Sg	23 29 19.0	-2.4
HEF	**Hetta**	**1.45**	**66**	PG	Pn	23 29 01.8	-1.1
HEF				MSG		23 29 18.4	
	comp=Z,2.5nm,0.2s						
HEF				SG	Sg	23 29 18.6	-3.3
ERTU	**Ertsjaerv**	**1.54**	**147**	PG	Pn	23 29 04.4	+0.2
ERTU				SG	Sn	23 29 20.8	-4.0
KTK1	**Kautokeino**	**1.65**	**44**	PG	Pb	23 29 06.4	-0.2
KTK1				SG	Sn	23 29 23.9	-3.5
TRO	**Tromso**	**1.84**	**347**	SG	Sg	23 29 34.9	+0.1
KALU	**Kalix**	**2.38**	**146**	PB	Pn	23 29 16.7	+1.0
KALU				SN	Sn	23 29 43.5	-2.1
TOF	**Tornio**	**2.44**	**135**	PB	Pn	23 29 17.8	+1.3
TOF				SN	Sn	23 29 44.7	-2.2
TOF				MSG		23 29 46.9	
	comp=Z,1.6nm,0.2s						
ARA0	**ARCESS Array S**	**2.60**	**47**	PB	Pb	23 29 20.9	-2.0
ARA0				SN	Sn	23 29 48.6	-2.4
RAJF	**Raja-Jooseppi**	**3.13**	**75**	PN	Pn	23 29 27.8	+1.8
RAJF				SG	Sb	23 30 11.2	+0.5
KEV	**Kevo**	**3.15**	**50**	SN	Sn	23 30 05.0	+0.4
KU6	**Riekki**	**4.27**	**111**	SG	Sg	23 30 48.2	-4.2

*CATAC **08** 23:28:45.7±0.5, 8°N±3°×8°3W±°, h1km, M4.2/12, MLv4.2/12, Error ellipse: s-maj=7.3km s-min=5.5km az=8.5, confirmed*

*UCR **08** 23:28:46.0±0.9, 8°30N×82°97W, h2km±3km, MW4.4*

ISC 08 23:28:46.6±1.2, 8°30N±0°06×82°96W±0°03, h13km, n75, σ1§18/77, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPPC	**Paso Canoas**	**0.26**	**28**	*e*P	**Pg**	**23 28 52.5**	**+0.4**
LPPC				*e*S	**Sb**	**23 28 57.4**	**-0.2**
CDITO	**Canoas**	**0.29**	**18**	P	**Pg**	**23 28 52.5**	**-0.1**
CDITO	**Canoas**	**0.29**	**18**	S	**Pb**	**23 28 58.4**	**+0.1**
NELY	**Ciudad Neily**	**0.35**	**3**	*e*P	**Pg**	**23 28 53.9**	**+0.2**
FITO	**Golfito**	**0.38**	**330**	*e*P	**Pg**	**23 28 53.4**	**-0.7**
FITO				*e*S	**Sg**	**23 28 58.8**	**-0.5**
PIRO	**Carate, Puerto**	**0.39**	**286**	*e*P	**Pg**	**23 28 54.0**	**0.0**
PIRO	**Carate, Puerto**	**0.39**	**286**	P	**Pg**	**23 28 54.3**	**0.0**
EDAD	**Golfito**	**0.41**	**330**	*e*P	**Pg**	**23 28 54.0**	**-0.8**
JIME	**Puerto Jimenez**	**0.43**	**303**	*e*P	**Pb**	**23 28 56.0**	**0.0**
VITO	**San Vito**	**0.52**	**359**	*e*P	**Pg**	**23 28 57.1**	**+0.3**
RSRNO	**Rio Sereno**	**0.52**	**11**	*e*P	**Pg**	**23 28 57.5**	**+0.6**
BRU2	**Volcan**	**0.56**	**29**	*e*P	**Pg**	**23 28 58.0**	**+0.4**
BRU2	**Volcan**	**0.56**	**29**	P	**Pg**	**23 28 57.9**	**+0.3**
TBS2		**0.58**	**32**	*e*P	**Pb**	**23 28 59.4**	**+0.7**
BANCO	**falda S V. Bar**	**0.60**	**46**	*e*P	**Pb**	**23 28 58.7**	**-0.3**
CGUAY	**Guayabal, Coch**	**0.62**	**75**	*e*P	**Pb**	**23 28 59.0**	**-0.4**
ALCO	**Alturas Coton,**	**0.66**	**11**	*e*P	**P

VHO				*e*S		Sn	23 52 22.2	-0.8
TOIG	**Toxpalan**	**1.84**	**277**	*e*P		Pn	23 52 02.8	-0.7
TOIG				*e*S		Sn	23 53 23.2	-2.6
JAUV	**Jalcomulco**	**2.16**	**313**	*e*P		Pn	23 52 05.8	-2.1
JAUV				*e*S		Sn	23 52 30.1	-3.4
TPIG	**Tehuac#an**	**2.18**	**285**	*e*P		Pn	23 52 07.4	-0.8
TPIG				*e*S		Sn	23 52 30.1	-4.1
LVIG	**Laguna Verde**	**2.19**	**327**	*e*P		Pn	23 52 05.3	-2.9
LVIG				*e*S		Sn	23 52 29.4	-4.8
TGIG		**2.22**	**119**	*e*P		Pn	23 52 07.6	-1.1
TGIG				*e*S		Sn	23 52 31.5	-3.6
HUIG	**Huatulco**	**2.30**	**204**	*e*P		Pn	23 52 08.1	-1.6
HUIG				*e*S		Sn	23 52 33.5	-3.4
YOIG	**Yosondua**	**2.51**	**246**	*e*P		Pn	23 52 13.2	+0.4
YOIG				*e*S		Sn	23 52 42.0	-0.5
HLIG	**Huajuapan de L**	**2.54**	**269**	*e*P		Pn	23 52 13.2	+0.1
HLIG				*e*S		Sn	23 52 42.5	-0.5
TXIG	**Tlaxiaco**	**2.58**	**256**	*e*P		Pn	23 52 14.1	+0.3
TXIG				*e*S		Sn	23 52 43.9	-0.3
PEIG	**Puerto Escondi**	**2.68**	**226**	*e*P		Pn	23 52 13.3	-1.7
PEIG				*e*S		Sn	23 52 43.8	-2.5
PCIG		**2.84**	**139**	*e*P		Pn	23 52 16.2	-0.9
PCIG				*e*S		Sn	23 52 45.5	-4.8
FTIG	**Fresnillo de T**	**2.85**	**271**	*e*P		Pn	23 52 17.6	+0.3
FTIG				*e*S		Sn	23 52 47.7	-2.8
PNIG	**Pinotepa**	**3.22**	**243**	*e*P		Pn	23 52 20.0	-2.3
PNIG				*e*S		Sn	23 52 51.3	-8.1
CXUV	**Coxquihui**	**3.25**	**315**	*e*P		Pn	23 52 21.6	-1.1
CXUV				*e*S		Sn	23 52 56.7	-3.5
TLIG	**Tlapa**	**3.28**	**265**	*e*P		Pn	23 52 23.2	-0.1
TLIG				*e*S		Sn	23 52 54.8	-6.3
CCIG	**Comitan**	**3.29**	**119**	*e*P		Pn	23 52 21.7	-1.7
CCIG				*e*S		Sn	23 52 53.1	-8.3
MGIG	**Malinaltepec**	**3.39**	**260**	*e*P		Pn	23 52 24.6	-0.2
MGIG				*i* S		Sn	23 53 02.9	-1.1
PAVE	**Pavencul**	**3.91**	**133**	*e*P		Pn	23 52 32.0	+0.1
PAVE				*e*S		Sn	23 53 11.7	-5.0
SCIG	**Sabancuy**	**3.91**	**73**	*e*P		Pn	23 52 27.8	-3.9
SCIG				*e*S		Sn	23 53 08.9	-7.5
PATR	**El Naranjo**	**3.92**	**134**	*e*P		Pn	23 52 31.8	-0.3
PATR				*e*S		Sn	23 53 14.5	-2.5
CRIG	**Cruz Grande**	**3.98**	**254**	*e*P		Pn	23 52 30.1	-2.6
CRIG				*e*S		Sn	23 53 12.3	-5.8
CHUJ	**Union Juarez**	**4.02**	**133**	*e*P		Pn	23 52 32.5	-1.1
CHUJ				*e*S		Sn	23 53 13.0	-6.5

NEIC ***08*** *23:56:35.8±1.8, 37.34N±0.05×71.98E±0.08, h193km±10km, mb4.3/17, Error ellipse: s-maj=9.1km s-min=7.9km az=83.0*

IDC ***08*** *23:56:36.4±2.5, 37.26N×71.98E, h212km±23km, mb3.4/14, mbtmp4.0/19, MS2.6/1, Error ellipse: s-maj=20.0km s-min=13.4km az=169.0*

ISC 08 23:56:35.4±0.5, 37.32N±0.05×72.01E±0.05, h200km, n77, σ1ᵍ75/85, mb4.0/22, 2C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.15**	**322**		**Pn**	**23 57 15.7**	**+0.1**
GAR				Sn	**Sn**	**23 57 44.2**	**-2.7**
CHGR	**Chuyangaron**	**2.62**	**302**		**Pn**	**23 57 20.3**	**-0.4**
CHGR				Sn	**Sn**	**23 57 52.8**	**-3.3**
SIMJ	**Simiganj**	**2.72**	**300**		**Pn**	**23 57 21.5**	**-0.4**
SIMJ				Sn	**Sn**	**23 57 55.2**	**-3.1**
KBL	**Kabul**	**3.67**	**222**		**Pn**	**23 57 33.4**	**0.0**
KBL				Sn	**Sn**	**23 58 16.0**	**-2.7**
NIL	**Nilore**	**3.80**	**164**		**Pn**	**23 57 35.4**	**+0.7**
NIL				Sn	**Sn**	**23 58 21.5**	**+0.3**
KSH	**Kashi**	**3.81**	**54**	Pn	**Pn**	**23 57 31.2**	**-3.7**
KSH				Sn	Sn	23 58 11.7	-10
KSH				smax	smax		
	comp=N,240nm,0.7s						
KSH				smax	smax		
	comp=E,120nm,0.4s						
SRNI	**Srinagar**	**3.96**	**143**	*e*P	Pn	23 57 31.4	-5.2
SRNI				*e*S	Sn	23 58 15.8	-8.9
SRNI				IAML		23 58 26.0	
	comp=N,703nm,0.2s						
SRNI				IAML		23 58 26.1	
	comp=E,563nm,0.0s						
ARSB	**Arslanbob**	**4.07**	**10**		**Pn**	**23 57 38.0**	**-0.1**
ARSB				Sn	**Sn**	**23 58 26.7**	**-0.8**
NRN	**Naryn**	**5.14**	**36**		**Pn**	**23 57 51.2**	**-0.7**
JMU	**Jammu**	**5.17**	**152**	*e*P	Pn	23 57 45.5	-6.4
JMU				*e*S	Sn	23 58 40.8	-11
EKS2	**Erkin-Say**	**5.51**	**14**	P	**Pn**	**23 57 57.2**	**+0.9**
	SNR=82						
AAK	**Ala-Archa**	**5.64**	**19**	P	**Pn**	**23 57 59.3**	**+1.2**
	SNR=58						
AAK	**Ala-Archa**	**5.64**	**19**		**Pn**	**23 57 59.1**	**+1.0**
AAK	**Ala-Archa**	**5.64**	**19**	⇓P	**Pn**	**23 57 58.9**	**+0.7**
	comp=E,17nm,0.4s						
AAK				⇓S	**Sn**	**23 59 03.2**	**-0.4**
	comp=E,28nm,0.8s						
AAK	**Ala-Archa**	**5.64**	**19**	P	**Pn**	**23 57 59.3**	**+1.2**
	comp=E,78nm,0.3s,baz=196,slow=7.2,SNR=239						
AAK				S	**Sn**	**23 58 57.9**	**-5.7**
	comp=E,20nm,0.3s,baz=207,slow=10.0,SNR=4.6						
KBK	**Karagaybulak**	**5.79**	**22**	P	**Pn**	**23 58 01.4**	**+1.4**
	SNR=22						
FRU1	**Bishkek**	**5.84**	**19**		**Pn**	**23 58 02.0**	**+1.4**
KK31	**Karatay Array**	**5.89**	**349**		**Pn**	**23 58 01.4**	**+0.3**
KK31				Sn	**Sn**	**23 59 05.0**	**-4.1**
KK31	**Karatay Array**	**5.89**	**349**	⇑P	**Pn**	**23 58 01.2**	**+0.1**
	comp=E,11nm,0.3s,baz=156,slow=11,SNR=181						
KK31				⇑S	**Sn**	**23 59 05.4**	**-3.7**
	comp=E,53nm,0.5s,baz=184,slow=29,SNR=6.1						
KKAR	**Karatay Array**	**5.89**	**349**		**Pn**	**23 58 01.4**	**+0.3**
KKAR				Sn	**Sn**	**23 59 05.1**	**-4.0**
ULHL	**Ulahol**	**5.90**	**32**	P	**Pn**	**23 58 02.0**	**+0.5**
	SNR=9.1						
BOOM	**Boomskoye usch**	**5.98**	**29**	Pn	Pn	23 57 53.2	-9.4
CHMS	**Chumysh**	**6.05**	**19**	P	**Pn**	**23 58 04.0**	**+0.7**
	SNR=54						
TKM2	**Tokmak 2**	**6.24**	**25**	P	**Pn**	**23 58 06.7**	**+0.9**
	SNR=52						
USP	**Ospenovka**	**6.24**	**17**	P	**Pn**	**23 58 05.7**	**0.0**
	SNR=43						
KDJ	**Kajisay**	**6.24**	**38**		**Pn**	**23 58 06.4**	**+0.5**
BHK	**Bhakra**	**6.92**	**147**	*e*P	**Pn**	**23 58 12.9**	**-1.7**
BHK				*e*S	**Sn**	**23 59 28.2**	**-5.2**
BHK				IAML		23 59 32.0	
	comp=E,101nm,0.4s						
BHK				IAML		23 59 34.4	
	comp=N,85nm,0.3s						
KLP	**Kalpa**	**7.74**	**136**	*e*P	Pn	23 58 19.9	-5.6
KLP				*e*S	Sn	23 59 40.1	-13
KLP				IAML		23 59 51.5	
	comp=N,82nm,0.9s						
KLP				IAML		23 59 53.5	
	comp=E,126nm,0.4s						
MAKZ	**Makanchi**	**12.02**	**35**	Pn	**Pn**	**23 59 20.0**	**-0.4**
MK31	**Makanchi Array**	**12.16**	**36**	Pn	**Pn**	**23 59 22.9**	**+0.8**
MKAR	**Makanchi Array**	**12.16**	**36**	Pn	**Pn**	**23 59 22.0**	**-0.1**
MKAR	**Makanchi Array**	**12.16**	**36**	P	**Pn**	**23 59 22.2**	**+0.1**
	comp=E,1.3nm,0.7s,baz=222,slow=11,SNR=12						
WMQ	**Urumqi**	**13.57**	**57**	*e*P	**P**	**23 59 42.1**	**-0.3**
KURBB	**Kurchatov Arra**	**14.10**	**17**	P	**P**	**23 59 48.6**	**+0.6**
	comp=E,0.6nm,0.3s,baz=204,slow=11,SNR=4.2						
KURK	**Kurchatov**	**14.20**	**17**	P	**P**	**23 59 49.7**	**+0.5**
AB31	**Akbulak array**	**14.79**	**328**		**P**	**23 59 55.5**	**-0.3**
ABKAR	**Akbulak array**	**14.79**	**328**		**P**	**23 59 56.4**	**+0.6**
BVAR	**Borovoye Array**	**15.75**	**356**	P	**Pn**	**00 00 07.0**	**+0.6**
	comp=E,1.8nm,0.4s,baz=158,slow=10,SNR=23						
AKTO	**Aktyubinsk**	**16.50**	**327**	P	**Pn**	**00 00 16.2**	**+0.6**
	comp=E,2.9nm,0.3s,baz=127,slow=6.5,SNR=10						
AKTO				S	**S**	**00 03 12.8**	**-4.2**
	comp=E,1.2nm,0.4s,baz=193,slow=15,SNR=1.9						
WSAR	**Wadi Sarin**	**18.15**	**223**	P	**P**	**00 00 33.3**	**+0.4**
	baz=307,slow=20,SNR=4.5						
UOSS	**Minazif**	**18.28**	**232**	P	**Pn**	**00 00 36.0**	**-0.7**
ZAA0	**Zalesovo Array**	**18.84**	**24**	P	**P**	**00 00 40.9**	**+0.9**
ZAA0				IAmb	IAmb	00 00 41.5	
	comp=Z,7.1nm,0.8s						
ZALV	**Zalesovo Beam**	**18.84**	**24**		**P**	**00 00 40.9**	**+0.9**
ZALV	**Zalesovo Beam**	**18.84**	**24**	P	**P**	**00 00 40.8**	**+0.8**
	comp=Z,8.4nm,0.4s,baz=206,slow=9.8,SNR=46						
ARTI	**Arti**	**21.16**	**339**	P	**P**	**00 01 03.7**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=187,slow=2.3,SNR=2.9						
	comp=Z,1.0nm,0.3s						
LZH	**Lanzhou**	**25.49**	**83**	*e*P	**P**	**00 01 47.2**	**+1.7**
LZH				pP	pP	00 02 20.2	-6.4
LZH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
RAYN	**Ar Rayn**	**26.57**	**246**	P	**P**	**00 01 59.1**	**+4.1**
SONM	**Songino Array**	**27.21**	**56**	P	**P**	**00 02 02.2**	**+1.6**
SONM	**Songino Array**	**27.21**	**56**	P	**P**	**00 02 01.4**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=257,slow=9.6,SNR=8.7						
	comp=Z,1.8nm,0.7s						
PZH	**PanZhiHua**	**27.34**	**105**	P	**P**	**00 02 02.9**	**+0.9**
PZH	**PanZhiHua**	**27.34**	**105**	P	**P**	**00 02 04.1**	**+2.1**
AKASG	**Malin Array Be**	**33.08**	**308**	P	**P**	**00 02 52.6**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=106,slow=10,SNR=1.6						
	comp=Z,0.3nm,0.4s						
MLR	**Muntele Rosu**	**35.10**	**298**	LR	LR	00 19 51.2	
	comp=Z,9.7nm,21.2s,baz=64,slow=40						
FINES	**FINESS Array B**	**37.27**	**325**	P	**P**	**00 03 27.9**	**+0.3**
	comp=Z,3.9nm,1.1s,baz=126,slow=9.7,SNR=6.4						
	comp=Z,3.9nm,1.1s						
MORC	**Moravsky Berou**	**40.54**	**306**	P	**P**	**00 03 59.0**	**+4.1**
MORC				IAmb	IAmb	00 04 02.0	
	comp=Z,5.5nm,0.5s						
ARCES	**ARCESS Array B**	**40.70**	**337**	P	**P**	**00 03 56.7**	**+0.7**
ARCES	**ARCESS Array B**	**40.70**	**337**	P	**P**	**00 03 56.7**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=112,slow=8.3,SNR=20						
	comp=Z,1.3nm,0.4s						
IPM	**Ipoh**	**42.11**	**134**	P	**P**	**00 04 07.0**	**-1.0**
GSI	**Gunungsitoli**	**42.89**	**141**	P	**P**	**00 04 15.1**	**+0.8**
HFS	**Hagfors**	**42.93**	**321**	P	**P**	**00 04 14.2**	**+0.2**
	comp=Z,3.2nm,0.5s,baz=98,slow=11,SNR=19						
	comp=Z,3.2nm,0.5s						
KSRS	**Korea Array**	**43.85**	**72**	P	**P**	**00 04 22.3**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=276,slow=6.4,SNR=4.7						
	comp=Z,1.2nm,0.8s						
NC405	**NORSAR Array S**	**43.98**	**323**	P	**P**	**00 04 22.4**	**-0.1**
NC405				IAmb	IAmb	00 04 57.2	
	comp=Z,15nm,1.3s						
NC602	**NORSAR Array S**	**44.04**	**322**	P	**P**	**00 04 22.1**	**-0.8**
NC602				IAmb	IAmb	00 05 01.6	
	comp=Z,10nm,1.3s						
NC303	**NORSAR Array S**	**44.16**	**323**	P	**P**	**00 04 24.3**	**+0.4**
NC303				IAmb	IAmb	00 04 32.0	
	comp=Z,16nm,1.4s						
NB201	**NORSAR Array S**	**44.18**	**322**	P	**P**	**00 04 23.9**	**-0.2**
NB201				IAmb	IAmb	00 04 38.2	
	comp=Z,14nm,1.2s						
NB2	**NORSAR Subarra**	**44.22**	**322**	P	**P**	**00 04 24.3**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.22**	**322**	P	**P**	**00 04 24.2**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=94,slow=7.7,SNR=6.0						
	comp=Z,0.8nm,0.6s						
NBO00	**NORSAR Array S**	**44.43**	**322**	P	**P**	**00 04 25.9**	**-0.2**
NBO00				IAmb	IAmb	00 04 28.2	
	comp=Z,15nm,1.4s						
NC204	**NORSAR Array S**	**44.45**	**323**	P	**P**	**00 04 26.3**	**0.0**
NC204				IAmb	IAmb	00 04 43.0	
	comp=Z,16nm,1.4s						
KONO	**Kongsberg**	**44.97**	**320**	P	**P**	**00 04 29.7**	**-0.6**
KONO				IAmb	IAmb	00 04 31.9	
	comp=Z,25nm,1.4s						
SPITS	**Spitsbergen Ar**	**46.88**	**347**	P	**P**	**00 04 46.4**	**+1.4**
	comp=Z,6.7nm,0.9s,baz=100,slow=7.9,SNR=4.2						
	comp=Z,6.7nm,0.9s						
SENIN	**Lac Senin/Sane**	**47.83**	**302**	P	**P**	**00 04 52.4**	**-0.6**
EKA	**Eskdalemuir Ar**	**52.27**	**316**	P	**P**	**00 05 25.8**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=70,slow=8.4,SNR=1.3						
	comp=Z,1.0nm,0.9s						
ESDC	**Sonseca Array**	**57.79**	**298**	P	**P**	**00 06 06.0**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=67,slow=6.8,SNR=2.6						
	comp=Z,0.3nm,0.7s						
PETK	**Petropavlovsk-**	**58.82**	**45**	P	**P**	**00 06 12.8**	**+0.2**
	comp=Z,2.6nm,0.9s,baz=308,slow=7.1,SNR=1.9						
	comp=Z,2.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**66.54**	**269**	P	**P**	**00 07 02.4**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=48,slow=6.2,SNR=6.4						
	comp=Z,0.2nm,0.5s						
ILAR	**Eielson Array**	**73.77**	**16**	P	**P**	**00 07 45.9**	**-1.3**
	comp=Z,0.8nm,0.9s,baz=314,slow=5.4,SNR=9.0						
	comp=Z,0.8nm,0.9s						

PRU 09 00:03:20.6, 50.19N×19.27E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.34**	**85**	*e*Pg	Pg	00 03 26.5	-0.6
OJC				*e*Sg	Sg	00 03 31.0	-0.6
STEB	**Steborice**	**1.00**	**256**	*e*PG	Pg	00 03 39.2	-0.5
STEB				*e*SG	Sg	00 03 53.2	+0.6
	8.2nm,0.5s						
NIE	**Niedzica**	**1.02**	**139**	*e*Pg	Pb	00 03 40.7	-0.4
NIE				*e*Sg	Sb	00 03 55.4	+0.3
MORC	**Moravsky Berou**	**1.19**	**250**	*e*PG	Pg	00 03 42.9	-0.5
KRLC	**Kraliky**	**1.60**	**267**	*e*PG	Pn	00 03 49.0	-1.3
KRLC				*e*SG	Sn	00 04 11.0	-0.7
	4.0nm,0.3s						
DPC	**Dobruska-Polom**	**1.90**	**276**	*e*PG	Pn	00 03 54.4	+0.1
DPC				*e*SG	Sb	00 04 20.8	+0.4
	2.3nm,0.3s						
VRAC	**Vranov**	**1.95**	**244**	*e*PN	Pn	00 03 55.2	+0.3
VRAC				*e*SG	Sn	00 04 20.8	+0.7
OSTC	**Ostas**	**1.99**	**282**	*e*PG	Pb	00 03 57.2	-0.5
OSTC				*e*SG	Sb	00 04 22.8	-0.2
KHC	**Kasperske Hory**	**3.85**	**256**	*e*SG	Sg	00 05 22.9	-1.2

MOS ***09*** *00:20:49.1±1.0, 52.17N×160.54E, h19km, mb3.7/1, Error ellipse: s-maj=12.1km s-min=4.9km az=116.2*

KRSC ***09*** *00:20:51.5±1.6, 52.38N×160.39E, h16km±21km, Ml4.1*

IDC ***09*** *00:20:51.2±5.3, 52.06N×159.86E, h22km±26km, mb3.7/12, mbtmp3.9/12, MS2.9/1, Error ellipse: s-maj=50.9km s-min=23.2km az=9.0*

ISC 09 00:20:51.7±1.1, 52.42N±0.04×160.37E±0.04, h19km±3km, n70, σ1ᵍ31/106, mb4.0/12, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.71**	**343**	PN	**Pn**	**00 21 06.8**	**+0.1**
SPN				*S*	**Sn**	**00 21 17.7**	**+0.5**
SPN	**Mys Shipunski**	**0.71**	**343**	*e*P	**Pn**	**00 21 06.9**	**+0.1**
SPN				*e*S	**Sn**	**00 21 17.7**	**+0.5**
NLC	**Nalytchevo**	**0.98**	**321**	PN	**Pg**	**00 21 10.7**	**0.0**
NLC				S	**Sg**	**00 21 24.5**	**+0.8**
NLC	**Nalytchevo**	**0.98**	**321**	*e*P	**Pg**	**00 21 10.8**	**0.0**
NLC				*e*S	**Sg**	**00 21 24.6**	**+0.8**
RUS	**Russkaya**	**1.14**	**272**	PN	**Pb**	**00 21 12.0**	**-0.7**
RUS				S	**Sb**	**00 21 26.3**	**-0.7**
RUS	**Russkaya**	**1.14**	**272**	*e*P	**Pb**	**00 21 12.1**	**-0.7**
RUS				*e*S	**Sb**	**00 21 26.3**	**-0.7**
DALK	**Dalny**	**1.16**	**303**	PN	**Pb**	**00 21 13.0**	**-0.1**
DALK				S	**Sb**	**00 21 28.0**	**+0.3**
DALK	**Dalny**	**1.16**	**303**	*e*P	**Pb**	**00 21 13.0**	**-0.1**
DALK				*e*S	**Sb**	**00 21 28.0**	**+0.3**
PET	**Petropavlovsk**	**1.21**	**301**	PN	**Pb**	**00 21 13.5**	**-0.4**
PET				S	**Sb**	**00 21 29.3**	**+0.2**
PET	**Petropavlovsk**	**1.21**	**301**	*e*P	**Pb**	**00 21 13.6**	**-0.4**
PET				*e*S	**Sb**	**00 21 29.4**	**+0.2**
UGLR	**Uglovaya**	**1.23**	**311**	PN	**Pg**	**00 21 14.8**	**-0.7**
UGLR				S	**Sg**	**00 21 31.8**	**+0.2**
UGLR	**Uglovaya**	**1.23**	**311**	*e*P	**Pg**	**00 21 14.9**	**-0.7**
UGLR				*e*S	**Sg**	**00 21 31.8**	**+0.2**
SDLR	**Sedlovina**	**1.25**	**314**	PN	**Pb**	**00 21 14.9**	**+0.2**
SDLR				S	**Sg**	**00 21 32.0**	**-0.2**
SDLR	**Sedlovina**	**1.25**	**314**	*e*P	**Pb**	**00 21 15.0**	**+0.2**
SDLR				*e*S	**Sg**	**00 21 32.0**	**-0.2**
INSR	**Institute**	**1.25**	**302**	PN	**Pb**	**00 21 14.4**	**-0.3**
INSR				S	**Sn**	**00 21 30.3**	**-0.2**
INSR	**Institute**	**1.25**	**302**	*e*P	**Pb**	**00 21 14.4**	**-0.3**
INSR				*e*S	**Sn**	**00 21 30.4**	**-0.2**
SMAR	**Somma**	**1.27**	**312**	PN	**Pb**	**00 21 15.5**	**+0.3**
SMAR	**Somma**	**1.27**	**312**	*e*P	**Pb**	**00 21 15.6**	**+0.3**
AVH	**Avacha**	**1.30**	**311**	PN	**Pg**	**00 21 16.1**	**-0.8**
AVH				S	**Sg**	**00 21 33.9**	**-0.1**
AVH	**Avacha**	**1.30**	**311**	*e*P	**Pg**	**00 21 16.1**	**-0.8**
AVH				*e*S	**Sg**	**00 21 34.0**	**-0.1**
KRER	**Koryakskii**	**1.32**	**313**	PN	**Pg**	**00 21 16.5**	**-0.9**
KRER				S	**Sg**	**00 21 34.6**	**-0.1**
KRER	**Koryakskii**	**1.32**	**313**	*e*P	**Pg**	**00 21 16.5**	**-0.9**
KRER				*e*S	**Sg**	**00 21 34.6**	**-0.1**
MTVR	**Mutnovka**	**1.34**	**274**	PN	**Pb**	**00 21 15.5**	**-0.8**
MTVR				S	**Sb**	**00 21 32.7**	**-0.3**
MTVR	**Mutnovka**	**1.34**	**274**	*e*P	**Pb**	**00 21 15.5**	**-0.8**
MTVR				*e*S	**Sb**	**00 21 32.8**	**-0.3**
KOK	**Koryaka**	**1.37**	**311**	PN	**Pb**	**00 21 16.9**	**+0.2**
KOK	**Koryaka**	**1.37**	**311**	*e*P	**Pb**	**00 21 17.0**	**+0.2**
KRX	**Arik**	**1.41**	**313**	PN	**Pb**	**00 21 17.3**	**-0.1**
KRX	**Arik**	**1.41**	**313**	*e*P	**Pb**	**00 21 17.4**	**-0.1**
GRL	**Gorelyy**	**1.41**	**276**	PN	**Pb**	**00 21 17.0**	**-0.4**
GRL				S	**Sb**	**00 21 35.2**	**+0.1**
GRL	**Gorelyy**	**1.41**	**276**	*e*P	**Pb**	**00 21 17.1**	**-0.4**
GRL				*e*S	**Sb**	**00 21 35.2**	**+0.1**
KRMR	**Karymshinskiy**	**1.43**	**288**	PN	**Pb**	**00 21 16.9**	**-0.8**
KRMR				S	**Sn**	**00 21 35.0**	**+0.3**
KRMR	**Karymshinskiy**	**1.43**	**288**	*e*P	**Pb**	**00 21 16.9**	**-0.8**
KRMR				*e*S	**Sn**	**00 21 35.0**	**+0.3**
ASAK	**Asacha**	**1.51**	**270**	PN	**Pb**	**00 21 18.4**	**-0.8**
ASAK				S	**Sb**	**00 21 37.9**	**-0.1**
ASAK	**Asacha**	**1.51**	**270**	*e*P	**Pb**	**00 21 18.5**	**-0.8**
ASAK				*e*S	**Sb**	**00 21 38.0**	**-0.1**
KII	**Karymskiy**	**1.71**	**342**	PN	**Pb**	**00 21 23.1**	**+0.5**
KII	**Karymskiy**	**1.71**	**342**	*e*P	**Pb**	**00 21 23.2**	**+0.5**
PEA0B	**Petropavlovsk-**	**1.76**	**294**	PN	**Pb**	**00 21 22.2**	**-1.2**
PEA0B				S	**Sn**	**00 21 44.2**	**+1.1**
PETK	**Petropavlovsk-**	**1.76**	**294**	Pg	**Pn**	**00 21 21.5**	**+0.2**
	33nm,0.3s,baz=106,slow=18,SNR=135						
PETK				Lg	Lg	00 21 46.2	
	36nm,0.3s,baz=115,slow=28,SNR=13						
GNL	**Ganaly**	**1.95**	**312**	PN	**Pb**	**00 21 25.8**	**-0.8**
GNL				S	**Sb**	**00 21 49.6**	**-0.9**
GNL	**Ganaly**	**1.95**	**312**	*e*P	**Pb**	**00 21 25.8**	**-0.8**
GNL				*e*S	**Sb**	**00 21 49.7**	**-0.9**
APC	**Apacha**	**2.02**	**286**	PN	**Pg**	**00 21 28.8**	**-1.7**
APC				S	**Sg**	**00 21 55.2**	**-1.5**
APC	**Apacha**	**2.02**	**286**	*e*P	**Pg**	**00 21 28.9**	**-1.7**
APC				*e*S	**Sg**	**00 21 55.2**	**-1.5**
MIPR	**Malaya Ipel'ka**	**2.22**	**268**	PN	**Pb**	**00 21 29.7**	**-1.4**
MIPR				S	**Sb**	**00 21 59.2**	**+1.0**
MIPR	**Malaya Ipel'ka**	**2.22**	**268**	*e*P	**Pb**	**00 21 29.8**	**-1.4**
MIPR				*e*S	**Sb**	**00 21 59.3**	**+1.0**
MKZ	**Mys Kozlova**	**2.29**	**20**	PN	**Pb**	**00 21 30.3**	**-2.1**
MKZ	**Mys Kozlova**	**2.29**	**20**	*e*P	**Pb**	**00 21 30.3**	**-2.1**
TUMD	**Tumrok D**	**2.79**	**0**	PN	**Pb**	**00 21 38.1**	**-2.9**
TUMD				S	**Sb**	**00 22 12.1**	**-2.6**
TUMD	**Tumrok D**	**2.79**	**0**	*e*P	**Pb**	**00 21 38.2**	**-2.9**
TUMD				*e*S	**Sb**	**00 22 12.2**	**-2.6**
KMNR	**Kamenistaya**	**3.35**	**359**	PN	**Pb**	**00 21 47.9**	**-2.6**
KMNR	**Kamenistaya**	**3.35**	**359**	*e*P	**Pb**	**00 21 47.9**	**-2.6**
ESO	**Esso**	**3.65**	**345**	PN	**Pn**	**00 21 50.1**	**+3.0**
ESO	**Esso**	**3.65**	**345**	*e*P	**Pn**	**00 21 50.2**	**+3.0**
KBTR	**Krutoberegovo**	**4.06**	**20**	PN	**Pn**	**00 21 56.1**	**+3.4**
KBTR	**Krutoberegovo**	**4.06**	**20**	*e*P	**Pn**	**00 21 56.2**	**+3.4**
MA2	**Magadan**	**8.96**	**327**	LR	LR	00 27 03.0	
	comp=Z,66nm,18.4s,baz=133,slow=41						
ILAR	**Eielson Array**	**29.18**	**44**	P	**P**	**00 26 53.7**	**+2.3**
	0.2nm,0.5s,baz=267,slow=10.0,SNR=1.5						
	0.2nm,0.5s						
SPITS	**Spitsbergen Ar**	**47.83**	**351**	P	**P**	**00 29 28.0**	**+0.6**
	2.0nm,0.5s,baz=27,slow=8.1,SNR=5.4						
	2.0nm,0.5s						
KURK	**Kurchatov**	**48.24**	**302**	P	**P**	**00 29 29.5**	**-1.3**
KURBB	**Kurchatov Arra**	**48.34**	**302**	P	**P**	**00 29 29.5**	**-2.1**
	0.5nm,0.4s,baz=59,slow=7.5,SNR=6.8						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**48.60**	**296**	P	**P**	**00 29 32.2**	**-1.5**
	0.2nm,0.5s,baz=52,slow=7.9,SNR=1.8						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**50.94**	**309**	P	**P**	**00 29 49.5**	**-1.9**
	0.7nm,0.4s,baz=66,slow=7.1,S

cutoff=50s. Triangular moment-rate function
*NEIC **09** 00:38:46.3±2.4,6°.47S±0°.04×30°.74E±0°.07,h25km±1km, mb5.5/170,Ms_20 5.3/630,Mwb5.5/37,Mww5.4/22 Error ellipse: s-maj=12.7km s-min=5.6km az=288.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$-1.82; $M_{\phi\phi}$ 1.81; $M_{r\theta}$0.52; $M_{\theta\phi}$-1.17; $M_{r\phi}$-0.11; Fault plane solution: M_o2.23000×10^{17} NP1: ϕ_s298.94000°,δ86.51000°,λ-166.83000°. NP2: ϕ_s208.12000°,δ76.85000°,λ-3.58000°. Principal axes: T 2.1884, Plg7.0000°, Azm73.0000°; N 0.0720, Plg76.0000°, Azm314.0000°; P -2.2604, Plg12.0000°, Azm164.0000°;*
*NEIC **09** 00:38:46.5,6°.47S×30°.76E,h26km*
*BGR **09** 00:39:01.5,5°.25S×29°.49E,h33km,mb5.5,Ms4.7*
ISC 09 00:38:44.7±0.5,6°.51S±0°.03×30°.77E±0°.04,h20km±2km, h20km:pP-P,n1119,σ1ᵍ93/850,mb5.3/258,MS5.3/413, 47C-56D,Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**5.86**	**360**				**Pn**	**00 40 09.6**	**-1.1**
MBAR	**Mbarara**	**5.86**	**360**	*d*	*iP*		**Pn**	**00 40 09.2**	**-1.5**
MBAR					pmax		pmax		
	comp=Z,311nm,1.0s								
I32KE	**NAIROBI INFRAS**	**7.99**	**49**		Pn		**Pn**	**00 40 40.0**	**+0.1**
	baz=213,slow=29								
I32KE					Sn		**Sn**	**00 42 02.5**	**-7.3**
	baz=235,slow=20								
I32KE					Lg	Lg		00 42 46.9	
	baz=242,slow=28								
I32KE					I	I		01 20 10.0	
	baz=237,slow=316,SNR=1.2								
KIBK	**Kibwezi**	**8.35**	**61**				**Pn**	**00 40 43.1**	**-1.7**
KIBK					Sn		**Sn**	**00 42 11.4**	**-7.2**
KIBK	**Kibwezi**	**8.35**	**61**		P		**Pn**	**00 40 42.3**	**-2.5**
	SNR=89								
KIBK					S		**Sn**	**00 42 14.7**	**-3.9**
KMBO	**Kilima Mbogo**	**8.39**	**51**	*d*	*iP*		**Pn**	**00 40 44.3**	**-1.1**
	comp=Z,13nm,0.3s,baz=225,slow=14,SNR=279								
KMBO					Sn		**Sn**	**00 42 11.2**	**-8.6**
	comp=Z,79nm,0.3s,baz=228,slow=12,SNR=5.5								
KMBO					Lg	Lg		00 43 03.6	
	comp=Z,844nm,0.3s,baz=299,slow=18,SNR=11								
	comp=Z,300nm,0.9s								
KMBO	**Kilima Mbogo**	**8.39**	**51**	*d*	*iP*		**Pn**	**00 40 43.9**	**-1.5**
LSZ	**Lusaka**	**9.08**	**196**				**Pn**	**00 40 54.5**	**-0.3**
LSZ					Sn		**Sn**	**00 42 32.5**	**-4.1**
LSZ	**Lusaka**	**9.08**	**196**		Pn		**Pn**	**00 40 54.7**	**-0.1**
	comp=Z,53nm,0.6s,baz=34,slow=12,SNR=92								
LSZ					Sn		**Sn**	**00 42 30.2**	**-6.4**
	comp=Z,97nm,0.3s,baz=115,slow=10.0,SNR=5.5								
LSZ					Lg	Lg		00 43 25.9	
	comp=Z,155nm,0.3s,baz=87,slow=20,SNR=12								
LSZ	**Lusaka**	**9.08**	**196**		P		**Pn**	**00 40 59.4**	**+4.6**
LSZ					S		**Sn**	**00 42 42.2**	**+5.6**
LSZ	**Lusaka**	**9.08**	**196**		P		**Pn**	**00 40 54.5**	**-0.3**
LSZ								00 42 32.5	
LODK	**Lodwar**	**10.87**	**25**				Pn	00 41 13.9	-5.5
LODK	**Lodwar**	**10.87**	**25**		P		**Pn**	**00 41 14.8**	**-4.6**
	SNR=17								
LODK					S		**Sn**	**00 43 17.7**	**-3.0**
MATP	**Matopo**	**14.01**	**189**		Pn		**Pn**	**00 42 02.2**	**-0.1**
	comp=Z,2.2nm,0.3s,baz=11,slow=14,SNR=67								
MATP					Sn		**Sn**	**00 44 32.6**	**-4.9**
	comp=Z,12nm,0.3s,baz=22,slow=15,SNR=3.8								
MATP					Lg	Lg		00 46 08.6	
	comp=Z,40nm,0.3s,baz=103,slow=22,SNR=9.0								
MATP					LR	LR		00 47 52.2	
	comp=Z,9μm,19.6s,baz=14,slow=39								
	comp=Z,76nm,1.1s								
SOOWA	**Sowa**	**14.66**	**197**	*e*	P		**Pn**	**00 42 08.0**	**-3.2**
SOOWA				*i*	S		**Sn**	**00 44 44.2**	**-8.9**
BROLN	**Tlhalogang**	**14.89**	**193**	*i*	P		**Pn**	**00 42 10.3**	**-4.0**
BROLN				*i*	S		**Sn**	**00 44 51.0**	**-7.7**
PHDHD	**Phuduhudu**	**14.89**	**203**	*i*	P		**Pn**	**00 42 12.0**	**-2.4**
PHDHD				*i*	S		**Sn**	**00 44 51.8**	**-7.2**
GMARE	**Gumare**	**15.30**	**212**	*i*	P		**Pn**	**00 42 17.5**	**-2.3**
GMARE				*i*	S		**Sn**	**00 45 04.8**	**-4.0**
QNGWA	**Qangwa**	**15.96**	**215**	*i*	P		**Pn**	**00 42 26.4**	**-2.0**
KHWEE	**KHWEE**	**16.19**	**198**	*i*	P		**Pn**	**00 42 28.3**	**-3.0**
MREMI	**Moremi**	**16.29**	**191**	*i*	P		**Pn**	**00 42 29.6**	**-2.9**
FURI	**Furi**	**17.21**	**27**		LR		LR	00 50 11.3	
	comp=Z,2μm,20.4s,baz=210,slow=40								
LPHEP	**Lephephe**	**17.41**	**195**	*i*	P		**Pn**	**00 42 42.9**	**-3.8**
LPHEP				*i*	S		**Sn**	**00 45 52.6**	**-7.6**
GRTLG	**Ghanzi**	**17.43**	**211**	*i*	P		**Pn**	**00 42 45.5**	**-1.4**
GRTLG				*i*	S		**Sn**	**00 45 53.4**	**-7.2**
KDWAN	**Kaudwane**	**17.78**	**199**	*i*	P		**Pn**	**00 42 49.5**	**-1.7**
TSUM	**Tsumeb**	**18.00**	**224**				**Pn**	**00 42 51.0**	**-3.0**
TSUM	**Tsumeb**	**18.00**	**224**		P		**Pn**	**00 42 52.5**	**-1.5**
	comp=Z,2.7nm,0.3s,baz=35,slow=12,SNR=67								
TSUM					S		Sn	00 46 01.8	-13
	comp=Z,223nm,0.9s,baz=327,slow=22,SNR=4.2								
TSUM					Lg	Lg		00 48 15.5	
	comp=Z,5.0nm,0.3s,baz=95,slow=23,SNR=1.2								
TSUM					LR	LR		00 49 58.9	
	comp=Z,11μm,20.0s,baz=44,slow=38								
	comp=Z,31nm,0.7s								
KGCAE	**Kacgae**	**18.23**	**206**	*i*	P		**Pn**	**00 42 54.4**	**-2.4**
KGCAE				*i*	S		**Sn**	**00 46 13.5**	**-6.5**
LBTB	**Lobatse**	**19.06**	**195**		P		**Pn**	**00 43 06.8**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=7.8,slow=14,SNR=29								
LBTB					Lg	Lg		00 48 41.3	
	comp=Z,4.8nm,0.3s,baz=291,slow=17,SNR=4.0								
	comp=Z,90nm,1.0s								
SKOMA	**Sekoma**	**19.07**	**199**	*e*	P		**P**	**00 43 04.8**	**-1.3**
KOOLE	**Kule**	**19.30**	**211**	*i*	P		**Pn**	**00 43 10.0**	**+0.1**
CRLN	**Carolina, Mapu**	**19.39**	**182**	*e*	P		**P**	**00 43 06.2**	**-3.6**
HRAO	**HartRAO**	**19.50**	**188**	*e*	P		**P**	**00 43 08.1**	**-2.8**
OPO	**Ambohidratompo**	**19.99**	**128**		P		**Pn**	**00 43 18.6**	**+0.5**
	comp=Z,67nm,1.0s,baz=293,slow=16,SNR=23								
OPO					S		**Sn**	**00 47 09.4**	**+6.7**
	comp=Z,24nm,0.9s,baz=312,slow=13,SNR=3.2								
OPO					LR	LR		00 49 53.7	
	comp=Z,9μm,20.3s,baz=184,slow=33								
	comp=Z,67nm,1.0s								
MAKGR	**Makgori**	**20.03**	**196**	*i*	P		**P**	**00 43 15.6**	**-1.1**
MAKGR				*i*	S		**S**	**00 46 55.2**	**-5.9**
SBV	**Sambava**	**20.07**	**112**		P		**P**	**00 43 18.0**	**+0.9**
SBV					S		Sn	00 47 06.8	+2.4
ABPO	**Ambohimpanom**	**20.28**	**129**				**P**	**00 43 19.9**	**+0.5**
ABPO					IAmb		IAmb	00 43 22.6	
	comp=Z,154nm,0.9s								
ABPO	**Ambohimpanom**	**20.28**	**129**	*e*	P		**P**	**00 43 17.8**	**-1.7**
ABPO	**Ambohimpanom**	**20.28**	**129**		P		**P**	**00 43 19.9**	**+0.5**
ABPO					pmax		pmax		
	comp=Z,154nm,0.9s								
ABPO					MLR		MLR		
	comp=Z,4μm,18.0s								
PHPEN	**Phepeng**	**20.33**	**201**	*i*	P		**P**	**00 43 20.2**	**+0.4**
ATD	**Arta Tunnel**	**21.57**	**34**		P		**P**	**00 43 33.2**	**-0.1**
ATD					IAmb		IAmb	00 43 39.0	
	comp=Z,256nm,1.8s								
VOI	**Vohitsoka**	**21.77**	**136**				**P**	**00 43 36.4**	**+0.9**
VOI					IAmb		IAmb	00 43 48.2	
	comp=Z,289nm,1.3s								
VOI	**Vohitsoka**	**21.77**	**136**		P		**P**	**00 43 36.4**	**+0.9**
	SNR=6.8								
BOSA	**Boshof**	**22.60**	**193**		P		**P**	**00 43 43.5**	**-0.9**
BOSA	**Boshof**	**22.60**	**193**		P		**P**	**00 43 45.4**	**+1.1**
	comp=Z,92nm,0.8s,baz=17,slow=12,SNR=58								
BOSA					S		**S**	**00 47 57.0**	**+5.8**
	comp=Z,159nm,1.1s,baz=93,slow=9.9,SNR=2.8								
BOSA					Lg	Lg		00 50 27.3	
	comp=Z,3.9nm,0.3s,baz=283,slow=21,SNR=2.2								
BOSA					LR	LR		00 52 51.6	
	comp=Z,5μm,18.9s,baz=20,slow=37								
	comp=Z,92nm,0.8s								
BOSA	**Boshof**	**22.60**	**193**	*e*	P		**P**	**00 43 41.4**	**-2.9**
BOSA	**Boshof**	**22.60**	**193**		P		**P**	**00 43 43.5**	**-0.9**
BOSA					pmax		pmax		
	comp=Z,555nm,1.0s								
EDA	**Edea**	**22.98**	**296**				**P**	**00 43 45.8**	**-2.5**
FOMA	**Nahampoana Res**	**24.05**	**142**				**P**	**00 43 57.2**	**-1.4**
FOMA					IAmb		IAmb	00 44 02.1	
	comp=Z,196nm,1.2s								
HVD	**Gariep Dam**	**24.48**	**191**	*e*	P		**P**	**00 44 01.9**	**-0.9**
MSEY	**Mahe Island**	**24.66**	**87**		P		**P**	**00 44 04.3**	**-0.1**
MSEY	**Mahe Island**	**24.66**	**87**		P		**P**	**00 44 04.3**	**-0.1**
MSEY					pmax		pmax		
	comp=Z,85nm,1.2s								
MSEY					MLR		MLR		
	comp=Z,4μm,20.0s								
ALKP	**Alkanpan, Nort**	**24.66**	**198**	*e*	P		**P**	**00 44 02.4**	**-2.0**
BFON	**Badsfontein, M**	**26.02**	**194**	*e*	P		**P**	**00 44 16.2**	**-0.5**
BRAK	**Brakfontein**	**26.20**	**195**	*e*	P		**P**	**00 44 17.4**	**-0.9**
FRAZ	**Fraserburg**	**26.77**	**198**	*e*	P		**P**	**00 44 22.3**	**-1.1**
GRAN	**Grantham**	**26.89**	**196**	*e*	P		**P**	**00 44 24.6**	**+0.1**
GRHM	**Grahamstown, E**	**26.95**	**188**	*e*	P		**P**	**00 44 21.9**	**-3.1**
SUR	**Sutherland**	**27.37**	**199**				**P**	**00 44 28.8**	**-0.2**
SUR					IAmb		IAmb	00 44 43.2	
	comp=Z,93nm,1.0s								
SUR	**Sutherland**	**27.37**	**199**		IAMs_20		IAMs_20	00 54 48.4	
	comp=Z,10μm,18.0s								
SUR	**Sutherland**	**27.37**	**199**		P		**P**	**00 44 32.9**	**+4.0**
RAYN	**Ar Rayn**	**33.13**	**25**				**P**	**00 45 19.5**	**-0.4**
RAYN	**Ar Rayn**	**33.13**	**25**		IAMs_20		IAMs_20	00 56 41.9	
	comp=Z,5μm,20.0s								
RAYN	**Ar Rayn**	**33.13**	**25**		P		**P**	**00 45 20.1**	**+0.2**
RAYN	**Ar Rayn**	**33.13**	**25**		P		**P**	**00 45 20.0**	**+0.2**
RAYN	**Ar Rayn**	**33.13**	**25**		P		**P**	**00 45 19.5**	**-0.4**
RAYN					pmax		pmax		
	comp=Z,26nm,1.1s								
TORD	**Torodi Ar. Bea**	**34.87**	**304**				**P**	**00 45 33.4**	**-1.6**
TORD					IAmb		IAmb	00 45 40.9	
	comp=Z,36nm,0.9s								
TORD	**Torodi Ar. Bea**	**34.87**	**304**		P		**P**	**00 45 33.9**	**-1.1**
	comp=Z,17nm,0.9s,baz=106,slow=7.4,SNR=60								
TORD					Lg		Lg	00 56 53.8	
	comp=Z,0.1nm,0.3s,baz=126,slow=8.4,SNR=2.7								
TORD					LR		LR	01 00 44.0	
	comp=Z,4μm,19.9s,baz=122,slow=38								
	comp=Z,17nm,0.9s								
EIL	**Elat**	**36.19**	**6**		LR		LR	01 00 29.1	
	comp=Z,2μm,19.3s,baz=176,slow=36								
SMRA	**Abu-Samra**	**36.69**	**31**		P		**P**	**00 45 50.5**	**0.0**
MZR	**Muzera**	**36.79**	**36**		P		**P**	**00 45 51.0**	**-0.4**
TRNA	**Turayna**	**36.89**	**32**		P		**P**	**00 45 49.4**	**-2.7**
	SNR=7.5								
SHEL	**Horse Pasture**	**36.97**	**252**		P		**P**	**00 45 52.4**	**-0.7**
SHEL	**Horse Pasture**	**36.97**	**252**		P		**P**	**00 45 52.4**	**-0.7**
SHEL					pmax		pmax		
	comp=Z,159nm,1.1s								
SAKB	**Bahrain**	**37.56**	**30**		P		**P**	**00 45 58.4**	**+0.5**
GHAJ	**Ghor Haditha**	**37.87**	**7**				**P**	**00 46 00.2**	**-0.2**
GHAJ					IAMs_20		IAMs_20	01 00 35.2	
	comp=Z,4μm,18.0s								
DBIC	**Dimbokro**	**37.88**	**290**				**P**	**00 45 59.8**	**-1.0**
DBIC	**Dimbokro**	**37.88**	**290**		P		**P**	**00 45 60.0**	**-0.8**
	comp=Z,14nm,0.8s,baz=126,slow=10,SNR=13								
DBIC					LR		LR	01 01 49.3	
	comp=Z,3μm,18.1s,baz=126,slow=37								
	comp=Z,14nm,0.8s								
DBIC	**Dimbokro**	**37.88**	**290**	*e*	P		**P**	**00 45 58.2**	**-2.6**
DBIC	**Dimbokro**	**37.88**	**290**		P		**P**	**00 45 59.8**	**-1.0**
DBIC					pmax		pmax		
	comp=Z,23nm,0.9s								
TAM	**Tamanrasset**	**38.18**	**320**				**P**	**00 46 02.9**	**-0.5**
TAM	**Tamanrasset**	**38.18**	**320**		P		**P**	**00 46 02.9**	**-0.5**
TAM					pmax		pmax		
	comp=Z,14nm,0.7s								
TAM					MLR		MLR		
	comp=Z,2μm,18.0s								
ARQ	**Araqi**	**38.90**	**39**		P		**P**	**00 46 09.3**	**+0.1**
ALNE	**Al Ain**	**38.94**	**38**		P		**P**	**00 46 09.4**	**-0.2**
ASUD	**Al Ashush, Dub**	**39.11**	**37**		P		**P**	**00 46 11.2**	**+0.2**
SOHO	**SOHO**	**39.48**	**39**		P		**P**	**00 46 13.9**	**-0.1**
SOHO	**SOHO**	**39.48**	**39**		P		**P**	**00 46 13.5**	**-0.6**
MMAI	**Mount Meron Ar**	**39.55**	**6**		P		**P**	**00 46 14.6**	**+0.1**
	comp=Z,8.1nm,1.0s,baz=116,slow=9.5,SNR=6.6								
MMAI					LR		LR	01 02 08.9	
	comp=Z,3μm,18.1s,baz=182,slow=36								
	comp=Z,8.1nm,1.0s								
NAZ	**Nazwa, Dubai**	**39.59**	**37**		P		**P**	**00 46 15.3**	**+0.4**
ASHO	**Ashiyiah**	**39.60**	**38**		P		**P**	**00 46 14.7**	**-0.3**
	SNR=8.8								
ASHO	**Ashiyiah**	**39.60**	**38**		P		**P**	**00 46 14.5**	**-0.6**
SMDO	**Samad**	**39.68**	**41**		P		**P**	**00 46 15.7**	**-0.2**
HATD	**Hatta, Dubai**	**39.75**	**37**		P		**P**	**00 46 16.7**	**+0.4**
HATD	**Hatta, Dubai**	**39.75**	**37**		P		**P**	**00 46 16.9**	**+0.6**
UOSS	**Minazif**	**39.88**	**37**		P		**P**	**00 46 17.0**	**-0.3**
UOSS	**Minazif**	**39.88**	**37**		IAMs_20		IAMs_20	01 04 08.8	
	comp=Z,4μm,21.0s								
UOSS	**Minazif**	**39.88**	**37**		P		**P**	**00 46 17.6**	**+0.2**
JLN	**Jalan Bani Buh**	**39.98**	**44**		P		**P**	**00 46 18.2**	**0.0**
BIDO	**Bidbid**	**40.06**	**41**		P		**P**	**00 46 18.5**	**-0.4**
MASF	**Masafi**	**40.17**	**37**		P		**P**	**00 46 19.9**	**0.0**
WSAR	**Wadi Sarin**	**40.19**	**42**		LR		LR	01 02 43.0	
	comp=Z,15nm,19.3s,baz=236,slow=36								
MDH	**Madha**	**40.20**	**37**		P		**P**	**00 46 19.8**	**-0.2**
MDH	**Madha**	**40.20**	**37**		P		**P**	**00 46 19.2**	**-0.8**
BANOM	**Banah**	**40.67**	**37**		P		**P**	**00 46 24.0**	**+0.1**
BANOM	**Banah**	**40.67**	**37**		P		**P**	**00 46 22.5**	**-1.4**
SHME	**Shamm**	**40.67**	**36**		P		**P**	**00 46 23.9**	**0.0**
SHME	**Shamm**	**40.67**	**36**		P		**P**	**00 46 23.1**	**-0.8**
CSS	**Mathiatis**	**41.31**	**3**		P		**P**	**00 46 28.8**	**-0.3**
DGAR	**Diego Garcia**	**41.37**	**94**	‖	*eP*		**P**	**00 46 30.5**	**+0.6**
DGAR					pmax		pmax		
	comp=Z,156nm,1.3s								
IDI	**Anoyia**	**41.94**	**353**		P		**P**	**00 46 33.9**	**-0.4**
IDI					IAmb		IAmb	00 46 42.5	
	comp=Z,59nm,0.9s								
IDI	**Anoyia**	**41.94**	**353**		LR		LR	01 05 57.7	
	comp=Z,2μm,18.4s,baz=176,slow=39								
KARP	**Karpathos**	**41.97**	**356**		P		**P**	**00 46 33.6**	**-0.8**
KARP					IAmb		IAmb	00 46 38.5	
	comp=Z,112nm,1.1s								
KARP					IAMs_20		IAMs_20	01 06 22.4	
	comp=Z,3μm,20.0s								
ARG	**Arkhangelos**	**42.57**	**357**		P		**P**	**00 46 39.0**	**-0.3**
ARG					IAmb		IAmb	00 46 49.2	
	comp=Z,149nm,1.4s								
ARG	**Arkhangelos**	**42.57**	**357**		P		**P**	**00 46 39.0**	**-0.3**
ARG					pmax		pmax		
	comp=Z,149nm,1.4s								
KAAM	**Kaadhehdhoo**	**42.71**	**82**		P		**P**	**00 46 41.4**	**+0.6**
APE	**Apeiranthos**	**43.62**	**354**	↑	P		**P**	**00 46 49.1**	**+1.2**
APE	**Apeiranthos**	**43.62**	**354**	‖	*eP*		**P**	**00 46 48.9**	**+1.0**
APE					pmax		pmax		
	comp=Z,59nm,1.0s								
CRZF	**Crozet Islands**	**43.74**	**159**		P		**P**	**00 46 48.0**	**-0.7**
GAZ	**Gaziantep**	**43.87**	**7**		P		**P**	**00 46 47.7**	**-2.2**
ISP	**Isparta**	**44.10**	**360**		P		**P**	**00 46 50.6**	**-1.1**
ISP	**Isparta**	**44.10**	**360**	*de*	P		**P**	**00 46 51.4**	**-0.4**
ISP					pmax		pmax		
	comp=Z,31nm,1.0s								
ITM	**Ithomi**	**44.24**	**350**		P		**P**	**00 46 52.3**	**-0.5**
ITM					IAmb		IAmb	00 47 01.4	
	comp=Z,144nm,1.5s								
MARD	**Mardin**	**44.58**	**11**		P		**P**	**00 46 54.8**	**-0.9**
WDD	**Wied Dalam**	**44.80**	**341**		P		**P**	**00 46 57.2**	**-0.1**
WDD					IAmb		IAmb	00 47 05.6	
	comp=Z,62nm,0.7s								
MANT	**Manisa**	**44.81**	**358**		P		**P**	**00 46 57.4**	**-0.2**
MANT					IAmb		IAmb	00 47 06.2	
	comp=Z,90nm,1.8s								
BNN	**Bunyan**	**45.37**	**6**		P		**P**	**00 47 01.6**	**-0.3**
KIRS	**Kirsehir-Merke**	**45.50**	**3**	↑	P		**P**	**00 47 03.1**	**+0.2**
BRTR	**Keskin Array B**	**46.07**	**3**		P		**P**	**00 47 06.6**	**-0.8**
BRTR	**Keskin Array B**	**46.07**	**3**		P		**P**	**00 47 06.9**	**-0.6**
	comp=Z,12nm,0.8s,baz=180,slow=9.3,SNR=33								
BRTR					LR		LR	01 08 54.9	
	comp=Z,1μm,18.3s,baz=198,slow=40								
	comp=Z,12nm,0.8s								
BR131	**Keskin Array S**	**46.08**	**3**		P		**P**	**00 47 06.7**	**-0.8**
BR131	**Keskin Array S**	**46.08**	**3**		P		**P**	**00 47 06.8**	**-0.8**
	SNR=11								
BR131	**Keskin Array S**	**46.08**	**3**		P		**P**	**00 47 06.7**	**-0.8**
BR131					pmax		pmax		
	comp=Z,26nm,1.0s								
RAFF	**Raffo Rosso**	**46.13**	**342**		P		**P**	**00 47 07.3**	**-0.5**
ANTO	**Ankara**	**46.18**	**2**		P		**P**	**00 47 07.7**	**-0.5**
ANTO	**Ankara**	**46.18**	**2**		P		**P**	**00 47 07.7**	**-0.5**
ANTO	**Ankara**	**46.18**	**2**	↓	P		**P**	**00 47 08.1**	**-0.1**
ANTO	**Ankara**	**46.18**	**2**		P		**P**	**00 47 07.7**	**-0.5**
ANTO					pmax		pmax		
	comp=Z,19nm,0.9s								
ANTO					MLR		MLR		
	comp=Z,900nm,20.0s								
VAE	**Valguarnera**	**46.35**	**342**		LR		LR	01 06 14.8	
	comp=Z,2μm,19.4s,baz=127,slow=36								
KEST	**Kesra**	**46.60**	**336**		P		**P**	**00 47 11.0**	**-0.6**
KEST					IAmb		IAmb	00 47 36.6	
	comp=Z,64nm,1.4s								
KEST					IAMs_20		IAMs_20	01 07 39.1	
	comp=Z,2μm,19.0s								
KEST	**Kesra**	**46.60**	**336**		P		**P**	**00 47 12.1**	**+0.5**
	comp=Z,5.2nm,0.9s,baz=325,slow=3.7,SNR=8.3								
KEST					LR		LR	01 07 27.0	
	comp=Z,2μm,18.6s,baz=173,slow=37								
	comp=Z,5.2nm,0.9s								
KEST	**Kesra**	**46.60**	**336**		P		**P**	**00 47 11.6**	**0.0**
CEL	**Celeste**	**46.64**	**344**		P		**P**	**00 47 10.8**	**-1.1**
MDUB	**Mudurnu**	**46.74**	**0**		P		**P**	**00 47 12.5**	**-0.2**
MDUB					IAmb		IAmb	00 47 18.6	
	comp=Z,56nm,1.2s								
TOKA	**Tokat**	**46.89**	**6**		P		**P**	**00 47 12.8**	**-1.0**
KEK	**Kerkira**	**47.09**	**348**		P		**P**	**00 47 16.8**	**+1.5**
KEK					IAmb		IAmb	00 47 27.5	
	comp=Z,48nm,1.2s								
KOPT	**Kop Dagi**	**47.15**	**10**		P		**P**	**00 47 15.9**	**-0.2**
KOPT					IAmb		IAmb	00 48 05.8	
	comp=Z,36nm,1.2s								
KOPT					IAMs_20		IAMs_20	01 07 05.9	
	comp=Z,2μm,18.0s								
TIP	**Timpagrande**	**47.27**	**345**		P		**P**	**00 47 17.1**	**+0.3**
TIP					IAmb		IAmb	00 47 25.6	
	comp=Z,128nm,1.8s								
TIP	**Timpagrande**	**47.27**	**345**	↑	P		**P**	**00 47 18.6**	**+1.8**
ALN	**Alexandroupoli**	**47.37**	**355**		P		**P**	**00 47 18.0**	**+0.6**
ALN	**Alexandroupoli**	**47.37**	**355**		P		**P**	**00 47 18.0**	**+0.6**
ALN					pmax		pmax		
	comp=Z,16nm,0.9s								
ALN					MLR		MLR		
	comp=Z,1μm,19.0s								
ILGA	**Ilgaz**	**47.40**	**3**		P		**P**	**00 47 17.3**	**-0.7**
RDO	**Rodhopi**	**47.66**	**355**		P		**P**	**00 47 19.6**	**-0.1**
RDO					IAmb		IAmb	00 47 28.3	
	comp=Z,96nm,1.5s								
FNA	**Florina**	**47.84**	**350**				**P**	**00 47 20.9**	**-0.3**
FNA	**Florina**	**47.84**	**350**		P		**P**	**00 47 20.9**	**-0.3**
FNA					pmax		pmax		
	comp=Z,13nm,1.3s								
KDZ	**Kurdzhali**	**48.16**	**355**		P		**P**	**00 47 28.1**	**+4.5**
GNI	**Garni**	**48.18**	**14**		P		**P**	**00 47 23.9**	**-0.1**
GNI					IAmb		IAmb	00 47 40.1	
	comp=Z,51nm,1.1s								
GNI	**Garni**	**48.18**	**14**		LR		LR	01 08 48.9	
	comp=Z,1μm,18.0s,baz=210,slow=38								
GNI	**Garni**	**48.18**	**14**		P		**P**	**00 47 24.6**	**+0.7**
GNI	**Garni**	**48.18**	**14**	*de*	P		**P**	**00 47 24.8**	**+0.9**
GNI					pmax		pmax		
	comp=Z,62nm,2.6s								
VAY	**Valandovo**	**48.18**	**352**	*i*	P		**P**	**00 47 23.6**	**-0.1**
MMB	**Musomishta**	**48.25**	**353**		P		**P**	**00 47 28.4**	**+4.1**
OHR	**Ohrid**	**48.26**	**350**	*i*	P		**P**	00 47 29.5	+5.1
RZN	**Rozhen**	**48.28**	**354**		P		**P**	**00 47 29.2**	**+4.5**
CUC	**Castrocucco**	**48.28**	**345**				**P**	**00 47 24.4**	**-0.2**
DIM	**Dimitrovgrad**	**48.55**	**355**		P		**P**	**00 47 28.1**	**+1.6**
KKB	**Krupnik**	**48.62**	**352**		P		**P**	**00 47 31.7**	**+4.6**
TIR	**Tirane**	**48.66**	**349**		P		**P**	**00 47 26.9**	**-0.5**
TIR	**Tirane**	**48.66**	**349**	↑	P		**P**	**00 47 28.7**	**+1.3**
TIR	**Tirane**	**48.66**	**349**		P		**P**	**00 47 26.9**	**-0.5**
TIR					pmax		pmax		
	comp=Z,161nm,1.3s								
SKO	**Skopje**	**48.99**	**351**	*i*	P		P	00 47 35.0	+5.1
PGB	**Panagyurishte**	**49.15**	**354**		P		**P**	**00 47 35.0**	**+3.8**
PLNA	**Plana**	**49.20**	**353**		P		**P**	**00 47 36.3**	**+4.

comp=Z,2µm,19.0s
BISRR Bisoca 51.95 356 ⇑P **P** **00 47 50.7 -1.6**
LOT Lotru 52.10 354 ⇓P **P** **00 47 53.5 0.0**
GZR Gura Zlata 52.16 353 ⇓P **P** **00 47 53.3 -0.6**
GZR Gura Zlata 52.16 353 ⇓P **P** **00 47 53.3 -0.6**
PLOR Plostina 52.25 356 ⇓P **P** **00 47 53.7 -0.9**
PLOR Plostina 52.25 356 ⇓P **P** **00 47 53.7 -0.9**
VRI Vrincioaia 52.26 356 ⇑P **P** **00 47 54.0 -0.6**
VRI Vrincioaia 52.26 356 ⇑P **P** **00 47 54.0 -0.6**
COVR Voineasa-Covas 52.27 356 ⇑P **P** **00 47 53.7 -1.0**
TURR Turia 52.50 356 ⇓P **P** **00 47 56.3 -0.1**
GOF Gofitskoye 52.50 11 *ce*P **P** **00 47 56.9 +0.5**
BZS Buzias 52.53 352 ⇑P **P** **00 47 56.5 -0.1**
BZS Buzias 52.53 352 ⇑P **P** **00 47 56.5 -0.1**
OZUR 52.55 356 ⇑P **P** **00 47 55.5 -1.3**
SURR Surduc 52.60 352 ⇑P **P** **00 47 56.9 -0.2**
ONER Baraj Valea Uz 52.75 356 ⇓P **P** **00 47 57.6 -0.6**
HYB Hyderabad 52.84 63 *e*P **P** **00 48 00.7 +1.2**
HYB *es*P **sP** **00 48 10.7 +2.1**
CART Cartagena 52.94 328 IAMs_20 IAMs_20 01 12 29.3
comp=Z,4µm,20.0s
SIRR Siria 53.16 352 ⇓P **P** **00 48 01.2 -0.1**
MILM Milestii Mici 53.22 358 *e*P **P** **00 47 59.7 -1.9**
MILM *e*L L 01 10 16.0
MILM LRM MLR 01 15 05.0
comp=Z,450nm,15.5s
MILM Milestii Mici 53.22 358 *e*P **P** **00 47 59.7 -1.9**
MILM pmax pmax
comp=Z,120nm,2.8s
MILM MLR MLR
comp=Z,450nm,15.5s
KIS Kishinev 53.30 358 *e*P P 00 48 08.0 +5.8
comp=Z,200nm,5.3s
KIS Kishinev 53.30 358 *e*P P 00 48 08.0 +5.8
KIS pmax pmax
comp=Z,200nm,5.3s
KIS MLR MLR
comp=Z,300nm,16.0s
MARR Marisel-Cluj 53.38 353 ⇓P **P** **00 48 02.9 0.0**
DRGR 53.54 353 ⇑P **P** **00 48 04.0 -0.1**
DRGR 53.54 353 ⇑P **P** **00 48 04.0 -0.1**
MORH Mrgy, Hungar 53.59 350 ⇓P **P** **00 48 03.6 -0.7**
AVE Averroes 53.66 320 P **P** **00 48 04.6 -0.6**
AVE IAMs_20 IAMs_20 01 11 15.6
comp=Z,3µm,19.0s
ARCR ARCALIA 53.66 355 ⇓P **P** **00 48 03.3 -1.6**
ZCCA Zocca 53.68 342 IAMs_20 IAMs_20 01 13 32.5
comp=Z,2µm,18.0s
BURAR Bucovina Array 54.11 355 P **P** **00 48 07.9 -0.4**
BURAR IAmb IAmb 00 48 18.0
comp=Z,35nm,1.1s
BURAR Bucovina Array 54.11 355 ⇓P **P** **00 48 07.0 -1.3**
BURAR Bucovina Array 54.11 355 ⇓P **P** **00 48 07.0 -1.3**
BUR08 Bucovina Ar. S 54.14 355 P **P** **00 48 07.9 -0.6**
BEHE Becsehely 54.19 348 P **P** **00 48 08.1 -0.7**
BEHE IAmb IAmb 00 48 17.7
comp=Z,42nm,1.2s
BMR Baia Mare 54.33 354 ⇓P **P** **00 48 08.4 -1.3**
BMR Baia Mare 54.33 354 ⇓P **P** **00 48 08.4 -1.3**
TEOL Teolo 54.40 344 P **P** **00 48 11.2 +0.9**
TEOL IAmb IAmb 00 48 18.6
comp=Z,41nm,1.0s
SORM Soroca 54.45 358 ⇓P **P** **00 48 09.0 -1.6**
SORM Soroca 54.45 358 ⇓P **P** **00 48 09.0 -1.6**
KBL Kabul 54.52 39 P **P** **00 48 10.5 -1.2**
KBL Kabul 54.52 39 P **P** **00 48 11.1 -0.6**
SNR=5.4
KBL Kabul 54.52 39 P **P** **00 48 10.5 -1.2**
KBL pmax pmax
comp=Z,20nm,1.6s
OBKA Obir 54.72 346 *e*P **P** **00 48 12.9 +0.2**
comp=Z,33nm,1.2s
SOKA Soboth 54.77 347 *e*P **P** **00 48 14.5 +1.4**
comp=Z,69nm,1.8s,SNR=6.6
CORI Orista 54.91 334 P **P** **00 48 14.1 0.0**
STAL STALIGIAL 54.94 345 P **P** **00 48 13.8 -0.6**
SFS San Fernando 55.02 324 P **P** **00 48 14.8 -0.2**
SFS IAMs_20 IAMs_20 01 13 41.6
comp=Z,3µm,18.0s
SFS San Fernando 55.02 324 P **P** **00 48 14.8 -0.2**
SFS pmax pmax
comp=Z,77nm,0.9s
SFS MLR MLR
comp=Z,3µm,18.0s
PSZ Piszkesteto 55.03 351 P **P** **00 48 13.8 -1.1**
PSZ IAmb IAmb 00 48 23.5
comp=Z,65nm,1.4s
PSZ Piszkesteto 55.03 351 ⇑P **P** **00 48 14.5 -0.4**
PSZ Piszkesteto 55.03 351 P **P** **00 48 13.8 -1.1**
PSZ pmax pmax
comp=Z,65nm,1.4s
PSZ MLR MLR
comp=Z,800nm,20.0s
MYKA Terra Mystica 55.05 346 *i* P **P** **00 48 13.6 -1.6**
comp=Z,17nm,1.3s
SRO Srobarova 55.19 350 *e*P P 00 48 21.5 +5.5
ARSA Arzberg 55.20 347 P **P** **00 48 16.1 0.0**
ARSA IAmb IAmb 00 48 24.7
comp=Z,50nm,1.3s
ARSA Arzberg 55.20 347 *e*P **P** **00 48 16.3 +0.1**
comp=Z,49nm,2.4s,SNR=5.9
ABTA Abfaltersbach 55.45 345 *e*P **P** **00 48 17.4 -0.6**
comp=Z,30nm,1.1s
RONA Rosalia, Austr 55.47 348 *e*P **P** **00 48 19.0 +1.0**
comp=Z,24nm,1.2s,SNR=9.3
KECS Kecovo 55.50 352 *e*P P 00 48 23.5 +5.3
KBA Koelnbreinsper 55.54 346 *ep*P pP 00 48 24.7 -0.7
comp=Z,26nm,0.8s
BNI Bardonecchia 55.70 339 P **P** **00 48 20.1 +0.2**
BNI IAmb IAmb 00 48 32.4
comp=Z,45nm,1.2s
BNI IAMs_20 IAMs_20 01 14 21.9
comp=Z,2µm,18.0s
BNI Bardonecchia 55.70 339 P **P** **00 48 20.1 +0.2**
BNI pmax pmax
comp=Z,45nm,1.2s
BNI MLR MLR
comp=Z,2µm,18.0s
KOLS Kolonicke sedl 55.70 353 *e*P P 00 48 25.4 +5.7
VYHS Vyhne 55.76 350 *e*P **P** **00 48 20.8 +0.7**
VYHS *e* 00 48 24.7
VYHS pmax pmax
comp=Z,10.0nm,1.1s
CEST Esterri de Car 55.77 334 P **P** **00 48 20.2 -0.2**
CEST IAmb IAmb 00 48 29.9
comp=Z,56nm,1.4s
CONA Conrad Observa 55.77 348 *i* P **P** **00 48 19.6 -0.7**
comp=Z,20nm,1.1s,SNR=10.0
FUORN Ofenpass-Fuorn 55.95 343 P **P** **00 48 22.1 +0.3**
FUORN IAmb IAmb 00 48 34.4
comp=Z,34nm,1.1s
SMOL Smolenice 56.03 349 *e*P **P** **00 48 22.6 +0.6**
SMOL *e* 00 48 29.2
SMOL pmax pmax
comp=Z,17nm,2.1s
LESA Schwarzleotal 56.03 345 *e*P **P** **00 48 23.5 +1.4**
comp=Z,20nm,0.9s
ESBB Sonseca Array 56.04 328 P **P** **00 48 22.4 0.0**
ESBB IAmb IAmb 00 48 31.8
comp=Z,64nm,1.8s
ESBB IAMs_20 IAMs_20 01 15 01.4
comp=Z,3µm,18.0s
ESDC Sonseca Array 56.04 328 **P** **00 48 22.0 -0.4**
ESDC IAmb IAmb 00 48 31.7
comp=Z,54nm,1.7s
ESDC Sonseca Array 56.04 328 P **P** **00 48 22.3 -0.1**
comp=Z,3.0nm,1.0s,baz=140,slow=6.8,SNR=14
ESDC LR LR 01 14 12.4
comp=Z,1µm,20.5s,baz=141,slow=38
comp=Z,3.0nm,1.0s
BIOA Bad Ischl, Aus 56.05 346 *e*P **P** **00 48 21.6 -0.6**
comp=Z,8.6nm,1.4s
MOA Molln 56.05 347 *e*P **P** **00 48 21.0 -1.2**
comp=Z,33nm,0.9s,SNR=10
TUE Stuetta 56.09 342 P **P** **00 48 22.4 -0.3**
PAB San Pablo 56.15 328 P **P** **00 48 23.4 +0.2**
PAB San Pablo 56.15 328 IAMs_20 IAMs_20 01 14 45.3
comp=Z,2µm,19.0s
PAB San Pablo 56.15 328 P **P** **00 48 23.4 +0.2**
PAB pmax pmax
comp=Z,20nm,1.3s
PAB MLR MLR
comp=Z,2µm,19.0s
WTTA Wattenberg 56.16 344 *e*P **P** **00 48 22.9 -0.2**
comp=Z,7.1nm,0.8s,SNR=8.5

FETA Feichten 56.18 344 *i* P **P** **00 48 22.5 -0.8**
comp=Z,35nm,1.2s
DAVOX Davos/Dischmat 56.21 343 LR LR 01 13 43.2
comp=Z,1µm,20.5s,baz=153,slow=38
SQTA Sankt Quirin 56.23 344 *e*P **P** **00 48 22.5 -1.1**
comp=Z,34nm,1.6s,SNR=5.2
WATA Walderalm 56.24 344 *e*P **P** **00 48 21.8 -2.0**
comp=Z,59nm,2.1s,SNR=10.0
LANS Liptovska Anna 56.30 351 *e*P **P** **00 48 23.9 -0.1**
LANS *e* 00 48 29.9
LANS pmax pmax
comp=Z,8.0nm,1.0s
JAVC Velka Javorina 56.31 350 *e*P **P** **00 48 25.5 +1.4**
KWP Kalwaria Pacla 56.34 354 *e*P **P** **00 48 28.1 +3.8**
MOTA Moosalm 56.37 344 *e*P **P** **00 48 22.9 -1.8**
comp=Z,8.0nm,0.7s
NIE Niedzica 56.44 352 *e*P P 00 48 29.8 +4.9
PVAQ Vaqueiros 56.55 324 P **P** **00 48 26.0 +0.1**
PVAQ IAmb IAmb 00 49 01.7
comp=Z,111nm,1.9s
PVAQ IAMs_20 IAMs_20 01 12 13.0
comp=Z,2µm,19.0s
PVAQ Vaqueiros 56.55 324 *e*P **P** **00 48 25.3 -0.6**
PVAQ *i* IAmb IAmb 00 48 42.1
comp=Z,28nm,2.0s
PVAQ *e*LQ LQ 01 09 47.9
PVAQ *e*LR LR 01 10 49.8
PVAQ *i* IAMs_20 IAMs_20 01 12 38.0
comp=Z,750nm,18.0s
PBDV Barranco-do-Ve 56.56 323 *e*P **P** **00 48 28.8 +2.7**
PBDV *i* IAmb IAmb 00 48 31.3
comp=Z,53nm,1.8s
RETA Reutte 56.60 344 *e*P **P** **00 48 25.5 -0.7**
comp=Z,30nm,1.2s,SNR=8.6
SENIN Lac Senin/Sane 56.63 341 P **P** **00 48 26.7 +0.1**
SSB Saint Sauveur 56.66 338 P **P** **00 48 26.1 -0.6**
SSB Saint Sauveur 56.66 338 P **P** **00 48 26.1 -0.6**
SSB pmax pmax
comp=Z,148nm,1.7s
SSB MLR MLR
comp=Z,1µm,18.0s
DAVA Damuels 56.66 343 *e*P **P** **00 48 25.1 -1.7**
comp=Z,36nm,1.4s,SNR=16
PBAR Barrancos 56.67 325 *e*P **P** **00 48 30.9 +4.1**
PBAR *i* IAmb IAmb 00 48 35.6
comp=Z,43nm,1.7s
NIL Nilore 56.69 42 P **P** **00 48 26.9 -0.2**
NIL IAmb IAmb 00 48 54.4
comp=Z,40nm,1.4s
NIL Nilore 56.69 42 P **P** **00 48 26.9 -0.2**
NIL pmax pmax
comp=Z,40nm,1.4s
NIL MLR MLR
comp=Z,2µm,20.0s
KRUC Moravsky 56.75 349 *e*P **P** **00 48 27.4 +0.3**
KRUC *ep*P **pP** **00 48 31.1 -2.7**
PCVE Castro Verde 56.89 324 *e*P P 00 48 33.2 +4.8
VRAC Vranov 56.95 349 LR LR 01 16 23.5
comp=Z,556nm,18.9s,baz=182,slow=40
VRAC Vranov 56.95 349 *e*P **P** **00 48 28.2 -0.3**
VRAC *ep*P **pP** **00 48 32.5 -2.7**
VRAC Vranov 56.95 349 ⇑P **P** **00 48 27.5 -1.0**
VRAC Vranov 56.95 349 ⇑P **P** **00 48 27.5 -1.0**
UBR Ueberruh 56.96 343 *e*P **P** **00 48 32.9 +4.2**
comp=Z,90nm,1.6s,baz=157,slow=7.0
KIEV Kiev 56.98 359 **P** **00 48 27.9 -0.8**
KIEV IAmb IAmb 00 48 36.7
comp=Z,130nm,1.9s
KIEV Kiev 56.98 359 ⇓P **P** **00 48 26.5 -2.2**
KIEV Kiev 56.98 359 P **P** **00 48 27.0 -1.7**
KIEV Kiev 56.98 359 P **P** **00 48 27.9 -0.8**
KIEV pmax pmax
comp=Z,130nm,1.9s
KIEV MLR MLR
comp=Z,800nm,21.0s
AKASG Malin Array Be 56.99 359 P **P** **00 48 28.9 +0.1**
AKASG IAmb IAmb 00 48 36.5
comp=Z,53nm,1.8s
AKASG Malin Array Be 56.99 359 P **P** **00 48 27.4 -1.4**
comp=Z,7.7nm,0.8s,baz=183,slow=6.4,SNR=23
AKASG LR LR 01 14 53.0
comp=Z,563nm,19.7s,baz=179,slow=38
comp=Z,7.7nm,0.8s
AKASG Malin Array Be 56.99 359 *i* P **P** **00 48 27.3 -1.5**
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 56.99 359 **P** **00 48 27.6 -1.2**
AKBB Malin Array Si 56.99 359 P **P** **00 48 27.6 -1.2**
AKBB pmax pmax
comp=Z,145nm,1.9s
AKBB MLR MLR
comp=Z,900nm,20.0s
PFVI Vila Bisbo 57.03 323 IAMs_20 IAMs_20 01 14 46.8
comp=Z,2µm,22.0s
PFVI Vila Bisbo 57.03 323 *e*P P 00 48 37.2 +7.8
MORF Marmelete 57.04 323 *e*P P 00 48 35.1 +5.6
MORF *i* IAmb IAmb 00 48 39.4
comp=Z,91nm,1.5s
PBEJ Beja 57.05 324 *e*P **P** **00 48 31.5 +2.0**
PBEJ *i* IAmb IAmb 00 48 38.5
comp=Z,40nm,1.7s
FUR Furstenfeldbru 57.08 345 *e*P **P** **00 48 34.1 +4.5**
comp=Z,77nm,1.1s,baz=157,slow=7.0
GEC2 GERESS Array S 57.11 347 P **P** **00 48 29.2 -0.7**
GEC2 IAmb IAmb 00 48 37.8
comp=Z,70nm,1.2s
GEC2 GERESS Array S 57.11 347 *e*P **P** **00 48 34.1 +4.3**
comp=Z,81nm,1.2s,baz=157,slow=7.0
GERES GERESS Array B 57.11 347 P **P** **00 48 29.0 -0.8**
comp=Z,4.6nm,0.9s,baz=168,slow=7.8,SNR=20
GERES LR LR 01 16 50.7
comp=Z,729nm,18.0s,baz=160,slow=40
comp=Z,4.6nm,0.9s
MESJ Messejana 57.13 324 *e*P **P** **00 48 31.1 +1.0**
MESJ *ep*P **pP** **00 50 37.6 +0.4**
MESJ *es* **S** **00 56 26.9 +2.4**
MESJ IAMs_20 IAMs_20 01 13 55.2
comp=N,1µm,21.3s
MESJ Messejana 57.13 324 *e*P **P** **00 48 31.1 +1.0**
MESJ *e* 00 50 37.6
MESJ *es* **S** **00 56 26.9 +2.4**
TREC Trest 57.15 348 *e*P **P** **00 48 28.9 -1.1**
TREC Trest 57.15 348 *e*P **P** **00 48 28.9 -1.1**
OKC Ostrava-Krasne 57.18 350 AMS AMS 01 21 20.0
comp=N,600nm,16.4s
MACI Morro de la Ar 57.20 310 IAMs_20 IAMs_20 01 13 26.6
comp=Z,2µm,20.0s
MORC Moravsky Berou 57.22 350 P **P** **00 48 30.1 -0.5**
MORC IAmb IAmb 00 48 38.9
comp=Z,67nm,1.3s
MORC Moravsky Berou 57.22 350 *e*P **P** **00 48 29.2 -1.3**
MORC Moravsky Berou 57.22 350 ⇑P **P** **00 48 29.4 -1.2**
MORC Moravsky Berou 57.22 350 P **P** **00 48 30.1 -0.5**
MORC pmax pmax
comp=Z,67nm,1.3s
MORC MLR MLR
comp=Z,1µm,18.0s
SIMJ Simiganj 57.24 35 P **P** **00 48 30.4 -0.6**
OJC Ojcow 57.29 352 *e*P **P** **00 48 34.9 +4.0**
OJC Ojcow 57.29 352 P **P** **00 48 29.6 -1.4**
OJC Ojcow 57.29 352 P **P** **00 48 29.6 -1.4**
CHGR Chuyangaron 57.33 35 P **P** **00 48 31.1 -0.5**
CHGR IAmb IAmb 00 48 40.7
comp=Z,104nm,1.6s
CHGR Chuyangaron 57.33 35 P **P** **00 48 31.1 -0.5**
CHGR pmax pmax
comp=Z,104nm,1.6s
STEB Steborice 57.33 350 *e*P **P** **00 48 29.8 -1.5**
STEB *ep*P **pP** **00 48 36.1 -1.8**
KHC Kasperske Hory 57.41 347 *de*P **P** **00 48 31.3 -0.6**
KHC pmax pmax
comp=Z,10.0nm,0.9s
KHC Kasperske Hory 57.41 347 *e*P **P** **00 48 31.1 -0.8**
KHC *ep*P **pP** **00 48 37.0 -1.5**
KHC *e*PP **PP** **00 50 42.2 +2.7**
KHC *es* **S** **00 56 25.0 -2.8**
KHC AMS AMS 01 14 40.0
comp=Z,1µm,15.7s
PESTR Estremoz 57.46 325 P **P** **00 48 32.3 -0.1**
PESTR IAmb IAmb 00 48 41.7
comp=Z,124nm,1.7s
PESTR Estremoz 57.46 325 *e*P **P** **00 48 33.9 +1.5**
PESTR *i* IAmb IAmb 00 48 41.8
comp=Z,64nm,1.6s
EVO Evora 57.48 324 *e*P **P** **00 48 34.7 +2.2**

EVO *i* IAmb IAmb 00 48 41.6
comp=Z,38nm,1.7s
WET Wettzell 57.58 346 *e*P **P** **00 48 37.2 +4.1**
comp=Z,38nm,1.2s,baz=157,slow=7.0
KRLC Kraliky 57.65 349 *e*P **P** **00 48 32.5 -1.0**
KRLC Kraliky 57.65 349 *e*P **P** **00 48 32.5 -1.0**
VORD Divnogorie 57.71 6 *e*P **P** **00 48 34.0 +0.1**
VORD pmax pmax
comp=Z,10.0nm,1.0s
PMRV Marv??o 57.73 326 *e*P **P** **00 48 35.1 +0.8**
PMRV *i* IAmb IAmb 00 48 43.5
comp=Z,42nm,1.4s
PMRV *e*LQ LQ 01 08 09.2
PMRV *e*LR LR 01 10 23.8
PMRV *i* IAMs_20 IAMs_20 01 16 38.9
comp=Z,1µm,18.0s
VSR Storozhevoye 57.94 6 *e*P **P** **00 48 34.5 -1.0**
VSR pmax pmax
comp=Z,9.0nm,0.9s
PMTG Montargil 57.96 325 *e*P **P** **00 48 39.3 +3.4**
SACV Santiago Islan 57.97 292 IAMs_20 IAMs_20 01 11 31.0
comp=Z,2µm,20.0s
DPC Dobruska-Polom 57.99 349 AMS AMS 01 17 30.0
comp=Z,700nm,14.4s
BFO Black Forest 58.06 343 P **P** **00 48 35.4 -1.0**
BFO IAmb IAmb 00 48 45.2
comp=Z,96nm,1.6s
BFO Black Forest 58.06 343 P **P** **00 48 35.4 -1.0**
BFO pmax pmax
comp=Z,96nm,1.6s
BFO MLR MLR
comp=Z,500nm,22.0s
BFO Black Forest 58.06 343 *e*P **P** **00 48 40.6 +4.1**
baz=157,slow=7.0
PCBR Castelo Branco 58.06 326 *e*P P 00 48 43.9 +7.3
PRA Prague 58.10 348 *e*P **P** **00 48 35.9 -0.8**
PRA *e**PP **pP** **00 48 41.2 -2.1**
PRA MLR MLR
comp=Z,1µm,22.2s
PRA Prague 58.10 348 *e*P **P** **00 48 35.9 -0.8**
PRA *ep*P **pP** **00 48 41.2 -2.1**
PRA AMS AMS 01 16 10.0
comp=Z,1µm,22.2s
UPC Upice 58.20 349 *e*P **P** **00 48 36.1 -1.3**
UPC *e**PP **pP** **00 48 42.5 -1.5**
UPC MLR MLR
comp=Z,800nm,16.9s
UPC Upice 58.20 349 *e*P **P** **00 48 36.1 -1.3**
UPC *ep*P **pP** **00 48 42.5 -1.5**
UPC AMS AMS 01 19 40.0
comp=Z,800nm,16.9s
STU Stuttgart 58.20 343 P **P** **00 48 36.7 -0.7**
STU Stuttgart 58.20 343 P **P** **00 48 36.7 -0.7**
STU pmax pmax
comp=Z,170nm,1.9s
STU MLR MLR
comp=Z,1µm,21.0s
STU Stuttgart 58.20 343 *e*P **P** **00 48 42.0 +4.6**
comp=Z,115nm,1.2s,baz=157,slow=7.0
OSTC Ostas 58.21 349 *e*P **P** **00 48 36.4 -1.1**
OSTC MLR MLR
comp=Z,700nm,17.8s
OSTC Ostas 58.21 349 *e*P **P** **00 48 36.4 -1.1**
OSTC AMS AMS 01 19 40.0
comp=Z,700nm,17.8s
GAR Garm 58.23 36 P **P** **00 48 37.2 -0.7**
VRH Novokhopyorsk 58.25 8 *e*P **P** **00 48 35.9 -1.7**
VRH pmax pmax
comp=Z,30nm,0.9s
PARRA Arraiolos 58.26 324 *e*P **P** **00 48 35.5 -2.5**
PARRA *i* IAmb IAmb 00 48 43.4
comp=Z,75nm,1.5s
CHVC Chvalec 58.27 349 *e*P **P** **00 48 36.6 -1.3**
CHVC Chvalec 58.27 349 *e*P **P** **00 48 36.6 -1.3**
PSARD Sardoal 58.28 325 *e*P P 00 48 43.0 +4.8
ECH Echery 58.31 342 P **P** **00 48 37.5 -0.8**
ECH IAmb IAmb 00 48 46.9
comp=Z,44nm,1.3s
ECH Echery 58.31 342 P **P** **00 48 37.5 -0.8**
ECH pmax pmax
comp=Z,44nm,1.3s
ECH MLR MLR
comp=Z,600nm,21.0s
ROTZ Rotzenmuhle 58.33 346 *e*P **P** **00 48 42.9 +4.6**
comp=Z,18nm,1.5s,baz=157,slow=7.0
VORR Voronezh 58.40 6 *e*P **P** **00 48 37.9 -0.8**
VORR pmax pmax
comp=Z,20nm,0.9s
KSP Ksiaz 58.47 349 *e*P **P** **00 48 43.1 +3.9**
MTE Manteigas 58.48 326 IAMs_20 IAMs_20 01 15 30.2
comp=Z,2µm,20.0s
MTE Manteigas 58.48 326 *e*P P 00 48 44.9 +5.3
MTE *i* IAmb IAmb 00 48 49.5
comp=Z,44nm,1.5s
MTE *e*LQ LQ 01 10 15.1
MTE *e*LR LR 01 12 39.5
MTE *i* IAMs_20 IAMs_20 01 16 04.0
comp=Z,1µm,18.0s
GRA1 Grafenberg Arr 58.50 345 P **P** **00 48 38.9 -0.6**
GRF Grafenberg Arr 58.50 345 P **P** **00 48 38.9 -0.6**
GRF pmax pmax
comp=Z,307nm,1.8s
GRF Grafenberg Arr 58.50 345 *e*P P 00 48 44.4 +4.9
comp=Z,776nm,2.6s,baz=157,slow=7.0
GRFO Grafenberg 58.50 345 P **P** **00 48 39.6 +0.1**
GRFO Grafenberg 58.50 345 P **P** **00 48 39.6 +0.1**
GRFO pmax pmax
comp=Z,274nm,1.7s
PVCC Panska Ves 58.51 348 AMS AMS 01 16 20.0
comp=Z,700nm,18.0s
MANZ Manzenberg 58.55 346 *e*P **P** **00 48 44.4 +4.6**
comp=Z,18nm,1.3s,baz=157,slow=7.0
MVO Moncorvo 58.74 327 *e*P **P** **00 48 44.0 +2.6**
MVO *i* IAmb IAmb 00 48 51.6
comp=Z,63nm,1.5s
MVO *e*LQ LQ 01 10 06.4
MVO *e*LR LR 01 11 57.1
MVO *i* IAMs_20 IAMs_20 01 16 39.1
comp=Z,2µm,18.0s
BEL Belsk 58.74 353 *e*P **P** **00 48 44.5 +3.5**
PCAS Casmilo, Conde 58.78 325 *e*P P 00 48 49.0 +7.4
PCAS *i* IAmb IAmb 00 48 51.0
comp=Z,49nm,1.6s
COI Coimbra 58.84 326 P **P** **00 48 41.9 -0.1**
COI IAmb IAmb 00 48 50.9
comp=Z,56nm,1.2s
COI Coimbra 58.84 326 P **P** **00 48 41.9 -0.1**
COI pmax pmax
comp=Z,56nm,1.2s
COI MLR MLR
comp=Z,2µm,20.0s
TANN Tannenbergstha 58.87 346 *e*P **P** **00 48 46.8 +4.7**
comp=Z,70nm,1.5s,baz=157,slow=7.0
PVIS Viseu 58.90 326 *e*P P 00 48 48.9 +6.5
BRG Berggiesshubel 58.97 348 *e*P P 00 48 47.6 +5.0
comp=Z,17nm,1.3s,baz=157,slow=7.0
BRG Berggiesshubel 58.97 348 *e*P **P** **00 48 45.6 +2.9**
BRG Amp 00 48 51.8
comp=Z,23nm,1.4s
BRG Berggiesshubel 58.97 348 S **S** **00 56 48.0 0.0**
BRG Berggiesshubel 58.97 348 SS SS 01 00 50.0 +7.9
PLN Plauen 59.01 346 *e*P **P** **00 48 47.7 +4.7**
comp=Z,8.7nm,1.1s,baz=157,slow=7.0
PVRL Vila Real 59.19 327 *e*P **P** **00 48 46.5 +2.1**
PVRL *i* IAmb IAmb 00 48 53.9
comp=Z,48nm,1.6s
MOX Moxa 59.28 346 *e*P P 00 48 49.8 +4.9
comp=Z,55nm,1.4s,baz=157,slow=7.0
MOX *e*L L 01 19 49.6
comp=Z,553nm,18.9s
LPSR Galich'ya Gora 59.29 6 *e*P **P** **00 48 44.1 -0.7**
LPSR pmax pmax
comp=Z,8.0nm,1.0s
POLO Lamas de Olo 59.30 327 *e*P **P** **00 48 46.9 +1.6**
CLL Collm 59.58 347 P **P** **00 48 46.7 -0.2**
CLL IAmb IAmb 00 48 54.4
comp=Z,40nm,1.4s
CLL Collm 59.58 347 P **P** **00 48 46.7 -0.2**
CLL pmax pmax
comp=Z,40nm,1.4s
CLL MLR MLR
comp=Z,800nm,20.0s
CLL Collm 59.58 347 *e*P P 00 48 51.7 +4.8
comp=Z,42nm,1.4s,baz=157,slow=7.0
CLL Collm 59.58 347 *i* P **P** **00 48 47.9 +1.0**

comp=Z,49nm,2.6s
CLL *i* x x 00 48 53.3
CLL *e*Plp 00 48 54.0
CLL *e*PcP **PcP** **00 49 31.0 -3.1**
comp=Z,32nm,1.5s
CLL *e*x x 00 52 38.0
CLL *e*S **S** **00 56 58.0 +2.2**
CLL *e*SS **SS** **01 00 54.0 +2.3**
CLL LmV 01 15 00.0
comp=Z,800nm,21.0s
TNS Taunus Mts 59.72 344 *e*P **P** **00 48 52.7 +4.7**
comp=Z,76nm,1.1s,baz=157,slow=7.0
NEUB Neuenburg 59.77 346 *e*P P 00 48 53.2 +5.1
comp=Z,32nm,1.0s,baz=157,slow=7.0
CLF Chambon-Foret 59.82 338 P **P** **00 48 48.9 +0.3**
CLF IAMs_20 IAMs_20 01 16 52.1
comp=Z,2µm,20.0s
UBBA Unterbreizbach 59.85 345 *e*P P 00 48 54.0 +5.4
comp=Z,194nm,1.8s,baz=157,slow=7.0
WLF Walferdange 59.91 342 P **P** **00 48 49.6 +0.4**
WLF Walferdange 59.91 342 *d*P **P** **00 48 49.5 +0.4**
comp=Z,16nm,1.4s
WLF Walferdange 59.91 342 P **P** **00 48 49.6 +0.4**
WLF pmax pmax
comp=Z,117nm,1.7s
WLF MLR MLR
comp=Z,700nm,20.0s
WLF Walferdange 59.91 342 *e*P **P** **00 48 53.1 +3.9**
comp=Z,95nm,1.6s,baz=157,slow=7.0
PGAV Gavieira, Arco 59.96 327 *e*LQ LQ 01 10 58.1
PGAV *e*LR LR 01 13 21.6
PGAV *i* IAMs_20 IAMs_20 01 17 08.3
comp=Z,1µm,18.0s
PMOZ Porto Moniz, M 60.04 314 P **P** **00 48 49.3 -1.3**
PMOZ Porto Moniz, M 60.04 314 *e*LQ LQ 01 09 46.6
PMOZ *e*LR LR 01 11 38.0
PMOZ *i* IAMs_20 IAMs_20 01 15 01.6
comp=Z,1µm,18.0s
CHM Chimkent 60.09 32 *e*P **P** **00 48 50.6 -0.1**
comp=Z,22nm,1.0s
CHM Chimkent 60.09 32 *e*P **P** **00 48 50.6 -0.1**
CHM pmax pmax
comp=Z,22nm,1.0s
IUG Iuzhnay 60.20 33 *e*P **P** **00 48 51.5 -0.1**
comp=Z,22nm,0.9s
IUG Iuzhnay 60.20 33 *e*P **P** **00 48 51.4 -0.1**
IUG pmax pmax
comp=Z,22nm,0.9s
BELG Belogornoye 60.41 12*ce*P **P** **00 48 52.4 -0.1**
BELG pmax pmax
comp=Z,5.0nm,1.0s
RUE Ruedersdorf 60.52 348 *e*P **P** **00 48 58.0 +4.7**
baz=157,slow=7.0
GTTG Gottingen 60.52 345 *e*P P 00 48 58.5 +5.2
comp=Z,78nm,1.1s,baz=157,slow=7.0
BHOU Houvegnez 60.56 342 *d*P **P** **00 48 54.8 +1.1**
comp=Z,17nm,1.5s
BHOU *d*PcP **PcP** **00 49 39.4 +1.3**
KASTN Kahler Asten 60.62 344 *e*P **P** **00 48 58.7 +4.6**
comp=Z,56nm,1.2s,baz=157,slow=7.0
RCHB Rochefort 60.63 341 *d*P **P** **00 48 54.7 +0.6**
comp=Z,13nm,1.5s
SUW Suwalki 60.63 355 *e*P **P** **00 48 58.7 +4.7**
SUW Suwalki 60.63 355 P **P** **00 48 53.1 -0.9**
SUW Suwalki 60.63 355 P **P** **00 48 53.1 -0.9**
SUW MLR MLR
comp=Z,700nm,18.0s
GKP Gorka Klasztor 60.64 351 *e*P **P** **00 48 58.8 +4.7**
BRLS Boroldav 60.71 32 *e*P **P** **00 48 52.5 -2.4**
comp=Z,16nm,1.3s
BRLS Boroldav 60.71 32 *e*P **P** **00 48 52.5 -2.4**
BRLS pmax pmax
comp=Z,16nm,1.3s
BTNL Ternell 60.72 342 *d*P P 00 49 00.4 +5.6
comp=Z,8.2nm,1.5s
DOU Dourbes 60.78 341 *d*P **P** **00 48 55.5 +0.4**
comp=Z,5.8nm,1.3s
MEM Membach 60.78 342 *d*P **P** **00 48 55.8 +0.6**
comp=Z,13nm,1.5s
MEM *d*PcP **PcP** **00 49 38.4 -0.5**
MNK Minsk 60.83 358 *i* P **P** **00 48 54.4 -1.0**
comp=E,18nm,0.8s
MNK *i* P **P** **00 48 54.4 -1.0**
comp=N,5.0nm,0.7s
MNK *i* P **P** **00 48 54.4 -1.0**
comp=Z,12nm,0.7s,baz=177
MNK *i* PP **PP** **00 51 11.4 +1.7**
MNK *i* PPP PPP 00 52 47.7
MNK *i* S **S** **00 57 11.2 -0.6**
MNK *i* PS **PnS** **00 57 28.5 +1.9**
MNK *i* SS SS 01 01 36.3 +25
MNK *i* LRM MLR 01 16 34.3
comp=Z,406nm,18.3s
MNK *i* LRM MLR 01 18 46.8
comp=N,592nm,18.6s
MNK Minsk 60.83 358 *i* P **P** **00 48 54.4 -1.0**
MNK *i* 00 51 11.4
MNK *i* S **S** **00 57 11.2 -0.6**
MNK *i* PS **PnS** **00 57 28.5 +1.9**
MNK pmax pmax
comp=Z,12nm,0.7s
MNK pmax pmax
comp=N,5.0nm,0.7s
MNK pmax pmax
comp=E,18nm,0.8s
MNK MLR MLR
comp=Z,406nm,18.0s
MNK MLR MLR
comp=N,592nm,19.0s
BCLA Clavier 60.83 342 *d*P **P** **00 48 59.6 +4.1**
comp=Z,16nm,1.4s
BCLA *d*PcP **PcP** **00 49 36.1 -3.1**
BGES Gesves 60.87 341 *d*P **P** **00 48 56.6 +0.8**
comp=Z,12nm,0.0s
ASSE Asse, Remlinge 60.88 346 *e*P **P** **00 49 00.4 +4.7**
comp=Z,85nm,1.4s,baz=157,slow=7.0
BSTI Sart Tilman 60.89 342 *d*P **P** **00 48 57.6 +1.7**
comp=Z,4.2nm,1.2s
BMRD Maredsous 60.90 341 *d*P **P** **00 48 56.0 +0.1**
BMRD *dp*P **sP** **00 49 03.9 -1.3**
BMRD *ds*P **pP** **00 49 06.8 +4.2**
FLTG Flechtingen 60.93 346 *e*P P 00 49 01.4 +5.3
comp=Z,58nm,1.7s,baz=157,slow=7.0
BEBN Eben Emael 61.05 342 *d*P P 00 49 02.2 +5.3
AB31 Akbulak array 61.09 21 P **P** **00 48 56.5 -0.8**
AB31 IAmb IAmb 00 49 05.4
comp=Z,42nm,1.8s
ABKAR Akbulak array 61.09 21 **P** **00 48 56.5 -0.7**
KK31 Karatay Array 61.12 32 P **P** **00 48 56.9 -0.8**
KK31 IAmb IAmb 00 49 06.8
comp=Z,43nm,1.1s
KK31 Karatay Array 61.12 32 P **P** **00 48 56.9 -0.8**
KK31 pmax pmax
comp=Z,43nm,1.2s
KKAR Karatay Array 61.12 32 P **P** **00 48 57.1 -0.5**
KKAR Karatay Array 61.12 32 P **P** **00 48 57.1 -0.5**
BUG Bochum-Univer 61.15 343 *e*P **P** **00 49 02.1 +4.5**
comp=Z,87nm,1.1s,baz=157,slow=7.0
DZA Taraz 61.41 33 *e*P **P** **00 48 59.6 -0.1**
comp=Z,14nm,0.8s
DZA Taraz 61.41 33 *e*P **P** **00 48 59.5 -0.1**
DZA pmax pmax
comp=Z,14nm,0.8s
AKTO Aktyubinsk 61.42 19 LR LR 01 17 50.2
comp=Z,1µm,18.2s,baz=134,slow=38
UCC Uccle 61.46 341 P **P** **00 48 59.6 -0.1**
UCC Uccle 61.46 341 *d*P **P** **00 48 58.7 -1.1**
comp=Z,22nm,1.3s
UCC Uccle 61.46 341 P **P** **00 48 59.7 -0.1**
UCC pmax pmax
comp=Z,91nm,1.4s
UCC MLR MLR
comp=Z,1µm,18.0s
GORT1 Trebel 61.53 347 *e*P P 00 49 05.8 +5.7
comp=Z,191nm,1.4s,baz=157,slow=7.0
OBN Obninsk 61.59 4 P **P** **00 48 59.7 -0.8**
OBN Obninsk 61.59 4 LR LR 01 17 21.0
comp=Z,440nm,18.9s,baz=150,slow=38
OBN Obninsk 61.59 4*d*P **P** **00 49 01.1 +0.6**
OBN *i* *SP **pP** **00 49 06.2 -1.0**
OBN *i* 00 49 15.4
OBN *i* 00 49 47.6
OBN 00 51 24.0
OBN *i* S **S** **00 57 22.5 +1.2**
OBN *e* 00 57 50.7
OBN *e*SS **SS** **01 01 24.2 +1.2**
OBN *e*SSS SSS 01 04 06.7
OBN pmax pmax
comp=Z,43nm,1.4s
OBN MLR MLR
comp=Z,363nm,17.0s
RETH Rethem/Aller, 61.76 345 *e*P P 00 49 07.4 +5.7
comp=Z,62nm,1.4s,baz=157,slow=7.0
IBBN Ibbenburen 61.79 344 *e*P **P** **00 49 06.5 +4.6**
comp=Z,84nm,1.4s,baz=157,slow=7.0
KSH Kashi 61.95 38 P **P** **00 49 05.9 +2.4**
KSH S **S** **00 57 18.8 -8.1**
KSH pmax pmax
comp=Z,5.0nm,1.3s
KSH LR LR
comp=Z,2µm,16.5s
KSH LR LR
comp=Z,1µm,13.9s
KSH LR LR
comp=Z,2µm,19.4s
PABE Paberze 62.05 356 P **P** **00 49 03.9 +0.3**
MOS Moscow 62.28 4 *e*P **P** **00 49 02.9 -2.3**
MOS *e* 00 49 43.0
MOS *e* 00 51 18.4
MOS *e*S **S** **00 57 25.9 -4.2**
MOS pmax pmax
comp=Z,169nm,1.7s
MOS pmax pmax
comp=Z,200nm,1.5s
SYO Syowa Base 62.69 176 ‖ *i*P **P** **00 49 09.2 +1.5**
SYO Syowa Base 62.69 176 ‖ *p*P pP 00 49 16.8 +2.3
SYO Syowa Base 62.69 176 ‖ *s*P sP 00 49 20.6 +3.6
BSD Bornholm Skovb 62.80 350 *i* P P 00 49 13.8 +5.2
BSD IAmb IAmb 00 49 16.3
comp=Z,48nm,1.0s
AAK Ala-Archa 63.00 35 P **P** **00 49 10.2 -0.3**
AAK Ala-Archa 63.00 35 P **P** **00 49 12.1 +1.5**
comp=Z,0.9nm,0.3s,baz=229,slow=8.0,SNR=7.5
AAK LR LR 01 19 10.2
comp=Z,876nm,18.3s,baz=250,slow=39
comp=Z,0.9nm,0.3s
AAK Ala-Archa 63.00 35 P **P** **00 49 12.0 +1.5**
AAK Ala-Archa 63.00 35 ⇑ *e*P **P** **00 49 13.8 +3.3**
AAK pmax pmax
comp=Z,4.0nm,1.0s
NRN Naryn 63.13 37 P **P** **00 49 10.1 -1.5**
NRN Naryn 63.13 37 P **P** **00 49 10.1 -1.5**
NRN pmax pmax
comp=Z,11nm,1.1s
LUNU Lund 63.56 349 *i* P **P** **00 49 16.9 +3.2**
SGDS Sogindy 63.60 34 *e*P **P** **00 49 13.9 -0.4**
BLEU Blekinge 63.79 351 *i* P **P** **00 49 18.3 +3.1**
EVN Everest 63.99 55 P **P** **00 49 16.1 -1.8**
EVN IAmb IAmb 00 49 23.8
comp=Z,38nm,1.2s
SSRD Sdr. Stenderup 64.21 347 *i* P **P** **00 49 19.6 +1.6**
SSRD IAmb IAmb 00 49 27.1
comp=Z,129nm,1.2s
DEL Delary 64.28 350 *i* P **P** **00 49 21.0 +2.6**
BTLS Baital 64.31 33 *e*P **P** **00 49 18.5 -0.4**
comp=Z,13nm,1.6s
BTLS Baital 64.31 33 *e*P **P** **00 49 18.4 -0.4**
BTLS pmax pmax
comp=Z,13nm,1.6s
TNSS Tian-Shan 64.66 36 *e*P **P** **00 49 21.1 -0.7**
TNSS Tian-Shan 64.66 36 *e*P **P** **00 49 21.0 -0.7**
AAA Alma-Ata 64.75 36 *e*P **P** **00 49 21.5 -0.4**
comp=Z,7.2nm,0.5s
AAA Alma-Ata 64.75 36 *e*P **P** **00 49 21.5 -0.4**
AAA pmax pmax
comp=Z,7.0nm,0.5s
MAW Mawson 64.75 167 P **P** **00 49 22.9 +1.6**
comp=Z,12nm,1.0s
MAW Mawson 64.75 167 P **P** **00 49 23.2 +1.9**
comp=Z,37nm,0.9s,baz=323,slow=7.4,SNR=76
MAW LR LR 01 14 34.2
comp=Z,860nm,19.9s,baz=326,slow=33
comp=Z,37nm,0.9s
MDOK Medeo 64.80 36 *e*P **P** **00 49 22.0 -0.4**
MDOK Medeo 64.80 36 *e*P **P** **00 49 21.9 -0.4**
VSU Vasula 64.83 358 ⇑ *e*P **P** **00 49 22.2 +0.2**
VSU pmax pmax
comp=Z,68nm,1.3s
MUD Monsted U'grnd 65.21 347 *i* P **P** **00 49 25.7 +1.2**
MUD IAmb IAmb 00 49 33.6
comp=Z,132nm,1.4s
ONAU Onsala 65.51 349 *i* P **P** **00 49 27.7 +1.3**
SATY Saty 65.53 37 *e*P **P** **00 49 26.7 -0.4**
comp=Z,13nm,1.4s
SATY Saty 65.53 37 *e*P **P** **00 49 26.6 -0.4**
SATY pmax pmax
comp=Z,13nm,1.4s
BORU Boraas 65.58 349 *i* P **P** **00 49 26.8 0.0**
TJOU Tjoern 66.17 349 *i* P **P** **00 49 29.9 -0.7**
BRDH Bariadhala 66.20 62 LR LR 01 20 18.4
comp=Z,1µm,18.1s,baz=270,slow=38
SHLS Shalkode 66.22 37 *e*P **P** **00 49 32.4 +1.0**
comp=Z,14nm,1.6s
SHLS Shalkode 66.22 37 *e*P **P** **00 49 32.4 +1.0**
SHLS pmax pmax
comp=Z,14nm,1.6s
RCBR Riachuelo 66.25 266 P **P** **00 49 30.8 -1.3**
RCBR IAmb IAmb 00 49 34.1
comp=Z,39nm,1.1s
RCBR Riachuelo 66.25 266 LR LR 01 12 50.5
comp=Z,395nm,22.0s,baz=91,slow=31
RCBR Riachuelo 66.25 266 P **P** **00 49 30.8 -1.3**
RCBR pmax pmax
comp=Z,39nm,1.1s
ARTI Arti 66.66 16 P **P** **00 49 32.5 -1.4**
ARTI IAmb IAmb 00 49 39.3
comp=Z,62nm,1.1s
ARTI IAMs_20 IAMs_20 01 21 25.2
comp=Z,2µm,19.0s
ARTI Arti 66.66 16 LR LR 01 21 36.7
comp=Z,2µm,18.8s,baz=214,slow=39
ARTI Arti 66.66 16*c* *i*P **P** **00 49 32.3 -1.5**
ARTI 00 50 02.0
ARTI 00 53 32.4
ARTI PPP PPP
ARTI S **S** **00 58 25.2 +0.9**
ARTI SS **SS** **01 02 34.3 -7.9**
ARTI pmax pmax
comp=Z,18nm,1.2s
ARTI MLR MLR
comp=Z,1µm,17.0s
TDK Taldyqorghan 66.69 35 *e*P **P** **00 49 33.8 -0.6**
comp=Z,5.6nm,0.7s
TDK Taldyqorghan 66.69 35 *e*P **P** **00 49 33.7 -0.6**
TDK pmax pmax
comp=Z,6.0nm,0.7s
BRZS Berezniki 66.95 28 *e*P **P** **00 49 36.1 +0.2**
BRZS Berezniki 66.95 28 *e*P **P** **00 49 36.1 +0.2**
LHMI Lhok Sumawe 67.07 82 P **P** **00 49 36.8 -0.6**
GSI Gunungsitoli 67.12 86 P **P** **00 49 37.5 -0.1**
GSI IAMs_20 IAMs_20 01 16 32.0
comp=Z,2µm,19.0s
GSI Gunungsitoli 67.12 86 P **P** **00 49 40.3 +2.6**
comp=Z,4µmcomp=Z,36nm,1.4s
STRU Stroemstad 67.19 349 *i* P **P** **00 49 36.3 -0.8**
SNART Snartemo 67.37 347 *i* P **P** **00 49 36.6 -1.6**
KLMR Klimovskoe 67.50 5 *e*P **P** **00 49 39.6 +0.5**
KLMR pmax pmax
comp=Z,111nm,1.5s
KCSI Kotacane, Aceh 67.62 84 P **P** **00 49 45.0 +4.1**
SVE Sverdlovsk 67.69 17 *e*P **P** **00 49 40.3 0.0**
SVE pmax pmax
comp=Z,36nm,1.3s
SVE MLR MLR
comp=Z,964nm,17.0s
TROLL Troll, Antarti 67.73 189 ⇑ P **P** **00 49 42.7 +2.1**
comp=Z,640nm,1.0s
EKA Eskdalemuir Ar 67.75 340 P **P** **00 49 41.5 +0.8**
comp=Z,3.3nm,0.8s,baz=127,slow=5.5,SNR=8.6
comp=Z,3.3nm,0.8s
ESK Eskdalemuir 67.75 340 IAMs_20 IAMs_20 01 22 27.7
comp=Z,1µm,19.0s
HFS Hagfors 67.79 351 P **P** **00 49 40.4 -0.6**
comp=Z,7.0nm,0.9s,baz=149,slow=6.9,SNR=8.8
HFS LR LR 01 21 54.7
comp=Z,498nm,19.9s,baz=150,slow=38
comp=Z,7.0nm,0.9s
FINES FINES Array B 67.84 358 P **P** **00 49 40.4 -0.8**
FINES FINES Array B 67.84 358 P **P** **00 49 40.1 -1.0**
comp=Z,4.3nm,0.6s,baz=171,slow=7.1,SNR=16
FINES LR LR 01 22 30.5
comp=Z,582nm,18.5s,baz=170,slow=39
comp=Z,4.3nm,0.6s
FIA1 FINESS Array S 67.84 358 P **P** **00 49 41.2 0.0**
KONO Kongsberg 68.06 349 P **P** **00 49 42.4 -0.3**
KONO IAmb IAmb 00 49 51.2
comp=Z,49nm,1.1s
KONO Kongsberg 68.06 349 *e*P **P** **00 49 42.9 +0.3**
KONO IAmb IAmb 00 49 50.2
comp=Z,68nm,1.4s
KONO Kongsberg 68.06 349 *de*P **P** **00 49 45.6 +3.0**
KONO pmax pmax
comp=Z,22nm,1.3s
OSL Oslo 68.12 349 *e*P **P** **00 49 44.5 +1.6**
OSL IAmb IAmb 00 49 51.0
comp=Z,72nm,1.2s
BVAR Borovoye Array 68.12 25 P **P** **00 49 41.9 -1.2**
comp=Z,2.2nm,0.7s,baz=223,slow=7.7,SNR=11
BVAR LR LR 01 20 04.7
comp=Z,1µm,20.9s,baz=220,slow=36
comp=Z,2.2nm,0.7s
SNAA Sanae 68.37 191 ⇑ P **P** **00 49 46.8 +2.2**
comp=Z,171nm,1.1s
SNAA Sanae 68.37 191 P **P** **00 49 45.4 +0.8**
SNAA IAmb IAmb 00 49 48.2
comp=Z,49nm,1.5s
SNAA IAMs_20 IAMs_20 01 16 44.8
comp=Z,2µm,20.0s
SNAA Sanae 68.37 191 P **P** **00 49 46.0 +1.4**
comp=Z,11nm,1.1s,baz=38,slow=6.3,SNR=17
SNAA LR LR 01 16 55.9
comp=Z,2µm,20.2s,baz=91,slow=34
comp=Z,11nm,1.1s
SNAA Sanae 68.37 191 *de*P **P** **00 49 46.1 +1.5**
SNAA pmax pmax
comp=Z,15nm,1.2s
BLS5 Blasjo 68.52 347 *e*P **P** **00 49 48.3 +2.8**
BLS5 IAmb IAmb 00 49 54.2
comp=Z,52nm,1.3s
KMY Karmoy 68.61 346 *e*P **P** **00 49 48.8 +2.8**
KMY IAmb IAmb 00 49 54.2
comp=Z,134nm,1.7s
RPSI Rantau Prapat 68.65 85 P **P** **00 49 47.4 +0.1**
RPSI IAmb IAmb 00 49 57.1
comp=Z,38nm,1.6s
RPSI IAMs_20 IAMs_20 01 14 41.3
comp=Z,2µm,21.0s
PSI Prapat 68.66 84 LR LR 01 14 53.4
comp=Z,2µm,21.4s,baz=332,slow=32
PSI Prapat 68.66 84 P **P** **00 49 47.4 -0.1**
PSI pmax pmax
comp=Z,38nm,1.6s
VNA1 Neumayer--Stat 68.69 193 ⇑ P **P** **00 49 48.9 +2.5**
comp=Z,50nm,1.1s
NC602 NORSAR Array S 68.72 350 P **P** **00 49 46.5 -0.2**
NC602 NORSAR Array S 68.72 350 *e*P **P** **00 49 46.5 -0.2**
NC602 IAmb IAmb 00 49 55.0
comp=Z,116nm,1.4s
NC602 *e*S **S** **00 58 49.6 +0.9**
NC602 IAMs_20 IAMs_20 01 23 29.3
comp=Z,673nm,20.5s
ODD1 Odda 68.92 347 *e*P **P** **00 49 51.5 +3.4**
ODD1 IVMs_BB IVMs_BB 01 20 02.2
comp=Z,556nm,4.2s
NAO01 NORSAR Array S 68.94 350 P **P** **00 49 48.8 +0.7**
NC405 NORSAR Array S 69.04 350 P **P** **00 49 50.1 +1.3**
NC405 IAmb IAmb 00 49 57.3
comp=Z,78nm,1.4s
MNSI Mandailing Nat 69.05 87 P **P** **00 49 51.8 +2.1**
NB201 NORSAR Array S 69.06 350 P **P** **00 49 48.8 0.0**
NB2 NORSAR Subarra 69.06 350 P **P** **00 49 48.2 -0.7**
comp=Z,88nm,1.2s,baz=160,slow=5.9
NB2 NORSAR Subarra 69.06 350 P **P** **00 49 48.2 -0.7**
comp=Z,88nm,1.2s,baz=160,slow=5.9
NOA NORSAR Array B 69.06 350 P **P** **00 49 48.2 -0.7**
comp=Z,8.2nm,1.0s,baz=161,slow=5.7,SNR=18
NOA LR LR 01 24 06.7
comp=Z,420nm,20.0s,baz=170,slow=40
comp=Z,8.2nm,1.0s
NBO00 NORSAR Array S 69.13 350 P **P** **00 49 48.7 -0.6**
NC303 NORSAR Array S 69.21 350 P **P** **00 49 49.7 -0.1**
SKAR Skarslia 69.27 348 *e*P **P** **00 49 50.6 +0.3**
SKAR IAmb IAmb 00 49 59.1
comp=Z,120nm,1.3s
SKAR *e*S **S** **00 59 03.5 +8.1**
SKAR IAMs_20 IAMs_20 01 22 05.6
comp=Z,566nm,21.1s
NC204 NORSAR Array S 69.36 350 P **P** **00 49 50.9 +0.1**
VNA3 Neumayer Olymp 69.44 193 ⇑ P **P** **00 49 52.3 +1.2**
comp=Z,25nm,1.0s
BER Bergen 69.63 347 *e*P **P** **00 49 54.6 +2.2**
BER IAmb IAmb 00 50 01.0
comp=Z,36nm,1.1s
BER *e*S **S** **00 59 03.5 +4.0**
BER IAMs_20 IAMs_20 01 20 01.7
comp=Z,620nm,20.2s
PDSI Padang 69.72 89 P **P** **00 49 55.3 +1.3**
comp=Z,8µmcomp=Z,30nm,1.2s
ASK Askoy 69.75 347 *e*P **P** **00 49 56.1 +3.0**
ASK IAmb IAmb 00 49 59.3
comp=Z,42nm,1.4s
ASK *e*S **S** **00 59 01.5 +0.5**
ASK IAMs_20 IAMs_20 01 20 02.1
comp=Z,739nm,25.6s
MAKZ Makanchi 69.77 35 IAMs_20 IAMs_20 01 20 09.6
comp=Z,2µm,20.0s
MK31 Makanchi Array 69.94 35*ce*P **P** **00 49 54.9 +0.3**
MKAR Makanchi Array 69.94 35 P **P** **00 49 53.8 -0.9**
MKAR Makanchi Array 69.94 35 P **P** **00 49 54.8 +0.1**
comp=Z,8.7nm,0.9s,baz=238,slow=4.8,SNR=13
MKAR LR LR 01 22 07.8
comp=Z,2µm,21.4s,baz=240,slow=37
comp=Z,8.7nm,0.9s
MKAR Makanchi Array 69.94 35 *i* P **P** **00 49 53.7 -0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
HYA Hoyanger 70.15 348 *e*P **P** **00 49 58.8 +3.3**
HYA IAmb IAmb 00 50 04.2
comp=Z,70nm,1.2s
HYA *e*S **S** **00 59 08.3 +2.8**
HYA IAMs_20 IAMs_20 01 17 48.3
comp=Z,728nm,4.8s
KURBB Kurchatov Arra 70.20 30 P **P** **00 49 55.9 -0.2**
comp=Z,4.2nm,0.8s,baz=238,slow=6.2,SNR=28
KURBB LR LR 01 22 56.8
comp=Z,1µm,18.6s,baz=227,slow=38
comp=Z,4.2nm,0.8s
KURK Kurchatov 70.30 30 **P** **00 49 56.0 -0.7**
KURK IAmb IAmb 00 50 03.2
comp=Z,35nm,1.2s
KURK Kurchatov 70.30 30 P **P** **00 49 55.7 -1.0**
KURK Kurchatov 70.30 30 P **P** **00 49 56.0 -0.7**
KURK pmax pmax
comp=Z,35nm,1.2s
KURK MLR MLR
comp=Z,4µm,19.0s
DOMB Dombas 70.38 349 *e*P **P** **00 49 58.4 +1.4**
DOMB *e*PP **PP** **00 52 32.3 -0.7**
DOMB *e*S **S** **00 59 09.8 +1.4**
DOMB IAMs_20 IAMs_20 01 25 07.4
comp=Z,774nm,17.9s
BKNI Bangkinang 70.44 87 P **P** **00 49 59.7 +1.4**
FOO Floro 70.78 347 *e*P **P** **00 50 01.4 +2.0**
FOO IVmB_BB 00 50 07.6
comp=Z,541nm,1.5s
FOO IAMs_20 IAMs_20 01 16 55.2
comp=Z,637nm,24.7s
IPM Ipoh 70.97 83 P **P** **00 50 01.7 +0.1**
IPM IAmb IAmb 00 50 08.6
comp=Z,33nm,1.1s
MOL Molde 71.15 349 *e*P **P** **00 50 05.3 +3.7**
MASI Maura Aman, Be 71.25 91 P **P** **00 50 01.4 -1.9**
CM31 Chiang Mai Arr 71.62 68 P **P** **00 50 06.0 +0.6**
CM31 IAmb IAmb 00 50 15.5
comp=Z,80nm,1.3s
CM31 Chiang Mai Arr 71.62 68 P **P** **00 50 04.8 -0.6**
SNR=17
CMAR Chiang Mai Arr 71.62 68 P **P** **00 50 05.6 +0.2**
CMAR Chiang Mai Arr 71.62 68 P **P** **00 50 06.5 +1.1**
comp=Z,12nm,1.0s,baz=256,slow=7.5,SNR=43
CMAR LR LR 01 21 13.8
comp=Z,191nm,18.1s,baz=265,slow=36
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 71.62 68 *i* P **P** **00 50 06.5 +1.1**
CMAR pmax pmax
comp=Z,11nm,0.9s
WMQ Urumqi 71.65 40 *e*P **P** **00 50 07.5 +2.3**

WMQ LR LR
comp=Z,3µm,16.3s
WMQ LR LR
comp=Z,2µm,15.3s
WMQ LR LR
comp=Z,920nm,24.2s
CHTO Chiang Mai 71.71 68 P **P** **00 50 06.0 +0.1**
CHTO IAmb IAmb 00 50 12.9
comp=Z,32nm,1.1s
CHTO Chiang Mai 71.71 68 P **P** **00 50 05.5 -0.5**
CHTO Chiang Mai 71.71 68 P **P** **00 50 06.0 +0.1**
CHTO pmax pmax
comp=Z,32nm,1.1s
ZSN Zaisan 71.77 35 *e*P **P** **00 50 05.8 +0.1**
comp=Z,19nm,1.7s
ZSN Zaisan 71.77 35 *e*P **P** **00 50 05.8 +0.1**
ZSN pmax pmax
comp=Z,19nm,1.7s
NSS Namsos 72.23 352 *e*P **P** **00 50 08.8 +0.8**
LHSI Lahat 72.45 92 P **P** **00 50 12.3 +1.8**
TNCH TengChong 72.90 61 P **P** **00 50 15.2 +2.0**
TNCH sP pP 00 50 19.3 -0.7
TNCH S **S** **00 59 33.8 -5.4**
TNCH pmax pmax
comp=Z,28nm,1.1s
TNCH pmax pmax
comp=Z,92nm,2.7s
TNCH LR LR
comp=Z,410nm,27.6s
TNCH LR LR
comp=Z,440nm,18.1s
TNCH LR LR
comp=Z,720nm,18.6s
MDSI Maura Dua 73.04 93 P **P** **00 50 14.0 0.0**
comp=Z,561nmcomp=Z,36nm,1.3s
DIAM Diamantina, MG 73.25 253 *e*P **P** **00 50 15.8 +0.5**
KASI Kota Agung 73.26 94 P **P** **00 50 17.0 +1.7**
comp=Z,33nm,1.2s
GOMU GeErMu 73.40 49 P **P** **00 50 17.3 +1.1**
GOMU pP pP 00 50 20.9 -2.1
GOMU sP sP 00 50 24.2 -1.3
GOMU S **SKiKP** **00 59 48.1 +1.5**
GOMU SS **SS** **01 04 26.9 -0.7**
GOMU pmax pmax
comp=Z,3.0nm,0.6s
GOMU LR LR
comp=Z,480nm,19.2s
GOMU LR LR
comp=Z,310nm,19.2s
GOMU LR LR
comp=Z,740nm,19.4s
MYKOM **Kota Tinggi 73.41 86** P **P** **00 50 15.9 -0.3**
MYKOM IAmb IAmb 00 50 23.1
comp=Z,49nm,1.2s
MOR8 Moi Rana 73.47 353 *e*P **P** **00 50 15.2 -0.3**
MOR8 IAMs_20 IAMs_20 01 23 43.4
comp=Z,889nm,17.8s
LEIR Leirfjorden 73.57 353 *e*P **P** **00 50 15.4 -0.6**
LEIR IAMs_20 IAMs_20 01 25 14.0
comp=Z,930nm,14.5s
PMBI Palembang 73.78 91 IAMs_20 IAMs_20 01 17 15.7
comp=Z,1µm,20.0s
STOK Stokkvaagen 73.80 353 *e*P **P** **00 50 19.8 +2.5**
STOK IAMs_20 IAMs_20 01 25 22.3
comp=Z,1µm,6.2s
APA Apatity 73.92 1⇓ *e*P **P** **00 50 18.1 +0.1**
APA *e* 00 50 30.4
KONS Konsvik 73.94 353 *e*P **P** **00 50 21.9 +3.8**
JANB Januaria 73.97 256 *e*P **P** **00 50 19.9 +0.4**
VAGH Vaagaholmen 74.14 353 *e*P **P** **00 50 21.2 +1.9**
BSCB Bom Sucesso 74.23 250 *e*P **P** **00 50 20.5 -0.5**
LVZ Lovozero 74.28 2 P **P** **00 50 20.9 +0.7**
LVZ IAmb IAmb 00 51 23.1
comp=Z,92nm,1.7s
LVZ Lovozero 74.28 2 P **P** **00 50 20.9 +0.7**
LVZ pmax pmax
comp=Z,92nm,1.7s
CGJI Cibinong 74.35 95 P **P** **00 50 22.6 +0.9**
FAUS Fauske 74.54 354 *e*P **P** **00 50 22.5 +0.9**
SDBA SAO DESIDERIO 74.68 259 *e*P **P** **00 50 22.8 -0.8**
STEI Steigen 75.07 354 *e*P **P** **00 50 27.3 +2.6**
ZAA0 Zalesovo Array 75.28 30 P **P** **00 50 25.6 -0.6**
ZALV Zalesovo Beam 75.28 30 **P** **00 50 24.6 -1.6**
ZALV Zalesovo Beam 75.28 30 P **P** **00 50 25.3 -0.9**
comp=Z,4.0nm,0.8s,baz=247,slow=5.7,SNR=15
ZALV PP **PP** **00 53 14.8 -0.3**
comp=Z,12nm,1.0s,baz=248,slow=7.8,SNR=6.4
ZALV LR LR 01 26 48.6
comp=Z,1µm,18.8s,baz=231,slow=38
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 75.28 30 *i*P **P** **00 50 26.1 -0.1**
ZALV pmax pmax
comp=Z,6.0nm,0.8s
DBJI Dramaga 75.41 95 P **P** **00 50 28.6 +0.8**
comp=Z,50nm,1.0s
KTK1 Kautokeino 75.53 357 *e*P **P** **00 50 28.6 +1.3**
CNJI Cibinong 75.72 96 P P 00 50 34.4 +4.8
PMNB Patos De Minas 75.86 253 *e*P **P** **00 50 32.7 +2.3**
ARA0 ARCESS Array S 75.96 358 *e*P **P** **00 50 30.8 +1.0**
ARCES ARCESS Array B 75.96 358 P **P** **00 50 28.9 -0.9**
ARCES IAmb IAmb 00 50 36.0
comp=Z,60nm,1.2s
ARCES ARCESS Array B 75.96 358 P **P** **00 50 28.9 -0.9**
comp=Z,3.9nm,0.7s,baz=165,slow=5.0,SNR=13
comp=Z,3.9nm,0.7s
PZH PanZhiHua 76.09 61 P **P** **00 50 34.4 +2.8**
PZH S **S** **01 00 13.7 -1.1**
PZH sS **pS** **01 00 24.3 +1.0**
PZH pmax pmax
comp=Z,30nm,1.3s
PZH pmax pmax
comp=Z,100nm,5.1s
PZH LR LR
comp=Z,320nm,21.4s
PZH LR LR
comp=Z,420nm,22.2s
PZH LR LR
comp=Z,450nm,20.2s
KEV Kevo 76.14 359 P **P** **00 50 31.1 +0.3**
KEV IAmb IAmb 00 50 39.7
comp=Z,30nm,1.0s
KEV Kevo 76.14 359 P **P** **00 50 31.1 +0.3**
KEV pmax pmax
comp=Z,30nm,1.0s
VAO Valinhos 76.22 248 P **P** **00 50 30.7 -1.7**
VAO IAmb IAmb 00 50 44.2
comp=Z,68nm,1.7s
VAO IAMs_20 IAMs_20 01 22 20.5
comp=Z,2µm,18.0s
JETT Jettan, Norway 76.23 356 *e*P **P** **00 50 32.0 +0.6**
LEM Lembang 76.24 95 LR LR 01 21 38.2
comp=Z,769nm,18.1s,baz=166,slow=34
KMI Kunming 76.63 62 P **P** **00 50 34.9 +0.1**
KMI pP pP 00 50 39.5 -2.2
KMI S **S** **01 00 21.7 +0.8**
KMI SS **SS** **01 05 20.5 +3.8**
KMI pmax pmax
comp=Z,15nm,1.6s
KMI LR LR
comp=Z,330nm,17.8s
KMI LR LR
comp=Z,350nm,20.9s
KMI LR LR
comp=Z,370nm,24.9s
SPB Sao Paulo 76.64 247 IAMs_20 IAMs_20 01 20 45.4
comp=Z,1µm,20.0s
SLVN Son La 76.81 66 P **P** **00 50 36.3 +0.5**
KPJI Karang Pucung 77.50 96 P **P** **00 50 41.3 +1.7**
comp=Z,63nm,1.1s
BDFB Brasilia 77.51 255 P **P** **00 50 39.5 -0.3**
BDFB IAMs_20 IAMs_20 01 24 09.7
comp=Z,955nm,18.0s
BDFB Brasilia 77.51 255 P **P** **00 50 40.1 +0.3**
comp=Z,5.3nm,0.8s,baz=79,slow=11,SNR=7.0
BDFB LR LR 01 21 43.7
comp=Z,674nm,20.0s,baz=116,slow=33
comp=Z,5.3nm,0.8s
BDFB Brasilia 77.51 255 P **P** **00 50 39.5 -0.3**
BDFB pmax pmax
comp=Z,29nm,1.3s
BDFB MLR MLR
comp=Z,1µm,18.0s
IPMB Ipameri, GO 77.57 253 *e*P **P** **00 50 41.5 +1.4**
BB19B Bebedouro 77.73 250 *e*P **P** **00 50 41.5 +0.6**
GTA Gaotai 78.22 48 *e*P **P** **00 50 44.3 +1.0**
GTA pP pP 00 50 48.4 -1.8
GTA S **S** **01 00 38.6 +1.1**
GTA SS **SS** **01 05 42.0 +2.0**
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA LR LR
comp=Z,1µm,17.1s
GTA LR LR
comp=Z,830nm,16.3s
GTA LR LR
comp=Z,990nm,18.7s
BELA Belgrano 2 78.61 191 P **P** **00 50 45.7 +1.1**
BELA IAmb IAmb 00 50 47.8
comp=Z,34nm,1.1s
BELA IAMs_20 IAMs_20 01 25 42.4
comp=Z,2µm,18.0s
CD2 Chengdu 78.91 57 P P 00 50 53.5 +6.3
CD2 S **S** **01 00 43.0 -2.0**
CD2 sS pS 01 00 53.8 +0.2
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,100nm,4.4s
CD2 LR LR
comp=Z,1µm,15.9s
CD2 LR LR
comp=Z,750nm,18.2s
CD2 LR LR
comp=Z,620nm,14.4s
SMRI Semarang 79.01 96 P **P** **00 50 46.9 -1.2**
UGM Wanagama 79.02 97 P **P** **00 50 47.6 -0.5**
DLV Lat 79.41 77 P **P** **00 50 48.9 -1.6**
DLV IAmb IAmb 00 50 57.9
comp=Z,106nm,1.8s
WOJI Wonogiri, Jawa 79.42 97 P P 00 50 55.7 +5.4
CNLB Canela 79.56 241 *e*P **P** **00 50 51.4 +0.5**
KSM Kuching 79.77 87 P **P** **00 50 51.4 -0.9**
CASY Casey 79.96 156 P **P** **00 50 53.2 +1.1**
CASY IAmb IAmb 00 50 55.2
comp=Z,47nm,1.4s
NGJI Ngawi 79.99 96 P P 00 50 58.5 +5.1
PRPB Parauapebas 80.00 265 *e*P **P** **00 50 54.4 +0.9**
LDASE Londrina, Braz 80.03 247 *e*P **P** **00 50 54.7 +1.2**
LZDM Lanzhou Array 80.16 52 P **P** **00 50 55.2 +1.0**
comp=Z,0.8nm,0.3s,baz=212,slow=5.3,SNR=3.6
LZDM LR LR 01 26 59.1
comp=Z,554nm,20.6s,baz=335,slow=36
comp=Z,0.8nm,0.3s
PCMB Pacaembu 80.25 249 *e*P **P** **00 50 56.5 +1.8**
LZH Lanzhou 80.31 52 *e*P **P** **00 50 57.0 +2.1**
LZH pP pP 00 51 01.4 -0.3
LZH PP **PP** **00 53 57.3 -0.6**
LZH S **S** **01 01 01.6 +1.7**
LZH pmax pmax
comp=Z,26nm,1.1s
LZH LR LR
comp=Z,1µm,17.2s
LZH LR LR
comp=Z,970nm,16.3s
LZH LR LR
comp=Z,1µm,17.7s
GYA Guiyang 80.37 62 ⇑P P 00 51 01.2 +5.8
GYA S **S** **01 01 00.6 -0.2**
GYA pmax pmax
comp=Z,36nm,1.0s
GYA LR LR
comp=Z,470nm,26.5s
KNGR Kungurtug, Tuv 80.60 36⇑ *e*P **P** **00 50 59.9 +3.8**
KNGR pmax pmax
comp=Z,37nm,1.2s
PTGB Pitanga 80.82 246 *e*P **P** **00 50 57.6 -0.2**
ARAG Araguaiana, MT 81.15 255 *e*P **P** **00 50 59.7 +0.1**
JMIC Jan Mayen 81.62 348 LR LR 01 32 07.3
comp=Z,287nm,18.2s,baz=140,slow=39
PLTB Pedras Altas 81.84 239 IAMs_20 IAMs_20 01 23 34.3
comp=Z,2µm,19.0s
QIZ Qiongzhong 81.85 70 P **P** **00 51 02.6 -0.6**
QIZ S **S** **01 01 19.3 +3.1**
QIZ SS **SS** **01 06 38.7 +3.8**
QIZ pmax pmax
comp=Z,16nm,1.2s
QIZ LR LR
comp=Z,220nm,17.9s
QIZ LR LR
comp=Z,460nm,17.9s
QIZ LR LR
comp=Z,640nm,18.6s
JAGI Jajag, Banyuwa 82.54 98 P **P** **00 51 06.2 -0.8**
JAGI IAmb IAmb 00 51 13.3
comp=Z,36nm,0.9s
JAGI IAMs_20 IAMs_20 01 23 23.7
comp=Z,946nm,20.0s
JAGI Jajag, Banyuwa 82.54 98 P **P** **00 51 07.0 0.0**
comp=Z,48nm,1.2s
RPRD Ribas do Rio P 82.60 250 *e*P **P** **00 51 08.6 +1.4**
MOY Mondy 83.03 36 *e*P P 00 51 15.5 +6.7
MOY pmax pmax
comp=Z,53nm,1.7s
ESPZ Base Esperanza 83.23 207 IAMs_20 IAMs_20 01 21 26.7
comp=Z,2µm,21.0s
NWAO Narrogin (SRO) 83.54 122 P **P** **00 51 11.6 -0.2**
NWAO IAmb IAmb 00 51 13.0
comp=Z,30nm,1.1s
NWAO Narrogin (SRO) 83.54 122 LR LR 01 24 05.6
comp=Z,908nm,18.0s,baz=269,slow=32
NWAO Narrogin (SRO) 83.54 122 P **P** **00 51 11.6 -0.2**
NWAO Narrogin (SRO) 83.54 122 P **P** **00 51 11.6 -0.2**
NWAO pmax pmax
comp=Z,30nm,1.1s
QSPA South Pole Qui 83.57 180 P **P** **00 51 13.1 +1.7**
QSPA IAmb IAmb 00 51 14.7
comp=Z,24nm,0.9s
QSPA South Pole Qui 83.57 180 IAMs_20 IAMs_20 01 25 51.3
comp=Z,1µm,19.0s
QSPA South Pole Qui 83.57 180 P **P** **00 51 13.5 +2.1**
comp=Z,22nm,1.0s,baz=253,slow=2.3,SNR=67
QSPA LR LR 01 25 50.7
comp=Z,930nm,21.6s,baz=240,slow=34
comp=Z,22nm,1.0s
XAN Xi'an 83.87 55 ⇑P P 00 51 19.1 +5.6
XAN sP sP 00 51 26.2 +3.3
XAN S **SKSac** **01 01 32.3 -3.6**
XAN pmax pmax
comp=Z,14nm,1.1s
XAN LR LR
comp=Z,1µm,14.4s
XAN LR LR
comp=Z,660nm,18.8s
XAN LR LR
comp=Z,1µm,19.2s
PP1B Ponte de Pedra 83.93 253 *e*P **P** **00 51 15.9 +1.8**
ZAK Zakamensk 83.99 38 *e*P **P** **00 51 17.1 +3.3**
ZAK pmax pmax
comp=Z,22nm,1.7s
MDP Montagnes des 84.06 276 LR LR 01 23 34.1
comp=Z,659nm,22.0s,baz=92,slow=32
EFI East Falkland 84.22 219 IAMs_20 IAMs_20 01 23 29.5
comp=Z,2µm,20.0s
AQDB Aquidauana 84.46 250 *e*P **P** **00 51 17.4 +0.7**
SJPY San Joaquin 84.47 246 *e*P **P** **00 51 18.7 +2.0**
MAL2 Monte Alegre, 84.76 269 P **P** **00 51 17.3 -1.1**
MAL2 IAmb IAmb 00 51 40.6
comp=Z,21nm,1.0s
SALV Santo Antonio 84.86 255 *e*P **P** **00 51 20.0 +1.2**
SPB2 Spitsbergen Ar 84.93 357 P **P** **00 51 19.1 +1.2**
SPITS Spitsbergen Ar 84.93 357 P **P** **00 51 18.0 +0.1**
comp=Z,14nm,1.0s,baz=166,slow=12,SNR=3.6
SPITS LR LR 01 31 19.1
comp=Z,423nm,21.6s,baz=154,slow=37
comp=Z,14nm,1.0s
SPITS Spitsbergen Ar 84.93 357 P **P** **00 51 17.9 0.0**
SPITS pmax pmax
comp=Z,77nm,1.1s
TWSI Taliwang, Sumb 85.20 98 P **P** **00 51 25.3 +4.7**
SONM Songino Array 85.23 41 P **P** **00 51 19.9 -0.3**
SONM IAmb IAmb 00 51 28.3
comp=Z,50nm,1.8s
SONM Songino Array 85.23 41 P **P** **00 51 20.8 +0.6**
comp=Z,1.5nm,0.8s,baz=244,slow=4.8,SNR=24
SONM LR LR 01 32 35.4
comp=Z,865nm,18.5s,baz=273,slow=38
comp=Z,1.5nm,0.8s
SONM Songino Array 85.23 41 P **P** **00 51 19.9 -0.3**
SONM pmax pmax
comp=Z,50nm,1.8s
NPGB Novo Progresso 85.40 263 *e*P **P** **00 51 22.9 +1.4**
CPUP Villa Florida 85.46 244 LR LR 01 26 23.7
comp=Z,274nm,18.9s,baz=324,slow=34
ULN Ulaanbaatar 85.67 41 P **P** **00 51 22.9 +0.5**
ULN Ulaanbaatar 85.67 41 IAMs_20 IAMs_20 01 32 28.2
comp=Z,965nm,19.0s
ULN Ulaanbaatar 85.67 41 P **P** **00 51 21.4 -1.0**
ULN Ulaanbaatar 85.67 41⇑ *e*P **P** **00 51 24.0 +1.6**
ULN pmax pmax
comp=Z,3.0nm,0.9s
KBS Kingsbay 85.91 356 P **P** **00 51 22.6 -0.1**
KBS Kingsbay 85.91 356⇑ *e*P **P** **00 51 23.3 +0.6**
KBS pmax pmax
comp=Z,19nm,1.0s
BKB Balikpapan 86.01 91 IAMs_20 IAMs_20 01 24 44.2
comp=Z,1µm,20.0s
ITTB Itaituba 86.05 266 *e*P **P** **00 51 25.4 +0.6**
PLAI Plampang 86.07 98 P **P** **00 51 28.7 +3.8**
BTO Baotou 86.09 49 *e*P **P** **00 51 24.3 -0.3**
BTO sP **pP** **00 51 31.1 -0.4**
BTO PP **PP** **00 54 41.7 -3.4**
BTO S **S** **01 01 59.4 +1.1**
BTO pmax pmax
comp=Z,16nm,0.5s
BTO pmax pmax
comp=Z,110nm,3.7s
BTO LR LR
comp=Z,2µm,18.4s
BTO LR LR
comp=Z,1µm,20.2s
BTO LR LR
comp=Z,2µm,18.0s
CNSH ChangSha 86.17 61 P P 00 51 31.9 +6.8
CNSH pmax pmax
comp=Z,37nm,1.4s
KKM Kota Kinabalu 86.17 84 P **P** **00 51 25.5 0.0**
KKM IAmb IAmb 00 52 08.2
comp=Z,38nm,1.5s
PMSA Palmer Station 86.22 205 IAMs_20 IAMs_20 01 26 21.8
comp=Z,1µm,20.0s
PMSA Palmer Station 86.22 205 LR LR 01 26 12.6
comp=Z,1µm,21.1s,baz=94,slow=33
PDRB Porto dos Gac 86.28 259 *e*P **P** **00 51 26.1 +0.2**
MBWA Marble Bar 86.72 111 P **P** **00 51 26.7 -1.3**
MBWA Marble Bar 86.72 111 P **P** **00 51 26.9 -1.1**
MBWA Marble Bar 86.72 111 P **P** **00 51 27.7 -0.3**
PSA00 Pilbara Seismi 86.78 111 P **P** **00 51 27.4 -0.8**
comp=Z,16nm,1.3s
PSA00 Pilbara Seismi 86.78 111 P **P** **00 51 26.8 -1.5**
PSA00 Pilbara Seismi 86.78 111 P **P** **00 51 27.2 -1.1**
PSA00 IAmb IAmb 00 51 28.5
comp=Z,14nm,1.1s
LYN LuoYang 86.85 55 P **P** **00 51 30.5 +2.2**
LYN pP pP 00 51 35.4 +0.2
LYN sP sP 00 51 38.3 +0.6
LYN SKS **SKSac** **01 01 53.9 -0.7**
LYN S **S** **01 02 09.3 +3.6**
LYN sS sS 01 02 18.3 +1.1
LYN pmax pmax
comp=Z,37nm,1.2s
LYN LR LR
comp=Z,1µm,19.2s
LYN LR LR
comp=Z,1µm,19.2s
LYN LR LR
comp=Z,1µm,15.5s
SMAI San Martin Ant 86.94 202 P **P** **00 51 28.5 +0.4**
SMAI IAmb IAmb 00 51 30.8
comp=Z,22nm,1.2s
SMAI IAMs_20 IAMs_20 01 25 53.8
comp=Z,2µm,20.0s
HHC Hu-ho-hao-te 87.29 49 *e*P **P** **00 51 31.6 +1.2**
HHC sP sP 00 51 40.6 +0.8
HHC SKS **SKSac** **01 01 55.3 -2.0**
HHC S **SKKSac** **01 02 08.0 +1.6**
HHC sS sS 01 02 25.2 +3.8
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,98nm,4.2s
HHC LR LR
comp=Z,570nm,17.6s
HHC LR LR
comp=Z,770nm,17.6s
HHC LR LR
comp=Z,850nm,18.3s
TRQA Tornquist 88.20 232 P **P** **00 51 35.2 +0.5**
TRQA IAmb IAmb 00 51 49.1
comp=Z,35nm,1.6s
TRQA IAMs_20 IAMs_20 01 26 47.3
comp=Z,2µm,20.0s
TRQA Tornquist 88.20 232 P **P** **00 51 35.3 +0.5**
TRQA pmax pmax
comp=Z,35nm,1.6s
PTLB Pontes e Lacer 88.21 255 P **P** **00 51 35.9 +0.7**
PTLB IAmb IAmb 00 51 50.3
comp=Z,39nm,1.9s
PTLB IAMs_20 IAMs_20 01 30 55.2
comp=Z,993nm,21.0s
PTLB Pontes e Lacer 88.21 255 *e*P **P** **00 51 36.8 +1.6**
MYLDM Lahad Datu 88.33 85 P **P** **00 51 35.4 -0.4**
MYLDM IAMs_20 IAMs_20 01 28 38.9
comp=Z,1µm,20.0s
KAPI Kappang 88.43 95 P **P** **00 51 36.2 0.0**
KAPI Kappang 88.43 95 LR LR 01 28 02.5
comp=Z,493nm,19.1s,baz=260,slow=33
KAPI Kappang 88.43 95 P **P** **00 51 36.3 0.0**
KAPI pmax pmax
comp=Z,48nm,1.3s
VILB Vilhena 89.51 257 P **P** **00 51 41.2 -0.2**
VILB IAmb IAmb 00 51 56.4
comp=Z,75nm,1.9s
SIV San Ignacio 90.00 254 LR LR 01 30 24.5
comp=Z,702nm,18.9s,baz=95,slow=34
SUMG Summit 90.06 344 P **P** **00 51 45.1 +1.9**
SUMG Summit 90.06 344 P **P** **00 51 45.1 +1.9**
SUMG pmax pmax
comp=Z,17nm,1.2s
TOLI2 Tolitoli 90.13 89 P **P** **00 51 44.2 -0.1**
TOLI2 IAmb IAmb 00 51 55.3
comp=Z,45nm,1.9s
XLT XiLinHaoTe 91.09 46 *e*P P 00 51 54.1 +5.9
XLT sP sP 00 52 01.1 +3.4
XLT S **S** **01 02 53.2 +7.9**
XLT pmax pmax
comp=Z,10.0nm,1.2s
XLT pmax pmax
comp=Z,91nm,3.8s
XLT LR LR
comp=Z,75nm,23.6s
XLT LR LR
comp=Z,380nm,21.6s
XLT LR LR
comp=Z,390nm,22.6s
BOAV Boa Vista 91.55 272 P **P** **00 51 51.7 +0.7**
BOAV Boa Vista 91.55 272 *e*P **P** **00 51 51.6 +0.7**
BATI Baumata 91.69 100 LR LR 01 28 12.9
comp=Z,700nm,20.1s,baz=294,slow=32
NJ2 Nanjing 91.79 58 *e*P **P** **00 51 51.8 +0.2**
NJ2 pmax pmax
comp=Z,15nm,0.6s
VNDA Vanda 91.84 171 P **P** **00 51 51.2 +0.2**
VNDA Vanda 91.84 171 P **P** **00 51 51.9 +1.0**
comp=Z,0.7nm,0.7s,baz=289,slow=5.1,SNR=6.6
VNDA PP **PP** **00 55 32.1 +2.4**
comp=Z,1.4nm,0.9s,baz=257,slow=3.8,SNR=3.4
VNDA LR LR 01 30 19.7
comp=Z,930nm,21.6s,baz=226,slow=34
comp=Z,0.7nm,0.7s
VNDA Vanda 91.84 171 P **P** **00 51 51.2 +0.2**
VNDA pmax pmax
comp=Z,18nm,2.0s
SBA Scott Base 92.37 172 P **P** **00 51 54.1 +0.7**
SBA IAmb IAmb 00 51 56.6
comp=Z,49nm,2.0s
SBA Scott Base 92.37 172 P **P** **00 51 54.1 +0.7**
SBA pmax pmax
comp=Z,49nm,2.0s
FITZ Fitzroy Crossi 92.61 108 P **P** **00 51 55.5 -0.2**
FITZ Fitzroy Crossi 92.61 108 LR LR 01 31 23.3
comp=Z,487nm,18.1s,baz=274,slow=34
MPOM Morne Pois Mar 93.17 284 P **P** **00 51 58.2 -0.1**
MPOM IAmb IAmb 00 54 11.3
comp=Z,26nm,0.9s
WRKA Warakurna 94.05 116 P **P** **00 52 00.6 -1.7**
HIA Hailar 94.20 41 IAMs_20 IAMs_20 01 36 48.9

comp=Z,1µm,20.0s
PLCA Paso Flores 94.31 228 LR LR 01 31 35.8
comp=Z,2µm,18.7s,baz=104,slow=34
LL02 Futaleuf 94.71 226 IAMs_20 IAMs_20 01 30 57.2
comp=Z,1µm,20.0s
MT08 Bocatoma Ro 95.38 236 IAMs_20 IAMs_20 01 31 06.3
comp=Z,1µm,20.0s
LMEL Las Melosas 95.45 235 IAMs_20 IAMs_20 01 31 28.6
comp=Z,1µm,20.0s
MT13 San Alfonso 95.54 235 IAMs_20 IAMs_20 01 31 40.9
comp=Z,1µm,20.0s
SMRT St. Maarten 95.63 287 IAMs_20 IAMs_20 01 28 26.1
comp=Z,941nm,22.0s
BI02 San Fabin de 95.73 232 IAMs_20 IAMs_20 01 30 59.6
comp=Z,1µm,18.0s
BO02 Sierra Bellavi 95.73 234 IAMs_20 IAMs_20 01 30 38.8
comp=Z,1µm,20.0s
BO04 La Punta 95.76 235 IAMs_20 IAMs_20 01 31 29.5
comp=Z,1µm,20.0s
MT03 Universidad Ad 95.78 235 IAMs_20 IAMs_20 01 31 30.0
comp=Z,1µm,20.0s
MT16 CCHEN 95.80 236 IAMs_20 IAMs_20 01 32 55.7
comp=Z,1µm,18.0s
VA03 San Esteban 95.96 236 IAMs_20 IAMs_20 01 35 45.9
comp=Z,1µm,18.0s
MT05 Renca 95.98 236 IAMs_20 IAMs_20 01 37 51.5
comp=Z,788nm,20.0s
BO01 Tunca 96.06 234 IAMs_20 IAMs_20 01 33 45.5
comp=Z,915nm,19.0s
MT09 Talagante 96.11 235 IAMs_20 IAMs_20 01 32 18.8
comp=Z,946nm,20.0s
CO01 Juntas del Tor 96.12 239 P **P** **00 52 10.9 -1.1**
CO01 IAmb IAmb 00 52 25.6
comp=Z,32nm,1.9s
CO01 IAMs_20 IAMs_20 01 31 33.3
comp=Z,1µm,21.0s
MT01 Popeta 96.30 235 IAMs_20 IAMs_20 01 32 44.0
comp=Z,854nm,19.0s
MT02 Curacav 96.34 236 IAMs_20 IAMs_20 01 31 49.9
comp=Z,1µm,19.0s
PCRV Puerto La Cruz 96.43 279 LR LR 01 33 28.6
comp=Z,466nm,18.7s,slow=34
VA06 Catapilco 96.61 236 IAMs_20 IAMs_20 01 33 22.3
comp=Z,1µm,19.0s
CO02 Combarbal 96.64 238 IAMs_20 IAMs_20 01 34 22.1
comp=Z,1µm,20.0s
LPAZ La Paz 96.68 253 LR LR 01 34 40.3
comp=Z,508nm,18.3s,baz=85,slow=35
VA01 Torpederas 96.81 236 P **P** **00 52 13.3 -1.3**
VA01 IAmb IAmb 00 54 38.1
comp=Z,19nm,1.1s
VA01 IAMs_20 IAMs_20 01 32 04.1
comp=Z,1µm,22.0s
PB08 IPOC Station P 97.03 249 IAMs_20 IAMs_20 01 41 30.9
comp=Z,868nm,20.0s
CO05 La Serena 97.10 239 P Pdif 00 52 16.5 +0.3
GO01 Chusmiza 97.15 249 IAMs_20 IAMs_20 01 35 39.0
comp=Z,1µm,19.0s
PB03 IPOC Station P 97.26 247 IAMs_20 IAMs_20 01 33 40.9
comp=Z,810nm,19.0s
AC01 Pan de Azucar 97.28 243 IAMs_20 IAMs_20 01 33 02.3
comp=Z,1µm,18.0s
PB11 IPOC Station P 97.56 249 IAMs_20 IAMs_20 01 36 53.9
comp=Z,938nm,18.0s
PB16 IPOC Station P 97.66 251 IAMs_20 IAMs_20 01 37 30.6
comp=Z,1µm,18.0s
PB18 Visviri 97.75 251 IAMs_20 IAMs_20 01 34 57.1
comp=Z,1µm,19.0s
TA01 Diego Aracena 97.91 248 IAMs_20 IAMs_20 01 35 30.2
comp=Z,952nm,18.0s
SJG San Juan 98.55 287 IAMs_20 IAMs_20 01 32 27.5
comp=Z,950nm,20.0s
SJG San Juan 98.55 287 LR LR 01 34 52.2
comp=Z,557nm,19.3s,baz=93,slow=34
TIXI Tiksi 98.69 18 IAMs_20 IAMs_20 01 40 08.8
comp=Z,981nm,18.0s
TIXI Tiksi 98.69 18 LR LR 01 43 19.0
comp=Z,730nm,18.3s,baz=316,slow=39
ASAR Alice Springs 99.33 115 P **Pdif** **00 52 25.9 -0.4**
comp=Z,1.6nm,0.9s,baz=267,slow=3.6,SNR=8.1
ASAR PP **PP** **00 56 31.7 +2.4**
comp=Z,1.4nm,0.8s,baz=270,slow=6.3,SNR=4.4
ASAR LR LR 01 31 56.5
comp=Z,727nm,20.6s,baz=270,slow=32
comp=Z,1.6nm,0.9s
JOW Kunigami 99.58 64 LR LR 01 40 23.3
comp=Z,199nm,19.0s,baz=274,slow=37
SCHQ Schefferville 99.67 324 LR LR 01 36 48.6
comp=Z,7µm,19.2s,baz=106,slow=35
YAK Yakutsk 99.89 28 IAMs_20 IAMs_20 01 39 22.2
comp=Z,861nm,19.0s
YAK Yakutsk 99.89 28 LR LR 01 41 56.4
comp=Z,597nm,19.0s,baz=266,slow=38
WRA Warramunga Arr 100.44 112 P **Pdif** **00 52 30.9 -0.3**
comp=Z,1.2nm,0.8s,baz=253,slow=3.2,SNR=6.2
MDJ Mudanjiang 100.81 46 IAMs_20 IAMs_20 01 41 50.2
comp=Z,752nm,18.0s
CZSB Cruzeiro do Su 102.38 261 IAMs_20 IAMs_20 01 38 31.2
comp=Z,800nm,19.0s
HRV Adam Dziewonsk 103.45 312 IAMs_20 IAMs_20 01 37 58.9
comp=Z,1µm,19.0s
TRY Troy 104.99 312 IAMs_20 IAMs_20 01 41 32.5
comp=Z,1µm,18.0s
P61A Hammonton 106.10 309 IAMs_20 IAMs_20 01 39 12.2
comp=Z,1µm,20.0s
FLOC Florencia 106.50 270 IAMs_20 IAMs_20 01 40 18.1
comp=Z,582nm,19.0s
WUPA West Chester U 106.70 310 IAMs_20 IAMs_20 01 42 31.1
comp=Z,659nm,18.0s
GTBY Guantanamo Bay 107.10 289 IAMs_20 IAMs_20 01 37 54.9
comp=Z,886nm,20.0s
MVL Millersville 107.27 310 IAMs_20 IAMs_20 01 39 50.9
comp=Z,1µm,19.0s
DELO Deloro Mine 107.63 315 IAMs_20 IAMs_20 01 37 17.3
comp=Z,741nm,19.0s
MJAR Matsushiro Arr 107.85 54 Pdiff **Pdif** **00 53 03.9 +0.1**
comp=Z,0.9nm,0.3s,baz=42,slow=11,SNR=1.8
CBN Corbin Frederi 108.25 308 IAMs_20 IAMs_20 01 37 29.1
comp=Z,938nm,21.0s
SSPA Standing Stone 108.36 311 IAMs_20 IAMs_20 01 42 19.8
comp=Z,1µm,18.0s
P57A Homestead Farm 108.60 309 IAMs_20 IAMs_20 01 43 08.3
comp=Z,876nm,19.0s
R58B Mineral 108.67 308 IAMs_20 IAMs_20 01 37 40.3
comp=Z,1µm,21.0s
OTAV Otavalo 109.12 268 IAMs_20 IAMs_20 01 48 10.5
comp=Z,955nm,18.0s
Y60A Bolivia 109.34 304 IAMs_20 IAMs_20 01 36 32.2
comp=Z,1µm,22.0s
Q56A Snyder Ridge, 109.56 309 IAMs_20 IAMs_20 01 39 40.7
comp=Z,827nm,20.0s
PAOC Oil Creek Stat 109.58 312 IAMs_20 IAMs_20 01 43 03.0
comp=Z,1µm,22.0s
YSS Yuzhno-Sakhali 109.68 42 IAMs_20 IAMs_20 01 46 35.5
comp=Z,1µm,21.0s
ERPA Erie 109.71 312 IAMs_20 IAMs_20 01 42 25.4
comp=Z,663nm,20.0s
T57A Hurt 109.87 307 IAMs_20 IAMs_20 01 41 26.2
comp=Z,1µm,20.0s
MCWV Mont Chateau 109.98 310 IAMs_20 IAMs_20 01 40 40.8
comp=Z,1µm,20.0s
O54A Avella 110.30 310 IAMs_20 IAMs_20 01 41 35.4
comp=Z,1µm,20.0s
MA2 Magadan 110.47 28 IAMs_20 IAMs_20 01 50 14.8
comp=Z,559nm,20.0s
N53A Lisbon 110.55 311 IAMs_20 IAMs_20 01 42 38.8
comp=Z,919nm,19.0s
Y58A Scranton 110.55 304 IAMs_20 IAMs_20 01 40 03.3
comp=Z,932nm,20.0s
BLA Blacksburg 110.77 307 IAMs_20 IAMs_20 01 38 29.9
comp=Z,1µm,21.0s
M52A Chesterland 110.81 312 IAMs_20 IAMs_20 01 41 30.7
comp=Z,956nm,19.0s
O53A New Philadelph 110.92 311 IAMs_20 IAMs_20 01 41 54.8
comp=Z,1µm,20.0s
NHSC New Hope 111.06 303 IAMs_20 IAMs_20 01 41 03.8
comp=Z,840nm,20.0s
Y57A Sumter 111.14 304 IAMs_20 IAMs_20 01 40 09.8
comp=Z,846nm,20.0s
O52A Adamsville 111.42 310 IAMs_20 IAMs_20 01 42 28.6
comp=Z,1µm,20.0s
N51A Ashland 111.68 311 IAMs_20 IAMs_20 01 43 23.7
comp=Z,989nm,20.0s
P52A Corning 111.72 310 IAMs_20 IAMs_20 01 42 17.0
comp=Z,957nm,20.0s
060A Indiantown 111.74 296 IAMs_20 IAMs_20 01 39 16.4
comp=Z,1µm,20.0s
BILL Bilibino 111.77 16 IAMs_20 IAMs_20 01 48 30.1
comp=Z,803nm,21.0s
Q52A Bidwell 111.94 309 IAMs_20 IAMs_20 01 41 06.8
comp=Z,788nm,20.0s
M50A Fremont 112.08 312 IAMs_20 IAMs_20 01 42 30.3
comp=Z,940nm,20.0s
ACSO Alum Creek Sta 112.26 311 IAMs_20 IAMs_20 01 42 28.1
comp=Z,807nm,19.0s
061Z Ochoppi 112.31 295 IAMs_20 IAMs_20 01 38 51.4
comp=Z,929nm,21.0s
AAM Ann Arbor 112.35 313 IAMs_20 IAMs_20 01 44 25.3
comp=Z,1µm,19.0s
DWPF Disney Wildern 112.61 298 IAMs_20 IAMs_20 01 43 29.3
comp=Z,1µm,19.0s
Q51A Peebles 112.76 310 IAMs_20 IAMs_20 01 46 51.4
comp=Z,734nm,20.0s
456A Hilliard 112.88 300 IAMs_20 IAMs_20 01 43 10.0
comp=Z,831nm,20.0s
O49A Covington 113.29 311 IAMs_20 IAMs_20 01 43 01.2
comp=Z,1µm,19.0s
TZTN Tazewell 113.35 307 IAMs_20 IAMs_20 01 43 25.2
comp=Z,1µm,19.0s
656A Willston 113.46 299 IAMs_20 IAMs_20 01 42 11.6
comp=Z,1µm,19.0s
154A Montrose 113.57 303 IAMs_20 IAMs_20 01 40 00.2
comp=Z,837nm,20.0s
GOGA Godfrey 113.76 304 IAMs_20 IAMs_20 01 39 16.1
comp=Z,848nm,20.0s
I45A Fountain 113.79 315 IAMs_20 IAMs_20 01 47 10.1
comp=Z,856nm,19.0s
N47A Urbana 114.15 312 IAMs_20 IAMs_20 01 45 09.1
comp=Z,1µm,20.0s
Y52A Lilburn 114.19 304 IAMs_20 IAMs_20 01 42 22.4
comp=Z,853nm,21.0s
P48A Milroy 114.26 310 IAMs_20 IAMs_20 01 42 44.0
comp=Z,1µm,22.0s
152A Waverly Hall 114.91 303 IAMs_20 IAMs_20 01 41 01.6
comp=Z,731nm,19.0s
U49A Red Boiling Sp 115.12 307 IAMs_20 IAMs_20 01 41 06.1
comp=Z,1µm,21.0s
COWI Conover 115.19 318 IAMs_20 IAMs_20 01 41 57.4
comp=Z,1µm,22.0s
FPAL Fort Paine 115.34 305 IAMs_20 IAMs_20 01 43 44.2
comp=Z,713nm,20.0s
L44A Lake County Fo 115.45 314 IAMs_20 IAMs_20 01 46 15.3
comp=Z,1µm,20.0s
HDC Heredia 115.55 278 IAMs_20 IAMs_20 01 45 11.3
comp=Z,554nm,20.0s
T47A Sharon Grove 116.07 308 IAMs_20 IAMs_20 01 45 13.2
comp=Z,1µm,20.0s
Y49A Blount Mountai 116.11 304 IAMs_20 IAMs_20 01 41 57.4
comp=Z,992nm,22.0s
250A Grady 116.31 302 IAMs_20 IAMs_20 01 40 37.8
comp=Z,1µm,20.0s
OLIL Olney 116.45 310 IAMs_20 IAMs_20 01 48 08.0
comp=Z,968nm,19.0s
X48A Hartselle 116.52 305 IAMs_20 IAMs_20 01 44 21.5
comp=Z,945nm,20.0s
L42A Oliver, Polo 116.76 314 IAMs_20 IAMs_20 01 47 35.8
comp=Z,1µm,20.0s
WVT Waverly 116.82 307 IAMs_20 IAMs_20 01 44 59.1
comp=Z,1µm,19.0s
I40A Norwalk 116.87 316 IAMs_20 IAMs_20 01 43 00.5
comp=Z,1µm,21.0s
HDIL Hopedale 116.88 312 IAMs_20 IAMs_20 01 47 10.0
comp=Z,913nm,18.0s
Q44A Meyer Farm, Va 117.10 310 IAMs_20 IAMs_20 01 45 46.3
comp=Z,920nm,22.0s
T45A Paducah 117.26 308 IAMs_20 IAMs_20 01 42 48.8
comp=Z,1µm,22.0s
PET Petropavlovsk 117.27 32 IAMs_20 IAMs_20 01 52 28.2
comp=Z,576nm,19.0s
S44A Carbondale 117.58 309 IAMs_20 IAMs_20 01 42 51.0
comp=Z,1µm,22.0s
Z47A Carrollton 117.60 304 IAMs_20 IAMs_20 01 44 09.7
comp=Z,889nm,21.0s
HICK Hickman 117.83 308 IAMs_20 IAMs_20 01 43 02.8
comp=Z,1µm,21.0s
TOLK Toolik Lake Re 117.95 0 IAMs_20 IAMs_20 01 57 50.5
comp=Z,543nm,21.0s
CGM3 Cape Girardeau 117.98 309 IAMs_20 IAMs_20 01 43 01.8
comp=Z,1µm,21.0s
PARMO Parma 118.21 308 IAMs_20 IAMs_20 01 44 57.9
comp=Z,1µm,22.0s
PVMO Portageville 118.23 308 IAMs_20 IAMs_20 01 48 48.4
comp=Z,922nm,19.0s
FVM French Village 118.40 310 IAMs_20 IAMs_20 01 43 17.9
comp=Z,1µm,22.0s
146A Union 118.52 304 IAMs_20 IAMs_20 01 51 46.2
comp=Z,840nm,19.0s
YKA Yellowknife Ar 118.64 343 PKP **PKiKP** **00 57 36.4 +5.4**
comp=Z,1.1nm,1.0s,baz=37,slow=2.5,SNR=5.1
PBMO Poplar Bluff 118.71 308 IAMs_20 IAMs_20 01 43 33.1
comp=Z,1µm,20.0s
TGUH Tegucigalpa,Un 118.72 282 IAMs_20 IAMs_20 01 42 59.2
comp=Z,535nm,20.0s
FFC Flin Flon 118.88 331 IAMs_20 IAMs_20 01 48 11.1
comp=Z,991nm,20.0s
LCAR Lake Charles 119.45 308 IAMs_20 IAMs_20 01 49 33.8
comp=Z,906nm,19.0s
VBMS Visburg 119.81 303 IAMs_20 IAMs_20 01 46 10.4
comp=Z,820nm,20.0s
GVZ Greta Valley S 120.02 149 PKPdf **PKPdf** **00 57 33.8 -0.6**
143A Socs Landing, 120.44 304 IAMs_20 IAMs_20 01 44 44.0
comp=Z,813nm,20.0s
GAMB Gambell 120.58 11 IAMs_20 IAMs_20 01 57 57.9
comp=Z,598nm,18.0s
I30M Mount Dempster 120.69 354 IAMs_20 IAMs_20 01 54 31.9
comp=Z,591nm,21.0s
I29M Ogilvie Camp, 120.74 355 IAMs_20 IAMs_20 01 54 38.4
comp=Z,460nm,19.0s
ANM Nome 120.91 8 IAMs_20 IAMs_20 01 51 19.4
comp=Z,599nm,20.0s
PRP Porcupine Dome 121.03 358 PKPdf **PKiKP** **00 57 38.4 +2.5**
MDND Maddock 121.11 323 IAMs_20 IAMs_20 01 49 11.1
comp=Z,968nm,20.0s
Z41A Richland Creek 121.46 305 IAMs_20 IAMs_20 01 46 22.2
comp=Z,771nm,20.0s
L34A Svendsen Farm, 121.50 316 IAMs_20 IAMs_20 01 50 18.0
comp=Z,818nm,19.0s
J29N Klondike Camp 121.62 354 IAMs_20 IAMs_20 01 55 44.7
comp=Z,500nm,21.0s
COLA College 121.73 359 ⇑i PKiKP **PKiKP** **00 57 38.9 +1.9**
ILAR Eielson Array 121.81 359 **PKPdf** **00 57 35.7 -1.4**
ILAR Eielson Array 121.81 359 PKP **PKPdf** **00 57 36.0 -1.1**
comp=Z,1.1nm,0.9s,baz=325,slow=3.0,SNR=9.5
ILAR PKKPbc **PKKPab** **01 07 36.8 +0.7**
comp=Z,0.9nm,1.0s,baz=152,slow=3.5,SNR=6.2
U38A Gravette 121.87 309 PKPdf **PKiKP** **00 57 38.4 +0.2**
I17K Unalakleet 122.13 6 IAMs_20 IAMs_20 01 59 56.1
comp=Z,489nm,18.0s
K29M Barlow Dome 122.15 354 IAMs_20 IAMs_20 01 55 50.6
comp=Z,535nm,21.0s
SUSD Miller 122.24 319 IAMs_20 IAMs_20 01 52 47.2
comp=Z,860nm,18.0s
E28A Huff 122.37 322 IAMs_20 IAMs_20 01 52 05.4
comp=Z,786nm,18.0s
J19K Poorman 122.44 3 IAMs_20 IAMs_20 01 59 36.0
comp=Z,559nm,20.0s
BPAW Bear Paw Mtn. 122.50 1 IAMs_20 IAMs_20 02 01 12.2
comp=Z,523nm,19.0s
J17K VABM Dome 122.77 5 IAMs_20 IAMs_20 02 00 30.9
comp=Z,511nm,19.0s
RIDG Independent Ri 122.79 358 IAMs_20 IAMs_20 02 02 46.8
comp=Z,492nm,19.0s
L29M L29M 122.93 354 IAMs_20 IAMs_20 01 55 23.2
comp=Z,471nm,20.0s
TUL3 Leonard 123.11 309 IAMs_20 IAMs_20 01 45 58.5
comp=Z,933nm,20.0s
BCAR Beaver Creek A 123.29 356 **PKiKP** **00 57 40.5 +0.2**
L27K Beaver Creek, 123.30 356 IAMs_20 IAMs_20 02 00 02.9
comp=Z,436nm,18.0s
NATX Nacogdoches 123.34 304 IAMs_20 IAMs_20 01 56 17.9
comp=Z,844nm,19.0s
M31M Drury Creek, Y 123.35 352 IAMs_20 IAMs_20 01 59 19.3
comp=Z,465nm,19.0s
T35A Sooner Cattle 123.35 310 **PKPdf** **00 57 40.9 0.0**
L26K Log Cabin Wild 123.43 357 IAMs_20 IAMs_20 01 56 40.3
comp=Z,508nm,21.0s
K17K Iditarod 123.51 5 IAMs_20 IAMs_20 01 59 16.5
comp=Z,585nm,19.0s
K15K Wolf Creek Mou 123.59 7 IAMs_20 IAMs_20 01 52 55.7
comp=Z,500nm,21.0s
PPLA Purkeypile 123.68 2 IAMs_20 IAMs_20 01 59 24.4
comp=Z,605nm,21.0s
OK052 Battle Ridge R 123.86 309 IAMs_20 IAMs_20 01 51 55.4
comp=Z,1µm,22.0s
L18K Granite Mounta 124.13 4 IAMs_20 IAMs_20 01 55 34.8
comp=Z,578nm,20.0s
CUT Chulitna 124.21 1 IAMs_20 IAMs_20 02 00 42.4
comp=Z,440nm,18.0s
N31M Braeburn, Yuko 124.23 352 IAMs_20 IAMs_20 01 56 43.5
comp=Z,604nm,21.0s
L16K Owhat River 124.39 6 IAMs_20 IAMs_20 01 53 41.7
comp=Z,469nm,20.0s
R32A Long Quarter, 124.47 313 IAMs_20 IAMs_20 01 47 20.0
comp=Z,781nm,21.0s
SKT Skwentna 124.61 1 **PKiKP** **00 57 42.7 -0.2**
SKT IAMs_20 IAMs_20 01 59 47.2
comp=Z,455nm,19.0s
M20K Styx River 124.66 2 IAMs_20 IAMs_20 01 59 60.0
comp=Z,591nm,20.0s
SCM Sheep Creek Mo 124.77 359 IAMs_20 IAMs_20 01 58 24.3
comp=Z,455nm,19.0s
M17K Holitna River 124.88 5 IAMs_20 IAMs_20 02 01 53.7
comp=Z,487nm,20.0s
O30N Mendenhall 124.96 352 IAMs_20 IAMs_20 01 55 15.9
comp=Z,583nm,20.0s
P33M Teslin, Yukon 124.99 350 IAMs_20 IAMs_20 01 53 20.8
comp=Z,697nm,22.0s
PMR Palmer 125.03 360 IAMs_20 IAMs_20 02 02 08.1
comp=Z,440nm,18.0s
MCARA McCarthy VSAT 125.04 356 PKPdf **PKiKP** **00 57 46.0 +2.2**
MCARA IAMs_20 IAMs_20 01 57 01.5
comp=Z,477nm,20.0s
CBKS Cedar Bluff 125.06 313 IAMs_20 IAMs_20 01 50 13.7
comp=Z,874nm,21.0s
KLU Klutina 125.08 358 PKPdf **PKiKP** **00 57 45.1 +1.2**
KLU IAMs_20 IAMs_20 02 03 11.3
comp=Z,439nm,19.0s
X34A Smith Ranch, M 125.10 308 PKPdf **PKiKP** **00 57 44.8 +0.1**
M16K Timber Creek 125.11 6 IAMs_20 IAMs_20 01 54 11.9
comp=Z,507nm,20.0s
CTGM Chitina Glacie 125.34 355 IAMs_20 IAMs_20 01 57 57.3
comp=Z,479nm,20.0s
R33M Jennings River 125.42 349 IAMs_20 IAMs_20 01 53 29.1
comp=Z,481nm,21.0s
LOGN Logan Glacier 125.45 355 IAMs_20 IAMs_20 01 58 11.2
comp=Z,459nm,20.0s
N19K Bonanza Creek 125.67 3 IAMs_20 IAMs_20 01 59 41.5
comp=Z,444nm,19.0s
N18K Kilae Creek 125.71 4 IAMs_20 IAMs_20 02 01 13.7
comp=Z,609nm,19.0s
O29M Mount Kennedy 125.72 353 IAMs_20 IAMs_20 02 00 25.0
comp=Z,452nm,20.0s
P32M Atlin 125.73 350 IAMs_20 IAMs_20 01 54 06.3
comp=Z,543nm,20.0s
PWL Port Wells 125.76 359 IAMs_20 IAMs_20 02 01 37.4
comp=Z,534nm,20.0s
FID Port Fidalgo 125.84 358 IAMs_20 IAMs_20 01 58 21.1
comp=Z,483nm,18.0s
WAX Waxell Ridge 125.96 356 IAMs_20 IAMs_20 01 59 14.8
comp=Z,460nm,18.0s
YAH Yahtse 125.97 355 IAMs_20 IAMs_20 02 00 60.0
comp=Z,556nm,20.0s
SKAG Skagway 126.11 351 IAMs_20 IAMs_20 01 52 57.7
comp=Z,749nm,22.0s
RAGM Ragged Mountai 126.13 357 IAMs_20 IAMs_20 02 02 59.2
comp=Z,545nm,18.0s
O22K Cooper Landing 126.14 0 IAMs_20 IAMs_20 02 00 51.1
comp=Z,616nm,20.0s
HMT Hamilton 126.16 357 IAMs_20 IAMs_20 01 57 34.0
comp=Z,521nm,21.0s
BCPM Bancas Point 126.18 354 IAMs_20 IAMs_20 02 00 17.5
comp=Z,502nm,20.0s
SNH Sunshine Point 126.23 356 IAMs_20 IAMs_20 01 59 26.8
comp=Z,553nm,20.0s
P29M Windy Craggy 126.28 353 IAMs_20 IAMs_20 02 00 52.7
comp=Z,575nm,20.0s
O19K Port Alsworth 126.29 3 IAMs_20 IAMs_20 02 00 41.1
comp=Z,534nm,19.0s
ILSW Iliamna Southw 126.56 2 IAMs_20 IAMs_20 02 03 14.6
comp=Z,481nm,21.0s
KAIM Kayak Island 126.58 357 PKPdf **PKiKP** **00 57 47.4 +0.6**
EGMT Eagleton 126.75 328 IAMs_20 IAMs_20 01 51 58.6
comp=Z,766nm,20.0s
SMWD Samnorwood 126.80 309 PKPdf **PKiKP** **00 57 48.1 0.0**
S34M Telegraph Cree 126.82 348 IAMs_20 IAMs_20 01 55 56.3
comp=Z,546nm,21.0s
O15K Ungalikthiuk R 126.83 7 IAMs_20 IAMs_20 02 02 35.2
comp=Z,641nm,19.0s
BESE Bessie Mountai 126.88 351 IAMs_20 IAMs_20 01 54 44.1
comp=Z,545nm,19.0s
KSCO Kaye Shedlock' 127.05 315 IAMs_20 IAMs_20 01 51 07.0
comp=Z,729nm,20.0s
R32K Eaglecrest 127.11 350 IAMs_20 IAMs_20 01 59 03.9
comp=Z,573nm,19.0s
P16K Nushagak River 127.17 6 IAMs_20 IAMs_20 02 02 25.2
comp=Z,649nm,20.0s
Q19K Cape Douglas, 127.59 3 IAMs_20 IAMs_20 01 57 03.4
comp=Z,522nm,21.0s
HBVL Hebbronville 127.87 299 PKPdf **PKiKP** **00 57 51.4 +1.0**
JCT Junction City 127.93 304 IAMs_20 IAMs_20 01 56 08.5
comp=Z,670nm,19.0s
SN07 Snyder 07 128.00 307 PKPdf **PKiKP** **00 57 50.6 +0.1**
DZM Mont Dzumac 128.12 125 *e*PP **PP** **00 59 46.1 -7.5**
comp=Z,221nm,43.4s
DZM Mont Dzumac 128.12 125 *e*LR LR 01 38 09.1
comp=Z,518nm,22.8s
833A Chaparral WMA, 128.18 301 **PKiKP** **00 57 50.7 -0.2**
ACHA Angle Creek He 128.21 4 IAMs_20 IAMs_20 02 01 18.1
comp=Z,462nm,20.0s
RLMT Red Lodge 128.22 325 IAMs_20 IAMs_20 01 56 23.9
comp=Z,926nm,20.0s
U35K Hyder 128.41 346 IAMs_20 IAMs_20 01 55 13.5
comp=Z,644nm,20.0s
SGCY Sterling City 128.57 306 PKPdf **PKPdf** **00 57 51.3 +0.2**
YNE Yellowstone No 128.71 325 PKPdf **PKPdf** **00 57 51.3 +0.1**
LYMT Lyon Mountain 128.75 328 PKPdf **PKiKP** **00 57 51.8 -0.1**
KDAK Kodiak Island 128.79 2 IAMs_20 IAMs_20 01 59 35.4
comp=Z,729nm,22.0s
OZNA Ozona 128.89 305 **PKPdf** **00 57 52.0 +0.3**
DRIO Del Rio 128.92 303 **PKPdf** **00 57 51.9 +0.1**
QVMT Ovando 129.06 329 PKPdf **PKPdf** **00 57 51.7 0.0**
T25A Trinidad 129.12 313 **PKPdf** **00 57 52.5 +0.3**
T25A IAMs_20 IAMs_20 01 50 16.0
comp=Z,847nm,20.0s
MSTX Muleshoe 129.16 309 PKPdf **PKPdf** **00 57 52.5 +0.2**
JTMT Jette 129.25 330 PKPdf **PKPdf** **00 57 51.8 -0.2**
BOZ Bozeman (W) 129.26 326 PKPdf **PKiKP** **00 57 53.2 +0.3**
BOZ IAMs_20 IAMs_20 01 55 10.3
comp=Z,733nm,19.0s
BOZ Bozeman (W) 129.26 326 PKIKP **PKiKP** **00 57 53.2 +0.3**
BOZ MLR MLR
comp=Z,700nm,19.0s
YNR Norris Junctio 129.27 325 PKPdf **PKiKP** **00 57 53.8 +0.8**
YHH Holmes Hill 129.32 325 PKPdf **PKiKP** **00 57 54.4 +1.2**
YMR Madison River 129.46 325 PKPdf **PKiKP** **00 57 54.2 +0.8**
YHL Hebgen Lake 129.47 325 PKPdf **PKiKP** **00 57 55.5 +2.0**
CRAG Craig 129.50 348 IAMs_20 IAMs_20 01 57 28.6
comp=Z,612nm,18.0s
YFT Old Faithful 129.52 325 PKPdf **PKiKP** **00 57 54.8 +1.3**
YHB Horse Butte 129.54 325 PKPdf **PKiKP** **00 57 53.7 +0.2**
LRM Limekiln Ridge 129.57 327 PKPdf **PKPdf** **00 57 53.1 +0.3**
SDCO Great Sand Dun 129.63 315 IAMs_20 IAMs_20 01 54 16.4
comp=Z,761nm,20.0s
ODSA Odessa 129.65 307 PKPdf **PKiKP** **00 57 54.1 +0.1**
MSO Missoula 129.70 329 PKPdf **PKPdf** **00 57 52.8 -0.1**
MSO IAMs_20 IAMs_20 01 53 53.2
comp=Z,804nm,20.0s
BPMT Black Pine Rid 129.70 328 PKPdf **PKPdf** **00 57 52.4 -0.7**
BW06 Boulder Array 129.75 322 IAMs_20 IAMs_20 01 53 02.2
comp=Z,858nm,21.0s
PDAR Pinedale Array 129.75 322 **PKPdf** **00 57 52.7 -0.6**
PDAR Pinedale Array 129.75 322 PKP **PKPdf** **00 57 53.2 0.0**
comp=Z,2.3nm,1.0s,baz=98,slow=3.0,SNR=12
LOHW Long Hollow 129.88 324 PKPdf **PKPdf** **00 57 53.7 +0.2**
LOHW IAMs_20 IAMs_20 01 51 52.0
comp=Z,847nm,22.0s
DLMT Dillon 129.94 327 **PKiKP** **00 57 54.1 -0.1**
SAND Sanderson 130.01 304 PKPdf **PKiKP** **00 57 54.5 -0.2**
SNOW Snow King Moun 130.06 324 IAMs_20 IAMs_20 01 51 56.7
comp=Z,844nm,21.0s
MNHN Monahans 130.08 306 PKPdf **PKPdf** **00 57 54.1 +0.1**
TPAW Teton Pass 130.16 324 **PKPdf** **00 57 53.8 -0.2**
NEW Newport 130.25 332 PKPdf **PKiKP** **00 57 55.9 +1.3**
NEW Newport 130.25 332 PKIKP **PKiKP** **00 57 55.9 +1.3**
NEW MLR MLR
comp=Z,1µm,20.0s
O20A White River Ci 130.34 319 **PKPdf** **00 57 53.9 -0.5**
MCMT McKenzie Canyo 130.42 326 PKPdf **PKPdf** **00 57 54.6 +0.1**
LLLB Lillooet 130.47 337 PKPdf **PKPdf** **00 57 54.1 0.0**
S22A 4UR Ranch, Cre 130.56 315 **PKPdf** **00 57 54.9 -0.2**
AHID Auburn Hatcher 130.67 323 PKPdf **PKiKP** **00 57 55.5 -0.4**
PECS Pecos 130.96 306 PKPdf **PKPdf** **00 57 54.8 -0.9**

ALPN	**Alpine**	**131.11**	**305**	PKPdf	**PKPdf**	**00 57 56.3**	**+0.2**	
B08A	**Colville Reser**	**131.18**	**334**	PKPdf	**PKiKP**	**00 57 57.2**	**+0.8**	
B08A	comp=Z,678nm,20.0s			IAMs_20	IAMs_20	01 56 53.9		
PV15	**Paradox Valley**	**131.41**	**317**	PKPdf	**PKPdf**	**00 57 56.7**	**+0.2**	
DIB	**Dawson Inlet,**	**131.47**	**347**	PKPpre	PKPpre	00 57 46.9		
DIB				PKPdf	**PKPdf**	**00 57 55.2**	**-0.6**	
PV07	**Paradox Valley**	**131.48**	**317**	PKPdf	**PKiKP**	**00 57 57.1**	**-0.5**	
TX31	**Lajitas Ar. Si**	**131.48**	**304**	PKPdf	**PKPdf**	**00 57 57.0**	**+0.3**	
TXAR	**Lajitas Array**	**131.48**	**304**		**PKPdf**	**00 57 56.6**	**-0.1**	
TXAR	**Lajitas Array**	**131.48**	**304**	PKP	**PKPdf**	**00 57 57.2**	**+0.4**	
	comp=Z,0.7nm,0.6s,baz=151,slow=3.8,SNR=12							
PV22	**Blue Mesa, Par**	**131.52**	**317**		**PKiKP**	**00 57 58.0**	**+0.4**	
ANMO	**Albuquerque**	**131.56**	**312**	PKPdf	**PKPdf**	**00 57 55.8**	**-1.1**	
ANMO	**Albuquerque**	**131.56**	**312**	IAMs_20	IAMs_20	01 51 43.8		
	comp=Z,910nm,21.0s							
ANMO	**Albuquerque**	**131.56**	**312**	i/PKIKP	**PKPdf**	**00 57 57.3**	**+0.4**	
PV01	**Paradox Valley**	**131.58**	**317**	PKPdf	**PKiKP**	**00 57 57.3**	**-0.5**	
HWUT	**Hardware Ranch**	**131.63**	**322**	PKPdf	**PKPdf**	**00 57 57.0**	**+0.2**	
PV21	**Cone Mtn., Par**	**131.64**	**317**	PKPdf	**PKiKP**	**00 57 57.7**	**-0.3**	
PV12	**Saucer Basin,**	**131.64**	**317**		**PKPdf**	**00 57 56.4**	**-0.6**	
PV02	**Paradox Valley**	**131.66**	**317**	PKPdf	**PKPdf**	**00 57 56.4**	**-0.6**	
PV04	**Paradox Valley**	**131.67**	**317**	PKPdf	**PKPdf**	**00 57 56.8**	**-0.1**	
PV11	**David Mesa, Pa**	**131.70**	**317**	PKPdf	**PKPdf**	**00 57 56.9**	**-0.2**	
PV03	**Paradox Valley**	**131.71**	**317**	PKPdf	**PKPdf**	**00 57 56.9**	**-0.2**	
PV23	**Carpenter Ridg**	**131.72**	**317**	PKPdf	**PKPdf**	**00 57 55.4**	**-1.8**	
PV16	**Nyswonger Mesa**	**131.72**	**317**	PKPdf	**PKPdf**	**00 57 57.2**	**+0.1**	
PV20	**West Nyswonger**	**131.74**	**317**	PKPdf	**PKiKP**	**00 57 57.6**	**-0.5**	
PV18	**Skein Mesa, Pa**	**131.75**	**317**		**PKPdf**	**00 57 57.8**	**-0.4**	
PV17	**East Wray Mesa**	**131.77**	**317**	PKPdf	**PKPdf**	**00 57 57.3**	**+0.1**	
PV10	**Paradox Valley**	**131.77**	**317**	PKPdf	**PKiKP**	**00 57 58.5**	**+0.2**	
TCUT	**Toone Canyon**	**131.82**	**322**	PKPdf	**PKPdf**	**00 57 57.0**	**-0.3**	
PLID	**Pearl Lake**	**131.93**	**329**	IAMs_20	IAMs_20	01 56 31.4		
	comp=Z,780nm,20.0s							
D08A	**Wollman Farm,**	**131.96**	**332**	IAMs_20	IAMs_20	01 55 58.8		
	comp=Z,881nm,20.0s							
PV05	**Paradox Valley**	**131.97**	**317**	PKPdf	**PKPdf**	**00 57 57.5**	**0.0**	
E09A	**Wood Farm, Sta**	**132.00**	**331**	PKPdf	**PKiKP**	**00 57 58.1**	**0.0**	
E09A				IAMs_20	IAMs_20	02 00 58.8		
	comp=Z,599nm,18.0s							
BNM	**Barren Site**	**132.03**	**311**	PKPdf	**PKiKP**	**00 57 58.6**	**-0.3**	
VHRN	**Van Horn**	**132.06**	**306**	PKPdf	**PKPdf**	**00 57 57.4**	**-0.4**	
HLID	**Hailey**	**132.09**	**326**	PKPdf	**PKPdf**	**00 57 57.3**	**-0.3**	
JLU	**Jordanelle**	**132.14**	**321**	PKPdf	**PKPdf**	**00 57 58.1**	**+0.2**	
CRNM	**Carthage**	**132.19**	**311**	PKPdf	**PKiKP**	**00 57 58.6**	**-0.5**	
Y22D	**IRIS PASSCAL I**	**132.28**	**311**	IAMs_20	IAMs_20	01 55 12.6		
	comp=Z,780nm,20.0s							
ZAIG	**Zacatecas**	**132.28**	**295**	PKPdf	**PKiKP**	**00 57 59.5**	**-0.3**	
SRU	**San Rafael Swe**	**132.38**	**319**	PKPdf	**PKPdf**	**00 57 58.7**	**+0.4**	
SRU	**San Rafael Swe**	**132.38**	**319**	PKiKP	**PKPdf**	**00 57 58.7**	**+0.4**	
E08A	**Dider Farm, El**	**132.44**	**332**	PKPdf	**PKPdf**	**00 57 58.0**	**+0.1**	
E08A				IAMs_20	IAMs_20	01 56 51.6		
	comp=Z,752nm,20.0s							
WAH2	**Wahluke Slope**	**132.48**	**333**	PKPdf	**PKiKP**	**00 57 58.8**	**-0.3**	
WAH2				IAMs_20	IAMs_20	01 56 14.6		
	comp=Z,844nm,20.0s							
LTY	**Liberty**	**132.60**	**334**	IAMs_20	IAMs_20	01 57 24.6		
	comp=Z,670nm,21.0s							
HAWA	**Hanford**	**132.74**	**332**	IAMs_20	IAMs_20	01 57 20.4		
	comp=Z,817nm,20.0s							
E07A	**Sunnyside**	**132.76**	**333**	IAMs_20	IAMs_20	01 56 13.0		
	comp=Z,820nm,21.0s							
BMO	**Blue Mountains**	**132.76**	**329**	IAMs_20	IAMs_20	01 57 37.4		
	comp=Z,702nm,19.0s							
EPT	**El Paso**	**132.90**	**308**	IAMs_20	IAMs_20	01 54 59.8		
	comp=Z,793nm,19.0s							
MXC	**Moxie City**	**132.95**	**333**	IAMs_20	IAMs_20	01 56 29.9		
	comp=Z,782nm,19.0s							
MFID	**Camas Ranch**	**132.97**	**327**	IAMs_20	IAMs_20	01 59 30.2		
	comp=Z,743nm,19.0s							
GNW	**Green Mountain**	**133.28**	**336**	PKPdf	**PKPdf**	**00 57 58.9**	**-0.5**	
GNW				IAMs_20	IAMs_20	01 58 55.3		
	comp=Z,476nm,20.0s							
F07A	**Phinny Hill Vi**	**133.29**	**332**	IAMs_20	IAMs_20	01 56 27.0		
	comp=Z,792nm,20.0s							
LON	**Longmire**	**133.49**	**334**	IAMs_20	IAMs_20	01 56 47.0		
	comp=Z,493nm,21.0s							
NLWA	**Neilton Lookou**	**133.84**	**336**	IAMs_20	IAMs_20	01 59 27.2		
	comp=Z,712nm,18.0s							
G06A	**Carlson Farm,**	**134.12**	**332**	IAMs_20	IAMs_20	01 56 47.8		
	comp=Z,581nm,20.0s							
ELK	**Elko**	**134.36**	**324**	IAMs_20	IAMs_20	01 55 41.5		
	comp=Z,548nm,19.0s							
J08A	**Circle Bar Ran**	**134.41**	**329**	IAMs_20	IAMs_20	01 56 43.0		
	comp=Z,653nm,20.0s							
RADR	**Rader Ridge**	**134.59**	**335**	IAMs_20	IAMs_20	01 59 09.1		
	comp=Z,639nm,19.0s							
WUAZ	**Wupatki**	**134.84**	**315**	IAMs_20	IAMs_20	01 53 47.9		
	comp=Z,759nm,20.0s							
G04A	**Mulino**	**134.98**	**333**	IAMs_20	IAMs_20	01 57 45.6		
	comp=Z,815nm,20.0s							
WVOR	**Wild Horse Val**	**135.14**	**328**	IAMs_20	IAMs_20	02 01 06.8		
	comp=Z,617nm,18.0s							
H04A	**Detroit Lake**	**135.25**	**333**	IAMs_20	IAMs_20	01 57 38.8		
	comp=Z,663nm,20.0s							
PINE	**Pine Mountain**	**135.34**	**331**	IAMs_20	IAMs_20	02 04 14.3		
	comp=Z,552nm,19.0s							
X16A	**Lo Mia Camp, P**	**135.44**	**314**	IAMs_20	IAMs_20	01 54 08.3		
	comp=Z,771nm,21.0s							
H04D	**Lebanon**	**135.63**	**333**	IAMs_20	IAMs_20	01 57 50.7		
	comp=Z,646nm,21.0s							
J05D	**Fort Rock, OR**	**135.86**	**331**	IAMs_20	IAMs_20	01 58 37.0		
	comp=Z,636nm,21.0s							
J04A	**Umpqua Nationa**	**136.31**	**331**	IAMs_20	IAMs_20	02 01 25.1		
	comp=Z,751nm,20.0s							
I03D	**Drain, OR**	**136.54**	**333**	IAMs_20	IAMs_20	02 00 01.0		
	comp=Z,777nm,19.0s							
K04D	**Chiloquin, OR**	**136.60**	**330**	IAMs_20	IAMs_20	02 02 37.8		
	comp=Z,606nm,20.0s							
BBOR	**Butler Butte**	**136.85**	**331**	IAMs_20	IAMs_20	02 01 42.3		
	comp=Z,544nm,19.0s							
J01E	**Myrtle Point**	**137.23**	**333**	IAMs_20	IAMs_20	01 40 06.1		
	comp=Z,813nm,22.0s							
TPNV	**Topopah Spring**	**137.32**	**320**	IAMs_20	IAMs_20	01 55 40.2		
	comp=Z,632nm,21.0s							
HATC	**Hat Creek Radi**	**137.78**	**328**	IAMs_20	IAMs_20	02 03 41.4		
	comp=Z,668nm,18.0s							
L02F	**Cave Junction**	**137.86**	**331**	IAMs_20	IAMs_20	01 57 36.1		
	comp=Z,666nm,20.0s							
FURC	**Furnace Creek,**	**138.00**	**320**	IAMs_20	IAMs_20	01 57 42.4		
	comp=Z,789nm,20.0s							
M02C	**Callahan**	**138.07**	**330**	IAMs_20	IAMs_20	01 57 59.7		
	comp=Z,663nm,22.0s							
IRM	**Iron Mountain**	**138.19**	**316**	IAMs_20	IAMs_20	01 57 01.8		
	comp=Z,753nm,20.0s							
KSXB	**Camp Six Broad**	**138.23**	**331**	IAMs_20	IAMs_20	01 57 46.9		
	comp=Z,736nm,20.0s							
N02D	**Trinity Center**	**138.31**	**329**	IAMs_20	IAMs_20	01 58 13.1		
	comp=Z,568nm,19.0s							
O03E	**Paynes Creek**	**138.34**	**328**	IAMs_20	IAMs_20	01 59 22.3		
	comp=Z,741nm,21.0s							
GLA	**Glamis**	**138.56**	**314**	IAMs_20	IAMs_20	01 57 24.9		
	comp=Z,618nm,20.0s							
GSC	**Goldstone, Bar**	**138.66**	**318**	IAMs_20	IAMs_20	02 00 27.0		
	comp=Z,756nm,20.0s							
ORV	**Oroville**	**138.71**	**327**	IAMs_20	IAMs_20	02 00 40.2		
	comp=Z,572nm,20.0s							
KHBM	**Hayfork Bally**	**138.80**	**330**	IAMs_20	IAMs_20	02 07 59.3		
	comp=Z,361nm,18.0s							
KRPM	**Rodgers**	**138.82**	**331**	IAMs_20	IAMs_20	02 04 18.4		
	comp=Z,752nm,18.0s							
AFDM	**Forest Hills D**	**138.85**	**326**	IAMs_20	IAMs_20	02 01 05.0		
	comp=Z,677nm,20.0s							
BELC	**Belle Mtn. Jos**	**138.86**	**316**	IAMs_20	IAMs_20	02 03 45.7		
	comp=Z,755nm,19.0s							
WSHM	**Spangler Hills**	**138.93**	**319**	IAMs_20	IAMs_20	01 57 39.1		
	comp=Z,798nm,21.0s							
WELL	**Weller Preserv**	**139.06**	**325**	IAMs_20	IAMs_20	02 00 27.8		
	comp=Z,670nm,19.0s							
SUTB	**Sutter Butte**	**139.10**	**327**	IAMs_20	IAMs_20	02 04 34.5		
	comp=Z,451nm,19.0s							
CMB	**Columbia Colle**	**139.14**	**324**	IAMs_20	IAMs_20	01 55 48.0		
	comp=Z,440nm,20.0s							
BUCR	**Buckhorn Ranch**	**139.25**	**324**	IAMs_20	IAMs_20	02 00 21.9		
	comp=Z,592nm,19.0s							
VES	**Vestal, Richgr**	**139.80**	**321**	IAMs_20	IAMs_20	01 59 52.8		
	comp=Z,654nm,20.0s							
CVS	**Carmenet Viney**	**140.09**	**326**	IAMs_20	IAMs_20	02 02 37.0		
	comp=Z,495nm,21.0s							
RKT	**Rikitea**	**147.42**	**205**	*e*LR	LR	01 47 07.0		
TBI	**Tubuai**	**150.33**	**180**	*e*P	PKPdf	00 58 19.0	-11	
	comp=Z,563nm,27.5s							
TBI	**Tubuai**	**150.33**	**180**	*e*PP	PP	01 02 07.4	-1.4	
	comp=Z,552nm,28.5s							
TBI	**Tubuai**	**150.33**	**180**	*e*SS	SS	01 21 31.5	+6.0	
	comp=Z,1μm,30.8s							
TBI	**Tubuai**	**150.33**	**180**	*e*LQ	LQ	01 42 05.6		
	comp=Z,2μm,34.5s							
TBI				*e*LR	LR	01 48 24.8		
	comp=Z,932nm,24.2s							
TBI				*e*LR	LR	01 48 26.2		
	comp=Z,3μm,25.5s							
PPT2	**Papeete2**	**156.06**	**179**	*e*LQ	LQ	01 44 32.0		
	comp=Z,853nm,33.8s							
PPT2				*e*LR	LR	01 51 02.7		
	comp=Z,314nm,25.0s							
PPT2				*e*LR	LR	01 51 05.7		
	comp=Z,359nm,24.0s							
TAOE	**Nuku Hiva Isla**	**162.26**	**211**	*e*LR	LR	01 53 58.7		
	comp=Z,504nm,22.6s							

*UCR **09** 00:47:32.2±0.6, 10°.03N×86°.28W, h16km±4km, MW3.7*
*CATAC **09** 00:47:32.6±1.1, 10°.N±.8°×.8°6W±°, h30km±9km, M2.9/7, MLv2.9/7, Error ellipse: s-maj=18.8km s-min=12.2km az=18.4, confirmed*

ISC 09 00:47:32.8±3.0, 9°.9N±0°.1×86°.2W±0°.1, h24km, n35, σ0°.75/38, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INDI	**Punta indio, G**	**0.69**	**93**	P	**Pb**	**00 47 46.8**	**+0.5**
INDI	**Punta indio, G**	**0.69**	**93**	S	**Sb**	**00 47 56.2**	**+0.8**
JUD3	**Juan Diaz 3**	**0.70**	**68**	*e*P	**Pb**	**00 47 46.5**	**+0.1**
JUD3				*e*S	**Sb**	**00 47 56.2**	**+0.4**
SACU	**Santa Cruz**	**0.70**	**60**	*e*P	**Pb**	**00 47 46.3**	**-0.2**
ALIBA	**Liberia Airpor**	**0.94**	**43**	*e*P	**Pb**	**00 47 50.2**	**-0.2**
PLVR	**Palo Verde**	**0.94**	**62**	*e*P	**Pb**	**00 47 50.0**	**-0.7**
PLVR				*e*S	**Sb**	**00 48 02.5**	**-0.3**
ELI1	**Hacienda Flor**	**0.97**	**41**	*e*P	**Pb**	**00 47 51.0**	**-0.1**
ELI1	**Hacienda Flor**	**0.97**	**41**	P	**Pn**	**00 47 50.5**	**-0.5**
ELI1	**Hacienda Flor**	**0.97**	**41**	S	**Sn**	**00 48 06.0**	**+1.9**
LAPC	**Finca la Perla**	**1.14**	**41**	*e*P	**Pn**	**00 47 52.6**	**-0.8**
GPS3	**Bodega del ICE**	**1.18**	**44**	*e*P	**Pb**	**00 47 56.4**	**+1.8**
GPS2	**Hotel Rincn d**	**1.19**	**45**	*e*P	**Pn**	**00 47 53.2**	**-0.8**
VRLE	**La Escondida,**	**1.20**	**43**	*e*P	**Pn**	**00 47 53.6**	**-0.7**
GPS1	**Guardaparques**	**1.20**	**44**	*e*P	**Pn**	**00 47 53.8**	**-0.5**
VORI	**VORI**	**1.23**	**43**	*e*P	**Pn**	**00 47 54.1**	**-0.7**
COLC	**Colonia**	**1.24**	**52**	*e*P	**Pn**	**00 47 53.9**	**-0.8**
INVE	**Universidad In**	**1.25**	**63**	*e*P	**Pn**	**00 47 55.0**	**0.0**
CUI	**Cuipilapa**	**1.26**	**54**	*e*P	**Pn**	**00 47 54.9**	**-0.1**
JTS	**Las Juntas de**	**1.29**	**73**	*e*P	**Pn**	**00 47 55.3**	**-0.1**
JTS	**Las Juntas de**	**1.29**	**73**	P	**Pn**	**00 47 54.9**	**-0.5**
JTS				S	**Sn**	**00 48 10.8**	**-1.1**
BUAI	**Buenos Aires**	**1.29**	**41**	*e*P	**Pn**	**00 47 55.0**	**-0.4**
MESS	**Mesas**	**1.29**	**50**	*e*P	**Pn**	**00 47 54.8**	**-0.7**
TIMP	**Tierras Morena**	**1.34**	**60**	*e*P	**Pn**	**00 47 56.0**	**-0.2**
MOTZ	**Rio Naranjo**	**1.35**	**55**	*e*P	**Pn**	**00 47 56.4**	**+0.1**
VMAR	**Armenia, Volca**	**1.40**	**50**	*e*P	**Pn**	**00 47 56.8**	**-0.1**
CARN	**Rivas**	**1.44**	**28**	P	**Pn**	**00 47 57.1**	**-0.3**
TENO	**El Achiote**	**1.44**	**57**	*e*P	**Pn**	**00 47 56.7**	**-0.8**
QUEB	**Quebradon, Cot**	**1.47**	**61**	*e*P	**Pn**	**00 47 58.5**	**+0.6**
ARE1	**Arenal 1**	**1.56**	**69**	*e*P	**Pb**	**00 48 00.1**	**-0.9**
VARE2	**V. Arenal**	**1.56**	**69**	*e*P	**Pb**	**00 48 00.1**	**-0.9**
SOCE	**Pocosol**	**1.63**	**73**	*e*P	**Pn**	**00 48 01.0**	**+0.9**
SOCE	**Pocosol**	**1.63**	**73**	P	**Pn**	**00 48 00.7**	**+0.6**
VPL2	**V. Platanar**	**1.83**	**77**	*e*P	**Pb**	**00 48 04.8**	**-1.0**
ACON	**Acoyapa**	**2.28**	**26**	*e*P	**Pn**	**00 48 08.3**	**-0.7**
BOAB	**BOACO BROADBAN**	**2.58**	**12**	P	**Pn**	**00 48 13.1**	**-0.1**

AUST 09 00:54:09.5±0.9, 18°.S±6°×12°.0E±°, h10km, mb4.6/2, ML2.3/3, ML2.7/4, Error ellipse: s-maj=13.7km s-min=8.0km az=177.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	**Eighty Mile Be**	**1.51**	**123**	P	**Pn**	00 54 35.0	-1.5
CAAN				S	Sb	00 54 57.1	+0.4
MBWA	**Marble Bar**	**2.73**	**189**	P	**Pn**	00 54 53.4	0.0
MBWA				S	Sn	00 55 27.5	+1.0
PSA00	**Pilbara Seismi**	**3.12**	**186**	P	**Pn**	00 54 59.1	+0.3
PSA00				S	Sn	00 55 36.5	+0.2
GIRL	**Giralia**	**6.96**	**232**	P	**Pn**	00 55 51.0	-0.5
	comp=Z,117μmcomp=Z,30nm,1.8s,comp=Z,0.1nm						
CVQOZ	**Cooralya Stati**	**8.24**	**223**	P	**Pn**	00 56 10.1	+1.1
	comp=Z,154nm,1.2s,comp=Z,0.7nm						
MEEK	**Meekatharra**	**8.28**	**190**	P	**Pn**	00 56 09.5	-0.1

*IDC **09** 00:58:52.3±2.7, 34°.78N×24°.84E, h20km±15km, mb3.7/7, mbtmp3.8/15, ML3.3/8, Error ellipse: s-maj=20.2km s-min=16.7km az=180.0*
*ATH **09** 00:58:52.0, 34°.76N×24°.87E, h11km±2km, ML3.6/11, Manual Solution by M.Papanikolaou First location: 2019/09/09 00:59:52, This location: 2019/09/09 01:06:50 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*ISK **09** 00:58:52.3, 34°.79N×24°.88E, h8km, ML3.7/6*
*THE **09** 00:58:53.1, 35°.N±2°×2°.5E±°, h3km±2km, M3.3/17, MLh3.3/17*

ISC 09 00:58:51.9±1.2, 34°.75N±0°.04×24°.88E±0°.02, h18km±6km, n66, σ1°.57/84, mb3.7/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMBK	**Timbaki Herakl**	**0.34**	**344**	P	**Pb**	**00 58 59.7**	**+0.2**
IDI	**Anoyia**	**0.54**	**1**	Pg	**Pg**	**00 59 02.5**	**-0.2**
IDI				Sg	**Sb**	**00 59 09.9**	**-0.5**
IDI	**Anoyia**	**0.54**	**1**	P	**Pg**	**00 59 02.5**	**-0.2**
IDI				S	**Sb**	**00 59 09.7**	**-0.7**
IDI	**Anoyia**	**0.54**	**1**	Pg	**Pb**	**00 59 02.8**	**-0.1**
	78nm,0.3s,baz=180,slow=8.5,SNR=474						
IDI				Lg	Lg	00 59 09.9	
	490nm,0.3s,baz=243,slow=16,SNR=63						
IDI	**Anoyia**	**0.54**	**1**	P	**Pg**	**00 59 02.6**	**-0.2**
IDI				S	**Sb**	**00 59 10.1**	**-0.3**
IACM	**Heraklion**	**0.58**	**15**	P	**Pb**	**00 59 03.9**	**+0.3**
IACM				S	**Sg**	**00 59 10.7**	**-0.6**
GVD	**Gavdhos**	**0.66**	**278**	Pg	**Pb**	**00 59 05.2**	**+0.3**
GVD				Sg	**Sb**	**00 59 15.2**	**+1.4**
GVD	**Gavdhos**	**0.66**	**278**	P	**Pg**	**00 59 05.0**	**+0.1**
GVD				S	**Sb**	**00 59 14.6**	**+0.9**
GVD	**Gavdhos**	**0.66**	**278**	P	**Pb**	**00 59 05.2**	**+0.3**
GVD				S	**Sg**	**00 59 13.2**	**-0.6**
PRNS	**Prines Rethymn**	**0.69**	**333**	P	**Pb**	**00 59 05.6**	**+0.1**
PRNS	**Prines Rethymn**	**0.69**	**333**	P	**Pb**	**00 59 05.5**	**+0.1**
PRNS				S	**Sb**	**00 59 15.4**	**+0.7**
NPS	**Neapolis**	**0.79**	**49**	P	**Pg**	**00 59 07.4**	**0.0**
NPS				S	**Sb**	**00 59 18.7**	**+1.1**
NPS	**Neapolis**	**0.79**	**49**	P	**Pg**	**00 59 07.4**	**0.0**
NPS				S	**Sb**	**00 59 18.5**	**+0.9**
CHAN	**Chania**	**1.03**	**318**	P	**Pb**	**00 59 11.7**	**+0.4**
CHAN				S	**Sn**	**00 59 26.0**	**+0.5**
CHAN	**Chania**	**1.03**	**318**	P	**Pg**	**00 59 11.2**	**-0.7**
ZKR	**Zakros**	**1.16**	**71**	Pn	**Pn**	**00 59 14.4**	**+1.2**
ZKR				Sn	**Sn**	**00 59 31.1**	**+2.5**
ZKR	**Zakros**	**1.16**	**71**	P	**Pn**	**00 59 14.4**	**+1.2**
ZKR	**Zakros**	**1.16**	**71**	P	**Pb**	**00 59 14.1**	**+0.7**
THERA	**Ancient Thera,**	**1.69**	**16**	P	**Pb**	**00 59 22.1**	**-0.4**
THERA				S	**Sg**	**00 59 44.7**	**-1.6**
THERA	**Ancient Thera,**	**1.69**	**16**	P	**Pn**	**00 59 21.8**	**+1.3**
SNT5	**Nea Kammeni, S**	**1.71**	**14**	P	**Pb**	**00 59 22.8**	**0.0**
SNT5				S	**Sb**	**00 59 44.2**	**+0.3**
ANKY	**Antikythira Is**	**1.71**	**311**	P	**Pn**	**00 59 22.3**	**+1.5**
THR3	**Thira Island,**	**1.71**	**14**	P	**Pb**	**00 59 23.3**	**+0.5**
SAP3	**Santorini-Thir**	**1.73**	**12**	P	**Pb**	**00 59 23.5**	**+0.4**
SAP3				S	**Sb**	**00 59 44.9**	**+0.4**
SAP3	**Santorini-Thir**	**1.73**	**12**	P	**Pb**	**00 59 23.2**	**+0.1**
MHLO	**Agia Marina, M**	**1.98**	**349**	P	**Pb**	**00 59 26.9**	**-0.5**
MHLO	**Agia Marina, M**	**1.98**	**349**	P	**Pn**	**00 59 26.0**	**+1.5**
KARP	**Karpathos**	**2.03**	**66**	Pn	**Pn**	**00 59 27.7**	**+2.4**
KARP	**Karpathos**	**2.03**	**66**	P	**Pn**	**00 59 27.4**	**+2.1**
KTHA	**Kythira Island**	**2.12**	**316**	P	**Pb**	**00 59 28.8**	**-1.0**
APE	**Apeiranthos**	**2.38**	**13**	Pn	**Pn**	**00 59 31.8**	**+1.7**
APE	**Apeiranthos**	**2.38**	**13**	P	**Pn**	**00 59 31.5**	**+1.5**
APE	**Apeiranthos**	**2.38**	**13**	P	**Pn**	**00 59 31.1**	**+1.0**
VLI	**Veliai**	**2.53**	**322**	P	**Pn**	**00 59 33.4**	**+1.3**
VLI	**Veliai**	**2.53**	**322**	P	**Pn**	**00 59 32.8**	**+0.7**
DAT	**Datca**	**2.95**	**47**	Pn	**Pn**	**00 59 40.7**	**+2.7**
ARG	**Arkhangelos**	**3.03**	**60**	Pn	**Pn**	**00 59 41.7**	**+2.8**
ARG	**Arkhangelos**	**3.03**	**60**	P	**Pn**	**00 59 41.9**	**+3.0**
ARG	**Arkhangelos**	**3.03**	**60**	P	**Pn**	**00 59 40.7**	**+1.8**
MET4	**Agioi Theodoro**	**3.11**	**338**	P	**Pn**	**00 59 40.9**	**+0.8**
MET5	**Makryloggos,Me**	**3.12**	**337**	P	**Pn**	**00 59 41.7**	**+1.4**
MET2	**Kameni Chora,**	**3.12**	**337**	P	**Pn**	**00 59 41.0**	**+0.7**
VLX	**Vlachokerasia**	**3.31**	**323**	P	**Pn**	**00 59 44.6**	**+1.6**
SMG	**Samos**	**3.35**	**28**	P	**Pn**	**00 59 45.9**	**+2.4**
SMG	**Samos**	**3.35**	**28**	P	**Pn**	**00 59 45.0**	**+1.5**
DION	**Dionisos Attik**	**3.41**	**347**	P	**Pn**	**00 59 45.8**	**+1.6**
LTK	**Loutraki**	**3.62**	**335**	P	**Pn**	**00 59 48.7**	**+1.6**
LTK	**Loutraki**	**3.62**	**335**	P	**Pn**	**00 59 48.3**	**+1.2**
VILL	**Villia**	**3.64**	**340**	P	**Pn**	**00 59 49.0**	**+1.6**
VIL2	**Platees**	**3.70**	**340**	P	**Pn**	**00 59 47.2**	**-0.9**
KYMI	**Kymi, Euboea I**	**3.93**	**351**	P	**Pn**	**00 59 53.1**	**+1.7**
BRTR	**Keskin Array B**	**8.57**	**52**	Pn	**Pn**	**01 00 58.8**	**+3.6**
	0.1nm,0.3s,baz=233,slow=16,SNR=9.6 2.2nm,0.3s						
MMAI	**Mount Meron Ar**	**8.92**	**98**	Pn	**Pn**	**01 01 01.0**	**+1.1**
	1.1nm,0.3s,baz=274,slow=12,SNR=7.1						
MMAI				Sn	**Sn**	**01 02 34.6**	**-5.3**
	2.8nm,0.3s,baz=270,slow=18,SNR=6.1 0.4nm,0.3s						
EIL	**Elat**	**9.91**	**118**	Pn	**Pn**	**01 01 14.1**	**+0.5**
	0.7nm,0.3s,baz=353,slow=4.3,SNR=10						
EIL				Sn	**Sn**	**01 02 58.8**	**-5.6**
	1.5nm,0.3s,baz=261,slow=15,SNR=5.8 6.8nm,0.8s						
ASF	**Jabal al Asfar**	**10.36**	**101**	Pn	**Pn**	**01 01 20.8**	**+1.1**
	0.2nm,0.3s,baz=64,slow=24,SNR=1.6						
ASF				Sn	**Sn**	**01 03 11.7**	**-3.7**
	0.2nm,0.3s,baz=58,slow=23,SNR=1.3 0.9nm,0.5s						
MLR	**Muntele Rosu**	**10.76**	**4**	Pn	**Pn**	**01 01 26.3**	**+1.0**
	0.1nm,0.3s,baz=200,slow=12,SNR=3.8 3.1nm,1.1s						
AKASG	**Malin Array Be**	**16.26**	**10**	Pn	**Pn**	**01 02 38.7**	**-0.5**
	0.5nm,0.3s,baz=203,slow=11,SNR=9.8 2.9nm,0.9s						
GERES	**GERESS Array B**	**16.34**	**333**	Pn	**Pn**	**01 02 39.5**	**-1.0**
	baz=144,slow=12,SNR=9.0 2.3nm,0.8s						
KBZ	**Khabaz**	**16.56**	**52**	Pn	**P**	**01 02 47.0**	**+1.4**
	0.1nm,0.3s,baz=297,slow=5.3,SNR=15 14nm,1.0s						
ESDC	**Sonseca Array**	**23.44**	**291**	P	**P**	**01 03 59.8**	**-0.4**
	0.8nm,0.9s,baz=75,slow=10,SNR=5.7 0.8nm,0.9s						
FINES	**FINESS Array B**	**26.73**	**1**	P	**P**	**01 04 29.5**	**-0.5**
	9.4nm,1.3s,baz=180,slow=8.7,SNR=1.7 9.4nm,1.3s						
EKA	**Eskdalemuir Ar**	**28.25**

PETK **Petropavlovsk-** 24.72 26 P P 01 04 09.1 +2.3
comp=Z,5.8nm,0.9s,baz=224,slow=8.2,SNR=4.4
comp=Z,5.8nm,0.9s
H11N2 **WAKE ISLAND Hy** 26.91 110 T T 01 33 41.9
baz=304,slow=74
H11N1 **WAKE ISLAND Hy** 26.91 110 T T 01 33 39.0
baz=304
H11N3 **WAKE ISLAND Hy** 26.93 110 T T 01 33 38.8
baz=304,slow=74,SNR=3.1
H11S3 **WAKE ISLAND Hy** 27.41 113 T T 01 33 18.9
baz=304,slow=76,SNR=7.0
H11S1 **WAKE ISLAND Hy** 27.42 113 T T 01 33 23.0
baz=304,slow=76,SNR=7.2
H11S2 **WAKE ISLAND Hy** 27.43 113 T T 01 33 21.6
baz=304,slow=76,SNR=5.2
SONM **Songino Array** 30.09 312 P P 01 04 53.4 -1.7
comp=Z,1.0nm,0.7s,baz=106,slow=8.2,SNR=4.8
comp=Z,1.0nm,0.7s
LZH **Lanzhou** 30.25 288 eP P 01 04 59.4 +2.8
LZH sP PP 01 05 52.2 -15
LZH pmax pmax
comp=Z,12nm,1.0s
PZH **PanZhiHua** 33.80 271 P P 01 05 29.3 +1.6
WMQ **Urumqi** 42.41 302 eP P 01 06 41.3 +1.7
WMQ LR LR
comp=N,3μm,16.7s
WMQ LR LR
comp=E,2μm,13.5s
WMQ LR LR
comp=Z,880nm,24.7s
ZALV **Zalesovo Beam** 44.73 316 P P 01 06 56.4 -1.6
comp=Z,1.0nm,0.4s,baz=103,slow=8.6,SNR=6.1
ZALV PcP PcP 01 08 37.7 -0.4
comp=Z,1.0nm,0.6s,baz=116,slow=3.4,SNR=3.5
comp=Z,1.0nm,0.4s
MKAR **Makanchi Array** 46.10 306 P P 01 07 07.3 -1.7
comp=Z,2.6nm,0.5s,baz=88,slow=8.5,SNR=22
comp=Z,2.6nm,0.5s
S12K **Black Hills** 46.38 41 P P 01 07 10.4 -0.6
baz=264
F14K **Arctic Creek** 46.47 28 P P 01 07 10.5 -1.0
baz=251
K15K **Wolf Creek Mou** 47.66 33 P P 01 07 19.4 -1.4
baz=259
C16K **Lisburne Hills** 47.80 24 P P 01 07 20.0 -1.8
baz=250
J16K **Anvik River** 48.28 31 P P 01 07 24.5 -1.0
baz=259
KURK **Kurchatov** 48.39 312 P P 01 07 24.1 -2.4
D17K **Noatak River** 48.41 25 P P 01 07 25.1 -1.3
baz=252
KURBB **Kurchatov Arra** 48.45 312 P P 01 07 25.4 -1.6
comp=Z,2.4nm,0.6s,baz=90,slow=9.0,SNR=19
comp=Z,2.4nm,0.6s
M16K **Timber Creek** 48.66 35 P P 01 07 27.7 -0.7
baz=262
N16K **Nishlik Lake** 48.68 35 P P 01 07 28.0 -0.6
baz=263
E17K **Hotham Inlet** 48.69 26 P P 01 07 27.8 -0.8
baz=254
H17K **Granite Mounta** 48.92 29 P P 01 07 29.6 -0.9
baz=258
J17K **VARM Dome** 48.98 31 P P 01 07 30.9 0.0
baz=260
K17K **Iditarod** 49.22 32 P P 01 07 32.5 -0.2
baz=262
C18K **Utukok River** 49.37 24 P P 01 07 33.9 0.0
baz=254
B18K **Kokolik River** 49.37 23 P P 01 07 33.4 -0.3
baz=252
F18K **Selawik** 49.40 27 P P 01 07 33.8 -0.2
baz=257
O17K **Koliganek Bris** 49.43 36 P P 01 07 34.6 +0.3
baz=265
M17K **Holitna River** 49.44 34 P P 01 07 34.7 +0.3
baz=264
N17K **Nushagak Hills** 49.46 35 P P 01 07 34.7 +0.1
baz=264
Q16K **King Salmon** 49.57 38 P P 01 07 35.7 +0.3
baz=266
H18K **Honhosa River** 49.61 29 P P 01 07 35.7 0.0
baz=259
G18K **Tagagawik** 49.64 28 P P 01 07 35.3 -0.6
baz=258
P17K **Kvichak River** 49.72 37 P P 01 07 35.7 -0.8
baz=266
Q17K **Contact Creek** 49.95 38 P P 01 07 38.6 +0.2
baz=268
C19K **Lookout Ridge** 50.05 24 P P 01 07 37.8 -1.2
baz=255
N18K **Kilae Creek** 50.11 35 P P 01 07 39.5 -0.1
baz=266
M18K **Stony River** 50.22 34 P P 01 07 40.2 -0.1
baz=265
P18K **Big Mountain,** 50.35 37 P P 01 07 41.6 +0.2
baz=267
Q18K **Katmai Hardscr** 50.43 38 P P 01 07 42.1 0.0
baz=268
H19K **Roundabout Mou** 50.47 29 P P 01 07 42.1 0.0
baz=261
E19K **Redstone River** 50.52 26 P P 01 07 42.0 -0.4
baz=259
J19K **Poorman** 50.59 31 P P 01 07 43.0 -0.1
baz=263
R18K **Karluk** 50.69 39 P P 01 07 44.3 +0.5
baz=269
N19K **Bonanza Creek** 50.81 35 P P 01 07 45.3 +0.4
baz=267
D20K **Etivluk River** 51.01 25 P P 01 07 46.3 +0.2
baz=258
F20K **Avaraart Lake** 51.02 27 P P 01 07 45.9 -0.3
baz=260
B20K **Meade River** 51.11 23 P P 01 07 46.4 -0.5
baz=257
H20K **Anotleneega Mo** 51.11 29 P P 01 07 46.9 0.0
baz=262
K20K **Telida** 51.21 32 P P 01 07 47.7 -0.1
baz=265
L20K **Farewell, AK** 51.22 33 P P 01 07 47.4 -0.4
baz=266
J20K **Nowinta River** 51.26 31 P P 01 07 49.1 +1.1
baz=264
KDAK **Kodiak Island** 51.70 39 P P 01 07 52.3 +0.9
baz=271
C21K **Knifeblade Rid** 51.74 24 P P 01 07 51.9 +0.3
baz=260
G21K **Aliakaket** 51.80 28 P P 01 07 52.7 +0.6
baz=263
WRA **Warramunga Arr** 51.84 187 P P 01 07 51.1 -1.8
comp=Z,0.6nm,0.3s,baz=4.4,slow=7.6,SNR=10
WRA PcP PcP 01 09 05.0 +0.8
comp=Z,0.7nm,0.5s,baz=3.2,slow=4.0,SNR=3.1
comp=Z,0.6nm,0.3s
B21K **Ikpikpuk River** 51.89 24 P P 01 07 53.2 +0.6
baz=260
F21K **Alatna River** 51.91 27 P P 01 07 52.9 0.0
baz=262
N20K **Mount Spurr** 51.94 35 P P 01 07 52.9 -0.3
baz=268
H21K **Melozitna River** 51.99 29 P P 01 07 52.7 -0.7
baz=264
PPLA **Purkeypile** 52.03 33 P P 01 07 53.2 -0.8
baz=267
CHUM **Lake Minchumin** 52.03 31 P P 01 07 54.1 +0.3
baz=266
HOM **Homer** 52.19 37 P P 01 07 55.8 +0.8
baz=270
I21K **Tanana** 52.28 30 P P 01 07 55.9 +0.2
baz=266
SKT **Skwentna** 52.29 34 P P 01 07 56.0 +0.2
baz=268
D22K **Ayikyak River** 52.44 25 P P 01 07 57.2 +0.4
baz=262
H22K **Ishtalitna Cre** 52.59 29 P P 01 07 58.2 +0.3
baz=266
SUA **Susitna One** 52.65 34 P P 01 07 59.0 +0.5
SUA IAmb IAmb 01 07 59.9
comp=Z,6.7nm,0.9s
SUA **Susitna One** 52.65 34 P P 01 07 58.8 +0.2
baz=270
MLY **Manley** 52.80 30 P P 01 08 00.3 +0.8
baz=267
CUT **Chulitna** 52.89 33 P P 01 08 00.7 +0.6
baz=269
RC01 **Rabbit Creek A** 53.13 35 P P 01 08 02.3 +0.4
baz=271
D23K **Nanushuk River** 53.17 25 P P 01 08 02.4 +0.3
baz=264

G23K **Bananza Creek** 53.21 28 P P 01 08 02.6 +0.1
baz=266
SEW **Seward** 53.29 36 P P 01 08 04.0 +0.9
baz=272
C23K **Itkillik River** 53.30 24 P P 01 08 02.7 -0.4
baz=263
BVAR **Borovoye Array** 53.33 315 P P 01 08 01.8 -1.8
comp=Z,0.8nm,0.4s,baz=88,slow=7.1,SNR=6.7
BVAR PcP PcP 01 09 09.4 0.0
comp=Z,0.5nm,0.5s,baz=103,slow=4.7,SNR=4.4
comp=Z,0.8nm,0.4s
H23K **Yukon River** 53.34 29 P P 01 08 03.3 -0.2
baz=267
PMR **Palmer** 53.42 34 P P 01 08 03.8 -0.2
baz=271
E23K **Chandalar** 53.47 26 P P 01 08 04.2 -0.2
baz=266
NEA2 **Nenana** 53.49 30 P P 01 08 05.6 +1.0
NEA2 IAmb IAmb 01 08 06.8
comp=Z,5.8nm,0.9s
NEA2 **Nenana** 53.49 30 P P 01 08 04.4 -0.1
baz=269
GHO **Glory Hole Cre** 53.52 34 P P 01 08 06.2 +1.3
GHO IAmb IAmb 01 08 40.7
comp=Z,7.4nm,1.2s
MCK **McKinley** 53.53 32 P P 01 08 04.5 -0.3
MCK IAmb IAmb 01 08 07.2
comp=Z,4.5nm,1.1s
MCK **McKinley** 53.53 32 P P 01 08 04.8 0.0
baz=269
TOLK **Toolik Lake Re** 53.54 25 P P 01 08 04.9 0.0
baz=265
WAT1 **Susitna Watana** 53.69 33 P P 01 08 06.2 +0.1
baz=270
KNK **Knik Glacier** 53.75 34 P P 01 08 06.3 -0.1
baz=272
PWL **Port Wells** 53.82 35 P P 01 08 07.0 0.0
baz=272
D24K **Happy Valley** 53.85 25 P P 01 08 07.1 0.0
baz=265
C24K **Franklin Bluff** 53.95 24 P P 01 08 07.7 0.0
baz=265
H24K **Noodor Dome** 54.03 29 P P 01 08 08.3 -0.2
baz=269
WAT6 **Susitna Watana** 54.07 33 P P 01 08 08.5 -0.5
baz=271
F24K **Squaw Lake** 54.09 27 P P 01 08 07.9 -1.0
baz=268,SNR=5.2
M23K **Glacier View** 54.09 34 P P 01 08 09.0 +0.1
baz=272
G24K **Hadweenzic Riv** 54.22 28 P P 01 08 10.7 +0.9
baz=268
DHY **Denali Highway** 54.23 32 P P 01 08 10.3 +0.2
baz=271
SCM **Sheep Creek Mo** 54.28 34 P P 01 08 10.5 +0.1
baz=272
HDA **Harding Lake** 54.40 31 P P 01 08 11.5 +0.3
HDA IAmb IAmb 01 08 12.3
comp=Z,3.2nm,0.6s
HDA **Harding Lake** 54.40 31 P P 01 08 10.9 -0.2
baz=271
GLI **Glacier Island** 54.43 35 P P 01 08 09.3 -2.1
GLI IAmb IAmb 01 08 48.9
comp=Z,8.6nm,1.0s
IL31 54.43 30 P P 01 08 11.6 +0.3
ILAR **Eielson Array** 54.43 30 P P 01 08 11.7 +0.4
comp=Z,1.2nm,0.7s,baz=270,slow=6.4,SNR=16
ILAR PcP PcP 01 09 13.1 -0.4
comp=Z,0.4nm,0.6s,baz=280,slow=4.3,SNR=5.1
comp=Z,1.2nm,0.7s
D25K **Kavik River** 54.74 25 P P 01 08 14.1 +0.6
baz=268
HIN **Hinchinbrook I** 54.74 36 P P 01 08 15.0 +1.3
G25K **Bearman Lake** 54.77 28 P P 01 08 14.4 +0.7
baz=270
M24K **Tolsona, Glenn** 54.81 34 P P 01 08 15.0 +0.8
baz=273
H25L **Birch Creek** 54.88 28 P P 01 08 14.8 +0.3
baz=270
KK31 **Karatay Array** 54.89 303 P P 01 08 13.1 -1.9
KK31 IAmb IAmb 01 08 14.1
comp=Z,6.7nm,0.6s
KKAR **Karatay Array** 54.89 303 P P 01 08 13.6 -1.4
F25K **Christian Rive** 54.95 27 P P 01 08 15.2 0.0
baz=270
KLU **Klutina** 54.96 34 P P 01 08 16.1 +0.8
baz=274
E25K **Arctic Village** 54.99 26 P P 01 08 15.7 +0.3
baz=269
J25K **Salcha River,** 55.08 30 P P 01 08 16.7 +0.6
baz=272
RIDG **Independent Ri** 55.34 31 P P 01 08 17.9 -0.1
baz=273
BMAR **Burnt Mountain** 55.36 27 P P 01 08 18.9 +0.9
F26K **Sheenjek River** 55.53 27 P P 01 08 20.1 +0.8
baz=271,SNR=6.5
ASAR **Alice Springs** 55.57 187 P P 01 08 20.6 +0.6
comp=Z,0.3nm,0.4s,baz=2.7,slow=6.9,SNR=6.1
comp=Z,0.3nm,0.4s
N25K **Chitina, Valde** 55.59 34 P P 01 08 20.4 +0.5
baz=275
BMRM **Bremner River** 55.63 35 P P 01 08 20.0 -0.1
BMRM IAmb IAmb 01 08 25.3
comp=Z,4.8nm,0.8s
BMRM **Bremner River** 55.63 35 P P 01 08 20.7 +0.6
baz=275
G26K **Porcupine Rive** 55.68 28 P P 01 08 20.5 +0.3
baz=272
C27K **Jago River** 55.69 24 P P 01 08 20.5 +0.3
baz=270
DOT **Dot Lake** 55.70 32 P P 01 08 20.9 +0.4
DOT IAmb IAmb 01 08 21.9
comp=Z,3.1nm,0.6s
SCRK **Sand Creek** 55.71 31 P P 01 08 21.2 +0.5
SCRK IAmb IAmb 01 08 22.3
comp=Z,3.1nm,0.6s
SCRK **Sand Creek** 55.71 31 P P 01 08 20.8 +0.1
baz=274,SNR=5.1
J26L **Joseph Creek** 55.87 31 P P 01 08 22.1 +0.3
baz=274,SNR=5.5
MENT **Mentasta** 55.90 32 P P 01 08 22.4 +0.5
MENT IAmb IAmb 01 08 24.5
comp=Z,4.4nm,0.5s
L26K **Log Cabin Wild** 56.06 32 P P 01 08 23.7 +0.6
baz=275,SNR=5.2
M26K **Nabesna, AK** 56.28 33 P P 01 08 25.4 +0.8
baz=276
MCARA **McCarthy VSAT** 56.36 34 P P 01 08 26.1 +0.9
baz=276
CRQM **Cirque** 56.37 35 P P 01 08 25.9 +0.4
E27K **Coleen River** 56.48 26 P P 01 08 26.6 +0.6
baz=273
TGL **Tana Glacier** 56.52 35 P P 01 08 26.2 -0.3
TGL IAmb IAmb 01 08 28.9
comp=Z,7.3nm,0.9s
G27K **Doyon Strip** 56.52 28 P P 01 08 26.9 +0.5
baz=274
WAX **Waxell Ridge** 56.54 35 P P 01 08 27.2 +0.6
K27K **Chicken** 56.55 31 P P 01 08 26.9 +0.4
baz=275
H27K **Steamboat Moun** 56.61 28 P P 01 08 27.4 +0.4
baz=274
I27K **Kandik River** 56.62 29 P P 01 08 27.6 +0.5
baz=275
D27M **Malcolm River** 56.66 25 P P 01 08 27.6 +0.3
baz=273
L27K **Beaver Creek,** 56.75 32 P P 01 08 28.3 +0.3
baz=276
M27K **Edge Creek, AK** 56.80 33 P P 01 08 28.8 +0.3
baz=276
CHGR **Chuyangaron** 57.01 298 P P 01 08 28.9 -1.4
GRNC **Granite Creek** 57.05 35 P P 01 08 30.7 +0.4
GRNC IAmb IAmb 01 08 32.5
comp=Z,5.5nm,0.7s
SIMJ **Simiganj** 57.12 298 P P 01 08 29.1 -2.1
SIMJ IAmb IAmb 01 08 30.1
comp=Z,3.3nm,0.8s
E28M **Babbage River** 57.22 25 P P 01 08 30.8 -0.3
baz=274
CTG **Chitna Glacier** 57.22 35 P P 01 08 31.6 +0.1
baz=278
I28M **Miner Creek** 57.33 29 P P 01 08 32.3 +0.1
baz=276,SNR=5.7
YUK3 **Moose Creek** 57.53 34 P P 01 08 33.9 +0.2
baz=278
E29M **Blow River** 57.84 26 P P 01 08 34.8 -0.6
baz=276

H29M **Whitestone** 57.89 28 P P 01 08 35.2 -0.7
baz=277
G29M **Pine Creek** 57.95 27 P P 01 08 36.6 +0.3
baz=277,SNR=5.0
I29M **Ogilvie Camp,** 58.02 29 P P 01 08 36.8 0.0
baz=278
M29M **Somme Creek** 58.36 33 P P 01 08 40.3 +0.9
baz=279,SNR=6.0
L29M **L29M** 58.41 32 P P 01 08 40.4 +0.7
baz=279,SNR=5.6
YUK4 **Talbot Arm** 58.45 34 P P 01 08 40.6 +0.5
baz=280
EPYK **Eagle Plains** 58.53 28 P P 01 08 41.1 +0.7
baz=278,SNR=5.9
K29M **Barlow Dome** 58.57 31 P P 01 08 40.6 -0.2
baz=279
G30M **tAoh Zraii Nji** 58.64 27 P P 01 08 41.4 +0.3
baz=278
YUK6 **Outpost Mounta** 58.66 34 P P 01 08 42.3 +0.7
baz=280
O29M **Mount Kennedy** 58.67 35 P P 01 08 42.3 +0.7
baz=281
F30M **Barrier River** 58.72 26 P P 01 08 42.6 +1.0
baz=278
I30M **Mount Dempster** 58.84 29 P P 01 08 43.1 +0.4
baz=279,SNR=6.2
J30M **Hart River** 58.97 30 P P 01 08 44.2 +0.7
baz=280
HYT **Haines Junctio** 59.09 34 P P 01 08 45.9 +1.4
HYT IAmb IAmb 01 08 50.2
comp=Z,3.3nm,0.7s
HYT **Haines Junctio** 59.09 34 P P 01 08 44.9 +0.5
baz=281
M30M **Minto, Yukon** 59.11 32 P P 01 08 44.7 +0.3
baz=281
P29M **Windy Craggy** 59.21 36 P P 01 08 45.4 +0.3
baz=282
G31M **Satah River** 59.41 27 P P 01 08 46.5 +0.1
baz=280
INK **Inuvik** 59.45 26 P P 01 08 46.7 +0.1
baz=280
P30M **Million Dollar** 59.49 35 P P 01 08 47.7 +0.6
baz=282
H31M **Peel River** 59.58 28 P P 01 08 47.9 +0.3
baz=281
ARTI **Arti** 59.66 320 P P 01 08 46.9 -1.3
O30N **Mendenhall** 59.78 34 P P 01 08 49.3 +0.2
baz=282
N31M **Braeburn, Yuko** 59.78 34 P P 01 08 49.3 +0.2
baz=282
PLBC **Pleasant Camp** 59.93 36 P P 01 08 50.2 +0.1
baz=283
M31M **Drury Creek, Y** 60.28 33 P P 01 08 52.5 +0.1
baz=283,SNR=6.3
WHY **Whitehorse** 60.39 34 P P 01 08 54.7 +1.3
WHY IAmb IAmb 01 08 55.7
comp=Z,6.1nm,0.6s
WHY **Whitehorse** 60.39 34 P P 01 08 53.6 +0.2
baz=283
AB31 **Akbulak array** 60.50 312 P P 01 08 52.8 -1.3
AB31 IAmb IAmb 01 08 53.4
comp=Z,2.5nm,0.7s
ABKAR **Akbulak array** 60.50 312 P P 01 08 52.6 -1.5
N32M **Quiet Lake** 61.13 34 P P 01 08 58.1 -0.2
baz=284
P33M **Teslin, Yukon** 61.49 35 P P 01 09 00.9 +0.2
baz=285
MMPY **Sheldon Lake,** 61.59 32 P P 01 09 03.4 +2.0
MMPY **Sheldon Lake,** 61.59 32 P P 01 09 01.7 +0.3
baz=285
TGTN **Hyland Airport** 63.25 32 P P 01 09 12.6 +0.1
baz=288
DIB **Dawson Inlet,** 63.69 42 P P 01 09 16.7 +1.4
DIB IAmb IAmb 01 09 17.4
comp=Z,4.1nm,0.7s
T35M **Bob Quinn** 63.70 38 P P 01 09 16.3 +0.9
baz=289
RES **Resolute Bay** 67.83 14 LR LR 01 43 02.1
comp=Z,490nm,19.4s,baz=47,slow=39
ARCES **ARCESS Array B** 68.42 340 P P 01 09 46.1 +0.8
ARCES **ARCESS Array B** 68.42 340 P P 01 09 45.3 0.0
comp=Z,1.8nm,0.7s,baz=74,slow=8.4,SNR=13
comp=Z,1.8nm,0.7s
B04A **Port Angeles** 70.94 45 P P 01 10 03.0 +1.8
B04A IAmb IAmb 01 10 04.2
comp=Z,4.7nm,0.8s
NLWA **Neilton Lookou** 71.02 46 P P 01 10 04.0 +2.3
NLWA IAmb IAmb 01 10 21.9
comp=Z,6.1nm,1.1s
A04D **Lummi Island** 71.12 44 P P 01 10 04.5 +2.4
RADR **Rader Ridge** 71.50 46 P P 01 10 06.8 +2.2
COR **Corvallis** 72.65 48 P P 01 10 11.2 -0.2
FIA1 **FINESS Array S** 72.86 333 P P 01 10 11.9 -0.4
FINES **FINESS Array B** 72.86 333 P P 01 10 11.8 -0.5
comp=Z,3.6nm,0.7s,baz=65,slow=5.7,SNR=43
comp=Z,3.6nm,0.7s
BUCK **Buck Mountain** 73.03 48 P P 01 10 16.1 +2.3
I03D **Drain, OR** 73.04 49 P P 01 10 15.4 +1.7
B08A **Colville Reser** 73.27 43 P P 01 10 16.6 +1.5
H04A **Detroit Lake** 73.31 48 P P 01 10 16.7 +1.4
H04A IAmb IAmb 01 10 28.4
comp=Z,9.9nm,1.2s
KBZ **Khabaz** 73.45 311 P P 01 10 15.9 -0.2
comp=Z,7.0nm,0.8s,baz=95,slow=2.6,SNR=12
comp=Z,7.0nm,0.8s
MXC **Moxie City** 73.56 45 P P 01 10 18.0 +1.2
MXC IAmb IAmb 01 10 19.4
comp=Z,4.8nm,0.9s
J04A **Umpqua Nationa** 74.05 49 P P 01 10 21.1 +1.2
D08A **Wollman Farm,** 74.15 44 P P 01 10 19.7 -0.5
E08A **Dider Farm, El** 74.35 45 P P 01 10 22.7 +1.4
PINE **Pine Mountain** 74.52 48 P P 01 10 24.9 +2.2
PINE IAmb IAmb 01 10 25.8
comp=Z,11nm,0.7s
BLKN **Baker Lake** 74.53 22 P P 01 10 22.2 +0.2
BLKN IAmb IAmb 01 10 34.8
comp=Z,9.1nm,1.2s
J05D **Fort Rock, OR** 74.58 48 P P 01 10 25.4 +2.4
J05D IAmb IAmb 01 10 25.6
comp=Z,4.3nm,0.6s
O02D **Mt. Diablo Mer** 75.08 52 P P 01 10 27.9 +2.0
O02D IAmb IAmb 01 10 36.2
comp=Z,8.1nm,1.4s
HATC **Hat Creek Radi** 75.65 51 P P 01 10 30.4 +1.3
HATC IAmb IAmb 01 11 12.5
comp=Z,16nm,1.4s
O03E **Paynes Creek** 75.69 51 P P 01 10 30.5 +1.3
BMO **Blue Mountains** 76.24 46 P 01 10 33.8 +1.4
JTMT **Jette** 76.49 42 P P 01 10 35.5 +1.8
BEKR **Beckworth** 76.86 51 P P 01 10 37.2 +1.2
PLID **Pearl Lake** 76.91 45 P P 01 10 37.3 +1.1
SCO **Scoresbysund** 77.09 354 P P 01 10 37.7 +1.2
OVMT **Ovando** 77.59 42 P P 01 10 40.6 +0.7
AKASG **Malin Array Be** 77.70 323 P P 01 10 39.4 -0.8
comp=Z,2.3nm,0.6s,baz=51,slow=5.6,SNR=18
comp=Z,2.3nm,0.6s
AKBB **Malin Array Si** 77.70 323 P 01 10 39.6 -0.6
AKBB IAmb IAmb 01 10 40.0
comp=Z,5.2nm,0.7s
KIEV **Kiev** 77.71 323 P 01 10 39.3 -1.0
KIEV IAmb IAmb 01 10 40.0
comp=Z,4.7nm,0.7s
CMB **Columbia Colle** 77.77 53 P P 01 10 42.5 +1.5
MFID **Camas Ranch** 77.90 46 P P 01 10 43.4 +1.7
MARD **Mardin** 78.03 306 P 01 10 42.0 -0.5
MARD IAmb IAmb 01 10 42.6
comp=Z,11nm,0.6s
WAKR **Walker** 78.17 52 P P 01 10 45.0 +1.7
NC405 **NORSAR Array S** 78.28 337 P P 01 10 42.9 -0.3
NC405 IAmb IAmb 01 10 44.1
comp=Z,11nm,1.1s
HFS **Hagfors** 78.31 336 P P 01 10 42.9 -0.6
comp=Z,3.1nm,0.7s,baz=64,slow=6.6,SNR=7.8
comp=Z,3.1nm,0.7s
HRY **Holter Researc** 78.45 42 P P 01 10 47.6 +3.0
NB201 **NORSAR Array S** 78.46 337 P P 01 10 43.7 -0.6
NC204 **NORSAR Array S** 78.47 338 P P 01 10 44.3 -0.1
NC204 IAmb IAmb 01 11 16.8
comp=Z,20nm,1.4s
NB2 **NORSAR Subarra** 78.49 337 P P 01 10 44.1 -0.4
comp=Z,0.8nm,0.6s,baz=42,slow=5.3
NOA **NORSAR Array B** 78.49 337 P P 01 10 44.0 -0.4
comp=Z,1.6nm,0.7s,baz=43,slow=5.5,SNR=10.0
comp=Z,1.6nm,0.7s
LRM **Limekiln Ridge** 78.60 43 P P 01 10 47.3 +1.6
RAMR **Ramage Ranch** 78.67 55 P P 01 10 47.6 +1.7

HLID	**Hailey**	**78.69**	**46**	P		**P**		**01 10 47.7**	**+1.6**
RYN	**Ryan**	**78.72**	**52**	P		**P**		**01 10 47.6**	**+1.3**
DLMT	**Dillon**	**78.77**	**43**			**P**		**01 10 47.1**	**+0.6**
DLMT				IAmb		IAmb		01 10 49.3	
	comp=Z,5.1nm,0.9s								
ELK	**Elko**	**79.72**	**48**	P		**P**		**01 10 53.4**	**+1.6**
TPNV	**Topopah Spring**	**81.14**	**52**	P		**P**		**01 11 00.8**	**+1.4**
TPNV				IAmb		IAmb		01 11 02.1	
	comp=Z,8.4nm,1.4s								
GWY	**Greenwater Val**	**81.27**	**53**	P		**P**		**01 11 01.2**	**+1.1**
BR131	**Keskin Array S**	**81.44**	**312**	P		**P**		**01 11 00.4**	**-0.5**
BR131				IAmb		IAmb		01 11 01.6	
	comp=Z,6.6nm,0.8s								
BRTR	**Keskin Array B**	**81.44**	**312**	P		**P**		**01 11 00.7**	**-0.3**
BRTR	**Keskin Array B**	**81.44**	**312**	P		**P**		**01 11 00.8**	**-0.1**
	comp=Z,4.8nm,0.8s,baz=96,slow=4.2,SNR=30								
	comp=Z,4.8nm,0.8s								
BUR08	**Bucovina Ar. S**	**81.65**	**322**	P		**P**		**01 11 01.3**	**-0.5**
PDAR	**Pinedale Array**	**82.06**	**44**	P		**P**		**01 11 04.8**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=288,slow=1.4,SNR=5.1								
	comp=Z,0.5nm,0.6s								
MMAI	**Mount Meron Ar**	**84.05**	**305**	P		**P**		**01 11 14.1**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=27,slow=3.9,SNR=4.7								
	comp=Z,3.1nm,0.7s								
PV23	**Carpenter Ridg**	**84.97**	**47**	P		**P**		**01 11 20.9**	**+1.7**
CLL	**Collm**	**84.99**	**330**	*i* P		**P**		**01 11 18.3**	**-0.4**
PV10	**Paradox Valley**	**85.00**	**48**	P		**P**		**01 11 20.8**	**+1.4**
PV14	**Lion Creek, Pa**	**85.01**	**47**	P		**P**		**01 11 20.2**	**+0.8**
PV18	**Skein Mesa, Pa**	**85.16**	**48**	P		**P**		**01 11 21.3**	**+1.2**
PV18				IAmb		IAmb		01 11 21.8	
	comp=Z,8.4nm,1.0s								
ALN	**Alexandroupoli**	**85.41**	**316**	P		**P**		**01 11 20.4**	**-0.6**
PV01	**Paradox Valley**	**85.44**	**47**	P		**P**		**01 11 22.6**	**+1.1**
GERES	**GERESS Array B**	**86.48**	**328**	P		**P**		**01 11 25.9**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=42,slow=6.3,SNR=2.6								
	comp=Z,0.5nm,0.7s								
EKA	**Eskdalemuir Ar**	**87.59**	**340**	P		**P**		**01 11 32.1**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=32,slow=5.0,SNR=1.7								
	comp=Z,0.6nm,0.6s								
TX31	**Lajitas Ar. Si**	**94.12**	**52**	P		**P**		**01 12 03.6**	**+1.3**
TX31				IAmb		IAmb		01 12 04.6	
	comp=Z,3.1nm,0.8s								
TXAR	**Lajitas Array**	**94.12**	**52**	P		**P**		**01 12 03.6**	**+1.2**
	comp=Z,2.1nm,0.7s,baz=298,slow=3.5,SNR=29								
	comp=Z,2.1nm,0.7s								
TORD	**Torodi Ar. Bea**	**120.06**	**312**	PKP		**PKPdf**		**01 17 33.4**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=26,slow=2.2,SNR=5.0								
QSPA	**South Pole Qui**	**121.66**	**180**	PKP		**PKiKP**		**01 17 36.5**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=1.3,slow=4.8,SNR=1.7								
LPAZ	**La Paz**	**150.02**	**65**	PKPbc		**PKiKP**		**01 18 35.9**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=307,slow=2.5,SNR=8.4								

*GCG **09** 01:08:00.5±2.3, 15°.28N×90°.12W, h6km±10km, MD4.2, ML3.8*
*CATAC **09** 01:08:00.6±0.3, 15°N±2°×9°.0W±°, h1km, M3.6/10, MLv3.6/10, Error ellipse: s-maj=4.5km s-min=2.9km az=39.2, confirmed*
*SNET **09** 01:08:01.1±2.2, 15°.27N×90°.16W, h6km, ML3.4*
ISC 09 01:07:59.7±1.1, 15°.30N±0°.03×90°.09W±0°.02, h10km±10km, n36, σ0°.72/49, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AVCB	**Coban**	**0.35**	**299**	*i* P		**Pg**	**01 08 06.1**	**-0.5**
AVCB				*i* S		**Sg**	**01 08 11.0**	**-0.3**
AVCB				IAML			01 08 20.2	
	comp=N,31μm,0.3s							
GCG4	**OSOP**	**0.83**	**211**	*i* P		**Pg**	**01 08 15.6**	**-0.2**
GCG4				*i* S		**Sg**	**01 08 26.7**	**+0.2**
GCG4				IAML			01 08 28.4	
	comp=N,2μm,0.3s							
QUIS	**Sacapulas**	**0.96**	**270**	*eP*		**Pg**	**01 08 16.9**	**-1.5**
QUIS				IAML			01 08 34.2	
	comp=E,4μm,0.2s							
ESQI	**Esquipulas**	**1.03**	**135**	*eP*		**Pg**	**01 08 19.5**	**-0.2**
ESQI				*eS*		**Sn**	**01 08 35.1**	**+0.1**
ESQI	**Esquipulas**	**1.03**	**135**	P		**Pb**	**01 08 19.6**	**-0.2**
ESQI	**Esquipulas**	**1.03**	**135**	S		**Sn**	**01 08 34.1**	**-0.9**
FG16	**Alotenango, Sa**	**1.10**	**202**	*i* P		**Pg**	**01 08 20.6**	**-0.2**
FG16				IAML			01 08 38.7	
	comp=N,4μm,0.3s							
FG8	**Yepocapa, Chim**	**1.13**	**204**	*i* P		**Pn**	**01 08 21.9**	**+0.1**
MTO3	**Montecristo**	**1.14**	**142**	*eP*		**Pn**	**01 08 21.9**	**-0.2**
MTO3	**Montecristo**	**1.14**	**142**	*e*		**Pb**	**01 08 21.1**	**-0.7**
MTO3				*eP*		**Pb**	**01 08 21.1**	**-0.7**
MTO3	**Montecristo**	**1.14**	**142**	P		**Pb**	**01 08 21.5**	**-0.2**
MTO3	**Montecristo**	**1.14**	**142**	S		**Sn**	**01 08 37.7**	**-0.2**
ESSG	**Sabana Grande**	**1.16**	**218**	*eP*		**Pb**	**01 08 21.2**	**-0.7**
SOKI	**Kika Raxquin**	**1.35**	**250**	*eP*		**Pn**	**01 08 24.8**	**-0.3**
SOKI				*i* S		**Sg**	**01 08 43.7**	**+0.3**
SOKI				IAML			01 08 53.5	
	comp=N,1μm,0.6s							
HUEH	**Huehuetenango**	**1.36**	**271**	*eP*		**Pg**	**01 08 26.8**	**+0.9**
HUEH				*eS*		**Sg**	**01 08 46.3**	**+2.7**
HUEH	**Huehuetenango**	**1.36**	**271**	*i* P		**Pg**	**01 08 25.6**	**-0.3**
HUEH				*i* S		**Sg**	**01 08 44.4**	**+0.8**
HUEH				IAML			01 08 48.3	
	comp=E,3μm,0.3s							
SARH	**Santa Rosa de**	**1.39**	**112**	*i* P		**Pb**	**01 08 26.0**	**+0.1**
SARH				*eS*		**Sg**	**01 08 44.1**	**-0.4**
NUBE	**Las Nubes**	**1.42**	**168**	*eP*		**Pb**	**01 08 26.1**	**-0.4**
NUBE				*eS*		**Sg**	**01 08 45.9**	**+0.4**
NUBE	**Las Nubes**	**1.42**	**168**	*i* P		**Pb**	**01 08 26.3**	**-0.1**
NUBE	**Las Nubes**	**1.42**	**168**	P		**Pb**	**01 08 26.6**	**+0.1**
NUBE	**Las Nubes**	**1.42**	**168**	S		**Sg**	**01 08 47.7**	**+2.1**
QUEO	**Labor Ovalle**	**1.44**	**253**	*eP*		**Pb**	**01 08 26.6**	**-0.2**
QUEO				IAML			01 08 48.6	
	comp=N,2μm,0.1s							
CEVE	**Cerro Verde**	**1.53**	**163**	*eP*		**Pb**	**01 08 28.4**	**+0.1**
CEVE	**Cerro Verde**	**1.53**	**163**	P		**Pb**	**01 08 28.5**	**+0.1**
LLGN	**La Laguna**	**1.58**	**135**	*eP*		**Pb**	**01 08 29.1**	**-0.2**
LLGN				*eS*		**Sg**	**01 08 51.8**	**+1.0**
PETF	**Flores**	**1.62**	**8**	*eP*		**Pb**	**01 08 29.6**	**-0.2**
PETF				*i* S		**Sb**	**01 08 50.7**	**+0.3**
PETF				IAML			01 08 54.8	
	comp=E,1μm,0.3s							
PETF	**Flores**	**1.62**	**8**	P		**Pg**	**01 08 31.3**	**+0.5**
PETF	**Flores**	**1.62**	**8**	S		**Sg**	**01 08 51.7**	**-0.3**
RTAL	**Retalhuleu**	**1.73**	**244**	P		**Pg**	**01 08 32.2**	**-0.8**
BOQS	**Boqueron**	**1.74**	**153**	*eP*		**Pb**	**01 08 31.8**	**-0.2**
PMON	**Piamonte**	**1.75**	**154**	P		**Pb**	**01 08 32.1**	**0.0**
PMON	**Piamonte**	**1.75**	**154**	S		**Sg**	**01 08 56.8**	**+0.8**
JAYA	**Jayaque - finc**	**1.75**	**159**	*eP*		**Pb**	**01 08 31.7**	**-0.4**
LBRS	**Las Brisas**	**1.86**	**147**	*eP*		**Pb**	**01 08 33.5**	**-0.3**
LOMA	**Loma Larga**	**1.87**	**151**	*eP*		**Pb**	**01 08 33.9**	**-0.2**
LOMA				*eS*		**Sg**	**01 08 59.5**	**-0.5**
CCIG	**Comitan**	**2.20**	**297**	*eP*		**Pb**	**01 08 39.3**	**-0.4**
CCIG				*i* S		**Sb**	**01 09 08.1**	**+1.0**
CCIG				IAML			01 09 12.7	
	comp=N,465nm,0.6s							

*TAP **09** 01:09:50.6, 23°.96N×122°.72E, h30km, ML3.3, D*
*JMA **09** 01:09:51.1±0.2, 24°.0N±0°.8×122°.7E±0°.7, h33km, MV3.0/13, NW OFF ISHIGAKIJIMA IS*
ISC 09 01:09:48.7±1.1, 23°.88N±0°.02×122°.71E±0°.02, h16km±9km, n93, σ0°.67/162, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EOS4	**EOS4**	**0.43**	**304**	*i* P		**Pn**	**01 09 59.4**	**-0.5**
EOS4				S		**Sn**	**01 10 05.8**	**-1.5**
EOS3	**EOS3**	**0.54**	**319**	*ieP*		**Pn**	**01 10 01.1**	**-0.5**
EOS3				S		**Sn**	**01 10 09.0**	**-1.3**
JYNG	**Yonagunijimaku**	**0.61**	**20**	*eP*		**Pn**	**01 10 01.6**	**-1.0**
JYNG				S		**Sb**	**01 10 08.7**	**-0.6**
YOJ	**Yonaguni jima**	**0.64**	**25**	*i* P		**Pn**	**01 10 02.3**	**-0.8**
YOJ				*i* S		**Sb**	**01 10 10.6**	**+0.4**
YOJ	**Yonaguni jima**	**0.64**	**25**	P		**Pn**	**01 10 02.3**	**-0.8**
YOJ				*eS*		**Sb**	**01 10 10.1**	**-0.2**
EOS2	**EOS2**	**0.69**	**321**	*eP*		**Pn**	**01 10 04.0**	**+0.3**
EOS2				*i* S		**Sn**	**01 10 13.9**	**-0.1**
EAHA	**Aohua**	**1.00**	**297**	P		**Pn**	**01 10 08.8**	**+0.8**
EAHA				S		**Sn**	**01 10 23.1**	**+1.4**
HATJ	**Hateruma jima**	**1.02**	**80**	*eP*		**Pn**	**01 10 09.8**	**+1.6**
HATJ				S		**Sn**	**01 10 23.5**	**+1.3**
TEYL	**Yanliau Villag**	**1.02**	**270**	P		**Pn**	**01 10 08.5**	**+0.3**
IRIF	**Iriomote-Funau**	**1.04**	**64**	*eP*		**Pn**	**01 10 09.1**	**+0.6**
TWD	**Chiawan**	**1.04**	**281**	*i* P		**Pn**	**01 10 08.4**	**-0.2**
TWD				S		**Sb**	**01 10 21.1**	**-0.5**
ENA	**Nanau**	**1.04**	**302**	P		**Pg**	**01 10 08.9**	**0.0**
ENA				*eS*		**Sn**	**01 10 24.1**	**+1.3**
ESAO	**Su ao**	**1.05**	**312**	*i* P		**Pg**	**01 10 09.0**	**-0.1**
ESAO				S		**Sn**	**01 10 23.3**	**+0.2**
SHUL	**Shoufeng**	**1.05**	**265**	P		**Pg**	**01 10 09.0**	**-0.1**
SHUL				S		**Sn**	**01 10 23.7**	**+0.6**
NACB	**Ninganchiao**	**1.06**	**286**	*eP*		**Pg**	**01 10 08.8**	**-0.4**
NACB				S		**Sb**	**01 10 22.6**	**+0.3**
TWC	**Suao**	**1.07**	**313**	*i* P		**Pg**	**01 10 09.2**	**-0.2**
TWC				S		**Sb**	**01 10 22.8**	**+0.2**
TEGC	**Jichi Village**	**1.09**	**261**	*eP*		**Pg**	**01 10 09.6**	**-0.1**
TEGC				S		**Sn**	**01 10 24.2**	**+0.3**
ETM	**Tongmen**	**1.12**	**275**	*i* P		**Pb**	**01 10 09.4**	**-0.2**
ETM				*eS*		**Sb**	**01 10 23.6**	**-0.4**
ETLH	**Xiulin Townshi**	**1.17**	**287**	*eP*		**Pb**	**01 10 10.6**	**0.0**
ESL	**Shilin**	**1.17**	**267**	P		**Pn**	**01 10 09.8**	**-0.5**
ESL				*eS*		**Sb**	**01 10 25.0**	**-0.5**
EGFH	**Guangfu**	**1.19**	**260**	P		**Pg**	**01 10 11.7**	**-0.1**
EGFH				*eS*		**Sn**	**01 10 26.6**	**+0.1**
LXIB	**Xiulin Townshi**	**1.20**	**277**	P		**Pn**	**01 10 10.7**	**-0.2**
EGS		**1.20**	**324**	*eP*		**Pg**	**01 10 11.9**	**+0.1**
EGS				*eS*		**Sg**	**01 10 26.8**	**-0.7**
WARBT	**Fenglin Townsh**	**1.22**	**263**	P		**Pn**	**01 10 10.9**	**-0.2**
WARBT				S		**Sb**	**01 10 26.4**	**-0.6**
JKRS	**Kuro-shima**	**1.24**	**73**	P		**Pg**	**01 10 13.1**	**+0.4**
JKRS				*eS*		**Sg**	**01 10 30.2**	**+1.4**
HGSD	**Ruisui**	**1.24**	**252**	*eP*		**Pn**	**01 10 11.3**	**0.0**
HGSD				S		**Sb**	**01 10 26.9**	**-0.6**
LATG	**Datong**	**1.27**	**301**	*eP*		**Pg**	**01 10 13.6**	**+0.5**
LATG				S		**Sg**	**01 10 31.0**	**+1.3**
TWE	**Neicheng**	**1.27**	**312**	P		**Pg**	**01 10 13.2**	**0.0**
TWE				*eS*		**Sg**	**01 10 29.7**	**-0.1**
ECBN	**Changbin**	**1.28**	**245**	*eP*		**Pb**	**01 10 14.1**	**-0.1**
ECBN				*eS*		**Sb**	**01 10 28.5**	**-0.2**
ENTT	**Nioudou**	**1.29**	**306**	P		**Pg**	**01 10 13.7**	**+0.1**
ENTT				*eS*		**Sg**	**01 10 31.5**	**+1.0**
TWB1	**Santiao Chiao**	**1.30**	**330**	P		**Pb**	**01 10 12.2**	**-0.6**
TWB1				*eS*		**Sn**	**01 10 29.3**	**0.0**
EHYH	**Wanrong**	**1.31**	**253**	P		**Pb**	**01 10 12.7**	**-0.2**
EHYH				S		**Sn**	**01 10 29.7**	**+0.3**
EHY	**Hungye**	**1.33**	**254**	*i* P		**Pb**	**01 10 13.1**	**-0.1**
EHY				S		**Sn**	**01 10 29.8**	**0.0**
NNSB	**Datong**	**1.33**	**295**	P		**Pb**	**01 10 13.2**	**-0.1**
NNSB				S		**Sn**	**01 10 30.1**	**0.0**
NNS	**Nan Shan**	**1.34**	**295**	*eP*		**Pb**	**01 10 13.5**	**0.0**
NNS				*eS*		**Sn**	**01 10 30.3**	**-0.2**
WHF	**Hehuan Shan**	**1.35**	**282**	P		**Pb**	**01 10 13.4**	**-0.4**
WHF				*eS*		**Sn**	**01 10 31.5**	**+0.5**
FUSB	**Fushanzhiwuyua**	**1.35**	**311**	*eP*		**Pg**	**01 10 14.7**	**-0.1**
FUSB				*eS*		**Sg**	**01 10 32.9**	**+0.5**
TIPB	**Shuangxi**	**1.36**	**324**	*eP*		**Pg**	**01 10 14.3**	**-0.5**
TIPB				*eS*		**Sb**	**01 10 30.9**	**+0.1**
EYUL	**Yuli**	**1.38**	**248**	*eP*		**Pg**	**01 10 14.7**	**-0.6**
YULB	**Yu-li**	**1.38**	**250**	P		**Pb**	**01 10 13.9**	**-0.2**
YULB				S		**Sb**	**01 10 31.7**	**+0.1**
CHKH	**Chenggong**	**1.39**	**241**	*eP*		**Pb**	**01 10 14.1**	**-0.1**
CHKH				S		**Sn**	**01 10 30.0**	**-1.3**
FUSS	**Fushou**	**1.39**	**286**	*eP*		**Pb**	**01 10 14.5**	**+0.1**
JIJ	**Ishigaki jima**	**1.40**	**69**	P		**Pg**	**01 10 14.7**	**-0.9**
TWF1	**Yuli**	**1.40**	**248**	*eP*		**Pb**	**01 10 14.4**	**0.0**
TWF1				S		**Sn**	**01 10 32.0**	**+0.4**
OWD	**Renai**	**1.41**	**273**	*eP*		**Pb**	**01 10 14.2**	**-0.4**
OWD				*eS*		**Sn**	**01 10 30.8**	**-1.2**
NWLT	**Wulai**	**1.42**	**309**	P		**Pb**	**01 10 14.7**	**-0.1**
NWLT				*eS*		**Sb**	**01 10 33.3**	**+0.6**
SXI1	**Grass Mountain**	**1.43**	**328**	*i* P		**Pb**	**01 10 14.5**	**-0.5**
SXI1				*eS*		**Sn**	**01 10 31.9**	**-0.6**
YHNB	**Yeheng**	**1.45**	**303**	P		**Pb**	**01 10 15.3**	**-0.1**
CHKT	**Chengkung**	**1.46**	**238**	*eP*		**Pn**	**01 10 14.1**	**-0.2**
CHKT				*eS*		**Sn**	**01 10 31.5**	**-1.5**
NWF	**Wu-fen Shan**	**1.46**	**325**	P		**Pb**	**01 10 15.5**	**0.0**
NWF				*eS*		**Sb**	**01 10 34.0**	**+0.2**
WFSB	**Wu-fen Shan**	**1.46**	**325**	P		**Pb**	**01 10 15.3**	**-0.2**
WFSB				*eS*		**Sn**	**01 10 32.8**	**-0.4**
WUSB	**Renai**	**1.46**	**275**	*eP*		**Pb**	**01 10 15.5**	**-0.1**
WUSB				*eS*		**Sb**	**01 10 34.0**	**+0.1**
FULB	**Fuli**	**1.47**	**243**	*eP*		**Pb**	**01 10 15.0**	**-0.5**
FULB				*eS*		**Sn**	**01 10 32.8**	**-0.5**
NSK	**Sanguang**	**1.47**	**303**	*eP*		**Pb**	**01 10 15.3**	**-0.3**
TWA	**Mucha**	**1.50**	**317**	*eP*		**Pg**	**01 10 16.9**	**-0.8**
TNOU	**National Taiwa**	**1.53**	**326**	P		**Pb**	**01 10 16.3**	**-0.3**
TNOU				*eS*		**Sb**	**01 10 35.3**	**-0.5**
EHD	**Haiduan**	**1.56**	**243**	P		**Pn**	**01 10 16.3**	**+0.6**
EHD				S		**Sn**	**01 10 35.1**	**-0.5**
ECS	**Chishang**	**1.57**	**241**	*eP*		**Pb**	**01 10 17.0**	**-0.4**
ECS				*eS*		**Sb**	**01 10 36.3**	**+0.2**
EDH	**Donghe**	**1.57**	**235**	*eP*		**Pn**	**01 10 16.3**	**+0.4**
EDH				*eS*		**Sn**	**01 10 34.7**	**-1.2**
SSLB	**Suanglung**	**1.61**	**267**	*eP*		**Pb**	**01 10 17.6**	**-0.4**
JISG	**Ishigakijimahi**	**1.62**	**64**	*eP*		**Pb**	**01 10 17.5**	**-0.7**
NFF	**Wufeng Townshi**	**1.64**	**298**	*eP*		**Pb**	**01 10 18.7**	**+0.1**
LDUT	**Ludao**	**1.66**	**224**	*eP*		**Pn**	**01 10 16.3**	**-0.7**
SMLT	**Sun Moon Lake**	**1.66**	**271**	*eP*		**Pn**	**01 10 17.9**	**+0.7**
SMLT				*i* S		**Sn**	**01 10 38.6**	**+0.5**
WHP	**Taichung City**	**1.66**	**284**	*eP*		**Pb**	**01 10 19.2**	**+0.2**
KSHI	**Guanxi Townshi**	**1.66**	**303**	*eP*		**Pb**	**01 10 18.0**	**-0.9**
ZUZH	**Zhuzihu**	**1.66**	**321**	*eP*		**Pb**	**01 10 18.0**	**-0.9**
TYC	**Yuchr**	**1.70**	**271**	*eP*		**Pb**	**01 10 19.0**	**-0.5**
ELDTW	**Lidau**	**1.70**	**247**	*eP*		**Pn**	**01 10 18.4**	**+0.6**
ELDTW				*eS*		**Sn**	**01 10 38.2**	**-1.0**
WHYT	**Xinyi Township**	**1.71**	**264**	*eP*		**Pb**	**01 10 19.8**	**0.0**
TWY	**Chenhua**	**1.72**	**324**	*eP*		**Pb**	**01 10 19.2**	**-0.7**
TWY				*eS*		**Sn**	**01 10 40.1**	**+0.5**
LIOB	**Emei**	**1.73**	**297**	P		**Pb**	**01 10 19.9**	**-0.1**
LIOB				*eS*		**Sb**	**01 10 40.8**	**-0.7**
NSTT	**Nanjuang**	**1.73**	**296**	P		**Pb**	**01 10 19.6**	**-0.5**
NSTT				*eS*		**Sn**	**01 10 40.7**	**+0.8**
LONT	**Longtian**	**1.74**	**237**	P		**Pb**	**01 10 19.2**	**-1.1**
LONT				S		**Sb**	**01 10 41.5**	**-0.5**
NCUH	**Zhongli**	**1.77**	**308**	*eP*		**Pb**	**01 10 20.9**	**+0.2**
ALS	**Alishan**	**1.79**	**259**	*eP*		**Pb**	**01 10 20.9**	**-0.2**
ALS				*eS*		**Sb**	**01 10 42.8**	**-0.7**
WJS	**Zhushan**	**1.82**	**269**	*eS*		**Sg**	**01 10 45.9**	**-1.4**
TWGBT	**Beinan**	**1.83**	**235**	*eP*		**Pn**	**01 10 19.8**	**+0.3**
TWGBT				*eS*		**Sn**	**01 10 42.5**	**+0.2**
TWG	**Pinlang**	**1.84**	**235**	*eP*		**Pn**	**01 10 20.1**	**+0.6**
TWG				*eS*		**Sn**	**01 10 42.4**	**0.0**
PCYT	**Pengchaiyu**	**1.84**	**342**	*eP*		**Pn**	**01 10 20.1**	**+0.6**
PCYT				*eS*		**Sn**	**01 10 42.4**	**-0.1**
WNT	**Mingjian**	**1.86**	**270**	*eP*		**Pb**	**01 10 22.3**	**+0.1**
WNT				*eS*		**Sb**	**01 10 44.5**	**+1.0**
STYH	**Taoyuan**	**1.91**	**249**	*eP*		**Pb**	**01 10 21.8**	**-1.3**
STYH				*eS*		**Sn**	**01 10 45.6**	**+1.4**
JTJ	**Tarama**	**1.97**	**67**	*eP*		**Pb**	**01 10 23.2**	**-0.9**
WCKO	**Fanlu**	**1.98**	**258**	*eP*		**Pb**	**01 10 24.6**	**+0.3**
WCKO				*eS*		**Sb**	**01 10 49.2**	**+0.5**
TPUB	**Ta-pu**	**1.99**	**254**	*eP*		**Pb**	**01 10 24.4**	**-0.1**
TPUB				*i* S		**Sb**	**01 10 50.0**	**+0.8**
WTP	**Ta-pu**	**2.02**	**252**	*eP*		**Pb**	**01 10 25.4**	**+0.3**
WTP				*eS*		**Sb**	**01 10 50.5**	**+0.5**
ECL	**Taimali**	**2.06**	**232**	*eP*		**Pn**	**01 10 23.8**	**+1.2**
ECL				*eS*		**Sn**	**01 10 47.7**	**-0.1**
LAY	**Lan-yu**	**2.12**	**211**	*eP*		**Pn**	**01 10 22.6**	**-0.8**
LAY				*eS*		**Sn**	**01 10 49.3**	**-0.1**
TWK	**Hsinying**	**2.13**	**254**	*eP*		**Pb**	**01 10 26.0**	**-0.8**
TWK				*eS*		**Sb**	**01 10 52.8**	**-0.2**
EAST	**Anshuo**	**2.27**	**229**	*eP*		**Pn**	**01 10 26.0**	**+0.5**
WDGT	**Dungji**	**2.87**	**258**	*eP*		**Pn**	**01 10 35.5**	**+1.8**
WDGT				*eS*		**Sn**	**01 11 08.7**	**+0.9**
PNG	**Penghu**	**2.91**	**265**	*eP*		**Pn**	**01 10 36.7**	**+2.4**
PNG				*eS*		**Sn**	**01 11 09.3**	**+0.4**
PTMZ	**Houxiangcun**	**3.47**	**290**	*eP*		**Pn**	**01 10 42.3**	**+0.3**

*IDC **09** 01:26:52.7±0.6, 23°.58N×144°.00E, h0km, mb4.6/24, mbtmp4.5/26, ML3.6/2, MS3.8/12, Error ellipse: s-maj=18.8km s-min=13.3km az=74.0*
*BJI **09** 01:26:54.1, 23°.47N×144°.03E, h21km, mB5.0/10, mb4.6/36, Ms4.5/4, Ms7.4 3/5*
*NEIC **09** 01:26:57.9±1.4, 23°.61N±0°.09×143°.9E±0°.1, h26km±4km, mb4.9/199, Error ellipse: s-maj=17.2km s-min=13.1km az=85.0*
*JMA **09** 01:27:00.5±0.3, 23°.8N±0°.8×14°.4E±°, h163km, MV4.9/10, IOTO ISLANDS REGION*
ISC 09 01:26:57.4±0.4, 23°.60N±0°.05×143°.96E±0°.07, h28km, n448, σ1°.07/391, mb4.9/129, MS4.0/14, 2C, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**3.42**	**332**	*eP*		**Pn**	**01 27 50.5**	**+1.6**
JHH2				*eS*		**Sn**	**01 28 29.2**	**+0.6**
CBIJ	**Chichi jima**	**3.83**	**336**	*eP*		**Pn**	**01 27 55.6**	**+1.1**
CBIJ				*eS*		**Sn**	**01 28 38.0**	**-0.6**
JCJ	**Chichijima**	**3.83**	**336**			**Pn**	**01 27 55.2**	**+0.6**
BSO1	**Boso 1**	**11.31**	**347**	*eS*		**Sn**	**01 31 35.8**	**-6.1**
JAG	**Ashikaga**	**13.36**	**344**	*eS*		Sn	01 32 22.9	-10
MJAR	**Matsushiro Arr**	**13.82**	**340**	Pn		**Pn**	**01 30 11.2**	**-0.2**
MJAR	**Matsushiro Arr**	**13.82**	**340**	Pn		**Pn**	**01 30 11.6**	**+0.2**
	0.3nm,0.3s,baz=157,slow=11,SNR=9.5							
MJAR				Sn		**Sn**	**01 32 38.2**	**-5.7**
	0.1nm,0.3s,baz=117,slow=30,SNR=5.1							
	2.3nm,0.3s							
MAJO	**Matsushiro**	**13.82**	**340**	Pn		**Pn**	**01 30 10.5**	**-1.0**
MJB9	**Matsu-Tunnel**	**13.82**	**340**	Pn		**Pn**	**01 30 11.4**	**-0.2**
JMM	**Marumori**	**14.47**	**350**	Pn		**Pn**	**01 30 19.1**	**-1.3**
YOJ	**Yonaguni jima**	**19.16**	**277**	P		**P**	**01 31 18.7**	**0.0**
KSRS	**Korea Array**	**19.49**	**319**	P		**P**	**01 31 22.2**	**0.0**
	0.1nm,0.3s,baz=128,slow=11,SNR=14							
	3.8nm,0.8s							
SSLB	**Suanglung**	**21.07**	**275**	P		**P**	**01 31 40.5**	**+1.0**
USA0B	**Ussuriysk Arra**	**22.77**	**337**	P		**P**	**01 31 58.5**	**+0.9**
USRK	**Ussuriysk Ar.**	**22.77**	**337**	P		**P**	**01 31 57.6**	**0.0**
USRK	**Ussuriysk Ar.**	**22.77**	**337**	P		**P**	**01 31 57.7**	**+0.1**
	7.1nm,0.8s,baz=142,slow=9.6,SNR=13							
USRK				S		**S**	**01 36 08.5**	**+3.8**
	1.2nm,0.5s,baz=147,slow=19,SNR=1.9							
	7.1nm,0.8s							
NJ2	**Nanjing**	**23.70**	**296**	*eP*		**P**	**01 32 07.1**	**+0.1**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
MDJ	**Mudanjiang**	**24.03**	**334**	P		**P**	**01 32 11.3**	**+1.3**
MDJ	**Mudanjiang**	**24.03**	**334**	P		**P**	**01 32 11.9**	**+1.9**
MDJ				pmax		pmax		
	comp=Z,20nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,120nm,3.9s							
DAV	**Davao City (W)**	**24.12**	**230**	LR		LR	01 39 57.8	
	comp=Z,144nm,20.9s,baz=352,slow=32							
SNY	**Shenyang**	**24.88**	**322**	⇑P		**P**	**01 32 15.2**	**-2.5**
SNY				pmax		pmax		
	comp=Z,7.0nm,0.4s				

baz=256
O15K **Ungalikthiuk R** 52.84 32 P P 01 36 11.1 +0.8
baz=253
L15K **Ungalak Mounta** 52.87 29 P P 01 36 11.5 +1.0
baz=250
M15K **Kasigluk River** 52.90 30 P P 01 36 11.6 +0.9
baz=251
N15K **Kwethluk River** 53.01 31 P P 01 36 12.6 +1.0
baz=252
K15K **Wolf Creek Mou** 53.06 28 P P 01 36 12.8 +0.8
baz=249
G15K **Niukluk** 53.10 25 P P 01 36 13.3 +1.2
baz=245
F15K **North Star Dit** 53.18 24 P P 01 36 13.4 +0.7
baz=244
ZAA0 **Zalesovo Array** 53.18 321 P P 01 36 12.9 0.0
ZALV **Zalesovo Beam** 53.18 321 P P 01 36 12.4 -0.5
ZALV **Zalesovo Beam** 53.18 321 P P 01 36 12.8 -0.1
comp=Z,3.3nm,0.4s,baz=106,slow=8.4,SNR=14
ZALV LR LR 01 59 10.8
comp=Z,86nm,19.2s,baz=280,slow=36
comp=Z,3.3nm,0.4s
H16K **Elim** 53.65 26 P P 01 36 16.8 +0.7
baz=247
P16K **Nushagak River** 53.71 33 P P 01 36 17.4 +0.7
baz=255
N16K **Nishlik Lake** 53.73 31 P P 01 36 17.6 +0.7
baz=253
L16K **Owhat River** 53.78 30 P P 01 36 17.7 +0.6
baz=252
M16K **Timber Creek** 53.81 30 P P 01 36 18.2 +0.9
baz=253
O16K **Kokwok River B** 53.81 32 P P 01 36 18.2 +0.8
baz=254
J16K **Anvik River** 53.82 27 P P 01 36 18.4 +1.0
baz=249
G16K **Koyuk River** 53.91 25 P P 01 36 18.8 +0.7
baz=246
MKAR **Makanchi Array** 53.96 312 P P 01 36 18.7 -0.1
MKAR **Makanchi Array** 53.96 312 P P 01 36 19.4 +0.6
comp=Z,3.8nm,0.7s,baz=89,slow=8.4,SNR=25
comp=Z,3.8nm,0.7s
I17K **Unalakleet** 53.99 27 P P 01 36 19.0 +0.4
baz=249
C16K **Lisburne Hills** 54.14 21 P P 01 36 20.5 +0.9
baz=241
GIRL **Giralia** 54.30 214 P P 01 36 22.8 +1.4
O17K **Koliganek Bris** 54.35 32 P P 01 36 22.0 +0.7
baz=255
L17K **Donlin** 54.44 29 P P 01 36 22.5 +0.5
baz=252
N17K **Nushagak Hills** 54.50 31 P P 01 36 22.6 +0.1
baz=255
J17K **VARM Dome** 54.50 28 P P 01 36 22.7 +0.3
baz=251
P17K **Kvichak River** 54.53 33 P P 01 36 22.7 +0.1
baz=256
Q17K **Contact Creek** 54.60 34 P P 01 36 23.5 +0.2
baz=258
G17K **Kiwalik Mounta** 54.61 25 P P 01 36 23.7 +0.6
baz=248
K17K **Iditarod** 54.62 29 P P 01 36 23.8 +0.5
baz=252,SNR=6.0
M17K **Holitna River** 54.62 30 P P 01 36 23.6 +0.3
baz=254
D17K **Noatak River** 54.62 22 P P 01 36 23.7 +0.5
baz=244
H17K **Granite Mounta** 54.69 26 P P 01 36 24.1 +0.3
baz=249
F17K **Baldwin Pennin** 54.75 24 P P 01 36 24.5 +0.5
baz=247
E17K **Hotham Inlet** 54.80 23 P P 01 36 24.8 +0.3
baz=246
RDOG **Red Dog Mine** 54.84 22 P P 01 36 25.3 +0.5
baz=244
C17K **DeLong Mountai** 54.94 21 P P 01 36 25.8 +0.3
baz=243
Q18K **Katmai Hardscr** 55.13 34 P P 01 36 27.2 0.0
baz=258
N18K **Kilae Creek** 55.16 31 P P 01 36 27.8 +0.6
baz=256
SII **Sitkinak Islan** 55.17 36 P P 01 36 27.8 +0.4
baz=260
L18K **Granite Mounta** 55.19 29 P P 01 36 28.2 +0.8
baz=254
R18K **Karluk** 55.21 35 P P 01 36 27.9 +0.4
baz=259
E18K **Tukpahlearik C** 55.37 23 P P 01 36 29.5 +0.9
baz=247,SNR=7.0
H18K **Honhosa River** 55.38 26 P P 01 36 29.1 +0.3
baz=250
M18K **Stony River** 55.39 30 P P 01 36 29.6 +0.7
baz=255,SNR=5.3
F18K **Selawik** 55.40 24 P P 01 36 29.6 +0.8
baz=248
G18K **Tagagawik** 55.52 25 P P 01 36 30.6 +0.8
baz=250,SNR=7.3
J18K **Innoko River** 55.53 28 P P 01 36 30.4 +0.5
baz=253
C18K **Utukok River** 55.67 21 P P 01 36 31.5 +0.6
baz=245
OHAK **Old Harbor** 55.77 36 P P 01 36 32.0 +0.4
OHAK **Old Harbor** 55.77 36 P P 01 36 32.2 +0.6
baz=261
B18K **Kokolik River** 55.78 20 P P 01 36 32.5 +1.0
baz=244,SNR=5.2
O19K **Port Alsworth** 55.80 32 P P 01 36 32.7 +0.9
baz=258
N19K **Bonanza Creek** 55.86 31 P P 01 36 33.1 +0.7
baz=257
SHLS **Shalkode** 55.92 307 eP P 01 36 30.6 -2.5
L19K **White Mountain** 56.01 30 P P 01 36 34.4 +1.0
baz=256,SNR=6.0
J19K **Poorman** 56.15 27 P P 01 36 35.0 +0.7
baz=254,SNR=7.6
M19K **Big River Lodg** 56.16 30 P P 01 36 35.1 +0.7
baz=256
F19K **Shaleruckik Mo** 56.18 24 P P 01 36 35.1 +0.7
baz=250
G19K **Purcell Mounta** 56.21 25 P P 01 36 35.5 +0.9
baz=251,SNR=11
P19K **Oil Pt** 56.23 33 P P 01 36 35.3 +0.4
baz=259
KDAK **Kodiak Island** 56.23 35 P P 01 36 35.1 +0.2
KDAK **Kodiak Island** 56.23 35 P P 01 36 35.4 +0.5
baz=261
H19K **Roundabout Mou** 56.26 26 P P 01 36 36.1 +1.1
baz=252,SNR=10
A19K **Wainwright** 56.38 20 P P 01 36 36.9 +1.2
baz=244
C19K **Lookout Ridge** 56.39 21 P P 01 36 36.8 +0.8
baz=247
Q20K **Shuyak Island** 56.47 34 P P 01 36 37.0 +0.4
baz=260
L20K **Farewell, AK** 56.52 30 P P 01 36 37.8 +0.8
baz=257
KURK **Kurchatov** 56.59 316 P P 01 36 37.7 +0.1
KURK IAmb IAmb 01 36 38.6
comp=Z,13nm,1.0s
E19K **Redstone River** 56.59 23 P P 01 36 38.3 +0.9
baz=250,SNR=8.1
BBOO **Buckleboo** 56.60 188 P P 01 36 37.1 -0.7
O20K **Slope Mountain** 56.61 32 P P 01 36 38.5 +0.8
baz=259
TDK **Taldyqorghan** 56.64 309 eP P 01 36 38.2 +0.1
comp=Z,11nm,1.5s
KURBB **Kurchatov Arra** 56.64 316 P P 01 36 38.2 +0.3
comp=Z,9.4nm,0.6s,baz=94,slow=7.8,SNR=86
comp=Z,9.4nm,0.6s
K20K **Telida** 56.65 28 P P 01 36 38.8 +0.9
baz=256,SNR=9.4
D19K **Kuna River** 56.65 22 P P 01 36 38.7 +0.8
baz=248,SNR=6.4
SATY **Saty** 56.69 307 eP P 01 36 38.4 -0.2
comp=Z,7.4nm,1.2s
M20K **Styx River** 56.73 30 P P 01 36 39.1 +0.5
baz=258
J20K **Nowinta River** 56.82 27 P P 01 36 40.3 +1.3
baz=255,SNR=27
I20K **Naaghedeneel** 56.85 27 P P 01 36 40.2 +1.0
baz=254,SNR=5.5
H20K **Anotleneega Mo** 56.88 26 P P 01 36 40.4 +0.9
baz=254,SNR=18
F20K **Avaraart Lake** 57.02 24 P P 01 36 41.3 +0.9
baz=252
N20K **Mount Spurr** 57.03 31 P P 01 36 41.3 +0.7
baz=259
SPCR **Spurr Chakacha** 57.03 31 P P 01 36 41.3 +0.7
baz=259
CNPM **China Poot** 57.21 33 P P 01 36 41.8 -0.1
E20K **Nigu River** 57.24 23 P P 01 36 43.1 +1.1
baz=251,SNR=7.7
D20K **Etivluk River** 57.25 22 P P 01 36 42.9 +0.9
baz=250,SNR=6.9
STLK **Strandline Lak** 57.26 31 P P 01 36 42.7 +0.4
PPLA **Purkeypile** 57.38 29 P P 01 36 43.5 +0.4
PPLA IAmb IAmb 01 36 45.5
comp=Z,9.3nm,0.9s
PPLA **Purkeypile** 57.38 29 P P 01 36 43.9 +0.8
baz=258
CAPN **Captain Cook N** 57.45 32 P P 01 36 44.4 +0.9
baz=260
IMAR **Indian Mountai** 57.46 25 P P 01 36 44.4 +0.8
BRSE **Bradley Lake S** 57.49 33 P P 01 36 44.5 +0.6
baz=261
SKT **Skwentna** 57.49 30 P P 01 36 44.0 +0.1
SKT IAmb IAmb 01 36 45.4
comp=Z,14nm,1.1s
SKT **Skwentna** 57.49 30 P P 01 36 44.2 +0.4
baz=259,SNR=7.3
B20K **Meade River** 57.53 20 P P 01 36 44.7 +0.9
baz=249
CHUM **Lake Minchumin** 57.54 28 P P 01 36 44.9 +0.8
baz=257
MDOK **Medeo** 57.68 307 eP P 01 36 45.6 -0.1
G21K **Allakaket** 57.70 25 P P 01 36 46.4 +1.2
baz=254,SNR=10
H21K **Mezozitna Rive** 57.75 26 P P 01 36 46.6 +1.0
baz=256,SNR=6.1
TNSS **Tian-Shan** 57.76 307 eP P 01 36 46.1 -0.5
SUA **Susitna One** 57.77 31 P P 01 36 46.8 +0.8
baz=260
AAA **Alma-Ata** 57.78 307 eP P 01 36 46.2 -0.1
F21K **Alatna River** 57.90 24 P P 01 36 47.4 +0.7
baz=254,SNR=6.9
I21K **Tanana** 57.97 27 P P 01 36 48.4 +1.3
baz=257
C21K **Knifeblade Rid** 58.02 22 P P 01 36 48.9 +1.5
baz=252
E21K **Killik River** 58.08 23 P P 01 36 48.7 +0.8
baz=253
CUT **Chulitna** 58.15 30 P P 01 36 49.5 +1.1
baz=260
BPAW **Bear Paw Mtn.** 58.16 28 P P 01 36 49.8 +1.3
BPAW IAmb IAmb 01 36 50.4
comp=Z,14nm,0.8s
BPAW **Bear Paw Mtn.** 58.16 28 P P 01 36 49.6 +1.1
baz=258,SNR=6.8
RC01 **Rabbit Creek A** 58.19 32 P P 01 36 49.3 +0.6
baz=261
B21K **Ikpikpuk River** 58.22 21 P P 01 36 49.7 +0.9
baz=251
TRF **Thorofare Moun** 58.33 29 P P 01 36 50.0 +0.1
TRF **Thorofare Moun** 58.33 29 P P 01 36 50.1 +0.2
baz=259,SNR=7.6
H22K **Ishtalitna Cre** 58.38 26 P P 01 36 51.2 +1.2
baz=257,SNR=11
MLY **Manley** 58.45 27 P P 01 36 51.5 +1.0
baz=258,SNR=16
F22K **John River** 58.47 24 P P 01 36 52.2 +1.6
baz=255
PMR **Palmer** 58.55 31 P P 01 36 51.2 0.0
baz=262,SNR=6.8
G22K **Bettles** 58.57 25 P P 01 36 52.5 +1.2
baz=256
D22K **Ayikyak River** 58.66 22 P P 01 36 53.1 +1.3
baz=254,SNR=12
GHO **Glory Hole Cre** 58.68 31 P P 01 36 53.0 +0.7
KSH **Kashi** 58.78 303 P P 01 36 57.7 +4.3
KSH pP pwP 01 37 09.7 +1.7
KSH pmax pmax
comp=Z,5.0nm,0.5s
PWL **Port Wells** 58.83 32 P P 01 36 53.4 +0.1
PWL **Port Wells** 58.83 32 P P 01 36 53.5 +0.3
baz=263,SNR=6.9
B22K **Teshekpuk Lake** 58.84 21 P P 01 36 54.2 +1.1
baz=252
KNK **Knik Glacier** 58.85 31 P P 01 36 53.7 +0.3
baz=262,SNR=6.6
MCK **McKinley** 58.98 29 P P 01 36 54.2 0.0
baz=260,SNR=9.5
WAT1 **Susitna Watana** 59.01 30 P P 01 36 54.6 +0.1
baz=261
I23K **Minto, Yukon-K** 59.05 27 P P 01 36 55.9 +1.2
baz=259,SNR=10
NEA2 **Nenana** 59.07 28 P P 01 36 55.4 +0.6
baz=260,SNR=8.8
G23K **Bananza Creek** 59.10 25 P P 01 36 56.3 +1.2
baz=258,SNR=18
H23K **Yukon River** 59.10 26 P P 01 36 56.1 +1.1
baz=259
COLD **Coldfoot** 59.14 24 IAmb IAmb 01 36 57.8
comp=Z,12nm,0.8s
COLD **Coldfoot** 59.14 24 P P 01 36 56.7 +1.5
baz=257,SNR=12
M23K **Glacier View** 59.24 31 P P 01 36 56.4 +0.3
baz=263,SNR=7.0
WAT6 **Susitna Watana** 59.34 30 P P 01 36 57.3 +0.3
baz=262,SNR=9.5
D23K **Nanushuk River** 59.38 22 P P 01 36 58.5 +1.7
baz=256,SNR=6.4
SGDS **Sogindy** 59.42 308 eP P 01 36 57.7 0.0
SCM **Sheep Creek Mo** 59.44 31 P P 01 36 58.1 +0.7
baz=263,SNR=15
GLI **Glacier Island** 59.44 32 P P 01 36 57.8 +0.4
baz=264,SNR=6.6
WRH **Wood River Hil** 59.47 28 IAmb IAmb 01 36 58.6
comp=Z,7.2nm,0.9s
E23K **Chandalar** 59.55 24 P P 01 36 60.0 +1.8
baz=257,SNR=16
DHY **Denali Highway** 59.57 29 IAmb IAmb 01 37 49.2
comp=Z,6.0nm,0.8s
DHY **Denali Highway** 59.57 29 P P 01 36 59.3 +0.8
baz=262
C23K **Itkillik River** 59.62 21 P P 01 36 59.8 +1.4
baz=255,SNR=8.5
HIN **Hinchinbrook I** 59.68 33 P P 01 36 59.9 +0.8
TOLK **Toolik Lake Re** 59.69 23 P P 01 37 00.2 +1.1
baz=257
BTLS **Baital** 59.73 310 eP P 01 36 59.9 +0.2
comp=Z,4.8nm,1.2s
H24K **Noodor Dome** 59.78 26 P P 01 37 00.8 +1.1
baz=260,SNR=23
POKR **Poker Flat Res** 59.84 27 P P 01 37 00.5 +0.3
baz=261
HDA **Harding Lake** 59.95 28 IAmb IAmb 01 37 01.3
comp=Z,9.7nm,1.0s
HDA **Harding Lake** 59.95 28 P P 01 37 00.4 -0.5
baz=262,SNR=7.9
E24K **Your Creek** 59.96 24 P P 01 37 02.4 +1.4
baz=258
M24K **Tolsona, Glenn** 60.01 31 P P 01 37 02.3 +0.9
baz=264
ILAR **Eielson Array** 60.02 28 P P 01 37 00.8 -0.6
comp=Z,9.7nm,0.8s,baz=258,slow=5.7,SNR=121
comp=Z,9.7nm,0.8s
EYAK **Cordova Ski Ar** 60.06 32 IAmb IAmb 01 37 03.1
comp=Z,9.2nm,0.6s
EYAK **Cordova Ski Ar** 60.06 32 P P 01 37 02.4 +0.7
baz=265
KLU **Klutina** 60.06 31 P P 01 37 02.7 +0.8
KLU **Klutina** 60.06 31 P P 01 37 02.6 +0.8
baz=265,SNR=13
D24K **Happy Valley** 60.07 22 P P 01 37 02.8 +1.2
baz=257
F24K **Squaw Lake** 60.08 24 P P 01 37 03.2 +1.4
baz=259,SNR=9.8
G24K **Hadweenzic Riv** 60.09 25 P P 01 37 03.2 +1.4
baz=260,SNR=21
DIV **Divide** 60.10 32 IAmb IAmb 01 37 03.4
comp=Z,11nm,0.7s
C24K **Franklin Bluff** 60.24 22 P P 01 37 03.3 +0.5
baz=257
K24K **Donnelly Dome** 60.38 29 P P 01 37 04.3 +0.4
baz=263,SNR=6.4
BRZS **Berezniki** 60.39 315 eP P 01 37 04.1 -0.1
PAX **Paxson** 60.42 30 IAmb IAmb 01 37 06.1
comp=Z,24nm,1.5s
PAX **Paxson** 60.42 30 P P 01 37 04.7 +0.5
baz=264,SNR=8.8
HARP **HAARP** 60.51 30 P P 01 37 05.1 +0.3
baz=265
G25K **Bearman Lake** 60.64 25 P P 01 37 06.3 +0.8
baz=261
J25K **Salcha River,** 60.65 28 P P 01 37 05.3 -0.4
baz=263,SNR=9.6
BMRM **Bremner River** 60.66 32 P P 01 37 06.6 +0.8
baz=266,SNR=8.8
H25L **Birch Creek** 60.68 26 P P 01 37 07.0 +1.2
baz=262,SNR=14
KAIM **Kayak Island** 60.68 33 P P 01 37 07.0 +1.0
baz=267
PRP **Porcupine Dome** 60.70 27 P P 01 37 04.8 -1.4
PRP **Porcupine Dome** 60.70 27 P P 01 37 06.6 +0.4
baz=263
N25K **Chitina, Valde** 60.71 31 P P 01 37 07.1 +0.9
baz=266,SNR=7.4
RIDG **Independent Ri** 60.78 29 P P 01 37 06.8 +0.1
baz=264,SNR=14
HMT **Hamilton** 60.79 33 P P 01 37 07.5 +0.8
HMT IAmb IAmb 01 37 08.1
comp=Z,11nm,0.7s
F25K **Christian Rive** 60.94 24 P P 01 37 09.2 +1.5
baz=261,SNR=16
D25K **Kavik River** 60.96 22 P P 01 37 09.1 +1.4
baz=260
E25K **Arctic Village** 61.05 24 P P 01 37 10.1 +1.7
baz=261,SNR=15
GLB **Gilahina Butte** 61.07 32 IAmb IAmb 01 37 10.5
comp=Z,23nm,1.4s
DOT **Dot Lake** 61.12 29 IAmb IAmb 01 37 10.2
comp=Z,11nm,0.9s
SCRK **Sand Creek** 61.18 29 P P 01 37 09.6 +0.1
baz=265,SNR=34
MENT **Mentasta** 61.22 30 P P 01 37 10.6 +1.0
MENT IAmb IAmb 01 37 17.3
comp=Z,5.4nm,0.8s
VRDI **Verde Repeater** 61.23 32 IAmb IAmb 01 37 11.6
comp=Z,20nm,1.6s
BMAR **Burnt Mountain** 61.32 25 P P 01 37 11.8 +1.6
CRQE **Cirque** 61.38 32 P P 01 37 11.5 +0.6
baz=268,SNR=10
L26K **Log Cabin Wild** 61.39 30 P P 01 37 11.4 +0.6
baz=266,SNR=6.6
J26L **Joseph Creek** 61.41 28 P P 01 37 11.2 +0.3
baz=265,SNR=30
MCARA **McCarthy VSAT** 61.45 32 P P 01 37 11.4 +0.3
baz=267,SNR=7.7
TGL **Tana Glacier** 61.51 32 IAmb IAmb 01 37 13.4
comp=Z,9.9nm,0.9s
M26K **Nabesna, AK** 61.52 30 P P 01 37 12.1 +0.5
baz=267
F26K **Sheenjek River** 61.52 24 P P 01 37 13.3 +1.8
baz=263,SNR=16
C26K **Camden Bay** 61.57 22 P P 01 37 13.6 +1.8
baz=261,SNR=14
G26K **Porcupine Rive** 61.57 25 P P 01 37 13.4 +1.6
baz=264,SNR=12
I26K **Coal Creek Min** 61.66 27 P P 01 37 12.1 -0.4
baz=265
BVAR **Borovoye Array** 61.70 319 P P 01 37 13.4 +0.4
comp=Z,22nm,0.7s,baz=90,slow=7.7,SNR=100
comp=Z,22nm,0.7s
ISLE **Juniper Island** 61.75 33 IAmb IAmb 01 37 19.9
comp=Z,8.7nm,0.8s
MESA **MESA** 61.93 33 P P 01 37 14.5 -0.1
baz=269
K27K **Chicken** 62.03 29 P P 01 37 15.6 +0.6
baz=267
M27K **Edge Creek, AK** 62.03 31 P P 01 37 15.9 +0.7
baz=268,SNR=5.6
GRNC **Granite Creek** 62.04 32 IAmb IAmb 01 37 17.0
comp=Z,14nm,0.8s
L27K **Beaver Creek,** 62.09 30 P P 01 37 16.2 +0.7
baz=267,SNR=7.7
BCAR **Beaver Creek A** 62.11 30 P P 01 37 16.0 +0.4
CTG **Chitna Glacier** 62.25 32 P P 01 37 17.5 +0.8
baz=269
I27K **Kandik River** 62.32 27 P P 01 37 17.5 +0.5
baz=266,SNR=8.0
G27K **Doyon Strip** 62.39 25 P P 01 37 18.8 +1.4
baz=266
H27K **Steamboat Moun** 62.40 26 P P 01 37 18.9 +1.4
baz=266,SNR=25
KK31 **Karatay Array** 62.45 308 IAmb IAmb 01 37 19.6
comp=Z,6.4nm,0.9s
KKAR **Karatay Array** 62.45 308 P P 01 37 18.4 +0.2
BVCY **Beaver Creek** 62.51 30 P P 01 37 19.5 +1.2
baz=269
E27K **Coleen River** 62.53 24 P P 01 37 19.4 +1.1
baz=265,SNR=7.0
YUK3 **Moose Creek** 62.69 31 P P 01 37 20.2 +0.5
baz=269
PINM **Pinnacle** 62.78 33 P P 01 37 21.0 +0.9
baz=270
O28M **Mount Upton** 62.81 32 P P 01 37 21.5 +0.9
baz=270
D27M **Malcolm River** 62.86 23 P P 01 37 22.0 +1.4
baz=265
IUG **Iuzhnay** 62.93 307 eP P 01 37 21.3 -0.3
comp=Z,4.3nm,0.8s
BRLS **Boroldav** 62.95 308 eP P 01 37 22.4 +0.9
I28M **Miner Creek** 63.01 27 P P 01 37 22.2 +0.5
baz=268,SNR=11
YUK8 **Steele Glacier** 63.02 32 P P 01 37 22.2 +0.2
baz=270
F28M **Old Crow** 63.14 25 P P 01 37 23.5 +1.1
baz=267,SNR=11
DAWY **Dawson** 63.21 29 P P 01 37 23.8 +0.9
DAWY IAmb IAmb 01 37 24.8
comp=Z,7.5nm,0.8s
DAWY **Dawson** 63.21 29 P P 01 37 23.7 +0.8
baz=269,SNR=11
PNL **Peninsula** 63.22 34 P P 01 37 23.7 +0.7
baz=271
E28M **Babbage River** 63.33 24 P P 01 37 25.2 +1.6
baz=267,SNR=14
YUK4 **Talbot Arm** 63.55 32 P P 01 37 26.9 +1.5
baz=271,SNR=5.4
O29M **Mount Kennedy** 63.61 33 P P 01 37 27.2 +1.5
baz=272
M29M **Somme Creek** 63.62 30 P P 01 37 27.2 +1.5
baz=271,SNR=20
H29M **Whitestone** 63.68 26 P P 01 37 27.1 +1.1
baz=269,SNR=8.5
I29M **Ogilvie Camp,** 63.69 27 P P 01 37 27.0 +0.9
baz=269,SNR=6.6
YUK6 **Outpost Mounta** 63.70 32 P P 01 37 27.3 +0.9
baz=272
J29N **Klondike Camp** 63.73 28 P P 01 37 28.0 +1.6
baz=270
L29M **L29M** 63.77 30 P P 01 37 28.3 +1.6
baz=271,SNR=18
G29M **Pine Creek** 63.83 25 P P 01 37 28.3 +1.3
baz=269,SNR=9.2
E29M **Blow River** 63.92 24 P P 01 37 28.8 +1.3
baz=268
K29M **Barlow Dome** 64.03 29 P P 01 37 29.8 +1.3
baz=271,SNR=11
P29M **Windy Craggy** 64.06 34 P P 01 37 29.9 +1.3
baz=273
HYT **Haines Junctio** 64.12 32 P P 01 37 30.5 +1.3
baz=272
N30M **Aishikik Lake** 64.30 32 P P 01 37 31.3 +1.1
baz=272
EPYK **Eagle Plains** 64.35 26 P P 01 37 31.5 +1.1
baz=270,SNR=7.5
M30M **Minto, Yukon** 64.40 30 P P 01 37 31.8 +1.0
baz=272,SNR=6.4
P30M **Million Dollar** 64.43 33 P P 01 37 31.9 +0.9
baz=273
I30M **Mount Dempster** 64.50 27 P P 01 37 32.3 +0.8
baz=271,SNR=7.2
J30M **Hart River** 64.54 28 P P 01 37 32.6 +0.9
baz=272,SNR=10
G30M **tAoh Zraii Nji** 64.54 25 P P 01 37 32.5 +0.9
baz=270,SNR=8.0
F30M **Barrier River** 64.71 25 P P 01 37 33.8 +1.2
baz=271,SNR=9.9
MAYO **Mayo, Yukon** 64.77 29 P P 01 37 34.6 +1.5
baz=272
PLBC **Pleasant Camp** 64.77 34 P P 01 37 34.5 +1.3
baz=274
O30N **Mendenhall** 64.82 32 P P 01 37 34.6 +1.0
baz=274
N31M **Braeburn, Yuko** 64.93 31 P P 01 37 35.3 +1.1
baz=274,SNR=5.5
S31K **Pelican** 64.95 35 P P 01 37 35.7 +1.3
baz=275
KBL **Kabul** 65.05 298 P P 01 37 35.6 -0.2
KBL IAmb IAmb 01 37 37.0
comp=Z,8.0nm,0.8s
SKAG **Skagway** 65.30 34 IAmb IAmb 01 37 38.4
comp=Z,6.3nm,0.8s

SKAG Skagway 65.30 34 P P 01 37 37.5 +1.0
baz=275
G31M Satah River 65.31 25 P P 01 37 37.2 +0.7
baz=272,SNR=13
H31M Peel River 65.33 27 P P 01 37 37.5 +0.8
baz=273,SNR=8.8
WHY Whitehorse 65.42 32 IAmb IAmb 01 37 39.8
comp=Z,10nm,0.8s
WHY Whitehorse 65.42 32 P P 01 37 38.4 +0.9
baz=275
M31M Drury Creek, Y 65.53 31 P P 01 37 38.9 +0.7
baz=274,SNR=7.3
INK Inuvik 65.54 24 IAmb IAmb 01 37 39.4
comp=Z,10nm,1.1s
INK Inuvik 65.54 24 P P 01 37 38.6 +0.6
baz=272,SNR=8.2
R32K Eaglecrest 65.83 35 P P 01 37 40.8 +0.8
baz=276
P32M Atlin 66.10 33 P P 01 37 42.5 +0.6
baz=276
N32M Quiet Lake 66.25 32 P P 01 37 43.4 +0.5
baz=276
P33M Teslin, Yukon 66.48 33 P P 01 37 45.3 +0.9
baz=277,SNR=7.1
U33K Whale Pass 66.85 37 P P 01 37 47.3 +0.7
baz=278
Q32M Nakina River 66.91 34 P P 01 37 47.9 +0.6
baz=278
CRAG Craig 66.94 38 P P 01 37 48.2 +1.0
baz=278
MMPY Sheldon Lake, 66.94 30 P P 01 37 47.9 +0.7
baz=277
WRAK Wrangell Islan 67.23 37 P P 01 37 50.1 +1.0
baz=279
R33M Jennings River 67.52 33 P P 01 37 51.9 +0.9
baz=278
S34M Telegraph Cree 67.66 35 P P 01 37 53.0 +1.2
baz=279,SNR=5.1
DIB Dawson Inlet, 67.67 40 P P 01 37 52.1 +0.2
DIB IAmb IAmb 01 37 55.5
comp=Z,14nm,1.3s
V35K Ketchikan 67.81 38 P P 01 37 53.5 +0.7
baz=280
DLBC Dease Lake 68.15 34 P P 01 37 56.5 +1.6
baz=280,SNR=9.5
ARTI Arti 68.27 323 P P 01 37 55.3 -0.3
T35M Bob Quinn 68.28 36 P P 01 37 56.7 +0.9
baz=280
TGTN Hyland Airport 68.50 31 P P 01 37 57.9 +0.9
baz=280,SNR=9.2
AB31 Akbulak array 68.69 316 IAmb IAmb 01 37 58.5
comp=Z,4.3nm,0.6s
ABKAR Akbulak array 68.69 316 P P 01 37 57.8 -0.6
C36M Paulatuk 68.83 22 P P 01 37 59.3 +0.4
baz=281
WRGLY Wrigley 70.35 29 IAmb IAmb 01 38 10.4
comp=Z,17nm,0.9s
WRGLY Wrigley 70.35 29 P P 01 38 09.2 +0.9
baz=283
TOAD Toad River Com 70.52 33 P P 01 38 10.8 +1.2
baz=283
KOTAN Kotaneelee Air 70.81 32 P P 01 38 12.2 +1.0
baz=284
SPITS Spitsbergen Ar 74.08 350 P P 01 38 31.2 +0.7
comp=Z,8.0nm,1.0s,baz=50,slow=7.8,SNR=1.8
comp=Z,8.0nm,1.0s
YKA Yellowknife Ar 74.44 28 P P 01 38 33.0 +0.2
comp=Z,4.0nm,0.8s,baz=302,slow=5.9,SNR=17
comp=Z,4.0nm,0.8s
B04A Port Angeles 74.45 44 P P 01 38 33.6 +0.5
B04A IAmb IAmb 01 38 35.6
comp=Z,17nm,1.3s
YKAW1 Yellowknife Wh 74.50 28 IAmb IAmb 01 38 34.4
comp=Z,11nm,0.9s
LLLB Lillooet 74.66 41 IAmb IAmb 01 38 36.5
comp=Z,9.3nm,1.0s
KSXB Camp Six Broad 76.19 50 P P 01 38 44.7 +1.3
KSXB IAmb IAmb 01 38 45.9
comp=Z,24nm,1.5s
H04A Detroit Lake 76.41 47 IAmb IAmb 01 38 46.3
comp=Z,16nm,1.0s
LTY Liberty 76.53 44 IAmb IAmb 01 39 11.8
comp=Z,21nm,1.8s
KHMM Horse Mountain 76.61 51 P P 01 38 47.2 +1.4
KHMM IAmb IAmb 01 38 49.1
comp=Z,20nm,1.3s
MXC Moxie City 77.00 45 P P 01 38 49.0 +1.2
YBH Yreka Blue Hor 77.05 50 IAmb IAmb 01 38 50.4
comp=Z,18nm,1.5s
E07A Sunnyside 77.29 45 IAmb IAmb 01 38 51.4
comp=Z,18nm,1.4s
ARCES ARCESS Array B 77.35 342 P P 01 38 49.6 +0.3
comp=Z,4.3nm,0.7s,baz=61,slow=5.9,SNR=15
ARCES LR LR 02 18 22.4
comp=Z,72nm,18.5s,baz=70,slow=40
comp=Z,4.3nm,0.7s
WAH2 Wahluke Slope 77.41 44 P P 01 38 51.1 +1.1
WAH2 IAmb IAmb 01 38 51.8
comp=Z,5.9nm,0.6s
J05D Fort Rock, OR 77.53 48 P P 01 38 51.4 +0.4
J05D IAmb IAmb 01 38 53.2
comp=Z,8.9nm,0.8s
PINE Pine Mountain 77.55 48 IAmb IAmb 01 38 53.5
comp=Z,16nm,0.8s
K05A Summer Lake 77.96 49 IAmb IAmb 01 38 55.8
comp=Z,18nm,1.1s
O03E Paynes Creek 78.19 51 IAmb IAmb 01 38 56.0
comp=Z,7.2nm,0.8s
BEKR Beckworth 79.38 51 IAmb IAmb 01 39 02.8
comp=Z,12nm,0.8s
J08A Circle Bar Ran 79.38 47 P P 01 39 01.7 +0.5
J08A IAmb IAmb 01 39 03.1
comp=Z,13nm,1.1s
WELL Weller Preserv 79.64 53 P P 01 39 02.4 -0.2
CMB Columbia Colle 80.04 53 IAmb IAmb 01 39 06.4
comp=Z,9.3nm,0.7s
BUCR Buckhorn Ranch 80.35 53 P P 01 39 06.2 -0.3
MFID Camas Ranch 81.13 47 IAmb IAmb 01 39 12.3
comp=Z,10nm,0.8s
KBZ Khabaz 81.57 314 P P 01 39 13.2 +0.5
comp=Z,7.7nm,0.8s,baz=88,slow=5.1,SNR=18
comp=Z,7.7nm,0.8s
FINES FINESS Array B 81.78 335 P P 01 39 12.9 -0.5
comp=Z,8.0nm,0.7s,baz=65,slow=4.8,SNR=64
comp=Z,8.0nm,0.7s
TIN Tinemaha, Big 82.00 53 P P 01 39 16.2 +0.9
TPH Tonopah 82.33 52 P P 01 39 17.4 +0.3
ELK Elko 82.63 49 P P 01 39 18.7 +0.1
MPMC Manual Prospec 82.95 54 IAmb IAmb 01 39 21.9
comp=Z,10nm,1.2s
LRMC Laurel Mtn Rad 83.04 54 P P 01 39 20.5 -0.3
LRMC IAmb IAmb 01 39 22.2
comp=Z,9.2nm,0.7s
TPNV Topopah Spring 83.49 53 IAmb IAmb 01 39 24.5
comp=Z,5.8nm,0.8s
GWY Greenwater Val 83.50 53 IAmb IAmb 01 39 24.5
comp=Z,8.1nm,0.8s
YHL Hebgen Lake 83.54 44 IAmb IAmb 01 39 25.5
comp=Z,8.3nm,0.8s
YMR Madison River 83.76 44 IAmb IAmb 01 39 26.7
comp=Z,10.0nm,0.6s
FFC Flin Flon 83.84 32 P P 01 39 24.3 0.0
FFC IAmb IAmb 01 39 25.8
comp=Z,11nm,0.9s
YNR Norris Junctio 83.92 44 P P 01 39 25.7 +0.5
YNR IAmb IAmb 01 39 28.2
comp=Z,11nm,1.2s
YFT Old Faithful 83.94 44 P P 01 39 26.3 +0.9
YFT IAmb IAmb 01 39 30.3
comp=Z,6.4nm,0.8s
RLMT Red Lodge 84.62 43 IAmb IAmb 01 39 30.9
comp=Z,10nm,0.8s
HWUT Hardware Ranch 84.75 47 IAmb IAmb 01 39 31.0
comp=Z,7.2nm,0.9s
PMD Palm Desert 84.77 56 IAmb IAmb 01 39 30.6
comp=Z,7.3nm,0.8s
V12A Nelson 85.03 53 IAmb IAmb 01 39 32.6
comp=Z,6.4nm,0.9s
CTU Camp Tracy 85.04 48 IAmb IAmb 01 39 32.2
comp=Z,7.2nm,1.0s
TCUT Toone Canyon 85.08 47 IAmb IAmb 01 39 32.5
comp=Z,7.5nm,0.8s
JLU Jordanelle 85.29 48 IAmb IAmb 01 39 33.7
comp=Z,10.0nm,0.8s
CCUT Cedar City 85.32 51 IAmb IAmb 01 39 34.2
comp=Z,7.2nm,1.3s
BC3 Big Chuckawall 85.47 55 IAmb IAmb 01 39 34.1
comp=Z,4.5nm,0.7s

PDAR Pinedale Array 85.54 45 P P 01 39 33.1 -0.4
PDAR Pinedale Array 85.54 45 P P 01 39 33.5 +0.1
comp=Z,1.7nm,0.7s,baz=262,slow=3.4,SNR=12
comp=Z,1.7nm,0.7s
LCMT Little Creek M 85.64 52 IAmb IAmb 01 39 35.2
comp=Z,5.2nm,0.8s
P17A Butcher Ranch, 86.29 48 P P 01 39 37.6 +0.4
P17A IAmb IAmb 01 39 38.6
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 86.38 325 P P 01 39 35.3 -1.8
comp=Z,0.3nm,0.3s,baz=56,slow=4.8,SNR=7.7
comp=Z,0.3nm,0.3s
P18A Preston Nutter 86.55 48 IAmb IAmb 01 41 28.0
comp=Z,7.1nm,0.9s
U15A North Rim 86.58 52 IAmb IAmb 01 39 40.5
comp=Z,6.0nm,0.8s
113A Mohawk Valley, 87.12 56 IAmb IAmb 01 39 42.6
comp=Z,9.9nm,1.3s
Y14A Wickenburg 87.18 54 IAmb IAmb 01 39 43.1
comp=Z,8.9nm,0.8s
NC405 NORSAR Array S 87.21 339 P P 01 39 40.2 -0.8
NC405 IAmb IAmb 01 39 41.0
comp=Z,12nm,0.9s
HFS Hagfors 87.25 338 P P 01 39 39.9 -1.3
comp=Z,7.8nm,0.8s,baz=67,slow=3.7,SNR=23
HFS LR LR 02 19 52.7
comp=Z,51nm,20.0s,baz=32,slow=36
comp=Z,7.8nm,0.8s
NC204 NORSAR Array S 87.40 339 P P 01 39 41.2 -0.8
NC204 IAmb IAmb 01 39 41.6
comp=Z,9.6nm,0.8s
NB2 NORSAR Subarra 87.43 339 P P 01 39 41.1 -1.0
comp=Z,2.2nm,0.7s,baz=54,slow=5.1
NOA NORSAR Array B 87.43 339 P P 01 39 40.9 -1.2
comp=Z,5.1nm,0.9s,baz=46,slow=4.6,SNR=20
NOA LR LR 02 21 21.7
comp=Z,59nm,21.5s,baz=50,slow=37
comp=Z,5.1nm,0.9s
PV10 Paradox Valley 87.97 49 P P 01 39 45.9 +0.5
PV16 Nyswonger Mesa 88.09 49 IAmb IAmb 01 39 47.3
comp=Z,6.8nm,1.0s
X16A Lo Mia Camp, P 88.12 53 P P 01 39 45.8 -0.3
PV03 Paradox Valley 88.16 49 IAmb IAmb 01 39 47.5
comp=Z,6.3nm,1.0s
SFJD Kangerlussuaq 89.01 6 LR LR 02 20 43.2
comp=Z,45nm,19.7s,baz=338,slow=36
FRB Frobisher Bay 89.28 14 LR LR 02 23 06.1
comp=Z,58nm,20.2s,baz=288,slow=38
ULM Lac du Bonnet 89.46 34 P P 01 39 51.8 0.0
comp=Z,3.0nm,0.9s,baz=315,slow=13,SNR=3.2
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 89.56 314 P P 01 39 51.2 -1.5
comp=Z,1.8nm,0.8s,baz=87,slow=2.8,SNR=9.5
comp=Z,1.8nm,0.8s
TUC Tucson 89.58 55 P P 01 39 53.0 +0.1
TUC IAmb IAmb 01 39 55.3
comp=Z,21nm,1.9s
AGMN Agassiz Nation 90.66 35 IAmb IAmb 01 39 58.1
comp=Z,5.5nm,0.8s
DUN6 Lazy B Ranch 90.72 54 P P 01 39 59.4 +1.1
ANMO Albuquerque 91.46 51 P P 01 40 01.6 -0.2
ANMO IAmb IAmb 01 40 04.0
comp=Z,5.2nm,1.1s
121A Cookes Peak, D 91.70 53 IAmb IAmb 01 40 05.2
comp=Z,3.8nm,0.9s
T25A Trinidad 91.77 48 IAmb IAmb 01 40 04.9
comp=Z,4.9nm,0.9s
F33A 5 Mile Ranch, 91.92 37 IAmb IAmb 01 40 04.5
comp=Z,11nm,1.2s
VRAC Vranov 93.63 329 LR LR 02 25 45.5
comp=Z,57nm,18.3s,baz=21,slow=38
CLL Collm 93.87 332 *i* P P 01 40 10.8 -1.4
comp=Z,4.0nm,0.9s
SPMN Marine on St. 94.22 36 P P 01 40 14.1 +0.1
SPMN IAmb IAmb 01 40 15.0
comp=Z,8.8nm,1.0s
VHRN Van Horn 94.64 54 IAmb IAmb 01 42 01.8
comp=Z,6.1nm,1.5s
GERES GERESS Array B 95.32 330 P P 01 40 17.8 -1.3
comp=Z,0.2nm,0.3s,baz=60,slow=6.2,SNR=3.8
comp=Z,0.2nm,0.3s
TXAR Lajitas Array 96.36 54 P P 01 40 24.9 +0.7
comp=Z,0.9nm,0.9s,baz=336,slow=2.7,SNR=9.3
comp=Z,0.9nm,0.9s
DAVOX Davos/Dischmat 98.59 330 LR LR 02 27 40.6
comp=Z,64nm,20.4s,baz=44,slow=37
BOAV Boa Vista 144.84 46 PKPdf **PKPab** 01 46 31.3 -0.4
PLCA Paso Flores 146.43 129 PKPbc **PKPbc** 01 46 35.6 -0.5
comp=Z,4.3nm,1.0s,baz=260,slow=2.5,SNR=4.9
BO02 Sierra Bellavi 147.84 118 PKPbc **PKPbc** 01 46 40.5 +0.3
PB16 IPOC Station P 148.36 87 PKPbc **PKPbc** 01 46 42.6 -0.1
PB11 IPOC Station P 148.57 90 PKPbc **PKPbc** 01 46 42.4 -0.3
LPAZ La Paz 149.02 82 PKPbc **PKPbc** 01 46 44.8 +0.3
comp=Z,5.4nm,0.7s,baz=315,slow=1.4,SNR=4.1
PB08 IPOC Station P 149.12 90 PKPbc **PKPbc** 01 46 44.2 -0.1

*IDC **09** 02:05:06.1±5.3, 18°.49S×177°.81W, h523km±57km, mb3.3/11, mbtmp4.1/11, Error ellipse: s-maj=26.9km s-min=18.0km az=70.0*

ISC 09 02:05:08.8±0.8, 18°.6S±0°.1×177°.9W±0°.2, h557km, n16, σ0s90/17, mb3.8/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
URZ	**Urewera**	**20.10**	**192**	P	**P**	**02 09 03.4**	**-1.9**
	5.9nm,0.7s,baz=12,slow=9.3,SNR=2.1						
	5.9nm,0.7s						
WRA	**Warramunga Arr**	**45.03**	**260**	P	**P**	**02 12 35.5**	**-0.1**
	1.7nm,0.4s,baz=97,slow=7.9,SNR=20						
WRA				PcP	**PcP**	**02 14 04.2**	**-0.4**
	0.3nm,0.3s,baz=104,slow=3.0,SNR=2.5						
	1.7nm,0.4s						
ASAR	**Alice Springs**	**45.12**	**255**	P	**P**	**02 12 36.6**	**+0.3**
	2.6nm,0.5s,baz=85,slow=8.6,SNR=31						
ASAR				PcP	**PcP**	**02 14 04.3**	**-0.6**
	0.3nm,0.3s,baz=101,slow=4.9,SNR=2.3						
	2.6nm,0.5s						
VNDA	**Vanda**	**59.83**	**185**	P	**P**	**02 14 20.6**	**+0.2**
	0.3nm,0.4s,baz=351,slow=5.8,SNR=2.8						
	0.3nm,0.4s						
MJAR	**Matsushiro Arr**	**68.75**	**323**	P	**P**	**02 15 17.1**	**-0.4**
	1.9nm,0.6s,baz=160,slow=6.5,SNR=4.2						
	1.9nm,0.6s						
QSPA	**South Pole Qui**	**71.49**	**180**	P	**P**	**02 15 35.0**	**+1.6**
	1.5nm,0.5s,baz=310,slow=1.3,SNR=16						
	1.5nm,0.5s						
PETK	**Petropavlovsk-**	**74.45**	**345**	P	**P**	**02 15 50.8**	**+0.5**
	1.4nm,0.6s,baz=115,slow=6.3,SNR=6.0						
	1.4nm,0.6s						
ILAR	**Eielson Array**	**86.42**	**13**	P	**P**	**02 16 51.5**	**-0.5**
	0.4nm,0.4s,baz=218,slow=5.0,SNR=17						
	0.4nm,0.4s						
PDAR	**Pinedale Array**	**87.48**	**43**	P	**P**	**02 16 58.2**	**+0.3**
	0.2nm,0.4s,baz=296,slow=5.6,SNR=1.4						
	0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P	**P**	**02 17 09.5**	**+1.5**
	2.3nm,0.3s,baz=124,slow=3.1,SNR=4.9						
	2.3nm,0.3s						
SONM	**Songino Array**	**94.39**	**319**	P	**P**	**02 17 29.3**	**-0.3**
	0.3nm,0.5s,baz=169,slow=2.9,SNR=2.4						
	0.3nm,0.5s						
ARCES	**ARCESS Array B**	**127.06**	**350**	PKP	**PKPdf**	**02 23 08.9**	**-0.4**
	7.4nm,1.2s,baz=40,slow=1.4,SNR=4.3						
EKA	**Eskdalemuir Ar**	**143.08**	**5**	PKhKP	PKPpre	02 23 36.1	
	0.4nm,0.4s,baz=328,slow=2.4,SNR=4.2						
BRTR	**Keskin Array B**	**145.62**	**314**	PKPbc	**PKPbc**	**02 23 45.5**	**-0.5**
	0.5nm,0.8s,baz=152,slow=4.2,SNR=4.4						
MMAI	**Mount Meron Ar**	**146.94**	**302**	PKPbc	**PKPbc**	**02 23 49.0**	**-0.7**
	0.6nm,0.4s,baz=51,slow=3.3,SNR=2.2						
GERES	**GERESS Array B**	**148.38**	**345**	PKPbc	**PKPbc**	**02 23 52.5**	**-0.5**
	1.0nm,0.9s,baz=55,slow=3.7,SNR=5.1						

*PRE **09** 02:07:02.7±0.7, 26°.40S×27°.57E, h2km, ML2.0*
*BGSI **09** 02:07:02.9±1.8, 26°.55S×27°.92E, h0km±90km, ML2.6*

ISC 09 02:07:03.1±1.3, 26°.45S±0°.03×27°.62E±0°.04, h4km±10km, n18, σ1s65/35, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PRYS	**Parys**	**0.53**	**206**	*e*P	**Pg**	**02 07 13.4**	**+0.2**
PRYS				*e*S	**Sg**	**02 07 21.6**	**+1.5**
PRYS				IAML		02 07 26.4	
	comp=Z,49nm,0.3s						
HRAO	**HartRAO**	**0.56**	**6**	*e*P	**Pg**	**02 07 12.8**	**-1.1**
HRAO				*e*S	**Sg**	**02 07 20.2**	**-0.9**
HRAO				IAML		02 07 21.8	
	comp=Z,75nm,0.2s						
SNKL	**Senekal, Frees**	**1.82**	**176**	*e*P	**Pg**	**02 07 37.0**	**-1.1**
SNKL				*e*S	**Sg**	**02 08 01.9**	**+0.1**
SNKL				IAML		02 08 05.9	
	comp=Z,30nm,0.4s						
SWZ	**Schweizer**	**2.17**	**250**	*e*P	**Pn**	**02 07 40.3**	**+0.2**
SWZ				*e*S	**Sn**	**02 08 08.5**	**+0.9**
SWZ				IAML		02 08 12.4	
	comp=Z,27nm,0.5s						
LEPH	**Lephalale, Lim**	**2.59**	**4**	*e*P	**Pn**	**02 07 45.7**	**-0.2**
LEPH				*e*S	**Sn**	**02 08 17.0**	**-0.8**
LEPH				IAML		02 08 25.3	
	comp=Z,13nm,0.5s						
MAKGR Makgori		**2.61**	**283**	*i* P	**Pn**	**02 07 47.8**	**+1.6**
MAKGR				*i* S	**Sn**	**02 08 22.9**	**+4.5**
MAKGR				IAML		02 08 32.9	
	comp=N,64nm,0.4s						
BOSA Boshof		**3.01**	**224**	*e*P	**Pn**	**02 07 52.2**	**+0.6**
BOSA				*e*S	**Sn**	**02 08 28.4**	**+0.2**
BOSA				IAML		02 08 39.7	
	comp=Z,5.4nm,0.3s						
POGA Pongola		**3.76**	**105**	*e*P	**Pn**	**02 08 03.2**	**+1.3**
POGA				*e*S	**Sn**	**02 08 47.6**	**+1.0**
POGA				IAML		02 09 02.9	
	comp=Z,8.7nm,0.4s						
MREMI Moremi		**3.87**	**358**	*i* P	**Pn**	**02 08 03.8**	**+0.3**
MREMI				IAML		02 09 09.6	
	comp=N,24nm,0.3s						
PMBG Pietermaritzbu		**3.98**	**141**	*e*P	**Pn**	**02 08 06.8**	**+1.8**
PMBG				*e*S	**Sn**	**02 08 52.9**	**+0.8**
PMBG				IAML		02 09 12.5	
	comp=Z,6.8nm,0.4s						
KDWAN Kaudwane		**4.07**	**318**	*i* P	**Pn**	**02 08 07.0**	**+0.8**
KDWAN				*i* S	**Sn**	**02 08 56.1**	**+1.8**
KDWAN				IAML		02 09 11.1	
	comp=N,22nm,0.6s						
MUSN Musina, Limpop		**4.62**	**27**	*e*P	**Pn**	**02 08 14.2**	**+0.4**
MUSN				*e*S	**Sn**	**02 09 06.3**	**-1.6**
MUSN				IAML		02 09 13.5	
	comp=Z,1.7nm,0.8s						
KHWEE KHWEE		**4.90**	**336**	*i* P	**Pn**	**02 08 19.7**	**+2.0**
KHWEE				*i* S	**Sn**	**02 09 14.2**	**-0.8**
KHWEE				IAML		02 09 36.7	
	comp=E,29nm,0.3s						
ALKP Alkanpan, Nort		**5.88**	**232**	*e*P	**Pn**	**02 08 31.4**	**+0.2**
ALKP				*e*S	**Sn**	**02 09 36.6**	**-2.4**
ALKP				IAML		02 10 17.5	
	comp=Z,3.8nm,0.6s						
BFON Badsfontein, M		**6.34**	**212**	*e*P	**Pn**	**02 08 38.6**	**+1.1**
BFON				*e*S	**Sn**	**02 09 48.6**	**-1.9**
BFON				IAML		02 10 28.1	
	comp=Z,2.7nm,0.5s						
BRAK Brakfontein		**6.73**	**217**	*e*P	**Pn**	**02 08 44.0**	**+1.2**
BRAK				*e*S	**Sn**	**02 09 57.4**	**-2.5**
BRAK				IAML		02 10 40.2	
	comp=Z,2.1nm,0.6s						
FRAZ Fraserburg		**7.70**	**223**	*e*P	**Pn**	**02 08 57.2**	**+1.1**
FRAZ				*e*S	**Sn**	**02 10 21.3**	**-2.6**
FRAZ				IAML		02 10 38.1	
	comp=Z,1.0nm,0.7s						
SUR Sutherland		**8.37**	**224**	*e*P	**Pn**	**02 09 05.8**	**+0.3**
SUR				*e*S	**Sn**	**02 10 37.4**	**-3.2**
SUR				IAML		02 10 54.3	
	comp=Z,1.3nm,0.5s						

*IDC **09** 02:57:46.4±3.1, 11°.24S×166°.14E, h70km±25km, mb4.1/15, mbtmp4.3/15, MS3.4/12, Error ellipse: s-maj=22.5km s-min=12.8km az=79.0*
*NEIC **09** 02:57:46.6±1.5, 11°.19S±0°.07×166°.20E±0°.10, h66km±6km, mb4.7/60, Error ellipse: s-maj=15.7km s-min=7.4km az=58.0*
*NOU **09** 02:57:47.3, 11°.29S×165°.98E, h20km, mb5.8/20, Santa Cruz Islands*

ISC 09 02:57:45.5±0.4, 11°.21S±0°.05×166°.20E±0°.06, h61km, n164, σ1s14/154, mb4.6/46, 1C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
LUES	**Luesalemba Tem**	**0.61**	**333**	P	**Pn**	**02 58 00.3**	**+1.4**
HURO	**Huro Makira**	**4.29**	**280**	P	**Pn**	**02 58 48.1**	**-0.2**
SANVU	**Saraoutou**	**4.32**	**167**		**Pn**	**02 58 50.1**	**+1.4**
SANVU	**Saraoutou**	**4.32**	**167**	P	**Pn**	**02 58 50.6**	**+1.8**
ALEG	**Aligegeo Malai**	**5.95**	**294**	P	**Pn**	**02 59 11.8**	**+0.8**
NGOA	**Tingoa Renbel**	**6.03**	**266**	P	**Pn**	**02 59 11.9**	**-0.2**
HNR	**Honiara**	**6.40**	**285**		**Pn**	**02 59 18.3**	**+1.0**
HNR	**Honiara**	**6.40**	**285**	P	**Pn**	**02 59 19.0**	**+1.7**
	885nm,0.5s,baz=140,slow=3.0,SNR=16						
HNR				S	**Sn**	**03 00 27.7**	**-1.3**
	167nm,0.5s,baz=30,slow=20,SNR=1.2						
HNR				LR	LR	03 01 01.4	
	comp=Z,82nm,20.3s,baz=96,slow=31						
HNR	**Honiara**	**6.40**	**285**	P	**Pn**	**02 59 19.3**	**+2.0**
SAVO	**Savo Central**	**6.61**	**287**	P	**Pn**	**02 59 22.0**	**+1.8**
SAVO	**Savo Central**	**6.61**	**287**	S	**Sn**	**03 00 34.3**	**+0.1**
DVP	**Devils Point**	**6.75**	**164**	P	**Pn**	**02 59 25.5**	**+3.4**
TATA	**Tatamba Isabel**	**6.90**	**293**	P	**Pn**	**02 59 25.4**	**+1.3**
KOUNC	**Koumac, New Ca**	**9.46**	**191**	P	**Pn**	**03 00 02.2**	**+3.0**
DZM	**Mont Dzumac**	**10.80**	**179**	*e*Pn	**Pn**	**03 00 19.1**	**+1.6**
	62nm,0.7s						
DZM				*e*Sn	**Sn**	**03 02 16.1**	**-0.8**
	69nm,0.8s						
DZM				*e*LR	LR	03 02 51.5	
	543nm,27.2s						
DZM	**Mont Dzumac**	**10.80**	**179**		**Pn**	**03 00 19.3**	**+1.7**
DZM	**Mont Dzumac**	**10.80**	**179**	P	**Pn**	**03 00 19.5**	**+2.0**
	82nm,0.3s,baz=294,slow=20,SNR=272						
DZM				S	**Sn**	**03 02 14.3**	**-2.6**
	27nm,0.5s,baz=305,slow=22,SNR=6.6						
DZM				LR	LR	03 03 23.9	
	comp=Z,188nm,22.0s,baz=22,slow=31						
DZM	**Mont Dzumac**	**10.80**	**179**	P	**Pn**	**03 00 19.5**	**+2.0**
OUENC	**Ouen Island, N**	**11.16**	**177**	P	**Pn**	**03 00 24.7**	**+2.3**
PINNC	**Pines Island,**	**11.40**	**174**		**Pn**	**03 00 27.4**	**+1.8**
PINNC	**Pines Island,**	**11.40**	**174**	P	**Pn**	**03 00 28.2**	**+2.6**
MSVF	**Nonsavu**	**13.18**	**121**	Pn	**Pn**	**03 00 51.2**	**+1.2**
PMG	**Port Moresby**	**18.82**	**274**	LR	LR	03 08 12.2	
	comp=Z,167nm,20.4s,baz=161,slow=33						
EIDS	**Eidsvold**	**20.08**	**223**	P	**P**	**03 02 14.6**	**+0.5**
	comp=Z,30nm,1.0s						
EIDS	**Eidsvold**	**20.08**	**223**		**P**	**03 02 14.3**	**+0.2**
CTAO	**Charters Tower**	**21.12**	**243**	P	**P**	**03 02 27.3**	**+1.9**
ARMA	**Armidale**	**23.42**	**213**	P	**P**	**03 02 50.4**	**+0.9**
	comp=Z,25nm,1.7s						
ARMA	**Armidale**	**23.42**	**213**	P	**P**	**03 02 49.5**	**0.0**
ARMA				IAmb	IAmb	03 02 52.4	
	comp=Z,16nm,0.7s						
MKAZ	**Moumakai**	**27.01**	**164**	P	**P**	**03 03 23.5**	**+1.7**
TOZ	**Tahuroa Road**	**27.70**	**164**	P	**P**	**03 03 28.7**	**+0.7**
TOZ				IAmb	IAmb	03 03 50.9	
	comp=Z,48nm,1.4s						
HAZ	**Te Kaha**	**28.40**	**160**	P	**P**	**03 03 35.0**	**+0.8**
MXZ	**Matakaoa Point**	**28.40**	**159**	P	**P**	**03 03 35.6**	**+1.3**
MXZ	**Matakaoa Point**	**28.40**	**159**	P	**P**	**03 03 35.6**	**+1.3**
CAN	**Canberra**	**28.64**	**210**	P	**P**	**03 03 36.1**	**-0.4**
URZ	**Urewera**	**28.65**	**162**	LR	LR	03 13 10.0	
	comp=Z,220nm,18.3s,baz=340,slow=32						
URZ	**Urewera**	**28.65**	**162**	P	**P**	**03 03 36.5**	**+0.1**
PUZ	**Puketiti**	**28.84**	**160**	P	**P**	**03 03 38.9**	**+0.7**
RTZ	**Ruatahuna**	**28.94**	**162**	P	**P**	**03 03 38.2**	**-0.9**
NNVZ	**North Ngauruho**	**29.04**	**165**	P	**P**	**03 03 42.8**	**+2.7**
NGZ	**Ngauruhoe**	**29.08**	**165**	P	**P**	**03 03 43.7**	**+3.2**
OTVZ	**Oturere**	**29.08**	**165**	P	**P**	**03 03 42.8**	**+2.3**
MTHZ	**Maungataniwha**	**29.12**	**163**	P	**P**	**03 03 41.1**	**+0.5**
WNVZ	**Wahianoa**	**29.22**	**165**	P	**P**	**03 03 44.4**	**+2.7**
RAHZ	**Arahi**	**29.25**	**162**	P	**P**	**03 03 42.2**	**+0.3**
BKZ	**Black Stump Fm**	**29.31**	**164**		**P**	**03 03 42.6**	**+0.3**
BKZ	**Black Stump Fm**	**29.31**	**164**	P	**P**	**03 03 42.3**	**-0.1**
KWHZ	**Kaweka Forest**	**29.53**	**164**	P	**P**	**03 03 44.7**	**+0.4**
MCHZ	**McNeill Hill**	**29.62**	**163**	P	**P**	**03 03 46.6**	**+1.4**
KRHZ	**Kereru**	**29.72**	**164**	P	**P**	**03 03 46.0**	**0.0**
PNHZ	**Pukenui**	**29.93**	**164**	P	**P**	**03 03 48.1**	**+0.3**
KAHZ	**Kahuranaki**	**30.00**	**163**	P	**P**	**03 03 48.4**	**-0.1**
TSZ	**Takapari Road**	**30.00**	**165**	P	**P**	**03 03 48.5**	**0.0**
PXZ	**Pawanui**	**30.22**	**164**	P	**P**	**03 03 50.4**	**0.0**
MRZ	**Mangatainoka R**	**30.48**	**166**	P	**P**	**03 03 51.5**	**-1.1**
MRZ	**Mangatainoka R**	**30.48**	**166**	P	**P**	**03 03 52.0**	**-0.6**
STKA	**Stephens Creek**	**30.63**	**224**	P	**P**	**03 03 53.8**	**-0.3**
	comp=Z,3.9nm,0.7s,baz=48,slow=11,SNR=5.7						
STKA				PcP	**PcP**	**03 06 50.4**	**-1.0**
	comp=Z,3.2nm,0.9s,baz=

THZ	**Tophouse**	**31.00**	**170**	P	**P**	**03 03 57.8**	**+0.5**		
KHZ	**Kahutara**	**31.74**	**170**	P	**P**	**03 04 03.8**	**+0.1**		
WB0	**Warramunga Arr**	**31.76**	**251**	P	**P**	**03 04 03.9**	**-0.4**		
WB0				IAmb	IAmb	03 04 24.1			
	comp=Z,16nm,0.8s								
WRA	**Warramunga Arr**	**31.84**	**250**	P	**P**	**03 04 04.3**	**-0.7**		
	comp=Z,3.2nm,0.9s,baz=82,slow=9.0,SNR=10								
WRA				PcP	**PcP**	**03 06 54.5**	**-0.4**		
	comp=Z,1.7nm,0.8s,baz=86,slow=3.2,SNR=6.7								
	comp=Z,3.2nm,0.9s								
LTZ	**Lake Taylor**	**31.89**	**172**	P	**P**	**03 04 06.2**	**+1.1**		
WVZ	**Waitaha Valley**	**31.99**	**174**	P	**P**	**03 04 06.9**	**+1.1**		
TOO	**Toolangi**	**32.16**	**212**	P	**P**	**03 04 07.9**	**+0.3**		
TOO				IAmb	IAmb	03 04 08.9			
	comp=Z,18nm,1.4s								
GVZ	**Greta Valley S**	**32.19**	**171**	P	**P**	**03 04 07.4**	**-0.3**		
OXZ	**Oxford**	**32.39**	**172**	P	**P**	**03 04 09.7**	**+0.2**		
OXZ	**Oxford**	**32.39**	**172**	P	**P**	**03 04 09.8**	**+0.4**		
GUMO	**Guam**	**32.48**	**319**	LR	LR	03 17 58.3			
	comp=Z,55nm,18.4s,baz=123,slow=37								
RPZ	**Rata Peaks**	**32.66**	**173**	LR	LR	03 17 44.3			
	comp=Z,118nm,18.1s,baz=109,slow=37								
AS31	**Alice Springs**	**33.12**	**244**	P	**P**	**03 04 14.9**	**-1.2**		
ASAR	**Alice Springs**	**33.12**	**244**	P	**P**	**03 04 14.9**	**-1.2**		
	comp=Z,3.3nm,0.7s,baz=69,slow=9.5,SNR=31								
ASAR				PcP	**PcP**	**03 06 58.4**	**+0.1**		
	comp=Z,2.7nm,0.8s,baz=64,slow=2.6,SNR=15								
	comp=Z,3.3nm,0.7s								
LBZ	**Lake Benmore**	**33.23**	**175**	P	**P**	**03 04 16.6**	**-0.2**		
LBZ	**Lake Benmore**	**33.23**	**175**	P	**P**	**03 04 16.3**	**-0.5**		
WKZ	**Wanaka**	**33.58**	**176**	P	**P**	**03 04 20.6**	**+0.7**		
WKZ	**Wanaka**	**33.58**	**176**	P	**P**	**03 04 20.8**	**+0.9**		
EAZ	**Earnscleugh**	**34.00**	**176**	P	**P**	**03 04 24.2**	**+0.7**		
RAR	**Rarotonga**	**34.08**	**111**	LR	LR	03 15 32.8			
	comp=Z,19nm,18.5s,baz=274,slow=31								
BBOO	**Buckleboo**	**35.04**	**227**	P	**P**	**03 04 32.2**	**-0.5**		
FITZ	**Fitzroy Crossi**	**39.77**	**255**	P	**P**	**03 05 12.5**	**-0.3**		
FITZ	**Fitzroy Crossi**	**39.77**	**255**	LR	LR	03 21 05.0			
	comp=Z,94nm,18.1s,baz=140,slow=35								
PPT2	**Papeete2**	**43.23**	**104**	*e*LR	LR	03 17 48.9			
	comp=Z,133nm,32.5s								
TBI	**Tubuai**	**43.86**	**112**	*e*LR	LR	03 18 05.0			
	comp=Z,1μm,32.5s								
KAPI	**Kappang**	**46.35**	**274**	LR	LR	03 25 25.0			
	comp=Z,31nm,21.3s,baz=70,slow=36								
JOW	**Kunigami**	**52.78**	**316**	LR	LR	03 29 13.8			
	comp=Z,55nm,19.1s,baz=88,slow=36								
MJAR	**Matsushiro Arr**	**54.32**	**332**	P	**P**	**03 07 06.1**	**+0.2**		
	comp=Z,0.6nm,0.2s,baz=81,slow=7.9,SNR=6.6								
MJAR				LR	LR	03 30 15.8			
	comp=Z,22nm,18.8s,baz=153,slow=36								
	comp=Z,0.6nm,0.2s								
JTM	**Tenmabayashi**	**56.72**	**337**	P	**P**	**03 07 22.8**	**-0.2**		
ASAJ	**Asahikawa**	**59.10**	**340**	LR	LR	03 28 45.4			
	comp=Z,49nm,21.6s,baz=154,slow=32								
NJ2	**Nanjing**	**62.45**	**315**	*e*P	**P**	**03 08 04.2**	**+1.6**		
NJ2				pmax	pmax				
	comp=Z,13nm,0.6s								
KIWB	**Kanaga Island**	**64.44**	**11**	P	**P**	**03 08 15.9**	**+0.6**		
PETK	**Petropavlovsk-**	**64.48**	**354**	P	**P**	**03 08 15.1**	**-0.5**		
PETK	**Petropavlovsk-**	**64.48**	**354**	P	**P**	**03 08 15.7**	**+0.1**		
	comp=Z,2.0nm,0.5s,baz=90,slow=4.4,SNR=10								
	comp=Z,2.0nm,0.5s								
VNDA	**Vanda**	**66.33**	**181**		**P**	**03 08 27.5**	**+0.1**		
VNDA				IAmb	IAmb	03 08 28.5			
	comp=Z,12nm,1.2s								
VNDA	**Vanda**	**66.33**	**181**	P	**P**	**03 08 27.4**	**+0.1**		
	comp=Z,5.5nm,1.0s,baz=343,slow=7.2,SNR=20								
	comp=Z,5.5nm,1.0s								
CASY	**Casey**	**66.39**	**201**		**P**	**03 08 27.2**	**-0.6**		
CASY				IAmb	IAmb	03 08 29.4			
	comp=Z,11nm,1.5s								
SBA	**Scott Base**	**66.63**	**180**	P	**P**	**03 08 30.2**	**+1.1**		
HNS	**HongShan**	**68.31**	**318**	⇑P	**P**	**03 08 43.4**	**+3.0**		
HNS				pmax	pmax				
	comp=Z,24nm,0.6s								
HHC	**Hu-ho-hao-te**	**72.25**	**319**	*e*P	**P**	**03 09 07.0**	**+2.4**		
HHC				pmax	pmax				
	comp=Z,10.0nm,0.5s								
HHC				pmax	pmax				
	comp=Z,66nm,4.6s								
HHC				pmax	pmax				
	comp=Z,15nm,0.6s								
HHC				pmax	pmax				
	comp=Z,50nm,4.1s								
CMAR	**Chiang Mai Arr**	**72.59**	**293**	P	**P**	**03 09 06.1**	**-0.8**		
	comp=Z,0.9nm,0.3s,baz=118,slow=3.0,SNR=6.1								
	comp=Z,0.9nm,0.3s								
PZH	**PanZhiHua**	**72.94**	**302**	P	**P**	**03 09 10.3**	**+1.3**		
GAMB	**Gambell**	**76.66**	**10**	P	**P**	**03 09 29.3**	**-0.2**		
L18K	**Granite Mounta**	**78.70**	**17**	IAmb	IAmb	03 09 42.8			
	comp=Z,8.1nm,0.8s								
QSPA	**South Pole Qui**	**78.79**	**180**	P	**P**	**03 09 42.2**	**+0.5**		
QSPA				IAmb	IAmb	03 09 43.9			
	comp=Z,11nm,1.0s								
QSPA	**South Pole Qui**	**78.79**	**180**	P	**P**	**03 09 42.0**	**+0.4**		
	comp=Z,9.3nm,1.0s,baz=358,slow=1.3,SNR=31								
	comp=Z,9.3nm,1.0s								
SONM	**Songino Array**	**79.06**	**324**	P	**P**	**03 09 43.6**	**+0.2**		
SONM	**Songino Array**	**79.06**	**324**	P	**P**	**03 09 44.0**	**+0.6**		
	comp=Z,0.8nm,0.5s,baz=140,slow=4.1,SNR=6.0								
	comp=Z,0.8nm,0.5s								
L19K	**White Mountain**	**79.20**	**17**	IAmb	IAmb	03 09 45.5			
	comp=Z,6.2nm,0.8s								
M20K	**Styx River**	**79.49**	**18**	P	**P**	**03 09 45.4**	**+0.1**		
SCM	**Sheep Creek Mo**	**81.34**	**20**	P	**P**	**03 09 55.1**	**-0.2**		
SCM				IAmb	IAmb	03 09 56.2			
	comp=Z,6.8nm,0.8s								
N25K	**Chitina, Valde**	**82.14**	**21**	IAmb	IAmb	03 10 00.6			
	comp=Z,6.5nm,0.8s								
GLB	**Gilahina Butte**	**82.32**	**22**	P	**P**	**03 10 00.3**	**-0.1**		
GLB				IAmb	IAmb	03 10 01.2			
	comp=Z,6.1nm,0.8s								
IMAR	**Indian Mountai**	**82.47**	**15**	P	**P**	**03 10 00.0**	**-1.0**		
BARN	**Barnard Glacie**	**82.87**	**23**	P	**P**	**03 10 03.3**	**-0.2**		
BARN				IAmb	IAmb	03 10 04.6			
	comp=Z,7.9nm,0.9s								
CTGM	**Chitina Glacie**	**82.94**	**23**	P	**P**	**03 10 02.6**	**-1.1**		
CTGM				IAmb	IAmb	03 10 05.3			
	comp=Z,9.4nm,1.0s								
WRH	**Wood River Hil**	**82.95**	**18**	P	**P**	**03 10 02.5**	**-1.0**		
WRH				IAmb	IAmb	03 10 03.9			
	comp=Z,7.5nm,1.1s								
O02D	**Mt. Diablo Mer**	**83.08**	**47**	P	**P**	**03 10 05.8**	**+0.9**		
O02D				IAmb	IAmb	03 10 25.6			
	comp=Z,11nm,1.5s								
CCB	**Clear Creek Bu**	**83.16**	**18**	P	**P**	**03 10 04.1**	**-0.5**		
M26K	**Nabesna, AK**	**83.23**	**21**	IAmb	IAmb	03 10 06.2			
	comp=Z,6.3nm,0.8s								
HDA	**Harding Lake**	**83.26**	**19**	P	**P**	**03 10 05.2**	**+0.1**		
K02D	**Willamette Mer**	**83.38**	**44**	P	**P**	**03 10 06.5**	**+0.1**		
K02D				IAmb	IAmb	03 10 38.3			
	comp=Z,8.9nm,1.2s								
M02C	**Callahan**	**83.47**	**46**	P	**P**	**03 10 07.1**	**+0.2**		
RIDG	**Independent Ri**	**83.48**	**20**	P	**P**	**03 10 06.4**	**0.0**		
RIDG				IAmb	IAmb	03 10 07.5			
	comp=Z,9.4nm,1.2s								
IL31		**83.53**	**18**	P	**P**	**03 10 05.7**	**-0.7**		
ILAR	**Eielson Array**	**83.53**	**18**	P	**P**	**03 10 05.8**	**-0.7**		
	comp=Z,2.1nm,0.5s,baz=250,slow=5.1,SNR=61								
	comp=Z,2.1nm,0.5s								
M27K	**Edge Creek, AK**	**83.61**	**22**	P	**P**	**03 10 08.1**	**+0.9**		
J25K	**Salcha River,**	**83.90**	**19**	IAmb	IAmb	03 10 09.3			
	comp=Z,7.3nm,0.7s								
SCRK	**Sand Creek**	**83.92**	**20**	P	**P**	**03 10 09.1**	**+0.4**		
SCRK				IAmb	IAmb	03 10 09.8			
	comp=Z,7.1nm,0.8s								
BCAR	**Beaver Creek A**	**84.09**	**21**	P	**P**	**03 10 09.9**	**+0.4**		
HYT	**Haines Junctio**	**84.36**	**24**	P	**P**	**03 10 10.8**	**-0.2**		
MAW	**Mawson**	**84.73**	**202**	P	**P**	**03 10 12.4**	**-0.3**		
	comp=Z,1.5nm,0.7s,baz=99,slow=6.1,SNR=4.4								
	comp=Z,1.5nm,0.7s								
I26K	**Coal Creek Min**	**85.06**	**19**	IAmb	IAmb	03 10 15.6			
	comp=Z,5.8nm,0.9s								
H04A	**Detroit Lake**	**85.10**	**43**	P	**P**	**03 10 14.5**	**-0.5**		
H04A				IAmb	IAmb	03 10 20.3			
	comp=Z,14nm,1.4s								
J05D	**Fort Rock, OR**	**85.26**	**44**	P	**P**	**03 10 16.1**	**+0.1**		
J05D				IAmb	IAmb	03 10 17.1			
	comp=Z,8.8nm,1.2s								
P32M	**Atlin**	**85.26**	**26**	P	**P**	**03 10 15.6**	**+0.1**		
K05A	**Summer Lake**	**85.30**	**45**	P	**P**	**03 10 16.6**	**+0.3**		
K05A				IAmb	IAmb	03 10 18.1			
	comp=Z,5.9nm,0.9s								
EGAK	**Eagle**	**85.38**	**20**	P	**P**	**03 10 15.4**	**-0.4**		
EGAK				IAmb	IAmb	03 10 17.2			
	comp=Z,8.0nm,0.7s								
DSP	**Deep Springs**	**85.72**	**51**	P	**P**	**03 10 18.1**	**-0.1**		
BMAR	**Burnt Mountain**	**86.03**	**17**	P	**P**	**03 10 20.1**	**+0.9**		
H27K	**Steamboat Moun**	**86.17**	**19**	P	**P**	**03 10 19.7**	**-0.1**		
I29M	**Ogilvie Camp,**	**86.70**	**20**	P	**P**	**03 10 22.8**	**+0.3**		
I29M				IAmb	IAmb	03 10 23.3			
	comp=Z,5.0nm,0.8s								
WMQ	**Urumqi**	**89.53**	**315**	*e*P	**P**	**03 10 37.6**	**+1.2**		
WMQ				LR	LR				
	comp=Z,170nm,23.9s								
U15A	**North Rim**	**89.85**	**53**	P	**P**	**03 10 38.7**	**+0.3**		
U15A				IAmb	IAmb	03 10 40.1			
	comp=Z,2.8nm,0.8s								
BELA	**Belgrano 2**	**90.29**	**176**	P	**P**	**03 10 37.8**	**-1.5**		
BELA				IAmb	IAmb	03 11 08.6			
	comp=Z,4.4nm,1.2s								
OVMT	**Ovando**	**91.94**	**42**	P	**P**	**03 10 46.6**	**-1.0**		
SMAI	**San Martin Ant**	**92.32**	**163**	P	**P**	**03 10 49.1**	**+0.2**		
SMAI				IAmb	IAmb	03 11 13.6			
	comp=Z,3.4nm,1.0s								
MKAR	**Makanchi Array**	**93.95**	**317**	P	**P**	**03 10 55.9**	**-0.9**		
MKAR	**Makanchi Array**	**93.95**	**317**	P	**P**	**03 10 56.5**	**-0.3**		
	comp=Z,1.7nm,0.7s,baz=90,slow=6.2,SNR=12								
	comp=Z,1.7nm,0.7s								
ZALV	**Zalesovo Beam**	**93.95**	**324**	P	**P**	**03 10 55.5**	**-1.0**		
ZALV	**Zalesovo Beam**	**93.95**	**324**	P	**P**	**03 10 55.4**	**-1.2**		
	comp=Z,0.8nm,0.6s,baz=145,slow=3.6,SNR=3.9								
	comp=Z,0.8nm,0.6s								
YKA	**Yellowknife Ar**	**94.92**	**27**	P	**P**	**03 10 59.3**	**-1.5**		
	comp=Z,0.5nm,0.7s,baz=257,slow=2.1,SNR=4.0								
	comp=Z,0.5nm,0.7s								
SNAA	**Sanae**	**96.98**	**183**	P	**P**	**03 11 08.1**	**-2.1**		
	comp=Z,0.3nm,0.5s,baz=233,slow=10,SNR=10								
	comp=Z,0.3nm,0.5s								
ARCES	**ARCESS Array B**	**116.61**	**346**	PKP	**PKPdf**	**03 16 21.3**	**-0.9**		
	comp=Z,5.1nm,1.0s,baz=60,slow=2.2,SNR=10								
FINES	**FINESS Array B**	**122.09**	**339**	PKP	**PKPdf**	**03 16 31.7**	**-1.2**		
	comp=Z,2.6nm,1.0s,baz=1.9,slow=5.7,SNR=6.3								
BOSA	**Boshof**	**125.30**	**223**	PKP	**PKPdf**	**03 16 40.1**	**-0.2**		
	comp=Z,2.6nm,0.6s,baz=154,slow=2.5,SNR=11								
NOA	**NORSAR Array B**	**126.98**	**345**	PKP	**PKPdf**	**03 16 41.9**	**-0.5**		
	comp=Z,0.3nm,0.6s,baz=42,slow=2.0,SNR=4.2								
BURAR	**Bucovina Array**	**131.15**	**326**	PKPdf	**PKiKP**	**03 16 52.0**	**+0.3**		
GERES	**GERESS Array B**	**136.05**	**334**	PKP	**PKPdf**	**03 16 57.9**	**-2.1**		
	comp=Z,0.3nm,0.5s,baz=72,slow=0.4,SNR=3.5								
FNA	**Florina**	**137.28**	**320**	PKPdf	**PKPdf**	**03 17 01.2**	**-1.3**		
BTNL	**Ternell**	**137.46**	**341**	*d*PKiKP	**PKPdf**	**03 17 03.5**	**+1.1**		
RAFF	**Raffo Rosso**	**143.79**	**320**	PKPdf	PKPbc	03 17 13.2	+1.2		
VSL	**Villasalto**	**145.11**	**328**	PKPdf	**PKPbc**	**03 17 16.2**	**+0.2**		
KEST	**Kesra**	**147.82**	**323**	PKPbc	**PKPbc**	**03 17 24.4**	**+0.2**		
	comp=Z,8.7nm,0.8s,baz=128,slow=1.6,SNR=12								
ESDC	**Sonseca Array**	**150.34**	**345**	PKPbc	**PKPbc**	**03 17 29.8**	**-0.7**		
ESDC	**Sonseca Array**	**150.34**	**345**	PKP	**PKPdf**	**03 17 24.4**	**-0.8**		
	comp=Z,0.4nm,0.9s,baz=35,slow=3.1,SNR=3.4								
ESDC				PKPbc	**PKPbc**	**03 17 30.3**	**-0.1**		
	comp=Z,1.2nm,0.8s,baz=11,slow=2.1,SNR=8.8								
ESDC				PKPab	**PKPab**	**03 17 37.0**	**+0.3**		
	comp=Z,1.4nm,0.7s,baz=12,slow=3.2,SNR=10								
TORD	**Torodi Ar. Bea**	**164.73**	**279**	PKP	**PKPdf**	**03 17 43.2**	**-0.4**		
	comp=Z,1.3nm,0.9s,baz=14,slow=1.8,SNR=5.9								

*NAO **09** 02:57:14.5, 37˚.81N×14˚.88E, h33km, MB4.5*
*ROM **09** 02:57:47.8±0.1, 39˚.323N±0˚.006×15˚.59E±0˚.01, h266km±1km, ML4.2/196, Error ellipse: s-maj=1.0km s-min=0.7km az=100.0*
*LDG **09** 02:57:48.6, 39˚.40N×15˚.47E, h260km*
*PDG **09** 02:57:49.4±0.6, 39˚.38N×15˚.59E, h260km±2km, ML4.2/9, Error ellipse: s-maj=0.8km s-min=1.2km az=0.0*
*IDC **09** 02:57:49.7±0.6, 39˚.47N×15˚.36E, h264km±6km, mb3.8/25, mbtmp4.5/38, Error ellipse: s-maj=8.1km s-min=6.9km az=139.0*
*MED_RC **09** 02:57:49.0±1.4, 39˚.13N×15˚.43E, h259km±8km, MW4.5/13, Moment Tensor Solution. Body waves: s2,c2;Mantle waves: s13,c13; Duration: 1ŝ0 Moment tensor: Scale 10^15^Nm; Mrr-4.35±.72; Mθθ-1.24±.84; Mϕϕ5.59±.91; Mrθ-4.16±.79; Mθϕ-0.15±.87; Mϕr1.35±1.44; Best double couple: M◎6.59000×10^15^ NP1:ϕs26.00000°, δ45.00000°, λ-40.00000°. NP2:ϕs147.00000°, δ63.00000°, λ-127.00000°. Principal axes: T 5.8600, Plg10.0000°, Azm263.0000°; N 1.4600, Plg33.0000°, Azm166.0000°; P -7.3200, Plg55.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*NEIC **09** 02:57:49.1±2.6, 39˚.38N±0˚.04×15˚.49E±0˚.06, h251km±5km, mb4.5/147 Error ellipse: s-maj=8.3km s-min=5.0km az=129.0*
*MOS **09** 02:57:49.3±0.9, 39˚.41N×15˚.46E, h273km, mb4.4/21, Error ellipse: s-maj=6.2km s-min=3.5km az=74.0*
*BEO **09** 02:57:50.8±0.6, 39˚.54N×15˚.49E, h0km, ML3.8/9*

ISC 09 02:57:48.9±0.4, 39.39N±0.03×15.51E±0.03, h256km±3km, n983, σ1ŝ25/1030, mb4.5/96, 83C-95D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CET2	**Cetraro**	**0.37**	**69**	⇓P		**Pn**	**Pn**	**02 58 22.8**	**+0.6**
CET2				S		**S**	**S**	**02 58 47.7**	**-0.8**
CET2				AML	AML				
	comp=N,64950μm,0.8s								
CET2				AML	AML				
	comp=E,29650μm,0.8s								
CET2				AML	AML				
	comp=E,29679μm,0.8s								
CET2				AML	AML				
	comp=N,64952μm,0.8s								
GRIS	**Grisolia**	**0.44**	**37**	⇓P		**Pn**	**Pn**	**02 58 23.0**	**+0.6**
GRIS				S		**S**	**S**	**02 58 48.4**	**-0.4**
CAR1	**CAROLEI**	**0.56**	**104**	⇓P		**Pn**	**Pn**	**02 58 23.0**	**+0.2**
CAR1				S		**S**	**S**	**02 58 48.0**	**-1.4**
CAR1				AML	AML				
	comp=N,6975μm,0.4s								
CAR1				AML	AML				
	comp=N,6975μm,0.4s								
CAR1				AML	AML				
	comp=E,10825μm,0.4s								
CAR1				AML	AML				
	comp=E,11500μm,0.4s								
CAR1				AML	AML				
	comp=N,6945μm,1.4s								
CAR1				AML	AML				
	comp=E,10822μm,0.4s								
CAR1				AML	AML				
	comp=N,6976μm,0.4s								
CAR1				AML	AML				
	comp=E,11499μm,0.4s								
CAR1				AML	AML				
	comp=N,6777μm,0.4s								
CAR1				AML	AML				
	comp=N,6945μm,0.6s								
MMN	**Mormanno**	**0.62**	**37**	⇓P		**Pn**	**Pn**	**02 58 23.8**	**+0.9**
MMN				S		**S**	**S**	**02 58 49.8**	**+0.2**
MMN				AML	AML				
	comp=N,3250μm,0.4s								
MMN				AML	AML				
	comp=E,2205μm,0.6s								
MMN				AML	AML				
	comp=E,2205μm,0.6s								
MMN				AML	AML				
	comp=N,3248μm,0.4s								
IST3	**Stromboli F**	**0.63**	**200**	P		**Pn**	**Pn**	**02 58 23.9**	**+0.9**
IST3				AML	AML				
	comp=E,3705μm,0.4s								
IST3				AML	AML				
	comp=N,4305μm,0.7s								
IST3				AML	AML				
	comp=E,2819μm,0.2s								
IST3				AML	AML				
	comp=N,3576μm,0.3s								
CUC	**Castrocucco**	**0.64**	**22**			**Pn**	**Pn**	**02 58 23.4**	**+0.4**
CUC				Sn		**S**	**S**	**02 58 49.9**	**0.0**
CUC	**Castrocucco**	**0.64**	**22**	⇓P		**Pn**	**Pn**	**02 58 23.9**	**+0.9**
CUC				S		**S**	**S**	**02 58 50.0**	**0.0**
CUC				AML	AML				
	comp=E,1810μm,1.0s								
CUC				AML	AML				
	comp=N,1570μm,0.5s								
CUC				AML	AML				
	comp=N,1605μm,0.6s								
CUC				AML	AML				
	comp=E,1770μm,1.0s								
CUC				AML	AML				
	comp=E,1695μm,0.9s								
CUC				AML	AML				
	comp=N,1603μm,0.6s								
CUC				AML	AML				
	comp=E,1663μm,0.6s								
CUC				AML	AML				
	comp=N,1568μm,0.5s								
CUC				AML	AML				
	comp=N,1605μm,1.4s								
CUC				AML	AML				
	comp=E,1770μm,1.0s								
CUC				AML	AML				
	comp=E,1810μm,1.0s								
SPS2	**Spezzano della**	**0.65**	**99**	⇓P		**Pn**	**Pn**	**02 58 23.5**	**+0.4**
SPS2				S		**S**	**S**	**02 58 49.3**	**-0.7**
SPS2				AML	AML				
	comp=E,2140μm,0.3s								
SPS2				AML	AML				
	comp=N,2975μm,0.9s								
SPS2				AML	AML				
	comp=E,2139μm,0.3s								
SPS2				AML	AML				
	comp=N,2353μm,0.3s								
SPS2				AML	AML				
	comp=N,2975μm,1.1s								
ISTR	**Stromboli Gino**	**0.65**	**202**	⇓P		**Pn**	**Pn**	**02 58 23.9**	**+0.8**
BULG	**Bulgheria - Ca**	**0.69**	**352**	⇓P		**Pn**	**Pn**	**02 58 24.6**	**+1.3**
BULG				S		**S**	**S**	**02 58 51.2**	**+0.9**
BULG				AML	AML				
	comp=N,2025μm,0.5s								
BULG				AML	AML				
	comp=E,1445μm,0.8s								
BULG				AML	AML				
	comp=N,2130μm,0.5s								
BULG				AML	AML				
	comp=N,3070μm,0.7s								
BULG				AML	AML				
	comp=E,1370μm,0.8s								
BULG				AML	AML				
	comp=N,3190μm,0.6s								
BULG				AML	AML				
	comp=E,1443μm,0.8s								
BULG				AML	AML				
	comp=N,3186μm,0.6s								
BULG				AML	AML				
	comp=E,1367μm,0.8s								
BULG				AML	AML				
	comp=N,3069μm,0.7s								
BULG				AML	AML				
	comp=N,3190μm,1.4s								
BULG				AML	AML				
	comp=N,3070μm,1.3s								
MGR	**Morigerati**	**0.74**	**3**	⇓P		**Pn**	**Pn**	**02 58 24.5**	**+1.2**
MGR				S		**S**	**S**	**02 58 51.2**	**+0.7**
MGR				AML	AML				
	comp=E,1465μm,0.7s								
MGR				AML	AML				
	comp=N,1850μm,1.1s								
MGR				AML	AML				
	comp=E,1625μm,0.5s								
MGR				AML	AML				
	comp=E,1627μm,0.5s								
MGR				AML	AML				
	comp=N,1849μm,1.1s								
MGR				AML	AML				
	comp=E,1465μm,0.7s								
MGR				AML	AML				
	comp=N,1872μm,1.0s								
MGR				AML	AML				
	comp=N,1875μm,1.0s								
MGR				AML	AML				
	comp=E,1625μm,1.5s								
MGR				AML	AML				
	comp=E,1465μm,1.3s								
CELI	**Celico**	**0.78**	**89**	⇓P		**Pn**	**Pn**	**02 58 25.2**	**+1.5**
CELI				S		**S**	**S**	**02 58 52.2**	**+1.2**
CELI				AML	AML				
	comp=E,6215μm,0.9s								
CELI				AML	AML				
	comp=N,5410μm,0.8s								
CELI				AML	AML				
	comp=N,13650μm,0.8s								
CELI				AML	AML				
	comp=N,5415μm,0.8s								
CELI				AML	AML				
	comp=E,6220μm,0.9s								
CELI				AML	AML				
	comp=E,15438μm,0.9s								
CELI				AML	AML				
	comp=N,13670μm,0.8s								
CELI				AML	AML				
	comp=E,6220μm,0.9s								
CELI				AML	AML				
	comp=N,5415μm,0.8s								
CELI				AML	AML				
	comp=E,15450μm,0.9s								
SALB	**San Lorenzo Be**	**0.81**	**53**	⇓P		**Pn**	**Pn**	**02 58 25.0**	**+1.3**
SALB				S		**S**	**S**	**02 58 51.2**	**0.0**
SALB				AML	AML				
	comp=N,3665μm,1.6s								
SALB				AML	AML				
	comp=E,4157μm,0.5s								
SALB				AML	AML				
	comp=N,3353μm,0.7s								
SALB				AML	AML				
	comp=N,3665μm,0.4s								
SALB				AML	AML				
	comp=E,4155μm,0.5s								
SIRI	**Monte Sirino -**	**0.83**	**19**	⇓P		**Pn**	**Pn**	**02 58 24.9**	**+1.1**
SIRI				S		**S**	**S**	**02 58 52.4**	**+0.9**
SIRI				AML	AML				
	comp=N,2020μm,0.4s								
SIRI				AML	AML				
	comp=E,2045μm,1.1s								
SIRI				AML	AML				
	comp=E,2130μm,1.1s								
SIRI				AML	AML				
	comp=N,2075μm,0.4s								
SIRI				AML	AML				
	comp=E,1962μm,0.4s								
SIRI				AML	AML				
	comp=N,2022μm,0.4s								
SIRI				AML	AML				
	comp=E,2041μm,0.4s								
SIRI				AML	AML				
	comp

MCEL AML AML
comp=N,2899µm,0.8s
MCEL AML AML
comp=N,2835µm,0.8s
MCEL AML AML
comp=E,3950µm,0.8s
MCEL AML AML
comp=E,4020µm,0.8s
ORI Oriolo Calabro 0.99 47 P **Pn 02 58 25.7 +1.2**
ORI AML AML
comp=E,9291µm,0.5s
ORI AML AML
comp=N,7686µm,0.5s
ORI AML AML
comp=N,9715µm,1.1s
ORI AML AML
comp=E,9280µm,0.5s
TIP Timpagrande 0.99 102 Pn **Pn 02 58 25.2 +0.5**
TIP Sn **S 02 58 51.7 -1.1**
TIP Timpagrande 0.99 102 ⇓P **Pn 02 58 25.4 +0.8**
TIP Timpagrande 0.99 102 ⇓P **Pn 02 58 25.5 +0.8**
TIP S **S 02 58 52.0 -0.8**
TIP AML AML
comp=E,3245µm,1.2s
TIP AML AML
comp=N,2655µm,0.9s
TIP AML AML
comp=N,2670µm,0.8s
TIP AML AML
comp=E,3240µm,1.2s
TIP AML AML
comp=E,2942µm,0.8s
TIP AML AML
comp=N,2668µm,0.8s
TIP AML AML
comp=E,2975µm,0.8s
TIP AML AML
comp=N,2655µm,0.9s
TIP AML AML
comp=N,2670µm,1.2s
TIP AML AML
comp=N,2655µm,1.1s
TIP AML AML
comp=E,3240µm,0.8s
TIP AML AML
comp=E,3245µm,0.8s
SLCN Sala Consilina 1.00 5 ⇓P **Pn 02 58 26.1 +1.4**
SLCN S **S 02 58 54.4 +1.5**
SLCN AML AML
comp=E,3600µm,1.0s
SLCN AML AML
comp=E,3115µm,1.0s
SLCN AML AML
comp=N,3475µm,0.7s
SLCN AML AML
comp=N,3720µm,0.6s
SLCN AML AML
comp=E,3112µm,1.0s
SLCN AML AML
comp=N,3478µm,0.7s
SLCN AML AML
comp=E,3597µm,1.0s
SLCN AML AML
comp=N,3723µm,0.6s
SLCN AML AML
comp=N,3720µm,1.4s
SLCN AML AML
comp=N,3475µm,1.3s
IVGP Vulcano Grotta 1.08 203 ⇓P **Pn 02 58 25.4 +0.3**
VPL Vulcano Piano 1.09 202 ⇓P **Pn 02 58 25.5 +0.3**
VPL AML AML
comp=E,3490µm,0.5s
VPL AML AML
comp=N,4490µm,0.8s
VPL AML AML
comp=E,3487µm,0.5s
VPL AML AML
comp=N,3315µm,0.7s
VPL AML AML
comp=N,4490µm,1.2s
CDRU Civita di Ruta 1.11 352 ⇓P **Pn 02 58 26.7 +1.4**
CDRU S **S 02 58 55.1 +1.1**
CDRU AML AML
comp=N,577µm,1.2s
CDRU AML AML
comp=E,626µm,0.7s
CDRU AML AML
comp=E,626µm,0.7s
CDRU AML AML
comp=N,577µm,1.2s
CDRU AML AML
comp=E,626µm,1.3s
IFIL Filicudi I Eol 1.11 222 ⇓P **Pn 02 58 25.8 +0.5**
IFIL AML AML
comp=N,1750µm,0.7s
IFIL AML AML
comp=E,4060µm,0.6s
IFIL AML AML
comp=N,1753µm,0.7s
IFIL AML AML
comp=E,4060µm,0.6s
MSRU Castanea 1.13 180 ⇓P **Pn 02 58 25.0 -0.4**
MSRU S **S 02 58 52.6 -1.6**
MSRU AML AML
comp=E,3095µm,1.4s
MSRU AML AML
comp=N,2940µm,1.0s
MSRU AML AML
comp=E,2800µm,0.4s
MSRU AML AML
comp=N,2799µm,0.3s
MSRU AML AML
comp=N,2940µm,1.0s
MSRU AML AML
comp=E,3095µm,0.6s
LADO San Nicola del 1.15 95 ⇓P **Pn 02 58 26.2 +0.7**
LADO S **S 02 58 53.6 -0.7**
LADO AML AML
comp=E,314µm,0.7s
LADO AML AML
comp=N,156µm,0.9s
LADO AML AML
comp=E,302µm,0.5s
LADO AML AML
comp=N,156µm,0.9s
LADO AML AML
comp=N,156µm,1.1s
SICLA Scilla 1.15 172 ⇓P **Pn 02 58 25.0 -0.5**
SICLA AML AML
comp=N,1870µm,1.3s
SICLA AML AML
comp=E,1995µm,1.0s
SICLA AML AML
comp=E,1890µm,0.9s
SICLA AML AML
comp=N,1816µm,0.3s
SICLA AML AML
comp=N,1870µm,0.7s
CEL Celeste 1.17 165 Pn **Pn 02 58 25.1 -0.7**
CEL Sn **S 02 58 54.2 -0.5**
CEL Celeste 1.17 165 ⇓P **Pn 02 58 25.2 -0.6**
CEL AML AML
comp=E,2395µm,0.5s
CEL AML AML
comp=N,2525µm,1.3s
CEL AML AML
comp=E,2460µm,0.6s
CEL AML AML
comp=N,2545µm,1.3s
CEL AML AML
comp=E,2440µm,0.4s
CEL AML AML
comp=N,2392µm,0.1s
CEL AML AML
comp=E,2396µm,0.5s
CEL AML AML
comp=N,2345µm,0.2s
CEL AML AML
comp=N,2545µm,0.7s
CEL AML AML
comp=N,2525µm,0.7s
PLAC Placanica 1.19 142 ⇓P **Pn 02 58 26.1 +0.2**
PLAC S **S 02 58 53.0 -1.9**
PLAC AML AML
comp=E,3580µm,0.5s
PLAC AML AML
comp=N,3510µm,0.5s
PLAC AML AML
comp=E,3314µm,0.4s
PLAC AML AML
comp=N,3509µm,0.5s
PLAC AML AML
comp=E,3578µm,0.5s
PLAC AML AML
comp=N,3512µm,0.4s
PLAC AML AML
comp=N,3515µm,0.4s
PLAC AML AML
comp=E,3315µm,0.4s
PLAC AML AML
comp=N,3510µm,1.5s
PLAC AML AML
comp=E,3580µm,1.5s
IACL Alicudi 1.24 227 ⇓P **Pn 02 58 26.7 +0.6**
IACL S **S 02 58 55.1 -0.2**
IACL AML AML
comp=E,1870µm,1.2s
IACL AML AML
comp=N,1740µm,1.3s
IACL AML AML
comp=E,1869µm,1.2s
IACL AML AML
comp=N,1659µm,1.1s
IACL AML AML
comp=N,1740µm,0.7s
IACL AML AML
comp=E,1870µm,0.8s
GMB Gambarie 1.25 168 AML AML
comp=E,20750µm,0.2s
GMB AML AML
comp=N,11950µm,0.8s
GMB AML AML
comp=E,20758µm,0.2s
GMB AML AML
comp=N,10844µm,0.2s
MPNC Port Mandanici 1.25 186 ⇓P **Pn 02 58 25.9 -0.3**
MPNC AML AML
comp=E,3623µm,1.0s
MPNC AML AML
comp=N,3020µm,0.8s
MPNC AML AML
comp=N,3230µm,1.0s
MPNC AML AML
comp=E,4095µm,1.1s
PZUN Potenza 1.27 10 P **Pn 02 58 27.7 +1.6**
PZUN AML AML
comp=E,1265µm,0.5s
PZUN AML AML
comp=N,1215µm,1.0s
PZUN AML AML
comp=E,1240µm,0.5s
PZUN AML AML
comp=N,1215µm,1.0s
PZUN AML AML
comp=N,1205µm,1.0s
PZUN AML AML
comp=E,1241µm,0.5s
PZUN AML AML
comp=N,1208µm,1.0s
PZUN AML AML
comp=E,1265µm,0.6s
PZUN AML AML
comp=N,1214µm,1.0s
PZUN AML AML
comp=E,1265µm,0.6s
PZUN AML AML
comp=N,1205µm,1.0s
PZUN AML AML
comp=N,1215µm,1.0s
MRLC Muro Lucano 1.36 359 P **Pn 02 58 28.5 +1.6**
MRLC AML AML
comp=E,273µm,0.8s
MRLC AML AML
comp=N,358µm,0.9s
MRLC AML AML
comp=E,274µm,0.8s
MRLC AML AML
comp=E,600µm,0.9s
MRLC AML AML
comp=N,726µm,0.8s
MRLC AML AML
comp=E,273µm,0.8s
MRLC AML AML
comp=N,359µm,0.9s
MRLC AML AML
comp=E,599µm,0.9s
MRLC AML AML
comp=N,726µm,0.8s
SOI Samo 1.39 162 ⇓P **Pn 02 58 27.1 0.0**
SOI AML AML
comp=E,2230µm,0.9s
SOI AML AML
comp=N,2235µm,0.9s
SOI AML AML
comp=E,1650µm,0.6s
SOI AML AML
comp=N,1695µm,0.6s
SOI AML AML
comp=N,2235µm,1.1s
MTTG Motta San Giov 1.40 174 ⇓P **Pn 02 58 27.4 +0.2**
MIGL Miglionico 1.41 30 P **Pn 02 58 27.7 +0.6**
MIGL S **S 02 58 57.6 +0.3**
MIGL AML AML
comp=E,4740µm,0.6s
MIGL AML AML
comp=N,9840µm,0.5s
MIGL AML AML
comp=E,4737µm,0.6s
MIGL AML AML
comp=N,9834µm,0.5s
MIGL AML AML
comp=E,4740µm,1.4s
MCRV Calabrutti - M 1.41 349 P **Pn 02 58 28.9 +1.7**
ACER Acerenza 1.43 13 Pn **Pn 02 58 27.3 -0.1**
ACER Sn **S 02 58 58.1 +0.4**
ACER Acerenza 1.43 13 P **Pn 02 58 28.1 +0.8**
AIO Antillo 1.44 189 ⇓P **Pn 02 58 28.0 +0.4**
AIO S **S 02 58 58.8 +0.9**
AIO AML AML
comp=E,2665µm,0.7s
AIO AML AML
comp=E,2669µm,0.7s
AIO AML AML
comp=N,2049µm,1.0s
AIO AML AML
comp=N,2425µm,0.8s
AIO AML AML
comp=E,2665µm,1.3s
MUCR Ucria 1.44 200 ⇓P **Pn 02 58 27.6 0.0**
MUCR AML AML
comp=N,1234µm,0.6s
MUCR AML AML
comp=E,1337µm,0.6s
MUCR AML AML
comp=N,1235µm,0.6s
MUCR AML AML
comp=E,1335µm,0.6s
MSFR San Fratello 1.54 208 ⇓P **Pn 02 58 28.8 +0.6**
MSFR S **S 02 58 59.2 0.0**
MSFR AML AML
comp=E,818µm,1.6s
MSFR AML AML
comp=N,533µm,1.4s
MSFR AML AML
comp=E,818µm,1.6s
MSFR AML AML
comp=N,533µm,1.4s
MSFR AML AML
comp=N,533µm,0.6s
MSFR AML AML
comp=E,818µm,0.4s
ECTS Castiglione 1.54 191 P **Pn 02 58 28.5 +0.3**
ECTS AML AML
comp=E,2396µm,0.9s
ECTS AML AML
comp=N,1632µm,0.6s
ECTS AML AML
comp=E,2440µm,1.6s
ECTS AML AML
comp=N,1635µm,0.6s
SNAL S. Angelo Dei 1.55 352 P **Pn 02 58 30.3 +2.1**
MATE Matera 1.56 36 ⇓P **Pn 02 58 28.7 +0.6**
MATE Matera 1.56 36 P **Pn 02 58 28.4 +0.3**
MATE S **S 02 58 58.1 -1.0**
MATE AML AML
comp=E,2245µm,0.7s
MATE AML AML
comp=N,2755µm,0.3s
MATE AML AML
comp=E,2244µm,0.7s
MATE AML AML
comp=N,2756µm,0.3s
MATE AML AML
comp=E,2245µm,1.3s
VULT Monte Vulture 1.56 3 P **Pn 02 58 29.6 +1.2**
MTMR Montemarano 1.57 346 ⇑P **Pn 02 58 30.2 +1.9**
MTMR AML AML
comp=N,478µm,1.3s
MTMR AML AML
comp=E,572µm,1.1s
MTMR AML AML
comp=N,479µm,1.3s
MTMR AML AML
comp=E,476µm,0.9s
MTMR AML AML
comp=N,493µm,0.8s
MTMR AML AML
comp=E,572µm,1.1s
MTMR AML AML
comp=N,478µm,0.7s
LTRZ Laterza 1.57 39 ⇑P **Pn 02 58 28.5 +0.1**
LTRZ S **S 02 58 58.5 -1.0**
LTRZ AML AML
comp=E,4980µm,0.6s
LTRZ AML AML
comp=N,981µm,1.0s
LTRZ AML AML
comp=E,4983µm,0.6s
LTRZ AML AML
comp=E,4980µm,1.4s
PALZ Palazzo San Ge 1.59 12 P **Pn 02 58 29.1 +0.6**
PALZ AML AML
comp=E,1805µm,1.6s
PALZ AML AML
comp=N,918µm,0.8s
PALZ AML AML
comp=E,1833µm,1.7s
PALZ AML AML
comp=N,917µm,0.8s
PALZ AML AML
comp=E,1805µm,0.4s
PALZ AML AML
comp=N,918µm,1.2s
MNO Monte Soro 1.59 204 P **Pn 02 58 29.6 +0.8**
MNO AML AML
comp=E,1360µm,0.9s
MNO AML AML
comp=N,3885µm,1.0s
MNO AML AML
comp=E,1360µm,0.9s
MNO AML AML
comp=N,3888µm,1.0s
MNO AML AML
comp=N,3885µm,1.0s
MNO AML AML
comp=E,1360µm,1.1s
EPIT Pozzo Pitarron 1.62 193 P **Pn 02 58 29.6 +0.6**
EMSG Monte Spagnolo 1.63 196 P **Pn 02 58 29.8 +0.7**
EMSG AML AML
comp=N,3170µm,0.7s
EMSG AML AML
comp=E,5596µm,0.9s
EMSG AML AML
comp=N,3170µm,0.7s
EMSG AML AML
comp=N,3170µm,1.3s
EMSG AML AML
comp=E,5595µm,0.9s
VTIR Vesuvio Tirone 1.64 330 P **Pn 02 58 30.6 +1.8**
EMCN Etna Monte Con 1.64 193 P **Pn 02 58 30.5 +1.3**
CAFE Carife 1.65 353 P **Pn 02 58 30.6 +1.6**
VCRE Vesuvio Crater 1.65 330 P **Pn 02 58 30.5 +1.5**
EPZF Pizzo Felice 1.65 198 P **Pn 02 58 29.6 +0.5**
EPZF AML AML
comp=E,3025µm,1.4s
EPZF AML AML
comp=E,3022µm,1.4s
EPZF AML AML
comp=N,3077µm,1.1s
EPZF AML AML
comp=E,3025µm,0.6s
EPZF AML AML
comp=N,3075µm,1.1s
VBKN Vesuvio Bunker 1.66 330 P **Pn 02 58 30.5 +1.4**
OVO Vesuviano 1.67 330 P **Pn 02 58 30.7 +1.6**
EVRN Santa Venerina 1.73 190 P **Pn 02 58 30.3 +0.6**
AMUR Altamura 1.73 29 P **Pn 02 58 30.1 +0.6**
AMUR S **S 02 59 00.8 -0.9**
AMUR AML AML
comp=E,1335µm,1.2s
AMUR AML AML
comp=N,1156µm,1.3s
AMUR AML AML
comp=E,1231µm,0.6s
AMUR AML AML
comp=N,1065µm,0.8s
AMUR AML AML
comp=E,1335µm,0.8s
AMUR AML AML
comp=N,1156µm,0.7s
SGTA Sant Agata di 1.74 356 P **Pn 02 58 31.2 +1.4**
MRVN Minervino Murg 1.75 17 P **Pn 02 58 30.4 +0.6**
MRVN S **S 02 59 01.5 -0.5**
PLLN Pollina 1.76 218 ⇓P **Pn 02 58 30.4 +0.4**
PLLN S **S 02 59 01.6 -0.8**
ECHR Santa Chiara 1.77 195 P **Pn 02 58 30.9 +0.8**
TAR1 Taranto 1.77 50 P **Pn 02 58 30.0 +0.2**
TAR1 S **S 02 59 01.1 -1.2**
TAR1 AML AML
comp=N,6510µm,0.6s
TAR1 AML AML
comp=E,6575µm,0.5s
TAR1 AML AML
comp=N,6510µm,0.6s
TAR1 AML AML
comp=E,6575µm,0.5s
CAPA Cerignola FG 1.78 8 P **Pn 02 58 30.6 +0.7**
MRB1 Monte Rocchett 1.78 347 ⇑P **Pn 02 58 31.9 +2.0**
PAOL Paolisi 1.79 337 Pn **Pn 02 58 31.1 +1.0**
PAOL Sn **S 02 59 03.8 +1.2**
PAOL Paolisi 1.79 337 P **Pn 02 58 31.6 +1.6**
GIB Gibilmanna 1.82 220 ⇓P **Pn 02 58 31.0 +0.5**
GIB S **S 02 59 02.9 -0.4**
GIB AML AML
comp=E,2480µm,1.1s
GIB AML AML
comp=N,1935µm,0.7s
GIB AML AML
comp=E,2478µm,1.1s
GIB AML AML
comp=N,1931µm,0.7s
GIB AML AML
comp=E,2480µm,0.9s
IMTC Ischia Forio M 1.82 317 P **Pn 02 58 31.4 +1.1**
BIOG Biogem 1.83 351 P **Pn 02 58 33.2 +2.8**
IFOR Ischia Forio P 1.83 317 P **Pn 02 58 31.1 +0.7**
GALF Gagliano Caste 1.83 204 P **Pn 02 58 31.2 +0.6**
GALF AML AML
comp=N,342µm,0.6s
GALF AML AML
comp=E,2700µm,0.6s
GALF AML AML
comp=E,2702µm,0.6s
GALF AML AML
comp=N,2711µm,0.8s
GALF AML AML
comp=E,304µm,0.6s
GALF AML AML
comp=N,343µm,0.6s
GALF AML AML
comp=N,2715µm,0.8s
GALF AML AML
comp=E,304µm,0.6s
GALF AML AML
comp=E,2700µm,1.4s
NOCI Noci 1.83 40 ⇑P **Pn 02 58 30.8 +0.3**
NOCI S **S 02 59 02.2 -1.1**
NOCI AML AML
comp=E,5695µm,0.6s
NOCI AML AML

comp=N,3420µm,0.9s
NOCI AML AML
comp=E,5695µm,0.6s
NOCI AML AML
comp=N,3419µm,0.9s
NOCI AML AML
comp=N,3420µm,1.1s
NOCI AML AML
comp=E,5695µm,1.4s
ESML S. M. di Licod 1.84 196 ⇓P Pn 02 58 30.9 +0.3
ESML AML AML
comp=E,1193µm,0.6s
ESML AML AML
comp=N,1228µm,0.9s
ESML AML AML
comp=E,1195µm,0.6s
ESML AML AML
comp=N,1225µm,0.9s
CSLB Castelbuono 1.84 218 ⇓P Pn 02 58 30.9 +0.3
CSLB S S 02 59 02.9 -0.7
CSLB AML AML
comp=E,683µm,1.3s
CSLB AML AML
comp=N,590µm,0.8s
CSLB AML AML
comp=E,683µm,1.3s
CSLB AML AML
comp=N,590µm,0.8s
CSLB AML AML
comp=E,683µm,0.7s
PSB1 Pescosannita 1.90 344 ⇑P Pn 02 58 32.8 +1.8
VITU Vitulano (BN) 1.91 340 P Pn 02 58 32.6 +1.5
CAGR Agira 1.94 204 ⇓P Pn 02 58 33.0 +1.5
CAGR AML AML
comp=E,6410µm,1.4s
CAGR AML AML
comp=N,5485µm,0.5s
CAGR AML AML
comp=E,6411µm,1.4s
CAGR AML AML
comp=N,5484µm,0.5s
CAGR AML AML
comp=N,5485µm,1.5s
CAGR AML AML
comp=E,6410µm,0.6s
USI Ustica 1.94 250 P Pn 02 58 32.2 +0.8
MOCO Biccari - m.te 1.99 352 P Pn 02 58 33.7 +1.8
SOLUN Solunto 2.02 231 ⇓P Pn 02 58 32.8 +0.7
SOLUN S S 02 59 06.1 -0.1
SOLUN AML AML
comp=E,1880µm,1.0s
SOLUN AML AML
comp=N,1782µm,1.2s
SOLUN AML AML
comp=E,1880µm,1.0s
SOLUN AML AML
comp=N,1780µm,1.2s
RESU Resuttano 2.08 214 P Pn 02 58 33.8 +1.0
RESU AML AML
comp=E,645µm,1.6s
RESU AML AML
comp=N,759µm,1.6s
RESU AML AML
comp=E,645µm,1.6s
RESU AML AML
comp=N,705µm,0.6s
RESU AML AML
comp=E,645µm,0.4s
SACR S. Croce Del S 2.09 343 P Pn 02 58 34.5 +1.8
VAE Valguarnera 2.10 205 P Pn 02 58 34.4 +1.5
comp=E,297nm,0.8s,baz=31,slow=18,SNR=79
VAE S S 02 59 10.1 +2.4
comp=E,155nm,0.7s,baz=14,slow=21,SNR=3.2
VAE Valguarnera 2.10 205 P Pn 02 58 34.0 +1.1
HLNI Lentini 2.10 194 ⇓P Pn 02 58 32.7 -0.2
HLNI S S 02 59 06.6 -1.0
HLNI AML AML
comp=E,1205µm,1.2s
HLNI AML AML
comp=N,789µm,0.8s
HLNI AML AML
comp=E,1189µm,0.9s
HLNI AML AML
comp=N,736µm,0.2s
HAGA Augusta 2.12 188 ⇓P Pn 02 58 32.2 -0.9
HAGA S S 02 59 07.2 -0.8
HAGA AML AML
comp=N,910µm,1.1s
HAGA AML AML
comp=E,1141µm,1.2s
HAGA AML AML
comp=N,909µm,1.0s
HAGA AML AML
comp=N,910µm,0.9s
HAGA AML AML
comp=E,1140µm,1.2s
ALJA Alia 2.14 220 ⇓P Pn 02 58 34.5 +1.2
ALJA AML AML
comp=N,2820µm,1.1s
ALJA AML AML
comp=E,2163µm,1.1s
ALJA AML AML
comp=N,2820µm,1.1s
ALJA AML AML
comp=E,2165µm,1.1s
ALJA AML AML
comp=N,2820µm,0.9s
AGST Augusta-Monte 2.15 186 ⇓P Pn 02 58 32.2 -1.1
AGST S S 02 59 06.1 -2.2
MODR Mondragone 2.15 325 ⇑P Pn 02 58 34.8 +1.6
MODR AML AML
comp=E,198µm,1.0s
MODR AML AML
comp=N,234µm,1.2s
MODR AML AML
comp=E,198µm,1.0s
MODR AML AML
comp=N,235µm,1.2s
MESG Mesagne 2.16 56 P Pn 02 58 33.8 +0.5
MESG AML AML
comp=E,4305µm,0.6s
MESG AML AML
comp=N,4280µm,0.5s
MESG AML AML
comp=E,4304µm,0.6s
MESG AML AML
comp=N,4279µm,0.5s
MESG AML AML
comp=E,4305µm,1.4s
GATE Gambatesa 2.17 348 P Pn 02 58 36.3 +2.9
SGG Gregorio Mates 2.17 337 ⇑P Pn 02 58 35.5 +2.1
SGG AML AML
comp=N,298µm,1.6s
SGG AML AML
comp=N,258µm,0.4s
SGG AML AML
comp=E,295µm,0.6s
SGG AML AML
comp=N,258µm,0.4s
SGG AML AML
comp=N,283µm,0.4s
SGG AML AML
comp=E,870µm,1.0s
SGG AML AML
comp=N,298µm,0.4s
SGG AML AML
comp=E,294µm,0.6s
VAGA Valle Agricola 2.24 335 ⇑P Pn 02 58 36.2 +2.1
VAGA AML AML
comp=E,210µm,0.4s
VAGA AML AML
comp=N,404µm,0.7s
VAGA AML AML
comp=E,209µm,0.4s
VAGA AML AML
comp=N,404µm,0.7s
VAGA AML AML
comp=E,212µm,0.4s
VAGA AML AML
comp=N,386µm,0.7s
VAGA AML AML
comp=N,404µm,1.3s
CPTP Pietraperzia 2.25 208 ⇓P Pn 02 58 35.7 +1.4
CPTP AML AML
comp=E,929µm,1.1s
CPTP AML AML
comp=N,1690µm,1.1s
CPTP AML AML
comp=E,927µm,1.1s
CPTP AML AML
comp=N,1693µm,1.1s
CPTP AML AML
comp=E,929µm,0.9s
BSSO Busso 2.26 342 P Pn 02 58 36.5 +2.2
SSY Sortino 2.26 189 ⇓P Pn 02 58 33.8 -0.6
SSY AML AML
comp=E,3125µm,1.0s
SSY AML AML
comp=E,2105µm,1.3s
SSY AML AML
comp=N,3688µm,0.5s
SSY AML AML
comp=E,3125µm,1.0s
SSY AML AML
comp=N,4475µm,1.0s
HVZN Vizzini 2.30 196 ⇓P Pn 02 58 35.1 +0.3
MSAG Monte S. Angel 2.34 7 ⇑P Pn 02 58 35.8 +0.7
MSAG AML AML
comp=N,341µm,0.6s
MSAG AML AML
comp=E,83µm,0.5s
MSAG AML AML
comp=N,147µm,0.6s
MSAG AML AML
comp=N,148µm,0.6s
MSAG AML AML
comp=E,83µm,0.5s
CMDO Montedoro 2.34 215 P Pn 02 58 36.7 +1.6
CMDO AML AML
comp=E,399µm,1.6s
CMDO AML AML
comp=N,834µm,1.6s
CMDO AML AML
comp=E,420µm,2.0s
CMDO AML AML
comp=N,827µm,1.3s
CMDO AML AML
comp=E,399µm,0.4s
RAFF Raffo Rosso 2.35 203 Pn Pn 02 58 35.4 +0.2
RAFF Sn S 02 59 12.5 +0.7
RAFF Raffo Rosso 2.35 203 ⇓P Pn 02 58 35.8 +0.6
RAFF AML AML
comp=E,958µm,1.6s
RAFF AML AML
comp=E,944µm,1.1s
RAFF AML AML
comp=N,888µm,1.1s
RAFF AML AML
comp=N,888µm,1.1s
SGRT San Giovanni R 2.37 4 Pn Pn 02 58 35.7 +0.4
MIDA Miranda 2.44 337 ⇑P Pn 02 58 38.2 +2.2
MCI Monte Cassino 2.45 329 P Pn 02 58 38.1 +2.0
MBFT Monte Bonifato 2.47 235 P Pn 02 58 36.8 +0.4
MBFT AML AML
comp=N,584µm,0.8s
MBFT AML AML
comp=E,738µm,0.8s
MBFT AML AML
comp=N,584µm,0.8s
MBFT AML AML
comp=N,584µm,1.2s
MBFT AML AML
comp=E,738µm,0.8s
CERA Filignano 2.48 333 P Pn 02 58 37.6 +1.2
ACATE Acate (RG) 2.50 199 ⇓P Pn 02 58 37.2 +0.6
ACATE AML AML
comp=E,1395µm,1.3s
ACATE AML AML
comp=N,1644µm,1.4s
ACATE AML AML
comp=E,1320µm,1.2s
ACATE AML AML
comp=N,1602µm,1.0s
ACATE AML AML
comp=E,1399µm,1.3s
ACATE AML AML
comp=N,1627µm,1.3s
ACATE AML AML
comp=E,1321µm,1.2s
ACATE AML AML
comp=N,1602µm,1.0s
ACATE AML AML
comp=N,1644µm,0.6s
ACATE AML AML
comp=N,1602µm,1.0s
CRJA Costa Raja 2.52 232 P Pn 02 58 38.0 +1.0
CRJA AML AML
comp=E,1840µm,1.2s
CRJA AML AML
comp=N,1098µm,1.5s
CRJA AML AML
comp=E,1836µm,1.2s
CRJA AML AML
comp=N,1097µm,1.5s
CRJA AML AML
comp=N,1098µm,0.5s
CRJA AML AML
comp=E,1840µm,0.8s
RNI2 Rionero Sannit 2.53 336 ⇑P Pn 02 58 39.7 +2.8
RNI2 AML AML
comp=E,615µm,0.6s
RNI2 AML AML
comp=E,640µm,0.6s
RNI2 AML AML
comp=E,641µm,0.6s
RNI2 AML AML
comp=N,481µm,0.5s
RNI2 AML AML
comp=E,615µm,0.6s
RNI2 AML AML
comp=N,463µm,0.5s
RNI2 AML AML
comp=N,464µm,0.5s
RNI2 AML AML
comp=N,480µm,0.5s
RNI2 AML AML
comp=E,615µm,1.4s
RNI2 AML AML
comp=E,640µm,1.4s
CLTA Licata 2.54 209 ⇓P Pn 02 58 37.8 +0.7
CLTA AML AML
comp=E,1425µm,1.1s
CLTA AML AML
comp=N,560µm,0.5s
CLTA AML AML
comp=E,1423µm,1.1s
CLTA AML AML
comp=N,560µm,0.5s
CLTB Caltabellotta 2.55 226 P Pn 02 58 37.9 +0.6
CLTB AML AML
comp=E,1185µm,0.8s
CLTB AML AML
comp=N,1955µm,0.6s
CLTB AML AML
comp=E,1186µm,0.8s
CLTB AML AML
comp=N,1952µm,0.6s
CLTB AML AML
comp=E,1185µm,1.2s
LIK San Giovanni I 2.58 325 P Pn 02 58 38.8 +1.4
MFNL Monte Finestre 2.58 233 P Pn 02 58 38.5 +0.9
MFNL AML AML
comp=E,1900µm,0.8s
MFNL AML AML
comp=N,1088µm,0.8s
MFNL AML AML
comp=E,1898µm,0.8s
MFNL AML AML
comp=N,1089µm,0.8s
MFNL AML AML
comp=N,1088µm,1.2s
MFNL AML AML
comp=E,1900µm,1.2s
MMGO Monte Magaggia 2.63 230 P Pn 02 58 38.3 +0.3
ISPIC ISPICA 2.65 191 ⇓P Pn 02 58 38.0 -0.2
ISPIC AML AML
comp=E,1082µm,1.2s
ISPIC AML AML
comp=N,732µm,0.7s
ISPIC AML AML
comp=E,500µm,1.1s
ISPIC AML AML
comp=N,793µm,0.7s
ISPIC AML AML
comp=E,500µm,1.1s
ISPIC AML AML
comp=N,793µm,0.7s
ISPIC AML AML
comp=E,930µm,1.0s
ISPIC AML AML
comp=N,732µm,0.7s
ISPIC AML AML
comp=N,732µm,1.3s
ISPIC AML AML
comp=N,793µm,1.3s
ISPIC AML AML
comp=E,1082µm,0.8s
ERC Erice 2.66 240 P Pn 02 58 39.1 +0.8
SCIAC Sciacca 2.66 226 AML AML
comp=E,509µm,0.2s
SCIAC AML AML
comp=E,532µm,1.3s
SCIAC AML AML
comp=N,798µm,0.9s
SCIAC AML AML
comp=N,726µm,0.6s
SCIAC AML AML
comp=E,532µm,0.7s
SCIAC AML AML
comp=N,798µm,1.1s
LRP Arpino 2.69 328 ⇑P Pn 02 58 40.4 +2.0
LRP AML AML
comp=E,234µm,0.6s
POFI Posta Fibreno 2.69 330 ⇑P Pn 02 58 40.3 +1.7
HPAC Pachino 2.71 187 ⇓P Pn 02 58 38.7 -0.1
HPAC AML AML
comp=E,1405µm,0.9s
HPAC AML AML
comp=N,1570µm,1.2s
HPAC AML AML
comp=E,1404µm,0.9s
HPAC AML AML
comp=N,1570µm,1.2s
HPAC AML AML
comp=N,1570µm,0.8s
CAVT Castelvetrano 2.75 232 P Pn 02 58 39.8 +0.6
CAVT AML AML
comp=E,3620µm,1.1s
CAVT AML AML
comp=N,1840µm,0.9s
CAVT AML AML
comp=E,3620µm,1.1s
CAVT AML AML
comp=N,1841µm,0.9s
CAVT AML AML
comp=E,3620µm,0.9s
CAVT AML AML
comp=N,1840µm,1.1s
GIUL Giuliano Di Ro 2.76 322 ⇑P Pn 02 58 40.9 +1.7
GIUL AML AML
comp=E,189µm,0.5s
GIUL AML AML
comp=N,175µm,0.6s
GIUL AML AML
comp=N,174µm,0.6s
GIUL AML AML
comp=E,190µm,0.5s
MARS Marsala (TP) I 2.83 236 P Pn 02 58 41.0 +1.0
LATB Latina 2.86 318 P Pn 02 58 41.5 +1.3
VVLD Villa Vallelon 2.86 330 ⇑P Pn 02 58 42.2 +1.8
INTR Introdacqua 2.88 336 Pn Pn 02 58 42.4 +1.8
GUAR Guarcino 2.92 326 ⇑P Pn 02 58 42.7 +1.7
RCAV Rocca di Cave 3.13 322 ⇑P Pn 02 58 44.8 +1.6
VLO Vlora 3.25 69 P Pn 02 58 46.1 +1.7
VLO Vlora 3.25 69 ⇑P Pn 02 58 46.1 +1.7
VLO AML AML
comp=E,1032µm,0.5s
VLO AML AML
comp=N,1435µm,0.6s
VLO AML AML
comp=E,1031µm,0.5s
VLO AML AML
comp=N,1436µm,0.6s
VLO AML AML
comp=E,1032µm,1.5s
KEK Kerkira 3.33 83 Pn Pn 02 58 49.6 +4.2
KEK Kerkira 3.33 83 P Pn 02 58 50.0 +4.6
AQU L'Aquila 3.36 332 ⇑iPn Pn 02 58 48.2 +2.5
SRN Sarande 3.50 81 P Pn 02 58 48.1 +0.9
SRN Sarande 3.50 81 ⇑P Pn 02 58 48.1 +0.9
SRN AML AML
comp=E,377µm,0.8s
SRN AML AML
comp=N,315µm,0.9s
SRN AML AML
comp=E,377µm,0.8s
SRN AML AML
comp=N,315µm,0.9s
SRN AML AML
comp=N,315µm,1.1s
CAMP Campotosto 3.52 334 Pn Pn 02 58 49.9 +2.3
LFKM Lefkimmi 3.53 88 P Pn 02 58 49.1 +1.6
TERO Teramo 3.53 337 P Pn 02 58 49.7 +2.1
WDD Wied Dalam 3.63 193 Pn Pn 02 58 48.7 -0.1
WVLD Wied Dalam 3.63 193 P Pn 02 58 49.0 +0.1
IGT Igoumenitsa 3.74 86 P Pn 02 58 51.0 +1.1
IGT Igoumenitsa 3.74 86 ePn Pn 02 58 50.6 +0.7
IGT eSn S 02 59 33.4 -5.0
ULC Ulcinj 3.83 47 ⇑iPn Pn 02 58 51.9 +0.9
ULC i Sn S 02 59 38.2 -2.1
TIR Tirane 3.86 58 Pn Pn 02 58 52.8 +1.5
TIR Tirane 3.86 58 ⇓P Pn 02 58 52.8 +1.5
TIR Tirane 3.86 58 P Pn 02 58 52.7 +1.5
TIR Tirane 3.86 58 ePn Pn 02 58 52.1 +0.8
TIR eSn S 02 59 36.0 -4.9
TIR Tirane 3.86 58 ⇑P Pn 02 58 52.9 +1.6
TIR AML AML
comp=E,422µm,1.2s
TIR AML AML
comp=N,538µm,1.5s
TIR AML AML
comp=E,422µm,1.2s
TIR AML AML
comp=N,538µm,1.5s
TIR AML AML
comp=N,538µm,0.5s
TIR AML AML
comp=E,422µm,0.8s
BARO Barbarano Roma 3.87 318 P Pn 02 58 53.5 +2.1
NRCA Norcia 3.88 333 Pn Pn 02 58 53.6 +1.9
CESX Cesi 3.90 326 Pn Pn 02 58 53.7 +1.9
DRME Dracevica, Mon 3.95 44 ⇓iPn Pn 02 58 49.3 -3.0
DRME i Sn S 02 59 40.7 -2.0
TREB Trebinje 3.96 32 ⇑iPn Pn 02 58 53.4 +1.0
TREB Trebinje 3.96 32 ePn Pn 02 58 52.4 0.0
DMLN Damoulianata-K 3.97 105 P Pn 02 58 53.8 +1.1
GUMA Gualdo di Mace 4.01 337 Pn Pn 02 58 54.1 +1.0
TSLK Tsoukalades, L 4.04 96 P Pn 02 58 54.8 +1.4
FSK Fiskardo 4.05 102 P Pn 02 58 54.5 +1.0
LKD2 Lefkada island 4.05 97 P Pn 02 58 54.8 +1.2
CEME Cevo 4.07 38 ⇑iPn Pn 02 58 55.2 +1.4
CEME i Sn S 02 59 43.0 -2.5
FDMO Fiordimonte 4.07 334 Pn Pn 02 58 55.2 +1.5
EVGI Lefkada island 4.08 99 P Pn 02 58 55.1 +1.1
LINA Linosa Island 4.09 212 P Pn 02 58 54.2 +0.1
LINA AML AML
comp=E,317µm,1.0s
LINA AML AML
comp=N,293µm,1.5s
LINA AML AML
comp=E,317µm,1.0s
LINA AML AML
comp=N,243µm,0.9s
LINA AML AML
comp=N,293µm,0.5s
NYDR Nydri-Lefkada 4.10 98 P Pn 02 58 55.1 +1.0
JAN Janina 4.14 85 P Pn 02 58 56.6 +2.0
VLS Valsamata 4.15 105 P Pn 02 58 55.8 +1.0
VLS Valsamata 4.15 105 AML AML
comp=N,754µm,1.1s
VLS AML AML
comp=E,484µm,1.0s
VLS AML AML
comp=E,483µm,1.0s
VLS AML AML
comp=N,754µm,1.1s
VLS AML AML
comp=N,754µm,0.9s
VLS AML AML

comp=E,484µm,1.0s
PDG Podgorica 4.16 42 Pn Pn 02 58 55.7 +1.1
PDG Podgorica 4.16 42 ⇑P Pn 02 58 56.3 +1.7
PDG Podgorica 4.16 42 ePn Pn 02 58 55.8 +1.1
PDG eSn S 02 59 40.8 -6.3
PDG Podgorica 4.16 42 ⇓iPn Pn 02 58 55.8 +1.1
PDG iSn S 02 59 44.5 -2.6
PSDA Pessada-Kefalo 4.17 106 P Pn 02 58 55.5 +0.6
BRY Bratogost 4.18 32 ⇑iPn Pn 02 58 55.6 +0.4
BRY iSn S 02 59 46.0 -2.0
KBN Korca 4.24 71 P Pn 02 58 57.7 +1.9
PUK Puka 4.25 50 P Pn 02 58 57.3 +1.4
PUK Puka 4.25 50 ⇑P Pn 02 58 57.4 +1.4
PUK AML AML
comp=E,447µm,0.7s
PUK AML AML
comp=N,276µm,0.9s
PUK AML AML
comp=E,447µm,0.7s
PUK AML AML
comp=N,275µm,0.9s
PUK AML AML
comp=E,447µm,1.3s
NKME Niksic 4.26 37 ⇓iPn Pn 02 58 56.7 +0.7
NKME iSn S 02 59 47.9 -1.5
LATE Laterza 4.27 320 P Pn 02 58 58.1 +2.0
RTZL Ratzakli, Kefa 4.32 106 P Pn 02 58 57.8 +1.0
PRMD Pramanda 4.33 86 P Pn 02 58 58.9 +2.1
ORTH Orthonies,Zaky 4.34 109 P Pn 02 58 57.5 +0.5
OHR Ohrid 4.40 65 ⇑iP Pn 02 58 59.8 +2.1
PENT Pentalofos 4.41 78 P Pn 02 59 00.3 +2.5
KLINJ Klinje 4.43 31 ePn Pn 02 58 58.9 +0.9
AMPL Ampelaki 4.46 94 P Pn 02 58 60.0 +1.6
TETR Tetrakomo, Epi 4.47 89 P Pn 02 59 00.5 +1.9
LPDG Lampedusa Capo 4.50 212 P Pn 02 59 00.3 +1.5
LTHK Lithakia 4.50 110 P Pn 02 58 59.4 +0.5
KRI1 kERI 4.51 111 P Pn 02 58 59.3 +0.4
BCI Bajram Curri 4.56 48 P Pn 02 59 01.4 +1.9
UPM Unac-Piva 4.59 33 ⇓iPn Pn 02 59 00.9 +0.9
UPM iSn S 02 59 54.4 -2.3
KOME Kolasin 4.59 40 ⇓iPn Pn 02 59 00.8 +0.8
KOME iSn S 02 59 54.9 -1.7
DGI Dorgali Grotta 4.63 283 ⇑P Pn 02 59 00.7 +0.2
FNA Florina 4.71 71 Pn Pn 02 59 02.5 +1.1
FNA Florina 4.71 71 P Pn 02 59 02.5 +1.1
FNA Florina 4.71 71 ePn Pn 02 59 02.7 +1.3
FNA eSn S 02 59 56.2 -3.0
VSL Villasalto 4.75 273 Pn Pn 02 59 02.5 +0.7
VSL Villasalto 4.75 273 ⇑P Pn 02 59 02.9 +1.1
VSL AML AML
comp=E,305µm,0.7s
VSL AML AML
comp=N,406µm,0.7s
VSL AML AML
comp=E,305µm,1.3s
PVO Paravola 4.75 97 P Pn 02 59 03.8 +2.0
IVA Berane 4.80 42 ⇓iPn Pn 02 59 03.2 +0.7
IVA iSn S 02 59 59.6 -1.6
RLS Riolos of Patr 4.85 104 P Pn 02 59 04.7 +1.7
CASP Castiglione de 4.88 316 Pn Pn 02 59 04.9 +1.5
THL Klokotos Trika 5.04 86 P Pn 02 59 07.4 +2.1
ANX Ano Chora 5.06 97 P Pn 02 59 08.2 +2.5
DRO Drossia 5.06 105 P Pn 02 59 07.6 +2.0
EFP Efpalio 5.08 99 P Pn 02 59 08.0 +2.2
RUDO Rudo 5.12 33 ⇑iPn Pn 02 59 06.6 +0.3
RUDO Rudo 5.12 33 ePn Pn 02 59 07.0 +0.7
SJES Sjenica 5.12 40 ePn Pn 02 59 07.8 +1.4
SJES eSn S 03 00 05.4 -4.9
SKO Skopje 5.19 58 ⇑P Pn 02 59 08.6 +1.4
SERG Sergoula 5.20 99 P Pn 02 59 09.7 +2.3
AGG Agios Georgios 5.31 92 P Pn 02 59 10.6 +1.9
BBLS Lazi&#263i 5.34 32 ePn Pn 02 59 10.3 +1.3
BBLS eSn S 03 00 08.8 -4.2
KLV Kalavryta, Ach 5.37 102 P Pn 02 59 11.5 +2.0
KLV Kalavryta, Ach 5.37 102 P Pn 02 59 11.4 +2.0
IVAS Ivanjica 5.44 38 ePn Pn 02 59 11.0 +0.7
BLY Banja Luka 5.50 13 ⇑iPn Pn 02 59 11.9 +1.1
BLY Banja Luka 5.50 13 ⇓P Pn 02 59 12.2 +1.3
BLY Banja Luka 5.50 13 ePn Pn 02 59 12.1 +1.3
ITM Ithomi 5.51 112 Pn Pn 02 59 12.5 +1.3
ITM Ithomi 5.51 112 P Pn 02 59 12.7 +1.5
GUR Goura 5.54 103 P Pn 02 59 13.9 +2.3
SELS Selova 5.70 46 ePn Pn 02 59 14.2 +0.8
SELS eSn S 03 00 17.5 -3.4
A051A Mrakovica 5.71 10 ⇑iPn Pn 02 59 14.3 +0.8
DIVS Divibare 5.77 34 ePn Pn 02 59 15.0 +0.7
GOCS Kraljevo Serbi 5.79 42 ePn Pn 02 59 15.3 +0.7
GOCS eSn S 03 00 19.7 -3.5
PGF Pioggiola 5.85 305 eP Pn 02 59 15.6 +0.3
comp=E,34nm,0.8s
THE Thessaloniki 5.86 75 P Pn 02 59 16.2 +0.9
BARS Barje 5.86 52 ePn Pn 02 59 16.2 +0.8
BARS eSn S 03 00 21.0 -3.6
GRUS Gruza 5.95 39 ePn Pn 02 59 17.4 +1.0
HORT Hortiatis 5.95 76 P Pn 02 59 17.5 +0.8
TEKS Tekeris 5.96 29 ePn Pn 02 59 16.5 -0.1
TRUS Trudelj 6.06 36 ePn Pn 02 59 18.6 +0.8
TRUS eSn S 03 00 26.9 -2.0
KEST Kesra 6.11 235 Pn Pn 02 59 20.0 +1.4
KEST Kesra 6.11 235 P Pn 02 59 19.5 +0.9
comp=E,56nm,0.8s,baz=38,slow=4.0,SNR=77
KEST S S 03 00 32.8 +2.4
comp=E,11nm,1.0s,baz=2.1,slow=9.2,SNR=0.9
BOSS Bosilegrad 6.12 57 ePn Pn 02 59 19.7 +1.1
SKDS Skadanscina 6.25 350 iP Pn 02 59 20.9 +0.7
BOVS Bovan 6.29 46 ⇑P Pn 02 59 21.2 +0.6
BOVS Bovan 6.29 46 ePn Pn 02 59 21.5 +0.8
KKB Krupnik 6.29 65 P Pn 02 59 22.3 +1.6
PAIG Paliouri 6.33 83 P Pn 02 59 21.9 +0.7
SRS Serrai 6.42 72 ePn Pn 02 59 23.4 +1.1
VISS Visnje 6.42 356 iP Pn 02 59 23.8 +1.4
FRGS Fruska Gora 6.58 28 ePn Pn 02 59 25.0 +0.7
ZAPS Zavoj 6.62 52 ePn Pn 02 59 26.6 +1.8
MMB Musomishta 6.64 68 P Pn 02 59 26.7 +1.6
MSSA Maissana 6.65 320 Pn Pn 02 59 27.1 +1.9
VTS Vitosha 6.67 59 P Pn 02 59 26.9 +1.3
LJU Ljubljana 6.69 354 iP Pn 02 59 27.1 +1.5
ZAGS Zajecar 6.70 47 ePn Pn 02 59 27.2 +1.4
PLNA Plana 6.74 60 P Pn 02 59 28.2 +1.8
BORS2 Bor- Borsko je 6.76 44 ePn Pn 02 59 26.5 -0.1
MDVR Moldovita 7.09 39 ⇑P Pn 02 59 32.4 +1.7
BEHE Becsehely 7.13 7 ePn Pn 02 59 32.0 +0.8
OBKA Obir 7.15 355 iPn Pn 02 59 32.5 +1.1
comp=E,44nm,0.6s,SNR=9.3
MORH Mrgy, Hungar 7.20 18 ⇑iPn Pn 02 59 32.7 +0.8
MORH Mrgy, Hungar 7.20 18 ⇓P Pn 02 59 32.7 +0.8
SOKA Soboth 7.29 357 iPn Pn 02 59 34.2 +1.0
comp=E,24nm,0.7s,SNR=7.2
BANR Banloc 7.22 33 ⇑P Pn 02 59 35.4 +2.3
MYKA Terra Mystica 7.36 350 ePn Pn 02 59 34.6 +0.5
comp=E,16nm,0.9s,SNR=5.8
RZN Rozhen 7.40 69 P Pn 02 59 35.9 +1.2
DJES Djerdap 7.41 42 ⇑P Pn 02 59 35.8 +1.1
HERR Herculane 7.51 41 ⇑P Pn 02 59 36.2 +0.3
SBF Sospel 7.52 309 eP Pn 02 59 38.3 +2.2
comp=E,79nm,0.7s
PLD Plovdiv 7.53 66 P Pn 02 59 37.7 +1.5
ABTA Abfaltersbach 7.67 344 iPn Pn 02 59 39.3 +1.2
comp=E,22nm,0.7s,SNR=19
BZS Buzias 7.68 34 ⇑P Pn 02 59 39.7 +1.6
BZS Buzias 7.68 34 P Pn 02 59 39.7 +1.6
KDZ Kurdzhali 7.82 70 P Pn 02 59 41.0 +1.2
LMR La Mourre 7.83 303 eP Pn 02 59 40.4 +0.4
KBA Koelnbreinsper 7.84 349 ePn Pn 02 59 41.3 +1.0
comp=E,12nm,0.5s
ARSA Arzberg 7.85 0 Pn Pn 02 59 40.6 +0.4
ARSA Arzberg 7.85 0 iPn Pn 02 59 41.3 +1.1
comp=E,1.5nm,0.4s
RDO Rodhopi 7.87 74 Pn Pn 02 59 41.6 +1.1
PLVB Pleven 7.93 57 ⇑P Pn 02 59 42.9 +1.7
SURR Surduc 8.01 35 ⇑P Pn 02 59 43.3 +1.1
GZR Gura Zlata 8.05 40 ⇑P Pn 02 59 43.4 +0.5
GZR Gura Zlata 8.05 40 P Pn 02 59 43.3 +0.5
SIRR Siria 8.22 31 ⇑P Pn 02 59 46.5 +1.7
LESA Schwarzleotal 8.29 347 iPn Pn 02 59 46.8 +1.1
comp=E,0.4nm,0.3s
RONA Rosalia, Austr 8.32 4 iPn Pn 02 59 47.2 +1.0
comp=E,9.1nm,0.7s
WTTA Wattenberg 8.36 342 ePn Pn 02 59 48.6 +1.8
comp=E,27nm,0.7s,SNR=9.0
EZN Ezine 8.36 84 ⇑P Pn 02 59 47.7 +0.9
EZN Ezine 8.36 84 P Pn 02 59 47.6 +0.9
FETA Feichten 8.38 337 ePn Pn 02 59 48.7 +1.6
comp=E,112nm,0.7s,SNR=49
MBDF Montbardon 8.40 312 eP Pn 02 59 49.7 +2.4
comp=E,186nm,0.8s
BIOA Bad Ischl, Aus 8.40 351 iPn Pn 02 59 48.5 +1.3
comp=E,43nm,1.1s,SNR=14
SQTA Sankt Quirin 8.43 340 ePn Pn 02 59 49.0 +1.5
comp=E,98nm,0.8s,SNR=53
WATA Walderalm 8.44 341 iPn Pn 02 59 49.0 +1.3
comp=E,20nm,0.5s,SNR=20
DAVOX Davos/Dischmat 8.45 333 P Pn 02 59 48.7 +0.7
comp=E,49nm,0.6s,baz=157,slow=9.0,SNR=90
DAVOX S S 03 01 23.4 -0.7
comp=E,2.7nm,0.7s,baz=95,slow=12,SNR=3.0
DEV Deva 8.47 38 ⇑P Pn 02 59 49.8 +1.7
DEV Deva 8.47 38 P Pn 02 59 49.7 +1.7
MOA Molln 8.50 354 iPn Pn 02 59 49.8 +1.4
comp=E,24nm,0.8s,SNR=15
IDI Anoyia 8.52 116 Pn Pn 02 59 48.7 -0.2
IDI Anoyia 8.52 116 P Pn 02 59 49.0 +0.1
comp=E,8.2nm,0.5s,baz=305,slow=11,SNR=11
IDI S S 03 01 30.1 +4.4
comp=E,5.3nm,0.7s,baz=328,slow=15,SNR=1.1
CONA Conrad Observa 8.54 2 iPn Pn 02 59 50.3 +1.4
comp=E,3.5nm,0.7s
MOTA Moosalm 8.57 339 iPn Pn 02 59 50.6 +1.2
comp=E,64nm,0.7s,SNR=26
ELND Elena 8.58 62 ⇓P Pn 02 59 50.1 +0.7
LOT Lotru 8.60 43 ⇑P Pn 02 59 51.4 +1.7
BNI Bardonecchia 8.65 314 Pn Pn 02 59 53.0 +2.5
BNI Bardonecchia 8.65 314 P Pn 02 59 53.0 +2.5
SRO Srobarova 8.66 13 eP Pn 02 59 52.5 +2.2
SMRF Simiane la Rot 8.73 305 eP P 02 59 55.2 -3.2
comp=E,28nm,0.6s
RETA Reutte 8.79 338 iPn Pn 02 59 53.8 +1.6
comp=E,54nm,0.7s,SNR=18
DAVA Damuels 8.89 334 ePn Pn 02 59 55.0 +1.6
comp=E,14nm,0.5s,SNR=21
LPG La Plagne 8.89 316 eP Pn 02 59 56.4 +2.8
comp=E,110nm,0.7s
LPL La Plagne 8.91 316 eP Pn 02 59 55.8 +2.0
comp=E,36nm,0.6s
ARR Arges 9.01 46 ⇓P Pn 02 59 55.6 +0.7
ORIF Oris-en-Rattie 9.03 311 eP P 02 59 59.2 -2.9
comp=E,50nm,0.7s
DRGR 9.07 33 ⇑P Pn 02 59 57.4 +1.6
DRGR 9.07 33 P Pn 02 59 57.3 +1.6
PSZ Piszkesteto 9.09 19 Pn Pn 02 59 56.8 +0.9
PSZ Piszkesteto 9.09 19 P Pn 02 59 56.8 +0.9
MARR Marisel-Cluj 9.16 35 ⇑P Pn 02 59 58.6 +1.7
SMOL Smolenice 9.22 8 eP Pn 02 59 58.6 +1.1
LOZB Loznitsa 9.23 61 ⇑P Pn 02 59 59.0 +1.4
PHSR Pinarhisar 9.42 72 ⇓P Pn 03 00 01.8 +1.7
CBBR Cluj-Babes-Bol 9.43 36 ⇑P Pn 03 00 02.1 +2.0
GERES GERESS Array B 9.54 353 P Pn 03 00 00.7 -0.8
comp=E,9.5nm,0.7s,baz=167,slow=12,SNR=66
JAVC Velka Javorina 9.59 9 eP Pn 03 00 04.0 +1.9
KRUC Moravsky 9.69 3 eP Pn 03 00 04.6 +1.3
KRUC e 03 00 10.9
VIVF Saint-Julien-l 9.72 308 eP Pn 03 00 05.5 +1.7
comp=E,68nm,0.8s
DOPR Dopca 9.80 45 ⇑P Pn 03 00 06.3 +1.6
MLR Muntele Rosu 9.83 48 P Pn 03 00 07.8 +2.6
comp=E,15nm,0.6s,baz=205,slow=11,SNR=19
MLR S S 03 01 58.9 +3.1
comp=E,4.2nm,0.8s,baz=153,slow=22,SNR=3.3
MLR Muntele Rosu 9.83 48 ⇓P Pn 03 00 07.7 +2.5
KHC Kasperske Hory 9.83 353 ciP Pn 03 00 06.0 +0.8
KHC pmax pmax
comp=Z,14nm,1.0s
KHC Kasperske Hory 9.83 353 eP Pn 03 00 06.3 +1.1
KHC ex x 03 00 12.0
LASF Ste Croix 9.88 302 eP Pn 03 00 06.4 +0.5
comp=E,31nm,0.9s
TREC Trest 9.90 360 eP Pn 03 00 08.0 +2.0
TREC Trest 9.90 360 eP Pn 03 00 08.0 +2.0
VRAC Vranov 9.94 4 P Pn 03 00 07.5 +0.9
comp=E,15nm,0.7s,baz=189,slow=12,SNR=28
VRAC Vranov 9.94 4 eP Pn 03 00 07.8 +1.3
VRAC e 03 00 13.7
VRAC Vranov 9.94 4 ⇑P Pn 03 00 07.9 +1.3
VRAC Vranov 9.94 4 P Pn 03 00 07.8 +1.3
CABF La Chapelle 9.98 319 eP Pn 03 00 06.5 -0.6
comp=E,282nm,0.8s
NEHR Nehoiu 9.99 49 ⇓P Pn 03 00 09.6 +2.3
SSB Saint Sauveur 10.02 309 Pn Pn 03 00 08.5 +0.9
SSB Saint Sauveur 10.02 309 P Pn 03 00 08.5 +0.9
ARCR ARCALIA 10.03 37 ⇑P Pn 03 00 09.3 +1.7
OZUR 10.09 45 ⇑P Pn 03 00 09.0 +0.5
LANS Liptovska Anna 10.16 15 eP P 03 00 11.9 -2.6
COVR Voinease-Covas 10.18 47 ⇑P Pn 03 00 11.1 +1.5
TURR Turia 10.20 46 ⇑P Pn 03 00 10.8 +1.0
MANT Manisa 10.21 91 Pn Pn 03 00 11.2 +1.0
BISRR Bisoca 10.30 50 ⇑P Pn 03 00 13.2 +2.0
BFO Black Forest 10.32 332 Pn Pn 03 00 11.3 0.0
BFO Black Forest 10.32 332 P Pn 03 00 11.3 0.0
STU Stuttgart 10.41 336 eP Pn 03 00 12.7 +0.3
PLOR Plostina 10.44 48 ⇓P Pn 03 00 15.0 +2.1
PLOR Plostina 10.44 48 P Pn 03 00 14.9 +2.1
MORC Moravsky Berou 10.48 7 eP Pn 03 00 14.9 +1.6
MORC e 03 00 19.8
MORC Moravsky Berou 10.48 7 ⇑P Pn 03 00 15.1 +1.8
MORC Moravsky Berou 10.48 7 P Pn 03 00 15.0 +1.6
VRI Vrincioaia 10.49 48 ⇑P Pn 03 00 15.4 +1.9
VRI Vrincioaia 10.49 48 P Pn 03 00 15.3 +1.9
HINF Hinteralfeld 10.49 326 eP Pn 03 00 12.4 -1.1
comp=E,29nm,0.5s
ONER Baraj Valea Uz 10.57 45 ⇑P Pn 03 00 16.8 +2.3
HARR Harsova 10.64 56 ⇑P Pn 03 00 16.2 +0.8
HARR Harsova 10.64 56 P Pn 03 00 16.1 +0.8
TLBR Topalu 10.66 57 ⇑P Pn 03 00 16.9 +1.4
STEB Steborice 10.66 8 eP Pn 03 00 17.6 +2.1
STEB ex x 03 00 21.8
ECH Echery 10.68 328 Pn Pn 03 00 15.3 -0.5
ECH Echery 10.68 328 P Pn 03 00 15.3 -0.5
KOLS Kolonicke sedl 10.70 25 eP P 03 00 23.3 +2.8
PRA Prague 10.70 356 eP P 03 00 22.0 +1.5
PRA Prague 10.70 356 eP P 03 00 22.0 +1.5
KRLC Kraliky 10.72 4 eP Pn 03 00 18.3 +2.0
KRLC Kraliky 10.72 4 eP Pn 03 00 18.3 +2.0
KRLC ex x 03 00 22.5
GRFO Grafenberg 10.74 345 Pn Pn 03 00 16.4 -0.1
GRFO Grafenberg 10.74 345 P Pn 03 00 16.4 -0.1
CDF Champ du Feu 10.79 329 eP Pn 03 00 17.3 +0.1
comp=Z,123nm,0.8s
BURAR Bucovina Array 10.82 37 P 03 00 20.0 -2.0
BURAR Bucovina Array 10.82 37 ⇓P P 03 00 20.1 -1.9
BURAR Bucovina Array 10.82 37 P P 03 00 20.1 -1.9
STHS Stebnicka Huta 10.82 20 eP P 03 00 23.1 +1.2
BUR08 Bucovina Ar. S 10.83 37 Pn Pn 03 00 19.2 +1.5
HAU Haudompre 10.86 325 eP Pn 03 00 17.6 -0.4
comp=E,28nm,0.5s
TIRR Tirgusor 10.86 58 Pn Pn 03 00 18.9 +0.8
TIRR Tirgusor 10.86 58 P Pn 03 00 18.9 +0.8
DPC Dobruska-Polom 10.97 3 eP P 03 00 21.6 -2.0
DPC Dobruska-Polom 10.97 3 eP P 03 00 21.6 -2.0
DPC ex x 03 00 25.2
CFR Carcaliu 10.99 54 ⇓P Pn 03 00 20.6 +1.0
CFR Carcaliu 10.99 54 P Pn 03 00 20.6 +1.0
TPGR Topolog 11.03 56 ⇑P Pn 03 00 21.9 +1.7
UPC Upice 11.12 2 eP P 03 00 26.5 +1.3
UPC Upice 11.12 2 eP P 03 00 26.5 +1.3
PVCC Panska Ves 11.15 357 eP Pn 03 00 23.3 +1.7
PVCC Panska Ves 11.15 357 eP Pn 03 00 23.3 +1.7
OSTC Ostas 11.17 2 eP P 03 00 23.9 -1.9
OSTC Ostas 11.17 2 eP P 03 00 23.9 -1.9
SMF Signal de Mont 11.19 314 eP Pn 03 00 20.9 -1.3
comp=Z,54nm,0.7s
CHVC Chvalec 11.20 2 eP Pn 03 00 23.9 +1.6
CHVC Chvalec 11.20 2 eP Pn 03 00 23.9 +1.6
CEST Esterri de Car 11.24 291 P 03 00 25.0 -1.8
OJC Ojcow 11.24 14 Pn Pn 03 00 24.2 +1.5
OJC Ojcow 11.24 14 P Pn 03 00 24.2 +1.5
CAF Calviac 11.40 303 eP P 03 00 28.3 -0.1
comp=Z,64nm,0.8s
TLCR 11.42 55 ⇓P P 03 00 27.5 -1.1
TLCR 11.42 55 P P 03 00 27.4 -1.1
BRG Berggiesshubel 11.53 355 eP P 03 00 29.2 -0.6
BRG Amp 03 00 31.2
comp=Z,7.8nm,0.7s
BRG Berggiesshubel 11.53 355 P P 03 00 33.7 +4.0
BRG Amp 03 00 34.6
comp=Z,48nm,0.8s
BRG Berggiesshubel 11.53 355 P P 03 00 37.9 +8.2
BRG Amp 03 00 38.2
comp=Z,17nm,0.8s
PAGF Fort de Pagny 11.55 326 eP Pn 03 00 26.4 -0.2
comp=Z,36nm,0.6s
AVF Avril sur Loir 11.55 314 eP Pn 03 00 25.3 -1.3
comp=Z,45nm,0.6s
LOR Lormes 11.56 317 eP Pn 03 00 25.2 -1.6
comp=Z,42nm,0.7s
SFTF Sexfontaines 11.60 323 eP Pn 03 00 26.4 -0.8
comp=Z,30nm,0.5s
SSF Saint Saulge 11.63 315 eP Pn 03 00 25.9 -1.7
comp=Z,39nm,0.8s
BGF Bois d'Agland 11.71 312 eP Pn 03 00 28.1 -0.5
comp=Z,58nm,0.8s
MEZF Maizieres J'vi 11.81 324 eP Pn 03 00 29.8 0.0
comp=Z,101nm,0.7s
ISP Isparta 11.85 93 P P 03 00 33.2 -0.4
ISP Isparta 11.85 93 eP P 03 00 33.4 -0.2
ISP Isparta 11.85 93 deP P 03 00 33.0 -0.6
ISP pmax pmax
comp=Z,31nm,1.0s
SAVF Savonnieres en 11.86 324 eP Pn 03 00 30.3 -0.1
comp=Z,66nm,0.7s
RJF Les Rejaudoux 11.91 304 eP P 03 00 33.1 -0.9
TCF Toulx Ste Croi 11.94 310 eP Pn 03 00 31.3 -0.2
comp=Z,30nm,1.1s
EPF Esparros 11.99 293 eP Pn 03 00 32.5 +0.4
comp=Z,13nm,0.8s
CLL Collm 12.04 352 Pn Pn 03 00 33.8 +1.1
CLL Collm 12.04 352 iP P 03 00 34.3 -1.1
CLL eS S 03 02 50.0 +3.3
CLL pmax pmax
comp=Z,40nm,1.4s
CLL Collm 12.04 352 iP P 03 00 34.3 -1.1
comp=Z,40nm,1.4s
CLL ix x 03 00 47.7
CLL eS S 03 02 50.0 +3.3
MDUB Mudurnu 12.10 80 P 03 00 35.6 -0.6
HYF Humbligny 12.22 314 eP Pn 03 00 34.6 -0.4
comp=Z,32nm,0.5s
WLF Walferdange 12.24 330 P 03 00 36.7 -0.8
WLF Walferdange 12.24 330 dP P 03 00 36.5 -1.1
comp=Z,16nm,0.9s
WLF Walferdange 12.24 330 P P 03 00 36.7 -0.8
LFF La Frestale 12.27 302 eP P 03 00 38.1 +0.1
comp=Z,112nm,1.0s
MILM Milestii Mici 12.28 48 eP Pn 03 00 35.0 -0.6
comp=Z,320nm,0.9s
MILM iS S 03 02 53.6 +1.5
comp=Z,260nm,1.4s
MILM Milestii Mici 12.28 48 eP Pn 03 00 35.0 -0.6
MILM iS S 03 02 53.0 +0.9
MILM pmax pmax
comp=Z,320nm,0.9s
MILM smax smax
comp=N,260nm,1.4s
MILM smax smax
comp=E,410nm,1.3s
KIS Kishinev 12.32 48 eP Pn 03 00 36.0 -0.1
KIS eS S 03 02 56.0 +2.8
comp=E,200nm,1.4s
ETSF Etsaut 12.61 291 eP P 03 00 41.1 -0.8
comp=E,33nm,0.7s
SORM Soroca 12.73 42 ⇑P P 03 00 42.8 -0.3
SORM Soroca 12.73 42 P P 03 00 42.8 -0.3
BHOU Houvegnez 12.85 332 dP P 03 00 43.6 -0.8
comp=Z,6.8nm,0.6s
RCHB Rochefort 12.99 329 dP Pn 03 00 44.0 -0.3
comp=Z,13nm,0.7s
BTNL Ternell 13.00 332 dP P 03 00 46.3 +0.2
MEM Membach 13.06 332 dP P 03 00 46.7 0.0
comp=Z,18nm,0.9s
GIVF Givet 13.11 328 eP P 03 00 46.8 -0.5
comp=Z,13nm,0.5s
SJPF Ste Jean 13.13 292 eP P 03 00 48.6 +1.0
comp=Z,48nm,0.8s
BCLA Clavier 13.17 330 dP Pn 03 00 46.8 +0.3
BCLA dS S 03 03 12.0 -0.5
DOU Dourbes 13.20 328 dP P 03 00 48.4 +0.2
comp=Z,18nm,0.9s
BSTI Sart Tilman 13.20 331 dP P 03 00 48.6 +0.3
BGES Gesves 13.23 330 dP Pn 03 00 47.2 0.0
comp=Z,11nm,0.8s
BGES dsP sPn 03 01 44.9 -1.8
BMRD Maredsous 13.29 329 dP P 03 00 48.9 -0.3
BMRD dx x 03 00 59.3
BMRD dsP sPn 03 01 46.3 -1.3
BAIF Baives 13.33 327 eP Pn 03 00 48.8 +0.3
comp=Z,10nm,0.5s
BEBN Eben Emael 13.34 332 dP Pn 03 00 49.0 +0.5
comp=Z,22nm,0.9s
ANTO Ankara 13.34 82 Pn 03 00 49.4 +0.6
ANTO Ankara 13.34 82 ⇑P P 03 00 50.1 +0.1
ANTO Ankara 13.34 82 P P 03 00 50.1 +0.1
MFF Saint Martin d 13.52 307 eP P 03 00 51.9 +0.1
comp=Z,32nm,0.7s
UCC Uccle 13.84 329 dP Pn 03 00 54.3 -0.4
comp=Z,16nm,0.0s
GKP Gorka Klasztor 13.93 4 eP P 03 00 58.4 +2.1
BR131 Keskin Array S 14.00 83 P 03 00 58.3 +0.9
BR131 Keskin Array S 14.00 83 iP P 03 00 58.6 +1.2
BRTR Keskin Array B 14.00 83 P 03 00 58.2 +0.8
BRTR Keskin Array B 14.00 83 P P 03 00 59.4 +2.0
comp=Z,17nm,0.9s,baz=268,slow=10,SNR=51
ILGA Ilgaz 14.01 77 P 03 00 59.0 +1.4
KIRS Kirsehir-Merke 14.27 85 ⇑P P 03 01 01.0 +0.7
LDF La Druitiere 14.51 314 eP P 03 01 01.1 -1.6
comp=Z,138nm,0.8s
FLN La Foliniere 14.80 314 eP P 03 01 04.0 -1.9
comp=Z,55nm,0.5s
GRR Gorron 14.81 313 eP P 03 01 04.8 -1.3
comp=Z,113nm,0.9s
KIEV Kiev 14.85 36 P Pn 03 01 07.0 +0.1
KIEV Kiev 14.85 36 ⇓P Pn 03 01 06.8 -0.1
KIEV Kiev 14.85 36 P Pn 03 01 07.0 +0.1
SIM Simferopol' 14.86 62 eP P 03 01 04.6 -2.1
SIM S S 03 03 41.0 -10
SIM pmax pmax
comp=Z,28nm,0.8s
AKASG Malin Array Be 14.86 36 P Pn 03 01 07.6 +0.6
comp=Z,3.1nm,0.6s,baz=230,slow=10,SNR=23
AKASG S S 03 03 45.7 -5.0
comp=Z,7.1nm,0.7s,baz=226,slow=19,SNR=8.4
AKBB Malin Array Si 14.86 36 ceP P 03 01 06.8 +0.2
CSS Mathiatis 14.88 102 P Pn 03 01 08.2 +0.8
ESDC Sonseca Array 15.03 277 P P 03 01 07.8 -0.9
ESDC Sonseca Array 15.03 277 P P 03 01 08.2 -0.5
comp=Z,4.8nm,0.9s,baz=75,slow=12,SNR=57
PAB San Pablo 15.34 277 P P 03 01 12.1 0.0
PAB lAmb lAmb 03 01 17.6
comp=Z,12nm,0.7s
PAB San Pablo 15.34 277 P P 03 01 12.5 +0.4
SUW Suwalki 15.53 17 eP Pn 03 01 14.8 0.0
SGMF Saint Gilles 15.73 310 eP P 03 01 15.7 -0.5
comp=Z,48nm,0.8s
BSD Bornholm Skovb 15.73 359 eP P 03 01 16.1 -0.1
BSD Bornholm Skovb 15.73 359 iP P 03 01 15.6 -0.5
BSD lAmb lAmb 03 01 16.2
comp=Z,35nm,0.7s
QUIF Quistinic 15.95 308 eP P 03 01 18.0 -0.6
comp=Z,15nm,0.7s
TOKA Tokat 16.13 80 P Pn 03 01 22.3 0.0
ROSF Rostrenen 16.20 310 eP P 03 01 19.0 -2.3
comp=Z,101nm,1.0s
ELMS Elmsett, Ipswi 16.21 326 eP P 03 01 21.4 0.0
LUNU Lund 16.31 356 iP P 03 01 22.7 +0.3
COP Copenhagen 16.43 354 iP P 03 01 24.2 +0.4
COP lAmb lAmb 03 01 27.3
comp=Z,48nm,0.9s
SSRD Sdr. Stenderup 16.57 348 iP P 03 01 25.0 -0.2
SSRD lAmb lAmb 03 01 25.5
comp=Z,98nm,0.8s
BLEU Blekinge 16.92 1 iP P 03 01 27.7 -1.4
PBRG Braganca 17.06 285 eP P 03 01 31.2 +0.2
PBRG iAmb lAmb 03 01 34.6
comp=Z,26nm,2.0s
PABE Paberze 17.08 17 eP P 03 01 31.5 +0.6
DEL Delary 17.12 357 iP P 03 01 30.6 -0.7
PBUR Paburge 17.18 12 eP P 03 01 32.0 +0.1
MMAI Mount Meron Ar 17.26 105 P Pn 03 01 35.3 -0.2
comp=Z,33nm,0.8s,baz=317,slow=8.5,SNR=34
NACGM Naroch 17.27 22 ⇓eP P 03 01 32.8 -0.1
comp=E,15nm,0.9s
MNK Minsk 17.27 25 iP P 03 01 32.0 -1.0

comp=E,29nm,0.7s
MNK *i* P **P** **03 01 32.0 -1.0**
comp=N,13nm,0.6s
MNK *i* P **P** **03 01 32.0 -1.0**
comp=Z,40nm,0.5s,baz=215
MNK *i* sP **sP** **03 02 47.5 +2.1**
MNK *i* S **S** **03 04 39.5 +0.3**
MNK Minsk 17.27 25 *i* P **P** **03 01 31.9 -1.0**
MNK *i* S **S** **03 04 39.4 +0.3**
MNK pmax pmax
comp=N,13nm,0.6s
MNK pmax pmax
comp=Z,40nm,0.5s
MNK pmax pmax
comp=E,29nm,0.7s
MVO Moncorvo 17.28 283 *eP* **P** **03 01 33.6 +0.3**
MVO *i* IAmb IAmb 03 01 35.8
comp=E,25nm,0.9s
STRD Stroud 17.44 321 *eP* **P** **03 01 33.5 -1.3**
MDT Midelt 17.52 254 P **P** **03 01 35.0 -1.0**
comp=E,13nm,0.9s,baz=86,slow=11,SNR=14
VSVD Vaisvydziai 17.52 16 *eP* **Pn** **03 01 39.3 +1.1**
MUD Monsted U'grnd 17.58 348 *iP* **P** **03 01 35.9 -0.4**
MUD IAmb IAmb 03 01 36.9
comp=Z,60nm,0.9s
MD01 Midelt array s 17.60 255 P **P** **03 01 35.9 -1.1**
MD31 MD31 17.60 255 IAmb IAmb 03 01 41.0
comp=Z,16nm,0.9s
PBAR Barrancos 17.62 273 *eP* **P** **03 01 36.9 0.0**
PBAR *i* IAmb IAmb 03 01 39.2
comp=Z,19nm,1.7s
CWF Charnwood Fore 17.67 325 *eP* **P** **03 01 35.8 -1.5**
ISAL Salakas 17.67 20 *eP* **Pn** **03 01 39.2 -0.8**
PMRV Marv??o 17.69 277 *eP* **P** **03 01 37.7 -0.1**
PMRV *i* IAmb IAmb 03 01 42.5
comp=Z,30nm,1.4s
PCBR Castelo Branco 17.71 279 *eP* **P** **03 01 37.2 -0.7**
MTE Manteigas 17.71 281 P **P** **03 01 37.4 -0.7**
MTE IAmb IAmb 03 01 38.7
comp=Z,18nm,0.9s
MTE Manteigas 17.71 281 *eP* **P** **03 01 37.7 -0.3**
MTE Manteigas 17.71 281 *eP* **P** **03 01 37.9 -0.1**
MONM Monmouth 17.80 320 *eP* **P** **03 01 37.6 -1.1**
PVRL Vila Real 17.80 284 *eP* **P** **03 01 39.7 +0.8**
POLO Lamas de Olo 17.86 284 *eP* **P** **03 01 39.9 +0.4**
PESTR Estremoz 17.92 276 P **P** **03 01 39.1 -1.1**
PESTR IAmb IAmb 03 01 43.2
comp=Z,15nm,0.8s
PESTR Estremoz 17.92 276 *eP* **P** **03 01 39.8 -0.5**
PVIS Viseu 17.96 282 *eP* **P** **03 01 40.2 -0.4**
MCH1 Michaelchurch 17.99 321 *eP* **P** **03 01 39.0 -1.7**
PCAB Cabril 18.02 285 *eP* **P** **03 01 41.2 -0.1**
ONAU Onsala 18.17 354 *iP* **P** **03 01 42.0 -0.6**
PGAV Gavieira, Arco 18.21 286 *eP* **P** **03 01 44.7 +1.3**
GHAJ Ghor Haditha 18.22 110 P **P** **03 01 44.6 +1.1**
HLM1 Long Mynd 18.25 322 *eP* **P** **03 01 42.3 -1.3**
PSARD Sardoal 18.26 278 *eP* **P** **03 01 43.8 -0.1**
PBEJ Beja 18.29 273 *eP* **P** **03 01 42.9 -1.2**
LBWR Ladybower, Pea 18.30 326 *eP* **P** **03 01 43.0 -1.1**
EVO Evora 18.31 275 *eP* **P** **03 01 43.6 -0.7**
EVO *i* IAmb IAmb 03 01 48.1
comp=Z,20nm,2.9s
PVAQ Vaqueiros 18.31 271 *eP* **P** **03 01 44.0 -0.3**
STNC Stoke 18.31 324 *eP* **P** **03 01 43.3 -0.9**
BORU Boraas 18.34 355 *iP* **P** **03 01 43.7 -0.8**
PMTG Montargil 18.38 277 *eP* **P** **03 01 44.3 -0.9**
PMTG *i* IAmb IAmb 03 01 48.8
comp=Z,32nm,1.2s
PCAS Casmilo, Conde 18.47 280 *eP* **P** **03 01 45.9 -0.3**
PTO Porto 18.47 283 *eP* **P** **03 01 46.8 +0.7**
PCVE Castro Verde 18.50 272 *eP* **Pn** **03 01 49.6 -0.4**
PBDV Barranco-do-Ve 18.51 271 *eP* **P** **03 01 48.0 +1.4**
PBDV *i* IAmb IAmb 03 01 51.3
comp=Z,64nm,1.3s
SOC Sochi 18.59 69 *eP* **P** **03 01 47.9 +0.5**
SOC *eS* **S** **03 05 07.9 +2.5**
SOC pmax pmax
comp=Z,42nm,1.0s
MESJ Messejana 18.60 273 *eP* **P** **03 01 47.1 -0.4**
MESJ IAmb IAmb 03 01 47.6
comp=Z,10nm,0.9s
MESJ Messejana 18.60 273 *eP* **P** **03 01 47.0 -0.4**
MESJ Messejana 18.60 273 *eP* **P** **03 01 47.1 -0.4**
TAM Tamanrasset 18.61 210 P **P** **03 01 48.0 +0.2**
TAM IAmb IAmb 03 01 58.7
comp=Z,13nm,0.6s
TAM Tamanrasset 18.61 210 P **P** **03 01 48.1 +0.2**
TAM pmax pmax
comp=Z,13nm,0.6s
FOEL Foel Wylfa 18.64 323 *eP* **P** **03 01 46.5 -1.3**
EIL Elat 18.69 115 P **P** **03 01 50.0 +1.4**
comp=Z,26nm,0.8s,baz=310,slow=8.8,SNR=19
ASF Jabal al Asfar 18.77 106 P **P** **03 01 51.0 +1.6**
comp=Z,7.8nm,0.7s,baz=254,slow=24,SNR=9.8
SLIT Slitere, Latvi 18.78 11 *eP* **P** **03 01 48.6 -0.6**
TJOU Tjoern 18.82 354 *iP* **P** **03 01 48.9 -0.7**
PARRA Arraiolos 19.05 276 *eP* **P** **03 01 42.9 -9.4**
PARRA *i* IAmb IAmb 03 01 53.0
comp=Z,20nm,1.7s
PTEO Sao Teotonio 19.05 272 *eP* **P** **03 01 51.7 -0.7**
KOPT Kop Dagi 19.23 80 IAmb IAmb 03 01 57.9
comp=Z,13nm,0.8s
PFVI Vila Bisbo 19.23 271 *eP* **P** **03 01 54.0 -0.2**
EDMD Edmundbyers 19.40 328 *eP* **P** **03 01 53.8 -2.1**
HOMB Homborsund 19.43 349 *iP* **P** **03 01 52.7 -3.4**
WLF1 Llynfaes 19.45 322 *eP* **P** **03 01 55.2 -1.2**
WME Myndd Eilian 19.47 322 *eP* **P** **03 01 55.6 -1.1**
SNART Snartemo 19.70 347 *eP* **P** **03 01 59.6 +0.6**
SNART Snartemo 19.70 347 *iP* **P** **03 01 59.2 +0.2**
KESW Keswick, Cumbr 19.71 327 *eP* **P** **03 01 57.7 -1.4**
KESW IAmb IAmb 03 01 58.6
comp=Z,37nm,0.8s
STRU Stroemstad 19.85 353 *eP* **P** **03 02 01.6 +1.0**
STRU Stroemstad 19.85 353 *iP* **P** **03 02 01.0 +0.4**
MARD Mardin 19.91 88 IAmb IAmb 03 02 07.4
comp=Z,10nm,0.6s
IWEX Carrickbyrne, 20.12 317 *eP* **P** **03 02 01.6 -1.9**
IWEX IAmb IAmb 03 02 03.0
comp=Z,21nm,0.8s
EKA Eskdalemuir Ar 20.25 328 P **P** **03 02 02.4 -2.4**
comp=Z,12nm,0.5s,baz=144,slow=11,SNR=66
comp=Z,12nm,0.5s
ESK Eskdalemuir 20.25 328 P **P** **03 02 02.5 -2.4**
ESK Eskdalemuir 20.25 328 P **P** **03 02 02.5 -2.4**
ESK pmax pmax
comp=Z,31nm,0.7s
VSR Storozhevoye 20.31 47 *eP* **P** **03 02 05.0 -0.6**
VSR pmax pmax
comp=Z,3.0nm,0.8s
VSU Vasula 20.41 17 *eP* **P** **03 02 05.0 -1.5**
VSU Vasula 20.41 17 *diP* **P** **03 02 04.6 -1.9**
VSU pmax pmax
comp=Z,39nm,0.9s
ESY Stoneypath 20.45 330 *eP* **P** **03 02 05.0 -2.0**
NEWG New Galloway 20.55 326 *eP* **P** **03 02 06.0 -2.0**
NEWG IAmb IAmb 03 02 06.5
comp=Z,26nm,0.6s
GURO Guroymak-BITLI 20.62 84 P **P** **03 02 10.2 +1.0**
GURO IAmb IAmb 03 02 11.4
comp=Z,16nm,0.9s
KONO Kongsberg 20.62 351 *eP* **P** **03 02 06.9 -1.9**
KONO Kongsberg 20.62 351 *deP* **P** **03 02 07.8 -1.0**
KONO pmax pmax
comp=Z,25nm,1.1s
SHA1 Shidzhatmaz 20.73 69 *ceP* **P** **03 02 11.1 +0.7**
NEUR Neytrino 20.75 70 ⇓ *eP* **P** **03 02 10.8 +0.3**
NEUR pmax pmax
comp=Z,4.0nm,1.2s
KIV Kislovodsk 20.76 69 *eP* **P** **03 02 08.0 -2.6**
KIV pmax pmax
comp=Z,7.0nm,1.1s
OSL Oslo 20.79 353 *eP* **P** **03 02 08.9 -1.5**
HFS Hagfors 20.79 357 P **P** **03 02 08.9 -1.7**
comp=Z,38nm,0.7s,baz=184,slow=13,SNR=81
comp=Z,38nm,0.7s
BLS5 Blasjo 20.86 347 *eP* **P** **03 02 10.3 -1.0**
KMY Karmoy 20.89 345 *eP* **P** **03 02 10.0 -1.5**
KBZ Khabaz 20.91 69 P **P** **03 02 12.8 +0.9**
comp=Z,8.8nm,0.8s,baz=268,slow=7.5,SNR=14
comp=Z,8.8nm,0.8s
KBZ Khabaz 20.91 69 ⇑ *eP* **P** **03 02 12.8 +0.9**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 21.12 35 P **P** **03 02 13.7 -0.2**
comp=Z,8.8nm,0.4s,baz=270,slow=6.0,SNR=3.2
OBN S **S** **03 05 50.7 -0.7**
comp=Z,11nm,0.5s,baz=221,slow=19,SNR=7.9
comp=Z,8.8nm,0.4s
OBN Obninsk 21.12 35 *ceP* **P** **03 02 10.0 -3.9**
OBN *i* S **S** **03 05 50.1 -1.4**
OBN *e* 03 06 15.0
OBN pmax pmax
comp=Z,10.0nm,1.2s
ODD1 Odda 21.29 348 *eP* **P** **03 02 15.2 -0.3**
INVG Invergeldie, C 21.37 329 *eP* **P** **03 02 14.4 -1.9**
INVG IAmb IAmb 03 02 15.8
comp=Z,36nm,0.8s
NC602 NORSAR Array S 21.51 355 *eP* **P** **03 02 15.9 -1.6**
MEF Metsahovi 21.58 12 *eP* **P** **03 02 17.8 -0.4**
SKAR Skarslia 21.78 350 *eP* **P** **03 02 20.2 +0.2**
NB2 NORSAR Subarra 21.84 354 P **P** **03 02 19.1 -1.5**
comp=Z,13nm,0.6s,baz=173,slow=10
NB2 NORSAR Subarra 21.84 354 P **P** **03 02 19.1 -1.5**
comp=Z,13nm,0.6s,baz=173,slow=10
NOA NORSAR Array B 21.84 354 P **P** **03 02 19.2 -1.4**
comp=Z,6.8nm,0.7s,baz=168,slow=10,SNR=73
comp=Z,6.8nm,0.7s
NOA NORSAR Array B 21.84 354 *eP* **P** **03 02 19.2 -1.4**
NOA pmax pmax
comp=Z,6.0nm,0.5s
NC405 NORSAR Array S 21.87 355 P **P** **03 02 19.6 -1.3**
MCD Coleburn Disti 21.91 332 *eP* **P** **03 02 19.0 -2.2**
BER Bergen 21.96 346 *eP* **P** **03 02 20.2 -1.4**
IDGL Inch Island, C 21.99 323 *eP* **P** **03 02 20.6 -1.4**
RAF Rauma 22.00 8 *eP* **P** **03 02 21.5 -0.5**
NC303 NORSAR Array S 22.01 355 P **P** **03 02 21.0 -1.1**
ASK Askoy 22.08 346 *eP* **P** **03 02 21.9 -0.8**
NC204 NORSAR Array S 22.11 354 P **P** **03 02 22.3 -0.7**
GNI Garni 22.44 79 ⇓ *eP* **P** **03 02 26.4 -0.1**
GNI pmax pmax
comp=Z,27nm,1.1s
PUL Pulkovo 22.45 20 ⇑ *eP* **P** **03 02 26.1 +0.1**
HYA Hoyanger 22.55 348 *eP* **P** **03 02 27.9 +0.9**
KPL Plockton 22.64 329 *eP* **P** **03 02 25.4 -2.5**
KPL IAmb IAmb 03 02 27.9
comp=Z,45nm,0.9s
DOMB Dombas 23.02 352 *eP* **P** **03 02 31.8 +0.5**
FINES FINESS Array B 23.02 13 P **P** **03 02 30.9 -0.4**
FINES FINESS Array B 23.02 13 P **P** **03 02 31.2 -0.1**
comp=Z,36nm,0.5s,baz=190,slow=8.4,SNR=258
FINES PcP **PcP** **03 06 11.5 -0.7**
comp=Z,3.3nm,1.1s,baz=163,slow=1.5,SNR=1.9
comp=Z,36nm,0.5s
FINES FINESS Array B 23.02 13 P **P** **03 02 30.9 -0.4**
FIA1 FINESS Array S 23.02 13 P **P** **03 02 30.4 -0.9**
FOO Floro 23.15 347 *eP* **P** **03 02 32.4 0.0**
KEF Keuruu 23.51 11 *eP* **P** **03 02 35.8 +0.1**
NSS Namsos 25.26 356 *eP* **P** **03 02 50.6 -0.9**
KLMR Klimovskoe 26.14 27 *eP* **P** **03 02 54.5 -5.0**
KLMR pmax pmax
comp=Z,12nm,0.9s
LEIR Leirfjorden 26.80 358 *eP* **P** **03 03 04.6 -0.7**
MOR8 Moi Rana 26.83 359 *eP* **P** **03 03 05.7 +0.2**
STOK Stokkvaagen 27.02 358 *eP* **P** **03 03 07.5 +0.3**
VAGH Vaagaholmen 27.41 358 *eP* **P** **03 03 10.7 0.0**
FAUS Fauske 28.04 360 *eP* **P** **03 03 15.7 -0.5**
STEI Steigen 28.59 360 *eP* **P** **03 03 20.7 -0.4**
LOF Lofoten 28.81 358 *eP* **P** **03 03 22.0 -1.0**
TORD Torodi Ar. Bea 28.85 209 P **P** **03 03 23.9 -0.1**
comp=Z,1.3nm,0.5s,baz=15,slow=9.7,SNR=25
comp=Z,1.3nm,0.5s
KIRV Kirov 28.92 37 *ceP* **P** **03 03 24.2 +0.1**
KTK1 Kautokeino 29.97 6 *eP* **P** **03 03 32.7 -0.6**
JETT Jettan, Norway 30.34 3 *eP* **P** **03 03 35.9 -0.6**
TRO Tromso 30.36 2 *eP* **P** **03 03 35.6 -1.0**
ARA0 ARCESS Array S 30.67 7 *eP* **P** **03 03 38.8 -0.6**
ARCES ARCESS Array B 30.67 7 P **P** **03 03 38.2 -1.1**
ARCES ARCESS Array B 30.67 7 P **P** **03 03 38.6 -0.7**
comp=Z,10nm,0.7s,baz=200,slow=8.5,SNR=69
ARCES PcP **PcP** **03 06 29.6 -0.8**
comp=Z,3.8nm,1.1s,baz=208,slow=2.5,SNR=1.3
comp=Z,10nm,0.7s
ARTI Arti 32.74 44 *diP* **P** **03 03 57.9 +0.3**
ARTI 03 04 57.5
ARTI S **S** **03 09 00.6 +6.0**
ARTI pmax pmax
comp=Z,5.0nm,0.8s
AB31 Akbulak array 32.85 58 P **P** **03 03 59.3 +0.7**
ABKAR Akbulak array 32.85 58 P **P** **03 03 59.4 +0.7**
DBIC Dimbokro 37.39 215 P **P** **03 04 37.2 -0.3**
comp=Z,2.5nm,0.4s,baz=54,slow=9.4,SNR=12
comp=Z,2.5nm,0.4s
SPA0 Spitsbergen Ar 38.90 0 *eP* **P** **03 04 49.7 +0.3**
SPITS Spitsbergen Ar 38.90 0 P **P** **03 04 49.3 -0.1**
comp=Z,14nm,0.6s,baz=152,slow=9.1,SNR=20
comp=Z,14nm,0.6s
SPITS Spitsbergen Ar 38.90 0 P **P** **03 04 49.8 +0.4**
SPITS pmax pmax
comp=Z,29nm,1.1s
BVAR Borovoye Array 39.37 51 P **P** **03 04 54.8 +1.1**
comp=Z,1.3nm,0.6s,baz=256,slow=6.0,SNR=9.8
BVAR PP **PP** **03 06 31.6 +1.9**
comp=Z,1.4nm,0.8s,baz=280,slow=8.9,SNR=4.0
BVAR S **S** **03 10 36.0 +0.8**
comp=Z,1.1nm,0.9s,baz=248,slow=7.4,SNR=3.9
comp=Z,1.3nm,0.6s
KKAR Karatay Array 40.90 66 P **P** **03 05 07.5 +1.2**
KKAR Karatay Array 40.90 66 P **P** **03 05 07.5 +1.2**
SUMG Summit 42.26 339 P **P** **03 05 17.1 -0.2**
SUMG Summit 42.26 339 P **P** **03 05 17.1 -0.2**
KURBB Kurchatov Arra 44.67 54 P **P** **03 05 36.1 -0.1**
comp=Z,2.0nm,1.0s,baz=285,slow=8.6,SNR=9.0
KURBB PcP **PcP** **03 07 14.1 +0.1**
comp=Z,0.4nm,0.5s,baz=283,slow=4.1,SNR=7.4
KURBB S **S** **03 11 52.3 -0.3**
comp=Z,1.1nm,0.9s,baz=291,slow=17,SNR=5.1
comp=Z,2.0nm,1.0s
KURK Kurchatov 44.71 54 P **P** **03 05 36.8 +0.3**
KURK Kurchatov 44.71 54 P **P** **03 05 36.8 +0.3**
KURK pmax pmax
comp=Z,4.0nm,0.9s
ILULI Ilulissat 45.55 333 P **P** **03 05 43.2 +0.3**
ILULI IAmb IAmb 03 05 48.2
comp=Z,50nm,1.5s
ILULI Ilulissat 45.55 333 P **P** **03 05 43.2 +0.3**
ILULI pmax pmax
comp=Z,50nm,1.5s
ZALV Zalesovo Beam 47.80 48 P **P** **03 06 01.0 +0.5**
comp=Z,1.2nm,0.3s,baz=285,slow=7.5,SNR=9.7
ZALV S **S** **03 12 36.1 -0.8**
comp=Z,0.4nm,0.4s,baz=282,slow=10,SNR=2.3
comp=Z,1.2nm,0.3s
ZALV Zalesovo Beam 47.80 48 *iP* **P** **03 06 01.0 +0.5**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV pmax pmax
comp=Z,1.0nm,0.3s
MK31 Makanchi Array 48.00 58 ⇑ *eP* **P** **03 06 00.9 -1.3**
MKAR Makanchi Array 48.00 58 P **P** **03 06 02.8 +0.6**
comp=Z,1.4nm,0.5s,baz=284,slow=6.9,SNR=16
MKAR PcP **PcP** **03 07 26.3 +0.4**
comp=Z,0.8nm,0.7s,baz=318,slow=3.4,SNR=2.4
MKAR S **S** **03 12 40.2 +0.2**
comp=Z,0.1nm,0.4s,baz=279,slow=10,SNR=1.8
comp=Z,1.4nm,0.5s
WMQ Urumqi 52.58 60 *eP* **P** **03 06 38.8 +2.4**
WMQ LR LR
comp=Z,160nm,19.3s
SCHQ Schefferville 54.88 315 P **P** **03 06 51.4 -1.5**
SCHQ Schefferville 54.88 315 P **P** **03 06 51.5 -1.4**
comp=Z,26nm,0.5s,baz=38,slow=6.4,SNR=7.6
D62A Allapoint, All 59.22 308 P **P** **03 07 24.6 +1.4**
D62A IAmb IAmb 03 08 00.2
comp=Z,21nm,1.5s
SONM Songino Array 62.68 49 P **P** **03 07 46.8 +0.3**
comp=Z,2.1nm,0.8s,baz=293,slow=7.3,SNR=8.3
comp=Z,2.1nm,0.8s
SONM Songino Array 62.68 49 *eP* **P** **03 07 47.3 +0.7**
SONM pmax pmax
comp=Z,2.0nm,0.8s
TRQ Mont Tremblant 62.98 309 P **P** **03 07 47.5 -1.0**
TRQ IAmb IAmb 03 08 14.4
comp=Z,15nm,1.4s
BLKN Baker Lake 63.57 333 P **P** **03 07 51.3 -0.6**
BLKN IAmb IAmb 03 07 52.6
comp=Z,11nm,1.0s
L59A Walton 65.33 305 P **P** **03 08 03.6 -0.1**
A36M Sachs Harbour 65.54 348 P **P** **03 08 04.2 -0.3**
baz=33
SADO Sadowa 66.49 309 P **P** **03 08 10.9 -0.1**
SADO IAmb IAmb 03 08 11.8
comp=Z,8.7nm,0.9s
L56A Greenwood 66.94 306 P **P** **03 08 15.2 +1.2**
N58A Sunbury 67.11 305 P **P** **03 08 14.9 -0.1**
N58A IAmb IAmb 03 08 17.0
comp=Z,22nm,1.5s
LZH Lanzhou 67.11 62 *eP* P 03 08 01.5 -14
LZH pP pP 03 09 06.2 -7.2
LZH pmax pmax
comp=Z,9.0nm,1.1s
C36M Paulatuk 67.56 346 P **P** **03 08 16.9 -0.3**
baz=33
BOSA Boshof 68.27 171 P **P** **03 08 22.6 +0.3**
BOSA IAmb IAmb 03 09 05.2
comp=Z,13nm,1.5s
BOSA Boshof 68.27 171 P **P** **03 08 22.6 +0.3**
BOSA pmax pmax
comp=Z,13nm,1.5s
E46A Sault Ste Mari 68.62 313 P **P** **03 08 24.3 0.0**
E46A IAmb IAmb 03 08 47.4
comp=Z,13nm,1.4s
A21K Barrow 69.45 357 P **P** **03 08 28.6 -0.2**
baz=6.5
HHC Hu-ho-hao-te 69.52 54 *eP* **P** **03 08 31.0 +0.9**
Q56A Snyder Ridge, 69.69 304 P **P** **03 08 30.9 -0.1**
Q56A IAmb IAmb 03 08 32.2
comp=Z,8.8nm,0.9s
A22K Sinclair Lake 69.70 357 P **P** **03 08 29.8 -0.6**
baz=7.9
D28M Stokes Point 69.94 351 P **P** **03 08 31.4 -0.5**
baz=21
C26K Camden Bay 70.06 353 P **P** **03 08 33.1 +0.4**
baz=16
INK Inuvik 70.14 348 P **P** **03 08 32.7 -0.4**
INK Inuvik 70.14 348 P **P** **03 08 32.7 -0.4**
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 70.14 348 P **P** **03 08 32.9 -0.3**
baz=25
C27K Jago River 70.22 352 P **P** **03 08 33.7 0.0**
baz=17,SNR=9.6
B22K Teshekpuk Lake 70.28 356 P **P** **03 08 34.2 +0.2**
baz=9.1
D27M Malcolm River 70.29 351 P **P** **03 08 34.2 +0.1**
baz=19
C24K Franklin Bluff 70.58 354 P **P** **03 08 36.1 +0.3**
baz=13
C23K Itkillik River 70.61 355 P **P** **03 08 36.5 +0.5**
baz=11,SNR=5.0
A19K Wainwright 70.69 359 P **P** **03 08 36.3 -0.1**
baz=2.8
E29M Blow River 70.70 350 P **P** **03 08 36.6 0.0**
baz=22,SNR=29
E28M Babbage River 70.72 351 P **P** **03 08 37.1 +0.5**
baz=20
O52A Adamsville 70.75 306 P **P** **03 08 37.1 -0.3**
O52A IAmb IAmb 03 08 38.0
comp=Z,9.2nm,0.8s
D25K Kavik River 70.78 353 P **P** **03 08 37.2 +0.2**
baz=15
YKAW3 Yellowknife Wh 70.80 338 IAmb IAmb 03 08 38.4
comp=Z,9.7nm,1.0s
YKA Yellowknife Ar 70.85 338 P **P** **03 08 36.9 -0.7**
comp=Z,3.1nm,0.7s,baz=40,slow=6.4,SNR=12
comp=Z,3.1nm,0.7s
YKA Yellowknife Ar 70.85 338 *iP* **P** **03 08 37.5 0.0**
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA pmax pmax
comp=Z,3.0nm,0.7s
F31M Tsiigehtchic 70.96 348 P **P** **03 08 38.0 0.0**
baz=25
PZH PanZhiHua 70.96 71 P **P** **03 08 40.1 +1.1**
B21K Ikpikpuk River 71.06 356 P **P** **03 08 38.8 +0.2**
baz=8.1
F30M Barrier River 71.12 349 P **P** **03 08 39.1 0.0**
baz=23
D24K Happy Valley 71.15 354 P **P** **03 08 39.7 +0.5**
baz=13
E27K Coleen River 71.37 351 P **P** **03 08 41.3 +0.7**
baz=19,SNR=6.1
D23K Nanushuk River 71.47 355 P **P** **03 08 41.9 +0.7**
baz=11,SNR=6.8
G31M Satah River 71.52 348 P **P** **03 08 41.8 +0.4**
baz=24
C21K Knifeblade Rid 71.53 356 P **P** **03 08 42.7 +1.2**
baz=7.9,SNR=6.0
B18K Kokolik River 71.54 359 P **P** **03 08 42.4 +0.9**
baz=2.2,SNR=5.3
EYMN Ely 71.60 317 P **P** **03 08 41.4 -0.9**
EYMN IAmb IAmb 03 09 03.2
comp=Z,11nm,1.2s
D22K Ayikyak River 71.69 356 P **P** **03 08 42.7 +0.2**
baz=9.6
F28M Old Crow 71.70 350 P **P** **03 08 42.5 0.0**
baz=20,SNR=9.0
TOLK Toolik Lake Re 71.71 354 IAmb IAmb 03 08 44.8
comp=Z,10nm,0.8s
TOLK Toolik Lake Re 71.71 354 P **P** **03 08 42.9 +0.3**
baz=12,SNR=8.4
N49A Columbus Grove 71.72 308 P **P** **03 08 42.3 -0.9**
N49A IAmb IAmb 03 08 43.0
comp=Z,8.0nm,0.7s
G30M tAoh Zrail Nji 71.77 349 P **P** **03 08 43.1 +0.1**
baz=23
E25K Arctic Village 71.86 353 P **P** **03 08 43.7 +0.2**
baz=15
D20K Etivluk River 72.05 357 P **P** **03 08 44.7 +0.1**
baz=6.4
FFC Flin Flon 72.10 327 P **P** **03 08 45.8 +0.7**
FFC IAmb IAmb 03 08 46.4
comp=Z,6.2nm,0.8s
FFC Flin Flon 72.10 327 P **P** **03 08 45.8 +0.7**
FFC pmax pmax
comp=Z,6.0nm,0.8s
G29M Pine Creek 72.10 349 P **P** **03 08 45.4 +0.5**
baz=21,SNR=7.1
F26K Sheenjek River 72.13 352 P **P** **03 08 45.1 0.0**
baz=16,SNR=7.1
E24K Your Creek 72.18 354 P **P** **03 08 45.5 +0.1**
baz=13
C18K Utukok River 72.25 359 P **P** **03 08 46.0 +0.2**
baz=2.7
O49A Covington 72.25 308 P **P** **03 08 45.4 -0.9**
E23K Chandalar 72.28 354 P **P** **03 08 46.1 0.0**
baz=12
D19K Kuna River 72.33 358 P **P** **03 08 46.5 +0.2**
baz=5.2
Q51A Peebles 72.33 306 IAmb IAmb 03 08 47.0
comp=Z,8.6nm,0.8s
ULM Lac du Bonnet 72.35 321 P **P** **03 08 46.6 0.0**
comp=Z,15nm,0.8s,baz=56,slow=5.4,SNR=19
comp=Z,15nm,0.8s
ULM Lac du Bonnet 72.35 321 ⇑ *eP* **P** **03 08 46.4 -0.2**
ULM pmax pmax
comp=Z,15nm,0.9s
F25K Christian Rive 72.38 353 P **P** **03 08 46.9 +0.3**
baz=15,SNR=5.2
EPYK Eagle Plains 72.42 349 P **P** **03 08 47.1 +0.3**
baz=22
BMAR Burnt Mountain 72.43 352 P **P** **03 08 48.6 +1.6**
C17K DeLong Mountai 72.45 359 P **P** **03 08 47.2 +0.2**
baz=1.1
E20K Nigu River 72.49 357 P **P** **03 08 47.5 +0.3**
baz=6.8
H31M Peel River 72.56 347 P **P** **03 08 47.8 +0.2**
baz=24
WRGLY Wrigley 72.61 342 P **P** **03 08 48.0 0.0**
baz=32
C16K Lisburne Hills 72.65 0 P **P** **03 08 48.2 +0.1**
baz=359
N47A Urbana 72.67 309 P **P** **03 08 47.5 -1.2**
N47A IAmb IAmb 03 08 48.6
comp=Z,8.0nm,0.7s
F24K Squaw Lake 72.67 353 P **P** **03 08 48.7 +0.4**
baz=13,SNR=6.3
G27K Doyon Strip 72.69 351 P **P** **03 08 48.5 +0.1**
baz=18,SNR=5.2
H29M Whitestone 72.80 349 P **P** **03 08 49.1 0.0**
baz=21,SNR=6.7
G26K Porcupine Rive 72.81 352 P **P** **03 08 49.7 +0.7**
baz=17,SNR=12
RDOG Red Dog Mine 72.87 359 P **P** **03 08 50.0 +0.6**
baz=1.3
F22K John River 73.01 355 P **P** **03 08 51.0 +0.7**
baz=9.9

COLD	Coldfoot	73.15	354	P	P	03 08 52.1	+1.0	
COLD	comp=Z,7.5nm,0.9s			IAmb	IAmb	03 08 52.8		
COLD	Coldfoot	73.15	354	P	P	03 08 51.4	+0.3	
	baz=12,SNR=8.9							
H27K	Steamboat Moun	73.22	350	IAmb	IAmb	03 08 53.7		
	comp=Z,5.8nm,0.8s							
H27K	Steamboat Moun	73.22	350	P	P	03 08 52.0	+0.4	
	baz=18,SNR=7.8							
D17K	Noatak River	73.23	359	P	P	03 08 51.9	+0.4	
	baz=1.1							
G25K	Bearman Lake	73.23	352	P	P	03 08 51.7	+0.1	
	baz=15							
E19K	Redstone River	73.33	357	P	P	03 08 52.8	+0.7	
	baz=5.9,SNR=6.7							
FYU	Fort Yukon	73.33	352	P	P	03 08 53.6	+1.5	
F21K	Alatna River	73.38	356	P	P	03 08 53.0	+0.5	
	baz=8.9,SNR=15							
I30M	Mount Dempster	73.43	348	P	P	03 08 52.8	-0.1	
	baz=22,SNR=17							
G24K	Hadweenzic Riv	73.43	353	P	P	03 08 52.9	+0.2	
	baz=14							
E18K	Tukpahlearik C	73.47	358	P	P	03 08 52.6	-0.3	
	baz=3.1							
G22K	Bettles	73.55	355	P	P	03 08 53.2	-0.2	
	baz=10							
CMAR	Chiang Mai Arr	73.56	79	P	P	03 08 55.2	+1.0	
	comp=Z,1.1nm,0.3s,baz=315,slow=9.1,SNR=1.6							
	comp=Z,1.1nm,0.3s							
I29M	Ogilvie Camp,	73.60	349	IAmb	IAmb	03 08 54.9		
	comp=Z,11nm,0.8s							
I29M	Ogilvie Camp,	73.60	349	P	P	03 08 53.8	+0.1	
	baz=21,SNR=8.1							
G23K	Bananza Creek	73.64	354	P	P	03 08 53.5	-0.5	
	baz=12,SNR=8.6							
F20K	Avaraart Lake	73.67	356	P	P	03 08 53.4	-0.6	
	baz=7.1							
H25L	Birch Creek	73.69	352	P	P	03 08 54.3	+0.1	
	baz=15							
I28M	Miner Creek	73.75	350	P	P	03 08 54.6	-0.1	
	baz=20,SNR=5.7							
I27K	Kandik River	73.83	350	P	P	03 08 55.5	+0.4	
	baz=18,SNR=6.1							
F19K	Shaleruckik Mo	73.98	357	P	P	03 08 56.1	+0.3	
	baz=5.4,SNR=5.2							
J30M	Hart River	74.02	348	P	P	03 08 56.5	+0.1	
	baz=22,SNR=8.9							
G21K	Allakaket	74.08	355	P	P	03 08 56.7	+0.2	
	baz=8.8							
F18K	Selawik	74.27	358	P	P	03 08 57.4	-0.1	
	baz=3.9							
H24K	Noodor Dome	74.31	353	P	P	03 08 57.8	-0.1	
	baz=13							
I26K	Coal Creek Min	74.31	351	P	P	03 08 58.0	+0.2	
	baz=17							
PRP	Porcupine Dome	74.38	352	P	P	03 08 59.0	+0.6	
PRP					P	03 08 59.5	+1.1	
PRP	Porcupine Dome	74.38	352	P	P	03 08 58.3	-0.1	
	baz=15							
J29N	Klondike Camp	74.44	349	P	P	03 08 58.6	0.0	
	baz=21							
F17K	Baldwin Pennin	74.47	359	P	P	03 08 58.9	+0.3	
	baz=2.6							
H23K	Yukon River	74.47	354	P	P	03 08 58.5	-0.3	
	baz=12							
H22K	Ishtalitna Cre	74.55	354	P	P	03 08 59.3	+0.1	
	baz=10							
IMAR	Indian Mountai	74.62	355	P	P	03 09 00.7	+1.0	
G19K	Purcell Mounta	74.64	357	P	P	03 08 59.9	+0.2	
	baz=6.0							
MAYO	Mayo, Yukon	74.86	347	P	P	03 09 02.0	+1.0	
	baz=23							
MMPY	Sheldon Lake,	74.88	345	P	P	03 09 03.3	+2.1	
MMPY				IAmb	IAmb	03 09 04.1		
	comp=Z,7.0nm,0.9s							
MMPY	Sheldon Lake,	74.88	345	P	P	03 09 01.9	+0.7	
	baz=26,SNR=8.1							
H21K	Melozitna Rive	74.89	355	P	P	03 09 02.0	+0.9	
	baz=9.4,SNR=7.0							
K29M	Barlow Dome	74.90	348	P	P	03 09 01.4	0.0	
	baz=21							
G18K	Tagagawik	74.95	358	P	P	03 09 01.7	+0.2	
	baz=4.7							
POKR	Poker Plat Res	74.97	353	P	P	03 09 02.4	+0.8	
	baz=14							
DAWY	Dawson	74.98	349	IAmb	IAmb	03 09 03.5		
	comp=Z,10nm,0.9s							
DAWY	Dawson	74.98	349	P	P	03 09 02.0	+0.2	
	baz=20,SNR=5.4							
I23K	Minto, Yukon-K	75.12	353	P	P	03 09 02.9	+0.5	
	baz=12							
J26L	Joseph Creek	75.14	351	P	P	03 09 02.9	+0.2	
	baz=17,SNR=10							
L40A	Anamosa	75.18	312	P	P	03 09 02.7	-0.5	
L40A				IAmb	IAmb	03 09 03.4		
	comp=Z,12nm,0.9s							
H20K	Anotleneega Mo	75.18	356	P	P	03 09 03.1	+0.3	
	baz=7.7							
TGTN	Hyland Airport	75.22	343	P	P	03 09 03.3	+0.2	
	baz=28							
H19K	Roundabout Mou	75.22	357	P	P	03 09 03.4	+0.4	
	baz=6.4							
F15K	North Star Dit	75.23	0	P	P	03 09 02.8	-0.2	
	baz=360							
COLA	College	75.25	353⇑	eP	P	03 09 03.9	+0.8	
COLA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ILAR	Eielson Array	75.25	352	P	P	03 09 03.4	+0.2	
ILAR	Eielson Array	75.25	352	P	P	03 09 03.1	-0.1	
	comp=Z,1.1nm,0.8s,baz=356,slow=6.1,SNR=22							
	comp=Z,1.1nm,0.8s							
ILAR	Eielson Array	75.25	352	P	P	03 09 03.4	+0.2	
I21K	Tanana	75.30	355	P	P	03 09 03.5	0.0	
	baz=10.0							
TNA	Tin City	75.35	1	P	P	03 09 03.7	0.0	
	baz=357							
MLY	Manley	75.35	354	P	P	03 09 03.0	-0.9	
	baz=11							
K27K	Chicken	75.40	350	P	P	03 09 04.1	+0.1	
	baz=18							
G17K	Kiwalik Mounta	75.40	358	P	P	03 09 03.6	-0.4	
	baz=3.1							
HDA	Harding Lake	75.61	352	P	P	03 09 05.2	-0.1	
HDA				IAmb	IAmb	03 09 06.4		
	comp=Z,9.5nm,0.8s							
HDA	Harding Lake	75.61	352	P	P	03 09 04.8	-0.5	
	baz=14,SNR=10.0							
NEA2	Nenana	75.64	353	P	P	03 09 05.4	0.0	
	baz=12							
H18K	Honhosa River	75.68	357	P	P	03 09 05.8	+0.2	
	baz=4.9							
L29M	L29M	75.69	348	IAmb	IAmb	03 09 07.6		
	comp=Z,6.1nm,0.8s							
L29M	L29M	75.69	348	P	P	03 09 05.5	-0.2	
	baz=21							
SCRK	Sand Creek	75.69	351	P	P	03 09 05.9	0.0	
	baz=16,SNR=6.3							
I20K	Naaghedeneel	75.85	356	P	P	03 09 06.9	+0.4	
	baz=8.0							
M31M	Drury Creek, Y	75.87	346	P	P	03 09 06.8	0.0	
	baz=24,SNR=9.5							
T47A	Sharon Grove	75.93	306	P	P	03 09 07.1	-0.4	
H17K	Granite Mounta	75.94	358	P	P	03 09 07.1	0.0	
	baz=3.7							
G15K	Niukluk	75.95	360	P	P	03 09 06.8	-0.3	
	baz=0.4							
M30M	Minto, Yukon	75.96	347	P	P	03 09 07.2	-0.1	
	baz=22							
GCSA	Galena City Sc	76.03	357	P	P	03 09 07.5	0.0	
	baz=6.1							
RIDG	Independent Ri	76.03	351	IAmb	IAmb	03 09 10.4		
	comp=Z,8.1nm,1.0s							
RIDG	Independent Ri	76.03	351	P	P	03 09 07.4	-0.2	
	baz=16,SNR=5.4							
K24K	Donnelly Dome	76.07	352	P	P	03 09 07.7	-0.2	
	baz=15							
BCAR	Beaver Creek A	76.28	350	P	P	03 09 10.1	+1.0	
L27K	Beaver Creek,	76.29	350	P	P	03 09 08.8	-0.3	
	baz=18,SNR=5.6							
BPAW	Bear Paw Mtn.	76.29	354	P	P	03 09 09.3	+0.1	
	baz=11							
M29M	Somme Creek	76.36	348	P	P	03 09 09.6	-0.1	
	baz=20,SNR=10							
ANM	Nome	76.38	0	P	P	03 09 09.0	-0.6	
	baz=359							
J20K	Nowinta River	76.44	355	P	P	03 09 09.0	-0.9	
	baz=8.2							
MCK	McKinley	76.47	353	IAmb	IAmb	03 09 11.3		
	comp=Z,5.9nm,0.8s							
MCK	McKinley	76.47	353	P	P	03 09 09.9	-0.2	
	baz=12							
L26K	Log Cabin Wild	76.53	350	P	P	03 09 10.8	+0.4	
	baz=17							
N32M	Quiet Lake	76.58	345	P	P	03 09 10.4	-0.5	
	baz=24							
WTLY	Watson Lake, Y	76.59	343	IAmb	IAmb	03 09 13.1		
	comp=Z,5.7nm,0.8s							
WTLY	Watson Lake, Y	76.59	343	P	P	03 09 10.5	-0.3	
	baz=28							
CHUM	Lake Minchumin	76.61	354	P	P	03 09 10.6	-0.2	
	baz=9.7,SNR=7.8							
J19K	Poorman	76.71	356	P	P	03 09 11.8	+0.4	
	baz=7.1							
BVCY	Beaver Creek	76.77	349	P	P	03 09 11.7	-0.1	
	baz=19							
N31M	Braeburn, Yuko	76.79	346	P	P	03 09 11.7	-0.3	
	baz=22							
TOAD	Toad River Com	76.82	340	P	P	03 09 12.1	0.0	
	baz=30							
PAX	Paxson	76.85	351	P	P	03 09 12.3	-0.1	
	baz=15							
TRF	Thorofare Moun	76.87	353	P	P	03 09 12.2	-0.4	
	baz=11							
DHY	Denali Highway	76.96	352	IAmb	IAmb	03 09 14.6		
	comp=Z,10nm,0.8s							
DHY	Denali Highway	76.96	352	P	P	03 09 13.1	+0.1	
	baz=14,SNR=11							
M27K	Edge Creek, AK	76.97	349	P	P	03 09 12.9	-0.1	
	baz=18							
GAMB	Gambell	77.01	3	P	P	03 09 12.9	-0.1	
	baz=354							
I17K	Unalakleet	77.02	358	P	P	03 09 13.2	+0.1	
	baz=3.0							
N30M	Aishikik Lake	77.05	347	P	P	03 09 13.1	-0.4	
	baz=21,SNR=6.1							
ECSD	EROS Data Cent	77.06	316	IAmb	IAmb	03 09 14.6		
	comp=Z,9.1nm,0.8s							
M26K	Nabesna, AK	77.08	350	P	P	03 09 12.9	-0.7	
	baz=17							
K20K	Telida	77.25	355	P	P	03 09 14.1	-0.4	
	baz=8.3							
P40A	Paris	77.30	311	IAmb	IAmb	03 09 16.4		
	comp=Z,12nm,1.5s							
J18K	Innoko River	77.30	356	P	P	03 09 14.5	-0.2	
	baz=6.2							
YUK3	Moose Creek	77.31	349	P	P	03 09 15.0	-0.1	
	baz=19,SNR=5.2							
HARP	HAARP	77.36	351	P	P	03 09 14.3	-0.8	
	baz=15							
P33M	Teslin, Yukon	77.39	344	P	P	03 09 14.9	-0.4	
	baz=25,SNR=6.7							
WHY	Whitehorse	77.39	346	P	P	03 09 14.9	-0.5	
	baz=23							
YUK4	Talbot Arm	77.43	348	P	P	03 09 14.4	-1.4	
	baz=20							
J17K	VABM Dome	77.46	358	P	P	03 09 15.2	-0.4	
	baz=4.3							
WAT6	Susitna Watana	77.48	352	P	P	03 09 15.3	-0.6	
	baz=13							
X48A	Hartselle	77.48	304	P	P	03 09 15.8	-0.4	
X48A				IAmb	IAmb	03 09 16.5		
	comp=Z,8.7nm,0.7s							
O30N	Mendenhall	77.52	346	P	P	03 09 15.8	-0.3	
	baz=22							
PPLA	Purkeypile	77.58	354	P	P	03 09 16.3	-0.1	
PPLA				IAmb	IAmb	03 09 23.6		
	comp=Z,15nm,1.4s							
PPLA	Purkeypile	77.58	354	P	P	03 09 15.7	-0.7	
	baz=9.7							
J16K	Anvik River	77.62	358	P	P	03 09 16.4	0.0	
	baz=3.1							
HYT	Haines Junctio	77.72	347	P	P	03 09 17.0	-0.2	
	baz=21							
R33M	Jennings River	77.73	343	IAmb	IAmb	03 09 20.2		
	comp=Z,10nm,0.8s							
R33M	Jennings River	77.73	343	P	P	03 09 17.2	-0.1	
	baz=26,SNR=14							
YUK6	Outpost Mounta	77.76	347	P	P	03 09 17.0	-0.6	
	baz=20,SNR=7.5							
M24K	Tolsona, Glenn	77.77	351	P	P	03 09 16.4	-1.0	
	baz=4							
CCM	Cathedral Cave	77.78	309	P	P	03 09 16.8	-1.0	
CCM				IAmb	IAmb	03 09 17.7		
	comp=Z,5.4nm,0.7s							
CCM	Cathedral Cave	77.78	309	P	P	03 09 16.8	-1.0	
CCM				pmax	pmax			
	comp=Z,5.0nm,0.7s							
N25K	Chitina, Valde	78.06	350	P	P	03 09 18.4	-0.6	
	baz=16							
MCARA	McCarthy VSAT	78.06	350	IAmb	IAmb	03 09 22.1		
	comp=Z,7.0nm,1.0s							
MCARA	McCarthy VSAT	78.06	350	P	P	03 09 17.9	-1.0	
	baz=17							
P38A	Dawn	78.10	312	IAmb	IAmb	03 09 20.1		
	comp=Z,12nm,1.0s							
PBMO	Poplar Bluff	78.11	308	IAmb	IAmb	03 09 19.9		
	comp=Z,8.4nm,1.1s							
K17K	Iditarod	78.11	357	P	P	03 09 18.9	-0.3	
	baz=4.9							
L20K	Farewell, AK	78.11	355	P	P	03 09 18.6	-0.7	
	baz=8.4							
P32M	Atlin	78.14	345	P	P	03 09 19.1	-0.4	
	baz=24							
SCM	Sheep Creek Mo	78.17	352	P	P	03 09 18.9	-0.7	
	baz=14							
CTG	Chitna Glacier	78.22	349	P	P	03 09 19.4	-0.6	
	baz=18							
O28M	Mount Upton	78.22	348	P	P	03 09 19.6	-0.6	
	baz=19							
R40A	Maddies Statio	78.23	310	IAmb	IAmb	03 09 20.8		
	comp=Z,10nm,0.8s							
M23K	Glacier View	78.25	352	P	P	03 09 19.9	-0.1	
	baz=13							
KLU	Klutina	78.33	351	P	P	03 09 19.8	-0.8	
	baz=15,SNR=5.1							
DLBC	Dease Lake	78.37	342	P	P	03 09 20.5	-0.3	
	baz=27							
O29M	Mount Kennedy	78.40	347	P	P	03 09 20.5	-0.5	
	baz=20							
Q32M	Nakina River	78.41	344	P	P	03 09 21.2	+0.1	
	baz=25							
SKT	Skwentna	78.43	354	P	P	03 09 21.0	0.0	
	baz=10							
L19K	White Mountain	78.47	355	P	P	03 09 21.3	+0.1	
	baz=7.6							
GRNC	Granite Creek	78.50	349	P	P	03 09 21.9	+0.3	
GRNC				IAmb	IAmb	03 09 23.9		
	comp=Z,12nm,0.8s							
L18K	Granite Mounta	78.54	356	P	P	03 09 21.2	-0.3	
	baz=6.2							
SKAG	Skagway	78.58	345	P	P	03 09 22.2	+0.4	
	baz=23							
PMR	Palmer	78.59	353	P	P	03 09 22.1	+0.3	
	baz=12							
K15K	Wolf Creek Mou	78.63	359	P	P	03 09 22.3	+0.3	
	baz=2.4							
M20K	Styx River	78.65	355	P	P	03 09 22.8	+0.5	
	baz=9.0							
BMRM	Bremner River	78.68	350	P	P	03 09 22.3	0.0	
	baz=16							
L17K	Donlin	78.70	357	P	P	03 09 22.2	-0.2	
	baz=4.9							
M19K	Big River Lodg	78.72	355	P	P	03 09 22.2	-0.3	
	baz=8.0							
PLBC	Pleasant Camp	78.79	346	P	P	03 09 22.5	-0.4	
	baz=22							
SUA	Susitna One	78.87	353	IAmb	IAmb	03 09 25.1		
	comp=Z,16nm,1.2s							
SUA	Susitna One	78.87	353	P	P	03 09 23.0	-0.5	
	baz=11							
PINM	Pinnacle	78.87	348	P	P	03 09 22.8	-0.6	
	baz=19							
P29M	Windy Craggy	78.88	347	IAmb	IAmb	03 09 25.5		
	comp=Z,8.9nm,0.8s							
P29M	Windy Craggy	78.88	347	P	P	03 09 23.2	-0.3	
	baz=21							
MGMO	Mountain Grove	78.98	309	IAmb	IAmb	03 09 26.7		
	comp=Z,6.6nm,0.9s							
USA0B	Ussuriysk Arra	79.01	41⇑	eP	P	03 09 24.4	0.0	
USRK	Ussuriysk Ar.	79.01	41	P	P	03 09 24.0	-0.4	
	comp=Z,2.0nm,0.6s,baz=255,slow=2.8,SNR=4.7							
	comp=Z,2.0nm,0.6s							
K13K	Kusilvak Mount	79.02	0	P	P	03 09 24.1	0.0	
	baz=360							
GLI	Glacier Island	79.07	351	P	P	03 09 23.5	-0.9	
	baz=14							
S34M	Telegraph Cree	79.10	343	P	P	03 09 24.4	-0.2	
	baz=26							
PNL	Peninsula	79.14	347	P	P	03 09 24.7	-0.1	
	baz=20							
RC01	Rabbit Creek A	79.14	353	P	P	03 09 24.9	0.0	
	baz=12							
L16K	Owhat River	79.16	358	P	P	03 09 24.3	-0.6	
	baz=4.0							
M18K	Stony River	79.22	356	P	P	03 09 25.1	-0.1	
	baz=6.8							
PWL	Port Wells	79.23	352	P	P	03 09 24.5	-0.8	
	baz=13							
EYAK	Cordova Ski Ar	79.23	351	P	P	03 09 24.6	-0.6	
	baz=15							
L15K	Ungalak Mounta	79.25	359	P	P	03 09 25.0	-0.4	
	baz=2.4							
N20K	Mount Spurr	79.26	354	P	P	03 09 24.9	-0.6	
	baz=9.7							
M17K	Holitna River	79.39	357	P	P	03 09 26.2	0.0	
	baz=5.6							
R32K	Eaglecrest	79.52	344	P	P	03 09 26.7	-0.2	
	baz=23							
NJ2	Nanjing	79.52	57	eP	P	03 09 27.2	-0.2	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
KAIM	Kayak Island	79.66	350	P	P	03 09 27.3	-0.3	
	baz=16							
FCAR	Ozark Folk Cen	79.73	308		P	03 09 28.1	-0.3	
FCAR				IAmb	IAmb	03 09 29.0		
	comp=Z,9.8nm,1.1s							
T35M	Bob Quinn	79.73	342	P	P	03 09 28.1	0.0	
	baz=26							
N19K	Bonanza Creek	79.81	355	P	P	03 09 28.2	-0.3	
	baz=7.9							
M16K	Timber Creek	79.83	357	P	P	03 09 28.2	-0.3	
	baz=4.4							
SEW	Seward	80.08	352	P	P	03 09 29.3	-0.5	
	baz=12							
S31K	Pelican	80.16	345	P	P	03 09 29.3	-1.0	
	baz=22							
M14K	Bethel	80.19	359	P	P	03 09 30.1	-0.3	
	baz=2.0							
WHAR	Wooly Hollow	80.22	308	IAmb	IAmb	03 09 31.8		
	comp=Z,9.8nm,0.8s							
N17K	Nushagak Hills	80.25	356	P	P	03 09 29.8	-1.0	
	baz=5.7							
N16K	Nishlik Lake	80.38	357	P	P	03 09 30.4	-1.0	
	baz=4.5							
Q23K	Middleton Isla	80.39	351	P	P	03 09 30.7	-0.7	
	baz=14							
O20K	Slope Mountain	80.40	354	P	P	03 09 30.8	-0.9	
	baz=9.3							
M13K	Dall Lake	80.54	359	P	P	03 09 32.1	-0.2	
	baz=0.9							
M11K	Mekoryuk	80.57	1	P	P	03 09 31.9	-0.5	
	baz=359							
BRSE	Bradley Lake S	80.57	353	P	P	03 09 32.0	-0.5	
	baz=11							
BDFB	Brasilia	80.59	241	P	P	03 09 33.0	-0.3	
	comp=Z,2.4nm,0.8s,baz=13,slow=4.2,SNR=3.5							
	comp=Z,2.4nm,0.8s							
RSSD	Black Hills	80.60	321	P	P	03 09 33.1	-0.1	
RSSD				IAmb	IAmb	03 09 35.3		
	comp=Z,9.4nm,1.4s							
RSSD	Black Hills	80.60	321	P	P	03 09 33.1	-0.1	
RSSD				pmax	pmax			
	comp=Z,9.0nm,1.4s							
N15K	Kwethluk River	80.73	358	P	P	03 09 32.6	-0.7	
	baz=3.5							
WRAK	Wrangell Islan	80.74	343	P	P	03 09 33.0	-0.4	
	baz=25							
SIT	Sitka	80.81	344	P	P	03 09 33.3	-0.4	
	baz=22							
P19K	Oil Pt	80.87	354	P	P	03 09 33.3	-0.8	
	baz=8.8							
O17K	Koliganek Bris	81.00	356	P	P	03 09 34.1	-0.6	
	baz=5.8							
N14K	Kuskokwak Cree	81.01	359	P	P	03 09 34.2	-0.5	
	baz=2.2							
X40A	Basin Creek Fa	81.09	307	IAmb	IAmb	03 09 36.4		
	comp=Z,6.3nm,0.9s							
U33K	Whale Pass	81.20	343	P	P	03 09 35.2	-0.5	
	baz=24							
O16K	Kokwok River B	81.23	357	P	P	03 09 35.8	-0.1	
	baz=5.0							
MIAR	Mount Ida	81.51	308	P	P	03 09 38.2	+0.3	
MIAR				IAmb	IAmb	03 09 39.1		
	comp=Z,9.2nm,0.9s							
MIAR	Mount Ida	81.51	308	P	P	03 09 38.2	+0.3	
MIAR				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KSRS	Korea Array	81.51	48	P	P	03 09 38.0	+0.1	
	comp=Z,1.5nm,0.8s,baz=320,slow=4.6,SNR=6.8							
	comp=Z,1.5nm,0.8s							
KSRS	Korea Array	81.51	48	eP	P	03 09 38.5	+0.7	
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.6s							
R32A	Long Quarter,	81.86	314	IAmb	IAmb	03 09 40.6		
	comp=Z,8.5nm,0.9s							
YSS	Yuzhno-Sakhali	82.00	33	eP	P	03 09 40.7	+0.5	
PEA0B	Petropavlovsk-	82.23	22⇑	eP	P	03 09 39.5	-1.8	
OK052	Battle Ridge R	82.46	311	IAmb	IAmb	03 09 44.0		
	comp=Z,12nm,0.9s							
KDAK	Kodiak Island	82.67	354	P	P	03 09 43.1	-0.3	
	baz=9.3							
R17L	Mt. Peulik Vol	83.10	356	P	P	03 09 45.0	-0.6	
	baz=6.3							
NEW	Newport	83.13	330	IAmb	IAmb	03 09 47.5		
	comp=Z,6.6nm,0.9s							
OHAK	Old Harbor	83.28	354	P	P	03 09 46.3	-0.2	
	baz=8.7							
YHL	Hebgen Lake	83.40	325	IAmb	IAmb	03 09 50.1		
	comp=Z,7.8nm,1.0s							
DLMT	Dillon	83.62	326	IAmb	IAmb	03 09 51.2		
	comp=Z,12nm,1.2s							
SII	Sitkinak Islan	84.01	354	P	P	03 09 49.9	-0.4	
	baz=8.0							
PDAR	Pinedale Array	84.27	323	P	P	03 09 51.8	-0.4	
PDAR	Pinedale Array	84.27	323	P	P	03 09 52.1	-0.1	
	comp=Z,2.2nm,0.7s,baz=50,slow=4.6,SNR=18							
	comp=Z,2.2nm,0.7s							
ISCO	Idaho Springs	84.58	319	IAmb	IAmb	03 09 55.6		
	comp=Z,6.3nm,0.8s							
E09A	Wood Farm, Sta	84.97	330	IAmb	IAmb	03 09 56.4		
	comp=Z,7.6nm,0.9s							
E07A	Sunnyside	85.58	331	IAmb	IAmb	03 10 00.4		
	comp=Z,9.0nm,1.1s							
HAWA	Hanford	85.60	331	IAmb	IAmb	03 10 00.2		
	comp=Z,8.1nm,0.9s							
O20A	White River Ci	85.65	320	IAmb	IAmb	03 09 59.8		
	comp=Z,4.6nm,0.7s							
GNW	Green Mountain	85.81	333	IAmb	IAmb	03 10 01.4		
	comp=Z,7.6nm,1.0s							
HKT	Hockley	86.03	306⇓	eP	P	03 10 01.3	+0.6	
HKT				pmax	pmax			
	comp=Z,4.0nm,0.9s							
CHNA	Chernabura Isl	86.05	357	P	P	03 09 59.6	-0.8	
	baz=3.8							
SDCO	Great Sand Dun	86.05	317	P	P	03 10 00.9	-0.3	
APMT	Aspermont	86.27	311	IAmb	IAmb	03 10 03.5		
	comp=Z,9.7nm,0.9s							
ABTX	Abilene, Hawle	86.49	310	IAmb	IAmb	03 10 04.6		
	comp=Z,12nm,1.0s							
PV22	Blue Mesa, Par	87.15	320	IAmb	IAmb	03 10 07.2		
	comp=Z,6.0nm,0.8s							
PV07	Paradox Valley	87.15	319	IAmb	IAmb	03 10 07.3

comp=Z,1.5nm,1.0s,baz=310,slow=3.5,SNR=3.6

*IDC **09** 03:14:02.5±0.9,9.°04N×125.°84E,h0km,mb3.8/8, mbtmp3.8/8,MS3.0/3,Error ellipse: s-maj=46.4km s-min=15.9km az=80.0*

*NEIC **09** 03:14:04.9±1.4,9.°08N±0.°07×125.°89E±0.°08,h10km±1km, mb4.4/13,Error ellipse: s-maj=16.4km s-min=7.9km az=131.0*

ISC 09 03:14:10.9±0.7,8.°94N±0.°07×125.°8E±0.°1,h66km,n37, σ0.°84/30,mb4.1/15,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**1.86**	**185**			**Pn**	**03 14 39.3**	**-1.3**
DAV	**Davao City (W)**	**1.86**	**185**			**Pn**	**03 14 39.0**	**-1.6**
	77nm,0.3s,baz=49,slow=16,SNR=4.0							
DAV				Sn		**Sn**	**03 15 02.9**	**-0.2**
	99nm,0.3s,baz=60,slow=20,SNR=5.6							
MYLDM	**Lahad Datu**	**8.11**	**243**	Pn		**Pn**	**03 16 04.5**	**-1.5**
SBUM	**Sibu**	**14.92**	**245**			**P**	**03 17 43.1**	**+0.8**
GUMO	**Guam**	**19.30**	**74**	LR		LR	03 28 07.6	
	comp=Z,12nm,18.0s,baz=118,slow=44							
MTN	**Manton Dam**	**22.29**	**166**	P		**P**	**03 19 01.4**	**-1.5**
MTN				IAmb		IAmb	03 19 19.4	
	comp=Z,20nm,1.3s							
FITZ	**Fitzroy Crossi**	**26.86**	**180**	P		**P**	**03 19 44.7**	**-0.8**
WB0	**Warramunga Arr**	**29.76**	**163**	P		**P**	**03 20 12.3**	**+0.9**
WB0				IAmb		IAmb	03 20 56.1	
	comp=Z,8.3nm,1.3s							
WRA	**Warramunga Arr**	**29.91**	**164**	P		**P**	**03 20 12.6**	**-0.2**
	comp=Z,0.9nm,1.1s,baz=342,slow=9.5,SNR=2.4							
	comp=Z,0.9nm,1.1s							
WR8	**Warramunga Arr**	**29.97**	**163**	P		**P**	**03 20 12.6**	**-0.7**
WR8				IAmb		IAmb	03 20 53.6	
	comp=Z,6.8nm,1.1s							
PSA00	**Pilbara Seismi**	**30.87**	**191**	P		**P**	**03 20 22.8**	**+1.6**
ASAR	**Alice Springs**	**33.37**	**166**	P		**P**	**03 20 42.9**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=345,slow=7.1,SNR=7.0							
	comp=Z,0.4nm,0.4s							
CTAO	**Charters Tower**	**35.20**	**145**	P		**P**	**03 20 59.2**	**+0.3**
USRK	**Ussuriysk Ar.**	**35.55**	**8**	P		**P**	**03 21 00.8**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=198,slow=10,SNR=2.3							
	comp=Z,0.9nm,0.3s							
MORW	**Morawa**	**38.93**	**194**	P		**P**	**03 21 30.6**	**+0.1**
MORW				IAmb		IAmb	03 21 54.3	
	comp=Z,13nm,1.3s							
H11S3	**WAKE ISLAND Hy**	**40.80**	**72**	T		T	04 04 46.6	
	baz=261,slow=74,SNR=64							
H11S1	**WAKE ISLAND Hy**	**40.81**	**72**	T		T	04 04 47.7	
	baz=261,slow=74,SNR=42							
H11S2	**WAKE ISLAND Hy**	**40.81**	**72**	T		T	04 04 48.0	
	baz=261,slow=74,SNR=28							
H11N1	**WAKE ISLAND Hy**	**41.17**	**70**	T		T	04 05 34.2	
	baz=265,slow=74,SNR=20							
H11N2	**WAKE ISLAND Hy**	**41.17**	**70**	T		T	04 05 26.9	
	baz=265,slow=74,SNR=13							
H11N3	**WAKE ISLAND Hy**	**41.19**	**70**	T		T	04 05 38.2	
	baz=265,slow=74,SNR=19							
EVN	**Everest**	**41.26**	**303**	P		**P**	**03 21 51.4**	**+0.8**
EVN				IAmb		IAmb	03 21 53.4	
	comp=Z,11nm,1.4s							
BBOO	**Buckleboo**	**42.66**	**167**	P		**P**	**03 22 02.1**	**+1.0**
MKAR	**Makanchi Array**	**52.78**	**324**	P		**P**	**03 23 19.7**	**+0.3**
MKAR	**Makanchi Array**	**52.78**	**324**	P		**P**	**03 23 19.2**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=123,slow=8.0,SNR=13							
	comp=Z,1.4nm,0.7s							
NIL	**Nilore**	**54.07**	**305**	P		**P**	**03 23 29.3**	**+0.2**
ZALV	**Zalesovo Beam**	**55.55**	**332**	P		**P**	**03 23 38.1**	**-1.2**
ZALV	**Zalesovo Beam**	**55.55**	**332**	P		**P**	**03 23 38.7**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=133,slow=8.5,SNR=2.2							
ZALV				LR		LR	03 49 05.1	
	comp=Z,28nm,19.2s,baz=90,slow=38							
	comp=Z,0.7nm,0.3s							
AAK	**Ala-Archa**	**55.92**	**316**	LR		LR	03 52 09.6	
	comp=Z,26nm,18.2s,baz=112,slow=41							
KURK	**Kurchatov**	**56.88**	**326**	P		**P**	**03 23 48.7**	**-0.2**
KURK				IAmb		IAmb	03 23 50.1	
	comp=Z,2.5nm,0.6s							
KURBB	**Kurchatov Arra**	**56.88**	**326**	P		**P**	**03 23 48.8**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=125,slow=6.7,SNR=12							
	comp=Z,1.0nm,0.7s							
BVAR	**Borovoye Array**	**62.48**	**326**	P		**P**	**03 24 27.1**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=129,slow=4.7,SNR=4.0							
	comp=Z,1.1nm,0.9s							
CASY	**Casey**	**75.84**	**186**	P		**P**	**03 25 49.7**	**+0.1**
CASY				IAmb		IAmb	03 26 25.2	
	comp=Z,3.0nm,1.1s							
IMAR	**Indian Mountai**	**78.02**	**24**	P		**P**	**03 26 01.4**	**-0.6**
ILAR	**Eielson Array**	**80.86**	**26**	P		**P**	**03 26 17.7**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=262,slow=3.5,SNR=4.1							
	comp=Z,0.3nm,0.8s							
BMAR	**Burnt Mountain**	**81.69**	**23**	P		**P**	**03 26 22.2**	**+0.3**
BCAR	**Beaver Creek A**	**83.22**	**27**	P		**P**	**03 26 30.3**	**+0.3**

*MOS **09** 03:40:41.4±0.9,50.°20N×156.°86E,h66km,mb3.6/1,Error ellipse: s-maj=21.6km s-min=4.6km az=76.5*

MOS Felt (II-III) at Severo-Kuril'sk.

*KRSC **09** 03:40:43.5±1.8,50.°46N×157.°08E,h47km±19km,Ml4.0*

*IDC **09** 03:40:47.6±2.1,50.°92N×155.°80E,h111km±19km,mb3.4/6, mbtmp3.8/8,Error ellipse: s-maj=43.4km s-min=14.0km az=136.0*

ISC 09 03:40:42.8±1.2,50.°33N±0.°10×156.°80E±0.°09,h59km±13km, n65,σ1.°70/79,mb3.7/6,5C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.56**	**309**	i/eP		**Pn**	**03 40 56.2**	**+0.9**
SKR				eS		**Sn**	**03 41 04.8**	**+0.3**
SKR				pmax		pmax		
	comp=Z,1μm,0.3s							
SKR				smax		smax		
	comp=N,19μm,0.5s							
SKR				smax		smax		
	comp=E,15μm,0.4s							
SKR	**Severo-Kuril's**	**0.56**	**309**	eP		**Pn**	**03 40 56.1**	**+0.7**
SKR				eS		**Sn**	**03 41 05.0**	**+0.5**
PAU	**Pauzhetka**	**1.14**	**0**	PN		**Pn**	**03 41 02.9**	**+0.3**
PAU				S		**Sn**	**03 41 17.0**	**-0.3**
PAU	**Pauzhetka**	**1.14**	**0**	eP		**Pn**	**03 41 02.9**	**+0.3**
PAU				eS		**Sn**	**03 41 17.1**	**-0.3**
MIPR	**Malaya Ipel'ka**	**1.95**	**359**	PN		**Pn**	**03 41 14.0**	**+0.5**
MIPR				S		**Sn**	**03 41 35.2**	**-1.7**
MIPR	**Malaya Ipel'ka**	**1.95**	**359**	eP		**Pn**	**03 41 14.0**	**+0.5**
MIPR				eS		**Sn**	**03 41 35.2**	**-1.7**
ASAK	**Asacha**	**2.17**	**18**	PN		**Pn**	**03 41 17.8**	**+1.2**
ASAK				S		**Sn**	**03 41 42.1**	**-0.2**
ASAK	**Asacha**	**2.17**	**18**	eP		**Pn**	**03 41 17.8**	**+1.2**
ASAK				eS		**Sn**	**03 41 42.1**	**-0.2**
GRL	**Gorelyy**	**2.36**	**19**	PN		**Pn**	**03 41 20.4**	**+1.2**
GRL				S		**Sn**	**03 41 45.3**	**-1.8**
GRL	**Gorelyy**	**2.36**	**19**	eP		**Pn**	**03 41 20.4**	**+1.2**
GRL				eS		**Sn**	**03 41 45.4**	**-1.8**
RUS	**Russkaya**	**2.37**	**26**	PN		**Pn**	**03 41 19.4**	**+0.3**
RUS				S		**Sn**	**03 41 45.0**	**-1.9**
RUS	**Russkaya**	**2.37**	**26**	eP		**Pn**	**03 41 19.4**	**+0.3**
RUS				eS		**Sn**	**03 41 45.1**	**-1.9**
APC	**Apacha**	**2.61**	**5**	PN		**Pn**	**03 41 25.8**	**+3.4**
APC	**Apacha**	**2.61**	**5**	eP		**Pn**	**03 41 25.8**	**+3.4**
KRMR	**Karymshinskiy**	**2.64**	**18**	PN		**Pn**	**03 41 24.2**	**+1.4**
KRMR				S		**Sn**	**03 41 52.5**	**-1.1**
KRMR	**Karymshinskiy**	**2.64**	**18**	eP		**Pn**	**03 41 24.3**	**+1.4**
KRMR				eS		**Sn**	**03 41 52.5**	**-1.1**
PEA0B	**Petropavlovsk-**	**2.84**	**11**	PN		**Pn**	**03 41 27.3**	**+1.7**
PEA0B				S		**Sn**	**03 42 00.8**	**+2.2**
PETK	**Petropavlovsk-**	**2.84**	**11**	P		**Pn**	**03 41 27.1**	**+1.4**
	comp=E,7.1nm,0.6s,baz=173,slow=12,SNR=24							
PETK				S		**Sn**	**03 41 57.6**	**-1.0**
	comp=E,8.5nm,0.5s,baz=162,slow=14,SNR=4.3							
PET	**Petropavlovsk**	**2.94**	**22**	PN		**Pn**	**03 41 27.5**	**+0.7**
PET				S		**Sn**	**03 42 01.0**	**+0.2**
PET	**Petropavlovsk**	**2.94**	**22**	eP		**Pn**	**03 41 27.6**	**+0.7**
PET				eS		**Sn**	**03 42 01.1**	**+0.2**
DALK	**Dalny**	**2.97**	**23**	PN		**Pn**	**03 41 28.4**	**+1.1**
DALK				S		**Sn**	**03 42 02.1**	**+0.4**
DALK	**Dalny**	**2.97**	**23**	eP		**Pn**	**03 41 28.4**	**+1.1**
DALK				eS		**Sn**	**03 42 02.1**	**+0.4**
UGLR	**Uglovaya**	**3.15**	**23**	PN		**Pn**	**03 41 32.6**	**+2.7**
UGLR	**Uglovaya**	**3.15**	**23**	eP		**Pn**	**03 41 32.6**	**+2.7**
AVH	**Avacha**	**3.18**	**21**	PN		**Pn**	**03 41 31.9**	**+1.6**
AVH				S		**Sn**	**03 42 07.4**	**+0.5**
AVH	**Avacha**	**3.18**	**21**	eP		**Pn**	**03 41 32.0**	**+1.6**
AVH				eS		**Sn**	**03 42 07.5**	**+0.5**
KOK	**Koryaka**	**3.18**	**20**	PN		**Pn**	**03 41 33.4**	**+3.1**
KOK	**Koryaka**	**3.18**	**20**	eP		**Pn**	**03 41 33.5**	**+3.1**
SMAR	**Somma**	**3.19**	**22**	PN		**Pn**	**03 41 33.2**	**+2.6**
SMAR	**Somma**	**3.19**	**22**	eP		**Pn**	**03 41 33.3**	**+2.6**
KRER	**Koryakskii**	**3.21**	**21**	PN		**Pn**	**03 41 34.0**	**+3.1**
KRER	**Koryakskii**	**3.21**	**21**	eP		**Pn**	**03 41 34.0**	**+3.1**
SDLR	**Sedlovina**	**3.22**	**23**	PN		**Pn**	**03 41 32.2**	**+1.3**
SDLR	**Sedlovina**	**3.22**	**23**	eP		**Pn**	**03 41 32.3**	**+1.3**
KRX	**Arik**	**3.24**	**20**	PN		**Pn**	**03 41 34.0**	**+2.7**
KRX	**Arik**	**3.24**	**20**	eP		**Pn**	**03 41 34.0**	**+2.7**
SPN	**Mys Shipunski**	**3.42**	**35**	PN		**Pn**	**03 41 34.4**	**+0.9**
SPN				S		**Sn**	**03 42 10.6**	**-2.2**
SPN	**Mys Shipunski**	**3.42**	**35**	eP		**Pn**	**03 41 34.5**	**+0.9**
SPN				eS		**Sn**	**03 42 10.7**	**-2.2**
GNL	**Ganaly**	**3.44**	**11**	PN		**Pn**	**03 41 35.9**	**+1.9**
GNL	**Ganaly**	**3.44**	**11**	eP		**Pn**	**03 41 35.9**	**+1.9**
KII	**Karymskiy**	**4.05**	**23**	PN		**Pn**	**03 41 43.1**	**+0.8**
KII	**Karymskiy**	**4.05**	**23**	eP		**Pn**	**03 41 43.2**	**+0.8**
MKZ	**Mys Kozlova**	**5.20**	**34**	PN		**Pn**	**03 41 58.3**	**+0.5**
MKZ	**Mys Kozlova**	**5.20**	**34**	eP		**Pn**	**03 41 58.3**	**+0.5**
MA2	**Magadan**	**9.89**	**342**	i/eP		Pn	03 42 58.6	-3.4
MA2				pmax		pmax		
	comp=Z,36nm,1.8s							
YSS	**Yuzhno-Sakhali**	**9.89**	**255**	i/eP		**Pn**	**03 42 59.4**	**-2.7**
ASAJ	**Asahikawa**	**11.48**	**243**	P		**Pn**	**03 43 24.6**	**+0.9**
	comp=Z,5.9nm,0.6s,baz=78,slow=18,SNR=4.6							
ERM	**Erimo**	**12.58**	**234**	i/eP		**Pn**	**03 43 40.0**	**+1.3**
USA0B	**Ussuriysk Arra**	**17.88**	**260**	i/eP		**P**	**03 44 43.2**	**-3.8**
YAK	**Yakutsk**	**18.93**	**319**	i/eP		P	03 44 52.6	-5.9
YAK				pmax		pmax		
	comp=Z,7.0nm,0.7s							
MAJO	**Matsushiro**	**19.22**	**231**	i/eP		**P**	**03 45 03.0**	**+1.2**
MAJO				pmax		pmax		
	comp=Z,5.0nm,1.1s							
MJAR	**Matsushiro Arr**	**19.22**	**231**	P		**P**	**03 45 01.3**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=37,slow=9.1,SNR=1.8							
KSRS	**Korea Array**	**24.29**	**249**	P		**P**	**03 45 52.2**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=57,slow=8.0,SNR=1.4							
	comp=Z,0.4nm,0.3s							
H11N2	**WAKE ISLAND Hy**	**31.57**	**162**	T		T	04 20 34.1	
	baz=348,slow=76,SNR=33							
H11N3	**WAKE ISLAND Hy**	**31.58**	**162**	T		T	04 20 34.6	
	baz=348,slow=76,SNR=63							
H11N1	**WAKE ISLAND Hy**	**31.59**	**162**	T		T	04 20 35.1	
	baz=348,slow=76,SNR=21							
ILAR	**Eielson Array**	**32.23**	**42**	P		**P**	**03 47 04.2**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=255,slow=7.2,SNR=4.8							
	comp=Z,0.3nm,0.7s							
H11S1	**WAKE ISLAND Hy**	**32.72**	**162**	T		T	04 22 02.6	
	baz=348,slow=76,SNR=65							
H11S3	**WAKE ISLAND Hy**	**32.73**	**162**	T		T	04 22 06.3	
	baz=348,slow=76,SNR=142							
H11S2	**WAKE ISLAND Hy**	**32.74**	**162**	T		T	04 22 07.2	
	baz=348,slow=76,SNR=76							
ARCES	**ARCESS Array B**	**55.26**	**341**	P		P	03 50 03.0	-6.3
	comp=Z,3.0nm,0.8s,baz=338,slow=7.1,SNR=2.1							
	comp=Z,3.0nm,0.8s							
ARCES	**ARCESS Array B**	**55.26**	**341**	P		P	03 50 03.0	-6.3
PDAR	**Pinedale Array**	**60.70**	**57**	P		**P**	**03 50 48.9**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=350,slow=1.8,SNR=6.5							
	comp=Z,0.6nm,0.7s							
WRA	**Warramunga Arr**	**72.73**	**202**	P		**P**	**03 52 04.8**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=1.1,slow=7.6,SNR=3.3							
	comp=Z,0.7nm,0.6s							
TXAR	**Lajitas Array**	**73.65**	**64**	P		**P**	**03 52 11.5**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=298,slow=4.0,SNR=9.1							
	comp=Z,0.5nm,0.6s							

*IDC **09** 03:43:46.8±1.2,29.°22N×139.°43E,h407km±10km, mb3.5/20,mbtmp4.2/25,Error ellipse: s-maj=18.7km s-min=11.9km az=81.0*

*JMA **09** 03:43:46.3±0.1,29.°1N±1.°×14.°0E±.°,h423km,MV3.8/39, NEAR TORISHIMA IS*

ISC 09 03:43:47.2±0.6,29.°29N±0.°07×139.°57E±0.°10,h414km,n41, σ1.°73/55,mb3.8/20,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.18**	**133**	eP		**P**	**03 44 51.7**	**-1.2**
CBIJ				eS		**S**	**03 45 43.3**	**-3.0**
JHH2	**Haha-jima-NKT2**	**3.51**	**138**	eP		**P**	**03 44 54.5**	**-1.3**
JHH2				eS		**S**	**03 45 49.4**	**-2.0**
JHJ2	**Mitsune**	**3.82**	**3**	eP		**P**	**03 44 59.5**	**+1.3**
JHJ2				eS		**S**	**03 45 57.2**	**+1.0**
JHJ	**Hachijo jima 2**	**3.82**	**3**	P		**P**	**03 44 59.8**	**+1.4**
	54nm,0.3s,baz=232,slow=19,SNR=7.2							
JHJ				S		**S**	**03 45 55.2**	**-1.1**
	101nm,0.4s,baz=258,slow=16,SNR=4.9							
BSO1	**Boso 1**	**5.48**	**12**	eP		**P**	**03 45 15.9**	**+2.0**
BSO1				eS		**S**	**03 46 25.8**	**+0.7**
BSO3	**Boso 3**	**5.55**	**8**	eP		**P**	**03 45 16.7**	**+1.7**
BSO3				eS		**S**	**03 46 27.7**	**+0.7**
JIE	**Ise**	**5.64**	**335**	eP		**P**	**03 45 19.3**	**+3.1**
JKN2	**Miekihoku**	**5.68**	**331**	eP		**P**	**03 45 17.6**	**+1.0**
BSO4	**Boso 4**	**5.72**	**6**	eP		**P**	**03 45 18.2**	**+1.3**
BSO4				eS		**S**	**03 46 25.7**	**-4.7**
JNY	**Yasuok**	**6.22**	**347**	eP		**P**	**03 45 24.6**	**+2.1**
JAO	**Obara**	**6.27**	**342**	eP		**P**	**03 45 25.3**	**+2.4**
JTO	**Tosashimizu**	**6.81**	**303**	eP		**P**	**03 45 30.3**	**+0.9**
JYT	**Yasato**	**6.94**	**4**	eS		**S**	**03 46 50.5**	**-4.3**
JAG	**Ashikaga**	**7.12**	**359**	eP		**P**	**03 45 32.3**	**-0.4**
JAG				eS		**S**	**03 46 51.7**	**-6.6**
MJAR	**Matsushiro Arr**	**7.32**	**351**	P		**P**	**03 45 35.0**	**0.0**
	3.8nm,0.3s,baz=170,slow=11,SNR=4.6							
MJAR				S		**S**	**03 47 01.1**	**-1.5**
	3.1nm,0.7s,baz=134,slow=12,SNR=5.0							
JHS	**Saijyo**	**7.89**	**318**	eP		**P**	**03 45 42.8**	**+1.4**
JOW	**Kunigami**	**10.28**	**259**	P		**P**	**03 46 07.8**	**+0.1**
	5.3nm,0.4s,baz=82,slow=17,SNR=2.5							
KSRS	**Korea Array**	**12.68**	**313**	P		**P**	**03 46 33.4**	**-0.5**
	0.6nm,0.4s,baz=131,slow=10,SNR=4.6							
USRK	**Ussuriysk Ar.**	**16.06**	**340**	P		**P**	**03 47 12.0**	**+1.5**
	14nm,0.6s,baz=166,slow=11,SNR=39							
LZDM	**Lanzhou Array**	**30.82**	**292**	P		**P**	**03 49 26.9**	**-0.5**
	1.3nm,0.4s,baz=95,slow=7.2,SNR=2.0							
	1.3nm,0.4s							
SONM	**Songino Array**	**31.54**	**315**	P		**P**	**03 49 33.6**	**+0.3**
	2.3nm,0.8s,baz=116,slow=6.7,SNR=9.9							
SONM				PcP		**PcP**	**03 52 14.1**	**-0.1**
	0.3nm,0.3s,baz=107,slow=1.5,SNR=1.7							
	2.3nm,0.8s							
ZALV	**Zalesovo Beam**	**46.32**	**318**	P		**P**	**03 51 33.2**	**-0.5**
	1.2nm,0.4s,baz=83,slow=8.2,SNR=5.8							
ZALV				PcP		**PcP**	**03 53 00.5**	**-0.4**
	1.0nm,0.5s,baz=117,slow=4.4,SNR=3.7							
	1.2nm,0.4s							
MKAR	**Makanchi Array**	**47.31**	**308**	P		**P**	**03 51 40.8**	**-0.6**
	1.4nm,0.7s,baz=92,slow=8.2,SNR=11							
MKAR				PcP		**PcP**	**03 53 03.9**	**-0.7**
	0.9nm,0.8s,baz=70,slow=1.7,SNR=4.2							
	1.4nm,0.7s							
WRA	**Warramunga Arr**	**49.20**	**187**	P		**P**	**03 51 54.9**	**-1.0**
	0.5nm,0.3s,baz=1.7,slow=7.8,SNR=10							
WRA				PcP		**PcP**	**03 53 11.8**	**0.0**
	0.9nm,0.5s,baz=359,slow=3.9,SNR=7.4							
	0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**49.86**	**313**	P		**P**	**03 51 59.8**	**-0.6**
	4.1nm,0.6s,baz=91,slow=8.0,SNR=31							
	4.1nm,0.6s							
ASAR	**Alice Springs**	**52.93**	**187**	P		**P**	**03 52 22.4**	**-0.8**
	0.5nm,0.6s,baz=24,slow=6.5,SNR=4.1							
	0.5nm,0.6s							
ASAR	**Alice Springs**	**52.93**	**187**	P		**P**	**03 52 22.4**	**-0.8**
BVAR	**Borovoye Array**	**54.87**	**316**	P		**P**	**03 52 36.5**	**-0.1**
	4.5nm,0.5s,baz=91,slow=7.8,SNR=20							
BVAR				PcP		**PcP**	**03 53 32.8**	**-0.1**
	0.7nm,0.4s,baz=95,slow=3.3,SNR=2.5							
	4.5nm,0.5s							
ILAR	**Eielson Array**	**56.92**	**29**	P		**P**	**03 52 52.1**	**+1.3**
	0.4nm,0.6s,baz=274,slow=6.0,SNR=5.3							
	0.4nm,0.6s							
SPITS	**Spitsbergen Ar**	**67.81**	**349**	P		**P**	**03 54 03.0**	**+1.2**
	2.6nm,0.6s,baz=128,slow=6.8,SNR=1.6							
	2.6nm,0.6s							
ARCES	**ARCESS Array B**	**70.71**	**340**	P		**P**	**03 54 20.4**	**+1.0**
	3.8nm,0.5s,baz=68,slow=8.7,SNR=41							
	3.8nm,0.5s							
KBZ	**Khabaz**	**74.83**	**312**	P		**P**	**03 54 44.0**	**+0.3**
	4.3nm,0.7s,baz=96,slow=4.7,SNR=9.9							
	4.3nm,0.7s							
FINES	**FINESS Array B**	**74.96**	**333**	P		**P**	**03 54 44.5**	**+0.4**
	3.2nm,0.5s,baz=61,slow=5.4,SNR=29							
	3.2nm,0.5s							
AKASG	**Malin Array Be**	**79.48**	**323**	P		**P**	**03 55 08.8**	**-0.4**
	1.2nm,0.5s,baz=53,slow=5.3,SNR=11							
	1.2nm,0.5s							
HFS	**Hagfors**	**80.49**	**336**	P		**P**	**03 55 14.3**	**0.0**
	3.7nm,0.6s,baz=92,slow=4.5,SNR=16							
	3.7nm,0.6s							
NB2	**NORSAR Subarra**	**80.71**	**337**	P		**P**	**03 55 15.6**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=46,slow=4.8							
NOA	**NORSAR Array B**	**80.71**	**337**	P		**P**	**03 55 15.6**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=46,slow=4.9,SNR=15							
	comp=Z,2.1nm,0.6s							
BRTR	**Keskin Array B**	**82.83**	**312**	P		**P**	**03 55 27.1**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=94,slow=4.3,SNR=11							
	comp=Z,2.0nm,0.7s							
GERES	**GERESS Array B**	**88.44**	**328**	P		**P**	**03 55 53.5**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=56,slow=2.5,SNR=2.4							
	comp=Z,0.3nm,0.4s							
EKA	**Eskdalemuir Ar**	**89.87**	**340**	P		**P**	**03 56 00.2**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=37,slow=7.1,SNR=2.1							
	comp=Z,0.8nm,0.8s							
TXAR	**Lajitas Array**	**96.10**	**52**	P		**P**	**03 56 30.9**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=324,slow=7.1,SNR=3.7							
	comp=Z,0.3nm,0.7s							

*IDC **09** 03:54:02.4±0.4,51.°62N×178.°60W,h0km,mb4.7/30, mbtmp4.7/34,ML5.1/4,MS4.4/84,Error ellipse: s-maj=12.9km s-min=9.1km az=168.0*

*MOS **09** 03:54:05.3±1.1,51.°68N×178.°65W,h22km,mb5.3/33, MS4.6/9,Error ellipse: s-maj=7.6km s-min=6.2km az=114.5*

*AEIC **09** 03:54:05.2±2.0,51.°41N±0.°05×178.°64W±0.°06,h13km±2km, Error ellipse: s-maj=7.4km s-min=5.0km az=157.0*

*NEIC **09** 03:54:06.1±1.9,51.°44N±0.°04×178.°6W±0.°1,h17km±2km, mb5.7/733,ML5.5/10,Ms_20 4.8/346,Mww5.4/46, ML4.9(AEIC),Error ellipse: s-maj=9.6km s-min=5.3km az=90.0*

*NEIC **09** 03:54:06.1,50.°95N×179.°27W,h30km,Moment Tensor Solution. Duration: 28s Moment tensor: Scale 10^{17}Nm; M_{rr}=0.58; $M_{\theta\theta}$=0.34; $M_{\phi\phi}$=0.25; $M_{r\theta}$=-0.24; $M_{\theta\phi}$=-0.51; $M_{\phi r}$=1.29; Fault plane solution: M_0=1.50000×10^{17} NP1: ϕ_s=285.07000°,δ21.62000°,λ-147.00000°. NP2: ϕ_s=163.95000°,δ78.42000°,λ-71.62000°. Principal axes: T 1.4599, Plg31.0000°, Azm239.0000°; N 0.0701, Plg18.0000°, Azm340.0000°; P -1.5300, Plg53.0000°, Azm96.0000°;*

*NEIC **09** 03:54:06.1,51.°45N×178.°63W,h30km*

*GCMT **09** 03:54:07.1±0.1,51.°57N±0.°01×178.°74W±0.°01,h12km, MW5.2/157,Moment Tensor Solution. s108,c193; s157,c295; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.87±.01; $M_{\theta\theta}$=0.21±.01; $M_{\phi\phi}$=0.66±.01; $M_{r\theta}$=0.19±.02; $M_{\theta\phi}$=-0.10±.01; $M_{\phi r}$=0.52±.02; Best double couple: M_0=0.94800×10^{17} NP1:ϕ_s=341.00000°,δ30.00000°, λ=-111.00000°. NP2:ϕ_s=185.00000°,δ62.00000°, λ=-79.00000°. Principal axes: T 0.8260, Plg17.0000°, Azm266.0000°; N 0.2440, Plg10.0000°, Azm359.0000°; P -1.0700, Plg70.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **09** 03:54:08.1,51.°85N×179.°45W,h18km,mB5.4/45, mb5.0/71,Ms5.0/72,Ms7 4.8/70*

ISC 09 03:54:06.2±0.3,51.°41N±0.°03×178.°68W±0.°02,h20km±1km, h21km:pP-P,n1253,σ2.°25/1063,mb5.6/442,MS4.7/281, 38C-37D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAKI	**Gareloi-Kavalg**	**0.17**	**331**			**Pb**	**03 54 09.6**	**-2.1**
GAKI						**Sb**	**03 54 13.2**	**-2.

FALS	**False Pass**	**9.80**	**63**	Pn		**Pn**	**03 56 26.0**	**+0.2**
FALS	**False Pass**	**9.80**	**63**	P		**Pn**	**03 56 26.6**	**+0.8**
FALS	**False Pass**	**9.80**	**63**	P		**Pn**	**03 56 27.4**	**+1.6**
	baz=256							
FALS				S		**Sn**	**03 58 17.0**	**+1.9**
	baz=256							
DT1	**Dutton Round H**	**10.50**	**63**			**Pn**	**03 56 36.5**	**+1.1**
S12K	**Black Hills**	**10.78**	**60**	P		**Pn**	**03 56 40.3**	**+1.1**
	baz=253							
M11K	**Mekoryuk**	**11.38**	**33**	P		**Pn**	**03 56 49.9**	**+2.6**
	baz=223,SNR=14							
M11K				S		**Sn**	**03 58 49.3**	**-4.4**
	baz=223							
SDPT	**Sand Point**	**11.56**	**63**	Pn		**Pn**	**03 56 50.3**	**+0.5**
SDPT	**Sand Point**	**11.56**	**63**	P		**Pn**	**03 56 50.7**	**+0.8**
SDPT	**Sand Point**	**11.56**	**63**	P		**Pn**	**03 56 51.5**	**+1.7**
	baz=258							
CNBA	**Chernabura Isl**	**11.96**	**66**	Pn		**Pn**	**03 56 54.1**	**-1.3**
CHNA	**Chernabura Isl**	**11.96**	**66**	P		**Pn**	**03 56 54.8**	**-0.6**
CHNA	**Chernabura Isl**	**11.96**	**66**	P		**Pn**	**03 56 55.2**	**-0.3**
	baz=261							
S14K	**Fog Glacier**	**12.29**	**59**	P		**Pn**	**03 57 01.0**	**+1.1**
	baz=255							
M13K	**Dall Lake**	**12.43**	**38**	P		**Pn**	**03 57 04.2**	**+2.5**
	baz=230,SNR=12							
O14K	**Tigyukauivet M**	**12.62**	**45**	P		**Pn**	**03 57 06.6**	**+2.3**
	baz=239,SNR=10.0							
N14K	**Kuskokwak Cree**	**12.80**	**42**	P		**Pn**	**03 57 09.5**	**+2.7**
	baz=236,SNR=21							
CHGN	**Chignik**	**12.91**	**60**	Pn		**Pn**	**03 57 07.2**	**-1.1**
CHGN	**Chignik**	**12.91**	**60**	P		**Pn**	**03 57 08.0**	**-0.3**
	baz=256							
GAMB	**Gambell**	**12.94**	**14**	Pn		**Pn**	**03 57 06.8**	**-1.9**
GAMB	**Gambell**	**12.94**	**14**	P		**Pn**	**03 57 10.7**	**+2.0**
	baz=200,SNR=7.3							
K13K	**Kusilvak Mount**	**13.03**	**31**	P		**Pn**	**03 57 10.5**	**+0.6**
	baz=222,SNR=9.7							
M14K	**Bethel**	**13.18**	**38**	P		**Pn**	**03 57 13.4**	**+1.5**
	baz=232,SNR=12							
O15K	**Ungalikthiuk R**	**13.23**	**47**	P		**Pn**	**03 57 14.6**	**+1.9**
	baz=242,SNR=31							
L14K	**Kuka Creek**	**13.28**	**35**	P		**Pn**	**03 57 16.3**	**+2.9**
	baz=229,SNR=22							
N15K	**Kwethluk River**	**13.60**	**43**	P		**Pn**	**03 57 20.4**	**+2.6**
	baz=238,SNR=19							
M15K	**Kasigluk River**	**13.65**	**40**	P		**Pn**	**03 57 20.3**	**+2.0**
	baz=235,SNR=34							
R16K	**Pilot Point**	**13.70**	**55**	P		**Pn**	**03 57 19.5**	**+0.4**
	baz=252							
L15K	**Ungalak Mounta**	**13.94**	**36**	P		**Pn**	**03 57 22.3**	**-0.1**
	baz=230,SNR=74							
PET	**Petropavlovsk**	**13.98**	**286**	*e*P		**Pn**	**03 57 21.6**	**-1.3**
PET				*e*S		**Sn**	**03 59 57.5**	**+0.2**
PET				pmax		pmax		
	comp=Z,800nm,9.4s							
PET				pmax		pmax		
	comp=Z,400nm,10.6s							
PET				pmax		pmax		
	comp=Z,74nm,1.6s							
PET				MLR		MLR		
	comp=Z,2µm,16.0s							
PET				MLR		MLR		
	comp=Z,2µm,17.0s							
P16K	**Nushagak River**	**14.02**	**49**	P		**Pn**	**03 57 24.4**	**+1.0**
	baz=246,SNR=22							
O16K	**Kokwok River B**	**14.21**	**47**	P		**Pn**	**03 57 27.0**	**+1.0**
	baz=244,SNR=19							
N16K	**Nishlik Lake**	**14.33**	**43**	P		**Pn**	**03 57 29.0**	**+1.3**
	baz=240,SNR=58							
K15K	**Wolf Creek Mou**	**14.33**	**34**	P		**Pn**	**03 57 28.7**	**+1.0**
	baz=228,SNR=110							
R17L	**Mt. Peulik Vol**	**14.34**	**56**	P		**Pn**	**03 57 28.2**	**+0.3**
	baz=254,SNR=14							
CHIR	**Chirikof Islan**	**14.35**	**63**	Pn		**Pn**	**03 57 24.8**	**-3.3**
CHIR	**Chirikof Islan**	**14.35**	**63**	P		**Pn**	**03 57 28.4**	**+0.4**
	baz=262							
Q16K	**King Salmon**	**14.52**	**51**	P		**Pn**	**03 57 31.7**	**+1.3**
	baz=250,SNR=31							
M16K	**Timber Creek**	**14.54**	**41**	P		**Pn**	**03 57 31.3**	**+0.8**
	baz=237,SNR=36							
PEA0B	**Petropavlovsk-**	**14.55**	**286**	Pn		**Pn**	**03 57 31.2**	**+0.4**
PEA0B	**Petropavlovsk-**	**14.55**	**286**	*e*P		**Pn**	**03 57 31.8**	**+1.1**
PETK	**Petropavlovsk-**	**14.55**	**286**	Pn		**Pn**	**03 57 30.5**	**-0.2**
PETK	**Petropavlovsk-**	**14.55**	**286**	Pn		**Pn**	**03 57 32.4**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=90,slow=14,SNR=15							
PETK				Sn		**Sn**	**04 00 13.0**	**+1.8**
	baz=98,slow=20							
PETK				LR		LR	04 02 51.6	
	comp=Z,4µm,21.6s,baz=91,slow=36							
PETK				ScP		**ScP**	**04 06 16.1**	**-0.2**
	comp=Z,8.4nm,1.0s,baz=94,slow=4.5,SNR=4.5							
PETK	**Petropavlovsk-**	**14.55**	**286**	P		**Pn**	**03 57 30.5**	**-0.2**
L16K	**Owhat River**	**14.72**	**38**	P		**Pn**	**03 57 33.6**	**+0.6**
	baz=234,SNR=42							
O17K	**Koliganek Bris**	**14.74**	**47**	P		**Pn**	**03 57 34.1**	**+0.8**
	baz=245,SNR=31							
Q17K	**Contact Creek**	**14.77**	**53**	P		**Pn**	**03 57 33.1**	**-0.7**
	baz=252							
Q17K				S		**S**	**04 00 31.8**	**-3.2**
	baz=252							
P17K	**Kvichak River**	**14.82**	**50**	P		**Pn**	**03 57 35.8**	**+1.5**
	baz=248,SNR=50							
ANM	**Nome**	**14.91**	**23**	P		**Pn**	**03 57 35.3**	**-0.2**
	baz=214							
ACHA	**Angle Creek He**	**15.04**	**54**	Pn		**Pn**	**03 57 37.3**	**0.0**
N17K	**Nushagak Hills**	**15.04**	**44**	P		**Pn**	**03 57 37.7**	**+0.4**
	baz=242,SNR=86							
TNA	**Tin City**	**15.23**	**17**	P		**Pn**	**03 57 39.4**	**-0.3**
	baz=206							
TNA				S		**S**	**04 00 45.3**	**+1.2**
	baz=206							
SII	**Sitkinak Islan**	**15.26**	**61**	Pn		**Pn**	**03 57 37.9**	**-2.4**
SII				IAmb		IAmb	03 57 44.9	
	comp=Z,211nm,0.9s							
SII	**Sitkinak Islan**	**15.26**	**61**	P		**Pn**	**03 57 40.0**	**-0.3**
SII	**Sitkinak Islan**	**15.26**	**61**	P		**Pn**	**03 57 39.4**	**-0.9**
	baz=261,SNR=9.4							
J16K	**Anvik River**	**15.31**	**32**	P		**Pn**	**03 57 42.1**	**+1.3**
	baz=227,SNR=41							
R18K	**Karluk**	**15.32**	**57**	P		**Pn**	**03 57 39.9**	**-1.1**
	baz=257							
R18K				S		**S**	**04 00 48.4**	**+2.4**
	baz=257							
Q18K	**Katmai Hardscr**	**15.33**	**53**	P		**Pn**	**03 57 41.1**	**-0.1**
	baz=252,SNR=107							
M17K	**Holitna River**	**15.36**	**41**	P		**Pn**	**03 57 41.8**	**+0.3**
	baz=239,SNR=57							
L17K	**Donlin**	**15.42**	**38**	P		**Pn**	**03 57 43.1**	**+0.9**
	baz=235,SNR=62							
F14K	**Arctic Creek**	**15.46**	**20**	P		**Pn**	**03 57 43.3**	**+0.4**
	baz=210							
P18K	**Big Mountain,**	**15.47**	**50**	IAmb		IAmb	03 57 48.8	
	comp=Z,271nm,1.0s							
P18K	**Big Mountain,**	**15.47**	**50**	P		**Pn**	**03 57 43.7**	**+0.7**
	baz=249,SNR=60							
G15K	**Niukluk**	**15.59**	**24**	P		**Pn**	**03 57 44.5**	**0.0**
	baz=216,SNR=6.6							
G15K				S		**S**	**04 00 53.5**	**+2.0**
	baz=216							
N18K	**Kilae Creek**	**15.68**	**45**	IAmb		IAmb	03 57 52.6	
	comp=Z,456nm,1.4s							
N18K	**Kilae Creek**	**15.68**	**45**	P		**Pn**	**03 57 46.7**	**+1.0**
	baz=244,SNR=100							
N18K				S		**S**	**04 00 53.4**	**0.0**
	baz=244							
I17K	**Unalakleet**	**15.70**	**30**	P		**Pn**	**03 57 46.8**	**+0.9**
	baz=226,SNR=6.5							
I17K				S		**S**	**04 00 55.5**	**+1.8**
	baz=226							
K17K	**Iditarod**	**15.76**	**36**	P		**Pn**	**03 57 46.8**	**+0.1**
	baz=233,SNR=85							
K17K				S		**S**	**04 00 55.6**	**+0.7**
	baz=233							
H16K	**Elim**	**15.79**	**27**	P		**Pn**	**03 57 48.0**	**+0.9**
	baz=221,SNR=6.1							
H16K				S		**S**	**04 00 57.3**	**+1.7**
	baz=221							
SKR	**Severo-Kuril's**	**15.85**	**277**	*e*P		**P**	**03 57 50.2**	**-1.3**
OHAK	**Old Harbor**	**15.86**	**59**	Pn		**Pn**	**03 57 45.0**	**-3.1**
OHAK				IAmb		IAmb	03 57 51.3	
	comp=Z,175nm,0.6s							
OHAK	**Old Harbor**	**15.86**	**59**	P		**Pn**	**03 57 46.2**	**-1.9**
	baz=259,SNR=33							
J17K	**VABM Dome**	**15.90**	**33**	P		**Pn**	**03 57 49.8**	**+1.3**
	baz=230,SNR=141							
J17K				S		**S**	**04 00 56.1**	**-1.9**
	baz=230							
F15K	**North Star Dit**	**16.03**	**21**	P		**Pn**	**03 57 51.5**	**+1.3**
	baz=213,SNR=11							
F15K				S		**S**	**04 01 01.9**	**+1.3**
	baz=213							
M18K	**Stony River**	**16.08**	**42**	P		**Pn**	**03 57 50.9**	**+0.1**
	baz=241,SNR=46							
M18K				S		**S**	**04 01 02.4**	**+0.9**
	baz=241							
Q19K	**Cape Douglas,**	**16.09**	**52**			**Pn**	**03 57 50.9**	**0.0**
Q19K				IAmb		IAmb	03 57 59.0	
	comp=Z,179nm,0.5s							
Q19K						**PcP**	**04 02 45.6**	**-0.4**
Q19K				ScP		**ScP**	**04 06 20.1**	**+1.1**
Q19K	**Cape Douglas,**	**16.09**	**52**	P		**Pn**	**03 57 51.0**	**0.0**
	baz=253,SNR=28							
L18K	**Granite Mounta**	**16.09**	**39**	IAmb		IAmb	03 57 58.6	
	comp=Z,659nm,1.8s							
L18K	**Granite Mounta**	**16.09**	**39**	P		**Pn**	**03 57 51.1**	**+0.1**
	baz=238,SNR=59							
L18K				S		**S**	**04 01 02.9**	**+1.1**
	baz=238							
O19K	**Port Alsworth**	**16.19**	**48**	P		**Pn**	**03 57 52.8**	**+0.7**
	baz=248,SNR=34							
O19K				S		**S**	**04 01 06.8**	**+3.0**
	baz=248							
G16K	**Koyuk River**	**16.34**	**25**	P		**Pn**	**03 57 54.7**	**+0.6**
	baz=219,SNR=14							
G16K				S		**S**	**04 01 11.5**	**+4.7**
	baz=219							
KDAK	**Kodiak Island**	**16.34**	**57**	Pn		**Pn**	**03 57 51.1**	**-3.1**
KDAK	**Kodiak Island**	**16.34**	**57**	Pn		**Pn**	**03 57 50.5**	**-3.7**
	comp=Z,19nm,0.3s,baz=268,slow=9.3,SNR=73							
KDAK				Sn		**Sn**	**04 00 44.6**	**-10**
	comp=Z,0.9nm,0.3s,baz=321,slow=19,SNR=1.4							
KDAK				PcP		**PcP**	**04 02 46.2**	**-0.1**
	comp=Z,8.2nm,0.6s,baz=170,slow=2.3,SNR=3.1							
	comp=Z,43nm,0.4s							
KDAK	**Kodiak Island**	**16.34**	**57**	P		**Pn**	**03 57 53.7**	**-0.5**
	baz=258							
KDAK				S		**S**	**04 01 08.4**	**+1.4**
	baz=258							
N19K	**Bonanza Creek**	**16.36**	**46**	IAmb		IAmb	03 58 01.3	
	comp=Z,303nm,0.9s							
N19K	**Bonanza Creek**	**16.36**	**46**	P		**P**	**03 57 56.0**	**-1.3**
	baz=246,SNR=216							
N19K				S		**S**	**04 01 10.4**	**+3.0**
	baz=246							
P19K	**Oil Pt**	**16.51**	**50**	P		**Pn**	**03 57 56.5**	**+0.1**
	baz=251,SNR=10							
P19K				S		**S**	**04 01 12.7**	**+2.1**
	baz=251							
Q20K	**Shuyak Island**	**16.63**	**54**	P		**Pn**	**03 57 57.3**	**-0.5**
	baz=256,SNR=5.1							
H17K	**Granite Mounta**	**16.68**	**29**	P		**Pn**	**03 57 58.3**	**-0.1**
	baz=225,SNR=23							
H17K				S		**S**	**04 01 16.4**	**+2.5**
	baz=225							
J18K	**Innoko River**	**16.78**	**36**	P		**Pn**	**03 58 00.3**	**+0.5**
	baz=234,SNR=69							
J18K				S		**S**	**04 01 17.3**	**+1.4**
	baz=234							
L19K	**White Mountain**	**16.82**	**41**	IAmb		IAmb	03 58 06.8	
	comp=Z,521nm,1.0s							
L19K	**White Mountain**	**16.82**	**41**	P		**P**	**03 58 01.4**	**-0.8**
	baz=241,SNR=296							
L19K				S		**S**	**04 01 18.9**	**+2.2**
	baz=241							
M19K	**Big River Lodg**	**16.88**	**42**	IAmb		IAmb	03 58 07.2	
	comp=Z,476nm,1.4s							
M19K	**Big River Lodg**	**16.88**	**42**	P		**Pn**	**03 58 01.6**	**+0.6**
	baz=242,SNR=84							
M19K				S		**S**	**04 01 19.6**	**+1.8**
	baz=242							
G17K	**Kiwalik Mounta**	**16.88**	**26**	P		**Pn**	**03 58 01.6**	**+0.6**
	baz=222,SNR=14							
G17K				S		**S**	**04 01 21.9**	**+4.0**
	baz=222							
O20K	**Slope Mountain**	**16.94**	**49**	P		**Pn**	**03 58 02.6**	**+0.8**
	baz=251,SNR=36							
O20K				S		**S**	**04 01 22.5**	**+3.2**
	baz=251							
RED	**Redoubt Volcan**	**16.99**	**48**	IAmb		IAmb	03 58 06.3	
	comp=Z,470nm,1.1s							
HOM	**Homer**	**17.28**	**51**	P		**P**	**03 58 07.6**	**+0.3**
HOM				IAmb		IAmb	03 58 14.3	
	comp=Z,318nm,1.0s							
HOM	**Homer**	**17.28**	**51**	P		**P**	**03 58 07.2**	**-0.2**
	baz=253,SNR=14							
H18K	**Honhosa River**	**17.30**	**30**	P		**P**	**03 58 07.7**	**+0.1**
	baz=227,SNR=36							
H18K				S		**S**	**04 01 30.7**	**+4.1**
	baz=227							
L20K	**Farewell, AK**	**17.36**	**41**	P		**P**	**03 58 08.3**	**+0.1**
	baz=242,SNR=113							
L20K				S		**S**	**04 01 30.4**	**+2.7**
	baz=242							
M20K	**Styx River**	**17.40**	**43**	P		**P**	**03 58 09.6**	**+0.8**
	baz=245							
M20K				S		**S**	**04 01 32.4**	**+3.7**
	baz=245							
F17K	**Baldwin Pennin**	**17.44**	**24**	P		**Pn**	**03 58 08.2**	**+0.3**
	baz=219							
F17K				S		**S**	**04 01 33.9**	**+4.6**
	baz=219							
J19K	**Poorman**	**17.49**	**35**	P		**P**	**03 58 10.0**	**+0.3**
	baz=235,SNR=122							
J19K				S		**S**	**04 01 35.0**	**+4.7**
	baz=235							
GCSA	**Galena City Sc**	**17.51**	**32**	P		**P**	**03 58 10.6**	**+0.8**
	baz=231,SNR=37							
GCSA				S		**S**	**04 01 33.5**	**+2.9**
	baz=231							
N20K	**Mount Spurr**	**17.53**	**46**	P		**P**	**03 58 10.3**	**+0.1**
	baz=248,SNR=58							
N20K				S		**S**	**04 01 34.9**	**+3.6**
	baz=248							
SPCR	**Spurr Chakacha**	**17.53**	**46**	P		**P**	**03 58 10.8**	**+0.6**
	baz=248,SNR=50							
SPCR				S		**S**	**04 01 36.7**	**+5.4**
	baz=248							
SPU	**Mount Spurr**	**17.59**	**46**			**P**	**03 58 11.3**	**+0.5**
SPU				IAmb		IAmb	03 58 17.0	
	comp=Z,656nm,1.7s							
K20K	**Telida**	**17.72**	**38**	P		**P**	**03 58 12.2**	**0.0**
	baz=239,SNR=84							
K20K				S		**S**	**04 01 39.0**	**+4.0**
	baz=239							
G18K	**Tagagawik**	**17.74**	**28**	P		**P**	**03 58 12.7**	**+0.3**
	baz=225,SNR=23							
G18K				S		**S**	**04 01 39.6**	**+4.3**
	baz=225							
BRSE	**Bradley Lake S**	**17.75**	**51**	P		**Pn**	**03 58 12.1**	**+0.3**
	baz=254,SNR=24							
BRSE				S		**S**	**04 01 40.8**	**+5.2**
	baz=254							
E17K	**Hotham Inlet**	**17.81**	**22**	P		**P**	**03 58 14.7**	**+1.5**
	baz=216,SNR=12							
E17K				S		**S**	**04 01 41.2**	**+4.3**
	baz=216							
CAPN	**Captain Cook N**	**17.86**	**48**	P		**P**	**03 58 14.6**	**+0.9**
	baz=251							
F18K	**Selawik**	**17.98**	**25**	P		**P**	**03 58 16.8**	**+1.8**
	baz=221							
F18K				S		**S**	**04 01 44.3**	**+4.2**
	baz=221							
D17K	**Noatak River**	**18.05**	**19**	P		**P**	**03 58 17.4**	**+1.7**
	baz=213,SNR=21							
D17K				S		**S**	**04 01 45.2**	**+3.7**
	baz=213							
C16K	**Lisburne Hills**	**18.12**	**16**	P		**P**	**03 58 17.2**	**+0.7**
	baz=208,SNR=25							
C16K				S		**S**	**04 01 46.4**	**+3.5**
	baz=208							
J20K	**Nowinta River**	**18.13**	**36**	P		**P**	**03 58 18.0**	**+1.3**
	baz=237,SNR=74							
J20K				S		**S**	**04 01 46.1**	**+2.9**
	baz=237							
SKT	**Skwentna**	**18.13**	**44**	P		**P**	**03 58 17.8**	**+1.1**
SKT				IAmb		IAmb	03 58 21.1	
	comp=Z,585nm,1.4s							
SKT	**Skwentna**	**18.13**	**44**	P		**P**	**03 58 18.0**	**+1.2**
	baz=247,SNR=196							
SKT				S		**S**	**04 01 44.0**	**+0.7**
	baz=247							
H19K	**Roundabout Mou**	**18.15**	**30**	P		**P**	**03 58 18.2**	**+1.3**
	baz=230,SNR=25							
H19K				S		**S**	**04 01 45.9**	**+2.2**
	baz=230							
BILL	**Bilibino**	**18.23**	**342**			**P**	**03 58 18.7**	**+1.0**
BILL	**Bilibino**	**18.23**	**342**	*de*P		**P**	**03 58 19.4**	**+1.7**
BILL				pmax		pmax		
	comp=Z,50nm,0.8s							
PPLA	**Purkeypile**	**18.24**	**41**	IAmb		IAmb	03 58 28.6	
	comp=Z,214nm,0.7s							
PPLA	**Purkeypile**	**18.24**	**41**	P		**P**	**03 58 20.1**	**+2.0**
	baz=243,SNR=111							
SUA	**Susitna One**	**18.28**	**46**	P		**Pn**	**03 58 18.3**	**-0.2**
SUA						**PcP**	**04 02 49.5**	**0.0**
SUA				ScP		**ScP**	**04 06 24.6**	**+1.0**
SUA	**Susitna One**	**18.28**	**46**	P		**P**	**03 58 18.7**	**+0.2**
	baz=249,SNR=56							
SUA				S		**S**	**04 01 50.9**	**+4.3**
	baz=249							
I20K	**Naaghedeneel**	**18.36**	**34**	P		**Pn**	**03 58 20.2**	**+1.0**
	baz=235,SNR=27							
G19K	**Purcell Mounta**	**18.37**	**28**	P		**Pn**	**03 58 20.6**	**+1.2**
	baz=227,SNR=46							
G19K				S		**S**	**04 01 50.6**	**+2.5**
	baz=227							
E18K	**Tukpahlearik C**	**18.37**	**22**	P		**Pn**	**03 58 21.4**	**+2.0**
	baz=218,SNR=13							
E18K				S		**S**	**04 01 51.8**	**+3.7**
	baz=218							
RDOG	**Red Dog Mine**	**18.38**	**19**	P		**Pn**	**03 58 21.3**	**+1.8**
	baz=213							
RDOG				S		**S**	**04 01 50.5**	**+2.1**
	baz=213							
O22K	**Cooper Landing**	**18.44**	**49**	P		**P**	**03 58 19.9**	**-0.2**
	baz=253,SNR=64							
SEW	**Seward**	**18.47**	**51**	P		**P**	**03 58 19.3**	**-1.1**
	baz=255,SNR=38							
RC01	**Rabbit Creek A**	**18.62**	**47**	P		**Pn**	**03 58 22.4**	**-0.1**
RC01						**PcP**	**04 02 49.4**	**-0.6**
RC01				ScP		**ScP**	**04 06 25.3**	**+1.1**
RC01	**Rabbit Creek A**	**18.62**	**47**	P		**Pn**	**03 58 22.7**	**+0.3**
	baz=252,SNR=23							
H20K	**Anotleneega Mo**	**18.64**	**32**	P		**Pn**	**03 58 23.1**	**+0.4**
	baz=232,SNR=60							
H20K				S		**S**	**04 01 55.4**	**+1.8**
	baz=232							
F19K	**Shaleruckik Mo**	**18.66**	**26**	P		**Pn**	**03 58 24.0**	**+1.1**
	baz=224,SNR=73							
F19K				S		**S**	**04 01 53.8**	**0.0**
	baz=224							
CHUM	**Lake Minchumin**	**18.66**	**38**	P		**Pn**	**03 58 24.2**	**+1.3**
	baz=240,SNR=71							
CHUM				S		**S**	**04 01 56.5**	**+2.5**
	baz=240							
M22K	**Willow**	**18.66**	**45**	P		**P**	**03 58 22.4**	**-0.2**
	baz=249,SNR=12							
C17K	**DeLong Mountai**	**18.69**	**18**	P		**Pn**	**03 58 24.6**	**+1.3**
	baz=212,SNR=48							
C17K				S		**S**	**04 01 57.2**	**+2.7**
	baz=212							
CUT	**Chulitna**	**18.84**	**43**	IAmb		IAmb	03 58 29.4	
	comp=Z,560nm,0.9s							
CUT	**Chulitna**	**18.84**	**43**	P		**P**	**03 58 24.4**	**-0.1**
	baz=247,SNR=106							
MA2	**Magadan**	**18.99**	**307**	P		**Pn**	**03 58 27.0**	**+0.1**
MA2	**Magadan**	**18.99**	**307**	P		**P**	**03 58 24.5**	**-1.7**
	comp=Z,1.4nm,0.3s,baz=103,slow=8.9,SNR=6.1							
MA2				LR		LR	04 05 23.9	
	comp=Z,2µm,19.7s,baz=103,slow=36							
MA2				ScP		**ScP**	**04 06 24.3**	**-0.7**
	comp=Z,16nm,0.9s,baz=104,slow=3.5,SNR=6.6							
	comp=Z,3.2nm,0.2s							
KTH	**Kantishna Hill**	**19.05**	**40**	P		**Pn**	**03 58 27.7**	**-0.1**
KTH				IAmb		IAmb	03 58 35.2	
	comp=Z,321nm,0.8s							
PMR	**Palmer**	**19.05**	**46**	P		**P**	**03 58 26.6**	**-0.2**
PMR	**Palmer**	**19.05**	**46**	P		**P**	**03 58 26.7**	**-0.1**
	baz=251,SNR=21							
PMR				S		**S**	**04 02 02.9**	**+0.9**
	baz=251							
PWL	**Port Wells**	**19.20**	**49**	P		**P**	**03 58 28.2**	**-0.3**
	baz=254,SNR=43							
PWL				S		**S**	**04 02 05.7**	**+0.7**
	baz=254							
C18K	**Utukok River**	**19.23**	**20**	P		**Pn**	**03 58 30.3**	**+0.4**
	baz=215,SNR=33							
C18K				S		**S**	**04 02 08.2**	**+2.6**
	baz=215							
E19K	**Redstone River**	**19.25**	**25**	P		**Pn**	**03 58 30.5**	**+0.4**
	baz=224,SNR=81							
E19K				S		**S**	**04 02 08.7**	**+2.7**
	baz=224							
TRF	**Thorofare Moun**	**19.26**	**40**	IAmb		IAmb	03 58 34.5	
	comp=Z,914nm,1.4s							
TRF	**Thorofare Moun**	**19.26**	**40**	P		**P**	**03 58 29.9**	**+0.6**
	baz=244,SNR=200							
TRF				S		**S**	**04 02 10.5**	**+4.1**
	baz=244							
SEY	**Seymchan**	**19.27**	**318**	P		**P**	**03 58 27.7**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=111,slow=12,SNR=25							
SEY				LR		LR	04 05 38.1	
	comp=Z,845nm,18.3s,baz=107,slow=36							
SEY				ScP		**ScP**	**04 06 25.1**	**-0.5**
	comp=Z,22nm,0.8s,baz=110,slow=3.5,SNR=23							
	comp=Z,2.2nm,0.3s							
SEY	**Seymchan**	**19.27**	**318**	*ce*P		**Pn**	**03 58 32.2**	**+1.9**
SEY				pmax		pmax		
	comp=Z,44nm,1.2s							
BPAW	**Bear Paw Mtn.**	**19.28**	**38**	IAmb		IAmb	03 58 32.3	
	comp=Z,405nm,1.4s							
BPAW	**Bear Paw Mtn.**	**19.28**	**38**	P		**Pn**	**03 58 30.3**	**-0.1**
	baz=242,SNR=134							
BPAW				S		**S**	**04 02 10.1**	**+3.6**
	baz=242							
KNK	**Knik Glacier**	**19.30**	**47**	P		**P**	**03 58 28.2**	**-1.4**
	baz=252,SNR=75							
KNK				S		**S**	**04 02 11.2**	**+4.2**
	baz=252							
IMAR	**Indian Mountai**	**19.31**	**31**	P		**Pn**	**03 58 30.8**	**0.0**
F20K	**Avaraart Lake**	**19.39**	**27**	P		**Pn**	**03 58 31.4**	**-0.2**
	baz=227							
F20K				S		**S**	**04 02 12.3**	**+3.8**
	baz=227							
H21K	**Melozitna Rive**	**19.43**	**33**	P		**Pn**	**03 58 32.5**	**+0.3**
	baz=235,SNR=96							
H21K				S		**S**	**04 02 13.4**	**+3.9**
	baz=235							
B18K	**Kokolik River**	**19.71**	**18**	P		**Pn**	**03 58 35.6**	**+0.1**
	baz=213,SNR=38							
B18K				S		**Sn**	**04 02 17.9**

SCM	**Sheep Creek Mo**	**19.95**	**46**	P	**P**	**03 58 35.5**	**-1.2**	
	baz=253,SNR=55							
SCM				S	**Sn**	**04 02 23.7**	**+1.8**	
	baz=253							
WAT6	**Susitna Watana**	**20.00**	**44**	P	**P**	**03 58 36.2**	**-1.2**	
	baz=250,SNR=78							
WAT6				S	**Sn**	**04 02 25.1**	**+1.8**	
	baz=250							
H22K	**Ishtalitna Cre**	**20.05**	**33**	P	Pn	03 58 39.2	-0.4	
	baz=237,SNR=82							
E20K	**Nigu River**	**20.11**	**24**	P	Pn	03 58 40.0	-0.3	
	baz=224,SNR=114							
F21K	**Alatna River**	**20.16**	**29**	P	Pn	03 58 40.2	-0.7	
	baz=231,SNR=137							
F21K				S	Sn	04 02 29.2	+2.2	
	baz=231							
NEA2	**Nenana**	**20.25**	**38**	P	**P**	**03 58 39.9**	**0.0**	
NEA2				IAmb	IAmb	03 58 43.3		
	comp=Z,362nm,1.1s							
NEA2	**Nenana**	**20.25**	**38**	P	**P**	**03 58 40.3**	**+0.4**	
	baz=243,SNR=238							
NEA2				S	Sn	04 02 31.2	+2.2	
	baz=243							
DHY	**Denali Highway**	**20.33**	**43**	P	**P**	**03 58 40.2**	**-0.7**	
	baz=250,SNR=403							
DHY				S	Sn	04 02 30.3	-0.9	
	baz=250							
D20K	**Etivluk River**	**20.33**	**23**	P	**P**	**03 58 41.2**	**+0.4**	
	baz=223,SNR=103							
D20K				S	Sn	04 02 31.0	0.0	
	baz=223							
EYAK	**Cordova Ski Ar**	**20.36**	**51**	IAMs_20	IAMs_20	04 06 51.2		
	comp=Z,4µm,22.0s							
EYAK	**Cordova Ski Ar**	**20.36**	**51**	P	**P**	**03 58 41.0**	**-0.1**	
EYAK	**Cordova Ski Ar**	**20.36**	**51**	P	**P**	**03 58 41.8**	**+0.7**	
	baz=258,SNR=16							
EYAK				S	Sn	04 02 32.4	+0.7	
	baz=258							
I23K	**Minto, Yukon-K**	**20.39**	**36**	P	**P**	**03 58 42.3**	**+0.9**	
	baz=242,SNR=54							
I23K				S	Sn	04 02 33.0	+0.6	
	baz=242							
DIV	**Divide**	**20.48**	**49**	IAMs_20	IAMs_20	04 07 34.2		
	comp=Z,4µm,18.0s							
KLU	**Klutina**	**20.50**	**48**	IAmb	IAmb	03 58 50.8		
	comp=Z,102nm,0.6s							
KLU	**Klutina**	**20.50**	**48**	P	**P**	**03 58 43.2**	**+0.5**	
	baz=255,SNR=85							
KLU				S	Sn	04 02 35.7	+0.5	
	baz=255							
M24K	**Tolsona, Glenn**	**20.55**	**46**	IAmb	IAmb	03 58 49.7		
	comp=Z,167nm,0.8s							
M24K	**Tolsona, Glenn**	**20.55**	**46**	P	**P**	**03 58 43.3**	**+0.1**	
	baz=254,SNR=58							
M24K				S	Sn	04 02 37.0	+0.7	
	baz=254							
A19K	**Wainwright**	**20.56**	**17**	P	Pn	03 58 44.9	-0.5	
	baz=213,SNR=24							
A19K				S	**S**	**04 02 32.3**	**+0.5**	
	baz=213							
WRH	**Wood River Hil**	**20.58**	**39**	P	**P**	**03 58 42.4**	**-1.0**	
G22K	**Bettles**	**20.59**	**31**	P	**P**	**03 58 44.2**	**+0.7**	
	baz=234							
G22K				S	**S**	**04 02 32.8**	**+0.2**	
	baz=234							
H23K	**Yukon River**	**20.66**	**35**	P	**P**	**03 58 45.0**	**+0.6**	
	baz=240							
H23K				S	Sn	04 02 37.1	-1.8	
	baz=240							
F22K	**John River**	**20.74**	**29**	P	**P**	**03 58 46.0**	**+0.9**	
	baz=232							
F22K				S	Sn	04 02 38.8	-2.0	
	baz=232							
E21K	**Killik River**	**20.83**	**26**	P	**P**	**03 58 46.4**	**+0.3**	
	baz=227							
E21K				S	**S**	**04 02 40.1**	**+2.9**	
	baz=227							
COLA	**College**	**20.84**	**38**	P	**P**	**03 58 45.5**	**-0.7**	
COLA	**College**	**20.84**	**38**	P	**P**	**03 58 46.6**	**+0.4**	
COLA	**College**	**20.84**	**38**	P	**P**	**03 58 45.5**	**-0.7**	
COLA				pmax	pmax			
	comp=Z,99nm,0.8s							
COLA	**College**	**20.84**	**38**	P	**P**	**03 58 44.2**	**-2.0**	
	baz=244							
COLA				S	Sn	04 02 41.0	-2.2	
	baz=244							
RAGM	**Ragged Mountai**	**20.85**	**51**	IAMs_20	IAMs_20	04 07 25.2		
	comp=Z,4µm,21.0s							
KAIM	**Kayak Island**	**20.90**	**53**		Pn	03 58 48.6	-1.0	
KAIM					**PcP**	**04 02 55.1**	**+0.9**	
KAIM				ScP	**ScP**	**04 06 31.5**	**+2.0**	
KAIM				IAMs_20	IAMs_20	04 07 44.5		
	comp=Z,5µm,18.0s							
KAIM	**Kayak Island**	**20.90**	**53**	P	**P**	**03 58 44.7**	**-2.3**	
	baz=261,SNR=13							
G23K	**Bananza Creek**	**20.96**	**32**	P	**P**	**03 58 48.6**	**+1.0**	
	baz=237,SNR=104							
G23K				S	**S**	**04 02 41.5**	**+1.6**	
	baz=237							
BMRM	**Bremner River**	**21.00**	**50**	IAmb	IAmb	03 58 52.3		
	comp=Z,157nm,0.8s							
BMRM				IAMs_20	IAMs_20	04 07 35.0		
	comp=Z,4µm,19.0s							
BMRM	**Bremner River**	**21.00**	**50**	P	**P**	**03 58 47.4**	**-0.6**	
	baz=258,SNR=109							
BMRM				S	**S**	**04 02 42.3**	**+1.4**	
	baz=258							
HDA	**Harding Lake**	**21.00**	**40**	P	**P**	**03 58 45.9**	**-2.1**	
	baz=247,SNR=80							
HDA				S	**S**	**04 02 43.1**	**+2.3**	
	baz=247							
HMT	**Hamilton**	**21.05**	**52**	IAMs_20	IAMs_20	04 08 00.3		
	comp=Z,3µm,18.0s							
HARP	**HAARP**	**21.09**	**46**	P	**P**	**03 58 47.9**	**-1.1**	
	baz=254,SNR=48							
HARP				S	**S**	**04 02 45.8**	**+3.3**	
	baz=254							
POKR	**Poker Plat Res**	**21.11**	**38**	IAmb	IAmb	03 58 52.9		
	comp=Z,149nm,0.8s							
POKR	**Poker Plat Res**	**21.11**	**38**	P	**P**	**03 58 48.6**	**-0.5**	
	baz=244,SNR=38							
POKR				S	**S**	**04 02 45.3**	**+2.5**	
	baz=244							
C21K	**Knifeblade Rid**	**21.11**	**24**	P	**P**	**03 58 49.5**	**+0.3**	
	baz=225,SNR=92							
C21K				S	**S**	**04 02 46.2**	**+3.3**	
	baz=225							
PAX	**Paxson**	**21.11**	**44**	P	**P**	**03 58 48.4**	**-0.9**	
PAX				IAmb	IAmb	03 58 55.8		
	comp=Z,297nm,1.0s							
PAX	**Paxson**	**21.11**	**44**	P	**P**	**03 58 48.4**	**-0.9**	
PAX				pmax	pmax			
	comp=Z,297nm,1.0s							
PAX				MLR	MLR			
	comp=Z,2µm,19.0s							
PAX	**Paxson**	**21.11**	**44**	P	**P**	**03 58 48.4**	**-0.9**	
	baz=252,SNR=298							
PAX				S	Sn	04 02 47.2	-2.8	
	baz=252							
N25K	**Chitina, Valde**	**21.14**	**48**	IAmb	IAmb	03 58 53.8		
	comp=Z,115nm,0.7s							
N25K	**Chitina, Valde**	**21.14**	**48**	P	**P**	**03 58 48.7**	**-0.9**	
	baz=257,SNR=108							
N25K				S	**S**	**04 02 45.3**	**+1.6**	
	baz=257							
ILAR	**Eielson Array**	**21.17**	**39**	P	**P**	**03 58 47.8**	**-2.0**	
ILAR	**Eielson Array**	**21.17**	**39**	P	**P**	**03 58 47.0**	**-2.8**	
	comp=Z,21nm,0.8s,baz=239,slow=9.4,SNR=82							
ILAR				PcP	**PcP**	**04 02 53.7**	**-0.9**	
	comp=Z,5.0nm,0.6s,baz=274,slow=3.0,SNR=11							
ILAR				ScP	**ScP**	**04 06 29.1**	**-0.9**	
	comp=Z,14nm,0.8s,baz=281,slow=3.1,SNR=45							
ILAR				LR	LR	04 07 44.9		
	comp=Z,2µm,18.0s,baz=240,slow=39							
	comp=Z,21nm,0.8s							
B20K	**Meade River**	**21.19**	**20**	P	**P**	**03 58 49.8**	**-0.1**	
	baz=219							
B20K				S	**S**	**04 02 47.0**	**+2.7**	
	baz=219							
COLD	**Coldfoot**	**21.19**	**31**	P	**P**	**03 58 50.6**	**+0.6**	
	baz=236,SNR=53							
COLD				S	**S**	**04 02 47.7**	**+3.3**	
	baz=236							
SUCK	**Suckling Hills**	**21.25**	**52**	P	**P**	**03 58 53.9**	**+3.2**	
SUCK				IAmb	IAmb	03 58 56.8		
	comp=Z,296nm,1.6s							
SUCK				IAMs_20	IAMs_20	04 08 22.5		
	comp=Z,5µm,18.0s							
K24K	**Donnelly Dome**	**21.26**	**42**	IAMs_20	IAMs_20	04 07 22.6		
	comp=Z,4µm,18.0s							
K24K	**Donnelly Dome**	**21.26**	**42**	P	**P**	**03 58 50.2**	**-0.6**	
	baz=250,SNR=106							
K24K				S	Sn	04 02 50.2	-3.1	
	baz=250							
H24K	**Noodor Dome**	**21.27**	**36**	P	**P**	**03 58 51.0**	**+0.1**	
	baz=242,SNR=137							
H24K				S	**S**	**04 02 48.9**	**+2.8**	
	baz=242							
BERG	**Berg Lake**	**21.33**	**52**	IAMs_20	IAMs_20	04 08 25.8		
	comp=Z,3µm,18.0s							
D22K	**Ayikyak River**	**21.47**	**26**	P	**P**	**03 58 53.7**	**+0.7**	
	baz=229,SNR=40							
D22K				S	**S**	**04 02 53.0**	**+3.0**	
	baz=229							
B21K	**Ikpikpuk River**	**21.49**	**23**	P	**P**	**03 58 53.4**	**+0.2**	
	baz=224							
B21K				S	**S**	**04 02 52.4**	**+2.2**	
	baz=224							
RIDG	**Independent Ri**	**21.62**	**42**	IAMs_20	IAMs_20	04 07 25.4		
	comp=Z,4µm,20.0s							
RIDG	**Independent Ri**	**21.62**	**42**	P	**P**	**03 58 53.3**	**-1.5**	
	baz=251,SNR=104							
RIDG				S	**S**	**04 02 55.7**	**+2.5**	
	baz=251							
CRQM	**Cirque**	**21.66**	**51**	P	**P**	**03 58 55.2**	**-0.2**	
CRQM				IAMs_20	IAMs_20	04 08 15.2		
	comp=Z,3µm,19.0s							
CRQE	**Cirque**	**21.69**	**51**	P	**P**	**03 58 55.6**	**0.0**	
	baz=260,SNR=27							
J25K	**Salcha River,**	**21.71**	**40**	P	**P**	**03 58 52.5**	**-3.2**	
	baz=248,SNR=102							
J25K				S	**S**	**04 02 55.9**	**+1.0**	
	baz=248							
SNH	**Sunshine Point**	**21.73**	**52**	P	**P**	**03 58 57.2**	**+1.3**	
SNH				IAmb	IAmb	03 59 11.1		
	comp=Z,197nm,1.2s							
SNH				IAMs_20	IAMs_20	04 08 36.2		
	comp=Z,4µm,18.0s							
WAX	**Waxell Ridge**	**21.76**	**52**	P	**P**	**03 58 57.4**	**+1.2**	
TGL	**Tana Glacier**	**21.82**	**51**	IAMs_20	IAMs_20	04 08 19.6		
	comp=Z,3µm,19.0s							
G24K	**Hadweenzic Riv**	**21.82**	**34**	P	**P**	**03 58 57.5**	**+0.7**	
	baz=241,SNR=161							
G24K				S	**S**	**04 02 57.8**	**+0.9**	
	baz=241							
MCARA	**McCarthy VSAT**	**21.83**	**49**	P	**P**	**03 58 56.4**	**-0.6**	
	baz=259,SNR=34							
MCARA				S	**S**	**04 03 00.5**	**+3.3**	
	baz=259							
E23K	**Chandalar**	**21.85**	**29**	P	**P**	**03 58 57.2**	**0.0**	
	baz=235,SNR=52							
E23K				S	**S**	**04 02 59.2**	**+1.7**	
	baz=235							
DOT	**Dot Lake**	**21.93**	**43**	IAMs_20	IAMs_20	04 07 44.3		
	comp=Z,4µm,18.0s							
PRP	**Porcupine Dome**	**22.00**	**37**	P	**P**	**03 58 57.9**	**-1.0**	
PRP	**Porcupine Dome**	**22.00**	**37**	P	**P**	**03 58 57.1**	**-1.8**	
	baz=246,SNR=62							
PRP				S	**S**	**04 03 04.9**	**+4.3**	
	baz=246							
ISLE	**Juniper Island**	**22.03**	**51**	IAMs_20	IAMs_20	04 08 35.3		
	comp=Z,3µm,19.0s							
L26K	**Log Cabin Wild**	**22.06**	**45**	IAmb	IAmb	03 59 08.1		
	comp=Z,175nm,0.8s							
L26K	**Log Cabin Wild**	**22.06**	**45**	P	**P**	**03 58 58.5**	**-0.9**	
	baz=255,SNR=215							
L26K				S	**S**	**04 03 00.3**	**-1.2**	
	baz=255							
M26K	**Nabesna, AK**	**22.06**	**46**	P	**P**	**03 58 58.2**	**-1.3**	
	baz=257,SNR=60							
M26K				S	**S**	**04 03 03.3**	**+1.7**	
	baz=257							
SCRK	**Sand Creek**	**22.06**	**42**	IAMs_20	IAMs_20	04 07 47.9		
	comp=Z,4µm,19.0s							
SCRK	**Sand Creek**	**22.06**	**42**	P	**P**	**03 58 58.0**	**-1.5**	
	baz=252,SNR=126							
SCRK				S	**S**	**04 02 59.2**	**-2.5**	
	baz=252							
D23K	**Nanushuk River**	**22.08**	**27**	P	**P**	**03 58 60.0**	**+0.4**	
	baz=231,SNR=68							
D23K				S	**S**	**04 03 03.9**	**+2.1**	
	baz=231							
F24K	**Squaw Lake**	**22.10**	**32**	P	**P**	**03 59 00.6**	**+0.8**	
	baz=238,SNR=176							
F24K				S	**S**	**04 03 05.2**	**+3.0**	
	baz=238							
MESA	**MESA**	**22.16**	**52**	P	**P**	**03 59 01.2**	**+0.4**	
MESA				IAMs_20	IAMs_20	04 08 39.9		
	comp=Z,3µm,18.0s							
MESA	**MESA**	**22.16**	**52**	P	**P**	**03 59 01.1**	**+0.4**	
	baz=263,SNR=14							
MESA				S	**S**	**04 03 06.6**	**+2.7**	
	baz=263							
TOLK	**Toolik Lake Re**	**22.20**	**28**	P	**P**	**03 59 00.8**	**-0.2**	
	baz=234,SNR=57							
TOLK				S	**S**	**04 03 05.2**	**+1.0**	
	baz=234							
E24K	**Your Creek**	**22.21**	**30**	P	**P**	**03 59 01.4**	**+0.4**	
	baz=236							
E24K				S	**S**	**04 03 06.4**	**+2.1**	
	baz=236							
H25L	**Birch Creek**	**22.21**	**36**	P	**P**	**03 59 00.7**	**-0.3**	
	baz=244,SNR=97							
B22K	**Teshekpuk Lake**	**22.29**	**22**	P	**P**	**03 59 01.4**	**-0.3**	
	baz=225							
B22K				S	**S**	**04 03 06.2**	**+0.6**	
	baz=225							
YAH	**Yahtse**	**22.29**	**52**	IAMs_20	IAMs_20	04 08 18.1		
	comp=Z,3µm,19.0s							
A21K	**Barrow**	**22.33**	**19**	P	**P**	**03 59 01.9**	**-0.3**	
	baz=218							
A21K				S	**S**	**04 03 07.7**	**+1.4**	
	baz=218							
GRNC	**Granite Creek**	**22.33**	**51**	IAMs_20	IAMs_20	04 08 45.3		
	comp=Z,3µm,18.0s							
G25K	**Bearman Lake**	**22.34**	**34**	P	**P**	**03 59 01.9**	**-0.4**	
	baz=242,SNR=47							
J26L	**Joseph Creek**	**22.41**	**41**	P	**P**	**03 59 01.5**	**-1.7**	
	baz=251,SNR=91							
J26L				S	**S**	**04 03 06.9**	**-1.1**	
	baz=251							
A22K	**Sinclair Lake**	**22.42**	**20**	P	**P**	**03 59 03.2**	**+0.1**	
	baz=221							
A22K				S	**S**	**04 03 09.1**	**+1.0**	
	baz=221							
BARN	**Barnard Glacie**	**22.43**	**50**	IAMs_20	IAMs_20	04 08 38.7		
	comp=Z,3µm,19.0s							
FYU	**Fort Yukon**	**22.55**	**35**	IAmb	IAmb	03 59 08.0		
	comp=Z,600nm,1.7s							
M27K	**Edge Creek, AK**	**22.56**	**47**	IAMs_20	IAMs_20	04 08 15.2		
	comp=Z,3µm,18.0s							
M27K	**Edge Creek, AK**	**22.56**	**47**	P	**P**	**03 59 05.3**	**+0.4**	
	baz=258,SNR=134							
CTG	**Chitna Glacier**	**22.57**	**50**	P	**P**	**03 59 04.7**	**-0.3**	
	baz=262,SNR=23							
CTGM	**Chitina Glacie**	**22.57**	**50**	IAMs_20	IAMs_20	04 08 43.5		
	comp=Z,4µm,19.0s							
C23K	**Itkillik River**	**22.66**	**25**	P	**P**	**03 59 05.8**	**+0.1**	
	baz=230,SNR=58							
C23K				S	**S**	**04 03 12.2**	**-0.1**	
	baz=230							
LOGN	**Logan Glacier**	**22.71**	**51**	P	**P**	**03 59 06.9**	**+0.3**	
LOGN				IAMs_20	IAMs_20	04 08 56.3		
	comp=Z,4µm,18.0s							
D24K	**Happy Valley**	**22.73**	**27**	P	**P**	**03 59 06.4**	**0.0**	
	baz=234							
D24K				S	**S**	**04 03 14.8**	**+1.2**	
	baz=234							
L27K	**Beaver Creek,**	**22.74**	**45**	IAmb	IAmb	03 59 09.3		
	comp=Z,276nm,1.7s							
L27K	**Beaver Creek,**	**22.74**	**45**	P	**P**	**03 59 05.6**	**-1.1**	
	baz=256,SNR=101							
L27K				S	**S**	**04 03 16.4**	**+2.4**	
	baz=256							
BCAR	**Beaver Creek A**	**22.76**	**45**	P	**P**	**03 59 06.1**	**-0.8**	
BCAR					**PcP**	**04 02 58.0**	**+0.1**	
BCAR				ScP	**ScP**	**04 06 35.0**	**+0.8**	
I26K	**Coal Creek Min**	**22.84**	**39**	P	**P**	**03 59 05.3**	**-2.4**	
	baz=250							
I26K				S	**S**	**04 03 19.4**	**+3.6**	
	baz=250							
K27K	**Chicken**	**22.88**	**42**	IAMs_20	IAMs_20	04 08 12.6		
	comp=Z,4µm,19.0s							
K27K	**Chicken**	**22.88**	**42**	P	**P**	**03 59 07.5**	**-0.6**	
	baz=254							
F25K	**Christian Rive**	**22.88**	**33**	P	**P**	**03 59 08.4**	**+0.2**	
	baz=241,SNR=123							
F25K				S	**S**	**04 03 20.9**	**+4.4**	
	baz=241							
PINM	**Pinnacle**	**23.00**	**53**	P	**P**	**03 59 08.4**	**-1.1**	
	baz=265,SNR=11							
BVCY	**Beaver Creek**	**23.04**	**47**	P	**P**	**03 59 09.1**	**-0.7**	
	baz=259,SNR=120							
O28M	**Mount Upton**	**23.10**	**51**	IAMs_20	IAMs_20	04 09 16.6		
	comp=Z,3µm,18.0s							
O28M	**Mount Upton**	**23.10**	**51**	P	**P**	**03 59 09.6**	**-1.1**	
	baz=264,SNR=24							
O28M				S	**S**	**04 03 23.5**	**+2.7**	
	baz=264							
C24K	**Franklin Bluff**	**23.10**	**26**	P	**P**	**03 59 10.1**	**-0.2**	
	baz=233							
C24K				S	**S**	**04 03 24.7**	**+4.7**	
	baz=233							
YUK3	**Moose Creek**	**23.11**	**49**	P	**P**	**03 59 09.7**	**-1.0**	
	baz=261,SNR=77							
E25K	**Arctic Village**	**23.17**	**31**	P	**P**	**03 59 10.8**	**-0.2**	
	baz=240,SNR=83							
E25K				S	**S**	**04 03 24.3**	**+3.0**	
	baz=240							
G26K	**Porcupine Rive**	**23.24**	**35**	P	**P**	**03 59 11.4**	**-0.3**	
	baz=245,SNR=199							
G26K				S	**S**	**04 03 27.6**	**+5.2**	
	baz=245							
YUK8	**Steele Glacier**	**23.37**	**50**	P	**P**	**03 59 11.8**	**-1.6**	
	baz=263,SNR=64							
PNL	**Peninsula**	**23.40**	**54**	P	**P**	**03 59 13.6**	**+0.1**	
PNL	**Peninsula**	**23.40**	**54**	P	**P**	**03 59 12.1**	**-1.4**	
	baz=267							
F26K	**Sheenjek River**	**23.44**	**33**	P	**P**	**03 59 14.1**	**+0.3**	
	baz=243,SNR=49							
F26K				S	**S**	**04 03 33.4**	**+7.7**	
	baz=243							
EGAK	**Eagle**	**23.48**	**41**	IAMs_20	IAMs_20	04 08 50.3		
	comp=Z,3µm,18.0s							
D25K	**Kavik River**	**23.54**	**28**	P	**P**	**03 59 14.4**	**-0.4**	
	baz=237							
D25K				S	**S**	**04 03 31.6**	**+4.1**	
	baz=237							
I27K	**Kandik River**	**23.55**	**39**	P	**P**	**03 59 12.7**	**-2.2**	
	baz=251,SNR=25							
I27K				S	**S**	**04 03 32.0**	**+4.4**	
	baz=251							
H27K	**Steamboat Moun**	**23.80**	**37**	P	**P**	**03 59 14.6**	**-2.7**	
	baz=250,SNR=14							
H27K				S	**S**	**04 03 38.0**	**+6.5**	
	baz=250							
O29M	**Mount Kennedy**	**23.85**	**52**	P	**P**	**03 59 16.0**	**-1.9**	
	baz=266,SNR=10.0							
O29M				S	**S**	**04 03 38.2**	**+5.5**	
	baz=266							
YUK4	**Talbot Arm**	**23.91**	**50**	P	**P**	**03 59 17.6**	**-1.0**	
	baz=264,SNR=82							
G27K	**Doyon Strip**	**23.96**	**36**	P	**P**	**03 59 17.1**	**-1.6**	
	baz=248,SNR=20							
G27K				S	**S**	**04 03 42.1**	**+8.1**	
	baz=248							
YUK6	**Outpost Mounta**	**24.01**	**51**	P	**P**	**03 59 17.7**	**-1.8**	
	baz=265,SNR=10							
YUK6				S	**S**	**04 03 42.2**	**+6.8**	
	baz=265							
DAWY	**Dawson**	**24.03**	**43**	P	**P**	**03 59 18.1**	**-1.4**	
	baz=257,SNR=62							
DAWY				S	**S**	**04 03 42.0**	**+6.7**	
	baz=257							
TYV	**Tymovskoe**	**24.08**	**284**	*e*P	**P**	**03 59 20.2**	**+0.2**	
TYV				*e*S	**S**	**04 03 38.6**	**+2.5**	
TYV				pmax	pmax			
	comp=Z,300nm,2.5s							
TYV				pmax	pmax			
	comp=Z,50nm,0.8s							
TYV				smax	smax			
	comp=N,600nm,3.6s							
TYV				smax	smax			
	comp=E,800nm,3.6s							
M29M	**Somme Creek**	**24.14**	**47**	IAMs_20	IAMs_20	04 09 21.0		
	comp=Z,3µm,20.0s							
M29M	**Somme Creek**	**24.14**	**47**	P	**P**	**03 59 19.1**	**-1.4**	
	baz=261,SNR=123							
M29M				S	**S**	**04 03 43.7**	**+6.6**	
	baz=261							
I28M	**Miner Creek**	**24.17**	**40**	P	**P**	**03 59 19.2**	**-1.5**	
	baz=253,SNR=144							
I28M				S	**S**	**04 03 45.1**	**+7.6**	
	baz=253							
P29M	**Windy Craggy**	**24.24**	**54**	P	**P**	**03 59 20.2**	**-1.2**	
	baz=268							
P29M				S	**S**	**04 03 45.0**	**+6.3**	
	baz=268							
C26K	**Camden Bay**	**24.30**	**28**	P	**P**	**03 59 21.4**	**-0.4**	
	baz=238,SNR=81							
C26K				S	**S**	**04 03 47.4**	**+8.1**	
	baz=238							
L29M	**L29M**	**24.40**	**46**	IAmb	IAmb	03 59 24.3		
	comp=Z,92nm,0.6s							
L29M	**L29M**	**24.40**	**46**	P	**P**	**03 59 21.4**	**-1.5**	
	baz=260,SNR=155							
L29M				S	**S**	**04 03 47.6**	**+6.4**	
	baz=260							
HYT	**Haines Junctio**	**24.42**	**51**	P	**P**	**03 59 21.4**	**-1.8**	
HYT				PcP	**PcP**	**04 03 02.4**	**+0.8**	
HYT				ScP	**ScP**	**04 06 40.3**	**+1.5**	
HYT	**Haines Junctio**	**24.42**	**51**	P	**P**	**03 59 21.7**	**-1.5**	
	baz=266,SNR=18							
HYT				S	**S**	**04 03 48.5**	**+6.8**	
	baz=266							
C27K	**Jago River**	**24.50**	**29**	P	**P**	**03 59 22.7**	**-1.0**	
	baz=240,SNR=55							
C27K				S	**S**	**04 03 50.8**	**+8.1**	
	baz=240							
E27K	**Coleen River**	**24.52**	**33**	P	**P**	**03 59 23.2**	**-0.8**	
	baz=246,SNR=92							
E27K				S	**S**	**04 03 53.2**	**+10**	
	baz=246							
J29N	**Klondike Camp**	**24.62**	**42**	P	**P**	**03 59 22.9**	**-2.0**	
	baz=257							
J29N				S	**S**	**04 03 53.7**	**+8.9**	
	baz=257							
P30M	**Million Dollar**	**24.65**	**53**	P	**P**	**03 59 23.1**	**-2.1**	
	baz=268							
P30M				S	**S**	**04 03 52.8**	**+7.5**	
	baz=268							
N30M	**Aishikik Lake**	**24.67**	**50**	IAMs_20	IAMs_20	04 09 51.0		
	comp=Z,3µm,20.0s							
N30M	**Aishikik Lake**	**24.67**	**50**	P	**P**	**03 59 23.5**	**-1.9**	
	baz=265,SNR=41							
N30M				S	**S**	**04 03 53.7**	**+8.1**	
	baz=265							
YUK	**Yuzh-Kuril'sk**	**24.78**	**267**	*de*P	**P**	**03 59 27.8**	**+1.4**	
K29M	**Barlow Dome**	**24.80**	**44**	P	**P**	**03 59 25.2**	**-1.4**	
	baz=259,SNR=143							
K29M				S	**S**	**04 03 57.1**	**+9.4**	
	baz=259							
I29M	**Ogilvie Camp,**	**24.80**	**40**	IAMs_20	IAMs_20	04 09 58.3		
	comp=Z,4µm,18.0s							
I29M	**Ogilvie Camp,**	**24.80**	**40**	P	**P**	**03 59 25.0**	**-1.4**	
	baz=255,SNR=14							
I29M				S	**S**	**04 03 55.3**	**+7.7**	
	baz=255							
F28M	**Old Crow**	**24.90**	**35**	P	**P**	**03 59 27.1**	**-0.3**	
	baz=249,SNR=78							
F28M				S	**S**	**04 03 58.4**	**+9.3**	
	baz=249							
M30M	**Minto, Yukon**	**24.93**	**47**	IAMs_20	IAMs_20	04 09 53.7		
	comp=Z,3µm,19.0s						

baz=267
D27M Malcolm River 25.18 31 P P 03 59 29.8 -0.1
baz=244
D27M S S **04 04 01.0 +7.3**
baz=244
N31M Braeburn, Yuko 25.30 50 IAMs_20 IAMs_20 04 10 08.6
comp=Z,2µm,20.0s
N31M Braeburn, Yuko 25.30 50 P P 03 59 30.2 -0.8
baz=266,SNR=16
N31M S S **04 04 04.6 +9.0**
baz=266
G29M Pine Creek 25.34 37 P P 03 59 30.8 -0.5
baz=252,SNR=28
G29M S S **04 04 05.8 +10**
baz=252
E28M Babbage River 25.39 33 P P 03 59 31.3 -0.4
baz=247,SNR=74
E28M S S **04 04 06.2 +9.3**
baz=247
YSS Yuzhno-Sakhali 25.39 275 P P 03 59 32.9 +1.1
YSS IAmb IAmb 03 59 36.1
comp=Z,150nm,1.1s
YSS Yuzhno-Sakhali 25.39 275 *de*P **P 03 59 33.6 +1.7**
YSS pmax pmax
comp=Z,162nm,1.2s
J30M Hart River 25.44 43 P P 03 59 31.4 -1.0
baz=259,SNR=47
J30M S S **04 04 07.1 +9.0**
baz=259
SKAG Skagway 25.47 55 IAMs_20 IAMs_20 04 08 52.7
comp=Z,2µm,20.0s
SKAG Skagway 25.47 55 P P 03 59 31.5 -0.9
baz=271
SKAG S S **04 04 07.3 +9.1**
baz=271
MAYO Mayo, Yukon 25.47 45 P P 03 59 30.8 -1.7
baz=262
I30M Mount Dempster 25.55 41 IAMs_20 IAMs_20 04 10 06.3
comp=Z,2µm,19.0s
I30M Mount Dempster 25.55 41 P P 03 59 31.6 -1.8
baz=258,SNR=98
I30M S S **04 04 07.3 +7.5**
baz=258
SIT Sitka 25.61 60 P P 03 59 32.6 -1.2
baz=276
EPYK Eagle Plains 25.69 38 P P 03 59 33.0 -1.5
baz=255,SNR=24
WHY Whitehorse 25.70 52 P P 03 59 33.6 -1.1
WHY PcP **PcP 04 03 03.7 -0.6**
WHY ScP **ScP 04 06 43.8 +1.4**
WHY Whitehorse 25.70 52 P P 03 59 33.8 -0.9
baz=269,SNR=11
WHY S S **04 04 10.8 +8.7**
baz=269
BESE Bessie Mountai 25.74 57 P P 03 59 34.3 -0.8
BESE IAMs_20 IAMs_20 04 08 40.6
comp=Z,2µm,21.0s
E29M Blow River 25.87 34 P P 03 59 36.0 -0.1
baz=250,SNR=52
E29M S S 04 04 16.1 +12
baz=250
D28M Stokes Point 25.94 31 P P 03 59 36.4 -0.2
baz=247
D28M S S 04 04 17.5 +12
baz=247
R32K Eaglecrest 25.94 57 P P 03 59 36.5 -0.3
baz=274
M31M Drury Creek, Y 26.00 48 P P 03 59 35.9 -1.5
baz=266,SNR=28
M31M S S 04 04 18.1 +11
baz=266
JIS Juneau Island 26.01 57 P P 03 59 38.4 +1.0
G30M tAoh Zraii Nji 26.04 37 P P 03 59 34.6 -3.1
baz=254,SNR=9.5
G30M S S **04 04 16.2 +8.9**
baz=254
P32M Atlin 26.29 54 IAMs_20 IAMs_20 04 10 26.9
comp=Z,2µm,19.0s
P32M Atlin 26.29 54 P P 03 59 38.2 -1.8
baz=272,SNR=10
P32M S S **04 04 20.6 +9.3**
baz=272
F30M Barrier River 26.38 36 P P 03 59 38.4 -2.3
baz=254,SNR=17
H31M Peel River 26.50 40 IAMs_20 IAMs_20 04 11 09.3
comp=Z,3µm,18.0s
H31M Peel River 26.50 40 P P 03 59 40.3 -1.6
baz=259,SNR=11
N32M Quiet Lake 26.58 51 P P 03 59 41.6 -1.1
baz=269
P33M Teslin, Yukon 26.72 53 IAMs_20 IAMs_20 04 10 30.3
comp=Z,2µm,19.0s
P33M Teslin, Yukon 26.72 53 P P 03 59 43.1 -0.9
baz=272,SNR=20
G31M Satah River 26.77 38 P P 03 59 41.9 -2.3
baz=257,SNR=9.5
ASAJ Asahikawa 26.78 270 LR LR 04 08 37.7
comp=Z,706nm,21.3s,baz=122,slow=33
T33K Petersburg 26.93 60 P P 03 59 43.1 -2.7
baz=278
U33K Whale Pass 26.95 62 P P 03 59 44.1 -1.8
baz=279
CRAG Craig 27.06 63 P P 03 59 47.7 +0.8
CRAG Craig 27.06 63 P P 03 59 46.0 -0.9
baz=281
Q32M Nakina River 27.06 56 IAMs_20 IAMs_20 04 11 46.4
comp=Z,2µm,18.0s
Q32M Nakina River 27.06 56 P P 03 59 46.5 -0.7
baz=274,SNR=11
F31M Tsiigehtchic 27.09 37 P P 03 59 45.6 -1.5
baz=256,SNR=8.7
WRAK Wrangell Islan 27.32 61 IAMs_20 IAMs_20 04 11 05.0
comp=Z,2µm,18.0s
WRAK Wrangell Islan 27.32 61 P P 03 59 49.6 +0.3
baz=279,SNR=6.2
INK Inuvik 27.39 35 LR LR 04 11 21.7
comp=Z,1µm,18.4s,baz=249,slow=38
INK Inuvik 27.39 35 P P 03 59 49.4 -0.3
baz=255,SNR=19
MMPY Sheldon Lake, 27.48 48 P P 03 59 48.8 -1.9
baz=268,SNR=42
ERM Erimo 27.52 265 *ce*P **P 03 59 51.2 0.0**
ERM pmax pmax
comp=Z,36nm,1.2s
R33M Jennings River 27.70 55 IAMs_20 IAMs_20 04 11 17.2
comp=Z,2µm,19.0s
R33M Jennings River 27.70 55 P P 03 59 50.8 -2.0
baz=275,SNR=8.6
S34M Telegraph Cree 27.77 58 P P 03 59 51.9 -1.4
baz=277
GRNR Gornyy 27.87 287 ⇑*i*P **P 03 59 53.9 -0.4**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=N,630nm,23.0s
GRNR MLR MLR
comp=E,830nm,23.0s
GRNR MLR MLR
comp=Z,930nm,13.0s
V35K Ketchikan 27.93 63 P P 03 59 53.6 -1.1
baz=282
DIB Dawson Inlet, 27.93 68 P P 03 59 56.0 +1.2
DLBC Dease Lake 28.28 56 LR LR 04 10 29.5
comp=Z,18µm,21.4s,baz=261,slow=35
DLBC Dease Lake 28.28 56 P P 03 59 57.5 -0.5
baz=277,SNR=10
T35M Bob Quinn 28.37 60 P P 03 59 58.9 +0.2
baz=280,SNR=7.0
U35K Hyder 28.69 62 IAMs_20 IAMs_20 04 11 46.7
comp=Z,2µm,18.0s
U35K Hyder 28.69 62 P P 03 59 58.5 -3.0
baz=282
WTLY Watson Lake, Y 28.73 53 P P 04 00 01.5 -0.4
baz=275,SNR=8.4
TGTN Hyland Airport 28.89 50 P P 04 00 03.6 +0.3
baz=273,SNR=14
YAK Yakutsk 29.45 311 LR LR 04 12 20.5
comp=Z,1µm,18.5s,baz=92,slow=37
LIRD Liard River Hi 30.17 54 P P 04 00 14.0 -0.6
baz=278
TIXI Tiksi 30.64 330 IAMs_20 IAMs_20 04 13 35.9
comp=Z,2µm,20.0s
TIXI Tiksi 30.64 330 LR LR 04 13 41.4
comp=Z,2µm,18.6s,baz=124,slow=39
TIXI Tiksi 30.64 330 *ce*P **P 04 00 20.1 +1.5**
TIXI pmax pmax
comp=Z,19nm,1.7s
TOAD Toad River Com 30.70 55 P P 04 00 19.3 0.0
baz=280,SNR=5.4
BBB Bella Bella 30.77 68 LR LR 04 12 09.0
comp=Z,824nm,18.1s,baz=274,slow=36
C36M Paulatuk 30.96 34 P P 04 00 19.9 -1.5
baz=263
A36M Sachs Harbour 31.02 29 P P 04 00 20.4 -1.5
baz=257
WRGLY Wrigley 31.04 46 P P 04 00 21.1 -1.0
WRGLY IAmb IAmb 04 00 24.1
comp=Z,48nm,0.8s
WRGLY Wrigley 31.04 46 P P 04 00 20.7 -1.4
baz=274,SNR=11
KOTAN Kotaneelee Air 31.09 52 P P 04 00 20.6 -2.1
baz=278,SNR=9.4
ZEA Zeya 32.28 296 *e*P **P 04 00 32.5 -0.7**
ZEA *e*S **S 04 05 38.0 -7.4**
ZEA pmax pmax
comp=Z,100nm,3.2s
ZEA pmax pmax
comp=Z,30nm,1.2s
ZEA smax smax
comp=E,300nm,5.9s
ZEA MLR MLR
comp=E,500nm,16.0s
ZEA MLR MLR
comp=N,200nm,14.0s
ZEA MLR MLR
comp=Z,600nm,18.0s
CBB Campbell River 33.17 71 P P 04 00 42.0 +1.0
CBB IAmb IAmb 04 00 45.0
comp=Z,135nm,1.6s
CBB **PcP 04 03 23.9 +0.5**
USA0B Ussuriysk Arra 33.36 277 *de*P **P 04 00 42.9 +0.1**
USRK Ussuriysk Ar. 33.36 277 P P 04 00 41.8 -0.9
USRK Ussuriysk Ar. 33.36 277 P P 04 00 41.6 -1.1
comp=Z,7.8nm,0.7s,baz=61,slow=7.3,SNR=13
USRK ScP **ScP 04 07 09.2 +2.1**
comp=Z,4.7nm,0.8s,baz=79,slow=4.7,SNR=6.3
USRK LR LR 04 16 07.1
comp=Z,426nm,18.2s,baz=41,slow=40
comp=Z,7.8nm,0.7s
HEH HeiHe 33.42 290 *e*P **P 04 00 41.9 -1.3**
HEH pP **pP 04 00 48.2 -1.1**
HEH PcP **PcP 04 03 23.7 -0.4**
HEH S **S 04 05 59.9 -3.3**
HEH ScP **ScP 04 07 06.9 -0.2**
HEH pmax pmax
comp=Z,30nm,0.7s
HEH LR LR
comp=Z,450nm,12.9s
HEH LR LR
comp=Z,1µm,15.6s
HEH LR LR
comp=Z,2µm,16.6s
OZB Mount Ozzard 33.53 73 IAmb IAmb 04 00 47.4
comp=Z,182nm,1.1s
H11N2 WAKE ISLAND Hy 33.59 205 T T 04 36 17.1
baz=16,slow=76
H11N3 WAKE ISLAND Hy 33.60 205 T T 04 36 17.6
baz=16,slow=76
H11N1 WAKE ISLAND Hy 33.61 205 T T 04 36 18.6
baz=16,slow=76
MJAR Matsushiro Arr 33.86 261 P P 04 00 47.6 +0.4
MJAR Matsushiro Arr 33.86 261 P P 04 00 47.4 +0.2
comp=Z,8.1nm,0.7s,baz=47,slow=7.1,SNR=20
MJAR PcP **PcP 04 03 26.5 +0.9**
comp=Z,3.0nm,0.7s,baz=53,slow=1.3,SNR=6.4
MJAR ScP **ScP 04 07 10.6 +1.6**
comp=Z,2.2nm,0.8s,baz=58,slow=5.0,SNR=4.6
MJAR LR LR 04 12 41.2
comp=Z,1µm,21.4s,baz=75,slow=33
comp=Z,8.1nm,0.7s
MAJO Matsushiro 33.86 261 P P 04 00 47.2 0.0
MAJO IAmb IAmb 04 00 52.6
comp=Z,118nm,1.4s
MAJO Matsushiro 33.86 261 IAMs_20 IAMs_20 04 11 53.6
comp=Z,2µm,21.0s
MAJO Matsushiro 33.86 261 ⇓*e*P **P 04 00 48.4 +1.2**
MAJO pmax pmax
comp=Z,82nm,1.4s
MJB9 Matsu-Tunnel 33.86 261 IAmb IAmb 04 00 53.6
comp=Z,107nm,1.4s
CLRS Cowichan Lake 34.40 72 IAmb IAmb 04 00 54.8
comp=Z,146nm,1.2s
MDJ Mudanjiang 34.64 279 P P 04 00 52.4 -1.4
MDJ S **S 04 06 24.3 +2.2**
MDJ pmax pmax
comp=Z,18nm,1.3s
MDJ LR LR
comp=Z,690nm,17.3s
MDJ LR LR
comp=Z,680nm,20.1s
MDJ LR LR
comp=Z,1µm,20.5s
MSHR Mys Shultsa 34.72 275 *de*P **P 04 00 55.5 +0.9**
MSHR pmax pmax
comp=Z,16nm,1.1s
H11S1 WAKE ISLAND Hy 34.81 205 T T 04 37 49.5
baz=17,slow=76
H11S2 WAKE ISLAND Hy 34.83 205 T T 04 37 49.8
baz=17,slow=76
H11S3 WAKE ISLAND Hy 34.83 205 T T 04 37 50.2
baz=17,slow=76
PGC Sidney 34.88 72 IAmb IAmb 04 00 58.8
comp=Z,252nm,2.0s
PSTR Posyet 34.91 276 *de*P **P 04 00 57.2 +1.1**
LLLB Lillooet 34.98 68 P P **04 00 57.4 +0.6**
JGF Kuroka 34.99 261 IAmb IAmb 04 01 11.4
comp=Z,85nm,1.3s
B04A Port Angeles 35.11 73 IAmb IAmb 04 01 01.1
comp=Z,79nm,1.0s
YKAW3 Yellowknife Wh 35.14 46 IAmb IAmb 04 00 59.5
comp=Z,46nm,0.8s
YKA Yellowknife Ar 35.16 46 P P 04 00 57.4 -0.7
YKA Yellowknife Ar 35.16 46 P P 04 00 57.1 -1.0
comp=Z,23nm,0.8s,baz=287,slow=8.4,SNR=53
YKA PP **PnPn 04 02 14.0 -1.7**
comp=Z,5.6nm,0.9s,baz=283,slow=10,SNR=3.9
YKA PcP **PcP 04 03 27.5 -1.3**
comp=Z,7.0nm,1.0s,baz=300,slow=2.7,SNR=7.3
YKA ScP **ScP 04 07 12.7 -0.4**
comp=Z,16nm,1.0s,baz=296,slow=3.3,SNR=31
YKA LR LR 04 16 21.6
comp=Z,2µm,18.1s,baz=282,slow=38
comp=Z,23nm,0.8s
JHJ Hachijo jima 2 35.18 255 LR LR 04 13 17.1
comp=Z,661nm,21.3s,baz=116,slow=33
NLWA Neilton Lookou 35.19 74 IAmb IAmb 04 01 02.3
comp=Z,140nm,0.9s
YKAW1 Yellowknife Wh 35.21 46 IAmb IAmb 04 01 00.1
comp=Z,43nm,0.9s
A04D Lummi Island 35.29 72 IAmb IAmb 04 01 02.6
comp=Z,205nm,1.3s
INU Inuyama 35.37 261 IAmb IAmb 04 01 12.7
comp=Z,107nm,2.0s
BNX BinXian 35.43 283 ⇓P **P 04 00 59.4 -1.2**
BNX pP **pP 04 01 05.6 -1.2**
BNX sP **sP 04 01 08.3 -1.0**
BNX S **S 04 06 33.2 -1.0**
BNX sS **sS 04 06 43.8 -0.3**
BNX pmax pmax
comp=Z,40nm,1.1s
BNX LR LR
comp=Z,930nm,17.9s
BNX LR LR
comp=Z,1µm,19.6s
BNX LR LR
comp=Z,1µm,20.6s
GNW Green Mountain 35.74 74 IAmb IAmb 04 01 06.7
comp=Z,120nm,0.9s
G03D McMinnville, O 36.61 77 IAmb IAmb 04 01 14.3
comp=Z,253nm,1.2s
LON Longmire 36.74 74 IAmb IAmb 04 01 15.0
comp=Z,209nm,1.5s
COR Corvallis 36.91 78 P P 04 01 15.8 +2.6
COR Corvallis 36.91 78 P P 04 01 15.8 +2.6
COR pmax pmax
comp=Z,321nm,1.0s
KEBM Edson Butte 37.17 81 IAMs_20 IAMs_20 04 12 12.7
comp=Z,1µm,21.0s
LTY Liberty 37.18 73 IAmb IAmb 04 01 18.0
comp=Z,84nm,1.0s
H04D Lebanon 37.28 78 IAmb IAmb 04 01 20.1
comp=Z,181nm,0.9s
B08A Colville Reser 37.46 71 IAmb IAmb 04 01 20.3
comp=Z,212nm,1.4s
CN2 Changchun 37.61 281 P P 04 01 18.8 -0.5
CN2 sP sP 04 01 27.7 -0.2
CN2 PP **PnPn 04 02 46.6 +0.6**
CN2 S **S 04 07 06.0 -1.6**
CN2 SS **SnSn 04 09 38.2 -8.3**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,840nm,17.0s
CN2 LR LR
comp=Z,930nm,17.0s
CN2 LR LR
comp=Z,1µm,22.0s
MXC Moxie City 37.73 74 IAmb IAmb 04 01 23.0
comp=Z,71nm,0.9s
E07A Sunnyside 38.01 74 IAmb IAmb 04 01 25.3
comp=Z,85nm,0.8s
BOD Bodaibo 38.02 307 *e*P **P 04 01 21.3 -1.2**
BOD pmax pmax
comp=Z,168nm,1.3s
KSXB Camp Six Broad 38.02 83 P P 04 01 24.6 +1.6
KSXB IAmb IAmb 04 01 26.5
comp=Z,155nm,1.0s
L02F Cave Junction 38.05 82 IAmb IAmb 04 01 26.6
comp=Z,148nm,0.9s
WAH2 Wahluke Slope 38.08 73 IAmb IAmb 04 01 25.7
comp=Z,140nm,0.6s
KRMB Red Mountain 38.18 83 P P 04 01 25.7 +1.5
KRMB IAmb IAmb 04 01 27.9
comp=Z,116nm,1.0s
KRMB IAMs_20 IAMs_20 04 15 25.4
comp=Z,1µm,18.0s
BBOR Butler Butte 38.19 80 IAmb IAmb 04 01 28.1
comp=Z,252nm,1.1s
G06A Carlson Farm, 38.20 76 IAmb IAmb 04 01 27.2
comp=Z,326nm,1.8s
HAWA Hanford 38.28 74 IAmb IAmb 04 01 27.6
comp=Z,152nm,0.8s
F07A Phinny Hill Vi 38.29 74 IAmb IAmb 04 01 27.9
comp=Z,147nm,0.8s
KRPM Rodgers 38.31 84 P P 04 01 26.4 +1.1
KRPM IAmb IAmb 04 01 29.1
comp=Z,163nm,0.9s
KRPM IAMs_20 IAMs_20 04 15 37.0
comp=Z,955nm,18.0s
D08A Wollman Farm, 38.32 72 IAmb IAmb 04 01 27.4
comp=Z,85nm,0.9s
HIA Hailar 38.34 292 P P 04 01 24.4 -1.0
HIA Hailar 38.34 292 IAMs_20 IAMs_20 04 18 04.7
comp=Z,1µm,19.0s
J04A Umpqua Nationa 38.35 79 P P 04 01 27.2 +1.4
C09A Chrisman Ranch 38.35 71 IAmb IAmb 04 01 27.4
comp=Z,194nm,1.4s
JCC Jacoby Creek, 38.50 84 IAmb IAmb 04 01 30.5
comp=Z,114nm,1.0s
E08A Dider Farm, El 38.52 73 IAmb IAmb 04 01 29.2
comp=Z,93nm,0.9s
KHMM Horse Mountain 38.65 84 IAmb IAmb 04 01 32.2
comp=Z,170nm,1.0s
KHMM IAMs_20 IAMs_20 04 15 21.0
comp=Z,1µm,18.0s
PINE Pine Mountain 38.77 78 P P 04 01 30.4 +1.1
PINE IAmb IAmb 04 01 33.7
comp=Z,326nm,1.2s
YPT Yellepit 38.80 74 IAmb IAmb 04 01 31.6
comp=Z,120nm,0.8s
YBH Yreka Blue Hor 38.80 82 IAmb IAmb 04 01 33.3
comp=Z,134nm,0.9s
YBH Yreka Blue Hor 38.80 82 LR LR 04 13 38.1
comp=Z,72nm,21.9s,baz=283,slow=30
NEW Newport 38.80 70 IAmb IAmb 04 01 31.2
comp=Z,178nm,1.4s
NEW Newport 38.80 70 LR LR 04 17 58.9
comp=Z,536nm,18.3s,baz=302,slow=37
J05D Fort Rock, OR 38.86 79 IAmb IAmb 04 01 33.8
comp=Z,300nm,1.1s
M02C Callahan 38.91 82 IAmb IAmb 04 01 34.3
comp=Z,129nm,1.1s
KMRM Mail Ridge 39.04 85 IAMs_20 IAMs_20 04 13 46.7
comp=Z,1µm,20.0s
E09A Wood Farm, Sta 39.05 73 IAmb IAmb 04 01 33.5
comp=Z,164nm,1.1s
N02D Trinity Center 39.23 83 IAmb IAmb 04 01 36.9
comp=Z,110nm,0.8s
K05A Summer Lake 39.38 79 IAmb IAmb 04 01 38.1
comp=Z,309nm,1.0s
KCPM Cahto Peak 39.44 85 IAmb IAmb 04 01 38.2
comp=Z,174nm,0.9s
KCPM IAMs_20 IAMs_20 04 14 37.8
comp=Z,1µm,21.0s
O02D Mt. Diablo Mer 39.64 84 IAmb IAmb 04 01 40.2
comp=Z,166nm,0.9s
RES Resolute Bay 39.68 24 LR LR 04 19 36.8
comp=Z,765nm,20.8s,baz=258,slow=39
KSRS Korea Array 39.71 271 P **P 04 01 37.6 +0.7**
comp=Z,26nm,1.1s,baz=58,slow=7.9,SNR=20
KSRS PcP **PcP 04 03 44.4 +1.2**
comp=Z,0.5nm,0.4s,baz=71,slow=4.1,SNR=1.6
KSRS ScP **ScP 04 07 32.3 +1.7**
comp=Z,3.0nm,1.0s,baz=54,slow=4.6,SNR=7.8
comp=Z,26nm,1.1s
DCMP DeCamp, Califo 39.72 85 IAmb IAmb 04 01 40.2
comp=Z,117nm,0.9s
KSAR Wonju Array Be 39.74 271 P P 04 01 37.4 +0.2
KSAR Wonju Array Be 39.74 271 P P 04 01 37.4 +0.2
HOPS Hopland Field 40.16 86 IAmb IAmb 04 01 43.8
comp=Z,128nm,0.9s
HOPS IAMs_20 IAMs_20 04 14 15.1
comp=Z,1µm,21.0s
BMO Blue Mountains 40.41 74 P P 04 01 42.5 -0.3
BMO IAmb IAmb 04 01 45.3
comp=Z,78nm,0.9s
BMO Blue Mountains 40.41 74 P P 04 01 42.5 -0.3
BMO pmax pmax
comp=Z,78nm,1.0s
INCN Inchon 40.50 272 P P 04 01 44.9 +1.4
INCN Inchon 40.50 272 P P 04 01 44.9 +1.4
INCN pmax pmax
comp=Z,51nm,1.1s
J08A Circle Bar Ran 40.51 77 IAmb IAmb 04 01 46.6
comp=Z,120nm,0.9s
CIT Chita 40.59 298 *e*P **P 04 01 44.0 -0.1**
CIT *e* 04 01 55.0
CIT *e* 04 03 26.8
CIT pmax pmax
comp=Z,123nm,2.4s
MNRC McLaughlin Min 40.62 85 IAmb IAmb 04 01 48.2
comp=Z,100nm,0.8s
MNRC IAMs_20 IAMs_20 04 14 52.3
comp=Z,2µm,20.0s
JNU Nakatsue 40.65 263 P P 04 01 45.2 +0.4
TJN Taejon 40.73 270 P P 04 01 46.2 +0.8
TJN Taejon 40.73 270 *de*P **P 04 01 46.3 +0.9**
MCCM Marconi Confer 40.80 87 IAMs_20 IAMs_20 04 14 59.9
comp=Z,1µm,19.0s
SUTB Sutter Butte 40.83 84 IAmb IAmb 04 01 48.5
comp=Z,127nm,1.0s
WVOR Wild Horse Val 40.92 78 IAmb IAmb 04 01 50.1
comp=Z,224nm,1.1s
CVS Carmenet Viney 40.94 86 IAmb IAmb 04 01 49.8
comp=Z,132nm,0.9s
CVS IAMs_20 IAMs_20 04 14 46.6
comp=Z,1µm,20.0s
FARB Farallon Islan 40.99 87 IAMs_20 IAMs_20 04 17 42.1
comp=Z,1µm,18.0s
PLID Pearl Lake 41.08 73 IAMs_20 IAMs_20 04 15 28.7
comp=Z,1µm,22.0s
BEKR Beckworth 41.34 83 IAmb IAmb 04 01 53.3
comp=Z,84nm,0.9s
MSO Missoula 41.39 70 IAmb IAmb 04 01 53.2
comp=Z,189nm,1.4s
WELL Weller Preserv 41.96 85 IAmb IAmb 04 01 58.6
comp=Z,104nm,1.0s
WELL IAMs_20 IAMs_20 04 15 25.7
comp=Z,1µm,20.0s
PAHR Pah Rah Range 42.04 82 IAmb IAmb 04 01 59.2
comp=Z,193nm,0.9s
MTOS Mt Oso, Westle 42.16 86 IAMs_20 IAMs_20 04 15 11.9
comp=Z,1µm,21.0s
CMB Columbia Colle 42.42 85 IAmb IAmb 04 02 02.3
comp=Z,111nm,1.2s
CMB IAMs_20 IAMs_20 04 15 48.8
comp=Z,1µm,21.0s
SAO San Andreas Ge 42.54 87 IAMs_20 IAMs_20 04 18 27.2
comp=Z,984nm,18.0s
BLKN Baker Lake 42.57 40 P P 04 01 59.4 -0.7
SCZ Santa Cruz 42.68 87 IAmb IAmb 04 02 03.9
comp=Z,105nm,0.9s

WAKR **Walker** 42.73 84 IAmb IAmb 04 02 05.2
comp=Z,102nm,0.9s
DL2 **Dalian** 42.76 277 P **P** **04 02 04.4 +2.5**
DL2 S **S** **04 08 26.7 +2.2**
DL2 pmax pmax
comp=Z,25nm,0.8s
DL2 pmax pmax
comp=Z,230nm,3.9s
DL2 LR LR
comp=Z,460nm,17.8s
DL2 LR LR
comp=Z,430nm,19.0s
DL2 LR LR
comp=Z,960nm,18.8s
BUCR **Buckhorn Ranch** 42.79 85 P **P** **04 02 02.2 -0.2**
BUCR IAmb IAmb 04 02 05.1
comp=Z,101nm,1.2s
HLID **Hailey** 42.86 74 IAmb IAmb 04 02 05.4
comp=Z,116nm,1.0s
HULI **Fort Hunter Li** 43.14 88 P **P** **04 02 06.7 +1.6**
HULI IAmb IAmb 04 02 08.3
comp=Z,279nm,1.1s
EGMT **Eagleton** 43.20 66 IAmb IAmb 04 02 08.7
comp=Z,227nm,1.8s
RYN **Ryan** 43.22 83 IAmb IAmb 04 02 08.7
comp=Z,110nm,1.0s
XLT **XiLinHaoTe** 43.25 287 *e*P **P** **04 02 06.0 -0.1**
XLT ScP **ScP** **04 07 45.6 +0.9**
XLT S **S** **04 08 33.8 +1.9**
XLT pmax pmax
comp=Z,20nm,1.0s
XLT pmax pmax
comp=Z,360nm,3.5s
XLT LR LR
comp=Z,88nm,16.9s
XLT LR LR
comp=Z,730nm,16.5s
XLT LR LR
comp=Z,1μm,20.4s
PMPB **Monarch Peak** 43.29 87 IAmb IAmb 04 02 16.2
comp=Z,98nm,1.1s
BOZ **Bozeman (W)** 43.40 70 IAmb IAmb 04 02 09.0
comp=Z,142nm,1.2s
LHV **Little Huntoon** 43.46 83 IAmb IAmb 04 02 11.2
comp=Z,224nm,1.2s
RAMR **Ramage Ranch** 43.62 88 IAmb IAmb 04 02 12.2
comp=Z,148nm,1.0s
ELK **Elko** 43.98 78 IAmb IAmb 04 02 14.8
comp=Z,136nm,1.0s
ELK **Elko** 43.98 78 LR LR 04 17 15.2
comp=Z,558nm,20.7s,baz=312,slow=32
FFC **Flin Flon** 44.06 54 P **P** **04 02 11.8 -0.5**
FFC PcP **PcP** **04 03 57.3 0.0**
FFC **ScP** **04 07 47.3 -0.4**
FFC **Flin Flon** 44.06 54 IAMs_20 IAMs_20 04 19 46.9
comp=Z,1μm,21.0s
YHL **Hebgen Lake** 44.08 71 IAmb IAmb 04 02 14.8
comp=Z,174nm,1.1s
YHB **Horse Butte** 44.12 71 IAmb IAmb 04 02 15.0
comp=Z,172nm,1.1s
DSP **Deep Springs** 44.34 84 IAmb IAmb 04 02 18.1
comp=Z,117nm,1.0s
TPH **Tonopah** 44.37 83 P **P** **04 02 15.1 -0.1**
TPH IAmb IAmb 04 02 17.9
comp=Z,156nm,1.0s
TPH **Tonopah** 44.37 83 P **P** **04 02 15.1 -0.1**
TPH pmax pmax
comp=Z,156nm,1.0s
TIN **Tinemaha, Big** 44.37 84 IAMs_20 IAMs_20 04 17 00.4
comp=Z,1μm,19.0s
YNR **Norris Junctio** 44.45 71 IAmb IAmb 04 02 18.9
comp=Z,137nm,1.0s
YNE **Yellowstone No** 44.68 70 IAmb IAmb 04 02 19.3
comp=Z,72nm,1.2s
YMP **Mirror Lake Pl** 44.74 70 IAmb IAmb 04 02 20.4
comp=Z,120nm,1.3s
GMN **Gold Mountain** 44.82 83 IAmb IAmb 04 02 21.6
comp=Z,63nm,0.8s
CWC **Cottonwood Cre** 44.85 85 IAmb IAmb 04 02 21.7
comp=Z,66nm,0.9s
CWC PcP **PcP** **04 04 01.2 +0.7**
CWC IAMs_20 IAMs_20 04 17 10.2
comp=Z,935nm,21.0s
HVU **Hansel Valley** 44.87 75 IAmb IAmb 04 02 21.7
comp=Z,97nm,0.7s
TPAW **Teton Pass** 44.98 72 IAmb IAmb 04 03 05.7
comp=Z,61nm,0.6s
RLMT **Red Lodge** 45.05 69 IAmb IAmb 04 02 23.4
comp=Z,185nm,1.2s
ISA **Isabella, Lake** 45.10 86 IAmb IAmb 04 02 22.8
comp=Z,89nm,0.9s
ISA IAMs_20 IAMs_20 04 19 15.8
comp=Z,951nm,19.0s
R11B **Troy Canyon, C** 45.21 81 IAmb IAmb 04 02 24.3
comp=Z,114nm,0.9s
BGU **Big Grassy Mou** 45.22 77 IAmb IAmb 04 02 24.6
comp=Z,132nm,1.2s
AHID **Auburn Hatcher** 45.31 73 P **P** **04 02 22.6 0.0**
AHID IAmb IAmb 04 02 24.9
comp=Z,98nm,1.1s
AHID IAMs_20 IAMs_20 04 18 05.7
comp=Z,910nm,22.0s
BJI **Beijing** 45.44 282 P **P** **04 02 24.1 +0.7**
BJI pP **sP** **04 02 34.2 +2.1**
BJI S **S** **04 09 02.4 -1.1**
BJI pmax pmax
comp=Z,150nm,3.9s
BJI LR LR
comp=Z,300nm,15.3s
BJI LR LR
comp=Z,300nm,23.1s
BJI LR LR
comp=Z,550nm,16.7s
BJT **Baijiatuan** 45.46 282 IAMs_20 IAMs_20 04 20 13.5
comp=Z,974nm,22.0s
MPMC **Manual Prospec** 45.46 85 IAmb IAmb 04 02 26.4
comp=Z,59nm,0.8s
MPMC IAMs_20 IAMs_20 04 17 28.3
comp=Z,1μm,20.0s
WCT **Wildcat Mounta** 45.53 84 IAmb IAmb 04 02 26.9
comp=Z,50nm,0.9s
CLC **China Lake** 45.55 85 IAmb IAmb 04 02 26.9
comp=Z,90nm,0.9s
SPR3 **Spring Creek 3** 45.59 80 P **P** **04 02 25.4 +0.3**
SPR3 IAmb IAmb 04 02 28.1
comp=Z,65nm,0.8s
OSI **Osito Audit: C** 45.62 87 IAMs_20 IAMs_20 04 16 36.2
comp=Z,852nm,20.0s
TPNV **Topopah Spring** 45.67 83 IAMs_20 IAMs_20 04 19 11.8
comp=Z,1μm,20.0s
LRMC **Laurel Mtn Rad** 45.71 86 IAmb IAmb 04 02 27.8
comp=Z,39nm,0.8s
LRMC IAMs_20 IAMs_20 04 20 30.0
comp=Z,836nm,18.0s
WSHM **Spangler Hills** 45.75 85 P **P** **04 02 25.7 -0.4**
WSHM IAmb IAmb 04 02 28.4
comp=Z,83nm,0.9s
TPO **Tropico Hills** 45.76 87 IAmb IAmb 04 02 28.6
comp=Z,78nm,0.9s
GWY **Greenwater Val** 45.89 84 IAmb IAmb 04 02 29.6
comp=Z,86nm,0.9s
QSM **Queen of Sheba** 45.91 85 IAmb IAmb 04 02 31.3
comp=Z,78nm,0.9s
LAO **LASA Array** 45.94 66 IAmb IAmb 04 04 06.5
comp=Z,89nm,0.9s
LAO IAMs_20 IAMs_20 04 18 39.1
comp=Z,1μm,22.0s
DGMT **Dagmar** 46.10 63 IAMs_20 IAMs_20 04 25 12.2
comp=Z,1μm,19.0s
DGMT **Dagmar** 46.10 63 IAmb IAmb 04 04 06.9
comp=Z,83nm,0.8s
CTU **Camp Tracy** 46.14 76 IAmb IAmb 04 02 31.5
comp=Z,103nm,1.0s
PSUT **Pine Spring** 46.17 80 IAmb IAmb 04 02 31.9
comp=Z,122nm,0.9s
PDAR **Pinedale Array** 46.23 72 P **P** **04 02 29.5 -0.4**
PDAR **Pinedale Array** 46.23 72 P **P** **04 02 29.9 0.0**
comp=Z,115nm,0.9s,baz=304,slow=3.4,SNR=314
PDAR ScP **ScP** **04 07 56.9 -0.3**
comp=Z,3.7nm,1.0s,baz=264,slow=1.3,SNR=6.9
PDAR S **S** **04 09 15.5 +0.1**
comp=Z,0.1nm,0.4s,baz=292,slow=15,SNR=0.9
PDAR LR LR 04 19 00.0
comp=Z,364nm,21.5s,baz=314,slow=32
PASC **Pasadena Art C** 46.25 87 IAmb IAmb 04 02 32.0
comp=Z,49nm,0.8s
MWC **Mount Wilson** 46.29 87 IAmb IAmb 04 02 32.8
comp=Z,124nm,0.9s
ULN **Ulaanbaatar** 46.31 296 P **P** **04 02 30.3 -0.1**
SHOC **Shoshone, Teco** 46.32 84 IAMs_20 IAMs_20 04 18 41.0
comp=Z,701nm,18.0s
JLU **Jordanelle** 46.38 76 IAmb IAmb 04 02 33.7
comp=Z,160nm,1.1s
BFSC **Mount Baldy Ra** 46.53 87 IAmb IAmb 04 02 35.1
comp=Z,85nm,0.7s
MPU **Maple Canyon** 46.62 77 IAmb IAmb 04 02 35.5
comp=Z,96nm,1.0s
JOW **Kunigami** 46.65 259 LR LR 04 18 52.6
comp=Z,429nm,21.5s,baz=78,slow=32
SONM **Songino Array** 46.70 297 P **P** **04 02 33.1 -0.3**
SONM IAmb IAmb 04 02 37.4
comp=Z,60nm,1.5s
SONM PcP **PcP** **04 04 06.2 -0.6**
SONM ScP **ScP** **04 07 59.0 +0.1**
SONM **Songino Array** 46.70 297 P **P** **04 02 34.0 +0.5**
comp=Z,16nm,1.0s,baz=58,slow=9.0,SNR=31
SONM PcP **PcP** **04 04 06.4 -0.4**
comp=Z,3.1nm,0.5s,baz=74,slow=2.5,SNR=5.6
SONM ScP **ScP** **04 07 59.3 +0.3**
comp=Z,20nm,1.0s,baz=63,slow=2.6,SNR=43
SONM LR LR 04 22 42.3
comp=Z,2μm,21.1s,baz=59,slow=37
comp=Z,16nm,1.0s
BSUT **Blindstream Ca** 46.83 76 IAmb IAmb 04 02 40.4
comp=Z,92nm,0.9s
ZAK **Zakamensk** 47.00 301 *e*P **P** **04 02 35.6 -0.1**
ZAK pmax pmax
comp=Z,30nm,1.5s
ZAK pmax pmax
comp=Z,24nm,1.5s
MTPC **Mountain Pass** 47.04 84 IAmb IAmb 04 02 38.6
comp=Z,77nm,0.8s
ELS **Elsinore Mount** 47.06 87 P **P** **04 02 36.2 -0.2**
ELS IAmb IAmb 04 02 38.6
comp=Z,51nm,0.8s
SZCU **Shurtz Canyon** 47.22 80 IAmb IAmb 04 02 40.2
comp=Z,67nm,0.9s
TIA **Tai'an** 47.23 277 P **P** **04 02 38.1 +0.5**
TIA ScP **ScP** **04 08 03.1 +1.9**
TIA S **S** **04 09 29.1 -0.3**
TIA pmax pmax
comp=Z,25nm,1.4s
TIA pmax pmax
comp=Z,320nm,6.5s
TIA LR LR
comp=Z,550nm,20.0s
TIA LR LR
comp=Z,440nm,14.3s
TIA LR LR
comp=Z,750nm,20.8s
V12A **Nelson** 47.32 83 IAmb IAmb 04 02 41.0
comp=Z,57nm,0.9s
NEEM **North Greenlan** 47.38 14 *i* P **P** **04 02 36.7 -2.0**
NEEM IAmb IAmb 04 02 47.0
comp=Z,30nm,0.6s
MOY **Mondy** 47.51 304 *e*P **P** **04 02 42.1 +2.4**
MOY pmax pmax
comp=Z,32nm,3.0s
DANC **Danby, Needles** 47.69 85 IAmb IAmb 04 02 43.8
comp=Z,104nm,1.1s
PFO **Pinyon Flats O** 47.69 87 P **P** **04 02 41.3 -0.1**
PFO IAmb IAmb 04 02 43.6
comp=Z,52nm,1.0s
PFO **Pinyon Flats O** 47.69 87 IAMs_20 IAMs_20 04 18 04.6
comp=Z,832nm,21.0s
PFO **Pinyon Flats O** 47.69 87 LR LR 04 18 39.2
comp=Z,715nm,21.9s,baz=302,slow=31
PFO **Pinyon Flats O** 47.69 87 *d* *i* P **P** **04 02 41.7 +0.3**
PFO pmax pmax
comp=Z,71nm,1.0s
PMD **Palm Desert** 47.72 87 IAmb IAmb 04 02 43.4
comp=Z,59nm,1.0s
BELC **Belle Mtn. Jos** 47.73 86 IAmb IAmb 04 02 43.4
comp=Z,62nm,1.0s
BELC IAMs_20 IAMs_20 04 21 51.3
comp=Z,920nm,18.0s
HHC **Hu-ho-hao-te** 47.75 286 *e*P **P** **04 02 42.2 +0.5**
HHC pP sP 04 02 50.0 -0.4
HHC sP pP 04 02 54.6 +6.6
HHC S **S** **04 09 33.7 -3.2**
HHC sS sS 04 09 49.4 +2.5
HHC SS **SS** **04 12 55.2 -10**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,390nm,4.3s
HHC LR LR
comp=Z,940nm,16.0s
HHC LR LR
comp=Z,590nm,15.3s
HHC LR LR
comp=Z,1μm,15.9s
CPE **Camp Elliot** 47.77 88 IAmb IAmb 04 02 44.2
comp=Z,81nm,0.8s
GUMO **Guam** 47.79 231 LR LR 04 20 04.5
comp=Z,251nm,21.9s,baz=56,slow=33
DPP **Dos Picos Cty** 47.80 88 IAmb IAmb 04 02 44.4
comp=Z,78nm,1.2s
BORC **Borrego Spring** 47.95 87 IAmb IAmb 04 02 45.6
comp=Z,134nm,1.0s
HNS **HongShan** 47.97 280 ⇓P **P** **04 02 44.6 +1.3**
HNS ScP **ScP** **04 08 06.6 +2.4**
HNS S **S** **04 09 41.4 +1.6**
HNS pmax pmax
comp=Z,32nm,1.5s
HNS LR LR
comp=Z,650nm,17.3s
HNS LR LR
comp=Z,600nm,15.5s
HNS LR LR
comp=Z,840nm,22.2s
SSE **Sheshan** 48.07 269 P **P** **04 02 43.1 -1.0**
SSE S **S** **04 09 40.5 -0.8**
SSE pmax pmax
comp=Z,14nm,0.7s
SSE pmax pmax
comp=Z,190nm,3.7s
SSE LR LR
comp=Z,250nm,22.6s
SSE LR LR
comp=Z,210nm,22.8s
NEE2 **Needles Airpor** 48.08 84 IAmb IAmb 04 02 46.2
comp=Z,114nm,0.9s
K22A **Casper** 48.10 71 IAmb IAmb 04 02 45.6
comp=Z,112nm,1.2s
IRM **Iron Mountain** 48.16 85 P **P** **04 02 45.2 +0.3**
IRM IAmb IAmb 04 02 47.0
comp=Z,117nm,1.2s
BAR **Barrett** 48.18 88 IAmb IAmb 04 02 47.3
comp=Z,81nm,0.9s
BC3 **Big Chuckawall** 48.29 86 IAmb IAmb 04 02 47.7
comp=Z,44nm,1.0s
BC3 IAMs_20 IAMs_20 04 22 35.3
comp=Z,1μm,18.0s
W13A **Hualapai Mount** 48.33 83 IAmb IAmb 04 02 48.5
comp=Z,79nm,0.9s
KULLO **Kullorsuaq** 48.42 18 *i* P P 04 02 41.4 -4.8
KULLO IAmb IAmb 04 02 46.1
comp=Z,117nm,1.4s
YUH **Yuha Desert** 48.67 87 IAmb IAmb 04 02 50.8
comp=Z,56nm,0.9s
RSSD **Black Hills** 48.68 68 P **P** **04 02 48.6 -0.4**
RSSD IAmb IAmb 04 04 15.6
comp=Z,53nm,0.7s
RSSD **Black Hills** 48.68 68 P **P** **04 02 48.6 -0.4**
RSSD pmax pmax
comp=Z,53nm,0.7s
BTO **Baotou** 48.83 287 *e*P **P** **04 02 51.4 +1.4**
BTO sP **sP** **04 03 00.5 +1.7**
BTO S **S** **04 09 55.0 +2.9**
BTO pmax pmax
comp=Z,67nm,1.1s
BTO pmax pmax
comp=Z,1μm,4.0s
BTO LR LR
comp=Z,2μm,15.7s
BTO LR LR
comp=Z,2μm,13.6s
BTO LR LR
comp=Z,3μm,18.6s
NJ2 **Nanjing** 48.88 272 ⇓P **P** **04 02 52.1 +1.7**
NJ2 S **S** **04 09 55.7 +2.9**
NJ2 pmax pmax
comp=Z,16nm,1.0s
NJ2 pmax pmax
comp=Z,280nm,7.1s
NJ2 LR LR
comp=Z,450nm,17.5s
NJ2 LR LR
comp=Z,390nm,14.2s
NJ2 LR LR
comp=Z,900nm,20.4s
HAYD **Hayden** 48.96 73 IAmb IAmb 04 02 53.1
comp=Z,133nm,1.3s
MDND **Maddock** 48.99 61 IAmb IAmb 04 02 52.9
comp=Z,79nm,1.0s
MDND IAMs_20 IAMs_20 04 23 59.7
comp=Z,1μm,18.0s
ESJX **Sierra Juarez** 49.09 88 IAmb IAmb 04 02 54.5
comp=Z,80nm,0.9s
E28A **Huff** 49.13 63 IAmb IAmb 04 04 17.4
comp=Z,59nm,1.0s
E28A IAMs_20 IAMs_20 04 21 22.4
comp=Z,952nm,21.0s
TIY **Taiyuan** 49.17 282 P **P** **04 02 55.0 +2.4**
TIY PP **PP** **04 04 48.5 +2.3**
TIY S **S** **04 09 56.9 0.0**
TIY pmax pmax
comp=Z,32nm,0.9s
TIY LR LR
comp=Z,310nm,13.1s
TIY LR LR
comp=Z,470nm,17.9s
TIY LR LR
comp=Z,470nm,19.9s
PV17 **East Wray Mesa** 49.33 77 P **P** **04 02 54.1 +0.1**
VTX **Valle De La Tr** 49.60 88 IAmb IAmb 04 02 58.2
comp=Z,68nm,1.1s
ULM **Lac du Bonnet** 49.60 57 P **P** **04 02 53.9 -1.8**
comp=Z,3.8nm,0.3s,baz=306,slow=6.0,SNR=19
ULM PcP **PcP** **04 04 17.2 +0.3**
comp=Z,6.3nm,0.9s,baz=337,slow=3.1,SNR=3.4
ULM ScP **ScP** **04 08 10.2 -0.8**
comp=Z,4.6nm,0.9s,baz=282,slow=8.0,SNR=4.7
ULM LR LR 04 25 12.7
comp=Z,1μm,18.3s,baz=309,slow=38
comp=Z,3.8nm,0.3s
WUAZ **Wupatki** 49.61 81 IAMs_20 IAMs_20 04 20 26.0
comp=Z,1μm,20.0s
Y14A **Wickenburg** 49.63 84 IAmb IAmb 04 02 58.3
comp=Z,82nm,1.0s
KBS **Kingsbay** 49.77 357 *i* P **P** **04 02 55.9 -0.7**
KNGR **Kungurtug, Tuv** 49.91 304 ⇑ *e*P **P** **04 02 59.4 +1.2**
KNGR pmax pmax
comp=Z,20nm,2.4s
113A **Mohawk Valley,** 49.94 86 IAmb IAmb 04 03 00.3
comp=Z,66nm,1.1s
X16A **Lo Mia Camp, P** 50.29 82 IAmb IAmb 04 03 04.1
comp=Z,82nm,0.9s
SPITS **Spitsbergen Ar** 50.35 356 P **P** **04 02 59.1 -1.9**
comp=Z,12nm,0.6s,baz=50,slow=6.6,SNR=16
SPITS ScP **ScP** **04 08 11.3 -2.5**
comp=Z,7.2nm,0.9s,baz=328,slow=5.2,SNR=2.8
SPITS LR LR 04 24 40.0
comp=Z,417nm,20.3s,baz=14,slow=37
comp=Z,12nm,0.6s
SPB2 **Spitsbergen Ar** 50.35 356 P **P** **04 02 59.8 -1.2**
SPB2 IAmb IAmb 04 03 10.3
comp=Z,38nm,0.7s
ISCO **Idaho Springs** 50.39 73 IAmb IAmb 04 03 04.5
comp=Z,111nm,1.2s
ISCO IAMs_20 IAMs_20 04 21 25.2
comp=Z,813nm,21.0s
AGMN **Agassiz Nation** 50.76 59 IAMs_20 IAMs_20 04 25 02.2
comp=Z,884nm,19.0s
PIX **Pinacate** 50.94 87 P **P** **04 03 05.6 -0.4**
PIX IAmb IAmb 04 03 07.9
comp=Z,96nm,1.2s
S22A **4UR Ranch, Cre** 50.96 76 IAmb IAmb 04 03 09.4
comp=Z,185nm,1.1s
214A **Organ Pipe Nat** 51.08 86 IAmb IAmb 04 03 09.2
comp=Z,102nm,1.1s
X18A **Snowflake** 51.14 81 IAmb IAmb 04 03 10.4
comp=Z,103nm,0.9s
LYN **LuoYang** 51.20 279 P **P** **04 03 08.8 +0.9**
LYN S **S** **04 10 25.7 +0.7**
LYN pmax pmax
comp=Z,45nm,1.8s
LYN pmax pmax
comp=Z,570nm,5.5s
LYN LR LR
comp=Z,630nm,16.1s
LYN LR LR
comp=Z,810nm,18.6s
LYN LR LR
comp=Z,1μm,24.0s
SUSD **Miller** 51.39 64 IAmb IAmb 04 03 11.1
comp=Z,55nm,0.7s
SUSD IAMs_20 IAMs_20 04 22 37.2
comp=Z,833nm,20.0s
DAG **Danmarks Havn** 51.46 6 *i* P **P** **04 03 05.6 -3.7**
DAG IAmb IAmb 04 03 06.9
comp=Z,93nm,1.8s
SDCO **Great Sand Dun** 51.77 75 IAmb IAmb 04 03 15.0
comp=Z,161nm,1.1s
NIAQ **Niaqornat** 51.93 20 *e*P **P** **04 03 11.3 -1.6**
NIAQ IAmb IAmb 04 03 14.3
comp=Z,56nm,1.0s
F33A **5 Mile Ranch,** 52.02 62 IAMs_20 IAMs_20 04 25 41.6
comp=Z,1μm,19.0s
TUC **Tucson** 52.10 84 P **P** **04 03 15.0 +0.2**
TUC IAmb IAmb 04 03 17.2
comp=Z,102nm,0.8s
TUC **Tucson** 52.10 84 P **P** **04 03 15.0 +0.2**
TUC pmax pmax
comp=Z,102nm,0.9s
K30B **Basset** 52.12 67 IAmb IAmb 04 03 17.2
comp=Z,124nm,0.8s
K30B IAMs_20 IAMs_20 04 27 11.5
comp=Z,683nm,19.0s
KSCO **Kaye Shedlock'** 52.68 72 IAMs_20 IAMs_20 04 23 31.6
comp=Z,746nm,20.0s
WHN **Wuhan** 52.73 274 P **P** **04 03 22.8 +3.5**
WHN sP **sP** **04 03 28.4 +0.3**
WHN S **S** **04 10 45.2 -0.9**
WHN pmax pmax
comp=Z,66nm,0.9s
WHN LR LR
comp=Z,2μm,18.5s
FRB **Frobisher Bay** 52.96 32 LR LR 04 27 09.4
comp=Z,1μm,19.3s,baz=306,slow=38
ANMO **Albuquerque** 53.02 78 P **P** **04 03 22.0 +0.3**
ANMO IAmb IAmb 04 03 24.0
comp=Z,79nm,1.1s
ANMO **Albuquerque** 53.02 78 LR LR 04 25 10.3
comp=Z,334nm,18.4s,baz=38,slow=35
ANMO **Albuquerque** 53.02 78 *de*P **P** **04 03 21.9 +0.2**
ANMO pmax pmax
comp=Z,49nm,1.0s
ECSD **EROS Data Cent** 53.15 64 IAMs_20 IAMs_20 04 27 05.8
comp=Z,725nm,18.0s
SUMG **Summit** 53.25 14 *i* P P 04 03 17.2 -5.9
SUMG IAmb IAmb 04 03 24.9
comp=Z,24nm,1.1s
EYMN **Ely** 53.29 57 IAMs_20 IAMs_20 04 27 11.1
comp=Z,1μm,19.0s
Y22D **IRIS PASSCAL I** 53.31 79 P **P** **04 03 24.2 +0.4**
baz=312,SNR=12
Y22A **Socorro** 53.38 80 IAmb IAmb 04 03 27.1
comp=Z,139nm,0.8s
SSLB **Suanglung** 53.39 263 IAmb IAmb 04 03 28.0
comp=Z,82nm,1.2s
SSLB IAMs_20 IAMs_20 04 22 55.6
comp=Z,734nm,22.0s
ILULI **Ilulissat** 53.71 21 *i* P **P** **04 03 22.9 -3.2**
ILULI IAmb IAmb 04 03 23.9
comp=Z,19nm,0.7s
XAN **Xi'an** 53.72 281 ⇓P **P** **04 03 26.8 +0.1**
XAN S **S** **04 10 58.2 -1.6**
XAN pmax pmax
comp=Z,29nm,1.0s
XAN pmax pmax
comp=Z,360nm,5.3s
XAN LR LR
comp=Z,630nm,15.8s
XAN LR LR
comp=Z,700nm,23.6s
XAN LR LR
comp=Z,1μm,20.6s
BGNE **Belgrade** 53.76 67 IAmb IAmb 04 03 29.3
comp=Z,108nm,0.9s

BGNE IAMs_20 IAMs_20 04 25 24.0
comp=Z,666nm,22.0s
121A Cookes Peak, D 53.82 81 IAmb IAmb 04 03 30.0
comp=Z,94nm,0.8s
TPUB Ta-pu 53.95 263 IAmb IAmb 04 03 58.3
comp=Z,108nm,1.7s
ZALV Zalesovo Beam 54.06 313 P **P** **04 03 28.2 -0.6**
comp=Z,0.7nm,0.4s,baz=14,slow=6.7,SNR=3.6
ZALV PcP **PcP** **04 04 31.3 -2.2**
comp=Z,2.8nm,0.6s,baz=30,slow=4.7,SNR=6.5
ZALV ScP **ScP** **04 08 28.8 -1.4**
comp=Z,3.0nm,0.9s,baz=70,slow=4.9,SNR=5.2
ZALV LR LR 04 28 48.5
comp=Z,254nm,18.1s,baz=40,slow=39
comp=Z,0.7nm,0.4s
E38A The Farm, Brul 54.10 58 IAmb IAmb 04 03 30.5
comp=Z,103nm,1.6s
HSIG 54.26 87 IAmb IAmb 04 03 32.4
comp=Z,78nm,1.2s
SPMN Marine on St. 54.31 60 IAMs_20 IAMs_20 04 27 04.3
comp=Z,1μm,18.0s
L34A Svendsen Farm, 54.42 65 IAmb IAmb 04 03 33.2
comp=Z,58nm,0.7s
L34A IAMs_20 IAMs_20 04 29 31.3
comp=Z,833nm,19.0s
EPT El Paso 55.13 81 IAMs_20 IAMs_20 04 26 10.0
comp=Z,616nm,21.0s
CNSH ChangSha 55.26 273 P **P** **04 03 42.0 +4.2**
R32A Long Quarter, 55.38 70 IAmb IAmb 04 03 39.9
comp=Z,155nm,1.1s
LZH Lanzhou 55.44 286 P **P** **04 03 40.5 +1.2**
LZH pP sP 04 03 53.4 +5.3
LZH ScP **ScP** **04 08 37.9 +1.1**
LZH S **S** **04 11 19.5 -3.6**
LZH ScS **ScS** **04 13 26.2 -1.2**
LZH pmax pmax
comp=Z,53nm,1.1s
LZH pmax pmax
comp=Z,430nm,4.3s
LZH LR LR
comp=Z,1μm,18.4s
LZH LR LR
comp=Z,940nm,18.0s
LZH LR LR
comp=Z,2μm,19.1s
SFJD Kangerlussuaq 55.59 22 P **P** **04 03 39.5 -0.2**
SFJD Kangerlussuaq 55.59 22 LR LR 04 29 17.0
comp=Z,390nm,20.4s,baz=318,slow=38
SFJD Kangerlussuaq 55.59 22 P **P** **04 03 39.5 -0.2**
SFJD pmax pmax
comp=Z,38nm,1.4s
SFJD Kangerlussuaq 55.59 22 *i* P **P** **04 03 37.0 -2.7**
SFJD IAmb IAmb 04 03 40.5
comp=Z,8.5nm,0.6s
LZDM Lanzhou Array 55.62 286 P **P** **04 03 41.1 +0.3**
comp=Z,1.5nm,0.4s,baz=15,slow=6.2,SNR=9.9
LZDM PcP **PcP** **04 04 39.9 -0.4**
comp=Z,2.8nm,0.4s,baz=18,slow=2.3,SNR=4.4
LZDM ScP **ScP** **04 08 38.5 +0.7**
comp=Z,1.9nm,0.5s,baz=1.4,slow=5.8,SNR=5.6
LZDM LR LR 04 29 04.3
comp=Z,1μm,20.0s,baz=55,slow=38
comp=Z,1.5nm,0.4s
GTA Gaotai 55.62 292 ⇓P **P** **04 03 40.9 +0.4**
GTA sP sP 04 03 53.5 +4.2
GTA PcS **PcS** **04 08 38.9 -1.4**
GTA S **S** **04 11 23.9 -1.4**
GTA pmax pmax
comp=Z,44nm,1.2s
GTA pmax pmax
comp=Z,400nm,7.6s
GTA LR LR
comp=Z,1μm,19.5s
GTA LR LR
comp=Z,1μm,19.9s
GTA LR LR
comp=Z,1μm,19.1s
G40A Rib Lake 55.69 59 P **P** **04 03 39.2 -1.6**
G40A ScP **ScP** **04 08 37.7 +0.1**
G40A IAMs_20 IAMs_20 04 28 48.6
comp=Z,1μm,19.0s
COWI Conover 55.71 57 IAMs_20 IAMs_20 04 28 58.1
comp=Z,995nm,19.0s
AMTX Amarillo 55.97 75 IAMs_20 IAMs_20 04 24 20.1
comp=Z,713nm,20.0s
KSU1 Kansas State U 56.16 68 IAMs_20 IAMs_20 04 31 34.9
comp=Z,977nm,18.0s
SCIA State Center 56.24 64 IAMs_20 IAMs_20 04 26 01.5
comp=Z,832nm,20.0s
NOKA Waynoka 56.44 72 IAmb IAmb 04 03 47.6
comp=Z,100nm,0.9s
F42A Maple Grove Fa 56.46 57 IAMs_20 IAMs_20 04 29 20.0
comp=Z,809nm,19.0s
KAN08 Anthony NE Sta 56.61 71 IAmb IAmb 04 03 48.3
comp=Z,58nm,0.7s
OK038 West end E0370 56.66 72 IAmb IAmb 04 03 49.2
comp=Z,104nm,0.8s
VHRN Van Horn 56.75 81 IAmb IAmb 04 03 51.0
comp=Z,100nm,0.9s
KAN01 Argonia South 56.79 71 IAmb IAmb 04 03 49.6
comp=Z,118nm,0.9s
KAN14 Manchester OK 56.80 71 IAmb IAmb 04 03 49.6
comp=Z,54nm,1.1s
KUQ Kuujjuuaa 56.94 36 P **P** **04 03 48.1 -1.4**
KUQ IAmb IAmb 04 04 51.1
comp=Z,83nm,1.8s
N38A Joes South For 56.97 65 IAmb IAmb 04 03 51.5
comp=Z,66nm,0.6s
N38A IAMs_20 IAMs_20 04 28 57.8
comp=Z,589nm,18.0s
DY2G Dye2 57.01 21 *i* P **P** **04 03 47.2 -3.0**
DY2G IAmb IAmb 04 03 51.9
comp=Z,14nm,0.6s
PECS Pecos 57.03 80 IAmb IAmb 04 03 52.6
comp=Z,119nm,1.3s
L40A Anamosa 57.25 62 IAMs_20 IAMs_20 04 27 49.1
comp=Z,842nm,21.0s
POST Post 57.32 77 IAmb IAmb 04 03 54.2
comp=Z,107nm,1.0s
ODSA Odessa 57.33 78 IAmb IAmb 04 03 54.1
comp=Z,86nm,0.9s
P38A Dawn 57.58 66 IAmb IAmb 04 03 55.5
comp=Z,88nm,0.9s
P38A IAMs_20 IAMs_20 04 31 20.1
comp=Z,788nm,18.0s
T35A Sooner Cattle 57.68 70 IAmb IAmb 04 03 55.8
comp=Z,83nm,1.0s
JMIC Jan Mayen 57.71 4 LR LR 04 31 15.0
comp=Z,113nm,18.0s,baz=18,slow=39
WMOK Wichita Mounta 57.82 73 IAmb IAmb 04 03 58.0
comp=Z,118nm,0.9s
WMOK IAMs_20 IAMs_20 04 26 45.8
comp=Z,645nm,20.0s
ALPN Alpine 57.87 80 IAmb IAmb 04 03 58.1
comp=Z,64nm,0.9s
E46A Sault Ste Mari 58.04 54 IAmb IAmb 04 04 01.8
comp=Z,54nm,1.0s
ARCES ARCESS Array B 58.07 350 P **P** **04 03 55.9 -1.5**
comp=Z,3.6nm,0.6s,baz=15,slow=6.7,SNR=9.3
ARCES LR LR 04 32 00.1
comp=Z,270nm,18.0s,baz=8.5,slow=39
comp=Z,3.6nm,0.6s
QUOK Quay 58.07 71 P **P** **04 03 57.1 -0.7**
QUOK IAmb IAmb 04 03 58.9
comp=Z,82nm,1.0s
OK052 Battle Ridge R 58.14 71 IAMs_20 IAMs_20 04 32 40.1
comp=Z,792nm,22.0s
L42A Oliver, Polo 58.15 61 IAMs_20 IAMs_20 04 28 44.8
comp=Z,1μm,20.0s
LPIG La Paz 58.16 91 LR LR 04 26 27.1
comp=Z,259nm,18.1s,baz=270,slow=34
N41A Harden Midland 58.36 63 IAmb IAmb 04 04 01.3
comp=Z,52nm,1.0s
N41A IAMs_20 IAMs_20 04 26 44.7
comp=Z,1μm,22.0s
TX31 Lajitas Ar. Si 58.58 81 IAmb IAmb 04 04 03.4
comp=Z,96nm,0.9s
TXAR Lajitas Array 58.58 81 P **P** **04 04 01.4 -0.1**
TXAR Lajitas Array 58.58 81 P **P** **04 04 01.2 -0.3**
comp=Z,39nm,0.6s,baz=303,slow=4.7,SNR=224
TXAR ScP **ScP** **04 08 52.3 +1.6**
comp=Z,0.9nm,0.8s,baz=268,slow=2.6,SNR=4.6
TXAR LR LR 04 29 05.8
comp=Z,392nm,18.0s,baz=311,slow=36
SLBS Sierra La Lagu 58.69 91 P **P** **04 04 02.2 -0.2**
SLBS IAmb IAmb 04 04 04.5
comp=Z,64nm,1.1s

ABTX Abilene, Hawle 58.75 76 IAMs_20 IAMs_20 04 26 53.6
comp=Z,684nm,22.0s
TUL3 Leonard 58.79 70 IAMs_20 IAMs_20 04 31 15.4
comp=Z,651nm,19.0s
APA Apatity 58.92 346 ⇓*e*P **P** **04 04 01.0 -2.2**
GLMI Grayling 58.93 56 IAmb IAmb 04 04 07.8
comp=Z,83nm,0.9s
OZNA Ozona 59.03 78 IAmb IAmb 04 04 05.9
comp=Z,85nm,0.8s
HPIG 59.03 85 IAmb IAmb 04 04 06.6
comp=Z,79nm,1.1s
CD2 Chengdu 59.04 282 P **P** **04 04 06.9 +2.2**
CD2 pP sP 04 04 13.5 0.0
CD2 S **S** **04 12 07.3 -3.0**
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 pmax pmax
comp=Z,270nm,4.8s
CD2 LR LR
comp=Z,570nm,15.6s
CD2 LR LR
comp=Z,920nm,13.6s
CD2 LR LR
comp=Z,620nm,16.0s
KURK Kurchatov 59.05 314 P **P** **04 04 03.4 -1.0**
KURK Kurchatov 59.05 314 P **P** **04 04 03.4 -1.0**
KURK pmax pmax
comp=Z,9.0nm,0.9s
RLO Rose Lookout 59.07 70 IAmb IAmb 04 04 05.7
comp=Z,119nm,1.3s
SAND Sanderson 59.09 80 IAmb IAmb 04 04 06.4
comp=Z,35nm,0.9s
KURBB Kurchatov Arra 59.16 314 P **P** **04 04 03.6 -1.5**
comp=Z,4.5nm,0.6s,baz=43,slow=6.6,SNR=29
KURBB ScP **ScP** **04 08 51.7 -1.1**
comp=Z,3.4nm,0.9s,baz=41,slow=4.5,SNR=7.5
KURBB S **S** **04 12 07.5 -3.7**
comp=Z,0.1nm,0.4s,baz=50,slow=16,SNR=5.2
KURBB LR LR 04 31 49.4
comp=Z,279nm,18.8s,baz=160,slow=38
KURBB PKPPKP **P'P'df** **04 33 39.6 -4.3**
comp=Z,1.1nm,1.1s,baz=226,slow=2.7,SNR=4.6
comp=Z,4.5nm,0.6s
R40A Maddies Statio 59.21 66 IAMs_20 IAMs_20 04 26 31.2
comp=Z,557nm,21.0s
U38A Gravette 59.26 69 IAmb IAmb 04 04 55.5
comp=Z,56nm,0.9s
U38A IAMs_20 IAMs_20 04 31 42.6
comp=Z,762nm,19.0s
HDIL Hopedale 59.34 62 IAmb IAmb 04 04 08.1
comp=Z,78nm,1.0s
HDIL IAMs_20 IAMs_20 04 28 09.4
comp=Z,973nm,19.0s
WMQ Urumqi 59.38 303 *e*P **P** **04 04 09.7 +2.8**
WMQ LR LR
comp=Z,910nm,17.9s
WMQ LR LR
comp=Z,670nm,19.9s
WMQ LR LR
comp=Z,700nm,20.9s
M44A Midewin, Midew 59.45 61 IAmb IAmb 04 04 08.8
comp=Z,180nm,1.7s
HHAR Hobbs 59.62 69 IAmb IAmb 04 04 56.7
comp=Z,38nm,0.9s
Z35A Perchaven, San 59.70 73 IAMs_20 IAMs_20 04 27 46.7
comp=Z,629nm,21.0s
P43A Skaggs, Pawnee 59.84 63 IAMs_20 IAMs_20 04 31 12.7
comp=Z,844nm,21.0s
J47A Sunmer 59.91 57 IAmb IAmb 04 04 13.8
comp=Z,47nm,1.1s
SCHQ Schefferville 59.93 38 P **P** **04 04 07.9 -2.5**
comp=Z,40nm,0.6s,baz=349,slow=6.9,SNR=8.3
SCHQ LR LR 04 31 25.5
comp=Z,11μm,18.5s,baz=314,slow=38
comp=Z,40nm,0.6s
CCM Cathedral Cave 59.96 66 P **P** **04 04 09.2 -1.6**
CCM IAmb IAmb 04 04 11.8
comp=Z,216nm,1.9s
CCM Cathedral Cave 59.96 66 P **P** **04 04 09.2 -1.6**
CCM pmax pmax
comp=Z,216nm,2.0s
L46A Eue Claire 59.97 59 IAmb IAmb 04 04 13.6
comp=Z,33nm,0.8s
MGMO Mountain Grove 59.99 67 IAmb IAmb 04 04 58.6
comp=Z,40nm,0.7s
MK31 Makanchi Array 60.07 308 *ce*P **P** **04 04 09.9 -1.6**
MKAR Makanchi Array 60.07 308 P **P** **04 04 09.4 -2.2**
MKAR Makanchi Array 60.07 308 P **P** **04 04 10.0 -1.5**
comp=Z,1.5nm,0.5s,baz=46,slow=5.9,SNR=18
MKAR ScP **ScP** **04 08 57.5 +0.6**
comp=Z,0.2nm,0.4s,baz=46,slow=4.2,SNR=2.5
MKAR LR LR 04 30 40.7
comp=Z,584nm,21.9s,baz=26,slow=37
MKAR PKP2bc 04 33 44.0
comp=Z,0.9nm,0.8s,baz=264,slow=1.2,SNR=5.0
comp=Z,1.5nm,0.5s
MKAR Makanchi Array 60.07 308 *i* P **P** **04 04 10.0 -1.5**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
SLM Saint Louis 60.13 65 IAmb IAmb 04 04 13.5
comp=Z,62nm,1.0s
JCT Junction City 60.15 78 IAmb IAmb 04 04 13.4
comp=Z,147nm,1.4s
JCT IAMs_20 IAMs_20 04 27 16.8
comp=Z,988nm,21.0s
MAKZ Makanchi 60.21 309 IAMs_20 IAMs_20 04 31 01.0
comp=Z,491nm,20.0s
GYA Guiyang 60.39 276 ⇓P **P** **04 04 14.2 +0.1**
GYA pP sP 04 04 24.8 +1.9
GYA S **S** **04 12 25.0 -2.9**
GYA pmax pmax
comp=Z,24nm,1.3s
GYA LR LR
comp=Z,510nm,17.7s
GYA LR LR
comp=Z,480nm,15.5s
GYA LR LR
comp=Z,540nm,18.5s
DRIO Del Rio 60.40 79 IAmb IAmb 04 04 14.7
comp=Z,70nm,0.8s
WHTX Lake Whitney, 60.52 75 IAMs_20 IAMs_20 04 27 58.3
comp=Z,556nm,20.0s
Q44A Meyer Farm, Va 60.63 64 IAmb IAmb 04 04 17.0
comp=Z,79nm,1.0s
SFIN Lafayette 60.67 61 IAmb IAmb 04 04 17.8
comp=Z,66nm,0.8s
TGY Tagaytay City 60.72 255 LR LR 04 30 20.8
comp=Z,163nm,19.6s,baz=114,slow=36
BVAR Borovoye Array 60.91 320 P **P** **04 04 15.6 -1.6**
comp=Z,6.0nm,0.6s,baz=50,slow=6.7,SNR=14
BVAR LR LR 04 33 34.4
comp=Z,991nm,18.2s,baz=44,slow=39
BVAR PKP2bc 04 33 41.9
comp=Z,1.3nm,0.7s,baz=270,slow=1.5,SNR=5.7
comp=Z,6.0nm,0.6s
FCAR Ozark Folk Cen 60.95 68 P **P** **04 04 16.7 -0.9**
IVI Ivigtut 60.98 25 P **P** **04 04 15.4 -2.0**
IVI Ivigtut 60.98 25 *i* P P 04 04 11.2 -6.2
IVI IAmb IAmb 04 04 18.1
comp=Z,18nm,0.6s
N47A Urbana 61.09 60 IAmb IAmb 04 04 21.2
comp=Z,84nm,1.4s
Z38A Mt. Pleasant 61.11 72 IAMs_20 IAMs_20 04 35 13.9
comp=Z,607nm,21.0s
HNDO Hondo 61.14 78 IAmb IAmb 04 04 19.9
comp=Z,34nm,0.8s
P46A Rosedale 61.14 62 IAmb IAmb 04 04 20.8
comp=Z,67nm,0.9s
BUKO Buck Lake 61.15 52 IAmb IAmb 04 04 22.5
comp=Z,39nm,1.0s
AAM Ann Arbor 61.18 58 IAMs_20 IAMs_20 04 32 05.9
comp=Z,863nm,19.0s
S44A Carbondale 61.34 65 IAmb IAmb 04 04 21.6
comp=Z,36nm,0.8s
S44A IAMs_20 IAMs_20 04 32 59.5
comp=Z,531nm,18.0s
SIUC Southern Illin 61.35 65 IAmb IAmb 04 04 21.7
comp=Z,42nm,0.8s
CGM3 Cape Girardeau 61.39 65 IAmb IAmb 04 04 22.3
comp=Z,62nm,1.6s
LCAR Lake Charles 61.39 67 IAmb IAmb 04 04 20.7
comp=Z,116nm,1.6s
X40A Basin Creek Fa 61.52 70 IAmb IAmb 04 04 22.8
comp=Z,103nm,1.2s
H06N1 SOCORRO T-PHAS 61.60 95 T T 05 11 36.0
SNR=8.0
UALR University of 61.61 69 IAmb IAmb 04 04 23.3
comp=Z,144nm,1.5s

H06E1 SOCORRO T-PHAS 61.70 95 T T 05 11 38.8
SNR=9.6
NRS Narsarsuaq 61.73 24 *i* P P 04 04 16.6 -5.8
SADO Sadowa 61.76 53 LR LR 04 32 43.4
comp=Z,9μm,18.3s,baz=330,slow=38
PARMO Parma 61.78 66 P **P** **04 04 23.0 -0.2**
BLO Bloomington 61.83 62 IAmb IAmb 04 04 25.4
comp=Z,68nm,0.9s
N49A Columbus Grove 61.87 59 IAmb IAmb 04 04 24.6
comp=Z,39nm,1.1s
M50A Fremont 62.14 58 IAMs_20 IAMs_20 04 32 28.3
comp=Z,847nm,19.0s
O49A Covington 62.31 60 IAmb IAmb 04 04 29.4
comp=Z,51nm,1.2s
NATX Nacogdoches 62.36 73 IAMs_20 IAMs_20 04 28 49.1
comp=Z,824nm,22.0s
735A Kenedy 62.52 77 IAMs_20 IAMs_20 04 29 00.6
comp=Z,948nm,20.0s
WCI Wyandotte Cave 62.62 62 P **P** **04 04 28.4 -0.4**
WCI IAmb IAmb 04 04 30.8
comp=Z,57nm,0.8s
WCI Wyandotte Cave 62.62 62 IAMs_20 IAMs_20 04 30 01.3
comp=Z,789nm,20.0s
WCI Wyandotte Cave 62.62 62 P **P** **04 04 28.5 -0.4**
WCI pmax pmax
comp=Z,57nm,0.8s
ARTI Arti 62.71 328 P **P** **04 04 27.5 -1.6**
ARTI IAMs_20 IAMs_20 04 36 03.0
comp=Z,713nm,18.0s
ARTI Arti 62.71 328 LR LR 04 35 44.9
comp=Z,475nm,18.7s,baz=37,slow=40
ARTI Arti 62.71 328 *d* iP **P** **04 04 29.5 +0.4**
ARTI 04 05 05.3
ARTI S **S** **04 12 57.0 +0.8**
ARTI SS **SS** **04 16 58.0 -1.9**
ARTI pmax pmax
comp=Z,7.0nm,0.7s
ARTI MLR MLR
comp=Z,770nm,17.0s
N51A Ashland 62.84 58 IAmb IAmb 04 04 33.6
comp=Z,55nm,1.1s
N51A IAMs_20 IAMs_20 04 32 58.8
comp=Z,899nm,20.0s
BORG Borgarnes 62.85 11 LR LR 04 34 45.0
comp=Z,151nm,18.2s,baz=335,slow=39
M52A Chesterland 62.93 57 IAMs_20 IAMs_20 04 29 17.1
comp=Z,786nm,20.0s
HKT Hockley 62.94 75 P **P** **04 04 31.1 0.0**
HKT Hockley 62.94 75 IAMs_20 IAMs_20 04 29 29.2
comp=Z,581nm,21.0s
HKT Hockley 62.94 75 *d* iP **P** **04 04 31.3 +0.3**
HKT pmax pmax
comp=Z,108nm,1.3s
ACSO Alum Creek Sta 63.01 59 IAmb IAmb 04 04 34.1
comp=Z,45nm,1.3s
T47A Sharon Grove 63.05 64 IAMs_20 IAMs_20 04 32 52.7
comp=Z,767nm,19.0s
R49A Shelbyville 63.20 62 IAmb IAmb 04 04 34.8
comp=Z,43nm,1.2s
R49A IAMs_20 IAMs_20 04 31 40.6
comp=Z,930nm,20.0s
ERPA Erie 63.23 55 IAMs_20 IAMs_20 04 33 32.9
comp=Z,606nm,18.0s
WVT Waverly 63.25 65 P **P** **04 04 32.1 -1.0**
WVT IAmb IAmb 04 04 35.1
comp=Z,56nm,1.1s
WVT Waverly 63.25 65 P **P** **04 04 32.1 -1.0**
WVT pmax pmax
comp=Z,56nm,1.1s
HNR Honiara 63.35 204 LR LR 04 29 54.1
comp=Z,305nm,18.8s,baz=348,slow=34
PZH PanZhiHua 63.41 280 P **P** **04 04 37.4 +3.0**
PZH S **S** **04 13 05.2 -0.9**
PZH ScS **SKKSac** **04 14 23.6 -3.0**
PZH pmax pmax
comp=Z,40nm,1.5s
PZH pmax pmax
comp=Z,130nm,4.7s
PZH LR LR
comp=Z,320nm,21.6s
PZH LR LR
comp=Z,270nm,17.8s
PZH LR LR
comp=Z,320nm,24.0s
OXF Oxford 63.50 67 IAMs_20 IAMs_20 04 34 57.8
comp=Z,840nm,18.0s
DAV Davao City (W) 63.56 246 LR LR 04 28 05.8
comp=Z,836nm,21.8s,baz=18,slow=32
KIRV Kirov 63.58 334 LR LR 04 36 03.8
comp=Z,430nm,18.0s,baz=30,slow=40
KIRV Kirov 63.58 334 ⇑*e*P **P** **04 04 34.6 -0.2**
R50A Paris 63.67 61 IAmb IAmb 04 04 38.1
comp=Z,51nm,1.0s
O52A Adamsville 63.70 58 IAmb IAmb 04 04 39.4
comp=Z,77nm,1.0s
N53A Lisbon 63.73 57 IAmb IAmb 04 04 39.1
comp=Z,37nm,1.2s
N53A IAMs_20 IAMs_20 04 34 07.3
comp=Z,767nm,18.0s
KMI Kunming 63.79 278 P **P** **04 04 38.9 +1.8**
KMI S **S** **04 13 09.2 -1.9**
KMI pmax pmax
comp=Z,23nm,1.0s
KMI pmax pmax
comp=Z,260nm,6.0s
KMI LR LR
comp=Z,220nm,17.5s
KMI LR LR
comp=Z,320nm,16.9s
KMI LR LR
comp=Z,530nm,26.1s
PAOC Oil Creek Stat 63.82 56 P **P** **04 04 35.6 -1.2**
JAY Jayapura 63.83 226 LR LR 04 27 36.9
comp=Z,412nm,21.6s,baz=10,slow=32
JAY Jayapura 63.83 226 P **P** **04 04 40.4 +3.3**
comp=Z,19nm,1.6s
QIZ Qiongzhong 63.84 268 P **P** **04 04 36.0 -1.1**
QIZ S **S** **04 13 13.3 +2.0**
QIZ ScS **ScS** **04 14 31.7 +2.0**
QIZ pmax pmax
comp=Z,17nm,1.7s
QIZ pmax pmax
comp=Z,300nm,4.1s
QIZ LR LR
comp=Z,150nm,11.7s
QIZ LR LR
comp=Z,110nm,12.4s
QIZ LR LR
comp=Z,270nm,22.0s
MMNY Mt. Morris Dam 63.84 54 IAmb IAmb 04 04 40.6
comp=Z,32nm,0.8s
Y45A Yeager Farm, C 63.88 68 IAMs_20 IAMs_20 04 35 13.0
comp=Z,716nm,19.0s
P52A Corning 63.89 59 IAmb IAmb 04 04 39.7
comp=Z,58nm,1.4s
PLAL Pickwick Lake 63.93 66 IAmb IAmb 04 04 38.4
comp=Z,138nm,1.4s
O53A New Philadelph 63.93 58 IAmb IAmb 04 04 40.3
comp=Z,34nm,1.1s
KLMR Klimovskoe 63.97 340 *e*P **P** **04 04 34.9 -2.5**
KLMR *e* 04 06 55.7
KLMR S **S** **04 13 05.0 -6.8**
KLMR pmax pmax
comp=Z,25nm,1.4s
KLMR MLR MLR
comp=Z,1μm,17.0s
ZAIG Zacatecas 63.98 86 P **P** **04 04 37.8 -0.6**
ZAIG IAmb IAmb 04 04 40.3
comp=Z,67nm,1.0s
V48A Smith Brothers 64.10 65 IAmb IAmb 04 04 40.5
comp=Z,61nm,0.9s
V48A IAMs_20 IAMs_20 04 35 03.6
comp=Z,543nm,18.0s
LONY Lake Ozonia 64.10 50 IAMs_20 IAMs_20 04 32 58.8
comp=Z,822nm,19.0s
CLTN Cedars of Leba 64.13 64 IAmb IAmb 04 04 41.1
comp=Z,83nm,1.1s
U49A Red Boiling Sp 64.13 63 IAmb IAmb 04 04 40.9
comp=Z,65nm,0.9s
U49A IAMs_20 IAMs_20 04 33 47.4
comp=Z,782nm,19.0s
SMPI Sarmi 64.29 229 P **P** **04 04 44.1 +4.0**
comp=Z,60nm,1.4s
T50A Nancy 64.29 62 IAmb IAmb 04 04 42.1
comp=Z,76nm,0.8s
T50A IAMs_20 IAMs_20 04 30 53.6
comp=Z,697nm,21.0s

Q52A **Bidwell** **64.30** **59** IAmb IAmb 04 04 42.0
comp=Z,148nm,2.0s
P53A **Whipple** **64.39** **58** IAmb IAmb 04 04 42.8
comp=Z,148nm,1.9s
O54A **Avella** **64.42** **57** IAmb IAmb 04 04 43.6
comp=Z,43nm,1.2s
L56A **Greenwood** **64.45** **54** IAmb IAmb 04 04 44.9
comp=Z,51nm,0.7s
S51A **Beattyville** **64.53** **61** IAmb IAmb 04 04 43.6
comp=Z,46nm,1.2s
S51A IAMs_20 IAMs_20 04 31 01.9
comp=Z,889nm,20.0s
K57A **Scipio Center** **64.54** **53** IAmb IAmb 04 04 44.8
comp=Z,39nm,0.8s
X48A **Hartselle** **64.90** **66** P **P** **04 04 41.2** **-2.7**
X48A IAmb IAmb 04 04 44.6
comp=Z,121nm,1.4s
SWET **Sewanee** **64.98** **64** IAmb IAmb 04 04 46.0
comp=Z,70nm,1.0s
146A **Union** **65.05** **69** IAMs_20 IAMs_20 04 35 31.9
comp=Z,507nm,19.0s
MCWV **Mont Chateau** **65.08** **57** IAmb IAmb 04 05 20.4
comp=Z,25nm,0.8s
VT1 **Waterbury** **65.19** **49** IAMs_20 IAMs_20 04 31 55.9
comp=Z,825nm,19.0s
Z47A **Carrollton** **65.21** **67** IAMs_20 IAMs_20 04 32 39.3
comp=Z,517nm,20.0s
W50A **Signal Mountai** **65.34** **64** IAMs_20 IAMs_20 04 35 21.4
comp=Z,746nm,19.0s
TZTN **Tazewell** **65.35** **62** IAmb IAmb 04 04 49.3
comp=Z,68nm,1.1s
TZTN IAMs_20 IAMs_20 04 33 37.6
comp=Z,870nm,20.0s
SSPA **Standing Stone** **65.39** **55** P **P** **04 04 46.6** **-0.5**
CPCT **Cooper Cave** **65.61** **63** IAmb IAmb 04 04 49.7
comp=Z,165nm,1.6s
FPAL **Fort Paine** **65.65** **65** IAmb IAmb 04 04 50.6
comp=Z,88nm,1.1s
S54A **Dingess, Beckl** **65.66** **60** IAmb IAmb 04 04 51.4
comp=Z,117nm,1.8s
L59A **Walton** **65.68** **52** IAmb IAmb 04 04 52.7
comp=Z,34nm,1.0s
Y49A **Blount Mountai** **65.69** **66** IAMs_20 IAMs_20 04 28 29.8
comp=Z,603nm,19.0s
FINES **FINESS Array B** **65.77** **347** P **P** **04 04 47.5** **-1.6**
comp=Z,3.1nm,0.5s,baz=21,slow=7.2,SNR=13
FINES LR LR 04 37 24.2
comp=Z,136nm,18.4s,baz=22,slow=40
comp=Z,3.1nm,0.5s
FINES **FINESS Array B** **65.77** **347** *i* P **P** **04 04 48.0** **-1.1**
FINES pmax pmax
comp=Z,3.0nm,0.5s
SLVN **Son La** **65.84** **274** IAMs_20 IAMs_20 04 34 11.0
comp=Z,503nm,21.0s
TKL **Tuckaleechee C** **65.87** **63** P **P** **04 04 50.5** **+0.3**
TKL IAmb IAmb 04 04 52.2
comp=Z,81nm,1.0s
TKL **Tuckaleechee C** **65.87** **63** LR LR 04 34 54.3
comp=Z,548nm,18.3s,baz=327,slow=37
TKL **Tuckaleechee C** **65.87** **63** P **P** **04 04 50.5** **+0.3**
TKL pmax pmax
comp=Z,81nm,1.0s
Q56A **Snyder Ridge,** **65.88** **57** IAMs_20 IAMs_20 04 32 45.4
comp=Z,770nm,20.0s
HNH **Hanover** **65.89** **50** IAMs_20 IAMs_20 04 32 26.0
comp=Z,815nm,21.0s
X51A **Calhoun** **66.06** **64** IAmb IAmb 04 04 53.3
comp=Z,79nm,1.0s
X51A IAMs_20 IAMs_20 04 35 54.4
comp=Z,655nm,19.0s
F64A **Sherman** **66.07** **46** IAmb IAmb 04 07 03.0
comp=Z,48nm,1.7s
W52A **Murphy** **66.20** **63** IAmb IAmb 04 04 54.3
comp=Z,69nm,1.0s
W52A IAMs_20 IAMs_20 04 35 01.0
comp=Z,657nm,18.0s
U54A **Nelsons Funny** **66.32** **61** P **P** **04 04 51.0** **-2.1**
U54A IAmb IAmb 04 04 55.8
comp=Z,119nm,1.5s
V53A **Saluda** **66.40** **62** IAmb IAmb 04 04 56.0
comp=Z,40nm,0.8s
I63A **Otisfield** **66.43** **48** IAmb IAmb 04 06 07.0
comp=Z,68nm,1.8s
TNCH **TengChong** **66.47** **281** *e*P **P** **04 04 56.7** **+2.3**
TNCH pmax pmax
comp=Z,500nm,3.1s
BLA **Blacksburg** **66.57** **59** IAmb IAmb 04 05 03.0
comp=Z,38nm,1.2s
K62A **Royalston** **66.70** **50** IAmb IAmb 04 06 11.1
comp=Z,96nm,2.0s
KSCT **Kent School, K** **66.80** **52** IAmb IAmb 04 04 59.6
comp=Z,37nm,0.7s
BG3 **Lake Jocassee** **66.83** **63** IAmb IAmb 04 04 58.6
comp=Z,82nm,0.9s
AAK **Ala-Archa** **66.90** **310** IAMs_20 IAMs_20 04 34 51.1
comp=Z,440nm,21.0s
AAK **Ala-Archa** **66.90** **310** LR LR 04 35 13.6
comp=Z,354nm,20.6s,baz=30,slow=37
Y52A **Lilburn** **67.02** **64** P **P** **04 04 56.9** **-0.7**
Y52A IAmb IAmb 04 04 59.5
comp=Z,60nm,0.8s
SWI **Sorong** **67.02** **236** P **P** **04 05 01.1** **+3.4**
BRNJ **Basking Ridge** **67.04** **53** IAmb IAmb 04 05 01.3
comp=Z,29nm,0.8s
PAL **Palisades** **67.13** **53** IAmb IAmb 04 05 01.8
comp=Z,29nm,0.8s
HRV **Adam Dziewonsk** **67.14** **50** ⇓P **P** **04 05 00.3** **+2.1**
V55A **Taylorsville** **67.14** **61** IAmb IAmb 04 05 00.7
comp=Z,70nm,1.4s
250A **Grady** **67.14** **67** IAMs_20 IAMs_20 04 37 14.3
comp=Z,569nm,18.0s
U56A **King** **67.23** **60** IAmb IAmb 04 05 01.2
comp=Z,66nm,1.4s
CPNY **Central Park** **67.26** **53** IAmb IAmb 04 05 02.7
comp=Z,30nm,0.8s
WES **Weston** **67.35** **50** P **P** **04 04 59.4** **-0.1**
WES IAmb IAmb 04 06 13.8
comp=Z,99nm,1.9s
WES **Weston** **67.35** **50** P **P** **04 04 59.4** **-0.1**
WES pmax pmax
comp=Z,99nm,1.9s
T57A **Hurt** **67.36** **59** IAmb IAmb 04 05 01.8
comp=Z,92nm,2.0s
UCCT **U. Connecticut** **67.36** **51** IAmb IAmb 04 06 11.0
comp=Z,71nm,1.7s
PMG **Port Moresby** **67.37** **217** LR LR 04 32 32.0
comp=Z,345nm,18.7s,baz=41,slow=34
PMG **Port Moresby** **67.37** **217** ⇑*e*P **P** **04 05 02.0** **+2.1**
PMG pmax pmax
comp=Z,40nm,1.4s
R58B **Mineral** **67.37** **57** IAMs_20 IAMs_20 04 32 21.7
comp=Z,614nm,22.0s
LSA **Lhasa** **67.50** **290** IAMs_20 IAMs_20 04 36 53.8
comp=Z,436nm,19.0s
152A **Waverly Hall** **67.53** **66** IAMs_20 IAMs_20 04 35 42.3
comp=Z,525nm,18.0s
PAULI **Pauline** **67.57** **62** IAmb IAmb 04 05 03.2
comp=Z,70nm,1.1s
KMSC **Kings Mountain** **67.60** **62** P **P** **04 05 00.6** **-0.7**
KMSC IAmb IAmb 04 05 03.5
comp=Z,124nm,1.3s
NB2 **NORSAR Subarra** **67.62** **355** P **P** **04 05 00.3** **-0.7**
comp=Z,8.5nm,1.1s,baz=7.2,slow=6.5
NOA **NORSAR Array B** **67.62** **355** P **P** **04 04 59.2** **-1.8**
comp=Z,2.0nm,0.9s,baz=6.0,slow=6.4,SNR=8.9
NOA LR LR 04 37 19.6
comp=Z,105nm,19.0s,baz=5.0,slow=38
comp=Z,2.0nm,0.9s
GOGA **Godfrey** **67.69** **64** IAMs_20 IAMs_20 04 32 13.6
comp=Z,643nm,22.0s
GOGA **Godfrey** **67.69** **64** IAmb IAmb 04 05 03.4
comp=Z,94nm,1.3s
AKTO **Aktyubinsk** **67.70** **325** LR LR 04 39 27.1
comp=Z,641nm,18.7s,baz=40,slow=40
M63A **Gales Ferry** **67.74** **51** IAmb IAmb 04 05 04.9
comp=Z,39nm,0.9s
HODGE **Hodges** **67.76** **63** IAmb IAmb 04 05 04.4
comp=Z,70nm,0.8s
ABKAR **Akbulak array** **67.96** **323** P **P** **04 05 02.0** **-1.2**
FAKI **Fak Fak** **68.26** **234** IAMs_20 IAMs_20 04 29 07.1
comp=Z,565nm,22.0s
JSC **Jenkinsville** **68.28** **62** IAmb IAmb 04 05 07.8
comp=Z,51nm,1.0s
352A **Blakely** **68.28** **67** IAmb IAmb 04 05 06.7
comp=Z,102nm,1.0s
M65A **Busby, Falmout** **68.30** **50** P **P** **04 05 02.7** **-2.8**
baz=320
V58A **Windy Hill, Pi** **68.33** **60** IAmb IAmb 04 05 08.0
comp=Z,59nm,1.4s
W57A **Gilead** **68.33** **61** IAmb IAmb 04 05 07.8
comp=Z,40nm,1.4s
HFS **Hagfors** **68.36** **353** P **P** **04 05 03.5** **-2.1**
comp=Z,2.2nm,0.5s,baz=15,slow=1.7,SNR=18
HFS LR LR 04 37 50.2
comp=Z,151nm,18.1s,baz=16,slow=39
comp=Z,2.2nm,0.5s
KKAR **Karatay Array** **68.42** **313** P **P** **04 05 04.9** **-1.4**
KKAR **Karatay Array** **68.42** **313** P **P** **04 05 04.9** **-1.4**
BIRD **Birdtown, Kers** **68.45** **61** IAmb IAmb 04 05 08.7
comp=Z,33nm,1.1s
154A **Montrose** **68.48** **65** IAMs_20 IAMs_20 04 37 36.6
comp=Z,710nm,18.0s
KSH **Kashi** **68.54** **307** P **P** **04 05 11.8** **+4.6**
KSH S **S** **04 14 10.9** **+2.6**
KSH pmax pmax
comp=Z,16nm,0.7s
KSH LR LR
comp=Z,560nm,17.5s
KSH LR LR
comp=Z,1μm,17.1s
KSH LR LR
comp=Z,1μm,20.6s
TAOE **Nuku Hiva Isla** **68.60** **139** *e*S **S** **04 14 06.5** **-2.7**
comp=Z,144nm,25.0s
TAOE *e*LQ LQ 04 23 02.0
comp=Z,1μm,28.5s
TAOE *e*LR LR 04 25 49.5
comp=Z,1μm,24.2s
Y57A **Sumter** **68.95** **62** IAmb IAmb 04 05 11.9
comp=Z,95nm,1.3s
MOS **Moscow** **69.05** **339** *e*P **P** **04 05 11.2** **+1.2**
MOS *e* 04 05 34.1
MOS *e* 04 07 48.3
MOS *e*S **S** **04 14 15.7** **+2.2**
MOS pmax pmax
comp=Z,28nm,0.6s
TIGA **Tifton** **69.08** **66** IAMs_20 IAMs_20 04 36 50.4
comp=Z,514nm,18.0s
MYLDM **Lahad Datu** **69.21** **251** IAmb IAmb 04 05 17.2
comp=Z,98nm,1.3s
BELG **Belogornoye** **69.45** **332** ⇑*e*P **P** **04 05 13.7** **+1.2**
BELG pmax pmax
comp=Z,6.0nm,1.1s
OBN **Obninsk** **69.86** **339** LR LR 04 41 53.0
comp=Z,576nm,18.1s,baz=355,slow=41
OBN **Obninsk** **69.86** **339** *ce*P **P** **04 05 16.1** **+1.1**
OBN *e*PP **sP** **04 05 27.2** **+3.2**
OBN *e* 04 05 42.6
OBN *e* 04 07 52.7
OBN *i* S **S** **04 14 26.2** **+3.1**
OBN *i* PS PnS 04 15 09.0 +19
OBN pmax pmax
comp=Z,41nm,1.6s
257A **Skidaway Islan** **70.13** **64** IAMs_20 IAMs_20 04 38 02.1
comp=Z,679nm,18.0s
TLIG **Tlapa** **70.34** **86** IAmb IAmb 04 05 21.2
comp=Z,155nm,1.9s
CHTO **Chiang Mai** **70.81** **276** P **P** **04 05 22.3** **+0.9**
CHTO **Chiang Mai** **70.81** **276** P **P** **04 05 22.3** **+0.9**
CHTO pmax pmax
comp=Z,47nm,1.7s
CHTO MLR MLR
comp=Z,300nm,19.0s
MRSI **Marisa** **71.01** **246** P **P** **04 05 25.5** **+3.0**
comp=Z,23nm,0.8s
CMAR **Chiang Mai Arr** **71.08** **276** P **P** **04 05 23.1** **+0.2**
CMAR **Chiang Mai Arr** **71.08** **276** P **P** **04 05 23.0** **0.0**
comp=Z,3.5nm,0.3s,baz=27,slow=7.2,SNR=20
comp=Z,3.5nm,0.3s
CMAR **Chiang Mai Arr** **71.08** **276** *ce*P **P** **04 05 23.3** **+0.3**
CMAR pmax pmax
comp=Z,4.0nm,0.3s
656A **Willston** **71.23** **66** IAMs_20 IAMs_20 04 37 07.4
comp=Z,392nm,20.0s
BLEU **Blekinge** **71.98** **352** *i* P **P** **04 05 25.5** **-2.4**
DEL **Delary** **71.98** **353** *i* P **P** **04 05 27.0** **-0.8**
MNK **Minsk** **72.15** **344** *i* P **P** **04 05 27.7** **-1.2**
MNK *i* 04 05 45.5
MNK *i* 04 08 08.2
MNK *i* PPP PPP 04 09 52.4
MNK *i* S **S** **04 14 48.7** **-1.0**
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK pmax pmax
comp=Z,6.0nm,0.7s
MNK pmax pmax
comp=N,7.0nm,0.7s
MNK MLR MLR
comp=E,334nm,16.0s
BRDH **Bariadhala** **72.41** **284** LR LR 04 40 56.6
comp=E,254nm,18.7s,baz=62,slow=39
SIMJ **Simiganj** **72.61** **311** P **P** **04 05 32.0** **-0.1**
DWPF **Disney Wildern** **72.81** **67** P **P** **04 05 33.5** **+0.3**
DWPF **Disney Wildern** **72.81** **67** IAMs_20 IAMs_20 04 38 49.3
comp=Z,408nm,19.0s
VSR **Storozhevoye** **72.84** **336** *e*P **P** **04 05 32.5** **-0.5**
VSR pmax pmax
comp=Z,9.0nm,1.0s
CMIG **Matias Romero** **73.00** **84** LR LR 04 33 19.4
comp=Z,427nm,21.9s,baz=302,slow=32
VORD **Divnogorie** **73.04** **336** *e*P **P** **04 05 34.6** **+0.4**
VORD pmax pmax
comp=Z,8.0nm,0.9s
PPT **Papeete** **73.25** **151** LR LR 04 29 55.7
comp=Z,192nm,19.8s,baz=326,slow=29
PPT2 **Papeete2** **73.28** **151** *e*P P 04 05 30.4 -5.6
comp=Z,35nm,22.8s
PPT2 **Papeete2** **73.28** **151** *e*PP **PP** **04 08 19.5** **-0.1**
comp=Z,42nm,32.0s
PPT2 *e*S **SKiKP** **04 15 05.4** **-0.8**
comp=Z,678nm,26.8s
PPT2 *e*SS SS 04 19 30.7 -15
comp=Z,67nm,22.8s
PPT2 *e*LQ LQ 04 24 21.8
comp=Z,256nm,25.8s
PPT2 *e*LR LR 04 27 42.6
comp=Z,818nm,28.5s
PPT2 *e*LR LR 04 27 53.1
comp=Z,500nm,27.0s
EKA **Eskdalemuir Ar** **73.56** **3** P **P** **04 05 35.5** **-1.7**
comp=Z,1.4nm,0.5s,baz=356,slow=4.2,SNR=11
comp=Z,1.4nm,0.5s
060A **Indiantown** **74.24** **66** IAMs_20 IAMs_20 04 40 00.2
comp=Z,536nm,19.0s
DZM **Mont Dzumac** **74.32** **194** *e*LR LR 04 28 27.3
comp=Z,720nm,26.6s
DZM **Mont Dzumac** **74.32** **194** P **P** **04 05 43.4** **+1.4**
DZM IAmb IAmb 04 05 48.0
comp=Z,84nm,1.6s
DZM **Mont Dzumac** **74.32** **194** P **P** **04 05 43.9** **+1.9**
comp=Z,17nm,1.0s,baz=61,slow=15,SNR=4.0
comp=Z,17nm,1.0s
NIL **Nilore** **74.46** **305** P **P** **04 05 44.1** **+1.2**
NIL **Nilore** **74.46** **305** IAMs_20 IAMs_20 04 39 45.3
comp=Z,618nm,22.0s
NIL **Nilore** **74.46** **305** P **P** **04 05 44.1** **+1.2**
NIL pmax pmax
comp=Z,26nm,1.2s
NIL MLR MLR
comp=Z,600nm,22.0s
TEIG **Tepich** **74.71** **77** P **P** **04 05 44.1** **-0.3**
TEIG IAmb IAmb 04 05 48.7
comp=Z,48nm,0.8s
TTSI **Tana Toraja** **75.09** **245** P **P** **04 05 49.1** **+2.4**
comp=Z,803nmcomp=Z,30nm,0.9s
CCIG **Comitan** **75.32** **82** IAmb IAmb 04 05 51.1
comp=Z,99nm,1.2s
DSB **Dublin** **75.52** **5** IAMs_20 IAMs_20 04 40 27.4
comp=Z,382nm,18.0s
AKASG **Malin Array Be** **75.54** **342** P **P** **04 05 47.2** **-1.6**
comp=Z,2.0nm,0.4s,baz=20,slow=5.9,SNR=13
AKASG LR LR 04 45 14.8
comp=Z,416nm,18.1s,baz=26,slow=41
comp=Z,2.0nm,0.4s
AKASG **Malin Array Be** **75.54** **342** *ce*P **P** **04 05 48.4** **-0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB **Malin Array Si** **75.54** **342** IAmb IAmb 04 05 51.4
comp=Z,75nm,2.0s
AKBB **Malin Array Si** **75.54** **342** ⇑*e*P **P** **04 05 49.0** **+0.2**
KIEV **Kiev** **75.55** **342** P **P** **04 05 49.1** **+0.3**
KIEV **Kiev** **75.55** **342** IAMs_20 IAMs_20 04 44 19.7
comp=Z,611nm,18.0s
KIEV **Kiev** **75.55** **342** ⇓P **P** **04 05 47.9** **-0.9**
KIEV **Kiev** **75.55** **342** ⇓P **P** **04 05 47.9** **-0.9**
CAMR **Camaricoa** **76.69** **70** IAmb IAmb 04 05 59.1
comp=Z,1μm,1.8s
KAPI **Kappang** **76.74** **244** LR LR 04 37 16.4
comp=Z,130nm,20.0s,baz=42,slow=34
BKSI **Bulukumba** **76.78** **244** P **P** **04 05 59.0** **+2.7**
comp=Z,687nmcomp=Z,32nm,1.4s
CLL **Collm** **77.18** **353** *e*P **P** **04 06 00.0** **+1.9**
MTN **Manton Dam** **77.35** **230** IAmb IAmb 04 06 03.4
comp=Z,52nm,1.2s
GOF **Gofitskoye** **77.37** **331** *ce*P **P** **04 06 01.6** **+2.3**
BRG **Berggiesshubel** **77.53** **352** S **S** **04 15 52.0** **+2.2**
CTAO **Charters Tower** **77.55** **214** P **P** **04 06 01.8** **+1.4**
CTAO **Charters Tower** **77.55** **214** P **P** **04 06 01.8** **+1.4**
CTAO pmax pmax
comp=Z,46nm,1.3s
MAK **Makhachkala** **77.81** **327** *e*P **P** **04 05 59.8** **-1.9**
MAK *e* 04 08 54.3
MAK *e*PPP PPP 04 10 41.4
MAK *e*S **S** **04 15 49.7** **-3.3**
MAK *e*SS **SS** **04 20 55.3** **+3.1**
MAK pmax pmax
comp=Z,107nm,1.0s
STHS **Stebnicka Huta** **78.12** **347** *e*P **P** **04 06 04.0** **+0.6**
SORM **Soroca** **78.16** **342** ⇓P **P** **04 06 01.7** **-1.9**
SORM **Soroca** **78.16** **342** ⇓P **P** **04 06 01.7** **-1.9**
MORC **Moravsky Berou** **78.25** **349** *e*P **P** **04 06 06.0** **+1.9**
KOLS **Kolonicke sedl** **78.44** **346** *e*P **P** **04 06 06.2** **+1.0**
BBSR **BB Station** **78.47** **52** P **P** **04 06 05.0** **-0.6**
BBSR IAmb IAmb 04 06 07.4
comp=Z,114nm,1.8s
MTO3 **Montecristo** **78.47** **81** IAmb IAmb 04 06 07.8
comp=Z,68nm,1.1s
KIV **Kislovodsk** **78.48** **331** IAMs_20 IAMs_20 04 46 52.0
comp=Z,375nm,18.0s
KIV **Kislovodsk** **78.48** **331** *e*P **P** **04 06 06.4** **+0.8**
KIV pmax pmax
comp=Z,13nm,1.1s
NCK **Nalchik** **78.61** **330** ⇓*e*P **P** **04 06 06.7** **+0.5**
NCK pmax pmax
comp=Z,13nm,1.0s
KBZ **Khabaz** **78.62** **331** P **P** **04 06 05.1** **-1.1**
comp=Z,2.1nm,0.8s,baz=41,slow=5.4,SNR=5.4
KBZ LR LR 04 47 10.5
comp=Z,318nm,18.2s,baz=20,slow=41
comp=Z,2.1nm,0.8s
KBZ **Khabaz** **78.62** **331** ⇓*e*P **P** **04 06 05.8** **-0.4**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
TBI **Tubuai** **78.75** **153** *e*P **P** **04 06 09.5** **+2.6**
comp=Z,408nm,37.5s
TBI *e*S **S** **04 16 00.5** **-2.7**
comp=Z,1μm,24.8s
TBI *e*SS SS 04 20 55.0 -14
comp=Z,307nm,26.5s
TBI *e*LR LR 04 30 21.2
comp=Z,3μm,31.5s
TBI *e*LR LR 04 30 24.5
comp=Z,1μm,33.5s
VRAC **Vranov** **78.81** **350** LR LR 04 42 21.6
comp=Z,102nm,21.1s,baz=16,slow=37
VRAC **Vranov** **78.81** **350** *e*P **P** **04 06 08.9** **+1.7**
VRAC **Vranov** **78.81** **350** ⇑P P 04 06 16.8 +10
BATI **Baumata** **78.89** **238** LR LR 04 36 38.4
comp=Z,158nm,21.9s,baz=115,slow=32
KRUC **Moravsky** **79.08** **350** *e*P **P** **04 06 09.1** **+0.4**
BURAR **Bucovina Array** **79.24** **344** P **P** **04 06 08.4** **-1.3**
BURAR **Bucovina Array** **79.24** **344** ⇓P **P** **04 06 08.8** **-0.9**
BURAR **Bucovina Array** **79.24** **344** ⇓P **P** **04 06 08.8** **-0.9**
GERES **GERESS Array B** **79.56** **352** P **P** **04 06 09.9** **-1.6**
comp=Z,0.6nm,0.6s,baz=46,slow=4.1,SNR=4.6
comp=Z,0.6nm,0.6s
SOC **Sochi** **79.69** **333** *e*P **P** **04 06 09.2** **-2.9**
SOC *e*PPP PPP 04 11 02.5
SOC *e*S **S** **04 16 08.2** **-5.0**
SOC *e*SS **SS** **04 21 13.8** **-6.6**
TESR **Tescani** **80.05** **343** ⇑P P 04 06 06.6 -7.3
CONA **Conrad Observa** **80.26** **350** *i* pP **P** **04 06 16.1** **+0.9**
comp=Z,0.2nm,0.5s
RAO **Raoul Island** **80.31** **179** LR LR 04 33 38.2
comp=Z,260nm,20.2s,baz=324,slow=30
RONA **Rosalia, Austr** **80.44** **350** *i* pP **P** **04 06 18.9** **+2.8**
comp=Z,1.5nm,0.8s
DRGR **80.46** **345** ⇑P **P** **04 06 15.5** **-0.8**
DRGR **80.46** **345** ⇑P **P** **04 06 15.5** **-0.8**
MOA **Molln** **80.50** **351** *e*PcP P 04 06 21.1 +4.7
comp=Z,0.4nm,0.6s
MARR **Marisel-Cluj** **80.51** **345** ⇓P **P** **04 06 17.2** **+0.6**
VRI **Vrincioaia** **80.65** **342** ⇑P **P** **04 06 19.3** **+2.0**
VRI **Vrincioaia** **80.65** **342** ⇑P **P** **04 06 19.3** **+2.0**
PLOR **Plostina** **80.68** **342** ⇓P **P** **04 06 16.6** **-0.9**
PLOR **Plostina** **80.68** **342** ⇓P **P** **04 06 16.6** **-0.9**
BIOA **Bad Ischl, Aus** **80.71** **352** *ep*P **P** **04 06 21.2** **+3.6**
comp=Z,0.1nm,0.4s
COVR **Voineasa-Covas** **80.77** **343** ⇑P **P** **04 06 18.4** **+0.4**
DOPR **Dopca** **80.80** **343** ⇑P **P** **04 06 19.3** **+1.2**
ARSA **Arzberg** **80.96** **350** *ep*P **P** **04 06 21.3** **+2.4**
comp=Z,1.2nm,0.8s
CFR **Carcaliu** **81.04** **341** ⇓P **P** **04 06 19.7** **+0.4**
CFR **Carcaliu** **81.04** **341** ⇓P **P** **04 06 19.7** **+0.4**
LESA **Schwarzleotal** **81.06** **352** *e*P **P** **04 06 19.6** **+0.1**
comp=Z,1.3nm,1.1s
SIRR **Siria** **81.13** **346** ⇓P P 04 06 29.1 +9.3
RETA **Reutte** **81.15** **354** *ep*P **P** **04 06 21.9** **+2.0**
comp=Z,0.1nm,0.4s
MLR **Muntele Rosu** **81.16** **343** IAMs_20 IAMs_20 04 48 53.3
comp=Z,501nm,18.0s
MLR **Muntele Rosu** **81.16** **343** LR LR 04 49 56.0
comp=Z,232nm,19.7s,baz=16,slow=41
MLR **Muntele Rosu** **81.16** **343** ⇑P P 04 06 12.7 -7.5
MLR **Muntele Rosu** **81.16** **343** ⇑P P 04 06 12.7 -7.4
GNI **Garni** **81.25** **328** IAMs_20 IAMs_20 04 48 23.8
comp=Z,519nm,19.0s
GNI **Garni** **81.25** **328** LR LR 04 48 35.1
comp=Z,559nm,18.4s,baz=34,slow=40
MOTA **Moosalm** **81.27** **353** *i* P **P** **04 06 20.4** **-0.2**
comp=Z,1.0nm,0.8s
WTTA **Wattenberg** **81.31** **353** *ep*P **P** **04 06 22.1** **+1.2**
comp=Z,0.2nm,0.4s
KBA **Koelnbreinsper** **81.35** **352** *i* P **P** **04 06 20.9** **-0.2**
comp=Z,2.6nm,0.5s
SQTA **Sankt Quirin** **81.38** **353** *i* P **P** **04 06 21.2** **-0.1**
comp=Z,1.1nm,0.5s
DAVA **Damuels** **81.41** **354** *i* PcP P 04 06 26.7 +5.3
comp=Z,0.8nm,0.9s
ARR **Arges** **81.52** **344** ⇑P **P** **04 06 24.8** **+2.8**
SURR **Surduc** **81.56** **345** ⇑P **P** **04 06 21.2** **-0.8**
CNGN **Cerro Negro** **81.58** **81** P P 04 06 17.1 -5.6
comp=Z,684nm,1.2s
SOKA **Soboth** **81.58** **350** *e*P **P** **04 06 22.5** **+0.2**
comp=Z,1.7nm,0.8s
LOT **Lotru** **81.59** **344** ⇑P **P** **04 06 23.4** **+1.0**
FETA **Feichten** **81.61** **354** *e*PcP P 04 06 28.9 +6.3
comp=Z,1.7nm,0.6s
ABTA **Abfaltersbach** **81.75** **352** *ep*P **P** **04 06 25.6** **+2.4**
comp=Z,0.6nm,0.5s
MYKA **Terra Mystica** **81.76** **351** *i* P **P** **04 06 23.8** **+0.6**
comp=Z,1.2nm,0.5s
OBKA **Obir** **81.80** **351** *e*P **P** **04 06 21.9** **-1.6**
comp=Z,1.3nm,0.6s
GZR **Gura Zlata** **81.81** **345** ⇑P **P** **04 06 23.0** **-0.5**
GZR **Gura Zlata** **81.81** **345** ⇑P **P** **04 06 23.0** **-0.5**
WB0 **Warramunga Arr** **81.91** **224** P **P** **04 06 24.5** **+0.4**
CHIV **Chivirico** **81.98** **68** P **P** **04 06 24.4** **-0.2**
CHIV IAmb IAmb 04 06 26.5
comp=Z,99nm,1.1s
WRA **Warramunga Arr** **82.09** **224** P **P** **04 06 25.5** **+0.4**
WRA **Warramunga Arr** **82.09** **224** P **P** **04 06 25.4** **+0.4**
comp=Z,8.5nm,1.1s,baz=35,slow=5.8,SNR=16
WRA LR LR 04 38 34.2
comp=Z,158nm,20.0s,baz=41,slow=32
comp=Z,8.5nm,1.1s
WRA **Warramunga Arr** **82.09** **224** *i* P **P** **04 06 25.3** **+0.3**
WRA pmax pmax
comp=Z,9.0nm,1.1s
NMDO **Nuevo Mundo** **82.35** **67** IAmb IAmb 04 06 28.3
comp=Z,173nm,1.6s
HERR **Herculane** **82.37** **345** ⇓P **P** **04 06 25.6** **-0.7**
MTDJ **Mount Denham** **82.69** **70** IAMs_20 IAMs_20 04 47 03.3
comp=Z,344nm,20.0s
MTDJ **Mount Denham** **82.69** **70** P **P** **04 06 26.5** **-2.0**
comp=Z,2μmcomp=Z,160nm,1.2s
GTBY **Guantanamo Bay** **82.77** **67** P **P** **04 06 26.5** **-2.3**
comp=Z,61nm,1.4s
ACON **Acoyapa** **82.93** **80** IAmb IAmb 04 06 30.7
comp=Z,66nm,1.0s

ACON	Acoyapa	82.93	80	P		P	04 06 29.6	-0.1
	comp=Z,881nmcomp=Z,67nm,1.0s							
PSI	Prapat	83.07	266	LR		LR	04 45 39.8	
	comp=Z,62nm,19.6s,baz=48,slow=37							
ESPN	Las Esperanzas	83.29	79	P		P	04 06 32.0	+0.5
	comp=Z,2µmcomp=Z,186nm,1.0s							
PLVB	Pleven	83.44	343	⇑P		P	04 06 32.6	+0.7
BOVS	Bovan	83.69	345	⇓P		P	04 06 32.2	-1.1
SERC	Banco Serrana,	84.07	75	P		P	04 06 31.5	-4.0
	comp=Z,3µmcomp=Z,127nm,0.8s							
PRVC	Isla de Provid	84.17	76	P		P	04 06 35.4	-0.6
	comp=Z,2µmcomp=Z,154nm,1.1s							
HYB	Hyderabad	84.27	291	*e*P		P	04 06 37.0	+0.4
HYB				*e*PcP		PcP	04 06 40.5	+0.2
HYB				*es*P		sP	04 06 44.8	-0.8
JTS	Las Juntas de	84.36	81	LR		LR	04 43 52.0	
	comp=Z,164nm,20.9s,baz=306,slow=36							
FITZ	Fitzroy Crossi	84.54	232	LR		LR	04 44 56.5	
	comp=Z,242nm,18.3s,baz=26,slow=36							
BRTR	Keskin Array B	84.95	336	P		P	04 06 38.9	-0.9
	comp=Z,2.9nm,0.7s,baz=24,slow=2.1,SNR=16							
	comp=Z,2.9nm,0.7s							
MARD	Mardin	85.12	329	IAmb		IAmb	04 06 48.0	
	comp=Z,20nm,0.8s							
PDG	Podgorica	85.24	347	IAMs_20		IAMs_20	04 51 37.2	
	comp=Z,316nm,18.0s							
LEM	Lembang	85.27	253	LR		LR	04 42 38.3	
	comp=Z,107nm,20.1s,baz=102,slow=34							
KIRS	Kirsehir-Merke	85.43	335	⇓P		P	04 06 40.9	-1.3
MDSI	Maura Dua	85.50	257	P		P	04 06 43.1	+0.4
	comp=Z,25nm,1.2s							
ASAR	Alice Springs	85.56	223	P		P	04 06 43.2	+0.5
ASAR	Alice Springs	85.56	223	P		P	04 06 43.5	+0.7
	comp=Z,4.6nm,0.7s,baz=27,slow=4.8,SNR=31							
ASAR				LR		LR	04 44 19.3	
	comp=Z,207nm,18.7s,baz=16,slow=35							
	comp=Z,4.6nm,0.7s							
SDDR	Presa de Saban	85.71	65	IAmb		IAmb	04 06 46.4	
	comp=Z,118nm,1.7s							
SDDR				IAMs_20		IAMs_20	04 38 11.9	
	comp=Z,580nm,21.0s							
BCIP	Isla Barro Col	88.38	77	P		P	04 06 55.5	-1.2
	comp=Z,1µmcomp=Z,44nm,1.9s							
CRPR	Cabo Rojo, PR	88.83	62	IAmb		IAmb	04 07 01.5	
	comp=Z,25nm,0.8s							
CELP	Cerrillos	89.07	62	IAmb		IAmb	04 07 02.6	
	comp=Z,115nm,1.5s							
GCPR	Guaynabo City	89.15	61	IAmb		IAmb	04 07 02.8	
	comp=Z,43nm,1.0s							
ESDC	Sonseca Array	89.17	4	P		P	04 06 58.8	-1.5
ESDC	Sonseca Array	89.17	4	P		P	04 06 58.0	-2.2
	comp=Z,1.2nm,0.7s,baz=346,slow=3.8,SNR=9.7							
ESDC				LR		LR	04 50 08.1	
	comp=Z,93nm,18.8s,baz=20,slow=38							
	comp=Z,1.2nm,0.7s							
SJG	San Juan	89.28	61	P		P	04 07 00.0	-0.9
SJG				IAmb		IAmb	04 07 03.6	
	comp=Z,62nm,1.2s							
SJG	San Juan	89.28	61	IAMs_20		IAMs_20	04 50 05.2	
	comp=Z,407nm,20.0s							
SJG	San Juan	89.28	61	LR		LR	04 50 44.0	
	comp=Z,291nm,18.2s,baz=326,slow=38							
SJG	San Juan	89.28	61	P		P	04 07 00.0	-0.9
SJG				pmax		pmax		
	comp=Z,62nm,1.3s							
SJG				MLR		MLR		
	comp=Z,400nm,20.0s							
SJG	San Juan	89.28	61	P		P	04 07 01.7	+0.8
	comp=Z,16nm,1.2s							
URZ	Urewera	89.37	183	LR		LR	04 48 02.6	
	comp=Z,134nm,18.0s,baz=22,slow=36							
PDPR	Patillas Dam,	89.42	61	IAmb		IAmb	04 07 04.2	
	comp=Z,35nm,0.9s							
STKA	Stephens Creek	89.99	213	P		P	04 07 04.4	+0.6
	comp=Z,12nm,0.7s,baz=1.1,slow=4.6,SNR=25							
STKA				LR		LR	04 45 47.7	
	comp=Z,415nm,18.6s,baz=18,slow=34							
	comp=Z,12nm,0.7s							
UOSS	Minazif	90.00	312	IAMs_20		IAMs_20	04 53 11.6	
	comp=Z,256nm,19.0s							
MBWA	Marble Bar	90.09	235	P		P	04 07 05.0	+0.6
SMRC	Santa Marta, M	90.20	72	P		P	04 07 04.9	-0.4
	comp=Z,121nm,1.0s							
CAPC	Capurgana	90.31	76	P		P	04 07 07.3	+1.5
	comp=Z,1µmcomp=Z,108nm,1.2s							
PSA00	Pilbara Seismi	90.38	235	P		P	04 07 05.9	+0.1
SJCC	San Jacinto, C	90.63	73	P		P	04 07 09.3	+1.9
	comp=Z,1µmcomp=Z,91nm,1.1s							
LCBC	Los crdobas,	90.73	75	P		P	04 07 06.6	-1.2
MMAI	Mount Meron Ar	90.75	332	LR		LR	04 54 10.5	
	comp=Z,240nm,18.0s,baz=20,slow=40							
PALK	Pallekele	90.94	283	LR		LR	04 49 25.2	
	comp=Z,112nm,22.0s,baz=30,slow=36							
SMRT	St. Maarten	91.00	59	IAmb		IAmb	04 07 10.7	
	comp=Z,51nm,0.9s							
ASF	Jabal al Asfar	91.08	330	LR		LR	04 53 18.7	
	comp=Z,178nm,20.5s,baz=152,slow=39							
URIC	Uribia, Colomb	91.09	70	P		P	04 07 11.0	+1.6
	comp=Z,1µmcomp=Z,134nm,0.9s							
CRJC	Cerrejon, Guaj	91.11	71	P		P	04 07 10.7	+1.0
	comp=Z,1µmcomp=Z,118nm,0.9s							
IDI	Anoyia	91.22	341	LR		LR	04 56 15.2	
	comp=Z,141nm,18.0s,baz=24,slow=41							
ARGC	Iriguani, Magd	91.22	73	P		P	04 07 09.4	-0.7
	comp=Z,61nm,1.2s							
APAC	Apartado, Choc	91.36	76	P		P	04 07 13.1	+2.4
	comp=Z,2µmcomp=Z,204nm,1.0s							
UREC	San Jos de Ur	92.11	75	P		P	04 07 15.3	+1.1
	comp=Z,24nm,1.5s							
DBBC	Dabeiba	92.27	76	P		P	04 07 12.2	-2.8
KEST	Kesra	92.94	353	LR		LR	04 52 20.8	
	comp=Z,82nm,18.6s,baz=314,slow=38							
OCAC	Ocana	93.05	73	P		P	04 07 16.0	-2.7
	comp=Z,878nmcomp=Z,82nm,1.3s							
CBOC	Ciudad Bolivar	93.30	76	P		P	04 07 19.9	0.0
	comp=Z,667nmcomp=Z,43nm,1.1s							
PTBC	PUERTO BERRIO,	93.71	75	P		P	04 07 18.3	-3.3
	comp=Z,377nmcomp=Z,49nm,0.9s							
BRJC	Barrancabermej	93.80	74	P		P	04 07 21.6	-0.4
	comp=Z,1µmcomp=Z,82nm,1.2s							
EIL	Elat	94.01	331	LR		LR	04 55 35.5	
	comp=Z,245nm,19.2s,baz=9.5,slow=39							
SDV	Santo Domingo	94.14	70	P		P	04 07 23.7	-0.1
SDV				IAmb		IAmb	04 07 25.5	
	comp=Z,47nm,1.1s							
SDV				IAMs_20		IAMs_20	04 51 55.7	
	comp=Z,265nm,20.0s							
SDV	Santo Domingo	94.14	70	LR		LR	04 52 37.6	
	comp=Z,184nm,19.0s,baz=276,slow=37							
SDV	Santo Domingo	94.14	70	*e*P		P	04 07 24.2	+0.4
SDV	Santo Domingo	94.14	70	P		P	04 07 24.4	+0.6
	comp=Z,40nm,0.9s							
PAMC	Pamplona, Lo	94.14	73	P		P	04 07 22.7	-1.4
	comp=Z,6µmcomp=Z,19nm,1.1s							
GUY2C	Guyana, Caldas	94.20	76	P		P	04 07 25.3	+0.9
	comp=Z,712nmcomp=Z,82nm,0.8s							
BARC	Barichara	94.44	74	P		P	04 07 23.8	-1.4
	comp=Z,30µmcomp=Z,105nm,0.8s							
YOTC	Yotoco, Valle	94.57	78	P		P	04 07 27.9	+2.2
	comp=Z,639nmcomp=Z,57nm,1.2s							
ANIL	Santa Ana	94.75	77	P		P	04 07 26.1	-0.6
	comp=Z,1µmcomp=Z,27nm,0.8s							
JAMC	Jamundi, Valle	94.97	79	P		P	04 07 29.4	+1.8
	comp=Z,733nmcomp=Z,50nm,1.6s							
RUSC	La Rusia	95.05	74	IAmb		IAmb	04 07 29.8	
	comp=Z,43nm,1.0s							
RUSC	La Rusia	95.05	74	P		P	04 07 28.8	+0.5
	comp=Z,583nmcomp=Z,45nm,1.5s							
ROSC	El Rosal	95.13	76	P		P	04 07 28.8	+0.3
	comp=Z,9.8nm,0.7s,baz=296,slow=17,SNR=5.7							
ROSC				LR		LR	04 50 32.3	
	comp=Z,100nm,21.1s,baz=53,slow=36							
	comp=Z,9.8nm,0.7s							
RPZ	Rata Peaks	95.16	187	LR		LR	04 49 34.0	
	comp=Z,182nm,18.0s,baz=350,slow=35							
ORTC	Ortega, Tolima	95.30	77	P		P	04 07 29.6	+0.7
	comp=Z,562nmcomp=Z,71nm,0.9s							
POPC	Popayan, Colom	95.50	79	P		P	04 07 31.4	+1.4
	comp=Z,296nmcomp=Z,14nm,1.3s							
MDT	Midelt	95.98	5	LR		LR	04 52 40.5	
	comp=Z,57nm,19.3s,baz=12,slow=37							
VILC	Villavicencio,	96.09	76	P		P	04 07 27.2	-5.4
BETC	Betania	96.15	78	P		P	04 07 29.4	-3.4
OTAV	Otavalo	96.20	82	P		P	04 07 33.5	0.0
OTAV	Otavalo	96.20	82	P		P	04 07 33.5	0.0
OTAV				pmax		pmax		
	comp=Z,6.0nm,0.9s							
TULM	Tulcn-Chalpat	96.24	81	P		P	04 07 35.7	+2.0
PCRV	Puerto La Cruz	96.57	65	LR		LR	04 52 20.6	
	comp=Z,230nm,19.9s,slow=36							
RPN	Rapa Nui	99.02	122	LR		LR	04 42 00.9	
	comp=Z,168nm,20.4s,baz=10,slow=29							
TEFE	Tefe	107.59	73	*e*P		Pdif	04 08 24.7	+1.0
LPAZ	La Paz	115.37	84	PKP		PKPdf	04 12 46.0	-1.2
	comp=Z,1.1nm,0.7s,baz=254,slow=2.8,SNR=4.7							
LPAZ	La Paz	115.37	84	PKIKP		PKPdf	04 12 46.0	-1.2
TORD	Torodi Ar. Bea	115.71	360	PKP		PKiKP	04 12 45.5	-1.7
	comp=Z,1.9nm,0.6s,baz=13,slow=1.6,SNR=15							
TORD				SKP			04 16 20.1	
	comp=Z,1.7nm,0.9s,baz=351,slow=3.1,SNR=8.0							
TORD				PKKPbc		PKKPbc	04 23 17.4	0.0
	comp=Z,1.4nm,0.9s,baz=145,slow=1.5,SNR=6.7							
PTLB	Pontes e Lacer	120.28	76	*e*P		PKPdf	04 12 54.9	-0.9
H03N2	Juan Fernandez	121.08	106	T		T	06 25 34.7	
	baz=317,slow=77,SNR=310							
H03N1	Juan Fernandez	121.10	106	T		T	06 25 52.9	
	baz=317,slow=77,SNR=16							
H03N3	Juan Fernandez	121.10	106	T		T	06 25 51.5	
	baz=317,slow=77,SNR=13							
KMBO	Kilima Mbogo	121.48	317	PKP		PKPdf	04 12 57.0	-1.6
	comp=Z,2.2nm,0.5s,baz=63,slow=2.3,SNR=3.4							
KMBO				SKP			04 16 32.9	
	comp=Z,1.6nm,0.5s,baz=0.9,slow=3.5,SNR=3.1							
SMTB	Santa Maria do	121.74	61	*e*P		PKPdf	04 12 58.3	-0.4
DBIC	Dimbokro	121.91	7	PKP		PKPdf	04 12 57.9	-1.2
	comp=Z,7.1nm,0.4s,baz=36,slow=1.8,SNR=62							
DBIC				SKP			04 16 32.6	
	comp=Z,8.3nm,1.0s,baz=77,slow=2.4,SNR=5.3							
SNDB	Serra Nova Dou	122.20	67	*e*P		PKPdf	04 12 59.0	-0.6
SALV	Santo Antonio	122.71	74	*e*P		PKiKP	04 13 00.7	0.0
PP1B	Ponte de Pedra	124.52	74	*e*P		PKPdf	04 13 03.9	0.0
ARAG	Araguaiana, MT	124.87	70	*e*P		PKPdf	04 13 04.4	-0.2
BDQN	Bodoquena, MS	125.55	78	*e*P		PKPdf	04 13 05.4	-0.4
MURT	Porto Murtinho	125.93	80	*e*P		PKiKP	04 13 06.8	-0.1
SDBA	SAO DESIDERIO	126.14	61	*e*P		PKPdf	04 13 05.8	-1.4
AQDB	Aquidauana	126.21	77			PKPdf	04 13 07.3	+0.2
AQDB	Aquidauana	126.21	77	*e*P		PKPdf	04 13 07.2	+0.2
C2SB	Chapadao do Su	126.64	73	*e*P		PKiKP	04 13 09.5	+1.1
BDFB	Brasilia	127.02	66	PKP		PKPdf	04 13 08.0	-0.9
	comp=Z,11nm,0.9s,baz=258,slow=0.4,SNR=15							
RPRD	Ribas do Rio P	127.43	75	*e*P		PKiKP	04 13 10.2	+0.2
BI02	San Fabin de	127.89	104			PKPdf	04 13 10.0	+0.1
NBAN	Anadia - AL	128.27	50	*e*P		PKPdf	04 13 11.2	-0.1
AMBA	Amambai (Brazi	128.48	78	*e*P		PKiKP	04 13 12.1	+0.1
JANB	Januaria	128.64	62	*e*P		PKPdf	04 13 11.5	-0.5
ITRB	Iturama	128.84	72	*e*P		PKiKP	04 13 12.7	-0.1
VNDA	Vanda	129.23	185	PKP		PKPdf	04 13 11.0	-0.2
	comp=Z,1.3nm,1.0s,baz=329,slow=4.4,SNR=5.8							
VNDA				SKPab		SKPbc	04 16 34.1	+2.9
	comp=Z,2.0nm,1.0s,baz=13,slow=2.9,SNR=5.3							
SBA	Scott Base	129.31	184	PKPdf		PKiKP	04 13 12.7	+0.7
SBA	Scott Base	129.31	184	PKIKP		PKiKP	04 13 12.7	+0.7
SJPY	San Joaquin	129.32	81	*e*P		PKiKP	04 13 13.3	-0.3
CPUP	Villa Florida	129.52	83	PKP		PKPdf	04 13 12.6	-0.7
	comp=Z,1.9nm,0.8s,baz=354,slow=0.6,SNR=12							
CPUP				SKPab		SKPbc	04 16 34.5	+0.7
	comp=Z,1.3nm,0.8s,baz=240,slow=1.4,SNR=8.3							
CPUP	Villa Florida	129.52	83	*e*P		PKiKP	04 13 13.6	-0.3
PCMB	Pacaembu	129.76	74	*e*P		PKPdf	04 13 13.7	-0.2
TRCB	Terra Rica	129.82	76	*e*P		PKiKP	04 13 14.5	-0.3
PLCA	Paso Flores	130.91	107	PKP		PKPdf	04 13 16.0	+0.4
	comp=Z,6.5nm,0.9s,baz=276,slow=2.8,SNR=8.6							
PLCA				SKPab		SKPab	04 16 40.1	+1.5
	comp=Z,2.5nm,0.7s,baz=287,slow=3.2,SNR=5.8							
PLCA	Paso Flores	130.91	107	PKIKP		PKPdf	04 13 16.0	+0.4
PLCA	Paso Flores	130.91	107	*e*P		PKiKP	04 13 16.6	+0.1
LDASE	Londrina, Braz	131.19	75	*e*P		PKPdf	04 13 16.8	+0.3
PTGB	Pitanga	131.60	77	*e*P		PKiKP	04 13 18.4	0.0
DIAM	Diamantina, MG	131.61	64	*e*P		PKiKP	04 13 18.5	-0.1
FRTB	Fartura	132.09	74	*e*P		PKiKP	04 13 19.0	-0.3
GUA01	Guaratinga, BA	132.34	59	*e*P		PKiKP	04 13 19.5	-0.4
RCLB	Rio Claro- Sao	132.61	71	*e*P		PKiKP	04 13 20.2	-0.2
PSAL	Palomas, Salto	132.68	88	*e*P		PKiKP	04 13 20.6	+0.4
BSCB	Bom Sucesso	133.12	67	*e*P		PKPdf	04 13 20.9	+0.5
SJMB	Sao Joao De Ma	133.33	62	*e*P		PKPdf	04 13 21.2	+0.6
VAO	Valinhos	133.39	71	*e*P		PKiKP	04 13 22.1	+0.1
TRQA	Tornquist	134.49	99	PKPdf		PKPdf	04 13 22.3	0.0
TRQA	Tornquist	134.49	99	PKIKP		PKPdf	04 13 22.3	0.0
CPSB	Cacapava Do Su	134.82	84	*e*P		PKiKP	04 13 24.3	-0.3
VAS01	Vassouras-RJ	134.89	67	*e*P		PKiKP	04 13 24.9	-0.1
DUB01	Friburgo-RJ	135.35	66	*e*P		PKiKP	04 13 25.9	-0.1
PLTB	Pedras Altas	135.64	86	*e*P		PKiKP	04 13 26.7	+0.5
QSPA	South Pole Qui	141.16	180	PKPpre		PKPpre	04 13 29.6	
QSPA	South Pole Qui	141.16	180	PKhKP		PKPpre	04 13 30.1	
	comp=Z,6.9nm,0.7s,baz=339,slow=1.0,SNR=29							
QSPA				PKP		PKPdf	04 13 33.4	-0.3
	comp=Z,13nm,0.8s,baz=52,slow=0.9,SNR=14							
QSPA				SKPbc		SKPbc	04 17 09.9	+0.8
	comp=Z,11nm,1.1s,baz=25,slow=1.1,SNR=6.1							
BROLN	Tlhalogang	143.57	316	*i* P		PKPdf	04 13 40.7	+1.2
QNGWA	Qangwa	144.55	326	*i* P		PKPbc	04 13 40.1	+0.2
PMSA	Palmer Station	144.71	138	PKPdf		PKPdf	04 13 39.8	-0.2
TSUM	Tsumeb	145.39	332			PKPbc	04 13 41.4	-1.3
LPHEP	Lephephe	146.20	311	*i* P		PKPbc	04 13 42.4	+0.2
GRTLG	Ghanzi	146.23	325	*i* P		PKPbc	04 13 45.2	0.0
MAW	Mawson	146.55	218	PKPbc		PKPbc	04 13 44.0	-0.6
	comp=Z,10nm,0.6s,baz=103,slow=4.4,SNR=53							
MAW	Mawson	146.55	218	PKP2		PKPbc	04 13 44.0	-0.6
KDWAN	Kaudwane	146.72	318	*i* P		PKPbc	04 13 46.6	0.0
KGCAE	Kacgae	147.22	323	*i* P		PKPbc	04 13 48.3	+0.3
SKOMA	Sekoma	148.03	319	*i* P		PKPbc	04 13 50.5	+0.3
KOOLE	Kule	148.09	326	*i* P		PKPdf	04 13 47.1	-0.1
MAKGR	Makgori	148.80	316	*i* P		PKPbc	04 13 51.8	-0.3
BOSA	Boshof	151.01	313			PKPbc	04 13 57.2	-0.2
BOSA	Boshof	151.01	313	PKPbc		PKiKP	04 13 57.8	-0.3
	comp=Z,18nm,0.6s,baz=30,slow=2.0,SNR=61							
BOSA	Boshof	151.01	313	PKIKP		PKPbc	04 13 57.2	-0.2
SYO	Syowa Base	154.74	212	ePKPdf		PKPdf	04 13 55.6	0.0
SYO	Syowa Base	154.74	212	epPKPdf		PKPbc	04 14 03.6	-0.6
TROLL	Troll, Antarti	159.32	181	⇑P		PKPdf	04 14 01.4	-0.2
	comp=Z,162nm,0.8s							
VNA3	Neumayer Olymp	159.48	170	⇑P		PKPdf	04 13 59.2	-2.5
	comp=Z,3.0nm,0.7s							
SNAA	Sanae	159.58	176	⇑P		PKPdf	04 14 00.7	-1.1
	comp=Z,44nm,0.9s							
SNAA	Sanae	159.58	176			PKPdf	04 14 00.6	-1.2
SNAA				PKPab		PKPab	04 14 40.1	-0.2
SNAA	Sanae	159.58	176	PKP		PKPdf	04 14 00.1	-1.7
	comp=Z,1.7nm,0.8s,baz=90,slow=3.8,SNR=7.6							
SNAA				PKPab		PKPab	04 14 40.2	-0.1
	comp=Z,2.1nm,0.8s,baz=206,slow=8.5,SNR=6.8							
SNAA	Sanae	159.58	176	PKIKP		PKPdf	04 14 00.6	-1.2
SNAA							04 14 40.1	
VNA1	Neumayer--Stat	160.19	171	⇑P		PKPdf	04 14 01.3	-1.1
	comp=Z,3.7nm,1.0s							

*IDC **09** 03:57:55.6±1.0,21°.43S×169°.76E,h0km,mb4.1/6, mbtmp4.1/7,ML3.7/1,Error ellipse: s-maj=31.3km s-min=27.3km az=164.0*
ISC 09 03:57:59.1±1.0,**21°.4S**±0°.2×**169°.7E**±0°.1,**h21**km,**n10,**
σ**0°70**/11,**mb4.1**/6,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.08	257	Pn	Pn	03 58 46.6	0.0
	9.3nm,0.3s,baz=118,slow=13,SNR=53						
DZM				Sn	Sn	03 59 22.3	-0.5
	14nm,0.3s,baz=106,slow=22,SNR=7.2						
	44nm,0.5s						
STKA	Stephens Creek	27.11	242	P	P	04 03 41.6	+1.0
	3.0nm,0.7s,baz=128,slow=7.6,SNR=4.9						
	3.0nm,0.7s						
WRA	Warramunga Arr	33.06	266	P	P	04 04 33.1	-0.3
	0.7nm,0.5s,baz=94,slow=8.2,SNR=8.1						
	0.7nm,0.5s						
ASAR	Alice Springs	33.07	259	P	P	04 04 33.8	+0.3
	2.5nm,0.7s,baz=82,slow=9.0,SNR=21						
	2.5nm,0.7s						
QSPA	South Pole Qui	68.64	180	P	P	04 09 01.2	+0.6
	1.3nm,0.8s,baz=68,slow=5.4,SNR=9.7						
	1.3nm,0.8s						
SNAA	Sanae	87.01	182	P	P	04 10 41.5	-1.1
	1.3nm,0.9s,baz=217,slow=11,SNR=8.2						
	1.3nm,0.9s						
SONM	Songino Array	89.21	323	P	P	04 10 53.9	+0.5
	0.2nm,0.3s,baz=122,slow=5.4,SNR=1.5						
	0.2nm,0.3s						
ARCES	ARCESS Array B	127.28	345	PKP	PKPdf	04 17 00.5	-0.9
	1.9nm,0.8s,baz=43,slow=2.3,SNR=7.1						
EKA	Eskdalemuir Ar	145.72	353	PKPbc	PKPdf	04 17 35.6	-0.1
	1.8nm,0.6s,baz=1.3,slow=2.1,SNR=9.3						
GERES	GERESS Array B	146.60	331	PKPbc	PKPbc	04 17 39.2	+0.1
	2.1nm,0.6s,baz=46,slow=3.9,SNR=15						

*NEIC **09** 04:01:15.8±1.5,35°.91N±0°.01×98°.53W±0°.02,h11km±8km, Error ellipse: s-maj=1.9km s-min=1.5km az=68.0*
NEIC 09 04:01:15.8±1.5,**35°.91N**±0°.01×**98°.53W**±0°.02,**h10**km±2km, **mb_Lg2.2**/4,**ML2.4**/36,**ML2.3**/18,**Error ellipse: s-maj=3.0km s-min=2.1km az=263.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSTR	Hydro, Custer	0.30	207		Pg	04 01 21.6	-0.2
CSTR					Sg	04 01 26.2	+0.3
OK038	West end E0370	0.59	343	Pg	Pg	04 01 27.0	-0.3
OK038				Sg	Sg	04 01 34.9	-0.2
OK038				IAML		04 01 41.3	
	245nm,0.3s						
CROK	Carrier	0.73	36	Pg	Pg	04 01 30.0	-0.1
CROK				Sg	Sg	04 01 39.9	+0.3
NOKA	Waynoka	0.79	336	Pg	Pg	04 01 30.5	-0.6
NOKA				Sg	Sg	04 01 41.7	+0.2
NOKA				IAML		04 01 49.6	
	comp=N,128nm,0.2s						
NOKA				IAML		04 01 50.1	
	comp=E,164nm,0.2s						
OK029	Liberty Lake	0.88	97	Pg	Pg	04 01 32.0	-0.7
OK029				Sg	Sg	04 01 43.8	-0.3
GC02	Grant County #	1.08	30	Pg	Pg	04 01 35.6	-1.0
GC02				Sg	Sg	04 01 50.6	0.0
FNO	Franklin	1.13	125	Pg	Pb	04 01 36.6	-0.8
FNO				Sg	Sg	04 01 51.2	-0.9
FNO				IAML		04 01 52.7	
	comp=E,88nm,0.2s						
FNO				IAML		04 01 53.8	
	comp=N,89nm,0.1s						
KAN14	Manchester OK	1.14	23	Pg	Pb	04 01 36.7	-0.9
WMOK	Wichita Mounta	1.19	190	Pg	Pb	04 01 36.7	-1.8
WMOK				Sg	Sb	04 01 52.4	-1.6
KAN01	Argonia South	1.38	26	Pn	Pn	04 01 40.5	-0.7
KAN08	Anthony NE Sta	1.38	19	Pn	Pn	04 01 40.5	-0.7
OK052	Battle Ridge R	1.40	86	Pn	Pn	04 01 40.9	-0.5
X34A	Smith Ranch, M	1.43	156	Pn	Pn	04 01 41.3	-0.5
QUOK	Quay	1.50	80	Pn	Pn	04 01 42.2	-0.5
SMWD	Samnorwood	1.62	241	Pn	Pn	04 01 44.2	-0.2
DEOK	Depew	1.65	92	Pn	Pn	04 01 44.5	-0.3
T35A	Sooner Cattle	1.91	58	Pn	Pn	04 01 48.1	-0.3
WTFS	Witchita Falls	2.14	179	Pn	Pn	04 01 52.4	+0.8
LOOK	Love County	2.21	150	Pn	Pn	04 01 52.4	-0.2
LOOK				IAmb_Lg		04 02 31.2	
	comp=Z,11nm,0.7s						
TUL3	Leonard	2.22	89	Pn	Pn	04 01 52.9	+0.2
TUL3				IAmb_Lg		04 02 28.1	
	comp=Z,5.0nm,0.7s						
APMT	Aspermont	2.90	207	Pn	Pn	04 02 01.1	-1.0
DKNS	Dickens	2.99	222	Pn	Pn	04 02 00.7	-2.6
FW06	Azle	3.04	164	Pn	Pn	04 02 04.5	+0.6
U38A	Gravette	3.39	80	Pn	Pn	04 02 08.1	-0.7
ABTX	Abilene, Hawle	3.41	196	Pn	Pn	04 02 08.8	-0.3
MIAR	Mount Ida	4.28	107	Pn	Pn	04 02 21.7	+0.8

PETF	**Flores**	**3.65**	**35**	*eP*	**Pn**	**04 36 01.9**	**+2.9**
PETF				*eS*	**Sb**	**04 36 48.9**	**-2.5**
UXUV	**UXUV**	**3.95**	**329**	*eP*	**Pn**	**04 36 06.4**	**+3.3**
UXUV				*eS*	**Sn**	**04 36 50.9**	**+1.7**
CMIG	**Matias Romero**	**4.19**	**319**	*eP*	**Pn**	**04 36 09.2**	**+2.9**
CMIG				*eS*	**Sn**	**04 36 54.1**	**-1.0**
NEUV	**Arroyo Zacate**	**5.24**	**317**	*eP*	**Pn**	**04 36 24.5**	**+3.8**
NEUV				*eS*	**Sn**	**04 37 19.3**	**-1.6**
PEIG	**Puerto Escondi**	**5.36**	**293**	*eP*	**Pn**	**04 36 25.8**	**+3.4**
PEIG				*eS*	Sn	04 37 17.4	-6.6
VHO	**Vista Hermosa**	**5.51**	**305**	*eP*	**Pn**	**04 36 28.7**	**+3.9**
VHO				*eS*	Sn	04 37 21.3	-6.7
TOIG	**Toxpalan**	**6.38**	**311**	*eP*	**Pn**	**04 36 38.2**	**+1.6**
TOIG				*eS*	**Sn**	**04 37 45.1**	**-4.1**
TXIG	**Tlaxiaco**	**6.44**	**302**	*eP*	**Pn**	**04 36 36.8**	**-0.8**
TXIG				*eS*	**Sn**	**04 37 46.5**	**-4.6**

*IDC **09** 04:55:34.1±5.7, 37°.40N×71°.91E, h193^{km}±48^{km}, mb3.4/2, mbtmp4.1/8, Error ellipse: s-maj=57.3km s-min=23.9km az=165.0*

*NNC **09** 04:55:36.2±6.3, 37°.86N×71°.42E, h0^{km}, mb4.5, mpv4.3, Error ellipse: s-maj=56.5km s-min=31.1km az=161.0*

ISC 09 04:55:36.2±1.5, 37°.6N±0°.1×71°.9OE±0°.10, h200^{km}, n19, σ1^{s}23/25, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**5.09**	**22**	P	**Pn**	**04 56 52.6**	**+0.5**
	SNR=94						
EKS2	**Erkin-Say**	**5.31**	**15**	P	**Pn**	**04 56 55.7**	**+1.1**
	SNR=32						
AAK	**Ala-Archa**	**5.46**	**21**	P	**Pn**	**04 56 57.7**	**+1.1**
	SNR=15						
AAK	**Ala-Archa**	**5.46**	**21**	⇓P	**Pn**	**04 56 57.1**	**+0.6**
	23nm,0.6s						
AAK				⇓S	**Sn**	**04 57 59.6**	**-0.5**
	13nm,0.6s						
AAK	**Ala-Archa**	**5.46**	**21**	P	**Pn**	**04 56 57.1**	**+0.6**
	48nm,0.5s,baz=198,slow=7.5,SNR=55						
AAK				S	**Sn**	**04 58 00.3**	**+0.3**
	21nm,0.4s,baz=106,slow=18,SNR=10						
KBK	**Karagaybulak**	**5.61**	**24**	P	**Pn**	**04 56 59.8**	**+1.2**
	SNR=12						
KK31	**Karatay Array**	**5.65**	**350**	P	**Pn**	**04 56 58.6**	**-0.2**
	14nm,0.3s,baz=162,slow=13,SNR=137						
KK31				⇑S	**Sn**	**04 58 02.1**	**-2.1**
	18nm,0.3s,baz=100,slow=41,SNR=4.2						
CHMS	**Chumysh**	**5.87**	**21**	P	**Pn**	**04 57 02.3**	**+0.6**
	SNR=5.1						
USP	**Ospenovka**	**6.05**	**18**	P	**Pn**	**04 57 04.2**	**+0.1**
	SNR=10						
TKM2	**Tokmak 2**	**6.07**	**27**	P	**Pn**	**04 57 04.9**	**+0.5**
	SNR=32						
MKAR	**Makanchi Array**	**12.02**	**37**	P	**Pn**	**04 58 20.4**	**-0.9**
	0.4nm,0.5s,baz=221,slow=11,SNR=4.4						
KURBB	**Kurchatov Arra**	**13.90**	**18**	P	**Pn**	**04 58 42.7**	**-2.0**
	1.0nm,0.6s,baz=206,slow=11,SNR=5.1						
AB31	**Akbulak array**	**14.55**	**327**	⇑P	**P**	**04 58 54.7**	**+0.8**
	1.1nm,0.3s,baz=144,slow=13,SNR=40						
AB31				S	**S**	**05 01 34.7**	**+0.4**
	1.2nm,0.5s,baz=155,slow=22,SNR=5.8						
BVAR	**Borovoye Array**	**15.51**	**357**	P	**Pn**	**04 59 04.8**	**+0.4**
	3.2nm,0.6s,baz=165,slow=10,SNR=16						
AKTO	**Aktyubinsk**	**16.26**	**327**	⇑P	**Pn**	**04 59 16.5**	**+3.0**
	4.8nm,0.5s						
AKTO				⇑S	**Sn**	**05 02 15.4**	**-0.7**
	3.5nm,1.3s						
AKTO	**Aktyubinsk**	**16.26**	**327**	P	**P**	**04 59 13.8**	**+1.1**
	9.4nm,0.4s,baz=133,slow=11,SNR=26						
AKTO				S	**S**	**05 02 10.9**	**-1.9**
	1.2nm,0.4s,baz=119,slow=19,SNR=2.4						
ZALV	**Zalesovo Beam**	**18.67**	**24**	P	**P**	**04 59 39.0**	**0.0**
	4.5nm,0.3s,baz=207,slow=9.9,SNR=24						
SONM	**Songino Array**	**27.16**	**57**	P	**P**	**05 01 00.4**	**-0.6**
	1.0nm,0.7s,baz=251,slow=9.0,SNR=4.9						
	1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**66.46**	**269**	P	**P**	**05 06 02.9**	**-1.5**
	0.6nm,0.3s,baz=48,slow=6.1,SNR=23						
	0.6nm,0.3s						

*ASRS **09** 04:59:33.0±0.6, 55°.69N×86°.23E, h0^{km}, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 04:59:37.5±3.9, 55°.56N×86°.20E, h0^{km}, mbtmp2.6/2, ML2.7/1, Error ellipse: s-maj=31.4km s-min=28.7km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**207**	I	I	05 11 30.0	
	baz=24,slow=324,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.81**	**207**	Pg	Pn	05 00 08.8	-0.9
	1.6nm,0.3s,baz=29,slow=16,SNR=12						
ZALV				Lg	Lg	05 00 35.2	
	2.0nm,0.3s,baz=30,slow=29,SNR=7.3						
KURBB	**Kurchatov Arra**	**6.77**	**226**	Pn	Pn	05 01 17.7	-0.2
	0.2nm,0.4s,baz=47,slow=14,SNR=1.6						
MKAR	**Makanchi Array**	**9.12**	**197**	Pn	Pn	05 01 51.0	+0.8
	0.1nm,0.3s,baz=19,slow=15,SNR=2.1						
	0.1nm,0.3s						

*NIED **09** 05:07:47.8, 21°.30N×121°.72E, h1^{km}, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.22; $M_{\theta\theta}$=0.55; $M_{\phi\phi}$ -0.78; $M_{r\theta}$=0.19; $M_{\theta\phi}$=2.45; $M_{\phi r}$=1.13; Fault plane solution: $M_0$2.77000×10^{16} NP1:ϕ_s83.00000°, δ67.00000°, λ-177.00000°. NP2:ϕ_s352.00000°, δ87.00000°, λ-23.00000°.*

*NEIC **09** 05:07:47.7, 21°.01N×121°.60E, h59^{km}*

*JMA **09** 05:07:47.8±0.8, 21°.3N×12°.2E±°, h1^{km}, MD4.9/17, MV5.3/17, TAIWAN REGION*

*NEIC **09** 05:07:47.7±2.4, 21°.01N±0°.06×121°.60E±0°.05, h59^{km}±6^{km}, mb4.8/112, Mwr4.8/15, Error ellipse: s-maj=9.0km s-min=6.2km az=202.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-1.43; $M_{\theta\theta}$0.23; $M_{\phi\phi}$1.20; $M_{r\theta}$0.05; $M_{\theta\phi}$-1.25; $M_{\phi r}$1.35; Fault plane solution: $M_0$2.27000×10^{16} NP1:ϕ_s170.14000°, δ66.19000°, λ-62.63000°. NP2:ϕ_s298.08000°, δ35.67000°, λ-136.17000°. Principal axes: T 2.3852, Plg17.0000°, Azm240.0000°; N -0.2445, Plg25.0000°, Azm338.0000°; P -2.1407, Plg59.0000°, Azm120.0000°;*

*GCMT **09** 05:07:48.7±0.3, 20°.95N±0°.02×121°.73E±0°.02, h78^{km}±3^{km}, MW4.9/83, Moment Tensor Solution. s31,c34; s83,c108; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.68±.10; $M_{\theta\theta}$-0.83±.10; $M_{\phi\phi}$1.51±.11; $M_{r\theta}$0.79±.06; $M_{\theta\phi}$-2.44±.09; $M_{\phi r}$0.58±.07; Best double couple: $M_0$2.93100×10^{16} NP1:ϕ_s285.00000°, δ72.00000°, λ-163.00000°. NP2: ϕ_s190.00000°, δ74.00000°, λ-19.00000°. Principal axes: T 3.0490, Plg1.0000°, Azm238.0000°; N -0.2340, Plg65.0000°, Azm330.0000°; P -2.8130, Plg25.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*TAP **09** 05:07:48.4, 21°.09N×121°.53E, h98^{km}, ML5.5, D*

*BJI **09** 05:07:48.8, 21°.13N×121°.62E, h102^{km}, mB4.6/14, mb4.3/37*

*IDC **09** 05:07:49.2±1.5, 20°.96N×121°.72E, h86^{km}±13^{km}, mb4.1/27, mbtmp4.4/29, MS3.7/29, Error ellipse: s-maj=14.8km s-min=10.3km az=72.0*

ISC 09 05:07:49.7±0.5, 21°.02N±0°.03×121°.59E±0°.03, h87^{km}±4^{km}, n657, σ1^{s}55/752, mb4.7/107, 7C-56D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LYUB	**Lan-yu**	**0.98**	**360**	⇓*iP*	**Pn**	**05 08 07.9**	**-1.1**
LYUB				*eS*	**Sn**	**05 08 21.4**	**-2.0**
LAY	**Lan-yu**	**1.01**	**358**	⇓P	**Pn**	**05 08 08.0**	**-1.5**
LAY				*eS*	**Sn**	**05 08 23.3**	**-0.9**
TSEB	**Hengchuen, Pin**	**1.09**	**324**	⇓*iP*	**Pn**	**05 08 09.5**	**-0.7**
TSEB				S	**Sn**	**05 08 25.4**	**-0.2**
TWKBT	**Hengchun**	**1.17**	**322**	⇓*iP*	**Pn**	**05 08 10.2**	**-1.0**
TWKBT				S	**Sn**	**05 08 25.3**	**-2.0**
TWK1	**Hengchun**	**1.17**	**322**	⇓*iP*	**Pn**	**05 08 10.2**	**-1.1**
TWK1				S	**Sn**	**05 08 26.0**	**-1.5**
SMST	**Manzhou Townsh**	**1.22**	**325**	⇓*iP*	**Pn**	**05 08 10.6**	**-1.2**
SMST				S	**Sn**	**05 08 27.2**	**-1.3**
HEN	**Hengchun**	**1.26**	**321**	⇓P	**Pn**	**05 08 11.6**	**-0.7**
HEN				*iS*	**Sn**	**05 08 28.4**	**-1.0**
SLIU	**Shizi**	**1.40**	**328**	⇓*iP*	**Pn**	**05 08 12.7**	**-1.4**
SLIU				S	**Sn**	**05 08 30.9**	**-1.6**
TAW	**Tawu**	**1.48**	**334**	⇓*iP*	**Pn**	**05 08 13.2**	**-1.9**
TAW				S	**Sn**	**05 08 31.6**	**-2.7**
EAST	**Anshuo**	**1.52**	**333**	⇓*iP*	**Pn**	**05 08 13.9**	**-1.8**
EAST				*eS*	**Sn**	**05 08 32.8**	**-2.5**
SCZT	**Fangliau**	**1.62**	**326**	⇓*iP*	**Pn**	**05 08 15.6**	**-1.3**
SCZT				*iS*	**Sn**	**05 08 35.2**	**-2.3**
LDUT	**Ludao**	**1.65**	**356**	⇓*eP*	**Pn**	**05 08 15.0**	**-2.3**
LDUT				S	**Sn**	**05 08 35.1**	**-3.0**
ECL	**Taimali**	**1.68**	**339**	⇓*iP*	**Pn**	**05 08 15.2**	**-2.4**
ECL				*eS*	**Sn**	**05 08 35.7**	**-3.1**
WLCH	**Liuqiu**	**1.74**	**320**	⇓*iP*	**Pn**	**05 08 18.4**	**0.0**
WLCH				S	**Sn**	**05 08 40.9**	**+0.6**
TWP	**Hsiaoliuchiu**	**1.75**	**319**	⇓*iP*	**Pn**	**05 08 18.4**	**-0.2**
TWP				*iS*	**Sn**	**05 08 40.6**	**+0.3**
TTN	**Taitung**	**1.77**	**347**	⇓P	**Pn**	**05 08 18.0**	**-0.8**
TTN				*eS*	**Sn**	**05 08 39.1**	**-1.9**
MASBT	**Mashibuluo**	**1.82**	**331**	⇓*iP*	**Pn**	**05 08 18.1**	**-1.4**
MASBT				S	**Sn**	**05 08 39.8**	**-2.2**
TWGBT	**Beinan**	**1.85**	**345**	P	**Pn**	**05 08 17.6**	**-2.3**
TWGBT	**Beinan**	**1.85**	**345**	S	**Sn**	**05 08 44.7**	**+1.9**
TWGBT	**Beinan**	**1.85**	**345**	⇓*iP*	**Pn**	**05 08 17.7**	**-2.2**
TWGBT				S	**Sn**	**05 08 40.4**	**-2.4**
TWG	**Pinlang**	**1.86**	**345**		**Pn**	**05 08 17.7**	**-2.3**
TWG	**Pinlang**	**1.86**	**345**	⇓*iP*	**Pn**	**05 08 17.7**	**-2.3**
TWG				*eS*	**Sn**	**05 08 40.1**	**-2.9**
LONT	**Longtian**	**1.93**	**347**	*eP*	**Pn**	**05 08 19.0**	**-1.9**
LONT				*eS*	**Sn**	**05 08 42.1**	**-2.5**
SSD	**Sandimen**	**1.94**	**333**	⇓*iP*	**Pn**	**05 08 19.6**	**-1.4**
SSD				*eS*	**Sn**	**05 08 42.5**	**-2.5**
KAU	**Kaohsiung**	**1.95**	**323**	*eP*	**Pn**	**05 08 20.9**	**-0.2**
KAU				*eS*	**Sn**	**05 08 42.6**	**-2.5**
EDH	**Donghe**	**1.96**	**352**	⇓P	**Pn**	**05 08 20.0**	**-1.3**
EDH				S	**Sn**	**05 08 44.8**	**-0.7**
SGLT	**Jiouru**	**1.98**	**329**	*eP*	**Pn**	**05 08 21.0**	**-0.6**
SGLT				*iS*	**Sn**	**05 08 45.6**	**-0.3**
WSSB	**Gushan**	**2.03**	**323**	⇓P	**Pn**	**05 08 21.6**	**-0.7**
WSSB				S	**Sn**	**05 08 46.4**	**-0.7**
CHKT	**Chengkung**	**2.08**	**354**	⇓P	**Pn**	**05 08 21.2**	**-1.7**
CHKT				*iS*	**Sn**	**05 08 46.4**	**-1.8**
SNJT	**Kaohsiung City**	**2.08**	**326**	*eP*	**Pn**	**05 08 21.4**	**-1.5**
SNJT				*eS*	**Sn**	**05 08 47.7**	**-0.5**
ECS	**Chishang**	**2.09**	**351**	*eP*	**Pn**	**05 08 22.4**	**-0.8**
ECS				*eS*	**Sn**	**05 08 47.6**	**-1.0**
TWM1	**Shoushan**	**2.10**	**329**	⇓*iP*	**Pn**	**05 08 22.8**	**-0.4**
TWM1				*eS*	**Sn**	**05 08 47.7**	**-0.9**
SCST	**Cishan**	**2.12**	**331**	*eP*	**Pn**	**05 08 22.6**	**-0.8**
SCST				*eS*	**Sn**	**05 08 49.1**	**0.0**
EHD	**Haiduan**	**2.15**	**351**	⇓*eP*	**Pn**	**05 08 21.4**	**-2.4**
EHD				*iS*	**Sn**	**05 08 47.9**	**-2.0**
CHKH	**Chenggong**	**2.17**	**355**	⇓*eP*	**Pn**	**05 08 22.5**	**-1.6**
CHKH				*eS*	**Sn**	**05 08 48.8**	**-1.5**
FULB	**Fuli**	**2.19**	**353**	⇓*eP*	**Pn**	**05 08 23.3**	**-1.1**
FULB				*eS*	**Sn**	**05 08 49.6**	**-1.2**
ELDTW	**Lidau**	**2.22**	**346**	⇓*eP*	**Pn**	**05 08 22.9**	**-2.0**
ELDTW				*eS*	**Sn**	**05 08 49.0**	**-2.8**
STYH	**Taoyuan**	**2.27**	**341**	⇓P	**Pn**	**05 08 24.6**	**-0.8**
STYH				*eS*	**Sn**	**05 08 51.0**	**-1.6**
ECBN	**Changbin**	**2.29**	**357**	*eP*	**Pn**	**05 08 24.1**	**-1.6**
ECBN				S	**Sn**	**05 08 51.1**	**-2.0**
SHHT	**Tainan City**	**2.30**	**330**	*eP*	**Pn**	**05 08 25.4**	**-0.4**
SHHT				*eS*	**Sn**	**05 08 51.4**	**-2.1**
TWF1	**Yuli**	**2.34**	**353**	*eP*	**Pn**	**05 08 24.0**	**-2.4**
TWF1				*eS*	**Sn**	**05 08 53.3**	**-1.0**
CHN3	**Shinhua**	**2.34**	**331**	*eP*	**Pn**	**05 08 24.3**	**-0.9**
CHN3				*eS*	**Sn**	**05 08 53.9**	**-0.5**
TAI1	**Yung-k'ang**	**2.38**	**328**	*eP*	**Pn**	**05 08 25.7**	**-1.1**
TAI1				*iS*	**Sn**	**05 08 53.2**	**-2.0**
YULB	**Yu-li**	**2.38**	**353**	Pn	**Pn**	**05 08 24.6**	**-2.2**
YULB	**Yu-li**	**2.38**	**353**	P	**Pn**	**05 08 25.4**	**-1.5**
YULB	**Yu-li**	**2.38**	**353**	S	**Sn**	**05 08 55.5**	**+0.2**
WTP	**Ta-pu**	**2.39**	**338**	⇓P	**Pn**	**05 08 25.8**	**-1.3**
WTP				*eS*	**Sn**	**05 08 54.1**	**-1.6**
SNST	**Tainan City**	**2.41**	**335**	*eP*	**Pn**	**05 08 26.1**	**-1.2**
SNST				*eS*	**Sn**	**05 08 53.5**	**-2.6**
SSHA	**Shanhua**	**2.43**	**330**	*eP*	**Pn**	**05 08 26.9**	**-0.6**
SSHA				*eS*	**Sn**	**05 08 55.1**	**-1.3**
TPUB	**Ta-pu**	**2.44**	**339**		**Pn**	**05 08 26.3**	**-1.4**
TPUB	**Ta-pu**	**2.44**	**339**	P	**Pn**	**05 08 26.3**	**-1.4**
TPUB	**Ta-pu**	**2.44**	**339**	⇓*iP*	**Pn**	**05 08 26.2**	**-1.4**
TPUB				S	**Sn**	**05 08 54.9**	**-1.9**
TWK	**Hsinying**	**2.46**	**336**	⇓P	**Pn**	**05 08 26.4**	**-1.6**
TWK				*eS*	**Sn**	**05 08 55.4**	**-1.8**
HGSD	**Ruisui**	**2.46**	**356**	⇓*eP*	**Pn**	**05 08 26.5**	**-1.5**
HGSD				*eS*	**Sn**	**05 08 55.0**	**-2.4**
EHYH	**Wanrong**	**2.47**	**355**	*eP*	**Pn**	**05 08 27.0**	**-1.2**
EHYH				*eS*	**Sn**	**05 08 55.9**	**-1.6**
EHY	**Hungye**	**2.49**	**354**	*eP*	**Pn**	**05 08 26.3**	**-2.0**
EHY				S	**Sn**	**05 08 56.6**	**-1.3**
SCLT	**Jiali**	**2.50**	**329**	*iP*	**Pn**	**05 08 27.4**	**-1.2**
SCLT				*iS*	**Sn**	**05 08 55.7**	**-2.7**
TSCK	**Chigu Township**	**2.54**	**327**	⇓*iP*	**Pn**	**05 08 27.6**	**-1.4**
TSCK				*eS*	**Sn**	**05 08 56.4**	**-2.6**
WCKO	**Fanlu**	**2.57**	**339**	⇓P	**Pn**	**05 08 27.6**	**-1.9**
WCKO				S	**Sn**	**05 08 57.5**	**-2.6**
ALS	**Alishan**	**2.58**	**344**	⇓*iP*	**Pn**	**05 08 28.8**	**-1.1**
ALS				*eS*	**Sn**	**05 08 58.1**	**-2.6**
ICHU	**Yijhu**	**2.63**	**333**	*eP*	**Pn**	**05 08 28.8**	**-1.4**
ICHU				*eS*	**Sn**	**05 08 58.6**	**-2.7**
EGFH	**Guangfu**	**2.64**	**357**	*eP*	**Pn**	**05 08 30.1**	**-0.3**
CHN8	**Yiju**	**2.64**	**331**	P	**Pn**	**05 08 28.9**	**-1.5**
CHN8				*iS*	**Sn**	**05 08 59.1**	**-2.6**
TEGC	**Jichi Village**	**2.68**	**359**	*eP*	**Pn**	**05 08 30.0**	**-0.9**
TEGC				*iS*	**Sn**	**05 09 00.7**	**-1.7**
WARBT	**Fenglin Townsh**	**2.69**	**356**	*eP*	**Pn**	**05 08 29.7**	**-1.4**
WARBT				*eS*	**Sn**	**05 08 59.8**	**-3.0**
CHN2	**Minshiung**	**2.71**	**338**	*eP*	**Pn**	**05 08 30.3**	**-1.0**
CHN2				*eS*	**Sn**	**05 09 00.7**	**-2.4**
WHYT	**Xinyi Township**	**2.75**	**346**	*eP*	**Pn**	**05 08 31.1**	**-0.8**
WHYT				*eS*	**Sn**	**05 09 03.0**	**-1.2**
SHUL	**Shoufeng**	**2.75**	**359**	⇓P	**Pn**	**05 08 31.0**	**-0.9**
SHUL				*iS*	**Sn**	**05 09 03.1**	**-1.2**
ESL	**Shilin**	**2.79**	**357**	*eP*	**Pn**	**05 08 31.3**	**-1.0**
ESL				*iS*	**Sn**	**05 09 02.7**	**-2.3**
WSL	**Shuilin Townsh**	**2.79**	**333**	P	**Pn**	**05 08 30.9**	**-1.5**
WSL				*eS*	**Sn**	**05 09 02.6**	**-2.6**
SSLB	**Suanglung**	**2.82**	**348**		**Pn**	**05 08 31.9**	**-1.0**
SSLB	**Suanglung**	**2.82**	**348**	P	**Pn**	**05 08 31.8**	**-1.0**
SSLB	**Suanglung**	**2.82**	**348**	S	**Sn**	**05 09 07.1**	**+1.2**
SSLB	**Suanglung**	**2.82**	**348**	⇓*eP*	**Pn**	**05 08 31.7**	**-1.1**
SSLB				*eS*	**Sn**	**05 09 04.5**	**-1.3**
WGK	**Gukeng**	**2.82**	**340**	*eP*	**Pn**	**05 08 31.6**	**-1.2**
WGK				*iS*	**Sn**	**05 09 04.3**	**-1.5**
WDLH	**Douliu**	**2.83**	**340**	*iP*	**Pn**	**05 08 31.5**	**-1.4**
WDLH				S	**Sn**	**05 09 03.9**	**-2.2**
TEYL	**Yanliau Villag**	**2.83**	**0**	*eP*	**Pn**	**05 08 32.1**	**-0.8**
TEYL				*iS*	**Sn**	**05 09 05.7**	**-0.5**
WDGT	**Dungji**	**2.86**	**322**	⇓*iP*	**Pn**	**05 08 31.2**	**-2.1**
WDGT				*eS*	**Sn**	**05 09 02.5**	**-4.3**
WTK	**Tuku**	**2.88**	**337**	*eP*	**Pn**	**05 08 31.9**	**-1.7**
WTK				*eS*	**Sn**	**05 09 04.8**	**-2.5**
WSF	**Szhu**	**2.90**	**334**	*iP*	**Pn**	**05 08 32.0**	**-1.8**
WSF				*eS*	**Sn**	**05 09 04.6**	**-3.1**
WJS	**Zhushan**	**2.90**	**344**	*eP*	**Pn**	**05 08 33.5**	**-0.4**
WJS				*eS*	**Sn**	**05 09 06.1**	**-1.8**
SMLT	**Sun Moon Lake**	**2.92**	**347**	⇓P	**Pn**	**05 08 33.2**	**-1.0**
SMLT				*iS*	**Sn**	**05 09 07.5**	**-1.0**
ETM	**Tongmen**	**2.93**	**358**	P	**Pn**	**05 08 33.4**	**-0.9**
ETM				S	**Sn**	**05 09 06.7**	**-1.9**
HWA	**Hwalien**	**2.94**	**0**	*eP*	**Pn**	**05 08 33.9**	**-0.6**
HWA				*eS*	**Sn**	**05 09 07.2**	**-1.6**
OWD	**Renai**	**2.95**	**353**	*eP*	**Pn**	**05 08 34.3**	**-0.3**
OWD				S	**Sn**	**05 09 06.9**	**-2.3**
VCHM	**Qimei**	**2.96**	**318**	⇓*iP*	**Pn**	**05 08 32.5**	**-2.2**
VCHM				*eS*	**Sn**	**05 09 04.4**	**-4.9**
WNT	**Mingjian**	**2.96**	**344**	*eP*	**Pn**	**05 08 33.7**	**-1.0**
WNT				S	**Sn**	**05 09 07.1**	**-2.3**
WUSB	**Renai**	**2.99**	**352**	⇓*iP*	**Pn**	**05 08 34.6**	**-0.6**
WUSB				*eS*	**Sn**	**05 09 08.4**	**-1.8**
LXIB	**Xiulin Townshi**	**2.99**	**357**	⇓P	**Pn**	**05 08 33.7**	**-1.5**
LXIB				S	**Sn**	**05 09 09.2**	**-1.1**
TWD	**Chiawan**	**3.05**	**0**	⇓*iP*	**Pn**	**05 08 34.7**	**-1.1**
TWD				*iS*	**Sn**	**05 09 09.4**	**-1.9**
WTCT	**Ta-ch'eng**	**3.08**	**337**	*eP*	**Pn**	**05 08 34.5**	**-1.8**
WTCT				*iS*	**Sn**	**05 09 09.6**	**-2.5**
WCS	**Beigang Elemen**	**3.09**	**348**	*eP*	**Pn**	**05 08 35.8**	**-0.6**
PHUB	**P'eng-hu**	**3.11**	**323**	⇓*iP*	**Pn**	**05 08 34.3**	**-2.3**
PHUB				*iS*	**Sn**	**05 09 08.4**	**-4.4**
ETL	**Fush Village**	**3.12**	**1**	*eP*	**Pn**	**05 08 35.7**	**-1.2**
ETL				*iS*	**Sn**	**05 09 11.2**	**-2.1**
WHF	**Hehuan Shan**	**3.12**	**355**	P	**Pn**	**05 08 36.8**	**-0.5**
WHF				S	**Sn**	**05 09 13.0**	**-0.9**
NACB	**Ninganchiao**	**3.14**	**0**	Pn	**Pn**	**05 08 35.9**	**-1.2**
NACB	**Ninganchiao**	**3.14**	**0**	P	**Pn**	**05 08 36.3**	**-0.8**
NACB	**Ninganchiao**	**3.14**	**0**	⇓*iP*	**Pn**	**05 08 35.9**	**-1.2**
NACB				*iS*	**Sn**	**05 09 12.2**	**-1.4**
EOS4	**EOS4**	**3.16**	**12**	P	**Pn**	**05 08 36.4**	**-0.6**
EOS4				*eS*	**Sn**	**05 09 11.3**	**-2.2**
PNG	**Penghu**	**3.16**	**324**	⇓*iP*	**Pn**	**05 08 35.1**	**-2.3**
PNG				*iS*	**Sn**	**05 09 08.7**	**-5.3**
ETLH	**Xiulin Townshi**	**3.17**	**358**	⇓*iP*	**Pn**	**05 08 36.8**	**-0.8**
ETLH				S	**Sn**	**05 09 12.5**	**-2.1**
WCH1	**Changhua City**	**3.19**	**343**	*eP*	**Pn**	**05 08 36.0**	**-1.7**
WCHH	**Zhanghua**	**3.19**	**343**	P	**Pn**	**05 08 36.6**	**-1.2**
WCHH				*eS*	**Sn**	**05 09 12.3**	**-2.5**
TCU	**Taichung**	**3.23**	**345**	*eP*	**Pn**	**05 08 37.6**	**-0.6**
TCU				*eS*	**Sn**	**05 09 12.8**	**-2.9**
FUSS	**Fushou**	**3.23**	**354**	*eP*	**Pn**	**05 08 38.7**	**+0.1**
FUSS				*eS*	**Sn**	**05 09 15.3**	**-0.8**
TWT	**Tachien**	**3.24**	**353**	*eP*	**Pn**	**05 08 39.3**	**+0.7**
TWT				*eS*	**Sn**	**05 09 13.4**	**-2.9**
TDCB	**Techi**	**3.24**	**353**	*eP*	**Pn**	**05 08 38.2**	**-0.4**
TDCB				*eS*	**Sn**	**05 09 13.9**	**-2.4**
EAHA	**Aohua**	**3.30**	**2**	*eP*	**Pn**	**05 08 38.1**	**-1.1**
EAHA				*eS*	**Sn**	**05 09 17.1**	**-0.3**
WHP	**Taichung City**	**3.30**	**350**	*eP*	**Pn**	**05 08 38.6**	**-0.7**
WHP				*eS*	**Sn**	**05 09 15.7**	**-1.9**
EOS3	**EOS3**	**3.32**	**12**	*eP*	**Pn**	**05 08 39.0**	**-0.3**
EOS3				*eS*	**Sn**	**05 09 16.4**	**-1.4**
ENA	**Nanau**	**3.40**	**2**	⇓P	**Pn**	**05 08 39.7**	**-0.8**
ENA				*eS*	**Sn**	**05 09 18.0**	**-1.8**
TWQ1	**Liyutan**	**3.40**	**347**	*eP*	**Pn**	**05 08 40.1**	**-0.5**
TWQ1				*eS*	**Sn**	**05 09 16.0**	**-3.8**
NNSB	**Datong**	**3.40**	**357**	*eP*	**Pn**	**05 08 40.8**	**0.0**
NNSB				*eS*	**Sn**	**05 09 18.8**	**-1.2**
NNS	**Nan Shan**	**3.41**	**357**	P	**Pn**	**05 08 40.9**	**0.0**
NNS				*eS*	**Sn**	**05 09 19.3**	**-1.0**
WDJ	**Dajia District**	**3.43**	**345**	*eP*	**Pn**	**05 08 39.8**	**-1.2**
EOS2	**EOS2**	**3.43**	**10**	*eP*	**Pn**	**05 08 41.1**	**+0.2**
NSY	**Sanyi**	**3.47**	**347**	*eP*	**Pn**	**05 08 41.2**	**-0.3**
NSY				*eS*	**Sn**	**05 09 20.1**	**-1.4**
LATG	**Datong**	**3.50**	**359**	⇓P	**Pn**	**05 08 41.4**	**-0.7**
LATG				*eS*	**Sn**	**05 09 18.3**	**-4.2**
ESAO	**Su ao**	**3.55**	**4**	*eP*	**Pn**	**05 08 42.2**	**-0.4**
NMLH	**Miaoli**	**3.58**	**348**	*eP*	**Pn**	**05 08 42.3**	**-0.7**
TWC	**Suao**	**3.58**	**4**	*eP*	**Pn**	**05 08 42.9**	**-0.2**
TWC				*iS*	**Sn**	**05 09 23.1**	**-1.1**

GZH smax smax
comp=E,880nm,0.9s
GZH smax smax
comp=E,870nm,0.7s
JOW Kunigami 8.42 45 Pn **Pn 05 09 46.6 -2.3**
JOW Kunigami 8.42 45 P **Pn 05 09 46.1 -2.8**
comp=E,53nm,0.4s,baz=198,slow=13,SNR=29
JOW S **Sn 05 11 14.8 -7.4**
comp=E,15nm,0.5s,baz=237,slow=18,SNR=5.8
JOW Kunigami 8.42 45 P **Pn 05 09 46.7 -2.3**
JOW Kunigami 8.42 45 P **Pn 05 09 46.5 -2.4**
JYRO Yoronjima 8.66 45 P **Pn 05 09 49.8 -2.4**
JMZ Minamidaito 2 10.05 60 Pn **Pn 05 10 09.6 -1.6**
JMZ Minamidaito 2 10.05 60 P **Pn 05 10 09.5 -1.7**
JMZ Minamidaito 2 10.05 60 S **Sn 05 12 01.1 -1.1**
CNSH ChangSha 10.62 314 P **Pn 05 10 17.4 -1.6**
CNSH S **Sn 05 12 09.9 -6.2**
QIZ Qiongzhong 11.22 262 **Pn 05 10 25.6 -1.6**
QIZ Qiongzhong 11.22 262 P **Pn 05 10 25.7 -1.5**
QIZ S **Sn 05 12 27.1 -3.6**
QIZ pmax pmax
comp=Z,26nm,1.0s
QIZ pmax pmax
comp=Z,190nm,3.5s
QIZ smax smax
comp=N,34nm,0.6s
QIZ smax smax
comp=E,30nm,0.5s
QIZ LR LR
comp=N,480nm,12.0s
QIZ LR LR
comp=E,240nm,10.3s
QIZ LR LR
comp=Z,340nm,13.2s
QIZ Qiongzhong 11.22 262 P **Pn 05 10 27.3 +0.1**
NJ2 Nanjing 11.26 348 *e*P **Pn 05 10 27.1 -0.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 LR LR
comp=Z,470nm,11.8s
NJ2 LR LR
comp=Z,780nm,11.8s
NJ2 LR LR
comp=Z,400nm,9.5s
WHN Wuhan 11.51 327 P **Pn 05 10 29.2 -1.8**
WHN S **Sn 05 12 37.0 -0.5**
WHN LR LR
comp=Z,2μm,8.9s
WHN LR LR
comp=Z,1μm,13.3s
ENH Enshi 14.27 313 Pn **Pn 05 11 08.2 +0.5**
DAV Davao City (W) 14.39 164 LR LR 05 16 36.5
comp=Z,310nm,20.8s,baz=346,slow=37
JNU Nakatsue 14.61 32 P **Pn 05 11 11.5 -0.6**
DLV Lat 15.46 236 **Pn 05 11 25.7 +2.5**
DLV IAmb IAmb 05 11 26.8
comp=Z,32nm,0.8s
TIA Tai'an 15.63 346 P **P 05 11 28.8 +1.4**
TIA pmax pmax
comp=Z,11nm,0.8s
TIA LR LR
comp=N,340nm,12.2s
TIA LR LR
comp=E,740nm,17.8s
TIA LR LR
comp=Z,530nm,10.8s
LYN LuoYang 15.70 331 P **Pn 05 11 27.1 +1.3**
LYN pmax pmax
comp=Z,28nm,0.5s
LYN LR LR
comp=Z,540nm,10.7s
LYN LR LR
comp=Z,640nm,14.4s
LYN LR LR
comp=Z,640nm,18.9s
KKM Kota Kinabalu 15.77 200 P **Pn 05 11 28.6 +1.6**
KKM IAmb IAmb 05 11 33.8
comp=Z,72nm,1.3s
MYLDM Lahad Datu 16.03 191 P **P 05 11 32.5 +0.6**
TJN Taejon 16.11 17 P **P 05 11 33.1 +0.4**
TJN IAmb IAmb 05 11 38.4
comp=Z,147nm,1.3s
SLVN Son La 16.50 274 P **Pn 05 11 37.6 +1.6**
XAN Xi'an 17.14 322 P **P 05 11 47.7 +3.6**
XAN pP pP 05 11 53.1 -7.6
XAN pmax pmax
comp=Z,26nm,1.0s
XAN pmax pmax
comp=Z,280nm,5.7s
XAN LR LR
comp=Z,760nm,12.4s
XAN LR LR
comp=Z,480nm,12.6s
XAN LR LR
comp=Z,430nm,6.9s
KSAR Wonju Array Be 17.25 17 **P 05 11 45.9 +0.6**
KSRS Korea Array 17.27 17 P **P 05 11 44.5 -1.0**
comp=Z,4.1nm,0.5s,baz=198,slow=11,SNR=15
KS19 Wonju Array Si 17.30 17 **P 05 11 46.1 +0.3**
HNS HongShan 17.38 341 ⇑P **P 05 11 48.6 +1.9**
HNS PP **pP 05 12 02.5 -0.3**
HNS pmax pmax
comp=Z,21nm,0.8s
HNS LR LR
comp=Z,290nm,11.2s
HNS LR LR
comp=Z,600nm,11.5s
HNS LR LR
comp=Z,320nm,15.8s
KMI Kunming 17.82 287 P **Pn 05 11 55.1 +2.8**
KMI S **Sn 05 15 09.2 -1.6**
KMI pmax pmax
comp=Z,11nm,0.9s
KMI LR LR
comp=Z,260nm,8.4s
KMI LR LR
comp=Z,300nm,14.8s
KMI LR LR
comp=Z,260nm,13.5s
CD2 Chengdu 18.79 305 P **P 05 12 03.9 +1.5**
CD2 pP pP 05 12 15.1 -4.0
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,200nm,6.9s
CD2 LR LR
comp=Z,540nm,7.9s
CD2 LR LR
comp=Z,370nm,8.8s
CD2 LR LR
comp=Z,420nm,9.0s
PZH PanZhiHua 18.96 291 P **Pn 05 12 07.1 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.1s
PZH LR LR
comp=Z,350nm,14.1s
PZH LR LR
comp=Z,210nm,14.9s
PZH LR LR
comp=Z,280nm,14.9s
BJT Baijiatuau 19.50 347 P **Pn 05 12 10.8 -1.1**
BJT Baijiatuau 19.50 347 P **Pn 05 12 11.7 -0.2**
BJI Beijing 19.52 347 P **Pn 05 12 10.8 -1.3**
BJI pmax pmax
comp=Z,11nm,0.8s
BJI LR LR
comp=Z,69nm,13.5s
BJI LR LR
comp=Z,89nm,14.3s
BJI LR LR
comp=Z,110nm,14.3s
INU Inuyama 19.68 40 P **Pn 05 12 12.7 -1.4**
INU IAmb IAmb 05 12 21.3
comp=Z,40nm,1.2s
TOLI2 Tolitoli 19.80 182 P **P 05 12 13.5 +0.1**
TOLI2 Tolitoli 19.80 182 P **P 05 12 14.3 +0.9**
JGF Kuroka 20.05 40 P **Pn 05 12 17.0 -1.5**
JGF IAmb IAmb 05 12 20.0
comp=Z,31nm,1.1s
JGF Kuroka 20.05 40 P **Pn 05 12 17.9 -0.6**
MRSI Marisa 20.42 179 P **P 05 12 21.2 +1.2**
comp=Z,2μmcomp=Z,139nm,1.1s
SBUM Sibu 20.59 208 P **P 05 12 22.6 +0.6**
SBUM Sibu 20.59 208 P **P 05 12 22.0 +0.1**

TNTI Ternate 20.90 164 P **P 05 12 24.7 -0.5**
TNTI IAmb IAmb 05 12 27.5
comp=Z,48nm,0.8s
MAJO Matsushiro 21.19 40 P **P 05 12 29.9 +1.6**
MAJO IAmb IAmb 05 12 39.1
comp=Z,90nm,1.5s
MJAR Matsushiro Arr 21.19 40 P **P 05 12 29.5 +1.3**
MJAR Matsushiro Arr 21.19 40 P **P 05 12 29.2 +1.0**
comp=Z,2.5nm,0.8s,baz=232,slow=10,SNR=10
comp=Z,2.5nm,0.8s
CHTO Chiang Mai 21.40 268 P **P 05 12 30.3 -0.3**
CMAR Chiang Mai Arr 21.47 267 **P 05 12 32.0 +0.7**
CMAR Chiang Mai Arr 21.47 267 P **P 05 12 31.5 +0.2**
comp=Z,2.2nm,0.3s,baz=72,slow=8.9,SNR=25
CMAR PcP **PcP 05 16 31.2 -0.1**
comp=Z,1.1nm,0.3s,baz=45,slow=1.0,SNR=8.4
CMAR ScP **ScP 05 20 00.8 +0.1**
comp=Z,3.0nm,0.3s,baz=137,slow=0.8,SNR=8.0
CMAR LR LR 05 20 39.6
comp=Z,193nm,21.7s,baz=85,slow=36
comp=Z,2.2nm,0.3s
HHC Hu-ho-hao-te 21.53 339 *e*P **P 05 12 35.1 +3.3**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,68nm,4.0s
LZH Lanzhou 21.59 318 *e*P **P 05 12 35.6 +3.0**
LZH PP **sP 05 12 59.0 -1.6**
LZH pmax pmax
comp=Z,17nm,1.2s
LZH pmax pmax
comp=Z,150nm,5.0s
LZH LR LR
comp=Z,380nm,14.6s
LZH LR LR
comp=Z,300nm,14.6s
LZH LR LR
comp=Z,380nm,15.6s
TNCH TengChong 21.60 285 P **P 05 12 35.1 +2.3**
TNCH PP **sP 05 13 01.0 +0.3**
TNCH pmax pmax
comp=Z,110nm,2.0s
LZDM Lanzhou Array 21.60 317 P **P 05 12 33.8 +0.9**
comp=Z,4.2nm,0.6s,baz=144,slow=10,SNR=7.5
comp=Z,4.2nm,0.6s
APSI Ampana 21.80 180 P **P 05 12 37.9 +3.1**
comp=Z,3μmcomp=Z,319nm,1.2s
PCI Palu 21.86 185 P **P 05 12 36.6 +1.2**
comp=Z,172nm,1.4s
BTO Baotou 21.87 336 *e*P **P 05 12 40.2 +4.7**
BTO pP **pwP 05 12 53.2 +0.8**
BTO PP **sP 05 13 05.7 +2.5**
BTO S Sn 05 16 42.9 -4.6
BTO pmax pmax
comp=Z,50nm,0.5s
BTO pmax pmax
comp=Z,170nm,4.2s
BTO LR LR
comp=N,610nm,9.6s
BTO LR LR
comp=E,600nm,11.2s
BTO LR LR
comp=Z,990nm,14.7s
LUWI Luwuk 21.96 177 P **P 05 12 35.2 -1.3**
LUWI Luwuk 21.96 177 P **P 05 12 36.3 -0.2**
comp=Z,277nm,1.2s
XLT XiLinHaoTe 23.27 350 *e*P **P 05 12 49.7 -0.1**
XLT pP pP 05 13 07.3 -0.1
XLT PP **PnPn 05 13 23.3 +3.0**
XLT S **S 05 16 53.1 -2.2**
XLT PcS **PcS 05 20 13.8 -0.1**
XLT pmax pmax
comp=Z,9.0nm,1.0s
XLT pmax pmax
comp=Z,99nm,4.1s
XLT LR LR
comp=Z,270nm,13.9s
XLT LR LR
comp=Z,150nm,9.5s
SANI Sanana 23.33 169 P **P 05 12 49.5 -1.0**
SANI Sanana 23.33 169 P **P 05 12 49.7 -0.8**
comp=Z,65nm,0.8s
GUMO Guam 23.40 105 P **P 05 12 50.6 -0.6**
GUMO Guam 23.40 105 LR LR 05 20 17.7
comp=Z,86nm,21.0s,baz=294,slow=32
TTSI Tana Toraja 23.98 184 P **P 05 12 57.5 +1.2**
comp=Z,92nm,0.6s
USRK Ussuriysk Ar. 24.68 18 P **P 05 13 03.0 +0.6**
USRK Ussuriysk Ar. 24.68 18 P **P 05 13 02.6 +0.2**
comp=Z,1.6nm,0.6s,baz=229,slow=13,SNR=2.2
comp=Z,1.6nm,0.6s
NLAI Namlea 24.71 167 P **P 05 13 03.7 +0.8**
SPSI Sidrap Palu 24.89 184 P **P 05 13 05.9 +1.3**
comp=Z,3μmcomp=Z,29nm,1.1s
BNX BinXian 25.11 10 ⇓P **P 05 13 07.6 +1.2**
BNX pmax pmax
comp=Z,8.0nm,0.8s
BNSI Bone 25.30 183 P **P 05 13 09.7 +1.4**
comp=Z,26nm,0.9s
JTM Tenmabayashi 25.73 36 P **P 05 13 13.0 +1.0**
MYKOM Kota Tinggi 25.78 224 P **P 05 13 13.4 +0.7**
MYKOM IAmb IAmb 05 13 36.2
comp=Z,20nm,1.2s
IPM Ipoh 25.88 233 P **P 05 13 14.1 +0.6**
IPM IAmb IAmb 05 13 38.1
comp=Z,32nm,1.2s
KAPI Kappang 25.93 184 LR LR 05 23 55.5
comp=Z,115nm,20.9s,baz=354,slow=37
FAKI Fak Fak 25.98 155 P **P 05 13 13.2 -1.3**
FAKI IAmb IAmb 05 13 26.6
comp=Z,61nm,1.2s
FAKI Fak Fak 25.98 155 P **P 05 13 15.1 +0.6**
GTA Gaotai 26.15 319 *e*P **P 05 13 19.1 +3.1**
GTA ScP **ScP 05 20 14.4 +1.2**
GTA pmax pmax
comp=Z,7.0nm,1.4s
GTA LR LR
comp=Z,240nm,13.5s
GTA LR LR
comp=Z,150nm,12.0s
GTA LR LR
comp=Z,200nm,13.1s
ERM Erimo 27.72 36 P **P 05 13 30.9 +1.1**
ERM IAmb IAmb 05 13 44.3
comp=Z,43nm,1.1s
BRDH Bariadhala 27.83 279 LR LR 05 26 20.5
comp=Z,112nm,21.2s,baz=147,slow=40
PSI Prapat 28.55 234 LR LR 05 24 56.9
comp=Z,82nm,19.8s,baz=31,slow=36
RPSI Rantau Prapat 28.62 233 P **P 05 13 37.1 -1.0**
LSA Lhasa 28.77 294 P **P 05 13 39.0 -0.9**
ULN Ulaanbaatar 29.24 340 **P 05 13 42.7 -0.8**
SONM Songino Array 29.43 339 P **P 05 13 45.0 -0.2**
SONM Songino Array 29.43 339 P **P 05 13 45.7 +0.6**
comp=Z,2.5nm,0.4s,baz=158,slow=9.9,SNR=13
SONM LR LR 05 26 51.4
comp=Z,284nm,18.7s,baz=151,slow=39
comp=Z,2.5nm,0.4s
MMRI Maumere 29.48 179 P **P 05 13 44.7 -1.0**
PLAI Plampang 29.90 188 P **P 05 13 49.5 +0.1**
TWSI Taliwang, Sumb 29.93 189 P **P 05 13 50.2 +0.5**
comp=Z,536nmcomp=Z,33nm,0.7s
JAY Jayapura 29.96 139 LR LR 05 23 14.8
comp=Z,131nm,20.4s,baz=290,slow=31
JAGI Jajag, Banyuwa 30.20 195 P **P 05 13 50.9 -1.3**
JAGI IAmb IAmb 05 13 54.8
comp=Z,24nm,0.9s
MDSI Maura Dua 30.57 216 P **P 05 13 57.9 +2.6**
comp=Z,634nmcomp=Z,18nm,0.9s
MASI Maura Aman, Be 30.60 221 P **P** 05 13 44.2 -11
MTN Manton Dam 34.93 164 P **P 05 14 30.1 -3.3**
MTN Manton Dam 34.93 164 **P 05 14 30.8 -2.6**
MTN Manton Dam 34.93 164 P **P 05 14 30.1 -3.3**
KDU Kakadu 35.16 161 P **P 05 14 32.7 -2.7**
comp=Z,26nm,1.0s
KDU Kakadu 35.16 161 P **P 05 14 34.4 -0.9**
WMQ Urumqi 36.16 317 *e*P **P 05 14 47.2 +3.4**
WMQ LR LR
comp=Z,340nm,17.9s
WMQ LR LR
comp=Z,230nm,20.7s
KNRA Kununurra 37.14 169 P **P 05 14 49.9 -2.3**
comp=Z,16nm,1.2s
KNRA Kununurra 37.14 169 **P 05 14 50.4 -1.8**
KNRA IAmb IAmb 05 14 52.5
comp=Z,21nm,1.1s

FITZ Fitzroy Crossi 39.08 174 **P 05 15 06.5 -1.9**
PMG Port Moresby 39.31 138 **P 05 15 09.8 -0.7**
PMG Port Moresby 39.31 138 LR LR 05 33 03.7
comp=Z,67nm,18.2s,baz=174,slow=39
COEN Coen 40.72 147 P **P 05 15 20.9 -1.2**
COEN IAmb IAmb 05 15 21.6
comp=Z,21nm,0.7s
MKAR Makanchi Array 40.90 318 P **P 05 15 24.5 +1.1**
comp=Z,2.8nm,0.4s,baz=108,slow=8.9,SNR=40
MKAR ScP **ScP 05 21 03.0 -1.3**
comp=Z,2.4nm,1.1s,baz=119,slow=4.3,SNR=5.8
MKAR LR LR 05 33 57.9
comp=Z,69nm,19.4s,baz=149,slow=38
comp=Z,2.8nm,0.4s
MAKZ Makanchi 41.10 318 P **P 05 15 26.0 +1.0**
MAKZ IAmb IAmb 05 15 59.3
comp=Z,19nm,1.4s
YAK Yakutsk 41.36 6 LR LR 05 35 45.1
comp=Z,75nm,19.0s,baz=176,slow=40
PALK Pallekele 41.80 257 P **P 05 15 31.2 +0.1**
PALK IAmb IAmb 05 15 57.9
comp=Z,21nm,1.1s
PALK Pallekele 41.80 257 LR LR 05 33 53.2
comp=Z,67nm,18.5s,baz=84,slow=37
MBWA Marble Bar 41.96 183 P **P 05 15 30.2 -1.9**
comp=Z,10nm,1.2s
PETK Petropavlovsk- 42.31 32 P **P 05 15 34.6 -0.2**
PETK Petropavlovsk- 42.31 32 P **P 05 15 34.3 -0.5**
comp=Z,4.6nm,0.9s,baz=216,slow=7.2,SNR=1.2
PETK LR LR 05 34 18.3
comp=Z,76nm,20.7s,baz=244,slow=38
comp=Z,4.6nm,0.9s
PSA00 Pilbara Seismi 42.37 182 P **P 05 15 33.7 -1.7**
comp=Z,22nm,1.0s
PSA00 Pilbara Seismi 42.37 182 **P 05 15 34.4 -1.1**
PSA00 IAmb IAmb 05 15 35.1
comp=Z,19nm,1.1s
PSA00 Pilbara Seismi 42.37 182 P **P 05 15 33.8 -1.7**
PSA00 IAmb IAmb 05 15 35.1
comp=Z,14nm,1.1s
PSA00 Pilbara Seismi 42.37 182 P **P 05 15 34.8 -0.7**
H11N1 WAKE ISLAND Hy 42.38 83 T T 06 01 11.7
baz=282,slow=76,SNR=38
H11N2 WAKE ISLAND Hy 42.38 83 T T 06 00 57.7
baz=282,slow=76,SNR=51
H11N3 WAKE ISLAND Hy 42.40 83 T T 06 00 58.4
baz=282,slow=76,SNR=48
H11S3 WAKE ISLAND Hy 42.41 85 T T 06 00 51.7
baz=281,slow=75,SNR=72
H11S1 WAKE ISLAND Hy 42.42 85 T T 06 00 52.4
baz=281,slow=75,SNR=66
WB0 Warramunga Arr 42.43 162 **P 05 15 34.1 -2.0**
H11S2 WAKE ISLAND Hy 42.43 85 T T 06 00 53.0
baz=281,slow=75,SNR=58
WRAB Tennant Creek 42.57 162 P **P 05 15 35.5 -1.7**
WRAB IAmb IAmb 05 15 36.3
comp=Z,24nm,0.8s
WRA Warramunga Arr 42.58 162 P **P 05 15 35.1 -2.2**
WRA Warramunga Arr 42.58 162 P **P 05 15 35.1 -2.2**
comp=Z,19nm,0.8s,baz=344,slow=8.8,SNR=75
WRA PcP **PcP 05 17 27.7 -0.5**
comp=Z,2.2nm,0.8s,baz=336,slow=3.7,SNR=4.6
comp=Z,19nm,0.8s
WR8 Warramunga Arr 42.64 162 P **P 05 15 35.9 -1.8**
KSH Kashi 42.99 306 P **P 05 15 45.0 +4.4**
KSH pmax pmax
comp=Z,4.0nm,1.0s
ZAA0 Zalesovo Array 43.11 329 P **P 05 15 41.7 +0.5**
ZAA0 IAmb IAmb 05 15 43.8
comp=Z,16nm,1.0s
ZALV Zalesovo Beam 43.11 329 P **P 05 15 41.6 +0.3**
comp=Z,8.5nm,0.4s,baz=115,slow=8.3,SNR=30
ZALV LR LR 05 35 39.2
comp=Z,90nm,18.5s,baz=112,slow=39
comp=Z,8.5nm,0.4s
NRN Naryn 43.39 309 P **P 05 15 44.1 0.0**
NRN IAmb IAmb 05 16 18.9
comp=Z,9.7nm,0.9s
MA2 Magadan 43.77 21 LR LR 05 34 31.7
comp=Z,60nm,19.8s,baz=248,slow=37
GIRL Giralia 43.99 190 P **P 05 15 48.8 +0.3**
GIRL IAmb IAmb 05 15 49.9
comp=Z,19nm,0.8s
NIL Nilore 44.38 297 P **P 05 15 51.3 -0.5**
AAK Ala-Archa 44.77 310 LR LR 05 38 21.7
comp=Z,106nm,18.9s,baz=101,slow=41
KURK Kurchatov 44.78 322 P **P 05 15 55.5 +0.9**
KURK IAmb IAmb 05 15 58.4
comp=Z,12nm,0.8s
KURBB Kurchatov Arra 44.79 322 P **P 05 15 55.4 +0.7**
comp=Z,6.6nm,0.6s,baz=119,slow=7.5,SNR=35
comp=Z,6.6nm,0.6s
MTSU Mount Surprise 44.84 149 P **P 05 15 54.7 -0.7**
comp=Z,60nm,0.9s
QIS Mount Isa 44.92 156 P **P 05 15 53.9 -2.2**
comp=Z,76nm,0.8s
QIS Mount Isa 44.92 156 P **P 05 15 55.4 -0.7**
AS31 Alice Springs 46.01 164 P **P 05 16 02.7 -1.9**
comp=Z,6.2nm,0.8s
AS31 Alice Springs 46.01 164 **P 05 16 03.7 -0.9**
ASAR Alice Springs 46.01 164 **P 05 16 03.2 -1.4**
ASAR Alice Springs 46.01 164 P **P 05 16 03.4 -1.2**
comp=Z,12nm,0.8s,baz=341,slow=7.5,SNR=79
ASAR PcP **PcP 05 17 39.6 -0.3**
comp=Z,2.2nm,0.9s,baz=338,slow=3.3,SNR=2.2
ASAR ScP **ScP 05 21 25.1 -0.2**
comp=Z,0.3nm,0.3s,baz=350,slow=4.7,SNR=2.0
comp=Z,12nm,0.8s
AS01 Alice Springs 46.02 164 P **P 05 16 04.2 -0.5**
WRKA Warakurna 46.24 172 P **P 05 16 05.0 -1.5**
comp=Z,12nm,1.1s
GAR Garm 47.24 304 P **P 05 16 13.8 -0.5**
GAR IAmb IAmb 05 16 40.1
comp=Z,22nm,1.2s
GAR PcP **PcP 05 17 44.4 +0.1**
CTAO Charters Tower 47.45 148 P **P 05 16 15.4 -0.5**
CTAO PcP **PcP 05 17 45.9 +0.8**
MEEK Meekatharra 47.46 184 P **P 05 16 14.3 -1.7**
comp=Z,28nm,1.5s
TATA Tatamba Isabel 47.57 124 P **P 05 16 17.1 +0.1**
KKAR Karatay Array 47.73 310 P **P 05 16 17.0 -0.8**
HNR Honiara 48.33 125 LR LR 05 34 43.6
comp=Z,28nm,19.2s,baz=236,slow=34
MORW Morawa 50.08 186 P **P 05 16 34.5 -1.4**
comp=Z,39nm,0.8s
MORW Morawa 50.08 186 **P 05 16 35.2 -0.7**
MORW Morawa 50.08 186 P **P 05 16 35.6 -0.3**
BVAR Borovoye Array 50.37 322 P **P 05 16 38.7 +0.8**
comp=Z,3.1nm,0.5s,baz=106,slow=9.9,SNR=14
BVAR ScP **ScP 05 21 42.5 -1.0**
comp=Z,2.2nm,0.9s,baz=123,slow=5.5,SNR=5.5
BVAR LR LR 05 38 41.5
comp=Z,57nm,18.3s,baz=69,slow=37
comp=Z,3.1nm,0.5s
TIXI Tiksi 50.82 3 LR LR 05 41 27.1
comp=Z,90nm,18.2s,baz=200,slow=40
BLDU Ballidu 51.55 185 P **P 05 16 43.4 -3.5**
comp=Z,19nm,0.9s
BLDU Ballidu 51.55 185 P **P 05 16 46.7 -0.2**
INKA Innaminka 51.90 158 **P 05 16 49.5 0.0**
QLP Quilpie 52.16 154 P **P 05 16 49.6 -2.0**
comp=Z,48nm,0.9s
KLBR Kellerberrin 52.44 184 P **P 05 16 51.6 -1.9**
comp=Z,88nm,0.8s
KLBR Kellerberrin 52.44 184 P **P 05 16 54.0 +0.5**
NWAO Narrogin (SRO) 53.80 185 P **P 05 17 02.1 -1.3**
comp=Z,60nm,1.0s
NWAO Narrogin (SRO) 53.80 185 **P 05 17 03.4 -0.1**
NWAO Narrogin (SRO) 53.80 185 P **P 05 17 03.9 +0.4**
NWAO Narrogin (SRO) 53.80 185 P **P 05 17 03.7 +0.2**
BBOO Buckleboo 55.28 165 P **P 05 17 12.6 -1.6**
comp=Z,71nm,0.8s
BBOO Buckleboo 55.28 165 **P 05 17 14.0 -0.2**
BBOO Buckleboo 55.28 165 P **P 05 17 14.2 0.0**
AB31 Akbulak array 55.94 316 P **P 05 17 19.2 +0.5**
AB31 IAmb IAmb 05 17 23.0
comp=Z,11nm,1.4s
ABKAR Akbulak array 55.94 316 P **P 05 17 19.4 +0.7**
STKA Stephens Creek 55.98 159 P **P 05 17 16.9 -2.3**
comp=Z,167nm,1.4s
STKA Stephens Creek 55.98 159 **P 05 17 18.8 -0.5**
STKA Stephens Creek 55.98 159 P **P 05 17 18.2 -1.0**
comp=Z,23nm,0.6s,baz=338,slow=7.2,SNR=56
comp=Z,23nm,0.6s
STKA Stephens Creek 55.98 159 P **P 05 17 19.1 -0.1**
HTT Hallett 56.62 163 P **P 05 17 21.9 -1.8**

comp=Z,6.9nm,1.7s
HTT Hallett 56.62 163 P P 05 17 23.9 +0.1
CMSA Cobar Meteorol 57.14 155 P P 05 17 26.1 -1.4
comp=Z,26nm,2.3s
AKTO Aktyubinsk 57.31 317 LR LR 05 41 25.7
comp=Z,73nm,19.2s,baz=344,slow=35
ARTI Arti 57.95 324 P 05 17 33.6 +0.7
ARTI Arti 57.95 324 LR LR 05 43 26.5
comp=Z,70nm,19.8s,baz=80,slow=37
DZM Mont Dzumac 61.24 132 eLR LR 05 36 07.8
comp=Z,117nm,23.6s
DZM Mont Dzumac 61.24 132 P P 05 17 56.4 +0.3
DZM Mont Dzumac 61.24 132 P P 05 17 55.6 -0.4
TOO Toolangi 62.47 159 P P 05 18 05.0 +1.1
KIRV Kirov 63.03 326 LR LR 05 48 02.1
comp=Z,60nm,18.7s,baz=96,slow=38
K13K Kusilvak Mount 64.04 30 P P 05 18 14.8 +0.8
baz=266
G15K Niukluk 64.55 27 P P 05 18 18.7 +1.5
baz=265
L14K Kuka Creek 64.95 31 P P 05 18 21.2 +1.3
L14K Kuka Creek 64.95 31 P P 05 18 21.4 +1.5
baz=268
D17K Noatak River 65.17 24 P P 05 18 22.7 +1.5
baz=265
C17K DeLong Mountai 65.21 23 P P 05 18 22.8 +1.2
baz=264
M14K Bethel 65.28 32 P P 05 18 23.0 +0.9
M14K IAmb IAmb 05 18 24.3
comp=Z,11nm,0.8s
M14K Bethel 65.28 32 P P 05 18 23.0 +0.9
baz=269
N14K Kuskokwak Cree 65.41 33 P P 05 18 23.8 +1.0
baz=270
K15K Wolf Creek Mou 65.52 30 P P 05 18 24.4 +0.8
K15K Wolf Creek Mou 65.52 30 P P 05 18 24.5 +0.8
baz=269
L15K Ungalak Mounta 65.53 31 P P 05 18 24.6 +0.9
baz=269
O14K Tigvukauivet M 65.62 33 P P 05 18 25.3 +1.0
baz=270
B18K Kokolik River 65.79 22 P P 05 18 26.5 +1.3
baz=265
F17K Baldwin Pennin 65.80 25 P P 05 18 26.4 +1.1
baz=267
M15K Kasigluk River 65.91 32 P P 05 18 27.1 +1.0
baz=270
I17K Unalakleet 65.94 28 P P 05 18 27.3 +1.1
baz=269
C18K Utukok River 65.95 23 P P 05 18 27.4 +1.0
baz=266
J16K Anvik River 65.97 29 P P 05 18 27.5 +1.1
baz=269
G17K Kiwalik Mounta 66.00 26 P P 05 18 27.6 +0.9
baz=268
E18K Tukpahlearik C 66.10 24 P P 05 18 28.5 +1.2
baz=267
A19K Wainwright 66.11 21 P P 05 18 28.4 +1.2
baz=265
N15K Kwethluk River 66.21 32 P P 05 18 28.6 +0.5
baz=271
H17K Granite Mounta 66.30 27 P P 05 18 29.4 +0.9
baz=269
F18K Selawik 66.44 25 P P 05 18 30.5 +1.1
baz=268
L16K Owhat River 66.49 31 P P 05 18 30.8 +1.0
baz=271
C19K Lookout Ridge 66.56 23 P P 05 18 31.3 +1.1
baz=267
J17K VABM Dome 66.65 29 P P 05 18 31.7 +0.9
baz=270
M16K Timber Creek 66.75 31 P P 05 18 32.2 +0.7
baz=271
G18K Tagagawik 66.83 26 P P 05 18 33.2 +1.2
baz=270
N16K Nishlik Lake 66.86 32 P P 05 18 33.1 +0.9
baz=272
GNI Garni 66.92 306 LR LR 05 50 54.6
comp=Z,27nm,21.9s,baz=86,slow=39
K17K Iditarod 67.02 30 P P 05 18 34.1 +0.9
baz=271
L17K Donlin 67.03 30 P P 05 18 34.3 +1.0
baz=272
D19K Kuna River 67.07 23 P P 05 18 34.6 +1.1
baz=269
F19K Shaleruckik Mo 67.19 25 P P 05 18 35.3 +1.1
baz=270
O16K Kokwok River B 67.23 33 P P 05 18 35.5 +1.0
baz=273
CHGN Chignik 67.26 37 P P 05 18 35.4 +0.6
baz=274
E19K Redstone River 67.40 24 P P 05 18 37.0 +1.5
baz=270
MSVF Nonsavu 67.42 121 P P 05 18 36.9 +0.4
MSVF IAmb IAmb 05 18 39.6
comp=Z,11nm,1.0s
B20K Meade River 67.44 22 P P 05 18 37.0 +1.3
baz=269
M17K Holitna River 67.47 31 P P 05 18 37.3 +1.3
baz=273
G19K Purcell Mounta 67.47 26 P P 05 18 37.5 +1.5
baz=271
GCSA Galena City Sc 67.59 27 P P 05 18 38.3 +1.6
baz=272
D20K Etivluk River 67.63 23 P P 05 18 38.0 +1.0
baz=270
N17K Nushagak Hills 67.64 32 P P 05 18 37.1 0.0
N17K IAmb IAmb 05 18 39.8
comp=Z,9.5nm,0.9s
N17K Nushagak Hills 67.64 32 P P 05 18 38.0 +0.9
baz=273
J18K Innoko River 67.72 29 P P 05 18 38.4 +0.8
baz=272
O17K Koliganek Bris 67.73 33 P P 05 18 38.4 +0.7
baz=274
H19K Roundabout Mou 67.75 26 P P 05 18 38.7 +1.0
baz=272,SNR=5.5
KBZ Khabaz 67.76 310 P P 05 18 40.1 +2.0
comp=Z,1.6nm,0.8s,baz=42,slow=12,SNR=2.0
KBZ LR LR 05 51 18.1
comp=Z,45nm,20.9s,baz=60,slow=38
comp=Z,1.6nm,0.8s
L18K Granite Mounta 67.79 30 P P 05 18 39.0 +0.9
L18K IAmb IAmb 05 18 41.0
comp=Z,5.6nm,0.7s
L18K Granite Mounta 67.79 30 P P 05 18 39.2 +1.2
baz=273
E20K Nigu River 67.79 24 P P 05 18 38.7 +0.7
baz=271,SNR=8.7
F20K Avaraart Lake 68.00 25 P P 05 18 40.4 +1.2
baz=272
Q16K King Salmon 68.03 34 P P 05 18 40.2 +0.6
baz=274
P17K Kvichak River 68.11 33 P P 05 18 40.8 +0.7
baz=274
A22K Sinclair Lake 68.17 21 P P 05 18 41.3 +1.0
baz=271
J19K Poorman 68.17 28 P P 05 18 41.4 +0.9
baz=273
M18K Stony River 68.24 31 P P 05 18 41.9 +1.0
baz=274
C21K Knifeblade Rid 68.28 23 P P 05 18 42.0 +1.0
baz=272
B21K Ikpikpuk River 68.32 22 P P 05 18 42.2 +1.0
baz=272
H20K Anotleneega Mo 68.41 26 P P 05 18 42.8 +0.9
baz=273,SNR=5.7
Q17K Contact Creek 68.47 34 P P 05 18 43.3 +0.7
baz=275
E21K Kilik River 68.60 23 P P 05 18 44.1 +1.0
baz=273
I20K Naaghedeneel 68.62 27 P P 05 18 43.7 +0.6
I20K Naaghedeneel 68.62 27 P P 05 18 44.3 +1.1
baz=274
L19K White Mountain 68.65 30 P P 05 18 44.5 +1.1
baz=274
B22K Teshekpuk Lake 68.70 21 P P 05 18 44.9 +1.3
baz=273
P18K Big Mountain, 68.71 33 P P 05 18 44.6 +0.7
baz=275
J20K Nowinta River 68.81 28 P P 05 18 45.4 +1.0
baz=274,SNR=6.2
IMAR Indian Mountai 68.84 26 P P 05 18 45.7 +1.2
F21K Alatna River 68.86 25 P P 05 18 45.6 +0.9
baz=274
M19K Big River Lodg 68.89 30 P P 05 18 45.8 +0.8
baz=275
Q18K Katmai Hardscr 68.89 34 P P 05 18 45.1 -0.1
baz=276
G21K Allakaket 68.90 25 P P 05 18 45.6 +0.7
baz=274,SNR=5.1
K20K Telida 68.91 29 P P 05 18 46.0 +1.0
baz=275
N19K Bonanza Creek 68.94 31 P P 05 18 46.1 +0.7
baz=275
D22K Ayikyak River 69.05 23 P P 05 18 46.6 +0.8
baz=274,SNR=5.3
L20K Farewell, AK 69.07 30 P P 05 18 46.9 +0.8
baz=275
O19K Port Alsworth 69.09 32 P P 05 18 46.9 +0.7
baz=276
H21K Melozitna Rive 69.26 26 P P 05 18 48.0 +0.9
baz=275,SNR=11
F22K John River 69.34 24 P P 05 18 48.7 +1.1
baz=276
M20K Styx River 69.48 30 P P 05 18 49.6 +0.8
baz=276
CHUM Lake Minchumin 69.64 28 P P 05 18 50.6 +1.2
baz=276
RAYN Ar Rayn 69.65 288 P
RAYN IAmb IAmb 05 18 53.4
comp=Z,16nm,1.4s
G22K Bettles 69.66 25 P P 05 18 50.9 +1.4
baz=276
P19K Oil Pt 69.69 33 P P 05 18 50.9 +1.0
baz=277
C23K Itkillik River 69.70 22 P P 05 18 51.2 +1.4
baz=275
D23K Nanushuk River 69.76 23 P P 05 18 51.0 +0.8
baz=276
PPLA Purkeypile 69.81 29 P P 05 18 51.3 +0.6
baz=277
H22K Ishtalitna Cre 69.82 26 P P 05 18 51.4 +0.7
baz=276
O20K Slope Mountain 69.94 32 P P 05 18 52.1 +0.5
baz=277
OHAK Old Harbor 69.97 35 P P 05 18 52.3 +0.7
SPCR Spurr Chakacha 70.00 31 P P 05 18 52.2 +0.3
baz=277
N20K Mount Spurr 70.00 31 P P 05 18 52.3 +0.4
baz=277
COLD Coldfoot 70.13 24 IAmb IAmb 05 19 28.5
comp=Z,8.0nm,0.8s
COLD Coldfoot 70.13 24 P P 05 18 53.2 +0.7
baz=277
MLY Manley 70.18 27 IAmb IAmb 05 18 55.6
comp=Z,6.4nm,0.9s
MLY Manley 70.18 27 P P 05 18 53.4 +0.5
baz=277,SNR=12
BPAW Bear Paw Mtn. 70.19 28 IAmb IAmb 05 18 55.0
comp=Z,4.7nm,0.7s
BPAW Bear Paw Mtn. 70.19 28 P P 05 18 53.6 +0.6
baz=277,SNR=5.7
TOLK Toolik Lake Re 70.20 23 P P 05 18 53.4 +0.5
baz=277,SNR=5.2
SKT Skwentna 70.22 30 P P 05 18 53.2 0.0
baz=277
Q20K Shuyak Island 70.25 34 P P 05 18 53.2 -0.2
baz=278
G23K Bananza Creek 70.27 25 P P 05 18 53.9 +0.5
baz=277
KDAK Kak Island 70.27 35 P P 05 18 52.9 -0.6
comp=Z,6.2nm,0.6s,baz=258,slow=1.6,SNR=9.4
comp=Z,6.2nm,0.6s
KDAK Kodiak Island 70.27 35 P P 05 18 53.6 +0.1
baz=278
H23K Yukon River 70.58 26 P P 05 18 55.8 +0.5
baz=278
TRF Thorofare Moun 70.59 28 P P 05 18 55.7 +0.1
baz=278
SUA Susitna One 70.67 31 IAmb IAmb 05 18 57.9
comp=Z,9.7nm,0.9s
SUA Susitna One 70.67 31 P P 05 18 56.3 +0.3
baz=278
I23K Minto, Yukon-K 70.75 27 P P 05 18 56.7 +0.5
baz=278
CUT Chulitna 70.75 30 P P 05 18 56.6 +0.3
baz=278
M22K Willow 70.92 30 P P 05 18 57.5 +0.2
baz=279
BRSE Bradley Lake S 70.93 32 P P 05 18 57.6 +0.2
baz=279
NEA2 Nenana 70.95 27 IAmb IAmb 05 18 59.7
comp=Z,7.9nm,0.7s
NEA2 Nenana 70.95 27 P P 05 18 57.8 +0.2
baz=279,SNR=12
MCK McKinley 71.15 28 IAmb IAmb 05 19 00.6
comp=Z,7.9nm,0.8s
MCK McKinley 71.15 28 P P 05 18 59.0 +0.2
baz=279,SNR=5.7
RND Reindeer 71.23 28 IAmb IAmb 05 19 00.8
comp=Z,14nm,0.7s
H24K Noodor Dome 71.25 26 P P 05 18 59.9 +0.5
baz=279,SNR=5.4
G24K Hadweenzic Riv 71.27 25 P P 05 19 00.2 +0.8
baz=279,SNR=9.3
O22K Cooper Landing 71.31 32 P P 05 19 00.0 +0.3
baz=280
PMR Palmer 71.41 30 P
PMR IAmb IAmb 05 19 01.9
comp=Z,13nm,1.4s
PMR Palmer 71.41 30 P P 05 19 00.8 +0.5
baz=280
WAT1 Susitna Watana 71.47 29 P P 05 19 01.4 +0.7
baz=280
KNK Knik Glacier 71.76 30 IAmb IAmb 05 19 06.4
comp=Z,23nm,1.4s
KNK Knik Glacier 71.76 30 P P 05 19 02.9 +0.4
baz=280
G25K Bearman Lake 71.80 25 P P 05 19 03.1 +0.6
baz=281,SNR=6.0
ILAR Eielson Array 71.85 27 P P 05 19 02.5 -0.5
comp=Z,1.4nm,0.7s,baz=286,slow=6.3,SNR=18
comp=Z,1.4nm,0.7s
WAT6 Susitna Watana 71.88 29 P P 05 19 03.4 0.0
baz=280,SNR=7.2
HDA Harding Lake 71.89 27 P P 05 19 04.0 +0.9
baz=281
PWL Port Wells 71.92 31 IAmb IAmb 05 19 04.9
comp=Z,11nm,0.8s
PWL Port Wells 71.92 31 P P 05 19 04.0 +0.6
baz=281,SNR=6.0
DHY Denali Highway 71.95 29 P P 05 19 04.4 +0.7
baz=281
H25L Birch Creek 72.00 25 P P 05 19 04.5 +0.7
baz=281
M23K Glacier View 72.03 30 P P 05 19 04.5 +0.4
baz=281
SCM Sheep Creek Mo 72.21 30 P P 05 19 05.3 +0.1
SCM Sheep Creek Mo 72.21 30 P P 05 19 05.3 +0.1
baz=281,SNR=6.4
PRP Porcupine Dome 72.27 26 P P 05 19 05.9 +0.4
baz=282
GLI Glacier Island 72.51 31 P P 05 19 07.0 +0.1
baz=282
K24K Donnelly Dome 72.51 28 P P 05 19 07.1 +0.2
baz=282,SNR=6.9
J25K Salcha River, 72.52 27 P P 05 19 06.3 -0.7
baz=282
ARCES ARCESS Array B 72.60 339 P P 05 19 06.5 -0.9
ARCES IAmb IAmb 05 19 26.2
comp=Z,32nm,1.4s
ARCES ARCESS Array B 72.60 339 P P 05 19 06.9 -0.4
comp=Z,3.4nm,0.8s,baz=74,slow=5.2,SNR=5.9
comp=Z,3.4nm,0.8s
SPB2 Spitsbergen Ar 72.64 348 P P 05 19 08.4 +1.0
SPITS Spitsbergen Ar 72.64 348 P P 05 19 07.7 +0.3
comp=Z,3.1nm,0.5s,baz=92,slow=9.2,SNR=11
comp=Z,3.1nm,0.5s
M24K Tolsona, Glenn 72.69 29 P P 05 19 08.3 +0.3
baz=282
RIDG Independent Ri 72.93 28 IAmb IAmb 05 19 12.0
comp=Z,10nm,1.2s
RIDG Independent Ri 72.93 28 P P 05 19 09.7 +0.3
baz=283
KLU Klutina 72.94 30 IAmb IAmb 05 19 11.1
comp=Z,5.9nm,0.6s
KLU Klutina 72.94 30 P P 05 19 10.0 +0.4
baz=282
DIV Divide 73.09 30 IAmb IAmb 05 19 12.6
comp=Z,7.0nm,0.7s
HARP HAARP 73.09 29 P P 05 19 10.6 +0.2
baz=283
D27M Malcolm River 73.14 22 P P 05 19 10.6 0.0
baz=284
EYAK Cordova Ski Ar 73.23 31 P P 05 19 11.1 -0.1
EYAK IAmb IAmb 05 19 24.4
comp=Z,10.0nm,1.1s
EYAK Cordova Ski Ar 73.23 31 P P 05 19 11.6 +0.5
EYAK Cordova Ski Ar 73.23 31 P P 05 19 11.2 +0.1
baz=283
SCRK Sand Creek 73.25 27 P P 05 19 11.4 0.0
baz=283,SNR=6.3
I26K Coal Creek Min 73.28 26 P P 05 19 11.6 +0.2
baz=284,SNR=5.7
J26L Joseph Creek 73.30 27 P P 05 19 12.1 +0.4
baz=284,SNR=7.8
G27K Doyon Strip 73.51 24 P P 05 19 13.6 +0.9
baz=285
N25K Chitina, Valde 73.53 30 P P 05 19 13.5 +0.4
baz=284
BMRM Bremner River 73.68 30 P P 05 19 14.2 +0.3
baz=284
H27K Steamboat Moun 73.70 25 P P 05 19 14.5 +0.6
baz=285
L26K Log Cabin Wild 73.75 28 P P 05 19 14.6 +0.3
baz=284
RAGM Ragged Mountai 73.78 31 IAmb IAmb 05 19 18.0
comp=Z,21nm,1.2s
E28M Babbage River 73.81 22 P P 05 19 15.1 +0.6
baz=286
I27K Kandik River 73.83 25 P P 05 19 15.4 +0.7
baz=285
GLB Gilahina Butte 73.94 30 IAmb IAmb 05 19 54.9
comp=Z,13nm,1.3s
F28M Old Crow 73.96 23 P P 05 19 16.1 +0.7
baz=286
KAIM Kayak Island 74.02 32 P P 05 19 16.5 +0.8
baz=284
K27K Chicken 74.05 27 P P 05 19 16.8 +0.9
baz=285
M26K Nabesna, AK 74.07 29 P P 05 19 16.4 +0.3
baz=285,SNR=9.9
EGAK Eagle 74.24 26 P P 05 19 17.2 +0.2
MCARA McCarthy VSAT 74.32 30 P P 05 19 18.2 +0.7
baz=285
FINES FINESS Array B 74.36 330 P P 05 19 18.7 +1.0
FINES FINESS Array B 74.36 330 P P 05 19 17.3 -0.4
comp=Z,3.7nm,0.8s,baz=34,slow=6.2,SNR=7.4
FINES LR LR 05 52 52.8
comp=Z,83nm,21.0s,baz=61,slow=36
comp=Z,3.7nm,0.8s
L27K Beaver Creek, 74.41 28 P P 05 19 18.7 +0.6
baz=285,SNR=9.7
CRQM Cirque 74.42 31 IAmb IAmb 05 19 20.1
comp=Z,9.9nm,0.9s
BCAR Beaver Creek A 74.43 28 P 05 19 19.0 +0.8
CRQE Cirque 74.45 31 P P 05 19 18.7 +0.2
baz=285
E29M Blow River 74.45 22 P P 05 19 19.0 +0.9
baz=288
BGLC Bering Glacier 74.52 31 P P 05 19 19.5 +0.9
baz=285
I28M Miner Creek 74.55 25 P P 05 19 19.5 +0.6
baz=286
M27K Edge Creek, AK 74.58 29 P P 05 19 19.6 +0.4
baz=286
G29M Pine Creek 74.86 24 P P 05 19 21.0 +0.5
baz=288
H29M Whitestone 74.94 24 P P 05 19 21.7 +0.7
baz=288
BVCY Beaver Creek 75.02 29 P P 05 19 22.1 +0.5
baz=286
DAWY Dawson 75.17 27 P P 05 19 22.8 +0.3
baz=287,SNR=6.8
CTG Chitna Glacier 75.22 30 P P 05 19 23.1 +0.2
baz=286,SNR=5.7
CTGM Chitina Glacie 75.22 30 IAmb IAmb 05 19 25.4
comp=Z,8.2nm,0.7s
I29M Ogilvie Camp, 75.22 25 P P 05 19 23.4 +0.7
baz=288
BRTR Keskin Array B 75.36 307 P P 05 19 24.2 +0.1
comp=Z,0.8nm,0.6s,baz=38,slow=4.7,SNR=5.1
comp=Z,0.8nm,0.6s
YUK3 Moose Creek 75.39 29 P P 05 19 24.1 +0.1
baz=287
LOGN Logan Glacier 75.41 30 IAmb IAmb 05 19 58.4
comp=Z,6.2nm,0.9s
F30M Barrier River 75.45 23 P P 05 19 24.5 +0.5
baz=290
AKASG Malin Array Be 75.48 319 P P 05 19 24.1 -0.3
comp=Z,1.7nm,0.6s,baz=63,slow=5.7,SNR=7.6
AKASG LR LR 05 55 32.3
comp=Z,57nm,18.4s,baz=56,slow=38
comp=Z,1.7nm,0.6s
G30M tAoh Zraii Nji 75.50 23 P P 05 19 24.9 +0.5
baz=289
EPYK Eagle Plains 75.52 24 P P 05 19 24.7 +0.3
baz=289
J29N Klondike Camp 75.54 26 P P 05 19 25.1 +0.5
baz=288
PINM Pinnacle 75.98 31 P P 05 19 27.5 +0.3
baz=288
INK Inuvik 76.01 22 P P 05 19 26.8 -0.3
comp=Z,3.0nm,1.0s,baz=290,slow=6.6,SNR=3.1
comp=Z,3.0nm,1.0s
INK Inuvik 76.01 22 P P 05 19 28.0 +1.0
baz=291
L29M L29M 76.01 27 P P 05 19 27.8 +0.5
baz=289,SNR=7.6
K29M Barlow Dome 76.03 27 P P 05 19 27.9 +0.5
baz=289
I30M Mount Dempster 76.04 25 P P 05 19 27.8 +0.4
baz=290
M29M Somme Creek 76.08 28 P P 05 19 28.1 +0.3
baz=288,SNR=11
G31M Satah River 76.25 23 P P 05 19 28.6 +0.2
baz=291
F31M Tsiigehtchic 76.25 23 P P 05 19 28.7 +0.3
baz=291
J30M Hart River 76.28 26 P P 05 19 29.3 +0.5
baz=290
YUK4 Talbot Arm 76.34 29 P P 05 19 29.8 +0.3
baz=289
PNL Peninsula 76.53 31 P P 05 19 30.6 +0.4
baz=288
YUK6 Outpost Mounta 76.61 30 P P 05 19 31.3 +0.4
baz=289
H31M Peel River 76.62 24 P P 05 19 31.3 +0.6
baz=291
O29M Mount Kennedy 76.72 30 P P 05 19 31.7 +0.3
baz=289
M30M Minto, Yukon 76.76 28 P P 05 19 32.0 +0.5
baz=290,SNR=6.7
N30M Aishikik Lake 77.02 29 P P 05 19 33.4 +0.4
baz=290,SNR=8.1
A36M Sachs Harbour 77.02 17 P P 05 19 33.7 +1.0
baz=298
HYT Haines Junctio 77.04 30 P P 05 19 33.9 +0.6
baz=290,SNR=5.9
P29M Windy Craggy 77.34 31 P P 05 19 35.3 +0.5
baz=290
P30M Million Dollar 77.54 30 P P 05 19 36.6 +0.6
baz=290
N31M Braeburn, Yuko 77.59 29 P P 05 19 36.9 +0.7
baz=291
O30N Mendenhall 77.71 29 P P 05 19 37.4 +0.5
baz=291,SNR=6.7
M31M Drury Creek, Y 77.94 28 P P 05 19 38.8 +0.6
baz=292,SNR=6.0
PLBC Pleasant Camp 78.05 31 P P 05 19 39.4 +0.7
baz=291
WHY Whitehorse 78.30 29 IAmb IAmb 05 20 09.7
comp=Z,14nm,1.1s
WHY Whitehorse 78.30 29 P P 05 19 41.0 +0.7
baz=292,SNR=5.3
SKAG Skagway 78.54 30 IAmb IAmb 05 19 44.6
comp=Z,11nm,1.1s
SKAG Skagway 78.54 30 P P 05 19 42.3 +0.9
baz=292
S31K Pelican 78.66 32 P P 05 19 42.9 +0.9
baz=291
BUR08 Bucovina Ar. S 78.91 317 P P 05 19 45.8 +2.0
N32M Quiet Lake 78.93 28 P P 05 19 44.3 +0.8
baz=293
MMPY Sheldon Lake, 79.11 27 P P 05 19 45.5 +0.9
baz=295
MLR Muntele Rosu 79.12 315 LR LR 05 59 11.9
comp=Z,58nm,19.8s,baz=91,slow=39
P32M Atlin 79.25 30 P P 05 19 46.3 +0.9
baz=293
R32K Eaglecrest 79.38 31 P P 05 19 47.0 +1.0
baz=293
P33M Teslin, Yukon 79.42 29 P P 05 19 47.3 +0.9

baz=294
SIT Sitka 79.45 33 P P 05 19 47.2 +0.9
baz=292
KWP Kalwaria Pacla 79.80 319 *e*P P 05 19 51.0 +2.5
Q32M Nakina River 80.19 30 P P 05 19 51.3 +0.6
baz=294
HFS Hagfors 80.50 331 P P 05 19 51.4 -0.6
comp=Z,0.9nm,0.4s,baz=106,slow=8.2,SNR=7.5
comp=Z,0.9nm,0.4s
R33M Jennings River 80.61 30 P P 05 19 53.6 +0.8
baz=295
TGTN Hyland Airport 80.86 27 P P 05 19 55.0 +1.0
baz=297
U33K Whale Pass 80.94 33 P P 05 19 55.6 +1.2
baz=294
S34M Telegraph Cree 81.17 31 P P 05 19 57.0 +1.3
baz=295
NB2 NORSAR Subarra 81.19 333 P P 05 19 55.5 -0.2
comp=Z,0.4nm,0.4s,baz=63,slow=5.6
NOA NORSAR Array B 81.19 333 P P 05 19 55.3 -0.5
comp=Z,0.7nm,0.6s,baz=60,slow=4.9,SNR=3.9
comp=Z,0.7nm,0.6s
CRAG Craig 81.21 34 P P 05 19 57.2 +1.3
baz=294
WRAK Wrangell Islan 81.21 33 P P 05 19 57.3 +1.5
baz=295
WTLY Watson Lake, Y 81.28 29 P P 05 19 57.7 +1.4
baz=297
OJC Ojcow 81.34 320 *e*P P 05 19 59.0 +2.3
OJC Ojcow 81.34 320 P P 05 19 58.1 +1.4
NIE Niedzica 81.34 320 *e*P P 05 19 59.6 +2.8
DLBC Dease Lake 81.47 30 P P 05 19 57.1 -0.2
comp=Z,9.4nm,0.6s,baz=27,slow=2.3,SNR=4.4
comp=Z,9.4nm,0.6s
DLBC Dease Lake 81.47 30 P P 05 19 58.7 +1.3
baz=296
WRGLY Wrigley 81.98 24 P P 05 20 01.2 +1.5
baz=301
T35M Bob Quinn 82.01 32 P P 05 20 01.3 +1.1
baz=296
MORC Moravsky Berou 82.85 321 *e*P P 05 20 06.2 +1.5
JAVC Velka Javorina 83.15 320 *e*P P 05 20 08.9 +2.7
VRAC Vranov 83.61 320 LR LR 05 58 35.8
comp=Z,55nm,19.4s,baz=67,slow=36
VRAC Vranov 83.61 320 *e*P P 05 20 09.9 +1.4
KRUC Moravsky 83.83 320 *e*P P 05 20 11.3 +1.7
FNA Florina 83.90 311 P 05 20 10.7 +0.5
FNA IAmb IAmb 05 20 11.9
comp=Z,6.2nm,0.9s
GERES GERESS Array B 85.52 321 P P 05 20 19.3 +1.0
comp=Z,0.8nm,0.5s,baz=54,slow=3.4,SNR=8.3
comp=Z,0.8nm,0.5s
YKA Yellowknife Ar 85.73 23 P P 05 20 18.3 -0.6
comp=Z,0.6nm,0.5s,baz=314,slow=5.0,SNR=8.8
comp=Z,0.6nm,0.5s
CASY Casey 87.43 184 P 05 20 27.5 +0.7
CASY IAmb IAmb 05 20 28.2
comp=Z,7.4nm,0.8s
B08A Colville Reser 92.13 36 P P 05 20 49.5 0.0
B08A IAmb IAmb 05 21 32.3
comp=Z,4.5nm,1.1s
PPT2 Papeete2 95.10 107 *e*LR LR 05 51 41.5
comp=Z,70nm,30.5s
FRB Frobisher Bay 95.14 5 LR LR 06 07 43.8
comp=Z,42nm,19.0s,baz=340,slow=38
TBI Tubuai 97.17 112 *e*LR LR 05 52 42.7
comp=Z,295nm,31.0s
YNE Yellowstone No 99.23 34 P Pdif 05 21 21.9 -0.3
YNE IAmb IAmb 05 21 35.5
comp=Z,3.4nm,0.7s
TAOE Nuku Hiva Isla 100.79 95 *e*LR LR 05 54 11.3
comp=Z,142nm,27.4s
TXAR Lajitas Array 113.61 43 PKiKP PKiKP 05 26 17.1 -1.5
comp=Z,0.2nm,0.6s,baz=147,slow=0.9,SNR=4.9
TROLL Troll, Antarti 118.68 198 ⇑PKPdf PKPdf 05 26 26.3 -0.8
comp=Z,93nm,0.7s
VNA2 Neumayer--Watz 122.01 198 ⇑PKPdf PKPdf 05 26 32.5 -0.8
comp=Z,4.1nm,0.6s,baz=136,slow=3.7
VNA1 Neumayer--Stat 122.39 198 ⇑PKPdf PKPdf 05 26 33.3 -0.7
comp=Z,2.0nm,0.8s
VNA3 Neumayer Olymp 122.46 197 ⇑PKPdf PKPdf 05 26 33.4 -0.9
comp=Z,1.7nm,0.8s

*AEIC **09** 05:09:35.0±2.9, 51°.41N±0°.05×178°.66W±0°.06, h11km±6km, Error ellipse: s-maj=8.2km s-min=4.6km az=157.0*
NEIC 09 05:09:33.3±1.2, 51°.27N±0°.05×178°.66W±0°.07, h15km±3km, mb3.7/18, ML2.9(AEIC), Error ellipse: s-maj=7.7km s-min=4.7km az=140.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.30**	**341**		Pg	05 09 39.4	-0.2
GAKI					Sg	05 09 42.9	-1.1
GALAA	**Gareloi Lava P**	**0.49**	**352**		Pg	05 09 43.4	+0.2
GAEA	**Gareloi East**	**0.51**	**354**		Pg	05 09 43.7	+0.1
GAEA					Sg	05 09 50.0	-0.4
GANE	**Gareloi Northe**	**0.55**	**352**		Pg	05 09 44.0	-0.2
GANO	**Gareloi North**	**0.56**	**350**		Pg	05 09 43.9	-0.4
TAFL	**Tanaga Flats**	**0.68**	**44**		Pb	05 09 46.9	+0.1
TAFL					Sb	05 09 56.0	0.0
TASE	**Tanaga Southea**	**0.68**	**34**		Pb	05 09 46.9	-0.1
TASE					Sg	05 09 55.9	+0.1
TANO	**Tanaga North**	**0.72**	**27**		Pb	05 09 47.6	-0.1
TAPA	**Tanaga Point A**	**0.76**	**44**		Pg	05 09 48.1	+0.1
TAPA					Sb	05 09 58.4	+0.1
KIMD	**Kanaga Island**	**1.01**	**61**		Pg	05 09 52.7	-0.2
KIMD					Sg	05 10 06.2	0.0
KIWB	**Kanaga Island**	**1.10**	**58**		Pb	05 09 54.1	0.0
KIKV	**Kanaga Island**	**1.11**	**56**		Pn	05 09 54.2	0.0
KICM	**Kanaga Island**	**1.12**	**54**		Pg	05 09 54.7	-0.2
KIRH	**Kanaga Island**	**1.16**	**57**		Pb	05 09 55.2	+0.1
CEPE	**Semis' Perret**	**1.27**	**304**		Pn	05 09 56.4	-0.1
AMKA	**Amchitka**	**1.29**	**276**		Pn	05 09 56.7	0.0
CEAP	**Semis' Anvil P**	**1.32**	**304**		Pb	05 09 57.5	-0.3
ADK	**Adak**	**1.37**	**63**		Pb	05 09 58.6	-0.1
ADAG	**Mount Adagdak**	**1.46**	**60**		Pb	05 10 00.5	+0.2
ETKA	**Kagalaska Isla**	**1.52**	**66**		Pb	05 10 01.0	-0.3
GSSP	**Great Sitkin S**	**1.75**	**61**		Pb	05 10 04.4	-0.7
GSTD	**Great Sitkin T**	**1.75**	**62**		Pb	05 10 04.5	-0.7
GSMY	**Great Sitkin M**	**1.79**	**63**		Pb	05 10 05.0	-0.9
GSTR	**Great Sitkin T**	**1.81**	**62**		Pb	05 10 05.4	-0.8
GSIG	**Igitkin Island**	**1.84**	**66**		Pb	05 10 05.8	-0.9
LSSE	**Little Sitkin**	**1.85**	**292**		Pb	05 10 05.8	-1.0
LSNW	**Little Sitkin**	**1.90**	**293**		Pb	05 10 06.9	-0.7
ATKA	**Atka Island**	**2.92**	**70**		Pn	05 10 19.7	+0.5
ACHA	**Angle Creek He**	**15.10**	**54**	Pn	Pn	05 13 05.2	-0.8
ACHA				IAmb	IAmb	05 13 23.1	
comp=Z,4.5nm,1.1s							
OHAK	**Old Harbor**	**15.92**	**58**	Pn	Pn	05 13 15.8	-0.8
KDAK	**Kodiak Island**	**16.41**	**56**	Pn	Pn	05 13 22.5	-0.2
KDAK				IAmb	IAmb	05 13 22.8	
comp=Z,7.2nm,0.9s							
CNPM	**China Poot**	**17.52**	**51**		Pn	05 13 36.5	-0.3
CNPM				IAmb	IAmb	05 13 55.2	
comp=Z,7.2nm,1.2s							
O22K	**Cooper Landing**	**18.52**	**49**	P	P	05 13 48.2	-0.6
SEW	**Seward**	**18.54**	**50**	P	P	05 13 47.7	-1.4
SEW				IAmb	IAmb	05 14 04.9	
comp=Z,7.1nm,1.0s							
BPAW	**Bear Paw Mtn.**	**19.38**	**38**	P	P	05 13 56.8	-1.4
RND	**Reindeer**	**19.92**	**41**	P	P	05 14 02.0	-2.3
MCK	**McKinley**	**20.02**	**40**	P	P	05 14 04.7	-0.6
MCK				IAmb	IAmb	05 14 22.3	
comp=Z,2.5nm,1.0s							
SCM	**Sheep Creek Mo**	**20.03**	**46**	P	P	05 14 05.0	-0.4
RAGM	**Ragged Mountai**	**20.93**	**51**	P	P	05 14 12.8	-2.3
RAGM				IAmb	IAmb	05 14 21.1	
comp=Z,4.8nm,0.9s							
BMRM	**Bremner River**	**21.07**	**49**	P	P	05 14 16.2	-0.5
N25K	**Chitina, Valde**	**21.22**	**48**	P	P	05 14 17.1	-1.3
N25K				IAmb	IAmb	05 14 20.0	
comp=Z,2.6nm,0.8s							
EGAK	**Eagle**	**23.57**	**41**	P	P	05 14 42.9	0.0
EGAK				IAmb	IAmb	05 14 58.3	
comp=Z,1.6nm,1.1s							
M29M	**Somme Creek**	**24.22**	**47**	P	P	05 14 48.6	-0.6
M29M				IAmb	IAmb	05 15 05.7	
comp=Z,1.9nm,1.1s							
I28M	**Miner Creek**	**24.26**	**39**	P	P	05 14 48.1	-1.5
K29M	**Barlow Dome**	**24.88**	**44**	P	P	05 14 53.4	-1.8
K29M				IAmb	IAmb	05 14 55.7	
comp=Z,1.7nm,1.1s							
WHY	**Whitehorse**	**25.77**	**52**	P	P	05 15 03.1	-0.2

*IDC **09** 05:18:52.8±2.2, 51°.51N×178°.63W, h0km, mb3.6/4, mbtmp3.7/6, ML3.4/2, Error ellipse: s-maj=54.7km s-min=26.2km az=4.0*
*NEIC **09** 05:18:53.2±1.5, 51°.30N±0°.04×178°.66W±0°.07, h10km±1km, mb3.9/58, ML3.8/10, ML3.3(AEIC), Error ellipse: s-maj=8.2km s-min=6.0km az=316.0*
*AEIC **09** 05:18:54.4±1.9, 51°.43N±0°.05×178°.66W±0°.07, h10km±5km, Error ellipse: s-maj=8.2km s-min=5.1km az=151.0*
ISC 09 05:18:53.0±0.9, 51°.31N±0°.07×178°.67W±0°.03, h10km, n115, σ0°83/116, mb3.8/16, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.26**	**339**		Pg	05 18 58.8	+0.5
GAKI					Sg	05 19 02.3	+0.5
GALAA	**Gareloi Lava P**	**0.45**	**352**		Pb	05 19 02.8	-0.4
GAEA	**Gareloi East**	**0.47**	**354**		Pb	05 19 03.0	-0.4
GASW	**Gareloi Southw**	**0.48**	**346**		Pb	05 19 02.9	-0.6
GASW					Sb	05 19 09.3	-1.4
GANE	**Gareloi Northe**	**0.51**	**352**		Pb	05 19 03.4	-0.7
GANO	**Gareloi North**	**0.52**	**351**		Pb	05 19 03.3	-0.9
TASE	**Tanaga Southea**	**0.65**	**37**		Pb	05 19 06.2	-0.4
TAFL	**Tanaga Flats**	**0.66**	**47**		Pb	05 19 06.0	-0.5
TAFL					Sb	05 19 15.1	-0.6
TANO	**Tanaga North**	**0.69**	**29**		Pb	05 19 06.9	-0.3
TANO					Sb	05 19 16.3	-0.6
TAPA	**Tanaga Point A**	**0.73**	**46**		Pb	05 19 07.4	-0.5
KIMD	**Kanaga Island**	**1.00**	**63**		Pg	05 19 11.8	-0.5
KIWB	**Kanaga Island**	**1.09**	**60**		Pg	05 19 13.4	-0.6
KIWB				IAML		05 19 30.1	
comp=N,2μm,0.5s							
KIWB				IAML		05 19 31.8	
comp=E,1μm,0.4s							
KIKV	**Kanaga Island**	**1.09**	**58**		Pg	05 19 13.3	-0.7
KICM	**Kanaga Island**	**1.10**	**56**		Pg	05 19 13.8	-0.4
KINC	**Kanaga Island**	**1.14**	**57**		Pb	05 19 14.6	-0.3
CEPE	**Semis' Perret**	**1.24**	**303**		Pb	05 19 15.9	-0.6
AMKA	**Amchitka**	**1.28**	**274**		Pn	05 19 15.8	-1.1
CEAP	**Semis' Anvil P**	**1.29**	**303**		Pg	05 19 17.4	-0.4
CETU	**Semis' Tuman**	**1.32**	**300**		Pb	05 19 17.6	-0.2
ADK	**Adak**	**1.36**	**64**		Pn	05 19 17.8	-0.2
ADK	**Adak**	**1.36**	**64**	IAML		05 19 38.1	
comp=E,2μm,0.3s							
ADK				IAML		05 19 39.4	
comp=E,2μm,0.3s							
ADAG	**Mount Adagdak**	**1.45**	**62**		Pn	05 19 19.5	+0.2
ETKA	**Kagalaska Isla**	**1.51**	**68**		Pn	05 19 20.3	+0.2
GSSP	**Great Sitkin S**	**1.74**	**62**		Pn	05 19 23.6	+0.4
GSTD	**Great Sitkin T**	**1.74**	**64**		Pn	05 19 23.7	+0.4
GSMY	**Great Sitkin M**	**1.78**	**65**		Pn	05 19 24.1	+0.3
GSTR	**Great Sitkin T**	**1.80**	**63**		Pn	05 19 25.0	+0.9
LSSE	**Little Sitkin**	**1.83**	**291**		Pn	05 19 25.5	+1.0
GSIG	**Igitkin Island**	**1.84**	**67**		Pn	05 19 25.2	+0.6
LSPA	**Little Sitkin**	**1.84**	**292**		Pn	05 19 25.7	+1.1
LSNW	**Little Sitkin**	**1.87**	**292**		Pn	05 19 25.9	+0.8
ATKA	**Atka Island**	**2.92**	**70**		Pn	05 19 40.7	+1.2
ATKA				IAML		05 20 27.9	
comp=E,214nm,0.6s							
ATKA				IAML		05 20 28.2	
comp=N,332nm,0.9s							
SHEM	**Shemya Is, Ala**	**4.69**	**290**	Pn	Pn	05 20 05.4	+1.6
comp=N,0.4nm,0.3s,baz=101,slow=19,SNR=1.6							
SHEM				Sn	Sn	05 20 57.3	-0.8
comp=N,0.4nm,0.3s,baz=108,slow=20,SNR=1.1							
comp=N,4.0nm,0.3s							
SMY	**Shemya**	**4.69**	**290**	Pn	Pn	05 20 02.8	-0.9
P08K	**Saint George I**	**7.55**	**42**	Pn	Pn	05 20 43.9	+1.0
SPIA	**Saint Paul Isl**	**7.67**	**37**	Pn	Pn	05 20 44.6	0.0
L14K	**Kuka Creek**	**13.36**	**35**	Pn	Pn	05 22 03.4	+0.9
N15K	**Kwethluk River**	**13.67**	**42**	Pn	Pn	05 22 06.4	-0.3
P16K	**Nushagak River**	**14.07**	**49**	Pn	Pn	05 22 14.0	+1.8
O16K	**Kokwok River B**	**14.27**	**46**	Pn	Pn	05 22 16.6	+1.8
CHIR	**Chirikof Islan**	**14.39**	**63**	Pn	Pn	05 22 17.6	+1.1
K15K	**Wolf Creek Mou**	**14.40**	**34**	Pn	Pn	05 22 17.7	+1.0
M16K	**Timber Creek**	**14.60**	**41**	Pn	Pn	05 22 19.4	0.0
L16K	**Owhat River**	**14.79**	**38**	Pn	Pn	05 22 21.9	-0.1
ANM	**Nome**	**14.99**	**23**	Pn	Pn	05 22 25.1	+0.4
ACHA	**Angle Creek He**	**15.09**	**54**	Pn	Pn	05 22 24.4	-1.7
ACHA				IAmb	IAmb	05 22 44.7	
comp=Z,10.0nm,1.4s							
N17K	**Nushagak Hills**	**15.10**	**44**	Pn	Pn	05 22 25.2	-0.9
SII	**Sitkinak Islan**	**15.30**	**60**	Pn	Pn	05 22 28.1	-0.8
N18K	**Kilae Creek**	**15.74**	**45**	Pn	Pn	05 22 34.4	-0.2
N18K				IAmb	IAmb	05 22 45.8	
comp=Z,7.6nm,1.1s							
OHAK	**Old Harbor**	**15.91**	**58**	Pn	Pn	05 22 35.7	-1.0
OHAK				IAmb	IAmb	05 22 36.8	
comp=Z,21nm,1.5s							
Q19K	**Cape Douglas,**	**16.14**	**52**	Pn	Pn	05 22 39.8	0.0
L18K	**Granite Mounta**	**16.16**	**39**	Pn	Pn	05 22 40.2	+0.2
L18K				IAmb	IAmb	05 22 52.5	
comp=Z,6.8nm,1.2s							
KDAK	**Kodiak Island**	**16.39**	**57**	Pn	Pn	05 22 43.1	+0.2
KDAK	**Kodiak Island**	**16.39**	**57**	Pn	Pn	05 22 41.5	-1.4
comp=Z,0.7nm,0.3s,baz=263,slow=7.7,SNR=14							
comp=Z,3.1nm,0.5s							
N19K	**Bonanza Creek**	**16.42**	**45**	Pn	Pn	05 22 43.9	+0.5
N19K				IAmb	IAmb	05 23 08.2	
comp=Z,15nm,1.5s							
SYI	**Shuyak Island**	**16.68**	**54**	Pn	Pn	05 22 45.4	-1.2
J18K	**Innoko River**	**16.86**	**35**	Pn	Pn	05 22 48.5	-0.3
J18K				IAmb	IAmb	05 23 28.9	
comp=Z,9.2nm,1.4s							
HOM	**Homer**	**17.34**	**51**	Pn	Pn	05 22 54.5	-0.3
CNPM	**China Poot**	**17.50**	**51**	Pn	Pn	05 22 56.3	-0.6
CNPM				IAmb	IAmb	05 22 59.3	
comp=Z,11nm,1.1s							
K20K	**Telida**	**17.79**	**38**		Pn	05 23 00.7	+0.3
STLK	**Strandline Lak**	**17.87**	**45**		P	05 23 02.7	+0.5
SKT	**Skwentna**	**18.19**	**44**		P	05 23 07.8	+2.1
SKT				IAmb	IAmb	05 23 08.4	
comp=Z,9.8nm,1.4s							
J20K	**Nowinta River**	**18.20**	**36**		P	05 23 07.7	+2.0
O22K	**Cooper Landing**	**18.50**	**49**		Pn	05 23 09.5	+0.5
SEW	**Seward**	**18.52**	**50**	P	P	05 23 09.2	0.0
SEW				IAmb	IAmb	05 23 28.1	
comp=Z,22nm,1.5s							
KTH	**Kantishna Hill**	**19.12**	**40**	Pn	Pn	05 23 17.9	+1.1
KTH				IAmb	IAmb	05 23 24.5	
comp=Z,4.5nm,0.9s							
PWL	**Port Wells**	**19.26**	**49**	P	P	05 23 17.7	+0.3
PWL				IAmb	IAmb	05 23 29.6	
comp=Z,9.6nm,1.3s							
TRF	**Thorofare Moun**	**19.33**	**40**	P	P	05 23 18.1	-0.2
BPAW	**Bear Paw Mtn.**	**19.35**	**38**	P	P	05 23 17.6	-0.7
IMAR	**Indian Mountai**	**19.39**	**31**	P	P	05 23 17.1	-1.6
GLI	**Glacier Island**	**19.85**	**49**	P	P	05 23 23.4	-0.4
RND	**Reindeer**	**19.90**	**41**	P	Pn	05 23 25.3	-0.7
RND				IAmb	IAmb	05 24 00.2	
comp=Z,6.3nm,1.5s							
MLY	**Manley**	**19.90**	**36**		Pn	05 23 25.4	-0.6
SCM	**Sheep Creek Mo**	**20.01**	**46**	P	P	05 23 25.1	-0.4
SCM				IAmb	IAmb	05 24 02.1	
comp=Z,12nm,1.4s							
HIN	**Hinchinbrook I**	**20.02**	**51**	P	P	05 23 26.4	+0.7
FID	**Port Fidalgo**	**20.11**	**50**		P	05 23 25.9	-0.7
FID				IAmb	IAmb	05 23 28.0	
comp=Z,12nm,1.2s							
NEA2	**Nenana**	**20.32**	**38**	P	P	05 23 29.5	+0.6
NEA2				IAmb	IAmb	05 23 32.1	
comp=Z,6.7nm,1.4s							
DHY	**Denali Highway**	**20.39**	**43**	P	P	05 23 30.7	+0.8
DHY				IAmb	IAmb	05 23 31.7	
comp=Z,4.0nm,0.6s							
KLU	**Klutina**	**20.56**	**48**	P	P	05 23 29.4	-2.1
KLU				IAmb	IAmb	05 24 13.6	
comp=Z,6.1nm,1.2s							
CCB	**Clear Creek Bu**	**20.83**	**38**	P	P	05 23 33.7	-0.7
BMRM	**Bremner River**	**21.05**	**50**	P	P	05 23 37.2	+0.3
BMRM				IAmb	IAmb	05 24 07.7	
comp=Z,4.2nm,0.9s							
HMT	**Hamilton**	**21.10**	**51**	P	P	05 23 38.2	+0.8
N25K	**Chitina, Valde**	**21.20**	**48**	P	P	05 23 39.8	+1.3
ILAR	**Eielson Array**	**21.24**	**39**	P	P	05 23 37.9	-1.0
comp=Z,0.3nm,0.5s,baz=241,slow=8.7,SNR=5.5							
comp=Z,0.3nm,0.5s							
GLB	**Gilahina Butte**	**21.53**	**48**	P	P	05 23 42.0	0.0
VRDI	**Verde Repeater**	**21.66**	**49**	P	P	05 23 44.5	+0.9
VRDI				IAmb	IAmb	05 23 52.3	
comp=Z,4.0nm,1.3s							
RIDG	**Independent Ri**	**21.69**	**42**	P	P	05 23 43.8	+0.1
RIDG				IAmb	IAmb	05 24 07.1	
comp=Z,8.5nm,1.5s							
J25K	**Salcha River,**	**21.78**	**40**	P	P	05 23 45.1	+0.4
DOT	**Dot Lake**	**21.99**	**43**	P	P	05 23 48.1	+1.2
SCRK	**Sand Creek**	**22.13**	**42**	P	P	05 23 47.8	-0.7
J26L	**Joseph Creek**	**22.47**	**41**	P	P	05 23 53.1	+0.9
M27K	**Edge Creek, AK**	**22.62**	**47**		P	05 23 53.5	-0.3
M27K				IAmb	IAmb	05 24 28.0	
comp=Z,4.4nm,1.4s							
FYU	**Fort Yukon**	**22.63**	**35**	P	P	05 23 54.3	+0.6
FYU				IAmb	IAmb	05 24 28.8	
comp=Z,9.6nm,1.5s							
L27K	**Beaver Creek,**	**22.80**	**45**	P	P	05 23 54.9	-0.7
BCAR	**Beaver Creek A**	**22.82**	**45**	P	P	05 23 55.0	-0.8
EGAK	**Eagle**	**23.54**	**41**	P	P	05 24 03.4	+0.3
EGAK				IAmb	IAmb	05 24 07.2	
comp=Z,4.1nm,1.3s							
DAWY	**Dawson**	**24.10**	**43**	P	P	05 24 08.3	-0.2
DAWY				IAmb	IAmb	05 24 38.9	
comp=Z,3.0nm,1.4s							
I28M	**Miner Creek**	**24.23**	**40**	P	P	05 24 09.4	-0.4
I28M				IAmb	IAmb	05 24 44.6	
comp=Z,3.0nm,1.3s							
L29M	**L29M**	**24.46**	**46**	P	P	05 24 12.4	+0.6
L29M				IAmb	IAmb	05 24 38.2	
comp=Z,6.9nm,1.5s							
N30M	**Aishikik Lake**	**24.72**	**50**	P	P	05 24 14.8	+0.5
K29M	**Barlow Dome**	**24.86**	**44**	P	P	05 24 15.1	-0.3
I29M	**Ogilvie Camp,**	**24.87**	**40**	P	P	05 24 15.5	+0.1
I29M				IAmb	IAmb	05 24 20.6	
comp=Z,2.5nm,1.1s							
I30M	**Mount Dempster**	**25.62**	**41**	P	P	05 24 21.6	-0.7
I30M				IAmb	IAmb	05 25 01.6	
comp=Z,3.9nm,1.4s							
INK	**Inuvik**	**27.46**	**35**	P	P	05 24 38.5	-0.2
comp=Z,2.0nm,1.0s,baz=249,slow=8.6,SNR=2.7							
comp=Z,2.0nm,1.0s							
BW06	**Boulder Array**	**46.25**	**72**		P	05 27 17.9	-0.6
BW06				IAmb	IAmb	05 27 20.1	
comp=Z,1.7nm,0.8s							
PD31	**Pinedale Array**	**46.25**	**72**	P	P	05 27 17.9	-0.6
PD31				IAmb	IAmb	05 27 20.1	
comp=Z,1.8nm,0.8s							
PDAR	**Pinedale Array**	**46.25**	**72**		P	05 27 19.3	+0.7
PDAR	**Pinedale Array**	**46.25**	**72**	P	P	05 27 19.5	+1.0
comp=Z,1.3nm,0.7s,baz=301,slow=4.1,SNR=18							
comp=Z,1.3nm,0.7s							
PV18	**Skein Mesa, Pa**	**49.39**	**77**	P	P	05 27 43.4	+0.5
PV03	**Paradox Valley**	**49.42**	**77**		P	05 27 42.6	-0.6
WUAZ	**Wupatki**	**49.62**	**81**	P	P	05 27 46.2	+1.6
TXAR	**Lajitas Array**	**58.58**	**81**	P	P	05 28 50.5	+0.6
comp=Z,0.4nm,0.5s,baz=298,slow=5.4,SNR=8.0							
comp=Z,0.4nm,0.5s							
H03N2	**Juan Fernandez**	**121.05**	**106**	T	T	07 50 30.3	
baz=317,slow=77,SNR=4.6							
H03N1	**Juan Fernandez**	**121.06**	**106**	T	T	07 50 34.0	
baz=317,slow=77,SNR=3.8							
H03N3	**Juan Fernandez**	**121.06**	**106**	T	T	07 50 31.8	
baz=317,slow=77,SNR=3.3							

*AEIC **09** 05:24:50.8±2.9, 51°.42N±0°.05×178°.69W±0°.05, h11km±5km, Error ellipse: s-maj=8.1km s-min=3.7km az=160.0*
NEIC 09 05:24:48.9±2.5, 51°.25N±0°.04×178°.65W±0°.05, h11km±2km, mb3.8/40, ML3.5(AEIC), Error ellipse: s-maj=7.0km s-min=3.9km az=156.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.32**	**342**		Pg	05 24 55.1	-0.3
GAKI					Sg	05 24 58.4	-1.3
GALAA	**Gareloi Lava P**	**0.52**	**352**		Pg	05 24 59.1	+0.1
GAEA	**Gareloi East**	**0.54**	**354**		Pg	05 24 59.3	-0.1
GASW	**Gareloi Southw**	**0.55**	**347**		Pg	05 24 59.3	-0.3
GASW					Sg	05 25 05.4	-1.4
GANE	**Gareloi Northe**	**0.58**	**352**		Pg	05 24 59.8	-0.4
GANO	**Gareloi North**	**0.58**	**351**		Pg	05 24 59.7	-0.6
TAFL	**Tanaga Flats**	**0.69**	**43**		Pb	05 25 02.7	-0.3
TAFL					Sg	05 25 11.9	+0.4
TASE	**Tanaga Southea**	**0.70**	**33**		Pg	05 25 02.8	+0.3
TANO	**Tanaga North**	**0.75**	**26**		Pg	05 25 03.5	+0.1
TANO					Sg	05 25 12.7	-0.5
TAPA	**Tanaga Point A**	**0.77**	**42**		Pb	05 25 04.1	-0.2
TAPA					Sg	05 25 13.8	-0.2
KIMD	**Kanaga Island**	**1.02**	**59**		Pg	05 25 08.6	0.0
KIWB	**Kanaga Island**	**1.12**	**57**		Pb	05 25 10.0	-0.2
KIKV	**Kanaga Island**	**1.12**	**55**		Pb	05 25 10.1	-0.2
KIKV					Sb	05 25 24.8	0.0
KINC	**Kanaga Island**	**1.17**	**54**		Pb	05 25 11.0	-0.2
KIRH	**Kanaga Island**	**1.17**	**56**		Sb	05 25 26.5	+0.2
CEPE	**Semis' Perret**	**1.28**	**305**		Pn	05 25 12.1	-0.6
AMKA	**Amchitka**	**1.29**	**277**		Pn	05 25 12.3	-0.5
AMKA					Sb	05 25 29.3	-0.3
CEAP	**Semis' Anvil P**	**1.34**	**305**		Pn	05 25 13.1	-0.3
CETU	**Semis' Tuman**	**1.36**	**303**		Pn	05 25 13.5	-0.3
ADK	**Adak**	**1.38**	**62**		Pb	05 25 14.5	-0.3
ADK	**Adak**	**1.38**	**62**		Sb	05 25 32.5	+0.2
ADAG	**Mount Adagdak**	**1.48**	**59**		Pb	05 25 16.4	+0.1
ETKA	**Kagalaska Isla**	**1.53**	**65**		Pb	05 25 17.1	-0.2
GSSP	**Great Sitkin S**	**1.76**	**60**		Pb	05 25 20.4	-0.7
GSTD	**Great Sitkin T**	**1.76**	**62**		Pb	05 25 20.3	-0.9
GSMY	**Great Sitk

comp=Z,3.7nm,0.6s
EYAK Cordova Ski Ar 20.45 50 P P 05 29 25.8 -0.2
WRH Wood River Hil 20.69 39 P P 05 29 28.8 +0.2
WRH IAmb IAmb 05 29 36.7
comp=Z,3.4nm,1.1s
CCB Clear Creek Bu 20.88 38 P P 05 29 31.3 +0.7
PAX Paxson 21.22 44 P P 05 29 33.1 -1.3
H24K Noodor Dome 21.39 35 P P 05 29 36.4 +0.3
H24K IAmb IAmb 05 29 42.5
comp=Z,3.9nm,1.4s
GLB Gilahina Butte 21.57 48 P P 05 29 36.6 -1.5
RIDG Independent Ri 21.73 42 P P 05 29 37.7 -2.2
RIDG IAmb IAmb 05 30 14.2
comp=Z,7.1nm,1.4s
J25K Salcha River, 21.83 40 P P 05 29 39.7 -1.2
DOT Dot Lake 22.04 42 P P 05 29 42.1 -0.9
DOT IAmb IAmb 05 30 00.0
comp=Z,4.0nm,1.3s
SCRK Sand Creek 22.17 42 P P 05 29 45.5 +0.9
SCRK IAmb IAmb 05 29 48.9
comp=Z,4.6nm,1.3s
J26L Joseph Creek 22.52 41 P P 05 29 48.5 +0.2
CTGM Chitina Glacie 22.66 50 P P 05 29 48.3 -1.6
CTGM IAmb IAmb 05 30 23.7
comp=Z,4.7nm,1.2s
BCAR Beaver Creek A 22.86 45 P P 05 29 51.7 -0.2
BMAR Burnt Mountain 23.30 33 P P 05 29 54.3 -2.0
EGAK Eagle 23.59 41 P P 05 30 00.1 +0.9
EGAK IAmb IAmb 05 30 09.1
comp=Z,2.4nm,1.1s
L29M L29M 24.50 45 P P 05 30 08.8 +1.0
L29M IAmb IAmb 05 30 25.7
comp=Z,5.5nm,1.4s
K29M Barlow Dome 24.90 44 P P 05 30 11.4 -0.1
I30M Mount Dempster 25.67 41 P P 05 30 18.2 -0.2
I30M IAmb IAmb 05 30 47.4
comp=Z,3.2nm,1.1s

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*IDC **09** 05:25:11.2±3.7,54°29N×87°35E,h0km,mbtmp2.7/2, ML2.4/2,Error ellipse: s-maj=32.7km s-min=20.8km az=42.0.*

ASRS 09 05:25:11.0±0.7,54°18N×87°12E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=80,slow=323,SNR=7.0	**1.38**	**261**	I	I	05 34 30.0	
ZALV	**Zalesovo Beam** 1.9nm,0.3s,baz=73,slow=11,SNR=18	**1.38**	**261**	Pg	Pb	05 25 38.1	+0.5
ZALV	3.1nm,0.3s,baz=73,slow=22,SNR=15			Lg	Lg	05 26 00.4	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=54,slow=13,SNR=2.6 0.3nm,0.3s	**6.35**	**239**	Pn	Pn	05 26 48.1	+2.4
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=24,slow=13,SNR=1.3 0.1nm,0.3s	**8.01**	**205**	Pn	Pn	05 27 12.8	+4.3

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*IDC **09** 05:36:01.1±1.2,51°71N×82°65E,h0km,mbtmp2.6/3, ML2.1/3,Error ellipse: s-maj=14.4km s-min=9.5km az=122.0*

*NNC **09** 05:36:06.7±44.0,48°67N×76°16E,h0km,mb3.0,mpv2.6, Error ellipse: s-maj=367.9km s-min=222.5km az=84.0, Suspected Mining explosion.*

ISC 09 05:36:03.6±1.4,51°71N±0°07×82°71E±0°09,h10km,n7, σ1s70/7,1C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam** 1.6nm,0.3s,baz=214,slow=15,SNR=12	**2.58**	**29**	Pn	**Pn**	**05 36 45.6**	**+0.1**
ZALV	1.6nm,0.3s,baz=212,slow=15,SNR=13			Pg	Pb	05 36 47.6	-2.3
ZALV	1.2nm,0.3s,baz=212,slow=13,SNR=8.5			Sn	**Sn**	**05 37 16.6**	**-0.2**
ZALV	1.0nm,0.3s,baz=207,slow=26,SNR=5.9 3.5nm,0.3s			Lg	Lg	05 37 21.9	
I46RU	**ZALESOVO INFRA** baz=211,slow=324,SNR=9.6	**2.58**	**29**	I	I	05 52 40.0	
KURK	**Kurchatov** 1.8nm,0.5s	**2.76**	**251**	⇓Lg	Lg	05 37 28.2	
KURBB	**Kurchatov Arra** 4.0nm,1.1s	**2.85**	**249**	⇑Pg	**Pn**	**05 36 51.8**	**+2.7**
KURBB	8.6nm,0.6s			⇓Lg	Lg	05 37 27.4	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=70,slow=16,SNR=3.4	**2.85**	**249**	Pn	**Pn**	**05 36 48.1**	**-1.0**
KURBB	0.4nm,0.3s,baz=68,slow=33,SNR=10			Sn	**Sn**	**05 37 21.8**	**-1.6**
KURBB	0.3nm,0.3s,baz=68,slow=33,SNR=6.5 0.6nm,0.2s			Lg	Lg	05 37 28.6	
MK31	**Makanchi Array** 3.0nm,0.9s,baz=16,slow=27,SNR=4.1	**4.92**	**183**	⇓Lg	Lg	05 38 30.7	
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=8.2,slow=11,SNR=7.0	**4.92**	**183**	Pn	**Pn**	**05 37 18.1**	**+0.4**
MKAR	0.1nm,0.3s,baz=356,slow=17,SNR=1.4			Sn	**Sn**	**05 38 14.1**	**-0.6**
MKAR	0.4nm,0.3s,baz=358,slow=28,SNR=6.5 0.7nm,0.4s			Lg	Lg	05 38 35.4	

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*NEIC **09** 05:39:35±1.2,35°30N±0°01×97°66W±0°01,h7km±1km, Error ellipse: s-maj=2.0km s-min=1.3km az=142.0*

NEIC 09 05:39:35.8±1.2,35°29N±0°01×97°613W±0°010,h5km±1km, ML1.9,ML1.5/22,Error ellipse: s-maj=2.4km s-min=1.9km az=357.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.18**	**101**	Pg	Pg	05 39 40.1	+0.8
FNO				Sg	Sg	05 39 42.7	+0.9
OKCSW	**OKLAHOMA CITY**	**0.18**	**52**	Pg	Pg	05 39 40.0	+0.5
OKCSW				Sg	Sg	05 39 43.0	+1.0
OKCSW	comp=E,102nm,0.4s			IAML		05 39 43.8	
ADOK	**Arcadia Dam**	**0.41**	**29**	Pg	Pg	05 39 43.3	-0.5
ADOK				Sg	Sg	05 39 50.1	+0.9
OK029	**Liberty Lake**	**0.52**	**14**	Pg	Pg	05 39 45.8	-0.1
OK029				Sg	Sg	05 39 53.8	+1.1
OK029	comp=E,28nm,0.4s			IAML		05 39 56.4	
X34A	**Smith Ranch, M**	**0.71**	**195**	Pg	Pg	05 39 49.6	+0.1
X34A				Sg	Sb	05 40 00.5	-0.3
X34A	comp=N,24nm,2.3s			IAML		05 40 09.1	
X34A	comp=E,19nm,3.2s			IAML		05 40 10.9	
WMOK	**Wichita Mounta**	**1.11**	**240**	Pg	Pg	05 39 55.2	-1.8
WMOK	comp=E,9.4nm,0.3s			IAML		05 40 10.3	
QUOK	**Quay**	**1.15**	**40**	Pg	Pg	05 39 56.1	-1.7
TUL3	**Leonard**	**1.61**	**67**		Pn	05 40 04.0	-1.0
T35A	**Sooner Cattle**	**1.85**	**28**	Pn	Pn	05 40 06.9	-1.4

IDC 09 05:52:08.7±7.5,6°62S×149°04E,h85km±54km,mb2.9/1, mbtmp3.5/3,ML3.6/1,Error ellipse: s-maj=131.7km s-min=53.9km az=120.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 20nm,0.3s,baz=25,slow=3.2,SNR=9.4	**3.34**	**214**	P	Pn	05 52 58.8	+0.1
PMG	48nm,0.3s,baz=90,slow=19,SNR=9.7			S	Sn	05 53 38.1	+0.6
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=51,slow=11,SNR=4.9 0.5nm,0.4s	**19.48**	**226**	P	P	05 56 28.6	-0.4
ASAR	**Alice Springs** 0.6nm,0.7s,baz=58,slow=10.0,SNR=5.3 0.6nm,0.7s	**22.34**	**219**	P	P	05 56 60.0	+0.2
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=64,slow=3.1,SNR=4.2	**147.21**	**284**	PKPbc	PKPbc	06 11 42.6	-0.7

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*ASRS **09** 05:55:19.0±0.8,54°14N×86°32E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 05:55:23.6±2.6,54°17N×86°26E,h0km,mbtmp2.9/2, ML2.4/2,Error ellipse: s-maj=20.1km s-min=11.7km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=74,slow=325,SNR=2.2	**0.88**	**256**	I	I	06 00 40.0	
ZALV	**Zalesovo Beam** 1.3nm,0.3s,baz=73,slow=17,SNR=10	**0.88**	**256**	Pg	Pg	05 55 38.4	-1.9
ZALV	7.5nm,0.3s,baz=76,slow=32,SNR=27			Lg	Lg	05 55 53.4	
KURBB	**Kurchatov Arra** baz=54,slow=13,SNR=1.7 0.5nm,0.3s	**5.92**	**236**	Pn	Pn	05 56 54.4	+2.0
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=24,slow=13,SNR=6.1 0.3nm,0.3s	**7.81**	**200**	Pn	Pn	05 57 19.2	+0.9

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*NEIC **09** 05:57:56.2±0.8,66°75N±0°02×155°22W±0°02,h7km±5km, Error ellipse: s-maj=2.3km s-min=0.8km az=164.0*

AEIC 09 05:57:55.9±0.9,66°78N±0°02×155°23W±0°03,h5km±6km, ML3.4,ML3.6/77(NEIC),Error ellipse: s-maj=2.5km s-min=2.0km az=195.0,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F20K	**Avaraart Lake**	**0.34**	**325**		Pb	05 58 03.5	-0.9
F20K					Sg	05 58 08.2	+1.4
G21K	**Allakaket**	**0.74**	**110**		Pg	05 58 10.1	+0.1
G21K					Sg	05 58 20.4	+0.9
F21K	**Alatna River**	**0.82**	**56**		Pg	05 58 10.6	-1.0
F21K					Sg	05 58 22.6	+0.3
G19K	**Purcell Mounta**	**0.98**	**230**		Pg	05 58 14.5	-0.1
G19K					Sg	05 58 27.4	+0.1
IMAR	**Indian Mountai**	**1.00**	**142**		Pg	05 58 14.4	-0.5
F19K	**Shaleruckik Mo**	**1.01**	**274**		Pg	05 58 15.1	0.0
F19K					Pb	05 58 15.2	-0.5
F19K					Sb	05 58 28.9	-0.4
E19K	**Redstone River**	**1.04**	**312**		Pg	05 58 16.0	+0.2
E19K					Sb	05 58 30.7	+0.5
H20K	**Anotleneega Mo**	**1.30**	**173**		Pn	05 58 20.1	-0.6
H20K					Sg	05 58 36.8	-0.7
H19K	**Roundabout Mou**	**1.35**	**202**		Pn	05 58 20.9	-0.3
H19K					Sb	05 58 38.6	-0.5
F22K	**John River**	**1.40**	**57**		Pn	05 58 21.8	-0.3
G22K	**Bettles**	**1.48**	**83**		Pn	05 58 21.8	-1.3
H21K	**Melozitna Rive**	**1.49**	**138**		Pn	05 58 23.4	+0.1
H21K	comp=E,609nm,0.7s			IAML		05 58 44.3	
E20K	**Nigu River**	**1.53**	**347**		Pn	05 58 24.3	+0.4
E20K					Sg	05 58 45.5	+0.5
G18K	**Tagagawik**	**1.64**	**239**		Pn	05 58 24.8	-0.5
F18K	**Selawik**	**1.77**	**266**		Pn	05 58 26.9	-0.1
I20K	**Naaghedeneel**	**2.01**	**171**		Pn	05 58 30.5	+0.1
I20K					Sn	05 58 55.9	-0.1
D20K	**Etivluk River**	**2.02**	**346**		Pn	05 58 30.9	+0.4
COLD	**Coldfoot**	**2.03**	**75**		Pn	05 58 30.4	-0.2
COLD					Sn	05 58 56.6	+0.3
COLD	comp=E,366nm,0.5s			IAML		05 59 01.9	
COLD	comp=N,473nm,0.5s			IAML		05 59 04.6	
D19K	**Kuna River**	**2.05**	**329**		Pn	05 58 32.2	+1.2
G23K	**Bananza Creek**	**2.07**	**89**		Pn	05 58 30.9	-0.4
H18K	**Honhosa River**	**2.07**	**220**		Pn	05 58 31.3	0.0
GCSA	**Galena City Sc**	**2.15**	**199**		Pn	05 58 32.5	+0.2
E18K	**Tukpahlearik C**	**2.20**	**290**		Pn	05 58 33.4	+0.4
D22K	**Ayikyak River**	**2.33**	**23**		Pn	05 58 34.9	+0.2
C21K	**Knifeblade Rid**	**2.40**	**4**		Pn	05 58 36.7	+0.9
F17K	**Baldwin Pennin**	**2.42**	**265**		Pn	05 58 35.9	-0.2
H23K	**Yukon River**	**2.49**	**110**		Pn	05 58 37.0	0.0
E23K	**Chandalar**	**2.52**	**57**		Pn	05 58 37.6	0.0
E23K					Pb	05 58 38.8	-2.9
MLY	**Manley**	**2.54**	**131**		Pn	05 58 37.8	-0.1
G17K	**Kiwalik Mounta**	**2.55**	**242**		Pn	05 58 37.1	-0.7
E17K	**Hotham Inlet**	**2.62**	**280**		Pn	05 58 39.0	+0.3
J20K	**Nowinta River**	**2.65**	**170**		Pn	05 58 39.3	+0.1
J20K	**Nowinta River** comp=E,222nm,0.6s	**2.65**	**170**	IAML		05 59 24.5	
H17K	**Granite Mounta** H17K comp=E,238nm,0.6s	**2.67**	**228**	IAML	Pn	05 58 39.3	-0.2 05 59 24.4
H17K	comp=N,188nm,0.6s			IAML		05 59 24.8	
J19K	**Poorman** J19K comp=N,202nm,0.4s	**2.80**	**184**	IAML	Pn	05 58 41.5	+0.2 05 59 25.7
J19K	comp=E,193nm,0.7s			IAML		05 59 30.7	
TOLK	**Toolik Lake Re** TOLK	**2.86**	**46**	IAML	Pn	05 58 42.6	+0.5 05 59 40.3
TOLK	**Toolik Lake Re** comp=E,195nm,0.9s	**2.86**	**46**	IAML		05 59 44.8	
C19K	**Lookout Ridge**	**2.86**	**327**		Pn	05 58 42.3	+0.1
B21K	**Ikpikpuk River**	**2.87**	**4**		Pn	05 58 42.5	+0.3
I23K	**Minto, Yukon-K** I23K comp=E,218nm,0.7s	**2.91**	**122**	IAML	Pn	05 58 43.2 05 59 29.9	+0.5
I23K	comp=N,248nm,1.1s			IAML		05 59 35.2	
E24K	**Your Creek**	**2.91**	**60**		Pn	05 58 42.9	+0.1
C18K	**Utukok River**	**2.95**	**312**		Pn	05 58 43.7	+0.3
G24K	**Hadweenzic Riv**	**3.08**	**88**		Pn	05 58 45.1	0.0
H24K	**Noodor Dome**	**3.12**	**104**		Pn	05 58 45.8	+0.1
CHUM	**Lake Minchumin**	**3.15**	**156**		Pn	05 58 46.2	+0.1
D17K	**Noatak River**	**3.19**	**290**		Pn	05 58 46.9	+0.3
G16K	**Koyuk River**	**3.22**	**248**		Pn	05 58 47.1	+0.2
BPAW	**Bear Paw Mtn.**	**3.22**	**145**		Pn	05 58 47.4	+0.3
RDOG	**Red Dog Mine**	**3.23**	**297**	Pn	Pn	05 58 46.8	-0.3
B20K	**Meade River**	**3.33**	**348**		Pn	05 58 48.9	+0.5
NEA2	**Nenana**	**3.36**	**128**		Pn	05 58 49.7	+0.7
J18K	**Innoko River**	**3.38**	**191**		Pn	05 58 49.4	+0.1
J18K	**Innoko River** comp=N,104nm,0.8s	**3.38**	**191**	IAML		05 59 45.7	
J18K	comp=E,99nm,0.8s			IAML		05 59 46.7	
K20K	**Telida**	**3.47**	**171**		Pn	05 58 50.6	+0.1
K20K	**Telida** comp=N,94nm,0.7s	**3.47**	**171**	IAML		05 59 51.9	
C17K	**DeLong Mountai**	**3.48**	**303**		Pn	05 58 51.0	+0.3
BWN	**Browne** BWN comp=E,141nm,0.8s	**3.55**	**135**	Pn IAML	Pn	05 58 52.8 05 59 51.1	+1.2
BWN	comp=N,134nm,0.8s			IAML		06 00 01.5	
B18K	**Kokolik River**	**3.58**	**320**		Pn	05 58 52.3	+0.3
COLA	**College**	**3.59**	**119**		Pn	05 58 52.6	+0.5
POKR	**Poker Plat Res** comp=N,105nm,0.7s	**3.60**	**114**	IAML		05 59 51.7	
POKR	**Poker Plat Res** comp=E,108nm,1.2s	**3.60**	**114**	IAML		05 59 56.5	
H16K	**Elim**	**3.60**	**237**		Pn	05 58 52.3	0.0
G25K	**Bearman Lake**	**3.62**	**86**		Pn	05 58 52.5	0.0
B22K	**Teshekpuk Lake**	**3.64**	**10**		Pn	05 58 53.0	+0.2
I17K	**Unalakleet** I17K comp=N,94nm,1.0s	**3.70**	**221**	Pn IAML	Pn	05 58 54.4 05 59 56.9	+0.9
KTH	**Kantishna Hill** KTH comp=E,74nm,0.7s	**3.71**	**149**	IAML	Pn	05 58 54.5 06 00 00.2	+0.6
CCB	**Clear Creek Bu** CCB comp=E,103nm,0.6s	**3.74**	**121**	IAML	Pn	05 58 54.6 05 59 53.1	+0.4
CCB	comp=N,73nm,0.9s			IAML		05 59 55.8	
WRH	**Wood River Hil** WRH comp=E,91nm,0.8s	**3.76**	**125**	IAML	Pn	05 58 54.6 05 59 56.1	+0.2
F25K	**Christian Rive** F25K	**3.83**	**73**		Pn	05 58 55.6	+0.2
TRF	**Thorofare Moun**	**3.94**	**146**		Pn	05 58 56.3	-7.5
E25K	**Arctic Village**	**3.96**	**66**		Pn	05 58 58.1	+1.0
FYU	**Fort Yukon**	**3.98**	**88**	Pn	Pn	05 58 57.2	-0.1
IL31		**3.98**	**116**		Pn	05 58 57.5	+0.1
ILAR	**Eielson Array**	**3.98**	**116**	Pn	Pn	05 58 57.7	+0.2
MCK	**McKinley**	**4.04**	**136**		Pn	05 58 57.6	0.0
A19K	**Wainwright**	**4.06**	**331**		Pn	05 58 58.9	+0.6
PPLA	**Purkeypile** PPLA	**4.11**	**160**	IAML	Pn	05 59 59.1 06 00 00.3	+0.6 +1.0
PRP	**Porcupine Dome** PRP comp=N,81nm,0.8s	**4.14**	**103**	IAML	Pn	05 59 17.9 06 00 04.7	+1.0
HDA	**Harding Lake** HDA comp=E,66nm,0.9s	**4.18**	**121**	IAML	Pn	05 59 00.1 06 00 09.1	+0.3
HDA	comp=N,84nm,0.8s			IAML		06 00 17.0	
J16K	**Anvik River**	**4.18**	**215**		Pn	05 59 00.6	+0.4
J16K	**Anvik River** comp=N,60nm,0.7s	**4.18**	**215**	IAML		06 00 11.9	
J16K	comp=E,64nm,1.1s			IAML		06 00 16.5	
A22K	**Sinclair Lake**	**4.25**	**1**		Pn	05 59 01.4	+0.3
K17K	**Iditarod**	**4.28**	**199**		Pn	05 59 01.8	+0.1
RND	**Reindeer**	**4.33**	**138**		Pn	05 59 03.0	+0.7
G26K	**Porcupine Rive**	**4.52**	**83**		Pn	05 59 04.9	0.0
L19K	**White Mountain** L19K comp=E,47nm,1.2s	**4.62**	**178**	IAML	Pn	05 59 06.3 06 00 32.4	+0.1
L19K	comp=N,42nm,0.8s			IAML		06 00 35.0	
L18K	**Granite Mounta** L18K comp=N,68nm,1.1s	**4.62**	**188**	IAML	Pn	05 59 06.8 06 00 25.6	+0.5
L18K	comp=E,46nm,1.2s			IAML		06 00 35.0	
CUT	**Chulitna**	**4.88**	**152**		Pn	05 59 10.8	+1.0
M19K	**Big River Lodg** M19K comp=E,30nm,1.0s	**4.91**	**175**	IAML	Pn	05 59 11.3 06 00 50.4	+1.1
K24K	**Donnelly Dome**	**4.96**	**123**	Pn	Pn	05 59 11.7	+0.7
DHY	**Denali Highway**	**5.00**	**134**		Pn	05 59 12.5	+1.0
M20K	**Styx River** M20K comp=E,26nm,1.1s	**5.00**	**168**	IAML	Pn	05 59 12.7 06 00 40.7	+1.1
SKT	**Skwentna** SKT comp=N,37nm,0.4s	**5.08**	**160**	IAML	Pn	05 59 13.8 06 00 14.8	+1.3
SKT	comp=E,38nm,1.2s			IAML		06 00 45.6	
I26K	**Coal Creek Min**	**5.14**	**101**		Pn	05 59 13.3	-0.1
RIDG	**Independent Ri** RIDG comp=N,34nm,0.9s	**5.32**	**120**	IAML	Pn	05 59 15.4 06 00 46.5	-0.5
J26L	**Joseph Creek**	**5.34**	**110**		Pn	05 59 16.4	+0.1
SCRK	**Sand Creek**	**5.48**	**116**		Pn	05 59 18.0	-0.1
M17K	**Holitna River**	**5.48**	**191**		Pn	05 59 18.7	+0.6
STLK	**Strandline Lak**	**5.50**	**163**	Pn	Pn	05 59 18.5	0.0
H27K	**Steamboat Moun**	**5.51**	**89**		Pn	05 59 19.4	+0.8
PAX	**Paxson**	**5.64**	**128**		Pn	05 59 21.7	+1.3
DOT	**Dot Lake**	**5.65**	**119**		Pn	05 59 20.1	-0.3
SUA	**Susitna One**	**5.68**	**158**		Pn	05 59 22.6	+1.7
GHO	**Glory Hole Cre**	**5.72**	**148**		Pn	05 59 22.4	+0.9
SPU	**Mount Spurr**	**5.79**	**165**		Pn	05 59 23.7	+1.4
PMR	**Palmer**	**5.84**	**150**		Pn	05 59 24.4	+1.4
N19K	**Bonanza Creek**	**6.00**	**176**		Pn	05 59 25.6	+0.3
M16K	**Timber Creek**	**6.00**	**198**	Pn	Pn	05 59 26.1	+0.9
SCM	**Sheep Creek Mo**	**6.03**	**142**		Pn	05 59 26.7	+1.0
M24K	**Tolsona, Glenn**	**6.11**	**136**		Pn	05 59 26.6	-0.1
N18K	**Kilae Creek**	**6.13**	**183**	Pn	Pn	05 59 27.6	+0.6
EGAK	**Eagle**	**6.13**	**103**	Pn	Pn	05 59 27.4	+0.5
KNK	**Knik Glacier**	**6.14**	**148**		Pn	05 59 29.0	+1.8
RC01	**Rabbit Creek A**	**6.20**	**154**		Pn	05 59 29.7	+1.8
MENT	**Mentasta**	**6.23**	**123**		Pn	05 59 28.8	+0.4
N17K	**Nushagak Hills**	**6.33**	**189**		Pn	05 59 31.3	+1.5
I28M	**Miner Creek**	**6.35**	**95**		Pn	05 59 30.3	+0.2
RED	**Redoubt Volcan**	**6.48**	**169**	Pn	Pn	05 59 32.6	+0.8
PWL	**Port Wells**	**6.67**	**150**		Pn	05 59 34.3	-0.1
KLU	**Klutina**	**6.68**	**138**		Pn	05 59 35.2	+0.6
H29M	**Whitestone**	**6.77**	**87**		Pn	05 59 37.0	+1.3
G29M	**Pine Creek**	**6.79**	**81**		Pn	05 59 36.0	+0.1
BCAR	**Beaver Creek A**	**6.81**	**117**		Pn	05 59 36.1	-0.4
N25K	**Chitina, Valde**	**6.96**	**133**		Pn	05 59 39.7	+1.3
I29M	**Ogilvie Camp,**	**7.03**	**94**		Pn	05 59 39.9	+0.6
DAWY	**Dawson**	**7.14**	**105**		Pn	05 59 41.0	+0.1
FID	**Port Fidalgo**	**7.18**	**143**	Pn	Pn	05 59 43.4	+2.0
M27K	**Edge Creek, AK**	**7.25**	**121**		Pn	05 59 43.2	+0.7
K29M	**Barlow Dome**	**7.97**	**103**		Pn	05 59 54.6	+2.3
L29M	**L29M**	**8.13**	**109**		Pn	05 59 53.8	-0.6
M29M	**Somme Creek**	**8.40**	**113**		Pn	05 59 58.3	+0.1
KDAK	**Kodiak Island**	**9.11**	**171**	Pn	Pn	06 00 08.5	+0.7
N30M	**Aishikik Lake**	**9.53**	**115**		Pn	06 00 15.2	+1.6
HYT	**Haines Junctio**	**9.82**	**119**	Pn	Pn	06 00 17.4	-0.3
N31M	**Braeburn, Yuko**	**9.99**	**113**	Pn	Pn	06 00 20.4	+0.6
O30N	**Mendenhall**	**10.36**	**116**	Pn	Pn	06 00 25.6	+0.7
MMPY	**Sheldon Lake,**	**11.03**	**101**	Pn	Pn	06 00 35.2	+1.1

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*GCG **09** 06:03:09.3±0.8,14°64N×92°75W,h54km±10km,MD3.9, ML3.1*

*MEX **09** 06:03:09.3±0.6,14°68N×92°83W,h57km±15km,MD4.0*

ISC 09 06:03:08.0±1.8,14°68N±0°08×92°86W±0°05,h35km±6km, n18,σ1s49/34,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.62**	**68**	*i* P	**Pb**	**06 03 20.8**	**+0.2**
THIG				*e*S	**Sb**	**06 03 28.8**	**-0.5**
THIG		**0.62**	**68**	*i* P	**Pb**	**06 03 20.9**	**+0.2**
THIG				*e*S	**Sb**	**06 03 29.9**	**+0.6**
THIG	comp=E,698nm,0.4s			IAML		06 03 31.5	
PATR	**El Naranjo**	**0.75**	**54**	*e*P	**Pb**	**06 03 22.2**	**-0.7**
PATR				*e*S	**Sb**	**06 03 32.3**	**-0.7**
SMCA	**Catarina**	**0.78**	**77**	*i* P	**Pb**	**06 03 22.8**	**-0.5**
SMCA				*e*S	**Sb**	**06 03 33.8**	**+0.1**
SMCA	comp=N,465nm,0.1s			IAML		06 03 34.7	
CHUJ	**Union Juarez**	**0.84**	**60**	*e*P	**Pn**	**06 03 23.1**	**-0.4**
CHUJ				*e*S	**Sb**	**06 03 34.8**	**-0.7**
PAVE	**Pavencul**	**0.84**	**52**	*e*P	**Pn**	**06 03 23.6**	**0.0**
PAVE				*e*S	**Sb**	**06 03 35.2**	**-0.3**
PCIG		**1.08**	**341**	*e*P	**Pn**	**06 03 26.9**	**+0.3**
PCIG				*e*S	**Sn**	**06 03 40.9**	**+0.5**
RTAL	**Retalhuleu**	**1.14**	**98**	*e*P	**Pn**	**06 03 27.6**	**+0.1**
RTAL				*e*S	**Sn**	**06 03 41.5**	**-0.5**
QUEO	**Labor Ovalle**	**1.32**	**81**	*e*P	**Pn**	**06 03 30.7**	**+0.4**
QUEO				*i* S	**Sn**	**06 03 47.7**	**+1.0**
QUEO	comp=E,861nm,0.3s			IAML		06 03 48.6	
HUEH	**Huehuetenango**	**1.46**	**64**	*e*P	**Pn**	**06 03 33.6**	**+1.4**
HUEH				*e*S	**Sn**	**06 03 50.2**	**0.0**
CCIG	**Comitan**	**1.74**	**24**	*e*P	**Pn**	**06 03 38.3**	**+2.4**
CCIG				*e*S	**Sn**	**06 03 58.0**	**+1.0**
CCIG	**Comitan**	**1.74**	**24**	*i* P	**Pn**	**06 03 38.4**	**+2.4**
CCIG	comp=E,52nm,0.3s			IAML		06 04 06.9	
TGIG		**2.10**	**353**	*e*P	**Pn**	**06 03 40.7**	**-0.2**
TGIG				*e*S	**Sn**	**06 04 03.6**	**-2.3**
TGIG		**2.10**	**353**	*e*P	**Pn**	**06 03 42.9**	**+2.1**
UXUV	**UXUV**	**2.90**	**335**	*e*P	**Pn**	**06 03 53.8**	**+2.0**
UXUV				*e*S	**Sn**	**06 04 25.8**	**+0.3**
CMIG	**Matias Romero**	**3.09**	**321**	*e*P	**Pn**	**06 03 55.0**	**+0.6**
CMIG				*e*S	**Sn**	**06 04 30.4**	**+0.3**
NEUV	**Arroyo Zacate**	**4.13**	**317**	*e*P	**Pn**	**06 04 10.3**	**+1.5**
NEUV				*e*S	**Sn**	**06 04 52.3**	**-3.6**
SCIG	**Sabancuy**	**4.56**	**20**	*e*P	**Pn**	**06 04 16.4**	**+1.9**
SCIG				*e*S	**Sn**	**06 05 02.3**	**-4.0**

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*GUC **09** 06:33:05.5±0.8,24°12S×67°20W,h182km±9km,ML3.6*

*IDC **09** 06:33:07.3±8.0,23°92S×67°16W,h217km±68km,mb2.9/1, mbtmp3.6/4,Error ellipse: s-maj=74.9km s-min=37.9km az=14.0.*

ISC 09 06:33:04.4±1.1,24°11S±0°07×67°16W±0°06,h181km,n14, σ1s10/19,2C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.76**	**99**	*e*P	**Pn**	**06 33 32.4**	**+1.1**
SLA	**San Lorenzo**	**1.63**	**112**	*e*P	**Pn**	**06 33 39.2**	**+1.4**

PB09 eS Sn 06 34 31.7 +0.3
PB05 IPOC Station P 3.06 293 eP Pn 06 33 54.7 +0.7
PB05 IAML 06 34 35.7
comp=N,66nm,0.3s
PB03 IPOC Station P 3.15 310 eP Pn 06 33 56.1 +1.0
PB03 IAML 06 34 38.1
comp=N,76nm,0.4s
PB10 IPOC Station P 3.17 280 eP Pn 06 33 56.0 +0.8
PB10 IAML 06 34 37.1
comp=N,69nm,0.2s
PB01 IPOC Station P 3.73 324 eP Pn 06 34 03.1 +0.8
PB02 IPOC Station P 3.75 317 eP Pn 06 34 03.5 +0.9
LPAZ La Paz 7.83 353 P Pn 06 34 57.3 +1.1
comp=N,0.9nm,0.3s,baz=164,slow=10,SNR=9.7
LPAZ S Sn 06 36 24.6 +0.1
comp=N,0.7nm,0.7s,baz=9.1,slow=9.0,SNR=2.6
SIV San Ignacio 9.89 36 P Pn 06 35 21.3 -1.4
comp=N,0.8nm,0.6s,baz=225,slow=11,SNR=6.0
SIV S Sn 06 37 13.7 +0.8
comp=N,0.2nm,0.4s,baz=294,slow=20,SNR=1.4
BDFB Brasilia 19.86 68 P P 06 37 22.1 +0.2
comp=N,3.8nm,0.8s,baz=250,slow=11,SNR=5.8
TORD Torodi Ar. Bea 76.74 69 P P 06 44 34.5 -1.7
comp=N,0.2nm,0.5s,baz=259,slow=5.2,SNR=2.0
comp=N,0.2nm,0.5s

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*BGR **09** 06:39:49.0,28.48N×80.83E,h33km,mb4.9*
*BJI **09** 06:40:27.5,32.96N×75.82E,h32km,mB4.9/24,mb4.6/43, ML4.9/1,Ms4.5/38,Ms7 4.3/38*
*MOS **09** 06:40:31.5±1.2,33.11N×76.12E,h41km,mb5.1/49, MS4.2/8,Error ellipse: s-maj=6.0km s-min=3.2km az=107.0*
*NDI **09** 06:40:32.6±1.5,32.93N×76.02E,h10km,ML4.6,MW4.6*
*GCMT **09** 06:40:32.5±0.3,32.92N±0.02×75.87E±0.03,h30km, MW4.9/79,Moment Tensor Solution. s22,c25; s79,c100; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.83±.17; Mθθ-2.15±.12; Mϕϕ-0.68±.11; Mrθ0.94±.12; Mθϕ1.14±.06; Mϕr-0.45±.12; Best double couple: Mo2.98800×10^16^ NP1:ϕs118.00000°,δ55.00000°,λ89.00000°. NP2: ϕs118.00000°,δ55.00000°,λ89.00000°. Principal axes: T 3.0180, Plg80.0000°, Azm23.0000°; N -0.0590, Plg1.0000°, Azm118.0000°; P -2.9580, Plg10.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **09** 06:40:33.5±1.2,32.98N±0.08×76.18E±0.08,h44km±6km, mb4.9/177 Error ellipse: s-maj=11.3km s-min=9.8km az=187.0*
*IDC **09** 06:40:34.0±2.2,33.05N×76.15E,h50km±21km,mb4.2/29, mbtmp4.5/31,ML4.5/2,MS4.1/52,Error ellipse: s-maj=11.0km s-min=9.2km az=49.0*
*NNC **09** 06:40:37.9±4.3,33.72N×75.21E,h0km,mb5.0,mpv5.4, Error ellipse: s-maj=42.8km s-min=29.1km az=25.0*
ISC 09 06:40:31.6±0.6,32.99N±0.03×76.13E±0.02,h33km±4km, n767,σt$41/780,mb4.9/176,MS4.2/68,36C-19D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**0.75**	**169**	*eP*		**Pn**		**06 40 46.0**	**-0.1**
DHRM				*eS*		**Sn**		**06 40 57.1**	**+0.6**
DHRM				IAML				06 41 00.8	
	comp=N,8μm,0.5s								
DHRM				IAML				06 41 06.6	
	comp=E,16μm,0.6s								
TLWR	**Talawar**	**1.04**	**188**	*eP*		**Pb**		**06 40 50.7**	**-0.4**
TLWR				*eS*		**Sb**		**06 41 05.1**	**+0.6**
TLWR				IAML				06 41 14.2	
	comp=N,8μm,1.3s								
TLWR				IAML				06 41 16.2	
	comp=E,5μm,0.8s								
JMU	**Jammu**	**1.07**	**256**	*eP*		**Pb**		**06 40 52.3**	**+0.8**
JMU				*eS*		**Sb**		**06 41 06.5**	**+1.3**
JMU				IAML				06 41 19.2	
	comp=E,25μm,0.7s								
JMU				IAML				06 41 19.6	
	comp=N,32μm,0.6s								
ALCI	**Alchi Leh**	**1.51**	**36**	*eP*		**Pb**		**06 41 01.5**	**+2.3**
SRNI	**Srinagar**	**1.54**	**316**	*eP*		**Pb**		**06 41 00.2**	**+0.8**
SRNI				*eS*		**Sb**		**06 41 20.8**	**+2.3**
SRNI				IAML				06 41 31.6	
	comp=N,82μm,0.5s								
SRNI				IAML				06 41 32.1	
	comp=E,72μm,0.5s								
BHK	**Bhakra**	**1.59**	**171**	*eP*		**Pb**		**06 41 03.0**	**+2.6**
BHK				*ex*		**Sb**		**06 41 23.0**	**+2.9**
BHK				IAML				06 41 25.2	
	comp=E,13μm,0.5s								
BHK				IAML				06 41 25.3	
	comp=N,23μm,0.3s								
SMLA	**Simla**	**2.06**	**154**	*eP*		**Pb**		**06 41 07.3**	**-0.9**
SMLA				*eS*		**Sb**		**06 41 33.4**	**0.0**
SMLA				IAML				06 41 36.5	
	comp=E,14μm,0.7s								
SMLA				IAML				06 41 37.7	
	comp=N,19μm,0.6s								
CGRH	**CHANDIGARH**	**2.32**	**166**	*eP*		**Pb**		**06 41 10.4**	**-2.4**
CGRH				*eS*		**Sb**		**06 41 39.0**	**-2.0**
CGRH				IAML				06 41 44.9	
	comp=E,36μm,0.5s								
CGRH				IAML				06 41 45.1	
	comp=N,22μm,0.4s								
HNLY	**HANLEY**	**2.40**	**94**	*eP*		**Pb**		**06 41 14.2**	**-0.3**
HNLY				*eS*		**Sb**		**06 41 44.0**	**+0.1**
HNLY				IAML				06 41 48.1	
	comp=N,885nm,0.5s								
NIL	**Nilore**	**2.50**	**286**			**Pb**		**06 41 12.9**	**-2.8**
NIL	**Nilore**	**2.50**	**286**	P		**Pb**		**06 41 12.9**	**-2.8**
JOSI	**Joshimath**	**3.80**	**129**	*eP*		**Pn**		**06 41 30.8**	**+2.7**
JOSI				*eS*		**Sn**		**06 42 15.5**	**+3.7**
JOSI				IAML				06 42 33.3	
	comp=E,1μm,1.0s								
JOSI				IAML				06 42 35.9	
	comp=N,2μm,1.4s								
PTH	**Pithoragarh**	**4.90**	**133**	*eP*		**Pn**		**06 41 46.3**	**+3.1**
PTH				*eS*		**Sn**		**06 42 40.1**	**+1.2**
PTH				IAML				06 43 16.4	
	comp=N,432nm,1.2s								
UGON	**Onchagaon**	**4.91**	**161**	*eP*		**Pn**		**06 41 44.2**	**+1.0**
UGON				*eS*		**Sn**		**06 42 39.9**	**+1.0**
UGON				IAML				06 43 17.4	
	comp=E,2μm,0.7s								
UGON				IAML				06 43 22.1	
	comp=N,2μm,0.5s								
LGTI	**Lohaghat**	**4.99**	**134**	*eP*		**Pn**		**06 41 46.3**	**+2.1**
LGTI				*eS*		**Sn**		**06 42 42.0**	**+1.2**
LGTI				IAML				06 42 43.5	
	comp=N,329nm,0.1s								
LGTI				IAML				06 42 43.7	
	comp=E,281nm,0.4s								
KBL	**Kabul**	**6.10**	**287**			**Pn**		**06 42 00.7**	**+1.1**
KBL	**Kabul**	**6.10**	**287**	P		**Pn**		**06 42 00.7**	**+1.1**
KSH	**Kashi**	**6.51**	**359**	Pn		**Pn**		**06 42 04.8**	**-0.5**
KSH				Sn		**Sn**		**06 43 14.9**	**-3.6**
KSH				smax		smax			
	comp=N,1μm,0.7s								
KSH				smax		smax			
	comp=E,2μm,0.8s								
JASL	**Jaisalmer**	**7.55**	**218**	*eP*		**Pn**		**06 42 21.3**	**+1.8**
JASL				*eS*		**Sn**		**06 43 41.5**	**-2.4**
GAR	**Garm**	**7.62**	**324**			**Pn**		**06 42 20.7**	**+0.3**
CHGR	**Chuyangaron**	**8.00**	**317**			**Pn**		**06 42 24.9**	**-0.7**
CHGR	**Chuyangaron**	**8.00**	**317**	P		**Pn**		**06 42 24.9**	**-0.7**
DANN	**Dangsing**	**8.04**	**123**	Pn		**Pn**		**06 42 26.6**	**+0.2**
	baz=125,slow=0.0								
DANN				Sn		**Sn**		**06 43 53.9**	**-2.4**
	comp=E,211nm,0.5s,baz=125,slow=0.0								
SIMJ	**Simiganj**	**8.09**	**316**			**Pn**		**06 42 25.4**	**-1.5**
KOLN	**Koldanda**	**8.29**	**127**	Pn		**Pn**		**06 42 29.7**	**0.0**
	baz=129,slow=0.0								
KOLN				Sn		**Sn**		**06 44 00.5**	**-1.9**
	comp=E,327nm,0.8s,baz=129,slow=0.0								
NRN	**Naryn**	**8.43**	**359**			**Pn**		**06 42 34.0**	**+2.3**
NRN	**Naryn**	**8.43**	**359**	P		**Pn**		**06 42 34.0**	**+2.3**
TARG	**Taragay, Kyrgy**	**8.82**	**8**			**Pn**		**06 42 40.3**	**+3.1**
TARG	**Taragay, Kyrgy**	**8.82**	**8**	P		**Pn**		**06 42 40.3**	**+3.1**
GKN	**Gorkha**	**8.87**	**122**	Pn		**Pn**		**06 42 37.5**	**-0.1**
	baz=124,slow=0.0								
GKN				Sn		**Sn**		**06 44 13.1**	**-3.3**
	comp=E,165nm,0.3s,baz=124,slow=0.0								

KDJ	**Kajisay**	**9.16**	**5**	Pn		**Pn**		**06 42 44.2**	**+2.6**
KDJ	**Kajisay**	**9.16**	**5**	P		**Pn**		**06 42 44.2**	**+2.6**
UCH	**Uchtor**	**9.31**	**353**	P		**Pn**		**06 42 45.6**	**+1.7**
SNR=77									
TRKS	**Terek-Say**	**9.40**	**336**	P		**Pn**		**06 42 43.6**	**-1.3**
TRKS				pmax		pmax			
	comp=Z,18nm,0.8s								
DMN	**Daman**	**9.43**	**122**	Pn		**Pn**		**06 42 44.5**	**-1.0**
	baz=124,slow=0.0								
DMN				Sn		**Sn**		**06 44 27.3**	**-3.2**
	comp=Z,248nm,0.6s,baz=124,slow=0.0								
KKN	**Kakani**	**9.45**	**121**	Pn		**Pn**		**06 42 45.4**	**-0.3**
	baz=122,slow=0.0								
KKN				Sn		**Sn**		**06 44 27.7**	**-3.2**
	comp=Z,176nm,0.5s,baz=122,slow=0.0								
PKIN	**Phulchoki**	**9.66**	**122**	Pn		**Pn**		**06 42 47.4**	**-1.2**
	baz=123,slow=0.0								
PKIN				Sn		**Sn**		**06 44 32.5**	**-3.6**
	comp=Z,167nm,0.4s,baz=123,slow=0.0								
PKI	**Pulchoki**	**9.67**	**122**	Pn		**Pn**		**06 42 47.3**	**-1.5**
	baz=123,slow=0.0								
PKI				Sn		**Sn**		**06 44 33.3**	**-3.2**
	comp=Z,149nm,0.4s,baz=123,slow=0.0								
KBK	**Karagaybulak**	**9.69**	**355**	P		**Pn**		**06 42 50.6**	**+1.7**
SNR=16									
AAK	**Ala-Archa**	**9.72**	**353**	P		**Pn**		**06 42 50.7**	**+1.5**
SNR=17									
AAK	**Ala-Archa**	**9.72**	**353**			**Pn**		**06 42 50.7**	**+1.5**
AAK	**Ala-Archa**	**9.72**	**353**	⇑P		**Pn**		**06 42 50.5**	**+1.2**
	comp=Z,220nm,1.4s								
AAK				⇓S		**Sn**		**06 44 32.1**	**-5.2**
	comp=Z,161nm,1.0s								
AAK	**Ala-Archa**	**9.72**	**353**	P		**Pn**		**06 42 50.6**	**+1.4**
	comp=Z,7.9nm,0.3s,baz=155,slow=7.3,SNR=29								
AAK				S		**Sn**		**06 44 38.2**	**+0.9**
	comp=Z,61nm,0.7s,baz=117,slow=20,SNR=3.7								
AAK				LR		LR		06 46 59.7	
	comp=Z,1μm,19.2s,baz=176,slow=40								
	comp=Z,15nm,0.3s								
AAK	**Ala-Archa**	**9.72**	**353**	P		**Pn**		**06 42 50.8**	**+1.5**
AAK				S		**Sn**		**06 44 38.8**	**+1.5**
GUN	**Gumba**	**9.82**	**118**	Pn		**Pn**		**06 42 50.2**	**-0.7**
	baz=120,slow=0.0								
EKS2	**Erkin-Say**	**9.83**	**350**	P		**Pn**		**06 42 52.1**	**+1.3**
SNR=16									
FRU1	**Bishkek**	**9.87**	**354**	Pn		**Pn**		**06 42 51.4**	**+0.1**
FRU1	**Bishkek**	**9.87**	**354**	P		**Pn**		**06 42 51.4**	**+0.1**
TKM2	**Tokmak 2**	**9.92**	**358**	P		**Pn**		**06 42 53.6**	**+1.6**
SNR=32									
CHMS	**Chumysh**	**10.05**	**354**	P		**Sn**		**06 44 49.3**	**+4.0**
SNR=6.0									
TNSS	**Tian-Shan**	**10.05**	**3**	*eP*		**Pn**		**06 42 53.3**	**-0.7**
TNSS	**Tian-Shan**	**10.05**	**3**	*eP*		**Pn**		**06 42 53.3**	**-0.7**
MDOK	**Medeo**	**10.18**	**4**	*eP*		**Pn**		**06 42 55.4**	**-0.2**
MDOK	**Medeo**	**10.18**	**4**	*eP*		**Pn**		**06 42 55.4**	**-0.2**
SATY	**Saty**	**10.21**	**9**	*eP*		**Pn**		**06 42 55.8**	**-0.2**
SATY	**Saty**	**10.21**	**9**	*eP*		**Pn**		**06 42 55.7**	**-0.2**
IUG	**luzhnay**	**10.34**	**334**	*eP*		**Pn**		**06 42 57.0**	**-0.6**
IUG	**luzhnay**	**10.34**	**334**	*eP*		**Pn**		**06 42 57.0**	**-0.6**
USP	**Ospenovka**	**10.34**	**353**	P		**Pn**		**06 42 58.5**	**+0.9**
SNR=8.8									
SHLS	**Shalkode**	**10.48**	**14**	*eP*		**Pn**		**06 43 01.2**	**+1.5**
SHLS	**Shalkode**	**10.48**	**14**	*eP*		**Pn**		**06 43 01.2**	**+1.5**
EVN	**Everest**	**10.50**	**116**			**Pn**		**06 42 57.9**	**-2.5**
SGDS	**Sogindy**	**10.51**	**354**	*eP*		**Pn**		**06 42 59.7**	**-0.3**
DZA	**Taraz**	**10.58**	**340**	*eP*		**Pn**		**06 43 00.8**	**-0.1**
DZA	**Taraz**	**10.58**	**340**	*eP*		**Pn**		**06 43 00.8**	**-0.1**
CHM	**Chimkent**	**10.65**	**333**	*eP*		**Pn**		**06 43 01.9**	**0.0**
CHM	**Chimkent**	**10.65**	**333**	*eP*		**Pn**		**06 43 01.8**	**0.0**
PDGK	**Podgornoye**	**10.65**	**13**	⇓P		**Pn**		**06 43 03.5**	**+1.4**
	comp=Z,84nm,1.1s								
PDGK				⇑S		**Sn**		**06 44 59.7**	**-0.6**
	comp=Z,144nm,1.1s								
PDGK	**Podgornoye**	**10.65**	**13**	P		**Pn**		**06 43 03.4**	**+1.4**
PDGK				S		**Sn**		**06 44 59.6**	**-0.6**
RAMN	**Ramite**	**10.89**	**121**	Pn		**Pn**		**06 43 04.1**	**-1.4**
	baz=122,slow=0.0								
RAMN				Sn		**Sn**		**06 45 01.1**	**-5.2**
	comp=Z,122nm,0.5s,baz=122,slow=0.0								
KK31	**Karatay Array**	**11.02**	**338**			**Pn**		**06 43 06.2**	**-0.8**
KK31	**Karatay Array**	**11.02**	**338**	⇓P		**Pn**		**06 43 06.5**	**-0.5**
	comp=Z,16nm,0.4s,baz=162,slow=13,SNR=171								
KK31				⇑S		Sn		06 44 59.7	-9.2
	comp=Z,237nm,0.7s,baz=164,slow=24,SNR=20								
KK31	**Karatay Array**	**11.02**	**338**	*i* P		**Pn**		**06 43 06.4**	**-0.5**
KK31				*eS*		**Sn**		**06 45 03.2**	**-5.8**
KKAR	**Karatay Array**	**11.02**	**338**			**Pn**		**06 43 06.3**	**-0.6**
KKAR	**Karatay Array**	**11.02**	**338**	P		**Pn**		**06 43 06.3**	**-0.6**
ARXS	**Arharly**	**11.28**	**6**	*eP*		**Pn**		**06 43 13.6**	**+3.0**
ODAN	**Odare**	**11.52**	**119**	Pn		**Pn**		**06 43 13.4**	**-0.6**
baz=120,slow=0.0									
ODAN				Sn		**Sn**		**06 45 16.6**	**-5.1**
	comp=Z,125nm,0.7s,baz=120,slow=0.0								
HRA	**Herat**	**11.65**	**281**	Pn		**Pn**		**06 43 16.0**	**+0.2**
TDK	**Taldyqorghan**	**12.12**	**8**	*eP*		**Pn**		**06 43 21.7**	**-0.3**
TDK	**Taldyqorghan**	**12.12**	**8**	*eP*		**Pn**		**06 43 21.7**	**-0.3**
BTLS	**Baital**	**12.14**	**353**	*eP*		**Pn**		**06 43 22.2**	**0.0**
BTLS	**Baital**	**12.14**	**353**	*eP*		**Pn**		**06 43 22.2**	**0.0**
LSA	**Lhasa**	**13.25**	**100**	Pn		**Pn**		**06 43 35.7**	**-2.2**
LSA	**Lhasa**	**13.25**	**100**	P		**P**		**06 43 43.1**	**-4.3**
LSA				pmax		pmax			
	comp=Z,10.0nm,0.9s								
LSA				LR		LR			
	comp=Z,730nm,9.7s								
LSA	**Lhasa**	**13.25**	**100**	P		**Pn**		**06 43 35.7**	**-2.2**
WMQ	**Urumqi**	**14.10**	**37**	*eP*		**Pn**		**06 43 51.3**	**+2.3**
WMQ				LR		LR			
	comp=Z,1μm,8.7s								
WMQ				LR		LR			
	comp=Z,1μm,15.1s								
WMQ				LR		LR			
	comp=Z,930nm,16.5s								
MAKZ	**Makanchi**	**14.51**	**16**	Pn		**Pn**		**06 43 54.4**	**-0.1**
MAKZ	**Makanchi**	**14.51**	**16**	⇓P		**Pn**		**06 43 57.6**	**+3.1**
	comp=Z,63nm,1.2s								
MAKZ	**Makanchi**	**14.51**	**16**	P		**Pn**		**06 43 54.4**	**-0.1**
MK31	**Makanchi Array**	**14.57**	**17**	P		**P**		**06 43 58.5**	**-2.9**
	comp=Z,18nm,0.8s,baz=192,slow=12,SNR=83								
MK31	**Makanchi Array**	**14.57**	**17**	*i* P		**Pn**		**06 43 53.9**	**-1.4**
MK31				pmax		pmax			
	comp=Z,18nm,0.8s								
MKAR	**Makanchi Array**	**14.57**	**17**			**Pn**		**06 43 55.2**	**-0.2**
MKAR	**Makanchi Array**	**14.57**	**17**	P		**Pn**		**06 43 54.6**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=193,slow=13,SNR=35								
MKAR				S		**Sn**		**06 46 30.2**	**-5.5**
	comp=Z,28nm,0.8s,baz=186,slow=22,SNR=9.9								
	comp=Z,1.8nm,0.3s								
MKAR	**Makanchi Array**	**14.57**	**17**	*i* P		**Pn**		**06 43 54.5**	**-0.8**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.3s								
SHL	**Shillong**	**15.60**	**114**			**Pn**		**06 44 07.5**	**-1.8**
SHL	**Shillong**	**15.60**	**114**	P		**Pn**		**06 44 07.5**	**-1.8**
SHL				pmax		pmax			
	comp=Z,54nm,1.2s								
HYB	**Hyderabad**	**15.66**	**171**	*eP*		**P**		**06 44 15.4**	**+1.6**
GOMU	**GeErMu**	**15.72**	**73**	P		**P**		**06 44 15.9**	**+1.2**
GOMU				pP		pP		06 44 19.4	-4.8
GOMU				sP		sP		06 44 23.6	-5.4
GOMU				S		**Sn**		**06 47 09.5**	**+5.2**
GOMU				pmax		pmax			
	comp=Z,8.0nm,0.8s								
GOMU				LR		LR			
	comp=Z,530nm,11.3s								
GOMU				LR		LR			
	comp=Z,370nm,11.6s								
GOMU				LR		LR			
	comp=Z,460nm,11.6s								
ZSN	**Zaisan**	**15.89**	**22**	*eP*		**Pn**		**06 44 13.1**	**+0.3**
ZSN	**Zaisan**	**15.89**	**22**	*eP*		**Pn**		**06 44 13.1**	**+0.3**
BRDH	**Bariadhala**	**17.12**	**123**	LR		LR		06 52 36.1	
	comp=Z,243nm,20.2s,baz=288,slow=42								
BRZS	**Berezniki**	**17.17**	**352**	*eP*		**Pn**		**06 44 29.2**	**+0.3**
BRZS	**Berezniki**	**17.17**	**352**	*eP*		**Pn**		**06 44 29.1**	**+0.2**
KURBB	**Kurchatov Arra**	**17.71**	**5**	⇓P		**P**		**06 44 37.0**	**+0.9**
	comp=Z,56nm,1.4s								
KURBB	**Kurchatov Arra**	**17.71**	**5**	P		**Pn**		**06 44 33.0**	**-2.5**
	comp=Z,11nm,0.8s,baz=194,slow=10,SNR=41								
KURBB				S		**S**		**06 47 55.3**	**-2.9**
	comp=Z,0.8nm,0.4s,baz=161,slow=12,SNR=1.9								
KURBB				LR		LR		06 51 59.3	
	comp=Z,898nm,21.3s,baz=174,slow=39								
KURBB	**Kurchatov Arra**	**17.71**	**5**	P		**Pn**		**06 44 31.9**	**-3.6**
KURK	**Kurchatov**	**17.81**	**5**			**Pn**		**06 44 34.8**	**-1.9**
KURK	**Kurchatov**	**17.81**	**5**	⇓P		**Pn**		**06 44 36.1**	**-0.6**
	comp=Z,15nm,0.9s								

KURK	**Kurchatov**	**17.81**	**5**	P		**Pn**		**06 44 34.8**	**-1.9**
KURK				pmax		pmax			
	comp=Z,29nm,0.8s								
UOSS	**Minazif**	**19.17**	**250**	P		**P**		**06 44 52.6**	**+0.2**
GTA	**Gaotai**	**20.13**	**65**	*eP*		**P**		**06 45 03.7**	**+0.7**
GTA				pP		pP		06 45 11.4	-1.2
GTA				S		**S**		**06 48 46.9**	**-0.5**
GTA				pmax		pmax			
	comp=Z,18nm,1.4s								
GTA				pmax		pmax			
	comp=Z,280nm,9.2s								
GTA				LR		LR			
	comp=Z,630nm,17.1s								
GTA				LR		LR			
	comp=Z,1μm,12.3s								
GTA				LR		LR			
	comp=Z,1μm,13.1s								
AB31	**Akbulak array**	**20.24**	**328**	P		**P**		**06 45 04.2**	**+0.2**
AB31				IAmb		IAmb		06 45 10.4	
	comp=Z,39nm,0.8s								
AB31	**Akbulak array**	**20.24**	**328**	⇓P		**P**		**06 45 03.8**	**-0.1**
	comp=Z,21nm,0.6s,baz=133,slow=12,SNR=186								
AB31				⇑S		**S**		**06 48 39.4**	**-10**
	comp=Z,8.3nm,0.5s,baz=146,slow=23,SNR=7.7								
AB31	**Akbulak array**	**20.24**	**328**	*i* P		**P**		**06 45 04.0**	**+0.1**
AB31				S		**S**		**06 48 38.7**	**-11**
ABKAR	**Akbulak array**	**20.24**	**328**			**P**		**06 45 04.3**	**+0.4**
BVA0	**Borovoye Array**	**20.45**	**350**	P		**P**		**06 45 06.2**	**+0.1**
	comp=Z,87nm,1.2s,baz=158,slow=8.7,SNR=123								
BVA0	**Borovoye Array**	**20.45**	**350**	*i* P		**P**		**06 45 06.2**	**+0.1**
BVAR	**Borovoye Array**	**20.45**	**350**	P		**P**		**06 45 05.3**	**-0.8**
	comp=Z,30nm,0.8s,baz=160,slow=9.5,SNR=105								
BVAR				S		**S**		**06 48 53.7**	**+0.5**
	comp=Z,6.1nm,1.0s,baz=164,slow=18,SNR=2.5								
BVAR				LR		LR		06 53 22.9	
	comp=Z,512nm,19.2s,baz=164,slow=38								
	comp=Z,30nm,0.8s								
TNCH	**TengChong**	**21.10**	**106**	P		**P**		**06 45 15.1**	**+1.4**
TNCH				sP		pP		06 45 22.9	-0.4
TNCH				S		**S**		**06 49 03.7**	**-3.2**
TNCH				pmax		pmax			
	comp=Z,74nm,0.3s								
TNCH				pmax		pmax			
	comp=Z,230nm,2.6s								
TNCH				LR		LR			
	comp=Z,540nm,11.1s								
TNCH				LR		LR			
	comp=Z,920nm,11.9s								
TNCH				LR		LR			
	comp=Z,560nm,13.5s								
ZAA0	**Zalesovo Array**	**21.85**	**14**	P		**P**		**06 45 20.1**	**-1.1**
ZALV	**Zalesovo Beam**	**21.85**	**14**	P		**P**		**06 45 20.0**	**-1.2**
ZALV	**Zalesovo Beam**	**21.85**	**14**	P		**P**		**06 45 20.0**	**-1.2**
	comp=Z,5.9nm,0.3s,baz=206,slow=9.9,SNR=39								
ZALV				S		**S**		**06 49 18.6**	**-2.1**
	comp=Z,4.6nm,0.7s,baz=206,slow=13,SNR=2.6								
ZALV				LR		LR		06 55 00.6	
	comp=Z,184nm,21.5s,baz=208,slow=40								
	comp=Z,5.9nm,0.3s								
AKTO	**Aktyubinsk**	**21.96**	**328**	⇑P		**P**		**06 45 22.4**	**0.0**
	comp=Z,79nm,0.8s								
AKTO				⇑S		**S**		**06 49 19.6**	**-3.4**
	comp=Z,21nm,1.5s								
AKTO	**Aktyubinsk**	**21.96**	**328**	P		**P**		**06 45 22.6**	**+0.2**
	comp=Z,100nm,0.9s,baz=129,slow=9.1,SNR=171								
AKTO				S		**S**		**06 49 22.4**	**-0.5**
	comp=Z,4.7nm,0.8s,baz=202,slow=23,SNR=2.1								
AKTO				LR		LR		06 54 51.5	
	comp=Z,427nm,20.0s,baz=75,slow=39								
	comp=Z,100nm,0.9s								
LZDM	**Lanzhou Array**	**22.89**	**75**	P		**P**		**06 45 33.7**	**+0.8**
	comp=Z,2.2nm,0.3s,baz=262,slow=8.7,SNR=12								
	comp=Z,2.2nm,0.3s								
LZH	**Lanzhou**	**23.01**	**75**	*eP*		**P**		**06 45 34.4**	**+0.5**
LZH				pP		sP		06 45 47.2	-1.2
LZH				S		**S**		**06 49 41.0**	**-1.5**
LZH				pmax		pmax			
	comp=Z,20nm,1.2s								
LZH				pmax		pmax			
	comp=Z,210nm,4.1s								
LZH				LR		LR			
	comp=Z,590nm,12.9s								
LZH				LR		LR			
	comp=Z,570nm,13.6s								
LZH				LR		LR			
	comp=Z,660nm,18.2s								
PZH	**PanZhiHua**	**23.13**	**100**	P		**P**		**06 45 35.3**	**+0.2**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,100nm,5.1s								
CD2	**Chengdu**	**23.51**	**88**	P		**P**		**06 45 38.2**	**-0.6**
CD2				pP		pP		06 45 47.9	-1.0
CD2				sP		sP		06 45 51.2	-1.8
CD2				S		**S**		**06 49 50.4**	**-0.2**
CD2				sS		sS		06 50 05.6	-2.3
CD2				pmax		pmax			
	comp=Z,30nm,0.8s								
CD2

ARTI Arti 26.42 338*c i*P P 06 46 05.8 +0.8**
ARTI 06 46 42.8
ARTI 06 49 29.2
ARTI S **S** **06 50 40.0 +3.7**
ARTI SS **SnSn** **06 51 40.4 +1.8**
ARTI pmax pmax
comp=Z,53nm,1.0s
ARTI MLR MLR
comp=Z,919nm,17.0s
ZAK Zakamensk 26.48 41 *e*P P **06 46 08.2 +2.3**
ZAK pmax pmax
comp=Z,16nm,1.8s
SONM Songino Array 27.19 48 P **06 46 13.8 +1.5**
SONM Songino Array 27.19 48 P P **06 46 13.8 +1.5**
comp=Z,2.2nm,0.5s,baz=245,slow=9.2,SNR=13
comp=Z,2.2nm,0.5s
SLVN Son La 27.22 108 P **06 46 13.0 +0.3**
GYA Guiyang 27.25 96 P P **06 46 13.7 +0.7**
GYA pP pP 06 46 23.3 0.0
GYA S **S** **06 50 43.9 -6.3**
GYA LR LR
comp=Z,460nm,10.6s
GEVA Gevas 27.30 291 P P **06 46 14.2 +0.8**
GEVA IAmb IAmb 06 46 22.4
comp=Z,19nm,0.9s
XAN Xi'an 27.30 79 ⇓P P **06 46 13.4 +0.1**
XAN pP pP 06 46 24.0 +0.1
XAN S **S** **06 50 54.3 +3.5**
XAN pmax pmax
comp=Z,17nm,1.1s
XAN pmax pmax
comp=Z,180nm,3.8s
XAN LR LR
comp=Z,510nm,11.7s
XAN LR LR
comp=Z,560nm,12.2s
XAN LR LR
comp=Z,820nm,23.4s
ULN Ulaanbaatar 27.61 48 P P **06 46 16.7 +0.6**
ULN Ulaanbaatar 27.61 48*ce*P P **06 46 17.4 +1.3**
ULN pmax pmax
comp=Z,9.0nm,2.1s
KBZ Khabaz 28.00 302 P P **06 46 20.6 +1.2**
comp=Z,2.0nm,0.7s,baz=165,slow=6.4,SNR=4.7
comp=Z,2.0nm,0.7s
KBZ Khabaz 28.00 302*ce*P P **06 46 19.1 -0.3**
KBZ pmax pmax
comp=Z,4.0nm,1.1s
BTO Baotou 28.06 65 *e*P P **06 46 18.7 -1.4**
BTO PP **PnPn** **06 47 06.9 -1.2**
BTO S **S** **06 51 00.9 -1.8**
BTO pmax pmax
comp=Z,18nm,0.5s
BTO pmax pmax
comp=Z,150nm,5.4s
BTO LR LR
comp=Z,710nm,10.0s
BTO LR LR
comp=Z,590nm,12.2s
BTO LR LR
comp=Z,690nm,14.5s
GURO Guroymak-BITLI 28.11 291 P P **06 46 20.0 -0.6**
KIV Kislovodsk 28.20 303 *e*P P **06 46 19.5 -1.8**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,184nm,15.0s
BELG Belogornoye 28.25 322 *i*P P **06 46 21.8 +0.3**
BELG pmax pmax
comp=Z,6.0nm,1.0s
ENH Enshi 28.47 86 P P **06 46 22.9 -0.9**
RAYN Ar Rayn 28.49 259 P P **06 46 24.6 +0.7**
RAYN Ar Rayn 28.49 259 P P **06 46 24.7 +0.7**
RAYN pmax pmax
comp=Z,13nm,1.1s
MARD Mardin 29.11 289 P P **06 46 30.8 +1.2**
ARXR Arkhyz 29.13 301 *i*P P **06 46 31.1 +1.4**
HHC Hu-ho-hao-te 29.25 64 *e*P P **06 46 32.1 +1.5**
HHC S **S** **06 51 20.7 -0.7**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,94nm,4.0s
HHC LR LR
comp=Z,200nm,12.2s
HHC LR LR
comp=Z,240nm,13.0s
HHC LR LR
comp=Z,300nm,13.0s
SOC Sochi 30.25 301 *e*P P **06 46 37.3 -2.1**
SOC *e* 06 47 33.9
SOC *e*PPP PPP 06 47 47.1
SOC *e*S **S** **06 51 35.6 -1.3**
SOC *e*SS **SnSn** **06 53 11.4 -0.9**
SOC MLR MLR
comp=Z,119nm,16.0s
VRH Novokhopyorsk 30.96 316 *e*P P **06 46 42.1 -3.5**
VRH pmax pmax
comp=Z,20nm,1.0s
ARPR Arapgir-MALATY 31.00 292 P P **06 46 47.9 +1.7**
ARPR IAmb IAmb 06 47 15.1
comp=Z,32nm,1.3s
KIRV Kirov 31.25 333 LR LR 07 00 37.4
comp=Z,648nm,19.6s,baz=134,slow=38
KIRV Kirov 31.25 333*ce*P P **06 46 49.3 +1.3**
GAZ Gaziantep 31.96 289 P P **06 46 56.6 +1.9**
GAZ IAmb IAmb 06 46 57.7
comp=Z,20nm,1.0s
VORD Divnogorie 32.31 315 *e*P P **06 46 55.6 -1.8**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 32.47 315 *e*P P **06 46 56.5 -2.3**
VSR pmax pmax
comp=Z,20nm,1.0s
WHN Wuhan 32.47 84 P P 06 47 06.6 +7.5
WHN LR LR
comp=Z,2µm,16.6s
VORR Voronezh 32.60 316 *e*P P **06 46 58.5 -1.4**
VORR pmax pmax
comp=Z,30nm,0.9s
XLT XiLinHaoTe 32.84 59 *e*P P **06 47 04.1 +1.8**
XLT sP pP 06 47 14.7 +1.7
XLT pmax pmax
comp=Z,8.0nm,1.2s
XLT pmax pmax
comp=Z,71nm,4.0s
XLT LR LR
comp=Z,300nm,12.1s
XLT LR LR
comp=Z,240nm,13.3s
ASF Jabal al Asfar 32.94 279 LR LR 07 02 52.6
comp=Z,480nm,18.7s,baz=153,slow=41
LPSR Galich'ya Gora 33.09 318 *e*P P **06 47 02.6 -1.6**
LPSR pmax pmax
comp=Z,50nm,0.9s
QIZ Qiongzhong 33.18 106 P P **06 47 04.9 -0.5**
QIZ S **S** **06 52 21.9 -1.1**
QIZ sS **sS** **06 52 39.8 -0.5**
QIZ LR LR
comp=Z,120nm,7.6s
QIZ LR LR
comp=Z,150nm,8.9s
QIZ LR LR
comp=Z,220nm,8.9s
MMAI Mount Meron Ar 34.00 281 LR LR 07 03 36.3
comp=Z,374nm,18.4s,baz=76,slow=41
GHAJ Ghor Haditha 34.24 278 P P **06 47 15.2 +0.8**
GHAJ IAmb IAmb 06 47 23.3
comp=Z,12nm,0.5s
KIRS Kirsehir-Merke 34.43 292 ⇑P P **06 47 17.4 +1.2**
ILGA Ilgaz 34.53 296 P P **06 47 16.9 -0.2**
ILGA IAmb IAmb 06 47 19.2
comp=Z,26nm,1.4s
BR131 Keskin Array S 34.62 294 P P **06 47 18.1 +0.2**
BR131 IAmb IAmb 06 47 20.1
comp=Z,23nm,1.1s
BR131 Keskin Array S 34.62 294 P P **06 47 18.1 +0.2**
BR131 pmax pmax
comp=Z,23nm,1.2s
BRTR Keskin Array B 34.62 294 P P **06 47 18.5 +0.6**
BRTR Keskin Array B 34.62 294 P P **06 47 19.2 +1.3**
comp=Z,8.8nm,1.0s,baz=101,slow=7.8,SNR=29
comp=Z,8.8nm,1.0s
MOS Moscow 35.02 322 *e*P P **06 47 20.7 -0.2**
MOS *e* 06 48 40.1
MOS pmax pmax
comp=Z,50nm,0.8s
HKPS Hong Kong Po S 35.16 98 P P **06 47 21.7 -0.8**
EIL Elat 35.17 276 LR LR 07 04 05.1
comp=Z,403nm,20.3s,baz=7.5,slow=40
ANTO Ankara 35.26 294 P P **06 47 24.5 +1.2**
ANTO IAmb IAmb 06 47 32.0
comp=Z,26nm,1.5s
ANTO Ankara 35.26 294 P P **06 47 24.5 +1.2**
ANTO pmax pmax
comp=Z,26nm,1.5s
OBN Obninsk 35.33 321 P P **06 47 24.1 +0.6**
OBN Obninsk 35.33 321 LR LR 07 05 12.9
comp=Z,162nm,18.9s,baz=46,slow=42
OBN Obninsk 35.33 321*c i*P P **06 47 23.9 +0.3**
OBN *i* *SP **pP** **06 47 32.2 -2.0**
OBN 06 48 46.0
OBN SS SS 06 55 08.0 -22
OBN pmax pmax
comp=Z,44nm,0.5s
OBN MLR MLR
comp=Z,147nm,15.0s
CSS Mathiatis 35.35 285 P P **06 47 24.6 +0.6**
CSS IAmb IAmb 06 47 25.5
comp=Z,14nm,1.1s
NJ2 Nanjing 35.86 80 *e*P P **06 47 28.9 +0.5**
NJ2 pmax pmax
comp=Z,16nm,0.6s
DLV Lat 36.28 118 P P **06 47 31.1 -1.3**
KLMR Klimovskoe 36.60 331 *e*P P **06 47 33.3 -1.1**
KLMR *e* 06 48 56.1
KLMR pmax pmax
comp=Z,41nm,1.4s
KLMR MLR MLR
comp=Z,745nm,15.0s
PSI Prapat 36.85 140 LR LR 07 03 34.8
comp=Z,132nm,20.6s,baz=202,slow=37
AKASG Malin Array Be 38.43 312 P P **06 47 49.7 -0.3**
AKASG IAmb IAmb 06 47 50.8
comp=Z,14nm,1.0s
AKASG Malin Array Be 38.43 312 P P **06 47 49.6 -0.3**
comp=Z,13nm,0.8s,baz=81,slow=6.9,SNR=36
AKASG LR LR 07 06 03.0
comp=Z,93nm,18.7s,baz=91,slow=40
comp=Z,13nm,0.8s
AKASG Malin Array Be 38.43 312*ce*P P **06 47 49.5 -0.5**
AKASG pmax pmax
comp=Z,19nm,0.8s
AKBB Malin Array Si 38.43 312 P P **06 47 49.8 -0.2**
AKBB IAmb IAmb 06 47 50.2
comp=Z,15nm,0.7s
AKBB Malin Array Si 38.43 312*ce*P P **06 47 48.7 -1.3**
AKBB pmax pmax
comp=Z,12nm,0.6s
KIEV Kiev 38.44 312 P **06 47 49.7 -0.3**
KIEV IAmb IAmb 06 47 50.1
comp=Z,14nm,0.7s
KIEV Kiev 38.44 312 ⇑P P **06 47 50.3 +0.2**
KIEV Kiev 38.44 312 P P **06 47 49.7 -0.3**
KIEV pmax pmax
comp=Z,14nm,0.7s
KIEV Kiev 38.44 312 P P **06 47 49.9 -0.2**
MANT Manisa 38.66 292 P P **06 47 52.5 +0.2**
MANT IAmb IAmb 06 48 09.6
comp=Z,27nm,1.4s
SORM Soroca 38.67 307 ⇑P P **06 47 52.5 +0.4**
SORM Soroca 38.67 307 P P **06 47 52.5 +0.4**
PLOR Plostina 39.71 304 ⇑P P **06 48 02.5 +1.6**
PLOR Plostina 39.71 304 P P **06 48 02.4 +1.6**
ONER Baraj Valea Uz 39.90 304 ⇑P P **06 48 04.2 +1.8**
MNK Minsk 39.95 317 *i*P P **06 48 02.2 -0.4**
comp=E,8.0nm,0.7s
MNK *i* P P **06 48 02.2 -0.4**
comp=N,9.0nm,0.7s
MNK *i* P P **06 48 02.2 -0.4**
comp=Z,19nm,0.6s,baz=102
MNK *i* PP **PP** **06 49 34.2 -0.4**
MNK *i* PPP PPP 06 49 57.6
MNK *i* S **S** **06 54 08.4 +2.9**
MNK *i* SS **SS** **06 56 58.8 -3.9**
MNK *i* SSS SSS 06 57 52.4
MNK *i* LQ LQ 07 00 42.2
MNK *i* LR LR 07 04 40.3
MNK *i* LRM MLR 07 06 19.7
comp=Z,144nm,16.9s
MNK *i* LRM MLR 07 06 23.5
comp=N,186nm,17.5s
MNK *i* LRM MLR 07 07 21.3
comp=E,235nm,18.6s
MNK Minsk 39.95 317 *i*P P **06 48 02.2 -0.4**
MNK *i* 06 49 34.1
MNK *i* PPP PPP 06 49 57.5
MNK *i* 06 50 07.1
MNK *i* S **S** **06 54 08.4 +2.9**
MNK *i* SS **SS** **06 56 58.8 -3.9**
MNK pmax pmax
comp=E,8.0nm,0.7s
MNK pmax pmax
comp=N,9.0nm,0.7s
MNK pmax pmax
comp=Z,19nm,0.6s
MNK MLR MLR
comp=Z,144nm,17.0s
MNK MLR MLR
comp=N,186nm,18.0s
MNK MLR MLR
comp=E,235nm,19.0s
COVR Voineasa-Covas 40.02 304 ⇓P P **06 48 05.0 +1.6**
MLR Muntele Rosu 40.20 303 P **06 48 06.3 +1.3**
MLR IAmb IAmb 06 48 09.8
comp=Z,35nm,1.0s
MLR Muntele Rosu 40.20 303 LR LR 07 08 02.3
comp=Z,103nm,18.7s,baz=55,slow=41
MLR Muntele Rosu 40.20 303 ⇑P P **06 48 06.9 +1.8**
MLR Muntele Rosu 40.20 303 P P **06 48 06.3 +1.3**
MLR pmax pmax
comp=Z,35nm,1.0s
KARP Karpathos 40.22 288 P P **06 48 05.5 +0.4**
TATO Taipei 40.23 89 P P **06 48 04.7 -0.6**
TATO IAmb IAmb 06 48 28.0
comp=Z,37nm,0.9s
EZN Ezine 40.23 294 ⇑P P **06 48 05.7 +0.5**
EZN Ezine 40.23 294 P P **06 48 05.7 +0.5**
NACGM Naroch 40.66 318 *e*P P **06 48 09.8 +1.3**
RDO Rodhopi 40.70 297 P P **06 48 10.5 +1.5**
RDO IAmb IAmb 06 48 11.3
comp=Z,22nm,1.3s
BURAR Bucovina Array 40.75 306 P **06 48 10.1 +0.6**
BURAR Bucovina Array 40.75 306 ⇑P P **06 48 10.1 +0.6**
BURAR Bucovina Array 40.75 306 P P **06 48 10.1 +0.6**
BUR08 Bucovina Ar. S 40.76 306 P P **06 48 10.2 +0.6**
ARR Arges 41.13 303 ⇓P P **06 48 13.6 +0.9**
VSU Vasula 41.53 323*ce*P P **06 48 15.6 0.0**
VSU pmax pmax
comp=Z,23nm,1.0s
YOJ Yonaguni jima 41.70 89 P P **06 48 17.0 -0.5**
YOJ Yonaguni jima 41.70 89 P P **06 48 17.0 -0.5**
YOJ pmax pmax
comp=Z,69nm,1.2s
FURI Furi 42.05 244 LR LR 07 08 48.3
comp=Z,168nm,18.2s,baz=32,slow=40
KS19 Wonju Array Si 42.06 69 P P **06 48 20.0 -0.3**
IDI Anoyia 42.09 288 P P **06 48 21.2 +0.6**
IDI IAmb IAmb 06 48 38.7
comp=Z,30nm,1.2s
KSAR Wonju Array Be 42.09 69 P P **06 48 20.2 -0.3**
KSAR Wonju Array Be 42.09 69 P P **06 48 20.2 -0.3**
KSRS Korea Array 42.12 69 P P **06 48 20.9 +0.2**
comp=Z,1.2nm,0.6s,baz=275,slow=6.6,SNR=9.1
comp=Z,1.2nm,0.6s
MARR Marisel-Cluj 42.17 305 ⇑P P **06 48 22.5 +1.3**
LVZ Lovozero 42.27 338 P P **06 48 22.5 +0.9**
LVZ IAmb IAmb 06 48 23.2
comp=Z,41nm,1.2s
LVZ Lovozero 42.27 338*ce*P P **06 48 22.9 +1.3**
LVZ pmax pmax
comp=Z,41nm,1.7s
LVZ Lovozero 42.27 338 P P **06 48 22.6 +1.0**
PABE Paberze 42.35 318 P P **06 48 22.9 +0.5**
DRGR 42.45 305 ⇓P P **06 48 24.6 +1.2**
DRGR 42.45 305 P P **06 48 24.6 +1.2**
MDJ Mudanjiang 42.55 58 P P **06 48 24.5 +0.3**
SUW Suwalki 42.58 316 P P **06 48 24.0 -0.2**
SUW Suwalki 42.58 316 P P **06 48 24.0 -0.2**
FIA1 FINESS Array S 42.73 327 P P **06 48 26.0 +0.7**
FIA1 IAmb IAmb 06 48 26.4
comp=Z,28nm,0.8s
FINES FINESS Array B 42.73 327 P P **06 48 26.0 +0.6**
FINES FINESS Array B 42.73 327 P P **06 48 25.9 +0.6**
comp=Z,7.5nm,0.6s,baz=118,slow=8.9,SNR=39
FINES LR LR 07 07 22.7
comp=Z,379nm,18.3s,baz=72,slow=38
comp=Z,7.5nm,0.6s
FINES FINESS Array B 42.73 327 *i*P P P **06 48 25.8 +0.5**
FINES pmax pmax
comp=Z,8.0nm,0.6s
KOLS Kolonicke sedl 42.75 308 *e*P P **06 48 26.8 +1.0**
SURR Surduc 42.88 304 ⇓P P **06 48 28.3 +1.5**
SIRR Siria 43.18 304 ⇑P P **06 48 30.9 +1.6**
FNA Florina 43.87 297 P P **06 48 35.0 +0.1**
FNA Florina 43.87 297 P P **06 48 35.0 +0.1**
FNA pmax pmax
comp=Z,16nm,1.1s
ITM Ithomi 44.05 291 P P **06 48 35.8 -0.6**
NIE Niedzica 44.05 309 *e*P P **06 48 37.4 +1.2**
USRK Ussuriysk Ar. 44.30 58 P P **06 48 38.0 -0.2**
USRK Ussuriysk Ar. 44.30 58 P P **06 48 38.0 -0.2**
PSZ Piszkesteto 44.34 307 P P **06 48 38.5 -0.1**
PSZ Piszkesteto 44.34 307 ⇑P P **06 48 39.8 +1.2**
PSZ Piszkesteto 44.34 307 P P **06 48 38.5 -0.1**
PSZ pmax pmax
comp=Z,15nm,1.3s
OJC Ojcow 44.38 310 P P **06 48 39.3 +0.4**
OJC Ojcow 44.38 310 P P **06 48 39.3 +0.4**
YAK Yakutsk 44.50 33 P P **06 48 40.1 +0.6**
YAK IAmb IAmb 06 48 49.7
comp=Z,40nm,1.1s
YAK Yakutsk 44.50 33 LR LR 07 09 11.2
comp=Z,330nm,19.0s,baz=250,slow=39
YAK Yakutsk 44.50 33 *e*P P **06 48 43.5 +4.0**
YAK *e* 06 50 19.9
YAK *e* 06 50 24.7
YAK *e*PPP PPP 06 51 03.8
YAK *e*S **S** **06 55 20.3 +7.9**
YAK *e*SS **SS** **06 58 28.0 -4.2**
YAK pmax pmax
comp=Z,8.0nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,219nm,4.6s
YAK pmax pmax
comp=N,345nm,4.5s
YAK pmax pmax
comp=E,251nm,4.5s
YAK smax smax
comp=N,52nm,19.2s
YAK smax smax
comp=E,34nm,12.9s
YAK MLR MLR
comp=Z,325nm,16.0s
YAK MLR MLR
comp=E,206nm,14.0s
YAK MLR MLR
comp=N,127nm,12.0s
PDG Podgorica 45.22 299 P P **06 48 45.6 0.0**
PDG IAmb IAmb 06 49 12.3
comp=Z,16nm,0.7s
KEK Kerkira 45.23 295 P P **06 48 47.0 +1.2**
KEK IAmb IAmb 06 49 10.8
comp=Z,12nm,1.0s
JOW Kunigami 45.24 84 LR LR 07 09 22.1
comp=Z,206nm,19.1s,baz=339,slow=38
MORH Mrgy, Hungar 45.28 305 ⇑P P **06 48 47.1 +1.1**
KEV Kevo 45.61 338 P P **06 48 49.4 +1.1**
KEV Kevo 45.61 338 P P **06 48 49.4 +1.1**
KEV pmax pmax
comp=Z,48nm,1.4s
STEB Steborice 45.69 310 *e*P P **06 48 50.2 +0.9**
JAVC Velka Javorina 45.79 308 *e*P P **06 48 51.5 +1.4**
MORC Moravsky Berou 45.84 310 P P **06 48 51.3 +0.8**
MORC IAmb IAmb 06 48 52.4
comp=Z,13nm,1.0s
MORC Moravsky Berou 45.84 310 *e*P P **06 48 51.3 +0.8**
MORC Moravsky Berou 45.84 310 ⇑P P **06 48 51.5 +1.0**
MORC Moravsky Berou 45.84 310 P P **06 48 51.3 +0.8**
MORC pmax pmax
comp=Z,13nm,1.0s
KKM Kota Kinabalu 45.88 117 P P **06 48 50.5 -0.8**
ARCES ARCESS Array B 45.99 338 P P **06 48 52.6 +1.3**
ARCES IAmb IAmb 06 48 53.1
comp=Z,33nm,1.2s
ARCES ARCESS Array B 45.99 338 P P **06 48 52.3 +1.0**
comp=Z,5.3nm,0.4s,baz=112,slow=7.8,SNR=63
ARCES LR LR 07 09 46.3
comp=Z,357nm,18.9s,baz=110,slow=38
comp=Z,5.3nm,0.4s
ARCES ARCESS Array B 45.99 338 P P **06 48 52.6 +1.3**
ARCES pmax pmax
comp=Z,33nm,1.2s
KRLC Kraliky 46.33 310 *e*P P **06 48 54.7 +0.4**
KRLC Kraliky 46.33 310 *e*P P **06 48 54.7 +0.4**
VRAC Vranov 46.48 309 LR LR 07 11 26.3
comp=Z,83nm,19.9s,baz=82,slow=40
VRAC Vranov 46.48 309 *e*P P **06 48 56.0 +0.6**
VRAC Vranov 46.48 309 ⇑P P **06 48 56.2 +0.7**
VRAC Vranov 46.48 309 P P **06 48 56.1 +0.6**
DPC Dobruska-Polom 46.61 310 *e*P P **06 48 57.8 +1.2**
DPC Dobruska-Polom 46.61 310 *e*P P **06 48 57.8 +1.2**
KRUC Moravsky 46.62 309 *e*P P **06 48 56.4 -0.2**
OSTC Ostas 46.68 311 *e*P P **06 48 57.8 +0.8**
OSTC Ostas 46.68 311 *e*P P **06 48 57.8 +0.8**
RONA Rosalia, Austr 46.77 307 *i*P P **06 48 58.3 +0.4**
comp=Z,4.1nm,0.5s
CONA Conrad Observa 47.05 307 *i*P P **06 49 00.6 +0.6**
comp=Z,18nm,1.2s
MATE Matera 47.39 297 ⇑P P **06 49 03.5 +0.8**
TIXI Tiksi 47.53 20 P P **06 49 03.4 +0.1**
TIXI IAmb IAmb 06 49 21.4
comp=Z,15nm,1.1s
TIXI Tiksi 47.53 20 LR LR 07 10 39.8
comp=Z,481nm,18.3s,baz=203,slow=38
TIXI Tiksi 47.53 20 P P **06 49 03.4 +0.1**
TIXI pmax pmax
comp=Z,15nm,1.2s
TIP Timpagrande 47.64 295 P P **06 49 05.4 +0.6**
TIP IAmb IAmb 06 49 06.1
comp=Z,25nm,1.1s
TIP Timpagrande 47.64 295 ⇑P P **06 49 05.0 +0.3**
SOKA Soboth 47.72 305 *e*P P **06 49 05.8 +0.5**
comp=Z,15nm,0.8s
SGRT San Giovanni R 47.91 299 P P **06 49 06.6 -0.2**
ACER Acerenza 47.94 297 P P **06 49 07.6 +0.6**
OBKA Obir 48.07 305 *i*P P **06 49 09.1 +1.0**
comp=Z,0.2nm,0.3s
BRG Berggiesshubel 48.11 311 *i*P P **06 49 10.6 +2.5**
BRG Amp 06 49 11.8
comp=Z,12nm,1.0s
BRG Berggiesshubel 48.11 311 P P 06 49 17.8 +10
BRG Amp 06 49 19.9
comp=Z,7.7nm,0.9s
LODK Lodwar 48.12 241 P P **06 49 08.7 -0.1**
LODK IAmb IAmb 06 49 23.9
comp=Z,9.9nm,1.1s
MOA Molln 48.12 307 *e*P P **06 49 08.8 +0.5**
comp=Z,13nm,1.0s
CUC Castrocucco 48.19 296 P **06 49 09.5 +0.6**
GEC2 GERESS Array S 48.41 308 P P **06 49 11.0 +0.4**
GERES GERESS Array B 48.41 308 P P **06 49 11.4 +0.9**
comp=Z,1.7nm,0.7s,baz=79,slow=5.8,SNR=10.0
comp=Z,1.7nm,0.7s
HFS Hagfors 48.41 324 P P **06 49 10.8 +0.5**
comp=Z,17nm,0.8s,baz=86,slow=8.8,SNR=22
HFS LR LR 07 11 00.6
comp=Z,180nm,18.6s,baz=90,slow=38
comp=Z,17nm,0.8s
KHC Kasperske Hory 48.46 309*ce*P P **06 49 12.1 +1.2**
KHC pmax pmax
comp=Z,5.0nm,1.3s
KHC Kasperske Hory 48.46 309 *e*P P **06 49 11.7 +0.8**
CEL Celeste 48.50 294 P P **06 49 11.3 0.0**
CLL Collm 48.67 312 P P **06 49 12.7 +0.2**
CLL IAmb IAmb 06 49 13.7
comp=Z,11nm,1.2s
CLL Collm 48.67 312 P P **06 49 12.7 +0.2**
CLL pmax pmax
comp=Z,11nm,1.2s

PAOL Paolisi 48.91 298 P **P** **06 49 14.9 +0.3**
INTR Introdacqua 49.21 299 P **P** **06 49 17.3 +0.4**
LESA Schwarzleotal 49.24 307 *i* P **P** **06 49 16.9 -0.1**
comp=Z,4.5nm,0.6s
STAL STALIGIAL 49.37 305 P **P** **06 49 18.4 +0.5**
STAL IAmb IAmb 06 49 27.8
comp=Z,13nm,0.9s
NC405 NORSAR Array S 49.46 325 P **P** **06 49 18.7 +0.4**
NC602 NORSAR Array S 49.52 324 P **P** **06 49 19.3 +0.5**
NC303 NORSAR Array S 49.63 325 P **P** **06 49 20.4 +0.8**
NRCA Norcia 49.63 301 P **P** **06 49 21.2 +1.1**
LEM Lembang 49.64 137 LR LR 07 12 18.2
comp=Z,84nm,20.0s,baz=128,slow=38
NB201 NORSAR Array S 49.66 325 P **P** **06 49 20.2 +0.4**
NB201 IAmb IAmb 06 49 21.1
comp=Z,14nm,0.9s
NB2 NORSAR Subarra 49.70 325 P **P** **06 49 19.9 -0.3**
comp=Z,20nm,1.0s,baz=93,slow=7.9
NOA NORSAR Array B 49.70 325 P **P** **06 49 20.1 -0.1**
comp=Z,14nm,0.9s,baz=94,slow=7.5,SNR=34
NOA LR LR 07 12 10.5
comp=Z,148nm,19.2s,baz=75,slow=38
comp=Z,14nm,0.9s
VAE Valguarnera 49.82 294 LR LR 07 13 31.4
comp=Z,43nm,19.9s,baz=118,slow=40
NAO01 NORSAR Array S 49.84 324 P **P** **06 49 21.6 +0.3**
NAO01 IAmb IAmb 06 49 29.1
comp=Z,19nm,1.1s
NBO00 NORSAR Array S 49.91 325 P **P** **06 49 21.8 0.0**
NBO00 IAmb IAmb 06 49 23.2
comp=Z,13nm,0.8s
RAFF Raffo Rosso 49.92 293 P **P** **06 49 22.1 -0.1**
NC204 NORSAR Array S 49.93 325 P **P** **06 49 22.1 +0.1**
NC204 IAmb IAmb 06 49 30.1
comp=Z,17nm,1.0s
JGF Kuroka 49.93 69 P **P** **06 49 21.4 -1.0**
JGF IAmb IAmb 06 49 33.6
comp=Z,22nm,1.4s
GRF Grafenberg Arr 49.94 310 *e*P **P** **06 49 23.4 +1.2**
comp=Z,13nm,1.0s,baz=94,slow=6.5
KMBO Kilima Mbogo 49.94 235 P **P** **06 49 24.8 +2.0**
comp=Z,5.7nm,0.9s,baz=49,slow=9.6,SNR=4.0
KMBO LR LR 07 11 28.1
comp=Z,145nm,18.2s,baz=104,slow=37
comp=Z,5.7nm,0.9s
KMBO Kilima Mbogo 49.94 235 *i* P **P** **06 49 25.1 +2.2**
KMBO pmax pmax
comp=Z,2.0nm,0.3s
WTTA Wattenberg 49.96 307 *e*P **P** **06 49 21.0 -1.6**
comp=Z,0.4nm,0.3s
WATA Walderalm 49.99 307 *i* P **P** **06 49 23.0 +0.2**
comp=Z,5.2nm,0.5s
CESX Cesi 50.06 300 P **P** **06 49 24.0 +0.8**
WDD Wied Dalam 50.16 291 P **P** **06 49 23.6 -0.5**
TEOL Teolo 50.22 304 P **P** **06 49 24.4 0.0**
TEOL IAmb IAmb 06 49 26.5
comp=Z,15nm,0.8s
SQTA Sankt Quirin 50.26 307 *i* P **P** **06 49 23.9 -0.8**
comp=Z,0.1nm,0.2s
MOTA Moosalm 50.31 307 *i* P **P** **06 49 24.6 -0.6**
comp=Z,6.8nm,0.9s
MJB9 Matsu-Tunnel 50.34 68 P **P** **06 49 24.5 -0.9**
MAJO Matsushiro 50.34 68 P **P** **06 49 24.5 -1.0**
MAJO Matsushiro 50.34 68 P **P** **06 49 24.5 -1.0**
MAJO pmax pmax
comp=Z,37nm,1.5s
MJAR Matsushiro Arr 50.35 68 P **P** **06 49 26.1 +0.7**
comp=Z,7.5nm,1.1s,baz=287,slow=8.4,SNR=9.2
MJAR LR LR 07 12 11.4
comp=Z,151nm,20.0s,baz=288,slow=38
comp=Z,7.5nm,1.1s
RETA Reutte 50.52 307 *i* P **P** **06 49 25.7 -0.9**
comp=Z,4.9nm,0.8s
FUORN Ofenpass-Fuorn 50.99 306 P **P** **06 49 30.6 +0.2**
DAVA Damuels 51.14 307 *i* P **P** **06 49 31.4 -0.1**
comp=Z,16nm,0.9s
JTM Tenmabayashi 51.47 62 P **P** **06 49 34.5 +0.7**
SPB2 Spitsbergen Ar 51.86 347 P **P** **06 49 36.8 +0.6**
SPITS Spitsbergen Ar 51.86 347 P **P** **06 49 37.7 +1.5**
comp=Z,4.5nm,0.7s,baz=133,slow=8.3,SNR=8.7
SPITS LR LR 07 14 17.4
comp=Z,280nm,20.2s,baz=107,slow=39
comp=Z,4.5nm,0.7s
SPITS Spitsbergen Ar 51.86 347 P **P** **06 49 37.8 +1.5**
SPITS pmax pmax
comp=Z,62nm,1.5s
JMM Marumori 51.99 65 P **P** **06 49 37.6 -0.1**
DAV Davao City (W) 52.52 108 LR LR 07 16 03.9
comp=Z,72nm,18.3s,baz=338,slow=41
ECH Echery 52.80 308 P **P** **06 49 45.0 +1.4**
ECH Echery 52.80 308 P **P** **06 49 45.0 +1.4**
ECH pmax pmax
comp=Z,3.0nm,0.9s
SENIN Lac Senin/Sane 53.05 306 P **P** **06 49 45.2 -0.5**
SENIN IAmb IAmb 06 49 54.9
comp=Z,12nm,0.8s
BTNL Ternell 53.07 311 *d*P **P** **06 49 46.7 +1.1**
comp=Z,5.9nm,0.9s
VSL Villasalto 53.13 297 P **P** **06 49 45.9 -0.3**
MEM Membach 53.14 312 *d*P **P** **06 49 46.6 +0.5**
comp=Z,6.4nm,0.9s
BCLA Clavier 53.62 311 *d*P **P** **06 49 50.0 +0.4**
BCLA *d*pP **pP** **06 50 00.8 +0.3**
RCHB Rochefort 53.71 311 *d*P **P** **06 49 50.6 +0.3**
BNI Bardonecchia 53.74 305 P **P** **06 49 51.0 +0.2**
BNI IAmb IAmb 06 49 59.7
comp=Z,26nm,1.2s
BNI Bardonecchia 53.74 305 P **P** **06 49 51.0 +0.2**
BNI pmax pmax
comp=Z,26nm,1.3s
BGES Gesves 53.76 311 *d*P **P** **06 49 51.5 +0.8**
DOU Dourbes 54.12 311 *d*P **P** **06 49 53.6 +0.3**
comp=Z,6.8nm,1.1s
KEST Kesra 54.22 293 P **P** **06 49 54.8 +0.4**
KEST IAmb IAmb 06 49 55.9
comp=Z,16nm,0.9s
KEST Kesra 54.22 293 P **P** **06 49 54.9 +0.6**
comp=Z,12nm,0.8s,baz=356,slow=4.3,SNR=18
comp=Z,12nm,0.8s
MBAR Mbarara 54.23 241 P **P** **06 49 56.3 +1.6**
MBAR IAmb IAmb 06 50 08.4
comp=Z,14nm,1.1s
MBAR Mbarara 54.23 241 *ce*P **P** **06 49 56.8 +2.1**
MBAR pmax pmax
comp=Z,10.0nm,1.3s
SEY Seymchan 55.02 33 LR LR 07 15 36.9
comp=Z,302nm,18.1s,baz=286,slow=38
SEY Seymchan 55.02 33 *ce*P **P** **06 50 02.4 +2.8**
SEY pmax pmax
comp=Z,13nm,1.3s
SSB Saint Sauveur 55.16 305 P **P** **06 50 01.7 +0.7**
SSB IAmb IAmb 06 50 10.1
comp=Z,8.6nm,0.8s
SSB Saint Sauveur 55.16 305 P **P** **06 50 01.7 +0.7**
SSB pmax pmax
comp=Z,9.0nm,0.8s
JMIC Jan Mayen 57.47 337 LR LR 07 15 26.4
comp=Z,214nm,19.5s,baz=76,slow=36
EKA Eskdalemuir Ar 57.72 318 P **P** **06 50 19.1 +0.2**
comp=Z,0.5nm,0.3s,baz=80,slow=6.9,SNR=4.2
comp=Z,0.5nm,0.3s
TNTI Ternate 57.77 113 P **P** **06 50 18.5 -1.3**
CEST Esterri de Car 58.17 303 P **P** **06 50 22.8 +0.3**
PETK Petropavlovsk- 59.56 44 P **P** **06 50 32.2 +0.4**
comp=Z,8.4nm,1.0s,baz=272,slow=10.0,SNR=2.8
PETK LR LR 07 18 39.4
comp=Z,213nm,18.6s,baz=278,slow=38
comp=Z,8.4nm,1.0s
BILL Bilibino 59.91 26 *ce*P **P** **06 50 36.3 +2.3**
BILL pmax pmax
comp=Z,11nm,2.5s
CART Cartagena 61.45 298 P **P** **06 50 45.1 +0.1**
TAM Tamanrasset 62.20 280 P **P** **06 50 50.0 -0.4**
TAM Tamanrasset 62.20 280 P **P** **06 50 50.0 -0.4**
TAM pmax pmax
comp=Z,41nm,0.3s
ESBB Sonseca Array 62.85 301 P **P** **06 50 55.1 +0.7**
ESBB IAmb IAmb 06 50 56.4
comp=Z,14nm,1.1s
ESDC Sonseca Array 62.85 301 **P** **06 50 54.9 +0.5**
ESDC IAmb IAmb 06 50 55.8
comp=Z,10nm,1.1s
ESDC Sonseca Array 62.85 301 P **P** **06 50 55.1 +0.7**
comp=Z,6.6nm,0.9s,baz=57,slow=6.8,SNR=34
comp=Z,6.6nm,0.9s
PAB San Pablo 63.18 301 **P** **06 50 57.2 +0.6**
PAB pmax pmax
comp=Z,26nm,1.3s
BORG Borgarnes 63.72 332 LR LR 07 18 51.1
comp=Z,215nm,19.8s,baz=70,slow=36
PCAB Cabril 64.95 305 *e*P **P** **06 51 08.5 +0.3**
GUMO Guam 64.99 90 LR LR 07 19 11.2
comp=Z,52nm,21.4s,baz=290,slow=36
MTE Manteigas 65.13 303 P **P** **06 51 11.2 +1.8**
MTE IAmb IAmb 06 51 12.2
comp=Z,23nm,1.2s
MTE Manteigas 65.13 303 *e*P **P** **06 51 11.2 +1.8**
MTE *i* IAmb IAmb 06 51 18.4
comp=Z,31nm,1.4s
NEEM North Greenlan 65.31 349 *i* P **P** **06 51 11.5 +1.3**
NEEM IAmb IAmb 06 51 12.8
comp=Z,46nm,1.0s
PBAR Barrancos 65.64 301 *e*P **P** **06 51 13.4 +0.8**
PBAR *i* IAmb IAmb 06 51 25.6
comp=Z,20nm,1.2s
SUMG Summit 65.70 343 P **P** **06 51 14.6 +1.7**
SUMG Summit 65.70 343 P **P** **06 51 14.6 +1.7**
SUMG pmax pmax
comp=Z,52nm,1.0s
SUMG Summit 65.70 343 *i* P **P** **06 51 14.5 +1.6**
SUMG IAmb IAmb 06 51 15.5
comp=Z,50nm,1.0s
PSARD Sardoal 65.88 303 *e*P **P** **06 51 15.6 +1.5**
PSARD *i* IAmb IAmb 06 51 17.3
comp=Z,31nm,1.7s
MD01 Midelt array s 66.12 295 **P** **06 51 15.9 -0.1**
MD31 MD31 66.12 295 P **P** **06 51 15.8 -0.2**
EVO Evora 66.20 301 *e*P **P** **06 51 17.9 +1.7**
EVO *i* IAmb IAmb 06 51 26.2
comp=Z,19nm,1.3s
PBEJ Beja 66.30 301 *e*P **P** **06 51 18.1 +1.3**
PBEJ *i* IAmb IAmb 06 51 25.6
comp=Z,16nm,1.9s
LSZ Lusaka 66.33 231 LR LR 07 20 21.1
comp=Z,71nm,19.8s,baz=50,slow=36
SHEM Shemya Is, Ala 68.94 40 LR LR 07 24 09.2
comp=Z,183nm,19.4s,baz=294,slow=38
A19K Wainwright 69.24 18 P **P** **06 51 35.0 +0.2**
baz=311
C16K Lisburne Hills 69.30 20 P **P** **06 51 35.3 +0.1**
baz=308
A21K Barrow 69.57 16 P **P** **06 51 37.1 +0.3**
baz=314
B18K Kokolik River 69.60 19 P **P** **06 51 37.5 +0.5**
baz=310
C17K DeLong Mountai 69.80 20 P **P** **06 51 38.7 +0.4**
baz=310
GAMB Gambell 69.84 26 P **P** **06 51 38.9 +0.3**
baz=304
TORD Torodi Ar. Bea 69.99 273 **P** **06 51 39.0 -1.3**
TORD IAmb IAmb 06 51 48.3
comp=Z,8.7nm,0.9s
TORD Torodi Ar. Bea 69.99 273 P **P** **06 51 39.1 -1.3**
comp=Z,5.7nm,0.8s,baz=42,slow=6.3,SNR=36
comp=Z,5.7nm,0.8s
SAATT Saattut 70.05 344 *i* P **P** **06 51 40.4 +0.7**
SAATT IAmb IAmb 06 51 41.7
comp=Z,24nm,1.2s
TNA Tin City 70.14 23 P **P** **06 51 39.8 -0.6**
TNA Tin City 70.14 23 P **P** **06 51 40.8 +0.4**
baz=306
A22K Sinclair Lake 70.17 16 P **P** **06 51 40.7 +0.2**
baz=316
C18K Utukok River 70.24 19 P **P** **06 51 41.5 +0.5**
baz=311
JAY Jayapura 70.32 107 LR LR 07 23 48.9
comp=Z,61nm,20.4s,baz=354,slow=37
D17K Noatak River 70.32 20 P **P** **06 51 41.7 +0.2**
baz=310
B20K Meade River 70.36 17 P **P** **06 51 42.1 +0.5**
baz=314
C19K Lookout Ridge 70.37 18 P **P** **06 51 42.4 +0.5**
baz=312
SAQQ Saqqaq 70.69 343 *i* P **P** **06 51 43.8 +0.1**
SAQQ IAmb IAmb 06 51 46.0
comp=Z,16nm,0.8s
F14K Arctic Creek 70.72 23 P **P** **06 51 43.9 0.0**
baz=308
ILULI Ilulissat 71.05 343 P **P** **06 51 47.2 +1.3**
ILULI Ilulissat 71.05 343 P **P** **06 51 47.2 +1.3**
ILULI pmax pmax
comp=Z,37nm,0.9s
ILULI Ilulissat 71.05 343 *i* P **P** **06 51 46.8 +0.9**
ILULI IAmb IAmb 06 51 47.9
comp=Z,33nm,0.8s
E17K Hotham Inlet 71.09 21 P **P** **06 51 46.3 +0.1**
baz=311
F15K North Star Dit 71.12 22 P **P** **06 51 46.5 +0.1**
baz=309
D19K Kuna River 71.18 18 P **P** **06 51 47.4 +0.7**
baz=314
E18K Tukpahlearik C 71.22 20 P **P** **06 51 47.4 +0.4**
baz=312,SNR=6.3
B21K Ikpikpuk River 71.26 17 P **P** **06 51 47.4 +0.3**
baz=317
D20K Etivluk River 71.42 18 P **P** **06 51 48.5 +0.3**
baz=315
C21K Knifeblade Rid 71.56 17 P **P** **06 51 49.7 +0.7**
baz=316
DY2G Dye2 71.60 339 *i* P **P** **06 51 50.7 +1.1**
DY2G IAmb IAmb 06 51 51.8
comp=Z,58nm,1.1s
GDH Godhavn 71.63 343 *i* P **P** **06 51 50.5 +1.1**
GDH IAmb IAmb 06 51 52.2
comp=Z,50nm,1.2s
G15K Niukluk 71.77 23 P **P** **06 51 50.5 +0.1**
baz=310
E20K Nigu River 71.85 18 P **P** **06 51 51.3 +0.4**
baz=316,SNR=9.3
C23K Itkillik River 72.03 15 P **P** **06 51 52.5 +0.7**
baz=320
G16K Koyuk River 72.05 22 P **P** **06 51 52.6 +0.6**
baz=311
F18K Selawik 72.06 20 P **P** **06 51 52.9 +0.9**
baz=313,SNR=5.5
E19K Redstone River 72.14 19 P **P** **06 51 53.4 +0.8**
baz=315
D22K Ayikyak River 72.27 17 P **P** **06 51 54.2 +0.9**
baz=318,SNR=5.3
E21K Killik River 72.28 17 P **P** **06 51 53.8 +0.4**
baz=317
RES Resolute Bay 72.43 358 LR LR 07 27 10.5
comp=Z,90nm,18.3s,baz=47,slow=39
F19K Shaleruckik Mo 72.44 20 P **P** **06 51 54.7 +0.4**
baz=315
SFJD Kangerlussuaq 72.50 341 P **P** **06 51 55.8 +1.1**
SFJD Kangerlussuaq 72.50 341 LR LR 07 24 55.1
comp=Z,90nm,19.1s,baz=30,slow=37
SFJD Kangerlussuaq 72.50 341 P **P** **06 51 55.8 +1.1**
SFJD pmax pmax
comp=Z,43nm,1.2s
SFJD Kangerlussuaq 72.50 341 *i* P **P** **06 51 55.0 +0.3**
SFJD IAmb IAmb 06 51 56.7
comp=Z,61nm,1.3s
G17K Kiwalik Mounta 72.51 21 P **P** **06 51 55.6 +0.9**
baz=312
C24K Franklin Bluff 72.54 15 P **P** **06 51 55.8 +1.0**
baz=322
H16K Elim 72.59 23 P **P** **06 51 56.2 +1.0**
baz=311
D23K Nanushuk River 72.68 16 P **P** **06 51 56.8 +1.1**
baz=320
G18K Tagagawik 72.84 21 P **P** **06 51 57.5 +0.8**
baz=314
F20K Avaraart Lake 72.85 19 P **P** **06 51 57.2 +0.5**
baz=316
D24K Happy Valley 72.96 15 P **P** **06 51 57.8 +0.5**
baz=322
G19K Purcell Mounta 73.12 20 P **P** **06 51 59.3 +0.9**
baz=315,SNR=5.4
H17K Granite Mounta 73.12 22 P **P** **06 51 59.2 +0.8**
baz=313
C26K Camden Bay 73.17 14 P **P** **06 51 59.5 +1.0**
baz=325
TOLK Toolik Lake Re 73.19 16 P **P** **06 51 59.4 +0.6**
baz=321,SNR=9.0
F21K Alatna River 73.31 18 P **P** **06 52 00.5 +0.9**
baz=318,SNR=5.7
D25K Kavik River 73.35 15 P **P** **06 52 00.5 +0.7**
baz=324,SNR=8.5
J14K Nanvaranak Lak 73.39 24 P **P** **06 52 00.7 +0.7**
baz=311
F22K John River 73.43 17 P **P** **06 52 01.1 +0.8**
baz=319
H18K Honhosa River 73.45 21 P **P** **06 52 01.0 +0.7**
baz=314
K13K Kusilvak Mount 73.53 25 P **P** **06 52 01.6 +0.8**
baz=310
I17K Unalakleet 73.59 23 P **P** **06 52 02.2 +1.1**
baz=313
E23K Chandalar 73.63 16 P **P** **06 52 02.4 +1.0**
baz=321,SNR=5.5
C27K Jago River 73.64 14 P **P** **06 52 02.5 +1.1**
baz=326
H19K Roundabout Mou 73.75 20 P **P** **06 52 03.0 +1.0**
baz=316
G21K Allakaket 73.84 19 P **P** **06 52 03.0 +0.4**
baz=318
E24K Your Creek 73.88 16 P **P** **06 52 04.0 +1.1**
baz=322,SNR=9.3
J16K Anvik River 74.04 23 P **P** **06 52 04.0 +0.2**
baz=313
G22K Bettles 74.05 18 P **P** **06 52 04.5 +0.7**
baz=320
COLD Coldfoot 74.14 17 **P** **06 52 05.3 +0.9**
COLD IAmb IAmb 06 52 06.5
comp=Z,14nm,1.1s
COLD Coldfoot 74.14 17 P **P** **06 52 05.0 +0.7**
baz=321,SNR=12
IMAR Indian Mountai 74.17 19 P **P** **06 52 04.6 +0.1**
GCSA Galena City Sc 74.18 21 P **P** **06 52 05.4 +0.9**
baz=316
H20K Anotleneega Mo 74.22 20 P **P** **06 52 05.7 +0.8**
baz=317,SNR=6.4
SPIA Saint Paul Isl 74.27 31 P **P** **06 52 06.0 +0.7**
baz=307
K15K Wolf Creek Mou 74.40 24 P **P** **06 52 06.6 +0.7**
baz=312
J17K VABM Dome 74.46 23 P **P** **06 52 07.5 +1.2**
baz=314
F24K Squaw Lake 74.47 16 P **P** **06 52 06.9 +0.6**
baz=323
D27M Malcolm River 74.49 13 P **P** **06 52 07.4 +1.0**
baz=328
E25K Arctic Village 74.50 15 P **P** **06 52 07.0 +0.6**
baz=324,SNR=5.7
G23K Bananza Creek 74.59 17 P **P** **06 52 07.6 +0.6**
baz=321,SNR=6.4
L14K Kuka Creek 74.63 25 P **P** **06 52 07.9 +0.6**
baz=312
H21K Melozitna Rive 74.67 19 P **P** **06 52 08.4 +1.0**
baz=319,SNR=12
D28M Stokes Point 74.83 12 P **P** **06 52 08.9 +0.7**
baz=330
L15K Ungalak Mounta 74.83 25 P **P** **06 52 09.1 +0.7**
baz=313
I20K Naaghedeneel 74.85 20 P **P** **06 52 09.5 +1.1**
baz=318
H22K Ishtalitna Cre 74.88 18 P **P** **06 52 09.5 +0.9**
baz=320
F25K Christian Rive 74.92 15 P **P** **06 52 09.8 +0.9**
baz=324,SNR=12
P08K Saint George I 74.93 31 P **P** **06 52 10.2 +1.1**
baz=308
M13K Dall Lake 75.01 26 P **P** **06 52 10.5 +1.0**
baz=312
J19K Poorman 75.11 21 P **P** **06 52 11.1 +1.1**
baz=317,SNR=8.7
J18K Innoko River 75.16 22 P **P** **06 52 11.4 +1.1**
baz=316
F26K Sheenjek River 75.16 15 P **P** **06 52 11.5 +1.2**
baz=326
K17K Iditarod 75.19 23 P **P** **06 52 11.8 +1.3**
baz=315,SNR=5.0
G24K Hadweenzic Riv 75.22 16 P **P** **06 52 11.8 +1.2**
baz=323,SNR=11
E27K Coleen River 75.27 14 P **P** **06 52 11.9 +1.0**
baz=328,SNR=7.2
BMAR Burnt Mountain 75.29 15 **P** **06 52 12.5 +1.5**
M14K Bethel 75.29 26 P **P** **06 52 12.1 +1.0**
baz=312
E28M Babbage River 75.31 13 P **P** **06 52 12.2 +1.1**
baz=330,SNR=7.0
H23K Yukon River 75.41 18 P **P** **06 52 13.0 +1.3**
baz=322
J20K Nowinta River 75.41 20 P **P** **06 52 12.8 +1.1**
baz=318,SNR=7.4
G25K Bearman Lake 75.49 16 P **P** **06 52 13.2 +1.1**
baz=324,SNR=9.4
L16K Owhat River 75.50 24 P **P** **06 52 13.7 +1.5**
baz=314
L17K Donlin 75.60 23 P **P** **06 52 13.9 +1.1**
baz=315
KGCAE Kacgae 75.68 230 P **P** **06 52 14.9 +0.9**
KGCAE IAmb IAmb 06 52 29.7
comp=Z,24nm,1.2s
MLY Manley 75.71 19 **P** **06 52 14.1 +0.6**
MLY IAmb IAmb 06 52 15.7
comp=Z,11nm,1.1s
MLY Manley 75.71 19 P **P** **06 52 14.6 +1.1**
baz=321,SNR=9.9
M15K Kasigluk River 75.79 25 P **P** **06 52 14.8 +0.9**
baz=314
E29M Blow River 75.80 12 P **P** **06 52 14.9 +1.0**
baz=331,SNR=8.3
H24K Noodor Dome 75.81 17 P **P** **06 52 15.1 +1.0**
H24K Noodor Dome 75.81 17 P **P** **06 52 15.3 +1.2**
baz=323,SNR=5.7
FYU Fort Yukon 75.85 16 **P** **06 52 15.8 +1.7**
FYU IAmb IAmb 06 52 17.1
comp=Z,21nm,1.2s
G26K Porcupine Rive 75.86 15 P **P** **06 52 15.3 +1.1**
baz=326
N14K Kuskokwak Cree 75.96 26 P **P** **06 52 15.7 +0.9**
baz=313
H25L Birch Creek 75.96 16 P **P** **06 52 16.1 +1.3**
baz=325
I23K Minto, Yukon-K 75.99 18 P **P** **06 52 16.0 +1.0**
baz=322,SNR=8.2
K20K Telida 76.04 21 P **P** **06 52 16.5 +1.1**
K20K IAmb IAmb 06 52 18.1
comp=Z,13nm,1.1s
K20K Telida 76.04 21 P **P** **06 52 16.7 +1.3**
baz=318,SNR=5.9
L18K Granite Mounta 76.07 23 P **P** **06 52 16.8 +1.3**
L18K IAmb IAmb 06 52 18.4
comp=Z,18nm,1.3s
L18K Granite Mounta 76.07 23 P **P** **06 52 16.5 +1.0**
baz=316
F28M Old Crow 76.10 13 P **P** **06 52 16.6 +1.0**
baz=329,SNR=6.6
CHUM Lake Minchumin 76.16 20 P **P** **06 52 17.0 +1.0**
baz=320
M16K Timber Creek 76.17 24 P **P** **06 52 17.1 +1.0**
M16K IAmb IAmb 06 52 20.3
comp=Z,29nm,1.4s
M16K Timber Creek 76.17 24 P **P** **06 52 17.3 +1.2**
baz=315
TSUM Tsumeb 76.27 236 P **P** **06 52 17.9 +0.5**
N15K Kwethluk River 76.37 25 P **P** **06 52 17.6 +0.4**
baz=314
BPAW Bear Paw Mtn. 76.37 19 **P** **06 52 17.7 +0.5**
BPAW IAmb IAmb 06 52 28.3
comp=Z,10nm,1.0s
BPAW Bear Paw Mtn. 76.37 19 P **P** **06 52 17.9 +0.6**
baz=321,SNR=9.2
M17K Holitna River 76.41 23 P **P** **06 52 18.5 +1.0**
baz=316
G27K Doyon Strip 76.44 14 P **P** **06 52 18.5 +0.9**
baz=328,SNR=9.3
WB0 Warramunga Arr 76.46 125 P **P** **06 52 18.9 +0.6**
WB0 IAmb IAmb 06 52 45.8
comp=Z,12nm,1.1s
NEA2 Nenana 76.50 18 P **P** **06 52 18.7 +0.8**
NEA2 Nenana 76.50 18 P **P** **06 52 18.5 +0.5**
baz=322,SNR=25
POKR Poker Plat Res 76.50 17 P **P** **06 52 19.1 +1.1**
POKR IAmb IAmb 06 52 20.3
comp=Z,20nm,1.1s
POKR Poker Plat Res 76.50 17 P **P** **06 52 18.9 +1.0**
baz=323
WRA Warramunga Arr 76.54 125 P **P** **06 52 18.6 -0.2**
WRA Warramunga Arr 76.54 125 P **P** **06 52 18.9 +0.1**
comp=Z,2.3nm,0.9s,baz=323,slow=5.9,SNR=9.1
comp=Z,2.3nm,0.9s
WRA Warramunga Arr 76.54 125 P **P** **06 52 18.6 -0.2**
WRA pmax pmax
comp=Z,1.0nm,1.3s
WRAB Tennant Creek 76.54 125 P **P** **06 52 18.5 -0.3**

WRAB IAmb IAmb 06 52 36.4
comp=Z,16nm,1.1s
WRAB Tennant Creek 76.54 125 P **P** **06 52 18.5 -0.3**
WRAB pmax pmax
comp=Z,16nm,1.2s
WB2 Warramunga Arr 76.55 125 P **P** **06 52 18.5 -0.3**
WB2 IAmb IAmb 06 52 35.8
comp=Z,8.8nm,0.9s
O14K Tigyukauivet M 76.57 26 P **P** **06 52 19.3 +0.9**
baz=313
COLA College 76.59 18 P **P** **06 52 19.4 +1.0**
COLA IAmb IAmb 06 52 20.8
comp=Z,13nm,0.8s
COLA College 76.59 18 P **P** **06 52 19.4 +1.0**
COLA pmax pmax
comp=Z,13nm,0.9s
COLA College 76.59 18 P **P** **06 52 19.4 +1.0**
baz=323
INK Inuvik 76.61 11 **P** **06 52 19.2 +0.8**
INK IAmb IAmb 06 52 20.4
comp=Z,16nm,1.3s
INK Inuvik 76.61 11 LR LR 07 28 39.6
comp=Z,78nm,21.6s,baz=294,slow=38
INK Inuvik 76.61 11 P **P** **06 52 19.3 +0.8**
INK pmax pmax
comp=Z,16nm,1.3s
INK Inuvik 76.61 11 P **P** **06 52 19.3 +0.8**
baz=335,SNR=5.4
N16K Nishlik Lake 76.62 25 P **P** **06 52 20.0 +1.2**
baz=315
PRP Porcupine Dome 76.65 17 **P** **06 52 20.0 +1.1**
PRP Porcupine Dome 76.65 17 P **P** **06 52 19.8 +0.8**
baz=325
L19K White Mountain 76.68 22 P **P** **06 52 20.1 +1.0**
baz=318
L20K Farewell, AK 76.76 21 P **P** **06 52 20.4 +0.9**
baz=319
F30M Barrier River 76.86 12 P **P** **06 52 20.9 +0.9**
baz=333
M18K Stony River 76.88 23 P **P** **06 52 21.2 +1.1**
baz=317
C36M Paulatuk 76.89 7 P **P** **06 52 21.1 +1.1**
baz=343
IL31 76.92 17 P **P** **06 52 20.6 +0.4**
ILAR Eielson Array 76.92 17 **P** **06 52 20.5 +0.2**
ILAR Eielson Array 76.92 17 P **P** **06 52 20.1 -0.2**
comp=Z,5.4nm,1.0s,baz=312,slow=4.9,SNR=38
ILAR LR LR 07 30 59.0
comp=Z,128nm,21.1s,baz=282,slow=39
comp=Z,5.4nm,1.0s
ILAR Eielson Array 76.92 17 P **P** **06 52 20.5 +0.2**
PPLA Purkeypile 76.95 21 P **P** **06 52 21.5 +0.8**
PPLA IAmb IAmb 06 52 33.5
comp=Z,21nm,1.4s
PPLA Purkeypile 76.95 21 P **P** **06 52 21.4 +0.7**
baz=320
H27K Steamboat Moun 76.95 15 P **P** **06 52 21.4 +0.8**
baz=328,SNR=5.0
M19K Big River Lodg 77.03 22 P **P** **06 52 21.3 +0.2**
baz=318
TRF Thorofare Moun 77.07 20 **P** **06 52 22.5 +1.1**
TRF Thorofare Moun 77.07 20 P **P** **06 52 21.7 +0.3**
baz=321
G29M Pine Creek 77.07 13 P **P** **06 52 21.8 +0.7**
baz=331
N17K Nushagak Hills 77.13 24 P **P** **06 52 22.2 +0.7**
baz=316
O15K Ungalikthiuk R 77.16 26 P **P** **06 52 22.6 +0.8**
baz=314
HDA Harding Lake 77.20 18 P **P** **06 52 22.4 +0.5**
baz=324,SNR=6.5
MCK McKinley 77.22 19 P **P** **06 52 22.4 +0.4**
baz=322
G30M tAoh Zraii Nji 77.35 12 P **P** **06 52 23.2 +0.5**
baz=332,SNR=6.6
F31M Tsiigehtchic 77.36 11 P **P** **06 52 23.3 +0.6**
baz=335
I26K Coal Creek Min 77.38 16 P **P** **06 52 23.4 +0.6**
baz=327
J25K Salcha River, 77.43 17 P **P** **06 52 23.3 0.0**
baz=325,SNR=9.1
M20K Styx River 77.44 22 P **P** **06 52 23.9 +0.5**
baz=319
N18K Kilae Creek 77.46 23 P **P** **06 52 24.2 +0.8**
baz=317
I27K Kandik River 77.47 15 P **P** **06 52 24.1 +0.7**
baz=328
O16K Kokwok River B 77.49 25 P **P** **06 52 24.3 +0.7**
baz=316
RND Reindeer 77.50 19 IAmb IAmb 06 52 24.7
comp=Z,12nm,1.2s
H29M Whitestone 77.61 14 P **P** **06 52 24.8 +0.7**
baz=331,SNR=6.6
G31M Satah River 77.74 12 P **P** **06 52 25.5 +0.6**
baz=334
EPYK Eagle Plains 77.80 13 P **P** **06 52 25.3 +0.1**
baz=332
N19K Bonanza Creek 77.82 23 P **P** **06 52 26.0 +0.4**
baz=318
SKT Skwentna 77.86 21 IAmb IAmb 06 52 27.0
comp=Z,17nm,1.1s
SKT Skwentna 77.86 21 P **P** **06 52 25.8 +0.2**
baz=321,SNR=9.5
P16K Nushagak River 77.93 25 P **P** **06 52 26.5 +0.5**
baz=316
J26L Joseph Creek 77.96 16 P **P** **06 52 26.7 +0.5**
baz=327,SNR=14
I28M Miner Creek 77.97 15 P **P** **06 52 26.8 +0.5**
baz=330,SNR=5.6
BOSA Boshof 77.99 224 P **P** **06 52 27.8 +0.9**
comp=Z,3.6nm,0.9s,baz=43,slow=4.2,SNR=6.7
comp=Z,3.6nm,0.9s
K24K Donnelly Dome 77.99 18 P **P** **06 52 26.9 +0.6**
baz=325,SNR=5.5
WAT1 Susitna Watana 78.05 19 P **P** **06 52 27.1 +0.5**
baz=323
DHY Denali Highway 78.17 19 P **P** **06 52 27.6 +0.1**
baz=324,SNR=5.9
SPCR Spurr Chakacha 78.25 22 P **P** **06 52 28.6 +0.7**
baz=320
N20K Mount Spurr 78.25 22 P **P** **06 52 28.3 +0.4**
baz=320
RIDG Independent Ri 78.28 17 IAmb IAmb 06 52 29.3
comp=Z,14nm,1.1s
RIDG Independent Ri 78.28 17 P **P** **06 52 28.2 +0.2**
baz=326,SNR=10
SCRK Sand Creek 78.30 17 IAmb IAmb 06 52 30.1
comp=Z,10nm,1.2s
SCRK Sand Creek 78.30 17 P **P** **06 52 28.7 +0.5**
baz=326,SNR=8.3
O19K Port Alsworth 78.34 23 P **P** **06 52 29.1 +0.8**
baz=319
P17K Kvichak River 78.36 25 P **P** **06 52 29.0 +0.6**
baz=317
I29M Ogilvie Camp, 78.38 14 P **P** **06 52 28.8 +0.4**
baz=331,SNR=6.3
M22K Willow 78.45 21 P **P** **06 52 29.3 +0.4**
baz=322
WAT6 Susitna Watana 78.47 19 P **P** **06 52 29.4 +0.3**
baz=324
SUA Susitna One 78.49 21 IAmb IAmb 06 52 43.8
comp=Z,11nm,1.0s
SUA Susitna One 78.49 21 P **P** **06 52 29.7 +0.4**
baz=321
P18K Big Mountain, 78.64 24 P **P** **06 52 30.6 +0.6**
baz=318
S12K Black Hills 78.70 29 P **P** **06 52 30.6 +0.2**
baz=313
K27K Chicken 78.71 16 P **P** **06 52 31.1 +0.9**
baz=328
H31M Peel River 78.74 12 P **P** **06 52 30.8 +0.4**
baz=334
PAX Paxson 78.76 18 IAmb IAmb 06 52 32.4
comp=Z,20nm,1.4s
PAX Paxson 78.76 18 P **P** **06 52 31.2 +0.5**
baz=325,SNR=12
AS31 Alice Springs 78.78 128 P **P** **06 52 30.6 -0.7**
ASAR Alice Springs 78.78 128 P **P** **06 52 30.4 -0.8**
ASAR Alice Springs 78.78 128 P **P** **06 52 31.0 -0.3**
comp=Z,0.7nm,0.7s,baz=317,slow=5.0,SNR=7.3
comp=Z,0.7nm,0.7s
GHO Glory Hole Cre 78.79 20 P **P** **06 52 30.7 -0.2**
GHO IAmb IAmb 06 52 44.2
comp=Z,20nm,1.2s
DBIC Dimbokro 78.85 271 P **P** **06 52 31.4 -0.4**
DBIC IAmb IAmb 06 52 41.8
comp=Z,13nm,1.0s
DBIC Dimbokro 78.85 271 P **P** **06 52 31.7 -0.1**
comp=Z,3.5nm,0.8s,baz=73,slow=9.0,SNR=5.1
DBIC LR LR 07 31 16.8
comp=Z,131nm,18.1s,baz=62,slow=39
comp=Z,3.5nm,0.8s
DBIC Dimbokro 78.85 271 P **P** **06 52 31.5 -0.4**
DBIC pmax pmax
comp=Z,13nm,1.0s
PMR Palmer 78.87 20 **P** **06 52 31.4 +0.2**
PMR Palmer 78.87 20 P **P** **06 52 31.4 +0.2**
PMR pmax pmax
comp=Z,6.0nm,1.0s
PMR Palmer 78.87 20 P **P** **06 52 31.5 +0.3**
baz=322
I30M Mount Dempster 78.89 13 P **P** **06 52 31.8 +0.5**
I30M Mount Dempster 78.89 13 P **P** **06 52 31.9 +0.5**
baz=333,SNR=6.6
RC01 Rabbit Creek A 79.09 21 P **P** **06 52 32.9 +0.4**
RC01 IAmb IAmb 06 52 43.1
comp=Z,12nm,1.0s
RC01 Rabbit Creek A 79.09 21 P **P** **06 52 32.8 +0.4**
baz=322,SNR=6.4
M23K Glacier View 79.11 20 P **P** **06 52 32.8 +0.3**
baz=324,SNR=6.6
R16K Pilot Point 79.14 26 P **P** **06 52 33.1 +0.4**
baz=316
SCM Sheep Creek Mo 79.19 19 IAmb IAmb 06 52 55.1
comp=Z,19nm,1.2s
SCM Sheep Creek Mo 79.19 19 P **P** **06 52 33.5 +0.4**
baz=324
KNK Knik Glacier 79.21 20 IAmb IAmb 06 52 35.1
comp=Z,11nm,1.0s
KNK Knik Glacier 79.21 20 P **P** **06 52 33.5 +0.5**
baz=323
Q17K Contact Creek 79.24 25 P **P** **06 52 33.6 +0.2**
baz=318
L26K Log Cabin Wild 79.25 17 P **P** **06 52 34.2 +0.9**
baz=327
Q18K Katmai Hardscr 79.27 24 P **P** **06 52 34.0 +0.4**
baz=318
M24K Tolsona, Glenn 79.28 19 P **P** **06 52 34.4 +0.9**
baz=325
DAWY Dawson 79.28 15 P **P** **06 52 34.1 +0.7**
baz=330,SNR=8.8
S14K Fog Glacier 79.30 28 P **P** **06 52 34.6 +0.8**
baz=315
HARP HAARP 79.31 18 P **P** **06 52 34.6 +1.0**
baz=326,SNR=16
SLKM Skilak Lake 79.40 21 IAmb IAmb 06 52 35.5
comp=Z,13nm,1.0s
J30M Hart River 79.47 14 P **P** **06 52 35.0 +0.4**
baz=333,SNR=9.4
Q19K Cape Douglas, 79.52 24 P **P** **06 52 35.4 +0.6**
baz=319
R17L Mt. Peulik Vol 79.54 26 P **P** **06 52 35.2 +0.3**
baz=317
O22K Cooper Landing 79.58 21 P **P** **06 52 35.5 +0.4**
baz=322
L27K Beaver Creek, 79.59 17 P **P** **06 52 35.8 +0.6**
baz=328,SNR=7.3
SDPT Sand Point 79.59 29 P **P** **06 52 35.8 +0.6**
baz=314
BCAR Beaver Creek A 79.60 17 **P** **06 52 36.1 +0.9**
FRB Frobisher Bay 79.60 345 LR LR 07 31 58.1
comp=Z,80nm,19.8s,baz=14,slow=39
HOM Homer 79.62 22 P **P** **06 52 35.8 +0.5**
baz=321
PWL Port Wells 79.69 20 P **P** **06 52 36.4 +0.7**
PWL IAmb IAmb 06 52 48.9
comp=Z,15nm,1.1s
PWL Port Wells 79.69 20 P **P** **06 52 36.5 +0.7**
baz=323
BRLK Bradley Lake 79.78 22 **P** **06 52 36.3 +0.1**
BRLK IAmb IAmb 06 52 37.3
comp=Z,28nm,1.3s
BRSE Bradley Lake S 79.84 22 P **P** **06 52 37.1 +0.5**
baz=322
KLU Klutina 79.86 19 IAmb IAmb 06 52 40.5
comp=Z,14nm,1.3s
KLU Klutina 79.86 19 P **P** **06 52 37.3 +0.6**
baz=325,SNR=6.5
M26K Nabesna, AK 79.87 17 P **P** **06 52 37.6 +0.9**
baz=327,SNR=6.7
K29M Barlow Dome 79.88 14 P **P** **06 52 37.4 +0.6**
baz=332,SNR=13
SEW Seward 79.96 21 P **P** **06 52 38.0 +0.9**
baz=322
GLI Glacier Island 80.03 20 P **P** **06 52 38.3 +0.7**
baz=324
N25K Chitina, Valde 80.12 18 P **P** **06 52 38.9 +0.7**
baz=326,SNR=6.4
M27K Edge Creek, AK 80.18 17 P **P** **06 52 39.4 +0.9**
baz=328,SNR=7.7
Q20K Shuyak Island 80.19 23 P **P** **06 52 39.3 +0.9**
baz=320
R18K Karluk 80.28 25 P **P** **06 52 39.6 +0.7**
baz=319
CHNA Chernabura Isl 80.32 29 P **P** **06 52 40.2 +1.0**
baz=315
BVCY Beaver Creek 80.38 17 P **P** **06 52 40.6 +1.2**
baz=329,SNR=8.7
L29M L29M 80.40 15 P **P** **06 52 40.6 +1.1**
baz=331,SNR=15
BMRM Bremner River 80.65 19 IAmb IAmb 06 52 52.8
comp=Z,12nm,1.1s
BMRM Bremner River 80.65 19 P **P** **06 52 42.1 +1.2**
baz=326
EYAK Cordova Ski Ar 80.68 20 IAmb IAmb 06 52 43.4
comp=Z,14nm,1.1s
EYAK Cordova Ski Ar 80.68 20 P **P** **06 52 42.3 +1.3**
baz=325
MCARA McCarthy VSAT 80.72 18 P **P** **06 52 42.2 +1.0**
MCARA IAmb IAmb 06 52 44.3
comp=Z,12nm,1.2s
MCARA McCarthy VSAT 80.72 18 P **P** **06 52 42.5 +1.3**
baz=328
VRDI Verde Repeater 80.74 18 **P** **06 52 42.5 +0.9**
KDAK Kodiak Island 80.76 24 LR LR 07 32 36.9
comp=Z,147nm,19.8s,baz=327,slow=39
M29M Somme Creek 80.91 16 P **P** **06 52 43.6 +1.3**
baz=331,SNR=12
OHAK Old Harbor 80.95 25 P **P** **06 52 43.9 +1.4**
baz=320
CHIR Chirikof Islan 81.16 27 P **P** **06 52 45.1 +1.5**
baz=318
M30M Minto, Yukon 81.16 15 P **P** **06 52 44.9 +1.3**
baz=332
CRQE Cirque 81.24 18 P **P** **06 52 45.2 +1.1**
baz=328
Q23K Middleton Isla 81.43 20 P **P** **06 52 46.2 +1.2**
baz=325
CTG Chitna Glacier 81.51 17 P **P** **06 52 46.6 +1.0**
baz=329
CTGM Chitina Glacie 81.51 17 IAmb IAmb 06 52 48.0
comp=Z,14nm,1.2s
KAIM Kayak Island 81.57 19 P **P** **06 52 46.9 +1.1**
baz=326
GRNC Granite Creek 81.60 18 P **P** **06 52 47.2 +1.0**
BGLC Bering Glacier 81.72 19 P **P** **06 52 47.5 +1.0**
baz=327
O28M Mount Upton 81.96 17 P **P** **06 52 48.7 +0.5**
baz=330
M31M Dru Creek, Y 81.99 14 P **P** **06 52 48.8 +0.8**
baz=334,SNR=7.3
MESA MESA 82.03 18 P **P** **06 52 48.5 +0.1**
baz=328
N30M Aishikik Lake 82.09 15 P **P** **06 52 49.3 +0.7**
baz=332,SNR=6.9
MMPY Sheldon Lake, 82.21 12 P **P** **06 52 49.9 +0.7**
baz=337
YUK6 Outpost Mounta 82.25 16 P **P** **06 52 50.1 +0.5**
baz=331
N31M Braeburn, Yuko 82.35 15 P **P** **06 52 50.9 +1.0**
baz=333,SNR=9.6
PINM Pinnacle 82.53 17 P **P** **06 52 51.6 +0.7**
baz=330
HYT Haines Junctio 82.56 16 P **P** **06 52 51.7 +0.6**
baz=332,SNR=7.1
O29M Mount Kennedy 82.77 17 P **P** **06 52 52.6 +0.4**
baz=331
WRGLY Wrigley 82.84 9 P **P** **06 52 53.2 +0.8**
baz=344
O30N Mendenhall 82.92 15 P **P** **06 52 53.6 +0.7**
baz=333,SNR=7.6
PNL Peninsula 83.12 17 P **P** **06 52 54.5 +0.6**
baz=330
N32M Quiet Lake 83.21 14 P **P** **06 52 54.7 +0.3**
baz=336
WHY Whitehorse 83.29 15 P **P** **06 52 55.4 +0.5**
baz=334
P30M Million Dollar 83.31 16 P **P** **06 52 55.6 +0.7**
baz=332
P29M Windy Craggy 83.56 17 P **P** **06 52 56.8 +0.6**
baz=332
TGTN Hyland Airport 83.75 11 P **P** **06 52 57.7 +0.5**
baz=340
PLBC Pleasant Camp 84.04 16 P **P** **06 52 59.2 +0.6**
baz=333
P33M Teslin, Yukon 84.13 14 P **P** **06 52 59.4 +0.2**
baz=336,SNR=9.7
SKAG Skagway 84.27 16 IAmb IAmb 06 53 02.3
comp=Z,16nm,1.2s
SKAG Skagway 84.27 16 P **P** **06 53 00.4 +0.6**
baz=334,SNR=5.2
YKAW3 Yellowknife Wh 84.39 5 P **P** **06 53 00.5 +0.3**
YKAW3 IAmb IAmb 06 53 01.8
comp=Z,16nm,1.2s
YKA Yellowknife Ar 84.46 5 P **P** **06 53 00.9 +0.3**
YKA Yellowknife Ar 84.46 5 P **P** **06 53 00.5 -0.1**
comp=Z,3.8nm,1.0s,baz=346,slow=5.4,SNR=8.3
YKA LR LR 07 33 29.3
comp=Z,71nm,19.5s,baz=300,slow=38
comp=Z,3.8nm,1.0s
YKA Yellowknife Ar 84.46 5 P **P** **06 53 00.9 +0.3**
YKAW1 Yellowknife Wh 84.48 5 P **P** **06 53 00.3 -0.4**
YKAW1 IAmb IAmb 06 53 02.4
comp=Z,20nm,1.3s
KUQ Kuujjuuaa 84.50 342 P **P** **06 53 01.2 +0.3**
KUQ IAmb IAmb 06 53 15.9
comp=Z,13nm,1.0s
P32M Atlin 84.51 15 P **P** **06 53 01.5 +0.5**
baz=335
WTLY Watson Lake, Y 84.99 12 P **P** **06 53 03.9 +0.5**
baz=339
CTAO Charters Tower 85.21 117 P **P** **06 53 04.9 -0.2**
CTAO Charters Tower 85.21 117 P **P** **06 53 04.9 -0.2**
CTAO pmax pmax
comp=Z,24nm,1.4s
R33M Jennings River 85.25 14 P **P** **06 53 05.1 +0.2**
baz=337
Q32M Nakina River 85.39 14 P **P** **06 53 06.1 +0.5**
baz=336
S31K Pelican 85.41 17 P **P** **06 53 06.3 +0.8**
baz=333
R32K Eaglecrest 85.53 16 P **P** **06 53 06.7 +0.6**
baz=335
KOTAN Kotaneelee Air 85.74 10 P **P** **06 53 08.2 +1.1**
baz=343
DLBC Dease Lake 86.32 13 LR LR 07 38 17.6
comp=Z,726nm,18.4s,baz=240,slow=40
DLBC Dease Lake 86.32 13 P **P** **06 53 11.1 +1.0**
baz=338
SIT Sitka 86.44 17 P **P** **06 53 11.7 +1.1**
baz=334
S34M Telegraph Cree 86.59 14 P **P** **06 53 12.4 +1.1**
baz=337,SNR=6.0
TOAD Toad River Com 86.78 11 P **P** **06 53 13.3 +0.9**
baz=342
SCHQ Schefferville 86.91 340 LR LR 07 31 54.1
comp=Z,2μm,21.5s,baz=197,slow=36
T35M Bob Quinn 87.64 14 P **P** **06 53 17.3 +0.8**
baz=338
WRAK Wrangell Islan 87.71 15 P **P** **06 53 17.8 +1.1**
baz=336
U33K Whale Pass 87.81 16 P **P** **06 53 18.1 +0.8**
baz=336
CRAG Craig 88.40 16 P **P** **06 53 20.8 +0.8**
baz=336
V35K Ketchikan 88.87 15 P **P** **06 53 23.1 +0.8**
baz=337
BBB Bella Bella 92.57 15 P **P** **06 53 37.8 -1.8**
BBB Bella Bella 92.57 15 LR LR 07 41 11.4
comp=Z,62nm,18.0s,baz=9.0,slow=39
FFC Flin Flon 92.63 359 P **P** **06 53 39.0 -0.8**
FFC IAmb IAmb 06 53 41.4
comp=Z,11nm,1.2s
FFC Flin Flon 92.63 359 P **P** **06 53 39.0 -0.8**
FFC pmax pmax
comp=Z,11nm,1.2s
ULM Lac du Bonnet 96.82 355 LR LR 07 40 43.7
comp=Z,110nm,19.9s,baz=6.0,slow=37
NEW Newport 98.25 9 LR LR 07 44 54.1
comp=Z,96nm,18.1s,baz=311,slow=39
SADO Sadowa 99.40 342 LR LR 07 44 09.4
comp=Z,792nm,18.0s,baz=334,slow=38
TXAR Lajitas Array 118.02 360 PKP **PKiKP** **06 59 16.0 +0.5**
comp=Z,0.2nm,0.4s,baz=183,slow=0.5,SNR=8.9
QSPA South Pole Qui 122.79 180 PKP **PKiKP** **06 59 23.9 +0.4**
comp=Z,2.5nm,1.0s,baz=174,slow=2.2,SNR=4.6
BDFB Brasilia 126.84 275 PKP **PKPdf** **06 59 31.5 -1.1**
comp=Z,1.0nm,0.4s,baz=15,slow=26,SNR=1.7
PPT2 Papeete2 136.27 81 eLR LR 07 43 22.9
comp=Z,104nm,36.8s
PPT2 eLR LR 07 43 44.2
comp=Z,40nm,22.5s
PLCA Paso Flores 152.36 244 PKPbc **PKiKP** **07 00 25.3 +0.8**
comp=Z,2.3nm,0.9s,baz=168,slow=1.0,SNR=6.7
PLCA PKPab **PKPab** **07 00 33.9 -0.6**
comp=Z,6.5nm,0.9s,baz=296,slow=0.1,SNR=6.9

DJA 09 06:44:23.6±0.3,1°N±2″×12°1E±°,h10km,M4.2/9,mb4.3/1,
MLv4.1/9,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**0.97**	**236**	P	Pg	06 44 40.6	-1.7
MRSI	**Marisa**	**1.31**	**108**	P	Pn	06 44 44.8	-3.1
PCI	**Palu**	**1.98**	**206**	P	Pn	06 44 56.5	-0.7
PCI				S	Sn	06 45 22.9	+0.8
APSI	**Ampana**	**2.02**	**152**	P	Pn	06 44 58.8	+1.0
LUWI	**Luwuk**	**2.82**	**133**	P	Pn	06 45 09.1	+0.3
LUWI				S	Sn	06 45 44.4	+1.5
KMSI	**Cibinong**	**3.29**	**95**	P	Pn	06 45 15.4	+0.1
KMSI				S	Sn	06 45 55.7	+1.1
TTSI	**Tana Toraja**	**4.01**	**193**	P	Pn	06 45 26.1	+1.0
BKB	**Balikpapan**	**4.36**	**241**	P	Pn	06 45 29.4	-0.6
BKSI	**Bulukumba**	**6.20**	**185**	P	Pn	06 45 55.2	0.0

*AEIC **09** 06:50:25.5±1.0,53.4′N±0.1′×168.0′W±0.1′,h108km±4km,*
Error ellipse: s-maj=17.3km s-min=7.9km az=155.0
NEIC 09 06:50:24.5±1.1,53.4′N±0.1′×168.0W±0.1′,h109km±5km,
mb3.6/10,ML3.3/8,ML2.7(AEIC),Error ellipse:
s-maj=17.3km s-min=8.1km az=155.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKTU	**Okmok Mt. Tuli**	**0.03**	**256**		Pn	06 50 39.7	+0.1
OKFG	**Magazine Ridge**	**0.06**	**69**		Pn	06 50 39.8	+0.3
OKNC	**Okmok New Cone**	**0.10**	**311**		Pn	06 50 39.9	+0.3
OKNC					Sn	06 50 51.2	+0.3
OKCE	**Okmok Cone E**	**0.11**	**290**		Pn	06 50 40.0	+0.4
OKSP	**Okmok Steeple**	**0.22**	**232**		Pn	06 50 40.3	+0.3
MAPS	**Pakushin South**	**0.76**	**56**		Pn	06 50 43.0	-0.3
MGOD	**Makushin Gods**	**0.78**	**58**		Pn	06 50 43.4	-0.2
MREP	**Makushin Rep't**	**0.86**	**60**		Pn	06 50 44.2	-0.1
MSW	**Makushin Switc**	**0.89**	**54**		Pn	06 50 44.2	-0.3
MSW					Sn	06 50 59.0	-0.7
MNAT	**Makushin Natee**	**0.93**	**57**		Pn	06 50 44.7	-0.2
MTBL	**Makushin Table**	**0.98**	**53**		Pn	06 50 45.3	-0.1
AKRB	**Akutan Reef Bi**	**1.36**	**56**		Pn	06 50 50.0	+0.4
AKRB					Sn	06 51 08.8	+0.1
AKMO	**Akutan Morgan**	**1.37**	**58**		Pn	06 50 50.0	+0.3
AKMO					Sn	06 51 08.6	-0.3
ZRO	**Akutan Zero**	**1.39**	**59**		Pn	06 50 50.3	+0.3
LVA	**Lava Point**	**1.40**	**56**	Pn	Pn	06 50 50.4	+0.4
LVA				IAML		06 51 17.0	
	comp=E,100nm,0.7s						
LVA				IAML		06 51 17.8	
	comp=N,178nm,0.8s						
AKBBA	**Akutan Broad B**	**1.42**	**59**		Pn	06 50 50.6	+0.3
AKBBA					Sn	06 51 10.4	+0.6
AKGG	**Akutan Green G**	**1.44**	**55**		Pn	06 50 50.7	+0.2
AHB	**Akutan Harbor**	**1.48**	**60**		Pn	06 50 51.6	+0.6
AHB					Sn	06 51 11.2	-0.1
AKUT	**Akutan**	**1.52**	**60**	Pn	Pn	06 50 52.0	+0.6
AKUT					Sn	06 51 12.0	+0.2
FALS	**False Pass**	**3.07**	**60**	Pn	Pn	06 51 11.0	-0.3
SPIA	**Saint Paul Isl**	**4.01**	**342**	Pn	Pn	06 51 24.2	+0.5
SPIA				IAML		06 53 31.5	
	comp=N,74nm,0.9s						
SPIA				IAML		06 54 12.1	
	comp=E,97nm,1.2s						

ADK	**Adak**	**5.50**	**258**	Pn	Pn	06 51 42.5	-1.5
KIWB	**Kanaga Island**	**5.78**	**258**	Pn	Pn	06 51 48.2	+0.3
Q19K	**Cape Douglas,**	**9.73**	**50**	Pn	Pn	06 52 41.0	-0.3
KDAK	**Kodiak Island**	**9.77**	**57**	Pn	Pn	06 52 43.0	+1.2
KDAK	**Kodiak Island** baz=320	**9.77**	**57**	P	Pn	06 52 42.7	+1.0
SYI	**Shuyak Island**	**10.17**	**53**	Pn	Pn	06 52 46.1	-1.2
ILSW	**Iliamna Southw**	**10.49**	**45**	Pn	Pn	06 52 50.5	-1.2
GAMB	**Gambell**	**10.59**	**351**	Pn	Pn	06 52 53.9	+1.0
GHO	**Glory Hole Cre**	**13.19**	**43**	Pn	Pn	06 53 26.3	-1.0
KLU	**Klutina**	**14.33**	**47**	Pn	Pn	06 53 41.2	-0.9
BMRM	**Bremner River**	**14.71**	**50**	Pn	Pn	06 53 46.8	-0.1
GLB	**Gilahina Butte**	**15.24**	**48**	Pn	Pn	06 53 52.9	-0.8
GLB	comp=Z,4.7nm,1.2s			IAmb	IAmb	06 53 59.2	
CCB	**Clear Creek Bu**	**15.25**	**34**		Pn	06 53 54.6	+1.0
CRQM	**Cirque**	**15.32**	**51**	Pn	Pn	06 53 54.7	0.0
VRDI	**Verde Repeater**	**15.33**	**49**		Pn	06 53 55.9	+1.0
VRDI	comp=Z,6.1nm,1.2s			IAmb	IAmb	06 54 21.1	
M26K	**Nabesna, AK**	**15.96**	**46**	Pn	Pn	06 54 02.2	-0.4
HYT	**Haines Junctio**	**18.02**	**53**	P	P	06 54 26.4	-0.3
HYT	comp=Z,4.7nm,1.2s			IAmb	IAmb	06 54 33.5	
L29M	**L29M**	**18.31**	**46**	P	P	06 54 28.8	-1.0
L29M	comp=Z,3.8nm,1.2s			IAmb	IAmb	06 54 58.1	
O30N	**Mendenhall**	**18.69**	**54**	P	P	06 54 33.6	-0.4
O30N	comp=Z,2.8nm,1.1s			IAmb	IAmb	06 54 47.0	
Q32M	**Nakina River**	**20.47**	**60**	P	P	06 54 52.6	-0.9
WRAK	**Wrangell Islan**	**20.57**	**67**	P	P	06 54 55.3	+1.0
WRAK	comp=Z,8.6nm,1.4s			IAmb	IAmb	06 55 15.3	

IDC 09 06:58:41.3±3.3, 54°18N×87°04E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=29.5km s-min=17.8km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=78,slow=324,SNR=0.8	**1.33**	**261**	I	I	07 05 10.0	
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=80,slow=18,SNR=5.5	**1.33**	**261**	Pg	Pg	06 59 05.2	-1.5
ZALV	1.8nm,0.3s,baz=80,slow=31,SNR=8.7			Lg	Lg	06 59 23.8	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=54,slow=13,SNR=2.1 0.3nm,0.5s	**6.30**	**239**	Pn	Pn	07 00 17.5	+2.1
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=18,slow=15,SNR=1.8 0.5nm,0.7s	**7.98**	**204**	Pn	Pn	07 00 38.9	+0.3

IDC 09 07:13:49.8±8.3, 6°30S×151°82E, h69km±62km, mb3.7/3, mbtmp4.1/4, ML2.4/1, MS3.3/2, Error ellipse: s-maj=54.6km s-min=52.1km az=59.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 8.4nm,0.3s,baz=44,slow=13,SNR=13	**5.55**	**236**	P	Pn	07 15 11.0	+1.1
PMG	128nm,0.7s,baz=18,slow=20,SNR=16			S	Sn	07 16 11.6	-0.8
PMG	comp=Z,117nm,20.1s,baz=230,slow=34 32nm,0.4s			LR	LR	07 16 58.1	
WRA	**Warramunga Arr** 4.6nm,0.7s,baz=53,slow=10.0,SNR=23 4.6nm,0.7s	**21.73**	**230**	P	P	07 18 36.4	+0.8
ASAR	**Alice Springs** 2.4nm,0.7s,baz=55,slow=9.3,SNR=26 2.4nm,0.7s	**24.39**	**223**	P	P	07 19 03.7	+1.8
JHJ	**Hachijo jima 2** comp=Z,120nm,21.5s,baz=69,slow=32	**40.84**	**344**	LR	LR	07 35 36.3	
VNDA	**Vanda** 0.4nm,0.4s,baz=346,slow=4.2,SNR=6.3 0.4nm,0.4s	**71.37**	**178**	P	P	07 25 00.4	-1.6
TORD	**Torodi Ar. Bea** 0.9nm,0.5s,baz=90,slow=2.3,SNR=8.0	**149.80**	**285**	PKPbc	PKPbc	07 33 32.8	-0.3

*DJA **09** 07:19:01.5±0.6, 2°S±5°×140°E±°, h10km, M3.6/3, MLv3.6/3*
*IDC **09** 07:19:02.1±1.4, 2.82S×140.46E, h0km, mb3.3/2, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=37.4km s-min=9.0km az=128.0*
ISC 09 07:19:03.5±1.0, 2°6S±0°2×140°45E±0°05, h24km, n7, σ1s68/10, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura** 592nm,0.3s,baz=222,slow=16,SNR=936	**0.27**	**73**	Pg	**Pb**	**07 19 10.0**	**-0.1**
JAY	1µm,0.3s,baz=138,slow=20,SNR=31			Lg	Lg	07 19 14.2	
JAY	**Jayapura**	**0.27**	**73**	P	**Pb**	**07 19 09.9**	**-0.1**
JAY				S	**Sb**	**07 19 14.5**	**0.0**
GENI	**Genyem**	**0.28**	**271**	P	**Pb**	**07 19 10.4**	**+0.3**
GENI				S	**Sb**	**07 19 15.7**	**+1.1**
SMPI	**Sarmi**	**1.83**	**289**	P	**Pn**	**07 19 31.3**	**-2.2**
SMPI				S	**Sn**	**07 19 54.4**	**-1.6**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=24,slow=12,SNR=7.5 0.7nm,0.3s	**18.24**	**199**	P	**P**	**07 23 15.3**	**0.0**
ASAR	**Alice Springs** 0.9nm,0.8s,baz=32,slow=10,SNR=8.4 0.9nm,0.8s	**21.88**	**196**	P	**P**	**07 23 53.8**	**-1.1**
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=101,slow=7.5,SNR=2.6 0.4nm,0.7s	**70.76**	**322**	P	**P**	**07 30 21.0**	**+3.1**

*NEIC **09** 07:28:46.7±1.1, 53°09S±0°08×9°6E±0°3, h10km±2km, mb4.7/14, Error ellipse: s-maj=33.1km s-min=5.4km az=110.0*
*IDC **09** 07:28:46.6±1.3, 53°22S×9°40E, h0km, mb3.9/6, mbtmp4.0/7, ML4.1/1, MS3.6/19, Error ellipse: s-maj=41.7km s-min=22.2km az=65.0*
ISC 09 07:28:46.8±0.7, 53°14S±0°09×9°6E±0°1, h10km, n47, σ1s12/27, mb4.3/10, MS3.6/18, 7C, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TROLL	**Troll, Antarti** comp=Z,692nm,0.3s	**19.19**	**187**	⇑P	**Pn**	**07 33 12.5**	**+1.1**
VNA1	**Neumayer--Stat** comp=Z,12nm,0.6s	**19.33**	**198**	⇑P	**Pn**	**07 33 12.7**	**-0.2**
SNAA	**Sanae** comp=Z,875nm,0.9s	**19.39**	**192**	⇑P	**Pn**	**07 33 13.2**	**-0.5**
SNAA	**Sanae**	**19.39**	**192**	P	**Pn**	**07 33 13.2**	**-0.5**
SNAA	comp=Z,50nm,1.0s			IAmb	IAmb	07 33 16.6	
SNAA	**Sanae** comp=Z,0.6nm,0.3s,baz=21,slow=10,SNR=52	**19.39**	**192**	P	**Pn**	**07 33 13.2**	**-0.5**
SNAA	comp=Z,0.7nm,0.5s,baz=36,slow=19,SNR=2.2			S	Sn	07 36 38.3	-13
SNAA	comp=Z,156nm,21.2s,baz=312,slow=32 comp=Z,34nm,0.8s			LR	LR	07 39 02.1	
VNA2	**Neumayer--Watz** comp=Z,14nm,0.6s,baz=33,slow=2.1	**19.41**	**197**	⇑P	**P**	**07 33 13.1**	**+0.4**
VNA3	**Neumayer Olymp** comp=Z,13nm,0.6s	**20.08**	**198**	⇑P	**P**	**07 33 20.5**	**+0.4**
SYO	**Syowa Base**	**21.17**	**150**	⇑*e*P	**P**	**07 33 28.2**	**-3.6**
SYO	**Syowa Base**	**21.17**	**150**	⇑*e*Pn	**P**	**07 33 31.4**	**-0.4**
SUR	**Sutherland**	**22.27**	**26**	P	**P**	**07 33 43.3**	**-0.7**
SUR	comp=Z,19nm,1.3s			IAmb	IAmb	07 33 45.9	
BOSA	**Boshof** comp=Z,72nm,18.5s,baz=202,slow=32	**27.09**	**31**	LR	LR	07 43 27.0	
H04S2	**CROZET ISLANDS** baz=241,slow=75,SNR=59	**27.58**	**94**	T	T	08 03 25.1	
H04S3	**CROZET ISLANDS** baz=241,slow=75,SNR=54	**27.59**	**94**	T	T	08 03 26.1	
H04S1	**CROZET ISLANDS** baz=241,slow=75,SNR=70	**27.60**	**94**	T	T	08 03 25.2	
MAW	**Mawson** comp=Z,0.7nm,0.4s,baz=248,slow=5.4,SNR=1.8	**28.92**	**141**	P	**P**	**07 34 46.9**	**+1.3**
MAW	comp=Z,75nm,21.3s,baz=283,slow=31 comp=Z,0.7nm,0.4s			LR	LR	07 43 53.3	
BELA	**Belgrano 2**	**29.38**	**197**	P	**P**	**07 34 48.8**	**-0.8**
LBTB	**Lobatse**	**30.56**	**29**	LR	LR	07 45 41.0	
	comp=Z,95nm,18.6s,baz=193,slow=33						
GRTLG	**Ghanzi**	**32.95**	**20**	P	**P**	**07 35 20.3**	**-1.4**
GRTLG	comp=Z,10nm,1.3s			IAmb	IAmb	07 35 24.7	
MATP	**Matopo** comp=Z,56nm,18.3s,baz=205,slow=35	**35.76**	**31**	LR	LR	07 49 39.3	
QSPA	**South Pole Qui**	**37.10**	**180**	P	**P**	**07 35 57.8**	**+0.7**
QSPA	**South Pole Qui** comp=Z,0.9nm,0.5s,baz=228,slow=10,SNR=10	**37.10**	**180**	P	**P**	**07 35 58.0**	**+0.9**
QSPA	comp=Z,156nm,21.7s,baz=240,slow=35 comp=Z,0.9nm,0.5s			LR	LR	07 50 10.7	
LSZ	**Lusaka** comp=Z,84nm,18.6s,baz=167,slow=34	**40.53**	**28**	LR	LR	07 51 29.3	
VNDA	**Vanda**	**48.47**	**172**	P	**P**	**07 37 29.5**	**+0.7**
VNDA	**Vanda** comp=Z,1.4nm,0.6s,baz=221,slow=4.8,SNR=20	**48.47**	**172**	P	**P**	**07 37 29.1**	**+0.3**
VNDA	comp=Z,108nm,19.5s,baz=216,slow=35 comp=Z,1.4nm,0.6s			LR	LR	07 57 22.0	
TRQA	**Tornquist**	**50.19**	**257**	P	**P**	**07 37 41.9**	**-0.6**
TRQA	comp=Z,4.5nm,1.1s			IAmb	IAmb	07 37 44.7	
PLCA	**Paso Flores** comp=Z,32nm,19.1s,baz=125,slow=33	**53.34**	**249**	LR	LR	07 58 01.3	
CPUP	**Villa Florida** comp=Z,0.7nm,1.0s,baz=88,slow=1.0,SNR=3.1 comp=Z,0.7nm,1.0s	**55.67**	**271**	P	**P**	**07 38 23.5**	**+0.4**
KMBO	**Kilima Mbogo** comp=Z,47nm,18.3s,baz=229,slow=36	**56.69**	**34**	LR	LR	08 02 46.4	
BO04	**La Punta** comp=Z,13nm,1.1s	**58.04**	**255**	P	**P**	**07 38 39.4**	**-0.5**
BO04				IAmb	IAmb	07 38 48.7	
MT09	**Talagante**	**58.42**	**255**	P	**P**	**07 38 42.4**	**-0.3**
MT01	**Popeta** comp=Z,22nm,1.4s	**58.51**	**254**	P	**P**	**07 38 41.9**	**-1.1**
MT01				IAmb	IAmb	07 38 48.3	
MT02	**Curacav**	**58.87**	**255**	P	**P**	**07 38 45.1**	**-0.6**
DBIC	**Dimbokro** comp=Z,52nm,20.9s,baz=188,slow=30	**60.83**	**344**	LR	LR	07 59 10.9	
PB09	**IPOC Station P**	**66.23**	**265**	P	**P**	**07 39 34.0**	**-1.2**
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,0.9s,baz=191,slow=4.4,SNR=4.3 comp=Z,1.0nm,0.9s	**66.36**	**352**	P	**P**	**07 39 37.7**	**+2.1**
FURI	**Furi** comp=Z,30nm,19.0s,baz=181,slow=35	**66.57**	**32**	LR	LR	08 07 16.7	
LPAZ	**La Paz** comp=Z,3.4nm,1.0s	**69.79**	**270**	P	**P**	**07 39 58.1**	**0.0**
LPAZ				IAmb	IAmb	07 40 02.0	
LPAZ	**La Paz** comp=Z,1.7nm,0.9s,baz=135,slow=5.7,SNR=6.1	**69.79**	**270**	P	**P**	**07 39 58.6**	**+0.5**
LPAZ	comp=Z,49nm,18.6s,baz=66,slow=35 comp=Z,1.7nm,0.9s			LR	LR	08 09 45.2	
H01W2	**Cape Leeuwin H** baz=218,slow=75,SNR=59	**70.72**	**123**	T	T	08 57 42.3	
H01W3	**Cape Leeuwin H** baz=218,slow=75,SNR=58	**70.73**	**123**	T	T	08 57 49.1	
H01W1	**Cape Leeuwin H** baz=218,slow=75,SNR=55	**70.73**	**123**	T	T	08 57 45.7	
MDT	**Midelt** comp=Z,39nm,19.3s,baz=184,slow=31	**86.48**	**348**	LR	LR	08 13 37.0	
KEST	**Kesra** comp=Z,29nm,19.3s,baz=270,slow=34	**88.50**	**360**	LR	LR	08 18 19.6	
MMAI	**Mount Meron Ar** comp=Z,36nm,18.4s,baz=186,slow=36	**88.69**	**21**	LR	LR	08 22 13.6	
ESDC	**Sonseca Array** comp=Z,15nm,19.3s,baz=154,slow=33	**93.18**	**350**	LR	LR	08 20 08.2	
GNI	**Garni** comp=Z,22nm,18.8s,baz=219,slow=36	**97.76**	**26**	LR	LR	08 27 34.1	
DAVOX	**Davos/Dischmat** comp=Z,14nm,18.1s,baz=268,slow=34	**99.54**	**0**	LR	LR	08 25 17.8	

NNC 09 07:38:22.2±2.6, 43°34N×87°48E, h0km, mb3.8, mpv3.3, 4D, Error ellipse: s-maj=19.8km s-min=15.3km az=97.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array** 0.6nm,0.3s,baz=132,slow=14,SNR=75	**5.04**	**315**	Pn	Pn	07 39 39.1	0.0
MK31	1.4nm,0.4s			⇓Sn	Sn	07 40 40.6	+2.5
MK31	1.6nm,0.5s,baz=127,slow=28,SNR=5.1			Lg	Lg	07 41 01.2	
MAKZ	**Makanchi** 1.3nm,0.4s	**5.21**	**314**	Pn	Pn	07 39 40.8	-0.6
MAKZ	3.6nm,0.9s			Sn	Sn	07 40 42.6	+0.3
MAKZ	2.3nm,0.5s			Lg	Lg	07 41 06.5	
PDGK	**Podgornoye** 6.5nm,0.5s	**5.82**	**273**	⇓Pn	Pn	07 39 50.5	+0.6
PDGK	7.7nm,1.1s			⇓Sn	Sn	07 40 58.5	+1.0
PDGK	8.6nm,0.8s			⇓Lg	Lg	07 41 28.5	

*SJA **09** 07:45:49.4±0.7, 24°49S×70°44W, h68km±4km, ML3.7, MW3.6*
*GUC **09** 07:46:04.1±0.7, 25°20S×70°74W, h48km±18km, ML3.0*
ISC 09 07:46:05.2±1.4, 25°19S±0°03×70°78W±0°08, h35km, n17, σ0s80/22, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.66**	**31**	*e*P	**Pn**	**07 46 18.6**	**+0.3**
PB14				*e*S	**Sn**	**07 46 28.2**	**+0.6**
PB14	comp=N,2µm,0.1s			IAML		07 46 28.8	
PB14	**IPOC Station P**	**0.66**	**31**	*e*S	**Sn**	**07 46 28.2**	**+0.6**
PB14	**IPOC Station P**	**0.66**	**31**	*e*P	**Pn**	**07 46 18.7**	**+0.3**
AC01	**Pan de Azucar**	**0.97**	**171**	*e*P	**Pn**	**07 46 21.8**	**-0.5**
AC01				*i* S	**Sn**	**07 46 34.1**	**-0.7**
AC01	comp=E,610nm,0.3s			IAML		07 46 35.8	
AC01	**Pan de Azucar**	**0.97**	**171**	*e*S	**Sn**	**07 46 34.3**	**-0.5**
AC01	**Pan de Azucar**	**0.97**	**171**	*e*P	**Pn**	**07 46 21.9**	**-0.4**
GO02	**Mina Guanaco**	**1.07**	**89**	*e*P	**Pn**	**07 46 23.2**	**-0.8**
GO02	**Mina Guanaco**	**1.07**	**89**	*e*P	**Pn**	**07 46 23.3**	**-0.8**
GO02				*e*S	**Sn**	**07 46 36.3**	**-1.6**
PB10	**IPOC Station P**	**1.68**	**7**	*e*P	**Pn**	**07 46 30.7**	**-1.4**
PB10				*i* S	**Sn**	**07 46 52.9**	**+0.4**
PB10	**IPOC Station P**	**1.68**	**7**	*e*P	**Pn**	**07 46 30.9**	**-1.2**
AC02	**Maricunga**	**2.21**	**138**	*e*S	**Sn**	**07 47 06.8**	**+0.7**
AC02	**Maricunga**	**2.21**	**138**	*e*P	**Pn**	**07 46 41.0**	**+1.2**
GO03	**Copiapo**	**2.44**	**169**	*e*P	**Pn**	**07 46 42.6**	**0.0**
GO03				*e*S	**Sn**	**07 47 11.3**	**0.0**
GO03	comp=N,111nm,0.4s			IAML		07 47 27.3	
AC04	**Llanos de Chal**	**3.01**	**185**	*i* S	**Sn**	**07 47 25.6**	**+0.3**
AF01	**San Pedro de A**	**3.26**	**47**	*e*P	**Pn**	**07 46 54.4**	**+0.4**
PB09	**IPOC Station P**	**3.66**	**23**	*e*P	**Pn**	**07 47 00.0**	**+0.5**
LCO	**Las Campanas**	**3.81**	**179**	*e*P	**Pn**	**07 47 02.1**	**+0.6**

GUC 09 07:46:15.9±0.5, 22°67S×70°46W, h29km±5km, ML2.5, 2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB05	**IPOC Station P**	**0.29**	**127**	⇓*i*P	Pb	07 46 23.1	-0.3
PB05				*e*S	Sb	07 46 28.3	-0.1
PB05	comp=N,480nm,0.1s			IAML		07 46 28.6	
PB05	**IPOC Station P**	**0.29**	**127**	*e*S	Sb	07 46 28.3	-0.1
PB05	**IPOC Station P**	**0.29**	**127**	*e*P	Pb	07 46 22.9	-0.4
PB06	**IPOC Station P**	**0.82**	**92**	*i* P	Pn	07 46 31.0	-0.6
PB06				*e*S	Sb	07 46 42.0	-0.4
PB06	comp=N,882nm,0.2s			IAML		07 46 42.4	
PB06	**IPOC Station P**	**0.82**	**92**	*e*S	Sb	07 46 41.7	-0.7
PB06	**IPOC Station P**	**0.82**	**92**	*e*P	Pn	07 46 30.9	-0.7
PB10	**IPOC Station P**	**0.84**	**186**	*e*S	Sb	07 46 42.0	-1.0
PB03	**IPOC Station P**	**0.90**	**46**	⇓*i*P	Pn	07 46 32.2	-0.5
PB03				*i* S	Sb	07 46 44.1	-0.7
PB03	comp=N,189nm,0.3s			IAML		07 46 46.3	

*BGSI **09** 07:57:25.3±0.3, 24°18S×25°91E, h15km, ML1.5*
PRE 09 07:56:44.1±0.9, 26°38S×27°51E, h2km, ML1.9, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.56**	**193**	*e*P	Pg	07 56 54.5	-0.4
PRYS				*e*S	Sg	07 57 02.6	+0.3
PRYS	comp=Z,31nm,0.4s			IAML		07 57 09.1	
SNKL	**Senekal, Frees**	**1.91**	**173**	*e*P	Pn	07 57 18.7	+0.8
SNKL				*e*S	Sn	07 57 43.3	+0.7
SNKL	comp=Z,22nm,0.2s			IAML		07 57 46.9	
SWZ	**Schweizer**	**2.10**	**247**	*e*P	Pb	07 57 21.9	-1.2
SWZ				*e*S	Sn	07 57 47.7	+0.4
SWZ	comp=Z,25nm,0.6s			IAML		07 57 53.0	
LEPH	**Lephalale, Lim**	**2.52**	**6**	*e*P	Pn	07 57 26.1	0.0
LEPH				*e*S	Sn	07 57 58.2	+0.7
LEPH	comp=Z,6.1nm,0.2s			IAML		07 58 12.0	
NWCL	**Newcastle**	**2.52**	**123**	*e*P	Pn	07 57 27.2	+0.9
NWCL				*e*S	Sn	07 57 58.2	+0.5
NWCL	comp=Z,10.0nm,0.4s			IAML		07 58 04.1	
BOSA	**Boshof**	**2.99**	**221**	*e*P	Pn	07 57 33.3	+0.6
BOSA				*e*S	Sn	07 58 09.8	+0.6
BOSA	comp=Z,3.8nm,0.3s			IAML		07 58 24.1	
LPHEP	**Lephephe**	**3.35**	**333**	*i* P	Pn	07 57 39.8	+2.2
LPHEP	comp=E,8.6nm,0.5s			IAML		07 58 36.1	
SKOMA	**Sekoma**	**3.72**	**299**	*i* P	Pg	07 57 54.6	-0.8
SKOMA	comp=N,11nm,0.3s			IAML		07 58 47.5	
KDWAN	**Kaudwane**	**3.94**	**318**	*i* P	Pn	07 57 48.6	+2.8
KDWAN	comp=N,15nm,0.7s			IAML		07 58 51.7	

*IDC **09** 07:59:43.4±2.7, 53°82N×87°19E, h0km, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=25.2km s-min=16.4km az=65.0*
ASRS 09 07:59:44.0±0.9, 53°66N×86°83E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=91,slow=323,SNR=16	**1.23**	**284**	I	I	08 07 50.0	
ZALV	**Zalesovo Beam** 1.3nm,0.3s,baz=99,slow=16,SNR=11	**1.23**	**284**	Pg	Pn	08 00 08.9	+0.5
ZALV	1.6nm,0.3s,baz=98,slow=27,SNR=7.2			Lg	Lg	08 00 29.1	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=58,slow=14,SNR=4.2	**5.95**	**243**	Pn	Pn	08 01 17.1	+3.8
KURBB	baz=61,slow=32,SNR=3.1 0.7nm,0.2s			Lg	Lg	08 02 56.8	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=24,slow=14,SNR=7.2	**7.46**	**205**	Pn	Pn	08 01 38.0	+3.9
MKAR	baz=21,slow=12,SNR=2.0 0.2nm,0.3s			Lg	Lg	08 03 50.6	

*ASRS **09** 08:05:15.0±0.7, 54°65N×86°37E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 09 08:05:16.0±3.7, 54°68N×86°38E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=28.9km s-min=17.6km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=52,slow=315,SNR=2.4	**1.17**	**232**	I	I	08 12 30.0	
ZALV	**Zalesovo Beam** 0.8nm,0.3s,baz=52,slow=16,SNR=7.1	**1.17**	**232**	Pg	Pg	08 05 38.4	0.0
ZALV	2.7nm,0.3s,baz=51,slow=28,SNR=14			Lg	Lg	08 05 54.3	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=51,slow=13,SNR=2.8 0.6nm,0.2s	**6.27**	**233**	Pn	Pn	08 06 49.1	-0.6
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=23,slow=14,SNR=2.5	**8.31**	**200**	Pn	Pn	08 07 19.4	+1.7
MKAR	baz=23,slow=19,SNR=1.5 0.1nm,0.3s			Lg	Lg	08 09 40.7	

*IDC **09** 08:05:56.4±2.9, 10°81S×161°41E, h48km±22km, mb3.5/6, mbtmp3.8/7, ML3.2/1, MS3.3/4, Error ellipse: s-maj=32.9km s-min=19.5km az=66.0*
ISC 09 08:05:55.3±1.0, 10°8S±0°1×161°4E±0°2, h35km, n10, σ1s48/9, mb3.7/6, MS3.3/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 240nm,0.4s,baz=190,slow=8.4,SNR=9.5	**1.97**	**312**	P	**Pn**	**08 06 26.0**	**-0.3**
HNR	276nm,0.3s,baz=176,slow=19,SNR=4.5			S	**Sn**	**08 06 52.1**	**+2.3**
HNR	comp=Z,311nm,19.2s,baz=210,slow=48			LR	LR	08 07 32.8	
DZM	**Mont Dzumac** 0.1nm,0.3s,baz=311,slow=20,SNR=1.4 4.9nm,0.9s	**12.23**	**158**	P	**Pn**	**08 08 48.7**	**+1.5**
PMG	**Port Moresby** comp=Z,124nm,18.2s,baz=148,slow=36	**14.13**	**274**	LR	LR	08 14 27.6	
WRA	**Warramunga Arr** 0.9nm,0.6s,baz=77,slow=9.5,SNR=5.4	**27.65**	**247**	P	**P**	**08 11 39.7**	**-0.4**
WRA	comp=Z,80nm,21.5s,baz=166,slow=33 0.9nm,0.6s			LR	LR	08 21 05.7	
ASAR	**Alice Springs** 0.5nm,0.8s,baz=66,slow=9.5,SNR=7.2	**29.20**	**240**	P	**P**	**08 11 52.8**	**-1.1**
ASAR	comp=Z,125nm,19.1s,baz=134,slow=34 0.5nm,0.8s			LR	LR	08 22 11.9	
GUMO	**Guam** comp=Z,17nm,20.9s,baz=45,slow=35	**29.25**	**325**	LR	LR	08 23 04.2	
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=118,slow=5.3,SNR=1.3 0.9nm,0.3s	**68.14**	**295**	P	**P**	**08 16 52.2**	**-0.2**
SONM	**Songino Array** 0.8nm,0.6s,baz=142,slow=5.9,SNR=2.2 0.8nm,0.6s	**75.98**	**325**	P	**P**	**08 17 39.8**	**+0.9**
ILAR	**Eielson Array** 0.4nm,1.0s,baz=239,slow=6.2,SNR=2.8 0.4nm,1.0s	**84.62**	**20**	P	**P**	**08 18 24.7**	**-0.2**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=91,slow=6.5,SNR=2.1 0.3nm,0.6s	**90.44**	**318**	P	**P**	**08 18 51.6**	**-1.8**

*SKO **09** 08:10:14.8, 40°81N×20°65E, h20km, ML2.7*
*ATH **09** 08:10:14.5, 41°10N×20°78E, h16km±1km, ML3.0/5, Manual Solution by A.Moschou First location: 2019/09/09 08:11:31, This location: 2019/09/09 10:24:28 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
*TIR **09** 08:10:15.6, 40°86N×20°71E, h15km±1km, Ml3.2/3*
*PDG **09** 08:10:15.2±0.4, 40°87N×20°75E, h12km±1km, ML3.0/8, Error ellipse: s-maj=0.8km s-min=1.5km az=0.0*
*THE **09** 08:10:15.6, 41°N±1°×21°E±°, h0km±1km, M2.8/9, MLh2.8/9*
*BEO **09** 08:10:17.2±0.3, 40°86N×20°83E, h23km±4km, ML2.5/8*
ISC 09 08:10:16.3±0.8, 40°88N±0°02×20°73E±0°02, h12km±6km, n62, σ1s31/110, 14C-5D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.23**	**12**	⇑*i*Pg	**Pb**	**08 10 21.8**	**-0.8**
OHR				*i* Sg	**Sb**	**08 10 26.9**	**+2.1**
OHR	comp=N,747nm,0.3s			*e*Lg	Lg	08 10 28.0	
OHR	comp=E,805nm,0.5s			*e*Lg	Lg	08 10 28.7	
KBN	**Korca**	**0.26**	**171**	⇑Pg	**Pg**	**08 10 20.2**	**-1.6**
KBN				Sg	**Sg**	**08 10 25.0**	**-0.6**
KBN	**Korca**	**0.26**	**171**	P	**Pg**	**08 10 20.4**	**-1.5**
KBN				S	**Sg**	**08 10 24.8**	**-0.8**
LMS2	**Laimos Florina**	**0.32**	**99**	P	**Pg**	**08 10 22.5**	**-0.2**
LMS2				S	**Sb**	**08 10 28.5**	**-0.5**

FNA	**Florina**	**0.50**	**101**	⇑Pg		**Pg**	**08**	**10**	**26.1 -0.1**
FNA				Sg		**Sb**	**08**	**10**	**34.3 0.0**
FNA	**Florina**	**0.50**	**101**	P		**Pg**	**08**	**10**	**25.8 -0.3**
FNA				S		**Sb**	**08**	**10**	**34.0 -0.3**
FNA	**Florina**	**0.50**	**101**	⇑*i*Pg		**Pg**	**08**	**10**	**26.0 -0.1**
FNA				*i* Sg		**Sb**	**08**	**10**	**34.9 +0.6**
FNA	**Florina**	**0.50**	**101**	*e*Pg		**Pg**	**08**	**10**	**25.9 -0.3**
FNA				*e*Sg		**Sb**	**08**	**10**	**34.5 +0.2**
FNA	**Florina**	**0.50**	**101**	P		**Pg**	**08**	**10**	**25.8 -0.3**
FNA				S		**Sb**	**08**	**10**	**34.0 -0.3**
PENT	**Pentalofos**	**0.75**	**156**	P		**Pg**	**08**	**10**	**29.8 -1.2**
TIR	**Tirane**	**0.80**	**306**	*e*Pg		**Pg**	**08**	**10**	**30.7 -1.2**
KZN	**Kozani**	**0.98**	**126**	P		**Pg**	**08**	**10**	**33.7 -1.5**
SRN	**Sarande**	**1.15**	**209**	⇑Pg		**Pb**	**08**	**10**	**37.2 -0.9**
SRN				Sg		**Sn**	**08**	**10**	**54.4 +0.7**
SRN				AML	AML		08	10	58.8
	comp=E,0.4nm,0.5s								
SKO	**Skopje**	**1.21**	**26**	*i* Pg		**Pb**	**08**	**10**	**39.3 +0.1**
SKO				*i* Sg		**Sn**	**08**	**10**	**56.8 +1.4**
PUK	**Puka**	**1.32**	**332**	⇑Pn		**Pg**	**08**	**10**	**40.2 -1.5**
PUK				Sn		**Sn**	**08**	**11**	**00.1 +2.0**
PUK				AML	AML		08	11	05.0
	comp=E,1.3nm,0.4s								
PUK	**Puka**	**1.32**	**332**	P		**Pg**	**08**	**10**	**40.0 -1.7**
PUK				S		**Sn**	**08**	**11**	**00.8 +2.7**
KEK	**Kerkira**	**1.37**	**212**	⇑P		**Pb**	**08**	**10**	**44.0 +2.1**
KEK				S		**Sn**	**08**	**11**	**03.0 +3.8**
KEK	**Kerkira**	**1.37**	**212**	P		**Pb**	**08**	**10**	**44.8 +3.0**
KEK	**Kerkira**	**1.37**	**212**	P		**Pb**	**08**	**10**	**42.2 +0.4**
KEK				S		**Sn**	**08**	**11**	**02.1 +2.8**
PRMD	**Pramanda**	**1.38**	**168**	P		**Pn**	**08**	**10**	**40.5 -0.9**
PRMD				S		**Sn**	**08**	**11**	**02.6 +3.0**
IGT	**Igoumenitsa**	**1.38**	**193**	⇑Pn		**Pb**	**08**	**10**	**41.4 -0.7**
IGT				Sn		**Sn**	**08**	**11**	**01.1 +1.6**
IGT	**Igoumenitsa**	**1.38**	**193**	P		**Pb**	**08**	**10**	**41.6 -0.5**
IGT				S		**Sn**	**08**	**11**	**01.2 +1.6**
IGT	**Igoumenitsa**	**1.38**	**193**	*e*Pg		**Pb**	**08**	**10**	**41.7 -0.4**
IGT				*e*Sg		**Sn**	**08**	**11**	**01.7 +2.1**
VAY	**Valandovo**	**1.46**	**72**	*e*Pn		**Pn**	**08**	**10**	**42.7 +0.3**
VAY				*e*Sg		**Sg**	**08**	**11**	**08.2 +5.0**
VAY				*e*Lg		Lg	08	11	08.5
	comp=E,73nm,0.7s								
VAY				*e*Lg		Lg	08	11	10.9
	comp=N,146nm,0.8s								
ULC	**Ulcinj**	**1.56**	**314**	⇓*i*Pg		**Pb**	**08**	**10**	**44.1 -0.9**
ULC				*i* Sg		**Sg**	**08**	**11**	**07.0 +0.6**
BCI	**Bajram Curri**	**1.56**	**342**	⇑Pn		**Pg**	**08**	**10**	**45.9 -0.4**
BCI				Sn		**Sg**	**08**	**11**	**07.8 +1.1**
BCI				AML	AML		08	11	13.8
	comp=N,1.2nm,0.7s								
BCI	**Bajram Curri**	**1.56**	**342**	P		**Pn**	**08**	**10**	**44.4 +0.5**
BCI				S		**Sg**	**08**	**11**	**08.7 +2.0**
TETR	**Tetrakomo, Epi**	**1.59**	**165**	P		**Pb**	**08**	**10**	**45.2 -0.5**
TETR				S		**Sg**	**08**	**11**	**07.8 +0.2**
THL	**Klokotos Trika**	**1.64**	**143**	P		**Pn**	**08**	**10**	**44.8 -0.2**
THL	**Klokotos Trika**	**1.64**	**143**	P		**Pn**	**08**	**10**	**45.1 +0.2**
THL				S		**Sb**	**08**	**11**	**07.4 +0.3**
KNT	**Kendrikon**	**1.66**	**80**	⇓*i*Pg		**Pn**	**08**	**10**	**45.5 +0.3**
KNT				*i* Sg		**Sn**	**08**	**11**	**08.0 +1.5**
THE	**Thessaloniki**	**1.71**	**98**	*i* Pg		**Pn**	**08**	**10**	**46.0 +0.1**
THE				*i* Sg		**Sb**	**08**	**11**	**09.8 +0.6**
DRME	**Dracevica, Mon**	**1.75**	**319**	⇑*i*Pn		**Pn**	**08**	**10**	**47.0 +0.6**
DRME				*i* Sn		**Sg**	**08**	**11**	**11.6 -0.9**
PDG	**Podgorica**	**1.90**	**325**	*e*Pn		**Pb**	**08**	**10**	**49.9 -1.0**
PDG				*e*Sn		**Sb**	**08**	**11**	**13.7 -0.9**
PDG	**Podgorica**	**1.90**	**325**	⇑*i*Pn		**Pn**	**08**	**10**	**48.7 +0.2**
PDG				*i* Sn		**Sb**	**08**	**11**	**15.3 +0.7**
BUM	**Brajici-Budva**	**1.98**	**316**	⇑*i*Pn		**Pn**	**08**	**10**	**49.6 0.0**
BUM				*i* Sn		**Sb**	**08**	**11**	**16.7 -0.2**
SOH	**Sokhos**	**1.99**	**91**	*e*Pn		**Pn**	**08**	**10**	**49.9 +0.1**
SOH				*e*Sn		**Sn**	**08**	**11**	**16.4 +1.7**
KKB	**Krupnik**	**2.04**	**61**	P		**Pn**	**08**	**10**	**50.6 +0.1**
KKB	**Krupnik**	**2.04**	**61**	*i* Pn		**Pn**	**08**	**10**	**51.0 +0.5**
KKB				*e*Lg		Lg	08	11	14.8
KKB				*e*Sn		**Sn**	**08**	**11**	**17.0 +1.1**
BOSS	**Bosilegrad**	**2.08**	**39**	*e*Pn		**Pn**	**08**	**10**	**51.1 +0.1**
BOSS				*e*Sn		**Sn**	**08**	**11**	**16.3 -0.4**
IVA	**Berane**	**2.08**	**343**	⇓*i*Pn		**Pb**	**08**	**10**	**52.7 -1.4**
IVA				*i* Sn		**Sb**	**08**	**11**	**19.6 -0.4**
LKD2	**Lefkada island**	**2.09**	**182**	⇓Pn		**Pb**	**08**	**10**	**52.5 -1.7**
LKD2				Sn		**Sg**	**08**	**11**	**21.6 -1.9**
LKD2	**Lefkada island**	**2.09**	**182**	P		**Pn**	**08**	**10**	**51.7 +0.5**
BARS	**Barje**	**2.10**	**22**	*e*Pn		**Pn**	**08**	**10**	**51.5 +0.3**
BARS				*e*Sn		**Sb**	**08**	**11**	**20.2 +0.1**
BARS	**Barje**	**2.10**	**22**	*e*Pn		**Pn**	**08**	**10**	**51.2 0.0**
BARS				*e*Sn		**Sn**	**08**	**11**	**16.6 -0.6**
PLG	**Polygyros**	**2.13**	**103**	P		**Pn**	**08**	**10**	**50.4 -1.3**
PLG				S		**Sn**	**08**	**11**	**15.9 -2.1**
EVR	**Evrytania**	**2.13**	**157**	P		**Pb**	**08**	**10**	**54.7 -0.2**
EVR	**Evrytania**	**2.13**	**157**	P		**Pn**	**08**	**10**	**52.5 +0.8**
EVR				S		**Sb**	**08**	**11**	**20.3 -1.0**
CEME	**Cevo**	**2.15**	**321**	⇑*i*Pn		**Pn**	**08**	**10**	**52.3 +0.3**
CEME				*i* Sn		**Sb**	**08**	**11**	**21.9 -0.8**
KOME	**Kolasin**	**2.17**	**336**	⇑*i*Pn		**Pb**	**08**	**10**	**54.0 -1.5**
KOME				*i* Sn		**Sb**	**08**	**11**	**21.9 -0.4**
SRS	**Serrai**	**2.18**	**83**	*e*Pn		**Pn**	**08**	**10**	**52.4 +0.1**
SRS				*e*Sn		**Sn**	**08**	**11**	**20.4 +1.2**
SRS	**Serrai**	**2.18**	**83**	*e*Pn		**Pn**	**08**	**10**	**52.2 -0.1**
SRS				*e*Sn		**Sn**	**08**	**11**	**15.3 -3.9**
EVGl	**Lefkada island**	**2.26**	**182**	P		**Pn**	**08**	**10**	**54.1 +0.6**
SELS	**Selova**	**2.35**	**7**	*e*Pn		**Pn**	**08**	**10**	**55.3 +0.5**
SELS				*e*Sn		**Sn**	**08**	**11**	**23.3 -0.3**
MMB	**Musomishta**	**2.37**	**73**	*e*Pn		**Pn**	**08**	**10**	**56.1 +1.1**
SJES	**Sjenica**	**2.44**	**347**	*e*Pn		**Pn**	**08**	**10**	**56.2 +0.1**
SJES				*e*Sn		**Sn**	**08**	**11**	**25.8 -0.1**
BRY	**Bratogost**	**2.60**	**322**	⇓*i*Pn		**Pn**	**08**	**10**	**58.5 +0.3**
BRY				*i* Sn		**Sn**	**08**	**11**	**32.1 +2.3**
IVAS	**Ivanjica**	**2.73**	**351**	*e*Pn		**Pn**	**08**	**10**	**59.4 -0.5**
ZAPS	**Zavoj**	**2.78**	**30**	*e*Pn		**Pn**	**08**	**11**	**00.7 +0.1**
ZAGS	**Zajecar**	**3.13**	**20**	*e*Pn		**Pn**	**08**	**11**	**04.6 -0.8**
BBLS	**Lazi&#263i**	**3.14**	**342**	*e*Pn		**Pn**	**08**	**11**	**05.9 +0.3**
BORS2	**Bor- Borsko je**	**3.34**	**16**	*e*Pn		**Pn**	**08**	**11**	**08.8 +0.4**
BORS2				*e*Sn		**Sn**	**08**	**11**	**46.6 -1.4**

CATAC 09 08:10:30.9±0.9, 8°N±5°×8°3W×°, h20km±2km, M3.5/6, MLv3.5/6, 5C, Error ellipse: s-maj=11.1km s-min=7.3km az=144.3, confirmed, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	**Canoas**	**0.33**	**348**	S	Sn	08 10 45.4	-1.2
CDITO	**Canoas**	**0.33**	**348**	⇑P	Pn	08 10 39.4	-1.1
PIRO	**Carate, Puerto**	**0.55**	**286**	S	Sn	08 10 51.4	-0.7
PIRO	**Carate, Puerto**	**0.55**	**286**	⇑P	Pb	08 10 42.1	+0.2
BRU2	**Volcan**	**0.55**	**12**	S	Sn	08 10 51.3	-1.1
BRU2	**Volcan**	**0.55**	**12**	⇑P	Pb	08 10 42.7	+0.8
DRK0	**Durika**	**1.09**	**337**	S	Sb	08 11 04.6	-0.5
DRK0	**Durika**	**1.09**	**337**	⇑P	Pb	08 10 50.2	-1.1
OCHAL	**Ojochal**	**1.18**	**315**	S	Sn	08 11 08.2	+0.4
OCHAL	**Ojochal**	**1.18**	**315**	⇑P	Pn	08 10 51.6	-0.7
LCR2	**La Lucha 2**	**1.90**	**321**	S	Sn	08 11 26.9	+1.2
LCR2	**La Lucha 2**	**1.90**	**321**	P	Pn	08 11 02.3	0.0
TCS1	**Tacares**	**2.31**	**320**	P	Pb	08 11 10.0	-1.9
SOCE	**Pocosol**	**2.77**	**320**	P	Pn	08 11 15.9	+1.7
CMARA	**Lajas Hojancha**	**3.13**	**304**	P	Pn	08 11 19.3	+0.2
CMARA	**Lajas Hojancha**	**3.13**	**304**	S	Sn	08 11 55.7	-0.2

*NEIC **09** 08:18:30.0±1.8, 11°.7S±0°.1×166°.8E±0°.2, h216km±8km, mb4.3/35, Error ellipse: s-maj=25.6km s-min=15.2km az=96.0*
*IDC **09** 08:18:34.8±4.0, 11°.71S×166°.54E, h258km±39km, mb3.6/11, mbtmp4.2/12, Error ellipse: s-maj=23.7km s-min=18.7km az=84.0*
*NOU **09** 08:18:38.4, 12°.10S×166°.07E, h104km, mb4.6/8, Santa Cruz Islands*

ISC 09 08:18:33.2±0.6, 11°.78S±0°.06×166°.7E±0°.1, h250km, n97, σ1s31/96, mb4.1/30, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**1.35**	**325**	P	Pn	08 19 05.0	-5.5
SANVU	**Saraoutou**	**3.68**	**172**		**Pn**	**08 19 30.4**	**-2.9**
SANVU	**Saraoutou**	**3.68**	**172**	P	**Pn**	**08 19 31.2**	**-2.1**
TATA	**Tatamba Isabel**	**7.57**	**296**	P	**Pn**	**08 20 20.1**	**-1.1**
DZM	**Mont Dzumac**	**10.24**	**181**	P	**P**	**08 20 58.5**	**-1.8**
	9.7nm,0.3s,baz=41,slow=20,SNR=32						
DZM				S	**S**	**08 22 49.8**	**-0.2**
	5.8nm,0.7s,baz=290,slow=20,SNR=2.1						
DZM	**Mont Dzumac**	**10.24**	**181**	P	**P**	**08 20 58.6**	**-1.8**
OUENC	**Ouen Island, N**	**10.58**	**179**	P	**P**	**08 21 04.0**	**-0.1**
PINNC	**Pines Island,**	**10.80**	**176**	Pn	**Pn**	**08 20 58.7**	**-3.1**
PINNC	**Pines Island,**	**10.80**	**176**	P	**P**	**08 21 06.0**	**-0.4**
EIDS	**Eidsvold**	**20.01**	**225**	P	**P**	**08 22 48.4**	**+0.9**
CTAO	**Charters Tower**	**21.30**	**245**	P	**P**	**08 23 01.4**	**+0.5**
CTAO				IAmb	IAmb	08 23 05.2	
	comp=Z,13nm,1.5s						
ARMA	**Armidale**	**23.22**	**215**	P	**P**	**08 23 20.3**	**+1.8**
TOZ	**Tahuroa Road**	**27.02**	**164**	P	**P**	**08 23 54.0**	**+1.6**
HAZ	**Te Kaha**	**27.71**	**161**	P	**P**	**08 24 00.4**	**+1.9**
URZ	**Urewera**	**27.96**	**162**	P	**P**	**08 24 01.3**	**+0.4**
MRHZ	**Matea Rd**	**28.30**	**164**	P	**P**	**08 24 05.3**	**+1.4**
TMVZ	**Te Maari**	**28.38**	**165**	P	**P**	**08 24 07.8**	**+3.2**
OTVZ	**Oturere**	**28.41**	**165**	P	**P**	**08 24 08.5**	**+3.5**
SNVZ	**South Ngauruho**	**28.43**	**165**	P	**P**	**08 24 08.6**	**+3.5**
MTHZ	**Maungataniwha**	**28.44**	**163**	P	**P**	**08 24 06.2**	**+1.1**
WHVZ	**Whangaehu Hut**	**28.51**	**165**	P	**P**	**08 24 09.3**	**+3.3**
TUVZ	**Tukino**	**28.51**	**165**	P	**P**	**08 24 08.5**	**+2.6**
SNGZ	**Shannon Statio**	**28.52**	**162**	P	**P**	**08 24 06.2**	**+0.5**
WNVZ	**Wahianoa**	**28.55**	**165**	P	**P**	**08 24 08.9**	**+2.6**
RAHZ	**Arahi**	**28.57**	**163**	P	**P**	**08 24 06.9**	**+0.7**
RIGZ	**Rimuhau**	**28.57**	**162**	P	**P**	**08 24 07.0**	**+0.7**
BKZ	**Black Stump Fm**	**28.63**	**164**	P	**P**	**08 24 07.2**	**+0.4**
NMHZ	**Naumai**	**28.65**	**163**	P	**P**	**08 24 08.4**	**+1.3**
ARHZ	**Aropaoanui**	**28.86**	**163**	P	**P**	**08 24 09.5**	**+0.7**
MCHZ	**McNeill Hill**	**28.95**	**164**	P	**P**	**08 24 10.4**	**+0.8**
KRHZ	**Kereru**	**29.05**	**164**	P	**P**	**08 24 10.7**	**+0.3**
PNHZ	**Pukenui**	**29.26**	**165**	P	**P**	**08 24 12.5**	**+0.2**
KAHZ	**Kahuranaki**	**29.32**	**164**	P	**P**	**08 24 13.2**	**+0.3**
WPHZ	**Waipukurau**	**29.46**	**165**	P	**P**	**08 24 13.9**	**-0.2**
PXZ	**Pawanui**	**29.54**	**164**	P	**P**	**08 24 14.8**	**+0.1**
DVHZ	**Dannevirke**	**29.61**	**165**	P	**P**	**08 24 15.2**	**-0.2**
MRZ	**Mangatainoka R**	**29.82**	**166**	P	**P**	**08 24 17.1**	**0.0**
ANWZ	**Angora Road**	**29.84**	**165**	P	**P**	**08 24 17.5**	**+0.1**
BFZ	**Birch Farm**	**29.99**	**165**	P	**P**	**08 24 18.2**	**-0.5**
HOWZ	**Holdsworth Sta**	**30.03**	**167**	P	**P**	**08 24 18.8**	**-0.2**
TMWZ	**Te Maipa**	**30.31**	**166**	P	**P**	**08 24 22.0**	**+0.5**
THZ	**Tophouse**	**30.36**	**171**	P	**P**	**08 24 24.0**	**+2.0**
STKA	**Stephens Creek**	**30.57**	**225**	P	**P**	**08 24 25.3**	**+1.4**
STKA	**Stephens Creek**	**30.57**	**225**	P	**P**	**08 24 24.7**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=34,slow=14,SNR=3.3						
	comp=Z,1.8nm,0.8s						
LTZ	**Lake Taylor**	**31.27**	**172**	P	**P**	**08 24 30.2**	**+0.3**
WVZ	**Waitaha Valley**	**31.38**	**174**	P	**P**	**08 24 34.0**	**+3.2**
GVZ	**Greta Valley S**	**31.56**	**171**	P	**P**	**08 24 34.0**	**+1.6**
OXZ	**Oxford**	**31.77**	**173**	P	**P**	**08 24 35.5**	**+1.2**
TOO	**Toolangi**	**31.95**	**213**	P	**P**	**08 24 37.2**	**+1.2**
TOO				IAmb	IAmb	08 25 09.7	
	comp=Z,11nm,1.3s						
WR8	**Warramunga Arr**	**31.97**	**251**	P	**P**	**08 24 36.0**	**-0.3**
WR8				IAmb	IAmb	08 25 10.9	
	comp=Z,9.0nm,1.4s						
WB0	**Warramunga Arr**	**32.04**	**252**	P	**P**	**08 24 36.8**	**-0.1**
WB0				IAmb	IAmb	08 25 03.2	
	comp=Z,6.3nm,1.2s						
WB2	**Warramunga Arr**	**32.10**	**251**	P	**P**	**08 24 37.1**	**-0.4**
WB2				IAmb	IAmb	08 24 38.4	
	comp=Z,8.9nm,1.2s						
WRA	**Warramunga Arr**	**32.12**	**251**	P	**P**	**08 24 37.0**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=85,slow=9.2,SNR=12						
	comp=Z,1.1nm,0.6s						
MQZ	**McQueen's Vall**	**32.23**	**172**	P	**P**	**08 24 38.6**	**+0.4**
LBZ	**Lake Benmore**	**32.63**	**175**	P	**P**	**08 24 42.4**	**+0.7**
AS31	**Alice Springs**	**33.30**	**245**	P	**P**	**08 24 47.5**	**-0.4**
ASAR	**Alice Springs**	**33.31**	**245**	P	**P**	**08 24 47.0**	**-0.9**
ASAR	**Alice Springs**	**33.31**	**245**	P	**P**	**08 24 47.1**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=71,slow=10.0,SNR=20						
	comp=Z,1.0nm,0.6s						
CTZ	**Chatham Island**	**34.95**	**159**	P	P	08 24 48.8	-13
BBOO	**Buckleboo**	**35.02**	**228**	P	**P**	**08 25 03.1**	**+0.6**
BBOO				IAmb	IAmb	08 25 16.2	
	comp=Z,18nm,1.2s						
SAUI	**Saumlaki**	**35.05**	**273**	P	**P**	**08 25 02.5**	**-0.4**
KNRA	**Kununurra**	**37.02**	**260**	P	**P**	**08 25 20.1**	**+0.6**
KNRA				IAmb	IAmb	08 25 33.7	
	comp=Z,7.3nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.09**	**256**	P	**P**	**08 25 45.4**	**+0.4**
INU	**Inuyama**	**54.64**	**330**	P	**P**	**08 27 35.5**	**-0.9**
JGF	**Kuroka**	**54.68**	**331**	P	**P**	**08 27 36.3**	**-0.5**
JMN	**Monobe**	**54.99**	**327**	P	**P**	**08 27 38.6**	**-0.4**
MAJO	**Matsushiro**	**55.05**	**332**	P	**P**	**08 27 38.6**	**-0.7**
MAJO				IAmb	IAmb	08 27 58.5	
	comp=Z,19nm,1.5s						
MJB9	**Matsu-Tunnel**	**55.05**	**332**	P	**P**	**08 27 38.5**	**-0.9**
MJB9				IAmb	IAmb	08 27 59.4	
	comp=Z,17nm,1.4s						
KSRS	**Korea Array**	**61.00**	**325**	P	**P**	**08 28 20.4**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=138,slow=6.9,SNR=5.1						
	comp=Z,0.9nm,0.5s						
KIWB	**Kanaga Island**	**64.90**	**11**	P	**P**	**08 28 45.7**	**-0.1**
PETK	**Petropavlovsk-**	**65.09**	**354**	P	**P**	**08 28 47.6**	**+0.6**
	comp=Z,7.3nm,1.0s,baz=201,slow=7.2,SNR=1.9						
	comp=Z,7.3nm,1.0s						
VNDA	**Vanda**	**65.78**	**181**	P	**P**	**08 28 51.4**	**+0.3**
VNDA	**Vanda**	**65.78**	**181**	P	**P**	**08 28 52.1**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=329,slow=7.6,SNR=7.4						
	comp=Z,1.2nm,0.8s						
SBA	**Scott Base**	**66.07**	**180**	P	**P**	**08 28 54.7**	**+1.7**
SBA				IAmb	IAmb	08 28 55.5	
	comp=Z,3.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**73.25**	**293**	P	**P**	**08 29 38.5**	**+0.8**
	comp=Z,2.0nm,0.3s,baz=104,slow=6.6,SNR=1.7						
	comp=Z,2.0nm,0.3s						
K15K	**Wolf Creek Mou**	**77.89**	**15**	P	**P**	**08 30 03.8**	**+0.8**
K15K				IAmb	IAmb	08 30 27.1	
	comp=Z,16nm,1.4s						
QSPA	**South Pole Qui**	**78.23**	**180**	P	**P**	**08 30 07.0**	**+1.8**
QSPA	**South Pole Qui**	**78.23**	**180**	P	**P**	**08 30 06.9**	**+1.8**
	comp=Z,2.8nm,1.1s,baz=12,slow=2.9,SNR=3.8						
	comp=Z,2.8nm,1.1s						
J17K	**VABM Dome**	**79.43**	**15**	P	**P**	**08 30 11.4**	**0.0**
J17K				IAmb	IAmb	08 30 11.5	
	comp=Z,10nm,1.3s						
SONM	**Songino Array**	**79.80**	**324**	P	**P**	**08 30 13.8**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=145,slow=5.3,SNR=2.6						
	comp=Z,0.7nm,0.6s						
J19K	**Poorman**	**80.82**	**16**	P	**P**	**08 30 18.0**	**-0.8**
J19K				IAmb	IAmb	08 30 32.5	
	comp=Z,5.4nm,1.2s						
EYAK	**Cordova Ski Ar**	**81.36**	**22**	P	**P**	**08 30 21.3**	**-0.3**
EYAK				IAmb	IAmb	08 30 47.6	
	comp=Z,8.4nm,1.2s						
IMAR	**Indian Mountai**	**82.88**	**15**	P	**P**	**08 30 28.2**	**-1.3**
CCB	**Clear Creek Bu**	**83.55**	**18**	P	**P**	**08 30 31.4**	**-1.5**
M26K	**Nabesna, AK**	**83.58**	**21**	P	**P**	**08 30 32.2**	**-1.0**
HDA	**Harding Lake**	**83.64**	**18**	P	**P**	**08 30 33.1**	**-0.3**
HDA				IAmb	IAmb	08 30 33.7	
	comp=Z,5.4nm,0.9s						
RIDG	**Independent Ri**	**83.85**	**20**	P	**P**	**08 30 33.6**	**-0.9**
RIDG				IAmb	IAmb	08 30 34.8	
	comp=Z,2.0nm,0.6s						
IL31		**83.91**	**18**	P	**P**	**08 30 33.9**	**-0.8**
IL31				IAmb	IAmb	08 30 34.6	
	comp=Z,2.5nm,0.7s						
ILAR	**Eielson Array**	**83.91**	**18**	P	**P**	**08 30 33.5**	**-1.3**
ILAR	**Eielson Array**	**83.91**	**18**	P	**P**	**08 30 34.1**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=238,slow=5.0,SNR=21						
	comp=Z,2.0nm,0.7s						
M27K	**Edge Creek, AK**	**83.95**	**22**	P	**P**	**08 30 34.3**	**-0.9**
M27K				IAmb	IAmb	08 31 09.8	
	comp=Z,4.2nm,1.2s						
DOT	**Dot Lake**	**84.04**	**20**	P	**P**	**08 30 35.0**	**-0.5**
DOT				IAmb	IAmb	08 30 36.1	
	comp=Z,3.2nm,0.9s						
SCRK	**Sand Creek**	**84.29**	**20**	P	**P**	**08 30 37.2**	**+0.4**
L27K	**Beaver Creek,**	**84.42**	**21**	P	**P**	**08 30 37.6**	**+0.2**
BCAR	**Beaver Creek A**	**84.44**	**21**	P	**P**	**08 30 37.9**	**+0.3**
MKAR	**Makanchi Array**	**94.69**	**317**	P	**P**	**08 31 26.1**	**0.0**
	comp=Z,1.4nm,0.7s,baz=92,slow=6.3,SNR=10						
	comp=Z,1.4nm,0.7s						
ARCES	**ARCESS Array B**	**117.27**	**346**	PKP	**PKiKP**	**08 36 48.3**	**0.0**
	comp=Z,4.1nm,1.0s,baz=75,slow=3.8,SNR=1.4						

*IDC **09** 08:23:44.1±1.4, 51°.33N×178°.71W, h0km, mb4.0/6, mbtmp4.0/7, ML4.1/1, MS3.0/5, Error ellipse: s-maj=38.6km s-min=23.0km az=156.0*
*NEIC **09** 08:23:48.0±2.0, 51°.14N±0°.07×178°.36W±0°.07, h28km±8km, mb3.8/40, ML3.4(AEIC), Error ellipse: s-maj=10.3km s-min=6.1km az=182.0*
*AEIC **09** 08:23:48.4±2.4, 51°.15N±0°.06×178°.39W±0°.07, h22km±6km, Error ellipse: s-maj=8.8km s-min=5.9km az=184.0*

ISC 09 08:23:44.8±1.6, 51°.11N±0°.08×178°.37W±0°.03, h11km±10km, n95, σ1s04/91, mb3.7/15, MS3.4/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.53**	**328**		**Pn**	**08 23 58.6**	**+0.4**
GAKI					**Sb**	**08 24 05.9**	**+2.2**
GALAA	**Gareloi Lava P**	**0.70**	**339**		**Pn**	**08 24 02.0**	**+1.3**
TAFL	**Tanaga Flats**	**0.71**	**24**		**Pn**	**08 24 01.9**	**+1.1**
GAEA	**Gareloi East**	**0.72**	**341**		**Pn**	**08 24 02.2**	**+1.3**
GAEA					**Sn**	**08 24 11.9**	**0.0**
GANE	**Gareloi Northe**	**0.76**	**341**		**Pn**	**08 24 02.5**	**+1.0**
GANE					**Sn**	**08 24 12.8**	**-0.1**
TASE	**Tanaga Southea**	**0.76**	**16**		**Pn**	**08 24 02.6**	**+1.1**
GANO	**Gareloi North**	**0.76**	**339**		**Pn**	**08 24 02.5**	**+0.9**
TAPA	**Tanaga Point A**	**0.79**	**26**		**Pn**	**08 24 03.0**	**+1.0**
TAPA					**Sn**	**08 24 13.6**	**-0.2**
TANO	**Tanaga North**	**0.82**	**11**		**Pn**	**08 24 03.6**	**+1.3**
KIMD	**Kanaga Island**	**0.97**	**47**		**Pn**	**08 24 05.2**	**+0.9**
KIWB	**Kanaga Island**	**1.07**	**45**		**Pn**	**08 24 06.9**	**+1.2**
KIWB					**Sn**	**08 24 20.2**	**-0.3**
KIKV	**Kanaga Island**	**1.08**	**44**		**Pn**	**08 24 07.1**	**+1.3**
KICM	**Kanaga Island**	**1.10**	**42**		**Pn**	**08 24 07.6**	**+1.5**
KINC	**Kanaga Island**	**1.13**	**43**		**Pn**	**08 24 08.4**	**+1.8**
ADK	**Adak**	**1.31**	**53**		**Pg**	**08 24 10.4**	**+0.4**
ADAG	**Mount Adagdak**	**1.41**	**51**		**Pg**	**08 24 12.5**	**+0.6**
ETKA	**Kagalaska Isla**	**1.44**	**58**		**Pg**	**08 24 12.1**	**-0.4**
AMKA	**Amchitka**	**1.49**	**281**		**Pb**	**08 24 12.4**	**-0.1**
CEPE	**Semis' Perret**	**1.51**	**306**		**Pg**	**08 24 13.6**	**-0.1**
CEAP	**Semis' Anvil P**	**1.56**	**306**		**Pg**	**08 24 14.6**	**-0.2**
CETU	**Semis' Tuman**	**1.59**	**304**		**Pg**	**08 24 14.9**	**-0.3**
GSTD	**Great Sitkin T**	**1.68**	**55**		**Pb**	**08 24 16.2**	**+0.4**
GSSP	**Great Sitkin S**	**1.69**	**53**		**Pb**	**08 24 16.3**	**+0.4**
GSMY	**Great Sitkin M**	**1.72**	**56**		**Pb**	**08 24 16.4**	**0.0**
GSTR	**Great Sitkin T**	**1.75**	**55**		**Pb**	**08 24 17.1**	**+0.2**
LSSE	**Little Sitkin**	**2.08**	**295**		**Pb**	**08 24 21.9**	**-0.7**
LSPA	**Little Sitkin**	**2.09**	**295**		**Pb**	**08 24 22.0**	**-0.5**
LSNW	**Little Sitkin**	**2.13

BVAR LR LR 09 03 49.5
comp=Z,25nm,18.0s,baz=209,slow=40
comp=Z,0.9nm,0.4s
DAV Davao City (W) 63.62 247 LR LR 09 00 15.9
comp=Z,9.3nm,19.4s,baz=194,slow=34
ABKAR Akbulak array 68.32 323 P **P 08 34 46.0 +0.4**
KBZ Khabaz 78.98 331 LR LR 09 14 56.2
comp=Z,17nm,18.3s,baz=56,slow=39
ASAR Alice Springs 85.47 223 P **P 08 36 23.9 +1.5**
comp=Z,0.3nm,0.5s,baz=22,slow=5.6,SNR=4.5
comp=Z,0.3nm,0.5s

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*ASRS **09** 08:35:00.0±1.0,54.24N×87.07E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 09 08:34:59.2±3.3,54.34N×87.36E,h0km,mbtmp2.9/2, ML2.1/2,Error ellipse: s-maj=26.4km s-min=17.9km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.54**	**257**	I	I	08 43 55.0	
	baz=76,slow=322,SNR=7.7						
ZALV	**Zalesovo Beam**	**1.54**	**256**	Pg	Pn	08 35 27.2	-0.8
	0.7nm,0.3s,baz=70,slow=17,SNR=9.1						
ZALV				Lg	Lg	08 35 49.2	
	1.3nm,0.3s,baz=72,slow=24,SNR=9.1						
KURBB	**Kurchatov Arra**	**6.55**	**239**	Pn	Pn	08 36 36.0	-0.6
	baz=56,slow=14,SNR=5.2						
KURBB				Lg	Lg	08 38 26.5	
	0.1nm,0.3s,baz=53,slow=29,SNR=5.5						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**8.21**	**205**	Pn	Pn	08 37 02.1	+2.6
	0.1nm,0.3s,baz=27,slow=14,SNR=2.0						
MKAR				Sn	Sn	08 38 31.9	-1.0
	0.1nm,0.3s,baz=25,slow=29,SNR=2.8						
MKAR				Lg	Lg	08 39 18.6	
	0.1nm,0.3s,baz=24,slow=32,SNR=1.6						
	0.2nm,0.4s						

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*SKO **09** 08:43:03.1,41.29N×20.27E,h28km,ML2.5*
*BEO **09** 08:43:04.9±0.6,41.29N×20.40E,h0km,ML2.2/5*
ISC 09 08:43:04.0±1.1,41.30N±0.04×20.32E±0.03,h14km±10km, n18,σ0.90/30,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.34**	**278**	*e*Pg	**Pg**	**08 43 11.0**	**-0.1**
TIR				*e*Sg	**Sb**	**08 43 17.1**	**-0.1**
TIR	**Tirane**	**0.34**	**278**	*e*Pg	**Pn**	**08 43 13.7**	**-0.9**
TIR				*e*Sg	**Sg**	**08 43 16.7**	**+0.9**
OHR	**Ohrid**	**0.41**	**118**	*i* Pg	**Pb**	**08 43 12.9**	**-0.1**
OHR				*i* Sg	**Sb**	**08 43 20.0**	**+0.8**
OHR				*e*Lg	Lg	08 43 20.4	
	comp=N,351nm,0.3s						
OHR				*e*Lg	Lg	08 43 22.0	
	comp=E,198nm,0.5s						
FNA	**Florina**	**0.95**	**123**	*i* Pg	**Pg**	**08 43 22.2**	**-0.2**
FNA				*i* Sg	**Sn**	**08 43 36.3**	**-0.1**
SKO	**Skopje**	**1.07**	**51**	*i* Pg	**Pb**	**08 43 24.0**	**-0.4**
SKO				*i* Sg	**Sg**	**08 43 38.9**	**+0.1**
VAY	**Valandovo**	**1.69**	**89**	*e*Pn	**Pb**	**08 43 35.1**	**+0.2**
VAY				*e*Sn	**Sb**	**08 43 56.8**	**+0.6**
VAY				*e*Lg	Lg	08 44 00.3	
	comp=E,42nm,0.6s						
VAY				*e*Lg	Lg	08 44 01.4	
	comp=N,32nm,0.5s						
BARS	**Barje**	**1.88**	**36**	*e*Pn	**Pb**	**08 43 38.8**	**+0.7**
BARS				*e*Sn	**Sg**	**08 44 04.9**	**+0.5**
BARS	**Barje**	**1.88**	**36**	*e*Pn	**Pb**	**08 43 37.8**	**-0.3**
BARS				*e*Sg	**Sg**	**08 44 04.5**	**+0.1**
KNT	**Kendrikon**	**1.95**	**93**	*i* Pn	**Pb**	**08 43 39.4**	**+0.1**
KNT				*e*Sn	**Sg**	**08 44 06.1**	**-0.6**
SJES	**Sjenica**	**1.97**	**353**	*e*Pg	**Pb**	**08 43 40.3**	**+0.5**
SELS	**Selova**	**2.00**	**17**	*e*Pn	**Pb**	**08 43 38.6**	**+1.1**
SELS				*e*Sg	**Sg**	**08 44 07.3**	**-1.2**
BOSS	**Bosilegrad**	**2.01**	**53**	*e*Pn	**Pb**	**08 43 39.3**	**-1.0**
BOSS				*e*Sg	**Sb**	**08 44 05.8**	**+0.7**
KKB	**Krupnik**	**2.17**	**75**	*e*Pn	**Pn**	**08 43 40.6**	**+0.8**
IVAS	**Ivanjica**	**2.28**	**357**	*e*Pn	**Pn**	**08 43 42.9**	**+1.7**
GOCS	**Kraljevo Serbi**	**2.29**	**10**	*e*Sn	**Sb**	**08 44 13.1**	**-0.4**
SOH	**Sokhos**	**2.34**	**101**	*e*Pn	**Pb**	**08 43 45.7**	**-0.3**
SRS	**Serrai**	**2.48**	**93**	*e*Pn	**Pb**	**08 43 46.8**	**-1.5**
ZAPS	**Zavoj**	**2.61**	**40**	*e*Pn	**Pb**	**08 43 49.0**	**-1.6**
ZAPS				*e*Sn	**Sb**	**08 44 20.6**	**-2.0**

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*JMA **09** 08:50:44.3±0.3,26.7N×142.4E×12.4E±,h200km,MV3.6/23,NW OFF ISHIGAKIJIMA IS*
ISC 09 08:50:40.7±2.0,25.8N±0.2×123.62E±0.09,h28km±24km, n23,σ1.9/88/36,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**1.33**	**151**	P	**Pn**	**08 51 16.9**	**+1.4**
JISG				S	**Sn**	**08 51 41.4**	**-1.5**
YOJ	**Yonaguni jima**	**1.40**	**203**	P	**Pn**	**08 51 17.1**	**+0.9**
YOJ	**Yonaguni jima**	**1.40**	**203**	P	**Pn**	**08 51 17.1**	**+0.9**
IRIF	**Iriomote-Funau**	**1.42**	**176**	P	**Pn**	**08 51 16.9**	**+0.6**
IRIF				S	**Sn**	**08 51 42.3**	**-1.8**
JYNG	**Yonagunijimaku**	**1.44**	**205**	P	**Pn**	**08 51 17.4**	**+1.1**
JIJ	**Ishigaki jima**	**1.47**	**161**	P	**Pn**	**08 51 17.6**	**+1.0**
JIJ				S	**Sn**	**08 51 42.4**	**-2.5**
JTJ	**Tarama**	**1.49**	**138**	P	**Pn**	**08 51 18.7**	**+1.9**
JTJ				S	**Sn**	**08 51 44.5**	**-0.5**
JKRS	**Kuro-shima**	**1.56**	**167**	P	**Pn**	**08 51 18.7**	**+1.3**
JKRS				S	**Sn**	**08 51 44.2**	**-1.9**
JIRB	**Irabujima**	**1.69**	**123**	P	**Pn**	**08 51 20.3**	**+1.9**
JIRB				*e*S	**Sn**	**08 51 47.1**	**-0.9**
JIKM	**Ikemajima**	**1.69**	**119**	*e*P	**Pn**	**08 51 20.9**	**+2.4**
JIKM				*e*S	**Sn**	**08 51 48.2**	**+0.1**
HATJ	**Hateruma jima**	**1.70**	**174**	P	**Pn**	**08 51 19.8**	**+1.2**
HATJ				S	**Sn**	**08 51 46.2**	**-2.2**
JMJ2	**Miyako jima3**	**1.85**	**123**	P	**Pn**	**08 51 22.5**	**+2.6**
JMJ2				S	**Sn**	**08 51 50.6**	**0.0**
YHNB	**Yeheng**	**2.30**	**242**	P	**Pn**	**08 51 26.7**	**+2.3**
NACB	**Ninganchiao**	**2.42**	**230**	P	**Pn**	**08 51 26.2**	**+0.7**
JKE	**Kume jima 2**	**2.91**	**78**	P	**Pn**	**08 51 32.9**	**+2.2**
SSLB	**Suanglung**	**3.12**	**232**	P	**Pn**	**08 51 35.0**	**+1.8**
YULB	**Yu-li**	**3.16**	**222**	P	**Pn**	**08 51 33.7**	**0.0**
JAGN	**Aguni-jima**	**3.36**	**75**	P	**Pn**	**08 51 37.7**	**+1.8**
JAGN				S	**Sn**	**08 52 18.3**	**-1.2**
TPUB	**Ta-pu**	**3.66**	**229**	P	**Pn**	**08 51 41.2**	**+1.7**
JJT3	**Tamagusuku3**	**3.77**	**83**	P	**Pn**	**08 51 43.1**	**+2.4**
JNTH	**Nagotoyohara**	**4.03**	**78**	P	**Pn**	**08 51 45.2**	**+1.4**
JNTH				*e*S	**Sn**	**08 52 30.9**	**-2.9**
JOW	**Kunigami**	**4.32**	**75**	P	**Pn**	**08 51 48.7**	**+1.4**
JOW				S	**Sn**	**08 52 36.5**	**-3.6**
JYRO	**Yoronjima**	**4.52**	**73**	P	**Pn**	**08 51 50.6**	**+0.9**
JYRO				*e*S	**Sn**	**08 52 41.3**	**-3.2**

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*IDC **09** 09:23:52.4±3.9,5.73S×148.52E,h94km±30km,mb3.7/7, mbtmp4.1/9,Error ellipse: s-maj=43.1km s-min=18.8km az=84.0*
*NEIC **09** 09:23:53.5±1.1,5.76S±0.08×148.6E±0.1,h100km±9km, mb4.2/14,Error ellipse: s-maj=15.7km s-min=11.0km az=119.0*
ISC 09 09:23:52.1±0.8,5.79S±0.08×148.6E±0.1,h100km,n39, σ1.9/43/37,mb4.1/12,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.86**	**201**		Pn	09 24 51.1	+1.6
PMG	**Port Moresby**	**3.86**	**201**	P	**Pn**	**09 24 50.5**	**+1.0**
	100nm,0.3s,baz=37,slow=5.8,SNR=58						
PMG				S	**Sn**	**09 25 34.6**	**+0.7**
	202nm,0.4s,baz=11,slow=21,SNR=16						
PMG	**Port Moresby**	**3.86**	**201**	P	Pn	09 24 51.0	+1.5
RABL	**Rabaul**	**3.90**	**66**	Pn	**Pn**	**09 24 50.8**	**+0.8**
COEN	**Coen**	**9.71**	**213**	Pn	**Pn**	**09 26 09.9**	**+0.9**
COEN	**Coen**	**9.71**	**213**	P	**Pn**	**09 26 09.8**	**+0.9**
COEN	**Coen**	**9.71**	**213**	S	**Sn**	**09 27 54.6**	**-1.7**
MTSU	**Mount Surprise**	**12.96**	**198**	P	P	**09 26 56.2**	**-3.1**
CTAO	**Charters Tower**	**14.39**	**189**	P	**P**	**09 27 15.6**	**+0.4**
QIS	**Mount Isa**	**17.08**	**210**	P	**P**	**09 27 46.6**	**+1.6**
KDU	**Kakadu**	**17.31**	**246**	P	**P**	**09 27 49.4**	**+1.8**
DRS	**Darwin Rock St**	**18.66**	**248**	P	**Pn**	**09 28 03.7**	**-0.2**
WB0	**Warramunga Arr**	**19.59**	**224**		**Pn**	**09 28 13.8**	**-1.0**
WB0				IAmb	IAmb	09 28 15.1	
	comp=Z,10nm,0.8s						
EIDS	**Eidsvold**	**19.62**	**173**	P	**Pn**	**09 28 14.1**	**-0.9**
WR8	**Warramunga Arr**	**19.65**	**223**	P	**Pn**	**09 28 14.4**	**-1.1**
WR8				IAmb	IAmb	09 28 15.1	
	comp=Z,11nm,0.9s						
WRAB	**Tennant Creek**	**19.73**	**223**		**Pn**	**09 28 15.1**	**-1.4**
WRAB				IAmb	IAmb	09 28 16.0	
	comp=Z,15nm,0.9s						
WRA	**Warramunga Arr**	**19.75**	**223**		**Pn**	**09 28 14.1**	**-2.5**
WRA	**Warramunga Arr**	**19.75**	**223**	P	**Pn**	**09 28 15.4**	**-1.2**
	comp=Z,7.1nm,0.5s,baz=47,slow=11,SNR=58						
KNRA	**Kununurra**	**21.80**	**242**	P	**P**	**09 28 37.1**	**+0.9**
KNRA				IAmb	IAmb	09 28 48.5	
	comp=Z,21nm,1.4s						
AS01	**Alice Springs**	**22.68**	**217**	P	**P**	**09 28 46.5**	**+1.0**
AS31	**Alice Springs**	**22.71**	**217**		**P**	**09 28 46.7**	**+0.9**
AS31				IAmb	IAmb	09 28 47.1	
	comp=Z,4.6nm,0.5s						
ASAR	**Alice Springs**	**22.71**	**217**		**P**	**09 28 46.8**	**+1.0**
ASAR	**Alice Springs**	**22.71**	**217**	P	**P**	**09 28 46.5**	**+0.7**
	comp=Z,8.3nm,0.6s,baz=53,slow=8.9,SNR=202						
	comp=Z,8.3nm,0.6s						
INKA	**Innaminka**	**23.07**	**198**	P	**P**	**09 28 50.1**	**+1.0**
INKA				IAmb	IAmb	09 28 50.7	
	comp=Z,17nm,1.3s						
ARMA	**Armidale**	**24.67**	**174**	P	**P**	**09 29 04.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**25.53**	**239**		**P**	**09 29 12.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**25.53**	**239**	P	**P**	**09 29 12.6**	**+1.0**
	comp=Z,2.6nm,0.4s,baz=51,slow=9.2,SNR=17						
	comp=Z,2.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**25.53**	**239**	P	**P**	**09 29 13.1**	**+1.5**
STKA	**Stephens Creek**	**26.77**	**193**	P	**P**	**09 29 25.4**	**+2.8**
STKA	**Stephens Creek**	**26.77**	**193**	P	**P**	**09 29 25.4**	**+2.8**
	comp=Z,1.3nm,0.5s,baz=10,slow=13,SNR=8.3						
	comp=Z,1.3nm,0.5s						
BBOO	**Buckleboo**	**29.31**	**202**	P	**P**	**09 29 45.3**	**0.0**
BBOO				IAmb	IAmb	09 29 53.0	
	comp=Z,14nm,1.3s						
TGY	**Tagaytay City**	**33.81**	**306**	P	**P**	**09 30 24.3**	**-0.7**
	comp=Z,199nm,0.3s,baz=141,slow=6.5,SNR=4.2						
MORW	**Morwa**	**38.50**	**229**	P	**P**	**09 31 05.4**	**+0.6**
KSRS	**Korea Array**	**47.14**	**337**	P	P	09 32 16.0	+1.6
	comp=Z,0.7nm,0.6s,baz=154,slow=8.5,SNR=2.9						
	comp=Z,0.7nm,0.6s						
SONM	**Songino Array**	**65.00**	**330**	P	**P**	**09 34 22.1**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=42,slow=6.6,SNR=1.4						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**78.35**	**320**	P	**P**	**09 35 41.0**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=105,slow=6.6,SNR=2.1						
	comp=Z,0.1nm,0.4s						
QSPA	**South Pole Qui**	**84.18**	**180**	P	**P**	**09 36 12.9**	**+0.8**
QSPA				IAmb	IAmb	09 36 13.3	
	comp=Z,1.6nm,0.7s						
QSPA	**South Pole Qui**	**84.18**	**180**	P	**P**	**09 36 12.7**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=336,slow=0.9,SNR=18						
	comp=Z,1.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**146.57**	**285**	PKPbc	**PKPab**	**09 43 21.6**	**-2.7**
	comp=Z,0.3nm,0.5s,baz=54,slow=4.5,SNR=2.8						

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*IDC **09** 09:36:29.4±0.6,2.30N×126.67E,h0km,mb4.3/17, mbtmp4.3/17,Error ellipse: s-maj=32.3km s-min=12.2km az=75.0*
*DJA **09** 09:36:34.6±0.2,2.7N±2.7×12.7E±,h10km,M4.5/16,mB5.0/5, mb4.7/8,MLv4.4/16,Mw(mB)4.4/5*
*NEIC **09** 09:36:36.8±2.0,2.42N±0.08×126.91E±0.08,h54km±9km, mb4.5/31,Error ellipse: s-maj=14.0km s-min=10.1km az=225.0*
ISC 09 09:36:36.4±0.5,2.47N±0.04×126.90E±0.06,h53km,n70, σ1.9/74,mb4.4/32,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.75**	**164**		**Pn**	**09 37 03.2**	**-1.0**
TNTI	**Ternate**	**1.75**	**164**	P	**Pn**	**09 37 03.3**	**-1.0**
TNTI				S	**Sn**	**09 37 27.7**	**+2.3**
SGSI	**Sangihe**	**1.83**	**312**	P	**Pn**	**09 37 05.0**	**-0.4**
SGSI				S	**Sn**	**09 37 29.0**	**+1.6**
KMSI	**Cibinong**	**3.47**	**237**	P	**Pn**	**09 37 28.1**	**+0.3**
KMSI				S	**Sn**	**09 38 08.1**	**+0.4**
SANI	**Sanana**	**4.58**	**191**	P	**Pn**	**09 37 42.7**	**-0.4**
MRSI	**Marisa**	**5.33**	**248**	P	**Pn**	**09 37 55.2**	**+1.8**
	0.6nm1μm114nm,1.2s						
LUWI	**Luwuk**	**5.40**	**230**	Pn	**Pn**	**09 37 55.8**	**+1.5**
LUWI	**Luwuk**	**5.40**	**230**	P	**Pn**	**09 37 54.3**	**0.0**
LUWI				S	**Sn**	**09 38 56.0**	**+0.8**
SWI	**Sorong**	**5.47**	**127**	P	**Pn**	**09 37 56.8**	**+1.4**
	0.1nm38nm,0.6s						
NLAI	**Namlea**	**5.67**	**178**	P	**Pn**	**09 37 58.6**	**+0.5**
	0.3nm30nm,0.5s						
NLAI				S	**Sn**	**09 39 04.0**	**+2.1**
	0.3nm30nm,0.5s						
APSI	**Ampana**	**6.23**	**237**	P	**Pn**	**09 38 06.1**	**+0.4**
	0.5nm1μm130nm,1.2s						
TOLI2	**Tolitoli**	**6.26**	**258**		**Pn**	**09 38 05.4**	**-0.8**
FAKI	**Fak Fak**	**7.57**	**135**	Pn	**Pn**	**09 38 24.7**	**+0.6**
MYLDM	**Lahad Datu**	**8.80**	**288**		**Pn**	**09 38 42.9**	**+1.9**
TTSI	**Tana Toraja**	**8.94**	**232**	P	**Pn**	**09 38 42.6**	**-0.4**
KKM	**Kota Kinabalu**	**11.23**	**289**	Pn	**Pn**	**09 39 15.5**	**+1.1**
SBUM	**Sibu**	**14.66**	**270**	Pn	**Pn**	**09 40 02.6**	**+1.7**
KNRA	**Kununurra**	**18.12**	**174**		**P**	**09 40 43.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**20.47**	**183**		**P**	**09 41 09.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.47**	**183**	P	**P**	**09 41 06.3**	**-3.5**
	1.2nm,0.3s,baz=11,slow=12,SNR=19						
	1.2nm,0.3s						
TWG	**Pinlang**	**21.01**	**345**	P	**P**	**09 41 13.7**	**-1.9**
TWG				IAmb	IAmb	09 41 14.3	
	comp=Z,17nm,0.6s						
YULB	**Yu-li**	**21.50**	**346**	P	**P**	**09 41 18.5**	**-2.3**
TPUB	**Ta-pu**	**21.58**	**344**	P	**P**	**09 41 20.8**	**-1.0**
SSLB	**Suanglung**	**21.96**	**345**		**P**	**09 41 25.5**	**-0.3**
SSLB				IAmb	IAmb	09 41 29.5	
	comp=Z,17nm,1.0s						
YHNB	**Yeheng**	**22.71**	**347**	P	**P**	**09 41 33.5**	**-0.3**
YHNB				IAmb	IAmb	09 41 38.1	
	comp=Z,18nm,1.2s						
COEN	**Coen**	**22.95**	**136**	P	**P**	**09 41 36.0**	**-0.4**
COEN				IAmb	IAmb	09 41 41.5	
	comp=Z,13nm,1.1s						
WB0	**Warramunga Arr**	**23.29**	**162**		**P**	**09 41 39.1**	**-0.6**
WB0				IAmb	IAmb	09 41 46.9	
	comp=Z,13nm,0.9s						
WRAB	**Tennant Creek**	**23.43**	**162**		**P**	**09 41 40.1**	**-0.9**
WRAB				IAmb	IAmb	09 41 48.9	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**23.44**	**162**		**P**	**09 41 39.9**	**-1.3**
WRA	**Warramunga Arr**	**23.44**	**162**	P	**P**	**09 41 39.2**	**-1.9**
	comp=Z,7.7nm,0.7s,baz=342,slow=11,SNR=36						
	comp=Z,7.7nm,0.7s						
WR8	**Warramunga Arr**	**23.50**	**162**	P	**P**	**09 41 40.3**	**-1.4**
WR8				IAmb	IAmb	09 41 43.3	
	comp=Z,10nm,0.6s						
MBWA	**Marble Bar**	**24.50**	**196**	P	**P**	**09 41 50.8**	**-0.1**
PSA00	**Pilbara Seismi**	**24.87**	**196**	P	**P**	**09 41 54.3**	**+0.2**
AS31	**Alice Springs**	**26.85**	**166**		**P**	**09 42 11.7**	**-0.5**
ASAR	**Alice Springs**	**26.86**	**166**	P	**P**	**09 42 12.1**	**-0.1**
ASAR	**Alice Springs**	**26.86**	**166**	P	**P**	**09 42 11.1**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=334,slow=5.9,SNR=27						
	comp=Z,1.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**31.66**	**302**	P	**P**	**09 42 54.5**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=122,slow=7.5,SNR=20						
	comp=Z,3.4nm,0.8s						
CHTO	**Chiang Mai**	**31.82**	**303**		**P**	**09 42 55.8**	**-0.6**
CHTO				IAmb	IAmb	09 42 56.6	
	comp=Z,8.3nm,0.8s						
JGF	**Kuroka**	**34.37**	**15**	P	**P**	**09 43 19.5**	**+1.1**
JGF				IAmb	IAmb	09 43 20.7	
	comp=Z,6.6nm,0.9s						
KSRS	**Korea Array**	**34.83**	**1**	P	**P**	**09 43 24.6**	**+2.3**
	comp=Z,2.6nm,0.5s,baz=177,slow=9.9,SNR=20						
	comp=Z,2.6nm,0.5s						
MJAR	**Matsushiro Arr**	**35.48**	**16**	P	**P**	**09 43 28.8**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=197,slow=8.2,SNR=8.1						
	comp=Z,2.3nm,0.6s						
MJB9	**Matsu-Tunnel**	**35.49**	**16**	P	**P**	**09 43 27.6**	**-0.4**
MJB9				IAmb	IAmb	09 43 31.4	
	comp=Z,5.5nm,0.7s						
BBOO	**Buckleboo**	**36.14**	**167**	P	**P**	**09 43 33.3**	**-0.3**
BBOO				IAmb	IAmb	09 43 34.6	
	comp=Z,8.8nm,1.2s						
NWAO	**Narrogin (SRO)**	**36.37**	**194**	P	**P**	**09 43 34.1**	**-1.4**
STKA	**Stephens Creek**	**36.90**	**159**		**P**	**09 43 39.8**	**-0.2**
STKA	**Stephens Creek**	**36.90**	**159**	P	**P**	**09 43 39.5**	**-0.6**
	comp=Z,4.0nm,0.5s,baz=336,slow=9.0,SNR=12						
	comp=Z,4.0nm,0.5s						
JMM	**Marumori**	**37.47**	**18**	P	**P**	**09 43 43.9**	**-0.9**
BJT	**Baijiatuan**	**38.63**	**347**	P	**P**	**09 43 54.8**	**+0.2**
BJT				IAmb	IAmb	09 43 57.4	
	comp=Z,13nm,1.0s						
USRK	**Ussuriysk Ar.**	**41.80**	**5**	P	**P**	**09 44 22.8**	**+2.1**
	comp=Z,8.9nm,0.8s,baz=174,slow=6.1,SNR=10						
	comp=Z,8.9nm,0.8s						
USA0B	**Ussuriysk Arra**	**41.80**	**5**	P	**P**	**09 44 21.9**	**+1.1**
USA0B				IAmb	IAmb	09 44 25.3	
	comp=Z,9.0nm,0.9s						
EVN	**Everest**	**45.88**	**307**		**P**	**09 44 52.7**	**-1.8**
SONM	**Songino Array**	**48.54**	**342**	P	**P**	**09 45 15.5**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=163,slow=8.5,SNR=5.9						
	comp=Z,1.1nm,0.6s						
MKAR	**Makanchi Array**	**58.68**	**326**		**P**	**09 46 28.4**	**-0.1**
MKAR	**Makanchi Array**	**58.68**	**326**	P	**P**	**09 46 28.8**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=122,slow=8.5,SNR=19						
	comp=Z,2.7nm,0.8s						
ZALV	**Zalesovo Beam**	**61.78**	**333**	P	**P**	**09 46 49.4**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=116,slow=6.8,SNR=4.8						
	comp=Z,0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**62.89**	**328**	P	**P**	**09 46 57.2**	**+0.3**
	comp=Z,4.0nm,0.6s,baz=129,slow=6.3,SNR=51						
	comp=Z,4.0nm,0.6s						
KURK	**Kurchatov**	**62.89**	**328**		**P**	**09 46 57.6**	**+0.7**
KK31	**Karatay Array**	**64.27**	**317**	P	**P**	**09 47 05.5**	**-0.8**
KK31				IAmb	IAmb	09 47 08.3	
	comp=Z,5.2nm,1.1s						
KKAR	**Karatay Array**	**64.27**	**317**		**P**	**09 47 05.6**	**-0.7**
BVAR	**Borovoye Array**	**68.47**	**327**	P	**P**	**09 47 33.9**	**+1.0**
	comp=Z,3.1nm,0.8s,baz=126,slow=7.5,SNR=9.7						
	comp=Z,3.1nm,0.8s						
AB31	**Akbulak array**	**73.23**	**321**	IAmb	IAmb	09 48 03.6	
	comp=Z,2.7nm,0.9s						
ABKAR	**Akbulak array**	**73.23**	**321**	P	**P**	**09 48 02.1**	**+0.2**
AKTO	**Aktyubinsk**	**74.75**	**322**	P	**P**	**09 48 10.7**	**-0.1**
	comp=Z,3.6nm,0.6s,baz=84,slow=4.9,SNR=9.6						
	comp=Z,3.6nm,0.6s						
ARTI	**Arti**	**76.17**	**328**		**P**	**09 48 18.9**	**+0.1**
ARTI				IAmb	IAmb	09 48 20.7	
	comp=Z,8.7nm,0.8s						
ARTI	**Arti**	**76.17**	**328**	P	**P**	**09 48 18.8**	**0.0**
	comp=Z,4.9nm,0.6s,baz=107,slow=0.8,SNR=7.0						
	comp=Z,4.9nm,0.6s						
MAW	**Mawson**	**82.63**	**200**	P	**P**	**09 48 54.3**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=92,slow=5.8,SNR=9.0						
	comp=Z,1.2nm,0.7s						
GURO	**Guroymak-BITLI**	**84.45**	**308**		**P**	**09 49 05.8**	**+2.0**
LOGN	**Logan Glacier**	**88.89**	**29**	P	**P**	**09 49 24.0**	**-1.0**
LOGN				IAmb	IAmb	09 49 32.9	
	comp=Z,3.9nm,0.9s						
BRTR	**Keskin Array B**	**90.95**	**310**	P	**P**	**09 49 35.8**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=132,slow=2.1,SNR=4.7						
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**123.46**	**287**	PKP	**PKPdf**	**09 55 26.7**	**-2.1**
	comp=Z,0.4nm,0.6s,baz=29,slow=3.3,SNR=2.7						

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*IDC **09** 09:37:53.1±0.6,19.37S×168.55E,h0km,mb4.5/20, mbtmp4.5/22,ML4.9/2,MS4.9/38,Error ellipse: s-maj=18.9km s-min=14.3km az=77.0*
*MOS **09** 09:37:55.6±1.0,19.40S×168.54E,h24km,mb5.2/16, MS5.0/5,Error ellipse: s-maj=12.6km s-min=9.3km az=126.6*
*NEIC **09** 09:37:56.2,19.47S×168.50E,h26km*
*NEIC **09** 09:37:56.2,19.37S×168.40E,h26km,Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.31; $M_{\theta\theta}$-1.20; $M_{\phi\phi}$0.89; $M_{r\theta}$-0.48; $M_{\theta\phi}$0.12; $M_{\phi r}$-0.80; Fault plane solution: $M_0$1.43000×10^{17} NP1: ϕ_s132.28000°,δ50.80000°,λ165.12000°. NP2: ϕ_s231.81000°,δ78.52000°,λ40.16000°. Principal axes: T 1.5005, Plg36.0000°, Azm100.0000°; N -0.1508, Plg49.0000°, Azm245.0000°; P -1.3497, Plg18.0000°, Azm356.0000°;*
*BJI **09** 09:37:57.1,19.24S×168.29E,h14km,mB5.3/29,mb4.8/45, Ms5.2/46,Ms7 4.9/48*
*NOU **09** 09:37:58.0,19.49S×168.64E,h59km,MLv5.9/15, Vanuatu Islands*
*NEIC **09** 09:37:59.0±2.2,19.50S±0.06×168.39E±0.08,h25km±4km, mb5.2/84,Mww5.4/22,Error ellipse: s-maj=11.4km s-min=8.6km az=107.0*
*GCMT **09** 09:38:02.0±0.1,19.37S±0.01×168.35E±0.01,h23km, MW5.4/147,Moment Tensor Solution. s99,c165; s147,c256; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.32±.02; $M_{\theta\theta}$-1.14±.02; $M_{\phi\phi}$0.81±.02; $M_{r\theta}$-0.69±.04; $M_{\theta\phi}$0

TARA Tarawa 21.18 12 P P 09 42 42.8 +1.1
PXZ Pawanui 21.66 162 P P 09 42 49.6 +2.9
MRZ Mangatainoka R 21.92 166 P P 09 42 50.7 +1.2
RABL Rabaul 22.08 312 P P 09 42 50.4 -1.0
BFZ Birch Farm 22.11 164 P P 09 42 51.8 +0.3
THZ Tophouse 22.49 171 P P 09 42 58.5 +2.9
PMG Port Moresby 22.99 293 P P 09 43 00.9 -0.2
PMG IAmb IAmb 09 43 21.1
comp=Z,68nm,1.1s
PMG Port Moresby 22.99 293 P P 09 42 59.0 -2.1
comp=Z,16nm,0.8s,baz=92,slow=5.8,SNR=8.7
PMG LR LR 09 51 11.3
comp=Z,3μm,18.4s,baz=130,slow=35
comp=Z,16nm,0.8s
PMG Port Moresby 22.99 293 P P 09 42 59.0 -2.1
INZ Inchbonnie 23.27 175 P P 09 43 06.3 +2.7
LTZ Lake Taylor 23.41 173 P P 09 43 07.0 +2.0
GVZ Greta Valley S 23.69 172 P P 09 43 08.5 +0.8
OXZ Oxford 23.92 174 P P 09 43 12.0 +2.1
RPZ Rata Peaks 24.22 176 LR LR 09 52 37.3
comp=Z,5μm,18.3s,baz=346,slow=36
JCZ Jackson Bay 24.49 180 P P 09 43 20.3 +5.1
LBZ Lake Benmore 24.84 177 P P 09 43 19.9 +1.7
COEN Coen 24.90 279 P 09 43 19.4 +0.3
COEN IAmb IAmb 09 43 38.2
comp=Z,71nm,1.2s
MSZ Milford Sound 25.09 181 P P 09 43 24.9 +4.4
STKA Stephens Creek 27.15 238 LR LR 09 54 20.4
comp=Z,401nm,18.1s,baz=64,slow=36
RAR Rarotonga 29.72 99 LR LR 09 53 31.4
comp=Z,1μm,20.9s,baz=258,slow=32
BBOO Buckleboo 31.89 239 P P 09 44 20.4 -0.9
BBOO IAmb IAmb 09 44 46.7
comp=Z,60nm,1.8s
WR8 Warramunga Arr 32.02 263 P P 09 44 21.9 -0.8
WR8 IAmb IAmb 09 45 00.2
comp=Z,62nm,1.9s
WB0 Warramunga Arr 32.14 264 P P 09 44 23.1 -0.6
WRAB Tennant Creek 32.16 263 *i* P P 09 44 24.5 +0.6
WRAB pmax pmax
comp=Z,12nm,1.1s
WRA Warramunga Arr 32.17 263 P 09 44 22.8 -1.2
WRA Warramunga Arr 32.17 263 P P 09 44 21.7 -2.3
comp=Z,2.6nm,1.0s,baz=94,slow=8.2,SNR=7.4
WRA PcP PcP 09 47 11.6 -0.9
comp=Z,1.2nm,0.8s,baz=94,slow=2.1,SNR=1.8
WRA LR LR 09 57 10.5
comp=Z,3μm,18.8s,baz=96,slow=36
comp=Z,2.6nm,1.0s
WRA Warramunga Arr 32.17 263 *e*P P 09 44 24.6 +0.6
WRA pmax pmax
comp=Z,2.0nm,0.7s
AS31 Alice Springs 32.43 256 P 09 44 25.6 -0.6
ASAR Alice Springs 32.43 256 P 09 44 25.6 -0.6
ASAR Alice Springs 32.43 256 P P 09 44 24.9 -1.3
comp=Z,9.6nm,0.6s,baz=84,slow=8.9,SNR=38
ASAR LR LR 09 57 49.2
comp=Z,3μm,18.2s,baz=90,slow=37
comp=Z,9.6nm,0.6s
ASAR Alice Springs 32.43 256 P P 09 44 25.6 -0.6
GENI Genyem 32.44 298 P P 09 44 27.8 +1.5
SMPI Sarmi 33.98 297 P P 09 44 38.8 -1.0
comp=Z,17nm,1.4s
MTN Manton Dam 36.48 275 P P 09 45 01.9 +0.6
MTN IAmb IAmb 09 45 27.5
comp=Z,39nm,1.1s
KNRA Kununurra 38.06 269 P P 09 45 15.8 +1.1
TBI Tubuai 39.18 103 *e*P P 09 45 22.9 -1.1
comp=Z,785nm,27.2s
TBI *e*S S 09 51 20.3 -1.7
comp=Z,2μm,28.8s
TBI *e*SS SS 09 54 14.7 -1.0
comp=Z,9μm,34.8s
TBI *e*LR LR 09 56 08.8
comp=Z,16μm,30.2s
TBI *e*LR LR 09 56 12.6
comp=Z,3μm,31.0s
PPT2 Papeete2 39.68 94 *e*P P 09 45 22.0 -6.3
comp=Z,190nm,27.0s
PPT2 *e*S S 09 51 32.2 +2.4
comp=Z,454nm,26.5s
PPT2 *e*SS SS 09 54 24.5 -1.5
comp=Z,2μm,29.8s
PPT2 *e*LR LR 09 56 21.7
comp=Z,3μm,25.2s
PPT2 *e*LR LR 09 56 22.3
comp=Z,3μm,28.0s
PPT Papeete 39.68 94 LR LR 09 57 55.7
comp=Z,1μm,19.4s,baz=263,slow=30
GUMO Guam 40.32 323 LR LR 10 01 26.0
comp=Z,2μm,19.9s,baz=130,slow=35
FITZ Fitzroy Crossi 40.56 265 P 09 45 35.3 -0.3
FITZ Fitzroy Crossi 40.56 265 P P 09 45 34.9 -0.7
comp=Z,4.8nm,0.8s,baz=99,slow=8.0,SNR=5.7
FITZ LR LR 10 02 29.0
comp=Z,3μm,18.1s,baz=96,slow=36
comp=Z,4.8nm,0.8s
SOEI Soe 43.81 276 P P 09 46 05.4 +3.1
comp=Z,54nm,1.3s
BATI Baumata 44.25 275 P P 09 46 03.5 -2.1
comp=Z,26nm,0.4s,baz=135,slow=11,SNR=1.6
BATI LR LR 10 03 43.9
comp=Z,2μm,21.9s,baz=136,slow=35
comp=Z,26nm,0.4s
MBWA Marble Bar 45.66 259 P P 09 46 16.3 -0.5
NWAO Narrogin (SRO) 47.51 243 P P 09 46 30.3 -0.9
NWAO Narrogin (SRO) 47.51 243 LR LR 10 08 33.6
comp=Z,1μm,18.2s,baz=98,slow=39
NWAO Narrogin (SRO) 47.51 243 P P 09 46 30.3 -0.9
NWAO pmax pmax
comp=Z,61nm,1.3s
MORW Morawa 48.46 248 P P 09 46 39.2 +0.6
BNSI Bone 49.52 281 P P 09 46 50.4 +3.6
comp=Z,979nmcomp=Z,35nm,2.3s
KAPI Kappang 49.62 280 LR LR 10 07 22.3
comp=Z,546nm,21.9s,baz=119,slow=36
KAPI Kappang 49.62 280 *i* P P 09 46 48.8 +1.2
KAPI pmax pmax
comp=Z,57nm,1.3s
PLAI Plampang 50.19 275 P P 09 46 54.5 +2.5
comp=Z,815nmcomp=Z,43nm,1.1s
TTSI Tana Toraja 50.29 283 P P 09 46 55.5 +2.8
comp=Z,28nm,1.3s
TAOE Nuku Hiva Isla 50.69 85 *e*P P 09 46 49.8 -6.0
comp=Z,206nm,26.1s
TAOE *e*S S 09 54 08.5 -0.6
comp=Z,555nm,27.0s
TAOE *e*SS SS 09 57 44.2 +0.4
comp=Z,131nm,24.3s
TAOE *e*LR LR 10 01 30.4
comp=Z,1μm,29.5s
TWSI Taliwang, Sumb 51.06 275 P P 09 47 00.4 +1.9
comp=Z,813nmcomp=Z,58nm,1.1s
TOLI2 Tolitoli 51.13 288 P 09 46 58.1 -1.0
TOLI2 IAmb IAmb 09 47 12.4
comp=Z,33nm,1.1s
VNDA Vanda 58.14 182 P 09 47 49.4 +0.5
VNDA Vanda 58.14 182 P P 09 47 49.0 0.0
comp=Z,1.2nm,0.5s,baz=354,slow=8.0,SNR=21
VNDA LR LR 10 08 58.9
comp=Z,994nm,21.9s,baz=44,slow=32
comp=Z,1.2nm,0.5s
VNDA Vanda 58.14 182 P P 09 47 49.4 +0.5
VNDA pmax pmax
comp=Z,6.0nm,1.2s
SBA Scott Base 58.38 180 P 09 47 52.3 +1.6
SBA Scott Base 58.38 180 P P 09 47 52.3 +1.6
SBA pmax pmax
comp=Z,20nm,1.3s
JHJ Hachijo jima 2 59.11 332 LR LR 10 13 12.9
comp=Z,681nm,19.4s,baz=106,slow=36
STKI Sintang 59.18 282 P P 09 47 55.2 -2.0
LEM Lembang 60.38 273 LR LR 10 13 23.8
comp=Z,672nm,22.0s,baz=159,slow=35
JOW Kunigami 60.40 318 LR LR 10 14 25.8
comp=Z,745nm,18.6s,baz=124,slow=36
MJA0 Matsu Arr-Jizo 62.68 333 *e*P P 09 48 21.5 +1.0
MJA0 pmax pmax
comp=Z,7.0nm,1.0s
MJAR Matsushiro Arr 62.69 333 P P 09 48 19.4 -1.2
comp=Z,4.6nm,1.0s,baz=163,slow=6.6,SNR=7.4
MJAR LR LR 10 14 16.4
comp=Z,509nm,20.4s,baz=136,slow=35
comp=Z,4.6nm,1.0s
MAJO Matsushiro 62.69 333 P P 09 48 19.7 -0.9
MAJO Matsushiro 62.69 333 *i* P P 09 48 20.9 +0.3
MAJO pmax pmax
comp=Z,27nm,1.1s
MJB9 Matsu-Tunnel 62.70 333 P P 09 48 20.4 -0.2
TPUB Ta-pu 63.22 310 P P 09 48 24.3 0.0
JNU Nakatsue 63.51 325 P P 09 48 25.3 -0.8
JNU IAmb IAmb 09 48 47.5
comp=Z,25nm,1.1s
JTM Tenmabayashi 65.21 337 P P 09 48 35.9 -1.1
TPRI Tanjung Pinang 65.93 280 P P 09 48 31.9 -10
JKA Kamikawa-asahi 67.63 340 P 09 48 52.8 +0.4
ASAJ Asahikawa 67.63 340 LR LR 10 14 55.2
comp=Z,2μm,20.9s,baz=170,slow=33
ASAJ Asahikawa 67.63 340 P P 09 48 52.8 +0.4
ASAJ pmax pmax
comp=Z,36nm,0.9s
TJN Taejon 67.86 325 *i* P P 09 48 54.1 +0.1
KSRS Korea Array 68.37 326 P P 09 48 56.5 -0.6
comp=Z,0.8nm,0.7s,baz=142,slow=6.0,SNR=7.2
comp=Z,0.8nm,0.7s
KSRS Korea Array 68.37 326 *e*P P 09 49 04.2 +7.0
KSRS pmax pmax
comp=Z,3.0nm,1.0s
QIZ Qiongzhong 69.15 300 P P 09 49 01.5 -1.0
QIZ S S 09 58 07.9 +1.8
QIZ SS SS 10 02 32.4 -0.8
QIZ pmax pmax
comp=Z,170nm,6.9s
QIZ LR LR
comp=Z,180nm,16.5s
QIZ LR LR
comp=Z,280nm,20.6s
QIZ LR LR
comp=Z,380nm,16.5s
NJ2 Nanjing 69.95 316 *e*P P 09 49 09.2 +2.1
NJ2 pmax pmax
comp=Z,14nm,0.5s
YSS Yuzhno-Sakhali 70.13 342 *i* P P 09 49 06.7 -1.2
YSS pmax pmax
comp=Z,44nm,1.1s
MNSI Mandailing Nat 70.49 278 P P 09 48 58.1 -13
QSPA South Pole Qui 70.54 180 P P 09 49 12.3 +1.8
QSPA IAmb IAmb 09 49 29.4
comp=Z,34nm,1.4s
QSPA South Pole Qui 70.54 180 P P 09 49 11.6 +1.1
comp=Z,6.0nm,0.9s,baz=12,slow=1.4,SNR=28
QSPA LR LR 10 18 44.8
comp=Z,1μm,18.1s,baz=59,slow=35
comp=Z,6.0nm,0.9s
PSTR Posyet 70.97 331 *i* P P 09 49 12.3 -0.8
USA0B Ussuriysk Arra 71.68 333 *i* P P 09 49 17.4 0.0
USRK Ussuriysk Ar. 71.68 333 P P 09 49 16.6 -0.7
comp=Z,3.5nm,0.8s,baz=162,slow=4.5,SNR=5.6
USRK LR LR 10 17 21.6
comp=Z,520nm,20.9s,baz=145,slow=33
comp=Z,3.5nm,0.8s
PSI Prapat 71.82 280 LR LR 10 22 56.2
comp=Z,592nm,19.6s,baz=136,slow=38
WHN Wuhan 72.05 313 P P 09 49 21.3 +1.4
WHN sP pP 09 49 28.0 -1.7
WHN S S 09 58 41.6 +2.1
WHN pmax pmax
comp=Z,62nm,1.0s
WHN LR LR
comp=Z,3μm,18.8s
WHN LR LR
comp=Z,3μm,23.3s
WHN LR LR
comp=Z,3μm,23.1s
SHEM Shemya Is, Ala 72.10 4 LR LR 10 15 02.0
comp=Z,1μm,22.0s,baz=188,slow=31
PET Petropavlovsk 72.74 354 *e*P P 09 49 22.3 -1.2
PET *e* 09 52 07.7
PET *e*S S 09 58 47.6 +1.2
PET *e*PS PnS 09 59 20.4 -0.7
PET pmax pmax
comp=Z,200nm,13.4s
PET MLR MLR
comp=Z,500nm,20.0s
PET MLR MLR
comp=Z,600nm,20.0s
DL2 Dalian 72.84 323 P P 09 49 27.4 +3.0
DL2 S SKiKP 09 58 52.0 -3.4
DL2 pmax pmax
comp=Z,46nm,1.0s
DL2 pmax pmax
comp=Z,350nm,11.7s
DL2 LR LR
comp=Z,490nm,18.9s
DL2 LR LR
comp=Z,590nm,17.8s
DL2 LR LR
comp=Z,1μm,19.1s
PETK Petropavlovsk- 72.93 353 P P 09 49 24.9 +0.3
PETK Petropavlovsk- 72.93 353 P P 09 49 23.3 -1.3
comp=Z,7.1nm,0.9s,baz=171,slow=6.2,SNR=6.9
PETK LR LR 10 17 11.9
comp=Z,1μm,21.0s,baz=181,slow=32
comp=Z,7.1nm,0.9s
PETK Petropavlovsk- 72.93 353 P P 09 49 24.9 +0.3
MDJ Mudanjiang 73.06 332 P P 09 49 25.5 -0.1
MDJ S SKiKP 09 58 54.4 -1.2
MDJ pmax pmax
comp=Z,10.0nm,0.8s
MDJ LR LR
comp=Z,670nm,20.7s
MDJ LR LR
comp=Z,400nm,20.3s
MDJ LR LR
comp=Z,880nm,21.5s
TIA Tai'an 73.72 319 P P 09 49 31.2 +1.5
TIA S S 09 58 59.0 +0.7
TIA pmax pmax
comp=Z,9.0nm,1.8s
TIA pmax pmax
comp=Z,250nm,9.4s
TIA LR LR
comp=Z,380nm,20.7s
TIA LR LR
comp=Z,430nm,20.0s
TIA LR LR
comp=Z,700nm,20.6s
CN2 Changchun 74.36 329 P P 09 49 37.6 +4.4
CN2 sP sP 09 49 46.6 0.0
CN2 S S 09 59 09.2 +4.1
CN2 pmax pmax
comp=Z,10.0nm,1.5s
CN2 LR LR
comp=Z,460nm,19.0s
CN2 LR LR
comp=Z,550nm,19.0s
CN2 LR LR
comp=Z,710nm,21.0s
RPN Rapa Nui 74.58 114 LR LR 10 14 22.1
comp=Z,484nm,21.8s,baz=256,slow=29
BNX BinXian 74.90 331 ⇑P P 09 49 38.5 +2.1
BNX pmax pmax
comp=Z,8.0nm,0.7s
GYA Guiyang 75.44 305 P P 09 49 41.3 +1.2
GYA S S 09 59 18.7 +0.5
GYA LR LR
comp=Z,770nm,22.7s
GRNR Gornyy 75.48 340⇑ *i*P P 09 49 40.0 +0.4
GRNR pmax pmax
comp=Z,10.0nm,1.2s
LYN LuoYang 75.70 315 P P 09 49 43.1 +1.9
LYN pP pP 09 49 49.7 -1.3
LYN S S 09 59 20.7 +0.3
LYN pmax pmax
comp=Z,39nm,0.8s
LYN pmax pmax
comp=Z,390nm,5.7s
LYN LR LR
comp=Z,680nm,21.0s
LYN LR LR
comp=Z,560nm,19.9s
LYN LR LR
comp=Z,940nm,22.0s
HNS HongShan 75.97 318 ⇑P P 09 49 44.6 +1.9
HNS S S 09 59 23.9 +0.6
HNS pmax pmax
comp=Z,18nm,1.3s
HNS LR LR
comp=Z,480nm,17.6s
HNS LR LR
comp=Z,320nm,17.8s
HNS LR LR
comp=Z,570nm,23.3s
BJI Beijing 76.74 321 P P 09 49 48.6 +1.6
BJI pP pP 09 49 56.8 0.0
BJI S S 09 59 34.0 +2.4
BJI sS sS 09 59 47.1 -1.4
BJI pmax pmax
comp=Z,5.0nm,1.4s
BJI pmax pmax
comp=Z,120nm,4.7s
BJI LR LR
comp=Z,240nm,19.4s
BJI LR LR
comp=Z,260nm,20.6s
BJI LR LR
comp=Z,420nm,21.4s
TIY Taiyuan 77.59 318 P P 09 49 53.9 +1.9
TIY S S 09 59 42.5 +1.3
TIY pmax pmax
comp=Z,160nm,7.8s
TIY LR LR
comp=Z,440nm,22.0s
TIY LR LR
comp=Z,450nm,17.9s
TIY LR LR
comp=Z,680nm,21.3s
XAN Xi'an 77.82 313 ⇑P P 09 49 54.7 +1.5
XAN pP PcP 09 50 01.2 -1.9
XAN S S 09 59 41.9 -1.8
XAN pmax pmax
comp=Z,19nm,1.2s
XAN pmax pmax
comp=Z,370nm,9.2s
XAN LR LR
comp=Z,720nm,22.3s
XAN LR LR
comp=Z,500nm,21.5s
XAN LR LR
comp=Z,820nm,19.9s
MAW Mawson 77.93 202 P P 09 49 53.6 +0.3
comp=Z,2.2nm,0.7s,baz=106,slow=8.0,SNR=4.5
comp=Z,2.2nm,0.7s
CMAR Chiang Mai Arr 78.02 295 P 09 49 54.1 -0.6
CMAR Chiang Mai Arr 78.02 295 P P 09 49 54.6 -0.1
comp=Z,1.5nm,0.3s,baz=131,slow=4.3,SNR=9.6
CMAR LR LR 10 26 38.1
comp=Z,144nm,18.8s,baz=115,slow=38
comp=Z,1.5nm,0.3s
CMAR Chiang Mai Arr 78.02 295 *e*P P 09 49 55.3 +0.6
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CHTO Chiang Mai 78.17 295 P P 09 49 55.4 -0.1
CHTO Chiang Mai 78.17 295 P P 09 49 55.4 -0.1
CHTO pmax pmax
comp=Z,11nm,1.0s
XLT XiLinHaoTe 79.28 324 *e*P P 09 50 02.7 +1.5
XLT sP pP 09 50 11.6 +0.6
XLT S S 09 59 59.2 +0.1
XLT pmax pmax
comp=Z,9.0nm,0.7s
XLT pmax pmax
comp=Z,130nm,6.7s
XLT LR LR
comp=Z,340nm,17.2s
XLT LR LR
comp=Z,320nm,24.3s
PZH PanZhiHua 79.31 303 P P 09 50 03.7 +2.0
PZH S S 10 00 01.3 +1.2
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,170nm,8.2s
PZH LR LR
comp=Z,220nm,22.8s
PZH LR LR
comp=Z,280nm,22.9s
PZH LR LR
comp=Z,300nm,23.7s
CD2 Chengdu 79.89 308 P P 09 50 05.5 +0.8
CD2 sP pP 09 50 15.1 +0.5
CD2 S S 10 00 06.1 +0.2
CD2 sS SKSac 10 00 19.3 -0.1
CD2 pmax pmax
comp=Z,180nm,7.7s
CD2 LR LR
comp=Z,620nm,17.6s
CD2 LR LR
comp=Z,850nm,22.3s
CD2 LR LR
comp=Z,740nm,20.8s
HHC Hu-ho-hao-te 80.01 320 *e*P P 09 50 09.3 +4.1
HHC pP pP 09 50 16.0 +0.9
HHC sP pwP 09 50 20.8 +1.2
HHC S S 10 00 10.6 +3.7
HHC sS sS 10 00 22.9 -0.5
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,130nm,4.6s
HHC LR LR
comp=Z,380nm,19.9s
HHC LR LR
comp=Z,450nm,19.9s
HHC LR LR
comp=Z,930nm,19.9s
MA2 Magadan 80.14 351 LR LR 10 21 38.2
comp=Z,506nm,22.0s,baz=171,slow=33
MA2 Magadan 80.14 351 *i* P P 09 49 57.1 -8.2
MA2 pmax pmax
comp=Z,48nm,2.2s
BTO Baotou 80.81 319 *e*P P 09 50 15.1 +5.6
BTO sP pwP 09 50 25.1 +1.2
BTO S S 10 00 20.8 +5.4
BTO pmax pmax
comp=Z,9.0nm,0.5s
BTO pmax pmax
comp=Z,460nm,4.7s
BTO LR LR
comp=Z,1μm,17.5s
BTO LR LR
comp=Z,620nm,16.3s
BTO LR LR
comp=Z,720nm,17.6s
ZEA Zeya 81.15 337 *e*P P 09 50 13.8 +3.0
ZEA *e* 10 00 26.3
ZEA MLR MLR
comp=E,400nm,14.0s
ZEA MLR MLR
comp=Z,400nm,20.0s
BELA Belgrano 2 81.88 175 P 09 50 14.1 -0.4
BELA IAmb IAmb 09 50 17.1
comp=Z,26nm,1.2s
LZH Lanzhou 82.43 312 *e*P P 09 50 17.7 -0.5
LZH sP PcP 09 50 25.1 +1.8
LZH S S 10 00 35.0 +2.6
LZH SS SS 10 05 57.5 +3.2
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,230nm,4.8s
LZH LR LR
comp=Z,210nm,16.8s
LZH LR LR
comp=Z,570nm,17.7s
LZH LR LR
comp=Z,710nm,21.0s
LZDM Lanzhou Array 82.47 312 P P 09 50 17.6 -1.0
comp=Z,1.1nm,0.3s,baz=101,slow=7.5,SNR=3.6
LZDM LR LR 10 24 06.8
comp=Z,358nm,21.9s,baz=25,slow=34
comp=Z,1.1nm,0.3s
SEY Seymchan 83.16 353 LR LR 10 24 16.1
comp=Z,1μm,20.7s,baz=168,slow=34
SEY Seymchan 83.16 353 *i* P P 09 50 20.1 -1.0
SEY pmax pmax
comp=Z,6.0nm,0.9s
SMAI San Martin Ant 83.77 162 P P 09 50 24.5 +0.1
SYO Syowa Base 84.49 196⇑ *e*P P 09 50 28.0 -0.1
SYO Syowa Base 84.49 196⇓ *e*PcP PcP 09 50 33.0 +1.4
ULN Ulaanbaatar 86.70 324 P 09 50 39.5 -0.1
ULN Ulaanbaatar 86.70 324 *i* P P 09 50 38.8 -0.7
ULN pmax pmax
comp=Z,17nm,1.2s
GTA Gaotai 86.84 314 P P 09 50 40.8 +0.4
GTA pP pP 09 50 47.2 -3.2
GTA SKS SKSac 10 01 04.4 -0.5
GTA S ScS 10 01 21.2 -2.7

GTA					SS	**SS**	**10 07 02.2**	**+2.9**	
GTA					pmax	pmax			
	comp=Z,6.0nm,1.0s								
GTA					pmax	pmax			
	comp=Z,140nm,8.8s								
GTA					LR	LR			
	comp=Z,400nm,16.3s								
GTA					LR	LR			
	comp=Z,420nm,17.1s								
GTA					LR	LR			
	comp=Z,470nm,23.1s								
YAK	**Yakutsk**	**86.94**	**343**		LR	LR	10 24 58.3		
	comp=Z,1μm,21.9s,baz=136,slow=32								
YAK	**Yakutsk**	**86.94**	**343**	*e*P		P	09 50 48.3	+8.2	
YAK				*e*PP		pwP	09 50 56.5	+2.5	
YAK				*e*S		**S**	**10 01 13.4**	**-2.3**	
YAK					pmax	pmax			
	comp=Z,12nm,0.9s								
YAK					pmax	pmax			
	comp=N,3.0nm,0.8s								
YAK					pmax	pmax			
	comp=E,3.0nm,0.9s								
YAK					pmax	pmax			
	comp=Z,398nm,3.9s								
YAK					pmax	pmax			
	comp=N,409nm,5.4s								
YAK					pmax	pmax			
	comp=E,74nm,2.3s								
YAK					smax	smax			
	comp=N,411nm,4.2s								
YAK					smax	smax			
	comp=E,206nm,3.5s								
SONM	**Songino Array**	**87.05**	**323**			**P**	**09 50 40.4**	**-0.8**	
SONM					IAmb	IAmb	09 50 59.0		
	comp=Z,18nm,1.1s								
SONM	**Songino Array**	**87.05**	**323**		P	**P**	**09 50 40.3**	**-0.8**	
	comp=Z,3.6nm,0.8s,baz=146,slow=5.7,SNR=8.8								
SONM					LR	LR	10 31 22.3		
	comp=Z,314nm,18.4s,baz=120,slow=37								
	comp=Z,3.6nm,0.8s								
SONM	**Songino Array**	**87.05**	**323**		P	**P**	**09 50 40.4**	**-0.8**	
SONM					pmax	pmax			
	comp=Z,18nm,1.1s								
BILL	**Bilibino**	**87.31**	**359**	*i* P		**P**	**09 50 40.8**	**-1.0**	
BILL					pmax	pmax			
	comp=Z,19nm,1.1s								
M02C	**Callahan**	**87.69**	**45**			**P**	**09 50 44.9**	**+0.5**	
O03E	**Paynes Creek**	**87.88**	**46**		IAmb	IAmb	09 51 10.2		
	comp=Z,16nm,1.1s								
TROLL	**Troll, Antarti**	**88.21**	**184**	⇑P		**P**	**09 50 46.4**	**-0.1**	
	comp=Z,286nm,0.5s								
BEKR	**Beckworth**	**88.67**	**47**			**P**	**09 50 49.5**	**+0.3**	
WAKR	**Walker**	**88.70**	**48**			**P**	**09 50 50.3**	**+0.9**	
WAKR					IAmb	IAmb	09 51 48.1		
	comp=Z,22nm,1.6s								
SNAA	**Sanae**	**88.86**	**183**	⇑P		**P**	**09 50 48.9**	**-0.6**	
	comp=Z,74nm,0.6s								
SNAA	**Sanae**	**88.86**	**183**			**P**	**09 50 49.2**	**-0.3**	
SNAA	**Sanae**	**88.86**	**183**	P		**P**	**09 50 48.5**	**-1.0**	
	comp=Z,1.1nm,0.3s,baz=204,slow=12,SNR=30								
	comp=Z,1.1nm,0.3s								
SNAA	**Sanae**	**88.86**	**183**	*i* P		**P**	**09 50 48.5**	**-1.0**	
SNAA					pmax	pmax			
	comp=Z,16nm,1.4s								
CLC	**China Lake**	**88.87**	**51**		IAmb	IAmb	09 50 51.8		
	comp=Z,20nm,1.3s								
LHV	**Little Huntoon**	**89.25**	**49**		IAmb	IAmb	09 51 07.6		
	comp=Z,17nm,1.4s								
DSP	**Deep Springs**	**89.26**	**50**		IAmb	IAmb	09 50 53.5		
	comp=Z,16nm,1.5s								
PAHR	**Pah Rah Range**	**89.27**	**47**		IAmb	IAmb	09 51 25.5		
	comp=Z,20nm,1.5s								
VNA3	**Neumayer Olymp**	**89.47**	**181**	⇑P		**P**	**09 50 51.4**	**-1.0**	
	comp=Z,12nm,0.7s								
K05A	**Summer Lake**	**89.61**	**44**		IAmb	IAmb	09 50 54.5		
	comp=Z,23nm,1.3s								
J05D	**Fort Rock, OR**	**89.64**	**43**		IAmb	IAmb	09 50 54.6		
	comp=Z,20nm,1.3s								
VNA2	**Neumayer--Watz**	**89.76**	**181**	⇑P		**P**	**09 50 53.4**	**-0.2**	
	comp=Z,6.7nm,0.4s,baz=195,slow=164								
VNA1	**Neumayer--Stat**	**90.05**	**181**	⇑P		**P**	**09 50 54.7**	**-0.2**	
	comp=Z,7.7nm,1.0s								
BBB	**Bella Bella**	**90.06**	**33**		LR	LR	10 23 43.8		
	comp=Z,374nm,20.4s,baz=242,slow=31								
PINE	**Pine Mountain**	**90.06**	**43**		IAmb	IAmb	09 50 56.6		
	comp=Z,17nm,1.2s								
TPH	**Tonopah**	**90.09**	**49**		IAmb	IAmb	09 50 57.4		
	comp=Z,32nm,1.8s								
LPIG	**La Paz**	**90.12**	**65**		LR	LR	10 22 14.9		
	comp=Z,534nm,21.7s,baz=236,slow=30								
ZAK	**Zakamensk**	**90.14**	**324**	*e*P		P	09 51 04.4	+8.7	
ZAK					pmax	pmax			
	comp=Z,15nm,1.8s								
CCB	**Clear Creek Bu**	**90.33**	**17**			**P**	**09 51 00.9**	**+4.7**	
PALK	**Pallekele**	**90.38**	**278**		LR	LR	10 35 07.7		
	comp=Z,421nm,18.6s,baz=126,slow=38								
COLA	**College**	**90.49**	**17**	*i* P		**P**	**09 50 54.7**	**-2.2**	
COLA					pmax	pmax			
	comp=Z,5.0nm,1.0s								
B04A	**Port Angeles**	**90.50**	**38**		P	**P**	**09 50 57.4**	**+0.1**	
B04A					IAmb	IAmb	09 50 58.4		
	comp=Z,20nm,1.4s								
GNW	**Green Mountain**	**90.66**	**39**			**P**	**09 50 58.0**	**-0.1**	
GNW					IAmb	IAmb	09 50 58.8		
	comp=Z,14nm,1.2s								
ILAR	**Eielson Array**	**90.69**	**18**		P	**P**	**09 50 54.9**	**-3.0**	
	comp=Z,1.1nm,0.8s,baz=238,slow=5.6,SNR=10.0								
ILAR					LR	LR	10 25 09.1		
	comp=Z,522nm,21.2s,baz=232,slow=31								
	comp=Z,1.1nm,0.8s								
ILAR	**Eielson Array**	**90.69**	**18**	*e*P		**P**	**09 50 59.0**	**+1.2**	
ILAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
PGC	**Sidney**	**90.81**	**38**		IAmb	IAmb	09 50 59.3		
	comp=Z,14nm,1.3s								
WVOR	**Wild Horse Val**	**90.97**	**45**		IAmb	IAmb	09 51 00.6		
	comp=Z,12nm,1.1s								
PRN	**Pahroc Range**	**91.39**	**51**		IAmb	IAmb	09 51 02.9		
	comp=Z,15nm,1.2s								
J08A	**Circle Bar Ran**	**91.48**	**44**		IAmb	IAmb	09 51 23.3		
	comp=Z,8.5nm,1.1s								
MXC	**Moxie City**	**91.73**	**41**		IAmb	IAmb	09 51 03.7		
	comp=Z,13nm,1.3s								
LTY	**Liberty**	**91.81**	**40**		IAmb	IAmb	09 51 03.7		
	comp=Z,9.8nm,1.3s								
G08A	**Pilot Rock**	**92.00**	**42**		IAmb	IAmb	09 51 05.0		
	comp=Z,14nm,1.3s								
HAWA	**Hanford**	**92.12**	**41**		IAmb	IAmb	09 51 05.6		
	comp=Z,14nm,1.3s								
DLBC	**Dease Lake**	**92.58**	**28**		LR	LR	10 26 59.1		
	comp=Z,5μm,19.4s,baz=228,slow=32								
TUC	**Tucson**	**92.70**	**57**		P	**P**	**09 51 07.7**	**-0.3**	
TUC					IAmb	IAmb	09 51 09.1		
	comp=Z,11nm,1.2s								
TUC	**Tucson**	**92.70**	**57**		P	**P**	**09 51 07.7**	**-0.3**	
TUC					pmax	pmax			
	comp=Z,11nm,1.3s								
KNB	**Kanab**	**92.88**	**52**		IAmb	IAmb	09 51 42.6		
	comp=Z,14nm,1.5s								
SZCU	**Shurtz Canyon**	**92.90**	**51**		IAmb	IAmb	09 51 28.2		
	comp=Z,16nm,1.7s								
X16A	**Lo Mia Camp, P**	**92.96**	**55**		IAmb	IAmb	09 51 10.4		
	comp=Z,9.0nm,1.2s								
U15A	**North Rim**	**93.05**	**52**		IAmb	IAmb	09 51 10.8		
	comp=Z,8.8nm,1.2s								
F10A	**Beach Ranch, E**	**93.39**	**42**		IAmb	IAmb	09 51 10.8		
	comp=Z,22nm,1.9s								
319A	**Douglas**	**93.56**	**58**		IAmb	IAmb	09 51 18.3		
	comp=Z,8.1nm,0.8s								
VHRN	**Van Horn**	**96.84**	**60**		IAmb	IAmb	09 51 28.4		
	comp=Z,11nm,1.6s								
WMQ	**Urumqi**	**96.92**	**314**	*e*P		**P**	**09 51 28.6**	**+1.5**	
WMQ					LR	LR			
	comp=Z,780nm,24.1s								
ANMO	**Albuquerque**	**96.99**	**56**		LR	LR	10 28 01.0		
	comp=Z,447nm,20.4s,baz=272,slow=31								
ANMO	**Albuquerque**	**96.99**	**56**	*i* P		**P**	**09 51 26.1**	**-1.7**	
ANMO					pmax	pmax			
	comp=Z,1.0nm,0.9s								
PDAR	**Pinedale Array**	**97.28**	**47**		P	**P**	**09 51 28.1**	**-0.8**	
	comp=Z,0.7nm,1.1s,baz=236,slow=4.2,SNR=3.6								
	comp=Z,0.7nm,1.1s								
TXAR	**Lajitas Array**	**97.47**	**62**		P	**P**	**09 51 27.6**	**-2.3**	
	comp=Z,0.6nm,1.0s,baz=250,slow=4.8,SNR=4.6								
	comp=Z,0.6nm,1.0s								
YKA	**Yellowknife Ar**	**101.21**	**27**		P	**Pdif**	**09 51 45.4**	**-0.3**	
	comp=Z,1.2nm,0.8s,baz=259,slow=4.7,SNR=3.3								
MK31	**Makanchi Array**	**101.48**	**316**	*i* P		**Pdif**	**09 51 46.9**	**-0.4**	
MKAR	**Makanchi Array**	**101.48**	**316**		P	**Pdif**	**09 51 46.5**	**-0.8**	
	comp=Z,0.7nm,0.7s,baz=108,slow=6.3,SNR=5.5								
KURBB	**Kurchatov Arra**	**104.84**	**319**		PKiKP	**PKiKP**	**09 56 14.4**	**-2.7**	
	comp=Z,0.1nm,0.4s,baz=64,slow=2.2,SNR=1.5								
ARCES	**ARCESS Array B**	**125.17**	**345**		PKP	**PKPdf**	**09 56 54.6**	**-0.8**	
	comp=Z,3.0nm,0.8s,baz=60,slow=2.2,SNR=9.8								
ARCES	**ARCESS Array B**	**125.17**	**345**	*e*	PKIKP	**PKiKP**	**09 56 55.7**	**0.0**	
ARCES					pmax	pmax			
	comp=Z,3.0nm,0.8s								
AKT	**Akhty**	**125.61**	**307**	*i*	PKIKP	**PKPdf**	**09 56 55.4**	**-1.8**	
AKT				*e*			09 58 49.1		
AKT				*e*	PS	**PS**	**10 08 50.1**	**-1.3**	
AKT					pmax	pmax			
	comp=Z,75nm,0.9s								
AKT					MLR	MLR			
	comp=Z,436nm,20.0s								
HUMP	**Col San Antoni**	**128.68**	**82**			**PKPdf**	**09 57 02.1**	**-1.4**	
BDFB	**Brasilia**	**129.86**	**132**		PKP	**PKPdf**	**09 57 05.5**	**-0.6**	
	comp=Z,1.6nm,0.4s,baz=172,slow=7.1,SNR=3.2								
FINES	**FINESS Array B**	**130.59**	**337**	*i*	PKIKP	**PKiKP**	**09 57 11.1**	**+4.4**	
FINES					pmax	pmax			
	comp=Z,1.0nm,0.6s								
NOA	**NORSAR Array B**	**135.54**	**344**		PKP	**PKPdf**	**09 57 14.1**	**-1.2**	
	comp=Z,0.5nm,0.7s,baz=33,slow=2.4,SNR=2.1								
OKC	**Ostrava-Krasne**	**141.64**	**329**		AMS	AMS	10 58 10.0		
	comp=Z,800nm,25.4s								
MORC	**Moravsky Berou**	**141.97**	**329**	*e*	PKP	**PKPdf**	**09 57 26.3**	**-1.1**	
MORC				*e*			09 57 31.9		
MORC				*e*			10 01 00.0		
OSTC	**Ostas**	**142.06**	**331**		AMS	AMS	11 00 40.0		
	comp=Z,1μm,24.2s								
CHVC	**Chvalec**	**142.10**	**331**		AMS	AMS	11 01 30.0		
	comp=Z,1μm,21.0s								
KRLC	**Kraliky**	**142.13**	**330**		AMS	AMS	10 59 20.0		
	comp=Z,1μm,21.0s								
DPC	**Dobruska-Polom**	**142.15**	**331**		AMS	AMS	11 01 10.0		
	comp=Z,1μm,19.1s								
UPC	**Upice**	**142.18**	**331**		AMS	AMS	11 01 30.0		
	comp=Z,900nm,17.2s								
VRAC	**Vranov**	**142.74**	**329**	*e*	PKP	**PKPdf**	**09 57 28.8**	**0.0**	
VRAC				*e*			09 57 35.2		
PVCC	**Panska Ves**	**142.81**	**332**		AMS	AMS	10 59 10.0		
	comp=Z,800nm,23.8s								
CLL	**Collm**	**142.89**	**334**	*e*	PKIKP	**PKPdf**	**09 57 27.0**	**-1.9**	
CLL					pmax	pmax			
	comp=Z,3.0nm,0.8s								
CLL					MLR	MLR			
	comp=Z,700nm,21.8s								
CLL	**Collm**	**142.89**	**334**	*e*	PKPdf	**PKPdf**	**09 57 27.0**	**-1.9**	
CLL				*e*	PP	**PP**	**10 00 39.0**	**+1.2**	
PRA	**Prague**	**143.20**	**332**		AMS	AMS	10 58 30.0		
	comp=Z,1μm,25.9s								
PRU	**Pruhonice**	**143.21**	**332**		AMS	AMS	10 58 20.0		
	comp=Z,1μm,19.6s								
TREC	**Trest**	**143.28**	**330**		AMS	AMS	11 01 50.0		
	comp=Z,1μm,25.4s								
EKA	**Eskdalemuir Ar**	**143.69**	**352**		PKP	PKPbc	09 57 27.7	-0.1	
	comp=Z,0.8nm,0.5s,baz=356,slow=0.9,SNR=3.7								
RONA	**Rosalia, Austr**	**143.97**	**328**	*e*	PKP	PKPab	09 57 28.0	-0.4	
	comp=Z,0.1nm,0.2s								
RONA				*e*	SKP		10 01 03.8		
	comp=Z,9.9nm,1.0s								
CONA	**Conrad Observa**	**144.04**	**328**	*e*	PKP	**PKPab**	**09 57 28.3**	**-0.4**	
	comp=Z,0.9nm,0.3s								
CONA				*i*	SKP		10 01 04.2		
	comp=Z,11nm,1.6s								
KHC	**Kasperske Hory**	**144.27**	**332**	*e*	PKIKP	**PKiKP**	**09 57 34.6**	**-0.5**	
KHC					MLR	MLR			
	comp=Z,800nm,22.9s								
KHC	**Kasperske Hory**	**144.27**	**332**	*e*	PKP	**PKiKP**	**09 57 34.6**	**-0.5**	
KHC					AMS	AMS	10 58 10.0		
	comp=Z,800nm,22.9s								
GERES	**GERESS Array B**	**144.42**	**331**		PKP	**PKPab**	**09 57 29.9**	**-0.1**	
	comp=Z,0.8nm,0.6s,baz=31,slow=5.4,SNR=4.5								
GERES	**GERESS Array B**	**144.42**	**331**	*e*	PKIKP	PKPbc	09 57 30.9	+0.6	
GERES					pmax	pmax			
	comp=Z,1.0nm,0.6s								
ARSA	**Arzberg**	**144.66**	**328**	*e*	PKP	**PKPab**	**09 57 28.7**	**-2.2**	
	comp=Z,21nm,1.6s								
MOA	**Molln**	**144.87**	**329**	*e*	PKP	**PKPab**	**09 57 30.9**	**-0.8**	
	comp=Z,4.8nm,1.0s								
MOA				*i*	SKP		10 01 02.1		
	comp=Z,7.2nm,1.2s								
BIOA	**Bad Ischl, Aus**	**145.28**	**330**	*e*	PKP	**PKPbc**	**09 57 32.2**	**-0.8**	
	comp=Z,2.7nm,0.3s								
SOKA	**Soboth**	**145.30**	**327**	*e*	PKP	**PKPbc**	**09 57 31.6**	**-1.6**	
	comp=Z,7.1nm,0.9s								
SOKA				*i*	SKP		10 01 06.7		
	comp=Z,0.2nm,0.4s								
OBKA	**Obir**	**145.66**	**328**	*e*	PKP	**PKPdf**	**09 57 30.8**	**-3.3**	
	comp=Z,11nm,1.1s								
KBA	**Koelnbreinsper**	**145.86**	**329**	*e*	PKP	**PKPdf**	**09 57 33.5**	**-0.9**	
	comp=Z,11nm,0.8s								
LESA	**Schwarzleotal**	**145.92**	**330**	*e*	PKP	**PKPdf**	**09 57 34.3**	**-0.1**	
	comp=Z,0.1nm,0.2s								
LESA				*i*	SKP		10 01 11.4		
	comp=Z,5.0nm,1.0s								
ITM	**Ithomi**	**145.99**	**308**		PKPdf	**PKPab**	**09 57 35.9**	**-0.3**	
BTNL	**Ternell**	**146.00**	**340**	*d*	PKP	**PKPdf**	**09 57 34.0**	**-0.4**	
MEM	**Membach**	**146.02**	**340**	*d*	PKPdf	**PKPdf**	**09 57 34.7**	**+0.3**	
MYKA	**Terra Mystica**	**146.03**	**328**	*e*	PKP	**PKPdf**	**09 57 33.3**	**-1.4**	
	comp=Z,1.9nm,0.8s								
BHOU	**Houvegnez**	**146.24**	**340**	*d*	PKP	**PKPdf**	**09 57 35.0**	**+0.2**	
UCC	**Uccle**	**146.36**	**342**	*d*	PKP	**PKPbc**	**09 57 36.2**	**0.0**	
BCLA	**Clavier**	**146.41**	**341**	*d*	PKiKP	**PKiKP**	**09 57 39.5**	**+0.2**	
ABTA	**Abfaltersbach**	**146.49**	**330**	*e*	PKP	**PKPdf**	**09 57 34.6**	**-0.9**	
	comp=Z,5.7nm,0.6s								
WATA	**Walderalm**	**146.50**	**331**	*e*	PKP	**PKPbc**	**09 57 36.8**	**-0.1**	
	comp=Z,0.6nm,0.3s								
BGES	**Geseves**	**146.51**	**341**	*d*	PKP	**PKPbc**	**09 57 36.9**	**+0.2**	
WTTA	**Wattenberg**	**146.52**	**331**	*i*	PKP	**PKPdf**	**09 57 35.8**	**+0.2**	
	comp=Z,34nm,2.0s								
WTTA				*i*	SKP		10 01 14.3		
	comp=Z,2.4nm,0.9s								
RCHB	**Rochefort**	**146.66**	**340**	*d*	PKPdf	**PKPbc**	**09 57 36.3**	**-0.8**	
BMRD	**Maredsous**	**146.68**	**341**	*d*	PKP	**PKPdf**	**09 57 36.0**	**+0.4**	
MOTA	**Moosalm**	**146.70**	**332**	*i*	PKP	**PKPdf**	**09 57 36.6**	**+0.7**	
	comp=Z,12nm,0.8s								
MOTA				*i*	SKP		10 01 13.0		
	comp=Z,1.3nm,0.8s								
RETA	**Reutte**	**146.75**	**332**	*i*	PKP	**PKPdf**	**09 57 34.2**	**-1.6**	
	comp=Z,25nm,1.3s								
SQTA	**Sankt Quirin**	**146.75**	**331**	*i*	PKP	**PKPdf**	**09 57 36.6**	**+0.7**	
	comp=Z,3.9nm,0.6s								
SQTA				*i*	SKP		10 01 09.2		
	comp=Z,0.2nm,0.4s								
WLF	**Walferdange**	**146.78**	**339**		PKPdf	**PKPbc**	**09 57 38.0**	**+0.5**	
WLF	**Walferdange**	**146.78**	**339**	*d*	PKP	**PKPbc**	**09 57 37.8**	**+0.3**	
WLF	**Walferdange**	**146.78**	**339**		PKP2	**PKPbc**	**09 57 38.0**	**+0.5**	
DOU	**Dourbes**	**146.91**	**341**	*d*	PKP	**PKPbc**	**09 57 37.5**	**-0.4**	
BFO	**Black Forest**	**147.10**	**335**			**PKPbc**	**09 57 38.1**	**-0.4**	
BFO	**Black Forest**	**147.10**	**335**		PKP2	**PKPbc**	**09 57 38.1**	**-0.4**	
FETA	**Feichten**	**147.12**	**332**	*i*	PKP	**PKPdf**	**09 57 36.7**	**+0.1**	
	comp=Z,6.4nm,0.8s								
FETA				*e*	SKP		10 01 11.8		
	comp=Z,5.8nm,1.3s								
DAVA	**Damuels**	**147.29**	**333**	*e*	PKP	**PKPdf**	**09 57 37.1**	**+0.2**	
	comp=Z,13nm,1.0s								
FUORN	**Ofenpass-Fuorn**	**147.63**	**332**			**PKPbc**	**09 57 39.9**	**-0.4**	
TUE	**Stuetta**	**148.15**	**332**			**PKPbc**	**09 57 41.4**	**-0.3**	
TORD	**Torodi Ar. Bea**	**165.89**	**245**			**PKPdf**	**09 58 00.2**	**-1.1**	
TORD	**Torodi Ar. Bea**	**165.89**	**245**		PKP	**PKPdf**	**09 57 59.2**	**-2.1**	
	comp=Z,1.5nm,0.9s,baz=142,slow=1.5,SNR=8.8								

*IDC **09** 09:53:27.9±0.9,36.˚15S×98.˚96W,h0km,mb4.1/9, mbtmp4.1/9,MS4.8/25,Error ellipse: s-maj=29.7km s-min=19.1km az=98.0*

*NEIC **09** 09:53:30.4,36.˚36S×99.˚28W,h19km*

*NEIC **09** 09:53:30.5,36.˚34S×99.˚32W,h22km*

*NEIC **09** 09:53:30.5,36.˚24S×99.˚20W,h22km,Moment Tensor Solution. Duration: 3s0 Moment tensor: Scale 10^{17}Nm; Mrr-0.27; Mθθ-0.32; Mϕϕ0.59; Mrθ0.65; Mθϕ-2.38; Mϕr0.67; Fault plane solution: M0 2.61000×10^{17} NP1: ϕs277.43000°,δ73.47000°,λ-166.12000°. NP2: ϕs183.41000°,δ76.71000°,λ-17.00000°. Principal axes: T 2.5597, Plg2.0000°, Azm231.0000°; N 0.0906, Plg69.0000°, Azm326.0000°; P -2.6503, Plg21.0000°, Azm140.0000°;*

*NEIC **09** 09:53:31.0±2.6,36.˚3S±0.˚1×99.˚2W±0.˚2,h20km±5km, mb4.8/72,Ms_20 4.9/178,Mwb5.5/26,Mww5.5/21 Error ellipse: s-maj=23.8km s-min=17.3km az=84.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr-0.12; Mθθ0.36; Mϕϕ-0.25; Mrθ0.39; Mθϕ-1.85; Mϕr-0.33; Fault plane solution: M0 1.95000×10^{17} NP1: ϕs176.10000°,δ80.52000°,λ9.28000°. NP2:ϕs84.56000°, δ80.85000°,λ170.40000°. Principal axes: T 2.0559, Plg13.0000°, Azm40.0000°; N -0.2361, Plg77.0000°, Azm221.0000°; P -1.8198, Plg0.0000°, Azm130.0000°;*

*GCMT **09** 09:53:33.0±0.1,36.˚39S±0.˚01×99.˚07W±0.˚01,h12km, MW5.5/152,Moment Tensor Solution. s131,c245; s152,c305; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; Mrr-0.28±.02; Mθθ-0.17±.02; Mϕϕ0.44±.02; Mrθ0.15±.04; Mθϕ-1.91±.01; Mϕr-0.43±.05; Best double couple: M0 1.98000×10^{17} NP1:ϕs94.00000°,δ79.00000°, λ177.00000°. NP2:ϕs185.00000°,δ87.00000°,λ11.00000°. Principal axes: T 2.1450, Plg10.0000°, Azm50.0000°; N -0.3320, Plg78.0000°, Azm197.0000°; P -1.8150, Plg6.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 09:53:28.5±0.4,36.˚21S±0.˚08×99.˚26W±0.˚06,h10km,n232, σ1§46/118,mb4.8/47,MS4.9/110,5C-1D,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**16.82**	**88**	T	T	10 14 31.0	
	baz=254,slow=75,SNR=9.3						
H03S1	**Juan Fernandez**	**16.84**	**88**	T	T	10 14 34.2	
	baz=254,slow=75,SNR=4.7						
H03S3	**Juan Fernandez**	**16.84**	**88**	T	T	10 14 28.7	
	baz=254,slow=75,SNR=4.5						
H03N2	**Juan Fernandez**	**16.91**	**87**	T	T	10 14 30.0	
	baz=247,slow=72,SNR=48						
H03N3	**Juan Fernandez**	**16.92**	**87**	T	T	10 14 31.2	
	baz=247,slow=72,SNR=64						
H03N1	**Juan Fernandez**	**16.93**	**87**	T	T	10 14 32.7	
	baz=247,slow=72,SNR=66						
GO07	**Milladeo Hill,**	**20.82**	**117**	P	**P**	**09 58 07.3**	**-2.9**
LL03	**Petrohue**	**21.49**	**111**	P	**P**	**09 58 17.7**	**+0.3**
LL01	**San Ignacio de**	**21.62**	**115**	P	**P**	**09 58 20.3**	**+1.7**
LL01				IAmb	IAmb	09 58 24.9	
	comp=Z,33nm,0.9s						
LR05	**Currie**	**21.75**	**109**	P	**P**	**09 58 21.8**	**+1.7**
LR05				IAmb	IAmb	09 58 32.4	
	comp=Z,56nm,1.0s						
LL02	**Futaleuf**	**22.15**	**117**		**P**	**09 58 23.9**	**-0.5**
COYC	**Coyhaique**	**22.48**	**123**		**P**	**09 58 28.1**	**+0.2**
BI02	**San Fabin de**	**22.49**	**100**	P	**P**	**09 58 29.8**	**+1.6**
AY03	**Cochrane**	**22.64**	**127**	P	**P**	**09 58 29.1**	**-0.5**
AY03				IAMs_20	IAMs_20	10 04 27.7	
	comp=Z,5μm,22.0s						
BO01	**Tunca**	**23.03**	**94**		**P**	**09 58 35.4**	**+1.5**
BO01				IAmb	IAmb	09 58 38.8	
	comp=Z,27nm,0.9s						
BO02	**Sierra Bellavi**	**23.19**	**95**	P	**P**	**09 58 36.5**	**+1.0**
BO04	**La Punta**	**23.51**	**93**	P	**P**	**09 58 40.3**	**+1.6**
BO04				IAmb	IAmb	09 58 44.1	
	comp=Z,42nm,1.1s						
PEL	**Peldehue**	**23.66**	**91**	P	**P**	**09 58 40.6**	**+0.4**
PEL				IAmb	IAmb	09 58 45.6	
	comp=Z,40nm,1.3s						
MT03	**Universidad Ad**	**23.71**	**92**	P	**P**	**09 58 40.7**	**-0.1**
MT16	**CCHEN**	**23.71**	**92**	P	**P**	**09 58 43.6**	**+2.8**
MT13	**San Alfonso**	**23.83**	**93**	P	**P**	**09 58 41.2**	**-0.7**
MT13				IAmb	IAmb	09 58 58.3	
	comp=Z,27nm,1.0s						
LMEL	**Las Melosas**	**23.87**	**93**	IAmb	IAmb	09 58 44.6	
	comp=Z,33nm,0.8s						
VA03	**San Esteban**	**23.87**	**90**	P	**P**	**09 58 41.6**	**-0.7**
VA03				IAmb	IAmb	09 58 55.3	
	comp=Z,24nm,0.8s						
CO02	**Combarbal**	**23.99**	**86**	P	**P**	**09 58 43.0**	**-0.4**
CO02				IAmb	IAmb	09 58 46.7	
	comp=Z,22nm,0.8s						
MT08	**Bocatoma Ro**	**24.12**	**92**	P	**P**	**09 58 44.6**	**-0.2**
CO05	**La Serena**	**24.25**	**83**	P	**P**	**09 58 44.0**	**-1.7**
CO05				IAmb	IAmb	09 58 52.2	
	comp=Z,34nm,0.9s						
CO03	**El Pedregal**	**24.36**	**86**	P	**P**	**09 58 46.2**	**-0.7**
GO09	**Cerro Castillo**	**24.41**	**137**	P	**P**	**09 58 45.2**	**-1.7**
GO09				IAmb	IAmb	09 59 02.9	
	comp=Z,36nm,1.1s						
MG05	**Puerto Natales**	**24.51**	**137**	IAMs_20	IAMs_20	10 05 37.4	
	comp=Z,3μm,19.0s						
**GO04

comp=Z,2µm,20.0s
EFI East Falkland 32.94 131 P 10 00 03.2 +0.2
EFI East Falkland 32.94 131 IAMs_20 IAMs_20 10 10 42.0
comp=Z,2µm,21.0s
RKT Rikitea 33.47 283 *eP* **P 10 00 08.4 +0.4**
RKT comp=Z,3µm,31.8s *eSS* SS 10 07 51.5 -2.5
comp=Z,21µm,31.0s
LPAZ La Paz 34.02 63 P **P 10 00 13.5 0.0**
LPAZ comp=Z,12nm,0.9s,baz=226,slow=4.4,SNR=23 LR LR 10 10 44.3
comp=Z,1µm,21.5s,baz=230,slow=31
comp=Z,12nm,0.9s
LPAZ La Paz 34.02 63 *eP* **P 10 00 13.2 -0.3**
ATAH Atahualpa 34.66 38 LR LR 10 10 58.2
comp=Z,3µm,20.7s,baz=207,slow=30
PSAL Palomas, Salto 34.85 94 *eP* **P 10 00 18.7 -1.2**
PMSA Palmer Station 35.45 155 IAMs_20 IAMs_20 10 10 40.8
comp=Z,2µm,20.0s
PMSA Palmer Station 35.45 155 LR LR 10 10 44.1
comp=Z,2µm,20.2s,baz=266,slow=29
PAYG Puerto Ayora 36.33 15 IAMs_20 IAMs_20 10 11 15.7
comp=Z,2µm,19.0s
CPUP Villa Florida 36.92 87 P **P 10 00 36.2 -1.4**
CPUP comp=Z,0.8nm,0.8s,baz=65,slow=7.2,SNR=4.4 LR LR 10 13 27.3
comp=Z,237nm,18.3s,baz=106,slow=33
comp=Z,0.8nm,0.8s
CPUP Villa Florida 36.92 87 *eP* **P 10 00 38.1 +0.4**
CZSB Cruzeiro do Su 37.29 47 IAmb IAmb 10 00 47.1
comp=Z,22nm,1.1s
CZSB Cruzeiro do Su 37.29 47 *eP* **P 10 00 41.1 +0.1**
PLTB Pedras Altas 37.85 97 *eP* **P 10 00 44.1 -1.4**
COHC Cochancay 38.34 33 P 10 00 49.4 -0.3
CPSB Cacapava Do Su 38.45 95 *eP* **P 10 00 50.2 -0.4**
SJPY San Joaquin 38.51 85 *eP* **P 10 00 50.4 -0.7**
MURT Porto Murtinho 38.92 80 *eP* **P 10 00 53.1 -1.5**
SIV San Ignacio 39.43 69 LR LR 10 14 41.9
comp=Z,1µm,21.6s,baz=254,slow=32
AMBA Amambai (Brazi 40.38 83 *eP* **P 10 01 05.5 -1.3**
ITAB Concordia 40.74 91 P 10 01 08.4 -1.3
ITAB IAmb IAmb 10 01 14.4
comp=Z,19nm,0.7s
ITAB Concordia 40.74 91 *eP* **P 10 01 08.7 -1.0**
AQDB Aquidauana 41.06 80 *eP* **P 10 01 11.3 -1.1**
PTLB Pontes e Lacer 41.23 71 P 10 01 13.0 -0.8
PTLB Pontes e Lacer 41.23 71 *eP* **P 10 01 13.0 -0.8**
PTGB Pitanga 41.89 88 *eP* **P 10 01 20.2 +0.9**
VILB Vilhena 41.99 67 P **P 10 01 21.4 +1.3**
VILB IAmb IAmb 10 01 30.0
comp=Z,20nm,1.1s
VILB Vilhena 41.99 67 *eP* **P 10 01 19.0 -1.1**
TRCB Terra Rica 42.34 85 *eP* **P 10 01 22.5 -0.4**
RPRD Ribas do Rio P 42.65 81 *eP* **P 10 01 25.7 +0.3**
MAJ01 Sao Joao Batis 43.19 93 *eP* **P 10 01 28.4 -1.3**
PP1B Ponte de Pedra 43.27 77 *eP* **P 10 01 29.6 -0.9**
SALV Santo Antonio 43.61 74 *eP* **P 10 01 31.7 -1.6**
PCMB Pacaembu 44.03 84 *eP* **P 10 01 35.4 -1.2**
C2SB Chapadao do Su 44.24 80 *eP* **P 10 01 38.7 +0.4**
FRTB Fartura 44.55 87 *eP* **P 10 01 40.1 -0.7**
TBI Tubuai 44.97 272 *eP* **P 10 01 47.9 +3.9**
comp=Z,820nm,21.0s
TBI comp=Z,2µm,27.5s *eS* **S 10 08 21.1 -1.3**
TBI comp=Z,5µm,28.5s *eSS* **ScS 10 11 41.0 -0.7**
TBI comp=Z,3µm,42.0s *eLR* LR 10 14 11.2
PDRB Porto dos Gac 45.45 68 *eP* **P 10 01 46.6 -1.3**
TEFE Tefe 45.57 53 *eP* **P 10 01 47.7 -1.1**
ITRB Iturama 45.73 83 *eP* **P 10 01 50.4 +0.2**
TAOE Nuku Hiva Isla 46.05 296 *eS* **S 10 08 36.4 -1.9**
TAOE comp=Z,520nm,26.0s *eLR* LR 10 14 52.9
comp=Z,803nm,27.2s
SPB Sao Paulo 46.16 89 IAMs_20 IAMs_20 10 19 12.4
comp=Z,1µm,20.0s
SPB Sao Paulo 46.16 89 *eP* **P 10 01 53.2 -0.3**
BB19B Bebedouro 46.50 85 *eP* **P 10 01 55.5 -0.8**
CLDB Colider 46.62 68 *eP* **P 10 01 56.5 -0.6**
ARAG Araguaiana, MT 46.76 77 *eP* **P 10 01 58.0 -0.3**
VAO Valinhos 46.82 89 P **P 10 01 58.7 0.0**
VAO Valinhos 46.82 89 *eP* **P 10 01 58.2 -0.5**
ROSC El Rosal 47.04 35 LR LR 10 18 44.8
comp=Z,2µm,19.5s,baz=232,slow=32
PPT2 Papeete2 48.00 279 *eS* **S 10 09 01.3 -4.8**
PPT2 comp=Z,813nm,27.2s *eSS* **SS 10 12 30.3 -4.6**
PPT2 comp=Z,717nm,24.8s *eLR* LR 10 15 36.6
comp=Z,433nm,24.5s
PPT2 *eLR* LR 10 15 38.1
comp=Z,378nm,25.0s
JTS Las Juntas de 48.18 19 LR LR 10 17 22.8
comp=Z,2µm,21.0s,baz=196,slow=30
BCIP Isla Barro Col 48.70 26 IAMs_20 IAMs_20 10 17 26.5
SNDB Serra Nova Dou 49.37 73 *eP* **P 10 02 17.7 -0.8**
NPGB Novo Progresso 49.45 65 *eP* **P 10 02 17.9 -1.2**
BELA Belgrano 2 49.60 165 P 10 02 18.1 -1.3
BELA IAmb IAmb 10 02 41.4
comp=Z,21nm,1.4s
BDFB Brasilia 49.81 80 P **P 10 02 22.5 +0.6**
BDFB IAmb IAmb 10 02 26.8
comp=Z,7.3nm,0.9s
BDFB Brasilia 49.81 80 P **P 10 02 19.9 -2.0**
comp=Z,3.1nm,0.7s,baz=208,slow=10.0,SNR=4.4
BDFB LR LR 10 21 54.4
comp=Z,1µm,18.2s,baz=240,slow=34
comp=Z,3.1nm,0.7s
ITTB Itaituba 51.01 62 *eP* **P 10 02 29.3 -1.6**
SDV Santo Domingo 52.32 37 LR LR 10 23 52.5
comp=Z,2µm,18.1s,baz=204,slow=35
JANB Januaria 53.09 82 *eP* **P 10 02 45.8 -0.6**
BAUV El Baul 53.67 39 P **P 10 02 50.8 +0.3**
QSPA South Pole Qui 54.00 180 P **P 10 02 53.1 +0.5**
QSPA South Pole Qui 54.00 180 P **P 10 02 54.8 +2.2**
comp=Z,2.2nm,0.9s,baz=103,slow=3.9,SNR=6.5
comp=Z,2.2nm,0.9s
SDBA SAO DESIDERIO 54.12 78 *eP* **P 10 02 52.7 -1.4**
RAR Rarotonga 54.34 269 LR LR 10 19 58.5
comp=Z,80nm,22.0s,baz=129,slow=29
VNA3 Neumayer Olymp 56.05 157 ⇑P **P 10 03 05.5 -1.6**
comp=Z,8.2nm,0.9s
PCRV Puerto La Cruz 56.50 42 LR LR 10 26 00.3
comp=Z,3µm,18.3s,slow=35
VNA1 Neumayer--Stat 56.64 156 ⇑P **P 10 03 08.4 -2.9**
comp=Z,6.2nm,0.8s
VNDA Vanda 56.84 195 P **P 10 03 16.1 +3.4**
comp=Z,0.7nm,0.9s,baz=84,slow=4.6,SNR=3.7
VNDA LR LR 10 21 44.9
comp=Z,578nm,19.9s,baz=98,slow=30
comp=Z,0.7nm,0.9s
VNA2 Neumayer--Watz 56.85 157 ⇑P **P 10 03 15.1 +2.3**
comp=Z,2.8nm,0.4s,baz=194,slow=31
MTDJ Mount Denham 57.91 25 IAMs_20 IAMs_20 10 23 44.6
comp=Z,955nm,18.0s
SNAA Sanae 58.03 158 ⇑P P 10 03 16.0 -5.3
comp=Z,68nm,0.9s
SNAA Sanae 58.03 158 P 10 03 21.3 0.0
SNAA IAMs_20 IAMs_20 10 24 31.5
comp=Z,1µm,21.0s
SNAA Sanae 58.03 158 P **P 10 03 21.5 +0.2**
comp=Z,2.3nm,0.9s,baz=236,slow=4.2,SNR=9.3
SNAA LR LR 10 24 53.1
comp=Z,1µm,19.5s,baz=254,slow=32
comp=Z,2.3nm,0.9s
TROLL Troll, Antarti 59.49 159 ⇑P **P 10 03 29.2 -2.3**
comp=Z,182nm,0.8s
GRGR Grenville 59.75 44 IAMs_20 IAMs_20 10 26 54.7
comp=Z,882nm,22.0s
MDP Montagnes des 59.91 57 LR LR 10 27 03.4
comp=Z,2µm,19.1s,baz=220,slow=34
SDDR Presa de Saban 60.94 31 IAMs_20 IAMs_20 10 28 50.7
comp=Z,675nm,18.0s
FDF Fort de France 62.16 42 IAMs_20 IAMs_20 10 28 34.6
comp=Z,1µm,21.0s
SVN Savane Anatole 62.24 42 IAMs_20 IAMs_20 10 28 14.7
comp=Z,1µm,22.0s
PDPR Patillas Dam, 62.43 36 P **P 10 03 54.1 +2.2**
SJG San Juan 62.45 36 LR LR 10 28 31.6
comp=Z,415nm,20.1s,baz=215,slow=34
SEUS St. Eustatius 63.48 39 IAMs_20 IAMs_20 10 28 44.8
comp=Z,992nm,22.0s
SMRT St. Maarten 63.90 39 IAMs_20 IAMs_20 10 28 08.0
comp=Z,891nm,21.0s
061Z Ochoppi 64.13 18 IAMs_20 IAMs_20 10 26 39.4
comp=Z,1µm,20.0s
URZ Urewera 64.32 240 LR LR 10 24 45.4
comp=Z,231nm,21.2s,baz=116,slow=29
RCBR Riachuelo 65.16 79 IAMs_20 IAMs_20 10 30 14.6
comp=Z,898nm,20.0s
TXAR Lajitas Array 65.33 356 P **P 10 04 12.2 +1.3**
comp=Z,0.5nm,0.9s,baz=169,slow=6.7,SNR=9.9
comp=Z,0.5nm,0.9s
RPZ Rata Peaks 65.91 233 LR LR 10 26 00.5
comp=Z,426nm,21.2s,baz=108,slow=30
DWPF Disney Wildern 66.15 17 IAMs_20 IAMs_20 10 27 16.9
comp=Z,877nm,21.0s
ALPN Alpine 66.36 356 P **P 10 04 18.4 +0.8**
ALPN IAmb IAmb 10 05 04.8
comp=Z,19nm,1.8s
656A Williston 67.10 16 IAMs_20 IAMs_20 10 30 26.2
comp=Z,540nm,20.0s
250A Grady 68.92 12 IAMs_20 IAMs_20 10 31 07.3
comp=Z,575nm,20.0s
146A Union 69.16 9 IAMs_20 IAMs_20 10 32 12.6
comp=Z,570nm,19.0s
257A Skidaway Islan 69.95 16 IAMs_20 IAMs_20 10 31 39.6
comp=Z,495nm,18.0s
Y45A Yeager Farm, C 70.31 9 IAMs_20 IAMs_20 10 32 23.0
comp=Z,665nm,20.0s
Y49A Blount Mountai 70.73 11 IAMs_20 IAMs_20 10 37 10.4
comp=Z,484nm,19.0s
SYO Syowa Base 70.78 165 ‖ *e*PP pP 10 04 49.0 +2.4
GOGA Godfrey 70.82 14 IAMs_20 IAMs_20 10 31 31.7
comp=Z,678nm,22.0s
OXF Oxford 70.96 9 IAMs_20 IAMs_20 10 32 51.4
comp=Z,511nm,20.0s
X18A Snowflake 71.08 351 P **P 10 04 48.7 +1.7**
X18A IAmb IAmb 10 05 25.7
comp=Z,14nm,1.4s
NHSC New Hope 71.23 17 IAMs_20 IAMs_20 10 33 17.6
comp=Z,625nm,19.0s
Y57A Sumter 72.06 16 IAMs_20 IAMs_20 10 33 12.3
comp=Z,733nm,18.0s
JSC Jenkinsville 72.12 16 IAmb IAmb 10 05 51.6
comp=Z,17nm,1.4s
Y58A Scranton 72.12 17 IAMs_20 IAMs_20 10 33 53.0
comp=Z,578nm,18.0s
OK038 West end E0370 72.33 0 IAMs_20 IAMs_20 10 39 22.5
comp=Z,571nm,19.0s
X58A Roeland 72.82 17 IAMs_20 IAMs_20 10 32 19.5
comp=Z,754nm,20.0s
KMSC Kings Mountain 72.93 15 IAMs_20 IAMs_20 10 43 26.5
comp=Z,606nm,19.0s
TKL Tuckaleechee C 72.94 13 LR LR 10 33 12.0
comp=Z,380nm,19.0s,baz=196,slow=33
W57A Gilead 73.24 16 IAMs_20 IAMs_20 10 35 25.6
comp=Z,595nm,18.0s
V55A Taylorsville 73.64 15 IAMs_20 IAMs_20 10 42 50.2
comp=Z,532nm,20.0s
V58A Windy Hill, Pi 74.05 17 IAMs_20 IAMs_20 10 33 04.2
comp=Z,652nm,20.0s
CCM Cathedral Cave 74.27 7 P 10 05 07.3 +1.7
CCM IAmb IAmb 10 05 27.4
comp=Z,14nm,1.1s
U56A King 74.29 16 IAMs_20 IAMs_20 10 34 31.6
comp=Z,639nm,20.0s
BLA Blacksburg 75.12 15 IAMs_20 IAMs_20 10 35 41.4
comp=Z,548nm,19.0s
T57A Hurt 75.17 16 IAMs_20 IAMs_20 10 34 55.8
comp=Z,598nm,19.0s
MAW Mawson 75.62 173 P **P 10 05 12.7 -0.5**
comp=Z,2.9nm,0.7s,baz=221,slow=0.7,SNR=5.5
MAW LR LR 10 36 52.7
comp=Z,491nm,20.4s,baz=188,slow=34
comp=Z,2.9nm,0.7s
TPH Tonopah 75.77 345 IAmb IAmb 10 05 23.4
comp=Z,14nm,1.5s
SPR3 Spring Creek 3 76.12 348 P **P 10 05 17.2 +0.5**
LHV Little Huntoon 76.20 344 P **P 10 05 19.4 +2.6**
LHV IAmb IAmb 10 05 36.5
comp=Z,11nm,1.0s
R58B Mineral 76.41 17 IAMs_20 IAMs_20 10 34 36.7
comp=Z,617nm,19.0s
CBN Corbin Frederi 76.77 18 IAMs_20 IAMs_20 10 33 54.0
comp=Z,927nm,21.0s
ELK Elko 77.98 348 P **P 10 05 28.6 +1.5**
ORV Oroville 78.14 343 IAMs_20 IAMs_20 10 31 17.0
comp=Z,711nm,22.0s
K30B Basset 78.51 360 IAMs_20 IAMs_20 10 37 33.2
comp=Z,779nm,19.0s
P61A Hammonton 78.81 19 IAMs_20 IAMs_20 10 35 17.1
comp=Z,916nm,21.0s
PDAR Pinedale Array 79.17 352 P **P 10 05 33.8 +0.3**
PDAR Pinedale Array 79.17 352 P **P 10 05 33.4 -0.2**
comp=Z,1.8nm,0.7s,baz=150,slow=7.4,SNR=21
comp=Z,1.8nm,0.7s
JFWS Jewell Farm 79.18 7 IAMs_20 IAMs_20 10 37 40.9
comp=Z,590nm,21.0s
ECSD EROS Data Cent 79.61 2 P 10 05 37.1 +1.5
ECSD IAmb IAmb 10 05 44.7
comp=Z,7.7nm,0.8s
SNOW Snow King Moun 79.99 352 IAmb IAmb 10 08 04.6
comp=Z,18nm,1.7s
TPAW Teton Pass 80.04 351 IAmb IAmb 10 05 47.1
comp=Z,10nm,1.1s
RSSD Black Hills 80.08 357 P **P 10 05 40.9 +2.4**
I40A Norwalk 80.11 6 IAMs_20 IAMs_20 10 41 41.7
comp=Z,656nm,18.0s
YBH Yreka Blue Hor 80.49 342 LR LR 10 33 21.3
comp=Z,39nm,19.5s,baz=208,slow=30
HLID Hailey 80.59 349 IAmb IAmb 10 05 50.5
comp=Z,8.2nm,0.9s
I45A Fountain 80.75 9 IAMs_20 IAMs_20 10 40 46.4
comp=Z,706nm,20.0s
SPMN Marine on St 81.27 5 IAmb IAmb 10 05 52.9
comp=Z,3.3nm,0.7s
J57A Williamstown 82.03 17 IAMs_20 IAMs_20 10 36 45.4
comp=Z,762nm,21.0s
PLID Pearl Lake 82.33 348 IAmb IAmb 10 05 59.3
comp=Z,7.1nm,0.9s
E09A Wood Farm, Sta 84.09 347 P **P 10 05 59.3 +0.2**
STKA Stephens Creek 91.49 228 LR LR 10 40 07.2
comp=Z,241nm,18.1s,baz=170,slow=30
HNR Honiara 93.08 256 LR LR 10 39 59.4
comp=Z,140nm,20.8s,baz=167,slow=30
DBIC Dimbokro 97.44 87 LR LR 10 47 31.3
comp=Z,313nm,21.4s,baz=235,slow=33
TSUM Tsumeb 98.79 121 LR LR 10 45 25.6
comp=Z,425nm,21.7s,baz=148,slow=32
H01W1 Cape Leeuwin H 102.71 208 T T 12 03 05.4
baz=151,slow=76,SNR=13
H01W2 Cape Leeuwin H 102.71 208 T T 12 02 52.4
baz=151,slow=76,SNR=11
H01W3 Cape Leeuwin H 102.72 208 T T 12 03 05.3
baz=151,slow=76,SNR=10
GHO Glory Hole Cre 105.58 338 IAMs_20 IAMs_20 10 44 08.9
comp=Z,368nm,19.0s
BWN Browne 107.58 339 IAMs_20 IAMs_20 10 47 32.5
comp=Z,317nm,19.0s
NEA2 Nenana 107.79 340 IAMs_20 IAMs_20 10 42 28.3
comp=Z,314nm,19.0s
FYU Fort Yukon 108.32 342 IAMs_20 IAMs_20 10 41 25.3
comp=Z,438nm,18.0s
AVE Averroes 110.07 63 IAMs_20 IAMs_20 10 51 24.8
comp=Z,493nm,21.0s
COI Coimbra 112.79 56 IAMs_20 IAMs_20 11 10 03.0
comp=Z,495nm,22.0s
TAM Tamanrasset 114.64 79 IAMs_20 IAMs_20 10 58 04.1
comp=Z,389nm,19.0s
BILL Bilibino 124.66 333 IAMs_20 IAMs_20 11 18 04.6
comp=Z,381nm,21.0s
STU Stuttgart 127.62 52 IAMs_20 IAMs_20 11 01 49.4
comp=Z,364nm,21.0s
CEL Celeste 129.29 67 IAMs_20 IAMs_20 11 11 56.6
comp=Z,364nm,20.0s
CSS Mathiatis 141.72 77 IAMs_20 IAMs_20 11 02 40.3
comp=Z,278nm,20.0s
MDJ Mudanjiang 142.35 298 P **PKiKP 10 13 04.1 0.0**
MDJ pmax pmax
comp=Z,4.0nm,1.2s
BRTR Keskin Array B 143.03 70 PKP **PKiKP 10 13 05.1 -0.7**
comp=Z,1.0nm,0.9s,baz=252,slow=3.3,SNR=4.2
KULM Kulim 144.20 215 IAMs_20 IAMs_20 11 17 17.9
comp=Z,256nm,20.0s
NJ2 Nanjing 148.32 274 *eP* **PKPdf 10 13 12.6 +0.9**
NJ2 pmax pmax
comp=Z,11nm,0.6s
ENH Enshi 155.29 264 IAMs_20 IAMs_20 11 38 02.9
comp=Z,189nm,22.0s
HHC Hu-ho-hao-te 155.52 290 *eP* **PKPdf 10 13 20.1 -2.3**
UOSS Minazif 156.14 111 IAMs_20 IAMs_20 11 18 09.9
comp=Z,274nm,21.0s
PZH PanZhiHua 159.66 247 PKP **PKPdf 10 13 27.4 -0.6**
HYB Hyderabad 161.18 174 *e*PKPdf **PKPdf 10 13 29.1 -0.7**
HYB *e*SKPdf **SKPdf 10 17 00.0 -1.9**
HYB *e*PP **PP 10 17 56.8 +2.0**
HYB *e*SKSdf **SKSdf 10 20 34.3 -0.9**
HYB *e*SKKSac **SKKSac 10 24 46.3 +1.6**
WMQ Urumqi 170.72 327 *e*PKP **PKPdf 10 13 36.6 -0.1**
WMQ LR LR
comp=Z,470nm,24.2s

*NSSP **09** 09:55:55.8, 38˚.42N×44˚.28E, h10km, Ms4.5*
*AFAD **09** 09:56:00.5, 38˚.53N×44˚.24E, h21km± 1km, MW4.3*
*ISK **09** 09:56:00.2, 38˚.50N×44˚.26E, h2km, ML4.3/14*
*IDC **09** 09:56:00.7± 1.0, 38˚.53N×44˚.21E, h0km, mb3.9/9, mbtmp3.8/13, ML3.4/3, MS3.7/9, Error ellipse: s-maj=15.0km s-min=10.6km az=140.0*
*THR **09** 09:56:01.9± 0.0, 38˚.56N×44˚.22E, h10km± 7km, ML4.0*
*ISN **09** 09:56:01.2± 0.8, 38˚.72N×44˚.04E, h10km± 999km, ML3.8*
*TEH **09** 09:56:01.3, 38˚.57N×44˚.24E, h6km± 33km*
*NEIC **09** 09:56:03.4± 1.5, 38˚.51N± 0˚.06×44˚.10E± 0˚.06, h10km± 1km, mb4.1/12, Error ellipse: s-maj=10.3km s-min=7.0km az=343.0*
*AZER **09** 09:56:03.9, 38˚.54N×44˚.35E, h10km, ml4.4*

ISC 09 09:56:01.8± 1.1, 38˚.54N± 0˚.02×44˚.24E± 0˚.02, h5km± 8km, n181, σ1°50/227, mb3.7/9, MS3.3/8, 6C-1D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.22**	**302**	P		**Pg**		**09 56 06.5**	**+0.2**
OZAP				S		**Sg**		**09 56 11.1**	**+1.8**
TVAN	**Van**	**0.65**	**269**	P		**Pg**		**09 56 13.8**	**-0.6**
TVAN	**Van**	**0.65**	**269**	Pg		**Pg**		**09 56 13.7**	**-0.6**
VMUR	**Van-Muradiye**	**0.68**	**311**	P		**Pg**		**09 56 14.4**	**-0.6**
VMUR				S		**Sb**		**09 56 24.8**	**-1.4**
VMUR	**Van-Muradiye**	**0.68**	**311**	Pg		**Pg**		**09 56 14.4**	**-0.6**
ERCV	**ERCIS-VAN**	**0.85**	**305**	Pg		**Pg**		**09 56 18.3**	**+0.2**
ERCV				Sg		**Sb**		**09 56 31.4**	**+0.5**
GEVA	**Gevas**	**0.95**	**256**			**Pg**		**09 56 19.6**	**-0.5**
GEVA	**Gevas**	**0.95**	**256**	P		**Pg**		**09 56 18.4**	**-1.6**
GEVA				S		**Sg**		**09 56 32.8**	**+0.3**
AKDM	**Akdamar-Van**	**1.01**	**258**	Pg		**Pg**		**09 56 20.6**	**-0.6**
AKDM				Sg		**Sb**		**09 56 35.4**	**-0.1**
AKDM	**Akdamar-Van**	**1.01**	**258**	Pg		**Pb**		**09 56 21.4**	**-0.5**
HAKT	**HAKKARI**	**1.07**	**203**	P		**Pg**		**09 56 21.4**	**-0.9**
HAKT				S		**Sn**		**09 56 38.3**	**-0.7**
HAKT	**HAKKARI**	**1.07**	**203**	P		**Pn**		**09 56 23.4**	**-0.3**
HAKT				S		**Sn**		**09 56 40.0**	**+1.0**
HAKT	**HAKKARI**	**1.07**	**203**	Pg		**Pg**		**09 56 21.4**	**-0.9**
DYDN	**Diyadin**	**1.09**	**337**	P		**Pg**		**09 56 20.4**	**-2.3**
DYDN				S		**Sg**		**09 56 35.0**	**-1.8**
ISHB	**Shabestar**	**1.12**	**103**	Pg		**Pg**		**09 56 21.7**	**-1.5**
IMRD	**Marand**	**1.16**	**81**	Pg		**Pg**		**09 56 23.3**	**-0.8**
NAX	**Nakhchivan**	**1.17**	**57**	P		**Pn**		**09 56 25.0**	**+0.1**
NAX				S		**Sg**		**09 56 38.7**	**-0.7**
ADCV	**BITLIS_Adilcev**	**1.21**	**283**	P		**Pg**		**09 56 24.4**	**-0.7**
ADCV				S		**Sn**		**09 56 42.9**	**+0.4**
HYR	**Heyderabad**	**1.27**	**22**	P		**Pg**		**09 56 27.2**	**+1.0**
HYR				S		**Sn**		**09 56 43.1**	**-0.7**
IGDI	**IGDIR**	**1.33**	**355**	P		**Pn**		**09 56 25.4**	**-1.7**
IGDI				S		**Sn**		**09 56 47.1**	**+1.8**
IGDI	**IGDIR**	**1.33**	**355**	P		**Pn**		**09 56 26.2**	**-0.9**
IGDI				S		**Sn**		**09 56 47.6**	**+2.3**
SBZ	**Shahbuz**	**1.34**	**50**	P		**Pg**		**09 56 27.9**	**+0.5**
SBZ				S		**Sn**		**09 56 45.1**	**-0.3**
CUKT	**Cukurca**	**1.39**	**201**	P		Pn		09 56 18.4	-9.5
DORK	**Agr/Tutak/Do**	**1.41**	**307**	P		**Pn**		**09 56 27.1**	**-1.3**
DORK				S		**Sb**		**09 56 39.9**	**-7.3**
AGRB	**Hanur-Agry**	**1.41**	**317**	Pn		**Pn**		**09 56 27.4**	**-1.0**
AGRB				Sn		**Sg**		**09 56 48.9**	**+1.6**
ORD	**Ordubad**	**1.43**	**74**	P		**Pg**		**09 56 29.9**	**+0.7**
ORD				S		**Sb**		**09 56 46.3**	**-1.2**
TASB	**TASBURUN-IGDIR**	**1.44**	**0**	Pn		**Pn**		**09 56 27.9**	**-0.7**
TASB				Sn		**Sg**		**09 56 49.7**	**+1.6**
MLAZ	**Malazgirt-MUS**	**1.45**	**295**	Pn		**Pn**		**09 56 28.7**	**-0.1**
MLAZ				Sn		**Sg**		**09 56 49.7**	**+1.4**
PERV	**Siirt/Pervari-**	**1.46**	**246**	P		**Pn**		**09 56 27.9**	**-1.1**
VAYK	**Vayk**	**1.48**	**38**	*i* P		**Pn**		**09 56 28.8**	**-0.4**
VAYK				*i* S		**Sg**		**09 56 49.7**	**+0.4**
KOTA	**Agri, Merkez-K**	**1.49**	**328**	P		**Pn**		**09 56 27.2**	**-2.3**
ITBZ	**Tabriz**	**1.53**	**101**	Pg		**Pn**		**09 56 29.6**	**-0.4**
ITBZ				Sg		**Sg**		**09 56 51.9**	**+0.8**
VNNZ	**Vanand**	**1.59**	**349**	*e*P		**Pg**		**09 56 32.1**	**-0.3**
VNNZ				*e*S		**Sg**		**09 56 56.6**	**+3.6**
METS	**Metsamor**	**1.61**	**356**	*e*P		**Pb**		**09 56 31.4**	**-0.7**
METS				*e*S		**Sg**		**09 56 55.7**	**+2.1**
IAZR	**Azarshahr**	**1.62**	**122**	Pg		**Pn**		**09 56 31.8**	**+0.5**
GNI	**Garni**	**1.65**	**14**			**Pg**		**09 56 33.0**	**-0.5**
GNI	**Garni**	**1.65**	**14**	Pn		**Pn**		**09 56 31.6**	**-0.1**
GNI				Sn		**Sg**		**09 56 54.9**	**0.0**
GNI	**Garni**	**1.65**	**14**	Pg		**Pn**		**09 56 31.9**	**+0.3**
GNI	60nm,0.3s,baz=223,slow=3.7,SNR=141			LR		LR		09 56 47.8	
GNI	comp=Z,184nm,18.0s,baz=174,slow=28			Lg		Lg		09 56 55.1	
GNI	167nm,0.3s,baz=3.0,slow=22,SNR=24 **Garni**	**1.65**	**14**	Pg		**Pn**		**09 56 30.9**	**-0.8**
GNI	**Garni**	**1.65**	**14**	‖ *i*P		**Pn**		**09 56 31.9**	**+0.3**
GNI				⇑ *i*S		**Sg**		**09 56 57.0**	**+2.0**
BLIS	**Bitlis-Merkez**	**1.67**	**266**	P		**Pn**		**09 56 30.4**	**-1.4**
GURO	**Guroymak-BITLI**	**1.73**	**271**			**Pn**		**09 56 32.6**	**0.0**
GURO	**Guroymak-BITLI**	**1.73**	**271**	Pn		**Pn**		**09 56 32.5**	**-0.1**
GURO				Sn		**Sb**		**09 56 56.3**	**+0.1**
ARUZ	**Aruch**	**1.74**	**356**	*e*P		**Pb**		**09 56 33.7**	**-0.7**
ARUZ				*e*S		**Sg**		**09 56 59.6**	**+1.8**
SIRN	**Sırnak**	**1.78**	**235**	P		**Pb**		**09 56 34.0**	**-1.0**
SIRN	**Sırnak**	**1.78**	**235**	Pg		**Pb**		**09 56 33.9**	**-1.0**
KAPZ	**Kaputan**	**1.81**	**11**	*e*P		**Pb**		**09 56 34.5**	**-1.1**
KAPZ				*e*S		**Sg**		**09 57 01.0**	**+0.9**
AMBZ	**Amberd**	**1.84**	**1**	*e*P		**Pb**		**09 56 35.2**	**-1.0**
AMBZ				*e*S		**Sg**		**09 57 02.3**	**+1.2**
EATA	**Eleskirt**	**1.89**	**315**	P		**Pn**		**09 56 34.9**	**-0.1**
SRTM	**Siirt_Merkez**	**1.90**	**254**	P		**Pn**		**09 56 35.5**	**+0.5**
EGVZ	**Egvard**	**1.93**	**68**	*e*P		**Pb**		**09 56 36.5**	**-1.0**
EGVZ				*e*S		**Sg**		**09 57 04.0**	**+0.3**
AYRK	**Ayrk**	**1.98**	**37**	*e*P		**Pb**		**09 56 37.6**	**-0.8**
AYRK				*e*S		**Sg**		**09 57 05.9**	**+0.4**
DIGO	**Kars**	**1.98**	**341**	P		**Pb**		**09 56 38.7**	**+0.2**
MAHB	**Mahabad**	**2.12**	**146**	Pn		**Pb**		**09 56 39.8**	**-1.1**
MUSM	**Mu-Merkez**	**2.14**	**276**	P		**Pn**		**09 56 37.1**	**-1.2**
EAK	**Akyaka**	**2.19**	**347**	P		**Pn**		**09 56 40.3**	**+1.2**
IHRS	**Heris**	**2.22**	**95**	Pn		**Pn**		**09 56 40.9**	**+1.4**
BOZK	**Kars-Merkez-Bo**	**2.27**	**335**	P		**Pb**		**09 56 42.7**	**-0.6**
KMOZ	**Kamo**	**2.29**	**355**	*e*P		**Pb**		**09 56 42.9**	**-0.7**
KMOZ				*e*S		**Sg**		**09 57 15.8**	**+0.4**
KOPR	**Koprukoy-ERZUR**	**2.35**	**309**	Pn		**Pn**		**09 56 41.8**	**+0.6**
SVAN	**Silvan-Diyarba**	**2.42**	**262**	Pn		**Pn**		**09 56 42.2**	**+0.1**
SVAN	**Silvan-Diyarba**	**2.42**	**262**	P		**Pn**		**09 56 42.2**	**+0.1**
BTMN	**Batman**	**2.42**	**255**	P		**Pn**		**09 56 42.5**	**+0.3**
GDB	**GEDABAY**	**2.47**	**28**	P		**Pb**		**09 56 44.7**	**-2.1**
GDB				S		**Sn**		**09 57 13.6**	**0.0**
LSVT	**Lusahovit**	**2.48**	**17**	*e*P		**Pn**		**09 56 44.4**	**+1.4**
LSVT				*e*S		**Sb**		**09 57 18.1**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.49**	**325**	Pn		**Pn**		**09 56 44.1**	**+0.9**
MIDY	**Mardin/Midyat-**	**2.51**	**244**	P		**Pn**		**09 56 44.2**	**+0.8**
SRSL	**SARDASHT**	**2.51**	**157**	*e*PnA				09 56 45.9	
SRSL	comp=Z,1.0nm,1.0s			IAML				09 57 39.9	
SRTK	**Saratovka**	**2.52**	**2**	*e*P		**Pb**		**09 56 47.5**	**-0.2**
SRTK				*e*S		**Sg**		**09 57 23.0**	**+0.2**
SLHN	**Bingol, Solhan**	**2.54**	**280**	P		**Pn**		**09 56 43.7**	**-0.2**
QRD	**Qoradiz**	**2.57**	**68**	P		**Pn**		**09 56 45.1**	**+0.9**
QRD				S		**Sn**		**09 57 16.7**	**+0.9**
KARO	**Karliova-Bingo**	**2.60**	**288**	Pn		**Pn**		**09 56 45.1**	**+0.4**
**GAN

KZRT S Sb 09 57 30.2 +2.0
BRDA Brd 2.86 52 P Pn 09 56 49.3 +1.3
BRDA S Sn 09 57 22.0 -0.8
GRMI Germi 2.88 84 Pn Pn 09 56 49.8 +1.4
GRMI Germi 2.88 84 *e*PnA 09 56 50.5
GRMI IAML 09 57 40.2
comp=Z,0.8nm,1.0s
MARD Mardin 3.00 247 Pn 09 56 51.1 +1.1
TRLG Trialeti 3.00 358 P Pb 09 56 55.0 -0.7
YEDI Yedisu-Bingol 3.01 288 Pn Pn 09 56 50.9 +0.6
DGRG David-gareji 3.03 16 P Pb 09 56 56.8 +0.4
DGRG David-gareji 3.03 16 PKIKP Pb 09 56 56.7 +0.4
MNGR Mingechevir, A 3.13 44 P Pn 09 56 55.4 +1.6
MNGR S Sn 09 57 30.1 +0.6
IKRK Kirkuk 3.14 178 *e*Pn Pb 09 56 56.0 -2.1
IKRK *e*Sn Sb 09 57 37.0 +0.4
IKRK AML AML 09 58 04.1
comp=E,313nm,0.9s
IKRK AML AML 09 58 04.3
comp=N,273nm,0.7s
YRD Yardimli 3.15 82 P Pn 09 56 53.4 +1.0
YRD S Sn 09 57 29.2 -1.2
VSHL Vashlovani 3.16 31 P Pb 09 56 55.7 -2.7
LRK Lerik 3.22 87 P Pn 09 56 54.2 +1.0
LRK S Sn 09 57 31.8 -0.2
KOPT Kop Dagi 3.25 298 P Pb 09 56 57.0 -3.3
DYBB Diyarbakir 3.28 261 Pn Pn 09 56 55.1 +1.2
GLBA Clilabad 3.32 77 P Pn 09 56 55.6 +1.2
GLBA S Sn 09 57 32.1 -2.1
SEKA Sheki 3.51 40 P Pn 09 56 59.2 +2.2
SEKA S Sn 09 57 42.8 +3.9
SAAT Saatly 3.51 67 P Pn 09 56 57.9 +0.9
SAAT S Sn 09 57 38.0 -0.9
BCA Borcka 3.53 326 Pn Pn 09 56 59.0 +1.7
LKRN Lenkeran, Azer 3.56 86 P Pn 09 56 58.0 +0.3
LKRN S Sn 09 57 39.6 -0.6
ASTR Astara 3.57 88 P Pn 09 56 58.9 +1.1
ASTR S Sn 09 57 41.9 +1.5
ALIG Mtskhetisjvari 3.59 353 P Pb 09 57 06.0 +0.2
ALIG S Sg 09 57 59.3 +2.3
ALIG Mtskhetisjvari 3.59 353 PKIKP Pb 09 57 05.9 +0.2
ZKTA Zakatala 3.59 30 P Pn 09 57 00.3 +2.1
ZKTA S Sn 09 57 42.7 +1.7
BATM Batumi 3.63 328 P Pb 09 57 08.0 +1.6
BATM Batumi 3.63 328 PKIKP Pb 09 57 08.0 +1.6
BAYT Aydıntepe-Bayb 3.67 302 Pn Pn 09 57 00.6 +1.2
QBL Gabala 3.67 48 P Pn 09 57 00.5 +1.2
QBL S Sn 09 57 42.4 -0.6
IML Ismayilli 3.79 52 P Pn 09 57 01.8 +0.9
IML S Sn 09 57 44.5 -1.3
GUDG Gudauri 3.92 3 P Pb 09 57 11.7 +0.1
XNQ Khinaliq 3.99 48 P Pn 09 57 05.3 +1.5
XNQ S Sn 09 57 52.3 +1.2
ZNJK Zanjan 4.00 117 *e*Pn Pn 09 57 05.4 +1.4
ZNJK IAML 09 59 15.1
comp=Z,0.0nm,1.0s
PQL Pirkuli 4.04 55 P Pn 09 57 05.8 +1.3
PQL S Sn 09 57 52.8 +0.5
GARIG Gari 4.10 352 P Pb 09 57 15.4 +0.9
GARIG S Sg 09 58 13.7 +0.3
GBS Qobustan 4.15 60 P Pn 09 57 06.9 +1.0
GBS S Sn 09 57 53.7 -1.1
SHTL Shatili 4.17 9 P Pb 09 57 16.3 +0.6
SHTL S Sg 09 58 16.3 +0.6
KGS1 Ghasr-e-Shirin 4.17 164 Pn Pn 09 57 07.8 +1.6
IDHR Dehrash 4.21 155 Pn Pn 09 57 08.4 +1.6
QSAR Qusar 4.29 45 P Pn 09 57 09.1 +1.4
QSAR S Sn 09 57 59.1 +1.0
ATGJ Altiaghaj 4.30 56 P Pn 09 57 08.7 +0.6
ATGJ S Sn 09 57 57.7 -1.0
QUBA Quba, Azerbaij 4.31 48 P Pn 09 57 09.5 +1.4
QUBA S Sn 09 58 00.9 +2.1
SIZA Siyzn 4.39 53 P Pn 09 57 10.3 +1.1
SIZA S Sn 09 58 01.0 +0.2
SNQR Sonqor, Kerman 4.58 142 Pn Pn 09 57 15.0 +3.0
IGHG Ghaleghazi 4.61 155 Pn Pn 09 57 14.1 +1.8
ILBA Ilam Banvizeh 5.16 161 Pn Pn 09 57 21.9 +2.1
ILBA Ilam Banvizeh 5.16 161 *e*Pn Pn 09 57 21.7 +1.9
ILBA IAML 09 58 39.2
comp=Z,0.1nm,1.0s
BHD Baghdad 5.26 179 *e*Pn Pn 09 57 26.0 +4.9
BHD *e*Sn Sn 09 58 27.0 +4.9
BHD AML AML 09 59 01.4
comp=E,281nm,0.3s
KBZ Khabaz 5.28 349 Pn Pn 09 57 23.6 +2.3
comp=E,1.9nm,0.7s,baz=163,slow=17,SNR=2.0
KBZ Lg Lg 09 58 52.1
comp=E,0.1nm,0.3s,baz=279,slow=13,SNR=1.8
IBDR Badra 5.59 165 *e*Pn Pn 09 57 31.0 +5.4
IBDR *e*Sn Sn 09 58 36.0 +5.7
BDRS Dareh Seyedi 5.92 139 Pn Pn 09 57 32.6 +2.1
RAFI Al-Rafai 6.97 167 *e*Pn Pn 09 57 49.5 +4.9
RAFI *e*Sn Sn 09 59 09.0 +4.7
GTMR Gotvand 7.25 145 *e*Pn Pn 09 57 50.7 +2.3
GTMR IAML 10 00 13.0
comp=Z,0.1nm,1.0s
BR131 Keskin Array S 8.32 281 Pn 09 58 02.8 -0.4
BRTR Keskin Array B 8.32 281 Pn 09 58 02.5 -0.7
BRTR Keskin Array B 8.32 281 Pn Pn 09 58 05.7 +2.4
comp=Z,0.1nm,0.3s,baz=102,slow=14,SNR=21
comp=Z,4.6nm,0.8s
ASF Jabal al Asfar 8.73 226 Lg Lg 10 00 39.1
comp=Z,0.4nm,0.3s,baz=129,slow=7.8,SNR=3.6
MMAI Mount Meron Ar 9.05 235 Lg Lg 10 00 49.4
comp=Z,1.8nm,0.3s,baz=248,slow=43,SNR=1.5
MMAI LR LR 10 02 00.6
comp=Z,356nm,18.7s,baz=77,slow=40
MRVT Maraveh tapeh 9.39 92 *e*Pn Pn 09 58 19.2 +1.4
GHAJ Ghor Haditha 10.13 227 Pn Pn 09 58 26.5 -1.5
SBZV Sabzevar 10.85 97 *e*Pn Pn 09 58 41.4 +3.5
EIL Elat 11.72 224 LR LR 10 03 35.2
comp=Z,265nm,20.5s,baz=346,slow=39
BNDS Bandar-Abbas 14.95 135 *e*PnA 09 59 35.5
RAYN Ar Rayn 15.01 176 Pn 09 59 30.7 -4.0
AKTO Aktyubinsk 15.40 35 Pn Pn 09 59 38.9 -0.7
comp=Z,0.2nm,0.3s,baz=244,slow=8.1,SNR=4.5
comp=Z,1.5nm,0.7s
DOPR Dopca 15.78 304 ⇑P P 09 59 50.7 +2.0
ARR Arges 16.08 301 ⇑P P 09 59 51.5 -0.5
AKASG Malin Array Be 16.15 324 Pn Pn 09 59 48.3 -1.0
comp=Z,0.4nm,0.3s,baz=125,slow=13,SNR=8.0
comp=Z,0.5nm,0.4s
AKBB Malin Array Si 16.15 324 P 09 59 52.7 +0.1
AKBB IAmb IAmb 09 59 57.5
comp=Z,8.9nm,0.9s
KIEV Kiev 16.15 324 P 09 59 51.9 -0.8
BURAR Bucovina Array 16.56 309 P Pn 09 59 55.5 +0.8
BURAR Bucovina Array 16.56 309 ⇑P P 09 59 58.5 +1.1
BUR08 Bucovina Ar. S 16.58 309 P P 09 59 57.0 -0.6
BUR08 IAmb IAmb 10 00 11.8
comp=Z,9.9nm,0.9s
MARR Marisel-Cluj 17.50 304 ⇑P P 10 00 15.0 +7.1
DRGR 17.81 304 ⇑P **P 10 00 12.7 +1.5**
SIMJ Simiganj 19.35 82 Pn 10 00 30.3 +0.9
SIMJ IAmb IAmb 10 00 35.5
comp=Z,8.1nm,1.1s
CHGR Chuyangaron 19.47 82 P Pn 10 00 31.3 +0.7
CHGR IAmb IAmb 10 00 36.2
comp=Z,19nm,1.2s
ARTI Arti 20.18 23 Pn 10 00 38.9 0.0
ARTI IAmb IAmb 10 00 43.1
comp=Z,10nm,0.8s
GAR Garm 20.32 81 Pn 10 00 40.9 +0.1
KIRV Kirov 20.34 8 LR LR 10 08 32.8
comp=Z,128nm,18.4s,baz=316,slow=37
KK31 Karatay Array 20.37 69 P Pn 10 00 41.4 +0.2
KK31 IAmb IAmb 10 00 49.0
comp=Z,9.5nm,0.9s
KKAR Karatay Array 20.37 69 Pn 10 00 40.8 -0.4
MORC Moravsky Berou 22.08 309 P P 10 00 58.6 +1.0
ARSB Arslanbob 22.18 74 P 10 01 00.0 +1.2
BVAR Borovoye Array 23.11 43 P P 10 01 09.8 +1.3
comp=Z,1.3nm,0.7s,baz=243,slow=9.5,SNR=8.5
comp=Z,1.3nm,0.7s
AAK Ala-Archa 23.28 70 P P 10 01 13.1 +2.7
GERES GERESS Array B 24.21 305 P P 10 01 19.1 -0.2
comp=Z,1.1nm,0.8s,baz=142,slow=6.8,SNR=4.2
GERES LR LR 10 12 00.1
comp=Z,66nm,20.6s,baz=60,slow=40
comp=Z,1.1nm,0.8s
KSH Kashi 24.61 78 P P 10 01 24.3 +1.1
FINES FINESS Array B 25.55 340 P P 10 01 30.3 -0.9
comp=Z,4.6nm,0.9s,baz=190,slow=9.6,SNR=3.4

FINES LR LR 10 13 41.4
comp=Z,45nm,20.9s,baz=117,slow=42
comp=Z,4.6nm,0.9s
ATD Arta Tunnel 26.93 183 LR LR 10 11 50.8
comp=Z,4.4nm,18.1s,baz=268,slow=35
KURBB Kurchatov Arra 27.00 52 P P 10 01 44.4 0.0
comp=Z,0.4nm,0.3s,baz=263,slow=9.3,SNR=10
comp=Z,0.4nm,0.3s
HFS Hagfors 28.93 328 P P 10 02 01.2 -0.4
comp=Z,1.5nm,0.7s,baz=138,slow=12,SNR=2.4
comp=Z,1.5nm,0.7s
MKAR Makanchi Array 28.94 61 P P 10 02 03.2 +1.3
MKAR Makanchi Array 28.94 61 P P 10 02 01.1 -0.8
comp=Z,0.9nm,0.8s,baz=270,slow=5.8,SNR=7.8
comp=Z,0.9nm,0.8s
NOA NORSAR Array B 30.45 328 LR LR 10 15 31.9
comp=Z,60nm,20.0s,baz=135,slow=38
EKA Eskdalemuir Ar 35.65 314 P P 10 02 59.8 -0.7
comp=Z,3.9nm,0.8s,baz=102,slow=8.0,SNR=8.7
comp=Z,3.9nm,0.8s
ESDC Sonseca Array 37.06 287 P P 10 03 11.3 -1.5
comp=Z,1.2nm,0.8s,baz=62,slow=7.8,SNR=6.8
comp=Z,1.2nm,0.8s
BRDH Bariadhala 43.28 97 LR LR 10 27 08.2
comp=Z,319nm,18.4s,baz=129,slow=43
CMAR Chiang Mai Arr 51.30 97 P P 10 05 07.0 -0.1
comp=Z,0.8nm,0.6s,baz=306,slow=8.6,SNR=4.9
comp=Z,0.8nm,0.6s
MDP Montagnes des 92.22 278 LR LR 10 50 06.0
comp=Z,172nm,21.7s,baz=248,slow=35
FITZ Fitzroy Crossi 94.60 109 LR LR 10 51 52.9
comp=Z,178nm,21.8s,baz=166,slow=35

IDC ***09*** *09:56:51.7±2.3, 33.°93N×139.°31E, h0km, mb3.5/4, mbtmp3.4/5, ML2.4/1, Error ellipse: s-maj=93.2km s-min=20.3km az=73.0*
JMA ***09*** *09:56:53.5±0.2, 34.°6N±0.°7×140.°7E±0.°8, h57km±2km, MV3.2/30, SE OFF BOSO PENINSULA*
ISC 09 09:56:54.2±1.1, 34.°62N±0.°07×140.°69E±0.°08, h59km, n22, σ0s87/19, mb3.6/4, 13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO2	**Boso 2**	**0.15**	**21**	*e*X		09 57 09.5	
BSO3	**Boso 3**	**0.24**	**321**	⇓*i*P	**Pn**	**09 57 02.7**	**-0.8**
BSO3				⇓*e*X		09 57 10.6	
BSO1	**Boso 1**	**0.24**	**81**	⇓*i*P	**Pn**	**09 57 03.1**	**-0.1**
BSO1				⇓*e*X		09 57 11.1	
BSO4	**Boso 4**	**0.47**	**322**	⇓*i*P	**Pn**	**09 57 05.4**	**-0.4**
BSO4				⇓*e*X		09 57 14.5	
KTR	**Katsuura**	**0.61**	**330**	⇓P	**Pn**	**09 57 06.8**	**-0.6**
KTR				⇓S	**Sn**	**09 57 15.9**	**-1.0**
JKUC	**kamogawauchiur**	**0.68**	**324**	⇓*i*P	**Pn**	**09 57 07.4**	**-0.7**
JKUC				⇓*e*S	**Sn**	**09 57 17.3**	**-1.0**
TATJ	**Tateyama 2**	**0.78**	**302**	⇓*e*P	**Pn**	**09 57 09.1**	**-0.3**
TATJ				⇓*e*S	**Sn**	**09 57 20.4**	**-0.1**
JMYK	**Miyake Tsubota**	**1.10**	**240**	*e*P	**Pn**	**09 57 13.2**	**-0.3**
JKO	**Kozu shima**	**1.35**	**252**	P	**Pn**	**09 57 17.0**	**0.0**
KTJ3	**Kamata3**	**1.37**	**284**	⇓P	**Pn**	**09 57 16.0**	**-1.1**
JOD2	**Odawara 2**	**1.47**	**297**	P	**Pn**	**09 57 17.6**	**-0.9**
MJAR	**Matsushiro Arr**	**2.79**	**314**	Pn	**Pn**	**09 57 37.1**	**+0.6**
MJAR	0.7nm,0.3s,baz=163,slow=12,SNR=10			Sn	**Sn**	**09 58 10.0**	**+1.0**
	1.0nm,0.3s,baz=261,slow=13,SNR=12						
	4.8nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.52**	**116**	T	T	10 31 53.1	
	baz=309,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**27.53**	**116**	T	T	10 31 49.2	
	baz=309,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**27.54**	**116**	T	T	10 31 49.5	
	baz=309,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**28.14**	**118**	T	T	10 32 41.3	
	baz=311,slow=76,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**28.14**	**118**	T	T	10 32 40.1	
	baz=311,slow=76,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**28.16**	**118**	T	T	10 32 36.9	
	baz=311,slow=76,SNR=5.6						
MKAR	**Makanchi Array**	**44.94**	**304**	P	**P**	**10 05 04.8**	**+1.5**
	0.2nm,0.4s,baz=81,slow=9.3,SNR=2.9						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**47.06**	**310**	P	**P**	**10 05 21.0**	**+1.2**
	0.4nm,0.4s,baz=84,slow=7.8,SNR=2.2						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**54.59**	**187**	P	**P**	**10 06 16.1**	**-0.6**
	0.5nm,0.5s,baz=2.5,slow=7.4,SNR=7.8						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**58.32**	**187**	P	**P**	**10 06 42.3**	**-0.9**
	0.2nm,0.6s,baz=3.2,slow=6.2,SNR=6.6						
	0.2nm,0.6s						

NEIC ***09*** *10:06:35.5±2.5, 69.°05N±0.°03×146.°82W±0.°04, h10km±2km, Error ellipse: s-maj=5.7km s-min=3.0km az=160.0*
AEIC 09 10:06:34.7±2.5, 69.°02N±0.°03×146.°81W±0.°07, h8km±6km, ML2.5, Error ellipse: s-maj=3.9km s-min=3.4km az=175.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
D25K	**Kavik River**	**0.34**	**27**		Pg	10 06 40.3	-1.1
D25K					Sg	10 06 44.6	-1.3
D24K	**Happy Valley**	**0.73**	**281**		Pg	10 06 48.6	-0.3
C24K	**Franklin Bluff**	**0.97**	**317**		Pg	10 06 53.2	-0.1
C24K					Sn	10 07 08.4	0.0
E25K	**Arctic Village**	**1.01**	**153**		Pb	10 06 54.4	-0.1
E25K					Sb	10 07 08.5	+0.6
TOLK	**Toolik Lake Re**	**1.07**	**250**		Pg	10 06 55.1	-0.1
TOLK	**Toolik Lake Re**	**1.07**	**250**		Sn	10 07 11.8	+0.7
C26K	**Camden Bay**	**1.12**	**36**		Pb	10 06 56.2	0.0
C26K					Sn	10 07 13.1	+0.9
E24K	**Your Creek**	**1.13**	**214**		Pg	10 06 56.0	-0.5
C27K	**Jago River**	**1.26**	**60**		Pn	10 06 57.4	-1.1
C27K					Sn	10 07 15.7	+0.2
D23K	**Nanushuk River**	**1.40**	**269**		Pg	10 07 02.1	+0.7
E23K	**Chandalar**	**1.42**	**228**		Pb	10 07 01.3	0.0
F25K	**Christian Rive**	**1.50**	**163**		Pg	10 07 03.6	+0.2
F24K	**Squaw Lake**	**1.56**	**195**		Pb	10 07 03.6	-0.2
C23K	**Itkillik River**	**1.57**	**303**		Pb	10 07 04.2	+0.3
F26K	**Sheenjek River**	**1.66**	**142**		Pb	10 07 05.6	+0.2
BMAR	**Burnt Mountain**	**1.80**	**152**		Pb	10 07 08.0	+0.1
E27K	**Coleen River**	**2.09**	**111**		Pb	10 07 11.9	-0.8
D27M	**Malcolm River**	**2.10**	**81**		Pb	10 07 12.0	-1.1
COLD	**Coldfoot**	**2.21**	**217**		Pn	10 07 12.6	+1.1
FYU	**Fort Yukon**	**2.54**	**166**	Pn	Pn	10 07 15.4	-0.7
PRP	**Porcupine Dome**	**3.56**	**171**	Pn	Pn	10 07 30.3	+0.1
IMAR	**Indian Mountai**	**4.05**	**224**	Pn	Pn	10 07 38.0	+1.2
IL31		**4.27**	**180**	Pn	Pn	10 07 40.7	+0.9
MLY	**Manley**	**4.29**	**203**	Pn	Pn	10 07 38.9	-1.3
CCB	**Clear Creek Bu**	**4.41**	**186**	Pn	Pn	10 07 43.2	+1.5
WRH	**Wood River Hil**	**4.60**	**187**	Pn	Pn	10 07 46.0	+1.7
HDA	**Harding Lake**	**4.63**	**181**	Pn	Pn	10 07 46.2	+1.4
EGAK	**Eagle**	**4.81**	**150**	Pn	Pn	10 07 48.0	+0.8
INK	**Inuvik**	**4.90**	**92**	Pn	Pn	10 07 49.8	+1.3
SCRK	**Sand Creek**	**5.19**	**166**	Pn	Pn	10 07 51.8	-0.8
BPAW	**Bear Paw Mtn.**	**5.22**	**201**	Pn	Pn	10 07 52.9	0.0
RIDG	**Independent Ri**	**5.36**	**171**	Pn	Pn	10 07 56.7	+1.8
DOT	**Dot Lake**	**5.51**	**167**	Pn	Pn	10 07 58.7	+1.8
MENT	**Mentasta**	**6.24**	**167**	Pn	Pn	10 08 08.3	+1.4

AEIC ***09*** *10:07:28.9±2.6, 69.°01N±0.°03×146.°74W±0.°08, h7km±6km, ML3.1, ML3.2/28(NEIC), Mwr3.5/31(SLM), Error ellipse: s-maj=5.2km s-min=3.7km az=149.0*
NEIC ***09*** *10:07:30, 69.°10N×147.°17W, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.63; $M_{\theta\theta}$0.27; $M_{\phi\phi}$-0.91; $M_{r\theta}$0.79; $M_{\theta\phi}$-1.52; $M_{r\phi}$-0.46; Fault plane solution: $M_0$1.95000×10^{14} NP1:ϕ_s74.00000°, δ67.00000°, λ153.00000°. NP2:ϕ_s175.00000°, δ65.00000°, λ25.00000°. Principal axes: T 1.9484, Plg35.0000°, Azm34.0000°; N -0.0008, Plg55.0000°, Azm217.0000°; P -1.9476, Plg2.0000°, Azm125.0000°;*
IDC ***09*** *10:07:33.2±3.5, 68.°86N×146.°37W, h0km, mb2.9/1, mbtmp3.2/4, ML3.3/3 Error ellipse: s-maj=42.7km s-min=20.7km az=131.0*
ISC 09 10:07:29.4±1.3, 69.°04N±0.°03×146.°80W±0.°03, h3km±11km, n63, σ1s37/72, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
D25K	**Kavik River**	**0.32**	**28**		**Pg**	**10 07 35.4**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
D24K	**Happy Valley**	**0.73**	**280**		**Pg**	**10 07 43.7**	**+0.3**
D24K					**Sb**	**10 07 54.1**	**-1.2**
C24K	**Franklin Bluff**	**0.96**	**316**		**Pg**	**10 07 47.5**	**-0.2**
C24K					**Sb**	**10 08 01.3**	**-0.4**
E25K	**Arctic Village**	**1.03**	**153**		**Pg**	**10 07 49.0**	**0.0**
TOLK	**Toolik Lake Re**	**1.08**	**250**		**Pg**	**10 07 49.6**	**-0.5**
TOLK					**Sg**	**10 08 04.5**	**+0.4**
C26K	**Camden Bay**	**1.10**	**36**		**Pb**	**10 07 50.9**	**-0.2**
C26K					**Sn**	**10 08 06.9**	**-0.6**
E24K	**Your Creek**	**1.15**	**213**		**Pg**	**10 07 50.6**	**-0.8**
C27K	**Jago River**	**1.25**	**60**		**Pg**	**10 07 52.4**	**-0.8**
C27K					**Sn**	**10 08 11.7**	**+0.7**
D23K	**Nanushuk River**	**1.40**	**269**		**Pg**	**10 07 56.0**	**-0.2**
E23K	**Chandalar**	**1.43**	**228**		**Pb**	**10 07 55.8**	**-0.5**
E23K					**Sn**	**10 08 15.6**	**-0.1**
F25K	**Christian Rive**	**1.52**	**163**		**Pb**	**10 07 57.9**	**-0.2**
C23K	**Itkillik River**	**1.57**	**302**		**Pn**	**10 07 58.1**	**+0.1**
C23K					**Sg**	**10 08 20.2**	**+0.6**
F24K	**Squaw Lake**	**1.58**	**195**		**Pn**	**10 07 58.0**	**-0.3**
F26K	**Sheenjek River**	**1.67**	**143**		**Pn**	**10 07 59.4**	**-0.1**
BMAR	**Burnt Mountain**	**1.82**	**152**	Pn	**Pn**	**10 08 02.2**	**+0.6**
E27K	**Coleen River**	**2.09**	**112**		**Pn**	**10 08 06.0**	**+0.7**
D27M	**Malcolm River**	**2.10**	**82**		**Pn**	**10 08 06.5**	**+1.0**
D22K	**Ayikyak River**	**2.13**	**268**		**Pn**	**10 08 06.4**	**+0.5**
COLD	**Coldfoot**	**2.22**	**217**	Pn	**Pn**	**10 08 08.4**	**+1.3**
COLD				IAML		10 08 47.9	
	comp=E,121nm,0.8s						
G25K	**Bearman Lake**	**2.30**	**173**		**Pn**	**10 08 09.2**	**+1.1**
G24K	**Hadweenzic Riv**	**2.37**	**187**		**Pn**	**10 08 09.9**	**+0.9**
G26K	**Porcupine Rive**	**2.39**	**150**		**Pn**	**10 08 10.3**	**+1.0**
F22K	**John River**	**2.52**	**235**		**Pn**	**10 08 12.3**	**+1.0**
FYU	**Fort Yukon**	**2.56**	**166**	Pn	**Pn**	**10 08 12.4**	**+0.7**
FYU				IAML		10 08 57.5	
	comp=E,111nm,0.6s						
FYU				IAML		10 08 58.9	
	comp=N,126nm,1.2s						
B22K	**Teshekpuk Lake**	**2.65**	**303**		**Pn**	**10 08 14.4**	**+1.4**
E28M	**Babbage River**	**2.67**	**96**		**Pn**	**10 08 14.4**	**+1.1**
D28M	**Stokes Point**	**2.90**	**80**		**Pn**	**10 08 17.5**	**+1.2**
E29M	**Blow River**	**3.31**	**97**		**Pn**	**10 08 23.4**	**+1.3**
PRP	**Porcupine Dome**	**3.57**	**171**		**Pn**	**10 08 27.0**	**+1.2**
PRP				IAML		10 09 33.9	
	comp=E,43nm,0.7s						
IMAR	**Indian Mountai**	**4.07**	**224**		**Pn**	**10 08 33.1**	**+0.7**
COLA	**College**	**4.21**	**186**		**Pn**	**10 08 35.6**	**+1.3**
IL31		**4.29**	**180**		**Pn**	**10 08 37.0**	**+1.5**
ILAR	**Eielson Array**	**4.29**	**180**		**Pn**	**10 08 38.0**	**+2.5**
ILAR	**Eielson Array**	**4.29**	**180**	Pn	**Pn**	**10 08 36.9**	**+1.4**
	comp=E,0.6nm,0.3s,baz=360,slow=14,SNR=19						
ILAR				Sn	**Sn**	**10 09 23.4**	**-2.5**
	comp=E,0.9nm,0.3s,baz=3.0,slow=19,SNR=5.8						
ILAR				Lg	Lg	10 09 41.7	
	comp=E,2.0nm,0.3s,baz=1.9,slow=31,SNR=7.5						
	comp=E,2.1nm,0.6s						
MLY	**Manley**	**4.31**	**203**		**Pn**	**10 08 37.3**	**+1.5**
F30M	**Barrier River**	**4.33**	**104**		**Pn**	**10 08 37.1**	**+1.1**
NEA2	**Nenana**	**4.56**	**192**		**Pn**	**10 08 39.8**	**+0.7**
NEA2				IAML		10 10 05.7	
	comp=E,20nm,1.2s						
C19K	**Lookout Ridge**	**4.59**	**277**		**Pn**	**10 08 39.6**	**0.0**
WRH	**Wood River Hil**	**4.62**	**187**		**Pn**	**10 08 41.0**	**+1.1**
WRH				IAML		10 10 04.3	
	comp=E,18nm,1.2s						
HDA	**Harding Lake**	**4.65**	**181**		**Pn**	**10 08 41.9**	**+1.5**
HDA				IAML		10 10 04.8	
	comp=N,24nm,0.7s						
HDA				IAML		10 10 05.1	
	comp=E,23nm,0.8s						
F19K	**Shaleruckik Mo**	**4.69**	**247**		**Pn**	**10 08 42.8**	**+1.8**
EGAK	**Eagle**	**4.82**	**150**	Pn	**Pn**	**10 08 43.9**	**+1.1**
EGAK				IAML		10 09 43.4	
	comp=E,19nm,0.6s						
EGAK				IAML		10 10 13.9	
	comp=E,22nm,0.9s						
INK	**Inuvik**	**4.90**	**92**	Pn	**Pn**	**10 08 44.9**	**+1.0**
	comp=E,0.7nm,0.3s,baz=276,slow=10,SNR=22						
INK				Sn	**Sn**	**10 09 39.5**	**-1.5**
	comp=E,1.0nm,0.3s,baz=154,slow=30,SNR=5.1						
	comp=E,4.7nm,0.6s						
BWN	**Browne**	**5.00**	**194**		**Pn**	**10 08 46.3**	**+1.0**
G31M	**Satah River**	**5.17**	**108**		**Pn**	**10 08 48.6**	**+1.1**
SCRK	**Sand Creek**	**5.21**	**166**		**Pn**	**10 08 50.0**	**+1.8**
BPAW	**Bear Paw Mtn.**	**5.24**	**201**		**Pn**	**10 08 49.7**	**+1.2**
BPAW				IAML		10 10 22.6	
	comp=E,12nm,1.2s						
BPAW				IAML		10 10 28.6	
	comp=N,13nm,0.8s						
RIDG	**Independent Ri**	**5.38**	**171**		**Pn**	**10 08 52.6**	**+2.0**
MCK	**McKinley**	**5.40**	**190**		**Pn**	**10 08 52.4**	**+1.6**
MCK				IAML		10 09 54.9	
	comp=N,14nm,0.8s						
MCK				IAML		10 09 55.3	
	comp=E,13nm,0.8s						
DOT	**Dot Lake**	**5.53**	**167**		**Pn**	**10 08 54.1**	**+1.6**
TRF	**Thorofare Moun**	**5.79**	**196**		**Pn**	**10 08 57.6**	**+1.4**
DAWY	**Dawson**	**5.80**	**146**		**Pn**	**10 08 58.4**	**+2.1**
C17K	**DeLong Mountai**	**5.98**	**272**		**Pn**	**10 08 57.9**	**-0.7**
DHY	**Denali Highway**	**6.00**	**183**		**Pn**	**10 09 01.2**	**+2.2**
PAX	**Paxson**	**6.12**	**174**		**Pn**	**10 09 03.4**	**+2.5**
SCAR	**Beaver Creek A**	**6.34**	**159**		**Pn**	**10 09 04.9**	**+1.3**
PPLA	**Purkeypile**	**6.55**	**202**	Pn	**Pn**	**10 09 08.7**	**+2.1**
SCM	**Sheep Creek Mo**	**7.24**	**182**	Pn	**Pn**	**10 09 19.0**	**+3.0**
SKT	**Skwentna**	**7.36**	**198**	Pn	**Pn**	**10 09 18.7**	**+1.1**
SUA	**Susitna One**	**7.79**	**194**	Pn	**Pn**	**10 09 26.3**	**+2.8**
LOGN	**Logan Glacier**	**8.60**	**161**	Pn	**Pn**	**10 09 37.4**	**+2.6**
YKA	**Yellowknife Ar**	**14.59**	**101**	Pn	**Pn**	**10 10 54.4**	**-2.1**
	comp=E,0.3nm,0.3s,baz=316,slow=12,SNR=5.6						
	comp=E,1.2nm,0.8s						
TXAR	**Lajitas Array**	**46.84**	**125**	P	**P**	**10 16 02.0**	**+1.7**
	comp=E,0.1nm,0.7s,baz=1.0,slow=6.6,SNR=3.4						
	comp=E,0.1nm,0.7s						

IDC ***09*** *10:08:56.3±6.0, 36.°26N×71.°01E, h117km±54km, mb3.5/7, mbtmp3.8/12, Error ellipse: s-maj=39.6km s-min=19.9km az=22.0*
NNC ***09*** *10:09:00.6±7.6, 36.°90N×70.°77E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=61.1km s-min=51.3km az=161.0*
ISC 09 10:09:04.4±1.1, 36.°73N±0.°09×71.°02E±0.°10, h188km, n21, σ1s37/26, mb3.4/5, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**6.12

0.5nm,0.6s,baz=85,slow=7.1,SNR=4.1
0.5nm,0.6s
HFS Hagfors 42.90 322 P **P** **10 16 46.0 +2.0**
1.5nm,0.4s,baz=99,slow=9.2,SNR=7.1
1.5nm,0.4s
NB2 NORSAR Subarra 44.21 323 P **P** **10 16 56.4 +1.9**
comp=Z,0.6nm,0.3s,baz=99,slow=7.9
NOA NORSAR Array B 44.21 323 P **P** **10 16 56.3 +1.8**
comp=Z,0.7nm,0.4s,baz=97,slow=7.7,SNR=5.9
comp=Z,0.7nm,0.4s
TORD Torodi Ar. Bea 65.74 269 P **P** **10 19 28.4 -0.9**
comp=Z,0.8nm,0.6s,baz=46,slow=6.2,SNR=9.0
comp=Z,0.8nm,0.6s
WRA Warramunga Arr 82.10 122 P **P** **10 21 02.6 -1.4**
comp=Z,0.4nm,0.7s,baz=314,slow=5.4,SNR=3.0
comp=Z,0.4nm,0.7s
ASAR Alice Springs 84.37 125 P **P** **10 21 14.3 -1.3**
comp=Z,0.4nm,0.6s,baz=312,slow=4.6,SNR=8.9
comp=Z,0.4nm,0.6s

IDC 09 10:13:25.3±1.9, 1°09N×124°15E, h0km, mb3.4/3, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=133.1km s-min=26.7km az=66.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.13**	**176**	P	P	10 17 50.1	0.0
	0.1nm,0.3s,baz=356,slow=11,SNR=2.1						
	1.9nm,1.0s						
WRA	**Warramunga Arr**	**23.17**	**155**	P	P	10 18 33.0	-0.7
	0.7nm,0.5s,baz=333,slow=10,SNR=9.1						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**26.38**	**160**	P	P	10 19 04.2	+0.6
	0.2nm,0.8s,baz=333,slow=9.6,SNR=4.0						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**58.31**	**327**	P	P	10 23 22.1	0.0
	0.3nm,0.5s,baz=118,slow=8.6,SNR=3.1						
	0.3nm,0.5s						

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*TEH **09** 10:18:17.4, 38°.77N×43°.85E, h10km±43km*
*ISN **09** 10:18:17.1±1.2, 38°.68N×43°.61E, h10km±633km, ML3.1*
*ISK **09** 10:18:18.7, 38°.29N×44°.40E, h5km, ML3.3/8*
*NSSP **09** 10:18:20.9, 38°.53N×44°.25E, h10km, Ms3.5*
*AFAD **09** 10:18:20.7, 38°.58N×44°.39E, h7km±3km, ML2.9*
*AZER **09** 10:18:23.2, 38°.56N×44°.19E, h5km, ml3.3*

ISC 09 10:18:22.7±1.1, 38°.51N±0°.02×44°.20E±0°.02, h5km±9km, n64, σ1°20/110, 1C-1D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OZAP	**Van, Ozalp-Mer**	**0.22**	**313**	P	**Pg**	**10 18 27.8**	**+0.7**
OZAP				S	**Sg**	**10 18 32.0**	**+1.9**
OZAP				*i* IAML		10 18 33.0	
	comp=N,7μm,0.3s						
OZAP				*i* IAML		10 18 33.0	
	comp=E,7μm,0.3s						
TVAN	**Van**	**0.62**	**272**	P	**Pg**	**10 18 35.1**	**+0.4**
TVAN				*i* IAML		10 18 57.0	
	comp=N,768nm,0.5s						
TVAN				*i* IAML		10 18 59.0	
	comp=E,830nm,1.0s						
VMUR	**Van-Muradiye**	**0.69**	**314**	P	**Pg**	**10 18 35.5**	**-0.4**
VMUR				S	**Sb**	**10 18 46.8**	**-0.4**
VMUR				*i* IAML		10 18 50.0	
	comp=E,499nm,0.4s						
VMUR				*i* IAML		10 18 51.0	
	comp=N,771nm,0.9s						
GEVA	**Gevas**	**0.92**	**258**	P	**Pg**	**10 18 39.8**	**-0.5**
GEVA				S	**Sb**	**10 18 55.0**	**+1.1**
GEVA				*i* IAML		10 19 01.0	
	comp=N,526nm,0.3s						
GEVA				*i* IAML		10 19 04.0	
	comp=E,609nm,0.5s						
YOVA	**Hakkari_Yksek**	**0.92**	**176**	P	**Pg**	**10 18 41.6**	**+1.2**
YOVA				*i* IAML		10 19 03.0	
	comp=E,229nm,1.0s						
YOVA				*i* IAML		10 19 06.0	
	comp=N,224nm,0.8s						
AKDM	**Akdamar-Van**	**0.98**	**260**	Pn	**Pg**	**10 18 41.2**	**-0.2**
AKDM				Sn	**Sn**	**10 18 57.6**	**0.0**
HAKT	**HAKKARI**	**1.03**	**203**	P	**Pg**	**10 18 42.4**	**0.0**
HAKT				S	**Sn**	**10 18 59.8**	**+0.9**
HAKT				*i* IAML		10 19 02.0	
	comp=E,511nm,0.6s						
HAKT				*i* IAML		10 19 05.0	
	comp=N,592nm,0.5s						
HAKT	**HAKKARI**	**1.03**	**203**	P	**Pb**	**10 18 43.8**	**+0.7**
HAKT				S	**Sn**	**10 18 59.4**	**+0.5**
DYDN	**Diyadin**	**1.11**	**339**	P	**Pg**	**10 18 41.4**	**-2.6**
DYDN				S	**Sg**	**10 18 56.7**	**-1.6**
DYDN				*i* IAML		10 19 01.0	
	comp=E,306nm,0.3s						
DYDN				*i* IAML		10 19 10.0	
	comp=N,307nm,0.9s						
ISHB	**Shabestar**	**1.13**	**101**	Pg	**Pg**	**10 18 43.4**	**-1.0**
IMRD	**Marand**	**1.19**	**80**	Pg	**Pb**	**10 18 45.3**	**-0.6**
ADCV	**BITLIS_Adilcev**	**1.20**	**285**	P	**Pb**	**10 18 45.5**	**-0.4**
ADCV				S	**Sn**	**10 19 04.8**	**+1.8**
ADCV				*i* IAML		10 19 06.0	
	comp=N,303nm,0.4s						
ADCV				*i* IAML		10 19 07.0	
	comp=E,408nm,0.6s						
NAX	**Nakhchivan**	**1.21**	**56**	P	**Pb**	**10 18 45.4**	**-0.7**
NAX				S	**Sn**	**10 19 02.6**	**-0.6**
HYR	**Heyderabad**	**1.31**	**22**	P	**Pn**	**10 18 47.5**	**-0.2**
HYR				S	**Sg**	**10 19 05.0**	**+0.1**
CUKT	**Cukurca**	**1.34**	**201**	Pn	Pn	10 18 43.1	-5.2
CUKT				Sn	**Sb**	**10 19 00.9**	**-5.1**
IGDI	**IGDIR**	**1.36**	**356**	P	**Pn**	**10 18 46.8**	**-1.7**
IGDI				S	**Sg**	**10 19 06.7**	**+0.3**
IGDI				*i* IAML		10 19 09.0	
	comp=N,216nm,0.5s						
IGDI				*i* IAML		10 19 10.0	
	comp=E,159nm,0.7s						
IGDI	**IGDIR**	**1.36**	**356**	P	**Pn**	**10 18 47.9**	**-0.6**
IGDI				S	**Sg**	**10 19 07.0**	**+0.5**
SBZ	**Shahbuz**	**1.38**	**49**	P	**Pn**	**10 18 48.4**	**-0.3**
SBZ				S	**Sg**	**10 19 07.4**	**+0.4**
AGRB	**Hanur-Agry**	**1.42**	**319**	Pn	**Pn**	**10 18 49.5**	**+0.1**
PERV	**Siirt/Pervari-**	**1.42**	**247**	P	**Pb**	**10 18 50.3**	**+0.5**
PERV				*i* IAML		10 19 19.0	
	comp=E,509nm,0.4s						
PERV				*i* IAML		10 19 20.0	
	comp=N,739nm,0.4s						
MLAZ	**Malazgirt-MUS**	**1.44**	**297**	Pn	**Pb**	**10 18 50.4**	**+0.3**
ORD	**Ordubad**	**1.46**	**73**	P	**Pn**	**10 18 49.7**	**-0.2**
ORD				S	**Sg**	**10 19 10.7**	**+1.0**
TASB	**TASBURUN-IGDIR**	**1.47**	**1**	Pn	**Pb**	**10 18 50.4**	**-0.2**
TASB				Sn	**Sg**	**10 19 13.9**	**+3.8**
KOTA	**Agri, Merkez-K**	**1.51**	**329**	P	**Pn**	**10 18 48.5**	**-2.1**
KOTA				*i* IAML		10 19 15.0	
	comp=E,41nm,0.5s						
KOTA				*i* IAML		10 19 17.0	
	comp=N,70nm,0.6s						
VAYK	**Vayk**	**1.52**	**38**	*i* P	**Pn**	**10 18 50.7**	**+0.1**
VAYK				*i* S	**Sb**	**10 19 11.4**	**+0.3**
ITBZ	**Tabriz**	**1.55**	**100**	Pn	**Pn**	**10 18 51.1**	**-0.1**
VNNZ	**Vanand**	**1.62**	**350**	*e*P	**Pb**	**10 18 53.2**	**+0.1**
VNNZ				*e*S	**Sg**	**10 19 16.0**	**+1.3**
IAZR	**Azarshahr**	**1.63**	**120**	Pn	**Pb**	**10 18 53.7**	**+0.3**
METS	**Metsamor**	**1.64**	**357**	*e*P	**Pb**	**10 18 53.2**	**-0.3**
METS				*e*S	**Sg**	**10 19 16.1**	**+0.7**
GNI	**Garni**	**1.69**	**14**	Pn	**Pn**	**10 18 53.2**	**+0.1**
GNI				Sn	**Sg**	**10 19 18.4**	**+1.3**
GNI	**Garni**	**1.69**	**14**	*i* P	**Pb**	**10 18 53.8**	**-0.6**
GNI				*i* S	**Sg**	**10 19 16.6**	**-0.4**
GURO	**Guroymak-BITLI**	**1.70**	**272**	Pn	**Pn**	**10 18 53.4**	**+0.2**
ARUZ	**Aruch**	**1.77**	**357**	*e*P	**Pb**	**10 18 55.2**	**-0.5**
ARUZ				*e*S	**Sg**	**10 19 19.8**	**0.0**
KAPZ	**Kaputan**	**1.85**	**12**	*e*P	**Pn**	**10 18 56.1**	**+0.8**
KAPZ				*e*S	**Sb**	**10 19 20.9**	**+0.2**
AMBZ	**Amberd**	**1.88**	**1**	*e*P	**Pb**	**10 18 57.6**	**0.0**
AMBZ				*e*S	**Sg**	**10 19 23.5**	**+0.5**
EGVZ	**Egvard**	**1.96**	**68**	*e*P	**Pb**	**10 18 58.6**	**-0.4**
EGVZ				*e*S	**Sg**	**10 19 25.1**	**-0.7**
AYRK	**Ayrk**	**2.02**	**37**	*e*P	**Pb**	**10 18 59.8**	**-0.5**
AYRK				*e*S	**Sg**	**10 19 26.8**	**-0.9**
IHRS	**Heris**	**2.24**	**94**	Pn	**Pb**	**10 19 03.0**	**-0.7**
MSL	**Mosul**	**2.28**	**203**	*e*Pn	**Pn**	**10 18 58.0**	**-3.0**
MSL				*e*Sn	**Sn**	**10 19 29.0**	**-0.4**
KARS	**Kars**	**2.29**	**338**	Pn	Pn	10 18 52.7	-8.6
SVAN	**Silvan-Diyarba**	**2.39**	**262**	Pn	**Pn**	**10 19 02.5**	**-0.1**
GDB	**GEDABAY**	**2.51**	**28**	P	**Pn**	**10 19 05.0**	**+0.6**
GDB				S	**Sb**	**10 19 37.4**	**-2.4**
LSVT	**Lusahovit**	**2.52**	**17**	*e*P	**Pb**	**10 19 09.2**	**+0.7**
LSVT				*e*S	**Sg**	**10 19 44.5**	**+0.8**
SRTK	**Saratovka**	**2.56**	**2**	*e*P	**Pb**	**10 19 08.8**	**-0.3**
SRTK				*e*S	**Sg**	**10 19 43.4**	**-1.4**
QRD	**Qoradiz**	**2.61**	**68**	P	**Pn**	**10 19 06.6**	**+1.0**
QRD				S	**Sn**	**10 19 39.8**	**+2.1**
GANJ	**Ganja**	**2.69**	**37**	P	**Pn**	**10 19 07.2**	**+0.5**
GANJ				S	**Sn**	**10 19 41.6**	**+1.9**
QZX	**Qazax, Azerbai**	**2.70**	**19**	P	**Pn**	**10 19 06.6**	**-0.2**
QZX				S	**Sn**	**10 19 41.2**	**+1.2**
AGDM	**Agdam**	**2.76**	**54**	P	**Pn**	**10 19 08.2**	**+0.5**
AGDM				S	**Sn**	**10 19 42.9**	**+1.4**
ISRB	**Sarab**	**2.81**	**103**	Pn	**Pb**	**10 19 12.0**	**-1.6**
BLQ	**Beylaqan**	**2.88**	**64**	P	**Pn**	**10 19 09.9**	**+0.6**
BLQ				S	**Sn**	**10 19 46.2**	**+1.9**
GRMI	**Germi**	**2.91**	**83**	Pn	**Pn**	**10 19 09.8**	**+0.1**
IKRK	**Kirkuk**	**3.10**	**178**	*e*Pn	**Pn**	**10 19 13.0**	**+0.6**
IKRK				*e*Sn	**Sn**	**10 19 52.0**	**+2.1**
MNGR	**Mingechevir, A**	**3.17**	**44**	P	**Pn**	**10 19 13.8**	**+0.5**
MNGR				S	**Sn**	**10 19 52.5**	**+1.0**
YRD	**Yardimli**	**3.19**	**81**	P	**Pn**	**10 19 14.9**	**+1.3**
YRD				S	**Sn**	**10 19 54.4**	**+2.3**
LRK	**Lerik**	**3.25**	**86**	P	**Pn**	**10 19 15.3**	**+0.8**
LRK				S	**Sn**	**10 19 55.4**	**+1.8**
GLBA	**Clilabad**	**3.35**	**76**	P	**Pn**	**10 19 16.9**	**+1.2**
GLBA				S	**Sn**	**10 19 56.8**	**+0.9**
SEKA	**Sheki**	**3.55**	**40**	P	**Pn**	**10 19 19.2**	**+0.7**
SEKA				S	**Sn**	**10 20 02.2**	**+1.3**
LKRN	**Lenkeran, Azer**	**3.59**	**85**	P	**Pn**	**10 19 20.1**	**+1.0**
LKRN				S	**Sn**	**10 20 03.0**	**+1.1**
ASTR	**Astara**	**3.60**	**88**	P	**Pn**	**10 19 20.4**	**+1.2**
ASTR				S	**Sn**	**10 20 03.9**	**+1.8**
KDMR	**Kurdemir**	**3.60**	**58**	P	**Pn**	**10 19 20.1**	**+0.9**
KDMR				S	**Sn**	**10 20 02.6**	**+0.5**
ZKTA	**Zakatala**	**3.64**	**30**	P	**Pn**	**10 19 20.3**	**+0.7**
ZKTA				S	**Sn**	**10 20 03.9**	**+0.9**
XNQ	**Khinaliq**	**4.03**	**47**	P	**Pn**	**10 19 24.8**	**-0.5**
XNQ				S	**Sn**	**10 20 13.7**	**+0.6**
PQL	**Pirkuli**	**4.08**	**55**	P	**Pn**	**10 19 25.4**	**-0.5**
PQL				*S*	**Sn**	**10 20 14.9**	**+0.6**
BHD	**Baghdad**	**5.23**	**178**	*e*Pn	**Pn**	**10 19 41.0**	**-0.5**
BHD				*e*Sn	**Sn**	**10 20 43.0**	**+0.8**
BHD				AML	AML	10 21 19.5	
	comp=E,24nm,0.7s						

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*IDC **09** 10:24:04.1±1.6, 9°.76S×118°.61E, h0km, mb3.5/3, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=89.7km s-min=27.0km az=53.0*
*DJA **09** 10:24:10.7±0.4, 10°.5±2°.1×11°.9E±°, h10km±3km, M4.2/17, mb4.1/3, MLv4.2/17*

ISC 09 10:24:09.8±0.7, 9°.92S±0°.05×118°.85E±0°.03, h33km, n22, σ3°01/34, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.60**	**63**	P	**Pn**	**10 24 22.1**	**0.0**
WBSI				S	**Sn**	**10 24 29.9**	**-0.8**
WSI	**Waingapu**	**1.45**	**80**	P	**Pb**	**10 24 35.9**	**-0.3**
WSI				S	**Sb**	**10 24 55.1**	**+0.8**
PLAI	**Plampang**	**1.52**	**316**	P	**Pn**	**10 24 34.3**	**-0.4**
PLAI				S	**Sb**	**10 24 53.2**	**-3.1**
BASI	**Baing, Sumba**	**1.73**	**100**	P	**Pb**	**10 24 41.6**	**+0.7**
BASI				S	**Sb**	**10 25 04.9**	**+2.6**
TWSI	**Taliwang, Sumb**	**2.27**	**301**	P	**Pn**	**10 24 45.7**	**+0.7**
EDFI	**Ende, Flores**	**3.04**	**68**	P	**Pn**	**10 24 57.8**	**+2.1**
EDFI				S	**Sn**	**10 25 34.4**	**+3.5**
SRBI	**Singaraja**	**4.03**	**297**	P	**Pn**	**10 25 11.6**	**+2.4**
SRBI				S	**Sn**	**10 25 58.2**	**+2.9**
BSSI	**Bau Bau, Buton**	**4.09**	**24**	P	**Pn**	**10 25 11.1**	**+1.0**
BSSI				S	**Sn**	**10 25 57.1**	**+0.2**
BKSI	**Bulukumba**	**4.74**	**16**	P	**Pn**	**10 25 19.4**	**+0.4**
BKSI				S	**Sn**	**10 26 12.8**	**-0.1**
BATI	**Baumata**	**4.75**	**94**	P	**Pn**	**10 25 22.9**	**+3.7**
BATI				S	**Sn**	**10 26 18.7**	**+5.6**
JAGI	**Jajag, Banyuwa**	**4.86**	**287**	P	**Pn**	**10 25 23.4**	**+2.8**
JAGI				S	**Sn**	**10 26 18.7**	**+2.9**
ABJI	**Asem Bagus**	**5.03**	**294**	P	**Pn**	**10 25 24.9**	**+2.0**
ABJI				S	**Sn**	**10 26 23.6**	**+3.7**
GMJI	**Gumukmas**	**5.58**	**287**	P	**Pn**	**10 25 32.8**	**+2.2**
	0.1nm26nm,1.2s						
BNSI	**Bone**	**5.62**	**13**	P	**Pn**	**10 25 31.0**	**-0.2**
	0.1nm26nm,1.1s						
BNSI				S	**Sn**	**10 26 35.2**	**+0.5**
	0.1nm26nm,1.1s						
FITZ	**Fitzroy Crossi**	**10.46**	**142**	Pn	**Pn**	**10 26 38.5**	**+0.9**
	0.8nm,0.3s,baz=327,slow=10.0,SNR=16						
FITZ				Sn	**Sn**	**10 28 28.2**	**-5.5**
	0.3nm,0.3s,baz=169,slow=11,SNR=5.4						
	3.3nm,0.6s						
WRA	**Warramunga Arr**	**17.96**	**125**	P	**P**	**10 28 19.2**	**+1.8**
	0.1nm,0.3s,baz=297,slow=13,SNR=3.9						
WRA				S	**Sn**	**10 31 28.8**	**-7.9**
	0.4nm,0.7s,baz=302,slow=23,SNR=1.9						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**19.84**	**135**	P	**Pn**	**10 28 40.0**	**+0.2**
	1.3nm,0.7s,baz=311,slow=9.7,SNR=14						
ASAR				S	**S**	**10 32 13.2**	**-6.6**
	0.6nm,0.8s,baz=310,slow=23,SNR=4.7						
	1.3nm,0.7s						
H08S2	**Diego Garcia H**	**45.84**	**269**	T	T	11 21 40.2	
	baz=96,slow=75,SNR=42						
H08S3	**Diego Garcia H**	**45.85**	**269**	T	T	11 21 41.3	
	baz=96,slow=75,SNR=71						
H08S1	**Diego Carcia H**	**45.86**	**269**	T	T	11 21 42.6	
	baz=96,slow=75,SNR=24						
MKAR	**Makanchi Array**	**65.21**	**333**	P	**P**	**10 34 45.6**	**-2.4**
	0.3nm,0.5s,baz=124,slow=6.0,SNR=2.7						
	0.3nm,0.5s						
VNDA	**Vanda**	**71.11**	**171**	P	**P**	**10 35 25.2**	**+0.7**
	0.6nm,1.0s,baz=343,slow=4.6,SNR=2.2						
	0.6nm,1.0s						

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*IDC **09** 10:25:38.2±4.2, 17°.60S×178°.77W, h494km±52km, mb3.4/10, mbtmp4.2/11, Error ellipse: s-maj=31.2km s-min=20.1km az=170.0*
*NEIC **09** 10:25:41.4±1.2, 17°.7S±0°.1×178°.6W±0°.2, h544km±9km, mb4.3/32, Error ellipse: s-maj=23.3km s-min=15.8km az=124.0*

ISC 09 10:25:41.8±0.5, 17°.73S±0°.09×178°.71W±0°.10, h547km, n52, σ1°29/52, mb4.2/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.08**	**269**	P	**P**	**10 26 57.8**	**+0.6**
FUTU	**Fugatoga**	**3.45**	**10**	P	**P**	**10 26 58.1**	**-1.5**
AFI	**Afiamalu**	**7.68**	**61**	P	**P**	**10 27 33.7**	**-2.7**
RAO	**Raoul Island**	**11.49**	**177**	P	**P**	**10 28 12.3**	**-2.6**
	179nm,0.3s,baz=305,slow=22,SNR=1.7						
DZM	**Mont Dzumac**	**14.61**	**250**	P	**P**	**10 28 44.3**	**-3.1**
	6.3nm,0.9s,baz=255,slow=22,SNR=1.7						
URZ	**Urewera**	**20.78**	**189**	P	**P**	**10 29 43.9**	**-1.0**
	3.2nm,0.4s,baz=112,slow=14,SNR=1.2						
	3.2nm,0.4s						
BKZ	**Black Stump Fm**	**21.77**	**190**	P	**P**	**10 29 52.6**	**-1.2**
BKZ				IAmb	IAmb	10 30 21.9	
	comp=Z,16nm,1.2s						
QRZ	**Quartz Range**	**24.23**	**196**	P	**P**	**10 30 15.7**	**0.0**
TUWZ	**Tuamarina**	**24.45**	**193**	P	**P**	**10 30 17.7**	**+0.1**
GVZ	**Greta Valley S**	**26.12**	**194**	P	**P**	**10 30 31.7**	**-0.6**
LBZ	**Lake Benmore**	**28.17**	**197**	P	**P**	**10 30 49.0**	**-1.3**
WKZ	**Wanaka**	**28.91**	**198**	P	**P**	**10 30 55.9**	**-0.9**
EIDS	**Eidsvold**	**29.06**	**250**	P	**P**	**10 30 58.1**	**-0.2**
EIDS				IAmb	IAmb	10 31 22.1	
	comp=Z,21nm,1.4s						
MLZ	**Mavora Lakes**	**29.67**	**199**	P	**P**	**10 31 04.0**	**+0.7**
ARMA	**Armidale**	**29.78**	**239**	P	**P**	**10 31 05.4**	**+0.7**
WHZ	**Wether Hill Ro**	**30.20**	**199**	P	**P**	**10 31 08.6**	**+0.7**
CTAO	**Charters Tower**	**33.19**	**260**	P	**P**	**10 31 33.4**	**-0.4**
CTAO				IAmb	IAmb	10 32 08.9	
	comp=Z,8.3nm,1.2s						
CAN	**Canberra**	**33.58**	**232**	P	**P**	**10 31 37.9**	**+1.0**
TOO	**Toolangi**	**37.06**	**230**	P	**P**	**10 32 06.9**	**+1.1**
TOO				IAmb	IAmb	10 32 10.0	
	comp=Z,3.8nm,0.8s						
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	**10 32 18.4**	**+1.1**
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	**10 32 18.1**	**+0.8**
	comp=Z,3.9nm,0.5s,baz=83,slow=10,SNR=11						
	comp=Z,3.9nm,0.5s						
INKA	**Innaminka**	**38.55**	**248**	P	**P**	**10 32 19.2**	**+1.2**
INKA				IAmb	IAmb	10 32 19.6	
	comp=Z,2.1nm,0.5s						
BBOO	**Buckleboo**	**43.24**	**241**	P	**P**	**10 32 55.9**	**+0.7**
BBOO				IAmb	IAmb	10 33 17.7	
	comp=Z,29nm,1.4s						
WR8	**Warramunga Arr**	**44.23**	**259**	P	**P**	**10 33 02.2**	**-0.9**
WR8				IAmb	IAmb	10 33 15.5	
	comp=Z,13nm,1.5s						
WB0	**Warramunga Arr**	**44.34**	**260**	P	**P**	**10 33 04.4**	**+0.5**
WB0				IAmb	IAmb	10 33 46.6	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**10 33 03.8**	**-0.5**
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**10 33 03.6**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=93,slow=7.2,SNR=11						
	comp=Z,1.1nm,0.5s						
AS31	**Alice Springs**	**44.56**	**254**	P	**P**	**10 33 05.8**	**+0.2**
AS31				IAmb	IAmb	10 33 06.3	
	comp=Z,3.7nm,0.6s						
ASAR	**Alice Springs**	**44.56**	**254**	P	**P**	**10 33 05.4**	**-0.2**
ASAR	**Alice Springs**	**44.56**	**254**	P	**P**	**10 33 05.8**	**+0.1**
	comp=Z,11nm,0.5s,baz=89,slow=7.9,SNR=217						
	comp=Z,11nm,0.5s						
KNRA	**Kununurra**	**50.22**	**264**	P	**P**	**10 33 45.7**	**-2.4**
KNRA				IAmb	IAmb	10 34 26.8	
	comp=Z,12nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.77**	**260**	P	**P**	**10 34 07.1**	**+0.7**
PSA00	**Pilbara Seismi**	**57.67**	**255**	P	**P**	**10 34 39.6**	**-1.0**
MBWA	**Marble Bar**	**57.84**	**256**	P	**P**	**10 34 41.7**	**0.0**
SBA	**Scott Base**	**60.58**	**183**	P	**P**	**10 35 02.5**	**+3.4**
CASY	**Casey**	**66.18**	**205**	P	**P**	**10 35 35.8**	**+0.8**
MJAR	**Matsushiro Arr**	**67.59**	**323**	P	**P**	**10 35 44.4**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=158,slow=6.7,SNR=2.3						
	comp=Z,0.7nm,0.4s						
AMKA	**Amchitka**	**68.83**	**359**	P	**P**	**10 35 50.8**	**-0.6**
KIWB	**Kanaga Island**	**69.30**	**1**	P	**P**	**10 35 54.2**	**+0.1**
KIWB				IAmb	IAmb	10 36 32.6	
	comp=Z,25nm,1.2s						
ADK	**Adak**	**69.34**	**1**	P	**P**	**10 35 54.2**	**-0.2**
ATKA	**Atka Island**	**69.74**	**3**	P	**P**	**10 35 56.8**	**0.0**
ATKA				IAmb	IAmb	10 36 38.2	
	comp=Z,36nm,1.3s						
QSPA	**South Pole Qui**	**72.33**	**180**	P	**P**	**10 36 12.3**	**+0.3**
PETK	**Petropavlovsk-**	**73.43**	**345**	P	**P**	**10 36 17.9**	**-0.4**
	comp=Z,5.5nm,1.0s,baz=126,slow=7.9,SNR=6.9						
	comp=Z,5.5nm,1.0s						
FARB	**Farallon Islan**	**76.02**	**42**	P	**P**	**10 36 31.6**	**-1.6**
TRF	**Thorofare Moun**	**83.90**	**12**	P	**P**	**10 37 14.0**	**0.0**
TRF				IAmb	IAmb	10 37 15.2	
	comp=Z,5.4nm,0.8s						
DHY	**Denali Highway**	**84.19**	**14**	P	**P**	**10 37 14.9**	**-0.6**
DHY				IAmb	IAmb	10 37 58.6	
	comp=Z,5.7nm,1.4s						
ILAR	**Eielson Array**	**85.78**	**13**	P	**P**	**10 37 22.9**	**0.0**
	comp=Z,0.5nm,0.4s,baz=224,slow=5.3,SNR=17						
	comp=Z,0.5nm,0.4s						
TXAR	**Lajitas Array**	**86.14**	**58**	P	**P**	**10 37 28.4**	**+2.8**
	comp=Z,0.7nm,0.7s,baz=217,slow=5.9,SNR=11						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**87.42**	**44**	P	**P**	**10 37 33.1**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=210,slow=4.1,SNR=6.9						
	comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**93.23**	**319**	P	**P**	**10 38 00.2**	**+2.1**
	comp=Z,0.3nm,0.4s,baz=129,slow=5.9,SNR=1.0						
	comp=Z,0.3nm,0.4s						
GERES	**GERESS Array B**	**147.36**	**345**	PKPbc	**PKPbc**	**10 44 22.8**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=18,slow=5.7,SNR=3.4						
DAVOX	**Davos/Dischmat**	**150.17**	**348**	PKPbc	**PKiKP**	**10 44 32.0**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=108,slow=6.4,SNR=2.9						

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*ISK **09** 10:34:07.8, 38°.32N×44°.39E, h5km, ML3.3/8*
*TEH **09** 10:34:08.7, 39°.04N×44°.38E, h9km±38km*
*NSSP **09** 10:34:10.7, 38°.53N×44°.23E, h10km, Ms3.5*
*AFAD **09** 10:34:10.0, 38°.57N×44°.31E, h10km±3km, ML3.2*
*AZER **09** 10:34:12.1, 38°.61N×44°.11E, h10km, ml3.5*

ISC 09 10:34:11.0±1.0, 38°.49N±0°.02×44°.21E±0°.02, h7km±9km, n65, σ1°77/111, 1C-1D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OZAP	**Van, Ozalp-Mer**	**0.24**	**315**	P	**Pg**	**10 34 15.9**	**0.0**
OZAP				S	**Sg**	**10 34 19.6**	**+0.4**
OZAP				*i* IAML		10 34 20.0	
	comp=E,8μm,0.7s						
OZAP				*i* IAML		10 34 23.0	
	comp=N,8μm,0.9s						
TVAN	**Van**	**0.63**	**274**	P	**Pg**	**10 34 23.3**	**0.0**
TVAN				S	**Sn**	**10 34 36.7**	**-0.5**
TVAN				*i* IAML		10 34 41.0	
	comp=N,812nm,0.5s						
TVAN				*i* IAML		10 34 50.0	
	comp=E,1μm,0.9s						
VMUR	**Van-Muradiye**	**0.71**	**315**	P	**Pg**	**10 34 24.0**	**

KOTA				*i* IAML			10 35 12.0		
	comp=E,99nm,1.6s								
KOTA				*i* IAML			10 35 20.0		
	comp=N,67nm,0.6s								
ITBZ	**Tabriz**	**1.54**	**99**	Pg	**Pg**		**10 34 39.9**	**-0.7**	
ITBZ				Sg	**Sg**		**10 35 02.8**	**+2.1**	
IAZR	**Azarshahr**	**1.61**	**120**	Pn	**Pg**		**10 34 43.0**	**+1.0**	
VNNZ	**Vanand**	**1.64**	**350**	*eP*	**Pb**		**10 34 41.8**	**+0.1**	
VNNZ				*eS*	**Sg**		**10 35 04.2**	**+0.4**	
METS	**Metsamor**	**1.66**	**357**	*eP*	**Pb**		**10 34 41.4**	**-0.7**	
METS				*eS*	**Sg**		**10 35 04.8**	**+0.4**	
GNI	**Garni**	**1.71**	**14**	Pn	**Pb**		**10 34 41.9**	**-1.0**	
GNI				Sn	**Sg**		**10 35 07.0**	**+1.0**	
GNI	**Garni**	**1.71**	**14**	*iP*	**Pb**		**10 34 42.8**	**-0.1**	
GNI				⇑*iS*	**Sg**		**10 35 07.1**	**+1.2**	
GURO	**Guroymak-BITLI**	**1.71**	**273**	Pn	**Pb**		**10 34 42.2**	**-0.7**	
GURO				Sn	**Sg**		**10 35 07.1**	**+1.1**	
ARUZ	**Aruch**	**1.79**	**357**	*eP*	**Pb**		**10 34 44.5**	**+0.2**	
ARUZ				*eS*	**Sg**		**10 35 09.2**	**+0.5**	
KAPZ	**Kaputan**	**1.87**	**12**	*eP*	**Pb**		**10 34 45.3**	**-0.3**	
KAPZ				*eS*	**Sg**		**10 35 10.6**	**-0.5**	
SRTM	**Siirt_Merkez**	**1.87**	**255**	P	**Pb**		**10 34 45.7**	**+0.1**	
SRTM				S	**Sg**		**10 35 13.5**	**+2.4**	
SRTM				*i* IAML			10 35 17.0		
	comp=N,401nm,0.7s								
SRTM				*i* IAML			10 35 19.0		
	comp=E,426nm,0.6s								
AMBZ	**Amberd**	**1.90**	**1**	*eP*	**Pb**		**10 34 45.5**	**-0.6**	
AMBZ				*eS*	**Sb**		**10 35 10.8**	**+0.6**	
EGVZ	**Egvard**	**1.96**	**67**	*eP*	**Pg**		**10 34 47.5**	**-1.1**	
EGVZ				*eS*	**Sg**		**10 35 14.1**	**0.0**	
AYRK	**Ayrk**	**2.03**	**36**	*eP*	**Pb**		**10 34 48.3**	**-0.1**	
AYRK				*eS*	**Sg**		**10 35 15.5**	**-0.9**	
MAHB	**Mahabad**	**2.09**	**145**	Pn	**Pg**		**10 34 51.7**	**+0.6**	
IHRS	**Heris**	**2.23**	**94**	Pn	**Pb**		**10 34 51.9**	**+0.1**	
KARS	**Kars**	**2.31**	**338**	Pn	Pn		10 34 42.9	-6.7	
KMOZ	**Kamo**	**2.34**	**355**	*eP*	**Pb**		**10 34 53.3**	**-0.4**	
KMOZ				*eS*	**Sb**		**10 35 24.1**	**+1.3**	
SVAN	**Silvan-Diyarba**	**2.39**	**263**	Pn	**Pn**		**10 34 51.5**	**+0.8**	
SENK	**Senkaya-Erzuru**	**2.52**	**326**	Pn	**Pb**		**10 34 54.6**	**-2.1**	
GDB	**GEDABAY**	**2.53**	**28**	P	**Pn**		**10 34 53.8**	**+0.6**	
GDB				S	**Sn**		**10 35 28.8**	**+0.9**	
QZX	**Qazax, Azerbai**	**2.72**	**19**	P	**Pn**		**10 34 55.0**	**-0.1**	
QZX				S	**Sn**		**10 35 29.5**	**+1.2**	
AGDM	**Agdam**	**2.77**	**53**	P	**Pn**		**10 34 56.6**	**+0.8**	
ISRB	**Sarab**	**2.80**	**103**	Pn	**Pb**		**10 35 00.5**	**-1.1**	
BLQ	**Beylaqan**	**2.88**	**64**	P	**Pn**		**10 34 59.0**	**+1.6**	
BLQ				S	**Sn**		**10 35 34.7**	**+2.4**	
KZRT	**Kazreti**	**2.90**	**3**	P	**Pb**		**10 35 01.5**	**-1.6**	
KZRT				S	**Sg**		**10 35 49.6**	**+5.5**	
TRLG	**Trialeti**	**3.05**	**358**	P	**Pb**		**10 35 05.9**	**+0.2**	
TRLG				S	**Sb**		**10 35 44.3**	**+1.1**	
DGRG	**David-gareji**	**3.09**	**16**	P	**Pg**		**10 35 08.3**	**-2.0**	
DGRG				S	**Sg**		**10 35 50.6**	**+0.4**	
YRD	**Yardimli**	**3.18**	**81**	P	**Pn**		**10 35 03.3**	**+1.6**	
YRD				S	**Sn**		**10 35 42.4**	**+2.4**	
VSHL	**Vashlovani**	**3.21**	**31**	P	**Pb**		**10 35 05.6**	**-2.8**	
LRK	**Lerik**	**3.24**	**86**	P	**Pn**		**10 35 04.6**	**+2.2**	
LRK				S	**Sn**		**10 35 43.6**	**+2.2**	
GLBA	**Clilabad**	**3.35**	**76**	P	**Pn**		**10 35 05.0**	**+1.2**	
GLBA				S	**Sn**		**10 35 46.9**	**+3.0**	
LKRN	**Lenkeran, Azer**	**3.59**	**85**	P	**Pn**		**10 35 09.2**	**+2.2**	
LKRN				S	**Sb**		**10 35 53.6**	**-4.8**	
ASTR	**Astara**	**3.59**	**87**	P	**Pn**		**10 35 08.3**	**+1.2**	
ASTR				S	**Sn**		**10 35 52.0**	**+2.2**	
XNQ	**Khinaliq**	**4.04**	**47**	P	**Pn**		**10 35 13.6**	**+0.1**	
XNQ				S	**Sn**		**10 36 03.3**	**+2.1**	
GARIG	**Gari**	**4.15**	**352**	P	**Pg**		**10 35 28.1**	**-2.4**	
IDHR	**Dehrash**	**4.17**	**155**	Pn	**Pb**		**10 35 21.0**	**-3.9**	

*IDC **09** 10:44:34.1±1.1,8°.92S×158°.36E,h0km,mb3.6/6, mbtmp3.6/6,Error ellipse: s-maj=34.2km s-min=19.4km az=1.0*

ISC 09 10:44:38.4±1.0,9°.0S±0°.2×158°.42E±0°.09,h29km,n7, σ1$48/8,mb3.4/6,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HNR	**Honiara**	**1.58**	**107**	Pn	**Pn**		**10 45 03.4**	**-1.0**
	52nm,0.3s,baz=226,slow=4.6,SNR=14							
HNR				Sn	**Sb**		**10 45 26.3**	**-0.1**
	160nm,0.3s,baz=235,slow=15,SNR=7.7							
WRA	**Warramunga Arr**	**25.70**	**242**	P	**P**		**10 50 05.5**	**-0.8**
	0.4nm,0.5s,baz=67,slow=9.5,SNR=5.1							
	0.4nm,0.5s							
ASAR	**Alice Springs**	**27.62**	**235**	P	**P**		**10 50 22.4**	**-1.2**
	0.3nm,0.9s,baz=70,slow=8.9,SNR=2.7							
	0.3nm,0.9s							
FITZ	**Fitzroy Crossi**	**33.08**	**251**	P	**P**		**10 51 10.8**	**-1.1**
	3.0nm,1.0s,baz=32,slow=9.5,SNR=2.5							
	3.0nm,1.0s							
QSPA	**South Pole Qui**	**81.01**	**180**	P	**P**		**10 56 52.9**	**+2.6**
	1.0nm,0.8s,baz=5.5,slow=1.1,SNR=6.7							
	1.0nm,0.8s							
ILAR	**Eielson Array**	**83.99**	**21**	P	**P**		**10 57 05.8**	**+0.2**
	0.2nm,0.7s,baz=247,slow=5.1,SNR=4.3							
	0.2nm,0.7s							
MKAR	**Makanchi Array**	**87.13**	**318**	P	**P**		**10 57 21.9**	**+0.2**
	0.1nm,0.5s,baz=102,slow=6.6,SNR=3.5							
	0.1nm,0.5s							

*TRN **09** 10:54:10.5, 11°.07N×62°.21W,h102km,MD4.2,North of the Paria peninsula.*
*FUNV **09** 10:54:12.5, 11°.18N×62°.26W,h76km,MW4.1*

ISC 09 10:54:09.0±1.7,11°.06N±0°.06×62°.22W±0°.07, h115km±16km,n26,σ1$71/45,1C,Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DMDM	**Guralp CMG5TDE**	**0.75**	**119**	*eP*	**Pn**		**10 54 29.1**	**+0.8**
DMDM				*eS*	**Sn**		**10 54 41.9**	**-1.0**
PSKH	**Kent House, Po**	**0.78**	**119**	*eP*	**Pn**		**10 54 29.5**	**+0.9**
PSKH				*eS*	**Sn**		**10 54 42.5**	**-0.9**
TRN	**Trinidad (W)**	**0.90**	**117**	⇑*iP*	**Pn**		**10 54 30.6**	**+0.9**
TRN				*eS*	**Sn**		**10 54 43.9**	**-1.4**
GRFF	**Grenada Fort F**	**1.09**	**26**	*eP*	**Pn**		**10 54 31.7**	**+0.1**
GRFF				*eS*	**Sn**		**10 54 48.0**	**-0.8**
GRGR	**Grenville**	**1.20**	**28**	*eP*	**Pn**		**10 54 32.8**	**-0.1**
GRGR				*eS*	**Sn**		**10 54 50.8**	**0.0**
GRW	**Mount Saint Ca**	**1.22**	**27**	*eP*	**Pn**		**10 54 34.1**	**+1.0**
GRW				*eS*	**Sn**		**10 54 51.1**	**+0.2**
GRHS	**Sauteurs**	**1.29**	**26**	*eP*	**Pn**		**10 54 33.7**	**-0.1**
GRHS				*eS*	**Sn**		**10 54 51.4**	**-1.1**
GRSS	**Sisters**	**1.37**	**26**	*eP*	**Pn**		**10 54 34.6**	**-0.1**
GRSS				*eS*	**Sn**		**10 54 53.6**	**-0.5**
GCMP	**Grenada, Carri**	**1.62**	**29**	*eP*	**Pn**		**10 54 37.4**	**-0.2**
GCMP				*eS*	**Sn**		**10 54 57.9**	**-1.4**
SVB	**Belmont**	**2.39**	**23**	*eP*	**Pn**		**10 54 48.1**	**+0.8**
SVB				*eS*	**Sn**		**10 55 16.2**	**-0.5**
PCRV	**Puerto La Cruz**	**2.53**	**250**	*eP*	**Pn**		**10 54 50.7**	**+1.6**
PCRV				*eS*	**Sn**		**10 55 18.3**	**-1.6**
PCRV	**Puerto La Cruz**	**2.53**	**250**	*eP*	**Pn**		**10 54 51.2**	**+2.1**
PCRV				*eS*	**Sn**		**10 55 20.1**	**+0.2**
SLBI	**Saint Lucia, B**	**3.19**	**22**	*eP*	**Pn**		**10 54 57.6**	**-0.1**
SLBI				*eS*	**Sn**		**10 55 34.0**	**-1.2**
BBGH	**Gun Hill**	**3.33**	**51**	*eP*	**Pn**		**10 55 00.8**	**+1.2**
BBGH				*eS*	**Sn**		**10 55 38.2**	**-0.3**
BIM	**Bigot**	**3.62**	**18**	*eP*	**Pn**		**10 55 03.2**	**-0.2**
BIM				*eS*	**Sn**		**10 55 42.8**	**-2.6**
SVN	**Savane Anatole**	**3.90**	**15**	*eP*	**Pn**		**10 55 08.3**	**+1.2**
ILAM	**Ilet Lapin Mar**	**3.92**	**19**	*eP*	**Pn**		**10 55 07.5**	**+0.1**
DSLB	**Salisbury**	**4.42**	**10**	*eP*	**Pn**		**10 55 17.3**	**+3.1**
FUNV	**FUNVISIS**	**4.55**	**263**	*eP*	**Pn**		**10 55 17.8**	**+1.9**
FUNV				*eS*	**Sn**		**10 56 05.9**	**-2.0**
TACV	**Tcata**	**4.81**	**259**	*eP*	**Pn**		**10 55 20.8**	**+1.3**
TACV				*eS*	**Sn**		**10 56 11.6**	**-2.7**
ATGZ	**Broadband at L**	**5.03**	**5**	*eP*	**Pn**		**10 55 24.7**	**+2.4**
BENV	**Beln**	**5.40**	**259**	*eP*	**Pn**		**10 55 28.9**	**+1.5**
BENV				*eS*	**Sn**		**10 56 25.0**	**-3.5**
CACV	**CAICARA DEL OR**	**5.50**	**231**	*eS*	Sn		10 56 20.9	-10
BAUV	**El Baul**	**6.11**	**250**	*eP*	**Pn**		**10 55 37.8**	**+0.9**
BAUV				*eS*	**Sn**		**10 56 42.1**	**-3.4**
BAUV	**El Baul**	**6.11**	**250**	*eP*	**Pn**		**10 55 36.9**	**0.0**
BAUV				*eS*	**Sn**		**10 56 43.0**	**-2.5**
ANWB	**Willy Bob**	**6.58**	**4**	*eP*	**Pn**		**10 55 48.0**	**+4.6**

*IDC **09** 10:54:08.8±1.1,58°.51S×148°.84E,h0km,mb4.0/6, mbtmp3.9/7,ML3.1/1,MS3.9/2,Error ellipse: s-maj=77.3km s-min=17.2km az=80.0*

ISC 09 10:54:10.4±1.0,58°.5S±0°.1×148°.6E±0°.5,h10km,n22, σ1$47/15,mb3.9/6,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
VNDA	**Vanda**	**19.60**	**171**	P	**P**		**10 58 37.0**	**-1.3**
	0.1nm,0.3s,baz=345,slow=12,SNR=4.6							
	0.9nm,0.9s							
STKA	**Stephens Creek**	**27.08**	**347**	P	**P**		**10 59 53.7**	**+0.8**
	0.9nm,0.5s,baz=168,slow=13,SNR=3.1							
	0.9nm,0.5s							
URZ	**Urewera**	**27.37**	**55**	LR	LR		11 08 38.7	
	comp=Z,111nm,18.7s,baz=218,slow=32							
QSPA	**South Pole Qui**	**31.57**	**180**	P	**P**		**11 00 33.0**	**+0.2**
	1.6nm,0.9s,baz=9.2,slow=3.0,SNR=5.1							
QSPA				PcP	**PcP**		**11 03 26.1**	**+1.4**
	0.9nm,1.0s,baz=13,slow=2.6,SNR=5.3							
QSPA				ScP	**ScP**		**11 07 11.1**	**+3.5**
	0.7nm,0.7s,baz=305,slow=0.6,SNR=5.4							
	1.6nm,0.9s							
H01W1	**Cape Leeuwin H**	**32.83**	**301**	T	T		11 35 35.5	
	baz=146,slow=75,SNR=426							
H01W2	**Cape Leeuwin H**	**32.84**	**301**	T	T		11 35 35.8	
	baz=146,slow=75,SNR=562							
H01W3	**Cape Leeuwin H**	**32.85**	**301**	T	T		11 35 38.3	
	baz=146,slow=75,SNR=584							
ASAR	**Alice Springs**	**36.39**	**337**	P	**P**		**11 01 15.5**	**+0.8**
	1.3nm,0.7s,baz=164,slow=9.6,SNR=13							
ASAR				PcP	**PcP**		**11 03 38.5**	**-0.4**
	0.3nm,0.5s,baz=159,slow=3.5,SNR=6.9							
	1.3nm,0.7s							
WRA	**Warramunga Arr**	**39.92**	**339**	P	**P**		**11 01 44.9**	**+0.4**
	1.7nm,0.8s,baz=165,slow=7.0,SNR=6.2							
WRA				PcP	**PcP**		**11 03 48.6**	**-1.3**
	0.4nm,0.8s,baz=156,slow=2.6,SNR=1.7							
	1.7nm,0.8s							
SNAA	**Sanae**	**48.57**	**192**	P	**P**		**11 02 54.1**	**+0.9**
	1.5nm,0.7s,baz=223,slow=10.0,SNR=11							
	1.5nm,0.7s							
H04S2	**CROZET ISLANDS**	**54.77**	**237**	T	T		12 03 57.5	
	baz=140,slow=75,SNR=88							
H04S1	**CROZET ISLANDS**	**54.77**	**237**	T	T		12 03 57.3	
	baz=140,slow=75,SNR=123							
H04S3	**CROZET ISLANDS**	**54.79**	**237**	T	T		12 03 56.0	
	baz=140,slow=75,SNR=137							
H08S2	**Diego Garcia H**	**76.29**	**278**	T	T		12 29 55.9	
	baz=148,slow=76,SNR=58							
H08S1	**Diego Garcia H**	**76.30**	**278**	T	T		12 29 58.1	
	baz=148,slow=76,SNR=49							
H08S3	**Diego Garcia H**	**76.31**	**278**	T	T		12 29 59.4	
	baz=148,slow=76,SNR=76							
CMAR	**Chiang Mai Arr**	**86.89**	**314**	P	**P**		**11 06 54.2**	**-0.8**
	0.4nm,0.3s,baz=156,slow=5.5,SNR=4.3							
	0.4nm,0.3s							
LSZ	**Lusaka**	**91.93**	**236**	LR	LR		11 44 40.0	
	comp=Z,113nm,18.8s,baz=358,slow=33							
TXAR	**Lajitas Array**	**123.65**	**88**	PKP	**PKPdf**		**11 13 06.3**	**-1.5**
	0.1nm,0.6s,baz=236,slow=5.1,SNR=2.4							
KEST	**Kesra**	**144.94**	**247**	PKPbc	**PKPbc**		**11 13 45.0**	**-1.4**
	5.2nm,1.0s,baz=160,slow=2.4,SNR=4.8							
AKASG	**Malin Array Be**	**145.18**	**284**	PKPbc	**PKPbc**		**11 13 45.5**	**-1.0**
	1.3nm,0.6s,baz=86,slow=3.3,SNR=5.8							
FINES	**FINESS Array B**	**151.92**	**301**	PKPbc	**PKiKP**		**11 14 04.6**	**+0.3**
	2.1nm,0.8s,baz=152,slow=6.2,SNR=4.4							

*AFAD **09** 11:09:25.5,38°.53N×44°.45E,h6km±1km,ML3.0*
*ISK **09** 11:09:25.3,38°.33N×44°.39E,h3km,ML2.8/6*
*TEH **09** 11:09:26.1,39°.25N×44°.70E,h17km±2km*
*NSSP **09** 11:09:26.5,38°.45N×44°.28E,h10km,Ms3.0*
*AZER **09** 11:09:29.3,38°.52N×44°.31E,h6km,ml3.1*

ISC 09 11:09:27.5±1.2,38°.46N±0°.02×44°.22E±0°.02,h4km±10km, n48,σ1$02/89,2C,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
OZAP	**Van, Ozalp-Mer**	**0.27**	**319**	P	**Pg**		**11 09 33.0**	**+0.2**
OZAP				S	**Sg**		**11 09 37.4**	**+1.1**
OZAP				*i* IAML			11 09 39.0	
	comp=N,2μm,0.3s							
OZAP				*i* IAML			11 09 39.0	
	comp=E,2μm,0.3s							
TVAN	**Van**	**0.64**	**276**	P	**Pb**		**11 09 40.5**	**-0.8**
TVAN				S	**Sn**		**11 09 54.8**	**+0.6**
TVAN				*i* IAML			11 10 06.0	
	comp=E,430nm,0.6s							
VMUR	**Van-Muradiye**	**0.73**	**317**	P	**Pg**		**11 09 40.4**	**-1.1**
VMUR				S	**Sb**		**11 09 52.6**	**-0.7**
GEVA	**Gevas**	**0.92**	**261**	P	**Pb**		**11 09 45.8**	**-0.3**
GEVA				S	**Sn**		**11 10 01.2**	**+0.1**
GEVA				*i* IAML			11 10 04.0	
	comp=N,293nm,0.4s							
AKDM	**Akdamar-Van**	**0.98**	**263**	Pn	**Pn**		**11 09 47.2**	**-0.9**
AKDM				Sn	**Sn**		**11 10 03.4**	**+0.9**
HAKT	**HAKKARI**	**0.99**	**204**	P	**Pn**		**11 09 49.2**	**+0.9**
HAKT				S	**Sn**		**11 10 06.0**	**+3.2**
ISHB	**Shabestar**	**1.11**	**99**	Pg	**Pb**		**11 09 48.9**	**-0.6**
ISHB				Sg	**Sn**		**11 10 06.2**	**+0.3**
DYDN	**Diyadin**	**1.16**	**339**	P	**Pb**		**11 09 48.0**	**-2.1**
DYDN				S	**Sg**		**11 10 02.3**	**-2.4**
IMRD	**Marand**	**1.19**	**77**	Pg	**Pg**		**11 09 50.6**	**+0.2**
ADCV	**BITLIS_Adilcev**	**1.22**	**287**	P	**Pg**		**11 09 51.5**	**+0.6**
ADCV				S	**Sn**		**11 10 10.5**	**+2.1**
NAX	**Nakhchivan**	**1.23**	**54**	P	**Pg**		**11 09 51.3**	**+0.3**
NAX				S	**Sn**		**11 10 07.9**	**-0.6**
CUKT	**Cukurca**	**1.30**	**202**	Pn	**Pn**		**11 09 50.1**	**-2.4**
CUKT				Sn	**Sb**		**11 10 07.9**	**-1.8**
HYR	**Heyderabad**	**1.35**	**21**	P	**Pg**		**11 09 53.8**	**+0.4**
HYR				S	**Sg**		**11 10 12.1**	**+1.2**
SBZ	**Shahbuz**	**1.40**	**48**	P	**Pn**		**11 09 53.5**	**-0.4**
SBZ				S	**Sg**		**11 10 12.8**	**+0.2**
IGDI	**IGDIR**	**1.41**	**356**	P	**Pg**		**11 09 54.5**	**0.0**
IGDI				S	**Sg**		**11 10 14.0**	**+1.2**
DORK	**Agr/Tutak/Do**	**1.45**	**310**	P	**Pn**		**11 09 53.9**	**-0.8**
DORK				S	**Sg**		**11 10 14.8**	**+0.6**
DORK				*i* IAML			11 10 18.0	
	comp=N,171nm,0.7s							
AGRB	**Hanur-Agry**	**1.47**	**320**	Pn	**Pb**		**11 09 55.2**	**-0.2**
ORD	**Ordubad**	**1.47**	**71**	P	**Pg**		**11 09 55.8**	**+0.2**
ORD				S	**Sg**		**11 10 14.2**	**-0.4**
TASB	**TASBURUN-IGDIR**	**1.52**	**1**	Pn	**Pb**		**11 09 56.1**	**-0.2**
TASB				Sn	**Sg**		**11 10 18.7**	**+2.3**
ITBZ	**Tabriz**	**1.53**	**98**	Pg	**Pn**		**11 09 53.9**	**-1.8**
VAYK	**Vayk**	**1.55**	**37**	*iP*	**Pg**		**11 09 57.0**	**-0.2**
VAYK				*iS*	**Sb**		**11 10 16.3**	**-0.5**
IAZR	**Azarshahr**	**1.59**	**119**	Pn	**Pg**		**11 09 59.2**	**+1.2**
VNNZ	**Vanand**	**1.67**	**350**	*eP*	**Pb**		**11 09 58.6**	**-0.2**
VNNZ				*eS*	**Sg**		**11 10 22.4**	**+1.3**
METS	**Metsamor**	**1.69**	**356**	*eP*	**Pb**		**11 09 58.7**	**-0.4**
METS				*eS*	**Sg**		**11 10 22.5**	**+0.7**
GURO	**Guroymak-BITLI**	**1.72**	**274**	Pn	**Pb**		**11 09 59.1**	**-0.5**
GNI	**Garni**	**1.74**	**13**	⇑*iP*	**Pb**		**11 09 59.8**	**-0.2**
GNI				⇑*iS*	**Sg**		**11 10 24.2**	**+0.9**
ARUZ	**Aruch**	**1.82**	**357**	*eP*	**Pb**		**11 10 01.0**	**-0.4**
ARUZ				*eS*	**Sg**		**11 10 26.6**	**+0.5**
KAPZ	**Kaputan**	**1.90**	**11**	*eP*	**Pb**		**11 10 01.8**	**-0.9**
KAPZ				*eS*	**Sg**		**11 10 28.0**	**-0.5**
AMBZ	**Amberd**	**1.93**	**1**	*eP*	**Pb**		**11 10 02.9**	**-0.3**
AMBZ				*eS*	**Sg**		**11 10 30.0**	**+0.6**
EGVZ	**Egvard**	**1.97**	**66**	*eP*	**Pb**		**11 10 03.2**	**-0.8**
EGVZ				*eS*	**Sg**		**11 10 30.6**	**-0.2**
AYRK	**Ayrk**	**2.05**	**36**	*eP*	**Pb**		**11 10 04.8**	**-0.6**
AYRK				*eS*	**Sg**		**11 10 33.3**	**-0.2**
IHRS	**Heris**	**2.23**	**93**	Pn	**Pb**		**11 10 05.3**	**0.0**
KMOZ	**Kamo**	**2.37**	**355**	*eP*	**Pb**		**11 10 10.3**	**-0.4**
KMOZ				*eS*	**Sg**		**11 10 43.5**	**0.0**
SVAN	**Silvan-Diyarba**	**2.39**	**264**	Pn	**Pn**		**11 10 08.5**	**+1.0**
GDB	**GEDABAY**	**2.55**	**27**	P	**Pn**		**11 10 10.6**	**+0.9**
GDB				S	**Sn**		**11 10 42.8**	**+1.5**
LSVT	**Lusahovit**	**2.57**	**17**	*eP*	**Pn**		**11 10 11.4**	**+1.5**
LSVT				*eS*	**Sb**		**11 10 44.6**	**-1.4**
SRTK	**Saratovka**	**2.60**	**2**	*eP*	**Pb**		**11 10 14.3**	**-0.5**
SRTK				*eS*	**Sg**		**11 10 49.4**	**-1.7**
QRD	**Qoradiz**	**2.62**	**67**	P	**Pn**		**11 10 11.0**	**+0.5**
QRD				S	**Sn**		**11 10 42.8**	**+0.1**
GANJ	**Ganja**	**2.72**	**36**	P	**Pn**		**11 10 13.0**	**+1.0**
GANJ				S	**Sn**		**11 10 45.4**	**+0.1**
QZX	**Qazax, Azerbai**	**2.74**	**19**	P	**Pn**		**11 10 13.0**	**+0.8**
QZX				S	**Sn**		**11 10 47.0**	**+1.1**
AGDM	**Agdam**	**2.78**	**53**	P	**Pn**		**11 10 12.4**	**-0.4**
AGDM				S	**Sn**		**11 10 47.5**	**+0.7**
BLQ	**Beylaqan**	**2.89**	**63**	P	**Pn**		**11 10 15.3**	**+1.1**
BLQ				S	**Sn**		**11 10 50.2**	**+0.9**
YRD	**Yardimli**	**3.18**	**81**	P	**Pn**		**11 10 18.8**	**+0.3**
YRD				S	**Sn**		**11 10 57.6**	**+0.7**
LRK	**Lerik**	**3.24**	**85**	P	**Pn**		**11 10 20.6**	**+1.5**
LRK				S	**Sn**		**11 10 59.7**	**+1.5**
GLBA	**Clilabad**	**3.35**	**75**	P	**Pn**		**11 10 21.7**	**+1.1**
GLBA				S	**Sn**		**11 11 01.6**	**+0.8**
ASTR	**Astara**	**3.59**	**87**	P	**Pn**		**11 10 24.0**	**+0.2**
ASTR				S	**Sn**		**11 11 06.6**	**-0.1**
ZKTA	**Zakatala**	**3.67**	**29**	P	**Pn**		**11 10 25.8**	**+0.8**
ZKTA				S	**Sn**		**11 11 08.9**	**+0.1**
XNQ	**Khinaliq**	**4.06**	**47**	P	**Pn**		**11 10 30.7**	**+0.2**
XNQ				S	**Sn**		**11 11 17.7**	**-0.8**

*IDC **09** 11:14:16.2±2.5,15°.93N×95°.58W,h0km,mb3.3/4, mbtmp3.5/6,ML3.5/2,MS3.0/3,Error ellipse: s-maj=34.8km s-min=26.2km az=5.0*
*NEIC **09** 11:14:17.7±2.8,15°.86N±0°.06×95°.57W±0°.02,h10km±2km, mb4.2/33,Md4.7/85(MEX),Error ellipse: s-maj=10.0km s-min=3.0km az=166.0*
*GCG **09** 11:14:17.5±2.8,16°.08N×95°.73W,h32km±188km,MD5.2, ML4.6*
*MEX **09** 11:14:17.9±0.6,15°.61N×95°.57W,h10km±13km,MD4.7*

ISC 09 11:14:16.1±1.1,15°.81N±0°.04×95°.53W±0°.02,h8km±8km, n132,σ2$56/188,mb4.2/11,MS3.1/3,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HUIG	**Huatulco**	**0.56**	**266**			**Pg**	**11 14 27.9**	**+0.9**
HUIG						**Sg**	**11 14 35.0**	**+0.6**
HUIG	**Huatulco**	**0.56**	**266**	*eP*		**Pg**	**11 14 27.9**	**+0.9**
HUIG				*eS*		**Sg**	**11 14 35.0**	**+0.6**
HUIG	**Huatulco**	**0.56**	**266**	*iP*		**Pg**	**11 14 27.7**	**+0.8**
HUIG				*iS*		**Sg**	**11 14 34.9**	**+0.6**
HUIG				IAML			11 14 36.7	
	comp=Z,21μm,0.6s							
CMIG	**Matias Romero**	**1.41**	**26**			**Pg**	**11 14 42.7**	**-0.6**
CMIG	**Matias Romero**	**1.41**	**26**	Pn		**Pg**	**11 14 42.4**	**-0.9**
	comp=Z,111nm,0.3s,baz=208,slow=11,SNR=1248							
CMIG				Sn		**Sn**	**11 15 01.9**	**+0.8**
	comp=Z,667nm,0.3s,baz=307,slow=22,SNR=55							
CMIG	**Matias Romero**	**1.41**	**26**	*eP*		**Pg**	**11 14 42.7**	**-0.6**
PEIG	**Puerto Escondi**	**1.57**	**277**			**Pn**	**11 14 42.1**	**-2.3**
PEIG	**Puerto Escondi**	**1.57**	**277**	*eP*		**Pn**	**11 14 42.1**	**-2.3**
OXLC	**Oaxaca**	**1.68**	**318**			**Pn**	**11 14 44.0**	**-2.1**
OXLC						**Sn**	**11 15 06.3**	**-1.6**
OXLC	**Oaxaca**	**1.68**	**318**	*eP*		**Pn**	**11 14 44.0**	**-2.1**
OXLC				*eS*		**Sn**	**11 15 06.3**	**-1.6**
OXBJ	**Oaxaca**	**1.70**	**318**			**Pn**	**11 14 44.7**	**-1.6**
OXBJ						**Sn**	**11 15 06.7**	**-1.6**
OXBJ	**Oaxaca**	**1.70**	**318**	*eP*		**Pn**	**11 14 44.7**	**-1.6**
OXBJ				*eS*		**Sn**	**11 15 06.7**	**-1.6**
OXIG	**Oaxaca**	**1.71**	**317**			**Pn**	**11 14 46.6**	**+0.2**
OXIG						**Sb**	**11 15 07.9**	**-1.7**
VHO	**Vista Hermosa**	**1.71**	**317**	*eP*		**Pn**	**11 14 46.6**

LVIG	**Laguna Verde**	**3.98**	**348**	*eP*		**Pn**	**11 15 20.8**	**+3.3**
LVIG				*eS*		**Sn**	**11 16 05.6**	**+1.1**
DAIG	**Los Arroyos**	**4.14**	**287**			**Pn**	**11 15 22.5**	**+2.8**
DAIG						**Sn**	**11 16 10.0**	**+1.7**
DAIG	**Los Arroyos**	**4.14**	**287**	*eP*		**Pn**	**11 15 22.5**	**+2.8**
DAIG				*eS*		**Sn**	**11 16 10.0**	**+1.7**
PPM	**Popocatepetl**	**4.38**	**318**	*eP*		**Pn**	**11 15 26.5**	**+3.0**
PPM				*eS*		**Sb**	**11 16 22.7**	**-4.4**
PPIG	**Popocatepetl**	**4.39**	**318**			**Pn**	**11 15 26.5**	**+3.0**
PPIG						**Sb**	**11 16 22.7**	**-4.4**
MEIG	**Mezcala**	**4.45**	**299**			**Pn**	**11 15 26.3**	**+2.3**
MEIG						**Sn**	**11 16 18.5**	**+2.5**
MEIG	**Mezcala**	**4.45**	**299**	*eP*		**Pn**	**11 15 26.3**	**+2.3**
MEIG				*eS*		**Sn**	**11 16 18.5**	**+2.5**
YAIG	**Yautepec**	**4.54**	**312**			**Pn**	**11 15 28.2**	**+2.9**
YAIG						**Sn**	**11 16 23.0**	**+4.5**
YAIG	**Yautepec**	**4.54**	**312**	*eP*		**Pn**	**11 15 28.2**	**+2.9**
YAIG				*eS*		**Sn**	**11 16 23.0**	**+4.5**
CAIG	**El Cayaco**	**4.71**	**286**			**Pn**	**11 15 27.3**	**-0.3**
CAIG						**Sn**	**11 16 19.9**	**-2.6**
CAIG	**El Cayaco**	**4.71**	**286**	*eP*		**Pn**	**11 15 27.3**	**-0.3**
CAIG				*eS*		**Sn**	**11 16 19.9**	**-2.6**
CXUV	**Coxquihui**	**4.76**	**336**			**Pn**	**11 15 32.5**	**+4.2**
CXUV						**Sb**	**11 16 29.2**	**-8.3**
CXUV	**Coxquihui**	**4.76**	**336**	*eP*		**Pn**	**11 15 32.5**	**+4.2**
CXUV				*eS*		**Sb**	**11 16 29.2**	**-8.3**
UNM	**Universidad Na**	**4.94**	**316**	*eP*		**Pn**	**11 15 34.7**	**+3.8**
UNM				*eS*		**Sn**	**11 16 34.0**	**+5.6**
SCIG	**Sabancuy**	**5.20**	**52**	*eP*		**Pn**	**11 15 33.3**	**-1.0**
SCIG				*eS*		**Sn**	**11 16 27.3**	**-7.2**
SCIG	**Sabancuy**	**5.20**	**52**	*i P*		**Pn**	**11 15 32.5**	**-1.8**
ARIG	**Puente Sto Nin**	**5.22**	**299**			**Pn**	**11 15 36.0**	**+1.4**
ARIG						**Sn**	**11 16 37.2**	**+2.1**
ARIG	**Puente Sto Nin**	**5.22**	**299**	*eP*		**Pn**	**11 15 36.0**	**+1.4**
ARIG				*eS*		**Sn**	**11 16 37.2**	**+2.1**
PETF	**Flores**	**5.54**	**78**	Pn		**Pn**	**11 15 40.5**	**+1.5**
PETF	**Flores**	**5.54**	**78**	*eP*		**Pn**	**11 15 40.2**	**+1.1**
PETF				*eS*		**Sn**	**11 16 41.7**	**-1.3**
PETF	**Flores**	**5.54**	**78**	*i P*		**Pn**	**11 15 40.6**	**+1.6**
ZIIG	**Zihuatanejo**	**5.96**	**288**			**Sn**	**11 16 56.6**	**+3.3**
ZIIG	**Zihuatanejo**	**5.96**	**288**	*eS*		**Sn**	**11 16 56.6**	**+3.3**
MTO3	**Montecristo**	**6.12**	**102**	Pn		**Pn**	**11 15 49.3**	**+2.1**
CTUV	**Llano Grande**	**6.24**	**335**			Pn	11 15 56.0	+7.4
CTUV						Sb	11 17 10.4	-9.5
CTUV	**Llano Grande**	**6.24**	**335**	*eP*		Pn	11 15 56.0	+7.4
CTUV				*eS*		Sb	11 17 10.4	-9.5
SARH	**Santa Rosa de**	**6.61**	**98**	*i P*		**Pn**	**11 15 54.9**	**+1.1**
MOIG	**Morelia**	**6.62**	**306**	*eS*		Sn	11 17 19.0	+9.0
JRQG	**Juriquilla Cam**	**6.75**	**317**	*eS*		**Sn**	**11 17 20.1**	**+7.1**
GTIG	**Gomez Farias**	**7.99**	**335**			Pn	11 16 20.6	+7.9
GTIG						**Sb**	**11 18 01.6**	**-8.8**
GTIG	**Gomez Farias**	**7.99**	**335**	*eP*		Pn	11 16 20.6	+7.9
GTIG				*eS*		**Sb**	**11 18 01.6**	**-8.8**
TEIG	**Tepich**	**8.18**	**56**	Pn		**Pn**	**11 16 16.1**	**+0.9**
TEIG	**Tepich**	**8.18**	**56**	Pn		**Pn**	**11 16 15.4**	**+0.2**
	baz=126,slow=24,SNR=14							
TEIG					Sn	**Sn**	**11 17 44.0**	**-3.9**
	baz=133,slow=23,SNR=3.3							
JTS	**Las Juntas de**	**11.67**	**117**	Pn		**Pn**	**11 17 05.5**	**+2.3**
	comp=N,0.4nm,0.3s,baz=35,slow=11,SNR=2.4							
	comp=N,4.4nm,0.9s							
833A	**Chaparral WMA,**	**12.96**	**345**	Pn		**Pn**	**11 17 22.8**	**+2.2**
HNDO	**Hondo**	**14.08**	**346**			**Pn**	**11 17 37.5**	**+1.4**
TXAR	**Lajitas Array**	**15.40**	**332**	Pn		**Pn**	**11 17 55.7**	**+1.7**
	baz=133,slow=14,SNR=5.0							
	comp=N,0.7nm,1.0s							
BRDY	**Brady**	**15.73**	**349**			**P**	**11 18 00.1**	**-2.1**
WHTX	**Lake Whitney,**	**16.20**	**354**			**P**	**11 18 07.3**	**-0.1**
WHTX					IAmb	IAmb	11 18 15.7	
	comp=Z,12nm,0.8s							
ALPN	**Alpine**	**16.29**	**334**			**Pn**	**11 18 06.8**	**+1.3**
ALPN					IAmb	IAmb	11 18 20.5	
	comp=Z,21nm,1.4s							
PLPT	**Palo Pinto**	**17.11**	**352**			**P**	**11 18 17.8**	**+0.2**
ABTX	**Abilene, Hawle**	**17.15**	**348**	P		**P**	**11 18 19.6**	**+1.6**
WLAR	**White Oak Lake**	**17.93**	**7**	P		**P**	**11 18 26.2**	**-0.4**
MIAR	**Mount Ida**	**18.74**	**5**	P		**Pn**	**11 18 39.9**	**+4.1**
WHAR	**Wooly Hollow**	**19.61**	**8**			**P**	**11 18 45.0**	**0.0**
SMWD	**Samnorwood**	**19.67**	**348**	IAmb		IAmb	11 18 58.8	
	comp=Z,13nm,0.9s							
121A	**Cookes Peak, D**	**20.02**	**328**			**P**	**11 18 47.5**	**-2.2**
121A					IAmb	IAmb	11 19 04.8	
	comp=Z,9.9nm,1.0s							
OK052	**Battle Ridge R**	**20.13**	**357**	IAmb		IAmb	11 19 07.8	
	comp=Z,20nm,0.9s							
Y22A	**Socorro**	**20.79**	**332**	P		Pn	11 19 02.6	+2.2
Y22A					IAmb	IAmb	11 19 13.3	
	comp=Z,9.5nm,1.1s							
T35A	**Sooner Cattle**	**21.04**	**358**			**P**	**11 18 59.7**	**-0.8**
T35A					IAmb	IAmb	11 19 08.6	
	comp=Z,10nm,0.7s							
PBMO	**Poplar Bluff**	**21.37**	**11**	P		**P**	**11 19 04.7**	**+0.7**
PBMO					IAmb	IAmb	11 19 10.3	
	comp=Z,19nm,1.4s							
ANMO	**Albuquerque**	**21.43**	**335**	P		**P**	**11 19 04.5**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=171,slow=13,SNR=1.6							
ANMO					LR	LR	11 26 48.0	
	comp=Z,79nm,21.7s,baz=138,slow=35							
	comp=Z,0.4nm,0.4s							
MGMO	**Mountain Grove**	**21.45**	**7**	P		**P**	**11 19 06.8**	**+1.8**
TKL	**Tuckaleechee C**	**22.38**	**26**	P		**P**	**11 19 15.0**	**0.0**
	comp=Z,2.0nm,0.9s,baz=213,slow=17,SNR=1.3							
	comp=Z,2.0nm,0.9s							
T25A	**Trinidad**	**22.66**	**341**		IAmb	IAmb	11 19 36.9	
	comp=Z,6.1nm,0.9s							
RUSC	**La Rusia**	**24.12**	**112**	P		**P**	**11 19 33.1**	**-0.2**
RUSC					IAmb	IAmb	11 19 33.9	
	comp=Z,5.0nm,0.7s							
PV19	**Morning Glory**	**25.35**	**335**	P		**P**	**11 19 42.7**	**-1.3**
PV19					IAmb	IAmb	11 19 53.6	
	comp=Z,6.1nm,1.1s							
PV22	**Blue Mesa, Par**	**25.47**	**335**		IAmb	IAmb	11 19 58.8	
	comp=Z,5.7nm,1.0s							
PFO	**Pinyon Flats O**	**25.90**	**317**	LR		LR	11 31 05.6	
	comp=Z,84nm,21.0s,baz=114,slow=39							
PDAR	**Pinedale Array**	**29.43**	**339**	P		**P**	**11 20 20.1**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=141,slow=9.3,SNR=1.6							
	comp=Z,0.3nm,0.7s							
SNOW	**Snow King Moun**	**30.47**	**338**	P		**P**	**11 20 28.2**	**-1.6**
SNOW					IAmb	IAmb	11 20 41.4	
	comp=Z,3.4nm,0.8s							
N62A	**Caumsett State**	**31.49**	**33**	P		**P**	**11 20 40.0**	**+1.5**
AGMN	**Agassiz Nation**	**32.40**	**360**	P		**P**	**11 20 45.5**	**-0.8**
MCMT	**McKenzie Canyo**	**32.41**	**337**	P		**P**	**11 20 49.5**	**+2.6**
YBH	**Yreka Blue Hor**	**34.86**	**323**	LR		LR	11 36 01.9	
	comp=Z,7.7nm,19.7s,baz=130,slow=38							
ILAR	**Eielson Array**	**59.85**	**337**	P		**P**	**11 24 23.1**	**+1.1**
	comp=Z,0.3nm,0.9s,baz=107,slow=7.3,SNR=2.3							
	comp=Z,0.3nm,0.9s							
BMAR	**Burnt Mountain**	**60.44**	**340**	P		**P**	**11 24 28.1**	**+2.0**

*SNET **09** 11:20:49.7±5.0, 13°.28N×87°.85W, h5km, ML2.4*
*CATAC **09** 11:20:50.3±0.5, 13°N±3°×8°.8W±°, h4km±1km, M2.5/6, MLv2.5/6, Error ellipse: s-maj=6.6km s-min=3.9km az=14.2, confirmed*

ISC 09 11:20:50.3±1.2, 13°.21N±0°.06×87°.91W±0°.03, h12km±5km, n19, σ0s62/25, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.10**	**14**	*eP*	**Pg**	**11 20 52.8**	**-0.4**
LCND				*eS*	**Sg**	**11 20 54.5**	**-0.8**
LCND	**La Caada**	**0.10**	**14**	P	**Pg**	**11 20 52.7**	**-0.4**
CNCH	**Conchagua**	**0.10**	**51**	*eP*	**Pg**	**11 20 53.1**	**-0.1**
CNCH				*eS*	**Sg**	**11 20 56.2**	**+0.7**
CNCH	**Conchagua**	**0.10**	**51**	P	**Pg**	**11 20 53.2**	**-0.1**
CNCH				S	**Sg**	**11 20 56.4**	**+0.9**
CSGN	**Cosiguina Volc**	**0.42**	**124**	P	**Pb**	**11 20 59.3**	**-0.3**
POTN	**Potosi Cosigui**	**0.45**	**118**	P	**Pg**	**11 20 59.3**	**+0.1**
PACA	**Pacayal**	**0.47**	**303**	*eP*	**Pg**	**11 20 59.1**	**-0.4**
PACA				*eS*	**Sg**	**11 21 05.2**	**-0.8**
PACA	**Pacayal**	**0.47**	**303**	S	**Sg**	**11 21 06.0**	**0.0**
PACA	**Pacayal**	**0.47**	**303**	P	**Pg**	**11 20 59.2**	**-0.4**
TECA	**Tecapa**	**0.64**	**296**	*eP*	**Pg**	**11 21 02.7**	**-0.1**
TECA				*eS*	**Sg**	**11 21 11.2**	**0.0**
CHOHN	**Orocuina**	**0.78**	**70**	P	**Pb**	**11 21 05.3**	**-0.6**
CHOHN	**Orocuina**	**0.78**	**70**	S	**Sb**	**11 21 16.7**	**+0.2**
TGUH	**Tegucigalpa,Un**	**1.05**	**36**	P	**Pn**	**11 21 11.6**	**+0.7**
TGUH				S	**Sb**	**11 21 24.2**	**0.0**
INTHN	**La Esperanza I**	**1.11**	**350**	S	**Sn**	**11 21 27.8**	**+0.5**
INTHN	**La Esperanza I**	**1.11**	**350**	P	**Pb**	**11 21 11.8**	**+0.2**
YUSH	**Yuscaran**	**1.28**	**55**	S	**Sn**	**11 21 31.3**	**+0.2**
YUSH	**Yuscaran**	**1.28**	**55**	P	**Pb**	**11 21 14.0**	**-0.4**
RCVN	**Varillal2**	**1.71**	**77**	P	**Pb**	**11 21 21.7**	**-0.1**
RCVN	**Varillal2**	**1.71**	**77**	S	**Sg**	**11 21 43.7**	**-1.8**

AUST 09 11:21:08.7±0.4, 20°S±5°×13°4E±°, h10km, mb3.7/1, ML2.0/1, ML3.6/3, Error ellipse: s-maj=12.0km s-min=5.8km az=161.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**0.40**	**86**	P	Pb	11 21 17.6	-0.4
WB10	**Warramunga Arr**	**0.48**	**67**	P	Pg	11 21 18.4	+0.3
WR0	**Warramunga Arr**	**0.58**	**90**	P	Pb	11 21 20.7	-0.3
KNRA	**Kununurra**	**6.50**	**310**	P	Pn	11 22 44.0	-0.5
	comp=Z,24μmcomp=Z,13nm,2.0s,comp=Z,0.0nm						
WRKA	**Warakurna**	**7.25**	**225**	P	Pn	11 22 55.8	+1.0
WRKA				S	Sn	11 24 17.4	+0.1
FITZ	**Fitzroy Crossi**	**8.05**	**282**	P	Pn	11 23 06.4	+0.6

*AEIC **09** 11:29:06.8±2.6, 51°.43N±0°.04×178°.66W±0°.04, h11km±4km, Error ellipse: s-maj=5.9km s-min=3.5km az=184.0*

NEIC 09 11:29:05.9±0.8, 51°.33N±0°.04×178°.63W±0°.06, h14km±6km, ML3.0(AEIC), **Error ellipse: s-maj=5.3km s-min=4.9km az=145.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.25**	**333**		Pg	11 29 11.1	-0.2
GAKI					Sg	11 29 14.4	-0.4
GALAA	**Gareloi Lava P**	**0.44**	**348**		Pg	11 29 14.9	+0.2
GAEA	**Gareloi East**	**0.46**	**351**		Pg	11 29 15.1	+0.1
GAEA					Sg	11 29 21.4	+0.2
GASW	**Gareloi Southw**	**0.47**	**342**		Pg	11 29 15.1	-0.1
GANE	**Gareloi Northe**	**0.50**	**349**		Pg	11 29 15.4	-0.3
GANE					Sg	11 29 21.9	-0.4
GANO	**Gareloi North**	**0.50**	**347**		Pg	11 29 15.4	-0.4
TASE	**Tanaga Southea**	**0.62**	**36**		Pg	11 29 18.2	+0.1
TANO	**Tanaga North**	**0.66**	**28**		Pg	11 29 18.9	0.0
TANO					Sg	11 29 27.9	+0.3
TAPA	**Tanaga Point A**	**0.70**	**46**		Pg	11 29 19.4	-0.1
KIMD	**Kanaga Island**	**0.97**	**63**		Pb	11 29 24.0	-0.5
KIWB	**Kanaga Island**	**1.06**	**60**		Pb	11 29 25.5	-0.5
KIWB					Sg	11 29 39.4	-0.3
KIKV	**Kanaga Island**	**1.06**	**58**		Pb	11 29 25.4	-0.6
KICM	**Kanaga Island**	**1.07**	**56**		Pb	11 29 26.1	-0.1
CEPE	**Semis' Perret**	**1.25**	**301**		Pn	11 29 28.2	-0.8
AMKA	**Amchitka**	**1.30**	**273**		Pn	11 29 28.4	-1.3
ADK	**Adak**	**1.33**	**65**		Pn	11 29 29.8	-0.3
ADK					Sb	11 29 47.2	-0.3
CETU	**Semis' Tuman**	**1.33**	**299**		Pn	11 29 29.5	-0.6
ETKA	**Kagalaska Isla**	**1.48**	**68**		Sb	11 29 51.7	-0.2
GSCK	**Great Sitkin C**	**1.68**	**65**		Pn	11 29 35.0	+0.7
GSTR	**Great Sitkin T**	**1.77**	**63**		Pn	11 29 36.7	+0.5
LSSE	**Little Sitkin**	**1.85**	**290**		Pn	11 29 37.7	+0.4
LSPA	**Little Sitkin**	**1.85**	**291**		Pn	11 29 38.2	+0.9
ATKA	**Atka Island**	**2.89**	**71**	Pn	Pn	11 29 52.6	+1.1
OHAK	**Old Harbor**	**15.87**	**58**	Pn	Pn	11 32 47.3	-1.4
KDAK	**Kodiak Island**	**16.36**	**57**	Pn	Pn	11 32 54.7	-0.2
CNPM	**China Poot**	**17.47**	**51**	P	P	11 33 09.9	-0.2
SEW	**Seward**	**18.49**	**50**	P	P	11 33 21.2	-0.1
RND	**Reindeer**	**19.87**	**41**	P	P	11 33 36.5	0.0
FID	**Port Fidalgo**	**20.08**	**50**	P	P	11 33 38.0	-0.7
DHY	**Denali Highway**	**20.36**	**43**	P	P	11 33 41.9	0.0
CCB	**Clear Creek Bu**	**20.80**	**38**	P	P	11 33 46.7	+0.3
FYU	**Fort Yukon**	**22.60**	**35**	P	P	11 34 05.8	+0.1
BCAR	**Beaver Creek A**	**22.79**	**45**	P	P	11 34 07.1	-0.8
EGAK	**Eagle**	**23.51**	**41**	P	P	11 34 15.2	+0.1
JKA	**Kamikawa-asahi**	**26.81**	**270**	P	P	11 34 44.9	-0.6

*JMA **09** 11:34:49.3±0.3, 23°N±1°×122°4E±°, h59km, MV2.9/16, NEAR ISHIGAKIJIMA ISLAND*

ISC 09 11:34:44.7±2.5, 22°.95N±0°.10×124°.29E±0°.07, h8km±12km, n18, σ1s02/26, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.19**	**338**	S	**Sn**	**11 35 23.7**	**-0.3**
JKRS	**Kuro-shima**	**1.31**	**349**	P	**Pg**	**11 35 11.3**	**+1.5**
JKRS				*eS*	**Sn**	**11 35 27.8**	**+0.9**
JIJ	**Ishigaki jima**	**1.41**	**355**	P	**Pg**	**11 35 12.2**	**+0.3**
JIJ				*eS*	**Sg**	**11 35 29.9**	**-1.1**
IRIF	**Iriomote-Funau**	**1.47**	**340**	P	**Pg**	**11 35 13.6**	**+0.6**
IRIF				*eS*	**Sg**	**11 35 31.3**	**-0.7**
JISG	**Ishigakijimahi**	**1.63**	**1**	P	**Pb**	**11 35 15.2**	**+0.1**
JISG				S	**Sg**	**11 35 35.3**	**-1.8**
JTJ	**Tarama**	**1.73**	**13**	*eP*	**Pb**	**11 35 16.8**	**+0.2**
JTJ				*eS*	**Sb**	**11 35 38.3**	**-0.2**
YOJ	**Yonaguni jima**	**1.91**	**322**	P	**Pb**	**11 35 20.3**	**+0.5**
YOJ	**Yonaguni jima**	**1.91**	**322**	*eP*	**Pb**	**11 35 19.9**	**+0.2**
YOJ				S	**Sn**	**11 35 41.3**	**-0.4**
JYNG	**Yonagunijimaku**	**1.94**	**321**	*eP*	**Pb**	**11 35 20.1**	**-0.2**
JYNG				*eS*	**Sn**	**11 35 42.0**	**-0.4**
JMJ2	**Miyako jima3**	**2.02**	**28**	*eP*	**Pb**	**11 35 21.2**	**-0.5**
JMJ2				*eS*	**Sb**	**11 35 45.5**	**-1.5**
JIRB	**Irabujima**	**2.04**	**23**	*eP*	**Pn**	**11 35 20.7**	**+1.4**
JIKM	**Ikemajima**	**2.15**	**24**	*eS*	**Sb**	**11 35 49.5**	**-1.2**
NACB	**Ninganchiao**	**2.76**	**297**	P	**Pn**	**11 35 29.1**	**-0.1**
YULB	**Yu-li**	**2.79**	**280**	P	**Pn**	**11 35 29.0**	**-0.7**
TWGBT	**Beinan**	**2.98**	**268**	P	**Pn**	**11 35 31.3**	**-0.8**
YHNB	**Yeheng**	**3.17**	**303**	P	**Pn**	**11 35 37.1**	**+2.1**
SSLB	**Suanglung**	**3.18**	**286**	P	**Pn**	**11 35 35.6**	**+0.6**
TPUB	**Ta-pu**	**3.39**	**277**	P	**Pn**	**11 35 39.2**	**+1.3**

*NOU **09** 11:42:28.5, 40°.78S×174°.81E, h9km, MLv3.5/11, Cook Strait, New Zealand*
*WEL **09** 11:42:28.0±0.3, 41°.2°S×17°.5E±°, h5km, M2.9/12, ML3.2/15, MLv2.9/12, Error ellipse: s-maj=2.9km s-min=2.3km az=50.6, confirmed*

ISC 09 11:42:28.1±1.0, 40°.74S±0°.02×174°.79E±0°.02, h6km±9km, n92, σ0s70/104, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.15**	**143**	P	**Pg**	**11 42 31.1**	**-0.1**
KIW				S	**Sg**	**11 42 33.4**	**+0.2**
PAPS	**Paraparaumu Pr**	**0.24**	**137**	P	**Pg**	**11 42 32.8**	**+0.1**
PAPS				S	**Sg**	**11 42 36.7**	**+0.9**
OTKS	**Otaki School**	**0.27**	**93**	P	**Pg**	**11 42 33.0**	**-0.3**
OGWZ	**Otaki Gorge**	**0.30**	**105**	P	**Pg**	**11 42 33.8**	**-0.1**
OGWZ				S	**Sg**	**11 42 37.9**	**+0.1**
PWES	**Porirua West**	**0.39**	**176**	P	**Pg**	**11 42 35.7**	**+0.2**
PWES				S	**Sg**	**11 42 41.3**	**+0.7**
HOCS	**Levin Horowhen**	**0.39**	**72**	P	**Pg**	**11 42 35.2**	**-0.4**
HOCS				S	**Sg**	**11 42 41.0**	**+0.3**
CAW	**Cannon Point**	**0.42**	**150**	P	**Pg**	**11 42 36.5**	**+0.3**
WEL	**Wellington**	**0.54**	**182**	P	**Pg**	**11 42 38.7**	**+0.2**
HOWZ	**Holdsworth Sta**	**0.57**	**106**	P	**Pg**	**11 42 39.2**	**+0.1**
HOWZ				S	**Sb**	**11 42 47.3**	**-1.6**
SNZO	**South Karori**	**0.57**	**187**	P	**Pg**	**11 42 39.0**	**-0.1**
SNZO	**South Karori**	**0.57**	**187**	S	**Sg**	**11 42 47.0**	**+0.5**
MRZ	**Mangatainoka R**	**0.60**	**83**	P	**Pg**	**11 42 39.4**	**-0.3**
TCW	**Tory Channel**	**0.61**	**220**	P	**Pg**	**11 42 39.0**	**-0.8**
DUWZ	**D'Urville Isla**	**0.66**	**265**	P	**Pg**	**11 42 40.1**	**-0.8**
BHW	**Baring Head**	**0.67**	**175**	P	**Pg**	**11 42 41.1**	**+0.1**
OHWZ	**Ohakea**	**0.67**	**37**	P	**Pg**	**11 42 40.3**	**-0.6**
MTW	**Mount Morrison**	**0.68**	**128**	P	**Pb**	**11 42 41.7**	**-0.7**
MTW				S	**Sb**	**11 42 51.6**	**-0.5**
MSWZ	**Moikau Station**	**0.76**	**153**	P	**Pb**	**11 42 43.4**	**-0.4**
PAWZ	**Paruwai Farm**	**0.80**	**143**	P	**Pb**	**11 42 44.1**	**-0.4**
POWZ	**Post Office Ro**	**0.82**	**65**	P	**Pg**	**11 42 43.7**	**-0.1**
TIWZ	**Tintock**	**0.83**	**93**	P	**Pb**	**11 42 44.4**	**-0.6**
PLWZ	**Palliser**	**0.90**	**157**	P	**Pb**	**11 42 46.1**	**0.0**
TMWZ	**Te Maipa**	**0.91**	**114**	P	**Pb**	**11 42 46.1**	**-0.2**
PRWZ	**Pori Road**	**0.92**	**79**	P	**Pg**	**11 42 45.7**	**0.0**
TRWZ	**Traveller**	**0.94**	**134**	P	**Pn**	**11 42 47.6**	**-0.4**
WAZ	**Wanganui**	**1.00**	**9**	P	**Pg**	**11 42 46.3**	**-0.9**
CPWZ	**Castlepoint**	**1.08**	**99**	P	**Pn**	**11 42 50.6**	**+0.7**
BFZ	**Birch Farm**	**1.11**	**87**	P	**Pb**	**11 42 49.4**	**-0.3**
BFZ	**Birch Farm**	**1.11**	**87**	S	**Sn**	**11 43 04.9**	**-0.9**
BFZ	**Birch Farm**	**1.11**	**87**	P	**Pg**	**11 42 49.0**	**-0.3**
TSZ	**Takapari Road**	**1.12**	**53**	P	**Pg**	**11 42 49.9**	**+0.3**
DVHZ	**Dannevirke**	**1.14**	**68**	P	**Pg**	**11 42 49.5**	**-0.4**
NNZ	**Nelson**	**1.17**	**246**	P	**Pg**	**11 42 48.9**	**-1.6**
BSWZ	**Blackbirch Sta**	**1.19**	**215**	P	**Pg**	**11 42 50.0**	**-1.0**
ANWZ	**Angora Road**	**1.31**	**78**	P	**Pg**	**11 42 53.2**	**0.0**
LREZ	**Lake Rotokare**	**1.31**	**347**	P	**Pn**	**11 42 52.7**	**-0.3**
LREZ				S	**Sb**	**11 43 11.2**	**+0.8**
PNHZ	**Pukenui**	**1.36**	**53**	P	**Pn**	**11 42 52.5**	**-1.2**
TKNZ	**Takaka Hill**	**1.42**	**258**	P	**Pn**	**11 42 53.7**	**-0.8**
TKNZ				S	**Sg**	**11 43 14.0**	**+0.3**
WPHZ	**Waipukurau**	**1.43**	**62**	P	**Pb**	**11 42 55.0**	**-0.2**
MTVZ	**Mangateitei**	**1.45**	**21**	P	**Pn**	**11 42 54.1**	**-0.9**
PREZ	**Palmer Road**	**1.48**	**341**	P	**Pn**	**11 42 55.3**	**0.0**
PRHZ	**Porangahau**	**1.48**	**72**	P	**Pb**	**11 42 55.8**	**-0.3**
NMEZ	**Namu Road**	**1.50**	**332**	P	**Pn**	**11 42 56.0**	**+0.5**
PKVZ	**Pokaka**	**1.51**	**17**	P	**Pn**	**11 42 54.7**	**-1.1**
MOVZ	**Moawhango**	**1.52**	**29**	P	**Pn**	**11 42 54.3**	**-1.7**
WNVZ	**Wahianoa**	**1.54**	**24**	P	**Pn**	**11 42 55.5**	**-0.9**
TRVZ	**Turoa**	**1.55**	**22**	P	**Pn**	**11 42 56.0**	**-0.6**
KHEZ	**Kahui Hut**	**1.56**	**337**	P	**Pn**	**11 42 57.5**	**+1.0**
KHEZ	**Kahui Hut**	**1.56**	**337**	S	**Sn**	**11 43 18.0**	**+0.8**
KHEZ	**Kahui Hut**	**1.56**	**337**	P	**Pn**	**11 42 57.0**	**+0.5**
NEZ	**North Egmont**	**1.56**	**340**	P	**Pn**	**11 42 56.7**	**+0.2**
WHVZ	**Whangaehu Hut**	**1.58**	**23**	P	**Pn**	**11 42 56.2**	**-0.7**
MAVZ	**Matarangi**	**1.59**	**22**	P	**Pn**	**11 42 56.9**	**-0.2**
FWVZ	**Far West T-bar**	**1.60**	**22**	P	**Pn**	**11 42 56.4**	**-0.7**
TUVZ	**Tukino**	**1.61**	**25**	P	**Pn**	**11 42 57.1**	**-0.2**
DREZ	**Durham Road**	**1.62**	**344**	P	**Pn**	**11 42 57.4**	**+0.2**
DREZ				S	**Sb**	**11 43 19.7**	**+0.7**
VRZ	**Vera Road**	**1.62**	**359**	P	**Pn**	**11 42 57.1**	**0.0**
VRZ				S	**Sn**	**11 43 19.1**	**+0.7**
KRHZ	**Kereru**	**1.63**	**48**	P	**Pn**	**11 42 57.7**	**+0.3**
NBEZ	**Newall Road No**	**1.63**	**334**	P	**Pn**	**11 42 58.3**	**+0.9**
NBEZ				S	**Sb**	**11 43 20.5**	**+1.0**
COVZ	**Chateau Observ**	**1.65**	**21**	P	**Pn**	**11 42 57.2**	**-0.5**
MRNZ	**Matariki Terra**	**1.67**	**246**	P	**Pn**	**11 42 58.3**	**+0.4**
NGZ	**Ngauruhoe**	**1.68**	**22**	P	**Pb**	**11 42 59.8**	**+0.2**
SNVZ	**South Ngauruho**	**1.69**	**23**	P	**Pb**	**11 42 59.8**	**-0.5**
OTVZ	**Oturere**	**1.71**	**23**	P	**Pn**	**11 42 57.9**	**-0.8**
QRZ	**Quartz Range**	**1.72**	**266**	P	**Pn**	**11 42 58.9**	**+0.3**
QRZ	**Quartz Range**	**1.72**	**266**	S	**Sn**	**11 43 21.6**	**+0.7**
QRZ	**Quartz Range**	**1.72**	**266**	P	**Pn**	**11 42 59.1**	**+0.5**
NNVZ	**North Ngauruho**	**1.73**	**22**	P	**Pn**	**11 42 59.2**	**+0.3**
PXZ	**Pawanui**	**1.73**	**66**	P	**Pn**	**11 42 58.1**	**-0.7**
WTVZ	**West Tongariro**	**1.74**	**21**	P	**Pn**	**11 42 59.1**	**+0.2**
THZ	**Tophouse**	**1.75**	**234**	P	**Pn**	**11 42 58.9**	**-0.2**
ETVZ	**East Tongariro**	**1.75**	**24**	P	**Pn**	**11 42 58.5**	**-0

AC04	**Llanos de Chal**	**1.98**	**9**		**Pn**	**11 57 49.3**	**+1.9**
AC04	**Llanos de Chal**	**1.98**	**9**	eP	**Pn**	**11 57 49.2**	**+1.9**
AC04	**Llanos de Chal**	**1.98**	**9**	eP	**Pn**	**11 57 49.3**	**+1.9**
AC04				eS	**Sn**	**11 58 08.2**	**-2.9**
AC04				IAML		11 58 20.8	
	comp=Z,328nm,0.8s						
ACCO	**Cerro Coronel**	**2.07**	**102**	eP	**Pb**	**11 57 51.9**	**-1.2**
ACCO				eS	**Sn**	**11 58 15.2**	**+1.5**
VA06	**Catapilco**	**2.38**	**178**		**Pn**	**11 57 53.6**	**+0.7**
VA06	**Catapilco**	**2.38**	**178**	eP	**Pn**	**11 57 54.2**	**+1.3**
VA06				eS	**Sn**	**11 58 21.2**	**+0.2**
VA06				IAML		11 58 39.7	
	comp=E,887nm,0.5s						
AGUA	**GUANDACOL**	**2.62**	**76**	eP	**Pb**	**11 58 00.4**	**-2.1**
AGUA				eS	**Sb**	**11 58 34.4**	**+0.1**
VA03	**San Esteban**	**2.69**	**164**		**Pn**	**11 57 59.2**	**+2.0**
VA03	**San Esteban**	**2.69**	**164**	eP	**Pn**	**11 57 59.2**	**+2.0**
VA03				eS	**Sb**	**11 58 33.0**	**-3.1**
VA03				IAML		11 58 38.0	
	comp=Z,424nm,0.9s						
GO03	**Copiapo**	**2.77**	**22**		**Pn**	**11 57 59.6**	**+1.4**
GO03	**Copiapo**	**2.77**	**22**	eP	**Pn**	**11 57 59.5**	**+1.3**
GO03	**Copiapo**	**2.77**	**22**	eP	**Pn**	**11 58 00.0**	**+1.7**
GO03				eS	**Sn**	**11 58 34.1**	**+3.5**
GO03				IAML		11 58 47.1	
	comp=Z,190nm,0.5s						
RTLL	**Cerro Villicun**	**2.77**	**115**	eP	**Pn**	**11 57 59.2**	**+0.8**
RTLL				eS	**Sn**	**11 58 29.1**	**-1.7**
RTLL				IAML		11 58 42.8	
	comp=Z,183nm,0.4s						
SJA	**San Juan**	**2.80**	**120**	eP	**Pb**	**11 58 03.2**	**-2.2**
SJA				IAML		11 58 40.7	
	comp=Z,128nm,0.2s						
ROCH	**El Roble**	**2.81**	**173**	eP	**Pn**	**11 58 00.1**	**+1.1**
ROC1	**El Roble**	**2.81**	**173**	eP	**Pn**	**11 57 59.6**	**+0.5**
ROC1				eS	**Sn**	**11 58 33.1**	**+1.0**
VA01	**Torpederas**	**2.85**	**184**	Pn	**Pn**	**11 57 60.0**	**+0.6**
VA01	**Torpederas**	**2.85**	**184**	eP	**Pn**	**11 57 59.8**	**+0.5**
VA01				eS	**Sn**	**11 58 35.8**	**+3.3**
VA01				IAML		11 58 43.8	
	comp=Z,100nm,0.3s						
PEL	**Peldehue**	**3.03**	**168**		**Pn**	**11 58 03.8**	**+2.0**
PEL	**Peldehue**	**3.03**	**168**	eP	**Pn**	**11 58 03.1**	**+1.3**
PEL	**Peldehue**	**3.03**	**168**	eP	**Pn**	**11 58 03.8**	**+2.0**
PEL				eS	**Sb**	**11 58 41.9**	**-3.9**
PEL				IAML		11 58 48.8	
	comp=Z,171nm,0.4s						
CFA	**Coronel Fontan**	**3.08**	**118**	eP	**Pn**	**11 58 03.9**	**+1.4**
CFA				eS	**Sn**	**11 58 36.9**	**-1.4**
MT02	**Curacav**	**3.09**	**176**		**Pn**	**11 58 03.4**	**+0.8**
MT02	**Curacav**	**3.09**	**176**	eP	**Pn**	**11 58 03.2**	**+0.6**
MT02				eS	**Sb**	**11 58 48.1**	**+0.6**
MT02				IAML		11 58 48.2	
	comp=Z,256nm,0.7s						
VCA	**Vinchina**	**3.14**	**64**	eP	**Pb**	**11 58 07.7**	**-3.6**
VCA				eS	**Sn**	**11 58 41.1**	**+1.2**
VCA				IAML		11 58 46.5	
	comp=Z,730nm,0.5s						
MT05	**Renca**	**3.26**	**170**		**Pn**	**11 58 06.9**	**+1.9**
MT05	**Renca**	**3.26**	**170**	eP	**Pn**	**11 58 07.2**	**+2.2**
MT05				eS	**Sn**	**11 58 46.4**	**+3.6**
MT05				IAML		11 58 57.7	
	comp=Z,221nm,0.6s						
ASAL	**Salagasta**	**3.26**	**138**	eP	**Pn**	**11 58 08.2**	**+3.1**
ASAL				eS	**Sb**	**11 58 54.6**	**+1.9**
FCH	**Farellones**	**3.29**	**163**	eP	**Pn**	**11 58 08.1**	**+2.4**
MT16	**CCHEN**	**3.33**	**167**	Pn	**Pn**	**11 58 07.3**	**+1.3**
ARCO	**CERRO ARCO**	**3.40**	**142**	eP	**Pn**	**11 58 11.3**	**+4.3**
ARCO				eS	**Sb**	**11 58 56.1**	**-0.5**
ARCO				IAML		11 59 01.1	
	comp=Z,212nm,0.7s						
MT03	**Universidad Ad**	**3.40**	**167**		**Pn**	**11 58 08.0**	**+1.0**
MT03	**Universidad Ad**	**3.40**	**167**	eP	**Pn**	**11 58 09.7**	**+2.7**
MT03				eS	**Sn**	**11 58 46.3**	**+0.1**
MT03				IAML		11 59 03.4	
	comp=Z,278nm,0.3s						
MT04	**Ro Olivares**	**3.40**	**162**	eP	**Pn**	**11 58 09.5**	**+2.4**
MT04				eS	**Sn**	**11 58 47.5**	**+1.0**
MT04				IAML		11 58 60.0	
	comp=Z,148nm,0.6s						
AVFE	**Valle Fertil**	**3.45**	**99**	eP	**Pn**	**11 58 09.4**	**+1.8**
AVFE				eS	**Sn**	**11 58 51.2**	**+3.8**
AVFE				IAML		11 58 53.7	
	comp=Z,129nm,0.6s						
MT08	**Bocatoma Ro**	**3.47**	**160**		**Pn**	**11 58 11.7**	**+3.6**
MT08	**Bocatoma Ro**	**3.47**	**160**	eP	**Pn**	**11 58 12.2**	**+4.1**
MT08				eS	**Sn**	**11 58 49.5**	**+1.2**
MT08				IAML		11 59 04.3	
	comp=Z,184nm,0.6s						
AAGR	**Agrelo**	**3.64**	**144**	eP	**Pn**	**11 58 14.5**	**+4.2**
AAGR				eS	Sn	11 58 37.7	-15
AAGR				IAML		11 59 39.0	
	comp=Z,128nm,0.4s						
MT01	**Popeta**	**3.68**	**178**		**Pn**	**11 58 11.4**	**+0.6**
MT01	**Popeta**	**3.68**	**178**	eP	**Pn**	**11 58 11.8**	**+1.0**
MT01				eS	**Sb**	**11 59 06.0**	**+1.4**
MT01				IAML		11 59 08.6	
	comp=Z,229nm,0.5s						
MT13	**San Alfonso**	**3.69**	**165**		**Pn**	**11 58 13.2**	**+2.2**
MT13	**San Alfonso**	**3.69**	**165**	eP	**Pn**	**11 58 14.4**	**+3.4**
MT13				eS	**Sn**	**11 58 56.0**	**+2.7**
MT13				IAML		11 59 06.1	
	comp=Z,139nm,0.6s						
LMEL	**Las Melosas**	**3.81**	**165**	eP	Pn	11 58 00.8	-12
LMEL				eS	**Sn**	**11 58 59.2**	**+2.9**
LMEL				IAML		11 59 10.4	
	comp=Z,145nm,0.8s						
AC02	**Maricunga**	**3.88**	**32**		**Pn**	**11 58 15.1**	**+1.1**
AC02	**Maricunga**	**3.88**	**32**	eP	**Pn**	**11 58 17.5**	**+3.5**
AC02				eS	**Sn**	**11 59 01.4**	**+2.6**
AC02				IAML		11 59 23.0	
	comp=Z,65nm,0.9s						
ACLC	**CERRO LA CRUZ**	**3.94**	**80**	eP	**Pn**	**11 58 16.5**	**+1.9**
ACLC				eS	**Sn**	**11 59 02.2**	**+2.4**
ACLC				IAML		11 59 05.3	
	comp=Z,68nm,0.5s						
AC01	**Pan de Azucar**	**4.07**	**10**	Pn	**Pn**	**11 58 15.6**	**-0.6**
ACAN	**Cantantal**	**4.18**	**121**	eP	**Pn**	**11 58 18.7**	**+1.0**
ACAN				IAML		11 59 31.8	
	comp=Z,202nm,0.4s						
ACHE	**Chepes**	**4.20**	**105**	eP	**Pn**	**11 58 21.6**	**+3.5**
ACHE				eS	**Sn**	**11 59 07.2**	**+1.0**
BO01	**Tunca**	**4.22**	**176**		**Pn**	**11 58 19.0**	**+0.8**
BO01	**Tunca**	**4.22**	**176**	eP	**Pn**	**11 58 20.0**	**+1.9**
BO01				eS	**Sn**	**11 59 09.8**	**+3.5**
BO01				IAML		11 59 26.6	
	comp=Z,62nm,0.3s						
APLL	**PUNTA DE LOS L**	**4.23**	**94**	eP	**Pn**	**11 58 20.0**	**+1.7**
BO02	**Sierra Bellavi**	**4.64**	**174**	eP	**Pn**	**11 58 25.7**	**+1.7**
BO02				eS	**Sn**	**11 59 19.2**	**+2.5**
BO02				IAML		11 59 33.9	
	comp=Z,134nm,0.7s						
GO05	**Hualane**	**4.84**	**185**	eP	**Pn**	**11 58 26.7**	**-0.1**
GO05				eS	**Sb**	**11 59 36.8**	**-1.3**
GO05				IAML		11 59 43.4	
	comp=Z,58nm,0.9s						
CYA	**Choya**	**5.19**	**72**	eP	**Pn**	**11 58 32.9**	**+1.4**
CYA				eS	**Sn**	**11 59 29.1**	**-1.3**
CYA				eS	Sb	11 59 30.6	-17
CYA				IAML		11 59 38.7	
	comp=Z,34nm,0.8s						
RFA	**San Rafael**	**5.21**	**152**	eP	**Pn**	**11 58 33.5**	**+1.5**
RFA				IAML		12 00 13.4	
	comp=Z,21nm,0.9s						
BI02	**San Fabin de**	**6.47**	**179**	Pn	**Pn**	**11 58 50.0**	**+0.8**
TRQA	**Tornquist**	**11.08**	**138**		**Pn**	**11 59 52.8**	**+0.4**
LPAZ	**La Paz**	**14.14**	**13**	Pn	**Pn**	**12 00 34.4**	**-0.4**
VILB	**Vilhena**	**20.03**	**34**	P	**P**	**12 01 45.8**	**-0.7**
VILB				IAmb	IAmb	12 02 03.8	
	comp=Z,7.2nm,0.8s						
BOAV	**Boa Vista**	**34.01**	**20**	P	**P**	**12 03 55.5**	**-1.6**
BOAV				IAmb	IAmb	12 04 20.3	
	comp=Z,2.7nm,1.1s						
TEIG	**Tepich**	**52.67**	**340**	P	**P**	**12 06 25.4**	**-2.1**
QSPA	**South Pole Qui**	**60.05**	**180**	P	**P**	**12 07 19.8**	**+0.1**
QSPA				IAmb	IAmb	12 07 49.3	
	comp=Z,7.0nm,1.5s						
JSC	**Jenkinsville**	**64.78**	**351**	P	**P**	**12 07 52.5**	**+1.1**
JSC				IAmb	IAmb	12 08 28.4	
	comp=Z,7.9nm,1.2s						
TX31	**Lajitas Ar. Si**	**66.69**	**330**	P	**P**	**12 08 03.5**	**-0.5**
TXAR	**Lajitas Array**	**66.69**	**330**	P	**P**	**12 08 03.6**	**-0.3**
CASY	**Casey**	**83.85**	**181**	P	**P**	**12 09 42.5**	**+0.4**
CASY				IAmb	IAmb	12 10 07.7	
	comp=Z,4.7nm,1.4s						

RSNC 09 12:21:37.4±0.0, 6°N±3°×7°8W±°, h17km±3km, M3.3, ML3.0,
Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.34**	**99**	P	Pg	12 21 43.6	-1.0
SOLC				S	Sg	12 21 48.6	-0.9
PTAC	**Punta Ardita,**	**0.86**	**356**	P	Pb	12 21 52.3	-1.7
PTAC				S	Sb	12 22 04.9	-0.4
DBBC	**Dabeiba**	**1.70**	**64**	P	Pn	12 22 05.2	-1.1
DBBC				S	Sn	12 22 26.1	-1.6
CBOC	**Ciudad Bolivar**	**1.78**	**103**	P	Pn	12 22 06.2	-1.3
CBOC				S	Sn	12 22 22.5	-7.3
HELC	**Santa Helena**	**2.21**	**92**	P	Pn	12 22 13.1	-0.6
HELC				S	Sn	12 22 40.3	-0.5
CAPC	**Capurgana**	**2.37**	**10**	P	Pn	12 22 17.3	+1.7
CAPC				S	Sn	12 22 43.0	-1.3
GUY2C	**Guyana, Caldas**	**2.59**	**114**	P	Pn	12 22 19.9	+0.9
GUY2C				S	Sb	12 22 54.1	-1.5
UREC	**San Jos de Ur**	**2.64**	**56**	P	Pn	12 22 19.4	+0.1
UREC				S	Sn	12 22 53.4	+2.4
ANIL	**Santa Ana**	**2.94**	**127**	P	Pb	12 22 27.2	-2.3
ZARC	**Zaragoza, Cauc**	**3.11**	**67**	P	Pn	12 22 26.9	+1.1
ZARC				S	Sn	12 23 04.4	+1.8
PTBC	**PUERTO BERRIO,**	**3.28**	**85**	P	Pn	12 22 29.0	+0.9
PTBC				S	Sn	12 23 06.1	-0.7
BCIP	**Isla Barro Col**	**3.54**	**324**	P	Pn	12 22 29.4	-2.2
BCIP				S	Sn	12 23 11.9	-1.1
PRAC	**Prado**	**3.83**	**132**	P	Pb	12 22 40.2	-4.3
POPC	**Popayan, Colom**	**3.87**	**164**	P	Pn	12 22 39.8	+3.5

*IDC **09** 12:25:04.8±1.2, 7°55S×122°76E, h561km±14km, mb2.9/1, mbtmp3.8/6, Error ellipse: s-maj=108.5km s-min=16.5km az=56.0*
*DJA **09** 12:25:05.5±0.7, 7°S±6°×12°3E±°, h547km±7km, M3.9/13, mB4.4/2, mb4.2/3, MLv3.8/13, Mw(mB)3.5/2*
*NEIC **09** 12:25:05.0±1.1, 7.4°S±0.1°×123.0°E±0.1°, h563km±12km, mb4.0/9, Error ellipse: s-maj=24.4km s-min=17.1km az=48.0*

ISC 09 12:25:04.1±0.6, 7°39S±0.08°×122°90E±0.07°, h563km, n40, σ0s96/51, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.80**	**221**	P	**P**	**12 26 13.7**	**-0.7**
EDFI				S	**S**	**12 27 09.9**	**-1.5**
BSSI	**Bau Bau, Buton**	**2.69**	**297**	P	**P**	**12 26 19.4**	**+0.9**
SOEI	**Soe**	**2.71**	**150**	P	**P**	**12 26 19.4**	**+0.7**
SOEI	**Soe**	**2.71**	**150**	P	**P**	**12 26 19.3**	**+0.6**
SOEI				S	**S**	**12 27 18.9**	**-0.5**
BATI	**Baumata**	**2.90**	**165**	P	**P**	**12 26 20.8**	**+1.1**
	37nm,0.4s,baz=234,slow=1.9,SNR=7.7						
BATI				S	**S**	**12 27 19.8**	**-1.4**
	130nm,0.3s,baz=214,slow=1.7,SNR=9.8						
BATI	**Baumata**	**2.90**	**165**	P	**P**	**12 26 20.5**	**+0.8**
BATI				S	**S**	**12 27 20.3**	**-0.9**
WSI	**Waingapu**	**3.42**	**228**	P	**P**	**12 26 22.4**	**-0.5**
WSI				S	**S**	**12 27 26.0**	**-1.1**
BKSI	**Bulukumba**	**3.44**	**307**	P	**P**	**12 26 23.1**	**0.0**
BASI	**Baing, Sumba**	**3.63**	**219**	P	**P**	**12 26 24.4**	**+0.1**
BASI				S	**S**	**12 27 29.0**	**-0.6**
KAPI	**Kappang**	**3.92**	**307**	P	**P**	**12 26 28.5**	**+2.1**
KAPI	**Kappang**	**3.92**	**307**	P	**P**	**12 26 28.4**	**+2.0**
	15nm,0.5s,baz=113,slow=7.7,SNR=7.0						
WBSI	**Waikabubak, Su**	**4.13**	**237**	P	**P**	**12 26 26.8**	**-1.1**
WBSI				S	**S**	**12 27 34.4**	**-1.8**
PLAI	**Plampang**	**5.27**	**254**	P	**P**	**12 26 36.5**	**-0.5**
	0.2nm931nm64nm,0.8s						
PLAI				S	**S**	**12 27 51.6**	**-1.2**
	0.2nm931nm64nm,0.8s						
NLAI	**Namlea**	**5.88**	**46**	P	**P**	**12 26 42.4**	**+0.1**
TWSI	**Taliwang, Sumb**	**6.11**	**257**	P	**P**	**12 26 44.4**	**0.0**
	0.1nm683nm19nm,0.7s						
TWSI				S	**S**	**12 28 05.1**	**-1.2**
	0.1nm683nm19nm,0.7s						
TOLI2	**Tolitoli**	**8.71**	**346**	P	**P**	**12 27 09.2**	**-0.1**
MTN	**Manton Dam**	**9.75**	**124**	P	**P**	**12 27 18.8**	**-1.0**
KNRA	**Kununurra**	**10.04**	**146**	P	**P**	**12 27 22.9**	**+0.2**
FAKI	**Fak Fak**	**10.32**	**65**	P	**P**	**12 27 25.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**10.97**	**166**	P	**P**	**12 27 32.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**10.97**	**166**	P	**P**	**12 27 32.4**	**+0.2**
	3.2nm,0.3s,baz=355,slow=9.9,SNR=39						
MBWA	**Marble Bar**	**14.03**	**192**	P	**P**	**12 28 04.4**	**+0.9**
PSA00	**Pilbara Seismi**	**14.40**	**191**	P	**P**	**12 28 08.1**	**+0.7**
PSA00	**Pilbara Seismi**	**14.40**	**191**	P	**P**	**12 28 08.1**	**+0.7**
KKM	**Kota Kinabalu**	**14.92**	**333**	P	**P**	**12 28 12.5**	**-0.2**
KSM	**Kuching**	**15.34**	**305**	P	**P**	**12 28 17.9**	**+1.1**
KSM				IAmb	IAmb	12 28 48.4	
	comp=Z,11nm,1.1s						
WB0	**Warramunga Arr**	**16.61**	**139**	P	**P**	**12 28 28.1**	**-0.7**
WB0				IAmb	IAmb	12 28 42.6	
	comp=Z,6.0nm,1.1s						
WRA	**Warramunga Arr**	**16.70**	**139**	P	**P**	**12 28 29.2**	**-0.4**
WRA	**Warramunga Arr**	**16.70**	**139**	P	**P**	**12 28 29.1**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=317,slow=10,SNR=14						
WRA				S	**S**	**12 31 18.0**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=315,slow=19,SNR=4.0						
WB2	**Warramunga Arr**	**16.70**	**139**	P	**P**	**12 28 29.6**	**-0.1**
WB2				IAmb	IAmb	12 28 37.2	
	comp=Z,6.2nm,1.1s						
WR8	**Warramunga Arr**	**16.81**	**139**	P	**P**	**12 28 31.3**	**+0.7**
WR8				IAmb	IAmb	12 28 48.7	
	comp=Z,12nm,1.4s						
AS31	**Alice Springs**	**19.33**	**148**	P	**P**	**12 28 54.7**	**+1.1**
ASAR	**Alice Springs**	**19.33**	**148**	P	**P**	**12 28 55.0**	**+1.4**
ASAR	**Alice Springs**	**19.33**	**148**	P	**P**	**12 28 54.1**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=321,slow=8.3,SNR=21						
ASAR				PcP	**PcP**	**12 32 48.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=338,slow=1.2,SNR=1.4						
COEN	**Coen**	**20.96**	**110**	P	**P**	**12 29 07.8**	**-0.6**
MK31	**Makanchi Array**	**64.88**	**330**	P	**P**	**12 34 48.6**	**+0.2**
MK31				IAmb	IAmb	12 35 09.6	
	comp=Z,1.3nm,1.1s						
MKAR	**Makanchi Array**	**64.88**	**330**	P	**P**	**12 34 49.1**	**+0.7**
MKAR	**Makanchi Array**	**64.88**	**330**	P	**P**	**12 34 49.0**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=129,slow=8.0,SNR=5.5						
	comp=Z,0.5nm,0.5s						
BNN	**Bunyan**	**92.29**	**309**	P	**P**	**12 37 15.4**	**+0.4**
ACON	**Acoyapa**	**151.97**	**78**		**PKPab**	**12 44 06.8**	**-2.3**

NOU 09 12:43:31.7, 18°41S×168°66E, h52km, MLv4.4/12,
Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.82**	**326**	P	Pn	12 43 47.5	+0.5
DVP	**Devils Point**	**0.82**	**326**	P	Sn	12 44 00.4	+2.2
DZM	**Mont Dzumac**	**4.20**	**209**	P	Pn	12 44 34.2	+0.9
DZM	**Mont Dzumac**	**4.20**	**209**	S	Sn	12 45 21.5	+0.4
PINNC	**Pines Island,**	**4.33**	**195**	P	Pn	12 44 36.4	+1.3
PINNC	**Pines Island,**	**4.33**	**195**	S	Sn	12 45 25.1	+0.8
OUENC	**Ouen Island, N**	**4.34**	**203**	P	Pn	12 44 33.9	-1.2
OUENC	**Ouen Island, N**	**4.34**	**203**	S	Sn	12 45 24.5	+0.1

*IDC **09** 12:44:24.0±4.7, 5°14S×151°50E, h122km±35km, mb3.4/8, mbtmp3.8/8, Error ellipse: s-maj=51.7km s-min=21.7km az=106.0*
*NEIC **09** 12:44:25.7±1.6, 5°1S±0.1°×151°7E±0.1°, h148km±9km, mb4.2/15, Error ellipse: s-maj=17.2km s-min=12.6km az=143.0*

ISC 09 12:44:25.9±0.6, 5°19S±0.09°×151°68E±0.10°, h150km, n28, σ1s25/32, mb4.1/17, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.11**	**26**		**Pn**	**12 44 50.9**	**-0.8**
RABL				Sn	**Sn**	**12 45 09.8**	**-1.5**
MANU	**Manus Island**	**5.32**	**306**	Pn	**Pn**	**12 45 43.4**	**-0.2**
PMG	**Port Moresby**	**6.13**	**227**		**Pn**	**12 45 53.5**	**-0.9**
FAKI	**Fak Fak**	**19.51**	**276**	P	**P**	**12 48 40.4**	**-1.4**
WB0	**Warramunga Arr**	**22.20**	**228**	P	**P**	**12 49 09.3**	**-1.0**
WB0				IAmb	IAmb	12 49 11.4	
	comp=Z,9.4nm,1.1s						
WR8	**Warramunga Arr**	**22.24**	**227**	P	**P**	**12 49 10.2**	**-0.4**
WR8				IAmb	IAmb	12 49 11.7	
	comp=Z,4.9nm,0.6s						
WB2	**Warramunga Arr**	**22.34**	**227**	P	**P**	**12 49 10.8**	**-0.9**
WB2				IAmb	IAmb	12 49 12.7	
	comp=Z,6.4nm,0.7s						
WRA	**Warramunga Arr**	**22.35**	**228**	P	**P**	**12 49 10.5**	**-1.2**
WRA	**Warramunga Arr**	**22.35**	**228**	P	**P**	**12 49 10.5**	**-1.2**
	comp=Z,5.8nm,0.6s,baz=50,slow=10,SNR=32						
WRA				PcP	**PcP**	**12 53 05.1**	**+3.5**
	comp=Z,0.2nm,0.4s,baz=34,slow=2.1,SNR=1.7						
	comp=Z,5.8nm,0.6s						
INKA	**Innaminka**	**24.72**	**204**	P	**P**	**12 49 33.4**	**0.0**
KNRA	**Kununurra**	**24.80**	**243**	P	**P**	**12 49 34.1**	**0.0**
KNRA				IAmb	IAmb	12 49 39.7	
	comp=Z,12nm,1.2s						
AS31	**Alice Springs**	**25.11**	**221**	P	**P**	**12 49 37.5**	**+0.5**
AS31				IAmb	IAmb	12 49 40.1	
	comp=Z,3.2nm,0.5s						
ASAR	**Alice Springs**	**25.11**	**221**	P	**P**	**12 49 37.3**	**+0.3**
ASAR	**Alice Springs**	**25.11**	**221**	P	**P**	**12 49 36.9**	**-0.1**
	comp=Z,4.3nm,0.4s,baz=55,slow=9.1,SNR=102						
ASAR				PcP	**PcP**	**12 53 09.1**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=25,slow=1.7,SNR=1.8						
ASAR				ScP	**ScP**	**12 56 35.7**	**+2.9**
	comp=Z,0.5nm,1.1s,baz=29,slow=2.1,SNR=2.0						
	comp=Z,4.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**28.49**	**241**	P	**P**	**12 50 06.5**	**-0.7**
MBWA	**Marble Bar**	**34.81**	**240**	P	**P**	**12 51 01.6**	**-0.9**
MBWA				IAmb	IAmb	12 51 39.2	
	comp=Z,4.9nm,1.1s						
NIUE	**Niue**	**39.87**	**114**	P	**P**	**12 51 45.3**	**+0.1**
MORW	**Morawa**	**41.23**	**231**	P	**P**	**12 51 55.8**	**-0.4**
MORW				IAmb	IAmb	12 51 56.2	
	comp=Z,3.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**57.04**	**296**	P	**P**	**12 53 57.9**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=103,slow=7.9,SNR=4.1						
	comp=Z,0.5nm,0.7s						
SONM	**Songino Array**	**66.07**	**328**	P	**P**	**12 54 58.1**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=111,slow=3.2,SNR=1.8						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**79.89**	**319**	P	**P**	**12 56 17.8**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=98,slow=8.0,SNR=2.2						
	comp=Z,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**80.86**	**327**	P	**P**	**12 56 23.0**	**0.0**
	comp=Z,0.4nm,0.3s,baz=134,slow=6.2,SNR=0.8						
	comp=Z,0.4nm,0.3s						
TGL	**Tana Glacier**	**82.85**	**27**	P	**P**	**12 56 32.3**	**-1.1**
TGL				IAmb	IAmb	12 56 32.6	
	comp=Z,13nm,1.5s						
ILAR	**Eielson Array**	**82.94**	**22**	P	**P**	**12 56 35.0**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=243,slow=5.2,SNR=4.1						
	comp=Z,0.2nm,0.5s						
RIDG	**Independent Ri**	**83.26**	**24**	P	**P**	**12 56 34.9**	**-0.6**
RIDG				IAmb	IAmb	12 56 35.8	
	comp=Z,2.4nm,0.7s						
KURBB	**Kurchatov Arra**	**83.42**	**322**	P	**P**	**12 56 35.1**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=108,slow=5.0,SNR=1.5						
	comp=Z,0.1nm,0.4s						
DCMP	**DeCamp, Califo**	**89.40**	**50**	P	**P**	**12 57 05.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**149.36**	**287**	PKPbc	**PKiKP**	**13 03 58.2**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=55,slow=3.4,SNR=8.2						

*DJA **09** 13:10:33.8±0.5, 6°S±4°×13°2E±°, h101km±7km, M4.3/11, mB4.9/3, mb4.3/7, MLv4.3/11, Mw(mB)4.2/3*
*IDC **09** 13:10:35.6±7.6, 6°94S×132°03E, h52km±80km, mb3.4/1, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=62.1km s-min=42.6km az=68.0*

ISC 09 13:10:31.9±1.0, 6°57S±0.05°×132°31E±0.09°, h100km, n12, σ2s50/15, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.73**	**215**	P	**Pn**	**13 11 04.6**	**+3.6**
BNDI	**Bandanaira**	**3.14**	**310**	P	**Pn**	**13 11 21.0**	**+1.5**
KMPI	**Kaimana, Papua**	**3.21**	**26**	P	**Pn**	**13 11 21.5**	**+1.1**
FAKI	**Fak Fak**	**3.63**	**359**	P	**Pn**	**13 11 25.8**	**-0.3**
RKPI	**Ransiki, Papua**	**5.36**	**20**	P	**Pn**	**13 11 51.6**	**+2.1**
RKPI				S	**Sn**	**13 12 49.2**	**-0.8**
SWI	**Sorong**	**5.76**	**349**	P	**Pn**	**13 11 56.1**	**+1.1**
	0.2nm25nm,0.9s						
BAKI	**Biak**	**6.55**	**35**	P	**Pn**	**13 12 07.7**	**+2.0**
	0.2nm35nm,0.6s						
SANI	**Sanana**	**7.74**	**305**	P	**Pn**	**13 12 23.6**	**+1.7**
FITZ	**Fitzroy Crossi**	**13.18**	**209**	P	**Pn**	**13 13 35.2**	**0.0**
	0.5nm,0.3s,baz=38,slow=11,SNR=17						
FITZ				S	**Sn**	**13 15 54.5**	**-5.7**
	3.1nm,0.3s,baz=177,slow=15,SNR=8.6						
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**13.44**	**172**	P	**Pn**	**13 13 38.3**	**-0.4**
	0.3nm,0.3s,baz=347,slow=15,SNR=7.9						
W

CHKK				Lg	Lg	13 13 19.1	
	25nm,0.2s						
CHKK	**Chushkaly**	**4.02**	**279**	*eP*	**Pg**	**13 12 23.8**	**-1.6**
	3.0nm,0.1s						
CHKK				*eS*	**Sg**	**13 13 19.1**	**+1.5**
	25nm,0.2s						
TNSS	**Tian-Shan**	**4.07**	**267**	Pg	**Pg**	**13 12 25.5**	**-0.8**
	1.2nm,0.2s						
TNSS				Lg	Lg	13 13 21.6	
	4.2nm,0.4s						
TNSS	**Tian-Shan**	**4.07**	**267**	*eP*	**Pg**	**13 12 25.5**	**-0.8**
	1.2nm,0.2s						
TNSS				*eS*	**Sg**	**13 13 21.6**	**+2.7**
	4.2nm,0.4s						
KTBS	**Karatobe**	**4.24**	**277**	Pg	**Pg**	**13 12 28.8**	**-0.7**
	0.9nm,0.3s						
KTBS				Lg	Lg	13 13 27.4	
	32nm,0.3s						
ZSN	**Zaisan**	**4.41**	**21**	Pg	**Pb**	**13 12 27.7**	**+1.9**
	3.6nm,0.1s						
ZSN				Lg	Lg	13 13 25.5	
	36nm,0.4s						
ZSN	**Zaisan**	**4.41**	**21**	*eP*	**Pb**	**13 12 27.8**	**+1.9**
	3.6nm,0.1s						
ZSN				*eS*	**Sg**	**13 13 25.5**	**-4.4**
	36nm,0.4s						
MTBS	**Maitube**	**4.43**	**269**	Pg	**Pg**	**13 12 31.0**	**-2.3**
	3.0nm,0.2s						
MTBS				Lg	Lg	13 13 31.5	
	26nm,0.4s						
MTBS	**Maitube**	**4.43**	**269**	*eP*	**Pg**	**13 12 31.0**	**-2.3**
	3.0nm,0.2s						
MTBS				*eS*	**Sg**	**13 13 31.5**	**+0.8**
	26nm,0.4s						
KUU	**Kurty**	**4.49**	**279**	Pg	**Pg**	**13 12 32.6**	**-1.9**
	3.7nm,0.0s						
KUU				Lg	Lg	13 13 33.9	
	22nm,0.1s						
KUU	**Kurty**	**4.49**	**279**	*eP*	**Pg**	**13 12 32.6**	**-1.9**
	3.7nm,0.0s						
KUU				*eS*	**Sg**	**13 13 33.9**	**+1.2**
	22nm,0.1s						
KST	**Kastek**	**4.78**	**268**	Pg	**Pg**	**13 12 38.4**	**-1.6**
	1.1nm,0.1s						
KST				Lg	Lg	13 13 43.9	
	15nm,0.6s						
KST	**Kastek**	**4.78**	**268**	*eP*	**Pg**	**13 12 38.4**	**-1.6**
	1.1nm,0.1s						
KST				*eS*	**Sg**	**13 13 43.9**	**+2.0**
	15nm,0.6s						
KURBB	**Kurchatov Arra**	**7.74**	**341**	⇓Pn	**Pn**	**13 13 00.7**	**-0.4**
	2.2nm,0.3s						
KURBB				⇑Sn	**Sn**	**13 14 27.6**	**-1.1**
	6.4nm,0.6s						
KURBB				⇓Lg	Lg	13 15 13.1	
	17nm,0.6s						
KURK	**Kurchatov**	**7.80**	**342**	⇓Pn	**Pn**	**13 13 05.9**	**+3.9**
	0.4nm,0.4s						
KURK				⇑Sn	**Sn**	**13 14 29.0**	**-1.3**
	1.5nm,0.6s						
KURK				⇑Lg	Lg	13 15 15.7	
	3.1nm,0.7s						

*NOU **09** 13:34:13.8,39°.34S×177°.17E,h40km,MLv4.3/14, Off E. Coast of N. Island, N.Z.*
*WEL **09** 13:34:13.7±0.6,39°.3±3°.×17°.7E±°, h33km±6km, M3.7/67, ML4.3/11, MLv3.7/67, Error ellipse: s-maj=7.0km s-min=3.1km az=111.1, confirmed*
ISC 09 13:34:14.1±1.3,**39°.29S**±0°.03×**177°.28E**±0°.04,**h43**km±7km, **n126,**σ1°**09**/139**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHHZ	**Waihua**	**0.22**	**351**	P	**Pn**	**13 34 20.8**	**-1.1**
WHHZ				S	**Sn**	**13 34 26.2**	**-1.1**
ARHZ	**Aropaoanui**	**0.22**	**277**	P	**Pn**	**13 34 21.0**	**-0.8**
ARHZ				S	**Sn**	**13 34 26.6**	**-0.8**
WFSS	**Wairoa Fire St**	**0.28**	**24**	P	**Pn**	**13 34 22.1**	**-0.4**
NGHS	**Napier Girls H**	**0.34**	**235**	P	**Pn**	**13 34 23.5**	**+0.4**
NGHS				S	**Sn**	**13 34 31.1**	**+1.8**
NSPS	**Napier St Paul**	**0.34**	**235**	P	**Pn**	**13 34 23.5**	**+0.4**
NSPS				S	**Sn**	**13 34 31.1**	**+1.7**
NAAS	**Napier Airport**	**0.36**	**240**	P	**Pn**	**13 34 23.4**	**+0.2**
NAAS				S	**Sn**	**13 34 31.0**	**+1.3**
NCHS	**Napier Colenso**	**0.36**	**234**	P	**Pn**	**13 34 23.7**	**+0.4**
NCHS				S	**Sn**	**13 34 31.7**	**+1.9**
NCDS	**Napier Civil D**	**0.37**	**236**	P	**Pn**	**13 34 23.8**	**+0.5**
CKHZ	**Cape Kidnapper**	**0.40**	**203**	P	**Pn**	**13 34 24.5**	**+0.8**
CKHZ				S	**Sn**	**13 34 32.9**	**+2.4**
RAHZ	**Arahi**	**0.40**	**338**	P	**Pn**	**13 34 23.1**	**-0.7**
RAHZ				S	**Sn**	**13 34 30.1**	**-0.6**
KNZ	**Kokohu**	**0.41**	**49**	P	**Pn**	**13 34 24.0**	**+0.1**
NMHZ	**Naumai**	**0.41**	**298**	P	**Pn**	**13 34 23.4**	**-0.6**
NMHZ				S	**Sn**	**13 34 30.5**	**-0.4**
MCHZ	**McNeill Hill**	**0.47**	**251**	P	**Pn**	**13 34 25.1**	**+0.5**
MCHZ				S	**Sn**	**13 34 33.9**	**+1.7**
MHNZ	**Mahia Peninsul**	**0.51**	**74**	P	**Pn**	**13 34 25.9**	**+0.8**
SNGZ	**Shannon Statio**	**0.51**	**6**	P	**Pn**	**13 34 24.9**	**-0.3**
SNGZ				S	**Sn**	**13 34 33.4**	**+0.5**
MTHZ	**Maungataniwha**	**0.55**	**322**	P	**Pn**	**13 34 25.0**	**-0.7**
MTHZ				S	**Sn**	**13 34 33.3**	**-0.7**
KAHZ	**Kahuranaki**	**0.59**	**211**	P	**Pn**	**13 34 27.1**	**+0.9**
KAHZ				S	**Sn**	**13 34 38.2**	**+3.3**
PRGZ	**Paritu Road**	**0.60**	**52**	P	**Pn**	**13 34 26.7**	**+0.4**
BKZ	**Black Stump Fm**	**0.62**	**281**	P	**Pn**	**13 34 26.3**	**-0.3**
BKZ	**Black Stump Fm**	**0.62**	**281**	S	**Sn**	**13 34 35.8**	**+0.2**
BKZ	**Black Stump Fm**	**0.62**	**281**	P	**Pn**	**13 34 26.3**	**-0.3**
KWHZ	**Kaweka Forest**	**0.68**	**258**	P	**Pn**	**13 34 27.6**	**+0.3**
RIGZ	**Rimuhau**	**0.70**	**33**	P	**Pn**	**13 34 27.9**	**+0.3**
RTZ	**Ruatahuna**	**0.71**	**341**	P	**Pn**	**13 34 27.5**	**-0.3**
KRHZ	**Kereru**	**0.79**	**243**	P	**Pn**	**13 34 29.0**	**+0.3**
RAGZ	**Rawiri**	**0.80**	**8**	P	**Pn**	**13 34 29.3**	**+0.3**
PWZ	**Pawanui**	**0.80**	**203**	P	**Pn**	**13 34 29.2**	**+0.2**
PXZ	**Pawanui**	**0.81**	**203**	P	**Pn**	**13 34 29.2**	**+0.2**
MRHZ	**Matea Rd**	**0.81**	**304**	P	**Pn**	**13 34 29.2**	**+0.1**
MUGZ	**Murupara**	**0.90**	**334**	P	**Pn**	**13 34 30.4**	**0.0**
HATZ	**Hinemaiaia**	**1.00**	**293**	P	**Pn**	**13 34 32.3**	**+0.5**
WPHZ	**Waipukurau**	**1.01**	**220**	P	**Pn**	**13 34 32.2**	**+0.4**
ALRZ	**Allen Road**	**1.03**	**315**	P	**Pn**	**13 34 32.5**	**+0.4**
PNHZ	**Pukenui**	**1.04**	**233**	P	**Pn**	**13 34 32.4**	**+0.1**
URZ	**Urewera**	**1.04**	**353**	P	**Pn**	**13 34 32.5**	**+0.3**
URZ	**Urewera**	**1.04**	**353**	S	**Sn**	**13 34 46.6**	**+1.1**
URZ	**Urewera**	**1.04**	**353**	P	**Pn**	**13 34 32.3**	**+0.1**
PRRZ	**Plateau Road**	**1.05**	**319**	P	**Pn**	**13 34 32.5**	**+0.2**
PRHZ	**Porangahau**	**1.09**	**207**	P	**Pn**	**13 34 33.0**	**+0.1**
RRRZ	**Republican Roa**	**1.12**	**328**	P	**Pn**	**13 34 33.3**	**0.0**
RITZ	**Rihia Road**	**1.15**	**285**	P	**Pn**	**13 34 34.4**	**+0.7**
WPRZ	**Whakapapataran**	**1.16**	**311**	P	**Pn**	**13 34 34.2**	**+0.3**
MOVZ	**Moawhango**	**1.19**	**264**	P	**Pn**	**13 34 35.2**	**+0.9**
HRRZ	**Handcock Road**	**1.19**	**319**	P	**Pn**	**13 34 34.5**	**+0.2**
ETVZ	**East Tongariro**	**1.23**	**277**	P	**Pn**	**13 34 35.5**	**+0.6**
TMVZ	**Te Maari**	**1.23**	**278**	P	**Pn**	**13 34 35.5**	**+0.6**
TWGZ	**Tauwhareparae**	**1.24**	**27**	P	**Pn**	**13 34 35.6**	**+0.6**
RATZ	**Rangitukua**	**1.25**	**289**	P	**Pn**	**13 34 35.7**	**+0.6**
EDRZ	**Edgecumbe**	**1.25**	**340**	P	**Pn**	**13 34 35.6**	**+0.4**
OTVZ	**Oturere**	**1.26**	**275**	P	**Pn**	**13 34 35.9**	**+0.6**
TUVZ	**Tukino**	**1.26**	**271**	P	**Pn**	**13 34 36.1**	**+0.8**
HLRZ	**Highlands Stat**	**1.26**	**325**	P	**Pn**	**13 34 37.6**	**+2.2**
HSRZ	**Hossack Road**	**1.27**	**320**	P	**Pn**	**13 34 35.9**	**+0.5**
KATZ	**Kakaramea**	**1.27**	**284**	P	**Pn**	**13 34 36.1**	**+0.6**
TSZ	**Takapari Road**	**1.27**	**233**	P	**Pn**	**13 34 35.4**	**-0.1**
SNVZ	**South Ngauruho**	**1.27**	**274**	P	**Pn**	**13 34 36.2**	**+0.6**
KRVZ	**Karewarewa**	**1.29**	**278**	P	**Pn**	**13 34 36.9**	**+1.3**
NNVZ	**North Ngauruho**	**1.30**	**277**	P	**Pn**	**13 34 36.7**	**+0.8**
WNVZ	**Wahianoa**	**1.30**	**268**	P	**Pn**	**13 34 36.6**	**+0.7**
NGZ	**Ngauruhoe**	**1.31**	**275**	P	**Pn**	**13 34 36.6**	**+0.6**
GRRZ	**Galatos Road**	**1.31**	**316**	P	**Pn**	**13 34 36.5**	**+0.5**
WHVZ	**Whangaehu Hut**	**1.31**	**270**	P	**Pn**	**13 34 36.7**	**+0.6**
ANWZ	**Angora Road**	**1.32**	**208**	P	**Pn**	**13 34 36.2**	**+0.2**
DVHZ	**Dannevirke**	**1.32**	**220**	P	**Pn**	**13 34 36.8**	**-0.3**
WTVZ	**West Tongariro**	**1.32**	**277**	P	**Pn**	**13 34 37.2**	**+1.0**
MAVZ	**Matarangi**	**1.33**	**270**	P	**Pn**	**13 34 37.0**	**+0.5**
WATZ	**Wairara**	**1.34**	**295**	P	**Pn**	**13 34 36.4**	**+0.1**
FWVZ	**Far West T-bar**	**1.34**	**271**	P	**Pn**	**13 34 37.0**	**+0.5**
TRVZ	**Turoa**	**1.34**	**269**	P	**Pn**	**13 34 37.1**	**+0.6**
COVZ	**Chateau Observ**	**1.35**	**273**	P	**Pn**	**13 34 35.5**	**-1.0**
RUGZ	**Raukumara Rang**	**1.36**	**13**	P	**Pn**	**13 34 36.8**	**+0.1**
OMRZ	**Omania**	**1.38**	**329**	P	**Pn**	**13 34 37.9**	**+1.1**
MARZ	**Manawahe**	**1.39**	**340**	P	**Pn**	**13 34 38.3**	**+1.3**
KUTZ	**Kaahu Road**	**1.39**	**305**	P	**Pn**	**13 34 37.4**	**+0.4**
UTU	**Utuhina**	**1.40**	**322**	P	**Pn**	**13 34 38.8**	**+1.7**
MTVZ	**Mangateitei**	**1.40**	**266**	P	**Pn**	**13 34 37.9**	**+0.6**
PUZ	**Puketiti**	**1.44**	**33**	P	**Pn**	**13 34 37.1**	**-0.6**
TWVZ	**Taurewa**	**1.45**	**278**	P	**Pn**	**13 34 38.4**	**+0.6**
WHRZ	**Whale Island**	**1.45**	**351**	P	**Pn**	**13 34 38.1**	**+0.2**
NGRZ	**Ngongotaha**	**1.46**	**324**	P	**Pn**	**13 34 40.5**	**+2.5**
PKVZ	**Pokaka**	**1.50**	**269**	P	**Pn**	**13 34 39.1**	**+0.6**
OPRZ	**Ohinepanea**	**1.55**	**338**	P	**Pn**	**13 34 39.3**	**+0.1**
PKGZ	**Pakihiroa**	**1.56**	**24**	P	**Pn**	**13 34 39.5**	**+0.2**
HAZ	**Te Kaha**	**1.58**	**15**	P	**Pn**	**13 34 39.9**	**+0.2**
BFZ	**Birch Farm**	**1.60**	**209**	P	**Pn**	**13 34 39.2**	**-0.7**
BFZ	**Birch Farm**	**1.60**	**209**	S	**Sn**	**13 34 57.6**	**-1.7**
BFZ	**Birch Farm**	**1.60**	**209**	P	**Pn**	**13 34 39.3**	**-0.6**
POWZ	**Post Office Ro**	**1.60**	**226**	P	**Pn**	**13 34 40.1**	**+0.2**
PRWZ	**Pori Road**	**1.61**	**218**	P	**Pn**	**13 34 40.0**	**0.0**
TLZ	**Tolley Road**	**1.66**	**305**	P	**Pn**	**13 34 40.7**	**-0.1**
OHWZ	**Ohakea**	**1.77**	**238**	P	**Pn**	**13 34 43.3**	**+1.2**
CPWZ	**Castlepoint**	**1.81**	**207**	P	**Pn**	**13 34 45.4**	**+2.6**
TIWZ	**Tintock**	**1.83**	**215**	P	**Pn**	**13 34 42.7**	**-0.4**
WAZ	**Wanganui**	**1.83**	**255**	P	**Pn**	**13 34 44.4**	**+1.3**
MRZ	**Mangatainoka R**	**1.89**	**223**	P	**Pn**	**13 34 43.0**	**-0.8**
MXZ	**Matakaoa Point**	**1.91**	**25**	P	**Pn**	**13 34 45.0**	**+1.0**
VRZ	**Vera Road**	**1.96**	**274**	P	**Pn**	**13 34 45.3**	**+0.4**
HIZ	**Hauiti**	**2.04**	**292**	P	**Pn**	**13 34 46.2**	**+0.3**
HIZ	**Hauiti**	**2.04**	**292**	P	**Pn**	**13 34 46.4**	**+0.4**
TOZ	**Tahuroa Road**	**2.09**	**318**	P	**Pn**	**13 34 47.6**	**+1.0**
HOWZ	**Holdsworth Sta**	**2.10**	**220**	P	**Pn**	**13 34 45.7**	**-1.0**
TMWZ	**Te Maipa**	**2.10**	**210**	P	**Pn**	**13 34 45.7**	**-1.1**
OGWZ	**Otaki Gorge**	**2.22**	**226**	P	**Pn**	**13 34 47.5**	**-0.9**
LREZ	**Lake Rotokare**	**2.23**	**265**	P	**Pn**	**13 34 49.8**	**+1.3**
MTW	**Mount Morrison**	**2.31**	**216**	P	**Pn**	**13 34 48.0**	**-1.6**
DREZ	**Durham Road**	**2.39**	**271**	P	**Pn**	**13 34 52.1**	**+1.4**
KIW	**Kapiti Island**	**2.40**	**228**	P	**Pn**	**13 34 49.9**	**-1.0**
PREZ	**Palmer Road**	**2.42**	**268**	P	**Pn**	**13 34 52.6**	**+1.5**
NEZ	**North Egmont**	**2.47**	**269**	P	**Pn**	**13 34 53.1**	**+1.2**
CAW	**Cannon Point**	**2.48**	**222**	P	**Pn**	**13 34 50.5**	**-1.5**
PAWZ	**Paruwai Farm**	**2.52**	**214**	P	**Pn**	**13 34 51.2**	**-1.4**
KHEZ	**Kahui Hut**	**2.53**	**269**	P	**Pn**	**13 34 54.5**	**+1.7**
PKE	**Pukeiti**	**2.56**	**271**	P	**Pn**	**13 34 54.9**	**+1.8**
MSWZ	**Moikau Station**	**2.63**	**215**	P	**Pn**	**13 34 51.6**	**-2.4**
NBEZ	**Newall Road No**	**2.65**	**269**	P	**Pn**	**13 34 55.8**	**+1.6**
PLWZ	**Palliser**	**2.75**	**213**	P	**Pn**	**13 34 53.8**	**-1.8**
WEL	**Wellington**	**2.76**	**223**	P	**Pn**	**13 34 54.5**	**-1.4**
SNZO	**South Karori**	**2.82**	**223**	P	**Pn**	**13 34 54.6**	**-1.9**
SNZO	**South Karori**	**2.82**	**223**	S	**Sn**	**13 35 27.8**	**-1.4**
DUWZ	**D'Urville Isla**	**2.98**	**239**	P	**Pn**	**13 34 58.4**	**-0.5**
TCW	**Tory Channel**	**2.99**	**229**	P	**Pn**	**13 34 57.3**	**-1.7**
QRZ	**Quartz Range**	**3.95**	**246**	P	**Pn**	**13 35 10.2**	**-2.0**
QRZ	**Quartz Range**	**3.95**	**246**	S	**Sn**	**13 35 54.9**	**-2.3**
CTZ	**Chatham Island**	**6.38**	**136**	P	**Pn**	**13 35 45.8**	**+0.3**
ODZ	**Otahua Downs**	**7.57**	**218**	P	**Pn**	**13 35 58.7**	**-3.1**
JCZ	**Jackson Bay**	**7.95**	**230**	P	**Pn**	**13 36 05.0**	**-2.1**

*SNET **09** 13:39:58.3±0.9, 12°.58N×88°.01W, h15km±16km, ML2.7*
CATAC 09 13:39:55.3±0.4,**12°.N**±2°.×**8°.8W**±°,**h26**km,**M3.2**/17, **MLv3.2**/17**, Error ellipse: s-maj=5.8km s-min=2.6km az=37.0, confirmed, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.58**	**25**	P	Pn	13 40 08.4	+0.5
CSGN				S	Sn	13 40 17.9	+1.2
POTN	**Potosi Cosigui**	**0.62**	**28**	P	Pn	13 40 08.6	+0.1
POTN				S	Sn	13 40 18.9	+1.3
CRIN	**San Cristobal**	**0.78**	**71**	P	Pn	13 40 11.6	+0.9
CRIN	**San Cristobal**	**0.78**	**71**	S	Sn	13 40 23.2	+1.6
CNCH	**Conchagua**	**0.82**	**358**	*eP*	Pn	13 40 11.3	-0.1
CNCH				*eS*	Sb	13 40 21.8	-0.1
CNCH	**Conchagua**	**0.82**	**358**	S	Sn	13 40 23.7	+0.9
CNCH	**Conchagua**	**0.82**	**358**	P	Pn	13 40 11.4	0.0
PKGN	**Cerro Pekin**	**0.84**	**75**	P	Pn	13 40 11.7	+0.3
PKGN				S	Sn	13 40 23.9	+0.9
LCND	**La Caada**	**0.86**	**355**	*eP*	Pb	13 40 11.6	0.0
LCND				*eS*	Sb	13 40 22.4	-0.3
LCND				IAML		13 40 25.6	
	comp=Z,307nm,0.3s						
LCND	**La Caada**	**0.86**	**355**	P	Pb	13 40 11.7	+0.1
LCND	**La Caada**	**0.86**	**355**	S	Sn	13 40 24.0	+0.5
BLLM	**Bellamira**	**1.07**	**337**	*eP*	Pn	13 40 15.0	+0.2
BLLM				*eS*	Sn	13 40 28.1	-0.8
VSM	**San Miguel**	**1.07**	**335**	*eP*	Pb	13 40 15.4	-0.1
LCY	**Lacayo**	**1.08**	**334**	*eP*	Pn	13 40 14.9	0.0
CNGA	**Al SSO del Vol**	**1.08**	**88**	P	Pn	13 40 14.6	-0.2
CNGA				S	Sn	13 40 29.0	0.0
CNGN	**Cerro Negro**	**1.08**	**87**	P	Pn	13 40 14.9	0.0
CNGN	**Cerro Negro**	**1.08**	**87**	S	Sb	13 40 29.4	+0.2
ILCN	**San Idelfonso**	**1.09**	**83**	P	Pn	13 40 14.8	-0.1
ILCN				S	Sb	13 40 29.2	-0.1
PACA	**Pacayal**	**1.13**	**334**	*eP*	Pn	13 40 15.9	+0.3
PACA				*eS*	Sn	13 40 29.7	-0.7
PACA	**Pacayal**	**1.13**	**334**	P	Pn	13 40 15.3	-0.4
PACA	**Pacayal**	**1.13**	**334**	S	Sn	13 40 30.5	0.0
CHONN	**Orocuina**	**1.20**	**32**	S	Sn	13 40 31.4	-0.7
CHONN	**Orocuina**	**1.20**	**32**	P	Pn	13 40 15.9	-0.7
COPN	**Copaltepe**	**1.22**	**103**	P	Pn	13 40 16.4	-0.3
TECA	**Tecapa**	**1.24**	**327**	*eP*	Pn	13 40 17.4	+0.2
TECA				*eP*	Pb	13 40 17.4	+0.8
MOM3	**MOM3**	**1.26**	**87**	P	Pn	13 40 17.2	-0.1
MOM3				S	Sn	13 40 33.6	+0.2
MOM2	**El Cardon**	**1.29**	**90**	P	Pn	13 40 17.7	0.0
MOM2				S	Sn	13 40 34.3	+0.2
PQSS	**Presa 15 de Se**	**1.38**	**328**	S	Sn	13 40 36.3	-0.1
PQSS	**Presa 15 de Se**	**1.38**	**328**	P	Pn	13 40 18.8	-0.1
SAPS	**Ciudad Sandino**	**1.40**	**101**	S	Sn	13 40 37.3	+0.5
SAPS	**Ciudad Sandino**	**1.40**	**101**	P	Pn	13 40 19.1	-0.1
UESV	**Universidad de**	**1.52**	**321**	P	Pn	13 40 20.7	-0.1
UESV	**Universidad de**	**1.52**	**321**	S	Sn	13 40 39.7	-0.2
UNAN	**Cigeo UNAN**	**1.54**	**102**	P	Pn	13 40 21.2	+0.1
UNAN				S	Sn	13 40 40.1	-0.2
NANN	**Nandasmo**	**1.72**	**107**	S	Sn	13 40 45.2	+0.3
NANN	**Nandasmo**	**1.72**	**107**	P	Pn	13 40 23.9	+0.2
YUSH	**Yuscaran**	**1.77**	**32**	P	Pn	13 40 23.7	-0.6
YUSH	**Yuscaran**	**1.77**	**32**	S	Sn	13 40 44.8	-1.2
RCVN	**Varillal2**	**1.93**	**54**	P	Pn	13 40 26.3	-0.4
RCVN	**Varillal2**	**1.93**	**54**	S	Sn	13 40 49.2	-1.1

*AEIC **09** 14:28:12.7±0.6,53°.0N±0°.1×161°.8W±0°.1, h2km±9km, Error ellipse: s-maj=18.2km s-min=9.0km az=157.0*
NEIC 09 14:28:09.3±0.7,**53°.04N**±0°.05×**161°.84W**±0°.09,**h10**km±2km, **ML2.6**/12,**ML2.7**(AEIC)**, Error ellipse: s-maj=9.7km s-min=8.4km az=146.0, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**2.05**	**333**		Pn	14 28 43.8	0.0
FALS					Sn	14 29 08.6	-0.7
DT1	**Dutton Round H**	**2.09**	**353**		Pn	14 28 44.4	+0.1
DT1					Sn	14 29 09.6	-0.8
DOL	**Dolgoi Island**	**2.11**	**360**		Pn	14 28 44.6	-0.1
DOL					Sn	14 29 10.1	-0.9
SSBA	**Shishaldin**	**2.20**	**323**		Pn	14 28 46.3	+0.3
CNBA	**Chernabura Isl**	**2.22**	**36**	Pn	Pn	14 28 46.1	-0.1
CNBA				IAML		14 29 27.8	
	comp=N,29nm,1.2s						
CNBA				IAML		14 29 35.2	
	comp=E,21nm,1.0s						
WEBT	**Westdahl Beart**	**2.33**	**313**		Pn	14 28 48.1	+0.5
SDPT	**Sand Point**	**2.45**	**18**	Pn	Pn	14 28 49.1	-0.2
SDPT				IAML		14 29 26.8	
	comp=E,20nm,1.0s						
SDPT	**Sand Point**	**2.45**	**18**		Sn	14 29 18.6	-0.6
AKSA	**Akutan Strait**	**2.55**	**297**		Pn	14 28 50.5	-0.1
AKUT	**Akutan**	**2.59**	**297**	Pn	Pn	14 28 51.3	+0.1
AKUT				IAML		14 29 21.2	
	comp=N,26nm,1.0s						
AKUT				IAML		14 30 06.0	
	comp=E,25nm,0.9s						
AHB	**Akutan Harbor**	**2.61**	**296**		Pn	14 28 51.4	-0.1
AKBBA	**Akutan Broad B**	**2.66**	**295**		Pn	14 28 52.2	0.0
ZRO	**Akutan Zero**	**2.69**	**295**		Pn	14 28 52.5	-0.1
ZRO					Sn	14 29 23.0	-2.1
AKV	**Akutan Volcano**	**2.69**	**296**		Pn	14 28 52.6	0.0
AKGG	**Akutan Green G**	**2.73**	**297**		Pn	14 28 53.3	+0.1
LVA	**Lava Point**	**2.74**	**296**	Pn	Pn	14 28 53.9	+0.2
LVA				IAML		14 30 01.1	
	comp=E,45nm,1.0s						
UNV	**Unalaska Valle**	**2.91**	**288**		Pn	14 28 55.1	-0.5
MNAT	**Makushin Natee**	**3.02**	**288**		Pn	14 28 56.9	-0.2
MNAT					Pn	14 28 57.2	+0.1
MREP	**Makushin Rep't**	**3.04**	**287**		Pn	14 28 57.4	-0.1
MTBL	**Makushin Table**	**3.04**	**290**		Pn	14 28 57.5	+0.1
MSW	**Makushin Switc**	**3.08**	**288**		Sn	14 29 32.7	-2.3
MGOD	**Makushin Gods**	**3.11**	**286**		Pn	14 28 58.8	+0.4
OKTU	**Okmok Mt. Tuli**	**3.75**	**278**		Pn	14 29 07.1	-0.1
OHAK	**Old Harbor**	**6.45**	**46**	Pn	Pn	14 29 44.3	+0.1
ATKA	**Atka Island**	**7.57**	**269**	Pn	Pn	14 29 59.9	+0.2

*NEIC **09** 14:29:13.5±0.2, 19°.24N±0°.04×155°.42W±0°.03, h39km±5km, Error ellipse: s-maj=6.3km s-min=3.3km az=157.0*
HVO 09 14:29:14.9±0.4,**19°.22N**±0°.07×**155°.41W**±0°.07,**h33**km±9km, **ML2.3**/14,**ML2.5**/36(NEIC)**, Error ellipse: s-maj=12.4km s-min=6.3km az=139.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.02**	**30**		Pb	14 29 20.1	-0.3
AIN	**Ainahou**	**0.16**	**343**		Pn	14 29 20.6	-0.1
HPO	**Honuapo**	**0.19**	**227**		Pn	14 29 20.7	-0.5
KHU	**Kahuku**	**0.20**	**277**		Pn	14 29 20.8	-0.7
KHU					Sn	14 29 25.1	+0.1
SDHHI	**Sand Hill**	**0.20**	**33**		Pn	14 29 20.9	-0.6
WRMHI	**West Rim**	**0.21**	**29**		Pn	14 29 20.9	-0.8
UWE	**Uwekahuna**	**0.23**	**29**		Pb	14 29 21.1	-0.9
UWE				IAML		14 29 26.6	
	comp=N,802nm,0.3s						
UWE				IAML		14 29 31.5	
	comp=E,801nm,0.5s						
PUH	**Pauahi**	**0.24**	**50**	IAML		14 29 25.9	
	comp=N,377nm,0.6s						
PUH				IAML		14 29 25.9	
	comp=E,562nm,0.2s						
HATHI	**Halema'uma'u T**	**0.24**	**35**	IAML		14 29 26.1	
	comp=E,448nm,0.6s						
MLH	**Mauna Loa**	**0.27**	**4**		Pb	14 29 21.6	-1.0
MLH				IAML		14 29 26.8	
	comp=E,641nm,0.3s						
MLH				IAML		14 29 28.8	
	comp=N,556nm,0.1s						
STCH	**Steam Cracks**	**0.31**	**58**	IAML		14 29 27.5	
	comp=E,534nm,0.1s						
MWH	**Mokuaweoweo**	**0.32**	**326**	IAML		14 29 27.8	
	comp=N,570nm,0.3s						
HMH	**Humu'ula Sheep**	**0.39**	**349**		Pb	14 29 23.2	-0.9
HMH				IAML		14 29 28.8	
	comp=E,272nm,1.7s						
HMH				IAML		14 29 29.3	
	comp=N,412nm,0.2s						
JOKA	**Jonika Flow**	**0.44**	**61**	IAML		14 29 28.3	
	comp=N,253nm,2.2s						
POHA	**Pohakuloa**	**0.55**	**348**		Pb	14 29 24.5	-1.9
POHA	**Pohakuloa**	**0.55**	**348**	IAML		14 29 29.4	
	comp=N,140nm,3.1s						
POHA				IAML		14 29 35.0	
	comp=N,138nm,1.6s						
HPAH	**Hawaii Prepara**	**0.85**	**341**	IAML		14 29 38.6	
	comp=E,144nm,0.3s						
HPAH				IAML		14 29 49.2	
	comp=N,132nm,3.6s						

*AFAD **09** 14:52:52.4, 36°.81N×31°.34E, h51km±5km, ML2.5*
*ISK **09** 14:52:53.1, 36°.72N×31°.

TROD				AML	AML	14 53 55.7
	0.1nm,0.5s					
XYLS	**Xyliatos**	**2.23**	**141**	P	**Pn**	**14 53 24.9 -2.5**
XYLS				AML	AML	14 53 54.5
	0.1nm,0.2s					
XYLS				AML	AML	14 53 58.9
	0.1nm,0.2s					
KIZK	**Mersin**	**2.28**	**96**	Pn	**Pn**	**14 53 29.9 +1.9**
KERG	**Konya-Eregli**	**2.33**	**73**	P	**Pn**	**14 53 28.0 -0.8**
KERG				S	**Sn**	**14 53 57.0 +0.1**
KERG				*i* IAML		14 54 53.0
	comp=N,34nm,2.8s					
CSS	**Mathiatis**	**2.42**	**137**	P	**Pn**	**14 53 27.9 -2.1**
MVOU	**Mavrovouni**	**2.55**	**132**	P	**Pn**	**14 53 29.9 -1.9**
KIRA	**zmir-Kiraz**	**2.74**	**302**	P	**Pn**	**14 53 33.7 -0.8**
KIRA				S	**Sn**	**14 54 04.3 -2.7**
KIRA				*i* IAML		14 54 24.0
	comp=E,12nm,1.9s					

IDC ***09*** *15:16:03.5±1.0,23°.36N×122°.18E,h0km,mb3.8/7, mbtmp3.8/7,MS4.0/2,Error ellipse: s-maj=94.0km s-min=18.1km az=65.0*
JMA ***09*** *15:16:10.6±0.1,23°.2N±0°.7×12°.2E±°,h47km±2km, MV3.4/16,TAIWAN REGION*
TAP ***09*** *15:16:11.1,23°.18N×121°.58E,h40km,ML3.9,B*
ISC 09 15:16:10.0±0.8,23°.18N±0°.02×121°.61E±0°.02,h34km±2km, n172,σ1§30/280,mb3.5/7,9C-26D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKH	**Chenggong**	**0.20**	**273**	⇑*i*P	**Pb**	**15 16 17.9**	**+1.1**
CHKH				*e*S	**Sb**	**15 16 23.0**	**+1.6**
ECBN	**Changbin**	**0.20**	**312**	⇑*i*P	**Pb**	**15 16 18.3**	**+1.5**
ECBN				*e*S	**Sb**	**15 16 23.5**	**+2.1**
CHKT	**Chengkung**	**0.24**	**250**	⇑*i*P	**Pb**	**15 16 18.3**	**+1.0**
CHKT				*i* S	**Sb**	**15 16 23.7**	**+1.6**
FULB	**Fuli**	**0.29**	**273**	⇑*i*P	**Pn**	**15 16 18.7**	**+0.9**
FULB				S	**Sb**	**15 16 25.1**	**+1.9**
EYUL	**Yuli**	**0.32**	**301**	⇑*i*P	**Pn**	**15 16 19.6**	**+1.4**
EYUL				*e*S	**Sb**	**15 16 26.4**	**+2.7**
TWF1	**Yuli**	**0.34**	**300**	⇓*i*P	**Pn**	**15 16 19.5**	**+1.0**
TWF1				*e*S	**Sb**	**15 16 25.3**	**+1.1**
EDH	**Donghe**	**0.35**	**234**	⇑P	**Pb**	**15 16 19.4**	**+0.8**
EDH				*e*S	**Sn**	**15 16 25.6**	**+1.4**
HGSD	**Ruisui**	**0.35**	**331**	⇑*i*P	**Pb**	**15 16 19.3**	**+0.7**
YULB	**Yu-li**	**0.36**	**306**	P	**Pn**	**15 16 19.7**	**+0.7**
YULB	**Yu-li**	**0.36**	**306**	⇓*i*P	**Pn**	**15 16 19.6**	**+0.7**
YULB				*e*S	**Sn**	**15 16 26.2**	**+1.7**
ECS	**Chishang**	**0.37**	**257**	⇓*i*P	**Pn**	**15 16 20.4**	**+1.2**
ECS				*e*S	**Sn**	**15 16 27.6**	**+2.7**
EHD	**Haiduan**	**0.38**	**265**	⇓*i*P	**Pn**	**15 16 19.8**	**+0.7**
EHD				*e*S	**Sn**	**15 16 25.7**	**+0.7**
EHYH	**Wanrong**	**0.40**	**322**	⇑*i*P	**Pn**	**15 16 20.4**	**+0.9**
EHYH				*e*S	**Sn**	**15 16 26.9**	**+1.3**
EHY	**Hungye**	**0.42**	**320**	⇓*i*P	**Pb**	**15 16 20.3**	**+0.8**
EHY				*e*S	**Sn**	**15 16 27.0**	**+0.8**
EGFH	**Guangfu**	**0.51**	**341**	*e*P	**Pn**	**15 16 21.9**	**+0.9**
EGFH				*e*S	**Sn**	**15 16 29.2**	**+0.7**
LDUT	**Ludao**	**0.52**	**195**	*e*P	**Pb**	**15 16 21.6**	**+0.5**
LDUT				*e*S	**Sb**	**15 16 29.6**	**+1.0**
LONT	**Longtian**	**0.52**	**239**	⇓*i*P	**Pb**	**15 16 21.6**	**+0.6**
LONT				*i* S	**Sn**	**15 16 29.6**	**+0.8**
TEGC	**Jichi Village**	**0.53**	**353**	*e*P	**Pn**	**15 16 22.2**	**+1.1**
TEGC				*e*S	**Sn**	**15 16 30.4**	**+1.6**
ELDTW	**Lidau**	**0.55**	**271**	⇓*i*P	**Pb**	**15 16 21.7**	**+0.1**
ELDTW				*e*S	**Sb**	**15 16 28.9**	**-0.7**
WARBT	**Fenglin Townsh**	**0.57**	**339**	⇓*i*P	**Pb**	**15 16 22.1**	**+0.2**
WARBT				*e*S	**Sb**	**15 16 29.9**	**-0.1**
SHUL	**Shoufeng**	**0.60**	**356**	⇑P	**Pn**	**15 16 23.1**	**+0.9**
SHUL				*e*S	**Sn**	**15 16 32.4**	**+1.6**
TTN	**Taitung**	**0.61**	**225**	*e*P	**Pn**	**15 16 23.0**	**+0.8**
TTN				*e*S	**Sn**	**15 16 32.5**	**+1.7**
TWGBT	**Beinan**	**0.61**	**234**	P	**Pn**	**15 16 22.6**	**+0.4**
TWGBT	**Beinan**	**0.61**	**234**	S	**Sb**	**15 16 31.5**	**+0.5**
TWGBT	**Beinan**	**0.61**	**234**	⇓*i*P	**Pn**	**15 16 22.5**	**+0.3**
TWGBT				*e*S	**Sb**	**15 16 31.0**	**-0.1**
TWG	**Pinlang**	**0.61**	**234**	⇓*i*P	**Pn**	**15 16 22.5**	**+0.2**
TWG				*e*S	**Sb**	**15 16 30.9**	**-0.2**
ESL	**Shilin**	**0.65**	**345**	P	**Pn**	**15 16 23.1**	**+0.3**
ESL				*e*S	**Sb**	**15 16 32.0**	**-0.1**
TEYL	**Yanliau Villag**	**0.68**	**359**	*e*P	**Pn**	**15 16 24.3**	**+1.1**
TEYL				*e*S	**Sb**	**15 16 35.2**	**+2.2**
STYH	**Taoyuan**	**0.77**	**269**	⇓P	**Pn**	**15 16 25.4**	**+0.9**
STYH				*e*S	**Sb**	**15 16 35.7**	**+0.4**
ETM	**Tongmen**	**0.79**	**352**	*e*P	**Pn**	**15 16 25.4**	**+0.7**
ETM				*e*S	**Sn**	**15 16 35.2**	**-0.1**
HWA	**Hwalien**	**0.79**	**359**	*e*P	**Pn**	**15 16 26.1**	**+1.3**
HWA				*e*S	**Sb**	**15 16 37.4**	**+1.5**
ALS	**Alishan**	**0.81**	**294**	⇓*i*P	**Pb**	**15 16 26.6**	**+0.6**
ALS				*i* S	**Sb**	**15 16 37.5**	**+0.7**
ECL	**Taimali**	**0.84**	**226**	*e*P	**Pn**	**15 16 25.0**	**-0.4**
ECL				S	**Sn**	**15 16 36.0**	**-0.7**
SSLB	**Suanglung**	**0.85**	**315**	P	**Pn**	**15 16 26.5**	**+0.8**
SSLB	**Suanglung**	**0.85**	**315**	⇓P	**Pn**	**15 16 26.5**	**+0.8**
SSLB				*e*S	**Sn**	**15 16 36.9**	**-0.2**
WHYT	**Xinyi Township**	**0.87**	**306**	⇓*i*P	**Pb**	**15 16 27.3**	**+0.6**
WHYT				*e*S	**Sb**	**15 16 39.1**	**+1.0**
OWD	**Renai**	**0.87**	**332**	⇓*e*P	**Pn**	**15 16 26.7**	**+0.7**
OWD				*e*S	**Sn**	**15 16 37.1**	**-0.3**
TWD	**Chiawan**	**0.89**	**359**	P	**Pn**	**15 16 26.9**	**+0.7**
TWD				S	**Sn**	**15 16 39.2**	**+1.3**
TPUB	**Ta-pu**	**0.91**	**278**	P	**Pb**	**15 16 28.2**	**+0.7**
TPUB	**Ta-pu**	**0.91**	**278**	⇓P	**Pb**	**15 16 28.0**	**+0.5**
TPUB				*e*S	**Sb**	**15 16 40.5**	**+1.1**
WTP	**Ta-pu**	**0.92**	**274**	⇓*i*P	**Pb**	**15 16 28.2**	**+0.5**
WTP				*e*S	**Sb**	**15 16 40.9**	**+1.2**
WUSB	**Renai**	**0.93**	**331**	⇓P	**Pn**	**15 16 27.7**	**+0.9**
WUSB				*e*S	**Sn**	**15 16 39.2**	**+0.3**
CHN5	**Tsauling**	**0.95**	**296**	⇓*i*P	**Pb**	**15 16 28.9**	**+0.7**
CHN5				*i* S	**Sb**	**15 16 42.5**	**+1.8**
SMLT	**Sun Moon Lake**	**0.96**	**317**	⇓*i*P	**Pb**	**15 16 28.5**	**+0.2**
SMLT				*i* S	**Sb**	**15 16 42.5**	**-0.1**
WCKO	**Fanlu**	**0.96**	**286**	⇓P	**Pb**	**15 16 28.8**	**+0.5**
WCKO				*i* S	**Sb**	**15 16 42.5**	**+1.7**
ETL	**Fush Village**	**0.97**	**0**	*e*P	**Pn**	**15 16 28.0**	**+0.7**
NACB	**Ninganchiao**	**0.99**	**359**	P	**Pn**	**15 16 28.2**	**+0.7**
NACB	**Ninganchiao**	**0.99**	**359**	*e*P	**Pn**	**15 16 27.9**	**+0.4**
NACB				*i* S	**Sn**	**15 16 40.7**	**+0.4**
TYC	**Yuchr**	**1.00**	**316**	⇓*i*P	**Pb**	**15 16 29.3**	**+0.3**
TYC				*e*S	**Sb**	**15 16 42.1**	**+0.3**
SSD	**Sandimen**	**1.00**	**245**	*e*P	**Pn**	**15 16 28.4**	**+0.7**
SSD				*e*S	**Sn**	**15 16 41.6**	**+0.9**
WHF	**Hehuan Shan**	**1.01**	**342**	*e*P	**Pn**	**15 16 28.7**	**+0.5**
WHF				*e*S	**Sn**	**15 16 42.1**	**+0.6**
ETLH	**Xiulin Townshi**	**1.03**	**353**	⇓*e*P	**Pn**	**15 16 28.6**	**+0.5**
ETLH				*e*S	**Sn**	**15 16 41.1**	**-0.3**
SNST	**Tainan City**	**1.03**	**272**	*i* P	**Pb**	**15 16 30.3**	**+0.9**
SNST				*i* S	**Sb**	**15 16 44.7**	**+2.0**
WJS	**Zhushan**	**1.03**	**308**	⇓P	**Pb**	**15 16 30.2**	**+0.7**
WJS				*e*S	**Sb**	**15 16 44.4**	**+1.6**
TWK	**Hsinying**	**1.04**	**275**	*i* P	**Pb**	**15 16 30.4**	**+0.8**
TWK				*i* S	**Sb**	**15 16 44.8**	**+1.8**
TAW	**Tawu**	**1.05**	**219**	*e*P	**Pn**	**15 16 28.6**	**+0.2**
TAW				*e*S	**Sn**	**15 16 41.6**	**-0.3**
MASBT	**Mashibuluo**	**1.07**	**238**	*i* P	**Pn**	**15 16 29.5**	**+0.9**
MASBT				*e*S	**Sn**	**15 16 43.2**	**+1.0**
SCST	**Cishan**	**1.07**	**254**	⇓*i*P	**Pb**	**15 16 31.2**	**+1.1**
SCST				S	**Sb**	**15 16 46.9**	**+2.9**
WCS	**Beigang Elemen**	**1.08**	**324**	*i* P	**Pb**	**15 16 30.7**	**+0.3**
WCS				*e*S	**Sb**	**15 16 44.3**	**+0.1**
WGK	**Gukeng**	**1.09**	**298**	*e*P	**Pb**	**15 16 31.2**	**+0.8**
WGK				*i* S	**Sb**	**15 16 46.0**	**+1.6**
WNT	**Mingjian**	**1.10**	**309**	*e*P	**Pb**	**15 16 31.2**	**+0.6**
WNT				S	**Sb**	**15 16 45.8**	**+1.1**
CHN2	**Minshiung**	**1.10**	**289**	*e*P	**Pb**	**15 16 31.7**	**+1.0**
WDLH	**Douliu**	**1.11**	**297**	P	**Pb**	**15 16 31.6**	**+0.8**
WDLH				*i* S	**Sb**	**15 16 46.4**	**+1.4**
FUSS	**Fushou**	**1.11**	**342**	*e*P	**Pn**	**15 16 30.9**	**+1.5**
FUSS				*e*S	**Sn**	**15 16 44.2**	**+0.5**
WDL	**Douliou City**	**1.12**	**298**	*e*P	**Pb**	**15 16 31.6**	**+0.6**
WDL				*e*S	**Sb**	**15 16 47.4**	**+2.2**
SGLT	**Jiouru**	**1.13**	**247**	*e*P	**Pb**	**15 16 32.4**	**+1.3**
SGLT				*e*S	**Sb**	**15 16 48.1**	**+2.6**
EOS4	**EOS4**	**1.14**	**34**	*e*P	**Pn**	**15 16 30.7**	**+1.5**
EOS4				*i* S	**Sn**	**15 16 44.9**	**+1.5**
LAY	**Lan-yu**	**1.14**	**183**	*e*P	**Pn**	**15 16 29.9**	**+0.3**
TWT	**Tachien**	**1.14**	**339**	*e*P	**Pb**	**15 16 31.5**	**+0.1**
TWT				S	**Sn**	**15 16 45.6**	**+1.3**
TDCB	**Techi**	**1.15**	**339**	⇓P	**Pn**	**15 16 31.2**	**+1.4**
TDCB				*e*S	**Sn**	**15 16 45.3**	**+0.9**
EAHA	**Aohua**	**1.15**	**6**	*e*P	**Pn**	**15 16 30.6**	**+0.9**
EAHA				*e*S	**Sn**	**15 16 45.3**	**+1.1**
TWM1	**Shoushan**	**1.15**	**252**	P	**Pb**	**15 16 33.3**	**+1.7**
TWM1				*e*S	**Sb**	**15 16 49.0**	**+2.7**
CHN3	**Shinhua**	**1.16**	**265**	*e*P	**Pb**	**15 16 33.1**	**+1.6**
CHN3				S	**Sb**	**15 16 49.5**	**+3.2**
LYUB	**Lan-yu**	**1.18**	**181**	*e*P	**Pn**	**15 16 29.6**	**-0.5**
SHHT	**Tainan City**	**1.18**	**262**	*e*P	**Pb**	**15 16 33.3**	**+1.4**
SHHT				*e*S	**Sb**	**15 16 50.1**	**+3.3**
SCZT	**Fangliau**	**1.22**	**229**	P	**Pb**	**15 16 32.7**	**+0.1**
SCZT				S	**Sb**	**15 16 47.8**	**-0.3**
SLIU	**Shizi**	**1.22**	**218**	*e*P	**Pn**	**15 16 32.1**	**+1.4**
SSHA	**Shanhua**	**1.22**	**268**	*e*P	**Pb**	**15 16 33.5**	**+0.9**
SSHA				S	**Sb**	**15 16 50.5**	**+2.4**
WTK	**Tuku**	**1.23**	**294**	*e*P	**Pb**	**15 16 32.6**	**-0.2**
WTK				*e*S	**Sb**	**15 16 49.4**	**+0.9**
ICHU	**Yijhu**	**1.24**	**279**	*e*P	**Pb**	**15 16 33.1**	**+0.2**
ICHU				*e*S	**Sb**	**15 16 49.9**	**+1.3**
ENA	**Nanau**	**1.25**	**5**	*e*P	**Pn**	**15 16 32.1**	**+1.1**
WHP	**Taichung City**	**1.25**	**331**	*e*P	**Pb**	**15 16 33.9**	**+0.6**
WHP				*e*S	**Sb**	**15 16 49.4**	**+0.3**
SNJT	**Kaohsiung City**	**1.25**	**250**	*e*P	**Pb**	**15 16 34.0**	**+0.8**
SNJT				*e*S	**Sb**	**15 16 52.4**	**+3.3**
NNSB	**Datong**	**1.26**	**350**	*e*P	**Pn**	**15 16 32.5**	**+1.1**
NNSB				*e*S	**Sn**	**15 16 47.5**	**+0.3**
NNS	**Nan Shan**	**1.27**	**350**	*e*P	**Pn**	**15 16 32.9**	**+1.4**
NNS				S	**Sn**	**15 16 48.8**	**+1.3**
EOS3	**EOS3**	**1.27**	**30**	*e*P	**Pn**	**15 16 32.9**	**+1.6**
EOS3				*e*S	**Sn**	**15 16 47.4**	**+0.3**
TCU	**Taichung**	**1.29**	**318**	*e*P	**Pb**	**15 16 34.0**	**+0.2**
TCU				*e*S	**Sb**	**15 16 51.4**	**+1.3**
CHN8	**Yiju**	**1.30**	**277**	*i* P	**Pb**	**15 16 33.8**	**-0.2**
CHN8				*i* S	**Sb**	**15 16 50.9**	**+0.5**
SCLT	**Jiali**	**1.31**	**270**	*i* P	**Pb**	**15 16 34.1**	**0.0**
SCLT				*e*S	**Sb**	**15 16 51.2**	**+0.7**
WSL	**Shuilin Townsh**	**1.32**	**285**	P	**Pb**	**15 16 34.0**	**-0.3**
WSL				*i* S	**Sb**	**15 16 51.1**	**+0.2**
WCH1	**Changhua City**	**1.32**	**312**	*i* P	**Pb**	**15 16 34.8**	**+0.5**
WCH1				*e*S	**Sb**	**15 16 51.1**	**+0.2**
LATG	**Datong**	**1.35**	**357**	*e*P	**Pn**	**15 16 33.9**	**+1.3**
EOS2	**EOS2**	**1.35**	**25**	*e*P	**Pn**	**15 16 34.4**	**+2.0**
WSF	**Szhu**	**1.36**	**290**	P	**Pn**	**15 16 34.3**	**+1.7**
WSF				*i* S	**Sb**	**15 16 51.4**	**-0.6**
WSSB	**Gushan**	**1.36**	**247**	*e*P	**Pb**	**15 16 36.1**	**+1.2**
WSSB				*e*S	**Sb**	**15 16 53.9**	**+1.8**
SMST	**Manzhou Townsh**	**1.36**	**212**	*e*P	**Pn**	**15 16 33.7**	**+1.1**
SMST				*e*S	**Sn**	**15 16 49.7**	**+0.2**
TWQ1	**Liyutan**	**1.39**	**327**	*i* P	**Pb**	**15 16 36.1**	**+0.6**
TWQ1				*i* S	**Sb**	**15 16 54.2**	**+1.2**
WTCT	**Ta-ch'eng**	**1.40**	**299**	*i* P	**Pn**	**15 16 34.9**	**+1.8**
WTCT				*i* S	**Sb**	**15 16 52.8**	**-0.4**
TSCK	**Chigu Township**	**1.41**	**269**	*e*P	**Pb**	**15 16 35.7**	**-0.1**
TSCK				*i* S	**Sb**	**15 16 53.0**	**-0.4**
WLCH	**Liuqiu**	**1.41**	**234**	*e*P	**Pb**	**15 16 37.4**	**+1.6**
HEN	**Hengchun**	**1.42**	**215**	*e*P	**Pb**	**15 16 36.5**	**+0.4**
TWP	**Hsiaoliuchiu**	**1.42**	**234**	*e*P	**Pb**	**15 16 38.6**	**+2.5**
TSEB	**Hengchuen, Pin**	**1.44**	**208**	*e*P	**Pn**	**15 16 35.4**	**+1.8**
TSEB				*e*S	**Sn**	**15 16 53.2**	**+1.9**
TWC	**Suao**	**1.44**	**9**	*e*P	**Pn**	**15 16 35.3**	**+1.6**
TWC				*e*S	**Sn**	**15 16 52.8**	**+1.5**
TWKBT	**Hengchun**	**1.44**	**211**	*e*P	**Pn**	**15 16 34.3**	**+0.6**
TWKBT				*i* S	**Sn**	**15 16 52.4**	**+1.0**
TWK1	**Hengchun**	**1.44**	**211**	*e*P	**Pn**	**15 16 34.7**	**+1.0**
TWK1				*e*S	**Sn**	**15 16 52.4**	**+1.0**
NDS	**Dongshan**	**1.45**	**4**	*e*P	**Pn**	**15 16 35.5**	**+1.6**
ENTT	**Nioudou**	**1.45**	**358**	*e*P	**Pn**	**15 16 35.5**	**+1.6**
NSY	**Sanyi**	**1.46**	**328**	*e*P	**Pb**	**15 16 37.1**	**+0.5**
NSY				S	**Sb**	**15 16 56.3**	**+1.5**
WDJ	**Dajia District**	**1.46**	**323**	*e*P	**Pb**	**15 16 37.3**	**+0.5**
WDJ				*e*S	**Sb**	**15 16 56.4**	**+1.3**
YHNB	**Yeheng**	**1.50**	**352**	P	**Pn**	**15 16 36.6**	**+2.0**
YHNB	**Yeheng**	**1.50**	**352**	*e*P	**Pn**	**15 16 36.8**	**+2.2**
YHNB				*e*S	**Sn**	**15 16 54.2**	**+1.2**
NSK	**Sanguang**	**1.51**	**351**	*e*P	**Pn**	**15 16 36.8**	**+2.1**
NSK				*i* S	**Sn**	**15 16 54.2**	**+1.1**
NFF	**Wufeng Townshi**	**1.51**	**343**	*i* P	**Pb**	**15 16 37.7**	**0.0**
NFF				*e*S	**Sb**	**15 16 56.2**	**-0.4**
TWE	**Neicheng**	**1.53**	**2**	*e*P	**Pn**	**15 16 37.3**	**+2.4**
TWE				*e*S	**Sn**	**15 16 56.0**	**+2.3**
NMLH	**Miaoli**	**1.54**	**331**	*e*P	**Pb**	**15 16 37.8**	**-0.3**
NMLH				*i* S	**Sb**	**15 16 57.7**	**+0.3**
NSTT	**Nanjuang**	**1.55**	**339**	P	**Pb**	**15 16 37.9**	**-0.3**
NSTT				*i* S	**Sb**	**15 16 57.1**	**-0.4**
LIOB	**Emei**	**1.56**	**340**	*i* P	**Pb**	**15 16 38.2**	**-0.2**
LIOB				*e*S	**Sb**	**15 16 57.3**	**-0.4**
FUSB	**Fushanzhiwuyua**	**1.57**	**359**	*e*P	**Pn**	**15 16 37.0**	**+1.4**
NWLT	**Wulai**	**1.59**	**356**	*e*P	**Pn**	**15 16 38.1**	**+2.2**
NWLT				*e*S	**Sn**	**15 16 56.8**	**+1.5**
KSHI	**Guanxi Townshi**	**1.64**	**346**	*e*P	**Pb**	**15 16 40.1**	**+0.4**
KSHI				*e*S	**Sb**	**15 16 59.8**	**-0.2**
EGS		**1.68**	**10**	*e*P	**Pn**	**15 16 39.5**	**+2.5**
JYNG	**Yonagunijimaku**	**1.76**	**44**	*e*P	**Pn**	**15 16 40.0**	**+1.9**
JYNG				S	**Sn**	**15 17 00.9**	**+1.7**
TATO	**Taipei**	**1.79**	**356**	P	**Pn**	**15 16 40.2**	**+1.7**
TATO	**Taipei**	**1.79**	**356**	S	**Sn**	**15 17 02.7**	**+2.6**
TIPB	**Shuangxi**	**1.79**	**6**	*e*P	**Pn**	**15 16 41.4**	**+2.8**
WDGT	**Dungji**	**1.80**	**273**	*i* P	**Pn**	**15 16 39.8**	**+1.1**
WDGT				S	**Sn**	**15 16 59.9**	**-0.4**
YOJ	**Yonaguni jima**	**1.81**	**45**	P	**Pn**	**15 16 40.9**	**+2.2**
YOJ	**Yonaguni jima**	**1.81**	**45**	S	**Sn**	**15 17 03.8**	**+3.4**
YOJ	**Yonaguni jima**	**1.81**	**45**	*e*P	**Pn**	**15 16 40.3**	**+1.6**
YOJ				*e*S	**Sn**	**15 17 02.2**	**+1.8**
YOJ	**Yonaguni jima**	**1.81**	**45**	*e*P	**Pn**	**15 16 40.9**	**+2.2**
YOJ				*e*S	**Sn**	**15 17 02.1**	**+1.6**
TWB1	**Santiao Chiao**	**1.85**	**11**	*e*P	**Pn**	**15 16 41.5**	**+2.1**
PHUB	**P'eng-hu**	**1.91**	**280**	*i* P	**Pn**	**15 16 41.3**	**+1.2**
PHUB				*e*S	**Sn**	**15 17 02.7**	**-0.2**
SXI1	**Grass Mountain**	**1.92**	**7**	*e*P	**Pn**	**15 16 43.3**	**+3.0**
SXI1				S	**Sn**	**15 17 06.6**	**+3.2**
PNG	**Penghu**	**1.93**	**282**	*e*P	**Pn**	**15 16 41.6**	**+1.2**
PNG				*e*S	**Sn**	**15 17 04.2**	**+0.6**
ZUZH	**Zhuzihu**	**1.97**	**358**	*e*P	**Pn**	**15 16 43.3**	**+2.2**
ZUZH				*e*S	**Sn**	**15 17 06.1**	**+1.5**
ANP	**Anpu**	**2.00**	**358**	*e*P	**Pb**	**15 16 44.6**	**-1.2**
VCHM	**Qimei**	**2.01**	**271**	*i* P	**Pn**	**15 16 42.7**	**+1.2**
HATJ	**Hateruma jima**	**2.19**	**66**	*e*P	**Pn**	**15 16 45.6**	**+1.6**
HATJ				*e*S	**Sn**	**15 17 11.1**	**+1.1**
IRIF	**Iriomote-Funau**	**2.25**	**59**	*e*P	**Pn**	**15 16 46.6**	**+1.8**
IRIF				*e*S	**Sn**	**15 17 15.4**	**+1.0**
JKRS	**Kuro-shima**	**2.43**	**64**	*e*P	**Pn**	**15 16 49.2**	**+1.9**
JKRS				*e*S	**Sn**	**15 17 17.6**	**+1.6**
JIJ	**Ishigaki jima**	**2.60**	**63**	*e*P	**Pn**	**15 16 50.9**	**+1.3**
JIJ				*e*S	**Sn**	**15 17 20.4**	**+0.4**
VWUC	**VWUC**	**2.68**	**313**	*e*P	**Pn**	**15 16 51.2**	**+0.5**
JISG	**Ishigakijimahi**	**2.84**	**60**	*e*P	**Pn**	**15 16 53.9**	**+1.0**
JISG				*e*S	**Sn**	**15 17 25.7**	**-0.2**
PTMZ	**Houxiangcun**	**2.94**	**310**	*e*P	**Pn**	**15 16 55.0**	**+0.8**
KNM	**Kinmen**	**3.16**	**294**	*e*P	**Pn**	**15 16 59.3**	**+1.9**
JTJ	**Tarama**	**3.18**	**62**	*e*P	**Pn**	**15 16 59.2**	**+1.6**
JTJ				*e*S	**Sn**	**15 17 35.6**	**+1.3**
KNMB	**Chin-men Tao**	**3.22**	**294**	*e*P	**Pn**	**15 16 58.0**	**-0.1**
ZPLA	**Ao Xicun**	**3.62**	**283**	*e*P	**Pn**	**15 17 04.2**	**+0.5**
JIRB	**Irabujima**	**3.64**	**63**	*e*P	**Pn**	**15 17 05.2**	**+1.2**
JIRB				*e*S	**Sn**	**15 17 45.7**	**-0.1**
JMJ2	**Miyako jima3**	**3.73**	**65**	*e*P	**Pn**	**15 17 06.8**	**+1.6**
JMJ2				*e*S	**Sn**	**15 17 49.7**	**+1.6**
MHZQ	**Yeshan**	**3.74**	**322**	*e*P	**Pn**	**15 17 08.2**	**+0.4**
AXDP	**Jialang**	**3.75**	**298**	*e*P	**Pn**	**15 17 05.8**	**+0.4**
JIKM	**Ikemajima**	**3.75**	**62**	*e*S	**Sn**	**15 17 48.5**	**+0.2**
DSXP	**Dongshan**	**3.88**	**279**	*e*P	**Pn**	**15 17 08.1**	**+0.8**
XPSS	**Dashiqiu**	**3.95**	**341**	*e*P	**Pn**	**15 17 08.5**	**+0.3**
SXFK	**Yanhouchang**	**4.82**	**312**	*e*P	**Pn**	**15 17 20.4**	**+0.1**
MKAR	**Makanchi Array**	**39.33**	**317**	P	**P**	**15 23 36.2**	**+0.2**
	0.6nm,0.7s,baz=104,slow=10,SNR=5.6 0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**41.30**	**328**	P	**P**	**15 23 51.4**	**-0.6**
	1.0nm,0.4s,baz=116,slow=8.4,SNR=5.0 1.0nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**42.16**	**86**	T	T	16 09 22.3	
	baz=282,slow=75,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**42.16**	**86**	T	T	16 09 19.9	
	baz=282,slow=75,SNR=6.8						
H11N3	**WAKE ISLAND Hy**	**42.17**	**86**	T	T	16 09 24.5	
	baz=282,slow=75,SNR=5.2						
H11S3	**WAKE ISLAND Hy**	**42.26**	**88**	T	T	16 09 35.0	
	baz=284,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**42.27**	**88**	T	T	16 09 34.5	
	baz=284,slow=75,SNR=7.8						
H11S2	**WAKE ISLAND Hy**	**42.28**	**88**	T	T	16 09 25.8	
	baz=284,slow=75,SNR=10						
KURBB	**Kurchatov Arra**	**43.13**	**320**	P	**P**	**15 24 07.1**	**+0.1**
	0.3nm,0.5s,baz=96,slow=6.0,SNR=4.6						
KURBB				LR	LR	15 42 25.3	
	comp=Z,453nm,21.8s,baz=328,slow=36 0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.62**	**163**	P	**P**	**15 24 17.7**	**-1.7**
	0.6nm,1.0s,baz=343,slow=7.9,SNR=2.5 0.6nm,1.0s						
ASAR	**Alice Springs**	**48.08**	**165**	P	**P**	**15 24 45.8**	**-0.6**
	0.3nm,0.8s,baz=342,slow=6.6,SNR=6.8 0.3nm,0.8s						
STKA	**Stephens Creek**	**57.99**	**160**	P	**P**	**15 25 57.0**	**-2.3**
	2.2nm,0.7s,baz=307,slow=18,SNR=4.6 2.2nm,1.0s						
SPITS	**Spitsbergen Ar**	**70.54**	**348**	P	**P**	**15 27 19.3**	**-1.7**
	2.8nm,0.6s,baz=64,slow=3.4,SNR=9.1 2.8nm,0.6s						
MLR	**Muntele Rosu**	**77.63**	**314**	LR	LR	16 08 37.0	
	comp=Z,36nm,18.5s,baz=228,slow=40						
LPAZ	**La Paz**	**168.55**	**55**	PKP	**PKPdf**	**15 36 14.0**	**-0.8**
	3.3nm,0.3s,baz=292,slow=4.8,SNR=8.7						

SOME ***09*** *15:42:47.2,43°.33N×85°.30E,h5km*
NNC ***09*** *15:42:49.3±2.3,43°.10N×85°.10E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=17.7km s-min=9.0km az=130.0*
ISC 09 15:43:02.3±2.2,43°.73N±0°.09×84°.48E±0°.09,h10km,n18, σ1§38/27,8C-1D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**3.43**	**334**	⇑Pn	**Pn**	**15 43 54.8**	**-1.0**
	0.5nm,0.3s,baz=147,slow=15,SNR=39						
MK31				⇑Pg	**Pg**	**15 44 06.4**	**-1.6**
	1.5nm,0.3s,baz=148,slow=15,SNR=7.0						
MK31				⇓Lg	Lg	15 45 05.0	
	19nm,0.6s,baz=137,slow=29,SNR=6.0						
**MAKZ

JNBK	**Urakawa-nobuka**	**5.12 250**	*e*P		**Pn**	**16 28 17.1**	**+2.2**
JNBK			*e*S		**Sn**	**16 29 13.3**	**-1.2**
JANG	**Nango**	**6.90 239**	*e*S		**Sn**	**16 29 52.9**	**-5.4**

NEIC ***09*** *16:29:28.1±1.2,43.91N±0.04×105.21W±0.10, h0km±1km, ML3.4/36, Error ellipse: s-maj=12.3km s-min=6.0km az=281.0*

IDC ***09*** *16:29:29.4±1.5, 44.19N×105.72W, h0km, mbtmp3.3/2, ML2.1/1, Error ellipse: s-maj=46.3km s-min=9.8km az=146.0*

ISC 09 16:29:28.2±1.3,**43.90N**±0.07×**105.12W**±0.06,**h0**km,**n21,** σ1°**05**/16,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.81**	**74**	Pg	**Pn**	**16 29 46.2**	**-1.0**
K22A	**Casper**	**1.61**	**220**		**Pn**	**16 29 58.0**	**-0.2**
K22A				IAML		16 30 24.6	
	344nm,0.3s						
LAO	**LASA Array**	**2.89**	**345**	Pn	**Pn**	**16 30 15.8**	**+0.1**
LAO				IAML		16 30 58.1	
	199nm,0.7s						
LAO				IAML		16 31 05.7	
	145nm,0.7s						
RLMT	**Red Lodge**	**3.21**	**294**		**Pn**	**16 30 20.4**	**+0.3**
BW06	**Boulder Array**	**3.43**	**252**		**Pn**	**16 30 23.9**	**+0.7**
BW06				IAML		16 31 14.0	
	45nm,0.6s						
BW06				IAML		16 31 19.4	
	53nm,0.6s						
PD31	**Pinedale Array**	**3.43**	**252**		**Pn**	**16 30 23.3**	**+0.1**
PDAR	**Pinedale Array**	**3.43**	**252**		**Pn**	**16 30 24.9**	**+1.7**
PDAR	**Pinedale Array**	**3.43**	**252**	Pn	**Pn**	**16 30 23.4**	**+0.2**
	1.2nm,0.3s,baz=64,slow=14,SNR=14						
PDAR				Pg	**Pb**	**16 30 28.9**	**-1.1**
	3.2nm,0.3s,baz=61,slow=17,SNR=18						
PDAR				Lg	Lg	16 31 08.2	
	2.6nm,0.3s,baz=66,slow=34,SNR=4.0						
YNE	**Yellowstone No**	**3.67**	**289**		**Pn**	**16 30 25.6**	**-0.8**
YNE				IAML		16 31 27.3	
	comp=N,40nm,0.7s						
YNE				IAML		16 31 27.9	
	comp=E,52nm,0.7s						
YMP	**Mirror Lake Pl**	**3.71**	**285**		**Pn**	**16 30 27.4**	**+0.3**
YMP				IAML		16 31 28.6	
	comp=N,82nm,0.6s						
YMP				IAML		16 31 34.2	
	comp=E,69nm,0.7s						
HAYD	**Hayden**	**3.73**	**206**		**Pn**	**16 30 28.7**	**+1.4**
OGNE	**Ogallala**	**3.73**	**141**		**Pn**	**16 30 28.1**	**+0.9**
OGNE				IAML		16 31 39.5	
	comp=E,69nm,0.9s						
LOHW	**Long Hollow**	**3.98**	**268**	Pn	**Pn**	**16 30 31.7**	**+0.9**
E28A	**Huff**	**4.12**	**48**	IAML		16 31 50.4	
	comp=E,63nm,0.8s						
E28A				IAML		16 31 57.0	
	comp=E,72nm,1.9s						
YHH	**Holmes Hill**	**4.20**	**284**		**Pn**	**16 30 35.7**	**+1.8**
O20A	**White River Ci**	**4.42**	**213**	IAML		16 31 57.7	
	comp=E,41nm,2.4s						
O20A				IAML		16 31 59.7	
	comp=E,32nm,0.9s						
BOZ	**Bozeman (W)**	**4.94**	**292**	IAML		16 32 00.9	
	comp=E,22nm,2.4s						
BSUT	**Blindstream Ca**	**5.37**	**233**	IAML		16 32 23.7	
	comp=E,12nm,1.9s						
ULM	**Lac du Bonnet**	**8.95**	**42**	Pn	**Pn**	**16 31 39.7**	**+1.1**
	comp=E,0.3nm,0.3s,baz=229,slow=14,SNR=2.2						
ULM				Lg	Lg	16 34 05.9	
	comp=E,0.3nm,0.3s,baz=313,slow=19,SNR=3.9						
	comp=E,1.5nm,0.5s						
I56US	**NEWPORT INFRAS**	**9.41**	**302**	I	I	17 23 20.0	
	baz=114,slow=318,SNR=0.9						
TXAR	**Lajitas Array**	**14.59**	**175**	Pg	P	16 34 01.9	+59
	comp=E,0.1nm,0.3s,baz=357,slow=18,SNR=2.0						

NEIC ***09*** *16:54:08.3±1.4, 12.6S±0.1×167.11E±0.06, h210km±7km, mb4.5/56, Error ellipse: s-maj=16.2km s-min=8.4km az=184.0*

IDC ***09*** *16:54:08.5±2.5, 12.59S×167.03E, h216km±21km, mb3.9/18, mbtmp4.4/20, MS2.8/1, Error ellipse: s-maj=17.3km s-min=10.6km az=75.0*

NOU ***09*** *16:54:08.9, 12.47S×167.11E, h220km, mb4.4/38, Santa Cruz Islands*

ISC 09 16:54:08.9±0.4,**12.54S**±0.05×**167.02E**±0.05,**h220**km, **n174,** σ0**96**/177,**mb4.5**/44,**2C,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUES	**Luesalemba Tem**	**2.15**	**330**	P	**Pn**	**16 54 49.2**	**-1.3**
DVP	**Devils Point**	**5.28**	**168**	P	**Pn**	**16 55 27.5**	**+0.1**
NGOA	**Tingoa Renbel**	**6.87**	**277**	P	**Pn**	**16 55 49.5**	**+1.8**
HNR	**Honiara**	**7.59**	**293**	P	**Pn**	**16 55 58.1**	**+1.1**
	41nm,0.8s,baz=108,slow=20,SNR=1.4						
HNR				S	**S**	**16 57 19.0**	**-4.3**
	36nm,0.7s,baz=258,slow=18,SNR=1.5						
HNR				LR	LR	16 58 27.6	
	comp=E,63nm,18.3s,baz=168,slow=34						
TATA	**Tatamba Isabel**	**8.20**	**299**	P	**Pn**	**16 56 07.0**	**+2.2**
DZM	**Mont Dzumac**	**9.50**	**183**	P	**Pn**	**16 56 24.1**	**+2.5**
	6.2nm,0.6s,baz=17,slow=19,SNR=16						
DZM				S	**S**	**16 58 06.1**	**-2.3**
	8.6nm,1.0s,baz=118,slow=23,SNR=1.9						
DZM	**Mont Dzumac**	**9.50**	**183**	P	**Pn**	**16 56 22.9**	**+1.3**
DZM	**Mont Dzumac**	**9.50**	**183**	S	**S**	**16 58 09.7**	**+1.3**
DGTI	**Dogotuki**	**12.88**	**108**	P	**Pn**	**16 57 04.3**	**0.0**
DGTI	**Dogotuki**	**12.88**	**108**	S	**S**	**16 59 26.7**	**-0.2**
FUTU	**Fugatoga**	**14.57**	**99**		**Pn**	**16 57 23.1**	**-2.1**
EIDS	**Eidsvold**	**19.72**	**227**	P	**P**	**16 58 22.3**	**+0.2**
EIDS				IAmb	IAmb	16 58 25.7	
	comp=E,38nm,1.4s						
EIDS	**Eidsvold**	**19.72**	**227**	P	**P**	**16 58 23.3**	**+1.3**
PMG	**Port Moresby**	**19.74**	**277**	P	**P**	**16 58 23.2**	**+0.8**
PMG				IAmb	IAmb	16 58 30.7	
	comp=E,8.5nm,0.8s						
PMG	**Port Moresby**	**19.74**	**277**	P	**P**	**16 58 23.3**	**+1.0**
	comp=E,4.5nm,0.6s,baz=91,slow=18,SNR=2.4						
CTA	**Charters Tower**	**21.28**	**247**	P	**P**	**16 58 39.2**	**+0.6**
CTAO	**Charters Tower**	**21.28**	**247**	P	**P**	**16 58 38.8**	**+0.2**
CTAO	**Charters Tower**	**21.28**	**247**	P	**P**	**16 58 39.6**	**+1.0**
ARMA	**Armidale**	**22.79**	**216**	P	**P**	**16 58 53.6**	**+0.7**
ARMA	**Armidale**	**22.79**	**216**	P	**P**	**16 58 54.3**	**+1.4**
OUZ	**Omahuta**	**23.36**	**166**	P	**P**	**16 58 58.6**	**+0.9**
OUZ	**Omahuta**	**23.36**	**166**	P	**P**	**16 58 56.3**	**-1.4**
URZ	**Urewera**	**27.15**	**162**	P	**P**	**16 59 31.0**	**-0.9**
	comp=Z,3.0nm,0.3s,baz=335,slow=14,SNR=10						
	comp=Z,3.0nm,0.3s						
URZ	**Urewera**	**27.15**	**162**	P	**P**	**16 59 31.8**	**-0.1**
CMSA	**Cobar Meteorol**	**27.26**	**223**	P	**P**	**16 59 33.5**	**+0.5**
PUZ	**Puketiti**	**27.34**	**160**	P	**P**	**16 59 32.9**	**-0.7**
RTZ	**Ruatahuna**	**27.45**	**163**	P	**P**	**16 59 34.5**	**-0.1**
TMVZ	**Te Maari**	**27.57**	**165**	P	**P**	**16 59 35.0**	**-0.7**
BKZ	**Black Stump Fm**	**27.82**	**164**	P	**P**	**16 59 37.9**	**0.0**
MCHZ	**McNeill Hill**	**28.14**	**164**	P	**P**	**16 59 40.6**	**0.0**
PNHZ	**Pukenui**	**28.45**	**165**	P	**P**	**16 59 42.6**	**-0.9**
TSZ	**Takapari Road**	**28.53**	**166**	P	**P**	**16 59 44.0**	**-0.1**
QRZ	**Quartz Range**	**28.59**	**171**	P	**P**	**16 59 46.1**	**+1.4**
QRZ	**Quartz Range**	**28.59**	**171**	P	**P**	**16 59 45.5**	**+0.9**
PXZ	**Pawanui**	**28.73**	**164**	P	**P**	**16 59 45.3**	**-0.6**
TKNZ	**Takaka Hill**	**28.86**	**171**	P	**P**	**16 59 46.1**	**-1.0**
MRZ	**Mangatainoka R**	**29.01**	**166**	P	**P**	**16 59 47.3**	**-1.1**
NNZ	**Nelson**	**29.11**	**170**	P	**P**	**16 59 49.2**	**0.0**
NNZ	**Nelson**	**29.11**	**170**	P	**P**	**16 59 49.5**	**+0.2**
BFZ	**Birch Farm**	**29.19**	**166**	P	**P**	**16 59 48.9**	**-1.0**
BFZ	**Birch Farm**	**29.19**	**166**	P	**P**	**16 59 48.7**	**-1.3**
MRNZ	**Matariki Terra**	**29.19**	**171**	P	**P**	**16 59 49.5**	**-0.4**
DSZ	**Denniston Nort**	**29.40**	**173**	P	**P**	**16 59 52.9**	**+1.1**
SNZO	**South Karori**	**29.45**	**168**	P	**P**	**16 59 52.2**	**+0.1**
THZ	**Tophouse**	**29.57**	**171**	P	**P**	**16 59 53.0**	**-0.3**
STKA	**Stephens Creek**	**30.27**	**226**	P	**P**	**17 00 00.1**	**+0.5**
	comp=Z,2.4nm,0.3s,baz=54,slow=9.5,SNR=20						
STKA				PcP	**PcP**	**17 02 54.1**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=90,slow=0.4,SNR=4.5						
	comp=Z,2.4nm,0.3s						
STKA	**Stephens Creek**	**30.27**	**226**	P	**P**	**17 00 00.8**	**+1.2**
KHZ	**Kahutara**	**30.31**	**170**	P	**P**	**16 59 59.9**	**+0.2**
KHZ	**Kahutara**	**30.31**	**170**	P	**P**	**16 59 58.5**	**-1.2**
INZ	**Inchbonnie**	**30.32**	**174**	P	**P**	**16 59 59.9**	**0.0**
INZ	**Inchbonnie**	**30.32**	**174**	P	**P**	**16 59 59.9**	**0.0**
LTZ	**Lake Taylor**	**30.48**	**172**		**P**	**17 00 01.1**	**-0.3**
LTZ	**Lake Taylor**	**30.48**	**172**	P	**P**	**17 00 00.7**	**-0.6**
WVZ	**Waitaha Valley**	**30.60**	**175**	P	**P**	**17 00 02.0**	**-0.2**
GVZ	**Greta Valley S**	**30.77**	**171**	P	**P**	**17 00 02.5**	**-1.3**
FOZ	**Fox Glacier**	**30.98**	**176**	P	**P**	**17 00 05.5**	**-0.1**
OXZ	**Oxford**	**30.99**	**173**	P	**P**	**17 00 05.1**	**-0.6**
OXZ	**Oxford**	**30.99**	**173**	P	**P**	**17 00 05.2**	**-0.6**
RPZ	**Rata Peaks**	**31.26**	**174**	P	**P**	**17 00 08.2**	**+0.1**
	comp=Z,20nm,0.8s,baz=29,slow=7.8,SNR=11						
	comp=Z,20nm,0.8s						
RPZ	**Rata Peaks**	**31.26**	**174**	P	**P**	**17 00 09.6**	**+1.5**
RPZ	**Rata Peaks**	**31.26**	**174**	P	**P**	**17 00 08.5**	**+0.4**
MQZ	**McQueen's Vall**	**31.44**	**172**	P	**P**	**17 00 08.5**	**-1.1**
JCZ	**Jackson Bay**	**31.46**	**178**	P	**P**	**17 00 09.6**	**-0.4**
JCZ	**Jackson Bay**	**31.46**	**178**	P	**P**	**17 00 10.4**	**+0.4**
LBZ	**Lake Benmore**	**31.86**	**176**	P	**P**	**17 00 12.3**	**-1.0**
TMZ	**Timaru**	**31.92**	**175**	P	**P**	**17 00 12.4**	**-1.4**
WR8	**Warramunga Arr**	**32.03**	**252**	P	**P**	**17 00 14.4**	**-0.8**
MSZ	**Milford Sound**	**32.04**	**179**	P	**P**	**17 00 15.6**	**+0.8**
WB0	**Warramunga Arr**	**32.11**	**253**	P	**P**	**17 00 15.0**	**-0.9**
WRA	**Warramunga Arr**	**32.18**	**252**	P	**P**	**17 00 15.1**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=82,slow=8.8,SNR=13						
WRA				S	**S**	**17 05 08.8**	**-4.3**
	comp=Z,0.4nm,0.7s,baz=80,slow=14,SNR=2.1						
	comp=Z,0.8nm,0.5s						
WKZ	**Wanaka**	**32.23**	**177**	P	**P**	**17 00 16.7**	**+0.1**
ODZ	**Otahua Downs**	**32.55**	**175**	P	**P**	**17 00 18.8**	**-0.5**
ODZ	**Otahua Downs**	**32.55**	**175**	P	**P**	**17 00 18.3**	**-1.0**
EAZ	**Earnscleugh**	**32.64**	**177**	P	**P**	**17 00 20.0**	**-0.1**
MLZ	**Mavora Lakes**	**32.73**	**179**	P	**P**	**17 00 20.4**	**-0.6**
GLAD	**Gladstone**	**32.88**	**207**	P	**P**	**17 00 22.8**	**+0.6**
HTT	**Hallett**	**33.01**	**226**	P	**P**	**17 00 24.0**	**+0.5**
AS01	**Alice Springs**	**33.24**	**246**	P	**P**	**17 00 25.2**	**-0.5**
WHZ	**Wether Hill Ro**	**33.26**	**179**	P	**P**	**17 00 23.9**	**-1.5**
AS31	**Alice Springs**	**33.28**	**246**		**P**	**17 00 25.0**	**-1.0**
ASAR	**Alice Springs**	**33.28**	**246**	P	**P**	**17 00 24.8**	**-1.2**
ASAR	**Alice Springs**	**33.28**	**246**	P	**P**	**17 00 24.9**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=69,slow=10,SNR=64						
ASAR				PcP	**PcP**	**17 03 02.0**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=66,slow=2.5,SNR=8.5						
ASAR				ScP	**ScP**	**17 06 27.7**	**+1.2**
	comp=Z,1.0nm,1.1s,baz=72,slow=3.1,SNR=4.4						
	comp=Z,1.2nm,0.4s						
TUZ	**Tuapeka**	**33.38**	**177**	P	**P**	**17 00 26.7**	**+0.2**
KDU	**Kakadu**	**33.70**	**266**	P	**P**	**17 00 30.3**	**+0.7**
SYZ	**Scrubby Hill**	**33.94**	**177**	P	**P**	**17 00 32.2**	**+0.9**
SYZ	**Scrubby Hill**	**33.94**	**177**	P	**P**	**17 00 31.6**	**+0.3**
MGBR	**Mount Gambier**	**34.45**	**219**	P	**P**	**17 00 36.6**	**+0.8**
BBOO	**Buckleboo**	**34.77**	**229**	P	**P**	**17 00 38.6**	**-0.1**
BBOO				IAmb	IAmb	17 01 05.4	
	comp=Z,20nm,1.4s						
BBOO	**Buckleboo**	**34.77**	**229**	P	**P**	**17 00 39.0**	**+0.4**
MTN	**Manton Dam**	**34.99**	**265**	P	**P**	**17 00 40.9**	**+0.2**
MTN	**Manton Dam**	**34.99**	**265**	P	**P**	**17 00 41.5**	**+0.8**
KNRA	**Kununurra**	**37.20**	**261**	P	**P**	**17 00 59.5**	**+0.1**
KNRA				IAmb	IAmb	17 01 00.1	
	comp=Z,20nm,1.2s						
FITZ	**Fitzroy Crossi**	**40.22**	**257**	P	**P**	**17 01 25.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**40.22**	**257**	P	**P**	**17 01 25.0**	**+0.5**
MEEK	**Meekatharra**	**47.44**	**245**	P	**P**	**17 02 22.9**	**+1.1**
KLBR	**Kellerberrin**	**48.99**	**239**	P	**P**	**17 02 33.9**	**+0.3**
NWAO	**Narrogin (SRO)**	**49.69**	**237**	P	**P**	**17 02 38.5**	**-0.4**
NWAO	**Narrogin (SRO)**	**49.69**	**237**	P	**P**	**17 02 39.2**	**+0.4**
MORW	**Morawa**	**50.02**	**243**	P	**P**	**17 02 41.0**	**-0.4**
KKM	**Kota Kinabalu**	**53.76**	**287**	P	**P**	**17 03 09.7**	**+0.5**
KKM				IAmb	IAmb	17 03 21.4	
	comp=Z,16nm,1.0s						
JGF	**Kuroka**	**55.49**	**331**	P	**P**	**17 03 20.7**	**-0.5**
JGF				IAmb	IAmb	17 03 53.7	
	comp=Z,14nm,1.5s						
JGF	**Kuroka**	**55.49**	**331**	P	**P**	**17 03 20.7**	**-0.5**
UGM	**Wanagama**	**55.70**	**269**	P	**P**	**17 03 22.0**	**-1.2**
JMN	**Monobe**	**55.79**	**327**	P	**P**	**17 03 24.3**	**+0.9**
JMN				IAmb	IAmb	17 03 25.3	
	comp=Z,12nm,0.8s						
JMN	**Monobe**	**55.79**	**327**	P	**P**	**17 03 23.1**	**-0.3**
MJAR	**Matsushiro Arr**	**55.86**	**332**	P	**P**	**17 03 24.0**	**+0.3**
MJAR	**Matsushiro Arr**	**55.86**	**332**	P	**P**	**17 03 23.4**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=170,slow=7.4,SNR=8.1						
	comp=Z,2.4nm,0.8s						
MAJO	**Matsushiro**	**55.86**	**332**	P	**P**	**17 03 23.8**	**0.0**
MAJO	**Matsushiro**	**55.86**	**332**	P	**P**	**17 03 23.1**	**-0.7**
SSLB	**Suanglung**	**57.71**	**309**	P	**P**	**17 03 37.0**	**-0.1**
SSLB				IAmb	IAmb	17 03 45.5	
	comp=Z,16nm,1.5s						
KSRS	**Korea Array**	**61.80**	**325**	P	**P**	**17 04 05.3**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=133,slow=7.5,SNR=5.1						
	comp=Z,1.1nm,0.6s						
USA0B	**Ussuriysk Arra**	**64.83**	**333**	P	**P**	**17 04 25.5**	**+1.2**
USA0B				IAmb	IAmb	17 04 26.8	
	comp=Z,8.3nm,1.2s						
USRK	**Ussuriysk Ar.**	**64.83**	**333**	P	**P**	**17 04 25.4**	**+1.1**
USRK	**Ussuriysk Ar.**	**64.83**	**333**	P	**P**	**17 04 24.4**	**+0.1**
	comp=Z,3.9nm,1.0s,baz=139,slow=8.6,SNR=6.4						
	comp=Z,3.9nm,1.0s						
VNDA	**Vanda**	**65.04**	**181**		**P**	**17 04 23.1**	**-2.1**
VNDA	**Vanda**	**65.04**	**181**	P	**P**	**17 04 22.9**	**-2.2**
	comp=Z,2.8nm,0.8s,baz=343,slow=6.1,SNR=5.4						
	comp=Z,2.8nm,0.8s						
SBA	**Scott Base**	**65.32**	**180**		**P**	**17 04 27.7**	**+0.7**
SBA				IAmb	IAmb	17 04 29.1	
	comp=Z,9.5nm,0.9s						
CASY	**Casey**	**65.46**	**202**	P	**P**	**17 04 27.6**	**-0.5**
KIWB	**Kanaga Island**	**65.57**	**11**	P	**P**	**17 04 29.8**	**+0.9**
ATKA	**Atka Island**	**66.49**	**12**	P	**P**	**17 04 35.1**	**+0.4**
IPM	**Ipoh**	**67.70**	**280**	P	**P**	**17 04 43.6**	**+0.4**
IPM				IAmb	IAmb	17 04 44.0	
	comp=Z,7.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**73.84**	**294**	P	**P**	**17 05 20.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**73.84**	**294**	P	**P**	**17 05 21.1**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=134,slow=4.8,SNR=14						
	comp=Z,1.8nm,0.8s						
QSPA	**South Pole Qui**	**77.48**	**180**		**P**	**17 05 41.3**	**+1.3**
QSPA				IAmb	IAmb	17 05 41.8	
	comp=Z,4.6nm,0.7s						
QSPA	**South Pole Qui**	**77.48**	**180**	P	**P**	**17 05 41.0**	**+1.1**
	comp=Z,4.1nm,0.7s,baz=4.7,slow=2.7,SNR=43						
	comp=Z,4.1nm,0.7s						
J14K	**Nanvaranak Lak**	**78.46**	**13**	P	**P**	**17 05 46.3**	**+1.3**
SONM	**Songino Array**	**80.60**	**323**	P	**P**	**17 05 57.3**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=123,slow=5.5,SNR=5.5						
	comp=Z,0.6nm,0.4s						
PWL	**Port Wells**	**81.26**	**20**	P	**P**	**17 06 00.6**	**+0.4**
PWL				IAmb	IAmb	17 06 02.6	
	comp=Z,7.6nm,0.8s						
GLI	**Glacier Island**	**81.70**	**21**	P	**P**	**17 06 02.8**	**+0.3**
GLI				IAmb	IAmb	17 06 03.0	
	comp=Z,5.6nm,0.7s						
SCM	**Sheep Creek Mo**	**82.30**	**20**	P	**P**	**17 06 06.0**	**+0.4**
SCM				IAmb	IAmb	17 06 06.8	
	comp=Z,6.4nm,0.6s						
HMT	**Hamilton**	**82.34**	**22**	P	**P**	**17 06 06.2**	**+0.4**
HMT				IAmb	IAmb	17 06 43.8	
	comp=Z,17nm,1.2s						
WAX	**Waxell Ridge**	**82.94**	**23**	P	**P**	**17 06 09.3**	**+0.3**
WAX				IAmb	IAmb	17 06 10.4	
	comp=Z,11nm,1.0s						
DHY	**Denali Highway**	**83.17**	**19**	P	**P**	**17 06 10.6**	**+0.4**
DHY				IAmb	IAmb	17 06 11.2	
	comp=Z,11nm,1.5s						
IMAR	**Indian Mountai**	**83.52**	**15**	P	**P**	**17 06 12.8**	**+1.1**
TABL	**Table Mountain**	**83.58**	**23**	P	**P**	**17 06 12.9**	**+0.5**
TABL				IAmb	IAmb	17 06 13.6	
	comp=Z,8.8nm,0.7s						
BARN	**Barnard Glacie**	**83.78**	**22**	IAmb	IAmb	17 06 14.7	
	comp=Z,6.4nm,1.0s						
MAW	**Mawson**	**83.81**	**202**	P	**P**	**17 06 12.9**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=128,slow=5.9,SNR=8.9						
	comp=Z,2.6nm,0.7s						
CTGM	**Chitina Glacie**	**83.84**	**23**	IAmb	IAmb	17 06 14.5	
	comp=Z,4.5nm,0.7s						
WRH	**Wood River Hil**	**83.95**	**18**	IAmb	IAmb	17 06 14.1	
	comp=Z,6.3nm,0.5s						
CCB	**Clear Creek Bu**	**84.16**	**18**	P	**P**	**17 06 14.6**	**-0.4**
CCB				IAmb	IAmb	17 06 15.3	
	comp=Z,6.6nm,0.5s						
HDA	**Harding Lake**	**84.25**	**18**	P	**P**	**17 06 15.6**	**+0.2**
RIDG	**Independent Ri**	**84.45**	**19**	P	**P**	**17 06 16.8**	**+0.3**
H23K	**Yukon River**	**84.52**	**17**	P	**P**	**17 06 17.4**	**+0.6**
IL31		**84.53**	**18**	P	**P**	**17 06 16.4**	**-0.4**
IL31				IAmb	IAmb	17 06 17.3	
	comp=Z,6.1nm,0.6s						
ILAR	**Eielson Array**	**84.53**	**18**	P	**P**	**17 06 16.2**	**-0.6**
ILAR	**Eielson Array**	**84.53**	**18**	P	**P**	**17 06 16.4**	**-0.5**
	comp=Z,3.9nm,0.5s,baz=229,slow=5.3,SNR=62						
	comp=Z,3.9nm,0.5s						
SCRK	**Sand Creek**	**84.89**	**20**	IAmb	IAmb	17 06 20.2	
	comp=Z,11nm,1.4s						
HYT	**Haines Junctio**	**85.23**	**24**	P	**P**	**17 06 20.6**	**0.0**
BMAR	**Burnt Mountain**	**87.06**	**17**	P	**P**	**17 06 30.2**	**+0.9**
EVN	**Everest**	**87.34**	**299**	P	**P**	**17 06 32.5**	**+0.3**
EVN				IAmb	IAmb	17 06 33.2	
	comp=Z,5.8nm,0.6s						
C24K	**Franklin Bluff**	**87.61**	**14**	P	**P**	**17 06 33.1**	**+1.4**
C24K				IAmb	IAmb	17 06 35.2	
	comp=Z,10.0nm,1.1s						
PSUT	**Pine Spring**	**89.39**	**50**	P	**P**	**17 06 40.7**	**-0.4**
U15A	**North Rim**	**90.01**	**53**	P	**P**	**17 06 44.5**	**+0.4**
U15A				IAmb	IAmb	17 06 46.0	
	comp=Z,5.2nm,0.8s						
TROLL	**Troll, Antarti**	**95.02**	**185**	⇑P	**P**	**17 07 05.6**	**-0.8**
	comp=Z,141nm,0.4s						
TXAR	**Lajitas Array**	**95.45**	**61**	P	**P**	**17 07 09.1**	**0.0**
	comp=Z,0.6nm,0.8s,baz=228,slow=5.2,SNR=7.5						
	comp=Z,0.6nm,0.8s						
MKAR	**Makanchi Array**	**95.45**	**317**	P	**P**	**17 07 08.9**	**+0.3**
MKAR	**Makanchi Array**	**95.45**	**317**	P	**P**	**17 07 09.1**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=97,slow=4.9,SNR=31						
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**95.48**	**324**	P	**P**	**17 07 08.1**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=111,slow=5.0,SNR=6.4						
	comp=Z,1.1nm,0.6s						
VNA3	**Neumayer Olymp**	**96.39**	**181**	⇑P	**P**	**17 07 11.3**	**-1.2**
	comp=Z,6.0nm,0.7s						
KURBB	**Kurchatov Arra**	**98.61**	**320**	P	**P**	**17 07 22.3**	**-0.5**
	comp=Z,0.5nm,0.2s,baz=104,slow=5.7,SNR=1.2						
	comp=Z,0.5nm,0.2s						
ARCES	**ARCESS Array B**	**118.08**	**346**	PKP	**PKPdf**	**17 12 28.4**	**-0.6**
	comp=Z,2.7nm,0.5s,baz=28,slow=1.8,SNR=20						
FINES	**FINESS Array B**	**123.60**	**339**	PKP	**PKPdf**	**17 12 39.5**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=48,slow=2.5,SNR=6.3						
BOSA	**Boshof**	**124.86**	**222**	PKP	**PKPdf**	**17 12 42.8**	**-0.7**
	comp=Z,3.4nm,1.0s,baz=126,slow=3.4,SNR=4.4						
NOA	**NORSAR Array B**	**128.45**	**345**	PKP	**PKPdf**	**17 12 49.3**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=30,slow=2.1,SNR=4.7						
PBRG	**Braganca**	**150.34**	**351**	*e*P	**PKPbc**	**17 13 34.5**	**+0.1**
POLO	**Lamas de Olo**	**150.91**	**352**	*e*P	**PKiKP**	**17 13 36.6**	**+0.2**
PVRL	**Vila Real**	**151.00**	**352**	*e*P	**PKiKP**	**17 13 37.0**	**+0.4**
MVO	**Moncorvo**	**151.01**	**351**	*e*P	**PKiKP**	**17 13 36.8**	**+0.2**
PVIS	**Viseu**	**151.57**	**352**	*e*P	**PKiKP**	**17 13 37.8**	**+0.1**
ESDC	**Sonseca Array**	**151.82**	**345**	PKPbc	**PKPbc**	**17 13 38.1**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=12,slow=2.8,SNR=13						
ESDC				PKPab	**PKPab**	**17 13 48.6**	**+1.0**
	comp=Z,2.3nm,0.8s,baz=9.9,slow=4.2,SNR=11						
MTE	**Manteigas**	**151.83**	**351**	*e*P	**PKiKP**	**17 13 38.5**	**+0.2**
PCAS	**Casmilo, Conde**	**152.31**	**353**	*e*P	**PKiKP**	**17 13 39.4**	**+0.2**
PMRV	**Marv??o**	**152.76**	**351**	*e*P	**PKiKP**	**17 13 40.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**165.67**	**274**	PKPab	**PKPab**	**17 14 47.4**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=78,slow=5.6,SNR=5.9						

WEL 09 16:59:00.6±0.6,**39.S**±3.×**17.6E**±.,**h5**km,**M1.3**/2,**ML2.1**/10, **MLv1.3**/2, **Error ellipse: s-maj=4.6km s-min=3.8km az=17.7, confirmed, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

QIZ Qiongzhong 12.01 299 P **P** 17 19 56.1 -2.0
DLV Lat 12.26 264 **Pn** 17 19 56.6 -0.1
DLV Lat 12.26 264 P **Pn** 17 19 58.2 +1.5
TOLI2 Tolitoli 12.29 181 **Pn** 17 19 57.1 +0.1
TOLI2 Tolitoli 12.29 181 P **Pn** 17 19 58.6 +1.7
MRSI Marisa 12.96 176 P **Pn** 17 20 05.8 +0.5
3µm397nm,0.9s
KMSI Cibinong 13.17 167 P **Pn** 17 20 08.1 +0.1
SBUM Sibu 13.96 219 **Pn** 17 20 18.0 +0.2
SBUM Sibu 13.96 219 P **P** 17 20 19.2 -0.6
TNTI Ternate 14.14 153 **Pn** 17 20 17.8 -2.2
TNTI Ternate 14.14 153 P **Pn** 17 20 19.3 -0.7
TNTI Ternate 14.14 153 P **Pn** 17 20 18.4 -1.6
108nm,0.9s
APSI Ampana 14.32 177 P **P** 17 20 23.0 -0.8
22µm5µm420nm,0.8s
SMKI Samarinda 14.33 195 P **P** 17 20 24.1 +0.2
PCI Palu 14.34 185 P **Pn** 17 20 23.2 +0.7
3µm150nm,0.8s
LUWI Luwuk 14.54 173 **Pn** 17 20 24.2 -0.8
LUWI Luwuk 14.54 173 P **P** 17 20 26.7 +0.4
LUWI Luwuk 14.54 173 P **Pn** 17 20 25.4 +0.4
6µm651nm,1.1s
JOW Kunigami 14.95 26 **Pn** 17 20 30.0 +0.2
JOW Kunigami 14.95 26 P **P** 17 20 31.6 +1.0
202nm,0.7s,baz=233,slow=9.8,SNR=62
JOW Kunigami 14.95 26 P **P** 17 20 33.3 +2.7
UBPT Khong Chiam 15.11 279 **P** 17 20 33.5 +1.0
BKB Balikpapan 15.19 196 P **Pn** 17 20 30.5 -2.4
417nm,1.0s
KSM Kuching 15.92 222 **Pn** 17 20 42.2 +0.5
SANI Sanana 16.22 162 P **P** 17 20 43.4 -1.4
SANI Sanana 16.22 162 P **P** 17 20 43.0 -1.8
2µm299nm,0.9s
STKI Sintang 16.31 216 P **Pn** 17 20 47.5 +1.1
CNSH ChangSha 16.43 334 P **Pn** 17 20 48.3 +0.6
TTSI Tana Toraja 16.46 184 P **Pn** 17 20 48.8 +0.5
1µm145nm,0.8s
SPSI Sidrap Palu 17.38 184 P **P** 17 20 57.4 -0.1
2µm254nm,0.9s
SWI Sorong 17.54 144 P **P** 17 20 57.6 -1.7
90nm,0.7s
NLAI Namlea 17.70 159 P **P** 17 21 01.0 0.0
1µm137nm,0.8s
BNSI Bone 17.79 183 P **P** 17 21 02.3 +0.3
4µm465nm,0.9s
SLVN Son La 18.04 298 **P** 17 21 05.6 +0.9
SLVN Son La 18.04 298 P **Pn** 17 21 06.6 -0.3
WHN Wuhan 18.04 341 P **Pn** 17 21 06.6 -0.2
WHN S **S** 17 24 21.4 +0.2
WHN pmax pmax
comp=Z,190nm,0.9s
KAPI Kappang 18.42 184 **Pn** 17 21 10.4 -0.9
KAPI Kappang 18.42 184 P **Pn** 17 21 10.9 -0.4
252nm,0.6s,baz=336,slow=5.4,SNR=60
KAPI Kappang 18.42 184 P **Pn** 17 21 11.1 -0.2
KAPI P **Pn** 17 21 11.1 -0.2
KAPI Kappang 18.42 184 P **Pn** 17 21 10.9 -0.4
KAPI Kappang 18.42 184 *i* P **Pn** 17 21 10.4 -0.9
KAPI pmax pmax
comp=Z,265nm,0.6s
MSAI Masohi 18.50 154 P **P** 17 21 11.0 +1.3
comp=Z,3µmcomp=Z,336nm,1.4s
AAI Ambon 18.51 157 P **P** 17 21 10.7 +0.8
comp=Z,1µmcomp=Z,215nm,0.8s
NJ2 Nanjing 18.58 354 ⇓*i* P **Pn** 17 21 12.1 -1.0
NJ2 pmax pmax
comp=Z,91nm,0.7s
NJ2 pmax pmax
comp=Z,190nm,3.9s
GYA Guiyang 18.61 316 ⇓P **Pn** 17 21 12.7 -0.9
GYA S **S** 17 24 30.7 -2.1
GYA pmax pmax
comp=Z,97nm,1.1s
BKSI Bulukumba 18.70 183 P **P** 17 21 11.5 -0.4
comp=Z,2µmcomp=Z,186nm,0.7s
BBSI Bau Bau 18.92 175 P **P** 17 21 14.5 +0.2
comp=Z,4µmcomp=Z,522nm,0.9s
BSSI Bau Bau, Buton 19.50 181 P **P** 17 21 20.3 -0.3
FAKI Fak Fak 19.78 145 **P** 17 21 23.6 +0.1
FAKI Fak Fak 19.78 145 P **P** 17 21 23.4 -0.1
comp=Z,79nm,0.9s
ENH Enshi 19.78 329 **P** 17 21 22.6 -0.9
ENH Enshi 19.78 329 P **P** 17 21 23.4 -0.1
RKPI Ransiki, Papua 19.85 138 P **P** 17 21 25.6 +1.3
comp=Z,2µmcomp=Z,189nm,0.9s
BNDI Bandanaira 19.97 153 P **P** 17 21 26.4 +0.8
comp=Z,501nm,1.2s
KMI Kunming 20.70 307 ⇓P **P** 17 21 35.1 +1.6
KMI S **S** 17 25 10.8 -3.1
KMI pmax pmax
comp=Z,200nm,0.9s
KMI LR LR
comp=Z,270nm,14.4s
KMI LR LR
comp=Z,240nm,18.4s
KMI LR LR
comp=Z,110nm,19.7s
TPI Tanjungpandan 20.85 220 P **P** 17 21 35.9 +1.0
comp=Z,2µmcomp=Z,165nm,0.7s
BAKI Biak 20.93 133 P **P** 17 21 37.0 +1.1
comp=Z,2µmcomp=Z,242nm,1.1s
SURA Surathani 21.34 261 P **P** 17 21 41.8 +1.6
SRPI Serui, Papua 21.51 134 P **P** 17 21 43.1 +1.2
comp=Z,1µmcomp=Z,128nm,0.8s
JNU Nakatsue 21.54 23 **P** 17 21 41.9 -0.2
JNU Nakatsue 21.54 23 P **P** 17 21 42.9 +0.8
KMMI Kalianget 21.55 199 P **P** 17 21 44.7 +2.4
comp=Z,6µmcomp=Z,445nm,1.0s
IPM Ipoh 21.61 247 **P** 17 21 41.2 -1.7
IPM Ipoh 21.61 247 P **P** 17 21 43.1 +0.2
KULM Kulim 21.61 250 **P** 17 21 41.9 -1.0
KULM Kulim 21.61 250 P **P** 17 21 43.8 +0.9
CM31 Chiang Mai Arr 21.73 286 P **P** 17 21 44.9 +0.8
CMAR Chiang Mai Arr 21.73 286 **P** 17 21 44.6 +0.5
CMAR Chiang Mai Arr 21.73 286 P **P** 17 21 44.9 +0.8
comp=Z,127nm,0.9s,baz=96,slow=7.9,SNR=378
CMAR LR LR 17 29 52.0
comp=Z,51nm,18.4s,baz=100,slow=35
comp=Z,127nm,0.9s
CMAR Chiang Mai Arr 21.73 286 *i* P **P** 17 21 44.7 +0.6
CMAR pmax pmax
comp=Z,144nm,0.9s
CHTO Chiang Mai 21.79 287 **P** 17 21 44.4 -0.3
CHTO Chiang Mai 21.79 287 P **P** 17 21 44.7 0.0
CHTO Chiang Mai 21.79 287 P **P** 17 21 44.7 0.0
CHTO Chiang Mai 21.79 287 P **P** 17 21 44.4 -0.3
GRJI Gresik 21.94 203 P **P** 17 21 49.2 +3.0
comp=Z,6µmcomp=Z,545nm,1.3s
MMRI Maumere 22.01 177 P **P** 17 21 47.6 +0.7
MMRI Maumere 22.01 177 P **P** 17 21 47.2 +0.3
comp=Z,6µmcomp=Z,312nm,0.8s
EDFI Ende, Flores 22.10 178 P **P** 17 21 47.4 -0.5
ABJI Asem Bagus 22.17 198 P **P** 17 21 50.0 +1.6
comp=Z,3µmcomp=Z,442nm,0.8s
SRBI Singaraja 22.17 195 P **P** 17 21 49.7 +1.3
comp=Z,3µmcomp=Z,404nm,0.8s
PZH PanZhiHua 22.18 309 P **P** 17 21 48.7 +0.1
PZH S **S** 17 25 33.5 -5.0
PZH pmax pmax
comp=Z,150nm,4.6s
PZH LR LR
comp=Z,210nm,17.8s
PZH LR LR
comp=Z,150nm,18.1s
PZH LR LR
comp=Z,2µm,17.5s
JTU Tsushima 22.30 19 P **P** 17 21 50.8 +1.4
BLJI Banyuglugur 22.32 200 P **P** 17 21 51.3 +1.5
comp=Z,2µmcomp=Z,256nm,1.0s
LYN LuoYang 22.34 341 ⇓P **P** 17 21 50.2 +0.4
LYN S **S** 17 25 40.8 +0.2
LYN pmax pmax
comp=Z,140nm,1.0s
PLAI Plampang 22.39 188 P **P** 17 21 51.6 +1.2
PLAI Plampang 22.39 188 P **P** 17 21 51.4 +1.0
TWSI Taliwang, Sumb 22.45 191 P **P** 17 21 51.7 +0.8
comp=Z,2µmcomp=Z,197nm,0.6s
DNP Denpasar 22.74 195 P **P** 17 21 56.1 +2.5
NGJI Ngawi 22.76 205 P **P** 17 21 55.1 +1.3
comp=Z,181nm,1.0s
JAGI Jajag, Banyuwa 22.83 198 P **P** 17 21 55.3 +0.9
JAGI Jajag, Banyuwa 22.83 198 P **P** 17 21 55.3 +0.9
comp=Z,3µmcomp=Z,368nm,0.9s
GMJI Gumukmas 22.87 199 P **P** 17 21 56.2 +1.5
comp=Z,1µmcomp=Z,118nm,1.1s
TIA Tai'an 22.89 352 P **P** 17 21 54.8 0.0
TIA PcP **PcP** 17 25 40.3 +1.3
TIA pmax pmax
comp=Z,150nm,1.0s
TIA pmax pmax
comp=Z,350nm,4.0s
SMRI Semarang 22.92 208 P **P** 17 21 54.9 -0.3
SMRI Semarang 22.92 208 P **P** 17 21 55.3 +0.1
SMRI Semarang 22.92 208 P **P** 17 21 57.4 +2.2
comp=Z,258nm,1.0s
WSI Waingapu 23.01 182 P **P** 17 21 54.8 -1.2
WBSI Waikabubak, Su 23.03 184 P **P** 17 21 55.4 -0.8
XAN Xi'an 23.20 334 P **P** 17 21 57.2 -0.4
XAN pmax pmax
comp=Z,140nm,0.7s
XAN pmax pmax
comp=Z,360nm,3.5s
XAN LR LR
comp=Z,380nm,9.1s
XAN LR LR
comp=Z,570nm,9.1s
XAN LR LR
comp=Z,470nm,9.5s
SOEI Soe 23.32 172 P **P** 17 21 59.5 +0.5
SOEI Soe 23.32 172 P **P** 17 21 58.4 -0.6
comp=Z,2µmcomp=Z,255nm,0.7s
JMN Monobe 23.33 28 P **P** 17 22 00.6 +1.8
SMPI Sarmi 23.38 130 P **P** 17 22 00.7 +1.3
comp=Z,3µmcomp=Z,253nm,1.1s
WOJI Wonogiri, Jawa 23.41 206 P **P** 17 22 01.6 +2.0
comp=Z,197nm,1.4s
CD2 Chengdu 23.49 320 P **P** 17 22 00.2 -0.1
CD2 S **S** 17 25 58.8 -0.6
CD2 pmax pmax
comp=Z,250nm,0.7s
CD2 pmax pmax
comp=Z,240nm,3.1s
TJN Taejon 23.51 13 P **P** 17 22 01.6 +1.2
TJN Taejon 23.51 13 *i* P **P** 17 22 01.1 +0.7
BASI Baing, Sumba 23.55 181 P **P** 17 21 59.8 -1.1
PCJI Pacitan 23.62 205 P **P** 17 22 03.4 +1.8
comp=Z,141nm,1.2s
UGM Wanagama 23.65 207 P **P** 17 22 03.2 +1.4
UGM Wanagama 23.65 207 P **P** 17 22 03.8 +1.9
comp=Z,93nm,0.8s
BATI Baumata 23.69 173 P **P** 17 22 02.0 -0.2
comp=Z,251nm,0.4s,baz=351,slow=0.6,SNR=98
BATI Baumata 23.69 173 P **P** 17 22 01.5 -0.7
KPJI Karang Pucung 23.88 211 P **P** 17 22 06.1 +2.1
comp=Z,122nm,0.7s
TNCH TengChong 24.05 302 ⇓P **P** 17 22 05.9 +0.2
TNCH pP pP 17 22 44.1 +2.5
TNCH S S 17 25 57.6 -11
TNCH SS **SnSn** 17 27 21.6 +6.1
TNCH pmax pmax
comp=Z,77nm,1.2s
PSI Prapat 24.23 246 P **P** 17 22 08.2 +0.9
PSI Prapat 24.23 246 P **P** 17 22 07.4 +0.1
PSI pmax pmax
comp=Z,65nm,0.8s
TSI Tuntungan 24.24 248 P **P** 17 22 09.7 +2.4
comp=Z,135nm,0.8s
KLI Kotabumi 24.24 222 P **P** 17 22 10.1 +2.8
comp=Z,285nm,1.0s
RPSI Rantau Prapat 24.27 246 **P** 17 22 07.4 -0.2
BLSI Bandar Lampung 24.38 221 P **P** 17 22 10.8 +2.3
comp=Z,136nm,0.6s
LHSI Lahat 24.40 226 P **P** 17 22 10.9 +2.2
comp=Z,2µmcomp=Z,62nm,1.0s
DBJI Dramaga 24.40 216 P **P** 17 22 09.7 +1.0
comp=Z,76nm,1.1s
SBJI Serang 24.41 218 P **P** 17 22 10.9 +2.1
MDSI Maura Dua 24.42 224 P **P** 17 22 10.1 +1.3
comp=Z,66nm,0.7s
INCN Inchon 24.43 11 **P** 17 22 09.9 +1.1
INCN IAmb IAmb 17 22 13.1
comp=Z,28nm,0.7s
INCN Inchon 24.43 11 P **P** 17 22 10.4 +1.6
INCN Inchon 24.43 11 P **P** 17 22 09.9 +1.1
INCN pmax pmax
comp=Z,28nm,0.7s
HNS HongShan 24.46 348 ⇓P **P** 17 22 09.2 +0.2
HNS pmax pmax
comp=Z,54nm,0.9s
MNSI Mandailing Nat 24.64 241 P **P** 17 22 11.9 +1.1
PPI Padang Panjang 24.64 237 P **P** 17 22 13.3 +2.4
KSAR Wonju Array Be 24.65 13 **P** 17 22 10.0 -0.7
KSAR Wonju Array Be 24.65 13 P **P** 17 22 10.0 -0.7
BBJI Bungbulang 24.65 213 P **P** 17 22 11.4 +0.4
KSRS Korea Array 24.67 13 P **P** 17 22 11.3 +0.5
comp=Z,11nm,0.6s,baz=191,slow=10.0,SNR=54
comp=Z,11nm,0.6s
KS19 Wonju Array Si 24.70 13 IAmb IAmb 17 22 13.7
comp=Z,28nm,0.9s
CNJI Cibinong 24.80 214 P **P** 17 22 12.8 +0.5
comp=Z,63nm,0.8s
MASI Maura Aman, Be 24.86 230 P **P** 17 22 15.1 +2.2
comp=Z,75nm,0.8s
GENI Genyem 24.87 129 P **P** 17 22 14.3 +1.3
GENI Genyem 24.87 129 P **P** 17 22 14.0 +1.0
comp=Z,163nm,1.1s
SKJI Sukabumi 24.88 216 P **P** 17 22 13.8 +0.8
comp=Z,146nm,1.0s
LWLI Liwa 24.89 223 P **P** 17 22 14.8 +1.6
KCSI Kotacane, Aceh 24.95 249 P **P** 17 22 13.1 -0.6
KASI Kota Agung 24.97 222 P **P** 17 22 13.8 -0.1
CGJI Cibinong 25.07 218 P **P** 17 22 14.2 -0.5
comp=Z,992nmcomp=Z,86nm,0.5s
JAY Jayapura 25.23 128 P **P** 17 22 16.8 +0.5
TIY Taiyuan 25.30 344 P **P** 17 22 17.1 +0.4
TIY pmax pmax
comp=Z,28nm,0.9s
DL2 Dalian 25.33 1 P **P** 17 22 17.0 +0.2
DL2 pmax pmax
comp=Z,120nm,0.7s
GSI Gunungsitoli 26.11 244 P **P** 17 22 23.8 -0.4
GSI Gunungsitoli 26.11 244 P **P** 17 22 23.7 -0.4
comp=Z,98nm,0.9s
INU Inuyama 26.15 31 **P** 17 22 21.2 -3.1
INU IAmb IAmb 17 22 28.7
comp=Z,36nm,1.1s
INU Inuyama 26.15 31 P **P** 17 22 25.2 +0.9
JGF Kuroka 26.52 31 IAmb IAmb 17 22 30.0
comp=Z,21nm,0.8s
JGF Kuroka 26.52 31 P **P** 17 22 28.6 +1.0
BJT Baijiatuau 26.77 352 P **P** 17 22 30.1 +0.4
BJI Beijing 26.79 352 P **P** 17 22 30.1 +0.2
BJI S **S** 17 26 50.1 -1.1
BJI sS **sS** 17 28 03.4 +1.1
BJI pmax pmax
comp=Z,17nm,0.7s
BJI pmax pmax
comp=Z,47nm,3.6s
LZDM Lanzhou Array 27.23 328 P **P** 17 22 34.9 +0.6
comp=Z,7.7nm,0.4s,baz=150,slow=12,SNR=17
comp=Z,7.7nm,0.4s
LZH Lanzhou 27.26 329 *eP* **P** 17 22 35.2 +0.8
LZH pP pP 17 23 17.0 +2.9
LZH sP PP 17 23 44.3 +4.3
LZH pmax pmax
comp=Z,85nm,1.2s
LZH LR LR
comp=Z,310nm,11.0s
LZH LR LR
comp=Z,230nm,10.8s
DRS Darwin Rock St 27.57 159 P **P** 17 22 36.8 -0.3
MAJO Matsushiro 27.68 31 **P** 17 22 37.2 -0.8
MAJO IAmb IAmb 17 22 38.4
comp=Z,87nm,1.8s
MAJO Matsushiro 27.68 31 P **P** 17 22 40.0 +2.0
MAJO Matsushiro 27.68 31 *i* P **P** 17 22 37.8 -0.2
MAJO pmax pmax
comp=Z,31nm,1.5s
MJAR Matsushiro Arr 27.68 31 P **P** 17 22 36.5 -1.4
MJAR Matsushiro Arr 27.68 31 P **P** 17 22 37.5 -0.5
comp=Z,6.7nm,0.6s,baz=194,slow=8.7,SNR=29
comp=Z,6.7nm,0.6s
MJAR Matsushiro Arr 27.68 31 P **P** 17 22 36.6 -1.4
MJAR pmax pmax
comp=Z,22nm,1.5s
MJB9 Matsu-Tunnel 27.68 31 IAmb IAmb 17 22 38.4
comp=Z,84nm,1.8s
MTN Manton Dam 28.04 158 P **P** 17 22 39.8 -1.4
comp=Z,18nm,1.3s
MTN Manton Dam 28.04 158 **P** 17 22 40.0 -1.2
MTN IAmb IAmb 17 23 12.9
comp=Z,27nm,1.1s
KDU Kakadu 28.40 156 P **P** 17 22 42.3 -2.2
comp=Z,52nm,0.7s
KDU Kakadu 28.40 156 P **P** 17 22 43.6 -0.8
HHC Hu-ho-hao-te 28.48 345 *eP* **P** 17 22 44.6 -0.4
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,140nm,5.1s
BTO Baotou 28.67 342 *eP* **P** 17 22 47.0 +0.3
BTO pP **pP** 17 23 28.3 +1.6
BTO PP **sP** 17 23 50.1 +0.7
BTO sP **PP** 17 23 56.9 +1.3
BTO S **S** 17 27 23.0 +1.9
BTO pmax pmax
comp=Z,13nm,0.5s
BTO pmax pmax
comp=Z,280nm,4.1s
BTO LR LR
comp=Z,300nm,5.1s
BTO LR LR
comp=Z,220nm,5.0s
JSD Sado 28.89 29 P **P** 17 22 48.8 +0.2
SHL Shillong 29.84 298 P **P** 17 22 57.5 +0.1
KNRA Kununurra 29.98 165 P **P** 17 22 57.0 -1.4
comp=Z,51nm,0.8s
KNRA Kununurra 29.98 165 **P** 17 22 57.4 -1.0
KNRA IAmb IAmb 17 22 58.8
comp=Z,37nm,0.8s
CN2 Changchun 30.46 6 P **P** 17 23 02.0 -0.3
CN2 pmax pmax
comp=Z,20nm,0.6s
XLT XiLinHaoTe 30.60 353 *eP* **P** 17 23 03.9 +0.2
XLT pmax pmax
comp=Z,33nm,1.1s
GTA Gaotai 31.85 328 ⇓P **P** 17 23 16.4 +1.6
GTA pP pP 17 23 59.0 +4.0
GTA PcP **PcP** 17 26 02.2 +1.4
GTA ScP **ScP** 17 29 26.7 +0.9
GTA pmax pmax
comp=Z,65nm,0.8s
GTA pmax pmax
comp=Z,220nm,7.2s
GTA LR LR
comp=Z,240nm,13.5s
GTA LR LR
comp=Z,280nm,10.4s
MDJ Mudanjiang 31.89 12 IAmb IAmb 17 23 18.5
comp=Z,32nm,1.0s
MDJ Mudanjiang 31.89 12 P **P** 17 23 16.1 +1.2
MDJ pmax pmax
comp=Z,29nm,1.3s
MDJ Mudanjiang 31.89 12 P **P** 17 23 16.3 +1.4
LSA Lhasa 31.94 305 P **P** 17 23 15.4 -0.7
LSA pmax pmax
comp=Z,69nm,0.6s
LSA Lhasa 31.94 305 *i* P **P** 17 23 17.3 +1.2
SNR=25
LSA Lhasa 31.94 305 P **P** 17 23 17.2 +1.2
USA0B Ussuriysk Arra 32.04 15 IAmb IAmb 17 23 18.7
comp=Z,66nm,1.4s
USA0B Ussuriysk Arra 32.04 15 *i* P **P** 17 23 17.3 +1.1
USRK Ussuriysk Ar. 32.04 15 P **P** 17 23 17.2 +1.0
comp=Z,11nm,0.6s,baz=194,slow=8.6,SNR=32
comp=Z,11nm,0.6s
GOMU GeErMu 32.58 319 P **P** 17 23 21.6 +0.1
GOMU S **S** 17 28 23.8 +1.0
GOMU pmax pmax
comp=Z,26nm,0.9s
GOMU LR LR
comp=Z,200nm,9.3s
GOMU LR LR
comp=Z,150nm,9.7s
GOMU LR LR
comp=Z,230nm,9.7s
BNX BinXian 32.61 8 ⇓P **P** 17 23 21.4 +0.2
BNX pmax pmax
comp=Z,66nm,1.0s
TEY Ternei 34.15 20 ⇑*eP* **P** 17 23 35.6 +1.1
TEY pmax pmax
comp=E,10.0nm,1.4s
TEY pmax pmax
comp=N,20nm,1.0s
TEY pmax pmax
comp=Z,40nm,1.0s
ERM Erimo 34.34 30 *i* P **P** 17 23 37.3 +1.1
ERM pmax pmax
comp=Z,29nm,0.6s
MBWA Marble Bar 34.45 182 P **P** 17 23 36.3 -0.9
comp=Z,132nm,0.9s
MBWA Marble Bar 34.45 182 **P** 17 23 35.9 -1.4
MBWA Marble Bar 34.45 182 P **P** 17 23 36.7 -0.5
MBWA Marble Bar 34.45 182 P **P** 17 23 36.9 -0.4
PMG Port Moresby 34.55 130 **P** 17 23 38.1 -0.2
PMG IAmb IAmb 17 23 39.3
comp=Z,65nm,1.0s
PMG Port Moresby 34.55 130 P **P** 17 23 38.8 +0.5
PMG Port Moresby 34.55 130 P **P** 17 23 38.7 +0.5
PMG Port Moresby 34.55 130 *ceP* **P** 17 23 38.3 0.0
PMG pmax pmax
comp=Z,67nm,1.0s
PSA00 Pilbara Seismi 34.85 182 P **P** 17 23 40.0 -0.8
comp=Z,152nm,1.3s
PSA00 Pilbara Seismi 34.85 182 P **P** 17 23 39.4 -1.4
PSA00 Pilbara Seismi 34.85 182 IAmb IAmb 17 23 41.3
comp=Z,149nm,1.1s
PSA00 Pilbara Seismi 34.85 182 P **P** 17 23 40.2 -0.6
COEN Coen 35.04 140 P **P** 17 23 40.8 -1.7
comp=Z,48nm,0.8s
COEN Coen 35.04 140 IAmb IAmb 17 23 42.8
comp=Z,38nm,0.9s
COEN Coen 35.04 140 P **P** 17 23 42.2 -0.2
HIA Hailar 35.69 359 P **P** 17 23 47.2 -0.4
HIA IAmb IAmb 17 23 48.9
comp=Z,34nm,0.7s
HIA Hailar 35.69 359 P **P** 17 23 48.0 +0.3
HIA Hailar 35.69 359 P **P** 17 23 47.2 -0.4
HIA pmax pmax
comp=Z,34nm,0.7s
JKA Kamikawa-asahi 35.71 27 IAmb IAmb 17 23 50.7
comp=Z,69nm,1.1s
WRAB Tennant Creek 35.73 158 *i* P **P** 17 23 47.5 -0.8
WRAB pmax pmax
comp=Z,42nm,0.6s
WRA Warramunga Arr 35.73 158 **P** 17 23 45.8 -2.5
WRA Warramunga Arr 35.73 158 P **P** 17 23 47.4 -0.9
comp=Z,42nm,0.6s,baz=336,slow=9.5,SNR=295
WRA pP **pP** 17 24 27.7 -1.4
comp=Z,12nm,0.9s,baz=335,slow=9.6,SNR=2.0
WRA S **S** 17 29 04.9 -5.8
comp=Z,3.9nm,1.0s,baz=338,slow=16,SNR=4.7
comp=Z,42nm,0.6s
WRA Warramunga Arr 35.73 158 P **P** 17 23 45.8 -2.5
WRA pmax pmax
comp=Z,1.0nm,0.8s
WR8 Warramunga Arr 35.80 158 P **P** 17 23 47.6 -1.3
WR8 IAmb IAmb 17 23 49.0
comp=Z,56nm,1.1s
ULN Ulaanbaatar 36.18 344 **P** 17 23 51.5 -0.5
ULN IAmb IAmb 17 23 53.6
comp=Z,42nm,0.9s
ULN Ulaanbaatar 36.18 344 P **P** 17 23 52.6 +0.6
ULN P **P** 17 23 52.6 +0.6
ULN Ulaanbaatar 36.18 344 *ceP* **P** 17 23 52.4 +0.4
ULN pmax pmax
comp=Z,52nm,1.0s
SONM Songino Array 36.33 343 **P** 17 23 52.4 -0.9
SONM IAmb IAmb 17 23 54.7
comp=Z,47nm,1.1s
SONM Songino Array 36.33 343 P **P** 17 23 53.6 +0.3
comp=Z,24nm,0.8s,baz=161,slow=9.5,SNR=122
SONM PcP **PcP** 17 26 13.6 0.0
comp=Z,3.9nm,0.7s,baz=157,slow=3.3,SNR=4.7
SONM ScP **ScP** 17 29 40.2 -1.4
comp=Z,1.2nm,0.9s,baz=156,slow=3.8,SNR=4.2
comp=Z,24nm,0.8s
SONM Songino Array 36.33 343 P **P** 17 23 52.4 -0.9
SONM pmax pmax
comp=Z,47nm,1.1s
GIRL Giralia 36.50 190 P **P** 17 23 53.9 -0.8
comp=Z,45nm,1.0s
HEH HeiHe 37.05 7 *eP* **P** 17 23 59.8 +0.8
HEH pmax pmax
comp=Z,110nm,1.2s

YSS Yuzhno-Sakhali 38.05 24 P 17 24 07.2 -0.2
YSS IAmb IAmb 17 24 10.4
comp=Z,57nm,1.0s
YSS Yuzhno-Sakhali 38.05 24 P P 17 24 09.2 +1.7
YSS Yuzhno-Sakhali 38.05 24 *eP* **P 17 24 08.7 +1.2**
YSS *eS* **S 17 29 42.3 -2.8**
YSS *e**SS **sS 17 30 54.5 -3.5**
YSS pmax pmax
comp=Z,50nm,1.0s
YSS pmax pmax
comp=Z,200nm,5.5s
QIS Mount Isa 38.48 151 P P 17 24 10.8 -0.6
comp=Z,60nm,0.5s
QIS Mount Isa 38.48 151 P P 17 24 11.5 +0.1
CIT Chita 38.90 353 *eP* **P 17 24 15.0 +0.4**
CIT *e* 17 24 51.4
CIT *e* 17 25 49.4
CIT pmax pmax
comp=Z,94nm,1.8s
WRKA Warakurna 38.95 169 P P 17 24 14.5 -0.8
comp=Z,35nm,0.8s
WRKA pP **pP 17 24 56.8 +0.2**
MTSU Mount Surprise 38.96 143 P P 17 24 16.2 +0.7
AS31 Alice Springs 39.03 161 P P 17 24 15.5 -0.5
comp=Z,17nm,0.5s
AS31 Alice Springs 39.03 161 IAmb IAmb 17 24 19.7
comp=Z,13nm,0.5s
ASAR Alice Springs 39.03 161 P 17 24 15.5 -0.5
ASAR Alice Springs 39.03 161 P P 17 24 15.7 -0.4
comp=Z,26nm,0.6s,baz=336,slow=6.8,SNR=870
ASAR pP **pP 17 24 55.5 -2.0**
comp=Z,6.5nm,0.8s,baz=336,slow=7.6,SNR=1.7
ASAR S **S 17 29 59.4 -1.1**
comp=Z,2.7nm,1.0s,baz=341,slow=17,SNR=5.5
comp=Z,26nm,0.6s
AS01 Alice Springs 39.05 161 P P 17 24 15.9 -0.2
GRNR Gornyy 39.26 16 *ij iP* **P 17 24 18.8 +1.3**
GRNR pmax pmax
comp=N,20nm,1.2s
GRNR pmax pmax
comp=Z,30nm,1.0s
ZAK Zakamensk 39.52 342 *eP* **P 17 24 17.9 -1.9**
ZAK pmax pmax
comp=Z,11nm,1.3s
MEEK Meekatharra 39.95 183 P P 17 24 23.0 -0.5
ZEA Zeya 40.47 6 *eP* **P 17 24 27.9 +0.5**
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,0.7s
HYB Hyderabad 41.00 281 *eP* **P 17 24 31.7 -0.7**
HYB IVmB_BB 17 24 33.3
comp=Z,904nm,0.4s
TV1H Townsville Har 41.31 141 P P 17 24 36.0 +1.3
MOY Mondy 41.35 341 *eP* **P 17 24 35.2 +0.4**
MOY pmax pmax
comp=Z,29nm,1.5s
WMQ Urumqi 41.53 323 *eP* **P 17 24 37.9 +1.6**
WMQ pmax pmax
comp=Z,120nm,5.7s
WMQ LR LR
comp=Z,170nm,24.3s
CTA Charters Tower 41.62 143 P P 17 24 38.5 +1.2
CTAO Charters Tower 41.62 143 P 17 24 38.0 +0.7
CTAO Charters Tower 41.62 143 P P 17 24 38.6 +1.2
CTAO Charters Tower 41.62 143 P P 17 24 38.0 +0.7
CTAO pmax pmax
comp=Z,98nm,0.8s
CTAO Charters Tower 41.62 143 P P 17 24 38.5 +1.2
CTAO pP **pP 17 25 22.4 +3.4**
KNGR Kungurtug, Tuv 41.64 338 *i P* **P 17 24 37.4 +0.2**
KNGR pmax pmax
comp=Z,5.0nm,0.7s
MORW Morawa 42.57 186 P P 17 24 44.4 -0.4
MORW IAmb IAmb 17 24 45.2
comp=Z,57nm,0.9s
MORW Morawa 42.57 186 P P 17 24 44.6 -0.2
BLDU Ballidu 44.03 185 P P 17 24 56.0 -0.5
TATA Tatamba Isabel 44.27 117 P P 17 24 59.3 +0.7
BOD Bodaibo 44.56 355 *eP* **P 17 25 00.3 0.0**
BOD pmax pmax
comp=Z,41nm,1.5s
KLBR Kellerberrin 44.92 184 P P 17 25 02.8 -0.7
ALEG Aligegeo Malai 45.22 117 P P 17 25 07.7 +1.6
INKA Innaminka 45.25 155 P P 17 25 06.2 +0.1
ZSN Zaisan 45.28 326 *eP* **P 17 25 06.8 +0.6**
ZSN Zaisan 45.28 326 *eP* **P 17 25 06.7 +0.6**
MUN Mundaring 45.43 186 P P 17 25 06.7 -0.8
QLP Quilpie 45.81 150 P P 17 25 11.6 +1.1
SHLS Shalkode 46.28 318 *eP* **P 17 25 12.8 -1.4**
SHLS Shalkode 46.28 318 *eP* **P 17 25 12.8 -1.4**
NWAO Narrogin (SRO) 46.29 184 P P 17 25 12.7 -1.5
comp=Z,149nm,0.8s
NWAO Narrogin (SRO) 46.29 184 pP pP 17 25 55.0 -1.7
NWAO Narrogin (SRO) 46.29 184 P P 17 25 12.8 -1.3
NWAO IAmb IAmb 17 25 14.7
comp=Z,57nm,0.7s
NWAO Narrogin (SRO) 46.29 184 P P 17 25 13.8 -0.3
NWAO Narrogin (SRO) 46.29 184 P P 17 25 14.2 +0.1
NWAO Narrogin (SRO) 46.29 184 P P 17 25 12.8 -1.3
NWAO pmax pmax
comp=Z,57nm,0.7s
PDGK Podgornoye 46.34 318 P P 17 25 15.1 +0.4
MK31 Makanchi Array 46.35 324 *i P* **P 17 25 14.6 0.0**
MK31 pmax pmax
comp=Z,40nm,0.9s
MKAR Makanchi Array 46.35 324 P P 17 25 14.3 -0.3
MKAR Makanchi Array 46.35 324 P P 17 25 15.2 +0.6
comp=Z,15nm,0.6s,baz=122,slow=8.9,SNR=139
MKAR PcP **PcP 17 26 46.7 +0.4**
comp=Z,4.1nm,0.8s,baz=141,slow=4.1,SNR=4.2
comp=Z,15nm,0.6s
MAKZ Makanchi 46.54 323 P P 17 25 14.1 -2.0
MAKZ Makanchi 46.54 323 P P 17 25 16.3 +0.2
SATY Saty 46.93 317 *eP* **P 17 25 19.9 +0.6**
SATY Saty 46.93 317 *eP* **P 17 25 19.9 +0.6**
KSH Kashi 47.23 312 P P 17 25 23.8 +2.2
KSH PcP **PcP 17 26 51.5 +1.8**
KSH PP **PP 17 27 19.3 +4.9**
KSH pmax pmax
comp=Z,31nm,1.1s
NIL Nilore 47.63 303 P 17 25 24.4 -0.3
NIL Nilore 47.63 303 P P 17 25 24.7 -0.1
NIL Nilore 47.63 303 P P 17 25 24.4 -0.3
NIL pmax pmax
comp=Z,237nm,0.7s
TDK Taldyqorghan 47.80 320 *eP* **P 17 25 26.6 +0.7**
comp=Z,33nm,0.7s
TDK Taldyqorghan 47.80 320 *eP* **P 17 25 26.5 +0.7**
TDK pmax pmax
comp=Z,33nm,0.7s
MDOK Medeo 47.88 317 *eP* **P 17 25 27.1 +0.5**
MDOK Medeo 47.88 317 *eP* **P 17 25 27.1 +0.5**
TNSS Tian-Shan 47.89 317 *eP* **P 17 25 27.3 +0.2**
TNSS Tian-Shan 47.89 317 *eP* **P 17 25 27.2 +0.2**
NRN Naryn 47.90 314 IAmb IAmb 17 25 28.8
comp=Z,39nm,1.0s
ULHL Ulahol 48.05 315 P P 17 25 29.2 +1.2
SNR=13
CHKK Chushkaly 48.20 318 *eP* **P 17 25 29.1 +0.2**
CHKK Chushkaly 48.20 318 *eP* **P 17 25 29.1 +0.2**
BBOO Buckleboo 48.24 163 P P 17 25 27.5 -1.7
comp=Z,69nm,1.2s
BBOO Buckleboo 48.24 163 pP pP 17 26 12.7 +0.3
BBOO Buckleboo 48.24 163 P P 17 25 28.1 -1.2
BBOO IAmb IAmb 17 25 29.0
comp=Z,47nm,0.5s
BBOO Buckleboo 48.24 163 P P 17 25 28.6 -0.7
EIDS Eidsvold 48.51 143 P P 17 25 30.6 -0.9
comp=Z,28nm,0.9s
KUU Kurty 48.65 317 *eP* **P 17 25 32.6 +0.3**
KUU Kurty 48.65 317 *eP* **P 17 25 32.6 +0.3**
TKM2 Tokmak 2 48.75 316 P P 17 25 33.7 +0.4
SNR=18
YAK Yakutsk 48.88 5 P P 17 25 33.2 -0.5
YAK Yakutsk 48.88 5 LR LR 17 50 03.1
comp=Z,29nm,18.1s,baz=190,slow=40
YAK Yakutsk 48.88 5 *d iP* **P 17 25 34.0 +0.3**
YAK *e**PP **pP 17 26 14.1 -2.7**
YAK *eS* **S 17 32 21.8 -0.1**
YAK *eS* **S 17 32 21.8 -0.1**
YAK *e**SS **sS 17 33 35.1 -2.5**
YAK *e* 17 35 08.7
YAK *eSS* **SS 17 35 57.7 +2.6**

YAK pmax pmax
comp=Z,169nm,0.9s
YAK pmax pmax
comp=E,18nm,1.1s
YAK pmax pmax
comp=N,70nm,1.3s
YAK pmax pmax
comp=Z,407nm,6.2s
YAK pmax pmax
comp=E,174nm,4.7s
YAK pmax pmax
comp=N,308nm,4.8s
YAK smax smax
comp=E,51nm,2.4s
YAK smax smax
comp=N,220nm,3.8s
YAK Yakutsk 48.88 5 P P 17 25 34.0 +0.3
KBK Karagaybulak 49.09 315 P P 17 25 37.1 +1.2
SNR=36
PETK Petropavlovsk- 49.09 29 P P 17 25 36.4 +0.9
comp=N,30nm,0.9s,baz=213,slow=7.0,SNR=14
comp=N,30nm,0.9s
UCH Uchtor 49.23 315 P P 17 25 38.5 +1.2
SNR=52
STKA Stephens Creek 49.25 157 P P 17 25 36.8 -0.2
comp=Z,73nm,1.0s
STKA Stephens Creek 49.25 157 P P 17 25 36.2 -0.8
STKA IAmb IAmb 17 25 39.4
comp=Z,49nm,0.8s
STKA Stephens Creek 49.25 157 P P 17 25 36.6 -0.4
comp=Z,13nm,0.7s,baz=339,slow=8.1,SNR=29
comp=Z,13nm,0.7s
STKA Stephens Creek 49.25 157 P P 17 25 36.7 -0.2
STKA Stephens Creek 49.25 157 P P 17 25 36.2 -0.8
STKA pmax pmax
comp=Z,49nm,0.8s
CHMS Chumysh 49.35 316 P P 17 25 38.3 +0.6
SNR=21
ZALV Zalesovo Beam 49.36 333 P P 17 25 36.5 -1.0
ZALV Zalesovo Beam 49.36 333 P P 17 25 37.2 -0.3
comp=Z,17nm,0.5s,baz=121,slow=6.5,SNR=63
ZALV PcP **PcP 17 26 56.1 -0.8**
comp=Z,2.7nm,0.6s,baz=126,slow=2.8,SNR=2.3
comp=Z,17nm,0.5s
ZALV Zalesovo Beam 49.36 333 *i P* **P 17 25 37.2 -0.3**
ZALV pmax pmax
comp=Z,18nm,0.5s
AAK Ala-Archa 49.39 315 P P 17 25 39.0 +0.8
SNR=11
AAK Ala-Archa 49.39 315 P P 17 25 38.6 +0.5
AAK Ala-Archa 49.39 315 P P 17 25 39.1 +1.0
AAK Ala-Archa 49.39 315 *i P* **P 17 25 38.8 +0.6**
SNR=12
AAK Ala-Archa 49.39 315 *ceP* **P 17 25 39.4 +1.2**
AAK pmax pmax
comp=Z,21nm,1.0s
SGDS Sogindy 49.61 316 *eP* **P 17 25 39.8 +0.1**
USP Ospenovka 49.63 316 P P 17 25 40.4 +0.6
SNR=22
HTT Hallett 49.70 160 P P 17 25 40.2 -0.2
EKS2 Erkin-Say 49.90 315 P P 17 25 43.1 +1.1
SNR=12
ARSB Arslanbob 49.99 313 IAmb IAmb 17 25 44.2
comp=Z,42nm,0.8s
KURBB Kurchatov Arra 50.51 326 P P 17 25 46.5 +0.3
comp=Z,26nm,0.7s,baz=132,slow=7.3,SNR=146
KURBB pP **pP 17 26 27.9 -1.6**
comp=Z,6.6nm,0.6s,baz=116,slow=9.7,SNR=1.9
comp=Z,26nm,0.7s
KURK Kurchatov 50.51 326 P P 17 25 46.1 0.0
KURK Kurchatov 50.51 326 P P 17 25 46.9 +0.7
KURK Kurchatov 50.51 326 *i P* **P 17 25 46.3 +0.1**
KURK pmax pmax
comp=Z,30nm,0.7s
KURK Kurchatov 50.51 326 P P 17 25 46.5 +0.4
KURK pP **pP 17 26 27.6 -1.9**
BTLS Baital 50.61 318 *eP* **P 17 25 47.2 +0.1**
BTLS Baital 50.61 318 *eP* **P 17 25 47.2 +0.1**
LUES Luesalemba Tem 50.65 116 P P 17 25 48.3 +0.5
CMSA Cobar Meteorol 50.67 152 P P 17 25 46.5 -1.1
comp=Z,14nm,0.8s
MA2 Magadan 51.02 19 *i P* **P 17 25 48.9 -1.0**
MA2 pmax pmax
comp=Z,46nm,0.9s
KBL Kabul 51.23 304 P P 17 25 51.5 -0.7
KBL Kabul 51.23 304 P P 17 25 52.7 +0.5
KBL Kabul 51.23 304 P P 17 25 51.5 -0.7
KBL pmax pmax
comp=Z,71nm,0.9s
DZA Taraz 51.67 314 *eP* **P 17 25 55.3 +0.2**
DZA Taraz 51.67 314 *eP* **P 17 25 52.2 +0.2**
SIMJ Simiganj 52.15 309 P P 17 25 58.0 -0.8
SIMJ IAmb IAmb 17 26 01.4
comp=Z,48nm,1.2s
SIMJ Simiganj 52.15 309 P P 17 25 58.8 0.0
KK31 Karatay Array 52.30 314 IAmb IAmb 17 26 00.9
comp=Z,40nm,0.9s
KK31 Karatay Array 52.30 314 *i P* **P 17 25 59.8 +0.1**
KKAR Karatay Array 52.30 314 P P 17 25 59.1 -0.6
KKAR Karatay Array 52.30 314 P P 17 25 59.1 -0.6
IUG luzhnay 52.34 313 *eP* **P 17 26 00.6 +0.5**
comp=Z,24nm,0.5s
IUG luzhnay 52.34 313 *eP* **P 17 26 00.6 +0.5**
IUG pmax pmax
comp=Z,23nm,0.5s
CHM Chimkent 52.70 313 *eP* **P 17 26 03.1 +0.5**
CHM Chimkent 52.70 313 *eP* **P 17 26 03.1 +0.5**
BRLS Borolday 52.75 314 *eP* **P 17 26 03.5 +0.5**
BRLS Borolday 52.75 314 *eP* **P 17 26 03.4 +0.5**
BRZS Berezniki 53.49 323 *eP* **P 17 26 08.8 +0.5**
BRZS Berezniki 53.49 323 *eP* **P 17 26 08.8 +0.5**
SEY Seymchan 54.14 17 *ceP* **P 17 26 14.7 +2.0**
SEY pmax pmax
comp=Z,35nm,2.5s
BVA0 Borovoye Array 56.09 326 *i P* **P 17 26 26.7 -0.1**
BORK Borovoye 56.14 326 P P 17 26 27.4 +0.3
DZM Mont Dzumac 56.91 128 IAmb IAmb 17 26 35.5
comp=Z,54nm,1.3s
DZM Mont Dzumac 56.91 128 P P 17 26 34.2 +1.1
comp=Z,18nm,0.5s,baz=259,slow=9.4,SNR=31
comp=Z,18nm,0.5s
SMY Shemya 57.40 35 IAmb IAmb 17 26 39.1
comp=Z,44nm,0.9s
SMY Shemya 57.40 35 P P 17 26 38.0 +2.0
TIXI Tiksi 58.33 3 P P 17 26 41.1 -1.1
TIXI IAmb IAmb 17 26 42.9
comp=Z,48nm,0.9s
TIXI Tiksi 58.33 3 LR LR 17 53 04.2
comp=Z,73nm,19.0s,baz=192,slow=37
TIXI Tiksi 58.33 3 *ceP* **P 17 26 42.2 0.0**
TIXI pmax pmax
comp=Z,142nm,2.5s
TIXI Tiksi 58.33 3 P P 17 26 42.2 0.0
WSAR Wadi Sarin 59.57 289 P P 17 26 51.1 -0.5
AMKA Amchitka 59.97 38 P P 17 26 52.5 -1.2
BIDO Bidbid 60.02 289 P P 17 26 54.0 -0.7
JMDO Jabal Madar 60.10 288 P P 17 26 54.2 -0.9
SMDO Samad 60.11 289 P P 17 26 54.2 -1.2
MHTO MHTO 60.31 287 P P 17 26 55.4 -1.2
HOQ Hoqain 60.77 290 P P 17 26 58.5 -1.1
DQM DQM 60.78 285 P P 17 26 59.0 -0.8
AB31 Akbulak array 61.06 319 P P 17 27 00.7 -0.5
AB31 Akbulak array 61.06 319 *i P* **P 17 27 00.9 -0.3**
ABKAR Akbulak array 61.06 319 P P 17 27 00.7 -0.4
SOHO SOHO 61.45 290 P P 17 27 03.7 -0.6
ARQ Araqi 61.50 289 P P 17 27 03.8 -0.8
BANOM Banah 61.59 292 P P 17 27 06.0 +0.7
BANOM Banah 61.59 292 P P 17 27 05.9 +0.7
MDH Madha 61.62 292 P P 17 27 03.8 -1.6
MDH Madha 61.62 292 P P 17 27 04.0 -1.4
UOSS Minazif 61.72 291 P P 17 27 05.4 -0.6
UOSS Minazif 61.72 291 P P 17 27 05.5 -0.6
SHME Shamm 61.73 292 P P 17 27 06.3 +0.2
SHME Shamm 61.73 292 P P 17 27 06.4 +0.2
MASF Masafi 61.74 292 P P 17 27 07.3 +1.1
MSFE Esma-Masafi 61.74 292 P P 17 27 07.4 +1.1
HATD Hatta, Dubai 61.78 291 P P 17 27 06.1 -0.4
HATD Hatta, Dubai 61.78 291 P P 17 27 06.4 -0.1
BILL Bilibino 61.84 18 *ceP* **P 17 27 07.6 +1.6**
BILL pmax pmax
comp=Z,41nm,2.5s
ASHO Ashiyiah 61.86 291 P P 17 27 06.8 -0.3
SNR=9.4
ASHO Ashiyiah 61.86 291 *i P* **P 17 27 06.8 -0.3**
SNR=9.4

ALNE Al Ain 62.17 290 P P 17 27 08.8 -0.2
ALNE Al Ain 62.17 290 *i P* **P 17 27 09.2 +0.2**
SNR=15
KIWB Kanaga Island 62.23 38 P P 17 27 09.4 +0.5
ASUD Al Ashush, Dub 62.52 291 P P 17 27 09.6 -1.8
ASUD Al Ashush, Dub 62.52 291 P P 17 27 11.3 -0.1
AKTO Aktyubinsk 62.54 320 P P 17 27 10.1 -0.9
SVE Sverdlovsk 62.72 327 *ceP* **P 17 27 12.2 +0.1**
SVE pmax pmax
comp=Z,64nm,0.9s
SHAO Shalim 62.77 283 P P 17 27 13.6 +0.4
UMZA Um Al Zommool 62.79 289 P P 17 27 12.3 -0.9
DMTO DMTO 63.44 283 P P 17 27 17.8 +0.2
SNR=5.1
ARTI Arti 63.78 327 P P 17 27 17.9 -1.2
ARTI Arti 63.78 327 LR LR 17 57 01.2
comp=Z,30nm,18.2s,baz=94,slow=38
ARTI Arti 63.78 327 *d iP* **P 17 27 18.3 -0.8**
ARTI 17 27 50.4
ARTI *PP **pP 17 28 03.0 -1.3
ARTI S **S 17 35 37.5 -0.6
ARTI SS **SS 17 39 46.1 -3.5
ARTI pmax pmax
comp=Z,29nm,0.9s
ARTI Arti 63.78 327 P P 17 27 18.2 -0.8
ARTI PcP **PcP 17 27 52.1 -1.2**
MZWR Madinat Zayed 63.90 290 P P 17 27 19.8 -0.6
ATKA Atka Island 64.08 38 P P 17 27 21.9 +0.8
DOK Doka 64.12 284 P P 17 27 21.5 -0.4
RBK Rabkut 64.17 283 P P 17 27 22.3 -0.1
MSVF Nonsavu 64.31 117 P 17 27 25.1 +1.9
MSVF IAmb IAmb 17 27 26.6
comp=Z,25nm,0.9s
MSVF Nonsavu 64.31 117 P P 17 27 24.2 +1.0
MSVF Nonsavu 64.31 117 P P 17 27 25.1 +1.9
MSVF pmax pmax
comp=Z,25nm,0.9s
MSVF Nonsavu 64.31 117 P P 17 27 25.6 +2.4
MZR Muzera 64.32 289 P P 17 27 22.8 -0.4
MZR Muzera 64.32 289 *i P* **P 17 27 22.9 -0.3**
SNR=19
WHFO Wadi Hawf 64.53 284 P P 17 27 24.2 -0.5
SNR=7.5
JRN Qarnain Island 64.76 291 P P 17 27 25.7 -0.3
GHWR Ruwais 64.80 290 P P 17 27 25.7 -0.5
ABTO Aybut 65.05 283 P P 17 27 28.1 +0.1
DGTI Dogotuki 65.19 115 P P 17 27 30.0 +1.1
SLWR Sila 65.87 290 P P 17 27 33.2 +0.1
TRNA Turayna 66.25 291 P P 17 27 35.7 +0.1
SHMA Al-Shehemyia 66.40 292 P P 17 27 36.8 +0.3
SMRA Abu-Samra 66.61 291 P P 17 27 38.1 +0.3
SAKB Bahrain 66.77 293 P P 17 27 39.1 +0.2
SPIA Saint Paul Isl 67.30 33 P P 17 27 42.0 +0.5
baz=260
P08K Saint George I 67.57 34 P P 17 27 43.7 +0.4
baz=260
GAMB Gambell 68.03 26 P P 17 27 46.6 +0.6
baz=256
AKT Akhty 68.66 309 *eP* **P 17 27 50.0 -0.6**
AKT pmax pmax
comp=Z,31nm,0.6s
UNV Unalaska Valle 68.92 37 P P 17 27 52.1 +0.4
baz=264
KIRV Kirov 68.98 328 *i P* **P 17 27 52.5 +0.5**
BELG Belogornoye 69.26 321 *i P* **P 17 27 52.5 -1.3**
BELG pmax pmax
comp=Z,11nm,0.6s
M11K Mekoryuk 69.90 30 P P 17 27 58.8 +1.2
baz=262
TNA Tin City 70.02 25 P P 17 27 59.7 +1.5
baz=256
F14K Arctic Creek 70.66 25 P P 17 28 04.4 +2.3
baz=260,SNR=7.1
FALS False Pass 70.81 36 P P 17 28 03.7 +0.5
baz=266
K13K Kusilvak Mount 70.86 29 P P 17 28 04.2 +0.8
baz=263
ANM Nome 70.91 26 P P 17 28 04.7 +1.1
baz=261
GNI Garni 70.94 308 P P 17 28 04.4 -0.2
GNI IAmb IAmb 17 28 26.3
comp=Z,29nm,0.9s
GNI Garni 70.94 308 P P 17 28 04.4 -0.2
GNI pmax pmax
comp=Z,29nm,1.0s
M13K Dall Lake 71.31 31 P P 17 28 07.6 +1.5
baz=264
F15K North Star Dit 71.39 25 P P 17 28 07.9 +1.4
baz=261
J14K Nanvaranak Lak 71.47 28 P P 17 28 08.6 +1.6
baz=263
G15K Niukluk 71.54 26 P P 17 28 08.9 +1.5
baz=262
C16K Lisburne Hills 71.54 22 P P 17 28 08.9 +1.6
baz=260
RAYN Ar Rayn 71.56 291 P 17 28 08.3 -0.2
RAYN Ar Rayn 71.56 291 *i P* **P 17 28 08.9 +0.4**
SNR=67
RAYN Ar Rayn 71.56 291 P P 17 28 08.3 -0.2
RAYN pmax pmax
comp=Z,55nm,0.8s
RAYN Ar Rayn 71.56 291 P P 17 28 08.7 +0.3
S12K Black Hills 71.64 36 P P 17 28 09.0 +0.8
baz=267
NCK Nalchik 71.71 312 *i P* **P 17 28 09.0 +0.1**
L14K Kuka Creek 71.72 30 P P 17 28 10.6 +2.1
baz=265,SNR=11
M14K Bethel 72.02 30 P P 17 28 12.2 +1.9
baz=266,SNR=11
N14K Kuskokwak Cree 72.10 31 P P 17 28 12.4 +1.6
baz=266
KBZ Khabaz 72.21 312 P P 17 28 11.7 -0.1
comp=Z,21nm,0.9s,baz=177,slow=7.8,SNR=28
comp=Z,21nm,0.9s
KBZ Khabaz 72.21 312 *ceP* **P 17 28 12.1 +0.3**
KBZ pmax pmax
comp=Z,32nm,1.0s
H16K Elim 72.26 26 P P 17 28 13.3 +1.6
baz=264
O14K Tigyukauivet M 72.27 32 P P 17 28 13.4 +1.6
baz=267
D17K Noatak River 72.29 23 P P 17 28 13.7 +1.9
baz=262,SNR=6.4
G16K Koyuk River 72.29 25 P P 17 28 13.3 +1.4
baz=264
L15K Ungalak Mounta 72.33 29 P P 17 28 13.7 +1.5
baz=266
K15K Wolf Creek Mou 72.35 29 P P 17 28 14.3 +2.0
baz=265,SNR=5.9
KIV Kislovodsk 72.36 312 P 17 28 13.1 +0.3
KIV Kislovodsk 72.36 312 *i P* **P 17 28 13.5 +0.7**
SNR=13
KIV Kislovodsk 72.36 312 *eP* **P 17 28 12.7 -0.1**
KIV pmax pmax
comp=Z,72nm,1.0s
C17K DeLong Mountai 72.36 22 P P 17 28 13.3 +1.0
baz=262
SHA1 Shidzhatmaz 72.38 312 *i P* **P 17 28 13.2 0.0**
RDOG Red Dog Mine 72.40 23 P P 17 28 14.0 +1.4
baz=262
SDPT Sand Point 72.52 36 P P 17 28 14.6 +1.2
baz=268
M15K Kasigluk River 72.64 30 P P 17 28 15.5 +1.4
baz=267,SNR=10
RAO Raoul Island 72.67 127 P P 17 28 16.6 +1.9
comp=Z,360nm,0.4s,baz=18,slow=21,SNR=2.7
E17K Hotham Inlet 72.69 24 P P 17 28 16.0 +1.8
baz=264
F17K Baldwin Pennin 72.85 24 P P 17 28 17.0 +1.9
baz=264
J16K Anvik River 72.86 28 P P 17 28 17.3 +2.0
baz=266,SNR=5.4
I17K Unalakleet 72.86 27 P P 17 28 17.6 +2.3
baz=266
VRH Novokhopyorsk 72.88 320 *eP* **P 17 28 13.2 -2.4**
VRH pmax pmax
comp=Z,60nm,0.9s
N15K Kwethluk River 72.91 31 P P 17 28 17.5 +1.8
baz=267,SNR=12
B18K Kokolik River 72.97 21 P P 17 28 18.0 +2.2
baz=263
O15K Ungalikthiuk R 73.00 32 P P 17 28 17.6 +1.4
baz=268
G17K Kiwalik Mounta 73.01 25 P P 17 28 17.9 +1.8
baz=265,SNR=16
CHNA Chernabura Isl 73.02 36 P P 17 28 16.4 0.0

baz=269
S14K Fog Glacier 73.07 35 P P 17 28 17.3 +0.5
baz=269
C18K Utukok River 73.11 22 P P 17 28 18.1 +1.4
baz=264
E18K Tukpahlearik C 73.20 23 P P 17 28 18.8 +1.6
baz=265
H17K Granite Mounta 73.28 26 P P 17 28 19.5 +1.8
baz=266,SNR=9.0
L16K Owhat River 73.28 29 P P 17 28 19.3 +1.5
baz=267,SNR=13
A19K Wainwright 73.33 20 P P 17 28 19.5 +1.6
baz=263
F18K Selawik 73.50 24 P P 17 28 20.4 +1.5
baz=266,SNR=12
M16K Timber Creek 73.50 30 P P 17 28 20.7 +1.5
baz=268,SNR=11
URZ Urewera 73.52 137 P P 17 28 19.5 0.0
comp=Z,8.6nm,0.7s,baz=304,slow=3.6,SNR=1.9
comp=Z,8.6nm,0.7s
J17K VABM Dome 73.55 28 P P 17 28 21.6 +2.3
baz=267,SNR=17
N16K Nishlik Lake 73.58 31 P P 17 28 21.5 +1.9
baz=268,SNR=9.4
BKZ Black Stump Fm 73.61 138 P P 17 28 20.9 +0.8
BKZ IAmb IAmb 17 28 25.3
comp=Z,53nm,1.4s
C19K Lookout Ridge 73.73 22 P P 17 28 22.3 +1.9
baz=265
ERBR Yeremizino-Bor 73.85 314 *e*P P 17 28 20.2 -1.2
ERBR pmax pmax
comp=Z,53nm,0.8s
L17K Donlin 73.86 29 P P 17 28 23.2 +2.1
baz=268,SNR=11
G18K Tagagawik 73.86 25 P P 17 28 22.4 +1.3
baz=267,SNR=8.7
K17K Iditarod 73.88 28 P P 17 28 23.2 +2.0
baz=268,SNR=16
O16K Kokwok River B 73.90 32 P P 17 28 23.0 +1.6
baz=269,SNR=11
H18K Honhosa River 73.94 26 P P 17 28 23.1 +1.5
baz=267
P16K Nushagak River 73.95 32 P P 17 28 23.2 +1.6
baz=269
KLMR Klimovskoe 74.16 330 *e*P P 17 28 21.5 -1.4
KLMR *e* 17 28 35.3
KLMR *e**PP **pP** 17 29 06.9 -2.7
KLMR pmax pmax
comp=Z,100nm,1.5s
R16K Pilot Point 74.16 34 P P 17 28 24.9 +2.0
baz=270
D19K Kuna River 74.22 22 P P 17 28 24.9 +1.7
baz=267,SNR=12
M17K Holitna River 74.25 30 P P 17 28 25.4 +1.9
baz=269,SNR=7.8
F19K Shaleruckik Mo 74.27 24 P P 17 28 24.4 +1.1
baz=267,SNR=5.5
VSLR Vesyoloye 74.30 312 *i* P P 17 28 24.2 +0.1
VSLR pmax pmax
comp=Z,74nm,0.9s
N17K Nushagak Hills 74.36 31 P P 17 28 25.9 +1.8
baz=270,SNR=7.8
O17K Koliganek Bris 74.41 31 P P 17 28 25.9 +1.6
baz=270,SNR=5.9
VORD Divnogorie 74.41 319 *e*P P 17 28 21.7 -2.8
VORD pmax pmax
comp=Z,30nm,0.9s
VORR Voronezh 74.44 320 *e*P P 17 28 22.1 -2.6
VORR pmax pmax
comp=Z,60nm,0.8s
VSR Storozhevoye 74.48 320 *e*P P 17 28 21.8 -3.1
VSR pmax pmax
comp=Z,30nm,0.8s
E19K Redstone River 74.50 23 P P 17 28 26.5 +1.7
baz=268,SNR=9.4
G19K Purcell Mounta 74.51 25 P P 17 28 26.4 +1.6
baz=268,SNR=12
SOC Sochi 74.52 312 *e*P P 17 28 23.6 -1.7
SOC *e* 17 31 12.5
SOC *e*PPP PPP 17 32 57.4
SOC *e*S **S** **17 37 42.6 -1.8**
SOC *e*SS **SS** **17 42 40.0 +4.8**
SOC *e*SSS SSS 17 45 45.2
SOC pmax pmax
comp=Z,50nm,0.6s
GCSA Galena City Sc 74.56 26 P P 17 28 26.9 +1.7
baz=269
LPSR Galich'ya Gora 74.58 321 *e*P P 17 28 23.3 -2.2
LPSR pmax pmax
comp=Z,60nm,0.8s
J18K Innoko River 74.61 27 P P 17 28 27.1 +1.6
baz=269,SNR=10
L18K Granite Mounta 74.61 29 P P 17 28 27.4 +2.0
baz=270,SNR=12
B20K Meade River 74.64 21 P P 17 28 26.7 +1.2
baz=267
P17K Kvichak River 74.75 32 P P 17 28 28.1 +1.9
baz=271,SNR=28
H19K Roundabout Mou 74.76 25 P P 17 28 28.2 +1.9
baz=269,SNR=27
D20K Etivluk River 74.78 22 P P 17 28 28.0 +1.6
baz=268,SNR=11
R17L Mt. Peulik Vol 74.81 34 P P 17 28 28.3 +1.5
baz=271
E20K Nigu River 74.92 23 P P 17 28 28.8 +1.5
baz=268
N18K Kilae Creek 75.00 30 P P 17 28 29.5 +1.7
baz=271
M18K Stony River 75.03 30 P P 17 28 29.8 +1.9
baz=271,SNR=12
F20K Avaraart Lake 75.08 24 P P 17 28 29.8 +1.7
baz=269,SNR=18
J19K Poorman 75.10 27 P P 17 28 30.1 +1.8
baz=270,SNR=6.4
MOS Moscow 75.23 324 *e*P P 17 28 27.8 -1.3
MOS pmax pmax
comp=Z,56nm,0.8s
CHIR Chirikof Islan 75.28 35 P P 17 28 30.3 +0.9
baz=272
P18K Big Mountain, 75.36 32 P P 17 28 30.8 +0.9
baz=272
A22K Sinclair Lake 75.41 20 P P 17 28 31.5 +1.6
baz=269
H20K Anotleneega Mo 75.41 25 P P 17 28 31.8 +1.7
baz=270,SNR=28
C21K Knifeblade Rid 75.45 22 P P 17 28 31.4 +1.2
baz=270
L19K White Mountain 75.47 29 P P 17 28 32.4 +1.9
baz=271,SNR=17
Q18K Katmai Hardscr 75.50 32 P P 17 28 30.8 0.0
baz=272,SNR=5.5
B21K Ikpikpuk River 75.52 21 P P 17 28 31.7 +1.2
baz=270
I20K Naaghedeneel 75.59 26 P P 17 28 33.2 +2.2
baz=271,SNR=5.1
N19K Bonanza Creek 75.69 30 P P 17 28 33.5 +1.7
baz=272,SNR=9.3
M19K Big River Lodg 75.70 29 P P 17 28 33.6 +1.9
baz=272,SNR=7.2
J20K Nowinta River 75.75 27 P P 17 28 33.8 +1.9
baz=271,SNR=17
E21K Killik River 75.75 22 P P 17 28 32.8 +0.9
baz=270
K20K Telida 75.80 28 P P 17 28 34.3 +2.0
baz=272,SNR=12
R18K Karluk 75.84 34 P P 17 28 34.2 +1.6
baz=273
OBN Obninsk 75.86 324 P P 17 28 31.0 -1.7
OBN Obninsk 75.86 324 ⇓P P 17 28 32.0 -0.7
OBN Obninsk 75.86 324 *ce*P P 17 28 31.7 -1.0
OBN *e* 17 28 38.2
OBN *e**SP **sP** 17 29 40.4 -0.1
OBN 17 31 28.0
OBN pmax pmax
comp=Z,83nm,1.6s
IMAR Indian Mountai 75.87 25 P P 17 28 33.5 +0.8
L20K Farewell, AK 75.92 29 P P 17 28 34.8 +1.8
baz=272,SNR=6.2
B22K Teshekpuk Lake 75.93 20 P P 17 28 34.1 +1.3
baz=270
F21K Alatna River 75.95 24 P P 17 28 33.9 +0.9
baz=271
G21K Allakaket 75.96 24 P P 17 28 34.9 +1.8
baz=271,SNR=33
ATD Arta Tunnel 75.97 279 P P 17 28 34.9 +0.8
ATD IAmb IAmb 17 28 36.9
comp=Z,25nm,0.9s

SII Sitkinak Islan 76.04 35 P P 17 28 34.4 +0.6
baz=273
ANN Anapa 76.06 313 *e*P P 17 28 32.5 -1.6
ANN pmax pmax
comp=Z,43nm,0.7s
Q19K Cape Douglas, 76.20 32 P P 17 28 34.9 +0.3
baz=273
D22K Ayikyak River 76.21 22 P P 17 28 36.1 +1.5
baz=272,SNR=6.9
LVZ Lovozero 76.22 337 P P 17 28 33.6 -1.0
H21K Melozitna Rive 76.27 25 P P 17 28 36.7 +1.8
baz=272,SNR=30
M20K Styx River 76.30 29 P P 17 28 36.9 +1.7
baz=273,SNR=16
P19K Oil Pt 76.37 31 P P 17 28 36.3 +0.8
baz=273
F22K John River 76.45 23 P P 17 28 37.2 +1.3
baz=272,SNR=8.4
OHAK Old Harbor 76.49 34 IAmb IAmb 17 28 38.1
OHAK Old Harbor 76.49 34 P P 17 28 36.9 +0.7
comp=Z,21nm,0.9s
baz=274
RED Redoubt Volcan 76.55 31 IAmb IAmb 17 28 38.1
comp=Z,18nm,0.9s
CHUM Lake Minchumin 76.57 27 P P 17 28 38.0 +1.5
baz=273,SNR=9.4
O20K Slope Mountain 76.65 31 P P 17 28 37.4 +0.2
baz=274
PPLA Purkeypile 76.68 28 P P 17 28 38.3 +0.9
baz=274,SNR=7.3
N20K Mount Spurr 76.78 30 P P 17 28 38.5 +0.6
baz=274
SPCR Spurr Chakacha 76.78 30 P P 17 28 38.5 +0.6
baz=274
KDAK Kodiak Island 76.83 33 P P 17 28 38.9 +0.8
baz=274
H22K Ishtalitna Cre 76.85 25 P P 17 28 40.0 +1.9
baz=274
Q20K Shuyak Island 76.87 32 P P 17 28 38.8 +0.4
baz=274
C23K Itkillik River 76.91 21 P P 17 28 39.9 +1.5
baz=273,SNR=8.0
D23K Nanushuk River 76.93 22 P P 17 28 40.2 +1.7
baz=273,SNR=9.9
SKT Skwentna 77.05 29 P P 17 28 39.7 +0.4
baz=274,SNR=14
GAZ Gaziantep 77.05 305 IAmb IAmb 17 28 41.9
comp=Z,44nm,0.8s
BPAW Bear Paw Mtn. 77.14 27 IAmb IAmb 17 28 42.2
comp=Z,33nm,0.7s
BPAW Bear Paw Mtn. 77.14 27 P P 17 28 41.3 +1.5
baz=274,SNR=42
MLY Manley 77.17 26 IAmb IAmb 17 28 42.6
comp=Z,69nm,1.6s
MLY Manley 77.17 26 P P 17 28 41.5 +1.5
baz=274,SNR=24
COLD Coldfoot 77.23 24 P P 17 28 42.0 +1.8
baz=274,SNR=6.7
TOKA Tokat 77.24 309 IAmb IAmb 17 28 42.4
comp=Z,37nm,1.0s
G23K Bananza Creek 77.34 24 P P 17 28 42.2 +1.4
baz=274,SNR=19
TOLK Toolik Lake Re 77.36 22 P P 17 28 42.0 +1.1
baz=274,SNR=6.9
E23K Chandalar 77.39 23 P P 17 28 43.0 +1.8
baz=275,SNR=15
CNPM China Poot 77.39 31 IAmb IAmb 17 28 42.5
comp=Z,20nm,0.7s
SUA Susitna One 77.46 29 IAmb IAmb 17 28 43.5
comp=Z,34nm,0.7s
SUA Susitna One 77.46 29 P P 17 28 42.2 +0.4
baz=275,SNR=15
TRF Thorofare Moun 77.50 27 IAmb IAmb 17 28 45.7
comp=Z,70nm,1.9s
TRF Thorofare Moun 77.50 27 P P 17 28 42.8 +0.8
baz=275,SNR=6.8
BRLK Bradley Lake 77.55 31 IAmb IAmb 17 28 45.8
comp=Z,25nm,1.0s
C24K Franklin Bluff 77.58 21 P P 17 28 43.1 +1.1
baz=275
D24K Happy Valley 77.58 22 P P 17 28 43.1 +1.0
baz=275
CUT Chulitna 77.60 28 P P 17 28 43.6 +1.3
baz=275
H23K Yukon River 77.61 25 P P 17 28 43.4 +1.0
baz=275
BRSE Bradley Lake S 77.62 31 P P 17 28 42.9 +0.3
baz=276,SNR=7.0
M22K Willow 77.73 29 P P 17 28 43.5 +0.4
baz=276,SNR=6.0
I23K Minto, Yukon-K 77.75 26 P P 17 28 44.2 +1.2
baz=276,SNR=14
BWN Browne 77.80 27 IAmb IAmb 17 28 47.0
comp=Z,40nm,1.5s
SLKM Skilak Lake 77.81 30 IAmb IAmb 17 28 44.6
comp=Z,14nm,0.7s
E24K Your Creek 77.81 23 P P 17 28 44.8 +1.3
baz=276,SNR=12
BNN Bunyan 77.91 307 IAmb IAmb 17 28 46.3
comp=Z,36nm,0.9s
NEA2 Nenana 77.92 26 P P 17 28 45.3 +1.2
baz=276,SNR=17
VADS Vadso 77.97 340 *e*P P 17 28 43.5 -0.7
RC01 Rabbit Creek A 77.98 30 IAmb IAmb 17 28 45.7
comp=Z,20nm,0.9s
RC01 Rabbit Creek A 77.98 30 P P 17 28 44.7 +0.3
baz=276,SNR=8.8
O22K Cooper Landing 78.05 30 P P 17 28 45.3 +0.4
baz=276,SNR=7.4
MCK McKinley 78.07 27 IAmb IAmb 17 28 46.6
comp=Z,38nm,0.8s
MCK McKinley 78.07 27 P P 17 28 45.6 +0.7
baz=276,SNR=25
F24K Squaw Lake 78.09 23 P P 17 28 46.6 +1.6
baz=276,SNR=20
RND Reindeer 78.14 27 IAmb IAmb 17 28 46.3
comp=Z,17nm,0.7s
PMR Palmer 78.22 29 P P 17 28 45.0 -0.6
PMR IAmb IAmb 17 28 47.0
comp=Z,20nm,0.8s
PMR Palmer 78.22 29 P P 17 28 46.6 +0.9
PMR Palmer 78.22 29 P P 17 28 45.1 -0.6
PMR pmax pmax
comp=Z,20nm,0.8s
PMR Palmer 78.22 29 P P 17 28 46.2 +0.5
baz=276
SEW Seward 78.23 31 IAmb IAmb 17 28 47.3
comp=Z,21nm,0.8s
SEW Seward 78.23 31 P P 17 28 46.4 +0.6
baz=276,SNR=8.6
H24K Noodor Dome 78.29 25 P P 17 28 47.5 +1.4
baz=277,SNR=19
WAT1 Susitna Watana 78.35 28 P P 17 28 46.7 +0.2
baz=277
G24K Hadweenzic Riv 78.35 24 P P 17 28 48.0 +1.6
baz=277,SNR=15
SIM Simferopol' 78.39 314 *e*P P 17 28 45.5 -1.6
SIM *e* 17 28 55.0
SIM *e*S **S** **17 38 21.0 -5.4**
SIM pmax pmax
comp=Z,157nm,0.9s
COLA College 78.41 26 P P 17 28 47.6 +0.9
COLA College 78.41 26 *i* P P 17 28 47.3 +0.6
COLA pmax pmax
comp=Z,13nm,0.9s
D25K Kavik River 78.43 21 P P 17 28 47.9 +1.1
baz=277,SNR=16
KNK Knik Glacier 78.56 29 IAmb IAmb 17 28 49.5
comp=Z,26nm,0.8s
KNK Knik Glacier 78.56 29 P P 17 28 48.5 +0.9
baz=277,SNR=9.4
POKR Poker Plat Res 78.56 26 P P 17 28 48.3 +0.7
baz=277
PWL Port Wells 78.69 30 P P 17 28 49.1 +0.8
baz=277,SNR=23
WAT6 Susitna Watana 78.75 28 P P 17 28 49.6 +0.7
baz=278,SNR=15
PUL Pulkovo 78.79 329 *ce*P P 17 28 49.2 +0.3
PUL pmax pmax
comp=Z,147nm,0.5s
KEV Kevo 78.82 339 P 17 28 48.4 -0.5
KEV IAmb IAmb 17 28 49.5
comp=Z,26nm,0.6s
KEV Kevo 78.82 339 P P 17 28 48.4 -0.5
KEV pmax pmax
comp=Z,26nm,0.6s
ILAR Eielson Array 78.83 26 P 17 28 47.2 -1.9
ILAR Eielson Array 78.83 26 P P 17 28 48.6 -0.5
comp=Z,26nm,0.8s,baz=260,slow=4.1,SNR=20
comp=Z,26nm,0.8s
DHY Denali Highway 78.85 28 P P 17 28 49.9 +0.5
baz=278,SNR=10
HDA Harding Lake 78.86 26 P P 17 28 49.0 -0.2
baz=278,SNR=14
M23K Glacier View 78.86 29 P P 17 28 50.0 +0.7
baz=278,SNR=12
C26K Camden Bay 78.86 21 P P 17 28 50.8 +1.7
baz=279,SNR=7.9
BZK Bozkurt 78.88 311 ⇑P P 17 28 49.5 -0.2
G25K Bearman Lake 78.88 24 P P 17 28 51.1 +1.8
baz=278,SNR=18
E25K Arctic Village 78.89 22 P P 17 28 51.0 +1.7
baz=278,SNR=5.7
F25K Christian Rive 78.94 23 P P 17 28 51.5 +1.9
baz=278,SNR=26
SCM Sheep Creek Mo 79.04 29 IAmb IAmb 17 28 52.3
comp=Z,32nm,1.1s
SCM Sheep Creek Mo 79.04 29 P P 17 28 51.4 +1.0
baz=278,SNR=16
H25L Birch Creek 79.06 24 P P 17 28 52.2 +1.9
baz=278,SNR=15
MMAI Mount Meron Ar 79.10 301 P P 17 28 52.7 +1.4
comp=Z,10.0nm,0.6s,baz=76,slow=7.0,SNR=18
comp=Z,10.0nm,0.6s
ILGA Ilgaz 79.22 310 IAmb IAmb 17 28 53.4
comp=Z,85nm,1.9s
FYU Fort Yukon 79.25 24 IAmb IAmb 17 28 54.3
comp=Z,29nm,1.3s
GLI Glacier Island 79.29 30 IAmb IAmb 17 28 53.4
comp=Z,24nm,0.7s
GLI Glacier Island 79.29 30 P P 17 28 52.3 +0.7
baz=278,SNR=12
PRP Porcupine Dome 79.30 25 P P 17 28 52.8 +1.0
baz=279,SNR=10
C27K Jago River 79.32 21 P P 17 28 53.3 +1.7
baz=280,SNR=15
KIRS Kirsehir-Merke 79.36 308 ⇓P P 17 28 52.5 0.0
BMAR Burnt Mountain 79.37 23 P P 17 28 53.2 +1.2
ARA0 ARCESS Array S 79.37 339 *e*P P 17 28 51.6 -0.3
ARCES ARCESS Array B 79.37 339 P P 17 28 51.3 -0.6
ARCES IAmb IAmb 17 28 53.1
comp=Z,42nm,1.0s
ARCES ARCESS Array B 79.37 339 P P 17 28 52.0 0.0
comp=Z,24nm,0.6s,baz=77,slow=6.8,SNR=166
comp=Z,24nm,0.6s
ARCES ARCESS Array B 79.37 339 P P 17 28 51.3 -0.6
ARCES pmax pmax
comp=Z,42nm,1.0s
K24K Donnelly Dome 79.45 27 P P 17 28 53.0 +0.5
baz=279,SNR=15
BR131 Keskin Array S 79.48 308 IAmb IAmb 17 28 54.9
comp=Z,18nm,0.8s
BR131 Keskin Array S 79.48 308 *i* P P 17 28 53.0 -0.2
BRTR Keskin Array B 79.48 308 P P 17 28 52.7 -0.6
BRTR Keskin Array B 79.48 308 P P 17 28 53.0 -0.3
comp=Z,12nm,0.7s,baz=121,slow=4.6,SNR=73
comp=Z,12nm,0.7s
BRTR Keskin Array B 79.48 308 *i* P P 17 28 53.0 -0.3
BRTR pmax pmax
comp=Z,13nm,0.7s
F26K Sheenjek River 79.49 23 P P 17 28 54.6 +2.0
baz=280,SNR=15
J25K Salcha River, 79.50 26 P P 17 28 52.5 -0.3
baz=279,SNR=7.1
M24K Tolsona, Glenn 79.54 29 P P 17 28 54.7 +1.7
baz=279,SNR=9.8
PAX Paxson 79.72 28 P P 17 28 55.2 +1.2
baz=279,SNR=11
KLU Klutina 79.75 29 P P 17 28 55.5 +1.3
baz=279,SNR=9.6
G26K Porcupine Rive 79.75 23 P P 17 28 56.1 +2.1
baz=280,SNR=17
HAMF Hammerfest 79.78 340 *e*P P 17 28 53.3 -0.7
SPA0 Spitsbergen Ar 79.85 348 *e*P P 17 28 54.2 -0.2
SPITS Spitsbergen Ar 79.85 348 P P 17 28 54.7 +0.4
comp=Z,69nm,0.8s,baz=92,slow=7.8,SNR=39
comp=Z,69nm,0.8s
SPITS Spitsbergen Ar 79.85 348 P P 17 28 54.8 +0.4
SPITS pmax pmax
comp=Z,82nm,0.9s
RIDG Independent Ri 79.87 27 IAmb IAmb 17 28 56.4
comp=Z,20nm,0.7s
RIDG Independent Ri 79.87 27 P P 17 28 55.5 +0.7
baz=280,SNR=24
Q23K Middleton Isla 79.88 31 P P 17 28 54.7 0.0
baz=279
DIV Divide 79.89 29 IAmb IAmb 17 28 57.1
comp=Z,16nm,0.7s
CASY Casey 79.91 184 P P 17 28 52.8 -1.8
HARP HAARP 79.96 28 P P 17 28 56.4 +1.2
baz=280
EYAK Cordova Ski Ar 79.99 30 P P 17 28 55.4 0.0
EYAK Cordova Ski Ar 79.99 30 P P 17 28 56.6 +1.2
baz=280
ANTO Ankara 80.10 309 P P 17 28 54.9 -1.6
ANTO IAmb IAmb 17 28 57.5
comp=Z,26nm,0.8s
ANTO Ankara 80.10 309 ⇑P P 17 28 55.5 -1.0
ANTO Ankara 80.10 309 P P 17 28 54.9 -1.6
ANTO pmax pmax
comp=Z,26nm,0.8s
SCRK Sand Creek 80.21 26 P P 17 28 57.2 +0.6
baz=280,SNR=11
KTK1 Kautokeino 80.27 339 *e*P P 17 28 56.2 -0.5
BJO1 Bjornoya 80.27 345 *e*P P 17 28 55.6 -1.0
J26L Joseph Creek 80.29 26 P P 17 28 57.7 +0.7
baz=281,SNR=11
I26K Coal Creek Min 80.31 25 P P 17 28 57.9 +0.9
baz=281
E27K Coleen River 80.34 22 P P 17 28 58.8 +1.6
baz=282,SNR=29
D27M Malcolm River 80.34 21 P P 17 28 59.0 +1.7
baz=282,SNR=20
N25K Chitina, Valde 80.36 29 P P 17 28 59.0 +1.5
baz=280,SNR=11
HSPB Hornsund (broa 80.38 347 *e*P P 17 28 57.3 +0.2
KBS Kingsbay 80.44 349 *e*P P 17 28 57.6 +0.2
BMRM Bremner River 80.47 30 P P 17 28 59.2 +1.1
baz=280,SNR=5.5
MENT Mentasta 80.52 27 P P 17 29 00.1 +1.9
FINES FINESS Array B 80.59 331 P P 17 28 57.6 -1.0
FINES FINESS Array B 80.59 331 P P 17 28 58.0 -0.6
comp=Z,15nm,0.5s,baz=58,slow=5.6,SNR=201
comp=Z,15nm,0.5s
FINES FINESS Array B 80.59 331 *i* P P 17 28 58.2 -0.4
FINES pmax pmax
comp=Z,15nm,0.5s
G27K Doyon Strip 80.61 23 P P 17 29 00.2 +1.6
baz=282,SNR=17
L26K Log Cabin Wild 80.67 27 P P 17 29 00.1 +1.1
baz=281
KAIM Kayak Island 80.75 31 P P 17 29 01.1 +1.6
baz=281
H27K Steamboat Moun 80.78 24 P P 17 29 01.6 +2.1
baz=282,SNR=14
AKASG Malin Array Be 80.79 320 P P 17 28 57.2 -2.6
AKASG Malin Array Be 80.79 320 P P 17 28 58.9 -0.9
comp=Z,2.7nm,0.4s,baz=69,slow=5.1,SNR=26
comp=Z,2.7nm,0.4s
AKASG Malin Array Be 80.79 320 *i* P P 17 28 58.9 -0.9
AKASG pmax pmax
comp=Z,9.0nm,0.6s
AKBB Malin Array Si 80.79 320 *i* P P 17 28 58.7 -1.1
AKBB pmax pmax
comp=Z,20nm,1.0s
KIEV Kiev 80.80 320 P P 17 28 58.7 -1.2
KIEV Kiev 80.80 320 ⇑P P 17 28 59.2 -0.7
KIEV Kiev 80.80 320 *i* P P 17 28 58.7 -1.2
SNR=8.9
KIEV Kiev 80.80 320 P P 17 28 58.7 -1.2
KIEV pmax pmax
comp=Z,18nm,1.1s
VSU Vasula 80.82 328 *i* P P 17 28 58.0 -1.8
VSU pmax pmax
comp=Z,70nm,0.6s
I27K Kandik River 80.88 25 P P 17 29 02.0 +1.9
baz=282,SNR=18
MNK Minsk 80.92 324 *i* P P 17 29 00.1 -0.3
MNK *i* *PP **pP** 17 29 50.7 +2.7
MNK *i* 17 32 07.2
MNK *i* PPP PPP 17 33 58.1
MNK *i* S **S** **17 38 45.0 -7.6**
MNK pmax pmax
comp=Z,25nm,0.7s
MNK pmax pmax

comp=N,18nm,0.8s
MNK pmax pmax
comp=E,9.0nm,0.7s
M26K Nabesna, AK 80.95 28 P P 17 29 01.8 +1.3
baz=282,SNR=11
E28M Babbage River 80.99 21 P P 17 29 02.1 +1.5
baz=284,SNR=15
BERG Berg Lake 81.02 30 IAmb IAmb 17 29 03.2
comp=Z,20nm,0.7s
K27K Chicken 81.02 26 P P 17 29 02.8 +2.0
baz=282
D28M Stokes Point 81.09 21 P P 17 29 02.6 +1.5
baz=284
F28M Old Crow 81.11 23 P P 17 29 02.8 +1.6
baz=284,SNR=19
JETT Jettan, Norway 81.12 340 *e*P P 17 29 00.2 -1.1
MCARA McCarthy VSAT 81.14 29 P P 17 29 03.1 +1.6
baz=282,SNR=7.4
CRQM Cirque 81.22 30 IAmb IAmb 17 29 04.4
comp=Z,22nm,1.0s
CRQE Cirque 81.24 30 P P 17 29 03.3 +1.1
baz=282,SNR=7.5
L27K Beaver Creek, 81.34 27 P P 17 29 04.2 +1.7
baz=283,SNR=21
BCAR Beaver Creek A 81.36 27 P P 17 29 04.1 +1.5
SAHE Sakarya_HENDEK 81.39 310 ⇑P P 17 29 03.3 0.0
WAX Waxell Ridge 81.42 30 IAmb IAmb 17 29 05.6
comp=Z,19nm,0.8s
M27K Edge Creek, AK 81.47 28 P P 17 29 04.9 +1.6
baz=283,SNR=7.9
SNH Sunshine Point 81.48 30 IAmb IAmb 17 29 06.2
comp=Z,25nm,0.8s
I28M Miner Creek 81.60 25 P P 17 29 05.6 +1.7
baz=284,SNR=23
TRO Tromso 81.60 340 *e*P P 17 29 02.8 -0.9
E29M Blow River 81.63 22 P P 17 29 05.2 +1.2
baz=285,SNR=15
SORM Soroca 81.81 317 ⇓P P 17 29 04.7 -0.5
SORM Soroca 81.81 317 P P 17 29 04.7 -0.5
BARN Barnard Glacie 81.86 29 IAmb IAmb 17 29 08.3
comp=Z,20nm,0.7s
MESA MESA 81.92 30 P P 17 29 06.8 +1.0
baz=283
BVCY Beaver Creek 81.92 28 P P 17 29 07.4 +1.8
baz=284,SNR=6.7
YAH Yahtse 81.97 30 IAmb IAmb 17 29 09.1
comp=Z,18nm,0.8s
G29M Pine Creek 81.98 23 P P 17 29 07.3 +1.5
baz=285,SNR=27
H29M Whitestone 82.03 24 P P 17 29 07.5 +1.4
baz=285,SNR=21
CTG Chitna Glacier 82.03 29 P P 17 29 08.2 +1.8
baz=283,SNR=18
CTGM Chitina Glacie 82.03 29 IAmb IAmb 17 29 09.3
comp=Z,39nm,0.8s
TLCR 82.06 314 ⇓P P 17 29 06.7 +0.1
TLCR 82.06 314 P P 17 29 06.7 +0.1
JURR Jurilovca 82.10 314 ⇓P P 17 29 06.8 0.0
DAWY Dawson 82.16 26 P P 17 29 08.4 +1.5
baz=285,SNR=5.0
TABL Table Mountain 82.25 30 IAmb IAmb 17 29 12.3
comp=Z,31nm,0.7s
I29M Ogilvie Camp, 82.28 25 P P 17 29 08.8 +1.4
baz=285,SNR=13
TPGR Topolog 82.40 314 ⇑P P 17 29 08.3 -0.2
VLDR Vladesti 82.44 315 ⇓P P 17 29 09.6 +1.0
VASR Vaslui 82.48 316 ⇓P P 17 29 09.1 +0.3
TIRR Tirgusor 82.48 314 IAmb IAmb 17 29 09.6
comp=Z,30nm,0.8s
TIRR Tirgusor 82.48 314 ⇑P P 17 29 08.8 -0.1
TIRR Tirgusor 82.48 314 P P 17 29 08.7 -0.1
MANR Mangalia 82.49 313 ⇓P P 17 29 09.9 +1.0
SCTR Scanteiesti 82.53 315 ⇓P P 17 29 09.6 +0.6
CFR Carcaliu 82.53 315 ⇓P P 17 29 08.9 -0.2
CFR Carcaliu 82.53 315 P P 17 29 08.8 -0.2
J29N Klondike Camp 82.56 25 P P 17 29 10.5 +1.6
baz=286,SNR=9.8
VARL Varlezi 82.59 315 ⇑P P 17 29 09.6 +0.3
F30M Barrier River 82.61 22 P P 17 29 10.5 +1.4
baz=287,SNR=13
O28M Mount Upton 82.62 29 P P 17 29 10.6 +1.0
baz=284
EPYK Eagle Plains 82.63 23 P P 17 29 09.7 +0.5
baz=287,SNR=8.4
G30M tAoh Zraii Nji 82.64 23 P P 17 29 09.8 +0.5
baz=287,SNR=17
KLYT Kilyos 82.66 311 ⇓P P 17 29 09.9 +0.1
BIR Birlad 82.66 316 ⇑P P 17 29 10.3 +0.5
BIR Birlad 82.66 316 P P 17 29 10.2 +0.5
YUK8 Steele Glacier 82.70 29 P P 17 29 11.3 +1.3
baz=285
TLBR Topalu 82.72 314 ⇓P P 17 29 10.3 +0.2
PINM Pinnacle 82.76 30 P P 17 29 12.0 +1.9
baz=284
HARR Harsova 82.77 314 ⇑P P 17 29 10.7 +0.4
HARR Harsova 82.77 314 P P 17 29 10.7 +0.4
L29M L29M 82.96 27 P P 17 29 13.3 +2.4
baz=286,SNR=24
M29M Somme Creek 82.99 27 P P 17 29 13.6 +2.4
baz=286,SNR=39
K29M Barlow Dome 83.02 26 P P 17 29 13.1 +1.7
baz=286,SNR=27
PANC Panciu 83.07 315 ⇓P P 17 29 12.9 +1.1
I30M Mount Dempster 83.09 24 P P 17 29 13.1 +1.4
baz=287,SNR=16
CTYL Yalikoy Yolu 83.17 311 ⇑P P 17 29 13.2 +0.8
YUK4 Talbot Arm 83.20 29 P P 17 29 12.9 +0.5
baz=286
INK Inuvik 83.20 21 IAmb IAmb 17 29 14.0
comp=Z,25nm,1.1s
INK Inuvik 83.20 21 P P 17 29 13.0 +1.0
baz=289,SNR=11
TESR Tescani 83.28 316 ⇑P P 17 29 13.3 +0.4
PNL Peninsula 83.29 30 P P 17 29 12.8 +0.1
baz=285
J30M Hart River 83.31 25 P P 17 29 14.0 +1.2
baz=287,SNR=12
VRI Vrincioaia 83.36 315 ⇓P P 17 29 13.9 +0.6
VRI Vrincioaia 83.36 315 P P 17 29 13.9 +0.6
PRAR RASCA 83.37 317 ⇓P P 17 29 13.1 -0.3
G31M Satah River 83.39 23 P P 17 29 13.5 +0.6
baz=289,SNR=5.7
STEI Steigen 83.40 339 *e*P P 17 29 11.7 -1.3
F31M Tsiigehtchic 83.41 22 P P 17 29 13.8 +0.7
baz=289,SNR=9.3
PLOR Plostina 83.42 315 ⇓P P 17 29 14.3 +0.6
PLOR Plostina 83.42 315 P P 17 29 14.2 +0.6
YUK6 Outpost Mounta 83.44 29 P P 17 29 14.3 +0.6
baz=286
ONER Baraj Valea Uz 83.48 316 ⇓P P 17 29 14.6 +0.6
O29M Mount Kennedy 83.52 30 P P 17 29 14.7 +0.7
baz=286
FAUS Fauske 83.57 338 *e*P P 17 29 12.6 -1.3
MANT Manisa 83.59 308 IAmb IAmb 17 29 15.8
comp=Z,50nm,1.2s
ISR Istrita 83.65 315 ⇓P P 17 29 15.8 +0.9
ISR Istrita 83.65 315 P P 17 29 15.7 +0.9
KIBK Kibwezi 83.65 266 P P 17 29 14.0 -1.5
KIBK IAmb IAmb 17 29 18.1
comp=Z,19nm,0.9s
M30M Minto, Yukon 83.70 27 P P 17 29 16.5 +1.8
baz=287,SNR=19
PHSR Pinarhisar 83.70 311 ⇑P P 17 29 15.1 -0.1
COVR Voineasa-Covas 83.72 316 ⇓P P 17 29 14.6 -0.6
SUW Suwalki 83.72 324 *e*P P 17 29 14.6 -0.4
H31M Peel River 83.72 24 P P 17 29 15.8 +1.0
baz=289,SNR=14
NEHR Nehoiu 83.75 315 ⇓P P 17 29 16.3 +0.9
TURR Turia 83.80 316 ⇓P P 17 29 16.5 +0.9
HYT Haines Junctio 83.88 29 P P 17 29 18.1 +2.2
baz=287,SNR=9.1
N30M Aishikik Lake 83.89 28 P P 17 29 18.1 +2.3
baz=287,SNR=23
LOF Lofoten 83.93 339 *e*P P 17 29 14.6 -1.1
SULR 83.94 314 ⇑P P 17 29 17.4 +1.1
OZUR 83.95 316 ⇑P P 17 29 16.5 +0.1
MLR Muntele Rosu 83.98 315 ⇑P P 17 29 17.3 +0.7
MLR Muntele Rosu 83.98 315 P P 17 29 17.3 +0.7
BURAR Bucovina Array 83.98 317 P P 17 29 15.9 -0.7
BURAR Bucovina Array 83.98 317 ⇓P P 17 29 16.9 +0.3
BURAR Bucovina Array 83.98 317 P P 17 29 16.9 +0.3
LOZB Loznitsa 84.00 313 ⇓P P 17 29 16.8 +0.2
RAZG Razgrad 84.01 313 ⇓P P 17 29 17.0 +0.2
BOSR Bodos 84.04 316 ⇓P P 17 29 17.0 +0.2
P29M Windy Craggy 84.11 30 P P 17 29 19.0 +2.1
baz=286,SNR=8.7
KMBO Kilima Mbogo 84.14 267 P P 17 29 19.5 +1.3
comp=Z,14nm,0.8s,baz=67,slow=7.2,SNR=22
comp=Z,14nm,0.8s
KMBO Kilima Mbogo 84.14 267 *i* P P 17 29 20.0 +1.8
KMBO pmax pmax
comp=Z,14nm,0.8s
DOPR Dopca 84.25 316 ⇑P P 17 29 18.5 +0.6
MOR8 Moi Rana 84.30 337 *e*P P 17 29 15.5 -2.2
P30M Million Dollar 84.34 29 P P 17 29 19.9 +1.8
baz=287
N31M Braeburn, Yuko 84.48 28 P P 17 29 20.9 +2.2
baz=288,SNR=13
VAGH Vaagaholmen 84.54 338 *e*P P 17 29 17.5 -1.3
O30N Mendenhall 84.56 29 P P 17 29 21.3 +2.1
baz=288,SNR=6.1
ELND Elena 84.61 313 ⇑P P 17 29 19.8 +0.1
MTUR Matau 84.64 315 ⇑P P 17 29 19.5 -0.5
MTUR Matau 84.64 315 P P 17 29 19.4 -0.5
KONS Konsvik 84.68 337 *e*P P 17 29 18.8 -0.7
ARCR ARCALIA 84.68 317 ⇓P P 17 29 20.7 +0.7
STOK Stokkvaagen 84.78 337 *e*P P 17 29 18.4 -1.6
COPA Copaceanca 84.79 314 ⇓P P 17 29 20.6 0.0
LEIR Leirfjorden 84.82 337 *e*P P 17 29 18.6 -1.6
PLBC Pleasant Camp 84.83 30 P P 17 29 22.2 +1.7
baz=288
HUMR Humele 84.87 314 ⇓P P 17 29 20.7 -0.2
M31M Drury Creek, Y 84.88 27 P P 17 29 22.3 +1.6
baz=289,SNR=25
ARR Arges 84.90 315 ⇓P P 17 29 20.7 -0.5
LODK Lodwar 84.93 272 P P 17 29 21.8 -0.2
ALN Alexandroupoli 84.95 311 IAmb IAmb 17 29 21.8
comp=Z,33nm,0.8s
EZN Ezine 84.99 310 ⇑P P 17 29 21.7 +0.1
EZN Ezine 84.99 310 P P 17 29 21.7 +0.1
BMR Baia Mare 85.10 318 ⇑P P 17 29 22.7 +0.7
BMR Baia Mare 85.10 318 P P 17 29 22.7 +0.7
KWP Kalwaria Pacla 85.11 320 *e*P P 17 29 22.4 +0.3
WHY Whitehorse 85.16 29 P P 17 29 24.3 +2.1
baz=289,SNR=20
RDO Rodhopi 85.27 311 IAmb IAmb 17 29 23.3
comp=Z,32nm,0.8s
CJR Cluj-Napoca 85.27 317 ⇑P P 17 29 24.0 +1.0
CJR Cluj-Napoca 85.27 317 P P 17 29 24.0 +1.0
SKAG Skagway 85.33 30 IAmb IAmb 17 29 26.0
comp=Z,23nm,0.7s
SKAG Skagway 85.33 30 P P 17 29 24.6 +1.7
SKAG Skagway 85.33 30 P P 17 29 24.9 +2.1
baz=289,SNR=8.1
S31K Pelican 85.35 31 P P 17 29 24.7 +1.7
baz=288
PLVB Pleven 85.39 313 ⇑P P 17 29 24.2 +0.7
VLAD Vladila 85.39 314 ⇑P P 17 29 24.3 +0.8
LOT Lotru 85.47 316 ⇑P P 17 29 24.2 +0.1
KOLS Kolonicke sedl 85.56 319 *e*P P 17 29 24.9 +0.6
KOLS pmax pmax
comp=Z,29nm,0.7s
MARR Marisel-Cluj 85.60 317 ⇑P P 17 29 25.6 +0.9
BEL Belsk 85.69 322 *e*P P 17 29 25.2 +0.4
N32M Quiet Lake 85.82 28 P P 17 29 27.0 +1.7
baz=290
DRGR 85.84 317 ⇓P P 17 29 26.0 +0.2
DRGR 85.84 317 P P 17 29 26.0 +0.2
NSS Namsos 85.87 336 *e*P P 17 29 23.3 -2.2
C36M Paulatuk 85.93 19 P P 17 29 26.4 +0.7
baz=298
DEV Deva 85.95 316 ⇑P P 17 29 27.2 +0.9
DEV Deva 85.95 316 P P 17 29 27.2 +0.9
P32M Atlin 86.06 29 P P 17 29 28.4 +1.8
baz=290,SNR=5.7
STHS Stebnicka Huta 86.08 320 *e*P P 17 29 26.6 -0.3
STHS pmax pmax
comp=Z,20nm,0.8s
MMPY Sheldon Lake, 86.10 26 IAmb IAmb 17 29 29.5
comp=Z,49nm,1.7s
MMPY Sheldon Lake, 86.10 26 P P 17 29 28.5 +1.8
baz=292,SNR=13
SIT Sitka 86.10 32 P P 17 29 28.0 +1.3
baz=289
R32K Eaglecrest 86.11 31 P P 17 29 27.9 +1.1
baz=289
GZR Gura Zlata 86.16 316 ⇑P P 17 29 27.8 +0.4
GZR Gura Zlata 86.16 316 P P 17 29 27.8 +0.4
P33M Teslin, Yukon 86.27 29 P P 17 29 29.0 +1.4
baz=291
PUNG Punghina 86.35 315 ⇑P P 17 29 29.0 +0.7
SURR Surduc 86.51 316 ⇓P P 17 29 29.0 0.0
HERR Herculane 86.55 315 ⇑P P 17 29 29.5 +0.3
NIE Niedzica 86.67 320 *e*P P 17 29 30.6 +0.8
SIRR Siria 86.68 317 ⇑P P 17 29 30.1 +0.2
OJC Ojcow 86.75 321 *e*P P 17 29 30.3 +0.2
HFS Hagfors 86.78 331 P P 17 29 29.1 -0.9
comp=Z,13nm,0.5s,baz=98,slow=4.4,SNR=73
comp=Z,13nm,0.5s
KECS Kecovo 86.83 319 *e*P P 17 29 31.2 +0.7
KECS pmax pmax
comp=Z,27nm,0.8s
BZS Buzias 86.89 316 ⇑P P 17 29 30.6 -0.3
BZS Buzias 86.89 316 P P 17 29 30.5 -0.3
Q32M Nakina River 86.98 30 P P 17 29 32.4 +1.2
baz=291
MDVR Moldovita 87.06 315 ⇑P P 17 29 31.0 -0.8
LANS Liptovska Anna 87.27 320 *e*P P 17 29 33.9 +1.2
LANS pmax pmax
comp=Z,7.0nm,0.7s
PSZ Piszkesteto 87.37 319 ⇓P P 17 29 32.7 -0.6
PSZ Piszkesteto 87.37 319 P P 17 29 32.6 -0.6
BOVS Bovan 87.38 314 ⇓P P 17 29 33.2 -0.1
NC303 NORSAR Array S 87.42 333 IAmb IAmb 17 29 33.4
comp=Z,44nm,1.0s
R33M Jennings River 87.44 29 P P 17 29 34.6 +1.2
baz=292
NB201 NORSAR Array S 87.53 333 IAmb IAmb 17 29 33.7
comp=Z,19nm,1.0s
NC602 NORSAR Array S 87.54 332 IAmb IAmb 17 29 33.5
comp=Z,43nm,1.6s
NC602 NORSAR Array S 87.54 332 *e*P P 17 29 31.3 -2.3
NB2 NORSAR Subarra 87.56 333 P P 17 29 32.6 -1.2
comp=Z,22nm,0.8s,baz=69,slow=4.4
NB2 NORSAR Subarra 87.56 333 P P 17 29 32.6 -1.2
comp=Z,22nm,0.8s,baz=69,slow=4.4
NOA NORSAR Array B 87.56 333 P P 17 29 32.6 -1.2
comp=Z,21nm,0.9s,baz=68,slow=4.6,SNR=82
NOA pP **pP** 17 30 19.3 -2.8
comp=Z,0.4nm,0.7s,baz=110,slow=14,SNR=1.1
comp=Z,21nm,0.9s
NC204 NORSAR Array S 87.67 333 IAmb IAmb 17 29 34.5
comp=Z,27nm,0.8s
NBO00 NORSAR Array S 87.76 333 IAmb IAmb 17 29 34.9
comp=Z,22nm,1.0s
NAO01 NORSAR Array S 87.79 333 IAmb IAmb 17 29 34.8
comp=Z,26nm,0.8s
CRAG Craig 87.79 33 P P 17 29 35.8 +0.9
baz=291
TGTN Hyland Airport 87.82 27 P P 17 29 36.5 +1.5
baz=294,SNR=5.5
WRAK Wrangell Islan 87.86 32 P P 17 29 36.6 +1.4
baz=291
OKC Ostrava-Krasne 87.88 321 *e*P P 17 29 35.4 -0.1
OKC Ostrava-Krasne 87.88 321 *e*P P 17 29 35.4 -0.1
DEL Delary 88.04 328 *i* P P 17 29 35.0 -1.1
DEL *i* P P 17 29 35.0 -1.1
STEB Steborice 88.08 321 *e*P P 17 29 36.7 +0.3
DOMB Dombas 88.08 334 *e*P P 17 29 35.4 -0.9
BORU Boraas 88.17 329 *i* P P 17 29 35.5 -1.1
BORU *i* P P 17 29 35.5 -1.1
WTLY Watson Lake, Y 88.17 28 P P 17 29 38.3 +1.6
baz=294,SNR=11
OSL Oslo 88.23 332 *e*P P 17 29 35.9 -1.0
DLBC Dease Lake 88.26 30 P P 17 29 39.1 +1.9
baz=293
MORC Moravsky Berou 88.27 321 IAmb IAmb 17 29 38.8
comp=Z,35nm,1.6s
MORC Moravsky Berou 88.27 321 *e*P P 17 29 37.7 +0.3
MORC Moravsky Berou 88.27 321 ⇑P P 17 29 38.1 +0.6
MORC Moravsky Berou 88.27 321 P P 17 29 38.0 +0.6
STRU Stroemstad 88.39 331 *i* P P 17 29 36.3 -1.3
STRU *i* P P 17 29 36.3 -1.3
MOL Molde 88.49 335 *e*P P 17 29 36.8 -1.2
JAVC Velka Javorina 88.49 320 *e*P P 17 29 39.4 +0.9
LUNU Lund 88.58 327 *i* P P 17 29 38.0 -0.6
LUNU *i* P P 17 29 38.0 -0.6
TJOU Tjoern 88.58 330 *i* P P 17 29 37.0 -1.5
TJOU *i* P P 17 29 37.0 -1.5
KSP Ksiaz 88.68 322 *e*P P 17 29 39.5 +0.3
ONAU Onsala 88.68 329 *i* P P 17 29 37.4 -1.6
ONAU *i* P P 17 29 37.4 -1.6
MORH Mrgy, Hungar 88.70 317 ⇑P P 17 29 38.9 -0.5
T35M Bob Quinn 88.72 31 P P 17 29 40.7 +1.3
baz=293
DPC Dobruska-Polom 88.83 322 *e*P P 17 29 40.5 +0.5
DPC Dobruska-Polom 88.83 322 *e*P P 17 29 40.5 +0.5
KONO Kongsberg 88.87 332 *e*P P 17 29 37.9 -2.0
KONO Kongsberg 88.87 332 P P 17 29 39.1 -0.8
CHVC Chvalec 88.91 322 *e*P P 17 29 41.1 +0.8
CHVC Chvalec 88.91 322 *e*P P 17 29 41.1 +0.8
UPC Upice 88.96 322 *e*P P 17 29 41.4 +0.8
UPC Upice 88.96 322 *e*P P 17 29 41.4 +0.8
SKAR Skarslia 89.01 333 *e*P P 17 29 40.0 -0.7
VRAC Vranov 89.01 321 *e*P P 17 29 41.2 +0.4
VRAC Vranov 89.01 321 ⇓P P 17 29 41.3 +0.4
VRAC Vranov 89.01 321 P P 17 29 41.3 +0.4
KRUC Moravsky 89.22 320 *e*P P 17 29 42.4 +0.6
PDG Podgorica 89.44 314 IAmb IAmb 17 29 43.4
comp=Z,25nm,0.8s
PDG Podgorica 89.44 314 ⇓P P 17 29 42.5 -0.5
RONA Rosalia, Austr 89.74 319 *i* P P 17 29 44.0 -0.3
comp=Z,4.9nm,1.0s
CONA Conrad Observa 89.94 320 *i* PcP P 17 29 45.3 +0.1
comp=Z,4.1nm,0.9s
PRU Pruhonice 90.03 322 *e*P P 17 29 45.9 +0.4
PRU Pruhonice 90.03 322 *e*P P 17 29 45.9 +0.4
BRG Berggiesshubel 90.06 323 Amp 17 29 48.8
comp=Z,16nm,0.9s
BRG Berggiesshubel 90.06 323 *i* P P 17 29 47.9 +2.3
ODD1 Odda 90.10 333 *e*P P 17 29 44.6 -1.2
BLY Banja Luka 90.14 316 ⇓P P 17 29 46.7 +0.5
TOAD Toad River Com 90.36 28 P P 17 29 47.7 +0.7
baz=297
ARSA Arzberg 90.39 319 *i* PcP P 17 29 47.2 -0.1
comp=Z,6.4nm,0.8s
BLS5 Blasjo 90.41 332 *e*P P 17 29 46.9 -0.3
CLL Collm 90.45 323 IAmb IAmb 17 29 48.3
comp=Z,15nm,1.1s
CLL Collm 90.45 323 ⇓*i*P P 17 29 47.1 -0.3
CLL pmax pmax
comp=Z,17nm,1.2s
CLL Collm 90.45 323 ⇓*i*P P 17 29 47.1 -0.3
comp=Z,17nm,1.2s
PERS Pernice 90.86 318 *i* P P 17 29 49.2 -0.4
SOKA Soboth 90.90 319 *i* PcP P 17 29 49.5 -0.2
comp=Z,7.0nm,0.7s,SNR=5.5
KHC Kasperske Hory 90.92 321 *e*P P 17 29 50.1 +0.3
KHC Kasperske Hory 90.92 321 *e*P P 17 29 50.1 +0.3
GEC2 GERESS Array S 90.95 321 IAmb IAmb 17 29 51.1
comp=Z,14nm,1.1s
GERES GERESS Array B 90.95 321 P P 17 29 49.9 -0.1
comp=Z,5.1nm,0.8s,baz=46,slow=4.4,SNR=23
comp=Z,5.1nm,0.8s
MOA Molln 90.97 320 *i* PcP P 17 29 50.3 +0.3
comp=Z,25nm,0.9s,SNR=9.9
BOJS Bojanci 91.17 317 *i* P P 17 29 51.0 0.0
OBKA Obir 91.27 318 *i* PcP P 17 29 51.1 -0.4
comp=Z,6.4nm,0.9s
BIOA Bad Ischl, Aus 91.42 320 *i* PcP P 17 29 52.0 -0.1
comp=Z,11nm,1.1s
CEY Cerknica 91.63 318 *i* P P 17 29 53.0 -0.1
MYKA Terra Mystica 91.81 319 *i* P P 17 29 53.2 -0.8
comp=Z,6.6nm,1.0s
KBA Koelnbreinsper 91.83 319 *i* P P 17 29 53.4 -0.8
comp=Z,6.8nm,0.8s
LESA Schwarzleotal 92.12 320 *i* PcP P 17 29 55.0 -0.5
comp=Z,11nm,0.8s,SNR=7.6
GRF Grafenberg Arr 92.13 322 *e*P P 17 29 56.0 +0.7
comp=Z,5.5nm,0.8s,baz=66,slow=4.1
TIP Timpagrande 92.27 311 ⇓P P 17 29 56.2 -0.1
ABTA Abfaltersbach 92.49 319 *i* P P 17 29 56.0 -1.1
comp=Z,8.9nm,0.7s,SNR=5.8
STAL STALIGIAL 92.55 319 IAmb IAmb 17 29 57.4
comp=Z,21nm,1.1s
WTTA Wattenberg 92.84 320 *i* PcP P 17 29 58.3 -0.5
comp=Z,21nm,0.8s,SNR=9.2
WATA Walderalm 92.85 320 *i* P P 17 29 58.1 -0.8
comp=Z,20nm,1.1s,SNR=6.5
YKA Yellowknife Ar 92.88 23 P P 17 29 58.9 +0.5
YKA Yellowknife Ar 92.88 23 P P 17 29 59.2 +0.7
comp=Z,3.9nm,0.7s,baz=316,slow=4.6,SNR=13
comp=Z,3.9nm,0.7s
YKA Yellowknife Ar 92.88 23 P P 17 29 58.9 +0.5
SQTA Sankt Quirin 93.12 320 *i* PcP P 17 29 59.6 -0.5
comp=Z,16nm,0.9s,SNR=7.7
MOTA Moosalm 93.14 320 *i* PcP P 17 29 59.5 -0.7
comp=Z,14nm,0.9s,SNR=9.4
RETA Reutte 93.30 320 *i* PcP P 17 30 00.4 -0.5
comp=Z,5.8nm,0.8s
CTI Castel Tesino 93.31 319 IAmb IAmb 17 30 01.2
comp=Z,36nm,1.7s
FETA Feichten 93.50 320 *i* PcP P 17 30 01.6 -0.3
comp=Z,14nm,0.9s,SNR=7.8
VNDA Vanda 93.80 172 P P 17 30 02.0 -0.2
comp=Z,0.6nm,0.7s,baz=310,slow=6.3,SNR=3.3
comp=Z,0.6nm,0.7s
DAVA Damuels 93.92 320 *i* PcP P 17 30 03.5 -0.3
comp=Z,12nm,1.4s
FUORN Ofenpass-Fuorn 93.96 320 IAmb IAmb 17 30 05.3
comp=Z,16nm,0.9s
EKA Eskdalemuir Ar 96.98 332 P P 17 30 16.5 -0.9
comp=Z,3.6nm,0.8s,baz=64,slow=5.7,SNR=7.0
comp=Z,3.6nm,0.8s
TORD Torodi Ar. Bea 114.26 291 PKP PKPdf 17 35 24.5 -0.8
comp=Z,0.3nm,0.4s,baz=34,slow=3.9,SNR=4.8
TXAR Lajitas Array 119.45 45 PKP **PKiKP** 17 35 35.5 +0.3
comp=Z,0.9nm,0.7s,baz=223,slow=0.8,SNR=16
JTS Las Juntas de 145.09 49 PKPbc **PKPbc** 17 36 22.9 -0.1
comp=Z,11nm,0.6s,baz=287,slow=2.5,SNR=11
PLCA Paso Flores 151.04 162 PKPbc **PKiKP** 17 36 39.9 +1.1
comp=Z,1.0nm,0.5s,baz=230,slow=5.8,SNR=6.4

IDC ***09*** *17:27:42.8±0.8,29°.47N×104°.59E,h0km,mb3.8/12, mbtmp3.8/15,ML3.8/3,MS3.3/2,Error ellipse: s-maj=25.2km s-min=15.6km az=62.0*

BJI ***09*** *17:27:43.4,29°.54N×104°.51E,h10km,mB4.4/3,mb4.3/14, ML4.1/24,Ms4.0/9,Ms7 3.6/5*

ISC 09 17:27:44.9±0.5,29°.49N±0°.03×104°.44E±0°.04,h10km,n33, σ2ş26/49,mb4.0/13,1C,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.54**	**338**	Pg	**Pn**	**17 28 12.0**	**-0.4**
CD2				Sg	**Sn**	**17 28 32.9**	**+0.4**
CD2				smax	smax		
	comp=N,4μm,0.4s						
CD2				smax	smax		
	comp=E,6μm,0.5s						
GYA	**Guiyang**	**3.60**	**146**	Pn	**Pn**	**17 28 40.6**	**-0.3**
GYA				Pg	**Pb**	**17 28 49.9**	**+1.1**
GYA				Sn	**Sn**	**17 29 26.2**	**+2.6**
GYA				smax	smax		
	comp=N,270nm,1.4s						
GYA				smax	smax		
	comp=E,230nm,1.4s						
PZH	**PanZhiHua**	**3.81**	**219**	Pg	**Pg**	**17 28 57.1**	**-0.8**
PZH				Sg	**Sg**	**17 29 46.8**	**-0.4**
PZH				smax	smax		
	comp=N,80nm,1.2s						
PZH				smax	smax		
	comp=E,80nm,1.5s						
KMI	**Kunming**	**4.60**	**200**	Pn	**Pn**	**17 28 54.4**	**-0.3**
KMI				Sn	**Sn**	**17 29 48.9**	**+0.6**
KMI				LR	LR		
	comp=N,250nm,7.8s						
KMI				LR	LR		
	comp=E,340nm,8.2s						
XAN	**Xi'an**	**5.93**	**39**	Pn	**Pn**	**17 29 11.0**	**-1.9**
XAN				Pg	**Pb**	**17 29 30.1**	**+1.7**
XAN				Sn	**Sn**	**17 30 18.6**	**-2.3**
XAN				Sg	**Sb**	**17 30 46.3**	**+6.7**
XAN				smax	smax		
	comp=N,590nm,1.0s						
XAN				smax	smax		
	comp=E,370nm,0.8s						
LZDM	**Lanzhou Array**	**6.48**	**355**	Pn	**Pn**	**17 29 21.8**	**+1.1**
	baz=172,slow=11						
LZDM				Sn	**Sn**	**17 30 33.7**	**-1.1**
	baz=178,slow=19						
	19nm,0.4s						
LZH	**Lanzhou**	**6.60**	**356**	Pn	**Pn**	**17 29 23.5**	**+1.4**
LZH				Sn	**Sn**	**17 30 36.2**	**-1.3**

LZH				Sg	**Sg**	**17 31 08.8**	**-8.0**		
LZH				smax	smax				
	comp=N,150nm,0.9s								
LZH				smax	smax				
	comp=E,210nm,0.8s								
LZH				LR	LR				
	comp=N,490nm,5.8s								
LZH				LR	LR				
	comp=E,550nm,4.6s								
TNCH	**TengChong**	**6.88**	**231**	Pn	Pn	17 29 18.8	-7.3		
TNCH				Pg	**Pg**	**17 29 56.2**	**-0.6**		
TNCH				Sn	**Sn**	**17 30 45.8**	**+1.2**		
TNCH				Sg	**Sg**	**17 31 28.2**	**+2.2**		
TNCH				smax	smax				
	comp=N,78nm,1.7s								
TNCH				smax	smax				
	comp=E,46nm,1.4s								
TNCH				LR	LR				
	comp=N,240nm,5.2s								
TNCH				LR	LR				
	comp=E,400nm,6.0s								
TNCH				LR	LR				
	comp=Z,430nm,11.2s								
CNSH	**ChangSha**	**7.56**	**98**	Pn	**Pn**	**17 29 34.6**	**-0.6**		
CNSH				Sn	**Sn**	**17 30 57.4**	**-3.7**		
CNSH				smax	smax				
	comp=Z,120nm,1.0s								
CNSH				smax	smax				
	comp=Z,84nm,1.0s								
LYN	**LuoYang**	**8.48**	**51**	P	**Pn**	**17 29 47.3**	**-0.5**		
LYN				S	**Sn**	**17 31 26.4**	**+2.7**		
LYN				pmax	pmax				
	comp=Z,28nm,0.5s								
LYN				smax	smax				
	comp=Z,140nm,1.4s								
LYN				smax	smax				
	comp=Z,100nm,1.1s								
LYN				LR	LR				
	comp=Z,350nm,4.7s								
LYN				LR	LR				
	comp=Z,250nm,4.0s								
LYN				LR	LR				
	comp=Z,380nm,13.1s								
WHN	**Wuhan**	**8.66**	**81**	P	**Pn**	**17 29 49.6**	**-0.7**		
WHN				S	**Sn**	**17 31 27.2**	**-0.8**		
WHN				LR	LR				
	comp=Z,820nm,11.2s								
WHN				LR	LR				
	comp=Z,870nm,7.4s								
GTA	**Gaotai**	**10.61**	**340**	*e*P	**Pn**	**17 30 21.2**	**+4.2**		
GTA				pP		17 30 27.9			
GTA				pmax	pmax				
	comp=Z,4.0nm,0.8s								
QIZ	**Qiongzhong**	**11.52**	**153**	P	**Pn**	**17 30 25.9**	**-3.6**		
QIZ				S	**Sn**	**17 32 40.0**	**+1.8**		
QIZ				pmax	pmax				
	comp=Z,16nm,1.3s								
QIZ				LR	LR				
	comp=N,250nm,8.2s								
QIZ				LR	LR				
	comp=E,140nm,6.7s								
QIZ				LR	LR				
	comp=Z,210nm,10.8s								
BTO	**Baotou**	**12.00**	**21**	*e*P	**Pn**	**17 30 37.2**	**+1.2**		
BTO				S	**Sn**	**17 32 54.1**	**+4.1**		
BTO				pmax	pmax				
	comp=Z,14nm,0.6s								
BTO				pmax	pmax				
	comp=Z,210nm,5.0s								
BTO				LR	LR				
	comp=Z,260nm,4.6s								
CMAR	**Chiang Mai Arr**	**12.07**	**206**	Pn	**Pn**	**17 30 38.7**	**+1.6**		
	comp=Z,0.1nm,0.3s,baz=32,slow=12,SNR=1.2								
	comp=Z,0.2nm,0.4s								
HHC	**Hu-ho-hao-te**	**12.74**	**25**	*e*P	**Pn**	**17 30 46.5**	**+0.3**		
HHC				pmax	pmax				
	comp=Z,13nm,0.5s								
HHC				LR	LR				
	comp=Z,190nm,5.7s								
HHC				LR	LR				
	comp=Z,140nm,6.5s								
SONM	**Songino Array**	**18.38**	**4**	P	**Pn**	**17 31 59.9**	**-0.1**		
	comp=Z,0.1nm,0.3s,baz=174,slow=11,SNR=4.9								
	comp=Z,1.0nm,0.7s								
WMQ	**Urumqi**	**19.57**	**322**	*e*P	**Pn**	**17 32 15.0**	**+0.7**		
WMQ				pmax	pmax				
	comp=Z,36nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,91nm,5.9s								
WMQ				LR	LR				
	comp=Z,190nm,24.1s								
KSRS	**Korea Array**	**21.11**	**62**	P	**P**	**17 32 27.7**	**-1.9**		
	comp=Z,4.1nm,0.9s,baz=243,slow=10,SNR=13								
	comp=Z,4.1nm,0.9s								
JOW	**Kunigami**	**21.18**	**91**	LR	LR	17 40 41.5			
	comp=Z,36nm,19.5s,baz=70,slow=37								
BNX	**BinXian**	**24.25**	**42**	⇑P	**P**	**17 33 00.9**	**-1.1**		
BNX				pmax	pmax				
	comp=Z,10.0nm,1.0s								
MKAR	**Makanchi Array**	**24.40**	**321**	P	**P**	**17 33 03.3**	**-0.1**		
	comp=Z,2.3nm,0.7s,baz=119,slow=10,SNR=14								
	comp=Z,2.3nm,0.7s								
USRK	**Ussuriysk Ar.**	**26.34**	**49**	P	**P**	**17 33 19.7**	**-1.2**		
	comp=Z,1.7nm,0.6s,baz=245,slow=7.6,SNR=3.5								
	comp=Z,1.7nm,0.6s								
ZALV	**Zalesovo Beam**	**28.30**	**335**	P	**P**	**17 33 39.3**	**+0.8**		
	comp=Z,0.3nm,0.3s,baz=134,slow=6.4,SNR=4.1								
	comp=Z,0.3nm,0.3s								
KURBB	**Kurchatov Arra**	**28.71**	**325**	P	**P**	**17 33 41.9**	**-0.2**		
	comp=Z,1.1nm,0.2s,baz=132,slow=9.5,SNR=5.7								
	comp=Z,1.1nm,0.2s								
BVAR	**Borovoye Array**	**34.24**	**323**	P	**P**	**17 34 32.3**	**+1.5**		
	comp=Z,0.2nm,0.4s,baz=125,slow=7.6,SNR=2.4								
	comp=Z,0.2nm,0.4s								
WRA	**Warramunga Arr**	**56.98**	**146**	P	**P**	**17 37 29.5**	**-1.3**		
	comp=Z,1.8nm,0.9s,baz=335,slow=7.6,SNR=6.5								
	comp=Z,1.8nm,0.9s								
FINES	**FINESS Array B**	**59.07**	**327**	P	**P**	**17 37 44.9**	**-0.1**		
	comp=Z,0.8nm,0.6s,baz=95,slow=8.8,SNR=4.2								
	comp=Z,0.8nm,0.6s								
ASAR	**Alice Springs**	**59.97**	**149**	P	**P**	**17 37 50.3**	**-1.3**		
	comp=Z,1.2nm,0.9s,baz=334,slow=6.5,SNR=10								
	comp=Z,1.2nm,0.9s								
SPITS	**Spitsbergen Ar**	**60.97**	**346**	LR	LR	18 05 37.5			
	comp=Z,48nm,21.4s,baz=327,slow=37								
HFS	**Hagfors**	**65.27**	**327**	P	**P**	**17 38 26.6**	**0.0**		
	comp=Z,0.7nm,0.5s,baz=102,slow=12,SNR=1.5								
	comp=Z,0.7nm,0.5s								
NOA	**NORSAR Array B**	**66.17**	**328**	P	**P**	**17 38 31.9**	**-0.6**		
	comp=Z,0.2nm,0.5s,baz=52,slow=5.7,SNR=1.8								
	comp=Z,0.2nm,0.5s								
ILAR	**Eielson Array**	**71.17**	**25**	P	**P**	**17 39 02.8**	**-0.7**		
	comp=Z,0.7nm,0.9s,baz=291,slow=3.4,SNR=5.2								
	comp=Z,0.7nm,0.9s								

ROM 09 17:27:52.7±0.0, 42°38'N±0'.002×13°32'E±0'.004, h15km, ML1.7/20, 1D, Error ellipse: s-maj=0.3km s-min=0.0km az=86.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.08**	**338**	P	Pg	17 27 56.1	+0.1
MC2				S	Sg	17 27 58.6	+0.4
NRCA	**Norcia**	**0.09**	**267**	P	Pg	17 27 56.0	+0.1
NRCA				S	Sg	17 27 58.2	+0.2
NRCA				AML	AML		
	comp=E,5100μm,0.1s						
NRCA				AML	AML		
	comp=N,2875μm,0.2s						
NRCA				AML	AML		
	comp=N,3400μm,0.1s						
NRCA				AML	AML		
	comp=N,2875μm,0.1s						
NRCA				AML	AML		
	comp=E,5360μm,0.1s						
MMO1	**Montemonaco**	**0.09**	**48**	P	Pg	17 27 56.1	+0.1
MMO1				S	Sg	17 27 58.4	+0.2
MTRA	**Matera**	**0.15**	**124**	P	Pg	17 27 56.7	+0.1
MTRA				S	Sg	17 27 59.4	+0.3
MTRA				AML	AML		
	comp=E,582μm,0.8s						
MTRA				AML	AML		
	comp=N,394μm,0.9s						
MTRA				AML	AML		
	comp=E,582μm,1.2s						
MTRA				AML	AML		
	comp=N,394μm,1.1s						

FEMA	**Monte Fema**	**0.18**	**313**	P	Pg	17 27 57.4	+0.3		
FEMA				S	Sb	17 28 00.8	-0.5		
SMA1	**SAN MARTINO**	**0.22**	**160**	P	Pg	17 27 58.0	+0.3		
SMA1				S	Sb	17 28 01.8	-0.5		
SMA1				AML	AML				
	comp=E,170μm,0.1s								
SMA1				AML	AML				
	comp=N,180μm,0.1s								
FDMO	**Fiordimonte**	**0.23**	**332**	P	Pg	17 27 57.9	+0.2		
FDMO				S	Sg	17 28 01.6	+0.4		
FDMO				AML	AML				
	comp=E,212μm,0.2s								
FDMO				AML	AML				
	comp=N,328μm,0.7s								
MF5	**Montefalcone A**	**0.23**	**48**	P	Pb	17 27 58.3	-0.3		
MF5				AML	AML				
	comp=E,509μm,0.3s								
MF5				AML	AML				
	comp=N,284μm,0.4s								
MTCL	**Monte Cavallo**	**0.23**	**312**	P	Pg	17 27 58.0	+0.2		
MTCL				S	Sg	17 28 02.0	+0.6		
GUMA	**Gualdo di Mace**	**0.24**	**19**	⇓P	Pb	17 27 58.5	-0.2		
GUMA				S	Sb	17 28 02.8	-0.1		
GUMA				AML	AML				
	comp=N,916μm,0.2s								
GUMA				AML	AML				
	comp=E,658μm,0.3s								
CSP1	**Cessapalombo**	**0.26**	**355**	P	Pg	17 27 58.5	+0.2		
CSP1				S	Sb	17 28 02.8	-0.6		
CSP1				AML	AML				
	comp=E,184μm,1.6s								
CSP1				AML	AML				
	comp=E,184μm,0.4s								
CSP1				AML	AML				
	comp=N,264μm,0.4s								
LNSS	**Leonessa**	**0.27**	**211**	P	Pg	17 27 58.8	+0.3		
LNSS				S	Sb	17 28 03.7	-0.2		
LNSS				AML	AML				
	comp=E,361μm,0.4s								
LNSS				AML	AML				
	comp=N,344μm,0.5s								
SAP2	**Sant'Angelo in**	**0.29**	**25**	P	Pb	17 27 59.3	-0.3		
GAVE	**Gavelli**	**0.29**	**240**	P	Pg	17 27 59.1	+0.3		
GAVE				S	Sb	17 28 03.9	-0.4		
GAVE				AML	AML				
	comp=N,268μm,0.2s								
GAVE				AML	AML				
	comp=E,268μm,0.7s								
PF6	**Pievefavera**	**0.31**	**355**	P	Pg	17 27 59.2	0.0		
PF6				S	Sg	17 28 04.1	+0.4		
CAMP	**Campotosto**	**0.33**	**157**	P	Pg	17 27 59.4	-0.2		
RM33	**Pellescritta (**	**0.33**	**182**	P	Pg	17 27 59.8	+0.2		
RM33				S	Sb	17 28 05.3	-0.2		
RM33				AML	AML				
	comp=E,187μm,1.5s								
RM33				AML	AML				
	comp=N,252μm,0.2s								
RM33				AML	AML				
	comp=E,187μm,0.5s								
MML1	**Montelago di S**	**0.34**	**325**	P	Pg	17 28 00.0	+0.4		
MML1				S	Sb	17 28 05.3	-0.4		
OFFI	**Offida**	**0.35**	**74**	P	Pb	17 28 00.3	-0.3		
MNTT	**Montottone**	**0.35**	**50**	P	Pg	17 28 00.1	+0.2		
MNTT				AML	AML				
	comp=E,484μm,0.5s								
MNTT				AML	AML				
	comp=N,364μm,0.7s								
TERO	**Teramo**	**0.35**	**128**	P	Pg	17 27 59.9	+0.1		
TERO				S	Sg	17 28 05.3	+0.6		
TERO				AML	AML				
	comp=E,155μm,0.9s								
TERO				AML	AML				
	comp=N,176μm,1.2s								
ARRO	**Arrone**	**0.43**	**233**	P	Pg	17 28 01.4	+0.1		
ARRO				AML	AML				
	comp=E,48μm,0.6s								
ARRO				AML	AML				
	comp=N,54μm,1.5s								
ARRO				AML	AML				
	comp=N,54μm,0.5s								
GIGS	**Gran Sasso**	**0.46**	**147**	P	Pg	17 28 01.6	-0.3		
GIGS				AML	AML				
	comp=N,33μm,0.1s								
GIGS				AML	AML				
	comp=E,35μm,0.9s								
ASSB	**Assisi San Ben**	**0.47**	**296**	P	Pg	17 28 01.8	-0.2		
SNTG	**Esanatoglia**	**0.47**	**333**	P	Pb	17 28 02.4	-0.3		
SNTG				S	Sb	17 28 09.2	-0.3		
GNU	**Giano nell'Umb**	**0.49**	**266**	P	Pb	17 28 02.8	-0.3		
MOMA	**Monte Martano**	**0.49**	**266**	P	Pg	17 28 02.5	+0.1		
MOMA				AML	AML				
	comp=E,86μm,1.6s								
MOMA				AML	AML				
	comp=N,55μm,1.3s								
MOMA				AML	AML				
	comp=N,55μm,0.7s								
MOMA				AML	AML				
	comp=E,86μm,0.4s								
EL6	**Elcito**	**0.50**	**349**	P	Pg	17 28 02.3	-0.3		
CESX	**Cesi**	**0.53**	**245**	P	Pg	17 28 03.1	-0.1		
CING	**Cingoli**	**0.54**	**357**	P	Pg	17 28 02.9	-0.5		

*SNET **09** 17:29:39.7±1.0, 12°.78N×88°.77W, h25km±6km, ML3.1*
CATAC 09 17:29:40.5±0.6, 13°N±4°×8°9W±°, h36km±9km, M3.1/16, MLv3.1/16, Error ellipse: s-maj=8.7km s-min=2.4km az=26.2, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TECA	**Tecapa**	**0.75**	**12**	*e*P	Pn	17 29 54.5	-0.3
TECA				*e*P		17 29 54.6	
TECA				*e*S	Sn	17 30 06.0	+1.0
LCY	**Lacayo**	**0.76**	**28**	*e*P	Pn	17 29 54.9	+0.1
VSM	**San Miguel**	**0.77**	**29**	*e*P	Pn	17 29 55.3	+0.2
PACA	**Pacayal**	**0.78**	**25**	*e*P	Pn	17 29 55.5	+0.3
PACA				*e*S	Sn	17 30 07.2	+1.4
PACA	**Pacayal**	**0.78**	**25**	P	Pn	17 29 55.7	+0.6
PACA	**Pacayal**	**0.78**	**25**	S	Sn	17 30 06.8	+1.1
BLLM	**Bellamira**	**0.80**	**31**	*e*P	Pn	17 29 55.3	0.0
UESV	**Universidad de**	**0.89**	**352**	P	Pn	17 29 56.9	+0.4
UESV	**Universidad de**	**0.89**	**352**	S	Sn	17 30 09.3	+1.1
LCND	**La Caada**	**0.93**	**54**	*e*P	Pn	17 29 57.0	-0.1
LCND	**La Caada**	**0.93**	**54**	P	Pn	17 29 57.3	+0.2
CNCH	**Conchagua**	**0.96**	**57**	P	Pn	17 29 58.1	+0.5
CNCH	**Conchagua**	**0.96**	**57**	S	Sn	17 30 11.1	+1.0
PANCS	**Alcalda de**	**0.99**	**329**	P	Pn	17 29 58.0	+0.1
PAVA	**Las Pavas**	**0.99**	**344**	P	Pn	17 29 57.8	-0.2
PAVA	**Las Pavas**	**0.99**	**344**	S	Sn	17 30 11.5	+0.7
LOMA	**Loma Larga**	**1.01**	**331**	P	Pn	17 29 58.4	0.0
LOMA	**Loma Larga**	**1.01**	**331**	S	Sn	17 30 12.0	+0.6
CSGN	**Cosiguina Volc**	**1.10**	**78**	P	Pn	17 29 59.4	-0.1
CSGN				S	Sn	17 30 14.1	+0.7
UEES	**Universidad Ev**	**1.11**	**330**	P	Pn	17 29 59.8	+0.2
UEES	**Universidad Ev**	**1.11**	**330**	S	Sn	17 30 14.2	+0.5
PMON	**Piamonte**	**1.14**	**326**	*e*P	Pn	17 29 59.0	-1.2
PMON	**Piamonte**	**1.14**	**326**	P	Pn	17 30 00.2	+0.1
PMON	**Piamonte**	**1.14**	**326**	S	Sn	17 30 15.2	+0.6
BOQS	**Boqueron**	**1.15**	**328**	*e*P	Pn	17 29 59.9	-0.3
POTN	**Potosi Cosigui**	**1.15**	**78**	P	Pn	17 30 00.0	-0.1
POTN				S	Sn	17 30 15.4	+0.8
JAYA	**Jayaque - finc**	**1.18**	**320**	*e*P	Pn	17 29 59.5	-1.2
JAYA				*e*S	Sn	17 30 13.7	-1.8
JAYA				IAML		17 30 15.6	
	comp=Z,408nm,0.2s						
JAYA	**Jayaque - finc**	**1.18**	**320**	P	Pn	17 30 00.6	0.0
CEVE	**Cerro Verde**	**1.42**	**319**	P	Pn	17 30 04.1	+0.1
CEVE	**Cerro Verde**	**1.42**	**319**	S	Sn	17 30 22.4	+0.8
SNJE	**San Jose**	**1.44**	**320**	*e*P	Pn	17 30 03.3	-1.0
CRIN	**San Cristobal**	**1.57**	**92**	S	Sn	17 30 26.7	+1.6
CRIN	**San Cristobal**	**1.57**	**92**	P	Pn	17 30 06.4	+0.5
NUBE	**Las Nubes**	**1.58**	**316**	*e*P	Pn	17 30 05.3	-0.8
NUBE				*e*S	Sn	17 30 23.8	-1.5
NUBE	**Las Nubes**	**1.58**	**316**	P	Pn	17 30 06.2	+0.1
NUBE	**Las Nubes**	**1.58**	**316**	S	Sn	17 30 25.6	+0.3
CHOHN	**Orocuina**	**1.63**	**64**	S	Sn	17 30 27.6	+0.9
CHOHN	**Orocuina**	**1.63**	**64**	P	Pn	17 30 07.0	+0.2
PKGN	**Cerro Pekin**	**1.65**	**93**	P	Pn	17 30 07.1	+0.2
PKGN				S	Sn	17 30 27.5	+0.7
MTO3	**Montecristo**	**1.77**	**338**	P	Pn	17 30 09.1	+0.3
MTO3	**Montecristo**	**1.77**	**338**	S	Sn	17 30 30.7	+0.5
CNGA	**Al SSO del Vol**	**1.93**	**97**	P	Pn	17 30 11.1	+0.3
CNGA				S	Sn	17 30 34.6	+0.7
CNGN	**Cerro Negro**	**1.93**	**97**	S	Sn	17 30 34.6	+0.6
CNGN	**Cerro Negro**	**1.93**	**97**	P	Pn	17 30 11.0	+0.1
YUSH	**Yuscaran**	**2.13**	**56**	P	Pn	17 30 13.9	+0.2

*ISN **09** 17:38:54.1±0.4, 32°.76N×46°.48E, h7km±2km, ML3.0*
*TEH **09** 17:38:55.2, 32°.79N×46°.48E, h10km±50km*
ISC 09 17:38:57.0±1.1, 32°.80N±0'.05×46°.43E±0'.06, h13km, n13, σ1§19/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.52**	**306**	*e*Pg	**Pg**	**17 39 05.5**	**-1.7**
IBDR				*e*Sg	**Sg**	**17 39 13.5**	**-0.6**
ILBA	**Ilam Banvizeh**	**0.84**	**347**	Pg	**Pg**	**17 39 11.8**	**-1.5**
RAFI	**Al-Rafai**	**1.11**	**194**	*e*Pn	**Pb**	**17 39 17.5**	**-0.5**
RAFI				*e*Sn	**Sn**	**17 39 34.5**	**+1.2**
RAFI				AML	AML	17 39 40.9	
	comp=N,426nm,0.3s						
RAFI				AML	AML	17 39 57.2	
	comp=E,345nm,0.4s						
GLG1	**Gilan-e-Gharb**	**1.38**	**342**	Pg	**Pn**	**17 39 22.4**	**+0.4**
IGHG	**Ghaleghazi**	**1.53**	**4**	Pg	**Pn**	**17 39 25.0**	**+0.8**
KCHF	**Cheshme Sefid,**	**1.56**	**19**	Pg	**Pn**	**17 39 24.8**	**+0.3**
BHD	**Baghdad**	**1.78**	**286**	*e*Pn	**Pn**	**17 39 28.0**	**+0.5**
BHD				*e*Sn	**Sn**	**17 39 52.5**	**+2.5**
BHD				AML	AML	17 40 04.0	
	comp=E,238nm,0.7s						
IDHR	**Dehrash**	**1.89**	**359**	Pn	**Pn**	**17 39 29.7**	**+0.5**
IBZA	**Bozab**	**2.05**	**35**	Pn	**Pn**	**17 39 32.3**	**+0.9**
SNQR	**Sonqor, Kerman**	**2.28**	**26**	Pn	**Pn**	**17 39 35.4**	**+0.8**
BDRS	**Dareh Seyedi**	**2.35**	**60**	Pn	**Pn**	**17 39 35.7**	**+0.1**
IKRK	**Kirkuk**	**3.12**	**327**	*e*Pn	**Pn**	**17 39 46.5**	**+0.6**
IKRK				*e*Sn	**Sn**	**17 40 24.5**	**+1.5**
IKRK				AML	AML	17 40 39.6	
	comp=N,47nm,0.3s						
IKRK				AML	AML	17 40 47.5	
	comp=E,42nm,0.5s						
HGHA	**Hamedan- Ghaye**	**3.35**	**36**	Pn	**Pn**	**17 39 50.2**	**+0.9**

IDC 09 17:50:10.6±7.5, 17°.63S×176°.53W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=372.4km s-min=47.8km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.44**	**259**	P	P	17 58 39.5	-0.2
	0.6nm,0.8s,baz=98,slow=7.5,SNR=2.4						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**46.59**	**254**	P	P	17 58 40.9	+0.1
	1.6nm,0.5s,baz=88,slow=8.1,SNR=40						
	1.6nm,0.5s						
BRTR	**Keskin Array B**	**145.83**	**316**	PKPbc	PKPdf	18 09 49.8	-2.0
	1.0nm,0.8s,baz=47,slow=2.8,SNR=4.7						
GERES	**GERESS Array B**	**147.77**	**347**	PKPbc	PKPbc	18 09 58.2	+0.7
	0.5nm,0.4s,baz=32,slow=3.9,SNR=3.6						

*NEIC **09** 17:54:54.4±1.9, 15°.4S±0°.2×177°.39W±0°.10, h350km±8km, mb4.1/14, Error ellipse: s-maj=27.0km s-min=13.2km az=176.0*
*IDC **09** 17:55:00.6±14.0, 15°.00S×177°.70W, h426km±154km, mb3.2/4, mbtmp4.0/4, Error ellipse: s-maj=47.7km s-min=37.9km az=80.0*
ISC 09 17:54:54.8±0.8, 15°.1S±0°.2×177°.5W±0°.1, h372km, n23, σ1§24/23, mb4.0/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUTU	**Fugatoga**	**1.03**	**321**		**Pn**	**17 55 42.8**	**-0.4**
MSVF	**Nonsavu**	**5.04**	**238**		**Pn**	**17 56 13.1**	**-2.9**
AFI	**Afiamalu**	**5.62**	**78**		**Pn**	**17 56 20.8**	**-1.6**
CTAO	**Charters Tower**	**34.90**	**257**	P	**P**	**18 01 13.5**	**+0.4**
CTAO				IAmb	IAmb	18 01 17.1	
	comp=Z,5.5nm,0.7s						
COEN	**Coen**	**38.10**	**267**	P	**P**	**18 01 40.4**	**+0.6**
INKA	**Innaminka**	**40.70**	**245**	P	**P**	**18 02 02.0**	**+1.1**
STKA	**Stephens Creek**	**40.82**	**239**	P	**P**	**18 02 01.9**	**0.0**
STKA	**Stephens Creek**	**40.82**	**239**	P	**P**	**18 02 01.7**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=54,slow=7.7,SNR=3.8						
	comp=Z,1.1nm,0.6s						
BBOO	**Buckleboo**	**45.60**	**239**	P	**P**	**18 02 38.4**	**-1.2**
BBOO				IAmb	IAmb	18 02 53.5	
	comp=Z,21nm,1.4s						
WR8	**Warramunga Arr**	**45.95**	**257**	P	**P**	**18 02 42.2**	**-0.3**
WR8				IAmb	IAmb	18 02 46.2	
	comp=Z,8.1nm,1.3s						
WB0	**Warramunga Arr**	**46.06**	**257**	P	**P**	**18 02 43.0**	**-0.4**
WB0				IAmb	IAmb	18 03 09.2	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**46.10**	**257**	P	**P**	**18 02 43.1**	**-0.7**
WRA	**Warramunga Arr**	**46.10**	**257**	P	**P**	**18 02 43.2**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=90,slow=6.6,SNR=23						
	comp=Z,1.8nm,0.6s						
AS31	**Alice Springs**	**46.48**	**252**	P	**P**	**18 02 46.5**	**-0.1**
AS31				IAmb	IAmb	18 02 47.8	
	comp=Z,13nm,0.5s						
ASAR	**Alice Springs**	**46.49**	**252**	P	**P**	**18 02 46.7**	**+0.1**
	comp=Z,26nm,0.4s,baz=85,slow=8.5,SNR=648						
MTN	**Manton Dam**	**49.86**	**266**	P	**P**	**18 03 12.5**	**+0.3**
KNRA	**Kununurra**	**51.74**	**262**	P	**P**	**18 03 27.6**	**+1.5**
KNRA				IAmb	IAmb	18 04 04.7	
	comp=Z,16nm,1.4s						
FITZ	**Fitzroy Crossi**	**54.44**	**258**	P	**P**	**18 03 47.4**	**+1.9**
SOEI	**Soe**	**57.03**	**268**	P	**P**	**18 04 05.4**	**+1.4**
SOEI				IAmb	IAmb	18 04 15.2	
	comp=Z,12nm,0.8s						
SBA	**Scott Base**	**63.25**	**184**	P	**P**	**18 04 46.0**	**+1.5**
SBA				IAmb	IAmb	18 04 46.5	
	comp=Z,1.6nm,0.9s						
QSPA	**South Pole Qui**	**74.93**	**180**	P	**P**	**18 05 57.1**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=318,slow=1.3,SNR=12						
	comp=Z,1.2nm,0.6s						
TXAR	**Lajitas Array**	**83.73**	**58**	P	**P**	**18 06 44.6**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=216,slow=6.2,SNR=5.4						
	comp=Z,0.6nm,0.7s						
BRTR	**Keskin Array B**	**143.40**	**318**	PKP	**PKPdf**	**18 13 44.6**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=48,slow=2.1,SNR=6.1						

*NEIC **09** 17:57:06.9±0.6, 36°.430N±0'.007×96°.90W±0'.01, h7km±1km, mb_Lg3.0/89, ML3.3/36, ML3.3/40, Error ellipse: s-maj=1.4km s-min=0.6km az=46.0*
NEIC 09 17:57:06.8±0.5, 36°.427N±0'.006×96°.905W±0'.008, h7km±1km, Error ellipse: s-maj=1.1km s-min=0.7km az=139.0, Oklahoma

| Code | Station Name | Δ° | AZ° | Phase | ID | Time | Res |
|---|---|---|---

KAN01 IAML 17 57 39.2
comp=E,1µm,0.3s
KAN01 IAML 17 57 40.6
comp=N,1µm,0.1s
KAN14 Manchester OK 1.00 302 Pg 17 57 25.8 -0.3
KAN14 Sg 17 57 39.5 +0.4
OK004 Okla Sci Mus 1.01 207 Pg 17 57 26.2 0.0
OK004 Sb 17 57 40.0 -0.3
TUL3 Leonard 1.04 119 Pg 17 57 26.7 -0.1
TUL3 Sg 17 57 39.8 -0.4
OKCFA Oklahoma City 1.10 204 Pg 17 57 27.4 -0.6
OKCFA Sb 17 57 42.7 -0.1
OKCSW OKLAHOMA CITY 1.11 203 Pg 17 57 27.9 -0.2
OKCSW Sb 17 57 42.9 -0.1
FNO Franklin 1.23 199 IAML 17 57 50.5
comp=E,876nm,0.4s
FNO IAML 17 57 52.2
comp=N,730nm,0.4s
RLO Rose Lookout 1.54 99 Pn 17 57 35.2 +0.4
CSTR Hydro, Custer 1.64 242 Pb 17 57 36.9 -0.6
U38A Gravette 2.03 89 Pn 17 57 42.8 +1.3
ELIS Ellis County 2.06 261 Pb 17 57 43.6 -1.1
WMOK Wichita Mounta 2.28 223 Pn 17 57 45.4 +0.5
HHAR Hobbs 2.40 93 Pn 17 57 47.6 +1.0
LOOK Love County 2.44 185 Pn 17 57 48.3 +1.1
LOOK IAmb_Lg 17 58 29.0
comp=E,60nm,0.9s
R32A Long Quarter, 2.46 325 Pn 17 57 48.5 +1.1
R32A IAmb_Lg 17 58 29.4
comp=E,67nm,0.7s
KSU1 Kansas State U 2.68 5 Pn 17 57 49.5 -1.0
SMWD Samnorwood 3.02 245 Pn 17 57 56.1 +1.0
MIAR Mount Ida 3.30 124 IAmb_Lg 17 58 54.4
comp=E,40nm,0.7s
FW06 Azle 3.49 189 IAmb_Lg 17 59 06.2
comp=E,56nm,0.8s
Z38A Mt. Pleasant 3.53 153 IAmb_Lg 17 58 59.6
comp=E,38nm,0.8s
PLPT Palo Pinto 3.79 198 Pn 17 58 07.0 +1.3
PLPT IAmb_Lg 17 59 14.1
comp=E,27nm,0.7s
MGMO Mountain Grove 3.79 78 Pn 17 58 06.7 +0.9
UALR University of 4.07 113 IAmb_Lg 17 59 26.0
comp=E,45nm,0.8s
R40A Maddies Statio 4.13 62 IAmb_Lg 17 59 17.4
comp=E,46nm,0.9s
WLAR White Oak Lake 4.14 130 IAmb_Lg 17 59 20.6
comp=E,34nm,0.8s
P38A Dawn 4.16 39 IAmb_Lg 17 59 17.9
comp=E,39nm,0.8s
DKNS Dickens 4.30 231 IAmb_Lg 17 59 27.8
comp=E,30nm,1.0s
237A Washetta, Mont 4.51 168 IAmb_Lg 17 59 41.5
comp=E,22nm,0.9s
N35A Tabor 4.54 12 IAmb_Lg 17 59 32.5
comp=E,46nm,0.7s
Z41A Richland Creek 4.62 132 IAmb_Lg 17 59 38.8
comp=E,30nm,0.7s
LCAR Lake Charles 4.66 93 IAmb_Lg 17 59 33.0
comp=E,42nm,0.8s
RTBA Rita Blanca 4.70 272 IAmb_Lg 17 59 43.4
comp=E,28nm,0.9s
CCM Cathedral Cave 4.80 69 IAmb_Lg 17 59 47.2
comp=E,46nm,0.8s
NATX Nacogdoches 5.01 158 IAmb_Lg 18 00 00.3
comp=E,28nm,0.9s
BGNE Belgrade 5.07 349 IAmb_Lg 17 59 49.5
comp=E,37nm,0.9s
KSCO Kaye Shedlock' 5.22 301 IAmb_Lg 18 00 01.8
comp=E,24nm,0.8s
PBMO Poplar Bluff 5.22 84 IAmb_Lg 17 59 58.5
comp=E,47nm,0.8s
FVM French Village 5.40 71 IAmb_Lg 18 00 10.3
comp=E,18nm,0.8s
BRDY Brady 5.42 199 IAmb_Lg 18 00 04.2
comp=E,22nm,0.9s
435B Jarrell 5.66 186 IAmb_Lg 18 00 22.9
comp=E,23nm,0.8s
SLM Saint Louis 5.74 65 IAmb_Lg 18 00 06.1
comp=E,28nm,0.7s
CGM3 Cape Girardeau 5.88 79 IAmb_Lg 18 00 19.0
comp=E,26nm,0.8s
OGNE Ogallala 6.04 320 IAmb_Lg 18 00 24.2
comp=E,33nm,0.7s
JCT Junction City 6.41 203 IAmb_Lg 18 00 44.4
comp=E,32nm,1.0s
OXF Oxford 6.41 105 IAmb_Lg 18 00 30.4
comp=E,30nm,0.7s
Y45A Yeager Farm, C 6.55 111 IAmb_Lg 18 00 51.5
comp=E,30nm,0.9s
MLDN Muldoon 6.63 181 IAmb_Lg 18 00 44.2
comp=E,34nm,0.8s
SDCO Great Sand Dun 7.00 283 IAmb_Lg 18 00 53.8
comp=E,11nm,0.8s
Q24A Divide 7.01 294 IAmb_Lg 18 01 00.1
comp=E,12nm,0.8s
L40A Anamosa 7.15 36 IAmb_Lg 18 00 53.1
comp=E,22nm,0.9s
HNDO Hondo 7.16 197 IAmb_Lg 18 01 02.8
comp=E,15nm,0.7s
EF04 Eagle Ford 04 7.24 186 IAmb_Lg 18 01 06.4
comp=E,20nm,0.8s
PLAL Pickwick Lake 7.33 99 IAmb_Lg 18 01 02.5
comp=E,14nm,0.8s
USIN University of 7.53 75 IAmb_Lg 18 01 11.7
comp=E,22nm,0.9s
SAND Sanderson 7.79 216 IAmb_Lg 18 01 26.4
comp=E,12nm,0.8s
X48A Hartselle 8.28 101 IAmb_Lg 18 01 37.9
comp=E,9.0nm,0.8s
P46A Rosedale 8.29 64 IAmb_Lg 18 01 43.1
comp=E,17nm,0.7s
K22A Casper 9.68 313 IAmb_Lg 18 02 36.3
comp=E,14nm,0.9s

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*IDC **09** 18:05:15.6±0.3, 10°.56N×64°.38W, h0km, mb5.0/32, mbtmp5.0/35, ML3.7/3, MS4.8/58, Error ellipse: s-maj=8.0km s-min=5.0km az=109.0*

*NEIC **09** 18:05:17.1, 10°.51N×64°.41W, h14km, Moment Tensor Solution. Duration: 28 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.35; $M_{\theta\theta}$=0.81; $M_{\phi\phi}$=1.17; $M_{r\theta}$=0.08; $M_{r\phi}$=-1.46; $M_{\theta\phi}$=-0.49; Fault plane solution: M_0=1.86000×10^{17} NP1: ϕ_s=106.49000°, δ=76.66000°, λ=177.33000°. NP2: ϕ_s=197.10000°, δ=87.40000°, λ=13.36000°. Principal axes: T 2.0326, Plg11.0000°, Azm63.0000°; N -0.4271, Plg76.0000°, Azm208.0000°; P -1.6055, Plg8.0000°, Azm331.0000°;*

*NEIC **09** 18:05:17.1±1.4, 10°.51N±0°.06×64°.42W±0°.06, h10km±1km, mb5.6/814, Mwb5.5/33, Mww5.4/44 Error ellipse: s-maj=12.0km s-min=9.1km az=140.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.34; $M_{\theta\theta}$=1.34; $M_{\phi\phi}$ 1.68; $M_{r\theta}$=-0.17; $M_{\theta\phi}$=-1.94; $M_{r\phi}$=0.00; Fault plane solution: M_0=2.48000×10^{17} NP1: ϕ_s=18.85000°, δ=85.74000°, λ=-2.12000°. NP2: ϕ_s=109.00000°, δ=87.89000°, λ=-175.73000°. Principal axes: T 2.6275, Plg2.0000°, Azm244.0000°; N -0.3296, Plg85.0000°, Azm135.0000°; P -2.2979, Plg5.0000°, Azm334.0000°;*

*NEIC **09** 18:05:17.1, 10°.51N×64°.41W, h10km*

*NEIC **09** 18:05:17.1, 10°.51N×64°.41W, h14km*

*VAO **09** 18:05:18.5±0.3, 10°.45N×64°.50W, h10km, mb5.5*

*FUNV **09** 18:05:18.9, 10°.55N×64°.37W, h12km, MW4.9*

*GCMT **09** 18:05:21.1±0.1, 10°.53N±0°.01×64°.38W±0°.01, h12km, MW5.5/142, Moment Tensor Solution. s110,c212; s142,c305; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.39±.02; $M_{\theta\theta}$=0.94±.02; $M_{\phi\phi}$ 1.33±.02; $M_{r\theta}$=0.47±.04; $M_{\theta\phi}$=-1.46±.01; $M_{r\phi}$=0.54±.05; Best double couple: M_0=2.00700×10^{17} NP1: ϕ_s=111.00000°, δ=69.00000°, λ=-168.00000°. NP2: ϕ_s=17.00000°, δ=79.00000°, λ=-22.00000°. Principal axes: T 2.0760, Plg7.0000°, Azm65.0000°; N -0.1400, Plg66.0000°, Azm170.0000°; P -1.9390, Plg23.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **09** 18:05:21.6±1.8, 10°.43N×64°.71W, h51km, mb5.6/43, MS4.8/10 Error ellipse: s-maj=7.8km s-min=5.7km az=66.1*

*BGR **09** 18:05:24.9, 10°.57N×64°.09W, h9km±1km, mb5.3*

ISC 09 18:05:16.6±0.5, **10°.51N**±0°.03×**64°.51W**±0°.03, **h8**km±2km,
h8km:**pP-P, n1259**,σ1s**81**/960, **mb5.6**/521, **MS4.9**/75,
51C-39D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PCRV	**Puerto La Cruz**	**0.35**	**201**	Pg	**Pb**	**18 05 24.6**	**-0.6**
	3µm,0.3s,baz=26,slow=5.7,SNR=7539						
PCRV				Lg	Lg	18 05 30.5	
	baz=90,slow=20						
PCRV	**Puerto La Cruz**	**0.35**	**201**	*eP*	**Pb**	**18 05 26.3**	**+1.1**
PCRV				*eS*	**Sb**	**18 05 34.0**	**+3.1**
PCRV	**Puerto La Cruz**	**0.35**	**201**	*iP*	**Pb**	**18 05 25.3**	**+0.1**
FUNV	**FUNVISIS**	**2.26**	**269**	*eP*	**Pb**	**18 05 57.1**	**-0.8**
FUNV				*eS*	**Sb**	**18 06 26.5**	**+0.4**
TACV	**Tcata**	**2.50**	**262**	*eP*	**Pb**	**18 06 01.1**	**-0.9**
TACV				*eS*	**Sb**	**18 06 31.9**	**-1.1**
TRN	**Trinidad (W)**	**3.06**	**87**	*eP*	**Pn**	**18 06 04.6**	**-0.7**
BENV	**Beln**	**3.09**	**260**	*eP*	**Pn**	**18 06 08.1**	**+2.3**
BENV				*eS*	**Sn**	**18 06 45.4**	**+2.4**
GRFF	**Grenada Fort F**	**3.12**	**60**	*eP*	**Pn**	**18 06 03.8**	**-2.4**
GRGR	**Grenville**	**3.23**	**60**		**Pn**	**18 06 06.2**	**-1.5**
GRGR	**Grenville**	**3.23**	**60**	*eP*	**Pn**	**18 06 05.8**	**-2.0**
GRGR	**Grenville**	**3.23**	**60**	P	**Pn**	**18 06 05.4**	**-2.4**
GRGR				S	**Sn**	**18 06 42.3**	**-4.2**
GRW	**Mount Saint Ca**	**3.24**	**59**	*eP*	**Pn**	**18 06 06.9**	**-1.0**
GRSS	**Sisters**	**3.35**	**58**	*eP*	**Pn**	**18 06 06.8**	**-2.6**
CACV	**CAICARA DEL OR**	**3.54**	**215**	*eP*	**Pn**	**18 06 10.7**	**-1.3**
CACV				*eS*	**Sn**	**18 06 48.2**	**-6.0**
GCMP	**Grenada, Carri**	**3.61**	**57**	*eP*	**Pn**	**18 06 10.2**	**-2.7**
BAUV	**El Baul**	**3.81**	**246**	Pn	**Pn**	**18 06 16.4**	**+0.7**
BAUV	**El Baul**	**3.81**	**246**	*eP*	**Pn**	**18 06 17.2**	**+1.5**
BAUV				*eS*	**Sn**	**18 07 01.4**	**+0.6**
BAUV	**El Baul**	**3.81**	**246**	*eP*	**Pn**	**18 06 16.4**	**+0.7**
JACV	**Jacura**	**4.29**	**278**	*eP*	**Pn**	**18 06 24.0**	**+1.7**
JACV				*eS*	**Sn**	**18 07 12.6**	**+0.1**
SLBI	**Saint Lucia, B**	**4.92**	**44**	*eP*	**Pn**	**18 06 28.0**	**-2.9**
BIM	**Bigot**	**5.21**	**40**		**Pn**	**18 06 33.1**	**-1.9**
BIM	**Bigot**	**5.21**	**40**	*eP*	**Pn**	**18 06 32.8**	**-2.2**
H05S1	**Guadeloupe/Mar**	**5.29**	**42**	Pn	**Pn**	**18 06 35.2**	**-0.9**
H05S1				S	**Sn**	**18 07 35.0**	**-2.4**
MPOM	**Morne Pois Mar**	**5.29**	**42**		**Pn**	**18 06 34.6**	**-1.5**
FDF	**Fort de France**	**5.33**	**38**		**Pn**	**18 06 35.0**	**-1.6**
FDF	**Fort de France**	**5.33**	**38**	P	**Pn**	**18 06 35.0**	**-1.6**
SVN	**Savane Anatole**	**5.40**	**37**		**Pn**	**18 06 36.1**	**-1.6**
SVN	**Savane Anatole**	**5.40**	**37**	*eP*	**Pn**	**18 06 35.8**	**-1.9**
BBGH	**Gun Hill**	**5.51**	**61**		**Pn**	**18 06 37.4**	**-1.6**
BBGH	**Gun Hill**	**5.51**	**61**	*eP*	**Pn**	**18 06 39.6**	**+0.5**
ILAM	**Ilet Lapin Mar**	**5.53**	**40**		**Pn**	**18 06 37.7**	**-1.7**
ILAM	**Ilet Lapin Mar**	**5.53**	**40**	*eP*	**Pn**	**18 06 36.9**	**-2.4**
MDN	**Morne-Daniel**	**5.67**	**32**	*eP*	**Pn**	**18 06 41.1**	**-0.1**
DSLB	**Salisbury**	**5.75**	**31**	*eP*	**Pn**	**18 06 40.9**	**-1.5**
TBG	**Guadaloupe-3**	**6.00**	**27**	*eP*	**Pn**	**18 06 43.9**	**-1.9**
MMLZ	**Guadeloupe Bro**	**6.16**	**26**	*eP*	**Pn**	**18 06 46.1**	**-1.9**
ATGZ	**Broadband at L**	**6.18**	**26**	*eP*	**Pn**	**18 06 47.8**	**-0.5**
CBE	**Ff, Capester**	**6.21**	**27**		**Pn**	**18 06 47.7**	**-1.0**
SDV	**Santo Domingo**	**6.25**	**256**		**Pn**	**18 06 49.9**	**+0.5**
SDV	**Santo Domingo**	**6.25**	**256**	Pn	**Pn**	**18 06 49.4**	**0.0**
	8.1nm,0.3s,baz=77,slow=13,SNR=38						
SDV				Sn	**Sn**	**18 08 01.9**	**+0.7**
	120nm,0.3s,baz=78,slow=18,SNR=8.2						
SDV				Lg	Lg	18 08 40.1	
	83nm,0.3s,baz=4.1,slow=14,SNR=3.9						
SDV				LR	LR	18 10 17.4	
	comp=Z,17µm,20.1s,baz=74,slow=47						
	25nm,0.4s						
SDV	**Santo Domingo**	**6.25**	**256**	*eP*	**Pn**	**18 06 49.8**	**+0.4**
SDV	**Santo Domingo**	**6.25**	**256**	P	**Pn**	**18 06 49.4**	**0.0**
	22µm11µm676nm,1.1s						
SDV				S	**Sn**	**18 07 59.1**	**-2.1**
	22µm11µm676nm,1.1s						
MAGL	**Barre de l'ile**	**6.26**	**30**		**Pn**	**18 06 48.9**	**-0.5**
DHSZ	**Broadband at M**	**6.32**	**25**	*eP*	**Pn**	**18 06 49.2**	**-1.0**
GDLS	**Morne Mazeau,**	**6.32**	**25**		**Pn**	**18 06 49.2**	**-1.1**
MBFL	**Flemmings, Mon**	**6.59**	**20**	*eP*	**Pn**	**18 06 53.3**	**-0.7**
MBWH		**6.60**	**20**	*eP*	**Pn**	**18 06 56.4**	**+2.3**
ABD	**La Joyeuse, An**	**6.62**	**26**		**Pn**	**18 06 53.2**	**-1.2**
DSDZ	**La Diserade, G**	**6.67**	**30**	*eP*	**Pn**	**18 06 53.1**	**-1.9**
GDSD	**La Dsirade Is**	**6.67**	**30**		**Pn**	**18 06 54.0**	**-1.1**
H05N1	**Guadeloupe/Mar**	**6.68**	**30**	Pn	**Pn**	**18 06 54.9**	**-0.3**
H05N1				S	**Sn**	**18 08 08.3**	**-3.3**
SKI	**Saint Kitts**	**7.00**	**14**	*eP*	Pn	18 06 54.0	-5.6
SEUS	**St. Eustatius**	**7.10**	**12**		**Pn**	**18 07 00.1**	**-0.9**
SABA	**Saba**	**7.18**	**10**		**Pn**	**18 07 01.2**	**-0.9**
URIC	**Uribia, Colomb**	**7.44**	**280**	P	**Pn**	**18 07 04.0**	**-1.6**
	5µm5µm436nm,0.9s						
URIC				S	**Sn**	**18 08 24.4**	**-5.9**
	5µm5µm436nm,0.9s						
ANWB	**Willy Bob**	**7.59**	**20**		**Pn**	**18 07 06.6**	**-1.1**
ANWB	**Willy Bob**	**7.59**	**20**	*eP*	**Pn**	**18 07 06.9**	**-0.9**
PDPR	**Patillas Dam,**	**7.61**	**349**		**Pn**	**18 07 06.3**	**-1.7**
SMRT	**St. Maarten**	**7.63**	**10**		**Pn**	**18 07 07.8**	**-0.4**
SJG	**San Juan**	**7.73**	**348**	Pn	**Pn**	**18 07 09.8**	**+0.2**
	8.0nm,0.3s,baz=158,slow=14,SNR=12						
SJG				Sn	**Sn**	**18 08 30.7**	**-6.6**
	29nm,0.3s,baz=90,slow=20,SNR=6.2						
SJG				LR	LR	18 10 02.8	
	comp=Z,13µm,20.1s,baz=167,slow=37						
	21nm,0.3s						
SJG	**San Juan**	**7.73**	**348**	*eP*	**Pn**	**18 07 08.6**	**-0.9**
SJG	**San Juan**	**7.73**	**348**	P	**Pn**	**18 07 08.3**	**-1.2**
	6µm895nm46nm,0.7s						
SJG				S	**Sn**	**18 08 29.1**	**-8.2**
	6µm895nm46nm,0.7s						
OBIP	**Obispado Ponce**	**7.76**	**345**		**Pn**	**18 07 08.8**	**-1.3**
CELP	**Cerrillos**	**7.79**	**345**		**Pn**	**18 07 10.0**	**-0.4**
CRPR	**Cabo Rojo, PR**	**7.87**	**342**		**Pn**	**18 07 11.2**	**-0.3**
MCQV	**Machiques**	**7.91**	**267**	*eP*	**Pn**	**18 07 13.6**	**+1.5**
AOPR	**Arecibo Observ**	**8.09**	**345**	*eP*	**Pn**	**18 07 15.6**	**+1.1**
CAPV	**Capacho**	**8.14**	**252**	*eP*	**Pn**	**18 07 16.4**	**+0.9**
CAPV				*eS*	**Sn**	**18 08 43.1**	**-4.8**
CRJC	**Cerrejon, Guaj**	**8.24**	**274**	P	**Pn**	**18 07 15.2**	**-1.5**
	6µm8µm801nm,0.9s						
CRJC				S	**Sn**	**18 08 46.4**	**-3.8**
	6µm8µm801nm,0.9s						
PAMC	**Pamplona, Colo**	**8.68**	**249**	P	**Pn**	**18 07 23.2**	**+0.1**
PAMC				S	**Sn**	**18 09 00.5**	**-1.0**
BOAV	**Boa Vista**	**8.98**	**154**		**Pn**	**18 07 23.9**	**-2.8**
BOAV	**Boa Vista**	**8.98**	**154**	P	**Pn**	**18 07 23.2**	**-3.5**
	10µm3µm305nm,1.0s						
OCAC	**Ocana**	**8.98**	**256**	P	**Pn**	**18 07 27.9**	**+1.0**
	16µm9µm1µm,1.0s						
OCAC				S	**Sn**	**18 09 08.1**	**-0.3**
	16µm9µm1µm,1.0s						
BARC	**Barichara**	**9.42**	**246**	P	**Pn**	**18 07 34.1**	**+1.1**
	3µm,2.9s						
BARC				S	**Sn**	**18 09 20.1**	**+0.8**
	3µm,2.9s						
SMRC	**Santa Marta, M**	**9.57**	**275**		**Pn**	**18 07 32.6**	**-2.3**
ARGC	**Ariguani, Magd**	**9.61**	**267**	P	**Pn**	**18 07 35.9**	**+0.5**
	9µm7µm479nm,0.9s						
ARGC				S	**Sn**	**18 09 16.9**	**-6.7**
	9µm7µm479nm,0.9s						
RUSC	**La Rusia**	**9.64**	**242**		**Pn**	**18 07 36.3**	**0.0**
RUSC	**La Rusia**	**9.64**	**242**	P	**Pn**	**18 07 35.7**	**-0.6**
	16µm14µm824nm,1.2s						
PTGC	**Puerto Gaitan,**	**9.82**	**231**	P	**Pn**	**18 07 37.3**	**-1.0**
	24µm594nm,1.0s						
SJCC	**San Jacinto, C**	**10.52**	**268**	P	**Pn**	**18 07 46.8**	**-1.2**
	8µm9µm576nm,0.9s						
SJCC				S	**Sn**	**18 09 43.9**	**-2.3**
	8µm9µm576nm,0.9s						
PTBC	**PUERTO BERRIO,**	**10.60**	**249**	P	**Pn**	**18 07 47.2**	**-1.8**
	1µm131nm,0.9s						
PTBC				S	**Sn**	**18 09 44.1**	**-3.8**
	1µm131nm,0.9s						
ZARC	**Zaragoza, Cauc**	**10.65**	**255**	P	**Pn**	**18 07 48.6**	**-1.1**
	5µm384nm,1.0s						
SDDR	**Presa de Saban**	**10.68**	**323**		**Pn**	**18 07 50.4**	**+0.4**
SDDR	**Presa de Saban**	**10.68**	**323**	*eP*	**Pn**	**18 07 52.1**	**+2.1**
SGC2	**Sao Gabriel da**	**10.87**	**193**	P	**Pn**	**18 07 51.4**	**-1.2**
	5µm413nm,0.7s						
VILC	**Villavicencio,**	**11.10**	**236**	P	**Pn**	**18 07 55.1**	**-0.9**
	438nm5µm434nm,0.6s						
UREC	**San Jos de Ur**	**11.22**	**257**	P	**Pn**	**18 07 57.6**	**+0.1**
	4µm218nm,1.0s						
ROSC	**El Rosal**	**11.23**	**241**		**Pn**	**18 07 58.8**	**+0.8**
ROSC	**El Rosal**	**11.23**	**241**	Pn	**Pn**	**18 07 59.0**	**+1.0**
	4.8nm,0.3s,baz=78,slow=12,SNR=34						
ROSC				Sn	**Sn**	**18 10 06.9**	**+2.8**
	6.7nm,0.3s,baz=126,slow=19,SNR=1.8						
ROSC				Lg	Lg	18 11 18.0	
	4.9nm,0.3s,baz=152,slow=17,SNR=2.3						
ROSC				LR	LR	18 13 19.2	
	comp=Z,49µm,19.3s,baz=50,slow=42						
	20nm,0.3s						
ROSC	**El Rosal**	**11.23**	**241**	P	**Pn**	**18 07 58.8**	**+0.8**
ROSC	**El Rosal**	**11.23**	**241**	P	**Pn**	**18 07 58.2**	**+0.2**
	14µm12µm1µm,1.2s						
HELC	**Santa Helena**	**11.71**	**249**	P	**Pn**	**18 08 06.0**	**+1.4**
	9µm4µm230nm,1.7s						
HELC				S	**Sn**	**18 10 11.3**	**-4.5**
	9µm4µm230nm,1.7s						
GUY2C	**Guyana, Caldas**	**11.96**	**245**	P	**Pn**	**18 08 08.0**	**-0.1**
	10µm4µm505nm,0.8s						
GUY2C				S	**Sn**	**18 10 24.6**	**+2.5**
	10µm4µm505nm,0.8s						
DBBC	**Dabeiba**	**12.07**	**254**	P	**Pn**	**18 08 10.9**	**+1.7**
DBBC				S	**Sn**	**18 10 26.4**	**+2.2**
APAC	**Apartado, Choc**	**12.20**	**259**	P	**Pn**	**18 08 10.9**	**+0.1**
	7µm3µm199nm,0.8s						
CBOC	**Ciudad Bolivar**	**12.28**	**249**	P	**Pn**	**18 08 12.5**	**+0.3**
	9µm7µm262nm,1.0s						
CBOC				S	**Sn**	**18 10 28.5**	**-1.0**
	9µm7µm262nm,1.0s						
PRAC	**Prado**	**12.31**	**238**	P	**Pn**	**18 08 11.3**	**-1.1**
	9µm11µm870nm,1.4s						
PRAC				S	**Sn**	**18 10 23.0**	**-6.9**
	9µm11µm870nm,1.4s						
MACC	**Macarena, Meta**	**12.45**	**229**	P	**Pn**	**18 08 14.2**	**-0.1**
	7µm4µm261nm,0.8s						
ORTC	**Ortega, Tolima**	**12.50**	**239**	P	**Pn**	**18 08 13.2**	**-1.9**
	8µm6µm484nm,0.9s						
ORTC				S	**Sn**	**18 10 35.9**	**+1.2**
	8µm6µm484nm,0.9s						
GRTK	**Grand Turk**	**12.66**	**331**		**Pn**	**18 08 17.2**	**+0.1**
CAPC	**Capurgana**	**12.80**	**263**	P	**Pn**	**18 08 17.3**	**-1.8**
	7µm951nm50nm,0.9s						
CAPC				S	**Sn**	**18 10 35.5**	**-6.4**
	7µm951nm50nm,0.9s						
MDP	**Montagnes des**	**12.92**	**114**	Pn	Pn	18 08 15.4	-5.4
	5.4nm,0.3s,baz=298,slow=17,SNR=27						
MDP				Sn	Sn	18 10 30.8	-14
	17nm,0.3s,baz=224,slow=18,SNR=14						
MDP				Lg	Lg	18 11 59.7	
	5.1nm,0.3s,baz=210,slow=18,SNR=1.2						
MDP				LR	LR	18 13 44.4	
	comp=Z,4µm,19.9s,baz=296,slow=40						
YOTC	**Yotoco, Valle**	**13.41**	**242**	P	**Pn**	**18 08 29.0**	**+1.5**
	7µm2µm263nm,1.0s						
MASC	**Masc**	**13.42**	**317**	*eP*	**Pn**	**18 08 30.2**	**+2.7**
PTAC	**Punta Ardita,**	**13.56**	**257**	P	**Pn**	**18 08 29.8**	**+0.3**
	6µm321nm,1.0s						
QMBU	**Quimbuelo**	**13.84**	**315**	*eP*	**Pn**	**18 08 31.6**	**-1.7**
GTBY	**Guantanamo Bay**	**13.86**	**314**	*eP*	Pn	18 08 18.9	-15
JAMC	**Jamundi, Valle**	**14.08**	**240**	P	**Pn**	**18 08 39.1**	**+2.3**
	7µm3µm185nm,1.0s						
FLOC	**Florencia**	**14.18**	**232**		**Pn**	**18 08 37.0**	**-1.0**
FLOC	**Florencia**	**14.18**	**232**	P	**Pn**	**18 08 37.0**	**-1.0**
	6µm7µm435nm,1.2s						
NMDO	**Nuevo Mundo**	**14.20**	**316**		**Pn**	**18 08 38.3**	**+0.2**
NMDO	**Nuevo Mundo**	**14.20**	**316**	*eP*	**Pn**	**18 08 37.6**	**-0.6**
RCC	**Rio Carpintero**	**14.33**	**312**	*eP*	**Pn**	**18 08 38.2**	**-1.7**
POPC	**Popayan, Colom**	**14.44**	**238**	P	**Pn**	**18 08 39.8**	**-2.0**
	9µm3µm124nm,1.0s						
MARVS	**Santiago de Cu**	**14.48**	**312**	*eP*	**Pn**	**18 08 41.5**	**-0.5**
PTLC	**Puerto Leguiza**	**14.49**	**226**	P	**Pn**	**18 08 41.9**	**-0.4**
	7µm495nm,1.1s						
PTLC				S	**S**	**18 11 37.4**	**-5.7**
	7µm495nm,1.1s						
PINC	**Pinares de May**	**14.71**	**314**	*eP*	**Pn**	**18 08 44.9**	**-0.3**
MTDJ	**Mount Denham**	**14.76**	**303**	*eP*	**Pn**	**18 08 44.9**	**-1.2**
CHIV	**Chivirico**	**14.85**	**311**		**Pn**	**18 08 47.2**	**+0.2**
CHIV	**Chivirico**	**14.85**	**311**	*eP*	**Pn**	**18 08 44.2**	**-2.8**
BCIP	**Isla Barro Col**	**15.16**	**266**		**Pn**	**18 08 48.1**	**-3.2**
BCIP				IAmb	IAmb	18 08 54.7	
	comp=Z,260nm,1.1s						
BCIP	**Isla Barro Col**	**15.16**	**266**	P	**Pn**	**18 08 48.1**	**-3.2**
BCIP				pmax	pmax		
	comp=Z,261nm,1.1s						
HLGC	**Holguin**	**15.16**	**314**	*eP*	**Pn**	**18 08 50.2**	**-1.2**
BBAC	**Balboa, Cauca**	**15.20**	**237**	P	**Pn**	**18 08 53.8**	**+1.8**
	comp=Z,5µmcomp=Z,2µmcomp=Z,114nm,1.6s						
LMGC	**Las Mercedes**	**15.34**	**310**	*eP*	Pn	18 08 46.2	-7.4
PILO	**Pilon**	**15.56**	**308**	*eP*	**P**	**18 08 58.8**	**-2.0**
MAL2	**Monte Alegre,**	**16.14**	**140**		**Pn**	**18 08 59.0**	**-5.1**
BONI	**La Bonita**	**16.35**	**233**	P	**Pn**	**18 09 07.7**	**+0.7**
	comp=Z,5µmcomp=Z,2µmcomp=Z,125nm,1.3s						
CUSE	**Cuicocha Este**	**17.13**	**235**	P	**P**	**18 09 19.2**	**+0.4**
	comp=Z,5µmcomp=Z,190nm,1.3s						
LCR2	**La Lucha 2**	**19.21**	**269**	P	**Pn**	**18 09 42.4**	**0.0**
ESPN	**Las Esperanzas**	**19.48**	**277**	P	**Pn**	**18 09 49.9**	**+4.5**
COHC	**Cochancay**	**19.53**	**230**		**P**	**18 09 45.1**	**+0.3**
COHC	**Cochancay**	**19.53**	**230**	P	**P**	**18 09 44.7**	**-0.1**
	comp=Z,6µmcomp=Z,4µmcomp=Z,210nm,1.8s						
SOCE	**Pocosol**	**19.78**	**271**	P	**P**	**18 09 43.7**	**-3.8**
CZSB	**Cruzeiro do Su**	**19.87**	**205**		**Pn**	**18 09 49.4**	**-0.7**
CZSB				IAmb	IAmb	18 10 02.6	
	comp=Z,395nm,1.0s						
CZSB	**Cruzeiro do Su**	**19.87**	**205**	P	**Pn**	**18 09 49.5**	**-0.5**
	comp=Z,3µmcomp=Z,7µmcomp=Z,522nm,1.3s						
JTS	**Las Juntas de**	**20.11**	**271**	*i* P	Pn	18 09 55.1	+2.1
JTS				pmax	pmax		
	comp=Z,40nm,1.1s						
ACON	**Acoyapa**	**20.32**	**276**		Pn	18 09 54.6	-0.8
ACON	**Acoyapa**	**20.32**	**276**	P	Pn	18 09 55.0	-0.4
	comp=Z,2µmcomp=Z,105nm,1.2s						
CAMR	**Camarioca**	**20.38**	**310**	P	**P**	**18 09 54.3**	**+0.3**
CAMR				IAmb	IAmb	18 10 03.0	

154A Montrose 27.89 325 IAmb IAmb 18 11 15.2
comp=Z,149nm,1.1s
451A Vernon 28.11 318 IAmb IAmb 18 11 12.4
comp=Z,121nm,1.0s
W57A Gilead 28.30 333 P 18 11 11.1 +0.3
W57A IAmb IAmb 18 11 13.0
comp=Z,98nm,1.1s
V58A Windy Hill, Pi 28.46 335 IAmb IAmb 18 11 14.4
comp=Z,84nm,1.2s
T59A Double "B" Far 28.86 338 P 18 11 15.7 -0.1
152A Waverly Hall 28.87 323 IAmb IAmb 18 11 18.8
comp=Z,78nm,1.1s
KMSC Kings Mountain 28.92 331 IAmb IAmb 18 11 18.6
comp=Z,89nm,1.1s
250A Grady 29.34 320 IAmb IAmb 18 11 23.0
comp=Z,149nm,1.2s
V55A Taylorsville 29.44 332 IAmb IAmb 18 11 23.8
comp=Z,91nm,1.2s
U56A King 29.47 333 IAmb IAmb 18 11 23.8
comp=Z,94nm,1.1s
T57A Hurt 29.55 336 IAmb IAmb 18 11 24.3
comp=Z,122nm,1.2s
BG3 Lake Jocassee 29.60 328 IAmb IAmb 18 11 26.0
comp=Z,161nm,1.1s
V53A Saluda 30.07 329 IAmb IAmb 18 11 29.5
comp=Z,127nm,1.1s
CMIG Matias Romero 30.19 286 P **P 18 11 29.9 +2.2**
comp=Z,2.1nm,0.8s,baz=99,slow=19,SNR=2.8
CMIG LR LR 18 25 01.0
comp=Z,4µm,19.9s,baz=114,slow=39
comp=Z,2.1nm,0.8s
W52A Murphy 30.20 327 IAmb IAmb 18 11 30.4
comp=Z,81nm,1.1s
BLA Blacksburg 30.21 334 IAmb IAmb 18 11 31.4
comp=Z,104nm,1.1s
U54A Nelsons Funny 30.27 332 IAmb IAmb 18 11 31.0
comp=Z,78nm,1.1s
GO01 Chusmiza 30.34 189 IAmb IAmb 18 11 37.0
comp=Z,170nm,1.4s
PB11 IPOC Station P 30.50 190 IAmb IAmb 18 11 49.0
comp=Z,82nm,0.9s
TKL Tuckaleechee C 30.55 328 LR LR 18 24 13.6
comp=Z,2µm,21.0s,baz=156,slow=37
BDFB Brasilia 30.69 148 P 18 11 31.5 -0.8
BDFB Brasilia 30.69 148 P **P 18 11 33.2 +1.0**
comp=Z,30nm,0.8s,baz=326,slow=8.3,SNR=18
BDFB S **S 18 16 41.3 +6.0**
comp=Z,9.3nm,1.0s,baz=36,slow=19,SNR=1.3
BDFB LR LR 18 24 10.8
comp=Z,5µm,19.6s,baz=317,slow=37
comp=Z,30nm,0.8s
BDFB Brasilia 30.69 148 P **P 18 11 31.5 -0.8**
BDFB pmax pmax
comp=Z,55nm,1.0s
Y49A Blount Mountai 30.71 323 IAmb IAmb 18 11 34.9
comp=Z,71nm,1.2s
W50A Signal Mountai 31.04 326 IAmb IAmb 18 11 38.0
comp=Z,63nm,1.0s
HMBC Humberstone 31.04 190 IAmb IAmb 18 11 47.6
comp=Z,58nm,1.0s
S54A Dingess, Beckl 31.09 334 IAmb IAmb 18 11 38.4
comp=Z,75nm,1.1s
TZTN Tazewell 31.12 329 IAmb IAmb 18 11 38.5
comp=Z,122nm,1.1s
Z47A Carrollton 31.29 320 IAmb IAmb 18 11 40.0
comp=Z,103nm,1.2s
Q56A Snyder Ridge, 31.29 338 IAmb IAmb 18 11 40.5
comp=Z,92nm,1.4s
SWET Sewanee 31.39 325 IAmb IAmb 18 11 41.1
comp=Z,102nm,1.1s
M65A Busby, Falmout 31.40 351 P **P 18 11 40.6 +2.4**
baz=168
M63A Gales Ferry 31.49 349 IAmb IAmb 18 11 54.2
comp=Z,143nm,1.7s
X48A Hartselle 31.50 323 IAmb IAmb 18 11 41.8
comp=Z,93nm,1.2s
PB01 IPOC Station P 31.73 189 IAmb IAmb 18 11 54.2
comp=Z,62nm,1.0s
Q54A Coxs Mills 31.89 335 IAmb IAmb 18 11 45.8
comp=Z,115nm,1.2s
S51A Beattyville 32.01 331 IAmb IAmb 18 11 46.2
comp=Z,113nm,1.1s
PB02 IPOC Station P 32.06 189 IAmb IAmb 18 12 06.8
comp=Z,78nm,1.0s
MCWV Mont Chateau 32.08 337 IAmb IAmb 18 11 47.5
comp=Z,107nm,1.3s
CLTN Cedars of Leba 32.25 326 IAmb IAmb 18 11 48.6
comp=Z,92nm,1.1s
SSPA Standing Stone 32.26 341 P **P 18 11 46.0 +0.2**
V48A Smith Brothers 32.27 325 IAmb IAmb 18 11 48.9
comp=Z,116nm,1.1s
PB09 IPOC Station P 32.43 188 IAmb IAmb 18 12 01.8
comp=Z,106nm,1.0s
HRV Adam Dziewonsk 32.47 350 P **P 18 11 48.3 +0.8**
HRV Adam Dziewonsk 32.47 350 P **P 18 11 48.3 +0.8**
HRV pmax pmax
comp=Z,62nm,1.5s
PLAL Pickwick Lake 32.48 322 IAmb IAmb 18 11 50.3
comp=Z,63nm,1.1s
P53A Whipple 32.54 335 IAmb IAmb 18 11 51.1
comp=Z,83nm,1.2s
O54A Avella 32.74 337 IAmb IAmb 18 11 52.9
comp=Z,133nm,1.3s
PB03 IPOC Station P 32.76 189 IAmb IAmb 18 12 03.3
comp=Z,56nm,1.0s
RCBR Riachuelo 32.78 118 P 18 11 50.5 -0.2
RCBR IAmb IAmb 18 11 56.7
comp=Z,88nm,0.9s
RCBR Riachuelo 32.78 118 LR LR 18 26 06.6
comp=Z,742nm,19.0s,baz=318,slow=38
RCBR Riachuelo 32.78 118 P **P 18 11 50.5 -0.2**
RCBR pmax pmax
comp=Z,88nm,0.9s
P52A Corning 32.98 335 IAmb IAmb 18 11 54.6
comp=Z,107nm,1.1s
O53A New Philadelph 33.12 336 IAmb IAmb 18 11 56.0
comp=Z,66nm,1.2s
WVT Waverly 33.13 324 P 18 11 53.6 +0.2
WVT IAmb IAmb 18 11 55.4
comp=Z,76nm,1.1s
WVT Waverly 33.13 324 P **P 18 11 53.6 +0.2**
WVT pmax pmax
comp=Z,76nm,1.1s
BINY Binghamton 33.14 344 IAmb IAmb 18 11 57.4
comp=Z,115nm,1.4s
P51A Williamsport 33.25 333 IAmb IAmb 18 11 57.7
comp=Z,140nm,1.5s
PAMR Moraine State 33.29 338 IAmb IAmb 18 11 57.9
comp=Z,98nm,1.3s
R49A Shelbyville 33.29 330 IAmb IAmb 18 11 57.5
comp=Z,58nm,1.1s
PB06 IPOC Station P 33.38 189 IAmb IAmb 18 12 08.7
comp=Z,56nm,0.8s
PAOC Oil Creek Stat 33.65 339 IAmb IAmb 18 12 01.5
comp=Z,118nm,1.8s
K57A Scipio Center 33.77 344 IAmb IAmb 18 12 13.8
comp=Z,136nm,1.7s
WCI Wyandotte Cave 33.81 328 P 18 12 00.4 +1.0
WCI Wyandotte Cave 33.81 328 P **P 18 12 00.4 +1.0**
WCI pmax pmax
comp=Z,196nm,1.0s
I63A Otisfield 33.83 352 IAmb IAmb 18 12 03.0
comp=Z,111nm,1.3s
PMNB Patos De Minas 33.92 148 *eP* **P 18 12 01.0 +0.4**
N51A Ashland 34.16 336 IAmb IAmb 18 12 05.4
comp=Z,139nm,1.2s
MMNY Mt. Morris Dam 34.17 342 IAmb IAmb 18 12 04.9
comp=Z,137nm,1.8s
EMMW East Machias 34.17 356 IAmb IAmb 18 12 05.6
comp=Z,114nm,1.3s
WVL Waterville 34.23 353 IAmb IAmb 18 12 06.2
comp=Z,84nm,1.2s
ERPA Erie 34.29 339 IAmb IAmb 18 12 06.0
comp=Z,69nm,1.3s
P48A Milroy 34.33 331 IAmb IAmb 18 12 05.8
comp=Z,126nm,1.2s
H62A Milan 34.43 352 IAmb IAmb 18 12 08.3
comp=Z,94nm,1.4s
PCMB Pacaembu 34.46 158 *eP* **P 18 12 06.8 +1.6**
NBAN Anadia - AL 34.50 125 *eP* **P 18 12 05.0 -0.6**
AMBA Amambai (Brazi 34.51 164 *eP* **P 18 12 06.0 +0.5**
AZAP Zapla 34.52 181 *eP* **P 18 12 04.3 -1.6**
GGN Saint George 34.55 357 IAmb IAmb 18 12 08.9
comp=Z,89nm,1.1s
G65A Princeton 34.67 356 IAmb IAmb 18 12 10.2
comp=Z,110nm,1.3s
O48B Farmland 34.83 332 IAmb IAmb 18 12 10.3
comp=Z,74nm,1.1s

GBN Guysborough 34.87 4 P 18 12 09.4 +1.0
N49A Columbus Grove 34.92 334 IAmb IAmb 18 12 11.8
comp=Z,64nm,1.1s
CGM3 Cape Girardeau 34.99 324 IAmb IAmb 18 12 11.5
comp=Z,143nm,1.1s
HKT Hockley 35.01 308 P 18 12 10.6 +0.9
HKT Hockley 35.01 308 *i* P **P 18 12 11.4 +1.7**
HKT pmax pmax
comp=Z,165nm,1.8s
SLA San Lorenzo 35.02 182 *eP* **P 18 12 09.4 -0.8**
TRCB Terra Rica 35.08 161 *eP* **P 18 12 11.5 +0.9**
LCAR Lake Charles 35.08 321 IAmb IAmb 18 12 12.7
comp=Z,103nm,1.4s
BB19B Bebedouro 35.09 153 *eP* **P 18 12 10.2 -0.3**
PBMO Poplar Bluff 35.10 322 IAmb IAmb 18 12 12.4
comp=Z,110nm,1.1s
LMN Caledonia Moun 35.23 360 IAmb IAmb 18 12 14.5
comp=Z,93nm,1.2s
DIAM Diamantina, MG 35.24 144 *eP* **P 18 12 12.5 +0.4**
WHAR Wooly Hollow 35.32 319 IAmb IAmb 18 12 14.6
comp=Z,81nm,1.1s
F64A Sherman 35.39 355 IAmb IAmb 18 12 15.8
comp=Z,80nm,1.2s
FCAR Ozark Folk Cen 35.58 320 IAmb IAmb 18 12 16.5
comp=Z,78nm,1.1s
CMC01 Camacan, BA 35.68 136 *eP* **P 18 12 15.4 -0.4**
DELO Deloro Mine 35.73 344 IAmb IAmb 18 12 30.7
comp=Z,136nm,1.9s
GO02 Mina Guanaco 35.80 188 IAmb IAmb 18 12 21.0
comp=Z,55nm,0.9s
SFIN Lafyette 35.85 330 IAmb IAmb 18 12 19.4
comp=Z,151nm,1.2s
SJPY San Joaquin 36.23 167 *eP* **P 18 12 20.6 +0.3**
SLM Saint Louis 36.25 325 IAmb IAmb 18 12 22.0
comp=Z,127nm,1.2s
GUA01 Guaratinga, BA 36.35 137 *eP* **P 18 12 21.9 +0.4**
SADO Sadowa 36.40 342 LR LR 18 28 37.8
comp=Z,23µm,18.3s,baz=160,slow=38
FSA Cafayete 36.42 182 *eP* **P 18 12 20.9 -1.3**
CCM Cathedral Cave 36.43 323 P 18 12 21.9 -0.1
CCM IAmb IAmb 18 12 23.7
comp=Z,125nm,1.2s
CCM Cathedral Cave 36.43 323 P **P 18 12 21.9 -0.1**
CCM pmax pmax
comp=Z,125nm,1.2s
MGMO Mountain Grove 36.46 321 IAmb IAmb 18 12 24.4
comp=Z,156nm,1.2s
D62A Allapoint, All 36.66 355 IAmb IAmb 18 12 26.8
comp=Z,127nm,1.1s
FRTB Fartura 36.68 157 *eP* **P 18 12 25.4 +1.2**
435B Jarrell 36.73 308 IAmb IAmb 18 12 27.5
comp=Z,159nm,1.2s
BSCB Bom Sucesso 36.83 148 *eP* **P 18 12 26.6 +1.0**
I49A Point Hope 36.90 338 IAmb IAmb 18 12 28.2
comp=Z,178nm,1.1s
HHAR Hobbs 36.98 319 IAmb IAmb 18 12 28.5
comp=Z,77nm,1.1s
SJMB Sao Joao De Ma 37.04 141 *eP* **P 18 12 28.1 +0.8**
PTGB Pitanga 37.05 161 *eP* **P 18 12 28.3 +0.9**
J47A Sunmer 37.09 335 IAmb IAmb 18 12 29.9
comp=Z,160nm,1.0s
WHTX Lake Whitney, 37.18 310 IAmb IAmb 18 12 30.9
comp=Z,137nm,1.3s
LMQ La Malbaie 37.25 353 IAmb IAmb 18 12 33.1
comp=Z,153nm,1.2s
CPUP Villa Florida 37.27 169 P **P 18 12 28.9 -0.2**
comp=Z,14nm,0.9s,baz=310,slow=7.9,SNR=36
CPUP PcP **PcP 18 14 48.4 -0.4**
comp=Z,1.8nm,1.0s,baz=301,slow=3.7,SNR=3.6
CPUP S **S 18 18 19.1 +2.2**
comp=Z,0.7nm,0.9s,baz=346,slow=19,SNR=1.5
CPUP LR LR 18 30 12.5
comp=Z,232nm,21.0s,baz=208,slow=40
comp=Z,14nm,0.9s
CPUP Villa Florida 37.27 169 *eP* **P 18 12 29.0 -0.2**
HQIL Hanson Quary C 37.31 331 IAmb IAmb 18 12 31.9
comp=Z,138nm,1.2s
FW13 Cleburne 37.33 311 IAmb IAmb 18 12 32.2
comp=Z,114nm,1.1s
VAO Valinhos 37.47 153 P 18 12 30.4 -0.6
VAO IAmb IAmb 18 12 38.5
comp=Z,116nm,1.4s
VAO Valinhos 37.47 153 *eP* **P 18 12 32.7 +1.7**
HNDO Hondo 37.55 305 IAmb IAmb 18 12 34.3
comp=Z,162nm,1.4s
Z35A Perchaven, San 37.67 312 IAmb IAmb 18 12 35.1
comp=Z,210nm,1.4s
FW06 Azle 37.72 311 IAmb IAmb 18 12 35.7
comp=Z,244nm,1.6s
LDAQ Lac Daran 37.77 353 IAmb IAmb 18 12 36.1
comp=Z,86nm,1.1s
SPB Sao Paulo 37.78 154 P 18 12 33.0 -0.5
SPB IAmb IAmb 18 13 28.2
comp=Z,92nm,0.9s
SPB Sao Paulo 37.78 154 *eP* **P 18 12 35.0 +1.5**
LOOK Love County 37.94 313 IAmb IAmb 18 12 37.3
comp=Z,78nm,1.1s
RIB01 Linhares ES 37.98 141 *eP* **P 18 12 37.0 +1.7**
TUL3 Leonard 37.99 317 IAmb IAmb 18 12 36.8
comp=Z,104nm,1.1s
BRDY Brady 38.04 308 IAmb IAmb 18 12 43.1
comp=Z,156nm,1.0s
PLPT Palo Pinto 38.20 311 IAmb IAmb 18 12 39.4
comp=Z,154nm,1.1s
JCT Junction City 38.34 306 IAmb IAmb 18 12 40.8
comp=Z,137nm,1.4s
L42A Oliver, Polo 38.35 329 IAmb IAmb 18 12 39.9
comp=Z,196nm,1.1s
PARB Paraibuna 38.38 151 *eP* **P 18 12 40.1 +1.4**
PET01 Itanhaem-SP 38.46 154 *eP* **P 18 12 40.7 +1.4**
VAS01 Vassouras-RJ 38.58 148 *eP* **P 18 12 42.7 +2.4**
DRIO Del Rio 38.59 304 IAmb IAmb 18 12 43.6
comp=Z,205nm,1.6s
SLP01 Ubatuba-SP 38.59 151 *eP* **P 18 12 39.7 -0.8**
CYA Choya 38.74 182 *eP* **P 18 12 40.5 -1.1**
FNO Franklin 38.75 315 IAmb IAmb 18 12 43.1
comp=Z,127nm,1.2s
MAN01 Angra dos Reis 38.79 149 *eP* **P 18 12 44.1 +2.0**
P38A Dawn 38.81 323 IAmb IAmb 18 12 43.5
comp=Z,134nm,1.2s
ICQ Pointe Anglais 38.96 357 IAmb IAmb 18 12 45.6
comp=Z,108nm,1.0s
DUB01 Friburgo-RJ 38.99 146 *eP* **P 18 12 44.8 +1.0**
OK029 Liberty Lake 39.07 315 IAmb IAmb 18 12 45.9
comp=Z,161nm,1.3s
ABTX Abilene, Hawle 39.12 310 IAmb IAmb 18 12 47.0
comp=Z,150nm,1.3s
VCA Vinchina 39.17 185 *eP* **P 18 12 45.0 -0.3**
CAM01 Campos-RJ 39.18 145 *eP* **P 18 12 47.0 +1.6**
L40A Anamosa 39.19 328 IAmb IAmb 18 12 47.0
comp=Z,123nm,0.9s
H43A Windswept, Lux 39.34 334 IAmb IAmb 18 12 48.6
comp=Z,168nm,1.2s
ITAB Concordia 39.39 162 *eP* **P 18 12 48.4 +1.4**
E46A Sault Ste Mari 39.52 338 IAmb IAmb 18 12 50.4
comp=Z,133nm,1.0s
LCO Las Campanas 39.74 188 P 18 12 48.1 -2.0
LCO Las Campanas 39.74 188 P **P 18 12 48.2 -2.0**
LCO pmax pmax
comp=Z,66nm,1.0s
ACLC CERRO LA CRUZ 39.77 183 *eP* **P 18 12 48.8 -1.6**
APMT Aspermont 39.78 310 IAmb IAmb 18 12 52.6
comp=Z,174nm,1.3s
SAND Sanderson 40.00 304 IAmb IAmb 18 12 55.0
comp=Z,138nm,1.4s
SCIA State Center 40.15 326 IAmb IAmb 18 12 55.0
comp=Z,179nm,1.1s
I40A Norwalk 40.22 330 IAmb IAmb 18 12 55.2
comp=Z,133nm,1.1s
OK038 West end E0370 40.31 316 IAmb IAmb 18 13 02.2
comp=Z,70nm,0.7s
MAJ01 Sao Joao Batis 40.56 159 *eP* **P 18 12 59.2 +2.4**
APLL PUNTA DE LOS L 40.71 183 *eP* **P 18 12 56.9 -1.1**
POST Post 40.72 309 IAmb IAmb 18 13 00.5
comp=Z,169nm,1.1s
N35A Tabor 40.84 323 IAmb IAmb 18 13 00.3
comp=Z,104nm,1.0s
GO04 Tololo Observa 40.89 188 IAmb IAmb 18 13 07.0
comp=Z,93nm,1.1s
MNHN Monahans 41.01 306 IAmb IAmb 18 13 04.2
comp=Z,184nm,1.8s
AVFE Valle Fertil 41.02 184 *eP* **P 18 12 59.8 -0.8**
TXAR Lajitas Array 41.05 303 P 18 13 01.8 +0.8
TXAR Lajitas Array 41.05 303 P **P 18 13 02.6 +1.6**
comp=Z,10nm,0.9s,baz=102,slow=7.7,SNR=66
TXAR PcP **PcP 18 15 01.5 +0.6**
comp=Z,2.2nm,0.9s,baz=109,slow=4.5,SNR=1.4
TXAR S **S 18 19 17.4 +3.3**
comp=Z,0.4nm,0.8s,baz=98,slow=10,SNR=1.2
TXAR LR LR 18 33 28.5
comp=Z,190nm,19.8s,baz=112,slow=41
comp=Z,10nm,0.9s
TX31 Lajitas Ar. Si 41.05 303 IAmb IAmb 18 13 04.4
comp=Z,244nm,1.9s
ACCO Cerro Coronel 41.09 186 *eP* **P 18 13 01.1 -0.4**
R32A Long Quarter, 41.32 318 IAmb IAmb 18 13 04.7
comp=Z,189nm,1.4s
ALPN Alpine 41.37 304 IAmb IAmb 18 13 07.4
comp=Z,193nm,1.7s
CNLB Canela 41.72 162 *eP* **P 18 13 08.0 +1.7**
PSAL Palomas, Salto 41.88 171 *eP* **P 18 13 08.5 +1.0**
L34A Svendsen Farm, 41.97 324 IAmb IAmb 18 13 09.6
comp=Z,148nm,1.2s
CFA Coronel Fontan 42.02 185 P **P 18 13 07.5 -1.3**
comp=Z,18nm,0.8s,baz=3.1,slow=9.1,SNR=19
CFA LR LR 18 34 01.0
comp=Z,918nm,19.2s,baz=14,slow=41
comp=Z,18nm,0.8s
CPSB Cacapava Do Su 42.04 166 *eP* **P 18 13 08.8 -0.1**
CBKS Cedar Bluff 42.21 318 IAmb IAmb 18 13 11.9
comp=Z,148nm,1.1s
RTLS Leoncito 42.31 186 *eP* **P 18 13 11.1 -0.4**
VHRN Van Horn 42.60 304 IAmb IAmb 18 13 18.1
comp=Z,179nm,1.5s
ACAN Cantantal 42.61 183 *eP* **P 18 13 12.7 -0.9**
BGNE Belgrade 42.67 322 IAmb IAmb 18 13 15.3
comp=Z,159nm,1.1s
AUSP Uspallata 42.74 186 *eP* **P 18 13 14.7 -0.2**
ASAL Salagasta 43.05 185 *eP* **P 18 13 16.4 -0.7**
RTBA Rita Blanca 43.10 313 IAmb IAmb 18 13 19.4
comp=Z,144nm,1.4s
PLTB Pedras Altas 43.31 166 *eP* **P 18 13 20.1 +1.0**
TBO Thunder Bay 43.35 336 IAmb IAmb 18 13 21.3
comp=Z,124nm,1.2s
VA03 San Esteban 43.41 187 IAmb IAmb 18 13 33.3
comp=Z,74nm,0.9s
AAGR Agrelo 43.54 185 *eP* **P 18 13 20.9 -0.2**
PEL Peldehue 43.80 187 IAmb IAmb 18 13 58.8
comp=Z,95nm,1.3s
MT02 Curacav 43.98 188 IAmb IAmb 18 13 36.8
comp=Z,87nm,1.2s
MT05 Renca 44.05 188 IAmb IAmb 18 13 28.8
comp=Z,68nm,0.8s
MT03 Universidad Ad 44.12 187 IAmb IAmb 18 13 33.6
comp=Z,119nm,1.1s
EPT El Paso 44.16 305 IAmb IAmb 18 13 28.6
comp=Z,106nm,1.6s
KSCO Kaye Shedlock' 44.25 316 IAmb IAmb 18 13 28.7
comp=Z,142nm,1.3s
SCHQ Schefferville 44.25 358 P 18 13 26.7 +0.2
SCHQ Schefferville 44.25 358 P **P 18 13 27.7 +1.1**
comp=Z,785nm,0.9s,baz=179,slow=11,SNR=33
SCHQ LR LR 18 29 26.4
comp=Z,7µm,20.4s,baz=176,slow=33
K30B Basset 44.30 323 P 18 13 26.3 -0.8
K30B IAmb IAmb 18 13 27.9
comp=Z,116nm,1.1s
MT13 San Alfonso 44.34 187 P **P 18 13 25.6 -2.0**
MT13 IAmb IAmb 18 13 41.2
comp=Z,196nm,1.6s
BO04 La Punta 44.62 187 P **P 18 13 28.2 -1.6**
BO04 IAmb IAmb 18 13 33.7
comp=Z,44nm,0.8s
OGNE Ogallala 44.84 319 IAmb IAmb 18 13 32.6
comp=Z,95nm,1.1s
SLBS Sierra La Lagu 45.17 293 P 18 13 34.8 +0.4
ANMO Albuquerque 45.24 309 P 18 13 35.5 +0.5
ANMO IAmb IAmb 18 13 38.3
comp=Z,66nm,1.3s
ANMO Albuquerque 45.24 309 LR LR 18 34 39.3
comp=Z,1µm,20.5s,baz=216,slow=39
ANMO Albuquerque 45.24 309 *ce* P **P 18 13 36.4 +1.5**
ANMO pmax pmax
comp=Z,66nm,1.4s
Y22D IRIS PASSCAL I 45.27 308 P **P 18 13 37.0 +1.8**
baz=111
SDCO Great Sand Dun 45.66 313 IAmb IAmb 18 13 41.0
comp=Z,110nm,1.3s
AGMN Agassiz Nation 45.92 331 IAmb IAmb 18 13 40.7
comp=Z,58nm,1.1s
EPLO Experimental L 45.95 334 IAmb IAmb 18 13 41.0
comp=Z,94nm,1.1s
319A Douglas 46.29 304 IAmb IAmb 18 13 52.7
comp=Z,68nm,1.1s
S22A 4UR Ranch, Cre 46.62 313 IAmb IAmb 18 13 49.0
comp=Z,130nm,1.6s
ISCO Idaho Springs 46.66 316 IAmb IAmb 18 13 48.5
comp=Z,63nm,1.2s
HSIG 47.08 300 IAmb IAmb 18 13 52.0
comp=Z,44nm,1.1s
ULM Lac du Bonnet 47.31 333 P **P 18 13 50.3 -0.4**
comp=Z,46nm,1.0s,baz=138,slow=10,SNR=27
ULM LR LR 18 32 39.0
comp=Z,793nm,22.0s,baz=140,slow=35
comp=Z,46nm,1.0s
BI02 San Fabin de 47.35 187 IAmb IAmb 18 13 58.3
comp=Z,34nm,0.9s
KUQ Kuujjuuaa 47.59 357 IAmb IAmb 18 13 55.1
comp=Z,40nm,1.1s
RSSD Black Hills 47.78 322 P 18 13 54.4 -0.4
RSSD Black Hills 47.78 322 P **P 18 13 54.4 -0.4**
RSSD pmax pmax
comp=Z,27nm,1.2s
TUC Tucson 47.78 304 P **P 18 13 54.8 0.0**
TUC Tucson 47.78 304 P **P 18 13 54.8 0.0**
TRQA Tornquist 48.36 177 P 18 13 58.6 -0.4
TRQA Tornquist 48.36 177 P **P 18 13 58.7 -0.4**
TRQA pmax pmax
comp=Z,39nm,1.1s
K22A Casper 48.60 319 IAmb IAmb 18 14 02.6
comp=Z,56nm,0.9s
PMOZ Porto Moniz, M 48.76 55 *eP* **P 18 14 04.2 +1.8**
PMOZ *i* IAmb IAmb 18 14 07.8
comp=Z,279nm,1.0s
PMOZ *e*S S 18 20 51.5 -14
PMOZ *e*LQ LQ 18 23 39.9
PMOZ *e*LR LR 18 27 54.0
PMOZ *i* IAMs_20 IAMs_20 18 33 53.0
comp=Z,619nm,20.0s
PMAR Madeira 48.97 56 *eP* **P 18 14 05.3 +1.2**
PMAR *i* IAmb IAmb 18 14 12.4
comp=Z,257nm,1.4s
PIX Pinacate 49.78 303 IAmb IAmb 18 14 13.0
comp=Z,114nm,1.5s
Y14A Wickenburg 50.02 306 IAmb IAmb 18 14 21.3
comp=Z,174nm,1.9s
U15A North Rim 50.20 309 IAmb IAmb 18 14 17.6
comp=Z,129nm,1.6s
Q16A Castle Valley 50.22 312 IAmb IAmb 18 14 24.4
comp=Z,84nm,1.5s
TMUT Trail Mountain 50.38 313 IAmb IAmb 18 14 18.0
comp=Z,131nm,1.4s
PKCU Pink Cliffs 50.55 310 IAmb IAmb 18 15 09.0
comp=Z,109nm,1.5s
PD31 Pinedale Array 50.64 318 IAmb IAmb 18 14 18.3
comp=Z,112nm,1.3s
PDAR Pinedale Array 50.64 318 P **P 18 14 15.5 -1.2**
PDAR Pinedale Array 50.64 318 P **P 18 14 16.6 -0.1**
comp=Z,34nm,1.1s,baz=113,slow=4.4,SNR=141
PDAR S **S 18 21 38.4 +6.3**
comp=Z,0.2nm,0.3s,baz=72,slow=20,SNR=1.2
PDAR LR LR 18 37 43.0
comp=Z,1µm,20.4s,baz=104,slow=38
comp=Z,34nm,1.1s
BW06 Boulder Array 50.64 318 IAmb IAmb 18 14 18.3
comp=Z,112nm,1.3s
MTPU Mount Pierson 50.66 311 IAmb IAmb 18 14 20.7
comp=Z,124nm,1.6s
KNB Kanab 50.80 310 IAmb IAmb 18 14 21.6
comp=Z,110nm,1.3s
MPU Maple Canyon 50.96 314 IAmb IAmb 18 14 21.9
comp=Z,98nm,1.4s
TCRU Three Creeks R 51.04 312 IAmb IAmb 18 14 23.4
comp=Z,66nm,1.5s
W13A Hualapai Mount 51.05 307 IAmb IAmb 18 14 23.7
comp=Z,66nm,1.3s
LCMT Little Creek M 51.12 309 IAmb IAmb 18 14 23.8
comp=Z,107nm,1.8s
SZCU Shurtz Canyon 51.18 310 IAmb IAmb 18 14 24.8
comp=Z,95nm,1.6s
TCUT Toone Canyon 51.22 315 IAmb IAmb 18 14 23.3
comp=Z,144nm,1.4s
GLA Glamis 51.27 304 IAmb IAmb 18 14 24.6

comp=Z,71nm,1.2s
PLCA Paso Flores 51.28 186 lAmb lAmb 18 14 29.5
comp=Z,82nm,1.1s
PLCA Paso Flores 51.28 186 P **P** **18 14 20.6 -0.7**
PLCA LR LR 18 37 00.1
comp=Z,30nm,0.8s,baz=5.0,slow=9.4,SNR=29
comp=Z,2µm,18.2s,baz=7.5,slow=37
PLCA Paso Flores 51.28 186 *e*P **P** **18 14 21.1 -0.2**
CTU Camp Tracy 51.29 314 lAmb lAmb 18 14 32.0
comp=Z,69nm,1.0s
RLMT Red Lodge 51.51 320 lAmb lAmb 18 14 25.1
comp=Z,112nm,1.2s
HWUT Hardware Ranch 51.52 315 lAmb lAmb 18 14 25.2
comp=Z,104nm,1.2s
AHID Auburn Hatcher 51.67 317 lAmb lAmb 18 14 26.0
comp=Z,92nm,1.3s
VTX Valle De La Tr 51.68 302 lAmb lAmb 18 14 27.9
comp=Z,62nm,1.1s
LOHW Long Hollow 51.70 318 lAmb lAmb 18 14 26.5
comp=Z,88nm,1.4s
SNOW Snow King Moun 51.73 318 lAmb lAmb 18 14 35.7
comp=Z,119nm,1.4s
IRM Iron Mountain 51.80 305 lAmb lAmb 18 14 28.8
comp=Z,86nm,1.2s
DUG Dugway, Tooele 51.87 313 lAmb lAmb 18 14 28.7
comp=Z,127nm,1.4s
TPAW Teton Pass 51.87 318 lAmb lAmb 18 14 28.0
comp=Z,98nm,1.6s
BC3 Big Chuckawall 51.92 305 lAmb lAmb 18 14 35.4
comp=Z,187nm,2.0s
ESJX Sierra Juarez 51.95 302 lAmb lAmb 18 14 30.0
comp=Z,72nm,1.4s
V12A Nelson 51.98 307 lAmb lAmb 18 14 30.2
comp=Z,111nm,1.3s
PSUT Pine Spring 52.06 311 lAmb lAmb 18 14 38.9
comp=Z,70nm,1.1s
YUH Yuha Desert 52.07 303 lAmb lAmb 18 14 36.6
comp=Z,139nm,1.7s
DANC Danby, Needles 52.11 306 lAmb lAmb 18 14 31.1
comp=Z,127nm,1.3s
YFT Old Faithful 52.21 319 lAmb lAmb 18 14 41.1
comp=Z,81nm,1.4s
YMR Madison River 52.39 319 lAmb lAmb 18 14 40.9
comp=Z,65nm,1.1s
BELC Belle Mtn. Jos 52.44 305 lAmb lAmb 18 14 39.5
comp=Z,106nm,1.8s
MTPC Mountain Pass 52.46 307 lAmb lAmb 18 14 39.7
comp=Z,119nm,1.8s
NRS Narsarsuaq 52.48 12 P **P** **18 14 30.2 +0.4**
NRS Narsarsuaq 52.48 12 P **P** **18 14 30.2 +0.4**
NRS pmax pmax
comp=Z,143nm,1.0s
SPR3 Spring Creek 3 52.56 311 lAmb lAmb 18 14 34.6
comp=Z,134nm,1.3s
CBX Cerro Bola 52.61 303 lAmb lAmb 18 14 34.9
comp=Z,147nm,1.3s
PFO Pinyon Flats O 52.73 304 P **P** **18 14 32.5 +0.1**
PFO Pinyon Flats O 52.73 304 LR LR 18 41 29.2
comp=Z,967nm,18.1s,baz=120,slow=41
PFO Pinyon Flats O 52.73 304 *i* P **P** **18 14 34.2 +1.9**
PFO pmax pmax
comp=Z,58nm,1.5s
DPP Dos Picos Cty 52.98 303 lAmb lAmb 18 14 37.2
comp=Z,80nm,1.3s
CPE Camp Elliot 53.09 303 lAmb lAmb 18 14 37.9
comp=Z,119nm,1.5s
FCC Fort Churchill 53.11 341 lAmb lAmb 18 14 35.6
comp=Z,100nm,1.1s
FFC Flin Flon 53.11 334 P **P** **18 14 34.2 -0.4**
FFC Flin Flon 53.11 334 P **P** **18 14 34.2 -0.4**
FFC pmax pmax
comp=Z,49nm,1.2s
LL01 San Ignacio de 53.12 187 lAmb lAmb 18 14 38.6
comp=Z,71nm,0.8s
SHOC Shoshone, Teco 53.14 307 lAmb lAmb 18 14 38.7
comp=Z,75nm,1.2s
EGMT Eagleton 53.20 323 lAmb lAmb 18 14 37.2
comp=Z,97nm,1.2s
BOZ Bozeman (W) 53.22 320 lAmb lAmb 18 14 37.8
comp=Z,106nm,1.4s
FRB Frobisher Bay 53.24 358 LR LR 18 35 29.9
comp=Z,1µm,21.8s,baz=170,slow=34
R11B Troy Canyon, C 53.29 310 lAmb lAmb 18 14 40.0
comp=Z,89nm,1.6s
TPNV Topopah Spring 53.40 308 lAmb lAmb 18 14 41.0
comp=Z,50nm,1.1s
GSC Goldstone, Bar 53.41 306 lAmb lAmb 18 14 40.8
comp=Z,131nm,1.6s
ELS Elsinore Mount 53.52 304 lAmb lAmb 18 14 41.3
comp=Z,71nm,1.4s
QSM Queen of Sheba 53.62 307 lAmb lAmb 18 14 42.0
comp=Z,59nm,1.3s
DLMT Dillon 53.73 319 lAmb lAmb 18 14 41.8
comp=Z,133nm,1.4s
ELK Elko 53.79 313 P **P** **18 14 40.9 +0.7**
comp=Z,11nm,0.8s,baz=99,slow=5.5,SNR=20
ELK S **S** **18 22 16.5 +1.2**
comp=Z,0.2nm,0.3s,baz=107,slow=20,SNR=1.2
ELK LR LR 18 38 51.7
comp=Z,1µm,21.8s,baz=114,slow=37
comp=Z,11nm,0.8s
LL02 Futaleuf 53.85 187 lAmb lAmb 18 14 49.8
comp=Z,72nm,0.9s
CCCA Chr Cany lake 53.90 306 lAmb lAmb 18 14 46.6
comp=Z,95nm,1.1s
LRMC Laurel Mtn Rad 54.14 306 lAmb lAmb 18 14 46.0
comp=Z,90nm,1.3s
MWC Mount Wilson 54.16 305 lAmb lAmb 18 14 46.0
comp=Z,95nm,1.4s
HLID Hailey 54.21 317 lAmb lAmb 18 14 45.6
comp=Z,78nm,1.3s
PASC Pasadena Art C 54.25 305 lAmb lAmb 18 14 46.4
comp=Z,112nm,1.4s
TPO Tropico Hills 54.44 305 lAmb lAmb 18 14 48.0
comp=Z,119nm,1.4s
TPH Tonopah 54.45 309 lAmb lAmb 18 14 48.1
comp=Z,66nm,1.2s
CWC Cottonwood Cre 54.69 307 lAmb lAmb 18 14 54.1
comp=Z,62nm,1.5s
ISA Isabella, Lake 54.81 306 lAmb lAmb 18 14 51.1
comp=Z,101nm,1.9s
DSP Deep Springs 54.83 308 lAmb lAmb 18 14 51.3
comp=Z,79nm,1.3s
TIN Tinemaha, Big 54.95 308 lAmb lAmb 18 14 56.0
comp=Z,40nm,0.9s
MFID Camas Ranch 55.12 316 lAmb lAmb 18 14 51.8
comp=Z,70nm,1.3s
LHV Little Huntoon 55.47 309 lAmb lAmb 18 14 55.6
comp=Z,58nm,1.3s
RYN Ryan 55.58 310 lAmb lAmb 18 14 56.2
comp=Z,122nm,1.7s
WAKR Walker 56.24 309 lAmb lAmb 18 15 01.4
comp=Z,66nm,1.4s
PFVI Vila Bisbo 56.50 52 *e*P P 18 15 04.4 +4.9
PFVI *i* lAmb lAmb 18 15 08.2
comp=Z,121nm,2.3s
PMAFR Mafra 56.58 50 *e*P P 18 15 05.0 +4.9
BMO Blue Mountains 56.61 317 lAmb lAmb 18 15 01.8
comp=Z,97nm,1.4s
LIS Lisbon 56.62 50 *e*P P 18 15 06.2 +5.9
LIS *i* lAmb lAmb 18 15 08.1
comp=Z,185nm,1.5s
PTEO Sao Teotonio 56.67 52 *e*P **P** **18 15 01.4 +0.7**
PTEO *i* lAmb lAmb 18 15 06.6
comp=Z,119nm,1.4s
MORF Marmelete 56.67 52 *e*P **P** **18 15 05.2 +4.4**
MORF *i* lAmb lAmb 18 15 06.8
comp=Z,152nm,1.3s
RAMR Ramagat Ranch 56.71 306 lAmb lAmb 18 15 08.2
comp=Z,83nm,1.1s
PARRA Arraiolos 56.73 50 *e*P P 18 15 07.1 +6.0
PARRA *i* lAmb lAmb 18 15 12.2
comp=Z,127nm,1.5s
WVOR Wild Horse Val 56.74 314 lAmb lAmb 18 15 03.5
comp=Z,75nm,1.2s
J08A Circle Bar Ran 56.91 315 lAmb lAmb 18 15 04.5
comp=Z,100nm,1.7s
BBGB Big Mountain B 57.04 307 lAmb lAmb 18 15 11.0
comp=Z,47nm,1.1s
MESJ Messejana 57.13 52 *e*P P 18 15 09.2 +5.2
MESJ *i* lAmb lAmb 18 15 12.8
comp=Z,83nm,2.0s
SFJD Kangerlussuaq 57.20 6 P **P** **18 15 04.0 +0.1**
SFJD Kangerlussuaq 57.20 6 LR LR 18 38 47.8
comp=Z,861nm,19.5s,baz=198,slow=35
SFJD Kangerlussuaq 57.20 6 P **P** **18 15 04.0 +0.1**
SFJD pmax pmax
comp=Z,277nm,1.9s
SFJD Kangerlussuaq 57.20 6 *i* P **P** **18 15 04.8 +0.9**
SFJD lAmb lAmb 18 15 06.4
comp=Z,76nm,1.2s
PBDV Barranco-do-Ve 57.22 52 *e*P **P** **18 15 07.3 +2.6**
PBDV *i* lAmb lAmb 18 15 14.8
comp=Z,114nm,1.9s
PCVE Castro Verde 57.22 52 *e*P **P** **18 15 09.3 +4.6**
PCVE *i* lAmb lAmb 18 15 13.5
comp=Z,117nm,2.0s
DY2G Dye2 57.26 9 *i* P **P** **18 15 05.6 +0.9**
DY2G lAmb lAmb 18 15 13.0
comp=Z,625nm,1.5s
SCZ Santa Cruz 57.33 307 lAmb lAmb 18 15 08.1
comp=Z,79nm,1.4s
RPN Rapa Nui 57.35 228 LR LR 18 36 15.4
comp=Z,941nm,20.7s,baz=67,slow=32
SAO San Andreas Ge 57.40 307 lAmb lAmb 18 15 08.9
comp=Z,63nm,1.5s
PMTG Montargil 57.41 50 *e*P **P** **18 15 06.3 +0.4**
PMTG *i* lAmb lAmb 18 15 16.3
comp=Z,192nm,1.6s
PVAQ Vaqueiros 57.42 52 P **P** **18 15 03.1 -3.0**
PVAQ Vaqueiros 57.42 52 *e*P **P** **18 15 04.5 -1.5**
PVAQ *i* lAmb lAmb 18 15 15.1
comp=Z,114nm,2.0s
PVAQ *e*S **S** **18 23 10.7 +7.3**
PVAQ *e*LQ LQ 18 30 04.5
PVAQ *e*LR LR 18 32 06.3
PVAQ *i* lAMs_20 lAMs_20 18 40 34.5
comp=Z,754nm,18.0s
PBEJ Beja 57.44 52 *e*P **P** **18 15 07.2 +1.0**
PBEJ *i* lAmb lAmb 18 15 15.8
comp=Z,138nm,1.8s
EVO Evora 57.44 51 *e*P **P** **18 15 10.3 +4.1**
EVO *i* lAmb lAmb 18 15 15.7
comp=Z,122nm,2.1s
PCAS Casmilo, Conde 57.45 49 *e*P **P** **18 15 07.3 +1.1**
PCAS *i* lAmb lAmb 18 15 12.6
comp=Z,142nm,1.5s
COI Coimbra 57.55 49 P **P** **18 15 04.4 -2.5**
COI Coimbra 57.55 49 *e*P **P** **18 15 07.4 +0.5**
COI *i* lAmb lAmb 18 15 13.0
comp=Z,238nm,1.4s
COI Coimbra 57.55 49 P **P** **18 15 04.4 -2.5**
COI pmax pmax
comp=Z,138nm,0.9s
PSARD Sardoal 57.58 50 *e*P **P** **18 15 09.1 +1.8**
PSARD *i* lAmb lAmb 18 15 17.2
comp=Z,89nm,1.5s
LNOR Lincton Mounta 57.61 318 lAmb lAmb 18 15 08.9
comp=Z,76nm,1.3s
ISOG Isortoq, Green 57.72 12 *i* P **P** **18 15 07.6 0.0**
ISOG lAmb lAmb 18 15 13.0
comp=Z,130nm,1.0s
NEW Newport 57.74 321 lAmb lAmb 18 15 09.1
comp=Z,83nm,1.4s
NEW Newport 57.74 321 P **P** **18 15 07.6 -0.6**
comp=Z,28nm,1.1s,baz=122,slow=7.6,SNR=18
NEW LR LR 18 42 41.9
comp=Z,2µm,19.1s,baz=116,slow=39
comp=Z,28nm,1.1s
E09A Wood Farm, Sta 57.74 319 lAmb lAmb 18 15 09.5
comp=Z,60nm,1.4s
PESTR Estremoz 57.84 51 P **P** **18 15 08.4 -0.7**
PESTR Estremoz 57.84 51 *e*P **P** **18 15 13.3 +4.3**
PESTR *i* lAmb lAmb 18 15 17.7
comp=Z,193nm,1.7s
G08A Pilot Rock 57.87 317 lAmb lAmb 18 15 10.8
comp=Z,57nm,1.3s
ORV Oroville 58.06 310 lAmb lAmb 18 15 13.4
comp=Z,78nm,1.5s
PVIS Viseu 58.06 48 *e*P **P** **18 15 10.8 +0.3**
ANGG Ammassalik, Gr 58.06 13 *i* P **P** **18 15 09.1 -0.9**
ANGG lAmb lAmb 18 15 15.5
comp=Z,60nm,0.9s
PBAR Barrancos 58.11 52 *e*P **P** **18 15 11.5 +0.6**
PBAR *i* lAmb lAmb 18 15 19.6
comp=Z,113nm,2.0s
PGAV Gavieira, Arco 58.11 47 *e*P **P** **18 15 10.9 -0.1**
PGAV *i* lAmb lAmb 18 15 16.3
comp=Z,117nm,1.3s
PGAV *e*S **S** **18 23 16.1 +3.5**
PGAV *e*LQ LQ 18 30 12.9
PGAV *e*LR LR 18 32 26.9
PGAV *i* lAMs_20 lAMs_20 18 36 19.5
comp=Z,532nm,22.0s
PMRV Marv??o 58.12 50 *e*P **P** **18 15 14.4 +3.4**
PMRV *i* lAmb lAmb 18 15 19.3
comp=Z,95nm,1.7s
PMRV *e*S S 18 23 22.7 +10
PMRV *e*LQ LQ 18 29 35.3
PMRV *e*LR LR 18 31 59.1
PMRV *i* lAMs_20 lAMs_20 18 40 25.1
comp=Z,686nm,20.0s
PCBR Castelo Branco 58.15 50 *e*P **P** **18 15 11.9 +0.7**
PCBR *i* lAmb lAmb 18 15 16.6
comp=Z,93nm,1.2s
SUTB Sutter Butte 58.20 310 lAmb lAmb 18 15 14.3
comp=Z,104nm,1.3s
PCAB Cabril 58.22 47 *e*P **P** **18 15 12.1 +0.4**
PCAB *i* lAmb lAmb 18 15 18.5
comp=Z,84nm,2.0s
MTE Manteigas 58.24 49 *e*P **P** **18 15 16.0 +4.2**
MTE *i* lAmb lAmb 18 15 19.9
comp=Z,116nm,1.7s
MTE *e*S **S** **18 23 20.5 +6.3**
MTE *e*LQ LQ 18 30 22.8
MTE *e*LR LR 18 32 07.7
MTE *i* lAMs_20 lAMs_20 18 36 23.2
comp=Z,571nm,20.0s
POLO Lamas de Olo 58.30 48 *e*P **P** **18 15 12.9 +0.6**
POLO *i* lAmb lAmb 18 15 17.8
comp=Z,67nm,1.4s
E08A Dider Farm, El 58.33 319 lAmb lAmb 18 15 13.6
comp=Z,65nm,1.4s
PVRL Vila Real 58.33 48 *e*P **P** **18 15 12.8 +0.4**
PVRL *i* lAmb lAmb 18 15 17.7
comp=Z,133nm,1.4s
HATC Hat Creek Radi 58.33 312 lAmb lAmb 18 15 15.0
comp=Z,84nm,1.1s
O03E Paynes Creek 58.46 311 lAmb lAmb 18 15 19.1
comp=Z,110nm,1.5s
HAWA Hanford 58.61 318 lAmb lAmb 18 15 15.8
comp=Z,68nm,1.3s
MNRC McLaughlin Min 58.62 309 lAmb lAmb 18 15 17.8
comp=Z,95nm,1.4s
F07A Phinny Hill Vi 58.70 318 lAmb lAmb 18 15 16.6
comp=Z,37nm,1.1s
MVO Moncorvo 58.80 48 *e*P **P** **18 15 16.3 +0.5**
MVO *i* lAmb lAmb 18 15 24.0
comp=Z,138nm,1.4s
MVO *e*S **S** **18 23 23.8 +2.2**
MVO *e*LQ LQ 18 30 49.7
MVO *e*LR LR 18 32 48.6
MVO *i* lAMs_20 lAMs_20 18 40 48.2
comp=Z,567nm,20.0s
MD01 Midelt array s 59.02 58 P **P** **18 15 16.3 -1.2**
MD31 MD31 59.02 58 lAmb lAmb 18 15 23.6
comp=Z,79nm,1.1s
DBIC Dimbokro 59.04 88 P **P** **18 15 16.1 -1.7**
DBIC lAmb lAmb 18 15 21.9
comp=Z,68nm,1.1s
DBIC Dimbokro 59.04 88 P **P** **18 15 17.1 -0.6**
comp=Z,22nm,0.8s,baz=287,slow=8.6,SNR=12
DBIC S **S** **18 23 23.6 -1.6**
comp=Z,2.9nm,0.8s,baz=284,slow=4.2,SNR=2.1
DBIC LR LR 18 37 49.5
comp=Z,463nm,21.7s,baz=280,slow=33
comp=Z,22nm,0.8s
DBIC Dimbokro 59.04 88 P **P** **18 15 16.1 -1.7**
DBIC pmax pmax
comp=Z,68nm,1.1s
HOPS Hopland Field 59.12 309 lAmb lAmb 18 15 21.4
comp=Z,73nm,1.4s
MDT Midelt 59.14 58 LR LR 18 35 17.8
comp=Z,417nm,20.9s,baz=270,slow=30
B08A Colville Reser 59.15 321 lAmb lAmb 18 15 19.0
comp=Z,65nm,1.4s
PBRG Braganca 59.17 47 *e*P **P** **18 15 18.8 +0.4**
PBRG *i* lAmb lAmb 18 15 25.4
comp=Z,69nm,2.0s
ILULI Ilulissat 59.29 6 P **P** **18 15 19.3 +0.8**
ILULI Ilulissat 59.29 6 P **P** **18 15 19.3 +0.8**
ILULI pmax pmax
comp=Z,170nm,1.3s
ILULI Ilulissat 59.29 6 *i* P **P** **18 15 19.2 +0.8**
ILULI lAmb lAmb 18 15 20.9
comp=Z,161nm,1.3s
YBH Yreka Blue Hor 59.47 312 lAmb lAmb 18 15 25.9
comp=Z,46nm,1.2s
YBH Yreka Blue Hor 59.47 312 S **S** **18 23 37.5 +7.3**
comp=Z,0.1nm,0.8s,baz=166,slow=12,SNR=1.3
YBH LR LR 18 42 15.2
comp=Z,78nm,21.8s,baz=109,slow=37
M02C Callahan 59.49 312 lAmb lAmb 18 15 21.9
comp=Z,71nm,1.4s
BBOR Butler Butte 59.73 314 lAmb lAmb 18 15 23.6
comp=Z,60nm,1.1s
ILON Igloolik, Nuna 59.86 353 lAmb lAmb 18 15 23.6
comp=Z,74nm,1.1s
H04A Detroit Lake 59.87 316 lAmb lAmb 18 15 25.0
comp=Z,71nm,1.2s
KHMM Horse Mountain 60.02 311 lAmb lAmb 18 15 27.4
comp=Z,52nm,1.1s
H04D Lebanon 60.20 316 lAmb lAmb 18 15 26.8
comp=Z,63nm,1.2s
KSXB Camp Six Broad 60.34 312 lAmb lAmb 18 15 28.5
comp=Z,54nm,1.1s
I03D Drain, OR 60.41 314 lAmb lAmb 18 15 34.8
comp=Z,63nm,1.1s
PAB San Pablo 60.45 50 P **P** **18 15 26.5 -0.7**
PAB San Pablo 60.45 50 P **P** **18 15 26.5 -0.7**
PAB pmax pmax
comp=Z,110nm,1.3s
D05A Enumclaw 60.46 319 lAmb lAmb 18 15 28.2
comp=Z,72nm,1.3s
ESDC Sonseca Array 60.76 50 P **P** **18 15 28.1 -1.2**
ESDC lAmb lAmb 18 15 34.7
comp=Z,65nm,0.9s
ESDC Sonseca Array 60.76 50 P **P** **18 15 29.1 -0.2**
comp=Z,56nm,1.0s,baz=260,slow=5.8,SNR=48
ESDC S **S** **18 23 48.3 +1.4**
comp=Z,0.4nm,0.8s,baz=237,slow=23,SNR=1.6
comp=Z,56nm,1.0s
ESBB Sonseca Array 60.77 50 lAmb lAmb 18 15 34.6
comp=Z,59nm,0.9s
SAATT Saattut 60.79 5 *i* P **P** **18 15 29.2 +0.3**
SAATT lAmb lAmb 18 15 36.2
comp=Z,186nm,1.6s
A04D Lummi Island 61.38 320 lAmb lAmb 18 15 33.8
comp=Z,60nm,1.1s
LLLB Lillooet 61.48 322 P **P** **18 15 32.6 -1.3**
NLWA Neilton Lookou 61.74 318 P **P** **18 15 36.0 +0.3**
PGC Sidney 61.83 320 P **P** **18 15 35.0 -1.2**
BORG Borgarnes 61.88 19 LR LR 18 39 42.3
comp=Z,414nm,19.9s,baz=238,slow=33
CLRS Cowichan Lake 62.31 320 P **P** **18 15 39.5 0.0**
CLRS lAmb lAmb 18 15 47.6
comp=Z,55nm,1.1s
POIN Pond Inlet 62.68 356 P **P** **18 15 40.7 -0.8**
POIN lAmb lAmb 18 15 49.0
comp=Z,50nm,1.0s
YKAW1 Yellowknife Wh 62.99 336 lAmb lAmb 18 15 45.0
comp=Z,55nm,1.2s
YKA Yellowknife Ar 63.04 336 P **P** **18 15 43.4 -0.7**
YKA Yellowknife Ar 63.04 336 P **P** **18 15 43.7 -0.4**
comp=Z,55nm,1.0s,baz=121,slow=6.3,SNR=86
YKA LR LR 18 41 34.2
comp=Z,2µm,21.8s,baz=118,slow=35
comp=Z,55nm,1.0s
YKAW3 Yellowknife Wh 63.08 337 lAmb lAmb 18 15 45.7
comp=Z,118nm,1.2s
CBB Campbell River 63.43 321 P **P** **18 15 47.0 0.0**
SUMG Summit 63.97 8 P **P** **18 15 50.1 -0.5**
SUMG Summit 63.97 8 P **P** **18 15 50.1 -0.5**
SUMG pmax pmax
comp=Z,271nm,1.0s
SUMG Summit 63.97 8 *i* P **P** **18 15 51.0 +0.4**
SUMG lAmb lAmb 18 15 58.4
comp=Z,335nm,1.1s
KULLO Kullorsuaq 64.18 2 *i* P **P** **18 15 54.6 +3.2**
KULLO lAmb lAmb 18 15 58.2
comp=Z,208nm,1.5s
TORD Torodi Ar. Bea 64.69 80 P **P** **18 15 53.5 -2.4**
TORD lAmb lAmb 18 15 59.9
comp=Z,45nm,1.1s
TORD Torodi Ar. Bea 64.69 80 P **P** **18 15 54.0 -1.8**
comp=Z,14nm,0.9s,baz=286,slow=5.5,SNR=65
TORD S **S** **18 24 34.8 -2.1**
comp=Z,1.5nm,1.1s,baz=280,slow=8.3,SNR=4.3
TORD LR LR 18 44 04.4
comp=Z,1µm,18.9s,baz=268,slow=36
TORD PKP2ab 18 44 51.5
comp=Z,0.8nm,1.0s,baz=94,slow=4.1,SNR=4.2
comp=Z,14nm,0.9s
CEST Esterri de Car 65.15 48 P **P** **18 15 55.3 -3.3**
CEST lAmb lAmb 18 16 04.8
comp=Z,61nm,1.3s
USHA Ushuaia 65.17 183 LR LR 18 45 01.3
comp=Z,3µm,18.6s,baz=358,slow=37
EKA Eskdalemuir Ar 65.29 34 P **P** **18 15 59.6 +0.6**
comp=Z,1.7nm,0.8s,baz=253,slow=5.5,SNR=5.9
comp=Z,1.7nm,0.8s
BBB Bella Bella 65.67 323 P **P** **18 16 02.6 +1.1**
comp=Z,44nm,1.1s,baz=112,slow=5.4,SNR=28
BBB LR LR 18 47 35.1
comp=Z,1µm,19.1s,baz=124,slow=39
comp=Z,44nm,1.1s
KOTAN Kotaneelee Air 66.03 332 P **P** **18 16 05.0 +1.3**
baz=112,SNR=42
TOAD Toad River Com 66.13 330 P **P** **18 16 04.9 +0.5**
baz=110,SNR=48
RES Resolute Bay 66.42 352 lAmb lAmb 18 16 11.5
comp=Z,42nm,1.1s
RES Resolute Bay 66.42 352 LR LR 18 45 41.8
comp=Z,807nm,20.9s,baz=145,slow=36
LIRD Liard River Hi 66.74 331 P **P** **18 16 09.1 +0.9**
baz=110,SNR=6.1
WRGLY Wrigley 66.97 335 P **P** **18 16 10.7 +1.1**
baz=114,SNR=7.0
NEEM North Greenlan 67.29 3 *i* P **P** **18 16 12.8 +0.9**
NEEM lAmb lAmb 18 16 17.9
comp=Z,170nm,1.2s
HG4B Hotspring 67.54 322 lAmb lAmb 18 16 15.7
comp=Z,38nm,1.1s
U35K Hyder 67.72 326 P **P** **18 16 15.7 +1.2**
baz=105
T35M Bob Quinn 68.11 327 P **P** **18 16 19.1 +2.1**
baz=105,SNR=29
WTLY Watson Lake, Y 68.26 331 P **P** **18 16 19.4 +1.5**
baz=107,SNR=40
DLBC Dease Lake 68.38 329 LR LR 18 46 56.0
comp=Z,12µm,20.4s,baz=86,slow=37
DLBC Dease Lake 68.38 329 P **P** **18 16 20.4 +1.6**
baz=106,SNR=74
TGTN Hyland Airport 68.45 332 P **P** **18 16 20.6 +1.5**
baz=108,SNR=38
V35K Ketchikan 68.45 326 lAmb lAmb 18 16 22.0
comp=Z,58nm,1.3s
V35K Ketchikan 68.45 326 P **P** **18 16 20.5 +1.4**
baz=103,SNR=10
DIB Dawson Inlet, 68.49 323 lAmb lAmb 18 16 21.9
comp=Z,44nm,1.2s
DBG Daneborg 68.54 12 *i* P **P** **18 16 18.6 -0.8**
DBG lAmb lAmb 18 16 25.7
comp=Z,106nm,1.1s
UCC Uccle 68.59 39 *dx* x 18 16 23.1
DOU Dourbes 68.62 40 *dP* **P** **18 16 23.4 +3.1**
BMRD Maredsous 68.77 40 *dP* **P** **18 16 19.8 -1.5**
BMRD *dx* x 18 16 24.3
S34M Telegraph Cree 68.81 328 P **P** **18 16 23.3 +2.0**
baz=104,SNR=10
BGES Gesves 68.98 40 *dP* **P** **18 16 25.5 +2.9**
RCHB Rochefort 69.04 40 *dP* **P** **18 16 21.5 -1.4**
RCHB *dx* x 18 16 26.0
WRAK Wrangell Islan 69.10 327 lAmb lAmb 18 16 25.8
comp=Z,43nm,1.2s
WRAK Wrangell Islan 69.10 327 P **P** **18 16 24.7 +1.6**
baz=103,SNR=9.5
R33M Jennings River 69.11 330 P **P** **18 16 25.1 +1.7**
baz=105,SNR=96
BCLA Clavier 69.12 40 *dP* **P** **18 16 26.5 +3.1**
comp=Z,9.6nm,1.3s
BSTI Sart Tilman 69.32 40 *dP* **P** **18 16 23.9 -0.7**
BSTI *dx* x 18 16 27.4
CRAG Craig 69.32 325 lAmb lAmb 18 16 34.2
comp=Z,66nm,1.3s
CRAG Craig 69.32 325 P **P** **18 16 26.2 +1.7**
baz=102,SNR=6.4
JMIC Jan Mayen 69.43 17 LR LR 18 45 33.2
comp=Z,370nm,18.4s,baz=244,slow=35
U33K Whale Pass 69.46 326 P **P** **18 16 26.7 +1.4**

baz=102,SNR=12
T33K **Petersburg** 69.51 327 P P 18 16 26.2 +0.5
baz=102
WLF **Walferdange** 69.56 41 IAmb IAmb 18 16 30.4
comp=Z,34nm,0.9s
WLF **Walferdange** 69.56 41 *d*P P 18 16 24.3 -1.9
WLF *dx* x 18 16 29.6
WLF **Walferdange** 69.56 41 *e*P P 18 16 29.3 +3.2
comp=Z,32nm,0.9s,baz=266,slow=6.0
WLF *e*pP **sP** 18 16 31.7 +2.6
BHOU **Houvegnez** 69.56 40 *d*P P 18 16 23.5 -2.6
BHOU *dx* x 18 16 29.8
MEM **Membach** 69.60 40 *dx* P 18 16 29.5 +3.1
Q32M **Nakina River** 69.65 329 P P 18 16 28.5 +1.7
baz=104,SNR=42
BTNL **Ternell** 69.67 40 *dx* P 18 16 29.1 +2.3
C36M **Paulatuk** 69.75 341 P P 18 16 29.6 +2.7
baz=115
ECH **Echery** 70.03 42 IAmb IAmb 18 16 33.0
comp=Z,38nm,1.1s
MMPY **Sheldon Lake,** 70.12 333 IAmb IAmb 18 16 32.1
comp=Z,59nm,1.6s
MMPY **Sheldon Lake,** 70.12 333 P P 18 16 30.9 +1.5
baz=106,SNR=15
P33M **Teslin, Yukon** 70.22 330 P P 18 16 31.8 +1.6
baz=104,SNR=49
DAG **Danmarks Havn** 70.49 10 *i* P P 18 16 31.7 +0.3
DAG IAmb IAmb 18 16 36.8
comp=Z,106nm,1.1s
BUG **Bochum–Univer** 70.50 39 *e*P P 18 16 34.8 +3.0
comp=Z,42nm,1.1s,baz=266,slow=6.0
P32M **Atlin** 70.52 330 P P 18 16 33.6 +1.7
baz=103,SNR=66
N32M **Quiet Lake** 70.57 331 P P 18 16 33.2 +1.0
baz=104
R32K **Eaglecrest** 70.64 328 P P 18 16 34.4 +1.8
baz=102,SNR=11
BFO **Black Forest** 70.82 42 *e*P P 18 16 36.6 +2.7
comp=Z,11nm,1.1s,baz=266,slow=6.0
SIT **Sitka** 70.84 327 P P 18 16 34.5 +0.7
baz=100,SNR=7.0
KEST **Kesra** 70.86 56 P P 18 16 34.3 -0.2
comp=Z,8.4nm,0.8s,baz=264,slow=3.6,SNR=13
KEST LR LR 18 46 12.5
comp=Z,219nm,20.2s,baz=252,slow=35
comp=Z,8.4nm,0.8s
IBBN **Ibbenburen** 70.92 38 *e*P P 18 16 37.3 +2.9
comp=Z,40nm,0.9s,baz=266,slow=6.0
TNS **Taunus Mts** 71.10 40 *e*P P 18 16 38.4 +2.7
comp=Z,36nm,0.8s,baz=266,slow=6.0
KASTN **Kahler Asten** 71.19 39 *e*P P 18 16 38.7 +2.5
comp=Z,15nm,1.2s,baz=266,slow=6.0
A36M **Sachs Harbour** 71.23 343 P P 18 16 36.0 +0.1
baz=115
SKAG **Skagway** 71.29 329 P P 18 16 38.3 +1.8
baz=101,SNR=23
WHY **Whitehorse** 71.32 331 P P 18 16 37.8 +0.9
baz=102,SNR=14
M31M **Drury Creek, Y** 71.42 332 P P 18 16 39.0 +1.6
baz=103,SNR=61
STU **Stuttgart** 71.43 42 *e*P P 18 16 40.2 +2.5
comp=Z,85nm,0.7s,baz=266,slow=6.0
S31K **Pelican** 71.48 328 P P 18 16 39.6 +1.9
baz=100,SNR=17
DAVA **Damuels** 71.77 44 *i* P P 18 16 39.1 -0.8
comp=Z,9.0nm,0.8s
DAVA *i* pP **sP** 18 16 43.2 +0.3
comp=Z,66nm,1.0s,SNR=12
PLBC **Pleasant Camp** 71.81 329 P P 18 16 41.8 +2.1
baz=100,SNR=17
N31M **Braeburn, Yuko** 71.91 331 P P 18 16 41.4 +1.1
baz=102,SNR=33
O30N **Mendenhall** 71.92 331 IAmb IAmb 18 16 47.9
comp=Z,94nm,1.2s
O30N **Mendenhall** 71.92 331 P P 18 16 42.0 +1.6
baz=101,SNR=14
RETH **Rethem/Aller,** 71.94 38 *e*P P 18 16 43.4 +2.8
comp=Z,39nm,1.4s,baz=266,slow=6.0
UBR **Ueberruh** 71.95 43 *e*P P 18 16 43.6 +2.7
comp=Z,60nm,1.4s,baz=266,slow=6.0
FUORN **Ofenpass-Fuorn** 71.98 44 P P 18 16 40.8 -0.5
FUORN IAmb IAmb 18 16 48.5
comp=Z,47nm,1.1s
UBBA **Unterbreizbach** 72.14 40 *e*P P 18 16 44.5 +2.8
comp=Z,42nm,1.8s,baz=266,slow=6.0
GTTG **Gottingen** 72.19 39 *e*P P 18 16 44.6 +2.5
comp=Z,20nm,1.0s,baz=266,slow=6.0
P30M **Million Dollar** 72.23 330 P P 18 16 43.1 +0.8
baz=100
H31M **Peel River** 72.26 336 P P 18 16 43.1 +0.8
baz=104,SNR=44
MUD **Monsted U'grnd** 72.30 34 *i* P P 18 16 46.4 +3.8
MUD IAmb IAmb 18 16 49.4
comp=Z,48nm,1.2s
FETA **Feichten** 72.33 44 *i* P P 18 16 42.5 -0.8
comp=Z,12nm,0.9s,SNR=31
FETA *i* pP **sP** 18 16 46.4 +0.1
comp=Z,88nm,1.1s
RETA **Reutte** 72.38 43 *i* P P 18 16 42.4 -1.0
comp=Z,5.5nm,1.0s
RETA *i* pP **sP** 18 16 46.5 +0.1
comp=Z,19nm,0.9s
MAYO **Mayo, Yukon** 72.40 334 P P 18 16 44.1 +0.9
baz=102
F31M **Tsiigehtchic** 72.44 338 P P 18 16 43.5 +0.2
baz=105,SNR=16
CLZ **Clausthal** 72.47 39 *e*P P 18 16 46.3 +2.4
comp=Z,30nm,1.1s,baz=266,slow=6.0
G31M **Satah River** 72.51 337 P P 18 16 44.1 +0.4
baz=105,SNR=19
N30M **Aishikik Lake** 72.53 331 IAmb IAmb 18 16 51.5
comp=Z,100nm,1.4s
N30M **Aishikik Lake** 72.53 331 P P 18 16 45.6 +1.6
baz=100,SNR=41
P29M **Windy Craggy** 72.53 329 P P 18 16 45.7 +1.7
baz=99,SNR=20
M30M **Minto, Yukon** 72.60 332 P P 18 16 45.4 +1.0
baz=101,SNR=60
INK **Inuvik** 72.60 339 IAmb IAmb 18 16 50.1
comp=Z,96nm,1.2s
INK **Inuvik** 72.60 339 LR LR 18 49 54.5
comp=Z,2µm,19.0s,baz=109,slow=37
INK **Inuvik** 72.60 339 P P 18 16 44.2 0.0
baz=106,SNR=28
MOTA **Moosalm** 72.60 44 *i* P P 18 16 43.7 -1.2
comp=Z,5.0nm,0.8s
MOTA *i* pP **pP** 18 16 47.7 +0.5
comp=Z,26nm,0.8s,SNR=10
HYT **Haines Junctio** 72.61 331 IAmb IAmb 18 16 52.5
comp=Z,82nm,1.2s
HYT **Haines Junctio** 72.61 331 P P 18 16 46.1 +1.4
baz=100,SNR=45
SQTA **Sankt Quirin** 72.67 44 *i* P P 18 16 44.1 -1.1
comp=Z,6.2nm,1.0s
SQTA *i* pP **sP** 18 16 48.2 0.0
comp=Z,69nm,1.1s,SNR=13
ASSE **Asse, Remlinge** 72.68 39 *e*P P 18 16 47.7 +2.7
comp=Z,34nm,1.1s,baz=266,slow=6.0
FUR **Furstenfeldbru** 72.77 43 *e*P P 18 16 48.3 +2.6
comp=Z,186nm,2.1s,baz=266,slow=6.0
J30M **Hart River** 72.79 335 P P 18 16 47.1 +1.5
baz=102,SNR=38
GRA1 **Grafenberg Arr** 72.83 41 IAmb IAmb 18 16 52.2
comp=Z,54nm,1.4s
GRF **Grafenberg Arr** 72.83 41 *e*P P 18 16 48.6 +2.5
comp=Z,52nm,1.4s,baz=266,slow=6.0
TEOL **Teolo** 72.90 46 IAmb IAmb 18 16 49.9
comp=Z,46nm,0.9s
WATA **Walderalm** 72.92 44 *i* P P 18 16 45.1 -1.7
comp=Z,3.3nm,0.7s
WATA *i* pP **pP** 18 16 49.4 +0.4
comp=Z,21nm,0.9s,SNR=8.7
I30M **Mount Dempster** 72.95 335 P P 18 16 47.7 +1.1
baz=102,SNR=79
WTTA **Wattenberg** 72.96 44 *i* P P 18 16 45.8 -1.3
comp=Z,5.2nm,1.0s
WTTA *i* pP **pP** 18 16 49.8 +0.5
comp=Z,24nm,0.8s,SNR=9.7
KONO **Kongsberg** 72.97 31 *ce*P P 18 16 51.0 +4.4
KONO pmax pmax
comp=Z,33nm,1.5s
FLTG **Flechtingen** 73.05 38 *e*P P 18 16 49.9 +2.7
comp=Z,18nm,0.9s,baz=266,slow=6.0
YUK6 **Outpost Mounta** 73.05 331 P P 18 16 49.4 +2.0
baz=99,SNR=20
O29M **Mount Kennedy** 73.05 330 IAmb IAmb 18 16 55.0
comp=Z,66nm,1.1s
O29M **Mount Kennedy** 73.05 330 P P 18 16 49.2 +1.9
baz=99,SNR=24
MOX **Moxa** 73.15 40 *e*P P 18 16 50.7 +2.8
baz=266,slow=6.0
K29M **Barlow Dome** 73.16 334 P P 18 16 49.1 +1.3
baz=101,SNR=50
YUK4 **Talbot Arm** 73.25 331 P P 18 16 49.5 +1.0
baz=99
F30M **Barrier River** 73.25 338 IAmb IAmb 18 16 54.3
comp=Z,91nm,1.1s
F30M **Barrier River** 73.25 338 P P 18 16 48.4 +0.2
baz=103,SNR=36
G30M **tAoh Zraii Nji** 73.27 337 P P 18 16 48.7 +0.4
baz=103,SNR=11
NEUB **Neuenburg** 73.29 40 *e*P P 18 16 51.2 +2.5
comp=Z,32nm,1.0s,baz=266,slow=6.0
L29M **L29M** 73.30 333 P P 18 16 49.1 +0.6
baz=100,SNR=16
EPYK **Eagle Plains** 73.33 336 P P 18 16 49.5 +0.8
baz=102,SNR=27
M29M **Somme Creek** 73.33 332 P P 18 16 50.1 +1.2
baz=99,SNR=20
PNL **Peninsula** 73.37 329 P P 18 16 50.7 +1.7
baz=98,SNR=12
MANZ **Manzenberg** 73.42 41 *e*P P 18 16 52.8 +3.3
comp=Z,75nm,0.9s,baz=266,slow=6.0
ROTZ **Rotzenmuhle** 73.47 41 *e*P P 18 16 52.7 +2.8
comp=Z,3.7nm,1.2s,baz=266,slow=6.0
ROTZ *e*pP **sP** 18 16 55.1 +2.3
CESX **Cesi** 73.48 49 IAmb IAmb 18 16 54.0
comp=Z,59nm,1.2s
PLN **Plauen** 73.49 40 *e*P P 18 16 52.4 +2.6
comp=Z,8.6nm,1.1s,baz=266,slow=6.0
PLN *e*pP **sP** 18 16 55.0 +2.1
BCPM **Bancas Point** 73.53 330 IAmb IAmb 18 16 57.8
comp=Z,103nm,1.3s
ABTA **Abfaltersbach** 73.54 44 *i* P P 18 16 49.1 -1.3
comp=Z,6.6nm,1.0s
ABTA *e*pP **pP** 18 16 53.0 +0.3
comp=Z,43nm,1.0s,SNR=18
J29N **Klondike Camp** 73.57 334 P P 18 16 51.9 +1.7
baz=100,SNR=12
LESA **Schwarzleotal** 73.67 44 *i* P P 18 16 50.0 -1.2
comp=Z,4.7nm,0.7s
LESA *i* pP **pP** 18 16 53.9 +0.5
comp=Z,59nm,1.0s,SNR=14
TANN **Tannenbergstha** 73.68 41 *e*P P 18 16 53.5 +2.4
comp=Z,28nm,1.1s,baz=266,slow=6.0
TANN *e*pP **sP** 18 16 56.2 +2.2
I29M **Ogilvie Camp,** 73.77 335 P P 18 16 52.1 +0.8
baz=100,SNR=82
YUK8 **Steele Glacier** 73.77 331 P P 18 16 53.1 +1.5
baz=98,SNR=14
TJOU **Tjoern** 73.81 33 *i* P P 18 16 53.6 +2.0
PINM **Pinnacle** 73.85 330 P P 18 16 54.1 +2.2
baz=97,SNR=11
WET **Wetzell** 73.88 42 *e*P P 18 16 55.0 +2.8
comp=Z,17nm,0.9s,baz=266,slow=6.0
WET *e*pP **sP** 18 16 57.3 +2.0
ONAU **Onsala** 73.90 33 *i* P P 18 16 55.4 +3.3
O28M **Mount Upton** 73.91 330 IAmb IAmb 18 17 00.4
comp=Z,75nm,1.4s
O28M **Mount Upton** 73.91 330 P P 18 16 54.2 +1.7
baz=97,SNR=16
G29M **Pine Creek** 73.95 337 P P 18 16 53.0 +0.7
baz=101,SNR=55
H29M **Whitestone** 73.95 336 P P 18 16 53.2 +0.9
baz=100,SNR=49
NB2 **NORSAR Subarra** 73.96 29 P P 18 16 52.4 -0.1
comp=Z,70nm,1.7s,baz=262,slow=6.2
NB2 **NORSAR Subarra** 73.96 29 P P 18 16 52.4 -0.1
comp=Z,70nm,1.7s,baz=262,slow=6.2
NOA **NORSAR Array B** 73.96 29 P P 18 16 52.8 +0.3
comp=Z,10nm,1.0s,baz=263,slow=5.9,SNR=19
NOA LR LR 18 44 37.9
comp=Z,474nm,21.8s,baz=270,slow=32
comp=Z,10nm,1.0s
NOR **Nord** 73.96 7 *i* P P 18 16 53.1 +1.0
NOR IAmb IAmb 18 16 57.6
comp=Z,148nm,1.2s
DAWY **Dawson** 74.01 334 IAmb IAmb 18 16 59.5
comp=Z,72nm,1.3s
DAWY **Dawson** 74.01 334 P P 18 16 53.6 +0.9
baz=99,SNR=18
GUMA **Guido di Mace** 74.04 48 IAmb IAmb 18 16 57.2
comp=Z,73nm,1.3s
CLL **Collm** 74.07 40 P P 18 16 51.7 -1.5
CLL **Collm** 74.07 40 P P 18 16 51.7 -1.5
CLL pmax pmax
comp=Z,22nm,0.9s
CLL **Collm** 74.07 40 *e*P P 18 16 55.8 +2.5
comp=Z,23nm,0.9s,baz=266,slow=6.0
CLL **Collm** 74.07 40 *e*P P 18 16 53.0 -0.2
CLL ⇓*i*pP **sP** 18 16 56.1 -0.1
comp=Z,26nm,1.0s
CLL *i* sP **pP** 18 16 58.4 +2.9
comp=Z,30nm,1.1s
CLL *e*S **S** 18 26 28.0 +1.7
CLL *e*SS **SS** 18 31 12.0 +1.1
CLL LmV 18 49 00.0
comp=Z,700nm,20.3s
KBA **Koelnbrisper** 74.12 44 *e*P P 18 16 52.9 -1.0
comp=Z,6.2nm,1.1s
KBA *i* pP **pP** 18 16 56.4 +0.3
comp=Z,42nm,0.8s,SNR=12
YUK3 **Moose Creek** 74.17 331 P P 18 16 54.9 +0.9
baz=97,SNR=28
E29M **Blow River** 74.19 338 P P 18 16 54.1 +0.4
baz=102,SNR=60
NC405 **NORSAR Array S** 74.21 29 P P 18 16 53.8 -0.2
EDA **Edea** 74.25 89 P P 18 16 53.0 -2.0
EDA IAmb IAmb 18 16 59.8
comp=Z,52nm,1.0s
FABU **Falkenberg** 74.30 34 *i* P P 18 16 57.4 +3.0
LOGN **Logan Glacier** 74.31 330 IAmb IAmb 18 17 02.4
comp=Z,48nm,1.2s
MYKA **Terra Mystica** 74.31 44 *i* P P 18 16 53.7 -1.1
comp=Z,2.2nm,0.6s,SNR=14
MYKA *e*pP **pP** 18 16 57.6 +0.4
comp=Z,51nm,1.7s
BIOA **Bad Ischl, Aus** 74.33 43 *i* P P 18 16 53.8 -1.1
comp=Z,2.9nm,0.8s
BIOA *e*pP **pP** 18 16 57.5 +0.3
comp=Z,44nm,1.3s,SNR=16
TABL **Table Mountain** 74.33 330 IAmb IAmb 18 17 01.7
comp=Z,53nm,1.2s
KHC **Kasperske Hory** 74.34 42 *e*P P 18 16 54.7 -0.2
KHC MLR MLR
comp=Z,500nm,20.8s
KHC **Kasperske Hory** 74.34 42 *e*P P 18 16 54.7 -0.2
KHC *e*pP **sP** 18 16 58.2 +0.3
KHC AMS AMS 18 53 30.0
comp=Z,500nm,20.8s
CADS **Cadrg** 74.37 45 *i* pP pP 18 16 57.9 +0.4
BORU **Boraas** 74.38 33 *i* P P 18 16 58.8 +3.9
GEC2 **GERESS Array S** 74.41 42 IAmb IAmb 18 16 59.3
comp=Z,38nm,0.8s
GEC2 **GERESS Array S** 74.41 42 *e*P P 18 16 58.1 +2.7
comp=Z,39nm,0.9s,baz=266,slow=6.0
GERES **GERESS Array B** 74.41 42 P P 18 16 54.2 -1.2
comp=Z,21nm,0.7s,baz=270,slow=7.4,SNR=32
comp=Z,21nm,0.7s
BVCY **Beaver Creek** 74.44 332 P P 18 16 56.3 +1.1
baz=97,SNR=19
I28M **Miner Creek** 74.46 335 IAmb IAmb 18 17 04.2
comp=Z,78nm,1.2s
I28M **Miner Creek** 74.46 335 P P 18 16 56.1 +0.7
baz=99,SNR=34
CTGM **Chitina Glacie** 74.49 330 IAmb IAmb 18 17 02.9
comp=Z,73nm,1.2s
CTG **Chitna Glacier** 74.49 330 P P 18 16 57.2 +1.5
baz=96,SNR=18
RUE **Ruedersdorf** 74.61 38 *e*P P 18 16 59.2 +2.9
comp=Z,45nm,0.6s,baz=266,slow=6.0
YAH **Yahtse** 74.62 330 IAmb IAmb 18 17 04.0
comp=Z,74nm,1.4s
BRG **Berggiesshubel** 74.64 40 *e*P P 18 16 59.3 +2.7
comp=Z,68nm,1.6s,baz=266,slow=6.0
BRG **Berggiesshubel** 74.64 40 *e*P P 18 16 58.0 +1.4
BRG Amp 18 16 58.4
comp=Z,3.3nm,1.0s
BRG **Berggiesshubel** 74.64 40 P P 18 17 01.9 +5.3
BRG Amp 18 17 02.8
comp=Z,31nm,1.0s
BARN **Barnard Glacie** 74.66 331 IAmb IAmb 18 17 07.9
comp=Z,106nm,1.5s
D28M **Stokes Point** 74.68 339 P P 18 16 57.2 +0.8
baz=101,SNR=42
MESA **MESA** 74.71 330 IAmb IAmb 18 17 05.1
comp=Z,67nm,1.1s
MESA **MESA** 74.71 330 P P 18 16 57.7 +0.7
baz=96,SNR=9.9
RICC **Richard** 74.73 40 AMS AMS 18 47 50.0
comp=Z,800nm,21.5s
MOA **Molln** 74.76 43 *i* P P 18 16 56.3 -1.1
comp=Z,2.9nm,1.0s
MOA *i* pP **pP** 18 17 00.0 +0.3
comp=Z,23nm,0.9s,SNR=11
F28M **Old Crow** 74.78 337 P P 18 16 57.3 +0.2
baz=100,SNR=56
E28M **Babbage River** 74.83 338 IAmb IAmb 18 17 02.9
comp=Z,41nm,1.0s
E28M **Babbage River** 74.83 338 P P 18 16 57.0 -0.3
baz=100,SNR=48
DEL **Delary** 74.89 34 *i* P P 18 17 01.4 +3.5
M27K **Edge Creek, AK** 74.90 332 IAmb IAmb 18 17 05.3
comp=Z,70nm,1.1s
M27K **Edge Creek, AK** 74.90 332 P P 18 16 59.2 +1.1
baz=96,SNR=42
LJU **Ljubljana** 74.92 45 *e*P P 18 16 57.6 -0.7
LJU *i* pP **sP** 18 17 01.4 +0.1
PRA **Prague** 74.93 41 AMS AMS 18 48 00.0
comp=Z,500nm,18.0s
OBKA **Obir** 74.93 45 *i* P P 18 16 57.5 -1.0
comp=Z,3.4nm,0.8s
OBKA *e*pP **pP** 18 17 01.3 +0.5
comp=Z,19nm,0.9s,SNR=6.6
BCAR **Beaver Creek A** 74.94 333 P P 18 16 57.4 -0.7
ISLE **Juniper Island** 74.94 330 IAmb IAmb 18 17 05.8
comp=Z,100nm,1.4s
L27K **Beaver Creek,** 74.95 333 P P 18 16 59.4 +1.1
baz=96
PRU **Pruhonice** 74.99 41 *e*P P 18 16 57.9 -0.8
PRU *e*S **S** 18 26 39.1 +2.4
PRU MLR MLR
comp=Z,400nm,20.3s
PRU **Pruhonice** 74.99 41 *e*P P 18 16 57.9 -0.8
PRU *e*pP **sP** 18 17 02.0 +0.4
PRU *e*S **S** 18 26 39.1 +2.4
PRU AMS AMS 18 47 50.0
comp=Z,400nm,20.3s
PVCC **Panska Ves** 75.03 40 *e*P P 18 16 59.3 +0.5
PVCC MLR MLR
comp=Z,600nm,18.3s
PVCC **Panska Ves** 75.03 40 *e*P P 18 16 59.3 +0.5
PVCC AMS AMS 18 48 50.0
comp=Z,600nm,18.3s
PMSA **Palmer Station** 75.06 180 *e*P P 18 17 00.4 +1.9
HFS **Hagfors** 75.08 30 P P 18 16 58.8 -0.1
comp=Z,7.9nm,0.8s,baz=284,slow=2.4,SNR=12
HFS LR LR 18 46 40.6
comp=Z,190nm,20.6s,baz=261,slow=33
comp=Z,7.9nm,0.8s
I27K **Kandik River** 75.17 335 P P 18 16 60.0 +0.5
baz=97,SNR=51
K27K **Chicken** 75.18 334 P P 18 17 00.7 +1.2
baz=96
WAX **Waxell Ridge** 75.18 330 IAmb IAmb 18 17 07.6
comp=Z,95nm,1.3s
TGL **Tana Glacier** 75.19 330 IAmb IAmb 18 17 07.3
comp=Z,64nm,1.1s
H27K **Steamboat Moun** 75.22 336 IAmb IAmb 18 17 07.3
comp=Z,55nm,1.4s
H27K **Steamboat Moun** 75.22 336 P P 18 17 00.0 +0.3
baz=98,SNR=18
SOKA **Soboth** 75.27 44 *i* P P 18 16 59.4 -1.1
comp=Z,2.8nm,1.1s
SOKA *e*pP **pP** 18 17 02.6 -0.1
comp=Z,9.9nm,0.9s,SNR=7.2
CRQE **Cirque** 75.32 330 P P 18 17 01.9 +1.4
baz=95,SNR=7.9
PERS **Pernice** 75.33 44 *i* pP pP 18 17 02.9 -0.1
MCARA **McCarthy VSAT** 75.34 331 P P 18 17 02.2 +1.7
baz=95,SNR=23
G27K **Doyon Strip** 75.35 336 IAmb IAmb 18 17 06.7
comp=Z,106nm,1.7s
G27K **Doyon Strip** 75.35 336 P P 18 17 00.6 +0.2
baz=98,SNR=35
BGLC **Bering Glacier** 75.37 329 P P 18 17 02.2 +1.7
baz=94
M26K **Nabesna, AK** 75.42 332 P P 18 17 02.2 +1.2
baz=95,SNR=22
D27M **Malcolm River** 75.44 339 IAmb IAmb 18 17 07.4
comp=Z,84nm,1.3s
D27M **Malcolm River** 75.44 339 P P 18 17 01.2 +0.2
baz=99,SNR=43
E27K **Coleen River** 75.51 338 IAmb IAmb 18 17 07.5
comp=Z,60nm,1.4s
E27K **Coleen River** 75.51 338 P P 18 17 01.8 +0.4
baz=98,SNR=31
VRDI **Verde Repeater** 75.54 331 IAmb IAmb 18 17 09.2
comp=Z,67nm,1.4s
BERG **Berg Lake** 75.59 330 IAmb IAmb 18 17 10.0
comp=Z,103nm,1.2s
ARSA **Arzberg** 75.61 44 *e*P P 18 17 02.0 -0.3
comp=Z,2.6nm,0.7s,SNR=8.6
ARSA *i* pP **pP** 18 17 04.8 +0.3
comp=Z,12nm,0.7s
L26K **Log Cabin Wild** 75.64 332 P P 18 17 03.5 +1.3
baz=95,SNR=48
I26K **Coal Creek Min** 75.78 335 P P 18 17 03.3 +0.4
baz=96
MENT **Mentasta** 75.80 332 IAmb IAmb 18 17 09.6
comp=Z,79nm,1.3s
CONA **Conrad Observa** 75.84 43 *e*P P 18 17 03.0 -0.7
comp=Z,7.2nm,1.3s,SNR=9.4
CONA *i* pP **pP** 18 17 06.4 +0.5
comp=Z,31nm,1.4s
HMT **Hamilton** 75.87 330 IAmb IAmb 18 17 11.4
comp=Z,77nm,1.2s
J26L **Joseph Creek** 75.87 334 P P 18 17 04.1 +0.5
baz=95,SNR=8.7
KAIM **Kayak Island** 75.92 329 P P 18 17 05.1 +1.3
baz=93
UPC **Upice** 75.95 40 *e*P P 18 17 03.5 -0.6
UPC MLR MLR
comp=Z,600nm,16.7s
UPC MLR MLR
comp=E,600nm,17.2s
UPC **Upice** 75.95 40 *e*P P 18 17 03.5 -0.6
UPC *e*pP **sP** 18 17 07.1 0.0
UPC AMS AMS 18 48 20.0
comp=E,600nm,16.7s
CHVC **Chvalec** 75.97 40 *e*P P 18 17 03.6 -0.7
CHVC **Chvalec** 75.97 40 *e*P P 18 17 03.6 -0.7
SCRK **Sand Creek** 76.01 333 IAmb IAmb 18 17 11.2
comp=Z,56nm,1.3s
SCRK **Sand Creek** 76.01 333 P P 18 17 05.2 +0.9
baz=95,SNR=27
DOT **Dot Lake** 76.02 333 IAmb IAmb 18 17 11.3
comp=Z,75nm,1.4s
BMRM **Bremner River** 76.08 330 P P 18 17 06.2 +1.4
baz=94,SNR=28
OSTC **Ostas** 76.08 40 *e*P P 18 17 04.5 -0.4
OSTC MLR MLR
comp=Z,600nm,20.0s
OSTC **Ostas** 76.08 40 *e*P P 18 17 04.5 -0.4
OSTC *e*pP **sP** 18 17 08.2 +0.3
OSTC AMS AMS 18 48 30.0
comp=Z,600nm,20.0s
N25K **Chitina, Valde** 76.11 331 IAmb IAmb 18 17 12.5
comp=Z,134nm,1.9s
N25K **Chitina, Valde** 76.11 331 P P 18 17 06.4 +1.5
baz=94,SNR=16
KSP **Ksiaz** 76.13 40 *e*P P 18 17 08.5 +3.4
RONA **Rosalia, Austr** 76.13 43 *i* P P 18 17 04.6 -0.7
comp=Z,4.3nm,1.1s
RONA *i* pP **pP** 18 17 07.9 +0.4
comp=Z,24nm,1.1s,SNR=9.9
DPC **Dobruska-Polom** 76.14 41 *e*P P 18 17 06.0 +0.7
DPC MLR MLR
comp=Z,600nm,17.7s
DPC **Dobruska-Polom** 76.14 41 *e*P P 18 17 06.0 +0.7
DPC *e*pP **sP** 18 17 08.7 +0.4
DPC AMS AMS 18 48 40.0
comp=Z,600nm,17.7s
KRUC **Moravsky** 76.19 42 *e*P P 18 17 04.8 -0.7
KRUC *e*pP **sP** 18 17 08.8 +0.3
G26K **Porcupine Rive** 76.20 337 P P 18 17 05.9 +0.7
baz=96,SNR=18
VRAC **Vranov** 76.32 42 *e*P P 18 17 05.5 -0.8
VRAC *e*pP **sP** 18 17 09.7 +0.4
VRAC **Vranov** 76.32 42 ⇓P P 18 17 09.0 +2.7
VRAC **Vranov** 76.32 42 ⇓P P 18 17 09.0 +2.7
RIDG **Independent Ri** 76.37 333 IAmb IAmb 18 17 13.3

RIDG **Independent Ri** 76.37 333 P P 18 17 07.0 +0.6
baz=94,SNR=21
F26K **Sheenjek River** 76.41 337 IAmb IAmb 18 17 14.6
comp=Z,66nm,1.6s
F26K **Sheenjek River** 76.41 337 P P 18 17 07.2 +0.7
baz=96,SNR=14
HARP **HAARP** 76.42 332 P P 18 17 06.5 -0.1
baz=93
C27K **Jago River** 76.46 339 P P 18 17 07.2 +0.6
baz=96,SNR=34
BMAR **Burnt Mountain** 76.55 337 P P 18 17 07.4 +0.1
PAX **Paxson** 76.60 332 IAmb IAmb 18 17 14.3
comp=Z,51nm,1.4s
PAX **Paxson** 76.60 332 P P 18 17 08.4 +0.6
baz=93,SNR=25
EYAK **Cordova Ski Ar** 76.62 330 P P 18 17 09.1 +1.5
baz=92
J25K **Salcha River,** 76.66 334 P P 18 17 08.3 +0.4
baz=94,SNR=18
ZST **Bratislava** 76.67 43 *e*P P 18 17 11.9 +3.6
ZST pmax pmax
comp=Z,15nm,1.3s
TIP **Timpagrande** 76.70 52 ⇑P P 18 17 11.5 +2.7
KLU **Klutina** 76.74 331 IAmb IAmb 18 17 15.7
comp=Z,77nm,1.5s
KLU **Klutina** 76.74 331 P P 18 17 09.4 +0.8
baz=92,SNR=21
PRP **Porcupine Dome** 76.78 335 P P 18 17 09.0 +0.3
baz=94,SNR=35
K24K **Donnelly Dome** 76.79 333 IAmb IAmb 18 17 15.4
comp=Z,60nm,1.2s
K24K **Donnelly Dome** 76.79 333 P P 18 17 09.1 +0.4
baz=93,SNR=12
BLY **Banja Luka** 76.80 46 ⇑P P 18 17 11.7 +2.6
Q23K **Middleton Isla** 76.88 329 P P 18 17 09.8 +0.7
baz=92
SMOL **Smolenice** 76.88 43 *e*P P 18 17 13.2 +3.7
SMOL pmax pmax
comp=Z,32nm,1.6s
M24K **Tolsona, Glenn** 76.89 331 IAmb IAmb 18 17 15.7
comp=Z,59nm,1.2s
M24K **Tolsona, Glenn** 76.89 331 P P 18 17 10.3 +1.0
baz=92
C26K **Camden Bay** 76.90 340 P P 18 17 09.9 +0.8
baz=95,SNR=18
MORC **Moravsky Berou** 76.93 41 *e*P P 18 17 09.0 -0.8
MORC *ep*P **sP** 18 17 13.5 +0.7
MORC **Moravsky Berou** 76.93 41 ⇑P P 18 17 11.5 +1.7
MORC **Moravsky Berou** 76.93 41 ⇑P P 18 17 11.5 +1.7
H25L **Birch Creek** 76.95 336 P P 18 17 10.4 +0.9
baz=94,SNR=27
F25K **Christian Rive** 76.97 337 IAmb IAmb 18 17 16.8
comp=Z,91nm,1.4s
F25K **Christian Rive** 76.97 337 P P 18 17 10.5 +0.8
baz=94,SNR=41
FID **Port Fidalgo** 76.98 330 IAmb IAmb 18 17 17.2
comp=Z,70nm,1.2s
E25K **Arctic Village** 76.98 338 P P 18 17 10.7 +1.0
baz=94,SNR=20
JAVC **Velka Javorina** 77.03 42 *e*P P 18 17 09.9 -0.5
JAVC *ep*P **sP** 18 17 14.7 +1.3
STEB **Steborice** 77.08 41 *e*P P 18 17 09.7 -0.9
STEB *ep*P **sP** 18 17 14.3 +0.7
G25K **Bearman Lake** 77.10 336 P P 18 17 11.3 +1.0
baz=94,SNR=30
MAUC **Maruska** 77.13 42 *e*P P 18 17 11.2 +0.3
MAUC *ep*P **sP** 18 17 15.1 +1.2
MAUC AMS AMS 18 51 10.0
comp=Z,800nm,20.3s
KBS **Kingsbay** 77.16 11 *i*P P 18 17 14.3 +3.8
KBS pmax pmax
comp=Z,111nm,1.4s
KBS **Kingsbay** 77.16 11 *i*P P 18 17 11.0 +0.5
GLI **Glacier Island** 77.29 330 IAmb IAmb 18 17 17.6
comp=Z,98nm,1.5s
GLI **Glacier Island** 77.29 330 P P 18 17 12.2 +0.7
baz=91,SNR=10
ILAR **Eielson Array** 77.32 334 P P 18 17 11.3 -0.3
ILAR **Eielson Array** 77.32 334 P P 18 17 11.8 +0.2
comp=Z,4.6nm,1.0s,baz=102,slow=5.9,SNR=23
ILAR PP PP 18 20 05.9 +0.4
comp=Z,3.8nm,1.0s,baz=84,slow=6.4,SNR=7.1
ILAR LR LR 18 53 07.8
comp=Z,1µm,18.9s,baz=84,slow=37
comp=Z,4.6nm,1.0s
ILAR **Eielson Array** 77.32 334 P P 18 17 11.3 -0.3
OKC **Ostrava-Krasne** 77.32 41 AMS AMS 18 50 10.0
comp=Z,400nm,21.9s
HDA **Harding Lake** 77.33 334 IAmb IAmb 18 17 17.8
comp=Z,81nm,2.0s
HDA **Harding Lake** 77.33 334 P P 18 17 11.9 +0.2
baz=92,SNR=12
D25K **Kavik River** 77.36 339 IAmb IAmb 18 17 18.4
comp=Z,68nm,1.1s
D25K **Kavik River** 77.36 339 P P 18 17 12.6 +0.7
baz=94,SNR=39
SCM **Sheep Creek Mo** 77.42 331 IAmb IAmb 18 17 19.3
comp=Z,100nm,1.3s
SCM **Sheep Creek Mo** 77.42 331 P P 18 17 12.8 +0.5
baz=91,SNR=21
DHY **Denali Highway** 77.47 332 P P 18 17 13.1 +0.4
baz=92,SNR=5.7
SRO **Srobarova** 77.49 43 *e*P P 18 17 16.0 +3.1
SRO pmax pmax
comp=Z,14nm,0.9s
POKR **Poker Plat Res** 77.56 335 P P 18 17 13.7 +0.7
baz=92,SNR=11
M23K **Glacier View** 77.61 331 P P 18 17 14.0 +0.7
baz=91,SNR=13
WAT6 **Susitna Watana** 77.63 332 P P 18 17 13.8 +0.2
baz=91,SNR=27
G24K **Hadweenzic Riv** 77.64 336 IAmb IAmb 18 17 20.4
comp=Z,84nm,1.4s
G24K **Hadweenzic Riv** 77.64 336 P P 18 17 14.3 +0.9
baz=92,SNR=30
TAOE **Nuku Hiva Isla** 77.68 258 *e*LR LR 18 41 24.1
comp=Z,788nm,23.0s
COLA **College** 77.73 334 *i*P P 18 17 14.9 +1.0
COLA pmax pmax
comp=Z,56nm,1.9s
COLA **College** 77.73 334 P P 18 17 14.5 +0.6
baz=92
H24K **Noodor Dome** 77.77 335 P P 18 17 15.0 +0.8
baz=92,SNR=21
MORH **Mrgy, Hungar** 77.77 45 ⇓P P 18 17 16.1 +1.6
F24K **Squaw Lake** 77.83 337 IAmb IAmb 18 17 22.7
comp=Z,87nm,1.8s
F24K **Squaw Lake** 77.83 337 P P 18 17 15.5 +1.0
baz=92,SNR=13
PWL **Port Wells** 77.89 330 P P 18 17 16.0 +1.1
baz=90,SNR=16
SPITS **Spitsbergen Ar** 77.91 12 P P 18 17 15.3 +0.6
comp=Z,49nm,0.7s,baz=243,slow=0.3,SNR=12
SPITS LR LR 18 49 42.0
comp=Z,580nm,21.3s,baz=268,slow=34
comp=Z,49nm,0.7s
SPITS **Spitsbergen Ar** 77.91 12 P P 18 17 14.9 +0.2
SPITS pmax pmax
comp=Z,127nm,1.1s
KNK **Knik Glacier** 77.96 331 P P 18 17 16.5 +1.2
baz=90,SNR=10.0
WAT1 **Susitna Watana** 78.01 332 P P 18 17 16.4 +0.8
baz=90
E24K **Your Creek** 78.08 338 IAmb IAmb 18 17 22.9
comp=Z,55nm,1.3s
E24K **Your Creek** 78.08 338 P P 18 17 16.8 +0.9
baz=92,SNR=24
GHO **Glory Hole Cre** 78.18 331 IAmb IAmb 18 17 23.6
comp=Z,62nm,1.2s
MCK **McKinley** 78.19 333 P P 18 17 17.4 +0.8
baz=90
C24K **Franklin Bluff** 78.20 339 P P 18 17 16.9 +0.5
baz=92
LANS **Liptovska Anna** 78.21 42 *e*P P 18 17 21.4 +4.5
LANS pmax pmax
comp=Z,9.0nm,1.1s
D24K **Happy Valley** 78.23 339 P P 18 17 16.8 +0.2
baz=92
NEA2 **Nenana** 78.25 334 IAmb IAmb 18 17 23.1
comp=Z,47nm,1.0s
NEA2 **Nenana** 78.25 334 P P 18 17 17.1 +0.3
baz=90,SNR=40
PMR **Palmer** 78.28 331 IAmb IAmb 18 17 24.0
comp=Z,101nm,1.6s
PMR **Palmer** 78.28 331 P P 18 17 18.0 +1.0
baz=90

OJC **Ojcow** 78.38 41 *e*P P 18 17 21.3 +3.5
I23K **Minto, Yukon-K** 78.38 335 IAmb IAmb 18 17 24.0
comp=Z,100nm,1.8s
I23K **Minto, Yukon-K** 78.38 335 P P 18 17 18.0 +0.5
baz=90,SNR=15
PDG **Podgorica** 78.41 49 ⇑P P 18 17 21.8 +3.7
BWN **Browne** 78.42 334 IAmb IAmb 18 17 24.9
comp=Z,80nm,1.3s
SEW **Seward** 78.45 329 P P 18 17 18.9 +1.0
baz=89,SNR=21
SMAI **San Martin Ant** 78.45 181 P P 18 17 18.0 +0.4
H23K **Yukon River** 78.46 335 P P 18 17 18.4 +0.5
baz=90
TOLK **Toolik Lake Re** 78.49 338 P P 18 17 18.3 +0.1
baz=91
E23K **Chandalar** 78.50 338 IAmb IAmb 18 17 25.0
comp=Z,80nm,1.7s
E23K **Chandalar** 78.50 338 P P 18 17 18.7 +0.5
baz=90,SNR=14
PSZ **Piszkesteto** 78.55 43 ⇑P P 18 17 21.1 +2.2
PSZ **Piszkesteto** 78.55 43 ⇑P P 18 17 21.1 +2.2
RC01 **Rabbit Creek A** 78.58 330 IAmb IAmb 18 17 25.1
comp=Z,108nm,1.6s
RC01 **Rabbit Creek A** 78.58 330 P P 18 17 19.3 +0.6
baz=89,SNR=11
O22K **Cooper Landing** 78.58 330 P P 18 17 19.5 +0.8
baz=89
G23K **Bananza Creek** 78.65 336 IAmb IAmb 18 17 26.2
comp=Z,84nm,1.6s
G23K **Bananza Creek** 78.65 336 P P 18 17 19.9 +0.9
baz=90,SNR=21
COLD **Coldfoot** 78.72 337 IAmb IAmb 18 17 28.7
comp=Z,76nm,1.9s
COLD **Coldfoot** 78.72 337 P P 18 17 19.7 +0.3
baz=90
NIE **Niedzica** 78.74 42 *e*P P 18 17 24.1 +4.3
M22K **Willow** 78.75 331 P P 18 17 20.2 +0.7
baz=89
TRF **Thorofare Moun** 78.80 333 P P 18 17 20.3 +0.3
baz=89,SNR=16
CUT **Chulitna** 78.81 332 P P 18 17 20.7 +0.9
baz=89
C23K **Itkillik River** 78.87 339 IAmb IAmb 18 17 28.9
comp=Z,67nm,1.2s
C23K **Itkillik River** 78.87 339 P P 18 17 20.8 +0.7
baz=90,SNR=10
D23K **Nanushuk River** 78.89 338 IAmb IAmb 18 17 27.4
comp=Z,110nm,1.6s
D23K **Nanushuk River** 78.89 338 P P 18 17 21.1 +0.8
baz=90,SNR=17
KECS **Kecovo** 78.91 42 *e*P P 18 17 24.9 +4.1
MLY **Manley** 78.96 334 IAmb IAmb 18 17 27.2
comp=Z,77nm,1.6s
MLY **Manley** 78.96 334 P P 18 17 21.1 +0.3
baz=89,SNR=16
SUA **Susitna One** 79.06 331 P P 18 17 22.2 +0.8
baz=88,SNR=15
KTH **Kantishna Hill** 79.08 333 IAmb IAmb 18 17 28.3
comp=Z,112nm,1.3s
BPAW **Bear Paw Mtn.** 79.09 333 IAmb IAmb 18 17 27.1
comp=Z,59nm,1.3s
BPAW **Bear Paw Mtn.** 79.09 333 P P 18 17 22.1 +0.6
baz=88,SNR=23
BRSE **Bradley Lake S** 79.11 329 P P 18 17 23.0 +1.3
baz=88,SNR=11
BRLK **Bradley Lake** 79.18 329 IAmb IAmb 18 17 29.4
comp=Z,92nm,1.1s
H22K **Ishtalitna Cre** 79.21 335 P P 18 17 22.7 +0.6
baz=88,SNR=11
G22K **Bettles** 79.24 336 P P 18 17 22.5 +0.3
baz=88
CAPN **Captain Cook N** 79.28 330 P P 18 17 22.9 +0.4
baz=88
STHS **Stebnicka Huta** 79.35 42 *e*P P 18 17 26.8 +3.6
STHS pmax pmax
comp=Z,11nm,0.7s
CNPM **China Poot** 79.37 329 IAmb IAmb 18 17 30.4
comp=Z,91nm,1.2s
SKT **Skwentna** 79.41 331 IAmb IAmb 18 17 29.4
comp=Z,71nm,1.4s
SKT **Skwentna** 79.41 331 P P 18 17 24.1 +0.8
baz=88,SNR=18
F22K **John River** 79.48 337 P P 18 17 23.6 +0.1
baz=88
HOM **Homer** 79.57 329 P P 18 17 25.2 +1.1
baz=87
D22K **Ayikyak River** 79.62 338 P P 18 17 25.0 +0.8
baz=88
OHR **Ohrid** 79.66 50 *i*P P 18 17 30.6 +5.5
PPLA **Purkeypile** 79.67 332 P P 18 17 25.3 +0.5
baz=87,SNR=15
CHUM **Lake Minchumin** 79.68 333 P P 18 17 25.3 +0.6
baz=87,SNR=14
SPU **Mount Spurr** 79.70 331 IAmb IAmb 18 17 31.9
comp=Z,98nm,1.4s
N20K **Mount Spurr** 79.77 331 P P 18 17 26.3 +1.0
baz=87
SPCR **Spurr Chakacha** 79.77 331 P P 18 17 26.2 +0.9
baz=87,SNR=12
H21K **Melozitna Rive** 79.81 335 P P 18 17 26.0 +0.7
baz=87,SNR=27
B22K **Teshekpuk Lake** 79.82 340 P P 18 17 25.9 +0.6
baz=87
SIRR **Siria** 79.86 45 ⇑P P 18 17 28.7 +2.7
BZS **Buzias** 79.88 45 ⇑P P 18 17 29.2 +3.1
BZS **Buzias** 79.88 45 ⇑P P 18 17 29.2 +3.1
F21K **Alatna River** 80.00 337 P P 18 17 27.1 +0.7
baz=87
MDVR **Moldovita** 80.02 46 ⇑P P 18 17 30.0 +3.1
Q20K **Shuyak Island** 80.02 328 P P 18 17 27.5 +0.9
baz=86
O20K **Slope Mountain** 80.04 329 P P 18 17 27.8 +1.0
baz=86
G21K **Allakaket** 80.05 336 IAmb IAmb 18 17 33.9
comp=Z,129nm,1.8s
G21K **Allakaket** 80.05 336 P P 18 17 27.8 +1.2
baz=87,SNR=20
KOLS **Kolonicke sedl** 80.06 42 *e*P P 18 17 31.2 +4.1
KOLS pmax pmax
comp=Z,15nm,1.1s
SKO **Skopje** 80.07 49 *i*P P 18 17 30.7 +3.5
BOVS **Bovan** 80.11 47 ⇑P P 18 17 31.0 +3.6
E21K **Killik River** 80.11 338 P P 18 17 27.2 +0.3
baz=86
M20K **Styx River** 80.17 331 IAmb IAmb 18 17 33.5
comp=Z,92nm,1.4s
M20K **Styx River** 80.17 331 P P 18 17 28.4 +0.9
baz=86,SNR=23
KDAK **Kodiak Island** 80.17 327 LR LR 18 54 48.4
comp=Z,826nm,19.8s,baz=78,slow=37
KDAK **Kodiak Island** 80.17 327 *i*P P 18 17 31.9 +4.5
KDAK pmax pmax
comp=Z,21nm,0.9s
KDAK **Kodiak Island** 80.17 327 P P 18 17 28.3 +0.9
baz=86
IMAR **Indian Mountai** 80.18 335 P P 18 17 27.3 0.0
SURR **Surduc** 80.22 45 ⇑P P 18 17 31.1 +3.1
SUW **Suwalki** 80.23 37 *e*P P 18 17 31.2 +3.3
ARCES **ARCESS Array B** 80.24 21 P P 18 17 27.0 -0.6
ARCES **ARCESS Array B** 80.24 21 P P 18 17 27.0 -0.6
comp=Z,5.9nm,0.8s,baz=276,slow=6.7,SNR=8.1
ARCES LR LR 18 46 02.1
comp=Z,189nm,21.0s,baz=274,slow=30
comp=Z,5.9nm,0.8s
B21K **Ikpikpuk River** 80.27 339 P P 18 17 28.2 +0.5
baz=86
KWP **Kalwaria Pacla** 80.29 41 *e*P P 18 17 32.3 +4.0
A22K **Sinclair Lake** 80.30 341 P P 18 17 28.0 +0.1
baz=86
ILSW **Iliamna Southw** 80.31 329 IAmb IAmb 18 17 35.1
comp=Z,86nm,1.1s
C21K **Knifeblade Rid** 80.36 339 P P 18 17 28.8 +0.5
baz=86
P19K **Oil Pt** 80.38 329 P P 18 17 28.1 -0.5
baz=86
J20K **Nowinta River** 80.47 334 P P 18 17 29.2 +0.2
baz=86,SNR=16
L20K **Farewell, AK** 80.48 332 P P 18 17 29.8 +0.7
baz=86,SNR=28
K20K **Telida** 80.50 333 P P 18 17 29.5 +0.4
baz=86
HERR **Herculane** 80.51 46 ⇑P P 18 17 31.6 +2.1
DRGR 80.54 44 ⇑P P 18 17 31.7 +1.9
DRGR 80.54 44 ⇑P P 18 17 31.7 +1.9
I20K **Naaghedeneel** 80.57 334 P P 18 17 29.7 +0.3
baz=86
OHAK **Old Harbor** 80.60 327 P P 18 17 30.2 +0.5
baz=85
Q19K **Cape Douglas,** 80.64 328 IAmb IAmb 18 17 36.8
comp=Z,143nm,1.5s
Q19K **Cape Douglas,** 80.64 328 P P 18 17 30.7 +0.7
baz=85
H20K **Anotleneega Mo** 80.68 335 P P 18 17 30.9 +0.8
baz=85,SNR=18
GZR **Gura Zlata** 80.71 45 ⇓P P 18 17 34.1 +3.4
GZR **Gura Zlata** 80.71 45 ⇓P P 18 17 34.1 +3.4
M19K **Big River Lodg** 80.76 331 P P 18 17 31.7 +1.2
baz=85,SNR=30
A21K **Barrow** 80.80 341 P P 18 17 30.6 0.0
baz=85
MARR **Marisel-Cluj** 80.83 44 ⇑P P 18 17 33.3 +1.9
O19K **Port Alsworth** 80.88 330 P P 18 17 31.4 +0.2
baz=85
F20K **Avaraart Lake** 80.88 337 P P 18 17 32.2 +1.2
baz=85,SNR=11
N19K **Bonanza Creek** 80.90 330 IAmb IAmb 18 17 38.0
comp=Z,47nm,1.1s
N19K **Bonanza Creek** 80.90 330 P P 18 17 32.0 +0.5
baz=85,SNR=14
E20K **Nigu River** 80.95 338 P P 18 17 32.2 +0.7
baz=84,SNR=13
L19K **White Mountain** 80.96 332 IAmb IAmb 18 17 38.3
comp=Z,104nm,1.3s
L19K **White Mountain** 80.96 332 P P 18 17 32.4 +0.8
baz=85,SNR=26
VAY **Valandovo** 80.97 50 *i*P P 18 17 35.8 +3.7
D20K **Etivluk River** 81.06 338 P P 18 17 32.6 +0.6
baz=84
B20K **Meade River** 81.12 340 P P 18 17 33.0 +0.8
baz=84
J19K **Poorman** 81.13 334 P P 18 17 32.7 +0.2
baz=84
FINES **FINESS Array B** 81.14 29 P P 18 17 32.6 +0.1
comp=Z,8.8nm,0.8s,baz=270,slow=2.8,SNR=17
FINES LR LR 18 49 01.1
comp=Z,458nm,21.8s,baz=278,slow=32
comp=Z,8.8nm,0.8s
SII **Sitkinak Islan** 81.15 326 P P 18 17 32.5 -0.3
baz=84
CJR **Cluj-Napoca** 81.15 44 ⇑P P 18 17 35.1 +2.1
CJR **Cluj-Napoca** 81.15 44 ⇑P P 18 17 35.1 +2.1
R18K **Karluk** 81.19 327 P P 18 17 33.8 +1.0
baz=84
H19K **Roundabout Mou** 81.33 335 IAmb IAmb 18 17 40.5
comp=Z,88nm,1.3s
H19K **Roundabout Mou** 81.33 335 P P 18 17 34.4 +1.0
baz=84,SNR=25
Q18K **Katmai Hardscr** 81.38 328 P P 18 17 34.6 +0.6
baz=84,SNR=15
P18K **Big Mountain,** 81.41 329 P P 18 17 34.2 +0.1
baz=84
E19K **Redstone River** 81.42 337 IAmb IAmb 18 17 40.9
comp=Z,87nm,1.6s
E19K **Redstone River** 81.42 337 P P 18 17 34.8 +0.8
baz=83,SNR=17
M18K **Stony River** 81.48 331 P P 18 17 35.2 +0.8
baz=84,SNR=27
G19K **Purcell Mounta** 81.52 336 IAmb IAmb 18 17 41.4
comp=Z,62nm,1.3s
G19K **Purcell Mounta** 81.52 336 P P 18 17 35.5 +1.0
baz=83,SNR=22
GCSA **Galena City Sc** 81.59 334 P P 18 17 35.8 +0.9
baz=83
N18K **Kilae Creek** 81.60 330 IAmb IAmb 18 17 41.6
comp=Z,86nm,1.1s
N18K **Kilae Creek** 81.60 330 P P 18 17 35.7 +0.6
baz=84,SNR=22
ARCR **ARCALIA** 81.63 44 ⇑P P 18 17 38.3 +2.9
D19K **Kuna River** 81.63 338 IAmb IAmb 18 17 43.2
comp=Z,97nm,1.6s
D19K **Kuna River** 81.63 338 P P 18 17 36.0 +0.9
baz=83,SNR=12
J18K **Innoko River** 81.67 333 P P 18 17 35.8 +0.4
baz=83
F19K **Shaleruckik Mo** 81.71 336 IAmb IAmb 18 17 42.2
comp=Z,95nm,1.4s
F19K **Shaleruckik Mo** 81.71 336 P P 18 17 36.0 +0.5
baz=83,SNR=29
VSU **Vasula** 81.78 32 *ce*P P 18 17 38.4 +2.4
VSU pmax pmax
comp=Z,57nm,1.1s
L18K **Granite Mounta** 81.81 332 IAmb IAmb 18 17 43.0
comp=Z,60nm,1.4s
L18K **Granite Mounta** 81.81 332 P P 18 17 36.8 +0.7
baz=83,SNR=12
Q17K **Contact Creek** 81.88 328 P P 18 17 36.5 -0.1
baz=83
ARR **Arges** 82.02 45 ⇑P P 18 17 40.2 +2.6
CHIR **Chirikof Islan** 82.03 325 P P 18 17 37.3 -0.1
baz=83
P17K **Kvichak River** 82.05 329 P P 18 17 37.5 +0.2
baz=83
C19K **Lookout Ridge** 82.08 339 P P 18 17 37.9 +0.5
baz=82,SNR=14
BUR08 **Bucovina Ar. S** 82.14 43 IAmb IAmb 18 17 43.4
comp=Z,52nm,1.1s
BURAR **Bucovina Array** 82.15 43 P P 18 17 37.1 -1.2
BURAR IAmb IAmb 18 17 43.8
comp=Z,53nm,1.2s
BURAR **Bucovina Array** 82.15 43 ⇓P P 18 17 40.2 +1.9
BURAR **Bucovina Array** 82.15 43 ⇓P P 18 17 40.2 +1.9
H18K **Honhosa River** 82.17 335 IAmb IAmb 18 17 45.5
comp=Z,118nm,1.7s
H18K **Honhosa River** 82.17 335 P P 18 17 39.1 +1.1
baz=82,SNR=11
G18K **Tagagawik** 82.19 336 IAmb IAmb 18 17 45.1
comp=Z,86nm,1.1s
G18K **Tagagawik** 82.19 336 P P 18 17 39.4 +1.4
baz=82,SNR=45
R17L **Mt. Peulik Vol** 82.21 327 P P 18 17 39.4 +1.1
baz=83
Q16K **King Salmon** 82.23 328 P P 18 17 38.9 +0.6
baz=83
PLVB **Pleven** 82.25 47 ⇑P P 18 17 42.0 +3.2
N17K **Nushagak Hills** 82.26 330 P P 18 17 38.1 -0.3
baz=82
M17K **Holitna River** 82.26 331 IAmb IAmb 18 18 03.6
comp=Z,48nm,1.4s
M17K **Holitna River** 82.26 331 P P 18 17 38.3 -0.2
baz=82
O17K **Koliganek Bris** 82.31 329 P P 18 17 39.4 +0.7
baz=82,SNR=6.6
HUMR **Humele** 82.36 46 ⇑P P 18 17 40.9 +1.5
A19K **Wainwright** 82.42 340 P P 18 17 39.5 +0.4
baz=80
DOPR **Dopca** 82.47 45 ⇓P P 18 17 40.6 +0.7
F18K **Selawik** 82.48 336 P P 18 17 40.6 +1.1
baz=81,SNR=14
K17K **Iditarod** 82.49 332 P P 18 17 41.0 +1.4
baz=82,SNR=24
L17K **Donlin** 82.57 332 P P 18 17 41.5 +1.5
baz=82,SNR=22
E18K **Tukpahlearik C** 82.72 337 IAmb IAmb 18 17 47.7
comp=Z,79nm,1.4s
E18K **Tukpahlearik C** 82.72 337 P P 18 17 41.6 +0.9
baz=80,SNR=14
C18K **Utukok River** 82.73 338 P P 18 17 41.5 +0.7
baz=80
J17K **VABM Dome** 82.73 333 IAmb IAmb 18 17 48.7
comp=Z,71nm,1.3s
J17K **VABM Dome** 82.73 333 P P 18 17 42.5 +1.6
baz=81,SNR=11
B18K **Kokolik River** 82.81 339 P P 18 17 41.6 +0.5
baz=79
O16K **Kokwok River B** 82.84 329 P P 18 17 41.7 +0.2
baz=82
H17K **Granite Mounta** 82.85 335 IAmb IAmb 18 17 48.8
comp=Z,52nm,1.1s
H17K **Granite Mounta** 82.85 335 P P 18 17 42.5 +1.0
baz=81,SNR=18
R16K **Pilot Point** 82.86 327 P P 18 17 42.1 +0.5
baz=82
P16K **Nushagak River** 82.87 329 P P 18 17 41.8 +0.1
baz=82
TURR **Turia** 82.89 45 ⇓P P 18 17 43.6 +1.5
MLR **Muntele Rosu** 82.92 45 IAmb IAmb 18 17 47.0
comp=Z,75nm,1.2s
MLR **Muntele Rosu** 82.92 45 LR LR 18 53 39.7
comp=Z,331nm,18.8s,baz=272,slow=35
MLR **Muntele Rosu** 82.92 45 ⇑P P 18 17 44.9 +2.5
MLR **Muntele Rosu** 82.92 45 ⇑P P 18 17 44.9 +2.5
MNK **Minsk** 82.92 36 *c i*P P 18 17 45.0 +3.0
N16K **Nishlik Lake** 83.04 330 P P 18 17 43.1 +0.5
baz=81

M16K	Timber Creek	83.05	331		P		P	18 17 43.9	+1.3	
	baz=81,SNR=21									
COVR	Voineasa-Covas	83.05	45	⇓	P		P	18 17 44.4	+1.5	
G17K	Kiwalik Mounta	83.06	335		P		P	18 17 43.5	+1.0	
	baz=80,SNR=15									
ONER	Baraj Valea Uz	83.11	44	⇑	P		P	18 17 45.7	+2.5	
F17K	Baldwin Pennin	83.14	336		IAmb		IAmb	18 17 49.9		
	comp=Z,56nm,1.1s									
F17K	Baldwin Pennin	83.14	336		P		P	18 17 43.9	+1.0	
	baz=80									
L16K	Owhat River	83.18	331		IAmb		IAmb	18 17 51.2		
	comp=Z,55nm,1.1s									
L16K	Owhat River	83.18	331		P		P	18 17 45.2	+1.9	
	baz=81,SNR=20									
ELND	Elena	83.22	48	⇑	P		P	18 17 46.2	+2.4	
E17K	Hotham Inlet	83.25	337		P		P	18 17 45.0	+1.5	
	baz=79,SNR=19									
TESR	Tescani	83.27	44	⇑	P		P	18 17 46.1	+2.1	
PLOR	Plostina	83.36	45	⇓	P		P	18 17 47.0	+2.4	
PLOR	Plostina	83.36	45	⇓	P		P	18 17 47.0	+2.4	
I17K	Unalakleet	83.37	334		P		P	18 17 45.1	+0.9	
	baz=80									
APA	Apatity	83.38	22	⇓	*i*P		P	18 17 44.2	+0.1	
APA					*e*S		S	18 28 03.7	-1.6	
APA					MLR		MLR			
	comp=Z,546nm,5.5s									
VRI	Vrincioaia	83.41	45	⇓	P		P	18 17 47.5	+2.7	
VRI	Vrincioaia	83.41	45	⇓	P		P	18 17 47.5	+2.7	
J16K	Anvik River	83.43	333		IAmb		IAmb	18 17 51.9		
	comp=Z,46nm,1.2s									
J16K	Anvik River	83.43	333		P		P	18 17 45.4	+0.9	
	baz=80									
RDOG	Red Dog Mine	83.46	338		P		P	18 17 45.4	+0.8	
	baz=78									
C17K	DeLong Mountai	83.47	338		P		P	18 17 45.2	+0.5	
	baz=78									
CHGN	Chignik	83.51	326		P		P	18 17 45.3	+0.3	
	baz=81,SNR=5.9									
D17K	Noatak River	83.60	338		P		P	18 17 46.2	+0.9	
	baz=78									
N15K	Kwethluk River	83.74	330		IAmb		IAmb	18 17 53.8		
	comp=Z,52nm,1.2s									
N15K	Kwethluk River	83.74	330		P		P	18 17 46.9	+0.7	
	baz=80									
LVZ	Lovozero	83.78	22	⇓	P		P	18 17 43.5	-2.8	
O15K	Ungalikthiuk R	83.78	329		P		P	18 17 46.8	+0.4	
	baz=80									
G16K	Koyuk River	83.78	335		IAmb		IAmb	18 17 53.8		
	comp=Z,59nm,1.2s									
G16K	Koyuk River	83.78	335		P		P	18 17 46.8	+0.5	
	baz=78									
H16K	Elim	83.89	335		P		P	18 17 47.9	+1.0	
	baz=78									
M15K	Kasigluk River	83.94	331		P		P	18 17 47.5	+0.3	
	baz=79									
EZN	Ezine	84.00	51	⇑	P		P	18 17 50.6	+2.7	
EZN	Ezine	84.00	51	⇑	P		P	18 17 50.6	+2.7	
K15K	Wolf Creek Mou	84.03	332		P		P	18 17 47.7	+0.1	
	baz=79									
L15K	Ungalak Mounta	84.13	332		P		P	18 17 48.6	+0.4	
	baz=79									
S14K	Fog Glacier	84.14	326		P		P	18 17 48.2	-0.2	
	baz=80									
SORM	Soroca	84.17	42	⇓	P		P	18 17 50.9	+2.3	
SORM	Soroca	84.17	42	⇓	P		P	18 17 50.9	+2.3	
C16K	Lisburne Hills	84.30	338		P		P	18 17 49.2	+0.4	
	baz=76									
KIEV	Kiev	84.31	40		P		P	18 17 49.0	-0.2	
KIEV	Kiev	84.31	40	⇓	P		P	18 17 50.4	+1.2	
KIEV	Kiev	84.31	40		P		P	18 17 49.0	-0.2	
KIEV					pmax		pmax			
	comp=Z,33nm,1.5s									
AKASG	Malin Array Be	84.31	40		P		P	18 17 48.4	-0.9	
	comp=Z,4.4nm,0.7s,baz=281,slow=4.3,SNR=17									
AKASG					LR		LR	18 54 20.0		
	comp=Z,325nm,18.5s,baz=278,slow=35									
	comp=Z,4.4nm,0.7s									
AKASG	Malin Array Be	84.31	40	*i*	P		P	18 17 52.0	+2.7	
AKASG					pmax		pmax			
	comp=Z,6.0nm,0.9s									
AKBB	Malin Array Si	84.31	40	*ce*	P		P	18 17 51.9	+2.6	
AKBB					pmax		pmax			
	comp=Z,22nm,1.4s									
CHNA	Chernabura Isl	84.41	325		P		P	18 17 49.6	-0.1	
	baz=80									
ICOR	Ion Corvin	84.43	46	⇑	P		P	18 17 52.6	+2.7	
O14K	Tigyukauivet M	84.49	329		P		P	18 17 50.3	+0.3	
	baz=79									
M14K	Bethel	84.54	331		P		P	18 17 51.4	+1.2	
	baz=78									
G15K	Niukluk	84.56	335		P		P	18 17 50.8	+0.6	
	baz=77									
N14K	Kuskokwak Cree	84.57	330		P		P	18 17 51.3	+1.0	
	baz=78									
F15K	North Star Dit	84.65	336		IAmb		IAmb	18 17 57.8		
	comp=Z,56nm,1.3s									
F15K	North Star Dit	84.65	336		P		P	18 17 51.7	+1.0	
	baz=76									
MILM	Milestii Mici	84.67	43	⇑	P		P	18 17 53.2	+2.1	
MILM	Milestii Mici	84.67	43	⇑	P		P	18 17 53.2	+2.1	
L14K	Kuka Creek	84.76	331		P		P	18 17 52.3	+1.0	
	baz=78									
SDPT	Sand Point	84.82	325		P		P	18 17 52.6	+0.9	
	baz=79									
J14K	Nanvaranak Lak	84.86	333		P		P	18 17 52.6	+0.9	
	baz=77									
ANM	Nome	85.22	335		P		P	18 17 53.9	+0.3	
	baz=76									
M13K	Dall Lake	85.28	331		P		P	18 17 54.5	+0.6	
	baz=77									
F14K	Arctic Creek	85.38	336		P		P	18 17 54.6	+0.3	
	baz=75									
K13K	Kusilvak Mount	85.55	332		P		P	18 17 55.6	+0.4	
	baz=76									
S12K	Black Hills	85.63	326		P		P	18 17 56.0	+0.2	
	baz=78									
TNA	Tin City	86.00	336		P		P	18 17 58.1	+0.7	
	baz=74									
TSUM	Tsumeb	86.06	110		P		P	18 17 56.9	-1.9	
TSUM	Tsumeb	86.06	110		LR		LR	18 51 03.2		
	comp=Z,559nm,21.9s,baz=280,slow=32									
FALS	False Pass	86.58	325		P		P	18 18 00.9	+0.5	
	baz=77									
M11K	Mekoryuk	86.66	331		P		P	18 18 01.2	+0.4	
	baz=75									
KLMR	Klimovskoe	87.64	28	*e*	P		P	18 18 04.7	-0.8	
KLMR				*e*				18 21 36.5		
KLMR					S		SKSac	18 28 31.2	-2.5	
KLMR					pmax		pmax			
	comp=Z,57nm,1.5s									
OBN	Obninsk	87.72	34		LR		LR	18 57 56.2		
	comp=Z,209nm,18.0s,baz=223,slow=36									
OBN	Obninsk	87.72	34	⇓	*e*P		P	18 18 04.7	-1.3	
OBN					*e*			18 18 26.1		
OBN								18 21 36.0		
OBN					*e*S		S	18 28 49.7	+1.2	
OBN					*e*PS		PnS	18 29 51.5	+2.3	
OBN					pmax		pmax			
	comp=Z,73nm,1.3s									
OBN					MLR		MLR			
	comp=Z,376nm,18.0s									
GAMB	Gambell	88.10	335		P		P	18 18 08.4	+0.8	
	baz=70									
MOS	Moscow	88.14	34		*e*P		P	18 18 07.7	-0.3	
MOS					pmax		pmax			
	comp=Z,43nm,1.2s									
MOS					MLR		MLR			
	comp=Z,500nm,19.0s									
PPT	Papeete	88.49	252		LR		LR	18 51 54.2		
	comp=Z,344nm,21.5s,baz=71,slow=32									
PPT2	Papeete2	88.50	252		*e*P		P	18 18 02.2	-8.3	
	comp=Z,96nm,24.5s									
PPT2	Papeete2	88.50	252		*e*PP		PP	18 21 34.7	-4.1	
	comp=Z,66nm,26.2s									
PPT2					*e*S		SKSac	18 28 35.5	-5.1	
	comp=Z,115nm,25.0s									
PPT2	Papeete2	88.50	252		*e*LQ		LQ	18 42 28.2		
	comp=Z,2μm,36.2s									
PPT2					*e*LR		LR	18 46 19.0		
	comp=Z,2μm,36.5s									
PPT2					*e*LR		LR	18 46 21.3		
	comp=Z,3μm,35.0s									
UNV	Unalaska Valle	88.58	325		P		P	18 18 10.6	+0.5	
	baz=74									
SIM	Simferopol'	88.69	45	*e*	P		P	18 18 10.3	-0.6	
SIM				*e*	S		S	18 28 53.0	-5.2	
SIM					pmax		pmax			
	comp=Z,25nm,1.1s									
SIM					MLR		MLR			
	comp=Z,400nm,19.6s									
ANTO	Ankara	88.89	50	⇑	P		P	18 18 15.2	+3.2	
ANTO	Ankara	88.89	50	⇑	P		P	18 18 15.2	+3.2	
KOOLE	Kule	89.24	113		IAmb		IAmb	18 18 18.9		
	comp=Z,46nm,1.0s									
VNA3	Neumayer Olymp	89.32	165	⇑	P		P	18 18 13.6	+0.4	
	comp=Z,31nm,0.9s									
VNA1	Neumayer--Stat	89.35	164	⇑	P		P	18 18 15.9	+2.7	
	comp=Z,47nm,1.0s									
XAUDM	Khaudum	89.41	109		IAmb		IAmb	18 18 20.1		
	comp=Z,33nm,1.1s									
P08K	Saint George I	89.44	328		P		P	18 18 14.2	+0.1	
	baz=72									
TBI	Tubuai	89.53	246		*e*LQ		LQ	18 42 46.4		
	comp=Z,2μm,41.8s									
TBI					*e*LR		LR	18 46 41.5		
	comp=Z,5μm,31.8s									
TBI					*e*LR		LR	18 46 50.5		
	comp=Z,1μm,35.5s									
BR131	Keskin Array S	89.55	50	*i*	P		P	18 18 17.6	+2.4	
BRTR	Keskin Array B	89.55	50		P		P	18 18 13.3	-1.9	
BRTR	Keskin Array B	89.55	50		P		P	18 18 13.6	-1.6	
	comp=Z,3.1nm,0.9s,baz=288,slow=5.1,SNR=13									
	comp=Z,3.1nm,0.9s									
BRTR	Keskin Array B	89.55	50	*i*	P		P	18 18 18.0	+2.8	
BRTR					pmax		pmax			
	comp=Z,9.0nm,1.1s									
SPIA	Saint Paul Isl	89.62	328		P		P	18 18 15.5	+0.6	
	baz=71									
LPSR	Galich'ya Gora	89.76	36	*e*	P		P	18 18 16.0	+0.3	
LPSR					pmax		pmax			
	comp=Z,10.0nm,0.9s									
KIRS	Kirsehir-Merke	89.90	50	⇓	P		P	18 18 19.8	+3.1	
VORR	Voronezh	90.20	37	*e*	P		P	18 18 18.8	+1.0	
VORR					pmax		pmax			
	comp=Z,10.0nm,0.9s									
VSR	Storozhevoye	90.31	38	*e*	P		P	18 18 18.5	+0.2	
VSR					pmax		pmax			
	comp=Z,10.0nm,1.0s									
VORD	Divnogorie	90.46	38	*e*	P		P	18 18 19.2	+0.2	
VORD					pmax		pmax			
	comp=Z,10.0nm,0.9s									
KGCAE	Kacgae	91.03	113		P		P	18 18 20.4	-2.0	
SNAA	Sanae	91.39	164	⇑	P		P	18 18 23.6	+0.7	
	comp=Z,1μm,1.0s									
SNAA	Sanae	91.39	164		P		P	18 18 22.0	-0.9	
SNAA	Sanae	91.39	164		P		P	18 18 22.9	+0.1	
	comp=Z,19nm,1.0s,baz=315,slow=5.7,SNR=42									
SNAA					LR		LR	18 58 40.8		
	comp=Z,704nm,21.0s,baz=288,slow=35									
	comp=Z,19nm,1.0s									
SNAA	Sanae	91.39	164	*ce*	P		P	18 18 24.0	+1.1	
SNAA					pmax		pmax			
	comp=Z,78nm,1.1s									
VRH	Novokhopyorsk	91.84	37	*e*	P		P	18 18 26.6	+1.2	
VRH					pmax		pmax			
	comp=Z,10.0nm,1.0s									
MMAI	Mount Meron Ar	92.52	56		P		P	18 18 29.2	+0.2	
	comp=Z,1.7nm,0.7s,baz=283,slow=13,SNR=1.8									
	comp=Z,1.7nm,0.7s									
EIL	Elat	92.95	59		LR		LR	19 00 44.3		
	comp=Z,354nm,20.1s,baz=296,slow=36									
TROLL	Troll, Antarti	93.03	163	⇑	P		P	18 18 30.7	+0.2	
	comp=Z,2μm,1.1s									
KIRV	Kirov	93.13	29	*ce*	P		P	18 18 34.3	+3.1	
KDWAN	Kaudwane	93.35	113		IAmb		IAmb	18 18 42.0		
	comp=Z,17nm,0.9s									
BILL	Bilibino	93.79	343	*i*	P		P	18 18 38.5	+4.4	
BILL					pmax		pmax			
	comp=Z,38nm,1.5s									
LBTB	Lobatse	94.46	114		LR		LR	18 56 41.0		
	comp=Z,646nm,20.9s,baz=268,slow=33									
BOSA	Boshof	94.75	118		P		P	18 18 39.3	-0.1	
	comp=Z,6.4nm,0.8s,baz=289,slow=4.3,SNR=8.5									
BOSA					LR		LR	18 58 51.2		
	comp=Z,441nm,19.6s,baz=278,slow=34									
	comp=Z,6.4nm,0.8s									
KIV	Kislovodsk	94.86	44	*e*	P		P	18 18 40.8	+1.2	
KIV					pmax		pmax			
	comp=Z,13nm,1.1s									
KIV					MLR		MLR			
	comp=Z,138nm,20.0s									
LSZ	Lusaka	95.28	104		LR		LR	18 56 04.7		
	comp=Z,268nm,21.4s,baz=284,slow=32									
MATP	Matopo	96.39	110		LR		LR	19 00 00.7		
	comp=Z,418nm,18.6s,baz=272,slow=34									
TIXI	Tiksi	97.54	356		LR		LR	19 01 46.5		
	comp=Z,408nm,21.9s,baz=22,slow=35									
TIXI	Tiksi	97.54	356	*i*	P		Pdif	18 18 54.6	+3.5	
TIXI					pmax		pmax			
	comp=Z,21nm,1.0s									
ARTI	Arti	98.42	28		LR		LR	18 59 48.2		
	comp=Z,475nm,21.8s,baz=312,slow=33									
MAK	Makhachkala	98.49	43	*c*	*i*P		P	18 18 52.3	-3.6	
MAK					*e*			18 22 54.3		
MAK					*e*			18 29 27.4		
MAK					*e*SS		SS	18 37 08.5	-0.5	
MAK					*e*SSS		SSS	18 40 59.6		
MAK					pmax		pmax			
	comp=Z,379nm,1.1s									
RAR	Rarotonga	98.59	250		LR		LR	18 58 05.7		
	comp=Z,405nm,18.4s,baz=92,slow=32									
SHEM	Shemya Is, Ala	99.66	328		LR		LR	19 04 32.4		
	comp=Z,888nm,21.9s,baz=78,slow=36									
QSPA	South Pole Qui	100.50	180		P		Pdif	18 19 06.4	+1.9	
	comp=Z,2.6nm,1.0s,baz=156,slow=3.1,SNR=5.8									
QSPA					PP		PP	18 23 09.2	-1.9	
	comp=Z,4.3nm,1.0s,baz=151,slow=8.2,SNR=4.4									
SYO	Syowa Base	104.79	159	⇓	*e*Pdiff		Pdif	18 19 22.2	-1.1	
SYO	Syowa Base	104.79	159	⇓	*e*pPdiff		pPdif	18 19 24.8	-1.0	
ZALV	Zalesovo Beam	110.72	19		PKiKP		PKiKP	18 23 48.8	-1.4	
	comp=Z,0.8nm,0.7s,baz=318,slow=4.1,SNR=4.3									
MKAR	Makanchi Array	115.71	25		PKP		PKPdf	18 24 00.0	+0.1	
	comp=Z,0.3nm,0.7s,baz=301,slow=3.8,SNR=1.8									
WMQ	Urumqi	120.31	23	*e*	PKP		PKPdf	18 24 08.7	-0.3	
WMQ					LR		LR			
	comp=N,500nm,21.1s									
WMQ					LR		LR			
	comp=Z,460nm,21.9s									
SONM	Songino Array	121.36	7		PKP		PKiKP	18 24 11.2	+0.2	
	comp=Z,1.0nm,0.7s,baz=327,slow=2.4,SNR=4.5									
SONM					PP		PP	18 25 40.2	-0.4	
	comp=Z,4.4nm,1.0s,baz=335,slow=6.4,SNR=7.8									
SONM					PKKPbc		PKKPbc	18 34 10.0	-3.4	
	comp=Z,1.0nm,0.7s,baz=166,slow=4.0,SNR=4.8									
BNX	BinXian	123.00	350	⇑	P		Pdif	18 20 44.5	-0.5	
BNX					pmax		pmax			
	comp=Z,5.0nm,2.1s									
USRK	Ussuriysk Ar.	123.53	346		PKP		PKPdf	18 24 14.9	-0.1	
	comp=Z,1.7nm,0.7s,baz=39,slow=5.5,SNR=4.1									
USRK					PP		PP	18 25 55.2	-0.1	
	comp=Z,4.9nm,0.9s,baz=26,slow=6.9,SNR=5.9									
XLT	XiLinHaoTe	125.85	359	*e*	PKP		PKiKP	18 24 21.5	+1.5	
XLT					LR		LR			
	comp=N,32nm,17.5s									
XLT					LR		LR			
	comp=E,480nm,16.6s									
XLT					LR		LR			
	comp=Z,490nm,23.3s									
GTA	Gaotai	128.24	15		PKP		PKiKP	18 24 25.9	+0.9	
GTA					pPKP		sPKPdf	18 24 35.5	+8.1	
GTA					PP		PP	18 26 29.0	+2.2	
GTA					AMB		AMB			
	comp=Z,55nm,6.8s									
GTA					LR		LR			
	comp=N,430nm,22.7s									
GTA					LR		LR			
	comp=E,330nm,19.5s									
GTA					LR		LR			
	comp=Z,820nm,22.7s									
MJAR	Matsushiro Arr	128.55	337		PKP		PKiKP	18 24 25.7	+0.2	
	comp=Z,5.0nm,0.9s,baz=36,slow=0.7,SNR=11									
MJAR					PP		PP	18 26 28.3	-0.6	
	comp=Z,2.0nm,0.8s,baz=14,slow=5.3,SNR=5.7									
HHC	Hu-ho-hao-te	128.78	4	*e*	P		PKPdf	18 24 20.5	-4.8	
HHC					LR		LR			
	comp=N,260nm,16.8s									
HHC					LR		LR			
	comp=E,270nm,16.0s									
HHC					LR		LR			
	comp=Z,430nm,16.8s									
BTO	Baotou	128.90	5	*e*	PKP		PKiKP	18 24 28.6	+2.4	
BTO					PP		PP	18 26 22.3	-8.6	
BJI	Beijing	129.71	359		PKP		PKPdf	18 24 25.4	-1.5	
BJI					pPKP		pPKPdf	18 24 29.0	-0.2	
BJI					LR		LR			
	comp=N,180nm,24.4s									
BJI					LR		LR			
	comp=E,180nm,21.9s									
BJI					LR		LR			
	comp=Z,250nm,21.0s									
DZM	Mont Dzumac	129.97	250	*e*	LQ		LQ	19 00 01.3		
	comp=Z,867nm,33.0s									
DZM				*e*	LR		LR	19 05 27.4		
	comp=Z,565nm,22.9s									
KSRS	Korea Array	130.89	347		PKP		PKPdf	18 24 29.2	-0.1	
	comp=Z,4.1nm,1.0s,baz=4.2,slow=0.8,SNR=14									
KSRS					PP		PP	18 26 43.0	-0.8	
	comp=Z,3.5nm,1.0s,baz=24,slow=6.9,SNR=9.4									
KSRS					SKPbc		SKPbc	18 27 53.6	-0.2	
	comp=Z,4.8nm,1.1s,baz=9.9,slow=2.8,SNR=5.2									
LZDM	Lanzhou Array	132.47	13		PKP		PKiKP	18 24 34.1	+0.2	
	comp=Z,1.0nm,0.3s,baz=307,slow=5.2,SNR=1.3									
LZDM					SKPab		SKPab	18 28 02.9	+1.7	
	comp=Z,1.3nm,0.3s,baz=2.9,slow=5.8,SNR=4.0									
TIA	Tai'an	133.51	358		PKP		PKiKP	18 24 36.7	+1.2	
HYB	Hyderabad	134.15	53	*e*	PKiKP		PKPdf	18 24 36.4	+0.5	
HYB				*e*	SKSdf		SKSdf	18 31 45.7	-2.4	
CD2	Chengdu	137.31	15		PKP		PKPdf	18 24 39.8	-1.8	
CD2					pPKP		sPKPdf	18 24 47.3	+2.7	
CD2					SKS		SKSdf	18 31 50.5	-2.6	
CD2					LR		LR			
	comp=N,630nm,18.4s									
CD2					LR		LR			
	comp=E,660nm,18.0s									
CD2					LR		LR			
	comp=Z,640nm,20.6s									
NJ2	Nanjing	137.56	356	*e*	P		PKPdf	18 24 40.1	-1.8	
NJ2					pmax		pmax			
	comp=Z,11nm,0.7s									
WHN	Wuhan	139.17	2		PKPbc		PKiKP	18 24 47.5	+0.3	
WHN					PP		PP	18 27 42.0	+5.9	
WHN					LR		LR			
	comp=Z,2μm,19.4s									
PZH	PanZhiHua	140.86	20		PKP		PKPdf	18 24 47.4	-0.9	
PZH					PP		PP	18 27 44.9	-2.1	
PZH					AMB		AMB			
	comp=Z,90nm,4.6s									
PZH					LR		LR			
	comp=N,270nm,20.4s									
PZH					LR		LR			
	comp=E,240nm,22.6s									
PZH					LR		LR			
	comp=Z,270nm,22.2s									
GYA	Guiyang	142.27	13		PKP		PKPdf	18 24 46.9	-3.9	
GYA					PP		PP	18 27 56.9	+1.5	
SSLB	Suanglung	145.50	351				PKPbc	18 24 55.1	-1.3	
CHTO	Chiang Mai	146.61	29				PKPdf	18 24 56.2	-2.2	
CHTO	Chiang Mai	146.61	29		PKIKP		PKPdf	18 24 56.2	-2.2	
CMAR	Chiang Mai Arr	146.91	30				PKPdf	18 24 56.6	-2.3	
CMAR	Chiang Mai Arr	146.91	30		PKPbc		PKPdf	18 24 59.7	+0.8	
	comp=Z,20nm,1.1s,baz=334,slow=3.2,SNR=25									
STKA	Stephens Creek	147.84	225				PKPbc	18 25 02.8	-0.2	
STKA	Stephens Creek	147.84	225		PKPbc		PKPdf	18 25 01.2	+1.2	
	comp=Z,8.2nm,0.8s,baz=99,slow=2.8,SNR=9.5									
STKA	Stephens Creek	147.84	225		PKP2		PKPbc	18 25 02.8	-0.2	
CTAO	Charters Tower	148.89	248				PKPbc	18 25 05.4	-0.6	
CTAO	Charters Tower	148.89	248		PKP2		PKPbc	18 25 05.4	-0.6	
QIZ	Qiongzhong	150.13	11		PKPbc		PKPdf	18 25 06.1	+2.0	
QIZ					PP		PP	18 28 40.0	-1.7	
INKA	Innaminka	150.72	231				PKPbc	18 25 07.6	-2.7	
BBOO	Buckleboo	150.82	217				PKPbc	18 25 09.1	-1.3	
ASAR	Alice Springs	158.10	231		PKP		PKPdf	18 25 14.0	-1.2	
	comp=Z,1.4nm,1.0s,baz=114,slow=1.4,SNR=6.2									
ASAR					PKPab		PKPab	18 25 48.3	-0.4	
	comp=Z,1.4nm,0.7s,baz=127,slow=3.7,SNR=9.2									
WRA	Warramunga Arr	159.56	240				PKPdf	18 25 14.3	-2.7	
WRA	Warramunga Arr	159.56	240		PKP		PKPdf	18 25 14.9	-2.1	
	comp=Z,3.6nm,0.9s,baz=109,slow=1.0,SNR=9.8									
WRA					PKPab		PKPab	18 25 55.2	+0.1	
	comp=Z,5.5nm,1.0s,baz=110,slow=4.0,SNR=13									
SBUM	Sibu	166.72	14		PKPdf		PKPdf	18 25 26.1	+2.1	

*NOU **09** 18:08:39.5, 38.34S×175.61E, h206km, MLv4.4/17, North Island, New Zealand*
*NEIC **09** 18:08:39.9±1.2, 38.33S±0.09×175.64E±0.10, h207km±7km, mb4.3/4, Error ellipse: s-maj=14.0km s-min=8.8km az=142.0*
*WEL **09** 18:08:40.4±1.0, 38.5S±11.1×17.6E±1.2, h203km±7km, M3.9/88, ML2.8/8, MLv3.9/88, Error ellipse: s-maj=16.5km s-min=13.5km az=106.4, confirmed*
*IDC **09** 18:09:05.4±17.0, 38.36S×174.64E, h451km±170km, mb3.1/6, mbtmp4.0/6, Error ellipse: s-maj=130.2km s-min=17.9km az=58.0*

ISC 09 18:08:39.8±0.7, 38.28S±0.04×175.68E±0.05, h216km±5km, n185, σ1§02/196, mb3.9/8, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLZ	Tolley Road	0.12	246	P	Pn	18 09 07.8	-0.1
KUTZ	Kaahu Road	0.24	152	P	Pn	18 09 07.9	-0.1
GRRZ	Galatos Road	0.34	102	P	Pn	18 09 07.9	-0.4
UTU	Uhuhina	0.42	76	P	Pn	18 09 08.1	-0.4
WATZ	Wair

BKZ	Black Stump Fm	1.09	145	P	Pn	18 09 11.5	-0.3
BKZ	Black Stump Fm	1.09	145	S	S	18 09 34.3	-2.5
BKZ	Black Stump Fm	1.09	145	P	Pn	18 09 11.6	-0.2
VRZ	Vera Road	1.11	220	P	Pn	18 09 12.6	+0.7
MTVZ	Mangateitei	1.12	188	P	Pn	18 09 12.3	+0.3
URZ	Urewera	1.12	89	P	Pn	18 09 10.7	-1.3
URZ	Urewera	1.12	89	P	Pn	18 09 10.7	-1.3
MOVZ	Moawhango	1.13	177	P	Pn	18 09 12.0	-0.1
NMHZ	Naumai	1.20	133	P	Pn	18 09 13.2	+0.6
MKAZ	Moumakai	1.24	340	P	Pn	18 09 12.2	-0.7
RAHZ	Arahi	1.27	120	P	Pn	18 09 13.2	+0.1
KWHZ	Kaweka Forest	1.28	153	P	Pn	18 09 13.4	+0.2
MHEZ	Mangahewa	1.33	233	P	Pn	18 09 15.1	+1.6
RAGZ	Rawiri	1.38	100	P	Pn	18 09 13.6	-0.4
SNGZ	Shannon Statio	1.39	112	P	Pn	18 09 13.9	-0.1
MCHZ	McNeill Hill	1.41	146	P	Pn	18 09 14.8	+0.7
ARHZ	Aropaoanui	1.42	134	P	Pn	18 09 14.6	+0.4
WHHZ	Waihua	1.45	124	P	Pn	18 09 14.7	+0.3
ETAZ	East Tamaki Re	1.45	335	P	Pn	18 09 13.8	-0.8
KRHZ	Kereru	1.46	159	P	Pn	18 09 14.8	+0.2
AWAZ	Awhitu Peninsu	1.47	325	P	Pn	18 09 14.3	-0.4
KUZ	Kuaotunu	1.53	1	P	Pn	18 09 14.1	-1.1
KUZ	Kuaotunu	1.53	1	P	Pn	18 09 12.5	-2.7
LREZ	Lake Rotokare	1.54	220	P	Pn	18 09 16.5	+1.3
WIAZ	Waiheke Island	1.55	343	P	Pn	18 09 14.6	-0.8
WAZ	Wanganui	1.57	200	P	Pn	18 09 16.1	+0.7
NEZ	North Egmont	1.59	231	P	Pn	18 09 16.9	+1.3
PREZ	Palmer Road	1.59	228	P	Pn	18 09 17.0	+1.3
RUGZ	Raukumara Rang	1.60	79	P	Pn	18 09 13.9	-2.0
WTAZ	Waiatarua	1.61	326	P	Pn	18 09 15.7	-0.1
PKE	Pukeiti	1.61	235	P	Pn	18 09 17.1	+1.3
MBAZ	Motutapu North	1.63	337	P	Pn	18 09 15.3	+0.7
KHEZ	Kahui Hut	1.65	232	P	Pn	18 09 17.4	+1.2
PNHZ	Pukenui	1.68	166	P	Pn	18 09 16.5	0.0
RIGZ	Rimuhau	1.69	105	P	Pn	18 09 16.3	-0.2
KNZ	Kokohu	1.73	116	P	Pn	18 09 16.6	-0.2
NBEZ	Newall Road No	1.73	235	P	Pn	18 09 18.1	+1.3
HAZ	Te Kaha	1.74	73	P	Pn	18 09 15.1	-1.9
RVAZ	Riverhead Bore	1.74	329	P	Pn	18 09 16.7	-0.4
CKHZ	Cape Kidnapper	1.75	142	P	Pn	18 09 17.6	+0.5
KAHZ	Kahuranaki	1.77	149	P	Pn	18 09 17.8	+0.5
TSZ	Takapari Road	1.79	173	P	Pn	18 09 17.6	+0.1
NMEZ	Namu Road	1.81	231	P	Pn	18 09 18.9	+1.4
TWGZ	Tauwhareparae	1.81	87	P	Pn	18 09 17.1	-0.6
PRGZ	Paritu Road	1.84	111	P	Pn	18 09 17.8	-0.2
WPHZ	Waipukurau	1.88	162	P	Pn	18 09 18.4	+0.1
PKGZ	Pakihiroa	1.94	78	P	Pn	18 09 17.7	-1.2
OHWZ	Ohakea	1.94	188	P	Pn	18 09 19.5	+0.7
MHGZ	Mahia Peninsul	1.95	117	P	Pn	18 09 19.5	+0.1
PXZ	Pawanui	1.97	153	P	Pn	18 09 19.2	+0.1
CNGZ	Carnagh Statio	2.00	97	P	Pn	18 09 19.5	+0.1
GRZ	Great Barrier	2.03	355	P	Pn	18 09 18.8	-1.0
PUZ	Puketiti	2.04	85	P	Pn	18 09 18.8	-1.0
DVHZ	Dannevirke	2.05	170	P	Pn	18 09 19.7	-0.3
POWZ	Post Office Ro	2.11	178	P	Pn	18 09 20.3	-0.2
PRHZ	Porangahau	2.12	160	P	Pn	18 09 20.6	0.0
MXZ	Matakaoa Point	2.19	72		Pn	18 09 20.8	-0.6
MXZ	Matakaoa Point	2.19	72	P	Pn	18 09 20.8	-0.6
MXZ	Matakaoa Point	2.19	72	P	Pn	18 09 20.5	-0.9
WMGZ	Waiomatatini S	2.21	79	P	Pn	18 09 20.4	-1.2
ANWZ	Angora Road	2.26	164	P	Pn	18 09 22.1	0.0
PRWZ	Pori Road	2.28	174	P	Pn	18 09 22.2	-0.1
MRZ	Mangatainoka R	2.38	182		Pn	18 09 23.0	-0.3
MRZ	Mangatainoka R	2.38	182	P	Pn	18 09 22.8	-0.5
BFZ	Birch Farm	2.44	170		Pn	18 09 23.3	-0.6
BFZ	Birch Farm	2.44	170	P	Pn	18 09 23.4	-0.6
BFZ	Birch Farm	2.44	170	P	Pn	18 09 23.5	-0.4
TIWZ	Tintock	2.50	176	P	Pn	18 09 24.2	-0.4
OGWZ	Otaki Gorge	2.56	189	P	Pn	18 09 25.1	-0.1
WCZ	Waipu Caves	2.57	335	P	Pn	18 09 24.4	-1.0
HOWZ	Holdsworth Sta	2.62	183	P	Pn	18 09 25.2	-0.7
KIW	Kapiti Island	2.65	193	P	Pn	18 09 25.6	-0.6
CPWZ	Castlepoint	2.66	171	P	Pn	18 09 26.3	0.0
TMWZ	Te Maipa	2.83	177	P	Pn	18 09 27.4	-0.8
DUWZ	D'Urville Isla	2.86	208	P	Pn	18 09 27.9	-0.7
CAW	Cannon Point	2.86	189	P	Pn	18 09 28.1	-0.5
MTW	Mount Morrison	2.88	183	P	Pn	18 09 27.8	-1.0
WEL	Wellington	3.08	193	P	Pn	18 09 30.4	-0.7
PAWZ	Paruwai Farm	3.10	184	P	Pn	18 09 30.3	-1.1
TRWZ	Traveller	3.11	180	P	Pn	18 09 30.6	-0.9
SNZO	South Karori	3.12	194	Pn	Pn	18 09 30.6	-0.9
SNZO	South Karori	3.12	194	P	Pn	18 09 30.7	-0.8
SNZO	South Karori	3.12	194	P	S	18 10 09.4	-2.5
TCW	Tory Channel	3.12	200		Pn	18 09 30.8	-0.7
TCW	Tory Channel	3.12	200	P	Pn	18 09 31.0	-0.5
MSWZ	Moikau Station	3.15	186		Pn	18 09 30.8	-1.1
MSWZ	Moikau Station	3.15	186	P	Pn	18 09 30.9	-1.1
BHW	Baring Head	3.19	191		Pn	18 09 31.2	-1.1
BHW	Baring Head	3.19	191	P	Pn	18 09 31.5	-0.8
PLWZ	Palliser	3.30	186		Pn	18 09 32.5	-1.2
PLWZ	Palliser	3.30	186	P	Pn	18 09 32.5	-1.2
TUWZ	Tuamarina	3.42	203		Pn	18 09 34.4	-0.6
TUWZ	Tuamarina	3.42	203	P	Pn	18 09 34.5	-0.6
NNZ	Nelson	3.43	210	Pn	Pn	18 09 34.0	-1.1
NNZ	Nelson	3.43	210	P	Pn	18 09 33.9	-1.2
TKNZ	Takaka Hill	3.46	217		Pn	18 09 33.8	-1.8
TKNZ				Sn	S	18 10 17.1	-2.1
TKNZ	Takaka Hill	3.46	217	P	Pn	18 09 34.0	-1.6
OUZ	Omahuta	3.48	331	P	Pn	18 09 35.4	-0.5
OUZ	Omahuta	3.48	331	P	Pn	18 09 35.3	-0.5
QRZ	Quartz Range	3.52	223	Pn	Pn	18 09 35.0	-1.3
QRZ	Quartz Range	3.52	223	P	Pn	18 09 34.8	-1.5
QRZ	Quartz Range	3.52	223	P	Pn	18 09 34.8	-1.5
CMWZ	Cape Campbell	3.64	198	Pn	Pn	18 09 36.9	-0.8
CMWZ	Cape Campbell	3.64	198	P	Pn	18 09 37.6	-0.1
BSWZ	Blackbirch Sta	3.70	201		Pn	18 09 37.5	-0.9
BSWZ	Blackbirch Sta	3.70	201	P	Pn	18 09 37.7	-0.7
MRNZ	Matariki Terra	3.84	215		Pn	18 09 38.4	-1.8
MRNZ	Matariki Terra	3.84	215	P	Pn	18 09 38.3	-1.8
THZ	Tophouse	4.08	211		Pn	18 09 41.5	-1.5
KHZ	Kahutara	4.44	201		Pn	18 09 46.6	-0.9
KHZ	Kahutara	4.44	201	P	Pn	18 09 46.6	-0.9
KHZ	Kahutara	4.44	201	S	S	18 10 38.4	-2.4
DSZ	Denniston Nort	4.56	219	Pn	Pn	18 09 46.9	-2.1
RPZ	Rata Peaks	6.46	211	P	Pn	18 10 11.2	-1.8
ODZ	Otahua Downs	7.74	208	Pn	Pn	18 10 28.0	-1.5
ODZ	Otahua Downs	7.74	208	P	Pn	18 10 27.7	-1.8
JCZ	Jackson Bay	7.78	220	P	Pn	18 10 28.3	-1.8
SYZ	Scrubby Hill	9.56	208	P	Pn	18 10 52.3	-0.6
MSVF	Nonsavu	20.57	6	P	P	18 13 02.1	-0.2
MSVF				IAmb	IAmb	18 13 02.4	
	comp=Z,7.4nm,0.7s						
STKA	Stephens Creek	28.51	273	P	P	18 14 15.5	+0.4
	comp=Z,1.3nm,0.7s,baz=121,slow=18,SNR=1.7						
	comp=Z,1.3nm,0.7s						
AS31	Alice Springs	38.34	280	P	P	18 15 40.4	+0.4
ASAR	Alice Springs	38.34	280	P	P	18 15 40.4	+0.5
ASAR	Alice Springs	38.34	280	P	P	18 15 39.6	-0.3
	comp=Z,0.6nm,0.8s,baz=127,slow=8.4,SNR=14						
ASAR				PcP	PcP	18 17 47.2	-1.9
	comp=Z,0.2nm,0.9s,baz=120,slow=4.1,SNR=1.1						
	comp=Z,0.6nm,0.8s						
SBA	Scott Base	39.86	183	P	P	18 15 52.3	+0.5
WRA	Warramunga Arr	40.09	285	P	P	18 15 53.9	-0.6
	comp=Z,0.3nm,0.5s,baz=122,slow=8.3,SNR=2.0						
	comp=Z,0.3nm,0.5s						
WB0	Warramunga Arr	40.15	285	P	P	18 15 55.2	+0.2
WB0				IAmb	IAmb	18 16 37.6	
	comp=Z,10nm,1.3s						
QSPA	South Pole Qui	51.84	180	P	P	18 17 29.9	+4.3
	comp=Z,1.4nm,0.4s,baz=95,slow=9.7,SNR=32						
	comp=Z,1.4nm,0.4s						
BELA	Belgrano 2	62.65	173	P	P	18 18 42.2	+1.5
SNAA	Sanae	70.35	180	P	P	18 19 30.0	+0.4
	comp=Z,4.3nm,1.0s,baz=188,slow=14,SNR=0.8						
	comp=Z,4.3nm,1.0s						
KSRS	Korea Array	87.28	324	P	P	18 21 00.9	-0.7
	comp=Z,1.0nm,0.6s,baz=139,slow=5.1,SNR=7.0						
	comp=Z,1.0nm,0.6s						
HHC	Hu-ho-hao-te	98.13	316	*e*P	Pdif	18 21 55.4	+3.7
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,61nm,4.6s						
ARCES	ARCESS Array B	144.85	342	PKP	PKPbc	18 27 48.0	-1.5
	comp=Z,3.7nm,1.0s,baz=50,slow=2.9,SNR=8.1						
FINES	FINESS Array B	150.14	331	PKPbc	PKPbc	18 28 02.1	-1.8
	comp=Z,0.6nm,0.3s,baz=62,slow=3.9,SNR=7.5						

*NEIC **09** 18:17:36.5±0.8, 44°.00N±0°.06×105°.40W±0°.04, h0km±1km, ML2.9/25, Error ellipse: s-maj=10.1km s-min=3.9km az=336.0*

*IDC **09** 18:17:36.7±1.6, 44°.41N×105°.86W, h0km, mbtmp3.2/2, ML3.1/2, Error ellipse: s-maj=55.7km s-min=9.9km az=144.0*

ISC 09 18:17:34.4±0.9, 44°.09N±0°.05×105°.60W±0°.04, h0km, n18, σ1s47/18, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	Black Hills	1.13	88		Pg	18 17 55.7	-0.3
K22A	Casper	1.59	205		Pg	18 18 06.4	+1.5
K22A				IAML		18 18 33.3	
	124nm,0.3s						
LAO	LASA Array	2.63	351	Pn	Pg	18 18 24.8	-0.1
LAO				IAML		18 19 22.3	
	57nm,1.3s						
RLMT	Red Lodge	2.81	293	Pn	Pg	18 18 26.6	-1.7
RLMT				IAML		18 19 26.6	
	28nm,1.5s						
RLMT				IAML		18 19 46.3	
	34nm,1.5s						
BW06	Boulder Array	3.17	247		Pb	18 18 30.7	-1.2
PD31	Pinedale Array	3.17	247		Pb	18 18 30.7	-1.2
PD31					Sg	18 19 16.7	+0.3
PDAR	Pinedale Array	3.17	247		Sg	18 19 16.4	0.0
PDAR	Pinedale Array	3.17	247	Pn	Pb	18 18 30.8	-1.0
	2.6nm,0.3s,baz=69,slow=19,SNR=6.1						
PDAR				Lg	Lg	18 19 14.7	
	4.2nm,0.3s,baz=60,slow=31,SNR=14						
	1.0nm,0.3s						
YNE	Yellowstone No	3.28	288	Pn	Pb	18 18 32.8	-0.9
YNE				IAML		18 19 34.5	
	comp=N,22nm,1.0s						
YMP	Mirror Lake Pl	3.33	283	Pn	Pb	18 18 32.7	-1.8
YMP				IAML		18 19 37.1	
	comp=N,28nm,1.1s						
YMP				IAML		18 20 16.1	
	comp=E,28nm,1.2s						
LOHW	Long Hollow	3.65	264		Pb	18 18 39.9	-0.1
LOHW				IAML		18 20 22.2	
	comp=E,17nm,3.6s						
YPP	Pitchstone Pla	3.75	275	Pn	Pn	18 18 37.0	+3.2
YPP				IAML		18 20 28.0	
	comp=N,24nm,0.0s						
YPP				IAML		18 20 46.2	
	comp=E,17nm,0.1s						
HAYD	Hayden	3.78	200		Pn	18 18 32.6	-1.6
OGNE	Ogallala	4.11	139	Pg	Pb	18 18 47.8	+0.1
BOZ	Bozeman (W)	4.54	291		Pn	18 18 47.1	+2.6
BOZ				IAML		18 20 30.2	
	comp=E,10nm,2.0s						
BOZ				IAML		18 21 03.6	
	comp=E,10nm,3.5s						
PV10	Paradox Valley	6.27	206		Pn	18 19 08.0	-0.4
I56US	NEWPORT INFRAS	9.02	302	I	I	19 13 15.0	
	baz=113,slow=310,SNR=3.0						
ULM	Lac du Bonnet	9.04	44	Pn	Pn	18 19 46.0	-0.1
	comp=E,0.4nm,0.3s,baz=232,slow=13,SNR=1.5						
ULM				Lg	Lg	18 22 09.3	
	comp=E,0.2nm,0.3s,baz=338,slow=19,SNR=3.0						
	comp=E,1.6nm,0.4s						

*SOME **09** 18:27:42.6, 39°.83N×81°.72E, h5km*

NNC 09 18:27:51.2±2.1, 42°.08N×84°.01E, h0km, mb3.1, mpv2.8, 2C-2D, Error ellipse: s-maj=19.1km s-min=12.9km az=131.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	Shalkode	3.53	289	*e*P	Pn	18 28 49.2	+1.9
SHLS	2.9nm,0.1s			*e*S	Sb	18 29 37.1	-0.9
	28nm,0.4s						
PDGK	Podgornoye	3.56	292	⇑Pn	Pn	18 28 47.9	+0.1
PDGK	6.0nm,1.1s			⇓Lg	Lg	18 29 44.2	
	12nm,0.6s						
KURS	Kuram	4.53	290	*e*P	Pg	18 29 22.3	+4.4
KURS	0.6nm,0.1s			*e*S	Sg	18 30 33.9	+17
	0.7nm,0.0s						
MK31	Makanchi Array	4.87	346	Pn	Pn	18 29 05.3	-0.5
MK31	0.8nm,0.7s,baz=97,slow=20,SNR=16			⇑Pg	Pg	18 29 21.0	-3.5
	0.3nm,0.4s,baz=159,slow=17,SNR=7.9						
MK31				⇓Lg	Lg	18 30 25.6	
	5.6nm,0.7s,baz=170,slow=29,SNR=9.3						
MAKZ	Makanchi	4.95	344	Lg	Lg	18 30 28.3	
	2.2nm,0.6s						
CHKK	Chushkaly	5.45	291	*e*P	Pb	18 29 22.3	-5.0
CHKK	0.6nm,0.1s			*e*S	Sb	18 30 33.9	+0.7
	0.7nm,0.0s						
KTBS	Karatobe	5.63	289	*e*P	Pn	18 29 01.8	-14
KTBS	0.1nm,0.1s			*e*S	Sn	18 29 58.9	-23
	7.6nm,0.5s						

*GUC **09** 18:30:45.5±0.7, 24°.27S×67°.30W, h170km±5km, ML3.8*

*IDC **09** 18:30:48.5±3.2, 23°.94S×66°.95W, h188km±33km, mb3.1/3, mbtmp3.7/6, Error ellipse: s-maj=41.6km s-min=22.2km az=115.0*

ISC 09 18:30:45.9±0.8, 24°.21S±0°.05×67°.33W±0°.04, h166km±7km, n22, σ1s87/35, 8C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALTA		0.91	91	⇓*e*P	Pn	18 31 11.2	-0.9
SALTA				*e*S	Sn	18 31 31.9	-0.2
AF01	San Pedro de A	1.48	328	*e*P	Pn	18 31 18.1	+1.2
AF01				*i* S	Sn	18 31 42.7	+2.1
AF01				IAML		18 31 45.6	
	comp=N,488nm,0.4s						
SLA	San Lorenzo	1.74	107	⇑*e*P	Pn	18 31 19.0	-0.4
SLA				*e*S	Sn	18 31 44.5	-0.7
GO02	Mina Guanaco	2.26	245	⇑*i*P	Pn	18 31 25.2	-0.1
GO02				*i* S	Sn	18 31 55.8	0.0
GO02				IAML		18 31 56.7	
	comp=E,413nm,0.4s						
PB06	IPOC Station P	2.54	306	⇑*i*P	Pn	18 31 28.8	+0.3
PB06				*i* S	Sn	18 32 00.9	-0.6
PB06				IAML		18 32 03.7	
	comp=N,434nm,0.1s						
YJA	Yavi	2.63	40	*e*P	Pn	18 31 30.1	+0.2
YJA				*e*S	Sn	18 32 03.5	-0.3
PB14	IPOC Station P	2.83	261	*e*P	Pn	18 31 31.5	-0.6
PB14				*e*S	Sn	18 32 06.4	-1.5
PB05	IPOC Station P	2.96	297	⇑*i*P	Pn	18 31 33.2	-0.3
PB05				*e*S	Sn	18 32 08.7	-1.8
PB05				IAML		18 32 11.7	
	comp=N,163nm,0.3s						
PB09	IPOC Station P	2.98	323	*i* P	Pn	18 31 34.6	+0.7
PB09				*e*S	Sn	18 32 11.4	+0.3
PB09				IAML		18 32 17.7	
	comp=N,171nm,0.4s						
PB10	IPOC Station P	3.03	283	⇑*i*P	Pn	18 31 34.2	-0.1
PB10				*i* S	Sn	18 32 10.4	-1.4
PB10				IAML		18 32 15.7	
	comp=E,125nm,0.6s						
AC02	Maricunga	3.07	211	⇑*e*P	Pn	18 31 34.8	-0.6
AC02				*e*S	Sn	18 32 13.1	-0.5
PB03	IPOC Station P	3.10	314	⇑*i*P	Pn	18 31 35.0	-0.3
PB03				*e*S	Sn	18 32 12.2	-1.5
AC01	Pan de Azucar	3.53	236	⇑*i*P	Pn	18 31 38.8	-1.8
AC01				*i* S	Sn	18 32 19.8	-3.4
LPAZ	La Paz	7.92	354	P	Pn	18 32 38.4	-0.4
	comp=E,1.1nm,0.4s,baz=173,slow=8.2,SNR=4.8						
PLCA	Paso Flores	16.69	189	P	Pn	18 34 35.7	+5.5
	comp=E,1.4nm,0.6s,baz=3.1,slow=11,SNR=9.1						
BDFB	Brasilia	20.05	68	P	P	18 35 01.7	-4.8
	comp=E,5.7nm,0.7s,baz=246,slow=10.0,SNR=3.1						
QSPA	South Pole Qui	65.99	180	P	P	18 41 15.6	+1.3
	comp=E,1.0nm,0.7s,baz=224,slow=1.0,SNR=9.1						
	comp=E,1.0nm,0.7s						
VNDA	Vanda	74.44	190	P	P	18 42 08.9	+3.5
	comp=E,0.2nm,0.5s,baz=114,slow=10.0,SNR=2.0						
	comp=E,0.2nm,0.5s						
TORD	Torodi Ar. Bea	76.93	69	P	P	18 42 19.6	-0.9
	comp=E,0.3nm,0.8s,baz=251,slow=3.6,SNR=1.4						
	comp=E,0.3nm,0.8s						
ASAR	Alice Springs	128.13	205	PKP	PKPdf	18 49 31.9	-1.3
	comp=E,0.2nm,0.8s,baz=145,slow=1.7,SNR=1.9						
WRA	Warramunga Arr	131.30	208	PKP	PKiKP	18 49 38.8	-1.4
	comp=E,0.4nm,0.7s,baz=162,slow=1.5,SNR=1.9						
MKAR	Makanchi Array	146.88	39	PKPbc	PKPbc	18 50 07.0	-1.8
	comp=E,0.3nm,0.6s,baz=318,slow=1.9,SNR=4.5						

*IDC **09** 18:31:50.1±1.2, 1°.21N×91°.59E, h0km, mb3.8/8, mbtmp3.8/11, ML3.8/2, MS4.4/2, Error ellipse: s-maj=36.2km s-min=19.9km az=49.0*

*NEIC **09** 18:31:51.7±2.7, 1°.18N±0°.08×91°.61E±0°.09, h10km±1km, mb4.2/8, Error ellipse: s-maj=18.8km s-min=8.1km az=233.0*

*DJA **09** 18:32:02.1±1.0, 1°.N±5°×9°.2E±°, h127km±25km, M4.6/12, mb4.5/12, mB5.1/6, MLv4.6/9, Mw(mB)4.5/6*

ISC 09 18:31:52.1±0.8, 1°.32N±0°.09×91°.85E±0°.07, h10km, n53, σ2s13/48, mb4.0/11, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	Sinabang, Aceh	4.60	76	P	Pn	18 33 03.3	+1.5
SNSI				S	Sn	18 33 51.5	-3.9
MLSI	Meulaboh, Aceh	5.41	57	P	Pn	18 33 13.7	+0.8
MLSI				S	Sn	18 34 11.2	-4.0
GSI	Gunungsitoli	5.72	90	Pn	Pn	18 33 18.6	+1.4
GSI				Sn	Sn	18 34 20.0	-3.1
GSI	Gunungsitoli	5.72	90	P	Pn	18 33 18.6	+1.4
	0.2nm44nm,0.6s						
GSI				S	Sn	18 34 18.3	-4.7
	0.2nm44nm,0.6s						
KCSI	Kotacane, Aceh	6.31	70	P	Pn	18 33 26.9	+1.7
	0.3nm885nm87nm,0.7s						
LHMI	Lhok Sumawe	6.40	53	Pn	Pn	18 33 28.8	+2.3
LHMI	Lhok Sumawe	6.40	53	P	Pn	18 33 28.3	+1.8
	0.5nm2µm53nm,0.5s						
PBSI	Pulau Batu	6.57	102	P	Pn	18 33 30.2	+1.3
	0.5nm77nm,0.8s						
RPSI	Rantau Prapat	7.20	79		Pn	18 33 38.9	+1.4
RPSI	Rantau Prapat	7.20	79		Pn	18 33 40.9	+3.4
RPSI					Sn	18 34 55.3	-4.1
PSI	Prapat	7.22	78	Pn	Pn	18 33 40.9	+3.0
	1.3nm,0.3s,baz=278,slow=7.3,SNR=5.2						
PSI				Sn	Sn	18 34 55.3	-4.8
	1.4nm,0.3s,baz=290,slow=15,SNR=6.3						
	4.8nm,0.3s						
SISI	Saibi	7.70	110	P	Pn	18 33 44.8	+0.4
	0.2nm34nm,0.9s						
MNSI	Mandailing Nat	7.75	94	P	Pn	18 33 46.1	+1.1
PDSI	Padang	8.89	104	P	Pn	18 34 02.0	+1.2
	17nm,0.8s						
KULM	Kulim	9.63	66		Pn	18 34 12.2	+1.4
IPM	Ipoh	9.69	71		Pn	18 34 12.2	+0.6
KRJI	Kerinci	10.19	109	P	Pn	18 34 20.0	+1.4
MASI	Maura Aman, Be	11.29	113	P	Pn	18 34 34.5	+0.8
MYKOM	Kota Tinggi	12.01	88	Pn	Pn	18 34 44.3	+0.9
MNAI	Manna	12.45	117	Sn	Sn	18 36 59.5	-9.0
PALK	Pallekele	12.59	298	Pn	Pn	18 34 47.5	-3.9
PALK				Sn	Sn	18 36 56.7	-15
PALK	Pallekele	12.59	298	Pn	Pn	18 34 48.1	-3.3
	0.6nm,0.3s,baz=115,slow=15,SNR=5.0						
PALK				Sn	Sn	18 36 56.3	-16
	1.7nm,0.3s,baz=54,slow=18,SNR=6.9						
	4.4nm,0.8s						
CMAR	Chiang Mai Arr	18.40	22	P	P	18 36 08.6	+1.1
	0.8nm,0.4s,baz=207,slow=12,SNR=8.6						
CHTO	Chiang Mai	18.73	21	P	P	18 36 11.7	+0.7
SBUM	Sibu	20.39	87		P	18 36 31.6	+2.3
H08S2	Diego Garcia H	21.26	245	T	T	18 58 25.7	
	baz=65,slow=75,SNR=31						
H08S3	Diego Garcia H	21.26	245	T	T	18 58 20.6	
	baz=65,slow=75,SNR=42						
H08S1	Diego Garcia H	21.28	245	T	T	18 58 23.3	
	baz=65,slow=75,SNR=28						
SLVN	Son La	23.11	30	P	P	18 37 00.8	+2.3
SLVN				IAmb	IAmb	18 37 02.9	
	comp=Z,4.6nm,0.9s						
SHL	Shillong	24.11	0	P	P	18 37 09.2	+0.8
H01W3	Cape Leeuwin H	41.63	152	T	T	19 23 57.0	
	baz=325,slow=76,SNR=13						
H01W2	Cape Leeuwin H	41.64	152	T	T	19 23 59.4	
	baz=325,slow=76,SNR=14						
H01W1	Cape Leeuwin H	41.64	152	T	T	19 23 58.6	
	baz=325,slow=76,SNR=12						
MKAR	Makanchi Array	46.05	351	P	P	18 40 16.3	+0.2
MKAR	Makanchi Array	46.05	351	P	P	18 40 15.7	-0.4
	comp=Z,1.0nm,0.8s,baz=168,slow=8.6,SNR=5.7						
	comp=Z,1.0nm,0.8s						
WB0	Warramunga Arr	46.69	119	P	P	18 40 21.2	-0.2
WRA	Warramunga Arr	46.70	119	P	P	18 40 21.0	-0.6
	comp=Z,0.8nm,0.6s,baz=292,slow=7.2,SNR=7.0						
	comp=Z,0.8nm,0.6s						
WRAB	Tennant Creek	46.71	119	P	P	18 40 22.1

HUMP	**Col San Antoni**	**17.79 274**	Pn	**Pn**	**18 48 57.7 -1.3**		
PDPR	**Patillas Dam,**	**17.96 274**		**Pn**	**18 48 59.6 -1.4**		
SJG	**San Juan**	**18.08 274**	Pn	**Pn**	**18 49 01.0 -1.5**		
SJG	**San Juan**	**18.08 274**	Pn	**Pn**	**18 49 02.8 +0.3**		
	7.1nm,0.5s,baz=75,slow=12,SNR=5.1						
SJG			LR	LR	18 54 24.9		
	comp=Z,370nm,21.1s,baz=52,slow=32						
CELP	**Cerrillos**	**18.48 274**		**P**	**18 49 04.7 -2.8**		
OBIP	**Obispado Ponce**	**18.51 274**	P	**P**	**18 49 04.8 -3.0**		
PCRV	**Puerto La Cruz**	**18.52 249**	P	**P**	**18 49 08.7 +0.8**		
	2.0nm,0.3s,baz=63,slow=6.3,SNR=5.3						
	7.9nm,0.4s						
CRPR	**Cabo Rojo, PR**	**18.99 274**	P	**P**	**18 49 12.1 -0.9**		
BOAV	**Boa Vista**	**20.08 222**		**P**	**18 49 24.5 -0.4**		
MAL2	**Monte Alegre,**	**20.78 200**		**P**	**18 49 33.0 +0.5**		
BAUV	**El Baul**	**22.08 249**		**P**	**18 49 46.4 -0.2**		
SDDR	**Presa de Saban**	**22.93 277**	P	**P**	**18 49 57.7 +2.0**		
SDDR			IAmb	IAmb	18 50 03.2		
	comp=Z,17nm,0.9s						
SDV	**Santo Domingo**	**24.44 252**	P	**P**	**18 50 11.8 +1.3**		
RCBR	**Riachuelo**	**25.89 154**	LR	LR	18 58 15.7		
	comp=Z,140nm,18.5s,baz=328,slow=31						
RUSC	**La Rusia**	**27.91 248**		**P**	**18 50 43.5 +1.3**		
ROSC	**El Rosal**	**29.48 248**	LR	LR	19 02 19.2		
	comp=Z,257nm,21.6s,baz=57,slow=36						
VILB	**Vilhena**	**33.06 204**	P	**P**	**18 51 28.3 +1.1**		
BDFB	**Brasilia**	**33.14 182**		**P**	**18 51 28.8 +0.9**		
BDFB	**Brasilia**	**33.14 182**	P	**P**	**18 51 29.6 +1.7**		
	comp=Z,8.5nm,0.5s,baz=2.0,slow=10,SNR=11						
BDFB			LR	LR	19 03 21.8		
	comp=Z,224nm,20.3s,baz=299,slow=34						
	comp=Z,8.5nm,0.5s						
V58A	**Windy Hill, Pi**	**33.54 309**	P	**P**	**18 51 31.9 +0.7**		
V58A			IAmb	IAmb	18 51 32.8		
	comp=Z,5.9nm,0.9s						
R58B	**Mineral**	**33.61 313**	P	**P**	**18 51 32.8 +1.1**		
R58B			IAmb	IAmb	18 51 34.5		
	comp=Z,9.3nm,1.1s						
G62A	**West of Eustis**	**33.67 330**		**P**	**18 51 33.4 +1.2**		
W57A	**Gilead**	**33.95 307**	P	**P**	**18 51 36.0 +1.3**		
W57A			IAmb	IAmb	18 51 42.2		
	comp=Z,6.3nm,1.0s						
S57A	**Dark Hollow, R**	**34.27 312**	P	**P**	**18 51 39.2 +1.7**		
S57A			IAmb	IAmb	18 51 40.1		
	comp=Z,7.1nm,0.9s						
KMSC	**Kings Mountain**	**34.96 307**	P	**P**	**18 51 44.5 +0.9**		
Q56A	**Snyder Ridge,**	**35.02 314**		**P**	**18 51 45.1 +1.1**		
Q56A			IAmb	IAmb	18 51 47.1		
	comp=Z,13nm,1.0s						
BLA	**Blacksburg**	**35.08 310**		**P**	**18 51 45.2 +0.7**		
BLA			IAmb	IAmb	18 51 47.4		
	comp=Z,12nm,1.0s						
R55A	**Marlinton**	**35.32 312**	P	**P**	**18 51 44.9 -1.7**		
R55A			IAmb	IAmb	18 51 50.2		
	comp=Z,11nm,0.9s						
J57A	**Williamstown**	**35.37 323**	P	**P**	**18 51 47.6 +0.7**		
BG3	**Lake Jocassee**	**36.15 306**	P	**P**	**18 51 50.0 -3.7**		
BG3			IAmb	IAmb	18 51 52.5		
	comp=Z,6.4nm,0.7s						
ESPN	**Las Esperanzas**	**36.25 267**	P	**P**	**18 51 54.5 -0.3**		
V53A	**Saluda**	**36.28 307**	P	**P**	**18 51 54.4 -0.5**		
TKL	**Tuckaleechee C**	**37.01 306**	LR	LR	19 05 35.8		
	comp=Z,93nm,19.6s,baz=92,slow=34						
S51A	**Beattyville**	**37.57 309**	P	**P**	**18 52 07.0 +1.3**		
S51A			IAmb	IAmb	18 52 08.8		
	comp=Z,12nm,1.0s						
Q51A	**Peebles**	**37.93 312**	P	**P**	**18 52 09.9 +1.1**		
Q51A			IAmb	IAmb	18 52 11.7		
	comp=Z,15nm,1.1s						
SADO	**Sadowa**	**38.00 322**	LR	LR	19 04 19.6		
	comp=Z,2μm,21.3s,baz=134,slow=31						
BUKO	**Buck Lake**	**38.53 323**	P	**P**	**18 52 13.3 -0.5**		
ATAH	**Atahualpa**	**39.50 234**	LR	LR	19 08 02.5		
	comp=Z,98nm,21.7s,baz=59,slow=35						
LPAZ	**La Paz**	**39.59 213**	P	**P**	**18 52 24.5 +0.9**		
LPAZ	**La Paz**	**39.59 213**	P	**P**	**18 52 24.1 +0.5**		
	comp=Z,1.6nm,0.7s,baz=29,slow=6.4,SNR=5.6						
LPAZ			LR	LR	19 07 55.0		
	comp=Z,133nm,21.4s,baz=38,slow=35						
	comp=Z,1.6nm,0.7s						
SCHQ	**Schefferville**	**40.02 342**	P	**P**	**18 52 26.6 +0.5**		
SCHQ			LR	LR	19 06 56.4		
	comp=Z,58nm,0.8s,baz=135,slow=2.9,SNR=2.1						
	comp=Z,2μm,19.9s,baz=160,slow=33						
WVT	**Waverly**	**40.29 305**	P	**P**	**18 52 30.3 +1.6**		
H10N3	**ASCENSION HYDR**	**41.05 125**	T	T	19 36 08.7		
	baz=308,slow=75,SNR=850						
H10N2	**ASCENSION HYDR**	**41.05 125**	T	T	19 36 08.9		
	baz=308,slow=75,SNR=994						
H10N1	**ASCENSION HYDR**	**41.07 125**	T	T	19 36 10.2		
	baz=308,slow=75,SNR=1071						
SFIN	**Lafayette**	**41.12 312**	P	**P**	**18 52 36.6 +1.2**		
H10S3	**ASCENSION HYDR**	**41.62 127**	T	T	19 36 51.5		
	baz=307,slow=74,SNR=364						
H10S2	**ASCENSION HYDR**	**41.64 127**	T	T	19 36 52.8		
	baz=273,slow=74,SNR=305						
FVM	**French Village**	**42.80 307**	IAmb	IAmb	18 52 56.1		
	comp=Z,11nm,0.8s						
ESDC	**Sonseca Array**	**43.24 50**	LR	LR	19 08 43.3		
	comp=Z,133nm,18.3s,baz=274,slow=33						
WHAR	**Wooly Hollow**	**43.62 303**		**P**	**18 52 56.7 +0.9**		
R40A	**Maddies Stadio**	**44.28 307**	IAmb	IAmb	18 53 02.9		
	comp=Z,12nm,1.1s						
P40A	**Paris**	**44.45 309**	IAmb	IAmb	18 53 04.2		
	comp=Z,12nm,1.1s						
L40A	**Anamosa**	**44.62 313**	IAmb	IAmb	18 53 10.6		
	comp=Z,9.8nm,0.9s						
CPUP	**Villa Florida**	**44.87 193**		**P**	**18 53 06.3 +0.5**		
CPUP	**Villa Florida**	**44.87 193**	P	**P**	**18 53 06.2 +0.4**		
	comp=Z,1.9nm,0.8s,baz=82,slow=19,SNR=14						
	comp=Z,1.9nm,0.8s						
S39A	**Bolivar**	**44.95 306**	IAmb	IAmb	18 53 13.2		
	comp=Z,5.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**47.22 88**		**P**	**18 53 22.7 -1.9**		
TORD	**Torodi Ar. Bea**	**47.22 88**	P	**P**	**18 53 22.3 -2.3**		
	comp=Z,1.5nm,0.8s,baz=294,slow=8.7,SNR=9.1						
TORD			PcP	**PcP**	**18 54 55.9 -0.2**		
	comp=Z,0.4nm,0.8s,baz=256,slow=1.7,SNR=1.0						
	comp=Z,1.5nm,0.8s						
BRDY	**Brady**	**48.67 296**	IAmb	IAmb	18 53 38.7		
	comp=Z,4.4nm,0.9s						
WMOK	**Wichita Mounta**	**48.79 301**	IAmb	IAmb	18 53 43.3		
	comp=Z,5.1nm,0.9s						
CSTR	**Hydro, Custer**	**48.83 302**	IAmb	IAmb	18 53 44.4		
	comp=Z,5.8nm,1.1s						
SFJD	**Kangerlussuaq**	**49.32 358**	LR	LR	19 09 19.4		
	comp=Z,125nm,21.7s,baz=186,slow=30						
ULM	**Lac du Bonnet**	**50.55 321**	LR	LR	19 14 08.7		
	comp=Z,96nm,18.6s,baz=109,slow=35						
OGNE	**Ogallala**	**52.21 308**	IAmb	IAmb	18 54 04.2		
	comp=Z,8.7nm,0.8s						
TXAR	**Lajitas Array**	**52.65 294**	P	**P**	**18 54 06.2 +0.3**		
	comp=Z,0.2nm,0.5s,baz=82,slow=8.7,SNR=4.1						
TXAR			PcP	**PcP**	**18 55 17.4 +1.4**		
	comp=Z,0.7nm,0.8s,baz=96,slow=5.9,SNR=4.1						
	comp=Z,0.2nm,0.5s						
VHRN	**Van Horn**	**53.79 295**	IAmb	IAmb	18 54 22.3		
	comp=Z,8.4nm,1.2s						
ISCO	**Idaho Springs**	**54.77 307**	IAmb	IAmb	18 54 25.4		
	comp=Z,4.6nm,0.8s						
ANMO	**Albuquerque**	**55.10 301**	LR	LR	19 15 58.4		
	comp=Z,115nm,20.6s,baz=156,slow=34						
S22A	**4UR Ranch, Cre**	**55.54 304**	IAmb	IAmb	18 54 30.4		
	comp=Z,6.2nm,1.0s						
CTI	**Castel Tesino**	**55.90 46**		**P**	**18 54 30.8 +1.5**		
CTI			IAmb	IAmb	18 54 31.8		
	comp=Z,4.6nm,0.9s						
PV01	**Paradox Valley**	**56.94 304**	IAmb	IAmb	18 54 40.3		
	comp=Z,6.7nm,1.0s						
PV02	**Paradox Valley**	**57.07 304**	IAmb	IAmb	18 54 45.5		
	comp=Z,7.7nm,1.0s						
PV13	**Radium Mtn., P**	**57.13 304**	IAmb	IAmb	18 54 46.5		
	comp=Z,7.7nm,1.1s						
PV18	**Skein Mesa, Pa**	**57.21 304**	IAmb	IAmb	18 54 50.1		
	comp=Z,5.4nm,0.9s						
PV05	**Paradox Valley**	**57.35 304**	IAmb	IAmb	18 54 46.7		
	comp=Z,7.6nm,0.9s						
GERES	**GERESS Array B**	**57.76 43**	P	**P**	**18 54 42.6 +0.1**		
	comp=Z,1.2nm,0.9s,baz=255,slow=11,SNR=5.6						
	comp=Z,1.2nm,0.9s						
BW06	**Boulder Array**	**58.02 310**	IAmb	IAmb	18 54 50.5		
	comp=Z,5.3nm,1.0s						
PDAR	**Pinedale Array**	**58.02 310**	P	**P**	**18 54 44.2 -0.4**		
	comp=Z,5.3nm,1.2s,baz=94,slow=6.1,SNR=14						
PDAR			LR	LR	19 17 09.8		
	comp=Z,56nm,22.0s,baz=71,slow=33						
	comp=Z,5.3nm,1.2s						

SRU	**San Rafael Swe**	**58.51 305**	IAmb	IAmb	18 54 50.6		
	comp=Z,4.7nm,0.9s						
LOHW	**Long Hollow**	**58.85 311**	IAmb	IAmb	18 54 52.1		
	comp=Z,4.6nm,0.8s						
TPAW	**Teton Pass**	**59.09 310**	IAmb	IAmb	18 54 58.6		
	comp=Z,7.8nm,1.1s						
U15A	**North Rim**	**59.87 302**	IAmb	IAmb	18 55 01.3		
	comp=Z,6.4nm,1.0s						
DUG	**Duxbay, Tooele**	**60.31 307**	IAmb	IAmb	18 55 03.0		
	comp=Z,7.1nm,1.4s						
HVU	**Hansel Valley**	**60.33 308**	IAmb	IAmb	18 55 08.3		
	comp=Z,4.2nm,0.8s						
BGU	**Big Grassy Mou**	**60.49 307**	IAmb	IAmb	18 55 04.0		
	comp=Z,6.9nm,1.1s						
CCUT	**Cedar City**	**60.72 304**		**P**	**18 55 03.5 +0.2**		
CCUT			IAmb	IAmb	18 55 12.0		
	comp=Z,5.4nm,0.9s						
PSUT	**Pine Spring**	**61.10 305**	IAmb	IAmb	18 55 14.1		
	comp=Z,5.5nm,1.1s						
SPR3	**Spring Creek 3**	**61.47 305**		**P**	**18 55 09.0 +0.4**		
SPR3			IAmb	IAmb	18 55 11.7		
	comp=Z,6.1nm,1.0s						
PLCA	**Paso Flores**	**62.06 200**	P	**P**	**18 55 12.2 +0.2**		
	comp=Z,1.4nm,0.8s,baz=32,slow=9.0,SNR=4.0						
	comp=Z,1.4nm,0.8s						
TPNV	**Topopah Spring**	**63.03 303**	IAmb	IAmb	18 55 27.8		
	comp=Z,4.5nm,0.8s						
WCT	**Wildcat Mounta**	**63.34 303**	IAmb	IAmb	18 55 29.2		
	comp=Z,4.2nm,0.8s						
YKA	**Yellowknife Ar**	**64.06 332**	P	**P**	**18 55 24.6 -0.3**		
	comp=Z,1.2nm,0.7s,baz=94,slow=7.0,SNR=4.5						
YKA			LR	LR	19 22 29.3		
	comp=Z,106nm,18.4s,baz=102,slow=35						
	comp=Z,1.2nm,0.7s						
FINES	**FINESS Array B**	**66.61 30**	P	**P**	**18 55 42.3 +0.8**		
	comp=Z,1.9nm,0.8s,baz=256,slow=5.6,SNR=4.7						
	comp=Z,1.9nm,0.8s						
ARCES	**ARCESS Array B**	**67.50 21**	P	**P**	**18 55 47.0 -0.1**		
	comp=Z,3.5nm,0.8s,baz=263,slow=7.2,SNR=5.4						
	comp=Z,3.5nm,0.8s						
AKASG	**Malin Array Be**	**67.92 42**	P	**P**	**18 55 50.7 +0.7**		
	comp=Z,0.2nm,0.2s,baz=268,slow=5.5,SNR=2.0						
	comp=Z,0.2nm,0.8s						
BRTR	**Keskin Array B**	**71.95 53**	P	**P**	**18 56 15.6 +0.4**		
	comp=Z,0.8nm,0.8s,baz=241,slow=7.2,SNR=4.0						
	comp=Z,0.8nm,0.8s						
OBN	**Obninsk**	**72.11 37**	LR	LR	19 25 54.2		
	comp=Z,111nm,19.1s,baz=228,slow=34						
INK	**Inuvik**	**72.36 337**	IAmb	IAmb	18 56 18.0		
	comp=Z,3.8nm,0.8s						
INK	**Inuvik**	**72.36 337**	LR	LR	19 26 11.6		
	comp=Z,168nm,20.4s,baz=81,slow=34						
O28M	**Mount Upton**	**76.20 330**	IAmb	IAmb	18 56 42.7		
	comp=Z,5.5nm,1.0s						
BCAR	**Beaver Creek A**	**76.47 332**		**P**	**18 56 39.6 -1.4**		
E24K	**Your Creek**	**77.89 338**	IAmb	IAmb	18 56 52.0		
	comp=Z,4.5nm,0.9s						
IL31		**78.23 334**	IAmb	IAmb	18 56 52.5		
	comp=Z,4.4nm,0.8s						
ILAR	**Eielson Array**	**78.23 334**		**P**	**18 56 49.6 -1.2**		
ILAR	**Eielson Array**	**78.23 334**	P	**P**	**18 56 50.1 -0.7**		
	comp=Z,2.7nm,0.7s,baz=78,slow=5.6,SNR=18						
	comp=Z,2.7nm,0.7s						
CCB	**Clear Creek Bu**	**78.64 334**		**P**	**18 56 52.2 -0.9**		
CCB			IAmb	IAmb	18 56 54.6		
	comp=Z,5.0nm,1.0s						
WRH	**Wood River Hil**	**78.81 334**	IAmb	IAmb	18 56 55.6		
	comp=Z,6.4nm,1.0s						
G23K	**Bananza Creek**	**78.88 337**		**P**	**18 56 54.8 +0.4**		
G23K			IAmb	IAmb	18 56 57.0		
	comp=Z,4.3nm,0.8s						
H23K	**Yukon River**	**78.98 336**	IAmb	IAmb	18 57 02.0		
	comp=Z,5.0nm,0.9s						
TRF	**Thorofare Moun**	**80.06 334**	IAmb	IAmb	18 57 08.0		
	comp=Z,5.3nm,0.8s						
G21K	**Allakaket**	**80.25 337**	IAmb	IAmb	18 57 04.4		
	comp=Z,5.3nm,0.9s						
KTH	**Kantishna Hill**	**80.29 334**	IAmb	IAmb	18 57 04.0		
	comp=Z,6.7nm,0.9s						
KHWEE	**KHWEE**	**81.24 116**	P	**P**	**18 57 07.4 -0.6**		
L18K	**Granite Mounta**	**83.24 334**	P	**P**	**18 57 16.8 -0.9**		
BOSA	**Boshof**	**83.73 123**	P	**P**	**18 57 20.3 -0.6**		
BOSA			IAmb	IAmb	18 57 21.7		
	comp=Z,2.9nm,0.8s						
BOSA	**Boshof**	**83.73 123**	P	**P**	**18 57 20.6 -0.3**		
	comp=Z,2.5nm,0.8s,baz=296,slow=6.0,SNR=4.9						
	comp=Z,2.5nm,0.8s						
BVAR	**Borovoye Array**	**91.46 32**	P	**P**	**18 57 56.9 -0.8**		
	comp=Z,0.5nm,0.9s,baz=310,slow=5.1,SNR=7.0						
	comp=Z,0.5nm,0.9s						
SNAA	**Sanae**	**94.06 167**	P	**P**	**18 58 09.4 +0.3**		
SNAA			IAmb	IAmb	18 58 33.5		
	comp=Z,4.1nm,1.4s						
SNAA	**Sanae**	**94.06 167**	P	**P**	**18 58 09.5 +0.3**		
	comp=Z,1.7nm,1.1s,baz=338,slow=11,SNR=3.2						
	comp=Z,1.7nm,1.1s						
VNDA	**Vanda**	**118.44 187**	PKPdf	**PKPdf**	**19 03 36.0 -2.2**		
CMAR	**Chiang Mai Arr**	**130.99 45**	PKP	**PKPdf**	**19 04 03.8 -0.2**		
	comp=Z,0.5nm,0.7s,baz=319,slow=1.5,SNR=3.0						
ASAR	**Alice Springs**	**173.98 189**	PKPab	**PKPab**	**19 06 30.1 -2.2**		
	comp=Z,0.7nm,0.8s,baz=164,slow=3.8,SNR=4.3						

*IDC **09** 19:12:57.2±0.7,85.18N×91.24E,h0km,mb3.8/16, mbtmp3.8/17,ML3.6/1,MS3.7/6,Error ellipse: s-maj=20.3km s-min=16.0km az=129.0*

*NEIC **09** 19:13:00.1±2.8,85.8N±0.2×85.5E±0.6,h10km±2km, mb4.2/9,Error ellipse: s-maj=35.0km s-min=6.2km az=174.0*

*FCIAR **09** 19:13:04.0,85.62N×84.65E,h10km,station OMEGA has station magnitude of 3.90 station ZFI2 has station magnitude of 4.00*

ISC 09 19:12:58.8±0.6,85.25N±0.10×88.71E±0.07,h10km,n41, σ1s89/40,mb3.9/20,MS3.8/5,North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SVZ	**Severnaya Zeml**	**6.23**	**157**	*eP*		Pn	Pn	19 14 20.3	-10
SVZ				*eS*		Sn	Sn	19 15 26.8	-15
ZFI2	**Zemlya Franca-**	**6.46**	**250**	*eP*		**Pn**	**Pn**	**19 14 35.0**	**+1.4**
ZFI2				*eS*		**Sn**	**Sn**	**19 15 43.5**	**-3.8**
	65nm,1.9s								
OMEGA	**Omega**	**6.47**	**250**	*eP*		**Pn**	**Pn**	**19 14 35.0**	**+1.1**
OMEGA				*eS*		**Sn**	**Sn**	**19 15 43.5**	**-4.2**
	49nm,2.0s								
KBS	**Kingsbay**	**11.06**	**281**	Pn		Pn	Pn	19 15 31.1	-5.7
SPA0	**Spitsbergen Ar**	**11.39**	**276**	*eP*		**Pn**	**Pn**	**19 15 44.9**	**+3.7**
SPA0				*eS*		Sn	Sn	19 17 41.3	-6.9
SPITS	**Spitsbergen Ar**	**11.39**	**276**	Pn		**Pn**	**Pn**	**19 15 39.6**	**-1.6**
	baz=24,slow=14								
SPITS						Sn	**Sn**	**19 17 44.9**	**-3.2**
	baz=40,slow=25								
SPB2	**Spitsbergen Ar**	**11.39**	**276**	Pn		**Pn**	**Pn**	**19 15 38.0**	**-3.2**
ARCES	**ARCESS Array B**	**18.90**	**256**	Pn		**Pn**	**Pn**	**19 17 20.7**	**+1.1**
ARCES	**ARCESS Array B**	**18.90**	**256**	P		**P**	**P**	**19 17 20.0**	**+1.0**
	0.2nm,0.3s,baz=19,slow=11,SNR=10								
ARCES						LR	LR	19 25 21.7	
	comp=Z,160nm,19.3s,baz=310,slow=39								
	3.4nm,0.8s								
LSH	**Leshukonskoye**	**22.00**	**231**	*eP*		**P**		**19 17 52.2**	**-0.3**
D19K	**Kuna River**	**23.91**	**57**	P		**P**		**19 18 12.1**	**-0.1**
E23K	**Chandalar**	**24.90**	**49**	P		**P**		**19 18 21.5**	**+0.1**
E23K						IAmb	IAmb	19 18 30.4	
	comp=Z,4.5nm,0.9s								
C36M	**Paulatuk**	**24.93**	**27**	P		**P**		**19 18 18.9**	**-2.5**
E19K	**Redstone River**	**24.99**	**56**	P		**P**		**19 18 23.2**	**+1.1**
E19K						IAmb	IAmb	19 18 38.4	
	comp=Z,7.5nm,1.4s								
SHIP	**Sredneye Shipi**	**25.23**	**230**	*eP*		**P**		**19 18 24.1**	**-0.2**
E29M	**Blow River**	**25.25**	**39**	P		**P**		**19 18 21.8**	**-2.6**
E29M						IAmb	IAmb	19 18 44.2	
	comp=Z,6.7nm,1.3s								
F20K	**Avaraart Lake**	**25.50**	**55**	P		**P**		**19 18 25.4**	**-1.3**
G30M	**tAoh Zraii Nji**	**26.74**	**38**	P		**P**		**19 18 36.6**	**-1.4**
G30M						IAmb	IAmb	19 18 46.1	
	comp=Z,5.4nm,1.1s								
FINES	**FINESS Array B**	**26.83**	**251**			**P**		**19 18 40.7**	**+2.0**
FINES	**FINESS Array B**	**26.83**	**251**	P		**P**		**19 18 40.3**	**+1.6**
	comp=Z,1.6nm,0.6s,baz=8.6,slow=10,SNR=9.3								
	comp=Z,1.6nm,0.6s								
SFJD	**Kangerlussuaq**	**26.94**	**326**	LR		LR	LR	19 29 09.5	
	comp=Z,90nm,18.6s,baz=168,slow=36								
ILAR	**Eielson Array**	**28.34**	**48**	P		**P**		**19 18 52.3**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=352,slow=9.6,SNR=5.6								
	comp=Z,0.5nm,0.8s								
NOA	**NORSAR Array B**	**28.44**	**266**	P		**P**		**19 18 55.6**	**+2.4**
	comp=Z,0.5nm,0.8s,baz=12,slow=9.3,SNR=2.2								
	comp=Z,0.5nm,0.8s								
ARTI	**Arti**	**29.75**	**214**	LR		LR		19 32 37.1	
	comp=Z,208nm,19.8s,baz=12,slow=40								
L18K	**Granite Mounta**	**30.22**	**58**	P		**P**		**19 19 10.6**	**+1.7**
L18K						IAmb	IAmb	19 19 13.8	
	comp=Z,7.3nm,1.4s								
ZALV	**Zalesovo Beam**	**31.47**	**184**	P		**P**		**19 19 19.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=1.9,slow=8.7,SNR=2.9								
ZALV				PcP		**PcP**		**19 22 11.7**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=349,slow=1.5,SNR=2.4								
	comp=Z,0.4nm,0.4s								
YKA	**Yellowknife Ar**	**32.10**	**20**	P		**P**		**19 19 25.6**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=347,slow=6.1,SNR=2.8								
YKA				LR		LR		19 33 08.3	
	comp=Z,82nm,18.3s,baz=88,slow=38								
	comp=Z,1.3nm,0.8s								
BVAR	**Borovoye Array**	**32.65**	**201**	P		**P**		**19 19 31.3**	**+0.9**
	comp=Z,4.7nm,1.2s,baz=4.1,slow=10,SNR=9.9								
	comp=Z,4.7nm,1.2s								
BELG	**Belogornoye**	**34.31**	**226**	LR		LR		19 34 08.2	
	comp=Z,405nm,22.0s,baz=95,slow=37								
KURBB	**Kurchatov Arra**	**34.87**	**191**	P		**P**		**19 19 49.8**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=12,slow=7.2,SNR=5.7								
KURBB				PcP		**PcP**		**19 22 21.9**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=356,slow=3.0,SNR=2.5								
	comp=Z,0.4nm,0.7s								
AKASG	**Malin Array Be**	**37.25**	**245**	P		**P**		**19 20 09.4**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=9.7,slow=8.7,SNR=4.7								
	comp=Z,1.2nm,0.6s								
SONM	**Songino Array**	**37.83**	**161**	P		**P**		**19 20 13.5**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=358,slow=8.7,SNR=4.7								
	comp=Z,0.7nm,0.7s								
MKAR	**Makanchi Array**	**38.65**	**187**	P		**P**		**19 20 21.5**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=5.9,slow=7.9,SNR=7.2								
	comp=Z,1.0nm,0.8s								
GERES	**GERESS Array B**	**40.33**	**260**	P		**P**		**19 20 39.2**	**+3.3**
	comp=Z,0.6nm,0.8s,baz=7.2,slow=8.5,SNR=4.4								
	comp=Z,0.6nm,0.8s								
KBZ	**Khabaz**	**43.24**	**229**	P		**P**		**19 21 00.9**	**+1.3**
	comp=Z,4.6nm,1.1s,baz=0.0,slow=5.1,SNR=3.4								
	comp=Z,4.6nm,1.1s								
BRTR	**Keskin Array B**	**47.84**	**239**	P		**P**		**19 21 37.8**	**+1.5**
	comp=Z,1.8nm,0.8s,baz=4.5,slow=6.4,SNR=6.5								
	comp=Z,1.8nm,0.8s								
PFO	**Pinyon Flats O**	**60.91**	**24**	LR		LR		19 50 40.6	
	comp=Z,60nm,18.3s,baz=334,slow=37								
TXAR	**Lajitas Array**	**65.50**	**12**	P		**P**		**19 23 41.5**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=358,slow=5.7,SNR=4.3								
	comp=Z,0.2nm,0.5s								
CMAR	**Chiang Mai Arr**	**66.96**	**169**	P		**P**		**19 23 50.1**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=358,slow=6.7,SNR=4.8								
	comp=Z,0.4nm,0.4s								
TORD	**Torodi Ar. Bea**	**76.73**	**268**	P		**P**		**19 24 50.5**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=9.6,slow=6.1,SNR=5.3								
	comp=Z,0.8nm,0.8s								
STKA	**Stephens Creek**	**118.75**	**129**	PKP		**PKPdf**		**19 31 44.0**	**-2.1**
	comp=Z,0.8nm,0.5s,baz=345,slow=10.0,SNR=3.6								

*SJA **09** 19:31:37.4±0.8,21.27S×68.91W,h124km±4km,ML4.1, MW4.0*

*NEIC **09** 19:31:38.3±1.0,21.26S±0.04×68.92W±0.09,h120km±6km, mb4.0/6,ML4.0(GUC),Error ellipse: s-maj=12.4km s-min=5.5km az=92.0*

*VAO **09** 19:31:39.1±0.6,21.22S×68.70W,h120km,mb4.3*

*GUC **09** 19:31:39.2±0.7,21.26S×68.91W,h118km±3km,ML4.0*

*IDC **09** 19:31:40.1±2.6,21.22S×68.44W,h117km±23km,mb3.7/6, mbtmp4.1/9,MS2.3/1,Error ellipse: s-maj=34.1km s-min=17.8km az=122.0*

**ISC 09 19:31:37.7±0.6,21.27S±0.03×68.85W±0.05,h115km±6km, n92,σ1s54/122,mb3.9/5,3C,Chile-Bolivia

PB11				*e*S		**Sn**	19 32 30.5	+0.9
PB11				IAML			19 32 31.1	
	comp=Z,1μm,0.2s							
AF01	**San Pedro de A**	**1.79**	**160**			**Pn**	19 32 10.6	+1.9
AF01	**San Pedro de A**	**1.79**	**160**⇑	*e*P		**Pn**	19 32 11.1	+2.4
AF01	**San Pedro de A**	**1.79**	**160**	*e*P		**Pn**	19 32 11.4	+2.7
AF01				*e*S		**Sn**	19 32 33.7	+1.5
AF01				IAML			19 32 58.0	
	comp=Z,1μm,1.1s							
PB05	**IPOC Station P**	**2.02**	**218**			**Pn**	19 32 11.9	+0.5
PB05	**IPOC Station P**	**2.02**	**218**⇑	*e*P		**Pn**	19 32 12.0	+0.6
PB05				*e*S		**Sn**	19 32 36.7	-0.4
PB05				IAML			19 32 39.6	
	comp=E,742nm,0.3s							
PB05	**IPOC Station P**	**2.02**	**218**	*e*P		**Pn**	19 32 12.0	+0.6
PB05				*e*S		**Sn**	19 32 37.4	+0.4
PB05				IAML			19 32 38.8	
	comp=Z,698nm,0.5s							
PB10	**IPOC Station P**	**2.74**	**215**			**Pn**	19 32 20.5	+0.1
PB10	**IPOC Station P**	**2.74**	**215**	*e*P		**Pn**	19 32 20.6	+0.1
PB10				IAML			19 32 55.6	
	comp=N,326nm,0.2s							
PB10	**IPOC Station P**	**2.74**	**215**	*e*P		**Pn**	19 32 20.7	+0.2
PB10				*e*S		**Sn**	19 32 53.3	-0.1
PB16	**IPOC Station P**	**2.98**	**348**			**Pn**	19 32 24.9	+0.6
PB16	**IPOC Station P**	**2.98**	**348**	*e*P		**Pn**	19 32 25.4	+1.2
PB16				IAML			19 33 07.8	
	comp=E,165nm,0.3s							
PB16	**IPOC Station P**	**2.98**	**348**	*e*P		**Pn**	19 32 25.5	+1.2
PB16				*e*S		Sn	19 32 43.8	-16
YJA	**Yavi**	**3.23**	**107**	*e*P		**Pn**	19 32 30.7	+3.3
PB14	**IPOC Station P**	**3.64**	**203**			**Pn**	19 32 32.1	-0.6
PB14	**IPOC Station P**	**3.64**	**203**	*e*P		**Pn**	19 32 32.3	-0.4
PB14				*e*S		**Sn**	19 33 15.3	+0.1
PB14				IAML			19 33 18.6	
	comp=Z,186nm,0.6s							
PB18	**Visviri**	**3.71**	**351**			**Pn**	19 32 33.9	+0.1
PB18	**Visviri**	**3.71**	**351**	*e*P		**Pn**	19 32 36.0	+2.2
GO02	**Mina Guanaco**	**3.94**	**190**			**Pn**	19 32 36.8	+0.2
GO02	**Mina Guanaco**	**3.94**	**190**	*e*P		**Pn**	19 32 37.0	+0.4
GO02	**Mina Guanaco**	**3.94**	**190**	*e*P		**Pn**	19 32 37.1	+0.4
GO02				IAML			19 33 53.7	
	comp=Z,324nm,0.7s							
AZAP	**Zapla**	**4.57**	**131**	*e*P		**Pn**	19 32 47.2	+2.2
LPAZ	**La Paz**	**5.00**	**8**			**Pn**	19 32 52.9	+1.7
LPAZ	**La Paz**	**5.00**	**8**	P		**Pn**	19 32 53.1	+2.0
	comp=Z,22nm,0.8s,baz=184,slow=9.3,SNR=55							
LPAZ				LR		LR	19 35 06.5	
	comp=Z,29nm,19.2s,baz=145,slow=42							
LPAZ	**La Paz**	**5.00**	**8**	*e*P		**Pn**	19 32 53.2	+2.0
AC01	**Pan de Azucar**	**5.12**	**198**			**Pn**	19 32 50.8	-1.5
AC02	**Maricunga**	**5.55**	**183**			**Pn**	19 32 58.7	+0.2
LCO	**Las Campanas**	**7.89**	**192**			**Pn**	19 33 26.6	-3.4
CO01	**Juntas del Tor**	**8.75**	**187**			**Pn**	19 33 39.6	-2.0
SIV	**San Ignacio**	**9.04**	**56**	P		**Pn**	19 33 43.0	-2.5
	comp=Z,11nm,0.3s,baz=241,slow=15,SNR=60							
SIV				S		**Sn**	19 35 18.1	-7.5
	comp=Z,1.3nm,0.6s,baz=263,slow=16,SNR=1.6							
CFA	**Coronel Fontan**	**10.31**	**177**	P		**Pn**	19 33 60.0	-2.6
	comp=Z,1.3nm,0.3s,baz=356,slow=14,SNR=7.0							
CFA				S		**Sn**	19 35 48.7	-7.5
	comp=Z,1.4nm,0.3s,baz=288,slow=20,SNR=5.5							
MURT	**Porto Murtinho**	**10.47**	**94**	*e*P		**Pn**	19 34 02.9	-1.8
PTLB	**Pontes e Lacer**	**10.88**	**59**			**Pn**	19 34 09.0	-1.3
PTLB	**Pontes e Lacer**	**10.88**	**59**	*e*P		**Pn**	19 34 09.1	-1.1
VILB	**Vilhena**	**11.69**	**46**			**Pn**	19 34 18.6	-2.4
VILB	**Vilhena**	**11.69**	**46**	*e*P		**Pn**	19 34 21.7	+0.7
BI02	**San Fabin de**	**15.49**	**187**	P		**Pn**	19 35 10.1	+0.2
CLDB	**Colider**	**16.24**	**52**	*e*P		**P**	19 35 19.4	-0.8
TRQA	**Tornquist**	**17.75**	**162**	P		**P**	19 35 35.9	-0.9
TRQA				IAmb		IAmb	19 36 09.1	
	comp=Z,12nm,1.4s							
SNDB	**Serra Nova Dou**	**19.17**	**64**	*e*P		**P**	19 35 51.6	-0.8
PLCA	**Paso Flores**	**19.46**	**184**	P		**P**	19 35 55.8	+0.4
PLCA				IAmb		IAmb	19 36 02.8	
	comp=Z,8.1nm,1.3s							
PLCA	**Paso Flores**	**19.46**	**184**	P		**Pn**	19 35 57.9	+0.1
	comp=Z,3.4nm,1.1s,baz=358,slow=12,SNR=6.6							
PLCA	**Paso Flores**	**19.46**	**184**	*e*P		**Pn**	19 35 57.4	-0.4
IPMB	**Ipameri, GO**	**19.71**	**84**	*e*P		**P**	19 35 58.3	0.0
BDFB	**Brasilia**	**20.53**	**78**	P		**P**	19 36 07.2	-0.1
BDFB				IAmb		IAmb	19 36 11.2	
	comp=Z,4.2nm,0.5s							
BDFB	**Brasilia**	**20.53**	**78**	P		**P**	19 36 06.2	-1.0
	comp=Z,3.8nm,0.4s,baz=252,slow=9.6,SNR=5.6							
	comp=Z,3.8nm,0.4s							
ITTB	**Itaituba**	**21.08**	**39**	*e*P		**P**	19 36 12.0	-1.0
LL01	**San Ignacio de**	**21.26**	**187**	P		**P**	19 36 12.7	-2.0
LL01				IAmb		IAmb	19 36 19.2	
	comp=Z,15nm,0.9s							
JANB	**Januaria**	**24.10**	**79**	*e*P		**P**	19 36 42.8	-0.1
BOAV	**Boa Vista**	**24.89**	**20**			**P**	19 36 50.9	+0.9
BOAV	**Boa Vista**	**24.89**	**20**	*e*P		**P**	19 36 49.5	-0.5
SNAA	**Sanae**	**62.48**	**161**	P		**P**	19 41 49.6	+1.0
	comp=Z,1.0nm,0.7s,baz=306,slow=19,SNR=4.9							
	comp=Z,1.0nm,0.7s							
DBIC	**Dimbokro**	**68.61**	**73**	P		**P**	19 42 29.5	+0.7
	comp=Z,5.3nm,1.0s,baz=270,slow=5.1,SNR=3.4							
	comp=Z,5.3nm,1.0s							
QSPA	**South Pole Qui**	**68.92**	**180**	P		**P**	19 42 33.4	+3.3
	comp=Z,0.7nm,0.5s,baz=164,slow=1.9,SNR=9.4							
	comp=Z,0.7nm,0.5s							
VNDA	**Vanda**	**77.09**	**190**	P		**P**	19 43 21.1	+3.2
	comp=Z,0.4nm,0.7s,baz=156,slow=11,SNR=2.0							
	comp=Z,0.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**77.22**	**70**	P		**P**	19 43 19.6	0.0
	comp=Z,1.0nm,0.6s,baz=256,slow=5.2,SNR=14							
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**130.15**	**208**	PKP		**PKiKP**	19 50 35.5	-0.3
	comp=Z,0.5nm,1.0s,baz=145,slow=3.4,SNR=2.2							
WRA	**Warramunga Arr**	**133.19**	**211**	PKP		**PKiKP**	19 50 41.7	-0.3
	comp=Z,0.3nm,0.6s,baz=155,slow=1.9,SNR=1.7							
ZALV	**Zalesovo Beam**	**141.72**	**25**	PKP		**PKPdf**	19 50 54.5	-0.8
	comp=Z,0.7nm,0.6s,baz=321,slow=1.8,SNR=4.0							
MKAR	**Makanchi Array**	**145.41**	**36**	PKPbc		**PKPab**	19 51 03.0	+0.5
	comp=Z,2.4nm,0.8s,baz=311,slow=3.1,SNR=14							

*IDC **09** 19:36:34.4±0.7, 6°.76N×73°.01W, h158km±8km, mb3.2/4, mbtmp3.8/6, Error ellipse: s-maj=28.1km s-min=7.4km az=132.0*
*RSNC **09** 19:36:35.6±0.0, 7°.N±1°×7°.3W±°, h150km±2km, M3.7, mB5.2, mb4.0, ML3.3, Mw(mB)4.6*
*FUNV **09** 19:36:53.7, 7°.83N×71°.83W, h35km, MW3.7*

ISC 09 19:36:34.1±0.8, 6°.85N±0°.03×73°.08W±0°.04, h155km±6km, n51, σ1s55/84, mb3.3/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.28**	**202**	P		**Pn**	19 36 55.8	+0.3
BARC				S		**Sn**	19 37 11.3	-0.6
PAMC	**Pamplona, Colo**	**0.61**	**38**	P		**Pn**	19 36 58.5	+1.3
PAMC				S		**Sn**	19 37 15.5	+0.6
BRJC	**Barrancabermej**	**0.67**	**280**	P		**Pn**	19 36 57.5	+0.5
BRJC				S		**Sn**	19 37 14.4	0.0
RUSC	**La Rusia**	**0.95**	**180**	P		**Pn**	19 36 59.9	+0.3
RUSC				S		**Sn**	19 37 18.3	-0.8
CAPV	**Capacho**	**1.26**	**37**	*e*P		**Pn**	19 37 03.9	+2.0
OCAC	**Ocana**	**1.40**	**350**	P		**Pn**	19 37 04.2	+1.0
OCAC				S		**Sn**	19 37 25.8	+0.2
PTBC	**PUERTO BERRIO,**	**1.41**	**257**	P		**Pn**	19 37 02.6	-0.5
PTBC				S		**Sn**	19 37 23.5	-1.8
ZARC	**Zaragoza, Cauc**	**1.88**	**290**	P		**Pn**	19 37 08.5	+0.4
NORC	**Norcasia**	**2.19**	**234**	P		**Pn**	19 37 11.8	-0.1
NORC				S		**Sn**	19 37 40.0	-1.0
ROSC	**El Rosal**	**2.35**	**212**	P		**Pn**	19 37 15.9	+1.9
	110nm,0.3s,baz=90,slow=20,SNR=42							
ROSC				S		**Sn**	19 37 44.5	-0.4
	450nm,0.3s,baz=87,slow=19,SNR=24							
ROSC	**El Rosal**	**2.35**	**212**	P		**Pn**	19 37 15.8	+1.7
ROSC				S		**Sn**	19 37 45.3	+0.4
HELC	**Santa Helena**	**2.52**	**255**	P		**Pn**	19 37 16.2	+0.1
HELC				S		**Sn**	19 37 48.2	-0.3
UREC	**San Jos de Ur**	**2.59**	**290**	P		**Pn**	19 37 16.0	-0.6
UREC				S		**Sn**	19 37 46.4	-3.1
VILC	**Villavicencio,**	**2.79**	**193**	P		**Pn**	19 37 19.3	+0.1
VILC				S		**Sn**	19 37 53.4	-0.7
GUY2C	**Guyana, Caldas**	**2.79**	**235**	P		**Pn**	19 37 20.1	+0.6
GUY2C				S		**Sn**	19 37 56.0	+1.4
PTGC	**Puerto Gaitan,**	**2.80**	**160**	P		**Pn**	19 37 19.1	-0.1
PTGC				S		**Sn**	19 37 52.3	-1.8
RECRC	**Villamaria, Ca**	**2.94**	**230**	P		**Pn**	19 37 22.6	+1.1
RECRC				S		**Sn**	19 38 00.2	+2.1
NIZA	**Niza - Manizal**	**2.97**	**233**	P		**Pn**	19 37 23.0	+1.4
NIZA				S		**Sn**	19 38 00.1	+1.7
CBOC	**Ciudad Bolivar**	**3.08**	**252**	P		**Pn**	19 37 24.5	+1.7
CBOC				S		**Sn**	19 38 00.5	0.0
DBBC	**Dabeiba**	**3.11**	**273**	P		**Pn**	19 37 23.4	+0.2
DBBC				S		**Sn**	19 37 58.5	-2.7
SDV	**Santo Domingo**	**3.15**	**50**	P		**Pn**	19 37 25.6	+1.8
	64nm,0.3s,baz=231,slow=2.4,SNR=36							
SDV				S		**Sn**	19 38 03.0	+0.7
	101nm,0.5s,baz=253,slow=19,SNR=21							
SDV	**Santo Domingo**	**3.15**	**50**	P		**Pn**	19 37 25.3	+1.5
SDV				S		**Sn**	19 38 02.4	+0.1
ARGC	**Ariguani, Magd**	**3.20**	**339**	P		**Pn**	19 37 26.6	+2.4
ARGC				S		**Sn**	19 38 04.6	+1.4
ANIL	**Santa Ana**	**3.29**	**225**	P		**Pn**	19 37 26.5	+0.8
ANIL				S		**Sn**	19 38 06.9	+1.2
PRAC	**Prado**	**3.60**	**210**	P		**Pn**	19 37 29.7	+0.3
PRAC				S		**Sn**	19 38 11.4	-0.9
APAC	**Apartado, Choc**	**3.63**	**287**	P		**Pn**	19 37 30.0	+0.4
APAC				S		**Sn**	19 38 11.5	-1.3
ORTC	**Ortega, Tolima**	**3.63**	**217**	P		**Pn**	19 37 30.3	+0.5
ORTC				S		**Sn**	19 38 13.4	+0.3
SJCC	**San Jacinto, C**	**3.67**	**326**	P		**Pn**	19 37 29.7	-0.6
SJCC				S		**Sn**	19 38 10.5	-3.5
URMC	**La Uribe, Meta**	**3.81**	**200**	P		**Pn**	19 37 32.9	+0.8
URMC				S		**Sn**	19 38 16.7	-0.5
LCBC	**Los crdobas,**	**3.82**	**302**	P		**Pn**	19 37 36.3	+4.2
LCBC				S		**Sn**	19 38 16.0	-1.3
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	P		**Pn**	19 37 36.2	-0.3
CRJC				S		**Sn**	19 38 22.2	-2.9
YOTC	**Yotoco, Valle**	**4.33**	**229**	P		**Pn**	19 37 38.8	-0.1
SMRC	**Santa Marta, M**	**4.43**	**345**	P		**Pn**	19 37 41.3	+1.2
SMRC				S		**Sn**	19 38 28.9	-2.8
CAPC	**Capurgana**	**4.59**	**293**	P		**Pn**	19 37 41.9	-0.3
CAPC				S		Sn	19 38 28.6	-6.8
MACC	**Macarena, Meta**	**4.74**	**189**	P		**Pn**	19 37 43.2	-1.0
MACC				S		**Sn**	19 38 35.3	-3.6
URIC	**Uribia, Colomb**	**4.94**	**12**	P		**Pn**	19 37 46.2	-0.6
URIC				S		**Sn**	19 38 41.7	-1.8
JAMC	**Jamundi, Valle**	**5.09**	**225**	P		**Pn**	19 37 49.1	+0.1
	789nm14nm,0.7s							
JAMC				S		**Sn**	19 38 46.9	-0.6
	789nm14nm,0.7s							
BAUV	**El Baul**	**5.40**	**67**	*e*P		**Pn**	19 37 51.0	-1.9
BAUV				*e*S		Sn	19 38 30.8	-24
POPC	**Popayan, Colom**	**5.59**	**220**	P		**Pn**	19 37 56.1	+0.5
	9.5nm,0.7s							
FLOC	**Florencia**	**5.83**	**206**	P		**Pn**	19 37 58.4	-0.3
BENV	**Beln**	**6.24**	**60**	*e*P		**Pn**	19 38 01.5	-2.6
BENV				*e*S		Sn	19 38 48.7	-26
BBAC	**Balboa, Cauca**	**6.35**	**221**	P		**Pn**	19 38 06.9	+1.2
GR1C	**Gorgona, Isla**	**6.35**	**233**	P		**Pn**	19 38 04.8	-0.7
CACV	**CAICARA DEL OR**	**6.53**	**83**	*e*P		Pn	19 38 13.7	+5.9
CACV				*e*S		**Sn**	19 39 16.1	-5.2
TACV	**Tcata**	**6.82**	**61**	*e*P		**Pn**	19 38 09.2	-2.6
TACV				*e*S		Sn	19 39 03.5	-25
TXAR	**Lajitas Array**	**36.47**	**312**	P		**P**	19 43 25.5	+1.0
	0.4nm,0.6s,baz=123,slow=8.8,SNR=7.5							
	0.4nm,0.6s							
ULM	**Lac du Bonnet**	**47.27**	**340**	P		**P**	19 44 52.3	+0.7
	1.6nm,0.4s,baz=150,slow=3.8,SNR=2.2							
	1.6nm,0.4s							
TORD	**Torodi Ar. Bea**	**73.69**	**78**	P		**P**	19 47 51.2	-0.3
	0.3nm,0.9s,baz=277,slow=7.1,SNR=1.7							
	0.3nm,0.9s							
ILAR	**Eielson Array**	**76.95**	**335**	P		**P**	19 48 09.6	+0.4
	0.3nm,0.6s,baz=118,slow=8.6,SNR=2.2							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc		**PKPbc**	19 56 04.8	-0.3
	0.5nm,0.7s,baz=107,slow=3.1,SNR=7.3							
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc		**PKPbc**	19 56 07.7	-0.4
	0.4nm,0.4s,baz=108,slow=2.4,SNR=9.3							

*SOME **09** 19:58:54.3, 41°.45N×78°.72E, h5km*
*KRNET **09** 19:58:55.3±0.1, 41°.50N×78°.73E, mb2.8*
*NNC **09** 19:58:55.0±1.4, 41°.47N×78°.72E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=10.1km s-min=5.9km az=172.0*

ISC 09 19:58:56.6±1.8, 41°.51N±0°.06×78°.64E±0°.05, h10km±11km, n28, σ1s16/46, 9C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.66**	**290**	⇑*i*P		**Pg**	19 59 09.4	-0.1
TARG				⇑*i*S		**Sb**	19 59 19.7	-0.2
KDJ	**Kajisay**	**1.25**	**300**	⇑*i*P		**Pn**	19 59 20.0	-0.3
KDJ				⇑*i*S		**Sn**	19 59 38.1	+0.8
SATY	**Saty**	**1.56**	**354**	P		**Pb**	19 59 25.4	-0.3
	5.0nm,0.1s							
SATY				S		**Sg**	19 59 47.3	+0.5
	20nm,0.1s							
SHLS	**Shalkode**	**1.76**	**20**	P		**Pg**	19 59 30.1	-0.2
	11nm,0.1s							
SHLS				S		**Sg**	19 59 55.3	+2.1
	22nm,0.3s							
SHLS	**Shalkode**	**1.76**	**20**	*e*P		**Pg**	19 59 30.1	-0.2
	11nm,0.1s							
SHLS				*e*S		**Sg**	19 59 55.3	+2.1
	22nm,0.3s							
PDGK	**Podgornoye**	**1.93**	**19**	⇓Pn		**Pn**	19 59 28.0	-1.5
	3.5nm,0.6s							
PDGK				⇑Sn		**Sb**	19 59 55.0	-1.1
	23nm,1.1s							
ULHL	**Ulahol**	**1.94**	**293**	⇓*i*P		**Pb**	19 59 32.2	+0.1
ULHL				⇓*i*S		**Sg**	19 59 59.1	+0.3
KPKS	**Kokpek**	**1.96**	**1**	Pg		**Pb**	19 59 31.9	-0.5
	0.3nm,0.1s							
KPKS				Lg		Lg	19 59 58.3	
	20nm,0.4s							
TNSS	**Tian-Shan**	**1.98**	**321**	Pg		**Pb**	19 59 33.3	+0.4
	3.4nm,0.3s							
TNSS				Lg		Lg	20 00 00.4	
	6.3nm,0.4s							
TNSS	**Tian-Shan**	**1.98**	**321**	*e*P		**Pb**	19 59 33.2	+0.4
	3.4nm,0.3s							
TNSS				*e*S		**Sg**	20 00 00.4	+0.2
	6.3nm,0.4s							
NRN	**Naryn**	**1.98**	**269**	⇑*i*P		**Pb**	19 59 33.2	+0.3
NRN				⇑*i*S		**Sg**	20 00 00.8	+0.4
KURS	**Kuram**	**2.01**	**350**	Pg		**Pb**	19 59 33.5	+0.3
	3.4nm,0.1s							
KURS				Lg		Lg	20 00 00.9	
	12nm,0.3s							
MDOK	**Medeo**	**2.03**	**325**	Pg		**Pb**	19 59 34.0	+0.4
	2.3nm,0.1s							
MDOK				Lg		Lg	20 00 01.7	
	11nm,0.3s							
KNDC	**Almaty**	**2.11**	**325**	⇓Pn		**Pn**	19 59 31.3	-0.7
	30nm,1.1s							
KNDC				Sn		**Sb**	20 00 00.5	-0.7
	16nm,0.4s							
AAA	**Alma-Ata**	**2.13**	**324**	Pg		**Pg**	19 59 36.5	-0.9
AAA				Lg		Lg	20 00 05.8	
	2.7nm,0.1s							
AAA	**Alma-Ata**	**2.13**	**324**	*e*P		**Pg**	19 59 36.5	-0.9
AAA				*e*S		**Sg**	20 00 05.8	+0.9
	2.7nm,0.1s							
JNKS	**Jany-Kuch**	**2.29**	**260**	⇑*i*P		**Pb**	19 59 37.0	-1.2
JNKS				⇑*i*S		**Sb**	20 00 07.7	+1.1
MTBS	**Maitube**	**2.31**	**315**	Pg		**Pb**	19 59 39.4	+1.1
	3.5nm,0.2s							
MTBS				Lg		Lg	20 00 11.0	
	13nm,0.3s							
MTBS	**Maitube**	**2.31**	**315**	*e*P		**Pb**	19 59 39.4	+1.1
	3.5nm,0.2s							
MTBS				*e*S		**Sg**	20 00 11.0	+0.3
	13nm,0.3s							
KST	**Kastek**	**2.51**	**309**	Pg		**Pb**	19 59 42.9	+1.1
	1.9nm,0.2s							
KST				Lg		Lg	20 00 16.8	
	12nm,0.6s							
KST	**Kastek**	**2.51**	**309**	*e*P		**Pb**	19 59 42.9	+1.1
	1.9nm,0.2s							
KST				*e*S		**Sg**	20 00 16.8	-0.4
	12nm,0.6s							
KTBS	**Karatobe**	**2.63**	**327**	Pg		**Pb**	19 59 44.3	+0.4
	1.1nm,0.2s							
KTBS				Lg		Lg	20 00 19.3	
	21nm,0.3s							
CHKK	**Chushkaly**	**2.64**	**333**	Pg		**Pb**	19 59 43.9	0.0
	1.7nm,0.1s							
CHKK				Lg		Lg	20 00 18.7	
	22nm,0.2s							
CHKK	**Chushkaly**	**2.64**	**333**	*e*P		**Pb**	19 59 44.0	0.0
	1.7nm,0.1s							
CHKK				*e*S		**Sb**	20 00 18.8	+2.3
	22nm,0.2s							
TKM2	**Tokmak 2**	**2.66**	**303**	⇓*i*P		**Pb**	19 59 42.2	-2.3
TKM2				⇓*i*S		**Sb**	20 00 16.7	-0.6
ARXS	**Arharly**	**2.77**	**348**	Pg		**Pb**	19 59 46.7	+0.5
	2.3nm,0.2s							
ARXS				Lg		Lg	20 00 23.3	
	15nm,0.2s							
ARXS	**Arharly**	**2.77**	**348**	*e*P		**Pb**	19 59 46.7	+0.5
ARXS				*e*S		**Sg**	20 00 23.3	-2.2
UCH	**Uchtor**	**3.16**	**285**	⇓*i*P		**Pn**	19 59 49.3	+2.5
UCH				⇓*i*S		**Sb**	20 00 29.0	-2.9

BGS 09 20:36:00.7±0.7, 53°.02N×4°.12W, h8km±9km, ML0.8, 1D, United Kingdom

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WLF1	**Llynfaes**	**0.32**	**328**	⇓*i*P		Pg	20 36 07.0	+0.1
WLF1				*e*S		Sg	20 36 11.4	+0.3
WLF1				IAML			20 36 11.5	
	comp=N,22nm,0.1s							
WLF1				IAML			20 36 11.5	
	comp=E,24nm,0.1s							
LLW	**Llanuwychllyn**	**0.33**	**122**	*e*P		Pg	20 36 07.5	+0.5
LLW				*e*S		Sg	20 36 11.7	+0.3
LLW				IAML			20 36 12.2	
	comp=N,5.8nm,0.2s							
LLW				IAML			20 36 12.2	
	comp=E,9.0nm,0.1s							
FOEL	**Foel Wylfa**	**0.57**	**103**	*e*P		Pg	20 36 11.7	0.0
FOEL				*e*S		Sg	20 36 19.0	-0.2
FOEL				IAML			20 36 19.4	
	comp=N,5.1nm,0.2s							
FOEL				IAML			20 36 19.6	
	comp=E,4.9nm,0.1s							
HLM1	**Long Mynd**	**0.91**	**123**	*e*P		Pg	20 36 17.5	-0.5
LPW	**Lampeter**	**0.91**	**178**	*e*P		Pg	20 36 17.1	-1.1
LPW				*e*S		Sg	20 36 29.2	-0.8
MCH1	**Michaelchurch**	**1.23**	**146**	*e*P		Pb	20 36 23.4	-0.9

*LDG **09** 20:36:47.2±0.1, 48°.07N×2°.43W, h2km, Md2.3/2, Ml2.2/5, Error ellipse: s-maj=0.9km s-min=0.8km az=176.0*

STR 09 20:36:46.8±0.4, 48°N±2°×°±°, h16km, MLv2.3/7, LOCSAT earthModelID haslach_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGMF	**Saint Gilles**	**0.20**	**336**	*e*Pg		Pg	20 36 51.5	+0.1
SGMF				*e*Sg		Sg	20 36 54.0	-0.5
	32nm,0.2s							
GUEF	**Guhenno - 56**	**0.23**	**215**	Pg		Pg	20 36 52.1	+0.1
GUEF				Sg		Sg	20 36 55.3	-0.2
PLEF	**Pleven - 22200**	**0.42**	**9**	Pg		Pb	20 36 55.7	-0.2
PLEF				Sg		Sg	20 37 01.2	+0.1
BEGF	**Beganne - 5601**	**0.48**	**166**	Pg		Pg	20 36 56.4	+0.1
BEGF				Sg		Sg	20 37 02.5	-0.2
QUIF	**Quistinic**	**0.52**	**252**	*e*Pg		Pg	20 36 57.0	0.0
QUIF				*e*Sg		Sg	20 37 03.8	-0.1
	0.2nm,0.0s							
ROSF	**Rostrenen**	**0.62**	**295**	*e*Pg		Pb	20 36 59.2	0.0
ROSF				*e*Sg		Sg	20 37 06.9	-0.2
	11nm,0.1s							
ROSF	**Rostrenen**	**0.62**	**295**	Pg		Pb	20 36 59.1	-0.1
ROSF				Sg		Sg	20 37 07.0	-0.1
PLOF	**Ploemeur**	**0.74**	**244**	Pg		Pb	20 37 01.3	0.0
PLOF				Sg		Sg	20 37 11.1	-0.1
LOUF	**Saint-Loup**	**0.97**	**52**	Pg		Pg	20 37 05.6	0.0
LOUF				Sg		Sb	20 37 18.1	+0.1
LOCF	**Locquirec - 29**	**1.02**	**307**	Pg		Pg	20 37 06.5	0.0
LOCF				Sg		Sg	20 37 19.7	-0.1

SNOW				IAML			20 40 57.0		
	comp=E,36nm,0.5s								
TPAW	**Teton Pass**	**3.31**	**244**		**Pn**		**20 39 25.6**	**-1.4**
TPAW				IAML			20 40 58.0		
	comp=E,24nm,1.2s								
BOZ	**Bozeman (W)**	**3.41**	**281**		**Pn**		**20 39 27.8**	**-0.5**
EGMT	**Eagleton**	**3.61**	**327**	Pn	**Pn**		**20 39 30.0**	**-0.9**
EGMT				IAML			20 40 50.6		
	comp=E,47nm,1.1s								
AHID	**Auburn Hatcher**	**3.80**	**235**		**Pn**		**20 39 32.1**	**-1.6**
AHID				IAML			20 40 42.3		
	comp=E,32nm,1.3s								
AHID				IAML			20 41 06.8		
	comp=E,19nm,2.4s								
HRY	**Holter Researc**	**3.86**	**298**		**Pg**		**20 39 47.8**	**+0.2**
DGMT	**Dagmar**	**3.91**	**27**	Pn	**Pn**		**20 39 34.1**	**-0.9**
LRM	**Limekiln Ridge**	**4.02**	**283**	Pn	**Pg**		**20 39 48.0**	**-2.6**
DLMT	**Dillon**	**4.07**	**277**		**Pg**		**20 39 50.2**	**-1.5**
DLMT				IAML			20 41 03.8		
	comp=E,27nm,1.1s								
DLMT				IAML			20 41 12.0		
	comp=E,25nm,1.9s								
LYMT	**Lyon Mountain**	**4.26**	**299**		**Pg**		**20 39 52.9**	**-2.3**
MCMT	**McKenzie Canyo**	**4.26**	**270**		**Pb**		**20 39 51.6**	**+2.1**
HAYD	**Hayden**	**4.51**	**184**	Pn	**Pg**		**20 39 59.3**	**-0.7**
E28A	**Huff**	**4.58**	**68**	Pn	**Pg**		**20 40 04.7**	**+3.2**
OVMT	**Ovando**	**4.74**	**298**		**Pb**		**20 39 59.8**	**+2.2**
BPMT	**Black Pine Rid**	**4.83**	**289**		**Pb**		**20 40 00.9**	**+1.7**
HWUT	**Hardware Ranch**	**4.84**	**227**		**Pb**		**20 40 01.5**	**+2.1**
HWUT				IAML			20 41 11.4		
	comp=E,12nm,1.1s								
O20A	**White River Ci**	**4.99**	**192**	Pn	**Pb**		**20 40 02.2**	**+0.3**
TCUT	**Toone Canyon**	**5.13**	**222**	Pn	**Pb**		**20 40 03.8**	**-0.6**
ISCO	**Idaho Springs**	**5.30**	**170**	IAML			20 41 38.7		
	comp=E,9.3nm,4.2s								
ISCO				IAML			20 41 45.7		
	comp=E,7.3nm,3.9s								
I56US	**NEWPORT INFRAS**	**7.77**	**298**	I	I		21 24 00.0		
	baz=111,slow=322,SNR=1.8								
ULM	**Lac du Bonnet**	**9.07**	**51**	Pn	**Pn**		**20 40 45.5**	**-0.3**
	comp=E,0.3nm,0.3s,baz=239,slow=13,SNR=6.0								
ULM				Lg	Lg		20 43 13.2		
	comp=E,0.1nm,0.3s,baz=343,slow=19,SNR=1.7								
	comp=E,0.9nm,0.3s								

ASRS ***09*** *20:52:26.8±0.3, 49˚N×2˚×8˚2E±˚, h8km, MLh3.1/8, Error ellipse: s-maj=4.3km s-min=3.2km az=148.0, confirmed*
NNC ***09*** *20:52:34.5±1.5, 48˚88N×81˚58E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=27.7km s-min=9.5km az=59.0*
SOME ***09*** *20:52:35.5, 48˚67N×81˚62E, h35km*

ISC 09 20:52:34.2±1.4, 49˚21N±0˙04×82˚40E±0˙03, h10km±13km, n22, σ1°85/37, 1C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
SEM	**Semipalatinsk**	**1.83**	**312**	P		**Pg**	**20**	**53**	**08.7**	**-0.7**
	14nm,0.2s									
SEM				S		**Sg**	**20**	**53**	**32.6**	**-0.6**
	72nm,0.2s									
SEM	**Semipalatinsk**	**1.83**	**312**	*e*P		**Pg**	**20**	**53**	**08.7**	**-0.7**
	14nm,0.2s									
SEM				*e*S		**Sg**	**20**	**53**	**32.6**	**-0.6**
	72nm,0.2s									
UKR	**Ust'-Kan**	**2.31**	**41**	Pg		**Pg**	**20**	**53**	**18.2**	**-0.3**
UKR				Sg		**Sg**	**20**	**53**	**49.1**	**+0.7**
ZSN	**Zaisan**	**2.41**	**136**	Pg		**Pb**	**20**	**53**	**17.4**	**-0.4**
	15nm,0.3s									
ZSN				Lg		Lg	20	53	47.3	
	48nm,0.4s									
ZSN	**Zaisan**	**2.41**	**136**	*e*P		**Pb**	**20**	**53**	**17.4**	**-0.4**
	15nm,0.3s									
ZSN				*e*S		**Sb**	**20**	**53**	**47.3**	**-0.3**
	48nm,0.4s									
MK31	**Makanchi Array**	**2.42**	**182**	⇓Pn		**Pn**	**20**	**53**	**12.2**	**-1.7**
	0.8nm,0.2s,baz=353,slow=12,SNR=96									
MK31				⇓Lg		Lg	20	53	43.6	
	16nm,0.5s,baz=349,slow=26,SNR=21									
MAKZ	**Makanchi**	**2.42**	**187**	Pg		**Pn**	**20**	**53**	**12.2**	**-1.7**
	5.8nm,0.7s									
MAKZ				⇓Lg		Lg	20	53	42.2	
	18nm,0.5s									
MAKZ	**Makanchi**	**2.42**	**187**	Pg		**Pn**	**20**	**53**	**13.0**	**-1.0**
MAKZ				Sg		**Sn**	**20**	**53**	**43.1**	**-0.5**
KURK	**Kurchatov**	**2.87**	**303**	⇑Pg		**Pn**	**20**	**53**	**19.3**	**-0.7**
	1.3nm,0.3s									
KURK				⇓Lg		Lg	20	53	54.3	
	7.5nm,0.3s									
KURK	**Kurchatov**	**2.87**	**303**	Pg		**Pn**	**20**	**53**	**20.4**	**+0.4**
KURK				Sg		**Sn**	**20**	**53**	**54.8**	**+0.3**
KURBB	**Kurchatov Arra**	**2.87**	**301**	⇓Pg		**Pn**	**20**	**53**	**20.2**	**+0.1**
	5.3nm,0.2s									
KURBB				⇓Lg		Lg	20	53	55.1	
	83nm,0.7s									
ELDR	**Elanda**	**3.11**	**48**	Pg		**Pb**	**20**	**53**	**26.9**	**-2.7**
ELDR				Sg		**Sg**	**20**	**54**	**15.5**	**+1.5**
DGZ	**Jazzator, Alta**	**3.32**	**80**	Pg		**Pg**	**20**	**53**	**38.4**	**+0.5**
DGZ				Sg		**Sg**	**20**	**54**	**23.4**	**+2.6**
CHBI	**Chibit, Altay**	**3.49**	**70**	Pg		**Pb**	**20**	**53**	**34.0**	**-2.2**
CHBI				Sg		**Sg**	**20**	**54**	**27.9**	**+1.6**
AKAR	**Aktash**	**3.56**	**70**	Pg		**Pg**	**20**	**53**	**41.1**	**-1.4**
AKAR				Sg		**Sg**	**20**	**54**	**31.2**	**+2.6**
ULGR	**Ulagan, Altay**	**3.86**	**66**	Pg		**Pg**	**20**	**53**	**46.4**	**-1.8**
ULGR				Sg		**Sg**	**20**	**54**	**42.3**	**+4.1**
CUR	**Chagan-Uzun**	**3.97**	**75**	Pg		**Pg**	**20**	**53**	**49.6**	**-0.7**
CUR				Sg		**Sg**	**20**	**54**	**44.9**	**+3.3**
ARTR	**Artybash**	**4.05**	**48**	Pg		**Pb**	**20**	**53**	**45.7**	**0.0**
ARTR				Sg		**Sg**	**20**	**54**	**45.9**	**+1.6**
YALR	**Yailyu, Altay**	**4.20**	**50**	Pg		**Pg**	**20**	**53**	**52.4**	**-2.2**
YALR				Sg		**Sg**	**20**	**54**	**51.0**	**+2.0**
ELT	**Eltsovka**	**4.72**	**29**	Sg		**Sg**	**20**	**55**	**04.9**	**-0.7**
BRZS	**Berezniki**	**6.37**	**281**	Pg		**Pb**	**20**	**54**	**26.1**	**+1.1**
	0.3nm,0.2s									
BRZS				Lg		Lg	20	55	46.1	
	8.2nm,0.4s									
BRZS	**Berezniki**	**6.37**	**281**	*e*P		**Pb**	**20**	**54**	**26.1**	**+1.1**
	0.3nm,0.2s									
BRZS				*e*S		**Sb**	**20**	**55**	**46.1**	**+4.9**
	8.2nm,0.4s									

NEIC ***09*** *21:16:15.9±0.7, 12˚3N±0˙1×144˚6E±0˙2, h20km±7km, mb4.5/13, Error ellipse: s-maj=27.7km s-min=15.5km az=114.0*
IDC ***09*** *21:16:17.8±2.0, 12˚47N×144˚85E, h46km±18km, mb3.6/13, mbtmp3.9/13, Error ellipse: s-maj=31.4km s-min=16.2km az=94.0*

ISC 09 21:16:16.3±0.9, 12˚41N±0˙09×144˚7E±0˙2, h30km, n36, σ1°11/34, mb4.0/20, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
GUMO	**Guam**	**1.19**	**8**	P		**Pb**	**21**	**16**	**38.4**	**+0.1**
	255nm,0.3s,baz=169,slow=11,SNR=48									
GUMO				S		**Sn**	**21**	**16**	**50.9**	**-1.1**
	311nm,0.3s,baz=187,slow=24,SNR=6.5									
JOW	**Kunigami**	**21.06**	**315**	P		**P**	**21**	**20**	**58.3**	**+0.2**
	3.4nm,0.5s,baz=111,slow=27,SNR=1.5									
	3.4nm,0.5s									
H11N1	**WAKE ISLAND Hy**	**22.52**	**68**	T		T	21	44	58.8	
	baz=255,slow=75,SNR=2.8									
H11N2	**WAKE ISLAND Hy**	**22.53**	**68**	T		T	21	45	02.7	
	baz=255,slow=75,SNR=5.5									
H11N3	**WAKE ISLAND Hy**	**22.54**	**68**	T		T	21	44	59.4	
	baz=255,slow=75,SNR=4.7									
YULB	**Yu-li**	**24.76**	**299**	P		**P**	**21**	**21**	**31.9**	**-3.7**
YULB				IAmb		IAmb	21	21	50.6	
	comp=Z,9.4nm,0.7s									
SSLB	**Suanglung**	**25.20**	**300**	P		**P**	**21**	**21**	**41.1**	**+1.5**
USA0B	**Ussuriysk Arra**	**33.51**	**343**	P		**P**	**21**	**22**	**53.5**	**+0.4**
USA0B				IAmb		IAmb	21	23	18.6	
	comp=Z,6.7nm,0.8s									
USRK	**Ussuriysk Ar.**	**33.51**	**343**	P		**P**	**21**	**22**	**53.2**	**+0.1**
WB0	**Warramunga Arr**	**33.54**	**198**	P		**P**	**21**	**22**	**53.1**	**-0.6**
WB0				IAmb		IAmb	21	22	54.6	
	comp=Z,11nm,1.2s									
WR8	**Warramunga Arr**	**33.69**	**197**	P		**P**	**21**	**22**	**53.9**	**-1.0**
WR8				IAmb		IAmb	21	23	03.8	
	comp=Z,9.1nm,1.4s									
WRA	**Warramunga Arr**	**33.73**	**198**	P		**P**	**21**	**22**	**54.4**	**-0.9**
WRA	**Warramunga Arr**	**33.73**	**198**	P		**P**	**21**	**22**	**55.2**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=21,slow=9.9,SNR=8.7									
	comp=Z,0.8nm,0.5s									
ASAR	**Alice Springs**	**37.38**	**196**	P		**P**	**21**	**23**	**26.9**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=22,slow=10,SNR=6.0									
	comp=Z,0.4nm,0.6s									
LZDM	**Lanzhou Array**	**43.69**	**310**	P		**P**	**21**	**24**	**19.2**	**0.0**
	comp=Z,1.0nm,0.3s,baz=121,slow=5.6,SNR=1.9									
	comp=Z,1.0nm,0.3s									
CM31	**Chiang Mai Arr**	**44.42**	**284**	P		**P**	**21**	**24**	**24.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**44.42**	**284**	P		**P**	**21**	**24**	**25.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**44.42**	**284**	P		**P**	**21**	**24**	**25.9**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=80,slow=6.9,SNR=8.5									
	comp=Z,1.0nm,0.5s									
SONM	**Songino Array**	**47.60**	**326**	P		**P**	**21**	**24**	**49.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=103,slow=6.5,SNR=1.7									
	comp=Z,0.2nm,0.3s									
MKAR	**Makanchi Array**	**62.22**	**317**	P		**P**	**21**	**26**	**34.8**	**-0.5**
MKAR	**Makanchi Array**	**62.22**	**317**	P		**P**	**21**	**26**	**35.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=95,slow=7.4,SNR=5.7									
	comp=Z,0.3nm,0.5s									
KURK	**Kurchatov**	**65.37**	**320**	P		**P**	**21**	**26**	**56.5**	**+0.5**
KURBB	**Kurchatov Arra**	**65.41**	**320**	P		**P**	**21**	**26**	**56.3**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=106,slow=6.7,SNR=5.4									
	comp=Z,0.4nm,0.4s									
NIL	**Nilore**	**67.84**	**301**	P		**P**	**21**	**27**	**12.5**	**+0.4**
D22K	**Ayikyak River**	**68.79**	**20**	P		**P**	**21**	**27**	**18.7**	**+1.3**
ILAR	**Eielson Array**	**69.70**	**25**	P		**P**	**21**	**27**	**22.1**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=256,slow=5.7,SNR=1.9									
	comp=Z,0.1nm,0.4s									
KKAR	**Karatay Array**	**70.10**	**311**	P		**P**	**21**	**27**	**26.9**	**+1.0**
GAR	**Garm**	**70.19**	**307**	P		**P**	**21**	**27**	**26.9**	**+0.1**
BVAR	**Borovoye Array**	**70.74**	**322**	P		**P**	**21**	**27**	**28.9**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=108,slow=7.9,SNR=6.1									
	comp=Z,0.6nm,0.4s									
KBL	**Kabul**	**71.31**	**302**	P		**P**	**21**	**27**	**33.8**	**0.0**
KBL				IAmb		IAmb	21	27	36.8	
	comp=Z,2.3nm,0.7s									
M29M	**Somme Creek**	**73.00**	**28**	P		**P**	**21**	**27**	**45.9**	**+2.8**
M29M				IAmb		IAmb	21	28	09.9	
	comp=Z,4.3nm,1.4s									
AB31	**Akbulak array**	**77.30**	**318**	P		**P**	**21**	**28**	**08.5**	**+0.5**
AB31				IAmb		IAmb	21	28	09.9	
	comp=Z,4.0nm,1.4s									
ABKAR	**Akbulak array**	**77.30**	**318**	P		**P**	**21**	**28**	**08.3**	**+0.3**
YKA	**Yellowknife Ar**	**83.98**	**27**	P		**P**	**21**	**28**	**42.6**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=298,slow=5.4,SNR=2.2									
	comp=Z,0.5nm,0.5s									
ARCES	**ARCESS Array B**	**88.15**	**342**	P		**P**	**21**	**29**	**04.0**	**0.0**
	comp=Z,1.1nm,0.9s,baz=41,slow=6.6,SNR=1.1									
	comp=Z,2.1nm,0.9s									
FINES	**FINESS Array B**	**92.15**	**335**	P		**P**	**21**	**29**	**21.3**	**-1.5**
	comp=Z,2.8nm,1.1s,baz=60,slow=5.6,SNR=4.1									
	comp=Z,2.8nm,1.1s									

BJI ***09*** *21:24:15.5, 50˚36N×177˚34W, h6km, mB5.4/55, mb5.3/83, Ms5.0/70, Ms7 4.7/68*
IDC ***09*** *21:24:16.8±0.4, 50˚32N×177˚19W, h0km, mb5.1/38, mbtmp5.1/40, ML4.7/2, MS4.5/77, Error ellipse: s-maj=11.3km s-min=10.0km az=161.0*
NEIC ***09*** *21:24:18.8, 50˚42N×177˚19W, h14km*
NEIC ***09*** *21:24:18.8, 49˚92N×177˚66W, h14km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^17Nm; Mrr=1.28; Mθθ1.36; Mϕϕ-0.07; Mrθ-0.45; Mθϕ-0.20; Mϕr0.17; Fault plane solution: M0 1.42000×10^17 NP1: ϕs272.68000°, δ35.52000°, λ-97.89000°. NP2: ϕs102.35000°, δ54.86000°, λ-84.40000°. Principal axes: T 1.4635, Plg10.0000°, Azm188.0000°; N -0.0915, Plg5.0000°, Azm279.0000°; P -1.3720, Plg79.0000°, Azm34.0000°;*
MOS ***09*** *21:24:18.1±1.1, 50˚40N×177˚27W, h15km, mb5.6/91, MS4.8/23 Error ellipse: s-maj=7.8km s-min=4.1km az=108.5*
NEIC ***09*** *21:24:18.8±1.6, 50˚42N±0˙04×177˚17W±0˙07, h10km±1km, mb5.4/808, ML4.9/8, Mww5.4/108, Error ellipse: s-maj=7.9km s-min=7.2km az=93.0*
AEIC ***09*** *21:24:18.8±2.0, 50˚33N±0˙07×177˚12W±0˙08, h27km±3km, Error ellipse: s-maj=9.7km s-min=7.1km az=166.0*
BGR ***09*** *21:24:19.8, 49˚64N×176˚40W, h33km, mb5.3*
GCMT ***09*** *21:24:19.8±0.1, 50˚38N×177˚29W, h12km, MW5.3/166, Moment Tensor Solution. s119,c213; s166,c333; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr-1.25±.01; Mθθ1.29±.01; Mϕϕ-0.03±.01; Mrθ0.07±.03; Mθϕ-0.10±.01; Mϕr0.01±.04; Best double couple: M0 1.27500×10^17 NP1:ϕs95.00000°, δ44.00000°, λ-89.00000°. NP2:ϕs273.00000°, δ46.00000°, λ-91.00000°. Principal axes: T 1.2980, Plg1.0000°, Azm4.0000°; N -0.0450, Plg1.0000°, Azm274.0000°; P -1.2520, Plg88.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 21:24:20.1±0.5, 50˚42N±0˙03×177˚23W±0˙03, h20km±2km, n1518, σ1°30/1274, mb5.4/549, MS4.7/124, 79C-70D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
KIMD	**Kanaga Island**	**1.34**	**360**			**Pn**	**21**	**24**	**43.2**	**-0.5**
KIMD						**Sn**	**21**	**25**	**01.1**	**+0.1**
TAFL	**Tanaga Flats**	**1.40**	**343**			**Pn**	**21**	**24**	**44.1**	**-0.5**
TAFL						**Sn**	**21**	**25**	**03.0**	**+0.4**
KIWB	**Kanaga Island**	**1.44**	**2**			**Pn**	**21**	**24**	**44.5**	**-0.5**
KIWB						**Sn**	**21**	**25**	**03.3**	**0.0**
KIWB				IAML			21	25	05.9	
	comp=N,25μm,0.5s									
KIWB				IAML			21	25	06.6	
	comp=E,15μm,0.6s									
TAPA	**Tanaga Point A**	**1.45**	**345**			**Pn**	**21**	**24**	**44.8**	**-0.5**
TAPA						**Sb**	**21**	**25**	**04.6**	**+0.2**
TAPA						**Sn**	**21**	**25**	**04.9**	**+1.2**
KIKV	**Kanaga Island**	**1.46**	**1**			**Pn**	**21**	**24**	**45.1**	**-0.4**
KIKV						**Sb**	**21**	**25**	**05.0**	**+0.2**
KIRH	**Kanaga Island**	**1.48**	**3**			**Sb**	**21**	**25**	**05.4**	**-0.1**
ADK	**Adak**	**1.50**	**13**	Pn		**Pn**	**21**	**24**	**44.6**	**-1.4**
ADK				Sn		**Sn**	**21**	**25**	**04.4**	**-0.6**
ADK	**Adak**	**1.50**	**13**	IAML			21	25	05.4	
	comp=E,14μm,0.3s									
ADK				IAML			21	25	05.9	
	comp=E,23μm,0.4s									
ADK	**Adak**	**1.50**	**13**	P		**Pn**	**21**	**24**	**45.2**	**-0.8**
ADK	**Adak**	**1.50**	**13**	P		**Pn**	**21**	**24**	**44.6**	**-1.4**
ADK							21	25	04.4	
TASE	**Tanaga Southea**	**1.51**	**340**			**Pn**	**21**	**24**	**46.0**	**-0.1**
TASE						**Sb**	**21**	**25**	**06.4**	**+0.2**
GAKI	**Gareloi-Kavalg**	**1.52**	**319**			**Pn**	**21**	**24**	**45.3**	**-0.8**
KINC	**Kanaga Island**	**1.52**	**2**			**Pn**	**21**	**24**	**46.0**	**-0.2**
ETKA	**Kagalaska Isla**	**1.53**	**19**			**Sn**	**21**	**25**	**04.4**	**-1.4**
GALAA	**Gareloi Lava P**	**1.66**	**325**			**Sb**	**21**	**25**	**10.7**	**+0.2**
GALEA	**Gareloi East**	**1.67**	**325**			**Pn**	**21**	**24**	**48.3**	**0.0**
GSIG	**Igitkin Island**	**1.77**	**27**			**Pn**	**21**	**24**	**48.1**	**-1.5**
GSTR	**Great Sitkin T**	**1.83**	**23**	Pn		**Pn**	**21**	**24**	**49.3**	**-1.2**
AMKA	**Amchitka**	**2.40**	**295**	Pn		**Pn**	**21**	**24**	**57.0**	**-1.3**
CETU	**Semis' Tuman**	**2.58**	**308**			**Pn**	**21**	**25**	**00.9**	**+0.1**
ATKA	**Atka Island**	**2.61**	**46**	Pn		**Pn**	**21**	**24**	**59.2**	**-1.9**
ATKA	**Atka Island**	**2.61**	**46**	P		**Pn**	**21**	**24**	**59.8**	**-1.3**
SHEM	**Shemya Is, Ala**	**5.88**	**296**	Pn		**Pn**	**21**	**25**	**45.7**	**-0.4**
SHEM	**Shemya Is, Ala**	**5.88**	**296**	Pn		**Pn**	**21**	**25**	**47.4**	**+1.3**
	comp=E,73nm,0.3s,baz=87,slow=1.8,SNR=60									
SHEM				Sn		**Sn**	**21**	**26**	**49.9**	**-2.9**
	comp=E,43nm,0.3s,baz=127,slow=20,SNR=11									
	comp=E,195nm,0.3s									
SMY	**Shemya**	**5.88**	**296**	Pn		**Pn**	**21**	**25**	**45.2**	**-0.9**
SMY	**Shemya**	**5.88**	**296**	P		**Pn**	**21**	**25**	**47.0**	**+0.9**
SMY	**Shemya**	**5.88**	**296**	P		**Pn**	**21**	**25**	**45.2**	**-0.9**
OKNC	**Okmok New Cone**	**6.40**	**58**			**Pn**	**21**	**25**	**53.3**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**6.41**	**59**			**Pn**	**21**	**25**	**53.6**	**+0.1**
MAPS	**Pakushin South**	**7.18**	**58**			**Pn**	**21**	**26**	**03.8**	**-0.2**
MREP	**Makushin Rep't**	**7.29**	**58**			**Pn**	**21**	**26**	**05.6**	**+0.1**
MTBL	**Makushin Table**	**7.39**	**57**			**Pn**	**21**	**26**	**07.0**	**+0.1**
UNV	**Unalaska Valle**	**7.44**	**58**	Pn		**Pn**	**21**	**26**	**07.0**	**-0.4**
UNV	**Unalaska Valle**	**7.44**	**58**	P		**Pn**	**21**	**26**	**07.4**	**0.0**
UNV	**Unalaska Valle**	**7.44**	**58**	P		**Pn**	**21**	**26**	**07.6**	**+0.2**
	baz=247,SNR=16									
P08K	**Saint George I**	**7.70**	**33**	Pn		**Pn**	**21**	**26**	**10.7**	**-0.2**
P08K	**Saint George I**	**7.70**	**33**	P		**Pn**	**21**	**26**	**10.0**	**-0.9**
	baz=219									
AKRB	**Akutan Reef Bi**	**7.79**	**57**			**Pn**	**21**	**26**	**12.8**	**+0.6**
LVA	**Lava Point**	**7.82**	**57**	Pn		**Pn**	**21**	**26**	**13.2**	**+0.5**
AKGG	**Akutan Green G**	**7.86**	**57**			**Pn**	**21**	**26**	**13.5**	**+0.3**
AKLV	**Akutan Long Va**	**7.86**	**57**			**Pn**	**21**	**26**	**13.6**	**+0.3**
AHB	**Akutan Harbor**	**7.92**	**58**			**Pn**	**21**	**26**	**14.4**	**+0.3**
SPIA	**Saint Paul Isl**	**7.93**	**29**	Pn		**Pn**	**21**	**26**	**15.2**	**+1.1**
SPIA	**Saint Paul Isl**	**7.93**	**29**	P		**Pn**	**21**	**26**	**13.4**	**-0.7**
	baz=214,SNR=10									
AKUT	**Akutan**	**7.95**	**58**	Pn		**Pn**	**21**	**26**	**15.0**	**+0.6**
AKUT	**Akutan**	**7.95**	**58**	P		**Pn**	**21**	**26**	**15.5**	**+1.1**
WEBT	**Westdahl Beart**	**8.68**	**56**			**Pn**	**21**	**26**	**24.8**	**+0.4**
FALS	**False Pass**	**9.49**	**57**	Pn		**Pn**	**21**	**26**	**35.7**	**+0.2**
FALS	**False Pass**	**9.49**	**57**	P		**Pn**	**21**	**26**	**35.8**	**+0.2**
FALS	**False Pass**	**9.49**	**57**	S		**Sn**	**21**	**28**	**23.9**	**+2.3**
FALS	**False Pass**	**9.49**	**57**	P		**Pn**	**21**	**26**	**35.0**	**-0.6**
	baz=248,SNR=16									
S12K	**Black Hills**	**10.54**	**54**	Pn		**Pn**	**21**	**26**	**49.5**	**-0.5**
S12K	**Black Hills**	**10.54**	**54**	P		**Pn**	**21**	**26**	**48.9**	**-1.1**
	baz=246									
SDPT	**Sand Point**	**11.25**	**58**	Pn		**Pn**	**21**	**26**	**57.6**	**-2.0**
SDPT	**Sand Point**	**11.25**	**58**	P		**Pn**	**21**	**26**	**59.0**	**-0.6**
SDPT	**Sand Point**	**11.25**	**58**	P		**Pn**	**21**	**26**	**57.9**	**-1.7**
	baz=251									
CNBA	**Chernabura Isl**	**11.58**	**61**	Pn		**Pn**	**21**	**27**	**01.4**	**-2.8**
CHNA	**Chernabura Isl**	**11.58**	**61**	P		**Pn**	**21**	**27**	**02.2**	**-2.0**
	baz=255									
M11K	**Mekoryuk**	**11.77**	**28**	Pn		**Pn**	**21**	**27**	**08.2**	**+1.5**
M11K	**Mekoryuk**	**11.77**	**28**	P		**Pn**	**21**	**27**	**04.8**	**-1.9**
	baz=217									
S14K	**Fog Glacier**	**12.06**	**54**	P		**Pn**	**21**	**27**	**09.4**	**-1.5**
	baz=248									
CHGN	**Chignik**	**12.66**	**55**	Pn		**Pn**	**21**	**27**	**16.8**	**-2.1**
CHGN	**Chignik**	**12.66**	**55**	P		**Pn**	**21**	**27**	**17.9**	**-1.1**
	baz=250									
M13K	**Dall Lake**	**12.71**	**33**	Pn		**Pn**	**21**	**27**	**19.8**	**+0.3**
M13K	**Dall Lake**	**12.71**	**33**	P		**Pn**	**21**	**27**	**19.0**	**-0.5**
	baz=224									
O14K	**Tigyukauivet M**	**12.73**	**40**	Pn		**Pn**	**21**	**27**	**19.0**	**-0.8**
O14K	**Tigyukauivet M**	**12.73**	**40**	P		**Pn**	**21**	**27**	**19.5**	**-0.3**
	baz=233,SNR=11									
N14K	**Kuskokwak Cree**	**12.98**	**37**	Pn		**Pn**	**21**	**27**	**22.5**	**-0.8**
N14K	**Kuskokwak Cree**	**12.98**	**37**	P		**Pn**	**21**	**27**	**23.2**	**-0.1**
	baz=230									
O15K	**Ungalikthiuk R**	**13.29**	**42**	Pn		**Pn**	**21**	**27**	**26.7**	**-0.8**
O15K	**Ungalikthiuk R**	**13.29**	**42**	P		**Pn**	**21**	**27**	**27.7**	**+0.2**
	baz=236,SNR=13									
M14K	**Bethel**	**13.44**	**34**	Pn		**Pn**	**21**	**27**	**28.7**	**-0.8**
M14K	**Bethel**	**13.44**	**34**	P		**Pn**	**21**	**27**	**29.0**	**-0.4**
	baz=226,SNR=9.2									
K13K	**Kusilvak Mount**	**13.46**	**26**	Pn		**Pn**	**21**	**27**	**31.5**	**+1.7**
K13K	**Kusilvak Mount**	**13.46**	**26**	P		**Pn**	**21**	**27**	**29.7**	**-0.1**
	baz=217,SNR=8.9									
R16K	**Pilot Point**	**13.56**	**51**	P		**Pn**	**21**	**27**	**31.8**	**+0.7**
	baz=246									
L14K	**Kuka Creek**	**13.61**	**31**	Pn		**Pn**	**21**	**27**	**31.2**	**-0.5**
L14K	**Kuka Creek**	**13.61**	**31**	P		**Pn**	**21**	**27**	**32.3**	**+0.5**
	baz=223									
GAMB	**Gambell**	**13.71**	**10**	Pn		**Pn**

comp=Z,8.9nm,0.3s,baz=206,slow=23,SNR=9.8
KDAK LR LR 21 35 34.5

comp=Z,5µm,18.9s,baz=245,slow=42
KDAK Kodiak Island 16.16 53 P **Pn** **21 28 01.9 -3.8**
KDAK pmax pmax

comp=Z,126nm,0.9s
KDAK Kodiak Island 16.16 53 P **Pn** **21 28 06.4 +0.6**
baz=253
G15K Niukluk 16.16 20 P **Pn** **21 28 07.2 +1.4**
baz=212,SNR=30
O19K Port Alsworth 16.22 44 P **P** **21 28 08.3 -1.2**
baz=243
M18K Stony River 16.23 39 P **Pn** **21 28 08.1 +1.3**
baz=236,SNR=38
J17K VABM Dome 16.26 30 Pn **Pn** **21 28 07.1 0.0**
J17K IAmb IAmb 21 28 13.3

comp=Z,315nm,0.8s
J17K PcP **PcP** **21 33 00.6 +0.5**
J17K VABM Dome 16.26 30 P **Pn** **21 28 08.0 +0.9**
baz=225,SNR=188
H16K Elim 16.30 23 P **Pn** **21 28 08.1 +0.6**
baz=216,SNR=11
L18K Granite Mounta 16.32 36 P **Pn** **21 28 08.8 +1.0**
baz=233,SNR=60
N19K Bonanza Creek 16.44 42 P **Pn** **21 28 10.1 +0.7**
baz=241,SNR=71
P19K Oil Pt 16.48 47 Pn **Pn** **21 28 08.0 -2.0**
P19K IAmb IAmb 21 28 16.4

comp=Z,100nm,0.5s
P19K Oil Pt 16.48 47 P **Pn** **21 28 10.7 +0.7**
baz=246,SNR=6.8
Q20K Shuyak Island 16.50 51 P **Pn** **21 28 09.6 -0.6**
baz=251
F15K North Star Dit 16.65 18 IAmb IAmb 21 28 18.5
comp=Z,258nm,1.2s
F15K North Star Dit 16.65 18 P **Pn** **21 28 11.9 -0.1**
baz=209,SNR=39
G16K Koyuk River 16.89 22 P **P** **21 28 16.4 -0.6**
baz=214,SNR=14
O20K Slope Mountain 16.93 46 P **Pn** **21 28 16.2 +0.5**
baz=246,SNR=9.1
L19K White Mountain 17.00 38 IAmb IAmb 21 28 21.5
comp=Z,370nm,1.2s
L19K White Mountain 17.00 38 P **P** **21 28 17.6 -0.7**
baz=236,SNR=135
M19K Big River Lodg 17.03 39 IAmb IAmb 21 28 22.9
comp=Z,452nm,1.6s
M19K Big River Lodg 17.03 39 P **P** **21 28 18.8 +0.2**
baz=238,SNR=88
J18K Innoko River 17.09 32 IAmb IAmb 21 28 24.2
comp=Z,511nm,1.8s
J18K Innoko River 17.09 32 P **Pn** **21 28 18.2 +0.6**
baz=230,SNR=50
H17K Granite Mounta 17.15 25 Pn **Pn** **21 28 18.0 -0.3**
H17K PcP **PcP** **21 33 02.1 +0.6**
H17K Granite Mounta 17.15 25 P **P** **21 28 19.6 -0.2**
baz=220,SNR=49
HOM Homer 17.23 48 P **Pn** **21 28 18.7 -0.6**
baz=249
G17K Kiwalik Mounta 17.39 23 P **Pn** **21 28 21.8 +0.5**
baz=218,SNR=16
M20K Styx River 17.53 40 P **P** **21 28 24.6 +0.4**
baz=240,SNR=64
L20K Farewell, AK 17.54 38 P **P** **21 28 23.9 -0.3**
baz=237,SNR=67
N20K Mount Spurr 17.60 43 P **P** **21 28 24.5 -0.4**
baz=243
SPCR Spurr Chakacha 17.60 43 P **P** **21 28 25.4 +0.5**
baz=243,SNR=35
BRSE Bradley Lake S 17.69 48 P **Pn** **21 28 25.2 +0.1**
baz=250,SNR=17
H18K Honhosa River 17.75 27 P **P** **21 28 28.1 +1.6**
baz=223,SNR=59
J19K Poorman 17.80 32 **Pn** **21 28 26.2 -0.3**
J19K Poorman 17.80 32 P **P** **21 28 27.2 +0.1**
baz=230,SNR=176
CAPN Captain Cook N 17.88 45 P **Pn** **21 28 26.8 -0.5**
baz=246
GCSA Galena City Sc 17.90 29 P **P** **21 28 29.5 +1.4**
baz=226,SNR=32
K20K Telida 17.96 35 P **P** **21 28 28.8 -0.1**
baz=234,SNR=80
F17K Baldwin Pennin 18.01 21 **P** **21 28 29.5 +0.1**
F17K Baldwin Pennin 18.01 21 P **P** **21 28 31.4 +2.0**
baz=215,SNR=16
G18K Tagagawik 18.22 25 P **P** **21 28 33.0 +1.3**
baz=220,SNR=52
SKT Skwentna 18.24 41 **P** **21 28 32.2 +0.2**
SKT IAmb IAmb 21 28 35.2

comp=Z,513nm,1.4s
SKT Skwentna 18.24 41 P **P** **21 28 32.4 +0.4**
baz=242,SNR=151
SUA Susitna One 18.35 43 P **Pn** **21 28 33.3 +0.1**
baz=245,SNR=24
E17K Hotham Inlet 18.42 19 P **Pn** **21 28 35.4 +1.4**
baz=212,SNR=9.0
SEW Seward 18.42 48 P **P** **21 28 31.5 -2.4**
baz=250,SNR=23
O22K Cooper Landing 18.42 46 **P** **21 28 32.0 -1.9**
O22K IAmb IAmb 21 28 44.0

comp=Z,139nm,0.6s
O22K Cooper Landing 18.42 46 P **P** **21 28 33.7 -0.2**
baz=249,SNR=11
J20K Nowinta River 18.43 33 P **Pn** **21 28 34.6 +0.5**
baz=232,SNR=67
PPLA Purkeypile 18.43 38 P **Pn** **21 28 35.5 +1.3**
baz=239,SNR=57
F18K Selawik 18.52 22 P **Pn** **21 28 36.5 +1.4**
baz=217,SNR=31
H19K Roundabout Mou 18.57 28 P **P** **21 28 34.7 -0.8**
H19K Roundabout Mou 18.57 28 P **Pn** **21 28 35.8 0.0**
baz=225,SNR=49
RC01 Rabbit Creek A 18.64 45 P **P** **21 28 36.3 0.0**
baz=247,SNR=10
I20K Naaghedeneel 18.70 31 P **Pn** **21 28 38.5 +1.2**
baz=230,SNR=27
D17K Noatak River 18.70 17 P **Pn** **21 28 38.3 +0.9**
baz=209,SNR=30
M22K Willow 18.74 42 IAmb IAmb 21 28 47.4
comp=Z,288nm,1.4s
M22K Willow 18.74 42 P **Pn** **21 28 38.8 +1.0**
baz=245,SNR=8.7
G19K Purcell Mounta 18.84 26 P **P** **21 28 37.6 -0.8**
G19K Purcell Mounta 18.84 26 P **Pn** **21 28 39.4 +0.4**
baz=223,SNR=46
C16K Lisburne Hills 18.84 14 P **Pn** **21 28 39.8 +0.8**
baz=204
CHUM Lake Minchumin 18.91 35 P **Pn** **21 28 40.6 +0.7**
baz=236,SNR=40
CUT Chulitna 18.96 41 IAmb IAmb 21 28 44.6
comp=Z,414nm,1.4s
CUT Chulitna 18.96 41 P **Pn** **21 28 41.6 +1.0**
baz=243,SNR=13
E18K Tukpahlearik C 18.97 20 IAmb IAmb 21 28 44.3
comp=Z,249nm,1.5s
E18K Tukpahlearik C 18.97 20 P **Pn** **21 28 41.8 +1.2**
baz=214,SNR=40
H20K Anotleneega Mo 19.03 29 P **Pn** **21 28 41.0 -0.3**
baz=228,SNR=65
RDOG Red Dog Mine 19.05 17 P **Pn** **21 28 41.2 -0.3**
RDOG Red Dog Mine 19.05 17 P **Pn** **21 28 42.4 +0.9**
baz=209,SNR=8.3
PMR Palmer 19.11 43 P **Pn** **21 28 43.0 +0.7**
PMR Palmer 19.11 43 P **Pn** **21 28 42.7 +0.4**
baz=247
F19K Shaleruckik Mo 19.17 24 P **Pn** **21 28 42.6 -0.3**
baz=220,SNR=75
PWL Port Wells 19.20 46 P **P** **21 28 41.6 -0.8**
baz=250,SNR=21
GHO Glory Hole Cre 19.27 43 P **P** **21 28 41.4 -1.9**
KNK Knik Glacier 19.34 44 P **P** **21 28 43.4 -0.6**
baz=248,SNR=34
C17K DeLong Mountai 19.37 16 P **Pn** **21 28 46.5 +1.1**
baz=208,SNR=27
TRF Thorofare Moun 19.45 38 IAmb IAmb 21 28 50.5
comp=Z,349nm,1.3s
TRF Thorofare Moun 19.45 38 P **Pn** **21 28 46.5 -0.1**
baz=240,SNR=105
BILL Bilibino 19.46 341 **P** **21 28 45.4 +0.1**
BILL IAmb IAmb 21 28 48.1

comp=Z,205nm,1.1s
BILL Bilibino 19.46 341 *ce* **P** **P** **21 28 45.3 +0.1**
BILL pmax pmax

comp=Z,111nm,1.0s
BPAW Bear Paw Mtn. 19.52 36 IAmb IAmb 21 28 50.4
comp=Z,355nm,1.2s
BPAW Bear Paw Mtn. 19.52 36 P **P** **21 28 46.4 +0.5**
baz=238,SNR=209

IMAR Indian Mountai 19.70 29 P **P** **21 28 47.0 -0.9**
IMAR PcP **PcP** **21 33 05.5 -0.3**
Q23K Middleton Isla 19.73 51 P **Pn** **21 28 49.3 -0.5**
baz=256
GLI Glacier Island 19.77 47 P **P** **21 28 47.4 -1.3**
GLI Glacier Island 19.77 47 P **P** **21 28 49.0 +0.2**
baz=252,SNR=5.9
I21K Tanana 19.77 32 P **P** **21 28 48.3 -0.3**
baz=234
E19K Redstone River 19.78 23 IAmb IAmb 21 28 51.6
comp=Z,217nm,1.1s
E19K Redstone River 19.78 23 P **Pn** **21 28 49.7 -0.7**
baz=220,SNR=102
H21K Melozitna Rive 19.79 30 IAmb IAmb 21 28 53.8
comp=Z,338nm,1.3s
H21K Melozitna Rive 19.79 30 P **P** **21 28 49.7 +0.8**
baz=231,SNR=160
M23K Glacier View 19.80 44 P **Pn** **21 28 49.9 -0.7**
baz=248,SNR=33
WAT1 Susitna Watana 19.86 40 P **P** **21 28 50.5 +0.7**
baz=244
F20K Avaraart Lake 19.87 25 P **P** **21 28 50.5 +0.8**
baz=224,SNR=87
C18K Utukok River 19.88 17 IAmb IAmb 21 28 55.3
comp=Z,195nm,1.4s
C18K Utukok River 19.88 17 P **P** **21 28 50.5 +0.6**
baz=211,SNR=20
SCM Sheep Creek Mo 19.99 44 P **P** **21 28 51.9 +0.7**
baz=249,SNR=32
RND Reindeer 20.00 39 IAmb IAmb 21 28 56.2
comp=Z,149nm,1.0s
WAT6 Susitna Watana 20.10 42 P **P** **21 28 52.2 -0.2**
baz=246,SNR=58
MCK McKinley 20.12 38 IAmb IAmb 21 28 56.0
comp=Z,120nm,0.8s
MCK McKinley 20.12 38 P **P** **21 28 52.5 0.0**
baz=242,SNR=66
MLY Manley 20.12 33 IAmb IAmb 21 28 57.7
comp=Z,290nm,1.2s
MLY Manley 20.12 33 P **P** **21 28 53.1 +0.6**
baz=236,SNR=230
BWN Browne 20.13 36 IAmb IAmb 21 28 59.0
comp=Z,201nm,1.0s
G21K Allakaket 20.13 28 P **P** **21 28 52.6 0.0**
G21K IAmb IAmb 21 28 55.1

comp=Z,184nm,0.9s
G21K Allakaket 20.13 28 P **P** **21 28 53.4 +0.8**
baz=228,SNR=199
EYAK Cordova Ski Ar 20.31 48 P Pn 21 28 56.6 0.0
EYAK Cordova Ski Ar 20.31 48 P **P** **21 28 55.1 +0.6**
baz=254
MA2 Magadan 20.33 309 P **P** **21 28 55.4 +0.7**
MA2 IAmb IAmb 21 28 57.8

comp=Z,147nm,0.8s
MA2 Magadan 20.33 309 P **P** **21 28 54.9 +0.1**
comp=Z,148nm,0.8s,baz=96,slow=9.6,SNR=43
MA2 LR LR 21 38 23.1

comp=Z,1µm,18.1s,baz=106,slow=42
comp=Z,148nm,0.8s
MA2 Magadan 20.33 309 P **P** **21 28 55.6 +0.8**
MA2 Magadan 20.33 309 *ce* P Pn 21 28 56.5 -0.3
MA2 pmax pmax

comp=Z,175nm,0.9s
D19K Kuna River 20.39 20 IAmb IAmb 21 28 58.0
comp=Z,375nm,1.2s
D19K Kuna River 20.39 20 P **P** **21 28 56.2 +0.8**
baz=217,SNR=123
B18K Kokolik River 20.39 16 P **P** **21 28 56.0 +0.6**
baz=209,SNR=16
H22K Ishtalitna Cre 20.40 31 P **P** **21 28 56.3 +0.7**
baz=233,SNR=170
DHY Denali Highway 20.46 40 IAmb IAmb 21 29 02.4
comp=Z,148nm,0.6s
DHY Denali Highway 20.46 40 P **P** **21 28 55.8 -0.5**
baz=246,SNR=246
DIV Divide 20.47 46 IAmb IAmb 21 29 09.8
comp=Z,208nm,1.8s
NEA2 Nenana 20.49 36 P **P** **21 28 56.8 +0.3**
baz=240,SNR=63
KLU Klutina 20.51 45 P **P** **21 28 56.8 0.0**
baz=252,SNR=52
C19K Lookout Ridge 20.58 18 P Pn 21 28 58.9 -0.9
baz=213,SNR=21
M24K Tolsona, Glenn 20.60 44 IAmb IAmb 21 29 01.9
comp=Z,155nm,1.1s
M24K Tolsona, Glenn 20.60 44 P Pn 21 28 59.1 -1.0
baz=250,SNR=29
F21K Alatna River 20.61 26 IAmb IAmb 21 29 00.3
comp=Z,105nm,0.9s
F21K Alatna River 20.61 26 P **P** **21 28 58.4 +0.5**
baz=227,SNR=110
SEY Seymchan 20.62 319 P **P** **21 28 58.5 +0.6**
comp=Z,57nm,0.9s,baz=108,slow=10.0,SNR=46
SEY S Sn 21 32 51.3 -0.7

comp=Z,2.3nm,0.8s,baz=212,slow=19,SNR=1.1
SEY LR LR 21 37 20.3

comp=Z,3µm,18.3s,baz=109,slow=38
comp=Z,57nm,0.9s
SEY Seymchan 20.62 319 *ce* **P** **P** **21 28 58.5 +0.6**
SEY pmax pmax

comp=Z,92nm,1.0s
E20K Nigu River 20.65 22 P **P** **21 28 58.9 +0.7**
baz=220,SNR=150
I23K Minto, Yukon-K 20.67 34 IAmb IAmb 21 29 06.3
comp=Z,390nm,1.6s
I23K Minto, Yukon-K 20.67 34 P **P** **21 28 58.9 +0.5**
baz=238,SNR=80
KAIM Kayak Island 20.80 50 P **P** **21 29 00.2 +0.3**
KAIM Kayak Island 20.80 50 P Pn 21 29 01.3 -1.1
baz=257
D20K Etivluk River 20.90 21 IAmb IAmb 21 29 03.3
comp=Z,358nm,1.2s
D20K Etivluk River 20.90 21 P **P** **21 29 01.2 +0.3**
baz=219,SNR=101
BMRM Bremner River 20.96 47 IAmb IAmb 21 29 06.8
comp=Z,281nm,1.8s
BMRM Bremner River 20.96 47 P **P** **21 29 02.4 +0.7**
baz=254,SNR=35
H23K Yukon River 20.98 32 P **P** **21 29 02.1 +0.3**
baz=236
G22K Bettles 21.00 29 P **P** **21 29 02.3 +0.4**
baz=231,SNR=37
COLA College 21.08 36 P **P** **21 29 03.3 +0.5**
COLA IAmb IAmb 21 29 18.1

comp=Z,78nm,0.7s
COLA College 21.08 36 P **P** **21 29 04.1 +1.2**
COLA College 21.08 36 *i* P **P** **21 29 03.0 +0.2**
COLA pmax pmax

comp=Z,59nm,0.9s
COLA College 21.08 36 P **P** **21 29 04.1 +1.2**
baz=241
HARP HAARP 21.15 43 P **P** **21 29 03.8 +0.2**
baz=250,SNR=34
N25K Chitina, Valde 21.15 46 P **P** **21 29 04.3 +0.6**
baz=253,SNR=36
F22K John River 21.18 27 P **P** **21 29 04.7 +0.8**
baz=228
HDA Harding Lake 21.21 37 IAmb IAmb 21 29 10.1
comp=Z,90nm,0.7s
HDA Harding Lake 21.21 37 P **P** **21 29 04.6 +0.3**
baz=243,SNR=119
PAX Paxson 21.21 42 IAmb IAmb 21 29 10.7
comp=Z,106nm,0.7s
PAX Paxson 21.21 42 P **P** **21 29 05.1 +0.7**
baz=248,SNR=141
A19K Wainwright 21.25 15 P **P** **21 29 05.5 +0.9**
baz=209
G23K Bananza Creek 21.33 30 P **P** **21 29 05.3 -0.3**
G23K IAmb IAmb 21 29 11.6

comp=Z,153nm,1.3s
G23K Bananza Creek 21.33 30 P **P** **21 29 06.3 +0.7**
baz=233,SNR=55
E21K Killik River 21.34 24 P **P** **21 29 05.5 -0.2**
baz=224
POKR Poker Plat Res 21.36 35 P **P** **21 29 06.6 +0.7**
baz=241
ILAR Eielson Array 21.40 36 P **P** **21 29 04.2 -2.0**
ILAR Eielson Array 21.40 36 P **P** **21 29 06.0 -0.2**
comp=Z,18nm,0.6s,baz=234,slow=10,SNR=53
ILAR S **S** **21 33 00.0 -2.6**

comp=Z,1.9nm,0.6s,baz=231,slow=14,SNR=5.0
ILAR LR LR 21 38 21.5

comp=Z,2µm,18.9s,baz=227,slow=39
comp=Z,18nm,0.6s
BGLC Bering Glacier 21.40 50 P **P** **21 29 07.7 +1.5**
baz=258
K24K Donnelly Dome 21.41 39 P **P** **21 29 07.8 +1.4**
baz=246

H24K Noodor Dome 21.56 33 P **P** **21 29 08.3 +0.2**
baz=238,SNR=65
COLD Coldfoot 21.59 29 IAmb IAmb 21 29 15.0
comp=Z,310nm,1.7s
COLD Coldfoot 21.59 29 P **P** **21 29 09.1 +0.8**
baz=232,SNR=32
CRQE Cirque 21.63 48 P **P** **21 29 10.6 +1.7**
baz=257,SNR=11
SNH Sunshine Point 21.63 50 P **P** **21 29 09.2 +0.4**
C21K Knifeblade Rid 21.67 22 P **P** **21 29 09.0 -0.2**
baz=221,SNR=39
WAX Waxell Ridge 21.68 49 P **P** **21 29 10.5 +1.1**
RIDG Independent Ri 21.77 40 IAmb IAmb 21 29 17.4
comp=Z,100nm,1.0s
RIDG Independent Ri 21.77 40 P **P** **21 29 10.3 +0.1**
baz=247,SNR=75
MCARA McCarthy VSAT 21.81 47 P **P** **21 29 10.4 -0.3**
MCARA McCarthy VSAT 21.81 47 P **P** **21 29 11.1 +0.4**
baz=255,SNR=23
B20K Meade River 21.81 19 IAmb IAmb 21 29 14.2
comp=Z,111nm,1.0s
B20K Meade River 21.81 19 P **P** **21 29 10.1 -0.5**
baz=216,SNR=9.1
J25K Salcha River, 21.91 38 P **P** **21 29 12.0 +0.1**
baz=245,SNR=94
MENT Mentasta 21.95 42 P **P** **21 29 13.7 +1.4**
ISLE Juniper Island 21.96 49 P **P** **21 29 12.8 +0.3**
D22K Ayikyak River 21.99 24 IAmb IAmb 21 29 14.8
comp=Z,207nm,1.3s
D22K Ayikyak River 21.99 24 P **P** **21 29 12.8 +0.2**
baz=225,SNR=38
DOT Dot Lake 22.06 41 IAmb IAmb 21 29 18.1
comp=Z,266nm,1.4s
B21K Ikpikpuk River 22.06 21 P **P** **21 29 13.4 +0.1**
baz=221
MESA MESA 22.07 50 P **P** **21 29 13.8 +0.1**
MESA MESA 22.07 50 P **P** **21 29 14.3 +0.7**
baz=260,SNR=9.5
M26K Nabesna, AK 22.10 44 P **P** **21 29 13.6 -0.3**
M26K Nabesna, AK 22.10 44 P **P** **21 29 14.3 +0.3**
baz=253,SNR=23
L26K Log Cabin Wild 22.14 42 P **P** **21 29 15.4 +1.1**
baz=251,SNR=6.3
G24K Hadweenzic Riv 22.16 32 IAmb IAmb 21 29 33.2
comp=Z,153nm,1.3s
G24K Hadweenzic Riv 22.16 32 P **P** **21 29 15.0 +0.5**
baz=237,SNR=77
SCRK Sand Creek 22.21 40 IAmb IAmb 21 29 19.5
comp=Z,101nm,0.7s
SCRK Sand Creek 22.21 40 P **P** **21 29 14.3 -0.8**
baz=248,SNR=155
PRP Porcupine Dome 22.25 35 P **P** **21 29 15.5 -0.1**
baz=242,SNR=38
E23K Chandalar 22.28 27 P **P** **21 29 16.1 +0.2**
baz=231,SNR=18
BARN Barnard Glacie 22.38 48 P **P** **21 29 15.8 -1.3**
F24K Squaw Lake 22.49 30 P **P** **21 29 18.3 +0.3**
F24K PcP **PcP** **21 33 11.9 +0.6**
F24K Squaw Lake 22.49 30 P **P** **21 29 18.4 +0.4**
baz=235,SNR=100
H25L Birch Creek 22.51 33 P **P** **21 29 17.9 -0.2**
baz=240,SNR=18
TABL Table Mountain 22.51 50 IAmb IAmb 21 29 36.7
comp=Z,164nm,1.3s
CTG Chitna Glacier 22.51 48 P **P** **21 29 18.4 0.0**
baz=258,SNR=18
CTGM Chitina Glacie 22.52 48 P **P** **21 29 18.4 0.0**
D23K Nanushuk River 22.57 25 P **P** **21 29 18.1 -0.7**
baz=228
J26L Joseph Creek 22.58 39 IAmb IAmb 21 29 23.9
comp=Z,59nm,0.6s
J26L Joseph Creek 22.58 39 P **P** **21 29 18.7 -0.3**
baz=247,SNR=100
M27K Edge Creek, AK 22.59 45 P **P** **21 29 19.7 +0.5**
baz=254,SNR=60
E24K Your Creek 22.63 28 P **P** **21 29 19.6 +0.1**
baz=233,SNR=50
LOGN Logan Glacier 22.65 49 P **P** **21 29 21.0 +1.2**
G25K Bearman Lake 22.66 32 P **P** **21 29 20.0 +0.2**
baz=239,SNR=14
TOLK Toolik Lake Re 22.66 26 P **P** **21 29 20.0 +0.1**
baz=230,SNR=25
L27K Beaver Creek, 22.81 43 P **P** **21 29 22.6 +1.1**
baz=253
BCAR Beaver Creek A 22.83 43 P **P** **21 29 20.4 -1.3**
FYU Fort Yukon 22.86 33 IAmb IAmb 21 29 31.3
comp=Z,192nm,1.6s
B22K Teshekpuk Lake 22.88 21 P **P** **21 29 21.3 -0.6**
baz=222
PINM Pinnacle 22.89 51 P **P** **21 29 23.9 +1.6**
baz=262,SNR=18
A21K Barrow 22.99 17 P **P** **21 29 23.8 +0.6**
baz=215
K27K Chicken 23.01 40 P **P** **21 29 24.7 +1.2**
baz=250
O28M Mount Upton 23.03 49 IAmb IAmb 21 29 27.3
comp=Z,88nm,1.1s
O28M Mount Upton 23.03 49 P **P** **21 29 24.5 +0.5**
baz=260,SNR=47
A22K Sinclair Lake 23.05 18 P **P** **21 29 23.3 -0.5**
baz=218
I26K Coal Creek Min 23.06 37 P **P** **21 29 23.5 -0.4**
baz=246
BVCY Beaver Creek 23.07 45 P **P** **21 29 24.6 +0.5**
baz=255,SNR=22
YUK3 Moose Creek 23.10 46 P **P** **21 29 25.1 +0.5**
baz=257,SNR=36
BCPM Bancas Point 23.18 51 P **P** **21 29 25.1 0.0**
C23K Itkillik River 23.18 23 P **P** **21 29 24.8 -0.4**
baz=227,SNR=69
D24K Happy Valley 23.20 26 IAmb IAmb 21 29 27.5
comp=Z,111nm,1.1s
D24K Happy Valley 23.20 26 P **P** **21 29 24.9 -0.4**
baz=230,SNR=38
F25K Christian Rive 23.25 31 P **P** **21 29 25.6 -0.2**
baz=238,SNR=56
PNL Peninsula 23.26 52 P **P** **21 29 27.8 +1.7**
PNL Peninsula 23.26 52 P **P** **21 29 27.0 +0.9**
baz=263,SNR=15
YUK8 Steele Glacier 23.32 48 P **P** **21 29 28.4 +1.5**
baz=259,SNR=22
BMAR Burnt Mountain 23.51 31 P **P** **21 29 27.6 -0.9**
G26K Porcupine Rive 23.55 33 P **P** **21 29 28.4 -0.3**
baz=242,SNR=33
E25K Arctic Village 23.55 29 IAmb IAmb 21 29 32.1
comp=Z,94nm,1.6s
E25K Arctic Village 23.55 29 P **P** **21 29 28.8 -0.1**
baz=237,SNR=37
C24K Franklin Bluff 23.60 25 IAmb IAmb 21 29 33.2
comp=Z,143nm,1.1s
C24K Franklin Bluff 23.60 25 P **P** **21 29 29.1 -0.2**
baz=230,SNR=38
O29M Mount Kennedy 23.75 51 P **P** **21 29 31.3 +0.3**
baz=263,SNR=11
I27K Kandik River 23.77 37 P **P** **21 29 30.7 -0.3**
baz=248,SNR=21
F26K Sheenjek River 23.79 31 P **P** **21 29 31.5 +0.3**
baz=240,SNR=57
YUK4 Talbot Arm 23.87 48 P **P** **21 29 33.2 +1.0**
baz=260
YUK6 Outpost Mounta 23.94 49 P **P** **21 29 33.2 +0.3**
baz=262,SNR=15
D25K Kavik River 24.00 27 IAmb IAmb 21 29 35.6
comp=Z,83nm,1.2s
D25K Kavik River 24.00 27 P **P** **21 29 32.6 -0.5**
baz=234,SNR=23
H27K Steamboat Moun 24.05 35 P **P** **21 29 33.7 +0.1**
baz=246,SNR=11
P29M Windy Craggy 24.10 52 P **P** **21 29 34.5 +0.4**
P29M IAmb IAmb 21 29 57.7

comp=Z,43nm,0.6s
P29M Windy Craggy 24.10 52 P **P** **21 29 35.8 +1.7**
baz=265,SNR=21
DAWY Dawson 24.15 41 IAmb IAmb 21 29 38.7
comp=Z,155nm,1.6s
DAWY Dawson 24.15 41 P **P** **21 29 35.2 +0.6**
baz=254,SNR=28
M29M Somme Creek 24.16 45 P **P** **21 29 34.6 -0.2**
M29M **PcP** **21 33 15.4 +0.5**
M29M Somme Creek 24.16 45 P **P** **21 29 35.3 +0.5**
baz=258,SNR=20
G27K Doyon Strip 24.24 34 P **P** **21 29 35.5 +0.1**
baz=245,SNR=14
HYT Haines Junctio 24.34 49 P **P** **21 29 37.7 +1.2**
baz=263,SNR=25
I28M Miner Creek 24.36 38 P **P** **21 29 36.7 +0.2**
baz=250,SNR=44

L29M L29M 24.45 44 IAmb IAmb 21 29 41.2
comp=Z,34nm,0.6s
L29M L29M 24.45 44 P **P** **21 29 37.2 -0.2**
baz=257,SNR=42
P30M Million Dollar 24.53 51 P **P** **21 29 39.1 +1.0**
baz=265
N30M Aishikik Lake 24.62 48 P **P** **21 29 39.9 +0.9**
baz=262,SNR=21
J29N Klondike Camp 24.75 41 P **P** **21 29 41.0 +1.0**
baz=254
C26K Camden Bay 24.76 26 P **P** **21 29 41.3 +1.3**
baz=235,SNR=67
PLBC Pleasant Camp 24.78 53 P **P** **21 29 41.8 +1.5**
baz=267,SNR=24
S31K Pelican 24.81 56 P **P** **21 29 41.8 +1.2**
baz=270,SNR=20
E27K Coleen River 24.87 31 IAmb IAmb 21 29 43.9
comp=Z,76nm,1.4s
E27K Coleen River 24.87 31 P **P** **21 29 41.7 +0.6**
baz=242,SNR=35
K29M Barlow Dome 24.89 42 IAmb IAmb 21 29 44.9
comp=Z,85nm,1.0s
K29M Barlow Dome 24.89 42 P **P** **21 29 42.1 +0.7**
baz=256,SNR=46
C27K Jago River 24.94 27 P **P** **21 29 42.2 +0.6**
baz=237,SNR=28
M30M Minto, Yukon 24.94 45 P **P** **21 29 42.6 +0.8**
baz=260
I29M Ogilvie Camp, 24.98 39 P **P** **21 29 41.1 -0.9**
baz=252,SNR=47
O30N Mendenhall 25.02 50 P **P** **21 29 44.2 +1.7**
baz=264,SNR=35
F28M Old Crow 25.21 33 P **P** **21 29 44.4 +0.3**
baz=246,SNR=46
H29M Whitestone 25.23 37 P **P** **21 29 43.6 -0.7**
baz=250,SNR=36
TYV Tymovskoe 25.23 287 *e*P **P** **21 29 45.3 +0.9**
TYV *e*S **S** **21 34 09.3 +0.6**
TYV pmax pmax
comp=Z,33nm,1.3s
TYV pmax pmax
comp=Z,500nm,2.5s
TYV smax smax
comp=N,800nm,3.3s
TYV smax smax
comp=E,800nm,3.3s
TYV smax smax
comp=N,19nm,2.0s
TYV smax smax
comp=E,34nm,2.0s
N31M Braeburn, Yuko 25.25 48 P **P** **21 29 46.8 +2.2**
baz=263,SNR=7.0
SKAG Skagway 25.31 53 P **P** **21 29 46.5 +1.5**
SKAG IAmb IAmb 21 29 48.7
comp=Z,106nm,1.5s
SKAG Skagway 25.31 53 P **P** **21 29 47.2 +2.2**
SKAG Skagway 25.31 53 P **P** **21 29 47.1 +2.0**
baz=268,SNR=11
SIT Sitka 25.32 59 P **P** **21 29 45.5 +0.3**
SIT Sitka 25.32 59 P **P** **21 29 47.6 +2.4**
SIT Sitka 25.32 59 P **P** **21 29 45.5 +0.3**
SIT pmax pmax
comp=Z,409nm,1.2s
SIT Sitka 25.32 59 P **P** **21 29 48.3 +3.1**
baz=273,SNR=37
BESE Bessie Mountai 25.54 55 IAmb IAmb 21 29 51.1
comp=Z,205nm,1.5s
MAYO Mayo, Yukon 25.54 43 P **P** **21 29 48.5 +1.3**
baz=258
J30M Hart River 25.57 41 P **P** **21 29 49.3 +1.7**
baz=256,SNR=22
D27M Malcolm River 25.58 29 P **P** **21 29 46.9 -0.6**
D27M Malcolm River 25.58 29 P **P** **21 29 48.1 +0.6**
baz=241,SNR=27
G29M Pine Creek 25.60 35 P **P** **21 29 47.5 -0.2**
baz=249,SNR=15
WHY Whitehorse 25.60 50 IAmb IAmb 21 29 51.4
comp=Z,122nm,1.3s
WHY Whitehorse 25.60 50 P **P** **21 29 49.6 +1.7**
baz=266,SNR=17
YUK Yuzh-Kuril'sk 25.67 270 *i* P **P** **21 29 48.6 +0.2**
I30M Mount Dempster 25.71 39 P **P** **21 29 48.6 -0.2**
baz=255,SNR=47
R32K Eaglecrest 25.72 56 IAmb IAmb 21 29 52.1
comp=Z,79nm,1.3s
R32K Eaglecrest 25.72 56 P **P** **21 29 49.8 +1.0**
baz=271,SNR=14
E28M Babbage River 25.74 31 P **P** **21 29 49.8 +0.8**
baz=244,SNR=27
JIS Juneau Island 25.79 56 P **P** **21 29 51.7 +2.3**
EPYK Eagle Plains 25.91 37 IAmb IAmb 21 29 52.8
comp=Z,128nm,2.0s
EPYK Eagle Plains 25.91 37 P **P** **21 29 51.4 +0.8**
baz=252,SNR=7.4
M31M Drury Creek, Y 25.99 47 P **P** **21 29 52.6 +1.3**
baz=263,SNR=8.8
P32M Atlin 26.14 53 P **P** **21 29 53.8 +1.1**
P32M IAmb IAmb 21 29 56.6
comp=Z,92nm,1.1s
P32M Atlin 26.14 53 P **P** **21 29 53.7 +1.0**
baz=269,SNR=44
E29M Blow River 26.20 32 P **P** **21 29 53.4 +0.3**
baz=247,SNR=23
G30M tAoh Zraii Nji 26.29 36 P **P** **21 29 53.5 -0.5**
baz=251,SNR=7.1
D28M Stokes Point 26.32 30 P **P** **21 29 53.9 -0.2**
baz=244
YSS Yuzhno-Sakhali 26.42 278 P **P** **21 29 55.8 +0.6**
YSS IAmb IAmb 21 29 57.5
comp=Z,120nm,1.0s
YSS Yuzhno-Sakhali 26.42 278 P **P** **21 29 57.1 +1.9**
YSS Yuzhno-Sakhali 26.42 278 *e*P **P** **21 29 56.7 +1.5**
YSS *e*S **S** **21 34 24.5 -3.1**
YSS pmax pmax
comp=Z,90nm,1.2s
YSS pmax pmax
comp=Z,500nm,6.1s
YSS pmax pmax
comp=N,300nm,9.9s
YSS pmax pmax
comp=E,400nm,8.0s
YSS smax smax
comp=N,300nm,3.9s
YSS smax smax
comp=E,500nm,6.2s
YSS MLR MLR
comp=Z,1µm,18.0s
YSS MLR MLR
comp=E,700nm,15.0s
N32M Quiet Lake 26.52 49 P **P** **21 29 57.5 +1.4**
baz=266
P33M Teslin, Yukon 26.60 51 IAmb IAmb 21 30 00.7
comp=Z,126nm,1.1s
P33M Teslin, Yukon 26.60 51 P **P** **21 29 58.7 +1.8**
baz=268,SNR=101
U33K Whale Pass 26.62 60 IAmb IAmb 21 30 02.9
comp=Z,90nm,1.1s
U33K Whale Pass 26.62 60 P **P** **21 29 58.7 +1.8**
baz=276,SNR=14
F30M Barrier River 26.66 34 P **P** **21 29 58.3 +1.1**
baz=251,SNR=9.3
H31M Peel River 26.68 39 P **P** **21 29 57.4 -0.1**
baz=256,SNR=11
CRAG Craig 26.69 62 P **P** **21 29 59.2 +1.6**
CRAG IAmb IAmb 21 30 18.5
comp=Z,96nm,0.8s
CRAG Craig 26.69 62 P **P** **21 29 59.9 +2.3**
CRAG Craig 26.69 62 P **P** **21 29 59.5 +1.9**
baz=278,SNR=16
Q32M Nakina River 26.88 54 IAmb IAmb 21 30 04.5
comp=Z,154nm,1.2s
Q32M Nakina River 26.88 54 P **P** **21 30 01.4 +1.8**
baz=271,SNR=66
G31M Satah River 27.01 36 P **P** **21 30 00.1 -0.2**
baz=254
WRAK Wrangell Islan 27.01 60 P **P** **21 30 01.8 +1.4**
baz=276,SNR=22
F31M Tsiigehtchic 27.35 35 P **P** **21 30 03.6 +0.2**
baz=253,SNR=7.9
DIB Dawson Inlet, 27.46 67 P **P** **21 30 04.6 +0.1**
DIB IAmb IAmb 21 30 08.2
comp=Z,74nm,1.1s
MMPY Sheldon Lake, 27.48 46 P **P** **21 30 06.6 +1.8**
baz=265,SNR=23
S34M Telegraph Cree 27.53 56 P **P** **21 30 06.7 +1.6**
baz=274,SNR=15
R33M Jennings River 27.54 53 IAmb IAmb 21 30 09.9
comp=Z,65nm,1.2s
R33M Jennings River 27.54 53 P **P** **21 30 06.5 +1.1**
baz=272,SNR=45
V35K Ketchikan 27.57 62 IAmb IAmb 21 30 13.0
comp=Z,188nm,1.5s
V35K Ketchikan 27.57 62 P **P** **21 30 07.1 +1.6**
baz=279,SNR=28
INK Inuvik 27.69 34 LR LR 21 43 09.1
comp=Z,2µm,18.4s,baz=238,slow=41
INK Inuvik 27.69 34 P **P** **21 30 06.3 -0.1**
baz=252,SNR=11
JKA Kamikawa-asahi 27.72 273 P **P** **21 30 06.6 -0.3**
JKA IAmb IAmb 21 30 09.0
comp=Z,53nm,0.9s
ASAJ Asahikawa 27.72 273 LR LR 21 43 16.2
comp=Z,445nm,19.0s,baz=79,slow=41
ASAJ Asahikawa 27.72 273 P **P** **21 30 06.6 -0.4**
ASAJ pmax pmax
comp=Z,53nm,0.9s
MOBC Moresby Island 27.78 67 IAmb IAmb 21 30 10.7
comp=Z,115nm,1.3s
DLBC Dease Lake 28.07 55 LR LR 21 43 29.7
comp=Z,16µm,18.0s,baz=258,slow=41
DLBC Dease Lake 28.07 55 P **P** **21 30 11.2 +1.1**
baz=274,SNR=38
T35M Bob Quinn 28.10 58 P **P** **21 30 11.8 +1.6**
baz=277,SNR=35
RUBB Prince Rupert 28.52 64 P **P** **21 30 14.7 +0.8**
WTLY Watson Lake, Y 28.61 51 P **P** **21 30 16.0 +1.2**
baz=272
TGTN Hyland Airport 28.84 49 P **P** **21 30 18.1 +1.2**
baz=270,SNR=15
GRNR Gornyy 29.05 289⇑ *i*P **P** **21 30 19.4 +0.6**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=E,650nm,15.0s
GRNR MLR MLR
comp=N,590nm,14.0s
GRNR MLR MLR
comp=Z,600nm,19.0s
LIRD Liard River Hi 30.02 53 P **P** **21 30 29.0 +1.7**
baz=276
BBB Bella Bella 30.29 67 P **P** **21 30 30.3 +0.7**
BBB IAmb IAmb 21 30 33.5
comp=Z,77nm,1.2s
BBB Bella Bella 30.29 67 LR LR 21 43 20.8
comp=Z,563nm,18.0s,baz=311,slow=38
TOAD Toad River Com 30.53 54 P **P** **21 30 33.7 +1.9**
baz=277
YAK Yakutsk 30.80 313 P **P** **21 30 32.9 -1.2**
YAK IAmb IAmb 21 30 34.5
comp=Z,56nm,0.9s
YAK Yakutsk 30.80 313 LR LR 21 44 53.5
comp=Z,2µm,18.2s,baz=90,slow=40
YAK Yakutsk 30.80 313 *ce*P **P** **21 30 33.2 -0.9**
YAK pmax pmax
comp=Z,67nm,0.9s
KOTAN Kotaneelee Air 30.98 51 P **P** **21 30 37.6 +1.9**
baz=276,SNR=27
WRGLY Wrigley 31.07 45 P **P** **21 30 38.6 +2.1**
baz=271
TEY Ternei 31.12 278⇑ *e*P **P** **21 30 37.3 +0.3**
TEY pmax pmax
comp=N,20nm,1.0s
TEY pmax pmax
comp=E,40nm,1.0s
TEY pmax pmax
comp=Z,60nm,1.0s
C36M Paulatuk 31.27 33 P **P** **21 30 38.4 +0.3**
baz=260
A36M Sachs Harbour 31.45 28 P **P** **21 30 40.0 +0.2**
A36M IAmb IAmb 21 30 56.2
comp=Z,27nm,0.8s
A36M Sachs Harbour 31.45 28 P **P** **21 30 39.8 +0.1**
baz=255
TIXI Tiksi 31.96 331 LR LR 21 44 20.5
comp=Z,876nm,18.2s,baz=130,slow=38
TIXI Tiksi 31.96 331 *ce*P **P** **21 30 44.4 +0.2**
TIXI pmax pmax
comp=Z,51nm,1.5s
JMM Marumori 32.20 263 P **P** **21 30 47.5 +0.8**
CBB Campbell River 32.62 70 P **P** **21 30 51.3 +1.1**
KIP Kipapa 32.65 145 *ce*P **P** **21 30 53.7 +3.0**
KIP pmax pmax
comp=Z,338nm,2.5s
H11N2 WAKE ISLAND Hy 33.12 208 T T 22 07 54.5
baz=18,slow=76,SNR=33
H11N3 WAKE ISLAND Hy 33.12 208 T T 22 07 45.8
baz=18,slow=76,SNR=11
H11N1 WAKE ISLAND Hy 33.13 208 T T 22 07 48.4
baz=18,slow=76,SNR=33
ZEA Zeya 33.55 298 *e*P **P** **21 30 58.1 -0.2**
ZEA *e*S **S** **21 36 14.7 -4.4**
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,30nm,1.0s
ZEA pmax pmax
comp=E,200nm,5.4s
ZEA pmax pmax
comp=N,200nm,5.8s
ZEA pmax pmax
comp=Z,300nm,5.6s
ZEA smax smax
comp=E,400nm,5.0s
ZEA smax smax
comp=N,500nm,4.2s
ZEA MLR MLR
comp=E,400nm,14.0s
ZEA MLR MLR
comp=Z,500nm,14.0s
JSD Sado 33.71 266 P **P** **21 31 00.6 +0.7**
CLRS Cowichan Lake 33.83 72 IAmb IAmb 21 31 03.7
comp=Z,40nm,1.3s
H11S1 WAKE ISLAND Hy 34.33 208 T T 22 09 13.0
baz=17,slow=76,SNR=23
H11S2 WAKE ISLAND Hy 34.34 208 T T 22 09 28.9
baz=17,slow=76,SNR=21
H11S3 WAKE ISLAND Hy 34.35 208 T T 22 09 09.6
baz=17,slow=76,SNR=22
USA0B Ussuriysk Arra 34.42 280 IAmb IAmb 21 31 07.2
comp=Z,28nm,0.8s
USA0B Ussuriysk Arra 34.42 280 *i* P **P** **21 31 06.8 +0.8**
USRK Ussuriysk Ar. 34.42 280 P **P** **21 31 06.0 +0.1**
comp=Z,25nm,0.8s,baz=65,slow=8.9,SNR=34
USRK PcP **PcP** **21 33 41.9 +0.8**
comp=Z,18nm,0.8s,baz=62,slow=1.7,SNR=17
USRK LR LR 21 48 35.0
comp=Z,495nm,18.2s,baz=69,slow=42
comp=Z,25nm,0.8s
LLLB Lillooet 34.49 68 IAmb IAmb 21 31 09.8
comp=Z,60nm,1.2s
B04A Port Angeles 34.52 73 IAmb IAmb 21 31 09.9
comp=Z,76nm,2.0s
NLWA Neilton Lookou 34.58 74 IAmb IAmb 21 31 10.7
comp=Z,110nm,1.9s
HEH HeiHe 34.64 292 *e*P **P** **21 31 06.4 -1.4**
HEH pP **pP** **21 31 10.1 -1.6**
HEH PcP **PcP** **21 33 41.5 -0.1**
HEH S **S** **21 36 36.2 +0.2**
HEH pmax pmax
comp=Z,42nm,0.7s
HEH pmax pmax
comp=Z,410nm,4.4s
HEH LR LR
comp=Z,550nm,14.9s
HEH LR LR
comp=Z,1µm,17.8s
HEH LR LR
comp=Z,1µm,17.6s
MJAR Matsushiro Arr 34.64 264 P **P** **21 31 08.1 +0.1**
MJAR IAmb IAmb 21 31 09.9
comp=Z,63nm,1.7s
MJAR PcP **PcP** **21 33 41.9 0.0**
MJAR Matsushiro Arr 34.64 264 P **P** **21 31 08.2 +0.1**
comp=Z,9.6nm,1.0s,baz=49,slow=7.4,SNR=27
MJAR PcP **PcP** **21 33 42.5 +0.6**
comp=Z,13nm,0.9s,baz=85,slow=2.4,SNR=27
MJAR LR LR 21 45 13.6
comp=Z,525nm,18.4s,baz=64,slow=36
comp=Z,9.6nm,1.0s
MAJO Matsushiro 34.65 264 **P** **21 31 08.8 +0.8**
MAJO IAmb IAmb 21 31 09.9
comp=Z,91nm,1.4s
MAJO Matsushiro 34.65 264 P **P** **21 31 09.2 +1.2**
MAJO Matsushiro 34.65 264⇑ *i*P **P** **21 31 09.0 +1.0**
MAJO pmax pmax
comp=Z,78nm,1.5s
MJB9 Matsu-Tunnel 34.65 264 IAmb IAmb 21 31 09.9
comp=Z,94nm,1.4s
GNW Green Mountain 35.14 73 P **P** **21 31 13.2 +1.1**
GNW IAmb IAmb 21 31 45.3
comp=Z,62nm,1.5s
YKAW3 Yellowknife Wh 35.17 46 IAmb IAmb 21 31 15.4
comp=Z,67nm,1.1s
YKA Yellowknife Ar 35.18 46 P **P** **21 31 12.4 +0.1**
YKA Yellowknife Ar 35.18 46 P **P** **21 31 13.2 +0.9**
comp=Z,20nm,0.9s,baz=283,slow=9.0,SNR=40
YKA PcP **PcP** **21 33 43.8 +0.9**
comp=Z,3.7nm,0.9s,baz=305,slow=2.3,SNR=4.1
comp=Z,20nm,0.9s
YKA Yellowknife Ar 35.18 46 *i* P **P** **21 31 13.6 +1.3**
YKA pmax pmax
comp=Z,26nm,1.0s
YKAW1 Yellowknife Wh 35.24 46 IAmb IAmb 21 31 16.0
comp=Z,57nm,1.1s
MDJ Mudanjiang 35.73 282 P **P** **21 31 17.0 -0.2**
MDJ sP pwP 21 31 30.5 +0.4
MDJ PP **PP** **21 32 41.9 +3.6**
MDJ S **S** **21 36 58.4 +5.5**
MDJ pmax pmax
comp=Z,26nm,0.7s
MDJ pmax pmax
comp=Z,270nm,6.7s
MDJ LR LR
comp=Z,500nm,16.4s
MDJ LR LR
comp=Z,640nm,20.8s
MDJ LR LR
comp=Z,820nm,20.0s
MDJ Mudanjiang 35.73 282 P **P** **21 31 17.9 +0.7**
MSHR Mys Shultsa 35.75 278 *ce*P **P** **21 31 18.6 +1.2**
MSHR pmax pmax
comp=Z,80nm,1.0s
JGF Kuroka 35.77 263 IAmb IAmb 21 31 19.9
comp=Z,39nm,0.9s
JGF Kuroka 35.77 263 P **P** **21 31 19.4 +1.7**
D05A Enumclaw 35.82 73 IAmb IAmb 21 31 52.1
comp=Z,102nm,1.3s
INU Inuyama 36.14 263 P **P** **21 31 21.8 +1.0**
BNX BinXian 36.56 285 ⇑P **P** **21 31 23.8 -0.5**
BNX PcP **PcP** **21 33 47.5 +0.2**
BNX S **S** **21 37 06.8 +1.2**
BNX pmax pmax
comp=Z,69nm,0.6s
BNX pmax pmax
comp=Z,210nm,5.9s
BNX LR LR
comp=Z,620nm,17.9s
BNX LR LR
comp=Z,560nm,17.4s
BNX LR LR
comp=Z,390nm,14.5s
LTY Liberty 36.59 72 P **P** **21 31 24.8 +0.1**
H04A Detroit Lake 36.86 77 IAmb IAmb 21 31 29.6
comp=Z,62nm,1.2s
B08A Colville Reser 36.92 70 P **P** **21 31 28.0 +0.6**
G05A Wamic 37.13 76 IAmb IAmb 21 31 60.0
comp=Z,62nm,1.2s
L02F Cave Junction 37.28 82 P **P** **21 31 31.1 +0.6**
L02F IAmb IAmb 21 31 33.7
comp=Z,61nm,1.3s
KRMB Red Mountain 37.39 83 P **P** **21 31 32.1 +0.6**
KRMB IAmb IAmb 21 31 34.9
comp=Z,63nm,1.3s
BBOR Butler Butte 37.45 80 P **P** **21 31 33.3 +1.2**
BBOR IAmb IAmb 21 31 35.5
comp=Z,61nm,1.3s
WAH2 Wahluke Slope 37.49 73 P **P** **21 31 32.4 +0.2**
KRPM Rodgers 37.51 83 P **P** **21 31 33.5 +1.0**
KRPM IAmb IAmb 21 31 36.0
comp=Z,79nm,1.3s
I05D Terrebonne, OR 37.55 77 IAmb IAmb 21 31 35.7
comp=Z,74nm,1.3s
HAWA Hanford 37.68 73 IAmb IAmb 21 32 06.4
comp=Z,64nm,1.4s
D08A Wollman Farm, 37.75 72 P **P** **21 31 34.6 +0.2**
KHMM Horse Mountain 37.85 83 IAmb IAmb 21 31 39.1
comp=Z,55nm,1.2s
KMPM Mount Pierce 37.85 84 IAmb IAmb 21 31 39.0
comp=Z,102nm,1.1s
YBH Yreka Blue Hor 38.03 82 P **P** **21 31 37.9 +0.9**
YBH Yreka Blue Hor 38.03 82 P **P** **21 31 37.9 +0.9**
YBH pmax pmax
comp=Z,38nm,1.2s
PINE Pine Mountain 38.08 78 IAmb IAmb 21 31 41.3
comp=Z,55nm,1.1s
M02C Callahan 38.12 82 IAmb IAmb 21 31 41.4
comp=Z,59nm,1.3s
J05D Fort Rock, OR 38.15 79 PcP **PcP** **21 33 53.4 +0.9**
K04D Chiloquin, OR 38.17 80 IAmb IAmb 21 31 41.2
comp=Z,78nm,1.1s
YPT Yellepit 38.20 73 P **P** **21 31 38.8 +0.6**
KMRM Mail Ridge 38.22 84 IAmb IAmb 21 32 23.4
comp=Z,41nm,0.7s
NEW Newport 38.29 69 LR LR 21 47 22.4
comp=Z,401nm,18.9s,baz=312,slow=36
KCPM Cahto Peak 38.60 85 IAmb IAmb 21 32 14.0
comp=Z,45nm,0.7s
K05A Summer Lake 38.65 79 P **P** **21 31 43.3 +0.9**
K05A IAmb IAmb 21 31 45.6
comp=Z,81nm,1.1s
K05A PcP **PcP** **21 33 53.7 -0.4**
CN2 Changchun 38.72 283 P **P** **21 31 42.1 -0.5**
CN2 PcP **PcP** **21 33 54.8 +0.8**
CN2 S **S** **21 37 37.6 -0.8**
CN2 sS sS 21 37 44.9 +0.1
CN2 SS **SS** **21 40 18.5 -10**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,760nm,18.0s
CN2 LR LR
comp=Z,450nm,18.0s
CN2 LR LR
comp=Z,590nm,17.0s
O02D Mt. Diablo Mer 38.83 84 IAmb IAmb 21 31 47.1
comp=Z,64nm,1.1s
DCMP DeCamp, Califo 38.88 85 IAmb IAmb 21 32 21.2
comp=Z,279nm,2.0s
JMN Monobe 39.17 264 P **P** **21 31 47.7 +1.2**
GSNM Snow Mountain 39.27 86 P **P** **21 31 48.2 +0.8**
GALB Galbreath Wild 39.28 86 P **P** **21 31 48.1 +0.7**
HATC Hat Creek Radi 39.32 82 IAmb IAmb 21 31 50.8
comp=Z,62nm,0.8s
BOD Bodaibo 39.35 308 *e*P **P** **21 31 46.2 -1.5**
BOD pmax pmax
comp=Z,112nm,1.5s
O03E Paynes Creek 39.39 83 P **P** **21 31 47.8 -0.6**
O03E IAmb IAmb 21 31 51.4
comp=Z,94nm,1.1s
GHGM Hogback Ridge 39.40 85 P **P** **21 31 47.3 -1.2**
GHCM House Creek 39.47 86 P **P** **21 31 47.6 -1.4**
HIA Hailar 39.58 294 P **P** **21 31 50.9 +1.2**
MCCM Marconi Confer 39.94 86 P **P** **21 31 51.8 -1.0**
RES Resolute Bay 40.21 24 LR LR 21 52 52.7
comp=Z,1µm,18.1s,baz=270,slow=43
JTMT Jette 40.22 69 P **P** **21 31 54.7 -0.6**
JEPS Jepson Natural 40.54 86 P **P** **21 31 57.0 -0.8**
KSRS Korea Array 40.67 273 P **P** **21 31 58.9 +0.1**
comp=Z,19nm,0.8s,baz=58,slow=8.1,SNR=60
KSRS PcP **PcP** **21 34 00.8 +0.5**
comp=Z,9.5nm,0.9s,baz=61,slow=3.3,SNR=13
comp=Z,19nm,0.8s
KSAR Wonju Array Be 40.70 273 P **P** **21 31 58.7 -0.4**
KSAR Wonju Array Be 40.70 273 P **P** **21 31 58.7 -0.4**
MSO Missoula 40.86 70 IAmb IAmb 21 32 02.3
comp=Z,79nm,1.5s
PAHR Pah Rah Range 41.26 82 IAmb IAmb 21 32 06.4
comp=Z,58nm,1.0s
OVMT Ovando 41.31 69 P **P** **21 32 03.8 -0.5**
OVMT PcP **PcP** **21 34 01.5 -1.0**
JNU Nakatsue 41.47 266 IAmb IAmb 21 32 07.6
comp=Z,76nm,1.0s
JNU Nakatsue 41.47 266 P **P** **21 32 06.8 +1.2**
INCN Inchon 41.47 274 P **P** **21 32 06.4 +0.8**
INCN IAmb IAmb 21 32 07.2
comp=Z,76nm,0.9s
INCN Inchon 41.47 274 P **P** **21 32 07.2 +1.7**
INCN Inchon 41.47 274 P **P** **21 32 06.4 +0.8**

INCN pmax pmax
comp=Z,76nm,1.0s
TJN Taejon 41.67 272 P **P** **21 32 08.4 +1.3**
TJN Taejon 41.67 272 *i* P **P** **21 32 07.8 +0.7**
SCZ Santa Cruz 41.80 87 P **P** **21 32 08.2 0.0**
SCZ IAmb IAmb 21 32 10.5
comp=Z,55nm,1.1s
CIT Chita 41.88 300 *e*P **P** **21 32 09.2 +0.5**
CIT *e* 21 32 18.6
CIT *e* 21 33 50.4
CIT pmax pmax
comp=Z,168nm,3.2s
BBGB Big Mountain B 42.05 87 IAmb IAmb 21 32 13.2
comp=Z,80nm,1.0s
HULI Fort Hunter Li 42.26 88 IAmb IAmb 21 32 14.8
comp=Z,133nm,1.2s
DLMT Dillon 42.41 71 P **P** **21 32 13.4 +0.1**
LHV Little Huntoon 42.66 83 IAmb IAmb 21 32 18.4
comp=Z,66nm,1.2s
EGMT Eagleton 42.76 66 IAmb IAmb 21 32 18.6
comp=Z,128nm,1.1s
Q09A Carvers 43.16 82 P **P** **21 32 20.0 +0.6**
Q09A IAmb IAmb 21 32 22.1
comp=Z,76nm,1.1s
DSP Deep Springs 43.52 84 IAmb IAmb 21 32 25.1
comp=Z,50nm,1.2s
YHL Hebgen Lake 43.53 71 IAmb IAmb 21 32 25.1
comp=Z,75nm,1.6s
TIN Tinemaha, Big 43.55 84 IAmb IAmb 21 32 25.3
comp=Z,79nm,0.9s
TPH Tonopah 43.58 83 IAmb IAmb 21 32 25.1
comp=Z,49nm,1.1s
VES Vestal, Richgr 43.75 86 IAmb IAmb 21 32 25.8
comp=Z,137nm,1.4s
DL2 Dalian 43.81 279 P **P** **21 32 22.3 -2.2**
DL2 S **S** **21 38 57.9 +3.9**
DL2 pmax pmax
comp=Z,79nm,0.8s
DL2 pmax pmax
comp=Z,640nm,10.8s
DL2 LR LR
comp=Z,560nm,17.1s
DL2 LR LR
comp=Z,510nm,18.3s
DL2 LR LR
comp=Z,760nm,19.1s
FFC Flin Flon 43.90 54 P **P** **21 32 25.4 +0.4**
FFC Flin Flon 43.90 54 P **P** **21 32 25.4 +0.4**
FFC pmax pmax
comp=Z,40nm,1.4s
YNR Norris Junctio 43.91 71 IAmb IAmb 21 32 56.1
comp=Z,86nm,1.5s
GMN Gold Mountain 44.02 83 P **P** **21 32 26.5 +0.1**
YPP Pitchstone Pla 44.07 71 P **P** **21 32 27.7 +0.8**
XLT XiLinHaoTe 44.43 289 *e*P **P** **21 32 30.4 +0.9**
XLT pP sP 21 32 34.8 -0.5
XLT PP **PP** **21 34 13.2 +0.1**
XLT S **S** **21 39 01.2 -2.0**
XLT ScS **ScS** **21 42 28.2 +1.9**
XLT pmax pmax
comp=Z,45nm,0.9s
XLT pmax pmax
comp=Z,360nm,5.5s
XLT LR LR
comp=Z,61nm,14.6s
XLT LR LR
comp=Z,470nm,18.1s
XLT LR LR
comp=Z,370nm,15.6s
R11B Troy Canyon, C 44.45 81 P **P** **21 32 29.6 -0.2**
R11B PcP **PcP** **21 34 13.1 -0.1**
RLMT Red Lodge 44.54 69 IAmb IAmb 21 32 33.4
comp=Z,92nm,1.2s
MPMC Manual Prospec 44.63 85 P **P** **21 32 30.7 -0.6**
OSI Osito Audit: C 44.74 88 IAmb IAmb 21 32 34.3
comp=Z,60nm,1.4s
S11A Rachel 44.77 82 IAmb IAmb 21 32 37.3
comp=Z,66nm,1.1s
FURC Furnace Creek, 44.78 84 IAmb IAmb 21 32 34.6
comp=Z,68nm,1.1s
TPNV Topopah Spring 44.87 83 P **P** **21 32 33.2 +0.1**
TPNV IAmb IAmb 21 32 35.3
comp=Z,76nm,1.1s
TPNV Topopah Spring 44.87 83 P **P** **21 32 33.3 +0.1**
TPNV pmax pmax
comp=Z,76nm,1.2s
TPO Tropico Hills 44.89 87 IAmb IAmb 21 32 35.4
comp=Z,38nm,1.0s
QSM Queen of Sheba 45.08 85 IAmb IAmb 21 32 36.7
comp=Z,38nm,1.2s
DUG Dugway, Tooele 45.11 77 IAmb IAmb 21 32 37.9
comp=Z,58nm,1.1s
MWC Mount Wilson 45.41 87 IAmb IAmb 21 32 39.6
comp=Z,62nm,1.2s
PSUT Pine Spring 45.43 80 IAmb IAmb 21 32 39.6
comp=Z,36nm,1.2s
TCUT Toone Canyon 45.45 75 IAmb IAmb 21 32 39.9
comp=Z,35nm,1.1s
CTU Camp Tracy 45.48 76 IAmb IAmb 21 32 39.9
comp=Z,44nm,1.3s
SHOC Shoshone, Teco 45.50 84 IAmb IAmb 21 32 40.1
comp=Z,74nm,1.1s
LAO LASA Array 45.50 66 IAmb IAmb 21 32 40.2
comp=Z,66nm,1.0s
GSC Goldstone, Bar 45.53 85 IAmb IAmb 21 32 40.4
comp=Z,52nm,0.9s
BW06 Boulder Array 45.65 72 IAmb IAmb 21 34 00.5
comp=Z,30nm,0.6s
PDAR Pinedale Array 45.65 72 P **P** **21 32 38.6 -0.8**
PDAR Pinedale Array 45.65 72 P **P** **21 32 39.2 -0.2**
comp=Z,12nm,0.9s,baz=305,slow=4.1,SNR=62
PDAR LR LR 21 51 22.1
comp=Z,200nm,18.1s,baz=326,slow=36
comp=Z,12nm,0.9s
BFSC Mount Baldy Ra 45.66 87 IAmb IAmb 21 32 41.4
comp=Z,58nm,1.3s
JLU Jordanelle 45.72 76 IAmb IAmb 21 32 42.1
comp=Z,56nm,1.3s
ELS Elsinore Mount 46.19 88 IAmb IAmb 21 32 45.3
comp=Z,33nm,1.1s
BSUT Blindstream Ca 46.19 76 P **P** **21 32 43.4 -0.4**
BSUT IAmb IAmb 21 33 22.9
comp=Z,48nm,1.6s
TCRU Three Creeks R 46.27 79 IAmb IAmb 21 32 46.8
comp=Z,42nm,1.3s
CCUT Cedar City 46.34 81 IAmb IAmb 21 32 47.1
comp=Z,37nm,1.2s
V12A Nelson 46.51 84 IAmb IAmb 21 32 48.2
comp=Z,33nm,1.2s
BJI Beijing 46.56 284 P **P** **21 32 47.3 +1.0**
BJI PcP **PcP** **21 34 20.6 +0.4**
BJI S **S** **21 39 31.8 -1.9**
BJI pmax pmax
comp=Z,20nm,0.7s
BJI pmax pmax
comp=Z,140nm,3.6s
BJI LR LR
comp=Z,280nm,16.7s
BJI LR LR
comp=Z,230nm,18.6s
BJI LR LR
comp=Z,260nm,18.5s
BJT Baijiatuau 46.58 284 P **P** **21 32 46.4 0.0**
BJT IAmb IAmb 21 32 47.8
comp=Z,34nm,0.9s
BJT Baijiatuau 46.58 284 P **P** **21 32 47.5 +1.1**
BJT Baijiatuau 46.58 284 P **P** **21 32 46.4 0.0**
BJT pmax pmax
comp=Z,34nm,0.9s
TMUT Trail Mountain 46.64 77 IAmb IAmb 21 32 49.5
comp=Z,39nm,1.1s
LCMT Little Creek M 46.74 81 IAmb IAmb 21 32 50.2
comp=Z,53nm,1.2s
MTPU Mount Pierson 46.78 79 IAmb IAmb 21 32 50.9
comp=Z,35nm,1.1s
IRK Irkutsk 46.80 304 *e*P **P** **21 32 48.0 0.0**
IRK pmax pmax
comp=Z,175nm,1.6s
P17A Butcher Ranch, 46.83 77 IAmb IAmb 21 32 50.6
comp=Z,29nm,1.0s
PFO Pinyon Flats O 46.83 87 P **P** **21 32 48.2 -0.4**
PFO IAmb IAmb 21 32 50.5
comp=Z,34nm,1.3s
PFO Pinyon Flats O 46.83 87 LR LR 21 49 33.7
comp=Z,294nm,19.5s,baz=324,slow=32
PFO Pinyon Flats O 46.83 87 *i* P **P** **21 32 49.5 +0.9**

PFO pmax pmax
comp=Z,51nm,1.3s
DANC Danby, Needles 46.86 85 IAmb IAmb 21 32 50.9
comp=Z,64nm,1.5s
Q16A Castle Valley 46.89 78 IAmb IAmb 21 32 52.0
comp=Z,57nm,1.2s
KNB Kanab 47.00 81 IAmb IAmb 21 32 52.4
comp=Z,56nm,1.1s
P18A Preston Nutter 47.04 76 P **P** **21 32 50.5 0.0**
P18A IAmb IAmb 21 32 52.6
comp=Z,62nm,1.2s
PKCU Pink Cliffs 47.06 80 IAmb IAmb 21 32 53.1
comp=Z,31nm,1.1s
BORC Borrego Spring 47.08 87 IAmb IAmb 21 32 52.4
comp=Z,57nm,1.2s
SRU San Rafael Swe 47.18 77 IAmb IAmb 21 32 54.2
comp=Z,30nm,1.0s
BAR Barrett 47.29 88 IAmb IAmb 21 32 54.0
comp=Z,25nm,1.1s
IRM Iron Mountain 47.32 85 IAmb IAmb 21 32 54.1
comp=Z,30nm,1.2s
JOW Kunigami 47.39 261 IAmb IAmb 21 32 54.2
comp=Z,37nm,1.0s
JOW Kunigami 47.39 261 P **P** **21 32 52.5 -0.4**
comp=Z,24nm,0.9s,baz=109,slow=8.3,SNR=6.5
comp=Z,24nm,0.9s
JOW Kunigami 47.39 261 P **P** **21 32 53.9 +1.0**
W13A Hualapai Mount 47.52 84 P **P** **21 32 53.6 -0.5**
W13A IAmb IAmb 21 32 55.8
comp=Z,23nm,1.0s
CBX Cerro Bola 47.54 88 IAmb IAmb 21 32 56.2
comp=Z,66nm,1.2s
K22A Casper 47.56 71 IAmb IAmb 21 32 55.3
comp=Z,54nm,1.3s
ULN Ulaanbaatar 47.58 298 P **P** **21 32 54.7 +0.3**
ULN IAmb IAmb 21 32 56.2
comp=Z,24nm,0.8s
ULN Ulaanbaatar 47.58 298 *ce*P **P** **21 32 55.3 +0.9**
ULN pmax pmax
comp=Z,29nm,0.9s
GUMO Guam 47.91 234 LR LR 21 50 32.1
comp=Z,112nm,20.1s,baz=44,slow=33
SONM Songino Array 47.97 298 P **P** **21 32 57.5 +0.1**
SONM IAmb IAmb 21 32 59.5
comp=Z,30nm,1.0s
SONM PcP **PcP** **21 34 25.4 +0.1**
SONM Songino Array 47.97 298 P **P** **21 32 58.1 +0.7**
comp=Z,18nm,0.9s,baz=51,slow=9.4,SNR=91
SONM PcP **PcP** **21 34 25.8 +0.5**
comp=Z,9.0nm,0.8s,baz=76,slow=2.4,SNR=7.2
SONM LR LR 21 55 13.9
comp=Z,1μm,19.3s,baz=85,slow=39
comp=Z,18nm,0.9s
O20A White River Ci 47.98 74 IAmb IAmb 21 32 59.1
comp=Z,58nm,1.2s
NEEM North Greenlan 48.13 14 *i* P **P** **21 32 58.5 +0.1**
NEEM IAmb IAmb 21 33 02.6
comp=Z,60nm,0.9s
RSSD Black Hills 48.20 68 P **P** **21 32 58.8 -0.5**
RSSD IAmb IAmb 21 33 00.4
comp=Z,66nm,1.5s
RSSD Black Hills 48.20 68 P **P** **21 32 58.8 -0.5**
RSSD pmax pmax
comp=Z,66nm,1.5s
GLA Glamis 48.23 86 IAmb IAmb 21 33 01.2
comp=Z,43nm,0.9s
TIA Tai'an 48.29 279 P **P** **21 33 00.2 +0.4**
TIA S **S** **21 39 58.1 -0.4**
TIA pmax pmax
comp=Z,99nm,0.9s
TIA pmax pmax
comp=Z,420nm,5.7s
TIA LR LR
comp=Z,440nm,14.3s
TIA LR LR
comp=Z,370nm,15.7s
TIA LR LR
comp=Z,580nm,15.4s
ZAK Zakamensk 48.31 303 *e*P **P** **21 32 59.5 -0.4**
ZAK pmax pmax
comp=Z,157nm,1.7s
HAYD Hayden 48.35 73 IAmb IAmb 21 33 02.2
comp=Z,30nm,1.3s
PV21 Cone Mtn., Par 48.47 77 IAmb IAmb 21 33 02.8
comp=Z,20nm,0.9s
PV23 Carpenter Ridg 48.52 77 P **P** **21 33 02.0 +0.1**
PV14 Lion Creek, Pa 48.56 77 IAmb IAmb 21 33 03.4
comp=Z,43nm,1.3s
PV22 Blue Mesa, Par 48.60 76 IAmb IAmb 21 33 06.4
comp=Z,32nm,1.0s
PV04 Paradox Valley 48.62 77 IAmb IAmb 21 33 04.0
comp=Z,61nm,1.2s
PV17 East Wray Mesa 48.65 77 IAmb IAmb 21 33 04.2
comp=Z,70nm,1.3s
PV16 Nyswonger Mesa 48.66 77 IAmb IAmb 21 33 04.3
comp=Z,40nm,1.1s
MDND Haddock 48.66 61 P **P** **21 33 02.5 0.0**
PV05 Paradox Valley 48.69 77 IAmb IAmb 21 33 05.6
comp=Z,50nm,1.2s
PV03 Paradox Valley 48.74 77 IAmb IAmb 21 33 05.4
comp=Z,60nm,1.1s
PV07 Paradox Valley 48.75 76 P **P** **21 33 02.9 -0.7**
PV07 IAmb IAmb 21 33 04.9
comp=Z,46nm,1.3s
Y14A Wickenburg 48.82 84 IAmb IAmb 21 33 05.6
comp=Z,36nm,1.2s
PV15 Paradox Valley 48.91 76 IAmb IAmb 21 33 06.1
comp=Z,48nm,1.2s
HHC Hu-ho-hao-te 48.92 288 *e*P **P** **21 33 05.5 +0.8**
HHC PP **PP** **21 35 00.9 +3.0**
HHC S **S** **21 40 06.7 -0.8**
HHC sS sS 21 40 17.4 +3.4
HHC SS **SS** **21 43 35.9 -1.9**
HHC pmax pmax
comp=Z,58nm,1.0s
HHC pmax pmax
comp=Z,400nm,5.5s
HHC LR LR
comp=Z,760nm,14.5s
HHC LR LR
comp=Z,350nm,14.5s
HHC LR LR
comp=Z,360nm,14.5s
PV01 Paradox Valley 48.98 77 IAmb IAmb 21 33 06.8
comp=Z,69nm,1.3s
HNS HongShan 49.07 282 ⇓P **P** **21 33 06.2 +0.5**
HNS PcP **PcP** **21 34 30.1 +0.9**
HNS PP **PP** **21 35 03.1 +3.9**
HNS S **S** **21 40 09.4 0.0**
HNS pmax pmax
comp=Z,85nm,0.9s
HNS pmax pmax
comp=Z,490nm,4.9s
HNS LR LR
comp=Z,350nm,16.0s
HNS LR LR
comp=Z,710nm,16.7s
HNS LR LR
comp=Z,460nm,16.3s
113A Mohawk Valley, 49.09 86 IAmb IAmb 21 33 07.4
comp=Z,35nm,1.3s
ULM Lac du Bonnet 49.38 57 P **P** **21 33 07.8 -0.2**
comp=Z,8.2nm,0.4s,baz=303,slow=7.8,SNR=16
ULM LR LR 21 54 18.9
comp=Z,777nm,21.1s,baz=312,slow=36
comp=Z,8.2nm,0.4s
MVCO Mesa Verde 49.60 78 IAmb IAmb 21 33 12.4
comp=Z,80nm,1.5s
NJ2 Nanjing 49.85 274 ⇑*i*P **P** **21 33 11.8 0.0**
NJ2 pP **sP** **21 33 16.7 -0.9**
NJ2 pmax pmax
comp=Z,21nm,1.1s
NJ2 pmax pmax
comp=Z,230nm,3.6s
NJ2 LR LR
comp=Z,360nm,17.5s
NJ2 LR LR
comp=Z,570nm,16.1s
NJ2 LR LR
comp=Z,300nm,18.5s
BTO Baotou 50.01 288 *e*P **P** **21 33 14.6 +1.6**
BTO S **S** **21 40 26.2 +3.5**
BTO SS **SS** **21 43 47.7 -7.5**
BTO pmax pmax
comp=Z,210nm,0.8s
BTO pmax pmax
comp=Z,1μm,6.0s

BTO LR LR
comp=Z,1μm,14.1s
BTO LR LR
comp=Z,2μm,15.3s
BTO LR LR
comp=Z,2μm,15.7s
214A Organ Pipe Nat 50.23 86 IAmb IAmb 21 33 16.4
comp=Z,47nm,1.2s
TIY Taiyuan 50.29 284 P **P** **21 33 16.5 +1.3**
TIY PP **PP** **21 35 14.7 +4.3**
TIY S **S** **21 40 33.6 +6.9**
TIY pmax pmax
comp=Z,47nm,0.7s
TIY pmax pmax
comp=Z,300nm,4.8s
TIY LR LR
comp=Z,480nm,16.5s
TIY LR LR
comp=Z,270nm,19.2s
TIY LR LR
comp=Z,270nm,22.0s
S22A 4UR Ranch, Cre 50.31 76 IAmb IAmb 21 33 17.9
comp=Z,54nm,1.3s
X18A Snowflake 50.38 81 IAmb IAmb 21 33 18.0
comp=Z,31nm,1.1s
AGMN Agassiz Nation 50.48 59 IAmb IAmb 21 33 18.1
comp=Z,84nm,1.1s
UPNV Upernavik 50.55 19 *i* P **P** **21 33 15.3 -1.2**
UPNV IAmb IAmb 21 33 17.5
comp=Z,27nm,0.8s
KBS Kingsbay 50.80 358 P **P** **21 33 18.9 +0.6**
KBS Kingsbay 50.80 358 *e*P **P** **21 33 18.2 -0.2**
KBS Kingsbay 50.80 358 *ce*P **P** **21 33 19.2 +0.8**
KBS pmax pmax
comp=Z,68nm,1.0s
KBS Kingsbay 50.80 358 *i* P **P** **21 33 18.7 +0.3**
EPLO Experimental L 50.85 56 IAmb IAmb 21 33 20.4
comp=Z,69nm,1.1s
SDCO Great Sand Dun 51.13 75 IAmb IAmb 21 33 23.6
comp=Z,38nm,1.2s
KNGR Kungurtug, Tuv 51.24 305 *i* P **P** **21 33 23.6 +1.4**
KNGR pmax pmax
comp=Z,98nm,1.2s
SPA0 Spitsbergen Ar 51.40 356 *e*P **P** **21 33 22.1 -0.8**
SPITS Spitsbergen Ar 51.40 356 P **P** **21 33 22.8 -0.1**
comp=Z,81nm,0.9s,baz=42,slow=7.9,SNR=35
SPITS LR LR 21 59 13.7
comp=Z,480nm,18.1s,baz=358,slow=41
comp=Z,81nm,0.9s
SPITS Spitsbergen Ar 51.40 356 P **P** **21 33 22.3 -0.6**
SPITS pmax pmax
comp=Z,139nm,1.1s
F33A 5 Mile Ranch, 51.68 62 IAmb IAmb 21 33 26.0
comp=Z,48nm,1.1s
NUUG Nuugaatsiaq 52.08 20 *i* P **P** **21 33 27.4 -0.6**
NUUG IAmb IAmb 21 33 29.4
comp=Z,48nm,1.1s
KSCO Kaye Shedlock' 52.10 72 IAmb IAmb 21 33 31.5
comp=Z,66nm,1.3s
T25A Trinidad 52.19 75 IAmb IAmb 21 33 32.2
comp=Z,70nm,1.1s
DUN6 Lazy B Ranch 52.21 83 IAmb IAmb 21 33 31.6
comp=Z,113nm,1.4s
LYN LuoYang 52.27 281 P **P** **21 33 29.7 -0.3**
LYN pP sP 21 33 34.4 -1.3
LYN sP pP 21 33 37.2 +3.1
LYN S **S** **21 40 49.2 -4.8**
LYN pmax pmax
comp=Z,68nm,1.1s
LYN pmax pmax
comp=Z,420nm,5.2s
LYN LR LR
comp=Z,660nm,14.1s
LYN LR LR
comp=Z,560nm,18.7s
LYN LR LR
comp=Z,830nm,16.5s
ANMO Albuquerque 52.31 79 P **P** **21 33 30.5 0.0**
ANMO Albuquerque 52.31 79 LR LR 21 54 35.1
comp=Z,448nm,19.4s,baz=298,slow=35
ANMO Albuquerque 52.31 79 *ce*P **P** **21 33 31.3 +0.8**
ANMO pmax pmax
comp=Z,31nm,1.7s
DAG Danmarks Havn 52.35 6 *i* P **P** **21 33 29.0 -1.0**
DAG IAmb IAmb 21 33 30.4
comp=Z,45nm,1.2s
NIAQ Niaqornat 52.54 20 *i* P **P** **21 33 32.6 +1.2**
NIAQ IAmb IAmb 21 33 35.5
comp=Z,49nm,1.0s
Y22D IRIS PASSCAL I 52.58 80 P **P** **21 33 33.2 +0.7**
baz=311
Y22A Socorro 52.65 80 IAmb IAmb 21 33 35.1
comp=Z,39nm,1.1s
319A Douglas 52.87 84 IAmb IAmb 21 33 36.3
comp=Z,45nm,1.2s
EYMN Ely 53.06 57 P **P** **21 33 35.4 -0.2**
EYMN IAmb IAmb 21 33 37.4
comp=Z,69nm,1.1s
FRB Frobisher Bay 53.32 32 LR LR 21 58 29.6
comp=Z,916nm,18.5s,baz=298,slow=38
RTBA Rita Blanca 53.67 75 IAmb IAmb 21 33 41.5
comp=Z,53nm,1.2s
WHN Wuhan 53.73 276 ⇓P **P** **21 33 40.3 -0.4**
WHN PcP **PcP** **21 34 47.3 +0.6**
WHN S **S** **21 41 14.2 +0.4**
WHN pmax pmax
comp=Z,280nm,1.5s
WHN pmax pmax
comp=Z,960nm,3.4s
WHN LR LR
comp=Z,980nm,12.5s
WHN LR LR
comp=Z,570nm,11.3s
WHN LR LR
comp=Z,1μm,17.9s
TBO Thunder Bay 53.74 55 IAmb IAmb 21 33 42.7
comp=Z,55nm,1.0s
SUMG Summit 53.99 14 IAmb IAmb 21 33 44.6
comp=Z,47nm,1.0s
SUMG Summit 53.99 14 *i* P **P** **21 33 42.6 +0.1**
SUMG IAmb IAmb 21 33 44.4
comp=Z,59nm,1.1s
SPMN Marine on St. 54.00 60 IAmb IAmb 21 33 43.7
comp=Z,34nm,1.0s
SSLB Suanglung 54.20 265 P **P** **21 33 44.7 +0.4**
YULB Yu-li 54.26 264 P **P** **21 33 45.0 +0.2**
YULB IAmb IAmb 21 33 53.5
comp=Z,53nm,1.3s
YULB Yu-li 54.26 264 P **P** **21 33 46.4 +1.7**
TPUB Ta-pu 54.75 264 P **P** **21 33 49.2 +0.9**
XAN Xi'an 54.83 283 ⇑P **P** **21 33 48.4 -0.4**
XAN pP sP 21 33 56.3 +1.7
XAN S **S** **21 41 25.9 -2.8**
XAN pmax pmax
comp=Z,27nm,1.1s
XAN pmax pmax
comp=Z,350nm,7.8s
XAN LR LR
comp=Z,500nm,16.5s
XAN LR LR
comp=Z,840nm,17.8s
XAN LR LR
comp=Z,970nm,15.1s
R32A Long Quarter, 54.85 70 P **P** **21 33 48.2 -0.7**
R32A IAmb IAmb 21 33 49.7
comp=Z,27nm,0.7s
QZH Quanzhou 54.88 268 P **P** **21 33 49.4 +0.2**
QZH pmax pmax
comp=Z,68nm,1.0s
MSTX Muleshoe 55.25 77 IAmb IAmb 21 33 53.7
comp=Z,50nm,1.0s
G40A Rib Lake 55.41 59 IAmb IAmb 21 33 54.5
comp=Z,47nm,1.0s
ZALV Zalesovo Beam 55.41 315 P **P** **21 33 50.9 -1.7**
ZALV Zalesovo Beam 55.41 315 P **P** **21 33 52.5 -0.1**
comp=Z,4.8nm,0.6s,baz=40,slow=7.5,SNR=24
ZALV PcP **PcP** **21 34 53.4 +0.7**
comp=Z,5.0nm,0.8s,baz=6.8,slow=3.7,SNR=6.0
ZALV LR LR 22 00 23.9
comp=Z,918nm,18.3s,baz=48,slow=39
comp=Z,4.8nm,0.6s
VHRN Van Horn 55.99 81 IAmb IAmb 21 33 58.9
comp=Z,43nm,1.1s
I40A Norwalk 56.06 60 IAmb IAmb 21 33 58.4
comp=Z,63nm,1.1s
SMWD Samnorwood 56.07 74 IAmb IAmb 21 33 59.1
comp=Z,74nm,1.3s

SFJD Kangerlussuaq 56.16 22 P **P** **21 33 57.8 0.0**
SFJD IAmb IAmb 21 34 00.5
comp=Z,30nm,1.1s
SFJD Kangerlussuaq 56.16 22 LR LR 22 02 37.6
comp=Z,504nm,18.6s,baz=318,slow=41
SFJD Kangerlussuaq 56.16 22 P **P** **21 33 57.8 0.0**
SFJD pmax pmax
comp=Z,31nm,1.1s
SFJD Kangerlussuaq 56.16 22 *i* P **P** **21 33 58.0 +0.2**
SFJD IAmb IAmb 21 34 00.2
comp=Z,22nm,0.8s
F42A Maple Grove Fa 56.22 57 IAmb IAmb 21 34 00.7
comp=Z,63nm,1.0s
CNSH ChangSha 56.24 275 P **P** **21 33 58.8 -0.1**
PECS Pecos 56.30 80 IAmb IAmb 21 34 00.7
comp=Z,30nm,1.1s
DKNS Dickens 56.60 76 IAmb IAmb 21 34 02.7
comp=Z,50nm,1.2s
LZH Lanzhou 56.62 288 *e*P **P** **21 34 02.2 +0.5**
LZH sP pwP 21 34 10.7 -4.1
LZH PcP **PcP** **21 34 59.0 +1.0**
LZH S **S** **21 41 54.1 +1.3**
LZH pmax pmax
comp=Z,85nm,1.0s
LZH pmax pmax
comp=Z,470nm,4.5s
LZH LR LR
comp=Z,710nm,16.3s
LZH LR LR
comp=Z,490nm,16.3s
LZH LR LR
comp=Z,470nm,16.7s
ODSA Odessa 56.62 79 IAmb IAmb 21 34 03.0
comp=Z,44nm,1.1s
POST Post 56.64 77 IAmb IAmb 21 34 02.7
comp=Z,51nm,1.0s
LZDM Lanzhou Array 56.79 288 P **P** **21 34 03.9 +0.7**
comp=Z,14nm,0.6s,baz=22,slow=1.6,SNR=22
LZDM LR LR 22 02 42.3
comp=Z,406nm,18.6s,baz=65,slow=41
comp=Z,14nm,0.6s
GTA Gaotai 56.85 293 *e*P **P** **21 34 02.9 -0.4**
GTA sP pwP 21 34 15.5 -1.0
GTA S **S** **21 41 52.8 -3.0**
GTA pmax pmax
comp=Z,60nm,0.9s
GTA pmax pmax
comp=Z,360nm,7.2s
GTA LR LR
comp=Z,910nm,15.9s
GTA LR LR
comp=Z,820nm,16.7s
GTA LR LR
comp=Z,940nm,16.3s
ENH Enshi 57.00 279 P **P** **21 34 04.1 -0.2**
MNHN Monahans 57.02 79 IAmb IAmb 21 34 05.3
comp=Z,49nm,1.0s
P38A Dawn 57.15 66 IAmb IAmb 21 34 05.3
comp=Z,30nm,0.7s
T35A Sooner Cattle 57.15 70 IAmb IAmb 21 34 05.7
comp=Z,26nm,1.0s
WMOK Wichita Mounta 57.21 74 IAmb IAmb 21 34 07.0
comp=Z,28nm,1.0s
LPIG La Paz 57.23 91 LR LR 21 55 27.9
comp=Z,124nm,18.6s,baz=256,slow=33
OK029 Liberty Lake 57.32 72 IAmb IAmb 21 34 07.4
comp=Z,30nm,1.0s
APMT Aspermont 57.33 76 IAmb IAmb 21 34 07.5
comp=Z,45nm,1.3s
OK052 Battle Ridge R 57.59 71 P **P** **21 34 08.0 -0.4**
OK052 IAmb IAmb 21 34 09.2
comp=Z,50nm,1.2s
L42A Oliver, Polo 57.81 62 IAmb IAmb 21 34 10.1
comp=Z,70nm,1.1s
TX31 Lajitas Ar. Si 57.81 82 IAmb IAmb 21 34 11.4
comp=Z,42nm,1.1s
TXAR Lajitas Array 57.81 82 P **P** **21 34 08.6 -1.5**
TXAR Lajitas Array 57.81 82 P **P** **21 34 09.4 -0.8**
comp=Z,21nm,1.0s,baz=297,slow=4.3,SNR=60
TXAR PcP **PcP** **21 35 03.1 +0.4**
comp=Z,13nm,0.9s,baz=225,slow=1.8,SNR=7.7
TXAR PKP2bc 22 04 02.8
comp=Z,0.7nm,1.0s,baz=147,slow=7.0,SNR=4.4
comp=Z,21nm,1.0s
DEOK Depew 57.87 71 IAmb IAmb 21 34 11.1
comp=Z,37nm,1.1s
X34A Smith Ranch, M 57.88 73 IAmb IAmb 21 34 12.2
comp=Z,39nm,1.1s
N41A Harden Midland 57.98 63 IAmb IAmb 21 34 11.7
comp=Z,67nm,1.0s
SCO Scoresbysund 58.09 10 *i* P **P** **21 34 08.6 -2.8**
ABTX Abilene, Hawle 58.10 76 IAmb IAmb 21 34 13.7
comp=Z,45nm,1.0s
HPIG 58.20 85 IAmb IAmb 21 34 14.2
comp=Z,31nm,1.2s
VADS Vadso 58.23 350 *e*P **P** **21 34 11.1 -1.3**
HAMF Hammerfest 58.31 352 *e*P **P** **21 34 11.6 -1.3**
OZNA Ozona 58.33 79 IAmb IAmb 21 34 14.3
comp=Z,42nm,1.1s
JMIC Jan Mayen 58.63 4 LR LR 22 00 50.7
comp=Z,303nm,19.0s,baz=351,slow=37
L44A Lake County Fo 58.68 60 P **P** **21 34 15.3 -0.6**
LOOK Love County 58.69 73 IAmb IAmb 21 34 17.6
comp=Z,42nm,0.9s
PLPT Palo Pinto 58.79 75 IAmb IAmb 21 34 17.9
comp=Z,40nm,0.9s
M44A Midewin, Midew 59.13 61 P **P** **21 34 17.6 -1.5**
ARAQ ARCESS Array S 59.20 351 *e*P **P** **21 34 18.6 -0.6**
ARCES ARCESS Array B 59.20 351 P **P** **21 34 18.8 -0.3**
ARCES IAmb IAmb 21 34 20.0
comp=Z,18nm,0.9s
ARCES ARCESS Array B 59.20 351 P **P** **21 34 18.9 -0.3**
comp=Z,12nm,0.6s,baz=20,slow=7.4,SNR=94
ARCES PcP **PcP** **21 35 07.9 +0.5**
comp=Z,7.6nm,0.7s,baz=15,slow=5.0,SNR=5.9
ARCES LR LR 22 02 07.5
comp=Z,600nm,18.9s,baz=23,slow=38
comp=Z,12nm,0.6s
ARCES ARCESS Array B 59.20 351 P **P** **21 34 18.8 -0.3**
ARCES pmax pmax
comp=Z,18nm,0.9s
BRDY Brady 59.41 77 IAmb IAmb 21 34 21.9
comp=Z,25nm,1.1s
JCT Junction City 59.46 78 IAmb IAmb 21 34 21.8
comp=Z,42nm,1.3s
CCM Cathedral Cave 59.52 66 P **P** **21 34 20.3 -1.5**
CCM IAmb IAmb 21 34 21.5
comp=Z,29nm,1.2s
CCM Cathedral Cave 59.52 66 P **P** **21 34 20.3 -1.5**
CCM pmax pmax
comp=Z,29nm,1.2s
MGMO Mountain Grove 59.52 67 IAmb IAmb 21 34 21.3
comp=Z,23nm,1.1s
LVZ Lovozero 59.61 347 P **P** **21 34 20.6 -1.4**
LVZ IAmb IAmb 21 34 24.7
comp=Z,54nm,1.1s
LVZ Lovozero 59.61 347 *ce*P **P** **21 34 21.6 -0.4**
LVZ pmax pmax
comp=Z,54nm,1.0s
JETT Jettan, Norway 59.64 353 *e*P **P** **21 34 22.2 -0.1**
FW13 Cleburne 59.65 75 IAmb IAmb 21 34 24.0
comp=Z,40nm,0.9s
DRIO Del Rio 59.67 79 IAmb IAmb 21 34 23.0
comp=Z,34nm,1.2s
TRO Tromso 59.68 354 *e*P **P** **21 34 22.3 -0.1**
ZSN Zaisan 59.68 309 *e*P **P** **21 34 23.1 +0.2**
comp=Z,37nm,1.3s
ZSN Zaisan 59.68 309 *e*P **P** **21 34 23.0 +0.2**
ZSN pmax pmax
comp=Z,37nm,1.3s
WHTX Lake Whitney, 59.88 75 IAmb IAmb 21 34 25.6
comp=Z,36nm,0.8s
KTK1 Kautokeino 59.93 352 *e*P **P** **21 34 23.0 -1.2**
ISOG Isortoq, Green 59.98 19 *i* P **P** **21 34 22.2 -2.4**
ISOG IAmb IAmb 21 34 26.1
comp=Z,82nm,1.0s
APA Apatity 60.10 347 ⇓ *i* P **P** **21 34 24.2 -1.1**
APA *i* 21 36 38.7
APA *i* S **S** **21 42 35.3 -1.6**
APA *i* 21 44 13.1
APA *e*SS **SS** **21 46 32.5 -0.3**
APA MLR MLR
comp=Z,1μm,17.4s
SCHQ Schefferville 60.13 39 P **P** **21 34 26.9 +1.0**
comp=Z,592nm,0.9s,baz=330,slow=7.4,SNR=31
VLDQ Val d'Or 60.15 50 IAmb IAmb 21 34 26.1
comp=Z,44nm,1.0s

KURK Kurchatov 60.40 315 P **P** **21 34 27.0 -0.7**
KURK Kurchatov 60.40 315 P **P** **21 34 27.0 -0.7**
KURK pmax pmax
comp=Z,51nm,0.7s
FCAR Ozark Folk Cen 60.47 68 IAmb IAmb 21 34 28.2
comp=Z,27nm,0.9s
KURBB Kurchatov Arra 60.51 315 P **P** **21 34 28.5 +0.1**
comp=Z,58nm,0.7s,baz=44,slow=6.8,SNR=276
KURBB PKPPKP 22 03 51.6
comp=Z,0.5nm,0.3s,baz=229,slow=3.0,SNR=4.8
KURBB LR LR 22 04 33.6
comp=Z,798nm,18.1s,baz=198,slow=40
comp=Z,58nm,0.7s
KURBB Kurchatov Arra 60.51 315 P **P** **21 34 27.8 -0.6**
MIAR Mount Ida 60.51 70 IAmb IAmb 21 34 29.6
comp=Z,38nm,1.1s
WMQ Urumqi 60.70 304 *e*P **P** **21 34 31.5 +1.5**
WMQ pmax pmax
comp=Z,49nm,1.9s
WMQ pmax pmax
comp=Z,330nm,5.5s
WMQ LR LR
comp=Z,1μm,20.1s
WMQ LR LR
comp=Z,520nm,16.7s
WMQ LR LR
comp=Z,640nm,19.1s
WHAR Wooly Hollow 60.77 69 IAmb IAmb 21 34 30.6
comp=Z,37nm,1.1s
237A Washetta, Mont 60.89 74 P **P** **21 34 30.2 -1.1**
237A IAmb IAmb 21 34 32.5
comp=Z,44nm,0.9s
S44A Carbondale 60.92 65 IAmb IAmb 21 34 31.7
comp=Z,31nm,1.1s
AAM Ann Arbor 60.93 58 IAmb IAmb 21 34 33.0
comp=Z,33nm,0.8s
SIUC Southern Illin 60.93 65 IAmb IAmb 21 34 31.7
comp=Z,25nm,1.2s
X40A Basin Creek Fa 61.00 70 IAmb IAmb 21 34 33.2
comp=Z,25nm,1.3s
BUKO Buck Lake 61.02 53 P **P** **21 34 31.8 -0.2**
UALR University of 61.09 69 IAmb IAmb 21 34 33.1
comp=Z,25nm,1.1s
833A Chaparral WMA, 61.21 80 P **P** **21 34 32.7 -0.8**
WLAR White Oak Lake 61.38 71 IAmb IAmb 21 34 35.4
comp=Z,33nm,0.9s
MK31 Makanchi Array 61.41 310 *i* P **P** **21 34 34.4 -0.3**
MK31 pmax pmax
comp=Z,38nm,1.0s
MKAR Makanchi Array 61.41 310 P **P** **21 34 33.6 -1.0**
MKAR Makanchi Array 61.41 310 P **P** **21 34 34.4 -0.2**
comp=Z,13nm,0.8s,baz=56,slow=7.0,SNR=90
MKAR LR LR 22 04 42.4
comp=Z,579nm,18.2s,baz=30,slow=39
comp=Z,13nm,0.8s
GYA Guiyang 61.43 278 ⇑ P **P** **21 34 35.2 0.0**
GYA sP pwP 21 34 47.9 -0.3
GYA S **S** **21 42 54.1 -1.1**
GYA pmax pmax
comp=Z,41nm,1.2s
GYA LR LR
comp=Z,400nm,17.8s
IVI Ivigtut 61.48 25 *i* P **P** **21 34 35.6 +0.8**
IVI IAmb IAmb 21 34 36.5
comp=Z,115nm,1.2s
MAKZ Makanchi 61.56 310 P **P** **21 34 35.7 +0.1**
N49A Columbus Grove 61.59 59 IAmb IAmb 21 34 36.9
comp=Z,33nm,1.0s
STEI Steigen 61.60 355 *e*P **P** **21 34 34.4 -1.2**
SADO Sadowa 61.62 53 LR LR 22 03 20.4
comp=Z,12μm,18.4s,baz=338,slow=38
GOMU GeErMu 61.94 294 P **P** **21 34 38.5 -0.3**
GOMU pP pP 21 34 42.2 -0.8
GOMU sP sP 21 34 45.8 +1.2
GOMU S **S** **21 43 03.6 +1.6**
GOMU pmax pmax
comp=Z,10.0nm,1.1s
GOMU LR LR
comp=Z,510nm,16.1s
GOMU LR LR
comp=Z,270nm,16.3s
GOMU LR LR
comp=Z,530nm,16.6s
O49A Covington 62.01 60 P **P** **21 34 38.5 -0.3**
O49A IAmb IAmb 21 34 39.6
comp=Z,54nm,1.2s
FAUS Fauske 62.14 355 *e*P **P** **21 34 38.8 -0.4**
WCI Wyandotte Cave 62.26 63 P **P** **21 34 40.0 -0.5**
WCI IAmb IAmb 21 34 41.2
comp=Z,29nm,0.9s
WCI Wyandotte Cave 62.26 63 P **P** **21 34 40.0 -0.5**
WCI pmax pmax
comp=Z,29nm,1.0s
BVA0 Borovoye Array 62.26 321 *i* P **P** **21 34 40.1 -0.2**
BVAR Borovoye Array 62.26 321 P **P** **21 34 40.8 +0.5**
comp=Z,49nm,0.8s,baz=52,slow=7.7,SNR=140
BVAR PKP2bc 22 03 50.5
comp=Z,1.4nm,0.8s,baz=219,slow=3.8,SNR=4.4
BVAR LR LR 22 05 30.8
comp=Z,1μm,18.3s,baz=42,slow=40
comp=Z,49nm,0.8s
HKT Hockley 62.30 76 P **P** **21 34 40.6 -0.1**
HKT IAmb IAmb 21 34 42.3
comp=Z,65nm,1.5s
HKT Hockley 62.30 76 P **P** **21 34 40.6 -0.1**
HKT pmax pmax
comp=Z,65nm,1.5s
ACSO Alum Creek Sta 62.73 59 IAmb IAmb 21 34 44.9
comp=Z,53nm,1.4s
WVT Waverly 62.83 65 P **P** **21 34 43.8 -0.5**
WVT IAmb IAmb 21 34 45.1
comp=Z,31nm,1.1s
WVT Waverly 62.83 65 P **P** **21 34 43.8 -0.5**
WVT pmax pmax
comp=Z,31nm,1.1s
HNR Honiara 62.83 205 LR LR 21 56 32.6
comp=Z,291nm,21.7s,baz=14,slow=31
TRQ Mont Tremblant 62.89 50 IAmb IAmb 21 34 45.4
comp=Z,39nm,1.1s
SVE Sverdlovsk 62.94 328 *ce*P **P** **21 34 46.0 +1.3**
SVE *e*S **S** **21 43 17.6 +4.4**
SVE pmax pmax
comp=Z,110nm,1.7s
SVE MLR MLR
comp=Z,716nm,22.0s
ZAIG Zacatecas 63.13 86 IAmb IAmb 21 34 48.1
comp=Z,32nm,1.3s
KONS Konsvik 63.14 355 *e*P **P** **21 34 45.1 -0.8**
LDAQ Lac Daran 63.21 46 IAmb IAmb 21 34 47.5
comp=Z,20nm,1.0s
STOK Stokkvaagen 63.31 355 *e*P **P** **21 34 46.5 -0.5**
R50A Paris 63.34 62 IAmb IAmb 21 34 48.9
comp=Z,59nm,1.5s
MOR8 Moi Rana 63.40 355 *e*P **P** **21 34 46.7 -0.9**
WBO Williamsburg 63.40 51 IAmb IAmb 21 34 49.0
comp=Z,43nm,1.1s
PLAL Pickwick Lake 63.48 67 IAmb IAmb 21 34 49.0
comp=Z,22nm,1.0s
N53A Lisbon 63.49 57 P **P** **21 34 48.5 -0.1**
LEIR Leirfjorden 63.53 355 *e*P **P** **21 34 47.2 -1.2**
BRZS Berezniki 63.57 317 *e*P **P** **21 34 49.4 +0.3**
BRZS Berezniki 63.57 317 *e*P **P** **21 34 49.3 +0.3**
P52A Corning 63.61 59 IAmb IAmb 21 34 50.5
comp=Z,48nm,1.2s
BORG Borgarnes 63.65 11 LR LR 22 02 57.1
comp=Z,291nm,20.7s,baz=342,slow=36
V48A Smith Brothers 63.69 65 IAmb IAmb 21 34 50.6
comp=Z,22nm,0.9s
CLTN Cedars of Leba 63.72 65 P **P** **21 34 49.3 -0.9**
CLTN IAmb IAmb 21 34 51.3
comp=Z,23nm,1.0s
U49A Red Boiling Sp 63.75 64 IAmb IAmb 21 34 51.2
comp=Z,25nm,1.0s
JAY Jayapura 63.84 228 LR LR 21 55 21.1
comp=Z,312nm,21.9s,baz=10,slow=29
T50A Nancy 63.93 63 IAmb IAmb 21 34 52.6
comp=Z,36nm,1.0s
LMQ La Malbaie 63.93 46 IAmb IAmb 21 34 52.6
comp=Z,27nm,1.0s
Q52A Bidwell 64.01 60 IAmb IAmb 21 34 53.2
comp=Z,55nm,1.2s
LONY Lake Ozonia 64.02 51 IAmb IAmb 21 34 52.9
comp=Z,16nm,0.9s
DAV Davao City (W) 64.03 248 LR LR 21 59 19.1
comp=Z,231nm,22.0s,baz=66,slow=33
ARTI Arti 64.03 329 P **P** **21 34 51.4 -0.5**

ARTI Arti 64.03 329 LR LR 22 06 02.9
comp=Z,469nm,19.5s,baz=34,slow=39
ARTI Arti 64.03 329 *d* P **P** **21 34 52.3 +0.4**
ARTI 21 35 24.9
ARTI S **S** **21 43 30.3 +3.4**
ARTI 21 44 44.9
ARTI SS **SS** **21 47 31.5 -3.2**
ARTI pmax pmax
comp=Z,103nm,1.2s
ARTI MLR MLR
comp=Z,579nm,17.0s
S51A Beattyville 64.20 62 IAmb IAmb 21 34 54.3
comp=Z,24nm,0.9s
FRNY Flat Rock 64.36 50 IAmb IAmb 21 35 16.2
comp=Z,26nm,1.4s
K57A Scipio Center 64.40 53 P **P** **21 34 54.2 -0.3**
X48A Hartselle 64.46 66 IAmb IAmb 21 34 55.1
comp=Z,20nm,1.2s
PZH PanZhiHua 64.50 281 ⇑ P **P** **21 34 56.0 +0.4**
PZH S **S** **21 43 32.1 -1.6**
PZH pmax pmax
comp=Z,80nm,1.4s
PZH pmax pmax
comp=Z,170nm,4.8s
PZH LR LR
comp=Z,230nm,16.6s
PZH LR LR
comp=Z,190nm,15.2s
PZH LR LR
comp=Z,330nm,18.6s
TDK Taldygorghan 64.59 310 ⇓ *i* P **P** **21 34 56.1 +0.2**
comp=Z,52nm,1.0s
TDK Taldyqorghan 64.59 310 *d* P **P** **21 34 56.0 +0.2**
TDK pmax pmax
comp=Z,52nm,1.0s
QIZ Qiongzhong 64.74 270 P **P** **21 34 57.0 -0.1**
QIZ S **S** **21 43 38.2 +1.6**
QIZ SS **SS** **21 47 50.2 +2.7**
QIZ pmax pmax
comp=Z,38nm,1.6s
QIZ pmax pmax
comp=Z,270nm,2.6s
QIZ LR LR
comp=Z,250nm,16.5s
QIZ LR LR
comp=Z,160nm,15.1s
QIZ LR LR
comp=Z,200nm,13.7s
KMI Kunming 64.86 280 ⇓ P **P** **21 34 57.5 -0.6**
KMI S **S** **21 43 36.9 -1.4**
KMI pmax pmax
comp=Z,35nm,0.8s
KMI pmax pmax
comp=Z,330nm,3.8s
KMI LR LR
comp=Z,380nm,18.0s
KMI LR LR
comp=Z,250nm,16.5s
KMI LR LR
comp=Z,310nm,18.9s
D62A Allapoint, All 64.86 46 IAmb IAmb 21 34 59.1
comp=Z,43nm,1.1s
KIRV Kirov 64.87 335 LR LR 22 08 41.5
comp=Z,1μm,18.1s,baz=28,slow=41
KIRV Kirov 64.87 335 *ce* P **P** **21 34 57.8 +0.5**
J59A Piesco 64.89 52 IAmb IAmb 21 34 59.0
comp=Z,20nm,0.7s
W50A Signal Mountai 64.94 65 IAmb IAmb 21 34 58.9
comp=Z,48nm,1.1s
TZTN Tazewell 65.00 62 IAmb IAmb 21 34 59.9
comp=Z,45nm,1.2s
VT1 Waterbury 65.13 50 IAmb IAmb 21 35 00.6
comp=Z,56nm,1.3s
SSPA Standing Stone 65.19 56 P **P** **21 34 59.1 -0.6**
KLMR Klimovskoe 65.21 341 *e*P P 21 34 54.6 -4.9
KLMR pmax pmax
comp=Z,110nm,1.5s
KLMR MLR MLR
comp=Z,890nm,17.0s
CPCT Cooper Cave 65.22 64 IAmb IAmb 21 35 00.6
comp=Z,28nm,1.3s
FPAL Fort Paine 65.23 65 IAmb IAmb 21 35 00.6
comp=Z,23nm,0.9s
Y49A Blount Mountai 65.25 66 IAmb IAmb 21 35 00.4
comp=Z,28nm,1.2s
PDGK Podgornoye 65.27 309 P **P** **21 34 59.7 -0.7**
ACCN Adirondack Com 65.37 51 IAmb IAmb 21 35 02.3
comp=Z,29nm,0.8s
SHLS Shalkode 65.41 308 *e*P **P** **21 35 00.2 -1.2**
comp=Z,38nm,0.9s
SHLS Shalkode 65.41 308 *e*P **P** **21 35 00.1 -1.2**
SHLS pmax pmax
comp=Z,38nm,0.9s
TKL Tuckaleechee C 65.50 63 IAmb IAmb 21 35 02.6
comp=Z,30nm,1.0s
TKL Tuckaleechee C 65.50 63 LR LR 22 04 54.2
comp=Z,477nm,18.5s,baz=332,slow=37
G62A West of Eustis 65.55 48 P **P** **21 35 01.3 -0.8**
G62A IAmb IAmb 21 35 03.4
comp=Z,31nm,0.8s
LBNH Lisbon 65.60 50 IAmb IAmb 21 35 03.7
comp=Z,22nm,0.9s
X51A Calhoun 65.65 65 IAmb IAmb 21 35 03.4
comp=Z,47nm,1.2s
W52A Murphy 65.81 64 IAmb IAmb 21 35 04.6
comp=Z,36nm,1.3s
HNH Hanover 65.82 50 IAmb IAmb 21 35 05.3
comp=Z,26nm,1.1s
TRY Troy 65.85 52 IAmb IAmb 21 35 05.5
comp=Z,22nm,1.0s
J61A Chester 65.95 51 IAmb IAmb 21 35 06.2
comp=Z,28nm,0.9s
SATY Saty 66.01 309 ⇓ *i* P **P** **21 35 05.5 +0.3**
SATY Saty 66.01 309 *d* P **P** **21 35 05.5 +0.3**
SATY pmax pmax
comp=Z,42nm,1.1s
V53A Saluda 66.04 63 IAmb IAmb 21 35 06.7
comp=Z,21nm,0.8s
BATG Bathurst New B 66.07 44 IAmb IAmb 21 35 07.0
comp=Z,39nm,1.3s
F64A Sherman 66.10 46 IAmb IAmb 21 35 06.7
comp=Z,35nm,1.1s
PKME Peaks-Kenny Pk 66.10 47 IAmb IAmb 21 35 07.0
comp=Z,28nm,1.1s
RKPI Ransiki, Papua 66.25 235 P **P** **21 35 07.3 +0.5**
I63A Otisfield 66.39 49 IAmb IAmb 21 35 09.1
comp=Z,34nm,0.9s
WVL Waterville 66.45 48 IAmb IAmb 21 35 08.8
comp=Z,35nm,1.1s
BG3 Lake Jocassee 66.45 63 IAmb IAmb 21 35 09.2
comp=Z,26nm,0.8s
MVL Millersville 66.46 55 IAmb IAmb 21 35 09.5
comp=Z,33nm,1.0s
L61B Northampton 66.55 51 IAmb IAmb 21 35 09.8
comp=Z,16nm,1.0s
MDOK Medeo 66.61 310 *e*P **P** **21 35 09.3 +0.3**
MDOK Medeo 66.61 310 *e*P **P** **21 35 09.3 +0.3**
K62A Royalston 66.61 51 IAmb IAmb 21 35 10.4
comp=Z,30nm,1.0s
Y52A Lilburn 66.61 65 IAmb IAmb 21 35 09.6
comp=Z,32nm,1.1s
SDMD Soldier's Deli 66.63 56 IAmb IAmb 21 35 10.4
comp=Z,30nm,1.0s
AAA Alma-Ata 66.64 310 *e*P **P** **21 35 09.5 +0.4**
comp=Z,41nm,1.1s
AAA Alma-Ata 66.64 310 *e*P **P** **21 35 09.5 +0.4**
AAA pmax pmax
comp=Z,41nm,1.1s
BTLS Baital 66.64 313 ⇓ *i* P **P** **21 35 09.2 +0.2**
comp=Z,28nm,1.0s
BTLS Baital 66.64 313 *d* P **P** **21 35 09.2 +0.2**
BTLS pmax pmax
comp=Z,28nm,1.0s
TNSS Tian-Shan 66.75 310 *e*P **P** **21 35 10.2 0.0**
TNSS Tian-Shan 66.75 310 *e*P **P** **21 35 10.2 0.0**
V55A Taylorsville 66.81 62 P **P** **21 35 10.1 -0.2**
SLVN Son La 66.85 276 P **P** **21 35 10.4 -0.3**
SLVN IAmb IAmb 21 35 12.2
comp=Z,27nm,0.9s
SLVN Son La 66.85 276 P **P** **21 35 12.0 +1.3**
WUPA West Chester U 66.90 55 IAmb IAmb 21 35 12.5
comp=Z,23nm,1.1s
FINES FINESS Array B 66.93 348 P **P** **21 35 09.9 -0.7**
FINES FINESS Array B 66.93 348 P **P** **21 35 10.6 0.0**
comp=Z,18nm,0.9s,baz=9.1,slow=7.2,SNR=44
FINES PKP2bc 22 03 37.6

comp=Z,1.0nm,0.8s,baz=134,slow=5.5,SNR=4.1
FINES LR LR 22 11 06.4

comp=Z,239nm,18.0s,baz=18,slow=42
comp=Z,18nm,0.9s
G65A Princeton 66.96 46 IAmb IAmb 21 35 12.4

comp=Z,37nm,1.2s
HRV Adam Dziewonsk 67.06 51 P **P** **21 35 11.0 -0.7**
HRV IAmb IAmb 21 35 13.3

comp=Z,22nm,1.0s
HRV Adam Dziewonsk 67.06 51 P **P** **21 35 11.0 -0.7**
HRV pmax pmax

comp=Z,22nm,1.0s
PMG Port Moresby 67.15 219 P **P** **21 35 12.6 +0.1**
comp=Z,4.9nm,0.4s,baz=358,slow=5.9,SNR=5.0
PMG LR LR 22 01 15.3

comp=Z,242nm,18.9s,baz=23,slow=33
comp=Z,4.9nm,0.4s
PMG Port Moresby 67.15 219 *ce*P **P** **21 35 12.9 +0.4**
PMG pmax pmax

comp=Z,25nm,1.3s
PAULI Pauline 67.22 63 IAmb IAmb 21 35 13.9

comp=Z,48nm,1.2s
TAOE Nuku Hiva Isla 67.24 140 *e*S **S** **21 44 08.6 +1.5**
comp=Z,349nm,24.3s
TAOE Nuku Hiva Isla 67.24 140 *e*LR LR 21 55 16.5

comp=Z,1µm,31.3s
SWI Sorong 67.26 238 P **P** **21 35 13.3 0.0**
comp=Z,1µmcomp=Z,60nm,1.4s
WES Weston 67.27 51 IAmb IAmb 21 35 14.5

comp=Z,43nm,1.0s
MOL Molde 67.29 358 *e*P **P** **21 35 12.3 -0.5**
GGN Saint George 67.35 46 IAmb IAmb 21 35 14.7

comp=Z,33nm,1.1s
EMMW East Machias 67.38 47 IAmb IAmb 21 35 14.9

comp=Z,33nm,1.0s
HODGE Hodges 67.39 63 IAmb IAmb 21 35 14.9

comp=Z,26nm,1.1s
TKM2 Tokmak 2 67.50 311 P **P** **21 35 16.1 +1.3**
SNR=29
SGDS Sogindy 67.56 312 *j i*P **P** **21 35 15.4 +0.4**

comp=Z,47nm,1.4s
LMN Caledonia Moun 67.72 44 P **P** **21 35 15.5 -0.3**
USP Ospenovka 67.76 311 P **P** **21 35 17.9 +1.6**
SNR=51
DOMB Dombas 67.77 357 *e*P **P** **21 35 15.3 -0.7**
CHMS Chumysh 67.85 311 P **P** **21 35 18.2 +1.5**
SNR=18
JSC Jenkinsville 67.92 63 IAmb IAmb 21 35 18.6

comp=Z,43nm,1.1s
KBK Karagaybulak 68.01 311 P **P** **21 35 19.2 +1.2**
SNR=24
AAK Ala-Archa 68.24 311 P **P** **21 35 20.6 +1.3**
SNR=18
AAK Ala-Archa 68.24 311 P **P** **21 35 20.1 +0.7**
AAK Ala-Archa 68.24 311 LR LR 22 08 00.2

comp=Z,420nm,19.3s,baz=26,slow=38
AAK Ala-Archa 68.24 311 *ce*P **P** **21 35 20.8 +1.4**
AAK pmax pmax

comp=Z,81nm,1.1s
FOO Floro 68.32 359 *e*P **P** **21 35 19.7 +0.4**
UCH Uchtor 68.54 311 P **P** **21 35 23.1 +1.4**
SNR=18
EKS2 Erkin-Say 68.57 311 P **P** **21 35 22.4 +1.0**
SNR=26
NB201 NORSAR Array S 68.67 356 P **P** **21 35 21.3 -0.3**
NB2 NORSAR Subarra 68.69 356 P **P** **21 35 21.9 +0.2**
comp=Z,116nm,1.7s,baz=4.6,slow=6.5
NB2 NORSAR Subarra 68.69 356 P **P** **21 35 21.9 +0.2**
comp=Z,116nm,1.7s,baz=4.6,slow=6.5
NB2 P'P' 22 03 28.3

comp=Z,0.6nm,0.8s,baz=150,slow=3.6
NOA NORSAR Array B 68.69 356 P **P** **21 35 22.0 +0.3**
comp=Z,10nm,0.8s,baz=5.2,slow=6.4,SNR=33
NOA LR LR 22 03 25.5

comp=Z,332nm,22.0s,baz=350,slow=34
comp=Z,10nm,0.8s
LSA Lhasa 68.71 291 P **P** **21 35 23.1 +0.2**
NBO00 NORSAR Array S 68.72 356 IAmb IAmb 21 35 23.5

comp=Z,69nm,1.7s
HYA Hoyanger 68.73 358 *e*P **P** **21 35 21.6 -0.3**
NC602 NORSAR Array S 68.97 355 *e*P **P** **21 35 23.5 +0.1**
AKTO Aktyubinsk 69.04 326 P **P** **21 35 23.9 -0.1**
Y58A Scranton 69.10 62 P **P** **21 35 24.2 -0.4**
SKAR Skarslia 69.16 357 *e*P **P** **21 35 24.7 0.0**
AB31 Akbulak array 69.30 324 *i* P **P** **21 35 26.2 +0.5**
ABKAR Akbulak array 69.30 324 P **P** **21 35 25.5 -0.2**
ASK Askoy 69.43 359 *e*P **P** **21 35 25.9 -0.3**
HFS Hagfors 69.45 354 P **P** **21 35 26.4 +0.1**
comp=Z,20nm,0.8s,baz=270,slow=0.6,SNR=35
HFS LR LR 22 08 35.3

comp=Z,248nm,18.8s,baz=10.0,slow=38
comp=Z,20nm,0.8s
DZA Taraz 69.55 313 *e*P **P** **21 35 27.7 +0.4**
comp=Z,37nm,0.9s
DZA Taraz 69.55 313 *e*P **P** **21 35 27.7 +0.4**
DZA pmax pmax

comp=Z,37nm,0.9s
VSU Vasula 69.72 347 *ce*P **P** **21 35 27.7 -0.3**
VSU pmax pmax

comp=Z,121nm,1.0s
LRW Lerwick 69.75 2 *e*P **P** **21 35 29.6 +1.4**
KK31 Karatay Array 69.77 314 *i* P **P** **21 35 29.2 +0.5**
KKAR Karatay Array 69.77 314 P **P** **21 35 28.6 -0.1**
KKAR Karatay Array 69.77 314 P **P** **21 35 28.6 -0.1**
MYLDM Lahad Datu 69.79 253 P **P** **21 35 30.6 +1.5**
OSL Oslo 69.81 356 *e*P **P** **21 35 29.1 +0.5**
KSH Kashi 69.87 308 P **P** **21 35 33.9 +4.4**
KSH S **S** **21 44 40.8 +2.7**
KSH pmax pmax

comp=Z,72nm,1.0s
KSH LR LR

comp=Z,640nm,22.1s
KSH LR LR

comp=Z,720nm,18.1s
KSH LR LR

comp=Z,850nm,21.0s
ODD1 Odda 69.98 358 *e*P **P** **21 35 30.1 +0.4**
BRLS Borolday 70.14 314 *j i*P **P** **21 35 32.8 +1.9**
BRLS Borolday 70.14 314 *d i*P **P** **21 35 32.8 +1.9**
KONO Kongsberg 70.15 356 P **P** **21 35 30.6 0.0**
KONO IAmb IAmb 21 35 33.5

comp=Z,51nm,1.1s
KONO Kongsberg 70.15 356 *e*P **P** **21 35 31.7 +1.0**
KONO Kongsberg 70.15 356 *ce*P **P** **21 35 32.4 +1.7**
KONO pmax pmax

comp=Z,138nm,2.5s
MOS Moscow 70.31 340 *e*P **P** **21 35 30.4 -1.3**
MOS *e* 21 35 51.3
MOS *e* 21 38 07.4
MOS *e*S **S** **21 44 40.0 -2.3**
MOS pmax pmax

comp=Z,260nm,1.4s
MOS pmax pmax

comp=N,161nm,1.5s
MOS pmax pmax

comp=N,200nm,1.3s
MOS pmax pmax

comp=Z,500nm,2.1s
UBPT Khong Chiam 70.31 270 P **P** **21 35 33.4 +1.1**
BLS5 Blasjo 70.47 358 *e*P **P** **21 35 32.3 -0.4**
STRU Stroemstad 70.69 355 *i* P **P** **21 35 34.6 +0.7**
IUG Iuzhnay 70.73 313 *e*P **P** **21 35 35.2 +0.4**
comp=Z,43nm,1.2s
IUG Iuzhnay 70.73 313 *e*P **P** **21 35 35.1 +0.4**
IUG pmax pmax

comp=Z,43nm,1.2s
BELG Belogornoye 70.76 333 *i* P **P** **21 35 35.0 +0.5**
BELG pmax pmax

comp=Z,30nm,1.0s
656A Willston 70.77 67 IAmb IAmb 21 35 36.4

comp=Z,49nm,1.1s
CHM Chimkent 70.80 314 *e*P **P** **21 35 35.4 +0.4**
comp=Z,27nm,0.9s
CHM Chimkent 70.80 314 *e*P **P** **21 35 35.4 +0.4**
CHM pmax pmax

comp=Z,27nm,0.9s
OBN Obninsk 71.11 340 P **P** **21 35 37.1 +0.5**
OBN Obninsk 71.11 340 LR LR 22 12 11.9
comp=Z,524nm,18.0s,baz=332,slow=40
OBN Obninsk 71.11 340 *d i*P **P** **21 35 36.5 -0.1**
OBN *i* *PP **pP** **21 35 40.7 -0.1**
OBN *e* *SP **sP** **21 35 43.0 +0.5**
OBN *e* 21 35 59.9
OBN *e*PPP PPP 21 40 05.0
OBN *i* S **S** **21 44 51.0 -0.7**
OBN *e*PS **PnS** **21 45 25.9 +5.4**
OBN SS **SS** **21 49 29.0 +5.0**
OBN pmax pmax

comp=Z,215nm,1.1s
OBN MLR MLR

comp=Z,551nm,17.0s
MRSI Marisa 71.45 247 P **P** **21 35 39.1 -0.1**
comp=Z,783nmcomp=Z,63nm,1.2s
LEWI Lewis, Hebride 71.51 5 *e*P **P** **21 35 40.3 +1.4**
SNART Snartemo 71.54 358 *e*P **P** **21 35 38.6 -0.6**
SNART Snartemo 71.54 358 *i* P **P** **21 35 40.3 +1.1**
HOMB Homborsund 71.57 357 *i* P **P** **21 35 40.6 +1.3**
LINV Loch Inver, As 71.60 4 *e*P **P** **21 35 41.3 +1.8**
LINV IAmb IAmb 21 35 42.3

comp=Z,112nm,1.0s
TOLI2 Tolitoli 71.63 248 IAmb IAmb 21 35 40.7

comp=Z,28nm,1.0s
TOLI2 Tolitoli 71.63 248 P **P** **21 35 41.5 +1.2**
TJOU Tjoern 71.67 355 *i* P **P** **21 35 40.8 +0.9**
CHTO Chiang Mai 71.85 278 P **P** **21 35 41.3 -0.3**
CHTO IAmb IAmb 21 35 42.5

comp=Z,37nm,1.2s
CHTO Chiang Mai 71.85 278 P **P** **21 35 42.7 +1.1**
CHTO Chiang Mai 71.85 278 P **P** **21 35 41.3 -0.3**
CHTO pmax pmax

comp=Z,37nm,1.3s
PPT Papeete 71.94 152 LR LR 21 58 56.8
comp=Z,400nm,20.0s,baz=360,slow=29
PPT2 Papeete2 71.96 152 *e*P **P** **21 35 40.1 -2.1**
comp=Z,55nm,25.5s
PPT2 Papeete2 71.96 152 *e*PP **PP** **21 38 20.4 -2.0**
comp=Z,34nm,24.5s
PPT2 *e*S **S** **21 45 02.7 +0.3**

comp=Z,375nm,28.8s
PPT2 *e*SS **SS** **21 49 35.3 -4.5**

comp=Z,180nm,25.2s
PPT2 *e*LR LR 21 57 26.5

comp=Z,1µm,29.5s
PPT2 *e*LR LR 21 57 28.4

comp=Z,643nm,26.8s
CM31 Chiang Mai Arr 72.11 277 IAmb IAmb 21 35 44.4
comp=Z,244nm,0.9s
CMAR Chiang Mai Arr 72.11 277 P **P** **21 35 42.8 -0.5**
CMAR Chiang Mai Arr 72.11 277 P **P** **21 35 42.9 -0.3**
comp=Z,12nm,0.8s,baz=28,slow=6.8,SNR=81
CMAR LR LR 22 10 18.5

comp=Z,95nm,19.4s,baz=45,slow=38
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 72.11 277 *i* P **P** **21 35 43.5 +0.3**
CMAR pmax pmax

comp=Z,15nm,0.9s
CMIG Matias Romero 72.18 85 LR LR 22 07 03.1
comp=Z,126nm,18.3s,baz=332,slow=36
LUWI Luwuk 72.19 245 P **P** **21 35 44.8 +1.2**
LUWI Luwuk 72.19 245 P **P** **21 35 42.9 -0.7**
ONAU Onsala 72.28 355 *i* P **P** **21 35 43.5 -0.1**
KPL Plockton 72.38 5 *e*P **P** **21 35 45.7 +1.6**
FABU Falkenberg 72.63 354 *i* P **P** **21 35 46.1 +0.4**
LPSR Galich'ya Gora 72.90 338 *e*P **P** **21 35 45.8 -1.6**
LPSR pmax pmax

comp=Z,120nm,0.9s
LPSR MLR MLR

comp=Z,1µm,17.0s
DRUM Mains of Drumt 72.94 3 *e*P **P** **21 35 48.4 +0.8**
DRUM IAmb IAmb 21 35 49.8

comp=Z,134nm,1.1s
RAR Rarotonga 72.97 163 LR LR 21 59 05.1
comp=Z,1µm,20.5s,baz=305,slow=29
GAR Garm 73.06 311 P **P** **21 35 48.4 -0.3**
DEL Delary 73.08 354 *i* P **P** **21 35 48.6 +0.3**
MNK Minsk 73.35 345 *i* P **P** **21 35 51.2 +1.2**
MNK *i* 21 36 07.2
MNK *i* 21 38 34.5
MNK *i* PPP PPP 21 40 19.2
MNK *i* S **SKiKP** **21 45 21.0 +1.4**
MNK pmax pmax

comp=Z,85nm,0.9s
MNK pmax pmax

comp=N,5.0nm,0.8s
MNK pmax pmax

comp=E,40nm,0.8s
MUD Monsted U'grnd 73.36 356 *i* P **P** **21 35 51.7 +1.7**
MUD IAmb IAmb 21 35 52.4

comp=Z,66nm,1.0s
INVG Invergeldie, C 73.37 4 *e*P **P** **21 35 51.3 +1.2**
INVG IAmb IAmb 21 35 52.0

comp=Z,56nm,1.0s
LAWE Loch Awe, Argy 73.47 5 *e*P **P** **21 35 51.9 +1.2**
LAWE IAmb IAmb 21 35 53.4

comp=Z,162nm,1.0s
VRH Novokhopyorsk 73.47 336 *e*P **P** **21 35 49.4 -1.4**
VRH pmax pmax

comp=Z,140nm,0.8s
VRH MLR MLR

comp=Z,530nm,16.0s
BRDH Bariadhala 73.56 286 LR LR 22 10 05.7
comp=Z,154nm,20.7s,baz=68,slow=37
DZM Mont Dzumac 73.60 196 *e*S **SKiKP** **21 45 20.6 -0.1**
comp=Z,347nm,25.4s
DZM *e*LQ LQ 21 55 17.6

comp=Z,12µm,41.9s
DZM *e*LR LR 21 58 22.8

comp=Z,1µm,26.0s
VORR Voronezh 73.69 337 *e*P **P** **21 35 51.5 -0.5**
VORR pmax pmax

comp=Z,60nm,0.9s
PCI Palu 73.80 248 P **P** **21 35 52.9 -0.3**
comp=Z,66nm,1.2s
ESY Stoneypath 73.94 3 *e*P **P** **21 35 54.5 +1.0**
LUNU Lund 73.94 354 *i* P **P** **21 35 54.3 +0.9**
COP Copenhagen 73.96 354 *i* P **P** **21 35 54.0 +0.4**
COP IAmb IAmb 21 35 55.6

comp=Z,222nm,1.1s
SIMJ Simiganj 73.96 312 P **P** **21 35 53.9 -0.1**
PGBU Glenifferbraes 73.96 4 *e*P **P** **21 35 55.1 +1.5**
VSR Storozhevoye 74.11 337 *e*P **P** **21 35 53.1 -1.4**
VSR pmax pmax

comp=Z,110nm,0.9s
VSR MLR MLR

comp=Z,1µm,18.0s
VORD Divnogorie 74.31 337 *e*P **P** **21 35 55.5 -0.2**
VORD pmax pmax

comp=Z,130nm,0.9s
SSRD Sdr. Stenderup 74.31 356 *i* P **P** **21 35 56.3 +0.7**
SSRD IAmb IAmb 21 35 59.2

comp=Z,94nm,0.8s
BSD Bornholm Skovb 74.35 353 *i* P **P** **21 35 56.4 +0.6**
BSD IAmb IAmb 21 35 57.1

comp=Z,47nm,0.9s
EKA Eskdalemuir Ar 74.50 4 P **P** **21 35 57.9 +1.1**
comp=Z,60nm,0.9s,baz=358,slow=4.6,SNR=73
comp=Z,60nm,0.9s
ESK Eskdalemuir 74.51 4 P **P** **21 35 57.5 +0.7**
ESK Eskdalemuir 74.51 4 *e*P **P** **21 35 58.3 +1.5**
ESK IAmb IAmb 21 35 59.0

comp=Z,93nm,1.0s
ESK Eskdalemuir 74.51 4 P **P** **21 35 57.5 +0.7**
ESK pmax pmax

comp=Z,83nm,1.0s
SUW Suwalki 74.54 348 *e*P **P** **21 35 56.5 -0.5**
NEWG New Galloway 74.67 4 *e*P **P** **21 35 59.1 +1.4**
NEWG IAmb IAmb 21 35 59.8

comp=Z,58nm,1.0s
GAL1 Galloway 74.90 4 *e*P **P** **21 36 00.5 +1.5**
GAL1 IAmb IAmb 21 36 01.1

comp=Z,105nm,1.0s
RGN Rugen 75.03 354 *e*P **P** **21 36 01.5 +1.8**
comp=Z,108nm,0.9s,baz=5.0,slow=5.4
KESW Keswick, Cumbr 75.25 4 *e*P **P** **21 36 02.5 +1.5**
KESW IAmb IAmb 21 36 03.3

comp=Z,135nm,1.0s
TTSI Tana Toraja 75.53 247 P **P** **21 36 03.7 +0.5**
comp=Z,589nmcomp=Z,42nm,1.5s
ILTH Belurgan, Co L 75.64 6 *e*P **P** **21 36 04.6 +1.3**
ILTH IAmb IAmb 21 36 05.3

comp=Z,132nm,1.2s
NIL Nilore 75.78 306 P **P** **21 36 04.8 +0.2**
NIL IAmb IAmb 21 36 08.2

comp=Z,76nm,1.3s
NIL Nilore 75.78 306 P **P** **21 36 04.8 +0.2**
NIL pmax pmax

comp=Z,76nm,1.3s
SBUM Sibu 75.79 256 P **P** **21 36 05.9 +1.1**
HPK Haverah Park 75.93 3 *e*P **P** **21 36 06.0 +1.1**
HPK IAmb IAmb 21 36 07.2

comp=Z,123nm,1.2s
GKP Gorka Klasztor 75.97 351 *e*P **P** **21 36 05.4 +0.3**
MTSU Mount Surprise 76.20 218 P **P** **21 36 08.0 +1.1**
TV1H Townsville Har 76.29 215 P **P** **21 36 08.4 +1.1**
LBWR Ladybower, Pea 76.48 3 *e*P **P** **21 36 09.4 +1.3**
LBWR IAmb IAmb 21 36 10.2

comp=Z,92nm,1.1s
R9F13 Warsaw-Wawer 76.56 349 *e*P **P** **21 36 09.9 +1.4**
AKASG Malin Array Be 76.76 343 P **P** **21 36 09.8 +0.1**
AKASG Malin Array Be 76.76 343 P **P** **21 36 09.8 +0.1**
comp=Z,88nm,0.8s,baz=19,slow=5.7,SNR=238
AKASG LR LR 22 13 57.3
comp=Z,392nm,19.1s,baz=20,slow=39
comp=Z,88nm,0.8s
AKASG Malin Array Be 76.76 343 *i* P **P** **21 36 09.8 +0.1**
AKASG pmax pmax

comp=Z,89nm,0.8s
AKBB Malin Array Si 76.76 343 *d i*P **P** **21 36 09.9 +0.2**
AKBB pmax pmax

comp=Z,174nm,0.9s
KIEV Kiev 76.77 343 P **P** **21 36 09.6 -0.2**
KIEV Kiev 76.77 343 P **P** **21 36 09.6 -0.2**
FOEL Foel Wylfa 76.94 4 *e*P **P** **21 36 12.3 +1.5**
FOEL IAmb IAmb 21 36 13.1

comp=Z,100nm,1.0s
LLW Llanuwchllyn 76.96 4 *e*P **P** **21 36 12.7 +1.8**
LLW IAmb IAmb 21 36 13.0

comp=Z,67nm,1.1s
BEL Belsk 76.98 349 *e*P **P** **21 36 11.6 +0.7**
RUE Ruedersdorf 77.05 353 *e*P **P** **21 36 12.5 +1.2**
comp=Z,59nm,1.0s,baz=5.0,slow=5.4
KAPI Kappang 77.15 246 P **P** **21 36 12.0 -0.4**
comp=Z,16nm,0.9s,baz=35,slow=4.1,SNR=3.9
KAPI LR LR 22 05 46.2

comp=Z,53nm,21.3s,baz=87,slow=32
comp=Z,16nm,0.9s
KAPI Kappang 77.15 246 P **P** **21 36 12.0 -0.4**
BKSI Bulukumba 77.19 245 P **P** **21 36 13.0 +0.4**
comp=Z,791nmcomp=Z,62nm,1.3s
KBL Kabul 77.21 309 P **P** **21 36 11.3 -1.6**
KBL IAmb IAmb 21 36 13.5

comp=Z,23nm,0.8s
KBL Kabul 77.21 309 P **P** **21 36 11.3 -1.6**
KBL pmax pmax

comp=Z,23nm,0.9s
WACR West Acre 77.21 1 *e*P **P** **21 36 13.5 +1.3**
CTA Charters Tower 77.25 215 P **P** **21 36 13.6 +0.9**
CTAO Charters Tower 77.25 215 P **P** **21 36 12.3 -0.5**
CTAO IAmb IAmb 21 36 14.0

comp=Z,33nm,1.2s
CTAO Charters Tower 77.25 215 P **P** **21 36 13.6 +0.9**
CTAO Charters Tower 77.25 215 P **P** **21 36 12.3 -0.5**
CTAO pmax pmax

comp=Z,33nm,1.2s
HLM1 Long Mynd 77.33 4 *e*P **P** **21 36 14.4 +1.5**
HLM1 IAmb IAmb 21 36 15.1

comp=Z,91nm,1.3s
FLTG Flechtingen 77.37 355 *e*P **P** **21 36 14.4 +1.3**
comp=Z,37nm,0.8s,baz=5.0,slow=5.4
MTN Manton Dam 77.44 232 IAmb IAmb 21 36 14.6

comp=Z,40nm,0.9s
MTN Manton Dam 77.44 232 P **P** **21 36 14.8 +0.9**
TBI Tubuai 77.45 154 *e*S **S** **21 46 05.0 +1.7**
comp=Z,4µm,31.5s
TBI *e*SS **SS** **21 51 04.6 +1.6**

comp=Z,1µm,40.5s
TBI *e*LR LR 21 59 56.3

comp=Z,7µm,32.2s
TBI *e*LR LR 22 00 00.9

comp=Z,1µm,29.2s
IBBN Ibbenburen 77.56 357 *e*P **P** **21 36 15.1 +0.9**
comp=Z,102nm,0.9s,baz=5.0,slow=5.4
ASSE Asse, Remlinge 77.61 355 *e*P **P** **21 36 15.8 +1.4**
comp=Z,42nm,1.0s,baz=5.0,slow=5.4
MTO3 Montecristo 77.70 82 P **P** **21 36 15.4 -0.4**
KSM Kuching 77.74 257 IAmb IAmb 21 36 17.4

comp=Z,89nm,1.3s
KSM Kuching 77.74 257 P **P** **21 36 16.6 +0.8**
MCH1 Michaelchurch 77.84 4 *e*P **P** **21 36 16.9 +1.1**
CLZ Clausthal 77.91 355 *e*P **P** **21 36 17.4 +1.2**
comp=Z,56nm,0.8s,baz=5.0,slow=5.4
MONM Monmouth 78.01 4 *e*P **P** **21 36 18.0 +1.4**
MONM IAmb IAmb 21 36 18.8

comp=Z,94nm,1.1s
STRD Stroud 78.09 3 *e*P **P** **21 36 18.8 +1.6**
STKI Sintang 78.11 255 P **P** **21 36 18.0 +0.2**
comp=Z,55nm,1.1s
GTTG Gottingen 78.23 355 *e*P **P** **21 36 19.0 +1.1**
comp=Z,62nm,0.9s,baz=5.0,slow=5.4
CLL Collm 78.28 353 IAmb IAmb 21 36 19.9

comp=Z,43nm,1.0s
CLL Collm 78.28 353 *i* P **P** **21 36 18.2 0.0**
CLL *e*S **S** **21 46 12.0 +0.1**
CLL pmax pmax

comp=Z,61nm,1.2s
CLL MLR MLR

comp=Z,400nm,18.2s
CLL Collm 78.28 353 *e*P **P** **21 36 19.3 +1.1**
comp=Z,22nm,0.9s,baz=5.0,slow=5.4
CLL Collm 78.28 353 *i* P **P** **21 36 18.2 0.0**
comp=Z,61nm,1.2s
CLL *e*S **S** **21 46 12.0 +0.1**
CLL *e*SS SS 21 51 24.0 +11
CLL LmV 22 18 00.0

comp=Z,400nm,18.2s
BBSR BB Station 78.34 53 P **P** **21 36 18.4 -0.5**
BBSR IAmb IAmb 21 36 20.3

comp=Z,42nm,1.1s
BUG Bochum--Univer 78.44 357 *e*P **P** **21 36 20.3 +1.2**
comp=Z,36nm,0.9s,baz=5.0,slow=5.4
KSP Ksiaz 78.46 351 *e*P **P** **21 36 19.8 +0.5**
NEUB Neuenburg 78.46 354 *e*P **P** **21 36 20.5 +1.3**
comp=Z,64nm,0.9s,baz=5.0,slow=5.4
SOEI Soe 78.46 239 P **P** **21 36 20.1 +0.3**
WOL Wolverton 78.59 3 *e*P **P** **21 36 21.4 +1.5**
BRG Berggiesshubel 78.64 353 *e*P **P** **21 36 21.6 +1.4**
comp=Z,26nm,0.9s,baz=5.0,slow=5.4
BRG Berggiesshubel 78.64 353 *e*P **P** **21 36 23.1 +2.9**
BRG Amp 21 36 24.0

comp=Z,47nm,1.0s
BRG Berggiesshubel 78.64 353 S **S** **21 46 20.0 +4.2**
SURA Surathani 78.64 271 P **P** **21 36 21.7 +1.0**
KASTN Kahler Asten 78.64 356 *e*P **P** **21 36 21.4 +1.1**
comp=Z,17nm,1.0s,baz=5.0,slow=5.4
GOF Gofitskoye 78.68 332 *ce*P **P** **21 36 21.9 +1.3**
OJC Ojcow 78.69 349 *e*P **P** **21 36 20.9 +0.3**
CHVC Chvalec 78.73 351 *e*P **P** **21 36 21.4 +0.6**
CHVC Chvalec 78.73 351 *e*P **P** **21 36 21.4 +0.6**
OSTC Ostas 78.75 351 *e*P **P** **21 36 21.9 +1.0**
OSTC MLR MLR

comp=Z,400nm,16.3s
OSTC Ostas 78.75 351 *e*P **P** **21 36 21.9 +1.0**
OSTC AMS AMS 22 20 50.0

comp=Z,400nm,16.3s
UPC Upice 78.82 351 *e*P **P** **21 36 22.0 +0.8**
UPC MLR MLR

comp=Z,300nm,15.8s
UPC Upice 78.82 351 *e*P **P** **21 36 22.0 +0.8**
UPC AMS AMS 22 21 00.0

comp=Z,300nm,15.8s
KWP Kalwaria Pacla 78.88 347 *e*P **P** **21 36 22.6 +1.0**
PVCC Panska Ves 78.93 352 *e*P **P** **21 36 23.1 +1.3**
PVCC MLR MLR

comp=Z,500nm,23.0s
PVCC Panska Ves 78.93 352 *e*P **P** **21 36 23.1 +1.3**
PVCC AMS AMS 22 14 30.0

comp=Z,500nm,23.0s
DPC Dobruska-Polom 78.94 351 *e*P **P** **21 36 23.0 +1.0**
DPC MLR MLR

comp=Z,300nm,17.6s
DPC Dobruska-Polom 78.94 351 *e*P **P** **21 36 23.0 +1.0**
DPC AMS AMS 22 21 00.0

comp=Z,300nm,17.6s
RICC Richard 78.95 353 *e*P **P** **21 36 23.5 +1.6**
UBBA Unterbreizbach 78.95 355 *e*P **P** **21 36 23.1 +1.3**
comp=Z,9.3nm,0.9s,baz=5.0,slow=5.4
MOX Moxa 79.03 354 *e*P **P** **21 36 23.5 +1.1**
comp=Z,23nm,0.9s,baz=5.0,slow=5.4
EDFI Ende, Flores 79.07 242 P **P** **21 36 21.9 -1.2**
comp=Z,693nmcomp=Z,44nm,1.6s
BEBN Eben Emael 79.13 358 *d*P **P** **21 36 24.4 +1.5**
comp=Z,56nm,1.0s
MAK Makhachkala 79.14 328 *d i*P **P** **21 36 18.6 -4.5**
MAK *e* 21 39 18.0
MAK *e*PPP PPP 21 41 07.9
MAK *e*S **S** **21 46 13.8 -7.6**

MAK eSSS SSS 21 54 47.2
MAK pmax pmax
comp=Z,239nm,1.2s
MAK MLR MLR
comp=Z,595nm,16.0s
UCC Uccle 79.15 359 IAmb IAmb 21 36 25.1
comp=Z,42nm,0.9s
UCC Uccle 79.15 359 *d*P **P 21 36 24.2 +1.2**
comp=Z,27nm,0.8s
BATI Baumata 79.17 239 P **P 21 36 22.9 -0.7**
comp=Z,34nm,0.8s,baz=102,slow=3.6,SNR=7.9
comp=Z,34nm,0.8s
BATI Baumata 79.17 239 P **P 21 36 24.1 +0.5**
comp=Z,935nmcomp=Z,44nm,0.9s
KRLC Kraliky 79.17 351 *e*P **P 21 36 24.6 +1.4**
KRLC Kraliky 79.17 351 *e*P **P 21 36 24.6 +1.4**
TANN Tannenbergstha 79.20 354 *e*P **P 21 36 24.3 +0.8**
comp=Z,16nm,1.0s,baz=5.0,slow=5.4
STEB Steborice 79.20 350 *e*P **P 21 36 24.5 +1.1**
OKC Ostrava-Krasne 79.26 350 *e*P **P 21 36 24.8 +1.2**
OKC MLR MLR
comp=Z,400nm,14.9s
OKC Ostrava-Krasne 79.26 350 *e*P **P 21 36 24.8 +1.2**
OKC AMS AMS 22 15 00.0
comp=Z,400nm,14.9s
STHS Stebnicka Huta 79.29 348 *e*P **P 21 36 24.9 +1.0**
STHS pmax pmax
comp=Z,55nm,1.0s
MEM Membach 79.31 358 *d*P **P 21 36 25.0 +1.1**
comp=Z,52nm,1.0s
RAO Raoul Island 79.32 181 LR LR 22 03 45.5
comp=Z,608nm,20.2s,baz=354,slow=30
BTNL Ternell 79.33 358 *d*P **P 21 36 24.9 +0.8**
comp=Z,41nm,1.0s
BTNL *d*x x 21 36 40.9
BSTI Sart Tilman 79.35 358 *d*P **P 21 36 25.8 +1.7**
comp=Z,11nm,0.9s
DYA Yadsworthy 79.36 4 *e*P **P 21 36 25.4 +1.2**
DYA IAmb IAmb 21 36 26.0
comp=Z,133nm,1.1s
MORC Moravsky Berou 79.38 350 P **P 21 36 24.5 +0.1**
MORC IAmb IAmb 21 36 26.5
comp=Z,29nm,1.0s
MORC Moravsky Berou 79.38 350 *e*P **P 21 36 25.5 +1.1**
MORC Moravsky Berou 79.38 350 ⇑P **P 21 36 25.8 +1.4**
MORC Moravsky Berou 79.38 350 P **P 21 36 24.5 +0.1**
MORC pmax pmax
comp=Z,29nm,1.0s
SORM Soroca 79.39 343 ⇑P **P 21 36 25.1 +0.7**
SORM Soroca 79.39 343 P **P 21 36 25.0 +0.7**
PRA Prague 79.39 352 *e*P **P 21 36 25.9 +1.5**
PRA MLR MLR
comp=Z,500nm,19.5s
PRA Prague 79.39 352 *e*P **P 21 36 25.9 +1.5**
PRA AMS AMS 22 14 50.0
comp=Z,500nm,19.5s
NIE Niedzica 79.41 348 *e*P **P 21 36 25.6 +1.0**
PRU Pruhonice 79.47 352 *e*P **P 21 36 25.7 +0.9**
PRU MLR MLR
comp=Z,500nm,16.3s
PRU Pruhonice 79.47 352 *e*P **P 21 36 25.7 +0.9**
PRU AMS AMS 22 15 20.0
comp=Z,500nm,16.3s
BCLA Clavier 79.52 358 *d*P **P 21 36 26.5 +1.4**
CCA1 Carnmenellis 79.54 5 *e*P **P 21 36 26.0 +0.9**
CCA1 IAmb IAmb 21 36 27.2
comp=Z,163nm,1.1s
BGES Gesves 79.55 358 *d*P **P 21 36 26.4 +1.1**
comp=Z,38nm,1.1s
BHOU Houvegnez 79.57 358 *d*P **P 21 36 26.9 +1.6**
comp=Z,14nm,1.0s
TNS Taunus Mts 79.62 356 *e*P **P 21 36 26.6 +0.9**
comp=Z,32nm,0.9s,baz=5.0,slow=5.4
KOLS Kolonicke sedl 79.62 347 *e*P **P 21 36 26.7 +1.0**
KOLS pmax pmax
comp=Z,59nm,0.9s
BMRD Maredsous 79.64 359 *d*P **P 21 36 27.3 +1.6**
comp=Z,73nm,1.0s
MANZ Manzenberg 79.65 354 *e*P **P 21 36 27.1 +1.2**
comp=Z,3.9nm,0.9s,baz=5.0,slow=5.4
MAUC Maruska 79.76 350 *e*P **P 21 36 27.9 +1.5**
MAUC AMS AMS 22 18 30.0
comp=Z,800nm,16.0s
LANS Liptovska Anna 79.78 349 *e*P **P 21 36 28.7 +2.1**
LANS pmax pmax
comp=Z,41nm,1.0s
RCHB Rochefort 79.78 358 *d*P **P 21 36 27.8 +1.3**
comp=Z,35nm,1.0s
KVAR Kislovodsk Arr 79.78 332 LR LR 22 17 32.1
comp=Z,427nm,18.8s,baz=268,slow=40
KIV Kislovodsk 79.79 332 P **P 21 36 27.4 +0.7**
KIV IAmb IAmb 21 36 28.9
comp=Z,71nm,1.0s
KIV Kislovodsk 79.79 332 *e*P **P 21 36 27.0 +0.2**
KIV *e* 21 39 26.8
KIV *e*S **S 21 46 30.2 +1.7**
KIV pmax pmax
comp=Z,57nm,1.0s
KIV pmax pmax
comp=Z,83nm,3.8s
DOU Dourbes 79.85 359 *d*P **P 21 36 27.5 +0.7**
comp=Z,35nm,1.1s
ROTZ Rotzenmuhle 79.87 354 *e*P **P 21 36 28.2 +1.2**
comp=Z,5.5nm,1.0s,baz=5.0,slow=5.4
NCK Nalchik 79.93 331 *c*/P **P 21 36 29.5 +2.1**
NCK pmax pmax
comp=Z,228nm,1.1s
KBZ Khabaz 79.93 332 P **P 21 36 28.5 +1.2**
comp=Z,30nm,0.9s,baz=55,slow=2.9,SNR=36
KBZ LR LR 22 14 44.5
comp=Z,568nm,21.9s,baz=14,slow=38
comp=Z,30nm,0.9s
KBZ Khabaz 79.93 332 *d*/P **P 21 36 28.3 +0.9**
KBZ pmax pmax
comp=Z,64nm,1.1s
VRAC Vranov 79.95 351 LR LR 22 11 11.1
comp=Z,266nm,21.8s,baz=10.0,slow=35
VRAC Vranov 79.95 351 *e*P **P 21 36 28.8 +1.4**
VRAC Vranov 79.95 351 ⇑P **P 21 36 28.6 +1.2**
VRAC Vranov 79.95 351 P **P 21 36 28.6 +1.2**
SHA1 Shidzhatmaz 80.00 332 ⇑/P **P 21 36 29.6 +1.5**
GRF Grafenberg Arr 80.00 354 *e*P **P 21 36 28.8 +1.0**
comp=Z,50nm,0.9s,baz=5.0,slow=5.4
GRFO Grafenberg 80.01 354 P **P 21 36 28.5 +0.8**
GRFO Grafenberg 80.01 354 P **P 21 36 28.5 +0.8**
GRFO pmax pmax
comp=Z,91nm,1.0s
TREC Trest 80.07 352 *e*P **P 21 36 28.9 +0.8**
TREC Trest 80.07 352 *e*P **P 21 36 28.9 +0.8**
KRUC Moravsky 80.21 351 *e*P **P 21 36 29.9 +1.1**
WLF Walferdange 80.25 358 IAmb IAmb 21 36 31.8
comp=Z,60nm,1.0s
WLF Walferdange 80.25 358 *d*P **P 21 36 30.8 +1.8**
comp=Z,33nm,0.9s
WLF Walferdange 80.25 358 *e*P **P 21 36 30.5 +1.4**
comp=Z,32nm,0.8s,baz=5.0,slow=5.4
JAVC Velka Javorina 80.28 350 *e*P **P 21 36 31.5 +2.2**
KECS Kecovo 80.31 348 *e*P **P 21 36 31.2 +1.8**
KECS pmax pmax
comp=Z,59nm,0.9s
AKT Akhty 80.38 327 *e*P **P 21 36 30.3 +0.2**
AKT *e* 21 39 32.3
AKT *e*S **S 21 46 33.7 -1.2**
AKT pmax pmax
comp=Z,126nm,1.3s
KIS Kishinev 80.39 342 ⇓P **P 21 36 30.9 +1.1**
KIS Kishinev 80.39 342 ⇓/P **P 21 36 30.0 +0.2**
comp=Z,200nm,1.5s
KIS *e*S **S 21 46 34.0 -0.4**
KIS *e*L L 22 16 06.0
KIS LRM MLR 22 17 57.0
comp=Z,300nm,17.5s
KIS Kishinev 80.39 342 *i*P **P 21 36 30.0 +0.2**
KIS *e*S **S 21 46 34.0 -0.4**
KIS pmax pmax
comp=Z,200nm,1.5s
KIS MLR MLR
comp=Z,300nm,17.5s
KHC Kasperske Hory 80.40 353 *e*P **P 21 36 30.7 +0.8**
KHC *e*S **S 21 46 34.3 -0.3**
KHC MLR MLR
comp=Z,500nm,17.6s
KHC Kasperske Hory 80.40 353 *e*P **P 21 36 30.7 +0.8**
KHC *e*S **S 21 46 34.3 -0.3**
KHC AMS AMS 22 15 10.0
comp=Z,500nm,17.6s
NEUR Neytrino 80.41 332 *i*P **P 21 36 32.2 +1.9**
WET Wettzell 80.44 353 *e*P **P 21 36 31.3 +1.2**
comp=Z,15nm,1.0s,baz=5.0,slow=5.4
BURAR Bucovina Array 80.45 345 P **P 21 36 31.1 +0.8**
BURAR Bucovina Array 80.45 345 ⇑P **P 21 36 31.5 +1.3**
BURAR Bucovina Array 80.45 345 P **P 21 36 31.5 +1.3**
IASR Iasi 80.45 343 ⇓P **P 21 36 31.4 +1.2**
MILM Milestii Mici 80.47 342 ⇑P **P 21 36 30.7 +0.5**
MILM Milestii Mici 80.47 342 ⇓/P **P 21 36 30.0 -0.2**
comp=Z,440nm,1.7s
MILM *e*S **S 21 46 36.0 +0.8**
comp=Z,860nm,5.4s
MILM *e*L L 22 16 22.0
MILM LRM MLR 22 17 34.0
comp=Z,800nm,17.0s
MILM Milestii Mici 80.47 342 *d*/P **P 21 36 30.0 -0.2**
MILM *e*S **S 21 46 36.0 +0.8**
MILM pmax pmax
comp=Z,440nm,1.7s
MILM smax smax
comp=N,860nm,5.4s
MILM MLR MLR
comp=Z,800nm,17.0s
PRAR RASCA 80.52 344 ⇑P **P 21 36 31.7 +1.2**
PURM Purcari 80.63 341 ⇓P **P 21 36 32.6 +1.5**
SMOL Smolenice 80.64 350 *e*P **P 21 36 33.2 +2.0**
SMOL pmax pmax
comp=Z,31nm,1.0s
BMR Baia Mare 80.67 346 ⇑P **P 21 36 33.2 +1.9**
BMR Baia Mare 80.67 346 P **P 21 36 33.2 +1.9**
GEC2 GERESS Array S 80.67 353 IAmb IAmb 21 36 33.4
comp=Z,33nm,1.0s
GEC2 GERESS Array S 80.67 353 *e*P **P 21 36 32.3 +0.9**
comp=Z,18nm,0.9s,baz=5.0,slow=5.4
GERES GERESS Array B 80.67 353 P **P 21 36 31.5 +0.1**
comp=Z,13nm,0.8s,baz=15,slow=5.5,SNR=97
GERES LR LR 22 16 28.3
comp=Z,264nm,19.8s,baz=9.5,slow=39
comp=Z,13nm,0.8s
JSA Saint Aubin 80.68 3 *e*P **P 21 36 32.6 +1.3**
JSA IAmb IAmb 21 36 33.3
comp=Z,88nm,0.9s
SEKA Sheki 80.81 328 P **P 21 36 34.1 +1.8**
KULM Kulim 80.93 267 IAmb IAmb 21 36 34.1
comp=Z,50nm,1.6s
KULM Kulim 80.93 267 P **P 21 36 34.9 +1.7**
VASR Vaslui 80.93 343 ⇓P **P 21 36 34.3 +1.6**
PSZ Piszkesteto 80.94 348 ⇓P **P 21 36 34.2 +1.4**
PSZ Piszkesteto 80.94 348 P **P 21 36 34.2 +1.4**
ZST Bratislava 80.99 350 *e*P **P 21 36 36.5 +3.5**
ZST pmax pmax
comp=Z,9.0nm,1.1s
SOC Sochi 81.00 334 *e*P **P 21 36 32.7 -0.4**
SOC *e*PPP PPP 21 41 26.9
SOC *e*S **S 21 46 43.1 +2.2**
SOC *e*SS SS 21 52 06.0 +12
SOC *e*SSS SSS 21 55 22.2
SOC pmax pmax
comp=Z,64nm,1.1s
STU Stuttgart 81.03 356 P **P 21 36 33.6 +0.4**
STU IAmb IAmb 21 36 35.3
comp=Z,45nm,1.1s
STU Stuttgart 81.03 356 P **P 21 36 33.6 +0.4**
STU pmax pmax
comp=Z,45nm,1.1s
STU Stuttgart 81.03 356 *e*P **P 21 36 34.2 +0.9**
comp=Z,57nm,0.9s,baz=5.0,slow=5.4
WBSI Waikabubak, Su 81.10 243 P **P 21 36 32.9 -1.1**
comp=Z,1µmcomp=Z,71nm,1.4s
ARCR ARCALIA 81.10 345 ⇓P **P 21 36 35.7 +2.0**
SIUN Universidad Ur 81.11 79 IAmb IAmb 21 36 36.2
comp=Z,31nm,1.3s
SIM Simferopol' 81.19 338 *e*P **P 21 36 29.9 -4.2**
SIM *e* 21 36 38.0
SIM pmax pmax
comp=Z,95nm,1.5s
SIM MLR MLR
comp=Z,500nm,19.2s
MNGR Mingechevir, A 81.23 328 P **P 21 36 36.6 +2.2**
SRO Srobarova 81.23 349 *e*P **P 21 36 35.8 +1.5**
SRO pmax pmax
comp=Z,52nm,1.1s
MESR Meseseni 81.26 346 ⇑P **P 21 36 36.8 +2.3**
TESR Tescani 81.26 344 ⇓P **P 21 36 35.2 +0.7**
IPM Ipoh 81.31 266 P **P 21 36 35.1 -0.1**
BIR Birlad 81.32 343 ⇑P **P 21 36 37.1 +2.3**
BIR Birlad 81.32 343 P **P 21 36 37.1 +2.3**
CONA Conrad Observa 81.39 351 *i*pP **P 21 36 36.3 +1.1**
comp=Z,55nm,1.0s,SNR=33
CHIV Chivirico 81.48 69 IAmb IAmb 21 36 37.5
comp=Z,46nm,1.0s
ONER Baraj Valea Uz 81.48 344 ⇓P **P 21 36 37.1 +1.4**
BSZH Besenyszg 81.50 348 ⇓P **P 21 36 37.7 +2.0**
BFO Black Forest 81.51 356 P **P 21 36 36.3 +0.5**
BFO IAmb IAmb 21 36 37.8
comp=Z,44nm,1.2s
BFO Black Forest 81.51 356 P **P 21 36 36.3 +0.5**
BFO pmax pmax
comp=Z,44nm,1.2s
BFO Black Forest 81.51 356 *e*P **P 21 36 36.9 +1.0**
comp=Z,20nm,1.0s,baz=5.0,slow=5.4
FUR Furstenfeldbru 81.52 354 *e*P **P 21 36 36.9 +1.0**
comp=Z,27nm,0.9s,baz=5.0,slow=5.4
CBBR Cluj-Babes-Bol 81.54 346 ⇑P **P 21 36 37.5 +1.5**
GHRR 81.56 343 ⇑P **P 21 36 37.8 +1.7**
MYKOM Kota Tinggi 81.56 263 IAmb IAmb 21 36 38.0
comp=Z,23nm,1.0s
RONA Rosalia, Austr 81.57 351 *i*pP **P 21 36 37.5 +1.3**
comp=Z,44nm,1.3s,SNR=22
CJR Cluj-Napoca 81.59 346 ⇑P **P 21 36 38.0 +1.6**
CJR Cluj-Napoca 81.59 346 P **P 21 36 37.9 +1.6**
GANJ Ganja 81.61 328 P **P 21 36 38.4 +1.9**
MOA Molln 81.61 352 *i*P **P 21 36 36.8 +0.4**
comp=Z,19nm,1.1s,SNR=9.4
TGMR Targu Mures 81.62 345 ⇑P **P 21 36 38.0 +1.6**
VLDR Vladesti 81.64 342 ⇑P **P 21 36 38.0 +1.5**
DRGR 81.65 346 ⇑P **P 21 36 38.1 +1.5**
DRGR 81.65 346 P **P 21 36 38.1 +1.5**
ECH Echery 81.67 357 IAmb IAmb 21 36 38.8
comp=Z,40nm,1.1s
MARR Marisel-Cluj 81.70 346 ⇓P **P 21 36 38.3 +1.4**
COSR Cosmesti PH 81.78 343 ⇑P **P 21 36 38.8 +1.6**
PANC Panciu 81.79 343 ⇑P **P 21 36 38.6 +1.4**
TURR Turia 81.82 344 ⇑P **P 21 36 39.3 +1.8**
OZUR 81.82 344 ⇑P **P 21 36 39.7 +2.1**
BIOA Bad Ischl, Aus 81.82 353 *i*pP **P 21 36 38.2 +0.8**
comp=Z,61nm,1.1s,SNR=28
WB0 Warramunga Arr 81.85 225 IAmb IAmb 21 36 37.9
comp=Z,29nm,1.4s
BOSR Bodos 81.86 344 ⇓P **P 21 36 39.5 +1.7**
VRI Vrincioaia 81.87 343 ⇑P **P 21 36 39.0 +1.2**
VRI Vrincioaia 81.87 343 P **P 21 36 38.9 +1.2**
NMDO Nuevo Mundo 81.88 68 IAmb IAmb 21 36 39.5
comp=Z,49nm,1.1s
TATR Tatarca 81.88 342 ⇑P **P 21 36 39.6 +1.8**
PLOR Plostina 81.90 343 ⇑P **P 21 36 39.8 +1.9**
PLOR Plostina 81.90 343 P **P 21 36 39.8 +1.9**
ODBI Odobesti 81.91 343 ⇓P **P 21 36 39.7 +1.8**
TUDR 81.96 343 ⇑P **P 21 36 39.2 +1.0**
NEGRR Negrea 81.97 342 ⇓P **P 21 36 40.2 +1.9**
COVR Voineasa-Covas 81.99 344 ⇓P **P 21 36 39.7 +1.3**
IZVR Izvoarele 81.99 343 ⇓P **P 21 36 39.7 +1.3**
DOPR Dopca 82.01 344 ⇓P **P 21 36 40.6 +2.1**
MDB Medias 82.02 345 ⇑P **P 21 36 39.7 +1.2**
MDB Medias 82.02 345 P **P 21 36 39.6 +1.2**
WRAB Tennant Creek 82.02 225 P **P 21 36 36.9 -1.8**
WRAB IAmb IAmb 21 38 27.3
comp=Z,90nm,1.9s
WRAB Tennant Creek 82.02 225 P **P 21 36 36.9 -1.8**
WRAB pmax pmax
comp=Z,90nm,2.0s
SCHL Schela 82.02 342 ⇓P **P 21 36 40.4 +1.9**
WRA Warramunga Arr 82.03 225 P **P 21 36 37.1 -1.7**
WRA Warramunga Arr 82.03 225 P **P 21 36 37.3 -1.4**
comp=Z,6.5nm,0.8s,baz=36,slow=6.1,SNR=28
WRA LR LR 22 06 59.2
comp=Z,180nm,20.5s,baz=7.5,slow=31
comp=Z,6.5nm,0.8s
WRA Warramunga Arr 82.03 225 P **P 21 36 37.1 -1.7**
WRA pmax pmax
comp=Z,3.0nm,1.6s
SCHLR Schela 82.05 342 ⇑P **P 21 36 40.3 +1.7**
UBR Ueberruh 82.08 355 *e*P **P 21 36 39.5 +0.7**
comp=Z,71nm,1.5s,baz=5.0,slow=5.4
ARSA Arzberg 82.09 351 IAmb IAmb 21 36 41.6
comp=Z,40nm,1.0s
ARSA Arzberg 82.09 351 *i*pP **P 21 36 39.9 +1.0**
comp=Z,43nm,1.1s,SNR=22
TLCR 82.13 342 ⇑P **P 21 36 40.1 +1.1**
TLCR 82.13 342 P **P 21 36 40.1 +1.1**
LESA Schwarzleotal 82.16 353 *i*pP **P 21 36 40.1 +0.7**
comp=Z,52nm,1.6s,SNR=22
BISRR Bisoca 82.18 343 ⇑P **P 21 36 41.3 +1.9**
RETA Reutte 82.23 355 *i*pP **P 21 36 40.7 +1.0**
comp=Z,27nm,1.2s
CFR Carcaliu 82.27 342 ⇑P **P 21 36 40.8 +1.0**
CFR Carcaliu 82.27 342 P **P 21 36 40.8 +1.0**
SIRR Siria 82.31 347 ⇑P **P 21 36 40.9 +0.8**
WATA Walderalm 82.33 354 *i*P **P 21 36 40.7 +0.4**
comp=Z,70nm,1.1s,SNR=30
MOTA Moosalm 82.35 354 *i*pP **P 21 36 40.9 +0.5**
comp=Z,68nm,1.2s,SNR=32
MLR Muntele Rosu 82.38 344 LR LR 22 21 07.1
comp=Z,465nm,18.2s,baz=27,slow=41
MLR Muntele Rosu 82.38 344 ⇓P **P 21 36 42.9 +2.3**
MLR Muntele Rosu 82.38 344 P **P 21 36 42.8 +2.3**
WTTA Wattenberg 82.40 354 *i*pP **P 21 36 41.5 +0.8**
comp=Z,76nm,1.1s,SNR=28
KBA Koelnbreinsper 82.45 353 *i*pP **P 21 36 42.2 +1.2**
comp=Z,144nm,0.9s,SNR=65
LKRN Lenkeran, Azer 82.47 325 P **P 21 36 43.1 +2.1**
SQTA Sankt Quirin 82.47 354 *i*pP **P 21 36 41.7 +0.7**
comp=Z,40nm,1.0s,SNR=19
DAVA Damuels 82.48 355 *i*pP **P 21 36 41.9 +0.8**
comp=Z,27nm,1.1s,SNR=8.6
DEV Deva 82.50 346 ⇑P **P 21 36 42.4 +1.3**
DEV Deva 82.50 346 P **P 21 36 42.3 +1.3**
JURR Jurilovca 82.52 342 ⇓P **P 21 36 42.7 +1.6**
TPGR Topolog 82.52 342 ⇑P **P 21 36 42.1 +1.0**
GNI Garni 82.58 329 P **P 21 36 42.7 +0.9**
GNI Garni 82.58 329 LR LR 22 20 57.4
comp=Z,238nm,18.2s,baz=28,slow=41
GNI Garni 82.58 329 *ce*P **P 21 36 42.7 +0.9**
GNI pmax pmax
comp=Z,125nm,1.7s
ISR Istrita 82.63 343 ⇓P **P 21 36 44.0 +2.2**
ISR Istrita 82.63 343 P **P 21 36 44.0 +2.2**
FETA Feichten 82.70 355 *i*pP **P 21 36 43.0 +0.8**
comp=Z,49nm,1.0s,SNR=20
SOKA Soboth 82.70 352 *i*pP **P 21 36 42.9 +0.8**
comp=Z,109nm,1.1s,SNR=70
ARR Arges 82.72 345 ⇓P **P 21 36 44.2 +1.9**
BEHE Becsehely 82.73 350 IAmb IAmb 21 36 45.0
comp=Z,26nm,1.3s
BEHE Becsehely 82.73 350 *e*P **P 21 36 43.2 +1.0**
PERS Pernice 82.74 351 *i*P **P 21 36 43.3 +1.0**
SURR Surduc 82.75 346 ⇓P **P 21 36 43.1 +0.8**
MORH Mrgy, Hungar 82.77 349 *e*P **P 21 36 43.0 +0.6**
MORH Mrgy, Hungar 82.77 349 ⇑P **P 21 36 43.0 +0.6**
HARR Harsova 82.78 342 ⇓P **P 21 36 43.7 +1.2**
HARR Harsova 82.78 342 P **P 21 36 43.7 +1.2**
MTUR Matau 82.79 344 ⇓P **P 21 36 43.8 +1.2**
MTUR Matau 82.79 344 P **P 21 36 43.8 +1.2**
LOT Lotru 82.79 345 ⇓P **P 21 36 43.2 +0.5**
KOGS Kog 82.81 351 *i*P **P 21 36 43.4 +0.8**
KOGS *i* 21 36 45.1
comp=Z,39nm,1.1s
ABTA Abfaltersbach 82.85 353 *i*pP **P 21 36 43.5 +0.6**
comp=Z,54nm,1.1s,SNR=29
MYKA Terra Mystica 82.88 352 *i*P **P 21 36 43.6 +0.5**
comp=Z,22nm,1.0s,SNR=12
TIRR Tirgusor 82.91 342 ⇓P **P 21 36 44.6 +1.4**
TIRR Tirgusor 82.91 342 P **P 21 36 44.5 +1.4**
OBKA Obir 82.92 352 *i*P **P 21 36 43.8 +0.5**
comp=Z,28nm,0.8s,SNR=16
BZS Buzias 82.96 347 ⇓P **P 21 36 44.7 +1.3**
BZS Buzias 82.96 347 P **P 21 36 44.7 +1.3**
AMRR Amara 82.97 343 ⇓P **P 21 36 44.9 +1.4**
AMRR Amara 82.97 343 P **P 21 36 44.8 +1.4**
DAVOX Davos/Dischmat 82.99 355 LR LR 22 12 16.8
comp=Z,256nm,21.9s,baz=1.0,slow=35
GZR Gura Zlata 83.00 346 ⇓P **P 21 36 45.1 +1.3**
GZR Gura Zlata 83.00 346 P **P 21 36 45.0 +1.3**
NAX Nakhchivan 83.21 328 P **P 21 36 46.7 +1.8**
BANR Banloc 83.26 347 ⇑P **P 21 36 47.1 +2.2**
CADS Cadrg 83.27 352 *i*P **P 21 36 44.5 -0.5**
CADS *i* 21 36 46.4
comp=Z,17nm,1.0s
STAL STALIGIAL 83.32 353 IAmb IAmb 21 36 46.6
comp=Z,38nm,1.4s
TUE Stuetta 83.32 355 P **P 21 36 45.7 +0.2**
TUE IAmb IAmb 21 36 48.0
comp=Z,38nm,0.9s
LHMI Lhok Sumawe 83.34 270 P **P 21 36 47.2 +1.4**
LHMI Lhok Sumawe 83.34 270 P **P 21 36 47.2 +1.4**
ICOR Ion Corvin 83.36 342 ⇓P **P 21 36 47.1 +1.6**
HUMR Humele 83.48 344 ⇓P **P 21 36 46.7 +0.6**
HERR Herculane 83.56 346 ⇑P **P 21 36 47.4 +0.9**
CTI Castel Tesino 83.61 354 IAmb IAmb 21 36 48.3
comp=Z,19nm,0.8s
MDVR Moldovita 83.76 347 ⇑P **P 21 36 48.9 +1.3**
COPA Copaceanca 83.82 344 ⇑P **P 21 36 48.8 +0.9**
QLP Quilpie 83.92 214 P **P 21 36 49.1 +0.7**
PSI Prapat 83.93 267 P **P 21 36 49.3 +0.3**
KOPT Kop Dagi 84.05 332 P **P 21 36 51.6 +2.1**
PUNG Punghina 84.06 346 ⇑P **P 21 36 51.1 +2.1**
RAZG Razgrad 84.13 343 ⇑P **P 21 36 50.5 +1.0**
A051A Mrakovica 84.16 350 *e*P **P 21 36 49.7 0.0**
LOZB Loznitsa 84.31 343 ⇓P **P 21 36 51.3 +0.9**
BLY Banja Luka 84.39 350 *e*P **P 21 36 51.8 +1.1**
BLY Banja Luka 84.39 350 ⇑P **P 21 36 52.0 +1.2**
PLVB Pleven 84.65 344 ⇓P **P 21 36 53.5 +1.4**
FITZ Fitzroy Crossi 84.67 233 P **P 21 36 52.1 -0.3**
comp=Z,40nm,0.9s,baz=41,slow=2.8,SNR=35
FITZ LR LR 22 13 31.9
comp=Z,167nm,20.9s,baz=26,slow=35
comp=Z,40nm,0.9s
FITZ Fitzroy Crossi 84.67 233 P **P 21 36 52.6 +0.2**
ELND Elena 84.87 343 ⇑P **P 21 36 53.7 +0.5**
BOVS Bovan 84.88 346 ⇑P **P 21 36 54.2 +0.9**
MNSI Mandailing Nat 85.04 265 P **P 21 36 52.8 -1.7**
comp=Z,34nm,0.7s
RUDO Rudo 85.23 348 *e*P **P 21 36 55.3 +0.3**
ZCCA Zocca 85.34 354 P **P 21 36 57.5 +1.9**
AS01 Alice Springs 85.45 224 P **P 21 36 56.5 +0.3**
ASAR Alice Springs 85.47 224 P **P 21 36 54.7 -1.6**
ASAR Alice Springs 85.47 224 P **P 21 36 55.5 -0.8**
comp=Z,8.5nm,0.8s,baz=31,slow=4.9,SNR=55
ASAR LR LR 22 13 16.8
comp=Z,186nm,19.3s,baz=9.0,slow=34
comp=Z,8.5nm,0.8s
ASAR Alice Springs 85.47 224 P **P 21 36 54.7 -1.6**
KLINJ Klinje 85.78 348 *e*P **P 21 36 58.1 +0.2**
GSI Gunungsitoli 85.93 267 P **P 21 37 00.0 +1.1**
GSI Gunungsitoli 85.93 267 P **P 21 36 59.2 +0.3**
comp=Z,55nm,1.2s
LHSI Lahat 86.09 259 P **P 21 36 59.3 -0.4**
comp=Z,69nm,1.1s
MDSI Maura Dua 86.19 258 P **P 21 36 58.2 -1.9**
comp=Z,45nm,1.3s
BR131 Keskin Array S 86.23 337 IAmb IAmb 21 37 01.9
comp=Z,32nm,1.1s
BR131 Keskin Array S 86.23 337 *c*/P **P 21 37 00.9 +0.7**
BRTR Keskin Array B 86.23 337 P **P 21 37 00.1 -0.2**
BRTR Keskin Array B 86.23 337 P **P 21 37 00.5 +0.3**
comp=Z,8.6nm,0.8s,baz=47,slow=2.1,SNR=39
BRTR PP **PP 21 40 18.6 -1.5**
comp=Z,2.3nm,1.0s,baz=334,slow=4.8,SNR=4.3
BRTR LR LR 22 20 33.2
comp=Z,154nm,19.4s,baz=331,slow=39
comp=Z,8.6nm,0.8s
BRTR Keskin Array B 86.23 337 *i*P **P 21 37 01.0 +0.7**
BRTR pmax pmax
comp=Z,9.0nm,0.8s
TREB Trebinje 86.25 349 *e*P **P 21 36 59.3 -0.8**
ANTO Ankara 86.30 337 P **P 21 37 01.3 +0.8**
ANTO Ankara 86.30 337 ⇓P **P 21 37 02.1 +1.6**
ANTO Ankara 86.30 337 P **P 21 37 01.3 +0.8**
ANTO pmax pmax
comp=Z,86nm,1.5s
MASI Maura Aman, Be 86.38 261 P **P 21 37 01.0 -0.1**
PDG Podgorica 86.41 348 ⇓P **P 21 37 02.8 +1.9**
SKO Skopje 86.55 346 *i*P **P 21 36 59.3 +1.4**
RDO Rodhopi 86.66 343 IAmb IAmb 21 37 08.1
comp=Z,14nm,0.8s
KIRS Kirsehir-Merke 86.71 336 ⇑P **P 21 37 03.7 +1.1**
PGRA Graciosa 86.91 24 *e*P P 21 37 17.1 +14

PGRA *i* lAmb lAmb 21 37 20.7
comp=Z,108nm,1.4s
VAY Valandovo 87.01 345 *i* P **P** **21 37 05.0 +1.2**
AQU L'Aquila 87.14 352 *eP* **P** **21 37 05.3 +0.8**
CALA Caldeira 87.15 24 *eP* **P** **21 37 05.3 +0.6**
CALA *i* lAmb lAmb 21 37 08.2
comp=Z,121nm,0.9s
PICO Pico 87.30 24 *eP* **P** **21 37 05.7 +0.4**
PICO *i* lAmb lAmb 21 37 20.4
comp=Z,76nm,1.9s
PPNO Prainha do Nor 87.36 24 *eP* **P** **21 37 06.6 +0.9**
PPNO *i* lAmb lAmb 21 37 11.2
comp=Z,100nm,1.5s
INTR Introdacqua 87.43 352 P **P** **21 37 05.7 -0.3**
INTR lAmb lAmb 21 37 09.5
comp=Z,29nm,1.0s
OHR Ohrid 87.49 346 *i* P **P** **21 37 07.8 +1.6**
PGAV Gavieira, Arco 87.49 8 *eP* **P** **21 37 08.0 +1.7**
PGAV *i* lAmb lAmb 21 37 09.4
comp=Z,42nm,1.6s
PGAV *e*LR LR 22 06 44.4
PGAV *i* lAMs_20 lAMs_20 22 17 56.9
comp=Z,263nm,20.0s
GAZ Gaziantep 87.65 333 P **P** **21 37 07.5 +0.4**
GAZ lAmb lAmb 21 37 09.2
comp=Z,25nm,0.9s
PCAB Cabril 87.76 8 *eP* **P** **21 37 07.9 +0.4**
PCAB *i* lAmb lAmb 21 37 10.3
comp=Z,32nm,1.1s
CMSA Cobar Meteorol 87.96 211 P **P** **21 37 09.2 +1.0**
POLO Lamas de Olo 88.12 8 *eP* **P** **21 37 10.0 +0.7**
POLO *i* lAmb lAmb 21 37 10.8
comp=Z,17nm,1.4s
PVRL Vila Real 88.22 8 *eP* **P** **21 37 10.7 +0.9**
PVRL *i* lAmb lAmb 21 37 12.6
comp=Z,57nm,1.4s
MVO Moncorvo 88.39 7 *eP* **P** **21 37 10.9 +0.3**
MVO *i* lAmb lAmb 21 37 13.5
comp=Z,29nm,1.6s
MVO *e*LR LR 22 06 50.9
MVO *i* lAMs_20 lAMs_20 22 22 29.5
comp=Z,255nm,18.0s
URZ Urewera 88.44 184 LR LR 22 10 48.9
comp=Z,245nm,20.5s,baz=40,slow=32
MATE Matera 88.49 349 ⇑P **P** **21 37 11.3 +0.4**
CELP Cerrillos 88.71 63 lAmb lAmb 21 37 13.7
comp=Z,30nm,1.1s
PVIS Viseu 88.76 8 *eP* **P** **21 37 12.8 +0.5**
ISP Isparta 88.79 338 *ce*P **P** **21 37 13.8 +1.2**
ISP pmax pmax
comp=Z,13nm,0.6s
GCPR Guaynabo City 88.81 62 lAmb lAmb 21 37 13.9
comp=Z,30nm,1.2s
SJG San Juan 88.93 63 LR LR 22 20 02.0
comp=Z,153nm,18.4s,baz=329,slow=38
PDPR Patillas Dam, 89.08 63 P **P** **21 37 12.6 -1.4**
PDPR lAmb lAmb 21 37 15.2
comp=Z,31nm,1.4s
MTE Manteigas 89.11 8 *eP* **P** **21 37 14.3 +0.3**
MTE *i* lAmb lAmb 21 37 15.3
comp=Z,35nm,1.4s
MTE *e*LR LR 22 06 44.4
MTE *i* lAMs_20 lAMs_20 22 18 59.9
comp=Z,266nm,18.0s
PCAS Casmilo, Conde 89.36 9 *eP* **P** **21 37 15.7 +0.6**
PCAS *i* lAmb lAmb 21 37 18.0
comp=Z,35nm,2.1s
PCBR Castelo Branco 89.67 8 *eP* **P** **21 37 17.2 +0.7**
PCBR *i* lAmb lAmb 21 37 20.9
comp=Z,16nm,1.7s
STKA Stephens Creek 89.67 214 P **P** **21 37 16.6 +0.3**
comp=Z,28nm,0.8s,baz=344,slow=6.2,SNR=50
STKA LR LR 22 12 43.9
comp=Z,265nm,19.9s,baz=21,slow=32
comp=Z,28nm,0.8s
STKA Stephens Creek 89.67 214 P **P** **21 37 16.9 +0.6**
TIP Timpagrande 89.93 349 lAmb lAmb 21 37 19.4
comp=Z,29nm,1.1s
TIP Timpagrande 89.93 349 ⇓P **P** **21 37 18.4 +0.6**
PMRV Marv??o 90.08 8 *eP* **P** **21 37 15.5 -2.9**
PMRV *i* lAmb lAmb 21 37 22.8
comp=Z,35nm,2.0s
PMRV *e*LR LR 22 07 47.9
PMRV *i* lAMs_20 lAMs_20 22 20 33.6
comp=Z,268nm,18.0s
ESBB Sonseca Array 90.09 5 lAmb lAmb 21 37 19.9
comp=Z,32nm,1.2s
ESDC Sonseca Array 90.09 5 P **P** **21 37 18.5 -0.1**
ESDC lAmb lAmb 21 37 19.9
comp=Z,29nm,1.3s
ESDC Sonseca Array 90.09 5 P **P** **21 37 18.9 +0.3**
comp=Z,13nm,1.1s,baz=352,slow=4.4,SNR=37
ESDC LR LR 22 22 22.0
comp=Z,115nm,18.1s,baz=356,slow=39
comp=Z,13nm,1.1s
PAB San Pablo 90.19 6 P **P** **21 37 19.2 +0.1**
PAB San Pablo 90.19 6 P **P** **21 37 19.2 +0.1**
PAB pmax pmax
comp=Z,18nm,1.3s
MBWA Marble Bar 90.30 236 P **P** **21 37 18.5 -0.9**
MBWA lAmb lAmb 21 37 20.1
comp=Z,20nm,0.9s
MBWA Marble Bar 90.30 236 P **P** **21 37 19.7 +0.2**
PSA00 Pilbara Seismi 90.57 236 P **P** **21 37 19.5 -1.3**
PSA00 lAmb lAmb 21 37 21.3
comp=Z,20nm,1.1s
PSA00 Pilbara Seismi 90.57 236 P **P** **21 37 20.7 -0.1**
PESTR Estremoz 90.62 8 lAmb lAmb 21 37 22.1
comp=Z,40nm,1.3s
PESTR Estremoz 90.62 8 *eP* **P** **21 37 21.0 +0.1**
PESTR *i* lAmb lAmb 21 37 23.6
comp=Z,42nm,1.4s
CSS Mathiatis 90.80 335 lAmb lAmb 21 37 23.6
comp=Z,29nm,0.9s
PBAR Barrancos 91.36 8 *eP* **P** **21 37 25.0 +0.6**
PBAR *i* lAmb lAmb 21 37 27.2
comp=Z,47nm,2.0s
VAE Valguarnera 91.88 351 LR LR 22 24 41.2
comp=Z,195nm,18.2s,baz=8.0,slow=39
HTT Hallett 92.05 215 P **P** **21 37 28.6 +1.2**
MMAI Mount Meron Ar 92.05 333 P **P** **21 37 28.3 +0.5**
comp=Z,4.9nm,0.8s,baz=321,slow=1.2,SNR=6.8
MMAI LR LR 22 26 02.9
comp=Z,309nm,18.4s,baz=21,slow=40
comp=Z,4.9nm,0.8s
PVAQ Vaqueiros 92.06 8 *e*LR LR 22 08 41.0
PVAQ *i* lAMs_20 lAMs_20 22 14 19.0
comp=Z,239nm,24.0s
ASF Jabal al Asfar 92.39 332 LR LR 22 27 14.3
comp=Z,396nm,18.0s,baz=334,slow=41
IDI Anoyia 92.45 342 LR LR 22 26 00.4
comp=Z,215nm,18.4s,baz=29,slow=40
SDV Santo Domingo 93.59 72 LR LR 22 20 46.8
comp=Z,158nm,21.1s,baz=278,slow=36
KEST Kesra 94.02 355 lAmb lAmb 21 37 38.2
comp=Z,17nm,1.1s
KEST Kesra 94.02 355 P **P** **21 37 37.0 +0.1**
comp=Z,7.5nm,0.9s,baz=18,slow=4.3,SNR=6.6
comp=Z,7.5nm,0.9s
RPZ Rata Peaks 94.31 188 LR LR 22 23 52.8
comp=Z,198nm,18.1s,baz=28,slow=38
RUSC La Rusia 94.42 75 P **P** **21 37 39.1 -0.4**
RUSC lAmb lAmb 21 37 40.6
comp=Z,24nm,1.1s
EIL Elat 95.32 332 LR LR 22 29 16.8
comp=Z,450nm,18.4s,baz=37,slow=41
PCRV Puerto La Cruz 96.14 66 LR LR 22 20 19.1
comp=Z,212nm,21.8s,slow=35
MD01 Midelt array s 96.81 6 P **P** **21 37 49.6 -0.1**
MD31 MD31 96.81 6 lAmb lAmb 21 37 51.1
comp=Z,23nm,1.4s
MDT Midelt 96.87 6 LR LR 22 26 29.6
comp=Z,100nm,18.0s,baz=4.0,slow=38
RAYN Ar Rayn 97.25 321 P **P** **21 37 51.4 -0.3**
RAYN lAmb lAmb 21 37 53.1
comp=Z,11nm,1.0s
RAYN Ar Rayn 97.25 321 P **P** **21 37 51.4 -0.3**
RAYN pmax pmax
comp=Z,11nm,1.0s
RPN Rapa Nui 97.70 124 LR LR 22 12 31.5
comp=Z,106nm,19.3s,baz=40,slow=30
TORD Torodi Ar. Bea 116.70 1 **PKPdf** **21 43 01.5 -1.6**
TORD Torodi Ar. Bea 116.70 1 PKP **PKPdf** **21 43 01.8 -1.3**
comp=Z,1.4nm,0.6s,baz=359,slow=2.5,SNR=12
TORD PP **PP** **21 44 04.8 -5.0**
comp=Z,1.2nm,1.0s,baz=18,slow=11,SNR=4.6

TORD PKKPbc **PKKPbc** **21 53 27.1 -0.9**
comp=Z,3.4nm,0.8s,baz=163,slow=1.9,SNR=6.4
H03N2 Juan Fernandez 119.92 107 T T 23 56 15.9
baz=317,slow=76
H03N1 Juan Fernandez 119.93 107 T T 23 56 10.4
baz=317,slow=76
H03N3 Juan Fernandez 119.93 107 T T 23 55 37.4
SALV Santo Antonio 122.09 75 *eP* **PKiKP** **21 43 13.5 0.0**
DBIC Dimbokro 122.76 9 PKP **PKPdf** **21 43 14.6 -0.2**
comp=Z,3.3nm,0.6s,baz=9.9,slow=1.2,SNR=6.4
KMBO Kilima Mbogo 122.84 318 PKP **PKPdf** **21 43 14.3 -0.9**
comp=Z,5.0nm,0.9s,baz=27,slow=2.3,SNR=5.8
KIBK Kibwezi 123.57 316 PKPdf **PKPdf** **21 43 16.1 -0.3**
BDFB Brasilia 126.55 68 PKP **PKPdf** **21 43 21.1 -0.9**
comp=Z,6.4nm,0.9s,baz=3.4,slow=19,SNR=4.6
AMBA Amambai (Brazi 127.76 81 *eP* **PKiKP** **21 43 24.7 +0.1**
IPMB Ipameri, GO 128.25 70 *eP* **PKPdf** **21 43 24.2 -1.0**
JANB Januaria 128.26 64 *eP* **PKPdf** **21 43 25.2 0.0**
VNDA Vanda 128.33 186 PKP **PKPdf** **21 43 23.1 -0.3**
comp=Z,2.1nm,1.1s,baz=304,slow=4.9,SNR=7.7
SBA Scott Base 128.39 184 PKPdf **PKiKP** **21 43 23.9 -0.3**
SBA Scott Base 128.39 184 PKIKP **PKiKP** **21 43 23.9 -0.3**
CASY Casey 128.61 210 PKPdf **PKPdf** **21 43 23.8 -0.4**
CPUP Villa Florida 128.70 85 PKP **PKPdf** **21 43 24.9 -0.8**
comp=Z,0.6nm,0.6s,baz=240,slow=1.3,SNR=4.0
PLCA Paso Flores 129.73 109 PKP **PKPdf** **21 43 27.1 -0.3**
comp=Z,5.3nm,0.9s,baz=264,slow=1.7,SNR=10
PLCA PKPPKP **P'P'df** **22 01 42.6 +1.0**
comp=Z,1.6nm,0.9s,baz=34,slow=7.6,SNR=3.5
SJMB Sao Joao De Ma 132.96 64 *eP* **PKPdf** **21 43 34.4 +0.3**
CPSB Cacapava Do Su 133.98 86 *eP* **PKiKP** **21 43 36.5 -0.4**
QSPA South Pole Qui 140.17 180 PKPpre PKPpre 21 43 39.9
QSPA South Pole Qui 140.17 180 PKhKP PKPpre 21 43 39.1
comp=Z,7.8nm,1.0s,baz=0.3,slow=1.5,SNR=12
QSPA PKP **PKPdf** **21 43 46.3 +0.3**
comp=Z,4.2nm,1.0s,baz=350,slow=2.5,SNR=5.7
MAW Mawson 146.32 217 PKPbc **PKPdf** **21 43 56.9 +0.2**
comp=Z,30nm,0.9s,baz=86,slow=3.3,SNR=54
TSUM Tsumeb 146.69 334 PKPdf **PKPdf** **21 43 58.0 -1.0**
LPHEP Lephephe 147.55 318 *i* P **PKPbc** **21 44 03.0 +0.1**
GRTLG Ghanzi 147.56 327 *i* P **PKPbc** **21 44 03.4 +0.4**
KDWAN Kaudwane 148.07 320 *eP* **PKPbc** **21 44 04.4 +0.1**
KGCAE Kacgae 148.57 324 *i* P **PKPbc** **21 44 06.3 +0.7**
BELA Belgrano 2 149.17 165 PKPdf **PKPdf** **21 44 02.0 +0.8**
SKOMA Sekoma 149.38 320 *i* P **PKPbc** **21 44 07.3 -0.3**
KOOLE Kule 149.43 327 *i* P **PKPbc** **21 44 07.9 +0.1**
LKGWB Lokgwabe 150.09 325 PKPbc **PKPbc** **21 44 08.5 -0.9**
MAKGR Makgori 150.15 317 *i* P **PKPbc** **21 44 09.4 -0.1**
PHPEN Phepeng 150.67 321 *i* P **PKPbc** **21 44 10.7 -0.1**
BOSA Boshof 152.36 314 **PKPbc** **21 44 13.6 -1.0**
BOSA Boshof 152.36 314 PKP **PKPdf** **21 44 07.0 -0.8**
comp=Z,10nm,0.6s,baz=49,slow=4.1,SNR=4.2
BOSA PKPbc **PKPbc** **21 44 14.2 -0.3**
comp=Z,16nm,0.6s,baz=23,slow=2.3,SNR=41
BOSA PKPab **PKPab** **21 44 25.4 +0.7**
comp=Z,7.6nm,0.7s,baz=41,slow=1.6,SNR=8.2
SYO Syowa Base 154.36 210 ⇑*i*PKPdf **PKPdf** **21 44 08.0 -1.1**
SYO Syowa Base 154.36 210 ⇑*ep*PKPdf pPKPdf 21 44 12.2 -1.2
TROLL Troll, Antarti 158.34 180 ⇑PKPdf **PKPdf** **21 44 13.8 -0.7**
comp=Z,246nm,1.1s
VNA3 Neumayer Olymp 158.34 169 ⇑PKPdf **PKPdf** **21 44 11.4 -2.9**
comp=Z,5.5nm,0.8s
SNAA Sanae 158.52 175 ⇑PKPdf **PKPdf** **21 44 13.3 -1.3**
comp=Z,73nm,1.1s
SNAA Sanae 158.52 175 PKPdf **PKPdf** **21 44 13.0 -1.6**
SNAA PKPab **PKPab** **21 44 48.0 -1.7**
SNAA Sanae 158.52 175 PKP **PKPdf** **21 44 13.3 -1.3**
comp=Z,4.3nm,1.1s,baz=193,slow=1.6,SNR=7.9
SNAA PKPab **PKPab** **21 44 47.9 -1.8**
comp=Z,6.1nm,0.8s,baz=241,slow=3.7,SNR=11

IDC 09 21:33:09.2±1.7, 10°.25S×74°.00W, h0km, mb3.7/2, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=76.6km s-min=27.8km az=44.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**8.28**	**137**	Pn	Pn	21 35 13.2	+1.9
	0.1nm,0.3s,baz=315,slow=8.6,SNR=2.1						
LPAZ				Pg	Pb	21 35 38.8	+4.7
	0.3nm,0.3s,baz=320,slow=8.4,SNR=4.1						
LPAZ				Lg	Lg	21 37 29.6	
	0.8nm,0.3s,baz=221,slow=19,SNR=6.7						
	0.4nm,0.4s						
TXAR	**Lajitas Array**	**48.66**	**325**	P	P	21 41 55.6	+0.2
	0.5nm,0.4s,baz=148,slow=7.9,SNR=9.0						
	0.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**78.64**	**74**	P	P	21 45 13.7	-0.1
	0.5nm,0.7s,baz=261,slow=4.1,SNR=6.4						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**136.63**	**219**	PKP	PKPdf	21 52 33.0	-1.4
	0.3nm,0.6s,baz=143,slow=3.2,SNR=1.8						
WRA	**Warramunga Arr**	**139.03**	**223**	PKP	PKPdf	21 52 38.0	-0.9
	0.5nm,0.5s,baz=130,slow=1.8,SNR=2.5						

CATAC 09 21:35:25.4±0.4, 9°N±3°×8°5W±°, h5km±3km, M3.5/12, MLv3.5/12, Error ellipse: s-maj=6.4km s-min=3.2km az=21.8, confirmed, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QUEP	**Quepos**	**0.52**	**82**	P	Pg	21 35 35.6	+0.3
LCR2	**La Lucha 2**	**0.77**	**61**	P	Pg	21 35 40.0	-0.1
LCR2	**La Lucha 2**	**0.77**	**61**	S	Sb	21 35 51.5	-0.7
TCS1	**Tacares**	**0.77**	**29**	P	Pg	21 35 40.6	+0.3
INDI	**Punta indio, G**	**0.95**	**302**	S	Sb	21 35 57.9	+0.7
INDI	**Punta indio, G**	**0.95**	**302**	P	Pg	21 35 42.8	-0.8
JTS	**Las Juntas de**	**0.96**	**344**	P	Pg	21 35 43.0	-0.8
JTS				S	Sb	21 35 57.0	-0.6
CMARA	**Lajas Hojancha**	**0.98**	**312**	P	Pg	21 35 43.7	-0.5
CMARA	**Lajas Hojancha**	**0.98**	**312**	S	Sb	21 35 58.8	+0.7
SOCE	**Pocosol**	**1.02**	**4**	S	Sb	21 35 58.9	-0.3
SOCE	**Pocosol**	**1.02**	**4**	P	Pg	21 35 44.5	-0.4
OCHAL	**Ojochal**	**1.06**	**104**	P	Pb	21 35 46.3	+0.1
OCHAL	**Ojochal**	**1.06**	**104**	S	Sb	21 36 00.1	-0.2
COVE	**Coope Vega, Sa**	**1.38**	**12**	S	Sb	21 36 09.4	-0.1
COVE	**Coope Vega, Sa**	**1.38**	**12**	P	Pn	21 35 50.5	-0.7
DRK0	**Durika**	**1.42**	**94**	P	Pn	21 35 51.3	-0.8
ELI1	**Hacienda Flor**	**1.54**	**326**	P	Pn	21 35 53.4	0.0
CARN	**Rivas**	**1.99**	**336**	P	Pn	21 35 59.2	-0.5

*IDC **09** 22:06:17.2±3.2, 5°.67S×148°.18E, h97km±27km, mb3.8/10, mbtmp4.2/12, Error ellipse: s-maj=44.2km s-min=17.0km az=90.0*
*NEIC **09** 22:06:18.6±1.0, 5°.6S±0°.1×148°.1E±0°.1, h100km±4km, mb4.4/18, Error ellipse: s-maj=20.1km s-min=14.6km az=110.0*
ISC 09 22:06:17.1±0.8, 5°.62S±0°.09×148°.1E±0°.1, h100km, n38, σ1°31/34, mb4.2/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.88**	**194**		**Pn**	**22 07 16.1**	**+1.3**
PMG	**Port Moresby**	**3.88**	**194**	P	**Pn**	**22 07 16.2**	**+1.4**
	77nm,0.4s,baz=351,slow=5.6,SNR=37						
PMG				S	**Sn**	**22 07 57.7**	**-1.6**
	134nm,0.6s,baz=360,slow=12,SNR=5.9						
COEN	**Coen**	**9.61**	**210**	Pn	**Pn**	**22 08 33.4**	**+0.9**
CTAO	**Charters Tower**	**14.50**	**187**	Pn	**P**	**22 09 39.7**	**-1.7**
MTN	**Manton Dam**	**18.22**	**246**	P	**Pn**	**22 10 23.9**	**+0.3**
MTN				lAmb	lAmb	22 10 35.5	
	comp=Z,12nm,1.0s						
WB0	**Warramunga Arr**	**19.39**	**222**	P	**Pn**	**22 10 36.1**	**-1.4**
WB0				lAmb	lAmb	22 10 37.5	
	comp=Z,17nm,0.8s						
WR8	**Warramunga Arr**	**19.45**	**222**	P	**Pn**	**22 10 37.2**	**-1.0**
WRAB	**Tennant Creek**	**19.53**	**222**	P	**Pn**	**22 10 38.0**	**-1.1**
WRA	**Warramunga Arr**	**19.55**	**222**	P	**Pn**	**22 10 36.6**	**-2.6**
WRA	**Warramunga Arr**	**19.55**	**222**	P	**Pn**	**22 10 38.2**	**-1.1**
	comp=Z,37nm,0.6s,baz=47,slow=11,SNR=116						
EIDS	**Eidsvold**	**19.85**	**172**	P	**Pn**	**22 10 41.5**	**-1.2**
EIDS				lAmb	lAmb	22 10 43.4	
	comp=Z,9.3nm,0.8s						
KNRA	**Kununurra**	**21.46**	**241**	P	**P**	**22 10 58.1**	**+0.5**
KNRA				lAmb	lAmb	22 11 01.6	
	comp=Z,8.8nm,0.6s						
AS31	**Alice Springs**	**22.56**	**216**	P	**P**	**22 11 10.1**	**+0.9**
AS31				lAmb	lAmb	22 11 11.1	
	comp=Z,9.4nm,0.6s						
ASAR	**Alice Springs**	**22.56**	**216**	P	**P**	**22 11 10.4**	**+1.2**
	comp=Z,20nm,0.5s,baz=51,slow=8.8,SNR=384						
	comp=Z,20nm,0.5s						
INKA	**Innaminka**	**23.09**	**197**	P	**P**	**22 11 14.6**	**+0.2**
DZM	**Mont Dzumac**	**24.13**	**134**	P	**P**	**22 11 24.9**	**+0.9**
DZM				lAmb	lAmb	22 11 29.1	
	comp=Z,20nm,1.1s						
ARMA	**Armidale**	**24.89**	**173**	P	**P**	**22 11 32.1**	**+1.2**
ARMA				lAmb	lAmb	22 11 46.4	
	comp=Z,14nm,1.1s						
FITZ	**Fitzroy Crossi**	**25.20**	**239**	P	**P**	**22 11 34.9**	**+1.2**
STKA	**Stephens Creek**	**26.83**	**192**	P	**P**	**22 11 48.5**	**+0.3**
STKA				lAmb	lAmb	22 11 52.5	
	comp=Z,22nm,0.8s						
STKA	**Stephens Creek**	**26.83**	**192**	P	**P**	**22 11 47.8**	**-0.4**
	comp=Z,5.2nm,0.7s,baz=339,slow=9.0,SNR=10.0						
	comp=Z,5.2nm,0.7s						
BBOO	**Buckleboo**	**29.30**	**201**	P	**P**	**22 12 10.8**	**+0.7**
BBOO				lAmb	lAmb	22 12 21.9	
	comp=Z,11nm,1.1s						
CAN	**Canberra**	**29.57**	**179**	P	P	22 12 14.4	+1.8
CAN				lAmb	lAmb	22 12 41.1	
	comp=Z,14nm,1.1s						
RTZ	**Ruatahuna**	**42.00**	**146**	P	P	22 14 00.7	+2.1
MJAR	**Matsushiro Arr**	**42.95**	**348**	P	P	22 14 08.5	+2.2
	comp=Z,3.3nm,0.8s,baz=170,slow=8.9,SNR=8.8						
	comp=Z,3.3nm,0.8s						
SONM	**Songino Array**	**64.61**	**330**	P	P	22 16 45.8	+1.7
	comp=Z,0.8nm,0.7s,baz=142,slow=7.7,SNR=4.7						
	comp=Z,0.8nm,0.7s						
VNDA	**Vanda**	**72.23**	**177**	P	P	22 17 32.7	+1.8
VNDA	**Vanda**	**72.23**	**177**	P	**P**	**22 17 31.4**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=4.5,slow=7.6,SNR=2.1						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**77.91**	**320**	P	**P**	**22 18 05.0**	**+0.8**
MKAR	**Makanchi Array**	**77.91**	**320**	P	**P**	**22 18 04.7**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=97,slow=8.3,SNR=22						
	comp=Z,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**79.28**	**327**	P	**P**	**22 18 11.9**	**+0.5**
ZALV	**Zalesovo Beam**	**79.28**	**327**	P	**P**	**22 18 10.8**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=116,slow=6.1,SNR=7.2						
	comp=Z,1.4nm,0.5s						
QSPA	**South Pole Qui**	**84.35**	**180**	P	**P**	**22 18 39.4**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=49,slow=2.4,SNR=2.4						
	comp=Z,0.6nm,0.7s						
ILAR	**Eielson Array**	**84.70**	**23**	P	**P**	**22 18 39.1**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=262,slow=9.3,SNR=1.6						
	comp=Z,0.3nm,0.6s						
BVAR	**Borovoye Array**	**87.11**	**324**	P	**P**	**22 18 51.4**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=99,slow=9.2,SNR=3.1						
	comp=Z,0.9nm,0.5s						
BELA	**Belgrano 2**	**96.61**	**179**	P	**P**	**22 19 35.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**146.06**	**285**		**PKiKP**	**22 25 46.8**	**-3.0**
TORD	**Torodi Ar. Bea**	**146.06**	**285**	PKPbc	**PKiKP**	**22 25 47.1**	**-2.7**
	comp=Z,0.9nm,0.4s,baz=65,slow=4.1,SNR=34						

*IDC **09** 22:15:22.0±4.8, 34°.29N×136°.37E, h374km±29km, mb2.3/1, mbtmp3.3/4, Error ellipse: s-maj=90.0km s-min=48.5km az=174.0*
*JMA **09** 22:15:22.5±0.6, 34°N±3°×13°6E±°, h375km±4km, MV2.4/18, SHIMA PENINSULA REGION*
ISC 09 22:15:22.5±1.5, 34°.4N±0°.2×136°.34E±0°.09, h373km±14km, n10, σ0°71/11, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKN2	**Miekihoku**	**0.17**	**198**	P	**Pn**	**22 16 09.2**	**+0.2**
JIE	**Ise**	**0.31**	**91**	P	**Pn**	**22 16 09.6**	**+0.6**
JWT	**Wachi**	**1.17**	**319**	*eP*	**Pn**	**22 16 11.5**	**+0.2**
MJAR	**Matsushiro Arr**	**2.63**	**35**	P	**Pn**	**22 16 20.8**	**+0.3**
	3.1nm,0.4s,baz=212,slow=8.5,SNR=8.2						
JHS	**Saijyo**	**2.72**	**284**	P	**Pn**	**22 16 21.4**	**+0.1**
JOI	**OKI**	**3.15**	**308**	*eP*	**Pn**	**22 16 25.8**	**+1.0**
BSO1	**Boso 1**	**3.84**	**85**	*eP*	**Pn**	**22 16 31.4**	**+0.7**
BSO1				*eS*	**S**	**22 17 24.7**	**-1.2**
KSRS	**Korea Array**	**7.47**	**296**	P	**P**	**22 17 11.4**	**-0.4**
	1.6nm,0.7s,baz=111,slow=13,SNR=5.8						
USRK	**Ussuriysk Ar.**	**10.35**	**342**	P	**Pn**	**22 17 44.5**	**+0.1**
	2.0nm,0.6s,baz=165,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**42.08**	**304**	P	**P**	**22 22 39.3**	**0.0**
	0.2nm,0.6s,baz=100,slow=7.7,SNR=1.9						
	0.2nm,0.6s						

*IDC **09** 22:33:16.7±1.6, 2°.39S×140°.03E, h0km, mb3.4/3, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=30.8km s-min=10.5km az=1.0*
*DJA **09** 22:33:16.8±0.5, 3°S±6°×14°0E±°, h31km±8km, M4.3/3, mb5.9/1, MLv3.4/3*
ISC 09 22:33:19.4±1.0, 2°.36S±0°.10×140°.15E±0°.06, h25km, n15, σ0°95/11, mb3.5/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.23**	**176**	P	**Pb**	**22 33 25.2**	**-0.3**
GENI				S	**Sb**	**22 33 30.2**	**+0.5**
JAY	**Jayapura**	**0.57**	**106**	Pg	**Pb**	**22 33 30.4**	**-0.5**
	136nm,0.3s,baz=243,slow=9.1,SNR=346						
JAY				Lg	Lg	22 33 38.9	
	69nm,0.3s,baz=243,slow=18,SNR=8.8						
JAY	**Jayapura**	**0.57**	**106**	P	**Pb**	**22 33 30.1**	**-0.8**
JAY				S	**Sb**	**22 33 40.1**	**+1.4**
SMPI	**Sarmi**	**1.49**	**284**	P	**Pn**	**22 33 43.6**	**-1.0**
SMPI				S	**Sn**	**22 34 04.4**	**+1.2**
MMPI	**Merauke**	**6.07**	**178**	P	Pn	22 34 39.2	-8.5
WRA	**Warramunga Arr**	**18.38**	**198**	P	**P**	**22 37 32.5**	**0.0**
	0.2nm,0.3s,baz=22,slow=12,SNR=5.2						
	0.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.15**	**221**	P	**P**	**22 38 03.5**	**+0.7**
	2.2nm,0.8s,baz=36,slow=8.7,SNR=1.4						
	2.2nm,0.8s						
ASAR	**Alice Springs**	**22.03**	**195**	P	**P**	**22 38 11.3**	**-1.0**
	1.2nm,0.7s,baz=31,slow=11,SNR=14						
	1.2nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**33.34**	**50**	T	T	23 15 07.3	
	baz=231,slow=74						
H11S2	**WAKE ISLAND Hy**	**33.35**	**51**	T	T	23 15 09.9	
	baz=231,slow=74						
H11S1	**WAKE ISLAND Hy**	**33.36**	**50**	T	T	23 15 10.4	
	baz=231						
H11N1	**WAKE ISLAND Hy**	**34.21**	**49**	T	T	23 16 16.6	
	baz=233						
H11N2	**WAKE ISLAND Hy**	**34.23**	**49**	T	T	23 16 15.5	
	baz=233						
H11N3	**WAKE ISLAND Hy**	**34.23**	**49**	T	T	23 16 13.7	
	baz=233						
MKAR	**Makanchi Array**	**70.40**	**322**	P	**P**	**22 44 32.0**	**+0.5**
	0.2nm,0.5s,baz=121,slow=5.6,SNR=1.9						
	0.2nm,0.5s						

*IDC **09** 22:40:52.0±0.9, 34°.48N×45°.51E, h0km, mb3.8/13, mbtmp3.7/16, ML3.4/3, MS3.6/3, Error ellipse: s-maj=21.7km s-min=12.1km az=154.0*
*NEIC **09** 22:40:52.6±1.1, 34°.34N±0°.04×45°.7E±0°.1, h10km±1km, mb4.3/10, Error ellipse: s-maj=14.6km s-min=6.1km az=92.0*
*ISN **09** 22:40:54.1±0.3, 34°.46N×45°.65E, h9km±3km, ML3.7*
*TEH **09** 22:40:54.5, 34°.46N×45°.65E, h8km±15km*
*AFAD **09** 22:40:58.0, 34°.43N×45°.39E, h50km, ML3.4*
ISC 09 22:40:54.3±0.9, 34°.46N±0°.03×45°.65E±0°.03, h16km±6km, n80, σ1°98/88, mb4.2/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.07**	**313**	Pg	**Pg**	**22 40 56.9**	**-0.6**
**GLG

SNQR	**Sonqor, Kerman**	**1.68**	**76**	Pg		**Pg**	**22 41 25.8**	**-0.8**
IBZA	**Bozab**	**1.83**	**89**	Pn		**Pg**	**22 41 28.6**	**-0.8**
IDOB	**Doab**	**2.21**	**107**	Pn		**Pb**	**22 41 33.3**	**-0.5**
MAHB	**Mahabad**	**2.30**	**1**	Pn		**Pb**	**22 41 34.9**	**-0.6**
BDRS	**Dareh Seyedi**	**2.73**	**100**	Pn		**Pn**	**22 41 40.4**	**+2.8**
RAFI	**Al-Rafai**	**2.76**	**172**	*e*Pn		**Pn**	**22 41 40.5**	**+2.7**
RAFI				*e*Sn		**Sn**	**22 42 14.0**	**+3.3**
RAFI				AML	AML		22 42 32.2	
	comp=E,364nm,0.6s							
RAFI				AML	AML		22 42 32.5	
	comp=N,399nm,0.7s							
HGHA	**Hamedan- Ghaye**	**2.83**	**68**	Pn		**Pb**	**22 41 42.5**	**-2.0**
HAGD	**Aghdareh**	**2.90**	**82**	Pn		**Pn**	**22 41 43.1**	**+3.1**
IHSH	**Hashtrud**	**3.13**	**24**	Pn		**Pn**	**22 41 46.2**	**+3.1**
IAZR	**Azarshahr**	**3.22**	**5**	Pn		**Pn**	**22 41 47.8**	**+3.4**
YOVA	**Hakkari_Yksek**	**3.31**	**341**	P		**Pn**	**22 41 47.7**	**+2.1**
YOVA				*i* IAML			22 42 45.0	
	comp=N,86nm,0.8s							
YOVA				*i* IAML			22 42 51.0	
	comp=N,83nm,0.8s							
HAKT	**HAKKARI**	**3.47**	**334**	P		**Pn**	**22 41 49.9**	**+2.2**
HAKT				*i* IAML			22 42 54.0	
	comp=N,65nm,0.8s							
HAKT				*i* IAML			22 43 15.0	
	comp=N,70nm,1.3s							
ISRB	**Sarab**	**3.73**	**25**	Pn		**Pn**	**22 41 54.9**	**+3.5**
SIRN	**Sırnak**	**4.01**	**320**	P		**Pn**	**22 41 55.9**	**+0.9**
SIRN				*i* IAML			22 43 23.0	
	comp=N,117nm,0.8s							
IHRS	**Heris**	**4.01**	**16**	Pn		**Pn**	**22 41 58.8**	**+3.6**
IMRD	**Marand**	**4.24**	**1**	Pn		**Pn**	**22 42 01.7**	**+3.3**
PERV	**Siirt/Pervari-**	**4.29**	**325**	P		**Pn**	**22 42 01.0**	**+2.1**
PERV				S		**Sn**	**22 42 51.6**	**+2.9**
PERV				*i* IAML			22 43 29.0	
	comp=N,85nm,1.0s							
OZAP	**Van, Ozalp-Mer**	**4.40**	**343**	P		**Pn**	**22 42 04.7**	**+4.2**
IQOM	**Qom**	**4.49**	**84**	Pn		**Pn**	**22 42 04.8**	**+3.0**
MIDY	**Mardin/Midyat-**	**4.53**	**312**	P		**Pn**	**22 42 03.4**	**+1.2**
MIDY				*i* IAML			22 43 42.0	
	comp=N,58nm,0.6s							
MIDY				*i* IAML			22 43 42.0	
	comp=N,62nm,0.8s							
SRTM	**Siirt_Merkez**	**4.63**	**321**	P		**Pn**	**22 42 04.8**	**+1.2**
SRTM				*i* IAML			22 43 44.0	
	comp=N,60nm,1.1s							
GRMI	**Germi**	**4.70**	**22**	Pn		**Pn**	**22 42 07.6**	**+3.0**
MARD	**Mardin**	**4.87**	**307**	Pn		**Pn**	**22 42 07.4**	**+0.4**
GURO	**Guroymak-BITLI**	**5.01**	**326**	Pn		**Pn**	**22 42 06.8**	**-2.1**
IVRN	**Varamin**	**5.04**	**82**	Pn		**Pn**	**22 42 12.5**	**+3.3**
IDMV	**Damavand**	**5.36**	**76**	Pn		**Pn**	**22 42 16.6**	**+2.8**
MUSM	**Mu-Merkez**	**5.40**	**323**	P		**Pn**	**22 42 15.6**	**+1.3**
MUSM				S		**Sn**	**22 43 16.2**	**+0.1**
ISFB	**Sefidab**	**5.45**	**89**	Pn		**Pn**	**22 42 18.2**	**+3.2**
IFIR	**Firoozkooh**	**5.95**	**77**	Pn		**Pn**	**22 42 25.2**	**+3.3**
ILAS	**Lasjerd**	**6.08**	**79**	Pn		**Pn**	**22 42 27.1**	**+3.4**
ASF	**Jabal al Asfar**	**7.67**	**255**	Pn		**Pn**	**22 42 44.5**	**-0.9**
	comp=N,0.9nm,0.3s,baz=70,slow=24,SNR=7.8							
ASF				Sn		**Sn**	**22 44 10.8**	**-1.2**
	comp=N,0.5nm,0.3s,baz=57,slow=20,SNR=1.6							
ASF				Lg	Lg		22 44 53.2	
	comp=N,0.5nm,0.3s,baz=127,slow=14,SNR=3.7							
	comp=N,2.1nm,0.4s							
MMAI	**Mount Meron Ar**	**8.65**	**263**	Pn		**Pn**	**22 42 56.2**	**-2.6**
	comp=N,0.2nm,0.3s,baz=57,slow=10,SNR=2.2							
MMAI				Sn		**Sn**	**22 44 35.8**	**-0.3**
	comp=N,0.3nm,0.3s,baz=101,slow=13,SNR=1.9							
MMAI				Lg	Lg		22 45 24.5	
	comp=N,0.9nm,0.3s,baz=107,slow=30,SNR=1.9							
MMAI				LR	LR		22 47 10.9	
	comp=N,51nm,21.3s,baz=78,slow=44							
	comp=N,0.5nm,0.4s							
GHAJ	**Ghor Haditha**	**9.04**	**252**	Pn		**Pn**	**22 43 03.2**	**-0.9**
EIL	**Elat**	**10.25**	**245**	Pn		**Pn**	**22 43 19.1**	**-1.7**
	comp=N,0.4nm,0.3s,baz=137,slow=12,SNR=1.7							
EIL				Sn		**Sn**	**22 45 15.2**	**-0.1**
	comp=N,0.1nm,0.3s,baz=28,slow=11,SNR=1.6							
EIL				Lg	Lg		22 46 14.0	
	comp=N,0.3nm,0.3s,baz=93,slow=16,SNR=2.4							
	comp=N,2.4nm,0.7s							
RAYN	**Ar Rayn**	**10.90**	**181**	Pn		**Pn**	**22 43 26.6**	**-3.0**
RAYN	**Ar Rayn**	**10.90**	**181**	Pn		**Pn**	**22 43 26.8**	**-2.9**
SHME	**Shamm**	**12.35**	**130**	Pn		**Pn**	**22 43 47.1**	**-2.2**
BANOM	**Banah**	**12.53**	**130**	Pn		**Pn**	**22 43 49.6**	**-2.4**
MSFE	**Esma-Masafi**	**12.85**	**132**	Pn		**Pn**	**22 43 55.0**	**-1.3**
MDH	**Madha**	**12.98**	**132**	Pn		**Pn**	**22 43 56.1**	**-2.0**
UOSS	**Minazif**	**13.19**	**133**	Pn		**Pn**	**22 43 58.1**	**-2.8**
HATD	**Hatta, Dubai**	**13.23**	**134**	Pn		**Pn**	**22 43 59.4**	**-2.1**
ASHO	**Ashiyiah**	**13.29**	**134**	Pn		**Pn**	**22 44 00.7**	**-1.7**
MZR	**Muzera**	**13.32**	**147**	Pn		**Pn**	**22 44 01.1**	**-1.6**
WSAR	**Wadi Sarin**	**15.93**	**131**	Pn		**Pn**	**22 44 35.5**	**-2.3**
	baz=0.0,slow=20,SNR=7.8							
WSAR				Sn		Sn	22 47 23.8	-10
	baz=343,slow=19,SNR=2.0							
AKASG	**Malin Array Be**	**20.16**	**329**	P		**P**	**22 45 26.7**	**-1.0**
	comp=N,0.6nm,0.5s,baz=144,slow=9.3,SNR=4.9							
	comp=N,0.6nm,0.5s							
BURAR	**Bucovina Array**	**20.17**	**317**			**P**	**22 45 28.1**	**+0.1**
BUR08	**Bucovina Ar. S**	**20.20**	**317**	P		**P**	**22 45 29.4**	**+1.1**
BVAR	**Borovoye Array**	**25.55**	**36**	P		**P**	**22 46 23.5**	**+1.4**
	comp=N,0.6nm,0.5s,baz=253,slow=4.4,SNR=4.0							
	comp=N,0.6nm,0.5s							
KURBB	**Kurchatov Arra**	**28.81**	**46**	P		**P**	**22 46 52.3**	**+0.9**
	comp=N,0.7nm,0.3s,baz=251,slow=8.8,SNR=5.5							
	comp=N,0.7nm,0.3s							
FINES	**FINESS Array B**	**29.77**	**341**	P		**P**	**22 46 58.6**	**-1.1**
FINES	**FINESS Array B**	**29.77**	**341**	P		**P**	**22 46 58.1**	**-1.6**
	comp=N,1.3nm,0.9s,baz=134,slow=14,SNR=5.3							
	comp=N,1.3nm,0.9s							
MKAR	**Makanchi Array**	**30.14**	**55**	P		**P**	**22 47 04.6**	**+1.3**
MKAR	**Makanchi Array**	**30.14**	**55**	P		**P**	**22 47 05.0**	**+1.7**
	comp=N,0.5nm,0.7s,baz=245,slow=7.5,SNR=3.9							
	comp=N,0.5nm,0.7s							
BNI	**Bardonecchia**	**31.50**	**301**	P		**P**	**22 47 14.4**	**-0.9**
HFS	**Hagfors**	**33.02**	**331**	P		**P**	**22 47 27.9**	**-0.4**
	comp=N,2.4nm,0.6s,baz=148,slow=12,SNR=8.7							
	comp=N,2.4nm,0.6s							
ZALV	**Zalesovo Beam**	**33.59**	**42**	P		**P**	**22 47 35.1**	**+1.7**
	comp=N,0.4nm,0.4s,baz=260,slow=8.9,SNR=4.0							
	comp=N,0.4nm,0.4s							
NOA	**NORSAR Array B**	**34.54**	**331**	P		**P**	**22 47 41.1**	**-0.5**
	comp=N,0.3nm,0.5s,baz=135,slow=6.9,SNR=2.5							
	comp=N,0.3nm,0.5s							
ARCES	**ARCESS Array B**	**36.86**	**348**	P		**P**	**22 48 01.0**	**-0.4**
	comp=N,0.8nm,0.8s,baz=177,slow=4.9,SNR=4.4							
	comp=N,0.8nm,0.8s							
EKA	**Eskdalemuir Ar**	**39.36**	**317**	P		**P**	**22 48 22.1**	**-0.6**
	comp=N,0.3nm,0.5s,baz=99,slow=8.8,SNR=3.9							
	comp=N,0.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**45.03**	**253**	P		**P**	**22 49 09.2**	**-0.1**
	comp=N,0.6nm,0.6s,baz=51,slow=8.9,SNR=6.0							
	comp=N,0.6nm,0.6s							
JMIC	**Jan Mayen**	**46.31**	**338**	LR		LR	23 07 53.8	
	comp=N,50nm,18.6s,baz=208,slow=35							
CMAR	**Chiang Mai Arr**	**49.76**	**94**	P		**P**	**22 49 45.5**	**-0.6**
	comp=N,1.7nm,0.3s,baz=302,slow=6.5,SNR=2.5							
	comp=N,1.7nm,0.3s							
BOSA	**Boshof**	**65.63**	**200**	P		**P**	**22 51 37.8**	**+0.2**
	comp=N,1.1nm,0.6s,baz=32,slow=5.0,SNR=4.5							
	comp=N,1.1nm,0.6s							
D19K	**Kuna River**	**75.83**	**9**	P		**P**	**22 52 37.6**	**-1.6**
D19K				IAmb		IAmb	22 53 05.0	
	comp=Z,7.0nm,1.5s							
E29M	**Blow River**	**77.43**	**1**	P		**P**	**22 52 49.1**	**+0.9**
E29M				IAmb		IAmb	22 52 49.9	
	comp=Z,1.7nm,0.8s							
F28M	**Old Crow**	**78.16**	**2**	P		**P**	**22 52 53.2**	**+1.0**
F28M				IAmb		IAmb	22 53 20.2	
	comp=Z,4.6nm,1.4s							
G31M	**Satah River**	**78.94**	**360**	P		**P**	**22 52 56.6**	**+0.1**
H29M	**Whitestone**	**79.59**	**2**	P		**P**	**22 52 59.8**	**-0.3**
H29M				IAmb		IAmb	22 53 11.1	
	comp=Z,7.9nm,1.3s							
I28M	**Miner Creek**	**80.32**	**2**	P		**P**	**22 53 04.1**	**-0.1**
I28M				IAmb		IAmb	22 53 26.2	
	comp=Z,3.7nm,1.4s							
I30M	**Mount Dempster**	**80.63**	**1**	P		**P**	**22 53 06.4**	**+0.4**
I30M				IAmb		IAmb	22 53 21.4	
	comp=Z,2.9nm,1.2s							
BATI	**Baumata**	**86.00**	**105**	LR		LR	23 33 59.3	
	comp=Z,278nm,21.1s,baz=258,slow=37							

*AEIC **09** 22:56:19.6±2.2,51°.41N±0°.03×178°.68W±0°.02,h10km±3km, Error ellipse: s-maj=4.3km s-min=2.2km az=176.0*
NEIC 09 22:56:17.6±1.5,**51°.23N**±0°.01×**178°.70W**±0°.03,**h10**km±1km,

ML2.8(AEIC),**Error ellipse: s-maj=3.3km s-min=2.9km az=305.0,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAKI	**Gareloi-Kavalg**	**0.33**	**348**		Pg	22 56 23.9	-0.3
GAKI					Sg	22 56 27.2	-1.3
GALAA	**Gareloi Lava P**	**0.53**	**356**		Pg	22 56 28.0	0.0
GAEA	**Gareloi East**	**0.55**	**357**		Pg	22 56 28.2	-0.1
GAEA					Sg	22 56 34.7	-0.9
GASW	**Gareloi Southw**	**0.56**	**350**		Pg	22 56 28.1	-0.3
GANE	**Gareloi Northe**	**0.59**	**356**		Pg	22 56 28.6	-0.4
GANO	**Gareloi North**	**0.59**	**354**		Pg	22 56 28.5	-0.6
TAFL	**Tanaga Flats**	**0.73**	**43**		Pg	22 56 31.6	0.0
TAFL					Sg	22 56 41.1	-0.1
TASE	**Tanaga Southea**	**0.73**	**34**		Pg	22 56 31.7	-0.1
TANO	**Tanaga North**	**0.78**	**28**		Pg	22 56 32.4	-0.2
TAPA	**Tanaga Point A**	**0.81**	**43**		Pg	22 56 33.0	-0.1
TAPA					Sg	22 56 43.1	-0.6
KIMD	**Kanaga Island**	**1.06**	**59**		Pg	22 56 37.5	-0.5
KIMD					Sg	22 56 51.5	-0.2
KIWB	**Kanaga Island**	**1.15**	**57**		Pb	22 56 38.8	-0.8
KIKV	**Kanaga Island**	**1.16**	**55**		Pb	22 56 38.9	-0.7
KINC	**Kanaga Island**	**1.21**	**54**		Pn	22 56 39.9	-0.6
CERB	**Semis' Cerberu**	**1.25**	**305**		Pb	22 56 41.3	0.0
AMKA	**Amchitka**	**1.26**	**277**		Pn	22 56 41.2	0.0
AMKA					Sb	22 56 57.2	-0.4
CEPE	**Semis' Perret**	**1.26**	**306**		Pn	22 56 41.2	0.0
CETU	**Semis' Tuman**	**1.34**	**304**		Pb	22 56 43.0	+0.2
ADK	**Adak**	**1.42**	**62**		Pn	22 56 43.3	-0.1
ADK					Sn	22 57 01.3	-0.9
ADAG	**Mount Adagdak**	**1.51**	**59**		Pb	22 56 45.2	-0.4
ETKA	**Kagalaska Isla**	**1.57**	**65**		Pn	22 56 46.0	+0.6
ETKA					Sn	22 57 06.0	+0.2
GSCK	**Great Sitkin C**	**1.77**	**63**		Pn	22 56 49.1	+0.9
GSCK					Sb	22 57 12.0	-0.2
GSSP	**Great Sitkin S**	**1.80**	**60**		Pn	22 56 49.1	+0.5
GSTD	**Great Sitkin T**	**1.80**	**62**		Pn	22 56 49.2	+0.5
GSMY	**Great Sitkin M**	**1.84**	**63**		Pn	22 56 49.8	+0.6
LSSE	**Little Sitkin**	**1.84**	**294**		Pb	22 56 50.5	-0.8
GSTR	**Great Sitkin T**	**1.86**	**61**	Pn	Pn	22 56 50.2	+0.7
LSNW	**Little Sitkin**	**1.88**	**294**		Pb	22 56 51.0	-1.0
GSIG	**Igitkin Island**	**1.89**	**65**		Pn	22 56 51.0	+1.1
ATKA	**Ātka Island**	**2.97**	**69**	Pn	Pn	22 57 05.5	+0.9
TOLK	**Toolik Lake Re**	**22.37**	**28**		S	23 05 24.5	+3.5

DJA 09 23:13:20.6±0.7,**4°N**±9°×**12°7E**±°,**h21**km±12km,**M3.9/6, mB5.2/2,mb4.1/4,MLv3.7/6,Mw(mB)4.6/2,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.65**	**275**	P	Pn	23 13 49.1	+0.7
SGSI				S	Sn	23 14 09.2	+0.2
SANI	**Sanana**	**5.69**	**192**	P	Pn	23 14 43.7	-0.2
	1μm30nm,0.8s						

*IDC **09** 23:52:41.2±1.6,1°.24S×77°.52W,h167km±15km, mb3.7/12, mbtmp4.2/19,Error ellipse: s-maj=17.8km s-min=10.2km az=78.0*
*IGQ **09** 23:52:41.5±0.3,1°.5S±2°×7°.8W±°,h193km±3km,MLv3.9/51*
*NEIC **09** 23:52:42.7±1.9,1°.31S±0°.07×77°.81W±0°.09,h169km±9km, mb4.4/97,Error ellipse: s-maj=12.6km s-min=10.3km az=110.0*
*VAO **09** 23:52:50.1±1.6,1°.56S×77°.05W,h186km±8km,mb4.1*
ISC 09 23:52:42.2±0.5,**1°.40S**±0°.03×**77°.80W**±0°.04,**h181**km±5km, **n276,σ1°30/302,mb4.3/52,21C-38D,Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APUY	**Puyo**	**0.20**	**252**	⇓P	Pn	**23 53 06.7**	**+0.3**
PUYO	**Puyo, Santa Ro**	**0.24**	**246**	⇓P	Pn	**23 53 06.9**	**+0.5**
ARDO	**Archidona, Ten**	**0.40**	**0**	⇓P	Pn	**23 53 06.9**	**+0.1**
ARDO				S	Sn	**23 53 25.4**	**-0.5**
PIAT	**Ana Tenorio**	**0.61**	**311**	S	Sn	**23 53 28.1**	**+0.1**
PIAT				⇓P	Pn	**23 53 08.7**	**+0.6**
BPAT	**Tungurahua Vol**	**0.64**	**260**	⇑P	Pn	**23 53 08.6**	**+0.3**
BPAT				S	Sn	**23 53 27.4**	**-1.0**
JUI6	**Juive**	**0.67**	**267**	⇑P	Pn	**23 53 08.5**	**+0.2**
PIS1	**Pisayambo**	**0.67**	**300**	⇓P	Pn	**23 53 09.3**	**+0.8**
PIS1				S	Sn	**23 53 29.7**	**+0.9**
VCES	**Cotopaxi**	**0.84**	**315**	⇓P	Pn	**23 53 10.4**	**+0.8**
ASLC	**Ecuador-Salced**	**0.86**	**294**	P	Pn	**23 53 10.3**	**+0.8**
TAMB	**Tambo**	**0.92**	**321**	⇓P	Pn	**23 53 10.6**	**+0.6**
BTAM	**Cotopaxi Volca**	**0.93**	**320**	⇓P	Pn	**23 53 10.8**	**+0.6**
BMOR	**Cotopaxi Volca**	**0.93**	**315**	⇓P	Pn	**23 53 11.0**	**+0.8**
ARIO	**Riobamba**	**0.93**	**254**	P	Pn	**23 53 09.9**	**-0.1**
ANTM	**Antisana-La Mi**	**0.95**	**334**	⇓P	Pn	**23 53 11.0**	**+0.6**
BVC2	**Cotopaxi Volca**	**0.95**	**320**	⇓P	Pn	**23 53 11.1**	**+0.7**
VC1	**Cotopaxi 1**	**0.96**	**321**	⇓P	Pn	**23 53 11.2**	**+0.8**
BREF	**Cotopaxi Volca**	**0.96**	**318**	⇓P	Pn	**23 53 11.4**	**+0.8**
ANTS	**Antisana-Sarah**	**0.96**	**338**	⇓P	Pn	**23 53 11.1**	**+0.6**
ANTG	**Antisana-Guama**	**0.99**	**333**	⇓P	Pn	**23 53 11.3**	**+0.6**
ANTI	**Antisana**	**1.01**	**339**	⇓P	Pn	**23 53 11.5**	**+0.7**
SUCR	**Mariscal Sucre**	**1.02**	**317**	⇓P	Pn	**23 53 11.9**	**+1.1**
TAIS	**Taisha**	**1.02**	**163**	⇑P	Pn	**23 53 11.2**	**+0.9**
PITA	**Cotopaxi Volc**	**1.04**	**323**	⇓P	Pn	**23 53 11.8**	**+0.8**
CHSH	**Refugio Sur-Vo**	**1.07**	**265**	⇑P	Pn	**23 53 11.4**	**+0.2**
TOMA	**Boca Toma-Volc**	**1.09**	**325**	⇓P	Pn	**23 53 12.1**	**+0.9**
TOMA				S	Sn	**23 53 34.3**	**+0.6**
ILLI	**Illinizas Sur**	**1.15**	**306**	P	Pn	**23 53 12.4**	**+0.7**
AGRD	**Ecuador-Guaran**	**1.22**	**262**	P	Pn	**23 53 12.5**	**+0.3**
JSCH	**Casha Tororas**	**1.22**	**255**	⇑P	Pn	**23 53 12.4**	**+0.3**
TING	**Casa Alexandra**	**1.28**	**330**	P	Pn	**23 53 13.9**	**+1.3**
REVS	**Reventador Sur**	**1.29**	**8**	⇓P	Pn	**23 53 13.3**	**+0.6**
LAV4	**Lava4-Reventad**	**1.30**	**8**	⇓P	Pn	**23 53 13.3**	**+0.5**
REVN	**San Rafael**	**1.32**	**8**	⇓P	Pn	**23 53 13.4**	**+0.5**
CAYR	**Refugio Cayamb**	**1.42**	**352**	⇓P	Pn	**23 53 14.9**	**+0.7**
GGPT	**Toaza - Volcan**	**1.42**	**325**	⇓P	Pn	**23 53 14.3**	**+0.3**
AV11	**Acelerografo,**	**1.43**	**337**	P	Pn	**23 53 15.4**	**+1.5**
GGPC	**Guagua Pichinc**	**1.45**	**327**	⇓P	Pn	**23 53 14.7**	**+0.3**
ANGU	**Angureal**	**1.45**	**352**	⇓P	Pn	**23 53 15.2**	**+0.7**
TERV	**Terraza Guagua**	**1.45**	**326**	⇓P	Pn	**23 53 14.8**	**+0.4**
YANA	**Yana**	**1.48**	**329**	P	Pn	**23 53 15.0**	**+0.4**
PULU	**Pululahua**	**1.57**	**334**	⇓P	Pn	**23 53 15.5**	**+0.1**
CASC	**Dorado de Casc**	**1.59**	**17**	⇓P	Pn	**23 53 15.7**	**+0.4**
AZOG	**Ecuador-Azogue**	**1.71**	**218**	P	Pn	**23 53 17.4**	**+0.7**
IMBA	**Imbabura, San**	**1.71**	**347**	⇓P	Pn	**23 53 18.2**	**+1.4**
ASDO	**Santo Domingo**	**1.74**	**310**	P	Pn	**23 53 17.6**	**+1.0**
YAHU	**Yahuarcocha**	**1.77**	**351**	P	Pn	**23 53 18.2**	**+0.8**
CUIC	**Cuicocha-Domo**	**1.78**	**342**	⇓P	Pn	**23 53 18.0**	**+0.5**
CUSE	**Cuicocha Este**	**1.79**	**341**	P	Pn	**23 53 18.3**	**+0.6**
CUSE	**Cuicocha Este**	**1.79**	**341**	P	Pn	**23 53 18.2**	**+0.6**
CUSE				S	Sn	**23 53 45.9**	**+0.8**
COHC	**Cochancay**	**1.80**	**234**	Pn	Pn	**23 53 16.6**	**-0.6**
COHC				S	Sn	**23 53 43.3**	**-1.1**
COHC	**Cochancay**	**1.80**	**234**	⇑P	Pn	**23 53 16.1**	**-1.1**
COHC				S	Sn	**23 53 43.3**	**-1.1**
COHC	**Cochancay**	**1.80**	**234**	P	Pn	**23 53 16.1**	**-1.1**
COHC				S	Sn	**23 53 43.2**	**-1.1**
COTA	**Cotacachi**	**1.80**	**343**	P	Pn	**23 53 18.5**	**+0.7**
BONI	**La Bonita**	**1.85**	**8**	⇓P	Pn	**23 53 18.6**	**+0.4**
BONI	**La Bonita**	**1.85**	**8**	P	Pn	**23 53 18.5**	**+0.4**
BONI				S	Sn	**23 53 46.1**	**+0.1**
BOSC	**San Juan Bosco**	**1.88**	**202**	⇑P	Pn	**23 53 18.5**	**+0.2**
URCU	**Urcuqui**	**1.88**	**346**	⇓P	Pn	**23 53 19.0**	**+0.5**
PUI07	**PUI07**	**1.89**	**240**	⇑P	Pn	**23 53 19.6**	**-2.3**
ACUE	**Ecuador-Cuenca**	**1.90**	**218**	P	Pn	**23 53 19.4**	**+0.8**
PAC1	**Pacto, Paraso**	**1.92**	**329**	⇓P	Pn	**23 53 18.7**	**-0.1**
PAC1	**Pacto, Paraso**	**1.92**	**329**	P	Pn	**23 53 18.6**	**-0.1**
PAC1				S	Sn	**23 53 47.2**	**+0.1**
MILO	**Milagro-Astudi**	**1.96**	**243**	⇑P	Pn	**23 53 16.7**	**-2.2**
TULM	**Tulcn-Chalpat**	**2.10**	**0**	P	Pn	**23 53 22.1**	**+1.1**
TULM	**Tulcn-Chalpat**	**2.10**	**0**	P	Pn	**23 53 22.0**	**+1.1**
TULM				S	Sn	**23 53 52.7**	**+1.7**
BV15	**Puerto Quito-O**	**2.10**	**317**	P	Pn	**23 53 19.7**	**-0.7**
LNGL	**El Angel-Carch**	**2.13**	**355**	P	Pn	**23 53 22.3**	**+0.9**
ATUL	**Tulcn**	**2.15**	**2**	P	Pn	**23 53 22.7**	**+1.3**
CHL1	**Volcn Chiles**	**2.18**	**356**	P	Pn	**23 53 22.6**	**+0.7**
CHL2	**Volcn Chiles**	**2.19**	**357**	P	Pn	**23 53 23.0**	**+1.1**
ECEN	**Cerro Negro**	**2.21**	**356**	P	Pn	**23 53 23.8**	**+1.5**
LITE1	**Lita**	**2.25**	**346**	⇓P	Pn	**23 53 21.9**	**-0.3**
AGUAY	**Guayaquil**	**2.25**	**253**	P	Pn	**23 53 19.8**	**-2.2**
GYE1	**Ecuador-Trinit**	**2.27**	**248**	P	Pn	**23 53 20.4**	**-2.0**
AC07	**Ecuador-Guayaq**	**2.31**	**251**	P	Pn	**23 53 20.7**	**-2.1**
CMBC	**Cumbal**	**2.32**	**359**	P	Pn	**23 53 24.6**	**+1.2**
PECV	**Mancha de Ca P**	**2.33**	**285**	⇑P	Pn	**23 53 26.0**	**+2.9**
AV18	**Acelerografo,**	**2.38**	**315**	P	Pn	**23 53 23.3**	**-0.4**
PCRA	**Pucara 2**	**2.48**	**223**	⇑P	Pn	**23 53 23.0**	**-2.2**
GCUF	**Volcan Galeras**	**2.64**	**10**	P	Pn	**23 53 27.8**	**+0.6**
GCUF				S	Sn	**23 54 02.0**	**-0.2**
AV21	**Acelerografo,**	**2.69**	**319**	P	Pn	**23 53 27.4**	**+0.2**
ABH2	**Ecuador-Univer**	**2.70**	**286**	P	Pn	**23 53 28.8**	**+1.5**
ACH2	**Ecuador-Machal**	**2.73**	**227**	P	Pn	**23 53 25.5**	**-2.2**
JIPI	**JIPIJAPA**	**2.76**	**271**	P	Pn	**23 53 26.7**	**-1.3**
MORR	**Playas El Morr**	**2.82**	**244**	⇑P	Pn	**23 53 26.9**	**-1.9**
ISPG	**Isla Puna-Puer**	**2.84**	**237**	P	Pn	**23 53 27.9**	**-1.1**
SNLR	**San Lorenzo-Es**	**2.87**	**339**	P	Pn	**23 53 29.4**	**+0.1**
RVRD	**Rio Verde**	**2.91**	**327**	P	Pn	**23 53 29.9**	**0.0**
PPLP	**Puerto Lpez**	**2.98**	**267**	⇑P	Pn	**23 53 28.4**	**-2.3**
PPLP	**Puerto Lpez**	**2.98**	**267**	P	Pn	**23 53 28.4**	**-2.3**
PPLP				S	Sn	**23 54 04.8**	**-3.6**
AES2	**Ecuador-Puerto**	**3.00**	**322**	P	Pn	**23 53 31.2**	**+0.3**
AMA1	**Acelerografo,**	**3.01**	**320**	P	Pn	**23 53 31.3**	**+0.3**
CRUC	**La Cruz**	**3.06**	**16**	P	Pn	**23 53 33.1**	**+1.0**
ARNL	**Arenillas**	**3.11**	**227**	⇑P	Pn	**23 53 29.3**	**-3.0**
GONZ	**Gonzanam**	**3.24**	**209**	⇑P	Pn	**23 53 33.2**	**-1.1**
ISPT	**Isla de la Pla**	**3.27**	**272**	⇑P	Pn	**23 53 32.2**	**-2.1**
SALI	**Salinas**	**3.28**	**256**	⇑P	Pn	**23 53 32.5**	**-1.9**
PTLC	**Puerto Leguiza**	**3.38**	**63**	P	Pn	**23 53 34.3**	**-1.3**
PTLC	**Puerto Leguiza**	**3.38**	**63**	P	Pn	**23 53 34.1**	**-1.5**
PTLC				S	Sn	**23 54 13.4**	**-4.0**
BBAC	**Balboa, Cauca**	**3.44**	**9**	⇑P	Pn	**23 53 36.3**	**-0.2**
BBAC	**Balboa, Cauca**	**3.44**	**9**	P	Pn	**23 53 36.4**	**-0.2**
BBAC				S	Sn	**23 54 22.0**	**+3.0**
AMCR	**Ecuador-Macara**	**3.65**	**216**	P	Pn	**23 53 36.6**	**-2.5**
MCRA	**Macar, Loja**	**3.65**	**216**	⇑P	Pn	**23 53 36.3**	**-2.8**
MCRA	**Macar, Loja**	**3.65**	**216**	P	Pn	**23 53 36.3**	**-2.8**
MCRA				S	Sn	**23 54 19.7**	**-3.9**
FLOC	**Florencia**	**3.66**	**36**		Pn	**23 53 39.4**	**+0.3**
FLOC	**Florencia**	**3.66**	**36**	⇑P	Pn	**23 53 39.4**	**+0.3**
FLOC	**Florencia**	**3.66**

BG3	**Lake Jocassee**	**36.52**	**353**	P	**P**	**23 59 30.5**	**+0.2**
BG3				IAmb	IAmb	23 59 32.4	
	comp=Z,4.1nm,0.5s						
NATX	**Nacogdoches**	**36.65**	**336**	P	**P**	**23 59 30.4**	**-1.1**
TKL	**Tuckaleechee C**	**37.28**	**352**	P	**P**	**23 59 36.5**	**-0.2**
DRIO	**Del Rio**	**37.62**	**326**		**P**	**23 59 40.3**	**+0.6**
DRIO				IAmb	IAmb	23 59 42.5	
	comp=Z,5.0nm,0.9s						
U56A	**King**	**37.63**	**357**	P	**P**	**23 59 41.1**	**+1.4**
V48A	**Smith Brothers**	**37.89**	**348**	P	**P**	**23 59 41.0**	**-0.8**
U54A	**Nelsons Funny**	**37.91**	**355**	P	**P**	**23 59 41.5**	**-0.6**
U54A				IAmb	IAmb	23 59 42.9	
	comp=Z,7.7nm,1.0s						
TZTN	**Tazewell**	**38.12**	**352**	P	**P**	**23 59 44.0**	**+0.2**
TZTN				IAmb	IAmb	23 59 44.5	
	comp=Z,4.0nm,0.6s						
T59A	**Double "B" Far**	**38.17**	**0**		**P**	**23 59 45.1**	**+0.9**
T59A				IAmb	IAmb	23 59 45.8	
	comp=Z,6.5nm,0.6s						
T57A	**Hurt**	**38.22**	**358**	P	**P**	**23 59 45.4**	**+0.8**
U49A	**Red Boiling Sp**	**38.44**	**350**	P	**P**	**23 59 45.8**	**-0.6**
U49A				IAmb	IAmb	00 00 10.7	
	comp=Z,7.9nm,1.3s						
WVT	**Waverly**	**38.48**	**347**	P	**P**	**23 59 45.5**	**-1.2**
WHAR	**Wooly Hollow**	**38.93**	**341**	P	**P**	**23 59 50.0**	**-0.6**
WHAR				IAmb	IAmb	23 59 50.7	
	comp=Z,4.6nm,0.6s						
S57A	**Dark Hollow, R**	**38.97**	**359**	P	**P**	**23 59 51.8**	**+1.0**
S57A				IAmb	IAmb	23 59 52.3	
	comp=Z,5.6nm,1.0s						
LR05	**Currie**	**39.01**	**173**	P	**P**	**23 59 52.6**	**+1.5**
T47A	**Sharon Grove**	**39.15**	**348**	P	**P**	**23 59 51.6**	**-0.7**
T47A				IAmb	IAmb	23 59 52.1	
	comp=Z,7.4nm,0.6s						
S51A	**Beattyville**	**39.21**	**353**	P	**P**	**23 59 52.4**	**-0.4**
LCAR	**Lake Charles**	**39.30**	**343**	P	**P**	**23 59 51.8**	**-1.8**
LCAR				IAmb	IAmb	23 59 53.5	
	comp=Z,6.2nm,0.8s						
TXAR	**Lajitas Array**	**39.31**	**323**	P	**P**	**23 59 55.7**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=147,slow=8.4,SNR=5.8						
TXAR				PcP	**PcP**	**00 01 60.0**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=144,slow=4.8,SNR=5.1						
	comp=Z,0.5nm,0.7s						
R55A	**Marlinton**	**39.54**	**357**	P	**P**	**23 59 56.8**	**+1.2**
PLCA	**Paso Flores**	**39.70**	**171**	P	**P**	**23 59 58.6**	**+1.6**
PLCA	**Paso Flores**	**39.70**	**171**	P	**P**	**23 59 57.9**	**+0.9**
	comp=Z,2.6nm,0.6s,baz=342,slow=8.6,SNR=12						
PLCA				PcP	**PcP**	**00 02 00.7**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=11,slow=10,SNR=2.9						
	comp=Z,2.6nm,0.6s						
PBMO	**Poplar Bluff**	**39.75**	**344**	P	**P**	**23 59 56.3**	**-1.0**
PBMO				IAmb	IAmb	23 59 57.2	
	comp=Z,7.2nm,0.7s						
MGMO	**Mountain Grove**	**40.64**	**342**	P	**P**	**00 00 03.7**	**-0.9**
MGMO				IAmb	IAmb	00 00 04.8	
	comp=Z,9.3nm,0.7s						
RLO	**Rose Lookout**	**40.67**	**338**	P	**P**	**00 00 05.4**	**+0.5**
RLO				IAmb	IAmb	00 00 07.5	
	comp=Z,8.0nm,1.0s						
FVM	**French Village**	**40.88**	**345**	P	**P**	**00 00 05.4**	**-1.2**
FVM				IAmb	IAmb	00 00 07.0	
	comp=Z,9.2nm,0.7s						
CCM	**Cathedral Cave**	**41.17**	**344**	P	**P**	**00 00 08.0**	**-1.0**
MVL	**Millersville**	**41.22**	**2**	P	**P**	**00 00 10.5**	**+1.2**
MVL				IAmb	IAmb	00 00 11.4	
	comp=Z,10.0nm,0.8s						
O52A	**Adamsville**	**41.48**	**355**	P	**P**	**00 00 11.5**	**+0.1**
O52A				IAmb	IAmb	00 00 12.4	
	comp=Z,7.3nm,0.8s						
R40A	**Maddies Statio**	**41.69**	**343**	P	**P**	**00 00 11.7**	**-1.4**
SMWD	**Samnorwood**	**41.95**	**332**	P	**P**	**00 00 16.5**	**+1.1**
SMWD				IAmb	IAmb	00 00 21.2	
	comp=Z,8.3nm,0.6s						
NBAN	**Anadia - AL**	**42.10**	**103**	*eP*	**P**	**00 00 16.7**	**-0.2**
M57A	**Sunshine Farm,**	**42.54**	**1**	P	**P**	**00 00 19.9**	**0.0**
M57A				IAmb	IAmb	00 00 21.5	
	comp=Z,4.7nm,0.6s						
HDIL	**Hopedale**	**43.05**	**347**	P	**P**	**00 00 22.7**	**-1.4**
UCCT	**U. Connecticut**	**43.28**	**6**	P	**P**	**00 00 26.5**	**+0.6**
UCCT				IAmb	IAmb	00 00 41.6	
	comp=Z,19nm,1.5s						
J59A	**Piesco**	**44.76**	**3**	P	**P**	**00 00 38.2**	**+0.5**
J59A				IAmb	IAmb	00 00 39.2	
	comp=Z,6.2nm,0.7s						
CBKS	**Cedar Bluff**	**44.82**	**336**	P	**P**	**00 00 38.6**	**+0.4**
ANMO	**Albuquerque**	**45.02**	**326**	P	**P**	**00 00 41.3**	**+1.2**
PECO	**Prince Edward**	**45.13**	**1**	P	**P**	**00 00 40.9**	**+0.4**
PECO				IAmb	IAmb	00 00 41.4	
	comp=Z,8.7nm,0.6s						
JFWS	**Jewell Farm**	**45.51**	**347**	P	**P**	**00 00 41.8**	**-1.8**
JFWS				IAmb	IAmb	00 00 43.0	
	comp=Z,11nm,0.7s						
TUC	**Tucson**	**45.79**	**320**	P	**P**	**00 00 46.4**	**+0.3**
LONY	**Lake Ozonia**	**45.90**	**3**	P	**P**	**00 00 46.2**	**-0.4**
SADO	**Sadowa**	**45.98**	**359**	P	**P**	**00 00 46.4**	**-0.8**
I42A	**Draeger Farm,**	**46.17**	**349**	P	**P**	**00 00 47.9**	**-0.8**
FRNY	**Flat Rock**	**46.18**	**4**	P	**P**	**00 00 49.7**	**+1.0**
FRNY				IAmb	IAmb	00 00 50.4	
	comp=Z,6.8nm,0.8s						
SDCO	**Great Sand Dun**	**46.61**	**330**	P	**P**	**00 00 54.5**	**+1.9**
BUKO	**Buck Lake**	**46.66**	**358**	P	**P**	**00 00 51.9**	**-0.6**
BUKO				IAmb	IAmb	00 00 52.6	
	comp=Z,9.7nm,0.6s						
EMMW	**East Machias**	**46.82**	**10**	P	**P**	**00 00 54.2**	**+0.5**
G62A	**West of Eustis**	**46.86**	**7**	P	**P**	**00 00 55.4**	**+1.3**
214A	**Organ Pipe Nat**	**46.90**	**318**	P	**P**	**00 00 54.6**	**0.0**
214A				IAmb	IAmb	00 00 57.4	
	comp=Z,5.6nm,0.8s						
PKME	**Peaks-Kenny Pk**	**47.07**	**8**	P	**P**	**00 00 56.5**	**+0.8**
PKME				IAmb	IAmb	00 00 57.1	
	comp=Z,5.4nm,0.7s						
G65A	**Princeton**	**47.28**	**10**	P	**P**	**00 00 58.0**	**+0.7**
G65A				IAmb	IAmb	00 00 58.7	
	comp=Z,13nm,1.4s						
GGN	**Saint George**	**47.33**	**11**	P	**P**	**00 00 57.8**	**+0.2**
GGN				IAmb	IAmb	00 01 19.3	
	comp=Z,13nm,1.0s						
TRQ	**Mont Tremblant**	**47.50**	**3**	P	**P**	**00 00 59.3**	**+0.3**
X16A	**Lo Mia Camp, P**	**47.59**	**322**	P	**P**	**00 01 02.2**	**+2.1**
E62A	**Clayton Lake**	**48.37**	**8**	P	**P**	**00 01 07.0**	**+1.4**
E62A				IAmb	IAmb	00 01 07.6	
	comp=Z,7.4nm,0.6s						
LMN	**Caledonia Moun**	**48.43**	**12**	P	**P**	**00 01 06.0**	**-0.1**
PV13	**Radium Mtn., P**	**48.66**	**327**	P	**P**	**00 01 09.3**	**+1.0**
PV18	**Skein Mesa, Pa**	**48.77**	**327**	P	**P**	**00 01 09.9**	**+0.8**
PV18				IAmb	IAmb	00 01 11.3	
	comp=Z,8.4nm,1.2s						
PV17	**East Wray Mesa**	**48.82**	**327**	P	**P**	**00 01 10.3**	**+0.8**
PV19	**Morning Glory**	**48.86**	**327**	P	**P**	**00 01 10.9**	**+1.0**
D62A	**Allapoint, All**	**48.88**	**8**	P	**P**	**00 01 10.4**	**+0.9**
D62A				IAmb	IAmb	00 01 11.3	
	comp=Z,8.6nm,0.9s						
YUH	**Yuha Desert**	**49.42**	**317**	P	**P**	**00 01 15.6**	**+1.7**
YUH				IAmb	IAmb	00 01 25.1	
	comp=Z,14nm,1.4s						
LDAQ	**Lac Daran**	**49.49**	**6**	P	**P**	**00 01 14.8**	**+0.5**
LDAQ				IAmb	IAmb	00 01 52.1	
	comp=Z,12nm,1.3s						
BATG	**Bathurst New B**	**49.55**	**10**	P	**P**	**00 01 15.3**	**+0.7**
BATG				IAmb	IAmb	00 01 16.3	
	comp=Z,10nm,1.1s						
GO09	**Cerro Castillo**	**49.91**	**176**	P	**P**	**00 01 19.5**	**+2.2**
V12A	**Nelson**	**50.57**	**321**	P	**P**	**00 01 24.3**	**+1.6**
TBO	**Thunder Bay**	**50.85**	**350**	P	**P**	**00 01 23.4**	**-1.0**
TBO				IAmb	IAmb	00 01 23.7	
	comp=Z,7.5nm,0.8s						
E28A	**Huff**	**51.84**	**340**	P	**P**	**00 01 32.2**	**+0.4**
CCCA	**Chr Cany lake**	**52.07**	**319**	P	**P**	**00 01 35.2**	**+1.4**
DUG	**Dugway, Tooele**	**52.29**	**326**	P	**P**	**00 01 35.3**	**-0.1**
PDAR	**Pinedale Array**	**52.44**	**331**	P	**P**	**00 01 37.0**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=133,slow=6.3,SNR=4.6						
PDAR				PcP	**PcP**	**00 02 44.5**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=141,slow=3.8,SNR=3.0						
	comp=Z,0.4nm,0.7s						
ULM	**Lac du Bonnet**	**53.73**	**346**	P	**P**	**00 01 44.5**	**-1.0**
	comp=Z,2.5nm,0.5s,baz=138,slow=9.1,SNR=6.4						
	comp=Z,2.5nm,0.5s						
SCHQ	**Schefferville**	**56.76**	**8**	P	**P**	**00 02 05.8**	**-1.3**
	comp=Z,32nm,0.6s,baz=250,slow=4.0,SNR=4.7						
G08A	**Pilot Rock**	**59.06**	**327**	P	**P**	**00 02 24.5**	**+1.1**
PINE	**Pine Mountain**	**59.23**	**325**	P	**P**	**00 02 26.8**	**+2.1**
PINE				IAmb	IAmb	00 02 28.8	
	comp=Z,3.6nm,0.9s						
BBOR	**Butler Butte**	**59.72**	**323**	P	**P**	**00 02 28.1**	**0.0**
KSXB	**Camp Six Broad**	**59.85**	**322**	P	**P**	**00 02 30.1**	**+1.2**
G06A	**Carlson Farm,**	**59.94**	**326**	P	**P**	**00 02 31.3**	**+1.9**
G06A				IAmb	IAmb	00 02 49.2	
	comp=Z,5.9nm,1.3s						
DBIC	**Dimbokro**	**73.23**	**83**	P	**P**	**00 03 53.3**	**-0.9**
	comp=Z,3.9nm,0.5s,baz=311,slow=4.6,SNR=7.3						
	comp=Z,3.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**80.09**	**76**	P	**P**	**00 04 31.2**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=284,slow=5.9,SNR=24						
	comp=Z,0.6nm,0.4s						
VNA3	**Neumayer Olymp**	**81.76**	**162**	⇓P	**P**	**00 04 41.1**	**+0.8**
	comp=Z,5.7nm,0.9s						
ILAR	**Eielson Array**	**82.47**	**336**	P	**P**	**00 04 44.8**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=94,slow=17,SNR=4.3						
	comp=Z,0.5nm,0.7s						
SNAA	**Sanae**	**83.97**	**162**	⇓P	**P**	**00 04 52.0**	**+0.2**
	comp=Z,38nm,0.6s						
SNAA	**Sanae**	**83.97**	**162**	P	**P**	**00 04 52.1**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=273,slow=2.8,SNR=23						
	comp=Z,1.4nm,0.6s						
TROLL	**Troll, Antarti**	**85.69**	**162**	⇓P	**P**	**00 05 01.2**	**+0.8**
	comp=Z,188nm,0.5s						
QSPA	**South Pole Qui**	**88.67**	**180**	P	**P**	**00 05 17.5**	**+2.7**
	comp=Z,5.8nm,0.9s,baz=177,slow=1.0,SNR=34						
	comp=Z,5.8nm,0.9s						
VNDA	**Vanda**	**94.95**	**191**	P	**P**	**00 05 44.4**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=162,slow=1.4,SNR=4.0						
	comp=Z,0.6nm,0.9s						
FINES	**FINESS Array B**	**97.84**	**28**	P	**P**	**00 05 54.9**	**-1.9**
	comp=Z,1.1nm,0.9s,baz=273,slow=7.6,SNR=1.8						
	comp=Z,1.1nm,0.9s						
KURBB	**Kurchatov Arra**	**127.00**	**19**	PKP	**PKiKP**	**00 11 25.5**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=318,slow=2.5,SNR=2.3						
MKAR	**Makanchi Array**	**131.56**	**18**	PKP	**PKPdf**	**00 11 33.7**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=295,slow=3.7,SNR=2.1						
KSRS	**Korea Array**	**137.00**	**330**	PKP	**PKPdf**	**00 11 44.3**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=4.1,slow=1.7,SNR=2.3						
ASAR	**Alice Springs**	**140.37**	**229**	PKhKP	PKPpre	00 11 43.0	
	comp=Z,0.6nm,0.5s,baz=120,slow=3.5,SNR=9.6						
ASAR				PKP	**PKPdf**	**00 11 51.2**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=114,slow=2.1,SNR=6.8						
WRA	**Warramunga Arr**	**142.01**	**234**	PKiKP	PKPpre	00 11 49.2	
	comp=Z,1.7nm,0.7s,baz=114,slow=2.7,SNR=11						
WRA				PKP	**PKiKP**	**00 11 56.0**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=116,slow=2.5,SNR=6.6						
FITZ	**Fitzroy Crossi**	**149.87**	**229**	PKP	**PKPdf**	**00 12 07.5**	**+0.5**
	comp=Z,3.8nm,0.9s,baz=205,slow=3.5,SNR=3.1						
FITZ				PKPbc	**PKPbc**	**00 12 11.9**	**0.0**
	comp=Z,5.9nm,0.7s,baz=157,slow=1.6,SNR=8.6						
CMAR	**Chiang Mai Arr**	**162.75**	**10**	PKP	**PKPdf**	**00 12 23.7**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=291,slow=12,SNR=2.9						
CMAR				PKPab	**PKPab**	**00 13 12.7**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=349,slow=4.4,SNR=2.6						

*JMA **09** 23:52:55.2±0.2, 43.9°N±0.9°×14.7°E±.°, h35km, MV3.9/26, E OFF HOKKAIDO*
*SKHL **09** 23:52:57.3±0.6, 44.10°N×147.20°E, h75km±5km, mb4.7/3*
ISC 09 23:52:55.3±2.0, 44.03°N±0.09°×147.36°E±0.10, h76km±13km, n17, σ1§49/31, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.41**	**248**		*eP*		**Pn**	**23 53 10.5**	**+2.6**
SHO					AMB		AMB	23 53 10.8	
	900nm,0.4s								
SHO					*eS*		**Sn**	**23 53 18.0**	**+0.8**
SHO					A		A	23 53 18.4	
	2µm,0.3s								
SHO					A		A	23 53 18.4	
	2µm,0.3s								
YUK	**Yuzh-Kuril'sk**	**1.08**	**271**		*i* P		**Pn**	**23 53 14.0**	**-1.1**
YUK					AMB		AMB	23 53 15.5	
	400nm,0.2s								
YUK					*i* S		**Sn**	**23 53 27.4**	**-2.5**
YUK					A		A	23 53 28.4	
	4µm,0.4s								
YUK					A		A	23 53 28.4	
	2µm,0.4s								
KUR	**Kuril'sk**	**1.26**	**16**		*eP*		**Pn**	**23 53 17.0**	**-0.3**
KUR					AMB		AMB	23 53 18.3	
	90nm,0.2s								
KUR					*i* S		**Sn**	**23 53 33.1**	**-0.8**
KUR					A		A	23 53 33.3	
	480nm,0.2s								
KUR					A		A	23 53 33.3	
	360nm,0.2s								
NEM2	**Nemuro 2**	**1.35**	**241**		*i* P		**Pn**	**23 53 17.3**	**-1.1**
NEM2					S		**Sn**	**23 53 33.4**	**-2.4**
NMR	**Nemuro--Hokkai**	**1.35**	**242**		*i* P		**Pn**	**23 53 17.2**	**-1.3**
NMR					*i* S		**Sn**	**23 53 33.4**	**-2.6**
JRA	**Rausu**	**1.62**	**268**		*i* P		**Pn**	**23 53 22.2**	**+0.2**
JRA					S		**Sn**	**23 53 42.3**	**+0.1**
JNSB	**Nemuroshibetsu**	**1.72**	**263**		P		**Pn**	**23 53 23.4**	**+0.1**
JNSB					*eS*		**Sn**	**23 53 44.0**	**-0.6**
JKHN	**Kushirohamanak**	**1.86**	**240**		P		**Pn**	**23 53 24.6**	**-0.5**
JKHN					*eS*		**Sn**	**23 53 45.9**	**-1.9**
JNK	**Nakash**	**1.96**	**258**		P		**Pn**	**23 53 26.4**	**-0.1**
JNK					S		**Sn**	**23 53 49.5**	**-0.9**
AKK	**Akkeshi**	**2.09**	**242**		*eP*		**Pn**	**23 53 27.6**	**-0.6**
JAK	**Akkeshi**	**2.19**	**243**		P		**Pn**	**23 53 29.1**	**-0.5**
JAK					*eS*		**Sn**	**23 53 54.4**	**-1.5**
JTKR	**Abashiri--Toko**	**2.49**	**270**		P		**Pn**	**23 53 34.4**	**+0.8**
JTKR					*eS*		**Sn**	**23 54 04.8**	**+1.8**
JAR	**Ashorobuto**	**2.71**	**256**		P		**Pn**	**23 53 37.6**	**+1.0**
JAR					*eS*		**Sn**	**23 54 09.4**	**+1.1**
JOB	**Onbets**	**2.80**	**248**		*eP*		**Pn**	**23 53 38.6**	**+0.8**
JOB					*eS*		**Sn**	**23 54 10.7**	**+0.2**
JMP	**Maruseppu**	**2.89**	**271**		*eP*		**Pn**	**23 53 40.0**	**+0.9**
JCH	**Churui**	**3.24**	**246**		*eP*		**Pn**	**23 53 44.6**	**+0.9**
JCH					*eS*		**Sn**	**23 54 21.3**	**+0.1**
JEM	**Erimo**	**3.68**	**238**		*eP*		**Pn**	**23 53 53.3**	**+3.6**

*IDC **09** 23:58:37.5±1.5, 2.16°N×128.74°E, h0km, mb4.1/8, mbtmp4.1/8, Error ellipse: s-maj=173.7km s-min=16.3km az=69.0*
ISC 09 23:58:48.5±1.3, 2.1°N±0.4×12.9°E±.°, h92km, n8, σ0§59/8, mb4.2/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.54**	**166**			P	**P**	**00 03 40.8**	**-0.3**
	2.3nm,0.5s,baz=342,slow=10,SNR=14								
	2.3nm,0.5s								
ASAR	**Alice Springs**	**26.06**	**169**			P	**P**	**00 04 13.7**	**+0.1**
	0.9nm,0.5s,baz=350,slow=7.6,SNR=8.9								
	0.9nm,0.7s								
STKA	**Stephens Creek**	**35.89**	**161**			P	**P**	**00 05 40.1**	**+0.3**
	1.8nm,0.4s,baz=324,slow=9.0,SNR=6.6								
	1.8nm,0.4s								
SONM	**Songino Array**	**49.52**	**340**			P	**P**	**00 07 30.7**	**+0.7**
	1.1nm,0.5s,baz=153,slow=8.9,SNR=5.0								
	1.1nm,0.5s								
MKAR	**Makanchi Array**	**60.06**	**325**			P	**P**	**00 08 46.2**	**+0.3**
	2.8nm,0.4s,baz=115,slow=8.1,SNR=54								
	2.8nm,0.4s								
KURBB	**Kurchatov Arra**	**64.22**	**327**			P	**P**	**00 09 13.6**	**0.0**
	2.2nm,0.6s,baz=127,slow=6.1,SNR=29								
	2.2nm,0.6s								
BVAR	**Borovoye Array**	**69.80**	**327**			P	**P**	**00 09 48.4**	**-0.5**
	0.4nm,0.5s,baz=138,slow=8.8,SNR=3.0								
	0.4nm,0.5s								
ARCES	**ARCESS Array B**	**92.70**	**340**			P	**P**	**00 11 49.1**	**-0.8**
	2.9nm,1.0s,baz=78,slow=4.9,SNR=3.6								
	2.9nm,1.0s								

*IDC **10** 00:05:39.8±0.9, 26.38°N×129.44°E, h0km, mb3.8/13, mbtmp3.8/13, MS3.4/7, Error ellipse: s-maj=30.9km s-min=18.2km az=48.0*
*NIED **10** 00:05:41.2, 26.22°N×129.53°E, h44km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.89; Mθθ0.70; Mφφ0.19; Mrθ-0.49; Mθφ0.41; Mφr-0.39; Fault plane solution: M₀1.11000×10¹⁵ NP1: φs246.00000°, δ28.00000°, λ-80.00000°. NP2:φs56.00000°, δ62.00000°, λ-95.00000°.*
*JMA **10** 00:05:41.2±0.1, 26.2°N±0.7×129.5°E±0.5, h44km, MV3.7/24, NEAR OKINAWAJIMA ISLAND*
ISC 10 00:05:40.8±0.7, 26.26°N±0.04×129.51°E±0.03, h15km, n37, σ1§54/50, mb3.8/13, MS3.5/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.22**	**309**		*eP*		**Pb**	**00 06 02.7**	**-0.8**
JYRO						S	**Sg**	**00 06 18.1**	**-2.1**
JOW	**Kunigami**	**1.25**	**298**			Pn	**Pb**	**00 06 02.9**	**-1.1**
	201nm,0.3s,baz=125,slow=16,SNR=354								
JOW						Sn	**Sb**	**00 06 18.3**	**-1.6**
	238nm,0.3s,baz=224,slow=27,SNR=15								
JOW						LR	LR	00 06 43.2	
	comp=Z,664nm,18.8s,baz=112,slow=56								
JOW	**Kunigami**	**1.25**	**298**			P	**Pb**	**00 06 03.3**	**-0.7**
JOW						*eS*	**Sb**	**00 06 18.3**	**-1.6**
JNTH	**Nagotoyohara**	**1.36**	**281**			P	**Pn**	**00 06 04.5**	**-0.7**
JNTH						*eS*	**Sb**	**00 06 20.4**	**-2.7**
JOKE	**Okinoerabujima**	**1.38**	**323**			P	**Pn**	**00 06 05.5**	**-0.1**
JOKE						*eS*	**Sn**	**00 06 22.5**	**-1.1**
JJT3	**Tamagusuku3**	**1.56**	**266**			*eP*	**Pn**	**00 06 07.7**	**-0.2**
JJT3						*eS*	**Sn**	**00 06 26.6**	**-1.2**
JIH	**Iheya**	**1.58**	**300**			P	**Pn**	**00 06 08.3**	**0.0**
JIH						*eS*	**Sn**	**00 06 27.1**	**-1.4**
JMZ	**Minamidaito 2**	**1.60**	**105**			P	**Pn**	**00 06 07.3**	**-1.3**
JMZ						S	**Sn**	**00 06 25.6**	**-3.3**
JTK	**Tokunoshima**	**1.60**	**342**			P	**Pn**	**00 06 08.7**	**+0.2**
JTK						S	**Sn**	**00 06 27.0**	**-2.0**
JKDJ	**Kitadaitoujima**	**1.64**	**100**			*eP*	**Pn**	**00 06 08.0**	**-1.0**
JKDJ						*eS*	**Sn**	**00 06 26.7**	**-3.1**
JAMN	**Amaminishikomi**	**2.00**	**351**			P	**Pn**	**00 06 14.1**	**+0.1**
JAGN	**Aguni-jima**	**2.06**	**280**			P	**Pn**	**00 06 14.9**	**+0.1**
JAGN						*eS*	**Sn**	**00 06 38.5**	**-1.8**
JZK	**Kikaishima**	**2.09**	**11**			*eP*	**Pn**	**00 06 16.0**	**+0.7**
JZK						*eS*	**Sn**	**00 06 40.9**	**+0.1**
JAM	**Amami Oshima**	**2.15**	**2**			*eP*	**Pn**	**00 06 15.8**	**-0.2**
JAM						*eS*	**Sn**	**00 06 40.3**	**-2.1**
JTAJ	**Takarajima**	**2.90**	**355**			*eP*	**Pn**	**00 06 26.3**	**-0.1**
JTAJ						*eS*	**Sn**	**00 06 58.3**	**-2.6**
JNN	**Nakanoshima**	**3.58**	**5**			*eP*	**Pn**	**00 06 36.6**	**+0.8**
JNN						*eS*	**Sn**	**00 07 15.5**	**-2.4**
JYAK	**Yakushimahirau**	**4.06**	**12**			*eS*	**Sn**	**00 07 27.1**	**-2.5**
JMTN	**Minamitane**	**4.30**	**16**			*eP*	**Pn**	**00 06 47.1**	**+1.4**
JMTN						*eS*	**Sn**	**00 07 33.8**	**-1.8**
JTN	**Tanegashima 3**	**4.57**	**16**			*eP*	**Pn**	**00 06 49.9**	**+0.5**
JTN						*eS*	**Sn**	**00 07 40.0**	**-2.1**
DAV	**Davao City (W)**	**19.45**	**192**			LR	LR	00 18 02.6	
	comp=Z,42nm,19.2s,baz=188,slow=38								
KAPI	**Kappang**	**32.49**	**198**			LR	LR	00 26 01.7	
	comp=Z,88nm,20.0s,baz=236,slow=38								
MKAR	**Makanchi Array**	**42.37**	**312**			P	**P**	**00 13 34.8**	**+0.3**
	0.5nm,0.7s,baz=102,slow=10.0,SNR=3.5								
	0.5nm,0.7s								
ZALV	**Zalesovo Beam**	**42.92**	**322**			P	**P**	**00 13 38.6**	**-0.1**
	0.5nm,0.5s,baz=107,slow=13,SNR=2.6								
	0.5nm,0.5s								
KURBB	**Kurchatov Arra**	**45.63**	**316**			P	**P**	**00 14 00.6**	**+0.1**
	0.5nm,0.6s,baz=103,slow=8.6,SNR=5.9								
	0.5nm,0.6s								
WRA	**Warramunga Arr**	**46.16**	**174**			P	**P**	**00 14 05.7**	**+0.7**
	0.6nm,0.7s,baz=355,slow=8.2,SNR=3.7								
	0.6nm,0.7s								
ASAR	**Alice Springs**	**49.81**	**175**			P	**P**	**00 14 36.8**	**+3.6**
	0.7nm,0.8s,baz=0.0,slow=8.8,SNR=4.1								
	0.7nm,0.8s								
BVAR	**Borovoye Array**	**51.02**	**318**			P	**P**	**00 14 43.7**	**+1.6**
	1.2nm,0.6s,baz=81,slow=9.2,SNR=6.0								
BVAR						LR	LR	00 38 14.8	
	comp=Z,62nm,19.2s,baz=100,slow=38								
	1.2nm,0.6s								
ARTI	**Arti**	**58.18**	**322**			LR	LR	00 43 15.9	
	comp=Z,37nm,20.9s,baz=102,slow=39								
ILAR	**Eielson Array**	**63.87**	**28**			P	**P**	**00 16 12.6**	**+0.1**
	0.4nm,0.7s,baz=282,slow=6.3,SNR=2.9								
	0.4nm,0.7s								
KBZ	**Khabaz**	**70.03**	**310**			LR	LR	00 51 57.8	
	comp=Z,18nm,21.5s,baz=104,slow=40								
FINES	**FINESS Array B**	**

MTVZ	**Mangateitei**	**1.45**	**21**	P		**Pn**	**00 14 14.2**	**-0.6**
PREZ	**Palmer Road**	**1.48**	**341**	P		**Pn**	**00 14 15.7**	**+0.6**
PRHZ	**Porangahau**	**1.49**	**72**	P		**Pn**	**00 14 15.5**	**+0.4**
NMEZ	**Namu Road**	**1.50**	**332**	P		**Pn**	**00 14 16.3**	**+1.0**
PKVZ	**Pokaka**	**1.51**	**17**	P		**Pn**	**00 14 14.8**	**-0.7**
MOVZ	**Moawhango**	**1.52**	**29**	P		**Pn**	**00 14 14.7**	**-1.0**
WNVZ	**Wahianoa**	**1.54**	**24**	P		**Pn**	**00 14 15.8**	**-0.3**
TRVZ	**Turoa**	**1.55**	**22**	P		**Pn**	**00 14 16.3**	**0.0**
KHEZ	**Kahui Hut**	**1.56**	**337**	P		**Pn**	**00 14 16.9**	**+0.7**
KHEZ	**Kahui Hut**	**1.56**	**337**	S		**Sn**	**00 14 38.0**	**+1.3**
KHEZ	**Kahui Hut**	**1.56**	**337**	P		**Pn**	**00 14 16.8**	**+0.5**
NEZ	**North Egmont**	**1.56**	**340**	P		**Pn**	**00 14 16.8**	**+0.6**
WHVZ	**Whangaehu Hut**	**1.58**	**23**	P		**Pn**	**00 14 16.3**	**-0.4**
MAVZ	**Matarangi**	**1.59**	**22**	P		**Pn**	**00 14 17.0**	**+0.3**
FWVZ	**Far West T-bar**	**1.60**	**22**	P		**Pn**	**00 14 17.4**	**+0.6**
DREZ	**Durham Road**	**1.61**	**344**	P		**Pn**	**00 14 17.9**	**+1.0**
VRZ	**Vera Road**	**1.61**	**359**	P		**Pn**	**00 14 17.6**	**+0.7**
NBEZ	**Newall Road No**	**1.63**	**334**	P		**Pn**	**00 14 18.3**	**+1.2**
KRHZ	**Kereru**	**1.63**	**48**	P		**Pn**	**00 14 17.9**	**+0.7**
COVZ	**Chateau Observ**	**1.64**	**21**	P		**Pn**	**00 14 17.3**	**0.0**
PKE	**Pukeiti**	**1.66**	**338**	P		**Pn**	**00 14 18.9**	**+1.3**
MRNZ	**Matariki Terra**	**1.67**	**246**	P		**Pn**	**00 14 18.5**	**+0.8**
NGZ	**Ngauruhoe**	**1.68**	**22**	P		**Pn**	**00 14 18.4**	**+0.4**
SNVZ	**South Ngauruho**	**1.69**	**23**	P		**Pn**	**00 14 18.0**	**0.0**
OTVZ	**Oturere**	**1.71**	**23**	P		**Pn**	**00 14 18.0**	**-0.4**
QRZ	**Quartz Range**	**1.72**	**266**	P		**Pn**	**00 14 19.1**	**+0.8**
QRZ	**Quartz Range**	**1.72**	**266**	S		**Sn**	**00 14 41.9**	**+1.4**
QRZ	**Quartz Range**	**1.72**	**266**	P		**Pn**	**00 14 19.1**	**+0.8**
NNVZ	**North Ngauruho**	**1.73**	**22**	P		**Pn**	**00 14 19.4**	**+0.8**
PXZ	**Pawanui**	**1.73**	**67**	P		**Pn**	**00 14 18.6**	**+0.1**
WTVZ	**West Tongariro**	**1.74**	**21**	P		**Pn**	**00 14 18.8**	**+0.1**
THZ	**Tophouse**	**1.75**	**234**	P		**Pn**	**00 14 19.0**	**+0.2**
ETVZ	**East Tongariro**	**1.75**	**24**	P		**Pn**	**00 14 18.9**	**+0.0**
TMVZ	**Te Maari**	**1.77**	**24**	P		**Pn**	**00 14 19.2**	**+0.1**
KWHZ	**Kaweka Forest**	**1.82**	**44**	P		**Pn**	**00 14 20.5**	**+0.7**
KAHZ	**Kahuranaki**	**1.86**	**60**	P		**Pn**	**00 14 20.7**	**+0.5**
KHZ	**Kahutara**	**1.92**	**209**	P		**Pn**	**00 14 21.6**	**+0.6**
KHZ	**Kahutara**	**1.92**	**209**	P		**Pn**	**00 14 21.6**	**+0.6**
RITZ	**Rihia Road**	**1.94**	**25**	P		**Pn**	**00 14 22.6**	**+1.2**
MCHZ	**McNeill Hill**	**1.95**	**49**	P		**Pn**	**00 14 22.6**	**+1.0**
BKZ	**Black Stump Fm**	**2.05**	**40**	P		**Pn**	**00 14 23.5**	**+0.6**
BKZ	**Black Stump Fm**	**2.05**	**40**	P		**Pn**	**00 14 23.5**	**+0.6**
HIZ	**Hauiti**	**2.23**	**1**	P		**Pn**	**00 14 26.6**	**+1.3**
HIZ	**Hauiti**	**2.23**	**1**	S		**Sn**	**00 14 54.4**	**+1.4**
HIZ	**Hauiti**	**2.23**	**1**	P		**Pn**	**00 14 26.3**	**+1.0**
NMHZ	**Naumai**	**2.26**	**44**	P		**Pn**	**00 14 26.6**	**+0.8**
MTHZ	**Maungataniwha**	**2.46**	**41**	P		**Pn**	**00 14 28.6**	**+0.1**
URZ	**Urewera**	**3.06**	**37**	P		**Pn**	**00 14 35.8**	**-0.9**

NEIC ***10*** *00:15:04.4±2.1, 39.°90N±0.°01×112.°06W±0.°02, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.8km az=250.0*

UUSS 10 00:15:03.9±2.2, 39.°88N±0.°02×112.°08W±0.°01, h8km±4km, ML2.5/15, ML2.7/114(NEIC), Error ellipse: s-maj=2.4km s-min=1.4km az=181.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLU	**North Lily Min**	**0.08**	**1**		Pg	00 15 06.4	+0.2
NLU					Sg	00 15 08.2	+0.4
NLU				IAML		00 15 08.4	
	comp=N,5µm,0.3s						
SUU	**Santaquin Cany**	**0.22**	**87**		Pg	00 15 08.9	+0.5
WMUT	**West Mountain**	**0.27**	**43**		Pg	00 15 09.9	+0.4
MPU	**Maple Canyon**	**0.37**	**68**		Pg	00 15 11.4	+0.2
MPU				Sg	Sg	00 15 16.4	+0.3
MPU				IAML		00 15 18.0	
	comp=E,582nm,0.1s						
MPU				IAML		00 15 18.4	
	comp=N,596nm,0.1s						
LEVU	**Levan**	**0.42**	**151**		Pg	00 15 12.4	+0.2
FLU	**Fool Peak**	**0.50**	**188**		Pg	00 15 13.7	0.0
CWU	**Camp Williams**	**0.57**	**358**		Pg	00 15 14.9	0.0
WTU	**Western Traver**	**0.58**	**9**		Pg	00 15 15.6	+0.4
DUG	**Dugway, Tooele**	**0.65**	**300**		Pg	00 15 16.6	+0.2
DCU	**Deer Creek Res**	**0.68**	**38**		Pg	00 15 17.4	+0.3
ELU	**Electric Lake**	**0.71**	**109**		Pg	00 15 18.3	+0.5
GMU	**Granite Mounta**	**0.74**	**19**		Pg	00 15 17.9	-0.3
NOQ	**North Oquirrh**	**0.78**	**358**		Pg	00 15 19.1	+0.2
MHD	**Mile High Driv**	**0.81**	**15**		Pg	00 15 19.4	-0.1
DAU	**Daniels Canyon**	**0.83**	**49**		Pg	00 15 20.3	+0.4
CTU	**Camp Tracy**	**0.85**	**17**		Pg	00 15 20.1	-0.3
CTU				Sg	Sg	00 15 31.6	+0.1
JLU	**Jordanelle**	**0.87**	**33**	Pg	Pg	00 15 20.2	-0.4
JLU					Sb	00 15 33.5	+0.1
TMUT	**Trail Mountain**	**0.89**	**131**		Pg	00 15 21.4	+0.4
HLJ	**Hailstone**	**0.90**	**35**		Pg	00 15 21.6	+0.4
WCU	**Willow Creek**	**0.91**	**181**		Pg	00 15 21.8	+0.3
DBD	**Des Bee Dove**	**0.95**	**126**		Pg	00 15 22.4	+0.3
EMUT	**Emma Park**	**0.97**	**93**		Pg	00 15 22.8	+0.2
FSU	**Fish Springs**	**1.02**	**262**		Pg	00 15 23.8	+0.2
HTU	**Hoyt Peak**	**1.03**	**39**		Pb	00 15 24.2	-0.1
SNU	**Stansbury Nort**	**1.06**	**342**		Pb	00 15 24.7	0.0
P17A	**Butcher Ranch,**	**1.11**	**111**		Pg	00 15 24.9	-0.3
P17A				IAML		00 15 40.1	
	comp=E,93nm,0.3s						
P17A				Sg	Sb	00 15 40.2	+0.1
NAIU	**Northern Antel**	**1.14**	**354**		Pg	00 15 25.4	-0.5
ARGU	**Argyle Ridge**	**1.18**	**92**		Pb	00 15 26.9	+0.1
Q16A	**Castle Valley**	**1.19**	**143**		Pg	00 15 26.2	-0.5
Q16A				Sg	Sg	00 15 42.1	0.0
Q16A				IAML		00 15 45.0	
	comp=E,132nm,0.6s						
Q16A				IAML		00 15 45.3	
	comp=N,134nm,0.6s						
BSUT	**Blindstream Ca**	**1.20**	**56**		Pn	00 15 27.4	-0.1
BSUT				Sg	Sb	00 15 43.0	-0.1
OWUT	**Old Woman Plat**	**1.21**	**155**		Pn	00 15 27.4	0.0
BGU	**Big Grassy Mou**	**1.27**	**326**		Pn	00 15 27.0	-1.3
BGU				Sg	Sn	00 15 45.6	-0.1
BGU				IAML		00 15 45.8	
	comp=N,76nm,0.4s						
BGU				IAML		00 15 46.6	
	comp=E,132nm,0.4s						
TCRU	**Three Creeks R**	**1.30**	**193**		Pb	00 15 28.8	0.0
TCUT	**Toone Canyon**	**1.34**	**22**		Pg	00 15 30.1	+0.4
TCUT				Sg	Sn	00 15 47.8	+0.3
TCUT				IAML		00 15 54.5	
	comp=E,174nm,0.6s						
TCUT				IAML		00 15 56.2	
	comp=N,224nm,0.6s						
MSU	**Marysvale**	**1.36**	**183**		Pg	00 15 30.1	0.0
SRU	**San Rafael Swe**	**1.43**	**122**		Pn	00 15 30.6	+0.3
SRU					Sb	00 15 48.8	-0.5
SRU				IAML		00 15 49.8	
	comp=E,88nm,0.4s						
SRU				IAML		00 15 52.2	
	comp=N,92nm,0.5s						
P18A	**Preston Nutter**	**1.43**	**99**		Pb	00 15 31.1	0.0
HWUT	**Hardware Ranch**	**1.77**	**13**		Pn	00 15 35.4	+0.3
HWUT					Sb	00 15 59.2	-0.1
HWUT				IAML		00 16 03.6	
	comp=N,41nm,0.6s						
HWUT				IAML		00 16 05.1	
	comp=N,49nm,0.9s						
MTPU	**Mount Pierson**	**1.83**	**183**		Pn	00 15 36.9	+0.7
MTPU				Sg	Sg	00 16 04.1	+1.2
PSUT	**Pine Spring**	**1.93**	**226**		Pn	00 15 37.9	+0.6
PSUT				Sg	Sg	00 16 05.7	-0.1
SPR3	**Spring Creek 3**	**1.95**	**244**		Pb	00 15 39.8	-0.2
SPR3				Sg	Sg	00 16 08.2	+1.5
HVU	**Hansel Valley**	**1.97**	**345**		Pn	00 15 37.1	-0.8
HVU				IAML		00 16 09.6	
	comp=N,41nm,0.4s						
HVU				IAML		00 16 10.0	
	comp=E,42nm,0.5s						
HMU	**Henry Mountain**	**2.20**	**151**		Pb	00 15 44.6	+0.5
PKCU	**Pink Cliffs**	**2.44**	**184**		Pg	00 15 50.5	-0.1
PKCU				IAML		00 16 25.6	
	comp=E,43nm,0.4s						
PKCU				IAML		00 16 25.9	
	comp=N,31nm,0.5s						
CCUT	**Cedar City**	**2.53**	**204**		Pn	00 15 46.7	+1.1
ELK	**Elko**	**2.57**	**291**		Pn	00 15 47.3	+1.1
PV21	**Cone Mtn., Par**	**2.75**	**118**		Pn	00 15 50.1	+1.6
PV23	**Carpenter Ridg**	**2.78**	**120**		Pb	00 15 53.8	-0.2
PV10	**Paradox Valley**	**2.80**	**121**		Pg	00 15 56.7	-0.9
PV14	**Lion Creek, Pa**	**2.81**	**121**		Pb	00 15 56.0	+1.4
PV20	**West Nyswonger**	**2.86**	**121**	Pn	Pn	00 15 51.1	+0.9
PV20					Pb	00 15 56.5	+1.0
PV04	**Paradox Valley**	**2.88**	**120**		Pb	00 15 57.2	+1.5
PV04					IAML	00 16 38.8	
	comp=E,27nm,0.6s						
PV04					IAML	00 16 43.8	
	comp=N,38nm,1.0s						
PV22	**Blue Mesa, Par**	**2.89**	**117**		Pb	00 15 56.8	+1.0
PV22					IAML	00 16 33.9	
	comp=E,28nm,0.4s						
PV17	**East Wray Mesa**	**2.90**	**122**		Pb	00 15 57.5	+1.3
PV17					IAML	00 16 35.3	
	comp=N,42nm,0.6s						
PV17					IAML	00 16 35.5	
	comp=E,43nm,0.7s						
KNB	**Kanab**	**2.92**	**192**		Pg	00 15 58.4	-1.4
PV16	**Nyswonger Mesa**	**2.92**	**121**		Pn	00 15 51.8	+1.0
PV16					IAML	00 16 39.2	
	comp=E,40nm,0.7s						
PV05	**Paradox Valley**	**2.94**	**127**		Pg	00 15 59.1	-1.1
PV05					IAML	00 16 38.5	
	comp=E,38nm,0.5s						
PV05					IAML	00 16 41.0	
	comp=N,43nm,0.5s						
PV11	**David Mesa, Pa**	**2.95**	**121**		Pb	00 15 58.3	+1.4
PV18	**Skein Mesa, Pa**	**2.96**	**122**		Pb	00 15 58.7	+1.7
PV18					IAML	00 16 39.3	
	comp=E,41nm,0.5s						
O20A	**White River Ci**	**2.96**	**84**		Pb	00 15 57.0	0.0
O20A					IAML	00 16 46.8	
	comp=E,30nm,0.8s						
AHID	**Auburn Hatcher**	**2.98**	**14**	Pn	Pn	00 15 52.8	+1.1
AHID					IAML	00 16 42.1	
	comp=E,22nm,0.5s						
AHID					IAML	00 16 42.7	
	comp=E,33nm,0.5s						
PV12	**Saucer Basin,**	**2.99**	**120**		Pb	00 15 59.2	+1.7
PV03	**Paradox Valley**	**2.99**	**122**	IAML		00 16 41.3	
	comp=E,42nm,0.7s						
LCMT	**Little Creek M**	**3.00**	**198**	Pg	Pg	00 16 00.5	-1.0
LCMT					IAML	00 16 41.7	
	comp=E,12nm,0.2s						
PV07	**Paradox Valley**	**3.03**	**117**	IAML		00 16 41.4	
	comp=N,23nm,1.2s						
PV07					IAML	00 16 43.0	
	comp=E,16nm,2.1s						
PV13	**Radium Mtn., P**	**3.06**	**123**	Pn	Pn	00 15 54.4	+1.5
PV13					Pb	00 16 00.5	+1.7
PV13					IAML	00 16 41.0	
	comp=N,35nm,0.6s						
PV13					IAML	00 16 43.6	
	comp=E,39nm,0.6s						
PV15	**Paradox Valley**	**3.19**	**118**	IAML		00 16 46.5	
	comp=E,23nm,0.5s						
PV15					IAML	00 16 47.3	
	comp=N,25nm,0.4s						
PV01	**Paradox Valley**	**3.24**	**121**	IAML		00 16 45.7	
	comp=N,17nm,0.8s						
PV01					IAML	00 16 46.4	
	comp=E,18nm,0.4s						
PRN	**Pahroc Range**	**3.39**	**224**	IAML		00 16 53.6	
	comp=N,16nm,0.4s						
PRN					IAML	00 16 59.1	
	comp=E,13nm,0.6s						
U15A	**North Rim**	**3.45**	**183**	IAML		00 16 54.7	
	comp=N,7.7nm,0.4s						
U15A					IAML	00 17 09.9	
	comp=E,8.8nm,0.8s						
HLID	**Hailey**	**4.08**	**335**	IAML		00 16 42.5	
	comp=E,4.5nm,4.8s						
HLID					IAML	00 17 22.1	
	comp=E,5.1nm,4.8s						
S22A	**4UR Ranch, Cre**	**4.62**	**116**		IAML	00 18 05.1	
	comp=N,3.4nm,0.1s						
S22A					IAML	00 19 15.6	
	comp=E,8.8nm,4.3s						
ISCO	**Idaho Springs**	**4.98**	**89**	IAML		00 19 21.6	
	comp=E,6.8nm,5.0s						
ISCO					IAML	00 19 23.6	
	comp=E,7.8nm,4.5s						

RSNC 10 00:19:59.9±0.0, 7.°N±1.°×7.°3W±.°, h150km±2km, M2.4, mb3.6, ML2.1, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.20**	**192**	P	Pn	00 20 20.2	-0.3
BARC				S	Sn	00 20 34.7	-1.5
BRJC	**Barrancabermej**	**0.63**	**287**	P	Pn	00 20 21.9	0.0
BRJC				S	Sn	00 20 39.0	+0.3
PAMC	**Pamplona, Colo**	**0.70**	**39**	P	Pn	00 20 22.9	-0.1
PAMC				S	Sn	00 20 40.2	-0.4
RUSC	**La Rusia**	**0.89**	**176**	P	Pn	00 20 24.1	-0.3
RUSC				S	Sn	00 20 42.8	-0.3
PTBC	**PUERTO BERRIO,**	**1.33**	**259**	P	Pn	00 20 26.8	-1.0
PTBC				S	Sn	00 20 47.9	-1.1
OCAC	**Ocana**	**1.45**	**353**	P	Pn	00 20 28.5	-0.6
OCAC				S	Sn	00 20 50.1	-1.5
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	P	Pn	00 20 32.9	-0.3
ZARC				S	Sn	00 20 58.3	-0.5
NORC	**Norcasia**	**2.11**	**235**	P	Pn	00 20 36.0	-0.4
NORC				S	Sn	00 21 03.7	-0.7
ROSC	**El Rosal**	**2.27**	**211**	P	Pn	00 20 40.3	+1.7
ROSC				S	Sn	00 21 11.7	+3.4
HELC	**Santa Helena**	**2.45**	**256**	P	Pn	00 20 40.2	-0.5
HELC				S	Sn	00 21 11.4	-0.7
URUC	**San Jos de Ur**	**2.56**	**292**	P	Pn	00 20 40.4	-1.4
UREC				S	Sn	00 21 11.0	-3.1
GUY2C	**Guyana, Caldas**	**2.71**	**235**	P	Pn	00 20 44.9	+0.9
GUY2C				S	Sn	00 21 17.4	-0.6
VILC	**Villavicencio,**	**2.72**	**192**	P	Pn	00 20 43.7	-0.2
VILC				S	Sn	00 21 18.2	+0.4
PTGC	**Puerto Gaitan,**	**2.76**	**159**	P	Pn	00 20 43.3	-1.0
PTGC				S	Sn	00 21 16.8	-1.8
DBBC	**Dabeiba**	**3.06**	**274**	P	Pn	00 20 47.3	-0.8
DBBC				S	Sn	00 21 22.9	-2.4
ANIL	**Santa Ana**	**3.21**	**225**	P	Pn	00 20 50.5	+0.3
ANIL				S	Sn	00 21 29.7	+0.6
PRAC	**Prado**	**3.52**	**210**	P	Pn	00 20 53.9	-0.1
PRAC				S	Sn	00 21 35.8	-0.1
ORTC	**Ortega, Tolima**	**3.55**	**216**	P	Pn	00 20 54.3	-0.1
ORTC				S	Sn	00 21 36.5	-0.1
APAC	**Apartado, Choc**	**3.59**	**288**	P	Pn	00 20 54.3	-0.5
APAC				S	Sn	00 21 37.0	-0.4
SJCC	**San Jacinto, C**	**3.69**	**327**	P	Pn	00 20 54.3	-1.9
SJCC				S	Sn	00 21 35.4	-4.5
URMC	**La Uribe, Meta**	**3.73**	**199**	P	Pn	00 20 57.1	+0.3
URMC				S	Sn	00 21 40.7	-0.2
CRJC	**Cerrejon, Guaj**	**4.21**	**3**	P	Pn	00 21 00.7	-2.3
CRJC				S	Sn	00 21 48.1	-4.1
MACC	**Macarena, Meta**	**4.67**	**189**	P	Pn	00 21 07.2	-1.8
MACC				S	Sn	00 21 59.1	-3.8
URIC	**Uribia, Colomb**	**5.01**	**13**	P	Pn	00 21 10.9	-2.6
URIC				S	Sn	00 22 07.1	-3.8

IDC ***10*** *00:21:36.1±1.3, 1.°53N×99.°45E, h171km±7km, mb3.4/8, mbtmp3.8/8, Error ellipse: s-maj=62.2km s-min=14.5km az=58.0*

DJA ***10*** *00:21:36.7±0.4, 2.°N±2.°×10.°0E±.°, h168km±4km, M3.8/15, mb4.1/2, MLv3.7/15*

ISC 10 00:21:36.1±0.8, 1.°63N±0.°06×99.°63E±0.°09, h166km, n19, σ1§12/22, mb3.6/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.83**	**183**	P	**Pn**	**00 22 03.2**	**+2.1**
MNSI				S	**Sn**	**00 22 23.0**	**+2.6**
PSI	**Prapat**	**1.36**	**329**	P	**Pn**	**00 22 06.2**	**+0.5**
	41nm,0.3s,baz=336,slow=16,SNR=29						
PSI				S	**Sn**	**00 22 27.8**	**-0.8**
	12nm,0.5s,baz=4.1,slow=21,SNR=10						
GSI	**Gunungsitoli**	**2.08**	**261**	P	**Pn**	**00 22 14.2**	**+1.1**
PBSI	**Pulau Batu**	**2.15**	**219**	P	**Pn**	**00 22 14.9**	**+1.0**
PBSI				S	**Sn**	**00 22 42.5**	**-0.6**
KCSI	**Kotacane, Aceh**	**2.64**	**315**	P	**Pn**	**00 22 20.0**	**+0.3**
SISI	**Saibi**	**2.98**	**190**	P	**Pn**	**00 22 23.2**	**-0.7**
SNSI	**Sinabang, Aceh**	**3.39**	**283**	P	**Pn**	**00 22 29.7**	**+0.7**
MLSI	**Meulaboh, Aceh**	**4.15**	**309**	P	**Pn**	**00 22 39.1**	**+0.3**
PPSI	**Pulau Pagai**	**4.38**	**175**	P	**Pn**	**00 22 40.5**	**-1.2**
LHMI	**Lhok Sumawe**	**4.47**	**323**	P	**Pn**	**00 22 43.3**	**+0.5**
DSRI	**Dabo**	**5.37**	**113**	P	**Pn**	**00 22 55.8**	**+1.1**
WRA	**Warramunga Arr**	**40.23**	**124**	P	**P**	**00 28 56.5**	**-0.3**
	2.3nm,0.3s,baz=302,slow=9.0,SNR=27						
	2.3nm,0.3s						
ASAR	**Alice Springs**	**41.75**	**129**	P	**P**	**00 29 10.6**	**+1.4**
	0.3nm,0.4s,baz=300,slow=7.8,SNR=4.1						
	0.3nm,0.4s						
SONM	**Songino Array**	**46.40**	**6**	P	**P**	**00 29 45.9**	**-0.1**
	0.7nm,0.4s,baz=201,slow=11,SNR=4.3						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**47.46**	**344**	P	**P**	**00 29 54.4**	**+0.3**
	0.9nm,0.4s,baz=157,slow=8.3,SNR=14						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**51.99**	**343**	P	**P**	**00 30 27.7**	**-0.4**
	0.2nm,0.3s,baz=159,slow=7.4,SNR=4.2						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**53.56**	**349**	P	**P**	**00 30 39.8**	**+0.1**
	0.7nm,0.3s,baz=156,slow=7.9,SNR=1.7						
	0.7nm,0.3s						
BVAR	**Borovoye Array**	**56.68**	**339**	P	**P**	**00 31 01.6**	**-0.4**
	0.5nm,0.5s,baz=127,slow=9.3,SNR=3.0						
	0.5nm,0.5s						
VNDA	**Vanda**	**85.77**	**169**	P	**P**	**00 33 54.4**	**-1.7**
	0.6nm,1.0s,baz=285,slow=5.9,SNR=2.1						
	0.6nm,1.0s						

IDC ***10*** *00:58:56.1±2.0, 50.°51N×177.°33W, h0km, mb3.7/13, mbtmp3.8/15, ML4.1/2, MS3.1/1, Error ellipse: s-maj=55.3km s-min=18.9km az=3.0*

NEIC ***10*** *00:58:57.3±1.6, 50.°43N±0.°03×177.°3W±0.°1, h10km±2km, mb3.6/25, ML3.6/8, ML3.3(AEIC), Error ellipse: s-maj=10.9km s-min=4.3km az=95.0*

AEIC ***10*** *00:58:58.5±3.1, 50.°40N±0.°09×177.°20W±0.°09, h44km±8km, Error ellipse: s-maj=13.4km s-min=7.8km az=174.0*

ISC 10 00:58:57.0±2.9, 50.°44N±0.°07×177.°25W±0.°04, h8km±17km, n77, σ0§85/89, mb3.8/13, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**1.32**	**0**		**Pn**	**00 59 21.5**	**-0.2**
KIMD					**Sb**	**00 59 39.3**	**+0.1**
TAFL	**Tanaga Flats**	**1.38**	**343**		**Pn**	**00 59 22.5**	**-0.1**
TAFL					**Sg**	**00 59 41.3**	**0.0**
KIWB	**Kanaga Island**	**1.42**	**2**	Pn	**Pn**	**00 59 22.2**	**-0.8**
KIWB				IAML		00 59 43.4	
	comp=E,764nm,0.6s						
KIWB	**Kanaga Island**	**1.42**	**2**		**Sn**	**00 59 41.8**	**-0.1**
TAPA	**Tanaga Point A**	**1.42**	**346**		**Pn**	**00 59 23.3**	**+0.1**
TAPA					**Sb**	**00 59 42.1**	**0.0**
KIKV	**Kanaga Island**	**1.44**	**2**		**Pn**	**00 59 23.5**	**+0.1**
KIKV					**Sn**	**00 59 42.3**	**-0.2**
TASE	**Tanaga Southea**	**1.48**	**341**		**Pn**	**00 59 24.2**	**+0.2**
TASE					**Sb**	**00 59 44.2**	**+0.4**
ADK	**Adak**	**1.49**	**14**	Pn	**Pn**	**00 59 23.4**	**-0.6**
ADK				Sn	**Sn**	**00 59 42.5**	**-1.2**
ADK				IAML		00 59 43.4	
	comp=E,730nm,0.3s						
ADK				IAML		00 59 43.8	
	comp=E,771nm,0.4s						
GAKI	**Gareloi-Kavalg**	**1.49**	**319**		**Pn**	**00 59 23.5**	**-0.5**
GAKI					**Sn**	**00 59 42.3**	**-1.4**
ETKA	**Kagalaska Isla**	**1.52**	**20**		**Sn**	**00 59 43.1**	**-1.3**
ADAG	**Mount Adagdak**	**1.59**	**15**		**Sn**	**00 59 46.3**	**0.0**
GALAA	**Gareloi Lava P**	**1.64**	**325**		**Sb**	**00 59 48.3**	**+0.1**
GANE	**Gareloi Northe**	**1.68**	**326**		**Pn**	**00 59 26.9**	**+0.2**
GSTD	**Great Sitkin T**	**1.76**	**23**		**Sn**	**00 59 49.8**	**-0.7**
GSMY	**Great Sitkin M**	**1.77**	**25**		**Sn**	**00 59 50.0**	**-0.7**
GSSP	**Great Sitkin S**	**1.79**	**22**		**Pn**	**00 59 28.0**	**-0.2**
GSSP					**Sn**	**00 59 51.0**	**0.0**
GSTR	**Great Sitkin T**	**1.82**	**24**	Pn	**Pn**	**00 59 28.1**	**-0.5**
GSTR				IAML		00 59 59.4	
	comp=E,542nm,0.5s						
AMKA	**Amchitka**	**2.38**	**295**	Pn	**Pn**	**00 59 34.6**	**-1.7**
CERB	**Semis' Cerberu**	**2.47**	**308**		**Pn**	**00 59 38.7**	**+1.2**
CERB					**Sb**	**01 00 09.5**	**-2.6**
CEPE	**Semis' Perret**	**2.48**	**309**		**Pn**	**00 59 38.1**	**+0.5**
CEPE					**Sn**	**01 00 08.6**	**+0.5**
ATKA	**Atka Island**	**2.60**	**46**		**Pn**	**00 59 38.5**	**-0.8**
ATKA	**Atka Island**	**2.60**	**46**		**Sn**	**01 00 11.5**	**+0.4**
LSSE	**Little Sitkin**	**3.03**	**301**		**Pn**	**00 59 45.7**	**+0.6**
LSSE					**Sn**	**01 00 22.4**	**+0.8**
LSPA	**Little Sitkin**	**3.04**	**302**		**Pn**	**00 59 45.9**	**+0.6**
LSPA					**Sn**	**01 00 23.6**	**+1.7**
LSNW	**Little Sitkin**	**3.07**	**302**		**Pn**	**00 59 46.0**	**+0.2**
LSNW					**Sn**	**01 00 22.9**	**+0.1**
SHEM	**Shemya Is, Ala**	**5.86**	**296**	Pn	**Pn**	**01 00 22.3**	**-1.7**
SHEM	**Shemya Is, Ala**	**5.86**	**296**	Pn	**Pn**	**01 00 24.6**	**+0.5**
	comp=E,3.0nm,0.3s,baz=90,slow=7.1,SNR=2.3						
	comp=E,50nm,0.8s						
SMY	**Shemya**	**5.86**	**296**	Pn	**Pn**

comp=Z,0.3nm,0.6s,baz=297,slow=5.5,SNR=4.6
comp=Z,0.3nm,0.6s
ARCES ARCESS Array B 59.18 351 P P 01 08 56.6 -1.1
comp=Z,2.1nm,0.9s,baz=22,slow=6.7,SNR=5.7
comp=Z,2.1nm,0.9s
KURBB Kurchatov Arra 60.49 315 P P 01 09 07.0 0.0
comp=Z,1.6nm,0.6s,baz=43,slow=6.6,SNR=13
comp=Z,1.6nm,0.6s
MKAR Makanchi Array 61.39 310 P P 01 09 12.0 -1.2
comp=Z,0.2nm,0.4s,baz=51,slow=9.3,SNR=1.7
comp=Z,0.2nm,0.4s
BVAR Borovoye Array 62.24 321 P P 01 09 19.3 +0.4
comp=Z,0.7nm,0.5s,baz=54,slow=5.9,SNR=5.2
comp=Z,0.7nm,0.5s
FINES FINESS Array B 66.91 348 P P 01 09 49.3 +0.1
comp=Z,0.8nm,0.8s,baz=62,slow=9.6,SNR=1.5
comp=Z,0.8nm,0.8s
EKA Eskdalemuir Ar 74.48 4 P P 01 10 35.4 0.0
comp=Z,0.7nm,0.6s,baz=327,slow=1.9,SNR=4.1
comp=Z,0.7nm,0.6s
AKASG Malin Array Be 76.74 343 P P 01 10 48.3 0.0
comp=Z,1.1nm,0.6s,baz=19,slow=5.2,SNR=4.5
comp=Z,1.1nm,0.6s
GERES GERESS Array B 80.65 353 P P 01 11 10.6 +0.5
comp=Z,0.3nm,0.6s,baz=68,slow=4.7,SNR=3.5
comp=Z,0.3nm,0.6s

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*NEIC **10** 01:39:16.6±1.1, 56.26N±0.03×157.08W±0.06, h66km±7km, Error ellipse: s-maj=4.8km s-min=4.4km az=46.0*
AEIC 10 01:39:15.3±1.1, 56.26N±0.04×157.06W±0.05, h68km±7km, ML2.9, ML3.2/64(NEIC), Error ellipse: s-maj=5.7km s-min=3.5km az=162.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.76**	**274**		Pn	01 39 31.8	+1.2
CHGN				Sn	Sn	01 39 43.2	+1.3
ANPK	**Aniakchak Peak**	**0.83**	**315**		Pn	01 39 32.0	+0.3
ANPK					Sn	01 39 45.5	+1.8
ANNE	**Aniakchak Nort**	**0.86**	**320**		Pn	01 39 32.6	+0.7
ANNE					Sn	01 39 45.9	+1.7
ANPB	**Aniakchak Plen**	**0.87**	**309**		Pn	01 39 32.3	+0.2
ANPB					Sn	01 39 45.9	+1.4
CHIR	**Chirikof Islan**	**0.92**	**118**		Pn	01 39 34.2	+1.6
CHIR				Sn	Sn	01 39 47.3	+1.9
CHIR				IAML		01 39 48.2	
	comp=E,382nm,0.6s						
CHIR				IAML		01 39 48.3	
	comp=N,656nm,0.6s						
VNSG	**Veniaminof 6**	**1.14**	**264**		Pn	01 39 36.0	+0.6
VNSG					Sn	01 39 52.2	+1.7
VNHG	**Veniaminof 1**	**1.18**	**269**		Pn	01 39 36.5	+0.6
VNHG					Sn	01 39 52.9	+1.5
VNNF	**Veniaminof 3**	**1.26**	**272**		Pn	01 39 37.8	+0.7
VNNF					Sn	01 39 55.6	+2.2
R16K	**Pilot Point**	**1.34**	**348**	Pn	Pn	01 39 39.4	+1.4
R16K				Sn	Sn	01 39 56.8	+1.7
R16K				IAML		01 40 39.6	
	comp=E,524nm,0.4s						
VNFG	**Fog Glacier, M**	**1.39**	**272**		Pn	01 39 39.8	+1.0
VNFG					Sn	01 39 58.3	+1.9
PLK4	**Peulik 4**	**1.43**	**15**	Pn	Pn	01 39 41.4	+2.0
PLK4				IAML		01 40 01.1	
	comp=E,379nm,0.7s						
PLK4	**Peulik 4**	**1.43**	**15**		Sn	01 39 59.3	+1.9
PLBL	**Peulik Blue Cr**	**1.45**	**5**		Pn	01 39 40.2	+0.7
PLBL					Sn	01 39 59.6	+1.9
PLK3	**Peulik 3**	**1.50**	**17**		Pn	01 39 41.4	+1.2
PLK3					Sn	01 40 00.9	+2.0
PLK2	**Peulik 2**	**1.56**	**15**		Pn	01 39 41.1	+0.1
PLK2					Sn	01 40 01.7	+1.3
PLK1	**Peulik 1**	**1.57**	**9**		Pn	01 39 41.8	+0.7
PLK1					Sn	01 40 02.4	+1.9
SII	**Sitkinak Islan**	**1.63**	**78**		Pn	01 39 43.2	+1.3
SII				IAML		01 40 04.8	
	comp=N,256nm,0.3s						
SII				IAML		01 40 07.4	
	comp=E,379nm,0.5s						
SII	**Sitkinak Islan**	**1.63**	**78**		Sn	01 40 03.1	+1.2
PLK5	**Peulik 5**	**1.75**	**3**		Pn	01 39 44.7	+1.3
PLK5					Sn	01 40 05.9	+1.2
CNBA	**Chernabura Isl**	**2.04**	**226**	Pn	Pn	01 39 47.5	+0.2
CNTC	**Contact Creek**	**2.11**	**17**		Pn	01 39 49.5	+1.1
ANCK	**Angle Creek**	**2.12**	**23**		Pn	01 39 49.8	+1.2
SDPT	**Sand Point**	**2.13**	**246**		Pn	01 39 49.8	+1.2
ACHA	**Angle Creek He**	**2.17**	**25**		Pn	01 39 50.8	+1.6
KABU	**Katmai Buttres**	**2.24**	**25**		Pn	01 39 51.4	+1.3
OHAK	**Old Harbor**	**2.29**	**63**		Pn	01 39 51.6	+0.8
OHAK				IAML		01 40 19.3	
	comp=N,91nm,0.3s						
OHAK				IAML		01 40 19.6	
	comp=E,103nm,0.3s						
KAKN	**Katmai Knife C**	**2.31**	**27**		Pn	01 39 52.0	+0.9
KAHG	**Katmai Hook Gl**	**2.62**	**30**		Pn	01 39 56.3	+0.9
KAHC	**Katmai Hardscr**	**2.64**	**24**		Pn	01 39 56.3	+0.7
PS1A	**Pavlof South-1**	**2.77**	**254**		Pn	01 39 58.5	+1.3
P16K	**Nushagak River**	**2.83**	**350**	Pn	Pn	01 39 59.7	+1.8
PS4A	**Pavlof South-4**	**2.86**	**253**		Pn	01 39 59.2	+0.7
S12K	**Black Hills**	**2.86**	**261**	Pn	Pn	01 39 59.6	+1.1
S12K				IAML		01 41 58.3	
	comp=E,73nm,0.5s						
KDAK	**Kodiak Island**	**2.89**	**56**		Pn	01 39 59.3	+0.5
KDAK				IAML		01 40 33.2	
	comp=E,68nm,0.3s						
HAG	**Hague Volcano**	**2.89**	**253**		Pn	01 39 60.0	+1.0
DOL	**Dolgoi Island**	**2.94**	**250**		Pn	01 40 00.1	+0.6
DT1	**Dutton Round H**	**3.17**	**251**		Pn	01 40 03.6	+0.8
Q19K	**Cape Douglas,**	**3.25**	**33**	Pn	Pn	01 40 04.8	+1.0
Q19K				IAML		01 42 04.0	
	comp=E,99nm,0.9s						
Q19K				IAML		01 42 12.6	
	comp=N,72nm,1.1s						
O15K	**Ungalikthiuk R**	**3.28**	**334**		Pn	01 40 05.7	+1.5
O15K				IAML		01 41 42.4	
	comp=E,65nm,0.9s						
O15K				IAML		01 41 49.5	
	comp=N,46nm,0.8s						
P18K	**Big Mountain,**	**3.29**	**17**	Pn	Pn	01 40 05.2	+0.8
O16K	**Kokwok River B**	**3.39**	**351**	Pn	Pn	01 40 06.8	+1.2
O16K				IAML		01 41 51.2	
	comp=N,48nm,0.6s						
O16K				IAML		01 41 52.6	
	comp=E,51nm,0.7s						
SYI	**Shuyak Island**	**3.45**	**45**	Pn	Pn	01 40 07.8	+1.3
O17K	**Koliganek Bris**	**3.52**	**360**		Pn	01 40 08.3	+0.8
O14K	**Tigyukauivet M**	**3.75**	**325**	Pn	Pn	01 40 12.0	+1.4
O14K				IAML		01 42 06.4	
	comp=E,32nm,1.0s						
O14K				IAML		01 42 31.3	
	comp=N,35nm,0.9s						
FALS	**False Pass**	**3.87**	**251**	Pn	Pn	01 40 13.2	+0.9
P19K	**Oil Pt**	**3.97**	**29**	Pn	Pn	01 40 14.9	+1.3
P19K				IAML		01 42 16.0	
	comp=N,53nm,0.8s						
P19K				IAML		01 42 26.8	
	comp=E,38nm,0.6s						
N15K	**Kwethluk River**	**4.24**	**339**	Pn	Pn	01 40 19.0	+1.8
ILSW	**Iliamna Southw**	**4.27**	**27**		Pn	01 40 19.3	+1.5
ILSW				IAML		01 42 22.1	
	comp=N,20nm,0.9s						
ILSW				IAML		01 42 22.6	
	comp=E,24nm,0.9s						
N17K	**Nushagak Hills**	**4.28**	**359**	Pn	Pn	01 40 19.5	+1.6
N17K				IAML		01 42 24.4	
	comp=N,25nm,0.6s						
N17K				IAML		01 42 27.3	
	comp=E,27nm,0.8s						
N14K	**Kuskokwak Cree**	**4.42**	**328**	Pn	Pn	01 40 21.4	+1.7
N18K	**Kilae Creek**	**4.48**	**7**	Pn	Pn	01 40 21.9	+1.4
N18K				IAML		01 42 22.9	
	comp=N,20nm,0.8s						
N18K				IAML		01 42 45.0	
	comp=E,20nm,1.1s						
CNPM	**China Poot**	**4.52**	**41**	Pn	Pn	01 40 21.9	+0.8
RED	**Redoubt Volcan**	**4.75**	**27**	Pn	Pn	01 40 25.9	+1.7
RED				IAML		01 42 51.0	
	comp=N,13nm,1.1s						
N19K	**Bonanza Creek**	**4.76**	**15**	Pn	Pn	01 40 26.4	+1.8
N19K				IAML		01 42 39.7	
	comp=E,27nm,0.8s						
N19K				IAML		01 42 47.0	
	comp=N,30nm,0.8s						
BRLK	**Bradley Lake**	**4.81**	**40**	Pn	Pn	01 40 25.3	+0.2
BRLK				IAML		01 41 19.1	
	comp=E,27nm,0.1s						
BRLK				IAML		01 41 19.4	
	comp=N,34nm,0.1s						
M16K	**Timber Creek**	**4.88**	**349**	Pn	Pn	01 40 27.7	+1.7
M16K				IAML		01 42 45.5	
	comp=N,22nm,0.9s						
M17K	**Holitna River**	**5.16**	**358**	Pn	Pn	01 40 30.9	+1.0
M14K	**Bethel**	**5.19**	**332**	Pn	Pn	01 40 30.0	-0.1
M18K	**Stony River**	**5.29**	**6**		Pn	01 40 32.8	+1.3
AKUT	**Akutan**	**5.42**	**251**	Pn	Pn	01 40 34.5	+1.1
LVA	**Lava Point**	**5.55**	**251**	Pn	Pn	01 40 36.7	+1.4
SEW	**Seward**	**5.57**	**43**	Pn	Pn	01 40 35.5	0.0
SLKM	**Skilak Lake**	**5.58**	**37**	Pn	Pn	01 40 36.4	+0.8
SPU	**Mount Spurr**	**5.58**	**26**	Pn	Pn	01 40 36.8	+1.2
M19K	**Big River Lodg**	**5.83**	**13**	Pn	Pn	01 40 40.3	+1.3
L14K	**Kuka Creek**	**5.87**	**333**	Pn	Pn	01 40 40.6	+1.1
STLK	**Strandline Lak**	**5.91**	**25**	Pn	Pn	01 40 41.5	+1.3
UNV	**Unalaska Valle**	**5.94**	**250**	Pn	Pn	01 40 41.6	+1.1
L18K	**Granite Mounta**	**5.98**	**2**	Pn	Pn	01 40 42.5	+1.4
MSW	**Makushin Switc**	**6.06**	**251**		Pn	01 40 43.3	+1.1
SUA	**Susitna One**	**6.16**	**29**		Pn	01 40 44.6	+1.0
K17K	**Iditarod**	**6.51**	**355**		Pn	01 40 49.6	+1.3

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*NEIC **10** 01:40:25.5±1.8, 57.24N±0.02×157.67W±0.03, h5km±2km, Error ellipse: s-maj=3.5km s-min=3.0km az=131.0*
AEIC 10 01:40:25.7±1.6, 57.25N±0.02×157.71W±0.04, h2km±6km, ML2.7, ML2.9/40(NEIC), Error ellipse: s-maj=4.2km s-min=1.5km az=125.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R16K	**Pilot Point**	**0.33**	**13**	Pg	Pg	01 40 33.0	+1.1
R16K				Sg	Sg	01 40 36.0	-0.3
ANNE	**Aniakchak Nort**	**0.39**	**210**		Pg	01 40 33.6	+0.6
ANNE					Sb	01 40 40.2	-1.5
ANNW	**Aniakchak Nort**	**0.39**	**224**		Pg	01 40 33.9	+0.7
ANNW					Sb	01 40 40.8	-1.2
ANPK	**Aniakchak Peak**	**0.47**	**209**		Pg	01 40 35.2	+0.6
ANPK					Sb	01 40 42.8	-1.3
PLBL	**Peulik Blue Cr**	**0.66**	**46**		Pg	01 40 37.8	-0.5
PLK1	**Peulik 1**	**0.81**	**47**		Pg	01 40 40.9	-0.3
PLK1					Sb	01 40 53.7	-0.3
PLK4	**Peulik 4**	**0.83**	**62**	Pg	Pg	01 40 41.1	-0.3
PLK4				Sg	Sg	01 40 51.6	-0.6
PLK4				IAML		01 41 01.1	
	comp=N,563nm,0.7s						
PLK4				IAML		01 41 01.8	
	comp=E,553nm,0.9s						
PLK5	**Peulik 5**	**0.88**	**30**		Pg	01 40 42.4	0.0
PLK5					Sb	01 40 55.5	-0.2
PLK3	**Peulik 3**	**0.90**	**60**		Pg	01 40 43.0	+0.2
PLK3					Sb	01 40 56.2	-0.2
PLK2	**Peulik 2**	**0.91**	**55**		Pg	01 40 43.0	-0.1
CHGN	**Chignik**	**1.02**	**202**	Pg	Pg	01 40 44.2	-1.0
CHGN				Sg	Sg	01 40 58.1	-0.4
CHGN				IAML		01 40 59.0	
	comp=N,318nm,0.6s						
CHGN				IAML		01 41 05.3	
	comp=E,297nm,0.6s						
VNHG	**Veniaminof 1**	**1.30**	**218**		Pg	01 40 49.0	-1.6
CNTC	**Contact Creek**	**1.41**	**43**		Pn	01 40 50.4	-2.1
CNTC					Sg	01 41 10.3	-0.7
VNWF	**Veniaminof 8**	**1.50**	**224**		Pn	01 40 51.7	-2.0
ANCK	**Angle Creek**	**1.52**	**50**		Pn	01 40 52.2	-1.9
VNKR	**Veniaminof 5**	**1.52**	**218**		Pn	01 40 52.0	-2.0
Q16K	**King Salmon**	**1.54**	**21**		Pn	01 40 51.9	-2.2
Q16K					Sn	01 41 12.9	-1.9
ACHA	**Angle Creek He**	**1.60**	**52**		Pn	01 40 54.2	-0.9
KABU	**Katmai Buttres**	**1.66**	**51**		Pn	01 40 54.0	-1.8
KABU					Sn	01 41 16.1	-1.7
KAKN	**Katmai Knife C**	**1.77**	**52**		Pn	01 40 55.7	-1.7
KAKN					Sn	01 41 18.7	-1.8
P16K	**Nushagak River**	**1.79**	**355**	Pn	Pn	01 40 58.4	+0.7
P16K				Sn	Sb	01 41 22.5	+0.3
CHIR	**Chirikof Islan**	**1.84**	**140**		Pn	01 40 57.9	-0.4
CHIR				IAML		01 41 29.0	
	comp=N,104nm,0.8s						
CHIR				IAML		01 41 34.0	
	comp=E,112nm,1.0s						
KAHC	**Katmai Hardscr**	**2.01**	**45**		Pn	01 40 59.1	-1.7
KAHC					Sn	01 41 25.0	-1.5
SII	**Sitkinak Islan**	**2.05**	**108**	Pn	Pn	01 41 00.4	+0.2
KAHG	**Katmai Hook Gl**	**2.10**	**52**		Pn	01 41 00.3	-1.7
O15K	**Ungalikthiuk R**	**2.23**	**331**		Pn	01 41 03.3	-0.4
O16K	**Kokwok River B**	**2.36**	**355**		Pn	01 41 05.0	-0.4
OHAK	**Old Harbor**	**2.41**	**89**	Pn	Pn	01 41 05.7	-0.4
SDPT	**Sand Point**	**2.45**	**220**	Pn	Pn	01 41 06.3	-0.4
SDPT				IAML		01 41 51.9	
	comp=E,89nm,1.1s						
P18K	**Big Mountain,**	**2.52**	**30**		Pn	01 41 07.7	+0.1
CNBA	**Chernabura Isl**	**2.65**	**204**	Pn	Pn	01 41 07.8	-1.6
CNBA				IAML		01 41 48.1	
	comp=E,68nm,1.0s						
CNBA				IAML		01 41 53.2	
	comp=N,82nm,0.9s						
Q19K	**Cape Douglas,**	**2.74**	**50**	Pn	Pn	01 41 12.0	+1.3
Q19K				IAML		01 42 30.0	
	comp=N,73nm,1.0s						
O14K	**Tigyukauivet M**	**2.75**	**318**	Pn	Pn	01 41 10.8	0.0
KDAK	**Kodiak Island**	**2.82**	**77**		Pn	01 41 11.9	+0.2
N15K	**Kwethluk River**	**3.18**	**338**		Pn	01 41 17.6	+0.9
N17K	**Nushagak Hills**	**3.30**	**5**		Pn	01 41 18.6	+0.3
N14K	**Kuskokwak Cree**	**3.40**	**324**	Pn	Pn	01 41 19.3	-0.4
N18K	**Kilae Creek**	**3.57**	**15**		Pn	01 41 21.9	-0.2
N19K	**Bonanza Creek**	**3.94**	**24**		Pn	01 41 27.1	-0.2

DJA 10 01:56:18.5±0.4, 2°S±4°×10°2E±°, h196km±4km, M4.0/14, mb4.4/1, MLv3.8/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.53**	**281**	P	Pn	01 56 46.8	+1.4
MASI	**Maura Aman, Be**	**0.98**	**165**	P	Pn	01 56 48.7	+0.9
MASI				S	Sn	01 57 12.6	+2.0
PDSI	**Padang**	**1.98**	**310**	P	Pn	01 56 57.3	+0.8
PDSI				S	Sn	01 57 24.5	-1.8
PPSI	**Pulau Pagai**	**2.05**	**254**	P	Pn	01 56 59.5	+2.3
PPSI				S	Sn	01 57 29.2	+1.9
LHSI	**Lahat**	**2.24**	**137**	P	Pn	01 56 58.7	-0.6
PPI	**Padang Panjang**	**2.34**	**317**	P	Pn	01 57 00.0	-0.4
MNAI	**Manna**	**2.37**	**156**	P	Pn	01 57 01.3	+0.6
MNAI				S	Sn	01 57 33.4	-0.3
SISI	**Saibi**	**3.01**	**286**	P	Pn	01 57 10.0	+1.9
SISI				S	Sn	01 57 45.5	-1.3
MDSI	**Maura Dua**	**3.17**	**136**	P	Pn	01 57 09.1	-0.8
LWLI	**Liwa**	**3.49**	**144**	P	Pn	01 57 14.9	+0.9
KASI	**Kota Agung**	**4.16**	**143**	P	Pn	01 57 21.4	-0.7
PBSI	**Pulau Batu**	**4.26**	**300**	P	Pn	01 57 22.7	-0.8
GSI	**Gunungsitoli**	**5.61**	**308**	P	Pn	01 57 39.9	-0.8

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*NEIC **10** 02:02:06.1±1.4, 34.48N±0.02×96.17W±0.03, h19km±6km, Error ellipse: s-maj=3.8km s-min=2.6km az=94.0*
NEIC 10 02:02:05.0±2.0, 34.47N±0.02×96.15W±0.03, h10km±2km, mb_Lg2.3/11, ML2.7/13, ML2.9/10, Error ellipse: s-maj=4.1km s-min=3.0km az=260.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOOK	**Love County**	**0.98**	**241**		Pg	02 02 23.5	-0.3
LOOK					Sn	02 02 37.9	-0.8
LOOK				IAML		02 02 38.4	
	comp=N,287nm,1.2s						
FNO	**Franklin**	**1.29**	**308**	Pg	Pb	02 02 29.6	+0.2
FNO					Sb	02 02 46.3	+0.1
FNO				IAML		02 02 47.7	
	comp=N,226nm,0.3s						
FNO				IAML		02 02 48.1	
	comp=E,191nm,0.2s						
X34A	**Smith Ranch, M**	**1.39**	**276**	Pn	Pb	02 02 31.2	0.0
X34A					Sg	02 02 50.4	+0.5
X34A				IAmb_Lg		02 02 50.7	
	comp=Z,8.6nm,1.1s						
DEOK	**Depew**	**1.40**	**348**		Pb	02 02 31.5	+0.3
DEOK					Sg	02 02 50.4	+0.3
OKCSW	**OKLAHOMA CITY**	**1.41**	**312**	Pn	Pg	02 02 31.9	-0.2
OKCSW					Sg	02 02 50.4	0.0
OKCFA	**Oklahoma City**	**1.43**	**312**		Pb	02 02 31.9	+0.2
OKCFA					Sg	02 02 50.8	-0.1
Z35A	**Perchaven, San**	**1.46**	**219**		Pn	02 02 31.5	+0.1
Z35A					Sn	02 02 50.4	-0.2
TUL3	**Leonard**	**1.47**	**11**	Pn	Pb	02 02 32.4	0.0
TUL3					Sg	02 02 52.8	+0.6
ADOK	**Arcadia Dam**	**1.55**	**320**	Pn	Pb	02 02 33.4	-0.4
Z38A	**Mt. Pleasant**	**1.55**	**141**	Pn	Pb	02 02 33.5	-0.3
OK052	**Battle Ridge R**	**1.61**	**341**		Pb	02 02 34.2	-0.6
OK029	**Liberty Lake**	**1.70**	**321**		Pb	02 02 36.6	+0.2
TREL	**Terrell**	**1.73**	**178**		Pb	02 02 37.5	+0.5
TREL					Sg	02 03 00.1	-0.7
QUOK	**Quay**	**1.76**	**345**		Pn	02 02 36.4	+0.8
FW06	**Azle**	**1.90**	**219**		Pb	02 02 38.6	-1.1
RLO	**Rose Lookout**	**1.93**	**28**		Pn	02 02 38.5	+0.7
WTFS	**Witchita Falls**	**2.04**	**251**		Pb	02 02 41.6	-0.6
MIAR	**Mount Ida**	**2.13**	**87**		Pn	02 02 41.7	+1.0
MIAR				IAmb_Lg		02 03 15.8	
	comp=Z,13nm,0.8s						
WMOK	**Wichita Mounta**	**2.19**	**278**	Pn	Pn	02 02 42.2	+0.7
CSTR	**Hydro, Custer**	**2.39**	**300**	Pn	Pn	02 02 44.6	+0.3
U38A	**Gravette**	**2.44**	**36**	Pn	Pn	02 02 46.1	+1.2
T35A	**Sooner Cattle**	**2.46**	**353**	Pn	Pn	02 02 45.9	+0.7
237A	**Washetta, Mont**	**2.48**	**173**	Pn	Pn	02 02 45.8	+0.3
HHAR	**Hobbs**	**2.56**	**44**	Pn	Pn	02 02 47.2	+0.6
WHTX	**Lake Whitney,**	**2.70**	**204**	Pn	Pn	02 02 49.0	+0.5
X40A	**Basin Creek Fa**	**2.74**	**89**	Pn	Pn	02 02 49.2	+0.2
Z41A	**Richland Creek**	**3.04**	**113**		Pn	02 02 53.9	+0.8
SMWD	**Samnorwood**	**3.43**	**282**	IAmb_Lg		02 03 59.8	
	comp=Z,5.7nm,1.0s						
FCAR	**Ozark Folk Cen**	**3.59**	**66**	IAmb_Lg		02 04 05.7	
	comp=Z,9.2nm,1.2s						
CCM	**Cathedral Cave**	**5.34**	**47**	IAmb_Lg		02 04 57.1	
	comp=Z,4.8nm,0.8s						
P40A	**Paris**	**6.02**	**32**	IAmb_Lg		02 05 17.2	
	comp=Z,6.6nm,0.7s						

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*TIR **10** 02:21:10.6, 40.74N×20.29E, h0km±3km, Ml2.8/5*
*PDG **10** 02:21:10.8±0.4, 40.74N×20.30E, h14km, ML2.7/10, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
*THE **10** 02:21:10.6, 41°N±2°×2°0E±°, h0km±1km, M2.5/17, MLh2.5/17*
*SKO **10** 02:21:11.1, 40.69N×20.25E, h11km, ML2.6*
*BEO **10** 02:21:12.1±0.3, 40.71N×20.38E, h5km±2km, ML2.1/14*
ISC 10 02:21:10.8±1.1, 40.72N±0.02×20.29E±0.02, h4km±10km, n72, σ0.85/118, 9C-7D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.39**	**104**	Pg	**Pg**	**02 21 18.6**	**+0.2**
KBN				S	**Sb**	**02 21 25.9**	**-0.9**
KBN				AML	AML	02 21 28.9	
	4.7nm,0.4s						
KBN	**Korca**	**0.39**	**104**	P	**Pg**	**02 21 18.5**	**+0.1**
KBN				S	**Sb**	**02 21 25.1**	**-1.6**
OHR	**Ohrid**	**0.55**	**44**	↑*i* Pg	**Pg**	**02 21 21.7**	**+0.2**
OHR				*i* Sg	**Sb**	**02 21 31.5**	**+0.1**
OHR				*e*Lg	Lg	02 21 31.8	
	comp=N,244nm,0.4s						
OHR				*e*Lg	Lg	02 21 33.6	
	comp=E,294nm,0.4s						
VLO	**Vlora**	**0.65**	**248**	Pg	**Pg**	**02 21 23.4**	**+0.1**
VLO				S	**Sb**	**02 21 34.4**	**+0.2**
VLO				AML	AML	02 21 37.0	
	comp=E,6.3nm,0.3s						
VLO	**Vlora**	**0.65**	**248**	P	**Pg**	**02 21 22.9**	**-0.5**
VLO				S	**Sb**	**02 21 33.8**	**-0.4**
TIR	**Tirane**	**0.71**	**333**	P	**Pg**	**02 21 24.0**	**-0.4**
TIR				Sg	**Sb**	**02 21 35.0**	**-0.7**
TIR				AML	AML	02 21 35.9	
	comp=E,0.5nm,0.3s						
TIR	**Tirane**	**0.71**	**333**	*i* Pg	**Pg**	**02 21 24.1**	**-0.4**
TIR				*i* Sg	**Sb**	**02 21 35.9**	**+0.1**
TIR	**Tirane**	**0.71**	**333**	*e*Pg	**Pg**	**02 21 24.0**	**-0.4**
TIR				*e*Sg	**Sn**	**02 21 36.9**	**-2.0**
FNA	**Florina**	**0.83**	**85**	Pg	**Pg**	**02 21 26.3**	**-0.5**
FNA				Sg	**Sb**	**02 21 40.3**	**+0.9**
FNA	**Florina**	**0.83**	**85**	P	**Pg**	**02 21 26.2**	**-0.5**
FNA				S	**Sb**	**02 21 38.6**	**-0.8**
FNA	**Florina**	**0.83**	**85**	⇓*i* Pg	**Pg**	**02 21 26.3**	**-0.5**
FNA				*i* Sg	**Sb**	**02 21 39.2**	**-0.2**
FNA	**Florina**	**0.83**	**85**	*e*Pg	**Pg**	**02 21 26.1**	**-0.7**
FNA				*e*Sg	**Sg**	**02 21 37.6**	**+0.1**
PENT	**Pentalofos**	**0.83**	**129**	P	**Pg**	**02 21 26.6**	**-0.2**
SRN	**Sarande**	**0.86**	**195**	P	**Pb**	**02 21 28.3**	**-0.1**
SRN				Sg	**Sn**	**02 21 42.6**	**-0.2**
SRN	**Sarande**	**0.86**	**195**	P	**Pg**	**02 21 28.0**	**+0.5**
SRN				S	**Sb**	**02 21 41.5**	**+1.2**
JAN	**Janina**	**1.14**	**158**	P	**Pg**	**02 21 32.0**	**-0.8**
JAN				S	**Sn**	**02 21 50.9**	**+1.2**
IGT	**Igoumenitsa**	**1.18**	**178**	P	**Pg**	**02 21 33.5**	**0.0**
IGT				S	**Sn**	**02 21 52.2**	**+1.4**
IGT	**Igoumenitsa**	**1.18**	**178**	*e*Pg	**Pg**	**02 21 33.3**	**-0.2**
IGT				*e*Sg	**Sn**	**02 21 50.5**	**-0.2**
KZN	**Kozani**	**1.20**	**109**	P	**Pg**	**02 21 33.0**	**-0.9**
PRMD	**Pramanda**	**1.34**	**152**	P	**Pn**	**02 21 36.1**	**-0.3**
PUK	**Puka**	**1.36**	**347**	P	**Pn**	**02 21 36.3**	**-0.3**
PUK				Sn	**Sn**	**02 21 57.7**	**+2.6**
PUK				AML	AML	02 22 03.5	
	comp=E,0.5nm,0.7s						
PUK	**Puka**	**1.36**	**347**	P	**Pn**	**02 21 36.0**	**-0.6**
ULC	**Ulcinj**	**1.47**	**328**	⇑*i* Pg	**Pn**	**02 21 37.4**	**-0.8**
ULC				*i* Sg	**Sg**	**02 21 59.0**	**+0.8**
SKO	**Skopje**	**1.52**	**34**	*i* Pg	**Pn**	**02 21 38.8**	**-0.

SJES				*e*Sn		**Sb**	**02 22 28.0**	**-1.0**
SELS	**Selova**	**2.58**	**14**	*e*Pn		**Pn**	**02 21 54.2**	**+0.9**
SELS				*e*Sn		**Sn**	**02 22 26.0**	**+0.9**
UPM	**Unac-Piva**	**2.69**	**338**	⇑*i*Pn		**Pn**	**02 21 55.5**	**+0.5**
UPM				*i* Sn		**Sn**	**02 22 27.9**	**-0.2**
MATE	**Matera**	**2.73**	**270**	⇑P		**Pn**	**02 21 54.1**	**-1.2**
MMB	**Musomishta**	**2.74**	**71**	*i* Pn		**Pn**	**02 21 56.0**	**+0.3**
IVAS	**Ivanjica**	**2.86**	**358**	*e*Pn		**Pn**	**02 21 59.0**	**+1.7**
GOCS	**Kraljevo Serbi**	**2.88**	**9**	*e*Pn		**Pn**	**02 21 58.7**	**+1.2**
GOCS				*e*Sn		**Sn**	**02 22 33.9**	**+1.3**
ZAPS	**Zavoj**	**3.10**	**34**	*e*Pn		**Pn**	**02 22 00.5**	**0.0**
ZAPS				*e*Sn		**Sn**	**02 22 37.9**	**0.0**
BOVS	**Bovan**	**3.10**	**19**	*e*Pn		**Pn**	**02 22 00.6**	**+0.1**
BOVS				*e*Sn		**Sn**	**02 22 37.6**	**-0.4**
GRUS	**Gruza**	**3.18**	**6**	*e*Pn		**Pn**	**02 22 02.5**	**+0.8**
GRUS				*e*Sn		**Sn**	**02 22 40.8**	**+0.7**
BBLS	**Lazi&#263i**	**3.21**	**349**	*e*Pn		**Pn**	**02 22 04.0**	**+1.9**
DIVS	**Divibare**	**3.38**	**356**	*e*Pn		**Pn**	**02 22 06.6**	**+2.1**
ZAGS	**Zajecar**	**3.41**	**24**	*e*Pn		**Pn**	**02 22 04.7**	**-0.1**
ZAGS				*e*Sn		**Sn**	**02 22 46.5**	**+0.8**
TRUS	**Trudelj**	**3.50**	**1**	*e*Pn		**Pn**	**02 22 06.7**	**+0.6**
TEKS	**Tekeris**	**3.87**	**352**	*e*Pn		**Pn**	**02 22 13.3**	**+2.2**
VRSS	**Vrsac**	**4.47**	**9**	*e*Pn		**Pn**	**02 22 18.6**	**-0.7**

IDC ***10*** *02:33:50.0±1.4,44°.38N×129°.59W,h0km,mb3.6/9, mbtmp3.8/14,ML4.1/4,MS3.4/21,Error ellipse: s-maj=29.4km s-min=14.7km az=44.0*
NEIC ***10*** *02:33:53.5±1.6,44°.54N±0°.09×129°.5W±0°.1,h10km±1km, mb4.1/97,ML3.4/46,Error ellipse: s-maj=18.5km s-min=9.7km az=224.0*
PGC ***10*** *02:33:54.7±50.0,44°.63N×129°.39W,h4km±1km, MLSn3.5/7,Mw4.1/7,505km west of Eugene, Oregon, Usa Off Coast Of Oregon*
ISC 10 02:33:54.0±0.7,44°.56N±0°.06×129°.39W±0°.07,h13km, n184,σ1ᵍ16/152,mb4.0/25,MS3.5/14,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02E	**Swisshome, OR**	**4.00**	**95**	Pn	**Pn**	**02 34 54.5**	**-0.4**
I02E				IAML		02 35 35.9	
	comp=E,57nm,3.0s						
I02E				IAML		02 35 56.8	
	comp=N,41nm,2.9s						
KEBM	**Edson Butte**	**4.04**	**113**	Pn	**Pn**	**02 34 53.5**	**-2.0**
KEBM				IAML		02 36 14.2	
	comp=N,62nm,2.2s						
F03A	**Seaside**	**4.34**	**70**		**Pn**	**02 34 59.7**	**+0.1**
COR	**Corvallis**	**4.35**	**88**		**Pn**	**02 34 59.9**	**+0.2**
COR				IAML		02 36 07.8	
	comp=N,31nm,2.0s						
COR				IAML		02 36 09.5	
	comp=N,45nm,2.4s						
RADR	**Rader Ridge**	**4.35**	**63**		**Pn**	**02 35 00.7**	**+0.9**
RADR				IAML		02 35 37.5	
	comp=N,35nm,1.7s						
RADR				IAML		02 36 09.0	
	comp=E,46nm,2.9s						
G03D	**McMinnville, O**	**4.40**	**79**		**Pn**	**02 35 01.0**	**+0.5**
G03D				IAML		02 35 35.0	
	comp=E,29nm,2.3s						
G03D				IAML		02 37 37.1	
	comp=N,27nm,1.9s						
I03D	**Drain, OR**	**4.43**	**99**		**Pn**	**02 34 59.8**	**-1.1**
E03A	**Lebam**	**4.55**	**62**		**Pn**	**02 35 03.0**	**+0.6**
E03A				IAML		02 35 40.0	
	comp=E,31nm,2.1s						
E03A	**Lebam**	**4.55**	**62**	Pn	**Pn**	**02 35 02.8**	**+0.3**
E03A				Sn	**Sn**	**02 35 53.8**	**-1.4**
BUCK	**Buck Mountain**	**4.61**	**92**		**Pn**	**02 35 03.9**	**+0.5**
BUCK				IAML		02 36 10.7	
	comp=N,34nm,2.7s						
BUCK				IAML		02 38 08.1	
	comp=E,40nm,3.4s						
WISH	**Wishkah**	**4.69**	**55**		**Pn**	**02 35 05.3**	**+1.0**
WISH	**Wishkah**	**4.69**	**55**	Pn	**Pn**	**02 35 05.4**	**+1.1**
WISH				Sn	**Sn**	**02 35 57.1**	**-1.4**
F04D	**Rainier, OR**	**4.75**	**69**		**Pn**	**02 35 06.2**	**+0.9**
H04D	**Lebanon**	**4.76**	**88**		**Pn**	**02 35 05.6**	**+0.3**
H04D				IAML		02 35 52.0	
	comp=N,29nm,2.7s						
H04D				IAML		02 36 13.5	
	comp=E,32nm,2.5s						
C03A	**Quillayute Air**	**4.76**	**43**		**Pn**	**02 35 06.6**	**+1.3**
NLWA	**Neilton Lookou**	**4.78**	**52**		**Pn**	**02 35 06.4**	**+0.7**
NLWA				IAML		02 36 06.3	
	comp=E,23nm,1.1s						
NLWA				IAML		02 36 07.2	
	comp=E,22nm,0.8s						
KSXB	**Camp Six Broad**	**4.87**	**122**	Pn	**Pn**	**02 35 08.1**	**+1.1**
KSXB				IAML		02 38 16.9	
	comp=E,22nm,3.5s						
G04A	**Mulino**	**4.96**	**80**		**Pn**	**02 35 08.8**	**+0.8**
CPW	**Capitol Peak**	**5.00**	**59**	Pn	**Pn**	**02 35 09.4**	**+0.7**
B012	**Ucluelet**	**5.10**	**30**	Pn	**Pn**	**02 35 10.6**	**+0.6**
OSD	**Olympics--Snow**	**5.12**	**48**	Pn	**Pn**	**02 35 11.2**	**+0.7**
BBOR	**Butler Butte**	**5.14**	**107**		**Pn**	**02 35 11.3**	**-0.5**
H04A	**Detroit Lake**	**5.14**	**86**		**Pn**	**02 35 11.4**	**+0.7**
OZB	**Mount Ozzard**	**5.15**	**30**		**Pn**	**02 35 11.2**	**+0.4**
OZB				IAML		02 38 18.3	
	comp=N,21nm,2.8s						
OZB				IAML		02 38 29.0	
	comp=E,24nm,3.7s						
OZB	**Mount Ozzard**	**5.15**	**30**	Pn	**Pn**	**02 35 11.2**	**+0.4**
OZB				Sn	**Sn**	**02 36 09.0**	**-1.0**
BFSB	**Bamfield**	**5.18**	**33**	Pn	**Pn**	**02 35 11.7**	**+0.6**
BFSB				Sn	**Sn**	**02 36 09.0**	**-1.7**
B928	**Bamfield**	**5.18**	**33**	Pn	**Pn**	**02 35 11.6**	**+0.6**
B928				Sn	**Sn**	**02 36 08.9**	**-1.7**
PTRF	**Port Renfrew**	**5.26**	**39**	Pn	**Pn**	**02 35 12.9**	**+0.7**
PTRF				Sn	**Sn**	**02 36 11.5**	**-1.1**
STW	**Striped Peak**	**5.34**	**46**	Pn	**Pn**	**02 35 14.4**	**+1.0**
NTKA	**Nootka**	**5.38**	**20**	Pn	**Pn**	**02 35 14.3**	**+0.5**
HDW	**Hoodsport**	**5.38**	**53**	Pn	**Pn**	**02 35 15.1**	**+1.1**
GNW	**Green Mountain**	**5.47**	**54**		**Pn**	**02 35 15.2**	**+0.2**
GNW	**Green Mountain**	**5.47**	**54**	Pn	**Pn**	**02 35 16.0**	**+0.9**
MGRB	**Mount Grey**	**5.49**	**34**	Pn	**Pn**	**02 35 15.8**	**+0.4**
SYMB	**Survey Mountai**	**5.55**	**42**	Pn	**Pn**	**02 35 16.9**	**+0.6**
B926	**Mesachie Lake**	**5.59**	**38**	Pn	**Pn**	**02 35 17.8**	**+1.0**
B926				Sn	**Sn**	**02 36 19.6**	**-1.1**
CLRS	**Cowichan Lake**	**5.59**	**38**		**Pn**	**02 35 17.2**	**+0.4**
CLRS	**Cowichan Lake**	**5.59**	**38**	Pn	**Pn**	**02 35 17.7**	**+0.9**
CLRS				Sn	**Sn**	**02 36 19.5**	**-1.3**
B927	**Port Alberni**	**5.62**	**32**	Pn	**Pn**	**02 35 17.9**	**+0.8**
PABB	**Port Alberni**	**5.62**	**32**	Pn	**Pn**	**02 35 17.9**	**+0.8**
YBH	**Yreka Blue Hor**	**5.65**	**118**		**Pn**	**02 35 18.5**	**+0.9**
YBH	**Yreka Blue Hor**	**5.65**	**118**	Pn	**Pn**	**02 35 17.9**	**+0.3**
	baz=314,slow=6.3,SNR=9.8						
YBH				LR	LR	02 37 08.5	
	comp=E,8.9nm,20.0s,baz=290,slow=35						
VGZ	**Gonzales**	**5.69**	**45**	Pn	**Pn**	**02 35 18.8**	**+0.6**
GDR	**Gold River**	**5.70**	**22**	Pn	**Pn**	**02 35 18.9**	**+0.7**
BPEB	**Brooks Peninsu**	**5.70**	**11**	Pn	**Pn**	**02 35 19.1**	**+0.7**
LON	**Longmire**	**5.75**	**65**		**Pn**	**02 35 19.8**	**+0.8**
LON	**Longmire**	**5.75**	**65**	Pn	**Pn**	**02 35 20.3**	**+1.3**
LON				Sn	**Sn**	**02 36 23.5**	**-1.3**
I05D	**Terrebonne, OR**	**5.77**	**89**		**Pn**	**02 35 19.1**	**-0.2**
B009	**North Saanich**	**5.78**	**43**	Pn	**Pn**	**02 35 20.1**	**+0.8**
B010	**North Saanich**	**5.78**	**43**	Pn	**Pn**	**02 35 20.1**	**+0.7**
B010				Sn	**Sn**	**02 36 24.0**	**-1.6**
PGC	**Sidney**	**5.78**	**43**	Pn	**Pn**	**02 35 19.2**	**-0.2**
PGC	**Sidney**	**5.78**	**43**	Pn	**Pn**	**02 35 20.2**	**+0.8**
B011	**North Saanich**	**5.79**	**43**	Pn	**Pn**	**02 35 20.2**	**+0.8**
B011				Sn	**Sn**	**02 36 23.9**	**-1.7**
D05A	**Enumclaw**	**5.80**	**60**	Pn	**Pn**	**02 35 21.6**	**+2.0**
FMW	**Mount Fremont**	**5.90**	**64**	Pn	**Pn**	**02 35 22.6**	**+1.4**
GOBB	**Galiano Island**	**5.96**	**41**	Pn	**Pn**	**02 35 22.9**	**+1.0**
GOBB				Sn	**Sn**	**02 36 28.8**	**-1.2**
SNB	**Saturna Island**	**6.00**	**43**	Pn	**Pn**	**02 35 23.5**	**+1.0**
PACB	**Port Alice, BC**	**6.01**	**12**	Sn	**Sn**	**02 36 30.2**	**-1.0**
MAYB	**Maynard**	**6.03**	**14**	Pn	**Pn**	**02 35 24.0**	**+1.0**
CBB	**Campbell River**	**6.12**	**25**		**Pn**	**02 35 24.3**	**+0.3**
CBB	**Campbell River**	**6.12**	**25**	Pn	**Pn**	**02 35 25.5**	**+1.5**
PINE	**Pine Mountain**	**6.13**	**94**		**Pn**	**02 35 24.1**	**-0.2**
NCSB	**Newcastle Ridg**	**6.26**	**20**	Pn	**Pn**	**02 35 27.9**	**+1.7**
NCSB				Sn	**Sn**	**02 36 36.9**	**-0.8**
JCW	**Jim Creek**	**6.31**	**52**	Pn	**Pn**	**02 35 28.5**	**+1.8**
WPB	**Watts Point**	**6.61**	**37**	Pn	**Pn**	**02 35 32.3**	**+1.5**
LTY	**Liberty**	**6.65**	**63**	Pn	**Pn**	**02 35 33.1**	**+1.6**
VDEB	**Vedder Mountai**	**6.75**	**46**	Pn	**Pn**	**02 35 33.8**	**+1.2**
VDEB				Sn	**Sn**	**02 36 48.5**	**-0.8**
O03E	**Paynes Creek**	**7.05**	**125**		**Pn**	**02 35 36.5**	**-0.4**
WSLR	**Whistler**	**7.09**	**36**	Pn	**Pn**	**02 35 39.3**	**+1.9**
BBB	**Bella Bella**	**7.67**	**6**	Pn	**Pn**	**02 35 46.7**	**+1.4**
	comp=E,0.3nm,0.3s,baz=202,slow=9.4,SNR=5.3						
BBB				LR	LR	02 38 02.9	
	comp=E,87nm,18.6s,baz=137,slow=32						
	comp=E,9.0nm,0.9s						
BBB	**Bella Bella**	**7.67**	**6**	Pn	**Pn**	**02 35 47.4**	**+2.1**
LLLB	**Lillooet**	**7.89**	**37**	Pn	**Pn**	**02 35 50.5**	**+2.0**
AFDM	**Forest Hills D**	**8.43**	**129**		**Pn**	**02 35 56.0**	**+0.3**
BUTB	**Butedale**	**8.53**	**4**	Pn	**Pn**	**02 35 59.4**	**+2.3**
MOBC	**Moresby Island**	**8.76**	**350**		**Pn**	**02 36 00.9**	**+0.7**
PAHR	**Pah Rah Range**	**8.88**	**120**		**Pn**	**02 36 01.3**	**-0.7**
NEW	**Newport**	**9.25**	**62**	Pn	**Pn**	**02 36 07.3**	**+0.3**
	comp=E,0.6nm,0.3s,baz=241,slow=11,SNR=8.7						
NEW				LR	LR	02 39 39.8	
	comp=E,322nm,20.1s,baz=264,slow=37						
	comp=E,4.9nm,0.9s						
GRNB	**Grenville Isla**	**9.30**	**358**	Pn	**Pn**	**02 36 10.2**	**+2.5**
CMB	**Columbia Colle**	**9.40**	**131**		**Pn**	**02 36 10.0**	**+0.9**
RUBB	**Prince Rupert**	**9.79**	**357**		**Pn**	**02 36 15.9**	**+1.6**
JTMT	**Jette**	**10.95**	**68**		**Pn**	**02 36 31.2**	**+0.8**
MSO	**Missoula**	**11.04**	**73**		**Pn**	**02 36 32.2**	**+0.6**
ELK	**Elko**	**11.10**	**105**		**Pn**	**02 36 33.1**	**+0.6**
ELK	**Elko**	**11.10**	**105**	Pn	**Pn**	**02 36 34.0**	**+1.4**
	comp=E,6.2nm,1.2s,baz=291,slow=12,SNR=7.7						
ELK				LR	LR	02 40 52.2	
	comp=E,67nm,20.6s,baz=294,slow=38						
SPR3	**Spring Creek 3**	**12.53**	**111**		**Pn**	**02 36 52.4**	**+0.1**
DLBC	**Dease Lake**	**13.90**	**359**	Pn	**Pn**	**02 37 11.8**	**+1.2**
	comp=E,1.1nm,0.3s,baz=192,slow=9.8,SNR=3.5						
DLBC				LR	LR	02 41 00.3	
	comp=E,415nm,21.8s,baz=162,slow=31						
	comp=E,11nm,0.6s						
V12A	**Nelson**	**14.18**	**123**	Pn	**Pn**	**02 37 13.9**	**-0.6**
PDAR	**Pinedale Array**	**14.47**	**90**	Pn	**Pn**	**02 37 21.1**	**+2.5**
	comp=E,0.1nm,0.3s,baz=291,slow=12,SNR=6.9						
PDAR				LR	LR	02 43 03.7	
	comp=E,134nm,19.7s,baz=265,slow=38						
	comp=E,0.9nm,0.8s						
KNB	**Kanab**	**14.62**	**115**		**Pn**	**02 37 21.0**	**+0.3**
PFO	**Pinyon Flats O**	**14.82**	**133**	LR	LR	02 42 35.8	
	comp=E,106nm,19.0s,baz=299,slow=36						
R33M	**Jennings River**	**14.89**	**357**	Pn	**Pn**	**02 37 22.7**	**-1.3**
P18A	**Preston Nutter**	**15.04**	**102**	IAmb	IAmb	02 37 39.8	
	comp=Z,6.7nm,1.0s						
IRM	**Iron Mountain**	**15.12**	**129**	IAmb	IAmb	02 37 35.7	
	comp=Z,11nm,1.0s						
W13A	**Hualapai Mount**	**15.18**	**123**	Pn	**Pn**	**02 37 30.0**	**+1.7**
W13A				IAmb	IAmb	02 37 37.9	
	comp=Z,7.2nm,1.1s						
U15A	**North Rim**	**15.32**	**116**	Pn	**Pn**	**02 37 28.9**	**-1.1**
U15A				IAmb	IAmb	02 37 41.8	
	comp=Z,7.8nm,1.0s						
HMU	**Henry Mountain**	**15.49**	**109**	IAmb	IAmb	02 37 39.9	
	comp=Z,11nm,1.0s						
P33M	**Teslin, Yukon**	**15.81**	**354**	Pn	**Pn**	**02 37 36.2**	**0.0**
PV21	**Cone Mtn., Par**	**16.40**	**104**	Pn	**Pn**	**02 37 44.2**	**+0.2**
PV21				IAmb	IAmb	02 37 49.9	
	comp=Z,28nm,1.4s						
PV23	**Carpenter Ridg**	**16.42**	**105**	Pn	**Pn**	**02 37 44.0**	**-0.4**
PV23				IAmb	IAmb	02 37 51.0	
	comp=Z,24nm,1.1s						
PV10	**Paradox Valley**	**16.44**	**105**	IAmb	IAmb	02 37 49.8	
	comp=Z,29nm,1.4s						
PV22	**Blue Mesa, Par**	**16.54**	**104**	Pn	**Pn**	**02 37 44.6**	**-1.2**
PV22				IAmb	IAmb	02 37 52.8	
	comp=Z,11nm,1.1s						
PV17	**East Wray Mesa**	**16.54**	**105**	Pn	**Pn**	**02 37 45.1**	**-0.7**
PV16	**Nyswonger Mesa**	**16.56**	**105**	Pn	**Pn**	**02 37 45.5**	**-0.5**
PV18	**Skein Mesa, Pa**	**16.59**	**105**		**Pn**	**02 37 47.5**	**+1.0**
PV18				IAmb	IAmb	02 37 53.7	
	comp=Z,15nm,1.1s						
PV03	**Paradox Valley**	**16.63**	**105**	IAmb	IAmb	02 37 51.4	
	comp=Z,12nm,1.3s						
PV12	**Saucer Basin,**	**16.63**	**105**	IAmb	IAmb	02 37 53.6	
	comp=Z,34nm,1.5s						
PV07	**Paradox Valley**	**16.68**	**104**	IAmb	IAmb	02 37 52.1	
	comp=Z,25nm,1.5s						
PV13	**Radium Mtn., P**	**16.70**	**105**	IAmb	IAmb	02 37 52.2	
	comp=Z,13nm,1.2s						
PV02	**Paradox Valley**	**16.73**	**105**	IAmb	IAmb	02 37 52.8	
	comp=Z,33nm,1.4s						
HAYD	**Hayden**	**16.79**	**96**	IAmb	IAmb	02 37 56.3	
	comp=Z,14nm,1.0s						
PV01	**Paradox Valley**	**16.88**	**105**	IAmb	IAmb	02 37 54.5	
	comp=Z,22nm,1.4s						
X16A	**Lo Mia Camp, P**	**17.13**	**120**	P	**P**	**02 37 55.4**	**+0.5**
MVCO	**Mesa Verde**	**17.39**	**108**	IAmb	IAmb	02 38 07.9	
	comp=Z,14nm,1.2s						
DGMT	**Dagmar**	**17.75**	**68**		**P**	**02 38 02.8**	**+1.4**
DGMT				IAmb	IAmb	02 38 05.3	
	comp=Z,24nm,1.1s						
MMPY	**Sheldon Lake,**	**18.12**	**357**		**Pn**	**02 38 05.1**	**-0.1**
MMPY				IAmb	IAmb	02 38 08.3	
	comp=Z,14nm,1.4s						
RSSD	**Black Hills**	**18.12**	**82**		**Pn**	**02 38 06.7**	**+1.1**
RSSD				IAmb	IAmb	02 38 11.6	
	comp=Z,15nm,1.4s						
CRQM	**Cirque**	**18.17**	**338**	Pn	**Pn**	**02 38 04.1**	**-1.8**
N25K	**Chitina, Valde**	**19.27**	**338**	IAmb	IAmb	02 38 19.5	
	comp=Z,11nm,1.5s						
KDAK	**Kodak Island**	**19.53**	**321**	LR	LR	02 43 25.7	
	comp=Z,91nm,21.5s,baz=125,slow=29						
YKA	**Yellowknife Ar**	**19.91**	**20**	P	**P**	**02 38 25.8**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=212,slow=10,SNR=2.9						
YKA				LR	LR	02 45 48.7	
	comp=Z,55nm,20.9s,baz=242,slow=36						
	comp=Z,0.8nm,0.8s						
ANMO	**Albuquerque**	**20.02**	**111**		**P**	**02 38 25.3**	**-1.4**
ANMO	**Albuquerque**	**20.02**	**111**	P	**P**	**02 38 27.0**	**+0.4**
	comp=Z,2.2nm,1.0s,baz=31,slow=13,SNR=4.4						
	comp=Z,2.2nm,1.0s						
SBM	**South Baldy**	**20.12**	**114**	P	**P**	**02 38 27.6**	**-0.4**
KNK	**Knik Glacier**	**20.27**	**333**	IAmb	IAmb	02 39 12.2	
	comp=Z,12nm,0.9s						
Y22A	**Socorro**	**20.29**	**114**	IAmb	IAmb	02 38 37.3	
	comp=Z,8.4nm,1.1s						
FFC	**Flin Flon**	**20.33**	**50**	P	**P**	**02 38 29.1**	**-0.5**
FFC				IAmb	IAmb	02 38 31.5	
	comp=Z,9.4nm,0.8s						
BNM	**Barren Site**	**20.38**	**113**		**P**	**02 38 29.9**	**-0.7**
PAX	**Paxson**	**20.63**	**339**	IAmb	IAmb	02 38 39.8	
	comp=Z,9.6nm,1.4s						
GHO	**Glory Hole Cre**	**20.69**	**333**	IAmb	IAmb	02 38 37.1	
	comp=Z,9.4nm,1.0s						
SUA	**Susitna One**	**21.08**	**331**	IAmb	IAmb	02 38 39.2	
	comp=Z,6.1nm,0.8s						
DHY	**Denali Highway**	**21.23**	**337**	IAmb	IAmb	02 38 41.5	
	comp=Z,8.6nm,1.1s						
STLK	**Strandline Lak**	**21.49**	**330**	IAmb	IAmb	02 38 48.6	
	comp=Z,7.5nm,1.3s						
SKT	**Skwentna**	**21.71**	**331**	IAmb	IAmb	02 38 59.5	
	comp=Z,7.9nm,1.2s						
RTBA	**Rita Blanca**	**21.76**	**103**	IAmb	IAmb	02 38 48.1	
	comp=Z,10nm,1.2s						
N19K	**Bonanza Creek**	**22.05**	**326**	IAmb	IAmb	02 39 01.2	
	comp=Z,11nm,1.4s						
TRF	**Thorofare Moun**	**22.36**	**335**		**P**	**02 38 50.8**	**-0.9**
TRF				IAmb	IAmb	02 38 55.9	
	comp=Z,8.1nm,1.0s						
ILAR	**Eielson Array**	**22.48**	**340**	P	**P**	**02 38 51.9**	**-0.8**
	comp=Z,1.5nm,1.0s,baz=158,slow=7.6,SNR=12						
ILAR				LR	LR	02 46 28.8	
	comp=Z,35nm,18.8s,baz=136,slow=34						
	comp=Z,1.5nm,1.0s						
WRH	**Wood River Hil**	**22.54**	**339**		**P**	**02 38 52.4**	**-0.9**
WRH				IAmb	IAmb	02 38 55.0	
	comp=Z,8.9nm,1.1s						
CCB	**Clear Creek Bu**	**22.61**	**339**		**P**	**02 38 54.0**	**-0.1**
CCB				IAmb	IAmb	02 39 00.2	
	comp=Z,6.5nm,1.3s						
L19K	**White Mountain**	**23.02**	**329**		**P**	**02 38 56.7**	**-1.7**
L19K				IAmb	IAmb	02 38 57.7	
	comp=Z,5.9nm,0.9s						
ULM	**Lac du Bonnet**	**23.25**	**64**	P	**P**	**02 39 00.7**	**-0.2**
	comp=Z,6.2nm,0.7s,baz=262,slow=13,SNR=7.2						
ULM				LR	LR	02 48 08.0	
	comp=Z,113nm,21.7s,baz=268,slow=37						
	comp=Z,6.2nm,0.7s						
AGMN	**Agassiz Nation**	**23.30**	**69**		**P**	**02 39 00.3**	**-1.1**
AGMN				IAmb	IAmb	02 39 03.1	
	comp=Z,7.8nm,0.8s						
I23K	**Minto, Yukon-K**	**23.41**	**339**	IAmb	IAmb	02 39 00.8	
	comp=Z,9.3nm,1.5s						
ECSD	**EROS Data Cent**	**23.45**	**80**	IAmb	IAmb	02 39 03.9	
	comp=Z,6.8nm,1.1s						
K20K	**Telida**	**23.50**	**332**	IAmb	IAmb	02 39 05.8	
	comp=Z,8.0nm,1.4s						
INK	**Inuvik**	**23.90**	**356**	LR	LR	02 47 59.9	
	comp=Z,60nm,18.1s,baz=220,slow=35						
EPLO	**Experimental L**	**24.64**	**65**		**P**	**02 39 13.9**	**-0.2**
ALPN	**Alpine**	**24.74**	**116**	IAmb	IAmb	02 39 24.3	
	comp=Z,5.3nm,1.3s						
G23K	**Bananza Creek**	**24.82**	**341**		**P**	**02 39 14.2**	**-1.4**
G23K				IAmb	IAmb	02 39 15.6	
	comp=Z,3.2nm,1.0s						
WMOK	**Wichita Mounta**	**25.40**	**102**	P	**P**	**02 39 20.8**	**-0.3**
TX31	**Lajitas Ar. Si**	**25.42**	**118**	P	**P**	**02 39 21.4**	**0.0**
TX31				IAmb	IAmb	02 39 26.7	
	comp=Z,2.7nm,1.0s						
TXAR	**Lajitas Array**	**25.42**	**118**	P	**P**	**02 39 20.3**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=297,slow=7.4,SNR=8.4						
	comp=Z,0.7nm,0.8s						
LPIG	**La Paz**	**25.67**	**136**	LR	LR	02 48 15.5	
	comp=Z,55nm,18.4s,baz=257,slow=34						
H19K	**Roundabout Mou**	**25.72**	**334**	P	**P**	**02 39 22.0**	**-1.6**
P38A	**Dawn**	**26.92**	**88**	P	**P**	**02 39 34.9**	**+0.1**
OXF	**Oxford**	**32.14**	**94**	P	**P**	**02 40 21.1**	**0.0**
TKL	**Tuckaleechee C**	**35.61**	**88**	LR	LR	02 55 59.2	
	comp=Z,204nm,18.1s,baz=306,slow=37						
PAOC	**Oil Creek Stat**	**36.01**	**77**	P	**P**	**02 40 55.2**	**+0.5**
J57A	**Williamstown**	**37.86**	**72**	P	**P**	**02 41 10.5**	**+0.2**
TRQ	**Mont Tremblant**	**37.90**	**68**	P	**P**	**02 41 09.8**	**-0.8**
FRB	**Frobisher Bay**	**38.63**	**38**	LR	LR	02 56 10.3	
	comp=Z,65nm,19.5s,baz=319,slow=34						
TEIG	**Tepich**	**41.75**	**112**	P	**P**	**02 41 44.3**	**+1.5**
SEY	**Seymchan**	**46.48**	**322**	LR	LR	03 01 36.5	
	comp=Z,39nm,19.6s,baz=56,slow=36						
JTS	**Las Juntas de**	**51.21**	**118**	LR	LR	03 08 12.8	
	comp=Z,43nm,19.5s,baz=128,slow=40						
H11N3	**WAKE ISLAND Hy**	**57.80**	**266**	T	T	03 45 44.4	
	baz=49,slow=75,SNR=814						
H11N2	**WAKE ISLAND Hy**	**57.80**	**266**	T	T	03 45 43.2	
	baz=49,slow=75,SNR=510						
H11N1	**WAKE ISLAND Hy**	**57.81**	**266**	T	T	03 45 46.1	
	baz=49,slow=75,SNR=476						
H11S1	**WAKE ISLAND Hy**	**58.74**	**266**	T	T	03 46 53.0	
	baz=48,slow=75,SNR=115						
H11S2	**WAKE ISLAND Hy**	**58.74**	**266**	T	T	03 46 54.2	
	baz=48,slow=75,SNR=109						
H11S3	**WAKE ISLAND Hy**	**58.76**	**266**	T	T	03 46 54.2	
	baz=48,slow=75,SNR=98						
NOA	**NORSAR Array B**	**70.00**	**19**	P	**P**	**02 45 05.7**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=333,slow=6.1,SNR=3.6						
	comp=Z,0.5nm,0.8s						
HFS	**Hagfors**	**71.38**	**18**	LR	LR	03 14 14.9	
	comp=Z,28nm,18.1s,baz=352,slow=34						
SONM	**Songino Array**	**75.76**	**325**	P	**P**	**02 45 37.4**	**-2.0**
	comp=Z,0.4nm,0.6s,baz=15,slow=7.4,SNR=2.2						
	comp=Z,0.4nm,0.6s						
HHC	**Hu-ho-hao-te**	**78.91**	**317**	*e*P	**P**	**02 45 56.2**	**-0.9**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,3.9s						
BVAR	**Borovoye Array**	**81.32**	**348**	P	**P**	**02 46 07.3**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=49,slow=9.7,SNR=2.2						
	comp=Z,0.3nm,0.5s						
VRAC	**Vranov**	**81.90**	**22**	LR	LR	03 22 32.4	
	comp=Z,17nm,20.5s,baz=322,slow=36						
DAVOX	**Davos/Dischmat**	**82.20**	**27**	LR	LR	03 23 56.8	
	comp=Z,26nm,19.0s,baz=305,slow=36

TORD Torodi Ar. Bea 152.92 282 PKPbc **PKPbc 03 12 35.4 -1.4**
comp=Z,0.6nm,0.7s,baz=45,slow=2.8,SNR=3.8

*SNET **10** 03:44:09.0±0.8, 13˚.00N×89˚.47W, h32km±20km, ML3.4*
*CATAC **10** 03:44:10.0±0.5, 13˚.N±2˚×8˚.9W±˚, h25km±3km, M3.6/23, MLv3.6/23, Error ellipse: s-maj=6.0km s-min=3.4km az=47.3, confirmed*
*GCG **10** 03:44:11.4±0.8, 13˚.08N×89˚.55W, h38km±38km, MD4.1, ML3.0*
ISC 10 03:44:10.0±1.7, **13˚.00N**±0˚.06×**89˚.47W**±0˚.05, **h30**km±12km, **n78**, σ0**s50**/84, **7C-2D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAYA	**Jayaque - finc**	**0.65**	**2**	↑*i*P	**Pn**	**03 44 23.1**	**-0.3**
JAYA				*e*S	**Sn**	**03 44 32.7**	**-0.1**
JAYA	**Jayaque - finc**	**0.65**	**2**	*i* P	**Pn**	**03 44 23.1**	**-0.3**
JAYA				*e*S	**Sn**	**03 44 32.4**	**-0.4**
JAYA	**Jayaque - finc**	**0.65**	**2**	P	**Pn**	**03 44 23.2**	**-0.1**
PANCS	**Alcalda de**	**0.68**	**25**	P	Pn	03 44 32.6	+9.1
LOMA	**Loma Larga**	**0.71**	**25**	↑*e*P	**Pb**	**03 44 23.9**	**-0.1**
LOMA	**Loma Larga**	**0.71**	**25**	P	**Pn**	**03 44 23.6**	**-0.4**
LOMA	**Loma Larga**	**0.71**	**25**	S	**Sn**	**03 44 35.1**	**+1.0**
PMON	**Piamonte**	**0.73**	**12**	↑*e*P	**Pn**	**03 44 24.1**	**-0.2**
PMON	**Piamonte**	**0.73**	**12**	P	**Pb**	**03 44 24.2**	**-0.1**
PMON	**Piamonte**	**0.73**	**12**	S	**Sn**	**03 44 34.8**	**+0.3**
LFRS	**El Faro**	**0.74**	**33**	↓*e*P	**Pn**	**03 44 24.3**	**-0.2**
LFRS				*e*S	**Sn**	**03 44 35.0**	**+0.2**
UTEC	**Universidad Te**	**0.75**	**21**	P	**Pn**	**03 44 24.3**	**-0.2**
UTEC	**Universidad Te**	**0.75**	**21**	S	**Sn**	**03 44 35.3**	**+0.3**
UEES	**Universidad Ev**	**0.75**	**18**	↑*i*P	**Pn**	**03 44 24.4**	**-0.2**
UEES	**Universidad Ev**	**0.75**	**18**	P	**Pn**	**03 44 24.4**	**-0.2**
UEES	**Universidad Ev**	**0.75**	**18**	S	**Sn**	**03 44 35.1**	**+0.1**
BOQS	**Boqueron**	**0.76**	**14**	↑*e*P	**Pb**	**03 44 24.8**	**-0.1**
IGN	**Direccin Gen**	**0.77**	**23**	P	**Pb**	**03 44 24.7**	**-0.2**
IGN	**Direccin Gen**	**0.77**	**23**	S	**Sn**	**03 44 35.7**	**+0.2**
PIC2	**El Picacho**	**0.77**	**16**	*e*P	**Pb**	**03 44 25.0**	**-0.1**
CEDA	**San Andres**	**0.81**	**5**	P	**Pn**	**03 44 24.9**	**-0.4**
CEDA	**San Andres**	**0.81**	**5**	S	**Sb**	**03 44 37.8**	**+1.7**
LFU	**La Fuente**	**0.83**	**25**	*e*P	**Pb**	**03 44 25.7**	**-0.2**
LFU				*e*S	**Sb**	**03 44 37.0**	**+0.2**
CEVE	**Cerro Verde**	**0.84**	**350**	*e*P	**Pb**	**03 44 25.9**	**-0.2**
CEVE	**Cerro Verde**	**0.84**	**350**	P	**Pb**	**03 44 26.0**	**-0.2**
CEVE	**Cerro Verde**	**0.84**	**350**	S	**Sb**	**03 44 37.8**	**+0.5**
LBRS	**Las Brisas**	**0.85**	**30**	↑*i*P	**Pb**	**03 44 26.1**	**-0.2**
SBLS	**San Blas**	**0.85**	**350**	*e*P	**Pb**	**03 44 26.2**	**-0.3**
SNJE	**San Jose**	**0.88**	**352**	*e*P	**Pn**	**03 44 26.3**	**-0.1**
SNJE				*e*P	**Pn**	**03 44 26.3**	**-0.1**
PAVA	**Las Pavas**	**0.88**	**36**	↑*i*P	**Pn**	**03 44 26.4**	**-0.1**
PAVA	**Las Pavas**	**0.88**	**36**	P	**Pn**	**03 44 26.4**	**-0.1**
PAVA	**Las Pavas**	**0.88**	**36**	S	**Sb**	**03 44 38.7**	**+0.3**
RTR	**El Retiro**	**0.91**	**349**	*e*P	**Pb**	**03 44 27.0**	**-0.4**
UESV	**Universidad de**	**0.92**	**46**	*e*P	**Pn**	**03 44 26.5**	**-0.4**
UESV	**Universidad de**	**0.92**	**46**	P	**Pn**	**03 44 26.5**	**-0.4**
UESV	**Universidad de**	**0.92**	**46**	S	**Sb**	**03 44 39.1**	**-0.4**
NUBE	**Las Nubes**	**0.95**	**342**	↓*e*P	**Pn**	**03 44 27.0**	**-0.4**
NUBE				*e*S	**Sn**	**03 44 39.2**	**-0.8**
NUBE	**Las Nubes**	**0.95**	**342**	*i* P	**Pn**	**03 44 27.1**	**-0.4**
NUBE				*i* S	**Sn**	**03 44 39.4**	**-0.6**
NUBE	**Las Nubes**	**0.95**	**342**	P	**Pn**	**03 44 27.5**	**+0.1**
UNIC	**Universidad Ca**	**0.98**	**356**	*e*P	**Pb**	**03 44 27.9**	**-0.5**
UNIC	**Universidad Ca**	**0.98**	**356**	P	**Pb**	**03 44 28.0**	**-0.5**
UNIC	**Universidad Ca**	**0.98**	**356**	S	**Sb**	**03 44 40.9**	**-0.2**
LOAL	**Lomas de Alarc**	**1.04**	**343**	*e*P	**Pb**	**03 44 29.3**	**-0.1**
LOAL	**Lomas de Alarc**	**1.04**	**343**	P	**Sb**	**03 44 28.9**	**-0.6**
LOAL	**Lomas de Alarc**	**1.04**	**343**	S	**Sb**	**03 44 43.7**	**+0.9**
PQSS	**Presa 15 de Se**	**1.09**	**55**	P	**Pn**	**03 44 28.9**	**-0.3**
PQSS	**Presa 15 de Se**	**1.09**	**55**	S	**Sn**	**03 44 42.0**	**-1.1**
PACA	**Pacayal**	**1.22**	**67**	*e*P	**Pn**	**03 44 31.4**	**+0.4**
PACA	**Pacayal**	**1.22**	**67**	P	**Pn**	**03 44 31.4**	**+0.4**
PACA	**Pacayal**	**1.22**	**67**	S	**Sb**	**03 44 47.3**	**-0.6**
RANC	**El Ranchito**	**1.23**	**69**	P	**Pn**	**03 44 29.1**	**-2.2**
LLGN	**La Laguna**	**1.27**	**24**	*e*P	**Pn**	**03 44 31.7**	**0.0**
LLGN	**La Laguna**	**1.27**	**24**	P	**Pn**	**03 44 31.7**	**0.0**
LLGN	**La Laguna**	**1.27**	**24**	S	**Sb**	**03 44 48.9**	**-0.4**
BLLM	**Bellamira**	**1.28**	**70**	*e*P	**Pn**	**03 44 32.1**	**+0.2**
CNRM	**Centro Naciona**	**1.35**	**69**	P	**Pn**	**03 44 32.6**	**-0.2**
MTO3	**Montecristo**	**1.40**	**5**	*e*P	**Pn**	**03 44 33.8**	**+0.1**
MTO3	**Montecristo**	**1.40**	**5**	*i* P	**Pn**	**03 44 33.7**	**+0.1**
MTO3	**Montecristo**	**1.40**	**5**	P	**Pn**	**03 44 33.8**	**+0.1**
MTO3	**Montecristo**	**1.40**	**5**	S	**Sn**	**03 44 51.7**	**+0.5**
ESQI	**Esquipulas**	**1.56**	**5**	P	**Pn**	**03 44 36.4**	**+0.6**
ESQI	**Esquipulas**	**1.56**	**5**	S	**Sn**	**03 44 55.5**	**+0.5**
LCND	**La Caada**	**1.57**	**78**	*e*P	**Pn**	**03 44 36.2**	**-0.1**
LCND	**La Caada**	**1.57**	**78**	S	Sn	03 44 36.2	-19
CNCH	**Conchagua**	**1.62**	**80**	*e*P	**Pn**	**03 44 36.6**	**-0.1**
CNCH	**Conchagua**	**1.62**	**80**	P	**Pn**	**03 44 37.1**	**+0.5**
CNCH	**Conchagua**	**1.62**	**80**	S	**Sn**	**03 44 56.7**	**+0.2**
CSGN	**Cosiguina Volc**	**1.87**	**90**	P	**Pn**	**03 44 40.0**	**0.0**
CSGN				S	**Sn**	**03 45 03.4**	**+0.9**
SARH	**Santa Rosa de**	**1.90**	**21**	P	**Pn**	**03 44 41.0**	**+0.6**
POTN	**Potosi Cosigui**	**1.92**	**90**	P	**Pn**	**03 44 40.7**	**+0.2**
POTN				S	**Sn**	**03 45 04.2**	**+0.5**
CHOHN	**Orocuina**	**2.31**	**78**	P	**Pn**	**03 44 46.0**	**0.0**
PKGN	**Cerro Pekin**	**2.46**	**97**	P	**Pn**	**03 44 47.9**	**-0.1**
POLN	**Al Sur del Vol**	**2.62**	**97**	P	Pn	03 44 40.5	-10
YUSH	**Yuscaran**	**2.73**	**69**	P	**Pn**	**03 44 51.7**	**-0.2**
ILCN	**San Idelfonso**	**2.74**	**98**	P	**Pn**	**03 44 51.6**	**-0.3**
CNGA	**Al SSO del Vol**	**2.75**	**100**	P	**Pn**	**03 44 51.6**	**-0.5**
CNGN	**Cerro Negro**	**2.75**	**100**	P	**Pn**	**03 44 53.0**	**+0.9**
COPN	**Copaltepe**	**2.93**	**106**	P	**Pn**	**03 44 54.7**	**+0.2**

*REN **10** 04:25:55.6±1.5, 39˚.54N±0˚.03×116˚.56W±0˚.03, h9km±6km, ML4.6/23, mb4.3/16(NEIC), ML4.2/198(NEIC), Mwr4.1/121(NEIC), Error ellipse: s-maj=5.8km s-min=2.2km az=145.0*
*NEIC **10** 04:25:55.4±1.4, 39˚.56N±0˚.03×116˚.56W±0˚.02, h10km±2km, Error ellipse: s-maj=5.5km s-min=3.0km az=189.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=1.78; Mθθ0.51; Mϕϕ 1.27; Mrθ-0.27; Mθϕ 0.74; Mϕr-0.06; Fault plane solution: M₀1.77000×10¹⁵ NP1: ϕs205.44000°, δ42.21000°, λ-98.89000°. NP2:ϕs37.36000°, δ48.41000°, λ-82.02000°. Principal axes: T 1.7321, Plg3.0000°, Azm122.0000°; N 0.0770, Plg6.0000°, Azm212.0000°; P -1.8091, Plg83.0000°, Azm4.0000°;*
*IDC **10** 04:25:56.5±0.5, 39˚.52N×116˚.51W, h0km, mb4.1/9, mbtmp4.0/14, ML3.0/4, MS3.3/22 Error ellipse: s-maj=8.7km s-min=5.9km az=117.0*
*NEIC **10** 04:25:56.4, 39˚.53N×116˚.55W, h15km*
ISC 10 04:25:57.2±0.5, **39˚.54N**±0˚.04×**116˚.55W**±0˚.04, **h10**km, **n169**, σ1**s18**/140, **mb4.2**/10, **MS3.5**/16, **Nevada**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
Q09A	**Carvers**	**0.86**	**215**		**Pg**	**04 26 12.7**	**-1.1**
Q09A				Sg	**Sg**	**04 26 24.2**	**-0.8**
Q09A				IAML		04 26 25.2	
	comp=N,9μm,0.4s						
Q09A				IAML		04 26 26.2	
	comp=E,9μm,0.3s						
R11B	**Troy Canyon, C**	**1.40**	**147**	Pn	**Pn**	**04 26 22.3**	**-0.7**
R11B				IAML		04 26 42.4	
	comp=N,4μm,0.4s						
Q12A	**Willow Creek R**	**1.42**	**110**		**Pn**	**04 26 22.9**	**-0.4**
Q12A					**Sn**	**04 26 41.4**	**-0.7**
TPH	**Tonopah**	**1.55**	**200**	Pn	**Pn**	**04 26 24.6**	**-0.5**
TPH				IAML		04 26 47.5	
	comp=E,3μm,0.7s						
TPH				IAML		04 26 48.2	
	comp=N,3μm,0.4s						
ELK	**Elko**	**1.57**	**39**	Pn	**Pn**	**04 26 24.9**	**-0.5**
ELK				IAML		04 26 48.1	
	comp=N,3μm,0.5s						
ELK	**Elko**	**1.57**	**39**	Pg	**Pn**	**04 26 24.9**	**-0.5**
	comp=N,242nm,0.3s,baz=213,slow=12,SNR=1229						
ELK				Lg	Lg	04 26 46.3	
	comp=N,1μm,0.3s,baz=228,slow=15,SNR=47						
ELK				LR	LR	04 26 55.7	
	comp=N,139nm,19.2s,baz=302,slow=38						
RYN	**Ryan**	**1.79**	**240**	Pn	**Pn**	**04 26 27.5**	**-0.8**
RYN				IAML		04 26 54.9	
	comp=N,3μm,0.3s						
SPR3	**Spring Creek 3**	**1.80**	**107**	Pn	**Pn**	**04 26 28.6**	**-0.1**
SPR3				IAML		04 26 56.6	
	comp=N,3μm,0.9s						
S11A	**Rachel**	**1.99**	**161**	Pn	**Pn**	**04 26 31.0**	**-0.1**
LHV	**Little Huntoon**	**2.00**	**231**	Pn	**Pn**	**04 26 30.7**	**-0.3**
PAHR	**Pah Rah Range**	**2.20**	**275**	Pn	**Pn**	**04 26 33.6**	**-0.3**
PAHR				IAML		04 27 08.9	
	comp=E,2μm,0.4s						
PAHR				IAML		04 27 09.7	
	comp=N,1μm,1.2s						
GMN	**Gold Mountain**	**2.30**	**194**	Pn	**Pn**	**04 26 35.0**	**-0.4**
GMN				IAML		04 27 15.1	
	comp=N,1μm,0.7s						
PSUT	**Pine Spring**	**2.32**	**115**		**Pn**	**04 26 34.4**	**-1.3**
PSUT				IAML		04 27 09.3	
	comp=N,1μm,0.6s						
PRN	**Pahroc Range**	**2.43**	**151**	Pn	**Pn**	**04 26 36.8**	**-0.3**
DSP	**Deep Springs**	**2.43**	**208**		**Pn**	**04 26 36.7**	**-0.3**
DSP				IAML		04 27 17.7	
	comp=E,777nm,1.2s						
LCH	**Last Change Ra**	**2.46**	**201**		**Pn**	**04 26 37.2**	**-0.2**
WAKR	**Walker**	**2.48**	**246**	Pn	**Pn**	**04 26 36.9**	**-1.0**
SGV	**South Grapevin**	**2.58**	**189**		**Pn**	**04 26 39.4**	**+0.2**
TPNV	**Topopah Spring**	**2.59**	**175**	Pn	**Pn**	**04 26 38.5**	**-0.9**
MLAC	**Mammoth, Mammo**	**2.62**	**224**		**Pn**	**04 26 40.4**	**+0.7**
PEAR	**Peavine Mounta**	**2.64**	**273**		**Pn**	**04 26 40.5**	**+0.4**
WCT	**Wildcat Mounta**	**2.74**	**181**	Pn	**Pn**	**04 26 41.2**	**-0.1**
WCT				IAML		04 27 28.2	
	comp=N,622nm,0.4s						
WCT				IAML		04 27 29.4	
	comp=E,852nm,0.7s						
MDPB	**Devils Postpil**	**2.75**	**227**		**Pn**	**04 26 40.0**	**-1.6**
TIN	**Tinemaha, Big**	**2.81**	**209**	Pn	**Pn**	**04 26 42.7**	**+0.4**
NSP	**Numbskull Pass**	**2.81**	**175**		**Pn**	**04 26 42.6**	**+0.2**
SDH	**Striped Hills**	**2.89**	**177**		**Pn**	**04 26 43.9**	**+0.5**
MCY	**Mercury**	**2.91**	**171**		**Pn**	**04 26 43.7**	**+0.1**
DONR	**Donner Summit**	**2.93**	**268**		**Pn**	**04 26 44.2**	**+0.1**
BEKR	**Beckworth**	**2.96**	**278**	Pn	**Pn**	**04 26 43.6**	**-0.9**
BEKR				IAML		04 27 33.2	
	comp=N,538nm,0.3s						
BEKR				IAML		04 27 35.1	
	comp=E,463nm,0.5s						
BGU	**Big Grassy Mou**	**3.03**	**62**		**Pn**	**04 26 45.2**	**-0.1**
BGU				IAML		04 27 34.6	
	comp=E,893nm,0.7s						
FURC	**Furnace Creek,**	**3.07**	**185**		**Pn**	**04 26 46.8**	**+1.0**
AMDNV	**Amargosa**	**3.08**	**176**		**Pn**	**04 26 46.6**	**+0.7**
CCUT	**Cedar City**	**3.19**	**127**		**Pn**	**04 26 47.1**	**-0.5**
CCUT				IAML		04 27 39.0	
	comp=E,405nm,0.8s						
SHPR	**Sheep Range**	**3.22**	**160**	Pn	**Pn**	**04 26 47.5**	**-0.4**
WVOR	**Wild Horse Val**	**3.30**	**332**	Pn	**Pn**	**04 26 49.4**	**+0.4**
WVOR				IAML		04 27 47.9	
	comp=E,452nm,1.5s						
WVOR				IAML		04 27 52.3	
	comp=E,487nm,0.7s						
CWC	**Cottonwood Cre**	**3.32**	**202**		**Pn**	**04 26 49.6**	**+0.2**
TCRU	**Three Creeks R**	**3.32**	**105**		**Pn**	**04 26 50.4**	**+0.9**
TCRU				IAML		04 27 55.8	
	comp=N,649nm,1.3s						
TCRU				IAML		04 28 01.4	
	comp=E,664nm,1.2s						
SZCU	**Shurtz Canyon**	**3.33**	**124**		**Pn**	**04 26 49.6**	**+0.1**
SZCU	**Shurtz Canyon**	**3.33**	**124**	IAML		04 27 45.6	
	comp=N,518nm,0.3s						
SZCU				IAML		04 27 50.4	
	comp=E,670nm,2.0s						
GWY	**Greenwater Val**	**3.34**	**182**		**Pn**	**04 26 51.0**	**+1.3**
GWY	**Greenwater Val**	**3.34**	**182**	IAML		04 27 48.4	
	comp=E,556nm,0.9s						
GWY				IAML		04 27 53.5	
	comp=N,504nm,0.6s						
CMB	**Columbia Colle**	**3.35**	**245**		**Pn**	**04 26 49.3**	**-0.5**
BUCR	**Buckhorn Ranch**	**3.38**	**238**	Pn	**Pn**	**04 26 49.5**	**-0.7**
WELL	**Weller Preserv**	**3.44**	**253**		**Pn**	**04 26 50.1**	**-0.8**
WELL				IAML		04 27 48.1	
	comp=N,424nm,0.3s						
WELL				IAML		04 27 48.8	
	comp=E,569nm,0.3s						
AFDM	**Forest Hills D**	**3.49**	**262**	Pn	**Pn**	**04 26 50.6**	**-0.9**
MPMC	**Manual Prospec**	**3.55**	**192**		**Pn**	**04 26 51.7**	**-0.9**
QSM	**Queen of Sheba**	**3.57**	**184**		**Pn**	**04 26 52.1**	**-0.6**
QSM				IAML		04 27 56.0	
	comp=N,330nm,0.8s						
QSM				IAML		04 27 59.2	
	comp=E,332nm,1.0s						
LCMT	**Little Creek M**	**3.62**	**133**		**Pn**	**04 26 54.3**	**+0.8**
SHOC	**Shoshone, Teco**	**3.64**	**177**		**Pn**	**04 26 52.3**	**-1.3**
HVU	**Hansel Valley**	**3.64**	**51**	Pn	**Pn**	**04 26 53.0**	**-0.7**
MTPU	**Mount Pierson**	**3.72**	**112**		**Pn**	**04 26 54.3**	**-0.8**
MTPU				IAML		04 28 07.0	
	comp=E,282nm,1.7s						
CLC	**China Lake**	**3.81**	**193**		**Pn**	**04 26 55.4**	**-0.6**
MPU	**Maple Canyon**	**3.81**	**81**	Pn	**Pn**	**04 26 56.0**	**-0.3**
MPU				IAML		04 28 02.9	
	comp=N,229nm,1.0s						
ORV	**Oroville**	**3.83**	**272**		**Pn**	**04 26 55.8**	**-0.5**
TOW	**Tower One**	**3.84**	**195**		**Pn**	**04 26 58.2**	**+1.7**
CTU	**Camp Tracy**	**3.85**	**71**	Pn	**Pn**	**04 26 56.8**	**0.0**
CTU				IAML		04 28 03.5	
	comp=E,428nm,0.8s						
CTU				IAML		04 28 05.5	
	comp=N,304nm,0.7s						
KNB	**Kanab**	**3.86**	**129**		**Pn**	**04 26 57.8**	**+1.0**
KNB	**Kanab**	**3.86**	**129**	IAML		04 28 01.6	
	comp=N,316nm,1.0s						
KNB				IAML		04 28 05.1	
	comp=E,290nm,1.1s						
MFID	**Camas Ranch**	**3.91**	**8**	Pn	**Pn**	**04 26 58.1**	**+0.6**
PKCU	**Pink Cliffs**	**3.92**	**121**		**Pn**	**04 26 58.0**	**+0.1**
HATC	**Hat Creek Radi**	**3.98**	**290**	Pn	**Pn**	**04 26 58.0**	**-0.3**
HATC				IAML		04 28 16.0	
	comp=N,417nm,3.1s						
HATC				IAML		04 28 17.8	
	comp=E,392nm,1.4s						
WSHM	**Spangler Hills**	**4.00**	**191**	Pn	**Pn**	**04 26 58.5**	**-0.1**
V12A	**Nelson**	**4.03**	**160**		**Pn**	**04 26 59.6**	**+0.5**
V12A	**Nelson**	**4.03**	**160**	IAML		04 28 14.1	
	comp=E,280nm,1.0s						
V12A				IAML		04 28 17.2	
	comp=N,295nm,1.2s						
JLU	**Jordanelle**	**4.05**	**73**		**Pn**	**04 26 59.7**	**+0.2**
JLU				IAML		04 28 07.5	
	comp=E,421nm,0.6s						
CCCA	**Chr Cany lake**	**4.06**	**189**		**Pn**	**04 26 59.4**	**0.0**
CCCA				IAML		04 28 09.8	
	comp=N,386nm,0.5s						
CCCA				IAML		04 28 33.5	
	comp=E,354nm,1.7s						
SUTB	**Sutter Butte**	**4.07**	**267**		**Pn**	**04 26 59.4**	**-0.2**
SUTB				IAML		04 28 10.9	
	comp=E,325nm,0.8s						
SUTB				IAML		04 28 11.5	
	comp=N,307nm,0.5s						
J08A	**Circle Bar Ran**	**4.08**	**340**		**Pn**	**04 26 60.0**	**+0.1**
O03E	**Paynes Creek**	**4.11**	**282**	Pn	**Pn**	**04 27 00.3**	**+0.1**
O03E				IAML		04 28 19.6	
	comp=E,224nm,1.1s						
MTPC	**Mountain Pass**	**4.12**	**169**	Pn	**Pn**	**04 26 59.3**	**-1.1**
MTPC				IAML		04 28 10.3	
	comp=E,216nm,0.9s						
TMUT	**Trail Mountain**	**4.14**	**92**		**Pn**	**04 26 59.8**	**-1.0**
ISA	**Isabella, Lake**	**4.16**	**202**		**Pn**	**04 27 00.8**	**0.0**
VES	**Vestal, Richgr**	**4.20**	**209**		**Pn**	**04 27 01.6**	**+0.2**
VES				IAML		04 28 21.9	
	comp=N,238nm,0.8s						
VES				IAML		04 28 32.0	
	comp=E,201nm,1.4s						
Q16A	**Castle Valley**	**4.22**	**97**		**Pn**	**04 27 00.8**	**-0.9**
Q16A				IAML		04 28 09.6	
	comp=E,196nm,0.9s						
Q16A				IAML		04 28 13.7	
	comp=N,187nm,1.0s						
GSC	**Goldstone, Bar**	**4.23**	**183**		**Pn**	**04 27 01.0**	**-0.8**
GSC				IAML		04 28 12.1	
	comp=N,245nm,0.6s						
GSC				IAML		04 28 27.5	
	comp=E,388nm,1.7s						
TCUT	**Toone Canyon**	**4.23**	**66**	Pn	**Pn**	**04 27 01.1**	**-0.9**
RUSS	**Russell Ranch**	**4.26**	**258**	Pn	**Pn**	**04 27 01.7**	**-0.4**
RUSS				IAML		04 28 15.9	
	comp=N,336nm,1.0s						
MTOS	**Mt Oso, Westle**	**4.26**	**243**		**Pn**	**04 27 02.0**	**-0.2**
MTOS				IAML		04 28 23.9	
	comp=N,238nm,1.5s						
MTOS				IAML		04 28 27.4	
	comp=E,222nm,1.7s						
HWUT	**Hardware Ranch**	**4.32**	**60**	Pn	**Pn**	**04 27 03.0**	**-0.1**
HWUT				IAML		04 28 17.5	
	comp=E,224nm,0.9s						
HWUT				IAML		04 28 17.9	
	comp=E,242nm,0.9s						
HLID	**Hailey**	**4.33**	**21**	IAML		04 28 20.1	
	comp=E,256nm,0.8s						
TULE	**Intermountain**	**4.46**	**305**	Pn	**Pn**	**04 27 03.4**	**-1.5**
P17A	**Butcher Ranch,**	**4.49**	**89**	IAML		04 28 25.5	
	comp=E,176nm,1.0s						
BSUT	**Blindstream Ca**	**4.55**	**75**	IAML		04 28 28.8	
	comp=N,156nm,0.8s						
BSUT				IAML		04 28 31.7	
	comp=E,146nm,1.3s						
U15A	**North Rim**	**4.57**	**131**	IAML		04 28 30.8	
	comp=N,202nm,0.8s						
K05A	**Summer Lake**	**4.58**	**316**	Pn	**Pn**	**04 27 08.4**	**+1.7**
K05A				IAML		04 28 29.3	
	comp=E,198nm,1.3s						
K05A				IAML		04 28 31.6	
	comp=N,196nm,1.7s						
MNRC	**McLaughlin Min**	**4.63**	**264**	Pn	**Pn**	**04 27 07.2**	**0.0**
MNRC				IAML		04 28 43.6	
	comp=E,161nm,1.6s						
MNRC				IAML		04 28 43.8	
	comp=N,164nm,1.2s						
SRU	**San Rafael Swe**	**4.69**	**93**	IAML		04 28 29.5	
	comp=E,256nm,0.9s						
PMPB	**Monarch Peak**	**4.72**	**227**	Pn	**Pn**	**04 27 09.4**	**+0.8**
SAO	**San Andreas Ge**	**4.75**	**236**	Pn	**Pn**	**04 27 09.2**	**+0.2**
CVS	**Carmenet Viney**	**4.76**	**257**	Pn	**Pn**	**04 27 08.1**	**-1.0**
GMRC	**Granite Mounta**	**4.79**	**171**		**Pn**	**04 27 10.4**	**+0.8**
HMU	**Henry Mountain**	**4.81**	**108**	IAML		04 28 38.3	
	comp=E,202nm,1.4s						
HMU				IAML		04 28 50.8	
	comp=N,208nm,0.9s						
O02D	**Mt. Diablo Mer**	**4.85**	**280**	IAML		04 28 36.1	
	comp=E,130nm,2.5s						
P18A	**Preston Nutter**	**4.87**	**87**	Pn	**Pn**	**04 27 12.2**	**+1.4**
P18A				IAML		04 28 39.5	
	comp=E,118nm,0.6s						
W13A	**Hualapai Mount**	**4.91**	**154**	IAML		04 28 35.8	
	comp=E,96nm,0.8s						
N02D	**Trinity Center**	**4.93**	**289**	IAML		04 28 43.4	
	comp=E,99nm,0.9s						
K04D	**Chiloquin, OR**	**5.00**	**310**	Pn	**Pn**	**04 27 10.8**	**-1.7**
NEE2	**Needles Airpor**	**5.00**	**161**	IAML		04 28 43.4	
	comp=E,200nm,1.2s						
J05D	**Fort Rock, OR**	**5.14**	**318**	Pn	**Pn**	**04 27 14.6**	**+0.1**
J05D				IAML		04 28 55.4	
	comp=E,158nm,3.0s						
J05D				IAML		04 29 02.8	
	comp=N,121nm,2.0s						
M02C	**Callahan**	**5.16**	**293**	Pn	**Pn**	**04 27 15.8**	**+1.3**
YBH	**Yreka Blue Hor**	**5.18**	**297**	Pn	**Pn**	**04 27 14.8**	**0.0**
YBH	**Yreka Blue Hor**	**5.18**	**297**	Pn	**Pn**	**04 27 16.8**	**+2.0**
	baz=133,slow=6.2,SNR=23						
YBH				Lg	Lg	04 28 40.5	
	comp=N,0.1nm,0.3s,baz=180,slow=23,SNR=5.5						
YBH				LR	LR	04 29 29.8	
	comp=N,38nm,21.1s,baz=77,slow=41						
AHID	**Auburn Hatcher**	**5.22**	**50**	IAML		04 28 47.3	
	comp=N,146nm,0.6s						
BMO	**Blue Mountains**	**5.34**	**354**	IAML		04 28 54.1	
	comp=N,132nm,1.2s						
BMO				IAML		04 29 03.9	
	comp=N,109nm,1.4s						
BFSC	**Mount Baldy Ra**	**5.36**	**190**	Pn	**Pn**	**04 27 18.3**	**+0.9**
PINE	**Pine Mountain**	**5.38**	**324**	Pn	**Pn**	**04 27 19.3**	**+1.6**
PINE				IAML		04 29 04.0	
	comp=N,90nm,2.4s						
PLID	**Pearl Lake**	**5.56**	**4**	Pn	**Pn**	**04 27 21.3**	**+1.0**
J04A	**Umpqua Nationa**	**5.59**	**313**	Pn	**Pn**	**04 27 22.6**	**+2.1**
BBOR	**Butler Butte**	**5.71**	**308**	Pn	**Pn**	**04 27 23.7**	**+1.5**
TPAW	**Teton Pass**	**5.76**	**45**	Pn	**Pn**	**04 27 23.7**	**+0.7**
SNOW	**Snow King Moun**	**5.86**	**46**	Pn	**Pn**	**04 27 24.3**	**0.0**
PFO	**Pinyon Flats O**	**5.91**	**179**	Pn	**Pn**	**04 27 26.3**	**+1.3**
PFO	**Pinyon Flats O**	**5.91**	**179**	Pn	**Pn**	**04 27 26.4**	**+1.5**
	comp=N,8.2nm,0.4s,baz=3.7,slow=13,SNR=34						
PFO				Sn	**Sn**	**04 28 32.5**	**-0.3**
	comp=N,1.7nm,0.3s,baz=251,slow=22,SNR=5.7						
PFO				Lg	Lg	04 29 02.9	
	comp=N,4.8nm,0.3s,baz=255,slow=16,SNR=7.5						
PFO				LR	LR	04 29 59.1	
	comp=N,194nm,20.2s,baz=3.5,slow=41

MA2	**Magadan**	**58.18**	**323**	LR	LR	05 00 05.6		
	comp=Z,31nm,18.1s,baz=120,slow=35							
MDP	**Montagnes des**	**66.74**	**103**	LR	LR	05 08 51.2		
	comp=Z,39nm,19.6s,baz=152,slow=39							
LPAZ	**La Paz**	**71.56**	**131**	P	**P**	**04 37 19.2**	**-0.2**	
	comp=Z,1.0nm,0.8s,baz=348,slow=5.8,SNR=3.9							
	comp=Z,1.0nm,0.8s							
HFS	**Hagfors**	**72.61**	**24**	P	**P**	**04 37 24.5**	**0.0**	
	comp=Z,1.8nm,0.7s,baz=245,slow=5.9,SNR=4.3							
	comp=Z,1.8nm,0.7s							
FINES	**FINESS Array B**	**74.89**	**18**	P	**P**	**04 37 36.0**	**-1.7**	
FINES	**FINESS Array B**	**74.89**	**18**	P	**P**	**04 37 37.7**	**0.0**	
	comp=Z,1.8nm,0.8s,baz=335,slow=6.2,SNR=5.2							
	comp=Z,1.8nm,0.8s							
JHJ	**Hachijo jima 2**	**78.97**	**304**	LR	LR	05 09 53.5		
	comp=Z,1μm,18.7s,baz=124,slow=33							
KIRV	**Kirov**	**81.54**	**7**	LR	LR	05 18 07.4		
	comp=Z,22nm,19.5s,baz=52,slow=38							
VRAC	**Vranov**	**82.34**	**29**	LR	LR	05 17 26.4		
	comp=Z,21nm,19.5s,baz=334,slow=38							
ZALV	**Zalesovo Beam**	**85.08**	**348**	LR	LR	05 20 33.4		
	comp=Z,26nm,18.6s,baz=143,slow=38							
AKASG	**Malin Array Be**	**85.25**	**21**	P	**P**	**04 38 34.2**	**+0.3**	
	comp=Z,1.4nm,0.6s,baz=328,slow=4.0,SNR=7.6							
	comp=Z,1.4nm,0.6s							
BVAR	**Borovoye Array**	**87.62**	**356**	P	**P**	**04 38 46.1**	**+0.6**	
	comp=Z,1.5nm,0.7s,baz=20,slow=4.7,SNR=7.1							
	comp=Z,1.5nm,0.7s							
HHC	**Hu-ho-hao-te**	**88.78**	**326**	eP	P	04 38 47.2	-4.2	
HHC				pmax	pmax			
	comp=Z,7.0nm,0.5s							
HHC				pmax	pmax			
	comp=Z,89nm,4.2s							
KURBB	**Kurchatov Arra**	**89.25**	**350**	P	**P**	**04 38 53.5**	**+0.3**	
	comp=Z,1.0nm,0.9s,baz=11,slow=4.9,SNR=7.0							
	comp=Z,1.0nm,0.9s							
ABKAR	**Akbulak array**	**91.53**	**2**	P	**P**	**04 39 02.9**	**-1.0**	
NJ2	**Nanjing**	**92.18**	**316**	eP	**P**	**04 39 05.9**	**-1.3**	
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.5s							
MKAR	**Makanchi Array**	**92.42**	**347**	P	**P**	**04 39 05.6**	**-2.5**	
RDO	**Rodhopi**	**92.59**	**28**	P	**P**	**04 39 07.6**	**-1.3**	
BOSA	**Boshof**	**146.76**	**83**	PKPbc	**PKPdf**	**04 45 39.7**	**+1.7**	
	comp=Z,2.1nm,0.7s,baz=301,slow=4.2,SNR=5.3							
MAW	**Mawson**	**151.88**	**180**	PKPbc	**PKPbc**	**04 45 52.1**	**+1.0**	
	comp=Z,2.1nm,0.9s,baz=207,slow=2.5,SNR=4.4							

TRN 10 04:54:46.7, 16°67N×61°95W, h134km, MD3.5, East of Montserrat., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWH		**0.24**	**286**	eP	Pn	04 55 05.7	+0.6
MBWH				eS	Sn	04 55 21.6	+2.5
MBFL	**Flemmings, Mon**	**0.27**	**286**	eP	Pn	04 55 05.8	+0.7
MBFL				eS	Sn	04 55 20.9	+1.7
DHSZ	**Broadband at M**	**0.43**	**156**	eP	Pn	04 55 07.0	+1.1
DHSZ				eS	Sn	04 55 21.0	+0.7
ATGZ	**Broadband at L**	**0.61**	**160**	eP	Pn	04 55 08.4	+1.6
ATGZ				eS	Sn	04 55 22.7	+0.6
MMLZ	**Guadeloupe Bro**	**0.68**	**157**	eP	Pn	04 55 09.2	+1.8
MMLZ				eS	Sn	04 55 24.8	+1.8
CBE	**Ff, Capester**	**0.68**	**151**	eP	Pn	04 55 07.6	+0.2
TBG	**Guadaloupe-3**	**0.87**	**160**	eP	Pn	04 55 09.9	+1.1
TBG				eS	Sn	04 55 26.8	+1.3
DSDZ	**La Diserade, G**	**0.92**	**113**	eP	Pn	04 55 10.8	+1.7
DSDZ				eS	Sn	04 55 27.4	+1.2
ANWB	**Willy Bob**	**1.00**	**9**	eP	Pn	04 55 11.4	+1.5
ANWB				eS	Sn	04 55 28.8	+1.2
SKI	**Saint Kitts**	**1.00**	**311**	eP	Pn	04 55 10.6	+0.6
SKI				eS	Sn	04 55 28.8	+1.1
DWS	**Wesley**	**1.26**	**151**	eP	Pn	04 55 13.6	+1.1
DWS				eS	Sn	04 55 32.6	+0.6
DSLB	**Salisbury**	**1.33**	**158**	eP	Pn	04 55 14.6	+1.4
DSLB				eS	Sn	04 55 35.9	+2.5
BIM	**Bigot**	**2.30**	**158**	eP	Pn	04 55 25.8	+1.1
BIM				eS	Sn	04 55 55.4	+1.6
SLBI	**Saint Lucia, B**	**2.80**	**160**	eP	Pn	04 55 32.4	+1.6
SLBI				eS	Sn	04 56 04.1	-0.8

IDC 10 04:56:20.0±2.1, 4°50N×123°21E, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=279.7km s-min=27.4km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.64**	**156**	P	P	05 02 01.4	+0.7
	2.3nm,0.4s,baz=336,slow=9.6,SNR=16						
	2.3nm,0.4s						
ASAR	**Alice Springs**	**29.88**	**160**	P	P	05 02 29.9	+0.3
	2.4nm,0.8s,baz=333,slow=7.2,SNR=17						
	2.4nm,0.8s						
STKA	**Stephens Creek**	**40.19**	**155**	P	P	05 03 56.8	-1.5
	0.7nm,0.3s,baz=329,slow=10,SNR=4.1						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**54.95**	**327**	P	P	05 05 52.9	0.0
	0.2nm,0.3s,baz=129,slow=7.8,SNR=2.3						
	0.2nm,0.3s						

*UCR **10** 05:07:55.6±1.2, 8°34N×82°89W, h23km±2km, MW3.5*
*CATAC **10** 05:07:55.6±1.0, 8°N±6°×8°3W±°, h16km±3km, M3.2/7, MLv3.2/7, Error ellipse: s-maj=14.6km s-min=5.9km az=150.7, confirmed*
*UPA **10** 05:07:56.8±1.0, 8°43N×82°87W, h22km±7km*
ISC 10 05:07:56.0±1.0, 8°38N±0°04×82°89W±0°02, h30km±6km, n80, σ1s14/103, 4C-10D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.10**	**74**	eP	**Pn**	**05 08 01.5**	**-0.2**
LPPC	**Paso Canoas**	**0.16**	**17**	eP	**Pb**	**05 08 01.5**	**-0.4**
LPPC				eS	**Sb**	**05 08 06.1**	**+0.2**
PTPM	**Petroterminale**	**0.17**	**177**	eP	**Pn**	**05 08 02.7**	**+0.1**
CDITO	**Canoas**	**0.20**	**4**	P	**Pb**	**05 08 01.7**	**-0.6**
CDITO	**Canoas**	**0.20**	**4**	S	**Sb**	**05 08 06.8**	**+0.4**
NELY	**Ciudad Neily**	**0.28**	**348**	eP	**Pb**	**05 08 02.5**	**-0.7**
NELY				eS	**Sb**	**05 08 08.1**	**0.0**
FITO	**Golfito**	**0.36**	**313**	eP	**Pb**	**05 08 02.8**	**-1.5**
FITO				eS	**Sb**	**05 08 08.5**	**-1.5**
BAGA3	**Bagala, Chiriq**	**0.37**	**76**	eP	**Pn**	**05 08 04.8**	**-0.5**
EDAD	**Golfito**	**0.39**	**315**	eP	**Pb**	**05 08 03.3**	**-1.5**
EDAD				eS	**Sb**	**05 08 09.4**	**-1.4**
DVD	**David**	**0.44**	**82**	eP	**Pb**	**05 08 05.4**	**0.0**
RSRNO	**Rio Sereno**	**0.44**	**3**	eP	**Pb**	**05 08 05.3**	**-0.3**
RSRNO				eS	**Sn**	**05 08 13.6**	**+0.2**
PIRO	**Carate, Puerto**	**0.45**	**273**	eP	**Pb**	**05 08 05.0**	**-0.6**
PIRO	**Carate, Puerto**	**0.45**	**273**	eP	**Pb**	**05 08 04.6**	**-1.0**
PIRO				eS	**Sb**	**05 08 12.3**	**+0.2**
PIRO	**Carate, Puerto**	**0.45**	**273**	P	**Pb**	**05 08 04.7**	**-1.0**
VITO	**San Vito**	**0.45**	**349**	eP	**Pb**	**05 08 05.4**	**-0.4**
VITO				eS	**Sb**	**05 08 13.0**	**+0.7**
BRU2	**Volcan**	**0.46**	**25**	eP	**Pb**	**05 08 05.6**	**-0.3**
BRU2	**Volcan**	**0.46**	**25**	iP	**Pb**	**05 08 05.5**	**-0.4**
BRU2				eS	**Sb**	**05 08 13.1**	**+0.4**
BRU2	**Volcan**	**0.46**	**25**	P	**Pb**	**05 08 05.5**	**-0.4**
BRU2	**Volcan**	**0.46**	**25**	S	**Sb**	**05 08 12.9**	**+0.2**
PEDE3	**Pedregal, Chir**	**0.46**	**89**	eP	**Pb**	**05 08 05.7**	**-0.1**
JIME	**Puerto Jimenez**	**0.46**	**290**	eS	**Sn**	**05 08 13.5**	**-0.3**
LOCO3	**Loma Colorada,**	**0.47**	**86**	eP	**Pb**	**05 08 05.9**	**0.0**
TBS2		**0.47**	**29**	iP	**Pb**	**05 08 06.7**	**+0.5**
LOMA3	**Las Lomas, Chi**	**0.49**	**84**	eP	**Pb**	**05 08 06.3**	**-0.1**
BC3P	**Paso Ancho**	**0.51**	**32**	eP	**Pb**	**05 08 06.4**	**-0.5**
CGUAY	**Guayabal, Coch**	**0.54**	**81**	iP	**Pb**	**05 08 06.7**	**-0.4**
CGUAY				eS	**Sn**	**05 08 15.5**	**-0.2**
CHIR3	**Chiriqui UPA,**	**0.55**	**88**	eP	**Pb**	**05 08 07.1**	**-0.2**
BQTLY	**Boquete Panama**	**0.57**	**48**	iP	**Pb**	**05 08 07.0**	**-0.6**
BQTLY				eS	**Sb**	**05 08 15.0**	**-0.7**
ALCO	**Alturas Coton,**	**0.57**	**5**	iP	**Pb**	**05 08 06.8**	**-1.0**
ALCO				eS	**Sb**	**05 08 15.2**	**-0.6**
BQSF3	**Alto Boquete,**	**0.58**	**51**	eP	**Pb**	**05 08 07.2**	**-0.6**
EDP2	**Potrero Grande**	**0.70**	**336**	eP	**Pb**	**05 08 08.8**	**-0.9**
EDP2				eS	**Sb**	**05 08 19.0**	**-0.1**
FIMO	**Fila Mora**	**0.76**	**323**	eP	**Pb**	**05 08 09.8**	**-1.1**
FIMO				eS	**Sb**	**05 08 20.8**	**-0.2**
PANP	**Palmar Norte**	**0.81**	**316**	eP	**Pb**	**05 08 10.1**	**-1.6**
PBNVO	**Pueblo Nuevo,**	**0.86**	**53**	iP	**Pb**	**05 08 11.0**	**-1.4**
PBNVO				eS	**Sb**	**05 08 22.8**	**-0.8**
RBALA	**Bur**	**0.88**	**55**	iP	**Pb**	**05 08 11.6**	**-1.2**
RBALA				eS	**Sb**	**05 08 23.6**	**-0.7**

CHGR2	**Aguacate**	**0.92**	**53**	eP	**Pb**	**05 08 12.1**	**-1.4**	
DRK0	**Durika**	**0.95**	**338**	eP	**Pb**	**05 08 12.1**	**-2.0**	
DRK0				eS	**Sb**	**05 08 25.5**	**-0.8**	
DRK0	**Durika**	**0.95**	**338**	P	**Pb**	**05 08 12.3**	**-1.8**	
DRK0	**Durika**	**0.95**	**338**	S	**Sb**	**05 08 24.9**	**-1.5**	
EDPE	**Pejibaye, P**	**1.03**	**319**	eP	**Pn**	**05 08 13.5**	**-0.9**	
EDPE				eS	**Sb**	**05 08 27.9**	**-0.6**	
OCHAL	**Ojochal**	**1.04**	**314**	P	**Pn**	**05 08 14.0**	**-0.6**	
OCHAL	**Ojochal**	**1.04**	**314**	S	**Sb**	**05 08 28.3**	**-0.4**	
CNI2	**El Empalme, Bo**	**1.12**	**22**	eP	**Pn**	**05 08 15.4**	**-0.2**	
SAJE	**San Jernim**	**1.14**	**327**	eP	**Pn**	**05 08 14.2**	**-1.9**	
KKNTU	**Kakint[2]**	**1.16**	**67**	iP	**Pn**	**05 08 15.7**	**-0.6**	
KKNTU				eS	**Sn**	**05 08 30.8**	**-0.4**	
CEUA	**Cerro Uatsi, L**	**1.24**	**358**	eP	**Pn**	**05 08 18.2**	**+0.8**	
BUS1	**Rivas**	**1.45**	**324**	eP	**Pn**	**05 08 20.1**	**-0.5**	
BUS1				eS	**Sn**	**05 08 39.2**	**+0.4**	
VERH	**Veragua Rainfo**	**1.57**	**349**	eP	**Pn**	**05 08 21.9**	**0.0**	
LLNJ	**Naranjito**	**1.62**	**312**	eP	**Pn**	**05 08 23.0**	**+0.4**	
LLNJ				eS	**Sn**	**05 08 43.1**	**+0.6**	
PIEC	**Cerro El Cedra**	**1.63**	**320**	eP	**Pn**	**05 08 23.1**	**+0.1**	
RAZU	**San Marcos de**	**1.70**	**319**	eP	**Pn**	**05 08 24.6**	**+0.8**	
PITB	**Pirrs, San**	**1.70**	**319**	eP	**Pn**	**05 08 24.8**	**+1.0**	
VINA	**Juan Vinas**	**1.73**	**331**	eP	**Pn**	**05 08 24.2**	**0.0**	
REPA	**Paraso**	**1.74**	**326**	eP	**Pn**	**05 08 26.2**	**+1.8**	
GMAL	**Guarumal, Vera**	**1.75**	**110**	eP	**Pn**	**05 08 24.8**	**+0.5**	
LCR2	**La Lucha 2**	**1.75**	**321**	eP	**Pn**	**05 08 26.1**	**+1.5**	
LCR2	**La Lucha 2**	**1.75**	**321**	eP	**Pn**	**05 08 25.4**	**+0.9**	
LCR2	**La Lucha 2**	**1.75**	**321**	P	**Pn**	**05 08 26.2**	**+1.6**	
LCR2	**La Lucha 2**	**1.75**	**321**	S	**Sn**	**05 08 48.0**	**+2.1**	
PICV	**PH. Pirrs**	**1.79**	**314**	iP	**Pn**	**05 08 26.4**	**+1.4**	
RESJ	**San Isidro (Tu**	**1.80**	**336**	eP	**Pn**	**05 08 26.4**	**+1.2**	
PAR1A	**Puntarenas Pro**	**1.81**	**312**	eP	**Pn**	**05 08 26.4**	**+1.2**	
LCOCO	**El Coco**	**1.82**	**339**	eP	**Pn**	**05 08 26.4**	**+1.1**	
LCOCO				eS	**Sn**	**05 08 48.9**	**+1.5**	
CVTV	**Tajo**	**1.83**	**332**	eP	**Pn**	**05 08 26.8**	**+1.1**	
CVTV				eS	**Sn**	**05 08 49.7**	**+1.7**	
CVTQ	**Turrialba Volc**	**1.83**	**332**	eP	**Pn**	**05 08 26.8**	**+0.9**	
VTR0	**Volcan Turrial**	**1.84**	**332**	eP	**Pb**	**05 08 29.0**	**-0.3**	
CVTR	**Volcan Turrial**	**1.84**	**332**	eP	**Pn**	**05 08 27.1**	**+1.1**	
ACOS	**Acosta**	**1.89**	**318**	eP	**Pn**	**05 08 27.8**	**+1.4**	
CVIMO	**Finca Echandi**	**1.94**	**328**	eP	**Pn**	**05 08 26.2**	**-1.0**	
VPL2	**V. Platanar**	**2.42**	**323**	eP	**Pn**	**05 08 36.5**	**+2.8**	
SOCE	**Pocosol**	**2.62**	**320**	eP	**Pn**	**05 08 38.1**	**+1.7**	
SOCE	**Pocosol**	**2.62**	**320**	P	**Pn**	**05 08 37.3**	**+0.9**	
ARE1	**Arenal 1**	**2.75**	**319**	eP	**Pn**	**05 08 40.7**	**+2.6**	
VARE2	**V. Arenal**	**2.75**	**319**	eP	**Pn**	**05 08 40.4**	**+2.2**	
JTS	**Las Juntas de**	**2.79**	**313**	eP	**Pn**	**05 08 39.4**	**+0.7**	
JTS	**Las Juntas de**	**2.79**	**313**	P	**Pn**	**05 08 39.4**	**+0.7**	
JTS				S	**Sn**	**05 09 11.4**	**+0.1**	
TABAC	**Tabacon**	**2.81**	**319**	eP	**Pn**	**05 08 42.6**	**+3.6**	
JUD3	**Juan Diaz 3**	**3.16**	**304**	eP	**Pn**	**05 08 43.5**	**-0.3**	
CUI	**Cuipilapa**	**3.19**	**315**	eP	**Pn**	**05 08 47.0**	**+2.7**	
LAPC	**Finca la Perla**	**3.46**	**314**	eP	**Pn**	**05 08 50.0**	**+2.1**	

*SDD **10** 05:10:24.8±2.0, 18°35N×68°57W, h127km±18km, MD2.6, ML2.3, MW2.5*
*NEIC **10** 05:10:28.4±0.7, 18°5N±0°4×69°05W±0°06, h35km±2km, ML2.2/8, Md2.4/3(RSPR), Error ellipse: s-maj=62.1km s-min=3.1km az=188.0*
*RSPR **10** 05:10:30.9, 18°44N×68°89W, h89km±8km, MD2.4/3*
ISC 10 05:10:30.0±1.6, 18°5N±0°1×68°89W±0°06, h93km±13km, n30, σ1s07/37, 5C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.20**	**52**	ePg	**Pn**	**05 10 41.9**	**-1.5**
HIDR				eSg	**Sn**	**05 10 54.4**	**+1.1**
HIDR				IAML		05 10 54.9	
	comp=N,113nm,0.3s						
MIDR	**Miches**	**0.54**	**343**	eP	**Pn**	**05 10 44.5**	**-0.9**
MIDR	**Miches**	**0.54**	**343**	eS	**Sn**	**05 10 56.8**	**+0.1**
MIDR	**Miches**	**0.54**	**343**	ePg	**Pn**	**05 10 44.4**	**-1.0**
MIDR				eSg	**Sn**	**05 10 57.2**	**+0.5**
MIDR				IAML		05 10 58.0	
	comp=N,30nm,0.3s						
SMDR	**Samana, DR**	**0.87**	**341**	eP	**Pn**	**05 10 47.4**	**-1.1**
SMDR	**Samana, DR**	**0.87**	**341**	eS	**Sn**	**05 11 04.2**	**+2.0**
SMDR	**Samana, DR**	**0.87**	**341**	ePg	**Pn**	**05 10 47.3**	**-1.2**
SMDR				eSg	**Sn**	**05 11 05.0**	**+2.7**
ABDR	**Alto Bandera**	**1.68**	**282**	ePg	**Pn**	**05 10 57.1**	**-1.4**
ABDR				eSg	**Sn**	**05 11 22.2**	**+2.0**
ABDR				IAML		05 11 25.8	
	comp=N,16nm,2.0s						
LSP	**Las Mesas**	**1.74**	**99**		**Pn**	**05 11 00.1**	**+1.1**
LSP					**Sn**	**05 11 20.9**	**-0.1**
LSP	**Las Mesas**	**1.74**	**99**	eP	**Pn**	**05 11 00.1**	**+1.1**
LSP	**Las Mesas**	**1.74**	**99**	eS	**Sn**	**05 11 20.9**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.75**	**105**		**Pn**	**05 11 00.2**	**+1.1**
CRPR					**Sn**	**05 11 21.3**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.75**	**105**	eP	**Pn**	**05 11 00.2**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.75**	**105**	eS	**Sn**	**05 11 21.3**	**+0.1**
MLPR	**Magueyes Islan**	**1.82**	**105**	eP	**Pn**	**05 11 01.1**	**+1.1**
MLPR	**Magueyes Islan**	**1.82**	**105**	eS	**Sn**	**05 11 22.5**	**-0.3**
AOPR	**Arecibo Observ**	**2.03**	**93**		**Pn**	**05 11 02.3**	**-0.4**
AOPR					**Sn**	**05 11 28.1**	**+0.4**
AOPR	**Arecibo Observ**	**2.03**	**93**	eP	**Pn**	**05 11 02.3**	**-0.4**
AOPR	**Arecibo Observ**	**2.03**	**93**	eS	**Sn**	**05 11 28.1**	**+0.4**
UPR	**Utuado, UPR, P**	**2.07**	**96**		**Sn**	**05 11 28.8**	**+0.2**
UUPR	**Utuado, UPR, P**	**2.07**	**96**	Pn	**Pn**	**05 11 02.7**	**-0.5**
UUPR	**Utuado, UPR, P**	**2.07**	**96**	eP	**Pn**	**05 11 03.4**	**+0.2**
UUPR	**Utuado, UPR, P**	**2.07**	**96**	eS	**Sn**	**05 11 28.8**	**+0.2**
OBIP	**Obispado Ponce**	**2.21**	**101**		**Sn**	**05 11 32.7**	**+0.8**
OBIP	**Obispado Ponce**	**2.21**	**101**	Pn	**Pn**	**05 11 04.0**	**-1.0**
OBIP				IAML		05 12 02.9	
	comp=N,12nm,3.3s						
OBIP				IAML		05 12 04.2	
	comp=E,11nm,4.2s						
OBIP	**Obispado Ponce**	**2.21**	**101**	eS	**Sn**	**05 11 32.7**	**+0.8**
CELP	**Cerrillos**	**2.23**	**100**		**Sn**	**05 11 31.9**	**-0.5**
CELP	**Cerrillos**	**2.23**	**100**	Pn	**Pn**	**05 11 04.4**	**-0.9**
CELP				IAML		05 12 01.6	
	comp=N,13nm,4.5s						
CELP				IAML		05 12 13.5	
	comp=E,12nm,3.1s						
CELP	**Cerrillos**	**2.23**	**100**	eS	**Sn**	**05 11 31.9**	**-0.5**
HUMP	**Col San Antoni**	**2.90**	**96**	Pn	**Pn**	**05 11 13.1**	**-1.2**

IDC 10 05:11:37.8±2.1, 3°82S×151°71E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=153.1km s-min=28.3km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.32**	**225**	P	P	05 16 47.8	0.0
	0.8nm,0.9s,baz=50,slow=9.8,SNR=6.3						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**26.18**	**219**	P	P	05 17 14.3	0.0
	0.4nm,0.6s,baz=53,slow=9.4,SNR=10						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**81.67**	**22**	P	P	05 23 57.5	-0.2
	0.3nm,0.8s,baz=242,slow=5.1,SNR=5.3						
	0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.97**	**289**	PKPbc	PKPbc	05 31 28.7	-0.2
	0.4nm,0.7s,baz=48,slow=2.1,SNR=4.1						

*IDC **10** 05:15:28.6±1.3, 51°61N×168°29W, h0km, mb3.7/6, mbtmp3.7/7, ML3.1/1, Error ellipse: s-maj=38.9km s-min=25.7km az=3.0*
*NEIC **10** 05:15:30.7±1.5, 51°80N±0°03×168°6W±0°1, h10km±2km, ML3.5/14, ML3.3(AEIC), Error ellipse: s-maj=13.7km s-min=3.9km az=103.0*
*AEIC **10** 05:15:32.1±1.2, 51°6N±0°1×168°49W±0°08, h1km±8km, Error ellipse: s-maj=20.4km s-min=1.4km az=158.0*
ISC 10 05:15:31.5±0.9, 51°76N±0°08×168°59W±0°05, h23km, n51, σ1s00/62, mb3.9/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**1.51**	**7**		**Pn**	**05 15 57.4**	**+0.2**
OKSP					**Sb**	**05 16 16.8**	**-0.8**
OKFG	**Magazine Ridge**	**1.71**	**14**		**Pn**	**05 15 59.8**	**0.0**
OKFG					**Sb**	**05 16 22.1**	**-1.1**
OKNC	**Okmok New Cone**	**1.73**	**9**		**Pn**	**05 16 00.4**	**+0.3**
OKNC					**Sn**	**05 16 22.0**	**+0.5**
MGOD	**Makushin Gods**	**2.29**	**26**		**Pn**	**05 16 08.0**	**+0.1**
MGOD					**Sn**	**05 16 35.3**	**-0.2**
MSW	**Makushin Switc**	**2.42**	**26**		**Pn**	**05 16 09.6**	**-0.1**
MSW					**Sn**	**05 16 38.2**	**-0.4**

MNAT	**Makushin Natee**	**2.42**	**28**		**Pn**	**05 16 09.6**	**-0.1**	
MNAT					**Sn**	**05 16 37.9**	**-0.7**	
UNV	**Unalaska Valle**	**2.45**	**30**		**Pn**	**05 16 09.8**	**-0.2**	
UNV					**Sn**	**05 16 38.9**	**-0.2**	
UNV	**Unalaska Valle**	**2.45**	**30**	IAML		05 16 40.8		
	comp=N,124nm,0.3s							
UNV				IAML		05 16 41.8		
	comp=E,108nm,0.3s							
MTBL	**Makushin Table**	**2.50**	**27**		**Pn**	**05 16 11.2**	**+0.4**	
MTBL					**Sn**	**05 16 40.7**	**+0.1**	
ZRO	**Akutan Zero**	**2.82**	**33**		**Pn**	**05 16 15.4**	**+0.2**	
ZRO					**Sn**	**05 16 48.1**	**-0.4**	
AKRB	**Akutan Reef Bi**	**2.83**	**32**		**Pn**	**05 16 15.1**	**-0.1**	
AKRB					**Sn**	**05 16 48.8**	**+0.3**	
LVA	**Lava Point**	**2.86**	**32**		**Pn**	**05 16 16.6**	**+0.9**	
LVA				IAML		05 16 51.5		
	comp=E,224nm,0.5s							
LVA				IAML		05 17 03.2		
	comp=N,267nm,0.6s							
LVA	**Lava Point**	**2.86**	**32**		**Sn**	**05 16 49.7**	**+0.3**	
AKUT	**Akutan**	**2.93**	**34**	Pn	**Pn**	**05 16 17.1**	**+0.5**	
AKUT				IAML		05 16 51.9		
	comp=E,94nm,0.3s							
ATKA	**Atka Island**	**3.50**	**280**		**Sn**	**05 17 04.1**	**-0.9**	
ATKA	**Atka Island**	**3.50**	**280**	IAML		05 17 06.2		
	comp=E,39nm,1.2s							
ATKA				IAML		05 17 07.8		
	comp=N,41nm,0.4s							
WEBT	**Westdahl Beart**	**3.66**	**38**		**Pn**	**05 16 25.9**	**-0.8**	
WEBT					**Sn**	**05 17 07.5**	**-1.6**	
GSMY	**Great Sitkin M**	**4.63**	**276**		**Pn**	**05 16 39.9**	**-0.2**	
GSMY					**Sn**	**05 17 31.5**	**-1.6**	
GSTR	**Great Sitkin T**	**4.64**	**277**	Pn	**Pn**	**05 16 41.5**	**+1.4**	
GSTR	**Great Sitkin T**	**4.64**	**277**		**Sn**	**05 17 31.7**	**-1.5**	
GSTD	**Great Sitkin T**	**4.69**	**277**		**Pn**	**05 16 40.5**	**-0.3**	
GSTD					**Sn**	**05 17 34.0**	**-0.5**	
ETKA	**Kagalaska Isla**	**4.85**	**274**		**Pn**	**05 16 42.0**	**-1.0**	
ETKA					**Sn**	**05 17 38.1**	**-0.3**	
ADAG	**Mount Adagdak**	**4.97**	**276**		**Pn**	**05 16 44.2**	**-0.4**	
ADAG					**Sn**	**05 17 39.6**	**-1.8**	
ADK	**Adak**	**5.02**	**275**		**Pn**	**05 16 46.9**	**+1.5**	
ADK				IAML		05 17 43.4		
	comp=N,44nm,0.3s							
ADK	**Adak**	**5.02**	**275**		**Sn**	**05 17 42.0**	**-0.6**	
DT1	**Dutton Round H**	**5.05**	**46**		**Pn**	**05 16 44.9**	**-0.8**	
DT1					**Sn**	**05 17 40.6**	**-2.7**	
DOL	**Dolgoi Island**	**5.26**	**47**		**Pn**	**05 16 47.9**	**-0.8**	
DOL					**Sn**	**05 17 46.0**	**-2.6**	
KIWB	**Kanaga Island**	**5.31**	**274**	Pn	**Pn**	**05 16 51.0**	**+1.7**	
KIWB				IAML		05 17 53.7		
	comp=E,37nm,0.5s							
KIWB				IAML		05 17 54.1		
	comp=N,40nm,0.4s							
KIWB	**Kanaga Island**	**5.31**	**274**		**Sn**	**05 17 48.7**	**-1.1**	
KIKV	**Kanaga Island**	**5.33**	**275**		**Pn**	**05 16 49.3**	**-0.2**	
KICM	**Kanaga Island**	**5.34**	**275**		**Pn**	**05 16 49.0**	**-0.7**	
SPIA	**Saint Paul Isl**	**5.52**	**351**	Pn	**Pn**	**05 16 53.2**	**+1.1**	
SDPT	**Sand Point**	**6.03**	**50**	Pn	**Pn**	**05 16 59.8**	**+0.6**	
GANE	**Gareloi Northe**	**6.32**	**275**		**Pn**	**05 17 02.6**	**-0.7**	
GANO	**Gareloi North**	**6.34**	**275**		**Pn**	**05 17 03.4**	**-0.1**	
CHGN	**Chignik**	**7.52**	**49**	Pn	**Pn**	**05 17 21.2**	**+1.6**	
KDAK	**Kodiak Island**	**11

TRN 10 05:36:01.8, 15.˝14N×60.˝69W, h76km, MD3.7, South-east of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	**Ilet Lapin Mar**	**0.40**	**207**	*eP*	Pn	05 36 15.9	+1.5
ILAM				*eS*	Sn	05 36 25.9	+2.2
SVN	**Savane Anatole**	**0.55**	**238**	*eP*	Pn	05 36 17.0	+1.2
SVN				*eS*	Sn	05 36 27.7	+1.7
DLPL	**La Plaine**	**0.57**	**290**	*eP*	Pn	05 36 17.1	+1.2
DLPL				*eS*	Sn	05 36 27.9	+1.6
DLDT	**Laudat, Domini**	**0.67**	**287**	*eP*	Pn	05 36 18.2	+1.4
DLDT				*eS*	Sn	05 36 30.1	+2.0
MDN	**Morne-Daniel**	**0.70**	**285**	*eP*	Pn	05 36 18.7	+1.5
MDN				*eS*	Sn	05 36 31.7	+3.0
BIM	**Bigot**	**0.72**	**211**	*eP*	Pn	05 36 18.8	+1.4
BIM				*eS*	Sn	05 36 30.8	+1.8
DWS	**Wesley**	**0.74**	**306**	*eP*	Pn	05 36 18.9	+1.3
DWS				*eS*	Sn	05 36 31.1	+1.7
DSLB	**Salisbury**	**0.77**	**293**	*eP*	Pn	05 36 19.7	+1.7
DSLB				*eS*	Sn	05 36 32.4	+2.5
SLBI	**Saint Lucia, B**	**1.14**	**194**	*eP*	Pn	05 36 23.3	+0.9
SLBI				*eS*	Sn	05 36 39.0	+1.2
TBG	**Guadaloupe-3**	**1.17**	**308**	*eP*	Pn	05 36 23.9	+1.2
TBG				*eS*	Sn	05 36 40.0	+1.6
DSDZ	**La Diserade, G**	**1.23**	**343**	*eP*	Pn	05 36 24.4	+1.0
DSDZ				*eS*	Sn	05 36 40.7	+1.0
MMLZ	**Guadeloupe Bro**	**1.31**	**314**	*eP*	Pn	05 36 26.0	+1.5
MMLZ				*eS*	Sn	05 36 43.5	+1.9
ATGZ	**Broadband at L**	**1.38**	**314**	*eP*	Pn	05 36 26.9	+1.5
DHSZ	**Broadband at M**	**1.54**	**318**	*eP*	Pn	05 36 28.9	+1.5
DHSZ				*eS*	Sn	05 36 48.9	+2.1
SVB	**Belmont**	**1.93**	**197**	*eP*	Pn	05 36 34.1	+1.4
SVB				*eS*	Sn	05 36 58.2	+1.9
MBWH		**2.15**	**318**	*eP*	Pn	05 36 37.1	+1.4
MBWH				*eS*	Sn	05 37 04.1	+2.5
MBFL	**Flemmings, Mon**	**2.17**	**318**	*eP*	Pn	05 36 37.6	+1.6
MBFL				*eS*	Sn	05 37 04.1	+2.1
BBGH	**Gun Hill**	**2.26**	**151**	*eP*	Pn	05 36 39.7	+2.5
BBGH				*eS*	Sn	05 37 06.9	+2.7
ANWB	**Willy Bob**	**2.73**	**337**	*eP*	Pn	05 36 44.2	+0.8
ANWB				*eS*	Sn	05 37 16.4	+1.0
GCMP	**Grenada, Carri**	**2.73**	**195**	*eP*	Pn	05 36 44.7	+1.2
SKI	**Saint Kitts**	**2.94**	**318**	*eP*	Pn	05 36 48.1	+1.8
SKI				*eS*	Sn	05 37 22.4	+1.7
GRHS	**Sauteurs**	**3.04**	**198**	*eP*	Pn	05 36 48.9	+1.2
GRW	**Mount Saint Ca**	**3.11**	**198**	*eP*	Pn	05 36 50.2	+1.6
GRGR	**Grenville**	**3.13**	**198**	*eP*	Pn	05 36 50.3	+1.4
TRN	**Trinidad (W)**	**4.52**	**189**	*eP*	Pn	05 37 08.8	+1.1

MOS ***10*** *05:39:19.9±1.1, 6.˝75N×126.˝38E, h37km, mb6.1/73, MS5.1/25, Error ellipse: s-maj=7.5km s-min=3.7km az=118.7*

MAN ***10*** *05:39:23.0, 6.˝59N×126.˝44E, h43km, mb6.1, ML5.2, MS5.8*

MAN INTENSITY V - GOVERNOR GENEROSO AND MATI CITY DAVAO ORIENTAL; INTENSITY IV - TARRAGONA DAVAO ORIENTAL; PANABO CITY AND TAGUM CITY DAVAO DEL NORTE; DAVAO CITY; INTENSITY III - ALABEL GLAN KIAMBA AND MALAPATAN SARANGANI; LEBAK SULTAN KUDARAT; BISLIG CITY AND HINATUAN SURIGAO DEL SUR; BUTUAN CITY; GENERAL SANTOS CITY; INTENSITY II - KIDAPAWAN CITY MAGPET AND MAKILALA COTABATO; KORONADAL CITY POLOMOLOK SURALLAH AND TUPI SOUTH COTABATO; MALUNGON SARANGANI; COLUMBIO SULTAN ; KUDARAT; SANTA CRUZ DAVAO DEL SUR; KALILANGAN BUKIDNON; SURIGAO CITY SURIGAO DEL NORTE; SAN FRANCISCO SOUTHERN LEYTE; CAGAYAN DE ORO CITY.

NEIC ***10*** *05:39:23.5, 6.˝65N×126.˝41E, h50km*

NEIC ***10*** *05:39:23.5, 6.˝45N×126.˝61E, h50km, Moment Tensor Solution. Duration: 3s6 Moment tensor: Scale 10¹⁷Nm; Mrr-3.29; Mθθ1.08; Mϕϕ2.20; Mrθ0.71; Mθϕ-3.16; Mϕr2.35; Fault plane solution: M₀4.94000×10¹⁷ NP1: ϕs290.98000°, δ44.50000°, λ-137.80000°. NP2: ϕs168.09000°, δ61.91000°, λ-53.94000°. Principal axes: T 5.0876, Plg10.0000°, Azm233.0000°; N -0.3051, Plg31.0000°, Azm329.0000°; P -4.7825, Plg57.0000°, Azm128.0000°;*

ISC-PP ***10*** *05:39:24, 6.˝64N×126.˝42E, h39km, Mwppsm6.2, Moment Tensor Solution. s44 Moment tensor: Scale 10¹⁸Nm; Mrr-0.31±.15; Mθθ0.31±.39; Mϕϕ0.04±.16; Mrθ0.13±.21; Mθϕ0.26±.18; Mϕr-0.57±.21; Fault plane solution: M₀2.09000×10¹⁸ NP1:ϕs270.80000°, δ60.10000°, λ208.50000°. NP2:ϕs165.70000°, δ65.60000°, λ-33.20000°.*

NEIC ***10*** *05:39:24.7, 6.˝66N×126.˝42E, h55km*

IPGP ***10*** *05:39:24.0, 6.˝70N×126.˝47E, h57km, Mw5.8, Fault plane solution: NP1:ϕs292.00000°, δ40.00000°, λ-133.00000°. NP2:ϕs163.00000°, δ62.00000°, λ-60.00000°.*

NEIC ***10*** *05:39:24±2.8, 6.˝64N±0.˝05×126.˝42E±0.˝07, h48km±1km, mb5.7/402, Ms_20 5.2/436, Mwb5.8/48, Mww5.7/44, Error ellipse: s-maj=12.5km s-min=7.9km az=239.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-4.47; Mθθ0.76; Mϕϕ3.70; Mrθ0.49; Mθϕ-1.57; Mϕr2.88; Fault plane solution: M₀5.30000×10¹⁷ NP1: ϕs172.96000°, δ61.51000°, λ-74.37000°. NP2: ϕs322.57000°, δ32.18000°, λ-116.40000°. Principal axes: T 5.0472, Plg15.0000°, Azm252.0000°; N 0.4755, Plg14.0000°, Azm345.0000°; P -5.5227, Plg69.0000°, Azm116.0000°;*

IDC ***10*** *05:39:24.4±0.8, 6.˝75N×126.˝47E, h65km±6km, mb5.5/41, mbtmp5.8/45, MS4.8/54 Error ellipse: s-maj=10.9km s-min=7.0km az=68.0*

GCMT ***10*** *05:39:25.0±0.1, 6.˝60N±0.˝01×126.˝34E±0.˝01, h57km, MW5.7/164, Moment Tensor Solution. s163, c332; s164, c349; Duration: 1s8 Moment tensor: Scale 10¹⁷ Nm; Mrr-3.40±.04; Mθθ1.17±.04; Mϕϕ2.23±.04; Mrθ0.75±.04; Mθϕ-3.07±.04; Mϕr2.68±.04; Best double couple: M₀5.11100×10¹⁷ NP1:ϕs292.00000°, δ43.00000°, λ-138.00000°. NP2:ϕs168.00000°, δ63.00000°, λ-55.00000°. Principal axes: T 5.1330, Plg11.0000°, Azm234.0000°; N -0.0440, Plg30.0000°, Azm331.0000°; P -5.0890, Plg57.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***10*** *05:39:25.4±0.2, 7.˝N±2.˝×12.˝6E±.˝, h76km±2km, M5.7/115, mB6.2/108, mb5.9/115, MLv6.3/10, Mw(mB)5.9/108, MwMwp5.5/78, Mwp5.7/78*

ISC 10 05:39:23.1±0.2, 6.˝67N±0.˝02×126.˝47E±0.˝03, h57km±1km, h57km:pP-P, n1715, σ1957/1630, mb5.7/411, MS5.1/323, 82C-52D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.97**	**294**		**Pn**	**05 39 42.2**	**+1.5**
DAV	**Davao City (W)**	**0.97**	**294**	P	**Pn**	**05 39 42.0**	**+1.3**
	59μm,0.2s,baz=42,slow=0.1,SNR=1548						
DAV				S	**Sn**	**05 39 56.4**	**+2.7**
	baz=221,slow=19						
DAV	**Davao City (W)**	**0.97**	**294**	P	**Pn**	**05 39 42.9**	**+2.3**
DAV				S	**Sn**	**05 39 58.2**	**+4.6**
SGSI	**Sangihe**	**3.11**	**198**	P	**Pn**	**05 40 11.6**	**+1.9**
TNTI	**Ternate**	**5.93**	**171**		**Pn**	**05 40 50.3**	**+1.9**
TNTI	**Ternate**	**5.93**	**171**	P	**Pn**	**05 40 51.5**	**+3.2**
TNTI	**Ternate**	**5.93**	**171**	P	**Pn**	**05 40 50.3**	**+1.9**
KMSI	**Cibinong**	**6.54**	**202**	P	**Pn**	**05 40 58.3**	**+1.5**
MRSI	**Marisa**	**7.63**	**216**	P	**Pn**	**05 41 11.6**	**-0.1**
	9.7nm32μm27μm2μm,0.9s						
MRSI				S	**Sn**	**05 42 32.7**	**-4.2**
	9.7nm32μm27μm2μm,0.9s						
TOLI2	**Tolitoli**	**7.92**	**226**		**Pn**	**05 41 13.4**	**-2.2**
MYLDM	**Lahad Datu**	**8.06**	**260**		**Pn**	**05 41 20.2**	**+2.6**
LUWI	**Luwuk**	**8.50**	**206**	P	**Pn**	**05 41 23.0**	**-0.6**
LUWI	**Luwuk**	**8.50**	**206**		**Pn**	**05 41 26.9**	**+3.2**
LUWI	**Luwuk**	**8.50**	**206**	P	**Pn**	**05 41 28.2**	**+4.5**
LUWI	**Luwuk**	**8.50**	**206**	S	**Sn**	**05 43 03.9**	**+5.7**
LUWI	**Luwuk**	**8.50**	**206**	P	**Pn**	**05 41 26.1**	**+2.4**
SANI	**Sanana**	**8.67**	**183**	P	**Pn**	**05 41 22.1**	**-3.9**
SANI	**Sanana**	**8.67**	**183**	P	**Pn**	**05 41 24.9**	**-1.1**
SWI	**Sorong**	**8.88**	**147**	P	**Pn**	**05 41 30.4**	**+1.6**
	15μm9μm599nm,1.0s						
APSI	**Ampana**	**8.94**	**213**	P	**Pn**	**05 41 32.3**	**+2.7**
	22μm2μm,1.1s						
TGY	**Tagaytay City**	**9.17**	**324**	P	Pn	05 41 38.1	+5.2
	2μm,0.9s,baz=210,slow=2.4,SNR=26						
TGY				LR	LR	05 45 33.3	
	comp=Z,11μm,21.9s,baz=142,slow=40						
NLAI	**Namlea**	**9.86**	**176**	P	**Pn**	**05 41 42.3**	**0.0**
	12μm16μm926nm,0.6s						
PCI	**Palu**	**10.02**	**222**	P	**Pn**	**05 41 44.9**	**+0.4**
	24μm8μm633nm,1.0s						
KKM	**Kota Kinabalu**	**10.21**	**267**		**Pn**	**05 41 49.2**	**+2.0**
MSAI	**Masohi**	**10.25**	**166**	P	**Pn**	**05 41 50.3**	**+2.8**
	14μm19μm572nm,1.0s						
AAI	**Ambon**	**10.43**	**170**	P	**Pn**	**05 41 51.4**	**+1.4**
	12μm7μm474nm,0.6s						
FAKI	**Fak Fak**	**11.13**	**149**		**Pn**	**05 42 01.2**	**+1.5**
FAKI	**Fak Fak**	**11.13**	**149**	P	**Pn**	**05 42 03.2**	**+3.5**
FAKI	**Fak Fak**	**11.13**	**149**	P	**Pn**	**05 42 02.1**	**+2.4**
	13μm5μm207nm,0.8s						
RKPI	**Ransiki, Papua**	**11.19**	**136**	P	**Pn**	**05 42 05.1**	**+4.7**
	17μm630nm,1.1s						
BNDI	**Bandanaira**	**11.63**	**163**	P	**Pn**	**05 42 10.0**	**+3.5**
BNDI	**Bandanaira**	**11.63**	**163**	P	**Pn**	**05 42 08.6**	**+2.1**
	16μm1μm,1.4s						
SMKI	**Samarinda**	**11.63**	**233**	P	**Pn**	**05 42 07.1**	**+0.6**
	16μm537nm,1.2s						
TTSI	**Tana Toraja**	**11.71**	**215**	P	**Pn**	**05 42 09.7**	**+2.1**
	19μm11μm1μm,1.3s						
BKB	**Balikpapan**	**12.38**	**231**		**Pn**	**05 42 17.1**	**+0.4**
BKB	**Balikpapan**	**12.38**	**231**	P	**Pn**	**05 42 19.2**	**+2.5**
BKB	**Balikpapan**	**12.38**	**231**	P	**Pn**	**05 42 17.5**	**+0.8**
BAKI	**Biak**	**12.39**	**129**	P	**Pn**	**05 42 20.9**	**+4.1**
	16μm1μm,1.2s						
SPSI	**Sidrap Palu**	**12.50**	**213**	P	**Pn**	**05 42 19.7**	**+1.3**
	12μm578nm,1.1s						
KMPI	**Kaimana, Papua**	**12.55**	**145**	P	**Pn**	**05 42 19.3**	**+0.3**
	14μm9μm533nm,1.0s						
BBSI	**Bau Bau**	**12.69**	**198**	P	**Pn**	**05 42 25.1**	**+4.2**
	12μm8μm927nm,1.1s						
BNSI	**Bone**	**12.70**	**210**	P	**Pn**	**05 42 22.5**	**+1.5**
	17μm1μm,1.5s						
SRPI	**Serui, Papua**	**12.93**	**131**	P	**P**	**05 42 37.6**	**+4.6**
KAPI	**Kappang**	**13.40**	**210**		**Pn**	**05 42 30.4**	**-0.3**
KAPI	**Kappang**	**13.40**	**210**	P	**Pn**	**05 42 33.1**	**+2.5**
	311nm,0.8s,baz=18,slow=7.5,SNR=57						
KAPI	**Kappang**	**13.40**	**210**	P	**Pn**	**05 42 33.3**	**+2.7**
KAPI	**Kappang**	**13.40**	**210**	P	**Pn**	**05 42 30.4**	**-0.3**
BKSI	**Bulukumba**	**13.49**	**208**	P	**Pn**	**05 42 32.7**	**+0.8**
	13μm9μm425nm,1.4s						
BSSI	**Bau Bau, Buton**	**14.06**	**205**	P	**Pn**	**05 42 39.8**	**+0.3**
	11μm7μm339nm,1.3s						
SBUM	**Sibu**	**14.81**	**254**		**P**	**05 42 51.8**	**-2.2**
SMPI	**Sarmi**	**14.94**	**125**	P	**P**	**05 42 54.0**	**-1.4**
	15μm797nm,1.3s						
SAUI	**Saumlaki**	**15.33**	**162**	Pn	**Pn**	**05 42 57.2**	**+1.1**
SAUI				IAmb	IAmb	05 43 04.8	
	comp=Z,683nm,0.9s						
SAUI	**Saumlaki**	**15.33**	**162**	P	**P**	**05 42 58.0**	**-1.8**
SAUI	**Saumlaki**	**15.33**	**162**	P	**P**	**05 42 59.9**	**+0.1**
	comp=Z,1μm,0.8s						
MMRI	**Maumere**	**15.78**	**196**	Pn	**Pn**	**05 43 02.6**	**+0.8**
MMRI	**Maumere**	**15.78**	**196**	P	**P**	**05 43 03.9**	**-0.8**
MMRI	**Maumere**	**15.78**	**196**	P	**Pn**	**05 43 01.9**	**+0.1**
	comp=Z,10μmcomp=Z,17μmcomp=Z,1μm,1.2s						
EDFI	**Ende, Flores**	**16.04**	**197**	P	**Pn**	**05 43 04.8**	**-0.5**
	comp=Z,10μmcomp=Z,7μmcomp=Z,633nm,1.0s						
STKI	**Sintang**	**16.34**	**247**	P	**P**	**05 43 10.8**	**-0.1**
	comp=Z,11μmcomp=Z,15μmcomp=Z,895nm,1.5s						
SOEI	**Soe**	**16.46**	**188**	P	**Pn**	**05 43 11.1**	**+0.5**
SOEI	**Soe**	**16.46**	**188**	P	**P**	**05 43 12.3**	**-0.1**
SOEI	**Soe**	**16.46**	**188**	P	**P**	**05 43 13.1**	**+0.7**
SOEI	**Soe**	**16.46**	**188**	P	**P**	**05 43 12.1**	**-0.3**
	comp=Z,11μmcomp=Z,13μmcomp=Z,1μm,1.0s						
GENI	**Genyem**	**16.48**	**124**	P	**P**	**05 43 13.7**	**+1.2**
GENI	**Genyem**	**16.48**	**124**	P	**P**	**05 43 13.9**	**+1.4**
TWG	**Pinlang**	**16.88**	**343**	P	**P**	**05 43 19.2**	**+2.4**
JAY	**Jayapura**	**16.89**	**122**	P	**P**	**05 43 17.5**	**+0.5**
	comp=Z,92nm,0.9s,baz=300,slow=6.3,SNR=18						
JAY	**Jayapura**	**16.89**	**122**	P	**P**	**05 43 19.2**	**+2.1**
KSM	**Kuching**	**16.92**	**253**		**Pn**	**05 43 16.6**	**+0.4**
KSM				IAmb	IAmb	05 43 21.9	
	comp=Z,687nm,1.2s						
BATI	**Baumata**	**17.00**	**189**	P	**P**	**05 43 18.1**	**-0.1**
	comp=Z,2μm,1.0s,baz=53,slow=0.1,SNR=52						
BATI	**Baumata**	**17.00**	**189**	P	**P**	**05 43 18.6**	**+0.4**
WSI	**Waingapu**	**17.36**	**201**	P	**Pn**	**05 43 21.8**	**+0.2**
	comp=Z,14μmcomp=Z,990nm,1.2s						
YULB	**Yu-li**	**17.36**	**344**	P	**P**	**05 43 22.7**	**+0.5**
TPUB	**Ta-pu**	**17.47**	**342**	Pn	**Pn**	**05 43 22.7**	**-0.1**
PLAI	**Plampang**	**17.67**	**209**	P	**P**	**05 43 27.1**	**+1.5**
PLAI	**Plampang**	**17.67**	**209**	P	**P**	**05 43 26.3**	**+0.7**
	comp=Z,9μmcomp=Z,11μmcomp=Z,1μm,0.9s						
WBSI	**Waikabubak, Su**	**17.67**	**204**	P	**Pn**	**05 43 25.3**	**-0.2**
	comp=Z,9μmcomp=Z,6μmcomp=Z,602nm,0.9s						
BASI	**Baing, Sumba**	**17.77**	**199**	P	**Pn**	**05 43 25.3**	**-1.4**
	comp=Z,11μmcomp=Z,12μmcomp=Z,865nm,1.1s						
SSLB	**Suanglung**	**17.83**	**343**	P	**P**	**05 43 28.5**	**+1.1**
SSLB				IAmb	IAmb	05 43 34.9	
	comp=Z,335nm,1.0s						
YOJ	**Yonaguni jima**	**18.00**	**350**		**Pn**	**05 43 30.9**	**+1.6**
YOJ	**Yonaguni jima**	**18.00**	**350**	P	**Pn**	**05 43 31.0**	**+1.6**
YOJ				pmax	pmax		
	comp=Z,94nm,1.0s						
NACB	**Ninganchiao**	**18.02**	**345**		**Pn**	**05 43 31.1**	**+1.5**
TWSI	**Taliwang, Sumb**	**18.05**	**212**	P	**Pn**	**05 43 30.5**	**+0.5**
	comp=Z,9μmcomp=Z,7μmcomp=Z,864nm,1.1s						
SRBI	**Singaraja**	**18.46**	**218**	P	**P**	**05 43 33.8**	**-0.6**
KMMI	**Kalianget**	**18.48**	**223**	P	**Pn**	**05 43 35.6**	**+0.4**
	comp=Z,9μmcomp=Z,10μmcomp=Z,792nm,1.1s						
DLV	**Lat**	**18.50**	**288**	P	**Pn**	**05 43 37.4**	**+1.7**
DLV				IAmb	IAmb	05 43 47.1	
	comp=Z,384nm,1.1s						
YHNB	**Yeheng**	**18.55**	**345**	P	**Pn**	**05 43 37.0**	**+0.8**
TATO	**Taipei**	**18.82**	**346**	P	**Pn**	**05 43 39.7**	**+0.5**
TATO	**Taipei**	**18.82**	**346**	P	**Pn**	**05 43 39.5**	**+0.2**
TATO				S	**S**	**05 47 12.6**	**+3.2**
ABJI	**Asem Bagus**	**18.85**	**221**	P	**Pn**	**05 43 40.0**	**+0.3**
	comp=Z,390nm,1.5s						
DNP	**Denpasar**	**18.93**	**217**	P	**Pn**	**05 43 40.4**	**-0.3**
	comp=Z,1μm,1.3s						
BLJI	**Banyuglugur**	**19.23**	**222**	P	**P**	**05 43 43.3**	**+0.5**
	comp=Z,10μmcomp=Z,329nm,0.9s						
KNMB	**Chin-men Tao**	**19.32**	**337**		**P**	**05 43 44.4**	**+0.7**
GUMO	**Guam**	**19.36**	**68**		**Pn**	**05 43 45.8**	**0.0**
GUMO				IAmb	IAmb	05 43 50.2	
	comp=Z,545nm,1.1s						
GUMO	**Guam**	**19.36**	**68**	P	**Pn**	**05 43 45.2**	**-0.7**
	comp=Z,318nm,0.8s,baz=259,slow=3.6,SNR=10						
GUMO				LR	LR	05 50 03.8	
	comp=Z,2μm,20.1s,baz=246,slow=33						
GRJI	**Gresik**	**19.41**	**226**	P	**Pn**	**05 43 48.1**	**+1.6**
	comp=Z,8μmcomp=Z,2μm,1.4s						
JAGI	**Jajag, Banyuwa**	**19.42**	**219**	IAmb	IAmb	05 43 51.4	
	comp=Z,647nm,1.1s						
JAGI	**Jajag, Banyuwa**	**19.42**	**219**	P	**Pn**	**05 43 47.1**	**+0.6**
JAGI	**Jajag, Banyuwa**	**19.42**	**219**	P	**P**	**05 43 44.5**	**-0.4**
	comp=Z,10μmcomp=Z,6μmcomp=Z,509nm,1.0s						
HKPS	**Hong Kong Po S**	**19.55**	**324**	P	**Pn**	**05 43 48.1**	**+0.1**
HKPS				IAmb	IAmb	05 43 51.0	
	comp=Z,650nm,0.9s						
QZH	**Quanzhou**	**19.68**	**338**	⇑P	**Pn**	**05 43 50.7**	**+1.3**
QZH				sP	**sP**	**05 44 07.6**	**-0.1**
QZH				S	**S**	**05 47 21.6**	**-5.0**
QZH				sS	**sS**	**05 47 39.1**	**-6.8**
QZH				ScS	**ScS**	**05 55 20.5**	**+1.7**
QZH				pmax	pmax		
	comp=Z,300nm,1.1s						
QZH				LR	LR		
	comp=Z,6μm,22.0s						
QZH				LR	LR		
	comp=Z,2μm,22.7s						
QZH				LR	LR		
	comp=Z,9μm,25.0s						
GMJI	**Gumukmas**	**19.72**	**221**	P	**Pn**	**05 43 49.5**	**-0.6**
	comp=Z,383nm,1.2s						
TBJI	**Tambak Boyo**	**19.81**	**228**	P	**Pn**	**05 43 51.9**	**+0.8**
	comp=Z,11μmcomp=Z,24μmcomp=Z,2μm,1.3s						
MTN	**Manton Dam**	**19.93**	**167**	P	**Pn**	**05 43 51.8**	**-0.7**
	comp=Z,0.0nmcomp=Z,745nm,1.2s						
MTN	**Manton Dam**	**19.93**	**167**		**Pn**	**05 43 52.4**	**-0.2**
JOW	**Kunigami**	**20.13**	**5**	P	Pn	05 43 54.1	-0.6
JOW				IAmb	IAmb	05 44 12.6	
	comp=Z,734nm,1.4s						
JOW	**Kunigami**	**20.13**	**5**	P	**P**	**05 43 52.9**	**+0.4**
	comp=Z,174nm,0.9s,baz=201,slow=7.1,SNR=18						
JOW				LR	LR	05 51 35.4	
	comp=Z,3μm,20.4s,baz=176,slow=36						
	comp=Z,174nm,0.9s						
KDU	**Kakadu**	**20.13**	**163**	P	Pn	05 43 54.1	-0.8
	comp=Z,0.0nmcomp=Z,684nm,1.0s						
QIZ	**Qiongzhong**	**20.32**	**309**	IAmb	IAmb	05 44 12.7	
	comp=Z,351nm,1.2s						
QIZ	**Qiongzhong**	**20.32**	**309**	P	Pn	05 43 56.8	-0.3
QIZ				pP	pP	05 44 07.9	+0.7
QIZ				S	**S**	**05 47 42.1**	**+2.7**
QIZ				pmax	pmax		
	comp=Z,240nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,2μm,2.8s						
QIZ				LR	LR		
	comp=Z,3μm,17.5s						
QIZ				LR	LR		
	comp=Z,3μm,20.4s						
QIZ				LR	LR		
	comp=Z,6μm,24.5s						
QIZ	**Qiongzhong**	**20.32**	**309**	P	Pn	05 43 57.4	+0.3
QIZ	**Qiongzhong**	**20.32**	**309**	S	Sn	05 47 44.1	-1.3
NGJI	**Ngawi**	**20.46**	**227**	P	Pn	05 43 58.3	-0.5
	comp=Z,12μmcomp=Z,14μmcomp=Z,587nm,0.9s						
GZH	**Guangzhou**	**20.64**	**324**	P	Pn	05 44 02.5	+1.6
GZH				sP	sP	05 44 17.8	-0.2
GZH				PP	**PnPn**	**05 44 23.8**	**+5.7**
GZH				S	Sn	05 47 52.0	-1.2
GZH				SS	**SnSn**	**05 48 23.9**	**+15**
GZH				pmax	pmax		
	comp=Z,500nm,1.0s						
GZH				LR	LR		
	comp=Z,7μm,19.4s						
GZH				LR	LR		
	comp=Z,3μm,14.0s						
GZH				LR	LR		
	comp=Z,7μm,19.0s						
TPI	**Tanjungpandan**	**20.99**	**244**	P	**P**	**05 44 02.9**	**+1.0**
	comp=Z,6μmcomp=Z,5μmcomp=Z,327nm,1.1s						
SMRI	**Semarang**	**21.01**	**230**	P	**P**	**05 44 04.9**	**+2.7**
SMRI	**Semarang**	**21.01**	**230**	P	**P**	**05 44 04.0**	**+1.8**
	comp=Z,21μmcomp=Z,1μm,1.1s						
WOJI	**Wonogiri, Jawa**	**21.17**	**227**	P	**P**	**05 44 02.7**	**-1.1**
	comp=Z,7μmcomp=Z,635nm,1.1s						
PCJI	**Pacitan**	**21.23**	**226**	P	**P**	**05 44 02.1**	**-2.4**
UGM	**Wanagama**	**21.51**	**228**	IAmb	IAmb	05 44 18.7	
	comp=Z,483nm,1.0s						
UGM	**Wanagama**	**21.51**	**228**	P	**P**	**05 44 09.6**	**+2.0**
UGM	**Wanagama**	**21.51**	**228**	S	**S**	**05 48 03.6**	**+0.4**
UGM	**Wanagama**	**21.51**	**228**	P	**P**	**05 44 07.7**	**+0.1**
	comp=Z,7μmcomp=Z,548nm,1.3s						
PPBI	**Pangkal Pinang**	**22.11**	**247**	P	**P**	**05 44 13.8**	**-0.2**
KNRA	**Kununurra**	**22.32**	**174**	P	**P**	**05 44 17.1**	**+0.9**
	comp=Z,0.0nmcomp=Z,706nm,0.8s						
KNRA	**Kununurra**	**22.32**	**174**		**P**	**05 44 17.5**	**+1.4**
KPJI	**Karang Pucung**	**22.35**	**232**	P	**P**	**05 44 17.8**	**+1.3**
	comp=Z,8μmcomp=Z,7μmcomp=Z,757nm,0.9s						
JCJI	**Jatiwangi**	**22.38**	**235**	P	**P**	**05 44 20.1**	**+3.3**
MANU	**Manus Island**	**22.58**	**112**	P	**P**	**05 44 20.7**	**+1.7**
MANU				IAmb	IAmb	05 44 24.6	
	comp=Z,381nm,1.2s						
TPRI	**Tanjung Pinang**	**22.62**	**256**	P	**P**	**05 44 20.1**	**+0.6**
	comp=Z,6μmcomp=Z,285nm,1.5s						
DSRI	**Dabo**	**22.97**	**253**	P	**P**	**05 44 24.2**	**+1.1**
	comp=Z,5μmcomp=Z,10μmcomp=Z,593nm,0.9s						
MYKOM	**Kota Tinggi**	**23.07**	**259**	P	**P**	**05 44 24.7**	**+0.7**
MYKOM				IAmb	IAmb	05 44 30.7	
	comp=Z,540nm,1.3s						
LEM	**Lembang**	**23.10**	**235**	LR	LR	05 53 19.3	
	comp=Z,2μm,21.7s,baz=43,slow=36						
LEM	**Lembang**	**23.10**	**235**	P	**P**	**05 44 25.7**	**+1.2**
	comp=Z,15μmcomp=Z,735nm,1.6s						
BBJI	**Bungbulang**	**23.44**	**234**	P	**P**	**05 44 28.2**	**+0.5**
DBJI	**Dramaga**	**23.66**	**237**	P	**P**	**05 44 30.5**	**+0.8**
	comp=Z,18μmcomp=Z,875nm,1.2s						
PMBI	**Palembang**	**23.67**	**247**	P	**P**	**05 44 32.2**	**+2.5**
CNJI	**Cibinong**	**23.77**	**235**	P	**P**	**05 44 28.8**	**-1.8**
	comp=Z,4μmcomp=Z,336nm,0.9s						
SBJI	**Serang**	**23.95**	**238**	P	**P**	**05 44 34.0**	**+1.7**
	comp=Z,2μm,1.8s						
SKJI	**Sukabumi**	**24.07**	**236**	P	**P**	**05 44 32.3**	**-1.1**
	comp=Z,7μmcomp=Z,15μmcomp=Z,1μm,1.4s						
GULI	**GuiLin**	**24.09**	**322**	P	**P**	**05 44 31.7**	**-1.7**
GULI				pP	**pP**	**05 44 43.8**	**-3.8**
GULI				sP	**sP**	**05 44 51.6**	**-2.8**
GULI				S	**S**	**05 48 44.2**	**-3.0**
GULI				pmax	pmax		
	comp=Z,280nm,1.1s						
GULI	

WHN sP **sP** **05 45 14.2 -0.4**
WHN PcP **PcP** **05 48 20.3 +1.6**
WHN S **S** **05 49 24.5 +1.7**
WHN ScP **ScP** **05 51 55.6 +1.7**
WHN ScS **ScS** **05 55 45.6 +1.5**
WHN pmax pmax
comp=Z,2µm,3.3s
WHN LR LR
comp=Z,6µm,13.4s
WHN LR LR
comp=Z,2µm,8.5s
WHN LR LR
comp=Z,8µm,14.6s
COEN Coen 26.36 141 P **P** **05 44 55.9 +1.7**
comp=Z,0.0nmcomp=Z,107nm,1.8s
COEN Coen 26.36 141 P **P** **05 44 55.8 +1.6**
COEN IAmb IAmb 05 45 03.2
comp=Z,338nm,1.4s
KRJI Kerinci 26.44 252 P **P** **05 44 54.6 -0.4**
comp=Z,955nm,2.1s
JNU Nakatsue 26.64 8 IAmb IAmb 05 45 17.8
comp=Z,114nm,1.0s
PPI Padang Panjang 26.96 256 P **P** **05 44 59.1 -0.6**
comp=Z,4µmcomp=Z,234nm,0.8s
PDSI Padang 27.03 255 P **P** **05 44 59.5 -0.8**
comp=Z,10µmcomp=Z,178nm,0.7s
GYA Guiyang 27.26 318 P **P** **05 45 03.6 +1.2**
GYA pP pP 05 45 16.1 -0.5
GYA PcP **PcP** **05 48 22.5 +1.3**
GYA S **S** **05 49 38.1 +0.2**
GYA sS sS 05 49 57.5 -3.4
GYA ScS **ScS** **05 55 47.9 -0.7**
GYA pmax pmax
comp=Z,21nm,0.9s
GYA pmax pmax
comp=Z,1µm,5.6s
GYA LR LR
comp=Z,3µm,17.0s
GYA LR LR
comp=Z,3µm,16.9s
GYA LR LR
comp=Z,6µm,16.8s
WB0 Warramunga Arr 27.40 164 IAmb IAmb 05 45 41.8
comp=Z,265nm,1.1s
MNSI Mandailing Nat 27.45 259 P **P** **05 45 02.4 -1.6**
comp=Z,3µmcomp=Z,109nm,1.0s
WRAB Tennant Creek 27.55 164 P **P** **05 45 04.9 +0.1**
WRAB IAmb IAmb 05 45 46.4
comp=Z,216nm,0.9s
WRAB Tennant Creek 27.55 164*d i* P **P** **05 45 05.1 +0.3**
WRAB pmax pmax
comp=Z,264nm,1.5s
WRA Warramunga Arr 27.55 164 P **P** **05 45 04.4 -0.5**
WRA Warramunga Arr 27.55 164 P **P** **05 45 04.8 0.0**
comp=Z,63nm,0.8s,baz=341,slow=9.6,SNR=79
WRA PcP **PcP** **05 48 22.6 +0.8**
comp=Z,34nm,0.9s,baz=336,slow=3.1,SNR=5.6
WRA S **S** **05 49 41.6 -0.6**
comp=Z,21nm,1.1s,baz=333,slow=13,SNR=5.2
WRA ScP **ScP** **05 51 58.5 +0.8**
comp=Z,13nm,1.0s,baz=337,slow=3.3,SNR=4.5
WRA LR LR 05 58 20.2
comp=Z,1µm,20.9s,baz=354,slow=41
WRA P3KPbc 06 17 34.2
comp=Z,6.0nm,0.9s,baz=162,slow=4.2,SNR=16
comp=Z,63nm,0.8s
WR8 Warramunga Arr 27.61 164 IAmb IAmb 05 45 46.8
comp=Z,163nm,0.9s
PSI Prapat 27.71 263 P **P** **05 45 06.3 -0.2**
comp=Z,149nm,0.8s,baz=90,slow=5.2,SNR=51
PSI PcP **PcP** **05 48 23.2 +0.7**
comp=Z,63nm,0.9s,baz=192,slow=3.1,SNR=8.8
PSI ScP **ScP** **05 51 58.4 -0.2**
comp=Z,11nm,0.5s,baz=110,slow=3.0,SNR=5.3
PSI LR LR 05 59 11.5
comp=Z,1µm,20.5s,baz=76,slow=43
comp=Z,149nm,0.8s
PSI Prapat 27.71 263 P **P** **05 45 07.9 +1.4**
JMN Monobe 27.79 13 IAmb IAmb 05 45 27.2
comp=Z,304nm,1.2s
RABL Rabaul 27.82 112 P **P** **05 45 08.4 +1.1**
RABL IAmb IAmb 05 45 14.4
comp=Z,191nm,0.8s
TSI Tuntungan 27.97 265 P **P** **05 45 09.3 +0.6**
comp=Z,524nm,1.3s
ENH Enshi 28.39 328 P **P** **05 45 12.6 +0.3**
ENH IAMs_20 IAMs_20 05 56 09.8
comp=Z,4µm,22.0s
ENH Enshi 28.39 328 P **P** **05 45 13.9 +1.6**
MBWA Marble Bar 28.43 193 P **P** **05 45 12.7 -0.1**
comp=Z,214nm,1.3s
MBWA Marble Bar 28.43 193 P **P** **05 45 12.6 -0.1**
MBWA Marble Bar 28.43 193 P **P** **05 45 12.9 +0.3**
MBWA S **S** **05 49 55.7 -0.4**
SISI Saibi 28.46 255 P **P** **05 45 10.7 -2.3**
KCSI Kotacane, Aceh 28.75 265 P **P** **05 45 14.9 -0.8**
comp=Z,256nm,0.9s
PSAC1 Pilbara Seismi 28.78 193 P **P** **05 45 15.4 -0.3**
comp=Z,287nm,1.0s
PSA00 Pilbara Seismi 28.81 193 P **P** **05 45 16.0 0.0**
comp=Z,280nm,0.9s
PSA00 Pilbara Seismi 28.81 193 P **P** **05 45 16.9 +0.9**
PSA00 IAmb IAmb 05 45 19.2
comp=Z,218nm,0.9s
KMI Kunming 29.19 312 ⇓P **P** **05 45 21.1 +1.4**
KMI PcP **PcP** **05 48 28.1 +2.0**
KMI S **S** **05 50 08.7 +0.3**
KMI sS sS 05 50 29.6 -1.9
KMI ScP **ScP** **05 52 04.6 +1.5**
KMI pmax pmax
comp=Z,130nm,1.2s
KMI pmax pmax
comp=Z,900nm,8.3s
KMI LR LR
comp=Z,2µm,24.3s
KMI LR LR
comp=Z,3µm,24.6s
KMI LR LR
comp=Z,4µm,19.9s
CM31 Chiang Mai Arr 29.26 296 P **P** **05 45 21.6 +1.5**
SNR=25
CMAR Chiang Mai Arr 29.26 296 P **P** **05 45 21.6 +1.5**
CMAR Chiang Mai Arr 29.26 296 P **P** **05 45 20.6 +0.5**
comp=Z,15nm,0.9s,baz=121,slow=7.0,SNR=56
CMAR PcP **PcP** **05 48 27.4 +1.3**
comp=Z,28nm,0.9s,baz=121,slow=1.2,SNR=11
CMAR ScP **ScP** **05 52 03.6 +0.5**
comp=Z,17nm,1.0s,baz=95,slow=1.3,SNR=18
CMAR PKiKP **PKiKP** **05 56 00.4 +0.4**
comp=Z,1.8nm,0.3s,baz=284,slow=0.9,SNR=6.9
CMAR LR LR 05 56 44.7
comp=Z,3µm,21.2s,baz=110,slow=36
comp=Z,15nm,0.9s
GSI Gunungsitoli 29.30 261 P **P** **05 45 20.7 +0.2**
GSI Gunungsitoli 29.30 261 P **P** **05 45 18.3 -2.2**
CHTO Chiang Mai 29.38 297 P **P** **05 45 22.1 +0.9**
CHTO Chiang Mai 29.38 297 P **P** **05 45 22.2 +1.0**
CHTO S **S** **05 50 11.9 +0.8**
CHTO Chiang Mai 29.38 297 P **P** **05 45 22.1 +0.9**
CHTO pmax pmax
comp=Z,98nm,1.2s
CHTO MLR MLR
comp=Z,3µm,22.0s
LHMI Lhok Sumawe 29.40 269 P **P** **05 45 23.4 +2.0**
LHMI Lhok Sumawe 29.40 269 P **P** **05 45 20.7 -0.7**
comp=Z,433nm,1.4s
JSG Sagara 29.89 20 P **P** **05 45 27.6 +2.1**
JSG IAmb IAmb 05 45 49.0
comp=Z,212nm,1.0s
QIS Mount Isa 29.98 155 P **P** **05 45 27.2 +0.8**
comp=Z,0.0nmcomp=Z,324nm,0.6s
MLSI Meulaboh, Aceh 30.02 267 P **P** **05 45 25.2 -1.7**
comp=Z,5µmcomp=Z,445nm,1.1s
INU Inuyama 30.15 17 IAmb IAmb 05 45 46.8
comp=Z,76nm,0.9s
INU Inuyama 30.15 17 P **P** **05 45 28.1 +0.4**
INU sP **sP** **05 45 47.6 -0.3**
MTSU Mount Surprise 30.29 145 P **P** **05 45 29.9 +0.7**
comp=Z,37nm,0.8s
SNSI Sinabang, Aceh 30.34 263 P **P** **05 45 27.1 -2.6**
comp=Z,4µmcomp=Z,283nm,0.8s
LYN LuoYang 30.61 337 ⇑P **P** **05 45 34.6 +2.8**
LYN PcP **PcP** **05 48 30.8 +1.6**
LYN S **S** **05 50 28.5 -1.5**
LYN sS sS 05 50 55.6 +2.5
LYN ScP **ScP** **05 52 09.6 +2.4**
LYN SS **SnSn** **05 52 15.3 +3.2**
LYN ScS **ScS** **05 56 06.9 +3.3**
LYN pmax pmax
comp=Z,530nm,0.9s
LYN pmax pmax
comp=Z,900nm,3.9s
LYN LR LR
comp=Z,2µm,17.2s
LYN LR LR
comp=Z,2µm,18.2s
LYN LR LR
comp=Z,5µm,21.0s
TIA Tai'an 30.62 345 P **P** **05 45 31.5 -0.5**
TIA S **S** **05 50 29.7 -0.6**
TIA pmax pmax
comp=Z,18nm,1.1s
TIA pmax pmax
comp=Z,440nm,3.7s
TIA LR LR
comp=Z,2µm,16.7s
TIA LR LR
comp=Z,2µm,16.4s
TIA LR LR
comp=Z,3µm,17.4s
KSAR Wonju Array Be 30.66 2 P **P** **05 45 33.8 +1.6**
KSAR Wonju Array Be 30.66 2 P **P** **05 45 33.8 +1.6**
KSRS Korea Array 30.67 2 P **P** **05 45 32.5 +0.1**
comp=Z,28nm,0.9s,baz=180,slow=10,SNR=61
KSRS PcP **PcP** **05 48 30.1 +0.8**
comp=Z,12nm,1.0s,baz=189,slow=2.5,SNR=5.7
KSRS ScP **ScP** **05 52 07.8 +0.5**
comp=Z,14nm,1.0s,baz=189,slow=3.6,SNR=15
KSRS LR LR 05 57 35.4
comp=Z,1096µm,21.6s,baz=185,slow=36
comp=Z,28nm,0.9s
INCN Inchon 30.67 0 P **P** **05 45 32.1 -0.3**
PZH PanZhiHua 30.72 313 P **P** **05 45 33.9 +0.9**
PZH pP **pP** **05 45 48.8 +1.4**
PZH sP **sP** **05 45 52.8 -1.3**
PZH sS **sS** **05 50 57.5 +2.2**
PZH pmax pmax
comp=Z,70nm,1.0s
PZH pmax pmax
comp=Z,640nm,6.5s
PZH LR LR
comp=Z,3µm,23.5s
PZH LR LR
comp=Z,2µm,21.4s
PZH LR LR
comp=Z,4µm,22.4s
ASAR Alice Springs 31.01 167 P **P** **05 45 35.6 +0.1**
comp=Z,68nm,0.9s,baz=337,slow=5.4,SNR=176
ASAR PcP **PcP** **05 48 31.6 +1.0**
comp=Z,22nm,0.8s,baz=347,slow=2.7,SNR=5.9
ASAR S **S** **05 50 37.0 +0.4**
comp=Z,14nm,1.0s,baz=346,slow=15,SNR=5.6
ASAR ScP **ScP** **05 52 10.0 +1.3**
comp=Z,7.2nm,0.9s,baz=350,slow=3.9,SNR=4.8
ASAR LR LR 06 00 27.2
comp=Z,2µm,19.9s,baz=348,slow=41
ASAR P3KPbc 06 17 17.1
comp=Z,1.1nm,0.8s,baz=144,slow=3.3,SNR=8.1
comp=Z,68nm,0.9s
GIRL Giralia 31.50 202 P **P** **05 45 40.8 +1.0**
comp=Z,124nm,1.1s
GIRL Giralia 31.50 202 P **P** **05 45 41.2 +1.5**
GIRL IAmb IAmb 05 45 46.3
comp=Z,216nm,1.3s
WRKA Warakurna 31.57 177 P **P** **05 45 41.1 +0.7**
comp=Z,76nm,0.8s
MAJO Matsushiro 31.61 18 P **P** **05 45 39.4 -1.3**
MAJO Matsushiro 31.61 18 P **P** **05 45 39.4 -1.3**
MAJO pmax pmax
comp=Z,93nm,1.4s
MJAR Matsushiro Arr 31.61 18 P **P** **05 45 41.2 +0.6**
MJAR Matsushiro Arr 31.61 18 P **P** **05 45 39.1 -1.6**
comp=Z,18nm,0.8s,baz=196,slow=9.1,SNR=18
MJAR PP **PP** **05 46 50.9 -2.1**
comp=Z,12nm,0.8s,baz=199,slow=11,SNR=4.1
MJAR ScP **ScP** **05 52 11.3 +0.8**
comp=Z,11nm,1.0s,baz=196,slow=3.4,SNR=11
comp=Z,18nm,0.8s
MJAR Matsushiro Arr 31.61 18 P **P** **05 45 41.3 +0.6**
MJAR pmax pmax
comp=Z,21nm,0.8s
PATS Pohnpei 31.62 88 P **P** **05 45 43.4 +2.4**
comp=Z,192nm,1.1s
XAN Xi'an 31.71 332 ⇑P **P** **05 45 42.3 +0.7**
XAN pP pP 05 45 52.5 -3.4
XAN S **S** **05 50 46.7 -0.7**
XAN pmax pmax
comp=Z,1µm,4.6s
XAN LR LR
comp=Z,9µm,24.5s
XAN LR LR
comp=Z,6µm,24.9s
XAN LR LR
comp=Z,8µm,22.1s
CD2 Chengdu 32.17 321 P **P** **05 45 46.3 +0.7**
CD2 pP pP 05 46 00.0 0.0
CD2 sP sP 05 46 07.7 +1.0
CD2 S **S** **05 50 54.2 -0.4**
CD2 sS sS 05 51 22.4 +4.7
CD2 pmax pmax
comp=Z,820nm,4.0s
CD2 LR LR
comp=Z,6µm,21.7s
CD2 LR LR
comp=Z,10µm,16.5s
CD2 LR LR
comp=Z,5µm,19.3s
TNCH TengChong 32.38 307 ⇓P **P** **05 45 48.0 +0.3**
TNCH pP pP 05 46 00.7 -1.4
TNCH sP sP 05 46 08.4 -0.4
TNCH PP **PnPn** **05 46 55.9 -0.3**
TNCH S **S** **05 51 01.8 +3.5**
TNCH sS sS 05 51 24.3 +2.9
TNCH SS **SnSn** **05 52 53.8 -1.6**
TNCH pmax pmax
comp=Z,230nm,1.5s
TNCH LR LR
comp=Z,1µm,14.0s
TNCH LR LR
comp=Z,2µm,16.0s
TNCH LR LR
comp=Z,3µm,17.6s
DL2 Dalian 32.39 353 P **P** **05 45 48.4 +1.0**
DL2 pP **pP** **05 46 00.6 -1.0**
DL2 S **S** **05 51 02.7 +5.0**
DL2 pmax pmax
comp=Z,190nm,1.3s
DL2 pmax pmax
comp=Z,560nm,7.7s
DL2 LR LR
comp=Z,1µm,16.1s
DL2 LR LR
comp=Z,3µm,15.6s
DL2 LR LR
comp=Z,2µm,19.3s
HNS HongShan 32.41 342 ⇑P **P** **05 45 48.1 +0.5**
HNS PcP **PcP** **05 48 36.0 +2.0**
HNS S **S** **05 50 56.7 -1.4**
HNS ScP **ScP** **05 52 15.8 +2.7**
HNS ScS **ScS** **05 56 14.3 +1.9**
HNS LR LR
comp=Z,2µm,17.5s
HNS LR LR
comp=Z,950nm,18.4s
HNS LR LR
comp=Z,3µm,22.2s
CTA Charters Tower 32.95 144 P **P** **05 45 53.5 +1.0**
comp=Z,1.1nm,0.8s,baz=327,slow=11,SNR=22
CTA LR LR 06 01 40.3
comp=Z,54nm,18.1s,baz=312,slow=40
CTAO Charters Tower 32.95 144 P **P** **05 45 54.3 +1.7**
CTAO IAmb IAmb 05 46 11.4
comp=Z,198nm,1.4s
CTAO Charters Tower 32.95 144 P **P** **05 45 54.3 +1.7**
CTAO pmax pmax
comp=Z,198nm,1.4s
CTAO MLR MLR
comp=Z,3µm,22.0s
CTAO Charters Tower 32.95 144 P **P** **05 45 54.1 +1.5**
TIY Taiyuan 33.43 340 P **P** **05 45 58.8 +2.1**
TIY pP **pP** **05 46 11.6 +0.8**
TIY S **S** **05 51 13.2 -1.0**
TIY pmax pmax
comp=Z,380nm,0.9s
TIY LR LR
comp=Z,2µm,28.9s
TIY LR LR
comp=Z,1µm,12.4s
TIY LR LR
comp=Z,2µm,22.7s
DGPR DIGLIPUR 33.64 284 *e* P P 05 46 12.1 +13
DGPR IAmb IAmb 05 46 18.6
comp=Z,45nm,0.8s
PBA Port Blair 33.65 281 *e* P P 05 46 10.8 +12
PBA IAmb IAmb 05 46 18.3
comp=Z,100nm,1.2s
MEEK Meekatharra 33.97 193 P **P** **05 46 01.0 -0.4**
comp=Z,191nm,0.9s
BJT Baijiatuau 34.47 346 P **P** **05 46 07.0 +1.5**
BJT Baijiatuau 34.47 346 P **P** **05 46 06.3 +0.8**
BJT pP **pP** **05 46 19.0 -0.8**
BJI Beijing 34.49 346 P **P** **05 46 05.7 0.0**
BJI PcP **PcP** **05 48 41.5 +1.7**
BJI S **S** **05 51 29.6 -0.6**
BJI sS **sS** **05 51 53.1 -0.3**
BJI ScP **ScP** **05 52 23.1 +2.7**
BJI ScS **ScS** **05 56 26.0 +2.9**
BJI pmax pmax
comp=Z,300nm,1.0s
BJI pmax pmax
comp=Z,380nm,3.5s
BJI LR LR
comp=Z,380nm,10.8s
BJI LR LR
comp=Z,770nm,19.8s
BJI LR LR
comp=Z,640nm,24.4s
SNY Shenyang 35.11 356 ⇑P **P** **05 46 11.2 +0.2**
SNY S **S** **05 51 34.6 -5.0**
SNY pmax pmax
comp=Z,200nm,2.5s
SNY LR LR
comp=Z,1µm,18.2s
SNY LR LR
comp=Z,3µm,19.9s
SNY LR LR
comp=Z,2µm,21.8s
LKP Lekhapani 35.60 309 *e* P P 05 46 26.9 +11
LZDM Lanzhou Array 35.85 328 P **P** **05 46 19.5 +1.6**
comp=Z,358nm,0.9s,baz=157,slow=8.0,SNR=171
LZDM PcP **PcP** **05 48 45.5 +1.1**
comp=Z,65nm,0.9s,baz=116,slow=3.4,SNR=5.2
LZDM ScP **ScP** **05 52 26.3 +0.4**
comp=Z,1.3nm,0.3s,baz=177,slow=5.3,SNR=3.7
LZDM LR LR 06 01 38.8
comp=Z,3µm,20.9s,baz=115,slow=37
comp=Z,358nm,0.9s
LZH Lanzhou 35.87 328 P **P** **05 46 19.8 +1.9**
LZH sP pP 05 46 33.6 +1.3
LZH PcP **PcP** **05 48 45.8 +1.6**
LZH S **S** **05 51 54.6 +2.6**
LZH sS sS 05 52 17.1 +1.8
LZH PcS **PcS** **05 52 33.2 +1.4**
LZH ScS **ScS** **05 56 32.4 +1.2**
LZH pmax pmax
comp=Z,2µm,4.3s
LZH LR LR
comp=Z,4µm,17.3s
LZH LR LR
comp=Z,4µm,18.2s
LZH LR LR
comp=Z,6µm,21.0s
IMP Imphal 35.98 304 *e* P P 05 46 31.7 +13
IMP IAmb IAmb 05 46 43.6
comp=Z,87nm,1.2s
MSHR Mys Shultsa 36.00 6 *i* P **P** **05 46 18.7 +0.1**
MSHR pmax pmax
comp=Z,90nm,0.8s
PSTR Posyet 36.04 5 *i* P **P** **05 46 20.8 +1.9**
KOHI KOHIMA 36.23 305 *e* P P 05 46 31.8 +11
HHC Hu-ho-hao-te 36.55 341 ⇑*i* P **P** **05 46 25.5 +2.0**
HHC pP pP 05 46 40.9 +3.1
HHC S **S** **05 52 02.3 +0.2**
HHC sS ScP 05 52 29.4 +1.4
HHC pmax pmax
comp=Z,440nm,1.0s
HHC pmax pmax
comp=Z,430nm,4.6s
HHC LR LR
comp=Z,1µm,19.4s
HHC LR LR
comp=Z,1µm,17.7s
HHC LR LR
comp=Z,3µm,22.6s
JORH JORHAT 36.57 307 *e* P P 05 46 37.0 +13
AZL Aizawl 36.60 301 *e* P P 05 46 36.8 +13
AZL IAmb IAmb 05 46 47.8
comp=Z,105nm,1.4s
BTO Baotou 36.86 339 *e* P **P** **05 46 28.4 +2.3**
BTO pP **pP** **05 46 37.7 -2.7**
BTO S **S** **05 52 15.0 +8.2**
BTO SS **SnSn** **05 54 40.5 -3.0**
BTO pmax pmax
comp=Z,170nm,0.8s
BTO pmax pmax
comp=Z,1µm,3.5s
BTO LR LR
comp=Z,3µm,14.9s
BTO LR LR
comp=Z,2µm,10.0s
BTO LR LR
comp=Z,3µm,16.7s
INKA Innaminka 36.89 159 IAmb IAmb 05 46 29.1
comp=Z,121nm,1.1s
SILR SILCHAR 36.91 303 *e* P P 05 46 39.6 +13
MORW Morawa 36.92 195 P **P** **05 46 26.5 -0.2**
comp=Z,210nm,1.0s
CN2 Changchun 36.99 359 P **P** **05 46 28.6 +1.5**
CN2 S **S** **05 52 07.8 -0.7**
CN2 SS **SnSn** **05 54 43.7 -2.8**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,170nm,7.5s
CN2 LR LR
comp=Z,730nm,19.0s
CN2 LR LR
comp=Z,740nm,19.0s
CN2 LR LR
comp=Z,860nm,17.0s
BRDH Bariadhala 37.12 299 P **P** **05 46 29.3 +0.8**
comp=Z,216nm,0.7s,baz=77,slow=7.3,SNR=8.3
BRDH LR LR 06 03 52.2
comp=Z,1µm,18.4s,baz=109,slow=40
comp=Z,216nm,0.7s
ITAN ITANAGAR 37.17 307 *e* P P 05 46 41.0 +12
ITAN IAmb IAmb 05 46 51.6
comp=Z,106nm,1.0s
ZIRO ZIRO 37.25 308 *e* P P 05 46 42.2 +12
ZIRO IAmb IAmb 05 46 47.4
comp=Z,97nm,0.9s
QLP Quilpie 37.27 153 P **P** **05 46 30.2 +0.6**
comp=Z,337nm,1.1s
TEZP TEZPUR 37.68 306 *e* P P 05 46 45.8 +13
TEZP IAmb IAmb 05 46 50.8
comp=Z,82nm,1.0s
USRK Ussuriysk Ar. 37.69 6 P **P** **05 46 33.0 0.0**
comp=Z,71nm,0.8s,baz=191,slow=8.1,SNR=63
USRK S **S** **05 52 18.5 -0.6**
comp=Z,1.3nm,0.3s,baz=195,slow=14,SNR=8.6
comp=Z,71nm,0.8s
AGT Agartala 37.88 301 *e* P P 05 46 47.4 +12
MDJ Mudanjiang 37.90 4 IAmb IAmb 05 46 38.4
comp=Z,144nm,1.0s
MDJ Mudanjiang 37.90 4 P **P** **05 46 35.3 +0.6**
MDJ S **S** **05 52 23.4 +1.2**
MDJ pmax pmax
comp=Z,19nm,0.8s
MDJ LR LR
comp=Z,2µm,19.8s
MDJ LR LR
comp=Z,950nm,18.9s
MDJ LR LR
comp=Z,2µm,23.7s
MDJ Mudanjiang 37.90 4 P **P** **05 46 38.0 +3.3**
SHL Shillong 37.99 304 P **P** **05 46 36.3 +0.3**
SHL Shillong 37.99 304 *e* P P 05 46 47.7 +12
SHL IAmb IAmb 05 46 50.5

comp=Z,64nm,0.8s
ERM Erimo 38.19 20 P **P** **05 46 38.7 +1.5**
ERM Erimo 38.19 20 IAMs_20 IAMs_20 06 00 13.6
comp=Z,3μm,22.0s
ERM Erimo 38.19 20 P **P** **05 46 38.7 +1.5**
ERM pmax pmax
comp=Z,367nm,1.8s
XLT XiLinHaoTe 38.19 348 *e*P **P** **05 46 40.2 +2.9**
XLT S **S** **05 52 22.0 -4.8**
XLT ScP **ScP** **05 52 30.0 -4.1**
XLT sS sS 05 52 46.3 -4.0
XLT ScS **ScS** **05 56 47.2 +3.4**
XLT pmax pmax
comp=Z,140nm,1.0s
XLT LR LR
comp=Z,1μm,14.2s
XLT LR LR
comp=Z,2μm,24.1s
BLDU Ballidu 38.23 194 P **P** **05 46 37.5 -0.2**
comp=Z,233nm,0.9s
BNX BinXian 38.93 1 ⇓P **P** **05 46 44.4 +1.0**
BNX pP **pP** **05 46 57.7 +0.1**
BNX sP **sP** **05 47 03.8 -0.3**
BNX PcP **PcP** **05 48 53.7 +0.6**
BNX S **S** **05 52 40.5 +2.7**
BNX pmax pmax
comp=Z,19nm,0.6s
BNX LR LR
comp=Z,790nm,18.2s
BNX LR LR
comp=Z,1μm,20.2s
BNX LR LR
comp=Z,2μm,21.7s
KLBR Kellerberrin 38.95 192 P **P** **05 46 44.0 +0.3**
comp=Z,350nm,0.9s
TEY Ternei 39.23 11⇑*e*P **P** **05 46 46.4 +0.6**
TEY *e* 05 52 40.6
TEY pmax pmax
comp=N,10.0nm,0.9s
TEY pmax pmax
comp=Z,20nm,0.8s
TEY pmax pmax
comp=E,200nm,3.0s
TEY pmax pmax
comp=N,200nm,4.5s
TEY pmax pmax
comp=Z,100nm,3.3s
MUN Mundaring 39.66 194 P **P** **05 46 49.7 +0.1**
comp=Z,228nm,1.2s
EIDS Eidsvold 39.84 144 P **P** **05 46 52.4 +1.2**
comp=Z,189nm,1.0s
EIDS Eidsvold 39.84 144 P **P** **05 46 52.4 +1.2**
EIDS IAmb IAmb 05 46 53.7
comp=Z,179nm,1.0s
ASAJ Asahikawa 39.88 18 P **P** **05 46 51.0 -0.3**
comp=Z,23nm,0.7s,baz=242,slow=17,SNR=10
comp=Z,23nm,0.7s
JKA Kamikawa-asahi 39.89 18 IAmb IAmb 05 47 36.8
comp=Z,262nm,1.6s
COBR COOCHBEHAR 40.28 303 *e*P P 05 47 07.5 +13
COBR IAmb IAmb 05 47 14.3
comp=Z,107nm,0.5s
BBOO Buckleboo 40.31 167 P **P** **05 46 56.0 +1.0**
comp=Z,578nm,1.1s
BBOO Buckleboo 40.31 167 P **P** **05 46 56.3 +1.3**
NWAO Narrogin (SRO) 40.34 192 P **P** **05 46 55.7 +0.4**
comp=Z,852nm,1.2s
NWAO Narrogin (SRO) 40.34 192 P **P** **05 46 55.9 +0.6**
NWAO Narrogin (SRO) 40.34 192 P **P** **05 46 55.9 +0.6**
comp=Z,246nm,0.9s,baz=19,slow=8.4,SNR=57
comp=Z,246nm,0.9s
NWAO Narrogin (SRO) 40.34 192 P **P** **05 46 56.5 +1.2**
NWAO S **S** **05 52 59.4 +0.2**
NWAO Narrogin (SRO) 40.34 192 P **P** **05 46 55.9 +0.6**
NWAO pmax pmax
comp=Z,550nm,1.1s
NWAO Narrogin (SRO) 40.34 192 P **P** **05 46 56.1 +0.8**
LSA Lhasa 40.36 309 IAmb IAmb 05 47 43.7
comp=Z,136nm,1.1s
LSA Lhasa 40.36 309 P **P** **05 46 55.2 -0.9**
LSA pmax pmax
comp=Z,51nm,1.2s
LSA LR LR
comp=Z,870nm,23.1s
LSA Lhasa 40.36 309 *i* P **P** **05 46 56.2 +0.2**
SNR=12
GTA Gaotai 40.48 328 P **P** **05 46 58.1 +1.6**
GTA pP pP 05 47 09.2 -2.0
GTA PcP **PcP** **05 49 00.0 +1.6**
GTA ScP **ScP** **05 52 44.0 +0.9**
GTA S **S** **05 52 56.7 -4.7**
GTA sS sS 05 53 25.3 +0.3
GTA ScS **ScS** **05 56 56.5 -1.0**
GTA pmax pmax
comp=Z,100nm,1.6s
GTA pmax pmax
comp=Z,980nm,8.0s
GTA LR LR
comp=Z,3μm,24.5s
GTA LR LR
comp=Z,3μm,24.3s
GTA LR LR
comp=Z,5μm,24.3s
H11S3 WAKE ISLAND Hy 40.87 69 T T 06 31 04.6
baz=266,slow=74,SNR=935
H11S1 WAKE ISLAND Hy 40.88 69 T T 06 31 05.8
baz=266,slow=74,SNR=564
H11S2 WAKE ISLAND Hy 40.89 69 T T 06 31 05.2
baz=266,SNR=633
STKA Stephens Creek 40.96 160 P **P** **05 47 01.5 +1.1**
comp=Z,2μm,1.1s
STKA Stephens Creek 40.96 160 P **P** **05 47 01.4 +1.1**
STKA Stephens Creek 40.96 160 P **P** **05 47 01.4 +1.1**
comp=Z,140nm,0.4s,baz=338,slow=8.1,SNR=377
STKA LR LR 06 06 14.4
comp=Z,1μm,20.7s,baz=333,slow=39
comp=Z,140nm,0.4s
STKA Stephens Creek 40.96 160 P **P** **05 47 01.4 +1.1**
STKA pmax pmax
comp=Z,2μm,1.2s
JPG JALPAIGURI 40.99 303 *e*P P 05 47 12.3 +11
GOMU GeErMu 41.26 320 P **P** **05 47 04.0 +0.7**
GOMU PP **PnPn** **05 48 47.8 +3.5**
GOMU S **S** **05 53 17.4 +3.8**
GOMU pmax pmax
comp=Z,11nm,1.0s
GOMU LR LR
comp=Z,910nm,19.2s
GOMU LR LR
comp=Z,2μm,19.0s
GOMU LR LR
comp=Z,2μm,19.6s
HTT Hallett 41.59 164 P **P** **05 47 06.9 +1.3**
comp=Z,57nm,1.2s
BWNR Bhubaneshwar 41.67 293 *e*P P 05 47 18.5 +12
BWNR IAmb IAmb 05 47 34.3
comp=Z,50nm,1.1s
RKGY Rocky Gully 42.02 192 P **P** **05 47 10.3 +1.2**
comp=Z,844nm,1.1s
CMSA Cobar Meteorol 42.20 155 P **P** **05 47 11.7 +1.2**
comp=Z,167nm,1.1s
BOK Bokaro 42.50 298 *e*P P 05 47 25.9 +13
BOK IAmb IAmb 05 47 32.1
comp=Z,40nm,0.8s
YSS Yuzhno-Sakhali 42.51 17 *e*P **P** **05 47 12.3 -0.5**
YSS *e* 05 48 59.0
YSS *e*S **S** **05 53 27.7 -3.2**
YSS pmax pmax
comp=Z,40nm,0.9s
YSS pmax pmax
comp=Z,300nm,4.9s
KNTI KHUNTI 42.82 297 *e*P P 05 47 27.9 +12
KNTI IAmb IAmb 05 47 41.6
comp=Z,63nm,1.3s
HIA Hailar 42.83 354 P **P** **05 47 16.3 +0.8**
GAYA Gaya 43.37 299 *e*P P 05 47 32.3 +12
GAYA IAmb IAmb 05 47 37.5
comp=Z,35nm,0.8s
HEH HeiHe 43.45 1 *e*P **P** **05 47 20.1 -0.3**
HEH pP **pP** **05 47 33.3 -1.5**
HEH S **S** **05 53 42.2 -2.4**
HEH ScS **ScS** **05 57 11.6 -3.3**
HEH pmax pmax
comp=Z,23nm,1.0s
HEH pmax pmax
comp=Z,380nm,5.0s
HEH LR LR
comp=Z,1μm,23.7s
HEH LR LR
comp=Z,820nm,19.6s
HEH LR LR
comp=Z,2μm,22.7s
JHSG JHARSUGUGA 43.85 295 *e*P P 05 47 35.4 +11
JHSG IAmb IAmb 05 47 41.7
comp=Z,97nm,0.6s
ARMA Armidale 44.07 148 P **P** **05 47 27.3 +1.5**
comp=Z,254nm,1.1s
ARMA Armidale 44.07 148 IAmb IAmb 05 47 29.1
comp=Z,222nm,0.9s
ULN Ulaanbaatar 44.27 341 P **P** **05 47 28.5 +1.3**
ULN IAmb IAmb 05 47 31.4
comp=Z,161nm,0.9s
ULN Ulaanbaatar 44.27 341 P **P** **05 47 28.8 +1.5**
ULN Ulaanbaatar 44.27 341 *ce*P **P** **05 47 28.6 +1.3**
ULN pmax pmax
comp=Z,197nm,1.0s
ULN Ulaanbaatar 44.27 341 P **P** **05 47 29.1 +1.8**
ULN PcP **PP** **05 49 13.1 +1.7**
SONM Songino Array 44.45 341 P **P** **05 47 29.6 +0.9**
SONM IAmb IAmb 05 47 32.0
comp=Z,170nm,1.1s
SONM Songino Array 44.45 341 P **P** **05 47 30.0 +1.4**
comp=Z,132nm,1.1s,baz=162,slow=8.4,SNR=188
SONM PcP **PP** **05 49 13.3 +0.1**
comp=Z,34nm,0.8s,baz=164,slow=2.4,SNR=6.3
SONM ScP **ScP** **05 52 58.8 -0.1**
comp=Z,6.6nm,1.0s,baz=68,slow=1.6,SNR=3.6
SONM LR LR 06 08 47.3
comp=Z,942nm,19.1s,baz=154,slow=40
comp=Z,132nm,1.1s
SONM Songino Array 44.45 341 P **P** **05 47 29.6 +0.9**
SONM pmax pmax
comp=Z,170nm,1.1s
GRNR Gornyy 44.73 9⇓*i*P **P** **05 47 30.5 -0.2**
GRNR pmax pmax
comp=Z,10.0nm,0.8s
BLSP Bilaspur 45.42 295 *e*P P 05 47 49.6 +13
BLSP IAmb IAmb 05 47 54.9
comp=Z,39nm,0.6s
PALK Pallekele 45.42 274 P **P** **05 47 37.2 +0.4**
PALK IAmb IAmb 05 47 43.1
comp=Z,203nm,1.6s
PALK Pallekele 45.42 274 LR LR 06 07 51.5
comp=Z,1μm,21.7s,baz=86,slow=38
PALK Pallekele 45.42 274 P **P** **05 47 37.2 +0.4**
PALK S **S** **05 54 14.2 -0.2**
PALK Pallekele 45.42 274 P **P** **05 47 37.2 +0.4**
PALK pmax pmax
comp=Z,203nm,1.7s
PALK MLR MLR
comp=Z,1μm,22.0s
PALK Pallekele 45.42 274 P **P** **05 47 37.7 +1.0**
PALK sP **sP** **05 47 56.8 -1.5**
PALK PcP **PcP** **05 49 16.0 +0.7**
ARPS Mount Arapiles 45.55 163 P **P** **05 47 38.8 +1.5**
comp=Z,210nm,1.2s
YNG Young 45.72 154 P **P** **05 47 40.5 +1.8**
comp=Z,193nm,1.7s
SANVU Saraoutou 45.95 119 P **P** **05 47 42.4 +1.6**
SANVU IAmb IAmb 05 48 04.5
comp=Z,72nm,0.8s
MGBR Mount Gambier 46.08 164 IAmb IAmb 05 47 44.9
HRYA Harraiya (Bast 46.32 301 *e*P P 05 47 54.8 +11
CIT Chita 46.45 349 *e*P **P** **05 47 45.4 +1.1**
CIT *e* 05 47 54.4
CIT *e* 05 49 19.0
CIT *e* 05 50 22.8
CIT *e* 05 57 37.0
CIT *e* 05 58 57.8
CIT pmax pmax
comp=Z,518nm,1.2s
ALBI Allahabad 46.49 299 *e*P P 05 47 57.1 +12
ALBI IAmb IAmb 05 48 00.4
comp=Z,100nm,1.1s
TARA Tarawa 46.62 94 IAMs_20 IAMs_20 06 05 07.7
comp=Z,2μm,19.0s
CAN Canberra 46.85 155 P **P** **05 47 50.1 +2.4**
comp=Z,330nm,1.3s
CAN Canberra 46.85 155 P **P** **05 47 50.0 +2.3**
CAN Canberra 46.85 155 P **P** **05 47 50.0 +2.4**
CAN pmax pmax
comp=Z,371nm,1.1s
CAN Canberra 46.85 155 P **P** **05 47 50.2 +2.4**
CAN sP **sP** **05 48 10.4 +2.9**
ZEA Zeya 46.93 1 *e*P **P** **05 47 47.4 -0.6**
ZEA *e*S **S** **05 54 36.4 +1.5**
ZEA *e* 05 57 36.9
ZEA pmax pmax
comp=E,20nm,0.7s
ZEA pmax pmax
comp=N,20nm,1.4s
ZEA pmax pmax
comp=Z,30nm,0.9s
ZEA pmax pmax
comp=E,100nm,4.0s
ZEA pmax pmax
comp=N,200nm,4.9s
ZEA pmax pmax
comp=Z,300nm,4.9s
ZEA smax smax
comp=E,300nm,19.6s
BRCI Bahraich 47.32 302 *e*P P 05 48 03.9 +12
TOO Toolangi 47.46 159 P **P** **05 47 53.8 +1.5**
TOO IAmb IAmb 05 47 56.2
comp=Z,132nm,1.2s
TOO Toolangi 47.46 159 P **P** **05 47 53.8 +1.5**
TOO pmax pmax
comp=Z,132nm,1.2s
ZAK Zakamensk 47.69 340 *e*P **P** **05 47 54.5 +0.5**
ZAK pmax pmax
comp=Z,72nm,1.4s
BNDA BANDA 47.82 298 *e*P P 05 48 08.8 +13
BNDA IAmb IAmb 05 48 12.0
comp=Z,50nm,0.4s
HYB Hyderabad 47.94 287 *e*P **P** **05 47 57.3 +0.8**
HYB *es*P **sP** **05 48 16.5 -1.5**
HYB *e*PP **PP** **05 49 49.5 +0.6**
DZM Mont Dzumac 48.47 127 *e*P **P** **05 47 59.7 -0.8**
comp=Z,195nm,1.2s
DZM Mont Dzumac 48.47 127 *e*PP PP 05 49 43.1 -11
comp=Z,332nm,32.2s
DZM *eS* **S** **05 54 56.9 -0.9**
comp=Z,372nm,28.8s
DZM *e*SS **SS** **05 58 28.2 -0.2**
comp=Z,853nm,36.4s
DZM *e*LQ LQ 05 59 47.7
comp=Z,3μm,34.5s
DZM *e*LR LR 06 01 46.6
comp=Z,7μm,33.7s
DZM Mont Dzumac 48.47 127 IAmb IAmb 05 48 18.7
comp=Z,95nm,1.1s
DZM Mont Dzumac 48.47 127 LR LR 06 10 14.8
comp=Z,631nm,19.1s,baz=282,slow=38
DZM Mont Dzumac 48.47 127 P **P** **05 48 03.4 +2.9**
DZM PcP **PcP** **05 49 27.7 +1.7**
KOD Kodaikanal 48.57 278 *e*P P 05 48 13.6 +12
KOD IAmb IAmb 05 48 16.3
comp=Z,108nm,1.4s
IRK Irkutsk 48.97 342 *e*P **P** **05 48 04.2 +0.4**
IRK pmax pmax
comp=Z,210nm,1.5s
PTH Pithoragarh 49.07 304 *e*P P 05 48 18.6 +13
PTH IAmb IAmb 05 48 23.9
comp=Z,53nm,1.1s
TRD Trivandrum 49.09 275 *e*P P 05 48 17.5 +12
TRD IAmb IAmb 05 48 28.2
comp=Z,109nm,1.8s
JHNI Jhansi 49.39 298 *e*P P 05 48 19.3 +12
PINNC Pines Island, 49.54 127 P **P** **05 48 10.1 +1.5**
MOY Mondy 49.55 339 *e*P **P** **05 48 10.2 +1.8**
MOY pmax pmax
comp=Z,307nm,1.6s
AKL Akola 49.83 291 *e*P P 05 48 23.5 +13
AKL IAmb IAmb 05 48 41.2
comp=Z,101nm,1.6s
JOSI Joshimath 49.93 305 *e*P P 05 48 24.3 +13
JOSI IAmb IAmb 05 48 27.1
comp=Z,72nm,0.6s
KNGR Kungurtug, Tuv 50.00 336 *i* P **P** **05 48 14.0 +2.2**
KNGR pmax pmax
comp=Z,260nm,1.0s
NRDN NARMADA NAGAR 50.03 294 *e*P P 05 48 23.9 +11
NRDN IAmb IAmb 05 48 28.9
comp=Z,96nm,0.8s
WMQ Urumqi 50.20 324 ⇓P **P** **05 48 15.1 +1.7**
WMQ pP pP 05 48 26.8 -1.6
WMQ ScP **ScP** **05 53 22.3 -0.8**
WMQ S **S** **05 55 14.9 -6.5**
WMQ sS sS 05 55 46.2 +0.7
WMQ pmax pmax
comp=Z,130nm,1.3s
WMQ pmax pmax
comp=Z,370nm,5.3s
WMQ LR LR
comp=Z,4μm,20.7s
WMQ LR LR
comp=Z,3μm,20.7s
WMQ LR LR
comp=Z,4μm,22.7s
AGRA Agra 50.34 300 *e*P P 05 48 26.6 +12
UGON Onchagaon 50.65 301 *e*P P 05 48 29.5 +13
ASOR Ausora 50.89 302 *e*P P 05 48 31.8 +13
HNLY HANLEY 51.13 307 *e*P P 05 48 32.8 +12
HNLY IAmb IAmb 05 48 35.6
comp=Z,36nm,1.1s
JMIU JAMIA UNIVERSI 51.24 301 *e*P P 05 48 33.1 +12
JMIU IAmb IAmb 05 48 52.9
comp=Z,70nm,0.6s
KLP Kalpa 51.31 305 *e*P P 05 48 34.3 +12
KLP IAmb IAmb 05 48 58.8
comp=Z,102nm,0.8s
LDR Lodi Road 51.31 301 *e*P P 05 48 33.9 +12
LDR IAmb IAmb 05 48 43.6
comp=Z,100nm,0.7s
NDI New Delhi 51.34 302 *e*P P 05 48 35.9 +14
NDI IAmb IAmb 05 48 40.4
comp=Z,24nm,0.7s
JHJR Jhajjar 51.80 301 *e*P P 05 48 40.0 +14
KUDL Kundal 51.82 301 *e*P P 05 48 38.1 +12
KUDL IAmb IAmb 05 48 58.5
comp=Z,41nm,0.7s
BOD Bodaibo 51.94 352 *e*P **P** **05 48 26.1 +0.1**
BOD pmax pmax
comp=Z,211nm,1.2s
KKR Kurukshetra 52.02 303 *e*P P 05 48 39.0 +12
SMLA Simla 52.06 304 *e*P P 05 48 40.4 +13
SMLA IAmb IAmb 05 48 53.1
comp=Z,104nm,1.3s
KAD Karad 52.08 287 *e*P P 05 48 40.2 +12
KAD IAmb IAmb 05 49 05.1
comp=Z,82nm,1.2s
CGRH CHANDIGARH 52.27 304 *e*P P 05 48 42.2 +13
GOA Goa 52.29 284 *e*P P 05 48 42.5 +13
MOO Moorlands 52.40 161 P **P** **05 48 31.5 +1.8**
comp=Z,211nm,1.9s
POO Poona 52.51 288 *e*P P 05 48 42.2 +11
POO IAmb IAmb 05 48 52.7
comp=Z,34nm,1.1s
BHK Bhakra 52.76 305 *e*P P 05 48 41.8 +9.1
BHK IAmb IAmb 05 48 53.2
comp=Z,82nm,1.0s
PETK Petropavlovsk- 52.83 23 P **P** **05 48 33.7 +0.9**
PETK Petropavlovsk- 52.83 23 P **P** **05 48 32.6 -0.2**
comp=Z,21nm,0.7s,baz=201,slow=4.9,SNR=24
comp=Z,21nm,0.7s
PETK Petropavlovsk- 52.83 23 P **P** **05 48 33.7 +0.9**
TAU Tasmania Unive 52.86 161 P **P** **05 48 34.4 +1.3**
TAU Tasmania Unive 52.86 161 P **P** **05 48 34.4 +1.3**
TAU pmax pmax
comp=Z,188nm,1.2s
HMDM Hanimaadhoo 52.90 273 P **P** **05 48 34.0 +0.1**
ALCI Alchi Leh 53.02 308 *e*P P 05 48 45.8 +11
AJM Ajmer 53.03 298 *e*P P 05 48 45.9 +11
AJM IAmb IAmb 05 49 13.6
comp=Z,30nm,0.6s
DHRM DHARAMSHALA 53.10 306 *e*P P 05 48 47.7 +12
DHRM IAmb IAmb 05 48 50.7
comp=Z,103nm,1.2s
PET Petropavlovsk 53.15 24 *e*P **P** **05 48 35.9 +0.9**
PET *e*S **S** **05 56 03.4 +2.0**
PET pmax pmax
comp=Z,94nm,1.3s
PET MLR MLR
comp=Z,900nm,17.0s
PET MLR MLR
comp=Z,800nm,18.0s
TLWR Talawar 53.30 305 *e*P P 05 48 48.1 +11
TLWR IAmb IAmb 05 49 07.1
comp=Z,69nm,0.8s
TSSA Tissa 53.40 306 *e*P P 05 48 49.9 +12
TSSA IAmb IAmb 05 48 54.8
comp=Z,101nm,0.5s
UDPR Udaipur 53.49 296 *e*P P 05 48 50.7 +13
ZSN Zaisan 53.93 326 *e*P **P** **05 48 40.5 -0.5**
ZSN *e*S **S** **05 56 11.9 -0.4**
ZSN Zaisan 53.93 326 *e*P **P** **05 48 40.4 -0.5**
ZSN *e*S **S** **05 56 11.8 -0.5**
JMU Jammu 54.37 306 *e*P P 05 48 59.3 +15
JMU IAmb IAmb 05 49 08.3
comp=Z,92nm,0.6s
SHLS Shalkode 54.95 319 *e*P **P** **05 48 45.9 -2.7**
comp=Z,89nm,0.8s
SHLS Shalkode 54.95 319 *e*P **P** **05 48 45.9 -2.7**
SHLS pmax pmax
comp=Z,89nm,0.8s
MK31 Makanchi Array 55.02 324 *ce*P **P** **05 48 49.0 +0.1**
MKAR Makanchi Array 55.02 324 P **P** **05 48 49.2 +0.3**
MKAR Makanchi Array 55.02 324 P **P** **05 48 49.0 0.0**
comp=Z,185nm,0.7s,baz=117,slow=7.1,SNR=276
MKAR PcP **PcP** **05 49 50.9 +1.0**
comp=Z,70nm,0.8s,baz=122,slow=4.4,SNR=5.1
MKAR ScP **ScP** **05 53 43.4 -0.6**
comp=Z,4.8nm,0.9s,baz=118,slow=4.4,SNR=3.2
MKAR LR LR 06 13 49.0
comp=Z,2μm,20.1s,baz=108,slow=38
MKAR PKPPKP **P'P'df** **06 18 52.1 -5.8**
comp=Z,10.0nm,1.1s,baz=263,slow=2.1,SNR=14
MKAR P4KPbc 06 26 05.7
comp=Z,4.1nm,1.1s,baz=116,slow=5.5,SNR=9.4
comp=Z,185nm,0.7s
MKAR Makanchi Array 55.02 324 P **P** **05 48 49.2 +0.3**
MAKZ Makanchi 55.21 324 IAMs_20 IAMs_20 06 13 33.8
comp=Z,2μm,20.0s
MAKZ Makanchi 55.21 324 P **P** **05 48 50.5 +0.2**
MAKZ PcP **PcP** **05 49 50.8 +0.1**
YAK Yakutsk 55.30 2 P **P** **05 48 50.6 +0.1**
YAK Yakutsk 55.30 2 *e*P **P** **05 48 50.4 -0.1**
YAK *e**PP **pP** **05 49 04.1 -1.5**
YAK *e* 05 49 49.6
YAK *e* 05 50 55.0
YAK *e*PPP PPP 05 52 09.5
YAK *eS* **S** **05 56 30.1 0.0**
YAK *e* 05 58 32.4
YAK *e*SS **SS** **06 00 13.7 -1.4**
YAK pmax pmax
comp=Z,115nm,1.0s
YAK pmax pmax
comp=N,59nm,1.5s
YAK pmax pmax
comp=E,24nm,1.5s
YAK pmax pmax
comp=Z,381nm,4.3s
YAK pmax pmax
comp=N,200nm,3.2s
YAK pmax pmax
comp=E,172nm,3.5s
YAK smax smax
comp=N,358nm,3.5s
YAK smax smax
comp=E,223nm,3.2s
YAK MLR MLR
comp=E,749nm,24.0s
TARG Taragay, Kyrgy 55.42 317 P **P** **05 48 52.5 +0.2**
TARG IAmb IAmb 05 49 03.7
comp=Z,79nm,0.8s
TARG Taragay, Kyrgy 55.42 317 P **P** **05 48 52.5 +0.2**
TARG pmax pmax
comp=Z,79nm,0.8s
SATY Saty 55.60 319⇓*i*P **P** **05 48 52.5 -0.7**
comp=Z,112nm,0.8s
SATY Saty 55.60 319*d i*P **P** **05 48 52.5 -0.7**
SATY pmax pmax
comp=Z,112nm,0.8s
KSH Kashi 55.81 314 P **P** **05 48 56.1 +1.2**
KSH pP sP 05 49 16.8 +0.2

KSH pmax pmax
comp=Z,74nm,0.8s
KSH LR LR
comp=Z,1μm,18.4s
KSH LR LR
comp=Z,3μm,17.9s
KSH LR LR
comp=Z,3μm,18.6s
MA2 **Magadan** **55.94** **15***ce*P **P** **05 48 55.4 +0.2**
MA2 pmax pmax
comp=Z,68nm,1.9s
NIL **Nilore** **55.96 306** P **P** **05 48 54.9 -1.0**
NIL **Nilore** **55.96 306** P **P** **05 48 55.6 -0.3**
NIL **Nilore** **55.96 306** P **P** **05 48 54.9 -1.0**
NIL pmax pmax
comp=Z,190nm,1.0s
NIL MLR MLR
comp=Z,1μm,21.0s
MSVF **Nonsavu** **56.40 116** P **P** **05 49 00.3 +1.0**
MSVF IAmb IAmb 05 49 02.5
comp=Z,64nm,0.9s
MSVF **Nonsavu** **56.40 116** P **P** **05 49 00.3 +1.0**
MSVF pmax pmax
comp=Z,64nm,1.0s
MSVF **Nonsavu** **56.40 116** P **P** **05 49 01.6 +2.4**
MSVF pP **pP** **05 49 12.1 -1.3**
TDK **Taldyqorghan** **56.48 321** *e*P **P** **05 48 58.8 -0.6**
comp=Z,98nm,0.9s
TDK **Taldyqorghan** **56.48 321** *e*P **P** **05 48 58.8 -0.6**
TDK pmax pmax
comp=Z,98nm,0.9s
ARXS **Arharly** **56.49 320** *e*P **P** **05 48 59.3 -0.2**
NRN **Naryn** **56.53 316** IAmb IAmb 05 49 02.9
comp=Z,64nm,0.9s
MDOK **Medeo** **56.54 318** *e*P **P** **05 48 59.3 -0.7**
MDOK **Medeo** **56.54 318** *e*P **P** **05 48 59.3 -0.7**
TNSS **Tian-Shan** **56.55 318** *e*P **P** **05 48 59.6 -0.8**
TNSS **Tian-Shan** **56.55 318** *e*P **P** **05 48 59.6 -0.8**
AAA **Alma-Ata** **56.64 318** *e*P **P** **05 49 00.1 -0.5**
comp=Z,84nm,1.0s
AAA **Alma-Ata** **56.64 318** *e*P **P** **05 49 00.1 -0.5**
AAA pmax pmax
comp=Z,84nm,1.0s
CHKK **Chushkaly** **56.87 319** *e*P **P** **05 49 01.7 -0.6**
CHKK **Chushkaly** **56.87 319** *e*P **P** **05 49 01.6 -0.6**
KUU **Kurty** **57.31 319** *e*P **P** **05 49 04.7 -0.7**
comp=Z,111nm,1.0s
KUU **Kurty** **57.31 319** *e*P **P** **05 49 04.6 -0.7**
KUU pmax pmax
comp=Z,111nm,1.0s
TKM2 **Tokmak 2** **57.40 317** P **P** **05 49 06.5 +0.3**
SNR=25
KBK **Karagaybulak** **57.74 317** P **P** **05 49 08.7 +0.1**
SNR=42
UCH **Uchtor** **57.87 316** P **P** **05 49 10.2 +0.5**
SNR=95
ZALV **Zalesovo Beam** **57.88 332** P **P** **05 49 08.5 -0.5**
comp=Z,178nm,0.8s,baz=116,slow=6.8,SNR=214
ZALV PcP **PcP** **05 50 00.3 -0.5**
comp=Z,57nm,0.9s,baz=151,slow=3.4,SNR=5.7
ZALV S **S** **05 57 03.0 -1.4**
comp=Z,15nm,1.1s,baz=123,slow=11,SNR=11
ZALV LR LR 06 15 35.4
comp=Z,1μm,19.6s,baz=132,slow=38
ZALV PKPPKP **P'P'df** **06 18 49.9 -3.3**
comp=Z,1.8nm,0.8s,baz=318,slow=6.0,SNR=6.2
comp=Z,178nm,0.8s
CHMS **Chumysh** **58.00 317** P **P** **05 49 09.8 -0.4**
SNR=23
FRU1 **Bishkek** **58.01 317** IAmb IAmb 05 49 13.1
comp=Z,66nm,0.9s
AAK **Ala-Archa** **58.04 317** P **P** **05 49 11.0 +0.4**
SNR=24
AAK **Ala-Archa** **58.04 317** P **P** **05 49 11.0 +0.4**
AAK IAmb IAmb 05 50 04.7
comp=Z,89nm,1.1s
AAK **Ala-Archa** **58.04 317** IAMs_20 IAMs_20 06 14 48.5
comp=Z,2μm,22.0s
AAK **Ala-Archa** **58.04 317** LR LR 06 15 09.0
comp=Z,2μm,20.7s,baz=99,slow=37
AAK **Ala-Archa** **58.04 317** P **P** **05 49 10.6 0.0**
AAK **Ala-Archa** **58.04 317** *i* P **P** **05 49 10.3 -0.3**
SNR=26
AAK **Ala-Archa** **58.04 317***ce*P **P** **05 49 10.6 0.0**
AAK pmax pmax
comp=Z,48nm,0.9s
SGDS **Sogindy** **58.26 318** *e*P **P** **05 49 11.4 -0.7**
USP **Ospenovka** **58.28 317** P **P** **05 49 11.8 -0.3**
SNR=92
EKS2 **Erkin-Say** **58.53 317** P **P** **05 49 14.3 +0.2**
SNR=63
KURK **Kurchatov** **59.15 327** P **P** **05 49 18.1 +0.1**
KURK **Kurchatov** **59.15 327** P **P** **05 49 18.0 +0.1**
KURK **Kurchatov** **59.15 327** P **P** **05 49 18.1 +0.1**
KURK pmax pmax
comp=Z,512nm,1.0s
KURK **Kurchatov** **59.15 327** P **P** **05 49 17.9 -0.1**
KURK pP **pP** **05 49 31.9 -1.0**
KURBB **Kurchatov Arra** **59.15 327** P **P** **05 49 17.7 -0.2**
comp=Z,217nm,0.9s,baz=127,slow=5.9,SNR=166
KURBB S **S** **05 57 17.1 -4.1**
comp=Z,3.8nm,1.2s,baz=123,slow=13,SNR=5.8
KURBB LR LR 06 15 41.3
comp=Z,1μm,21.5s,baz=153,slow=37
KURBB PKPPKP **P'P'df** **06 18 44.4 -7.1**
comp=Z,14nm,1.1s,baz=272,slow=3.5,SNR=26
KURBB P4KPbc 06 26 24.1
comp=Z,0.6nm,0.9s,baz=119,slow=4.5,SNR=6.7
comp=Z,217nm,0.9s
KURBB **Kurchatov Arra** **59.15 327** P **P** **05 49 17.0 -0.9**
SEY **Seymchan** **59.25** **13***ce*P **P** **05 49 19.3 +0.9**
SEY pmax pmax
comp=Z,60nm,1.6s
BTLS **Baital** **59.28 319**⇓ *i* P **P** **05 49 18.3 -0.7**
comp=Z,46nm,0.9s
BTLS **Baital** **59.28 319***d i* P **P** **05 49 18.3 -0.7**
BTLS pmax pmax
comp=Z,46nm,0.9s
KBU **Kabul Universi** **59.48 306** P **P** **05 49 19.9 -1.0**
KBL **Kabul** **59.56 306** P **P** **05 49 20.3 -1.1**
KBL IAmb IAmb 05 49 22.0
comp=Z,57nm,0.8s
KBL **Kabul** **59.56 306** P **P** **05 49 20.7 -0.7**
SNR=30
KBL **Kabul** **59.56 306** P **P** **05 49 20.3 -1.1**
KBL pmax pmax
comp=Z,57nm,0.8s
TRKS **Terek-Say** **59.97 314** P **P** **05 49 24.0 0.0**
TRKS pmax pmax
comp=Z,36nm,1.2s
SHEM **Shemya Is, Ala** **60.09 31** LR LR 06 12 07.8
comp=Z,499nm,22.0s,baz=262,slow=33
DZA **Taraz** **60.30 316** *e*P **P** **05 49 25.4 -0.7**
comp=Z,44nm,0.7s
DZA **Taraz** **60.30 316** *e*P **P** **05 49 25.3 -0.7**
DZA pmax pmax
comp=Z,44nm,0.7s
CHGR **Chuyangaron** **60.54 311** P **P** **05 49 27.2 -0.7**
CHGR **Chuyangaron** **60.54 311** P **P** **05 49 27.2 -0.7**
CHGR pmax pmax
comp=Z,240nm,1.0s
SIMJ **Simiganj** **60.66 311** P **P** **05 49 28.0 -0.7**
SIMJ IAmb IAmb 05 50 15.6
comp=Z,91nm,1.0s
SIMJ **Simiganj** **60.66 311** P **P** **05 49 27.9 -0.9**
SIMJ sP **sP** **05 49 49.6 -0.8**
SIMJ PcP **PcP** **05 50 12.8 +0.3**
KK31 **Karatay Array** **60.94 316** P **P** **05 49 29.8 -0.6**
KK31 **Karatay Array** **60.94 316** P **P** **05 49 29.8 -0.6**
KK31 pmax pmax
comp=Z,137nm,1.0s
KKAR **Karatay Array** **60.94 316** P **P** **05 49 30.1 -0.3**
KKAR **Karatay Array** **60.94 316** P **P** **05 49 30.1 -0.3**
IUG **Iuzhnay** **60.95 315** *e*P **P** **05 49 30.2 -0.5**
comp=Z,44nm,0.7s
IUG **Iuzhnay** **60.95 315** *e*P **P** **05 49 30.1 -0.5**
IUG pmax pmax
comp=Z,44nm,0.7s
CHM **Chimkent** **61.31 315** *e*P **P** **05 49 32.4 -0.6**
comp=Z,22nm,0.6s
CHM **Chimkent** **61.31 315** *e*P **P** **05 49 32.3 -0.6**
CHM pmax pmax
comp=Z,22nm,0.6s
BRLS **Borolday** **61.38 316**⇓ *i* P **P** **05 49 32.9 -0.6**
comp=Z,41nm,1.0s
BRLS **Borolday** **61.38 316***d i* P **P** **05 49 32.8 -0.6**
BRLS pmax pmax
comp=Z,41nm,1.0s
BRZS **Berezniki** **62.17 324** *e*P **P** **05 49 38.1 -0.5**
BRZS *e*S **S** **05 57 59.1 -0.7**
BRZS **Berezniki** **62.17 324** *e*P **P** **05 49 38.0 -0.5**
BRZS *e*S **S** **05 57 59.1 -0.7**
AMKA **Amchitka** **62.22 34** P **P** **05 49 39.5 +0.6**
MKAZ **Moumakai** **62.94 138** P **P** **05 49 46.3 +2.4**
MSZ **Milford Sound** **63.23 148** P **P** **05 49 47.4 +1.8**
JCZ **Jackson Bay** **63.29 147** P **P** **05 49 48.2 +2.1**
DCZ **Deep Cove** **63.38 149** P **P** **05 49 47.8 +1.3**
DCZ IAmb IAmb 05 49 49.4
comp=Z,124nm,1.1s
DCZ **Deep Cove** **63.38 149** P **P** **05 49 48.2 +1.7**
QRZ **Quartz Range** **63.39 142** P **P** **05 49 49.1 +2.3**
FOZ **Fox Glacier** **63.50 146** P **P** **05 49 48.2 +0.8**
DSZ **Denniston Nort** **63.51 144** P **P** **05 49 48.2 +0.6**
TKNZ **Takaka Hill** **63.77 142** P **P** **05 49 51.0 +1.7**
MLZ **Mavora Lakes** **63.80 149** P **P** **05 49 52.4 +3.0**
WHZ **Wether Hill Ro** **64.07 149** P **P** **05 49 52.7 +1.6**
WHZ IAmb IAmb 05 50 07.8
comp=Z,80nm,1.2s
NNZ **Nelson** **64.14 142** IAmb IAmb 05 50 09.9
comp=Z,151nm,1.4s
NNZ **Nelson** **64.14 142** P **P** **05 49 53.3 +1.6**
THZ **Tophouse** **64.18 143** P **P** **05 49 53.3 +1.3**
LBZ **Lake Benmore** **64.25 147** P **P** **05 49 53.3 +0.9**
RAO **Raoul Island** **64.27 127** LR LR 06 13 51.5
comp=Z,443nm,21.7s,baz=335,slow=32
RPZ **Rata Peaks** **64.31 146** LR LR 06 17 03.1
comp=Z,1μm,21.9s,baz=310,slow=35
RPZ **Rata Peaks** **64.31 146** P **P** **05 49 53.3 +0.5**
WTVZ **West Tongariro** **64.33 139** P **P** **05 49 56.6 +3.5**
EAZ **Earnscleugh** **64.34 148** P **P** **05 49 54.1 +1.2**
NNVZ **North Ngauruho** **64.35 139** P **P** **05 49 56.4 +3.0**
NGZ **Ngauruhoe** **64.36 139** P **P** **05 49 56.9 +3.5**
FWVZ **Far West T-bar** **64.38 139** P **P** **05 49 57.8 +4.2**
TMVZ **Te Maari** **64.40 139** P **P** **05 49 57.1 +3.5**
OTVZ **Oturere** **64.40 139** P **P** **05 49 56.6 +2.9**
ETVZ **East Tongariro** **64.41 139** P **P** **05 49 57.7 +4.0**
LTZ **Lake Taylor** **64.42 144** IAmb IAmb 05 50 11.8
comp=Z,158nm,1.4s
LTZ **Lake Taylor** **64.42 144** P **P** **05 49 54.9 +1.4**
KIWB **Kanaga Island** **64.43 35** IAmb IAmb 05 49 54.7
comp=Z,66nm,0.8s
WNVZ **Wahianoa** **64.45 139** P **P** **05 49 57.5 +3.6**
OXZ **Oxford** **64.62 145** IAmb IAmb 05 50 14.5
comp=Z,42nm,0.8s
OXZ **Oxford** **64.62 145** P **P** **05 49 54.9 +0.1**
ADK **Adak** **64.71 35** P **P** **05 49 55.4 +0.2**
ADK IAmb IAmb 05 49 56.3
comp=Z,62nm,0.8s
ADK **Adak** **64.71 35** P **P** **05 49 55.4 +0.2**
ADK pmax pmax
comp=Z,62nm,0.8s
ADK **Adak** **64.71 35** P **P** **05 49 55.4 +0.2**
ADK pP **pP** **05 50 08.9 -0.9**
BVA0 **Borovoye Array** **64.74 326** *i* P **P** **05 49 55.3 -0.2**
BVAR **Borovoye Array** **64.74 326** P **P** **05 49 55.0 -0.4**
comp=Z,216nm,0.8s,baz=120,slow=8.8,SNR=182
BVAR PKPPKP **P'P'df** **06 18 39.2 -3.3**
comp=Z,3.5nm,1.0s,baz=240,slow=2.9,SNR=4.9
BVAR LR LR 06 18 45.9
comp=Z,1μm,21.0s,baz=116,slow=36
BVAR P4KPbc 06 26 49.6
comp=Z,2.0nm,0.8s,baz=129,slow=4.2,SNR=9.1
comp=Z,216nm,0.8s
BORK **Borovoye** **64.79 326** P **P** **05 49 55.7 0.0**
BORK pP **sP** **05 50 20.2 +2.8**
URZ **Urewera** **64.86 138** LR LR 06 16 59.3
comp=Z,2μm,21.9s,baz=304,slow=35
URZ **Urewera** **64.86 138** P **P** **05 49 59.3 +2.9**
KIW **Kapiti Island** **64.87 141** P **P** **05 49 58.9 +2.4**
TIXI **Tiksi** **64.93 1** P **P** **05 49 56.0 -0.2**
TIXI IAmb IAmb 05 50 01.7
comp=Z,80nm,1.0s
TIXI **Tiksi** **64.93 1** IAMs_20 IAMs_20 06 17 47.7
comp=Z,1μm,21.0s
TIXI **Tiksi** **64.93 1** P **P** **05 49 55.1 -1.2**
comp=Z,44nm,0.9s,baz=160,slow=4.7,SNR=9.8
comp=Z,44nm,0.9s
TIXI **Tiksi** **64.93** **1***ce*P **P** **05 49 54.9 -1.4**
TIXI pmax pmax
comp=Z,88nm,1.0s
BKZ **Black Stump Fm** **64.94 139** IAmb IAmb 05 49 59.3
comp=Z,70nm,0.9s
BKZ **Black Stump Fm** **64.94 139** P **P** **05 49 58.7 +1.7**
KHZ **Kahutara** **64.94 143** P **P** **05 49 58.3 +1.4**
MTHZ **Maungataniwha** **65.00 138** P **P** **05 49 59.4 +2.0**
OGWZ **Otaki Gorge** **65.01 141** P **P** **05 49 59.1 +1.7**
KWHZ **Kaweka Forest** **65.03 139** P **P** **05 49 59.8 +2.1**
HAZ **Te Kaha** **65.05 137** P **P** **05 49 59.9 +2.2**
RUGZ **Raukumara Rang** **65.09 137** P **P** **05 49 59.4 +1.2**
NMHZ **Naumai** **65.11 139** P **P** **05 50 00.9 +2.8**
CAW **Cannon Point** **65.11 141** P **P** **05 49 58.6 +0.6**
KRHZ **Kereru** **65.12 139** P **P** **05 49 58.9 +0.8**
GSTR **Great Sitkin T** **65.14 35** IAmb IAmb 05 50 12.9
comp=Z,82nm,0.8s
PNHZ **Pukenui** **65.16 140** P **P** **05 50 00.2 +1.8**
RAHZ **Arahi** **65.19 138** P **P** **05 50 01.2 +2.6**
MCHZ **McNeill Hill** **65.22 139** P **P** **05 50 01.4 +2.6**
HOWZ **Holdsworth Sta** **65.27 141** P **P** **05 50 00.1 +1.0**
TWGZ **Tauwhareparae** **65.40 137** P **P** **05 50 03.4 +3.3**
WMGZ **Waiomatatini S** **65.51 137** P **P** **05 50 02.2 +1.5**
PXZ **Pawanui** **65.65 140** P **P** **05 50 03.4 +1.9**
TRWZ **Traveller** **65.66 141** P **P** **05 50 03.6 +2.0**
ATKA **Atka Island** **66.25 35** IAMs_20 IAMs_20 06 13 55.6
comp=Z,2μm,22.0s
JLN **Jalan Bani Buh** **66.29 291** P **P** **05 50 05.4 -0.6**
WBK **Wadi Bani Khal** **66.71 292** P **P** **05 50 08.1 -0.6**
BILL **Bilibino** **66.80 15** IAMs_20 IAMs_20 06 16 33.7
comp=Z,1μm,22.0s
BILL **Bilibino** **66.80** **15***ce*P **P** **05 50 07.7 -0.7**
BILL pmax pmax
comp=Z,15nm,1.0s
WSAR **Wadi Sarin** **67.05 292** P **P** **05 50 10.5 -0.4**
JMDO **Jabal Madar** **67.50 291** P **P** **05 50 13.0 -0.8**
BIDO **Bidbid** **67.53 293** P **P** **05 50 13.3 -0.6**
SNR=12
SMDO **Samad** **67.58 292** P **P** **05 50 13.4 -0.9**
MHTO **MHTO** **67.59 290** P **P** **05 50 13.9 -0.4**
DQM **DQM** **67.97 289** P **P** **05 50 16.2 -0.6**
HOQ **Hoqain** **68.28 293** P **P** **05 50 17.5 -1.1**
SNR=9.0
ARQ **Araqi** **68.99 292** P **P** **05 50 23.2 +0.1**
SOHO **SOHO** **69.01 293** P **P** **05 50 22.5 -0.6**
MDH **Madha** **69.27 294** P **P** **05 50 24.3 -0.4**
BANOM **Banah** **69.29 295** P **P** **05 50 25.4 +0.5**
UOSS **Minazif** **69.34 294** P **P** **05 50 27.0 +1.8**
UOSS **Minazif** **69.34 294** P **P** **05 50 26.2 +1.0**
MASF **Masafi** **69.40 294** P **P** **05 50 25.3 -0.3**
HATD **Hatta, Dubai** **69.40 294** P **P** **05 50 25.3 -0.3**
HATD **Hatta, Dubai** **69.40 294** *i* P **P** **05 50 25.1 -0.4**
SNR=6.1
SHME **Shamm** **69.44 295** P **P** **05 50 25.4 -0.4**
SHME **Shamm** **69.44 295** P **P** **05 50 25.8 0.0**
ASHO **Ashiyiah** **69.46 294** P **P** **05 50 25.3 -0.7**
ASHO **Ashiyiah** **69.46 294** P **P** **05 50 24.1 -1.9**
ALNE **Al Ain** **69.72 293** P **P** **05 50 27.2 -0.4**
SNR=6.6
AB31 **Akbulak array** **69.73 320** P **P** **05 50 26.7 -0.4**
AB31 IAmb IAmb 05 50 29.2
comp=Z,132nm,0.9s
AB31 **Akbulak array** **69.73 320** *i* P **P** **05 50 25.5 -1.6**
ABKAR **Akbulak array** **69.73 320** P **P** **05 50 26.3 -0.8**
SHAO **Shalim** **69.78 287** P **P** **05 50 28.0 -0.1**
NAZ **Nazwa, Dubai** **69.83 294** P **P** **05 50 28.2 0.0**
UMQ **Umm Al-Quwin** **69.85 295** P **P** **05 50 28.1 -0.2**
FAQ **Al Faqa, Dubai** **69.89 294** P **P** **05 50 27.6 -0.7**
ASUD **Al Ashush, Dub** **70.12 294** P **P** **05 50 29.5 -0.5**
ASUD **Al Ashush, Dub** **70.12 294** *i* P **P** **05 50 32.0 +2.0**
SNR=5.9
SPIA **Saint Paul Isl** **70.12 31** P **P** **05 50 29.0 -0.4**
baz=251
UMZA **Um Al Zommool** **70.23 292** P **P** **05 50 29.7 -1.0**
P08K **Saint George I** **70.30 32** P **P** **05 50 30.5 +0.1**
baz=251
DMTO **DMTO** **70.43 286** P **P** **05 50 31.5 -0.5**
AJN **Ajban** **70.43 294** P **P** **05 50 30.9 -1.0**
RBK **Rabkut** **71.14 286** P **P** **05 50 35.4 -1.0**
UNV **Unalaska Valle** **71.17 35** IAmb IAmb 05 50 36.8
comp=Z,91nm,0.9s
UNV **Unalaska Valle** **71.17 35** P **P** **05 50 35.9 +0.1**
UNV **Unalaska Valle** **71.17 35** P **P** **05 50 35.6 -0.2**
baz=255,SNR=17
UNV S **S** **05 59 47.9 -0.5**
baz=255
DOK **Doka** **71.19 287** P **P** **05 50 35.6 -1.1**
AKTO **Aktyubinsk** **71.22 321** P **P** **05 50 35.5 -0.7**
comp=Z,129nm,0.8s,baz=100,slow=5.2,SNR=119
AKTO LR LR 06 25 17.1
comp=Z,2μm,19.4s,baz=84,slow=39
comp=Z,129nm,0.8s
SVE **Sverdlovsk** **71.34** **328***ce*P **P** **05 50 36.6 -0.2**
SVE *e*S **S** **05 59 50.2 -0.1**
SVE pmax pmax
comp=Z,624nm,1.0s
SVE MLR MLR
comp=Z,1μm,23.0s
MZWR **Madinat Zayed** **71.43 293** P **P** **05 50 36.8 -1.1**
LVA **Lava Point** **71.52 35** IAmb IAmb 05 51 02.2
comp=Z,78nm,0.9s
WHFO **Wadi Hawf** **71.55 287** P **P** **05 50 37.7 -1.1**
AKUT **Akutan** **71.67 35** IAmb IAmb 05 50 39.7
comp=Z,112nm,0.8s
AKUT **Akutan** **71.67 35** P **P** **05 50 38.9 +0.1**
MSEY **Mahe Island** **71.75 263** P **P** **05 50 39.4 -0.7**
MZR **Muzera** **71.79 292** P **P** **05 50 39.8 -0.3**
SNR=17
MZR **Muzera** **71.79 292** *i* P **P** **05 50 38.9 -1.3**
SNR=51
GAMB **Gambell** **71.84 24** P **P** **05 50 40.4 +0.8**
baz=247,SNR=6.0
ABTO **Aybut** **72.01 286** P **P** **05 50 41.0 -0.6**
GHWR **Ruwais** **72.35 293** P **P** **05 50 42.6 -0.8**
JRN **Qarnain Island** **72.38 294** P **P** **05 50 42.9 -0.7**
SNR=5.3
ARTI **Arti** **72.42 327** P **P** **05 50 42.3 -0.9**
ARTI **Arti** **72.42 327** P **P** **05 50 42.2 -1.1**
comp=Z,257nm,1.0s,baz=107,slow=4.1,SNR=138
ARTI LR LR 06 26 35.7
comp=Z,633nm,18.3s,baz=106,slow=39
comp=Z,257nm,1.0s
ARTI **Arti** **72.42 327***c i* P **P** **05 50 42.6 -0.7**
ARTI *PP **pP** **05 50 56.8 -2.0**
ARTI 05 51 03.9
ARTI 05 53 24.8
ARTI PPP PPP 05 55 12.2
ARTI S **S** **06 00 02.9 +0.2**
ARTI 06 00 56.5
ARTI SS **SS** **06 04 45.7 +3.8**
ARTI pmax pmax
comp=Z,300nm,0.9s
ARTI MLR MLR
comp=Z,909nm,22.0s
M11K **Mekoryuk** **73.12 29** P **P** **05 50 48.3 +1.0**
baz=253
FALS **False Pass** **73.17 35** IAmb IAmb 05 50 48.4
comp=Z,116nm,0.8s
FALS **False Pass** **73.17 35** P **P** **05 50 49.2 +1.5**
FALS **False Pass** **73.17 35** P **P** **05 50 47.4 -0.3**
baz=257,SNR=5.7
SLWR **Sila** **73.43 293** P **P** **05 50 49.7 -0.2**
CASY **Casey** **73.69 187** P **P** **05 50 51.3 +0.9**
CASY IAmb IAmb 05 50 56.2
comp=Z,108nm,1.0s
TRNA **Turayna** **73.87 294** P **P** **05 50 52.4 -0.1**
TNA **Tin City** **74.00 23** IAMs_20 IAMs_20 06 22 32.8
comp=Z,878nm,22.0s
TNA **Tin City** **74.00 23** P **P** **05 50 52.5 +0.1**
baz=250
TNA S **S** **06 00 20.8 +0.6**
baz=250
SHMA **Al-Shehemyia** **74.10 295** P **P** **05 50 53.2 -0.5**
S12K **Black Hills** **74.11 34** IAMs_20 IAMs_20 06 18 41.3
comp=Z,1μm,22.0s
S12K **Black Hills** **74.11 34** P **P** **05 50 53.0 -0.2**
baz=258
SMRA **Abu-Samra** **74.22 294** P **P** **05 50 53.9 -0.5**
K13K **Kusilvak Mount** **74.28 27** IAmb IAmb 05 50 56.4
comp=Z,63nm,1.1s
K13K **Kusilvak Mount** **74.28 27** P **P** **05 50 55.0 +1.0**
baz=254,SNR=16
K13K S **S** **06 00 25.4 +1.9**
baz=254
SAKB **Bahrain** **74.48 295** P **P** **05 50 55.1 -0.9**
M13K **Dall Lake** **74.50 29** P **P** **05 50 55.9 +0.5**
baz=256
F14K **Arctic Creek** **74.60 24** P **P** **05 50 56.8 +0.9**
baz=252,SNR=5.6
ANM **Nome** **74.71 25** P **P** **05 50 56.6 0.0**
baz=253
SDPT **Sand Point** **74.93 34** IAmb IAmb 05 51 29.8
comp=Z,182nm,1.2s
SDPT **Sand Point** **74.93 34** P **P** **05 50 58.2 +0.3**
SDPT **Sand Point** **74.93 34** P **P** **05 50 57.7 -0.3**
baz=260,SNR=6.6
J14K **Nanvaranak Lak** **74.99 27** P **P** **05 50 58.8 +0.7**
baz=255
J14K S **S** **06 00 32.2 +0.8**
baz=255
L14K **Kuka Creek** **75.04 28** IAmb IAmb 05 51 00.8
comp=Z,95nm,1.1s
L14K **Kuka Creek** **75.04 28** P **P** **05 50 59.4 +1.0**
baz=256,SNR=20
L14K S **S** **06 00 33.8 +1.9**
baz=256
N14K **Kuskokwak Cree** **75.19 30** IAmb IAmb 05 51 01.2
comp=Z,87nm,0.9s
N14K **Kuskokwak Cree** **75.19 30** P **P** **05 51 00.2 +0.8**
baz=258,SNR=7.5
M14K **Bethel** **75.24 29** IAmb IAmb 05 51 01.8
comp=Z,93nm,1.1s
M14K **Bethel** **75.24 29** P **P** **05 51 00.5 +0.8**
baz=257,SNR=11
M14K S **S** **06 00 34.3 +0.1**
baz=257
O14K **Tigyukauivet M** **75.26 30** IAmb IAmb 05 51 01.6
comp=Z,60nm,0.9s
O14K **Tigyukauivet M** **75.26 30** P **P** **05 51 00.5 +0.7**
baz=258,SNR=7.0
CNBA **Chernabura Isl** **75.34 35** IAmb IAmb 05 51 01.5
comp=Z,72nm,1.1s
CNBA IAMs_20 IAMs_20 06 18 19.6
comp=Z,1μm,22.0s
CHNA **Chernabura Isl** **75.34 35** P **P** **05 51 01.0 +0.7**
CHNA **Chernabura Isl** **75.34 35** P **P** **05 51 00.2 -0.1**
baz=261,SNR=5.4
F15K **North Star Dit** **75.34 24** P **P** **05 51 00.8 +0.6**
baz=253,SNR=5.6
G15K **Niukluk** **75.38 24** P **P** **05 51 00.8 +0.4**
baz=254
G15K S **S** **06 00 35.4 -0.3**
baz=254
S14K **Fog Glacier** **75.60 34** P **P** **05 51 01.8 -0.1**
baz=260
L15K **Ungalak Mounta** **75.67 28** P **P** **05 51 02.7 +0.6**
baz=257,SNR=9.0
L15K S **S** **06 00 40.4 +1.4**
baz=257
K15K **Wolf Creek Mou** **75.79 27** P **P** **05 51 03.7 +0.9**
baz=257,SNR=11
M15K **Kasigluk River** **75.84 29** P **P** **05 51 03.6 +0.5**
baz=258,SNR=12
C16K **Lisburne Hills** **75.85 21** IAmb IAmb 05 51 42.8
comp=Z,60nm,1.1s
C16K **Lisburne Hills** **75.85 21** P **P** **05 51 03.5 +0.5**
baz=252,SNR=5.4
O15K **Ungalikthiuk R** **75.97 31** P **P** **05 51 04.5 +0.6**
baz=259,SNR=6.0
O15K S **S** **06 00 42.8 +0.4**
baz=259
N15K **Kwethluk River** **76.03 30** IAmb IAmb 05 51 06.3
comp=Z,86nm,1.0s
N15K **Kwethluk River** **76.03 30** P **P** **05 51 05.0 +0.8**
baz=259,SNR=17
N15K S **S** **06 00 42.2 -0.8**
baz=259
H16K **Elim** **76.03 25** P **P** **05 51 04.5 +0.4**
baz=256
H16K S **S** **06 00 43.6 +0.7**
baz=256
G16K **Koyuk River** **76.17 24** P **P** **05 51 05.5 +0.6**
baz=256
G16K S **S** **06 00 45.3 +0.9**
baz=256
CHGN **Chignik** **76.23 34** IAmb IAmb 05 51 06.1
comp=Z,70nm,1.0s
CHGN **Chignik** **76.23 34** P **P** **05 51 04.9 -0.4**
baz=261

LKRN Lenkeran, Azer 76.26 308 P P 05 51 05.4 -0.5
J16K Anvik River 76.42 26 P P 05 51 07.4 +1.0
baz=258,SNR=11
J16K S S 06 00 49.0 +1.7
baz=258
D17K Noatak River 76.50 22 P P 05 51 07.7 +1.0
baz=254,SNR=16
D17K S S 06 00 48.5 +0.6
baz=254
I17K Unalakleet 76.52 26 IAmb IAmb 05 52 11.8
comp=Z,68nm,1.4s
I17K Unalakleet 76.52 26 P P 05 51 08.0 +1.1
baz=257
I17K S S 06 00 49.0 +0.9
baz=257
L16K Owhat River 76.62 28 IAmb IAmb 05 51 09.6
comp=Z,48nm,1.1s
L16K Owhat River 76.62 28 P P 05 51 08.2 +0.7
baz=259,SNR=17
L16K S S 06 00 50.3 +0.9
baz=259
RDOG Red Dog Mine 76.66 21 IAmb IAmb 05 51 48.3
comp=Z,76nm,1.4s
RDOG Red Dog Mine 76.66 21 P P 05 51 08.2 +0.6
baz=254
C17K DeLong Mountai 76.67 21 P P 05 51 08.3 +0.6
baz=254,SNR=6.7
C17K S S 06 00 50.2 +0.3
baz=254
N16K Nishlik Lake 76.73 29 P P 05 51 09.2 +1.0
baz=260,SNR=21
N16K S S 06 00 52.1 +1.3
baz=260
M16K Timber Creek 76.73 29 IAmb IAmb 05 51 10.2
comp=Z,58nm,1.0s
M16K Timber Creek 76.73 29 P P 05 51 09.1 +0.9
baz=260,SNR=22
M16K S S 06 00 50.0 -0.7
baz=260
E17K Hotham Inlet 76.80 22 P P 05 51 09.2 +0.8
baz=256,SNR=14
E17K S S 06 00 52.0 +0.8
baz=256
PUH Pauahi 76.82 72 P P 05 51 09.7 0.0
KNHH Kane Nui o Ham 76.86 72 P P 05 51 10.9 +1.0
F17K Baldwin Pennin 76.87 23 P P 05 51 09.7 +0.9
baz=256
F17K S S 06 00 53.1 +1.1
baz=256
R16K Pilot Point 76.88 32 P P 05 51 09.6 +0.6
baz=262
P16K Nushagak River 76.88 31 P P 05 51 09.7 +0.7
baz=261
G17K Kiwalik Mounta 76.89 24 P P 05 51 09.8 +0.8
baz=257,SNR=11
G17K S S 06 00 53.0 +0.7
baz=257
STCH Steam Cracks 76.91 72 P P 05 51 10.8 +0.8
STCH IAmb IAmb 05 51 58.5
comp=Z,141nm,1.2s
O16K Kokwok River B 76.92 30 IAmb IAmb 05 51 11.2
comp=Z,56nm,0.9s
O16K Kokwok River B 76.92 30 P P 05 51 10.1 +0.8
baz=261,SNR=18
O16K S S 06 00 52.9 +0.2
baz=261
H17K Granite Mounta 77.07 25 P P 05 51 10.9 +0.9
baz=258,SNR=16
H17K S S 06 00 54.7 +0.4
baz=258
J17K VABM Dome 77.12 26 P P 05 51 11.3 +1.0
baz=259,SNR=17
J17K S S 06 00 55.8 +1.0
baz=259
AKT Akhty 77.18 311 eP P 05 51 08.2 -3.1
AKT e 05 51 17.5
AKT e*PP PcP 05 51 23.6 +1.8
AKT eS S 06 00 54.5 -2.1
AKT pmax pmax
comp=Z,230nm,1.1s
AKT MLR MLR
comp=Z,1μm,24.0s
L17K Donlin 77.24 28 P P 05 51 12.4 +1.4
baz=260,SNR=21
L17K S S 06 00 57.9 +1.7
baz=260
K17K Iditarod 77.34 27 IAmb IAmb 05 51 14.1
comp=Z,50nm,1.0s
K17K Iditarod 77.34 27 P P 05 51 12.8 +1.3
baz=260,SNR=21
K17K S S 06 00 58.9 +1.6
baz=260
E18K Tukpahlearik C 77.35 22 P P 05 51 12.4 +0.9
baz=257,SNR=22
E18K S S 06 00 57.6 +0.4
baz=257
B18K Kokolik River 77.39 20 P P 05 51 12.8 +1.1
baz=255,SNR=8.0
B18K S S 06 00 58.0 +0.5
baz=255
MAK Makhachkala 77.41 312 eP P 05 51 11.6 -0.7
MAK e*PP pP 05 51 26.0 -2.3
MAK e*SP sP 05 51 29.5 -5.1
MAK e 05 54 06.1
MAK ePPP PPP 05 55 58.9
MAK eS S 06 00 58.0 -0.7
MAK e*SS SKKSac 06 01 22.3 +0.7
MAK pmax pmax
comp=Z,233nm,1.1s
MAK MLR MLR
comp=Z,891nm,15.0s
RAR Rarotonga 77.42 113 LR LR 06 22 47.7
comp=Z,258nm,20.1s,baz=281,slow=34
C18K Utukok River 77.42 21 IAmb IAmb 05 51 54.8
comp=Z,44nm,1.0s
C18K Utukok River 77.42 21 P P 05 51 12.5 +0.5
baz=256,SNR=6.9
C18K S S 06 00 57.5 -0.6
baz=256
O17K Koliganek Bris 77.44 30 P P 05 51 13.0 +0.8
baz=262,SNR=15
O17K S S 06 00 58.3 -0.1
baz=262
N17K Nushagak Hills 77.51 29 IAmb IAmb 05 51 15.2
comp=Z,52nm,1.1s
N17K Nushagak Hills 77.51 29 P P 05 51 13.9 +1.4
baz=261,SNR=16
N17K S S 06 01 00.5 +1.3
baz=261
Q16K King Salmon 77.51 31 P P 05 51 12.3 -0.3
baz=262
M17K Holitna River 77.53 29 IAmb IAmb 05 52 02.1
comp=Z,103nm,1.4s
M17K Holitna River 77.53 29 P P 05 51 14.0 +1.4
baz=261,SNR=16
M17K S S 06 01 00.8 +1.5
baz=261
F18K Selawik 77.53 23 P P 05 51 13.1 +0.6
baz=258,SNR=13
F18K S S 06 00 59.9 +0.8
baz=258
R17L Mt. Peulik Vol 77.53 32 P P 05 51 12.7 0.0
baz=263,SNR=12
PLK4 Peulik 4 77.53 32 IAmb IAmb 05 51 13.7
comp=Z,80nm,0.9s
SEKA Sheki 77.57 311 P P 05 51 12.6 -0.8
KIRV Kirov 77.59 328 P P 05 51 11.8 -1.2
comp=Z,290nm,1.0s,baz=130,slow=1.7,SNR=92
KIRV LR LR 06 28 40.5
comp=Z,951nm,18.7s,baz=100,slow=38
comp=Z,290nm,1.0s
KIRV Kirov 77.59 328 eP P 05 51 12.7 -0.3
MNGR Mingechevir, A 77.64 310 P P 05 51 14.2 +0.5
P17K Kvichak River 77.69 31 P P 05 51 14.1 +0.5
baz=262,SNR=12
CHIR Chirikof Islan 77.72 34 IAmb IAmb 05 51 15.8
comp=Z,97nm,0.9s
CHIR IAMs_20 IAMs_20 06 21 45.8
comp=Z,1μm,20.0s
CHIR Chirikof Islan 77.72 34 P P 05 51 14.8 +1.0
baz=264
H18K Honhosa River 77.76 25 IAMs_20 IAMs_20 06 22 33.2
comp=Z,851nm,22.0s
H18K Honhosa River 77.76 25 P P 05 51 14.3 +0.5
baz=259,SNR=7.4
H18K S S 06 01 01.4 -0.3
baz=259
G18K Tagagawik 77.78 24 P P 05 51 14.3 +0.3
baz=259,SNR=9.2
G18K S S 06 01 01.1 -0.9
baz=259
A19K Wainwright 77.85 19 P P 05 51 14.4 +0.2
baz=256
Q17K Contact Creek 77.86 32 P P 05 51 14.0 -0.7
baz=263
BELG Belogornoye 77.94 322 P P 05 51 13.6 -1.5
comp=Z,808nm,0.9s,baz=76,slow=0.8,SNR=148
BELG Belogornoye 77.94 322 i P P 05 51 13.8 -1.3
BELG pmax pmax
comp=Z,171nm,0.9s
L18K Granite Mounta 78.00 28 P P 05 51 16.3 +1.1
baz=261,SNR=21
L18K S S 06 01 05.5 +1.1
baz=261
C19K Lookout Ridge 78.10 21 IAmb IAmb 05 51 56.2
comp=Z,73nm,1.1s
C19K IAMs_20 IAMs_20 06 23 59.8
comp=Z,758nm,20.0s
C19K Lookout Ridge 78.10 21 P P 05 51 16.7 +1.0
baz=257,SNR=15
C19K S S 06 01 05.3 0.0
baz=257
N18K Kilae Creek 78.17 29 P P 05 51 17.1 +0.9
baz=262,SNR=14
N18K S S 06 01 08.0 +1.7
baz=262
J18K Innoko River 78.18 27 P P 05 51 16.7 +0.5
baz=261,SNR=12
J18K S S 06 01 06.0 -0.3
baz=261
GANJ Ganja 78.22 310 P P 05 51 16.5 -0.5
M18K Stony River 78.31 29 P P 05 51 18.0 +1.1
baz=262,SNR=15
M18K S S 06 01 08.3 +0.6
baz=262
F19K Shaleruckik Mo 78.31 23 P P 05 51 17.0 +0.2
baz=260,SNR=9.3
F19K S S 06 01 07.4 -0.1
baz=260
GCSA Galena City Sc 78.31 25 P P 05 51 17.3 +0.5
baz=261,SNR=16
P18K Big Mountain, 78.33 31 P P 05 51 16.9 -0.3
baz=263,SNR=7.8
Q18K Katmai Hardscr 78.36 32 P P 05 51 16.8 -0.7
baz=264,SNR=16
G19K Purcell Mounta 78.46 24 P P 05 51 18.2 +0.5
baz=260,SNR=16
G19K S S 06 01 09.4 +0.2
baz=260
D19K Kuna River 78.49 21 IAmb IAmb 05 51 58.7
comp=Z,161nm,1.8s
D19K Kuna River 78.49 21 P P 05 51 18.4 +0.5
baz=259,SNR=15
D19K S S 06 01 09.3 -0.2
baz=259
R18K Karluk 78.54 33 P P 05 51 18.1 -0.2
baz=264
SBV Sambava 78.57 255 P P 05 51 18.9 -0.4
SII Sitkinak Islan 78.59 34 IAmb IAmb 05 51 20.8
comp=Z,96nm,1.0s
SII Sitkinak Islan 78.59 34 P P 05 51 20.2 +1.5
SII Sitkinak Islan 78.59 34 P P 05 51 19.6 +0.9
baz=265,SNR=6.8
SII S S 06 01 11.2 +0.2
baz=265
H19K Roundabout Mou 78.61 24 IAmb IAmb 05 51 23.9
comp=Z,49nm,0.8s
H19K Roundabout Mou 78.61 24 P P 05 51 19.6 +1.0
baz=261,SNR=47
H19K S S 06 01 11.4 +0.6
baz=261
E19K Redstone River 78.63 22 IAmb IAmb 05 51 24.3
comp=Z,51nm,1.1s
E19K Redstone River 78.63 22 P P 05 51 19.4 +0.7
baz=260,SNR=46
E19K S S 06 01 09.8 -1.1
baz=260
J19K Poorman 78.74 26 P P 05 51 20.0 +0.7
baz=262,SNR=17
J19K S S 06 01 12.7 +0.5
baz=262
NAX Nakhchivan 78.83 309 P P 05 51 20.9 +0.5
L19K White Mountain 78.85 28 P P 05 51 20.8 +0.9
baz=263,SNR=14
L19K S S 06 01 14.0 +0.4
baz=263
N19K Bonanza Creek 78.87 29 P P 05 51 21.1 +1.0
baz=264,SNR=31
N19K S S 06 01 13.4 -0.5
baz=264
O19K Port Alsworth 78.88 30 P P 05 51 20.6 +0.5
baz=264,SNR=8.0
O19K S S 06 01 13.3 -0.6
baz=264
M19K Big River Lodg 79.03 28 P P 05 51 22.1 +1.1
baz=264,SNR=14
M19K S S 06 01 15.9 +0.4
baz=264
D20K Etivluk River 79.08 21 P P 05 51 21.8 +0.7
baz=260,SNR=19
D20K S S 06 01 14.6 -1.2
baz=260
Q19K Cape Douglas, 79.10 31 IAmb IAmb 05 51 22.0
comp=Z,69nm,0.8s
Q19K Cape Douglas, 79.10 31 P P 05 51 20.8 -0.6
baz=265,SNR=7.5
RAYN Ar Rayn 79.11 293 P P 05 51 20.8 -1.4
RAYN IAmb IAmb 05 51 29.2
comp=Z,65nm,1.1s
RAYN Ar Rayn 79.11 293 P P 05 51 21.7 -0.5
RAYN Ar Rayn 79.11 293 i P P 05 51 20.3 -1.9
SNR=9.8
RAYN Ar Rayn 79.11 293 P P 05 51 20.8 -1.4
RAYN pmax pmax
comp=Z,65nm,1.1s
B20K Meade River 79.11 20 IAmb IAmb 05 52 39.5
comp=Z,104nm,1.5s
B20K Meade River 79.11 20 P P 05 51 22.0 +0.8
baz=259
B20K S S 06 01 15.7 -0.3
baz=259
F20K Avaraart Lake 79.14 23 P P 05 51 22.2 +0.8
baz=261
F20K S S 06 01 15.6 -0.8
baz=261
OHAK Old Harbor 79.14 33 P P 05 51 22.1 +0.5
OHAK IAmb IAmb 05 51 23.2
comp=Z,55nm,0.9s
OHAK Old Harbor 79.14 33 P P 05 51 22.6 +1.0
OHAK Old Harbor 79.14 33 P P 05 51 22.1 +0.5
baz=265,SNR=15
OHAK S S 06 01 16.0 -0.7
baz=265
E20K Nigu River 79.15 22 P P 05 51 22.4 +0.8
baz=261,SNR=25
E20K S S 06 01 15.9 -0.8
baz=261
H20K Anotleneega Mo 79.26 25 P P 05 51 23.0 +0.9
baz=262,SNR=25
H20K S S 06 01 17.8 +0.1
baz=262
L20K Farewell, AK 79.33 28 P P 05 51 23.5 +0.9
baz=264,SNR=17
L20K S S 06 01 19.6 +0.9
baz=264
I20K Naaghedeneel 79.34 25 IAmb IAmb 05 52 21.2
comp=Z,75nm,1.1s
I20K Naaghedeneel 79.34 25 P P 05 51 23.7 +1.2
baz=263,SNR=22
K20K Telida 79.34 27 P P 05 51 23.7 +1.1
baz=264
K20K S S 06 01 18.7 0.0
baz=264
P19K Oil Pt 79.37 31 P P 05 51 22.3 -0.5
baz=265
J20K Nowinta River 79.41 26 P P 05 51 24.0 +1.1
baz=263,SNR=26
J20K S S 06 01 20.2 +0.9
baz=263
GNI Garni 79.42 309 P P 05 51 24.3 +0.5
GNI IAmb IAmb 05 51 42.9
comp=Z,142nm,0.9s
GNI Garni 79.42 309 LR LR 06 31 09.2
comp=Z,486nm,21.9s,baz=97,slow=39
GNI Garni 79.42 309 P P 05 51 24.0 +0.3
GNI Garni 79.42 309 P P 05 51 23.4 -0.3
GNI Garni 79.42 309 ce P P 05 51 24.2 +0.5
GNI pmax pmax
comp=Z,184nm,1.2s
A21K Barrow 79.53 19 P P 05 51 23.3 -0.1
baz=260
A21K S S 06 01 20.9 +0.5
baz=260
KDAK Kodiak Island 79.56 33 P P 05 51 24.5 +0.6
KDAK IAmb IAmb 05 51 25.5
comp=Z,70nm,0.8s
KDAK Kodiak Island 79.56 33 IAMs_20 IAMs_20 06 22 22.4
comp=Z,1μm,21.0s
KDAK Kodiak Island 79.56 33 LR LR 06 22 11.1
comp=Z,1μm,22.0s,baz=241,slow=32
KDAK Kodiak Island 79.56 33 i P P 05 51 23.0 -0.9
KDAK pmax pmax
comp=Z,90nm,0.9s
KDAK Kodiak Island 79.56 33 P P 05 51 24.4 +0.6
baz=266
KDAK S S 06 01 21.3 +0.1
baz=266
M20K Styx River 79.62 28 P P 05 51 25.4 +1.1
baz=265
M20K S S 06 01 22.1 +0.1
baz=265
O20K Slope Mountain 79.72 30 P P 05 51 24.4 -0.4
baz=266
O20K S S 06 01 18.9 -4.0
baz=266
Q20K Shuyak Island 79.72 32 P P 05 51 24.8 +0.1
baz=266,SNR=5.6
Q20K S S 06 01 21.0 -1.8
baz=266
SYI Shuyak Island 79.72 32 IAmb IAmb 05 51 26.0
comp=Z,46nm,0.8s
IMAR Indian Mountai 79.78 24 P P 05 51 25.5 +0.6
C21K Knifeblade Rid 79.80 21 P P 05 51 25.7 +0.7
baz=262
C21K S S 06 01 22.5 -0.8
baz=262
B21K Ikpikpuk River 79.92 20 IAmb IAmb 05 52 05.8
comp=Z,59nm,1.1s
B21K Ikpikpuk River 79.92 20 P P 05 51 26.5 +0.9
baz=262,SNR=24
B21K S S 06 01 23.4 -1.1
baz=262
G21K Allakaket 79.94 24 P P 05 51 26.6 +0.8
baz=264,SNR=44
G21K S S 06 01 24.9 0.0
baz=264
E21K Killik River 80.00 22 P P 05 51 26.7 +0.6
baz=263
E21K S S 06 01 24.5 -1.0
baz=263
A22K Sinclair Lake 80.01 19 P P 05 51 27.0 +1.0
baz=261,SNR=7.6
A22K S S 06 01 25.9 +0.6
baz=261
N20K Mount Spurr 80.01 29 P P 05 51 26.2 -0.2
baz=266
SPCR Spurr Chakacha 80.01 29 P P 05 51 26.3 0.0
baz=266,SNR=5.1
F21K Alatna River 80.03 23 P P 05 51 26.5 +0.3
baz=263,SNR=10
F21K S S 06 01 25.4 -0.5
baz=263
H21K Melozitna Rive 80.13 25 P P 05 51 27.7 +0.8
baz=264,SNR=31
H21K S S 06 01 27.1 +0.1
baz=264
PPLA Purkeypile 80.15 27 P P 05 51 27.4 +0.2
PPLA Purkeypile 80.15 27 P P 05 51 27.5 +0.4
baz=265,SNR=9.7
PPLA S S 06 01 25.8 -1.7
baz=265
CHUM Lake Minchumin 80.18 26 P P 05 51 28.1 +1.0
baz=265,SNR=21
CHUM S S 06 01 27.5 +0.1
baz=265
HOM Homer 80.18 31 IAmb IAmb 05 51 31.3
comp=Z,85nm,0.9s
HOM Homer 80.18 31 P P 05 51 27.1 -0.1
baz=266
SKT Skwentna 80.39 28 P P 05 51 27.8 -0.5
baz=266,SNR=32
SKT S S 06 01 27.7 -2.1
baz=266
B22K Teshekpuk Lake 80.43 20 P P 05 51 29.0 +0.7
baz=263,SNR=14
B22K S S 06 01 28.6 -1.2
baz=263
I21K Tanana 80.43 25 P P 05 51 29.5 +1.0
baz=265
I21K S S 06 01 28.4 -1.6
baz=265
CAPN Captain Cook N 80.49 30 P P 05 51 29.6 +0.8
baz=267
D22K Ayikyak River 80.52 21 P P 05 51 30.0 +1.1
baz=264,SNR=7.7
D22K S S 06 01 30.0 -0.9
baz=264
F22K John River 80.56 23 P P 05 51 30.2 +1.0
baz=265
F22K S S 06 01 29.4 -2.1
baz=265
BRLK Bradley Lake 80.57 31 IAmb IAmb 05 52 17.0
comp=Z,58nm,1.0s
BRSE Bradley Lake S 80.64 31 P P 05 51 29.4 -0.3
baz=267,SNR=13
BRSE S S 06 01 30.2 -2.3
baz=267
GOF Gofitskoye 80.68 314 ce P P 05 51 30.1 -0.1
SUA Susitna One 80.73 29 IAmb IAmb 05 51 33.4
comp=Z,82nm,0.8s
SUA Susitna One 80.73 29 P P 05 51 29.8 -0.4
baz=267,SNR=43
SUA S S 06 01 30.7 -2.9
baz=267
H22K Ishtalitna Cre 80.74 24 P P 05 51 31.2 +1.0
baz=266,SNR=34
H22K S S 06 01 34.4 +1.0
baz=266
GEVA Gevas 80.74 308 IAmb IAmb 05 51 34.6
comp=Z,115nm,0.9s
G22K Bettles 80.77 23 P P 05 51 30.6 +0.4
baz=265
BPAW Bear Paw Mtn. 80.78 26 P P 05 51 30.8 +0.4
BPAW IAmb IAmb 05 51 32.1
comp=Z,85nm,1.0s
BPAW IAMs_20 IAMs_20 06 24 45.1
comp=Z,760nm,22.0s
BPAW Bear Paw Mtn. 80.78 26 P P 05 51 30.8 +0.4
baz=266,SNR=87
BPAW S S 06 01 32.5 -1.3
baz=266
KBZ Khabaz 80.79 313 P P 05 51 30.0 -0.8
comp=Z,72nm,1.1s,baz=96,slow=5.7,SNR=38
KBZ LR LR 06 32 41.8
comp=Z,798nm,19.6s,baz=74,slow=40
comp=Z,72nm,1.1s
KBZ Khabaz 80.79 313 ce P P 05 51 30.7 -0.1
KBZ pmax pmax
comp=Z,126nm,1.2s
NEUR Neytrino 80.94 313 i P P 05 51 31.9 +0.1
NEUR pmax pmax
comp=Z,68nm,1.2s
SLKM Skilak Lake 80.94 30 IAmb IAmb 05 51 33.5
comp=Z,52nm,0.9s
KIV Kislovodsk 80.94 313 P P 05 51 32.0 +0.2
KIV Kislovodsk 80.94 313 P P 05 51 32.3 +0.6
KIV Kislovodsk 80.94 313 i P P 05 51 31.7 0.0
SNR=8.4
KIV Kislovodsk 80.94 313 eP P 05 51 31.7 0.0
KIV e 05 54 36.2
KIV eS S 06 01 35.9 -0.5
KIV eSS SS 06 06 52.4 +1.0
KIV pmax pmax
comp=Z,144nm,1.1s
KIV pmax pmax
comp=Z,59nm,3.3s
KIV MLR MLR
comp=Z,525nm,19.0s
MLY Manley 80.95 25 P P 05 51 31.8 +0.6
baz=266,SNR=88
MLY S S 06 01 34.6 -1.0
baz=266
SHA1 Shidzhatmaz 80.96 313 i P P 05 51 32.0 0.0

CUT	Chulitna	81.00	28	IAmb	IAmb	05 52 20.0			
	comp=Z,171nm,1.3s								
CUT	Chulitna	81.00	28	P	P	05 51 31.1	-0.4		
	baz=267								
M22K	Willow	81.04	29	P	P	05 51 31.5	-0.2		
	baz=267,SNR=13								
TRF	Thorofare Moun	81.05	27	IAmb	IAmb	05 52 19.1			
	comp=Z,84nm,1.2s								
TRF	Thorofare Moun	81.05	27	P	P	05 51 32.0	0.0		
	baz=267,SNR=43								
O22K	Cooper Landing	81.18	30	IAmb	IAmb	05 51 39.9			
	comp=Z,101nm,0.8s								
O22K	Cooper Landing	81.18	30	P	P	05 51 32.5	0.0		
	baz=268,SNR=9.7								
RC01	Rabbit Creek A	81.20	29	P	P	05 51 32.4	-0.2		
	baz=268,SNR=8.6								
RC01				S	S	06 01 36.1	-2.1		
	baz=268								
D23K	Nanushuk River	81.24	21	IAmb	IAmb	05 52 17.2			
	comp=Z,88nm,1.4s								
D23K	Nanushuk River	81.24	21	P	P	05 51 34.0	+1.3		
	baz=266,SNR=27								
D23K				S	S	06 01 37.3	-1.2		
	baz=266								
COLD	Coldfoot	81.30	23	P	P	05 51 34.2	+1.2		
	baz=266,SNR=46								
COLD				S	S	06 01 39.6	+0.5		
	baz=266								
SEW	Seward	81.30	30	P	P	05 51 33.3	+0.1		
	baz=268,SNR=15								
SEW				S	S	06 01 37.1	-2.1		
	baz=268								
C23K	Itkillik River	81.33	20	IAmb	IAmb	05 52 17.1			
	comp=Z,65nm,1.2s								
C23K	Itkillik River	81.33	20	P	P	05 51 33.9	+0.7		
	baz=266,SNR=18								
C23K				S	S	06 01 38.2	-1.1		
	baz=266								
G23K	Bananza Creek	81.34	24	IAmb	IAmb	05 51 37.6			
	comp=Z,53nm,0.9s								
G23K	Bananza Creek	81.34	24	P	P	05 51 34.3	+1.0		
	baz=267,SNR=73								
G23K				S	S	06 01 39.6	0.0		
	baz=267								
BWN	Browne	81.45	26	IAmb	IAmb	05 51 36.8			
	comp=Z,86nm,0.8s								
H23K	Yukon River	81.49	24	P	P	05 51 35.2	+1.1		
	baz=267								
H23K				S	S	06 01 41.3	+0.1		
	baz=267								
PMR	Palmer	81.51	29	P	P	05 51 33.9	-0.3		
PMR				IAmb	IAmb	05 51 35.1			
	comp=Z,44nm,0.9s								
PMR	Palmer	81.51	29	P	P	05 51 34.1	-0.1		
PMR	Palmer	81.51	29	P	P	05 51 33.9	-0.3		
PMR				pmax	pmax				
	comp=Z,44nm,0.9s								
PMR	Palmer	81.51	29	P	P	05 51 33.9	-0.3		
	baz=268,SNR=34								
PMR				S	S	06 01 38.9	-2.5		
	baz=268								
I23K	Minto, Yukon-K	81.53	25	IAMs_20	IAMs_20	06 27 04.0			
	comp=Z,1µm,22.0s								
I23K	Minto, Yukon-K	81.53	25	P	P	05 51 35.1	+0.8		
	baz=268,SNR=56								
I23K				S	S	06 01 41.1	-0.4		
	baz=268								
VRH	Novokhopyorsk	81.56	321	*e*P	P	05 51 33.3	-1.4		
VRH				pmax	pmax				
	comp=Z,280nm,1.0s								
E23K	Chandalar	81.58	22	IAmb	IAmb	05 52 15.9			
	comp=Z,82nm,1.2s								
E23K				IAMs_20	IAMs_20	06 25 44.9			
	comp=Z,766nm,21.0s								
E23K	Chandalar	81.58	22	P	P	05 51 35.9	+1.2		
	baz=267,SNR=44								
E23K				S	S	06 01 41.1	-1.1		
	baz=267								
GHO	Glory Hole Cre	81.61	29	IAMs_20	IAMs_20	06 23 56.2			
	comp=Z,731nm,22.0s								
TOLK	Toolik Lake Re	81.62	22	P	P	05 51 35.8	+1.0		
	baz=267,SNR=27								
TOLK				S	S	06 01 41.3	-1.2		
	baz=267								
NEA2	Nenana	81.64	26	P	P	05 51 34.6	-0.2		
	baz=268,SNR=51								
NEA2				S	S	06 01 40.0	-2.7		
	baz=268								
MCK	McKinley	81.67	27	P	P	05 51 34.9	-0.2		
	baz=268,SNR=54								
RND	Reindeer	81.69	27	IAmb	IAmb	05 51 36.1			
	comp=Z,71nm,1.1s								
WAT1	Susitna Watana	81.81	28	P	P	05 51 35.6	-0.3		
	baz=269								
WAT1				S	S	06 01 41.4	-3.2		
	baz=269								
KNK	Knik Glacier	81.83	29	IAmb	IAmb	05 51 37.5			
	comp=Z,70nm,1.0s								
KNK				IAMs_20	IAMs_20	06 25 13.0			
	comp=Z,808nm,22.0s								
KNK	Knik Glacier	81.83	29	P	P	05 51 36.1	+0.1		
	baz=269,SNR=30								
KNK				S	S	06 01 41.5	-3.3		
	baz=269								
PWL	Port Wells	81.88	30	IAmb	IAmb	05 51 38.1			
	comp=Z,114nm,0.9s								
PWL	Port Wells	81.88	30	P	P	05 51 36.5	+0.3		
	baz=269,SNR=64								
PWL				S	S	06 01 43.1	-2.2		
	baz=269								
D24K	Happy Valley	81.92	21	P	P	05 51 37.2	+0.9		
	baz=267								
C24K	Franklin Bluff	81.99	21	P	P	05 51 37.3	+0.7		
	baz=268								
E24K	Your Creek	82.00	22	IAMs_20	IAMs_20	06 26 09.1			
	comp=Z,970nm,22.0s								
E24K	Your Creek	82.00	22	P	P	05 51 37.7	+0.9		
	baz=268								
E24K				S	S	06 01 46.5	0.0		
	baz=268								
WRH	Wood River Hil	82.06	26	IAmb	IAmb	05 51 42.7			
	comp=Z,45nm,0.9s								
WRH				IAMs_20	IAMs_20	06 25 22.6			
	comp=Z,946nm,22.0s								
ABPO	Ambohimpanom	82.07	250	P	P	05 51 36.3	-1.9		
ABPO	Ambohimpanom	82.07	250	P	P	05 51 36.3	-1.9		
ABPO				pmax	pmax				
	comp=Z,31nm,1.0s								
COLA	College	82.17	25	P	P	05 51 37.4	-0.2		
COLA	College	82.17	25	P	P	05 51 39.1	+1.5		
COLA	College	82.17	25	*i* P	P	05 51 36.8	-0.8		
COLA				pmax	pmax				
	comp=Z,34nm,0.9s								
COLA	College	82.17	25	P	P	05 51 37.2	-0.4		
	baz=269								
H24K	Noodor Dome	82.17	24	IAmb	IAmb	05 51 40.7			
	comp=Z,46nm,0.8s								
H24K	Noodor Dome	82.17	24	P	P	05 51 38.7	+0.9		
	baz=269,SNR=63								
M23K	Glacier View	82.18	29	P	P	05 51 38.0	+0.2		
	baz=270,SNR=23								
WAT6	Susitna Watana	82.18	28	P	P	05 51 38.1	+0.1		
	baz=269,SNR=52								
WAT6				S	S	06 01 46.1	-2.6		
	baz=269								
CCB	Clear Creek Bu	82.18	26	IAmb	IAmb	05 52 17.6			
	comp=Z,53nm,1.1s								
F24K	Squaw Lake	82.21	23	P	P	05 51 39.1	+1.3		
	baz=269,SNR=35								
F24K				S	S	06 01 49.1	+0.6		
	baz=269								
POKR	Poker Plat Res	82.35	25	P	P	05 51 38.3	-0.3		
POKR	Poker Plat Res	82.35	25	P	P	05 51 38.1	-0.5		
	baz=269,SNR=6.5								
DHY	Denali Highway	82.35	27	P	P	05 51 39.0	+0.1		
	baz=270,SNR=25								
G24K	Hadweenzic Riv	82.36	24	IAmb	IAmb	05 51 41.9			
	comp=Z,48nm,0.8s								
G24K	Hadweenzic Riv	82.36	24	P	P	05 51 39.8	+1.2		
	baz=269,SNR=57								
G24K				S	S	06 01 50.4	+0.3		
	baz=269								
SCM	Sheep Creek Mo	82.37	29	IAmb	IAmb	05 52 09.6			
	comp=Z,74nm,1.0s								
SCM	Sheep Creek Mo	82.37	29	P	P	05 51 39.4	+0.5		
	baz=270,SNR=25								
ATD	Arta Tunnel	82.47	281	IAmb	IAmb	05 51 47.5			
	comp=Z,80nm,1.3s								
ATD	Arta Tunnel	82.47	281	LR	LR	06 27 35.0			
	comp=Z,8.2nm,21.6s,baz=68,slow=35								
ATD	Arta Tunnel	82.47	281	P	P	05 51 40.3	0.0		
	SNR=9.8								
ERBR	Yeremizino-Bor	82.47	315	*e*P	P	05 51 38.5	-1.1		
ERBR				*e**PP	pP	05 51 55.4	+0.2		
ERBR				*e*S	S	06 01 50.4	-1.5		
ERBR				pmax	pmax				
	comp=E,34nm,1.2s								
ERBR				pmax	pmax				
	comp=Z,304nm,1.0s								
ERBR				pmax	pmax				
	comp=N,21nm,0.6s								
GLI	Glacier Island	82.48	30	IAmb	IAmb	05 51 40.9			
	comp=Z,44nm,0.8s								
GLI	Glacier Island	82.48	30	P	P	05 51 39.7	+0.3		
	baz=270,SNR=24								
GLI				S	S	06 01 49.2	-2.3		
	baz=270								
HDA	Harding Lake	82.55	26	IAmb	IAmb	05 51 41.5			
	comp=Z,44nm,0.7s								
HDA	Harding Lake	82.55	26	P	P	05 51 38.9	-0.7		
	baz=270,SNR=66								
HDA				S	S	06 01 50.7	-1.4		
	baz=270								
ILAR	Eielson Array	82.58	26	P	P	05 51 39.0	-0.8		
ILAR	Eielson Array	82.58	26	P	P	05 51 38.5	-1.3		
	comp=Z,11nm,0.8s,baz=231,slow=5.3,SNR=105								
ILAR				S	S	06 01 55.3	+3.0		
	comp=Z,0.3nm,0.9s,baz=349,slow=15,SNR=4.4								
ILAR				PKKPbc	PKKPbc	06 10 05.0	-2.6		
	comp=Z,4.6nm,1.0s,baz=72,slow=1.1,SNR=16								
ILAR				PKPPKP	P'P'df	06 18 07.0	-3.8		
	comp=Z,1.3nm,1.0s,baz=177,slow=0.6,SNR=6.7								
ILAR				LR	LR	06 26 56.7			
	comp=Z,576nm,21.9s,baz=228,slow=35								
	comp=Z,11nm,0.8s								
ILAR	Eielson Array	82.58	26	P	P	05 51 39.0	-0.8		
MARD	Mardin	82.58	307	IAmb	IAmb	05 51 43.1			
	comp=Z,58nm,0.9s								
KLMR	Klimovskoe	82.73	330	*c i*P	P	05 51 38.3	-2.4		
KLMR				*e**PP	pP	05 51 54.4	-1.9		
KLMR				*e*		05 54 45.9			
KLMR				*e*S	S	06 01 49.2	-4.8		
KLMR				pmax	pmax				
	comp=Z,525nm,1.2s								
KLMR				MLR	MLR				
	comp=Z,1µm,21.0s								
HIN	Hinchinbrook I	82.78	30	IAmb	IAmb	05 52 15.4			
	comp=Z,56nm,1.0s								
HIN				IAMs_20	IAMs_20	06 24 25.2			
	comp=Z,1µm,22.0s								
FID	Port Fidalgo	82.78	30	IAmb	IAmb	05 52 24.0			
	comp=Z,44nm,1.0s								
D25K	Kavik River	82.80	21	P	P	05 51 41.6	+0.7		
	baz=270,SNR=26								
Q23K	Middleton Isla	82.87	31	P	P	05 51 42.0	+0.6		
	baz=271								
VSLR	Vesyoloye	82.88	313	*i* P	P	05 51 42.0	+0.2		
VSLR				pmax	pmax				
	comp=Z,208nm,0.9s								
G25K	Bearman Lake	82.90	24	P	P	05 51 42.8	+1.4		
	baz=270,SNR=18								
M24K	Tolsona, Glenn	82.91	28	IAmb	IAmb	05 52 46.8			
	comp=Z,98nm,1.1s								
M24K	Tolsona, Glenn	82.91	28	P	P	05 51 42.7	+1.0		
	baz=271,SNR=18								
VOI	Vohitsoka	82.96	247	P	P	05 51 41.2	-1.6		
VOI				IAmb	IAmb	05 51 44.5			
	comp=Z,53nm,1.1s								
VOI	Vohitsoka	82.96	247	P	P	05 51 41.8	-1.0		
H25L	Birch Creek	83.02	24	P	P	05 51 43.5	+1.5		
	baz=271,SNR=70								
KLU	Klutina	83.04	29	IAmb	IAmb	05 51 44.4			
	comp=Z,64nm,1.3s								
KLU	Klutina	83.04	29	P	P	05 51 43.2	+0.8		
	baz=271,SNR=29								
K24K	Donnelly Dome	83.07	27	IAmb	IAmb	05 51 48.1			
	comp=Z,67nm,0.8s								
K24K				IAMs_20	IAMs_20	06 26 54.6			
	comp=Z,740nm,21.0s								
K24K	Donnelly Dome	83.07	27	P	P	05 51 42.5	+0.1		
	baz=271,SNR=62								
F25K	Christian Rive	83.07	23	P	P	05 51 43.8	+1.4		
	baz=271,SNR=19								
VORD	Divnogorie	83.09	320	*e*P	P	05 51 41.6	-1.1		
VORD				pmax	pmax				
	comp=Z,270nm,0.9s								
E25K	Arctic Village	83.10	22	IAMs_20	IAMs_20	06 26 53.9			
	comp=Z,879nm,22.0s								
E25K	Arctic Village	83.10	22	P	P	05 51 43.8	+1.3		
	baz=271,SNR=26								
SOC	Sochi	83.10	313	*e*P	P	05 51 41.2	-1.7		
SOC				*e*		05 54 55.7			
SOC				*e*PPP	PPP	05 56 43.3			
SOC				*e*S	S	06 01 56.3	-2.1		
SOC				*e*SSS	SSS	06 10 54.1			
SOC				pmax	pmax				
	comp=Z,79nm,0.7s								
VORR	Voronezh	83.12	321	*e*P	P	05 51 42.9	+0.1		
VORR				pmax	pmax				
	comp=Z,500nm,0.9s								
DIV	Divide	83.12	29	IAmb	IAmb	05 51 45.0			
	comp=Z,152nm,1.2s								
EYAK	Cordova Ski Ar	83.15	30	IAmb	IAmb	05 52 35.2			
	comp=Z,114nm,1.3s								
EYAK	Cordova Ski Ar	83.15	30	P	P	05 51 43.6	+0.8		
EYAK	Cordova Ski Ar	83.15	30	P	P	05 51 43.6	+0.8		
	baz=271,SNR=11								
PRP	Porcupine Dome	83.15	25	IAMs_20	IAMs_20	06 27 27.7			
	comp=Z,700nm,22.0s								
PRP	Porcupine Dome	83.15	25	P	P	05 51 42.0	-0.9		
	baz=271,SNR=13								
VSR	Storozhevoye	83.16	321	*e*P	P	05 51 41.5	-1.6		
VSR				pmax	pmax				
	comp=Z,270nm,0.9s								
PAX	Paxson	83.22	27	IAmb	IAmb	05 52 35.2			
	comp=Z,108nm,1.6s								
PAX	Paxson	83.22	27	P	P	05 51 43.9	+0.6		
	baz=271,SNR=35								
J25K	Salcha River,	83.23	26	P	P	05 51 42.5	-0.7		
	baz=271,SNR=28								
FYU	Fort Yukon	83.25	24	IAmb	IAmb	05 52 31.1			
	comp=Z,168nm,1.4s								
LPSR	Galich'ya Gora	83.26	322	*e*P	P	05 51 41.9	-1.6		
LPSR				pmax	pmax				
	comp=Z,440nm,0.9s								
C26K	Camden Bay	83.31	20	P	P	05 51 45.2	+1.8		
	baz=271,SNR=9.2								
HARP	HAARP	83.38	28	P	P	05 51 45.0	+0.9		
	baz=272,SNR=14								
RIDG	Independent Ri	83.48	27	IAmb	IAmb	05 51 46.0			
	comp=Z,119nm,1.2s								
RIDG	Independent Ri	83.48	27	P	P	05 51 44.8	+0.2		
	baz=272,SNR=54								
BMAR	Burnt Mountain	83.48	23	P	P	05 51 45.8	+1.3		
F26K	Sheenjek River	83.64	23	P	P	05 51 46.8	+1.5		
	baz=272,SNR=30								
N25K	Chitina, Valde	83.67	29	IAmb	IAmb	05 51 47.9			
	comp=Z,87nm,1.1s								
N25K	Chitina, Valde	83.67	29	P	P	05 51 46.6	+1.0		
	baz=272,SNR=50								
RAGM	Ragged Mountai	83.69	30	IAmb	IAmb	05 51 47.9			
	comp=Z,134nm,1.2s								
RAGM				IAMs_20	IAMs_20	06 25 36.2			
	comp=Z,1µm,22.0s								
BMRM	Bremner River	83.70	29	IAmb	IAmb	05 51 47.7			
	comp=Z,126nm,1.1s								
BMRM				IAMs_20	IAMs_20	06 24 25.5			
	comp=Z,964nm,21.0s								
BMRM	Bremner River	83.70	29	P	P	05 51 46.5	+0.8		
	baz=272,SNR=43								
C27K	Jago River	83.73	21	P	P	05 51 47.0	+1.4		
	baz=272,SNR=29								
G26K	Porcupine Rive	83.81	23	IAmb	IAmb	05 51 49.0			
	comp=Z,76nm,1.1s								
G26K	Porcupine Rive	83.81	23	P	P	05 51 47.6	+1.5		
	baz=272,SNR=60								
KAIM	Kayak Island	83.83	30	P	P	05 51 47.7	+1.3		
	baz=273,SNR=15								
DOT	Dot Lake	83.84	27	IAmb	IAmb	05 51 47.9			
	comp=Z,46nm,1.0s								
SCRK	Sand Creek	83.86	26	IAmb	IAmb	05 51 48.3			
	comp=Z,45nm,1.1s								
SCRK				IAMs_20	IAMs_20	06 27 16.4			
	comp=Z,735nm,22.0s								
SCRK	Sand Creek	83.86	26	P	P	05 51 46.7	+0.2		
	baz=272,SNR=52								
MOS	Moscow	83.89	325	*e*P	P	05 51 45.3	-1.4		
MOS				*e**PP	pP	05 52 00.7	-1.7		
MOS				*e*S	SKSac	06 02 01.5	-3.4		
MOS				pmax	pmax				
	comp=Z,462nm,1.3s								
MOS				pmax	pmax				
	comp=E,118nm,1.1s								
MOS				pmax	pmax				
	comp=N,134nm,1.0s								
MOS				pmax	pmax				
	comp=Z,800nm,1.5s								
MOS				smax	smax				
	comp=E,900nm,2.8s								
MOS				smax	smax				
	comp=N,400nm,2.0s								
MOS				MLR	MLR				
	comp=Z,2µm,23.0s								
HMT	Hamilton	83.89	30	IAmb	IAmb	05 51 48.8			
	comp=Z,85nm,1.0s								
HMT				IAMs_20	IAMs_20	06 28 30.4			
	comp=Z,864nm,21.0s								
J26L	Joseph Creek	84.02	26	P	P	05 51 47.6	+0.3		
	baz=273,SNR=54								
MENT	Mentasta	84.03	27	P	P	05 51 48.6	+1.3		
GLB	Gilahina Butte	84.06	29	IAmb	IAmb	05 51 49.5			
	comp=Z,115nm,1.0s								
GLB				IAMs_20	IAMs_20	06 25 60.0			
	comp=Z,702nm,22.0s								
I26K	Coal Creek Min	84.15	25	IAmb	IAmb	05 51 52.7			
	comp=Z,59nm,0.9s								
I26K	Coal Creek Min	84.15	25	P	P	05 51 48.1	+0.3		
	baz=273								
SUCK	Suckling Hills	84.15	30	IAmb	IAmb	05 51 50.6			
	comp=Z,121nm,1.2s								
BERG	Berg Lake	84.17	30	IAMs_20	IAMs_20	06 28 07.0			
	comp=Z,831nm,22.0s								
L26K	Log Cabin Wild	84.19	27	IAmb	IAmb	05 51 50.2			
	comp=Z,43nm,0.9s								
L26K				IAMs_20	IAMs_20	06 30 50.3			
	comp=Z,768nm,22.0s								
L26K	Log Cabin Wild	84.19	27	P	P	05 51 49.1	+0.9		
	baz=273,SNR=11								
VRDI	Verde Repeater	84.24	29	IAmb	IAmb	05 51 50.5			
	comp=Z,62nm,0.9s								
M26K	Nabesna, AK	84.39	28	IAmb	IAmb	05 51 51.3			
	comp=Z,64nm,1.1s								
M26K				IAMs_20	IAMs_20	06 27 02.6			
	comp=Z,881nm,21.0s								
M26K	Nabesna, AK	84.39	28	P	P	05 51 49.9	+0.7		
	baz=274,SNR=53								
BGLC	Bering Glacier	84.39	30	P	P	05 51 48.9	-0.2		
	baz=274								
MCARA	McCarthy VSAT	84.44	29	IAmb	IAmb	05 52 08.4			
	comp=Z,67nm,1.1s								
MCARA				IAMs_20	IAMs_20	06 25 48.1			
	comp=Z,801nm,22.0s								
MCARA	McCarthy VSAT	84.44	29	P	P	05 51 50.5	+1.1		
	baz=274,SNR=19								
CRQE	Cirque	84.45	30	P	P	05 51 50.6	+1.0		
	baz=274,SNR=32								
OBN	Obninsk	84.53	325	P	P	05 51 50.3	+0.4		
OBN	Obninsk	84.53	325	P	P	05 51 49.9	0.0		
	comp=Z,466nm,1.1s,baz=16,slow=1.9,SNR=100								
OBN				LR	LR	06 31 20.3			
	comp=Z,1µm,21.6s,baz=30,slow=37								
	comp=Z,466nm,1.1s								
OBN	Obninsk	84.53	325	*c i*P	P	05 51 48.8	-1.1		
OBN				*e*		05 55 06.8			
OBN				*e*PPP	PPP	05 57 01.1			
OBN				*i* S	SKSac	06 02 03.8	-5.2		
OBN				pmax	pmax				
	comp=Z,505nm,1.1s								
OBN				MLR	MLR				
	comp=Z,1µm,23.0s								
LVZ	Lovozero	84.56	338	IAMs_20	IAMs_20	06 32 34.5			
	comp=Z,897nm,20.0s								
LVZ	Lovozero	84.56	338	*ce*P	P	05 51 50.3	+0.4		
LVZ				pmax	pmax				
	comp=Z,213nm,1.3s								
TGL	Tana Glacier	84.58	30	IAMs_20	IAMs_20	06 26 43.7			
	comp=Z,835nm,22.0s								
E27K	Coleen River	84.58	22	IAmb	IAmb	05 51 52.5			
	comp=Z,96nm,1.1s								
E27K				IAMs_20	IAMs_20	06 28 49.2			
	comp=Z,706nm,21.0s								
E27K	Coleen River	84.58	22	P	P	05 51 51.3	+1.3		
	baz=274,SNR=95								
WAX	Waxell Ridge	84.58	30	IAMs_20	IAMs_20	06 25 40.0			
	comp=Z,991nm,21.0s								
G27K	Doyon Strip	84.66	23	IAmb	IAmb	05 51 53.1			
	comp=Z,56nm,1.1s								
G27K	Doyon Strip	84.66	23	P	P	05 51 51.8	+1.3		
	baz=274,SNR=91								
ANN	Anapa	84.67	314	*e*P	P	05 51 49.5	-1.4		
ANN				*e**PP	pP	05 52 06.8	+0.2		
ANN				*e*S	SKSac	06 02 07.4	-3.0		
ANN				pmax	pmax				
	comp=E,106nm,0.9s								
ANN				pmax	pmax				
	comp=Z,535nm,0.9s								
ANN				pmax	pmax				
	comp=N,145nm,1.0s								
K27K	Chicken	84.69	26	P	P	05 51 52.3	+1.7		
	baz=274								
K27K				S	SKSac	06 02 13.6	+3.8		
	baz=274								
D27M	Malcolm River	84.72	21	IAmb	IAmb	05 51 53.3			
	comp=Z,70nm,1.0s								
D27M	Malcolm River	84.72	21	P	P	05 51 52.0	+1.2		
	baz=275,SNR=64								
H27K	Steamboat Moun	84.76	24	IAmb	IAmb	05 51 53.8			
	comp=Z,84nm,1.1s								
H27K	Steamboat Moun	84.76	24	P	P	05 51 52.5	+1.5		
	baz=274,SNR=127								
I27K	Kandik River	84.77	25	P	P	05 51 52.4	+1.3		
	baz=274,SNR=274								
ISLE	Juniper Island	84.83	30	IAmb	IAmb	05 51 53.6			
	comp=Z,76nm,0.8s								
ISLE				IAMs_20	IAMs_20	06 29 23.4			
	comp=Z,742nm,21.0s								
L27K	Beaver Creek,	84.88	27	IAmb	IAmb	05 51 54.1			
	comp=Z,53nm,0.9s								
L27K	Beaver Creek,	84.88	27	P	P	05 51 52.8	+1.1		
	baz=275,SNR=96								
M27K	Edge Creek, AK	84.91	28	IAmb	IAmb	05 51 54.2			
	comp=Z,52nm,1.1s								
M27K				IAMs_20	IAMs_20	06 27 39.5			
	comp=Z,1µm,22.0s								
M27K	Edge Creek, AK	84.91	28	P	P	05 51 53.0	+1.0		
	baz=275,SNR=34								
MESA	MESA	85.05	30	IAMs_20	IAMs_20	06 27 57.4			
	comp=Z,774nm,21.0s								
MESA	MESA	85.05	30	P	P	05 51 54.0	+1.2		
	baz=275,SNR=18								
APA	Apatity	85.06	337	‖ *i*P	P	05 51 51.4	-1.0		
APA				*e*		05 55 14.5			
APA				*i* S	SKSac	06 02 07.2	-4.8		
APA				*i* SS	SS	06 07 52.5	+1.6		
APA				MLR	MLR				
	comp=Z,2µm,19.0s								
GRNC	Granite Creek	85.10

	comp=Z,1µm,22.0s							
I28M	**Miner Creek**	**85.48**	**25**	IAMs_20	IAMs_20	06 29 38.3		
	comp=Z,671nm,21.0s							
I28M	**Miner Creek**	**85.48**	**25**	P	**P**	**05 51 55.6**	**+0.9**	
	baz=276,SNR=140							
I28M				S	**S**	**06 02 22.5**	**+0.9**	
	baz=276							
D28M	**Stokes Point**	**85.50**	**21**	P	**P**	**05 51 55.7**	**+1.2**	
	baz=277,SNR=8.9							
D28M				S	**S**	**06 02 23.3**	**+1.9**	
	baz=277							
YUK3	**Moose Creek**	**85.63**	**28**	P	**P**	**05 51 56.4**	**+0.7**	
	baz=276,SNR=23							
YUK3				S	**S**	**06 02 24.2**	**+0.7**	
	baz=276							
O28M	**Mount Upton**	**85.86**	**29**	IAmb	IAmb	05 52 00.0		
	comp=Z,46nm,0.9s							
O28M				IAMs_20	IAMs_20	06 27 19.8		
	comp=Z,1µm,22.0s							
O28M	**Mount Upton**	**85.86**	**29**	P	**P**	**05 51 57.9**	**+1.0**	
	baz=276,SNR=26							
O28M				S	**S**	**06 02 26.7**	**+0.8**	
	baz=276							
DAWY	**Dawson**	**85.87**	**26**	IAmb	IAmb	05 51 58.7		
	comp=Z,29nm,0.9s							
DAWY	**Dawson**	**85.87**	**26**	P	**P**	**05 51 57.1**	**+0.6**	
	baz=277,SNR=34							
DAWY				S	**S**	**06 02 25.3**	**0.0**	
	baz=277							
PCA	**Pinnacle**	**85.90**	**30**	IAmb	IAmb	05 51 59.3		
	comp=Z,60nm,1.0s							
PCA				IAMs_20	IAMs_20	06 26 08.7		
	comp=Z,824nm,21.0s							
PINM	**Pinnacle**	**85.91**	**30**	P	**P**	**05 51 57.9**	**+1.0**	
	baz=276,SNR=8.1							
E29M	**Blow River**	**85.93**	**22**	IAmb	IAmb	05 51 58.6		
	comp=Z,43nm,1.3s							
E29M	**Blow River**	**85.93**	**22**	P	**P**	**05 51 57.2**	**+0.5**	
	baz=278,SNR=20							
E29M				S	**S**	**06 02 27.2**	**+1.6**	
	baz=278							
YUK8	**Steele Glacier**	**86.01**	**29**	P	**P**	**05 51 58.6**	**+0.9**	
	baz=276,SNR=10							
H29M	**Whitestone**	**86.03**	**24**	IAmb	IAmb	05 52 08.9		
	comp=Z,48nm,1.0s							
H29M	**Whitestone**	**86.03**	**24**	P	**P**	**05 51 58.0**	**+0.7**	
	baz=277,SNR=28							
H29M				S	**S**	**06 02 27.7**	**+1.0**	
	baz=277							
G29M	**Pine Creek**	**86.08**	**23**	IAmb	IAmb	05 52 00.3		
	comp=Z,71nm,0.9s							
G29M	**Pine Creek**	**86.08**	**23**	P	**P**	**05 51 58.0**	**+0.5**	
	baz=278,SNR=56							
G29M				S	**S**	**06 02 28.2**	**+1.0**	
	baz=278							
ASF	**Jabal al Asfar**	**86.14**	**302**	LR	LR	06 37 00.9		
	comp=Z,582nm,20.1s,baz=153,slow=40							
I29M	**Ogilvie Camp,**	**86.17**	**25**	IAmb	IAmb	05 52 00.1		
	comp=Z,51nm,1.1s							
I29M				IAMs_20	IAMs_20	06 29 44.4		
	comp=Z,728nm,22.0s							
I29M	**Ogilvie Camp,**	**86.17**	**25**	P	**P**	**05 51 58.4**	**+0.4**	
	baz=278,SNR=58							
I29M				S	**S**	**06 02 27.5**	**-0.7**	
	baz=278							
BCPM	**Bancas Point**	**86.23**	**30**	IAMs_20	IAMs_20	06 26 16.5		
	comp=Z,694nm,21.0s							
PPT	**Papeete**	**86.26**	**108**	LR	LR	06 25 46.4		
	comp=Z,380nm,19.6s,baz=268,slow=32							
PPT2	**Papeete2**	**86.26**	**108**	*eP*	**P**	**05 52 03.4**	**+3.9**	
	comp=Z,456nm,29.5s							
PPT2	**Papeete2**	**86.26**	**108**	*e*PP	**PP**	**05 55 17.5**	**-3.6**	
	comp=Z,208nm,29.0s							
PPT2				*e*S	**S**	**06 02 29.5**	**-1.4**	
	comp=Z,801nm,24.8s							
PPT2				*e*SS	**SS**	**06 08 08.6**	**-2.8**	
	comp=Z,377nm,24.8s							
PPT2				*e*LQ	LQ	06 15 21.2		
	comp=Z,2µm,39.0s							
PPT2				*e*LR	LR	06 19 21.9		
	comp=Z,2µm,26.8s							
PPT2				*e*LR	LR	06 19 21.9		
	comp=Z,3µm,25.5s							
J29N	**Klondike Camp**	**86.33**	**26**	IAmb	IAmb	05 52 47.9		
	comp=Z,79nm,1.4s							
J29N	**Klondike Camp**	**86.33**	**26**	P	**P**	**05 51 59.8**	**+1.0**	
	baz=278							
VNDA	**Vanda**	**86.36**	**173**	P	**P**	**05 51 59.3**	**+0.7**	
VNDA				IAmb	IAmb	05 52 00.7		
	comp=Z,96nm,1.2s							
VNDA	**Vanda**	**86.36**	**173**	P	**P**	**05 51 59.2**	**+0.6**	
	comp=Z,42nm,1.1s,baz=318,slow=5.7,SNR=68							
VNDA				PKKPbc	**PKKPbc**	**06 09 56.9**	**-2.7**	
	comp=Z,2.0nm,0.9s,baz=81,slow=1.4,SNR=7.8							
VNDA				LR	LR	06 31 01.3		
	comp=Z,491nm,19.9s,baz=338,slow=36							
	comp=Z,42nm,1.1s							
VNDA	**Vanda**	**86.36**	**173**	P	**P**	**05 51 59.3**	**+0.7**	
VNDA				pmax	pmax			
	comp=Z,96nm,1.3s							
PNL	**Peninsula**	**86.38**	**30**	P	**P**	**05 52 00.2**	**+1.0**	
PNL	**Peninsula**	**86.38**	**30**	P	**P**	**05 52 00.0**	**+0.8**	
	baz=277,SNR=5.3							
PNL				S	**S**	**06 02 31.8**	**+1.4**	
	baz=277							
MAW	**Mawson**	**86.41**	**200**	P	**P**	**05 51 59.1**	**+0.2**	
	comp=Z,19nm,1.0s,baz=79,slow=4.5,SNR=38							
MAW				LR	LR	06 25 00.3		
	comp=Z,284nm,22.0s,baz=57,slow=32							
	comp=Z,19nm,1.0s							
M29M	**Somme Creek**	**86.48**	**28**	IAMs_20	IAMs_20	06 30 30.8		
	comp=Z,786nm,21.0s							
M29M	**Somme Creek**	**86.48**	**28**	P	**P**	**05 52 00.8**	**+1.1**	
	baz=278,SNR=30							
M29M				S	**S**	**06 02 33.2**	**+1.7**	
	baz=278							
YUK4	**Talbot Arm**	**86.54**	**29**	P	**P**	**05 52 01.1**	**+0.9**	
	baz=278							
L29M	**L29M**	**86.55**	**27**	IAmb	IAmb	05 52 50.0		
	comp=Z,45nm,1.1s							
L29M				IAMs_20	IAMs_20	06 28 02.6		
	comp=Z,919nm,21.0s							
L29M	**L29M**	**86.55**	**27**	P	**P**	**05 52 01.2**	**+1.3**	
	baz=278,SNR=33							
L29M				S	**S**	**06 02 32.3**	**+0.3**	
	baz=278							
EPYK	**Eagle Plains**	**86.67**	**24**	IAmb	IAmb	05 52 02.9		
	comp=Z,31nm,0.9s							
EPYK	**Eagle Plains**	**86.67**	**24**	P	**P**	**05 52 00.5**	**+0.1**	
	baz=279,SNR=19							
EPYK				S	**S**	**06 02 32.6**	**-0.4**	
	baz=279							
O29M	**Mount Kennedy**	**86.71**	**30**	IAMs_20	IAMs_20	06 26 03.3		
	comp=Z,706nm,22.0s							
O29M	**Mount Kennedy**	**86.71**	**30**	P	**P**	**05 52 01.7**	**+0.8**	
	baz=278,SNR=7.2							
O29M				S	**S**	**06 02 35.8**	**+1.9**	
	baz=278							
K29M	**Barlow Dome**	**86.71**	**26**	P	**P**	**05 52 01.6**	**+0.7**	
	baz=278,SNR=22							
K29M				S	**S**	**06 02 34.6**	**+0.9**	
	baz=278							
YUK6	**Outpost Mounta**	**86.73**	**29**	P	**P**	**05 52 02.1**	**+1.0**	
	baz=278							
G30M	**tAoh Zraii Nji**	**86.77**	**23**	IAmb	IAmb	05 52 51.9		
	comp=Z,31nm,1.1s							
G30M	**tAoh Zraii Nji**	**86.77**	**23**	P	**P**	**05 52 00.7**	**-0.3**	
	baz=279,SNR=12							
G30M				S	**S**	**06 02 34.0**	**0.0**	
	baz=279							
F30M	**Barrier River**	**86.83**	**22**	IAmb	IAmb	05 52 06.2		
	comp=Z,33nm,0.9s							
F30M				IAMs_20	IAMs_20	06 29 01.8		
	comp=Z,681nm,22.0s							
F30M	**Barrier River**	**86.83**	**22**	P	**P**	**05 52 01.4**	**+0.3**	
	baz=280,SNR=23							
F30M				S	**S**	**06 02 33.1**	**-1.4**	
	baz=280							
I30M	**Mount Dempster**	**86.99**	**25**	IAMs_20	IAMs_20	06 28 22.2		
	comp=Z,686nm,22.0s							
I30M	**Mount Dempster**	**86.99**	**25**	P	**P**	**05 52 02.2**	**0.0**	
	baz=279,SNR=16							
I30M				S	**S**	**06 02 36.8**	**+0.5**	
	baz=279							
SIM	**Simferopol'**	**87.00**	**315**	*eP*	**P**	**05 52 01.7**	**-0.8**	
SIM				*eS*	**S**	**06 02 35.1**	**-1.9**	
SIM				pmax	pmax			
	comp=Z,271nm,1.0s							
SIM				smax	smax			
	comp=N,75µm,14.3s							
SIM				MLR	MLR			
	comp=Z,537nm,25.4s							
KEV	**Kevo**	**87.06**	**340**	P	**P**	**05 52 02.0**	**-0.2**	
KEV				IAMs_20	IAMs_20	06 36 51.6		
	comp=Z,940nm,22.0s							
KEV	**Kevo**	**87.06**	**340**	P	**P**	**05 52 02.0**	**-0.2**	
KEV				pmax	pmax			
	comp=Z,86nm,1.0s							
J30M	**Hart River**	**87.11**	**25**	P	**P**	**05 52 03.2**	**+0.4**	
	baz=279,SNR=11							
J30M				S	**S**	**06 02 37.7**	**+0.1**	
	baz=279							
HYT	**Haines Junctio**	**87.16**	**29**	IAmb	IAmb	05 52 05.6		
	comp=Z,25nm,0.9s							
HYT	**Haines Junctio**	**87.16**	**29**	P	**P**	**05 52 03.5**	**+0.4**	
	baz=278,SNR=29							
HYT				S	**S**	**06 02 38.3**	**+0.1**	
	baz=278							
TBI	**Tubuai**	**87.20**	**114**	*eP*	**P**	**05 52 00.5**	**-3.3**	
	comp=Z,1µm,29.5s							
TBI	**Tubuai**	**87.20**	**114**	*e*PP	**PP**	**05 55 23.2**	**-5.2**	
	comp=Z,1µm,31.0s							
TBI	**Tubuai**	**87.20**	**114**	*e*LQ	LQ	06 16 05.7		
	comp=Z,5µm,36.8s							
TBI				*e*LR	LR	06 19 40.1		
	comp=Z,10µm,27.8s							
TBI				*e*LR	LR	06 19 47.2		
	comp=Z,3µm,31.8s							
P29M	**Windy Craggy**	**87.22**	**30**	IAmb	IAmb	05 52 06.1		
	comp=Z,31nm,1.1s							
P29M				IAMs_20	IAMs_20	06 26 49.8		
	comp=Z,839nm,21.0s							
P29M	**Windy Craggy**	**87.22**	**30**	P	**P**	**05 52 04.1**	**+0.8**	
	baz=278,SNR=12							
P29M				S	**S**	**06 02 40.9**	**+2.3**	
	baz=278							
M30M	**Minto, Yukon**	**87.23**	**27**	IAMs_20	IAMs_20	06 30 41.5		
	comp=Z,796nm,21.0s							
M30M	**Minto, Yukon**	**87.23**	**27**	P	**P**	**05 52 04.0**	**+0.7**	
	baz=279,SNR=24							
M30M				S	**S**	**06 02 39.8**	**+1.2**	
	baz=279							
SBA	**Scott Base**	**87.26**	**172**	P	**P**	**05 52 04.7**	**+1.7**	
SBA	**Scott Base**	**87.26**	**172**	P	**P**	**05 52 04.7**	**+1.7**	
SBA				pmax	pmax			
	comp=Z,221nm,1.5s							
N30M	**Aishikik Lake**	**87.27**	**29**	IAmb	IAmb	05 52 06.2		
	comp=Z,26nm,0.9s							
N30M	**Aishikik Lake**	**87.27**	**29**	P	**P**	**05 52 04.2**	**+0.8**	
	baz=279,SNR=20							
N30M				S	**S**	**06 02 39.7**	**+0.6**	
	baz=279							
MMAI	**Mount Meron Ar**	**87.31**	**303**	P	**P**	**05 52 04.2**	**-0.1**	
	comp=Z,52nm,0.9s,baz=88,slow=6.3,SNR=35							
MMAI				LR	LR	06 36 22.9		
	comp=Z,336nm,20.1s,baz=81,slow=39							
	comp=Z,52nm,0.9s							
PUL	**Pulkovo**	**87.38**	**330**	*ce*P	**P**	**05 52 04.9**	**+1.0**	
PUL				pmax	pmax			
	comp=Z,277nm,0.6s							
MAYO	**Mayo, Yukon**	**87.47**	**26**	P	**P**	**05 52 04.7**	**+0.4**	
	baz=280							
G31M	**Satah River**	**87.53**	**23**	IAmb	IAmb	05 52 05.4		
	comp=Z,31nm,0.8s							
G31M	**Satah River**	**87.53**	**23**	P	**P**	**05 52 04.0**	**-0.5**	
	baz=281,SNR=24							
G31M				S	**S**	**06 02 40.3**	**-0.8**	
	baz=281							
P30M	**Million Dollar**	**87.54**	**30**	P	**P**	**05 52 05.6**	**+0.8**	
	baz=279							
P30M				S	**S**	**06 02 42.1**	**+0.5**	
	baz=279							
INK	**Inuvik**	**87.54**	**21**	LR	LR	06 32 11.4		
	comp=Z,268nm,22.0s,baz=260,slow=36							
INK	**Inuvik**	**87.54**	**21**	P	**P**	**05 52 04.3**	**-0.2**	
	baz=282,SNR=18							
INK				S	**S**	**06 02 39.7**	**-1.4**	
	baz=282							
SPITS	**Spitsbergen Ar**	**87.56**	**349**	P	**P**	**05 52 03.5**	**-1.0**	
	comp=Z,32nm,0.8s,baz=91,slow=7.7,SNR=32							
	comp=Z,32nm,0.8s							
SPITS	**Spitsbergen Ar**	**87.56**	**349**	P	**P**	**05 52 04.3**	**-0.3**	
SPITS				pmax	pmax			
	comp=Z,124nm,0.9s							
ARCES	**ARCESS Array B**	**87.62**	**340**	P	**P**	**05 52 04.7**	**-0.2**	
ARCES	**ARCESS Array B**	**87.62**	**340**	P	**P**	**05 52 04.5**	**-0.4**	
	comp=Z,207nm,0.9s,baz=71,slow=4.4,SNR=210							
ARCES				PKKPbc	**PKKPbc**	**06 09 53.6**	**-2.2**	
	comp=Z,0.5nm,0.3s,baz=253,slow=3.4,SNR=13							
ARCES				LR	LR	06 33 44.0		
	comp=Z,587nm,21.8s,baz=81,slow=37							
	comp=Z,207nm,0.9s							
ARCES	**ARCESS Array B**	**87.62**	**340**	P	**P**	**05 52 04.7**	**-0.2**	
ARCES				pmax	pmax			
	comp=Z,307nm,1.1s							
F31M	**Tsiigehtchic**	**87.63**	**22**	IAmb	IAmb	05 52 05.8		
	comp=Z,30nm,0.8s							
F31M	**Tsiigehtchic**	**87.63**	**22**	P	**P**	**05 52 04.7**	**-0.3**	
	baz=282,SNR=22							
F31M				S	**S**	**06 02 39.9**	**-2.2**	
	baz=282							
H31M	**Peel River**	**87.72**	**24**	IAmb	IAmb	05 53 08.9		
	comp=Z,34nm,1.2s							
H31M	**Peel River**	**87.72**	**24**	P	**P**	**05 52 05.5**	**-0.1**	
	baz=281,SNR=15							
H31M				S	**S**	**06 02 41.8**	**-1.4**	
	baz=281							
ILGA	**Ilgaz**	**87.74**	**311**	IAmb	IAmb	05 52 08.3		
	comp=Z,57nm,0.8s							
O30N	**Mendenhall**	**87.86**	**29**	P	**P**	**05 52 06.6**	**+0.3**	
	baz=280,SNR=11							
O30N				S	**S**	**06 02 46.0**	**+1.3**	
	baz=280							
N31M	**Braeburn, Yuko**	**87.88**	**28**	IAmb	IAmb	05 52 08.7		
	comp=Z,28nm,0.8s							
N31M				IAMs_20	IAMs_20	06 28 29.1		
	comp=Z,1µm,21.0s							
N31M	**Braeburn, Yuko**	**87.88**	**28**	P	**P**	**05 52 07.0**	**+0.6**	
	baz=280,SNR=22							
N31M				S	**S**	**06 02 46.1**	**+1.3**	
	baz=280							
PLBC	**Pleasant Camp**	**87.94**	**30**	P	**P**	**05 52 07.2**	**+0.5**	
	baz=280							
BR131	**Keskin Array S**	**87.96**	**310**	IAmb	IAmb	05 52 10.5		
	comp=Z,47nm,0.9s							
BR131	**Keskin Array S**	**87.96**	**310**	P	**P**	**05 52 06.5**	**-0.8**	
	SNR=26							
BR131	**Keskin Array S**	**87.96**	**310**	*i* P	**P**	**05 52 07.3**	**-0.1**	
BRTR	**Keskin Array B**	**87.96**	**310**	P	**P**	**05 52 05.8**	**-1.5**	
	comp=Z,36nm,0.9s,baz=123,slow=5.0,SNR=59							
BRTR				PP	**PP**	**05 55 38.8**	**+4.6**	
	comp=Z,5.2nm,1.0s,baz=106,slow=6.6,SNR=4.1							
BRTR				PKKPbc	**PKKPbc**	**06 09 53.4**	**-0.7**	
	comp=Z,1.3nm,0.8s,baz=191,slow=2.5,SNR=5.3							
BRTR				PKPPKP	**P'P'df**	**06 18 04.0**	**+1.7**	
	comp=Z,1.1nm,0.8s,baz=298,slow=2.7,SNR=4.6							
BRTR				LR	LR	06 39 12.8		
	comp=Z,174nm,18.6s,baz=86,slow=41							
	comp=Z,36nm,0.9s							
EIL	**Elat**	**88.06**	**299**	LR	LR	06 37 09.9		
	comp=Z,532nm,18.7s,baz=142,slow=39							
KBS	**Kingsbay**	**88.08**	**350**	IAMs_20	IAMs_20	06 35 27.6		
	comp=Z,924nm,20.0s							
KBS	**Kingsbay**	**88.08**	**350**	*i* P	**P**	**05 52 06.5**	**-0.5**	
S31K	**Pelican**	**88.26**	**32**	IAMs_20	IAMs_20	06 26 16.3		
	comp=Z,663nm,21.0s							
S31K	**Pelican**	**88.26**	**32**	P	**P**	**05 52 08.7**	**+0.5**	
	baz=280							
S31K				S	**S**	**06 02 47.3**	**-1.1**	
	baz=280							
M31M	**Drury Creek, Y**	**88.40**	**28**	IAMs_20	IAMs_20	06 31 36.6		
	comp=Z,976nm,22.0s							
M31M	**Drury Creek, Y**	**88.40**	**28**	P	**P**	**05 52 09.1**	**+0.3**	
	baz=281,SNR=15							
M31M				S	**S**	**06 02 51.5**	**+1.8**	
	baz=281							
R31K	**City Hall, Gus**	**88.44**	**31**	P	**P**	**05 52 09.2**	**+0.2**	
	baz=280							
SKAG	**Skagway**	**88.46**	**30**	P	**P**	**05 52 10.2**	**+1.1**	
SKAG	**Skagway**	**88.46**	**30**	P	**P**	**05 52 10.0**	**+0.9**	
	baz=280,SNR=6.5							
SKAG				S	**S**	**06 02 50.3**	**+0.1**	
	baz=280							
WHY	**Whitehorse**	**88.46**	**29**	IAmb	IAmb	05 52 11.0		
	comp=Z,49nm,0.8s							
WHY	**Whitehorse**	**88.46**	**29**	P	**P**	**05 52 10.0**	**+0.7**	
	baz=281,SNR=27							
WHY				S	**S**	**06 02 52.1**	**+1.6**	
	baz=281							
ANTO	**Ankara**	**88.59**	**310**	P	**P**	**05 52 11.0**	**+0.7**	
ANTO				IAmb	IAmb	05 52 11.7		
	comp=Z,47nm,0.9s							
ANTO	**Ankara**	**88.59**	**310**	P	**P**	**05 52 09.6**	**-0.7**	
ANTO	**Ankara**	**88.59**	**310**	⇓P	**P**	**05 52 10.2**	**-0.1**	
ANTO	**Ankara**	**88.59**	**310**	P	**P**	**05 52 11.0**	**+0.7**	
ANTO				pmax	pmax			
	comp=Z,47nm,0.9s							
KIBK	**Kibwezi**	**88.70**	**268**	P	**P**	**05 52 10.8**	**-0.5**	
BESE	**Bessie Mountai**	**88.87**	**31**	IAMs_20	IAMs_20	06 26 40.3		
	comp=Z,1µm,22.0s							
SIT	**Sitka**	**88.90**	**33**	P	**P**	**05 52 11.3**	**+0.1**	
	baz=280							
R32K	**Eaglecrest**	**89.10**	**31**	IAMs_20	IAMs_20	06 25 46.5		
	comp=Z,1µm,22.0s							
R32K	**Eaglecrest**	**89.10**	**31**	P	**P**	**05 52 12.8**	**+0.7**	
	baz=281,SNR=7.5							
FINES	**FINESS Array B**	**89.14**	**332**	P	**P**	**05 52 11.6**	**-0.6**	
FINES	**FINESS Array B**	**89.14**	**332**	P	**P**	**05 52 10.6**	**-1.6**	
	comp=Z,67nm,0.8s,baz=83,slow=6.0,SNR=126							
FINES				PKKPbc	**PKKPbc**	**06 09 49.6**	**-2.2**	
	comp=Z,2.7nm,1.0s,baz=18,slow=5.0,SNR=3.8							
	comp=Z,67nm,0.8s							
FINES	**FINESS Array B**	**89.14**	**332**	*i* P	**P**	**05 52 11.5**	**-0.7**	
FINES				pmax	pmax			
	comp=Z,67nm,0.8s							
JIS	**Juneau Island**	**89.17**	**31**	P	**P**	**05 52 13.8**	**+1.4**	
N32M	**Quiet Lake**	**89.22**	**28**	P	**P**	**05 52 13.5**	**+0.8**	
	baz=282							
N32M				S	**S**	**06 02 58.3**	**+0.8**	
	baz=282							
P32M	**Atlin**	**89.25**	**30**	IAMs_20	IAMs_20	06 28 55.2		
	comp=Z,1µm,22.0s							
P32M	**Atlin**	**89.25**	**30**	P	**P**	**05 52 13.4**	**+0.5**	
	baz=282							
P32M				S	**S**	**06 02 59.0**	**+1.2**	
	baz=282							
A36M	**Sachs Harbour**	**89.27**	**17**	IAmb	IAmb	05 53 17.8		
	comp=Z,24nm,0.8s							
A36M	**Sachs Harbour**	**89.27**	**17**	P	**P**	**05 52 12.6**	**-0.1**	
	baz=289							
A36M				S	**S**	**06 02 55.6**	**-1.9**	
	baz=289							
KMBO	**Kilima Mbogo**	**89.35**	**269**	P	**P**	**05 52 13.0**	**-1.6**	
	comp=Z,7.8nm,0.9s,baz=82,slow=5.0,SNR=8.1							
KMBO				LR	LR	06 28 31.7		
	comp=Z,416nm,21.9s,baz=94,slow=33							
	comp=Z,7.8nm,0.9s							
VSU	**Vasula**	**89.44**	**329**	*ce*P	**P**	**05 52 12.6**	**-1.1**	
VSU				pmax	pmax			
	comp=Z,309nm,1.0s							
AKASG	**Malin Array Be**	**89.46**	**321**	P	**P**	**05 52 12.7**	**-1.3**	
AKASG	**Malin Array Be**	**89.46**	**321**	P	**P**	**05 52 12.9**	**-1.1**	
	comp=Z,100nm,0.9s,baz=68,slow=4.2,SNR=161							
AKASG				LR	LR	06 37 23.9		
	comp=Z,390nm,19.1s,baz=78,slow=39							
	comp=Z,100nm,0.9s							
AKASG	**Malin Array Be**	**89.46**	**321**	*i* P	**P**	**05 52 12.8**	**-1.2**	
AKASG				pmax	pmax			
	comp=Z,107nm,0.9s							
AKBB	**Malin Array Si**	**89.46**	**321**	*ce*P	**P**	**05 52 12.9**	**-1.1**	
AKBB				pmax	pmax			
	comp=Z,211nm,1.1s							
KIEV	**Kiev**	**89.47**	**321**	P	**P**	**05 52 12.8**	**-1.3**	
KIEV	**Kiev**	**89.47**	**321**	IAMs_20	IAMs_20	06 37 52.8		
	comp=Z,798nm,19.0s							
KIEV	**Kiev**	**89.47**	**321**	*i* P	**P**	**05 52 12.8**	**-1.3**	
	SNR=19							
KIEV	**Kiev**	**89.47**	**321**	P	**P**	**05 52 12.8**	**-1.3**	
KIEV				pmax	pmax			
	comp=Z,196nm,1.1s							
P33M	**Teslin, Yukon**	**89.56**	**29**	IAMs_20	IAMs_20	06 29 25.4		
	comp=Z,824nm,20.0s							
P33M	**Teslin, Yukon**	**89.56**	**29**	P	**P**	**05 52 14.6**	**+0.2**	
	baz=283,SNR=6.9							
P33M				S	**S**	**06 03 01.6**	**+0.9**	
	baz=283							
MNK	**Minsk**	**89.59**	**325**	*i* P	**P**	**05 52 14.4**	**-0.1**	
MNK				*i* *PP	**pP**	**05 52 30.7**	**+0.3**	
MNK				*i*		05 55 47.2		
MNK				*i* PPP	PPP	05 57 45.2		
MNK				*i* S	**SKSac**	**06 02 39.1**	**-1.0**	
MNK				pmax	pmax			
	comp=Z,184nm,0.9s							
MNK				pmax	pmax			
	comp=N,121nm,1.0s							
MNK				pmax	pmax			
	comp=E,36nm,0.9s							
MNK				MLR	MLR			
	comp=E,953nm,23.0s							
MNK				MLR	MLR			
	comp=Z,2µm,23.0s							
MNK				MLR	MLR			
	comp=N,1µm,23.0s							
MMPY	**Sheldon Lake,**	**89.73**	**27**	P	**P**	**05 52 15.5**	**+0.4**	
	baz=284,SNR=24							
MMPY				S	**S**	**06 03 02.2**	**-0.1**	
	baz=284							
PURM	**Purcari**	**89.73**	**317**	⇑P	**P**	**05 52 16.4**	**+1.0**	
Q32M	**Nakina River**	**90.11**	**31**	IAMs_20	IAMs_20	06 29 55.0		
	comp=Z,831nm,22.0s							
Q32M	**Nakina River**	**90.11**	**31**	P	**P**	**05 52 17.7**	**+0.6**	
	baz=283							
Q32M				S	**S**	**06 03 07.2**	**+1.0**	
	baz=283							
NACGM	**Naroch**	**90.14**	**325**	*e*P	**P**	**05 52 16.5**	**-0.5**	
	comp=Z,90nm,0.9s,baz=78							
NOR	**Nord**	**90.16**	**355**	*i* P	**P**	**05 52 16.1**	**-0.6**	
NOR				IAmb	IAmb	05 52 20.4		
	comp=Z,27nm,1.1s							
T33K	**Petersburg**	**90.22**	**33**	P	**P**	**05 52 17.5**	**+0.1**	
	baz=282							
U33K	**Whale Pass**	**90.28**	**33**	P	**P**	**05 52 17.5**	**-0.1**	
	baz=282							
U33K				S	**S**	**06 03 05.6**	**-1.7**	
	baz=282							
KIS	**Kishinev**	**90.37**	**317**	*e*P	**P**	**05 52 18.0**	**-0.3**	
	comp=Z,90nm,1.1s							
KIS				LRM	MLR	06 33 38.0		
	comp=Z,240nm,18.0s							
KIS	**Kishinev**	**90.37**	**317**	*e*P	**P**	**05 52 18.0**	**-0.3**	
KIS				pmax	pmax			
	comp=Z,90nm,1.1s							
KIS				MLR	MLR			
	comp=Z,240nm,18.0s							
MILM	**Milestii Mici**	**90.39**	**317**	*e*P	**P**

R33M	**Jennings River**	**90.65**	**30**	P		**P**	**05 52 20.2**	**+0.6**		
	baz=284,SNR=8.4									
R33M				S		**S**	**06 03 12.7**	**+1.6**		
	baz=284									
TLCR		**90.69**	**315**	⇑P		**P**	**05 52 20.3**	**+0.5**		
TLCR		**90.69**	**315**	P		**P**	**05 52 20.3**	**+0.5**		
LODK	**Lodwar**	**90.71**	**274**	P		**P**	**05 52 19.4**	**-1.3**		
LODK				IAmb		IAmb	05 52 27.2			
	comp=Z,29nm,1.5s									
LODK	**Lodwar**	**90.71**	**274**	P		**P**	**05 52 20.3**	**-0.4**		
JURR	**Jurilovca**	**90.72**	**315**	⇑P		**P**	**05 52 20.9**	**+0.9**		
S34M	**Telegraph Cree**	**90.93**	**31**	IAMs_20		IAMs_20	06 26 15.0			
	comp=Z,987nm,22.0s									
S34M	**Telegraph Cree**	**90.93**	**31**	P		**P**	**05 52 21.6**	**+0.9**		
	baz=284,SNR=5.7									
S34M				S		**S**	**06 03 15.7**	**+2.4**		
	baz=284									
TPGR	**Topolog**	**91.02**	**315**	⇑P		**P**	**05 52 22.7**	**+1.2**		
MANR	**Mangalia**	**91.09**	**314**	⇑P		**P**	**05 52 22.6**	**+0.9**		
TIRR	**Tirgusor**	**91.10**	**315**	IAMs_20		IAMs_20	06 36 59.4			
	comp=Z,711nm,21.0s									
TIRR	**Tirgusor**	**91.10**	**315**	⇑P		**P**	**05 52 22.7**	**+1.0**		
TIRR	**Tirgusor**	**91.10**	**315**	P		**P**	**05 52 22.7**	**+1.0**		
VASR	**Vaslui**	**91.13**	**317**	⇑P		**P**	**05 52 22.9**	**+1.0**		
MFTR	**Murfatlar**	**91.14**	**315**	⇓P		**P**	**05 52 23.1**	**+1.1**		
CFR	**Carcaliu**	**91.16**	**316**	⇑P		**P**	**05 52 23.0**	**+1.0**		
CFR	**Carcaliu**	**91.16**	**316**	P		**P**	**05 52 23.0**	**+1.0**		
SCTR	**Scanteiesti**	**91.17**	**316**	⇑P		**P**	**05 52 23.7**	**+1.6**		
NEGRR	**Negrea**	**91.28**	**316**	⇓P		**P**	**05 52 24.1**	**+1.5**		
V35K	**Ketchikan**	**91.29**	**34**	P		**P**	**05 52 22.6**	**+0.2**		
	baz=284									
V35K				S		**S**	**06 03 18.0**	**+1.4**		
	baz=284									
IZVR	**Izvoarele**	**91.35**	**316**	⇓P		**P**	**05 52 24.5**	**+1.6**		
DLBC	**Dease Lake**	**91.37**	**31**	LR		LR	06 28 52.4			
	comp=Z,4μm,21.7s,baz=267,slow=32									
DLBC	**Dease Lake**	**91.37**	**31**	P		**P**	**05 52 23.4**	**+0.6**		
	baz=285,SNR=8.6									
DLBC				S		**S**	**06 03 20.4**	**+2.9**		
	baz=285									
TGTN	**Hyland Airport**	**91.38**	**28**	P		**P**	**05 52 23.4**	**+0.6**		
	baz=287,SNR=17									
HARR	**Harsova**	**91.40**	**315**	⇑P		**P**	**05 52 24.3**	**+1.2**		
HARR	**Harsova**	**91.40**	**315**	P		**P**	**05 52 24.3**	**+1.2**		
TUDR		**91.41**	**316**	⇓P		**P**	**05 52 24.2**	**+1.1**		
WTLY	**Watson Lake, Y**	**91.53**	**29**	P		**P**	**05 52 24.4**	**+0.9**		
	baz=286									
PABE	**Paberze**	**91.57**	**326**	IAMs_20		IAMs_20	06 37 05.4			
	comp=Z,744nm,20.0s									
COSR	**Cosmesti PH**	**91.60**	**316**	⇑P		**P**	**05 52 25.1**	**+1.1**		
T35M	**Bob Quinn**	**91.63**	**32**	IAMs_20		IAMs_20	06 26 55.0			
	comp=Z,782nm,22.0s									
T35M	**Bob Quinn**	**91.63**	**32**	P		**P**	**05 52 24.5**	**+0.5**		
	baz=285									
PANC	**Panciu**	**91.71**	**316**	⇑P		**P**	**05 52 26.3**	**+1.7**		
ODBI	**Odobesti**	**91.80**	**316**	⇑P		**P**	**05 52 26.5**	**+1.6**		
TESR	**Tescani**	**91.92**	**317**	⇑P		**P**	**05 52 26.6**	**+1.0**		
GRER		**91.93**	**316**	⇓P		**P**	**05 52 27.6**	**+2.0**		
VRI	**Vrincioaia**	**92.00**	**316**	⇑P		**P**	**05 52 26.6**	**+0.6**		
VRI	**Vrincioaia**	**92.00**	**316**	P		**P**	**05 52 26.6**	**+0.6**		
PLOR	**Plostina**	**92.06**	**316**	⇑P		**P**	**05 52 26.8**	**+0.5**		
PLOR	**Plostina**	**92.06**	**316**	P		**P**	**05 52 26.7**	**+0.5**		
BISRR	**Bisoca**	**92.08**	**316**	⇑P		**P**	**05 52 26.6**	**+0.2**		
ONER	**Baraj Valea Uz**	**92.13**	**317**	⇓P		**P**	**05 52 27.5**	**+0.9**		
PHSR	**Pinarhisar**	**92.26**	**312**	⇑P		**P**	**05 52 27.9**	**+0.7**		
ISR	**Istrita**	**92.28**	**316**	⇓P		**P**	**05 52 28.9**	**+1.5**		
ISR	**Istrita**	**92.28**	**316**	P		**P**	**05 52 28.8**	**+1.5**		
COVR	**Voineasa-Covas**	**92.36**	**316**	⇑P		**P**	**05 52 28.4**	**+0.7**		
SUW	**Suwalki**	**92.39**	**325**	*eP*		**P**	**05 52 26.3**	**-1.2**		
NEHR	**Nehoiu**	**92.39**	**316**	⇑P		**P**	**05 52 28.5**	**+0.7**		
TUR	**Turia**	**92.45**	**317**	⇑P		**P**	**05 52 28.7**	**+0.6**		
SULR		**92.57**	**315**	⇓P		**P**	**05 52 28.9**	**+0.3**		
OZUR		**92.60**	**317**	⇓P		**P**	**05 52 30.0**	**+1.2**		
LOZB	**Loznitsa**	**92.60**	**314**	⇓P		**P**	**05 52 29.5**	**+0.7**		
MLR	**Muntele Rosu**	**92.62**	**316**	IAMs_20		IAMs_20	06 41 04.5			
	comp=Z,987nm,20.0s									
MLR	**Muntele Rosu**	**92.62**	**316**	LR		LR	06 41 07.3			
	comp=Z,641nm,18.4s,baz=60,slow=40									
MLR	**Muntele Rosu**	**92.62**	**316**	⇑P		**P**	**05 52 30.0**	**+1.0**		
MLR	**Muntele Rosu**	**92.62**	**316**	P		**P**	**05 52 30.0**	**+1.0**		
RAZG	**Razgrad**	**92.62**	**314**	⇑P		**P**	**05 52 29.7**	**+0.8**		
BURAR	**Bucovina Array**	**92.65**	**318**	P		**P**	**05 52 28.7**	**-0.4**		
BURAR	**Bucovina Array**	**92.65**	**318**	⇓P		**P**	**05 52 30.1**	**+1.1**		
BURAR	**Bucovina Array**	**92.65**	**318**	P		**P**	**05 52 30.1**	**+1.1**		
DOPR	**Dopca**	**92.89**	**317**	⇑P		**P**	**05 52 30.8**	**+0.7**		
WRGLY	**Wrigley**	**92.95**	**25**	IAmb		IAmb	05 52 45.0			
	comp=Z,34nm,1.3s									
WRGLY	**Wrigley**	**92.95**	**25**	P		**P**	**05 52 30.0**	**+0.1**		
	baz=291									
LIRD	**Liard River Hi**	**93.04**	**29**	P		**P**	**05 52 30.9**	**+0.4**		
	baz=288,SNR=11									
ELND	**Elena**	**93.20**	**314**	⇑P		**P**	**05 52 32.0**	**+0.5**		
MTUR	**Matau**	**93.28**	**316**	⇓P		**P**	**05 52 32.6**	**+0.6**		
MTUR	**Matau**	**93.28**	**316**	P		**P**	**05 52 32.6**	**+0.6**		
COPA	**Copaceanca**	**93.41**	**315**	⇓P		**P**	**05 52 33.2**	**+0.7**		
HUMR	**Humele**	**93.49**	**315**	⇑P		**P**	**05 52 33.0**	**+0.2**		
ALN	**Alexandroupoli**	**93.50**	**312**	IAmb		IAmb	05 52 34.3			
	comp=Z,56nm,1.1s									
ARR	**Arges**	**93.54**	**316**	⇓P		**P**	**05 52 32.9**	**-0.2**		
TOAD	**Toad River Com**	**93.64**	**30**	P		**P**	**05 52 33.1**	**-0.2**		
	baz=289,SNR=23									
TNR	**Turnu Rosu**	**93.73**	**317**	⇑P		**P**	**05 52 35.5**	**+1.5**		
TNR	**Turnu Rosu**	**93.73**	**317**	P		**P**	**05 52 35.4**	**+1.5**		
KOTAN	**Kotaneelee Air**	**93.78**	**28**	P		**P**	**05 52 34.2**	**+0.4**		
	baz=290,SNR=8.5									
KWP	**Kalwaria Pacla**	**93.78**	**321**	*eP*		**P**	**05 52 31.3**	**-2.8**		
RDO	**Rodhopi**	**93.82**	**312**	IAmb		IAmb	05 52 35.1			
	comp=Z,50nm,1.0s									
CJR	**Cluj-Napoca**	**93.93**	**318**	⇓P		**P**	**05 52 36.4**	**+1.5**		
CJR	**Cluj-Napoca**	**93.93**	**318**	P		**P**	**05 52 36.4**	**+1.5**		
CBBR	**Cluj-Babes-Bol**	**93.95**	**318**	⇑P		**P**	**05 52 36.4**	**+1.5**		
PLVB	**Pleven**	**94.00**	**314**	⇓P		**P**	**05 52 35.7**	**+0.5**		
VLAD	**Vladila**	**94.01**	**315**	⇓P		**P**	**05 52 36.4**	**+1.1**		
R9F13	**Warsaw-Wawer**	**94.05**	**324**	*eP*		**P**	**05 52 36.3**	**+1.1**		
BBB	**Bella Bella**	**94.11**	**37**	LR		LR	06 31 13.7			
	comp=Z,237nm,20.7s,baz=280,slow=33									
LOT	**Lotru**	**94.12**	**316**	⇓P		**P**	**05 52 37.2**	**+1.3**		
KOLS	**Kolonicke sedl**	**94.24**	**320**	*eP*		**P**	**05 52 37.2**	**+1.0**		
KOLS				pmax		pmax				
	comp=Z,39nm,0.9s									
MARR	**Marisel-Cluj**	**94.26**	**318**	⇑P		**P**	**05 52 37.1**	**+0.6**		
DAG	**Danmarks Havn**	**94.33**	**352**	*i* P		**P**	**05 52 35.3**	**-0.7**		
DAG				IAmb		IAmb	05 52 38.4			
	comp=Z,80nm,1.1s									
TAOE	**Nuku Hiva Isla**	**94.33**	**98**	*e*S		**S**	**06 03 44.3**	**-1.1**		
	comp=Z,979nm,29.9s									
TAOE	**Nuku Hiva Isla**	**94.33**	**98**	*e*LR		LR	06 23 08.8			
	comp=Z,3μm,23.4s									
BEL	**Belsk**	**94.37**	**323**	*eP*		**P**	**05 52 36.7**	**+0.1**		
DRGR		**94.50**	**318**	⇑P		**P**	**05 52 38.6**	**+1.1**		
DRGR		**94.50**	**318**	P		**P**	**05 52 38.6**	**+1.1**		
DEV	**Deva**	**94.60**	**317**	⇓P		**P**	**05 52 39.3**	**+1.3**		
DEV	**Deva**	**94.60**	**317**	P		**P**	**05 52 39.2**	**+1.3**		
SRE	**Strehaia**	**94.69**	**316**	⇑P		**P**	**05 52 39.8**	**+1.4**		
SRE	**Strehaia**	**94.69**	**316**	P		**P**	**05 52 39.7**	**+1.4**		
STHS	**Stebnicka Huta**	**94.76**	**321**	*eP*		**P**	**05 52 38.9**	**+0.3**		
STHS				pmax		pmax				
	comp=Z,44nm,1.1s									
GZR	**Gura Zlata**	**94.81**	**317**	⇑P		**P**	**05 52 39.8**	**+0.8**		
GZR	**Gura Zlata**	**94.81**	**317**	P		**P**	**05 52 39.7**	**+0.8**		
PUNG	**Punghina**	**94.98**	**315**	⇓P		**P**	**05 52 40.9**	**+1.2**		
SYO	**Syowa Base**	**95.06**	**201**	⇓*i*P		**P**	**05 52 39.6**	**+0.2**		
SYO	**Syowa Base**	**95.06**	**201**	⇓*e*PcP		**PcP**	**05 52 41.8**	**+2.2**		
SYO	**Syowa Base**	**95.06**	**201**	⇓*e*pP		pP	05 52 58.0	+2.6		
SURR	**Surduc**	**95.16**	**317**	⇑P		**P**	**05 52 40.7**	**+0.2**		
DJES	**Djerdap**	**95.17**	**316**	⇑P		**P**	**05 52 41.0**	**+0.5**		
HERR	**Herculane**	**95.19**	**316**	⇑P		**P**	**05 52 41.5**	**+0.9**		
HFS	**Hagfors**	**95.31**	**332**	P		**P**	**05 52 39.5**	**-1.4**		
	comp=Z,98nm,1.0s,baz=58,slow=3.7,SNR=85									
HFS				PKKPbc		**PKKPdf**	**06 09 33.4**	**-2.0**		
	comp=Z,3.8nm,1.0s,baz=0.0,slow=1.6,SNR=4.1									
HFS				LR		LR	06 39 00.9			
	comp=Z,1μm,19.9s,baz=68,slow=38									
	comp=Z,98nm,1.0s									
SIRR	**Siria**	**95.34**	**318**	⇑P		**P**	**05 52 41.7**	**+0.4**		
NIE	**Niedzica**	**95.35**	**321**	*eP*		**P**	**05 52 41.7**	**+0.4**		
OJC	**Ojcow**	**95.43**	**322**	*eP*		**P**	**05 52 41.5**	**-0.1**		
KECS	**Kecovo**	**95.50**	**320**	*eP*		**P**	**05 52 43.3**	**+1.3**		
KECS				pmax		pmax				
	comp=Z,80nm,0.9s									
BZS	**Buzias**	**95.54**	**317**	⇑P		**P**	**05 52 42.9**	**+0.6**		
BZS	**Buzias**	**95.54**	**317**	P		**P**	**05 52 42.8**	**+0.6**		
IDI	**Anoyia**	**95.55**	**306**	P		**P**	**05 52 42.2**	**-0.4**		
MDVR	**Moldovita**	**95.69**	**316**	⇑P		**P**	**05 52 43.3**	**+0.3**		
MBAR	**Mbarara**	**95.76**	**270**	IAMs_20		IAMs_20	06 31 44.9			
	comp=Z,622nm,21.0s									
LANS	**Liptovska Anna**	**95.95**	**321**	*e*P		**P**	**05 52 45.9**	**+1.8**		
LANS				pmax		pmax				
	comp=Z,17nm,1.0s									
VAY	**Valandovo**	**95.96**	**313**	⇑*i*P		**P**	**05 52 44.0**	**-0.2**		
BOVS	**Bovan**	**96.00**	**315**	⇓P		**P**	**05 52 44.6**	**+0.3**		
NEEM	**North Greenlan**	**96.00**	**359**	*i* P		**P**	**05 52 44.0**	**-0.1**		
NEEM				IAmb		IAmb	05 52 45.8			
	comp=Z,24nm,0.9s									
PSZ	**Piszkesteto**	**96.04**	**320**	⇑P		**P**	**05 52 45.2**	**+0.6**		
PSZ	**Piszkesteto**	**96.04**	**320**	P		**P**	**05 52 45.1**	**+0.6**		
NB2	**NORSAR Subarra**	**96.06**	**334**	P		**P**	**05 52 42.9**	**-1.4**		
	comp=Z,81nm,1.1s,baz=63,slow=4.4									
NB2	**NORSAR Subarra**	**96.06**	**334**	P		**P**	**05 52 42.9**	**-1.4**		
	comp=Z,81nm,1.1s,baz=63,slow=4.4									
NB2				PKKP		**PKKPbc**	**06 09 32.3**	**-1.7**		
	comp=Z,1.4nm,0.8s,baz=236,slow=2.4									
NOA	**NORSAR Array B**	**96.06**	**334**	P		**P**	**05 52 43.1**	**-1.2**		
	comp=Z,48nm,0.9s,baz=64,slow=4.6,SNR=93									
NOA				PP		**PP**	**05 56 39.1**	**+2.0**		
	comp=Z,3.6nm,1.0s,baz=64,slow=7.5,SNR=3.7									
NOA				PKKPbc		**PKKPbc**	**06 09 32.3**	**-1.7**		
	comp=Z,1.1nm,0.6s,baz=70,slow=3.0,SNR=5.7									
	comp=Z,48nm,0.9s									
QSPA	**South Pole Qui**	**96.56**	**180**	P		**P**	**05 52 46.2**	**-0.2**		
	comp=Z,36nm,1.1s,baz=325,slow=2.0,SNR=39									
QSPA				PKKPbc		**PKKPbc**	**06 09 31.1**	**-2.7**		
	comp=Z,4.5nm,1.0s,baz=208,slow=2.0,SNR=5.4									
QSPA				LR		LR	06 37 30.3			
	comp=Z,383nm,20.4s,baz=347,slow=36									
	comp=Z,36nm,1.1s									
OKC	**Ostrava-Krasne**	**96.56**	**322**	*i* P		**P**	**05 52 48.2**	**+1.4**		
OKC				MLR		MLR				
	comp=Z,600nm,19.0s									
OKC	**Ostrava-Krasne**	**96.56**	**322**	*e*PDIFF		**P**	**05 52 48.2**	**+1.4**		
OKC				AMS		AMS	06 39 30.0			
	comp=Z,600nm,19.0s									
SKO	**Skopje**	**96.62**	**314**	⇑*i*P		**P**	**05 52 47.3**	**+0.1**		
BSD	**Bornholm Skovb**	**96.62**	**327**	*i* P		**P**	**05 52 46.6**	**-0.2**		
BSD				IAmb		IAmb	05 52 47.5			
	comp=Z,49nm,0.9s									
DEL	**Delary**	**96.65**	**329**	*i* P		**P**	**05 52 46.4**	**-0.6**		
BORU	**Boraas**	**96.75**	**330**	*i* P		**P**	**05 52 46.5**	**-0.9**		
STEB	**Steborice**	**96.76**	**322**	*e*PDIFF		**P**	**05 52 48.1**	**+0.4**		
YKAW3	**Yellowknife Wh**	**96.91**	**24**	IAmb		IAmb	05 52 49.2			
	comp=Z,15nm,0.8s									
MAUC	**Maruska**	**96.91**	**321**	*e*PDIFF		**P**	**05 52 50.3**	**+1.9**		
STRU	**Stroemstad**	**96.93**	**332**	*i* P		**P**	**05 52 47.3**	**-0.9**		
YKA	**Yellowknife Ar**	**96.94**	**24**	P		**P**	**05 52 47.2**	**-1.0**		
YKA	**Yellowknife Ar**	**96.94**	**24**	P		**P**	**05 52 48.1**	**-0.1**		
	comp=Z,11nm,0.8s,baz=307,slow=5.1,SNR=38									
YKA				PKKPbc		**PKKPbc**	**06 09 28.1**	**-3.5**		
	comp=Z,5.9nm,1.1s,baz=102,slow=2.6,SNR=9.3									
YKA				LR		LR	06 43 05.6			
	comp=Z,128nm,18.8s,baz=288,slow=39									
	comp=Z,11nm,0.8s									
YKA	**Yellowknife Ar**	**96.94**	**24**	*i* P		**P**	**05 52 48.0**	**-0.1**		
YKA				pmax		pmax				
	comp=Z,12nm,0.8s									
MORC	**Moravsky Berou**	**96.95**	**322**	*e*P		**P**	**05 52 48.5**	**-0.1**		
MORC	**Moravsky Berou**	**96.95**	**322**	⇓P		**P**	**05 52 49.3**	**+0.6**		
MORC	**Moravsky Berou**	**96.95**	**322**	P		**P**	**05 52 49.2**	**+0.6**		
FNA	**Florina**	**96.97**	**312**	IAmb		IAmb	05 52 48.6			
	comp=Z,29nm,0.9s									
YKAW1	**Yellowknife Wh**	**97.00**	**24**	IAmb		IAmb	05 52 49.6			
	comp=Z,14nm,0.9s									
FABU	**Falkenberg**	**97.03**	**330**	*i* P		**P**	**05 52 48.0**	**-0.7**		
SRO	**Srobarova**	**97.09**	**320**	*e*P		Pdif	05 52 50.0	+0.7		
SRO				pmax		pmax				
	comp=Z,30nm,0.7s									
TJOU	**Tjoern**	**97.14**	**331**	*i* P		**P**	**05 52 48.2**	**-1.0**		
JAVC	**Velka Javorina**	**97.17**	**321**	*e*P		Pdif	05 52 50.2	+0.5		
LUNU	**Lund**	**97.20**	**328**	*i* P		**P**	**05 52 49.0**	**-0.5**		
ONAU	**Onsala**	**97.27**	**330**	*i* P		**P**	**05 52 48.6**	**-1.1**		
OHR	**Ohrid**	**97.31**	**313**	⇑*i*P		**P**	**05 52 50.3**	**-0.1**		
KRLC	**Kraliky**	**97.32**	**322**	*i* P		Pdif	05 52 51.7	+1.4		
KRLC				MLR		MLR				
	comp=Z,800nm,26.0s									
KRLC	**Kraliky**	**97.32**	**322**	*e*PDIFF		Pdif	05 52 51.7	+1.4		
KRLC				AMS		AMS	06 38 50.0			
	comp=Z,800nm,26.0s									
KSP	**Ksiaz**	**97.36**	**323**	*e*P		Pdif	05 52 50.5	+0.1		
MORH	**Mrgy, Hungar**	**97.36**	**318**	⇑P		Pdif	05 52 50.8	+0.3		
KONO	**Kongsberg**	**97.39**	**333**	P		**P**	**05 52 49.9**	**-0.4**		
KONO				IAmb		IAmb	05 52 50.7			
	comp=Z,42nm,1.1s									
KONO	**Kongsberg**	**97.39**	**333**	*ce*P		Pdif	05 52 50.4	+0.1		
KONO				pmax		pmax				
	comp=Z,25nm,0.8s									
SMOL	**Smolenice**	**97.43**	**321**	*e*P		Pdif	05 52 51.8	+1.0		
SMOL				pmax		pmax				
	comp=Z,11nm,1.6s									
OSTC	**Ostas**	**97.50**	**323**	*i* P		Pdif	05 52 52.2	+1.1		
OSTC				MLR		MLR				
	comp=Z,900nm,21.7s									
OSTC	**Ostas**	**97.50**	**323**	*e*PDIFF		Pdif	05 52 52.2	+1.1		
OSTC				AMS		AMS	06 40 00.0			
	comp=Z,900nm,21.7s									
DPC	**Dobruska-Polom**	**97.50**	**323**	*i* P		Pdif	05 52 51.8	+0.7		
DPC				*e*			06 03 18.6			
DPC				MLR		MLR				
	comp=Z,900nm,22.7s									
DPC	**Dobruska-Polom**	**97.50**	**323**	*e*PDIFF		Pdif	05 52 51.8	+0.7		
DPC				*e*SKS		**SKSac**	**06 03 18.6**	**-5.2**		
DPC				AMS		AMS	06 38 50.0			
	comp=Z,900nm,22.7s									
CHVC	**Chvalec**	**97.58**	**323**	*i* P		Pdif	05 52 52.2	+0.7		
CHVC	**Chvalec**	**97.58**	**323**	*e*PDIFF		Pdif	05 52 52.2	+0.7		
UPC	**Upice**	**97.64**	**323**	*e*SKS		**SKSac**	**06 03 21.6**	**-2.8**		
UPC				AMS		AMS	06 40 00.0			
	comp=Z,1μm,22.7s									
VRAC	**Vranov**	**97.69**	**322**	LR		LR	06 40 42.3			
	comp=Z,339nm,18.3s,baz=70,slow=38									
VRAC	**Vranov**	**97.69**	**322**	*e*P		Pdif	05 52 52.5	+0.6		
VRAC	**Vranov**	**97.69**	**322**	⇑P		Pdif	05 52 53.0	+1.1		
ZST	**Bratislava**	**97.74**	**320**	*e*P		Pdif	05 52 53.1	+0.9		
ZST				pmax		pmax				
	comp=Z,4.0nm,0.7s									
KRUC	**Moravsky**	**97.90**	**321**	*e*P		**P**	**05 52 52.8**	**0.0**		
NLWA	**Neilton Lookou**	**98.19**	**40**	IAmb		IAmb	05 53 07.6			
	comp=Z,39nm,1.7s									
NLWA				IAMs_20		IAMs_20	06 27 26.7			
	comp=Z,810nm,21.0s									
TREC	**Trest**	**98.38**	**322**	*i* P		Pdif	05 52 56.2	+1.2		
TREC	**Trest**	**98.38**	**322**	*e*PDIFF		Pdif	05 52 56.2	+1.2		
RONA	**Rosalia, Austr**	**98.42**	**320**	*i* Pdiff		Pdif	05 52 55.6	+0.3		
	comp=Z,20nm,1.1s,SNR=8.3									
PVCC	**Panska Ves**	**98.49**	**323**	*i* P		Pdif	05 52 57.0	+1.5		
PVCC				MLR		MLR				
	comp=Z,900nm,19.5s									
PVCC	**Panska Ves**	**98.49**	**323**	*e*PDIFF		Pdif	05 52 57.0	+1.5		
PVCC				AMS		AMS	06 39 00.0			
	comp=Z,900nm,19.5s									
HOMB	**Homborsund**	**98.52**	**332**	*i* P		Pdif	05 52 55.4	0.0		
CONA	**Conrad Observa**	**98.61**	**320**	*i* Pdiff		Pdif	05 52 57.0	+0.8		
	comp=Z,23nm,1.4s,SNR=9.4									
PRU	**Pruhonice**	**98.70**	**323**	*i* P		Pdif	05 52 57.9	+1.5		
PRU				MLR		MLR				
	comp=Z,1μm,22.5s									
PRU	**Pruhonice**	**98.70**	**323**	*e*PDIFF		Pdif	05 52 57.9	+1.5		
PRU				AMS		AMS	06 40 40.0			
	comp=Z,1μm,22.5s									
BRG	**Berggiesshubel**	**98.74**	**324**	*i* P		Pdif	05 52 58.7	+2.2		
BRG				Amp			05 53 01.1			
	comp=Z,68nm,1.1s									
BRG	**Berggiesshubel**	**98.74**	**324**	P		Pdif	05 53 04.0	+7.5		
BRG				Amp			05 53 06.7			
	comp=Z,16nm,0.9s									
BRG	**Berggiesshubel**	**98.74**	**324**	S		S	06 04 31.0	+9.3		
BRG	**Berggiesshubel**	**98.74**	**324**	sS		sS	06 04 57.0	+7.4		
BRG	**Berggiesshubel**	**98.74**	**324**	SS		SS	06 11 13.0	+4.9		
PRA	**Prague**	**98.74**	**323**	AMS		AMS	06 40 30.0			
	comp=Z,1μm,23.6s									
ARSA	**Arzberg**	**99.06**	**320**	IAmb		IAmb	05 52 59.8			
	comp=Z,22nm,1.1s									
ARSA	**Arzberg**	**99.06**	**320**	*i* Pdiff		**Pdif**	**05 52 59.1**	**+1.0**		
	comp=Z,22nm,1.2s,SNR=8.9									
SNART	**Snartemo**	**99.10**	**332**	*i* P		**Pdif**	**05 52 57.2**	**-0.8**		
CLL	**Collm**	**99.12**	**324**	IAmb		IAmb	05 52 59.8			
	comp=Z,49nm,1.2s									
CLL	**Collm**	**99.12**	**324**	*i* P		**Pdif**	**05 52 57.9**	**-0.3**		
CLL				*e*			06 03 25.0			
CLL				MLR		MLR				
	comp=Z,1μm,21.2s									
CLL	**Collm**	**99.12**	**324**	*i* Pdif		**Pdif**	**05 52 57.9**	**-0.3**		
CLL				*e*Pmax			05 52 59.0			
CLL				*ex*	x		05 55 39.0			
CLL				*ex*	x		05 56 25.0			
CLL				*e*PP		**PP**	**05 56 59.0**	**-1.8**		
CLL				*es*PP			05 57 20.0			
CLL				*e*SKSac		**SKSac**	**06 03 29.0**	**-2.8**		
CLL				*e*SKKSac		**SKKSac**	**06 04 04.0**	**+0.9**		
CLL				*e*Sdif		**ScS**	**06 04 18.0**	**-6.9**		
CLL				*ep*SKKSac			06 04 24.0			
CLL				*es*Sdif		**pS**	**06 04 49.0**	**+2.8**		
CLL				*e*Sdif		Sdif	06 04 52.0	+27		
CLL				*e*SP		**SP**	**06 05 48.0**	**-2.6**		
CLL				*ep*PS			06 06 12.0			
CLL				*ep*PPS			06 06 52.0			
CLL				*e*SS		**SS**	**06 11 18.0**	**+4.6**		
CLL				*ex*	x		06 17 06.0			
CLL				LmV			06 43 00.0			
	comp=Z,1μm,21.2s									
SSRD	**Sdr. Stenderup**	**99.23**	**329**	*i* P		**Pdif**	**05 52 57.3**	**-1.3**		
SSRD				IAmb		IAmb	05 52 59.2			
	comp=Z,143nm,0.9s									
GCIS	**Gornji Cirnik**	**99.46**	**319**	*e*Pdiff		**Pdif**	**05 53 00.5**	**+0.6**		
DOBS	**Dobrina**	**99.47**	**319**	*i* Pdiff		**Pdif**	**05 53 00.4**	**+0.5**		
COR	**Corvallis**	**99.48**	**43**	IAMs_20		IAMs_20	06 27 58.1			
	comp=Z,961nm,22.0s									
SOKA	**Soboth**	**99.57**	**319**	*i* Pdiff		**Pdif**	**05 53 01.3**	**+0.8**		

comp=Z,843nm,22.0s
DLMT Dillon 106.15 39 IAMs_20 IAMs_20 06 31 35.3
comp=Z,545nm,21.0s
TROLL Troll, Antarti 106.38 196 ⇓P **PKiKP 05 57 42.2 +1.1**
comp=Z,447nm,0.8s
TROLL ⇑x x 06 09 01.9
comp=Z,102nm,0.8s
XAUDM Khaudum 106.41 253 IAMs_20 IAMs_20 06 41 14.8
comp=Z,737nm,21.0s
BOZ Bozeman (W) 106.64 38 IAMs_20 IAMs_20 06 33 47.2
comp=Z,487nm,22.0s
FFC Flin Flon 106.75 27 IAMs_20 IAMs_20 06 40 48.8
comp=Z,775nm,22.0s
SSB Saint Sauveur 106.81 321 IAMs_20 IAMs_20 06 46 49.7
comp=Z,733nm,20.0s
FURC Furnace Creek, 106.92 49 IAMs_20 IAMs_20 06 31 41.9
comp=Z,711nm,22.0s
SHOC Shoshone, Teco 107.58 49 IAMs_20 IAMs_20 06 32 03.2
comp=Z,736nm,20.0s
SNAA Sanae 107.97 195 ⇓P **PKiKP 05 57 47.1 +3.2**
comp=Z,156nm,1.1s
SNAA ⇑x x 06 08 56.5
comp=Z,90nm,0.7s
SNAA Sanae 107.97 195 IAMs_20 IAMs_20 06 37 29.0
comp=Z,680nm,20.0s
SNAA Sanae 107.97 195 Pdiff **Pdif 05 53 37.2 0.0**
comp=Z,1.9nm,0.9s,baz=153,slow=6.3,SNR=5.2
SNAA PKKPbc **PKKPbc 06 08 58.4 -1.3**
comp=Z,1.4nm,0.8s,baz=344,slow=5.4,SNR=4.2
TPAW Teton Pass 108.07 40 IAMs_20 IAMs_20 06 34 54.1
comp=Z,846nm,22.0s
LOHW Long Hollow 108.23 40 IAMs_20 IAMs_20 06 33 27.4
comp=Z,748nm,21.0s
AHID Auburn Hatcher 108.31 41 IAMs_20 IAMs_20 06 35 10.7
comp=Z,736nm,21.0s
HWUT Hardware Ranch 108.54 42 IAMs_20 IAMs_20 06 35 20.0
comp=Z,835nm,22.0s
DANC Danby, Needles 108.73 50 IAMs_20 IAMs_20 06 33 03.9
comp=Z,583nm,22.0s
YUH Yuha Desert 109.05 52 IAMs_20 IAMs_20 06 37 00.6
comp=Z,628nm,20.0s
PDAR Pinedale Array 109.31 40 Pdiff **Pdif 05 53 46.0 +1.9**
comp=Z,0.6nm,0.9s,baz=191,slow=0.8,SNR=3.5
PDAR PKiKP **PKiKP 05 57 47.0 -0.6**
comp=Z,2.2nm,1.1s,baz=180,slow=0.7,SNR=6.9
PDAR PKKPbc **PKKPbc 06 08 53.6 -1.1**
comp=Z,3.4nm,1.0s,baz=108,slow=3.9,SNR=13
LAO LASA Array 109.31 35 IAMs_20 IAMs_20 06 34 59.6
comp=Z,654nm,22.0s
VNA2 Neumayer--Watz 109.59 195 ⇓P **PKiKP 05 57 47.5 +0.6**
comp=Z,13nm,0.7s,baz=194,slow=1.6
VNA3 Neumayer Olymp 109.93 194 ⇓P **PKiKP 05 57 47.7 +0.2**
comp=Z,12nm,0.8s
VNA3 ⇑x x 06 08 48.8
comp=Z,6.1nm,0.8s
VNA1 Neumayer--Stat 109.99 195 ⇓P **PKiKP 05 57 48.9 +1.3**
comp=Z,24nm,1.0s
VNA1 ⇑x x 06 08 49.7
comp=Z,7.2nm,0.8s
K22A Casper 111.30 39 IAMs_20 IAMs_20 06 35 18.5
comp=Z,492nm,21.0s
WUAZ Wupatki 111.38 48 IAMs_20 IAMs_20 06 34 52.7
comp=Z,790nm,22.0s
PV21 Cone Mtn., Par 111.72 44 IAMs_20 IAMs_20 06 41 00.3
comp=Z,432nm,20.0s
PV17 East Wray Mesa 111.86 44 IAMs_20 IAMs_20 06 38 51.1
comp=Z,771nm,22.0s
RSSD Black Hills 112.02 37 IAMs_20 IAMs_20 06 35 23.3
comp=Z,575nm,22.0s
MDND Maddock 112.27 32 IAMs_20 IAMs_20 06 46 55.2
comp=Z,520nm,20.0s
ULM Lac du Bonnet 112.51 28 PKKPbc PKKPbc 06 08 45.0 +0.8
comp=Z,8.9nm,1.0s,baz=167,slow=2.0,SNR=4.7
TUC Tucson 113.18 51 IAMs_20 IAMs_20 06 38 35.7
comp=Z,545nm,21.0s
ISCO Idaho Springs 113.37 41 IAMs_20 IAMs_20 06 40 52.7
comp=Z,572nm,20.0s
AGMN Agassiz Nation 113.86 29 IAMs_20 IAMs_20 06 41 07.0
comp=Z,651nm,22.0s
CART Cartagena 114.20 316 IAMs_20 IAMs_20 06 47 29.8
comp=Z,340nm,18.0s
SDCO Great Sand Dun 114.50 43 IAMs_20 IAMs_20 06 38 48.9
comp=Z,592nm,20.0s
OGNE Ogallala 115.04 39 IAMs_20 IAMs_20 06 40 23.5
comp=Z,438nm,20.0s
ESBB Sonseca Array 115.08 320 IAMs_20 IAMs_20 06 52 26.6
comp=Z,628nm,20.0s
ESDC Sonseca Array 115.08 320 PKP **PKPdf 05 57 58.5 +0.1**
comp=Z,3.8nm,0.9s,baz=8.1,slow=2.9,SNR=13
ESDC PP **PP 05 58 59.5 +1.5**
comp=Z,8.8nm,1.1s,baz=52,slow=7.0,SNR=7.3
ESDC PKKPbc **PKKPbc 06 08 35.4 +0.2**
comp=Z,2.3nm,0.9s,baz=246,slow=3.4,SNR=8.4
ANMO Albuquerque 115.22 46 **PKPdf 05 57 59.7 +0.7**
ANMO Albuquerque 115.22 46 IAMs_20 IAMs_20 06 37 49.3
comp=Z,642nm,21.0s
ANMO Albuquerque 115.22 46 PKiKP **PKPdf 05 57 59.7 +0.7**
PAB San Pablo 115.40 320 **PKPdf 05 57 59.6 +0.6**
PAB San Pablo 115.40 320 IAMs_20 IAMs_20 06 49 56.2
comp=Z,494nm,21.0s
PAB San Pablo 115.40 320 PKiKP **PKPdf 05 57 59.6 +0.6**
PAB MLR MLR
comp=Z,500nm,21.0s
K30B Basset 115.48 36 IAMs_20 IAMs_20 06 38 00.8
comp=Z,583nm,22.0s
MVO Moncorvo 116.14 322 *e*PKPdf **PKiKP 05 58 01.8 +1.4**
MVO *e*LQ LQ 06 38 24.4
MVO *e*LR LR 06 42 27.8
MVO *i* IAMs_20 IAMs_20 06 53 30.6
comp=Z,638nm,20.0s
PGAV Gavieira, Arco 116.40 324 *e*PKPdf **PKiKP 05 58 02.0 +1.1**
PGAV *e*PP PP 05 59 15.4 +8.3
PGAV *e*LR LR 06 43 51.6
PGAV *i* IAMs_20 IAMs_20 06 53 13.9
comp=Z,537nm,22.0s
POLO Lamas de Olo 116.48 323 *e*PKPdf **PKiKP 05 58 02.3 +1.2**
PVRL Vila Real 116.49 323 *e*PKPdf **PKiKP 05 58 02.5 +1.4**
ECSD EROS Data Cent 116.51 34 IAMs_20 IAMs_20 06 42 44.8
comp=Z,656nm,22.0s
EPT El Paso 116.68 50 IAMs_20 IAMs_20 06 41 58.2
comp=Z,590nm,20.0s
MTE Manteigas 116.91 322 *e*PKPdf **PKiKP 05 58 03.0 +1.1**
MTE *e*PP PP 05 59 14.0 +3.2
MTE *e*LQ LQ 06 37 53.3
MTE *e*LR LR 06 42 57.7
MTE *i* IAMs_20 IAMs_20 06 54 23.0
comp=Z,678nm,20.0s
PVIS Viseu 116.94 322 *e*PKPdf **PKiKP 05 58 03.1 +1.2**
PCBR Castelo Branco 117.20 321 *e*PKPdf **PKiKP 05 58 03.7 +1.3**
PMRV Marv??o 117.39 321 *e*PKPdf **PKiKP 05 58 03.7 +0.9**
PMRV *e*PP PP 05 59 21.7 +7.6
PMRV *e*LR LR 06 42 45.2
PMRV *i* IAMs_20 IAMs_20 06 56 55.6
comp=Z,378nm,20.0s
SPMN Marine on St. 117.50 30 IAMs_20 IAMs_20 06 53 52.6
comp=Z,508nm,19.0s
PCAS Casmilo, Conde 117.70 322 *e*PKPdf **PKiKP 05 58 04.2 +0.8**
SCHQ Schefferville 117.72 9 PKP **PKiKP 05 58 03.6 +0.6**
comp=Z,88nm,0.8s,baz=247,slow=2.4,SNR=10.0
PSARD Sardoal 117.77 322 *e*PKPdf **PKiKP 05 58 04.8 +1.3**
PESTR Estremoz 117.85 321 **PKiKP 05 58 04.5 +0.8**
PESTR IAMs_20 IAMs_20 06 53 00.9
comp=Z,630nm,20.0s
PESTR Estremoz 117.85 321 *e*PKPdf **PKiKP 05 58 04.7 +1.0**
PBAR Barrancos 117.90 320 *e*PKPdf **PKiKP 05 58 04.8 +1.0**
PMTG Montargil 118.13 321 *e*PKPdf **PKiKP 05 58 04.9 +0.7**
EVO Evora 118.31 321 *e*PKPdf **PKiKP 05 58 05.8 +1.2**
MSTX Muleshoe 118.34 46 IAMs_20 IAMs_20 06 39 38.9
comp=Z,543nm,21.0s
PBEJ Beja 118.52 320 *e*PKPdf **PKiKP 05 58 06.1 +1.1**
COWI Conover 118.62 27 IAMs_20 IAMs_20 06 46 12.7
comp=Z,648nm,20.0s
G40A Rib Lake 118.75 29 IAMs_20 IAMs_20 06 44 43.3
comp=Z,714nm,22.0s
PARRA Arraiolos 118.79 321 *e*PKPdf **PKPdf 05 58 05.4 -0.1**
PVAQ Vaqueiros 118.79 319 *e*PKPdf **PKiKP 05 58 06.7 +1.1**
PVAQ *e*PP PP 05 59 41.7 +18
PVAQ *e*LR LR 06 44 43.3
PVAQ *i* IAMs_20 IAMs_20 06 52 55.4
comp=Z,409nm,20.0s
MESJ Messejana 118.86 320 *e*PKPdf **PKiKP 05 58 06.4 +0.8**
MESJ IAMs_20 IAMs_20 06 53 59.9
comp=Z,525nm,22.6s
MESJ Messejana 118.86 320 *e*PKPdf **PKiKP 05 58 06.9 +1.3**
PCVE Castro Verde 118.86 320 *e*PKPdf **PKiKP 05 58 06.9 +1.2**
PBDV Barranco-do-Ve 119.02 319 *e*PKPdf **PKiKP 05 58 07.6 +1.6**

MD01 Midelt array s 119.25 313 **PKiKP 05 58 07.5 +0.7**
PTEO Sao Teotonio 119.35 320 *e*PKPdf **PKiKP 05 58 08.2 +1.6**
MORF Marmelete 119.45 320 *e*PKPdf **PKiKP 05 58 07.6 +0.7**
MORF Marmelete 119.45 320 *e*PKPdf **PKiKP 05 58 08.5 +1.6**
MORF Marmelete 119.45 320 *e*PKiKP **PKiKP 05 58 07.6 +0.7**
I40A Norwalk 119.55 30 IAMs_20 IAMs_20 06 42 52.7
comp=Z,575nm,22.0s
SCIA State Center 119.59 33 IAMs_20 IAMs_20 06 43 37.3
comp=Z,564nm,20.0s
PFVI Vila Bisbo 119.66 320 *e*PKPdf **PKiKP 05 58 08.6 +1.4**
TXAR Lajitas Array 119.98 51 **PKiKP 05 58 08.9 +0.6**
TXAR Lajitas Array 119.98 51 PKP **PKPdf 05 58 07.9 -0.3**
comp=Z,3.2nm,0.7s,baz=248,slow=1.3,SNR=31
TXAR PKKPbc **PKKPbc 06 08 16.9 -0.7**
comp=Z,7.7nm,1.1s,baz=141,slow=4.8,SNR=21
N38A Joes South For 120.34 34 IAMs_20 IAMs_20 06 41 43.1
comp=Z,616nm,20.0s
E46A Sault Ste Mari 120.51 24 IAMs_20 IAMs_20 06 46 07.5
comp=Z,640nm,20.0s
AVE Averroes 120.91 315 IAMs_20 IAMs_20 06 53 30.3
comp=Z,343nm,20.0s
OK052 Battle Ridge R 121.27 41 IAMs_20 IAMs_20 06 42 08.5
comp=Z,667nm,21.0s
ABTX Abilene, Hawle 121.28 45 IAMs_20 IAMs_20 06 43 44.5
comp=Z,464nm,20.0s
TORD Torodi Ar. Bea 121.72 290 **PKPdf 05 58 11.0 -0.7**
TORD Torodi Ar. Bea 121.72 290 PKP **PKPdf 05 58 11.2 -0.5**
comp=Z,44nm,0.9s,baz=31,slow=3.1,SNR=108
TORD PKKPbc **PKKPab 06 08 11.8 +0.1**
comp=Z,4.0nm,0.8s,baz=300,slow=3.3,SNR=14
Z35A Perchaven, San 122.54 43 IAMs_20 IAMs_20 06 53 14.6
comp=Z,445nm,18.0s
M44A Midewin, Midew 122.67 30 IAMs_20 IAMs_20 06 44 48.5
comp=Z,620nm,21.0s
P43A Skaggs, Pawnee 123.18 33 IAMs_20 IAMs_20 06 43 59.1
comp=Z,527nm,20.0s
CCM Cathedral Cave 123.33 35 **PKPdf 05 58 14.3 +0.1**
CCM Cathedral Cave 123.33 35 PKiKP **PKPdf 05 58 14.3 +0.1**
SLM Saint Louis 123.50 34 IAMs_20 IAMs_20 06 47 00.8
comp=Z,562nm,20.0s
SFIN Lafyette 123.91 31 IAMs_20 IAMs_20 06 45 49.1
comp=Z,629nm,22.0s
K50A Casco 124.13 26 IAMs_20 IAMs_20 06 55 22.3
comp=Z,561nm,19.0s
N47A Urbana 124.22 29 IAMs_20 IAMs_20 06 51 01.2
comp=Z,476nm,20.0s
735A Kenedy 124.64 48 IAMs_20 IAMs_20 06 46 24.9
comp=Z,571nm,19.0s
PBMO Poplar Bluff 124.68 36 IAMs_20 IAMs_20 06 50 21.2
comp=Z,504nm,19.0s
N49A Columbus Grove 124.91 28 IAMs_20 IAMs_20 06 47 12.3
comp=Z,549nm,20.0s
BLO Bloomington 125.10 31 IAMs_20 IAMs_20 06 51 08.8
comp=Z,545nm,20.0s
NATX Nacogdoches 125.23 43 IAMs_20 IAMs_20 06 46 38.9
comp=Z,563nm,21.0s
USIN University of 125.39 33 IAMs_20 IAMs_20 06 43 54.7
comp=Z,659nm,22.0s
O49A Covington 125.41 29 IAMs_20 IAMs_20 06 47 34.7
comp=Z,634nm,21.0s
P48A Milroy 125.44 30 IAMs_20 IAMs_20 06 46 59.6
comp=Z,611nm,22.0s
T45A Paducah 125.53 34 IAMs_20 IAMs_20 06 53 43.7
comp=Z,484nm,21.0s
M52A Chesterland 125.68 26 IAMs_20 IAMs_20 06 57 21.3
comp=Z,573nm,22.0s
WCI Wyandotte Cave 125.93 32 **PKiKP 05 58 19.6 0.0**
WCI Wyandotte Cave 125.93 32 IAMs_20 IAMs_20 06 48 30.7
comp=Z,571nm,19.0s
WCI Wyandotte Cave 125.93 32 PKiKP **PKiKP 05 58 19.6 0.0**
ACSO Alum Creek Sta 126.01 28 IAMs_20 IAMs_20 06 48 31.5
comp=Z,640nm,22.0s
T47A Sharon Grove 126.41 33 IAMs_20 IAMs_20 06 47 45.7
comp=Z,524nm,22.0s
J59A Piesco 126.60 19 IAMs_20 IAMs_20 06 52 53.0
comp=Z,570nm,21.0s
WVT Waverly 126.63 35 **PKPdf 05 58 20.4 -0.2**
WVT Waverly 126.63 35 IAMs_20 IAMs_20 06 46 49.6
comp=Z,592nm,21.0s
WVT Waverly 126.63 35 PKiKP **PKPdf 05 58 20.4 -0.2**
Q51A Peebles 126.80 29 IAMs_20 IAMs_20 06 56 45.3
comp=Z,555nm,22.0s
OXF Oxford 126.84 37 IAMs_20 IAMs_20 06 51 03.6
comp=Z,462nm,21.0s
R50A Paris 126.89 30 IAMs_20 IAMs_20 06 47 07.1
comp=Z,555nm,22.0s
BINY Binghamton 127.22 21 IAMs_20 IAMs_20 06 47 33.7
comp=Z,473nm,20.0s
V48A Smith Brothers 127.47 34 IAMs_20 IAMs_20 06 47 07.0
comp=Z,562nm,21.0s
U49A Red Boiling Sp 127.48 33 IAMs_20 IAMs_20 06 52 14.9
comp=Z,513nm,22.0s
PMAR Madeira 127.59 321 *e*PKPdf **PKiKP 05 58 24.9 +1.6**
PMOZ Porto Moniz, M 127.70 321 *e*LR LR 06 41 59.3
PMOZ *i* IAMs_20 IAMs_20 06 57 24.7
comp=Z,281nm,22.0s
SSPA Standing Stone 127.86 23 **PKiKP 05 58 23.3 -0.1**
SSPA Standing Stone 127.86 23 IAMs_20 IAMs_20 06 56 48.0
comp=Z,520nm,20.0s
X48A Hartselle 128.27 36 IAMs_20 IAMs_20 06 48 01.3
comp=Z,538nm,22.0s
HRV Adam Dziewonsk 128.37 17 **PKiKP 05 58 24.2 -0.1**
HRV Adam Dziewonsk 128.37 17 PKiKP **PKiKP 05 58 24.3 -0.1**
W50A Signal Mountai 128.71 34 IAMs_20 IAMs_20 06 52 43.5
comp=Z,569nm,22.0s
LRAL Lakeview Retre 129.31 37 IAMs_20 IAMs_20 06 57 58.7
comp=Z,547nm,21.0s
M65A Busby, Falmout 129.51 17 P **PKPdf 05 58 26.2 +0.4**
baz=338
U54A Nelsons Funny 129.51 30 IAMs_20 IAMs_20 06 51 01.3
comp=Z,540nm,19.0s
W52A Murphy 129.53 33 IAMs_20 IAMs_20 06 47 48.3
comp=Z,588nm,21.0s
BLA Blacksburg 129.63 28 IAMs_20 IAMs_20 06 51 10.2
comp=Z,459nm,22.0s
DBIC Dimbokro 129.66 284 PKP **PKiKP 05 58 27.6 -0.1**
comp=Z,38nm,1.1s,baz=99,slow=1.5,SNR=15
DBIC SKPbc SKPab 06 01 43.4 -0.5
comp=Z,37nm,1.0s,baz=97,slow=4.2,SNR=13
V53A Saluda 129.68 31 IAMs_20 IAMs_20 06 50 15.9
comp=Z,543nm,20.0s
CBN Corbin Frederi 130.14 25 IAMs_20 IAMs_20 06 55 20.4
comp=Z,546nm,22.0s
T57A Hurt 130.34 27 IAMs_20 IAMs_20 06 58 53.9
comp=Z,578nm,21.0s
V55A Taylorsville 130.34 30 IAMs_20 IAMs_20 07 06 18.2
comp=Z,522nm,21.0s
U56A King 130.34 29 IAMs_20 IAMs_20 07 01 24.3
comp=Z,425nm,20.0s
Y52A Lilburn 130.39 34 IAMs_20 IAMs_20 06 51 37.0
comp=Z,462nm,22.0s
GOGA Godfrey 131.05 34 IAMs_20 IAMs_20 06 49 20.7
comp=Z,532nm,22.0s
T59A Double "B" Far 131.11 26 IAMs_20 IAMs_20 07 02 09.2
comp=Z,489nm,19.0s
V58A Windy Hill, Pi 131.39 28 IAMs_20 IAMs_20 06 59 05.8
comp=Z,422nm,21.0s
W57A Gilead 131.50 29 IAMs_20 IAMs_20 06 59 34.8
comp=Z,470nm,21.0s
154A Montrose 131.85 34 IAMs_20 IAMs_20 07 01 26.9
comp=Z,503nm,21.0s
Y57A Sumter 132.21 30 IAMs_20 IAMs_20 06 50 24.8
comp=Z,510nm,21.0s
W59A Clinton 132.22 28 IAMs_20 IAMs_20 06 51 49.7
comp=Z,471nm,22.0s
V61A Roper 132.53 26 IAMs_20 IAMs_20 06 54 02.7
comp=Z,591nm,22.0s
Y58A Scranton 132.66 30 IAMs_20 IAMs_20 06 52 22.6
comp=Z,519nm,21.0s
NHSC New Hope 133.03 31 IAMs_20 IAMs_20 06 49 03.8
comp=Z,430nm,21.0s
CSU Charleston Sou 133.19 31 IAMs_20 IAMs_20 06 49 39.7
comp=Z,414nm,20.0s
Y60A Bolivia 133.28 28 IAMs_20 IAMs_20 06 55 53.9
comp=Z,506nm,21.0s
257A Skidaway Islan 133.47 33 IAMs_20 IAMs_20 07 04 17.7
comp=Z,436nm,21.0s
EFI East Falkland 134.98 176 **PKPdf 05 58 36.0 +0.2**
EFI East Falkland 134.98 176 PKiKP **PKPdf 05 58 36.0 +0.2**
SOR Soroa 138.90 44 IAMs_20 IAMs_20 07 08 00.9
comp=Z,413nm,22.0s
BBSR BB Station 139.75 15 **PKPdf 05 58 46.0 +0.7**
CAMR Camarioca 139.82 42 *e*P **PKiKP 05 58 53.9 +5.8**
MGV Manicaragua 141.40 41 *e*P PKPdf 05 58 39.9 -8.6
CAIB Caibarien 141.46 40 *e*P **PKiKP 05 58 52.6 +1.1**
PLCA Paso Flores 142.82 158 PKP **PKPdf 05 58 48.3 -2.4**
comp=Z,18nm,0.9s,baz=203,slow=5.3,SNR=26

PLCA Paso Flores 142.82 158 *e*P **PKPdf 05 58 48.3 -2.4**
SIUN Universidad Ur 142.96 57 IAMs_20 IAMs_20 07 07 35.3
comp=Z,160nm,20.0s
ACON Acoyapa 143.49 60 *e*P PKPab 05 58 48.2 -0.6
MESS Mesas 144.04 61 *e*P **PKPab 05 58 50.8 -0.2**
COLC Colonia 144.07 62 *e*P **PKPab 05 58 51.2 +0.1**
HORNC Hornillas 144.07 62 *e*P **PKPab 05 58 51.0 -0.2**
VMAR Armenia, Volca 144.08 61 *e*P **PKPab 05 58 51.0 -0.2**
CUI Cuipilapa 144.11 62 *e*P PKPbc 05 58 51.9 +0.1
TIMP Tierras Morena 144.27 62 *e*P **PKPab 05 58 52.0 +0.1**
QUEB Quebradon, Cot 144.36 61 *e*P **PKPab 05 58 52.0 -0.1**
JTS Las Juntas de 144.46 62 **PKPdf 05 58 53.5 -0.7**
JTS Las Juntas de 144.46 62 PKiKP PKPbc 05 58 53.5 +0.7
JTS Las Juntas de 144.46 62 *e*P **PKPab 05 58 52.2 -0.3**
TABAC Tabacon 144.53 62 *e*P **PKPdf 05 58 53.8 -0.6**
MTEVE Monteverde 144.56 62 *e*P **PKPab 05 58 52.6 -0.5**
CASO Castillo 144.59 62 *e*P PKPbc 05 58 53.5 +0.2
ARE1 Arenal 1 144.59 62 *e*P PKPbc 05 58 53.3 +0.1
VARE2 V. Arenal 144.59 62 *e*P **PKPab 05 58 51.4 -1.7**
CEDE Laguna Cedeo 144.59 61 *e*P PKPbc 05 58 53.3 0.0
PILO Pilon 144.65 41 *e*P **PKPab 05 58 51.9 -1.2**
SOCE Pocosol 144.71 62 *e*P **PKPab 05 58 51.9 -1.6**
HLGC Holguin 144.79 38 *e*P **PKPab 05 58 50.6 -3.0**
VPL2 V. Platanar 144.95 61 *e*P **PKPab 05 58 52.8 -1.8**
ATEO Atenas 145.10 62 *e*P **PKPdf 05 58 56.3 +0.9**
PURI Puriscal 145.22 62 *e*P **PKPdf 05 58 56.8 +1.1**
CHIV Chivirico 145.24 40 IAMs_20 IAMs_20 06 56 45.4
comp=Z,516nm,19.0s
CHIV Chivirico 145.24 40 *e*P **PKPbc 05 58 54.5 -0.5**
PINC Pinares de May 145.26 39 *e*P **PKPbc 05 58 52.6 -2.5**
SANTA Santa Ana 145.29 62 *e*P **PKPdf 05 58 56.6 +0.9**
HDC Heredia 145.33 62 IAMs_20 IAMs_20 07 00 10.8
comp=Z,471nm,20.0s
ACOS Acosta 145.38 62 *e*P **PKPab 05 58 56.5 +0.4**
PAR1A Puntarenas Pro 145.39 62 *e*P **PKPab 05 58 56.6 +0.7**
ECI Escuela Centro 145.41 62 *e*P **PKPab 05 58 56.5 +0.3**
SJS3 Mercedes San J 145.41 62 *e*P **PKPab 05 58 57.2 +1.0**
PICV PH. Pirrs 145.42 62 *e*P **PKPab 05 58 57.7 +1.5**
CVIMO Finca Echandi 145.46 62 *e*P **PKPdf 05 58 53.6 -2.5**
LCR2 La Lucha 2 145.54 62 *e*P **PKPbc 05 58 56.5 0.0**
VICA Volcano Irazu 145.57 62 *e*P **PKPbc 05 58 57.0 +0.1**
RAFA San Farael, Vo 145.61 62 *e*P **PKPdf 05 58 56.6 +0.1**
CVTQ Turrialba Volc 145.63 61 *e*P **PKPdf 05 58 55.0 -1.6**
VTRQ Volcan Turrial 145.63 61 *e*P **PKPbc 05 58 57.0 0.0**
MOAC Moa 145.63 37 *e*P **PKPdf 05 58 53.9 -2.1**
PIEC Cerro El Cedra 145.63 62 *e*P **PKPab 05 58 58.4 +1.2**
CVTV Tajo 145.64 61 *e*P **PKPdf 05 58 54.7 -1.9**
RCC Rio Carpintero 145.68 39 *e*P **PKPdf 05 58 53.9 -2.2**
NMDO Nuevo Mundo 145.69 37 *e*P **PKPdf 05 58 53.2 -2.9**
VERB Verbena 145.72 62 *e*P **PKPab 05 58 58.0 +0.7**
RESJ San Isidro (Tu 145.72 61 *e*P **PKPab 05 58 57.9 +0.6**
TURIB Turrialba 145.74 62 *e*P **PKPab 05 58 57.9 +0.5**
MTDJ Mount Denham 145.75 43 *e*P PKPdf 05 58 45.9 -11
MTDJ Mount Denham 145.75 43 *i* P **PKPbc 05 58 56.9 +0.1**
LCOCO El Coco 145.77 61 *e*P **PKPab 05 58 58.2 +0.8**
IRES Siquirres 145.81 61 *e*P **PKPab 05 58 58.4 +0.9**
BUS1 Rivas 145.85 62 *e*P **PKPab 05 58 59.3 +1.0**
MCJ Malvern 145.85 44 *i* P **PKPab 05 58 57.7 +0.1**
PRVC Isla de Provid 145.93 54 IAMs_20 IAMs_20 06 51 55.8
comp=Z,358nm,22.0s
ZEDO Perez Zeledon 146.00 62 *e*P **PKPab 05 58 59.3 +0.9**
QMBU Quimbuelo 146.07 38 *e*P **PKPdf 05 58 55.9 -1.0**
VERH Veragua Rainfo 146.17 61 *e*P **PKPbc 05 58 58.0 -0.2**
EDPE Pejibaye, P 146.18 63 *e*P **PKPab 05 59 00.2 +1.2**
STH Stony Hill 146.34 43 *e*P **PKPdf 05 58 54.5 -2.8**
STH Stony Hill 146.34 43 ⇑/*i*P **PKPbc 05 58 58.1 -0.5**
DRK0 Durika 146.42 62 *e*P **PKPdf 05 58 57.5 -0.3**
CEUA Cerro Uatsi, L 146.53 61 *e*P **PKPab 05 59 01.0 +0.7**
EDP2 Potrero Grande 146.59 63 *e*P **PKPbc 05 58 59.8 +0.4**
ALCO Alturas Coton, 146.93 62 *e*P **PKPdf 05 58 59.5 +0.8**
NELY Ciudad Neily 146.96 63 *e*P **PKPbc 05 59 00.5 0.0**
BANCO falda S V. Bar 147.30 63 *e*P **PKPbc 05 59 01.9 +0.3**
JEFFS S de V. Baru 147.32 63 *e*P **PKPbc 05 59 01.2 -0.4**
TRQA Tornquist 147.83 167 **PKPdf 05 59 00.6 +1.3**
TRQA Tornquist 147.83 167 PKiKP **PKPdf 05 59 00.6 +1.3**
TRQA Tornquist 147.83 167 *e*P **PKPdf 05 58 55.5 -3.8**
BCIP Isla Barro Col 149.42 59 IAMs_20 IAMs_20 06 55 33.1
comp=Z,428nm,20.0s
BCIP Isla Barro Col 149.42 59 *e*P **PKPdf 05 59 01.9 -0.6**
CAZU Cerro Azul, Pa 149.75 59 *e*P **PKPdf 05 59 02.8 -0.4**
SDD Santo Domingo 150.26 33 IAMs_20 IAMs_20 07 12 36.0
comp=Z,233nm,18.0s
CO03 El Pedregal 151.07 148 **PKPdf 05 59 05.7 +0.9**
CFA Coronel Fontan 151.63 153 PKP **PKPdf 05 59 05.7 +0.1**
comp=Z,13nm,1.0s,baz=242,slow=2.6,SNR=33
CFA PKPbc **PKiKP 05 59 12.9 +0.6**
comp=Z,60nm,0.8s,baz=245,slow=3.0,SNR=54
SJG San Juan 152.41 27 **PKPdf 05 59 07.0 +0.1**
SJG PKPbc PKPbc 05 59 13.6 -0.2
SJG San Juan 152.41 27 PKiKP **PKPbc 05 59 13.6 -0.2**
HUMP Col San Antoni 152.51 26 **PKPdf 05 59 07.4 +0.3**
HUMP PKPbc **PKPbc 05 59 14.0 0.0**
PLTB Pedras Altas 155.03 180 *e*P **PKPdf 05 59 07.2 -3.2**
ATAH Atahualpa 155.31 93 PKP **PKPdf 05 59 12.3 +0.6**
comp=Z,40nm,1.2s,baz=316,slow=1.7,SNR=12
ATAH PKPab **PKPab 05 59 39.0 +1.9**
comp=Z,42nm,1.0s,baz=235,slow=3.3,SNR=10.0
PSAL Palomas, Salto 155.41 172 *e*P **PKPdf 05 59 06.5 -4.3**
ROSC El Rosal 156.31 62 PKP **PKPdf 05 59 14.2 +1.2**
comp=Z,57nm,1.0s,baz=87,slow=1.9,SNR=28
CPSB Cacapava Do Su 156.39 180 *e*P **PKPdf 05 59 08.1 -4.1**
NNA Nana 156.41 105 PKP **PKPdf 05 59 13.6 +0.9**
comp=Z,29nm,1.0s,baz=303,slow=2.9,SNR=4.1
NNA PKPab **PKPab 05 59 42.9 +1.6**
comp=Z,28nm,0.8s,baz=254,slow=7.5,SNR=6.8
FLOC Florencia 156.44 70 IAMs_20 IAMs_20 07 03 57.5
comp=Z,306nm,19.0s
RUSC La Rusia 156.84 58 IAMs_20 IAMs_20 07 16 40.3
comp=Z,287nm,21.0s
SDV Santo Domingo 156.99 48 **PKPdf 05 59 14.1 +0.4**
SDV IAMs_20 IAMs_20 07 14 05.0
comp=Z,308nm,21.0s
SDV Santo Domingo 156.99 48 *e*P **PKPdf 05 59 11.6 -2.1**
SVN Savane Anatole 157.33 19 IAMs_20 IAMs_20 07 15 06.8
comp=Z,378nm,22.0s
CNLB Canela 157.33 186 *e*P **PKPdf 05 59 12.3 -1.2**
FDF Fort de France 157.43 20 IAMs_20 IAMs_20 07 05 03.6
comp=Z,357nm,21.0s
MAJ01 Sao Joao Batis 158.94 191 *e*P **PKPdf 05 59 13.8 -1.7**
ITAB Concordia 159.50 184 *e*P **PKPdf 05 59 12.6 -3.6**
CPUP Villa Florida 160.11 170 PKP **PKPdf 05 59 17.5 +0.7**
comp=Z,6.7nm,1.0s,baz=290,slow=1.0,SNR=21
CPUP PKPab **PKPab 05 59 57.5 +0.9**
comp=Z,22nm,1.1s,baz=77,slow=3.7,SNR=3.4
PARB Paraibuna 161.76 204 *e*P **PKPdf 05 59 16.2 -2.5**
VAO Valinhos 162.57 201 *e*P **PKPdf 05 59 17.5 -2.2**
LPAZ La Paz 162.81 125 PKP **PKPdf 05 59 22.1 +1.4**
comp=Z,30nm,1.0s,baz=8.4,slow=0.6,SNR=75
LPAZ PKPab **PKPab 06 00 10.8 +1.1**
comp=Z,21nm,0.9s,baz=242,slow=2.0,SNR=9.4
LPAZ La Paz 162.81 125 *e*P **PKPdf 05 59 16.0 -4.6**
FRTB Fartura 162.99 193 *e*P **PKPdf 05 59 18.5 -1.5**
GUA01 Guaratinga, BA 163.35 233 *e*P **PKPdf 05 59 19.3 -1.1**
C2SB Chapadao do Su 167.95 183 *e*P **PKPdf 05 59 22.1 -2.0**
SIV San Ignacio 168.15 142 PKP **PKPdf 05 59 24.9 +0.5**
comp=Z,18nm,0.9s,baz=187,slow=1.0,SNR=84
SIV PKPab **PKPab 06 00 33.0 +0.6**
comp=Z,5.9nm,0.8s,baz=240,slow=7.2,SNR=5.6
TEFE Tefe 168.50 75 *e*P **PKPdf 05 59 22.3 -2.3**
BOAV Boa Vista 168.61 38 *e*P **PKPdf 05 59 22.9 -1.8**
PP1B Ponte de Pedra 169.06 173 *e*P **PKPdf 05 59 21.2 -3.7**
BDFB Brasilia 169.57 211 PKP **PKPdf 05 59 25.4 +0.1**
comp=Z,36nm,1.1s,baz=23,slow=3.0,SNR=23
BDFB PKPab **PKPab 06 00 39.5 +0.7**
comp=Z,31nm,1.0s,baz=58,slow=1.0,SNR=9.2
PTLB Pontes e Lacer 169.69 148 *e*P **PKPdf 05 59 22.9 -2.4**
SDBA SAO DESIDERIO 169.76 236 *e*P **PKPdf 05 59 22.7 -2.7**
ROSB Rosrio 169.91 291 *e*P **PKPdf 05 59 23.9 -1.6**
ARAG Araguaiana, MT 170.86 190 *e*P **PKPdf 05 59 20.9 -5.1**
VILB Vilhena 170.94 134 *e*P **PKPdf 05 59 23.9 -2.1**
PDRB Porto dos Gac 174.16 147 *e*P **PKPdf 05 59 26.6 -0.9**
SNDB Serra Nova Dou 174.29 203 *e*P **PKPdf 05 59 26.2 -1.3**
PRPB Parauapebas 176.28 277 *e*P **PKPdf 05 59 24.3 -3.8**
ITTB Itaituba 176.83 44 *e*P **PKPdf 05 59 26.6 -1.6**
NPGB Novo Progresso 178.15 102 *e*P **PKPdf 05 59 27.4 -1.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.18**	**192**	P	P	05 55 16.7	-0.3
	1.5nm,0.5s,baz=13,slow=8.4,SNR=4.2						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**45.89**	**191**	P	P	05 55 46.8	0.0
	0.8nm,0.6s,baz=16,slow=13,SNR=4.6						
	0.8nm,0.6s						
FINES	**FINESS Array B**	**82.95**	**334**	P	P	05 59 49.0	0.0
	1.3nm,0.4s,baz=69,slow=5.8,SNR=8.9						
	1.3nm,0.4s						

*TAP **10** 06:08:03.0,24.0N×121.8E,h6km,ML4.6,C*
*NEIC **10** 06:08:03.8±1.5,23.99N±0.0×121.84E±0.05,h10km±1km, mb4.6/31,Error ellipse: s-maj=7.9km s-min=3.8km az=297.0*
*BJI **10** 06:08:03.6,23.97N×121.87E,h12km,mB4.9/4,mb4.3/15, ML4.3/7,Ms4.7/19,Ms7 4.6/18*
*JMA **10** 06:08:03.1±0.2,24.0N±0.6×121.8E±0.8,h0km,MD4.6/14, MV4.2/14,TAIWAN REGION*
*IDC **10** 06:08:10.1±3.3,24.03N×122.01E,h75km±32km,mb3.7/14, mbtmp4.0/18,Error ellipse: s-maj=19.7km s-min=15.8km az=54.0*

ISC 10 06:08:03.9±0.8,24.01N±0.01×121.84E±0.02,h12km±5km, n227,σ1%64/303,mb4.5/32,25C-21D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.22**	**261**	⇓*i*P	**Pg**	**06 08 08.9**	**+0.2**
HWA				*i* S	**Sg**	**06 08 14.1**	**+2.2**
TWD	**Chiawan**	**0.24**	**286**	⇓*i*P	**Pg**	**06 08 07.9**	**-1.0**
TWD				*e*S	**Sg**	**06 08 11.5**	**-0.8**
ETL	**Fush Village**	**0.25**	**306**	P	**Pg**	**06 08 08.2**	**-1.0**
ETL				S	**Sg**	**06 08 12.1**	**-0.6**
TEYL	**Yanliau Villag**	**0.27**	**237**	⇑P	**Pb**	**06 08 09.5**	**-1.1**
TEYL				*i* S	**Sb**	**06 08 14.8**	**-0.3**
NACB	**Ninganchiao**	**0.28**	**305**		**Pg**	**06 08 08.8**	**-0.9**
NACB	**Ninganchiao**	**0.28**	**305**	P	**Pg**	**06 08 08.7**	**-0.9**
NACB	**Ninganchiao**	**0.28**	**305**	P	**Pn**	**06 08 14.0**	**+0.3**
NACB	**Ninganchiao**	**0.28**	**305**	⇓*i*P	**Pg**	**06 08 08.6**	**-1.1**
NACB				*i* S	**Sb**	**06 08 13.2**	**-2.2**
EHP	**Heping Village**	**0.31**	**342**	*e*P	**Pb**	**06 08 10.2**	**-1.2**
EHP				*e*S	**Sb**	**06 08 14.9**	**-1.4**
ETM	**Tongmen**	**0.33**	**262**	⇑P	**Pb**	**06 08 10.1**	**-1.4**
ETM				*e*S	**Sg**	**06 08 14.4**	**-0.5**
EAHA	**Aohua**	**0.33**	**343**	⇓*e*P	**Pb**	**06 08 10.5**	**-1.2**
EAHA				*e*S	**Sb**	**06 08 17.1**	**+0.3**
SHUL	**Shoufeng**	**0.34**	**229**	⇑*e*P	**Pb**	**06 08 11.7**	**-0.2**
SHUL				S	**Sb**	**06 08 19.0**	**+1.7**
ETLH	**Xiulin Townshi**	**0.38**	**300**	⇓P	**Pg**	**06 08 10.6**	**-1.0**
ETLH				*i* S	**Sb**	**06 08 16.5**	**-2.1**
TEGC	**Jichi Village**	**0.41**	**223**	*e*P	**Pb**	**06 08 13.1**	**+0.1**
TEGC				*e*S	**Sb**	**06 08 20.6**	**+1.4**
ENA	**Nanau**	**0.42**	**347**	⇓P	**Pb**	**06 08 12.2**	**-1.1**
ENA				S	**Sb**	**06 08 19.4**	**-0.2**
ESL	**Shilin**	**0.42**	**242**	⇑P	**Pg**	**06 08 11.9**	**-0.4**
ESL				S	**Sb**	**06 08 19.4**	**-0.2**
EWUT	**Wuta**	**0.43**	**352**	⇓P	**Pb**	**06 08 12.7**	**-0.8**
EOS4	**EOS4**	**0.45**	**76**	*e*P	**Pb**	**06 08 14.3**	**+0.9**
EOS3	**EOS3**	**0.51**	**58**	*e*P	**Pn**	**06 08 16.8**	**0.0**
WARBT	**Fenglin Townsh**	**0.51**	**235**	⇑*i*P	**Pg**	**06 08 13.5**	**-0.4**
WARBT				*i* S	**Sg**	**06 08 20.8**	**+0.1**
EGFH	**Guangfu**	**0.51**	**228**	*e*P	**Pb**	**06 08 14.5**	**-0.3**
EGFH				*e*S	**Sb**	**06 08 24.0**	**+1.8**
EOS2	**EOS2**	**0.54**	**41**	*e*P	**Pn**	**06 08 17.7**	**+0.5**
WHF	**Hehuan Shan**	**0.55**	**284**	P	**Pg**	**06 08 19.8**	**-0.9**
WHF				S	**Sb**	**06 08 21.7**	**-1.9**
ESAO	**Su ao**	**0.56**	**360**	⇓*e*P	**Pb**	**06 08 15.1**	**-0.5**
ESAO				*e*S	**Sb**	**06 08 24.6**	**+1.0**
NNSB	**Datong**	**0.59**	**315**	⇓*i*P	**Pb**	**06 08 14.9**	**-1.3**
NNSB				*e*S	**Sb**	**06 08 23.8**	**-0.7**
TWC	**Suao**	**0.59**	**0**	⇓*i*P	**Pb**	**06 08 15.8**	**-0.3**
TWC				S	**Sb**	**06 08 25.3**	**+0.8**
LATG	**Datong**	**0.59**	**331**	⇓*i*P	**Pb**	**06 08 15.2**	**-1.1**
LATG				*e*S	**Sn**	**06 08 25.7**	**-2.2**
FUSS	**Fushou**	**0.60**	**293**	⇑P	**Pb**	**06 08 15.1**	**-1.3**
FUSS				*e*S	**Sb**	**06 08 24.0**	**-0.9**
NNS	**Nan Shan**	**0.60**	**315**	⇓P	**Pb**	**06 08 15.2**	**-1.2**
NNS				*e*S	**Sb**	**06 08 25.0**	**0.0**
OWD	**Renai**	**0.61**	**265**	⇑P	**Pb**	**06 08 15.6**	**-1.0**
OWD				*e*S	**Sb**	**06 08 24.4**	**-0.8**
NDS	**Dongshan**	**0.63**	**349**	*e*P	**Pb**	**06 08 16.3**	**-0.5**
NDS				*e*S	**Sb**	**06 08 24.7**	**-0.8**
HGSD	**Ruisui**	**0.65**	**217**	⇓*i*P	**Pb**	**06 08 16.2**	**-0.2**
HGSD				*e*S	**Sb**	**06 08 26.5**	**+0.5**
TWT	**Tachien**	**0.66**	**291**	⇓*i*P	**Pb**	**06 08 16.6**	**-0.7**
TWT				*e*S	**Sb**	**06 08 26.5**	**+0.1**
WUSB	**Renai**	**0.67**	**268**	⇑*i*P	**Pb**	**06 08 16.6**	**-0.8**
WUSB				S	**Sb**	**06 08 26.0**	**-0.7**
TDCB	**Techi**	**0.67**	**291**	⇓P	**Pb**	**06 08 16.6**	**-1.0**
TDCB				*e*S	**Sg**	**06 08 24.8**	**-1.0**
ENTT	**Nioudou**	**0.67**	**338**	⇓*i*P	**Pb**	**06 08 16.9**	**-0.6**
ENTT				*e*S	**Sn**	**06 08 27.6**	**-2.0**
EHYH	**Wanrong**	**0.69**	**222**	*e*P	**Pb**	**06 08 17.4**	**-0.4**
EHYH				*e*S	**Sb**	**06 08 29.0**	**+1.7**
TWE	**Neicheng**	**0.72**	**347**	⇓P	**Pb**	**06 08 18.1**	**-0.2**
TWE				S	**Sb**	**06 08 26.9**	**-1.3**
ILA	**Ilan**	**0.75**	**353**	*e*P	**Pb**	**06 08 18.6**	**-0.3**
FUSB	**Fushanzhiwuyua**	**0.78**	**343**	⇓P	**Pb**	**06 08 19.2**	**-0.2**
FUSB				S	**Sn**	**06 08 30.8**	**-1.5**
YHNB	**Yeheng**	**0.78**	**327**		**Pb**	**06 08 19.0**	**-0.4**
YHNB	**Yeheng**	**0.78**	**327**	P	**Pb**	**06 08 19.0**	**-0.4**
YHNB	**Yeheng**	**0.78**	**327**	⇓*i*P	**Pb**	**06 08 19.1**	**-0.4**
YHNB				S	**Sb**	**06 08 30.3**	**+0.3**
ECBN	**Changbin**	**0.78**	**208**	P	**Pb**	**06 08 19.1**	**-0.3**
ECBN				*e*S	**Sn**	**06 08 31.7**	**-0.5**
NSK	**Sanguang**	**0.80**	**326**	⇓*i*P	**Pb**	**06 08 19.2**	**-0.4**
NSK				*e*S	**Sb**	**06 08 30.1**	**-0.3**
YULB	**Yu-li**	**0.80**	**219**		**Pg**	**06 08 18.6**	**-0.7**
YULB	**Yu-li**	**0.80**	**219**	P	**Pb**	**06 08 19.0**	**-0.6**
YULB	**Yu-li**	**0.80**	**219**	⇑P	**Pg**	**06 08 18.4**	**-0.9**
YULB				*e*S	**Sg**	**06 08 29.6**	**-0.2**
EYUL	**Yuli**	**0.82**	**216**	*e*P	**Pb**	**06 08 20.2**	**+0.1**
NWLT	**Wulai**	**0.82**	**338**	⇓P	**Pb**	**06 08 19.9**	**-0.2**
NWLT				*e*S	**Sn**	**06 08 31.8**	**-1.6**
TWF1	**Yuli**	**0.83**	**217**	*e*P	**Pg**	**06 08 19.4**	**-0.5**
EGS		**0.83**	**6**	*e*P	**Pn**	**06 08 20.9**	**-0.5**
SSLB	**Suanglung**	**0.84**	**255**		**Pb**	**06 08 19.7**	**-0.8**
SSLB	**Suanglung**	**0.84**	**255**	P	**Pb**	**06 08 19.8**	**-0.7**
SSLB	**Suanglung**	**0.84**	**255**	S	**Sb**	**06 08 32.0**	**+0.2**
SSLB	**Suanglung**	**0.84**	**255**	⇑*i*P	**Pb**	**06 08 19.7**	**-0.8**
SSLB				*i* S	**Sg**	**06 08 30.7**	**-0.6**
WHP	**Taichung City**	**0.86**	**288**	⇑*i*P	**Pb**	**06 08 20.6**	**-0.2**
WHP				*e*S	**Sb**	**06 08 31.9**	**-0.4**
SMLT	**Sun Moon Lake**	**0.87**	**262**	⇑*i*P	**Pb**	**06 08 20.4**	**-0.7**
SMLT				S	**Sb**	**06 08 33.0**	**+0.3**
NFF	**Wufeng Townshi**	**0.91**	**313**	⇑P	**Pn**	**06 08 21.5**	**-0.9**
NFF				S	**Sn**	**06 08 34.2**	**-1.2**
TYC	**Yuchr**	**0.91**	**263**	⇑*i*P	**Pb**	**06 08 20.8**	**-0.8**
TYC				S	**Sg**	**06 08 32.5**	**-0.8**
CHKH	**Chenggong**	**0.92**	**207**	*e*P	**Pg**	**06 08 21.1**	**-0.5**
CHKH				*e*S	**Sn**	**06 08 35.5**	**-0.1**
TIPB	**Shuangxi**	**0.95**	**359**	⇑P	**Pn**	**06 08 22.9**	**-0.2**
TIPB				*e*S	**Sg**	**06 08 33.4**	**-1.4**
FULB	**Fuli**	**0.95**	**212**	*e*P	**Pb**	**06 08 22.6**	**+0.3**
FULB				*e*S	**Sn**	**06 08 38.8**	**+2.2**
WHYT	**Xinyi Township**	**0.96**	**251**	⇑*e*P	**Pb**	**06 08 22.3**	**-0.2**
WHYT				*e*S	**Sn**	**06 08 36.1**	**-0.7**
KSHI	**Guanxi Townshi**	**0.97**	**321**	*e*P	**Pn**	**06 08 23.1**	**-0.2**
KSHI				*e*S	**Sn**	**06 08 37.7**	**+0.7**
LIOB	**Emei**	**0.98**	**310**	⇑*i*P	**Pn**	**06 08 23.0**	**-0.5**
LIOB				*e*S	**Sn**	**06 08 37.8**	**+0.5**
NSTT	**Nanjuang**	**0.98**	**309**	*e*P	**Pn**	**06 08 23.1**	**-0.4**
TWA	**Mucha**	**0.99**	**346**	*e*P	**Pn**	**06 08 23.1**	**-0.4**
TWA				*e*S	**Sn**	**06 08 38.2**	**+0.7**
TWB1	**Santiao Chiao**	**1.00**	**8**	*e*P	**Pn**	**06 08 23.4**	**-0.3**
CHKT	**Chengkung**	**1.01**	**206**	*e*P	**Pb**	**06 08 23.1**	**-0.2**
CHKT				*e*S	**Sb**	**06 08 37.8**	**+1.3**
TATO	**Taipei**	**1.01**	**341**		**Pn**	**06 08 23.6**	**-0.2**
TATO	**Taipei**	**1.01**	**341**	P	**Pn**	**06 08 24.1**	**+0.3**
TWQ1	**Liyutan**	**1.03**	**289**	⇑*i*P	**Pn**	**06 08 24.1**	**0.0**
TWQ1				*e*S	**Sn**	**06 08 38.9**	**+0.3**
WJS	**Zhushan**	**1.04**	**260**	*e*P	**Pn**	**06 08 24.4**	**+0.2**
WJS				*e*S	**Sn**	**06 08 39.7**	**+1.1**
EHD	**Haiduan**	**1.04**	**214**	*e*P	**Pg**	**06 08 22.6**	**-1.3**
EHD				*e*S	**Sg**	**06 08 37.1**	**-0.4**
NWF	**Wu-fen Shan**	**1.05**	**357**	*e*P	**Pn**	**06 08 25.1**	**+0.6**
WFSB	**Wu-fen Shan**	**1.05**	**357**	*e*P	**Pn**	**06 08 24.9**	**+0.4**
NSY	**Sanyi**	**1.07**	**292**	⇑*i*P	**Pn**	**06 08 25.3**	**+0.7**
NSY				*e*S	**Sn**	**06 08 39.4**	**+0.1**
WNT	**Mingjian**	**1.07**	**263**	*e*P	**Pn**	**06 08 24.7**	**+0.1**
WNT				*e*S	**Sn**	**06 08 40.9**	**+1.5**
ALS	**Alishan**	**1.08**	**242**	*e*P	**Pb**	**06 08 24.3**	**-0.2**
ALS				*e*S	**Sn**	**06 08 40.4**	**+0.4**
SXI1	**Grass Mountain**	**1.08**	**2**	⇑*i*P	**Pn**	**06 08 25.5**	**+0.7**
SXI1				*e*S	**Sn**	**06 08 42.8**	**+3.1**
TCU	**Taichung**	**1.08**	**277**	⇑P	**Pn**	**06 08 25.1**	**+0.4**
TCU				*e*S	**Sn**	**06 08 41.4**	**+1.8**
ECS	**Chishang**	**1.08**	**212**	*e*P	**Pg**	**06 08 23.7**	**-1.0**
NMLH	**Miaoli**	**1.09**	**299**	⇑*e*P	**Pn**	**06 08 26.2**	**+1.2**
NMLH				*e*S	**Sn**	**06 08 42.3**	**+2.3**
JYNG	**Yonagunijimaku**	**1.10**	**66**	P	**Pn**	**06 08 25.5**	**+0.5**
JYNG	**Yonagunijimaku**	**1.10**	**66**	A	A	06 08 25.5	
	comp=N,16nm,4.8s,comp=E,17nm,3.8s						
SBCB	**Hsinchu**	**1.10**	**315**	⇑*i*P	**Pn**	**06 08 25.7**	**+0.7**
SBCB				*e*S	**Sn**	**06 08 42.4**	**+2.2**
ELDTW	**Lidau**	**1.12**	**223**	*e*P	**Pg**	**06 08 23.5**	**-1.9**
ELDTW				*e*S	**Sg**	**06 08 39.6**	**-0.4**
HSN	**Hsinchu**	**1.12**	**315**	*e*P	**Pn**	**06 08 26.1**	**+0.8**
HSN				*e*S	**Sb**	**06 08 39.4**	**-0.2**
NCUH	**Zhongli**	**1.12**	**328**	*e*P	**Pn**	**06 08 25.8**	**+0.4**
NCUH				*e*S	**Sn**	**06 08 44.5**	**+3.8**
TNOU	**National Taiwa**	**1.13**	**357**	*e*P	**Pn**	**06 08 26.6**	**+1.1**
EDH	**Donghe**	**1.15**	**206**	*e*P	**Pg**	**06 08 25.3**	**-0.7**
EDH				*e*S	**Sb**	**06 08 41.2**	**+0.7**
WDJ	**Dajia District**	**1.15**	**287**	*e*P	**Pn**	**06 08 27.1**	**+1.4**
WDJ				*e*S	**Sn**	**06 08 42.7**	**+1.4**
TWS1	**Kuangyinshan**	**1.15**	**340**	P	**Pn**	**06 08 26.8**	**+1.0**
TWS1				*e*S	**Sn**	**06 08 44.1**	**+2.8**
YOJ	**Yonaguni jima**	**1.16**	**67**		**Pn**	**06 08 26.1**	**+0.3**
YOJ	**Yonaguni jima**	**1.16**	**67**	P	**Pn**	**06 08 26.6**	**+0.8**
YOJ	**Yonaguni jima**	**1.16**	**67**	*i* P	**Pn**	**06 08 25.8**	**0.0**
YOJ				S	**Sn**	**06 08 43.4**	**+1.9**
YOJ	**Yonaguni jima**	**1.16**	**67**	*e*P	**Pn**	**06 08 26.1**	**+0.3**
YOJ				*e*S	**Sn**	**06 08 43.7**	**+2.3**
YOJ	**Yonaguni jima**	**1.16**	**67**	A	A	06 08 26.1	
	comp=N,17nm,3.9s,comp=E,14nm,2.2s						
ZUZH	**Zhuzihu**	**1.18**	**347**	*e*P	**Pn**	**06 08 26.6**	**+0.5**
ZUZH				*e*S	**Sn**	**06 08 44.3**	**+2.2**
WCHH	**Zhanghua**	**1.18**	**273**	*e*P	**Pn**	**06 08 26.7**	**+0.6**
WCHH				*e*S	**Sn**	**06 08 44.1**	**+2.1**
WCH1	**Changhua City**	**1.19**	**273**	*e*P	**Pn**	**06 08 27.0**	**+0.8**
WCH1				*e*S	**Sn**	**06 08 44.3**	**+2.1**
NTST	**Danshui**	**1.20**	**343**	*e*P	**Pn**	**06 08 27.4**	**+1.0**
NTST				*e*S	**Sn**	**06 08 45.2**	**+2.6**
ANP	**Anpu**	**1.21**	**346**	*e*P	**Pn**	**06 08 27.0**	**+0.4**
WDLH	**Douliu**	**1.24**	**255**	*e*P	**Pn**	**06 08 27.6**	**+0.7**
WCKO	**Fanlu**	**1.27**	**244**	*e*P	**Pg**	**06 08 28.4**	**+0.1**
WCKO				*e*S	**Sn**	**06 08 47.8**	**+3.3**
TWY	**Chenhua**	**1.28**	**350**	*e*P	**Pn**	**06 08 29.5**	**+2.0**
LONT	**Longtian**	**1.28**	**211**	*e*P	**Pn**	**06 08 26.3**	**-1.3**
STYH	**Taoyuan**	**1.29**	**230**	⇑P	**Pn**	**06 08 27.1**	**-0.5**
STYH				*e*S	**Sn**	**06 08 45.2**	**+0.4**
TPUB	**Ta-pu**	**1.32**	**238**		**Pb**	**06 08 28.3**	**-0.3**
TPUB	**Ta-pu**	**1.32**	**238**	P	**Pg**	**06 08 28.6**	**-0.7**
TPUB	**Ta-pu**	**1.32**	**238**	P	**Pg**	**06 08 28.5**	**-0.7**
TPUB				S	**Sn**	**06 08 47.5**	**+1.9**
CHN2	**Minshiung**	**1.34**	**249**	*e*P	**Pg**	**06 08 29.8**	**+0.1**
CHN2				*e*S	**Sn**	**06 08 48.9**	**+2.8**
WTP	**Ta-pu**	**1.36**	**236**	*e*P	**Pg**	**06 08 29.2**	**-0.9**
WTP				*e*S	**Sn**	**06 08 50.9**	**+4.2**
WTK	**Tuku**	**1.37**	**257**	*e*P	**Pg**	**06 08 31.0**	**+0.7**
LDUT	**Ludao**	**1.38**	**195**	*e*P	**Pn**	**06 08 25.8**	**-3.1**
TWGBT	**Beinan**	**1.38**	**211**	P	**Pn**	**06 08 27.6**	**-1.3**
TWGBT	**Beinan**	**1.38**	**211**	*e*P	**Pn**	**06 08 27.3**	**-1.6**
TWGBT				*e*S	**Sb**	**06 08 46.6**	**-0.6**
TWG	**Pinlang**	**1.38**	**211**		**Pn**	**06 08 27.3**	**-1.7**
TWG	**Pinlang**	**1.38**	**211**	*e*P	**Pn**	**06 08 27.4**	**-1.5**
TWG				*e*S	**Sb**	**06 08 46.9**	**-0.4**
TTN	**Taitung**	**1.41**	**207**	*e*P	**Pn**	**06 08 28.7**	**-0.5**
WSF	**Szhu**	**1.53**	**256**	*e*P	**Pb**	**06 08 31.4**	**-0.8**
WSF				*e*S	**Sg**	**06 08 54.8**	**+1.5**
WSL	**Shuilin Townsh**	**1.56**	**252**	*e*P	**Pg**	**06 08 32.6**	**-1.2**
WSL				*e*S	**Sg**	**06 08 55.0**	**+0.9**
ICHU	**Yijhu**	**1.57**	**246**	*e*P	**Pg**	**06 08 33.2**	**-1.0**
PCYT	**Pengchaiyu**	**1.62**	**7**	P	**Pg**	**06 08 33.5**	**-1.5**
ECL	**Taimali**	**1.63**	**210**	*e*P	**Pn**	**06 08 30.9**	**-1.4**
CHN8	**Yiju**	**1.64**	**246**	*e*P	**Pb**	**06 08 33.7**	**-0.3**
CHN8				*e*S	**Sg**	**06 08 56.5**	**-0.1**
CHN3	**Shinhua**	**1.65**	**236**	*e*P	**Pg**	**06 08 34.3**	**-1.2**
CHN3				*e*S	**Sg**	**06 08 59.1**	**+2.2**
SCST	**Cishan**	**1.67**	**228**	*e*P	**Pg**	**06 08 35.2**	**-0.8**
SSD	**Sandimen**	**1.68**	**222**	*e*P	**Pn**	**06 08 33.3**	**+0.2**
SHHT	**Tainan City**	**1.69**	**235**	*e*P	**Pg**	**06 08 35.4**	**-1.0**
IRIF	**Iriomote-Funau**	**1.75**	**79**	*e*P	**Pn**	**06 08 34.5**	**+0.5**
IRIF				*e*S	**Sb**	**06 08 57.7**	**-0.1**
IRIF	**Iriomote-Funau**	**1.75**	**79**	A	A	06 08 34.5	
	comp=N,10.0nm,4.9s,comp=E,9.0nm,4.5s						
TWM1	**Shoushan**	**1.76**	**228**	*e*P	**Pg**	**06 08 37.1**	**-0.7**
MASBT	**Mashibuluo**	**1.79**	**219**	*e*P	**Pn**	**06 08 35.0**	**+0.6**
MASBT				*e*S	**Sg**	**06 09 01.6**	**+0.3**
SGLT	**Jiouru**	**1.79**	**224**	*e*P	**Pg**	**06 08 36.9**	**-1.3**
HATJ	**Hateruma jima**	**1.79**	**88**	*e*S	**Sg**	**06 09 00.8**	**-0.8**
HATJ	**Hateruma jima**	**1.79**	**88**	A	A	06 09 00.8	
	comp=N,17nm,2.9s,comp=E,14nm,2.1s						
TSCK	**Chigu Township**	**1.83**	**242**	*e*P	**Pn**	**06 08 35.9**	**+0.8**
EAST	**Anshuo**	**1.86**	**210**	*e*P	**Pn**	**06 08 34.6**	**-1.0**
LAY	**Lan-yu**	**1.98**	**188**	*e*P	**Pn**	**06 08 35.6**	**-1.6**
SCZT	**Fangliau**	**1.98**	**215**	*e*P	**Pb**	**06 08 38.7**	**-1.2**
JKRS	**Kuro-shima**	**1.99**	**83**	*e*P	**Pb**	**06 08 38.9**	**-1.1**
JKRS	**Kuro-shima**	**1.99**	**83**	A	A	06 08 38.9	
	comp=N,16nm,5.3s,comp=E,17nm,2.9s						
WSSB	**Gushan**	**2.00**	**227**	*e*P	**Pn**	**06 08 38.3**	**+0.9**
LYUB	**Lan-yu**	**2.02**	**187**	*e*P	**Pn**	**06 08 33.9**	**-3.8**
SLIU	**Shizi**	**2.03**	**208**	*e*P	**Pb**	**06 08 39.8**	**-0.9**
JIJ	**Ishigaki jima**	**2.13**	**80**	P	**Pn**	**06 08 39.4**	**+0.3**
WDGT	**Dungji**	**2.14**	**250**	*e*P	**Pn**	**06 08 39.6**	**+0.3**
PHUB	**P'eng-hu**	**2.14**	**257**	*e*P	**Pn**	**06 08 39.8**	**+0.4**
PNG	**Penghu**	**2.14**	**258**	*e*P	**Pb**	**06 08 40.9**	**-1.6**
TWP	**Hsiaoliuchiu**	**2.15**	**220**	*e*P	**Pb**	**06 08 42.4**	**-0.3**
TWK1	**Hengchun**	**2.27**	**205**	*e*P	**Pn**	**06 08 40.8**	**-0.4**
TWKBT	**Hengchun**	**2.27**	**205**	*e*P	**Pn**	**06 08 39.2**	**-1.9**
TSEB	**Hengchuen, Pin**	**2.28**	**203**	*e*P	**Pb**	**06 08 44.0**	**-0.8**
TSEB				*e*S	**Sn**	**06 09 08.9**	**-0.3**
JISG	**Ishigakijimahi**	**2.32**	**75**	P	**Pn**	**06 08 42.2**	**+0.4**
JISG				*e*S	**Sn**	**06 09 11.3**	**+1.0**
VCHM	**Qimei**	**2.35**	**251**	*e*P	**Pn**	**06 08 42.2**	**-0.1**
VWUC	**VWUC**	**2.39**	**295**	*e*P	**Pn**	**06 08 41.5**	**-1.3**
JTJ	**Tarama**	**2.68**	**76**	*e*P	**Pn**	**06 08 47.6**	**+0.8**
JTJ	**Tarama**	**2.68**	**76**	A	A	06 08 47.6	
	comp=N,8.0nm,5.3s,comp=E,6.0nm,2.7s						
PTMZ	**Houxiangcun**	**2.68**	**293**	*e*P	**Pn**	**06 08 45.7**	**-1.1**
MATB	**Ma-tsu**	**2.74**	**321**	*e*P	**Pn**	**06 08 47.2**	**-0.4**
QZH	**Quanzhou**	**3.10**	**288**	Pn	**Pn**	**06 08 52.1**	**-0.5**
QZH				Sn	**Sn**	**06 09 30.2**	**+0.6**
QZH				smax	smax		
	comp=E,1μm,0.9s						
QZH				smax	smax		
	comp=E,1μm,0.9s						
QZH				LR	LR		
	comp=E,6μm,9.8s						
QZH				LR	LR		
	comp=E,6μm,8.8s						
KNM	**Kinmen**	**3.14**	**278**	*e*P	**Pn**	**06 08 54.7**	**+1.6**
KNMB	**Chin-men Tao**	**3.19**	**279**		**Pn**	**06 08 53.1**	**-0.6**
KNMB	**Chin-men Tao**	**3.19**	**279**	*e*P	**Pn**	**06 08 53.5**	**-0.2**
MHZQ	**Yeshan**	**3.29**	**310**	*e*P	**Pn**	**06 08 55.5**	**+0.4**
JOW	**Kunigami**	**6.46**	**63**	Pn	**Pn**	**06 09 38.3**	**-0.4**
JOW	**Kunigami**	**6.46**	**63**	P	**Pn**	**06 09 40.9**	**+2.1**
	comp=E,7.8nm,0.3s,baz=294,slow=11,SNR=4.9						
GZH	**Guangzhou**	**7.85**	**265**	Pn	**Pn**	**06 09 53.3**	**-4.6**
GZH				Sn	**Sn**	**06 11 19.6**	**-7.1**
GZH				smax	smax		
	comp=E,430nm,0.9s						
GZH				smax	smax		
	comp=E,280nm,1.0s						
CNSH	**ChangSha**	**9.02**	**299**	P	Pn	06 10 18.8	+4.9
CNSH				S	Sn	06 12 08.4	+13
CNSH				smax	smax		
	comp=E,400nm,1.0s						
CNSH				smax	smax		
	comp=E,470nm,1.1s						
CNSH				LR	LR		
	comp=E,2μm,9.4s						
CNSH				LR	LR		
	comp=E,2μm,8.4s						
CNSH				LR	LR		
	comp=E,2μm,8.8s						
WHN	**Wuhan**	**9.31**	**316**	P	Pn	06 10 22.6	+4.7
WHN				S	**Sn**	**06 12 06.3**	**+3.8**
WHN				LR	LR		
	comp=E,8μm,8.2s						
WHN				LR	LR		
	comp=E,4μm,8.5s						
WHN				LR	LR		
	comp=E,10μm,7.8s						
QIZ	**Qiongzhong**	**12.22**	**248**	P	**Pn**	**06 10 55.3**	**-2.5**
QIZ				S	**Sn**	**06 13 19.4**	**+5.4**
QIZ				pmax	pmax		
	comp=Z,17nm,1.2s						
QIZ				LR	LR		
	comp=N,550nm,9.4s						
QIZ				LR	LR		
	comp=E,320nm,8.0s						
QIZ				LR	LR		
	comp=Z,570nm,10.3s						
KSRS	**Korea Array**	**14.38**	**20**	P	**Pn**	**06 11 28.9**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=201,slow=11,SNR=12						
XAN	**Xi'an**	**15.07**	**314**	⇑P	**Pn**	**06 11 37.8**	**+1.1**
XAN				pP	pwP	06 11 48.7	+0.7
XAN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BJI	**Beijing**	**16.68**	**345**	P	**P**	**06 12 03.0**	**+3.3**
CD2	**Chengdu**	**17.45**	**297**	P	**P**	**06 12 08.0**	**-0.4**
CD2				PP	**PnPn**	**06 12 23.5**	**+6.1**
CD2				S	**Sn**	**06 15 21.6**	**+0.2**
CD2				LR	LR		
	comp=Z,1μm,7.5s						
CD2				LR	LR		
	comp=Z,1μm,7.3s						
CD2				LR	LR		
	comp=Z,2μm,8.4s						
MJAR	**Matsushiro Arr**	**18.82**	**45**	P	**P**	**06 12 23.2**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=247,slow=12,SNR=1.0						
LZDM	**Lanzhou Array**	**19.68**	**311**	P	**Pn**	**06 12 34.8**	**+0.2**
	comp=Z,2.2nm,0.3s,baz=116,slow=14,SNR=6.0						
TNCH	**TengChong**	**21.24**	**278**	P	**P**	**06 12 55.7**	**+5.6**
TNCH				sP	pwP	06 13 02.1	+6.3
TNCH				S	**S**	**06 16 36.8**	**-9.4**
TNCH				SS	**SnSn**	**06 17 20.0**	**+12**
TNCH				pmax	pmax		
	comp=Z,240nm,4.0s						
TNCH				LR	LR		
	comp=Z,520nm,7.0s						
TNCH				LR	LR		
	comp=Z,1μm,8.4s						
TNCH				LR	LR		
	comp=Z,2μm,9.2s						
CMAR	**Chiang Mai Arr**	**22.04**	**260**	P	**P**	**06 13 00.2**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=58,slow=8.4,SNR=4.5						
	comp=Z,0.5nm,0.3s						
GTA

KNGR	**Kungurtug, Tuv**	**0.60**	**323**		Pg		**Pg**	06 36 06.9	-0.5
KNGR					Sg		**Sg**	06 36 14.4	-1.0
KNGR	**Kungurtug, Tuv**	**0.60**	**323**	*c i*	PG		**Pg**	06 36 05.8	-1.7
KNGR				*i*	S		**Sg**	06 36 13.4	-2.0
MOY	**Mondy**	**2.40**	**49**		Pg		**Pn**	06 36 36.2	+1.0
MOY					Sg		**Sb**	06 37 08.2	-0.6
MOY	**Mondy**	**2.40**	**49**	*e*	PN		**Pn**	06 36 36.3	+1.1
MOY				*e*				06 37 07.9	
MOY					pmax	pmax			
	comp=Z,1μm,0.3s								
MOY					smax	smax			
	comp=N,3μm,0.8s								
ORL	**Orlik**	**2.65**	**23**	*e*	PN		**Pn**	06 36 40.6	+2.0
ORL				*e*				06 37 12.8	
ORL					pmax	pmax			
	comp=Z,437nm,0.4s								
ORL					smax	smax			
	comp=E,2μm,1.7s								
KZLR	**Kyzyl**	**2.79**	**306**		Pg		**Pb**	06 36 44.0	-1.7
KZLR					Sg		**Sb**	06 37 19.9	0.0
KZLR	**Kyzyl**	**2.79**	**306**		PN		**Pb**	06 36 44.2	-1.5
KZLR								06 37 20.6	
ARS	**Arshan**	**3.28**	**55**	⇓ *i*	PN		**Pn**	06 36 48.0	+0.8
ARS				*e*				06 36 53.5	
ARS				*e*				06 37 35.2	
ARS					pmax	pmax			
	comp=Z,388nm,0.6s								
ARS					smax	smax			
	comp=E,2μm,0.8s								
ZAK	**Zakamensk**	**3.34**	**84**		Pn		**Pn**	06 36 49.2	+1.0
ZAK					Pg		**Pb**	06 36 55.0	-0.2
ZAK					Sg		**Sg**	06 37 41.4	-1.8
ZAK	**Zakamensk**	**3.34**	**84**	*e*	PN		**Pn**	06 36 48.8	+0.6
ZAK				*e*				06 37 37.8	
ZAK					pmax	pmax			
	comp=Z,231nm,0.4s								
ZAK					smax	smax			
	comp=N,3μm,1.3s								
ARDR	**Aradan**	**3.81**	**312**		Pn		**Pn**	06 36 55.5	+0.9
ARDR					Pg		**Pb**	06 37 00.8	-2.4
ARDR					Sg		**Sb**	06 37 48.4	-1.1
ARDR	**Aradan**	**3.81**	**312**		PN		**Pb**	06 37 01.3	-1.9
ARDR								06 37 48.3	
TLY	**Talaya**	**3.85**	**64**	*e*	PN		**Pb**	06 37 03.1	-0.6
TLY				*e*				06 37 53.3	
TLY					pmax	pmax			
	comp=Z,340nm,0.8s								
TLY					smax	smax			
	comp=E,2μm,1.3s								
IRK	**Irkutsk**	**4.43**	**59**		Pg		**Pb**	06 37 13.5	-0.1
IRK					Sg		**Sb**	06 38 09.7	+2.6
IRK	**Irkutsk**	**4.43**	**59**	*e*	PN		**Pb**	06 37 12.8	-0.8
IRK				*e*				06 38 09.4	
IRK					pmax	pmax			
	comp=Z,370nm,0.1s								
IRK					smax	smax			
	comp=N,1μm,0.9s								
LSTR	**Listvyanka**	**4.60**	**65**	*e*	PN		**Pb**	06 37 16.6	0.0
LSTR				*e*				06 38 16.6	
LSTR					pmax	pmax			
	comp=Z,129nm,0.7s								
LSTR					smax	smax			
	comp=N,515nm,1.6s								
CERR	**Cheremushki**	**4.98**	**306**		Pg		**Pb**	06 37 24.2	+1.2
CERR					Sg		**Sb**	06 38 27.9	+5.0
DJO	**Djoy, Khakassi**	**5.05**	**304**		Pn		**Pn**	06 37 13.0	+1.5
DJO					Pg		**Pb**	06 37 24.7	+0.5
DJO					Sg		**Sb**	06 38 30.3	+5.4
TEL	**Teeli**	**5.11**	**283**		Pn		**Pn**	06 37 11.8	-0.5
TEL					Pg		**Pb**	06 37 27.8	+2.7
TEL					Sg		**Sb**	06 38 32.3	+5.8
MINR	**Mina**	**5.34**	**335**		Pn		**Pn**	06 37 17.0	+1.5
MINR					Pg		**Pb**	06 37 30.2	+1.1
MINR					Sg		**Sb**	06 38 39.1	+6.0
VEH	**Verkhnyaya Baz**	**5.76**	**306**		Pn		**Pn**	06 37 22.1	+0.8
VEH					Pg		**Pb**	06 37 39.5	+3.3
VEH					Sg		**Sb**	06 38 50.5	+5.3
TRG	**Tyrgan**	**5.80**	**60**	*e*	PN		**Pn**	06 37 21.0	-0.8
TRG				*e*				06 37 37.5	
TRG				*e*				06 38 52.6	
TRG					pmax	pmax			
	comp=Z,72nm,0.4s								
TRG					smax	smax			
	comp=N,416nm,1.0s								
SONM	**Songino Array**	**5.93**	**110**		Pn		**Pn**	06 37 24.4	+0.6
	comp=N,3.6nm,0.3s,baz=301,slow=14,SNR=48								
SONM					Pg		**Pb**	06 37 42.3	+3.1
	comp=N,9.9nm,0.3s,baz=298,slow=16,SNR=19								
SONM					Lg	Lg		06 39 02.1	
	comp=N,13nm,0.3s,baz=279,slow=15,SNR=6.3								
SONM					LR	LR		06 39 57.8	
	comp=N,274nm,18.8s,baz=219,slow=41								
	comp=N,6.6nm,0.2s								
ULN	**Ulaanbaatar**	**6.32**	**108**		Pn		**Pn**	06 37 30.3	+1.2
ULN					Pg		**Pb**	06 37 49.7	+3.8
ULN					Sg		**Sg**	06 39 15.0	-3.5
ULN	**Ulaanbaatar**	**6.32**	**108**	*de*	PN		**Pn**	06 37 29.3	+0.2
ULGR	**Ulagan, Altay**	**6.50**	**278**		Pn		**Pn**	06 37 32.5	+1.0
ULGR					Pg		Pb	06 37 54.6	+5.7
ULGR					Sg		**Sg**	06 39 19.1	-5.1
LUZB	**Luzhba, Kemero**	**6.70**	**305**		Pn		**Pn**	06 37 34.9	+0.8
LUZB					Pg		**Pb**	06 37 53.7	+1.5
LUZB					Sg		**Sb**	06 39 18.8	+6.6
AKAR	**Aktash**	**6.72**	**276**		Pg		**Pg**	06 38 01.1	-3.3
AKAR					Sg		**Sg**	06 39 23.9	-7.4
GZLN	**Zheleznogorsk**	**6.78**	**339**		Pn		Pn	06 37 29.5	-5.7
GZLN					Pg		**Pb**	06 37 53.8	+0.2
GZLN					Sg		**Sb**	06 39 20.0	+5.5
CHBI	**Chibit, Altay**	**6.79**	**276**		Pn		**Pn**	06 37 36.9	+1.3
CHBI					Pg		**Pg**	06 38 06.9	+1.1
CHBI					Sg		**Sg**	06 39 27.3	-6.5
YALR	**Yailyu, Altay**	**6.82**	**288**		Pn		**Pn**	06 37 36.9	+1.1
YALR					Pg		**Pb**	06 37 57.7	+3.4
YALR					Sg		Sb	06 39 25.5	+10
DGZ	**Jazzator, Alta**	**6.89**	**271**		Pn		**Pn**	06 37 37.3	+0.3
DGZ					Pg		**Pg**	06 38 06.9	-0.8
DGZ					Sg		**Sg**	06 39 29.8	-7.1
ARTR	**Artybash**	**7.03**	**288**		Pn		**Pn**	06 37 39.8	+1.2
ARTR					Pg		Pb	06 38 04.0	+6.2
ARTR					Sg		Sg	06 39 32.0	-9.1
KIYZ	**Kiyzas, Kuzbas**	**7.26**	**302**		Sg		**Sb**	06 39 36.4	+8.0
KALT2	**Kaltan 2**	**7.44**	**300**		Sg		**Sb**	06 39 41.0	+7.5
ELDR	**Elanda**	**7.70**	**283**		Pn		**Pn**	06 37 50.8	+2.9
ELDR					Pg		Pb	06 38 16.2	+6.9
ELDR					Sg		**Sg**	06 39 57.1	-5.6
ERU	**Erunakovo, Kuz**	**7.71**	**306**		Sg		**Sg**	06 39 55.4	-7.7
ELT	**Eltsovka**	**8.00**	**298**		Pn		**Pn**	06 37 51.7	-0.2
ELT					Pg		**Pb**	06 38 18.5	+4.2
ELT					Sg		Sb	06 39 59.7	+10
BRCR	**Berchikul'**	**8.08**	**317**		Pn		**Pn**	06 37 50.5	-2.5
BRCR					Pg		**Pb**	06 38 16.6	+0.9
BRCR					Sg		Sb	06 40 03.5	+12
POMOR	**Pomortsevo, Ku**	**8.28**	**306**		Sg		Sg	06 40 12.3	-9.0
BJR3	**Bachatsky-3 (S**	**8.40**	**304**		Sg		Sg	06 40 15.9	-9.2
BJR2	**Bachatsky-2, K**	**8.44**	**304**		Sg		**Sg**	06 40 20.2	-6.2
BJR1	**Bachatsky 1, K**	**8.47**	**304**		Pg		**Pb**	06 38 27.0	+4.6
BJR1					Sg		Sg	06 40 18.5	-8.8
UKR	**Ust'-Kan**	**8.52**	**281**		Pg		Pg	06 38 30.9	-7.9
UKR					Sg		**Sg**	06 40 21.8	-7.3
SALR	**Pechorkino, Sa**	**8.72**	**304**		Pg		Pg	06 38 31.0	-12
SALR					Sg		Sg	06 40 23.7	-12
ZALV	**Zalesovo Beam**	**9.03**	**300**		Pn		**Pn**	06 38 05.0	-1.0
	comp=N,0.2nm,0.3s,baz=98,slow=11,SNR=3.8								
ZALV					Lg	Lg		06 40 35.8	
	comp=N,2.2nm,0.3s,baz=107,slow=25,SNR=9.2								
	comp=N,0.9nm,0.4s								
ZALV	**Zalesovo Beam**	**9.03**	**300**	*i*	P		**Pn**	06 38 07.4	+1.4
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.4s								
NVSII	**Novosibirsk**	**10.21**	**303**		Sg		Sn	06 41 06.9	+50
NVS	**Novosibirsk**	**10.21**	**303**		Sg		Sn	06 41 07.4	+51
GTA	**Gaotai**	**10.78**	**173**	*eP*			Pn	06 38 39.6	+9.3
GTA					pP			06 38 43.1	
GTA					pmax	pmax			
	comp=Z,3.0nm,1.0s								
GTA					LR	LR			
	comp=N,340nm,9.2s								
GTA					LR	LR			
	comp=E,570nm,8.0s								
GTA					LR	LR			
	comp=Z,370nm,9.6s								
MK31	**Makanchi Array**	**11.01**	**258**	⇓ *eP*			**Pn**	06 38 32.5	-0.7

MKAR	**Makanchi Array**	**11.01**	**258**		Pn		**Pn**	06 38 34.8	+1.7
	comp=Z,0.3nm,0.3s,baz=65,slow=12,SNR=4.3								
MKAR					Sn		**Sn**	06 40 36.9	+0.7
	comp=Z,0.4nm,0.3s,baz=73,slow=15,SNR=4.3								
MKAR					Lg	Lg		06 41 42.8	
	comp=Z,0.5nm,0.3s,baz=49,slow=13,SNR=4.7								
	comp=Z,0.2nm,0.4s								
KURK	**Kurchatov**	**12.43**	**280**		P		**Pn**	06 38 53.4	+0.8
KURBB	**Kurchatov Arra**	**12.49**	**280**		Pn		**Pn**	06 38 53.4	-0.1
	baz=90,slow=14,SNR=9.1								
KURBB					Lg	Lg		06 42 29.8	
	comp=Z,0.1nm,0.3s,baz=310,slow=24,SNR=14								
	comp=Z,1.0nm,0.8s								
BTO	**Baotou**	**12.67**	**134**	*eP*			**Pn**	06 38 53.0	-3.1
BTO					S		**Sn**	06 41 13.2	-4.0
BTO					pmax	pmax			
	comp=Z,52nm,0.8s								
BTO					pmax	pmax			
	comp=Z,120nm,3.8s								
BTO					LR	LR			
	comp=N,590nm,2.6s								
BTO					LR	LR			
	comp=E,970nm,4.1s								
BTO					LR	LR			
	comp=Z,490nm,9.0s								
BVAR	**Borovoye Array**	**17.41**	**290**		P		**Pn**	06 39 58.6	0.0
	baz=82,slow=11,SNR=6.2								
	comp=Z,2.4nm,0.9s								
VLA	**Vladivostok**	**24.09**	**94**	⇑ *eP*			**P**	06 41 09.7	-1.6
ARTI	**Arti**	**24.29**	**300**		P		**P**	06 41 11.1	-1.9
ARTI					S		**S**	06 45 30.0	-1.6
KSRS	**Korea Array**	**24.80**	**109**		P		**P**	06 41 19.1	+1.4
	comp=Z,1.1nm,0.5s,baz=310,slow=7.2,SNR=5.6								
	comp=Z,1.1nm,0.5s								
ARCES	**ARCESS Array B**	**38.35**	**327**		P		**P**	06 43 15.1	-1.3
	comp=Z,3.0nm,1.1s,baz=86,slow=6.2,SNR=4.2								
	comp=Z,3.0nm,1.1s								
FINES	**FINESS Array B**	**39.94**	**315**		P		**P**	06 43 29.4	-0.3
	comp=Z,2.0nm,0.7s,baz=64,slow=8.7,SNR=8.9								
	comp=Z,2.0nm,0.7s								
FINES	**FINESS Array B**	**39.94**	**315**	*i*	P		**P**	06 43 29.3	-0.4
FINES					pmax	pmax			
	comp=Z,2.0nm,0.7s								
BRTR	**Keskin Array B**	**45.47**	**283**		P		**P**	06 44 14.9	-0.1
	comp=Z,0.9nm,0.7s,baz=79,slow=6.4,SNR=4.7								
	comp=Z,0.9nm,0.7s								
BRTR	**Keskin Array B**	**45.47**	**283**	*i*	P		**P**	06 44 16.0	+1.0
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.9s								
HFS	**Hagfors**	**46.05**	**316**		P		**P**	06 44 18.7	-0.5
	comp=Z,2.6nm,0.6s,baz=78,slow=7.7,SNR=5.0								
	comp=Z,2.6nm,0.6s								
NB2	**NORSAR Subarra**	**46.71**	**318**		P		**P**	06 44 23.1	-1.3
	comp=Z,0.9nm,0.5s,baz=63,slow=4.8								
NOA	**NORSAR Array B**	**46.71**	**318**		P		**P**	06 44 23.3	-1.1
	comp=Z,1.2nm,0.6s,baz=62,slow=7.7,SNR=6.2								
	comp=Z,1.2nm,0.6s								
WRA	**Warramunga Arr**	**76.77**	**145**		P		**P**	06 47 47.8	+0.5
	comp=Z,0.7nm,1.0s,baz=341,slow=5.7,SNR=2.1								
	comp=Z,0.7nm,1.0s								
ASAR	**Alice Springs**	**80.03**	**147**		P		**P**	06 48 06.0	+0.7
	comp=Z,0.2nm,0.6s,baz=324,slow=6.2,SNR=5.2								
	comp=Z,0.2nm,0.6s								

IDC ***10*** *06:49:08.8±1.5,5.85×130.80E, h0km, mb4.1/3, mbtmp4.1/6, ML4.2/3, MS3.0/1, Error ellipse: s-maj=79.4km s-min=21.7km az=72.0*

ISC 10 06:49:13.2±1.4, 6.3S±0.1×130.5E±0.2, h35km, n7, σ3.9/9, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.65**	**201**	Pn	**P**		**06 52 17.8**	**-3.8**
	0.9nm,0.3s,baz=25,slow=12,SNR=36							
FITZ				Sn	**Sn**		**06 54 31.6**	**+1.2**
	1.6nm,0.3s,baz=245,slow=20,SNR=9.7							
	2.2nm,0.3s							
WRA	**Warramunga Arr**	**14.08**	**165**	Pn	**P**		**06 52 35.0**	**-2.5**
	1.0nm,0.3s,baz=347,slow=13,SNR=10							
WRA				Sn	**Sn**		**06 55 04.8**	**-0.7**
	1.5nm,0.3s,baz=333,slow=24,SNR=7.9							
	1.0nm,0.4s							
DAV	**Davao City (W)**	**14.14**	**340**	LR	LR		06 58 46.8	
	comp=Z,71nm,21.1s,baz=4.0,slow=42							
ASAR	**Alice Springs**	**17.59**	**170**	P	**P**		**06 53 21.8**	**+5.3**
	0.7nm,0.3s,baz=352,slow=11,SNR=39							
ASAR				S	**Sn**		**06 56 29.4**	**-1.3**
	0.9nm,0.6s,baz=353,slow=27,SNR=5.1							
	2.7nm,0.5s							
STKA	**Stephens Creek**	**27.50**	**159**	P	**P**		**06 54 58.4**	**+2.0**
	1.0nm,0.3s,baz=346,slow=11,SNR=3.9							
	1.0nm,0.3s							
MKAR	**Makanchi Array**	**67.90**	**326**	P	**P**		**07 00 08.5**	**+0.2**
	1.6nm,0.4s,baz=113,slow=7.8,SNR=16							
	1.6nm,0.4s							
KURBB	**Kurchatov Arra**	**72.16**	**328**	P	**P**		**07 00 33.7**	**-0.6**
	0.5nm,0.7s,baz=140,slow=5.8,SNR=2.6							
	0.5nm,0.7s							

ISK ***10*** *07:06:42.3,35.18N×28.10E, h2km, ML4.1/42*

IDC ***10*** *07:06:44.4±0.6,35.25N×27.83E, h0km, mb4.2/25, mbtmp4.2/35, ML3.9/10, MS3.5/11, Error ellipse: s-maj=13.1km s-min=11.3km az=170.0*

NIC ***10*** *07:06:44.8,34.95N×27.73E, h28km±2km, Ml4.1/12*

ATH ***10*** *07:06:45.8,35.14N×27.96E, h8km±2km, ML3.9/9, Manual Solution by M.Charalampakis First location: 2019/09/10 07:08:08, This location: 2020/10/08 09:09:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*

HLW ***10*** *07:06:45.9,35.16N×27.97E, h4km±4km, Ml4.0*

GII ***10*** *07:06:46.4±0.0,35.076N±0.002×27.882E±0.001, h20km, Mws4.5, confirmed*

NEIC ***10*** *07:06:46.4±1.3,35.11N±0.06×27.82E±0.06, h19km±5km, mb4.3/18, Error ellipse: s-maj=9.0km s-min=6.8km az=195.0*

AFAD ***10*** *07:06:47.0,35.72N×27.68E, h7km±5km, MW4.2*

THE ***10*** *07:06:49.2,35N×23×2.8E±3.6, h4km±44km, M3.8/9, MLh3.8/9*

ISC 10 07:06:45.9±1.1, 35.17N±0.03×27.86E±0.02, h14km±7km, n266, σ1.9/41/300, mb4.2/29, MS3.6/5, 6C-9D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.69**	**304**	Pg	**Pg**		**07 06 59.4**	**0.0**
KARP				Sg	**Sn**		**07 07 12.1**	**+0.4**
KARP	**Karpathos**	**0.69**	**304**		**Pg**		**07 06 59.1**	**-0.3**
KARP				Sg	**Sb**		**07 07 09.1**	**0.0**
KARP	**Karpathos**	**0.69**	**304**	P	**Pg**		**07 06 59.6**	**+0.2**
KARP				S	**Sg**		**07 07 08.2**	**-0.3**
KARP	**Karpathos**	**0.69**	**304**	P	**Pg**		**07 06 59.1**	**-0.3**
KARP				S	**Sn**		**07 07 10.8**	**-0.9**
KARP				AML	AML		07 07 11.9	
	26nm,0.6s							
KARP				AML	AML		07 07 18.1	
	27nm,0.5s							
KARP	**Karpathos**	**0.69**	**304**	P	**Pg**		**07 06 59.2**	**-0.1**
KARP				S	**Sb**		**07 07 09.2**	**+0.2**
ARG	**Arkhangelos**	**1.07**	**11**		**Pb**		**07 07 05.7**	**-0.4**
ARG	**Arkhangelos**	**1.07**	**11**	P	**Pb**		**07 07 05.4**	**-0.7**
ARG	**Arkhangelos**	**1.07**	**11**	⇑ P	**Pb**		**07 07 06.4**	**+0.3**
ARG				S	**Sn**		**07 07 24.1**	**+3.1**
ARG				AML	AML		07 07 26.8	
	11nm,0.8s							
ARG				AML	AML		07 07 33.8	
	7.6nm,0.7s							
ARG	**Arkhangelos**	**1.07**	**11**	P	**Pb**		**07 07 06.0**	**-0.1**
ARG				S	**Sg**		**07 07 20.8**	**+0.3**
ZKR	**Zakros**	**1.35**	**268**	Pn	**Pg**		**07 07 12.3**	**+0.4**
ZKR				Sn	**Sg**		**07 07 33.1**	**+3.6**
ZKR	**Zakros**	**1.35**	**268**	P	**Pg**		**07 07 11.8**	**-0.1**
NISR	**Nisiros**	**1.56**	**338**	P	**Pb**		**07 07 14.8**	**+0.3**
DAT	**Datca**	**1.57**	**352**	Pn	**Pn**		**07 07 12.5**	**-1.0**
DAT				Sn	**Sb**		**07 07 34.7**	**0.0**
TURN	**Turunc**	**1.63**	**11**	Pn	**Pn**		**07 07 12.5**	**-1.7**
KSL	**Kastellorizon**	**1.71**	**55**	P	**Pn**		**07 07 15.6**	**+0.4**
KSL				S	**Sg**		**07 07 40.3**	**-0.7**
KSL				AML	AML		07 08 16.3	
	3.6nm,1.3s							
KSL				AML	AML		07 08 18.0	
	2.0nm,1.8s							

KSL	**Kastellorizon**	**1.71**	**55**		P		**Pn**	07 07 14.9	-0.3
NPS	**Neapolis**	**1.85**	**274**		P		**Pg**	07 07 20.8	-0.6
NPS	**Neapolis**	**1.85**	**274**		P		**Pb**	07 07 19.4	0.0
YKAV	**Yalikavak-Bodr**	**2.01**	**347**		Pn		**Pn**	07 07 18.9	-0.4
CAME	**Cameli-Denizli**	**2.12**	**33**		Pn		**Pn**	07 07 18.4	-2.6
THERA	**Ancient Thera,**	**2.28**	**302**		P		**Pb**	07 07 25.2	-1.7
THERA	**Ancient Thera,**	**2.28**	**302**		P		**Pb**	07 07 25.1	-1.7
THR3	**Thira Island,**	**2.35**	**302**		P		**Pn**	07 07 25.9	+1.8
THR3	**Thira Island,**	**2.35**	**302**		P		**Pn**	07 07 25.8	+1.8
SNT5	**Nea Kammeni, S**	**2.35**	**302**		P		**Pn**	07 07 25.7	+1.6
SAP3	**Santorini-Thir**	**2.41**	**302**		P		**Pn**	07 07 26.8	+2.0
IDI	**Anoyia**	**2.44**	**274**		Pn		**Pn**	07 07 27.1	+1.8
IDI	**Anoyia**	**2.44**	**274**				**Pn**	07 07 25.0	-0.4
IDI	**Anoyia**	**2.44**	**274**		P		**Pb**	07 07 28.3	-1.2
IDI	**Anoyia**	**2.44**	**274**		Pn		**Pn**	07 07 26.9	+1.6
	63nm,0.6s,baz=50,slow=4.9,SNR=26								
IDI					LR	LR		07 07 57.7	
	comp=Z,470nm,19.4s,baz=112,slow=30								
IDI					Sn		**Sb**	07 07 58.6	-0.8
	47nm,0.3s,baz=30,slow=19,SNR=5.6								
IDI	**Anoyia**	**2.44**	**274**		P		**Pn**	07 07 27.5	+2.2
APMY	**Acipayam-Deniz**	**2.58**	**26**		Pn		**Pn**	07 07 25.7	-1.5
GCAM	**G?zelcaml?**	**2.58**	**349**		Pn		**Pn**	07 07 26.8	-0.4
SMG	**Samos**	**2.67**	**342**		P		**Pn**	07 07 28.7	+0.3
SMG	**Samos**	**2.67**	**342**		P		**Pn**	07 07 29.8	+1.4
KORT	**Korkueli**	**2.72**	**47**		Pn		**Pn**	07 07 26.3	-3.0
PRNS	**Prines Rethymn**	**2.76**	**275**		P		**Pb**	07 07 33.3	-1.1
AYDB	**Zeytinkoy-Aydi**	**2.77**	**0**		Pn		**Pn**	07 07 29.1	-0.9
NAZL	**Nazilli-Aydin**	**2.81**	**7**		Pn		**Pn**	07 07 29.3	-1.1
ANTB	**Antalya**	**2.85**	**52**		Pn		**Pn**	07 07 28.5	-2.3
INCE	**Denizli-Bozkur**	**2.89**	**28**		P		**Pn**	07 07 32.7	+1.2
INCE					S		**Sg**	07 08 20.9	+2.3
INCE					*i* IAML			07 08 40.0	
	comp=N,358nm,1.3s								
INCE					*i* IAML			07 08 50.0	
	comp=E,380nm,0.9s								
BUCA	**Burdur, Bucak-**	**3.06**	**45**		P		**Pn**	07 07 35.5	+1.6
BUCA					S		**Sn**	07 08 08.8	-1.6
BUCA					*i* IAML			07 08 25.0	
	comp=E,173nm,0.8s								
BUCA					*i* IAML			07 08 42.0	
	comp=N,114nm,0.6s								
ODEM	**Odemis-Izmir**	**3.11**	**3**		Pn		**Pn**	07 07 33.4	-1.1
GVD	**Gavdhos**	**3.12**	**265**		Pn		**Pn**	07 07 36.8	+2.2
CHAN	**Chania**	**3.14**	**277**		P		**Pb**	07 07 38.7	-2.9
BLCB	**Balcova**	**3.28**	**349**		Pn		**Pn**	07 07 36.7	-0.1
URLA	**Izmir**	**3.34**	**343**		Pn		**Pn**	07 07 38.0	+0.2
MANT	**Manisa**	**3.36**	**9**				**Pn**	07 07 38.8	+0.6
KULA	**Kula-Manisa**	**3.40**	**11**		Pn		**Pn**	07 07 37.6	-1.0
ISP	**Isparta**	**3.41**	**38**		Pn		**Pn**	07 07 39.7	+1.0
ISP	**Isparta**	**3.41**	**38**		P		**Pn**	07 07 39.8	+1.2
CHOS	**Chios island**	**3.52**	**336**		Pn		**Pn**	07 07 41.0	+0.7
CHOS	**Chios island**	**3.52**	**336**		P		**Pn**	07 07 41.3	+1.1
CHOS	**Chios island**	**3.52**	**336**		P		**Pn**	07 07 41.9	+1.6
ALAN	**Alanya-ANTALYA**	**3.66**	**67**		Pn		**Pn**	07 07 39.2	-2.8
AKMS	**Akamas**	**3.67**	**91**		P		**Pn**	07 07 41.7	-0.5
AKMS					S		**Sn**	07 08 25.2	0.0
AKMS					AML	AML		07 08 29.3	
	1.1nm,0.5s								
AKMS					AML	AML		07 08 29.5	
	1.4nm,0.8s								
AKMS	**Akamas**	**3.67**	**91**		P		**Pn**	07 07 41.8	-0.5
BAGO	**Egridir - ISPA**	**3.67**	**39**		P		**Pn**	07 07 39.0	-3.3
BAGO					S		Sg	07 08 58.5	+15
GORD	**Gordes-Manisa**	**3.74**	**4**		Pn		**Pn**	07 07 42.7	-0.5
AFYN	**Afyon-Dinar-K**	**3.75**	**34**		P		**Pn**	07 07 43.9	+0.5
GAZI	**Gazipasa**	**3.78**	**72**		Pn		**Pn**	07 07 40.9	-2.8
ANKY	**Antikythira Is**	**3.79**	**282**		P		**Pn**	07 07 46.4	+2.6
ANKY	**Antikythira Is**	**3.79**	**282**		P		**Pn**	07 07 45.8	+2.0
MATC	**Matruh**	**3.85**	**188**		P		**Pn**	07 07 46.1	+1.5
ALFC	**Alefka**	**3.88**	**89**	⇑ *iP*			**Pn**	07 07 44.4	-0.7
ALFC					S		**Sn**	07 08 30.8	+0.3
ALFC					AML	AML		07 08 34.4	
	0.8nm,0.9s								
ALFC					AML	AML		07 08 36.9	
	1.2nm,0.7s								
ALFC	**Alefka**	**3.88**	**89**		P		**Pn**	07 07 44.5	-0.6
SEDI	**Konya, Seydise**	**3.88**	**53**		P		**Pn**	07

comp=N,22nm,1.0s
EZN Ezine 4.81 346 Pn **Pn** 07 07 58.7 +0.9
EZN Ezine 4.81 346 ⇑P **Pn** 07 07 59.3 +1.5
CIFT Cifteler, Eski 4.90 30 Pn **Pn** 07 07 57.1 -2.1
KEBE Keben-Mersin 4.92 73 Pn **Pn** 07 07 57.3 -2.2
COMU Canakkale 5.04 348 Pn **Pn** 07 08 01.9 +0.8
SILI Silifke-Mersin 5.07 75 Pn **Pn** 07 07 59.0 -2.4
ALIN Konya, Altinte 5.10 51 P **Pn** 07 08 03.4 +1.5
ALIN S **Sn** 07 08 55.5 -5.1
ALIN *i* IAML 07 09 04.0
comp=E,27nm,1.0s
ALIN *i* IAML 07 09 33.0
comp=N,26nm,1.1s
ITM Ithomi 5.21 294 Pn **Pn** 07 08 06.2 +2.9
ITM Ithomi 5.21 294 **Pn** 07 08 05.1 +1.8
CBEY Konya-Cihanbey 5.28 47 P **Pn** 07 08 06.5 +2.1
CBEY S **Sn** 07 09 06.1 +1.1
GELI Tayfur-Gelibol 5.33 349 Pn **Pn** 07 08 05.9 +0.8
MERS Mersin 5.66 71 Pn **Pn** 07 08 07.9 -1.7
POLA Polatl-ANKAR 5.67 36 Pn **Pn** 07 08 09.0 -0.8
CAVK Edirne/Enez-Ca 5.67 347 ⇑P **Pn** 07 08 11.6 +1.9
ALN Alexandroupoli 5.90 346 **Pn** 07 08 13.3 +0.6
RDO Rodhopi 6.24 344 **Pn** 07 08 18.3 +0.8
SWA2 6.25 200 P **Pn** 07 08 19.0 +1.3
HHAG Hagoal 6.31 144 P **Pn** 07 08 18.9 +0.4
RYAN Fayoum 6.40 161 P **Pn** 07 08 20.1 +0.3
BR131 Keskin Array S 6.46 44 **Pn** 07 08 21.0 +0.3
BRTR Keskin Array B 6.46 44 **Pn** 07 08 21.4 +0.7
BRTR Keskin Array B 6.46 44 Pn **Pn** 07 08 22.1 +1.3
0.5nm,0.3s,baz=221,slow=15,SNR=19
BRTR Sn **Sn** 07 09 35.6 +1.3
0.5nm,0.3s,baz=215,slow=21,SNR=5.7
7.2nm,0.9s
LIT Litokhoron 6.51 321 Pn **Pn** 07 08 20.1 -1.2
MMC7 Mount Meron ar 6.60 107 P **Pn** 07 08 22.1 -0.5
MMA0B Mount Meron ar 6.61 107 P **Pn** 07 08 22.4 -0.4
MMA0B Mount Meron ar 6.61 107 S **Sn** 07 09 37.4 -0.5
MMAI Mount Meron Ar 6.61 107 Pn **Pn** 07 08 22.4 -0.3
9.1nm,0.3s,baz=289,slow=14,SNR=28
MMAI Sn **Sn** 07 09 38.1 +0.2
11nm,0.3s,baz=292,slow=21,SNR=7.6
17nm,0.5s
SLTI Sal'it 6.66 114 P **Pn** 07 08 21.9 -1.4
SLTI Sal'it 6.66 114 S **Sn** 07 09 37.4 -1.4
GEM Giv'at Ha'Em 6.75 105 P **Pn** 07 08 24.4 -0.2
GEM Giv'at Ha'Em 6.75 105 S **Sn** 07 09 39.9 -1.3
NATI Neve Ativ 6.79 104 P **Pn** 07 08 25.4 +0.3
NATI Neve Ativ 6.79 104 S **Sn** 07 09 41.7 -0.5
SALP Salfit 6.85 115 P **Pn** 07 08 26.0 +0.1
SALP Salfit 6.85 115 S **Sn** 07 09 42.9 -0.7
MMLI Mount Malkishu 6.86 111 P **Pn** 07 08 25.6 -0.4
MMLI Mount Malkishu 6.86 111 S **Sn** 07 09 42.4 -1.4
KSHT Keshet 6.95 106 P **Pn** 07 08 27.2 0.0
KSHT Keshet 6.95 106 S **Sn** 07 09 45.4 -0.6
HMDT Nahal Hemdat 7.01 112 P **Pn** 07 08 27.6 -0.5
HMDT Nahal Hemdat 7.01 112 S **Sn** 07 09 46.7 -1.0
YTIR Yattir 7.16 120 P **Pn** 07 08 29.7 -0.5
YTIR Yattir 7.16 120 S **Sn** 07 09 50.2 -1.2
BALJ Balqa 7.18 113 **Pn** 07 08 28.6 -1.8
DSI Dead Sea 7.24 118 P **Pn** 07 08 30.6 -0.6
DSI Dead Sea 7.24 118 S **Sn** 07 09 52.0 -1.3
MSBI Mazada 7.36 119 P **Pn** 07 08 32.1 -0.7
MSBI Mazada 7.36 119 S **Sn** 07 09 54.2 -1.9
BNN Bunyan 7.37 58 **Pn** 07 08 32.2 -0.9
RMNI Mount Ramon 7.38 126 P **Pn** 07 08 32.6 -0.6
RMNI Mount Ramon 7.38 126 S **Sn** 07 09 55.5 -1.3
GHAJ Ghor Haditha 7.51 119 **Pn** 07 08 35.5 +0.5
GHAJ Ghor Haditha 7.51 119 P **Pn** 07 08 35.2 +0.1
GHAJ Ghor Haditha 7.51 119 S **Sn** 07 09 58.7 -1.3
FNA Florina 7.59 320 **Pn** 07 08 37.3 +1.2
KRMI Paran Flat 7.67 129 P **Pn** 07 08 36.3 -0.9
KRMI Paran Flat 7.67 129 S **Sn** 07 10 02.2 -1.7
ZFRI Zfri 7.68 125 P **Pn** 07 08 36.6 -0.7
ZFRI Zfri 7.68 125 S **Sn** 07 10 02.5 -1.6
PRNI Paran 7.70 127 P **Pn** 07 08 36.0 -1.5
PRNI Paran 7.70 127 S **Sn** 07 10 02.7 -1.8
ELND Elena 7.90 349 ⇓P **Pn** 07 08 41.9 +1.6
HRFI Mount Harif 7.92 128 P **Pn** 07 08 39.6 -1.0
HRFI Mount Harif 7.92 128 S **Sn** 07 10 08.7 -1.4
MBRI Mt Berech 8.01 130 P **Pn** 07 08 41.8 -0.1
MBRI Mt Berech 8.01 130 S **Sn** 07 10 11.0 -1.4
GRB Gharib 8.05 147 P **Pn** 07 08 43.7 +1.3
ASF Jabal al Asfar 8.10 109 Pn **Pn** 07 08 43.5 +0.4
2.2nm,0.3s,baz=308,slow=7.6,SNR=30
ASF Sn **Sn** 07 10 20.0 +5.4
1.1nm,0.3s,baz=169,slow=23,SNR=3.7
22nm,0.6s
EIL Elat 8.12 131 Pn **Pn** 07 08 43.9 +0.6
5.9nm,0.3s,baz=335,slow=6.8,SNR=37
EIL Sn **Sn** 07 10 12.6 -2.3
7.8nm,0.3s,baz=293,slow=21,SNR=7.4
45nm,0.6s
EIL Elat 8.12 131 P **Pn** 07 08 42.9 -0.4
EIL Elat 8.12 131 S **Sn** 07 10 12.5 -2.4
HBST Basata 8.31 134 P **Pn** 07 08 46.1 +0.2
HHRG Al Ghardaqah 9.31 147 P **Pn** 07 09 03.0 +3.3
TPGR Topolog 9.69 2 ⇑P **Pn** 07 09 06.5 +1.7
BOVS Bovan 9.70 332 ⇓P **Pn** 07 09 07.1 +2.1
TIP Timpagrande 9.72 298 **Pn** 07 09 03.9 -1.5
MLR Muntele Rosu 10.41 353 **Pn** 07 09 16.7 +1.9
MLR Muntele Rosu 10.41 353 Pn **Pn** 07 09 16.2 +1.4
0.2nm,0.3s,baz=249,slow=4.6,SNR=7.7
MLR LR LR 07 13 35.4
comp=Z,209nm,19.3s,baz=178,slow=40
8.4nm,0.8s
MLR Muntele Rosu 10.41 353 ⇓P **Pn** 07 09 17.3 +2.5
MDVR Moldovita 10.69 336 ⇓P **Pn** 07 09 21.0 +2.3
CUC Castrocucco 10.70 300 **Pn** 07 09 18.1 -0.6
GZR Gura Zlata 10.92 341 ⇓P **Pn** 07 09 23.4 +1.6
VAE Valguarnera 11.10 286 LR LR 07 13 23.1
comp=Z,185nm,21.0s,baz=298,slow=36
SURR Surduc 11.44 339 ⇑P **Pn** 07 09 31.0 +2.2
DRGR 12.24 343 ⇓P **Pn** 07 09 41.7 +1.9
PSZ Piszkesteto 14.06 337 Pn **Pn** 07 10 04.8 +0.2
GNI Garni 14.26 65 LR LR 07 17 11.1
comp=Z,282nm,18.6s,baz=266,slow=44
KBZ Khabaz 14.40 49 Pn **P** 07 10 13.9 -2.2
0.3nm,0.3s,baz=235,slow=7.2,SNR=26
KBZ LR LR 07 16 40.5
comp=Z,136nm,20.7s,baz=27,slow=42
5.4nm,0.8s
SOKA Soboth 15.02 324 *e*Pn **Pn** 07 10 18.5 +0.8
10nm,1.0s
KEST Kesra 15.11 277 **Pn** 07 10 17.7 -1.3
KEST IAmb IAmb 07 10 35.1
comp=Z,15nm,0.8s
OBKA Obir 15.14 322 *e*Pn **Pn** 07 10 20.2 +0.9
comp=Z,15nm,1.5s
ARSA Arzberg 15.21 326 *i* Pn **Pn** 07 10 21.3 +1.2
comp=Z,4.4nm,0.9s
RONA Rosalia, Austr 15.21 329 *i* Pn **Pn** 07 10 21.1 +1.0
comp=Z,3.6nm,1.0s
AKASG Malin Array Be 15.56 3 Pn **Pn** 07 10 24.6 -0.1
comp=Z,0.7nm,0.3s,baz=194,slow=11,SNR=9.9
AKASG LR LR 07 17 14.4
comp=Z,196nm,19.5s,baz=183,slow=41
CONA Conrad Observa 15.57 329 *i* Pn **Pn** 07 10 26.2 +1.2
comp=Z,3.4nm,1.3s
MYKA Terra Mystica 15.68 321 *i* Pn **Pn** 07 10 27.4 +1.1
comp=Z,7.0nm,0.9s
KBA Koelnbreinsper 16.13 322 *i* Pn **Pn** 07 10 32.3 0.0
comp=Z,26nm,1.2s
OJC Ojcow 16.15 341 **Pn** 07 10 31.5 -0.9
MOA Molln 16.22 325 *i* Pn **P** 07 10 35.2 -1.2
comp=Z,8.9nm,1.2s
ABTA Abfaltersbach 16.34 320 *e*Pn **Pn** 07 10 34.7 -0.2
comp=Z,12nm,0.9s
VRAC Vranov 16.38 333 Pn **Pn** 07 10 36.3 +1.0
comp=Z,0.3nm,0.3s,baz=316,slow=1.8,SNR=4.2
comp=Z,3.3nm,0.6s
CTI Castel Tesino 16.39 316 **Pn** 07 10 35.5 0.0
CTI IAmb IAmb 07 10 54.5
comp=Z,17nm,0.8s
BIOA Bad Ischl, Aus 16.41 324 *e*Pn **P** 07 10 37.8 -0.7
comp=Z,11nm,1.3s
MORC Moravsky Berou 16.44 336 **Pn** 07 10 36.2 +0.1
LESA Schwarzleotal 16.70 322 *i* Pn **Pn** 07 10 40.6 +1.2
comp=Z,11nm,0.8s
WTTA Wattenberg 17.14 320 *i* Pn **P** 07 10 46.5 -0.2
comp=Z,7.9nm,0.8s
GEC2 GERESS Array S 17.21 327 IAmb IAmb 07 10 59.6
comp=Z,16nm,1.1s
GERES GERESS Array B 17.21 327 P **P** 07 10 46.9 -0.5
baz=142,slow=9.7,SNR=18
comp=Z,2.7nm,0.7s
WATA Walderalm 17.21 320 *i* Pn **Pn** 07 10 46.7 +0.7
comp=Z,20nm,1.2s
SQTA Sankt Quirin 17.34 319 *e*Pn **Pn** 07 10 47.9 +0.5
comp=Z,11nm,0.8s
DPC Dobruska-Polom 17.35 335 *e*P **P** 07 10 48.5 -0.3
DPC AMS AMS 07 18 40.0
comp=Z,200nm,16.2s
MOTA Moosalm 17.47 319 *e*Pn **Pn** 07 10 49.7 +0.5
comp=Z,9.6nm,1.0s
KHC Kasperske Hory 17.47 327 *e*P **Pn** 07 10 48.9 -0.2
KHC AMS AMS 07 18 20.0
comp=Z,300nm,14.4s
FETA Feichten 17.48 318 *i* Pn **P** 07 10 51.1 +0.7
comp=Z,20nm,1.0s
CHVC Chvalec 17.64 334 *e*P **P** 07 10 53.1 +1.1
RETA Reutte 17.74 319 *i* Pn **Pn** 07 10 52.8 +0.3
comp=Z,5.1nm,0.8s
DAVOX Davos/Dischmat 17.81 316 P **Pn** 07 10 52.7 -0.8
comp=Z,0.6nm,0.3s,baz=126,slow=22,SNR=5.7
DAVOX LR LR 07 18 48.1
comp=Z,168nm,20.4s,baz=101,slow=41
comp=Z,2.0nm,0.3s
DAVA Damuels 18.10 317 *i* Pn **P** 07 10 57.8 +0.5
comp=Z,7.2nm,0.5s
GRFO Grafenberg 18.95 325 P **P** 07 11 05.4 -1.0
GRFO IAmb IAmb 07 11 29.8
comp=Z,30nm,1.3s
SENIN Lac Senin/Sane 19.12 312 P **P** 07 11 08.2 -0.3
SENIN IAmb IAmb 07 11 10.9
comp=Z,9.7nm,0.7s
RAYN Ar Rayn 19.23 122 P **P** 07 11 08.6 -1.1
RAYN IAmb IAmb 07 11 13.3
comp=Z,9.5nm,0.8s
CLL Collm 19.37 331 P **P** 07 11 10.4 -0.6
CLL Collm 19.37 331 *i* P **P** 07 11 11.7 +0.8
comp=Z,6.0nm,0.8s
CLL *ex* x 07 11 17.0
CLL *ex* x 07 11 20.0
CLL LmH 07 17 00.0
comp=N,100nm,18.6s
CLL LmH 07 17 00.0
comp=E,200nm,20.3s
CLL LmV 07 19 00.0
comp=Z,100nm,20.6s
OBN Obninsk 20.84 14 P **P** 07 11 26.8 0.0
comp=Z,28nm,0.4s,baz=28,slow=23,SNR=3.4
comp=Z,28nm,0.4s
BTNL Ternell 22.04 321 *d*P **P** 07 11 40.3 +0.4
comp=Z,7.2nm,1.0s
BELG Belogornoye 22.24 33 P **P** 07 11 42.1 +0.2
comp=Z,21nm,0.8s,baz=8.5,slow=6.0,SNR=5.7
comp=Z,21nm,0.8s
BCLA Clavier 22.38 320 *d*P **P** 07 11 44.2 +0.7
DOU Dourbes 22.58 318 *d*P **P** 07 11 46.3 +0.7
ESBB Sonseca Array 25.60 290 P **P** 07 12 12.9 -1.7
ESBB IAmb IAmb 07 12 18.2
comp=Z,8.2nm,0.8s
ESDC Sonseca Array 25.60 290 P **P** 07 12 15.1 +0.4
comp=Z,5.2nm,0.8s,baz=92,slow=8.4,SNR=22
comp=Z,5.2nm,0.8s
FINES FINESS Array B 26.32 358 P **P** 07 12 20.1 -0.7
comp=Z,2.5nm,0.6s,baz=172,slow=9.7,SNR=9.4
comp=Z,2.5nm,0.6s
HFS Hagfors 26.62 344 P **P** 07 12 22.5 -1.2
comp=Z,5.6nm,0.8s,baz=153,slow=9.7,SNR=7.8
comp=Z,5.6nm,0.8s
AB31 Akbulak array 27.38 49 P **P** 07 12 30.8 +0.2
AB31 IAmb IAmb 07 12 38.8
comp=Z,6.3nm,0.9s
ABKAR Akbulak array 27.38 49 P **P** 07 12 30.5 -0.1
NAO01 NORSAR Array S 27.91 342 P **P** 07 12 33.4 -1.9
NB2 NORSAR Subarra 28.00 343 P **P** 07 12 34.4 -1.7
comp=Z,1.0nm,0.7s,baz=158,slow=6.2
NOA NORSAR Array B 28.00 343 P **P** 07 12 34.2 -1.9
comp=Z,0.8nm,0.6s,baz=150,slow=7.8,SNR=5.1
NOA LR LR 07 25 57.9
comp=Z,108nm,18.5s,baz=150,slow=41
comp=Z,0.8nm,0.6s
EKA Eskdalemuir Ar 29.34 323 P **P** 07 12 47.8 -0.2
comp=Z,0.4nm,0.5s,baz=130,slow=9.9,SNR=2.2
EKA PcP **PcP** 07 15 56.0 +2.0
comp=Z,1.2nm,0.7s,baz=79,slow=4.3,SNR=3.9
comp=Z,0.4nm,0.5s
TORD Torodi Ar. Bea 32.23 234 P **P** 07 13 11.7 -2.2
TORD Torodi Ar. Bea 32.23 234 P **P** 07 13 14.8 +1.0
comp=Z,3.2nm,0.5s,baz=39,slow=8.4,SNR=47
comp=Z,3.2nm,0.5s
SIMJ Simiganj 32.89 72 P **P** 07 13 17.8 -1.8
KK31 Karatay Array 33.72 63 P **P** 07 13 26.5 -0.2
KK31 IAmb IAmb 07 13 50.9
comp=Z,3.6nm,0.9s
KKAR Karatay Array 33.72 63 P **P** 07 13 26.4 -0.3
ARCES ARCESS Array B 34.45 359 P **P** 07 13 31.8 -0.9
comp=Z,3.0nm,0.9s,baz=181,slow=8.7,SNR=7.6
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 34.75 46 P **P** 07 13 36.3 +0.9
comp=Z,0.4nm,0.3s,baz=260,slow=5.6,SNR=4.9
BVAR PP **PnPn** 07 14 52.0 +0.6
comp=Z,1.2nm,0.7s,baz=254,slow=10,SNR=4.1
BVAR LR LR 07 31 13.0
comp=Z,102nm,20.3s,baz=256,slow=42
comp=Z,0.4nm,0.3s
NIL Nilore 37.23 79 P **P** 07 13 56.4 -0.6
KURBB Kurchatov Arra 39.40 51 P **P** 07 14 15.4 +0.5
comp=Z,1.9nm,0.5s,baz=272,slow=8.7,SNR=8.8
KURBB LR LR 07 34 33.0
comp=Z,82nm,19.7s,baz=178,slow=42
comp=Z,1.9nm,0.5s
DBIC Dimbokro 41.34 234 P **P** 07 14 30.7 -0.7
comp=Z,2.1nm,0.5s,baz=60,slow=8.8,SNR=4.0
comp=Z,2.1nm,0.5s
MK31 Makanchi Array 41.92 57 P **P** 07 14 35.4 -0.5
MKAR Makanchi Array 41.92 57 P **P** 07 14 35.7 -0.2
MKAR Makanchi Array 41.92 57 P **P** 07 14 36.9 +1.0
comp=Z,1.2nm,0.7s,baz=274,slow=7.6,SNR=9.6
comp=Z,1.2nm,0.7s
SPITS Spitsbergen Ar 43.40 357 P **P** 07 14 48.7 +1.2
comp=Z,14nm,1.0s,baz=123,slow=9.2,SNR=2.1
comp=Z,14nm,1.0s
ZALV Zalesovo Beam 43.40 46 P **P** 07 14 47.9 +0.2
comp=Z,0.8nm,0.4s,baz=253,slow=7.4,SNR=4.3
ZALV LR LR 07 36 45.9
comp=Z,72nm,18.9s,baz=308,slow=42
comp=Z,0.8nm,0.4s
WMQ Urumqi 46.08 60 *e*P **P** 07 15 11.8 +2.4
WMQ LR LR
comp=Z,240nm,21.7s
SONM Songino Array 57.76 51 P **P** 07 16 37.6 +1.1
comp=Z,2.5nm,0.8s,baz=288,slow=9.2,SNR=9.4
comp=Z,2.5nm,0.8s
LZDM Lanzhou Array 60.14 65 P **P** 07 16 54.8 +1.3
comp=Z,0.8nm,0.2s,baz=262,slow=8.6,SNR=1.4
comp=Z,0.8nm,0.2s
PZH PanZhiHua 62.72 76 P **P** 07 17 11.7 +1.0
BOSA Boshof 63.49 183 P **P** 07 17 17.9 +2.3
comp=Z,1.6nm,0.7s,baz=13,slow=8.1,SNR=3.4
comp=Z,1.6nm,0.7s
HHC Hu-ho-hao-te 63.78 57 *e*P **P** 07 17 17.1 -0.5
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,100nm,4.6s
CMAR Chiang Mai Arr 64.37 85 P **P** 07 17 22.6 +1.0
comp=Z,0.7nm,0.3s,baz=293,slow=5.0,SNR=4.2
comp=Z,0.7nm,0.3s
USRK Ussuriysk Ar. 75.25 46 P **P** 07 18 27.1 -1.1
comp=Z,1.2nm,0.5s,baz=306,slow=5.2,SNR=2.9
comp=Z,1.2nm,0.5s
KSRS Korea Array 76.51 54 P **P** 07 18 36.6 +1.1
comp=Z,0.9nm,0.5s,baz=316,slow=4.0,SNR=2.9
comp=Z,0.9nm,0.5s
BMAR Burnt Mountain 77.56 357 P **P** 07 18 39.9 -1.0
J30M Hart River 79.81 353 P **P** 07 18 52.9 -0.6
J30M IAmb IAmb 07 19 04.7
comp=Z,2.8nm,0.7s
ILAR Eielson Array 80.30 358 P **P** 07 18 55.7 -0.3
comp=Z,0.5nm,0.9s,baz=355,slow=7.5,SNR=7.3
comp=Z,0.5nm,0.9s
ULM Lac du Bonnet 81.52 327 P **P** 07 19 04.2 +1.5
comp=Z,1.3nm,0.4s,baz=27,slow=6.1,SNR=2.4
comp=Z,1.3nm,0.4s
MJAR Matsushiro Arr 83.65 49 P **P** 07 19 14.9 +0.7
comp=Z,0.7nm,0.4s,baz=301,slow=5.2,SNR=4.2
comp=Z,0.7nm,0.4s
PDAR Pinedale Array 93.23 330 P **P** 07 19 59.7 -0.5
comp=Z,0.2nm,0.6s,baz=48,slow=8.5,SNR=1.6
comp=Z,0.2nm,0.6s
QSPA South Pole Qui 125.02 180 PKP **PKiKP** 07 25 45.9 +0.9
comp=Z,1.3nm,1.0s,baz=247,slow=4.4,SNR=2.6

CATAC 10 07:07:16.3±1.0, 10.7°N±4.7°×8.6°W±.°, h27km±9km, M2.6/6, MLv2.6/6, Error ellipse: s-maj=12.2km s-min=7.8km az=60.8, confirmed, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELI1	**Hacienda Flor**	**0.82**	**61**	P	Pn	07 07 32.1	-0.1
ELI1	**Hacienda Flor**	**0.82**	**61**	S	Sn	07 07 44.0	+0.5
INDI	**Punta indio, G**	**0.86**	**116**	P	Pn	07 07 33.5	+0.7
INDI				S	Sb	07 07 44.0	+0.2
CARN	**Rivas**	**1.20**	**39**	P	Pn	07 07 37.1	-0.2
CARN				S	Sn	07 07 52.9	+0.2
JTS	**Las Juntas de**	**1.31**	**88**	P	Pn	07 07 39.3	+0.3
JTS				S	Sb	07 07 56.4	-0.4
JAPN	**Al SSO del Vol**	**1.40**	**25**	P	Pn	07 07 40.6	+0.4
ACON	**Acoyapa**	**2.03**	**32**	P	Pn	07 07 47.9	-0.9
BOAB	**BOACO BROADBAN**	**2.27**	**15**	P	Pn	07 07 52.1	0.0
BOAB				S	Sn	07 08 19.9	+0.6

*CATAC **10** 07:09:21.0±1.1, 13.7°N±7.7°×9.9°W±.°, h38km±6km, M2.7/6, MLv2.7/6, Error ellipse: s-maj=16.1km s-min=12.6km az=37.1, confirmed*
*GCG **10** 07:09:21.3±0.6, 13.40N×89.67W, h61km±4km, MD3.6*
*SNET **10** 07:09:21.0±0.7, 13.37N×89.65W, h57km±9km, ML2.6*

ISC 10 07:09:20.6±4.3, 13.3N±0.2×89.7W±0.1, h62km±19km, n22, σ0.38/27, 2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAYA	**Jayaque - finc**	**0.40**	**29**	‖*e*P	**Pn**	**07 09 31.6**	**-0.3**
JAYA				*e*S	**Sn**	**07 09 39.7**	**-0.5**
JAYA	**Jayaque - finc**	**0.40**	**29**	*i* P	**Pn**	**07 09 31.7**	**-0.3**
JAYA				*i* S	**Sn**	**07 09 39.8**	**-0.3**
JAYA	**Jayaque - finc**	**0.40**	**29**	P	**Pn**	**07 09 31.6**	**-0.3**
CEVE	**Cerro Verde**	**0.52**	**3**	*e*P	**Pn**	**07 09 33.9**	**+0.7**
PMON	**Piamonte**	**0.52**	**39**	*e*P	**Pn**	**07 09 32.9**	**-0.2**
PMON	**Piamonte**	**0.52**	**39**	P	**Pn**	**07 09 33.2**	**+0.1**
SBLS	**San Blas**	**0.53**	**3**	*e*P	**Pn**	**07 09 33.3**	**-0.1**
SNJE	**San Jose**	**0.56**	**4**	‖*e*P	**Pn**	**07 09 33.6**	**-0.1**
UEES	**Universidad Ev**	**0.57**	**44**	*e*P	**Pn**	**07 09 33.5**	**-0.1**
UEES	**Universidad Ev**	**0.57**	**44**	P	**Pn**	**07 09 33.9**	**+0.3**
LOMA	**Loma Larga**	**0.58**	**54**	*e*P	**Pn**	**07 09 33.9**	**+0.2**
LOMA	**Loma Larga**	**0.58**	**54**	P	**Pn**	**07 09 33.7**	**0.0**
LOMA	**Loma Larga**	**0.58**	**54**	S	**Sn**	**07 09 44.2**	**+0.9**
RTR	**El Retiro**	**0.59**	**0**	*e*P	**Pn**	**07 09 34.1**	**+0.1**
RTR				*e*S	**Sn**	**07 09 44.5**	**+0.9**
NUBE	**Las Nubes**	**0.61**	**348**	*e*P	**Pn**	**07 09 34.0**	**-0.1**
NUBE	**Las Nubes**	**0.61**	**348**	*i* P	**Pn**	**07 09 34.0**	**-0.1**
NUBE				*e*S	**Sn**	**07 09 43.9**	**-0.1**
NUBE	**Las Nubes**	**0.61**	**348**	P	**Pn**	**07 09 34.1**	**-0.1**
NUBE	**Las Nubes**	**0.61**	**348**	S	**Sn**	**07 09 44.1**	**+0.1**
LFRS	**El Faro**	**0.66**	**61**	*e*P	**Pn**	**07 09 34.6**	**0.0**
LFRS				*e*S	**Sn**	**07 09 44.5**	**-0.3**
MTO3	**Montecristo**	**1.12**	**14**	*i* P	**Pn**	**07 09 40.3**	**-0.3**
MTO3	**Montecristo**	**1.12**	**14**	P	**Pn**	**07 09 40.5**	**-0.1**
MTO3	**Montecristo**	**1.12**	**14**	S	**Sn**	**07 09 55.1**	**-0.3**

*GII **10** 07:27:29.9±0.0, 35.046N±0.002×27.787E±0.001, h10km, Mws3.7, confirmed*
*ISK **10** 07:27:31.7, 35.18N×27.95E, h4km, ML3.2/16*
*ATH **10** 07:27:32.2, 35.15N×28.01E, h6km±3km, ML3.2/6, Manual Solution by A.Papageorgiou First location: 2019/09/10 07:28:59, This location: 2019/09/10 14:20:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*NIC **10** 07:27:32.5, 35.09N×28.01E, h4km±1km, Ml3.1/9*
*THE **10** 07:28:04.6, 35.7N±43.2°×2.8E±3.0, h0km±41km, M2.9/4, MLh2.9/4*
*AFAD **10** 07:28:04.7, 37.15N×27.69E, h7km±2km, ML1.8*

ISC 10 07:27:32.3±1.2, 35.14N±0.03×27.94E±0.02, h9km±10km, n75, σ1.30/99, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.76**	**303**	Pg	**Pg**	**07 27 46.5**	**-0.4**
KARP				Sg	**Sg**	**07 27 57.3**	**+0.5**
KARP	**Karpathos**	**0.76**	**303**	P	**Pg**	**07 27 45.8**	**-1.1**
KARP				S	**Sg**	**07 27 54.9**	**-1.9**
KARP	**Karpathos**	**0.76**	**303**	P	**Pg**	**07 27 46.2**	**-0.7**
KARP				S	**Sn**	**07 28 00.0**	**-0.9**
KARP				AML	AML	07 28 02.6	
	3.9nm,0.7s						
KARP				AML	AML	07 28 02.7	
	3.7nm,0.5s						
KARP	**Karpathos**	**0.76**	**303**	P	**Pg**	**07 27 46.6**	**-0.4**
KARP				S	**Sb**	**07 27 58.4**	**+0.2**
RGE1	**Gennadi, Rhode**	**0.89**	**359**	P	**Pg**	**07 27 49.0**	**-0.4**
RGE1				S	**Sg**	**07 28 00.5**	**-0.4**
ARG	**Arkhangelos**	**1.08**	**8**	Pg	**Pg**	**07 27 52.3**	**-0.9**
ARG				Sg	**Sb**	**07 28 07.3**	**-0.3**
ARG	**Arkhangelos**	**1.08**	**8**	P	**Pg**	**07 27 52.2**	**-0.9**
ARG				S	**Sg**	**07 28 05.0**	**-2.3**
ARG	**Arkhangelos**	**1.08**	**8**	P	**Pn**	**07 27 54.0**	**+0.3**
ARG				S	**Sn**	**07 28 10.7**	**+1.7**
ARG				AML	AML	07 28 17.2	
	1.7nm,0.7s						
ARG				AML	AML	07 28 17.3	
	1.3nm,1.3s						
ARG	**Arkhangelos**	**1.08**	**8**	P	**Pg**	**07 27 52.0**	**-1.2**
ARG				S	**Sg**	**07 28 06.8**	**-0.4**
ZKR	**Zakros**	**1.41**	**269**	Pn	**Pb**	**07 27 59.0**	**+0.1**
ZKR	**Zakros**	**1.41**	**269**	P	**Pg**	**07 27 59.7**	**+0.2**
ZKR	**Zakros**	**1.41**	**269**	P	**Pg**	**07 28 00.3**	**+0.9**
ZKR				S	**Sg**	**07 28 20.7**	**+2.9**
ZKR				AML	AML	07 28 26.4	
	1.5nm,0.6s						
ZKR				AML	AML	07 28 28.1	
	0.9nm,0.6s						
ZKR	**Zakros**	**1.41**	**269**	P	**Pb**	**07 27 59.2**	**+0.3**
ZKR				S	**Sg**	**07 28 18.8**	**+1.0**
YAZI	**Mula-Dat§a-**	**1.59**	**346**	P	**Pn**	**07 27 59.2**	**-1.5**
YAZI				S	**Sg**	**07 28 22.7**	**-0.7**
DAT	**Datca**	**1.61**	**350**	Pn	**Pn**	**07 28 01.4**	**+0.2**
TURN	**Turunc**	**1.65**	**8**	Pn	**Pn**	**07 28 01.4**	**-0.1**
TURN	**Turunc**	**1.65**	**8**	P	**Pb**	**07 28 02.2**	**-0.8**
TURN				S	**Sg**	**07 28 24.6**	**-0.8**
KSL	**Kastellorizon**	**1.68**	**53**	P	**Pb**	**07 28 03.1**	**-0.3**
KSL				S	**Sg**	**07 28 26.9**	**+0.7**
KSL	**Kastellorizon**	**1.68**	**53**	P	**Pb**	**07 28 02.6**	**-0.7**
KSL				S	**Sg**	**07 28 28.2**	**+2.0**
KSL				AML	AML	07 28 46.0	
	0.3nm,0.8s						
KSL				AML	AML	07 28 53.9	
	0.2nm,1.0s						
KSL	**Kastellorizon**	**1.68**	**53**	P	**Pn**	**07 28 01.3**	**-0.6**
KSL				S	**Sn**	**07 28 22.8**	**-0.8**
SABU	**Mula-Dalaman**	**1.88**	**26**	P	**Pn**	**07 28 04.2**	**-0.5**
SABU				S	**Sg**	**07 28 40.0**	**+7.4**
NPS	**Neapolis**	**1.91**	**274**	P	**Pb**	**07 28 07.3**	**-0.1**
NPS	**Neapolis**	**1.91**	**274**	P	**Pb**	**07 28 06.6**	**-0.8**
BDRM	**Kayabasi**	**1.96**	**348**	P	**Pn**	**07 28 05.0**	**-0.8**
BDRM				S	**Sn**	**07 28 31.2**	**+0.6**
CAME	**Cameli-Denizli**	**2.11**	**31**	Pn	**Pn**	**07 28 08.5**	**+0.5**
DNZT	**Denizli-Tavas-**	**2.31**	**22**	P	**Pn**	**07 28 11.1**	**+0.4**
TAVA	**DENIZLI_Tavas**	**2.45**	**18**	P	**Pn**	**07 28 12.5**	**-0.2**
IDI	**Anoyia**	**2.50**	**274**	Pn	**Pn**	**07 28 14.6**	**+1.3**
IDI	**Anoyia**	**2.50**	**274**	P	**Pn**	**07 28 14.6**	**+1.3**
AYDN	**Tasoluk**	**2.52**	**359**	P	**Pn**	**07 28 13.3**	**-0.3**
AYDN				S	**Pg**	**07 28 22.9**	**+2.3**
AYDN				*i* IAML		07 28 26.0	
	comp=N,59nm,0.3s						
AYDN				*i* IAML		07 28 26.0	
	comp=E,52nm,0.4s						
APMY	**Acipayam-Deniz**	**2.57**	**25**	Pn	**Pn**	**07 28 14.7**	**+0.4**
ESEN	**Aydn-Nazilli**	**2.67**	**7**	P	**Pn**	**07 28 16.1**	**+0.5**
KORT	**Korkueli**	**2.69**	**46**	Pn	**Pn**	**07 28 17.0**	**+1.0**
SMG	**Samos**	**2.71**	**341**	P	**Pn

CHOS	**Chios island**	**3.58**	**336**	P		**Pn**	**07 28 27.7**	**-0.5**
AKMS	**Akamas**	**3.61**	**91**	P		**Pn**	**07 28 28.8**	**+0.3**
AKMS				S		**Sn**	**07 29 12.3**	**+1.1**
AKMS				AML	AML		07 29 14.9	
	0.2nm,0.7s							
AKMS				AML	AML		07 29 15.4	
	0.2nm,0.4s							
AKMS	**Akamas**	**3.61**	**91**	P		**Pn**	**07 28 28.2**	**-0.3**
GORD	**Gordes-Manisa**	**3.77**	**3**	Pn		**Pn**	**07 28 31.9**	**+1.2**
ALFC	**Alefka**	**3.82**	**88**	P		**Pn**	**07 28 31.4**	**+0.1**
ALFC				S		**Sn**	**07 29 18.2**	**+1.8**
ALFC				AML	AML		07 29 21.1	
	0.2nm,0.6s							
ALFC				AML	AML		07 29 24.1	
	0.1nm,0.9s							
ALFC	**Alefka**	**3.82**	**88**	P		**Pn**	**07 28 31.0**	**-0.4**
ANKY	**Antikythira Is**	**3.85**	**282**	P		**Pn**	**07 28 32.4**	**+0.6**
SEYD	**Seydisehir-KON**	**3.88**	**53**	Pn		**Pn**	**07 28 33.2**	**+0.9**
TROD	**Troodos**	**4.04**	**91**	P		**Pn**	**07 28 34.3**	**-0.4**
TROD				S		**Sn**	**07 29 23.4**	**+1.1**
TROD				AML	AML		07 29 31.7	
	0.2nm,0.5s							
TROD				AML	AML		07 29 32.7	
	0.2nm,0.6s							
XYLS	**Xyliatos**	**4.19**	**90**	P		**Pn**	**07 28 36.8**	**+0.3**
XYLS				S		**Sn**	**07 29 27.0**	**+1.3**
XYLS				AML	AML		07 29 30.1	
	0.1nm,0.8s							
XYLS				AML	AML		07 29 35.8	
	0.1nm,0.5s							
CSS	**Mathiatis**	**4.42**	**91**	P		**Pn**	**07 28 40.0**	**+0.3**
CSS				S		**Sn**	**07 29 31.1**	**-0.3**
CSS				AML	AML		07 29 39.6	
	0.1nm,0.6s							
CSS				AML	AML		07 29 44.7	
	0.1nm,0.5s							
CSS	**Mathiatis**	**4.42**	**91**	P		**Pn**	**07 28 39.0**	**-0.7**
CSS	**Mathiatis**	**4.42**	**91**	S		**Sn**	**07 29 32.0**	**+0.6**
GEM	**Giv'at Ha'Em**	**6.68**	**105**	P		**Pn**	**07 29 09.9**	**-0.8**
GEM	**Giv'at Ha'Em**	**6.68**	**105**	S		**Sn**	**07 30 27.1**	**0.0**
HMDT	**Nahal Hemdat**	**6.95**	**112**	P		**Pn**	**07 29 13.2**	**-1.1**
HMDT	**Nahal Hemdat**	**6.95**	**112**	S		**Sn**	**07 30 33.5**	**0.0**
YTIR	**Yattir**	**7.09**	**120**	P		**Pn**	**07 29 15.1**	**-1.3**
YTIR	**Yattir**	**7.09**	**120**	S		**Sn**	**07 30 36.7**	**-0.6**
DSI	**Dead Sea**	**7.17**	**118**	P		**Pn**	**07 29 15.7**	**-1.7**
DSI	**Dead Sea**	**7.17**	**118**	S		**Sn**	**07 30 38.3**	**-0.7**
RMNI	**Mount Ramon**	**7.31**	**126**	P		**Pn**	**07 29 18.0**	**-1.4**
RMNI	**Mount Ramon**	**7.31**	**126**	S		**Sn**	**07 30 41.7**	**-0.9**
GHAJ	**Ghor Haditha**	**7.45**	**119**	P		**Pn**	**07 29 19.5**	**-1.7**
GHAJ	**Ghor Haditha**	**7.45**	**119**	S		**Sn**	**07 30 45.4**	**-0.4**
KRMI	**Paran Flat**	**7.60**	**129**	P		**Pn**	**07 29 21.6**	**-1.8**
KRMI	**Paran Flat**	**7.60**	**129**	S		**Sn**	**07 30 47.3**	**-2.5**
PRNI	**Paran**	**7.63**	**127**	P		**Pn**	**07 29 22.0**	**-1.7**
PRNI	**Paran**	**7.63**	**127**	S		**Sn**	**07 30 49.6**	**-0.8**
HRFI	**Mount Harif**	**7.86**	**128**	P		**Pn**	**07 29 25.3**	**-1.5**
HRFI	**Mount Harif**	**7.86**	**128**	S		**Sn**	**07 30 54.8**	**-1.2**
MBRI	**Mt Berech**	**7.94**	**130**	P		**Pn**	**07 29 26.6**	**-1.5**
MBRI	**Mt Berech**	**7.94**	**130**	S		**Sn**	**07 30 56.9**	**-1.3**
EIL	**Elat**	**8.05**	**131**	P		**Pn**	**07 29 28.1**	**-1.5**
EIL	**Elat**	**8.05**	**131**	S		**Sn**	**07 30 59.4**	**-1.4**

*IDC **10** 07:33:05.6±2.7,20°.29S×70°.61W,h0ᵏᵐ,mb4.1/1,*
mbtmp3.9/3,ML3.8/2,Error ellipse: s-maj=89.2km
s-min=54.7km az=137.0
*SJA **10** 07:33:13.5±2.3,19°.91S×70°.28W,h80ᵏᵐ±10ᵏᵐ,ML3.8,*
MW3.8
*GUC **10** 07:33:15.7±0.8, 19°.83S×70°.25W,h76ᵏᵐ±4ᵏᵐ,ML3.9*
*VAO **10** 07:33:39.4±1.8, 18°.45S×69°.03W,h168ᵏᵐ±10ᵏᵐ,mb4.1*
ISC 10 07:33:15.0±0.9,**19°.91S**±0°.04×**70°.29W**±0°.07,**h74**ᵏᵐ±7ᵏᵐ,
n51,σ1°**40**/63,**1D**,**Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.39**	**158**	*e*P	**Pn**	**07 33 28.3**	**+1.0**
TA02				*i* S	**Sn**	**07 33 37.4**	**+1.1**
TA02	**Huaiquique**	**0.39**	**158**	*i* P	**Pn**	**07 33 27.5**	**+0.2**
TA02				IAML		07 33 38.7	
	comp=Z,15μm,0.1s						
PB11	**IPOC Station P**	**0.61**	**76**	*e*P	**Pn**	**07 33 29.6**	**0.0**
PB11				*i* S	**Sn**	**07 33 40.1**	**-0.1**
PB11	**IPOC Station P**	**0.61**	**76**	*i* P	**Pn**	**07 33 28.8**	**-0.7**
PB11				⇓*e*S	**Sn**	**07 33 39.6**	**-0.6**
PB11				IAML		07 33 41.2	
	comp=Z,4μm,0.1s						
TA01	**Diego Aracena**	**0.66**	**171**	*e*P	**Pn**	**07 33 30.8**	**+1.0**
TA01				*i* S	**Sn**	**07 33 42.0**	**+1.2**
TA01				IAML		07 33 42.8	
	comp=N,9μm,0.2s						
TA01	**Diego Aracena**	**0.66**	**171**	*i* P	**Pn**	**07 33 29.9**	**+0.1**
TA01				IAML		07 33 42.7	
	comp=Z,2μm,0.1s						
PATCX	**Punta Patache**	**0.91**	**172**	*e*P	**Pn**	**07 33 33.8**	**+1.0**
PATCX				*i* S	**Sn**	**07 33 47.1**	**+1.1**
PATCX				IAML		07 33 50.9	
	comp=E,2μm,0.3s						
PATCX	**Punta Patache**	**0.91**	**172**	*i* P	**Pn**	**07 33 33.2**	**+0.4**
PATCX				*e*S	**Sn**	**07 33 47.0**	**+0.9**
PATCX				IAML		07 33 48.2	
	comp=Z,1μm,0.7s						
GO01	**Chusmiza**	**1.06**	**77**	*e*P	**Pn**	**07 33 35.1**	**+0.2**
GO01				*i* S	**Sn**	**07 33 50.3**	**+0.6**
GO01				IAML		07 33 50.6	
	comp=N,16μm,0.3s						
GO01	**Chusmiza**	**1.06**	**77**	*i* P	**Pn**	**07 33 34.6**	**-0.3**
GO01				IAML		07 33 50.8	
	comp=Z,4μm,0.6s						
PB08	**IPOC Station P**	**1.09**	**102**	*e*P	**Pn**	**07 33 36.0**	**+0.7**
PB08				*i* S	**Sn**	**07 33 51.0**	**+0.7**
PB08				IAML		07 33 52.3	
	comp=E,6μm,0.1s						
PB08	**IPOC Station P**	**1.09**	**102**	*i* P	**Pn**	**07 33 35.3**	**0.0**
PB08				*e*S	**Sn**	**07 33 51.4**	**+1.1**
PB08				IAML		07 33 52.5	
	comp=Z,3μm,0.2s						
PB01	**IPOC Station P**	**1.35**	**146**	*e*P	**Pn**	**07 33 39.0**	**+0.7**
PB01				*i* S	**Sn**	**07 33 56.8**	**+0.9**
PB01				IAML		07 33 59.3	
	comp=E,3μm,0.1s						
PB01	**IPOC Station P**	**1.35**	**146**	*i* P	**Pn**	**07 33 38.3**	**0.0**
PB01				*e*S	**Sn**	**07 33 55.5**	**-0.4**
PB01				IAML		07 34 00.2	
	comp=Z,1μm,0.2s						
PB02	**IPOC Station P**	**1.45**	**165**	*e*P	**Pn**	**07 33 40.8**	**+1.2**
PB02				*i* S	**Sn**	**07 33 60.0**	**+1.9**
PB02	**IPOC Station P**	**1.45**	**165**	*i* P	**Pn**	**07 33 40.2**	**+0.6**
PB02				*e*S	**Sn**	**07 34 00.6**	**+2.5**
PB02				IAML		07 34 03.4	
	comp=Z,2μm,0.2s						
PB16	**IPOC Station P**	**1.73**	**25**	*e*P	**Pn**	**07 33 44.0**	**+0.2**
PB16				*i* S	**Sn**	**07 34 04.8**	**-0.7**
PB16				IAML		07 34 05.6	
	comp=N,952nm,0.3s						
PB16	**IPOC Station P**	**1.73**	**25**	*i* P	**Pn**	**07 33 43.2**	**-0.6**
PB16				IAML		07 34 05.5	
	comp=Z,1μm,0.4s						
PB09	**IPOC Station P**	**2.12**	**153**	*e*P	**Pn**	**07 33 50.1**	**+1.6**
PB09				*i* S	**Sn**	**07 34 16.8**	**+2.8**
PB09				IAML		07 34 23.6	
	comp=E,472nm,0.6s						
PB09	**IPOC Station P**	**2.12**	**153**	*i* P	**Pn**	**07 33 49.7**	**+1.2**
PB09				IAML		07 34 21.6	
	comp=Z,462nm,0.3s						
PB03	**IPOC Station P**	**2.19**	**167**	*e*P	**Pn**	**07 33 50.6**	**+1.2**
PB03				*i* S	**Sn**	**07 34 16.0**	**+0.3**
PB03	**IPOC Station P**	**2.19**	**167**	*i* P	**Pn**	**07 33 49.9**	**+0.4**
PB03				IAML		07 34 24.3	
	comp=Z,551nm,0.2s						
PB18	**Visviri**	**2.43**	**18**	*e*P	**Pn**	**07 33 56.1**	**+2.9**
PB06	**IPOC Station P**	**2.86**	**167**	*e*P	**Pn**	**07 33 59.1**	**+0.5**
PB06				*i* S	**Sn**	**07 34 31.2**	**-0.9**
PB06				IAML		07 34 31.7	
	comp=E,287nm,0.3s						
PB06	**IPOC Station P**	**2.86**	**167**	*i* P	**Pn**	**07 33 58.4**	**-0.1**
PB06				IAML		07 34 34.8	
	comp=Z,235nm,0.2s						
PB05	**IPOC Station P**	**2.93**	**178**	*e*P	**Pn**	**07 33 59.6**	**+0.2**
PB05				*i* S	**Sn**	**07 34 32.0**	**-1.6**
PB05				IAML		07 34 36.0	
	comp=N,210nm,0.1s						
PB05	**IPOC Station P**	**2.93**	**178**	*i* P	**Pn**	**07 33 59.0**	**-0.5**
PB05				IAML		07 34 35.9	
	comp=Z,132nm,0.3s						
PB10	**IPOC Station P**	**3.59**	**184**	*e*P	**Pn**	**07 34 08.0**	**-0.4**
PB10				*i* S	**Sn**	**07 34 47.8**	**-1.9**
PB10	**IPOC Station P**	**3.59**	**184**	*i* P	**Pn**	**07 34 07.4**	**-1.0**
PB10				IAML		07 34 49.7	
	comp=Z,134nm,0.2s						
LPAZ	**La Paz**	**4.15**	**30**	Pn	**Pn**	**07 34 18.3**	**+1.8**
	comp=Z,2.1nm,0.3s,baz=243,slow=4.4,SNR=56						
	comp=Z,6.5nm,0.4s						
LPAZ	**La Paz**	**4.15**	**30**	*i* P	**Pn**	**07 34 19.0**	**+2.5**
LPAZ				IAML		07 35 40.4	
	comp=Z,3.6nm,0.6s						
LPAZ	**La Paz**	**4.15**	**30**	*e*P	**Pn**	**07 34 19.0**	**+2.5**
PB14	**IPOC Station P**	**4.69**	**181**	*i* P	**Pn**	**07 34 22.6**	**-1.1**
PB14				IAML		07 35 16.6	
	comp=Z,86nm,0.4s						
GO02	**Mina Guanaco**	**5.27**	**173**	*i* P	**Pn**	**07 34 30.9**	**-0.6**
GO02				IAML		07 35 35.0	
	comp=Z,44nm,0.1s						
SIV	**San Ignacio**	**9.60**	**68**	Pn	**Pn**	**07 35 28.8**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=259,slow=9.5,SNR=25						
	comp=Z,2.5nm,0.5s						
PDRB	**Porto dos Gac**	**15.43**	**60**	*e*P	**Pn**	**07 36 46.9**	**-1.6**
H03N1	**Juan Fernandez**	**15.51**	**208**	T	T	07 52 36.3	
	baz=33,slow=72,SNR=20						
H03N2	**Juan Fernandez**	**15.52**	**208**	T	T	07 52 43.6	
	baz=33,slow=72,SNR=24						
H03N3	**Juan Fernandez**	**15.53**	**208**	T	T	07 52 39.1	
	baz=33,slow=72,SNR=24						
CLDB	**Colider**	**16.60**	**59**	*e*P	**Pn**	**07 37 02.5**	**-0.7**
TEFE	**Tefe**	**17.21**	**19**	*e*P	**Pn**	**07 37 08.9**	**-1.8**
NPGB	**Novo Progresso**	**19.32**	**51**	*e*P	**P**	**07 37 31.8**	**-2.7**
SNDB	**Serra Nova Dou**	**19.88**	**69**	*e*P	**P**	**07 37 38.5**	**-2.0**
MAJ01	**Sao Joao Batis**	**20.85**	**115**	*e*P	Pn	07 38 04.4	+10
ITTB	**Itaituba**	**20.97**	**44**	*e*P	**P**	**07 37 49.9**	**-2.4**
TORD	**Torodi Ar. Bea**	**78.05**	**71**	P	**P**	**07 45 10.2**	**+4.0**
	comp=Z,0.7nm,0.5s,baz=257,slow=4.7,SNR=5.2						
	comp=Z,0.7nm,0.5s						
H11S2	**WAKE ISLAND Hyl**	**26.38**	**279**	T	T	10 11 40.8	
	baz=102,slow=75,SNR=103						
H11S1	**WAKE ISLAND Hyl**	**26.39**	**279**	T	T	10 11 40.6	
	baz=102,slow=75,SNR=124						
H11S3	**WAKE ISLAND Hyl**	**26.40**	**279**	T	T	10 11 42.0	
	baz=102,slow=75,SNR=68						
ZALV	**Zalesovo Beam**	**141.04**	**23**	PKP	**PKPdf**	**07 52 36.8**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=290,slow=4.2,SNR=2.3						
MKAR	**Makanchi Array**	**145.07**	**34**	PKPbc	**PKPdf**	**07 52 44.1**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=307,slow=4.4,SNR=5.7						

*SOME **10** 07:48:16.5,39°.60N×74°.00E,h25ᵏᵐ*
*KRNET **10** 07:48:21.8±0.1,39°.75N×74°.43E,mb3.3*
*NNC **10** 07:48:25.1±10.0,40°.61N×74°.77E,h0ᵏᵐ,mb3.5,mpv3.4,*
Error ellipse: s-maj=93.9km s-min=56.2km az=129.0
ISC 10 07:48:21.7±1.9,**39°.89N**±0°.09×**73°.93E**±0°.04,**h10**ᵏᵐ,**n21**,
σ1°**47**/36,**11C-10D**,**Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKS	**Jany-Kuch**	**1.75**	**48**	⇓*i*P	**Pn**	**07 48 52.2**	**-0.2**
JNKS				⇓*i*S	**Sn**	**07 49 14.4**	**-0.6**
NRN	**Naryn**	**2.20**	**45**	⇓*i*P	**Pn**	**07 48 59.7**	**+1.1**
NRN				⇓*i*S	**Sn**	**07 49 27.5**	**+1.4**
UCH	**Uchtor**	**2.37**	**11**	⇑*i*P	**Pb**	**07 49 05.9**	**+1.1**
UCH				⇑*i*S	**Sg**	**07 49 38.3**	**+0.3**
EKS2	**Erkin-Say**	**2.77**	**358**	⇓*i*P	**Pb**	**07 49 12.2**	**+0.9**
EKS2				⇓*i*S	**Sg**	**07 49 49.2**	**-1.4**
AAK	**Ala-Archa**	**2.77**	**9**	⇑*i*P	**Pb**	**07 49 11.6**	**+0.1**
AAK				⇑*i*S	**Sb**	**07 49 47.6**	**+2.0**
KBK	**Karagaybulak**	**2.87**	**15**	⇑*i*P	**Pb**	**07 49 12.2**	**-0.8**
KBK				⇑*i*S	**Sb**	**07 49 48.9**	**+0.7**
MRKS	**Merke**	**2.90**	**350**	Pg	**Pb**	**07 49 14.0**	**+0.4**
	9.4nm,0.5s						
MRKS				Lg	Lg	07 49 55.5	
	17nm,0.5s						
MRKS	**Merke**	**2.90**	**350**	*e*P	**Pb**	**07 49 13.9**	**+0.4**
	9.4nm,0.5s						
MRKS				*e*S	**Sg**	**07 49 55.5**	**+0.7**
	17nm,0.5s						
KDJ	**Kajisay**	**3.32**	**47**	⇑*i*P	**Pn**	**07 49 15.3**	**+1.4**
KDJ				⇑*i*S	**Sn**	**07 49 54.4**	**+0.9**
USP	**Ospenovka**	**3.40**	**7**	⇓*e*P	**Pb**	**07 49 20.2**	**-1.8**
USP				⇓*i*S	**Sb**	**07 50 02.6**	**-0.8**
TARG	**Taragay, Kyrgy**	**3.46**	**57**	⇑*i*P	**Pn**	**07 49 16.5**	**+0.4**
TARG				⇑*i*S	**Sn**	**07 49 56.2**	**-1.2**
KST	**Kastek**	**3.50**	**25**	Pg	**Pb**	**07 49 23.8**	**0.0**
	9.5nm,0.7s						
KST				Lg	Lg	07 50 12.1	
	25nm,0.9s						
KST	**Kastek**	**3.50**	**25**	*e*P	**Pb**	**07 49 23.8**	**0.0**
	9.5nm,0.7s						
KST				*e*S	**Sg**	**07 50 12.1**	**-1.9**
	25nm,0.9s						
IUG	**Iuzhnay**	**3.71**	**309**	Pg	**Pb**	**07 49 27.1**	**-0.3**
	13nm,0.4s						
IUG				Lg	Lg	07 50 17.7	
	66nm,0.7s						
MTBS	**Maitube**	**3.74**	**29**	Pg	**Pb**	**07 49 28.1**	**+0.3**
	5.1nm,0.1s						
MTBS				Lg	Lg	07 50 19.8	
	11nm,0.4s						
MTBS	**Maitube**	**3.74**	**29**	*e*P	**Pb**	**07 49 28.1**	**+0.3**
	5.1nm,0.1s						
MTBS				*e*S	**Sg**	**07 50 19.8**	**-1.9**
	11nm,0.4s						
KK31	**Karatay Array**	**4.11**	**322**	⇓Pn	**Pn**	**07 49 28.2**	**+3.7**
	0.3nm,0.2s,baz=130,slow=13,SNR=7.5						
KK31				⇓Pg	**Pg**	**07 49 38.8**	**-1.5**
	1.1nm,0.3s,baz=75,slow=13,SNR=5.3						
KK31				⇓Lg	Lg	07 50 33.5	
	1.7nm,0.3s,baz=126,slow=30						
KTBS	**Karatobe**	**4.33**	**27**	Pg	**Pb**	**07 49 38.8**	**+0.9**
	3.3nm,0.5s						
KTBS				Lg	Lg	07 50 38.1	
	14nm,0.6s						
KUU	**Kurty**	**4.38**	**23**	Pg	**Pb**	**07 49 40.3**	**+1.5**
	4.7nm,0.0s						
KUU				Lg	Lg	07 50 40.4	
	30nm,0.5s						
KUU	**Kurty**	**4.38**	**23**	*e*P	**Pb**	**07 49 40.3**	**+1.5**
	4.7nm,0.0s						
KUU				*e*S	**Sg**	**07 50 40.5**	**-1.9**
	30nm,0.5s						
BRLS	**Borolday**	**4.39**	**317**	*e*P	**Pb**	**07 49 39.0**	**+0.1**
	0.9nm,0.1s						
BRLS				*e*S	**Sg**	**07 50 38.6**	**-4.1**
	0.5nm,0.2s						

*IDC **10** 08:02:51.5±1.8,30°.21S×177°.87W,h0ᵏᵐ,mb4.2/3,*
mbtmp4.1/4,ML3.0/1,Error ellipse: s-maj=34.9km
s-min=17.9km az=116.0
ISC 10 08:02:55.0±2.7,**30°.30S**±0°.09×**177°.7W**±0°.4,**h35**ᵏᵐ,**n10**,
σ1°**25**/8,**mb4.3**/3,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.07**	**348**	Pn	**Pn**	**08 03 13.3**	**-0.2**
	175nm,0.3s,baz=48,slow=19,SNR=7.8						
RAO				Sn	**Sn**	**08 03 26.2**	**-0.9**
	1μm,0.3s,baz=179,slow=21,SNR=12						
URZ	**Urewera**	**9.03**	**207**	Pn	**Pn**	**08 05 03.5**	**+0.6**
	0.2nm,0.3s,baz=329,slow=6.1,SNR=1.3						
URZ				Sn	**Sn**	**08 06 41.1**	**-2.1**
	1.6nm,0.3s,baz=212,slow=22,SNR=15						
	5.6nm,0.8s						
STKA	**Stephens Creek**	**34.78**	**257**	P	**P**	**08 09 43.6**	**+1.4**
	2.5nm,0.7s,baz=103,slow=11,SNR=6.1						
	2.5nm,0.7s						
ASAR	**Alice Springs**	**43.40**	**267**	P	**P**	**08 10 54.4**	**-0.1**
	0.9nm,0.4s,baz=104,slow=7.8,SNR=22						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**44.38**	**272**	P	**P**	**08 11 02.4**	**+0.1**
	2.0nm,0.3s,baz=111,slow=8.0,SNR=16						
	2.0nm,0.3s						
H03S2	**Juan Fernandez**	**80.28**	**123**	T	T	09 44 20.0	
	baz=238,slow=74,SNR=3.9						
H03S1	**Juan Fernandez**	**80.29**	**123**	T	T	09 44 16.0	
	baz=238,slow=74,SNR=3.9						
H03S3	**Juan Fernandez**	**80.30**	**123**	T	T	09 44 12.0	
	baz=238,slow=74,SNR=4.2						
H03N1	**Juan Fernandez**	**80.49**	**123**	T	T	09 44 28.7	
	SNR=4.2						
FINES	**FINESS Array B**	**145.15**	**340**	PKPbc	**PKPbc**	**08 22 27.2**	**-0.4**
	1.7nm,0.6s,baz=42,slow=4.3,SNR=8.1						

*NEIC **10** 08:24:07.7±0.4,19°.24N±0°.02×155°.42W±0°.03,h38ᵏᵐ±2ᵏᵐ,*
Error ellipse: s-maj=3.8km s-min=3.1km az=131.0
HVO 10 08:24:09.1±0.9,**19°.23N**±0°.06×**155°.41W**±0°.06,**h32**ᵏᵐ±7ᵏᵐ,
ML3.5/50,**ML3.6**/42(NEIC),**Error ellipse: s-maj=11.2km**
s-min=4.4km az=142.0,**Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.01**	**71**		Pb	08 24 14.2	-0.3
HLP	**Hilina Pali**	**0.12**	**57**		Pn	08 24 14.6	-0.2
HLP					Sb	08 24 18.8	-0.2
HLP				IAML		08 24 20.9	
	comp=N,10μm,0.2s						
HLP				IAML		08 24 25.1	
	comp=E,9μm,0.5s						
AIN	**Ainahou**	**0.14**	**343**		Pn	08 24 14.9	-0.4
KHU	**Kahuku**	**0.19**	**274**		Pb	08 24 14.9	-0.9
KHU					Sn	08 24 19.1	-1.1
SDHHI	**Sand Hill**	**0.19**	**36**		Pb	08 24 14.9	-0.7
SDHHI					Sn	08 24 19.4	-0.8
HPO	**Honuapo**	**0.20**	**223**		Pb	08 24 14.8	-0.7
HPO					Sb	08 24 19.3	-0.6
WRMHI	**West Rim**	**0.20**	**32**		Pb	08 24 15.0	-0.8
WRMHI					Sb	08 24 19.3	-1.0
RIM	**Rim**	**0.21**	**39**		Pb	08 24 15.0	-0.8
RIM					Sb	08 24 19.3	-1.1
KKO	**Keanakako'i**	**0.21**	**40**		Pb	08 24 15.1	-0.8
KKO					Sb	08 24 19.5	-1.0
UWE	**Uwekahuna**	**0.22**	**31**		Pb	08 24 15.1	-0.8
UWE					Sb	08 24 19.7	-0.9
UWE	**Uwekahuna**	**0.22**	**31**	IAML		08 24 20.2	
	comp=E,11μm,0.3s						
UWE				IAML		08 24 20.7	
	comp=N,11μm,0.3s						
OBL	**Observatory Le**	**0.22**	**33**		Pb	08 24 15.1	-0.8
OBL					Sb	08 24 19.6	-1.0
BYL	**Byron's Ledge**	**0.23**	**39**		Pb	08 24 15.2	-0.9
BYL					Sb	08 24 19.7	-1.0
BYL	**Byron's Ledge**	**0.23**	**39**	IAML		08 24 21.8	
	comp=E,5μm,0.4s						
BYL				IAML		08 24 24.4	
	comp=N,5μm,0.6s						
UWB	**Uwekahuna Bluf**	**0.23**	**34**		Pb	08 24 15.1	-1.0
UWB					Sb	08 24 19.3	-1.5
PUH	**Pauahi**	**0.23**	**53**		Pb	08 24 15.2	-0.9
PUH					Sb	08 24 19.7	-1.1
PUH	**Pauahi**	**0.23**	**53**	IAML		08 24 19.9	
	comp=N,6μm,0.4s						
PUH				IAML		08 24 20.0	
	comp=E,7μm,0.2s						
HATHI	**Halema'uma'u T**	**0.24**	**37**		Pb	08 24 15.2	-0.9
HATHI					Sb	08 24 19.8	-1.1
HATHI	**Halema'uma'u T**	**0.24**	**37**	IAML		08 24 20.3	
	comp=E,6μm,0.6s						
HATHI				IAML		08 24 24.9	
	comp=N,4μm,0.7s						
SBLHI	**Steaming Bluff**	**0.24**	**35**		Pb	08 24 15.1	-1.0
SBLHI					Sb	08 24 19.6	-1.2
MLH	**Mauna Loa**	**0.26**	**5**		Pb	08 24 15.8	-0.7
MLH					Sb	08 24 20.8	-0.8
MLH	**Mauna Loa**	**0.26**	**5**	IAML		08 24 21.0	
	comp=E,7μm,0.2s						
MLH				IAML		08 24 26.9	
	comp=N,7μm,0.5s						
RSD	**Rainshed**	**0.26**	**29**		Pb	08 24 15.4	-1.0
RSD					Sb	08 24 20.1	-1.4
KNHH	**Kane Nui o Ham**	**0.27**	**58**		Pb	08 24 15.7	-0.8
MWH	**Mokuaweoweo**	**0.31**	**325**		Pb	08 24 16.1	-1.2
MWH					Sb	08 24 21.3	-1.6
MWH	**Mokuaweoweo**	**0.31**	**325**	IAML		08 24 22.0	
	comp=E,12μm,0.5s						
MWH				IAML		08 24 27.1	
	comp=N,9μm,0.5s						
STCH	**Steam Cracks**	**0.31**	**61**		Pb	08 24 16.0	-1.0
STCH					Sb	08 24 21.2	-1.2
STCH	**Steam Cracks**	**0.31**	**61**	IAML		08 24 21.6	
	comp=E,6μm,0.1s						
STCH				IAML		08 24 21.9	
	comp=N,5μm,0.2s						
NPOC	**North of Pu'u**	**0.33**	**61**		Pb	08 24 16.2	-1.0
NPOC					Sb	08 24 21.4	-1.3
JCUZ	**Jacuzzi**	**0.33**	**63**		Pb	08 24 16.2	-1.0
JCUZ					Sb	08 24 21.6	-1.2
HMH	**Humu'ula Sheep**	**0.37**	**350**		Pb	08 24 17.2	-0.8
HMH					Sb	08 24 23.3	-0.8
HMH	**Humu'ula Sheep**	**0.37**	**350**	IAML		08 24 23.5	
	comp=N,3μm,0.4s						
HMH				IAML		08 24 35.2	
	comp=E,3μm,0.3s						
ALEP	**Alea Permanent**	**0.38**	**325**		Pb	08 24 16.7	-1.4
ALEP					Sb	08 24 22.4	-1.9
JOKA	**Jonika Flow**	**0.43**	**63**		Pb	08 24 17.3	-1.3
JOKA					Pn	08 24 23.4	+4.3
JOKA	**Jonika Flow**	**0.43**	**63**	IAML		08 24 23.9	
	comp=E,2μm,0.4s						
JOKA				IAML		08 24 24.4	
	comp=N,4μm,

HAKT S Sn 08 34 05.3 +1.9
HAKT *i* IAML 08 34 08.0
comp=E,144nm,0.5s
HAKT *i* IAML 08 34 10.0
comp=N,143nm,0.7s
HAKT HAKKARI 0.98 203 P Pn 08 33 48.9 +0.1
HAKT S Sn 08 34 05.1 +1.6
ISHB Shabestar 1.14 99 Pg Pg 08 33 48.8 -0.6
ADCV BITLIS_Adilcev 1.20 287 P Pg 08 33 50.8 +0.2
ADCV S Sn 08 34 09.8 +1.1
IMRD Marand 1.21 78 Pg Pg 08 33 50.3 -0.5
NAX Nakhchivan 1.24 55 P Pn 08 33 50.7 -1.5
NAX S Sg 08 34 08.0 +0.4
CUKT Cukurca 1.30 201 Pn Pn 08 33 47.9 -5.2
CUKT Sn Sg 08 34 05.2 -4.1
HYR Heyderabad 1.35 22 P Pn 08 33 53.5 -0.3
HYR S Sn 08 34 13.3 +0.8
IGDI IGDIR 1.40 357 P Pn 08 33 54.3 -0.2
IGDI S Sb 08 34 13.0 -0.2
SBZ Shahbuz 1.41 48 P Pn 08 33 53.6 -1.0
SBZ S Sb 08 34 12.3 -1.2
AGRB Hanur-Agry 1.45 320 Pn Pn 08 33 54.9 -0.3
ORD Ordubad 1.49 71 P Pn 08 33 55.1 -0.5
ORD S Sn 08 34 16.2 +0.4
TASB TASBURUN-IGDIR 1.52 1 Pn Pn 08 33 55.2 -0.8
KOTA Agri, Merkez-K 1.54 331 P Pn 08 33 54.3 -2.2
KOTA S Sn 08 34 15.8 -1.4
ITBZ Tabriz 1.56 98 Pg Pn 08 33 56.4 -0.3
IAZR Azarshahr 1.62 118 Pg Pg 08 34 00.1 +1.6
GURO Guroymak-BITLI 1.69 274 Pn Pn 08 33 57.8 -0.7
GNI Garni 1.74 14 Pn Pn 08 33 57.7 -1.4
GNI Sn Sn 08 34 21.9 -0.1
IHRS Heris 2.25 93 Pn Pb 08 34 09.3 +0.2
SVAN Silvan-Diyarba 2.37 263 Pn Pn 08 34 07.1 -0.7
GDB GEDABAY 2.56 28 P Pn 08 34 12.0 +1.6
GDB S Sn 08 34 43.1 +0.8
GANJ Ganja 2.73 36 P Pn 08 34 13.1 +0.4
GANJ S Sn 08 34 47.3 +0.9
QZX Qazax, Azerbai 2.75 19 P Pn 08 34 13.1 +0.3
GRMI Germi 2.92 82 Pn Pn 08 34 17.2 +1.8
YRD Yardimli 3.20 81 P Pn 08 34 20.3 +1.0
YRD S Sn 08 34 56.6 -1.6
LRK Lerik 3.26 86 P Pn 08 34 19.6 -0.5
LRK S Sn 08 35 00.8 +1.2

NNC 10 08:53:04.9±0.5, 51°.29N×73°.80E, h0km, mb3.5, mpv3.3, 4C-4D, Error ellipse: s-maj=11.4km s-min=2.8km az=22.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BVA0	**Borovoye Array**	**2.73**	**311**	⇑Pn	Pn	08 53 49.5	-0.4
	3.6nm,0.5s,baz=128,slow=13,SNR=10						
BVA0				⇓Lg	Lg	08 54 33.0	
	23nm,0.5s,baz=128,slow=30						
BRVK	**Borovoye**	**2.80**	**311**	⇑Pn	Pn	08 53 51.0	+0.1
	0.9nm,0.4s						
BRVK				⇓Lg	Lg	08 54 33.9	
	11nm,0.5s						
KURBB	**Kurchatov Arra**	**3.07**	**101**	⇓Pn	Pn	08 53 54.0	-0.5
	5.9nm,0.4s						
KURBB				⇑Sn	Sn	08 54 33.0	+1.2
	64nm,0.6s						
KURK	**Kurchatov**	**3.10**	**99**	⇑Pn	Pn	08 53 54.8	-0.2
	1.7nm,0.8s						
KURK				⇓Sn	Sn	08 54 34.2	+1.5
	11nm,0.5s						
SEM	**Semipalatinsk**	**4.18**	**100**	Pg	Pb	08 54 21.2	+1.7
	7.1nm,0.2s						
SEM				Lg	Lg	08 55 15.8	
	25nm,0.5s						
BTLS	**Baital**	**6.25**	**178**	Pg	Pn	08 54 46.1	+7.8
	2.3nm,0.5s						
BTLS				Lg	Lg	08 55 58.9	
	4.5nm,0.5s						
KUU	**Kurty**	**7.59**	**166**	Lg	Lg	08 56 44.2	
	38nm,0.3s						
KTBS	**Karatobe**	**7.82**	**164**	Pg	Pb	08 55 17.7	-3.7
	1.7nm,0.7s						
KTBS				Lg	Lg	08 56 52.9	
	21nm,0.7s						
ZSN	**Zaisan**	**8.18**	**114**	Pg	Pb	08 55 31.9	+4.5
	3.7nm,0.3s						
KPKS	**Kokpek**	**8.49**	**155**	Lg	Lg	08 57 16.1	
	7.2nm,0.5s						
SHLS	**Shalkode**	**9.00**	**152**	Lg	Lg	08 57 35.9	
	19nm,1.0s						

IDC 10 09:12:17.8±2.5, 6°.68N×126°.46E, h0km, mb3.5/4, mbtmp3.5/4, MS3.7/1, Error ellipse: s-maj=228.0km s-min=24.0km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.57**	**164**	P	P	09 18 06.5	-0.2
	0.3nm,0.6s,baz=346,slow=9.3,SNR=2.3						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**31.03**	**167**	P	P	09 18 37.6	+0.1
	0.3nm,0.5s,baz=341,slow=7.1,SNR=5.3						
	0.3nm,0.5s						
BRDH	**Bariadhala**	**37.11**	**299**	LR	LR	09 34 58.7	
	comp=Z,100nm,19.2s,baz=106,slow=37						
MKAR	**Makanchi Array**	**55.00**	**324**	P	P	09 21 51.0	0.0
	0.3nm,0.4s,baz=134,slow=7.1,SNR=5.9						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**59.13**	**327**	P	P	09 22 20.1	-0.1
	0.4nm,0.6s,baz=124,slow=7.2,SNR=2.9						
	0.4nm,0.6s						

*KRSC **10** 09:29:19.0±0.8, 55°.03N×162°.41E, h38km±29km, Mc4.5, Ml4.9, Felt [IV] at kordon Chazhma; [III] at kordon Kronoki; [II] at HMS cape Afrika.*
*MOS **10** 09:29:19.9±0.7, 55°.09N×162°.44E, h29km, mb4.5/8, Error ellipse: s-maj=7.6km s-min=4.6km az=70.9*
*IDC **10** 09:29:22.0±3.4, 55°.31N×161°.92E, h43km±32km, mb3.7/15, mbtmp4.0/17, ML3.6/2, MS3.2/13, Error ellipse: s-maj=20.1km s-min=15.5km az=137.0*
*NEIC **10** 09:29:23.5±1.4, 55°.3N±0°.1×162°.0E±0°.1, h51km±8km, mb4.3/58, Error ellipse: s-maj=18.6km s-min=9.2km az=157.0*
ISC 10 09:29:21.1±0.4, 55°.11N±0°.03×162°.31E±0°.03, h35km, n442, σ1°22/445, mb4.3/43, MS3.2/10, 5C-3D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.65**	**212**	PN	Pn	09 29 32.4	-1.3
MKZ	**Mys Kozlova**	**0.65**	**212**	*e*P	Pn	09 29 32.5	-1.3
TUMD	**Tumrok D**	**1.10**	**276**	PN	Pn	09 29 39.9	-0.1
TUMD				S	Sn	09 29 54.5	+0.5
TUMD	**Tumrok D**	**1.10**	**276**	*e*P	Pn	09 29 40.0	-0.1
TUMD				*e*S	Sn	09 29 54.6	+0.5
KBTR	**Krutoberegovo**	**1.14**	**14**	PN	Pn	09 29 40.1	-0.4
KBTR	**Krutoberegovo**	**1.14**	**14**	*e*P	Pn	09 29 40.2	-0.4
KBG	**Krutoberegovo**	**1.17**	**11**	PN	Pn	09 29 40.7	-0.2
KBG				S	Sn	09 29 58.4	+2.8
KBG	**Krutoberegovo**	**1.17**	**11**	*e*P	Pn	09 29 40.7	-0.2
KBG				*e*S	Sn	09 29 58.5	+2.8
BZGR	**Bezymyannyi-Gr**	**1.24**	**313**	PN	Pn	09 29 42.6	+0.6
BZGR				S	Sn	09 29 59.4	+1.8
BZGR	**Bezymyannyi-Gr**	**1.24**	**313**	*e*P	Pn	09 29 42.6	+0.6
BZGR				*e*S	Sn	09 29 59.4	+1.8
ZLN	**Zelenaya**	**1.25**	**317**	PN	Pn	09 29 42.8	+0.7
ZLN	**Zelenaya**	**1.25**	**317**	*e*P	Pn	09 29 42.8	+0.7
BZP	**Bezymyannyi-Pe**	**1.29**	**309**	PN	Pn	09 29 43.0	+0.3
BZP	**Bezymyannyi-Pe**	**1.29**	**309**	*e*P	Pn	09 29 43.0	+0.3
BZMR	**Bezymyannaya**	**1.33**	**309**	PN	Pn	09 29 43.7	+0.5
BZMR	**Bezymyannaya**	**1.33**	**309**	*e*P	Pn	09 29 43.7	+0.5
BZWR	**Bezymyannyi-We**	**1.34**	**310**	PN	Pn	09 29 43.7	+0.3
BZWR	**Bezymyannyi-We**	**1.34**	**310**	*e*P	Pn	09 29 43.8	+0.3
LGNR	**Loginova**	**1.34**	**317**	PN	Pn	09 29 44.5	+1.0
LGNR	**Loginova**	**1.34**	**317**	*e*P	Pn	09 29 44.6	+1.0
CIRR	**Tsirk**	**1.34**	**319**	PN	Pn	09 29 44.0	+0.6
CIRR	**Tsirk**	**1.34**	**319**	*e*P	Pn	09 29 44.0	+0.6
KMNR	**Kamenistaya**	**1.35**	**300**	P	Pn	09 29 44.1	+0.6
KMNR	**Kamenistaya**	**1.35**	**300**	*e*P	Pn	09 29 44.2	+0.6
KIRR	**Kirishev**	**1.41**	**308**	PN	Pn	09 29 44.5	+0.2
KIRR	**Kirishev**	**1.41**	**308**	*e*P	Pn	09 29 44.6	+0.2
KPT	**Kopyto**	**1.47**	**307**	PN	Pn	09 29 45.6	+0.6
KPT	**Kopyto**	**1.47**	**307**	*e*P	Pn	09 29 45.7	+0.6
SMKR	**Semkarok**	**1.55**	**342**	PN	Pn	09 29 46.7	+0.5
SMKR				S	Sn	09 30 08.7	+3.5
SMKR	**Semkarok**	**1.55**	**342**	*e*P	Pn	09 29 46.8	+0.5
SMKR				*e*S	Sn	09 30 08.7	+3.5
SRDR	**Sredinnyy**	**1.91**	**311**	PN	Pn	09 29 51.9	+0.8
SRDR	**Sredinnyy**	**1.91**	**311**	*e*P	Pn	09 29 51.9	+0.8
KII	**Karymskiy**	**1.98**	**238**	PN	Pn	09 29 52.7	+0.5
KII	**Karymskiy**	**1.98**	**238**	*e*P	Pn	09 29 52.7	+0.5
BKI	**Bering**	**2.10**	**86**	PN	Pn	09 29 53.4	-0.3
BKI				S	Sn	09 30 17.5	-1.0
BKI	**Bering**	**2.10**	**86**	*e*P	Pn	09 29 53.4	-0.3
BKI				*e*S	Sn	09 30 17.6	-1.0
ESO	**Esso**	**2.21**	**293**	PN	Pn	09 29 55.5	+0.3
ESO				S	Sn	09 30 22.9	+1.6
ESO	**Esso**	**2.21**	**293**	*e*P	Pn	09 29 55.6	+0.3
ESO				*e*S	Sn	09 30 22.9	+1.6
SPN	**Mys Shipunski**	**2.42**	**215**	PN	Pn	09 29 56.8	-1.3
SPN	**Mys Shipunski**	**2.42**	**215**	*e*P	Pn	09 29 56.8	-1.3
SPN				*e*S	Sn	09 30 24.3	-2.2
NLC	**Nalytchevo**	**2.61**	**223**	PN	Pn	09 30 00.8	+0.1
NLC				S	Sn	09 30 31.4	+0.3
NLC	**Nalytchevo**	**2.61**	**223**	*e*P	Pn	09 30 00.9	+0.1
NLC				*e*S	Sn	09 30 31.4	+0.3
SDLR	**Sedlovina**	**2.72**	**229**	PN	Pn	09 30 03.2	+0.9
SDLR				S	Sn	09 30 36.8	+2.7
SDLR	**Sedlovina**	**2.72**	**229**	*e*P	Pn	09 30 03.3	+0.9
SDLR				*e*S	Sn	09 30 36.9	+2.7
KRER	**Koryakskii**	**2.77**	**231**	PN	Pn	09 30 05.0	+2.0
KRER	**Koryakskii**	**2.77**	**231**	*e*P	Pn	09 30 05.0	+2.0
SMAR	**Somma**	**2.77**	**230**	PN	Pn	09 30 03.9	+0.8
SMAR				S	Sn	09 30 37.9	+2.5
SMAR	**Somma**	**2.77**	**230**	*e*P	Pn	09 30 03.9	+0.8
SMAR				*e*S	Sn	09 30 38.0	+2.5
KRX	**Arik**	**2.77**	**232**	PN	Pn	09 30 04.7	+1.6
KRX				S	Sn	09 30 37.6	+2.2
KRX	**Arik**	**2.77**	**232**	*e*P	Pn	09 30 04.8	+1.6
KRX				*e*S	Sn	09 30 37.6	+2.2
AVH	**Avacha**	**2.80**	**230**	PN	Pn	09 30 04.6	+1.3
AVH	**Avacha**	**2.80**	**230**	*e*P	Pn	09 30 04.7	+1.3
UGLR	**Uglovaya**	**2.80**	**229**	PN	Pn	09 30 04.4	+1.0
UGLR				S	Sn	09 30 37.7	+1.8
UGLR	**Uglovaya**	**2.80**	**229**	*e*P	Pn	09 30 04.4	+1.0
UGLR				*e*S	Sn	09 30 37.7	+1.8
KOK	**Koryaka**	**2.82**	**231**	PN	Pn	09 30 05.3	+1.6
KOK	**Koryaka**	**2.82**	**231**	*e*P	Pn	09 30 05.4	+1.6
DALK	**Dalny**	**2.96**	**227**	PN	Pn	09 30 06.1	+0.7
DALK	**Dalny**	**2.96**	**227**	*e*P	Pn	09 30 06.1	+0.7
INSR	**Institute**	**2.99**	**228**	PN	Pn	09 30 07.2	+1.3
INSR				S	Sn	09 30 42.4	+1.8
INSR	**Institute**	**2.99**	**228**	*e*P	Pn	09 30 07.3	+1.3
INSR				*e*S	Sn	09 30 42.4	+1.8
PET	**Petropavlovsk**	**3.00**	**227**		Pn	09 30 07.3	+1.2
PET				Sn	Sn	09 30 42.8	+2.0
PET	**Petropavlovsk**	**3.00**	**227**	*e*PN	Pn	09 30 07.3	+1.2
PET				*e*S	Sn	09 30 43.0	+2.2
PET				pmax	pmax		
	comp=Z,560nm,0.4s						
PET				smax	smax		
	comp=E,2μm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.6s						
PET				MLR	MLR		
	comp=Z,400nm,20.0s						
PET	**Petropavlovsk**	**3.00**	**227**	*e*P	Pn	09 30 07.3	+1.2
PET				*e*S	Sn	09 30 42.9	+2.1
KRMR	**Karymshinskiy**	**3.36**	**229**	PN	Pn	09 30 12.7	+1.7
KRMR				S	Sn	09 30 51.7	+2.1
KRMR	**Karymshinskiy**	**3.36**	**229**	*e*P	Pn	09 30 12.8	+1.7
KRMR				*e*S	Sn	09 30 51.8	+2.1
PEA0B	**Petropavlovsk-**	**3.38**	**235**		Pn	09 30 13.0	+1.8
PEA0B				Sn	Sn	09 30 52.6	+2.6
PEA0B	**Petropavlovsk-**	**3.38**	**235**	⇓*i*PN	Pn	09 30 13.8	+2.6
PEA0B				*i* S	Sn	09 30 58.4	+8.4
PETK	**Petropavlovsk-**	**3.38**	**235**		Pn	09 30 12.4	+1.2
PETK	**Petropavlovsk-**	**3.38**	**235**	P	Pn	09 30 11.4	+0.2
	comp=Z,17nm,0.3s,baz=312,slow=17,SNR=70						
PETK				S	Sn	09 30 56.5	+6.4
	comp=Z,94nm,0.4s,baz=72,slow=9.5,SNR=7.5						
PETK				LR	LR	09 31 37.2	
	comp=Z,295nm,19.8s,baz=68,slow=41						
	comp=Z,16nm,0.3s						
PETK	**Petropavlovsk-**	**3.38**	**235**	PN	Pn	09 30 12.4	+1.2
RUS	**Russkaya**	**3.50**	**222**	PN	Pn	09 30 14.0	+1.1
RUS	**Russkaya**	**3.50**	**222**	*e*P	Pn	09 30 14.0	+1.1
GRL	**Gorelyy**	**3.59**	**226**	PN	Pn	09 30 16.3	+2.1
GRL	**Gorelyy**	**3.59**	**226**	*e*P	Pn	09 30 16.3	+2.1
MTVR	**Mutnovka**	**3.59**	**225**	PN	Pn	09 30 15.7	+1.4
MTVR	**Mutnovka**	**3.59**	**225**	*e*P	Pn	09 30 15.7	+1.4
APC	**Apacha**	**3.75**	**236**	PN	Pn	09 30 20.6	+4.3
APC	**Apacha**	**3.75**	**236**	*e*P	Pn	09 30 20.7	+4.4
ASAK	**Asacha**	**3.78**	**226**	PN	Pn	09 30 19.4	+2.5
ASAK	**Asacha**	**3.78**	**226**	*e*P	Pn	09 30 19.5	+2.5
PAU	**Pauzhetka**	**4.92**	**224**	PN	Pn	09 30 34.8	+2.4
PAU	**Pauzhetka**	**4.92**	**224**	*e*P	Pn	09 30 34.9	+2.4
SKR	**Severo-Kuril's**	**5.80**	**223**	*e*PN	Pn	09 30 47.3	+2.8
SKR				pmax	pmax		
	comp=Z,79nm,0.8s						
SKR				MLR	MLR		
	comp=Z,100nm,16.0s						
SKR	**Severo-Kuril's**	**5.80**	**223**	*e*P	Pn	09 30 45.9	+1.3
SHEM	**Shemya Is, Ala**	**7.36**	**104**	Pn	Pn	09 31 09.9	+4.1
SMY	**Shemya**	**7.36**	**104**	Pn	Pn	09 31 09.6	+3.8
SMY	**Shemya**	**7.36**	**104**	PN	Pn	09 31 09.6	+3.8
MA2	**Magadan**	**7.68**	**310**	LR	LR	09 34 39.5	
	comp=Z,116nm,18.1s,baz=122,slow=43						
SEY	**Seymchan**	**9.36**	**331**	LR	LR	09 35 25.7	
	comp=Z,102nm,20.4s,baz=116,slow=40						
KIWB	**Kanaga Island**	**12.65**	**96**	Pn	Pn	09 32 21.1	+2.8
YSS	**Yuzhno-Sakhali**	**14.73**	**244**	*e*P	Pn	09 32 44.9	-1.7
YSS				MLR	MLR		
	comp=Z,200nm,11.0s						
SPIA	**Saint Paul Isl**	**15.39**	**71**	P	Pn	09 32 57.0	+1.7
	baz=275						
P08K	**Saint George I**	**15.82**	**73**	P	P	09 33 02.9	-1.4
	baz=277						
JKA	**Kamikawa-asahi**	**16.79**	**237**	Pn	Pn	09 33 13.3	0.0
JKA				IAmb	IAmb	09 33 24.3	
	comp=Z,32nm,1.5s						
ASAJ	**Asahikawa**	**16.79**	**237**	P	Pn	09 33 12.7	-0.6
	comp=Z,0.5nm,0.3s,baz=285,slow=0.9,SNR=4.4						
ASAJ				LR	LR	09 39 25.8	
	comp=Z,76nm,19.5s,baz=54,slow=36						
	comp=Z,4.5nm,0.7s						
ASAJ	**Asahikawa**	**16.79**	**237**	P	Pn	09 33 13.3	0.0
ASAJ				pmax	pmax		
	comp=Z,32nm,1.5s						
M11K	**Mekoryuk**	**17.50**	**60**	P	P	09 33 23.0	+0.2
	baz=267						
TNA	**Tin City**	**17.87**	**42**	P	P	09 33 26.2	-0.6
	baz=249						
UNV	**Unalaska Valle**	**18.09**	**81**	P	P	09 33 31.9	+2.5
UNV	**Unalaska Valle**	**18.09**	**81**	P	P	09 33 31.1	+1.7
	baz=287						
ERM	**Erimo**	**18.15**	**232**	P	Pn	09 33 28.9	-1.2
ERM	**Erimo**	**18.15**	**232**	⇓*i*P	Pn	09 33 28.2	-1.9
ERM				pmax	pmax		
	comp=Z,4.0nm,0.3s						
K13K	**Kusilvak Mount**	**18.39**	**55**	P	Pn	09 33 34.1	+1.3
K13K	**Kusilvak Mount**	**18.39**	**55**	P	Pn	09 33 33.2	+0.3
	baz=264						
AKUT	**Akutan**	**18.42**	**80**	P	Pn	09 33 35.0	+1.7
AKUT					IAmb	IAmb	09 34 13.6
	comp=Z,39nm,1.1s						
F14K	**Arctic Creek**	**18.46**	**43**	P	Pn	09 33 33.4	-0.3
	baz=252						
ANM	**Nome**	**18.58**	**46**	P	Pn	09 33 34.9	-0.2
	baz=256						
M13K	**Dall Lake**	**18.91**	**60**	P	Pn	09 33 39.0	-0.2
	baz=270						
J14K	**Nanvaranak Lak**	**19.00**	**52**	P	Pn	09 33 39.4	-0.8
	baz=263						
F15K	**North Star Dit**	**19.20**	**43**	P	Pn	09 33 42.7	+0.1
F15K	**North Star Dit**	**19.20**	**43**	P	P	09 33 41.4	-0.1
	baz=253						
G15K	**Niukluk**	**19.24**	**46**	P	P	09 33 41.9	-0.1
	baz=256						
L14K	**Kuka Creek**	**19.27**	**57**	P	Pn	09 33 44.8	+1.2
L14K	**Kuka Creek**	**19.27**	**57**	P	Pn	09 33 42.8	-0.7
	baz=268						
FALS	**False Pass**	**19.56**	**77**	P	Pn	09 33 46.6	-0.3
	baz=286						
M14K	**Bethel**	**19.61**	**59**	P	Pn	09 33 48.2	+0.7
M14K				IAmb	IAmb	09 33 49.4	
	comp=Z,19nm,1.0s						
M14K	**Bethel**	**19.61**	**59**	P	Pn	09 33 46.5	-0.9
	baz=270						
N14K	**Kuskokwak Cree**	**19.75**	**61**	P	Pn	09 33 48.9	-0.3
	baz=273						
L15K	**Ungalak Mounta**	**19.86**	**56**	P	Pn	09 33 49.7	-0.8
	baz=268						
K15K	**Wolf Creek Mou**	**19.89**	**54**		Pn	09 33 50.9	+0.1
K15K				IAmb	IAmb	09 33 52.2	
	comp=Z,19nm,0.9s						
K15K	**Wolf Creek Mou**	**19.89**	**54**	P	P	09 33 49.4	+0.4
	baz=266,SNR=6.4						
C16K	**Lisburne Hills**	**19.89**	**36**	P	P	09 33 48.8	-0.2
	baz=245						
H16K	**Elim**	**19.91**	**47**	P	Pn	09 33 50.1	-1.0
	baz=259						
O14K	**Tigyukauivet M**	**20.00**	**63**	P	Pn	09 33 51.5	-0.6
	baz=275						
G16K	**Koyuk River**	**20.03**	**45**	P	P	09 33 50.6	+0.1
	baz=257						
S12K	**Black Hills**	**20.10**	**74**	P	Pn	09 33 53.2	-0.2
	baz=284						
M15K	**Kasigluk River**	**20.23**	**59**	P	Pn	09 33 53.5	-1.3
	baz=271,SNR=5.6						
J16K	**Anvik River**	**20.41**	**51**	P	Pn	09 33 56.4	-0.5
J16K	**Anvik River**	**20.41**	**51**	P	Pn	09 33 55.7	-1.2
	baz=264,SNR=5.3						
I17K	**Unalakleet**	**20.44**	**50**		Pn	09 33 56.7	-0.6
I17K	**Unalakleet**	**20.44**	**50**	P	P	09 33 55.5	+0.5
	baz=263						
D17K	**Noatak River**	**20.45**	**38**	P	P	09 33 55.1	+0.1
	baz=250						
N15K	**Kwethluk River**	**20.54**	**60**		Pn	09 33 58.8	+0.3
N15K	**Kwethluk River**	**20.54**	**60**	P	P	09 33 56.9	+0.8
	baz=273,SNR=8.7						
RDOG	**Red Dog Mine**	**20.64**	**37**	P	P	09 33 57.1	0.0
	baz=249						
E17K	**Hotham Inlet**	**20.70**	**40**	P	P	09 33 58.2	+0.4
	baz=253						
C17K	**DeLong Mountai**	**20.71**	**36**	P	P	09 33 58.0	+0.1
	baz=248						
F17K	**Baldwin Pennin**	**20.74**	**42**	P	Pn	09 34 00.3	-0.3
F17K				IAmb	IAmb	09 34 01.0	
	comp=Z,14nm,0.8s						
F17K	**Baldwin Pennin**	**20.74**	**42**	P	P	09 33 58.7	+0.5
	baz=255						
O15K	**Ungalikthiuk R**	**20.74**	**63**	P	Pn	09 34 00.1	-0.7
O15K				IAmb	IAmb	09 34 00.8	
	comp=Z,18nm,0.9s						
O15K	**Ungalikthiuk R**	**20.74**	**63**	P	Pn	09 33 59.5	-1.4
	baz=276						
G17K	**Kiwalik Mounta**	**20.75**	**45**	P	P	09 33 59.0	+0.7
	baz=258						
L16K	**Owhat River**	**20.82**	**56**		Pn	09 34 00.5	-1.2
L16K	**Owhat River**	**20.82**	**56**	P	Pn	09 34 00.2	-1.6
	baz=270						
H17K	**Granite Mounta**	**20.94**	**47**		Pn	09 34 02.4	-0.8
H17K				IAmb	IAmb	09 34 03.2	
	comp=Z,12nm,0.8s						
H17K	**Granite Mounta**	**20.94**	**47**	P	Pn	09 34 01.4	-1.7
	baz=261,SNR=9.3						
SDPT	**Sand Point**	**21.06**	**74**	P	P	09 34 03.9	+2.1
	baz=286						
M16K	**Timber Creek**	**21.07**	**58**		P	09 34 03.8	+2.0
M16K				IAmb	IAmb	09 34 04.6	
	comp=Z,15nm,1.1s						
M16K	**Timber Creek**	**21.07**	**58**	P	P	09 34 02.6	+0.7
	baz=272						
J17K	**VABM Dome**	**21.10**	**51**		P	09 34 04.1	+2.0
J17K				IAmb	IAmb	09 34 05.0	
	comp=Z,13nm,1.1s						
J17K	**VABM Dome**	**21.10**	**51**	P	P	09 34 02.2	+0.1
	baz=266						
N16K	**Nishlik Lake**	**21.18**	**59**	P	P	09 34 04.1	+1.0
	baz=274						
E18K	**Tukpahlearik C**	**21.26**	**40**	P	P	09 34 03.9	+0.1
	baz=254						
S14K	**Fog Glacier**	**21.35**	**71**	P	P	09 34 07.1	+2.2
	baz=284						
L17K	**Donlin**	**21.39**	**55**	P	P	09 34 06.5	+1.3
	baz=270						
F18K	**Selawik**	**21.40**	**42**	P	P	09 34 06.1	+0.8
	baz=257						
K17K	**Iditarod**	**21.41**	**53**	P	P	09 34 06.7	+1.3
	baz=268						
C18K	**Utukok River**	**21.45**	**37**	P	P	09 34 06.3	+0.4
	baz=250						
B18K	**Kokolik River**	**21.52**	**35**	P	P	09 34 06.9	+0.4
	baz=247						
O16K	**Kokwok River B**	**21.59**	**62**	P	P	09 34 09.0	+1.6
	baz=276						
H18K	**Honhosa River**	**21.63**	**47**	P	P	09 34 08.4	+0.6
	baz=262						
G18K	**Tagagawik**	**21.64**	**45**		P	09 34 09.5	+1.6
G18K	**Tagagawik**	**21.64**	**45**	P	P	09 34 08.3	+0.4
	baz=260						
CHNA	**Chernabura Isl**	**21.70**	**75**	P	P	09 34 10.8	+2.3
	baz=287						
P16K	**Nushagak River**	**21.70**	**63**	P	P	09 34 09.9	+1.4
	baz=278						
M17K	**Holitna River**	**21.80**	**57**		P	09 34 11.6	+1.9
M17K				IAmb	IAmb	09 34 14.4	
	comp=Z,15nm,1.0s						
M17K	**Holitna River**	**21.80**	**57**	P	P	09 34 10.9	+1.2
	baz=272						
TIXI	**Tiksi**	**21.85**	**332**	LR	LR	09 43 24.3	
	comp=Z,44nm,19.8s,baz=146,slow=39						
CHGN	**Chignik**	**21.96**	**71**	P	P	09 34 14.0	+2.6
	baz=284						
N17K	**Nushagak Hills**	**21.96**	**59**	P	P	09 34 13.1	+1.7
	baz=275						
O17K	**Koliganek Bris**	**22.07**	**61**	P	P	09 34 13.9	+1.3
	baz=276						
A19K	**Wainwright**	**22.09**	**33**	P	P	09 34 13.5	+0.9
	baz=246						
R16K	**Pilot Point**	**22.14**	**67**	P	P	09 34 14.8	+1.5
	baz=282						
L18K	**Gran

M19K **Big River Lodg** 23.23 55 P P 09 34 25.5 +0.7
baz=274
B20K **Meade River** 23.26 34 P P 09 34 24.6 -0.3
baz=252
N19K **Bonanza Creek** 23.27 58 P P 09 34 26.0 +0.8
baz=276
Q18K **Katmai Hardscr** 23.29 64 P P 09 34 26.4 +0.9
baz=281
J20K **Nowinta River** 23.34 50 P P 09 34 25.7 0.0
baz=268,SNR=12
K20K **Telida** 23.35 52 P P 09 34 26.3 +0.4
baz=270,SNR=9.2
O19K **Port Alsworth** 23.41 60 P P 09 34 27.1 +0.7
baz=278
L20K **Farewell, AK** 23.45 54 P P 09 34 26.8 -0.1
baz=273
CHIR **Chirikof Islan** 23.60 71 P P 09 34 29.2 +0.9
baz=287
IMAR **Indian Mountai** 23.64 45 P P 09 34 29.1 +0.4
R18K **Karluk** 23.79 66 P P 09 34 31.2 +1.1
baz=283
G21K **Allakaket** 23.80 44 P P 09 34 30.5 +0.4
baz=264
C21K **Knifeblade Rid** 23.82 37 P P 09 34 30.5 +0.2
baz=256
M20K **Styx River** 23.83 55 P P 09 34 31.5 +0.9
baz=274
A21K **Barrow** 23.89 32 P P 09 34 30.6 -0.3
baz=250
F21K **Alatna River** 23.90 42 P 09 34 31.5 +0.3
F21K IAmb IAmb 09 34 33.0
comp=Z,9.7nm,0.8s
F21K **Alatna River** 23.90 42 P P 09 34 31.5 +0.3
baz=262,SNR=14
BNX **BinXian** 23.91 262 ⇑P P 09 34 29.6 -1.7
BNX pmax pmax
comp=Z,6.0nm,1.6s
E21K **Killik River** 23.94 39 P P 09 34 31.4 -0.1
baz=259
Q19K **Cape Douglas,** 23.94 63 P P 09 34 32.3 +0.8
baz=281
B21K **Ikpikpuk River** 23.99 36 P P 09 34 31.7 -0.2
baz=256,SNR=19
H21K **Melozitna Rive** 24.00 46 P P 09 34 31.9 -0.1
baz=266
P19K **Oil Pt** 24.03 61 P P 09 34 32.7 +0.3
baz=280
CHUM **Lake Minchumin** 24.14 50 P P 09 34 33.9 +0.6
baz=271,SNR=14
SII **Sitkinak Islan** 24.18 69 P P 09 34 34.5 +0.7
baz=286
PPLA **Purkeypile** 24.21 53 P 09 34 35.9 +1.7
PPLA IAmb IAmb 09 34 37.1
comp=Z,12nm,0.9s
PPLA **Purkeypile** 24.21 53 P P 09 34 34.4 +0.2
baz=273,SNR=5.8
O20K **Slope Mountain** 24.27 60 P P 09 34 35.3 +0.7
baz=279
I21K **Tanana** 24.31 47 P P 09 34 35.2 +0.3
baz=268
SPCR **Spurr Chakacha** 24.33 57 P P 09 34 36.1 +0.8
baz=277
F22K **John River** 24.45 42 P P 09 34 36.2 +0.1
baz=263
OHAK **Old Harbor** 24.48 67 P P 09 34 37.0 +0.5
baz=285
D22K **Ayikyak River** 24.49 38 P P 09 34 36.3 -0.2
baz=259,SNR=7.4
B22K **Teshekpuk Lake** 24.58 35 P P 09 34 36.9 -0.4
baz=255,SNR=9.3
SKT **Skwentna** 24.58 55 P P 09 34 37.8 +0.4
baz=276,SNR=7.3
H22K **Ishtalitna Cre** 24.60 46 P P 09 34 37.5 0.0
baz=267
G22K **Bettles** 24.63 43 P P 09 34 37.9 +0.1
baz=265,SNR=24
Q20K **Shuyak Island** 24.64 63 P P 09 34 38.2 +0.3
baz=282
KDAK **Kodiak Island** 24.72 65 LR LR 09 44 10.1
comp=Z,60nm,18.4s,baz=266,slow=36
KDAK **Kodiak Island** 24.72 65 ⇓i P P 09 34 38.2 -0.4
KDAK pmax pmax
comp=Z,12nm,0.9s
KDAK **Kodiak Island** 24.72 65 P P 09 34 39.2 +0.5
baz=284
BPAW **Bear Paw Mtn.** 24.72 50 P P 09 34 39.1 +0.4
baz=271,SNR=9.6
HOM **Homer** 24.82 61 P P 09 34 40.3 +0.7
baz=280
MJB9 **Matsu-Tunnel** 24.82 232 P P 09 34 41.2 +1.4
MJB9 IAmb IAmb 09 34 50.6
comp=Z,6.9nm,0.8s
MAJO **Matsushiro** 24.83 232 P 09 34 41.5 +1.6
MAJO IAmb IAmb 09 34 50.6
comp=Z,6.8nm,0.7s
MAJO **Matsushiro** 24.83 232 ⇓e P P 09 34 43.8 +4.0
MAJO pmax pmax
comp=Z,3.0nm,0.5s
MJAR **Matsushiro Arr** 24.83 232 P P 09 34 39.5 -0.3
comp=Z,0.7nm,0.4s,baz=20,slow=7.9,SNR=2.7
MJAR LR LR 09 45 28.0
comp=Z,51nm,18.9s,baz=2.5,slow=39
comp=Z,0.7nm,0.4s
MLY **Manley** 24.83 48 P 09 34 40.1 +0.4
MLY **Manley** 24.83 48 P P 09 34 39.8 +0.1
baz=270
SUA **Susitna One** 25.00 56 P P 09 34 42.1 +0.8
baz=277
TRF **Thorofare Moun** 25.05 51 P P 09 34 42.2 +0.4
baz=273
CUT **Chulitna** 25.13 54 P P 09 34 43.2 +0.9
baz=276
COLD **Coldfoot** 25.17 42 P P 09 34 43.3 +0.6
COLD IAmb IAmb 09 34 45.2
comp=Z,6.3nm,0.8s
COLD **Coldfoot** 25.17 42 P P 09 34 42.9 +0.2
baz=265,SNR=10
G23K **Bananza Creek** 25.20 44 P 09 34 43.0 0.0
G23K **Bananza Creek** 25.20 44 P P 09 34 42.8 -0.2
baz=267,SNR=5.6
D23K **Nanushuk River** 25.22 38 P P 09 34 42.9 -0.1
baz=261
BRSE **Bradley Lake S** 25.26 60 P P 09 34 44.2 +0.6
baz=281
M22K **Willow** 25.27 55 P P 09 34 44.2 +0.7
baz=277
H23K **Yukon River** 25.35 46 P P 09 34 44.2 -0.1
baz=269
C23K **Itkillik River** 25.40 36 P P 09 34 45.1 +0.5
C23K **Itkillik River** 25.40 36 P P 09 34 44.2 -0.4
baz=259
I23K **Minto, Yukon-K** 25.42 47 P P 09 34 44.8 -0.1
baz=271,SNR=6.5
E23K **Chandalar** 25.48 41 P P 09 34 45.4 -0.2
baz=264,SNR=6.0
RC01 **Rabbit Creek A** 25.54 57 P P 09 34 46.3 +0.3
baz=279
NEA2 **Nenana** 25.55 49 P P 09 34 45.9 -0.2
baz=272
TOLK **Toolik Lake Re** 25.57 39 P P 09 34 46.6 +0.3
TOLK IAmb IAmb 09 34 49.1
comp=Z,8.1nm,0.7s
TOLK **Toolik Lake Re** 25.57 39 P P 09 34 45.9 -0.4
baz=263,SNR=6.9
O22K **Cooper Landing** 25.64 58 P P 09 34 47.4 +0.6
baz=280
MCK **McKinley** 25.64 51 P P 09 34 47.0 0.0
baz=274
PMR **Palmer** 25.76 56 P P 09 34 48.4 +0.4
baz=278
SEW **Seward** 25.83 59 P P 09 34 49.3 +0.6
baz=281
WAT1 **Susitna Watana** 25.88 53 P P 09 34 49.1 -0.1
baz=276
E24K **Your Creek** 25.91 41 P P 09 34 49.3 -0.1
baz=265,SNR=9.2
D24K **Happy Valley** 25.91 38 P P 09 34 49.2 -0.1
baz=263
C24K **Franklin Bluff** 26.03 37 P P 09 34 49.8 -0.6
baz=262
H24K **Noodor Dome** 26.04 46 P P 09 34 50.1 -0.5
baz=270
COLA **College** 26.06 48 ⇑e P P 09 34 50.8 +0.1
COLA pmax pmax
comp=Z,3.0nm,0.9s
COLA **College** 26.06 48 P P 09 34 50.6 -0.1
baz=272
F24K **Squaw Lake** 26.09 42 P P 09 34 50.5 -0.5
baz=267
KNK **Knik Glacier** 26.10 56 P P 09 34 51.4 +0.3
baz=279
G24K **Hadweenzic Riv** 26.21 44 P P 09 34 51.9 -0.2
baz=269,SNR=7.4
POKR **Poker Plat Res** 26.23 47 P P 09 34 52.2 -0.1
baz=272
PWL **Port Wells** 26.25 57 P P 09 34 52.7 +0.2
baz=280
WAT6 **Susitna Watana** 26.28 53 P P 09 34 53.3 +0.3
baz=277
M23K **Glacier View** 26.39 55 P P 09 34 53.8 0.0
baz=279
DHY **Denali Highway** 26.39 52 P P 09 34 53.8 -0.2
baz=277
HDA **Harding Lake** 26.47 49 P P 09 34 55.0 +0.5
baz=274
IL31 26.48 48 P P 09 34 54.8 +0.3
SCM **Sheep Creek Mo** 26.57 55 P P 09 34 55.9 +0.5
baz=279
G25K **Bearman Lake** 26.76 44 P P 09 34 57.0 0.0
baz=270
D25K **Kavik River** 26.79 38 P P 09 34 57.0 -0.4
baz=265,SNR=11
GLI **Glacier Island** 26.84 57 P P 09 34 58.1 +0.3
baz=281
H25L **Birch Creek** 26.87 45 P P 09 34 58.1 +0.1
baz=272
F25K **Christian Rive** 26.95 42 P P 09 34 58.8 0.0
baz=269
E25K **Arctic Village** 27.00 41 P P 09 34 58.9 -0.3
baz=268
PRP **Porcupine Dome** 27.02 46 P P 09 34 59.1 -0.4
baz=273
K24K **Donnelly Dome** 27.03 50 P P 09 34 59.6 0.0
baz=276
M24K **Tolsona, Glenn** 27.07 54 P P 09 35 00.2 +0.2
baz=279
J25K **Salcha River,** 27.14 48 P P 09 35 00.6 +0.1
baz=275
PAX **Paxson** 27.27 52 P P 09 35 01.9 +0.1
baz=278
BMAR **Burnt Mountain** 27.36 42 P P 09 35 03.5 +1.1
C26K **Camden Bay** 27.36 37 P P 09 35 02.2 -0.2
baz=265
RIDG **Independent Ri** 27.45 50 P P 09 35 03.4 +0.1
baz=277
HARP **HAARP** 27.50 53 P P 09 35 03.7 0.0
baz=280
Q23K **Middleton Isla** 27.51 60 P P 09 35 04.3 +0.5
baz=284
F26K **Sheenjek River** 27.53 42 P P 09 35 03.4 -0.6
baz=270
EYAK **Cordova Ski Ar** 27.55 57 P P 09 35 04.7 +0.6
baz=283
G26K **Porcupine Rive** 27.67 43 P P 09 35 05.2 0.0
baz=272
C27K **Jago River** 27.75 37 P P 09 35 05.5 -0.4
baz=267
SCRK **Sand Creek** 27.80 50 P P 09 35 06.1 -0.4
baz=278
N25K **Chitina, Valde** 27.89 55 P P 09 35 07.3 0.0
baz=282
J26L **Joseph Creek** 27.93 48 P P 09 35 07.0 -0.7
baz=277
BMRM **Bremner River** 28.02 56 P P 09 35 08.7 +0.3
baz=283
I26K **Coal Creek Min** 28.02 47 P P 09 35 08.2 -0.1
baz=276
L26K **Log Cabin Wild** 28.22 52 P P 09 35 10.2 0.0
baz=280
KAIM **Kayak Island** 28.34 58 P P 09 35 11.5 +0.3
baz=285
M26K **Nabesna, AK** 28.49 53 P P 09 35 12.7 +0.1
baz=281
E27K **Coleen River** 28.49 41 P P 09 35 11.9 -0.6
baz=272
G27K **Doyon Strip** 28.52 43 P P 09 35 12.2 -0.6
baz=274
H27K **Steamboat Moun** 28.61 45 P P 09 35 13.2 -0.4
baz=275
K27K **Chicken** 28.63 49 P P 09 35 13.8 0.0
baz=279
I27K **Kandik River** 28.63 46 P P 09 35 13.3 -0.6
baz=276
MCARA **McCarthy VSAT** 28.68 55 P P 09 35 14.5 +0.3
baz=283
D27M **Malcolm River** 28.71 38 P P 09 35 14.0 -0.5
baz=270
CRQE **Cirque** 28.79 56 P P 09 35 15.4 +0.1
baz=284
BGLC **Bering Glacier** 28.85 58 P P 09 35 16.1 +0.4
baz=285
L27K **Beaver Creek,** 28.90 51 P P 09 35 16.0 -0.2
baz=281
BCAR **Beaver Creek A** 28.91 51 P P 09 35 16.7 +0.4
M27K **Edge Creek, AK** 29.01 53 P P 09 35 16.9 -0.4
baz=282
F28M **Old Crow** 29.16 42 P P 09 35 17.9 -0.6
baz=274
E28M **Babbage River** 29.24 40 P P 09 35 18.2 -0.9
baz=273
I28M **Miner Creek** 29.35 46 P P 09 35 18.8 -1.4
baz=278
BVCY **Beaver Creek** 29.46 52 P P 09 35 20.5 -0.7
baz=283
MESA **MESA** 29.48 57 P P 09 35 21.0 -0.5
baz=286
CTG **Chitna Glacier** 29.57 55 P P 09 35 22.3 +0.1
baz=285
YUK3 **Moose Creek** 29.79 54 P P 09 35 24.9 +0.6
baz=284
DAWY **Dawson** 29.79 49 P P 09 35 24.9 +0.8
baz=281
E29M **Blow River** 29.85 40 P P 09 35 24.9 +0.3
baz=275
H29M **Whitestone** 29.89 44 P P 09 35 25.1 +0.2
baz=278
G29M **Pine Creek** 29.94 43 P P 09 35 25.4 0.0
baz=277
I29M **Ogilvie Camp,** 30.03 46 P P 09 35 27.1 +0.9
baz=280
O28M **Mount Upton** 30.16 55 P P 09 35 28.0 +0.3
baz=286
J29N **Klondike Camp** 30.23 48 P P 09 35 28.6 +0.6
baz=281
PINM **Pinnacle** 30.32 57 P P 09 35 29.6 +0.7
baz=287
EPYK **Eagle Plains** 30.53 44 P P 09 35 30.9 +0.4
baz=279
L29M **L29M** 30.54 50 P P 09 35 31.8 +1.1
baz=283
M29M **Somme Creek** 30.54 52 P P 09 35 31.6 +0.8
baz=284
G30M **tAoh Zraii Nji** 30.64 43 P P 09 35 32.3 +0.8
baz=278
K29M **Barlow Dome** 30.64 49 P P 09 35 32.5 +0.8
baz=283
F30M **Barrier River** 30.72 41 P P 09 35 32.3 +0.1
baz=278
YUK4 **Talbot Arm** 30.73 54 P P 09 35 33.1 +0.4
baz=286
PNL **Peninsula** 30.85 57 P P 09 35 33.2 -0.3
baz=288
I30M **Mount Dempster** 30.86 46 P P 09 35 32.9 -0.7
baz=281
YUK6 **Quoost Mounta** 30.98 55 P P 09 35 33.7 -1.2
baz=287
J30M **Hart River** 31.00 47 P P 09 35 33.8 -1.0
baz=282
O29M **Mount Kennedy** 31.06 56 P P 09 35 35.2 -0.2
baz=288
M30M **Minto, Yukon** 31.26 51 P P 09 35 36.4 -0.6
baz=285
G31M **Satah River** 31.40 43 P P 09 35 37.5 -0.7
baz=280
HYT **Haines Junctio** 31.41 55 P P 09 35 38.2 -0.3
baz=288
N30M **Aishikik Lake** 31.42 53 P P 09 35 38.0 -0.5
baz=287
INK **Inuvik** 31.48 40 LR LR 09 49 27.4
comp=Z,57nm,19.0s,baz=232,slow=38
INK **Inuvik** 31.48 40 P P 09 35 37.8 -1.1
baz=278
H31M **Peel River** 31.58 45 P P 09 35 39.0 -0.8
baz=282
P29M **Windy Craggy** 31.67 57 P P 09 35 40.3 -0.4
baz=289
M31M **Drury Creek, Y** 32.44 51 P P 09 35 47.4 0.0
baz=287
MMPY **Sheldon Lake,** 33.70 50 P P 09 35 58.4 0.0
baz=289
R32K **Eaglecrest** 33.71 58 P P 09 35 59.3 +0.8
baz=293
A36M **Sachs Harbour** 33.72 32 P P 09 35 56.8 -1.6
baz=280
C36M **Paulatuk** 34.65 37 P P 09 36 06.7 +0.2
C36M **Paulatuk** 34.65 37 P P 09 36 06.1 -0.4
baz=285,SNR=5.3
H11N2 **WAKE ISLAND Hy** 35.49 173 T T 10 13 35.6
baz=355,slow=76,SNR=639
S34M **Telegraph Cree** 35.50 57 P P 09 36 13.9 0.0
baz=295
H11N3 **WAKE ISLAND Hy** 35.50 173 T T 10 13 36.7
baz=355,slow=76,SNR=538
H11N1 **WAKE ISLAND Hy** 35.51 173 T T 10 13 38.7
baz=355,slow=76,SNR=112
WRAK **Wrangell Islan** 35.55 60 P P 09 36 14.7 +0.3
baz=297
DLBC **Dease Lake** 35.81 56 LR LR 09 51 18.1
comp=Z,895nm,19.3s,baz=248,slow=37
DLBC **Dease Lake** 35.81 56 P P 09 36 16.4 -0.3
baz=295
HHC **Hu-ho-hao-te** 36.00 268 eP P 09 36 17.0 -1.5
HHC pmax pmax
comp=Z,6.0nm,0.5s
HHC pmax pmax
comp=Z,79nm,4.3s
T35M **Bob Quinn** 36.33 59 P P 09 36 21.0 -0.2
baz=297
V35K **Ketchikan** 36.41 62 P P 09 36 21.7 0.0
baz=298
WRGLY **Wrigley** 36.83 47 P P 09 36 25.1 -0.1
baz=293
LIRD **Liard River Hi** 37.24 53 P P 09 36 28.9 +0.1
baz=296
KOTAN **Kotaneelee Air** 37.86 52 P P 09 36 35.0 +1.0
baz=296
TOAD **Toad River Com** 37.89 54 P P 09 36 35.3 +1.0
baz=297
YKA **Yellowknife Ar** 40.80 45 P P 09 36 59.1 +0.7
comp=Z,2.8nm,0.7s,baz=305,slow=8.2,SNR=7.7
comp=Z,2.8nm,0.7s
YKAW1 **Yellowknife Wh** 40.85 45 P P 09 37 00.2 +1.3
YKAW1 IAmb IAmb 09 37 19.6
comp=Z,7.0nm,1.1s
GUMO **Guam** 43.60 205 LR LR 09 52 09.1
comp=Z,33nm,20.8s,baz=95,slow=31
SSLB **Suanglung** 43.67 241 P P 09 37 21.1 -1.2
BLKN **Baker Lake** 46.69 36 P P 09 37 45.8 0.0
KURK **Kurchatov** 47.79 301 ⇑eP P 09 37 52.2 -2.3
KURBB **Kurchatov Arra** 47.89 301 P P 09 37 52.4 -2.9
comp=Z,0.8nm,0.6s,baz=56,slow=8.4,SNR=5.6
comp=Z,0.8nm,0.6s
E08A **Dider Farm, El** 47.94 66 P P 09 37 56.3 +0.6
I05D **Terrebonne, OR** 48.14 69 P P 09 37 59.3 +1.9
I05D IAmb IAmb 09 38 03.8
comp=Z,3.4nm,0.9s
J04A **Umpqua Nationa** 48.45 71 P P 09 38 02.0 +2.1
MKAR **Makanchi Array** 48.47 295 P P 09 37 57.3 -2.6
comp=Z,0.4nm,0.7s,baz=52,slow=9.3,SNR=2.1
comp=Z,0.4nm,0.7s
J05D **Fort Rock, OR** 48.90 70 P P 09 38 05.2 +1.9
J05D IAmb IAmb 09 38 28.6
comp=Z,4.8nm,1.2s
YBH **Yreka Blue Hor** 49.14 73 P P 09 38 07.3 +2.2
YBH **Yreka Blue Hor** 49.14 73 P P 09 38 07.3 +2.2
YBH pmax pmax
comp=Z,9.0nm,1.5s
K05A **Summer Lake** 49.46 71 P P 09 38 09.8 +2.1
K05A IAmb IAmb 09 38 17.3
comp=Z,4.5nm,1.2s
PLID **Pearl Lake** 50.47 65 P P 09 38 16.4 +1.1
BPMT **Black Pine Rid** 50.87 62 P P 09 38 20.0 +1.6
FCC **Fort Churchill** 51.09 41 P P 09 38 19.9 +0.4
FCC **Fort Churchill** 51.09 41 P P 09 38 19.9 +0.4
FCC pmax pmax
comp=Z,7.0nm,1.0s
LYMT **Lyon Mountain** 51.10 61 P P 09 38 21.7 +1.6
ARCES **ARCESS Array B** 51.77 342 P P 09 38 23.3 -1.2
comp=Z,3.3nm,1.1s,baz=30,slow=7.2,SNR=4.6
comp=Z,3.3nm,1.1s
ARTI **Arti** 52.90 317 LR LR 10 03 20.8
comp=Z,33nm,18.9s,baz=79,slow=39
RLMT **Red Lodge** 53.90 61 P 09 38 42.2 +1.4
TPAW **Teton Pass** 54.19 64 P P 09 38 44.6 +1.5
TPAW IAmb IAmb 09 38 45.6
comp=Z,2.2nm,0.8s
TPH **Tonopah** 54.71 72 P P 09 38 48.4 +1.6
TPH IAmb IAmb 09 38 49.2
comp=Z,4.1nm,0.9s
TPH **Tonopah** 54.71 72 P P 09 38 48.4 +1.6
TPH pmax pmax
comp=Z,4.0nm,0.9s
GMN **Gold Mountain** 55.25 73 P P 09 38 52.7 +2.0
GMN IAmb IAmb 09 38 53.3
comp=Z,2.2nm,0.8s
BW06 **Boulder Array** 55.42 63 P P 09 38 53.2 +1.3
BW06 IAmb IAmb 09 38 53.9
comp=Z,3.1nm,0.8s
PD31 **Pinedale Array** 55.42 63 P P 09 38 53.1 +1.2
PD31 IAmb IAmb 09 38 53.9
comp=Z,3.1nm,0.8s
PDAR **Pinedale Array** 55.42 63 P P 09 38 52.9 +0.9
comp=Z,2.0nm,0.8s,baz=337,slow=2.6,SNR=20
comp=Z,2.0nm,0.8s
SPR3 **Spring Creek 3** 55.61 70 P 09 38 55.7 +2.3
GWY **Greenwater Val** 56.38 74 P P 09 39 00.3 +1.6
GWY IAmb IAmb 09 39 01.1
comp=Z,3.1nm,0.8s
BSUT **Blindstream Ca** 56.40 66 P P 09 39 01.1 +1.9
BSUT IAmb IAmb 09 39 01.8
comp=Z,3.7nm,0.8s
ULM **Lac du Bonnet** 56.50 49 P P 09 38 59.6 +0.4
comp=Z,3.3nm,0.6s,baz=280,slow=9.3,SNR=7.2
comp=Z,3.3nm,0.6s
ULM **Lac du Bonnet** 56.50 49 ⇑eP P 09 38 59.3 +0.1
RSSD **Black Hills** 57.22 59 P P 09 39 05.6 +0.9
RSSD **Black Hills** 57.22 59 P P 09 39 05.6 +0.9
RSSD pmax pmax
comp=Z,7.0nm,0.9s
AB31 **Akbulak array** 57.48 311 P P 09 39 04.0 -2.2
ABKAR **Akbulak array** 57.48 311 P P 09 39 04.6 -1.5
FINES **FINESS Array B** 58.78 337 P P 09 39 13.3 -1.7
comp=Z,1.0nm,0.6s,baz=47,slow=3.6,SNR=6.3
comp=Z,1.0nm,0.6s
FINES **FINESS Array B** 58.78 337 eP P 09 39 12.3 -2.7
FINES pmax pmax
comp=Z,1.0nm,0.6s
CMAR **Chiang Mai Arr** 59.87 259 LR LR 10 09 51.0
comp=Z,24nm,18.5s,baz=250,slow=41
NOA **NORSAR Array B** 61.96 345 P P 09 39 34.9 -1.9
comp=Z,0.4nm,0.6s,baz=19,slow=7.0,SNR=3.3
NOA LR LR 10 07 54.7
comp=Z,13nm,18.9s,baz=295,slow=38
comp=Z,0.4nm,0.6s
HFS **Hagfors** 62.42 343 P P 09 39 37.6 -2.3
comp=Z,1.1nm,0.5s,baz=44,slow=8.7,SNR=4.7
comp=Z,1.1nm,0.5s
ANMO **Albuquerque** 62.84 67 P 09 39 44.4 +1.1
ANMO **Albuquerque** 62.84 67 P P 09 39 44.4 +1.1
ANMO pmax pmax
comp=Z,1.0nm,0.9s
LENM **Lemitar** 63.16 68 P P 09 39 46.5 +1.1
SBM **South Baldy** 63.19 69 P P 09 39 47.3 +1.4
SCHQ **Schefferville** 63.25 29 P P 09 39 43.4 -2.1
comp=Z,19nm,0.6s,baz=354,slow=10,SNR=3.2
AKASG **Malin Array Be** 67.54 330 P P 09 40 12.2 -1.1
comp=Z,0.4nm,0.4s,baz=37,slow=6.9,SNR=1.4
comp=Z,0.4nm,0.4s
TXAR **Lajitas Array** 68.67 69 P P 09 40 21.6 +0.8
comp=Z,2.5nm,0.7s,baz=295,slow=5.2,SNR=36
comp=Z,2.5nm,0.7s
KBZ **Khabaz** 68.95 317 LR LR 10 12 53.5
comp=Z,27nm,19.0s,baz=54,slow=38
WB0 **Warramunga Arr** 78.29 207 P P 09 41 18.4 +1.2
WB0 IAmb IAmb 09 41 18.4
comp=Z,5.0nm,1.0s
WRA **Warramunga Arr** 78.47 207 P P 09 41 18.0 -0.1
comp=Z,0.4nm,0.7s,baz=13,slow=5.4,SNR=2.0
comp=Z,0.4nm,0.7s
AS31 **Alice Springs** 82.14 206 P P 09 41 37.6 -0.2
ASAR **Alice Springs** 82.14 206 P P 09 41 37.9 0.0
ASAR **Alice Springs** 82.14 206 P P 09 41 38.2 +0.4
comp=Z,0.7nm,0.6s,baz=14,slow=5.4,SNR=12

comp=Z,0.7nm,0.6s
ASAR Alice Springs 82.14 206 P **P** **09 41 37.9 0.0**
ESDC Sonseca Array 84.86 349 P **P** **09 41 51.4 -0.5**
comp=Z,1.5nm,0.8s,baz=358,slow=5.0,SNR=6.2
comp=Z,1.5nm,0.8s
QSPA South Pole Qui 144.86 180 PKPbc **PKPdf** **09 48 52.4 -0.3**
comp=Z,2.6nm,0.6s,baz=295,slow=1.3,SNR=21

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*SSNC **10** 09:36:19.4±1.2, 19°.50N×70°.52W, h120km±13km, MD3.7, ML3.7*
*NEIC **10** 09:36:21.0±1.4, 19°.81N±0°.02×70°.84W±0°.04, h10km±2km, ML3.5/22, Error ellipse: s-maj=6.7km s-min=3.1km az=102.0*
*SDD **10** 09:36:24.5±2.6, 19°.76N×70°.69W, h21km±18km, MD3.3, ML3.5, MW3.7*
*OSPL **10** 09:36:24.8±3.0, 19°.74N×70°.72W, h1km±10km, ML3.3*
ISC 10 09:36:23.0±0.9, 19°.77N±0°.02×70°.72W±0°.02, h24km±7km, **n63**,σ1°**37**/100,**4C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SODR	**Sosua Marina B**	**0.13**	**96**	*e*Pg	**Pb**	**09 36 27.6**	**-0.2**
SODR				IAML		09 36 34.9	
	comp=N,11μm,0.3s						
LUDR	**Luperon**	**0.26**	**300**	*e*Pg	**Pb**	**09 36 29.6**	**+0.2**
SC01	**Santiago de lo**	**0.34**	**182**	Pg	**Pb**	**09 36 30.2**	**-0.3**
SC01				Sg	**Sb**	**09 36 35.4**	**-0.3**
SC01	**Santiago de lo**	**0.34**	**182**	*e*Pg	**Pb**	**09 36 30.2**	**-0.3**
SC01				IAML		09 36 36.7	
	comp=N,3μm,1.1s						
SC01	**Santiago de lo**	**0.34**	**182**	*i* P	**Pb**	**09 36 30.2**	**-0.3**
SC01				*e*S	**Sb**	**09 36 35.6**	**-0.1**
SC01				IAML		09 36 40.6	
	comp=Z,2μm,0.7s						
MADR	**Mao Valverde**	**0.41**	**242**	*e*Pg	**Pb**	**09 36 31.4**	**-0.4**
MADR				*e*Sg	**Sn**	**09 36 39.4**	**-1.1**
MADR				IAML		09 36 40.0	
	comp=N,4μm,0.7s						
LOPP1	**Punta Rusia, P**	**0.46**	**281**	*i* P	**Pb**	**09 36 32.8**	**+0.2**
LOPP1				*e*S	**Sn**	**09 36 40.9**	**-0.8**
LOPP1				IAML		09 36 42.7	
	comp=Z,2μm,0.4s						
SFDR	**San Fco. de Ma**	**0.65**	**137**	*e*Pg	**Pn**	**09 36 36.1**	**-0.7**
SFDR				IAML		09 36 48.7	
	comp=N,3μm,0.3s						
REDR	**Restauracion**	**0.88**	**227**	*e*Pg	**Pb**	**09 36 41.6**	**+2.1**
REDR				*e*Sg	**Sn**	**09 36 56.3**	**+4.5**
REDR				IAML		09 36 57.3	
	comp=N,3μm,0.2s						
LONA1	**Toro Cenizo, N**	**0.89**	**115**	*e*S	**Sn**	**09 36 53.8**	**+1.6**
MCDR	**Montecristi**	**0.90**	**278**	*e*Pg	**Pb**	**09 36 40.4**	**+0.6**
MCDR				*e*Pg	**Pb**	**09 36 40.5**	**+0.6**
MCDR				*e*Sg	**Sn**	**09 36 54.4**	**+2.1**
MCDR				IAML		09 36 59.9	
	comp=N,2μm,0.2s						
NADR	**Nagua**	**0.91**	**117**	*e*Pg	**Pb**	**09 36 40.5**	**+0.4**
NADR				*e*Sg	**Sb**	**09 36 51.4**	**-0.4**
NADR				IAML		09 36 59.8	
	comp=N,4μm,0.2s						
SDDR	**Presa de Saban**	**0.95**	**215**	Pg	**Pn**	**09 36 39.7**	**-1.2**
SDDR				Sg	**Sb**	**09 36 50.9**	**-2.1**
SDDR				IAML		09 36 54.2	
	comp=N,1μm,0.4s						
SDDR	**Presa de Saban**	**0.95**	**215**	*e*P	**Pn**	**09 36 39.8**	**-1.2**
SDDR	**Presa de Saban**	**0.95**	**215**	*e*Pg	**Pn**	**09 36 39.7**	**-1.2**
SDDR				IAML		09 36 54.3	
	comp=N,2μm,0.6s						
SDDR	**Presa de Saban**	**0.95**	**215**	*i* P	**Pn**	**09 36 39.8**	**-1.2**
SDDR				*e*S	**Sb**	**09 36 52.9**	**-0.1**
SDDR				IAML		09 36 54.3	
	comp=Z,921nm,0.3s						
ABDR	**Alto Bandera**	**0.95**	**175**	*e*Pg	**Pn**	**09 36 40.0**	**-1.3**
ABDR				*e*Sg	**Sn**	**09 36 53.8**	**-0.5**
ABDR				IAML		09 36 54.4	
	comp=N,1μm,0.8s						
LODA1	**ITESIL, Dajabo**	**0.96**	**257**	*e*Pg	**Pn**	**09 36 40.9**	**0.0**
LODA1				*e*Sg	**Sb**	**09 36 55.0**	**+1.8**
LODA1				IAML		09 37 00.1	
	comp=N,4μm,0.3s						
LODA1	**ITESIL, Dajabo**	**0.96**	**257**	*i* P	**Pn**	**09 36 41.0**	**0.0**
LODA1				*e*S	**Sb**	**09 36 54.5**	**+1.3**
LODA1				IAML		09 36 57.1	
	comp=Z,2μm,0.5s						
SJM1	**San Juan de la**	**1.07**	**206**	*e*Pg	**Pb**	**09 36 42.9**	**0.0**
LONE3	**El Aguacate, B**	**1.35**	**211**	*i* P	**Pb**	**09 36 47.1**	**-0.6**
LONE3				*e*S	**Sb**	**09 37 05.8**	**+1.1**
LONE3				IAML		09 37 06.1	
	comp=Z,539nm,1.1s						
NEDR	**Neiba UASD**	**1.44**	**208**	*e*Pg	**Pb**	**09 36 48.9**	**-0.2**
NEDR				*e*Sg	**Sb**	**09 37 08.2**	**+1.1**
NEDR				IAML		09 37 11.1	
	comp=N,353nm,0.4s						
SDD	**Santo Domingo**	**1.51**	**150**		**Pn**	**09 36 49.0**	**+0.4**
SDD					**Sb**	**09 37 08.3**	**-0.7**
SDD				IAML		09 37 13.1	
	comp=E,394nm,0.4s						
SDD	**Santo Domingo**	**1.51**	**150**	*e*Pg	**Pn**	**09 36 48.5**	**0.0**
SDD				*e*Sg	**Sb**	**09 37 09.1**	**+0.1**
SDD				IAML		09 37 13.0	
	comp=N,111nm,0.4s						
SDD	**Santo Domingo**	**1.51**	**150**	*i* P	**Pn**	**09 36 48.9**	**+0.4**
SDD				*e*S	**Sb**	**09 37 09.0**	**+0.1**
SMDR	**Samana, DR**	**1.52**	**108**	*e*Pg	**Pb**	**09 36 49.8**	**-0.6**
SMDR				*e*Sg	**Sb**	**09 37 08.7**	**-0.6**
SMDR				IAML		09 37 13.5	
	comp=N,709nm,0.8s						
LODU1	**El Espartillar**	**1.58**	**207**	*i* P	**Pb**	**09 36 51.6**	**0.0**
LODU1				*e*S	**Sb**	**09 37 12.4**	**+1.3**
LODU1				IAML		09 37 14.3	
	comp=Z,1μm,0.5s						
JIDR	**Jimani**	**1.66**	**220**	*e*Pg	**Pb**	**09 36 52.5**	**-0.5**
JIDR				*e*Sg	**Sb**	**09 37 15.8**	**+2.3**
JIDR				IAML		09 37 16.8	
	comp=N,389nm,0.2s						
PODR	**Polo**	**1.68**	**199**	*e*Pg	**Pb**	**09 36 53.1**	**-0.3**
PODR				*e*Sg	**Sb**	**09 37 13.8**	**-0.3**
PODR				IAML		09 37 20.9	
	comp=N,503nm,0.4s						
PODR	**Polo**	**1.68**	**199**	*i* P	**Pb**	**09 36 53.0**	**-0.3**
PODR				*e*S	**Sb**	**09 37 16.3**	**+2.1**
MIDR	**Miches**	**1.75**	**116**⇑	*e*Pg	**Pb**	**09 36 53.4**	**-1.1**
MIDR			⇑	*e*Sg	**Sb**	**09 37 17.6**	**+1.4**
GRTK	**Grand Turk**	**1.78**	**347**	Pn	**Pn**	**09 36 51.8**	**-0.5**
GRTK				IAML		09 37 23.5	
	comp=N,589nm,0.3s						
GRTK	**Grand Turk**	**1.78**	**347**⇑	*e*P	**Pb**	**09 36 54.1**	**-0.9**
GRTK				*e*S	**Sb**	**09 37 17.7**	**+0.8**
GRTK				IAML		09 37 19.8	
	comp=N,909nm,0.2s						
GRTK				IAML		09 37 20.1	
	comp=N,445nm,0.2s						
GRTK	**Grand Turk**	**1.78**	**347**	*e*Pg	**Pb**	**09 36 54.4**	**-0.6**
GRTK				*e*Sg	**Sb**	**09 37 18.4**	**+1.5**
GRTK				IAML		09 37 23.4	
	comp=N,550nm,0.3s						
GRTK	**Grand Turk**	**1.78**	**347**	*i* P	**Pb**	**09 36 54.5**	**-0.6**
GRTK				*e*S	**Sb**	**09 37 18.4**	**+1.5**
GRTK				IAML		09 37 19.9	
	comp=Z,203nm,0.1s						
PAPH	**Port-au-Prince**	**1.94**	**231**	*i* P	**Pb**	**09 36 56.7**	**-1.1**
LOVI	**El Cajuil, Ovi**	**2.05**	**198**	*i* P	**Pb**	**09 36 59.4**	**-0.2**
HIDR	**Higuey Centro**	**2.22**	**121**	*e*Pg	**Pb**	**09 37 01.4**	**-1.1**
HIDR				*e*Sg	**Sb**	**09 37 30.2**	**+0.6**
HIDR				IAML		09 37 31.6	
	comp=N,1μm,0.3s						
MASC	**Masc**	**3.33**	**278**	*e*P	**Pn**	**09 37 13.0**	**-0.6**
MASC				*e*S	**Sn**	**09 37 52.5**	**0.0**
MASC				IAML		09 38 06.2	
	comp=E,59nm,0.3s						
MASC				IAML		09 38 06.3	
	comp=N,35nm,0.3s						
PRSN	**Puerto Rico Se**	**3.71**	**114**	Pn	**Pn**	**09 37 19.9**	**+1.0**
CRPR	**Cabo Rojo, PR**	**3.84**	**117**	Pn	**Pn**	**09 37 21.8**	**+1.2**
CRPR				IAML		09 38 39.2	
	comp=N,49nm,1.1s						
QMBU	**Quimbuelo**	**3.88**	**277**	*e*P	**Pn**	**09 37 19.9**	**-1.3**
QMBU				*e*S	**Sn**	**09 38 05.0**	**-1.0**
QMBU				IAML		09 38 06.8	
	comp=E,36nm,0.4s						
QMBU				IAML		09 38 07.2	
	comp=N,34nm,0.2s						
MLPR	**Magueyes Islan**	**3.91**	**117**	*e*Pg	**Pb**	**09 37 28.4**	**-2.8**
MLPR				*e*Sg	**Sn**	**09 38 10.4**	**+3.6**
MLPR				IAML		09 38 13.3	
	comp=N,5.2nm,0.2s						
AOPR	**Arecibo Observ**	**4.00**	**110**	Pn	**Pn**	**09 37 23.7**	**+0.8**
UUPR	**Utuado, UPR, P**	**4.07**	**111**	Pn	**Pn**	**09 37 26.0**	**+2.1**
NMDO	**Nuevo Mundo**	**4.09**	**282**	Pn	**Pn**	**09 37 22.0**	**-2.0**
NMDO	**Nuevo Mundo**	**4.09**	**282**	*e*P	**Pn**	**09 37 23.2**	**-0.8**
NMDO				*e*S	**Sn**	**09 38 10.1**	**-1.0**
GTBY	**Guantanamo Bay**	**4.14**	**273**	*e*P	**Pn**	**09 37 23.6**	**-1.2**
GTBY				*e*S	**Sn**	**09 38 11.1**	**-1.4**
OBIP	**Obispado Ponce**	**4.25**	**113**	Pn	**Pn**	**09 37 26.9**	**+0.5**
OBIP				IAML		09 38 39.8	
	comp=E,44nm,0.7s						
OBIP				IAML		09 38 39.9	
	comp=N,42nm,0.6s						
CELP	**Cerrillos**	**4.26**	**113**	Pn	**Pn**	**09 37 26.2**	**-0.3**
CELP				IAML		09 38 32.9	
	comp=E,55nm,0.8s						
CELP				IAML		09 38 40.4	
	comp=N,55nm,0.6s						
GCPR	**Guaynabo City**	**4.62**	**108**	Pn	**Pn**	**09 37 30.4**	**-0.9**
GCPR				IAML		09 38 50.2	
	comp=N,36nm,0.7s						
SJG	**San Juan**	**4.62**	**110**	Pn	**Pn**	**09 37 32.4**	**+0.9**
SJG				IAML		09 38 43.9	
	comp=N,49nm,0.5s						
RCC	**Rio Carpintero**	**4.69**	**274**	*e*P	**Pn**	**09 37 30.9**	**-1.5**
RCC				*e*S	**Sn**	**09 38 23.9**	**-2.2**
PDPR	**Patillas Dam,**	**4.77**	**111**	Pn	**Pn**	**09 37 35.1**	**+1.6**
PDPR				IAML		09 38 47.2	
	comp=E,36nm,0.6s						
PDPR				IAML		09 38 54.4	
	comp=N,40nm,0.8s						
PINC	**Pinares de May**	**4.82**	**279**	*e*P	**Pn**	**09 37 32.2**	**-1.9**
PINC				*e*S	**Sn**	**09 38 26.8**	**-2.5**
HUMP	**Col San Antoni**	**4.88**	**109**	Pn	**Pn**	**09 37 35.7**	**+0.7**
MARVS	**Santiago de Cu**	**4.88**	**274**	*e*P	**Pn**	**09 37 33.1**	**-2.0**
MARVS				*e*S	**Sn**	**09 38 28.2**	**-2.6**
HLGC	**Holguin**	**5.14**	**283**	*e*P	**Pn**	**09 37 39.7**	**+1.1**
HLGC				*e*S	**Sn**	**09 38 39.8**	**+2.6**
CHIV	**Chivirico**	**5.37**	**273**	Pn	**Pn**	**09 37 39.1**	**-2.6**
CHIV	**Chivirico**	**5.37**	**273**⇑	*e*P	**Pn**	**09 37 39.6**	**-2.0**
PILO	**Pilon**	**6.30**	**272**	*e*P	**Pn**	**09 37 53.3**	**-1.2**
MTDJ	**Mount Denham**	**6.63**	**258**	Pn	**Pn**	**09 37 57.4**	**-1.7**
BAUV	**El Baul**	**11.06**	**166**	Pn	**Pn**	**09 39 00.8**	**+0.8**

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*IDC **10** 09:52:58.5±0.6, 58°.78S×16°.14W, h0km, mb4.2/7, mbtmp4.3/8, ML4.1/1, MS3.9/30, Error ellipse: s-maj=23.8km s-min=19.9km az=59.0*
*NEIC **10** 09:53:00.8±1.2, 58°.9S±0°.1×16°.3W±0°.2, h10km±1km, mb5.0/50, Error ellipse: s-maj=18.4km s-min=17.6km az=228.0*
*GCMT **10** 09:53:02.8±0.3, 58°.87S±0°.04×15°.89W±0°.03, h13km±1km, MW4.8/102, Moment Tensor Solution. s18,c18; s102,c126; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.16±.15; Mθθ=0.30±.09; Mϕϕ=1.87±.10; Mrθ=0.37±.38; Mθϕ=-0.00±.07; Mϕr=-0.04±.24; Best double couple: M=2.04300×10^16^ NP1:φs=188.00000°, δ45.00000°, λ=-78.00000°. NP2:φs=351.00000°, δ46.00000°, λ=-102.00000°. Principal axes: T 1.8700, Plg1.0000°, Azm90.0000°; N 0.3510, Plg8.0000°, Azm360.0000°; P -2.2160, Plg82.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 09:53:00.2±0.4, 58°.79S±0°.07×16°.17W±0°.08, h10km,**n360,** σ1°**56**/329,**mb5.0**/28,**MS4.0**/30,**2C-4D, East of South Sandwich Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.36**	**168**	⇓P	**Pn**	**09 55 55.2**	**-0.6**
	comp=Z,14nm,0.5s						
VNA3	**Neumayer Olymp**	**12.79**	**170**	⇓P	**Pn**	**09 56 00.8**	**-0.9**
	comp=Z,17nm,0.6s						
SNAA	**Sanae**	**14.02**	**162**	⇑P	**Pn**	**09 56 17.9**	**-0.8**
	comp=Z,164nm,0.4s						
SNAA	**Sanae**	**14.02**	**162**		**Pn**	**09 56 17.5**	**-1.2**
SNAA	**Sanae**	**14.02**	**162**	Pn	**Pn**	**09 56 17.9**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=326,slow=13,SNR=37						
SNAA				LR	LR	10 00 34.9	
	comp=Z,269nm,19.2s,baz=278,slow=32						
	comp=Z,7.5nm,0.8s						
TROLL	**Troll, Antarti**	**15.26**	**158**	⇓P	**Pn**	**09 56 33.9**	**-1.6**
	comp=Z,687nm,0.8s						
ESPZ	**Base Esperanza**	**19.99**	**239**	P	**P**	**09 57 32.1**	**-0.3**
ESPZ				IAmb	IAmb	09 57 45.1	
	comp=Z,64nm,1.1s						
BELA	**Belgrano 2**	**20.14**	**191**	P	**P**	**09 57 33.9**	**0.0**
PMSA	**Palmer Station**	**22.92**	**235**	P	**P**	**09 58 03.6**	**-0.2**
PMSA	**Palmer Station**	**22.92**	**235**	LR	LR	10 04 54.9	
	comp=Z,256nm,21.8s,baz=90,slow=31						
SMAI	**San Martin Ant**	**23.86**	**226**	P	**P**	**09 58 13.0**	**-0.2**
EFI	**East Falkland**	**24.58**	**268**	P	**P**	**09 58 20.1**	**+0.2**
SYO	**Syowa Base**	**25.58**	**136**‖	epP	**P**	**09 58 29.0**	**+0.1**
SYO	**Syowa Base**	**25.58**	**136**‖	esP	sP	09 58 35.8	+4.4
MG04	**Isla Riesco**	**30.89**	**256**	P	**P**	**09 59 15.4**	**-1.0**
QSPA	**South Pole Qui**	**31.45**	**180**	P	**P**	**09 59 21.9**	**+0.5**
MAW	**Mawson**	**34.26**	**138**	P	**P**	**09 59 45.2**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=226,slow=7.8,SNR=9.4						
MAW				LR	LR	10 12 07.4	
	comp=Z,174nm,18.1s,baz=252,slow=34						
	comp=Z,2.7nm,0.7s						
TRQA	**Tornquist**	**35.84**	**285**		**P**	**09 59 59.9**	**+0.1**
TRQA				IAmb	IAmb	10 00 09.3	
	comp=Z,19nm,1.1s						
LL01	**San Ignacio de**	**38.03**	**270**	P	**P**	**10 00 17.4**	**-0.8**
LL01				IAmb	IAmb	10 00 28.9	
	comp=Z,63nm,1.9s						
PLCA	**Paso Flores**	**38.24**	**274**	P	**P**	**10 00 19.5**	**-0.7**
PLCA	**Paso Flores**	**38.24**	**274**	P	**P**	**10 00 19.3**	**-0.9**
	comp=Z,2.4nm,1.0s,baz=115,slow=11,SNR=3.8						
PLCA				LR	LR	10 15 57.4	
	comp=Z,160nm,19.4s,baz=130,slow=36						
	comp=Z,2.4nm,1.0s						
BOSA	**Boshof**	**41.41**	**62**	P	**P**	**10 00 48.0**	**+1.3**
BOSA	**Boshof**	**41.41**	**62**	P	**P**	**10 00 46.2**	**-0.4**
	comp=Z,2.6nm,0.9s,baz=197,slow=7.0,SNR=4.6						
BOSA				LR	LR	10 14 27.8	
	comp=Z,135nm,18.9s,baz=206,slow=31						
	comp=Z,2.6nm,0.9s						
CPUP	**Villa Florida**	**43.24**	**300**	LR	LR	10 18 54.8	
	comp=Z,44nm,18.8s,baz=8.0,slow=36						
BO01	**Tunca**	**43.32**	**279**	P	**P**	**10 01 01.5**	**-0.5**
BO01				IAmb	IAmb	10 01 31.8	
	comp=Z,62nm,1.6s						
BO04	**La Punta**	**43.39**	**280**	P	**P**	**10 01 02.5**	**-0.2**
BO04				IAmb	IAmb	10 01 23.7	
	comp=Z,48nm,1.4s						
SBA	**Scott Base**	**43.59**	**181**		**P**	**10 01 05.1**	**+1.4**
MT03	**Universidad Ad**	**43.73**	**281**	P	**P**	**10 01 05.0**	**-0.5**
MT03				IAmb	IAmb	10 01 15.1	
	comp=Z,26nm,0.8s						
MT09	**Talagante**	**43.75**	**280**	P	**P**	**10 01 06.0**	**+0.3**
VNDA	**Vanda**	**43.94**	**179**		**P**	**10 01 07.5**	**+1.0**
VNDA	**Vanda**	**43.94**	**179**	P	**P**	**10 01 07.3**	**+0.8**
	comp=Z,2.0nm,1.0s,baz=213,slow=7.6,SNR=6.6						
VNDA				LR	LR	10 18 13.6	
	comp=Z,115nm,20.2s,baz=175,slow=34						
	comp=Z,2.0nm,1.0s						
LBTB	**Lobatse**	**44.66**	**59**		**P**	**10 01 13.7**	**+0.8**
LBTB				IAmb	IAmb	10 01 17.3	
	comp=Z,17nm,1.2s						
LBTB	**Lobatse**	**44.66**	**59**	LR	LR	10 16 32.6	
	comp=Z,266nm,18.5s,baz=200,slow=32						
VA06	**Catapilco**	**44.87**	**281**	P	**P**	**10 01 14.5**	**0.0**
KGCAE	**Kacgae**	**45.07**	**54**	P	**P**	**10 01 17.4**	**+1.1**
KGCAE				IAmb	IAmb	10 01 19.3	
	comp=Z,31nm,1.1s						
KDWAN	**Kaudwane**	**45.66**	**57**	P	**P**	**10 01 21.4**	**+0.4**
GRTLG	**Ghanzi**	**45.99**	**52**	P	**P**	**10 01 24.3**	**+0.7**
GRTLG				IAmb	IAmb	10 01 26.3	
	comp=Z,18nm,1.3s						
LPHEP	**Lephephe**	**46.21**	**58**		**P**	**10 01 25.4**	**+0.2**
LPHEP				IAmb	IAmb	10 01 30.3	
	comp=Z,23nm,1.4s						
CO01	**Juntas del Tor**	**46.33**	**284**	P	**P**	**10 01 26.1**	**-0.2**
CO01				IAmb	IAmb	10 01 36.3	
	comp=Z,16nm,1.2s						
TSUM	**Tsumeb**	**46.51**	**46**	P	**P**	**10 01 27.9**	**+0.2**
TSUM				IAmb	IAmb	10 01 37.3	
	comp=Z,18nm,1.6s						
TSUM	**Tsumeb**	**46.51**	**46**	LR	LR	10 16 47.3	
	comp=Z,132nm,20.6s,baz=149,slow=31						
GO04	**Tololo Observa**	**46.53**	**283**	P	**P**	**10 01 27.0**	**-0.9**
KHWEE	**KHWEE**	**47.27**	**57**	P	**P**	**10 01 34.1**	**+0.5**
KHWEE				IAmb	IAmb	10 01 41.7	
	comp=Z,24nm,1.3s						
MREMI	**Moremi**	**47.61**	**60**		**P**	**10 01 36.4**	**+0.2**
MREMI				IAmb	IAmb	10 01 39.8	
	comp=Z,30nm,1.4s						
QNGWA	**Qangwa**	**47.62**	**51**		**P**	**10 01 37.4**	**+1.1**
QNGWA				IAmb	IAmb	10 01 40.1	
	comp=Z,23nm,1.4s						
AQDB	**Aquidauana**	**47.67**	**306**	P	**P**	**10 01 36.3**	**-0.2**
AQDB				IAmb	IAmb	10 01 39.2	
	comp=Z,31nm,1.9s						
GMARE	**Gumare**	**48.14**	**52**	P	**P**	**10 01 41.6**	**+1.3**
PHDHD	**Phuduhudu**	**48.42**	**55**	P	**P**	**10 01 43.3**	**+0.8**
PHDHD				IAmb	IAmb	10 01 50.9	
	comp=Z,22nm,1.1s						
BDFB	**Brasilia**	**49.09**	**318**	LR	LR	10 19 24.2	
	comp=Z,234nm,19.8s,baz=150,slow=32						
CASY	**Casey**	**49.09**	**155**	P	**P**	**10 01 48.4**	**+1.4**
CASY				IAmb	IAmb	10 01 57.1	
	comp=Z,18nm,1.6s						
MATP	**Matopo**	**49.95**	**59**	LR	LR	10 20 06.9	
	comp=Z,183nm,18.8s,baz=206,slow=33						
KSANE	**Kasane**	**50.81**	**54**	P	**P**	**10 02 01.3**	**+0.6**
KSANE				IAmb	IAmb	10 02 09.2	
	comp=Z,17nm,1.2s						
PB02	**IPOC Station P**	**53.43**	**291**	P	**P**	**10 02 20.2**	**0.0**
PB01	**IPOC Station P**	**53.46**	**291**	P	**P**	**10 02 21.1**	**+0.7**
PTLB	**Pontes e Lacer**	**53.60**	**305**	P	**P**	**10 02 21.9**	**+0.6**
SIV	**San Ignacio**	**53.95**	**303**	LR	LR	10 25 04.7	
	comp=Z,109nm,19.1s,baz=116,slow=36						
PB08	**IPOC Station P**	**54.07**	**292**	P	**P**	**10 02 25.4**	**+0.1**
PB08				IAmb	IAmb	10 03 34.3	
	comp=Z,40nm,1.9s						
TA01	**Diego Aracena**	**54.21**	**291**	P	**P**	**10 02 26.9**	**+1.1**
LSZ	**Lusaka**	**54.35**	**56**		**P**	**10 02 27.5**	**+0.5**
LSZ				IAmb	IAmb	10 02 35.9	
	comp=Z,20nm,1.4s						
LSZ	**Lusaka**	**54.35**	**56**	LR	LR	10 22 27.7	
	comp=Z,155nm,19.4s,baz=174,slow=33						
GO01	**Chusmiza**	**54.49**	**292**	P	**P**	**10 02 28.9**	**+0.4**
GO01				IAmb	IAmb	10 02 49.3	
	comp=Z,50nm,2.0s						
RCBR	**Riachuelo**	**54.99**	**336**	LR	LR	10 20 28.2	
	comp=Z,33nm,21.4s,baz=229,slow=30						
LPAZ	**La Paz**	**56.90**	**295**		**P**	**10 02 45.9**	**0.0**
LPAZ				IAmb	IAmb	10 02 56.2	
	comp=Z,13nm,1.2s						
LPAZ	**La Paz**	**56.90**	**295**	P	**P**	**10 02 46.5**	**+0.5**
	comp=Z,2.9nm,0.9s,baz=144,slow=7.1,SNR=8.5						
LPAZ				LR	LR	10 26 06.4	
	comp=Z,84nm,21.9s,baz=126,slow=35						
	comp=Z,2.9nm,0.9s						
OPO	**Ambohidratompo**	**60.55**	**77**	LR	LR	10 25 39.5	
	comp=Z,63nm,18.5s,baz=44,slow=32						
DBIC	**Dimbokro**	**65.88**	**12**	P	**P**	**10 03 46.0**	**+0.2**
DBIC				IAmb	IAmb	10 03 47.0	
	comp=Z,9.8nm,0.8s						
DBIC	**Dimbokro**	**65.88**	**12**	P	**P**	**10 03 45.2**	**-0.6**
	comp=Z,8.1nm,0.7s,baz=202,slow=9.5,SNR=8.9						
DBIC				LR	LR	10 25 24.9	
	comp=Z,31nm,19.2s,baz=152,slow=30						
	comp=Z,8.1nm,0.7s						
ATAH	**Atahualpa**	**69.75**	**291**	LR	LR	10 35 57.8	
	comp=Z,73nm,19.8s,baz=145,slow=37						
MDP	**Montagnes des**	**70.02**	**321**	LR	LR	10 31 54.9	
	comp=Z,76nm,18.9s,baz=130,slow=33						
KMBO	**Kilima Mbogo**	**70.92**	**58**	LR	LR	10 33 32.3	
	comp=Z,135nm,18.1s,baz=108,slow=34						
TORD	**Torodi Ar. Bea**	**73.16**	**18**	P	**P**	**10 04 31.2**	**+0.4**
TORD	**Torodi Ar. Bea**	**73.16**	**18**	P	**P**	**10 04 31.0**	**+0.3**
	comp=Z,4.3nm,0.9s,baz=192,slow=4.6,SNR=15						
	comp=Z,4.3nm,0.9s						
COHC	**Cochancay**	**74.22**	**292**	P	**P**	**10 04 36.8**	**-0.3**
ROSC	**El Rosal**	**78.33**	**300**	LR	LR	10 40 38.1	
	comp=Z,69nm,19.7s,baz=72,slow=36						
RUSC	**La Rusia**	**78.71**	**302**		**P**	**10 05 02.9**	**-0.2**
RUSC				IAmb	IAmb	10 05 03.9	
	comp=Z,25nm,1.3s						
PCRV	**Puerto La Cruz**	**79.05**	**311**	LR	LR	10 38 35.0	
	comp=Z,119nm,20.4s,slow=35						
SDV	**Santo Domingo**	**80.33**	**305**	LR	LR	10 42 33.9	
	comp=Z,78nm,18.3s,baz=80,slow=37						
DGAR	**Diego Garcia**	**83.00**	**93**	P	**P**	**10 05 26.1**	**+0.5**
TAM	**Tamanrasset**	**83.25**	**20**	P	**P**	**10 05 28.7**	**+2.1**
SJG	**San Juan**	**86.87**	**313**	LR	LR	10 42 08.7	
	comp=Z,67nm,21.7s,baz=155,slow=34						
STKA	**Stephens Creek**	**87.78**	**161**	LR	LR	10 43 05.5	
	comp=Z,114nm,18.6s,baz=199,slow=34						
SOCE	**Pocosol**	**87.98**	**294**	P	**P**	**10 05 49.5**	**-0.7**
JTS	**Las Juntas de**	**88.06**	**293**	LR	LR	10 47 51.2	
	comp=Z,41nm,19.0s,baz=155,slow=37						
TBI	**Tubuai**	**89.52**	**222**	*e*LR	LR	10 34 24.3	
	comp=Z,414nm,27.0s						
ASAR	**Alice Springs**	**94.18**	**153**	P	**P**	**10 06 18.4**	**-0.8**
PPT2	**Papeete2**	**94.86**	**224**	*e*LR

	baz=116						
R33M	Jennings River	147.70 300	P		PKPbc	10 12 43.3	-0.4
	baz=118						
Q32M	Nakina River	148.09 298	P		PKPbc	10 12 44.8	0.0
	baz=118						
KSRS	Korea Array	148.50 117	PKPbc		PKPdf	10 12 44.3	+1.6
	comp=Z,2.0nm,1.0s,baz=242,slow=2.7,SNR=4.6						
SIT	Sitka	148.61 294	P		PKPbc	10 12 46.0	+0.1
	baz=119						
C36M	Paulatuk	148.76 319	P		PKPbc	10 12 46.1	+0.1
	baz=107						
R32K	Eaglecrest	148.81 296	P		PKPbc	10 12 45.9	-0.6
	baz=118						
P33M	Teslin, Yukon	148.90 300	P		PKPbc	10 12 46.2	-0.6
	baz=116						
P32M	Atlin	149.04 299	P		PKPbc	10 12 46.7	-0.3
	baz=116						
MMPY	Sheldon Lake,	149.22 305	P		PKPbc	10 12 47.2	-0.2
	baz=113						
N32M	Quiet Lake	149.42 302	P		PKPbc	10 12 47.8	-0.2
	baz=114						
S31K	Pelican	149.47 295	P		PKPbc	10 12 48.1	0.0
	baz=118						
SKAG	Skagway	149.72 298	P		PKPbc	10 12 48.6	-0.1
	baz=116						
A36M	Sachs Harbour	149.81 324	P		PKPbc	10 12 48.1	-0.4
	baz=102,SNR=6.9						
WHY	Whitehorse	150.02 300	P		PKPbc	10 12 48.8	-0.7
	baz=114						
PLBC	Pleasant Camp	150.20 297	P		PKPbc	10 12 50.0	+0.2
	baz=115						
M31M	Drury Creek, Y	150.41 303	P		PKPbc	10 12 50.0	-0.3
	baz=112,SNR=18						
O30N	Mendenhall	150.61 300	P		PKPbc	10 12 49.7	-1.1
	baz=113,SNR=6.6						
N31M	Braeburn, Yuko	150.75 301	P		PKPbc	10 12 50.7	-0.4
	baz=112,SNR=6.5						
P30M	Million Dollar	150.75 298	P		PKPbc	10 12 50.8	-0.4
	baz=114						
P29M	Windy Craggy	150.91 297	P		PKPbc	10 12 51.9	+0.3
	baz=114						
HYT	Haines Junctio	151.27 299	P		PKPbc	10 12 52.4	-0.1
	baz=112,SNR=5.4						
N30M	Aishikik Lake	151.32 301	P		PKPbc	10 12 52.4	-0.1
	baz=112,SNR=7.3						
H31M	Peel River	151.54 310	P		PKPbc	10 12 52.2	-0.6
	baz=106,SNR=12						
O29M	Mount Kennedy	151.56 298	P		PKPbc	10 12 52.1	-1.1
	baz=113						
M30M	Minto, Yukon	151.59 303	P		PKPbc	10 12 53.2	+0.1
	baz=110,SNR=20						
PNL	Peninsula	151.69 296	P		PKPbc	10 12 53.2	-0.2
	baz=114						
YUK6	Outpost Mounta	151.71 299	P		PKPbc	10 12 52.6	-1.0
	baz=112						
F31M	Tsiigehtchic	151.72 314	P		PKPbc	10 12 52.8	-0.3
	baz=103,SNR=9.1						
G31M	Satah River	151.80 313	P		PKPbc	10 12 52.7	-0.6
	baz=104,SNR=8.6						
INK	Inuvik	151.82 316	P		PKPbc	10 12 52.6	-0.7
	baz=102,SNR=13						
YUK4	Talbot Arm	151.98 300	P		PKPbc	10 12 53.1	-1.1
	baz=111,SNR=8.4						
J30M	Hart River	152.01 307	P		PKPbc	10 12 53.4	-0.6
	baz=107						
MJAR	Matsushiro Arr	152.16 132	PKPbc		PKPbc	10 12 54.9	-0.2
	comp=Z,1.6nm,0.5s,baz=185,slow=2.6,SNR=5.2						
I30M	Mount Dempster	152.21 309	P		PKPbc	10 12 53.3	-1.2
	baz=105,SNR=12						
PINM	Pinnacle	152.26 297	P		PKPbc	10 12 53.6	-1.1
	baz=112						
M29M	Somme Creek	152.27 302	P		PKPbc	10 12 53.8	-0.9
	baz=109,SNR=17						
K29M	Barlow Dome	152.30 305	P		PKPbc	10 12 53.9	-0.9
	baz=107,SNR=6.7						
L29M	L29M	152.34 304	P		PKPbc	10 12 54.4	-0.4
	baz=108,SNR=9.3						
YUK8	Steele Glacier	152.46 300	P		PKPbc	10 12 55.0	-0.4
	baz=110,SNR=8.5						
O28M	Mount Upton	152.48 298	P		PKPbc	10 12 54.8	-0.6
	baz=111						
F30M	Barrier River	152.52 314	P		PKPbc	10 12 54.6	-0.3
	baz=101,SNR=5.5						
G30M	tAoh Zraii Nji	152.56 312	P		PKPbc	10 12 54.4	-0.8
	baz=102						
EPYK	Eagle Plains	152.62 311	P		PKPbc	10 12 54.5	-0.8
	baz=103,SNR=6.1						
YUK3	Moose Creek	152.94 300	P		PKPbc	10 12 54.5	-1.9
	baz=109						
I29M	Ogilvie Camp,	153.03 308	P		PKPbc	10 12 54.9	-1.2
	baz=104						
CTG	Chitna Glacier	153.07 298	P		PKPbc	10 12 55.3	-1.2
	baz=110						
MESA	MESA	153.08 296	P		PKPbc	10 12 55.1	-1.6
	baz=111						
DAWY	Dawson	153.15 305	P		PKPbc	10 12 55.3	-1.2
	baz=106						
G29M	Pine Creek	153.24 312	P		PKPbc	10 12 55.5	-1.1
	baz=101,SNR=5.7						
H29M	Whitestone	153.24 310	P		PKPbc	10 12 55.7	-0.9
	baz=102,SNR=6.7						
BVCY	Beaver Creek	153.32 302	P		PKPbc	10 12 55.8	-1.1
	baz=108						
E29M	Blow River	153.44 315	P		PKPbc	10 12 56.5	-0.4
	baz=98,SNR=5.5						
I28M	Miner Creek	153.71 308	P		PKPbc	10 12 56.6	-1.2
	baz=102						
M27K	Edge Creek, AK	153.76 301	P		PKPbc	10 12 57.2	-0.8
	baz=107						
CRQE	Cirque	153.81 297	P		PKPbc	10 12 57.4	-0.8
	baz=110						
D28M	Stokes Point	153.85 317	P		PKPbc	10 12 57.8	+0.1
	baz=96						
L27K	Beaver Creek,	153.94 303	P		PKPbc	10 12 58.1	-0.1
	baz=106						
MCARA	McCarthy VSAT	153.98 299	P		PKPbc	10 12 58.4	+0.1
	baz=108						
E28M	Babbage River	154.06 316	P		PKPbc	10 12 58.7	+0.4
	baz=96						
F28M	Old Crow	154.07 313	P		PKPbc	10 12 58.8	+0.4
	baz=98						
KAIM	Kayak Island	154.15 295	P		PKPbc	10 12 59.1	+0.4
	baz=110						
M26K	Nabesna, AK	154.27 301	P		PKiKP	10 12 59.8	+0.7
	baz=106						
K27K	Chicken	154.29 305	P		PKiKP	10 12 59.9	+0.9
	baz=104						
I27K	Kandik River	154.43 308	P		PKiKP	10 12 60.0	+0.7
	baz=101						
H27K	Steamboat Moun	154.50 310	P		PKiKP	10 12 59.9	+0.5
	baz=100						
BMRM	Bremner River	154.58 297	P		PKiKP	10 13 00.4	+0.7
	baz=108						
L26K	Log Cabin Wild	154.59 302	P		PKPbc	10 12 59.7	+0.1
	baz=105						
D27M	Malcolm River	154.63 317	P		PKPbc	10 12 59.8	+0.2
	baz=94						
G27K	Doyon Strip	154.64 311	P		PKPbc	10 12 59.4	-0.3
	baz=98						
N25K	Chitina, Valde	154.77 299	P		PKPbc	10 12 59.3	-0.8
	baz=107						
E27K	Coleen River	154.78 314	P		PKPbc	10 13 00.3	+0.4
	baz=96						
Q23K	Middleton Isla	154.89 293	P		PKPbc	10 12 59.6	-0.7
	baz=110						
EYAK	Cordova Ski Ar	154.98 296	P		PKPbc	10 13 00.3	-0.2
	baz=109						
I26K	Coal Creek Min	155.01 307	P		PKPdf	10 12 60.0	+8.4
	baz=100						
J26L	Joseph Creek	155.03 305	P		PKPdf	10 13 00.0	+8.2
	baz=102						
SCRK	Sand Creek	155.10 304	P		PKPdf	10 13 00.8	+8.9
	baz=102						
HARP	HAARP	155.24 300	P		PKPdf	10 13 01.6	+10
	baz=105						
KLU	Klutina	155.34 298	P		PKPab	10 13 17.5	-0.3
	baz=106						
RIDG	Independent Ri	155.42 303	P		PKPab	10 13 18.0	0.0
	baz=102						
G26K	Porcupine Rive	155.49 311	P		PKPab	10 13 18.7	+0.6
	baz=96						
PAX	Paxson	155.52 301	P		PKPab	10 13 18.4	-0.1
	baz=104						
C27K	Jago River	155.62 318	P		PKPab	10 13 19.2	+0.6
	baz=90,SNR=6.6						
M24K	Tolsona, Glenn	155.62 299	P		PKPab	10 13 18.8	-0.2
	baz=105						
F26K	Sheenjek River	155.70 313	P		PKPab	10 13 18.9	-0.2
	baz=94						
GLI	Glacier Island	155.71 296	P		PKPab	10 13 19.6	+0.3
	baz=107						
J25K	Salcha River,	155.81 305	P		PKPab	10 13 19.7	0.0
	baz=100						
K24K	Donnelly Dome	155.84 303	P		PKPab	10 13 20.0	+0.2
	baz=102						
PRP	Porcupine Dome	156.02 308	P		PKPab	10 13 20.2	-0.5
	baz=98,SNR=6.6						
C26K	Camden Bay	156.03 318	P		PKPab	10 13 20.7	+0.3
	baz=89						
SCM	Sheep Creek Mo	156.08 298	P		PKPab	10 13 21.1	+0.1
	baz=105						
H25L	Birch Creek	156.23 309	P		PKPab	10 13 21.1	-0.3
	baz=96						
M23K	Glacier View	156.25 298	P		PKPab	10 13 21.9	+0.2
	baz=105						
E25K	Arctic Village	156.26 314	P		PKPab	10 13 21.9	+0.4
	baz=92						
F25K	Christian Rive	156.26 313	P		PKPab	10 13 22.0	+0.4
	baz=93,SNR=8.0						
PWL	Port Wells	156.29 296	P		PKPab	10 13 21.7	-0.1
	baz=106						
G25K	Bearman Lake	156.39 311	P		PKPab	10 13 22.0	-0.1
	baz=95						
DHY	Denali Highway	156.39 301	P		PKPab	10 13 21.9	-0.4
	baz=102						
WAT6	Susitna Watana	156.45 300	P		PKPab	10 13 22.1	-0.5
	baz=103						
HDA	Harding Lake	156.45 305	P		PKPab	10 13 21.9	-0.5
	baz=100						
ILAR	Eielson Array	156.48 306	PKP		PKPdf	10 12 53.6	0.0
	comp=Z,0.1nm,0.7s,baz=127,slow=2.4,SNR=1.6						
ILAR			PKPbc		sPKPdf	10 13 03.4	+7.2
	comp=Z,0.8nm,0.8s,baz=108,slow=2.2,SNR=8.1						
ILAR			PKPab		PKPab	10 13 22.8	+0.2
	comp=Z,2.3nm,0.9s,baz=103,slow=3.5,SNR=15						
KNK	Knik Glacier	156.49 297	P		PKPab	10 13 23.0	+0.3
	baz=105						
D25K	Kavik River	156.56 317	P		PKPab	10 13 23.3	+0.5
	baz=89,SNR=6.0						
SEW	Seward	156.60 293	P		PKPab	10 13 23.7	+0.6
	baz=108						
POKR	Poker Plat Res	156.76 306	P		PKPab	10 13 23.8	+0.1
	baz=98						
O22K	Cooper Landing	156.84 294	P		PKPab	10 13 24.4	+0.3
	baz=107						
PMR	Palmer	156.85 297	P		PKPab	10 13 24.7	+0.6
	baz=104						
WAT1	Susitna Watana	156.87 300	P		PKPab	10 13 24.9	+0.7
	baz=102						
COLA	College	156.90 306	P		PKPab	10 13 25.1	+0.8
	baz=98						
G24K	Hadweenzic Riv	156.93 310	P		PKPab	10 13 25.2	+0.8
	baz=94						
RC01	Rabbit Creek A	157.01 296	P		PKPab	10 13 24.9	0.0
	baz=105						
H24K	Noodor Dome	157.02 308	P		PKPab	10 13 25.0	+0.2
	baz=95						
BRSE	Bradley Lake S	157.11 292	P		PKPab	10 13 24.7	-0.7
	baz=108						
F24K	Squaw Lake	157.12 312	P		PKPab	10 13 24.6	-0.7
	baz=91						
MCK	McKinley	157.20 303	P		PKPab	10 13 25.4	-0.3
	baz=100						
M22K	Willow	157.35 297	P		PKPab	10 13 25.9	-0.4
	baz=104						
C24K	Franklin Bluff	157.35 318	P		PKPab	10 13 25.9	-0.2
	baz=85						
E24K	Your Creek	157.35 314	P		PKPab	10 13 25.6	-0.7
	baz=90						
KDAK	Kodiak Island	157.36 286	P		PKPab	10 13 25.9	-0.6
	baz=111						
NEA2	Nenana	157.39 305	P		PKPab	10 13 26.0	-0.5
	baz=98						
D24K	Happy Valley	157.44 317	P		PKPab	10 13 26.3	-0.2
	baz=87						
OHAK	Old Harbor	157.51 285	P		PKPab	10 13 26.5	-0.6
	baz=112						
HOM	Homer	157.52 291	P		PKPab	10 13 26.4	-0.6
	baz=108						
Q20K	Shuyak Island	157.55 288	P		PKPab	10 13 26.7	-0.6
	baz=110						
SUA	Susitna One	157.57 296	P		PKPab	10 13 26.7	-0.7
	baz=104						
I23K	Minto, Yukon-K	157.57 306	P		PKPab	10 13 26.8	-0.4
	baz=96						
H23K	Yukon River	157.71 308	P		PKPab	10 13 27.2	-0.7
	baz=94						
TOLK	Toolik Lake Re	157.74 315	P		PKPab	10 13 27.7	-0.2
	baz=87						
TRF	Thorofare Moun	157.75 302	P		PKPab	10 13 27.4	-0.8
	baz=99						
E23K	Chandalar	157.78 314	P		PKPab	10 13 28.4	+0.2
	baz=88						
G23K	Bananza Creek	157.94 310	P		PKPab	10 13 29.2	+0.3
	baz=92						
C23K	Itkillik River	158.00 319	P		PKPab	10 13 29.5	+0.6
	baz=83						
COLD	Coldfoot	158.02 312	P		PKPab	10 13 29.5	+0.4
	baz=90						
SKT	Skwentna	158.05 297	P		PKPab	10 13 30.2	+0.8
	baz=102						
O20K	Slope Mountain	158.11 292	P		PKPab	10 13 30.2	+0.5
	baz=106						
D23K	Nanushuk River	158.12 316	P		PKPab	10 13 30.5	+1.0
	baz=85						
CHIR	Chirikof Islan	158.14 280	P		PKPab	10 13 30.4	+0.5
	baz=115						
MLY	Manley	158.14 306	P		PKPab	10 13 30.3	+0.6
	baz=95						
BPAW	Bear Paw Mtn.	158.15 303	P		PKPab	10 13 30.5	+0.7
	baz=97						
N20K	Mount Spurr	158.20 295	P		PKPab	10 13 30.7	+0.6
	baz=104						
R18K	Karluk	158.22 285	P		PKPab	10 13 30.9	+0.8
	baz=111						
Q19K	Cape Douglas,	158.27 289	P		PKPab	10 13 31.3	+0.9
	baz=108						
P19K	Oil Pt	158.29 291	P		PKPab	10 13 31.0	+0.5
	baz=107						
H22K	Ishtalitna Cre	158.46 308	P		PKPab	10 13 32.1	+1.0
	baz=92						
PPLA	Purkeypile	158.52 300	P		PKPab	10 13 31.5	0.0
	baz=99						
G22K	Bettles	158.53 311	P		PKPab	10 13 32.3	+1.0
	baz=90						
I21K	Tanana	158.68 306	P		PKPab	10 13 32.2	+0.2
	baz=94						
CHUM	Lake Minchumin	158.71 302	P		PKPab	10 13 32.5	+0.3
	baz=97						
M20K	Styx River	158.77 297	P		PKPab	10 13 32.6	0.0
	baz=101						
F22K	John River	158.77 312	P		PKPab	10 13 33.0	+0.6
	baz=88						
D22K	Ayikyak River	158.85 316	P		PKPab	10 13 33.6	+0.9
	baz=83						
Q18K	Katmai Hardscr	158.86 287	P		PKPab	10 13 33.1	-0.1
	baz=108						
B22K	Teshekpuk Lake	158.87 320	P		PKPab	10 13 33.8	+1.2
	baz=79						
O19K	Port Alsworth	158.96 292	P		PKPab	10 13 34.3	+1.0
	baz=105						
H21K	Melozitna Rive	159.04 307	P		PKPab	10 13 34.2	+0.6
	baz=92						
Q17K	Contact Creek	159.18 286	P		PKPab	10 13 34.6	+0.1
	baz=109						
N19K	Bonanza Creek	159.19 293	P		PKPab	10 13 35.1	+0.6
	baz=103						
P18K	Big Mountain,	159.19 289	P		PKPab	10 13 34.9	+0.5
	baz=106						
R17L	Mt. Peulik Vol	159.20 284	P		PKPab	10 13 35.2	+0.7
	baz=110						
L20K	Farewell, AK	159.22 298	P		PKPab	10 13 35.0	+0.5
	baz=99						
A22K	Sinclair Lake	159.22 323	P		PKPab	10 13 35.1	+1.0
	baz=75						
F21K	Alatna River	159.29 312	P		PKPab	10 13 35.1	+0.4
	baz=87						
G21K	Allakaket	159.33 310	P		PKPab	10 13 35.7	+0.9
	baz=89						
M19K	Big River Lodg	159.36 296	P		PKPab	10 13 35.5	+0.4
	baz=100						
E21K	Killik River	159.37 315	P		PKPab	10 13 35.4	+0.5
	baz=83						
B21K	Ikpikpuk River	159.41 319	P		PKPab	10 13 35.9	+0.9
	baz=79						
K20K	Telida	159.43 301	P		PKPab	10 13 35.4	0.0
	baz=97						
J20K	Nowinta River	159.54 303	P		PKPab	10 13 36.1	+0.3
	baz=94						
C21K	Knifeblade Rid	159.56 317	P		PKPab	10 13 36.3	+0.6
	baz=80						
L19K	White Mountain	159.62 297	P		PKPab	10 13 36.7	+0.5
	baz=99						
A21K	Barrow	159.65 324	P		PKPab	10 13 36.7	+0.7
	baz=73						
Q16K	King Salmon	159.69 287	P		PKPab	10 13 36.4	-0.1
	baz=108						
I20K	Naaghedeneel	159.72 305	P		PKPab	10 13 37.4	+0.9
	baz=93						
P17K	Kvichak River	159.73 288	P		PKPab	10 13 37.0	+0.3
	baz=106						
CHNA	Chernabura Isl	159.76 275	P		PKPab	10 13 37.9	+0.9
	baz=116						
CHGN	Chignik	159.76 279	P		PKPab	10 13 37.8	+0.8
	baz=113						
N18K	Kilae Creek	159.83 293	P		PKPab	10 13 37.7	+0.6
	baz=103						
H20K	Anotleneega Mo	159.91 307	P		PKPab	10 13 38.3	+0.9
	baz=90						
M18K	Stony River	159.96 295	P		PKPab	10 13 38.8	+1.1
	baz=100						
J19K	Poorman	160.17 302	P		PKPab	10 13 38.9	+0.4
	baz=94						
F20K	Avaraart Lake	160.18 311	P		PKPab	10 13 39.4	+1.0
	baz=85						
B20K	Meade River	160.19 320	P		PKPab	10 13 39.2	+0.8
	baz=76						
O17K	Koliganek Bris	160.21 290	P		PKPab	10 13 39.4	+0.6
	baz=104						
E20K	Nigu River	160.21 315	P		PKPab	10 13 39.2	+0.6
	baz=81						
D20K	Etivluk River	160.28 316	P		PKPab	10 13 39.4	+0.5
	baz=80						
S14K	Fog Glacier	160.34 279	P		PKPab	10 13 39.7	0.0
	baz=113						
N17K	Nushagak Hills	160.42 292	P		PKPab	10 13 40.3	+0.6
	baz=102						
SDPT	Sand Point	160.44 275	P		PKPab	10 13 40.1	+0.2
	baz=115						
L18K	Granite Mounta	160.48 297	P		PKPab	10 13 40.2	+0.2
	baz=98						
H19K	Roundabout Mou	160.56 307	P		PKPab	10 13 40.6	+0.5
	baz=89						
J18K	Innoko River	160.62 301	P		PKPab	10 13 40.9	+0.4
	baz=94						
M17K	Holitna River	160.71 294	P		PKPab	10 13 41.2	+0.3
	baz=100						
E19K	Redstone River	160.72 313	P		PKPab	10 13 41.5	+0.7
	baz=82						
GCSA	Galena City Sc	160.75 305	P		PKPab	10 13 41.7	+0.8
	baz=86						
G19K	Purcell Mounta	160.79 309	P		PKPab	10 13 42.4	+1.2
	baz=86						
D19K	Kuna River	160.87 316	P		PKPab	10 13 42.6	+1.1
	baz=78						
F19K	Shaleruckik Mo	161.00 311	P		PKPab	10 13 42.8	+0.8
	baz=84						
N16K	Nishlik Lake	161.18 291	P		PKPab	10 13 43.2	+0.1
	baz=102						
L17K	Donlin	161.22 296	P		PKPab	10 13 43.6	+0.4
	baz=97						
C19K	Lookout Ridge	161.25 318	P		PKPab	10 13 44.0	+0.8
	baz=75						
K17K	Iditarod	161.28 298	P		PKPab	10 13 43.4	0.0
	baz=95						
M16K	Timber Creek	161.37 293	P		PKPab	10 13 44.3	+0.5
	baz=100						
H18K	Honhosa River	161.37 306	P		PKPab	10 13 44.3	+0.6
	baz=88						
A19K	Wainwright	161.41 322	P		PKPab	10 13 44.6	+0.9
	baz=70						
O15K	Ungalikthiuk R	161.41 287	P		PKPab	10 13 44.2	+0.2
	baz=105						
G18K	Tagagawik	161.45 308	P		PKPab	10 13 45.2	+1.1
	baz=86						
J17K	VABM Dome	161.68 300	P		PKPab	10 13 45.3	+0.2
	baz=93						
L16K	Owhat River	161.72 295	P		PKPab	10 13 45.9	+0.6
	baz=98						
FALS	False Pass	161.76 272	P		PKPab	10 13 46.3	+0.6
	baz=116						
N15K	Kwethluk River	161.76 290	P		PKPab	10 13 45.9	+0.2
	baz=102						
F18K	Selawik	161.77 311	P		PKPab	10 13 46.4	+0.9
	baz=82						
B18K	Kokolik River	161.93 320	P		PKPab	10 13 47.0	+0.9
	baz=72						
C18K	Utukok River	161.93 317	P		PKPab	10 13 46.6	+0.5
	baz=74						
E18K	Tukpahlearik C	162.00 313	P		PKPab	10 13 46.9	+0.5
	baz=79						
H17K	Granite Mounta	162.04 305	P		PKPab	10 13 47.3	+0.6
	baz=87						
O14K	Tigyukauivet M	162.15 286	P		PKPab	10 13 47.3	0.0
	baz=104						
M15K	Kasigluk River	162.15 291	P		PKPab	10 13 48.1	+0.8
	baz=100						
G17K	Kiwalik Mounta	162.31 307	P		PKPab	10 13 48.6	+0.8
	baz=85						
J16K	Anvik River	162.36 300	P		PKPab	10 13 49.1	+1.0
	baz=92						
I17K	Unalakleet	162.41 302	P		PKPab	10 13 49.3	+1.0
	baz=90						
F17K	Baldwin Pennin	162.43 310	P		PKPab	10 13 49.6	+1.3
	baz=81						
N14K	Kuskokwak Cree	162.50 288	P		PKPab	10 13 50.0	+1.2
	baz=102						
E17K	Hotham Inlet	162.54 313	P		PKPab	10 13 50.0	+1.2
	baz=78						
L15K	Ungalak Mounta	162.67 294	P		PKPab	10 13 49.4	-0.1
	baz=96						
C17K	DeLong Mountai	162.68 318	P		PKPab	10 13 50.7	+1.3
	baz=72						
K15K	Wolf Creek Mou	162.74 296	P		PKPab	10 13 50.5	+0.7
	baz=94						
M14K	Bethel	162.78 291	P		PKPab	10 13 51.0	+1.0
	baz=99						
D17K	Noatak River	162.87 315	P		PKPab	10 13 51.9	+1.7
	baz=75						
UNV	Unalaska Valle	162.90 266	P		PKPab	10 13 51.2	+0.5
	baz=119						
G16K	Koyuk River	163.03 307	P		PKPab	10 13 52.2	+1.2
	baz=83						
H16K	Elim	163.05 304	P		PKPab	10 13 53.0	+1.9
	baz=86						
L14K	Kuka Creek	163.20 293	P		PKPab	10 13 53.1	+1.3
	baz=96						
M13K	Dall Lake	163.41 290	P		PKPab	10 13 53.8	+1.0
	baz=99						
C16K	Lisburne Hills	163.50 318	P		PKPab	10 13 54.8	+1.8
	baz=70						
J14K	Nanvaranak Lak	163.70 298	P		PKPab	10 13 55.4	+1.4
	baz=91						
G15K	Niukluk	163.78 306	P		PKPab	10 13 55.8	+1.5
	baz=83						
F15K	North Star Dit	163.92 309	P		PKPab	10 13 56.5	+1.6
	baz=80						
K13K	Kusilvak Mount	164.19 295	P		PKPab	10 13 57.1	+0.9
	baz=93						
ANM	Nome	164.41 305	P		PKPab	10 13 57.9	+0.8
	baz=83						
F14K	Arctic Creek	164.65 308	P		PKPab	10 13 59.0	+0.9
	baz=78						
M11K	Mekoryuk	164.80 289	P		PKPab	10 14 00.2	+1.3
	baz=97						
P08K	Saint George I	165.63 273	P		PKPab	10 14 04.0	+1.4
	baz=110						
SPIA	Saint Paul Isl	166.18 274	P		PKPab	10 14 06.8	+1.7
	baz=108						

NIED ***10*** *09:56:22.8, 23.95N× 122.91E, h28km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}0.53; $M_{\theta\theta}$-3.71; $M_{\phi\phi}$3.18; $M_{r\theta}$-1.21; $M_{\theta\phi}$-3.35; $M_{\phi r}$1.05; Fault plane solution: M_o5.08000×10^{14} NP1:ϕ_s24.00000°, δ72.00000°, λ8.00000°. NP2:ϕ_s292.00000°, δ83.00000°, λ162.00000°.*

JMA ***10*** *09:56:22.8± 0.2, 24.1°× 122.9E± 0.7, h28km± 4km, MD3.8/13, MV3.6/13, NEAR ISHIGAKIJIMA ISLAND*

TAP ***10*** *09:56:22.7, 23.96N× 122.91E, h23km, ML3.8, D*

ISC 10 09:56:21.5±1.1, **23.87N**±0.03× **122.92E**±0.02, **h12**km±8km, **n138**, **σ 94/227**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.58**	**2**	*i* P	**Pg**	**09 56 32.8**	**0.0**
JYNG				S	**Sg**	**09 56 39.7**	**-0.8**
JYNG	**Yonagunijimaku**	**0.58**	**2**	A	A	09 56 32.8	
	comp=N,11nm,0.6s,comp=E,14nm,1.3s						
YOJ	**Yonaguni jima**	**0.59**	**8**	P	**Pg**	**09 56 33.2**	**+0.1**
YOJ	**Yonaguni jima**	**0.59**	**8**	*i* P	**Pg**	**09 56 33.3**	**+0.1**
YOJ				*i* S	**Sg**	**09 56 40.4**	**-0.6**
YOJ	**Yonaguni jima**	**0.59**	**8**	*i* P	**Pg**	**09 56 33.3**	**+0.1**
YOJ				S	**Sg**	**09 56 40.2**	**-0.8**
YOJ	**Yonaguni jima**	**0.59**	**8**	A	A	09 56 33.3	
	comp=N,8.0nm,0.9s,comp=E,13nm,1.9s						
EOS4	**EOS4**	**0.60**	**295**	*i* P	**Pb**	**09 56 33.9**	**+0.1**
EOS4				*e*S	**Sg**	**09 56 41.7**	**+0.6**
EOS3	**EOS3**	**0.69**	**307**	*e*P	**Pg**	**09 56 35.4**	**+0.5**
EOS3				*e*S	**Sg**	**09 56 44.5**	**+0.7**
EOS2	**EOS2**	**0.83**	**311**	*e*P	**Pg**	**09 56 38.1**	**+0.5**
EOS2				*e*S	**Sg**	**09 56 49.7**	**+1.2**
HATJ	**Hateruma jima**	**0.83**	**77**	*i* P	**Pb**	**09 56 37.9**	**0.0**
HATJ				*e*S	**Sb**	**09 56 48.5**	**-0.6**
HATJ	**Hateruma jima**	**0.83**	**77**	A	A	09 56 37.9	
	comp=N,5.0nm,2.7s,comp=E,7.0nm,3.4s						
IRIF	**Iriomote-Funau**	**0.88**	**58**	*i* P	**Pb**	**09 56 38.1**	**-0.5**
IRIF	**Iriomote-Funau**	**0.88**	**58**	A	A	09 56 38.1	
	comp=N,7.0nm,0.9s,comp=E,5.0nm,2.1s						
JKRS	**Kuro-shima**	**1.06**	**70**	P	**Pb**	**09 56 41.8**	**0.0**
JKRS	**Kuro-shima**	**1.06**	**70**	A	A	09 56 41.8	
	comp=N,6.0nm,1.3s,comp=E,5.0nm,1.2s						
EAHA	**Aohua**	**1.17**	**293**	*e*P	**Pn**	**09 56 43.7**	**0.0**
EAHA				*e*S	**Sn**	**09 56 59.2**	**-0.4**
EWUT	**Wuta**	**1.19**	**299**	*e*P	**Pn**	**09 56 43.8**	**-0.1**
EWUT				*e*S	**Sn**	**09 56 59.7**	**-0.4**
ESAO	**Su ao**	**1.21**	**306**	*e*P	**Pn**	**09 56 43.5**	**-0.7**
ESAO				*e*S	**Sb**	**09 56 59.1**	**-0.8**
TEYL	**Yanliau Villag**	**1.21**	**270**	*e*S	**Sb**	**09 56 59.8**	**-0.1**
ENA	**Nanau**	**1.21**	**298**	*e*P	**Pn**	**09 56 44.3**	**+0.1**
ENA				*e*S	**Sb**	**09 57 00.0**	**+0.1**
JIJ	**Ishigaki jima**	**1.22**	**66**	P	**Pn**	**09 56 44.0**	**-0.4**
JIJ				S	**Sb**	**09 56 59.6**	**-0.3**
TWC	**Suao**	**1.22**	**307**	*e*P	**Pn**	**09 56 43.8**	**-0.6**
TWC				*e*S	**Sb**	**09 56 59.7**	**-0.7**
TWD	**Chiawan**	**1.23**	**280**	*e*P	**Pn**	**09 56 44.3**	**-0.2**
TWD				*e*S	**Sb**	**09 57 00.5**	**0.0**
SHUL	**Shoufeng**	**1.24**	**266**	*e*P	**Pn**	**09 56 43.4**	**-1.3**
SHUL				*e*S	**Sb**	**09 56 59.8**	**-1.1**
NACB	**Ninganchiao**	**1.25**	**284**	P	**Pn**	**09 56 43.7**	**-1.1**
NACB	**Ninganchiao**	**1.25**	**284**	*e*P	**Pn**	**09 56 43.8**	**-1.0**
NACB				*e*S	**Sb**	**09 57 00.9**	**-0.2**
TEGC	**Jichi Village**	**1.27**	**263**	*e*P	**Pn**	**09 56 44.4**	**-0.7**
TEGC				*e*S	**Sb**	**09 57 01.6**	**-0.2**
EGS		**1.32**	**317**	*e*P	**Pn**	**09 56 45.6**	**-0.3**
EGS				*e*S	**Sn**	**09 57 02.8**	**-0.6**
NDS	**Dongshan**	**1.33**	**305**	*e*P	**Pn**	**09 56 45.7**	**-0.3**
NDS				*e*S	**Sn**	**09 57 02.3**	**-1.4**
ETLH	**Xiulin Townshi**	**1.35**	**285**	*e*P	**Pn**	**09 56 45.5**	**-0.8**
ETLH				*e*S	**Sn**	**09 57 03.5**	**-0.8**
ESL	**Shilin**	**1.36**	**268**	*e*P	**Pn**	**09 56 44.7**	**-1.6**
EGFH	**Guangfu**	**1.38**	**262**	*e*P	**Pn**	**09 56 46.1**	**-0.5**
EGFH				*e*S	**Sn**	**09 57 04.1**	**-0.7**
WARBT	**Fenglin Townsh**	**1.41**	**264**	*e*P	**Pn**	**09 56 45.6**	**-1.5**
WARBT				*e*S	**Sn**	**09 57 03.7**	**-1.9**
TWB1	**Santiao Chiao**	**1.42**	**323**	*e*P	**Pn**	**09 56 46.7**	**-0.4**
TWB1				*e*S	**Sn**	**09 57 04.2**	**-1.5**
HGSD	**Ruisui**	**1.42**	**255**	*e*P	**Pn**	**09 56 45.8**	**-1.3**
HGSD				S	**Sn**	**09 57 04.3**	**-1.5**
TWE	**Neicheng**	**1.42**	**307**	*e*P	**Pn**	**09 56 47.7**	**+0.5**
TWE				*i* S	**Sn**	**09 57 05.0**	**-0.8**
LATG	**Datong**	**1.43**	**298**	P	**Pb**	**09 56 48.3**	**+0.1**
LATG				S	**Sb**	**09 57 06.4**	**-0.1**
ENTT	**Nioudou**	**1.45**	**302**	*e*P	**Pb**	**09 56 48.3**	**-0.3**
ENTT				*e*S	**Sb**	**09 57 06.9**	**-0.1**
ECBN	**Changbin**	**1.45**	**248**	*e*P	**Pn**	**09 56 46.7**	**-0.9**
ECBN				*e*S	**Sn**	**09 57 04.8**	**-1.8**
JISG	**Ishigakijimahi**	**1.46**	**60**	P	**Pn**	**09 56 46.9**	**-0.8**
TIPB	**Shuangxi**	**1.48**	**318**	*e*P	**Pn**	**09 56 47.9**	**-0.2**
TIPB				*e*S	**Sn**	**09 57 06.5**	**-0.9**
EHYH	**Wanrong**	**1.49**	**256**	*e*P	**Pn**	**09 56 47.7**	**-0.4**
EHYH				*e*S	**Sn**	**09 57 06.9**	**-0.6**
FUSB	**Fushanzhiwuyua**	**1.50**	**306**	*e*P	**Pb**	**09 56 49.5**	**+0.1**
FUSB				*e*S	**Sn**	**09 57 07.3**	**-0.7**
EHY	**Hungye**	**1.51**	**256**	*e*P	**Pn**	**09 56 47.4**	**-1.0**
EHY				*e*S	**Sn**	**09 57 06.7**	**-1.3**
NNSB	**Datong**	**1.51**	**292**	*e*P	**Pn**	**09 56 48.3**	**-0.2**
NNSB				*e*S	**Sn**	**09 57 07.9**	**-0.3**
NNS	**Nan Shan**	**1.52**	**292**	*e*P	**Pn**	**09 56 48.2**	**-0.5**
NNS				*e*S	**Sn**	**09 57 07.5**	**-1.0**
WHF	**Hehuan Shan**	**1.54**	**281**	*e*P	**Pn**	**09 56 48.4**	**-0.8**
WHF				*i* S	**Sn**	**09 57 08.8**	**-0.5**
SXI1	**Grass Mountain**	**1.54**	**322**	*e*P	**Pn**	**09 56 48.5**	**-0.4**
SXI1				*e*S	**Sn**	**09 57 08.5**	**-0.5**
CHKH	**Chenggong**	**1.55**	**245**	*e*P	**Pn**	**09 56 47.7**	**-1.3**
YULB	**Yu-li**	**1.56**	**253**	P	**Pn**	**09 56 48.3**	**-0.9**
YULB	**Yu-li**	**1.56**	**253**	P	**Sn**	**09 56 48.3**	**-0.9**
YULB				S	**Sn**	**09 57 08.3**	**-1.0**
TWF1	**Yuli**	**1.57**	**251**	*e*P	**Pn**	**09 56 48.6**	**-0.7**
TWF1				*e*S	**Sn**	**09 57 08.9**	**-0.7**
FUSS	**Fushou**	**1.58**	**284**	*e*P	**Pn**	**09 56 49.6**	**+0.1**
FUSS				*e*S	**Sn**	**09 57 09.8**	**-0.2**
NWLT	**Wulai**	**1.58**	**305**	*e*P	**Pb**	**09 56 50.8**	**+0.1**
NWLT				*e*S	**Sn**	**09 57 09.4**	**-0.3**
NWF	**Wu-fen Shan**	**1.58**	**319**	P	**Pn**	**09 56 49.1**	**-0.3**
NWF				*i* S	**Sn**	**09 57 09.1**	**-0.9**
WFSB	**Wu-fen Shan**	**1.58**	**319**	P	**Pn**	**09 56 49.3**	**-0.1**
WFSB				*e*S	**Sb**	**09 57 10.2**	**-0.5**
OWD	**Renai**	**1.60**	**273**	*e*P	**Pn**	**09 56 48.8**	**-0.9**
YHNB	**Yeheng**	**1.62**	**300**	P	**Pn**	**09 56 50.2**	**+0.2**
YHNB	**Yeheng**	**1.62**	**300**	*e*P	**Pn**	**09 56 49.9**	**0.0**
YHNB				*e*S	**Sn**	**09 57 10.9**	**+0.1**
CHKT	**Chengkung**	**1.62**	**242**	*e*P	**Pn**	**09 56 48.4**	**-1.5**
CHKT				*e*S	**Sn**	**09 57 08.8**	**-1.9**
FULB	**Fuli**	**1.63**	**246**	P	**Pn**	**09 56 48.9**	**-1.3**
FULB				*e*S	**Sn**	**09 57 09.5**	**-1.6**
NSK	**Sanguang**	**1.63**	**300**	*e*P	**Pb**	**09 56 51.3**	**-0.3**
NSK				*e*S	**Sn**	**09 57 10.6**	**-0.6**
TWT	**Tachien**	**1.64**	**284**	*e*P	**Pn**	**09 56 51.0**	**+0.7**
TWA	**Mucha**	**1.64**	**313**	*e*P	**Pn**	**09 56 51.0**	**+0.8**
TWA				*e*S	**Sn**	**09 57 11.5**	**+0.1**
WUSB	**Renai**	**1.65**	**275**	P	**Pn**	**09 56 50.1**	**-0.4**
WUSB				*e*S	**Sn**	**09 57 11.2**	**-0.5**
TDCB	**Techi**	**1.65**	**284**	*e*P	**Pn**	**09 56 50.9**	**+0.4**
TDCB				*e*S	**Sn**	**09 57 11.9**	**+0.1**
TATO	**Taipei**	**1.71**	**310**	P	**Pb**	**09 56 52.1**	**-0.7**
TATO	**Taipei**	**1.71**	**310**	S	**Sb**	**09 57 14.1**	**-0.1**
TATO	**Taipei**	**1.71**	**310**	*e*P	**Pn**	**09 56 51.4**	**+0.3**
TATO				*e*S	**Sn**	**09 57 12.8**	**-0.1**
EHD	**Haiduan**	**1.73**	**246**	*e*P	**Pn**	**09 56 50.4**	**-1.0**
EHD				*e*S	**Sn**	**09 57 11.8**	**-1.6**
EDH	**Donghe**	**1.73**	**239**	*e*P	**Pn**	**09 56 50.1**	**-1.3**
EDH				*e*S	**Sn**	**09 57 10.7**	**-2.8**
ECS	**Chishang**	**1.74**	**244**	*e*P	**Pn**	**09 56 52.2**	**+0.6**
ECS				*e*S	**Sn**	**09 57 13.8**	**+0.1**
LDUT	**Ludao**	**1.79**	**228**	*e*P	**Pn**	**09 56 50.9**	**-1.3**
ZUZH	**Zhuzihu**	**1.79**	**316**	*e*P	**Pn**	**09 56 52.8**	**+0.4**
JTJ	**Tarama**	**1.80**	**64**	P	**Pn**	**09 56 52.9**	**+0.5**
SSLB	**Suanglung**	**1.80**	**268**	P	**Pn**	**09 56 51.7**	**-0.7**
SSLB	**Suanglung**	**1.80**	**268**	*e*P	**Pn**	**09 56 52.0**	**-0.4**
NFF	**Wufeng Townshi**	**1.81**	**295**	*e*P	**Pb**	**09 56 53.8**	**-0.9**
NFF				*e*S	**Sb**	**09 57 16.9**	**-0.4**
KSHI	**Guanxi Townshi**	**1.83**	**300**	*e*P	**Pb**	**09 56 54.5**	**-0.4**
TWY	**Chenhua**	**1.84**	**320**	*e*P	**Pn**	**09 56 52.7**	**-0.3**
TWY				*e*S	**Sn**	**09 57 16.8**	**+0.6**
WCS	**Beigang Elemen**	**1.84**	**276**	*e*P	**Pb**	**09 56 54.8**	**-0.4**
WCS				*e*S	**Sn**	**09 57 15.9**	**-0.4**
SMLT	**Sun Moon Lake**	**1.85**	**271**	P	**Pn**	**09 56 53.2**	**+0.1**
SMLT				*e*S	**Sn**	**09 57 16.7**	**+0.2**
WHP	**Taichung City**	**1.85**	**283**	*e*P	**Pb**	**09 56 55.1**	**-0.2**
WHP				*e*S	**Sb**	**09 57 17.5**	**-0.9**
ELDTW	**Lidau**	**1.87**	**249**	*e*P	**Pn**	**09 56 52.3**	**-1.2**
ELDTW				*e*S	**Sn**	**09 57 15.5**	**-1.6**
TYC	**Yuchr**	**1.89**	**271**	*e*P	**Pn**	**09 56 54.7**	**+1.1**
TYC				*e*S	**Sn**	**09 57 17.9**	**+0.6**
WHYT	**Xinyi Township**	**1.90**	**265**	*e*P	**Pn**	**09 56 54.0**	**+0.2**
LIOB	**Emei**	**1.90**	**294**	*e*P	**Pb**	**09 56 55.4**	**-0.8**
LONT	**Longtian**	**1.90**	**240**	*e*P	**Pn**	**09 56 53.4**	**-0.4**
LONT				*e*S	**Sn**	**09 57 17.4**	**-0.3**
NSTT	**Nanjuang**	**1.91**	**294**	*e*P	**Pn**	**09 56 54.9**	**+1.0**
PCYT	**Pengchaiyu**	**1.91**	**336**	*e*P	**Pn**	**09 56 53.9**	**-0.1**
ALS	**Alishan**	**1.97**	**260**	*e*P	**Pn**	**09 56 55.1**	**+0.1**
ALS				*e*S	**Sn**	**09 57 19.8**	**0.0**
TTN	**Taitung**	**1.97**	**236**	*e*P	**Pn**	**09 56 55.4**	**+0.6**
TTN				*e*S	**Sn**	**09 57 19.9**	**+0.6**
TWGBT	**Beinan**	**1.99**	**239**	P	**Pn**	**09 56 54.6**	**-0.4**
TWGBT	**Beinan**	**1.99**	**239**	P	**Pn**	**09 56 54.5**	**-0.5**
TWGBT				*e*S	**Sn**	**09 57 18.4**	**-1.4**
TWG	**Pinlang**	**1.99**	**239**	*e*P	**Pn**	**09 56 54.5**	**-0.6**
WJS	**Zhushan**	**2.01**	**269**	*e*P	**Pn**	**09 56 56.8**	**+1.5**
WJS				*e*S	**Sb**	**09 57 23.2**	**+0.3**
TWQ1	**Liyutan**	**2.02**	**284**	*e*P	**Pn**	**09 56 56.7**	**+1.3**
NSY	**Sanyi**	**2.04**	**286**	*e*P	**Pb**	**09 56 58.3**	**-0.3**
NSY				*e*S	**Sb**	**09 57 23.0**	**-1.0**
CHN5	**Tsauling**	**2.07**	**263**	*e*P	**Pn**	**09 56 57.1**	**+0.9**
STYH	**Taoyuan**	**2.09**	**251**	P	**Pn**	**09 56 56.3**	**0.0**
STYH				S	**Sn**	**09 57 22.1**	**-0.1**
STYT	**Tauyuan**	**2.10**	**251**	*e*P	**Pn**	**09 56 56.8**	**+0.1**
STYT				*e*S	**Sn**	**09 57 23.0**	**+0.2**
WCKO	**Fanlu**	**2.16**	**259**	*e*P	**Pn**	**09 56 58.9**	**+1.5**
WCKO				*e*S	**Sb**	**09 57 26.0**	**-1.5**
WCHH	**Zhanghua**	**2.17**	**276**	*e*P	**Pn**	**09 56 58.2**	**+0.8**
WCHH				*e*S	**Sn**	**09 57 25.8**	**+1.5**
TPUB	**Ta-pu**	**2.17**	**255**	P	**Pn**	**09 56 58.7**	**+1.1**
TPUB	**Ta-pu**	**2.17**	**255**	S	**Sn**	**09 57 25.1**	**+0.6**
TPUB	**Ta-pu**	**2.17**	**255**	P	**Pn**	**09 56 59.0**	**+1.5**
TPUB				S	**Sb**	**09 57 26.2**	**-1.6**
WDL	**Douliou City**	**2.18**	**266**	*e*S	**Sb**	**09 57 27.2**	**-0.8**
WDLH	**Douliu**	**2.19**	**266**	*e*P	**Pb**	**09 56 59.8**	**-1.2**
WDLH				*e*S	**Sb**	**09 57 27.1**	**-1.0**
WTP	**Ta-pu**	**2.20**	**254**	*e*P	**Pn**	**09 56 59.0**	**+1.0**
WTP				*e*S	**Sn**	**09 57 26.2**	**+1.0**
ECL	**Taimali**	**2.21**	**235**	*e*P	**Pn**	**09 56 57.4**	**-0.6**
ECL				*e*S	**Sn**	**09 57 23.7**	**-1.5**
LAY	**Lan-yu**	**2.22**	**215**	*e*P	**Pn**	**09 56 57.5**	**-0.7**
LYUB	**Lan-yu**	**2.23**	**214**	*e*P	**Pn**	**09 56 57.2**	**-1.1**
TWK	**Hsinying**	**2.31**	**255**	*e*P	**Pn**	**09 57 00.5**	**+1.1**
TWK				*e*S	**Sn**	**09 57 29.7**	**+1.9**
SNST	**Tainan City**	**2.31**	**254**	*e*P	**Pn**	**09 57 01.5**	**+2.1**
SNST				*e*S	**Sn**	**09 57 28.1**	**+0.2**
WTK	**Tuku**	**2.32**	**266**	*e*P	**Pn**	**09 57 01.6**	**+2.0**
WTK				*e*S	**Sb**	**09 57 30.3**	**-1.7**
RLNB	**Erlin**	**2.34**	**271**	*e*P	**Pn**	**09 57 00.7**	**+0.8**
RLNB				*e*S	**Sn**	**09 57 29.7**	**+1.2**
JMJ	**Miyako jima 2**	**2.36**	**66**	P	**Pb**	**09 57 02.6**	**-1.4**
JMJ	**Miyako jima 2**	**2.36**	**66**	*e*P	**Pn**	**09 57 01.6**	**+1.5**
JMJ				*e*S	**Sn**	**09 57 29.4**	**+0.3**
SSD	**Sandimen**	**2.38**	**242**	*e*P	**Pn**	**09 57 01.0**	**+0.7**
SSD				*e*S	**Sn**	**09 57 30.9**	**+1.4**
TAWH	**Dawu Township**	**2.41**	**231**	*e*P	**Pn**	**09 57 00.7**	**-0.1**
EAST	**Anshuo**	**2.41**	**233**	*e*P	**Pn**	**09 57 00.5**	**-0.4**
EAST				*e*S	**Sn**	**09 57 31.4**	**+1.0**
SCST	**Cishan**	**2.43**	**247**	*e*P	**Pn**	**09 57 03.2**	**+2.1**
SCST				*e*S	**Sb**	**09 57 34.3**	**-0.9**
MASBT	**Mashibuluo**	**2.45**	**240**	*e*P	**Pn**	**09 57 01.6**	**+0.3**
MASBT				*e*S	**Sn**	**09 57 33.0**	**+1.8**
WSL	**Shuilin Townsh**	**2.49**	**263**	*e*P	**Pn**	**09 57 04.0**	**+2.1**
WSL				*e*S	**Sn**	**09 57 34.1**	**+1.9**
SHHT	**Tainan City**	**2.51**	**251**	*e*P	**Pb**	**09 57 05.6**	**-0.9**
CHN8	**Yiju**	**2.54**	**259**	*e*P	**Pn**	**09 57 04.0**	**+1.5**
CHN8				*e*S	**Sn**	**09 57 35.7**	**+2.4**
SCZT	**Fangliau**	**2.59**	**235**	*e*P	**Pn**	**09 57 04.6**	**+1.4**
SCZT				*e*S	**Sn**	**09 57 36.6**	**+2.0**
TWKBT	**Hengchun**	**2.73**	**226**	*e*P	**Pn**	**09 57 06.5**	**+1.3**
TWKBT				*e*S	**Sn**	**09 57 39.2**	**+1.0**
TWK1	**Hengchun**	**2.73**	**226**	*e*P	**Pn**	**09 57 06.7**	**+1.4**
TWK1				*e*S	**Sn**	**09 57 39.5**	**+1.3**
WDGT	**Dungji**	**3.05**	**259**	*e*P	**Pn**	**09 57 10.2**	**+0.6**
WDGT				*e*S	**Sn**	**09 57 45.9**	**-0.1**
PHUB	**P'eng-hu**	**3.09**	**264**	*e*P	**Pn**	**09 57 10.8**	**+0.7**
PHUB				*e*S	**Sn**	**09 57 47.6**	**+0.6**
PNG	**Penghu**	**3.10**	**265**	*e*P	**Pn**	**09 57 11.1**	**+0.8**
PNG				*e*S	**Sn**	**09 57 47.2**	**+0.1**
VCHM	**Qimei**	**3.27**	**259**	*e*P	**Pn**	**09 57 14.0**	**+1.4**
VCHM				*e*S	**Sn**	**09 57 51.1**	**-0.4**
VWUC	**VWUC**	**3.35**	**290**	*e*P	**Pn**	**09 57 13.8**	**+0.1**
VWUC				*e*S	**Sn**	**09 57 51.9**	**-1.6**
PTMZ	**Houxiangcun**	**3.65**	**289**	*e*P	**Pn**	**09 57 18.1**	**+0.3**
PTMZ				*e*S	**Sn**	**09 58 00.5**	**-0.4**
XPSS	**Dashiqiu**	**3.92**	**322**	*e*P	**Pn**	**09 57 21.5**	**-0.1**
ZPLA	**Ao Xicun**	**4.73**	**272**	*e*P	**Pn**	**09 57 32.8**	**+0.1**
TATA	**Tatamba Isabel**	**48.23**	**127**	P	**P**	**10 05 03.7**	**+1.3**

*ASRS **10** 10:00:26.0±0.7, 53.˚54N×87.˚67E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 10 10:00:26.6±3.0, 53.˚46N×87.˚83E, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=28.5km s-min=15.3km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**287**	I	I	10 12 00.0	
	baz=100,slow=323,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.85**	**286**	Pn	Pn	10 01 00.2	+0.6
	1.6nm,0.3s,baz=105,slow=14,SNR=17						
ZALV				Lg	Lg	10 01 24.2	
	1.6nm,0.3s,baz=102,slow=25,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.40**	**247**	Pn	Pn	10 02 03.1	+1.0
	0.1nm,0.3s,baz=63,slow=14,SNR=8.2						
	1.2nm,0.4s						
MKAR	**Makanchi Array**	**7.56**	**210**	Pn	Pn	10 02 19.1	+1.0
	0.6nm,0.3s,baz=31,slow=13,SNR=11						
MKAR				Sn	Sn	10 03 42.9	-1.5
	0.2nm,0.3s,baz=28,slow=25,SNR=7.1						
MKAR				Lg	Lg	10 04 28.3	
	0.3nm,0.3s,baz=29,slow=32,SNR=6.1						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**10.46**	**275**	Sn	Sn	10 04 51.0	-4.6
	0.2nm,0.3s,baz=108,slow=22,SNR=5.7						

*KOLA **10** 10:00:55.3, 64.˚67N×30.˚51E, h0km, ML1.8, Kostomuksha, Karelia*
*HEL **10** 10:00:56.5±0.1, 64.˚74N×30.˚71E, h0km, ML1.7, Explosion*
*IDC **10** 10:00:57.6±2.6, 64.˚69N×30.˚75E, h0km, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=38.8km s-min=9.5km az=102.0*

ISC 10 10:00:55.7±0.9, 64.˚79N±0.˚02×30.˚63E±0.˚04, h0km, n37, σ1s69/54, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.65**	**208**	PG	**Pg**	**10 01 08.0**	**-0.2**
	baz=29						
RMF				MSG		10 01 16.2	
	comp=Z,11nm,0.2s						
KU1	**Kurvinen**	**0.90**	**330**	PG	**Pb**	**10 01 13.8**	**-0.3**
KU1				SB	**Sb**	**10 01 27.0**	**+0.4**
KU6	**Riekki**	**1.28**	**346**	PG	**Pb**	**10 01 20.5**	**-0.1**
	baz=166						
KU6				MSG		10 01 36.7	
	comp=Z,3.7nm,0.2s						
KU6				SB	**Sb**	**10 01 37.8**	**+0.3**
MSF	**Maaselka**	**1.31**	**330**	PG	**Pb**	**10 01 20.8**	**-0.3**
	baz=153						
MSF				SB	**Sn**	**10 01 39.0**	**-0.3**
KU2	**Taivalkoski**	**1.37**	**313**	PG	**Pb**	**10 01 22.2**	**0.0**
	baz=136						
OLKF	**Oulanka, Finla**	**1.62**	**342**	PG	**Pg**	**10 01 26.5**	**-0.2**
OLKF				MSG		10 01 46.5	
	comp=Z,3.3nm,0.2s						
OLKF				SN	**Sg**	**10 01 49.2**	**+1.5**
NIF	**Nilsia**	**1.88**	**223**	PG	**Pn**	**10 01 30.0**	**+1.0**
NIF				MSG		10 01 52.0	
	comp=Z,3.6nm,0.2s						
JOF	**Joensuu**	**1.91**	**171**	*e*P	**Pn**	**10 01 29.6**	**+0.1**
JOF	**Joensuu**	**1.91**	**171**	PG	**Pn**	**10 01 29.1**	**-0.3**
JOF				SG	**Sn**	**10 01 54.0**	**-0.1**
RANF	**Ranua**	**2.02**	**309**	PG	**Pb**	**10 01 33.2**	**-0.2**
	baz=126						
RANF				SG	**Sg**	**10 01 59.8**	**-0.9**
OUL	**Oulu**	**2.04**	**280**	PG	**Pb**	**10 01 33.5**	**0.0**
	baz=95						
OUL				SG	**Sb**	**10 01 59.6**	**+0.2**
KVDA	**Kovda**	**2.12**	**25**	P	**Pb**	**10 01 34.0**	**-1.0**
KVDA				S	**Sb**	**10 02 02.5**	**+0.8**
OBF4	**Vikkela, Lumij**	**2.37**	**273**	PB	**Pb**	**10 01 37.9**	**-1.2**
	baz=88						
OBF4				MSG		10 02 07.5	
	comp=Z,5.0nm,0.2s						
OBF4				SB	**Sb**	**10 02 09.6**	**+0.8**
OUF	**Merijarvi**	**2.58**	**263**	PN	**Pn**	**10 01 40.6**	**+1.9**
	baz=77						
OUF				MSG		10 02 13.5	
	comp=Z,5.7nm,0.2s						
OUF				SB	**Sb**	**10 02 15.3**	**+0.3**
OBF0	**Syolatti, Pyha**	**2.77**	**267**	PB	**Pb**	**10 01 46.3**	**+0.3**
OBF0				MSG		10 02 18.9	
	comp=Z,3.7nm,0.2s						
OBF0				SB	**Sb**	**10 02 21.5**	**+1.1**
SUF	**Sumiainen**	**2.88**	**226**	PB	**Pb**	**10 01 46.1**	**-1.8**
SUF				MSG		10 02 21.0	
	comp=Z,1.9nm,0.2s						
TOF	**Tornio**	**2.94**	**299**	PG	**Pb**	**10 01 49.4**	**+0.6**
TOF				MSG		10 02 24.3	
	comp=Z,1.6nm,0.2s						
TOF				SB	**Sb**	**10 02 24.6**	**-0.6**
VRF	**Varrio**	**3.00**	**353**	PB	**Pn**	**10 01 46.8**	**+2.3**
VRF				MSG		10 02 26.1	
	comp=Z,1.6nm,0.2s						
VRF				SG	**Sb**	**10 02 28.9**	**+1.9**
OBF8	**Ulkokalla**	**3.14**	**265**	PN	**Pn**	**10 01 47.9**	**+1.6**
KALU	**Kalix**	**3.23**	**293**	PG	**Pb**	**10 01 55.2**	**+1.2**
	baz=106						
KALU				SG	**Sb**	**10 02 35.8**	**+2.0**
LVZ	**Lovozero**	**3.52**	**26**	SN	**Sn**	**10 02 34.0**	**+0.2**
KEF	**Keuruu**	**3.69**	**227**	*e*P	**Pn**	**10 01 56.2**	**+2.3**
KEF	**Keuruu**	**3.69**	**227**	PN	**Pn**	**10 01 56.7**	**+2.8**
KEF				SG	**Sb**	**10 02 50.0**	**+3.1**
PAJU	**Pajala**	**3.81**	**309**	PG	**Pb**	**10 02 06.0**	**+2.2**
PAJU				SG	**Sg**	**10 02 55.8**	**-2.1**
RAJF	**Raja-Jooseppi**	**3.81**	**347**	PN	**Pn**	**10 01 57.3**	**+1.7**
SJUU	**Sjulsmark**	**3.88**	**285**	*e*P	**Pn**	**10 01 55.3**	**-1.2**
ERTU	**Ertsjaerv**	**3.92**	**301**	PG	**Pb**	**10 02 07.6**	**+2.0**
	baz=115						
ERTU				SB	**Sb**	**10 02 54.6**	**+1.2**
FIA0	**FINESS Array S**	**3.95**	**214**	SG	**Sb**	**10 02 58.2**	**+3.9**
FINES	**FINESS Array B**	**3.95**	**214**	Pn	**Pn**	**10 01 58.6**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=27,slow=13,SNR=6.7						
FINES				Lg	Lg	10 02 58.7	
	comp=Z,0.8nm,0.3s,baz=32,slow=27,SNR=13						
	comp=Z,1.0nm,0.8s						
UMAU	**Umeaa**	**4.42**	**263**	SG	**Sg**	**10 03 13.6**	**-4.1**
HEF	**Hetta**	**4.57**	**326**	PN	**Pn**	**10 02 07.8**	**+1.7**
HEF				SG	**Sg**	**10 03 17.5**	**-4.9**
TERR	**Teriberka**	**4.76**	**20**	S	**Sn**	**10 03 02.1**	**-2.3**
ARCES	**ARCESS Array B**	**5.16**	**340**	Pn	**Pn**	**10 02 15.3**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=156,slow=13,SNR=16						
ARCES				Sn	**Sn**	**10 03 13.4**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=152,slow=24,SNR=5.6						
ARCES				Lg	Lg	10 03 34.6	
	comp=Z,0.4nm,0.3s,baz=158,slow=29,SNR=8.5						
	comp=Z,0

GIRL				S	Sn	10 10 09.5	-0.7	
MORW	**Morawa**	**4.58**	**144**	P	Pn	10 09 57.6	+0.8	
MORW	**Morawa**	**4.58**	**144**	S	Sn	10 10 51.1	+0.9	
MEEK	**Meekatharra**	**5.24**	**105**	P	Pn	10 10 07.9	+2.0	
BLDU	**Ballidu**	**6.18**	**148**	P	Pn	10 10 18.6	-0.1	
	comp=Z,0.1nmcomp=Z,59µmcomp=Z,17nm,2.9s							
BLDU	**Ballidu**	**6.18**	**148**	S	Sn	10 11 29.6	+0.2	
MUN	**Mundaring**	**7.17**	**157**	S	Sn	10 11 53.9	+0.1	
PSAC1	**Pilbara Seismi**	**7.36**	**60**	P	Pn	10 10 36.2	+1.2	
	comp=Z,0.1nmcomp=Z,32µmcomp=Z,12nm,1.2s							
PSAC1				S	Sn	10 11 58.9	+0.2	
KLBR	**Kellerberrin**	**7.49**	**147**	P	Pn	10 10 36.0	-0.7	
	comp=Z,0.0nmcomp=Z,43µmcomp=Z,12nm,1.2s							
MBWA	**Marble Bar**	**7.51**	**57**	P	Pn	10 10 38.0	+0.9	
	comp=Z,0.0nmcomp=Z,40µmcomp=Z,14nm,2.9s							
MBWA				S	Sn	10 11 57.6	-4.7	

*IDC **10** 10:14:12.7±1.1,29˚80N×105˚22E,h0km,mb3.6/5, mbtmp3.6/6,ML4.4/1,MS3.9/3,Error ellipse: s-maj=111.2km s-min=18.8km az=60.0*

ISC 10 10:14:17.8±1.3,29˚9N±0˚3×105˚3E±0˚5,h35km,n9, σ0s28/6,mb3.6/5,MS4.0/3,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZDM	**Lanzhou Array**	**6.20**	**348**	Pn	**Pn**	**10 15 47.0**	**-0.2**
	baz=171,slow=15						
	1.1nm,0.2s						
TGY	**Tagaytay City**	**21.32**	**134**	LR	LR	10 26 45.0	
	comp=Z,242nm,18.8s,baz=64,slow=35						
MKAR	**Makanchi Array**	**24.59**	**320**	P	**P**	**10 19 34.5**	**0.0**
	0.4nm,0.5s,baz=118,slow=11,SNR=3.1						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**28.27**	**334**	P	**P**	**10 20 08.0**	**+0.4**
	0.4nm,0.3s,baz=126,slow=7.3,SNR=1.6						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**28.84**	**323**	P	**P**	**10 20 12.6**	**0.0**
	0.2nm,0.5s,baz=126,slow=10,SNR=1.9						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**56.88**	**147**	P	**P**	**10 23 59.2**	**-0.1**
	1.5nm,0.7s,baz=336,slow=7.5,SNR=12						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**59.91**	**150**	P	**P**	**10 24 20.5**	**+0.1**
	0.3nm,0.4s,baz=337,slow=7.9,SNR=10						
	0.3nm,0.4s						
NEW	**Newport**	**93.39**	**27**	LR	LR	11 13 26.0	
	comp=Z,67nm,18.3s,baz=104,slow=38						
LBTB	**Lobatse**	**93.91**	**243**	LR	LR	11 11 21.7	
	comp=Z,44nm,18.1s,baz=107,slow=37						

IDC 10 10:33:46.3±1.7,2˚19N×126˚94E,h0km,mb3.6/5, mbtmp3.6/5,Error ellipse: s-maj=122.0km s-min=19.7km az=69.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.20**	**184**	P	P	10 38 23.0	+0.3
	2.5nm,0.8s,baz=5.7,slow=10,SNR=1.7						
	2.5nm,0.8s						
WRA	**Warramunga Arr**	**23.16**	**162**	P	P	10 38 53.9	-0.7
	1.0nm,0.5s,baz=340,slow=11,SNR=9.5						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**26.58**	**166**	P	P	10 39 26.9	+0.6
	0.2nm,0.4s,baz=346,slow=9.3,SNR=8.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.94**	**326**	P	P	10 43 47.5	+0.1
	0.2nm,0.3s,baz=116,slow=8.9,SNR=6.2						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**63.14**	**328**	P	P	10 44 15.7	-0.2
	0.9nm,0.6s,baz=130,slow=6.5,SNR=8.9						
	0.9nm,0.6s						

*IDC **10** 10:53:30.8±6.6,52˚15N×175˚50W,h0km,mb3.7/2, mbtmp3.9/4,ML4.3/2,Error ellipse: s-maj=130.7km s-min=59.0km az=104.0*
*NEIC **10** 10:53:54.5±2.1,52˚2N±0˚1×173˚8W±0˚1,h171km±10km, mb4.1/59,ML3.8/16,ML3.3(AEIC),Error ellipse: s-maj=18.8km s-min=9.6km az=153.0*
*AEIC **10** 10:53:57.4±2.5,52˚4N±0˚1×173˚9W±0˚1,h155km±6km, Error ellipse: s-maj=19.9km s-min=9.3km az=158.0*

ISC 10 10:53:54.6±0.8,52˚2N±0˚1×173˚89W±0˚06,h172km±7km, n144,σ1s16/159,mb4.0/5,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.19**	**284**		**Pn**	**10 54 17.7**	**+0.2**
ATKA				IAML		10 54 35.3	
	comp=N,837nm,0.4s						
ATKA	**Atka Island**	**0.19**	**284**		**Sn**	**10 54 34.6**	**-0.4**
ATKA	**Atka Island**	**0.19**	**284**	IAML		10 54 34.6	
	comp=E,737nm,0.7s						
GSIG	**Igitkin Island**	**1.27**	**263**		**Pn**	**10 54 24.0**	**+0.3**
GSIG					**Sn**	**10 54 45.2**	**-0.9**
GSTR	**Great Sitkin T**	**1.34**	**268**		**Pn**	**10 54 24.8**	**+0.4**
GSTR				Sn	**Sn**	**10 54 47.5**	**+0.2**
GSTR				IAML		10 54 50.5	
	comp=E,1µm,0.4s						
GSMY	**Great Sitkin M**	**1.34**	**266**		**Pn**	**10 54 24.6**	**+0.2**
GSMY					**Sn**	**10 54 46.6**	**-0.7**
ETKA	**Kagalaska Isla**	**1.58**	**260**		**Pn**	**10 54 27.7**	**+1.0**
ETKA					**Sn**	**10 54 51.3**	**-0.1**
ADAG	**Mount Adagdak**	**1.68**	**265**		**Pn**	**10 54 28.5**	**+0.8**
ADAG					**Sn**	**10 54 53.9**	**+0.7**
ADK	**Adak**	**1.75**	**262**		**Pn**	**10 54 29.2**	**+0.9**
ADK				IAML		10 54 55.2	
	comp=E,554nm,0.4s						
ADK	**Adak**	**1.75**	**262**	Sn	**Sn**	**10 54 54.0**	**-0.4**
KIWB	**Kanaga Island**	**2.04**	**263**		**Pn**	**10 54 32.6**	**+1.1**
KIWB				Sn	**Sn**	**10 55 00.1**	**+0.1**
KIWB				IAML		10 55 03.2	
	comp=N,448nm,0.5s						
KIWB				IAML		10 55 03.3	
	comp=E,506nm,0.5s						
KIKV	**Kanaga Island**	**2.04**	**263**		**Pn**	**10 54 32.7**	**+1.1**
KIKV					**Sn**	**10 55 00.0**	**-0.2**
KIMD	**Kanaga Island**	**2.10**	**260**		**Pn**	**10 54 33.7**	**+1.5**
KIMD					**Sn**	**10 55 01.3**	**-0.1**
TAFL	**Tanaga Flats**	**2.51**	**262**		**Pn**	**10 54 38.4**	**+1.5**
TAFL					**Sn**	**10 55 10.0**	**+0.3**
TAFP	**Tanaga Falls P**	**2.54**	**266**		**Pn**	**10 54 37.9**	**+0.6**
TAFP					**Sn**	**10 55 09.4**	**-1.0**
TASE	**Tanaga Southea**	**2.58**	**264**		**Pn**	**10 54 38.9**	**+1.1**
TASE					**Sn**	**10 55 12.1**	**+0.7**
GAEA	**Gareloi East**	**3.02**	**265**		**Pn**	**10 54 44.2**	**+1.1**
GAEA					**Sn**	**10 55 20.6**	**-0.3**
GANE	**Gareloi Northe**	**3.04**	**266**		**Pn**	**10 54 44.4**	**+1.1**
GANE					**Sn**	**10 55 20.6**	**-0.5**
GALAA	**Gareloi Lava P**	**3.04**	**264**		**Pn**	**10 54 44.9**	**+1.5**
GALAA					**Sn**	**10 55 22.0**	**+0.7**
GAKI	**Gareloi-Kavalg**	**3.11**	**261**		**Pn**	**10 54 45.4**	**+1.2**
OKSP	**Okmok Steeple**	**3.58**	**70**		**Pn**	**10 54 51.0**	**+1.0**
OKNC	**Okmok New Cone**	**3.74**	**67**		**Pn**	**10 54 53.0**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**3.76**	**69**		**Pn**	**10 54 53.3**	**+0.9**
AMKA	**Amchitka**	**4.30**	**262**	Pn	**Pn**	**10 54 59.8**	**+0.6**
AMKA				Sn	**Sn**	**10 55 47.6**	**-2.2**
MAPS	**Pakushin South**	**4.52**	**66**		**Pn**	**10 55 02.4**	**+0.3**
MGOD	**Makushin Gods**	**4.55**	**66**		**Pn**	**10 55 02.9**	**+0.4**
MREP	**Makushin Rep't**	**4.63**	**66**		**Pn**	**10 55 04.1**	**+0.6**
UNV	**Unalaska Valle**	**4.77**	**66**		**Pn**	**10 55 05.7**	**+0.3**
P08K	**Saint George I**	**5.13**	**28**	Pn	**Pn**	**10 55 08.8**	**-1.1**
LVA	**Lava Point**	**5.14**	**64**	Pn	**Pn**	**10 55 10.8**	**+0.7**
LVA				IAML		10 56 29.5	
	comp=E,36nm,0.9s						
LVA				IAML		10 57 04.8	
	comp=N,58nm,1.1s						
AKUT	**Akutan**	**5.28**	**65**	Pn	**Pn**	**10 55 12.1**	**+0.3**
AKUT	**Akutan**	**5.28**	**65**	P	**Pn**	**10 55 12.5**	**+0.6**
SPIA	**Saint Paul Isl**	**5.46**	**21**	Pn	**Pn**	**10 55 13.7**	**-0.5**
FALS	**False Pass**	**5.81**	**62**	Pn	**Pn**	**10 55 31.8**	**-0.2**
S12K	**Black Hills**	**7.83**	**58**	Pn	**Pn**	**10 55 45.2**	**-0.4**
SDPT	**Sand Point**	**8.57**	**63**	Pn	**Pn**	**10 55 54.6**	**-0.7**
SDPT	**Sand Point**	**8.57**	**63**	P	**Pn**	**10 55 53.7**	**-1.6**
CNBA	**Chernabura Isl**	**8.94**	**67**	Pn	**Pn**	**10 55 58.9**	**-1.2**
CHNA	**Chernabura Isl**	**8.94**	**67**	P	**Pn**	**10 55 58.9**	**-1.2**
CHGN	**Chignik**	**9.96**	**59**	Pn	**Pn**	**10 56 11.4**	**-2.2**
O14K	**Tigyukauivet M**	**10.05**	**40**	Pn	**Pn**	**10 56 15.3**	**+0.5**
N14K	**Kuskokwak Cree**	**10.34**	**36**	Pn	**Pn**	**10 56 18.2**	**-0.2**
O15K	**Ungalikthiuk R**	**10.60**	**43**	Pn	**Pn**	**10 56 21.9**	**+0.1**
R16K	**Pilot Point**	**10.84**	**54**	Pn	**Pn**	**10 56 25.3**	**+0.2**
N15K	**Kwethluk River**	**11.10**	**38**	Pn	**Pn**	**10 56 28.0**	**-0.4**
P16K	**Nushagak River**	**11.31**	**46**	Pn	**Pn**	**10 56 32.0**	**+0.9**
CHIR	**Chirikof Islan**	**11.36**	**64**	Pn	**Pn**	**10 56 29.8**	**-1.9**
PLK4	**Peulik 4**	**11.47**	**55**	Pn	**Pn**	**10 56 32.7**	**-0.6**
O16K	**Kokwok River B**	**11.56**	**44**	Pn	**Pn**	**10 56 34.4**	**+0.1**
K15K	**Wolf Creek Mou**	**12.14**	**28**		**P**	**10 56 45.2**	**-2.1**
SII	**Sitkinak Islan**	**12.30**	**61**	Pn	**Pn**	**10 56 41.5**	**-2.4**
SII	**Sitkinak Islan**	**12.30**	**61**	P	**Pn**	**10 56 41.5**	**-2.4**
N17K	**Nushagak Hills**	**12.46**	**41**	Pn	**Pn**	**10 56 46.0**	**0.0**
M17K	**Holitna River**	**12.89**	**38**	Pn	**Pn**	**10 56 51.4**	**0.0**
OHAK	**Old Harbor**	**12.93**	**59**	P	**Pn**	**10 56 48.9**	**-3.0**
N18K	**Kilae Creek**	**13.08**	**42**	Pn	**Pn**	**10 56 53.1**	**-0.8**
J16K	**Anvik River**	**13.19**	**27**	Pn	**Pn**	**10 56 56.0**	**+0.9**
Q19K	**Cape Douglas,**	**13.28**	**51**	Pn	**Pn**	**10 56 55.7**	**-0.8**
KDAK	**Kodiak Island**	**13.45**	**57**	Pn	**Pn**	**10 56 55.8**	**-2.6**
KDAK	**Kodiak Island**	**13.45**	**57**	Pn	**Pn**	**10 56 55.1**	**-3.2**
	comp=N,0.9nm,0.3s,baz=260,slow=8.0,SNR=20						
KDAK				Sn	**Sn**	**10 59 26.3**	**-1.2**
	comp=N,0.2nm,0.3s,baz=127,slow=20,SNR=5.2						
	comp=N,3.1nm,0.4s						
O19K	**Port Alsworth**	**13.51**	**46**	Pn	**Pn**	**10 56 58.3**	**-0.9**
L18K	**Granite Mounta**	**13.68**	**36**		**Pn**	**10 57 02.4**	**+1.0**
J17K	**VABM Dome**	**13.71**	**29**		**Pn**	**10 57 01.6**	**-0.2**
N19K	**Bonanza Creek**	**13.74**	**43**		**Pn**	**10 57 00.7**	**-1.5**
P19K	**Oil Pt**	**13.76**	**49**	Pn	**Pn**	**10 57 01.6**	**-0.8**
SYI	**Shuyak Island**	**13.79**	**54**	Pn	**Pn**	**10 57 00.6**	**-2.1**
ILSW	**Iliamna Southw**	**13.94**	**48**		**Pn**	**10 57 05.3**	**+0.6**
L19K	**White Mountain**	**14.34**	**38**		**P**	**10 57 12.8**	**+1.1**
M19K	**Big River Lodg**	**14.36**	**40**	Pn	**Pn**	**10 57 09.6**	**-0.3**
F15K	**North Star Dit**	**14.38**	**16**		**P**	**10 57 13.1**	**+1.0**
J18K	**Innoko River**	**14.50**	**32**		**Pn**	**10 57 11.2**	**-0.4**
G16K	**Koyuk River**	**14.52**	**20**		**P**	**10 57 14.7**	**+1.1**
CNPM	**China Poot**	**14.65**	**51**	Pn	**Pn**	**10 57 11.9**	**-1.6**
H17K	**Granite Mounta**	**14.69**	**24**		**Pn**	**10 57 14.0**	**+0.1**
M20K	**Styx River**	**14.85**	**41**	Pn	**Pn**	**10 57 14.5**	**-1.5**
BRLK	**Bradley Lake**	**14.90**	**50**	Pn	**Pn**	**10 57 15.7**	**-0.9**
STLK	**Strandline Lak**	**15.20**	**43**	P	**Pn**	**10 57 19.3**	**-0.9**
STLK				IAmb	IAmb	10 57 22.2	
	comp=Z,5.2nm,0.8s						
J19K	**Poorman**	**15.22**	**32**		**Pn**	**10 57 20.5**	**+0.1**
J19K				IAmb	IAmb	10 57 23.5	
	comp=Z,9.9nm,1.3s						
SLKM	**Skilak Lake**	**15.49**	**48**	P	**Pn**	**10 57 22.7**	**-1.0**
SLKM				IAmb	IAmb	10 57 24.4	
	comp=Z,5.5nm,0.6s						
SKT	**Skwentna**	**15.55**	**42**	P	**P**	**10 57 26.1**	**+0.9**
SKT				IAmb	IAmb	10 57 28.3	
	comp=Z,11nm,0.9s						
SEW	**Seward**	**15.70**	**50**	P	**Pn**	**10 57 24.9**	**-1.4**
SEW				IAmb	IAmb	10 57 25.3	
	comp=Z,5.6nm,0.6s						
O22K	**Cooper Landing**	**15.71**	**49**	P	**Pn**	**10 57 25.1**	**-1.3**
PPLA	**Purkeypile**	**15.77**	**39**	P	**Pn**	**10 57 26.7**	**-0.6**
G18K	**Tagagawik**	**15.78**	**23**	P	**Pn**	**10 57 27.9**	**+0.7**
J20K	**Nowinta River**	**15.83**	**33**		**Pn**	**10 57 27.8**	**-0.1**
I20K	**Naaghedeneel**	**16.13**	**31**	P	**Pn**	**10 57 30.8**	**-0.7**
PMR	**Palmer**	**16.40**	**45**	P	**P**	**10 57 33.3**	**-1.1**
PWL	**Port Wells**	**16.48**	**48**	P	**P**	**10 57 33.4**	**-2.0**
PWL				IAmb	IAmb	10 57 37.1	
	comp=Z,4.4nm,0.5s						
GHO	**Glory Hole Cre**	**16.57**	**45**	P	**P**	**10 57 35.7**	**-0.6**
GHO				IAmb	IAmb	10 57 37.8	
	comp=Z,4.5nm,0.4s						
KTH	**Kantishna Hill**	**16.61**	**38**	P	**P**	**10 57 37.6**	**+0.8**
KNK	**Knik Glacier**	**16.63**	**46**	P	**P**	**10 57 35.8**	**-1.2**
KNK				IAmb	IAmb	10 57 37.7	
	comp=Z,7.3nm,0.8s						
F19K	**Shaleruckik Mo**	**16.75**	**22**	P	**P**	**10 57 37.8**	**-0.4**
TRF	**Thorofare Moun**	**16.79**	**39**	P	**P**	**10 57 36.9**	**-2.0**
TRF				IAmb	IAmb	10 57 42.1	
	comp=Z,5.1nm,0.7s						
BPAW	**Bear Paw Mtn.**	**16.89**	**36**	P	**P**	**10 57 39.2**	**-0.6**
BPAW				IAmb	IAmb	10 57 43.1	
	comp=Z,5.8nm,0.5s						
GLI	**Glacier Island**	**17.06**	**49**	P	**P**	**10 57 40.1**	**-1.6**
GLI				IAmb	IAmb	10 57 41.1	
	comp=Z,5.2nm,0.8s						
IMAR	**Indian Mountai**	**17.17**	**29**	P	**P**	**10 57 42.6**	**-0.3**
H21K	**Melozitna Rive**	**17.24**	**30**	P	**P**	**10 57 43.1**	**-0.5**
SCM	**Sheep Creek Mo**	**17.29**	**46**	P	**P**	**10 57 44.1**	**-0.2**
SCM				IAmb	IAmb	10 57 47.1	
	comp=Z,6.7nm,1.1s						
FID	**Port Fidalgo**	**17.30**	**49**	P	**P**	**10 57 42.3**	**-2.1**
FID				IAmb	IAmb	10 57 44.8	
	comp=Z,5.5nm,0.7s						
RND	**Reindeer**	**17.33**	**40**	P	**P**	**10 57 43.7**	**-1.0**
F20K	**Avaraart Lake**	**17.42**	**24**	P	**P**	**10 57 44.4**	**-1.1**
MCK	**McKinley**	**17.46**	**39**		**P**	**10 57 45.1**	**-1.0**
MCK				IAmb	IAmb	10 57 49.4	
	comp=Z,7.9nm,1.0s						
BWN	**Browne**	**17.48**	**37**	P	**P**	**10 57 46.5**	**+0.2**
MLY	**Manley**	**17.51**	**34**		**P**	**10 57 46.1**	**-0.6**
MLY				IAmb	IAmb	10 57 50.6	
	comp=Z,5.4nm,0.6s						
EYAK	**Cordova Ski Ar**	**17.59**	**50**	P	**P**	**10 57 48.1**	**+0.6**
DHY	**Denali Highway**	**17.77**	**42**		**P**	**10 57 49.4**	**-0.3**
DHY				IAmb	IAmb	10 57 51.9	
	comp=Z,7.9nm,0.8s						
KLU	**Klutina**	**17.80**	**47**	P	**P**	**10 57 48.1**	**-1.7**
NEA2	**Nenana**	**17.86**	**36**	P	**P**	**10 57 49.8**	**-0.6**
I23K	**Minto, Yukon-K**	**18.06**	**34**	P	**P**	**10 57 53.6**	**+1.0**
I23K				IAmb	IAmb	10 57 55.2	
	comp=Z,7.5nm,0.6s						
F21K	**Alatna River**	**18.13**	**26**		**P**	**10 57 54.6**	**+1.2**
WRH	**Wood River Hil**	**18.15**	**37**	P	**P**	**10 57 52.4**	**-1.2**
BMRM	**Bremner River**	**18.25**	**50**		**P**	**10 57 54.0**	**-0.7**
BMRM				IAmb	IAmb	10 57 57.4	
	comp=Z,8.1nm,0.7s						
CCB	**Clear Creek Bu**	**18.35**	**37**		**P**	**10 57 54.2**	**-1.5**
CCB				IAmb	IAmb	10 57 57.9	
	comp=Z,5.0nm,0.4s						
N25K	**Chitina, Valde**	**18.43**	**48**	P	**P**	**10 57 58.0**	**+1.2**
N25K				IAmb	IAmb	10 57 59.9	
	comp=Z,4.7nm,0.6s						
COLA	**College**	**18.45**	**36**	P	**P**	**10 57 56.4**	**-0.3**
COLA				IAmb	IAmb	10 57 59.5	
	comp=Z,6.5nm,0.7s						
COLA	**College**	**18.45**	**36**	P	**P**	**10 57 58.7**	**+1.9**
PAX	**Paxson**	**18.52**	**43**		**P**	**10 57 56.5**	**-1.2**
PAX				IAmb	IAmb	10 58 02.0	
	comp=Z,3.7nm,0.5s						
HDA	**Harding Lake**	**18.55**	**38**	P	**P**	**10 57 57.2**	**-0.8**
K24K	**Donnelly Dome**	**18.73**	**41**	P	**P**	**10 57 59.2**	**-0.8**
GLB	**Gilahina Butte**	**18.75**	**49**		**P**	**10 57 59.5**	**-0.6**
GLB				IAmb	IAmb	10 58 03.3	
	comp=Z,11nm,1.2s						
IL31		**18.75**	**37**	P	**P**	**10 57 58.6**	**-1.5**
IL31				IAmb	IAmb	10 58 01.9	
	comp=Z,5.0nm,0.5s						
ILAR	**Eielson Array**	**18.75**	**37**	P	**P**	**10 57 59.3**	**-0.8**
ILAR	**Eielson Array**	**18.75**	**37**	P	**P**	**10 57 57.6**	**-2.5**
	comp=Z,1.3nm,0.3s,baz=243,slow=11,SNR=32						
	comp=Z,2.1nm,0.4s						
G23K	**Bananza Creek**	**18.78**	**30**		**P**	**10 58 01.4**	**+0.9**
G23K				IAmb	IAmb	10 58 01.9	
	comp=Z,6.4nm,0.9s						
H24K	**Noodor Dome**	**18.96**	**34**		**P**	**10 58 02.8**	**+0.4**
H24K				IAmb	IAmb	10 58 03.9	
	comp=Z,6.3nm,0.8s						
COLD	**Coldfoot**	**19.06**	**29**	P	**P**	**10 58 04.7**	**+1.2**
RIDG	**Independent Ri**	**19.08**	**41**		**P**	**10 58 02.5**	**-1.3**
MCARA	**McCarthy VSAT**	**19.09**	**49**	P	**P**	**10 58 02.3**	**-1.6**
MCARA				IAmb	IAmb	10 58 08.1	
	comp=Z,11nm,1.0s						
J25K	**Salcha River,**	**19.25**	**39**	P	**P**	**10 58 03.6**	**-2.0**
MENT	**Mentasta**	**19.25**	**44**	P	**P**	**10 58 04.9**	**-0.7**
MENT				IAmb	IAmb	10 58 12.1	
	comp=Z,4.1nm,0.5s						
DOT	**Dot Lake**	**19.37**	**42**	P	**P**	**10 58 06.5**	**-0.3**
M26K	**Nabesna, AK**	**19.39**	**46**	P	**P**	**10 58 05.3**	**-1.9**
L26K	**Log Cabin Wild**	**19.44**	**44**	P	**P**	**10 58 07.4**	**-0.2**
L26K				IAmb	IAmb	10 58 12.4	
	comp=Z,3.6nm,0.7s						
B20K	**Meade River**	**19.52**	**17**	P	**P**	**10 58 08.2**	**-0.1**
SCRK	**Sand Creek**	**19.53**	**41**		**P**	**10 58 07.6**	**-1.0**
D22K	**Ayikyak River**	**19.56**	**23**	P	**P**	**10 58 08.9**	**+0.1**
G24K	**Hadweenzic Riv**	**19.58**	**32**	P	**P**	**10 58 09.3**	**+0.2**
G24K				IAmb	IAmb	10 58 10.1	
	comp=Z,4.8nm,0.8s						
H27K	**Steamboat Moun**	**21.41**	**36**	P	**P**	**10 58 27.8**	**-0.9**
DAWY	**Dawson**	**21.46**	**43**	P	**P**	**10 58 28.7**	**-0.5**
DAWY				IAmb	IAmb	10 58 31.0	
	comp=Z,6.9nm,1.1s						
K29M	**Barlow Dome**	**22.19**	**44**		**P**	**10 58 36.4**	**-0.2**
PDAR	**Pinedale Array**	**43.16**	**76**	P	**P**	**11 01 40.5**	**+2.2**
	comp=Z,1.0nm,0.7s,baz=311,slow=3.6,SNR=12						
	comp=Z,1.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**50.37**	**288**	*e*P	**P**	**11 02 32.2**	**-1.9**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,4.3s						
TXAR	**Lajitas Array**	**55.53**	**85**	P	**P**	**11 03 14.8**	**+2.9**
	comp=Z,0.6nm,0.6s,baz=298,slow=4.5,SNR=11						
	comp=Z,0.6nm,0.6s						
WMQ	**Urumqi**	**61.43**	**305**	*e*P	**P**	**11 03 51.1**	**-1.4**
WMQ				pmax	pmax		
	comp=Z,31nm,0.6s						

*IDC **10** 10:59:03.3±4.2,51˚76N×179˚59W,h0km,mb3.5/3, mbtmp3.7/4,ML4.1/1,Error ellipse: s-maj=105.4km s-min=48.4km az=128.0*
*NEIC **10** 10:59:07.1±1.6,51˚27N±0˚03×178˚66W±0˚03,h10km±1km, mb3.9/72,ML4.1/8,ML3.5(AEIC),Error ellipse: s-maj=5.0km s-min=3.0km az=351.0*
*AEIC **10** 10:59:08.8±1.7,51˚40N±0˚04×178˚64W±0˚03,h13km±4km, Error ellipse: s-maj=5.2km s-min=2.7km az=185.0*

ISC 10 10:59:08.1±1.3,51˚35N±0˚06×178˚66W±0˚02,h14km±8km, n148,σ0s70/161,mb3.9/14,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.23**	**336**		**Pg**	**10 59 13.6**	**+0.5**
GAKI					**Sb**	**10 59 17.2**	**-1.0**
GALAA	**Gareloi Lava P**	**0.42**	**350**		**Pb**	**10 59 17.4**	**0.0**
GALAA					**Sb**	**10 59 23.2**	**-0.5**
GAEA	**Gareloi East**	**0.44**	**353**		**Pb**	**10 59 17.7**	**-0.1**
GAEA					**Sb**	**10 59 24.3**	**0.0**
GASW	**Gareloi Southw**	**0.45**	**344**		**Pb**	**10 59 17.7**	**-0.2**
GASW					**Sb**	**10 59 24.4**	**-0.2**
GANE	**Gareloi Northe**	**0.48**	**351**		**Pg**	**10 59 18.0**	**+0.4**
GANE					**Sb**	**10 59 25.2**	**-0.1**
GANO	**Gareloi North**	**0.48**	**349**		**Pg**	**10 59 18.0**	**+0.3**
GANO					**Sb**	**10 59 24.7**	**-0.8**
TASE	**Tanaga Southea**	**0.63**	**38**		**Pg**	**10 59 20.6**	**+0.2**
TASE					**Sb**	**10 59 29.5**	**-0.1**
TAFL	**Tanaga Flats**	**0.63**	**49**		**Pg**	**10 59 20.4**	**0.0**
TAFL					**Sg**	**10 59 28.5**	**-0.2**
TANO	**Tanaga North**	**0.66**	**30**		**Pg**	**10 59 21.3**	**+0.3**
TAPA	**Tanaga Point A**	**0.71**	**48**		**Pg**	**10 59 21.8**	**-0.1**
TAPA					**Sb**	**10 59 31.8**	**-0.1**
KIMD	**Kanaga Island**	**0.98**	**64**		**Pb**	**10 59 26.3**	**-0.6**
KIMD					**Sb**	**10 59 39.6**	**-0.1**
KIWB	**Kanaga Island**	**1.07**	**61**		**Pb**	**10 59 27.6**	**-0.8**
KIWB	**Kanaga Island**	**1.07**	**61**		**Sb**	**10 59 42.5**	**+0.2**
KIKV	**Kanaga Island**	**1.07**	**59**		**Pb**	**10 59 27.8**	**-0.7**
KIKV					**Sb**	**10 59 42.4**	**0.0**
KIKV					**Sg**	**10 59 42.5**	**-0.2**
KICM	**Kanaga Island**	**1.08**	**57**		**Pb**	**10 59 28.0**	**-0.6**
CERB	**Semis' Cerberu**	**1.22**	**300**		**Pn**	**10 59 30.4**	**-0.4**
CERB					**Sn**	**10 59 47.2**	**+0.1**
CEPE	**Semis' Perret**	**1.22**	**301**		**Pn**	**10 59 30.2**	**-0.6**
AMKA	**Amchitka**	**1.28**	**272**		**Pn**	**10 59 30.7**	**-0.8**
AMKA	**Amchitka**	**1.28**	**272**		**Sb**	**10 59 47.9**	**-0.4**
CEAP	**Semis' Anvil P**	**1.28**	**302**		**Pn**	**10 59 31.1**	**-0.5**
ADK	**Adak**	**1.34**	**66**		**Pn**	**10 59 31.9**	**-0.6**
ADK				IAML		10 59 51.7	
	5µm,0.3s						
ADK				IAML		10 59 52.2	
	4µm,0.3s						
ADK	**Adak**	**1.34**	**66**		**Sn**	**10 59 49.9**	**-0.3**
ADAG	**Mount Adagdak**	**1.43**	**63**		**Pn**	**10 59 33.7**	**0.0**
ADAG					**Sb**	**10 59 52.6**	**-0.1**
ETKA	**Kagalaska Isla**	**1.50**	**69**		**Pn**	**10 59 34.8**	**+0.2**
ETKA					**Sn**	**10 59 54.

G18K	**Tagagawik**	**17.79**	**27**		**Pn**	**11 03 14.6**	**-0.5**
SKT	**Skwentna**	**18.17**	**44**		**Pn**	**11 03 18.6**	**-1.1**
J20K	**Nowinta River**	**18.17**	**36**		**Pn**	**11 03 19.4**	**-0.3**
O22K	**Cooper Landing**	**18.47**	**49**	P	**P**	**11 03 21.9**	**-1.4**
O22K				IAmb	IAmb	11 03 40.4	
	comp=Z,12nm,0.9s						
SEW	**Seward**	**18.50**	**50**	P	**P**	**11 03 22.8**	**-0.8**
SEW				IAmb	IAmb	11 03 22.8	
	comp=Z,10nm,1.2s						
PWL	**Port Wells**	**19.23**	**49**	P	**P**	**11 03 31.6**	**-0.1**
PWL				IAmb	IAmb	11 03 42.3	
	comp=Z,5.0nm,1.1s						
TRF	**Thorofare Moun**	**19.30**	**40**	P	**P**	**11 03 33.1**	**+0.5**
TRF				IAmb	IAmb	11 03 39.7	
	comp=Z,4.5nm,1.0s						
BPAW	**Bear Paw Mtn.**	**19.32**	**38**	P	**P**	**11 03 33.1**	**+0.4**
IMAR	**Indian Mountai**	**19.36**	**31**	P	**P**	**11 03 33.3**	**+0.3**
I21K	**Tanana**	**19.50**	**35**	P	**P**	**11 03 34.8**	**+0.3**
I21K				IAmb	IAmb	11 04 02.4	
	comp=Z,6.5nm,1.4s						
G21K	**Allakaket**	**19.76**	**30**	P	**Pn**	**11 03 38.5**	**-0.5**
GLI	**Glacier Island**	**19.82**	**49**	P	**P**	**11 03 38.8**	**+0.7**
GLI				IAmb	IAmb	11 04 03.0	
	comp=Z,6.4nm,1.0s						
D19K	**Kuna River**	**19.86**	**22**	P	**Pn**	**11 03 39.9**	**-0.2**
D19K				IAmb	IAmb	11 03 45.8	
	comp=Z,8.2nm,1.4s						
MLY	**Manley**	**19.87**	**36**	P	**Pn**	**11 03 39.7**	**-0.6**
SCM	**Sheep Creek Mo**	**19.98**	**46**	P	**P**	**11 03 40.0**	**+0.1**
SCM				IAmb	IAmb	11 03 47.8	
	comp=Z,9.6nm,1.3s						
HIN	**Hinchinbrook I**	**20.00**	**51**	P	**P**	**11 03 40.3**	**+0.2**
FID	**Port Fidalgo**	**20.09**	**50**	P	**P**	**11 03 41.1**	**+0.1**
FID				IAmb	IAmb	11 04 07.5	
	comp=Z,9.3nm,1.2s						
F21K	**Alatna River**	**20.21**	**29**	P	**P**	**11 03 43.0**	**+0.7**
NEA2	**Nenana**	**20.29**	**38**	P	**P**	**11 03 43.1**	**-0.1**
NEA2				IAmb	IAmb	11 03 50.6	
	comp=Z,3.5nm,0.9s						
DHY	**Denali Highway**	**20.37**	**43**	P	**P**	**11 03 44.2**	**0.0**
DHY				IAmb	IAmb	11 03 57.5	
	comp=Z,3.2nm,0.8s						
D20K	**Etivluk River**	**20.39**	**23**	P	**P**	**11 03 44.9**	**+0.7**
D20K				IAmb	IAmb	11 03 50.3	
	comp=Z,4.7nm,1.0s						
EYAK	**Cordova Ski Ar**	**20.39**	**50**	P	**P**	**11 03 44.0**	**-0.2**
EYAK				IAmb	IAmb	11 04 01.8	
	comp=Z,3.3nm,0.8s						
I23K	**Minto, Yukon-K**	**20.44**	**36**	P	Pn	11 03 46.0	-0.9
I23K				IAmb	IAmb	11 03 49.0	
	comp=Z,6.0nm,1.4s						
E21K	**Killik River**	**20.88**	**26**	P	**P**	**11 03 49.5**	**-0.1**
E21K				IAmb	IAmb	11 04 07.6	
	comp=Z,8.3nm,1.5s						
N25K	**Chitina, Valde**	**21.17**	**48**	P	**P**	**11 03 52.4**	**-0.4**
ILAR	**Eielson Array**	**21.21**	**39**	P	**P**	**11 03 51.0**	**-2.2**
	comp=Z,0.4nm,0.9s,baz=243,slow=8.3,SNR=5.2						
	comp=Z,0.4nm,0.9s						
H24K	**Noodor Dome**	**21.31**	**35**	P	**P**	**11 03 54.3**	**0.0**
H24K				IAmb	IAmb	11 04 03.9	
	comp=Z,7.4nm,1.5s						
J25K	**Salcha River,**	**21.75**	**40**	P	**P**	**11 03 59.4**	**+0.4**
J25K				IAmb	IAmb	11 04 09.6	
	comp=Z,4.2nm,1.4s						
D23K	**Nanushuk River**	**22.13**	**27**	P	**P**	**11 04 03.2**	**+0.2**
D23K				IAmb	IAmb	11 04 09.8	
	comp=Z,11nm,1.5s						
L27K	**Beaver Creek,**	**22.77**	**45**	P	**P**	**11 04 09.7**	**-0.2**
L27K				IAmb	IAmb	11 04 23.3	
	comp=Z,3.0nm,1.2s						
K27K	**Chicken**	**22.92**	**42**	P	**P**	**11 04 11.1**	**-0.2**
G26K	**Porcupine Rive**	**23.28**	**35**	P	**P**	**11 04 15.1**	**0.0**
G26K				IAmb	IAmb	11 04 19.3	
	comp=Z,2.5nm,1.0s						
K29M	**Barlow Dome**	**24.83**	**44**	P	**P**	**11 04 29.2**	**-0.6**
K29M				IAmb	IAmb	11 04 39.0	
	comp=Z,2.3nm,0.9s						
I30M	**Mount Dempster**	**25.59**	**41**	P	**P**	**11 04 36.5**	**-0.2**
I30M				IAmb	IAmb	11 04 47.2	
	comp=Z,3.9nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**33.54**	**205**	T	T	11 41 20.2	
	baz=16,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**33.55**	**205**	T	T	11 41 20.8	
	baz=16,slow=76,SNR=112						
H11N1	**WAKE ISLAND Hy**	**33.55**	**205**	T	T	11 41 22.2	
	baz=16,slow=76,SNR=88						
H11S1	**WAKE ISLAND Hy**	**34.76**	**205**	T	T	11 42 52.0	
	baz=16,slow=76,SNR=92						
H11S2	**WAKE ISLAND Hy**	**34.77**	**205**	T	T	11 42 53.5	
	baz=16,slow=76,SNR=89						
H11S3	**WAKE ISLAND Hy**	**34.77**	**205**	T	T	11 42 52.3	
	baz=16,slow=76,SNR=55						
NEW	**Newport**	**38.81**	**70**	P	**P**	**11 06 32.1**	**-0.2**
HATC	**Hat Creek Radi**	**40.09**	**82**	P	**P**	**11 06 43.7**	**+0.5**
BPMT	**Black Pine Rid**	**41.89**	**70**	P	**P**	**11 06 59.5**	**+1.4**
LYMT	**Lyon Mountain**	**42.29**	**69**	P	**P**	**11 07 02.2**	**+0.9**
BOZ	**Bozeman (W)**	**43.41**	**70**	P	**P**	**11 07 11.0**	**+0.7**
BOZ				IAmb	IAmb	11 07 12.2	
	comp=Z,1.9nm,0.6s						
YHL	**Hebgen Lake**	**44.08**	**71**	P	**P**	**11 07 17.2**	**+1.3**
YHL				IAmb	IAmb	11 07 17.6	
	comp=Z,1.5nm,0.6s						
YHH	**Holmes Hill**	**44.31**	**71**	P	**P**	**11 07 18.6**	**+0.8**
WCT	**Wildcat Mounta**	**45.53**	**83**	P	**P**	**11 07 27.2**	**-0.1**
WCT				IAmb	IAmb	11 07 30.9	
	comp=Z,2.0nm,1.3s						
BW06	**Boulder Array**	**46.23**	**72**	P	**P**	**11 07 32.3**	**-0.6**
PD31	**Pinedale Array**	**46.23**	**72**	P	**P**	**11 07 33.4**	**+0.5**
PDAR	**Pinedale Array**	**46.23**	**72**	P	**P**	**11 07 34.5**	**+1.5**
PDAR	**Pinedale Array**	**46.23**	**72**	P	**P**	**11 07 33.6**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=307,slow=3.9,SNR=24						
	comp=Z,1.5nm,0.5s						
K22A	**Casper**	**48.11**	**71**	P	**P**	**11 07 48.0**	**+0.5**
O20A	**White River Ci**	**48.61**	**74**	P	**P**	**11 07 51.2**	**-0.2**
PV04	**Paradox Valley**	**49.29**	**77**	P	**P**	**11 07 56.9**	**+0.3**
PV18	**Skein Mesa, Pa**	**49.38**	**77**	P	**P**	**11 07 57.9**	**+0.6**
P40A	**Paris**	**58.51**	**65**	P	**P**	**11 09 03.8**	**0.0**
TX31	**Lajitas Ar. Si**	**58.57**	**81**	P	**P**	**11 09 05.2**	**+0.7**
TX31				IAmb	IAmb	11 09 29.2	
	comp=Z,2.6nm,1.4s						
TXAR	**Lajitas Array**	**58.57**	**81**	P	**P**	**11 09 05.3**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=301,slow=4.4,SNR=8.3						
	comp=Z,0.4nm,0.5s						
R40A	**Maddies Statio**	**59.22**	**66**	P	**P**	**11 09 07.7**	**-1.1**
FCAR	**Ozark Folk Cen**	**60.96**	**68**	P	**P**	**11 09 20.4**	**-0.3**
LCAR	**Lake Charles**	**61.40**	**67**	P	**P**	**11 09 23.5**	**-0.2**
X48A	**Hartselle**	**64.91**	**66**	P	**P**	**11 09 47.2**	**+0.2**
Y49A	**Blount Mountai**	**65.70**	**66**	P	**P**	**11 09 52.3**	**+0.1**
H03N2	**Juan Fernandez**	**121.05**	**106**	T	T	13 30 42.3	
	baz=320,slow=76,SNR=5.5						
H03N1	**Juan Fernandez**	**121.06**	**106**	T	T	13 30 43.6	
	baz=320,slow=76,SNR=5.6						
H03N3	**Juan Fernandez**	**121.07**	**106**	T	T	13 30 35.0	
	baz=320,SNR=18						

IDC 10 11:08:25.8±14.0, 18°27'S×167°23'E, h0km, mb3.9/3, mbtmp3.8/4, ML3.1/1, Error ellipse: s-maj=235.9km s-min=39.1km az=71.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.85**	**191**	Pn	Pn	11 09 26.3	-0.1
	1.3nm,0.3s,baz=90,slow=13,SNR=16						
DZM				Sn	Sn	11 10 12.1	-0.3
	baz=108,slow=20						
	9.2nm,0.5s						
STKA	**Stephens Creek**	**26.80**	**235**	P	P	11 14 09.0	+1.3
	2.7nm,0.9s,baz=90,slow=10,SNR=5.1						
	2.7nm,0.9s						
WRA	**Warramunga Arr**	**31.10**	**262**	P	P	11 14 45.5	-0.7
	0.8nm,0.9s,baz=92,slow=8.7,SNR=2.6						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**31.53**	**254**	P	P	11 14 49.5	-0.5
	1.1nm,0.8s,baz=84,slow=8.6,SNR=20						
	1.1nm,0.8s						

IDC 10 11:31:25.1±51.0, 16°18S×177°32W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=953.6km s-min=163.0km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.38**	**240**	P	P	11 39 05.2	+0.2
	1.2nm,0.5s,baz=102,slow=8.8,SNR=5.6						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**45.99**	**258**	P	P	11 39 49.9	-0.6
	0.5nm,0.3s,baz=94,slow=7.6,SNR=11						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**46.28**	**253**	P	P	11 39 52.8	0.0
	5.6nm,0.6s,baz=88,slow=8.3,SNR=107						
	5.6nm,0.6s						

*IDC **10** 11:49:13.0±3.6, 67°.81N×34°.16E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=41.3km s-min=14.5km az=78.0*
*HEL **10** 11:49:17.4±0.6, 68°.08N×33°.51E, h0km, ML1.8, Suspected explosion*
*KOLA **10** 11:49:19.5, 68°.08N×33°.41E, h0km, ML2.0, Error ellipse: s-maj=3.4km s-min=2.0km az=100.0, Olenegorsk City, Mines*

ISC 10 11:49:16.8±0.8, 68°.15N±0°.03×33°.20E±0°.03, h0km, n24, σ1°66/40, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.58**	**172**	P	**Pg**	**11 49 28.1**	**+0.2**
APA				S	**Sg**	**11 49 35.1**	**-0.4**
LVZ	**Lovozero**	**0.60**	**114**	P	**Pg**	**11 49 28.4**	**+0.1**
LVZ				S	**Sg**	**11 49 35.2**	**-0.8**
TERR	**Teriberka**	**1.27**	**32**	P	**Pn**	**11 49 42.4**	**+0.6**
TERR				S	**Sn**	**11 49 59.7**	**+0.2**
VRF	**Varrio**	**1.41**	**255**	PG	**Pb**	**11 49 44.8**	**+0.8**
VRF				MSG		11 50 02.8	
	comp=Z,8.2nm,0.2s						
VRF				SG	**Sn**	**11 50 03.9**	**+0.8**
KVDA	**Kovda**	**1.47**	**185**	P	**Pb**	**11 49 44.4**	**-0.5**
KVDA				S	**Sn**	**11 50 03.4**	**-0.9**
RAJF	**Raja-Jooseppi**	**1.85**	**283**	PG	**Pg**	**11 49 52.4**	**+0.2**
RAJF				SB	**Sg**	**11 50 16.9**	**+0.9**
OLKF	**Oulanka, Finla**	**2.35**	**221**	PG	**Pb**	**11 49 59.6**	**-0.5**
OLKF				MSG		11 50 27.9	
	comp=Z,4.3nm,0.2s						
OLKF				SG	**Sg**	**11 50 30.5**	**-1.8**
VADS	**Vadso**	**2.41**	**327**	S	**Sb**	**11 50 31.9**	**+0.6**
KU6	**Riekki**	**2.49**	**213**	PG	**Pb**	**11 50 01.8**	**-0.6**
KU6				MSG		11 50 31.2	
	comp=Z,2.2nm,0.2s						
KU6				SG	**Sg**	**11 50 34.8**	**-1.9**
KEV	**Kevo**	**2.76**	**309**	PN	**Pb**	**11 50 06.0**	**-1.0**
KEV				SB	**Sg**	**11 50 44.9**	**-0.5**
MSF	**Maaselka**	**2.77**	**218**	SG	**Sg**	**11 50 43.2**	**-2.6**
KU1	**Kurvinen**	**2.96**	**211**	PG	**Pb**	**11 50 10.0**	**-0.5**
ARA0	**ARCESS Array S**	**3.12**	**300**	PN	**Pb**	**11 50 10.3**	**-2.8**
ARA0				SG	**Sg**	**11 50 57.9**	**+1.0**
ARCES	**ARCESS Array B**	**3.12**	**300**	Pn	**Pb**	**11 50 10.3**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=116,slow=15,SNR=53						
ARCES				Pg	**Pg**	**11 50 15.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=112,slow=15,SNR=10						
ARCES				Sn	**Sb**	**11 50 52.8**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=118,slow=25,SNR=4.7						
	comp=Z,0.6nm,0.3s						
KU2	**Taivalkoski**	**3.13**	**221**	PB	**Pb**	**11 50 11.2**	**-2.1**
RANF	**Ranua**	**3.30**	**233**	PN	**Pn**	**11 50 12.0**	**+2.4**
RANF				SG	**Sg**	**11 50 58.9**	**-3.7**
HEF	**Hetta**	**3.56**	**279**	PN	**Pn**	**11 50 15.3**	**+2.1**
HEF				SB	**Sg**	**11 51 08.5**	**-2.4**
KTK1	**Kautokeino**	**3.76**	**288**	PG	**Pg**	**11 50 27.7**	**-1.0**
KTK1				SG	**Sg**	**11 51 16.2**	**-1.2**
PAJU	**Pajala**	**4.02**	**258**	PN	**Pn**	**11 50 21.8**	**+2.2**
PAJU				SG	**Sg**	**11 51 25.8**	**-0.2**
LANU	**Lannavaara**	**4.20**	**274**	PN	**Pn**	**11 50 25.3**	**+3.0**
LANU				SG	**Sg**	**11 51 29.1**	**-2.4**
ERTU	**Ertsjaerv**	**4.55**	**255**	PN	**Pn**	**11 50 28.4**	**+1.6**
ERTU				SN	**Sn**	**11 51 22.1**	**+1.8**
I37NO	**I37NO**	**5.42**	**287**	I	I	12 28 00.0	
	baz=92,slow=320,SNR=19						
FAUS	**Fauske**	**6.84**	**272**	S	**Sn**	**11 52 16.1**	**-0.5**
FINES	**FINESS Array B**	**7.38**	**208**	Pn	Pn	11 50 58.4	-7.2
	comp=Z,0.1nm,0.3s,baz=27,slow=12,SNR=1.8						
FINES				Lg	Lg	11 53 01.9	
	comp=Z,0.2nm,0.3s,baz=31,slow=31,SNR=3.1						
	comp=Z,0.9nm,0.9s						

IDC 10 11:55:57.6±2.3, 6°.75S×129°.54E, h0km, mb3.5/1, mbtmp3.8/4, ML3.9/3, Error ellipse: s-maj=56.5km s-min=32.9km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.75**	**239**	Pn	Pn	11 57 37.5	-0.5
	7.1nm,0.3s,baz=86,slow=13,SNR=2.2						
BATI				Sn	Sn	11 58 40.5	-15
	13nm,0.3s,baz=32,slow=13,SNR=10						
	28nm,0.5s						
WRA	**Warramunga Arr**	**13.92**	**161**	Pn	Pn	11 59 16.7	+0.4
	0.4nm,0.3s,baz=345,slow=12,SNR=15						
WRA				Sn	Sn	12 01 38.3	-13
	1.0nm,0.3s,baz=336,slow=22,SNR=11						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**17.34**	**166**	P	Pn	12 00 01.1	-0.1
	0.3nm,0.3s,baz=339,slow=9.6,SNR=28						
ASAR				S	Sn	12 02 59.6	-15
	0.6nm,0.4s,baz=342,slow=26,SNR=7.0						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**67.76**	**327**	P	P	12 06 57.3	+0.1
	0.2nm,0.5s,baz=122,slow=6.4,SNR=1.8						
	0.2nm,0.5s						

UPP 10 11:59:06.0±0.1, 67°.85N×20°.22E, h0km, ML1.7, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.12**	**22**	P	Pg	11 59 08.4	+0.2
KUA				S	Sg	11 59 10.4	+0.6
RATU	**Laukkuluspa**	**0.24**	**265**	P	Pg	11 59 10.7	+0.1
KOVU	**Salmi**	**0.38**	**357**	P	Pg	11 59 13.5	+0.2
NIKU	**Nikkaluokta**	**0.45**	**273**	P	Pg	11 59 14.6	0.0
LANU	**Lannavaara**	**0.70**	**72**	P	Pg	11 59 19.2	-0.2
SALU	**Saltoluokta**	**0.81**	**235**	P	Pg	11 59 21.5	+0.1

BER 10 11:59:46.7±1.2, 60°.16N×11°.78E, h0km, ML0.7, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NC602	**NORSAR Array S**	**0.59**	**349**	*eP*	Pg	11 59 57.0	-0.9
NC602				*eS*	Sg	12 00 05.4	-0.1
NC602				IAML		12 00 10.1	
	comp=Z,6.3nm,0.8s						
NAO01	**NORSAR Array S**	**0.81**	**328**	*eP*	Pg	12 00 02.3	+0.1
NAO01				IAML		12 00 21.9	
	comp=Z,3.0nm,0.6s						
NB201	**NORSAR Array S**	**0.92**	**345**	*eP*	Pg	12 00 03.1	-1.2
NB201				IAML		12 00 24.2	
	comp=Z,6.1nm,1.0s						
NBO00	**NORSAR Array S**	**1.00**	**331**	*eP*	Pg	12 00 04.5	-1.3
NBO00				IAML		12 00 22.9	
	comp=Z,1.4nm,0.2s						
STRU	**Stroemstad**	**1.17**	**195**	*eP*	Pg	12 00 07.6	-1.5
NC204	**NORSAR Array S**	**1.22**	**336**	*eP*	Pg	12 00 07.8	-2.4
NC204				*eS*	Sg	12 00 24.2	-1.7
NC204				IAML		12 00 28.1	
	comp=Z,2.0nm,0.6s						

*TAP **10** 12:15:34.0, 23°.89N×122°.97E, h22km, ML2.9, D*
*JMA **10** 12:15:35.6±0.2, 24°.N±1°×122°.9E±0°.6, h29km±4km, MV2.7/12, NEAR ISHIGAKIJIMA ISLAND*

ISC 10 12:15:33.6±1.2, 23°.82N±0°.02×122°.93E±0°.02, h19km±3km, n96, σ0°89/187, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.62**	**1**	P	**Pb**	**12 15 45.5**	**-0.4**
JYNG				*eS*	**Sb**	**12 15 52.5**	**-1.7**
EOS4	**EOS4**	**0.64**	**298**	P	**Pg**	**12 15 46.3**	**+0.2**
EOS4				*eS*	**Sg**	**12 15 54.9**	**+0.4**
YOJ	**Yonaguni jima**	**0.64**	**6**	*iP*	**Pb**	**12 15 45.9**	**-0.2**
YOJ				*iS*	**Sb**	**12 15 52.8**	**-1.8**
YOJ	**Yonaguni jima**	**0.64**	**6**	*eP*	**Pb**	**12 15 45.9**	**-0.2**
YOJ				*eS*	**Sb**	**12 15 52.8**	**-1.8**
EOS3	**EOS3**	**0.73**	**309**	*eP*	**Pg**	**12 15 47.8**	**-0.1**
EOS3				*eS*	**Sg**	**12 15 58.0**	**+0.4**

HATJ	**Hateruma jima**	**0.83**	**74**	P	**Pn**	**12 15 50.6**	**+0.3**
HATJ				*eS*	**Sn**	**12 16 02.1**	**+0.1**
EOS2	**EOS2**	**0.87**	**313**	*eP*	**Pg**	**12 15 50.5**	**-0.1**
EOS2				*eS*	**Sn**	**12 16 02.6**	**-0.3**
IRIF	**Iriomote-Funau**	**0.89**	**55**	P	**Pg**	**12 15 50.8**	**-0.1**
JKRS	**Kuro-shima**	**1.07**	**67**	*eP*	**Pg**	**12 15 54.5**	**+0.1**
TEYL	**Yanliau Villag**	**1.22**	**272**	*iP*	**Pn**	**12 15 56.0**	**+0.3**
TEYL				*iS*	**Sn**	**12 16 12.1**	**+0.4**
JIJ	**Ishigaki jima**	**1.23**	**64**	*eP*	**Pb**	**12 15 56.5**	**+0.3**
ENA	**Nanau**	**1.25**	**299**	*iP*	**Pb**	**12 15 56.5**	**0.0**
ENA				*iS*	**Sn**	**12 16 13.1**	**+0.8**
TWD	**Chiawan**	**1.25**	**282**	*iP*	**Pn**	**12 15 55.5**	**-0.5**
TWD				S	**Sb**	**12 16 11.8**	**-0.6**
SHUL	**Shoufeng**	**1.26**	**269**	*iP*	**Pn**	**12 15 55.8**	**-0.4**
SHUL				*iS*	**Sn**	**12 16 13.5**	**+1.0**
TWC	**Suao**	**1.26**	**309**	*iP*	**Pn**	**12 15 56.5**	**+0.2**
TWC				S	**Sb**	**12 16 11.8**	**-0.9**
NACB	**Ninganchiao**	**1.27**	**286**	*iP*	**Pn**	**12 15 56.3**	**-0.1**
NACB				*eS*	**Sb**	**12 16 12.9**	**-0.1**
ETM	**Tongmen**	**1.33**	**276**	P	**Pn**	**12 15 57.2**	**0.0**
ETM				S	**Sn**	**12 16 14.0**	**-0.3**
EGS		**1.37**	**318**	*iP*	**Pb**	**12 15 58.6**	**0.0**
EGS				*eS*	**Sb**	**12 16 16.0**	**+0.3**
NDS	**Dongshan**	**1.37**	**306**	*iP*	**Pn**	**12 15 57.0**	**-0.8**
NDS				S	**Sn**	**12 16 15.1**	**-0.4**
ESL	**Shilin**	**1.37**	**270**	*iP*	**Pn**	**12 15 57.4**	**-0.4**
ESL				*iS*	**Sn**	**12 16 14.1**	**-1.4**
ETLH	**Xiulin Townshi**	**1.38**	**286**	*iP*	**Pn**	**12 15 57.4**	**-0.6**
ETLH				S	**Sn**	**12 16 16.1**	**+0.3**
EGFH	**Guangfu**	**1.39**	**264**	*iP*	**Pn**	**12 15 58.1**	**+0.1**
EGFH				*iS*	**Sn**	**12 16 15.4**	**-0.4**
WARBT	**Fenglin Townsh**	**1.42**	**266**	*iP*	**Pn**	**12 15 58.2**	**-0.3**
WARBT				*iS*	**Sn**	**12 16 14.9**	**-1.8**
HGSD	**Ruisui**	**1.42**	**257**	*iP*	**Pn**	**12 15 58.2**	**-0.2**
HGSD				*iS*	**Sn**	**12 16 15.6**	**-1.1**
ECBN	**Changbin**	**1.45**	**250**	*iP*	**Pn**	**12 15 59.4**	**+0.6**
ECBN				S	**Sn**	**12 16 17.2**	**-0.1**
TWB1	**Santiao Chiao**	**1.46**	**324**	*iP*	**Pn**	**12 15 59.1**	**+0.1**
TWB1				*iS*	**Sb**	**12 16 17.9**	**-0.5**
TWE	**Neicheng**	**1.46**	**308**	*iP*	**Pb**	**12 16 00.1**	**-0.1**
TWE				*iS*	**Sb**	**12 16 18.6**	**+0.2**
LATG	**Datong**	**1.47**	**299**	*iP*	**Pb**	**12 16 00.7**	**+0.3**
LATG				*iS*	**Sb**	**12 16 18.9**	**+0.2**
JISG	**Ishigakijimahi**	**1.47**	**59**	*eP*	**Pb**	**12 16 00.1**	**-0.2**
JISG				*eS*	**Sb**	**12 16 19.1**	**+0.5**
ENTT	**Nioudou**	**1.49**	**303**	*iP*	**Pb**	**12 16 01.2**	**+0.5**
ENTT				S	**Sg**	**12 16 20.7**	**-1.1**
EHYH	**Wanrong**	**1.49**	**258**	*iP*	**Pn**	**12 15 59.9**	**+0.5**
EHYH				S	**Sn**	**12 16 18.1**	**-0.3**
EHY	**Hungye**	**1.51**	**258**	*iP*	**Pn**	**12 15 60.0**	**+0.3**
EHY				*iS*	**Sn**	**12 16 19.2**	**+0.3**
TIPB	**Shuangxi**	**1.52**	**319**	*iP*	**Pn**	**12 16 00.3**	**+0.4**
TIPB				S	**Sb**	**12 16 20.2**	**-0.1**
NNSB	**Datong**	**1.54**	**293**	*iP*	**Pn**	**12 16 01.0**	**+0.8**
NNSB				*eS*	**Sb**	**12 16 20.4**	**-0.4**
FUSB	**Fushanzhiwuyua**	**1.54**	**307**	*iP*	**Pb**	**12 16 02.1**	**+0.5**
FUSB				S	**Sb**	**12 16 21.9**	**+1.1**
CHKH	**Chenggong**	**1.55**	**246**	*iP*	**Pn**	**12 16 00.1**	**-0.1**
CHKH				*iS*	**Sn**	**12 16 18.3**	**-1.4**
NNS	**Nan Shan**	**1.55**	**294**	*iP*	**Pn**	**12 16 01.2**	**+0.9**
NNS				S	**Sn**	**12 16 20.3**	**+0.3**
EYUL	**Yuli**	**1.56**	**253**	P	**Pn**	**12 15 58.8**	**-1.5**
EYUL				S	**Sn**	**12 16 21.0**	**+1.0**
WHF	**Hehuan Shan**	**1.56**	**282**	P	**Pn**	**12 16 01.1**	**+0.3**
WHF				*eS*	**Sb**	**12 16 22.2**	**+0.5**
YULB	**Yu-li**	**1.56**	**254**	*iP*	**Pn**	**12 16 00.8**	**+0.4**
YULB				*iS*	**Sn**	**12 16 21.7**	**+0.6**
TWF1	**Yuli**	**1.57**	**253**	*iP*	**Pn**	**12 16 00.4**	**-0.1**
TWF1				*iS*	**Sn**	**12 16 21.2**	**+0.7**
SXI1	**Grass Mountain**	**1.59**	**323**	*iP*	**Pn**	**12 16 01.2**	**+0.3**
SXI1				*iS*	**Sb**	**12 16 22.9**	**+0.7**
FUSS	**Fushou**	**1.60**	**286**	*iP*	**Pn**	**12 16 01.9**	**+0.8**
FUSS				*eS*	**Sn**	**12 16 22.3**	**+0.8**
CHKT	**Chengkung**	**1.61**	**244**	*iP*	**Pn**	**12 16 00.8**	**-0.2**
CHKT				S	**Sn**	**12 16 20.5**	**-0.8**
NWLT	**Wulai**	**1.61**	**306**	*iP*	**Pn**	**12 16 02.1**	**+0.9**
NWLT				S	**Sb**	**12 16 23.0**	**+0.1**
OWD	**Renai**	**1.61**	**275**	*iP*	**Pn**	**12 16 01.2**	**0.0**
OWD				S	**Sn**	**12 16 21.3**	**-0.3**
NWF	**Wu-fen Shan**	**1.63**	**320**	*iP*	**Pn**	**12 16 01.9**	**+0.5**
NWF				S	**Sb**	**12 16 23.6**	**+0.3**
WFSB	**Wu-fen Shan**	**1.63**	**320**	*iP*	**Pn**	**12 16 01.9**	**+0.6**
WFSB				*eS*	**Sn**	**12 16 21.4**	**-0.4**
FULB	**Fuli**	**1.63**	**248**	*iP*	**Pn**	**12 16 01.3**	**0.0**
FULB				*iS*	**Sn**

EAST	**Anshuo**	**2.40**	**234**	*i* P	**Pn**	**12**	**16**	**13.1 +1.2**
EAST				S	**Sn**	**12**	**16**	**42.0 +1.2**
SCST	**Cishan**	**2.43**	**248**	*i* P	**Pn**	**12**	**16**	**14.6 +2.3**
SCST				*e*S	**Sb**	**12**	**16**	**47.1 +0.8**
MASBT	**Mashibuluo**	**2.44**	**241**	*i* P	**Pn**	**12**	**16**	**13.9 +1.5**
MASBT				*e*S	**Sn**	**12**	**16**	**43.1 +1.4**
WSL	**Shuilin Townsh**	**2.50**	**264**	*i* P	**Pn**	**12**	**16**	**15.5 +2.3**
WSL				S	**Sb**	**12**	**16**	**47.0 -1.3**
SCZT	**Fangliau**	**2.57**	**236**	*i* P	**Pn**	**12**	**16**	**16.6 +2.3**
SCZT				*e*S	**Sn**	**12**	**16**	**46.1 +1.0**
TSCK	**Chigu Township**	**2.70**	**256**	*i* P	**Pn**	**12**	**16**	**18.4 +2.4**
TSCK				S	**Sn**	**12**	**16**	**51.6 +3.4**
WDGT	**Dungji**	**3.06**	**260**	*i* P	**Pn**	**12**	**16**	**22.3 +1.3**
WDGT				*e*S	**Sn**	**12**	**16**	**57.9 +0.9**
VWUC	**VWUC**	**3.38**	**291**	P	**Pn**	**12**	**16**	**26.1 +0.7**
VWUC				*e*S	**Sn**	**12**	**17**	**05.0 -0.1**
PTMZ	**Houxiangcun**	**3.68**	**290**	*i* P	**Pn**	**12**	**16**	**29.8 +0.3**
PTMZ				S	**Sn**	**12**	**17**	**11.3 -1.1**

*NEIC **10** 12:24:43.0±1.0, 39°.53N±0°.03×116°.54W±0°.03, h12km±8km, Error ellipse: s-maj=5.0km s-min=3.1km az=146.0*

REN 10 12:24:42.6±1.5, 39°.53N±0°.02×116°.50W±0°.03, h9km±8km, ML3.8/17, ML3.4/142(NEIC), Error ellipse: s-maj=4.4km s-min=1.3km az=127.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q09A	**Carvers**	**0.87**	**218**		Pg	12 24 59.4	0.0
Q09A	**Carvers**	**0.87**	**218**		Sg	12 25 11.0	+0.3
R11B	**Troy Canyon, C**	**1.38**	**148**		Pb	12 25 08.4	-0.1
Q12A	**Willow Creek R**	**1.38**	**110**		Pg	12 25 09.4	+0.2
Q12A					Sg	12 25 27.8	+0.7
ELK	**Elko**	**1.55**	**38**		Pb	12 25 11.4	-0.2
ELK	**Elko**	**1.55**	**38**		Sb	12 25 32.0	+0.5
TPH	**Tonopah**	**1.56**	**202**		Pb	12 25 11.3	-0.3
TPH	**Tonopah**	**1.56**	**202**		Sb	12 25 32.0	+0.5
SPR3	**Spring Creek 3**	**1.76**	**107**		Pb	12 25 15.2	-0.1
RYN	**Ryan**	**1.81**	**241**		Pn	12 25 14.2	+0.1
RYN	comp=N,490nm,0.5s			IAML		12 25 41.2	
RYN	**Ryan**	**1.81**	**241**		Sg	12 25 40.1	-0.7
S11A	**Rachel**	**1.97**	**162**		Pb	12 25 17.8	-0.9
LHV	**Little Huntoon**	**2.02**	**231**		Pn	12 25 17.5	+0.8
LHV	**Little Huntoon**	**2.02**	**231**		Sb	12 25 45.5	+1.0
PAHR	**Pah Rah Range**	**2.23**	**276**		Pn	12 25 21.1	+1.2
PAHR	comp=N,197nm,0.5s			IAML		12 25 56.4	
PSUT	**Pine Spring**	**2.29**	**115**		Pn	12 25 21.5	+0.8
PSUT	comp=E,323nm,0.5s			IAML		12 25 56.4	
GMN	**Gold Mountain**	**2.30**	**195**		Pn	12 25 22.1	+1.2
PRN	**Pahroc Range**	**2.40**	**151**		Pn	12 25 23.7	+1.5
FSU	**Fish Springs**	**2.41**	**84**		Pn	12 25 23.7	+1.4
DSP	**Deep Springs**	**2.44**	**209**		Pn	12 25 23.7	+1.1
DSP	comp=N,134nm,1.0s			IAML		12 26 02.0	
DSP	comp=E,130nm,0.9s			IAML		12 26 03.5	
WAKR	**Walker**	**2.51**	**247**		Pn	12 25 23.8	+0.2
WAKR	comp=N,200nm,0.5s			IAML		12 26 02.6	
SGV	**South Grapevin**	**2.58**	**190**		Pn	12 25 26.1	+1.5
TPNV	**Topopah Spring**	**2.58**	**176**		Pn	12 25 25.4	+0.7
PEAR	**Peavine Mounta**	**2.68**	**273**		Pn	12 25 28.2	+2.2
WCT	**Wildcat Mounta**	**2.73**	**182**		Pn	12 25 27.9	+1.3
WCT	comp=N,161nm,0.6s			IAML		12 26 10.5	
MDPB	**Devils Postpil**	**2.77**	**228**		Pn	12 25 28.7	+1.4
NSP	**Numbskull Pass**	**2.80**	**175**		Pn	12 25 29.6	+1.9
MCY	**Mercury**	**2.89**	**171**		Pn	12 25 30.4	+1.5
DUG	**Dugway, Tooele**	**2.92**	**76**		Pn	12 25 31.4	+2.1
DUG	comp=N,165nm,0.4s			IAML		12 26 19.9	
DUG	comp=N,132nm,0.7s			IAML		12 26 22.4	
BEKR	**Beckworth**	**3.00**	**278**		Pn	12 25 31.4	+1.0
BEKR	comp=N,111nm,0.5s			IAML		12 26 19.9	
BEKR	comp=E,88nm,0.6s			IAML		12 26 21.8	
BGU	**Big Grassy Mou**	**3.00**	**61**		Pn	12 25 32.2	+1.8
BGU	comp=E,80nm,0.6s			IAML		12 26 11.2	
BGU	comp=N,71nm,0.6s			IAML		12 26 24.2	
FURC	**Furnace Creek,**	**3.07**	**185**		Pn	12 25 32.7	+1.5
AMDNV	**Amargosa**	**3.07**	**177**		Pn	12 25 33.5	+2.3
CCUT	**Cedar City**	**3.15**	**128**		Pn	12 25 33.9	+1.3
CCUT	comp=N,75nm,0.7s			IAML		12 26 24.1	
CCUT	comp=E,76nm,0.5s			IAML		12 26 27.3	
SHPR	**Sheep Range**	**3.20**	**160**		Pn	12 25 34.4	+1.3
TCRU	**Three Creeks R**	**3.29**	**105**	Pn	Pn	12 25 35.8	+1.4
TCRU	comp=E,66nm,0.8s			IAML		12 26 39.9	
TCRU	comp=N,61nm,0.8s			IAML		12 26 49.1	
SZCU	**Shurtz Canyon**	**3.30**	**125**	Pn	Pn	12 25 36.0	+1.5
SZCU	comp=E,131nm,0.3s			IAML		12 26 31.5	
SZCU	comp=N,127nm,0.3s			IAML		12 26 35.4	
WVOR	**Wild Horse Val**	**3.32**	**332**	Pn	Pn	12 25 35.7	+0.8
CWC	**Cottonwood Cre**	**3.33**	**203**		Pn	12 25 36.5	+1.6
GWY	**Greenwater Val**	**3.34**	**182**		Pn	12 25 35.2	+0.1
GWY	comp=E,126nm,0.6s			IAML		12 26 35.5	
CMB	**Columbia Colle**	**3.38**	**245**	Pn	Pn	12 25 36.0	+0.4
BUCR	**Buckhorn Ranch**	**3.41**	**238**	Pn	Pn	12 25 36.8	+0.8
WELL	**Weller Preserv**	**3.47**	**253**		Pn	12 25 37.2	+0.5
WELL	comp=N,79nm,0.3s			IAML		12 26 34.2	
WELL	comp=E,107nm,0.2s			IAML		12 26 35.4	
AFDM	**Forest Hills D**	**3.52**	**262**		Pn	12 25 38.6	+1.1
AFDM	comp=E,48nm,0.3s			IAML		12 26 38.3	
MPMC	**Manual Prospec**	**3.55**	**193**	Pn	Pn	12 25 39.8	+1.8
MPMC	comp=E,51nm,0.4s			IAML		12 26 38.8	
QSM	**Queen of Sheba**	**3.57**	**185**		Pn	12 25 40.3	+2.2
QSM	comp=E,63nm,0.7s			IAML		12 26 42.5	
QSM	comp=N,92nm,0.8s			IAML		12 26 43.0	
LCMT	**Little Creek M**	**3.59**	**133**		Pn	12 25 40.3	+1.9
HVU	**Hansel Valley**	**3.62**	**50**	Pn	Pn	12 25 40.5	+1.6
HVU	comp=E,64nm,0.5s			IAML		12 26 52.6	
HVU	comp=N,63nm,0.6s			IAML		12 26 54.3	
MTPU	**Mount Pierson**	**3.68**	**112**		Pn	12 25 42.0	+2.0
KNB	**Kanab**	**3.83**	**130**	Pn	Pn	12 25 42.9	+1.0
KNB	comp=N,37nm,0.9s			IAML		12 26 48.1	
MFID	**Camas Ranch**	**3.92**	**7**	Pn	Pn	12 25 42.0	-1.0
MFID	comp=N,79nm,0.7s			IAML		12 26 50.7	
MFID	comp=N,72nm,0.7s			IAML		12 26 51.5	
HATC	**Hat Creek Radi**	**4.01**	**290**	Pn	Pn	12 25 44.2	0.0
HATC	comp=E,48nm,1.1s			IAML		12 27 05.2	
HATC	comp=N,49nm,4.0s			IAML		12 27 32.1	
V12A	**Nelson**	**4.01**	**160**	Pn	Pn	12 25 44.6	+0.3
V12A	comp=N,49nm,0.5s			IAML		12 26 51.9	
V12A	comp=E,48nm,0.9s			IAML		12 26 55.7	
JLU	**Jordanelle**	**4.02**	**73**	Pn	Pn	12 25 44.8	+0.2
JLU	comp=N,36nm,0.5s			IAML		12 26 53.8	
JLU	comp=E,44nm,0.5s			IAML		12 26 54.0	
CCCA	**Chr Cany lake**	**4.05**	**190**	Pn	Pn	12 25 44.3	-0.5
TMUT	**Trail Mountain**	**4.11**	**92**	Pn	Pn	12 25 46.0	+0.2
TMUT	comp=N,63nm,0.7s			IAML		12 26 55.6	
TMUT	comp=E,47nm,0.8s			IAML		12 27 00.4	
O03E	**Paynes Creek**	**4.15**	**282**	Pn	Pn	12 25 45.4	-0.7
O03E	comp=E,42nm,0.9s			IAML		12 27 02.9	
MTOS	**Mt Oso, Westle**	**4.29**	**243**	Pn	Pn	12 25 49.2	+1.2
MTOS	comp=N,39nm,1.2s			IAML		12 27 11.2	
HWUT	**Hardware Ranch**	**4.29**	**59**		Pn	12 25 50.2	+2.0
HLID	**Hailey**	**4.33**	**21**		Pn	12 25 50.3	+1.6
HLID	comp=N,28nm,0.6s			IAML		12 27 02.7	
HLID	comp=N,36nm,0.8s			IAML		12 27 04.0	
P17A	**Butcher Ranch,**	**4.46**	**89**	Pn	Pn	12 25 50.4	0.0
BSUT	**Blindstream Ca**	**4.52**	**75**	Pn	Pn	12 25 51.1	-0.4
U15A	**North Rim**	**4.54**	**132**		Pn	12 25 50.0	-1.7
U15A	comp=N,36nm,0.5s			IAML		12 27 11.9	
U15A	comp=E,41nm,1.0s			IAML		12 27 14.6	
SRU	**San Rafael Swe**	**4.65**	**93**		Pn	12 25 53.0	-0.1
SRU	comp=N,28nm,0.8s			IAML		12 27 13.4	
SRU	comp=E,34nm,0.7s			IAML		12 27 17.5	
HMU	**Henry Mountain**	**4.77**	**108**	Pn	Pn	12 25 52.9	-2.0
HMU	comp=N,26nm,0.8s			IAML		12 27 42.3	
HMU	comp=E,29nm,0.7s			IAML		12 27 44.4	
CVS	**Carmenet Viney**	**4.79**	**258**	Pn	Pn	12 25 52.5	-2.4
CVS	comp=N,20nm,1.9s			IAML		12 27 19.0	
CVS	comp=E,29nm,2.1s			IAML		12 27 22.8	
P18A	**Preston Nutter**	**4.83**	**87**	Pn	Pn	12 25 53.7	-2.1
TPO	**Tropico Hills**	**4.84**	**197**	Pn	Pn	12 25 55.0	-0.6
TPO	comp=N,17nm,1.4s			IAML		12 27 25.3	
TPO	comp=E,18nm,1.4s			IAML		12 27 34.9	
W13A	**Hualapai Mount**	**4.89**	**154**		Pn	12 25 56.0	-0.4
W13A	comp=E,19nm,0.8s			IAML		12 27 22.7	
K04D	**Chiloquin, OR**	**5.03**	**310**	Pn	Pn	12 25 57.0	-1.3
K04D	comp=N,34nm,1.3s			IAML		12 27 38.5	
J05D	**Fort Rock, OR**	**5.17**	**318**		Pn	12 25 58.7	-1.5
J05D	comp=N,14nm,2.4s			IAML		12 27 40.7	
J05D	comp=E,15nm,3.9s			IAML		12 29 14.9	
AHID	**Auburn Hatcher**	**5.20**	**50**	Pn	Pn	12 26 00.6	-0.2
AHID	comp=E,14nm,0.8s			IAML		12 27 37.4	
AHID	comp=E,19nm,0.7s			IAML		12 27 47.2	
PINE	**Pine Mountain**	**5.41**	**323**	Pn	Pn	12 26 03.3	-0.2
IRM	**Iron Mountain**	**5.47**	**168**	Pn	Pn	12 26 03.5	-0.8
PV21	**Cone Mtn., Par**	**5.94**	**97**	Pn	Pn	12 26 09.2	-1.7
PV14	**Lion Creek, Pa**	**5.94**	**99**	Pn	Pn	12 26 10.8	-0.1
LOHW	**Long Hollow**	**6.02**	**45**	Pn	Pn	12 26 10.4	-1.6
BW06	**Boulder Array**	**6.16**	**56**	Pn	Pn	12 26 12.4	-1.4
PD31	**Pinedale Array**	**6.16**	**56**	Pn	Pn	12 26 12.3	-1.5
PDAR	**Pinedale Array**	**6.16**	**56**	Pn	Pn	12 26 11.2	-2.7
PV01	**Paradox Valley**	**6.35**	**100**		Pn	12 26 15.9	-0.5
X16A	**Lo Mia Camp, P**	**6.51**	**140**	Pn	Pn	12 26 18.4	-0.3

IDC 10 12:55:08.3±20.0, 17°.65S×178°.29W, h620km±262km, mb3.2/6, mbtmp4.2/6, Error ellipse: s-maj=88.8km s-min=28.7km az=86.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.85**	**241**	P	P	13 01 42.5	0.0
	3.6nm,0.8s,baz=77,slow=18,SNR=6.7						
	3.6nm,0.8s						
WRA	**Warramunga Arr**	**44.79**	**259**	P	P	13 02 29.0	-0.1
	2.2nm,0.3s,baz=95,slow=7.2,SNR=48						
	2.2nm,0.3s						
ASAR	**Alice Springs**	**44.97**	**254**	P	P	13 02 30.6	+0.1
	12nm,0.7s,baz=87,slow=8.9,SNR=158						
	12nm,0.7s						
QSPA	**South Pole Qui**	**72.41**	**180**	P	P	13 05 33.0	0.0
	2.6nm,0.7s,baz=49,slow=0.7,SNR=21						
	2.6nm,0.7s						
ILAR	**Eielson Array**	**85.61**	**13**	P	P	13 06 41.4	-0.8
	0.4nm,1.1s,baz=214,slow=4.5,SNR=5.0						
	0.4nm,1.1s						
TXAR	**Lajitas Array**	**85.76**	**58**	P	P	13 06 44.6	+0.8
	0.4nm,0.7s,baz=212,slow=5.8,SNR=6.5						
	0.4nm,0.7s						

*IDC **10** 13:13:17.5±0.9, 48°.38N×156°.95E, h0km, mb3.8/13, mbtmp3.8/17, ML3.3/3, MS3.1/3, Error ellipse: s-maj=24.5km s-min=16.3km az=126.0*

*KRSC **10** 13:13:19.2±1.6, 48°.50N×157°.64E, h23km±28km, Ml4.6*

*SKHL **10** 13:13:19.8±0.7, 48°.30N×157°.10E, h37km±7km, mb4.7/3*

*NEIC **10** 13:13:20.7±1.0, 48°.5N±0°.1×156°.8E±0°.1, h10km±2km, mb4.3/14, Error ellipse: s-maj=23.5km s-min=3.2km az=138.0*

*MOS **10** 13:13:21.1±0.8, 48°.45N×156°.93E, h38km, mb4.1/5, Error ellipse: s-maj=14.4km s-min=4.5km az=82.3*

ISC 10 13:13:22.8±0.7, 48°.44N±0°.07×156°.96E±0°.07, h35km, n110, σ1§32/123, mb4.2/24, 5C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.31**	**347**	*i* PN	**Pn**	**13 13 57.9**	**-0.5**
SKR	**Severo-Kuril's**	**2.31**	**347**	*e*P	**Pn**	**13 13 57.9**	**-0.5**
SKR				*e*S	**Sn**	**13 14 25.7**	**+0.1**
SKR	**Severo-Kuril's**	**2.31**	**347**	*e*P	**Pn**	**13 13 57.9**	**-0.5**
SKR				AMB	AMB	13 13 58.5	
	90nm,0.3s						
SKR				*e*S	**Sn**	**13 14 25.4**	**-0.2**
SKR				A	A	13 14 27.2	
	800nm,0.4s						
SKR				A	A	13 14 27.2	
	960nm,0.4s						
PAU	**Pauzhetka**	**3.03**	**358**	PN	**Pn**	**13 14 08.2**	**-0.1**
PAU				S	**Sn**	**13 14 43.8**	**+0.5**
PAU	**Pauzhetka**	**3.03**	**358**	*e*P	**Pn**	**13 14 08.2**	**-0.1**
PAU				*e*S	**Sn**	**13 14 43.9**	**+0.5**
PAU	**Pauzhetka**	**3.03**	**358**	*e*P	**Pn**	**13 14 08.1**	**-0.2**
PAU				AMB	AMB	13 14 10.4	
	90nm,0.3s						
PAU				*e*S	**Sn**	**13 14 43.8**	**+0.5**
PAU				A	A	13 14 44.8	
	470nm,0.2s						
PAU				A	A	13 14 44.8	
	330nm,0.2s						
RUS	**Russkaya**	**4.12**	**13**	PN	**Pn**	**13 14 22.2**	**-1.0**
RUS	**Russkaya**	**4.12**	**13**	*e*P	**Pn**	**13 14 22.2**	**-1.0**
RUS				*e*S	**Sn**	**13 15 08.9**	**-1.2**
RUS	**Russkaya**	**4.12**	**13**	*e*P	**Pn**	**13 14 22.2**	**-1.0**
MTVR	**Mutnovka**	**4.12**	**10**	PN	**Pn**	**13 14 23.0**	**-0.4**
MTVR				S	**Sn**	**13 15 10.7**	**+0.2**
MTVR	**Mutnovka**	**4.12**	**10**	*e*P	**Pn**	**13 14 23.1**	**-0.4**
MTVR				*e*S	**Sn**	**13 15 10.7**	**+0.2**
GRL	**Gorelyy**	**4.18**	**9**	PN	**Pn**	**13 14 24.0**	**-0.1**
GRL				S	**Sn**	**13 15 11.6**	**-0.2**
GRL	**Gorelyy**	**4.18**	**9**	*e*P	**Pn**	**13 14 24.1**	**-0.1**
GRL				*e*S	**Sn**	**13 15 11.6**	**-0.2**
KRMR	**Karymshinskiy**	**4.46**	**9**	PN	**Pn**	**13 14 28.2**	**+0.3**
KRMR				S	**Sn**	**13 15 20.1**	**+1.6**
KRMR	**Karymshinskiy**	**4.46**	**9**	*e*P	**Pn**	**13 14 28.2**	**+0.3**
KRMR				*e*S	**Sn**	**13 15 20.1**	**+1.6**
KRMR	**Karymshinskiy**	**4.46**	**9**	*e*P	**Pn**	**13 14 28.2**	**+0.3**
PEA0B	**Petropavlovsk-**	**4.70**	**5**	Pn	**Pn**	**13 14 31.6**	**+0.4**
PEA0B	**Petropavlovsk-**	**4.70**	**5**	*i* PN	**Pn**	**13 14 31.1**	**-0.1**
PETK	**Petropavlovsk-**	**4.70**	**5**	Pn	**Pn**	**13 14 32.1**	**+0.9**
PETK	**Petropavlovsk-**	**4.70**	**5**	Pn	**Pn**	**13 14 31.2**	**0.0**
	2.1nm,0.3s,baz=158,slow=20,SNR=18						
PETK				Sn	**Sn**	**13 15 28.2**	**+3.8**
	1.0nm,0.3s,baz=185,slow=15,SNR=1.7						
	4.6nm,0.4s						
PET	**Petropavlovsk**	**4.72**	**13**	Pn	**Pn**	**13 14 31.0**	**-0.4**
PET	**Petropavlovsk**	**4.72**	**13**	*e*PN	**Pn**	**13 14 31.0**	**-0.4**
PET	**Petropavlovsk**	**4.72**	**13**	*e*P	**Pn**	**13 14 31.3**	**-0.1**
PET				*e*S	**Sn**	**13 15 24.7**	**-0.1**
PET	**Petropavlovsk**	**4.72**	**13**	*e*P	**Pn**	**13 14 30.9**	**-0.5**
PET				AMB	AMB	13 14 31.4	
	40nm,0.4s						
PET				*e*S	**Sn**	**13 15 24.2**	**-0.6**
PET				A	A	13 15 25.4	
	140nm,0.5s						
PET				A	A	13 15 25.4	
	70nm,0.5s						
DALK	**Dalny**	**4.74**	**13**	PN	**Pn**	**13 14 30.9**	**-0.8**
DALK	**Dalny**	**4.74**	**13**	*e*P	**Pn**	**13 14 30.9**	**-0.8**
DALK				*e*S	**Sn**	**13 15 24.9**	**-0.4**
INSR	**Institute**	**4.75**	**12**	PN	**Pn**	**13 14 31.5**	**-0.3**
INSR	**Institute**	**4.75**	**12**	*e*P	**Pn**	**13 14 31.6**	**-0.3**
INSR				*e*S	**Sn**	**13 15 25.7**	**0.0**
UGLR	**Uglovaya**	**4.92**	**13**	PN	**Pn**	**13 14 36.0**	**+1.7**
UGLR	**Uglovaya**	**4.92**	**13**	*e*P	**Pn**	**13 14 36.0**	**+1.7**
AVH	**Avacha**	**4.96**	**12**	PN	**Pn**	**13 14 35.5**	**+0.7**
AVH	**Avacha**	**4.96**	**12**	*e*P	**Pn**	**13 14 35.6**	**+0.7**
SMAR	**Somma**	**4.97**	**13**	PN	**Pn**	**13 14 36.3**	**+1.2**
SMAR	**Somma**	**4.97**	**13**	*e*P	**Pn**	**13 14 36.3**	**+1.2**
NLC	**Nalytchevo**	**4.97**	**17**	*e*S	**Sn**	**13 15 28.7**	**-2.4**
KOK	**Koryaka**	**4.98**	**12**	PN	**Pn**	**13 14 35.8**	**+0.8**
KOK	**Koryaka**	**4.98**	**12**	*e*P	**Pn**	**13 14 35.9**	**+0.8**
KOK	**Koryaka**	**4.98**	**12**	*e*P	**Pn**	**13 14 35.8**	**+0.8**
SDLR	**Sedlovina**	**5.00**	**13**	PN	**Pn**	**13 14 35.1**	**-0.3**
SDLR	**Sedlovina**	**5.00**	**13**	*e*P	**Pn**	**13 14 35.1**	**-0.3**
KRX	**Arik**	**5.04**	**12**	PN	**Pn**	**13 14 36.2**	**+0.2**
KRX	**Arik**	**5.04**	**12**	*e*P	**Pn**	**13 14 36.3**	**+0.2**
SPN	**Mys Shipunski**	**5.05**	**21**	PN	**Pn**	**13 14 35.9**	**-0.1**
SPN	**Mys Shipunski**	**5.05**	**21**	*e*P	**Pn**	**13 14 36.0**	**-0.1**
SPN	**Mys Shipunski**	**5.05**	**21**	*e*P	**Pn**	**13 14 35.9**	**-0.1**
MKZ	**Mys Kozlova**	**6.81**	**24**	PN	**Pn**	**13 14 59.0**	**-1.1**
MKZ	**Mys Kozlova**	**6.81**	**24**	*e*P	**Pn**	**13 14 59.0**	**-1.1**
MKZ	**Mys Kozlova**	**6.81**	**24**	*e*P	**Pn**	**13 14 59.0**	**-1.1**
KUR	**Kuril'sk**	**7.01**	**246**	*e*P	**Pn**	**13 15 00.2**	**-2.7**
KUR				*e*S	**Sn**	**13 16 18.7**	**-2.6**
TUMD	**Tumrok D**	**7.10**	**16**	PN	**Pn**	**13 15 04.0**	**-0.2**
TUMD	**Tumrok D**	**7.10**	**16**	*e*P	**Pn**	**13 15 04.0**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**8.86**	**244**	*e*PN	Pn	13 15 35.0	+6.8
YUK	comp=Z,4.0nm,1.3s			pmax	pmax		
YUK	**Yuzh-Kuril'sk**	**8.86**	**244**	*e*P	**Pn**	**13 15 28.7**	**+0.5**
JKA	**Kamikawa-asahi**	**10.83**	**252**	Pn	**Pn**	**13 15 54.7**	**-0.6**
JKA	**Kamikawa-asahi**	**10.83**	**252**	*e*P	**Pn**	**13 15 54.4**	**-0.9**
ASAJ	**Asahikawa**	**10.84**	**252**	Pn	**Pn**	**13 15 54.4**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=68,slow=14,SNR=6.8						
	comp=Z,3.8nm,0.5s						
MA2	**Magadan**	**11.73**	**344**	LR	LR	13 20 04.4	
	comp=Z,29nm,21.7s,baz=104,slow=34						
AMKA	**Amchitka**	**14.68**	**70**	Pn	**P**	**13 16 50.8**	**-2.7**
USRK	**Ussuriysk Ar.**	**17.73**	**266**	P	**Pn**	**13 17 25.0**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=61,slow=13,SNR=2.5						
	comp=Z,1.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**17.73**	**266**	P	**Pn**	**13 17 25.0**	**-1.7**
MJA0	**Matsu Arr-Jizo**	**18.16**	**236**	*e*P	**P**	**13 17 33.7**	**+1.6**
MJA0	comp=Z,2.0nm,0.8s			pmax	pmax		
MJAR	**Matsushiro Arr**	**18.18**	**236**	P	**P**	**13 17 31.2**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=45,slow=12,SNR=6.1						
KSRS	**Korea Array**	**23.78**	**253**	P	**P**	**13 18 32.2**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=49,slow=12,SNR=4.4						
	comp=Z,0.9nm,0.5s						
KSRS	**Korea Array**	**23.78**	**253**	*e*P	**P**	**13 18 36.2**	**+4.2**
KSRS	comp=Z,2.0nm,1.0s			pmax	pmax		
KSRS	**Korea Array**	**23.78**	**253**	*e*P	**P**	**13 18 36.2**	**+4.2**
M17K	**Holitna River**	**28.58**	**46**	P	**P**	**13 19 16.4**	**+1.2**
M17K	comp=Z,9.4nm,1.4s			IAmb	IAmb	13 19 54.5	
D20K	**Etivluk River**	**30.45**	**31**	P	**P**	**13 19 32.6**	**+1.0**
D20K	comp=Z,8.4nm,1.4s			IAmb	IAmb	13 19 55.0	
OHAK	**Old Harbor**	**30.68**	**54**	P	**P**	**13 19 33.7**	**-0.1**
OHAK				IAmb	IAmb	13 19 33.8	
H11S1	**WAKE ISLAND Hy**	**30.89**	**162**	T	T	13 53 06.3	
	baz=345						
H11S3	**WAKE ISLAND Hy**	**30.90**	**162**	T	T	13 53 09.8	
	baz=345						
H11S2	**WAKE ISLAND Hy**	**30.91**	**162**	T	T	13 53 02.9	
	baz=345						
D22K	**Ayikyak River**	**31.87**	**32**	P	**P**	**13 19 45.5**	**+1.4**
G24K	**Hadweenzic Riv**	**33.46**	**37**	P	**P**	**13 19 59.8**	**+1.7**
G24K	comp=Z,5.1nm,1.4s			IAmb	IAmb	13 20 09.6	
ILAR	**Eielson Array**	**33.59**	**40**	P	**P**	**13 19 59.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=248,slow=8.1,SNR=6.9						
	comp=Z,0.3nm,0.6s						
BMAR	**Burnt Mountain**	**34.65**	**35**	P	**P**	**13 20 10.2**	**+1.8**
DOT	**Dot Lake**	**34.84**	**42**	P	**P**	**13 20 10.7**	**+0.5**
C27K	**Jago River**	**35.14**	**32**	P	**P**	**13 20 14.2**	**+1.5**
C27K	comp=Z,3.5nm,1.2s			IAmb	IAmb	13 20 37.2	
BCAR	**Beaver Creek A**	**35.91**	**43**	P	**P**	**13 20 20.6**	**+1.3**
EGAK	**Eagle**	**36.05**	**40**	P	**P**	**13 20 21.0**	**+0.6**
H29M	**Whitestone**	**37.11**	**37**	P	**P**	**13 20 31.2**	**+1.7**
H29M	comp=Z,5.5nm,1.4s			IAmb	IAmb	13 20 53.2	
ZALV	**Zalesovo Beam**	**43.74**	**306**	LR	LR	13 42 21.5	
	comp=Z,31nm,18.2s,baz=112,slow=40						
MK31	**Makanchi Array**	**48.47**	**298**	*d* iP	**P**	**13 22 01.9**	**+0.2**
MKAR	**Makanchi Array**	**48.47**	**298**	P	**P**	**13 22 01.4**	**-0.3**
MKAR	**Makanchi Array**	**48.47**	**298**	P	**P**	**13 22 01.6**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=61,slow=8.7,SNR=6.1						
	comp=Z,0.9nm,0.7s						
KURK	**Kurchatov**	**48.59**	**304**	P	**P**	**13 22 02.2**	**-0.3**
KURK				IAmb	IAmb	13 22 04.0	
	comp=Z,2.7nm,0.8s						
KURK	**Kurchatov**	**48.59**	**304**	*e*P	**P**	**13 22 02.1**	**-0.4**
KURK	comp=Z,1.0nm,0.7s			pmax	pmax		
KURK	**Kurchatov**	**48.59**	**304**	*e*P	**P**	**13 22 02.1**	**-0.4**
KURBB	**Kurchatov Arra**	**48.69**	**304**	P	**P**	**13 22 03.0**	**-0.3**
	comp=Z,1.0nm,0.2s,baz=64,slow=8.1,SNR=11						
	comp=Z,1.0nm,0.2s						
BVAR	**Borovoye Array**	**51.78**	**310**	P	**P**	**13 22 26.5**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=57,slow=7.7,SNR=4.1						
	comp

IDC ***10*** *13:40:56.5±0.7,23˙69N±44˙88W,h0km,mb4.2/25, mbtmp4.2/25,MS4.1/62,Error ellipse: s-maj=20.4km s-min=13.9km az=166.0*

NEIC ***10*** *13:40:58.8±1.6,23˙66N±0˙09×44˙88W±0˙09,h10km±1km, mb4.8/203, Error ellipse: s-maj=19.3km s-min=6.8km az=135.0*

GCMT ***10*** *13:41:01.8±0.2,23˙69N±0˙01×44˙84W±0˙01,h21km±1km, MW5.0/121,Moment Tensor Solution. s42,c49; s121,c191; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.69±.15; Mθθ-0.91±.12; Mϕϕ1.61±.11; Mrθ0.74±.22; Mθϕ-3.60±.10; Mϕr0.41±.18; Best double couple: Mo3.93400×10¹⁶ NP1:ϕs189.00000°,δ78.00000°, λ-10.00000°. NP2:ϕs281.00000°,δ80.00000°, λ-168.00000°. Principal axes: T 4.1640, Plg1.0000°, Azm55.0000°; N -0.4600, Plg74.0000°, Azm321.0000°; P -3.7030, Plg16.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 13:40:59.1±0.4,23˙63N±0˙09×44˙90W±0˙06,h15km,n244, c0s80/139,mb4.8/116,MS4.1/64,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05N1	**Guadeloupe/Mar**	**16.83**	**247**	T	T	14 02 32.7	
	SNR=4.1						
GDSD	**La Dsirade Is**	**16.84**	**247**	Pn	**Pn**	**13 44 54.4**	**0.0**
MAGL	**Barre de l'ile**	**17.19**	**247**		**P**	**13 45 00.9**	**+0.5**
GDHS	**Morne Mazeau,**	**17.45**	**248**		**Pn**	**13 45 03.0**	**+0.9**
ILAM	**Ilet Lapin Mar**	**17.45**	**243**		**Pn**	**13 45 02.8**	**+0.8**
ILAM				IAmb	IAmb	13 45 09.5	
	comp=Z,55nm,0.9s						
SVN	**Savane Anatole**	**17.66**	**243**		**Pn**	**13 45 04.7**	**0.0**
FDF	**Fort de France**	**17.70**	**243**		**P**	**13 45 06.8**	**+0.7**
MDP	**Montagnes des**	**19.88**	**203**	LR	LR	13 51 23.3	
	comp=Z,366nm,20.9s,baz=26,slow=31						
HUMP	**Col San Antoni**	**20.31**	**258**	P	**P**	**13 45 35.3**	**+0.7**
GCPR	**Guaynabo City**	**20.47**	**259**	P	**P**	**13 45 36.2**	**-0.1**
PDPR	**Patillas Dam,**	**20.50**	**258**		**P**	**13 45 36.2**	**-0.5**
SJG	**San Juan**	**20.59**	**259**	P	Pn	13 45 39.3	-0.6
	comp=Z,8.7nm,0.3s,baz=123,slow=8.0,SNR=3.2						
SJG				LR	LR	13 51 45.4	
	comp=Z,377nm,21.2s,baz=70,slow=32						
	comp=Z,8.7nm,0.3s						
CELP	**Cerrillos**	**20.99**	**259**		**P**	**13 45 41.9**	**0.0**
CELP				IAmb	IAmb	13 45 53.9	
	comp=Z,38nm,1.2s						
OBIP	**Obispado Ponce**	**21.02**	**259**	P	**P**	**13 45 41.4**	**-1.0**
OBIP				IAmb	IAmb	13 45 43.5	
	comp=Z,39nm,1.0s						
AOPR	**Arecibo Observ**	**21.06**	**260**	P	**P**	**13 45 42.2**	**-0.6**
AOPR				IAmb	IAmb	13 45 51.6	
	comp=Z,56nm,1.2s						
CRPR	**Cabo Rojo, PR**	**21.49**	**259**	P	**P**	**13 45 47.3**	**0.0**
CRPR				IAmb	IAmb	13 45 50.5	
	comp=Z,42nm,1.2s						
PCRV	**Puerto La Cruz**	**23.10**	**238**	LR	LR	13 53 48.6	
	comp=Z,493nm,21.6s,slow=33						
SDDR	**Presa de Saban**	**25.00**	**264**		**P**	**13 46 23.0**	**+0.5**
SDDR				IAmb	IAmb	13 46 42.6	
	comp=Z,18nm,1.0s						
PMOZ	**Porto Moniz, M**	**26.01**	**63**	*e*LR	LR	13 53 01.0	
PMOZ				*i* IAMs_20	IAMs_20	13 53 54.8	
	comp=Z,357nm,20.0s						
SDV	**Santo Domingo**	**28.65**	**243**	LR	LR	13 56 52.8	
	comp=Z,422nm,21.7s,baz=70,slow=33						
WES	**Weston**	**28.81**	**317**	P	**P**	**13 46 57.0**	**+0.5**
WES				IAmb	IAmb	13 47 20.9	
	comp=Z,28nm,1.6s						
K62A	**Royalston**	**29.53**	**317**	P	**P**	**13 47 04.2**	**+1.3**
K62A				IAmb	IAmb	13 47 11.9	
	comp=Z,18nm,1.2s						
G62A	**West of Eustis**	**29.95**	**322**	P	**P**	**13 47 08.2**	**+1.5**
D62A	**Allapoint, All**	**30.36**	**326**	P	**P**	**13 47 10.7**	**+0.5**
RCBR	**Riachuelo**	**30.57**	**162**	LR	LR	13 56 08.2	
	comp=Z,114nm,21.2s,baz=328,slow=30						
MVL	**Millersville**	**31.10**	**309**	P	**P**	**13 47 16.8**	**0.0**
MVL				IAmb	IAmb	13 47 25.9	
	comp=Z,14nm,1.0s						
FRNY	**Flat Rock**	**31.51**	**319**	P	**P**	**13 47 20.6**	**+0.2**
FRNY				IAmb	IAmb	13 47 29.6	
	comp=Z,9.6nm,1.0s						
LDAQ	**Lac Daran**	**32.06**	**326**	P	**P**	**13 47 25.4**	**+0.1**
T57A	**Hurt**	**32.32**	**302**	P	**P**	**13 47 29.0**	**+1.4**
T57A				IAmb	IAmb	13 47 30.6	
	comp=Z,19nm,1.7s						
RUSC	**La Rusia**	**32.34**	**241**		**P**	**13 47 28.1**	**-0.5**
W57A	**Gilead**	**32.50**	**299**	P	**P**	**13 47 29.2**	**0.0**
W57A				IAmb	IAmb	13 47 32.5	
	comp=Z,11nm,0.9s						
BIRD	**Birdtown, Kers**	**32.78**	**298**	P	**P**	**13 47 31.8**	**0.0**
BIRD				IAmb	IAmb	13 47 35.1	
	comp=Z,19nm,1.2s						
BLA	**Blacksburg**	**33.28**	**302**	P	**P**	**13 47 37.0**	**+0.9**
BLA				IAmb	IAmb	13 47 40.0	
	comp=Z,16nm,1.1s						
JSC	**Jenkinsville**	**33.38**	**297**	P	**P**	**13 47 36.9**	**0.0**
JSC				IAmb	IAmb	13 47 46.3	
	comp=Z,9.8nm,0.9s						
KMSC	**Kings Mountain**	**33.58**	**298**	P	**P**	**13 47 39.1**	**+0.4**
KMSC				IAmb	IAmb	13 47 47.5	
	comp=Z,10nm,1.0s						
PAULI	**Pauline**	**33.91**	**298**	P	**P**	**13 47 41.6**	**0.0**
PAULI				IAmb	IAmb	13 47 50.6	
	comp=Z,8.7nm,0.8s						
ROSC	**El Rosal**	**33.95**	**241**	LR	LR	14 01 17.1	
	comp=Z,336nm,21.5s,baz=31,slow=36						
HODGE	**Hodges**	**34.19**	**297**	P	**P**	**13 47 44.5**	**+0.6**
HODGE				IAmb	IAmb	13 47 47.4	
	comp=Z,14nm,1.1s						
PVAQ	**Vaqueiros**	**34.62**	**58**	*e*LR	LR	13 57 18.2	
PVAQ				*i* IAMs_20	IAMs_20	13 58 40.8	
	comp=Z,386nm,20.0s						
BG3	**Lake Jocassee**	**34.85**	**298**	P	**P**	**13 47 50.6**	**+1.0**
BG3				IAmb	IAmb	13 47 59.0	
	comp=Z,19nm,1.5s						
V53A	**Saluda**	**34.86**	**299**	P	**P**	**13 47 50.0**	**+0.2**
SADO	**Sadowa**	**34.93**	**316**	LR	LR	13 59 08.0	
	comp=Z,2μm,21.5s,baz=148,slow=31						
GOGA	**Godfrey**	**35.09**	**295**	P	**P**	**13 47 52.6**	**+0.9**
SCHQ	**Schefferville**	**35.18**	**338**	LR	LR	14 00 20.9	
	comp=Z,3μm,21.5s,baz=140,slow=33						
PMRV	**Marv??o**	**35.36**	**55**	*e*LR	LR	13 57 34.3	
PMRV				*i* IAMs_20	IAMs_20	13 59 41.1	
	comp=Z,369nm,20.0s						
PGAV	**Gavieira, Arco**	**35.47**	**50**	*e*LR	LR	13 57 18.2	
PGAV				*i* IAMs_20	IAMs_20	14 00 47.8	
	comp=Z,252nm,16.0s						
MTE	**Manteigas**	**35.51**	**53**	*e*LR	LR	13 57 42.4	
MTE				*i* IAMs_20	IAMs_20	13 58 58.0	
	comp=Z,368nm,22.0s						
TZTN	**Tazewell**	**35.59**	**300**	P	**P**	**13 47 55.8**	**-0.3**
TZTN				IAmb	IAmb	13 47 59.8	
	comp=Z,19nm,1.2s						
TKL	**Tuckaleechee C**	**35.63**	**299**	LR	LR	13 59 39.5	
	comp=Z,185nm,19.3s,baz=104,slow=32						
W52A	**Murphy**	**35.67**	**298**	IAmb	IAmb	13 48 00.2	
	comp=Z,10nm,0.8s						
Q51A	**Peebles**	**35.95**	**304**	P	**P**	**13 47 59.8**	**+0.7**
Q51A				IAmb	IAmb	13 48 02.2	
	comp=Z,12nm,0.9s						
152A	**Waverly Hall**	**36.07**	**293**	P	**P**	**13 48 01.2**	**+1.0**
MVO	**Moncorvo**	**36.11**	**52**	*e*LR	LR	13 57 50.4	
MVO				*i* IAMs_20	IAMs_20	13 59 23.3	
	comp=Z,382nm,20.0s						
X51A	**Calhoun**	**36.36**	**297**	IAmb	IAmb	13 48 11.7	
	comp=Z,16nm,0.9s						
MDT	**Midelt**	**36.49**	**66**	LR	LR	13 59 42.8	
	comp=Z,275nm,20.2s,baz=234,slow=31						
T50A	**Nancy**	**36.70**	**301**		**P**	**13 48 06.1**	**+0.5**
T50A				IAmb	IAmb	13 48 14.7	
	comp=Z,9.6nm,0.8s						
W50A	**Signal Mountai**	**36.81**	**298**	P	**P**	**13 48 07.2**	**+0.6**
FPAL	**Fort Paine**	**36.98**	**296**		**P**	**13 48 08.3**	**+0.4**
R49A	**Shelbyville**	**37.19**	**303**	P	**P**	**13 48 09.8**	**+0.1**
R49A				IAmb	IAmb	13 48 12.6	
	comp=Z,8.0nm,0.6s						
250A	**Grady**	**37.34**	**292**	P	**P**	**13 48 11.1**	**0.0**
250A				IAmb	IAmb	13 48 25.0	
	comp=Z,14nm,0.6s						
CLTN	**Cedars of Leba**	**37.74**	**299**	P	**P**	**13 48 15.1**	**+0.7**
ESDC	**Sonseca Array**	**37.99**	**55**	P	**P**	**13 48 16.4**	**-0.1**
	comp=Z,1.3nm,1.0s,baz=296,slow=7.5,SNR=3.8						
ESDC				LR	LR	14 00 38.7	
	comp=Z,352nm,19.8s,baz=260,slow=31						
	comp=Z,1.3nm,1.0s						
X48A	**Hartselle**	**38.15**	**296**	P	**P**	**13 48 18.4**	**+0.6**
Z47A	**Carrollton**	**38.91**	**294**	IAmb	IAmb	13 48 33.6	
	comp=Z,18nm,0.8s						
WVT	**Waverly**	**38.95**	**299**	P	**P**	**13 48 24.7**	**+0.1**
PLAL	**Pickwick Lake**	**39.04**	**297**	P	**P**	**13 48 25.9**	**+0.5**
BDFB	**Brasilia**	**39.15**	**185**	LR	LR	14 03 05.0	
	comp=Z,310nm,21.8s,baz=348,slow=34						
FVM	**French Village**	**41.23**	**301**	P	**P**	**13 48 43.5**	**0.0**
PTLB	**Pontes e Lacer**	**41.26**	**201**	P	**P**	**13 48 45.0**	**+1.2**
CCM	**Cathedral Cave**	**41.88**	**301**		**P**	**13 48 48.7**	**-0.2**
DBIC	**Dimbokro**	**41.98**	**107**	P	**P**	**13 48 49.5**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=289,slow=6.7,SNR=3.1						
DBIC				LR	LR	14 03 08.4	
	comp=Z,83nm,20.9s,baz=308,slow=32						
	comp=Z,3.0nm,0.7s						
FCAR	**Ozark Folk Cen**	**42.40**	**298**		**P**	**13 48 53.2**	**+0.1**
SIV	**San Ignacio**	**42.43**	**203**	LR	LR	14 05 02.7	
	comp=Z,241nm,21.9s,baz=94,slow=34						
WHAR	**Wooly Hollow**	**42.50**	**297**		**P**	**13 48 53.6**	**-0.3**
WHAR				IAmb	IAmb	13 49 02.2	
	comp=Z,17nm,1.0s						
X40A	**Basin Creek Fa**	**42.92**	**296**	P	**P**	**13 48 56.9**	**-0.4**
FRB	**Frobisher Bay**	**43.06**	**345**	LR	LR	14 04 48.8	
	comp=Z,336nm,20.7s,baz=128,slow=33						
H10N2	**ASCENSION HYDR**	**43.14**	**133**	T	T	14 35 05.2	
	baz=317,slow=75,SNR=241						
H10N3	**ASCENSION HYDR**	**43.14**	**133**	T	T	14 35 00.2	
	baz=317,slow=75,SNR=269						
H10N1	**ASCENSION HYDR**	**43.16**	**133**	T	T	14 35 05.8	
	baz=317,slow=75,SNR=297						
SFJD	**Kangerlussuaq**	**43.52**	**357**	LR	LR	14 04 17.0	
	comp=Z,228nm,18.2s,baz=177,slow=32						
H10S3	**ASCENSION HYDR**	**43.85**	**134**	T	T	14 36 01.9	
	baz=317,slow=74,SNR=314						
H10S2	**ASCENSION HYDR**	**43.87**	**134**	T	T	14 36 03.1	
	baz=263,slow=74,SNR=284						
BORG	**Borgarnes**	**43.90**	**14**	LR	LR	14 02 59.2	
	comp=Z,161nm,19.3s,baz=191,slow=30						
ATAH	**Atahualpa**	**44.78**	**231**	LR	LR	14 09 28.8	
	comp=Z,208nm,18.6s,baz=29,slow=38						
TORD	**Torodi Ar. Bea**	**45.26**	**95**		**P**	**13 49 15.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**45.26**	**95**	P	**P**	**13 49 15.2**	**-1.1**
	comp=Z,5.9nm,0.9s,baz=304,slow=9.0,SNR=22						
TORD				LR	LR	14 07 07.8	
	comp=Z,178nm,18.4s,baz=286,slow=35						
	comp=Z,5.9nm,0.9s						
LPAZ	**La Paz**	**45.71**	**212**	P	**P**	**13 49 21.3**	**+0.9**
LPAZ	**La Paz**	**45.71**	**212**	P	**P**	**13 49 20.5**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=17,slow=9.9,SNR=6.5						
LPAZ				LR	LR	14 07 22.8	
	comp=Z,453nm,21.2s,baz=28,slow=35						
	comp=Z,2.1nm,0.8s						
EPLO	**Experimental L**	**45.95**	**317**	IAmb	IAmb	13 49 30.3	
	comp=Z,11nm,1.0s						
TAM	**Tamanrasset**	**46.16**	**81**		**P**	**13 49 24.0**	**+0.5**
WHTX	**Lake Whitney,**	**46.84**	**292**	P	**P**	**13 49 29.6**	**+1.0**
KAN14	**Manchester OK**	**47.15**	**299**	P	**P**	**13 49 30.7**	**-0.2**
NNA	**Nana**	**47.21**	**225**	LR	LR	14 08 32.1	
	comp=Z,231nm,21.5s,baz=34,slow=35						
ULM	**Lac du Bonnet**	**47.44**	**317**	P	**P**	**13 49 32.6**	**-0.4**
	comp=Z,5.4nm,0.9s,baz=113,slow=9.7,SNR=3.9						
ULM				LR	LR	14 07 49.2	
	comp=Z,231nm,19.0s,baz=114,slow=34						
	comp=Z,5.4nm,0.9s						
PLPT	**Palo Pinto**	**47.52**	**294**	P	**P**	**13 49 34.1**	**+0.2**
PLPT				IAmb	IAmb	13 49 42.1	
	comp=Z,12nm,1.0s						
WMOK	**Wichita Mounta**	**47.83**	**296**	P	**P**	**13 49 35.9**	**-0.4**
WMOK				IAmb	IAmb	13 49 39.2	
	comp=Z,11nm,1.1s						
KEST	**Kesra**	**48.11**	**62**		**P**	**13 49 38.7**	**+0.2**
KEST	**Kesra**	**48.11**	**62**	P	**P**	**13 49 38.2**	**-0.3**
	comp=Z,9.1nm,1.0s,baz=250,slow=15,SNR=4.9						
	comp=Z,9.1nm,1.0s						
BRDY	**Brady**	**48.21**	**292**		**P**	**13 49 39.8**	**+0.5**
HNDO	**Hondo**	**48.62**	**289**	P	**P**	**13 49 42.9**	**+0.4**
HNDO				IAmb	IAmb	13 49 50.7	
	comp=Z,9.7nm,0.9s						
K30B	**Basset**	**48.70**	**307**	P	**P**	**13 49 43.5**	**+0.5**
APMT	**Aspermont**	**49.01**	**294**		**P**	**13 49 44.4**	**-1.0**
DAVOX	**Davos/Dischmat**	**49.23**	**48**	LR	LR	14 07 18.6	
	comp=Z,366nm,20.1s,baz=262,slow=32						
DRIO	**Del Rio**	**49.79**	**289**		**P**	**13 49 51.3**	**-0.2**
DRIO				IAmb	IAmb	13 49 59.6	
	comp=Z,8.5nm,1.1s						
OZNA	**Ozona**	**50.06**	**291**	P	**P**	**13 49 54.0**	**+0.5**
OZNA				IAmb	IAmb	13 50 02.0	
	comp=Z,12nm,1.1s						
CTI	**Castel Tesino**	**50.35**	**49**	P	**P**	**13 49 54.8**	**-0.8**
CPUP	**Villa Florida**	**51.10**	**194**	LR	LR	14 10 04.1	
	comp=Z,61nm,21.9s,baz=230,slow=34						
MSTX	**Muleshoe**	**51.17**	**295**	IAmb	IAmb	13 50 10.7	
	comp=Z,9.4nm,0.8s						
JMIC	**Jan Mayen**	**51.79**	**14**	LR	LR	14 06 27.6	
	comp=Z,152nm,21.2s,baz=226,slow=30						
CLL	**Collm**	**51.97**	**42**	*e*S	**S**	**13 57 35.0**	**+5.0**
CLL				Lm	MLR	14 09 00.0	
	comp=N,100nm,20.2s						
CLL				Lm	MLR	14 09 00.0	
	comp=E,200nm,19.8s						
CLL				Lm	MLR	14 09 00.0	
	comp=Z,300nm,19.5s						
GEC2	**GERESS Array S**	**52.06**	**46**	IAmb	IAmb	13 50 08.8	
	comp=Z,18nm,1.7s						
GERES	**GERESS Array B**	**52.06**	**46**	P	**P**	**13 50 07.2**	**-1.1**
	comp=Z,2.6nm,1.1s,baz=242,slow=5.6,SNR=7.6						
GERES				LR	LR	14 09 47.8	
	comp=Z,116nm,18.9s,baz=256,slow=33						
	comp=Z,2.6nm,1.1s						
VAE	**Valguarnera**	**52.13**	**60**	LR	LR	14 09 35.7	
	comp=Z,305nm,19.9s,baz=332,slow=33						
TXAR	**Lajitas Array**	**52.44**	**290**	P	**P**	**13 50 10.4**	**-1.1**
TXAR	**Lajitas Array**	**52.44**	**290**	P	**P**	**13 50 10.5**	**-1.0**
	comp=Z,3.5nm,0.9s,baz=90,slow=5.6,SNR=10						
	comp=Z,1.3nm,0.9s						
TX31	**Lajitas Ar. Si**	**52.44**	**290**	P	**P**	**13 50 10.5**	**-1.0**
BRG	**Berggiesshubel**	**52.48**	**43**	*e*P	**P**	**13 50 13.9**	**+2.6**
BRG				Amp		13 50 14.8	
	comp=Z,5.0nm,1.0s						
NB2	**NORSAR Subarra**	**53.34**	**30**	P	**P**	**13 50 16.8**	**-0.8**
	comp=Z,8.4nm,1.1s,baz=251,slow=7.9						
NOA	**NORSAR Array B**	**53.34**	**30**	P	**P**	**13 50 17.0**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=252,slow=7.8,SNR=5.2						
NOA				LR	LR	14 08 35.4	
	comp=Z,349nm,21.9s,baz=250,slow=31						
	comp=Z,1.3nm,0.7s						
KRUC	**Moravsky**	**53.85**	**46**	*e*P	**P**	**13 50 20.7**	**-0.7**
VRAC	**Vranov**	**54.00**	**45**	P	**P**	**13 50 21.5**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=265,slow=9.9,SNR=4.2						
VRAC				LR	LR	14 08 44.6	
	comp=Z,106nm,21.5s,baz=255,slow=31						
	comp=Z,1.5nm,0.5s						
VRAC	**Vranov**	**54.00**	**45**	*e*P	**P**	**13 50 21.9**	**-0.6**
ANMO	**Albuquerque**	**54.11**	**297**		**P**	**13 50 23.5**	**-0.4**
HFS	**Hagfors**	**54.25**	**32**	P	**P**	**13 50 23.4**	**-0.8**
	comp=Z,4.4nm,0.6s,baz=260,slow=8.9,SNR=11						
HFS				LR	LR	14 09 33.3	
	comp=Z,361nm,19.8s,baz=252,slow=32						
	comp=Z,4.4nm,0.6s						
PV01	**Paradox Valley**	**55.53**	**301**	P	**P**	**13 50 33.2**	**-0.9**
MVCO	**Mesa Verde**	**55.55**	**300**	IAmb	IAmb	13 50 43.8	
	comp=Z,10nm,1.1s						
RLMT	**Red Lodge**	**55.78**	**309**		**P**	**13 50 36.4**	**+0.7**
RLMT				IAmb	IAmb	13 50 39.2	
	comp=Z,12nm,1.0s						
PD31	**Pinedale Array**	**56.03**	**307**	IAmb	IAmb	13 50 47.8	
	comp=Z,14nm,1.3s						
PDAR	**Pinedale Array**	**56.03**	**307**	P	**P**	**13 50 36.7**	**-0.9**
PDAR	**Pinedale Array**	**56.03**	**307**	P	**P**	**13 50 36.9**	**-0.7**
	comp=Z,4.6nm,0.9s,baz=90,slow=7.4,SNR=22						
PDAR				LR	LR	14 12 09.6	
	comp=Z,88nm,20.0s,baz=80,slow=33						
	comp=Z,4.6nm,0.9s						
BW06	**Boulder Array**	**56.03**	**307**	IAmb	IAmb	13 50 47.7	
	comp=Z,14nm,1.3s						
EGMT	**Eagleton**	**56.15**	**313**		**P**	**13 50 38.0**	**-0.2**
EGMT				IAmb	IAmb	13 50 47.2	
	comp=Z,14nm,1.1s						
YMP	**Mirror Lake Pl**	**56.41**	**309**	IAmb	IAmb	13 50 59.2	
	comp=Z,14nm,1.3s						
P18A	**Preston Nutter**	**56.72**	**303**	IAmb	IAmb	13 50 45.8	
	comp=Z,10nm,0.9s						
LOHW	**Long Hollow**	**56.76**	**308**	P	**P**	**13 50 42.8**	**0.0**
W18A	**Petrified Fore**	**56.77**	**298**	IAmb	IAmb	13 50 52.0	
	comp=Z,9.4nm,1.1s						
SRU	**San Rafael Swe**	**56.98**	**302**	P	**P**	**13 50 43.8**	**-0.6**
SRU				IAmb	IAmb	13 50 47.6	
	comp=Z,11nm,0.9s						
TPAW	**Teton Pass**	**57.02**	**308**		**P**	**13 50 44.6**	**-0.1**
TPAW				IAmb	IAmb	13 50 55.5	
	comp=Z,12nm,1.3s						
YHL	**Hebgen Lake**	**57.14**	**309**	IAmb	IAmb	13 50 57.8	
	comp=Z,11nm,1.1s						
RES	**Resolute Bay**	**57.25**	**346**	LR	LR	14 13 59.6	
	comp=Z,177nm,18.4s,baz=83,slow=35						
HMU	**Henry Mountain**	**57.26**	**301**	IAmb	IAmb	13 50 58.5	
	comp=Z,15nm,1.3s						
BOZ	**Bozeman (W)**	**57.44**	**310**	IAmb	IAmb	13 50 58.1	
	comp=Z,9.1nm,1.3s						
Q16A	**Castle Valley**	**57.50**	**302**	IAmb	IAmb	13 50 59.9	
	comp=Z,9.0nm,1.1s						
HWUT	**Hardware Ranch**	**57.58**	**305**	P	**P**	**13 50 48.1**	**-0.4**
HWUT				IAmb	IAmb	13 50 59.5	
	comp=Z,15nm,1.6s						
DLMT	**Dillon**	**58.12**	**310**	IAmb	IAmb	13 51 04.1	
	comp=Z,10nm,1.2s						
ITM	**Ithomi**	**58.13**	**60**	P	**P**	**13 50 52.4**	**+0.1**
DUG	**Dugway, Tooele**	**58.64**	**304**	IAmb	IAmb	13 51 05.2	
	comp=Z,8.8nm,0.9s						
BPMT	**Black Pine Rid**	**58.67**	**311**	P	**P**	**13 50 56.0**	**-0.2**
BGU	**Big Grassy Mou**	**58.73**	**305**	IAmb	IAmb	13 51 11.6	
	comp=Z,11nm,1.1s						
CCUT	**Cedar City**	**59.37**	**301**	IAmb	IAmb	13 51 04.9	
	comp=Z,11nm,1.0s						
HLID	**Hailey**	**59.53**	**308**		**P**	**13 51 01.7**	**-0.4**
Y14A	**Wickenburg**	**59.61**	**297**	IAmb	IAmb	13 51 06.6	
	comp=Z,9.4nm,1.0s						
PSUT	**Pine Spring**	**59.63**	**302**	IAmb	IAmb	13 51 15.1	
	comp=Z,7.0nm,1.0s						
BURAR	**Bucovina Array**	**59.70**	**47**		**P**	**13 51 03.0**	**-0.1**
SPR3	**Spring Creek 3**	**59.94**	**303**	IAmb	IAmb	13 51 09.0	
	comp=Z,9.2nm,1.0s						
YKA	**Yellowknife Ar**	**59.95**	**330**	P	**P**	**13 51 03.8**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=98,slow=7.9,SNR=5.0						
YKA				LR	LR	14 16 11.0	
	comp=Z,164nm,19.5s,baz=98,slow=35						
	comp=Z,1.4nm,0.8s						
MLR	**Muntele Rosu**	**60.33**	**50**	P	**P**	**13 51 07.3**	**-0.3**
	comp=Z,10nm,1.0s,baz=213,slow=4.2,SNR=7.4						
MLR				LR	LR	14 16 14.4	
	comp=Z,236nm,18.1s,baz=267,slow=35						
	comp=Z,10nm,1.0s						
ELK	**Elko**	**60.42**	**305**		**P**	**13 51 07.6**	**-0.8**
FINES	**FINESS Array B**	**60.45**	**31**	P	**P**	**13 51 07.5**	**-0.4**
	comp=Z,4.6nm,1.1s,baz=316,slow=5.3,SNR=4.3						
FINES				LR	LR	14 12 34.2	
	comp=Z,380nm,21.8s,baz=245,slow=31						
	comp=Z,4.6nm,1.1s						
PLID	**Pearl Lake**	**60.54**	**310**		**P**	**13 51 08.1**	**-1.0**
PLID				IAmb	IAmb	13 51 19.6	
	comp=Z,9.1nm,1.1s						
MFID	**Camas Ranch**	**60.57**	**308**		**P**	**13 51 09.0**	**-0.2**
MFID				IAmb	IAmb	13 51 12.2	
	comp=Z,7.7nm,0.9s						
PRN	**Pahroc Range**	**60.72**	**301**	IAmb	IAmb	13 51 14.4	
	comp=Z,7.2nm,1.0s						
V12A	**Nelson**	**60.82**	**299**	IAmb	IAmb	13 51 14.7	
	comp=Z,8.7nm,1.1s						
NEW	**Newport**	**61.07**	**313**	IAmb	IAmb	13 51 22.0	
	comp=Z,10nm,0.9s						
NEW	**Newport**	**61.07**	**313**	LR	LR	14 15 43.2	
	comp=Z,179nm,19.6s,baz=90,slow=34						
ARCES	**ARCESS Array B**	**61.23**	**22**	P	**P**	**13 51 12.1**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=263,slow=6.0,SNR=5.5						
ARCES				LR	LR	14 12 42.1	
	comp=Z,149nm,21.8s,baz=271,slow=31						
	comp=Z,2.1nm,0.7s						
SPITS	**Spitsbergen Ar**	**61.26**	**12**	LR	LR	14 12 15.9	
	comp=Z,102nm,19.8s,baz=240,slow=31						
WCT	**Wildcat Mounta**	**62.06**	**300**	IAmb	IAmb	13 51 29.5	
	comp=Z,8.2nm,1.1s						
LNOR	**Lincton Mounta**	**62.07**	**311**		**P**	**13 51 19.5**	**+0.3**
LNOR				IAmb	IAmb	13 51 22.1	
	comp=Z,9.4nm,1.2s						
AKASG	**Malin Array Be**	**62.15**	**44**	P	**P**	**13 51 18.1**	**-1.5**
	comp=Z,2.1nm,0.6s,baz=276,slow=5.9,SNR=9.7						
AKASG				LR	LR	14 15 52.7	
	comp=Z,99nm,19.3s,baz=250,slow=34						
	comp=Z,2.1nm,0.6s						
QSM	**Queen of Sheba**	**62.39**	**299**	IAmb	IAmb	13 51 25.4	
	comp=Z,8.5nm,1.1s						
G08A	**Pilot Rock**	**62.60**	**310**	IAmb	IAmb	13 51 33.0	
	comp=Z,6.2nm,1.3s						
DSP	**Deep Springs**	**63.02

comp=Z,72nm,18.0s,baz=320,slow=37
comp=Z,1.8nm,0.7s
BARN Barnard Glacie 72.80 330 IAmb IAmb 13 52 38.9
comp=Z,12nm,1.0s
F24K Squaw Lake 73.22 337 IAmb IAmb 13 52 45.1
comp=Z,6.3nm,1.1s
MCARA McCarthy VSAT 73.32 330 P **P** **13 52 30.1 +0.2**
G24K Hadweenzic Riv 73.36 336 IAmb IAmb 13 52 45.6
comp=Z,7.1nm,1.0s
GLB Gilahina Butte 73.66 330 **P** **13 52 31.5 -0.4**
GLB IAmb IAmb 13 52 41.3
comp=Z,11nm,1.4s
IL31 73.83 334 P **P** **13 52 32.1 -0.6**
IL31 IAmb IAmb 13 52 47.4
comp=Z,7.4nm,1.0s
ILAR Eielson Array 73.83 334 P **P** **13 52 32.2 -0.6**
ILAR Eielson Array 73.83 334 P **P** **13 52 32.5 -0.2**
comp=Z,2.9nm,1.1s,baz=68,slow=4.7,SNR=15
comp=Z,2.9nm,1.1s
N25K Chitina, Valde 73.96 331 P **P** **13 52 33.5 -0.2**
CCB Clear Creek Bu 74.24 334 **P** **13 52 33.9 -1.2**
CCB IAmb IAmb 13 52 44.3
comp=Z,9.2nm,1.2s
G23K Bananza Creek 74.30 337 **P** **13 52 35.4 -0.2**
G23K IAmb IAmb 13 52 51.2
comp=Z,8.5nm,1.1s
TSUM Tsumeb 74.33 119 LR LR 14 19 23.9
comp=Z,70nm,21.0s,baz=294,slow=31
WRH Wood River Hil 74.42 334 **P** **13 52 36.1 -0.1**
WRH IAmb IAmb 13 52 46.9
comp=Z,7.1nm,1.0s
I23K Minto, Yukon-K 74.66 335 IAmb IAmb 13 52 52.7
comp=Z,12nm,1.2s
GNI Garni 74.91 53 LR LR 14 24 51.5
comp=Z,44nm,19.4s,baz=284,slow=35
MLY Manley 75.25 335 P **P** **13 52 41.3 +0.2**
TRF Thorofare Moun 75.72 333 P **P** **13 52 43.5 -0.4**
TRF IAmb IAmb 13 53 02.6
comp=Z,11nm,1.1s
KTH Kantishna Hill 75.93 334 P **P** **13 52 44.9 -0.1**
BRLK Bradley Lake 77.53 330 P **P** **13 52 52.8 -1.3**
BRLK IAmb IAmb 13 53 16.0
comp=Z,4.8nm,0.6s
ARTI Arti 77.64 34 LR LR 14 24 39.0
comp=Z,168nm,18.7s,baz=295,slow=34
KDAK Kodiak Island 79.20 329 LR LR 14 28 01.7
comp=Z,134nm,19.5s,baz=62,slow=36
AKTO Aktyubinsk 79.91 39 LR LR 14 25 29.4
comp=Z,254nm,21.6s,baz=258,slow=34
KHWEE KHWEE 82.06 118 **P** **13 53 18.6 -0.7**
ATD Arta Tunnel 83.43 80 LR LR 14 28 27.7
comp=Z,7.5nm,21.7s,baz=314,slow=34
LBTB Lobatse 83.68 121 LR LR 14 23 24.6
comp=Z,81nm,21.8s,baz=296,slow=30
BOSA Boshof 85.19 124 LR LR 14 23 35.2
comp=Z,79nm,20.7s,baz=331,slow=30
BVAR Borovoye Array 85.36 33 P **P** **13 53 35.6 -0.1**
comp=Z,0.9nm,0.7s,baz=286,slow=9.2,SNR=3.5
BVAR LR LR 14 29 13.5
comp=Z,182nm,19.4s,baz=304,slow=34
comp=Z,0.9nm,0.7s
KURBB Kurchatov Arra 90.84 32 P **P** **13 54 01.5 -0.4**
comp=Z,0.5nm,0.3s,baz=308,slow=4.9,SNR=5.5
KURBB LR LR 14 30 55.5
comp=Z,162nm,21.3s,baz=182,slow=33
comp=Z,0.5nm,0.3s
ZALV Zalesovo Beam 91.43 27 P **P** **13 54 04.5 -0.1**
comp=Z,0.3nm,0.2s,baz=326,slow=7.7,SNR=3.8
ZALV LR LR 14 32 18.5
comp=Z,85nm,21.9s,baz=306,slow=34
comp=Z,0.3nm,0.2s
SEY Seymchan 92.65 352 LR LR 14 33 56.3
comp=Z,26nm,19.5s,baz=39,slow=34
AAK Ala-Archa 93.62 40 LR LR 14 33 56.8
comp=Z,136nm,21.1s,baz=317,slow=34
MKAR Makanchi Array 95.24 33 LR LR 14 35 07.8
comp=Z,175nm,20.1s,baz=333,slow=34
SHEM Shemya Is, Ala 96.72 337 LR LR 14 37 13.5
comp=Z,69nm,21.9s,baz=236,slow=35
WMQ Urumqi 100.04 33 *eP* **Pdif** **13 54 45.8 +1.7**
WMQ LR LR
comp=N,360nm,24.3s
WMQ LR LR
comp=E,230nm,15.5s
WMQ LR LR
comp=Z,240nm,23.9s
PPT2 Papeete2 109.95 259 *e*LR LR 14 31 47.4
comp=Z,99nm,28.2s
PPT2 *e*LR LR 14 31 55.3
comp=Z,65nm,25.5s
TBI Tubuai 111.65 253 *e*LR LR 14 32 40.4
comp=Z,456nm,29.5s

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*IDC **10** 13:55:08.4±5.8, 7˚.28S×128˚.71E, h116km±51km, mb3.6/6, mbtmp4.2/10, Error ellipse: s-maj=68.8km s-min=17.0km az=57.0*
*NEIC **10** 13:55:12.8±1.2, 7˚.47S±0˚.08×128˚.45E±0˚.08, h151km±5km, mb4.4/17, Error ellipse: s-maj=12.2km s-min=11.2km az=153.0*
*DJA **10** 13:55:12.6±0.3, 7˚S±.4˚×12˚8E±˚, h146km±13km, M4.5/12, mB4.9/2, mb4.5/10, MLv4.5/12, Mw(mB)4.2/2*
ISC 10 13:55:12.4±0.5, 7˚.57S±0˚.06×128˚.43E±0˚.06, h151km, n51, σ1§61/54, mb4.4/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.87**	**98**	Pn	**Pn**	**13 56 00.0**	**+1.8**
SAUI	**Saumlaki**	**2.87**	**98**	P	**Pn**	**13 55 59.5**	**+1.3**
SOEI	**Soe**	**4.66**	**242**		**Pn**	**13 56 22.5**	**+1.1**
SOEI	**Soe**	**4.66**	**242**	P	**Pn**	**13 56 22.7**	**+1.3**
SOEI				S	**Sn**	**13 57 15.0**	**-0.2**
BATI	**Baumata**	**5.39**	**241**	P	**Pn**	**13 56 32.8**	**+1.7**
	70nm,0.4s,baz=256,slow=0.4,SNR=9.7						
BATI				S	**Sn**	**13 57 31.4**	**-1.2**
	93nm,0.3s,baz=342,slow=5.6,SNR=12						
BATI	**Baumata**	**5.39**	**241**	P	**Pn**	**13 56 32.4**	**+1.3**
	0.6nm66nm,0.4s						
MTN	**Manton Dam**	**5.88**	**153**		**Pn**	**13 56 38.1**	**+0.6**
FAKI	**Fak Fak**	**5.98**	**40**	Pn	**Pn**	**13 56 37.4**	**-1.5**
FAKI	**Fak Fak**	**5.98**	**40**	P	**Pn**	**13 56 37.0**	**-1.9**
	0.3nm31nm,1.1s						
BBSI	**Bau Bau**	**6.18**	**289**	P	**Pn**	**13 56 41.0**	**-0.6**
	0.1nm35nm,1.0s						
MMRI	**Maumere**	**6.22**	**260**	P	**Pn**	**13 56 41.1**	**-1.1**
	0.3nm31nm,1.0s						
KMPI	**Kaimana, Papua**	**6.53**	**54**	P	**Pn**	**13 56 45.8**	**-0.4**
EDFI	**Ende, Flores**	**6.78**	**260**	P	**Pn**	**13 56 50.4**	**+0.8**
SWI	**Sorong**	**7.23**	**23**	P	**Pn**	**13 56 54.2**	**-1.4**
	0.2nm954nm31nm,0.4s						
KNRA	**Kununurra**	**8.07**	**178**		**Pn**	**13 57 06.6**	**-0.2**
BASI	**Baing, Sumba**	**8.20**	**251**	P	**Pn**	**13 57 08.3**	**-0.2**
	132nm,0.8s						
WBSI	**Waikabubak, Su**	**9.18**	**256**	P	**Pn**	**13 57 19.1**	**-2.5**
FITZ	**Fitzroy Crossi**	**10.82**	**194**	Pn	**Pn**	**13 57 42.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**10.82**	**194**	P	**Pn**	**13 57 42.7**	**-0.5**
	3.1nm,0.3s,baz=22,slow=9.4,SNR=42						
FITZ				S	Sn	13 59 36.0	-6.9
	12nm,0.3s,baz=302,slow=24,SNR=8.6						
WB0	**Warramunga Ar**	**13.44**	**155**		**Pn**	**13 58 15.1**	**-2.1**
WRAB	**Tennant Creek**	**13.57**	**156**	Pn	**Pn**	**13 58 18.3**	**-0.5**
WRA	**Warramunga Arr**	**13.57**	**156**		**Pn**	**13 58 16.2**	**-2.7**
WRA	**Warramunga Arr**	**13.57**	**156**	P	**Pn**	**13 58 17.5**	**-1.4**
	2.8nm,0.6s,baz=342,slow=12,SNR=24						
WRA				S	Sn	14 00 40.0	-9.3
	15nm,0.5s,baz=336,slow=23,SNR=15						
WR8	**Warramunga Arr**	**13.65**	**155**		**Pn**	**13 58 17.1**	**-2.8**
COEN	**Coen**	**15.81**	**115**	P	**Pn**	**13 58 47.0**	**+0.1**
COEN				IAmb	IAmb	13 58 50.4	
	comp=Z,46nm,1.5s						
PSA00	**Pilbara Seismi**	**16.20**	**210**	P	**Pn**	**13 58 52.3**	**+0.6**
AS31	**Alice Springs**	**16.85**	**162**	P	**P**	**13 58 59.5**	**+0.4**
AS31				IAmb	IAmb	13 59 01.9	
	comp=Z,6.4nm,0.6s						
ASAR	**Alice Springs**	**16.85**	**162**		**P**	**13 58 59.8**	**+0.7**
ASAR	**Alice Springs**	**16.85**	**162**	P	**Pn**	**13 59 01.2**	**+1.7**
	comp=Z,13nm,0.5s,baz=339,slow=11,SNR=257						
ASAR				S	**S**	**14 02 00.1**	**-6.7**
	comp=Z,2.0nm,0.5s,baz=333,slow=18,SNR=6.6						
SBUM	**Sibu**	**18.99**	**301**	P	**P**	**13 59 22.7**	**+0.2**
INKA	**Innaminka**	**23.21**	**151**	P	**P**	**14 00 06.4**	**+0.4**
INKA				IAmb	IAmb	14 00 09.8	
	comp=Z,26nm,1.4s						
MORW	**Morawa**	**24.37**	**207**	P	**P**	**14 00 17.8**	**+1.2**
MORW				IAmb	IAmb	14 00 56.1	
	comp=Z,26nm,1.4s						
BBOO	**Buckleboo**	**26.10**	**165**	P	**P**	**14 00 32.3**	**+0.1**
BBOO				IAmb	IAmb	14 00 51.8	
	comp=Z,9.8nm,1.1s						
STKA	**Stephens Creek**	**27.12**	**155**		**P**	**14 00 42.0**	**+0.6**
STKA	**Stephens Creek**	**27.12**	**155**	P	**P**	**14 00 42.2**	**+0.8**
	comp=Z,4.2nm,0.5s,baz=325,slow=8.5,SNR=16						
	comp=Z,4.2nm,0.5s						
CAN	**Canberra**	**33.45**	**149**	P	**P**	**14 01 38.6**	**+1.4**
TOO	**Toolangi**	**33.64**	**155**	P	**P**	**14 01 40.9**	**+2.2**
TOO				IAmb	IAmb	14 02 21.4	
	comp=Z,11nm,1.4s						
CMAR	**Chiang Mai Arr**	**38.93**	**312**	P	**P**	**14 02 23.5**	**-0.3**
	comp=Z,6.0nm,0.7s,baz=125,slow=8.4,SNR=2.6						
	comp=Z,0.6nm,0.7s						
HHC	**Hu-ho-hao-te**	**50.62**	**343**	*eP*	**P**	**14 03 59.6**	**+3.5**
HHC				pmax	pmax		
	comp=Z,16nm,0.5s						
HHC				pmax	pmax		
	comp=Z,100nm,4.3s						
GVZ	**Greta Valley S**	**52.63**	**140**	P	**P**	**14 04 11.1**	**+0.1**
SONM	**Songino Array**	**58.50**	**343**	P	**P**	**14 04 52.5**	**-0.4**
WMQ	**Urumqi**	**63.03**	**328**	*eP*	**P**	**14 05 25.1**	**+1.6**
WMQ				LR	LR		
	comp=Z,230nm,22.9s						
MKAR	**Makanchi Array**	**67.86**	**328**	P	**P**	**14 05 53.5**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=114,slow=7.3,SNR=6.6						
	comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**71.41**	**335**	P	**P**	**14 06 14.8**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=134,slow=6.2,SNR=1.7						
	comp=Z,0.8nm,0.5s						
VNDA	**Vanda**	**72.08**	**173**		**P**	**14 06 19.8**	**+0.2**
VNDA				IAmb	IAmb	14 06 24.4	
	comp=Z,3.3nm,0.5s						
KURBB	**Kurchatov Arra**	**72.19**	**329**	P	**P**	**14 06 20.0**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=140,slow=5.1,SNR=5.3						
	comp=Z,0.6nm,0.4s						
QSPA	**South Pole Qui**	**82.41**	**180**	P	**P**	**14 07 18.5**	**+1.0**
QSPA	**South Pole Qui**	**82.41**	**180**	P	**P**	**14 07 18.9**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=292,slow=1.4,SNR=6.9						
	comp=Z,0.6nm,0.5s						
K15K	**Wolf Creek Mou**	**87.56**	**26**	P	**P**	**14 07 42.5**	**-0.5**
K15K				IAmb	IAmb	14 07 50.8	
	comp=Z,9.7nm,1.4s						
M16K	**Timber Creek**	**88.28**	**28**	P	**P**	**14 07 45.8**	**-0.7**
M16K				IAmb	IAmb	14 07 50.2	
	comp=Z,5.0nm,1.1s						
SII	**Sitkinak Islan**	**89.37**	**33**	P	**P**	**14 07 51.4**	**-0.3**

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*CATAC **10** 14:16:45.7±0.3, 13˚N±2˚×8˚9W±˚, h38km±6km, M5.4/42, MLv5.4/42, Error ellipse: s-maj=5.3km s-min=1.8km az=36.4, confirmed*
*NEIC **10** 14:16:46.6±1.9, 12˚.90N±0˚.06×88˚.80W±0˚.07, h62km±7km, mb4.8/403, Mww5.0/20, Error ellipse: s-maj=10.3km s-min=7.1km az=53.0*
*NEIC **10** 14:16:46.4, 12˚.92N×88˚.78W, h50km*
*NEIC **10** 14:16:46.4, 12˚.92N×88˚.78W, h50km, Moment Tensor Solution. Duration: 1§6 Moment tensor: Scale 10¹⁶Nm; Mrr3.46; Mθθ-2.58; Mφφ-0.88; Mrθ0.49; Mθφ 1.29; Mrφ-0.69; Fault plane solution: M₀3.48000×10¹⁶ NP1: φs292.70000°, δ38.96000°, λ81.12000°. NP2: φs124.05000°, δ51.59000°, λ97.11000°. Principal axes: T 3.5833, Plg82.0000°, Azm71.0000°; N -0.2257, Plg6.0000°, Azm300.0000°; P -3.3576, Plg6.0000°, Azm209.0000°;*
*IDC **10** 14:16:46.1±0.6, 13˚.19N×88˚.51W, h55km±5km, mb4.2/26, mbtmp4.5/29, MS4.0/52 Error ellipse: s-maj=18.2km s-min=7.4km az=48.0*
*GCMT **10** 14:16:47.5±0.3, 12˚.72N±0˚.02×88˚.91W±0˚.02, h54km, MW5.0/86, Moment Tensor Solution. s76,c104; s86,c124; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.42±.12; Mθθ-2.80±.08; Mφφ-0.62±.09; Mrθ0.30±.06; Mθφ 1.51±.07; Mrφ-0.81±.06; Best double couple: M₀3.60400×10¹⁶ NP1:φs288.00000°, δ41.00000°, λ75.00000°. NP2:φs127.00000°, δ51.00000°, λ102.00000°. Principal axes: T 3.5750, Plg79.0000°, Azm89.0000°; N 0.0510, Plg9.0000°, Azm299.0000°; P -3.6320, Plg5.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*GCG **10** 14:16:47.7±1.4, 12˚.96N×89˚.02W, h43km±62km, MD4.2, ML4.7*
*SNET **10** 14:16:48.0±4.9, 13˚.03N×88˚.78W, h19km, ML5.1*
*UCR **10** 14:16:53.8±1.4, 13˚.01N×88˚.22W, h62km, MW5.2, MB5.0(NEIC)*
ISC 10 14:16:46.0±0.5, 12˚.95N±0˚.04×88˚.85W±0˚.03, h60km±4km, h60km:pP-P, n814, σ1§29/642, mb4.8/201, MS4.1/52, 5C-32D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UESV	**Universidad de**	**0.69**	**5**	S	**Sn**	**14 17 11.6**	**+1.1**
UESV	**Universidad de**	**0.69**	**5**	⇓P	**Pn**	**14 17 00.3**	**+0.2**
LFRS	**El Faro**	**0.70**	**343**	*e*P	**Pn**	**14 17 00.0**	**-0.4**
PACA	**Pacayal**	**0.73**	**45**	*e*P	**Pn**	**14 17 01.4**	**+0.7**
PACA				*e*S	**Sn**	**14 17 13.3**	**+1.8**
PACA	**Pacayal**	**0.73**	**45**	⇓P	**Pn**	**14 17 01.2**	**+0.5**
PACA	**Pacayal**	**0.73**	**45**	S	**Sn**	**14 17 12.6**	**+1.1**
PQSS	**Presa 15 de Se**	**0.73**	**23**	*e*P	**Pn**	**14 17 01.4**	**+0.8**
PQSS				*e*S	**Sn**	**14 17 13.5**	**+2.2**
PQSS	**Presa 15 de Se**	**0.73**	**23**	⇑P	**Pn**	**14 17 01.3**	**+0.8**
PANCS	**Alcalda de**	**0.74**	**334**	S	**Sn**	**14 17 10.3**	**-1.2**
PANCS	**Alcalda de**	**0.74**	**334**	⇓P	**Pn**	**14 17 00.1**	**-0.7**
LOMA	**Loma Larga**	**0.76**	**336**	*e*P	**Pn**	**14 17 00.7**	**-0.5**
LOMA				*e*S	**Sn**	**14 17 12.9**	**+0.7**
LOMA	**Loma Larga**	**0.76**	**336**	⇓P	**Pn**	**14 17 00.6**	**-0.5**
PAVA	**Las Pavas**	**0.77**	**354**	*e*P	**Pn**	**14 17 01.4**	**+0.2**
PAVA				*e*S	**Sn**	**14 17 13.5**	**+1.2**
PAVA	**Las Pavas**	**0.77**	**354**	⇓P	**Pn**	**14 17 01.3**	**+0.2**
BLLM	**Bellamira**	**0.78**	**50**	*i* P	**Pn**	**14 17 01.6**	**+0.4**
LBRS	**Las Brisas**	**0.81**	**347**	*e*P	**Pn**	**14 17 02.1**	**+0.4**
UDBS	**Universidad Do**	**0.82**	**339**	S	**Sn**	**14 17 13.8**	**+0.4**
UDBS	**Universidad Do**	**0.82**	**339**	P	**Pn**	**14 17 01.8**	**+0.1**
IGN	**Direccin Gen**	**0.82**	**338**	P	**Pn**	**14 17 01.9**	**+0.1**
IGN	**Direccin Gen**	**0.82**	**338**	S	**Sn**	**14 17 13.8**	**+0.3**
UTEC	**Universidad Te**	**0.82**	**336**	S	**Sn**	**14 17 13.8**	**+0.3**
UTEC	**Universidad Te**	**0.82**	**336**	P	**Pn**	**14 17 01.8**	**-0.1**
CNRM	**Centro Naciona**	**0.84**	**51**	*e*P	**Pn**	**14 17 02.7**	**+0.7**
CNRM				*e*S	**Sn**	**14 17 15.9**	**+2.1**
CNRM	**Centro Naciona**	**0.84**	**51**	P	**Pn**	**14 17 02.5**	**+0.5**
UEES	**Universidad Ev**	**0.85**	**334**	⇓P	**Pn**	**14 17 02.0**	**-0.2**
PMON	**Piamonte**	**0.89**	**329**	S	**Sn**	**14 17 15.0**	**+0.1**
PMON	**Piamonte**	**0.89**	**329**	⇓P	**Pn**	**14 17 02.4**	**-0.2**
BOQS	**Boqueron**	**0.89**	**332**	⇓P	**Pn**	**14 17 02.8**	**0.0**
JAYA	**Jayaque - finc**	**0.92**	**320**	*e*P	**Pn**	**14 17 02.5**	**-0.6**
JAYA				*e*S	**Sn**	**14 17 15.4**	**-0.2**
JAYA	**Jayaque - finc**	**0.92**	**320**	*e*P	**Pn**	**14 17 02.5**	**-0.6**
JAYA				*e*S	**Sn**	**14 17 15.2**	**-0.4**
JAYA	**Jayaque - finc**	**0.92**	**320**	⇓P	**Pn**	**14 17 02.5**	**-0.6**
LCND	**La Caada**	**1.00**	**69**	S	**Sn**	**14 17 19.1**	**+1.7**
LCND	**La Caada**	**1.00**	**69**	⇓P	**Pn**	**14 17 04.5**	**+0.5**
CEDA	**San Andres**	**1.00**	**328**	*e*P	**Pn**	**14 17 04.0**	**-0.1**
CEDA				*e*S	**Sn**	**14 17 18.5**	**+1.0**
CEDA	**San Andres**	**1.00**	**328**	⇓P	**Pn**	**14 17 04.0**	**-0.1**
CNCH	**Conchagua**	**1.04**	**71**	*e*P	**Pn**	**14 17 05.0**	**+0.3**
CNCH				*e*S	**Sn**	**14 17 21.2**	**+2.7**
CNCH	**Conchagua**	**1.04**	**71**	⇓P	**Pn**	**14 17 04.9**	**+0.3**
CNCH	**Conchagua**	**1.04**	**71**	S	**Sn**	**14 17 20.5**	**+1.9**
CEVE	**Cerro Verde**	**1.16**	**319**	*e*P	**Pn**	**14 17 06.7**	**+0.4**
CEVE	**Cerro Verde**	**1.16**	**319**	P	**Pn**	**14 17 06.2**	**-0.1**
CEVE	**Cerro Verde**	**1.16**	**319**	S	**Sn**	**14 17 23.5**	**+2.1**
SBLS	**San Blas**	**1.16**	**320**	*e*P	**Pn**	**14 17 06.6**	**+0.2**
LLGN	**La Laguna**	**1.21**	**356**	⇓P	**Pn**	**14 17 07.7**	**+0.8**
UNIC	**Universidad Ca**	**1.23**	**327**	P	**Pn**	**14 17 07.5**	**+0.4**
UNIC	**Universidad Ca**	**1.23**	**327**	S	**Sn**	**14 17 23.6**	**+0.6**
CSGN	**Cosiguina Volc**	**1.26**	**88**	⇓P	**Pn**	**14 17 07.2**	**-0.3**
CSGN				S	**Sn**	**14 17 25.7**	**+2.1**
POTN	**Potosi Cosigui**	**1.31**	**87**	⇓P	**Pn**	**14 17 08.0**	**-0.1**
POTN				S	**Sn**	**14 17 25.5**	**+0.8**
NUBE	**Las Nubes**	**1.31**	**317**	*e*P	**Pn**	**14 17 08.2**	**-0.1**
NUBE				*e*S	**Sn**	**14 17 25.3**	**+0.3**
NUBE	**Las Nubes**	**1.31**	**317**	*e*P	**Pn**	**14 17 08.2**	**-0.1**
NUBE				*e*S	**Sn**	**14 17 23.5**	**-1.4**
NUBE	**Las Nubes**	**1.31**	**317**	⇓P	**Pn**	**14 17 08.2**	**-0.1**
NUBE	**Las Nubes**	**1.31**	**317**	S	**Sn**	**14 17 24.1**	**-0.8**
LOAL	**Lomas de Alarc**	**1.38**	**319**	P	**Pn**	**14 17 09.7**	**+0.6**
MTO3	**Montecristo**	**1.53**	**341**		**Pn**	**14 17 11.8**	**+0.6**
MTO3	**Montecristo**	**1.53**	**341**	*e*P	**Pn**	**14 17 11.9**	**+0.6**
MTO3	**Montecristo**	**1.53**	**341**	⇓P	**Pn**	**14 17 11.9**	**+0.6**
INTHN	**La Esperanza I**	**1.54**	**28**	⇓P	**Pn**	**14 17 12.8**	**+1.3**
ESQI	**Esquipulas**	**1.68**	**343**		**Pn**	**14 17 14.2**	**+1.0**
ESQI	**Esquipulas**	**1.68**	**343**	⇓P	**Pn**	**14 17 14.3**	**+1.2**
ESQI	**Esquipulas**	**1.68**	**343**	S	**Sn**	**14 17 34.2**	**+0.6**
CHOHN	**Orocuina**	**1.73**	**72**	⇓P	**Pn**	**14 17 14.4**	**+0.6**
CRIN	**San Cristobal**	**1.77**	**98**		**Pn**	**14 17 14.6**	**+0.2**
CRIN	**San Cristobal**	**1.77**	**98**	⇓P	**Pn**	**14 17 14.9**	**+0.5**
CRIN	**San Cristobal**	**1.77**	**98**	S	**Sn**	**14 17 36.3**	**+0.3**
CRIN	**San Cristobal**	**1.77**	**98**	P	**Pn**	**14 17 15.1**	**+0.7**
SARH	**Santa Rosa de**	**1.82**	**3**	*e*P	**Pn**	**14 17 16.8**	**+1.7**
SARH	**Santa Rosa de**	**1.82**	**3**	⇓P	**Pn**	**14 17 16.8**	**+1.7**
PKGN	**Cerro Pekin**	**1.85**	**98**	⇓P	**Pn**	**14 17 15.4**	**+0.1**
PKGN				S	**Sn**	**14 17 38.0**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.89**	**54**		**Pn**	**14 17 17.1**	**+1.1**
TGUH	**Tegucigalpa,Un**	**1.89**	**54**	⇓P	**Pn**	**14 17 17.2**	**+1.1**
TGUH	**Tegucigalpa,Un**	**1.89**	**54**	P	**Pn**	**14 17 16.2**	**+0.1**
HERN	**Volcan Telica**	**2.00**	**99**		**Pn**	**14 17 17.3**	**-0.2**
PLRN	**Geotermica Pol**	**2.06**	**100**	⇑P	**Pn**	**14 17 18.2**	**-0.1**
PLRN				S	**Sn**	**14 17 41.9**	**-1.0**
FG16	**Alotenango, Sa**	**2.08**	**309**	*e*P	Pn	14 17 24.7	+5.9
ILCN	**San Idelfonso**	**2.13**	**100**	⇓P	**Pn**	**14 17 19.0**	**-0.2**
ILCN				S	**Sn**	**14 17 45.0**	**+0.4**
CNGA	**Al SSO del Vol**	**2.14**	**102**	P	**Pn**	**14 17 19.3**	**-0.1**
CNGA				S	**Sn**	**14 17 46.6**	**-0.4**
CNGN	**Cerro Negro**	**2.15**	**102**		**Pn**	**14 17 19.1**	**-0.4**
CNGN	**Cerro Negro**	**2.15**	**102**	⇓P	**Pn**	**14 17 19.0**	**-0.4**
CNGN	**Cerro Negro**	**2.15**	**102**	S	**Sn**	**14 17 46.5**	**+1.5**
CNGN	**Cerro Negro**	**2.15**	**102**	P	**Pn**	**14 17 19.7**	**+0.2**
YUSH	**Yuscaran**	**2.19**	**63**	⇓P	**Pn**	**14 17 21.2**	**+1.0**
AESN	**El Sauce Leon**	**2.25**	**91**	P	**Pn**	**14 17 22.3**	**+1.4**
AESN	**El Sauce Leon**	**2.25**	**91**	S	**Sn**	**14 17 48.1**	**+0.5**
COPN	**Copaltepe**	**2.33**	**109**	⇓P	**Pn**	**14 17 21.2**	**-0.8**
MOM2	**El Cardon**	**2.36**	**102**	⇓P	**Pn**	**14 17 22.2**	**-0.1**
MOM2				S	**Sn**	**14 17 49.7**	**-0.5**
OCON	**Estacion meteo**	**2.41**	**73**	P	**Pn**	**14 17 23.5**	**+0.5**
SAPS	**Ciudad Sandino**	**2.51**	**108**	S	**Sn**	**14 17 52.9**	**-1.0**
SAPS	**Ciudad Sandino**	**2.51**	**108**	⇑P	**Pn**	**14 17 24.1**	**-0.2**
APQ3	**Volcan Apoyequ**	**2.51**	**105**	P	**Pn**	**14 17 24.1**	**-0.3**
APQ3				S	**Sn**	**14 17 53.7**	**-0.2**
APQ2	**Apoyeque**	**2.58**	**107**	P	**Pn**	**14 17 25.7**	**+0.4**
APQ2				S	**Sn**	**14 17 55.5**	**+0.1**
ABCN	**Banco Central**	**2.61**	**108**	P	**Pn**	**14 17 26.3**	**+0.5**
ABCN	**Banco Central**	**2.61**	**108**	S	**Sn**	**14 17 55.0**	**-1.4**
ALLN	**Telcor Managua**	**2.63**	**107**	P	**Pn**	**14 17 26.7**	**+0.6**
ALLN	**Telcor Managua**	**2.63**	**107**	S	**Sn**	**14 17 56.4**	**-0.5**
TISN	**Laguna Tiscapa**	**2.64**	**107**	⇑P	**Pn**	**14 17 25.9**	**-0.3**
USIM	**UNAN**	**2.65**	**108**		**Pn**	**14 17 26.1**	**-0.2**
UNAN	**Cigeo UNAN**	**2.65**	**108**	⇑P	**Pn**	**14 17 26.2**	**-0.1**
UNAN				S	**Sn**	**14 17 56.7**	**-0.7**
R4DEC	**Barrio San Lui**	**2.66**	**107**	P	**Pn**	**14 17 27.1**	**+0.7**
R4DEC	**Barrio San Lui**	**2.66**	**107**	S	**Sn**	**14 17 56.3**	**-1.2**
MGAN	**Managua**	**2.66**	**107**		**Pn**	**14 17 26.0**	**-0.5**
MGAN	**Managua**	**2.66**	**107**	P	**Pn**	**14 17 27.2**	**+0.7**
MGAN	**Managua**	**2.66**	**107**	S	**Sn**	**14 17 56.4**	**-1.2**
MGAN	**Managua**	**2.66**	**107**	P	**Pn**	**14 17 26.1**	**-0.4**
RCVN	**Varillal2**	**2.66**	**76**	P	**Pn**	**14 17 27.2**	**+0.6**
NADN	**Granada**	**3.00**	**113**	*e*P	**Pn**	**14 17 32.7**	**+1.6**
BOAB	**BOACO BROADBAN**	**3.15**	**99**		**Pn**	**14 17 32.7**	**-0.4**
BOAB	**BOACO BROADBAN**	**3.15**	**99**	⇓P	**Pn**	**14 17 32.6**	**-0.5**
BOAB	**BOACO BROADBAN**	**3.15**	**99**	S	**Sn**	**14 18 10.7**	**+1.3**
RTAL	**Retalhuleu**	**3.18**	**300**		**Pn**	**14 17 35.9**	**+2.3**
JAPN	**Al SSO del Vol**	**3.41**	**114**	*e*P	**Pn**	**14 17 38.3**	**+1.6**
LCRUZ	**La Cruz**	**3.66**	**120**	*e*P	**Pn**	**14 17 40.2**	**+0.1**
CARN	**Rivas**	**3.69**	**118**	*e*P	**Pn**	**14 17 40.0**	**-0.5**
ACON	**Acoyapa**	**3.72**	**105**		**Pn**	**14 17 39.5**	**-1.6**
ACON	**Acoyapa**	**3.72**	**105**	*e*P	**Pn**	**14 17 38.8**	**-2.1**
ACON	**Acoyapa**	**3.72**	**105**	P	**Pn**	**14 17 39.7**	**-1.2**
ELI1	**Hacienda Flor**	**3.96**	**125**	*e*P	**Pn**	**14 17 46.5**	**+2.3**
ELI1				*e*S	**Sn**	**14 18 27.6**	**-1.7**
LAPC	**Finca la Perla**	**3.98**	**123**	*e*P	**Pn**	**14 17 46.5**	**+2.0**
ALIBA	**Liberia Airpor**	**3.99**	**126**	*e*P	**Pn**	**14 17 46.8**	**+2.1**
ALIBA				*e*S	**Sn**	**14 18 29.6**	**-0.6**
BUAI	**Buenos Aires**	**4.01**	**120**	*e*P	**Pn**	**14 17 45.7**	**+0.8**
BUAI				*e*S	**Sn**	**14 18 31.4**	**+0.7**
PEJA	**Penjamo Buenos**	**4.02**	**120**	*e*P

DRK0 **Durika** 6.61 123 *e*P Pn 14 18 22.5 +1.8
CEUA **Cerro Uatsi, L** 6.67 119 *e*P Pn 14 18 25.5 +4.0
FIMO **Fila Mora** 6.68 126 *e*P Pn 14 18 25.5 +3.9
EDP2 **Potrero Grande** 6.80 124 *e*P Pn 14 18 21.8 -1.4
JIME **Puerto Jimenez** 6.97 128 *e*P Pn 14 18 28.1 +2.6
PIRO **Carate, Puerto** 7.05 129 Pn 14 18 26.6 -0.1
PIRO **Carate, Puerto** 7.05 129 *e*P Pn 14 18 28.6 +2.0
ALCO **Alturas Coton,** 7.12 123 *e*P Pn 14 18 29.9 +2.3
CMIG **Matias Romero** 7.14 306 P Pn 14 18 30.2 +2.4
28nm,0.7s,baz=112,slow=9.4,SNR=22
CMIG S Sn 14 19 52.7 +5.2
86nm,0.9s,baz=90,slow=6.3,SNR=2.1
TEIG **Tepich** 7.26 4 Pn 14 18 31.0 +1.5
TEIG **Tepich** 7.26 4 P Pn 14 18 32.4 +3.0
0.1nm,0.4s,baz=134,slow=24,SNR=20
TEIG S Sn 14 19 50.2 -0.3
0.1nm,0.4s,baz=133,slow=24,SNR=1.6
TEIG **Tepich** 7.26 4 P Pn 14 18 31.5 +2.0
7µm308nm,0.8s
PRVC **Isla de Provid** 7.30 86 P Pn 14 18 31.8 +1.7
3µm245nm,1.4s
BRU2 **Volcan** 7.32 124 Pn 14 18 29.8 -0.6
BRU2 **Volcan** 7.32 124 *e*P Pn 14 18 32.2 +1.8
BANCO **falda S V. Bar** 7.50 123 *e*P Pn 14 18 35.0 +2.2
JEFFS **S de V. Baru** 7.52 124 *e*P Pn 14 18 34.6 +1.5
DAP26 **falda E V. Bar** 7.54 123 *e*P Pn 14 18 33.0 -0.5
WILLF **Boquete** 7.55 123 *e*P Pn 14 18 36.0 +2.4
PBNVO **Pueblo Nuevo,** 7.68 121 *e*P Pn 14 18 36.6 +1.4
RBALA **Bur** 7.72 121 *e*P Pn 14 18 36.6 +0.8
BCIP **Isla Barro Col** 9.61 112 P Pn 14 19 02.8 +1.2
914nm53nm,0.8s
TLIG **Tlapa** 10.44 297 Pn 14 19 15.3 +2.2
MTDJ **Mount Denham** 12.10 63 Pn 14 19 37.1 +1.4
PAYG **Puerto Ayora** 13.61 186 Pn Pn 14 19 55.3 -0.9
SJCC **San Jacinto, C** 13.74 101 P Pn 14 19 57.1 -0.9
1µm169nm,0.8s
GTBY **Guantanamo Bay** 14.89 60 P 14 20 14.9 -2.5
NMDO **Nuevo Mundo** 15.28 58 P P 14 20 24.7 +2.9
GUY2C **Guyana, Caldas** 15.36 119 P P 14 20 23.0 -0.2
578nm70nm,0.8s
JAMC **Jamundi, Valle** 15.44 128 P Pn 14 20 21.0 +0.5
642nm72nm,0.9s
PTBC **PUERTO BERRIO,** 15.54 113 P Pn 14 20 21.7 +0.1
NORC **Norcasia** 15.62 117 P Pn 14 20 24.1 +1.5
17nm,0.7s
ANIL **Santa Ana** 15.71 121 P P 14 20 27.6 +0.6
BBAC **Balboa, Cauca** 15.80 132 P Pn 14 20 27.3 +2.2
1µm136nm,0.9s
POPC **Popayan, Colom** 15.88 130 P Pn 14 20 27.1 +1.1
2µm164nm,1.0s
ORTC **Ortega, Tolima** 16.17 123 P Pn 14 20 30.2 +0.7
38nm,0.7s
ROSC **El Rosal** 16.45 118 LR LR 14 27 02.2
comp=Z,337nm,21.6s,baz=319,slow=38
PRAC **Prado** 16.57 122 P Pn 14 20 34.3 -0.3
36nm,0.7s
DWPF **Disney Wildern** 16.60 24 P 14 20 36.5 +0.1
DWPF IAmb IAmb 14 20 41.2
comp=Z,76nm,0.9s
BONI **La Bonita** 16.73 137 P P 14 20 42.8 +4.6
comp=Z,758nmcomp=Z,36nm,0.8s
RUSC **La Rusia** 17.05 113 Pn 14 20 40.0 -0.9
RUSC **La Rusia** 17.05 113 P Pn 14 20 38.9 -2.1
comp=Z,391nmcomp=Z,23nm,1.0s
URMC **La Uribe, Meta** 17.25 123 P Pn 14 20 43.3 +0.2
comp=Z,19nm,0.9s
FLOC **Florencia** 17.27 130 P P 14 20 47.4 +3.4
comp=Z,814nmcomp=Z,66nm,0.9s
656A **Willston** 17.36 19 P P 14 20 45.8 +1.0
656A IAmb IAmb 14 20 51.2
comp=Z,74nm,0.9s
553A **Crawfordville** 17.64 13 P P 14 20 49.9 +2.0
553A IAmb IAmb 14 20 55.0
comp=Z,75nm,0.8s
SDDR **Presa de Saban** 17.91 68 P P 14 20 53.6 +2.6
441A **DeRidder** 18.17 348 IAmb IAmb 14 21 04.5
comp=Z,76nm,0.7s
833A **Chaparral WMA,** 18.19 329 P Pn 14 20 55.6 +1.3
833A IAmb IAmb 14 20 57.4
comp=Z,137nm,1.6s
SDV **Santo Domingo** 18.33 101 P P 14 20 56.0 +0.1
SDV IAmb IAmb 14 20 56.7
comp=Z,46nm,0.8s
SDV **Santo Domingo** 18.33 101 P P 14 20 54.4 -1.4
comp=Z,55nm,0.9s,baz=279,slow=5.1,SNR=13
SDV LR LR 14 28 46.9
comp=Z,201nm,20.6s,baz=262,slow=40
SDV **Santo Domingo** 18.33 101 *e*P P 14 20 54.0 -1.9
PTLC **Puerto Leguiza** 18.85 131 P Pn 14 21 07.2 +4.8
VBMS **Vicksburg** 19.25 356 Pn Pn 14 21 08.0 +1.0
435B **Jarrell** 19.50 337 IAmb IAmb 14 21 25.5
comp=Z,76nm,0.9s
DR12 **Loma Pena Alta** 19.60 70 Pn Pn 14 21 11.3 -0.1
DRIO **Del Rio** 19.70 328 P P 14 21 11.4 +0.8
DRIO IAmb IAmb 14 21 18.8
comp=Z,40nm,0.7s
152A **Waverly Hall** 19.99 10 Pn 14 21 16.2 +0.4
152A IAmb IAmb 14 21 32.2
comp=Z,110nm,1.5s
LRAL **Lakeview Retre** 20.07 5 Pn Pn 14 21 16.9 +0.2
JCT **Junction City** 20.17 332 IAmb IAmb 14 21 30.8
comp=Z,29nm,0.8s
Z47A **Carrollton** 20.17 2 IAmb IAmb 14 21 20.6
comp=Z,41nm,0.7s
154A **Montrose** 20.27 14 Pn Pn 14 21 19.0 -0.1
BAUV **El Baul** 20.81 99 P P 14 21 20.8 -1.9
FW13 **Cleburne** 20.86 339 IAmb IAmb 14 21 42.1
comp=Z,47nm,0.9s
GOGA **Godfrey** 20.96 13 IAmb IAmb 14 21 29.1
comp=Z,62nm,0.8s
Z38A **Mt. Pleasant** 20.98 346 IAmb IAmb 14 21 30.9
comp=Z,42nm,0.9s
WLAR **White Oak Lake** 21.01 350 IAmb IAmb 14 21 44.8
comp=Z,54nm,0.9s
HPIG 21.02 314 P P 14 21 27.0 +1.9
Y52A **Lilburn** 21.28 11 IAmb IAmb 14 21 46.5
comp=Z,70nm,0.9s
TXAR **Lajitas Array** 21.34 322 P P 14 21 30.2 +2.0
TXAR **Lajitas Array** 21.34 322 P P 14 21 30.7 +2.5
comp=Z,7.5nm,0.6s,baz=145,slow=11,SNR=104
TXAR PcP PcP 14 25 31.6 +0.9
comp=Z,2.3nm,0.7s,baz=162,slow=4.5,SNR=6.7
TXAR LR LR 14 31 42.4
comp=Z,75nm,20.2s,baz=128,slow=42
comp=Z,7.5nm,0.6s
PLPT **Palo Pinto** 21.59 338 IAmb IAmb 14 21 51.2
comp=Z,41nm,1.0s
Z35A **Perchaven, San** 21.69 341 IAmb IAmb 14 21 36.6
comp=Z,38nm,0.8s
X51A **Calhoun** 21.83 9 IAmb IAmb 14 21 54.3
comp=Z,59nm,1.0s
MIAR **Mount Ida** 21.93 350 IAmb IAmb 14 21 39.7
comp=Z,61nm,0.9s
ABTX **Abilene, Hawle** 21.94 335 IAmb IAmb 14 21 50.6
comp=Z,42nm,0.9s
UALR **University of** 21.96 352 IAmb IAmb 14 21 54.0
comp=Z,49nm,0.9s
SGCY **Sterling City** 21.99 331 IAmb IAmb 14 21 40.7
comp=Z,33nm,0.8s
HODGE **Hodges** 22.02 15 IAmb IAmb 14 21 38.8
comp=Z,30nm,0.9s
LOOK **Love County** 22.28 341 IAmb IAmb 14 22 01.5
comp=Z,50nm,1.0s
SWET **Sewanee** 22.33 6 IAmb IAmb 14 22 00.5
comp=Z,26nm,0.9s
JSC **Jenkinsville** 22.33 17 IAmb IAmb 14 21 58.3
comp=Z,69nm,1.1s
MNHN **Monahans** 22.34 327 IAmb IAmb 14 21 42.4
comp=Z,36nm,0.7s
W50A **Signal Mountai** 22.39 8 IAmb IAmb 14 22 01.8
comp=Z,27nm,0.9s
SJG **San Juan** 22.46 74 P P 14 21 36.6 -3.7
comp=Z,10nm,0.3s,baz=273,slow=11,SNR=3.3
SJG LR LR 14 31 18.0
comp=Z,664nm,18.7s,baz=262,slow=40
comp=Z,10nm,0.3s
ATAH **Atahualpa** 22.49 152 P P 14 21 42.9 +1.8
comp=Z,6.9nm,0.9s,baz=314,slow=4.6,SNR=3.9
ATAH LR LR 14 29 38.5
comp=Z,364nm,20.8s,baz=341,slow=34
comp=Z,6.9nm,0.9s
W52A **Murphy** 22.50 11 IAmb IAmb 14 22 04.7
comp=Z,33nm,0.8s
WTFS **Witchita Falls** 22.50 339 IAmb IAmb 14 22 02.3
comp=Z,24nm,0.7s
CPCT **Cooper Cave** 22.75 9 IAmb IAmb 14 22 06.8
comp=Z,30nm,1.1s
APMT **Aspermont** 22.75 335 IAmb IAmb 14 22 00.3
comp=Z,59nm,1.1s
V48A **Smith Brothers** 22.77 4 IAmb IAmb 14 22 05.2
comp=Z,104nm,1.9s
ODSA **Odessa** 22.85 329 IAmb IAmb 14 21 47.2
comp=Z,40nm,0.8s
BIRD **Birdtown, Kers** 22.91 18 IAmb IAmb 14 21 47.7
comp=Z,40nm,0.7s
PECS **Pecos** 22.97 325 IAmb IAmb 14 21 49.3
comp=Z,71nm,2.0s
FCAR **Ozark Folk Cen** 23.04 353 IAmb IAmb 14 21 49.7
comp=Z,32nm,0.8s
TKL **Tuckaleechee C** 23.07 11 IAmb IAmb 14 21 49.1
comp=Z,28nm,0.8s
TKL **Tuckaleechee C** 23.07 11 LR LR 14 31 31.0
comp=Z,235nm,19.0s,baz=197,slow=39
WVT **Waverly** 23.10 2 P P 14 21 47.1 +0.3
LCAR **Lake Charles** 23.12 355 IAmb IAmb 14 22 09.3
comp=Z,36nm,1.0s
KMSC **Kings Mountain** 23.12 16 IAmb IAmb 14 22 05.2
comp=Z,74nm,1.2s
LPIG **La Paz** 23.14 302 LR LR 14 31 24.4
comp=Z,180nm,18.5s,baz=121,slow=38
X58A **Rowland** 23.18 20 IAmb IAmb 14 21 49.6
comp=Z,42nm,0.7s
V53A **Saluda** 23.27 13 IAmb IAmb 14 22 13.3
comp=Z,47nm,1.0s
W57A **Gilead** 23.52 18 IAmb IAmb 14 22 07.7
comp=Z,44nm,1.0s
U49A **Red Boiling Sp** 23.63 6 IAmb IAmb 14 22 10.6
comp=Z,25nm,0.9s
PBMO **Poplar Bluff** 23.77 357 IAmb IAmb 14 22 15.6
comp=Z,46nm,0.8s
RLO **Rose Lookout** 23.78 348 IAmb IAmb 14 22 09.9
comp=Z,24nm,0.7s
DEOK **Depew** 23.82 344 IAmb IAmb 14 22 09.0
comp=Z,31nm,1.1s
PCRV **Puerto La Cruz** 23.88 94 P P 14 21 53.6 -0.7
comp=Z,14nm,0.6s,baz=224,slow=4.7,SNR=11
PCRV LR LR 14 31 57.0
comp=Z,241nm,21.9s,slow=39
comp=Z,14nm,0.6s
TZTN **Tazewell** 23.98 11 IAmb IAmb 14 22 22.1
comp=Z,38nm,1.1s
T47A **Sharon Grove** 23.99 3 IAmb IAmb 14 22 11.9
comp=Z,48nm,1.0s
OK029 **Liberty Lake** 24.04 343 IAmb IAmb 14 21 56.7
comp=Z,36nm,0.8s
OK052 **Battle Ridge R** 24.04 344 P P 14 21 55.8 +0.2
OK052 IAmb IAmb 14 22 12.5
comp=Z,35nm,0.8s
QUOK **Quay** 24.18 344 IAmb IAmb 14 22 12.2
comp=Z,56nm,1.1s
CPRX **Cap Rock** 24.25 328 P P 14 21 59.1 +1.4
U54A **Nelsons Funny** 24.31 14 IAmb IAmb 14 22 31.1
comp=Z,38nm,0.7s
S44A **Carbondale** 24.65 359 IAmb IAmb 14 22 19.5
comp=Z,36nm,0.9s
CROK **Carrier** 24.85 342 IAmb IAmb 14 22 05.1
comp=Z,31nm,0.8s
ELIS **Ellis County** 24.91 339 IAmb IAmb 14 22 07.6
comp=Z,47nm,1.0s
OK038 **West end E037** 25.06 341 IAmb IAmb 14 22 07.3
comp=Z,43nm,0.8s
CCM **Cathedral Cave** 25.10 356 P P 14 22 05.3 +0.2
WCI **Wyandotte Cave** 25.28 5 P P 14 22 06.5 -0.3
R40A **Maddies Statio** 25.43 354 IAmb IAmb 14 22 27.7
comp=Z,21nm,0.7s
T57A **Hurt** 25.45 18 IAmb IAmb 14 22 25.6
comp=Z,53nm,1.0s
KAN08 **Anthony NE Sta** 25.52 343 IAmb IAmb 14 22 11.6
comp=Z,40nm,0.9s
Q44A **Meyer Farm, Va** 25.85 360 IAmb IAmb 14 22 35.6
comp=Z,23nm,0.8s
CZSB **Cruzeiro do Su** 26.06 141 *e*P P 14 22 13.9 -0.2
R55A **Marlinton** 26.40 16 IAmb IAmb 14 22 37.1
comp=Z,44nm,1.1s
Q51A **Peebles** 26.43 10 IAmb IAmb 14 22 18.4
comp=Z,22nm,0.7s
RTBA **Rita Blanca** 26.51 334 IAmb IAmb 14 22 21.9
comp=Z,38nm,0.8s
Q52A **Bidwell** 26.56 12 IAmb IAmb 14 22 35.8
comp=Z,32nm,1.1s
Y22A **Socorro** 26.61 325 IAmb IAmb 14 22 23.5
comp=Z,16nm,0.8s
P40A **Paris** 26.63 354 IAmb IAmb 14 22 20.0
comp=Z,25nm,0.8s
R58B **Mineral** 26.77 20 IAmb IAmb 14 22 37.6
comp=Z,30nm,1.1s
Q54A **Coxs Mills** 26.89 14 IAmb IAmb 14 22 39.0
comp=Z,43nm,1.0s
P38A **Dawn** 26.89 352 IAmb IAmb 14 22 44.0
comp=Z,26nm,1.0s
ANMO **Albuquerque** 27.09 327 P P 14 22 24.9 +1.5
comp=Z,2.4nm,0.7s,baz=242,slow=9.1,SNR=5.6
ANMO LR LR 14 35 22.0
comp=Z,164nm,19.1s,baz=226,slow=41
comp=Z,2.4nm,0.7s
P52A **Corning** 27.24 11 IAmb IAmb 14 22 44.4
comp=Z,30nm,1.1s
Q56A **Snyder Ridge,** 27.37 17 IAmb IAmb 14 22 46.2
comp=Z,43nm,1.2s
CBKS **Cedar Bluff** 27.52 341 IAmb IAmb 14 22 28.7
comp=Z,30nm,0.9s
O52A **Adamsville** 27.76 12 IAmb IAmb 14 22 30.1
comp=Z,20nm,0.7s
T25A **Trinidad** 27.83 333 IAmb IAmb 14 22 33.6
comp=Z,27nm,0.7s
O53A **New Philadelph** 28.02 13 IAmb IAmb 14 22 51.6
comp=Z,42nm,1.1s
P57A **Homestead Farm** 28.12 18 IAmb IAmb 14 22 52.7
comp=Z,43nm,1.0s
O54A **Avella** 28.14 14 IAmb IAmb 14 22 49.5
comp=Z,22nm,0.8s
SDMD **Soldier's Deli** 28.42 20 IAmb IAmb 14 22 37.1
comp=Z,16nm,0.7s
KSCO **Kaye Shedlock'** 28.69 337 IAmb IAmb 14 22 39.6
comp=Z,31nm,0.8s
PAMR **Monroe State** 28.92 14 IAmb IAmb 14 22 59.5
comp=Z,42nm,1.2s
L40A **Anamosa** 29.08 356 IAmb IAmb 14 22 43.0
comp=Z,21nm,0.8s
BBSR **BB Station** 29.38 45 P P 14 22 43.9 +0.3
BBSR IAmb IAmb 14 22 45.7
comp=Z,19nm,0.8s
BOAV **Boa Vista** 29.93 108 P P 14 22 46.1 -2.5
BOAV **Boa Vista** 29.93 108 *e*P P 14 22 46.1 -2.5
M57A **Sunshine Farm,** 30.08 18 IAmb IAmb 14 23 09.6
comp=Z,26nm,1.0s
OGNE **Ogallala** 30.19 340 IAmb IAmb 14 22 53.1
comp=Z,21nm,0.9s
PV02 **Paradox Valley** 30.76 328 IAmb IAmb 14 23 00.8
comp=Z,14nm,0.7s
PV13 **Radium Mtn., P** 30.76 328 IAmb IAmb 14 23 12.8
comp=Z,17nm,1.1s
PV05 **Paradox Valley** 30.85 328 IAmb IAmb 14 23 00.9
comp=Z,12nm,0.7s
PV03 **Paradox Valley** 30.85 328 IAmb IAmb 14 23 00.7
comp=Z,12nm,0.7s
PV16 **Nyswonger Mesa** 30.93 328 IAmb IAmb 14 23 01.4
comp=Z,16nm,0.7s
PV04 **Paradox Valley** 30.99 328 IAmb IAmb 14 23 02.0
comp=Z,24nm,0.7s
PV14 **Lion Creek, Pa** 31.03 328 IAmb IAmb 14 23 02.2
comp=Z,14nm,0.8s
PV22 **Blue Mesa, Par** 31.03 329 IAmb IAmb 14 23 02.3
comp=Z,11nm,0.7s
PV10 **Padox Valley** 31.04 328 IAmb IAmb 14 23 01.8
comp=Z,24nm,0.7s
BINY **Binghamton** 31.22 19 IAmb IAmb 14 23 19.6
comp=Z,29nm,0.9s
ESJX **Sierra Juarez** 31.27 312 IAmb IAmb 14 23 17.5
comp=Z,15nm,0.8s
ECSD **EROS Data Cent** 31.40 349 IAmb IAmb 14 24 04.3
comp=Z,22nm,1.2s
L59A **Walton** 31.51 20 IAmb IAmb 14 23 19.5
comp=Z,32nm,1.1s
YUH **Yuha Desert** 31.59 313 IAmb IAmb 14 23 20.2
comp=Z,18nm,0.8s
HMU **Henry Mountain** 31.62 326 IAmb IAmb 14 23 20.8
comp=Z,9.0nm,0.8s
BC3 **Big Chuckawall** 31.80 315 P P 14 23 07.0 +1.9
HAYD **Hayden** 31.87 333 IAmb IAmb 14 23 08.9
comp=Z,10nm,0.8s
PFO **Pinyon Flats O** 32.48 314 P P 14 23 12.7 +1.6
comp=Z,1.7nm,0.6s,baz=302,slow=20,SNR=1.5
PFO LR LR 14 37 34.9
comp=Z,234nm,19.2s,baz=132,slow=38
comp=Z,1.7nm,0.6s
V12A **Nelson** 32.61 319 P P 14 23 14.1 +2.0
V12A IAmb IAmb 14 23 29.8
comp=Z,18nm,1.0s
P17A **Butcher Ranch,** 32.74 328 IAmb IAmb 14 23 29.9
comp=Z,16nm,0.8s
SADO **Sadowa** 32.78 13 LR LR 14 37 33.5
comp=Z,2µm,20.1s,baz=161,slow=38
K22A **Casper** 33.33 336 IAmb IAmb 14 23 20.6
comp=Z,19nm,0.8s
F33A **5 Mile Ranch,** 33.39 351 IAmb IAmb 14 23 34.8
comp=Z,12nm,0.9s
RSSD **Black Hills** 33.69 340 P P 14 23 22.8 +1.2
RSSD **Black Hills** 33.69 340 P P 14 23 23.1 +1.6
RSSD pP pP 14 23 37.3 +0.8
TCUT **Toone Canyon** 34.30 329 IAmb IAmb 14 23 48.1
comp=Z,14nm,0.7s
CLC **China Lake** 34.47 316 IAmb IAmb 14 23 45.5
comp=Z,10nm,0.9s
MPMC **Manual Prospec** 34.54 317 IAmb IAmb 14 23 46.2
comp=Z,11nm,1.0s
PDAR **Pinedale Array** 34.70 333 P P 14 23 30.4 0.0
PDAR **Pinedale Array** 34.70 333 P P 14 23 31.1 +0.8
comp=Z,4.5nm,0.8s,baz=130,slow=8.3,SNR=33
PDAR PcP PcP 14 26 03.3 +0.1
comp=Z,3.1nm,0.6s,baz=140,slow=5.3,SNR=9.2
PDAR LR LR 14 41 09.9
comp=Z,106nm,19.4s,baz=138,slow=42
comp=Z,4.5nm,0.8s
HWUT **Hardware Ranch** 34.75 329 IAmb IAmb 14 23 51.2
comp=Z,33nm,1.6s
AHID **Auburn Hatcher** 35.41 331 IAmb IAmb 14 23 52.7
comp=Z,14nm,0.8s
HVU **Hansel Valley** 35.48 328 IAmb IAmb 14 23 41.0
comp=Z,8.3nm,0.9s
LPAZ **La Paz** 35.54 144 P P 14 23 39.1 +0.8
comp=Z,6.0nm,0.7s,baz=328,slow=7.0,SNR=24
LPAZ LR LR 14 38 34.5
comp=Z,312nm,20.3s,baz=306,slow=37
comp=Z,6.0nm,0.7s
LPAZ **La Paz** 35.54 144 P P 14 23 38.8 +0.5
LOHW **Long Hollow** 35.84 333 IAmb IAmb 14 23 56.7
comp=Z,14nm,0.8s
TPAW **Teton Pass** 35.90 332 IAmb IAmb 14 24 01.3
comp=Z,22nm,1.0s
ELK **Elko** 36.07 325 P P 14 23 43.0 +0.8
comp=Z,4.3nm,0.8s,baz=138,slow=6.7,SNR=23
ELK PcP PcP 14 26 08.5 +1.1
comp=Z,4.6nm,0.9s,baz=150,slow=1.6,SNR=8.3
comp=Z,4.3nm,0.8s
LHV **Little Huntoon** 36.46 319 IAmb IAmb 14 24 03.8
comp=Z,12nm,0.8s
RLMT **Red Lodge** 36.48 335 IAmb IAmb 14 23 47.5
comp=Z,5nm,0.8s
YNE **Yellowstone No** 36.69 335 IAmb IAmb 14 23 50.6
comp=Z,13nm,0.7s
YHL **Hebgen Lake** 37.07 333 IAmb IAmb 14 24 14.6
comp=Z,8.5nm,0.9s
ITTB **Itaituba** 37.12 115 *e*P P 14 23 48.3 -2.8
E62A **Clayton Lake** 37.31 22 IAmb IAmb 14 24 12.1
comp=Z,18nm,1.3s
ULM **Lac du Bonnet** 37.64 353 P P 14 23 54.3 -0.7
comp=Z,12nm,0.9s,baz=172,slow=11,SNR=8.6
ULM LR LR 14 41 18.7
comp=Z,374nm,21.5s,baz=146,slow=39
comp=Z,12nm,0.9s
BOZ **Bozeman (W)** 37.85 334 IAmb IAmb 14 24 03.2
comp=Z,9.9nm,0.8s
D62A **Allapoint, All** 37.87 22 IAmb IAmb 14 24 16.9
comp=Z,14nm,0.9s
DLMT **Dillon** 38.09 333 IAmb IAmb 14 24 17.0
comp=Z,15nm,1.1s
HAL **Halifax** 38.25 29 IAmb IAmb 14 24 45.2
comp=Z,27nm,1.4s
VILB **Vilhena** 38.33 131 P P 14 24 00.8 -0.5
VILB **Vilhena** 38.33 131 *e*P P 14 24 00.8 -0.5
NPGB **Novo Progresso** 38.75 119 *e*P P 14 24 01.6 -3.3
J08A **Circle Bar Ran** 39.61 326 IAmb IAmb 14 24 29.3
comp=Z,6.7nm,0.6s
SIV **San Ignacio** 39.77 136 LR LR 14 40 12.3
comp=Z,359nm,21.4s,baz=291,slow=35
GBN **Guysborough** 39.82 30 IAmb IAmb 14 24 33.3
comp=Z,19nm,1.1s
MSO **Missoula** 39.82 333 IAmb IAmb 14 24 35.4
comp=Z,16nm,1.2s
PDRB **Porto dos Gac** 40.14 126 *e*P P 14 24 14.9 -1.5
CLDB **Colider** 40.45 124 *e*P P 14 24 17.6 -1.5
PTLB **Pontes e Lacer** 40.75 133 *e*P P 14 24 21.2 -0.2
YBH **Yreka Blue Hor** 41.10 321 P P 14 24 24.1 -0.1
comp=Z,0.1nm,0.6s,baz=161,slow=3.2,SNR=6.2
YBH LR LR 14 43 29.9
comp=Z,20nm,19.8s,baz=123,slow=39
J04A **Umpqua Nationa** 41.61 323 IAmb IAmb 14 24 32.1
comp=Z,13nm,0.8s
NEW **Newport** 42.33 332 P P 14 24 33.9 -0.1
comp=Z,3.0nm,0.7s,baz=124,slow=7.1,SNR=5.6
NEW PcP PcP 14 26 26.0 -0.7
comp=Z,3.4nm,0.6s,baz=103,slow=5.6,SNR=3.8
NEW LR LR 14 46 06.4
comp=Z,192nm,19.6s,baz=124,slow=42
comp=Z,3.0nm,0.7s
FFC **Flin Flon** 42.94 349 P P 14 24 38.8 0.0
FFC IAmb IAmb 14 24 40.0
comp=Z,13nm,0.7s
FFC **Flin Flon** 42.94 349 P P 14 24 39.1 +0.3
SALV **Santo Antonio** 43.55 130 *e*P P 14 24 43.6 -0.6
RPN **Rapa Nui** 44.52 206 LR LR 14 38 42.5
comp=Z,312nm,21.4s,baz=48,slow=29
SNDB **Serra Nova Dou** 44.73 122 *e*P P 14 24 52.4 -1.3
SCHQ **Schefferville** 45.21 18 P P 14 24 55.7 -1.4
SCHQ **Schefferville** 45.21 18 P P 14 24 55.8 -1.2
comp=Z,176nm,0.7s,baz=222,slow=8.2,SNR=19
SCHQ PcP PcP 14 26 35.6 -0.6
comp=Z,39nm,0.5s,baz=271,slow=4.7,SNR=4.4
SCHQ LR LR 14 45 08.9
comp=Z,2µm,18.6s,baz=171,slow=38
PP1B **Ponte de Pedra** 45.23 131 *e*P P 14 24 57.4 -0.2
A04D **Lummi Island** 45.34 329 IAmb IAmb 14 24 59.6
comp=Z,18nm,0.8s
PGC **Sidney** 45.67 328 IAmb IAmb 14 25 04.2
comp=Z,6.1nm,0.7s
ARAG **Araguaiana, MT** 46.40 127 *e*P P 14 25 05.5 -1.4
AQDB **Aquidauana** 46.54 135 P P 14 25 07.4 -0.5
H03N2 **Juan Fernndez** 47.09 169 T T 15 15 20.9
baz=347,slow=76,SNR=64
H03N1 **Juan Fernandez** 47.09 169 T T 15 15 19.2
baz=347,slow=76,SNR=96
H03N3 **Juan Fernandez** 47.10 169 T T 15 15 23.1
baz=347,slow=76,SNR=94
KUQ **Kuujjuuaa** 47.65 15 P P 14 25 15.2 -0.8
RPRD **Ribas do Rio P** 47.94 133 *e*P P 14 25 18.7 -0.1
AMBA **Amambai (Brazi** 48.69 137 *e*P P 14 25 24.5 0.0
BDFB **Brasilia** 49.38 124 P P 14 25 29.5 -0.6
BDFB **Brasilia** 49.38 124 P P 14 25 29.6 -0.5
comp=Z,21nm,0.8s,baz=290,slow=10,SNR=20
BDFB LR LR 14 47 52.5
comp=Z,100nm,18.0s,baz=310,slow=38
comp=Z,21nm,0.8s
SJPY **San Joaquin** 49.42 140 *e*P P 14 25 29.8 -0.4
CPUP **Villa Florida** 49.64 142 P P 14 25 31.2 -0.6
CPUP IAmb IAmb 14 25 32.5
comp=Z,14nm,1.6s
CPUP **Villa Florida** 49.64 142 P P 14 25 31.8 0.0
comp=Z,1.8nm,0.8s,baz=184,slow=8.3,SNR=8.3
CPUP pP pP 14 25 45.7 -1.6
comp=Z,2.1nm,0.7s,baz=198,slow=9.6,SNR=7.7
CPUP LR LR 14 47 55.9
comp=Z,46nm,18.4s,baz=184,slow=38
comp=Z,1.8nm,0.8s
CPUP **Villa Florida** 49.64 142 P P 14 25 31.0 -0.7
CPUP pP pP 14 25 45.3 -2.0
ITRB **Iturama** 49.88 130 *e*P P 14 25 33.3 -0.5
BBB **Bella Bella** 50.20 330 LR LR 14 50 51.8
comp=Z,196nm,19.9s,baz=146,slow=41
IPMB **Ipameri, GO** 50.52 127 *e*P P 14 25 37.5 -1.1
FRB **Frobisher Bay** 52.70 11 LR LR 14 48 18.9
comp=Z,281nm,21.6s,baz=214,slow=36
YKAW1 **Yellowknife Wh** 52.74 345 P P 14 25 54.0 -0.5
YKAW1 IAmb IAmb 14 25 55.3
comp=Z,34nm,0.8s
YKA **Yellowknife Ar** 52.78 345 P P 14 25 54.2 -0.6
YKA **Yellowknife Ar** 52.78 345 P P 14 25 54.4 -0.4
comp=Z,22nm,0.8s,baz=142,slow=7.2,SNR=64
YKA pP pP 14 26 09.2 -1.3
comp=Z,1.1nm,0.4s,baz=206,slow=1.6,SNR=2.9
YKA LR LR 14 50 58.3

comp=Z,242nm,20.8s,baz=136,slow=39
comp=Z,220nm,0.8s
YKAW3 **Yellowknife Wh** 52.84 345 IAmb IAmb 14 25 56.1
comp=Z,40nm,0.9s
PSAL **Palomas, Salto** 53.07 146 *e*P P **14 25 58.0 +0.7**
TOAD **Toad River Com** 53.26 337 P P **14 25 58.5 +0.1**
baz=134,SNR=5.4
V35K **Ketchikan** 53.72 331 P P **14 26 01.8 0.0**
baz=125
KOTAN **Kotaneelee Air** 53.74 339 P P **14 26 02.4 +0.5**
baz=136,SNR=6.0
LIRD **Liard River Hi** 53.97 337 P P **14 26 03.7 +0.1**
baz=133
T35M **Bob Quinn** 54.08 333 P P **14 26 05.7 +1.2**
baz=127
DIAM **Diamantina, MG** 54.31 124 *e*P P **14 26 05.7 -1.1**
CRAG **Craig** 54.52 331 P P **14 26 08.6 +1.0**
baz=123
WRAK **Wrangell Islan** 54.69 332 P P **14 26 09.8 +1.0**
baz=125
U33K **Whale Pass** 54.87 331 P P **14 26 11.3 +1.1**
baz=124
DLBC **Dease Lake** 54.88 335 P P **14 26 11.0 +0.7**
comp=Z,109nm,0.8s,baz=117,slow=6.6,SNR=32
DLBC LR LR 14 51 54.6
comp=Z,1µm,21.8s,baz=120,slow=38
DLBC **Dease Lake** 54.88 335 P P **14 26 11.5 +1.2**
baz=128,SNR=14
S34M **Telegraph Cree** 55.02 334 P P **14 26 12.4 +1.2**
baz=127
TAOE **Nuku Hiva Isla** 55.36 250 *e*LR LR 14 42 14.3
comp=Z,507nm,25.7s
RCBR **Riachuelo** 55.81 106 LR LR 14 51 38.2
comp=Z,50nm,21.5s,baz=278,slow=38
WRGLY **Wrigley** 55.82 342 P P **14 26 17.3 +0.5**
baz=138
R33M **Jennings River** 55.86 336 P P **14 26 18.0 +0.7**
baz=128,SNR=7.7
PLCA **Paso Flores** 56.03 163 P P **14 26 20.2 +1.5**
comp=Z,2.7nm,0.7s,baz=337,slow=8.1,SNR=7.6
PLCA LR LR 14 44 40.7
comp=Z,122nm,21.6s,baz=3.5,slow=30
comp=Z,2.7nm,0.7s
PLCA **Paso Flores** 56.03 163 P P **14 26 19.3 +0.5**
PLCA sP **sP** **14 26 41.6 +0.3**
PLCA PcP **PcP** **14 27 17.4 +1.0**
Q32M **Nakina River** 56.13 335 IAmb IAmb 14 26 37.2
comp=Z,13nm,1.0s
Q32M **Nakina River** 56.13 335 P P **14 26 20.4 +1.0**
baz=126,SNR=6.5
TGTN **Hyland Airport** 56.20 339 P P **14 26 20.4 +0.7**
baz=132
CMC01 **Camacan, BA** 56.34 118 *e*P P **14 26 19.5 -1.8**
SIT **Sitka** 56.41 332 P P **14 26 21.7 +0.5**
baz=122
SJMB **Sao Joao De Ma** 56.54 123 *e*P P **14 26 21.0 -1.7**
ILON **Igloolik, Nuna** 56.56 3 P P **14 26 21.2 -0.8**
GUA01 **Guaratinga, BA** 56.66 120 *e*P P **14 26 21.9 -1.6**
R32K **Eaglecrest** 56.70 333 P P **14 26 23.7 +0.4**
baz=124
P33M **Teslin, Yukon** 57.10 336 P P **14 26 26.8 +0.7**
baz=126
P32M **Atlin** 57.10 335 P P **14 26 26.5 +0.4**
baz=125
S31K **Pelican** 57.30 332 P P **14 26 28.3 +0.9**
baz=122
SKAG **Skagway** 57.71 334 P P **14 26 31.2 +0.9**
baz=123
N32M **Quiet Lake** 57.76 336 P P **14 26 31.6 +0.8**
baz=126
CAM01 **Campos-RJ** 57.77 126 *e*P P **14 26 31.3 0.0**
ALF01 **Guarapari-ES** 57.88 125 *e*P P **14 26 31.7 -0.4**
MMPY **Sheldon Lake,** 57.98 338 IAmb IAmb 14 26 33.8
comp=Z,8.7nm,0.8s
MMPY **Sheldon Lake,** 57.98 338 P P **14 26 32.9 +0.6**
baz=129,SNR=14
PLBC **Pleasant Camp** 58.15 334 P P **14 26 34.3 +0.9**
baz=122
WHY **Whitehorse** 58.19 335 P P **14 26 34.0 +0.2**
baz=124
O30N **Mendenhall** 58.75 335 IAmb IAmb 14 26 53.2
comp=Z,7.3nm,0.8s
O30N **Mendenhall** 58.75 335 P P **14 26 38.3 +0.7**
baz=123,SNR=7.0
P30M **Million Dollar** 58.76 334 P P **14 26 38.7 +1.0**
baz=122
P29M **Windy Craggy** 58.84 333 IAmb IAmb 14 26 54.1
comp=Z,9.5nm,0.8s
P29M **Windy Craggy** 58.84 333 P P **14 26 39.4 +1.1**
baz=121,SNR=5.3
M31M **Drury Creek, Y** 58.89 337 P P **14 26 39.2 +0.6**
baz=126
N31M **Braeburn, Yuko** 59.02 336 IAmb IAmb 14 26 55.3
comp=Z,9.4nm,0.9s
N31M **Braeburn, Yuko** 59.02 336 P P **14 26 39.9 +0.5**
baz=124
HYT **Haines Junctio** 59.36 335 P P **14 26 42.4 +0.4**
baz=122
N30M **Aishikik Lake** 59.53 335 IAmb IAmb 14 26 44.6
comp=Z,5.1nm,0.8s
N30M **Aishikik Lake** 59.53 335 P P **14 26 44.0 +0.9**
baz=122,SNR=6.6
O29M **Mount Kennedy** 59.55 334 P P **14 26 43.8 +0.5**
baz=120
PNL **Peninsula** 59.59 333 P P **14 26 43.8 +0.4**
baz=119
SFJD **Kangerlussuaq** 59.62 16 LR LR 14 51 14.0
comp=Z,138nm,22.0s,baz=212,slow=35
YUK6 **Outpost Mounta** 59.78 335 P P **14 26 45.2 +0.2**
baz=121
M30M **Minto, Yukon** 60.02 337 IAmb IAmb 14 26 46.7
comp=Z,7.0nm,1.2s
M30M **Minto, Yukon** 60.02 337 P P **14 26 46.5 +0.1**
baz=123,SNR=6.0
YUK4 **Talbot Arm** 60.11 335 P P **14 26 47.7 +0.5**
baz=121
PINM **Pinnacle** 60.17 333 P P **14 26 47.8 +0.4**
baz=119
MAYO **Mayo, Yukon** 60.26 338 P P **14 26 48.5 +0.6**
baz=125
O28M **Mount Upton** 60.47 334 P P **14 26 49.7 -0.1**
baz=119
YUK8 **Steele Glacier** 60.54 334 P P **14 26 50.4 +0.1**
baz=120
M29M **Somme Creek** 60.60 336 IAmb IAmb 14 26 51.7
comp=Z,9.9nm,0.8s
M29M **Somme Creek** 60.60 336 P P **14 26 50.6 +0.2**
baz=122,SNR=14
C36M **Paulatuk** 60.62 346 P P **14 26 50.0 -0.2**
baz=140
L29M **L29M** 60.83 337 IAmb IAmb 14 27 52.2
comp=Z,7.4nm,1.0s
L29M **L29M** 60.83 337 P P **14 26 51.8 0.0**
baz=122
MESA **MESA** 60.96 333 P P **14 26 52.4 -0.6**
baz=117
J30M **Hart River** 60.97 339 P P **14 26 52.6 -0.3**
baz=125
K29M **Barlow Dome** 60.99 338 P P **14 26 52.9 -0.2**
baz=123
H31M **Peel River** 61.02 340 IAmb IAmb 14 26 53.2
comp=Z,9.2nm,1.2s
H31M **Peel River** 61.02 340 P P **14 26 52.6 -0.5**
baz=127
CTG **Chitna Glacier** 61.06 334 P P **14 26 53.2 -0.4**
baz=118
YUK3 **Moose Creek** 61.08 335 P P **14 26 53.3 -0.5**
baz=119
I30M **Mount Dempster** 61.36 339 IAmb IAmb 14 26 56.4
comp=Z,6.6nm,0.8s
I30M **Mount Dempster** 61.36 339 P P **14 26 55.3 -0.2**
baz=125,SNR=10
BVCY **Beaver Creek** 61.55 335 P P **14 26 56.3 -0.5**
baz=119
G31M **Satah River** 61.69 341 P P **14 26 57.2 -0.3**
baz=128,SNR=15
CRQE **Cirque** 61.73 333 P P **14 26 58.1 0.0**
baz=116
DAWY **Dawson** 61.81 337 P P **14 26 57.8 -0.7**
baz=121
RES **Resolute Bay** 61.82 358 LR LR 14 53 57.5
comp=Z,140nm,21.8s,baz=213,slow=36
F31M **Tsiigehtchic** 61.85 342 P P **14 26 58.6 +0.1**
baz=129
M27K **Edge Creek, AK** 61.94 335 IAmb IAmb 14 27 16.5
comp=Z,4.4nm,0.8s
M27K **Edge Creek, AK** 61.94 335 P P **14 26 59.4 -0.1**
baz=118
KAIM **Kayak Island** 61.97 332 P P **14 26 59.6 +0.1**
baz=114
MCARA **McCarthy VSAT** 61.98 334 P P **14 27 00.0 +0.4**
baz=116
I29M **Ogilvie Camp,** 62.11 339 P P **14 27 00.5 +0.1**
baz=123,SNR=6.3
EPYK **Eagle Plains** 62.14 340 IAmb IAmb 14 27 01.4
comp=Z,7.1nm,0.8s
EPYK **Eagle Plains** 62.14 340 P P **14 27 00.7 0.0**
baz=125
BCAR **Beaver Creek A** 62.24 336 P P **14 27 01.6 +0.2**
L27K **Beaver Creek,** 62.26 336 P P **14 27 01.2 -0.3**
baz=118,SNR=6.9
INK **Inuvik** 62.33 343 P P **14 27 01.7 0.0**
comp=Z,19nm,0.8s,baz=123,slow=6.5,SNR=58
INK pP pP **14 27 16.1 -1.7**
comp=Z,9.7nm,0.6s,baz=158,slow=6.2,SNR=9.0
INK LR LR 14 57 25.6
comp=Z,174nm,20.9s,baz=98,slow=39
comp=Z,19nm,0.8s
INK **Inuvik** 62.33 343 P P **14 27 01.8 0.0**
baz=129,SNR=18
G30M **tAoh Zraii Nji** 62.33 341 IAmb IAmb 14 27 29.5
comp=Z,6.7nm,0.9s
G30M **tAoh Zraii Nji** 62.33 341 P P **14 27 02.1 +0.1**
baz=126
GLB **Gilahina Butte** 62.34 334 IAmb IAmb 14 27 17.8
comp=Z,5.7nm,0.9s
M26K **Nabesna, AK** 62.42 335 P P **14 27 02.3 -0.3**
baz=117
BMRM **Bremner River** 62.49 333 P P **14 27 02.7 -0.4**
baz=115
F30M **Barrier River** 62.57 342 P P **14 27 03.1 -0.4**
baz=127,SNR=29
H29M **Whitestone** 62.60 340 IAmb IAmb 14 27 04.6
comp=Z,6.8nm,0.8s
H29M **Whitestone** 62.60 340 P P **14 27 04.0 +0.3**
baz=123,SNR=7.1
Q23K **Middleton Isla** 62.67 331 P P **14 27 04.3 0.0**
baz=112
I28M **Miner Creek** 62.73 339 P P **14 27 04.7 0.0**
baz=121
N25K **Chitina, Valde** 62.76 334 IAmb IAmb 14 27 22.2
comp=Z,8.5nm,0.8s
N25K **Chitina, Valde** 62.76 334 P P **14 27 04.8 0.0**
baz=115,SNR=6.5
K27K **Chicken** 62.82 337 P P **14 27 04.9 -0.2**
baz=119
EYAK **Cordova Ski Ar** 62.83 332 P P **14 27 05.2 0.0**
baz=113
L26K **Log Cabin Wild** 62.85 335 P P **14 27 05.6 +0.2**
baz=117
G29M **Pine Creek** 62.88 340 P P **14 27 05.1 -0.4**
baz=124,SNR=10
A36M **Sachs Harbour** 62.89 348 P P **14 27 05.2 -0.2**
baz=140
KLU **Klutina** 63.29 333 IAmb IAmb 14 27 25.4
comp=Z,8.5nm,0.9s
KLU **Klutina** 63.29 333 P P **14 27 08.1 -0.3**
baz=114
HARP **HAARP** 63.33 334 P P **14 27 08.5 -0.1**
baz=115
I27K **Kandik River** 63.42 338 P P **14 27 09.1 -0.1**
baz=120
SCRK **Sand Creek** 63.54 336 P P **14 27 09.9 -0.2**
baz=117
J26L **Joseph Creek** 63.61 337 P P **14 27 10.9 +0.3**
baz=117,SNR=8.5
M24K **Tolsona, Glenn** 63.64 334 P P **14 27 11.2 +0.4**
baz=114
E29M **Blow River** 63.67 342 IAmb IAmb 14 27 27.3
comp=Z,1.5nm,1.0s
E29M **Blow River** 63.67 342 P P **14 27 10.9 +0.2**
baz=125,SNR=17
H27K **Steamboat Moun** 63.70 339 IAmb IAmb 14 27 12.2
comp=Z,11nm,0.8s
H27K **Steamboat Moun** 63.70 339 P P **14 27 11.1 +0.1**
baz=120,SNR=13
PAX **Paxson** 63.70 335 P P **14 27 11.3 +0.2**
baz=115
RIDG **Independent Ri** 63.77 336 IAmb IAmb 14 27 12.7
comp=Z,8.7nm,1.0s
RIDG **Independent Ri** 63.77 336 P P **14 27 11.5 -0.1**
baz=116,SNR=6.0
I26K **Coal Creek Min** 63.84 338 P P **14 27 11.5 -0.3**
baz=118
F28M **Old Crow** 63.86 341 P P **14 27 12.2 +0.2**
baz=122,SNR=42
G27K **Doyon Strip** 64.04 339 P P **14 27 13.3 +0.1**
baz=120,SNR=9.2
SCM **Sheep Creek Mo** 64.04 333 P P **14 27 13.2 -0.2**
baz=112
PWL **Port Wells** 64.13 332 P P **14 27 13.8 0.0**
baz=111
K24K **Donnelly Dome** 64.18 336 IAmb IAmb 14 27 15.0
comp=Z,13nm,1.0s
K24K **Donnelly Dome** 64.18 336 P P **14 27 14.1 -0.1**
baz=115
M23K **Glacier View** 64.20 333 P P **14 27 14.1 -0.2**
baz=118
E28M **Babbage River** 64.30 342 IAmb IAmb 14 27 15.5
comp=Z,14nm,0.8s
E28M **Babbage River** 64.30 342 P P **14 27 14.4 -0.4**
baz=123,SNR=20
J25K **Salcha River,** 64.36 336 P P **14 27 15.3 -0.1**
baz=116,SNR=10.0
KNK **Knik Glacier** 64.38 333 P P **14 27 15.3 -0.2**
baz=111
SEW **Seward** 64.38 331 P P **14 27 15.4 -0.1**
baz=110
D28M **Stokes Point** 64.46 342 P P **14 27 15.8 0.0**
baz=124
WAT6 **Susitna Watana** 64.50 334 P P **14 27 16.4 -0.1**
baz=112
O22K **Cooper Landing** 64.64 331 P P **14 27 16.8 -0.3**
baz=110
E27K **Coleen River** 64.72 341 IAmb IAmb 14 27 18.8
comp=Z,11nm,0.8s
E27K **Coleen River** 64.72 341 P P **14 27 17.6 0.0**
baz=121,SNR=12
PMR **Palmer** 64.75 333 P P **14 27 17.4 -0.4**
baz=111
PRP **Porcupine Dome** 64.81 337 P P **14 27 18.0 -0.4**
baz=116,SNR=7.2
G26K **Porcupine Rive** 64.84 339 P P **14 27 18.2 -0.2**
baz=118,SNR=7.0
RC01 **Rabbit Creek A** 64.85 332 IAmb IAmb 14 27 33.6
comp=Z,8.1nm,0.8s
RC01 **Rabbit Creek A** 64.85 332 P P **14 27 18.2 -0.3**
baz=110
BRSE **Bradley Lake S** 64.88 330 P P **14 27 18.4 -0.4**
baz=108
HDA **Harding Lake** 64.90 336 IAmb IAmb 14 27 19.3
comp=Z,11nm,1.1s
HDA **Harding Lake** 64.90 336 P P **14 27 18.3 -0.5**
baz=114,SNR=8.0
WAT1 **Susitna Watana** 64.94 334 P P **14 27 18.8 -0.4**
baz=112
IL31 65.02 336 IAmb IAmb 14 27 35.1
comp=Z,8.3nm,0.8s
ILAR **Eielson Array** 65.02 336 P P **14 27 18.6 -1.0**
ILAR **Eielson Array** 65.02 336 P P **14 27 18.9 -0.8**
comp=Z,5.1nm,1.0s,baz=116,slow=4.7,SNR=40
comp=Z,5.1nm,1.0s
D27M **Malcolm River** 65.08 342 IAmb IAmb 14 27 21.1
comp=Z,11nm,0.8s
D27M **Malcolm River** 65.08 342 P P **14 27 20.0 0.0**
baz=122,SNR=15
FYU **Fort Yukon** 65.17 338 IAmb IAmb 14 27 35.9
comp=Z,9.8nm,1.0s
KDAK **Kodiak Island** 65.22 328 P P **14 27 21.0 -0.1**
comp=Z,3.0nm,0.8s,baz=259,slow=1.1,SNR=8.5
KDAK LR LR 14 55 40.7
comp=Z,120nm,21.3s,baz=112,slow=36
comp=Z,3.0nm,0.8s
KDAK **Kodiak Island** 65.22 328 P P **14 27 20.9 -0.1**
baz=106
KDAK **Kodiak Island** 65.22 328 P P **14 27 20.9 -0.1**
KDAK PcP PcP **14 27 53.0 0.0**
M22K **Willow** 65.25 333 P P **14 27 20.9 -0.2**
baz=110
H25L **Birch Creek** 65.25 338 P P **14 27 21.2 +0.1**
baz=116,SNR=11
RND **Reindeer** 65.28 335 IAmb IAmb 14 27 22.4
comp=Z,14nm,0.8s
F26K **Sheenjek River** 65.32 340 IAmb IAmb 14 27 22.8
comp=Z,7.1nm,0.8s
F26K **Sheenjek River** 65.32 340 P P **14 27 21.4 -0.2**
baz=118,SNR=16
BMAR **Burnt Mountain** 65.34 339 P P **14 27 21.9 +0.2**
Q20K **Shuyak Island** 65.36 329 P P **14 27 22.0 +0.2**
baz=106
POKR **Poker Plat Res** 65.37 337 P P **14 27 21.5 -0.4**
baz=114
SUA **Susitna One** 65.43 332 IAmb IAmb 14 27 24.1
comp=Z,5.8nm,0.7s
SUA **Susitna One** 65.43 332 P P **14 27 22.4 -0.1**
baz=109
MCK **McKinley** 65.44 335 IAmb IAmb 14 27 38.4
comp=Z,8.1nm,0.9s
MCK **McKinley** 65.44 335 P P **14 27 22.7 +0.3**
baz=112
OHAK **Old Harbor** 65.44 327 P P **14 27 22.6 +0.1**
baz=105
G25K **Bearman Lake** 65.57 339 P P **14 27 23.3 +0.2**
baz=116,SNR=10.0
F25K **Christian Rive** 65.78 339 IAmb IAmb 14 27 26.1
comp=Z,9.0nm,0.7s
F25K **Christian Rive** 65.78 339 P P **14 27 24.8 +0.3**
baz=117,SNR=13
NEA2 **Nenana** 65.81 336 P P **14 27 24.3 -0.4**
baz=112,SNR=5.0
H24K **Noodor Dome** 65.83 337 P P **14 27 24.7 -0.2**
baz=114,SNR=6.6
O20K **Slope Mountain** 65.89 330 P P **14 27 24.9 -0.5**
baz=107
TRF **Thorofare Moun** 65.90 334 IAmb IAmb 14 27 40.5
comp=Z,9.3nm,1.0s
TRF **Thorofare Moun** 65.90 334 P P **14 27 25.1 -0.4**
baz=110,SNR=6.9
SKT **Skwentna** 65.95 333 P P **14 27 25.2 -0.5**
baz=108,SNR=5.4
E25K **Arctic Village** 65.99 340 IAmb IAmb 14 27 27.2
comp=Z,9.2nm,0.8s
E25K **Arctic Village** 65.99 340 P P **14 27 25.7 -0.2**
baz=117,SNR=19
G24K **Hadweenzic Riv** 66.04 338 IAmb IAmb 14 27 27.4
comp=Z,7.8nm,0.9s
G24K **Hadweenzic Riv** 66.04 338 P P **14 27 26.1 -0.1**
baz=114,SNR=10
RED **Redoubt Volcan** 66.05 331 IAmb IAmb 14 27 26.8
comp=Z,9.8nm,0.8s
P19K **Oil Pt** 66.06 330 P P **14 27 26.1 -0.4**
baz=106
Q19K **Cape Douglas,** 66.07 329 P P **14 27 26.3 -0.3**
baz=105
C27K **Jago River** 66.11 342 IAmb IAmb 14 27 27.8
comp=Z,10nm,0.9s
C27K **Jago River** 66.11 342 P P **14 27 26.7 +0.1**
baz=119,SNR=15
I23K **Minto, Yukon-K** 66.14 336 IAmb IAmb 14 27 27.6
comp=Z,12nm,0.9s
I23K **Minto, Yukon-K** 66.14 336 P P **14 27 26.6 -0.1**
baz=112,SNR=9.8
R18K **Karluk** 66.14 328 P P **14 27 26.4 -0.5**
baz=104
KTH **Kantishna Hill** 66.20 334 IAmb IAmb 14 27 30.4
comp=Z,6.6nm,0.8s
BPAW **Bear Paw Mtn.** 66.42 335 IAmb IAmb 14 27 28.9
comp=Z,7.5nm,0.8s
BPAW **Bear Paw Mtn.** 66.42 335 P P **14 27 27.9 -0.7**
baz=110,SNR=8.7
H23K **Yukon River** 66.46 337 P P **14 27 28.5 -0.4**
baz=112
F24K **Squaw Lake** 66.52 339 P P **14 27 28.9 -0.4**
baz=114,SNR=11
PPLA **Purkeypile** 66.53 333 P P **14 27 29.2 -0.3**
baz=108
C26K **Camden Bay** 66.62 342 P P **14 27 29.6 -0.2**
baz=118
MLY **Manley** 66.64 336 IAmb IAmb 14 27 30.6
comp=Z,9.0nm,0.7s
MLY **Manley** 66.64 336 P P **14 27 29.5 -0.6**
baz=110,SNR=12
M20K **Styx River** 66.64 332 P P **14 27 29.3 -1.0**
baz=107,SNR=7.1
Q18K **Katmai Hardscr** 66.69 329 P P **14 27 29.6 -1.0**
baz=104
O19K **Port Alsworth** 66.73 330 P P **14 27 29.9 -0.7**
baz=105
D25K **Kavik River** 66.80 341 P P **14 27 30.7 -0.3**
baz=116,SNR=16
CHUM **Lake Minchumin** 66.90 335 P P **14 27 31.2 -0.4**
baz=108
E24K **Your Creek** 66.96 339 IAmb IAmb 14 28 04.2
comp=Z,15nm,1.6s
E24K **Your Creek** 66.96 339 P P **14 27 32.2 +0.1**
baz=114,SNR=6.1
N19K **Bonanza Creek** 66.97 331 P P **14 27 31.9 -0.5**
baz=105,SNR=5.8
G23K **Bananza Creek** 66.97 338 P P **14 27 32.3 +0.1**
baz=112,SNR=8.9
P18K **Big Mountain,** 66.97 329 P P **14 27 32.1 -0.2**
baz=104
Q17K **Contact Creek** 67.05 328 P P **14 27 32.6 -0.3**
baz=103
L20K **Farewell, AK** 67.15 333 P P **14 27 32.8 -0.6**
baz=106,SNR=7.3
R17L **Mt. Peulik Vol** 67.15 327 P P **14 27 33.0 -0.4**
baz=102
PPT **Papeete** 67.17 245 LR LR 14 48 50.7
comp=Z,270nm,18.5s,baz=78,slow=28
PPT2 **Papeete2** 67.18 245 *e*LR LR 14 47 43.8
comp=Z,308nm,25.5s
PPT2 *e*LR LR 14 47 48.2
comp=Z,467nm,26.2s
I21K **Tanana** 67.18 336 P P **14 27 32.8 -0.7**
baz=109
H22K **Ishtalitna Cre** 67.19 337 P P **14 27 32.6 -0.9**
baz=110,SNR=6.1
M19K **Big River Lodg** 67.22 332 P P **14 27 33.4 -0.4**
baz=106
COLD **Coldfoot** 67.23 338 IAmb IAmb 14 27 35.5
comp=Z,9.2nm,0.9s
COLD **Coldfoot** 67.23 338 P P **14 27 33.9 +0.2**
baz=112,SNR=10
E23K **Chandalar** 67.34 339 IAmb IAmb 14 27 36.1
comp=Z,13nm,0.8s
E23K **Chandalar** 67.34 339 P P **14 27 34.9 +0.4**
baz=113,SNR=16
K20K **Telida** 67.49 334 P P **14 27 34.5 -0.9**
baz=107,SNR=5.6
L19K **White Mountain** 67.51 332 P P **14 27 35.5 -0.1**
baz=105
D24K **Happy Valley** 67.51 340 P P **14 27 34.8 -0.7**
baz=114
Q16K **King Salmon** 67.53 328 P P **14 27 35.2 -0.5**
baz=102
TOLK **Toolik Lake Re** 67.56 340 IAmb IAmb 14 27 37.0
comp=Z,9.0nm,0.7s
TOLK **Toolik Lake Re** 67.56 340 P P **14 27 35.5 -0.3**
baz=113,SNR=10
G22K **Bettles** 67.60 338 P P **14 27 36.0 -0.1**
baz=110
N18K **Kilae Creek** 67.61 331 P P **14 27 36.1 -0.1**
baz=104
C24K **Franklin Bluff** 67.71 341 P P **14 27 36.6 -0.1**
baz=114
J20K **Nowinta River** 67.76 335 P P **14 27 36.5 -0.6**
baz=107
M18K **Stony River** 67.77 332 P P **14 27 36.8 -0.4**
baz=104
O17K **Koliganek Bris** 67.99 330 P P **14 27 38.5 -0.1**
baz=102,SNR=6.3
CHGN **Chignik** 68.00 326 P P **14 27 38.5 -0.3**
baz=100
F22K **John River** 68.05 338 P P **14 27 38.9 0.0**
baz=110,SNR=8.3
D23K **Nanushuk River** 68.05 340 IAmb IAmb 14 27 40.5
comp=Z,9.8nm,1.1s
D23K **Nanushuk River** 68.05 340 P P **14 27 39.1 +0.2**
baz=112,SNR=5.2
I20K **Naaghedeneel** 68.07 335 IAmb IAmb 14 27 54.8
comp=Z,15nm,0.8s
I20K **Naaghedeneel** 68.07 335 P P **14 27 38.1 -0.9**
baz=107
N17K **Nushagak Hills** 68.19 330 P P **14 27 39.2 -0.7**
baz=103
G21K **Allakaket** 68.21 337 P P **14 27 39.6 -0.4**
baz=108,SNR=7.0
P16K **Nushagak River** 68.28 329 P P **14 27 39.3 -1.1**
baz=101
J19K **Poorman** 68.33 334 P P **14 27 39.7 -1.0**
baz=105
L18K **Granite Mounta** 68.35 332 P P **14 27 40.5 -0.3**
baz=104

C23K	**Itkillik River**	**68.36**	**341**	P	**P**	**14 27 40.6**	**-0.1**
	baz=112,SNR=8.0						
F21K	**Alatna River**	**68.43**	**338**	IAmb	IAmb	14 27 42.8	
	comp=Z,16nm,0.8s						
F21K	**Alatna River**	**68.43**	**338**	P	**P**	**14 27 41.2**	**-0.1**
	baz=109,SNR=21						
CHNA	**Chernabura Isl**	**68.43**	**324**	P	**P**	**14 27 40.9**	**-0.6**
	baz=98						
H20K	**Anotleneega Mo**	**68.44**	**336**	P	**P**	**14 27 41.2**	**-0.2**
	baz=107						
O16K	**Kokwok River B**	**68.44**	**329**	P	**P**	**14 27 41.1**	**-0.4**
	baz=102						
M17K	**Holitna River**	**68.51**	**331**	P	**P**	**14 27 41.4**	**-0.5**
	baz=103						
S14K	**Fog Glacier**	**68.63**	**326**	P	**P**	**14 27 42.0**	**-0.8**
	baz=99						
J18K	**Innoko River**	**68.66**	**333**	P	**P**	**14 27 42.7**	**-0.1**
	baz=104						
D22K	**Ayikyak River**	**68.70**	**340**	IAmb	IAmb	14 27 44.0	
	comp=Z,7.1nm,0.8s						
D22K	**Ayikyak River**	**68.70**	**340**	P	**P**	**14 27 42.6**	**-0.3**
	baz=110,SNR=6.9						
BORG	**Borgarnes**	**68.84**	**25**	LR	LR	14 57 01.2	
	comp=Z,46nm,20.0s,baz=271,slow=35						
N16K	**Nishlik Lake**	**68.95**	**330**	P	**P**	**14 27 44.0**	**-0.6**
	baz=101						
E21K	**Killik River**	**69.00**	**339**	P	**P**	**14 27 44.2**	**-0.6**
	baz=109,SNR=7.3						
SDPT	**Sand Point**	**69.01**	**325**	P	**P**	**14 27 44.4**	**-0.7**
	baz=98						
GCSA	**Galena City Sc**	**69.05**	**335**	P	**P**	**14 27 44.5**	**-0.6**
	baz=104						
L17K	**Donlin**	**69.06**	**332**	P	**P**	**14 27 44.6**	**-0.7**
	baz=102						
H19K	**Roundabout Mou**	**69.08**	**336**	P	**P**	**14 27 44.4**	**-0.9**
	baz=105,SNR=5.1						
M16K	**Timber Creek**	**69.15**	**331**	P	**P**	**14 27 45.0**	**-0.8**
	baz=101						
K17K	**Iditarod**	**69.19**	**333**	P	**P**	**14 27 45.4**	**-0.7**
	baz=102						
F20K	**Avaraart Lake**	**69.21**	**337**	P	**P**	**14 27 45.7**	**-0.4**
	baz=106,SNR=5.2						
TBI	**Tubuai**	**69.39**	**239**	*e*LR	LR	14 48 51.1	
	comp=Z,1μm,27.2s						
TBI				*e*LR	LR	14 48 54.6	
	comp=Z,1μm,26.5s						
B22K	**Teshekpuk Lake**	**69.44**	**341**	IAmb	IAmb	14 27 48.2	
	comp=Z,15nm,0.8s						
B22K	**Teshekpuk Lake**	**69.44**	**341**	P	**P**	**14 27 46.7**	**-0.7**
	baz=110						
G19K	**Purcell Mounta**	**69.49**	**336**	P	**P**	**14 27 47.1**	**-0.7**
	baz=105						
C21K	**Knifeblade Rid**	**69.50**	**340**	P	**P**	**14 27 47.3**	**-0.6**
	baz=108						
L16K	**Owhat River**	**69.53**	**331**	P	**P**	**14 27 47.0**	**-1.1**
	baz=101						
N15K	**Kwethluk River**	**69.54**	**330**	P	**P**	**14 27 47.4**	**-0.9**
	baz=100						
B21K	**Ikpikpuk River**	**69.59**	**340**	IAmb	IAmb	14 27 49.1	
	comp=Z,12nm,0.8s						
B21K	**Ikpikpuk River**	**69.59**	**340**	P	**P**	**14 27 47.8**	**-0.6**
	baz=108						
J17K	**VABM Dome**	**69.68**	**333**	P	**P**	**14 27 48.5**	**-0.6**
	baz=102						
E20K	**Nigu River**	**69.73**	**338**	P	**P**	**14 27 48.7**	**-0.7**
	baz=106,SNR=14						
H18K	**Honhosa River**	**69.76**	**335**	P	**P**	**14 27 49.0**	**-0.5**
	baz=103						
E19K	**Redstone River**	**69.89**	**338**	P	**P**	**14 27 49.8**	**-0.5**
	baz=105						
M15K	**Kasigluk River**	**69.92**	**330**	P	**P**	**14 27 49.9**	**-0.7**
	baz=100						
F19K	**Shaleruckik Mo**	**69.93**	**337**	P	**P**	**14 27 50.0**	**-0.6**
	baz=104,SNR=6.6						
S12K	**Black Hills**	**69.95**	**325**	P	**P**	**14 27 50.2**	**-0.6**
	baz=96						
O14K	**Tigyukauivet M**	**69.98**	**329**	P	**P**	**14 27 50.4**	**-0.6**
	baz=98						
D20K	**Etivluk River**	**70.00**	**339**	P	**P**	**14 27 51.1**	**+0.1**
	baz=106						
G18K	**Tagagawik**	**70.05**	**336**	P	**P**	**14 27 51.5**	**+0.1**
	baz=103						
A22K	**Sinclair Lake**	**70.15**	**341**	P	**P**	**14 27 52.1**	**+0.3**
	baz=109						
N14K	**Kuskokwak Cree**	**70.29**	**329**	P	**P**	**14 27 52.9**	**+0.1**
	baz=98						
J16K	**Anvik River**	**70.33**	**333**	IAmb	IAmb	14 28 11.4	
	comp=Z,14nm,1.3s						
J16K	**Anvik River**	**70.33**	**333**	P	**P**	**14 27 53.2**	**+0.1**
	baz=100						
H17K	**Granite Mounta**	**70.36**	**335**	P	**P**	**14 27 52.9**	**-0.3**
	baz=102						
L15K	**Ungalak Mounta**	**70.46**	**331**	P	**P**	**14 27 53.6**	**-0.3**
	baz=99						
D19K	**Kuna River**	**70.48**	**339**	P	**P**	**14 27 53.6**	**-0.3**
	baz=105						
I17K	**Unalakleet**	**70.49**	**334**	P	**P**	**14 27 53.5**	**-0.4**
	baz=101						
M14K	**Bethel**	**70.55**	**330**	P	**P**	**14 27 54.3**	**-0.1**
	baz=98						
B20K	**Meade River**	**70.55**	**340**	IAmb	IAmb	14 27 54.9	
	comp=Z,16nm,0.9s						
B20K	**Meade River**	**70.55**	**340**	P	**P**	**14 27 54.1**	**-0.2**
	baz=106						
K15K	**Wolf Creek Mou**	**70.58**	**332**	IAmb	IAmb	14 28 05.1	
	comp=Z,21nm,1.4s						
K15K	**Wolf Creek Mou**	**70.58**	**332**	P	**P**	**14 27 54.4**	**-0.3**
	baz=99						
F18K	**Selawik**	**70.60**	**336**	P	**P**	**14 27 54.3**	**-0.4**
	baz=103						
FALS	**False Pass**	**70.63**	**324**	P	**P**	**14 27 55.1**	**+0.1**
	baz=95						
A21K	**Barrow**	**70.76**	**342**	P	**P**	**14 27 55.1**	**-0.4**
	baz=107						
G17K	**Kiwalik Mounta**	**70.78**	**335**	P	**P**	**14 27 55.5**	**-0.2**
	baz=101						
L14K	**Kuka Creek**	**70.98**	**331**	P	**P**	**14 27 56.8**	**-0.2**
	baz=98						
C19K	**Lookout Ridge**	**71.15**	**339**	P	**P**	**14 27 58.1**	**+0.1**
	baz=104						
M13K	**Dall Lake**	**71.18**	**330**	P	**P**	**14 27 57.9**	**-0.4**
	baz=97						
F17K	**Baldwin Pennin**	**71.20**	**336**	P	**P**	**14 27 58.1**	**-0.2**
	baz=101						
H16K	**Elim**	**71.28**	**334**	P	**P**	**14 27 58.5**	**-0.3**
	baz=100						
G16K	**Koyuk River**	**71.45**	**335**	P	**P**	**14 27 59.9**	**0.0**
	baz=100						
E17K	**Hotham Inlet**	**71.54**	**337**	P	**P**	**14 28 00.4**	**0.0**
	baz=101						
J14K	**Nanvaranak Lak**	**71.58**	**332**	P	**P**	**14 28 01.0**	**+0.5**
	baz=98						
C18K	**Utukok River**	**71.61**	**338**	P	**P**	**14 28 01.0**	**+0.2**
	baz=102						
A19K	**Wainwright**	**71.90**	**340**	P	**P**	**14 28 02.7**	**+0.3**
	baz=102						
B18K	**Kokolik River**	**71.97**	**339**	P	**P**	**14 28 03.4**	**+0.5**
	baz=101						
K13K	**Kusilvak Mount**	**71.99**	**331**	P	**P**	**14 28 03.4**	**+0.3**
	baz=96						
G15K	**Niukluk**	**72.10**	**334**	P	**P**	**14 28 03.7**	**0.0**
	baz=98						
RDOG	**Red Dog Mine**	**72.13**	**338**	P	**P**	**14 28 03.9**	**0.0**
	baz=100						
D17K	**Noatak River**	**72.13**	**337**	P	**P**	**14 28 03.9**	**0.0**
	baz=100						
C17K	**DeLong Mountai**	**72.30**	**338**	P	**P**	**14 28 04.4**	**-0.5**
	baz=100						
UNV	**Unalaska Valle**	**72.37**	**323**	P	**P**	**14 28 05.6**	**+0.1**
	baz=92						
F15K	**North Star Dit**	**72.45**	**335**	P	**P**	**14 28 05.3**	**-0.5**
	baz=98						
M11K	**Mekoryuk**	**72.59**	**329**	P	**P**	**14 28 06.5**	**-0.2**
	baz=94						
ANM	**Nome**	**72.61**	**334**	P	**P**	**14 28 06.3**	**-0.5**
	baz=96						
C16K	**Lisburne Hills**	**73.06**	**338**	P	**P**	**14 28 08.5**	**-0.9**
	baz=98						
F14K	**Arctic Creek**	**73.11**	**335**	P	**P**	**14 28 08.9**	**-0.8**
	baz=96						
TNA	**Tin City**	**73.78**	**335**	P	**P**	**14 28 13.2**	**-0.5**
	baz=94						
P08K	**Saint George I**	**74.18**	**325**	P	**P**	**14 28 14.4**	**-1.7**
	baz=90						
SPIA	**Saint Paul Isl**	**74.57**	**326**	P	**P**	**14 28 17.0**	**-1.3**
	baz=90						
JMIC	**Jan Mayen**	**74.70**	**20**	LR	LR	15 01 23.6	
	comp=Z,52nm,18.1s,baz=228,slow=36						

EKA	**Eskdalemuir Ar**	**77.03**	**36**	P	**P**	**14 28 29.0**	**-3.4**
	comp=Z,1.1nm,0.6s,baz=268,slow=4.8,SNR=3.8						
EKA				pP	**PcP**	**14 28 45.2**	**+2.0**
	comp=Z,2.3nm,0.8s,baz=269,slow=5.6,SNR=3.9						
	comp=Z,1.1nm,0.6s						
RAR	**Rarotonga**	**77.45**	**245**	LR	LR	14 55 12.6	
	comp=Z,70nm,21.9s,baz=70,slow=30						
ESDC	**Sonseca Array**	**77.96**	**52**	P	**P**	**14 28 35.6**	**-2.5**
	comp=Z,2.5nm,1.1s,baz=300,slow=6.0,SNR=5.5						
ESDC				LR	LR	14 57 15.1	
	comp=Z,125nm,20.2s,baz=278,slow=31						
	comp=Z,2.5nm,1.1s						
MDT	**Midelt**	**78.32**	**59**	LR	LR	14 57 04.0	
	comp=Z,131nm,21.8s,baz=4.0,slow=31						
PMSA	**Palmer Station**	**79.74**	**169**	LR	LR	14 58 49.2	
	comp=Z,109nm,19.4s,baz=348,slow=32						
SPITS	**Spitsbergen Ar**	**80.50**	**12**	P	**P**	**14 28 50.4**	**-0.8**
	comp=Z,9.9nm,0.9s,baz=289,slow=5.1,SNR=4.0						
SPITS				LR	LR	15 05 58.2	
	comp=Z,102nm,19.1s,baz=284,slow=37						
	comp=Z,9.9nm,0.9s						
SMAI	**San Martin Ant**	**82.36**	**172**	P	**P**	**14 29 01.9**	**+1.0**
SMAI				IAmb	IAmb	14 29 04.1	
	comp=Z,24nm,1.5s						
DBIC	**Dimbokro**	**82.70**	**85**	P	**P**	**14 29 02.6**	**-1.4**
	comp=Z,2.1nm,0.6s,baz=297,slow=21,SNR=3.5						
DBIC				LR	LR	15 03 25.4	
	comp=Z,44nm,21.5s,baz=330,slow=34						
	comp=Z,2.1nm,0.6s						
NOA	**NORSAR Array B**	**83.60**	**29**	P	**P**	**14 29 07.1**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=285,slow=4.9,SNR=3.5						
NOA				LR	LR	15 02 21.4	
	comp=Z,87nm,22.0s,baz=275,slow=33						
	comp=Z,0.7nm,0.7s						
HFS	**Hagfors**	**85.03**	**29**	P	**P**	**14 29 14.2**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=287,slow=4.8,SNR=2.5						
HFS				LR	LR	15 04 03.8	
	comp=Z,90nm,21.2s,baz=298,slow=34						
	comp=Z,1.6nm,0.7s						
ARCES	**ARCESS Array B**	**86.16**	**19**	P	**P**	**14 29 19.5**	**-0.9**
	comp=Z,3.5nm,1.0s,baz=289,slow=3.7,SNR=6.5						
ARCES				pP	**pP**	**14 29 35.8**	**-1.4**
	comp=Z,3.4nm,0.9s,baz=324,slow=8.1,SNR=2.1						
ARCES				LR	LR	15 07 08.7	
	comp=Z,55nm,18.7s,baz=302,slow=35						
	comp=Z,3.5nm,1.0s						
DAVOX	**Davos/Dischmat**	**86.56**	**43**	LR	LR	15 02 19.5	
	comp=Z,106nm,21.7s,baz=265,slow=32						
TORD	**Torodi Ar. Bea**	**87.63**	**77**	P	**P**	**14 29 26.3**	**-2.3**
	comp=Z,0.3nm,0.5s,baz=285,slow=5.4,SNR=1.6						
	comp=Z,0.3nm,0.5s						
KEST	**Kesra**	**89.06**	**54**	LR	LR	15 03 36.0	
	comp=Z,70nm,19.6s,baz=322,slow=32						
VRAC	**Vranov**	**90.09**	**39**	LR	LR	15 05 18.6	
	comp=Z,134nm,21.4s,baz=282,slow=32						
FINES	**FINESS Array B**	**90.13**	**26**	LR	LR	15 08 12.3	
	comp=Z,56nm,20.9s,baz=256,slow=34						
SEY	**Seymchan**	**90.96**	**336**	LR	LR	15 15 17.2	
	comp=Z,81nm,19.6s,baz=68,slow=39						
TIXI	**Tiksi**	**91.90**	**349**	LR	LR	15 14 10.9	
	comp=Z,117nm,21.8s,baz=42,slow=38						
VAE	**Valguarnera**	**92.47**	**51**	LR	LR	15 05 51.1	
	comp=Z,230nm,20.2s,baz=317,slow=32						
MA2	**Magadan**	**93.40**	**334**	LR	LR	15 17 28.1	
	comp=Z,60nm,18.8s,baz=19,slow=39						
AKASG	**Malin Array Be**	**96.89**	**34**	LR	LR	15 11 00.8	
	comp=Z,57nm,19.0s,baz=252,slow=34						
YAK	**Yakutsk**	**99.39**	**343**	LR	LR	15 20 01.2	
	comp=Z,66nm,21.8s,baz=18,slow=38						
QSPA	**South Pole Qui**	**102.90**	**180**	Pdiff	**Pdif**	**14 30 42.4**	**+5.1**
	comp=Z,2.3nm,1.0s,baz=164,slow=1.4,SNR=5.9						
DZM	**Mont Dzumac**	**108.22**	**251**	*e*LR	LR	15 06 49.5	
	comp=Z,127nm,22.2s						
KURBB	**Kurchatov Arra**	**115.75**	**9**	PKP	**PKiKP**	**14 35 20.8**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=347,slow=2.2,SNR=14						
BOSA	**Boshof**	**117.14**	**116**	PKP	**PKPdf**	**14 35 25.4**	**+0.3**
	comp=Z,4.1nm,1.0s,baz=170,slow=3.0,SNR=5.0						
SONM	**Songino Array**	**117.98**	**348**	PKP	**PKPdf**	**14 35 26.4**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=18,slow=1.8,SNR=8.8						
XLT	**XiLinHaoTe**	**119.03**	**340**	*e*PKP	**PKPdf**	**14 35 28.7**	**+0.3**
KSRS	**Korea Array**	**119.12**	**327**	PKP	**PKPdf**	**14 35 29.6**	**+1.0**
	comp=Z,2.9nm,0.8s,baz=50,slow=1.9,SNR=12						
MKAR	**Makanchi Array**	**120.01**	**7**	PKP	**PKPdf**	**14 35 28.6**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=336,slow=2.4,SNR=7.1						
MAW	**Mawson**	**122.32**	**168**	PKP	**PKPdf**	**14 35 34.6**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=172,slow=1.1,SNR=10						
HHC	**Hu-ho-hao-te**	**123.24**	**342**	*e*P	**PKiKP**	**14 35 40.0**	**+3.2**
WMQ	**Urumqi**	**123.42**	**3**	*e*PKP	**PKPdf**	**14 35 34.5**	**-2.3**
WMQ				sPKP		14 35 59.2	
WMQ				LR	LR		
	comp=N,170nm,24.3s						
WMQ				LR	LR		
	comp=Z,180nm,20.5s						
GTA	**Gaotai**	**127.29**	**352**	*e*P	**PKPdf**	**14 35 44.8**	**+0.4**
GTA				sP	pPKPdf	14 35 59.9	-2.1
GTA				pmax	pmax		
	comp=Z,15nm,0.9s						
NJ2	**Nanjing**	**127.98**	**330**	*e*P	**PKPdf**	**14 35 46.0**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
LZH	**Lanzhou**	**129.78**	**347**	*e*P	**PKPdf**	**14 35 46.2**	**-3.1**
LZH				sP	PKiKP	14 35 58.4	+8.3
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
STKA	**Stephens Creek**	**130.18**	**239**	PKP	**PKPdf**	**14 35 51.1**	**+1.2**
	comp=Z,3.7nm,1.1s,baz=83,slow=6.7,SNR=3.5						
WRA	**Warramunga Arr**	**138.09**	**255**	PKP	**PKPdf**	**14 36 06.3**	**+1.3**
	comp=Z,5.1nm,0.8s,baz=90,slow=2.0,SNR=26						
ASAR	**Alice Springs**	**138.18**	**249**	PKhKP	PKPpre	14 35 55.1	
	comp=Z,0.8nm,0.7s,baz=101,slow=3.8,SNR=7.0						
ASAR				PKP	**PKPdf**	**14 36 06.5**	**+1.4**
	comp=Z,2.0nm,0.9s,baz=86,slow=2.7,SNR=9.5						
PZH	**PanZhiHua**	**139.46**	**345**	PKP	**PKPdf**	**14 36 06.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**147.86**	**346**	PKPbc	**PKPdf**	**14 36 23.6**	**+1.3**
	comp=Z,5.6nm,0.7s,baz=342,slow=3.4,SNR=26						

*ISK **10** 14:16:59.7,38.03N×26.87E,h5km,ML2.9/21*
*THE **10** 14:16:60.0,38°N±18"×2"7E±1°9,h5km±13km,M3.1/4,*
MLh3.1/4
*AFAD **10** 14:16:59.5,38.02N×26.86E,h13km±3km,ML2.9*
*ATH **10** 14:16:59.5,37.80N×26.60E,h34km±1km,ML3.1/3,*
Manual Solution by A.Papageorgiou First location:
2019/09/10 14:18:44, This location: 2019/09/10 14:51:55
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 2
km; Longitude uncertainty: 5 km

ISC 10 14:16:59.3±0.8,38.01N±0.02×26.85E±0.02,h13km±5km, n51,σ1°10/80,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMLD	**Gumuldur**	**0.08**	**39**	Pg	**Pg**	**14 17 01.7**	**-0.4**
GMLD				Sg	**Sg**	**14 17 03.0**	**-1.0**
KRL1	**Karlovasi Samo**	**0.25**	**208**	P	**Pg**	**14 17 05.4**	**+0.9**
KRL1				S	**Sg**	**14 17 09.5**	**+1.4**
SMG	**Samos**	**0.30**	**182**	P	**Pg**	**14 17 06.3**	**+0.7**
SMG				S	**Sg**	**14 17 11.4**	**+1.6**
SMG	**Samos**	**0.30**	**182**	P	**Pg**	**14 17 06.2**	**+0.6**
SMG				S	**Sg**	**14 17 11.2**	**+1.5**
ZEYE	**Izmir, Urla-Ze**	**0.35**	**309**	P	**Pg**	**14 17 06.8**	**+0.2**
ZEYE				*i* IAML		14 17 12.0	
	comp=N,2μm,0.4s						
ZEYE				*i* IAML		14 17 12.0	
	comp=E,1μm,0.2s						
ZEYE				S	**Sg**	**14 17 12.3**	**+1.0**
BLCB	**Balcova**	**0.40**	**22**	Pg	**Pg**	**14 17 07.5**	**+0.1**
BLCB				Sg	**Sg**	**14 17 12.8**	**0.0**
BLCB	**Balcova**	**0.40**	**22**	P	**Pg**	**14 17 07.5**	**+0.1**
BLCB				S	**Sg**	**14 17 12.7**	**0.0**
URLA	**Izmir**	**0.40**	**330**	Pg	**Pg**	**14 17 07.6**	**+0.2**
URLA				Sg	**Sg**	**14 17 13.4**	**+0.6**
GCAM	**G?zelcaml?**	**0.43**	**136**	Pg	**Pg**	**14 17 08.6**	**+0.7**
GCAM				Sg	**Sb**	**14 17 15.1**	**-0.2**
CESE	**eme**	**0.54**	**306**	Pg	**Pb**	**14 17 10.9**	**+0.3**
DDIM	**Aydin, Didim**	**0.64**	**151**	P	**Pg**	**14 17 11.7**	**0.0**
DDIM				S	**Sb**	**14 17 22.2**	**+1.1**
DDIM				*i* IAML		14 17 24.0	
	comp=N,358nm,0.5s						
DDIM				*i* IAML		14 17 24.0	
	comp=E,404nm,0.3s						
FOCM	**Foa**	**0.70**	**352**	Pg	**Pg**	**14 17 13.3**	**+0.3**
KARB	**zmir-Karabur**	**0.73**	**332**	P	**Pg**	**14 17 13.4**	**-0.2**
KARB				S	**Sb**	**14 17 24.5**	**+0.5**
KARB				*i* IAML		14 17 27.0	
	comp=N,536nm,0.5s						
KARB				*i* IAML		14 17 27.0	
	comp=E,617nm,0.7s						
EAG2	**Marmaro, Chios**	**0.79**	**312**	P	**Pg**	**14 17 14.7**	**+0.1**
EAG2				S	**Sb**	**14 17 26.1**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.82**	**94**	Pg	**Pg**	**14 17 15.4**	**+0.1**
IZMR	**zmir-demi**	**0.88**	**82**	P	**Pg**	**14 17 15.8**	**-0.4**
IZMR				S	**Sg**	**14 17 27.2**	**-0.6**
ZEDA	**zmir-Bergama**	**0.97**	**10**	P	**Pn**	**14 17 18.7**	**0.0**
ZEDA				S	**Sn**	**14 17 33.2**	**+1.0**
ZEDA				*i* IAML		14 17 34.0	
	comp=N,371nm,0.5s						
ZEDA				*i* IAML		14 17 34.0	
	comp=E,300nm,0.4s						
ODEM	**Odemis-Izmir**	**1.00**	**74**	Pg	**Pg**	**14 17 18.9**	**+0.3**
KLNA	**Kalymnos**	**1.06**	**175**	P	**Pb**	**14 17 15.7**	**-3.8**
KLNA				S	**Sb**	**14 17 28.4**	**-4.9**
GOMA	**Golmarmara-Man**	**1.09**	**50**	Pg	**Pn**	**14 17 21.0**	**+0.7**
GOMA				Sg	**Sn**	**14 17 35.4**	**+0.2**
NAZL	**Nazilli-Aydin**	**1.14**	**92**	Pn	**Pg**	**14 17 21.9**	**+0.6**
AKS	**Akhisar**	**1.15**	**41**	Pn	**Pg**	**14 17 21.9**	**+0.5**
ESEN	**Aydn-Nazilli**	**1.20**	**100**	P	**Pn**	**14 17 21.8**	**-0.1**
ESEN				S	**Sg**	**14 17 40.3**	**+2.1**
KIRA	**zmir-Kiraz**	**1.23**	**81**	P	**Pb**	**14 17 22.8**	**+0.2**
KIRA				S	**Sb**	**14 17 38.7**	**+0.2**
SOMA	**Soma-Manisa**	**1.26**	**25**	Pn	**Pg**	**14 17 24.3**	**+0.7**
PRK	**Paraskevi**	**1.31**	**340**	P	**Pn**	**14 17 23.6**	**+0.3**
PRK				S	**Sg**	**14 17 43.1**	**+1.5**
PRK	**Paraskevi**	**1.31**	**340**	P	**Pn**	**14 17 23.7**	**+0.3**
PRK				S	**Sg**	**14 17 41.8**	**+0.2**
GORD	**Gordes-Manisa**	**1.37**	**49**	Pn	**Pg**	**14 17 25.9**	**+0.2**
MULA	**Mugla, Merkez-**	**1.39**	**123**	P	**Pn**	**14 17 25.1**	**+0.6**
MULA				S	**Sg**	**14 17 45.4**	**+1.3**
DAT	**Datca**	**1.41**	**156**	Pn	**Pg**	**14 17 27.1**	**+0.7**
MANT	**Manisa**	**1.43**	**70**	P	**Pg**	**14 17 27.0**	**+0.3**
MANT				S	**Sn**	**14 17 43.9**	**+0.1**
MANT				*i* IAML		14 17 48.0	
	comp=E,90nm,0.4s						
SIGR	**SIGRI**	**1.43**	**327**	Pn	**Pn**	**14 17 25.4**	**+0.4**
SIGR	**SIGRI**	**1.43**	**327**	P	**Pn**	**14 17 25.3**	**+0.4**
SIGR				S	**Sn**	**14 17 43.4**	**-0.2**
SIGR	**SIGRI**	**1.43**	**327**	P	**Pn**	**14 17 25.2**	**+0.2**
SIGR				S	**Sn**	**14 17 42.6**	**-1.0**
BUHA	**Balikesir, Bur**	**1.50**	**7**	S	**Sg**	**14 17 48.9**	**+1.4**
KULA	**Kula-Manisa**	**1.51**	**70**	Pn	**Pg**	**14 17 28.1**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.52**	**26**	P	**Pg**	**14 17 28.3**	**-0.2**
STEP				S	**Sg**	**14 17 48.7**	**+0.4**
STEP				*i* IAML		14 17 52.0	
	comp=N,252nm,0.4s						
STEP				*i* IAML		14 17 53.0	
	comp=E,234nm,0.8s						
KOCA	**Canakkale, Ayv**	**1.59**	**340**	P	**Pn**	**14 17 26.3**	**-0.9**
KOCA				S	**Sg**	**14 17 52.7**	**+2.2**
KOCA				*i* IAML		14 17 56.0	
	comp=N,96nm,0.5s						
YAYO	**Edremit-Balk**	**1.60**	**6**	Pn	**Pb**	**14 17 29.1**	**+0.3**
TURN	**Turunc**	**1.66**	**138**	Pn	**Pb**	**14 17 30.3**	**+0.5**
USAK	**Uak-Merkez**	**1.84**	**67**	P	**Pb**	**14 17 33.7**	**+0.8**
USAK				S	**Sb**	**14 17 55.9**	**0.0**
EZN	**Ezine**	**1.86**	**347**	Pn	**Pb**	**14 17 32.7**	**-0.4**
KARY	**Karystos**	**1.91**	**271**	P	**Pn**	**14 17 32.3**	**+0.7**
BKES	**Balkesir-Mer**	**1.91**	**26**	P	**Pn**	**14 17 32.9**	**+1.3**
BKES				S	**Sg**	**14 17 60.0**	**-0.8**
BOZC	**Bozcaada**	**1.93**	**341**	Pn	**Pb**	**14 17 34.1**	**-0.3**
APMY	**Acipayam-Deniz**	**2.02**	**105**	Pn	**Pb**	**14 17 35.2**	**-0.7**
GONE	**Gonen-Balikesi**	**2.13**	**17**	Pn	**Pb**	**14 17 36.8**	**-1.0**
LIA	**Limnos Island**	**2.29**	**326**	P	**Pn**	**14 17 36.9**	**+0.1**
LIA				S	**Sn**	**14 18 02.9**	**-1.9**
GELI	**Tayfur-Gelibol**	**2.40**	**353**	Pn	**Pb**	**14 17 40.7**	**-1.7**
KRBG	**Karabiga-Canak**	**2.40**	**8**	Pn	**Pb**	**14 17 40.7**	**-1.7**
TVSB	**Tavsanli**	**2.49**	**54**	Pn	**Pb**	**14 17 42.3**	**-1.8**

*AEIC **10** 14:35:45.1±1.1,53.40N±0.07×165.79W±0.07,h19km±8km,*
Error ellipse: s-maj=11.8km s-min=4.4km az=155.0

NEIC 10 14:35:46.9±1.4,53.47N±0.05×165.86W±0.06,h35km±2km, ML2.5/8,ML2.5(AEIC),Error ellipse: s-maj=9.7km s-min=5.4km az=339.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UNV	**Unalaska Valle**	**0.54**	**315**		Pn	14 35 57.4	-0.6
UNV				IAML		14 36 07.4	
	comp=E,442nm,0.4s						
UNV				IAML		14 36 07.8	
	comp=N,274nm,0.3s						
UNV	**Unalaska Valle**	**0.54**	**315**		Sn	14 36 06.4	+0.7
ZRO	**Akutan Zero**	**0.63**	**354**		Pn	14 35 58.8	-0.5
ZRO					Sn	14 36 09.2	+1.1
MREP	**Makushin Rep't**	**0.63**	**303**		Pn	14 35 58.9	-0.4
MREP					Sn	14 36 09.9	+1.8
AKMO	**Akutan Morgan**	**0.63**	**352**		Pn	14 35 58.8	-0.5
AKMO					Sn	14 36 09.1	+1.0
MNAT

RUGZ	Raukumara Rang	1.08	321	P		Pn	14 51 54.6	-0.3
RAHZ	Arahi	1.14	264	P		Pb	14 51 56.5	-0.2
HAZ	Te Kaha	1.20	330	P		Pn	14 51 56.4	-0.1
HAZ				S		Sn	14 52 11.4	-0.5
RTZ	Ruatahuna	1.24	278	P		Pn	14 51 57.5	+0.4
URZ	Urewera	1.25	295	P		Pn	14 51 57.7	+0.6
URZ	Urewera	1.25	295	S		Sb	14 52 13.9	-0.2
URZ	Urewera	1.25	295	P		Pn	14 51 57.3	+0.2
MXZ	Matakaoa Point	1.25	351	P		Pb	14 51 57.9	-0.6
MXZ	Matakaoa Point	1.25	351	P		Pb	14 51 58.0	-0.6
ARHZ	Aropaoanui	1.29	249	P		Pb	14 51 59.6	+0.4
MTHZ	Maungataniwha	1.33	267	P		Pn	14 51 58.9	+0.6
NMHZ	Naumai	1.39	257	P		Pb	14 52 00.5	-0.4
MUGZ	Murupara	1.43	283	P		Pn	14 52 00.3	+0.7
WHRZ	Whale Island	1.55	307	P		Pb	14 52 03.8	+0.1
MCHZ	McNeill Hill	1.57	245	P		Pb	14 52 03.3	-0.7
EDRZ	Edgecumbe	1.58	296	P		Pb	14 52 04.3	+0.1
KAHZ	Kahuranaki	1.63	232	P		Pn	14 52 03.8	+1.4
BKZ	Black Stump Fm	1.64	257	P		Pn	14 52 03.6	+1.0
BKZ	Black Stump Fm	1.64	257	P		Sb	14 52 24.1	-1.3
BKZ	Black Stump Fm	1.64	257	P		Pn	14 52 03.7	+1.2
RRRZ	Republican Roa	1.66	286	P		Pb	14 52 06.3	+0.8
MRHZ	Matea Rd	1.66	268	P		Pb	14 52 04.5	-1.0
PRRZ	Plateau Road	1.71	280	P		Pb	14 52 05.1	-1.2
ALRZ	Allen Road	1.74	277	P		Pb	14 52 06.5	-0.4
KWHZ	Kaweka Forest	1.76	249	P		Pn	14 52 05.3	+1.0
PXZ	Pawanui	1.79	226	P		Pn	14 52 05.4	+0.8
HLRZ	Highlands Stat	1.80	287	P		Pb	14 52 09.3	+1.4
HRRZ	Handcock Road	1.82	282	P		Pb	14 52 08.5	+0.3
OPRZ	Ohinepanea	1.83	301	P		Pn	14 52 05.6	+0.4
OMRZ	Omania	1.84	292	P		Pb	14 52 08.4	-0.1
HSRZ	Hossack Road	1.87	285	P		Pn	14 52 07.3	+1.6
KRHZ	Kereru	1.89	243	P		Pn	14 52 06.7	+0.8
WPHZ	Waipukurau	2.06	232	P		Pn	14 52 09.4	+1.1
PRHZ	Porangahau	2.08	225	P		Pn	14 52 09.1	+0.5
TGRZ	Tauranga	2.09	300	P		Pb	14 52 11.8	-1.0
RITZ	Rihia Road	2.10	264	P		Pn	14 52 10.7	+1.8
PNHZ	Pukenui	2.13	238	P		Pn	14 52 10.0	+0.7
KUTZ	Kaahu Road	2.15	278	P		Pb	14 52 12.6	-1.2
RATZ	Rangitukua	2.16	267	P		Pb	14 52 17.7	+3.5
ETVZ	East Tongariro	2.23	261	P		Pn	14 52 12.1	+1.3
TMVZ	Te Maari	2.23	261	P		Pn	14 52 12.4	+1.5
MOVZ	Moawhango	2.25	254	P		Pn	14 52 12.7	+1.6
OTVZ	Oturere	2.27	260	P		Pn	14 52 12.7	+1.3
KRVZ	Karewarewa	2.28	262	P		Pn	14 52 12.5	+1.1
SNVZ	South Ngauruho	2.29	259	P		Pn	14 52 13.1	+1.4
TUVZ	Tukino	2.30	257	P		Pn	14 52 13.3	+1.5
NNVZ	North Ngauruho	2.31	261	P		Pn	14 52 13.6	+1.8
NGZ	Ngauruhoe	2.32	260	P		Pn	14 52 13.4	+1.3
WTVZ	West Tongariro	2.32	261	P		Pn	14 52 13.4	+1.4
WHVZ	Whangaehu Hut	2.35	257	P		Pn	14 52 14.2	+1.7
WNVZ	Wahianoa	2.35	256	P		Pn	14 52 13.8	+1.3
TSZ	Takapari Road	2.36	237	P		Pn	14 52 13.0	+0.5
MAVZ	Matarangi	2.37	258	P		Pn	14 52 14.4	+1.5
DVHZ	Dannevirke	2.37	230	P		Pn	14 52 12.8	+0.2
COVZ	Chateau Observ	2.37	259	P		Pn	14 52 14.0	+1.3
FWVZ	Far West T-bar	2.37	258	P		Pn	14 52 14.5	+1.7
TRVZ	Turoa	2.38	257	P		Pn	14 52 13.2	+0.3
TLZ	Tolley Road	2.40	280	P		Pb	14 52 16.0	-2.2
MTVZ	Mangateitei	2.46	255	P		Pn	14 52 15.6	+1.7
PKVZ	Pokaka	2.54	258	P		Pn	14 52 16.4	+1.5
BFZ	Birch Farm	2.58	223	P		Pn	14 52 15.4	-0.1
BFZ	Birch Farm	2.58	223	S		Sn	14 52 45.7	-0.2
BFZ	Birch Farm	2.58	223	P		Pn	14 52 15.3	-0.2
TOZ	Tahuroa Road	2.62	293	P		Pn	14 52 16.4	+0.4
PRWZ	Pori Road	2.65	228	P		Pn	14 52 17.2	+0.8
POWZ	Post Office Ro	2.67	283	P		Pn	14 52 17.3	+1.1
TIWZ	Tintock	2.84	225	P		Pn	14 52 19.3	+0.2
HIZ	Hauiti	2.90	275	P		Pn	14 52 21.2	+1.3
HIZ	Hauiti	2.90	275	P		Pn	14 52 22.1	+2.3
WAZ	Wanganui	2.92	250	P		Pn	14 52 22.6	+2.4
MRZ	Mangatainoka R	2.94	230	P		Pn	14 52 20.4	0.0
VRZ	Vera Road	2.97	263	P		Pn	14 52 22.4	+1.6
HOWZ	Holdsworth Sta	3.13	227	P		Pn	14 52 22.5	-0.6
OGWZ	Otaki Gorge	3.29	231	P		Pn	14 52 25.1	0.0
MTW	Mount Morrison	3.31	224	P		Pn	14 52 24.6	-1.0
TRWZ	Traveller	3.39	219	P		Pn	14 52 25.3	-1.4
PREZ	Palmer Road	3.45	260	P		Pn	14 52 30.7	+3.2
KIW	Kapiti Island	3.47	233	P		Pn	14 52 27.9	+0.1
NEZ	North Egmont	3.49	261	P		Pn	14 52 31.0	+2.8
PAWZ	Paruwai Farm	3.51	222	P		Pn	14 52 27.1	-1.3
CAW	Cannon Point	3.53	228	P		Pn	14 52 28.0	-0.5
KHEZ	Kahui Hut	3.56	261	P		Pn	14 52 32.0	+3.0
PKE	Pukeiti	3.57	262	P		Pn	14 52 32.0	+2.9
SNZO	South Karori	3.87	226	P		Pn	14 52 33.7	+0.6
SNZO	South Karori	3.87	228	S		Sn	14 53 16.5	-1.1
TCW	Tory Channel	4.06	232	P		Pn	14 52 35.0	-0.9
DUWZ	D'Urville Isla	4.08	239	P		Pn	14 52 36.3	+0.2
TUWZ	Tuamarina	4.39	232	P		Pn	14 52 39.8	-0.6
BSWZ	Blackbirch Sta	4.61	229	P		Pn	14 52 42.4	-0.9
NNZ	Nelson	4.64	237	P		Pn	14 52 43.3	-0.4
TKNZ	Takaka Hill	4.83	241	P		Pn	14 52 45.6	-0.8
QRZ	Quartz Range	5.05	245	P		Pn	14 52 48.5	-0.9
QRZ	Quartz Range	5.05	245	S		Sn	14 53 43.5	-3.3
MRNZ	Matariki Terra	5.14	238	P		Pn	14 52 49.7	-0.9
GVZ	Greta Valley S	5.89	223	P		Pn	14 53 00.3	-0.7
CTZ	Chatham Island	6.13	145	P		Pn	14 53 08.0	+3.8
CTZ				S		Sn	14 54 11.9	-1.5
LTZ	Lake Taylor	6.20	228	P		Pn	14 53 04.1	-1.2

*PGC **10** 14:52:43.0±0.0,59°.08N×136°.97W,h12km,ML3.8/33, ML3.6(AEIC), 104km southwest of Skagway, Ak Southeastern Alaska*
*NEIC **10** 14:52:42.7,59°.09N×136°.93W,h12km*
*AEIC **10** 14:52:42.7±1.2,59°.09N±0°.03×136°.93W±0°.05,h13km±4km, ML3.6,ML3.7/110(NEIC),Mwr3.6/35(NEIC),Error ellipse: s-maj=4.7km s-min=2.8km az=211.0*
*ANF **10** 14:52:42.1±0.2,59°.09N×136°.94W,h5km±2km,ML3.9/41, Error ellipse: s-maj=1.5km s-min=1.2km az=44.0*
*NEIC **10** 14:52:43.3±1.3,59°.07N±0°.04×136°.93W±0°.07,h20km±7km, Error ellipse: s-maj=6.3km s-min=4.3km az=215.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr2.90; Mθθ-1.38; Mφφ-1.52; Mrθ-1.59; Mθφ1.36; Mrφ0.56; Fault plane solution: M0 3.32000×10¹⁴ NP1: φs303.96000°,δ60.06000°,λ77.65000°. NP2: φs147.64000°,δ32.17000°,λ110.37000°. Principal axes: T 3.4284, Plg72.0000°, Azm185.0000°; N -0.2332, Plg11.0000°, Azm310.0000°; P -3.1952, Plg14.0000°, Azm43.0000°;*

ISC 10 14:52:41.9±1.0,59°.11N±0°.02×136°.94W±0°.02,h13km±8km, n304,σ1ᵎ31/377,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLBC	Pleasant Camp	0.46	40				Pb	14 52 51.9	0.0
PLBC							Sb	14 52 58.3	-0.3
PLBC	Pleasant Camp	0.46	40	P			Pg	14 52 51.7	+0.7
PLBC				S			Sb	14 52 58.7	+0.1
PLBC	Pleasant Camp baz=216,SNR=1000	0.46	40	P			Pb	14 52 51.9	0.0
PLBC				S			Sb	14 52 58.2	-0.3
P29M	Windy Craggy baz=216	0.66	322				Pg	14 52 54.7	-0.1
P29M	Windy Craggy	0.66	322				Pn	14 53 04.1	+7.0
P29M							Sn	14 53 06.1	-1.4
P29M	Windy Craggy comp=E,3μm,0.4s	0.66	322		IAML			14 53 07.7	
P29M					IAML			14 53 10.5	
P29M	Windy Craggy comp=N,3μm,0.5s	0.66	322	P			Pg	14 52 55.0	+0.2
P29M				S			Sg	14 53 04.2	+0.6
P29M	Windy Craggy baz=141,SNR=796	0.66	322	P			Pg	14 52 55.0	+0.2
P29M				S			Sg	14 53 04.2	+0.6
SKAG	Skagway baz=141	0.90	66				Pg	14 52 59.6	+0.3
SKAG					IAML			14 53 12.2	
SKAG	Skagway comp=N,2μm,0.5s	0.90	66				Sb	14 53 11.6	+0.3
SKAG	Skagway	0.90	66	P			Pg	14 52 59.6	+0.3
SKAG	Skagway	0.90	66	S			Sg	14 53 11.8	+0.5
SKAG	Skagway baz=246,SNR=374	0.90	66	P			Pg	14 52 59.6	+0.3
SKAG				S			Sb	14 53 11.6	+0.3
R31K	City Hall, Gus baz=246	0.94	138				Pg	14 53 00.1	+0.1
R31K							Sn	14 53 13.4	-0.6
R31K							Sg	14 53 13.6	+1.4
R31K	City Hall, Gus baz=319,SNR=79	0.94	138	P			Pg	14 53 00.1	+0.1
R31K				S			Sg	14 53 12.8	+0.6
P30M	Million Dollar baz=319	1.02	359				Pb	14 53 01.5	0.0
P30M							Sb	14 53 15.1	+0.3
P30M	Million Dollar comp=E,2μm,0.7s	1.02	359		IAML			14 53 19.9	
P30M	Million Dollar	1.02	359	P			Pn	14 53 01.9	0.0
P30M				S			Sb	14 53 15.0	+0.3
P30M	Million Dollar baz=178	1.02	359	P			Pb	14 53 01.4	0.0
P30M				S			Sb	14 53 15.0	+0.2
BESE	Bessie Mountai baz=178	1.21	115				Pb	14 53 04.8	+0.1
BESE	Bessie Mountai	1.21	115				Sn	14 53 20.5	-0.4
BESE							Sg	14 53 20.9	0.0
BESE	Bessie Mountai	1.21	115	S			Sn	14 53 20.6	-0.3
S31K	Pelican baz=344,SNR=1000	1.21	162				Pb	14 53 04.4	-0.3
S31K					IAML			14 53 21.7	
S31K	comp=E,2μm,1.1s				IAML			14 53 23.4	
S31K	comp=N,1μm,0.6s Pelican	1.21	162				Sn	14 53 20.4	-0.4
S31K	Pelican	1.21	162	P			Pn	14 53 04.2	-0.3
S31K				S			Sb	14 53 19.7	-0.4
S31K	Pelican baz=344,SNR=1000	1.21	162	P			Pb	14 53 04.3	-0.3
S31K				S			Sg	14 53 20.7	-0.2
PNL	Peninsula baz=344	1.38	295				Pn	14 53 06.6	-0.3
PNL							Sb	14 53 25.3	+0.3
PNL							Sb	14 53 25.4	+0.3
PNL	Peninsula	1.38	295	P			Pn	14 53 06.8	-0.1
PNL	Peninsula	1.38	295	P			Pn	14 53 06.7	-0.3
PNL				S			Sb	14 53 25.1	0.0
PNL	Peninsula baz=113,SNR=358	1.38	295	P			Pn	14 53 06.6	-0.3
PNL				S			Sb	14 53 25.4	+0.3
O29M	Mount Kennedy baz=113	1.46	326				Pn	14 53 08.3	+0.2
O29M	Mount Kennedy	1.46	326				Sb	14 53 27.6	+0.1
O29M							Sg	14 53 29.0	+0.2
O29M	Mount Kennedy	1.46	326	P			Pb	14 53 08.7	-0.2
O29M				S			Sb	14 53 27.8	+0.4
O29M	Mount Kennedy baz=144,SNR=1000	1.46	326	P			Pn	14 53 08.4	+0.2
YKU2	Yakutat	1.46	287				Sg	14 53 28.4	-0.4
YKU2	Yakutat	1.46	287	Pn			Pn	14 53 08.1	+0.1
YKU2	Yakutat	1.46	287	P			Pb	14 53 09.2	+0.3
YKU2	Yakutat	1.46	287	S			Sg	14 53 29.8	+1.0
R32K	Eaglecrest	1.52	122				Pn	14 53 08.7	-0.1
R32K					IAML			14 53 34.5	
R32K	comp=E,1μm,0.3s Eaglecrest	1.52	122				Sb	14 53 29.0	-0.1
R32K	Eaglecrest	1.52	122	P			Pn	14 53 08.9	+0.1
R32K				Sn			Sn	14 53 28.1	-0.3
R32K	Eaglecrest baz=305,SNR=142	1.52	122	P			Pn	14 53 08.7	-0.1
YUK7	Dusty Glacier	1.55	338				Pb	14 53 10.8	+0.2
YUK7							Sb	14 53 30.8	+0.6
YUK7	Dusty Glacier	1.55	338	Pn			Pb	14 53 10.8	+0.2
YUK7				Sn			Sb	14 53 30.6	+0.4
JIS	Juneau Island	1.57	121				Pn	14 53 09.6	+0.1
JIS							Sb	14 53 30.5	-0.2
JIS	Juneau Island	1.57	121	P			Pn	14 53 09.7	+0.1
JIS	Juneau Island	1.57	121	S			Sg	14 53 31.9	-0.6
BCPM	Bancas Point	1.61	303				Pn	14 53 10.6	+0.5
BCPM					IAML			14 53 36.1	
BCPM	comp=N,1μm,0.5s Bancas Point	1.61	303				Sb	14 53 32.5	+0.7
O30N	Mendenhall	1.72	14				Pb	14 53 12.8	-0.7
O30N					IAML			14 53 38.0	
O30N	comp=N,1μm,0.4s Mendenhall	1.72	14				Sb	14 53 35.8	+0.8
O30N	Mendenhall	1.72	14	Pn			Pb	14 53 12.9	-0.5
O30N				Sn			Sb	14 53 34.6	-0.4
O30N	Mendenhall baz=194,SNR=876	1.72	14	P			Pb	14 53 12.9	-0.5
P32M	Atlin	1.72	72				Pn	14 53 12.2	+0.6
P32M					IAML			14 53 38.1	
P32M	comp=E,911nm,0.5s Atlin	1.72	72				Sn	14 53 34.3	+0.7
P32M	Atlin	1.72	72	Pn			Pn	14 53 12.3	+0.6
P32M				Sn			Sb	14 53 34.5	-0.5
P32M	Atlin baz=254,SNR=1000	1.72	72	P			Pn	14 53 12.3	+0.7
HYT	Haines Junctio	1.75	351				Pn	14 53 12.8	+0.7
HYT					IAML			14 53 38.8	
HYT	comp=N,879nm,0.6s				IAML			14 53 40.6	
HYT	comp=E,604nm,0.8s Haines Junctio	1.75	351	Pn			Pb	14 53 13.5	-0.4
HYT				Sn			Sb	14 53 35.3	-0.5
HYT	Haines Junctio baz=170,SNR=809	1.75	351	P			Pb	14 53 13.3	-0.6
HYT				S			Sg	14 53 37.2	-0.8
WHY	Whitehorse baz=170	1.87	33				Pn	14 53 15.0	+1.3
WHY	Whitehorse	1.87	33	Pn			Pn	14 53 15.1	+1.3
WHY				Sn			Sn	14 53 38.5	+1.1
WHY	Whitehorse baz=214,SNR=1000	1.87	33	P			Pn	14 53 14.9	+1.1
WHY				Sb			Sg	14 53 42.0	0.0
PINM	baz=214 Pinnacle baz=119,SNR=91	1.95	302	P			Pn	14 53 15.7	+0.8
PINM				S			Sb	14 53 41.2	-0.4
PCA	baz=119 Pinnacle	1.96	302				Pn	14 53 15.3	+0.5
PCA	Pinnacle	1.96	302				Sb	14 53 41.3	-0.5
PCA	Pinnacle	1.96	302	Pn			Pn	14 53 15.7	+0.8
PCA				Sn			Sn	14 53 39.9	+0.5
YUK6	Outpost Mounta	1.97	339				Pn	14 53 16.5	+1.2
YUK6	Outpost Mounta	1.97	339	Pn			Pn	14 53 16.6	+1.3
YUK6	Outpost Mounta baz=158,SNR=280	1.97	339	P			Pn	14 53 16.3	+1.0
YUK6				Sb			Sg	14 53 45.2	-0.1
YUK5	baz=158 Granite Creek	2.08	348	Pn			Pb	14 53 18.4	-1.3
YUK5				Sn			Sn	14 53 43.4	+0.8
SAMH	Samovar Hills baz=339	2.20	299				Pn	14 53 19.5	+1.2
SAMH							Sb	14 53 49.3	+0.4
SAMH	Samovar Hills baz=339	2.20	299	Pn			Pn	14 53 19.5	+1.2
SAMH				Sn			Sn	14 53 45.5	0.0
SIT	Sitka baz=339	2.23	157				Pn	14 53 18.9	+0.4
SIT					IAML			14 53 59.1	
SIT	comp=E,388nm,0.9s Sitka	2.23	157	P			Pn	14 53 19.3	+0.8
SIT	Sitka baz=339,SNR=12	2.23	157	P			Pn	14 53 18.9	+0.4
SIT				Sb			Sb	14 53 51.2	+1.7
CHX	Chaix Hills baz=339	2.33	296				Pn	14 53 21.6	+1.5
O28M	Mount Upton	2.34	317				Pn	14 53 21.1	+0.8
O28M					IAML			14 53 57.6	
O28M	comp=N,361nm,0.6s				IAML			14 54 00.5	
O28M	comp=E,254nm,0.7s Mount Upton	2.34	317	Pn			Pn	14 53 21.6	+1.3
O28M				Sn			Sn	14 53 49.3	+0.3
O28M	Mount Upton baz=134,SNR=80	2.34	317	P			Pn	14 53 21.3	+1.0
O28M				S			Sb	14 53 51.4	-1.5
N30M	baz=134 Aishikik Lake	2.36	358				Pn	14 53 21.6	+1.2
N30M					IAML			14 53 58.2	
N30M	comp=E,553nm,0.5s				IAML			14 54 02.4	
N30M	comp=N,286nm,0.5s Aishikik Lake	2.36	358	Pn			Pn	14 53 22.0	+1.6
N30M				Sn			Sn	14 53 50.4	+1.1
N30M	Aishikik Lake baz=177,SNR=192	2.36	358	P			Pn	14 53 21.8	+1.4
N30M				Sb			Sg	14 53 56.5	-1.1
P33M	baz=177 Teslin, Yukon	2.37	60				Pn	14 53 21.3	+0.8
P33M					IAML			14 53 58.1	
P33M	comp=E,297nm,0.7s				IAML			14 53 59.8	
P33M	comp=N,368nm,0.6s Teslin, Yukon	2.37	60	Pn			Pn	14 53 21.4	+0.9
P33M				Sn			Sn	14 53 50.4	+0.9
P33M	Teslin, Yukon baz=243,SNR=1000	2.37	60	P			Pn	14 53 21.4	+0.8
P33M				Sb			Sg	14 53 56.9	-1.1
YUK4	Talbot Arm baz=243	2.40	340	Pn			Pb	14 53 23.7	-1.4
YUK4				Sg			Sg	14 54 00.2	+1.2
YUK4	Talbot Arm baz=160,SNR=53	2.40	340	P			Pb	14 53 23.7	-1.4
Q32M	Nakina River	2.42	92				Pn	14 53 22.1	+0.7
Q32M					IAML			14 54 03.6	
Q32M	comp=N,369nm,0.9s				IAML			14 54 06.8	
Q32M	comp=E,385nm,0.8s Nakina River	2.42	92	Pn			Pn	14 53 22.0	+0.6
Q32M				Sn			Sn	14 53 51.2	+0.2
Q32M	Nakina River baz=275,SNR=124	2.42	92	P			Pn	14 53 21.9	+0.6
Q32M				Sb			Sg	14 53 58.8	-0.8
N31M	baz=275 Braeburn, Yuko	2.45	13				Pn	14 53 22.6	+0.9
N31M	Braeburn, Yuko	2.45	13	Pn			Pn	14 53 23.1	+1.4
N31M				Sn			Sn	14 53 52.5	+1.0
N31M	Braeburn, Yuko baz=193,SNR=394	2.45	13	P			Pn	14 53 23.3	+1.6
N31M				Sb			Sg	14 53 59.4	-1.3
BRWY	baz=193 Burwash Landin	2.50	336	Pn			Pn	14 53 23.9	+1.5
BRWY				Sg			Sg	14 54 01.2	-0.9
TABL	Table Mountain	2.51	304				Pn	14 53 23.4	+0.8
TABL					IAML			14 54 08.0	
TABL	comp=N,253nm,0.9s Table Mountain	2.51	304	Pn			Pn	14 53 23.6	+1.0
TABL				Sn			Sn	14 53 53.4	+0.2
RKAV	Rock Avalanche	2.53	300				Pn	14 53 24.0	+1.1
RKAV	Rock Avalanche	2.53	300	Pn			Pn	14 53 24.5	+1.6
RKAV				Sn			Sn	14 53 53.7	0.0
YUK8	Steele Glacier	2.60	328				Pn	14 53 25.9	+2.0
YUK8	Steele Glacier	2.60	328	Pn			Pn	14 53 25.7	+1.7
YUK8				Sn			Sn	14 53 56.1	+0.7
YUK8				Sg			Sg	14 54 04.1	-1.2
YUK8	Steele Glacier baz=146,SNR=15	2.60	328	P			Pn	14 53 25.6	+1.7
LOGN	Logan Glacier	2.67	312				Pn	14 53 26.0	+1.2
LOGN					IAML			14 54 09.8	
LOGN	comp=N,184nm,0.7s Logan Glacier	2.67	312	Pn			Pn	14 53 26.3	+1.5
YAH	Yahtse	2.74	299				Pn	14 53 26.7	+0.9
MESA	MESA	2.76	295				Pn	14 53 26.7	+0.6
MESA							Pb	14 53 26.9	-4.3
MESA	MESA comp=E,251nm,0.3s	2.76	295		IAML			14 54 06.7	
MESA	comp=N,274nm,0.5s				IAML			14 54 10.5	
MESA	MESA	2.76	295	Pn			Pn	14 53 26.6	+0.5
MESA				Sn			Sn	14 53 59.6	+0.2
MESA	MESA baz=111	2.76	295	P			Pn	14 53 26.6	+0.5
N32M	Quiet Lake	2.81	42	Pn			Pn	14 53 28.0	+1.4
N32M				Sg			Sg	14 54 10.6	-1.6
N32M	Quiet Lake baz=224	2.81	42	P			Pn	14 53 27.8	+1.1
CTGM	Chitina Glacie	2.88	312				Pn	14 53 28.7	+1.0
CTGM							Pb	14 53 29.3	-4.0
CTGM	Chitina Glacie	2.88	312	Pn			Pn	14 53 29.1	+1.4
CTGM				Sn			Sn	14 54 02.9	+0.5
CTG	Chitna Glacier baz=128,SNR=23	2.89	312	P			Pn	14 53 28.9	+1.1
GRNC	Granite Creek	2.92	306				Pn	14 53 28.9	+0.7
GRNC					IAML			14 54 20.6	
GRNC	comp=N,187nm,0.6s Granite Creek	2.92	306	Pn			Pn	14 53 29.2	+0.9
BAGL	Bagley Icefiel	2.95	300				Pn	14 53 29.6	+1.2
BARN	Barnard Glacie	3.07	312				Pn	14 53 31.1	+0.8
BARN					IAML			14 54 24.0	
BARN	comp=N,132nm,0.8s				IAML			14 54 24.8	
BARN	comp=E,137nm,0.9s Jennings River	3.08	82				Pn	14 53 31.0	+0.6
R33M					IAML			14 54 21.9	
R33M	comp=N,257nm,0.6s				IAML			14 54 31.7	
R33M	comp=E,206nm,0.6s Jennings River	3.08	82	Pn			Pn	14 53 31.0	+0.6
R33M				Sn			Sn	14 54 07.7	+0.5
R33M	Jennings River baz=267,SNR=121	3.08	82	P			Pn	14 53 31.1	+0.6
R33M				Sb			Sg	14 54 18.1	-2.7
BARK	baz=267 Barkley Ridge	3.09	297				Pn	14 53 32.0	+1.4
ISLE	Juniper Island	3.11	301				Pn	14 53 31.5	+0.7
ISLE					IAML			14 54 18.3	
ISLE	comp=E,155nm,0.8s				IAML			14 54 28.0	
ISLE	comp=N,179nm,1.1s Petersburg	3.13	136	Sn			Sn	14 54 08.0	-0.1
T33K	Petersburg	3.13	136	S			Sn	14 54 09.6	+1.4
SNH	baz=319 Sunshine Point	3.18	292		IAML			14 54 36.5	
SNH	comp=E,131nm,1.0s				IAML			14 54 48.2	
YUK3	comp=N,176nm,0.8s Moose Creek	3.19	328	Pn			Pn	14 53 33.4	+1.4
YUK3				Sn			Sn	14 54 09.9	-0.2
YUK3	Moose Creek baz=145,SNR=99	3.19	328	P			Pn	14 53 33.4	+1.4
KIAG	Kiagna River	3.27	306				Pn	14 53 34.2	+1.1
KIAG	Kiagna River	3.27	306	Pn			Pn	14 53 34.2	+1.1
KIAG				Sn			Sn	14 54 11.6	-0.3
S34M	Telegraph Cree	3.28	109				Pn	14 53 33.7	+0.8
S34M	Telegraph Cree	3.28	109	Pn			Pn	14 53 33.7	+0.8
S34M				Sn			Sn	14 54 11.6	-0.1
S34M	Telegraph Cree baz=294,SNR=15	3.28	109	P			Pn	14 53 33.8	+0.9
WAX	Waxell Ridge	3.28	297				Pn	14 53 34.1	+1.1
WAX	Waxell Ridge comp=E,231nm,0.6s	3.28	297		IAML			14 54 33.4	
YUK2	White River	3.31	326				Pn	14 53 35.1	+1.6
YUK2	White River	3.31	326	Pn			Pn	14 53 34.9	+1.3

WRAK	**Wrangell Islan**	3.65	136		Pn	14 53 37.5	-0.6
WRAK				IAML		14 54 44.5	
	comp=E,153nm,0.6s						
WRAK				IAML		14 54 45.3	
	comp=E,194nm,0.7s						
WRAK	**Wrangell Islan**	**3.65**	**136**	Pn	**Pn**	**14 53 38.6**	**+0.5**
WRAK				Sn	**Sn**	**14 54 19.9**	**-1.1**
WRAK	**Wrangell Islan**	**3.65**	**136**	P	**Pn**	**14 53 38.7**	**+0.5**
	baz=320,SNR=32						
DLBC	**Dease Lake**	**3.66**	**98**	P	**Pn**	**14 53 39.1**	**+0.7**
	baz=283,SNR=70						
MCARA	**McCarthy VSAT**	3.79	310	IAML		14 54 44.4	
	comp=E,125nm,1.0s						
MCARA				IAML		14 54 55.0	
	comp=N,90nm,0.6s						
MCARA	**McCarthy VSAT**	**3.79**	**310**	Pn	**Pn**	**14 53 41.5**	**+1.5**
MCARA				Sn	**Sn**	**14 54 23.4**	**-1.1**
MCARA	**McCarthy VSAT**	**3.79**	**310**	Pn	**Pn**	**14 53 41.5**	**+1.5**
MCARA				Sn	**Sn**	**14 54 23.0**	**-1.5**
MCARA	**McCarthy VSAT**	**3.79**	**310**	P	**Pn**	**14 53 41.8**	**+1.8**
	baz=124						
BVCY	**Beaver Creek**	**3.83**	**332**	Sn	**Sn**	**14 54 25.9**	**+0.4**
BVCY	**Beaver Creek**	**3.83**	**332**	Sn	**Sn**	**14 54 25.2**	**-0.4**
BVCY	**Beaver Creek**	**3.83**	**332**	P	**Pn**	**14 53 41.7**	**+1.1**
	baz=148,SNR=5.6						
VRDI	**Verde Repeater**	**3.89**	**306**		**Pn**	**14 53 40.7**	**-0.8**
KAIM	**Kayak Island**	**3.90**	**285**	IAML		14 55 00.5	
	comp=N,100nm,1.1s						
KAIM				IAML		14 55 09.3	
	comp=E,81nm,1.0s						
KAIM	**Kayak Island**	**3.90**	**285**	P	**Pn**	**14 53 43.5**	**+2.0**
	baz=99						
KAIM				S	**Sn**	**14 54 29.7**	**+2.6**
	baz=99						
L29M	**L29M**	**4.05**	**352**		**Pn**	**14 53 45.5**	**+1.8**
L29M	**L29M**	**4.05**	**352**	Pn	**Pn**	**14 53 45.5**	**+1.8**
L29M				Sn	**Sn**	**14 54 31.9**	**+0.8**
L29M				Sg	**Sg**	**14 54 51.3**	**-0.7**
L29M	**L29M**	**4.05**	**352**	Pn	**Pn**	**14 53 45.5**	**+1.8**
L29M				Sg	**Sg**	**14 54 49.6**	**-2.4**
L29M	**L29M**	**4.05**	**352**	P	**Pn**	**14 53 45.5**	**+1.8**
	baz=171,SNR=73						
M27K	**Edge Creek, AK**	**4.06**	**325**	IAML		14 55 08.3	
	comp=E,62nm,1.0s						
M27K	**Edge Creek, AK**	**4.06**	**325**	Pn	**Pn**	**14 53 45.5**	**+1.6**
M27K				Sn	**Sn**	**14 54 31.2**	**-0.1**
M27K	**Edge Creek, AK**	**4.06**	**325**	Pn	**Pn**	**14 53 45.5**	**+1.6**
M27K				Sn	**Sn**	**14 54 30.8**	**-0.5**
M27K	**Edge Creek, AK**	**4.06**	**325**	P	**Pn**	**14 53 45.5**	**+1.6**
	baz=141,SNR=17						
T35M	**Bob Quinn**	**4.15**	**118**	Sg	**Sg**	**14 54 52.4**	**-2.5**
CRAG	**Craig**	**4.20**	**149**	P	**Pn**	**14 53 45.1**	**-0.5**
WTLY	**Watson Lake, Y**	**4.26**	**73**	Sg	**Sg**	**14 54 57.1**	**-1.4**
WTLY	**Watson Lake, Y**	**4.26**	**73**	Sg	**Sg**	**14 54 54.6**	**-3.9**
M26K	**Nabesna, AK**	**4.44**	**321**	Pn	**Pn**	**14 53 50.4**	**+1.4**
M26K	**Nabesna, AK**	**4.44**	**321**	P	**Pn**	**14 53 50.7**	**+1.7**
	baz=135						
MMPY	**Sheldon Lake,**	**4.48**	**36**		**Pn**	**14 53 51.4**	**+1.9**
MMPY	**Sheldon Lake,**	**4.48**	**36**	Pn	**Pn**	**14 53 51.1**	**+1.6**
MMPY				Sg	**Sg**	**14 55 04.1**	**-1.6**
MMPY	**Sheldon Lake,**	**4.48**	**36**	Pn	**Pn**	**14 53 51.1**	**+1.6**
MMPY				Sg	**Sg**	**14 55 03.6**	**-2.1**
MMPY	**Sheldon Lake,**	**4.48**	**36**	P	**Pn**	**14 53 51.3**	**+1.7**
	baz=220,SNR=41						
BCAR	**Beaver Creek A**	**4.61**	**331**		**Pn**	**14 53 51.8**	**+0.4**
L27K	**Beaver Creek,**	**4.62**	**331**	P	**Pn**	**14 53 52.2**	**+0.7**
	baz=147						
K29M	**Barlow Dome**	**4.76**	**357**	IAML		14 55 18.9	
	comp=N,62nm,0.8s						
K29M				IAML		14 55 25.4	
	comp=E,55nm,1.0s						
K29M	**Barlow Dome**	**4.76**	**357**	Pn	**Pn**	**14 53 55.1**	**+1.7**
K29M				Sn	**Sn**	**14 54 49.4**	**+0.9**
K29M	**Barlow Dome**	**4.76**	**357**	Pn	**Pn**	**14 53 55.1**	**+1.7**
K29M				Sn	**Sn**	**14 54 47.2**	**-1.3**
K29M	**Barlow Dome**	**4.76**	**357**	P	**Pn**	**14 53 55.9**	**+2.4**
	baz=176,SNR=84						
V35K	**Ketchikan**	**4.77**	**140**	IAML		14 55 24.4	
	comp=N,36nm,0.9s						
V35K	**Ketchikan**	**4.77**	**140**	Sn	**Sn**	**14 54 47.5**	**-1.1**
V35K	**Ketchikan**	**4.77**	**140**	Sn	**Sn**	**14 54 46.6**	**-1.9**
V35K	**Ketchikan**	**4.77**	**140**	P	**Pn**	**14 53 54.0**	**+0.6**
	baz=325						
U35K	**Hyder**	**4.91**	**128**	Sn	**Sn**	**14 54 52.8**	**+0.8**
TGTN	**Hyland Airport**	**4.94**	**57**		**Pn**	**14 53 57.4**	**+1.5**
TGTN	**Hyland Airport**	**4.94**	**57**	Pn	**Pn**	**14 53 57.4**	**+1.5**
TGTN				Sg	**Sg**	**14 55 17.3**	**-3.2**
TGTN	**Hyland Airport**	**4.94**	**57**	P	**Pn**	**14 53 57.7**	**+1.8**
	baz=244,SNR=13						
L26K	**Log Cabin Wild**	**5.01**	**324**	IAML		14 55 29.2	
	comp=E,56nm,0.6s						
L26K				IAML		14 55 36.9	
	comp=N,39nm,0.5s						
L26K	**Log Cabin Wild**	**5.01**	**324**	Pn	**Pn**	**14 53 57.7**	**+0.9**
L26K	**Log Cabin Wild**	**5.01**	**324**	P	**Pn**	**14 53 57.9**	**+1.1**
	baz=139,SNR=11						
MENT	**Mentasta**	**5.06**	**322**	IAML		14 55 41.3	
	comp=N,37nm,1.0s						
MENT				IAML		14 56 00.1	
	comp=E,35nm,0.8s						
KLU	**Klutina**	**5.07**	**302**	P	**Pn**	**14 53 59.7**	**+2.1**
	baz=114						
DAWY	**Dawson**	**5.11**	**348**		**Pn**	**14 53 59.2**	**+1.0**
DAWY	**Dawson**	**5.11**	**348**	Pn	**Pn**	**14 53 60.0**	**+1.8**
DAWY				Sn	**Sn**	**14 54 58.3**	**+1.3**
DAWY	**Dawson**	**5.11**	**348**	Pn	**Pn**	**14 53 60.0**	**+1.8**
DAWY				Sn	**Sn**	**14 54 55.7**	**-1.3**
DAWY	**Dawson**	**5.11**	**348**	P	**Pn**	**14 54 00.1**	**+1.9**
	baz=165,SNR=47						
J29N	**Klondike Camp**	**5.40**	**354**	Sg	**Sg**	**14 55 31.5**	**-3.5**
J29N	**Klondike Camp**	**5.40**	**354**	P	**Pn**	**14 54 04.3**	**+2.2**
	baz=173						
GLI	**Glacier Island**	**5.40**	**294**		**Pn**	**14 54 03.3**	**+1.2**
GLI	**Glacier Island**	**5.40**	**294**	P	**Pn**	**14 54 03.6**	**+1.5**
	baz=105						
M24K	**Tolsona, Glenn**	**5.45**	**307**	P	**Pn**	**14 54 04.9**	**+2.1**
	baz=119						
J30M	**Hart River**	**5.49**	**3**		**Pn**	**14 54 05.5**	**+2.0**
J30M	**Hart River**	**5.49**	**3**	Pn	**Pn**	**14 54 05.1**	**+1.6**
J30M	**Hart River**	**5.49**	**3**	P	**Pn**	**14 54 05.7**	**+2.2**
	baz=183,SNR=17						
K27K	**Chicken**	**5.51**	**336**	Pn	**Pn**	**14 54 05.1**	**+1.4**
K27K	**Chicken**	**5.51**	**336**	P	**Pn**	**14 54 05.2**	**+1.6**
	baz=151						
DOT	**Dot Lake**	**5.70**	**326**		**Pn**	**14 54 06.8**	**+0.7**
SCRK	**Sand Creek**	**5.93**	**328**	P	**Pn**	**14 54 10.5**	**+1.0**
	baz=142,SNR=9.5						
PWL	**Port Wells**	**5.98**	**292**	P	**Pn**	**14 54 10.8**	**+0.7**
	baz=102						
EGAK	**Eagle**	**6.03**	**343**	Pn	**Pn**	**14 54 11.8**	**+1.2**
I30M	**Mount Dempster**	**6.14**	**2**	Pn	**Pn**	**14 54 13.5**	**+1.1**
I30M	**Mount Dempster**	**6.14**	**2**	P	**Pn**	**14 54 15.3**	**+2.9**
	baz=182,SNR=37						
KNK	**Knik Glacier**	**6.18**	**297**	P	**Pn**	**14 54 14.7**	**+1.9**
	baz=107						
J26L	**Joseph Creek**	**6.25**	**333**	P	**Pn**	**14 54 15.5**	**+1.6**
	baz=147,SNR=16						
WAT6	**Susitna Watana**	**6.32**	**308**	P	**Pn**	**14 54 17.1**	**+2.2**
	baz=119						
SEW	**Seward**	**6.43**	**284**	P	**Pn**	**14 54 16.4**	**+0.2**
	baz=94						
I28M	**Miner Creek**	**6.51**	**349**		**Pn**	**14 54 18.9**	**+1.5**
I28M	**Miner Creek**	**6.51**	**349**	P	**Pn**	**14 54 19.6**	**+2.1**
	baz=166,SNR=24						
O22K	**Copper Landing**	**6.60**	**287**	P	**Pn**	**14 54 19.7**	**+1.2**
	baz=96						
J25K	**Salcha River,**	**6.81**	**328**	P	**Pn**	**14 54 22.4**	**+0.9**
	baz=140						
H31M	**Peel River**	**6.83**	**9**		**Pn**	**14 54 22.9**	**+1.2**
H31M	**Peel River**	**6.83**	**9**	P	**Pn**	**14 54 23.5**	**+1.8**
	baz=191,SNR=14						
I26K	**Coal Creek Min**	**6.86**	**338**	P	**Pn**	**14 54 24.3**	**+2.1**
	baz=152						
I27K	**Kandik River**	**6.87**	**344**		**Pn**	**14 54 23.5**	**+1.2**
I27K	**Kandik River**	**6.87**	**344**	P	**Pn**	**14 54 23.9**	**+1.5**
	baz=159,SNR=23						
BRSE	**Bradley Lake S**	**7.07**	**281**	P	**Pn**	**14 54 26.2**	**+1.2**
	baz=89						
H29M	**Whitestone**	**7.17**	**355**		**Pn**	**14 54 27.6**	**+1.3**
H29M	**Whitestone**	**7.17**	**355**	P	**Pn**	**14 54 28.2**	**+1.9**
	baz=174,SNR=13						
SUA	**Susitna One**	**7.26**	**295**	P	**Pn**	**14 54 29.6**	**+1.9**
	baz=103						
CNPM	**China Poot**	**7.33**	**279**		**Pn**	**14 54 29.8**	**+1.2**
H27K	**Steamboat Moun**	**7.45**	**346**		**Pn**	**14 54 32.1**	**+1.8**
H27K	**Steamboat Moun**	**7.45**	**346**	P	**Pn**	**14 54 32.6**	**+2.3**
	baz=161,SNR=23						
PRP	**Porcupine Dome**	**7.56**	**332**	P	**Pn**	**14 54 33.3**	**+1.4**
	baz=144						
COLA	**College**	**7.73**	**323**	P	**Pn**	**14 54 36.0**	**+2.0**
SKT	**Skwentna**	**7.75**	**298**	P	**Pn**	**14 54 36.5**	**+2.2**
	baz=105						
TRF	**Thorofare Moun**	**7.76**	**310**	P	**Pn**	**14 54 36.8**	**+2.2**
	baz=118						
G30M	**tAoh Zraii Nji**	**7.91**	**2**	Pn	**Pn**	**14 54 39.1**	**+2.6**
G30M	**tAoh Zraii Nji**	**7.91**	**2**	P	**Pn**	**14 54 38.6**	**+2.1**
	baz=182						
G31M	**Satah River**	**7.94**	**8**		**Pn**	**14 54 38.1**	**+1.3**
G31M	**Satah River**	**7.94**	**8**	P	**Pn**	**14 54 38.8**	**+1.9**
	baz=190,SNR=12						
O20K	**Slope Mountain**	**8.02**	**284**	P	**Pn**	**14 54 39.7**	**+1.6**
	baz=90						
G27K	**Doyon Strip**	**8.02**	**347**		**Pn**	**14 54 39.1**	**+1.0**
G27K	**Doyon Strip**	**8.02**	**347**	P	**Pn**	**14 54 40.4**	**+2.4**
	baz=162,SNR=6.0						
SYI	**Shuyak Island**	**8.03**	**273**		**Pn**	**14 54 39.1**	**+1.0**
Q20K	**Shuyak Island**	**8.03**	**273**	P	**Pn**	**14 54 39.4**	**+1.3**
	baz=80						
H25L	**Birch Creek**	**8.25**	**334**	P	**Pn**	**14 54 43.1**	**+1.9**
	baz=146						
ILSW	**Iliamna Southw**	**8.28**	**283**		**Pn**	**14 54 42.2**	**+0.5**
KDAK	**Kodiak Island**	**8.31**	**268**		**Pn**	**14 54 42.6**	**+0.6**
KDAK	**Kodiak Island**	**8.31**	**268**	P	**Pn**	**14 54 42.0**	**0.0**
	baz=74						
P19K	**Oil Pt**	**8.34**	**281**		**Pn**	**14 54 43.3**	**+0.9**
P19K	**Oil Pt**	**8.34**	**281**	P	**Pn**	**14 54 43.9**	**+1.5**
	baz=87						
AGU	**Augustine-Summ**	**8.46**	**279**		**Pn**	**14 54 44.9**	**+0.7**
AUCH	**Augustine Cone**	**8.47**	**279**		**Pn**	**14 54 44.5**	**+0.3**
Q19K	**Cape Douglas,**	**8.62**	**276**		**Pn**	**14 54 47.6**	**+1.3**
Q19K	**Cape Douglas,**	**8.62**	**276**	P	**Pn**	**14 54 47.6**	**+1.3**
	baz=82						
F28M	**Old Crow**	**8.64**	**353**		**Pn**	**14 54 47.5**	**+1.0**
F28M	**Old Crow**	**8.64**	**353**	P	**Pn**	**14 54 48.5**	**+2.0**
	baz=170						
G25K	**Bearman Lake**	**8.73**	**335**		**Pn**	**14 54 48.6**	**+0.8**
G25K	**Bearman Lake**	**8.73**	**335**	P	**Pn**	**14 54 49.3**	**+1.5**
	baz=147						
OHAK	**Old Harbor**	**8.84**	**265**		**Pn**	**14 54 49.2**	**-0.1**
OHAK	**Old Harbor**	**8.84**	**265**	P	**Pn**	**14 54 49.0**	**-0.3**
	comp=E,6.9nm,0.5s						
OHAK	**Old Harbor**	**8.84**	**265**	P	**Pn**	**14 54 49.0**	**-0.3**
	baz=71						
G24K	**Hadweenzic Riv**	**8.99**	**332**	P	**Pn**	**14 54 52.4**	**+1.1**
	baz=143						
BMAR	**Burnt Mountain**	**9.02**	**341**		**Pn**	**14 54 53.5**	**+1.7**
KAHG	**Katmai Hook Gl**	**9.16**	**274**		**Pn**	**14 54 53.8**	**+0.1**
F26K	**Sheenjek River**	**9.20**	**343**		**Pn**	**14 54 54.5**	**+0.4**
F26K	**Sheenjek River**	**9.20**	**343**	P	**Pn**	**14 54 56.4**	**+2.3**
	baz=156,SNR=14						
E27K	**Coleen River**	**9.34**	**349**	P	**Pn**	**14 54 58.2**	**+2.0**
	baz=165						
F25K	**Christian Rive**	**9.36**	**339**		**Pn**	**14 54 56.8**	**+0.4**
F25K	**Christian Rive**	**9.36**	**339**	P	**Pn**	**14 54 59.0**	**+2.6**
	baz=151,SNR=11						
Q18K	**Katmai Hardscr**	**9.37**	**275**	P	**Pn**	**14 54 58.1**	**+1.5**
	baz=80						
P18K	**Big Mountain,**	**9.37**	**280**	P	**Pn**	**14 54 58.5**	**+1.9**
	baz=84						
E28M	**Babbage River**	**9.60**	**354**		**Pn**	**14 55 00.1**	**+0.5**
E28M	**Babbage River**	**9.60**	**354**	P	**Pn**	**14 55 01.5**	**+1.8**
	baz=172						
J20K	**Nowinta River**	**9.62**	**309**	P	**Pn**	**14 55 01.2**	**+1.3**
	baz=114						
F24K	**Squaw Lake**	**9.75**	**334**		**Pn**	**14 55 01.8**	**0.0**
F24K	**Squaw Lake**	**9.75**	**334**	P	**Pn**	**14 55 03.7**	**+2.0**
	baz=145						
E25K	**Arctic Village**	**9.81**	**341**	P	**Pn**	**14 55 05.0**	**+2.4**
	baz=153,SNR=7.8						
Q17K	**Contact Creek**	**9.90**	**273**	P	**Pn**	**14 55 05.5**	**+1.6**
	baz=77						
P17K	**Kvichak River**	**10.01**	**279**	P	**Pn**	**14 55 06.8**	**+1.5**
	baz=82						
J19K	**Poorman**	**10.15**	**307**	P	**Pn**	**14 55 08.3**	**+1.1**
	baz=110						
O17K	**Koliganek Bris**	**10.28**	**282**	P	**Pn**	**14 55 10.0**	**+1.1**
	baz=85						
R17L	**Mt. Peulik Vol**	**10.30**	**270**	P	**Pn**	**14 55 11.7**	**+2.4**
	baz=74						
D27M	**Malcolm River**	**10.32**	**352**	P	**Pn**	**14 55 11.9**	**+2.3**
	baz=168						
E24K	**Your Creek**	**10.34**	**335**		**Pn**	**14 55 12.3**	**+2.5**
E24K	**Your Creek**	**10.34**	**335**	P	**Pn**	**14 55 12.1**	**+2.3**
	baz=145						
CHIR	**Chirikof Islan**	**10.58**	**260**	P	**Pn**	**14 55 14.3**	**+1.2**
	comp=E,53nm,2.0s						

*UCR **10** 14:58:59.1±1.6, 11°.92N×86°.56W, h83km±6km, MW3.9*
*CATAC **10** 14:58:59.6±0.2, 12°.N±2°×.8°.7W±°., h73km±2km, M3.4/42, MLv3.4/42, Error ellipse: s-maj=5.0km s-min=2.6km az=46.7, confirmed*
*SNET **10** 14:59:00.9±0.8, 11°.97N×86°.72W, h84km, ML3.4*

ISC 10 14:58:59.2±1.2, 11°.94N±0°.04×86°.55W±0°.04, h87km±6km, n92, σ0°62/124, 6C-27D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.24**	**351**	*eP*	**Pn**	**14 59 11.5**	**-0.6**
COPN				*eS*	**Sn**	**14 59 21.1**	**-0.5**
COPN	**Copaltepe**	**0.24**	**351**	⇑P	**Pn**	**14 59 11.5**	**-0.6**
SAPS	**Ciudad Sandino**	**0.27**	**32**	S	**Sn**	**14 59 21.9**	**+0.1**
SAPS	**Ciudad Sandino**	**0.27**	**32**	⇓P	**Pn**	**14 59 12.0**	**-0.2**
ABCN	**Banco Central**	**0.30**	**52**	P	**Pn**	**14 59 12.3**	**-0.1**
ABCN	**Banco Central**	**0.30**	**52**	S	**Sn**	**14 59 22.3**	**+0.2**
AMTN	**Mateare**	**0.32**	**22**	P	**Pn**	**14 59 12.3**	**-0.2**
UNAN	**Cigeo UNAN**	**0.33**	**58**	⇓P	**Pn**	**14 59 12.2**	**-0.3**
UNAN				S	**Sn**	**14 59 22.4**	**0.0**
APQ2	**Apoyeque**	**0.34**	**41**	P	**Pn**	**14 59 12.4**	**-0.1**
APQ2				S	**Sn**	**14 59 22.8**	**+0.4**
TISN	**Laguna Tiscapa**	**0.34**	**54**	⇓P	**Pn**	**14 59 12.2**	**-0.4**
ALLN	**Telcor Managua**	**0.35**	**52**	P	**Pn**	**14 59 12.3**	**-0.4**
MGAN	**Managua**	**0.36**	**55**	⇓*i*P	**Pn**	**14 59 12.4**	**-0.3**
MGAN				*e*S	**Sn**	**14 59 22.8**	**+0.1**
MGAN	**Managua**	**0.36**	**55**	P	**Pn**	**14 59 12.5**	**-0.3**
MGAN	**Managua**	**0.36**	**55**	S	**Sn**	**14 59 23.0**	**+0.3**
R4DEC	**Barrio San Lui**	**0.36**	**55**	P	**Pn**	**14 59 12.3**	**-0.4**
R4DEC	**Barrio San Lui**	**0.36**	**55**	S	**Sn**	**14 59 23.1**	**+0.4**
APQ3	**Volcan Apoyequ**	**0.38**	**29**	P	**Pn**	**14 59 12.8**	**0.0**
APQ3				S	**Sn**	**14 59 23.8**	**+0.9**
SABN	**Sabanita**	**0.38**	**87**	⇑P	**Pn**	**14 59 12.8**	**-0.1**
MASN	**Masaya**	**0.40**	**83**	P	**Pn**	**14 59 12.8**	**-0.1**
MASN				S	**Sn**	**14 59 24.2**	**+1.0**
WILN	**Americas 2**	**0.42**	**58**	P	**Pn**	**14 59 12.1**	**-0.9**
WILN				S	**Sn**	**14 59 23.3**	**0.0**
NANN	**Nandasmo**	**0.42**	**90**	S	**Sn**	**14 59 25.0**	**+1.5**
NANN	**Nandasmo**	**0.42**	**90**	⇓P	**Pn**	**14 59 13.7**	**+0.6**
MOM2	**El Cardon**	**0.50**	**8**	⇑P	**Pn**	**14 59 13.5**	**-0.3**
MOM2				S	**Sn**	**14 59 24.6**	**+0.2**
NADN	**Granada**	**0.54**	**110**	⇓*e*P	**Pn**	**14 59 13.7**	**-0.4**
NADN				*e*S	**Sn**	**14 59 25.4**	**+0.3**
NADN	**Granada**	**0.54**	**110**	⇓P	**Pn**	**14 59 13.7**	**-0.4**
NADN				S	**Sn**	**14 59 25.4**	**+0.3**
CNGA	**Al SSO del Vol**	**0.57**	**345**	P	**Pn**	**14 59 14.1**	**-0.3**
CNGN	**Cerro Negro**	**0.58**	**346**	*e*P	**Pn**	**14 59 14.1**	**-0.3**
CNGN				*e*S	**Sn**	**14 59 25.7**	**0.0**
CNGN	**Cerro Negro**	**0.58**	**346**	⇓P	**Pn**	**14 59 14.1**	**-0.3**
ILCN	**San Idelfonso**	**0.65**	**347**	P	**Pn**	**14 59 14.5**	**-0.6**
PLRN	**Geotermica Pol**	**0.68**	**342**	P	**Pn**	**14 59 14.8**	**-0.5**
PLRN				S	**Sn**	**14 59 26.9**	**-0.3**
PKGN	**Cerro Pekin**	**0.84**	**330**	⇓P	**Pn**	**14 59 16.8**	**-0.2**
PKGN				S	**Sn**	**14 59 30.0**	**-0.1**
CRIN	**San Cristobal**	**0.90**	**327**	⇓*i*P	**Pn**	**14 59 17.5**	**-0.3**
CRIN				*e*S	**Sn**	**14 59 32.1**	**+0.7**
CRIN	**San Cristobal**	**0.90**	**327**	S	**Sn**	**14 59 31.6**	**+0.1**
CRIN	**San Cristobal**	**0.90**	**327**	⇓P	**Pn**	**14 59 17.4**	**-0.3**
JAPN	**Al SSO del Vol**	**0.95**	**115**	⇓*e*P	**Pn**	**14 59 18.0**	**-0.1**
JAPN	**Al SSO del Vol**	**0.95**	**115**	⇓P	**Pn**	**14 59 17.9**	**-0.3**
MORN	**Al O del Volca**	**0.97**	**114**	⇓P	**Pn**	**14 59 17.9**	**-0.5**
CONN	**Concepcion**	**0.98**	**112**	⇓P	**Pn**	**14 59 18.1**	**-0.5**
BOAB	**BOACO BROADBAN**	**1.01**	**60**	⇓P	**Pn**	**14 59 18.9**	**+0.1**
MATN	**Matagalpa**	**1.16**	**32**	⇑P	**Pn**	**14 59 20.0**	**-0.7**
LCRUZ	**La Cruz**	**1.24**	**133**	⇓*i*P	**Pn**	**14 59 21.5**	**-0.2**
LCRUZ				*e*S	**Sn**	**14 59 38.1**	**-0.4**
CARN	**Rivas**	**1.26**	**126**	⇓*i*P	**Pn**	**14 59 21.4**	**-0.4**
CARN				*e*S	**Sn**	**14 59 38.4**	**-0.4**
CARN	**Rivas**	**1.26**	**126**	⇓P	**Pn**	**14 59 21.3**	**-0.5**
CARN				S	**Sn**	**14 59 38.9**	**+0.1**
ACON	**Acoyapa**	**1.35**	**89**	*e*P	**Pn**	**14 59 22.1**	**-0.9**
ACON	**Acoyapa**	**1.35**	**89**	⇓P	**Pn**	**14 59 22.1**	**-0.9**
POTN	**Potosi Cosigui**	**1.41**	**319**	⇓*i*P	**Pn**	**14 59 23.4**	**-0.3**
POTN				*e*S	**Sn**	**14 59 41.9**	**-0.2**
POTN	**Potosi Cosigui**	**1.41**	**319**	⇓P	**Pn**	**14 59 23.4**	**-0.3**
CSGN	**Cosiguina Volc**	**1.43**	**317**	*e*P	**Pn**	**14 59 23.7**	**-0.3**
CSGN				*e*S	**Sn**	**14 59 42.3**	**-0.4**
CSGN	**Cosiguina Volc**	**1.43**	**317**	⇓P	**Pn**	**14 59 23.7**	**-0.3**
CSGN				S	**Sn**	**14 59 42.1**	**-0.6**
BUAI	**Buenos Aires**	**1.60**	**131**	*e*P	**Pn**	**14 59 25.8**	**-0.3**
BUAI				*e*S	**Sn**	**14 59 46.5**	**0.0**
PEJA	**Penjamo Buenos**	**1.60**	**130**	⇑*e*P	**Pn**	**14 59 25.9**	**-0.3**
LAPC	**Finca la Perla**	**1.60**	**137**	*e*P	**Pn**	**14 59 25.4**	**-0.8**
LAPC				*e*S	**Sn**	**14 59 44.8**	**-1.8**
ELI1	**Hacienda Flor**	**1.62**	**143**	*e*P	**Pn**	**14 59 26.4**	**0.0**
ELI1				*e*S	**Sn**	**14 59 48.2**	**+1.3**
ELI1	**Hacienda Flor**	**1.62**	**143**	P	**Pn**	**14 59 28.1**	**+1.7**
VRLE	**La Escondida,**	**1.63**	**134**	*e*P	**Pn**	**14 59 25.9**	**-0.7**
CHOHN	**Orocuina**	**1.64**	**339**	⇓P	**Pn**	**14 59 27.1**	**+0.3**
ALIBA	**Liberia Airpor**	**1.66**	**143**	*e*P	**Pn**	**14 59 27.9**	**+1.0**
ALIBA				*e*S	**Sn**	**14 59 49.0**	**+1.1**
GPS2	**Hotel Rincn d**	**1.67**	**135**	*e*P	**Pn**	**14 59 26.9**	**-0.2**
RCVN	**Varillal2**	**1.67**	**12**	P	**Pn**	**14 59 27.8**	**+0.6**
MESS	**Mesas**	**1.79**	**132**	⇑*i*P	**Pn**	**14 59 28.5**	**-0.2**
MESS				*e*S	**Sn**	**14 59 51.2**	**+0.2**
VMAR	**Armenia, Volca**	**1.80**	**128**	*e*P	**Pn**	**14 59 28.6**	**-0.3**
VMAR				*e*S	**Sn**	**14 59 51.2**	**-0.1**
HORNC	**Hornillas**	**1.82**	**132**	*e*P	**Pn**	**14 59 28.8**	**-0.3**
HORNC				*e*S	**Sn**	**14 59 51.6**	**-0.1**
CNCH	**Conchagua**	**1.82**	**317**	*e*P	**Pn**	**14 59 28.9**	**-0.3**
CNCH	**Conchagua**	**1.82**	**317**	⇓P	**Pn**	**14 59 28.8**	**-0.4**
COLC	**Colonia**	**1.83**	**134**	*e*P	**Pn**	**14 59 29.2**	**0.0**
CUI	**Cuipilapa**	**1.86**	**133**	*e*P	**Pn**	**14 59 29.7**	**+0.1**
LCND	**La Caada**	**1.89**	**316**	*e*P	**Pn**	**14 59 29.3**	**-0.6**
LCND				*e*S	**Sn**	**14 59 53.0**	**-0.2**
LCND	**La Caada**	**1.89**	**316**	P	**Pn**	**14 59 29.6**	**-0.3**
ELVJ	**El Viejo (Barb**	**1.91**	**141**	*e*P	**Pn**	**14 59 29.9**	**-0.2**
ELVJ				*e*S	**Sn**	**14 59 51.5**	**-2.1**
TENO	**El Achiote**	**1.97**	**128**	*e*P	**Pn**	**14 59 30.8**	**-0.3**
TIMP	**Tierras Morena**	**2.02**	**132**	*e*P	**Pn**	**14 59 31.5**	**-0.3**
JUD3	**Juan Diaz 3**	**2.02**	**150**	*e*P	**Pn**	**14 59 31.6**	**-0.1**
YUSH	**Yuscaran**	**2.02**	**352**	P	**Pn**	**14 59 32.6**	**+0.8**
YUSH	**Yuscaran**	**2.02**	**352**	S	**Sn**	**14 59 57.9**	**+1.3**
INVE	**Universidad In**	**2.06**	**135**	*e*P	**Pn**	**14 59 32.4**	**+0.2**
QUEB	**Quebradon, Cot**	**2.09**	**129**	*e*P	**Pn**	**14 59 32.3**	**-0.2**
ESPN	**Las Esperanzas**	**2.22**	**83**	*e*P	**Pn**	**14 59 35.0**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.22**	**342**	⇓P	**Pn**	**14 59 35.0**	**+0.6**
TGUH				S	**Sn**	**15 00 02.3**	**+1.0**
BLLM	**Bellamira**	**2.22**	**312**	*e*P	**Pn**	**14 59 34.7**	**+0.3**
JTS	**Las Juntas de**	**2.27**	**

n83,σ1§42/95,1C,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**0.70**	**312**	*eP*	Pn	15 28 43.6	+6.6
JAYA	**Jayaque - finc**	**0.75**	**42**	*eP*	**Pb**	**15 28 37.3**	**+0.5**
JAYA				*eS*	**Sn**	**15 28 49.1**	**0.0**
JAYA	**Jayaque - finc**	**0.75**	**42**	*i P*	**Pb**	**15 28 37.2**	**+0.5**
JAYA				*i S*	**Sn**	**15 28 49.0**	**0.0**
JAYA	**Jayaque - finc**	**0.75**	**42**	P	**Pb**	**15 28 37.0**	**+0.2**
CEVE	**Cerro Verde**	**0.80**	**25**	*eP*	**Pb**	**15 28 37.9**	**+0.2**
CEVE				*eS*	**Sn**	**15 28 50.6**	**+0.2**
CEVE	**Cerro Verde**	**0.80**	**25**	P	**Pb**	**15 28 38.0**	**+0.3**
SBLS	**San Blas**	**0.81**	**24**	*i P*	**Pb**	**15 28 38.0**	**+0.1**
NUBE	**Las Nubes**	**0.82**	**13**	*eP*	**Pb**	**15 28 37.7**	**-0.3**
NUBE				*eS*	**Sn**	**15 28 49.5**	**-1.3**
NUBE	**Las Nubes**	**0.82**	**13**	*eP*	**Pb**	**15 28 37.6**	**-0.3**
NUBE				*i S*	**Sn**	**15 28 49.5**	**-1.3**
NUBE	**Las Nubes**	**0.82**	**13**	P	**Pg**	**15 28 37.5**	**-0.8**
PMON	**Piamonte**	**0.89**	**46**	P	**Pn**	**15 28 39.7**	**0.0**
PMON	**Piamonte**	**0.89**	**46**	S	**Sn**	**15 28 53.2**	**+1.0**
CEDA	**San Andres**	**0.90**	**38**	*eP*	**Pb**	**15 28 39.6**	**+0.4**
CEDA				*eS*	**Sn**	**15 28 53.1**	**+0.7**
CEDA	**San Andres**	**0.90**	**38**	P	**Pb**	**15 28 39.2**	**0.0**
LOAL	**Lomas de Alarc**	**0.92**	**11**	S	**Sn**	**15 28 53.3**	**+0.3**
LOAL	**Lomas de Alarc**	**0.92**	**11**	P	**Pb**	**15 28 39.3**	**-0.2**
PANCS	**Alcalda de**	**0.92**	**56**	P	**Pg**	**15 28 39.5**	**-0.6**
PANCS	**Alcalda de**	**0.92**	**56**	S	**Sb**	**15 28 52.5**	**+0.9**
BOQS	**Boqueron**	**0.93**	**46**	*eP*	**Pb**	**15 28 40.1**	**+0.4**
UEES	**Universidad Ev**	**0.94**	**49**	P	**Pb**	**15 28 40.2**	**+0.2**
UEES	**Universidad Ev**	**0.94**	**49**	S	**Sn**	**15 28 54.1**	**+0.6**
LOMA	**Loma Larga**	**0.95**	**55**	P	**Pg**	**15 28 40.2**	**-0.4**
LOMA	**Loma Larga**	**0.95**	**55**	S	**Sn**	**15 28 55.0**	**+1.2**
UTEC	**Universidad Te**	**0.96**	**51**	P	**Pb**	**15 28 40.2**	**-0.1**
UNIC	**Universidad Ca**	**0.97**	**25**	P	**Pb**	**15 28 40.2**	**-0.3**
UNIC	**Universidad Ca**	**0.97**	**25**	S	**Sn**	**15 28 54.3**	**0.0**
IGN	**Direccin Gen**	**0.99**	**51**	P	**Pb**	**15 28 41.0**	**+0.2**
UDBS	**Universidad Do**	**1.00**	**52**	P	**Pb**	**15 28 40.9**	**-0.1**
UDBS	**Universidad Do**	**1.00**	**52**	S	**Sg**	**15 28 54.2**	**-0.6**
LFRS	**El Faro**	**1.03**	**59**	*eP*	**Pb**	**15 28 41.5**	**0.0**
LBRS	**Las Brisas**	**1.10**	**54**	*eP*	**Pb**	**15 28 42.8**	**0.0**
PAVA	**Las Pavas**	**1.18**	**58**	*eP*	**Pb**	**15 28 44.2**	**+0.2**
PAVA	**Las Pavas**	**1.18**	**58**	P	**Pb**	**15 28 43.8**	**-0.1**
UESV	**Universidad de**	**1.27**	**65**	*eP*	**Pn**	**15 28 45.2**	**+0.3**
UESV	**Universidad de**	**1.27**	**65**	P	**Pn**	**15 28 44.9**	**-0.1**
UESV	**Universidad de**	**1.27**	**65**	S	**Sg**	**15 29 02.9**	**-0.4**
FG16	**Alotenango, Sa**	**1.29**	**336**	*i P*	**Pg**	**15 28 47.0**	**0.0**
FG16				IAML		15 29 19.6	
	comp=N,21μm,0.2s						
FG8	**Yepocapa, Chim**	**1.30**	**334**	*eP*	**Pg**	**15 28 47.5**	**+0.3**
FG8				*i S*	**Sg**	**15 29 07.6**	**+3.5**
MTO3	**Montecristo**	**1.43**	**24**	*eP*	**Pn**	**15 28 47.4**	**0.0**
MTO3				*eS*	**Sg**	**15 29 07.1**	**-1.2**
MTO3	**Montecristo**	**1.43**	**24**	*i P*	**Pn**	**15 28 47.3**	**0.0**
MTO3	**Montecristo**	**1.43**	**24**	P	**Pn**	**15 28 47.0**	**-0.3**
LLGN	**La Laguna**	**1.46**	**43**	P	**Pn**	**15 28 47.8**	**+0.2**
PQSS	**Presa 15 de Se**	**1.47**	**69**	P	**Pn**	**15 28 48.2**	**+0.5**
PQSS	**Presa 15 de Se**	**1.47**	**69**	S	**Sb**	**15 29 07.7**	**+0.5**
ESSG	**Sabana Grande**	**1.53**	**327**	*eP*	**Pn**	**15 28 45.8**	**-2.8**
ESSG				*i S*	**Sn**	**15 29 03.3**	**-4.8**
ESQI	**Esquipulas**	**1.58**	**23**	P	**Pn**	**15 28 49.6**	**+0.3**
ESQI	**Esquipulas**	**1.58**	**23**	S	**Sg**	**15 29 11.6**	**-1.6**
PACA	**Pacayal**	**1.64**	**77**	P	**Pn**	**15 28 51.1**	**+0.9**
LCND	**La Caada**	**2.03**	**84**	P	**Pn**	**15 28 56.0**	**+0.5**
SARH	**Santa Rosa de**	**2.04**	**35**	*eP*	**Pn**	**15 28 56.4**	**+0.7**
SARH	**Santa Rosa de**	**2.04**	**35**	P	**Pn**	**15 28 56.2**	**+0.5**
CNCH	**Conchagua**	**2.09**	**85**	P	**Pn**	**15 28 56.4**	**+0.1**
CNCH	**Conchagua**	**2.09**	**85**	S	**Sb**	**15 29 26.6**	**+1.4**
INTHN	**La Esperanza I**	**2.18**	**56**	P	**Pn**	**15 28 58.0**	**+0.3**
CSGN	**Cosiguina Volc**	**2.35**	**93**	*eP*	**Pn**	**15 29 01.2**	**+1.3**
CSGN	**Cosiguina Volc**	**2.35**	**93**	P	**Pn**	**15 29 00.0**	**+0.1**
POTN	**Potosi Cosigui**	**2.40**	**92**	P	**Pn**	**15 29 01.2**	**+0.7**
CHOHN	**Orocuina**	**2.76**	**82**	P	**Pn**	**15 29 05.6**	**+0.1**
PKGN	**Cerro Pekin**	**2.95**	**98**	P	**Pn**	**15 29 08.3**	**+0.3**
YUSH	**Yuscaran**	**3.16**	**74**	P	**Pn**	**15 29 11.5**	**+0.5**
COPN	**Copaltepe**	**3.42**	**105**	*eP*	**Pn**	**15 29 14.1**	**-0.4**
COPN				*eS*	**Sn**	**15 29 51.2**	**-3.4**
COPN	**Copaltepe**	**3.42**	**105**	P	**Pn**	**15 29 13.8**	**-0.7**
MOM2	**El Cardon**	**3.46**	**100**	P	**Pn**	**15 29 15.9**	**+0.8**
MATN	**Matagalpa**	**3.94**	**92**	P	**Pn**	**15 29 20.8**	**-1.0**
LAPC	**Finca la Perla**	**5.00**	**117**	*eP*	**Pn**	**15 29 37.7**	**+1.3**
LAPC				*eS*	**Sn**	**15 30 30.9**	**-2.9**
VRLE	**La Escondida,**	**5.05**	**116**	*eP*	**Pn**	**15 29 38.8**	**+1.7**
JUD3	**Juan Diaz 3**	**5.22**	**123**	*eP*	**Pn**	**15 29 40.0**	**+0.6**
JUD3				*eS*	**Sn**	**15 30 36.7**	**-2.6**
ELVJ	**El Viejo (Barb**	**5.25**	**120**	*eP*	**Pn**	**15 29 40.2**	**+0.5**
VMAR	**Armenia, Volca**	**5.26**	**115**	*eP*	**Pn**	**15 29 39.5**	**-0.5**
TENO	**El Achiote**	**5.43**	**115**	*eP*	**Pn**	**15 29 43.5**	**+1.2**
TIMP	**Tierras Morena**	**5.45**	**117**	*eP*	**Pn**	**15 29 44.0**	**+1.5**
INVE	**Universidad In**	**5.46**	**118**	*eP*	**Pn**	**15 29 43.9**	**+1.2**
QUEB	**Quebradon, Cot**	**5.54**	**116**	*eP*	**Pn**	**15 29 45.8**	**+2.1**
JTS	**Las Juntas de**	**5.65**	**119**	*eP*	**Pn**	**15 29 47.8**	**+2.6**
CASO	**Castillo**	**5.76**	**117**	*eP*	**Pn**	**15 29 47.9**	**+1.1**
VARE2	**V. Arenal**	**5.77**	**116**	*eP*	**Pn**	**15 29 47.4**	**+0.5**
PICV	**PH. Pirrs**	**6.62**	**121**	*eP*	**Pn**	**15 30 01.8**	**+3.1**
PIEC	**Cerro El Cedra**	**6.83**	**120**	*eP*	**Pn**	**15 30 04.3**	**+2.6**
BUS1	**Rivas**	**7.04**	**119**	*eP*	**Pn**	**15 30 07.6**	**+2.9**
BUS1				*eS*	**Sn**	**15 31 20.8**	**-3.8**
SAJE	**San Jernim**	**7.35**	**120**	*eP*	**Pn**	**15 30 11.0**	**+2.3**
FIMO	**Fila Mora**	**7.67**	**121**	*eP*	**Pn**	**15 30 15.6**	**+2.5**
PIRO	**Carate, Puerto**	**8.01**	**125**	*eP*	**Pn**	**15 30 21.2**	**+3.6**
ALCO	**Alturas Coton,**	**8.12**	**120**	*eP*	**Pn**	**15 30 20.9**	**+1.6**

*IDC **10** 15:39:22.0±1.2,7°.41S×128°.87E, h0km, mb3.8/7, mbtmp3.9/11, ML4.1/4, Error ellipse: s-maj=46.8km s-min=20.2km az=79.0*

ISC 10 15:39:27.2±0.9, 7.73S±0°.07×128°.8E±0°.1, h35km, n11, σ2§32/15, mb3.8/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.64**	**244**	Pn	**Pn**	**15 40 50.8**	**+2.2**
	6.9nm,0.3s,baz=177,slow=2.2,SNR=6.5						
BATI				Sn	**Sn**	**15 41 52.0**	**-0.2**
	7.0nm,0.3s,baz=242,slow=22,SNR=2.5 18nm,0.5s						
FITZ	**Fitzroy Crossi**	**10.76**	**196**	Pn	**Pn**	**15 42 00.1**	**+1.3**
	2.1nm,0.3s,baz=11,slow=9.8,SNR=69						
FITZ				Sn	**Sn**	**15 43 53.0**	**-5.1**
	2.2nm,0.3s,baz=51,slow=13,SNR=4.7 6.5nm,0.5s						
WRA	**Warramunga Arr**	**13.28**	**157**	Pn	**Pn**	**15 42 36.2**	**+2.8**
	0.7nm,0.3s,baz=336,slow=13,SNR=19						
WRA				Sn	**Sn**	**15 44 58.1**	**-1.7**
	1.5nm,0.3s,baz=330,slow=22,SNR=8.5 0.9nm,0.4s						
ASAR	**Alice Springs**	**16.59**	**163**	Pn	**P**	**15 43 19.5**	**+0.1**
	0.3nm,0.3s,baz=347,slow=12,SNR=24						
ASAR				Sn	**Sn**	**15 46 18.9**	**-1.6**
	0.4nm,0.3s,baz=343,slow=24,SNR=6.0 0.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**39.30**	**312**	P	**P**	**15 46 52.2**	**-0.9**
	0.3nm,0.4s,baz=125,slow=9.1,SNR=1.8 0.3nm,0.4s						
SONM	**Songino Array**	**58.76**	**343**	P	**P**	**15 49 21.4**	**-0.4**
	0.3nm,0.4s,baz=166,slow=7.0,SNR=2.6 0.3nm,0.4s						
MKAR	**Makanchi Array**	**68.18**	**328**	P	**P**	**15 50 22.6**	**-1.5**
	0.3nm,0.5s,baz=126,slow=7.4,SNR=6.4 0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**71.71**	**334**	P	**P**	**15 50 43.4**	**-2.1**
	0.5nm,0.4s,baz=123,slow=5.5,SNR=4.0 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**72.51**	**329**	P	**P**	**15 50 49.2**	**-1.1**
	0.7nm,0.6s,baz=128,slow=5.0,SNR=13 0.7nm,0.6s						
BVAR	**Borovoye Array**	**78.04**	**328**	P	**P**	**15 51 20.7**	**-1.5**
	0.6nm,0.6s,baz=118,slow=7.5,SNR=4.5 0.6nm,0.6s						
QSPA	**South Pole Qui**	**82.26**	**180**	P	**P**	**15 51 47.6**	**+2.7**
	1.0nm,0.8s,baz=272,slow=5.0,SNR=3.1 1.0nm,0.8s						

*IDC **10** 15:45:51.2±0.9, 55°.85S×25°.78W, h0km, mb4.2/8, mbtmp4.2/9, ML4.2/1, MS3.7/7, Error ellipse: s-maj=31.5km s-min=17.7km az=66.0*

*NEIC **10** 15:45:52.8±1.8, 55°.9S±0°.1×25°.9W±0°.1, h10km±1km, mb4.7/25, Error ellipse: s-maj=24.3km s-min=9.0km az=28.0*

ISC 10 15:45:52.6±0.7, 55°.90S±0°.10×25°.9W±0°.1, h10km, n43, σ0§77/38, mb4.6/15, MS3.7/6, 4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.29**	**281**	Pn	**Pn**	**15 47 25.3**	**0.0**
VNA1	**Neumayer--Stat**	**16.67**	**159**	⇓P	**Pn**	**15 49 46.5**	**+0.7**
	comp=Z,14nm,0.8s						
VNA3	**Neumayer Olymp**	**16.90**	**162**	⇓P	**Pn**	**15 49 48.5**	**-0.3**
	comp=Z,5.5nm,0.5s						
SNAA	**Sanae**	**18.59**	**157**	⇓P	**P**	**15 50 09.0**	**-0.6**
	comp=Z,85nm,0.5s						
SNAA	**Sanae**	**18.59**	**157**	P	**P**	**15 50 08.2**	**-1.3**
SNAA	**Sanae**	**18.59**	**157**	P	**P**	**15 50 09.2**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=311,slow=13,SNR=31						
SNAA				LR	LR	15 57 39.7	
	comp=Z,180nm,18.2s,baz=272,slow=38 comp=Z,1.6nm,0.3s						
TROLL	**Troll, Antarti**	**20.06**	**154**	⇓P	**P**	**15 50 25.2**	**-0.4**
	comp=Z,135nm,0.6s						
PMSA	**Palmer Station**	**20.54**	**229**	P	**P**	**15 50 31.4**	**+0.7**
PMSA				IAmb	IAmb	15 50 39.0	
	comp=Z,21nm,0.8s						
PMSA	**Palmer Station**	**20.54**	**229**	P	**P**	**15 50 31.4**	**+0.7**
	comp=Z,19nm,0.9s,baz=84,slow=8.1,SNR=6.6						
PMSA				LR	LR	15 57 50.1	
	comp=Z,253nm,19.5s,baz=60,slow=35 comp=Z,19nm,0.9s						
BELA	**Belgrano 2**	**22.28**	**185**	P	**P**	**15 50 47.2**	**-2.2**
BELA				IAmb	IAmb	15 51 02.6	
	comp=Z,37nm,1.5s						
SMAI	**San Martin Ant**	**22.35**	**220**	P	**P**	**15 50 50.5**	**+0.3**
SMAI				IAmb	IAmb	15 51 04.7	
	comp=Z,27nm,1.1s						
TRQA	**Tornquist**	**29.94**	**291**	P	**P**	**15 51 59.8**	**-0.9**
TRQA				IAmb	IAmb	15 52 40.4	
	comp=Z,9.5nm,1.2s						
QSPA	**South Pole Qui**	**34.35**	**180**	P	**P**	**15 52 40.1**	**+0.9**
QSPA				IAmb	IAmb	15 52 53.9	
	comp=Z,8.1nm,0.8s						
QSPA	**South Pole Qui**	**34.35**	**180**	P	**P**	**15 52 40.3**	**+1.1**
	comp=Z,6.7nm,0.7s,baz=208,slow=2.3,SNR=47 comp=Z,6.7nm,0.7s						
CPUP	**Villa Florida**	**37.27**	**309**	P	**P**	**15 53 04.2**	**-0.1**
CPUP	**Villa Florida**	**37.27**	**309**	P	**P**	**15 53 04.5**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=0.8,slow=8.1,SNR=6.2 comp=Z,0.7nm,0.5s						
MT02	**Curacav**	**38.43**	**287**	P	**P**	**15 53 12.8**	**-1.4**
MT02				IAmb	IAmb	15 53 44.9	
	comp=Z,15nm,1.1s						
MAW	**Mawson**	**39.84**	**143**	P	**P**	**15 53 26.0**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=225,slow=6.6,SNR=6.5 comp=Z,1.2nm,0.6s						
CO02	**Combarbal**	**39.95**	**289**	P	**P**	**15 53 26.5**	**-0.5**
CO02				IAmb	IAmb	15 53 32.1	
	comp=Z,40nm,1.5s						
CO03	**El Pedregal**	**40.07**	**290**	P	**P**	**15 53 27.4**	**-0.5**
CO03				IAmb	IAmb	15 54 10.5	
	comp=Z,18nm,1.4s						
CO01	**Juntas del Tor**	**40.43**	**291**	P	**P**	**15 53 31.9**	**+0.7**
GO02	**Mina Guanaco**	**44.07**	**296**	P	**P**	**15 54 01.5**	**+0.5**
GO02				IAmb	IAmb	15 54 06.6	
	comp=Z,13nm,0.8s						
BOSA	**Boshof**	**45.23**	**75**	LR	LR	16 09 38.2	
	comp=Z,210nm,18.1s,baz=194,slow=32						
SBA	**Scott Base**	**46.27**	**184**	P	**P**	**15 54 18.2**	**+0.7**
SBA				IAmb	IAmb	15 54 34.3	
	comp=Z,7.0nm,1.4s						
PB09	**IPOC Station P**	**46.71**	**299**	P	**P**	**15 54 21.8**	**+0.1**
PB03	**IPOC Station P**	**46.75**	**298**	P	**P**	**15 54 20.7**	**-1.3**
VNDA	**Vanda**	**46.75**	**182**	P	**P**	**15 54 21.1**	**-0.1**
VNDA	**Vanda**	**46.75**	**182**	P	**P**	**15 54 21.3**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=186,slow=4.4,SNR=13 comp=Z,1.7nm,0.7s						
PB01	**IPOC Station P**	**47.47**	**299**	P	**P**	**15 54 28.4**	**+0.8**
PB01				IAmb	IAmb	15 54 33.1	
	comp=Z,15nm,1.0s						
PB11	**IPOC Station P**	**48.64**	**300**	P	**P**	**15 54 37.2**	**+0.6**
TSUM	**Tsumeb**	**48.98**	**60**	LR	LR	16 12 11.1	
	comp=Z,61nm,19.7s,baz=146,slow=32						
PB16	**IPOC Station P**	**49.78**	**301**	P	**P**	**15 54 46.2**	**+0.3**
PB16				IAmb	IAmb	15 55 13.8	
	comp=Z,14nm,1.4s						
LPAZ	**La Paz**	**50.89**	**304**	P	**P**	**15 54 55.0**	**+0.6**
LPAZ				IAmb	IAmb	15 54 56.1	
	comp=Z,6.1nm,0.7s						
LPAZ	**La Paz**	**50.89**	**304**	P	**P**	**15 54 55.3**	**+0.9**
	comp=Z,4.8nm,0.5s,baz=147,slow=5.9,SNR=22						
LPAZ				LR	LR	16 17 43.1	
	comp=Z,27nm,19.3s,baz=154,slow=38 comp=Z,4.8nm,0.5s						
LSZ	**Lusaka**	**57.65**	**68**	LR	LR	16 18 25.2	
	comp=Z,117nm,18.4s,baz=226,slow=34						
TORD	**Torodi Ar. Bea**	**72.58**	**28**	P	**P**	**15 57 19.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**72.58**	**28**	P	**P**	**15 57 19.4**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=196,slow=4.2,SNR=5.3 comp=Z,1.0nm,0.6s						
PCRV	**Puerto La Cruz**	**73.30**	**320**	LR	LR	16 29 52.1	
	comp=Z,52nm,20.6s,slow=36						
MAGL	**Barre de l'ile**	**77.52**	**325**	P	**P**	**15 57 48.8**	**+0.5**
TEIG	**Tepich**	**92.22**	**304**	P	**P**	**15 59 03.0**	**+0.6**
061Z	**Ochoppi**	**93.87**	**312**	P	**P**	**15 59 09.7**	**-0.1**
ASAR	**Alice Springs**	**98.90**	**161**	P	Pdif	15 59 34.0	+0.9
	comp=Z,0.4nm,0.6s,baz=181,slow=3.2,SNR=8.2 comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	**150.56**	**312**	PKPbc	**PKPbc**	**16 05 42.5**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=106,slow=3.2,SNR=12						

*BGSI **10** 16:01:02.0±1.8, 27°.30S×26°.51E, h188km±42km, ML2.9*
*PRE **10** 16:01:02.7±0.9, 26°.95S×26°.46E, h2km, ML2.6*

ISC 10 16:01:02.7±0.9, 26°.95S±0°.04×26°.46E±0°.04, h5km, n24, σ1§84/44, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRAO	**HartRAO**	**1.53**	**46**	*eP*	**Pn**	**16 01 31.2**	**+0.4**
HRAO				*eS*	**Sg**	**16 01 52.6**	**+0.8**
HRAO				IAML		16 01 53.0	
	comp=Z,76nm,0.4s						
MAKGR	**Makgori**	**1.87**	**307**	*i P*	**Pb**	**16 01 39.2**	**+1.8**
BOSA	**Boshof**	**1.97**	**213**	*eP*	**Pn**	**16 01 37.6**	**+0.8**
BOSA				*eS*	**Sn**	**16 02 03.7**	**+1.7**
BOSA				IAML		16 02 06.4	
	comp=Z,50nm,0.5s						
LBTB	**Lobatse**	**2.08**	**338**	*eP*	**Pn**	**16 01 40.1**	**+1.7**
LBTB				*eS*	**Sn**	**16 02 06.3**	**+1.6**
LBTB				IAML		16 02 11.1	
	comp=Z,70nm,0.5s						
NWCL	**Newcastle**	**3.15**	**105**	*eP*	**Pn**	**16 01 54.0**	**+0.9**
NWCL				*eS*	**Sn**	**16 02 32.4**	**+1.3**
NWCL				IAML		16 02 40.0	
	comp=Z,77nm,0.4s						
LEPH	**Lephalale, Lim**	**3.31**	**22**	*eP*	**Pn**	**16 01 56.6**	**+1.4**
LEPH				*eS*	**Sn**	**16 02 36.1**	**+1.0**
LEPH				IAML		16 02 52.7	
	comp=Z,26nm,0.4s						
SKOMA	**Sekoma**	**3.33**	**316**	*i P*	**Pn**	**16 01 57.4**	**+1.9**
LPHEP	**Lephephe**	**3.62**	**351**	*i P*	**Pn**	**16 02 01.3**	**+1.8**
LPHEP				*i S*	**Sn**	**16 02 44.3**	**+1.7**
LPHEP				IAML		16 02 59.5	
	comp=E,26nm,0.7s						
KDWAN	**Kaudwane**	**3.91**	**335**	*i P*	**Pn**	**16 02 05.4**	**+1.8**
KDWAN				*i S*	**Sn**	**16 02 51.5**	**+1.5**
KDWAN				IAML		16 03 10.3	
	comp=N,83nm,0.5s						
PMBG	**Pietermaritzbu**	**4.39**	**126**	*eP*	**Pn**	**16 02 10.9**	**+0.9**
PMBG				*eS*	**Sn**	**16 03 01.8**	**+0.2**
PMBG				IAML		16 03 17.6	
	comp=Z,18nm,0.4s						
KSTD	**Kokstad**	**4.42**	**146**	*eP*	**Pn**	**16 02 11.8**	**+1.2**
KSTD				*eS*	**Sn**	**16 03 03.3**	**+0.7**
KSTD				IAML		16 03 20.4	
	comp=Z,12nm,0.4s						
MREMI	**Moremi**	**4.46**	**12**	*i P*	**Pn**	**16 02 11.0**	**0.0**
ALKP	**Alkanpan, Nort**	**4.76**	**230**	*eP*	**Pn**	**16 02 15.7**	**+0.5**
ALKP				*eS*	**Sn**	**16 03 10.0**	**-0.8**
ALKP				IAML		16 03 37.5	
	comp=Z,15nm,0.5s						
KEIM	**Keimoes**	**5.17**	**249**	*eP*	**Pn**	**16 02 22.6**	**+1.8**
KEIM				*eS*	**Sn**	**16 03 20.4**	**-0.5**
KEIM				IAML		16 03 48.6	
	comp=Z,11nm,0.4s						
BFON	**Badsfontein, M**	**5.40**	**206**	*eP*	**Pn**	**16 02 25.6**	**+1.5**
BFON				*eS*	**Sn**	**16 03 26.1**	**-0.6**
BFON				IAML		16 03 56.8	
	comp=Z,13nm,0.4s						
LKGWB	**Lokgwabe**	**5.52**	**300**	*i P*	**Pn**	**16 02 22.0**	**-3.7**
LKGWB				*i S*	**Sn**	**16 03 23.4**	**-6.1**
LKGWB				IAML		16 03 49.3	
	comp=N,29nm,0.5s						
GRAF	**Camdeboo Natio**	**5.58**	**197**	*eP*	**Pn**	**16 02 27.8**	**+1.3**
GRAF				*eS*	**Sn**	**16 03 30.5**	**-0.5**
GRAF				IAML		16 03 56.1	
	comp=Z,12nm,0.5s						
MUSN	**Musina, Limpop**	**5.58**	**34**	*eP*	**Pn**	**16 02 27.0**	**+0.5**
MUSN				*eS*	**Sn**	**16 03 29.8**	**-1.3**
MUSN				IAML		16 04 03.0	
	comp=Z,6.7nm,0.5s						
BRAK	**Brakfontein**	**5.73**	**212**	*eP*	**Pn**	**16 02 29.3**	**+0.7**
BRAK				*eS*	**Sn**	**16 03 33.1**	**-1.6**
BRAK				IAML		16 04 01.5	
	comp=Z,9.6nm,0.5s						
BROLN	**Tlhalogang**	**5.88**	**8**	*i P*	**Pn**	**16 02 30.2**	**-0.5**
BROLN				*i S*	**Sn**	**16 03 33.5**	**-5.1**
BROLN				IAML		16 04 07.8	
	comp=E,17nm,0.7s						
GRAN	**Grantham**	**6.51**	**214**	*eP*	**Pn**	**16 02 40.2**	**+1.0**
GRAN				*eS*	**Sn**	**16 03 52.3**	**-1.5**
GRAN				IAML		16 04 37.0	
	comp=Z,11nm,0.5s						
FRAZ	**Fraserburg**	**6.63**	**220**	*eP*	**Pn**	**16 02 41.7**	**+0.7**
FRAZ				*eS*	**Sn**	**16 03 55.6**	**-1.4**
FRAZ				IAML		16 04 34.6	
	comp=Z,6.9nm,0.6s						
CVNA	**Calvinia**	**7.39**	**231**	*eP*	**Pn**	**16 02 52.8**	**+1.4**
CVNA				*eS*	**Sn**	**16 04 12.8**	**-2.9**
CVNA				IAML		16 04 54.9	
	comp=Z,7.7nm,0.9s						
MATJ	**Matjiesfontein**	**8.09**	**218**	*eP*	**Pn**	**16 03 02.8**	**+1.8**
MATJ				*eS*	**Sn**	**16 04 30.3**	**-2.6**
MATJ				IAML		16 05 27.3	
	comp=Z,7.7nm,0.5s						

HEL 10 16:10:55.4±0.5, 67°.76N×20°.06E, h0km, ML0.9, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.79**	**67**	SG	Sg	16 11 18.5	-2.2
KIF	**Kilpisjarvi**	**1.28**	**12**	PG	Pg	16 11 19.0	-1.0
KIF				MSG		16 11 35.3	
	comp=Z,1.0nm,0.2s						
KIF				SG	Sg	16 11 36.0	-0.5
PAJU	**Pajala**	**1.39**	**121**	PN	Pg	16 11 21.0	-1.0
PAJU				SG	Sg	16 11 39.2	-0.8
ERTU	**Ertsjaerv**	**1.47**	**144**	PN	Pn	16 11 23.2	+0.1
ERTU				SN	Sn	16 11 43.0	+0.1
HEF	**Hetta**	**1.50**	**63**	PG	Pn	16 11 23.0	-0.5
	baz=245						
HEF				MSG		16 11 40.5	
	comp=Z,0.5nm,0.2s						
HEF				SN	Sn	16 11 45.0	+1.1
TOF	**Tornio**	**2.38**	**133**	PG	Pb	16 11 37.6	-1.4
TOF				MSG		16 12 05.9	
	comp=Z,0.4nm,0.2s						
RAJF	**Raja-Jooseppi**	**3.17**	**73**	PN	Pn	16 11 47.8	+1.3
KEV	**Kevo**	**3.23**	**48**	PN	Pn	16 11 46.2	-1.0
OUL	**Oulu**	**3.56**	**136**	PN	Pn	16 11 48.6	-3.2
	baz=317						
VRF	**Varrio**	**3.63**	**86**	PB	Pb	16 11 56.7	-3.7
KU1	**Kurvinen**	**4.37**	**116**	SN	Sn	16 12 53.9	-0.6

*KOLA **10** 16:11:03.8, 69°.69N×30°.85E, h0km, ML1.5, Error ellipse: s-maj=23.3km s-min=3.6km az=10.0, Murmansk region, Pechenga district, Norway, Finnmark*

HEL 10 16:11:04.0±0.3, 69°.39N×30°.77E, h0km, ML1.2, Explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**1.27**	**225**	PG	Pg	16 11 26.8	-1.6
RAJF				SG	Sg	16 11 43.3	-1.6
KEV	**Kevo**	**1.37**	**287**	PG	Pg	16 11 28.5	-1.8
	baz=104						
TERR	**Teriberka**	**1.55**	**95**	P	Pn	16 11 31.6	-1.2
TERR		

SUR	**Sutherland**	**8.15**	**222**	*e*P	**Pn**	**16 18 19.0**	**+1.9**
SUR				*e*S	**Sn**	**16 19 47.4**	**-2.3**
SUR				IAML		16 20 43.8	
	comp=Z,3.2nm,0.8s						
BRG	**Berggiesshubel**	**77.86**	**351**	P	**P**	**16 28 12.4**	**-3.8**
BRG				Amp		16 28 12.8	
	comp=Z,8.7nm,1.1s						
BRG	**Berggiesshubel**	**77.86**	**351**	P	**P**	**16 28 16.6**	**+0.5**
BRG				Amp		16 28 19.5	
	comp=Z,11nm,1.1s						

DRS **10** *16:22:43.6,41.2°N×43.7°E,h18km*
ISK **10** *16:22:44.8,41.0°N×43.9°E,h5km,ML4.7/15*
IDC **10** *16:22:44.5±0.4,41.0°N×43.9°E,h0km,mb4.2/26, mbtmp4.2/34,ML4.2/8,MS3.9/52,Error ellipse: s-maj=8.6km s-min=5.7km az=47.0*
TIF **10** *16:22:44.7,41.0°N×43.9°E,h16km*
NSSP **10** *16:22:45.4,41.0°N×43.9°E,h10km,Ms4.8*
AFAD **10** *16:22:45.4,41.0°N×43.8°E,h8km±4km,MW4.7*
MOS **10** *16:22:46.5,41.1°N×43.9°E,h5km,MPVA5.4*
AZER **10** *16:22:47.4,41.0°N×44.0°E,h10km,ml5.1*
NEIC **10** *16:22:47.2±1.4,41.0°N±0.0°×44.1°E±0.0°,h7km±5km, mb4.7/115,Error ellipse: s-maj=9.5km s-min=6.3km az=68.0*
CFUSG **10** *16:22:47.6,41.1°N×44.1°E,h10km,mb4.0/6,MD3.6/6, Armenia Magtype MSH 4.0 from 6 stations*
GCMT **10** *16:22:48.2±0.2,41.0°N±0.0°×43.9°E±0.0°,h17km±1km, MW4.8/98,Moment Tensor Solution. s17,c17; s98,c144; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.50±.08; Mθθ=1.44±.06; Mϕϕ 1.94±.07; Mrθ=0.57±.18; Mrϕ=0.42±.05; Mθϕ=0.93±.18; Best double couple: Mo2.02900×10¹⁶ NP1:ϕs141.00000°,δ57.00000°,λ-175.00000°. NP2: ϕs48.00000°,δ86.00000°,λ-33.00000°. Principal axes: T 2.3470, Plg20.0000°, Azm99.0000°; N -0.6330, Plg57.0000°, Azm222.0000°; P -1.7110, Plg26.0000°, Azm360.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NNC **10** *16:22:50.9±2.1,41.2°N×44.8°E,h0km,mb4.8 Error ellipse: s-maj=41.6km s-min=16.5km az=115.0*
NAO **10** *16:22:56.0,41.1°N×44.2°E,h10km,MB4.6*
ISC 10 16:22:46.3±0.8,41°08'N±0.0'01×43°95'E±0.0'01,h10km±5km, n842,σ1§77/940,mb4.7/129,MS4.0/57,58C-44D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMOZ	**Kamo**	**0.26**	**180**	⇑*i*P	**Pg**	**16 22 51.1**	**-0.4**
KMOZ				⇓*i*S	**Sg**	**16 22 55.1**	**0.0**
SRTK	**Saratovka**	**0.28**	**92**	⇑*i*P	**Pg**	**16 22 51.6**	**-0.4**
SRTK				⇑*i*S	**Sg**	**16 22 56.1**	**+0.2**
BGD	**Bogdanovka**	**0.33**	**305**	P	**Pg**	**16 22 51.9**	**-1.0**
BGD				S	**Sg**	**16 22 57.1**	**-0.1**
BGD	**Bogdanovka**	**0.33**	**305**	*i* PG	**Pg**	**16 22 51.9**	**-1.0**
BGD	**Bogdanovka**	**0.33**	**305**	*i* Pg	**Pg**	**16 22 51.9**	**-1.0**
BGD				*e*Sg	**Sg**	**16 22 57.1**	**-0.1**
KZRT	**Kazreti**	**0.46**	**47**	PG	**Pg**	**16 22 52.4**	**-2.9**
EAK	**Akyaka**	**0.47**	**214**	P	**Pg**	**16 22 53.7**	**-1.8**
TRLG	**Trialeti**	**0.47**	**14**	P	**Pg**	**16 22 54.6**	**-1.1**
TRLG				S	**Sg**	**16 23 01.4**	**-0.5**
TRLG	**Trialeti**	**0.47**	**14**	PG	**Pg**	**16 22 54.5**	**-1.1**
TRLG				S	**Sg**	**16 23 01.4**	**-0.5**
DIGO	**Kars**	**0.80**	**214**	P	**Pg**	**16 22 59.9**	**-1.7**
DIGO				S	**Sg**	**16 23 10.1**	**-1.9**
DIGO				*i* IAML		16 23 13.0	
	comp=E,14μm,0.5s						
DIGO				*i* IAML		16 23 15.0	
	comp=N,11μm,0.7s						
ARUZ	**Aruch**	**0.80**	**172**	⇓*i*P	**Pg**	**16 23 00.7**	**-1.1**
ARUZ				⇑*i*S	**Sg**	**16 23 11.2**	**-1.0**
BTNK	**Botanikuri**	**0.88**	**46**	PG	**Pg**	**16 23 01.8**	**-1.4**
BTNK				S	**Sg**	**16 23 14.6**	**-0.1**
TBLG	**Delisi**	**0.88**	**42**	P	**Pg**	**16 23 01.9**	**-1.4**
TBLG				S	**Sg**	**16 23 14.7**	**-0.1**
TBLG	**Delisi**	**0.88**	**42**	PG	**Pg**	**16 23 01.9**	**-1.4**
TBLG				S	**Sg**	**16 23 14.6**	**-0.1**
BOZK	**Kars-Merkez-Bo**	**0.89**	**237**	P	**Pg**	**16 23 02.1**	**-1.3**
BOZK				S	**Sg**	**16 23 12.7**	**-2.2**
BOZK				*i* IAML		16 23 18.0	
	comp=E,2μm,0.9s						
BOZK				*i* IAML		16 23 19.0	
	comp=N,2μm,0.5s						
METS	**Metsamor**	**0.93**	**174**	⇓*i*P	**Pg**	**16 23 03.2**	**-1.1**
METS				⇑*i*S	**Sg**	**16 23 16.1**	**-0.3**
SEAG	**Tbilisi Sea**	**0.94**	**43**	P	**Pg**	**16 23 03.2**	**-1.2**
SEAG				S	**Sg**	**16 23 16.9**	**+0.2**
SEAG	**Tbilisi Sea**	**0.94**	**43**	PG	**Pg**	**16 23 03.2**	**-1.2**
SEAG				S	**Sg**	**16 23 16.8**	**+0.2**
KAPZ	**Kaputan**	**0.94**	**143**	⇑*i*P	**Pg**	**16 23 03.6**	**-0.9**
KAPZ				⇓*i*S	**Sg**	**16 23 16.4**	**-0.4**
LSVT	**Lusahovit**	**0.95**	**99**	⇑*i*P	**Pg**	**16 23 03.2**	**-1.4**
LSVT				⇑*i*S	**Sg**	**16 23 16.2**	**-0.7**
VNNZ	**Vanand**	**0.98**	**186**	⇑*i*P	**Pg**	**16 23 03.9**	**-1.2**
VNNZ				⇓*i*S	**Sg**	**16 23 17.1**	**-0.8**
AHAN	**Ardahan-Merkez**	**1.01**	**275**	P	**Pg**	**16 23 04.0**	**-1.7**
AHAN				S	**Sg**	**16 23 16.9**	**-1.9**
AHAN				*i* IAML		16 23 18.0	
	comp=N,2μm,0.6s						
AHAN				*i* IAML		16 23 18.0	
	comp=E,4μm,0.5s						
EPOS	**Posof**	**1.01**	**295**	P	**Pg**	**16 23 03.7**	**-2.1**
EPOS				S	**Sg**	**16 23 14.9**	**-4.2**
EPOS				*i* IAML		16 23 19.0	
	comp=N,5μm,0.6s						
EPOS				*i* IAML		16 23 19.0	
	comp=E,2μm,0.5s						
ALIG	**Mtskhetisjvari**	**1.05**	**348**	P	**Pg**	**16 23 04.8**	**-1.7**
ALIG				S	**Sg**	**16 23 19.4**	**-0.8**
ALIG	**Mtskhetisjvari**	**1.05**	**348**	*i* PG	**Pg**	**16 23 04.8**	**-1.7**
ALIG				*e*S	**Sg**	**16 23 19.4**	**-0.8**
GOLE	**Ardahan-G¶le**	**1.05**	**257**	P	**Pg**	**16 23 05.5**	**-1.0**
GOLE				S	**Sg**	**16 23 20.1**	**-0.1**
GOLE				*i* IAML		16 23 21.0	
	comp=N,4μm,0.8s						
GOLE				*i* IAML		16 23 21.0	
	comp=E,1μm,0.8s						
QZX	**Qazax, Azerbai**	**1.07**	**91**	P	**Pg**	**16 23 05.9**	**-1.1**
QZX				S	**Sg**	**16 23 20.4**	**-0.5**
GNI	**Garni**	**1.11**	**147**	Pn	**Pg**	**16 23 06.7**	**-0.8**
GNI				Sn	**Sb**	**16 23 22.5**	**+0.3**
GNI	**Garni**	**1.11**	**147**		**Pg**	**16 23 06.4**	**-1.1**
GNI	**Garni**	**1.11**	**147**	Pg	**Pg**	**16 23 06.7**	**-0.8**
	914nm,0.3s,baz=309,slow=6.5,SNR=478						
GNI				Lg	Lg	16 23 20.7	
	1μm,0.3s,baz=256,slow=19,SNR=15						
GNI				LR	LR	16 23 49.4	
	comp=Z,6μm,19.3s,baz=335,slow=61						
GNI	**Garni**	**1.11**	**147**	P	**Pg**	**16 23 07.4**	**-0.1**
GNI				S	**Sg**	**16 23 21.6**	**-0.4**
GNI	**Garni**	**1.11**	**147**	⇓*i*P	**Pg**	**16 23 06.8**	**-0.8**
GNI				⇑*i*S	**Sg**	**16 23 21.7**	**-0.2**
GNI	**Garni**	**1.11**	**147**	P	**Pg**	**16 23 06.9**	**-0.6**
GNI	**Garni**	**1.11**	**147**	*e*PG	**Pg**	**16 23 06.9**	**-0.6**
GNI				*e*S	**Sb**	**16 23 22.5**	**+0.3**
GNI	**Garni**	**1.11**	**147**	*e*Pg	**Pg**	**16 23 06.9**	**-0.6**
GNI				*e*Sg	**Sb**	**16 23 22.5**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.11**	**169**	Pn	**Pg**	**16 23 06.3**	**-1.4**
TASB				Sn	**Sb**	**16 23 22.5**	**+0.1**
DGRG	**David-gareji**	**1.14**	**70**	P	**Pb**	**16 23 07.3**	**-1.8**
DGRG				S	**Sn**	**16 23 24.8**	**+0.8**
DGRG	**David-gareji**	**1.14**	**70**	*i* PG	**Pb**	**16 23 07.3**	**-0.8**
DGRG				*e*S	**Sn**	**16 23 24.8**	**+0.8**
IGDI	**IGDIR**	**1.21**	**175**	P	**Pb**	**16 23 07.3**	**-2.2**
IGDI				S	**Sb**	**16 23 22.9**	**-2.3**
IGDI				*i* IAML		16 23 24.0	
	comp=N,9μm,0.7s						
IGDI				*i* IAML		16 23 24.0	
	comp=E,1μm,0.8s						
IGDI	**IGDIR**	**1.21**	**175**	P	**Pb**	**16 23 07.4**	**-2.0**
IGDI				S	**Sb**	**16 23 24.3**	**-0.9**
SENK	**Senkaya-Erzuru**	**1.32**	**248**	Pn	**Pb**	**16 23 09.4**	**-1.7**
SENK				Sn	**Sg**	**16 23 28.5**	**-0.3**
GHRG	**Ghorjomi**	**1.38**	**299**	P	**Pb**	**16 23 10.3**	**-1.5**
GHRG				S	**Sb**	**16 23 29.1**	**-1.0**
KOTA	**Agri, Merkez-K**	**1.40**	**204**	P	**Pb**	**16 23 12.4**	**-0.2**
GDB	**GEDABAY**	**1.41**	**104**	P	**Pn**	**16 23 11.2**	**-1.1**
GDB				S	**Sn**	**16 23 29.9**	**-1.1**
GUDG	**Gudauri**	**1.44**	**16**	P	**Pn**	**16 23 12.1**	**-0.7**
GUDG				S	**Sn**	**16 23 31.9**	**+0.1**
GUDG	**Gudauri**	**1.44**	**16**	PG	**Pn**	**16 23 12.0**	**-0.7**
GUDG				S	**Sn**	**16 23 31.9**	**+0.1**
GUDG	**Gudauri**	**1.44**	**16**	*i* Pg	**Pn**	**16 23 12.1**	**-0.7**
GUDG				*e*Sg	**Sn**	**16 23 31.9**	**+0.1**
TKB	**Tkibuli**	**1.46**	**331**	P	**Pn**	**16 23 12.1**	**-0.8**
TKB				S	**Sn**	**16 23 31.9**	**-0.2**
TKB	**Tkibuli**	**1.46**	**331**	PG	**Pn**	**16 23 12.0**	**-0.8**
TKB				S	**Sn**	**16 23 31.9**	**-0.2**
HYR	**Heyderabad**	**1.52**	**153**	P	**Pn**	**16 23 13.7**	**0.0**
HYR				S	**Sg**	**16 23 35.2**	**-0.1**
DYDN	**Diyadin**	**1.55**	**188**	P	**Pn**	**16 23 13.7**	**-0.5**
GARIG	**Gari**	**1.57**	**347**	P	**Pn**	**16 23 13.9**	**-0.4**
GARIG				S	**Sb**	**16 23 36.1**	**+0.6**
EATA	**Eleskirt**	**1.65**	**223**	P	**Pn**	**16 23 14.9**	**-0.8**
EATA				S	**Sn**	**16 23 36.9**	**-0.2**
EATA				*i* IAML		16 23 48.0	
	comp=N,7μm,0.8s						
AGRB	**Hanur-Agry**	**1.67**	**206**	Pn	**Pn**	**16 23 16.3**	**+0.4**
DDEM	**Demirkent**	**1.68**	**264**	P	**Pn**	**16 23 15.4**	**-0.4**
DDEM				S	**Sn**	**16 23 37.4**	**-0.1**
DDEM				*i* IAML		16 23 44.0	
	comp=N,2μm,0.5s						
AYRK	**Ayrk**	**1.70**	**124**	⇑*i*P	**Pn**	**16 23 16.7**	**+0.4**
AYRK				⇓*i*S	**Sb**	**16 23 39.1**	**-0.2**
DBAD	**Bademkaya**	**1.71**	**269**	P	Pg	16 23 35.3	+16
DBAD				S	Sg	16 23 57.3	+16
DBOC	**Borcka**	**1.74**	**280**	P	**Pn**	**16 23 17.0**	**+0.3**
DBOC				S	**Sn**	**16 23 38.1**	**-1.0**
DBOC				*i* IAML		16 23 39.0	
	comp=E,6μm,0.5s						
LACR	**Lac**	**1.77**	**8**	*i* PN	**Pn**	**16 23 18.0**	**+0.9**
LACR				*e*S	**Sg**	**16 23 42.3**	**-0.8**
LACR	**Lac**	**1.77**	**8**	*i* Pg	**Pn**	**16 23 18.0**	**+0.9**
LACR				*e*Sg	**Sg**	**16 23 42.3**	**-0.8**
BATM	**Batumi**	**1.78**	**288**	P	**Pn**	**16 23 16.7**	**-0.5**
BATM	**Batumi**	**1.78**	**288**	PN	**Pn**	**16 23 16.7**	**-0.5**
VAYK	**Vayk**	**1.78**	**140**	*i* P	**Pb**	**16 23 18.7**	**-0.5**
VAYK				*i* S	**Sg**	**16 23 42.9**	**-0.7**
BCA	**Borcka**	**1.79**	**283**	Pn	**Pn**	**16 23 17.1**	**-0.3**
SHTL	**Shatili**	**1.81**	**29**	P	**Pn**	**16 23 18.5**	**+0.7**
SHTL				S	**Sb**	**16 23 43.1**	**+0.5**
SHTL	**Shatili**	**1.81**	**29**	*i* PN	**Pn**	**16 23 18.5**	**+0.7**
DIGR	**Digorskoe uzhe**	**1.84**	**351**	*e*PN	**Pb**	**16 23 19.4**	**-0.8**
DIGR	**Digorskoe uzhe**	**1.84**	**351**	*e*Pg	**Pb**	**16 23 19.4**	**-0.8**
DIGR				*e*Sg	**Sg**	**16 23 46.1**	**+0.6**
GANJ	**Ganja**	**1.85**	**103**	P	**Pn**	**16 23 18.5**	**+0.4**
GANJ				S	**Sb**	**16 23 43.0**	**-0.5**
VSHL	**Vashlovani**	**1.85**	**85**	P	**Pb**	**16 23 20.0**	**-0.4**
HOMI	**Horasan**	**1.87**	**237**	P	**Pb**	**16 23 20.3**	**-0.4**
DORK	**Agr/Tutak/Do**	**1.91**	**208**	P	**Pn**	**16 23 19.8**	**+0.6**
HOPA	**Hopa-Artvin**	**1.92**	**280**	Pn	**Pn**	**16 23 18.9**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**1.93**	**237**	Pn	**Pn**	**16 23 19.9**	**+0.5**
KOPR				Sn	**Sb**	**16 23 44.9**	**-1.1**
KORR	**Kora**	**2.01**	**2**	*i* PN	**Pb**	**16 23 22.4**	**-0.6**
KORR				*e*S	**Sb**	**16 23 49.0**	**+0.9**
KORR	**Kora**	**2.01**	**2**	*i* Pg	**Pb**	**16 23 22.4**	**-0.6**
KORR				*e*Sg	**Sb**	**16 23 49.0**	**+0.9**
VLKR	**Vladikavkaz**	**2.04**	**15**	*e*PN	**Pb**	**16 23 23.5**	**0.0**
VLKR				*e*S	**Sg**	**16 23 50.9**	**-1.0**
TLTR	**Tlyarata**	**2.07**	**60**	*e*PN	**Pn**	**16 23 21.9**	**+0.6**
TLTR				*e*S	**Sb**	**16 23 50.2**	**+0.1**
TLTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TLTR	**Tlyarata**	**2.07**	**60**	*e*Pg	**Pn**	**16 23 22.0**	**+0.6**
TLTR				*e*Sg	**Sb**	**16 23 50.2**	**+0.1**
SBZ	**Shahbuz**	**2.08**	**143**	P	**Pb**	**16 23 24.2**	**0.0**
SBZ				S	**Sb**	**16 23 50.7**	**+0.5**
ZKTA	**Zakatala**	**2.09**	**74**	P	**Pn**	**16 23 22.4**	**+0.9**
ZKTA				S	**Sb**	**16 23 51.4**	**+1.0**
KMGR	**Komgaron**	**2.09**	**19**	*i* PN	**Pb**	**16 23 24.5**	**+0.1**
KMGR				*e*S	**Sb**	**16 23 51.8**	**+1.3**
KMGR	**Komgaron**	**2.09**	**19**	*i* Pg	**Pb**	**16 23 24.6**	**+0.1**
KMGR				*e*Sg	**Sb**	**16 23 51.9**	**+1.3**
VMUR	**Van-Muradiye**	**2.11**	**188**	P	**Pb**	**16 23 23.3**	**-1.4**
LSNR	**Lesken**	**2.20**	**358**	*i* PN	**Pb**	**16 23 25.2**	**-1.0**
LSNR				*e*S	**Sb**	**16 23 55.3**	**+1.7**
LSNR	**Lesken**	**2.20**	**358**	*i* Pg	**Pb**	**16 23 25.2**	**-1.0**
LSNR				*e*Sg	**Sb**	**16 23 55.3**	**+1.7**
MLAZ	**Malazgirt-MUS**	**2.21**	**210**	Pn	**Pn**	**16 23 23.9**	**+0.6**
NAX	**Nakhchivan**	**2.24**	**148**	P	**Pb**	**16 23 26.0**	**-1.0**
NAX				S	**Sb**	**16 23 55.3**	**+0.5**
STDR	**Stavd-Durt**	**2.29**	**2**	*i* PN	**Pb**	**16 23 26.3**	**-1.5**
STDR				*e*S	**Sb**	**16 23 56.0**	**-0.2**
BTLR	**Botlikh**	**2.32**	**46**	*e*PN	**Pb**	**16 23 27.3**	**-1.0**
BTLR				*e*S	**Sb**	**16 23 58.6**	**+1.5**
BTLR				pmax	pmax		
	comp=Z,1μm,0.6s						
BTLR	**Botlikh**	**2.32**	**46**	*e*Pn	**Pb**	**16 23 27.4**	**-1.0**
BTLR				*e*Sn	**Sb**	**16 23 58.7**	**+1.5**
BTKR	**Batakoyurt**	**2.33**	**11**	*e*PN	**Pb**	**16 23 27.8**	**-0.7**
BTKR				*e*S	**Sb**	**16 23 57.2**	**-0.2**
BTKR	**Batakoyurt**	**2.33**	**11**	*e*Pn	**Pb**	**16 23 27.8**	**-0.7**
BTKR				*e*Sn	**Sb**	**16 23 57.2**	**-0.2**
EJDE	**Erzurum, Palan**	**2.37**	**239**	P	**Pb**	**16 23 28.2**	**-1.2**
NEUR	**Neytrino**	**2.37**	**337**	*i* PN	**Pb**	**16 23 27.6**	**-1.7**
NEUR				*i* S	**Sb**	**16 23 58.7**	**0.0**
MNGR	**Mingechevir, A**	**2.39**	**96**	P	**Pb**	**16 23 27.7**	**-1.8**
MNGR				S	**Sb**	**16 24 00.6**	**+1.5**
CHOM	**Cayeli-Rize**	**2.41**	**271**	Pn	**Pn**	**16 23 26.4**	**+0.5**
NCK	**Nalchik**	**2.43**	**354**	*e*PN	**Pb**	**16 23 28.2**	**-2.0**
NCK				*e*S	**Sb**	**16 23 59.0**	**-1.2**
NCK	**Nalchik**	**2.43**	**354**	*e*Pn	**Pb**	**16 23 28.2**	**-2.0**
NCK				*e*Sn	**Sb**	**16 23 59.0**	**-1.2**
SEKA	**Sheki**	**2.46**	**86**	P	**Pn**	**16 23 27.7**	**+1.2**
SEKA				S	**Sb**	**16 24 01.7**	**+0.7**
EMRE	**Erzurum,Aziziy**	**2.50**	**246**	P	**Pb**	**16 23 32.5**	**+1.1**
ETEKE	**Tekederesi - E**	**2.50**	**240**	P	**Pn**	**16 23 28.5**	**+1.1**
XNZR	**Khunzakh**	**2.52**	**54**	*e*Pn	**Pb**	**16 23 30.6**	**-1.3**
XNZR				*e*Sn	**Sb**	**16 24 03.7**	**+1.7**
HNZR	**Khunzah**	**2.54**	**54**	⇑*i*PN	**Pb**	**16 23 30.1**	**-2.0**
HNZR				*e*S	**Sb**	**16 24 04.6**	**+1.1**
HNZR				pmax	pmax		
	comp=Z,644nm,0.6s						
KMKR	**Kumukh**	**2.58**	**65**	*e*PN	**Pn**	**16 23 30.3**	**+1.9**
KMKR				*e*S	**Sb**	**16 24 05.0**	**+0.2**
KMKR				pmax	pmax		
	comp=Z,2μm,0.6s						
IZDR	**Rize**	**2.58**	**265**	P	**Pb**	**16 23 31.2**	**-1.6**
BRDA	**Brd**	**2.59**	**107**	P	**Pb**	**16 23 30.7**	**-2.0**
BRDA				S	**Sn**	**16 24 02.3**	**+2.6**
AGDM	**Agdam**	**2.59**	**111**	P	**Pn**	**16 23 30.3**	**+1.9**
AGDM				S	**Sb**	**16 24 03.7**	**-1.1**
ORD	**Ordubad**	**2.66**	**143**	P	**Pb**	**16 23 33.1**	**-0.9**
ORD				S	**Sb**	**16 24 07.1**	**+0.3**
UNCR	**Uncukul**	**2.68**	**51**	*e*PN	**Pn**	**16 23 31.9**	**+2.3**
UNCR				*e*S	**Sb**	**16 24 06.8**	**-0.5**
UNCR				pmax	pmax		
	comp=Z,785nm,0.6s						
UNCR	**Uncukul**	**2.68**	**51**	*e*Pn	**Pn**	**16 23 31.9**	**+2.3**
UNCR				*e*Sn	**Sb**	**16 24 06.9**	**-0.5**
PRTR	**Priterechnaya**	**2.68**	**5**	*e*PN	**Pn**	**16 23 31.1**	**+1.5**
PRTR				*e*S	**Sn**	**16 24 04.6**	**+2.5**
PRTR	**Priterechnaya**	**2.68**	**5**	*e*Pn	**Pn**	**16 23 31.1**	**+1.5**
PRTR				*e*Sn	**Sn**	**16 24 04.6**	**+2.5**
TRKR	**Terskaya**	**2.71**	**12**	*e*PN	**Pn**	**16 23 32.4**	**+2.5**
TRKR				*e*S	**Sn**	**16 24 05.0**	**+2.3**
TRKR	**Terskaya**	**2.71**	**12**	*e*Pn	**Pn**	**16 23 32.4**	**+2.5**
TRKR				*e*Sn	**Sn**	**16 24 05.0**	**+2.3**
EGVZ	**Egvard**	**2.71**	**132**	⇑*i*P	**Pn**	**16 23 35.6**	**+0.6**
EGVZ				⇓*i*S	**Sg**	**16 24 11.5**	**-1.9**
ARKR	**Arakani**	**2.74**	**55**	*e*PN	**Pn**	**16 23 32.5**	**+2.1**
ARKR				*e*S	**Sb**	**16 24 07.3**	**-1.8**
ARKR				pmax	pmax		
	comp=Z,922nm,0.6s						
ARKR	**Arakani**	**2.74**	**55**	*e*Pn	**Pn**	**16 23 32.6**	**+2.1**
ARKR				*e*Sn	**Sb**	**16 24 07.3**	**-1.8**
KBZ	**Khabaz**	**2.76**	**344**	Pn	**Pn**	**16 23 33.1**	**+2.4**
	comp=Z,28nm,0.3s,baz=166,slow=8.6,SNR=242						
KBZ				Sn	**Sb**	**16 24 08.8**	**-0.8**
	comp=Z,40nm,0.3s,baz=110,slow=16,SNR=6.3						
KBZ	**Khabaz**	**2.76**	**344**	*i* Pn	**Pn**	**16 23 32.2**	**+1.6**
KBZ				*e*Sn	**Sb**	**16 24 07.6**	**-2.1**
KBTC	**Kuba-Taba**	**2.77**	**352**	*e*PN	**Pn**	**16 23 32.3**	**+1.5**
KBTC				*e*S	**Sb**	**16 24 08.0**	**-1.9**
KBTC	**Kuba-Taba**	**2.77**	**352**	*e*Pn	**Pn**	**16 23 32.4**	**+1.5**
KBTC				*e*Sn	**Sb**	**16 24 08.0**	**-1.9**
DOMR	**Dombai**	**2.81**	**323**	*e*PN	**Pn**	**16 23 33.6**	**+2.1**
DOMR				*e*S	**Sb**	**16 24 08.5**	**-2.7**
DOMR	**Dombai**	**2.81**	**323**	*e*Pn	**Pn**	**16 23 33.6**	**+2.1**
DOMR				*e*Sn	**Sb**	**16 24 08.5**	**-2.7**
KRNR	**Karanay**	**2.81**	**51**	*e*PN	**Pn**	**16 23 33.2**	**+1.7**
KRNR				*e*S	**Sb**	**16 24 08.7**	**-2.6**
KRNR				pmax	pmax		
	comp=Z,229nm,0.5s						
KRNR	**Karanay**	**2.81**	**51**	*e*Pn	**Pn**	**16 23 33.2**	**+1.7**
KRNR				*e*Sn	**Sb**	**16 24 08.8**	**-2.6**
DLMR	**Dylym**	**2.82**	**44**	*e*PN	**Pn**	**16 23 33.1**	**+1.6**
DLMR				*e*S	**Sb**	**16 24 09.5**	**-1.8**
DLMR	**Dylym**	**2.82**	**44**	*e*Pn	**Pn**	**16 23 33.1**	**+1.6**
DLMR				*e*Sn	**Sb**	**16 24 09.5**	**-1.8**
SHA1	**Shidzhatmaz**	**2.83**	**341**	*e*PN	**Pn**	**16 23 33.4**	**+1.6**
SHA1				*e*S	**Sn**	**16 24 07.4**	**+1.4**
SHA1	**Shidzhatmaz**	**2.83**	**341**	*e*Pn	**Pn**	**16 23 33.4**	**+1.6**
SHA1				*e*Sn	**Sn**	**16 24 07.4**	**+1.4**
KOPT	**Kop Dagi**	**2.84**	**249**		**Pb**	**16 23 35.1**	**-2.2**
KARO	**Karliova-Bingo**	**2.84**	**232**	Pn	**Pn**	**16 23 32.6**	**+0.7**
AKDM	**Akdamar-Van**	**2.85**	**196**	Pn	**Pn**	**16 23 32.9**	**+0.9**
GEVA	**Gevas**	**2.85**	**194**		**Pn**	**16 23 34.2**	**+2.2**
AKT	**Akhty**	**2.88**	**81**	⇑*i*PN	**Pn**	**16 23 32.7**	**+0.3**
AKT				*e*		16 23 39.5	
AKT				*e*		16 23 40.5	
AKT				*e*S	**Sb**	**16 24 11.7**	**-1.4**
AKT				*e*		16 24 20.5	
AKT				pmax	pmax		
	comp=Z,1μm,0.7s						
AKT				smax	smax		
	comp=E,2μm,0.6s						
AKT				smax	smax		
	comp=E,2μm,0.6s						
AKT				smax	smax		
	comp=N,2μm,0.6s						
AKT				MLR	MLR		
	comp=Z,1μm,2.0s						
AKT	**Akhty**	**2.88**	**81**	*e*Pn	**Pn**	**16 23 34.5**	**+2.2**
AKT				*e*Sn	**Sn**	**16 24 10.3**	**+3.2**
GURO	**Guroymak-BITLI**	**2.92**	**211**	Pn	**Pn**	**16 23 33.7**	**+0.8**
GURO	**Guroymak-BITLI**	**2.92**	**211**		**Pn**	**16 23 33.7**	**+0.7**
BAYB	**BAYBURT**	**2.93**	**255**	P	**Pb**	**16 23 37.5**	**-1.3**
BUJR	**Buynaksk**	**2.93**	**52**	*e*PN	**Pn**	**16 23 35.8**	**+2.8**
BUJR				*e*S	**Sb**	**16 24 14.4**	**-0.2**
BUJR	**Buynaksk**	**2.93**	**52**	*e*Pn	**Pn**	**16 23 35.8**	**+2.8**
BUJR				*e*Sn	**Sb**	**16 24 14.4**	**-0.2**
QBL	**Gabala**	**2.94**	**91**	P	**Pn**	**16 23 34.5**	**+1.3**
QBL				S	**Sn**	**16 24 10.6**	**+1.9**
ZRD	**Zardab**	**2.95**	**104**	P	**Pn**	**16 23 35.0**	**+1.8**
ZRD				S	**Sb**	**16 24 14.7**	**-0.4**
URKR	**Urkarakh**	**2.97**	**67**	*e*PN	**Pn**	**16 23 35.7**	**+2.1**
URKR				*e*S	**Sb**	**16 24 13.6**	**-2.1**
URKR				pmax	pmax		
	comp=Z,845nm,0.6s						
BAYT	**Aydintepe-Bayb**	**2.98**	**258**	Pn	**Pn**	**16 23 34.9**	**+1.1**
MUSM	**Mu-Merkez**	**3.01**	**219**	P	**Pn**	**16 23 33.1**	**-1.1**
BLIS	**Bitlis-Merkez**	**3.01**	**209**	P	**Pn**	**16 23 35.8**	**+1.5**
KIV	**Kislovodsk**	**3.02**	**342**	Pn	**Pn**	**16 23 35.8**	**+1.5**
KIV	**Kislovodsk**	**3.02**	**342**		**Pn**	**16 23 35.4**	**+1.0**
KIV	**Kislovodsk**	**3.02**	**342**	P	**Pn**	**16 23 36.5**	**+2.1**
KIV	**Kislovodsk**	**3.02**	**342**	*i* P	**Pn**	**16 23 35.9**	**+1.5**
	SNR=67						
KIV	**Kislovodsk**	**3.02**	**342**	*e*PN	**Pn**	**16 23 35.8**	**+1.5**
KIV				*e*S	**Sn**	**16 24 12.9**	**+2.2**
KIV	**Kislovodsk**	**3.02**	**342**	*e*Pn	**Pn**	**16 23 35.8**	**+1.5**

BNN Bunyan 6.61 253 Pn 16 24 27.8 +4.1
BZK Bozkurt 7.52 280 Pn 16 24 39.9 +3.9
BZK Bozkurt 7.52 280 ⇑P Pn 16 24 39.1 +3.1
SUDU Sudak 7.59 303 *e*P Pn 16 24 38.7 +1.8
SUDU *e*S **Sn 16 26 04.8 +1.8**
SUDU pmax pmax
comp=Z,100nm,0.6s
SUDU smax smax
comp=N,87nm,0.7s
SUDU smax smax
comp=E,121nm,1.2s
SUDU Sudak 7.59 303 *e*P **Pn 16 24 38.7 +1.8**
SUDU Pm 16 24 46.3
comp=Z,100nm,0.6s
SUDU *e*S **Sn 16 26 04.8 +1.8**
SUDU Sm 16 26 07.0
comp=N,87nm,0.7s
SUDU Sm 16 26 07.0
comp=E,121nm,1.2s
ILGA Ilgaz 7.74 273 Pn 16 24 43.1 +3.9
ALU Alushta 7.88 300 *e*P **Pn 16 24 42.0 +1.0**
ALU *e*S **Sn 16 26 11.8 +1.6**
ALU pmax pmax
comp=Z,51nm,0.5s
ALU smax smax
comp=N,237nm,1.2s
ALU smax smax
comp=E,136nm,1.0s
ALU Alushta 7.88 300 *e*P **Pn 16 24 42.0 +1.0**
ALU Pm 16 24 46.5
comp=Z,51nm,0.5s
ALU *e*S **Sn 16 26 11.8 +1.6**
ALU Sm 16 26 19.8
comp=N,237nm,1.2s
ALU Sm 16 26 19.8
comp=E,136nm,1.0s
KIRS Kirsehir-Merke 7.93 259 ⇓P Pn 16 24 45.9 +4.1
YAL Yalta 7.97 299 *e*P **Pn 16 24 45.8 +3.6**
YAL *e*S **Sn 16 26 15.5 +3.1**
YAL pmax pmax
comp=Z,29nm,0.4s
YAL smax smax
comp=N,112nm,0.8s
YAL smax smax
comp=E,132nm,0.9s
YAL Yalta 7.97 299 *e*P **Pn 16 24 45.8 +3.6**
YAL Pm 16 24 58.2
comp=Z,29nm,0.4s
YAL *e*S **Sn 16 26 15.5 +3.1**
YAL Sm 16 26 19.0
comp=N,112nm,0.8s
YAL Sm 16 26 19.0
comp=E,132nm,0.9s
BR131 Keskin Array S 7.99 264 Pn 16 24 45.9 +3.3
BR131 Keskin Array S 7.99 264 P **Pn 16 24 43.5 +0.9**
BR131 Keskin Array S 7.99 264⇓ *e*P Pn 16 24 47.5 +4.9
BRTR Keskin Array B 7.99 264 Pn 16 24 45.5 +2.9
BRTR Keskin Array B 7.99 264 Pn **Pn 16 24 45.3 +2.7**
comp=E,2.0nm,0.7s,baz=86,slow=13,SNR=8.4
BRTR Lg Lg 16 26 56.2
comp=E,0.1nm,0.3s,baz=79,slow=26,SNR=1.3
BRTR LR LR 16 28 10.7
comp=E,256nm,20.2s,baz=124,slow=41
BRTR Keskin Array B 7.99 264 *i* P **Pn 16 24 45.7 +3.1**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
SIM Simferopol' 8.18 301 *e*P **Pn 16 24 49.6 +4.5**
SIM *e*S Sn 16 26 28.3 +11
SIM pmax pmax
comp=Z,50nm,0.8s
SIM smax smax
comp=E,62nm,0.9s
SIM smax smax
comp=N,153nm,1.1s
SIM Simferopol' 8.18 301 *e*P Pn 16 24 55.3 +10
SIM Pm 16 24 55.9
comp=Z,94nm,0.7s
SIM *e*S Sb 16 26 34.3 -11
SIM Sm 16 26 41.9
comp=N,128nm,0.9s
SIM Sm 16 26 41.9
comp=E,117nm,1.0s
SEV Sevastopol' 8.31 298 *e*P **Pn 16 24 48.2 +1.3**
SEV *e*S **Sn 16 26 23.1 +2.3**
SEV smax smax
comp=E,86nm,1.3s
SEV Sevastopol' 8.31 298 *e*P **Pn 16 24 48.2 +1.3**
SEV *e*S **Sn 16 26 23.1 +2.3**
SEV Sm 16 26 27.4
comp=E,86nm,1.3s
ANTO Ankara 8.59 266 Pn 16 24 53.5 +2.8
ANTO Ankara 8.59 266 P **Pn 16 24 53.6 +2.8**
ANTO Ankara 8.59 266 P **Pn 16 24 53.6 +2.8**
DNZ2 Donuzlav2 8.94 302 *e*P **Pn 16 25 00.0 +4.6**
DNZ2 Pm 16 25 04.6
comp=Z,245nm,1.1s
DNZ2 *e*S **Sn 16 26 40.9 +4.8**
DNZ2 Sm 16 26 49.6
comp=N,196nm,1.6s
DNZ2 Sm 16 26 49.6
comp=E,414nm,1.4s
TARU Tarkhankut 9.38 301 *e*P **Pn 16 25 04.8 +3.4**
TARU Pm 16 25 13.7
comp=Z,90nm,0.7s
TARU *e*S **Sn 16 26 50.5 +3.6**
TARU Sm 16 26 51.7
comp=N,33nm,0.9s
VRH Novokhopyorsk 10.24 352 *e*P **Pn 16 25 11.5 -1.8**
VRH pmax pmax
comp=Z,10.0nm,0.8s
ASF Jabal al Asfar 10.54 215 Pn **Pn 16 25 17.9 +0.3**
comp=Z,0.2nm,0.3s,baz=58,slow=19,SNR=5.5
ASF Lg Lg 16 28 11.6
comp=Z,0.1nm,0.3s,baz=61,slow=19,SNR=1.5
ASF LR LR 16 29 21.9
comp=Z,346nm,19.9s,baz=149,slow=38
comp=Z,2.4nm,0.7s
MMAI Mount Meron Ar 10.55 223 Pn **Pn 16 25 14.8 -2.8**
comp=Z,0.8nm,0.3s,baz=51,slow=11,SNR=7.0
MMAI LR LR 16 29 23.8
comp=Z,679nm,18.1s,baz=29,slow=38
VSR Storozhevoye 10.67 344 *e*P **Pn 16 25 18.4 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR MLR MLR
comp=Z,1μm,11.0s
BELG Belogornoye 11.59 11 Pn **Pn 16 25 29.0 -2.8**
comp=Z,1.9nm,0.3s,baz=245,slow=19,SNR=14
BELG Sn **Sn 16 27 41.3 +0.1**
comp=Z,0.8nm,0.3s,baz=246,slow=20,SNR=1.9
BELG Belogornoye 11.59 11*c e*P **Pn 16 25 29.7 -2.1**
BELG pmax pmax
comp=Z,12nm,0.9s
KALB Balgarevo 11.75 287 ⇑P Pn 16 25 36.3 +2.4
TLCR 11.79 295 ⇓P Pn 16 25 36.1 +1.5
TLCR 11.79 295 ⇓P Pn 16 25 36.1 +1.5
GHAJ Ghor Haditha 11.87 217 Pn 16 25 39.0 +3.4
TIRR Tirgusor 11.91 292 Pn 16 25 35.5 -0.6
TIRR Tirgusor 11.91 292 ⇓P Pn 16 25 38.3 +2.2
TIRR Tirgusor 11.91 292 ⇓P Pn 16 25 38.3 +2.2
TPGR Topolog 11.99 294 ⇑P Pn 16 25 38.7 +1.5
LPSR Galich'ya Gora 12.03 345 *e*P **Pn 16 25 36.6 -1.1**
LPSR pmax pmax
comp=Z,20nm,0.6s
LPSR MLR MLR
comp=Z,1μm,13.0s
TLBR Topalu 12.18 292 ⇓P Pn 16 25 41.7 +1.9
CFR Carcaliu 12.26 295 ⇑P Pn 16 25 42.8 +1.9
CFR Carcaliu 12.26 295 ⇑P Pn 16 25 42.8 +1.9
HARR Harsova 12.29 292 ⇓P Pn 16 25 41.1 -0.3
HARR Harsova 12.29 292 ⇓P Pn 16 25 41.1 -0.3
LOZB Loznitsa 13.07 286 ⇑P Pn 16 25 54.6 +2.6
SORM Soroca 13.15 308 ⇑P Pn 16 25 53.5 +0.4
SORM Soroca 13.15 308 ⇑P Pn 16 25 53.5 +0.4
VRI Vrincioaia 13.39 297 ⇓P Pn 16 25 58.2 +1.9
VRI Vrincioaia 13.39 297 ⇓P Pn 16 25 58.2 +1.9
PLOR Plostina 13.44 297 ⇓P Pn 16 25 58.6 +1.5
PLOR Plostina 13.44 297 ⇓P Pn 16 25 58.6 +1.5
EIL Elat 13.54 216 Pn **Pn 16 25 55.5 -2.9**
comp=Z,0.2nm,0.3s,baz=21,slow=14,SNR=1.5
EIL Lg Lg 16 29 46.8
comp=Z,0.1nm,0.3s,baz=89,slow=23,SNR=1.3
EIL LR LR 16 30 29.9
comp=Z,99nm,21.1s,baz=26,slow=35
comp=Z,2.0nm,0.8s
AKTO Aktyubinsk 13.54 42 ⇓P Pn 16 25 55.2 -3.2
comp=Z,13nm,0.6s
AKTO ⇓S **Sn 16 28 22.2 -6.7**
comp=Z,19nm,1.0s
AKTO Aktyubinsk 13.54 42 Pn **Pn 16 25 55.3 -3.2**
comp=Z,0.9nm,0.3s,baz=235,slow=11,SNR=36
AKTO Sn Sn 16 28 16.6 -12
comp=Z,0.1nm,0.3s,baz=239,slow=23,SNR=0.8
AKTO LR LR 16 33 02.6
comp=Z,294nm,19.1s,baz=278,slow=45
comp=Z,23nm,1.0s
AKTO Aktyubinsk 13.54 42 P **Pn 16 25 54.7 -3.7**
ELND Elena 13.57 284 ⇑P Pn 16 26 01.6 +2.7
TESR Tescani 13.62 299 ⇑P Pn 16 26 00.8 +1.3
COVR Voineasa-Covas 13.74 296 ⇑P Pn 16 26 02.5 +1.3
ONER Baraj Valea Uz 13.74 298 ⇓P Pn 16 26 02.3 +1.1
MLR Muntele Rosu 13.83 295 Pn **Pn 16 26 02.7 +0.1**
comp=Z,0.9nm,0.3s,baz=183,slow=18,SNR=8.6
MLR Sn **Sn 16 28 35.1 -1.2**
comp=Z,0.1nm,0.3s,baz=66,slow=17,SNR=1.9
MLR LR LR 16 33 15.0
comp=Z,1μm,18.4s,baz=81,slow=46
comp=Z,4.7nm,0.6s
MLR Muntele Rosu 13.83 295 ⇓P Pn 16 26 04.4 +1.8
AB31 Akbulak array 13.91 49 Pn 16 25 59.2 -4.3
AB31 Akbulak array 13.91 49 ⇑P Pn 16 26 00.3 -3.1
comp=Z,11nm,0.8s,baz=238,slow=11
AB31 ⇓S **Sn 16 28 30.5 -7.4**
comp=Z,50nm,1.1s,baz=240,slow=22
AB31 Akbulak array 13.91 49 P **Pn 16 25 59.7 -3.8**
ABKAR Akbulak array 13.91 49 Pn 16 25 59.3 -4.2
TURR Turia 13.92 297 ⇓P Pn 16 26 05.4 +1.8
AKASG Malin Array Be 14.04 318 Pn **Pn 16 26 04.9 -0.3**
AKASG Malin Array Be 14.04 318 Pn **Pn 16 26 03.0 -2.1**
comp=Z,0.9nm,0.3s,baz=121,slow=14,SNR=10
AKASG Sn **Sn 16 28 34.0 -7.0**
baz=124,slow=25
AKASG Lg Lg 16 30 10.8
comp=Z,0.9nm,0.3s,baz=121,slow=28,SNR=2.0
AKASG LR LR 16 31 55.6
comp=Z,577nm,19.0s,baz=126,slow=39
comp=Z,1.6nm,0.5s
AKASG Malin Array Be 14.04 318 *i* P **Pn 16 26 05.1 -0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 14.04 318 Pn 16 26 04.7 -0.5
AKBB Malin Array Si 14.04 318⇓ *e*P **Pn 16 26 05.2 0.0**
AKBB pmax pmax
comp=Z,27nm,0.9s
KIEV Kiev 14.04 318 Pn 16 26 04.8 -0.4
KIEV Kiev 14.04 318 ⇑P Pn 16 26 04.6 -0.6
KIEV Kiev 14.04 318 P **Pn 16 26 03.3 -1.9**
KIEV Kiev 14.04 318 P **Pn 16 26 04.8 -0.4**
DOPR Dopca 14.32 296 ⇓P Pn 16 26 09.5 +0.4
ARR Arges 14.72 293 ⇑P Pn 16 26 16.4 +1.9
OBN Obninsk 14.87 343 Pn **Pn 16 26 14.5 -2.0**
comp=Z,4.7nm,0.3s,baz=117,slow=9.0,SNR=4.6
OBN Sn **Sn 16 28 55.5 -5.6**
comp=Z,12nm,0.3s,baz=79,slow=18,SNR=2.7
OBN Lg Lg 16 30 40.3
comp=Z,11nm,0.3s,baz=107,slow=19,SNR=6.4
comp=Z,15nm,0.4s
OBN Obninsk 14.87 343⇑ *e*P **Pn 16 26 16.6 +0.1**
OBN *e*S **Sn 16 29 03.4 +2.2**
OBN pmax pmax
comp=Z,30nm,1.1s
OBN MLR MLR
comp=Z,713nm,13.0s
BURAR Bucovina Array 14.89 302 Pn 16 26 17.1 +0.1
BURAR IAmb IAmb 16 26 34.1
comp=Z,24nm,0.9s
BURAR Bucovina Array 14.89 302 ⇓P Pn 16 26 18.9 +1.9
BURAR Bucovina Array 14.89 302 ⇓P Pn 16 26 18.9 +1.9
BUR08 Bucovina Ar. S 14.91 302 Pn 16 26 18.7 +1.4
BUR08 IAmb IAmb 16 26 34.6
comp=Z,42nm,1.1s
MOS Moscow 15.25 346 *e*P **Pn 16 26 20.1 -1.4**
MOS *e*S **S 16 29 21.1 -6.1**
MOS pmax pmax
comp=Z,40nm,1.2s
MOS MLR MLR
comp=Z,900nm,12.0s
MOS MLR MLR
comp=N,900nm,13.0s
LOT Lotru 15.33 293 ⇑P Pn 16 26 23.4 +0.6
GZR Gura Zlata 16.01 293 ⇓P P 16 26 33.4 -1.7
GZR Gura Zlata 16.01 293 ⇓P P 16 26 33.4 -1.7
MARR Marisel-Cluj 16.01 297 ⇓P Pn 16 26 32.6 +0.9
IDI Anoyia 16.05 255 Pn **Pn 16 26 30.5 -1.7**
comp=N,8.8nm,0.9s,baz=26,slow=13,SNR=1.8
IDI LR LR 16 33 20.9
comp=N,520nm,18.2s,baz=82,slow=40
HERR Herculane 16.20 291 ⇑P P 16 26 35.9 -1.2
DRGR 16.31 298 ⇑P Pn 16 26 36.8 +1.3
DRGR 16.31 298 ⇑P Pn 16 26 36.8 +1.3
SURR Surduc 16.52 294 ⇑P P 16 26 39.7 -1.0
BOVS Bovan 16.63 286 ⇑P P 16 26 41.9 -0.1
MDVR Moldovita 16.69 290 ⇓P Pn 16 26 41.1 +0.8
BZS Buzias 16.85 293 ⇑P P 16 26 43.7 -0.6
BZS Buzias 16.85 293 ⇑P P 16 26 43.7 -0.6
SIRR Siria 16.92 295 ⇓P P 16 26 44.6 -0.6
FNA Florina 17.06 276 Pn **P 16 26 47.7 +0.9**
FNA Florina 17.06 276 P **P 16 26 47.7 +0.9**
MNK Minsk 17.17 327 *i* P **P 16 26 49.5 +1.6**
comp=E,16nm,0.7s
MNK *i* P **P 16 26 49.5 +1.6**
comp=N,20nm,0.8s
MNK *i* P **P 16 26 49.5 +1.6**
comp=Z,18nm,0.8s,baz=134
MNK *i* PP **PnPn 16 26 59.3 +3.4**
MNK *i* PPP PPP 16 27 07.1
MNK *i* S **Sn 16 30 01.8 +4.6**
MNK *i* SS **SnSn 16 30 16.5 +6.2**
MNK *i* LQ LQ 16 32 02.9
MNK *i* LR LR 16 33 11.7
MNK *i* LRM MLR 16 34 00.7
comp=Z,768nm,13.6s
MNK *i* LRM MLR 16 34 09.9
comp=E,680nm,16.5s
MNK *i* LRM MLR 16 34 12.2
comp=N,589nm,17.2s
MNK Minsk 17.17 327 *i* P **P 16 26 49.4 +1.6**
MNK *i* S **Sn 16 30 01.7 +4.6**
MNK pmax pmax
comp=E,16nm,0.7s
MNK pmax pmax
comp=Z,18nm,0.8s
MNK pmax pmax
comp=N,20nm,0.8s
MNK MLR MLR
comp=Z,768nm,14.0s
MNK MLR MLR
comp=E,680nm,16.0s
MNK MLR MLR
comp=N,589nm,17.0s
KOLS Kolonicke sedl 17.18 304 *e*P **P 16 26 49.7 +1.7**
KOLS pmax pmax
comp=Z,15nm,1.0s
TRNA Turayna 17.39 157 P **P 16 26 49.9 -0.5**
ITM Ithomi 17.52 264 Pn **P 16 26 52.5 +0.7**
RAYN Ar Rayn 17.55 175 Pn **Pn 16 26 50.9 -0.3**
RAYN Ar Rayn 17.55 175 P **Pn 16 26 51.1 -0.1**
RAYN Ar Rayn 17.55 175 P **Pn 16 26 50.9 -0.3**
RAYN Ar Rayn 17.55 175 P **Pn 16 26 50.9 -0.3**
RAYN pmax pmax
comp=Z,23nm,1.1s
KIRV Kirov 17.86 9 P **Pn 16 26 52.0 -2.8**
comp=Z,43nm,0.8s,baz=212,slow=4.9,SNR=24
KIRV S **Sn 16 30 07.6 -6.2**
comp=Z,8.1nm,0.6s,baz=163,slow=15,SNR=2.0
KIRV LR LR 16 34 13.1
comp=Z,302nm,20.0s,baz=195,slow=38
NACGM Naroch 17.91 326 *e*P **P 16 26 56.8 +0.9**
comp=Z,23nm,0.9s,baz=133
ARTI Arti 17.98 27 Pn **Pn 16 26 53.7 -2.5**
ARTI Arti 17.98 27 P **Pn 16 26 54.0 -2.2**
comp=Z,10.0nm,0.6s,baz=215,slow=7.8,SNR=14
ARTI S **Sn 16 30 09.6 -7.0**
comp=Z,3.5nm,0.7s,baz=183,slow=22,SNR=1.3
ARTI LR LR 16 35 29.0
comp=Z,249nm,21.1s,baz=226,slow=42
ARTI Arti 17.98 27 P **Pn 16 26 54.0 -2.2**
ARTI S **Sn 16 30 12.3 -4.3**
STHS Stebnicka Huta 17.98 305 *e*P **P 16 26 58.7 +1.9**
STHS pmax pmax
comp=Z,4.0nm,0.8s
SHME Shamm 18.08 142 P **P 16 26 58.4 +0.3**
BANOM Banah 18.26 142 P **P 16 27 00.4 +0.3**
BANOM Banah 18.26 142 P **Pn 16 26 59.7 -0.2**
PSZ Piszkesteto 18.43 300 *e*P **Pn 16 27 04.5 +2.6**
NIE Niedzica 18.57 305 *e*P **Pn 16 27 06.2 +2.7**
MASF Masafi 18.67 143 P **Pn 16 27 05.5 +0.6**
MSFE Esma-Masafi 18.68 143 P **Pn 16 27 05.6 +0.6**
NAZ Nazwa, Dubai 18.78 145 P **Pn 16 27 07.0 +0.9**
SNR=5.4
NAZ Nazwa, Dubai 18.78 145 P **Pn 16 27 07.1 +0.9**
MDH Madha 18.79 143 P **Pn 16 27 07.3 +1.0**
ASUD Al Ashush, Dub 18.96 146 P **Pn 16 27 09.0 +0.7**
ASUD Al Ashush, Dub 18.96 146 P **Pn 16 27 08.7 +0.4**
MORH Mrgy, Hungar 18.98 294 ⇑P Pn 16 27 09.6 +1.1
SUW Suwalki 18.99 320 *e*P **P 16 27 06.9 -0.9**
LANS Liptovska Anna 19.01 303 *e*P **Pn 16 27 11.6 +2.7**
LANS pmax pmax
comp=Z,4.0nm,1.3s
UOSS Minazif 19.06 144 P **P 16 27 09.2 +0.4**
UOSS Minazif 19.06 144 P **Pn 16 27 10.3 +0.7**
UOSS Minazif 19.06 144 P **Pn 16 27 09.5 -0.1**
SVE Sverdlovsk 19.11 29*c e*P **P 16 27 07.9 -1.2**
SVE *e*S **Sn 16 30 33.6 -10**
SVE pmax pmax
comp=Z,49nm,1.1s
HATD Hatta, Dubai 19.13 144 P **Pn 16 27 11.2 +0.8**
HATD P **Pn 16 27 11.2 +0.8**
HATD Hatta, Dubai 19.13 144 P **Pn 16 27 11.5 +1.1**
OJC Ojcow 19.13 307 *e*P **Pn 16 27 10.0 -0.3**
CHM Chimkent 19.18 78 *e*P **P 16 27 09.3 -0.7**
CHM Chimkent 19.18 78 *e*P **P 16 27 09.3 -0.7**
ASHO Ashiyiah 19.22 145 P **Pn 16 27 11.4 -0.1**
SNR=11
ASHO P **Pn 16 27 11.4 -0.1**
SNR=11
ASHO Ashiyiah 19.22 145 *i* P **P 16 27 11.1 +0.4**
SNR=11
BRLS Borolday 19.30 76⇑ *i* P **P 16 27 09.7 -1.8**
BRLS Borolday 19.30 76*c i* P **P 16 27 09.6 -1.8**
SIMJ Simiganj 19.37 89 P 16 27 12.6 +0.3
SIMJ IAmb IAmb 16 27 30.8
comp=Z,45nm,0.9s
SRO Srobarova 19.45 299 *e*P **Pn 16 27 15.9 +1.8**
SRO pmax pmax
comp=Z,11nm,1.0s
CHGR Chuyangaron 19.48 89 Pn **P 16 27 14.0 +0.5**
CHGR Chuyangaron 19.48 89 P **P 16 27 14.0 +0.5**
CHGR pmax pmax
comp=Z,123nm,0.9s
PABE Paberze 19.52 324 *e*P **Pn 16 27 15.9 +1.1**
ALNE Al Ain 19.64 146 P **Pn 16 27 16.2 -0.4**
MZR Muzera 19.73 153 P **Pn 16 27 17.2 -0.4**
MZR P **Pn 16 27 17.2 -0.4**
MZR Muzera 19.73 153 *i* P **P 16 27 16.7 +0.5**
SNR=8.9
KK31 Karatay Array 19.79 75 P 16 27 17.4 +0.6
KK31 Karatay Array 19.79 75 P **P 16 27 17.0 +0.3**
comp=Z,151nm,0.9s,baz=285,slow=9.9,SNR=611
KK31 Karatay Array 19.79 75 P **P 16 27 17.4 +0.6**
KK31 pmax pmax
comp=Z,183nm,1.1s
KKAR Karatay Array 19.79 75 P 16 27 16.9 +0.2
KKAR Karatay Array 19.79 75 P **P 16 27 16.9 +0.2**
SOHO SOHO 19.91 144 P **Pn 16 27 20.3 +0.5**
SOHO P **Pn 16 27 20.3 +0.5**
SOHO SOHO 19.91 144 *i* P **Pn 16 27 20.1 +0.3**
SNR=7.2
KLMR Klimovskoe 19.99 354 *e*P **P 16 27 15.8 -2.9**
KLMR pmax pmax
comp=Z,92nm,1.1s
KLMR MLR MLR
comp=Z,883nm,12.0s
OKC Ostrava-Krasne 20.03 305 AMS AMS 16 36 30.0
comp=Z,500nm,13.3s
JAVC Velka Javorina 20.09 302 *e*P Pn 16 27 23.4 +1.7
SMOL Smolenice 20.17 301 *e*P Pn 16 27 23.1 +0.4
SMOL pmax pmax
comp=Z,9.0nm,1.2s
GAR Garm 20.27 87 Pn 16 27 23.3 -0.7
STEB Steborice 20.29 305 *e*P Pn 16 27 24.2 +0.1
MORC Moravsky Berou 20.39 304 *e*P Pn 16 27 24.6 -0.7
DZA Taraz 20.40 76 *e*P **P 16 27 23.6 +0.2**
comp=Z,21nm,0.7s
DZA Taraz 20.40 76 *e*P **P 16 27 23.6 +0.2**
DZA pmax pmax
comp=Z,21nm,0.7s
VSU Vasula 20.54 334 *e*P Pn 16 27 26.8 -0.1
VSU Vasula 20.54 334*d i*P **P 16 27 25.5 +0.8**
VSU pmax pmax
comp=Z,57nm,1.8s
MATE Matera 20.59 278 ⇓P Pn 16 27 27.6 0.0
ARQ Araqi 20.60 145 P **P 16 27 26.6 +0.9**
ARQ P **P 16 27 26.6 +0.9**
UMZA Um Al Zommool 20.60 149 P **P 16 27 26.1 +0.4**
HOQ Hoqain 20.73 143 P **P 16 27 28.3 +1.2**
HOQ P **P 16 27 28.3 +1.2**
RONA Rosalia, Austr 20.77 298 *e*P Pn 16 27 29.7 -0.1
comp=Z,9.2nm,1.2s
KBL Kabul 20.83 100 P Pn 16 27 30.1 -0.7
SNR=18
KBL P Pn 16 27 30.1 -0.7
SNR=18
TIP Timpagrande 20.85 274 IAmb IAmb 16 27 32.3
comp=Z,63nm,1.0s
VRAC Vranov 20.88 302 P **P 16 27 27.8 -0.6**
comp=Z,1.4nm,0.5s,baz=117,slow=13,SNR=4.8
VRAC LR LR 16 36 58.2
comp=Z,347nm,18.1s,baz=88,slow=41
comp=Z,1.4nm,0.5s
VRAC Vranov 20.88 302 *e*P Pn 16 27 31.6 +0.6
KRLC Kraliky 20.94 305 *e*P Pn 16 27 32.6 +0.8
KRLC MLR MLR
comp=Z,400nm,12.0s
KRLC Kraliky 20.94 305 *e*P Pn 16 27 32.6 +0.8
KRLC AMS AMS 16 38 00.0
comp=Z,400nm,12.0s
KRUC Moravsky 20.95 302 *e*P Pn 16 27 31.2 -0.6
CONA Conrad Observa 21.10 298 *e*P **P 16 27 31.1 +0.1**
comp=Z,10nm,1.2s
ACER Acerenza 21.13 278 P 16 27 33.5 +2.1
ACER IAmb IAmb 16 27 40.2
comp=Z,55nm,0.9s
BIDO Bidbid 21.16 141 P **P 16 27 34.3 +2.6**
BIDO P **P 16 27 34.3 +2.6**
ARSA Arzberg 21.23 296 *e*P **P 16 27 35.3 +2.9**
comp=Z,10.0nm,1.3s
DPC Dobruska-Polom 21.30 305 *e*P **P 16 27 36.5 +3.4**
DPC *e*S Sn 16 31 36.9 +0.1
DPC MLR MLR
comp=Z,400nm,13.9s
DPC Dobruska-Polom 21.30 305 *e*P **P 16 27 36.5 +3.4**
DPC *e*S Sn 16 31 36.9 +0.1
DPC AMS AMS 16 38 10.0
comp=Z,400nm,13.9s
CUC Castrocucco 21.38 276 P 16 27 37.3 +3.3
CUC IAmb IAmb 16 27 46.0
comp=Z,31nm,1.1s
OSTC Ostas 21.42 306 *e*P **P 16 27 38.1 +3.8**
OSTC MLR MLR
comp=Z,500nm,15.0s
OSTC Ostas 21.42 306 *e*P **P 16 27 38.1 +3.8**
OSTC AMS AMS 16 38 40.0
comp=Z,500nm,15.0s
BRVK Borovoye 21.43 47 ⇑P P 16 27 35.7 +1.3
comp=Z,31nm,0.9s
BRVK ⇓S **S 16 31 28.8 -3.3**
comp=Z,10nm,1.4s
KSP Ksiaz 21.45 306 *e*P **P 16 27 36.8 +2.1**
BVA0 Borovoye Array 21.48 47 ⇑P P 16 27 34.3 -0.6
comp=Z,50nm,0.9s,baz=246,slow=9.8,SNR=166
BVA0 Borovoye Array 21.48 47 *i* P **P 16 27 34.3 -0.6**
BVA0 *i* S **S 16 31 30.4 -2.6**
BVAR Borovoye Array 21.48 47 P **P 16 27 35.4 +0.5**
comp=Z,35nm,0.8s,baz=250,slow=8.0,SNR=79
BVAR S **S 16 31 29.8 -3.2**
comp=Z,0.9nm,0.5s,baz=247,slow=18,SNR=1.7
BVAR LR LR 16 37 30.8
comp=Z,206nm,20.3s,baz=249,slow=41
comp=Z,35nm,0.8s
SOKA Soboth 21.52 295 *e*P **P 16 27 36.4 +1.0**
comp=Z,11nm,0.9s
SMDO Samad 21.52 142 P **P 16 27 37.4 +1.7**
SNR=6.6

SMDO P P **16 27 37.4 +1.7**
SNR=6.6
CHVC Chvalec 21.53 306 AMS AMS 16 37 30.0
comp=Z,400nm,14.5s
UPC Upice 21.53 305 *e*P P **16 27 40.4 +4.9**
UPC *e*S Sn 16 31 40.2 -2.1
UPC MLR MLR
comp=Z,400nm,14.6s
UPC Upice 21.53 305 *e*P P **16 27 40.4 +4.9**
UPC *e*S Sn 16 31 40.2 -2.1
UPC AMS AMS 16 37 30.0
comp=Z,400nm,14.6s
ARBE Arbavere 21.54 335 *e*P P **16 27 40.2 +4.7**
TREC Trest 21.58 302 AMS AMS 16 37 10.0
comp=Z,400nm,20.1s
WSAR Wadi Sarin 21.64 141 P P **16 27 36.2 -0.7**
comp=Z,0.2nm,0.9s,baz=322,slow=19,SNR=14
WSAR Wadi Sarin 21.64 141 P P **16 27 38.6 +1.7**
CEL Celeste 21.74 272 P **16 27 40.4 +2.4**
ARSB Arslanbob 21.80 80 P **16 27 38.4 -0.3**
ARSB Arslanbob 21.80 80 P P **16 27 38.4 -0.3**
OBKA Obir 21.84 294 *e*P P **16 27 41.8 +2.9**
comp=Z,7.1nm,0.9s
BRZS Berezniki 21.89 56 *e*P P **16 27 39.5 +0.1**
BRZS Berezniki 21.89 56 *e*P P **16 27 39.5 +0.1**
PAOL Paolisi 22.12 280 IAmb IAmb 16 27 57.2
comp=Z,35nm,1.3s
JMDO Jabal Madar 22.14 143 P P **16 27 43.8 +1.5**
JMDO P P **16 27 43.8 +1.5**
MOA Molln 22.15 298 *e*P P **16 27 42.7 +0.5**
comp=Z,6.7nm,1.3s
EKS2 Erkin-Say 22.22 76 P P **16 27 44.1 +1.0**
SNR=37
BTLS Baital 22.28 70⇑*i*P P **16 27 43.8 +0.2**
comp=Z,17nm,0.8s
BTLS Baital 22.28 70*c i*P P **16 27 43.7 +0.2**
BTLS pmax pmax
comp=Z,17nm,0.8s
PRU Pruhonice 22.32 303 AMS AMS 16 39 00.0
comp=Z,400nm,11.3s
PRA Prague 22.41 304 AMS AMS 16 39 20.0
comp=Z,400nm,14.4s
PVCC Panska Ves 22.43 305 AMS AMS 16 38 00.0
comp=Z,400nm,14.0s
BIOA Bad Ischl, Aus 22.55 297 *e*P P **16 27 48.2 +1.7**
comp=Z,7.3nm,1.2s
GERES GERESS Array B 22.66 300 P P **16 27 48.2 +0.5**
comp=Z,2.9nm,0.9s,baz=111,slow=7.3,SNR=14
GERES LR LR 16 38 05.9
comp=Z,210nm,18.3s,baz=100,slow=41
comp=Z,2.9nm,0.9s
MEF Metsahovi 22.66 334 *e*P P **16 27 48.2 +0.8**
USP Ospenovka 22.69 74 P P **16 27 49.0 +0.9**
SNR=12
KBA Koelnbreinsper 22.70 296 *e*P P **16 27 49.7 +1.4**
comp=Z,6.3nm,0.7s
AAK Ala-Archa 22.75 76 P P **16 27 49.9 +1.2**
SNR=16
AAK Ala-Archa 22.75 76 P **16 27 48.7 -0.1**
AAK Ala-Archa 22.75 76 ⇑P P **16 27 46.5 -2.3**
comp=Z,76nm,1.0s
AAK Ala-Archa 22.75 76 LR LR 16 38 17.7
comp=Z,465nm,20.2s,baz=284,slow=41
AAK Ala-Archa 22.75 76 *i* P P **16 27 50.0 +1.2**
SNR=32
AAK Ala-Archa 22.75 76*ce*P P **16 27 49.3 +0.5**
AAK pmax pmax
comp=Z,39nm,1.0s
SGDS Sogindy 22.77 74 *e*P P **16 27 48.4 -0.5**
comp=Z,20nm,1.1s
KHC Kasperske Hory 22.78 301⇑*i*P P **16 27 53.7 +4.8**
KHC pmax pmax
comp=Z,16nm,1.4s
KHC Kasperske Hory 22.78 301 *e*P P **16 27 50.3 +1.4**
KHC *e*S S **16 31 59.7 +1.8**
KHC AMS AMS 16 37 50.0
comp=Z,400nm,19.6s
UCH Uchtor 22.81 77 P P **16 27 52.3 +2.6**
SNR=13
CHMS Chumysh 22.90 75 P P **16 27 54.5 +4.3**
SNR=5.7
BRG Berggiesshubel 22.90 305 *e*P P **16 27 55.1 +5.1**
BRG Amp 16 28 00.5
comp=Z,4.5nm,0.9s
BRG Berggiesshubel 22.90 305 S Sn 16 32 09.0 -6.0
JLN Jalan Bani Buh 22.94 141 P P **16 27 51.4 +0.7**
JLN P P **16 27 51.4 +0.7**
KBK Karagaybulak 23.08 76 P P **16 27 53.6 +1.3**
SNR=19
FINES FINESS Array B 23.11 338 P P **16 27 52.7 +0.6**
comp=Z,8.4nm,0.8s,baz=198,slow=18,SNR=11
FINES LR LR 16 36 38.6
comp=Z,169nm,19.3s,baz=142,slow=36
comp=Z,8.4nm,0.8s
FIA1 FINESS Array S 23.11 338 P **16 27 53.5 +1.4**
JOF Joensuu 23.13 345 *e*P P **16 27 52.1 -0.2**
LESA Schwarzleotal 23.18 296 *e*P P **16 27 55.6 +2.5**
comp=Z,8.6nm,0.7s
ABTA Abfaltersbach 23.25 295 *e*P P **16 27 56.1 +2.3**
comp=Z,12nm,1.3s
MHTO MHTO 23.30 145 P P **16 27 54.3 0.0**
TKM2 Tokmak 2 23.52 75 P P **16 27 56.6 -0.2**
SNR=37
CLL Collm 23.57 306 P **16 27 59.0 +2.0**
CLL IAmb IAmb 16 28 04.2
comp=Z,23nm,1.0s
CLL Collm 23.57 306 *i* P P **16 28 00.3 +3.4**
CLL pmax pmax
comp=Z,26nm,1.1s
CLL MLR MLR
comp=Z,500nm,15.2s
CLL Collm 23.57 306 *i* P P **16 28 00.3 +3.4**
comp=Z,26nm,1.1s
CLL *ex* x 16 28 07.0
CLL *e*PP **PnPn** **16 28 26.0 +2.4**
CLL *e*PPP PPP 16 28 34.0
CLL *e*S **S** **16 32 13.0 +2.0**
CTI Castel Tesino 23.83 293 P **16 28 02.2 +2.6**
CTI IAmb IAmb 16 28 45.8
comp=Z,23nm,1.2s
CTI Castel Tesino 23.83 293 P P **16 28 02.2 +2.6**
CTI pmax pmax
comp=Z,23nm,1.2s
WTTA Wattenberg 23.87 296 *e*P P **16 28 01.0 +0.9**
comp=Z,9.5nm,1.0s
WATA Walderalm 23.92 296 *e*P P **16 28 01.6 +1.1**
comp=Z,8.0nm,0.9s
KUU Kurty 23.97 72 *e*P P **16 28 01.2 +0.4**
comp=Z,26nm,1.0s
KUU Kurty 23.97 72 *e*P P **16 28 01.2 +0.4**
KUU pmax pmax
comp=Z,26nm,1.0s
DOK Doka 24.03 156 P P **16 28 02.8 +1.3**
KEF Keuruu 24.03 338 *e*P P **16 28 03.3 +2.1**
ULHL Ulahol 24.08 76 P P **16 28 04.4 +2.3**
SNR=6.9
RAF Rauma 24.13 333 *e*P P **16 28 04.7 +2.5**
SQTA Sankt Quirin 24.16 296 *e*P P **16 28 03.1 +0.4**
comp=Z,7.6nm,1.2s
MOTA Moosalm 24.24 296 *e*P P **16 28 03.4 -0.1**
comp=Z,8.1nm,0.8s
NIL Nilore 24.36 98 P P **16 28 06.4 +1.8**
KSH Kashi 24.40 83 P P **16 28 04.6 -0.4**
KSH pP pP 16 28 09.4 +0.8
KSH pmax pmax
comp=Z,31nm,1.1s
KSH pmax pmax
comp=Z,220nm,4.6s
CHKK Chushkaly 24.44 72 *e*P P **16 28 05.5 +0.3**
CHKK Chushkaly 24.44 72 *e*P P **16 28 05.5 +0.3**
AAA Alma-Ata 24.45 74 *e*P P **16 28 05.5 +0.1**
comp=Z,13nm,0.8s
AAA Alma-Ata 24.45 74 *e*P P **16 28 05.4 +0.1**
AAA pmax pmax
comp=Z,13nm,0.8s
RETA Reutte 24.48 296 *e*P P **16 28 07.5 +1.9**
comp=Z,2.6nm,0.5s
FETA Feichten 24.48 295 *e*P P **16 28 06.7 +0.9**
comp=Z,5.1nm,0.7s
MDOK Medeo 24.55 74 *e*P P **16 28 06.7 +0.2**
MDOK Medeo 24.55 74 *e*P P **16 28 06.6 +0.2**
WHFO Wadi Hawf 24.58 157 P P **16 28 07.1 +0.5**
UPP Uppsala 24.90 328 *e*P P **16 28 11.7 +2.6**
ABTO Aybut 24.98 158 P P **16 28 11.3 +1.1**
DAVOX Davos/Dischmat 25.06 295 P P **16 28 11.6 +0.6**
comp=Z,13nm,0.8s,baz=112,slow=10,SNR=23

DAVOX LR LR 16 39 52.6
comp=Z,395nm,21.0s,baz=86,slow=41
comp=Z,13nm,0.8s
DAVA Damuels 25.07 296 *e*P P **16 28 12.9 +1.9**
comp=Z,10nm,0.8s
SHAO Shalim 25.07 153 P P **16 28 12.4 +1.3**
RBK Rabkut 25.10 156 P P **16 28 12.5 +1.2**
DMTO DMTO 25.13 155 P P **16 28 11.6 +0.1**
TDK Taldyqorghan 25.37 70 *e*P P **16 28 14.0 +0.4**
comp=Z,16nm,1.1s
TDK Taldyqorghan 25.37 70 *e*P P **16 28 13.9 +0.4**
TDK pmax pmax
comp=Z,16nm,1.1s
TUE Stuetta 25.43 294 P P **16 28 16.5 +2.2**
TUE IAmb IAmb 16 28 24.0
comp=Z,16nm,0.8s
SATY Saty 25.55 74 *e*P P **16 28 15.6 +0.1**
comp=Z,14nm,1.3s
SATY Saty 25.55 74 *e*P P **16 28 15.5 +0.1**
SATY pmax pmax
comp=Z,14nm,1.3s
KURBB Kurchatov Arra 25.70 56⇑P P **16 28 16.6 +0.1**
comp=Z,44nm,1.4s
KURBB Kurchatov Arra 25.70 56 P P **16 28 16.4 0.0**
comp=Z,16nm,0.6s,baz=266,slow=9.3,SNR=79
KURBB LR LR 16 40 09.5
comp=Z,570nm,20.1s,baz=199,slow=41
comp=Z,16nm,0.6s
KURBB Kurchatov Arra 25.70 56 P P **16 28 16.6 +0.1**
KURK Kurchatov 25.77 56 P P **16 28 17.4 +0.3**
KURK Kurchatov 25.77 56 P P **16 28 18.3 +1.2**
KURK P P **16 28 18.3 +1.2**
KURK Kurchatov 25.77 56*c i*P P **16 28 17.9 +0.8**
KURK pmax pmax
comp=Z,11nm,0.8s
UZB Uzynbulak 25.99 74 *e*P P **16 28 19.8 +0.4**
comp=Z,9.8nm,1.3s
UZB Uzynbulak 25.99 74 *e*P P **16 28 19.7 +0.4**
UZB pmax pmax
comp=Z,10.0nm,1.3s
PDGK Podgornoye 26.30 73⇑P P **16 28 21.3 -1.0**
comp=Z,16nm,0.9s
PDGK Podgornoye 26.30 73 P P **16 28 21.2 -1.0**
SHLS Shalkode 26.30 74 *e*P P **16 28 25.4 +3.2**
comp=Z,7.1nm,0.7s
SHLS Shalkode 26.30 74 *e*P P **16 28 25.4 +3.2**
SHLS pmax pmax
comp=Z,7.0nm,0.7s
HFS Hagfors 26.68 326 P P **16 28 25.0 -0.3**
comp=Z,6.1nm,0.8s,baz=131,slow=8.1,SNR=9.9
HFS LR LR 16 39 45.7
comp=Z,421nm,20.3s,baz=121,slow=38
comp=Z,6.1nm,0.8s
HFS Hagfors 26.68 326 P P **16 28 25.0 -0.3**
APA Apatity 27.17 351⇓*i*P P **16 28 31.7 +2.1**
APA *i* 16 29 23.4
APA *e*S S **16 33 04.5 -3.4**
APA MLR MLR
comp=Z,644nm,16.3s
LVZ Lovozero 27.35 352 *i* P P **16 28 30.1 -1.2**
LVZ pmax pmax
comp=Z,20nm,1.2s
KEST Kesra 27.52 270 P P **16 28 33.2 +0.1**
comp=Z,5.4nm,0.8s,baz=105,slow=6.4,SNR=5.0
comp=Z,5.4nm,0.8s
KEST Kesra 27.52 270 P P **16 28 35.0 +1.8**
SJUU Sjulsmark 27.57 340 *e*P P **16 28 35.5 +2.4**
MK31 Makanchi Array 27.99 65 P P **16 28 37.8 +0.6**
comp=Z,3.4nm,0.8s,baz=276,slow=6.3,SNR=19
MK31 Makanchi Array 27.99 65*ce*P P **16 28 37.8 +0.6**
MKAR Makanchi Array 27.99 65 P P **16 28 36.8 -0.5**
MKAR Makanchi Array 27.99 65 P P **16 28 37.5 +0.3**
comp=Z,2.5nm,0.7s,baz=282,slow=6.9,SNR=18
MKAR LR LR 16 41 38.6
comp=Z,292nm,18.5s,baz=254,slow=40
comp=Z,2.5nm,0.7s
NB2 NORSAR Subarra 28.20 326 P P **16 28 37.7 -1.2**
comp=Z,11nm,1.4s,baz=120,slow=9.3
NB2 NORSAR Subarra 28.20 326 P P **16 28 37.7 -1.2**
comp=Z,11nm,1.4s,baz=120,slow=9.3
NOA NORSAR Array B 28.20 326 P P **16 28 38.0 -0.9**
comp=Z,0.5nm,0.5s,baz=125,slow=8.8,SNR=5.3
NOA LR LR 16 40 42.6
comp=Z,413nm,20.1s,baz=130,slow=38
comp=Z,0.5nm,0.5s
NOA NORSAR Array B 28.20 326 P P **16 28 38.0 -0.9**
ATD Arta Tunnel 29.45 182 LR LR 16 41 20.8
comp=Z,6.2nm,18.8s,baz=342,slow=38
ZSN Zaisan 29.72 64 *e*P P **16 28 52.9 +0.3**
ZSN Zaisan 29.72 64 *e*P P **16 28 52.8 +0.3**
ZAA0 Zalesovo Array 30.01 51 IAmb IAmb 16 28 56.0
comp=Z,10.0nm,0.7s
ZALV Zalesovo Beam 30.01 51 P P **16 28 54.7 -0.3**
ZALV Zalesovo Beam 30.01 51 P P **16 28 55.1 0.0**
comp=Z,11nm,0.7s,baz=269,slow=9.1,SNR=54
ZALV LR LR 16 41 56.8
comp=Z,158nm,18.7s,baz=260,slow=38
comp=Z,11nm,0.7s
KTK1 Kautokeino 30.07 345 *e*P P **16 28 56.7 +1.3**
ARA0 ARCESS Array S 30.12 347 *e*P P **16 28 57.1 +1.3**
ARCES ARCESS Array B 30.12 347 P P **16 28 56.2 +0.4**
ARCES IAmb IAmb 16 29 03.2
comp=Z,10.0nm,1.0s
ARCES ARCESS Array B 30.12 347 P P **16 28 56.0 +0.2**
comp=Z,5.9nm,0.9s,baz=132,slow=5.1,SNR=12
ARCES LR LR 16 40 03.0
comp=Z,222nm,18.2s,baz=157,slow=34
comp=Z,5.9nm,0.9s
ARCES ARCESS Array B 30.12 347 P P **16 28 56.2 +0.4**
ARCES pmax pmax
comp=Z,10.0nm,1.0s
LEIR Leirfjorden 30.44 336 *e*P P **16 28 59.3 +0.7**
MOL Molde 30.46 327 *e*P P **16 28 59.5 +0.6**
STOK Stokkvaagen 30.61 336 *e*P P **16 29 02.0 +1.8**
FAUS Fauske 30.66 339 *e*P P **16 29 02.1 +1.5**
JETT Jettan, Norway 31.09 344 *e*P P **16 29 04.7 +0.3**
TRO Tromso 31.46 344 *e*P P **16 29 07.9 +0.3**
WMQ Urumqi 32.12 70 *e*P P **16 29 15.3 +1.5**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ LR LR
comp=Z,470nm,12.9s
WMQ LR LR
comp=Z,470nm,16.5s
WMQ LR LR
comp=Z,230nm,19.3s
EKA Eskdalemuir Ar 33.78 311 P P **16 29 27.0 -1.1**
comp=Z,0.7nm,0.5s,baz=95,slow=9.0,SNR=4.8
comp=Z,0.7nm,0.5s
ESDC Sonseca Array 36.17 284 P P **16 29 48.5 -0.5**
comp=Z,0.9nm,0.7s,baz=66,slow=8.0,SNR=5.3
ESDC LR LR 16 48 21.0
comp=Z,91nm,18.4s,baz=62,slow=42
comp=Z,0.9nm,0.7s
KNGR Kungurtug, Tuv 37.76 57⇓*i*P P **16 30 03.1 +0.6**
SPITS Spitsbergen Ar 38.86 351 P P **16 30 11.6 +0.3**
comp=Z,17nm,0.9s,baz=160,slow=17,SNR=3.5
comp=Z,17nm,0.9s
LSA Lhasa 39.68 91 P P **16 30 19.2 0.0**
LSA pmax pmax
comp=Z,10.0nm,0.8s
JMIC Jan Mayen 39.70 336 P P **16 30 18.5 +0.2**
comp=Z,37nm,0.4s,baz=125,slow=15,SNR=1.6
JMIC LR LR 16 46 28.3
comp=Z,222nm,19.0s,baz=134,slow=36
MOY Mondy 39.80 55 *e*P P **16 30 21.1 +1.5**
MOY pmax pmax
comp=Z,17nm,1.9s
ZAK Zakamensk 41.43 56 *e*P P **16 30 34.2 +1.2**
ZAK pmax pmax
comp=Z,5.0nm,1.6s
GTA Gaotai 42.05 73 *e*P P **16 30 39.2 +0.9**
GTA pP sP 16 30 43.2 -0.4
GTA pmax pmax
comp=Z,19nm,0.9s
GTA LR LR
comp=Z,230nm,14.7s
GTA LR LR
comp=Z,210nm,15.9s
GTA LR LR
comp=Z,260nm,13.5s
SHL Shillong 42.40 96 P P **16 30 40.7 -0.6**
SHL IAmb IAmb 16 30 42.4
comp=Z,18nm,1.0s
SHL Shillong 42.40 96 P P **16 30 41.6 +0.2**
SHL Shillong 42.40 96 P P **16 30 40.7 -0.6**

SHL pmax pmax
comp=Z,18nm,1.0s
KMBO Kilima Mbogo 42.45 190 LR LR 16 47 15.9
comp=Z,220nm,19.7s,baz=96,slow=35
BORG Borgarnes 43.37 325 LR LR 16 48 21.3
comp=Z,223nm,21.8s,baz=97,slow=35
BRDH Bariadhala 43.87 100 LR LR 16 52 42.7
comp=Z,192nm,18.0s,baz=290,slow=41
SONM Songino Array 44.00 59 P P **16 30 53.1 -0.9**
comp=Z,1.3nm,0.7s,baz=273,slow=9.6,SNR=5.7
SONM PP PP **16 32 36.9 +0.7**
comp=Z,0.4nm,0.4s,baz=277,slow=11,SNR=3.5
SONM LR LR 16 51 19.4
comp=Z,925nm,18.4s,baz=291,slow=39
comp=Z,1.3nm,0.7s
ULN Ulaanbaatar 44.42 59 P P **16 30 57.7 +0.4**
ULN IAmb IAmb 16 30 59.4
comp=Z,12nm,0.9s
ULN Ulaanbaatar 44.42 59 P P **16 30 58.8 +1.5**
ULN P P **16 30 58.8 +1.5**
ULN Ulaanbaatar 44.42 59*c i*P P **16 30 58.3 +1.0**
ULN pmax pmax
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 46.13 245 P P **16 31 08.6 -2.4**
comp=Z,1.4nm,0.9s,baz=40,slow=9.4,SNR=6.6
comp=Z,1.4nm,0.9s
LZDM Lanzhou Array 46.23 76 P P **16 31 12.7 +0.6**
comp=Z,2.2nm,0.4s,baz=336,slow=6.3,SNR=1.5
comp=Z,2.2nm,0.4s
LZH Lanzhou 46.29 76 *e*P P **16 31 13.8 +1.5**
LZH sP sP 16 31 20.1 +2.5
LZH pmax pmax
comp=Z,32nm,1.0s
LZH LR LR
comp=Z,240nm,16.7s
LZH LR LR
comp=Z,190nm,17.4s
LZH LR LR
comp=Z,240nm,16.8s
BOD Bodaibo 46.29 44 *e*P P **16 31 10.9 -0.9**
BOD pmax pmax
comp=Z,15nm,0.0s
PALK Pallekele 46.90 126 LR LR 16 51 27.9
comp=Z,86nm,19.9s,baz=339,slow=37
CD2 Chengdu 48.59 82 P P **16 31 31.0 +0.8**
CD2 S S **16 38 30.3 -1.8**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 LR LR
comp=Z,290nm,13.9s
CD2 LR LR
comp=Z,250nm,12.9s
CD2 LR LR
comp=Z,330nm,11.6s
PZH PanZhiHua 49.34 88 P P **16 31 37.1 +1.1**
HHC Hu-ho-hao-te 49.84 67 *e*P P **16 31 41.0 +1.3**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,66nm,4.5s
HHC LR LR
comp=Z,180nm,13.5s
HHC LR LR
comp=Z,240nm,17.6s
HHC LR LR
comp=Z,320nm,17.6s
TIXI Tiksi 50.05 24 LR LR 16 57 04.0
comp=Z,84nm,18.3s,baz=290,slow=41
KMI Kunming 50.84 89 P P **16 31 48.5 +0.9**
KMI pmax pmax
comp=Z,11nm,0.8s
XAN Xi'an 50.93 76⇓P P **16 31 49.0 +1.1**
XAN pP sP 16 31 58.3 +5.1
XAN pmax pmax
comp=Z,28nm,0.9s
CHTO Chiang Mai 51.64 98 P P **16 31 52.8 -0.5**
CHTO IAmb IAmb 16 31 54.6
comp=Z,7.8nm,0.8s
CHTO Chiang Mai 51.64 98 P P **16 31 53.5 +0.2**
CHTO Chiang Mai 51.64 98 P P **16 31 52.8 -0.5**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 51.85 99 P P **16 31 53.3 -1.7**
CMAR Chiang Mai Arr 51.85 99 P P **16 31 54.3 -0.7**
comp=Z,3.4nm,0.8s,baz=301,slow=8.2,SNR=20
CMAR LR LR 16 58 08.9
comp=Z,38nm,20.1s,baz=295,slow=41
comp=Z,3.4nm,0.8s
CMAR Chiang Mai Arr 51.85 99 *i* P P **16 31 55.4 +0.4**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
YAK Yakutsk 52.86 36 LR LR 16 56 13.2
comp=Z,146nm,19.7s,baz=284,slow=38
YAK Yakutsk 52.86 36⇓*e*P P **16 32 03.1 +1.3**
YAK pmax pmax
comp=Z,6.0nm,0.7s
GYA Guiyang 53.07 85⇓P P **16 32 04.7 +0.6**
GYA pmax pmax
comp=Z,15nm,0.8s
BJI Beijing 53.37 66 P P **16 32 07.0 +1.1**
BJI pmax pmax
comp=Z,4.0nm,0.8s
BJI LR LR
comp=Z,180nm,14.9s
BJI LR LR
comp=Z,100nm,10.6s
BJI LR LR
comp=Z,120nm,17.7s
SLVN Son La 53.87 92 IAmb IAmb 16 32 12.1
comp=Z,11nm,1.1s
ZEA Zeya 54.62 46 *e*P P 16 32 26.8 +12
ZEA MLR MLR
comp=E,100nm,16.0s
ZEA MLR MLR
comp=Z,100nm,13.0s
SFJD Kangerlussuaq 54.67 331 LR LR 16 55 33.0
comp=Z,243nm,18.7s,baz=64,slow=36
DBIC Dimbokro 55.24 245 LR LR 16 58 20.9
comp=Z,86nm,18.4s,baz=34,slow=39
HEH HeiHe 56.14 50 *e*P P **16 32 26.4 +0.5**
HEH pmax pmax
comp=Z,12nm,0.7s
BNX BinXian 58.16 55⇑P P **16 32 38.6 -1.6**
BNX pmax pmax
comp=Z,6.0nm,0.9s
NJ2 Nanjing 59.14 73 *e*P P **16 32 46.5 -0.8**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
RES Resolute Bay 61.33 349 LR LR 17 01 22.2
comp=Z,82nm,18.0s,baz=26,slow=38
USRK Ussuriysk Ar. 61.74 55 P P **16 33 04.0 -0.9**
comp=Z,1.6nm,0.7s,baz=274,slow=5.5,SNR=4.3
comp=Z,1.6nm,0.7s
SEY Seymchan 61.79 30 LR LR 17 04 12.6
comp=Z,165nm,18.6s,baz=304,slow=40
PSI Prapat 62.28 112 LR LR 17 06 12.0
comp=Z,147nm,18.5s,baz=232,slow=42
KSRS Korea Array 62.64 63 P P **16 33 11.1 +0.1**
comp=Z,2.2nm,0.9s,baz=288,slow=6.2,SNR=6.3
comp=Z,2.2nm,0.9s
MA2 Magadan 63.12 33 LR LR 17 04 36.6
comp=Z,129nm,19.7s,baz=279,slow=40
A22K Sinclair Lake 67.40 7 P P **16 33 42.7 +1.4**
baz=344
A19K Wainwright 67.54 9 P P **16 33 43.1 +0.9**
baz=340
SCHQ Schefferville 67.75 324 P P **16 33 45.7 +1.8**
comp=Z,27nm,0.6s,baz=9.6,slow=7.4,SNR=4.9
ASAJ Asahikawa 68.15 50 LR LR 17 06 47.5
comp=Z,122nm,18.8s,baz=298,slow=39
B18K Kokolik River 68.24 10 P P **16 33 47.2 +0.5**
baz=339
C19K Lookout Ridge 68.75 9 P P **16 33 50.5 +0.5**
baz=341
B21K Ikpikpuk River 68.77 7 IAmb IAmb 16 33 56.2
comp=Z,7.4nm,0.9s
B21K Ikpikpuk River 68.77 7 P P **16 33 51.2 +1.2**
baz=345
C16K Lisburne Hills 68.77 11 P P **16 33 50.8 +0.8**
baz=336
JOW Kunigami 68.86 72 LR LR 17 10 02.0
comp=Z,90nm,18.2s,baz=14,slow=41
C23K Itkillik River 68.89 5 P P **16 33 51.9 +1.2**
baz=348
C17K DeLong Mountai 68.89 10 P P **16 33 51.9 +1.1**
baz=338,SNR=5.3
C18K Utukok River 68.99 10 P P **16 33 52.4 +0.9**

	baz=340,SNR=6.2					
C24K	**Franklin Bluff**	69.13	5	P	P	16 33 52.9 +0.7
	baz=350					
C26K	**Camden Bay**	69.13	3	P	P	16 33 53.2 +1.0
	baz=353					
C21K	**Knifeblade Rid**	69.21	7	P	P	16 33 53.7 +0.9
	baz=345					
RDOG	**Red Dog Mine**	69.33	10	P	P	16 33 54.4 +0.9
	baz=338					
D20K	**Etivluk River**	69.46	8	IAmb	IAmb	16 34 00.8
	comp=Z,11nm,1.3s					
D20K	**Etivluk River**	69.46	8	P	P	16 33 55.3 +1.0
	baz=343					
C27K	**Jago River**	69.47	3	IAmb	IAmb	16 34 00.2
	comp=Z,6.0nm,0.8s					
C27K	**Jago River**	69.47	3	P	P	16 33 55.7 +1.3
	baz=354					
D19K	**Kuna River**	69.50	9	P	P	16 33 55.7 +1.1
	baz=342,SNR=6.4					
D17K	**Noatak River**	69.63	11	P	P	16 33 56.5 +1.1
	baz=338,SNR=7.0					
D25K	**Kavik River**	69.65	4	P	P	16 33 56.8 +1.3
	baz=352					
D22K	**Ayikyak River**	69.66	6	IAmb	IAmb	16 34 01.2
	comp=Z,5.9nm,0.9s					
D22K	**Ayikyak River**	69.66	6	P	P	16 33 57.1 +1.5
	baz=346					
D24K	**Happy Valley**	69.68	5	P	P	16 33 56.5 +0.9
	baz=350					
D23K	**Nanushuk River**	69.74	6	P	P	16 33 57.1 +1.1
	baz=348					
D27M	**Malcolm River**	69.94	2	P	P	16 33 58.1 +0.8
	baz=356					
E20K	**Nigu River**	69.94	8	P	P	16 33 58.2 +0.8
	baz=344					
MJAR	**Matsushiro Arr**	69.95	59	P	P	16 33 57.3 -0.6
	comp=Z,1.6nm,0.8s,baz=308,slow=6.2,SNR=6.4					
MJAR				LR	LR	17 07 29.5
	comp=Z,228nm,18.7s,baz=313,slow=38					
	comp=Z,1.6nm,0.8s					
E21K	**Killik River**	69.98	7	P	P	16 33 58.4 +0.9
	baz=346					
TOLK	**Toolik Lake Re**	70.14	5	IAmb	IAmb	16 34 04.2
	comp=Z,6.2nm,0.8s					
TOLK	**Toolik Lake Re**	70.14	5	P	P	16 33 59.3 +0.8
	baz=349					
PETK	**Petropavlovsk-**	70.20	36	LR	LR	17 09 05.5
	comp=Z,127nm,19.1s,baz=305,slow=40					
E18K	**Tukpahlearik C**	70.23	10	IAmb	IAmb	16 34 04.3
	comp=Z,6.8nm,0.9s					
E18K	**Tukpahlearik C**	70.23	10	P	P	16 33 59.8 +0.8
	baz=340,SNR=5.3					
E17K	**Hotham Inlet**	70.39	10	P	P	16 34 00.4 +0.4
	baz=339					
E19K	**Redstone River**	70.60	8	P	P	16 34 01.9 +0.5
	baz=343,SNR=11					
E28M	**Babbage River**	70.61	1	IAmb	IAmb	16 34 09.6
	comp=Z,6.7nm,1.3s					
E28M	**Babbage River**	70.61	1	P	P	16 34 02.0 +0.7
	baz=357					
E23K	**Chandalar**	70.71	5	P	P	16 34 02.7 +0.6
	baz=349,SNR=6.6					
E24K	**Your Creek**	70.77	5	P	P	16 34 03.1 +0.6
	baz=350					
TNA	**Tin City**	70.84	13	P	P	16 34 03.3 +0.5
	baz=335					
E29M	**Blow River**	70.85	1	IAmb	IAmb	16 34 09.3
	comp=Z,6.3nm,0.9s					
E29M	**Blow River**	70.85	1	P	P	16 34 04.0 +1.1
	baz=358					
E25K	**Arctic Village**	70.89	4	IAmb	IAmb	16 34 08.4
	comp=Z,5.2nm,0.9s					
E25K	**Arctic Village**	70.89	4	P	P	16 34 04.2 +1.0
	baz=352					
INK	**Inuvik**	70.92	359	LR	LR	17 09 03.3
	comp=Z,46nm,19.6s,baz=30,slow=39					
INK	**Inuvik**	70.92	359	P	P	16 34 04.3 +1.1
	baz=1.9					
E27K	**Coleen River**	70.98	2	IAmb	IAmb	16 34 09.7
	comp=Z,7.1nm,1.1s					
E27K	**Coleen River**	70.98	2	P	P	16 34 04.7 +1.1
	baz=355,SNR=6.1					
F22K	**John River**	71.05	6	P	P	16 34 05.2 +1.1
	baz=347					
F17K	**Baldwin Pennin**	71.07	10	P	P	16 34 04.9 +0.8
	baz=340					
F18K	**Selawik**	71.13	10	P	P	16 34 05.4 +0.9
	baz=341,SNR=5.7					
F19K	**Shaleruckik Mo**	71.14	9	P	P	16 34 04.8 +0.3
F19K				IAmb	IAmb	16 34 10.2
	comp=Z,6.8nm,0.9s					
F19K	**Shaleruckik Mo**	71.14	9	P	P	16 34 05.6 +1.0
	baz=343,SNR=7.6					
F20K	**Avaraart Lake**	71.16	8	P	P	16 34 05.7 +1.1
	baz=344					
F21K	**Alatna River**	71.21	7	IAmb	IAmb	16 34 11.1
	comp=Z,5.3nm,0.9s					
F21K	**Alatna River**	71.21	7	P	P	16 34 06.5 +1.4
	baz=346,SNR=8.0					
F15K	**North Star Dit**	71.25	12	P	P	16 34 07.0 +1.6
	baz=337					
F24K	**Squaw Lake**	71.36	5	P	P	16 34 07.6 +1.6
	baz=350					
F26K	**Sheenjek River**	71.38	3	P	P	16 34 07.9 +1.8
	baz=353					
F25K	**Christian Rive**	71.41	4	P	P	16 34 07.8 +1.5
	baz=352					
BOSA	**Boshof**	71.47	197	P	P	16 34 05.7 -1.4
	comp=Z,2.5nm,1.0s,baz=38,slow=8.1,SNR=5.6					
	comp=Z,2.5nm,1.0s					
COLD	**Coldfoot**	71.48	6	P	P	16 34 08.1 +1.4
	baz=349,SNR=6.5					
F28M	**Old Crow**	71.60	2	P	P	16 34 09.0 +1.6
	baz=357					
BMAR	**Burnt Mountain**	71.62	3		P	16 34 09.1 +1.5
F30M	**Barrier River**	71.64	360	P	P	16 34 08.3 +0.7
F30M				IAmb	IAmb	16 34 12.5
	comp=Z,5.5nm,0.8s					
F30M	**Barrier River**	71.64	360	P	P	16 34 09.1 +1.5
	baz=0.1					
G22K	**Bettles**	71.68	6	P	P	16 34 09.5 +1.6
	baz=348					
F31M	**Tsiigehtchic**	71.79	359	P	P	16 34 08.8 +0.3
F31M				IAmb	IAmb	16 34 13.1
	comp=Z,5.9nm,0.8s					
F31M	**Tsiigehtchic**	71.79	359	P	P	16 34 09.6 +1.1
	baz=1.7					
KLJ	**Kotabumi**	71.87	114	P	P	16 34 16.8 +7.1
G19K	**Purcell Mounta**	71.88	9	IAmb	IAmb	16 34 14.8
	comp=Z,11nm,1.0s					
G19K	**Purcell Mounta**	71.88	9	P	P	16 34 09.9 +0.8
	baz=343,SNR=8.4					
G16K	**Koyuk River**	71.90	11	P	P	16 34 10.3 +1.1
	baz=339					
G21K	**Allakaket**	71.90	7	IAmb	IAmb	16 34 14.9
	comp=Z,8.2nm,1.1s					
G21K	**Allakaket**	71.90	7	P	P	16 34 10.0 +0.8
	baz=346,SNR=5.7					
G18K	**Tagagawik**	71.93	10	IAmb	IAmb	16 34 15.4
	comp=Z,8.2nm,1.1s					
G18K	**Tagagawik**	71.93	10	P	P	16 34 10.6 +1.2
	baz=342,SNR=6.7					
G23K	**Bananza Creek**	72.01	6	P	P	16 34 11.1 +1.2
	baz=349					
G15K	**Niukluk**	72.02	12	P	P	16 34 11.1 +1.2
	baz=338					
G17K	**Kiwalik Mounta**	72.04	11	P	P	16 34 11.5 +1.4
	baz=340					
G26K	**Porcupine Rive**	72.14	3	IAmb	IAmb	16 34 16.6
	comp=Z,5.1nm,0.8s					
G26K	**Porcupine Rive**	72.14	3	P	P	16 34 12.2 +1.6
	baz=354					
G24K	**Hadweenzic Riv**	72.19	5	P	P	16 34 12.6 +1.6
	baz=351,SNR=6.2					
ANM	**Nome**	72.20	13	P	P	16 34 12.4 +1.4
	baz=337					
G25K	**Bearman Lake**	72.21	4	P	P	16 34 12.6 +1.6
	baz=352					
G30M	**tAoh Zraii Nji**	72.27	0	P	P	16 34 12.7 +1.2
	baz=360					
G31M	**Satah River**	72.32	359	P	P	16 34 12.0 +0.4
G31M	**Satah River**	72.32	359	P	P	16 34 13.0 +1.3
	baz=1.3					
G29M	**Pine Creek**	72.33	1	P	P	16 34 13.0 +1.2
	baz=358					
G27K	**Doyon Strip**	72.36	2	P	P	16 34 13.1 +1.2
	baz=355,SNR=6.6					
IMAR	**Indian Mountai**	72.39	8	P	P	16 34 12.9 +0.7
	baz=340					
H19K	**Roundabout Mou**	72.55	9	P	P	16 34 14.2 +1.1
	baz=344					
H16K	**Elim**	72.63	11	P	P	16 34 14.3 +0.7
	baz=339					
H18K	**Honhosa River**	72.68	10	P	P	16 34 14.8 +1.0
	baz=342					
H17K	**Granite Mounta**	72.68	10	IAmb	IAmb	16 34 19.9
	comp=Z,5.8nm,1.1s					
H17K	**Granite Mounta**	72.68	10	P	P	16 34 14.6 +0.7
	baz=341					
H25L	**Birch Creek**	72.72	4	P	P	16 34 15.6 +1.6
	baz=352,SNR=7.0					
H20K	**Anotleneega Mo**	72.76	8	P	P	16 34 15.6 +1.2
	baz=345,SNR=5.5					
H21K	**Melozitna Rive**	72.80	7	P	P	16 34 15.9 +1.2
	baz=347,SNR=6.2					
EPYK	**Eagle Plains**	72.88	0	IAmb	IAmb	16 34 21.3
	comp=Z,6.4nm,0.9s					
EPYK	**Eagle Plains**	72.88	0	P	P	16 34 15.7 +0.6
	baz=359					
H23K	**Yukon River**	72.92	6	P	P	16 34 16.3 +1.0
	baz=349					
H27K	**Steamboat Moun**	72.94	2	P	P	16 34 16.7 +1.2
	baz=356,SNR=5.0					
H29M	**Whitestone**	73.02	1	P	P	16 34 16.9 +1.0
	baz=358					
H24K	**Noodor Dome**	73.02	5	P	P	16 34 17.0 +1.0
	baz=350					
I21K	**Tanana**	73.35	7	P	P	16 34 19.2 +1.4
	baz=347					
H31M	**Peel River**	73.44	359	IAmb	IAmb	16 34 49.7
	comp=Z,8.4nm,1.1s					
H31M	**Peel River**	73.44	359	P	P	16 34 19.6 +1.2
	baz=1.2					
I20K	**Naaghedeneel**	73.47	8	P	P	16 34 19.8 +1.3
	baz=345					
PRP	**Porcupine Dome**	73.48	4	P	P	16 34 19.5 +0.6
	baz=352					
I27K	**Kandik River**	73.57	2	P	P	16 34 20.0 +0.8
	baz=356					
I23K	**Minto, Yukon-K**	73.60	6	P	P	16 34 20.2 +1.0
	baz=349					
MLY	**Manley**	73.60	6	P	P	16 34 20.4 +1.0
MLY				IAmb	IAmb	16 34 25.5
	comp=Z,11nm,1.2s					
MLY	**Manley**	73.60	6	P	P	16 34 20.3 +0.8
	baz=348,SNR=7.5					
I28M	**Miner Creek**	73.77	2	IAmb	IAmb	16 34 25.2
	comp=Z,5.5nm,0.8s					
I28M	**Miner Creek**	73.77	2	P	P	16 34 21.3 +0.8
	baz=357,SNR=7.0					
POKR	**Poker Plat Res**	73.77	5	P	P	16 34 21.2 +0.9
	baz=351					
I26K	**Coal Creek Min**	73.81	3	IAmb	IAmb	16 34 26.2
	comp=Z,8.8nm,1.1s					
I26K	**Coal Creek Min**	73.81	3	P	P	16 34 21.2 +0.6
	baz=354,SNR=6.5					
I29M	**Ogilvie Camp,**	73.88	1	P	P	16 34 21.9 +0.8
	baz=358					
COLA	**College**	73.98	5	P	P	16 34 22.3 +0.7
	baz=351					
I30M	**Mount Dempster**	74.04	0	IAmb	IAmb	16 34 26.9
	comp=Z,7.8nm,0.8s					
I30M	**Mount Dempster**	74.04	0	P	P	16 34 22.8 +0.7
	baz=360,SNR=7.4					
J20K	**Nowinta River**	74.11	8	IAmb	IAmb	16 34 28.3
	comp=Z,6.2nm,0.9s					
J20K	**Nowinta River**	74.11	8	P	P	16 34 23.0 +0.7
	baz=346					
J19K	**Poorman**	74.13	9	P	P	16 34 23.4 +1.0
	baz=345					
ILAR	**Eielson Array**	74.15	5	P	P	16 34 22.4 -0.2
	comp=Z,0.8nm,0.9s,baz=348,slow=10,SNR=7.9					
ILAR				LR	LR	17 10 54.3
	comp=Z,46nm,18.5s,baz=285,slow=39					
	comp=Z,0.8nm,0.9s					
J16K	**Anvik River**	74.15	11	P	P	16 34 23.1 +0.5
	baz=341					
NEA2	**Nenana**	74.17	6	P	P	16 34 23.5 +0.8
	baz=350					
J14K	**Nanvaranak Lak**	74.19	13	P	P	16 34 23.2 +0.4
	baz=338					
J17K	**VABM Dome**	74.26	11	IAmb	IAmb	16 34 30.6
	comp=Z,9.8nm,1.2s					
J17K	**VABM Dome**	74.26	11	P	P	16 34 24.3 +1.1
	baz=342					
WRH	**Wood River Hil**	74.36	5	P	P	16 34 24.8 +1.0
J25K	**Salcha River,**	74.39	4	P	P	16 34 25.2 +1.2
	baz=353					
BPAW	**Bear Paw Mtn.**	74.50	7	P	P	16 34 25.5 +0.9
	baz=348					
HDA	**Harding Lake**	74.50	5	IAmb	IAmb	16 34 29.0
	comp=Z,5.3nm,0.8s					
HDA	**Harding Lake**	74.50	5	P	P	16 34 25.4 +0.8
	baz=351,SNR=6.5					
J18K	**Innoko River**	74.51	9	P	P	16 34 25.6 +0.9
	baz=344					
CHUM	**Lake Minchumin**	74.59	7	P	P	16 34 26.5 +1.4
	baz=347					
J26L	**Joseph Creek**	74.59	3	P	P	16 34 26.0 +0.7
	baz=354					
J30M	**Hart River**	74.69	0	P	P	16 34 27.1 +1.3
	baz=360					
K13K	**Kusilvak Mount**	74.76	14	P	P	16 34 27.2 +1.1
	baz=338					
K20K	**Telida**	74.92	8	P	P	16 34 28.3 +1.2
	baz=346					
K15K	**Wolf Creek Mou**	74.95	12	P	P	16 34 28.2 +0.9
	baz=340					
K17K	**Iditarod**	75.02	10	IAmb	IAmb	16 34 37.9
	comp=Z,8.1nm,1.1s					
K17K	**Iditarod**	75.02	10	P	P	16 34 28.7 +1.1
	baz=343					
MCK	**McKinley**	75.03	6	P	P	16 34 28.8 +1.1
	baz=350					
KTH	**Kantishna Hill**	75.04	7	IAmb	IAmb	16 34 34.1
	comp=Z,8.6nm,1.1s					
SCRK	**Sand Creek**	75.10	4	P	P	16 34 29.2 +1.0
	baz=354					
K27K	**Chicken**	75.13	3	P	P	16 34 29.9 +1.6
	baz=355					
DAWY	**Dawson**	75.17	2	IAmb	IAmb	16 34 34.7
	comp=Z,11nm,1.3s					
DAWY	**Dawson**	75.17	2	P	P	16 34 29.5 +1.0
	baz=357					
K24K	**Donnelly Dome**	75.18	4	P	P	16 34 29.1 +0.5
	baz=352					
TRF	**Thorofare Moun**	75.20	7	P	P	16 34 29.1 +0.2
	baz=349					
RIDG	**Independent Ri**	75.29	4	IAmb	IAmb	16 34 34.9
	comp=Z,10nm,1.3s					
RIDG	**Independent Ri**	75.29	4	P	P	16 34 30.2 +1.0
	baz=353					
YKA	**Yellowknife Ar**	75.34	350	P	P	16 34 29.7 +0.2
	comp=Z,0.4nm,0.5s,baz=12,slow=6.3,SNR=4.5					
	comp=Z,0.4nm,0.5s					
YKA	**Yellowknife Ar**	75.34	350	*i* P	P	16 34 34.2 +4.7
YKA				pmax	pmax	
	comp=Z,3.0nm,1.0s					
RND	**Reindeer**	75.36	6	IAmb	IAmb	16 34 34.1
	comp=Z,6.7nm,1.0s					
K29M	**Barlow Dome**	75.42	1	IAmb	IAmb	16 34 35.5
	comp=Z,6.3nm,0.9s					
K29M	**Barlow Dome**	75.42	1	P	P	16 34 30.6 +0.6
	baz=359,SNR=5.8					
L15K	**Ungalak Mounta**	75.54	12	P	P	16 34 31.0 +0.4
	baz=340					
PPLA	**Purkeypile**	75.57	8	P	P	16 34 31.9 +0.9
	baz=347					
L17K	**Donlin**	75.58	11	P	P	16 34 31.9 +1.1
	baz=343					
L14K	**Kuka Creek**	75.66	13	P	P	16 34 32.7 +1.4
	baz=339					
MAYO	**Mayo, Yukon**	75.67	360	P	P	16 34 33.0 +1.7
	baz=360					
L18K	**Granite Mounta**	75.71	10	IAmb	IAmb	16 34 38.3
	comp=Z,9.5nm,1.4s					
L18K	**Granite Mounta**	75.71	10	P	P	16 34 33.0 +1.4
	baz=344					
DHY	**Denali Highway**	75.80	5	P	P	16 34 33.7 +1.4
	baz=351					
L20K	**Farewell, AK**	75.80	8	P	P	16 34 33.7 +1.5
	baz=346,SNR=8.6					
L16K	**Owhat River**	75.81	11	P	P	16 34 33.7 +1.5
	baz=342					
M11K	**Mekoryuk**	75.91	15	P	P	16 34 34.0 +1.3
	baz=337					
L19K	**White Mountain**	75.97	9	P	P	16 34 34.7 +1.5
	baz=345					
PAX	**Paxson**	76.02	4	P	P	16 34 34.9 +1.4
	baz=352					
L26K	**Log Cabin Wild**	76.08	3	P	P	16 34 35.4 +1.7
	baz=354					
BCAR	**Beaver Creek A**	76.10	3	P	P	16 34 35.7 +1.8
L27K	**Beaver Creek,**	76.10	3	P	P	16 34 35.6 +1.7
	baz=355,SNR=5.1					
L29M	**L29M**	76.15	1	IAmb	IAmb	16 34 39.9
	comp=Z,7.9nm,1.4s					
L29M	**L29M**	76.15	1	P	P	16 34 35.9 +1.7
	baz=358					
WAT6	**Susitna Watana**	76.26	6	P	P	16 34 36.7 +1.7
	baz=351					
M19K	**Big River Lodg**	76.30	9	P	P	16 34 36.4 +1.4
	baz=346					
M14K	**Bethel**	76.33	13	P	P	16 34 36.7 +1.5
	baz=340					
M17K	**Holitna River**	76.40	10	P	P	16 34 37.1 +1.5
	baz=343,SNR=5.6					
M20K	**Styx River**	76.46	8	P	P	16 34 37.0 +1.0
	baz=347					
M18K	**Stony River**	76.53	10	P	P	16 34 37.8 +1.5
	baz=345					
SKT	**Skwentna**	76.53	7	IAmb	IAmb	16 34 42.8
	comp=Z,6.4nm,1.1s					
SKT	**Skwentna**	76.53	7	P	P	16 34 37.6 +1.3
	baz=348					
M16K	**Timber Creek**	76.55	11	P	P	16 34 37.5 +1.1
	baz=342					
MMPY	**Sheldon Lake,**	76.58	358	P	P	16 34 37.7 +1.1
	baz=3.6					
M15K	**Kasigluk River**	76.59	12	P	P	16 34 37.7 +1.1
	baz=341					
HARP	**HAARP**	76.61	4	P	P	16 34 37.9 +1.1
	baz=353					
M30M	**Minto, Yukon**	76.69	0	P	P	16 34 38.3 +1.0
	baz=359					
M26K	**Nabesna, AK**	76.72	3	IAmb	IAmb	16 34 43.4
	comp=Z,6.0nm,0.9s					
M26K	**Nabesna, AK**	76.72	3	P	P	16 34 38.8 +1.4
	baz=354,SNR=5.7					
BVCY	**Beaver Creek**	76.78	2	P	P	16 34 38.9 +1.1
	baz=356					
M27K	**Edge Creek, AK**	76.81	3	P	P	16 34 39.1 +1.1
	baz=355					
M29M	**Somme Creek**	76.81	1	P	P	16 34 39.4 +1.4
	baz=358					
M24K	**Tolsona, Glenn**	76.84	5	P	P	16 34 39.3 +1.2
	baz=352					
SCM	**Sheep Creek Mo**	77.03	5	P	P	16 34 40.6 +1.4
	baz=351					
M23K	**Glacier View**	77.04	6	P	P	16 34 40.5 +1.3
	baz=351					
M31M	**Drury Creek, Y**	77.06	359	P	P	16 34 40.7 +1.4
	baz=1.1					
N16K	**Nishlik Lake**	77.10	11	P	P	16 34 41.0 +1.5
	baz=342					
SHEM	**Shemya Is, Ala**	77.10	28	LR	LR	17 13 12.3
	comp=Z,71nm,18.1s,baz=312,slow=39					
SUA	**Susitna One**	77.11	7	P	P	16 34 41.0 +1.3
	baz=348					
N14K	**Kuskokwak Cree**	77.16	13	P	P	16 34 40.6 +0.7
	baz=340					
N15K	**Kwethluk River**	77.19	12	P	P	16 34 41.1 +1.0
	baz=342					
SPCR	**Spurr Chakacha**	77.23	8	P	P	16 34 41.5 +1.2
	baz=347					
N20K	**Mount Spurr**	77.23	8	P	P	16 34 41.7 +1.3
	baz=347					
N17K	**Nushagak Hills**	77.28	11	P	P	16 34 41.9 +1.4
	baz=344					
N18K	**Kilae Creek**	77.30	10	IAmb	IAmb	16 34 46.6
	comp=Z,7.1nm,1.0s					
N18K	**Kilae Creek**	77.30	10	P	P	16 34 42.0 +1.3
	baz=345					
N19K	**Bonanza Creek**	77.35	9	P	P	16 34 42.3 +1.3
	baz=346,SNR=11					
YUK3	**Moose Creek**	77.44	2	P	P	16 34 43.4 +1.7
	baz=356,SNR=9.1					
KLU	**Klutina**	77.47	5	P	P	16 34 43.0 +1.4
	baz=352,SNR=5.7					
TGTN	**Hyland Airport**	77.55	356	P	P	16 34 43.9 +1.8
	baz=5.9					
RC01	**Rabbit Creek A**	77.58	7	P	P	16 34 43.7 +1.6
	baz=349					
MCARA	**McCarthy VSAT**	77.73	3	P	P	16 34 45.0 +1.9
	baz=354					
CAPN	**Captain Cook N**	77.76	8	P	P	16 34 45.1 +1.9
	baz=348					
N30M	**Aishkik Lake**	77.81	1	P	P	16 34 45.1 +1.6
	baz=359					
O14K	**Tigyukauivet M**	77.87	13	P	P	16 34 43.8 0.0
	baz=341					
YUK4	**Talbot Arm**	77.91	1	P	P	16 34 45.2 +0.9
	baz=358					
PWL	**Port Wells**	77.92	6	P	P	16 34 44.2 +0.1
	baz=350					
O17K	**Koliganek Bris**	78.02	11	P	P	16 34 45.8 +1.2
	baz=344,SNR=5.6					
O16K	**Kokwok River B**	78.05	11	P	P	16 34 46.4 +1.6
	baz=343					
BMRM	**Bremner River**	78.07	4	P	P	16 34 46.3 +1.3
	baz=353					
O22K	**Cooper Landing**	78.18	7	P	P	16 34 46.6 +1.1
	baz=349					
O15K	**Ungalikthiuk R**	78.18	12	P	P	16 34 46.8 +1.3
	baz=342					
CTG	**Chitina Glacier**	78.22	3	P	P	16 34 46.2 +0.3
	baz=356					
O20K	**Slope Mountain**	78.28	8	P	P	16 34 45.8 -0.4
	baz=347					
YUK6	**Outpost Mounta**	78.31	1	P	P	16 34 48.0 +1.4
	baz=358					
CRQE	**Cirque**	78.36	4	P	P	16 34 47.8 +1.1
	baz=354,SNR=6.0					
EYAK	**Cordova Ski Ar**	78.42	5	P	P	16 34 47.6 +0.8
	baz=352					
HYT	**Haines Junctio**	78.44	1	IAmb	IAmb	16 34 53.2
	comp=Z,8.9nm,0.9s					
HYT	**Haines Junctio**	78.44	1	P	P	16 34 48.0 +0.8
	baz=359,SNR=6.7					
O28M	**Mount Upton**	78.45	2	P	P	16 34 48.1 +0.7
	baz=357					
P19K	**Oil Pt**	78.63	9	P	P	16 34 48.7 +0.6
	baz=347					
P17K	**Kvichak River**	78.67	11	P	P	16 34 49.2 +1.0
	baz=344,SNR=6.7					
CNPM	**China Poot**	78.97	8	IAmb	IAmb	16 34 55.0
	comp=Z,12nm,1.0s					
P33M	**Teslin, Yukon**	79.03	358	P	P	16 34 50.7 +0.3
	baz=2.3					
KAIM	**Kayak Island**	79.12	4	P	P	16 34 50.6 -0.1
	baz=353					
PINM	**Pinnacle**	79.12	2	P	P	16 34 51.5 +0.6
	baz=357					
P30M	**Million Dollar**	79.15	0	P	P	16 34 51.4 +0.4
	baz=359					
PNL	**Peninsula**	79.57	2	P	P	16 34 54.4 +1.1
	baz=357					
P29M	**Windy Craggy**	79.64	1	P	P	16 34 54.5 +0.9
	baz=359					
Q17K	**Contact Creek**	79.64	11	P	P	16 34 54.7 +0.9
	baz=345					
Q20K	**Shuyak Island**	79.74	9	P	P	16 34 55.1 +1.0
	baz=347					
R33M	**Jennings River**	79.80	357	P	P	16 34 55.4 +0.8
	baz=3.8					
PLBC	**Pleasant Camp**	79.82	0	P	P	16 34 55.3 +0.8
	baz=360,SNR=5.3					
Q32M	**Nakina River**	80.27	358	P	P	16 34 57.7 +0.4
	baz=2.8					
SADO	**Sadowa**	80.48	323	LR	LR	17 11 15.1
	comp=Z,1µm,18.3s,baz=8.0,slow=36					
R18K	**Karluk**	80.51	10	P	P	16 34 58.7 +0.4
	baz=346					
KDAK	**Kodiak Island**	80.53	9	P	P	16 34 59.5 +1.1
KDAK				IAmb	IAmb	16 35 03.8
	comp=Z,12nm,0.8s					
KDAK	**Kodiak Island**	80.53	9	LR	LR	17 14 47.2
	comp=Z,92nm,19.1s,baz=311,slow=39					
KDAK	**Kodiak Island**	80.53	9	P	P	16 34 59.5 +1.1
KDAK				pmax	pmax	
	comp=Z,13nm,0.9s					
KDAK	**Kodiak Island**	80.53	9	P	P	16 34 58.8 +0.4
	baz=347					
DLBC	**Dease Lake**	80.72	357	P	P	16 35 00.5 +1.0
	baz=4.5					

ULM	**Lac du Bonnet**	**82.47 335**	LR	LR	17 12 18.9	
	comp=Z,104nm,19.4s,baz=28,slow=36					
NEW	**Newport**	**89.47 347**	IAmb	IAmb	16 35 49.6	
	comp=Z,7.8nm,1.3s					
NEW	**Newport**	**89.47 347**	P	**P**	**16 35 45.5**	**+2.0**
	comp=Z,4.4nm,0.8s,baz=59,slow=2.2,SNR=3.5					
NEW			LR	LR	17 19 30.5	
	comp=Z,81nm,18.4s,baz=22,slow=38					
	comp=Z,4.4nm,0.8s					
TKL	**Tuckaleechee C**	**89.82 320**	LR	LR	17 17 14.9	
	comp=Z,138nm,18.6s,baz=48,slow=36					
MDP	**Montagnes des**	**91.64 278**	LR	LR	17 17 11.5	
	comp=Z,22nm,18.6s,baz=136,slow=36					
SJG	**San Juan**	**92.57 297**	LR	LR	17 13 28.6	
	comp=Z,38nm,21.2s,baz=157,slow=33					
ANMO	**Albuquerque**	**99.60 336**	LR	LR	17 23 07.6	
	comp=Z,176nm,18.3s,baz=125,slow=36					

TIF ***10*** *16:24:38.7,41.10N×43.93E,h16km*
NSSP ***10*** *16:24:39.6,41.05N×43.97E,h10km,Ms3.8*
ISK ***10*** *16:24:39.5,41.00N×43.93E,h6km,ML3.5/7*
AFAD ***10*** *16:24:40.4,41.05N×43.78E,h7km±4km,MW4.3*
AZER ***10*** *16:24:45.1,41.12N×44.38E,h2km,ml3.8*

ISC 10 16:24:38.8±0.9, 41°09N±0.02×43°90E±0.01, h17km±7km, n52, σ0°76/91, 13C-7D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMOZ	**Kamo**	**0.27**	**172**	⇓*iP*	**Pg**	**16 24 45.2**	**+0.2**
KMOZ				⇓*iS*	**Sg**	**16 24 49.4**	**+0.1**
BGD	**Bogdanovka**	**0.28**	**307**	P	**Pb**	**16 24 45.8**	**+0.2**
BGD				S	**Sb**	**16 24 50.9**	**+0.8**
SRTK	**Saratovka**	**0.32**	**95**	⇑*iP*	**Pg**	**16 24 45.5**	**-0.2**
SRTK				⇑*iS*	**Sg**	**16 24 50.1**	**-0.4**
AKH	**Akhalkalaki**	**0.44**	**316**	P	**Pb**	**16 24 48.3**	**+0.1**
AKH				S	**Sb**	**16 24 54.8**	**+0.2**
EAK	**Akyaka**	**0.46**	**209**	P	**Pg**	**16 24 47.9**	**-0.4**
TRLG	**Trialeti**	**0.47**	**19**	P	**Pg**	**16 24 48.4**	**0.0**
TRLG				S	**Sb**	**16 24 55.1**	**-0.4**
DIGO	**Kars**	**0.79**	**211**	P	**Pg**	**16 24 54.3**	**0.0**
DIGO				S	**Sg**	**16 25 04.3**	**-0.4**
DIGO				*i* IAML		16 25 05.0	
	comp=N,8μm,0.2s						
DIGO				*i* IAML		16 25 09.0	
	comp=E,1μm,0.5s						
ARUZ	**Aruch**	**0.82**	**170**	⇓*iP*	**Pb**	**16 24 54.6**	**-0.1**
ARUZ				⇓*iS*	**Sb**	**16 25 05.7**	**+0.2**
BOZK	**Kars-Merkez-Bo**	**0.86**	**235**	P	**Pn**	**16 24 56.1**	**-0.2**
BOZK				S	**Sb**	**16 25 06.8**	**+0.1**
TBLG	**Delisi**	**0.90**	**44**	P	**Pb**	**16 24 55.7**	**-0.2**
TBLG				S	**Sg**	**16 25 08.2**	**0.0**
SEAG	**Tbilisi Sea**	**0.95**	**45**	P	**Pb**	**16 24 56.9**	**0.0**
SEAG				S	**Sg**	**16 25 10.4**	**+0.4**
AHAN	**Ardahan-Merkez**	**0.96**	**275**	P	**Pg**	**16 24 57.6**	**0.0**
AHAN				S	**Sn**	**16 25 10.8**	**-0.3**
AHAN				*i* IAML		16 25 12.0	
	comp=E,5μm,0.5s						
AHAN				*i* IAML		16 25 16.0	
	comp=N,3μm,0.6s						
EPOS	**Posof**	**0.97**	**295**	P	**Pn**	**16 24 57.8**	**0.0**
EPOS				S	**Sg**	**16 25 10.7**	**+0.1**
EPOS				*i* IAML		16 25 12.0	
	comp=E,3μm,0.4s						
EPOS				*i* IAML		16 25 13.0	
	comp=N,4μm,0.7s						
KAPZ	**Kaputan**	**0.98**	**141**	⇑*iP*	**Pb**	**16 24 57.9**	**+0.5**
KAPZ				⇑*iS*	**Sb**	**16 25 10.9**	**+0.7**
VNNZ	**Vanand**	**0.99**	**183**	⇑*iP*	**Pb**	**16 24 57.9**	**+0.4**
VNNZ				⇑*iS*	**Sb**	**16 25 11.0**	**+0.7**
LSVT	**Lusahovit**	**0.99**	**100**	⇑*iP*	**Pb**	**16 24 57.1**	**-0.5**
LSVT				⇑*iS*	**Sb**	**16 25 10.6**	**+0.2**
GOLE	**Ardahan-G¶le**	**1.02**	**256**	P	**Pn**	**16 24 59.0**	**+0.5**
GOLE				S	**Sn**	**16 25 12.7**	**+0.2**
GOLE				*i* IAML		16 25 15.0	
	comp=N,3μm,0.6s						
QZX	**Qazax, Azerbai**	**1.11**	**91**	P	**Pb**	**16 24 59.7**	**+0.1**
QZX				S	**Sn**	**16 25 15.0**	**+0.4**
TASB	**TASBURUN-IGDIR**	**1.14**	**167**	Pg	**Pn**	**16 24 59.9**	**-0.1**
TASB				Sg	**Sb**	**16 25 14.5**	**-0.1**
GNI	**Garni**	**1.14**	**145**	⇑*iP*	**Pg**	**16 25 00.9**	**0.0**
GNI				⇑*iS*	**Sn**	**16 25 15.9**	**+0.5**
DGRG	**David-gareji**	**1.17**	**72**	P	**Pb**	**16 25 01.1**	**+0.6**
IGDI	**IGDIR**	**1.23**	**174**	P	**Pn**	**16 25 00.7**	**-0.6**
IGDI				S	**Sb**	**16 25 16.3**	**-0.9**
IGDI	**IGDIR**	**1.23**	**174**	P	**Pn**	**16 25 01.4**	**+0.1**
IGDI				S	**Sb**	**16 25 17.8**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.29**	**246**	Pn	**Pg**	**16 25 04.5**	**+0.7**
SENK				Sn	**Sg**	**16 25 22.1**	**+1.5**
GHRG	**Ghorjomi**	**1.33**	**299**	P	**Pg**	**16 25 04.3**	**-0.3**
GHRG				S	**Sg**	**16 25 22.4**	**+0.3**
KOTA	**Agri, Merkez-K**	**1.39**	**203**	P	**Pg**	**16 25 05.5**	**-0.2**
TKB	**Tkibuli**	**1.43**	**332**	P	**Pg**	**16 25 06.1**	**-0.3**
TKB				S	**Sg**	**16 25 25.7**	**+0.7**
GUDG	**Gudauri**	**1.44**	**17**	P	**Pg**	**16 25 05.9**	**-0.7**
GUDG				S	**Sg**	**16 25 25.5**	**+0.2**
GDB	**GEDABAY**	**1.46**	**104**	P	**Pn**	**16 25 05.0**	**+0.5**
GDB				S	**Sn**	**16 25 23.6**	**+0.4**
HYR	**Heyderabad**	**1.55**	**152**	P	**Pg**	**16 25 08.4**	**-0.3**
HYR				S	**Sg**	**16 25 29.6**	**+0.6**
DYDN	**Diyadin**	**1.56**	**186**	P	**Pg**	**16 25 09.4**	**+0.6**
EATA	**Eleskirt**	**1.63**	**222**	P	**Pg**	**16 25 10.0**	**-0.3**
DDEM	**Demirkent**	**1.64**	**264**	P	**Pg**	**16 25 09.5**	**-0.8**
DDEM				S	**Sb**	**16 25 29.5**	**+0.5**
DDEM				*i* IAML		16 25 35.0	
	comp=N,2μm,0.4s						
AGRB	**Hanur-Agry**	**1.67**	**205**	Pn	**Pb**	**16 25 08.9**	**-0.3**
DBAD	**Bademkaya**	**1.67**	**268**	P	**Sg**	**16 25 29.6**	**-3.1**
DBOC	**Borcka**	**1.70**	**279**	P	**Pg**	**16 25 10.7**	**-0.9**
DBOC				S	**Sb**	**16 25 30.5**	**-0.3**
BATM	**Batumi**	**1.74**	**288**	P	**Pg**	**16 25 11.6**	**-0.6**
BATM				S	**Sg**	**16 25 34.0**	**-0.8**
AYRK	**Ayrk**	**1.74**	**124**	⇓*iP*	**Pb**	**16 25 11.2**	**+0.7**
AYRK				⇓*iS*	**Sg**	**16 25 34.1**	**-0.8**
BCA	**Borcka**	**1.75**	**282**	Pn	**Pb**	**16 25 11.2**	**+0.7**
VAYK	**Vayk**	**1.82**	**140**	⇓*eP*	**Pg**	**16 25 13.1**	**-0.7**
VAYK				⇓*eS*	**Sg**	**16 25 36.5**	**-1.0**
HOPA	**Hopa-Artvin**	**1.87**	**280**	Pn	**Pb**	**16 25 13.4**	**+0.9**
GANJ	**Ganja**	**1.89**	**103**	P	**Pb**	**16 25 12.2**	**-0.7**
GANJ				S	**Sb**	**16 25 36.4**	**+0.2**
KOPR	**Koprukoy-ERZUR**	**1.91**	**235**	Pn	**Pb**	**16 25 13.1**	**-0.1**
SBZ	**Shahbuz**	**2.12**	**143**	P	**Pg**	**16 25 19.2**	**-0.2**
SBZ				S	**Sg**	**16 25 46.4**	**-0.5**
ZKTA	**Zakatala**	**2.12**	**74**	P	**Pb**	**16 25 16.1**	**-0.7**
ZKTA				S	**Sg**	**16 25 45.8**	**-1.3**
NAX	**Nakhchivan**	**2.27**	**147**	P	**Pg**	**16 25 22.9**	**+0.4**
NAX				S	**Sg**	**16 25 51.8**	**-0.2**
CHOM	**Cayeli-Rize**	**2.37**	**271**	Pn	**Pb**	**16 25 20.7**	**-0.3**
MNGR	**Mingechevir, A**	**2.44**	**97**	P	**Pb**	**16 25 23.0**	**+0.8**
SEKA	**Sheki**	**2.49**	**86**	P	**Pb**	**16 25 22.5**	**-0.7**
SEKA				S	**Sb**	**16 25 55.7**	**+2.1**
BRDA	**Brd**	**2.63**	**107**	P	**Pb**	**16 25 27.0**	**+1.5**
ORD	**Ordubad**	**2.70**	**143**	P	**Pg**	**16 25 29.3**	**-1.2**
ORD				S	**Sg**	**16 26 04.0**	**-1.5**
EGVZ	**Egvard**	**2.75**	**132**	⇑*iP*	**Pb**	**16 25 28.8**	**+1.2**
EGVZ				⇓*iS*	**Sg**	**16 26 04.9**	**-2.4**

IDC 10 16:39:32.6±13.0, 19°36S×178°35W, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=351.9km s-min=40.3km az=33.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.44**	**261**	P	P	16 47 44.9	-0.8
	0.3nm,0.6s,baz=97,slow=8.2,SNR=1.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**44.47**	**256**	P	P	16 47 46.2	+0.3
	1.0nm,0.5s,baz=88,slow=7.6,SNR=31						
	1.0nm,0.5s						
VNDA	**Vanda**	**59.01**	**185**	P	P	16 49 33.1	-0.6
	0.3nm,0.5s,baz=0.0,slow=3.0,SNR=1.5						
	0.3nm,0.5s						
QSPA	**South Pole Qui**	**70.70**	**180**	P	P	16 50 50.8	+0.6
	0.8nm,1.0s,baz=31,slow=5.9,SNR=1.7						
	0.8nm,1.0s						

DRS ***10*** *17:00:14.0,41.06N×43.84E,h15km*
ISK ***10*** *17:00:15.8,41.01N×43.90E,h1km,ML3.2/8*
NSSP ***10*** *17:00:15.7,41.00N×43.87E,h10km,Ms3.1*

TIF ***10*** *17:00:15.4,41.09N×43.94E,h10km*
AFAD ***10*** *17:00:16.4,41.10N×43.81E,h4km±5km,ML3.2*
AZER ***10*** *17:00:17.3,40.99N×44.01E,h2km,ml3.5*
MOS ***10*** *17:00:17.0±1.2,40.97N×43.89E,h19km,mb3.8/1,Error ellipse: s-maj=8.2km s-min=4.9km az=76.4*

ISC 10 17:00:15.4±0.9, 41°10N±0.01×43.96E±0.01, h16km±7km, n111, σ1°51/181, 10C-5D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRTK	**Saratovka**	**0.28**	**98**	⇓*iP*	**Pg**	**17 00 22.2**	**+0.8**
SRTK				⇓*iS*	**Sg**	**17 00 26.9**	**+1.4**
KMOZ	**Kamo**	**0.28**	**182**	⇓*iP*	**Pb**	**17 00 21.8**	**-0.4**
KMOZ				⇓*iS*	**Sb**	**17 00 26.5**	**-0.3**
BGD	**Bogdanovka**	**0.32**	**301**	P	**Pb**	**17 00 22.5**	**-0.3**
BGD				S	**Sb**	**17 00 27.5**	**-0.3**
BGD	**Bogdanovka**	**0.32**	**301**	PG	**Pb**	**17 00 22.5**	**-0.3**
KZRT	**Kazreti**	**0.43**	**49**	P	**Pg**	**17 00 23.1**	**-1.1**
KZRT				S	**Sb**	**17 00 29.6**	**-1.5**
KZRT	**Kazreti**	**0.43**	**49**	PG	**Pg**	**17 00 23.0**	**-1.1**
TRLG	**Trialeti**	**0.45**	**14**	P	**Pb**	**17 00 25.1**	**+0.1**
TRLG				S	**Sb**	**17 00 31.9**	**+0.3**
TRLG	**Trialeti**	**0.45**	**14**	PG	**Pb**	**17 00 25.1**	**+0.1**
EAK	**Akyaka**	**0.50**	**213**	P	**Pb**	**17 00 25.1**	**-0.8**
DIGO	**Kars**	**0.82**	**213**	P	**Pg**	**17 00 30.2**	**-1.1**
DIGO				S	**Sg**	**17 00 40.0**	**-2.2**
DIGO				*i* IAML		17 00 46.0	
	comp=N,1μm,0.4s						
DIGO				*i* IAML		17 00 46.0	
	comp=E,2μm,0.7s						
ARUZ	**Aruch**	**0.83**	**173**	*eP*	**Pb**	**17 00 31.2**	**-0.2**
ARUZ				*eS*	**Sb**	**17 00 42.1**	**-0.3**
BTNK	**Botanikuri**	**0.86**	**47**	PG	**Pn**	**17 00 32.4**	**-0.5**
TBLG	**Delisi**	**0.86**	**43**	P	**Pn**	**17 00 32.6**	**-0.3**
TBLG				S	**Sn**	**17 00 45.0**	**-0.2**
TBLG	**Delisi**	**0.86**	**43**	PG	**Pn**	**17 00 32.5**	**-0.3**
BOZK	**Kars-Merkez-Bo**	**0.91**	**236**	P	**Pg**	**17 00 32.4**	**-0.6**
BOZK				S	**Sg**	**17 00 44.1**	**-0.8**
SEAG	**Tbilisi Sea**	**0.92**	**44**	P	**Pn**	**17 00 33.8**	**+0.1**
SEAG				S	**Sn**	**17 00 47.2**	**+0.6**
SEAG	**Tbilisi Sea**	**0.92**	**44**	PG	**Pn**	**17 00 33.7**	**+0.1**
LSVT	**Lusahovit**	**0.95**	**101**	⇑*iP*	**Pn**	**17 00 33.9**	**-0.3**
LSVT				⇓*iS*	**Sn**	**17 00 47.6**	**+0.1**
KAPZ	**Kaputan**	**0.96**	**144**	*eP*	**Pn**	**17 00 34.5**	**0.0**
KAPZ				*eS*	**Sn**	**17 00 48.0**	**+0.1**
VNNZ	**Vanand**	**1.00**	**186**	*eP*	**Pn**	**17 00 34.6**	**-0.4**
VNNZ				*eS*	**Sb**	**17 00 48.0**	**+0.5**
AHAN	**Ardahan-Merkez**	**1.01**	**274**	P	**Pg**	**17 00 34.0**	**-0.9**
AHAN				S	**Sg**	**17 00 47.3**	**-0.9**
AHAN				*i* IAML		17 00 49.0	
	comp=N,805nm,0.5s						
AHAN				*i* IAML		17 00 49.0	
	comp=E,1μm,0.8s						
EPOS	**Posof**	**1.01**	**294**	P	**Pg**	**17 00 34.0**	**-0.9**
EPOS				S	**Sg**	**17 00 46.5**	**-1.7**
EPOS				*i* IAML		17 00 50.0	
	comp=N,1μm,0.8s						
GOLE	**Ardahan-G¶le**	**1.06**	**256**	P	**Pg**	**17 00 35.4**	**-0.6**
GOLE				S	**Sb**	**17 00 50.1**	**+0.7**
GOLE				*i* IAML		17 00 51.0	
	comp=E,399nm,0.3s						
GOLE				*i* IAML		17 00 52.0	
	comp=N,703nm,0.5s						
QZX	**Qazax, Azerbai**	**1.07**	**92**	P	**Pn**	**17 00 36.3**	**+0.6**
QZX				S	**Sn**	**17 00 52.2**	**+1.8**
DGRG	**David-gareji**	**1.12**	**72**	P	**Pn**	**17 00 37.9**	**+1.3**
DGRG				S	**Sn**	**17 00 55.2**	**+3.5**
DGRG	**David-gareji**	**1.12**	**72**	PG	**Pn**	**17 00 37.8**	**+1.3**
DGRG				S	**Sn**	**17 00 55.1**	**+3.5**
GNI	**Garni**	**1.12**	**148**	Pg	**Pn**	**17 00 37.2**	**+0.6**
GNI				Sg	**Sn**	**17 00 53.1**	**+1.2**
GNI	**Garni**	**1.12**	**148**	⇑*iP*	**Pn**	**17 00 37.4**	**+0.6**
GNI				⇑*iS*	**Sn**	**17 00 53.2**	**+1.3**
GNI	**Garni**	**1.12**	**148**	*cPG*	**Pn**	**17 00 37.3**	**+0.6**
TASB	**TASBURUN-IGDIR**	**1.14**	**169**	Pg	**Pn**	**17 00 37.1**	**+0.3**
TASB				Sg	**Sn**	**17 00 52.6**	**+0.5**
IGDI	**IGDIR**	**1.24**	**176**	P	**Pn**	**17 00 37.6**	**-0.6**
IGDI				S	**Sb**	**17 00 52.0**	**-2.2**
IGDI				*i* IAML		17 00 55.0	
	comp=N,257nm,0.4s						
IGDI				*i* IAML		17 00 55.0	
	comp=E,246nm,0.6s						
IGDI	**IGDIR**	**1.24**	**176**	P	**Pb**	**17 00 38.0**	**-0.5**
IGDI				S	**Sg**	**17 00 54.2**	**-1.2**
SENK	**Senkaya-Erzuru**	**1.34**	**247**	Pn	**Pg**	**17 00 40.9**	**-0.2**
GHRG	**Ghorjomi**	**1.37**	**298**	P	**Pg**	**17 00 41.0**	**-0.8**
GHRG				S	**Sg**	**17 00 59.4**	**-0.3**
GDB	**GEDABAY**	**1.41**	**105**	P	**Pg**	**17 00 41.6**	**-1.0**
GDB				S	**Sg**	**17 01 00.3**	**-0.7**
KOTA	**Agri, Merkez-K**	**1.42**	**204**	P	**Pg**	**17 00 43.5**	**+0.8**
TKB	**Tkibuli**	**1.44**	**330**	P	**Pg**	**17 00 42.7**	**-0.4**
TKB				S	**Sg**	**17 01 02.0**	**+0.2**
TKB	**Tkibuli**	**1.44**	**330**	PG	**Pg**	**17 00 42.7**	**-0.4**
HYR	**Heyderabad**	**1.54**	**153**	P	**Pg**	**17 00 44.6**	**-0.4**
HYR				S	**Sg**	**17 01 05.7**	**+0.6**
EATA	**Eleskirt**	**1.67**	**223**	P	**Pb**	**17 00 46.3**	**+0.3**
EATA				S	**Sb**	**17 01 08.0**	**+1.1**
EATA				*i* IAML		17 01 20.0	
	comp=E,229nm,1.2s						
DDEM	**Demirkent**	**1.69**	**264**	P	**Pb**	**17 00 46.0**	**-0.1**
DDEM				S	**Sn**	**17 01 06.9**	**+1.3**
DDEM				*i* IAML		17 01 10.0	
	comp=N,402nm,0.9s						
DDEM				*i* IAML		17 01 11.0	
	comp=E,375nm,0.8s						
AGRB	**Hanur-Agry**	**1.70**	**206**	Pn	**Pb**	**17 00 46.5**	**+0.2**
AYRK	**Ayrk**	**1.71**	**125**	*eP*	**Pg**	**17 00 47.7**	**-0.4**
AYRK				*eS*	**Sg**	**17 01 10.8**	**+0.5**
DBAD	**Bademkaya**	**1.71**	**268**	P	Pg	17 01 05.6	+17
LACR	**Lac**	**1.74**	**8**	*i* PN	**Pg**	**17 00 48.3**	**-0.5**
DBOC	**Borcka**	**1.75**	**279**	P	**Pb**	**17 00 47.6**	**+0.5**
DBOC				S	**Sn**	**17 01 06.4**	**-0.7**
DBOC				*i* IAML		17 01 17.0	
	comp=E,231nm,0.6s						
BATM	**Batumi**	**1.78**	**287**	P	**Pg**	**17 00 48.4**	**-1.1**
BATM				S	**Sg**	**17 01 11.6**	**-1.0**
BATM	**Batumi**	**1.78**	**287**	PN	**Pg**	**17 00 48.4**	**-1.1**
BATM				S	**Sg**	**17 01 11.6**	**-1.0**
SHTL	**Shatili**	**1.79**	**29**	P	**Pg**	**17 00 49.3**	**-0.4**
SHTL				S	**Sg**	**17 01 13.5**	**+0.5**
SHTL	**Shatili**	**1.79**	**29**	PN	**Pg**	**17 00 49.3**	**-0.4**
BCA	**Borcka**	**1.79**	**282**	Pn	**Pb**	**17 00 48.3**	**+0.4**
VAYK	**Vayk**	**1.80**	**141**	*iP*	**Pg**	**17 00 49.4**	**-0.5**
VAYK				*iS*	**Sg**	**17 01 14.0**	**+0.7**
DIGR	**Digorskoe uzhe**	**1.82**	**351**	*ePN*	**Pg**	**17 00 50.9**	**+0.6**
VSHL	**Vashlovani**	**1.85**	**85**	P	**Pg**	**17 00 50.4**	**-0.4**
VSHL				S	**Sg**	**17 01 19.4**	**+4.6**
GANJ	**Ganja**	**1.85**	**104**	P	**Pg**	**17 00 48.8**	**-2.1**
GANJ				S	**Sg**	**17 01 13.4**	**-1.5**
HOMI	**Horasan**	**1.89**	**237**	P	**Pg**	**17 00 51.2**	**-0.5**
KOPR	**Koprukoy-ERZUR**	**1.95**	**236**	Pn	**Pb**	**17 00 49.8**	**-0.9**
KORR	**Kora**	**1.98**	**2**	*ePN*	**Pg**	**17 00 54.2**	**+0.8**
KORR				S	**Sg**	**17 01 21.9**	**+2.7**
TLTR	**Tlyarata**	**2.06**	**60**	*ePN*	**Pg**	**17 00 53.3**	**-1.5**
TLTR				*eS*	**Sg**	**17 01 20.7**	**-0.8**
TLTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TLTR	**Tlyarata**	**2.06**	**60**	*ePg*	**Pg**	**17 00 53.4**	**-1.5**
	comp=Z,1.0nm,0.4s						
TLTR				*eSg*	**Sg**	**17 01 20.7**	**-0.8**
	comp=Z,175nm,0.6s						
KMGR	**Komgaron**	**2.06**	**19**	*ePN*	**Pg**	**17 00 55.4**	**+0.4**
ZKTA	**Zakatala**	**2.07**	**74**	P	**Pg**	**17 00 53.0**	**-2.2**
ZKTA				S	**Sg**	**17 01 22.9**	**+0.9**
ARNR	**Ardon**	**2.09**	**7**	*ePN*	**Pg**	**17 00 56.0**	**+0.6**
ARNR				S	**Sg**	**17 01 26.5**	**+4.0**
SBZ	**Shahbuz**	**2.10**	**144**	P	**Pg**	**17 00 55.0**	**-0.6**
SBZ				S	**Sg**	**17 01 23.5**	**+0.7**
VMUR	**Van-Muradiye**	**2.13**	**188**	P	**Pg**	**17 00 55.5**	**-0.8**
NAX	**Nakhchivan**	**2.26**	**148**	P	**Pg**	**17 00 57.5**	**-1.1**
NAX				S	**Sg**	**17 01 28.5**	**+0.5**
BTLR	**Botlikh**	**2.30**	**47**	*ePN*	**Pg**	**17 00 57.8**	**-1.7**
BTLR				*eS*	**Sg**	**17 01 28.4**	**-0.9**
BTLR				pmax	pmax		
	comp=Z,51nm,0.5s						
EJDE	**Erzurum, Palan**	**2.39**	**239**	P	**Pb**	**17 00 59.0**	**+0.8**
MNGR	**Mingechevir, A**	**2.39**	**97**	P	**Pg**	**17 00 59.7**	**-1.5**
MNGR				S	**Sg**	**17 01 35.1**	**+2.9**
NCK	**Nalchik**	**2.41**	**354**	⇑*ePN*	**Pg**	**17 01 00.2**	**-1.3**
NCK				*eS*	**Sg**	**17 01 34.3**	**+1.6**
NCK				pmax	pmax		
	comp=Z,78nm,0.7s						
NCK				smax	smax		
	comp=Z,145nm,1.4s						
CHOM	**Cayeli-Rize**	**2.42**	**271**	Pn	**Pb**	**17 00 57.2**	**-1.3**
SEKA	**Sheki**	**2.45**	**86**	P	**Pb**	**17 00 59.0**	**0.0**
SEKA				S	**Sg**	**17 01 34.1**	**0.0**
DVE	**Vedeno**	**2.46**	**40**	⇑*ePN*	**Pg**	**17 01 00.1**	**-2.4**
DVE				*eS*	**Sg**	**17 01 35.2**	**+0.9**
DVE				pmax	pmax		
	comp=Z,82nm,0.6s						
DVE				smax	smax		
	comp=Z,204nm,0.8s						
XNZR	**Khunzakh**	**2.50**	**54**	*ePn*	**Pg**	**17 01 00.7**	**-2.8**
	comp=Z,22nm,0.3s						
XNZR				*eSn*	**Sg**	**17 01 33.4**	**-2.5**
	comp=Z,50nm,0.5s						
ETEKE	**Tekederesi - E**	**2.52**	**240**	P	**Pg**	**17 01 02.6**	**-1.1**
HNZR	**Khunzah**	**2.52**	**54**	*ePN*	**Pb**	**17 01 00.6**	**+0.2**
HNZR				*eS*	**Sg**	**17 01 33.4**	**-3.0**
HNZR				pmax	pmax		
	comp=Z,22nm,0.3s						
KMKR	**Kumukh**	**2.57**	**65**	*ePN*	**Pb**	**17 01 00.8**	**-0.4**
KMKR				*eS*	**Sb**	**17 01 33.0**	**+0.4**
KMKR				pmax	pmax		
	comp=Z,29nm,0.4s						
BRDA	**Brd**	**2.59**	**108**	P	**Pg**	**17 01 03.4**	**-1.6**
BRDA				S	**Sg**	**17 01 40.0**	**+1.5**
IZDR	**Rize**	**2.59**	**264**	P	**Pb**	**17 01 01.5**	**-0.1**
AGDM	**Agdam**	**2.59**	**112**	P	**Pg**	**17 01 03.2**	**-1.9**
AGDM				S	**Sg**	**17 01 37.0**	**-1.8**
UNCR	**Uncukul**	**2.66**	**52**	*ePN*	**Pb**	**17 01 02.7**	**+0.1**
UNCR				*eS*	**Sg**	**17 01 36.6**	**-4.2**
UNCR				pmax	pmax		
	comp=Z,33nm,0.4s						
UNCR	**Uncukul**	**2.66**	**52**	*ePn*	**Pb**	**17 01 02.7**	**+0.1**
	comp=Z,33nm,0.4s						
UNCR				*eSn*	**Sg**	**17 01 36.6**	**-4.2**
	comp=Z,119nm,0.9s						
ARKR	**Arakani**	**2.72**	**56**	*ePN*	**Pb**	**17 01 04.0**	**+0.3**
ARKR				*eS*	**Sg**	**17 01 38.6**	**-4.1**
ARKR				pmax	pmax		
	comp=Z,25nm,0.4s						
EGVZ	**Egvard**	**2.73**	**133**	*eP*	**Pg**	**17 01 06.6**	**-1.0**
EGVZ				*eS*	**Sg**	**17 01 43.8**	**+0.8**
KBZ	**Khabaz**	**2.74**	**344**	*dePN*	**Pg**	**17 01 04.9**	**+0.9**
KRNR	**Karanay**	**2.79**	**51**	*ePN*	**Pb**	**17 01 04.2**	**-0.7**
KRNR				*eS*	**Sb**	**17 01 40.1**	**+1.2**
KRNR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KRNR	**Karanay**	**2.79**	**51**	*ePn*	**Pb**	**17 01 04.3**	**-0.7**
	comp=Z,10.0nm,0.6s						
KRNR				*eSn*	**Sb**	**17 01 40.2**	**+1.2**
	comp=Z,21nm,0.4s						
KOPT	**Kop Dagi**	**2.85**	**249**	P	**Pb**	**17 01 06.9**	**+0.8**
AKT	**Akhty**	**2.87**	**81**	*ePN*	**Pb**	**17 01 04.9**	**-1.3**
AKT				*e*		17 01 12.3	
AKT				*eS*	**Sb**	**17 01 42.5**	**+1.4**
AKT				*e*		17 01 51.1	
AKT				*e*		17 01 58.1	
AKT				pmax	pmax		
	comp=Z,23nm,0.7s						
AKT				smax	smax		
	comp=N,58nm,0.4s						
AKT				smax	smax		
	comp=N,73nm,0.4s						
AKT				smax	smax		
	comp=E,66nm,0.6s						
AKT	**Akhty**	**2.87**	**81**	*ePn*	**Pb**	**17 01 05.4**	**-0.8**
	comp=E,23nm,0.7s						
AKT				*eSn*	**Sb**	**17 01 40.9**	**-0.2**
	comp=E,34nm,0.4s						
QBL	**Gabala**	**2.94**	**92**	P	**Pb**	**17 01 08.0**	**+0.6**
QBL				S	**Sg**	**17 01 48.6**	**-1.1**
BAYB	**BAYBURT**	**2.94**	**255**	P	**Pb**	**17 01 09.4**	**+1.8**
BAYT	**Aydıntepe-Bayb**	**2.99**	**257**	Pn	**Pn**	**17 01 04.9**	**+2.6**
KIV	**Kislovodsk**	**3.00**	**342**	Pn	**Pb**	**17 01 07.5**	**-1.0**
KIV	**Kislovodsk**	**3.00**	**342**	*ePN*	**Pb**	**17 01 08.2**	**-0.3**
KIV				S	**Sg**	**17 01 51.0**	**-0.8**
KIV				pmax	pmax		
	comp=Z,29n

BLJI S Sn 17 13 18.7 +2.7
ABJI Asem Bagus 1.60 30 P Pn 17 13 02.0 +2.2
DNP Denpasar 1.84 74 P Pn 17 13 03.7 +0.7
SRBI Singaraja 2.08 58 P Pn 17 13 07.0 +0.8
KMMI Kalianget 2.19 14 P Pn 17 13 09.5 +1.8
PCJI Pacitan 2.43 294 P Pn 17 13 09.7 -1.2
GRJI Gresik 2.44 337 P Pn 17 13 12.1 +1.0
NGJI Ngawi 2.65 313 P Pn 17 13 17.4 +3.5
WOJI Wonogiri, Jawa 2.81 298 P Pn 17 13 16.1 0.0
TBJI Tambak Boyo 2.82 326 P Pn 17 13 17.7 +1.5
UGM Wanagama 3.13 294 Pn 17 13 20.2 -0.3
UGM Sn Sn 17 13 55.7 -1.1
UGM Wanagama 3.13 294 P Pn 17 13 20.5 0.0
UGM Wanagama 3.13 294 S Sn 17 13 57.3 +0.5
UGM Wanagama 3.13 294 P Pn 17 13 20.5 0.0
BWJI Bawean 3.40 347 P Pn 17 13 26.1 +2.0
TWSI Taliwang, Sumb 3.45 83 P Pn 17 13 25.4 +0.6
SMRI Semarang 3.63 306 Pn 17 13 27.1 -0.2
SMRI Semarang 3.63 306 P Pn 17 13 28.9 +1.6
SMRI Semarang 3.63 306 P Pn 17 13 28.1 +0.8
PLAI Plampang 4.32 86 P Pn 17 13 37.8 +1.1
PLAI Plampang 4.32 86 S Sn 17 14 27.2 +1.4
PLAI Plampang 4.32 86 P Pn 17 13 37.7 +1.1
KPJI Karang Pucung 4.81 292 P Pn 17 13 44.7 +1.4
WBSI Waikabubak, Su 5.91 95 P Pn 17 13 58.4 0.0
1.7nm2µm308nm,0.8s
BBJI Bungbulang 5.96 286 P Pn 17 13 58.9 -0.3
LEM Lembang 6.21 292 P Pn 17 14 03.5 +0.8
52nm,0.6s,baz=134,slow=8.7,SNR=8.6
LEM S Sn 17 15 12.8 +0.6
159nm,0.9s,baz=164,slow=13,SNR=6.5
LEM LR LR 17 16 39.0
comp=Z,144nm,21.9s,baz=14,slow=40
CNJI Cibinong 6.50 286 P Pn 17 14 05.5 -1.0
0.5nm831nm688nm,0.5s
WSI Waingapu 6.80 95 P Pn 17 14 10.8 +0.2
DBJI Dramaga 7.11 291 P Pn 17 14 16.6 +1.8
0.7nm128nm,0.8s
BASI Baing, Sumba 7.13 99 P Pn 17 14 16.1 +1.0
225nm,1.0s
KAPI Kappang 7.53 57 Pn Pn 17 14 17.1 -3.4
KAPI Kappang 7.53 57 P Pn 17 14 20.2 -0.3
10nm,0.3s,baz=264,slow=18,SNR=4.9
KAPI S Sn 17 15 43.9 -0.4
23nm,0.5s,baz=206,slow=22,SNR=6.8
KAPI LR LR 17 17 54.4
comp=Z,124nm,21.8s,baz=250,slow=43
KAPI Kappang 7.53 57 P Pn 17 14 22.3 +1.8
BSSI Bau Bau, Buton 7.63 67 P Pn 17 14 22.9 +1.0
0.4nm65nm,0.5s
BKSI Bulukumba 7.68 60 P Pn 17 14 23.4 +0.8
0.2nm40nm,0.6s
XMI Christmas Isla 7.72 260 P Pn 17 14 20.8 -2.4
CGJI Cibinong 8.07 288 P Pn 17 14 28.8 +0.9
3µm134nm,0.5s
BNSI Bone 8.16 55 P Pn 17 14 31.8 +2.6
42nm,0.5s
SPSI Sidrap Palu 8.16 51 P Pn 17 14 30.2 +1.0
EDFI Ende, Flores 8.18 88 P Pn 17 14 28.7 -0.9
1µm43nm,0.7s
TPI Tanjungpandan 8.58 318 P Pn 17 14 36.5 +1.6
MMRI Maumere 8.73 87 Pn Pn 17 14 33.9 -3.1
MMRI Maumere 8.73 87 P Pn 17 14 36.8 -0.2
64nm,0.5s
TTSI Tana Toraja 8.81 47 P Pn 17 14 40.5 +2.4
30nm,1.0s
KASI Kota Agung 9.57 292 P Pn 17 14 48.6 +0.2
32nm,0.8s
BATI Baumata 10.15 97 P Pn 17 14 56.3 -0.1
34nm,0.3s,baz=275,slow=20,SNR=16
BATI S Sn 17 16 41.0 -7.7
36nm,0.4s,baz=36,slow=21,SNR=6.6
BATI Baumata 10.15 97 P Pn 17 14 56.7 +0.3
45nm,0.7s
SOEI Soe 10.71 94 Pn 17 15 01.5 -2.7
SOEI Soe 10.71 94 P Pn 17 15 04.8 +0.6
MNAI Manna 11.44 294 Pn Pn 17 15 12.5 -1.6
MNAI Manna 11.44 294 P Pn 17 15 12.6 -1.4
SBUM Sibu 11.62 354 Pn Pn 17 15 12.7 -3.7
KSI Kapahiang 12.08 296 P Pn 17 15 22.5 -0.3
TOLI2 Tolitoli 12.59 36 Pn Pn 17 15 30.6 +1.0
MASI Maura Aman, Be 12.63 298 P Pn 17 15 30.3 0.0
81nm,0.6s
MBWA Marble Bar 13.37 154 Pn Pn 17 15 33.0 -7.1
GIRL Giralia 13.40 177 Pn Pn 17 15 35.0 -5.5
PSA00 Pilbara Seismi 13.78 154 Pn 17 15 39.0 -6.6
PSA00 Pilbara Seismi 13.78 154 Pn 17 15 38.3 -7.3
KRJI Kerinci 13.82 300 P Pn 17 15 45.6 -0.6
100nm,0.9s
FITZ Fitzroy Crossi 14.81 128 Pn Pn 17 15 54.7 -4.2
FITZ Fitzroy Crossi 14.81 128 P Pn 17 15 55.1 -3.8
2.6nm,0.3s,baz=293,slow=7.6,SNR=20
FITZ S Sn 17 18 25.6 -16
6.6nm,0.4s,baz=342,slow=20,SNR=5.7
FITZ LR LR 17 21 52.5
comp=Z,178nm,21.0s,baz=316,slow=38
KKM Kota Kinabalu 15.38 11 Pn Pn 17 16 03.7 -2.7
KNRA Kununurra 16.31 115 Pn 17 16 15.0 -2.9
KNRA IAmb IAmb 17 16 35.9
comp=Z,31nm,0.7s
DRS Darwin Rock St 17.47 102 P P 17 16 34.7 +2.1
MTN Manton Dam 17.76 103 P 17 16 32.3 -3.5
MTN Manton Dam 17.76 103 P Pn 17 16 37.0 +1.1
MEEK Meekatharra 18.04 165 P P 17 16 37.5 -1.3
GSI Gunungsitoli 18.91 303 P P 17 16 43.9 -4.6
FAKI Fak Fak 19.72 73 P P 17 16 54.0 -3.3
FAKI Fak Fak 19.72 73 P P 17 16 57.7 +0.4
MORW Morawa 19.93 173 P P 17 16 56.5 -2.9
MORW Morawa 19.93 173 P P 17 16 58.9 -0.6
BLDU Ballidu 21.54 172 P P 17 17 16.2 -0.5
KLBR Kellerberrin 22.66 170 P P 17 17 28.3 -0.4
MUN Mundaring 22.83 174 P P 17 17 31.3 +0.8
WB0 Warramunga Arr 22.84 120 P 17 17 29.8 -1.0
WRA Warramunga Arr 22.87 120 P P 17 17 28.9 -2.2
WRA Warramunga Arr 22.87 120 P P 17 17 30.6 -0.4
comp=Z,6.0nm,0.8s,baz=294,slow=12,SNR=24
WRA PcP PcP 17 21 21.1 +1.5
comp=Z,1.2nm,0.7s,baz=304,slow=1.6,SNR=4.6
WRA S S 17 21 36.3 +1.1
comp=Z,0.9nm,0.6s,baz=290,slow=25,SNR=3.7
comp=Z,6.0nm,0.8s
WRAB Tennant Creek 22.87 120 P P 17 17 30.0 -1.1
WR8 Warramunga Arr 23.01 120 P P 17 17 31.7 -0.7
WR8 IAmb IAmb 17 17 33.9
comp=Z,22nm,1.4s
NWAO Narrogin (SRO) 23.89 172 P P 17 17 39.2 -1.2
NWAO IAmb IAmb 17 18 23.0
comp=Z,29nm,1.1s
NWAO Narrogin (SRO) 23.89 172 P P 17 17 41.3 +1.0
comp=Z,18nm,1.1s,baz=339,slow=4.6,SNR=3.4
NWAO S S 17 21 57.4 +6.0
comp=Z,6.6nm,0.7s,baz=347,slow=14,SNR=2.4
comp=Z,18nm,1.1s
AS31 Alice Springs 24.31 129 P 17 17 42.1 -2.2
ASAR Alice Springs 24.31 129 P P 17 17 45.0 +0.6
comp=Z,7.9nm,0.8s,baz=302,slow=9.0,SNR=61
ASAR PcP PcP 17 21 24.4 +1.8
comp=Z,2.0nm,0.4s,baz=307,slow=1.8,SNR=12
ASAR S S 17 21 59.3 +0.8
comp=Z,0.2nm,0.5s,baz=305,slow=23,SNR=1.5
comp=Z,7.9nm,0.8s
QIS Mount Isa 27.67 117 P P 17 18 16.4 +1.7
COEN Coen 29.52 102 P P 17 18 29.4 -1.8
COEN IAmb IAmb 17 19 03.4
comp=Z,33nm,1.5s
COEN Coen 29.52 102 P P 17 18 34.3 +3.1
CMAR Chiang Mai Arr 30.96 333 P P 17 18 44.5 +0.7
comp=Z,3.0nm,0.9s,baz=165,slow=8.2,SNR=15
CMAR LR LR 17 32 42.1
comp=Z,50nm,19.2s,baz=130,slow=39
comp=Z,3.0nm,0.9s
BBOO Buckleboo 31.47 142 P P 17 18 46.8 -1.4
BBOO IAmb IAmb 17 18 49.9
comp=Z,8.9nm,0.9s
BBOO Buckleboo 31.47 142 P P 17 18 48.9 +0.7
CTAO Charters Tower 33.50 113 P P 17 19 06.5 +0.3
CTAO IAmb IAmb 17 19 36.4
comp=Z,13nm,1.1s
HTT Hallett 33.68 140 P P 17 19 09.7 +2.1
STKA Stephens Creek 34.53 135 P 17 19 14.3 -0.6
STKA Stephens Creek 34.53 135 P P 17 19 16.1 +1.2
comp=Z,4.3nm,0.4s,baz=307,slow=9.3,SNR=14
STKA pP pP 17 19 33.1 +1.7
comp=Z,2.1nm,0.5s,baz=323,slow=5.0,SNR=3.2
STKA PcP PcP 17 21 49.5 +1.0
comp=Z,2.5nm,0.6s,baz=330,slow=8.1,SNR=2.8
comp=Z,4.3nm,0.4s
TNCH TengChong 36.98 337 *e*P P 17 19 38.8 +2.7
TNCH pmax pmax
comp=Z,15nm,0.8s
PZH PanZhiHua 37.24 343 P P 17 19 41.2 +2.9
BRDH Bariadhala 38.18 326 LR LR 17 39 55.7
comp=Z,86nm,19.4s,baz=296,slow=43
SHL Shillong 40.41 329 P 17 20 04.2 -0.6
H08S2 Diego Garcia H 40.50 269 T T 18 03 15.9
baz=95,slow=75,SNR=4.4
H08S3 Diego Garcia H 40.51 269 T T 18 03 12.4
baz=95,slow=75,SNR=7.2
H08S1 Diego Garcia H 40.52 269 T T 18 03 17.3
baz=95,slow=75,SNR=4.0
CD2 Chengdu 40.93 347 P P 17 20 10.1 +1.2
CD2 S S 17 26 18.7 +3.2
CD2 LR LR
comp=N,450nm,16.1s
CD2 LR LR
comp=E,460nm,16.1s
CD2 LR LR
comp=Z,240nm,15.6s
NJ2 Nanjing 41.33 7 *e*P P 17 20 13.9 +1.8
NJ2 pmax pmax
comp=Z,11nm,0.5s
CAN Canberra 41.59 134 P P 17 20 15.6 +1.3
EVN Everest 45.01 326 P P 17 20 41.9 -0.7
JMN Monobe 46.90 24 P P 17 20 56.7 0.0
JMN IAmb IAmb 17 21 04.2
comp=Z,11nm,1.2s
KSRS Korea Array 48.34 15 P P 17 21 07.4 -0.3
comp=Z,1.0nm,0.9s,baz=199,slow=5.5,SNR=2.8
comp=Z,1.0nm,0.9s
HHC Hu-ho-hao-te 49.81 358 *e*P P 17 21 21.7 +2.7
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,40nm,3.6s
JGF Kuroka 49.95 26 P P 17 21 18.8 -1.3
JGF IAmb IAmb 17 21 45.7
comp=Z,9.7nm,1.2s
MJAR Matsushiro Arr 51.11 26 P P 17 21 27.6 -1.2
comp=Z,1.2nm,0.6s,baz=208,slow=9.1,SNR=3.7
comp=Z,1.2nm,0.6s
MDJ Mudanjiang 55.51 14 P P 17 22 00.7 -0.2
MDJ pmax pmax
comp=Z,8.0nm,0.6s
USRK Ussuriysk Ar. 55.73 16 P P 17 22 02.6 +0.1
comp=Z,3.2nm,0.6s,baz=195,slow=4.6,SNR=8.1
comp=Z,3.2nm,0.6s
ULN Ulaanbaatar 57.08 355 P P 17 22 12.1 -0.1
ULN IAmb IAmb 17 22 13.3
comp=Z,4.1nm,0.6s
SONM Songino Array 57.11 354 P P 17 22 11.4 -1.0
SONM IAmb IAmb 17 22 13.6
comp=Z,3.1nm,0.8s
SONM Songino Array 57.11 354 P P 17 22 13.0 +0.6
comp=Z,2.4nm,0.4s,baz=176,slow=8.9,SNR=18
SONM pP pP 17 22 28.6 -1.9
comp=Z,1.3nm,0.6s,baz=169,slow=10,SNR=3.4
SONM PcP PcP 17 23 05.9 -0.5
comp=Z,0.7nm,0.4s,baz=186,slow=3.4,SNR=3.7
comp=Z,2.4nm,0.4s
NIL Nilore 57.19 320 P P 17 22 11.3 -1.8
NIL IAmb IAmb 17 22 13.6
comp=Z,8.9nm,1.2s
WMQ Urumqi 57.70 338 *e*P P 17 22 17.9 +1.4
WMQ pmax pmax
comp=Z,21nm,0.7s
JKA Kamikawa-asahi 59.28 24 P P 17 22 27.0 -0.4
HEH HeiHe 60.44 10 *e*P P 17 22 34.9 -0.3
HEH pmax pmax
comp=Z,11nm,0.7s
AMCZ Amberley 61.47 134 P P 17 22 43.1 +0.6
MKAR Makanchi Array 62.26 336 P 17 22 47.0 -0.6
MKAR Makanchi Array 62.26 336 P P 17 22 47.6 0.0
comp=Z,2.5nm,0.4s,baz=149,slow=7.2,SNR=50
MKAR pP pP 17 23 03.4 -2.7
comp=Z,1.3nm,0.5s,baz=148,slow=7.1,SNR=3.9
comp=Z,2.5nm,0.4s
GAR Garm 62.46 323 P P 17 22 49.9 +0.6
ARSB Arslanbob 62.50 327 P P 17 22 49.5 -0.1
ARSB IAmb IAmb 17 23 30.9
comp=Z,6.7nm,1.0s
SNZO South Karori 62.51 132 P P 17 22 48.7 -0.7
MSWZ Moikau Station 62.93 132 P P 17 22 52.1 -0.2
MRZ Mangatainoka R 63.02 131 P P 17 22 52.0 -0.9
MSVF Nonsavu 63.18 105 P P 17 22 54.1 -0.4
MSVF IAmb IAmb 17 23 23.0
comp=Z,7.4nm,1.1s
BKZ Black Stump Fm 63.43 129 P P 17 22 55.3 -0.4
BFZ Birch Farm 63.52 131 P P 17 22 55.9 -0.3
RTZ Ruatahuna 63.71 129 P P 17 22 56.7 -0.9
H04N2 CROZET ISLANDS 63.88 223 T T 18 33 13.0
baz=82
H04N1 CROZET ISLANDS 63.90 223 T T 18 33 23.9
baz=82
H04N3 CROZET ISLANDS 63.90 223 T T 18 33 31.8
baz=82
KKAR Karatay Array 65.06 327 P P 17 23 05.5 -0.7
UOSS Minazif 65.24 303 P P 17 23 06.1 -1.6
UOSS IAmb IAmb 17 23 08.4
comp=Z,16nm,1.2s
KURBB Kurchatov Arra 66.82 337 P P 17 23 16.8 -0.5
comp=Z,1.6nm,0.8s,baz=154,slow=5.2,SNR=12
KURBB pP pP 17 23 34.9 -1.0
comp=Z,1.4nm,0.8s,baz=152,slow=5.3,SNR=5.8
comp=Z,1.6nm,0.8s
KURK Kurchatov 66.86 337 P P 17 23 17.4 -0.1
MAW Mawson 67.24 199 P P 17 23 21.1 +1.4
comp=Z,3.5nm,0.6s,baz=68,slow=6.2,SNR=18
comp=Z,3.5nm,0.6s
ZAA0 Zalesovo Array 67.39 342 P 17 23 19.9 -0.9
ZAA0 IAmb IAmb 17 23 21.0
comp=Z,4.5nm,0.8s
ZALV Zalesovo Beam 67.39 342 P 17 23 19.7 -1.1
ZALV Zalesovo Beam 67.39 342 P P 17 23 20.4 -0.4
comp=Z,2.4nm,0.5s,baz=144,slow=4.3,SNR=20
ZALV pP pP 17 23 37.0 -2.4
comp=Z,3.2nm,0.8s,baz=157,slow=4.3,SNR=5.5
comp=Z,2.4nm,0.5s
BVAR Borovoye Array 71.97 334 P P 17 23 49.0 0.0
comp=Z,1.9nm,0.9s,baz=147,slow=8.9,SNR=5.7
BVAR pP PcP 17 24 06.6 -0.7
comp=Z,2.6nm,0.8s,baz=130,slow=6.0,SNR=6.7
comp=Z,1.9nm,0.9s
PETK Petropavlovsk- 72.56 26 P P 17 23 51.9 -0.7
comp=Z,4.4nm,0.9s,baz=217,slow=9.1,SNR=3.5
comp=Z,4.4nm,0.9s
VNDA Vanda 72.70 170 P P 17 23 54.7 +1.6
comp=Z,1.3nm,0.7s,baz=295,slow=5.9,SNR=6.0
comp=Z,1.3nm,0.7s
RAYN Ar Rayn 73.87 298 P 17 24 00.2 -0.8
AB31 Akbulak array 74.62 327 P P 17 24 04.5 -0.2
AB31 IAmb IAmb 17 24 05.6
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 74.62 327 P 17 24 04.7 0.0
SYO Syowa Base 75.70 201 ⇑*e*PcP P 17 24 12.0 +1.4
SYO Syowa Base 75.70 201 ⇓*e*PcP PcP 17 24 24.0 +1.0
KMBO Kilima Mbogo 76.17 271 P P 17 24 15.0 +0.3
comp=Z,1.4nm,0.3s,baz=151,slow=13,SNR=3.6
KMBO pP pP 17 24 33.5 +0.1
comp=Z,2.1nm,0.3s,baz=82,slow=18,SNR=2.8
KMBO LR LR 17 53 30.2
comp=Z,41nm,21.5s,baz=102,slow=32
comp=Z,1.4nm,0.3s
AKTO Aktyubinsk 76.31 327 P P 17 24 14.4 0.0
comp=Z,1.0nm,0.4s,baz=78,slow=6.0,SNR=4.2
AKTO pP pP 17 24 32.2 -1.0
comp=Z,1.9nm,0.7s,baz=100,slow=8.5,SNR=3.1
comp=Z,1.0nm,0.4s
ARTI Arti 79.46 332 P P 17 24 30.6 -1.1
comp=Z,2.4nm,0.5s,baz=140,slow=3.7,SNR=4.5
comp=Z,2.4nm,0.5s
QSPA South Pole Qui 80.81 180 P P 17 24 40.9 +1.9
comp=Z,1.9nm,0.9s,baz=254,slow=1.6,SNR=3.9
comp=Z,1.9nm,0.9s
TIXI Tiksi 81.31 5 P 17 24 40.6 -0.7
TIXI IAmb IAmb 17 24 42.3
comp=Z,7.5nm,1.0s
KBZ Khabaz 82.56 316 P P 17 24 49.0 +0.5
comp=Z,3.9nm,0.9s,baz=95,slow=1.9,SNR=4.9
comp=Z,3.9nm,0.9s
MREMI Moremi 82.84 248 P 17 24 51.1 +0.5
BELG Belogornoye 82.95 326 P P 17 24 50.6 +0.4
comp=Z,4.2nm,0.8s,baz=189,slow=2.4,SNR=3.3
comp=Z,4.2nm,0.8s
LSZ Lusaka 83.07 256 P 17 24 52.5 +0.6
BOSA Boshof 84.07 242 P P 17 24 58.6 +1.8
comp=Z,3.4nm,0.8s,baz=118,slow=6.9,SNR=5.3
BOSA pP pP 17 25 16.5 +0.7
comp=Z,1.1nm,0.6s,baz=119,slow=9.4,SNR=2.6
BOSA LR LR 18 02 33.1
comp=Z,36nm,18.1s,baz=44,slow=36
comp=Z,3.4nm,0.8s
GHAJ Ghor Haditha 84.50 303 P P 17 24 59.4 +0.7
MMAI Mount Meron Ar 85.05 304 P P 17 25 02.4 +0.8
comp=Z,4.3nm,0.8s,baz=171,slow=12,SNR=5.8
comp=Z,4.3nm,0.8s
TROLL Troll, Antarti 87.63 197 ⇑P P 17 25 11.3 -2.3
comp=Z,71nm,1.1s
BR131 Keskin Array S 88.04 311 P P 17 25 16.1 0.0
BR131 IAmb IAmb 17 25 17.5
comp=Z,5.7nm,0.8s
BRTR Keskin Array B 88.04 311 P 17 25 15.6 -0.5
BRTR Keskin Array B 88.04 311 P P 17 25 16.4 +0.3
comp=Z,3.5nm,0.8s,baz=139,slow=6.8,SNR=18
BRTR pP pP 17 25 34.8 -0.4
comp=Z,1.5nm,0.7s,baz=133,slow=7.0,SNR=4.4
comp=Z,3.5nm,0.8s
QNGWA Qangwa 89.07 250 P P 17 25 22.1 +0.7
QNGWA IAmb IAmb 17 25 24.4
comp=Z,5.0nm,0.9s
SNAA Sanae 89.30 196 ⇑P P 17 25 22.7 +1.3
comp=Z,51nm,0.6s
SNAA Sanae 89.30 196 P 17 25 22.0 +0.7
SNAA IAmb IAmb 17 25 24.1
comp=Z,3.1nm,0.8s
SNAA Sanae 89.30 196 P P 17 25 23.0 +1.7
comp=Z,2.1nm,0.6s,baz=166,slow=4.3,SNR=27
comp=Z,2.1nm,0.6s
BELA Belgrano 2 91.27 186 P 17 25 30.6 +0.3
BELA IAmb IAmb 17 25 32.4
comp=Z,3.8nm,0.8s
AKASG Malin Array Be 93.38 321 P P 17 25 39.4 -1.1
comp=Z,1.2nm,0.7s,baz=90,slow=3.9,SNR=4.9
comp=Z,1.2nm,0.7s
FINES FINESS Array B 96.72 331 P P 17 25 55.7 +0.2
comp=Z,2.4nm,0.7s,baz=92,slow=5.7,SNR=6.1
comp=Z,2.4nm,0.7s
PDAR Pinedale Array 129.73 41 PKP **PKPdf** 17 31 35.5 +0.6
comp=Z,0.3nm,0.4s,baz=18,slow=0.9,SNR=4.9
TXAR Lajitas Array 139.91 55 PKhKP PKPpre 17 31 48.0
comp=Z,0.4nm,0.7s,baz=249,slow=3.1,SNR=5.5
TXAR PKP **PKPdf** 17 31 55.2 +1.1
comp=Z,0.5nm,0.7s,baz=336,slow=1.5,SNR=5.1
LPAZ La Paz 154.65 177 PKPab **PKPab** 17 32 44.1 +1.6
comp=Z,5.5nm,0.8s,baz=180,slow=6.8,SNR=12

ISK ***10*** *17:13:52.9, 41.°04N×43.°91E, h5km, ML3.2/10*
DRS ***10*** *17:13:52.6, 40.°95N×43.°58E, h15km*
TIF ***10*** *17:13:52.7, 41.°10N×43.°94E, h10km± 1km*
NSSP ***10*** *17:13:53.5, 41.°07N×43.°97E, h10km, Ms3.1*
AFAD ***10*** *17:13:54.4, 41.°11N×43.°73E, h5km±3km, ML3.3*
MOS ***10*** *17:13:55.4± 1.4, 41.°09N×43.°95E, h18km, mb4.1/1, Error ellipse: s-maj=6.5km s-min=4.4km az=81.9*

ISC 10 17:13:51.9±1.1, **41.°08N**±0.°01×**43.°92E**±0.°01, **h5**km±10km, **n99,σ1°11**/163, **15C-9D, Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMOZ	**Kamo**	**0.26**	**175**	⇓*i*P	**Pb**	**17 13 59.4**	**+0.1**
KMOZ				⇓*i*S	**Sb**	**17 14 03.4**	**-0.7**
BGD	**Bogdanovka**	**0.30**	**307**	P	**Pb**	**17 13 60.0**	**-0.1**
BGD				S	**Sb**	**17 14 05.0**	**-0.4**
BGD	**Bogdanovka**	**0.30**	**307**	PG	**Pb**	**17 13 59.9**	**-0.1**
SRTK	**Saratovka**	**0.30**	**93**	⇑*i*P	**Pb**	**17 13 59.7**	**-0.2**
SRTK				⇑*i*S	**Sb**	**17 14 04.4**	**-0.9**
AKH	**Akhalkalaki**	**0.46**	**316**	P	**Pb**	**17 14 02.4**	**-0.2**
AKH				S	**Sb**	**17 14 08.9**	**-0.9**
AKH	**Akhalkalaki**	**0.46**	**316**	PG	**Pb**	**17 14 02.4**	**-0.2**
EAK	**Akyaka**	**0.46**	**211**	P	**Pb**	**17 14 02.1**	**-0.6**
KZRT	**Kazreti**	**0.47**	**50**	P	**Pg**	**17 14 00.5**	**-0.5**
KZRT				S	**Sg**	**17 14 07.1**	**-0.1**
KZRT	**Kazreti**	**0.47**	**50**	PG	**Pg**	**17 14 00.5**	**-0.5**
TRLG	**Trialeti**	**0.48**	**17**	P	**Pb**	**17 14 02.6**	**-0.3**
TRLG				S	**Sb**	**17 14 09.3**	**-1.0**
TRLG	**Trialeti**	**0.48**	**17**	PG	**Pb**	**17 14 02.6**	**-0.3**
TRLG				S	**Sb**	**17 14 09.3**	**-1.0**
DIGO	**Kars**	**0.79**	**212**	P	**Pb**	**17 14 08.4**	**+0.2**
DIGO				S	**Sb**	**17 14 18.5**	**-0.8**
DIGO				*i* IAML		17 14 20.0	
	comp=N,3µm,0.5s						
DIGO				*i* IAML		17 14 23.0	
	comp=E,4µm,0.6s						
ARUZ	**Aruch**	**0.81**	**171**	⇓*i*P	**Pb**	**17 14 08.8**	**+0.3**
ARUZ				⇑*i*S	**Sb**	**17 14 20.2**	**+0.4**
BOZK	**Kars-Merkez-Bo**	**0.87**	**236**	P	**Pb**	**17 14 09.9**	**+0.3**
BOZK				S	**Sb**	**17 14 21.3**	**-0.3**
BTNK	**Botanikuri**	**0.89**	**47**	PG	**Pb**	**17 14 10.1**	**+0.2**
BTNK				S	**Sb**	**17 14 22.4**	**+0.2**
TBLG	**Delisi**	**0.89**	**43**	P	**Pb**	**17 14 09.9**	**0.0**
TBLG				S	**Sb**	**17 14 22.4**	**+0.3**
TBLG	**Delisi**	**0.89**	**43**	PG	**Pb**	**17 14 09.9**	**0.0**
TBLG				S	**Sb**	**17 14 22.4**	**+0.3**
METS	**Metsamor**	**0.94**	**173**	*e*P	**Pn**	**17 14 11.8**	**0.0**
METS				*e*S	**Sn**	**17 14 24.6**	**-1.0**
SEAG	**Tbilisi Sea**	**0.95**	**44**	PG	**Pn**	**17 14 11.2**	**-0.8**
KAPZ	**Kaputan**	**0.96**	**142**	⇓*i*P	**Pn**	**17 14 11.7**	**-0.6**
KAPZ				⇑*i*S	**Sb**	**17 14 24.0**	**-0.3**
KAPZ	**Kaputan**	**0.96**	**142**	PG	**Pn**	**17 14 12.1**	**-0.2**
LSVT	**Lusahovit**	**0.97**	**99**	⇑*i*P	**Pb**	**17 14 11.3**	**0.0**
LSVT				⇑*i*S	**Sb**	**17 14 24.5**	**0.0**
VNNZ	**Vanand**	**0.98**	**184**	⇓*i*P	**Pn**	**17 14 12.0**	**-0.4**
VNNZ				⇑*i*S	**Sn**	**17 14 26.0**	**-0.7**
AHAN	**Ardahan-Merkez**	**0.98**	**275**	P	**Pb**	**17 14 11.6**	**+0.1**
AHAN				S	**Sg**	**17 14 23.0**	**-0.5**
AHAN				*i* IAML		17 14 26.0	
	comp=N,875nm,0.5s						
AHAN				*i* IAML		17 14 26.0	
	comp=E,2µm,0.5s						
EPOS	**Posof**	**0.99**	**295**	P	**Pb**	**17 14 11.6**	**-0.1**
EPOS				S	**Sg**	**17 14 22.8**	**-1.1**
EPOS				*i* IAML		17 14 26.0	
	comp=E,671nm,0.4s						
EPOS				*i* IAML		17 14 27.0	
	comp=N,1µm,0.5s						
GOLE	**Ardahan-G¶le**	**1.03**	**257**	P	**Pg**	**17 14 12.1**	**+0.4**
GOLE				S	**Sb**	**17 14 27.1**	**+0.8**
GOLE				*i* IAML		17 14 30.0	
	comp=E,587nm,0.4s						
ALIG	**Mtskhetisjvari**	**1.04**	**349**	PG	**Pn**	**17 14 12.7**	**-0.6**
GNI	**Garni**	**1.12**	**146**	Pn	**Pn**	**17 14 14.8**	**+0.4**
GNI				Sn	**Sn**	**17 14 31.2**	**+0.9**
GNI	**Garni**	**1.12**	**146**	⇑*i*P	**Pn**	**17 14 15.0**	**+0.5**
GNI				⇑*i*S	**Sn**	**17 14 30.4**	**+0.1**
GNI	**Garni**	**1.12**	**146**	*de*PG	**Pn**	**17 14 14.9**	**+0.5**
GNI				*i* S	**Sn**	**17 14 30.5**	**+0.1**
GNI				pmax	pmax		
	comp=Z,207nm,0.4s						
GNI				smax	smax		
	comp=Z,1.0nm,0.5s						
TASB	**TASBURUN-IGDIR**	**1.12**	**167**	Pn	**Pn**	**17 14 14.5**	**+0.1**
TASB				Sn	**Sn**	**17 14 30.6**	**+0.4**
DGRG	**David-gareji**	**1.16**	**71**	P	**Pn**	**17 14 15.3**	**+0.5**
DGRG				S	**Sn**	**17 14 32.7**	**+1.7**
DGRG	**David-gareji**	**1.16**	**71**	PG	**Pn**	**17 14 15.3**	**+0.5**
DGRG				S	**Sn**	**17 14 32.7**	**+1.7**
SENK	**Senkaya-Erzuru**	**1.30**	**247**	Pn	**Pg**	**17 14 18.2**	**+1.3**
GHRG	**Ghorjomi**	**1.35**	**299**	P	**Pg**	**17 14 18.4**	**+0.4**
GHRG				S	**Sn**	**17 14 36.6**	**+0.4**
TKB	**Tkibuli**	**1.45**	**332**	P	**Pg**	**17 14 20.2**	**+0.6**
TKB				S	**Sg**	**17 14 39.6**	**+1.2**
TKB	**Tkibuli**	**1.45**	**332**	PG	**Pg**	**17 14 20.2**	**+0.6**
TKB				S	**Sg**	**17 14 39.6**	**+1.2**
GARIG	**Gari**	**1.56**	**348**	P	**Pg**	**17 14 21.9**	**+0.1**
GARIG				S	**Sg**	**17 14 44.1**	**+2.1**
DDEM	**Demirkent**	**1.65**	**264**	P	**Pb**	**17 14 23.3**	**+0.4**
AGRB	**Hanur-Agry**	**1.66**	**206**	Pn	**Pg**	**17 14 24.4**	**+0.6**
DBAD	**Bademkaya**	**1.68**	**269**	P	**Sn**	**17 14 43.9**	**-0.2**
AYRK	**Ayrk**	**1.72**	**124**	⇓*i*P	**Pg**	**17 14 25.2**	**+0.3**
AYRK				⇓*i*S	**Sg**	**17 14 48.4**	**+1.2**
DBOC	**Borcka**	**1.72**	**280**	P	**Pb**	**17 14 23.8**	**-0.2**
DBOC				S	**Sb**	**17 14 45.8**	**-0.1**
DBOC				*i* IAML		17 14 47.0	
	comp=Z,258nm,0.4s						

LACR	**Lac**	**1.77**	**9**	*i*	PN		**Pg**	**17 14 26.0**	**+0.2**
LACR					S		**Sg**	**17 14 49.7**	**+1.0**
BCA	**Borcka**	**1.77**	**283**		Pn		**Pg**	**17 14 25.5**	**-0.4**
VAYK	**Vayk**	**1.80**	**140**	*i*	P		**Pg**	**17 14 27.1**	**+0.6**
VAYK				*i*	S		**Sg**	**17 14 50.6**	**+0.8**
SHTL	**Shatili**	**1.82**	**30**		P		**Pg**	**17 14 26.9**	**0.0**
SHTL					S		**Sg**	**17 14 51.2**	**+0.6**
SHTL	**Shatili**	**1.82**	**30**		PN		**Pg**	**17 14 26.8**	**0.0**
SHTL					S		**Sg**	**17 14 51.1**	**+0.6**
DIGR	**Digorskoe uzhe**	**1.83**	**352**	*e*	PN		**Pg**	**17 14 27.3**	**+0.2**
HOMI	**Horasan**	**1.85**	**237**		P		**Pg**	**17 14 28.0**	**+0.6**
GANJ	**Ganja**	**1.87**	**103**		PN		**Pb**	**17 14 26.2**	**-0.4**
VSHL	**Vashlovani**	**1.88**	**85**		P		**Pg**	**17 14 27.8**	**-0.1**
VSHL					S		**Sg**	**17 14 56.6**	**+4.3**
HOPA	**Hopa-Artvin**	**1.89**	**280**		Pn		**Pb**	**17 14 27.5**	**+0.6**
DORK	**Agr/Tutak/Do**	**1.91**	**208**		P		**Pg**	**17 14 28.4**	**0.0**
KOPR	**Koprukoy-ERZUR**	**1.92**	**236**		Pn		**Pb**	**17 14 27.8**	**+0.4**
KORR	**Kora**	**2.00**	**3**	*e*	PN		**Pg**	**17 14 30.9**	**+0.5**
KORR					S		**Sg**	**17 14 59.1**	**+2.7**
VLKR	**Vladikavkaz**	**2.04**	**16**	*e*	PN		**Pg**	**17 14 32.0**	**+0.9**
VLKR					S		**Sg**	**17 14 59.3**	**+1.7**
TLTR	**Tlyarata**	**2.09**	**60**	*e*	PN		**Pb**	**17 14 30.2**	**-0.2**
TLTR				*e*	S		**Sg**	**17 14 59.2**	**+0.1**
TLTR					pmax	pmax			
	comp=Z,2.0nm,0.5s								
TLTR	**Tlyarata**	**2.09**	**60**	*e*	Pn		**Pb**	**17 14 30.2**	**-0.2**
	comp=Z,2.0nm,0.5s								
TLTR				*e*	Sn		**Sg**	**17 14 59.2**	**+0.1**
	comp=Z,308nm,0.5s								
NAX	**Nakhchivan**	**2.26**	**147**		PN		**Pg**	**17 14 36.7**	**+1.5**
ERZM	**Erzurum**	**2.27**	**240**		P		**Pg**	**17 14 37.2**	**+1.7**
STDR	**Stavd-Durt**	**2.29**	**3**	*e*	PN		**Pg**	**17 14 37.2**	**+1.4**
STDR					S		**Sg**	**17 15 08.8**	**+3.4**
BTLR	**Botlikh**	**2.33**	**47**	*e*	PN		**Pb**	**17 14 34.8**	**+0.3**
BTLR				*e*	S		**Sg**	**17 15 06.6**	**-0.4**
BTLR					pmax	pmax			
	comp=Z,66nm,0.4s								
EJDE	**Erzurum, Palan**	**2.35**	**239**		P		**Pg**	**17 14 37.4**	**+0.4**
NEUR	**Neytrino**	**2.36**	**338**	*i*	PN		**Pg**	**17 14 36.8**	**-0.4**
NEUR					S		**Sg**	**17 15 07.5**	**-0.3**
NEUR					pmax	pmax			
	comp=Z,24nm,0.9s								
NEUR					pmax	pmax			
	comp=Z,31nm,0.7s								
CHOM	**Cayeli-Rize**	**2.39**	**271**		Pn		**Pb**	**17 14 34.8**	**-0.6**
MNGR	**Mingechevir, A**	**2.42**	**96**		PN		**Pb**	**17 14 36.7**	**+0.8**
NCK	**Nalchik**	**2.42**	**354**⇑	*e*	PN		**Pb**	**17 14 36.9**	**+0.9**
SEKA	**Sheki**	**2.48**	**86**		PN		**Pb**	**17 14 36.6**	**-0.4**
DVE	**Vedeno**	**2.49**	**41**	*ce*	PN		**Pb**	**17 14 37.4**	**+0.2**
XNZR	**Khunzakh**	**2.54**	**54**	*e*	Pn		**Pb**	**17 14 37.5**	**-0.6**
	comp=Z,37nm,0.3s								
XNZR					eSn		**Sg**	**17 15 12.5**	**-1.1**
	comp=Z,101nm,0.4s								
HNZR	**Khunzah**	**2.56**	**54**	*e*	PN		**Pb**	**17 14 37.5**	**-0.9**
HNZR					eS		**Sg**	**17 15 12.4**	**-1.7**
HNZR					pmax	pmax			
	comp=Z,37nm,0.3s								
IZDR	**Rize**	**2.56**	**264**		P		**Pb**	**17 14 39.1**	**+0.7**
IZDR					S		**Sb**	**17 15 10.8**	**+0.6**
KMKR	**Kumukh**	**2.60**	**65**	*e*	PN		**Pb**	**17 14 38.0**	**-1.2**
KMKR					eS		**Sg**	**17 15 13.3**	**-2.3**
KMKR					pmax	pmax			
	comp=Z,57nm,0.7s								
KMKR	**Kumukh**	**2.60**	**65**	*e*	Pn		**Pb**	**17 14 38.1**	**-1.2**
	comp=Z,57nm,0.7s								
KMKR					eSn		**Sg**	**17 15 13.3**	**-2.3**
	comp=Z,227nm,0.3s								
UNCR	**Uncukul**	**2.69**	**52**	*e*	PN		**Pb**	**17 14 40.1**	**-0.5**
UNCR					eS		**Sg**	**17 15 16.8**	**-1.7**
UNCR					pmax	pmax			
	comp=Z,39nm,0.5s								
UNCR	**Uncukul**	**2.69**	**52**	*e*	Pn		**Pb**	**17 14 40.1**	**-0.5**
	comp=Z,39nm,0.5s								
UNCR					eSn		**Sg**	**17 15 16.9**	**-1.7**
	comp=Z,242nm,0.6s								
EGVZ	**Egvard**	**2.73**	**132**	⇑*i*	P		**Pg**	**17 14 44.3**	**0.0**
EGVZ				⇑*i*	S		**Sg**	**17 15 19.9**	**+0.1**
KBZ	**Khabaz**	**2.75**	**344**	*ce*	PN		**Pb**	**17 14 40.8**	**-0.8**
ARKR	**Arakani**	**2.75**	**56**	*e*	PN		**Pb**	**17 14 41.0**	**-0.6**
ARKR					eS		**Sg**	**17 15 18.5**	**-1.9**
ARKR					pmax	pmax			
	comp=Z,67nm,0.4s								
ARKR	**Arakani**	**2.75**	**56**	*e*	Pn		**Pb**	**17 14 41.1**	**-0.6**
	comp=Z,67nm,0.4s								
ARKR					eSn		**Sg**	**17 15 18.5**	**-1.9**
	comp=Z,62nm,0.6s								
KRNR	**Karanay**	**2.83**	**51**	*e*	PN		**Pb**	**17 14 41.4**	**-1.5**
KRNR					eS		**Sb**	**17 15 19.0**	**+1.1**
KRNR					pmax	pmax			
	comp=Z,15nm,0.4s								
KRNR	**Karanay**	**2.83**	**51**	*e*	Pn		**Pb**	**17 14 41.5**	**-1.5**
	comp=Z,15nm,0.4s								
KRNR					eSn		**Sb**	**17 15 19.0**	**+1.1**
	comp=Z,65nm,0.7s								
DLMR	**Dylym**	**2.83**	**45**		PN		**Pb**	**17 14 41.3**	**-1.6**
DLMR					S		**Sb**	**17 15 19.0**	**+1.1**
DLMR	**Dylym**	**2.83**	**45**	*e*	Pn		**Pb**	**17 14 41.3**	**-1.6**
	comp=Z,4.0nm,0.6s								
AKDM	**Akdamar-Van**	**2.84**	**195**		Pn		**Pb**	**17 14 40.8**	**-2.5**
AKT	**Akhty**	**2.90**	**81**	*e*	PN		**Pb**	**17 14 42.4**	**-1.8**
AKT				*e*				17 14 48.5	
AKT				*e*				17 14 50.3	
AKT				*e*	S		**Sb**	**17 15 21.3**	**+1.4**
AKT				*e*				17 15 30.8	
AKT					pmax	pmax			
	comp=Z,47nm,0.3s								
AKT					smax	smax			
	comp=N,112nm,0.3s								
AKT					smax	smax			
	comp=E,106nm,0.4s								
AKT					smax	smax			
	comp=E,113nm,0.5s								
AKT	**Akhty**	**2.90**	**81**	*e*	Pn		**Pb**	**17 14 41.9**	**-2.3**
	comp=E,47nm,0.3s								
AKT					eSn		**Sb**	**17 15 20.4**	**+0.4**
	comp=E,95nm,0.3s								
BAYB	**BAYBURT**	**2.91**	**255**		P		**Pg**	**17 14 46.5**	**-1.1**
BAYT	**Aydıntepe-Bayb**	**2.95**	**258**		Pn		**Pb**	**17 14 42.8**	**-2.3**
URKR	**Urkarakh**	**2.99**	**68**	*e*	PN		**Pb**	**17 14 43.3**	**-2.4**
URKR					eS		**Sb**	**17 15 22.5**	**0.0**
URKR					pmax	pmax			
	comp=Z,91nm,0.5s								
KIV	**Kislovodsk**	**3.01**	**343**		Pn		**Pb**	**17 14 44.4**	**-1.7**
MACK	**Trabzon**	**3.14**	**269**		P		**Pb**	**17 14 49.2**	**+0.9**
ARXR	**Arkhyz**	**3.16**	**323**‖	*e*	PN		**Pb**	**17 14 49.8**	**+1.2**
ARXR					eS		**Sg**	**17 15 34.0**	**+0.5**
ARXR					pmax	pmax			
	comp=Z,73nm,0.9s								
ARXR					smax	smax			
	comp=Z,182nm,0.8s								
KSMR	**Kasumkent**	**3.21**	**79**	*e*	PN		**Pb**	**17 14 47.7**	**-1.7**
KSMR					eS		**Sb**	**17 15 29.7**	**+0.9**
KSMR					pmax	pmax			
	comp=Z,108nm,0.2s								
KSMR	**Kasumkent**	**3.21**	**79**	*e*	Pn		**Pb**	**17 14 47.8**	**-1.7**
	comp=Z,108nm,0.2s								
KSMR					eSn		**Sb**	**17 15 29.7**	**+0.9**
	comp=Z,295nm,0.4s								
SOC	**Sochi**	**3.99**	**310**	*e*	PN		**Pb**	**17 14 59.4**	**-3.4**
SOC				*e*	PPP	PPP		17 15 14.7	
SOC				*e*				17 15 47.7	
SOC				*e*	SS		**Sg**	**17 15 58.2**	**-2.0**
SOC					MLR	MLR			
	comp=Z,57nm,15.0s								
GOF	**Gofitskoye**	**4.03**	**351**	*ce*	PN		**Pg**	**17 15 10.7**	**+1.7**
ANN	**Anapa**	**6.04**	**310**	*e*	P		**Pn**	**17 15 21.0**	**-0.8**
ANN					pmax	pmax			
	comp=Z,69nm,1.0s								

NSSP ***10*** *17:16:34.8, 41°.05N×43°.95E, h10km, Ms3.0*
AFAD ***10*** *17:16:34.8, 41°.05N×43°.87E, h4km±4km, ML3.1*
TIF ***10*** *17:16:34.1, 41°.09N×43°.92E, h9km± 1km*
ISK ***10*** *17:16:34.1, 41°.04N×43°.90E, h5km, ML3.2/9*
MOS ***10*** *17:16:35.6±1.8, 41°.05N×43°.89E, h15km, mb3.9/1, Error ellipse: s-maj=7.2km s-min=4.7km az=71.1*
DRS ***10*** *17:16:36.0, 40°.88N×43°.96E, h4km*
AZER ***10*** *17:16:39.3, 41°.02N×44°.26E, h2km, ml3.3*
ISC 10 17:16:33.8±1.1, 41°.10N±0°.01×43°.93E±0°.01, h4km±10km, n118, σ1§22/201, 4C-3D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMOZ	**Kamo**	**0.28**	**176**	*eP*		**Pb**	**17 16 40.7**	**-0.7**
KMOZ				*eS*		**Sb**	**17 16 44.9**	**-1.6**
BGD	**Bogdanovka**	**0.30**	**304**	P		**Pb**	**17 16 41.4**	**-0.4**
BGD				S		**Sb**	**17 16 46.3**	**-0.9**
BGD	**Bogdanovka**	**0.30**	**304**	PG		**Pb**	**17 16 41.4**	**-0.4**
BGD				S		**Sb**	**17 16 46.3**	**-0.9**
SRTK	**Saratovka**	**0.30**	**96**	*eP*		**Pb**	**17 16 41.2**	**-0.6**
SRTK				*eS*		**Sb**	**17 16 45.7**	**-1.5**
AKH	**Akhalkalaki**	**0.45**	**314**	P		**Pb**	**17 16 43.9**	**-0.6**
AKH				S		**Sb**	**17 16 50.4**	**-1.2**
AKH	**Akhalkalaki**	**0.45**	**314**	PG		**Pb**	**17 16 43.8**	**-0.6**
AKH				S		**Sb**	**17 16 50.3**	**-1.2**
KZRT	**Kazreti**	**0.46**	**51**	P		**Pg**	**17 16 42.0**	**-0.6**
KZRT				S		**Sg**	**17 16 48.7**	**0.0**
KZRT	**Kazreti**	**0.46**	**51**	PG		**Pg**	**17 16 42.0**	**-0.6**
TRLG	**Trialeti**	**0.46**	**17**	P		**Pb**	**17 16 44.2**	**-0.4**
TRLG				S		**Sb**	**17 16 50.9**	**-1.0**
TRLG	**Trialeti**	**0.46**	**17**	PG		**Pb**	**17 16 44.2**	**-0.4**
EAK	**Akyaka**	**0.48**	**211**	P		**Pg**	**17 16 43.6**	**+0.6**
DIGO	**Kars**	**0.80**	**212**	P		**Pg**	**17 16 49.4**	**+0.2**
DIGO				S		**Sg**	**17 16 59.5**	**-0.1**
DIGO				*i*	IAML		17 17 01.0	
	comp=N,3μm,0.5s							
DIGO				*i*	IAML		17 17 02.0	
	comp=E,5μm,0.4s							
ARUZ	**Aruch**	**0.82**	**171**	*eP*		**Pg**	**17 16 50.0**	**+0.5**
ARUZ				*eS*		**Sb**	**17 17 01.6**	**-0.6**
BTNK	**Botanikuri**	**0.88**	**48**	PG		**Pb**	**17 16 51.4**	**-0.2**
BTNK				S		**Sb**	**17 17 03.9**	**+0.2**
TBLG	**Delisi**	**0.88**	**44**	P		**Pb**	**17 16 51.5**	**-0.1**
TBLG				S		**Sb**	**17 17 03.9**	**+0.2**
TBLG	**Delisi**	**0.88**	**44**	PG		**Pb**	**17 16 51.5**	**-0.1**
TBLG				S		**Sb**	**17 17 03.9**	**+0.2**
BOZK	**Kars-Merkez-Bo**	**0.88**	**235**	P		**Pg**	**17 16 50.9**	**+0.2**
BOZK				S		**Sb**	**17 17 03.7**	**-0.3**
BOZK				*i*	IAML		17 17 05.0	
	comp=N,489nm,0.3s							
SEAG	**Tbilisi Sea**	**0.94**	**44**	P		**Pb**	**17 16 52.8**	**+0.2**
SEAG				S		**Sb**	**17 17 06.2**	**+0.7**
SEAG	**Tbilisi Sea**	**0.94**	**44**	PG		**Pb**	**17 16 52.8**	**+0.2**
SEAG				S		**Sb**	**17 17 06.1**	**+0.7**
METS	**Metsamor**	**0.95**	**173**	*eP*		**Pb**	**17 16 52.5**	**-0.4**
METS				*eS*		**Sg**	**17 17 05.1**	**+0.7**
KAPZ	**Kaputan**	**0.97**	**143**	*eP*		**Pb**	**17 16 53.1**	**-0.2**
KAPZ				*eS*		**Sb**	**17 17 06.2**	**-0.3**
KAPZ	**Kaputan**	**0.97**	**143**	PG		**Pb**	**17 16 53.5**	**+0.2**
LSVT	**Lusahovit**	**0.97**	**100**	*eP*		**Pg**	**17 16 52.8**	**+0.3**
LSVT				*eS*		**Sb**	**17 17 06.2**	**-0.3**
AHAN	**Ardahan-Merkez**	**0.99**	**274**	P		**Pb**	**17 16 53.4**	**-0.2**
AHAN				S		**Sb**	**17 17 06.6**	**-0.4**
AHAN				*i*	IAML		17 17 08.0	
	comp=E,1μm,0.5s							
AHAN				*i*	IAML		17 17 10.0	
	comp=N,766nm,0.4s							
EPOS	**Posof**	**0.99**	**295**	P		**Pb**	**17 16 53.5**	**-0.1**
EPOS				S		**Sg**	**17 17 05.4**	**-0.2**
EPOS				*i*	IAML		17 17 08.0	
	comp=E,494nm,0.4s							
VNNZ	**Vanand**	**1.00**	**185**	*eP*		**Pg**	**17 16 53.2**	**+0.3**
VNNZ				*eS*		**Sg**	**17 17 06.4**	**+0.6**
ALIG	**Mtskhetisjvari**	**1.03**	**348**	PG		**Pb**	**17 16 54.2**	**0.0**
GOLE	**Ardahan-Gʈle**	**1.04**	**256**	P		**Pb**	**17 16 54.5**	**0.0**
GOLE				S		**Sb**	**17 17 08.8**	**+0.3**
GOLE				*i*	IAML		17 17 10.0	
	comp=E,703nm,0.2s							
QZX	**Qazax, Azerbai**	**1.09**	**92**	P		**Pb**	**17 16 55.2**	**-0.1**
QZX				S		**Sn**	**17 17 10.6**	**-0.9**
GNI	**Garni**	**1.13**	**147**	Pn		**Pn**	**17 16 56.3**	**-0.3**
GNI				Sn		**Sn**	**17 17 12.4**	**-0.2**
GNI	**Garni**	**1.13**	**147**⇑	⇑*P*		**Pn**	**17 16 56.3**	**-0.3**
GNI				⇑*S*		**Sn**	**17 17 12.3**	**-0.2**
GNI	**Garni**	**1.13**	**147**	*ce*	PG	**Pb**	**17 16 56.0**	**0.0**
GNI				*i*	S	**Sn**	**17 17 12.3**	**-0.3**
GNI					pmax	pmax		
	comp=Z,163nm,0.5s							
GNI					smax	smax		
	comp=Z,1.0nm,0.5s							
TASB	**TASBURUN-IGDIR**	**1.14**	**168**	Pn		**Pg**	**17 16 55.7**	**+0.1**
TASB				Sn		**Sn**	**17 17 12.1**	**-0.5**
DGRG	**David-gareji**	**1.15**	**72**	P		**Pn**	**17 16 56.8**	**+0.2**
DGRG				S		**Sn**	**17 17 14.2**	**+1.3**
DGRG	**David-gareji**	**1.15**	**72**	PG		**Pn**	**17 16 56.8**	**+0.2**
DGRG				S		**Sn**	**17 17 14.1**	**+1.3**
IGDI	**IGDIR**	**1.23**	**175**	P		**Pg**	**17 16 56.7**	**-0.8**
IGDI				S		**Sg**	**17 17 12.5**	**-0.9**
IGDI				*i*	IAML		17 17 14.0	
	comp=Z,305nm,0.3s							
IGDI	**IGDIR**	**1.23**	**175**	P		**Pg**	**17 16 56.6**	**-0.8**
IGDI				S		**Sg**	**17 17 13.5**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.31**	**246**	Pn		**Pg**	**17 16 59.0**	**+0.1**
SENK				Sn		**Sn**	**17 17 17.9**	**+0.8**
KOTA	**Agri, Merkez-K**	**1.41**	**203**	P		**Pg**	**17 17 01.4**	**+0.6**
GUDG	**Gudauri**	**1.43**	**17**	P		**Pg**	**17 17 01.6**	**+0.4**
GUDG				S		**Sg**	**17 17 21.4**	**+1.7**
GUDG	**Gudauri**	**1.43**	**17**	PG		**Pg**	**17 17 01.6**	**+0.4**
GUDG				S		**Sg**	**17 17 21.3**	**+1.7**
TKB	**Tkibuli**	**1.43**	**331**	P		**Pg**	**17 17 01.7**	**+0.4**
TKB				S		**Sg**	**17 17 21.1**	**+1.3**
TKB	**Tkibuli**	**1.43**	**331**	PG		**Pg**	**17 17 01.7**	**+0.4**
TKB				S		**Sg**	**17 17 21.1**	**+1.3**
GDB	**GEDABAY**	**1.44**	**105**	P		**Pn**	**17 17 00.5**	**-0.3**
GDB				S		**Sb**	**17 17 19.3**	**-0.5**
GARIG	**Gari**	**1.54**	**347**	P		**Pg**	**17 17 03.6**	**+0.3**
GARIG				S		**Sg**	**17 17 25.3**	**+1.9**
HYR	**Heyderabad**	**1.55**	**153**	P		**Pb**	**17 17 03.2**	**+0.1**
HYR				S		**Sg**	**17 17 24.9**	**+1.3**
EATA	**Eleskirt**	**1.65**	**222**	P		**Pb**	**17 17 04.8**	**-0.2**
DDEM	**Demirkent**	**1.66**	**264**	P		**Pg**	**17 17 05.4**	**-0.2**
AGRB	**Hanur-Agry**	**1.68**	**205**	Pn		**Pb**	**17 17 05.5**	**+0.1**
DBOC	**Borcka**	**1.72**	**279**	P		**Pb**	**17 17 05.4**	**-0.6**
DBOC				S		**Sn**	**17 17 26.6**	**-0.3**
AYRK	**Ayrk**	**1.72**	**124**	*eP*		**Pb**	**17 17 06.5**	**+0.3**
AYRK				*eS*		**Sb**	**17 17 28.3**	**+0.1**
LACR	**Lac**	**1.75**	**9**	*i*	PN	**Pg**	**17 17 07.2**	**-0.1**
LACR				S		**Sg**	**17 17 31.3**	**+1.3**
BCA	**Borcka**	**1.77**	**282**	Pn		**Pb**	**17 17 06.7**	**-0.1**
SHTL	**Shatili**	**1.81**	**30**	P		**Pg**	**17 17 08.2**	**-0.3**
SHTL				S		**Sg**	**17 17 32.6**	**+0.7**
SHTL	**Shatili**	**1.81**	**30**	PN		**Pg**	**17 17 08.1**	**-0.3**
VAYK	**Vayk**	**1.81**	**140**	*i*	P	**Pg**	**17 17 08.2**	**-0.3**
VAYK				*i*	S	**Sg**	**17 17 32.2**	**+0.2**
HOMI	**Horasan**	**1.86**	**236**	P		**Pg**	**17 17 10.0**	**+0.4**
GANJ	**Ganja**	**1.87**	**103**	P		**Pb**	**17 17 07.8**	**-0.8**
GANJ				S		**Sb**	**17 17 32.5**	**+0.2**
GANJ	**Ganja**	**1.87**	**103**	PN		**Pb**	**17 17 07.7**	**-0.8**
VSHL	**Vashlovani**	**1.87**	**85**	P		**Pg**	**17 17 09.3**	**-0.4**
VSHL				S		**Sg**	**17 17 36.9**	**+2.9**
KOPR	**Koprukoy-ERZUR**	**1.93**	**236**	Pn		**Pb**	**17 17 09.5**	**-0.1**
KORR	**Kora**	**1.99**	**3**	*e*	PN	**Pg**	**17 17 12.5**	**+0.6**
KORR				S		**Sg**	**17 17 40.9**	**+3.2**
TLTR	**Tlyarata**	**2.08**	**60**	*e*	PN	**Pb**	**17 17 11.7**	**-0.4**
TLTR				*e*	S	**Sg**	**17 17 39.7**	**-0.9**
TLTR					pmax	pmax		
	comp=Z,1.0nm,0.5s							
TLTR	**Tlyarata**	**2.08**	**60**	*e*	Pg	**Pb**	**17 17 11.8**	**-0.4**
	comp=Z,1.0nm,0.5s							
TLTR				*e*	Sg	**Sg**	**17 17 39.7**	**-0.9**
	comp=Z,183nm,0.6s							
ZKTA	**Zakatala**	**2.10**	**74**	P		**Pb**	**17 17 11.6**	**-0.8**
ZKTA				S		**Sg**	**17 17 41.8**	**+0.6**
SBZ	**Shahbuz**	**2.11**	**143**	P		**Pb**	**17 17 13.2**	**+0.6**
SBZ				S		**Sg**	**17 17 42.0**	**+0.5**
NAX	**Nakhchivan**	**2.27**	**147**	P		**Pg**	**17 17 19.5**	**+2.3**
NAX				S		**Sg**	**17 17 47.0**	**+0.4**
BTLR	**Botlikh**	**2.32**	**47**	*e*	PN	**Pb**	**17 17 16.8**	**+0.6**
BTLR				*e*	S	**Sg**	**17 17 48.2**	**-0.1**
BTLR					pmax	pmax		
	comp=Z,55nm,0.4s							
BTLR	**Botlikh**	**2.32**	**47**	*e*	Pn	**Pb**	**17 17 16.9**	**+0.6**
	comp=Z,55nm,0.4s							
BTLR				*e*	Sn	**Sg**	**17 17 48.3**	**-0.1**
	comp=Z,214nm,0.6s							
NEUR	**Neytrino**	**2.35**	**338**	*e*	PN	**Pg**	**17 17 18.6**	**-0.2**
NEUR				S		**Sg**	**17 17 49.3**	**+0.1**
NEUR					pmax	pmax		
	comp=Z,20nm,0.9s							
NEUR					pmax	pmax		
	comp=Z,22nm,0.4s							
EJDE	**Erzurum, Palan**	**2.37**	**239**	P		**Pg**	**17 17 19.0**	**-0.2**
CHOM	**Cayeli-Rize**	**2.39**	**271**	Pn		**Pb**	**17 17 15.5**	**-1.9**
NCK	**Nalchik**	**2.41**	**354**‖	*e*	PN	**Pb**	**17 17 16.9**	**-0.8**
MNGR	**Mingechevir, A**	**2.42**	**97**	P		**Pb**	**17 17 18.1**	**+0.3**
MNGR				S		**Sg**	**17 17 53.5**	**+2.2**
MNGR	**Mingechevir, A**	**2.42**	**97**	PN		**Pb**	**17 17 18.0**	**+0.3**
SEKA	**Sheki**	**2.47**	**86**	P		**Pb**	**17 17 18.0**	**-0.9**
SEKA				S		**Sg**	**17 17 52.8**	**-0.5**
SEKA	**Sheki**	**2.47**	**86**	PN		**Pb**	**17 17 17.9**	**-0.9**
DVE	**Vedeno**	**2.48**	**41**‖	*e*	PN	**Pb**	**17 17 19.1**	**+0.2**
DVE				*e*	S	**Sg**	**17 17 53.6**	**+0.2**
DVE					pmax	pmax		
	comp=Z,79nm,0.6s							
ETEKE	**Tekederesi - E**	**2.50**	**239**	P		**Pg**	**17 17 20.5**	**-1.1**
XNZR	**Khunzakh**	**2.53**	**54**	*e*	Pn	**Pb**	**17 17 19.5**	**-0.3**
	comp=Z,28nm,0.3s							
XNZR				*e*	Sn	**Sg**	**17 17 53.2**	**-1.9**
	comp=Z,71nm,0.6s							
HNZR	**Khunzah**	**2.54**	**54**	*e*	PN	**Pb**	**17 17 19.5**	**-0.6**
HNZR				*e*	S	**Sb**	**17 17 53.1**	**+1.3**
HNZR					pmax	pmax		
	comp=Z,28nm,0.3s							
IZDR	**Rize**	**2.57**	**264**	P		**Pb**	**17 17 20.6**	**+0.2**
KMKR	**Kumukh**	**2.59**	**66**	*e*	PN	**Pb**	**17 17 19.7**	**-1.2**
KMKR				*e*	S	**Sb**	**17 17 53.3**	**+0.1**
KMKR					pmax	pmax		
	comp=Z,54nm,0.5s							
KMKR	**Kumukh**	**2.59**	**66**	*e*	Pn	**Pb**	**17 17 19.7**	**-1.2**
	comp=Z,54nm,0.5s							
KMKR				*e*	Sn	**Sb**	**17 17 53.4**	**+0.1**
	comp=Z,110nm,0.3s							
BRDA	**Brd**	**2.61**	**108**	P		**Pb**	**17 17 22.4**	**+1.3**
AGDM	**Agdam**	**2.62**	**111**	P		**Pb**	**17 17 21.9**	**+0.6**
AGDM				S		**Sg**	**17 17 57.1**	**-0.7**
UNCR	**Uncukul**	**2.68**	**52**	*e*	PN	**Pb**	**17 17 21.5**	**-0.8**
UNCR				*e*	S	**Sb**	**17 17 56.9**	**+1.3**
UNCR					pmax	pmax		
	comp=Z,30nm,0.4s							
UNCR	**Uncukul**	**2.68**	**52**	*e*	Pn	**Pb**	**17 17 21.6**	**-0.8**
	comp=Z,30nm,0.4s							
UNCR				*e*	Sn	**Sb**	**17 17 57.0**	**+1.3**
	comp=Z,181nm,0.6s							
ORD	**Ordubad**	**2.69**	**143**	P		**Pg**	**17 17 24.6**	**-0.7**
ORD				S		**Sg**	**17 17 58.9**	**-1.2**
KBZ	**Khabaz**	**2.74**	**344**⇑	*e*	PN	**Pb**	**17 17 23.5**	**+0.3**
ARKR	**Arakani**	**2.74**	**56**	*e*	PN	**Pb**	**17 17 22.7**	**-0.6**
ARKR				*e*	S	**Sb**	**17 17 58.7**	**+1.4**
ARKR					pmax	pmax		
	comp=Z,40nm,0.4s							
ARKR	**Arakani**	**2.74**	**56**	*e*	Pn	**Pb**	**17 17 22.8**	**-0.6**
	comp=Z,40nm,0.4s							
ARKR				*e*	Sn	**Sb**	**17 17 58.8**	**+1.4**
	comp=Z,56nm,0.4s							
EGVZ	**Egvard**	**2.74**	**132**	*eP*		**Pg**	**17 17 25.8**	**-0.6**
EGVZ				*e*	S	**Sg**	**17 18 02.3**	**+0.4**
KRNR	**Karanay**	**2.81**	**51**	*e*	PN	**Pb**	**17 17 23.8**	**-0.8**
KRNR				*e*	S	**Sb**	**17 18 00.8**	**+1.3**
KRNR					pmax	pmax		
	comp=Z,14nm,0.3s							
KRNR	**Karanay**	**2.81**	**51**	*e*	Pn	**Pb**	**17 17 23.8**	**-0.8**
	comp=Z,14nm,0.3s							
KRNR				*e*	Sn	**Sb**	**17 18 00.8**	**+1.3**
	comp=Z,49nm,0.6s							
DLMR	**Dylym**	**2.82**	**45**	PN		**Pb**	**17 17 24.0**	**-0.6**
DLMR				S		**Sb**	**17 18 01.0**	**+1.5**
DLMR	**Dylym**	**2.82**	**45**	*e*	Pn	**Pb**	**17 17 24.1**	**-0.6**
	comp=Z,2.0nm,0.1s							
AKDM	**Akdamar-Van**	**2.86**	**195**	Pn		**Pn**	**17 17 21.9**	**+1.6**

ECSD	**EROS Data Cent**	**4.75**	**218**			**Pn**		**17 29 11.9**	**+1.3**
MDND	**Maddock**	**4.75**	**276**		Pn	**Pn**		**17 29 12.0**	**+1.4**
JFWS	**Jewell Farm**	**4.92**	**160**		Pn	**Pn**		**17 29 12.7**	**-0.3**
JFWS					IAmb_Lg			17 30 32.0	
	comp=Z,20nm,0.8s								
L40A	**Anamosa**	**5.57**	**169**			**Pn**		**17 29 21.3**	**-0.6**
L40A					IAmb_Lg			17 30 52.7	
	comp=Z,26nm,1.0s								
E28A	**Huff**	**5.63**	**263**			**Pn**		**17 29 23.8**	**+1.1**
E28A					IAmb_Lg			17 31 08.4	
	comp=Z,22nm,0.8s								
SCIA	**State Center**	**5.66**	**185**		IAmb_Lg			17 31 09.2	
	comp=Z,22nm,0.8s								
L34A	**Svendsen Farm,**	**6.20**	**207**		Pn	**Pn**		**17 29 30.7**	**+0.2**
N41A	**Harden Midland**	**6.95**	**169**		Pn	**Pn**		**17 29 41.2**	**+0.3**
K30B	**Basset**	**6.96**	**228**		Pn	**Pn**		**17 29 41.5**	**+0.4**
HDIL	**Hopedale**	**7.38**	**160**		Pn	**Pn**		**17 29 48.0**	**+1.2**
PDAR	**Pinedale Array**	**12.89**	**254**		Pn	**Pn**		**17 31 02.2**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=66,slow=13,SNR=2.1								
PDAR					Lg	Lg		17 34 29.4	
	comp=Z,0.2nm,0.3s,baz=64,slow=30,SNR=1.5								

GEN ***10*** *17:29:28.8,44.˙73N×6.˙72E,h2km,Ml1.4*
ROM ***10*** *17:29:29.4±0.2,44.˙740N±0.˙006×6.˙72E±0.˙02,h9km±1km, ML1.7/14, Error ellipse: s-maj=1.0km s-min=0.8km az=263.0*
LDG ***10*** *17:29:29.6±0.1,44.˙74N×6.˙71E,h2km,Md2.3/2,Ml2.4/6, Error ellipse: s-maj=1.6km s-min=1.2km az=60.0*
STR 10 17:29:29.7±0.2,45.˚N±1.˚×˚±˚,h2km,MLv2.3/31,5C-2D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
MBDF	**Montbardon**	**0.03**	**115**	*e*Pg	Pg		17 29 30.6	+0.1
MBDF				*e*Sg	Sg		17 29 31.6	+0.5
	1μm,0.3s							
RRL	**Rocca Remolon**	**0.18**	**14**	P	Pg		17 29 33.6	+0.2
RRL				S	Sg		17 29 37.1	+1.3
RRL	**Rocca Remolon**	**0.18**	**14**	⇓P	Pg		17 29 33.6	+0.2
RRL				S	Sg		17 29 37.1	+1.3
RRL				AML	AML			
	comp=E,280μm,1.0s							
RRL				AML	AML			
	comp=N,296μm,1.4s							
RRL				AML	AML			
	comp=N,296μm,0.6s							
RRL	**Rocca Remolon**	**0.18**	**14**	Pg	Pg		17 29 33.6	+0.2
RRL				Sg	Sg		17 29 37.1	+1.2
SURF	**Saint Ours**	**0.27**	**167**	P	Pg		17 29 34.7	-0.2
SURF				S	Sg		17 29 38.7	+0.4
SURF	**Saint Ours**	**0.27**	**167**	Pg	Pg		17 29 34.7	-0.2
SURF				Sg	Sg		17 29 39.0	+0.6
JAUF	**Jausiers**	**0.31**	**177**	Pg	Pg		17 29 35.4	-0.4
JAUF				Sg	Sg		17 29 40.5	+0.7
BNI	**Bardonecchia**	**0.31**	**353**	P	Pg		17 29 36.1	+0.4
BNI				S	Sg		17 29 40.4	+0.5
BNI	**Bardonecchia**	**0.31**	**353**	P	Pg		17 29 36.2	+0.4
BNI				S	Sg		17 29 41.3	+1.4
OGAG	**Argentiere**	**0.32**	**205**	P	Pg		17 29 32.4	-3.5
OGAG				S	Sg		17 29 34.6	-5.4
OGAG	**Argentiere**	**0.32**	**205**	Pg	Pg		17 29 32.3	-3.5
OGAG				Sg	Sg		17 29 34.9	-5.0
PZZ	**Stroppo**	**0.36**	**130**	P	Pg		17 29 36.8	+0.1
PZZ				S	Sg		17 29 41.8	+0.4
PZZ	**Stroppo**	**0.36**	**130**	⇑P	Pg		17 29 36.8	+0.1
PZZ				S	Sg		17 29 42.1	+0.7
PZZ				AML	AML			
	comp=N,394μm,0.6s							
PZZ				AML	AML			
	comp=E,358μm,0.2s							
PZZ				AML	AML			
	comp=N,394μm,1.4s							
PZZ	**Stroppo**	**0.36**	**130**	Pg	Pg		17 29 36.6	-0.1
PZZ				Sg	Sg		17 29 41.8	+0.4
BHB	**Bricherasio**	**0.39**	**75**	P	Pg		17 29 37.5	+0.3
BHB				S	Sg		17 29 43.0	+0.6
BHB	**Bricherasio**	**0.39**	**75**	⇑P	Pg		17 29 37.4	+0.1
BHB				S	Sg		17 29 43.4	+1.0
BHB				AML	AML			
	comp=E,85μm,0.7s							
BHB				AML	AML			
	comp=N,120μm,0.8s							
BHB	**Bricherasio**	**0.39**	**75**	Pg	Pg		17 29 37.5	+0.2
BHB				Sg	Sg		17 29 43.4	+1.0
RSP	**Reno Superiore**	**0.56**	**43**	P	Pg		17 29 40.9	+0.4
RSP				S	Sg		17 29 48.5	+0.8
RSP	**Reno Superiore**	**0.56**	**43**	⇑P	Pg		17 29 40.9	+0.4
RSP				S	Sg		17 29 48.6	+0.9
RSP				AML	AML			
	comp=N,81μm,1.3s							
RSP				AML	AML			
	comp=E,99μm,0.2s							
RSP				AML	AML			
	comp=N,81μm,0.7s							
RSP	**Reno Superiore**	**0.56**	**43**	Pg	Pg		17 29 40.7	+0.3
RSP				Sg	Sg		17 29 48.4	+0.8
ISO	**Isola**	**0.60**	**157**	P	Pg		17 29 41.6	+0.3
ISO				S	Sg		17 29 49.7	+0.6
ISO	**Isola**	**0.60**	**157**	Pg	Pg		17 29 41.1	-0.2
ISO				Sg	Sg		17 29 49.2	+0.1
ORIF	**Oris-en-Rattie**	**0.63**	**287**	*e*Pg	Pg		17 29 41.3	-0.5
ORIF				*e*Sg	Sg		17 29 48.9	-1.1
	comp=N,40nm,0.4s							
ORIF	**Oris-en-Rattie**	**0.63**	**287**	⇑P	Pg		17 29 41.3	-0.5
ORIF	**Oris-en-Rattie**	**0.63**	**287**	Pg	Pg		17 29 41.2	-0.6
ENAUX	**Enaux**	**0.63**	**177**	Pg	Pg		17 29 41.8	0.0
ENAUX				Sg	Sg		17 29 50.6	+0.6
STV	**Sant Anna di V**	**0.65**	**139**	P	Pg		17 29 42.5	+0.3
STV				S	Sg		17 29 51.1	+0.4
STV	**Sant Anna di V**	**0.65**	**139**	⇑P	Pg		17 29 42.5	+0.3
STV				S	Sg		17 29 51.6	+0.8
STV	**Sant Anna di V**	**0.65**	**139**	Pg	Pg		17 29 42.4	+0.1
STV				Sg	Sg		17 29 51.6	+0.9
ENR	**Entracque**	**0.71**	**136**	P	Pg		17 29 43.6	+0.2
ENR				S	Sg		17 29 52.9	+0.3
ENR	**Entracque**	**0.71**	**136**	P	Pg		17 29 43.8	+0.4
ENR				S	Sg		17 29 53.3	+0.7
ENR				AML	AML			
	comp=E,87μm,0.2s							
ENR				AML	AML			
	comp=N,86μm,0.6s							
ENR	**Entracque**	**0.71**	**136**	Pg	Pg		17 29 43.5	+0.1
ENR				Sg	Sg		17 29 53.2	+0.6
LPG	**La Plagne**	**0.76**	**1**	*e*Pg	Pg		17 29 44.4	+0.1
LPG				*e*Sg	Sg		17 29 53.6	-0.5
	comp=N,7.5nm,0.2s							
LSD	**Lago del Serru**	**0.77**	**22**	P	Pg		17 29 44.5	-0.1
LSD				S	Sg		17 29 55.2	+0.5
LSD	**Lago del Serru**	**0.77**	**22**	P	Pg		17 29 44.5	-0.1
LSD				S	Sg		17 29 55.1	+0.5
LSD				AML	AML			
	comp=N,43μm,1.0s							
LSD				AML	AML			
	comp=N,43μm,1.0s							
LSD				AML	AML			
	comp=E,54μm,0.2s							
LSD	**Lago del Serru**	**0.77**	**22**	Pg	Pg		17 29 44.3	-0.3
LSD				Sg	Sg		17 29 55.0	+0.3
LPL	**La Plagne**	**0.78**	**0**	*e*Pg	Pg		17 29 44.7	+0.1
LPL				*e*Sg	Sg		17 29 55.5	+0.8
	comp=E,17nm,0.3s							
SPIF	**crte de Spivo**	**0.78**	**152**	Pg	Pg		17 29 44.3	-0.3
SPIF				Sg	Sg		17 29 55.1	+0.5
GRN	**Grenoble**	**0.86**	**306**	Pg	Pg		17 29 46.3	+0.1
GRN				Sg	Sg		17 29 58.2	+0.9
SALSA	**La sagne**	**0.86**	**182**	Pg	Pg		17 29 46.4	+0.2
MVIF	**Mont Vial**	**0.90**	**160**	Pg	Pg		17 29 46.8	-0.1
MVIF				Sg	Sg		17 29 59.4	+0.9
TURF	**col de Turini**	**0.90**	**148**	Pg	Pg		17 29 47.0	0.0
BLAF	**les Blancs**	**0.93**	**212**	Pg	Pb		17 29 48.4	-0.2
BLAF				Sg	Sb		17 30 02.4	+1.0
GBOS	**Grotte di Boss**	**0.94**	**122**	⇓P	Pg		17 29 47.3	-0.5
GBOS				S	Sg		17 30 00.7	+0.8
GBOS	**Grotte di Boss**	**0.94**	**122**	Pg	Pg		17 29 47.3	-0.4
GBOS				Sg	Sg		17 30 00.3	+0.4
RSL	**Roselend**	**0.95**	**356**	Pg	Pb		17 29 48.8	-0.3
SAOF	**Saorge**	**0.96**	**142**	Pg	Pg		17 29 48.0	-0.1
SAOF				Sg	Sg		17 30 01.3	+0.7
CALF	**Calern**	**1.00**	**172**	Pg	Pg		17 29 48.9	+0.1
CALF				Sg	Sb		17 30 03.0	-0.4
SBF	**Sospel**	**1.01**	**150**	*e*Pg	Pg		17 29 49.1	-0.1
SBF				*e*Sg	Sb		17 30 03.5	-0.3
	comp=E,14nm,0.2s							
TRIGF	**Trigance**	**1.02**	**193**	Pg	Pg		17 29 49.5	+0.3
ESCA	**l'Escarene**	**1.02**	**153**	Pg	Pg		17 29 49.1	-0.1
MLYF	**Mely**	**1.02**	**223**	Pg	Pb		17 29 50.3	+0.2
MRGE	**Morge**	**1.05**	**13**	P	Pg		17 29 50.0	0.0
TRAV	**Traversella**	**1.06**	**43**	P	Pg		17 29 49.6	-0.3
TRAV				S	Sg		17 30 03.4	-0.2
TRAV				AML	AML			
	comp=E,42μm,1.2s							
TRAV				AML	AML			
	comp=N,41μm,1.0s							
TRAV				AML	AML			
	comp=E,42μm,0.8s							
TRAV	**Traversella**	**1.06**	**43**	Pg	Pg		17 29 49.2	-0.8
TRAV				Sg	Sg		17 30 03.6	-0.1
SMRF	**Simiane la Rot**	**1.13**	**228**	*e*P	Pn		17 29 52.4	-0.2
SMRF				*e*Sg	Sg		17 30 05.4	-0.5
	comp=E,12nm,0.3s							
OGSM	**Saint Maurice**	**1.13**	**320**	Pg	Pg		17 29 51.4	-0.1
OGSM				Sg	Sb		17 30 07.3	0.0
BSTF	**la Bastide-des**	**1.16**	**222**	Pn	Pn		17 29 53.9	+0.8
BSTF				Sg	Sn		17 30 12.0	+2.6
RUSF	**Rustrel**	**1.20**	**229**	Pn	Pn		17 29 53.6	0.0
RUSF				Sg	Sn		17 30 10.9	+0.5
CANO	**Canova, Maglio**	**1.20**	**116**	Pg	Pg		17 29 52.5	-0.3
CANO				Sg	Sg		17 30 08.6	+0.2
OGMY	**Moye**	**1.28**	**333**	Pg	Pn		17 29 55.1	+0.4
OGMY				Sg	Sn		17 30 14.3	+1.7
PCP	**Piancastagn**	**1.31**	**98**	Pg	Pg		17 29 54.1	-0.8
PCP				Sg	Sg		17 30 11.7	-0.2
ARTF	**Artigues**	**1.33**	**210**	Pn	Pg		17 29 55.1	-0.1
ARTF				Sn	Sn		17 30 14.4	+0.7
SATI	**Passo dei Sala**	**1.39**	**35**	P	Pg		17 29 55.7	-0.7
FLAF	**Flassans-sur-I**	**1.40**	**194**	Pg	Pb		17 29 56.7	+0.1
FLAF				Sg	Sn		17 30 16.2	+0.9
LMR	**La Mourre**	**1.42**	**187**	*e*P	Pn		17 29 56.6	+0.1
LMR				*e*Sg	Sb		17 30 15.4	+0.1
LEPF	**PUYLOUBIER**	**1.43**	**212**	Pg	Pg		17 29 57.6	+0.6
VIVF	**Saint-Julien-l**	**1.47**	**275**	*e*Pg	Pn		17 29 57.4	+0.1
VIVF				*e*Sg	Sg		17 30 16.5	-0.4
	comp=E,10.0nm,0.3s							
OG35	**Corcelles**	**1.54**	**328**	Pg	Pg		17 29 59.7	+0.5
OG35				Sn	Sg		17 30 19.8	+0.7
SARZ	**Sarezzano**	**1.56**	**85**	P	Pn		17 29 57.4	-1.0
SSB	**Saint Sauveur**	**1.64**	**290**	Pn	Pn		17 29 59.4	-0.2
SSB				Sn	Sn		17 30 20.5	-0.8
LASF	**Ste Croix**	**2.16**	**253**	*e*Pn	Pn		17 30 04.5	-2.3
LASF				*e*Sn	Sn		17 30 30.1	-4.1
	comp=E,1.4nm,0.2s							
PGF	**Pioggiola**	**2.74**	**142**	*e*Pn	Pn		17 30 14.0	-0.8

NSSP ***10*** *17:29:38.3,41.˚07N×43.˚95E,h10km,Ms2.9*
TIF ***10*** *17:29:38.4,41.˚09N×43.˚93E,h10km*
AFAD ***10*** *17:29:40.4,41.˚09N×43.˚77E,h6km±3km,ML2.7*
DRS ***10*** *17:29:41.8,40.˚85N×44.˚21E,h0km*
AZER ***10*** *17:29:42.2,41.˚02N×44.˚22E,h2km,ml3.0*
ISC 10 17:29:38.8±0.9,41.˚08N±0.˚02×43.˚91E±0.˚01,h15km±8km, n57,σ0°98/98,3C-5D,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KMOZ	**Kamo**	**0.26**	**173**	*i*P	**Pb**		**17 29 45.0**	**-0.3**
KMOZ				⇓*i*S	**Sb**		**17 29 49.3**	**-0.4**
BGD	**Bogdanovka**	**0.30**	**308**	P	**Pb**		**17 29 45.7**	**-0.3**
BGD				S	**Sb**		**17 29 50.5**	**-0.3**
SRTK	**Saratovka**	**0.31**	**93**	⇓*i*P	**Pg**		**17 29 45.4**	**0.0**
SRTK				⇑*i*S	**Sg**		**17 29 49.9**	**0.0**
AKH	**Akhalkalaki**	**0.45**	**316**	P	**Pg**		**17 29 48.1**	**+0.2**
AKH				S	**Sg**		**17 29 54.5**	**+0.4**
EAK	**Akyaka**	**0.46**	**210**	P	**Pg**		**17 29 47.8**	**-0.2**
TRLG	**Trialeti**	**0.48**	**18**	P	**Pg**		**17 29 48.3**	**-0.1**
TRLG				S	**Sg**		**17 29 55.0**	**+0.1**
DIGO	**Kars**	**0.78**	**212**	P	**Pn**		**17 29 55.1**	**-0.4**
DIGO				S	**Sg**		**17 30 03.4**	**-0.9**
DIGO				*i* IAML			17 30 04.0	
	comp=N,280nm,0.2s							
DIGO				*i* IAML			17 30 06.0	
	comp=E,825nm,0.4s							
BOZK	**Kars-Merkez-Bo**	**0.86**	**236**	P	**Pb**		**17 29 55.8**	**+0.2**
TBLG	**Delisi**	**0.90**	**44**	P	**Pb**		**17 29 55.6**	**-0.6**
TBLG				S	**Sg**		**17 30 08.2**	**+0.1**
SEAG	**Tbilisi Sea**	**0.96**	**44**	P	**Pb**		**17 29 57.0**	**-0.2**
SEAG				S	**Sg**		**17 30 10.3**	**+0.4**
AHAN	**Ardahan-Merkez**	**0.97**	**275**	P	**Pn**		**17 29 57.3**	**-0.3**
AHAN				S	**Sb**		**17 30 09.8**	**-0.5**
AHAN				*i* IAML			17 30 12.0	
	comp=N,302nm,0.6s							
AHAN				*i* IAML			17 30 12.0	
	comp=E,681nm,0.5s							
LSVT	**Lusahovit**	**0.98**	**99**	⇓*i*P	**Pb**		**17 29 56.9**	**-0.7**
LSVT				⇓*i*S	**Sb**		**17 30 10.1**	**-0.3**
EPOS	**Posof**	**0.98**	**296**	P	**Pg**		**17 29 57.8**	**-0.1**
EPOS				S	**Sb**		**17 30 10.1**	**-0.4**
EPOS				*i* IAML			17 30 12.0	
	comp=E,194nm,0.4s							
GOLE	**Ardahan-Gℷle**	**1.02**	**257**	P	**Pn**		**17 29 58.8**	**0.0**
GOLE				S	**Sg**		**17 30 12.0**	**0.0**
GOLE				*i* IAML			17 30 15.0	
	comp=N,208nm,0.6s							
QZX	**Qazax, Azerbai**	**1.11**	**91**	P	**Pb**		**17 29 59.4**	**-0.3**
QZX				S	**Sn**		**17 30 14.7**	**-0.1**
GNI	**Garni**	**1.13**	**146**	⇑*i*P	**Pg**		**17 30 00.5**	**-0.1**
GNI				⇑*i*S	**Sn**		**17 30 16.4**	**+0.9**
DGRG	**David-gareji**	**1.16**	**71**	P	**Pg**		**17 30 01.0**	**-0.2**
DGRG				S	**Sg**		**17 30 18.9**	**+2.5**
IGDI	**IGDIR**	**1.22**	**174**	P	**Pn**		**17 30 00.8**	**-0.6**
IGDI				S	**Sb**		**17 30 15.7**	**-1.5**
IGDI				*i* IAML			17 30 18.0	
	comp=N,135nm,0.2s							
IGDI	**IGDIR**	**1.22**	**174**	P	**Pn**		**17 30 01.1**	**-0.3**
IGDI				S	**Sb**		**17 30 17.2**	**0.0**
GHRG	**Ghorjomi**	**1.35**	**299**	P	**Pb**		**17 30 04.1**	**+0.2**
GHRG				S	**Sg**		**17 30 22.2**	**-0.1**
KOTA	**Agri, Merkez-K**	**1.39**	**203**	P	**Pg**		**17 30 06.7**	**+1.3**
TKB	**Tkibuli**	**1.44**	**332**	P	**Pg**		**17 30 05.9**	**-0.7**
TKB				S	**Sg**		**17 30 25.2**	**-0.1**
GDB	**GEDABAY**	**1.44**	**104**	P	**Pn**		**17 30 04.8**	**+0.2**
GDB				S	**Sb**		**17 30 23.5**	**-0.3**
GUDG	**Gudauri**	**1.45**	**17**	P	**Pb**		**17 30 05.7**	**+0.2**
GUDG				S	**Sg**		**17 30 25.2**	**-0.3**
HYR	**Heyderabad**	**1.54**	**152**	P	**Pb**		**17 30 07.7**	**+0.6**
HYR				S	**Sg**		**17 30 29.0**	**+0.6**
GARIG	**Gari**	**1.56**	**348**	P	**Pb**		**17 30 07.9**	**+0.5**
GARIG				S	**Sg**		**17 30 29.5**	**+0.5**
EATA	**Eleskirt**	**1.63**	**222**	P	**Pg**		**17 30 09.5**	**-0.6**
DDEM	**Demirkent**	**1.65**	**264**	P	**Pb**		**17 30 09.1**	**+0.3**
DBAD	**Bademkaya**	**1.68**	**269**	P	**Sn**		**17 30 29.3**	**+0.3**
DBOC	**Borcka**	**1.71**	**280**	P	**Pb**		**17 30 10.2**	**+0.2**
DBOC				S	**Sb**		**17 30 31.8**	**+0.4**
DBOC				*i* IAML			17 30 33.0	
	comp=E,91nm,0.5s							
VAYK	**Vayk**	**1.81**	**140**	*i* P	**Pb**		**17 30 12.4**	**+0.8**
VAYK				*i* S	**Sg**		**17 30 36.4**	**-0.5**
SHTL	**Shatili**	**1.83**	**30**	P	**Pb**		**17 30 12.4**	**+0.4**
SHTL				S	**Sg**		**17 30 36.5**	**-1.1**
GANJ	**Ganja**	**1.88**	**103**	P	**Pb**		**17 30 13.2**	**+0.4**
GANJ				S	**Sb**		**17 30 36.3**	**+0.1**
VSHL	**Vashlovani**	**1.89**	**85**	P	**Pb**		**17 30 13.5**	**+0.6**
VSHL				S	**Sg**		**17 30 41.1**	**+1.7**
TLTR	**Tlyarata**	**2.10**	**60**	*e*Pg	**Pb**		**17 30 15.7**	**-0.9**
	1.0nm,0.5s							
TLTR				*e*Sg	**Sb**		**17 30 42.5**	**-0.2**
	93nm,0.6s							
SBZ	**Shahbuz**	**2.10**	**143**	P	**Pg**		**17 30 18.1**	**-1.0**
SBZ				S	**Sg**		**17 30 46.1**	**-0.2**
ZKTA	**Zakatala**	**2.12**	**74**	P	**Pb**		**17 30 16.2**	**-0.7**
ZKTA				S	**Sg**		**17 30 46.1**	**-0.7**
BTLR	**Botlikh**	**2.34**	**47**	*e*Pn	**Pb**		**17 30 21.1**	**+0.3**
	20nm,0.4s							
BTLR				*e*Sn	**Sg**		**17 30 52.3**	**-1.8**
	65nm,0.3s							
MNGR	**Mingechevir, A**	**2.43**	**96**	P	**Pb**		**17 30 22.8**	**+0.7**
MNGR				S	**Sg**		**17 30 56.9**	**+0.2**
SEKA	**Sheki**	**2.49**	**86**	P	**Pb**		**17 30 22.8**	**-0.4**
SEKA				S	**Sb**		**17 30 55.2**	**+1.5**
XNZR	**Khunzakh**	**2.55**	**54**	*e*Pn	**Pb**		**17 30 24.1**	**-0.2**
	15nm,0.3s							
KMKR	**Kumukh**	**2.61**	**65**	*e*Pn	**Pn**		**17 30 22.3**	**+1.7**
	21nm,0.4s							
KMKR				*e*Sn	**Sn**		**17 30 54.2**	**+2.0**
	32nm,0.3s							
AGDM	**Agdam**	**2.62**	**111**	P	**Pb**		**17 30 26.1**	**+0.6**
AGDM				S	**Sg**		**17 31 02.1**	**-0.9**
ORD	**Ordubad**	**2.68**	**143**	P	**Pg**		**17 30 28.4**	**-1.8**
ORD				S	**Sg**		**17 31 03.3**	**-1.6**
UNCR	**Uncukul**	**2.70**	**52**	*e*Pn	**Pb**		**17 30 25.7**	**-1.2**
	13nm,0.4s							
UNCR				*e*Sn	**Sb**		**17 31 00.4**	**+0.6**
	58nm,0.7s							
ARKR	**Arakani**	**2.76**	**56**	*e*Pn	**Pb**		**17 30 26.1**	**-1.7**
	24nm,0.4s							
ARKR				*e*Sn	**Sb**		**17 31 00.7**	**-0.8**
	19nm,0.4s							
KRNR	**Karanay**	**2.83**	**51**	*e*Pn	**Pb**		**17 30 26.5**	**-2.7**
	8.0nm,0.3s							
KRNR				*e*Sn	**Sb**		**17 31 01.7**	**-2.1**
	6.0nm,0.4s							
DLMR	**Dylym**	**2.84**	**45**	*e*Pn	**Pb**		**17 30 27.1**	**-2.0**
	4.0nm,0.1s							
AKT	**Akhty**	**2.91**	**81**	*e*Pn	**Pn**		**17 30 26.0**	**+1.4**
	15nm,0.3s							
QBL	**Gabala**	**2.98**	**91**	P	**Pb**		**17 30 30.5**	**-1.0**
QBL				S	**Sb**		**17 31 06.0**	**-1.7**
QRD	**Qoradiz**	**3.07**	**121**	P	**Pb**		**17 30 34.7**	**+1.6**
BLQ	**Beylaqan**	**3.10**	**115**	P	**Pb**		**17 30 35.6**	**+2.0**
XNQ	**Khinaliq**	**3.20**	**87**	P	**Pb**		**17 30 34.0**	**-1.4**
KSMR	**Kasumkent**	**3.22**	**79**	*e*Pn	**Pn**		**17 30 30.5**	**+1.6**
	40nm,0.2s							
QSAR	**Qusar**	**3.31**	**81**	P	**Pb**		**17 30 35.3**	**-1.9**
PQL	**Pirkuli**	**3.56**	**93**	P	**Pb**		**17 30 40.0**	**-1.5**
YRD	**Yardimli**	**3.97**	**122**	P	**Pb**		**17 30 49.4**	**+0.9**

NEIC ***10*** *17:45:43.3±1.7,13.˚62N±0.˚05×120.˚98E±0.˚06, h147km±4km,mb4.5/91,Error ellipse: s-maj=11.1km s-min=4.3km az=130.0*
IDC ***10*** *17:45:43.1±0.4,13.˚61N×120.˚96E,h139km±2km,mb3.9/32, mbtmp4.3/33,MS3.4/12,Error ellipse: s-maj=15.8km s-min=8.4km az=72.0*
GCMT ***10*** *17:45:45.3±0.3,13.˚54N±0.˚03×120.˚78E±0.˚03, h146km±5km,MW4.8/86,Moment Tensor Solution. s6,c6; s86,c118; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.84±.09; Mθθ0.45±.10; Mϕϕ-1.29±.11; Mrθ-1.11±.06; Mθϕ0.68±.08; Mϕr-0.49±.07; Best double couple: M₀1.75400×10¹⁶ NP1:ϕs307.00000°,δ56.00000°, λ35.00000°. NP2:ϕs196.00000°,δ62.00000°,λ141.00000°. Principal axes: T 1.9770, Plg47.0000°, Azm159.0000°; N -0.4460, Plg43.0000°, Azm346.0000°; P -1.5310, Plg4.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***10*** *17:45:49.0±0.5,14.˚N±3.˚×12.˚1E±.˚,h188km±5km,M4.6/60, mb5.0/60,mB5.2/21,Mw(mB)4.6/21*
ISC 10 17:45:43.2±0.4,13.˚64N±0.˚04×120.˚92E±0.˚05,h142km±3km, h142km:pP-P,n216,σ1963/213,mb4.4/94,1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
TGY	**Tagaytay City**	**0.47**	**2**	LR	LR		17 46 03.3	
	comp=Z,154nm,20.7s,baz=300,slow=41							
TGY				P	**Pn**		**17 46 04.6**	**+1.1**
	11μm,0.3s,baz=230,slow=2.6,SNR=441							
TGY				S	**Sn**		**17 46 20.0**	**+1.1**
	5μm,0.3s,baz=177,slow=10,SNR=7.8							
MYLDM	**Lahad Datu**	**8.73**	**196**			**Pn**	**17 47 46.7**	**+0.3**
KKM	**Kota Kinabalu**	**8.85**	**212**	Pn	Pn	**Pn**	**17 47 47.1**	**-1.1**
YULB	**Yu-li**	**9.71**	**2**	P	Pn		17 47 48.1	-11
HKPS	**Hong Kong Po S**	**10.74**	**324**	Pn	Pn	**Pn**	**17 48 12.9**	**-0.3**
QIZ	**Qiongzhong**	**11.91**	**298**	P	Pn	**Pn**	**17 48 30.3**	**+1.8**
QIZ				S	Sn	**Sn**	**17 50 41.2**	**+1.2**
QIZ				pmax	pmax			
	comp=Z,30nm,1.5s							
QIZ				LR	LR			
	comp=N,340nm,14.0s							
QIZ				LR	LR			
	comp=E,150nm,15.7s							
QIZ				LR	LR			
	comp=Z,260nm,12.9s							
QIZ	**Qiongzhong**	**11.91**	**298**	P	Pn		17 48 18.8	-10
DLV	**Lat**	**12.24**	**264**	Pn	**Pn**		**17 48 33.6**	**+0.5**
TOLI2	**Tolitoli**	**12.44**	**181**		**Pn**		**17 48 35.1**	**-0.4**
TOLI2	**Tolitoli**	**12.44**	**181**	P	Pn		17 48 30.1	-5.5
MRSI	**Marisa**	**13.11**	**175**	P	**P**		**17 48 47.5**	**-1.6**
	comp=Z,2μmcomp=Z,187nm,0.8s							
KMSI	**Cibinong**	**13.33**	**167**	P	**P**		**17 48 50.5**	**-0.9**
	comp=Z,

comp=Z,120nm,0.9s
PLAI Plampang 22.53 188 P P 17 50 33.0 +1.6
PLAI Plampang 22.53 188 P P 17 50 32.6 +1.2
TWSI Taliwang, Sumb 22.59 190 P P 17 50 32.9 +1.0
comp=Z,147nm,0.8s
NGJI Ngawi 22.88 205 P P 17 50 38.5 +3.8
comp=Z,140nm,0.9s
JAGI Jajag, Banyuwa 22.97 197 P 17 50 35.3 -0.2
JAGI Jajag, Banyuwa 22.97 197 P P 17 50 39.2 +3.7
JAGI Jajag, Banyuwa 22.97 197 P P 17 50 37.0 +1.5
comp=Z,119nm,0.9s
GMJI Gumukmas 23.00 199 P P 17 50 38.4 +2.6
comp=Z,117nm,1.2s
SMRI Semarang 23.03 207 P P 17 50 36.7 +0.5
SMRI Semarang 23.03 207 P P 17 50 39.0 +2.9
comp=Z,154nm,0.9s
WSI Waingapu 23.16 182 P P 17 50 36.5 -0.8
WBSI Waikabubak, Su 23.17 184 P P 17 50 38.8 +1.3
comp=Z,183nm,0.8s
CD2 Chengdu 23.35 320 P P 17 50 38.7 -0.3
SOEI Soe 23.47 172 P 17 50 39.3 -1.0
SOEI Soe 23.47 172 P P 17 50 41.5 +1.2
SOEI Soe 23.47 172 P P 17 50 45.4 +5.1
comp=Z,92nm,0.7s
SMPI Sarmi 23.50 130 P P 17 50 43.2 +2.8
comp=Z,82nm,1.0s
PCJI Pacitan 23.75 205 P P 17 50 47.1 +4.5
comp=Z,96nm,1.1s
BATI Baumata 23.84 173 P P 17 50 43.9 +0.4
TNCH TengChong 23.94 302 *eP* **P 17 50 46.7 +2.1**
TNCH pP pwP 17 51 14.6 -1.0
TNCH pmax pmax
comp=Z,10.0nm,0.8s
RPSI Rantau Prapat 24.30 245 P P 17 50 46.5 -1.2
RPSI IAmb IAmb 17 50 49.4
comp=Z,17nm,0.7s
LHSI Lahat 24.48 226 P P 17 50 52.4 +3.1
comp=Z,56nm,0.7s
MDSI Maura Dua 24.50 224 P P 17 50 52.3 +2.8
comp=Z,20nm,0.9s
KSRS Korea Array 24.53 14 P P 17 50 50.0 +0.4
comp=Z,1.4nm,0.9s,baz=203,slow=8.7,SNR=2.9
comp=Z,1.4nm,0.9s
BBJI Bungbulang 24.76 213 P P 17 50 53.4 +1.5
PDSI Padang 24.90 236 P P 17 50 55.2 +2.0
comp=Z,27nm,0.8s
LWLI Liwa 24.97 223 P P 17 50 58.1 +4.2
comp=Z,134nm,0.7s
JHJ Hachijo jima 2 25.92 38 LR LR 18 01 06.2
comp=Z,36nm,19.4s,baz=297,slow=36
JSG Sagara 26.13 34 P P 17 51 02.2 -1.8
GSI Gunungsitoli 26.15 244 P P 17 51 03.4 -1.1
GSI Gunungsitoli 26.15 244 P P 17 51 04.9 +0.5
GSI Gunungsitoli 26.15 244 P P 17 51 04.5 +0.1
comp=Z,47nm,0.8s
LZDM Lanzhou Array 27.09 328 P P 17 51 13.8 +0.8
comp=Z,1.5nm,0.3s,baz=136,slow=9.0,SNR=1.7
comp=Z,1.5nm,0.3s
LZH Lanzhou 27.11 329 *eP* **P 17 51 16.3 +3.2**
LZH pP pP 17 51 46.0 +3.0
LZH sP sP 17 52 02.3 +2.8
LZH pmax pmax
comp=Z,25nm,1.1s
MJAR Matsushiro Arr 27.57 31 P P 17 51 17.1 +0.1
comp=Z,0.8nm,0.7s,baz=187,slow=9.2,SNR=1.5
comp=Z,0.8nm,0.7s
MJB9 Matsu-Tunnel 27.57 31 P P 17 51 14.9 -2.1
MTN Manton Dam 28.19 159 P P 17 51 21.1 -1.5
HHC Hu-ho-hao-te 28.32 345 *eP* **P 17 51 25.1 +1.4**
HHC Hu-ho-hao-te 28.32 345 pmax pmax
comp=Z,65nm,5.5s
HHC Hu-ho-hao-te 28.32 345 pmax pmax
comp=Z,8.0nm,0.6s
BRDH Bariadhala 29.19 292 LR LR 18 03 37.0
comp=Z,125nm,18.8s,baz=150,slow=37
KNRA Kununurra 30.14 165 P P 17 51 39.1 -0.7
KNRA IAmb IAmb 17 51 40.8
comp=Z,10nm,0.8s
GTA Gaotai 31.71 328 *eP* **P 17 51 56.2 +2.6**
GTA sP sP 17 52 32.7 -7.5
GTA PcP **PcP 17 54 43.6 +1.6**
GTA pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 31.82 305 P P 17 51 52.5 -2.6
BNX BinXian 32.47 8 ⇑P **P 17 51 59.9 -0.1**
BNX pmax pmax
comp=Z,4.0nm,1.2s
MBWA Marble Bar 34.60 182 P P 17 52 17.6 -1.0
MBWA Marble Bar 34.60 182 P P 17 52 19.3 +0.6
PMG Port Moresby 34.67 130 P P 17 52 18.1 -1.3
PSA00 Pilbara Seismi 35.00 182 P P 17 52 21.0 -1.2
PSA00 Pilbara Seismi 35.00 182 P P 17 52 21.1 -1.1
PSA00 IAmb IAmb 17 52 22.8
comp=Z,45nm,0.9s
COEN Coen 35.18 140 P P 17 52 22.0 -1.7
ASAJ Asahikawa 35.59 27 LR LR 18 07 56.9
comp=Z,34nm,19.0s,baz=66,slow=38
WB0 Warramunga Arr 35.74 158 P P 17 52 26.5 -2.1
WRAB Tennant Creek 35.88 158 P P 17 52 27.2 -2.5
WRA Warramunga Arr 35.88 158 P P 17 52 26.1 -3.7
WRA Warramunga Arr 35.88 158 P P 17 52 28.9 -0.9
comp=Z,12nm,0.6s,baz=334,slow=9.8,SNR=94
WRA PcP **PcP 17 54 54.9 +0.9**
comp=Z,1.0nm,0.7s,baz=339,slow=3.7,SNR=3.9
WRA S **S 17 57 53.7 -3.7**
comp=Z,1.0nm,0.9s,baz=339,slow=14,SNR=3.2
WRA ScP **ScP 17 58 26.2 -0.9**
comp=Z,0.6nm,0.8s,baz=341,slow=4.2,SNR=2.8
comp=Z,12nm,0.6s
WR8 Warramunga Arr 35.95 158 P P 17 52 28.3 -2.1
WR8 IAmb IAmb 17 52 30.0
comp=Z,13nm,0.9s
SONM Songino Array 36.18 343 P P 17 52 33.1 +0.9
comp=Z,0.9nm,0.5s,baz=160,slow=10,SNR=5.6
SONM pP **pP 17 53 03.3 +0.3**
comp=Z,1.2nm,0.7s,baz=160,slow=9.7,SNR=2.6
comp=Z,0.9nm,0.5s
GIRL Giralia 36.64 190 P P 17 52 34.8 -1.3
AS31 Alice Springs 39.19 161 P P 17 52 56.6 -0.9
ASAR Alice Springs 39.19 161 P P 17 52 56.5 -1.0
ASAR Alice Springs 39.19 161 P P 17 52 57.2 -0.3
comp=Z,7.6nm,0.7s,baz=338,slow=6.6,SNR=182
ASAR PP **PP 17 54 30.8 +0.3**
comp=Z,1.6nm,0.8s,baz=335,slow=8.5,SNR=4.1
ASAR PcP **PcP 17 55 04.2 +0.1**
comp=Z,3.1nm,0.8s,baz=339,slow=3.1,SNR=8.2
ASAR S **S 17 58 44.0 -3.3**
comp=Z,0.2nm,0.8s,baz=344,slow=22,SNR=1.6
comp=Z,7.6nm,0.7s
PALK Pallekele 40.01 265 LR LR 18 10 08.6
comp=Z,60nm,18.9s,baz=93,slow=37
CTAO Charters Tower 41.76 143 P P 17 53 18.0 -0.7
CTAO IAmb IAmb 17 53 21.1
comp=Z,18nm,0.9s
CTAO Charters Tower 41.76 143 P P 17 53 20.1 +1.3
MORW Morawa 42.71 186 P P 17 53 25.6 -0.7
TATA Tatamba Isabel 44.37 117 P P 17 53 41.2 +1.4
ALEG Aligegeo Malai 45.32 117 P P 17 53 47.5 +0.2
INKA Innaminka 45.40 155 P P 17 53 47.6 -0.1
INKA IAmb IAmb 17 53 50.5
comp=Z,5.1nm,0.7s
MKAR Makanchi Array 46.21 324 P P 17 53 54.2 +0.3
MKAR PcP **PcP 17 55 26.2 -1.1**
MKAR Makanchi Array 46.21 324 P P 17 53 55.4 +1.4
comp=Z,5.7nm,0.9s,baz=118,slow=8.1,SNR=40
MKAR PcP **PcP 17 55 27.2 -0.1**
comp=Z,1.3nm,0.8s,baz=149,slow=3.5,SNR=2.7
MKAR ScP **ScP 17 59 06.7 -0.8**
comp=Z,0.4nm,0.6s,baz=97,slow=4.6,SNR=2.7
comp=Z,5.7nm,0.9s
NWAO Narrogin (SRO) 46.43 184 P P 17 53 53.5 -2.2
NWAO Narrogin (SRO) 46.43 184 P P 17 53 56.9 +1.2
NIL Nilore 47.52 303 P 17 54 04.2 -0.2
NIL IAmb IAmb 17 54 06.3
comp=Z,14nm,0.7s
BBOO Buckleboo 48.40 163 P P 17 54 09.5 -1.4
BBOO IAmb IAmb 17 54 13.4
comp=Z,9.6nm,0.8s
BBOO PcP **PcP 17 55 34.5 -0.7**
EIDS Eidsvold 48.65 143 P P 17 54 12.0 -1.0
EIDS IAmb IAmb 17 54 13.6
comp=Z,14nm,0.8s
PETK Petropavlovsk- 48.98 29 P P 17 54 15.9 +0.8
comp=Z,2.4nm,0.9s,baz=248,slow=12,SNR=1.8
PETK pP **pP 17 54 47.2 -0.3**
comp=Z,3.7nm,0.9s,baz=187,slow=15,SNR=3.2
comp=Z,2.4nm,0.9s
ZAA0 Zalesovo Array 49.21 333 P P 17 54 17.0 +0.1
ZALV Zalesovo Beam 49.21 333 P P 17 54 16.2 -0.7
ZALV Zalesovo Beam 49.21 333 P P 17 54 17.4 +0.5
comp=Z,2.6nm,0.3s,baz=118,slow=7.2,SNR=25
ZALV pP **pP 17 54 48.7 -0.6**
comp=Z,2.3nm,0.7s,baz=125,slow=7.4,SNR=3.5
ZALV LR LR 18 16 13.2
comp=Z,35nm,18.2s,baz=132,slow=37
comp=Z,2.6nm,0.3s
AAK Ala-Archa 49.26 315 LR LR 18 18 08.0
comp=Z,60nm,18.2s,baz=125,slow=39
STKA Stephens Creek 49.40 157 P P 17 54 17.2 -1.4
STKA Stephens Creek 49.40 157 P P 17 54 17.9 -0.7
comp=Z,5.3nm,0.6s,baz=333,slow=7.9,SNR=15
comp=Z,5.3nm,0.6s
ARSB Arslanbob 49.86 313 IAmb IAmb 17 54 25.3
comp=Z,6.1nm,0.9s
KURBB Kurchatov Arra 50.36 326 P P 17 54 27.0 +1.3
comp=Z,3.0nm,0.4s,baz=122,slow=8.3,SNR=31
KURBB pP **pP 17 54 59.5 +1.4**
comp=Z,3.6nm,0.9s,baz=121,slow=8.1,SNR=4.1
comp=Z,3.0nm,0.4s
KURK Kurchatov 50.36 326 P P 17 54 25.1 -0.5
KURK **pP 17 54 55.3 -2.8**
LUES Luesalemba Tem 50.75 116 P P 17 54 31.8 +2.7
KBL Kabul 51.12 303 P P 17 54 31.4 -0.5
KBL IAmb IAmb 17 54 34.2
comp=Z,9.5nm,0.8s
GAR Garm 51.13 309 P P 17 54 31.7 0.0
GAR IAmb IAmb 17 54 34.2
comp=Z,20nm,1.1s
CHGR Chuyangaron 51.91 309 P P 17 54 37.1 -0.5
SIMJ Simiganj 52.03 309 P P 17 54 38.0 -0.5
SIMJ IAmb IAmb 17 54 41.6
comp=Z,8.4nm,1.1s
KK31 Karatay Array 52.17 314 P P 17 54 39.1 -0.2
KK31 IAmb IAmb 17 54 41.2
comp=Z,6.9nm,1.1s
KK31 **pP 17 55 11.9 0.0**
KKAR Karatay Array 52.17 314 P 17 54 39.6 +0.3
SEY Seymchan 54.01 17 P P 17 54 52.8 +0.4
comp=Z,2.3nm,0.7s,baz=203,slow=9.5,SNR=4.3
comp=Z,2.3nm,0.7s
CAN Canberra 55.49 152 P P 17 55 05.3 +1.8
BVAR Borovoye Array 55.95 326 P P 17 55 07.3 +0.8
comp=Z,1.1nm,0.4s,baz=116,slow=10,SNR=11
BVAR pP **pP 17 55 39.2 -0.4**
comp=Z,1.0nm,0.7s,baz=123,slow=10,SNR=2.5
comp=Z,1.1nm,0.4s
DZM Mont Dzumac 57.02 128 P P 17 55 16.5 +1.8
TIXI Tiksi 58.19 3 P P 17 55 21.0 -0.9
TIXI IAmb IAmb 17 55 23.3
comp=Z,15nm,1.4s
TIXI Tiksi 58.19 3 P P 17 55 22.2 +0.4
comp=Z,3.6nm,0.6s,baz=176,slow=3.4,SNR=8.9
TIXI LR LR 18 23 55.7
comp=Z,42nm,18.8s,baz=188,slow=39
comp=Z,3.6nm,0.6s
AB31 Akbulak array 60.92 319 P P 17 55 40.0 -1.0
AB31 IAmb IAmb 17 55 42.6
comp=Z,4.8nm,1.0s
AB31 **pP 17 56 13.2 -1.5**
ABKAR Akbulak array 60.92 319 P P 17 55 39.8 -1.2
ABKAR pP **pP 17 56 12.8 -1.9**
AKTO Aktyubinsk 62.40 320 P P 17 55 51.4 +0.4
comp=Z,2.1nm,0.6s,baz=115,slow=3.5,SNR=6.4
AKTO pP **pP 17 56 23.5 -1.2**
comp=Z,1.5nm,0.5s,baz=127,slow=5.6,SNR=2.5
comp=Z,2.1nm,0.6s
ARTI Arti 63.64 327 P P 17 55 57.1 -1.9
ARTI IAmb IAmb 17 55 59.7
comp=Z,9.9nm,1.2s
ARTI Arti 63.64 327 P P 17 55 57.7 -1.3
comp=Z,2.1nm,0.5s,baz=129,slow=9.9,SNR=4.5
comp=Z,2.1nm,0.5s
MSVF Nonsavu 64.41 117 P P 17 56 06.7 +2.0
RAYN Ar Rayn 71.48 290 P P 17 56 48.6 -0.3
RAYN IAmb IAmb 17 56 50.9
comp=Z,14nm,0.8s
KBZ Khabaz 72.08 312 P P 17 56 52.9 +0.8
comp=Z,3.4nm,0.8s,baz=181,slow=7.6,SNR=5.7
comp=Z,3.4nm,0.8s
GURO Guroymak-BITLI 73.00 306 P P 17 56 57.7 -0.1
GURO IAmb IAmb 17 57 00.4
comp=Z,7.8nm,0.9s
J17K VABM Dome 73.43 28 IAmb IAmb 17 57 38.6
comp=Z,3.9nm,1.1s
D19K Kuna River 74.10 22 IAmb IAmb 17 57 06.9
comp=Z,8.7nm,1.2s
G19K Purcell Mounta 74.39 25 P P 17 57 04.6 -0.6
H19K Roundabout Mou 74.64 25 P P 17 57 06.7 +0.1
H19K IAmb IAmb 17 57 10.3
comp=Z,5.4nm,1.1s
F20K Avaraart Lake 74.95 24 P P 17 57 09.1 +0.7
L19K White Mountain 75.36 29 IAmb IAmb 17 57 15.2
comp=Z,7.6nm,1.2s
N19K Bonanza Creek 75.58 30 IAmb IAmb 17 57 16.0
comp=Z,5.9nm,1.1s
G21K Allakaket 75.84 24 P P 17 57 13.0 -0.5
G21K IAmb IAmb 17 57 17.5
comp=Z,5.1nm,0.9s
H21K Melozitna Rive 76.15 25 IAmb IAmb 17 57 54.4
comp=Z,7.9nm,1.2s
OHAK Old Harbor 76.39 34 P P 17 57 18.5 +1.8
BPAW Bear Paw Mtn. 77.02 27 IAmb IAmb 17 57 59.0
comp=Z,8.4nm,1.1s
H23K Yukon River 77.49 25 IAmb IAmb 17 58 02.1
comp=Z,8.8nm,1.2s
F24K Squaw Lake 77.97 23 P P 17 57 23.9 -1.5
G24K Hadweenzic Riv 78.22 24 IAmb IAmb 17 57 30.4
comp=Z,6.2nm,1.1s
ILAR Eielson Array 78.72 26 P P 17 57 29.8 +0.2
comp=Z,0.4nm,0.8s,baz=258,slow=5.5,SNR=2.6
comp=Z,0.4nm,0.8s
MMAI Mount Meron Ar 79.00 301 P P 17 57 32.7 +0.9
comp=Z,0.2nm,0.2s,baz=74,slow=7.7,SNR=2.0
comp=Z,0.2nm,0.2s
GHAJ Ghor Haditha 79.13 300 P P 17 57 31.2 -1.3
GHAJ IAmb IAmb 17 57 35.0
comp=Z,15nm,0.9s
ARCES ARCESS Array B 79.22 339 P P 17 57 32.4 +0.2
comp=Z,1.1nm,0.5s,baz=87,slow=7.0,SNR=5.6
ARCES LR LR 18 36 00.1
comp=Z,41nm,18.6s,baz=192,slow=38
comp=Z,1.1nm,0.5s
BRTR Keskin Array B 79.36 308 P P 17 57 33.4 -0.3
comp=Z,0.5nm,0.6s,baz=130,slow=4.5,SNR=4.1
comp=Z,0.5nm,0.6s
SPITS Spitsbergen Ar 79.70 348 P P 17 57 35.7 +1.0
comp=Z,18nm,1.0s,baz=106,slow=8.1,SNR=9.5
comp=Z,18nm,1.0s
RIDG Independent Ri 79.75 27 IAmb IAmb 17 57 39.5
comp=Z,5.7nm,0.9s
CASY Casey 80.06 184 P P 17 57 35.3 -1.2
CASY IAmb IAmb 17 57 36.8
comp=Z,9.9nm,0.8s
FINES FINESS Array B 80.44 331 P P 17 57 38.9 0.0
comp=Z,1.8nm,0.9s,baz=64,slow=5.5,SNR=7.1
comp=Z,1.8nm,0.9s
AKASG Malin Array Be 80.65 320 P P 17 57 39.3 -0.9
comp=Z,0.1nm,0.3s,baz=78,slow=3.6,SNR=1.6
AKASG LR LR 18 36 01.7
comp=Z,32nm,19.9s,baz=46,slow=37
comp=Z,0.1nm,0.3s
F28M Old Crow 80.98 23 IAmb IAmb 17 57 44.9
comp=Z,5.8nm,1.0s
BCAR Beaver Creek A 81.24 27 P P 17 57 42.5 -0.7
I28M Miner Creek 81.47 25 P P 17 57 44.5 0.0
E29M Blow River 81.50 22 P P 17 57 44.0 -0.5
G29M Pine Creek 81.85 23 IAmb IAmb 17 57 49.4
comp=Z,9.9nm,1.1s
H29M Whitestone 81.90 24 IAmb IAmb 17 57 50.2
comp=Z,8.2nm,1.1s
F30M Barrier River 82.49 22 IAmb IAmb 17 57 53.0
comp=Z,5.7nm,0.9s
G30M tAoh Zraii Nji 82.51 23 IAmb IAmb 17 57 53.0
comp=Z,5.3nm,0.9s
I30M Mount Dempster 82.97 24 IAmb IAmb 17 57 56.5
comp=Z,8.1nm,1.4s
INK Inuvik 83.08 21 LR LR 18 40 51.6
comp=Z,28nm,18.0s,baz=236,slow=40
M30M Minto, Yukon 83.58 27 IAmb IAmb 17 57 59.3
comp=Z,7.1nm,1.2s
KMBO Kilima Mbogo 84.11 267 P P 17 58 00.8 +1.5
comp=Z,2.4nm,0.5s,baz=52,slow=8.5,SNR=5.2
comp=Z,2.4nm,0.5s
N31M Braeburn, Yuko 84.36 28 IAmb IAmb 17 58 03.2
comp=Z,5.2nm,0.9s
OJC Ojcow 86.61 321 P P 17 58 09.1 -1.6
HFS Hagfors 86.63 331 P P 17 58 10.0 -0.5
comp=Z,0.9nm,0.3s,baz=99,slow=9.2,SNR=9.7
HFS pP **pP 17 58 44.9 -1.6**
comp=Z,7.8nm,1.0s,baz=133,slow=6.3,SNR=3.5
comp=Z,0.9nm,0.3s
NB2 NORSAR Subarra 87.42 333 P P 17 58 13.6 -0.8
comp=Z,1.2nm,0.6s,baz=71,slow=4.4
NOA NORSAR Array B 87.42 333 P P 17 58 13.7 -0.6
comp=Z,1.6nm,0.8s,baz=68,slow=4.5,SNR=6.1
NOA pP **pP 17 58 48.8 -1.5**
comp=Z,3.3nm,0.9s,baz=67,slow=4.6,SNR=6.8
NOA LR LR 18 38 35.3
comp=Z,16nm,18.7s,baz=315,slow=36
comp=Z,1.6nm,0.8s
GERES GERESS Array B 90.82 321 P P 17 58 30.7 +0.1
comp=Z,0.5nm,0.8s,baz=79,slow=5.7,SNR=4.4
GERES pP **pP 17 59 06.2 -0.5**
comp=Z,0.2nm,0.4s,baz=105,slow=2.2,SNR=2.2
comp=Z,0.5nm,0.8s
MAW Mawson 91.10 199 P P 17 58 30.4 -0.8
comp=Z,1.7nm,0.6s,baz=52,slow=4.2,SNR=7.8
MAW pP **pP 17 59 07.7 +0.2**
comp=Z,1.0nm,0.7s,baz=28,slow=15,SNR=1.5
comp=Z,1.7nm,0.6s
YKA Yellowknife Ar 92.75 23 P P 17 58 38.9 -0.3
comp=Z,1.4nm,0.8s,baz=313,slow=4.4,SNR=5.1
comp=Z,1.4nm,0.8s
VNDA Vanda 93.95 172 P 17 58 43.6 -0.6
VNDA IAmb IAmb 17 58 45.2
comp=Z,2.7nm,1.0s
VNDA Vanda 93.95 172 P P 17 58 43.7 -0.5
comp=Z,1.7nm,0.7s,baz=311,slow=6.3,SNR=12
comp=Z,1.7nm,0.7s
QSPA South Pole Qui 103.48 180 Pdif Pdif 17 59 26.9 -0.4
QSPA South Pole Qui 103.48 180 Pdiff Pdif 17 59 28.0 +0.6
comp=Z,1.1nm,0.7s,baz=308,slow=2.8,SNR=3.9
TORD Torodi Ar. Bea 114.17 291 PKP PKPdf 18 04 06.6 -0.2
comp=Z,0.4nm,0.3s,baz=54,slow=1.5,SNR=2.0
TXAR Lajitas Array 119.37 45 PKP PKiKP 18 04 17.8 +1.2
comp=Z,0.8nm,0.7s,baz=234,slow=1.2,SNR=12
PLCA Paso Flores 151.20 162 PKPbc PKiKP 18 05 21.4 +0.8
comp=Z,4.5nm,1.0s,baz=228,slow=1.2,SNR=7.3
CPUP Villa Florida 167.26 187 PKPab PKPab 18 06 37.9 -0.2
comp=Z,0.7nm,0.7s,baz=174,slow=9.2,SNR=5.1

SOME ***10*** *17:46:19.9, 40.˚18N×81.˚63E, h5km*
NNC 10 17:46:21.8±1.0, 40.˚21N×81.˚63E, h0km, mb3.6, mpv3.3, 2C, Error ellipse: s-maj=17.3km s-min=6.9km az=58.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**3.36**	**332**	Pg	Pb	17 47 20.6	-1.7
	2.6nm,0.3s						
SHLS				Lg	Lg	17 48 04.5	
	15nm,0.5s						
SHLS	**Shalkode**	**3.36**	**332**	*eP*	Pb	17 47 20.6	-1.7
	2.6nm,0.3s						
SHLS				*eS*	Sb	17 48 04.5	+0.7
	15nm,0.5s						
PDGK	**Podgornoye**	**3.50**	**334**	⇑Pn	Pn	17 47 18.9	+1.3
	16nm,1.6s						
PDGK				⇑Sn	Sn	17 48 00.7	+0.8
	8.9nm,0.7s						
UZB	**Uzynbulak**	**3.52**	**327**	Pg	Pb	17 47 25.8	+0.7
	7.5nm,0.7s						
UZB				Lg	Lg	17 48 13.3	
	7.7nm,0.7s						
UZB	**Uzynbulak**	**3.52**	**327**	*eP*	Pb	17 47 25.8	+0.7
	7.5nm,0.7s						
UZB				*eS*	Sg	17 48 13.3	-1.7
	7.7nm,0.7s						
SATY	**Saty**	**3.73**	**321**	Pg	Pb	17 47 30.0	+1.4
	21nm,0.7s						
SATY				Lg	Lg	17 48 20.6	
	6.6nm,0.2s						
KPKS	**Kokpek**	**3.92**	**327**	Pg	Pb	17 47 33.3	+1.3
	0.5nm,0.3s						
KPKS				Lg	Lg	17 48 26.2	
	6.7nm,0.4s						

JMA ***10*** *18:04:39.3±0.3, 29.˚N±1.˚×14.˚0E±.˚, h401km±4km, MV3.5/22, NEAR TORISHIMA IS*
NEIC ***10*** *18:04:40.3±1.9, 29.˚43N±0.˚08×139.˚37E±0.˚08, h379km±8km, mb4.1/34, Error ellipse: s-maj=13.3km s-min=7.6km az=222.0*
IDC ***10*** *18:04:40.4±1.0, 29.˚50N×139.˚55E, h389km±8km, mb3.4/17, mbtmp4.1/23, Error ellipse: s-maj=18.0km s-min=11.3km az=84.0*
ISC 10 18:04:40.0±0.6, 29.˚42N±0.˚05×139.˚52E±0.˚07, h384km±5km, n101, σ1ϑ51/120, mb4.0/32, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.30**	**134**	*eP*	**Pn**	**18 05 44.4**	**-0.2**
CBIJ				*eS*	**S**	**18 05 49.4**	**-1.9**
JCJ	**Chichijima**	**3.30**	**134**		**Pn**	**18 05 43.8**	**-0.8**
JCJ					S	18 06 27.0	-10
JHH2	**Haha-jima-NKT2**	**3.63**	**139**	*eP*	**Pn**	**18 05 46.4**	**-1.3**
JHH2				*eS*	**S**	**18 06 39.2**	**-3.1**
JHCJ	**Hachijojimakas**	**3.65**	**4**	*eS*	**S**	**18 06 41.4**	**-1.1**
JHJ2	**Mitsune**	**3.69**	**4**	Pn	**Pn**	**18 05 48.0**	**0.0**
JHJ2					**S**	**18 06 35.9**	**-7.2**
JHJ2	**Mitsune**	**3.69**	**4**	P	**Pn**	**18 05 49.8**	**+1.8**
JHJ2	**Mitsune**	**3.69**	**4**	*eP*	**Pn**	**18 05 49.3**	**+1.3**
JHJ2				*eS*	**S**	**18 06 43.9**	**+0.8**
JHJ	**Hachijo jima 2**	**3.69**	**3**	P	**Pn**	**18 05 49.7**	**+1.6**
	21nm,0.3s,baz=90,slow=20,SNR=22						
JHJ				S	**S**	**18 06 41.6**	**-1.6**
	126nm,0.3s,baz=228,slow=23,SNR=13						
JMKN	**Mikurajimanish**	**4.46**	**1**	*eP*	**Pn**	**18 05 56.1**	**+0.6**
JMKN				*eS*	**S**	**18 06 55.9**	**-1.0**
TTO1	**TONANKAI O.B.S**	**4.80**	**332**	*eP*	**Pn**	**18 06 01.2**	**+2.5**
BSO1	**Boso 1**	**5.36**	**13**	*eP*	**Pn**	**18 06 05.5**	**+1.2**
BSO1				*eS*	**S**	**18 07 12.0**	**-1.2**
JIE	**Ise**	**5.51**	**335**	*eP*	**Pn**	**18 06 09.0**	**+2.5**
JOD2	**Odawara 2**	**5.84**	**356**	*eP*	**Pn**	**18 06 10.8**	**+0.7**
JOD2				*eS*	**S**	**18 07 22.0**	**-1.5**
INU	**Inuyama**	**6.28**	**341**		**Pn**	**18 06 14.7**	**-0.3**
INU	**Inuyama**	**6.28**	**341**	P	**Pn**	**18 06 17.6**	**+2.6**
JGF	**Kuroka**	**6.43**	**344**		**Pn**	**18 06 15.6**	**-1.2**
JGF	**Kuroka**	**6.43**	**344**	P	**Pn**	**18 06 18.6**	**+1.9**
JMN	**Monobe**	**6.45**	**313**	Pn	**Pn**	**18 06 15.6**	**-1.5**
JMN	**Monobe**	**6.45**	**313**	P	**Pn**	**18 06 19.7**	**+2.7**
JRY	**Ryogami san**	**6.60**	**356**	*eP*	**Pn**	**18 06 18.6**	**0.0**
JRY				*eS*	**S**	**18 07 37.9**	**-1.2**
JTO	**Tosashimizu**	**6.70**	**302**	*eP*	**P**	**18 06 22.1**	**+1.4**
MJAR	**Matsushiro Arr**	**7.19**	**352**		Pn	18 06 20.7	-4.6
MJAR	**Matsushiro Arr**	**7.19**	**352**	P	**Pn**	**18 06 25.1**	**-0.1**
	2.0nm,0.4s,baz=151,slow=11,SNR=14						
MJAR				S	**S**	**18 07 48.7**	**-2.5**
	0.8nm,0.3s,baz=132,slow=28,SNR=4.2						
MAJO	**Matsushiro**	**7.19**	**351**		Pn	18 06 18.6	-6.7
MAJO	**Matsushiro**	**7.19**	**351**	P	**P**	**18 06 26.3**	**+0.2**
MJB9	**Matsu-Tunnel**	**7.19**	**351**		Pn	18 06 18.8	-6.5
JHS	**Saijyo**	**7.77**	**317**	P	**P**	**18 06 34.4**	**+1.7**
JNU	**Nakatsue**	**8.27**	**299**	P	**P**	**18 06 40.6**	**+1.9**
JMM	**Marumori**	**8.49**	**7**	P	**Pn**	**18 06 40.4**	**+0.2**
JMM	**Marumori**	**8.49**	**7**	P	**P**	**18 06 41.2**	**+0.1**
JOI	**OKI**	**8.65**	**324**	*eP*	**P**	**18 06 44.5**	**+1.7**
JMK	**Ichinoseki**	**9.61**	**8**	*eP*	**P**	**18 06 54.3**	**+0.8**
JMK				*eS*	**S**	**18 08 40.0**	**-2.7**
JTU	**Tsushima**	**9.99**	**303**	P	**Pn**	**18 06 59.9**	**+2.2**
JTU	**Tsushima**	**9.99**	**303**	*eP*	**Pn**	**18 06 59.9**	**+2.2**
JOW	**Kunigami**	**10.26**	**258**	P	**Pn**	**18 07 02.6**	**+1.6**
	10nm,0.6s,baz=119,slow=12,SNR=4.0						
JTM	**Tenmabayashi**	**11.41**	**6**		**Pn**	**18 07 14.3**	**0.0**
JTM	**Tenmabayashi**	**11.41**	**6**	P	**Pn**	**18 07 15.8**	**+1.5**
TJN	**Taejon**	**12.35**	**307**		**P**	**18 07 23.8**	**0.0**
KSRS	**Korea Array**	**12.56**	**313**	P	**Pn**	**18 07 27.7**	**-0.1**
	4.1nm,0.8s,baz=129,slow=11,SNR=13						
ERM	**Erimo**	**12.91**	**12**	P	**P**	**18 07 29.6**	**-0.4**
ERM	**Erimo**	**12.91**	**12**	P	**Pn**	**18 07 33.8**	**+2.1**
JKA	**Kamikawa-asahi**	**14.87**	**9**	P	**P**	**18 07 50.9**	**-0.5**
ASAJ	**Asahikawa**	**14.87**	**9**	P	**P**	**18 07 50.9**	**-0.6**
	4.9nm,0.7s,baz=224,slow=11,SNR=7.6						
USRK	**Ussuriysk Ar.**	**15.93**	**340**	P	**P**	**18 08 02.5**	**-0.3**
	1.2nm,0.4s,baz=109,slow=12,SNR=5.8						
NACB	**Ninganchiao**	**16.83**	**256**	P	**P**	**18 08 10.7**	**-2.2**

NACB IAmb IAmb 18 08 25.1
comp=Z,13nm,0.8s
YHNB Yeheng 16.84 258 P **P** **18 08 11.4 -1.7**
YULB Yu-li 17.39 254 P **P** **18 08 17.3 -1.5**
YULB IAmb IAmb 18 08 39.1
comp=Z,25nm,1.4s
SSLB Suanglung 17.52 256 **P** **18 08 18.2 -2.0**
YSS Yuzhno-Sakhali 17.69 7 P **P** **18 08 21.8 +0.2**
YSS IAmb IAmb 18 08 41.2
comp=Z,26nm,1.5s
TPUB Ta-pu 17.99 255 P **P** **18 08 23.5 -1.6**
HHC Hu-ho-hao-te 25.44 304 *eP* **P** **18 09 35.2 +0.5**
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,49nm,3.8s
MA2 Magadan 31.11 11 P **P** **18 10 24.4 +0.3**
SONM Songino Array 31.42 315 P **P** **18 10 27.3 +0.1**
comp=Z,0.7nm,0.6s,baz=127,slow=6.6,SNR=4.7
comp=Z,0.7nm,0.6s
CMAR Chiang Mai Arr 38.49 263 P **P** **18 11 26.9 -0.1**
comp=Z,0.6nm,0.3s,baz=62,slow=8.3,SNR=1.5
comp=Z,0.6nm,0.3s
KIWB Kanaga Island 39.01 43 P **P** **18 11 32.5 +1.6**
WMQ Urumqi 43.33 304 *eP* **P** **18 12 05.9 +0.1**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
KULM Kulim 43.85 244 P **P** **18 12 10.0 -0.2**
KULM IAmb IAmb 18 12 11.8
comp=Z,18nm,1.4s
ZAA0 Zalesovo Array 46.20 318 P **P** **18 12 26.5 -1.4**
ZALV Zalesovo Beam 46.20 318 P **P** **18 12 26.5 -1.4**
ZALV PcP **PcP** **18 13 56.1 -0.2**
ZALV Zalesovo Beam 46.20 318 P **P** **18 12 27.5 -0.4**
comp=Z,1.8nm,0.3s,baz=86,slow=7.3,SNR=14
ZALV PcP **PcP** **18 13 54.5 -1.8**
comp=Z,0.9nm,0.6s,baz=162,slow=2.5,SNR=4.4
ZALV ScP **ScP** **18 17 09.0 -3.1**
comp=Z,0.7nm,0.6s,baz=108,slow=4.7,SNR=3.8
comp=Z,1.8nm,0.3s
MKAR Makanchi Array 47.20 308 P **P** **18 12 34.7 -1.0**
MKAR PcP **PcP** **18 13 59.5 -0.6**
MKAR Makanchi Array 47.20 308 P **P** **18 12 35.5 -0.2**
comp=Z,1.5nm,0.3s,baz=84,slow=9.9,SNR=44
MKAR PcP **PcP** **18 13 59.5 -0.6**
comp=Z,0.6nm,0.6s,baz=79,slow=6.3,SNR=4.1
MKAR ScP **ScP** **18 17 13.7 -2.8**
comp=Z,0.2nm,0.4s,baz=75,slow=4.7,SNR=2.7
comp=Z,1.5nm,0.3s
WB0 Warramunga Arr 49.15 186 P **P** **18 12 50.5 -0.1**
WB0 IAmb IAmb 18 13 01.4
comp=Z,12nm,1.4s
WR8 Warramunga Arr 49.33 186 P **P** **18 12 52.0 +0.1**
WR8 IAmb IAmb 18 13 02.3
comp=Z,9.3nm,1.3s
WR8 PcP **PcP** **18 14 08.4 +0.3**
WRA Warramunga Arr 49.33 186 P **P** **18 12 52.1 +0.1**
comp=Z,0.6nm,0.3s,baz=1.9,slow=7.8,SNR=7.8
WRA PcP **pP** **18 14 09.0 +0.6**
comp=Z,0.2nm,0.4s,baz=3.8,slow=3.8,SNR=2.0
comp=Z,0.6nm,0.3s
SDPT Sand Point 49.44 41 P **P** **18 12 52.4 +0.1**
F15K North Star Dit 49.64 27 P **P** **18 12 55.8 +2.1**
F15K IAmb IAmb 18 12 56.5
comp=Z,10nm,1.5s
KURK Kurchatov 49.69 313 **P** **18 12 53.9 -0.5**
KURK IAmb IAmb 18 12 55.2
comp=Z,8.1nm,1.1s
KURBB Kurchatov Arra 49.74 313 P **P** **18 12 54.3 -0.4**
comp=Z,3.6nm,0.4s,baz=103,slow=8.1,SNR=19
comp=Z,3.6nm,0.4s
C16K Lisburne Hills 50.26 23 P **P** **18 12 59.4 +1.1**
C16K IAmb IAmb 18 13 21.8
comp=Z,21nm,1.4s
H18K Honhosa River 52.02 28 P **P** **18 13 12.7 +1.3**
KSH Kashi 52.39 299 P **P** **18 13 18.0 +3.4**
KSH pmax pmax
comp=Z,6.0nm,0.7s
E19K Redstone River 52.96 26 P **P** **18 13 19.3 +1.2**
E19K PcP **PcP** **18 14 22.8 +1.8**
ASAR Alice Springs 53.06 186 P **P** **18 13 19.5 +0.2**
comp=Z,0.3nm,0.5s,baz=3.2,slow=7.2,SNR=8.5
comp=Z,0.3nm,0.5s
J20K Nowinta River 53.65 30 **P** **18 13 25.3 +2.2**
KDAK Kodiak Island 53.95 38 P **P** **18 13 26.3 +1.1**
KDAK IAmb IAmb 18 13 53.1
comp=Z,16nm,1.4s
ARSB Arslanbob 54.33 302 P **P** **18 13 28.8 +0.3**
ARSB IAmb IAmb 18 13 29.3
comp=Z,5.2nm,0.8s
BVAR Borovoye Array 54.75 316 P **P** **18 13 31.1 0.0**
comp=Z,11nm,0.5s,baz=96,slow=7.5,SNR=104
BVAR PcP **PcP** **18 14 28.5 +0.4**
comp=Z,0.7nm,0.4s,baz=90,slow=6.1,SNR=2.3
BVAR ScP **ScP** **18 17 47.2 -1.7**
comp=Z,0.6nm,0.6s,baz=93,slow=4.5,SNR=3.5
comp=Z,11nm,0.5s
G23K Bananza Creek 55.63 27 P **P** **18 13 39.0 +1.8**
NIL Nilore 55.78 293 **P** **18 13 38.4 -0.4**
NIL IAmb IAmb 18 13 39.8
comp=Z,5.7nm,0.8s
KK31 Karatay Array 55.83 304 P **P** **18 13 39.1 +0.2**
KKAR Karatay Array 55.83 304 **P** **18 13 38.9 -0.1**
F24K Squaw Lake 56.53 26 P **P** **18 13 45.5 +2.0**
GAR Garm 56.80 299 **P** **18 13 45.8 -0.1**
ILAR Eielson Array 56.83 29 P **P** **18 13 45.8 +0.3**
comp=Z,0.7nm,0.8s,baz=281,slow=6.4,SNR=6.3
comp=Z,0.7nm,0.8s
E25K Arctic Village 57.44 25 P **P** **18 13 52.0 +2.3**
CHGR Chuyangaron 57.76 299 **P** **18 13 52.4 -0.1**
SIMJ Simiganj 57.87 299 **P** **18 13 53.0 -0.2**
SIMJ IAmb IAmb 18 13 54.3
comp=Z,5.1nm,0.8s
ARTI Arti 61.26 321 **P** **18 14 14.8 -0.9**
AB31 Akbulak array 61.80 313 P **P** **18 14 19.3 -0.1**
AB31 IAmb IAmb 18 14 19.8
comp=Z,7.7nm,0.5s
ABKAR Akbulak array 61.80 313 **P** **18 14 19.1 -0.2**
ARCES ARCESS Array B 70.58 340 P **P** **18 15 14.1 0.0**
comp=Z,0.7nm,0.4s,baz=39,slow=7.8,SNR=8.5
comp=Z,0.7nm,0.4s
KBZ Khabaz 74.71 312 P **P** **18 15 38.5 -0.1**
comp=Z,4.8nm,0.8s,baz=126,slow=4.1,SNR=10
comp=Z,4.8nm,0.8s
FINES FINESS Array B 74.83 333 P **P** **18 15 38.9 0.0**
comp=Z,1.2nm,0.4s,baz=75,slow=4.2,SNR=23
comp=Z,1.2nm,0.4s
AKASG Malin Array Be 79.36 323 P **P** **18 16 03.6 -0.5**
comp=Z,0.6nm,0.4s,baz=52,slow=5.3,SNR=5.1
comp=Z,0.6nm,0.4s
HFS Hagfors 80.36 336 P **P** **18 16 08.6 -0.6**
comp=Z,0.9nm,0.4s,baz=94,slow=6.7,SNR=9.4
comp=Z,0.9nm,0.4s
NB2 NORSAR Subarra 80.58 337 P **P** **18 16 10.3 -0.1**
comp=Z,0.4nm,0.5s,baz=46,slow=5.1
NOA NORSAR Array B 80.58 337 P **P** **18 16 09.2 -1.2**
comp=Z,0.5nm,0.5s,baz=47,slow=4.8,SNR=4.3
comp=Z,0.5nm,0.5s
RAYN Ar Rayn 82.08 292 P **P** **18 16 19.2 +0.2**
RAYN IAmb IAmb 18 16 19.8
comp=Z,2.5nm,0.6s
BRTR Keskin Array B 82.71 312 P **P** **18 16 21.9 -0.2**
comp=Z,1.9nm,0.7s,baz=91,slow=3.8,SNR=10
comp=Z,1.9nm,0.7s
TXAR Lajitas Array 96.05 52 P **P** **18 17 24.8 -0.3**
comp=Z,0.3nm,0.5s,baz=306,slow=4.3,SNR=4.9
comp=Z,0.3nm,0.5s

*IDC **10** 18:07:00.1±6.0, 31.93°S×178.96°W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=179.7km s-min=28.6km az=38.0*

ISC 10 18:07:12.7±7.1, 32.1°S×179.2°W±0.9, h96km, n12, σ0s81/9, mb3.9/4, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.05**	**269**	P	**P**	**18 14 55.1**	**0.0**
	0.9nm,0.6s,baz=108,slow=7.5,SNR=14						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**43.19**	**275**	P	**P**	**18 15 04.2**	**-0.1**
	0.7nm,0.5s,baz=115,slow=8.0,SNR=6.0						
	0.7nm,0.5s						
QSPA	**South Pole Qui**	**58.07**	**180**	P	**P**	**18 16 55.7**	**0.0**
	1.9nm,0.6s,baz=50,slow=1.1,SNR=21						
	1.9nm,0.6s						
TROLL	**Troll, Antarti**	**76.22**	**181**	⇓P	**P**	**18 18 50.2**	**-0.1**
	comp=Z,86nm,0.6s						
SNAA	**Sanae**	**76.54**	**179**	P	**P**	**18 18 52.3**	**+0.2**
SNAA	**Sanae**	**76.54**	**179**	P	**P**	**18 18 52.2**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=158,slow=3.5,SNR=17						
	comp=Z,1.3nm,0.5s						
VNA3	**Neumayer Olymp**	**76.73**	**177**	P	**P**	**18 18 51.6**	**-1.4**
VNA1	**Neumayer--Stat**	**77.39**	**177**	P	**P**	**18 18 55.8**	**-0.8**
H03N3	**Juan Fernandez**	**80.59**	**123**	T	T	19 48 05.7	
	baz=239,slow=72,SNR=3.8						
H03N2	**Juan Fernandez**	**80.59**	**123**	T	T	19 47 59.6	
	baz=239,slow=72,SNR=4.7						
H03N1	**Juan Fernandez**	**80.61**	**123**	T	T	19 48 06.5	
	baz=239,slow=72,SNR=3.7						
TORD	**Torodi Ar. Bea**	**161.17**	**183**	PKPab	**PKPab**	**18 27 47.2**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=180,slow=3.1,SNR=2.3						

IDC 10 18:29:14.2±9.3, 17.90°S×177.96°W, h671km±118km, mb3.0/5, mbtmp4.0/5, Error ellipse: s-maj=42.2km s-min=28.7km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.05**	**259**	P	P	18 36 33.7	-0.2
	1.1nm,0.4s,baz=96,slow=7.0,SNR=23						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**45.20**	**254**	P	P	18 36 35.2	+0.2
	1.1nm,0.5s,baz=88,slow=8.1,SNR=52						
ASAR				PcP	PcP	18 37 59.9	-0.2
	0.3nm,0.5s,baz=97,slow=3.7,SNR=2.8						
	1.1nm,0.5s						
MJAR	**Matsushiro Arr**	**68.15**	**323**	P	P	18 39 10.3	0.0
	0.7nm,0.6s,baz=152,slow=5.5,SNR=3.5						
	0.7nm,0.6s						
QSPA	**South Pole Qui**	**72.16**	**180**	P	P	18 39 33.7	+0.2
	1.5nm,0.7s,baz=90,slow=1.0,SNR=8.6						
	1.5nm,0.7s						
TXAR	**Lajitas Array**	**85.63**	**57**	P	P	18 40 44.8	0.0
	0.9nm,0.7s,baz=213,slow=5.3,SNR=9.8						
	0.9nm,0.7s						

*SJA **10** 18:33:00.4±0.7, 30.68°S×71.44°W, h32km±1km, ML4.1, MW4.1*
*GUC **10** 18:33:01.7±0.6, 30.72°S×71.39°W, h50km±1km, ML4.1*
*NEIC **10** 18:33:01.6, 30.70°S×71.47°W, h41km*
*NEIC **10** 18:33:01.8±2.0, 30.70°S±0.03×71.52°W±0.08, h43km±5km, mb4.4/8, Mwr4.0/15, ML4.1(GUC), Error ellipse: s-maj=10.6km s-min=4.3km az=91.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.17; $M_{\theta\theta}$0.27; $M_{\phi\phi}$-1.44; $M_{r\theta}$0.29; $M_{\theta\phi}$0.06; $M_{\phi r}$-0.28; Fault plane solution: $M_0$1.39000×10^{15} NP1:ϕ_s13.82000°, δ40.85000°, λ113.98000°. NP2:ϕ_s163.36000°, δ53.30000°, λ70.63000°. Principal axes: T 1.2802, Plg73.0000°, Azm19.0000°; N 0.1956, Plg15.0000°, Azm175.0000°; P -1.4757, Plg6.0000°, Azm267.0000°;*
*IDC **10** 18:33:04.8±2.8, 30.67°S×71.36°W, h73km±23km, mb3.8/9, mbtmp4.0/14, MS3.2/2 Error ellipse: s-maj=22.0km s-min=16.3km az=92.0*

ISC 10 18:33:01.4±0.7, 30.68°S±0.02×71.53°W±0.04, h45km±6km, n141, σ1s68/179, mb4.2/10, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.09**	**271**		**Pn**	**18 33 09.4**	**+0.8**
CO06				Sn	**Sn**	**18 33 15.5**	**+1.8**
CO06	**Fray Jorge**	**0.09**	**271**	⇑*P*	**Pn**	**18 33 09.6**	**+1.0**
CO06				*eS*	**Sn**	**18 33 15.2**	**+1.5**
CO06				IAML		18 33 16.9	
	comp=E,14μm,0.4s						
CO02	**Combarbal**	**0.69**	**139**		**Pn**	**18 33 14.1**	**-0.9**
CO02				Sn	**Sn**	**18 33 23.2**	**-1.7**
CO02	**Combarbal**	**0.69**	**139**	⇓*eP*	**Pn**	**18 33 14.2**	**-0.9**
CO02				*eS*	**Sn**	**18 33 23.2**	**-1.7**
CO02				IAML		18 33 23.9	
	comp=E,41μm,0.2s						
CO02	**Combarbal**	**0.69**	**139**	*eP*	**Pn**	**18 33 14.0**	**-1.1**
CO02				*eS*	**Sn**	**18 33 23.6**	**-1.3**
CO02				IAML		18 33 23.8	
	comp=Z,10μm,1.1s						
CO03	**El Pedregal**	**0.74**	**103**		**Pn**	**18 33 14.3**	**-1.3**
CO03				Sn	**Sn**	**18 33 24.0**	**-1.9**
CO03	**El Pedregal**	**0.74**	**103**	*eP*	**Pn**	**18 33 14.5**	**-1.1**
CO03				*eS*	**Sn**	**18 33 23.8**	**-2.1**
CO03				IAML		18 33 24.5	
	comp=E,13μm,0.3s						
CO03	**El Pedregal**	**0.74**	**103**	*eP*	**Pn**	**18 33 14.4**	**-1.3**
CO03				*eS*	**Sn**	**18 33 24.6**	**-1.3**
CO03				IAML		18 33 24.9	
	comp=Z,4μm,0.5s						
CO05	**La Serena**	**0.80**	**18**		**Pn**	**18 33 16.9**	**+0.6**
CO05				Sn	**Sn**	**18 33 26.8**	**-0.2**
CO05	**La Serena**	**0.80**	**18**	*eP*	**Pn**	**18 33 17.0**	**+0.7**
GO04	**Tololo Observa**	**0.81**	**52**		**Pn**	**18 33 16.2**	**-0.4**
GO04				Sn	**Sn**	**18 33 26.8**	**-0.8**
GO04	**Tololo Observa**	**0.81**	**52**	*eP*	**Pn**	**18 33 16.2**	**-0.4**
GO04				*eS*	**Sn**	**18 33 27.3**	**-0.4**
GO04				IAML		18 33 29.9	
	comp=E,28μm,0.4s						
GO04	**Tololo Observa**	**0.81**	**52**	*eP*	**Pn**	**18 33 15.6**	**-1.1**
GO04				*eS*	**Sn**	**18 33 27.6**	**-0.1**
GO04				IAML		18 33 28.8	
	comp=Z,8μm,0.2s						
CO01	**Juntas del Tor**	**1.42**	**61**		**Pn**	**18 33 25.4**	**+0.3**
CO01				Sn	**Sn**	**18 33 42.0**	**-0.7**
CO01	**Juntas del Tor**	**1.42**	**61**	*eP*	**Pn**	**18 33 25.6**	**+0.5**
CO01	**Juntas del Tor**	**1.42**	**61**	*eP*	**Pn**	**18 33 25.8**	**-0.1**
CO01				*eS*	**Sn**	**18 33 43.6**	**+0.8**
CO04	**Los Peladeros**	**1.44**	**161**	*eP*	**Pn**	**18 33 25.2**	**-0.1**
CO04				*eS*	**Sn**	**18 33 43.1**	**-0.2**
CO04				IAML		18 33 45.8	
	comp=N,5μm,0.1s						
LCO	**Las Campanas**	**1.81**	**24**		**Pn**	**18 33 31.1**	**+0.7**
LCO				Sn	**Sn**	**18 33 53.7**	**+1.5**
LCO	**Las Campanas**	**1.81**	**24**	*eP*	**Pn**	**18 33 30.7**	**+0.4**
LCO				*eS*	Sn	18 33 37.9	-14
LCO				IAML		18 34 01.4	
	comp=Z,2μm,0.3s						
AROD	**Rodeo**	**1.85**	**75**	*eP*	**Pn**	**18 33 32.9**	**+1.9**
AROD				*eS*	**Sn**	**18 33 55.9**	**+2.7**
VA06	**Catapilco**	**1.89**	**174**		**Pn**	**18 33 31.6**	**+0.3**
VA06				Sn	**Sn**	**18 33 52.5**	**-1.3**
VA06	**Catapilco**	**1.89**	**174**	*eP*	**Pn**	**18 33 31.5**	**+0.3**
ACCO	**Cerro Coronel**	**2.12**	**88**	*eP*	**Pn**	**18 33 36.9**	**+2.1**
ACCO				*eS*	Sn	18 33 50.5	-10
ACDV	**Cuesta del Vie**	**2.14**	**77**	*eP*	**Pn**	**18 33 38.6**	**+3.7**
RTLS	**Leoncito**	**2.21**	**121**	*eP*	**Pn**	**18 33 38.0**	**+2.1**
RTLS				*eS*	**Sn**	**18 34 08.3**	**+6.0**
RTLS				IAML		18 34 13.9	
	comp=Z,2μm,0.6s						
VA03	**San Esteban**	**2.24**	**158**		**Pn**	**18 33 36.2**	**+0.1**
VA03				Sn	**Sn**	**18 34 04.2**	**+1.5**
VA03	**San Esteban**	**2.24**	**158**	*eP*	**Pn**	**18 33 36.9**	**+0.7**
VA03				IAML		18 34 07.7	
	comp=E,2μm,0.2s						
VA03	**San Esteban**	**2.24**	**158**	*eP*	**Pn**	**18 33 37.0**	**+0.9**
VA03				IAML		18 34 12.2	
	comp=Z,718nm,0.2s						
ROCH	**El Roble**	**2.33**	**169**	*eP*	**Pn**	**18 33 38.2**	**+0.6**
ROC1	**El Roble**	**2.33**	**169**	*eP*	**Pn**	**18 33 38.2**	**+0.6**
ROC1				*eS*	Sn	18 33 54.0	-11
VA01	**Torpederas**	**2.34**	**182**		**Pn**	**18 33 36.8**	**-0.7**
VA01	**Torpederas**	**2.34**	**182**	*eP*	**Pn**	**18 33 34.9**	**-2.6**
AC04	**Llanos de Chal**	**2.50**	**9**		**Pn**	**18 33 40.2**	**+0.7**
AC04	**Llanos de Chal**	**2.50**	**9**	*eP*	**Pn**	**18 33 41.0**	**+1.4**
AC04				IAML		18 34 24.8	
	comp=N,502nm,0.3s						
AC04	**Llanos de Chal**	**2.50**	**9**	*eP*	**Pn**	**18 33 41.3**	**+1.8**
AC04				*eS*	**Sn**	**18 34 12.4**	**+3.6**
AC04				IAML		18 34 21.2	
	comp=Z,534nm,0.6s						
PEL	**Peldehue**	**2.56**	**164**		**Pn**	**18 33 41.3**	**+0.7**
PEL	**Peldehue**	**2.56**	**164**	*eP*	**Pn**	**18 33 41.5**	**+1.0**
PEL				IAML		18 34 24.3	
	comp=E,648nm,0.2s						
PEL	**Peldehue**	**2.56**	**164**	*eP*	**Pn**	**18 33 42.0**	**+1.5**
PEL				*eS*	**Sn**	**18 34 12.5**	**+2.0**
PEL				IAML		18 34 31.1	
	comp=Z,620nm,0.9s						
MT02	**Curacav**	**2.60**	**173**		**Pn**	**18 33 41.1**	**+0.1**
MT02	**Curacav**	**2.60**	**173**	*eP*	**Pn**	**18 33 41.6**	**+0.7**
MT02	**Curacav**	**2.60**	**173**	*eP*	**Pn**	**18 33 41.2**	**+0.2**
MT02				*eS*	**Sn**	**18 34 08.4**	**-2.8**
MT02				IAML		18 34 29.2	
	comp=Z,396nm,0.8s						
SJA	**San Juan**	**2.68**	**109**	*eP*	**Pn**	**18 33 44.3**	**+2.1**
SJA				*eS*	**Sn**	**18 34 19.2**	**+5.7**
MT05	**Renca**	**2.79**	**166**		**Pn**	**18 33 44.0**	**+0.3**
MT05	**Renca**	**2.79**	**166**	*eP*	**Pn**	**18 33 45.8**	**+2.1**
MT05				*eS*	**Sn**	**18 34 17.8**	**+1.7**
MT05				IAML		18 34 31.8	
	comp=Z,564nm,1.6s						
FCH	**Farellones**	**2.84**	**159**	*eP*	**Pn**	**18 33 46.6**	**+2.0**
FCH				IAML		18 34 29.1	
	comp=E,498nm,0.2s						
MT16	**CCHEN**	**2.87**	**163**		**Pn**	**18 33 46.4**	**+1.6**
AGUA	**GUANDACOL**	**2.89**	**67**	*eP*	**Pn**	**18 33 49.1**	**+4.1**
AGUA				IAML		18 34 32.9	
	comp=Z,890nm,0.2s						
MT03	**Universidad Ad**	**2.94**	**163**		**Pn**	**18 33 46.2**	**+0.5**
MT03	**Universidad Ad**	**2.94**	**163**	*eP*	**Pn**	**18 33 47.5**	**+1.7**
MT03				*eS*	**Sn**	**18 34 22.4**	**+2.5**
MT03				IAML		18 34 32.3	
	comp=Z,728nm,0.5s						
MT04	**Ro Olivares**	**2.97**	**157**	*eP*	**Pn**	**18 33 48.2**	**+1.9**
MT04				*eS*	**Sn**	**18 34 21.4**	**+0.6**
MT04				IAML		18 34 31.6	
	comp=Z,573nm,0.6s						
CFA	**Coronel Fontan**	**2.97**	**109**	P	**Pn**	**18 33 47.6**	**+1.5**
	comp=Z,95nm,0.3s,baz=291,slow=12,SNR=167						
CFA				S	**Sn**	**18 34 21.9**	**+1.3**
	comp=Z,167nm,0.4s,baz=233,slow=20,SNR=11						
CFA	**Coronel Fontan**	**2.97**	**109**	*eP*	**Pn**	**18 33 42.0**	**-4.1**
CFA				*eP*	**Pn**	**18 33 47.0**	**+0.9**
ASAL	**Salagasta**	**2.99**	**130**	*eP*	**Pn**	**18 33 48.9**	**+2.5**
ASAL				*eS*	**Sn**	**18 34 25.6**	**+4.6**
MT08	**Bocatoma Ro**	**3.04**	**155**		**Pn**	**18 33 47.8**	**+0.5**
MT08	**Bocatoma Ro**	**3.04**	**155**	*eP*	**Pn**	**18 33 45.0**	**-2.3**
MT08				*eS*	**Sn**	**18 34 23.5**	**+0.9**
MT08				IAML		18 34 35.4	
	comp=Z,367nm,0.6s						
ARCO	**CERRO ARCO**	**3.09**	**135**	*eP*	**Pn**	**18 33 51.2**	**+3.3**
ARCO				*eS*	Sn	18 34 36.0	+12
ARCO				IAML		18 34 38.2	
	comp=Z,650nm,0.4s						
MT09	**Talagante**	**3.12**	**172**		**Pn**	**18 33 48.9**	**+0.6**
MT01	**Popeta**	**3.19**	**176**		**Pn**	**18 33 49.3**	**+0.3**
MT01	**Popeta**	**3.19**	**176**	*eP*	**Pn**	**18 33 49.2**	**+0.1**
MT01				IAML		18 34 38.1	
	comp=N,451nm,0.3s						
MT01	**Popeta**	**3.19**	**176**	*eP*	**Pn**	**18 33 49.0**	**-0.1**
MT01				*eS*	**Sn**	**18 34 27.4**	**+1.6**
MT01				IAML		18 34 44.1	
	comp=Z,278nm,0.6s						
MT13	**San Alfonso**	**3.23**	**161**		**Pn**	**18 33 50.4**	**+0.6**
MT13	**San Alfonso**	**3.23**	**161**	*eS*	**Sn**	**18 34 28.7**	**+1.6**
MT13				IAML		18 34 37.2	
	comp=Z,456nm,0.4s						
GO03	**Copiapo**	**3.27**	**21**		**Pn**	**18 33 50.8**	**+0.5**
GO03	**Copiapo**	**3.27**	**21**	*eP*	**Pn**	**18 33 51.2**	**+0.9**
GO03	**Copiapo**	**3.27**	**21**	*eP*	**Pn**	**18 33 52.0**	**+1.7**
GO03				*eS*	**Sn**	**18 34 28.6**	**+0.6**
GO03				IAML		18 34 42.7	
	comp=Z,574nm,0.8s						
AAGR	**Agrelo**	**3.32**	**137**	*eP*	Pn	18 33 41.7	-9.3
AAGR				*eS*	Sn	18 34 42.8	+14
LMEL	**Las Melosas**	**3.36**	**161**		**Pn**	**18 33 51.0**	**-0.5**
LMEL	**Las Melosas**	**3.36**	**161**	*eP*	**Pn**	**18 33 53.0**	**+1.5**
LMEL				IAML		18 34 42.8	
	comp=N,405nm,0.2s						
LMEL	**Las Melosas**	**3.36**	**161**	*eP*	**Pn**	**18 33 53.8**	**+2.3**
LMEL				*eS*	**Sn**	**18 34 31.1**	**+0.9**
LMEL				IAML		18 34 45.7	
	comp=Z,360nm,0.7s						
BO04	**La Punta**	**3.39**	**167**		**Pn**	**18 33 52.1**	**+0.2**
BO04	**La Punta**	**3.39**	**167**	*eP*	**Pn**	**18 33 52.8**	**+0.8**
VCA	**Vinchina**	**3.48**	**57**	*eP*	**Pn**	**18 33 51.9**	**-1.4**
VCA				*eS*	**Sn**	**18 34 36.4**	**+3.1**
VCA				IAML		18 34 49.9	
	comp=Z,939nm,0.6s						
AVFE	**Valle Fertil**	**3.51**	**91**	*eP*	**Pn**	**18 33 54.4**	**+0.8**
AVFE				*eS*	**Sn**	**18 34 37.4**	**+3.5**
AVFE				IAML		18 34 43.6	
	comp=Z,382nm,0.3s						
BO01	**Tunca**	**3.72**	**174**		**Pn**	**18 33 56.5**	**0.0**
BO01	**Tunca**	**3.72**	**174**	*eP*	**Pn**	**18 33 57.3**	**+0.9**
BO01	**Tunca**	**3.72**	**174**	*eP*	**Pn**	**18 33 57.2**	**+0.7**
BO01				*eS*	**Sn**	**18 34 43.3**	**+4.3**
BO01				IAML		18 34 58.8	
	comp=Z,155nm,0.9s						
AVIZ	**Vizcacheras**	**3.78**	**138**	*eP*	**Pn**	**18 34 00.9**	**+3.5**
AVIZ				*eS*	Sn	18 34 51.9	+11
ACAN	**Cantantal**	**4.04**	**114**	*eP*	**Pn**	**18 34 01.1**	**+0.4**
ACAN				IAML		18 35 13.8	
	comp=Z,656nm,0.5s						
BO02	**Sierra Bellavi**	**4.15**	**171**		**Pn**	**18 34 02.3**	**-0.1**
BO02	**Sierra Bellavi**	**4.15**	**171**	*eP*	**Pn**	**18 34 03.8**	**+1.4**
BO02				*eS*	Sn	18 35 03.0	+13
BO02				IAML		18 35 09.2	
	comp=Z,204nm,0.5s						
ACLC	**CERRO LA CRUZ**	**4.16**	**74**	*eP*	**Pn**	**18 34 04.2**	**+1.7**
ACLC				*eS*	**Sn**	**18 34 51.4**	**+1.4**
ACLC				IAML		18 35 01.4	
	comp=Z,366nm,0.5s						
ACHE	**Chepes**	**4.21**	**98**	*eP*	**Pn**	**18 34 04.0**	**+0.8**
ACHE				*eS*	**Sn**	**18 34 50.7**	**-0.5**
APLL	**PUNTA DE LOS L**	**4.32**	**88**	*eP*	**Pn**	**18 34 05.8**	**+1.1**
APLL				*eS*	**Sn**	**18 34 54.6**	**+0.7**
AC02	**Maricunga**	**4.37**	**29**		**Pn**	**18 34 07.4**	**+1.6**
AC02	**Maricunga**	**4.37**	**29**	*eP*	**Pn**	**18 34 08.1**	**+2.4**
AC02				*eS*	**Sn**	**18 34 58.0**	**+2.4**
AC02				IAML		18 35 31.2	
	comp=Z,205nm,0.8s						
AANI	**Anillaco**	**4.40**	**66**	*eP*	**Pn**	**18 34 08.3**	**+2.4**
AANI				*eS*	Sn	18 35 09.8	+14
AC01	**Pan de Azucar**	**4.58**	**11**		**Pn**	**18 34 07.8**	**-0.4**
AC01	**Pan de Azucar**	**4.58**	**11**	*eP*	**Pn**	**18 34 07.9**	**-0.4**
AC01				*eS*	Sn	18 35 10.9	+11
AC01				IAML		18 35 26.8	
	comp=Z,116nm,0.7s						
RFA	**San Rafael**	**4.83**	**149**	*eP*	**Pn**	**18 34 12.4**	**+0.8**
RFA				*eS*	**Sn**	**18 35 12.0**	**+5.6**
MRA	**San Martin**	**5.26**	**111**	*eP*	**Pn**	**18 34 17.6**	**0.0**
MRA				*eS*	**Sn**	**18 35 17.0**	**+0.1**
MRA				IAML		18 35 44.2	
	comp=Z,214nm,0.6s						
GO02	**Mina Guanaco**	**5.75**	**18**	Pn	**Pn**	**18 34 23.3**	**-1.3**
BI02	**San Fabin de**	**5.97**	**178**		**Pn**	**18 34

CPUP	**Villa Florida**	**13.21**	**74**	P		**Pn**	**18 36 06.5**	**0.0**	
	comp=Z,0.2nm,0.4s,baz=247,slow=15,SNR=1.7								
CPUP				S		**Sn**	**18 38 31.5**	**-0.5**	
	comp=Z,0.3nm,0.4s,baz=225,slow=20,SNR=3.1								
LPAZ	**La Paz**	**14.66**	**13**	Pn		**Pn**	**18 36 26.1**	**-0.4**	
LPAZ	**La Paz**	**14.66**	**13**	P		**Pn**	**18 36 28.2**	**+1.6**	
	comp=Z,2.5nm,0.9s,baz=189,slow=5.5,SNR=5.8								
SIV	**San Ignacio**	**17.47**	**36**	P		**P**	**18 37 02.7**	**+0.1**	
	comp=Z,2.0nm,0.5s,baz=214,slow=9.4,SNR=13								
BDFB	**Brasilia**	**26.21**	**60**	P		**P**	**18 38 31.5**	**-0.8**	
BDFB				IAmb		IAmb	18 38 32.1		
	comp=Z,4.9nm,0.6s								
BDFB	**Brasilia**	**26.21**	**60**	P		**P**	**18 38 31.0**	**-1.3**	
	comp=Z,5.7nm,0.7s,baz=221,slow=9.5,SNR=6.3								
	comp=Z,5.7nm,0.7s								
BOAV	**Boa Vista**	**34.52**	**20**	P		**P**	**18 39 45.2**	**-0.3**	
BOAV				IAmb		IAmb	18 39 48.4		
	comp=Z,5.6nm,1.3s								
RUSC	**La Rusia**	**36.39**	**357**	P		**P**	**18 40 02.0**	**-0.1**	
RUSC				IAmb		IAmb	18 40 05.2		
	comp=Z,9.7nm,1.1s								
CRPR	**Cabo Rojo, PR**	**48.59**	**6**	P		**P**	**18 41 40.4**	**-0.1**	
PDPR	**Patillas Dam,**	**48.70**	**7**	P		**P**	**18 41 40.8**	**-0.6**	
CELP	**Cerrillos**	**48.70**	**6**	P		**P**	**18 41 41.9**	**+0.4**	
SNAA	**Sanae**	**54.51**	**159**	P		**P**	**18 42 23.4**	**-1.0**	
SNAA	**Sanae**	**54.51**	**159**	P		**P**	**18 42 23.9**	**-0.4**	
	comp=Z,1.4nm,0.6s,baz=277,slow=8.0,SNR=18								
	comp=Z,1.4nm,0.6s								
QSPA	**South Pole Qui**	**59.55**	**180**	P		**P**	**18 43 00.7**	**+0.5**	
QSPA	**South Pole Qui**	**59.55**	**180**	P		**P**	**18 43 01.1**	**+1.0**	
	comp=Z,1.6nm,0.8s,baz=137,slow=1.5,SNR=5.3								
	comp=Z,1.6nm,0.8s								
TXAR	**Lajitas Array**	**67.07**	**330**	P		**P**	**18 43 51.8**	**+1.6**	
	comp=Z,0.3nm,0.5s,baz=152,slow=7.6,SNR=4.4								
	comp=Z,0.3nm,0.5s								
DBIC	**Dimbokro**	**73.72**	**72**	P		**P**	**18 44 30.9**	**-0.1**	
	comp=Z,5.7nm,0.6s,baz=245,slow=5.0,SNR=8.5								
	comp=Z,5.7nm,0.6s								
MAW	**Mawson**	**76.24**	**164**	P		**P**	**18 44 44.7**	**0.0**	
	comp=Z,0.8nm,0.5s,baz=213,slow=7.3,SNR=7.0								
	comp=Z,0.8nm,0.5s								
PDAR	**Pinedale Array**	**81.01**	**333**	P		**P**	**18 45 11.6**	**+0.1**	
	comp=Z,0.2nm,0.4s,baz=18,slow=7.7,SNR=2.4								
	comp=Z,0.2nm,0.4s								
BOSA	**Boshof**	**81.24**	**118**	P		**P**	**18 45 12.3**	**-0.8**	
	comp=Z,1.7nm,0.8s,baz=310,slow=18,SNR=2.3								
	comp=Z,1.7nm,0.8s								
TORD	**Torodi Ar. Bea**	**82.67**	**70**	P		**P**	**18 45 19.8**	**-0.8**	
	comp=Z,0.8nm,0.4s,baz=287,slow=5.7,SNR=22								
	comp=Z,0.8nm,0.4s								
LBTB	**Lobatse**	**83.31**	**115**	LR		LR	19 17 13.3		
	comp=Z,32nm,20.6s,baz=152,slow=32								
H11S2	**WAKE ISLAND Hyl**	**26.19**	**271**	T		T	21 10 43.8		
	baz=115,slow=75,SNR=9.8								
H11S1	**WAKE ISLAND Hyl**	**26.20**	**271**	T		T	21 10 47.7		
	baz=115,slow=75,SNR=6.1								
H11S3	**WAKE ISLAND Hyl**	**26.21**	**271**	T		T	21 10 46.4		
	baz=115,slow=75,SNR=12								
BVAR	**Borovoye Array**	**144.51**	**40**	PKP		PKPbc	18 52 31.1	0.0	
	comp=Z,1.2nm,0.5s,baz=260,slow=2.3,SNR=9.1								
KURBB	**Kurchatov Arra**	**150.10**	**40**	PKPbc		**PKPbc**	**18 52 46.2**	**-0.6**	
	comp=Z,1.4nm,0.3s,baz=309,slow=2.7,SNR=4.7								
ZALV	**Zalesovo Beam**	**151.16**	**29**	PKPbc		**PKPbc**	**18 52 49.2**	**0.0**	
	comp=Z,3.7nm,0.5s,baz=301,slow=3.6,SNR=20								

*AEIC **10** 18:38:47.4±1.3,51°.45N±0°.06×178°.81E±0°.10,h39km±9km, Error ellipse: s-maj=9.5km s-min=7.8km az=218.0*

NEIC 10 18:38:46.7±0.8,51°.35N±0°.05×178°.69E±0°.04,h35km±2km, ML3.5/10,ML3.0(AEIC),Error ellipse: s-maj=9.5km s-min=3.7km az=341.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.39**	**86**		**Pn**	18 38 56.0	+0.2
AMKA					Sn	18 39 02.2	+0.2
LSSE	**Little Sitkin**	**0.59**	**353**		**Pn**	18 38 58.7	+0.1
LSSA	**Little Sitkin**	**0.61**	**350**		**Pn**	18 38 59.0	0.0
LSSA					Sn	18 39 07.2	-0.4
LSPA	**Little Sitkin**	**0.61**	**353**		**Pn**	18 38 59.3	+0.3
LSPA					Sn	18 39 07.6	0.0
LSNW	**Little Sitkin**	**0.63**	**350**		**Pn**	18 38 59.0	-0.3
LSNW					Sn	18 39 07.2	-0.9
CESW	**Semis' Southwe**	**0.78**	**44**		**Pn**	18 39 00.7	-0.5
CETU	**Semis' Tuman**	**0.80**	**39**		**Pn**	18 39 01.2	-0.3
CETU					Sn	18 39 11.6	-0.6
CERB	**Semis' Cerberu**	**0.83**	**45**		**Pn**	18 39 01.6	-0.2
CERB					Sn	18 39 12.1	-0.8
GAKI	**Gareloi-Kavalg**	**1.58**	**82**		**Pn**	18 39 12.1	-0.1
GAKI					Sn	18 39 30.3	-1.0
GASW	**Gareloi Southw**	**1.59**	**73**		**Pn**	18 39 12.4	0.0
GASW					Sn	18 39 31.2	-0.6
GANE	**Gareloi Northe**	**1.65**	**72**		**Pn**	18 39 13.1	-0.1
GANE					Sn	18 39 33.2	0.0
TASE	**Tanaga Southea**	**2.10**	**75**		**Pn**	18 39 19.6	+0.2
TASE					Sn	18 39 44.4	0.0
TAFP	**Tanaga Falls P**	**2.15**	**74**		**Pn**	18 39 20.0	0.0
TAFP					Sn	18 39 44.4	-1.0
KIMD	**Kanaga Island**	**2.58**	**79**		**Pn**	18 39 26.9	+1.0
KIMD					Sn	18 39 56.2	+0.1
KIKV	**Kanaga Island**	**2.64**	**77**		**Pn**	18 39 27.2	+0.5
KIKV					Sn	18 39 57.5	0.0
KIWB	**Kanaga Island**	**2.65**	**77**		**Pn**	18 39 27.0	+0.1
KIWB				Sn	Sn	18 39 57.2	-0.4
KIWB				IAML		18 40 03.2	
	comp=E,178nm,0.5s						
KIWB				IAML		18 40 04.3	
	comp=N,206nm,0.6s						
ADK	**Adak**	**2.94**	**78**		**Pn**	18 39 30.8	-0.1
ADK				IAML		18 40 13.9	
	comp=N,151nm,0.4s						
ADK				IAML		18 40 19.2	
	comp=N,136nm,0.5s						
ADK	**Adak**	**2.94**	**78**		**Sn**	18 40 03.6	-1.2
ETKA	**Kagalaska Isla**	**3.10**	**79**		**Pn**	18 39 33.5	+0.3
ETKA					Sn	18 40 08.4	-0.5
SHEM	**Shemya Is, Ala**	**3.15**	**298**	Pn	Pn	18 39 33.1	-0.6
SMY	**Shemya**	**3.15**	**298**	Pn	Pn	18 39 34.3	+0.5
SMY				IAML		18 40 20.1	
	comp=N,171nm,1.1s						
GSCK	**Great Sitkin C**	**3.27**	**76**		**Pn**	18 39 36.2	+0.7
GSCK					Sn	18 40 13.1	-0.2
GSIG	**Igitkin Island**	**3.42**	**77**		**Pn**	18 39 37.3	-0.2
GSIG					Sn	18 40 17.1	+0.4
ATKA	**Atka Island**	**4.50**	**76**	Pn	Pn	18 39 51.2	-1.2
ATKA				IAML		18 40 58.6	
	comp=E,60nm,0.9s						
SPIA	**Saint Paul Isl**	**8.71**	**44**	Pn	Pn	18 40 49.1	-1.0
LVA	**Lava Point**	**9.68**	**67**	Pn	Pn	18 41 04.3	+0.9
AKUT	**Akutan**	**9.83**	**67**	Pn	Pn	18 41 05.1	-0.3

*IDC **10** 18:46:01.5±0.5,5°.98N×125°.11E,h0km,mb4.0/17, mbtmp4.0/18,ML4.1/1,MS3.4/13,Error ellipse: s-maj=19.3km s-min=9.5km az=95.0*

*DJA **10** 18:46:06.0±1.2,6°.1N±10°×12°.6E±°,h101km±18km,M4.8/9, mB5.1/7,mb4.9/8,MLv5.0/9,Mw(mB)4.5/7*

*NEIC **10** 18:46:08.3±1.1,6°.14N±0°.05×125°.39E±0°.08,h46km±7km, mb4.7/63,Error ellipse: s-maj=11.6km s-min=7.0km az=96.0*

ISC 10 18:46:08.7±1.0,6°.08N±0°.05×125°.42E±0°.07,h53km±9km, n113,σ0°.93/102,mb4.6/49,MS3.4/13,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.99**	**9**		**Pn**	**18 46 25.5**	**-1.0**
DAV					**Sn**	**18 46 37.5**	**-2.0**
DAV	**Davao City (W)**	**0.99**	**9**	Pg	**Pn**	**18 46 25.8**	**-0.6**
	216nm,0.3s,baz=244,slow=4.0,SNR=9.0						
DAV				Lg	Lg	18 46 40.0	
	284nm,0.3s,baz=180,slow=20,SNR=34						
DAV				LR	LR	18 47 09.4	
	comp=Z,799nm,19.7s,baz=207,slow=58						
SGSI	**Sangihe**	**2.38**	**177**	P	**Pn**	**18 46 46.5**	**+1.1**
TNTI	**Ternate**	**5.62**	**160**		**Pn**	**18 47 30.4**	**+0.7**
KMSI	**Cibinong**	**5.66**	**195**	P	**Pn**	**18 47 29.5**	**-0.8**
	1.1nm3µm218nm,0.7s						
MRSI	**Marisa**	**6.56**	**212**	P	**Pn**	**18 47 43.0**	**+0.3**
	1.2nm2µm206nm,0.8s						
TOLI2	**Tolitoli**	**6.77**	**223**		**Pn**	**18 47 43.2**	**-2.3**
MYLDM	**Lahad Datu**	**6.94**	**263**		**Pn**	**18 47 50.7**	**+2.8**
LUWI	**Luwuk**	**7.55**	**201**		**Pn**	**18 47 57.1**	**+0.9**
LUWI	**Luwuk**	**7.55**	**201**	P	**Pn**	**18 47 57.7**	**+1.4**
	2µm127nm,0.9s						

SANI	**Sanana**	**8.10**	**176**	P		**Pn**	**18 48 02.2**	**-1.5**	
	85nm,0.9s								
PCI	**Palu**	**8.90**	**219**	P		**Pn**	**18 48 16.6**	**+1.8**	
	41nm,0.9s								
KKM	**Kota Kinabalu**	**9.15**	**270**	Pn		**Pn**	**18 48 17.0**	**-1.3**	
NLAI	**Namlea**	**9.41**	**170**	P		**Pn**	**18 48 20.4**	**-1.3**	
	48nm,0.5s								
TTSI	**Tana Toraja**	**10.65**	**212**	P		**Pn**	**18 48 38.4**	**-0.3**	
FAKI	**Fak Fak**	**11.25**	**142**	Pn		**Pn**	**18 48 46.0**	**-0.8**	
SBUM	**Sibu**	**13.65**	**255**			**Pn**	**18 49 19.0**	**-0.7**	
SOEI	**Soe**	**15.78**	**184**	Pn		**Pn**	**18 49 48.8**	**+1.1**	
SOEI				IAmb		IAmb	18 50 18.7		
	comp=Z,33nm,0.9s								
BATI	**Baumata**	**16.28**	**186**	Pn		**Pn**	**18 49 54.6**	**+0.7**	
	comp=Z,9.1nm,0.3s,baz=18,slow=2.3,SNR=9.6								
JAY	**Jayapura**	**17.49**	**119**	P		**Pn**	**18 50 09.1**	**0.0**	
	comp=Z,0.6nm,0.3s,baz=240,slow=13,SNR=5.1								
	comp=Z,8.5nm,0.8s								
MTN	**Manton Dam**	**19.64**	**163**			**P**	**18 50 32.2**	**-0.9**	
MTN				IAmb		IAmb	18 50 35.7		
	comp=Z,36nm,1.2s								
GUMO	**Guam**	**20.55**	**67**	LR		LR	18 58 12.3		
	comp=Z,21nm,20.0s,baz=247,slow=35								
JOW	**Kunigami**	**20.81**	**7**	LR		LR	18 58 46.4		
	comp=Z,60nm,20.9s,baz=306,slow=36								
KNRA	**Kununurra**	**21.87**	**171**	P		**P**	**18 50 56.0**	**-1.3**	
KNRA				IAmb		IAmb	18 51 00.8		
	comp=Z,24nm,0.9s								
LEM	**Lembang**	**21.91**	**234**	LR		LR	19 01 43.8		
	comp=Z,150nm,18.1s,baz=24,slow=44								
FITZ	**Fitzroy Crossi**	**24.03**	**179**	P		**P**	**18 51 18.9**	**0.0**	
	comp=Z,3.8nm,0.4s,baz=4.3,slow=11,SNR=25								
	comp=Z,3.8nm,0.4s								
KULM	**Kulim**	**24.66**	**269**	P		**P**	**18 51 24.8**	**0.0**	
KULM				IAmb		IAmb	18 51 29.8		
	comp=Z,16nm,1.0s								
NJ2	**Nanjing**	**26.55**	**347**	*eP*		**P**	**18 51 43.3**	**+1.6**	
NJ2				pmax		pmax			
	comp=Z,6.0nm,0.5s								
PMG	**Port Moresby**	**26.57**	**125**	P		**P**	**18 51 42.0**	**-0.1**	
PMG				IAmb		IAmb	18 52 02.5		
	comp=Z,15nm,0.8s								
COEN	**Coen**	**26.59**	**139**	P		**P**	**18 51 41.9**	**-0.4**	
COEN				IAmb		IAmb	18 52 05.0		
	comp=Z,19nm,1.1s								
PSI	**Prapat**	**26.61**	**264**	LR		LR	19 04 23.6		
	comp=Z,138nm,18.7s,baz=84,slow=42								
WB0	**Warramunga Arr**	**27.16**	**161**			**P**	**18 51 46.2**	**-1.1**	
WB0				IAmb		IAmb	18 51 58.8		
	comp=Z,24nm,1.4s								
WRA	**Warramunga Arr**	**27.31**	**161**	P		**P**	**18 51 48.2**	**-0.4**	
	comp=Z,2.1nm,0.7s,baz=344,slow=11,SNR=15								
	comp=Z,2.1nm,0.7s								
MBWA	**Marble Bar**	**27.64**	**192**	P		**P**	**18 51 50.7**	**-0.8**	
MBWA				IAmb		IAmb	18 51 54.0		
	comp=Z,22nm,1.4s								
PSA00	**Pilbara Seismi**	**28.02**	**191**	P		**P**	**18 51 54.6**	**-0.4**	
CMAR	**Chiang Mai Arr**	**28.59**	**298**	P		**P**	**18 51 58.7**	**-1.4**	
	comp=Z,0.2nm,0.3s,baz=105,slow=9.3,SNR=4.1								
CMAR				LR		LR	19 03 34.8		
	comp=Z,40nm,19.2s,baz=185,slow=37								
	comp=Z,0.2nm,0.3s								
JHJ	**Hachijo jima 2**	**30.04**	**25**	LR		LR	19 03 54.9		
	comp=Z,36nm,20.8s,baz=23,slow=36								
PZH	**PanZhiHua**	**30.36**	**315**	P		**P**	**18 52 18.6**	**+2.7**	
AS31	**Alice Springs**	**30.70**	**165**			**P**	**18 52 17.9**	**-0.9**	
ASAR	**Alice Springs**	**30.71**	**165**	P		**P**	**18 52 17.7**	**-1.1**	
ASAR	**Alice Springs**	**30.71**	**165**	P		**P**	**18 52 18.6**	**-0.3**	
	comp=Z,1.8nm,0.5s,baz=342,slow=7.1,SNR=61								
ASAR				PcP		**PcP**	**18 55 15.7**	**-0.1**	
	comp=Z,1.0nm,0.5s,baz=348,slow=2.6,SNR=6.3								
	comp=Z,1.8nm,0.5s								
KSRS	**Korea Array**	**31.31**	**4**	P		**P**	**18 52 25.3**	**+1.4**	
	comp=Z,0.8nm,0.8s,baz=187,slow=9.3,SNR=2.7								
	comp=Z,0.8nm,0.8s								
CD2	**Chengdu**	**31.99**	**323**	P		**P**	**18 52 30.7**	**+0.6**	
MJAR	**Matsushiro Arr**	**32.50**	**19**	P		**P**	**18 52 35.1**	**+0.6**	
	comp=Z,0.6nm,0.6s,baz=207,slow=7.9,SNR=2.1								
MJAR				LR		LR	19 06 05.5		
	comp=Z,47nm,19.3s,baz=199,slow=37								
	comp=Z,0.6nm,0.6s								
CTAO	**Charters Tower**	**33.11**	**142**	P		**P**	**18 52 40.5**	**+0.5**	
LZH	**Lanzhou**	**35.83**	**329**	*eP*		P	18 53 09.0	+5.5	
LZH				pP		sP	18 53 24.8	+1.4	
LZH				pmax		pmax			
	comp=Z,23nm,1.0s								
MORW	**Morawa**	**36.09**	**194**	P		**P**	**18 53 05.4**	**-0.2**	
HHC	**Hu-ho-hao-te**	**36.77**	**342**	*eP*		P	18 53 03.9	-7.5	
HHC	**Hu-ho-hao-te**	**36.77**	**342**	*eP*		P	18 53 15.3	+3.9	
HHC				pmax		pmax			
	comp=Z,10.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,61nm,4.6s								
SHL	**Shillong**	**37.45**	**305**			**P**	**18 53 16.6**	**-0.8**	
NWAO	**Narrogin (SRO)**	**39.57**	**191**	P		**P**	**18 53 35.6**	**+0.7**	
BBOO	**Buckleboo**	**39.98**	**166**			**P**	**18 53 38.1**	**-0.2**	
EIDS	**Eidsvold**	**40.00**	**142**	P		**P**	**18 53 38.3**	**-0.2**	
EIDS				IAmb		IAmb	18 53 38.9		
	comp=Z,8.6nm,0.8s								
ASAJ	**Asahikawa**	**40.77**	**19**	LR		LR	19 10 35.5		
	comp=Z,38nm,19.2s,baz=172,slow=36								
STKA	**Stephens Creek**	**40.78**	**159**	P		**P**	**18 53 44.7**	**-0.2**	
STKA	**Stephens Creek**	**40.78**	**159**	P		**P**	**18 53 45.2**	**+0.3**	
	comp=Z,10nm,0.7s,baz=330,slow=7.5,SNR=21								
STKA				LR		LR	19 11 19.2		
	comp=Z,112nm,20.4s,baz=205,slow=37								
	comp=Z,10nm,0.7s								
ARMA	**Armidale**	**44.14**	**147**	P		**P**	**18 54 13.4**	**+1.1**	
ARMA				IAmb		IAmb	18 54 20.4		
	comp=Z,26nm,1.4s								
PALK	**Pallekele**	**44.42**	**274**	LR		LR	19 14 56.3		
	comp=Z,63nm,18.4s,baz=82,slow=39								
SONM	**Songino Array**	**44.67**	**342**	P		**P**	**18 54 16.6**	**+0.2**	
	comp=Z,0.4nm,0.5s,baz=157,slow=10,SNR=2.0								
SONM				PcP		**PcP**	**18 55 57.5**	**-0.7**	
	comp=Z,0.5nm,0.7s,baz=140,slow=4.7,SNR=2.5								
	comp=Z,0.4nm,0.5s								
CAN	**Canberra**	**46.79**	**153**	P		**P**	**18 54 34.8**	**+1.6**	
TOO	**Toolangi**	**47.29**	**158**	P		**P**	**18 54 38.2**	**+1.1**	
TOO				IAmb		IAmb	18 54 40.0		
	comp=Z,14nm,1.4s								
DZM	**Mont Dzumac**	**48.96**	**126**	P		**P**	**18 54 50.1**	**-0.1**	
WMQ	**Urumqi**	**50.06**	**325**	*eP*		**P**	**18 54 58.3**	**0.0**	
WMQ				pmax		pmax			
	comp=Z,17nm,0.7s								
PETK	**Petropavlovsk-**	**53.78**	**24**	P		**P**	**18 55 27.1**	**+1.3**	
	comp=Z,2.9nm,0.8s,baz=210,slow=4.5,SNR=4.9								
	comp=Z,2.9nm,0.8s								
MKAR	**Makanchi Array**	**54.89**	**325**	P		**P**	**18 55 33.8**	**-0.2**	
MKAR				PcP		**PcP**	**18 56 34.4**	**-1.2**	
MKAR	**Makanchi Array**	**54.89**	**325**	P		**P**	**18 55 34.4**	**+0.4**	
	comp=Z,0.9nm,0.6s,baz=118,slow=6.8,SNR=14								
MKAR				PcP		**PcP**	**18 56 34.6**	**-1.0**	
	comp=Z,0.5nm,0.6s,baz=109,slow=3.5,SNR=1.8								
MKAR				LR		LR	19 18 22.9		
	comp=Z,35nm,20.6s,baz=86,slow=35								
	comp=Z,0.9nm,0.6s								
MAKZ	**Makanchi**	**55.08**	**325**			**P**	**18 55 34.6**	**-0.8**	
MAKZ				PcP		**PcP**	**18 56 35.1**	**-1.1**	
YAK	**Yakutsk**	**55.92**	**2**	P		**P**	**18 55 40.4**	**-0.6**	
YAK				IAmb		IAmb	18 56 08.9		
	comp=Z,7.9nm,0.8s								
AAK	**Ala-Archa**	**57.75**	**317**	LR		LR	19 21 46.5		
	comp=Z,55nm,18.7s,baz=118,slow=37								
ZALV	**Zalesovo Beam**	**57.91**	**333**	P		**P**	**18 55 54.6**	**-0.7**	
	comp=Z,0.3nm,0.3s,baz=122,slow=5.4,SNR=2.6								
	comp=Z,0.3nm,0.3s								
KURBB	**Kurchatov Arra**	**59.07**	**327**	P		**P**	**18 56 03.1**	**-0.2**	
	comp=Z,1.6nm,0.7s,baz=123,slow=6.4,SNR=10								
	comp=Z,1.6nm,0.7s								
KURK	**Kurchatov**	**59.07**	**327**	P		**P**	**18 56 03.4**	**0.0**	
KURK				IAmb		IAmb	18 56 05.3		
	comp=Z,4.4nm,1.1s								
GAR	**Garm**	**59.38**	**312**	P		**P**	**18 56 06.6**	**+0.6**	
GAR				IAmb		IAmb	18 56 16.9		
	comp=Z,7.4nm,1.0s								
KKAR	**Karatay Array**	**60.63**	**317**	P		**P**	**18 56 14.8**	**+0.4**	
THZ	**Tophouse**	**64.35**	**142**	P		**P**	**18 56 39.5**	**+0.3**	
LBZ	**Lake Benmore**	**64.35**	**146**	P		**P**	**18 56 39.5**	**+0.4**	
LTZ	**Lake Taylor**	**64.57**	**144**	P		**P**	**18 56 41.7**	**+1.1**	
BVAR	**Borovoye Array**	**64.65**	**327**	P		**P**	**18 56 39.2**	**-1.7**	
	comp=Z,0.3nm,0.4s,baz=145,slow=8.3,SNR=2.3								
	comp=Z,0.3nm,0.4s								
RTZ	**Ruatahuna**	**65.24**	**137**	P		**P**	**18 56 45.1**	**0.0**	
TIXI	**Tiksi**	**65.53**	**1**	P		**P**	**18 56 45.8**	**-0.5**	
TIXI				IAmb		IAmb	18 57 05.5		
	comp=Z,5.9nm,1.1s								

ATKA	**Atka Island**	**67.33**	**35**	P		**P**	**18 56 57.5**	**-0.6**	
ABKAR	**Akbulak array**	**69.52**	**320**	P		**P**	**18 57 11.5**	**-0.3**	
AKTO	**Aktyubinsk**	**71.02**	**321**	LR		LR	19 29 25.8		
	comp=Z,33nm,19.5s,baz=243,slow=37								
UNV	**Unalaska Vale**	**72.25**	**35**	P		**P**	**18 57 27.8**	**-0.5**	
UNV				IAmb		IAmb	18 57 47.0		
	comp=Z,8.1nm,0.8s								
CASY	**Casey**	**72.99**	**186**	P		**P**	**18 57 32.8**	**+0.4**	
M14K	**Bethel**	**76.26**	**29**	P		**P**	**18 57 53.0**	**+1.6**	
M14K				IAmb		IAmb	18 58 27.8		
	comp=Z,11nm,1.1s								
L16K	**Owhat River**	**77.62**	**28**	P		**P**	**18 57 59.6**	**+0.5**	
L16K				IAmb		IAmb	18 58 02.4		
	comp=Z,6.8nm,1.2s								
E19K	**Redstone River**	**79.57**	**22**	P		**P**	**18 58 09.7**	**-0.1**	
OHAK	**Old Harbor**	**80.20**	**33**	P		**P**	**18 58 13.1**	**-0.3**	
OHAK				IAmb		IAmb	18 58 16.6		
	comp=Z,9.7nm,1.2s								
KDAK	**Kodiak Island**	**80.62**	**33**	P		**P**	**18 58 15.5**	**-0.1**	
G21K	**Allakaket**	**80.89**	**24**	P		**P**	**18 58 16.9**	**0.0**	
SKT	**Skwentna**	**81.39**	**28**	P		**P**	**18 58 19.7**	**0.0**	
BRLK	**Bradley Lake**	**81.60**	**31**	P		**P**	**18 58 20.4**	**-0.5**	
BPAW	**Bear Paw Mtn.**	**81.76**	**26**	P		**P**	**18 58 21.5**	**-0.1**	
BPAW				IAmb		IAmb	18 58 25.4		
	comp=Z,10nm,1.1s								
MLY	**Manley**	**81.92**	**25**	P		**P**	**18 58 22.6**	**+0.1**	
TRF	**Thorofare Moun**	**82.04**	**27**	P		**P**	**18 58 22.7**	**-0.6**	
TRF				IAmb		IAmb	18 58 44.2		
	comp=Z,6.5nm,1.2s								
I23K	**Minto, Yukon-K**	**82.51**	**25**	P		**P**	**18 58 25.2**	**-0.2**	
I23K				IAmb		IAmb	18 58 28.7		
	comp=Z,7.9nm,1.3s								
MCK	**McKinley**	**82.65**	**27**	P		**P**	**18 58 26.3**	**0.0**	
MCK				IAmb		IAmb	18 58 29.4		
	comp=Z,9.3nm,0.9s								
RND	**Reindeer**	**82.68**	**27**	IAmb		IAmb	18 58 28.8		
	comp=Z,5.7nm,0.9s								
ILAR	**Eielson Array**	**83.56**	**26**	P		**P**	**18 58 31.0**	**+0.1**	
	comp=Z,1.0nm,0.8s,baz=230,slow=5.8,SNR=8.1								
	comp=Z,1.0nm,0.8s								
F25K	**Christian Rive**	**84.01**	**23**	P		**P**	**18 58 33.4**	**+0.1**	
BMAR	**Burnt Mountain**	**84.43**	**23**	P		**P**	**18 58 36.1**	**+0.7**	
C27K	**Jago River**	**84.65**	**21**	IAmb		IAmb	18 58 39.1		
	comp=Z,10nm,1.4s								
BMRM	**Bremner River**	**84.72**	**29**	IAmb		IAmb	18 58 57.2		
	comp=Z,8.6nm,1.0s								
G26K	**Porcupine Rive**	**84.76**	**23**	IAmb		IAmb	18 59 09.5		
	comp=Z,8.4nm,1.4s								
GLB	**Gilahina Butte**	**85.07**	**29**	IAmb		IAmb	18 58 42.5		
	comp=Z,6.3nm,0.9s								
MAW	**Mawson**	**85.50**	**200**	P		**P**	**18 58 40.1**	**-0.5**	
	comp=Z,1.0nm,0.7s,baz=88,slow=16,SNR=2.1								
	comp=Z,1.0nm,0.7s								
E27K	**Coleen River**	**85.51**	**22**	P		**P**	**18 58 41.6**	**+0.8**	
E27K				IAmb		IAmb	18 59 10.2		
	comp=Z,7.1nm,1.4s								
VNDA	**Vanda**	**85.91**	**173**	P		**P**	**18 58 42.2**	**-0.2**	
	comp=Z,0.8nm,0.7s,baz=320,slow=5.7,SNR

JMTN	**Minamitane**	**2.61**	**14**	*eP*		**Pn**	18 50 45.1	**+0.3**
JTN	**Tanegashima 3**	**2.87**	**14**	*eP*		**Pn**	18 50 48.7	**+0.2**
JAGN	**Aguni-jima**	**2.90**	**245**	*eP*		**Pn**	18 50 49.2	**+0.4**
JAGN				*eS*		**Sn**	18 51 21.7	**-1.6**
JKE	**Kume jima 2**	**3.38**	**244**	*eP*		**Pn**	18 50 55.9	**+0.4**
CMAR	**Chiang Mai Arr**	**30.13**	**259**	P		**P**	18 56 13.2	**+0.7**
	0.7nm,0.5s,baz=74,slow=8.9,SNR=4.9 0.7nm,0.5s							
MKAR	**Makanchi Array**	**41.78**	**310**	P		**P**	18 57 50.2	**-1.8**
	0.4nm,0.7s,baz=95,slow=8.8,SNR=1.9 0.4nm,0.7s							
ZALV	**Zalesovo Beam**	**42.03**	**321**	P		**P**	18 57 53.5	**-0.4**
	0.4nm,0.4s,baz=94,slow=9.0,SNR=1.8 0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**44.90**	**315**	P		**P**	18 58 15.4	**-1.6**
	0.5nm,0.3s,baz=102,slow=9.6,SNR=1.6 0.5nm,0.3s							
WRA	**Warramunga Arr**	**47.69**	**175**	P		P	18 58 47.7	+8.4
	0.5nm,0.8s,baz=351,slow=7.7,SNR=1.7 0.5nm,0.8s							
ASAR	**Alice Springs**	**51.35**	**176**	P		P	18 59 14.7	+7.5
	0.3nm,0.7s,baz=356,slow=8.2,SNR=2.0 0.3nm,0.7s							
ILAR	**Eielson Array**	**62.19**	**29**	P		**P**	19 00 27.3	**+3.7**
	0.2nm,0.6s,baz=282,slow=5.4,SNR=1.7 0.2nm,0.6s							
FINES	**FINESS Array B**	**72.30**	**331**	P		**P**	19 01 27.9	**+0.1**
	0.6nm,0.3s,baz=71,slow=6.4,SNR=12 0.6nm,0.3s							
HFS	**Hagfors**	**78.18**	**333**	P		**P**	19 02 01.2	**-0.5**
	5.5nm,1.1s,baz=94,slow=5.8,SNR=5.3 5.5nm,1.1s							

*UCR **10** 19:40:45.3±0.7, 9.°64N×85.°71W, h27km±3km, MW3.6*
*CATAC **10** 19:40:46.9±0.9, 10.°N±.°×8.°6W±.°, h23km±3km, M3.6/10, MLv3.6/10, Error ellipse: s-maj=14.0km s-min=5.2km az=39.6, confirmed*

ISC 10 19:40:46.1±1.6, **9.°64N**±0.°07×**85.°62W**±0.°07, **h22**km, **n38, σ0s63/42, 1D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMARA	**Lajas Hojancha**	**0.42**	**27**	P	**Pn**	**19 40 56.0**	**-0.8**
CMARA				S	**Sn**	**19 41 03.5**	**-0.5**
CBL1	**Cabuya**	**0.52**	**96**	*eP*	**Pb**	**19 40 56.7**	**+0.2**
CBL1				*eS*	**Sb**	**19 41 04.7**	**+1.0**
JUD3	**Juan Diaz 3**	**0.52**	**8**	*eP*	**Pb**	**19 40 56.8**	**+0.1**
JUD3				*eS*	**Sb**	**19 41 04.8**	**+1.0**
PLVR	**Palo Verde**	**0.75**	**20**	*eP*	**Pb**	**19 41 00.3**	**-0.2**
DELF	**Filadelfia**	**0.80**	**4**	*eP*	**Pb**	**19 41 01.1**	**-0.2**
JUNT	**Juntas**	**0.91**	**46**	*eP*	**Pn**	**19 41 03.3**	**-0.2**
JUNT				*eS*	**Sn**	**19 41 16.1**	**+0.1**
JTS	**Las Juntas de**	**0.92**	**45**	*eP*	**Pb**	**19 41 03.4**	**+0.1**
JTS	**Las Juntas de**	**0.92**	**45**	P	**Pb**	**19 41 03.1**	**-0.2**
ALIBA	**Liberia Airpor**	**0.94**	**4**	*eP*	**Pb**	**19 41 03.6**	**-0.2**
INVE	**Universidad In**	**0.99**	**33**	*eP*	**Pn**	**19 41 04.5**	**-0.1**
ELI1	**Hacienda Flor**	**1.00**	**4**	*eP*	**Pn**	**19 41 04.6**	**-0.1**
ELI1	**Hacienda Flor**	**1.00**	**4**	P	**Pn**	**19 41 04.5**	**-0.2**
MTEVE	**Monteverde**	**1.03**	**49**	*eP*	**Pb**	**19 41 05.2**	**0.0**
TIMP	**Tierras Morena**	**1.10**	**32**	*eP*	**Pn**	**19 41 06.0**	**-0.3**
LAPC	**Finca la Perla**	**1.13**	**9**	*eP*	**Pn**	**19 41 06.1**	**-0.5**
HORNC	**Hornillas**	**1.15**	**22**	*eP*	**Pn**	**19 41 06.4**	**-0.4**
GPS1	**Guardaparques**	**1.15**	**13**	*eP*	**Pn**	**19 41 06.6**	**-0.4**
VRLE	**La Escondida,**	**1.16**	**12**	*eP*	**Pn**	**19 41 06.7**	**-0.4**
MESS	**Mesas**	**1.17**	**21**	*eP*	**Pn**	**19 41 06.8**	**-0.3**
CASO	**Castillo**	**1.17**	**48**	*eP*	**Pb**	**19 41 07.6**	**0.0**
VORI	**VORI**	**1.20**	**13**	*eP*	**Pn**	**19 41 07.2**	**-0.4**
TENO	**El Achiote**	**1.23**	**31**	*eP*	**Pn**	**19 41 07.1**	**-0.9**
SOCE	**Pocosol**	**1.23**	**53**	*eP*	**Pb**	**19 41 08.3**	**-0.3**
SOCE	**Pocosol**	**1.23**	**53**	P	**Pb**	**19 41 08.5**	**-0.2**
BUAI	**Buenos Aires**	**1.26**	**13**	*eP*	**Pn**	**19 41 08.2**	**-0.2**
PICV	**PH. Pirrs**	**1.40**	**91**	*eP*	**Pn**	**19 41 09.9**	**-0.5**
LCRUZ	**La Cruz**	**1.43**	**359**	*eP*	**Pn**	**19 41 11.0**	**+0.4**
VBV1	**V. Barva**	**1.57**	**73**	*eP*	**Pn**	**19 41 13.7**	**+0.8**
LCR2	**La Lucha 2**	**1.59**	**86**	P	**Pn**	**19 41 12.6**	**-0.5**
LCR2	**La Lucha 2**	**1.59**	**86**	S	**Sn**	**19 41 32.9**	**-0.3**
BUS1	**Rivas**	**1.85**	**93**	*eP*	**Pn**	**19 41 16.2**	**-0.6**
CONN	**Concepcion**	**1.91**	**360**	P	**Pn**	**19 41 17.6**	**+0.2**
NANN	**Nandasmo**	**2.33**	**348**	P	**Pb**	**19 41 25.3**	**-2.2**
NANN	**Nandasmo**	**2.33**	**348**	S	**Sn**	**19 41 52.5**	**+1.3**
DRK0	**Durika**	**2.37**	**99**	P	**Pn**	**19 41 24.0**	**+0.2**
DRK0	**Durika**	**2.37**	**99**	S	**Sn**	**19 41 51.4**	**-0.9**
PIRO	**Carate, Puerto**	**2.57**	**119**	P	**Pn**	**19 41 26.2**	**-0.2**
CSGN	**Cosiguina Volc**	**3.82**	**330**	P	**Pn**	**19 41 44.6**	**+0.9**

*IDC **10** 19:42:05.2±0.9, 18.°07S×167.°52E, h0km, mb4.1/12, mbtmp4.1/13, ML3.7/1, MS3.7/2, Error ellipse: s-maj=26.2km s-min=21.6km az=70.0*
*NEIC **10** 19:42:06.2±1.8, 18.°09S±0.°06×167.°6E±0.°2, h10km±2km, mb4.8/18, Error ellipse: s-maj=28.0km s-min=10.4km az=90.0*

ISC 10 19:42:05.6±0.7, **18.°10S**±0.°04×**167.°6E**±0.°1, **h10**km, **n41, σ2s14/43, mb4.6/17, 3C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.66**	**352**		**Pn**	**19 42 47.9**	**-0.7**
SANVU				Sn	**Sn**	**19 43 15.4**	**-5.6**
DZM	**Mont Dzumac**	**4.09**	**195**		**Pn**	**19 43 07.4**	**-0.9**
DZM				Sn	**Sn**	**19 43 52.4**	**-3.9**
DZM	**Mont Dzumac**	**4.09**	**195**	Pn	**Pn**	**19 43 08.0**	**-0.4**
	4.3nm,0.3s,baz=343,slow=23,SNR=32						
DZM				Sn	**Sn**	**19 43 53.3**	**-3.1**
	16nm,0.3s,baz=317,slow=18,SNR=11 23nm,0.6s						
ONTNC	**Ouen Toro**	**4.32**	**194**	Pn	**Pn**	**19 43 10.9**	**-0.5**
ONTNC				Sn	**Sn**	**19 43 57.7**	**-4.0**
PINNC	**Pines Island,**	**4.49**	**182**	Pn	**Pn**	**19 43 13.6**	**-0.2**
PINNC				Sn	**Sn**	**19 44 04.4**	**-1.6**
ARMA	**Armidale**	**18.99**	**227**	P	**P**	**19 46 28.0**	**+0.5**
CTAO	**Charters Tower**	**20.25**	**261**	P	Pn	19 46 43.2	-0.1
URZ	**Urewera**	**21.74**	**159**	P	**P**	**19 46 58.7**	**+1.5**
	7.4nm,0.8s,baz=319,slow=11,SNR=2.2 7.4nm,0.8s						
RTZ	**Ruatahuna**	**22.02**	**160**	P	**P**	**19 46 54.6**	**-5.7**
RTZ				IAmb	IAmb	19 47 12.4	
	comp=Z,28nm,1.1s						
BKZ	**Black Stump Fm**	**22.38**	**162**	P	**P**	**19 46 59.5**	**-4.6**
BKZ				IAmb	IAmb	19 47 25.8	
	comp=Z,102nm,1.9s						
CMWZ	**Cape Campbell**	**24.24**	**168**	P	**P**	**19 47 18.5**	**-4.3**
STKA	**Stephens Creek**	**27.16**	**235**	P	**P**	**19 47 50.5**	**+1.2**
STKA				IAmb	IAmb	19 47 52.1	
	comp=Z,35nm,0.9s						
STKA	**Stephens Creek**	**27.16**	**235**	P	**P**	**19 47 51.1**	**+1.8**
	comp=Z,5.5nm,0.8s,baz=76,slow=7.6,SNR=11 comp=Z,5.5nm,0.8s						
WB0	**Warramunga Arr**	**31.41**	**262**	P	**P**	**19 48 26.8**	**-0.4**
WB0				IAmb	IAmb	19 49 14.9	
	comp=Z,27nm,1.8s						
WB2	**Warramunga Arr**	**31.44**	**261**	P	**P**	**19 48 26.8**	**-0.7**
WB2				IAmb	IAmb	19 49 22.2	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**31.45**	**261**	P	**P**	**19 48 27.1**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=83,slow=5.9,SNR=8.5 comp=Z,1.6nm,0.9s						
BBOO	**Buckleboo**	**31.86**	**237**	P	**P**	**19 48 30.5**	**-0.5**
AS31	**Alice Springs**	**31.89**	**254**	P	**P**	**19 48 31.2**	**-0.2**
ASAR	**Alice Springs**	**31.90**	**254**	P	**P**	**19 48 30.8**	**-0.7**
ASAR	**Alice Springs**	**31.90**	**254**	P	**P**	**19 48 31.8**	**+0.3**
	comp=Z,3.2nm,0.5s,baz=83,slow=8.5,SNR=58						
ASAR				LR	LR	20 00 38.6	
	comp=Z,71nm,18.1s,baz=150,slow=35 comp=Z,3.2nm,0.5s						
KNRA	**Kununurra**	**37.17**	**268**	P	**P**	**19 49 16.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**39.80**	**263**	P	**P**	**19 49 40.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**39.80**	**263**	LR	LR	20 06 02.7	
	comp=Z,127nm,18.2s,baz=175,slow=36						
MORW	**Morawa**	**48.15**	**247**	P	**P**	**19 50 46.3**	**+0.1**
GIRL	**Giralia**	**50.00**	**255**	P	**P**	**19 51 01.1**	**+0.6**
VNDA	**Vanda**	**59.52**	**181**	P	**P**	**19 52 09.8**	**+1.2**
VNDA				IAmb	IAmb	19 52 38.5	
	comp=Z,14nm,2.0s						
VNDA	**Vanda**	**59.52**	**181**	P	**P**	**19 52 09.8**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=344,slow=4.2,SNR=4.2 comp=Z,0.7nm,0.9s						
CASY	**Casey**	**60.54**	**203**	P	**P**	**19 52 16.4**	**+0.6**
CASY				IAmb	IAmb	19 52 18.6	
	comp=Z,15nm,1.9s						
QSPA	**South Pole Qui**	**71.94**	**180**	P	**P**	**19 53 31.9**	**+2.7**
QSPA				IAmb	IAmb	19 54 00.9	
	comp=Z,30nm,1.7s						
QSPA	**South Pole Qui**	**71.94**	**180**	P	**P**	**19 53 31.4**	**+2.2**
	comp=Z,2.2nm,0.7s,baz=353,slow=1.4,SNR=13 comp=Z,2.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**76.60**	**295**	P	**P**	**19 53 59.2**	**+2.3**
	comp=Z,0.6nm,0.3s,baz=125,slow=4.6,SNR=7.4 comp=Z,0.6nm,0.3s						
BELA	**Belgrano 2**	**83.36**	**175**	P	**P**	**19 54 32.7**	**+0.2**
BELA				IAmb	IAmb	19 54 34.2	
	comp=Z,6.4nm,1.0s						
SONM	**Songino Array**	**85.37**	**324**	P	**P**	**19 54 43.6**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=119,slow=5.6,SNR=2.4 comp=Z,0.6nm,0.8s						
TROLL	**Troll, Antarti**	**89.54**	**185**	⇑P	**P**	**19 55 04.4**	**+1.3**
	comp=Z,244nm,0.8s						
ILAR	**Eielson Array**	**89.63**	**18**	P	**P**	**19 55 03.5**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=242,slow=3.9,SNR=2.9 comp=Z,0.5nm,0.9s						
SNAA	**Sanae**	**90.22**	**183**	⇑P	**P**	**19 55 06.3**	**+0.1**
	comp=Z,43nm,0.9s						
SNAA	**Sanae**	**90.22**	**183**	P	**P**	**19 55 07.1**	**+1.0**
SNAA				IAmb	IAmb	19 56 58.6	
	comp=Z,9.8nm,1.7s						
SNAA	**Sanae**	**90.22**	**183**	P	**P**	**19 55 06.9**	**+0.8**
	comp=Z,2.4nm,1.0s,baz=148,slow=4.9,SNR=6.6 comp=Z,2.4nm,1.0s						
VNA3	**Neumayer Olymp**	**90.87**	**181**	⇑P	**P**	**19 55 09.5**	**+0.4**
	comp=Z,3.7nm,0.7s						
TXAR	**Lajitas Array**	**97.61**	**62**	P	Pdif	19 55 42.3	+1.3
	comp=Z,0.1nm,0.3s,baz=255,slow=2.2,SNR=1.6 comp=Z,0.1nm,0.3s						
MKAR	**Makanchi Array**	**99.83**	**316**	P	**Pdif**	**19 55 51.0**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=116,slow=9.8,SNR=1.5 comp=Z,0.3nm,0.8s						

*GRAL **10** 20:00:43.5±0.3, 33.°22N×35.°62E, h16km±3km, MD2.6*
*GII **10** 20:00:43.2±0.0, 33.°258N±0.°001×35.°548E±0.°001, h12km, Mws1.6, confirmed*

ISC 10 20:00:43.1±1.0, **33.°25N**±0.°03×**35.°57E**±0.°03, **h14**km±4km, **n41, σ0s29/44, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAM	**Misgav Am**	**0.02**	**272**	P	**Pg**	**20 00 45.6**	**-0.1**
MSAM	**Misgav Am**	**0.02**	**272**	S	**Sg**	**20 00 47.5**	**-0.1**
MTLA	**Metula**	**0.03**	**9**	P	**Pg**	**20 00 45.6**	**-0.2**
MTLA	**Metula**	**0.03**	**9**	S	**Sg**	**20 00 47.4**	**-0.2**
KIRY	**Kiryat Shemona**	**0.04**	**185**	P	**Pg**	**20 00 45.6**	**-0.1**
KIRY	**Kiryat Shemona**	**0.04**	**185**	S	**Sg**	**20 00 47.4**	**-0.1**
GOSH	**HaGoshrim**	**0.05**	**122**	P	**Pg**	**20 00 46.0**	**+0.2**
GOSH	**HaGoshrim**	**0.05**	**122**	S	**Sg**	**20 00 47.9**	**+0.3**
GEM	**Giv'at Ha'Em**	**0.08**	**115**	P	**Pg**	**20 00 46.5**	**+0.3**
GEM	**Giv'at Ha'Em**	**0.08**	**115**	S	**Sg**	**20 00 48.7**	**+0.6**
YFTH	**Yftach**	**0.12**	**189**	P	**Pg**	**20 00 46.6**	**0.0**
YFTH	**Yftach**	**0.12**	**189**	S	**Sg**	**20 00 49.4**	**+0.5**
LVBS	**Lehavot Habash**	**0.12**	**148**	P	**Pb**	**20 00 47.1**	**-0.2**
LVBS	**Lehavot Habash**	**0.12**	**148**	S	**Sb**	**20 00 49.9**	**0.0**
NATI	**Neve Ativ**	**0.14**	**83**	P	**Pg**	**20 00 47.0**	**+0.2**
NATI	**Neve Ativ**	**0.14**	**83**	S	**Sb**	**20 00 49.9**	**-0.5**
SHBL	**Chebaa**	**0.18**	**55**	*eP*	**Pg**	**20 00 47.6**	**+0.1**
SHBL				*eS*	**Sg**	**20 00 50.5**	**+0.1**
HULT	**Hulata**	**0.20**	**171**	P	**Pb**	**20 00 48.4**	**-0.1**
HULT	**Hulata**	**0.20**	**171**	S	**Sb**	**20 00 52.2**	**+0.1**
KDZV	**Kedmat Zvi**	**0.24**	**155**	P	**Pg**	**20 00 48.5**	**+0.1**
KDZV	**Kedmat Zvi**	**0.24**	**155**	S	**Sb**	**20 00 53.2**	**-0.1**
MMC7	**Mount Meron ar**	**0.27**	**214**	P	**Pg**	**20 00 49.0**	**+0.1**
MMA0B	**Mount Meron ar**	**0.27**	**212**	P	**Pg**	**20 00 48.9**	**0.0**
MMA0B	**Mount Meron ar**	**0.27**	**212**	S	**Sg**	**20 00 53.4**	**+0.6**
RSPN	**Rosh Pina**	**0.28**	**185**	P	**Pg**	**20 00 49.3**	**+0.3**
RSPN	**Rosh Pina**	**0.28**	**185**	S	**Sb**	**20 00 53.8**	**-0.6**
ZRT	**Zar'it**	**0.28**	**239**	P	**Pg**	**20 00 49.3**	**+0.3**
ZRT	**Zar'it**	**0.28**	**239**	S	**Sg**	**20 00 53.3**	**+0.3**
QRWL	**Qaraoun**	**0.31**	**17**	*eP*	**Pg**	**20 00 49.9**	**+0.2**
QRWL				*eS*	**Sg**	**20 00 54.8**	**+0.6**
HDNS	**Had-Ness**	**0.32**	**170**	P	**Pb**	**20 00 50.4**	**-0.2**
HDNS	**Had-Ness**	**0.32**	**170**	S	**Sb**	**20 00 55.6**	**0.0**
KSHT	**Keshet**	**0.33**	**143**	P	**Pb**	**20 00 50.8**	**0.0**
KSHT	**Keshet**	**0.33**	**143**	S	**Sb**	**20 00 56.1**	**+0.1**
RCY	**Rachaya**	**0.33**	**41**	*eP*	**Pg**	**20 00 50.0**	**0.0**
HNTI	**Hanita**	**0.37**	**244**	P	**Pg**	**20 00 50.9**	**+0.2**
HNTI	**Hanita**	**0.37**	**244**	S	**Sg**	**20 00 56.2**	**+0.4**
MGDL	**Migdal**	**0.41**	**188**	P	**Pb**	**20 00 52.2**	**+0.1**
MGDL	**Migdal**	**0.41**	**188**	S	**Sb**	**20 00 58.1**	**-0.1**
DQRL	**Deir Qamar**	**0.46**	**360**	*eP*	**Pg**	**20 00 52.6**	**+0.3**
OFRI	**`Ofer**	**0.80**	**219**	P	**Pg**	**20 00 58.4**	**-0.2**
HMDT	**Nahal Hemdat**	**0.99**	**182**	P	**Pb**	**20 01 02.0**	**-0.1**
HMDT				S	**Sn**	**20 01 15.8**	**-0.5**

IDC 10 20:01:15.9±30.0, **17.°32S×178.°30W, h520**km±286km, **mb2.8/4, mbtmp3.7/4, Error ellipse: s-maj=199.3km s-min=30.4km az=48.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.85**	**259**	P	P	20 08 43.4	-0.5
	0.3nm,0.5s,baz=93,slow=8.0,SNR=2.1 0.3nm,0.5s						
ASAR	**Alice Springs**	**45.06**	**254**	P	P	20 08 45.6	+0.1
	0.6nm,0.4s,baz=87,slow=8.5,SNR=17						
ASAR				PcP	PcP	20 10 14.8	-0.6
	0.1nm,0.4s,baz=98,slow=4.5,SNR=1.2 0.6nm,0.4s						
VNDA	**Vanda**	**61.03**	**185**	P	P	20 10 37.7	-0.7
	0.2nm,0.4s,baz=360,slow=3.4,SNR=1.9 0.2nm,0.4s						
QSPA	**South Pole Qui**	**72.73**	**180**	P	P	20 11 51.3	+0.4
	1.1nm,0.8s,baz=64,slow=4.2,SNR=7.9 1.1nm,0.8s						
MMAI	**Mount Meron Ar**	**145.91**	**304**	PKPbc	PKPbc	20 19 56.9	-0.8
	0.2nm,0.3s,baz=66,slow=3.6,SNR=2.5						

NNC 10 20:05:04.1±7.2, **36.°30N×68.°76E, h0**km, **mb3.7, mpv3.4, 3C-1D, Error ellipse: s-maj=64.5km s-min=56.9km az=116.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.93**	**11**	⇑P	Pn	20 06 46.7	-0.2
	0.5nm,0.2s,baz=196,slow=14						
KK31				⇓S	Sn	20 08 08.1	+1.7
	24nm,0.8s,baz=190,slow=15						
AAK	**Ala-Archa**	**7.73**	**33**	⇑P	Pn	20 06 58.2	+0.2
	1.6nm,0.5s,baz=168,slow=10						
AAK				⇑S	Sn	20 08 26.7	+0.5
	9.9nm,1.0s,baz=168,slow=10						
AB31	**Akbulak array**	**14.46**	**336**	P	Pn	20 08 29.2	-0.7
	0.5nm,0.5s,baz=163,slow=13,SNR=15						

*GRAL **10** 20:06:29.5±0.3, 33.°26N×35.°55E, h8km±8km, MD2.4*
*GII **10** 20:06:28.3±0.0, 33.°267N±0.°001×35.°535E±0.°001, h12km, Mws1.5, confirmed, Jordan-Syria region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAM	**Misgav Am**	**0.02**	**150**	P	Pg	20 06 30.8	+0.2
MSAM	**Misgav Am**	**0.02**	**150**	S	Sg	20 06 32.8	+0.6
MTLA	**Metula**	**0.04**	**73**	P	Pg	20 06 30.9	+0.3
MTLA	**Metula**	**0.04**	**73**	S	Sg	20 06 32.9	+0.6
KIRY	**Kiryat Shemona**	**0.07**	**155**	P	Pg	20 06 31.0	+0.2
KIRY	**Kiryat Shemona**	**0.07**	**155**	S	Sg	20 06 33.2	+0.7
GOSH	**HaGoshrim**	**0.09**	**122**	P	Pg	20 06 31.2	+0.2
GOSH	**HaGoshrim**	**0.09**	**122**	S	Sg	20 06 33.5	+0.5
GEM	**Giv'at Ha'Em**	**0.12**	**118**	P	Pg	20 06 32.0	+0.6
GEM	**Giv'at Ha'Em**	**0.12**	**118**	S	Sg	20 06 34.5	+0.7
YFTH	**Yftach**	**0.14**	**174**	P	Pg	20 06 32.2	+0.4
YFTH	**Yftach**	**0.14**	**174**	S	Sg	20 06 34.8	+0.7
LVBS	**Lehavot Habash**	**0.16**	**143**	P	Pg	20 06 32.2	+0.2
LVBS	**Lehavot Habash**	**0.16**	**143**	S	Sg	20 06 35.3	+0.8
NATI	**Neve Ativ**	**0.17**	**92**	P	Pg	20 06 32.4	+0.3
NATI	**Neve Ativ**	**0.17**	**92**	S	Sg	20 06 35.8	+1.0
SHBL	**Chebaa**	**0.19**	**65**	*eP*	Pg	20 06 33.2	+0.5
SHBL				*eS*	Sg	20 06 35.9	+0.1
ZRT	**Zar'it**	**0.26**	**231**	P	Pg	20 06 34.1	+0.2
ZRT	**Zar'it**	**0.26**	**231**	S	Sb	20 06 38.8	-0.8
KDZV	**Kedmat Zvi**	**0.27**	**150**	P	Pg	20 06 34.2	+0.3
KDZV	**Kedmat Zvi**	**0.27**	**150**	S	Sb	20 06 39.1	-0.7
MMC7	**Mount Meron ar**	**0.27**	**206**	P	Pg	20 06 34.5	+0.5
MMA0B	**Mount Meron ar**	**0.27**	**204**	P	Pg	20 06 34.5	+0.5
MMA0B	**Mount Meron ar**	**0.27**	**204**	S	Sb	20 06 39.0	-0.8
RSPN	**Rosh Pina**	**0.30**	**178**	P	Pg	20 06 34.9	+0.5
RSPN	**Rosh Pina**	**0.30**	**178**	S	Sg	20 06 39.4	+1.0
QRWL	**Qaraoun**	**0.31**	**24**	*eP*	Pb	20 06 35.4	-0.5
AMID	**Amiad**	**0.34**	**179**	P	Pg	20 06 35.4	+0.3
AMID	**Amiad**	**0.34**	**179**	S	Sb	20 06 40.8	-0.8
RCY	**Rachaya**	**0.34**	**48**	*eP*	Pg	20 06 35.7	+0.4
RCY				*eS*	Sg	20 06 40.4	+0.4
HDNS	**Had-Ness**	**0.35**	**165**	P	Pg	20 06 35.7	+0.3
HDNS	**Had-Ness**	**0.35**	**165**	S	Sb	20 06 41.2	-0.8
KSHT	**Keshet**	**0.37**	**141**	P	Pg	20 06 36.2	+0.5
KSHT	**Keshet**	**0.37**	**141**	S	Sb	20 06 41.9	-0.7
DQRL	**Deir Qamar**	**0.44**	**4**	*eP*	Pb	20 06 37.6	-0.5
GOLA	**Golan Heights**	**0.56**	**170**	P	Pg	20 06 39.5	+0.2
GOLA	**Golan Heights**	**0.56**	**170**	S	Sb	20 06 47.8	-0.3

*IDC **10** 20:06:38.0±1.9, 37.°06N×68.°99E, h0km, mb3.7/7, mbtmp3.8/12, ML3.3/5, MS3.0/4, Error ellipse: s-maj=28.3km s-min=15.9km az=154.0*

ISC 10 20:06:47.8±1.6, **37.°6N**±0.°1×**68.°7E**±0.°1, **h50**km, **n16, σ2s59/16, mb3.6/5, MS2.7/3, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.66**	**40**	Pn	**Pn**	**20 08 24.2**	**+1.0**
	3.3nm,0.3s,baz=204,slow=5.3,SNR=10						
AAK				Sn	**Sn**	**20 09 43.0**	**+5.1**
	0.6nm,0.3s,baz=225,slow=17,SNR=3.8						
AAK				Lg	Lg	20 10 19.9	
	0.8nm,0.3s,baz=127,slow=20,SNR=1.7 11nm,0.4s						
MKAR	**Makanchi Array**	**13.57**	**43**	Pn	**Pn**	**20 09 55.1**	**-2.4**
	0.1nm,0.3s,baz=229,slow=18,SNR=4.1						
MKAR				Lg	Lg	20 13 59.3	
	baz=241,slow=18,SNR=2.2 1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**14.74**	**25**	Pn	**Pn**	**20 10 09.1**	**-4.0**
	baz=218,slow=12,SNR=4.4						
KURBB				Lg	Lg	20 14 34.6	
	baz=184,slow=28,SNR=4.2 0.4nm,0.7s						
AKTO	**Aktyubinsk**	**14.92**	**332**	Pn	**Pn**	**20 10 14.4**	**-1.0**
	0.3nm,0.3s,baz=150,slow=13,SNR=5.0						
AKTO				Sn	**Sn**	**20 12 57.4**	**-2.0**
	0.1nm,0.3s,baz=220,slow=18,SNR=1.3						
AKTO				Lg	Lg	20 14 51.6	
	0.1nm,0.3s,baz=188,slow=19,SNR=1.2 2.1nm,0.7s						
BVAR	**Borovoye Array**	**15.43**	**4**	Pn	**Pn**	**20 10 19.9**	**-2.2**
	0.1nm,0.3s,baz=172,slow=12,SNR=8.2						
BVAR				Sn	**Sn**	**20 13 10.4**	**-1.4**
	baz=186,slow=26,SNR=1.6						
BVAR				Lg	Lg	20 15 03.4	
	baz=168,slow=29,SNR=1.0 1.4nm,0.5s						
GNI	**Garni**	**18.84**	**285**	LR	LR	20 20 32.2	
	comp=Z,39nm,18.4s,baz=108,slow=44						
ZALV	**Zalesovo Beam**	**19.72**	**29**	P	**Pn**	**20 11 12.0**	**-2.7**
	3.0nm,0.6s,baz=214,slow=11,SNR=13 3.0nm,0.6s						
ARTI	**Arti**	**20.00**	**343**	LR	LR	20 20 58.4	
	comp=Z,21nm,18.3s,baz=122,slow=42						
KBZ	**Khabaz**	**20.48**	**295**	P	**P**	**20 11 21.6**	**+0.4**
	1.6nm,0.7s,baz=109,slow=4.0,SNR=4.7						
KBZ				LR	LR	20 21 47.3	
	comp=Z,33nm,18.0s,baz=85,slow=44 1.6nm,0.7s						
SONM	**Songino Array**	**29.21**	**57**	P	**P**	**20 12 42.6**	**-2.2**
	0.2nm,0.5s,baz=278,slow=10.0,SNR=2.2 0.2nm,0.5s						
MLR	**Muntele Rosu**	**32.65**	**298**	LR	LR	20 32 09.5	
	comp=Z,38nm,20.9s,baz=3.5,slow=46						
FINES	**FINESS Array B**	**35.53**	**326**	P	**P**	**20 13 41.5**	**+1.9**
	1.4nm,0.7s,baz=

comp=Z,4.1nm,0.7s
MJAR Matsushiro Arr 70.52 324 P P 20 17 23.3 -0.8
MJAR Matsushiro Arr 70.52 324 P P 20 17 23.1 -1.1
comp=Z,1.2nm,0.6s,baz=165,slow=5.9,SNR=5.2
comp=Z,1.2nm,0.6s
MAJO Matsushiro 70.52 324 P P 20 17 23.5 -0.7
KIWB Kanaga Island 72.56 1 P P 20 17 35.5 -0.2
ADK Adak 72.60 1 P P 20 17 35.6 -0.3
JKA Kamikawa-asahi 74.09 332 P P 20 17 45.5 +0.8
TPUB Ta-pu 74.11 303 P P 20 17 43.9 -1.4
UNV Unalaska Valle 75.23 7 P P 20 17 50.2 -0.7
UNV Unalaska Valle 75.23 7 P P 20 17 50.5 -0.4
baz=191
LVA Lava Point 75.60 7 P P 20 17 52.4 -0.6
AKUT Akutan 75.61 8 P P 20 17 52.2 -0.8
PETK Petropavlovsk- 76.72 345 P P 20 17 58.8 -0.5
comp=Z,6.8nm,1.0s,baz=108,slow=5.2,SNR=4.0
comp=Z,6.8nm,1.0s
KSRS Korea Array 77.16 319 P P 20 18 01.6 -0.3
comp=Z,0.7nm,0.6s,baz=122,slow=6.0,SNR=2.6
comp=Z,0.7nm,0.6s
SDPT Sand Point 77.55 10 P P 20 18 03.1 -0.5
baz=197
S12K Black Hills 77.64 9 P P 20 18 03.0 -1.2
S12K Black Hills 77.64 9 P P 20 18 03.7 -0.5
baz=195
S14K Fog Glacier 78.60 10 P P 20 18 09.0 -0.5
baz=198
CHIR Chirikof Islan 78.90 13 P P 20 18 11.5 +0.5
CHIR Chirikof Islan 78.90 13 P P 20 18 11.0 0.0
baz=202
BELA Belgrano 2 79.07 173 P P 20 18 10.2 -1.6
SII Sitkinak Islan 79.89 13 P P 20 18 16.8 +0.6
SII Sitkinak Islan 79.89 13 P P 20 18 16.5 +0.2
baz=203
R17L Mt. Peulik Vol 80.45 12 P P 20 18 19.4 +0.2
baz=201
PLK4 Peulik 4 80.45 12 P 20 18 18.9 -0.3
OHAK Old Harbor 80.69 13 P P 20 18 20.6 +0.2
baz=204
R18K Karluk 80.77 13 P P 20 18 21.0 +0.3
baz=202
MAW Mawson 81.02 200 P P 20 18 21.1 -1.0
comp=Z,1.6nm,1.0s,baz=148,slow=12,SNR=2.4
comp=Z,1.6nm,1.0s
Q17K Contact Creek 81.13 12 P P 20 18 22.7 -0.1
baz=201
DSP Deep Springs 81.13 44 P P 20 18 25.6 +2.5
O14K Tigyukauivet M 81.18 9 P P 20 18 22.8 -0.1
baz=196
O15K Ungalikthiuk R 81.32 9 P P 20 18 23.6 0.0
baz=197
Q16K King Salmon 81.38 11 P P 20 18 24.1 +0.2
baz=200
P16K Nushagak River 81.48 10 P P 20 18 24.8 +0.3
baz=199
Q18K Katmai Hardscr 81.66 12 P P 20 18 25.5 -0.1
baz=202,SNR=13
N14K Kuskokwak Cree 81.77 8 P P 20 18 26.5 +0.6
N14K Kuskokwak Cree 81.77 8 P P 20 18 26.5 +0.6
baz=196
P17K Kvichak River 81.90 11 P P 20 18 26.7 +0.1
baz=200,SNR=7.6
O16K Kokwok River B 81.99 10 P 20 18 26.1 -0.9
O16K IAmb IAmb 20 18 27.3
comp=Z,8.8nm,0.8s
O16K Kokwok River B 81.99 10 P P 20 18 26.6 -0.4
baz=199,SNR=5.3
Q20K Shuyak Island 82.16 13 P P 20 18 28.0 +0.1
baz=204
Q19K Cape Douglas, 82.19 13 P P 20 18 28.1 -0.1
baz=203
N15K Kwethluk River 82.23 9 P P 20 18 29.1 +0.8
N15K IAmb IAmb 20 18 30.2
comp=Z,9.9nm,0.9s
N15K Kwethluk River 82.23 9 P P 20 18 28.9 +0.6
baz=197
P18K Big Mountain, 82.31 12 P 20 18 28.2 -0.6
P18K IAmb IAmb 20 18 30.6
comp=Z,7.3nm,0.8s
P18K Big Mountain, 82.31 12 P P 20 18 28.4 -0.4
baz=202
O17K Koliganek Bris 82.33 11 P P 20 18 28.6 -0.2
baz=200
M14K Bethel 82.54 8 P 20 18 30.5 +0.7
M14K IAmb IAmb 20 18 31.5
comp=Z,10.0nm,0.8s
M14K Bethel 82.54 8 P P 20 18 30.7 +0.9
baz=195
J05D Fort Rock, OR 82.62 38 P 20 18 32.2 +1.3
J05D IAmb IAmb 20 18 33.6
comp=Z,4.0nm,0.6s
M15K Kasigluk River 82.65 9 P P 20 18 31.3 +0.9
baz=196,SNR=10
N16K Nishlik Lake 82.72 10 P P 20 18 31.4 +0.6
baz=198,SNR=8.4
P19K Oil Pt 82.94 12 P P 20 18 32.0 +0.1
baz=204
L14K Kuka Creek 83.02 7 P P 20 18 33.0 +0.8
baz=195
N17K Nushagak Hills 83.03 10 P P 20 18 32.6 +0.3
baz=200
M16K Timber Creek 83.22 9 P 20 18 34.3 +1.0
M16K Timber Creek 83.22 9 P P 20 18 34.7 +1.4
baz=198,SNR=7.0
O19K Port Alsworth 83.23 12 P P 20 18 33.2 -0.1
O19K Port Alsworth 83.23 12 P P 20 18 33.2 -0.1
baz=202
HOM Homer 83.28 13 P P 20 18 34.2 +0.6
baz=205
K13K Kusilvak Mount 83.37 6 P P 20 18 34.8 +0.8
baz=193
N18K Kilae Creek 83.39 11 P P 20 18 34.1 -0.1
baz=201
O20K Slope Mountain 83.46 13 P P 20 18 34.5 -0.1
baz=204
L15K Ungalak Mounta 83.49 8 P P 20 18 35.1 +0.5
baz=196
BRSE Bradley Lake S 83.55 14 P P 20 18 35.2 +0.2
baz=206
N19K Bonanza Creek 83.77 11 P P 20 18 35.9 -0.3
N19K IAmb IAmb 20 18 36.5
comp=Z,5.8nm,0.8s
N19K Bonanza Creek 83.77 11 P P 20 18 35.8 -0.4
baz=202
L16K Owhat River 83.80 9 P P 20 18 36.8 +0.7
baz=198
M17K Holitna River 83.81 10 P P 20 18 37.1 +0.8
baz=200
K15K Wolf Creek Mou 84.08 8 P P 20 18 38.1 +0.6
K15K IAmb IAmb 20 18 40.3
comp=Z,10nm,0.9s
K15K Wolf Creek Mou 84.08 8 P P 20 18 38.3 +0.7
baz=196
SEW Seward 84.16 14 P P 20 18 37.6 -0.3
baz=207
M18K Stony River 84.17 11 P P 20 18 38.4 +0.4
baz=201
L17K Donlin 84.38 9 P P 20 18 39.9 +0.9
baz=199
N20K Mount Spurr 84.57 12 P P 20 18 40.2 +0.1
baz=204
SPCR Spurr Chakacha 84.57 12 P P 20 18 40.2 +0.1
baz=204
L18K Granite Mounta 84.71 10 P 20 18 41.1 +0.4
L18K IAmb IAmb 20 18 42.4
comp=Z,5.1nm,0.8s
L18K Granite Mounta 84.71 10 P P 20 18 41.3 +0.6
baz=200
K17K Iditarod 84.93 9 P P 20 18 42.3 +0.6
baz=199
L19K White Mountain 84.98 11 P P 20 18 41.9 -0.1
L19K White Mountain 84.98 11 P P 20 18 42.3 +0.3
baz=202
RC01 Rabbit Creek A 84.98 13 P P 20 18 41.8 -0.2
baz=207
M20K Styx River 85.01 12 P P 20 18 41.6 -0.7
baz=204
PWL Port Wells 85.09 14 P P 20 18 42.3 -0.2
baz=208
SUA Susitna One 85.10 13 IAmb IAmb 20 18 43.4
comp=Z,7.9nm,0.8s
SUA Susitna One 85.10 13 P P 20 18 42.6 -0.1
baz=206
J16K Anvik River 85.16 8 P P 20 18 43.4 +0.6
baz=196
KAIM Kayak Island 85.24 16 P P 20 18 43.0 -0.3
baz=212
GLI Glacier Island 85.39 15 P P 20 18 44.0 -0.1
baz=209
L20K Farewell, AK 85.43 11 P P 20 18 43.9 -0.3
baz=203
EYAK Cordova Ski Ar 85.43 15 P P 20 18 44.2 0.0
baz=210
J17K VABM Dome 85.47 9 P P 20 18 44.3 0.0
baz=198
M22K Willow 85.50 13 P P 20 18 44.6 +0.2
baz=206
KNK Knik Glacier 85.55 14 P P 20 18 44.7 -0.1
baz=208
GHO Glory Hole Cre 85.77 13 P P 20 18 44.9 -1.1
J18K Innoko River 85.88 9 P P 20 18 46.9 +0.5
baz=200
CUT Chulitna 86.05 13 P P 20 18 47.3 +0.1
baz=206
M23K Glacier View 86.05 14 P P 20 18 47.2 0.0
baz=208
BMRM Bremner River 86.08 16 P P 20 18 47.4 0.0
baz=211
SCM Sheep Creek Mo 86.18 14 P P 20 18 47.7 -0.2
baz=209
K20K Telida 86.21 11 P P 20 18 47.9 -0.1
K20K IAmb IAmb 20 18 49.0
comp=Z,7.9nm,1.4s
K20K Telida 86.21 11 P P 20 18 47.8 -0.1
baz=203
CRQE Cirque 86.29 16 P P 20 18 48.6 +0.1
baz=213
G15K Niukluk 86.43 6 P P 20 18 49.0 +0.1
baz=193
J19K Poorman 86.55 10 P P 20 18 49.7 +0.2
baz=201
N25K Chitina, Valde 86.63 15 IAmb IAmb 20 18 51.2
comp=Z,4.0nm,0.7s
N25K Chitina, Valde 86.63 15 P P 20 18 50.1 0.0
baz=211
F14K Arctic Creek 86.70 5 P P 20 18 50.1 0.0
baz=191
WAT6 Susitna Watana 86.75 14 P P 20 18 50.8 +0.1
baz=208
WAT1 Susitna Watana 86.79 13 P P 20 18 50.8 0.0
baz=208
P29M Windy Craggy 86.90 19 P P 20 18 52.1 +0.8
baz=218
CTG Chitna Glacier 86.94 17 P P 20 18 51.9 +0.3
baz=214
J20K Nowinta River 86.96 10 P P 20 18 51.9 +0.4
baz=202
KTH Kantishna Hill 86.96 12 IAmb IAmb 20 18 51.4
comp=Z,6.2nm,0.9s
TRF Thorofare Moun 86.99 12 IAmb IAmb 20 18 52.4
comp=Z,7.5nm,0.7s
TRF Thorofare Moun 86.99 12 P P 20 18 51.8 -0.1
baz=206
O28M Mount Upton 87.10 18 P P 20 18 52.7 +0.2
baz=215
HARP HAARP 87.18 15 P P 20 18 52.8 +0.3
baz=211
O29M Mount Kennedy 87.19 19 P P 20 18 53.4 +0.6
baz=217
PLBC Pleasant Camp 87.19 20 P P 20 18 53.3 +0.7
baz=219
H18K Honhosa River 87.24 8 P P 20 18 53.2 +0.4
baz=198
RND Reindeer 87.24 13 P P 20 18 52.8 -0.1
DHY Denali Highway 87.26 14 P P 20 18 53.4 +0.3
baz=209
G17K Kiwalik Mounta 87.29 7 P P 20 18 53.1 +0.1
baz=196
P18A Preston Nutter 87.46 46 pP 20 20 35.4 -0.1
T35M Bob Quinn 87.47 24 P P 20 18 54.6 +0.6
baz=224
I20K Naaghedeneel 87.48 10 P P 20 18 54.3 +0.5
baz=202
MCK McKinley 87.52 13 IAmb IAmb 20 18 55.6
comp=Z,6.5nm,0.8s
MCK McKinley 87.52 13 P P 20 18 54.3 +0.1
baz=207
P30M Million Dollar 87.53 19 P P 20 18 55.1 +0.8
baz=218
PAX Paxson 87.60 14 P P 20 18 54.1 -0.5
baz=210
PV10 Paradox Valley 87.66 47 pP 20 20 34.2 -2.3
PV19 Morning Glory 87.67 47 pP 20 20 39.4 +2.9
M26K Nabesna, AK 87.71 16 P P 20 18 55.5 +0.4
baz=213
YUK3 Moose Creek 87.85 17 P P 20 18 56.4 +0.4
baz=215
H19K Roundabout Mou 87.86 9 P P 20 18 56.0 +0.3
baz=200
G18K Tagagawik 87.91 8 P P 20 18 56.4 +0.5
baz=198
HYT Haines Junctio 87.92 19 P P 20 18 57.2 +1.0
baz=218
M27K Edge Creek, AK 87.95 16 IAmb IAmb 20 18 58.1
comp=Z,5.7nm,0.9s
M27K Edge Creek, AK 87.95 16 P P 20 18 57.1 +0.7
baz=214
H20K Anotleneega Mo 88.06 10 P P 20 18 57.0 +0.3
baz=202
Q32M Nakina River 88.18 22 P P 20 18 58.1 +0.5
baz=222
I21K Tanana 88.25 11 IAmb IAmb 20 18 58.1
comp=Z,6.1nm,0.8s
I21K Tanana 88.25 11 P P 20 18 58.0 +0.6
baz=204
K24K Donnelly Dome 88.25 14 P P 20 18 57.3 -0.3
K24K Donnelly Dome 88.25 14 P P 20 18 57.8 +0.2
baz=210
NEA2 Nenana 88.26 12 P P 20 18 57.5 -0.1
baz=207
BVCY Beaver Creek 88.27 16 P P 20 18 58.2 +0.6
baz=215
O30N Mendenhall 88.31 19 P P 20 18 57.8 -0.2
baz=219
MLY Manley 88.34 11 IAmb IAmb 20 18 58.0
comp=Z,3.6nm,0.7s
MLY Manley 88.34 11 P P 20 18 57.1 -0.8
baz=205
G19K Purcell Mounta 88.35 8 IAmb IAmb 20 18 59.4
comp=Z,5.3nm,1.1s
G19K Purcell Mounta 88.35 8 P P 20 18 57.9 0.0
baz=200
RIDG Independent Ri 88.41 14 P P 20 18 58.4 0.0
baz=211
F18K Selawik 88.46 7 P P 20 18 58.6 +0.2
baz=197
HDA Harding Lake 88.53 13 IAmb IAmb 20 18 59.3
comp=Z,5.8nm,0.7s
HDA Harding Lake 88.53 13 P P 20 18 58.6 -0.2
baz=209
H21K Melozitna Rive 88.55 10 P P 20 18 58.1 -0.8
H21K Melozitna Rive 88.55 10 P P 20 18 59.1 +0.2
baz=204
L27K Beaver Creek, 88.56 16 P P 20 18 59.4 +0.3
baz=214
WHY Whitehorse 88.60 20 P P 20 18 59.6 +0.2
baz=220
E17K Hotham Inlet 88.68 6 P P 20 18 59.5 +0.1
baz=195
IMAR Indian Mountai 88.70 10 P P 20 18 58.9 -0.6
SCRK Sand Creek 88.81 14 P P 20 19 00.3 0.0
baz=212
ILAR Eielson Array 88.86 13 P P 20 19 00.0 -0.3
comp=Z,1.9nm,0.8s,baz=234,slow=5.7,SNR=14
comp=Z,1.9nm,0.8s
F19K Shaleruckik Mo 88.92 8 P P 20 19 00.6 0.0
baz=199
P33M Teslin, Yukon 88.93 21 P P 20 19 01.2 +0.3
baz=222
M29M Somme Creek 88.94 17 IAmb IAmb 20 19 02.5
comp=Z,4.7nm,0.8s
M29M Somme Creek 88.94 17 P P 20 19 01.0 +0.1
baz=217,SNR=5.1
R33M Jennings River 88.95 22 P P 20 19 02.0 +1.0
baz=224
N31M Braeburn, Yuko 88.96 19 P P 20 19 02.3 +1.3
baz=219
J25K Salcha River, 89.04 14 P P 20 19 01.3 0.0
baz=210
E18K Tukpahlearik C 89.14 7 P P 20 19 01.9 +0.3
baz=196
D17K Noatak River 89.16 6 P P 20 19 02.4 +0.7
baz=194
G21K Allakaket 89.23 10 IAmb IAmb 20 19 03.0
comp=Z,5.9nm,0.8s
G21K Allakaket 89.23 10 P P 20 19 02.3 +0.3
baz=203
K27K Chicken 89.31 15 IAmb IAmb 20 19 04.2
comp=Z,4.0nm,0.9s
K27K Chicken 89.31 15 P P 20 19 03.3 +0.8
baz=214
J26L Joseph Creek 89.35 14 IAmb IAmb 20 19 04.4
comp=Z,6.0nm,0.8s
J26L Joseph Creek 89.35 14 P P 20 19 03.4 +0.7
baz=212
F20K Avaraart Lake 89.39 9 P P 20 19 03.1 +0.4
baz=201
PDAR Pinedale Array 89.46 43 P P 20 19 04.0 0.0
comp=Z,0.6nm,0.6s,baz=226,slow=2.3,SNR=6.2
comp=Z,0.6nm,0.6s
M30M Minto, Yukon 89.52 18 IAmb IAmb 20 19 04.9
comp=Z,4.8nm,0.9s
M30M Minto, Yukon 89.52 18 P P 20 19 04.0 +0.5
baz=218,SNR=6.3
RDOG Red Dog Mine 89.52 6 P P 20 19 03.8 +0.4
baz=194
C16K Lisburne Hills 89.53 5 P P 20 19 03.9 +0.6
baz=192
L29M L29M 89.57 17 P 20 19 04.4 +0.6
L29M IAmb IAmb 20 19 05.6
comp=Z,6.1nm,0.8s
L29M L29M 89.57 17 P P 20 19 04.6 +0.9
baz=217,SNR=6.0
E19K Redstone River 89.58 8 IAmb IAmb 20 19 04.7
comp=Z,6.4nm,0.8s
E19K Redstone River 89.58 8 P P 20 19 04.0 +0.4
baz=200,SNR=7.4
PRP Porcupine Dome 89.79 13 P P 20 19 05.4 +0.6
baz=210
F21K Alatna River 89.88 9 P P 20 19 05.6 +0.5
baz=203
C17K DeLong Mountai 89.91 5 P P 20 19 05.4 +0.3
baz=194
G22K Bettles 89.92 10 P P 20 19 06.0 +0.8
baz=205
G23K Bananza Creek 89.98 11 P P 20 19 06.3 +0.7
baz=206
DAWY Dawson 90.01 16 P P 20 19 06.0 +0.3
baz=216
CMAR Chiang Mai Arr 90.12 290 P P 20 19 06.7 -0.5
CMAR Chiang Mai Arr 90.12 290 P P 20 19 07.2 -0.1
comp=Z,1.4nm,0.8s,baz=115,slow=2.8,SNR=10
comp=Z,1.4nm,0.8s
I26K Coal Creek Min 90.13 14 P P 20 19 06.7 +0.5
baz=213
K29M Barlow Dome 90.32 17 IAmb IAmb 20 19 08.9
comp=Z,3.2nm,0.8s
K29M Barlow Dome 90.32 17 P P 20 19 07.9 +0.6
baz=218
F22K John River 90.35 10 P P 20 19 07.8 +0.6
baz=204
COLD Coldfoot 90.42 11 IAmb IAmb 20 19 09.0
comp=Z,3.5nm,0.9s
COLD Coldfoot 90.42 11 P P 20 19 08.2 +0.6
baz=206
G24K Hadweenzic Riv 90.44 12 P P 20 19 07.6 0.0
baz=209
D19K Kuna River 90.45 7 P P 20 19 07.8 0.0
baz=199
E20K Nigu River 90.47 8 P P 20 19 07.9 +0.1
baz=200,SNR=6.6
I27K Kandik River 90.73 14 P P 20 19 09.5 +0.4
baz=214
G25K Bearman Lake 90.76 12 P P 20 19 09.4 +0.3
baz=210
D20K Etivluk River 90.84 8 P P 20 19 10.2 +0.7
baz=200
C19K Lookout Ridge 90.87 7 P P 20 19 10.0 +0.3
baz=197
B18K Kokolik River 90.90 6 P P 20 19 10.1 +0.4
baz=195
E22K Anaktuvuk Pass 90.98 10 P P 20 19 10.8 +0.6
baz=205
I28M Miner Creek 91.00 15 P P 20 19 10.5 +0.1
baz=216
F24K Squaw Lake 91.09 11 P P 20 19 11.4 +0.7
baz=208
MMPY Sheldon Lake, 91.22 20 P P 20 19 12.4 +1.0
baz=223
J30M Hart River 91.22 17 P P 20 19 12.8 +1.3
baz=219
SN07 Snyder 07 91.22 55 P P 20 19 14.7 +2.6
E23K Chandalar 91.27 10 P P 20 19 11.8 +0.2
baz=207
H27K Steamboat Moun 91.27 14 P P 20 19 12.3 +0.7
baz=214
I29M Ogilvie Camp, 91.33 16 P P 20 19 12.1 +0.2
baz=217
G26K Porcupine Rive 91.39 13 P P 20 19 12.4 +0.4
baz=212
E24K Your Creek 91.47 11 P P 20 19 13.0 +0.5
baz=208
C21K Knifeblade Rid 91.50 8 P P 20 19 13.0 +0.5
baz=202
D22K Ayikyak River 91.53 9 P P 20 19 13.1 +0.5
baz=204
F25K Christian Rive 91.57 12 P P 20 19 13.5 +0.5
baz=210
I30M Mount Dempster 91.72 16 P P 20 19 14.0 +0.2
baz=219
A19K Wainwright 91.78 6 P P 20 19 14.1 +0.4
baz=196
TOLK Toolik Lake Re 91.80 10 P P 20 19 14.4 +0.5
baz=207
D23K Nanushuk River 91.91 10 P P 20 19 15.0 +0.6
baz=206
B21K Ikpikpuk River 91.95 8 P P 20 19 14.9 +0.3
baz=202
F26K Sheenjek River 91.95 12 P P 20 19 15.0 +0.4
baz=212
B20K Meade River 92.00 7 P P 20 19 14.9 +0.2
baz=200
H29M Whitestone 92.00 15 P P 20 19 15.1 +0.2
baz=217
E25K Arctic Village 92.04 12 P P 20 19 15.6 +0.6
baz=210
G29M Pine Creek 92.64 15 P P 20 19 18.3 +0.5
baz=217
C23K Itkillik River 92.71 9 P P 20 19 18.4 +0.3
baz=206
E27K Coleen River 92.89 13 P P 20 19 19.1 +0.1
baz=214
G30M tAoh Zraii Nji 93.14 15 P P 20 19 20.1 0.0
baz=219
E28M Babbage River 93.67 13 P P 20 19 22.2 -0.3
baz=216
CPUP Villa Florida 105.83 127 Pdiff Pdif 20 20 19.0 +1.0
comp=Z,0.3nm,0.4s,baz=329,slow=19,SNR=1.1
ZALV Zalesovo Beam 110.78 321 PKiKP PKiKP 20 24 34.7 -1.6
comp=Z,0.2nm,0.2s,baz=116,slow=3.4,SNR=3.6
MKAR Makanchi Array 111.42 313 PKiKP PKiKP 20 24 36.9 -0.9
comp=Z,0.4nm,0.4s,baz=140,slow=0.7,SNR=7.0
KURBB Kurchatov Arra 114.30 317 PKP PKPdf 20 24 41.4 -1.7
comp=Z,0.5nm,0.6s,baz=91,slow=2.0,SNR=6.6
BVAR Borovoye Array 119.36 320 PKP PKPdf 20 24 51.5 -1.3
comp=Z,2.4nm,0.4s,baz=116,slow=2.0,SNR=25
ARCES ARCESS Array B 129.40 349 PKP PKPdf 20 25 10.4 -1.2
comp=Z,1.1nm,0.5s,baz=2.6,slow=1.5,SNR=15
FINES FINESS Array B 136.22 343 PKP PKPdf 20 25 24.8 +0.3
comp=Z,1.1nm,0.6s,baz=77,slow=3.1,SNR=5.9
NOA NORSAR Array B 139.47 353 PKhKP PKPpre 20 25 23.1
comp=Z,0.7nm,0.8s,baz=358,slow=1.8,SNR=3.3
HFS Hagfors 140.02 351 PKhKP PKPpre 20 25 24.1
comp=Z,0.9nm,0.4s,baz=64,slow=3.4,SNR=8.6
AKASG Malin Array Be 143.38 331 PKPab 20 25 34.6 -1.1
AKASG Malin Array Be 143.38 331 PKhKP PKPpre 20 25 34.4
comp=Z,10nm,0.5s,baz=44,slow=4.3,SNR=64
KIEV Kiev 143.39 331 PKPab 20 25 34.7 -1.0
KIEV Kiev 143.39 331 ⇑P PKPab 20 25 34.8 -0.9
EKA Eskdalemuir Ar 145.53 5 PKPbc PKPdf 20 25 41.6 +0.2
comp=Z,1.3nm,0.7s,baz=337,slow=4.1,SNR=6.0
SORM Soroca 145.55 328 ⇑P PKPdf 20 25 42.1 +0.5
BNN Bunyan 145.82 309 PKPdf 20 25 43.6 +0.9
MILM Milestii Mici 146.12 326 ⇑P PKPdf 20 25 42.6 -0.1
BR131 Keskin Array S 147.05 312 PKPdf 20 25 46.3 +1.6
BRTR Keskin Array B 147.05 312 PKPbc PKPdf 20 25 46.2 +1.5
comp=Z,2.8nm,0.7s,baz=123,slow=4.3,SNR=15
KIRS Kirsehir-Merke 147.10 310 ⇑P PKPdf 20 25 46.8 +2.1
GHRR 147.42 326 ⇑P PKPbc 20 25 48.5 +0.5
BURAR Bucovina Array 147.42 330 PKPdf 20 25 47.7 +2.7
BURAR Bucovina Array 147.42 330 ⇑P PKPbc 20 25 49.3 +1.1
TESR Tescani 147.50 327 ⇑P PKPbc 20 25 48.0 -0.3

TPGR	**Topolog**	**147.64**	**323**	⇑P		**PKPbc**	**20 25 48.7**	**-0.1**
ONER	**Baraj Valea Uz**	**147.75**	**327**	⇑P		**PKPbc**	**20 25 49.4**	**+0.4**
VRI	**Vrincioaia**	**147.90**	**326**	⇑P		**PKPdf**	**20 25 47.3**	**+1.5**
MMAI	**Mount Meron Ar**	**147.91**	**299**	PKPbc		**PKPbc**	**20 25 49.5**	**-0.4**
	comp=Z,4.1nm,0.5s,baz=64,slow=3,8,SNR=15							
OZUR		**148.22**	**328**	⇑P		**PKPbc**	**20 25 50.3**	**+0.1**
ICOR	**Ion Corvin**	**148.45**	**323**	⇑P		**PKPdf**	**20 25 48.4**	**+1.8**
STEB	**Steborice**	**148.49**	**340**	*e*PKP		**PKPbc**	**20 25 50.4**	**-0.3**
STEB				*ex*		x	20 25 55.9	
DOPR	**Dopca**	**148.51**	**328**	⇑P		**PKPbc**	**20 25 51.2**	**+0.2**
CLL	**Collm**	**148.52**	**347**	*i* PKPbc		**PKPbc**	**20 25 50.5**	**-0.2**
	comp=Z,10.0nm,0.9s							
CLL				*e*PKPab		**PKPab**	**20 25 55.0**	**-0.8**
	comp=Z,6.0nm,0.7s							
MLR	**Muntele Rosu**	**148.56**	**327**			**PKPdf**	**20 25 49.2**	**+2.2**
MLR	**Muntele Rosu**	**148.56**	**327**	⇓P		**PKPdf**	**20 25 49.7**	**+2.8**
DPC	**Dobruska-Polom**	**148.56**	**342**	*e*PKP		**PKPbc**	**20 25 50.7**	**-0.2**
KRLC	**Kraliky**	**148.67**	**341**	*e*PKP		**PKPbc**	**20 25 51.3**	**+0.1**
KRLC				*ex*		x	20 25 56.9	
BRG	**Berggiesshubel**	**148.71**	**345**	*e*P		**PKiKP**	**20 25 53.1**	**+0.8**
BRG				Amp			20 25 53.8	
	comp=Z,3.8nm,0.9s							
BRG	**Berggiesshubel**	**148.71**	**345**	P		**PKPab**	**20 25 58.4**	**+1.8**
BRG				Amp			20 25 58.9	
	comp=Z,3.7nm,0.7s							
MARR	**Marisel-Cluj**	**149.08**	**331**	⇑P		**PKPbc**	**20 25 51.9**	**-0.5**
DRGR		**149.18**	**331**	⇓P		**PKPbc**	**20 25 52.1**	**-0.5**
SIRR	**Siria**	**150.04**	**332**	⇓P		**PKPbc**	**20 25 54.3**	**-0.3**
GZR	**Gura Zlata**	**150.19**	**330**	⇑P		**PKPbc**	**20 25 54.2**	**-0.9**
SURR	**Surduc**	**150.23**	**331**	⇑P		**PKPbc**	**20 25 54.5**	**-0.6**
KHC	**Kasperske Hory**	**150.42**	**344**	*e*PKP		**PKPbc**	**20 25 55.5**	**+0.1**
KHC				*ex*		x	20 26 04.3	
BZS	**Buzias**	**150.56**	**331**	⇑P		**PKPbc**	**20 25 54.4**	**-0.4**
GERES	**GERESS Array B**	**150.65**	**344**	PKPbc		**PKPbc**	**20 25 55.6**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=29,slow=3.0,SNR=17							
GERES				PKPab		**PKPab**	**20 26 04.9**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=17,slow=5.6,SNR=5.7							
PLVB	**Pleven**	**150.68**	**325**	⇑P		**PKPbc**	**20 25 56.1**	**-0.1**
HERR	**Herculane**	**150.75**	**329**	⇑P		**PKPbc**	**20 25 55.7**	**-0.5**
CONA	**Conrad Observa**	**150.86**	**340**	*i* PKP		**PKPbc**	**20 25 56.4**	**-0.2**
	comp=Z,3.4nm,0.6s							
RONA	**Rosalia, Austr**	**150.92**	**340**	*i* PKP		**PKPbc**	**20 25 56.5**	**-0.2**
	comp=Z,3.9nm,0.5s							
MDVR	**Moldovita**	**151.15**	**330**	⇑P		**PKPbc**	**20 25 56.7**	**-0.6**
MORH	**Mrgy, Hungar**	**151.34**	**335**	⇑P		**PKPbc**	**20 25 57.1**	**-0.5**
LESA	**Schwarzleotal**	**152.22**	**344**	*i* PKP		**PKPbc**	**20 25 59.0**	**-0.6**
	comp=Z,1.4nm,0.5s							
SOKA	**Soboth**	**152.23**	**340**	*e*PKP		**PKPbc**	**20 25 58.5**	**-1.1**
	comp=Z,0.5nm,0.3s							
KBA	**Koelnbreinsper**	**152.37**	**343**	*e*PKP		**PKPbc**	**20 25 59.3**	**-0.8**
	comp=Z,1.4nm,0.6s							
WATA	**Walderalm**	**152.58**	**345**	*e*PKP		**PKPbc**	**20 25 59.3**	**-1.1**
	comp=Z,1.8nm,0.5s							
WTTA	**Wattenberg**	**152.63**	**345**	*e*PKP		**PKPbc**	**20 25 60.0**	**-0.7**
	comp=Z,1.2nm,0.3s							
MOTA	**Moosalm**	**152.68**	**346**	*e*PKP		**PKPbc**	**20 26 00.4**	**-0.4**
	comp=Z,1.2nm,0.4s							
FETA	**Feichten**	**153.07**	**346**	*e*PKP		**PKPbc**	**20 26 00.9**	**-0.7**
	comp=Z,0.2nm,0.2s							
ESDC	**Sonseca Array**	**160.76**	**14**	PKPab		**PKPab**	**20 26 47.3**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=10,slow=3.6,SNR=2.8							
TORD	**Torodi Ar. Bea**	**172.17**	**179**	PKPab		**PKPab**	**20 27 38.5**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=164,slow=2.5,SNR=2.2							

IDC ***10*** *20:18:42.4±0.7, 16°.12N×94°.88E, h0km, mb3.9/19, mbtmp3.9/20, ML4.3/1, MS4.0/2, Error ellipse: s-maj=25.9km s-min=15.9km az=61.0*

NDI ***10*** *20:18:43.9±1.4, 16°.18N×95°.13E, h10km, ML4.0, MW4.4, mb4.6(NEIC)*

NEIC ***10*** *20:18:44.7±2.0, 16°.24N±0°.07×95°.02E±0°.10, h10km±1km, mb4.6/21, Error ellipse: s-maj=15.9km s-min=12.0km az=283.0*

BKK ***10*** *20:18:45.1±0.8, 16°N±4°×9°5E±°, h10km, M4.5/16, mB5.1/6, mb5.1/7, Mjma4.1/16, ML5.1/14, MLv4.2/7, Mw(mB)4.5/6, MwMwp3.9/1, Mwp4.4/1*

ISC 10 20:18:44.1±0.5, 16°.30N±0°.06×94°.92E±0°.07, h10km, n71, σ1°83°/75, mb4.2/32, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CM05	**Chiang Mai Arr**	**4.38**	**61**	P	**Pn**	**20 19 51.5**	**+0.8**
CM31	**Chiang Mai Arr**	**4.40**	**60**	Pn	**Pn**	**20 19 51.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**4.40**	**60**	Pn	**Pn**	**20 19 51.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**4.40**	**60**	Pn	**Pn**	**20 19 51.8**	**+0.8**
	4.0nm,0.3s,baz=244,slow=14,SNR=100						
CMAR				Sn	**Sn**	**20 20 40.0**	**-2.4**
	3.4nm,0.3s,baz=241,slow=22,SNR=7.4						
CMAR				Lg	Lg	20 21 03.4	
	4.7nm,0.3s,baz=238,slow=22,SNR=4.9						
CMAR				LR	LR	20 21 36.1	
	comp=Z,95nm,19.0s,baz=215,slow=38 11nm,0.5s						
CM04	**Chiang Mai Arr**	**4.40**	**61**	P	**Pn**	**20 19 51.8**	**+0.7**
UTHA	**Uthaitani**	**4.42**	**99**	P	**Pn**	**20 19 51.2**	**0.0**
CHTO	**Chiang Mai**	**4.58**	**56**	Pn	**Pn**	**20 19 53.7**	**+0.2**
CHTO	**Chiang Mai**	**4.58**	**56**	P	**Pn**	**20 19 54.4**	**+0.9**
LAMP	**Lampang**	**5.01**	**63**	P	**Pn**	**20 20 00.1**	**+0.6**
	3.8nm1.0nm839nm52nm,0.7s						
PBA	**Port Blair**	**5.08**	**205**	Pn	**Pn**	**20 20 01.5**	**+1.2**
AZL	**Aizawl**	**7.69**	**345**	*e*P	**Pn**	**20 20 38.2**	**+1.8**
AZL				*e*S	**Sn**	**20 22 01.0**	**-2.7**
AZL				IAML		20 22 06.8	
	comp=N,58nm,0.3s						
IMP	**Imphal**	**8.54**	**354**	*e*P	**Pn**	**20 20 49.4**	**+1.4**
IMP				*e*S	**Sn**	**20 22 20.1**	**-4.3**
TNCH	**TengChong**	**9.32**	**21**	*e*P	**Pn**	**20 21 03.2**	**+4.5**
TNCH				S	**Sn**	**20 22 48.9**	**+5.2**
TNCH				LR	LR		
	comp=N,190nm,4.9s						
TNCH				LR	LR		
	comp=E,140nm,5.4s						
TNCH				LR	LR		
	comp=Z,220nm,15.1s						
KOHI	**KOHIMA**	**9.41**	**356**	*e*P	**Pn**	**20 21 01.1**	**+1.2**
KOHI				*e*S	**Sn**	**20 22 40.4**	**-5.5**
KOHI				IAML		20 22 49.7	
	comp=N,41nm,0.5s						
SHL	**Shillong**	**9.65**	**343**	Pn	**Pn**	**20 21 02.9**	**-0.4**
SHL	**Shillong**	**9.65**	**343**	*e*P	**Pn**	**20 21 04.4**	**+1.1**
SHL				*e*S	**Sn**	**20 22 46.2**	**-5.7**
SHL				IAML		20 22 47.1	
	comp=N,182nm,0.0s						
SHL				IAML		20 22 51.6	
	comp=E,36nm,0.4s						
TEZP	**TEZPUR**	**10.46**	**349**	*e*P	**Pn**	**20 21 13.3**	**-0.8**
TEZP				*e*S	Sn	20 23 05.5	-5.9
TEZP				IAML		20 23 08.5	
	comp=E,26nm,0.2s						
TEZP				IAML		20 23 10.2	
	comp=N,36nm,0.4s						
LSA	**Lhasa**	**13.78**	**346**	Pn	**Pn**	**20 21 58.8**	**-1.3**
LSA	**Lhasa**	**13.78**	**346**	Pn	Pn	20 21 55.3	-4.8
LSA				Sn	Sn	20 24 03.8	-30
LSA				smax	smax		
	comp=N,5.0nm,0.8s						
EVN	**Everest**	**13.81**	**329**	Pn	**Pn**	**20 22 01.3**	**+0.6**
PSI	**Prapat**	**13.98**	**163**	LR	LR	20 27 54.9	
	comp=N,153nm,18.5s,baz=75,slow=40						
HYB	**Hyderabad**	**15.71**	**276**	*e*P	**Pn**	**20 22 27.4**	**+1.7**
LZDM	**Lanzhou Array**	**21.08**	**20**	P	**P**	**20 23 31.1**	**+2.1**
	comp=N,2.0nm,0.4s,baz=197,slow=12,SNR=2.3						
	comp=N,2.0nm,0.4s						
LZH	**Lanzhou**	**21.25**	**20**	*e*P	**P**	**20 23 31.5**	**+0.8**
LZH				pP	sP	20 23 35.5	+0.7
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
LZH				LR	LR		
	comp=N,210nm,12.9s						
LZH				LR	LR		
	comp=E,120nm,11.2s						
LZH				LR	LR		
	comp=Z,220nm,13.4s						
GTA	**Gaotai**	**23.42**	**10**	*e*P	**P**	**20 23 54.6**	**+1.0**
GTA				pP	sP	20 24 01.1	+3.3
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NIL	**Nilore**	**26.07**	**316**		**P**	**20 24 17.8**	**-0.2**
NIL				IAmb	IAmb	20 24 24.7	
	comp=Z,9.6nm,0.8s						
KSH	**Kashi**	**28.44**	**328**	P	**P**	**20 24 44.0**	**+4.7**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						

SIMJ	**Simiganj**	**31.81**	**320**	P		**P**	**20 25 09.3**	**+0.1**
MKAR	**Makanchi Array**	**32.17**	**344**	P		**P**	**20 25 11.6**	**-0.5**
MKAR	**Makanchi Array**	**32.17**	**344**	P		**P**	**20 25 13.5**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=159,slow=8.5,SNR=7.8							
	comp=Z,1.1nm,0.6s							
SONM	**Songino Array**	**32.84**	**14**	P		**P**	**20 25 19.0**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=192,slow=11,SNR=4.0							
	comp=Z,0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**36.69**	**342**	P		**P**	**20 25 52.4**	**+1.2**
	comp=Z,5.2nm,0.9s,baz=151,slow=8.5,SNR=11							
	comp=Z,5.2nm,0.9s							
KURK	**Kurchatov**	**36.75**	**343**	P		**P**	**20 25 51.6**	**-0.1**
KURK				IAmb		IAmb	20 25 58.6	
	comp=Z,3.9nm,0.7s							
ZAA0	**Zalesovo Array**	**38.39**	**350**	P		**P**	**20 26 05.1**	**-0.3**
ZALV	**Zalesovo Beam**	**38.39**	**350**	P		**P**	**20 26 05.9**	**+0.4**
ZALV	**Zalesovo Beam**	**38.39**	**350**	P		**P**	**20 26 06.5**	**+1.0**
	comp=Z,2.3nm,0.6s,baz=173,slow=9.0,SNR=16							
	comp=Z,2.3nm,0.6s							
BVAR	**Borovoye Array**	**41.41**	**338**	P		**P**	**20 26 30.8**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=132,slow=11,SNR=4.1							
	comp=Z,0.4nm,0.4s							
AB31	**Akbulak array**	**43.43**	**327**	P		**P**	**20 26 48.2**	**+1.1**
ABKAR	**Akbulak array**	**43.43**	**327**	P		**P**	**20 26 47.8**	**+0.8**
FITZ	**Fitzroy Crossi**	**45.64**	**137**	P		**P**	**20 27 04.0**	**-1.1**
WB0	**Warramunga Arr**	**52.81**	**131**	P		**P**	**20 27 58.0**	**-2.1**
WRA	**Warramunga Arr**	**52.89**	**131**	P		**P**	**20 27 58.9**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=312,slow=7.5,SNR=6.9							
	comp=Z,0.8nm,0.6s							
WR8	**Warramunga Arr**	**53.01**	**131**	P		**P**	**20 27 59.6**	**-1.9**
WR8				IAmb		IAmb	20 28 07.1	
	comp=Z,10nm,1.3s							
NWAO	**Narrogin (SRO)**	**53.40**	**157**	P		**P**	**20 28 02.8**	**-1.3**
ASAR	**Alice Springs**	**55.03**	**135**	P		**P**	**20 28 14.8**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=312,slow=7.3,SNR=5.4							
	comp=Z,0.4nm,0.5s							
TIXI	**Tiksi**	**58.88**	**12**	P		**P**	**20 28 41.4**	**-1.3**
STKA	**Stephens Creek**	**65.54**	**137**	P		**P**	**20 29 27.5**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=295,slow=14,SNR=1.3							
	comp=Z,0.5nm,0.4s							
FIA1	**FINESS Array S**	**65.72**	**331**	P		**P**	**20 29 29.7**	**+0.9**
FINES	**FINESS Array B**	**65.72**	**331**	P		**P**	**20 29 29.1**	**+0.3**
FINES	**FINESS Array B**	**65.72**	**331**	P		**P**	**20 29 29.4**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=162,slow=8.0,SNR=4.6							
	comp=Z,0.7nm,0.6s							
ARCES	**ARCESS Array B**	**67.68**	**339**	P		**P**	**20 29 40.5**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=76,slow=5.0,SNR=9.3							
	comp=Z,1.2nm,0.9s							
HFS	**Hagfors**	**71.65**	**329**	P		**P**	**20 30 06.5**	**+0.6**
	comp=Z,2.7nm,1.0s,baz=109,slow=8.0,SNR=7.7							
	comp=Z,2.7nm,1.0s							
GERES	**GERESS Array B**	**72.17**	**317**	P		**P**	**20 30 07.0**	**-2.3**
	comp=Z,1.0nm,0.8s,baz=76,slow=8.2,SNR=3.6							
NB2	**NORSAR Subarra**	**72.85**	**330**	P		**P**	**20 30 13.3**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=90,slow=6.2							
NOA	**NORSAR Array B**	**72.85**	**330**	P		**P**	**20 30 13.2**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=89,slow=5.8,SNR=5.6							
NOA				LR		LR	21 07 04.6	
	comp=Z,305nm,20.3s,baz=335,slow=40							
	comp=Z,0.2nm,0.5s							
BOSA	**Boshof**	**80.76**	**237**	P		**P**	**20 30 57.6**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=90,slow=10,SNR=1.6							
	comp=Z,1.1nm,0.8s							
D20K	**Etivluk River**	**81.46**	**21**	P		**P**	**20 31 02.0**	**+0.8**
D20K				IAmb		IAmb	20 31 08.7	
	comp=Z,4.8nm,0.8s							
B21K	**Ikpikpuk River**	**81.74**	**19**	P		**P**	**20 31 02.4**	**-0.3**
B21K				IAmb		IAmb	20 31 10.8	
	comp=Z,5.4nm,1.1s							
H18K	**Honhosa River**	**82.18**	**24**	P		**P**	**20 31 05.3**	**+0.2**
H18K				IAmb		IAmb	20 31 12.0	
	comp=Z,7.5nm,1.1s							
TOLK	**Toolik Lake Re**	**83.80**	**19**	P		**P**	**20 31 14.3**	**+0.8**
TOLK				IAmb		IAmb	20 31 20.8	
	comp=Z,4.2nm,0.8s							
E24K	**Your Creek**	**84.43**	**20**	P		**P**	**20 31 17.2**	**+0.5**
E24K				IAmb		IAmb	20 31 24.7	
	comp=Z,6.5nm,1.2s							
D25K	**Kavik River**	**84.44**	**18**	P		**P**	**20 31 17.1**	**+0.4**
F25K	**Christian Rive**	**85.60**	**20**	P		**P**	**20 31 23.6**	**+0.9**
BMAR	**Burnt Mountain**	**86.03**	**19**	P		**P**	**20 31 26.0**	**+1.2**
ESDC	**Sonseca Array**	**86.39**	**310**	P		**P**	**20 31 28.1**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=64,slow=3.9,SNR=2.3							
	comp=Z,0.5nm,0.5s							
ILAR	**Eielson Array**	**86.70**	**22**	P		**P**	**20 31 29.8**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=298,slow=4.6,SNR=7.5							
	comp=Z,0.8nm,0.7s							
E29M	**Blow River**	**87.47**	**17**	P		**P**	**20 31 31.8**	**+0.1**
E29M				IAmb		IAmb	20 31 38.6	
	comp=Z,1.4nm,0.7s							
KDAK	**Kodiak Island**	**87.78**	**30**	P		**P**	**20 31 34.9**	**+1.6**
	comp=Z,2.0nm,0.9s,baz=236,slow=11,SNR=7.1							
	comp=Z,2.0nm,0.9s							
I28M	**Miner Creek**	**88.72**	**20**	P		**P**	**20 31 38.4**	**+0.6**
I28M				IAmb		IAmb	20 31 44.1	
	comp=Z,4.1nm,1.1s							
INK	**Inuvik**	**88.73**	**16**	P		**P**	**20 31 40.0**	**+2.4**
	comp=Z,1.1nm,0.6s,baz=350,slow=6.4,SNR=5.1							
	comp=Z,1.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**89.40**	**283**	P		**P**	**20 31 43.5**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=73,slow=5.0,SNR=2.0							
	comp=Z,0.2nm,0.6s							

AFAD ***10*** *20:21:19.8, 41°.04N×43°.89E, h7km±3km, ML2.7*

AZER ***10*** *20:21:22.2, 40°.99N×44°.14E, h2km, ml2.8*

DRS ***10*** *20:21:22.4, 41°.02N×43°.67E, h15km*

ISC 10 20:21:18.3±1.1, 41°.12N±0°.03×43°.93E±0°.02, h8km±10km, n36, σ0°90°/61, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EAK	**Akyaka**	**0.50**	**209**	P	**Pb**	**20 21 28.6**	**-0.8**
DIGO	**Kars**	**0.82**	**211**	P	**Pb**	**20 21 34.6**	**-0.3**
DIGO				S	**Sg**	**20 21 45.0**	**+0.2**
DIGO				*i* IAML		20 21 47.0	
	comp=N,452nm,0.4s						
DIGO				*i* IAML		20 21 50.0	
	comp=E,673nm,0.3s						
BOZK	**Kars-Merkez-Bo**	**0.90**	**234**	P	**Pb**	**20 21 36.1**	**0.0**
BOZK				S	**Sg**	**20 21 47.2**	**+0.1**
EPOS	**Posof**	**0.98**	**293**	P	**Pn**	**20 21 38.4**	**0.0**
EPOS				S	**Sn**	**20 21 52.1**	**-0.5**
EPOS				*i* IAML		20 21 53.0	
	comp=N,236nm,0.3s						
EPOS				*i* IAML		20 21 53.0	
	comp=E,236nm,0.3s						
AHAN	**Ardahan-Merkez**	**0.98**	**273**	P	**Pn**	**20 21 38.6**	**+0.1**
AHAN				S	**Sn**	**20 21 52.1**	**-0.6**
AHAN				*i* IAML		20 21 53.0	
	comp=N,173nm,0.4s						
AHAN				*i* IAML		20 21 53.0	
	comp=E,330nm,0.5s						
GOLE	**Ardahan-G¶le**	**1.05**	**255**	P	**Pn**	**20 21 40.0**	**+0.5**
GOLE				S	**Sn**	**20 21 53.9**	**-0.4**
GOLE				*i* IAML		20 21 56.0	
	comp=N,169nm,0.4s						
GOLE				*i* IAML		20 21 56.0	
	comp=E,141nm,0.2s						
QZX	**Qazax, Azerbai**	**1.09**	**93**	P	**Pn**	**20 21 40.5**	**+0.6**
QZX				S	**Sn**	**20 21 55.8**	**+0.5**
IGDI	**IGDIR**	**1.26**	**175**	P	**Pn**	**20 21 41.6**	**-0.6**
IGDI				S	**Sg**	**20 21 58.8**	**0.0**
IGDI	**IGDIR**	**1.26**	**175**	P	**Pb**	**20 21 42.0**	**-0.2**
IGDI				S	**Sn**	**20 21 58.4**	**-0.9**
KOTA	**Agri, Merkez-K**	**1.43**	**203**	P	**Pg**	**20 21 46.5**	**+0.8**
GDB	**GEDABAY**	**1.44**	**106**	P	**Pg**	**20 21 45.8**	**-0.1**
GDB				S	**Sg**	**20 22 04.6**	**-0.1**
HYR	**Heyderabad**	**1.57**	**153**	P	**Pg**	**20 21 48.9**	**+0.5**
HYR				S	**Sg**	**20 22 10.2**	**+1.5**
DDEM	**Demirkent**	**1.66**	**263**	P	**Pg**	**20 21 49.9**	**-0.3**
EATA	**Eleskirt**	**1.67**	**221**	P	**Pg**	**20 21 50.2**	**-0.1**
DBAD	**Bademkaya**	**1.69**	**267**	P	**Sn**	**20 22 10.4**	**+0.3**
GANJ	**Ganja**	**1.88**	**104**	P	**Pb**	**20 21 53.1**	**+0.3**
GANJ				S	**Sg**	**20 22 17.6**	**-1.0**
TLTR	**Tlyarata**	**2.07**	**61**	*e*Pn	**Pg**	**20 21 57.4**	**-0.5**
	1.0nm,0.5s						
TLTR				*e*Sn	**Sg**	**20 22 25.5**	**+0.8**
	52nm,0.6s						
ZKTA	**Zakatala**	**2.09**	**75**	P	**Pg**	**20 21 57.7**	**-0.7**
ZKTA				S	**Sg**	**20 22 27.4**	**+1.9**
SBZ	**Shahbuz**	**2.13**	**144**	P	**Pg**	**20 21 59.9**	**+0.9**
SBZ				S	**Sg**	**20 22 27.4**	**+0.8**
BTLR	**Botlikh**	**2.30**	**47**	*e*Pn	**Pb**	**20 22 01.1**	**+1.0**
	11nm,0.5s						
BTLR				*e*Sn	**Sg**	**20 22 32.5**	**+0.2**

	33nm,0.7s								
MNGR	**Mingechevir, A**	**2.42**	**97**	P		**Pb**	**20 22 02.9**	**+0.9**
MNGR				S		**Sb**	**20 22 31.3**	**-0.6**
SEKA	**Sheki**	**2.47**	**87**	P		**Pb**	**20 22 03.8**	**+0.9**
SEKA				S		**Sg**	**20 22 36.9**	**-0.8**
XNZR	**Khunzakh**	**2.51**	**55**	*e*Pn		**Pb**	**20 22 04.5**	**+0.7**
	7.0nm,0.3s							
KMKR	**Kumukh**	**2.58**	**66**	*e*Pn		**Pb**	**20 22 04.9**	**-0.1**
	10.0nm,0.5s							
KMKR				*e*Sn		**Sb**	**20 22 39.0**	**+2.1**
	40nm,0.3s							
BRDA	**Brd**	**2.62**	**108**	P		**Pb**	**20 22 05.3**	**-0.1**
BRDA				S		**Sb**	**20 22 38.4**	**+0.8**
AGDM	**Agdam**	**2.62**	**112**	P		**Pg**	**20 22 07.1**	**-1.4**
AGDM				S		**Sg**	**20 22 41.6**	**-1.0**
UNCR	**Uncukul**	**2.67**	**52**	*e*Pn		**Pb**	**20 22 06.3**	**0.0**
	10.0nm,0.6s							
ARKR	**Arakani**	**2.73**	**56**	*e*Pn		**Pb**	**20 22 07.0**	**-0.4**
	11nm,0.4s							
KRNR	**Karanay**	**2.80**	**52**	*e*Pn		**Pb**	**20 22 09.2**	**+0.6**
	5.0nm,0.5s							
KRNR				*e*Sn		**Sg**	**20 22 46.3**	**-1.9**
	9.0nm,0.6s							
AKT	**Akhty**	**2.89**	**82**	*e*Pn		**Pb**	**20 22 09.7**	**-0.4**
	8.0nm,0.3s							
AKT				*e*Sn		**Sb**	**20 22 47.8**	**+2.2**
	17nm,0.4s							
QBL	**Gabala**	**2.96**	**92**	P		**Pb**	**20 22 12.3**	**+1.0**
QBL				S		**Sb**	**20 22 46.4**	**-1.2**
QRD	**Qoradiz**	**3.08**	**121**	P		**Pg**	**20 22 16.1**	**-1.2**
QRD				S		**Sg**	**20 22 51.7**	**0.0**
BLQ	**Beylaqan**	**3.11**	**116**	S		**Sg**	**20 22 57.4**	**-0.6**
XNQ	**Khinaliq**	**3.18**	**88**	P		**Pb**	**20 22 14.8**	**-0.3**
KSMR	**Kasumkent**	**3.20**	**80**	*e*Pn		**Pb**	**20 22 13.1**	**-2.2**
	23nm,0.2s							
KSMR				*e*Sn		**Sb**	**20 22 54.2**	**-0.2**
	61nm,0.4s							
QSAR	**Qusar**	**3.29**	**82**	P		**Pb**	**20 22 16.1**	**-0.7**

NEIC ***10*** *20:21:49.1±2.3, 33°.610N±0°.009×117°.25W±0°.01, h10km±1km, Error ellipse: s-maj=2.9km s-min=1.7km az=233.0*

PAS 10 20:21:49.8±1.8, 33°.594N±0°.009×117°.27W±0°.01, h14km±3km, ML4.0/333, ML4.0/120(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=66.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELS	**Elsinore Mount**	**0.14**	**292**		Pg	20 21 53.1	-0.5
ELS				Sg	Sg	20 21 55.8	-0.3
BACC	**Bachelor Mtn.**	**0.19**	**85**		Pb	20 21 57.0	+1.8
DGR	**Domenigoni Val**	**0.22**	**76**		Pg	20 21 54.5	-0.3
DGR					Sg	20 21 57.7	-0.5
HMTC	**Hemet**	**0.25**	**63**		Pg	20 21 54.9	-0.3
HMTC					Sg	20 21 58.3	-0.6
POB	**Polly Butte**	**0.30**	**72**		Pg	20 21 55.9	-0.3
POB					Sg	20 22 00.0	-0.5
PEC	**Perris**	**0.31**	**17**		Pn	20 22 00.1	0.0
RSBC	**Riverside Bore**	**0.38**	**353**		Pg	20 21 56.8	-0.7
RSBC					Sg	20 22 01.0	-0.9
BBSC	**Beaumont Base**	**0.41**	**36**		Sg	20 22 03.8	+0.2
PLM	**Palomar**	**0.42**	**125**		Sg	20 22 04.0	+0.1
GORC	**Green Oak Ranc**	**0.44**	**176**		Sg	20 22 04.4	-0.1
CRY	**Cary Ranch**	**0.45**	**94**		Sg	20 22 04.3	-0.5
CFT	**Crafton Hills**	**0.46**	**17**		Sg	20 22 05.0	-0.2
MLSC	**Mira Loma**	**0.48**	**329**		Sg	20 22 04.8	-0.9
CLTC	**Calectric**	**0.50**	**356**		Sg	20 22 06.3	-0.1
GVDA	**Garner Valley**	**0.50**	**81**		Pg	20 21 59.3	-0.5
GVDA

TJX					IAML			20 22 34.1		
	comp=N,4μm,0.6s									
SALN	**Salton City**	**1.12**	**106**			Pb		20 22 09.8	-1.1	
SALN					IAML			20 22 30.5		
	comp=N,4μm,1.0s									
BELC	**Belle Mtn. Jos**	**1.13**	**69**			Pb		20 22 10.2	-1.2	
BELC					IAML			20 22 28.2		
	comp=N,4μm,0.5s									
CBX	**Cerro Bola**	**1.38**	**158**			Pn		20 22 13.4	-1.4	
CBX					IAML			20 22 35.9		
	comp=N,4μm,0.6s									
YUH	**Yuha Desert**	**1.47**	**129**			Pn		20 22 14.7	-1.3	
TPO	**Tropico Hills**	**1.51**	**328**			Pn		20 22 16.1	-0.4	
TPO					IAML			20 22 41.9		
	comp=E,3μm,0.4s									
BC3	**Big Chuckawall**	**1.52**	**87**			Pn		20 22 15.3	-1.4	
OSI	**Osito Audit: C**	**1.58**	**311**			Pn		20 22 16.6	-0.9	
OSI					IAML			20 22 50.6		
	comp=E,924nm,0.9s									
GSC	**Goldstone, Bar**	**1.75**	**13**			Pn		20 22 19.3	-0.6	
GSC					IAML			20 22 47.3		
	comp=E,2μm,0.5s									
GSC					IAML			20 22 48.5		
	comp=N,924nm,0.8s									
CCX	**Cicese**	**1.79**	**163**	Pn		Pn		20 22 19.6	-0.8	
CCX					IAML			20 22 49.4		
	comp=E,900nm,0.6s									
CCX					IAML			20 22 49.9		
	comp=N,664nm,0.6s									
IRM	**Iron Mountain**	**1.85**	**72**			Pn		20 22 20.2	-1.1	
IRM					IAML			20 22 51.8		
	comp=N,656nm,0.6s									
DANC	**Danby, Needles**	**1.88**	**56**			Pn		20 22 20.9	-0.7	
DANC					IAML			20 22 53.5		
	comp=N,2μm,0.6s									
LRMC	**Laurel Mtn Rad**	**1.91**	**350**			Pn		20 22 21.7	-0.5	
LRMC					IAML			20 22 53.2		
	comp=N,1μm,0.5s									
LRMC					IAML			20 22 57.0		
	comp=E,1μm,0.6s									
CCCA	**Chr Cany lake**	**1.93**	**358**			Pn		20 22 22.1	-0.3	
ESJX	**Sierra Juarez**	**1.94**	**145**			Pn		20 22 22.5	0.0	
ESJX					IAML			20 22 50.4		
	comp=E,819nm,0.8s									
ESJX					IAML			20 22 50.4		
	comp=N,686nm,0.5s									
WSHM	**Spangler Hills**	**2.01**	**355**			Pn		20 22 22.8	-0.7	
WSHM					IAML			20 22 53.1		
	comp=N,1μm,0.2s									
WSHM					IAML			20 22 55.4		
	comp=N,736nm,0.2s									
CPBX	**Cerro Prieto**	**2.02**	**125**			Pn		20 22 22.6	-1.0	
CPBX					IAML			20 23 07.2		
	comp=N,1μm,0.6s									
GLA	**Glamis**	**2.12**	**104**			Pn		20 22 23.4	-1.4	
ISA	**Isabella, Lake**	**2.29**	**335**			Pn		20 22 26.1	-1.2	
ISA					IAML			20 23 01.9		
	comp=N,426nm,0.4s									
ISA					IAML			20 23 06.7		
	comp=E,466nm,0.6s									
BLYC	**Blythe**	**2.29**	**85**			Pn		20 22 25.9	-1.5	
BLYC					IAML			20 23 06.0		
	comp=N,578nm,0.7s									
MTPC	**Mountain Pass**	**2.36**	**36**			Pn		20 22 27.8	-0.6	
MTPC					IAML			20 23 04.6		
	comp=N,1μm,0.5s									
MTPC					IAML			20 23 05.6		
	comp=E,1μm,0.3s									
QSM	**Queen of Sheba**	**2.39**	**8**			Pn		20 22 28.3	-0.3	
QSM					IAML			20 23 06.8		
	comp=E,991nm,0.4s									
QSM					IAML			20 23 07.0		
	comp=N,782nm,0.4s									
SHOC	**Shoshone, Teco**	**2.44**	**19**			Pn		20 22 28.9	-0.5	
NEE2	**Needles Airpor**	**2.49**	**61**			Pn		20 22 29.2	-0.8	
NEE2					IAML			20 23 08.8		
	comp=E,1μm,0.5s									
NEE2					IAML			20 23 10.8		
	comp=N,1μm,0.7s									
VTX	**Valle De La Tr**	**2.53**	**150**			Pn		20 22 29.2	-1.4	
VTX					IAML			20 23 09.2		
	comp=E,852nm,0.7s									
VTX					IAML			20 23 09.8		
	comp=N,511nm,0.7s									
GWY	**Greenwater Val**	**2.63**	**11**		IAML			20 23 13.7		
	comp=N,768nm,0.4s									
GWY					IAML			20 23 14.1		
	comp=E,761nm,0.6s									
VES	**Vestal, Richgr**	**2.69**	**327**			Pn		20 22 32.4	-0.4	
VES					IAML			20 23 18.4		
	comp=E,706nm,0.7s									
VES					IAML			20 23 23.2		
	comp=N,583nm,0.7s									
FURC	**Furnace Creek,**	**2.89**	**7**			Pn		20 22 35.0	-0.5	
FURC					IAML			20 23 23.9		
	comp=N,646nm,1.0s									
FURC					IAML			20 23 24.0		
	comp=E,613nm,1.1s									
V12A	**Nelson**	**2.92**	**42**			Pn		20 22 35.6	-0.4	
V12A					IAML			20 23 22.0		
	comp=E,430nm,0.4s									
V12A					IAML			20 23 22.0		
	comp=N,324nm,0.4s									
113A	**Mohawk Valley,**	**3.05**	**105**			Pn		20 22 38.5	+0.8	
W13A	**Hualapai Mount**	**3.18**	**61**			Pn		20 22 38.9	-0.8	
W13A					IAML			20 23 33.8		
	comp=N,189nm,1.1s									
WCT	**Wildcat Mounta**	**3.23**	**9**			Pn		20 22 40.5	+0.2	
SFX	**San Felipe**	**3.27**	**141**			Pn		20 22 40.6	-0.1	
SHPR	**Sheep Range**	**3.38**	**30**			Pn		20 22 42.5	0.0	
TPNV	**Topopah Spring**	**3.45**	**14**	IAML				20 23 40.3		
	comp=N,279nm,0.6s									
TPNV					IAML			20 23 40.9		
	comp=N,367nm,0.7s									
TIN	**Tinemaha, Big**	**3.54**	**347**			Pn		20 22 43.9	-0.7	
Y14A	**Wickenburg**	**3.57**	**83**			Pn		20 22 44.2	-0.7	
RAMR	**Ramage Ranch**	**3.60**	**305**			Pn		20 22 44.1	-1.2	
RAMR					IAML			20 23 59.9		
	comp=E,148nm,1.1s									
RAMR					IAML			20 24 05.1		
	comp=N,163nm,1.0s									
DSP	**Deep Springs**	**3.81**	**352**			Pn		20 22 48.9	+0.7	
PRN	**Pahroc Range**	**4.21**	**25**			Pn		20 22 54.6	+0.7	
TPH	**Tonopah**	**4.47**	**0**			Pn		20 22 56.3	-1.1	
CCUT	**Cedar City**	**5.07**	**38**			Pn		20 23 04.4	-1.3	
WAKR	**Walker**	**5.21**	**341**			Pn		20 23 05.0	-2.5	
SPR3	**Spring Creek 3**	**5.89**	**23**			Pn		20 23 16.4	-0.6	
121A	**Cookes Peak, D**	**8.03**	**95**			Pn		20 23 44.5	-1.8	
PV18	**Skein Mesa, Pa**	**8.22**	**53**	Pn		Pn		20 23 46.3	-2.6	
PV23	**Carpenter Ridg**	**8.26**	**52**	Pn		Pn		20 23 47.1	-2.4	
PV22	**Blue Mesa, Par**	**8.45**	**52**	Pn		Pn		20 23 49.5	-2.6	
LENM	**Lemitar**	**8.58**	**83**	Pn		Pn		20 23 51.2	-2.7	
BNM	**Barren Site**	**8.87**	**83**	Pn		Pn		20 23 58.4	+0.5	
HVU	**Hansel Valley**	**8.91**	**22**			Pn		20 23 59.6	+1.2	
HWUT	**Hardware Ranch**	**9.19**	**28**	Pn		Pn		20 24 02.7	+0.6	

IDC ***10*** *20:29:27.3±0.9, 12°.66S×14°.36W, h0km, mb4.0/8, mbtmp4.0/8, Error ellipse: s-maj=42.9km s-min=20.3km az=108.0*

ISC 10 20:29:30.1±0.8, 12°.7S±0°.2×14°.4W±0°.3, h18km, n11, σ0s80/8, mb4.1/7, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N1	**ASCENSION HYDR**	**4.77**	**359**	T	T	20 35 43.2	
	baz=182,slow=73,SNR=24						
H10N3	**ASCENSION HYDR**	**4.78**	**358**	T	T	20 36 00.4	
	baz=182,slow=73,SNR=69						
H10N2	**ASCENSION HYDR**	**4.79**	**359**	T	T	20 35 52.4	
	baz=182,slow=73,SNR=25						
DBIC	**Dimbokro**	**21.39**	**27**	P	**P**	**20 34 16.8**	**-0.3**
	2.8nm,0.8s,baz=209,slow=6.4,SNR=2.3						
	2.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**30.18**	**32**	P	**P**	**20 35 39.6**	**0.0**
	0.6nm,0.9s,baz=236,slow=6.2,SNR=3.5						
	0.6nm,0.9s						
LPAZ	**La Paz**	**52.06**	**259**	P	**P**	**20 38 39.9**	**-0.2**
	0.9nm,0.6s,baz=83,slow=6.4,SNR=4.5						
	0.9nm,0.6s						
SNAA	**Sanae**	**59.41**	**176**	P	**P**	**20 39 31.0**	**-0.3**
	3.0nm,0.9s,baz=315,slow=5.0,SNR=7.7						
	3.0nm,0.9s						
MAW	**Mawson**	**73.53**	**157**	P	**P**	**20 41 00.9**	**-0.7**
	2.0nm,1.0s,baz=286,slow=9.1,SNR=3.9						
	2.0nm,1.0s						
AKASG	**Malin Array Be**	**73.64**	**27**	P	**P**	**20 41 02.7**	**+0.3**
	0.7nm,0.6s,baz=227,slow=7.4,SNR=10.0						
	0.7nm,0.6s						
QSPA	**South Pole Qui**	**77.50**	**180**	P	**P**	**20 41 26.1**	**+1.5**
	3.5nm,1.0s,baz=235,slow=2.6,SNR=6.4						
	3.5nm,1.0s						
VNDA	**Vanda**	**89.97**	**179**	P	**P**	**20 42 27.6**	**-0.5**
	1.5nm,0.9s,baz=237,slow=4.2,SNR=8.7						
	1.5nm,0.9s						

BGR ***10*** *20:32:10.2, 54°.77N×135°.60W, h33km, mb4.6*

MOS ***10*** *20:32:11.7±1.0, 57°.05N×139°.52W, h10km, mb5.4/47, MS5.1/35, Error ellipse: s-maj=11.1km s-min=4.6km az=99.8*

PGC ***10*** *20:32:11.5±0.1, 56°.85N×139°.78W, h35km, MLSn5.8/24, Mw6.4/24, ML5.3(AEIC), 272km west of Sitka, Ak Off Coast Of Southeastern Alaska*

BJI ***10*** *20:32:11.3, 57°.04N×140°.07W, h7km, mB5.5/50, mb5.2/81, Ms5.9/91, Ms7 5.5/89*

ISC-PP ***10*** *20:32:12, 57°.02N×139°.53W, h7km, Mwppsm5.8, Moment Tensor Solution. s59 Moment tensor: Scale 10¹⁷Nm; Mrr-0.03±.06; Mθθ 0.67±.14; Mϕϕ-0.61±.17; Mrθ-0.27±.26; Mθϕ-0.05±.13; Mϕr 0.11±.15; Fault plane solution: M₀ 6.24000×10¹⁷ NP1:ϕs 218.90000°, δ79.40000°, λ 164.50000°. NP2:ϕs 311.90000°, δ74.70000°, λ 11.00000°.*

IPGP ***10*** *20:32:12.0, 57°.08N×139°.48W, h14km, Mw5.7, Fault plane solution: NP1:ϕs 101.00000°, δ88.00000°, λ-7.00000°. NP2:ϕs 192.00000°, δ83.00000°, λ-178.00000°.*

NEIC ***10*** *20:32:12.2±2.7, 57°.02N±0°.05×139°.53W±0°.09, h10km±3km, mb5.3/473, ML5.5/112, Ms_20 5.3/583, Mwb5.6/41, Mww5.7/55, ML5.3(AEIC), Error ellipse: s-maj=8.3km s-min=6.2km az=209.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.16; Mθθ 1.64; Mϕϕ-1.49; Mrθ 0.08; Mθϕ 2.56; Mϕr 0.50; Fault plane solution: M₀ 3.05000×10¹⁷ NP1:ϕs 105.59000°, δ80.29000°, λ-1.83000°. NP2:ϕs 195.90000°, δ88.20000°, λ-170.28000°. Principal axes: T 3.1096, Plg6.0000°, Azm330.0000°; N -0.1295, Plg80.0000°, Azm206.0000°; P -2.9801, Plg8.0000°, Azm61.0000°;*

NEIC ***10*** *20:32:12.9, 57°.09N×139°.50W, h12km*

IDC ***10*** *20:32:12.1±0.5, 57°.06N×139°.58W, h0km, mb4.8/32, mbtmp4.8/34, ML4.7/3, MS5.0/64, Error ellipse: s-maj=13.2km s-min=8.7km az=14.0*

NEIC ***10*** *20:32:13.8, 57°.15N×139°.51W, h16km*

NEIC ***10*** *20:32:13.8, 56°.95N×139°.69W, h16km, Moment Tensor Solution. Duration: 3s5 Moment tensor: Scale 10¹⁷Nm; Mrr-0.26; Mθθ 2.06; Mϕϕ-1.80; Mrθ-0.07; Mθϕ 3.80; Mϕr 0.19; Fault plane solution: M₀ 4.27000×10¹⁷ NP1: ϕs 103.43000°, δ87.51000°, λ-1.75000°. NP2:ϕs 193.50000°, δ88.26000°, λ-177.51000°. Principal axes: T 4.3890, Plg1.0000°, Azm328.0000°; N -0.2532, Plg87.0000°, Azm229.0000°; P -4.1358, Plg3.0000°, Azm58.0000°;*

AEIC ***10*** *20:32:14.9±3.5, 56°.90N±0°.06×139°.61W±0°.09, h12km±3km Error ellipse: s-maj=9.3km s-min=6.3km az=207.0*

GCMT ***10*** *20:32:17.2±0.1, 57°.12N±0°.01×139°.68W±0°.01, h18km, MW5.7/160, Moment Tensor Solution. s149,c285; s160,c363; Duration: 1s7 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.32±.04; Mθθ 2.42±.04; Mϕϕ-2.09±.04; Mrθ-0.21±.09; Mθϕ 3.88±.03; Mϕr 0.60±.09; Best double couple: M₀ 4.53700×10¹⁷ NP1:ϕs 105.00000°, δ83.00000°, λ-5.00000°. NP2:ϕs 195.00000°, δ85.00000°, λ-173.00000°. Principal axes: T 4.6560, Plg1.0000°, Azm330.0000°; N -0.2310, Plg81.0000°, Azm231.0000°; P -4.4190, Plg9.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 20:32:13.8±0.4, 56°.94N±0°.03×139°.62W±0°.03, h19km±1km, h19km:pP-P, n1540, σ2s25/1310, mb5.2/326, MS5.3/380, 46C-30D, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S31K	**Pelican**	**2.10**	**59**		**Pn**	**20 32 44.2**	**-3.7**
S31K	**Pelican**	**2.10**	**59**		**Sn**	**20 33 07.4**	**-6.0**
S31K	**Pelican**	**2.10**	**59**	Pn	**Pn**	**20 32 44.6**	**-3.3**
S31K	**Pelican**	**2.10**	**59**	P	**Pn**	**20 32 44.4**	**-3.5**
	baz=243,SNR=881						
S31K				S	**Sn**	**20 33 07.1**	**-6.3**
	baz=243						
SIT	**Sitka**	**2.36**	**85**		**Pn**	**20 32 47.4**	**-4.0**
SIT	**Sitka**	**2.36**	**85**	P	**Pn**	**20 32 47.9**	**-3.5**
SIT	**Sitka**	**2.36**	**85**	S	**Sn**	**20 33 14.6**	**-5.1**
SIT	**Sitka**	**2.36**	**85**	P	**Pn**	**20 32 47.4**	**-4.0**
SIT						20 33 14.5	
SIT	**Sitka**	**2.36**	**85**	P	**Pn**	**20 32 48.1**	**-3.3**
	baz=270,SNR=199						
SIT				S	**Sn**	**20 33 13.9**	**-5.8**
	baz=270						
R31K	**City Hall, Gus**	**2.56**	**53**		**Pn**	**20 32 51.6**	**-2.5**
R31K					Pb	20 32 52.0	-7.0
R31K					**Sn**	**20 33 19.6**	**-5.1**
R31K	**City Hall, Gus**	**2.56**	**53**	Pn	**Pn**	**20 32 51.7**	**-2.5**
R31K					**Sn**	**20 33 21.5**	**-3.1**
R31K	**City Hall, Gus**	**2.56**	**53**	P	**Pn**	**20 32 51.7**	**-2.5**
	baz=237,SNR=64						
YKU2	**Yakutat**	**2.58**	**359**		**Pn**	**20 32 52.1**	**-2.3**
YKU2	**Yakutat**	**2.58**	**359**		**Sn**	**20 33 22.6**	**-2.6**
YKU2	**Yakutat**	**2.58**	**359**	P	**Pn**	**20 32 52.8**	**-1.7**
YKU2	**Yakutat**	**2.58**	**359**	S	**Sn**	**20 33 22.2**	**-3.1**
PNL	**Peninsula**	**2.74**	**2**		**Pn**	**20 32 54.1**	**-2.6**
PNL					**Sn**	**20 33 24.4**	**-4.9**
PNL					Sb	20 33 24.6	-11
PNL	**Peninsula**	**2.74**	**2**	P	**Pn**	**20 32 54.9**	**-1.8**
PNL	**Peninsula**	**2.74**	**2**	S	**Sn**	**20 33 25.7**	**-3.6**
PNL	**Peninsula**	**2.74**	**2**	Pn	**Pn**	**20 32 54.3**	**-2.5**
PNL					**Sn**	**20 33 25.9**	**-3.4**
PNL	**Peninsula**	**2.74**	**2**	P	**Pn**	**20 32 54.0**	**-2.7**
	baz=182,SNR=516						
PNL				S	**Sn**	**20 33 23.1**	**-6.2**
	baz=182						
P29M	**Windy Craggy**	**2.88**	**19**		**Pn**	**20 32 56.1**	**-2.5**
P29M	**Windy Craggy**	**2.88**	**19**		**Sn**	**20 33 28.6**	**-4.1**
P29M	**Windy Craggy**	**2.88**	**19**	Pn	**Pn**	**20 32 56.8**	**-1.8**
P29M					**Sn**	**20 33 29.8**	**-2.9**
P29M	**Windy Craggy**	**2.88**	**19**	P	**Pn**	**20 32 56.8**	**-1.8**
	baz=201,SNR=1000						
P29M				S	**Sn**	**20 33 27.2**	**-5.4**
	baz=201						
BCPM	**Bancas Point**	**3.02**	**360**		**Pn**	**20 32 57.8**	**-2.8**
BCPM	**Bancas Point**	**3.02**	**360**		**Sn**	**20 33 32.5**	**-3.7**
BESE	**Bessie Mountai**	**3.04**	**55**		**Pn**	**20 32 58.3**	**-2.6**
BESE	**Bessie Mountai**	**3.04**	**55**		**Sn**	**20 33 32.2**	**-4.5**
BESE	**Bessie Mountai**	**3.04**	**55**	Pn	**Pn**	**20 32 58.6**	**-2.3**
BESE					**Sn**	**20 33 33.2**	**-3.5**
R32K	**Eaglecrest**	**3.06**	**62**		**Pn**	**20 32 58.7**	**-2.4**
R32K	**Eaglecrest**	**3.06**	**62**	Pn	**Pn**	**20 32 58.9**	**-2.2**
R32K					**Sn**	**20 33 33.7**	**-3.4**
R32K	**Eaglecrest**	**3.06**	**62**	P	**Pn**	**20 32 59.0**	**-2.0**
	baz=246,SNR=221						
PLBC	**Pleasant Camp**	**3.06**	**33**		**Pn**	**20 32 59.5**	**-1.5**
PLBC					Pb	20 32 59.7	-7.9
PLBC					**Sn**	**20 33 33.1**	**-4.0**
PLBC	**Pleasant Camp**	**3.06**	**33**	Pn	**Pn**	**20 32 59.9**	**-1.2**
PLBC					**Sn**	**20 33 34.3**	**-2.8**
PLBC	**Pleasant Camp**	**3.06**	**33**	P	**Pn**	**20 32 59.8**	**-1.2**
	baz=216,SNR=1000						
PLBC				S	**Sn**	**20 33 32.8**	**-4.2**
	baz=216						
JIS	**Juneau Island**	**3.12**	**62**		**Pn**	**20 32 59.7**	**-2.2**
JIS	**Juneau Island**	**3.12**	**62**	P	**Pn**	**20 33 00.1**	**-1.8**
JIS	**Juneau Island**	**3.12**	**62**	S	**Sn**	**20 33 35.1**	**-3.5**
PINM	**Pinnacle**	**3.18**	**354**	P	**Pn**	**20 33 00.5**	**-2.4**
	baz=174,SNR=1000						
PCA	**Pinnacle**	**3.18**	**354**		**Pn**	**20 33 00.0**	**-2.9**
PCA	**Pinnacle**	**3.18**	**354**		**Sn**	**20 33 34.6**	**-5.7**
PCA	**Pinnacle**	**3.18**	**354**	Pn	**Pn**	**20 33 00.8**	**-2.0**
PCA					**Sn**	**20 33 37.2**	**-3.1**
CHX	**Chaix Hills**	**3.23**	**347**		**Sn**	**20 33 38.0**	**-3.5**
SAMH	**Samovar Hills**	**3.26**	**350**		**Sn**	**20 33 37.8**	**-4.3**
SAMH	**Samovar Hills**	**3.26**	**350**	Pn	**Pn**	**20 33 02.1**	**-1.8**
SAMH					**Sn**	**20 33 38.3**	**-3.8**
SKAG	**Skagway**	**3.40**	**40**		**Pn**	**20 33 03.8**	**-1.9**
SKAG	**Skagway**	**3.40**	**40**	P	**Pn**	**20 33 04.6**	**-1.1**
SKAG	**Skagway**	**3.40**	**40**	S	**Sn**	**20 33 42.7**	**-2.8**
SKAG	**Skagway**	**3.40**	**40**	P	**Pn**	**20 33 04.5**	**-1.3**
	baz=224,SNR=991						
O29M	**Mount Kennedy**	**3.42**	**9**		**Pn**	**20 33 04.5**	**-1.7**
O29M	**Mount Kennedy**	**3.42**	**9**		**Sn**	**20 33 40.6**	**-5.5**
O29M	**Mount Kennedy**	**3.42**	**9**	Pn	**Pn**	**20 33 04.7**	**-1.4**
O29M					**Sn**	**20 33 42.7**	**-3.4**
O29M	**Mount Kennedy**	**3.42**	**9**	P	**Pn**	**20 33 04.8**	**-1.4**
	baz=190,SNR=564						
O29M				S	**Sn**	**20 33 41.2**	**-4.9**
	baz=190						
MESA	**MESA**	**3.47**	**340**		**Pn**	**20 33 04.4**	**-2.5**
MESA					IAML	20 34 04.2	
	comp=E,16μm,0.9s						
MESA	**MESA**	**3.47**	**340**		**Sn**	**20 33 43.0**	**-4.4**
MESA	**MESA**	**3.47**	**340**	Pn	**Pn**	**20 33 04.5**	**-2.3**
MESA					**Sn**	**20 33 43.4**	**-4.2**
MESA	**MESA**	**3.47**	**340**	P	**Pn**	**20 33 04.6**	**-2.3**
	baz=158,SNR=1000						
MESA				S	**Sn**	**20 33 43.1**	**-4.4**
	baz=158						
P30M	**Million Dollar**	**3.48**	**23**		**Pn**	**20 33 06.0**	**-1.0**
P30M					**Sn**	**20 33 44.6**	**-3.1**
P30M	**Million Dollar**	**3.48**	**23**	Pn	**Pn**	**20 33 06.4**	**-0.6**
P30M					**Sn**	**20 33 45.1**	**-2.6**
P30M	**Million Dollar**	**3.48**	**23**	P	**Pn**	**20 33 06.2**	**-0.8**
	baz=205						
P30M				S	**Sn**	**20 33 43.8**	**-3.9**
	baz=205						
RKAV	**Rock Avalanche**	**3.49**	**346**		**Pn**	**20 33 05.1**	**-2.0**
RKAV	**Rock Avalanche**	**3.49**	**346**	Pn	**Pn**	**20 33 05.2**	**-2.0**
RKAV					**Sn**	**20 33 43.9**	**-4.0**
CYK	**Cape Yakataga**	**3.49**	**336**		**Pn**	**20 33 04.4**	**-2.5**
CYK					**Sn**	**20 33 43.0**	**-4.7**
TABL	**Table Mountain**	**3.60**	**348**		**Sn**	**20 33 45.3**	**-5.5**
TABL	**Table Mountain**	**3.60**	**348**		**Pn**	**20 33 06.5**	**-2.2**
TABL					IAML	20 34 04.1	
	comp=N,14μm,1.3s						
TABL					IAML	20 34 08.3	
	comp=E,14μm,1.2s						
TABL	**Table Mountain**	**3.60**	**348**	Pn	**Pn**	**20 33 06.5**	**-2.2**
TABL					**Sn**	**20 33 47.1**	**-3.7**
YAH	**Yahtse**	**3.61**	**343**		**Pn**	**20 33 06.4**	**-2.5**
YAH					IAML	20 33 50.6	
	comp=N,10μm,0.7s						
YAH					IAML	20 34 07.6	
	comp=E,8μm,1.1s						
SNH	**Sunshine Point**	**3.66**	**334**		**Pn**	**20 33 06.3**	**-3.1**
SNH					IAML	20 34 11.4	
	comp=N,9μm,1.0s						
SNH					IAML	20 34 15.7	
	comp=E,6μm,1.3s						
T33K	**Petersburg**	**3.66**	**89**		**Sn**	**20 33 48.1**	**-3.8**
T33K	**Petersburg**	**3.66**	**89**	P	**Pn**	**20 33 08.5**	**-0.8**
	baz=275						
T33K				S	**Sn**	**20 33 48.6**	**-3.3**
	baz=275						
YUK7	**Dusty Glacier**	**3.69**	**11**	Pn	**Pn**	**20 33 09.6**	**-0.2**
YUK7					**Sn**	**20 33 50.1**	**-2.7**
U33K	**Whale Pass**	**3.70**	**100**		**Pn**	**20 33 07.2**	**-2.6**
U33K					IAML	20 33 51.5	
	comp=N,7μm,0.6s						
U33K	**Whale Pass**	**3.70**	**100**	Pn	**Pn**	**20 33 07.7**	**-2.1**
U33K					**Sn**	**20 33 48.7**	**-4.1**
U33K	**Whale Pass**	**3.70**	**100**	P	**Pn**	**20 33 07.7**	**-2.1**
	baz=286,SNR=518						
U33K				S	**Sn**	**20 33 48.0**	**-4.7**
	baz=286						
BGLC	**Bering Glacier**	**3.72**	**331**	P	**Pn**	**20 33 07.9**	**-2.2**
	baz=147,SNR=34						
BARK	**Barkley Ridge**	**3.78**	**338**		**Pn**	**20 33 08.7**	**-2.5**
BARK					**Sn**	**20 33 50.0**	**-5.1**
BAGL	**Bagley Icefiel**	**3.79**	**341**		**Pn**	**20 33 08.9**	**-2.1**
SUCK	**Suckling Hills**	**3.82**	**327**		**Pn**	**20 33 08.9**	**-2.7**
O28M	**Mount Upton**	**3.86**	**356**		**Pn**	**20 33 10.1**	**-2.2**
O28M	**Mount Upton**	**3.86**	**356**	Pn	**Pn**	**20 33 11.1**	**-1.2**
O28M	**Mount Upton**	**3.86**	**356**	P	**Pn**	**20 33 10.3**	**-2.0**
	baz=175,SNR=1000						
O28M				S	**Sn**	**20 33 52.1**	**-5.0**
	baz=175						
GRIN	**Grindle Hills**	**3.87**	**332**		**Pn**	**20 33 09.8**	**-2.4**
WAX	**Waxell Ridge**	**3.90**	**336**		**Pn**	**20 33 09.8**	**-3.0**
WAX					IAML	20 34 18.2	
	comp=E,8μm,0.7s						
KAIM	**Kayak Island**	**3.92**	**322**		**Pn**	**20 33 09.9**	**-2.9**
KAIM					IAML	20 35 27.5	
	comp=N,7μm,3.7s						
KAIM					IAML	20 35 31.7	
	comp=E,7μm,3.2s						
KAIM	**Kayak Island**	**3.92**	**322**	P	**Pn**	**20 33 10.3**	**-2.5**
	baz=138,SNR=699						
CRAG	**Craig**	**3.92**	**109**		**Pn**	**20 33 10.4**	**-2.5**
CRAG	**Craig**	**3.92**	**109**	P	**Pn**	**20 33 10.4**	**-2.5**
CRAG	**Craig**	**3.92**	**109**	S	**Sn**	**20 33 54.1**	**-4.1**
CRAG	**Craig**	**3.92**	**109**	P	**Pn**	**20 33 10.6**	**-2.3**
	baz=295,SNR=436						
CRAG				S	**Sn**	**20 33 53.6**	**-4.7**
	baz=295						
ISLE	**Juniper Island**	**3.94**	**340**		**Pn**	**20 33 10.6**	**-2.6**
ISLE					IAML	20 33 58.3	
	comp=E,11μm,1.1s						
ISLE	**Juniper Island**	**3.94**	**340**		**Sn**	**20 33 54.0**	**-4.9**
GRNC	**Granite Creek**	**3.96**	**345**		**Pn**	**20 33 11.1**	**-2.5**
GRNC					IAML	20 34 12.8	
	comp=N,10μm,0.7s						
GRNC					IAML	20 34 13.8	
	comp=E,6μm,0.7s						
GRNC	**Granite Creek**	**3.96**	**345**		**Sn**	**20

comp=N,6µm,0.9s
HMT IAML 20 34 56.0
comp=E,7µm,1.1s
CRQE Cirque 4.23 336 P Pn 20 33 14.8 -2.5
baz=153,SNR=1000
KIAG Kiagna River 4.24 342 Pn 20 33 15.2 -2.3
KIAG Kiagna River 4.24 342 Pn Pn 20 33 15.2 -2.3
KIAG Sn **Sn 20 34 02.8 -3.7**
CRQM Cirque 4.24 336 Pn 20 33 14.5 -3.0
CRQM IAML 20 34 18.2
comp=E,7µm,0.8s
CRQM IAML 20 34 22.6
comp=N,8µm,1.2s
O30N Mendenhall 4.26 24 Pn 20 33 16.1 -1.5
O30N Mendenhall 4.26 24 IAML 20 34 11.0
comp=N,7µm,0.9s
O30N Mendenhall 4.26 24 Pn **Pn 20 33 16.9 -0.7**
O30N Sn **Sn 20 34 04.0 -2.7**
O30N Mendenhall 4.26 24 P **Pn 20 33 16.9 -0.7**
baz=207,SNR=1000
BARN Barnard Glacie 4.26 347 Pn 20 33 15.4 -2.4
BARN IAML 20 34 26.3
comp=N,4µm,1.0s
BARN IAML 20 34 28.9
comp=E,6µm,1.0s
YUK5 Granite Creek 4.30 11 Pn 20 33 17.1 -1.2
YUK5 Granite Creek 4.30 11 Pn **Pn 20 33 17.9 -0.4**
YUK5 Sn **Sn 20 34 05.4 -2.6**
BALM Baldy 4.34 342 Pn 20 33 16.6 -2.2
BALM Baldy 4.34 342 Pn **Pn 20 33 16.4 -2.4**
BALM Sn **Sn 20 34 06.2 -2.8**
Q23K Middleton Isla 4.35 308 Pn 20 33 14.2 -4.5
Q23K IAML 20 34 43.1
comp=E,3µm,3.0s
Q23K IAML 20 35 05.4
comp=N,4µm,4.8s
Q23K Middleton Isla 4.35 308 P **Pn 20 33 14.6 -4.2**
baz=122,SNR=59
RAGM Ragged Mountai 4.35 325 Pn 20 33 15.6 -3.2
RAGM IAML 20 34 55.5
comp=E,7µm,1.3s
YUK8 Steele Glacier 4.36 359 Pn 20 33 17.9 -1.3
YUK8 Steele Glacier 4.36 359 Pn **Pn 20 33 18.8 -0.3**
YUK8 Sn **Sn 20 34 07.2 -2.3**
YUK8 Steele Glacier 4.36 359 P **Pn 20 33 18.7 -0.5**
baz=179,SNR=98
Q32M Nakina River 4.41 60 Pn 20 33 17.2 -2.7
Q32M Nakina River 4.41 60 IAML 20 34 50.4
comp=E,4µm,2.2s
Q32M IAML 20 34 50.9
comp=N,3µm,1.4s
Q32M Nakina River 4.41 60 Pn **Pn 20 33 18.4 -1.5**
Q32M Sn **Sn 20 34 08.0 -2.7**
Q32M Nakina River 4.41 60 P **Pn 20 33 18.3 -1.5**
baz=246,SNR=236
YUK4 Talbot Arm 4.45 6 Pn **Pn 20 33 21.4 +1.1**
YUK4 Sn **Sn 20 34 11.9 +0.3**
YUK4 Talbot Arm 4.45 6 P **Pn 20 33 21.4 +1.1**
baz=187,SNR=214
BRWY Burwash Landin 4.46 4 Pn **Pn 20 33 19.0 -1.3**
WHY Whitehorse 4.47 31 Pn 20 33 19.4 -1.2
WHY Whitehorse 4.47 31 Pn **Pn 20 33 19.9 -0.8**
WHY Whitehorse 4.47 31 P **Pn 20 33 19.8 -0.8**
baz=216,SNR=1000
PTPK Patty Peak 4.51 342 Pn 20 33 19.1 -2.0
PTPK Patty Peak 4.51 342 Pn **Pn 20 33 19.3 -1.8**
PTPK Sn **Sn 20 34 10.5 -2.6**
S34M Telegraph Cree 4.69 74 Pn 20 33 21.4 -2.1
S34M Telegraph Cree 4.69 74 Pn **Pn 20 33 22.1 -1.4**
S34M Telegraph Cree 4.69 74 P **Pn 20 33 21.6 -1.9**
baz=262,SNR=164
N30M Aishikik Lake 4.72 15 Pn 20 33 22.9 -1.1
N30M Aishikik Lake 4.72 15 IAML 20 34 33.2
comp=N,5µm,1.0s
N30M IAML 20 34 48.4
comp=E,6µm,1.6s
N30M Aishikik Lake 4.72 15 Pn **Pn 20 33 22.9 -1.1**
N30M Sn **Sn 20 34 16.1 -1.9**
N30M Aishikik Lake 4.72 15 P **Pn 20 33 23.5 -0.4**
baz=197,SNR=348
VRDI Verde Repeater 4.73 337 Pn 20 33 21.9 -2.4
VRDI Verde Repeater 4.73 337 IAML 20 34 16.0
comp=N,3µm,1.4s
VRDI IAML 20 34 17.8
comp=E,3µm,0.8s
V35K Ketchikan 4.76 106 Pn 20 33 22.4 -2.0
V35K Ketchikan 4.76 106 Pn **Pn 20 33 22.7 -1.7**
V35K Sn **Sn 20 34 15.8 -3.2**
V35K Ketchikan 4.76 106 P **Pn 20 33 22.8 -1.6**
baz=294,SNR=346
MCARA McCarthy VSAT 4.79 340 Pn 20 33 22.4 -2.4
MCARA IAML 20 34 37.0
comp=E,6µm,1.4s
MCARA IAML 20 35 03.3
comp=N,6µm,1.4s
MCARA McCarthy VSAT 4.79 340 Pn **Pn 20 33 22.6 -2.3**
MCARA McCarthy VSAT 4.79 340 P **Pn 20 33 22.5 -2.3**
baz=157,SNR=370
BMRM Bremner River 4.79 330 Pn 20 33 21.8 -3.1
BMRM Bremner River 4.79 330 IAML 20 34 30.8
comp=E,3µm,0.9s
BMRM IAML 20 34 40.8
comp=N,3µm,0.8s
BMRM Bremner River 4.79 330 P **Pn 20 33 21.7 -3.2**
baz=145,SNR=498
EYAK Cordova Ski Ar 4.82 321 Pn 20 33 21.6 -3.7
EYAK Cordova Ski Ar 4.82 321 P **Pn 20 33 21.9 -3.4**
EYAK Cordova Ski Ar 4.82 321 P **Pn 20 33 21.7 -3.5**
baz=136,SNR=125
NDB Naden 4.84 125 Pn Pn 20 33 23.4 -2.1
NDB Sn **Sn 20 34 17.0 -4.0**
P33M Teslin, Yukon 4.84 45 Pn 20 33 23.5 -2.2
P33M IAML 20 34 48.2
comp=N,3µm,1.4s
P33M IAML 20 34 58.9
comp=E,2µm,1.4s
P33M Teslin, Yukon 4.84 45 Pn **Pn 20 33 24.2 -1.5**
P33M Teslin, Yukon 4.84 45 P **Pn 20 33 24.2 -1.5**
baz=230,SNR=173
YUK3 Moose Creek 4.87 355 Pn 20 33 25.2 -0.9
YUK3 Moose Creek 4.87 355 Pn **Pn 20 33 25.7 -0.5**
YUK3 Sn **Sn 20 34 19.2 -2.8**
YUK3 Moose Creek 4.87 355 P **Pn 20 33 25.6 -0.5**
baz=174,SNR=636
YUK2 White River 4.90 353 Pn 20 33 25.8 -0.7
YUK2 White River 4.90 353 Pn **Pn 20 33 26.2 -0.3**
YUK2 Sn **Sn 20 34 19.7 -2.9**
N31M Braeburn, Yuko 4.97 22 Pn 20 33 26.8 -0.5
N31M Braeburn, Yuko 4.97 22 Pn **Pn 20 33 27.1 -0.2**
N31M Sn **Sn 20 34 22.6 -1.7**
N31M Braeburn, Yuko 4.97 22 P **Pn 20 33 27.0 -0.4**
baz=205,SNR=600
HIN Hinchinbrook I 4.99 317 Pn 20 33 24.1 -3.5
HIN IAML 20 34 25.4
comp=N,5µm,1.0s
HIN IAML 20 34 33.2
comp=E,4µm,0.9s
GLB Gilahina Butte 5.00 336 Pn 20 33 25.8 -2.1
GLB Gilahina Butte 5.00 336 IAML 20 34 22.8
comp=E,2µm,0.6s
GLB IAML 20 34 44.6
comp=N,2µm,1.0s
T35M Bob Quinn 5.13 86 Pn 20 33 28.4 -1.1
T35M IAML 20 35 31.8
comp=N,2µm,2.5s
T35M Bob Quinn 5.13 86 Pn **Pn 20 33 29.2 -0.4**
T35M Bob Quinn 5.13 86 P **Pn 20 33 28.8 -0.7**
baz=274,SNR=190
PCLB Port Clements 5.18 126 Pn Pn 20 33 28.3 -2.0
PCLB Sn **Sn 20 34 25.4 -4.1**
R33M Jennings River 5.20 58 Pn 20 33 28.9 -1.7
R33M IAML 20 35 14.9
comp=N,2µm,1.1s
R33M IAML 20 35 20.3
comp=E,2µm,1.8s
R33M Jennings River 5.20 58 Pn Pn 20 33 29.0 -1.7
R33M Jennings River 5.20 58 P Pn 20 33 29.3 -1.3
baz=246,SNR=589
FID Port Fidalgo 5.22 320 Pn 20 33 27.1 -3.7
DIV Divide 5.26 326 Pn 20 33 28.5 -2.9
DIV Divide 5.26 326 Pn Pn 20 33 28.6 -2.8
DIV Sn **Sn 20 34 28.3 -3.3**
N25K Chitina, Valde 5.33 334 Pn 20 33 29.7 -2.6
N25K Chitina, Valde 5.33 334 Pn **Pn 20 33 29.8 -2.5**
N25K Chitina, Valde 5.33 334 P **Pn 20 33 29.4 -2.9**
baz=149,SNR=444
DLBC Dease Lake 5.36 70 Pn Pn 20 33 32.5 -0.3
comp=E,1µm,0.3s,baz=222,slow=9.3,SNR=442
DLBC Sn **Sn 20 34 28.6 -5.4**
comp=E,582nm,0.3s,baz=238,slow=14,SNR=4.5
DLBC LR LR 20 35 42.4
comp=E,288µm,20.6s,baz=240,slow=40
DLBC Dease Lake 5.36 70 P **Pn 20 33 31.5 -1.3**
baz=258,SNR=486
N32M Quiet Lake 5.41 36 Pn 20 33 31.3 -2.1
N32M Quiet Lake 5.41 36 Pn **Pn 20 33 32.2 -1.2**
N32M Quiet Lake 5.41 36 P **Pn 20 33 32.3 -1.1**
baz=222
U35K Hyder 5.43 97 Pn 20 33 30.2 -3.4
U35K Hyder 5.43 97 Pn **Pn 20 33 32.2 -1.3**
U35K Sn **Sn 20 34 32.2 -3.2**
U35K Hyder 5.43 97 P **Pn 20 33 32.1 -1.5**
baz=285,SNR=142
BVCY Beaver Creek 5.53 354 Pn 20 33 33.8 -1.3
BVCY Beaver Creek 5.53 354 Pn **Pn 20 33 34.4 -0.6**
BVCY Beaver Creek 5.53 354 P **Pn 20 33 34.6 -0.4**
baz=173,SNR=370
GLI Glacier Island 5.53 319 Pn 20 33 31.1 -4.0
GLI Glacier Island 5.53 319 P **Pn 20 33 31.0 -4.0**
baz=132,SNR=57
M29M Somme Creek 5.55 6 Pn 20 33 34.2 -1.2
M29M Somme Creek 5.55 6 Pn **Pn 20 33 34.5 -0.9**
M29M Somme Creek 5.55 6 P **Pn 20 33 34.8 -0.7**
baz=186,SNR=301
M27K Edge Creek, AK 5.55 349 Pn Pn 20 33 34.8 -0.6
M27K Sn **Sn 20 34 36.2 -2.6**
M27K Edge Creek, AK 5.55 349 P **Pn 20 33 34.6 -0.9**
baz=167,SNR=893
DI2B Dawson Inlet 5.56 129 Pn **Pn 20 33 33.6 -1.7**
DIB Dawson Inlet, 5.56 129 Pn 20 33 33.2 -2.2
DIB Dawson Inlet, 5.56 129 Pn **Pn 20 33 33.8 -1.5**
DIB Sn **Sn 20 34 34.4 -4.2**
H02S2 DAWSON INLET T 5.56 129 Pn **Pn 20 33 33.8 -1.6**
H02S2 Sn **Sn 20 34 32.5 -6.1**
KLU Klutina 5.59 327 Pn 20 33 33.2 -2.8
KLU Klutina 5.59 327 P **Pn 20 33 33.1 -2.9**
baz=142,SNR=719
WACK Wrangell Chich 5.60 337 Pn 20 33 34.7 -1.5
M26K Nabesna, AK 5.74 344 Pn 20 33 36.3 -1.6
M26K Nabesna, AK 5.74 344 Pn **Pn 20 33 36.0 -2.0**
M26K Nabesna, AK 5.74 344 P **Pn 20 33 36.3 -1.6**
baz=161,SNR=699
MOBC Moresby Island 5.81 128 Pn Pn 20 33 37.3 -1.7
MOBC Sn **Sn 20 34 41.5 -3.6**
M30M Minto, Yukon 5.83 13 Pn 20 33 37.9 -1.3
M30M Minto, Yukon 5.83 13 Pn **Pn 20 33 38.3 -0.9**
M30M Sn **Sn 20 34 43.0 -2.5**
M30M Minto, Yukon 5.83 13 P **Pn 20 33 38.8 -0.4**
baz=195,SNR=346
M31M Drury Creek, Y 5.91 25 Pn 20 33 39.5 -0.8
M31M Drury Creek, Y 5.91 25 Pn **Pn 20 33 40.0 -0.2**
M31M Drury Creek, Y 5.91 25 P **Pn 20 33 40.1 -0.1**
baz=209,SNR=840
RUBB Prince Rupert 5.92 112 Pn **Pn 20 33 38.0 -2.4**
RUBB Sn **Sn 20 34 44.0 -3.5**
PWL Port Wells 5.98 315 Pn 20 33 37.7 -3.6
PWL Port Wells 5.98 315 P **Pn 20 33 37.4 -3.9**
baz=127,SNR=239
SEW Seward 6.05 306 Pn 20 33 37.3 -4.8
SEW Seward 6.05 306 P Pn 20 33 37.5 -4.5
baz=117,SNR=78
HARP HAARP 6.15 335 Pn 20 33 42.0 -1.6
HARP HAARP 6.15 335 P **Pn 20 33 41.9 -1.6**
baz=150,SNR=160
M24K Tolsona, Glenn 6.16 330 Pn 20 33 42.1 -1.6
M24K Tolsona, Glenn 6.16 330 P **Pn 20 33 41.5 -2.2**
baz=144,SNR=569
L29M L29M 6.24 6 Pn 20 33 43.9 -0.8
L29M L29M 6.24 6 Pn **Pn 20 33 44.6 -0.1**
L29M L29M 6.24 6 P **Pn 20 33 44.3 -0.4**
baz=187,SNR=336
BCAR Beaver Creek A 6.24 351 Pn 20 33 42.7 -2.1
L27K Beaver Creek, 6.24 351 Pn **Pn 20 33 43.5 -1.3**
L27K Beaver Creek, 6.24 351 P **Pn 20 33 43.4 -1.4**
baz=169
SCM Sheep Creek Mo 6.29 324 Pn 20 33 42.9 -2.6
SCM Sheep Creek Mo 6.29 324 P **Pn 20 33 42.9 -2.6**
SCM Sheep Creek Mo 6.29 324 P **Pn 20 33 42.6 -2.9**
baz=138,SNR=565
BAIB Barry Inlet 6.31 131 Pn Pn 20 33 44.5 -1.3
BAIB Sn **Sn 20 34 53.3 -4.0**
GRNB Grenville Isla 6.32 115 Pn Pn 20 33 43.7 -2.1
GRNB Sn **Sn 20 34 53.8 -3.6**
O22K Cooper Landing 6.35 308 Pn 20 33 41.7 -4.5
O22K Cooper Landing 6.35 308 P **Pn 20 33 42.3 -3.9**
baz=119,SNR=47
MENT Mentasta 6.36 343 P Pn 20 33 45.6 -0.8
KNK Knik Glacier 6.38 318 Pn 20 33 44.1 -2.6
KNK Knik Glacier 6.38 318 P **Pn 20 33 43.5 -3.2**
baz=130,SNR=750
L26K Log Cabin Wild 6.38 345 Pn 20 33 45.5 -1.2
L26K Sn **Sn 20 34 56.6 -2.4**
L26K Log Cabin Wild 6.38 345 P **Pn 20 33 45.3 -1.4**
baz=161,SNR=468
M23K Glacier View 6.39 323 Pn 20 33 44.2 -2.6
M23K Glacier View 6.39 323 P **Pn 20 33 43.7 -3.1**
baz=136,SNR=867
BRSE Bradley Lake S 6.49 300 Pn 20 33 44.7 -3.6
BRSE Bradley Lake S 6.49 300 P **Pn 20 33 44.3 -3.9**
baz=111,SNR=191
WTLY Watson Lake, Y 6.50 56 P **Pn 20 33 47.2 -1.2**
baz=246,SNR=44
SLKM Skilak Lake 6.58 307 Pn 20 33 45.7 -3.7
CNPM China Poot 6.66 298 Pn 20 33 46.7 -3.8
RC01 Rabbit Creek A 6.67 313 Pn 20 33 46.5 -4.2
RC01 Rabbit Creek A 6.67 313 P **Pn 20 33 46.5 -4.2**
baz=124,SNR=197
PAX Paxson 6.72 337 Pn 20 33 49.6 -1.8
PAX Paxson 6.72 337 Pn **Pn 20 33 49.4 -2.0**
PAX Paxson 6.72 337 P **Pn 20 33 49.6 -1.8**
PAX Paxson 6.72 337 P **Pn 20 33 49.5 -2.0**
baz=151,SNR=453
PMR Palmer 6.74 318 Pn 20 33 47.9 -3.7
PMR Palmer 6.74 318 P **Pn 20 33 49.2 -2.4**
PMR Palmer 6.74 318 P **Pn 20 33 47.9 -3.7**
PMR Palmer 6.74 318 P **Pn 20 33 48.6 -3.0**
baz=129,SNR=328
JEDB Jedway, Haida 6.75 130 Pn Pn 20 33 50.2 -1.6
JEDB Sn **Sn 20 35 04.5 -3.6**
HG4B Hotspring 6.75 130 Pn **Pn 20 33 50.0 -1.8**
GHO Glory Hole Cre 6.79 319 Pn 20 33 49.7 -2.6
KITB Kitimat 6.87 110 Pn Pn 20 33 52.3 -1.0
KITB Sn **Sn 20 35 08.0 -2.8**
HOM Homer 6.89 298 Pn 20 33 52.0 -1.7
HOM Homer 6.89 298 P **Pn 20 33 50.9 -2.8**
baz=108,SNR=8.9
FIS Fire Island 6.90 312 Pn 20 33 50.0 -3.8
MAYO Mayo, Yukon 6.93 14 Pn 20 33 49.9 -4.3
MAYO Mayo, Yukon 6.93 14 P **Pn 20 33 54.3 +0.1**
baz=197,SNR=108
WAT6 Susitna Watana 6.98 327 Pn 20 33 52.4 -2.7
WAT6 Susitna Watana 6.98 327 P **Pn 20 33 52.1 -3.0**
baz=140,SNR=1000
K29M Barlow Dome 7.00 8 Pn 20 33 54.0 -1.3
K29M Barlow Dome 7.00 8 Pn **Pn 20 33 55.1 -0.2**
K29M Sn **Sn 20 35 12.7 -1.7**
K29M Barlow Dome 7.00 8 P **Pn 20 33 55.2 -0.2**
baz=189,SNR=944
GRIB Gribbell Islan 7.01 117 Pn Pn 20 33 53.7 -1.6
GRIB Sn **Sn 20 35 11.6 -2.8**
SYI Shuyak Island 7.03 289 Pn 20 33 53.0 -2.5
Q20K Shuyak Island 7.03 289 P **Pn 20 33 53.9 -1.7**
baz=98,SNR=131
KDAK Kodiak Island 7.06 282 Pn 20 33 53.2 -2.8
KDAK Kodiak Island 7.06 282 Pn **Pn 20 33 53.8 -2.1**
comp=E,152nm,0.3s,baz=79,slow=8.0,SNR=1384
KDAK Sn **Sn 20 35 07.8 -7.8**
comp=E,64nm,0.3s,baz=116,slow=24,SNR=10
KDAK Kodiak Island 7.06 282*d* **/P Pn 20 33 54.0 -2.0**
KDAK Kodiak Island 7.06 282 P **Pn 20 33 53.9 -2.1**
baz=91
DOT Dot Lake 7.08 344 Pn 20 33 53.8 -2.6
DOT Dot Lake 7.08 344 Pn **Pn 20 33 55.4 -0.9**
MMPY Sheldon Lake, 7.08 33 Pn 20 33 54.5 -1.9
MMPY Sheldon Lake, 7.08 33 Pn **Pn 20 33 56.0 -0.4**
MMPY Sheldon Lake, 7.08 33 P **Pn 20 33 56.0 -0.4**
baz=220,SNR=1000
CAPN Captain Cook N 7.10 307 P **Pn 20 33 54.6 -1.9**
baz=117
DAWY Dawson 7.15 1 Pn 20 33 55.2 -2.1
DAWY Dawson 7.15 1 Pn **Pn 20 33 56.9 -0.4**
DAWY Dawson 7.15 1 P **Pn 20 33 56.8 -0.5**
baz=181,SNR=223
M22K Willow 7.21 316 Pn 20 33 54.5 -3.5
M22K Willow 7.21 316 P **Pn 20 33 55.3 -2.7**
baz=127,SNR=120
K27K Chicken 7.22 351 Pn **Pn 20 33 57.3 -0.8**
K27K Chicken 7.22 351 P **Pn 20 33 57.3 -0.8**
baz=169
DHY Denali Highway 7.27 331 20 33 57.2 -1.9
DHY Denali Highway 7.27 331 P **Pn 20 33 57.0 -2.1**
baz=144,SNR=763
SUA Susitna One 7.29 313 Pn 20 33 55.5 -3.7
SUA Susitna One 7.29 313 P **Pn 20 33 55.5 -3.7**
baz=123,SNR=273
RIDG Independent Ri 7.30 341 Pn 20 33 57.3 -2.0
RIDG Independent Ri 7.30 341 P **Pn 20 33 58.1 -1.2**
baz=157,SNR=453
SCRK Sand Creek 7.38 345 Pn 20 33 58.8 -1.7
SCRK Sand Creek 7.38 345 P **Pn 20 33 58.8 -1.7**
baz=161,SNR=919
TGTN Hyland Airport 7.42 47 Pn 20 33 59.0 -1.9
TGTN Hyland Airport 7.42 47 Pn **Pn 20 34 00.2 -0.7**
TGTN Hyland Airport 7.42 47 P **Pn 20 34 00.3 -0.6**
baz=237,SNR=707
WAT1 Susitna Watana 7.42 326 Pn 20 33 58.5 -2.4
WAT1 Susitna Watana 7.42 326 P **Pn 20 33 58.5 -2.4**
baz=139
OHAK Old Harbor 7.45 278 Pn 20 33 58.0 -3.4
OHAK Old Harbor 7.45 278 P **Pn 20 33 58.5 -2.9**
baz=86,SNR=101
BUTB Butedale 7.50 116 Pn **Pn 20 34 00.4 -1.8**
BUTB Sn **Sn 20 35 23.7 -2.9**
O20K Slope Mountain 7.50 300 P **Pn 20 33 58.9 -3.1**
baz=109,SNR=89
WAT7 Susitna Watana 7.51 326 Pn 20 33 59.9 -2.3
K24K Donnelly Dome 7.53 339 Pn 20 34 00.8 -1.6
K24K Donnelly Dome 7.53 339 P **Pn 20 34 01.8 -0.7**
baz=153,SNR=468
LIRD Liard River Hi 7.57 65 Pn **Pn 20 34 03.2 +0.2**
LIRD Sn **Sn 20 35 26.8 -1.3**
LIRD Liard River Hi 7.57 65 P **Pn 20 34 01.9 -1.0**
baz=257,SNR=161
J29N Klondike Camp 7.57 5 Pn **Pn 20 34 03.0 0.0**
J29N Sn **Sn 20 35 26.9 -1.3**
J29N Klondike Camp 7.57 5 P **Pn 20 34 02.7 -0.4**
baz=186,SNR=70
RDT Redoubt 7.58 304 Pn 20 34 00.1 -3.0
AU22 Augustine Moun 7.66 294 Pn 20 34 02.2 -2.0
P19K Oil Pt 7.67 296 Pn 20 34 01.6 -2.7
P19K Oil Pt 7.67 296 P **Pn 20 34 01.6 -2.7**
baz=105,SNR=305
ILS Iliamna Low So 7.67 299 Pn 20 34 01.2 -3.2
CUT Chulitna 7.68 320 Pn 20 34 01.8 -2.7
CUT Chulitna 7.68 320 P **Pn 20 34 02.9 -1.6**
baz=131,SNR=534
RDSO Redoubt South 7.69 303 Pn 20 34 01.6 -3.1
SPU Mount Spurr 7.69 309 Pn 20 34 00.5 -4.1
RED Redoubt Volcan 7.69 302 Pn 20 34 01.2 -3.4
AGU Augustine-Summ 7.70 294 Pn 20 34 02.8 -2.0
DFR Drift River 7.71 304 Pn 20 34 01.6 -3.4
ILSW Iliamna Southw 7.72 299 Pn 20 34 01.2 -3.9
SPCG Spurr Capps Gl 7.72 310 Pn 20 34 01.4 -3.8
Q19K Cape Douglas, 7.72 291 Pn 20 34 02.9 -2.2
Q19K Cape Douglas, 7.72 291 P **Pn 20 34 03.0 -2.1**
baz=99,SNR=231
STLK Strandline Lak 7.75 311 Pn 20 34 01.3 -4.2
N20K Mount Spurr 7.76 309 P **Pn 20 34 02.1 -3.6**
baz=118,SNR=87
SPCR Spurr Chakacha 7.76 309 Pn 20 34 01.9 -3.7
SPCR Spurr Chakacha 7.76 309 P **Pn 20 34 02.0 -3.7**
baz=118,SNR=70
J26L Joseph Creek 7.83 347 P **Pn 20 34 04.5 -2.1**
baz=164,SNR=1000
J30M Hart River 7.83 10 Pn 20 34 05.4 -1.2
J30M Hart River 7.83 10 Pn **Pn 20 34 06.4 -0.3**
J30M Sn **Sn 20 35 33.4 -1.3**
J30M Hart River 7.83 10 P **Pn 20 34 06.5 -0.1**
baz=193,SNR=531
SKT Skwentna 7.89 315 Pn 20 34 04.1 -3.3
SKT Skwentna 7.89 315 P **Pn 20 34 04.5 -2.8**
baz=124,SNR=363
EGAK Eagle 7.90 355 Pn **Pn 20 34 07.2 -0.3**
TOAD Toad River Com 7.90 70 P **Pn 20 34 06.5 -1.1**
baz=262,SNR=47
SII Sitkinak Islan 8.02 273 Pn 20 34 06.4 -2.7
SII Sitkinak Islan 8.02 273 P **Pn 20 34 06.4 -2.7**
SII Sitkinak Islan 8.02 273 P **Pn 20 34 06.4 -2.7**
baz=81,SNR=29
R18K Karluk 8.07 281 P **Pn 20 34 07.9 -1.9**
baz=88
KAHG Katmai Hook Gl 8.14 287 Pn 20 34 07.9 -3.0
J25K Salcha River, 8.19 342 Pn **Pn 20 34 10.4 -1.2**
J25K Salcha River, 8.19 342 P **Pn 20 34 09.8 -1.8**
baz=157,SNR=489
BBB Bella Bella 8.21 121 Pn 20 34 07.6 -4.1
BBB Bella Bella 8.21 121 Pn **Pn 20 34 09.9 -1.8**
comp=E,38nm,0.3s,baz=327,slow=15,SNR=167
BBB Sn **Sn 20 35 38.4 -5.5**
comp=E,31nm,0.3s,baz=29,slow=19,SNR=6.2
BBB LR LR 20 37 00.6
comp=E,18µm,19.6s,baz=326,slow=35
BBB Bella Bella 8.21 121 Pn **Pn 20 34 09.7 -2.0**
BBB Sn **Sn 20 35 40.5 -3.3**
MCK McKinley 8.22 330 P **Pn 20 34 10.1 -1.9**
baz=142,SNR=848
HDA Harding Lake 8.30 337 P **Pn 20 34 11.0 -2.0**
baz=151,SNR=1000
O19K Port Alsworth 8.34 299 P **Pn 20 34 10.2 -3.4**
baz=106,SNR=95
Q18K Katmai Hardscr 8.39 288 P **Pn 20 34 11.1 -3.3**
baz=95,SNR=155
TRF Thorofare Moun 8.41 325 P **Pn 20 34 12.4 -2.2**
baz=136,SNR=1000
I30M Mount Dempster 8.46 9 Pn Pn 20 34 15.5 +0.3
I30M Sn **Sn 20 35 49.5 -0.6**
I30M Mount Dempster 8.46 9 P **Pn 20 34 15.3 +0.1**
baz=192,SNR=584
I29M Ogilvie Camp, 8.47 4 Pn Pn 20 34 15.2 -0.2
I29M Ogilvie Camp, 8.47 4 P **Pn 20 34 15.0 -0.4**
baz=185,SNR=155
M20K Styx River 8.48 311 P **Pn 20 34 12.4 -3.1**
baz=120,SNR=394
KABU Katmai Buttres 8.51 286 Pn 20 34 13.9 -2.2
ACHA Angle Creek He 8.54 285 Pn 20 34 13.1 -3.2
I28M Miner Creek 8.54 359 20 34 14.2 -2.1
I28M Miner Creek 8.54 359 Pn Pn 20 34 15.9 -0.5
I28M Sn **Sn 20 35 50.5 -1.6**
I28M Miner Creek 8.54 359 P **Pn 20 34 15.6 -0.7**
baz=179,SNR=268
I26K Coal Creek Min 8.57 350 Pn Pn 20 34 15.8 -0.8
I26K Coal Creek Min 8.57 350 P **Pn 20 34 16.4 -0.2**
baz=167
P18K Big Mountain, 8.61 293 P **Pn 20 34 13.8 -3.4**
baz=100,SNR=109
ILAR Eielson Array 8.61 339 Pn Pn 20 34 15.6 -1.6
comp=E,185nm,0.3s,baz=170,slow=12,SNR=2222
ILAR LR LR 20 37 36.3
comp=E,25µm,21.4s,baz=111,slow=38
N19K Bonanza Creek 8.62 303 P **Pn 20 34 13.8 -3.6**
baz=110,SNR=207
ANCK Angle Creek 8.62 285 Pn 20 34 14.3 -3.1
PPLA Purkeypile 8.68 319 P **Pn 20 34 16.1 -2.2**
baz=128,SNR=330
KTH Kantishna Hill 8.68 324 Pn 20 34 16.2 -2.1
I27K Kandik River 8.75 355 Pn 20 34 17.9 -1.3
I27K Kandik River 8.75 355 Pn **Pn 20 34 18.5 -0.6**
I27K Sn **Sn 20 35 55.6 -1.5**
I27K Kandik River 8.75 355 P **Pn 20 34 18.8 -0.4**
baz=173,SNR=197
KOTAN Kotaneelee Air 8.75 62 Pn Pn 20 34 19.2 +0.1
KOTAN Kotaneelee Air 8.75 62 P **Pn 20 34 18.7 -0.4**
baz=256,SNR=197
NBC1 NorthernBC 1 8.75 65 Pn Pn 20 34 18.7 -0.5
Q17K Contact Creek 8.83 285 P **Pn 20 34 17.3 -3.1**
baz=92
COLA College 8.90 337 P Pn 20 34 18.9 -2.2
COLA College 8.90 337⇑/P Pn 20 34 19.0 -2.2
COLA College 8.90 337 P Pn 20 34 19.0 -2.2
baz=149
CHIR Chirikof Islan 8.95 270 Pn 20 34 19.5 -2.3
CHIR Chirikof Islan 8.95 270 P Pn 20 34 19.6 -2.3
CHIR Chirikof Islan 8.95 270 P Pn 20 34 20.2 -1.7

baz=76,SNR=10.0
NEA2 Nenana 8.95 333 Pn Pn 20 34 19.2 -2.7
NEA2 Nenana 8.95 333 P Pn 20 34 18.6 -3.2
baz=144,SNR=1000
FSJB Fort St James 9.01 100 Pn Pn 20 34 22.4 -0.4
POKR Poker Plat Res 9.03 339 P Pn 20 34 20.7 -2.3
baz=152,SNR=188
PRP Porcupine Dome 9.06 344 Pn 20 34 20.5 -3.0
PRP Porcupine Dome 9.06 344 P Pn 20 34 22.3 -1.2
baz=159,SNR=339
PLK2 Peulik 2 9.07 282 Pn 20 34 20.5 -3.0
L20K Farewell, AK 9.08 314 P Pn 20 34 20.1 -3.6
baz=121,SNR=478
PLK4 Peulik 4 9.09 281 Pn 20 34 21.1 -2.8
R17L Mt. Peulik Vol 9.09 281 P Pn 20 34 22.3 -1.6
baz=87,SNR=166
BPAW Bear Paw Mtn. 9.10 327 Pn 20 34 21.2 -2.7
BPAW Bear Paw Mtn. 9.10 327 P Pn 20 34 21.0 -2.9
baz=137,SNR=1000
FNSB Fort Nelson 9.19 71 Pn Pn 20 34 25.4 +0.2
P17K Kvichak River 9.19 291 P Pn 20 34 21.9 -3.3
baz=97,SNR=124
NBC5 NorthernBC 5 9.21 79 Pn Pn 20 34 25.3 -0.3
NBC5 Sn Sn 20 36 07.4 -1.1
PLK1 Peulik 1 9.22 282 Pn 20 34 23.3 -2.2
N18K Kilae Creek 9.23 301 P Pn 20 34 22.3 -3.4
baz=107,SNR=131
H31M Peel River 9.25 14 Pn 20 34 24.1 -1.8
H31M Peel River 9.25 14 Pn Pn 20 34 26.1 +0.2
H31M Sn Sn 20 36 09.2 -0.1
H31M Peel River 9.25 14 P Pn 20 34 25.6 -0.4
baz=198,SNR=200
Q16K King Salmon 9.26 288 P Pn 20 34 24.6 -1.5
baz=93,SNR=18
NAHA Nahanni Butte 9.32 57 Sn Sn 20 36 10.8 -0.3
H29M Whitestone 9.33 3 Pn 20 34 24.6 -2.5
H29M Whitestone 9.33 3 Pn Pn 20 34 26.1 -1.0
H29M Whitestone 9.33 3 P Pn 20 34 25.6 -1.5
baz=184,SNR=63
L19K White Mountain 9.33 311 P Pn 20 34 23.9 -3.3
baz=117,SNR=638
PLBL Peulik Blue Cr 9.33 282 Pn 20 34 24.3 -2.9
CHUM Lake Minchumin 9.36 323 P Pn 20 34 24.8 -2.6
baz=132,SNR=1000
H27K Steamboat Moun 9.37 355 Pn 20 34 25.6 -2.0
H27K Steamboat Moun 9.37 355 Pn Pn 20 34 27.6 -0.1
H27K Sn Sn 20 36 11.8 -0.5
H27K Steamboat Moun 9.37 355 P Pn 20 34 26.9 -0.7
baz=174,SNR=150
M18K Stony River 9.47 306 P Pn 20 34 24.6 -4.4
baz=111,SNR=220
NBC8 Simpson Ranch 9.47 85 Pn Pn 20 34 29.2 +0.2
NBC8 Sn Sn 20 36 13.7 -1.1
I23K Minto, Yukon-K 9.48 334 P Pn 20 34 26.0 -3.1
baz=146,SNR=232
PHC Port Hardy 9.53 126 Pn Pn 20 34 27.9 -1.9
EPYK Eagle Plains 9.56 7 Pn Pn 20 34 30.7 +0.4
EPYK Eagle Plains 9.56 7 P Pn 20 34 28.7 -1.6
baz=190,SNR=79
O17K Koliganek Bris 9.61 294 P Pn 20 34 27.5 -3.4
baz=99,SNR=115
K20K Telida 9.64 318 Pn 20 34 27.3 -4.1
K20K Telida 9.64 318 P Pn 20 34 28.0 -3.4
baz=125,SNR=749
PACB Port Alice, BC 9.70 127 Pn Pn 20 34 30.9 -1.2
PACB Sn Sn 20 36 17.1 -3.3
MLY Manley 9.73 331 P Pn 20 34 29.3 -3.3
baz=141,SNR=968
R16K Pilot Point 9.75 281 P Pn 20 34 31.0 -1.7
baz=86
H24K Noodor Dome 9.76 340 P Pn 20 34 31.1 -1.8
baz=152,SNR=182
BPEB Brooks Peninsu 9.78 129 Pn Pn 20 34 32.4 -1.0
BPEB Sn Sn 20 36 19.4 -3.2
N17K Nushagak Hills 9.80 299 P Pn 20 34 29.9 -3.7
baz=104,SNR=94
H25L Birch Creek 9.81 345 P Pn 20 34 32.6 -1.0
baz=160,SNR=329
MAYB Maynard 9.86 126 Pn Pn 20 34 33.3 -1.2
MAYB Sn Sn 20 36 21.3 -3.4
NBC6 NorthernBC 6 9.91 73 Pn Pn 20 34 35.5 +0.5
G27K Doyon Strip 9.95 355 Pn 20 34 34.0 -1.6
G27K Doyon Strip 9.95 355 Pn Pn 20 34 35.7 +0.1
G27K Doyon Strip 9.95 355 P Pn 20 34 34.9 -0.8
baz=173,SNR=242
P16K Nushagak River 9.97 290 Pn 20 34 33.1 -2.7
P16K Nushagak River 9.97 290 P Pn 20 34 33.4 -2.5
baz=94,SNR=80
G29M Pine Creek 10.04 4 Pn Pn 20 34 36.3 -0.5
G29M Pine Creek 10.04 4 P Pn 20 34 35.8 -1.0
baz=185,SNR=33
O16K Kokwok River B 10.08 293 P Pn 20 34 34.5 -2.8
baz=97,SNR=77
H23K Yukon River 10.09 336 P Pn 20 34 35.0 -2.5
baz=147
L18K Granite Mounta 10.13 309 P Pn 20 34 35.1 -2.9
baz=114,SNR=128
J20K Nowinta River 10.16 322 P Pn 20 34 35.5 -3.0
baz=129,SNR=590
M17K Holitna River 10.16 303 P Pn 20 34 34.9 -3.6
baz=108,SNR=273
I21K Tanana 10.19 329 P Pn 20 34 35.6 -3.2
baz=138
G30M tAoh Zraii Nji 10.20 8 P Pn 20 34 38.6 -0.4
G30M tAoh Zraii Nji 10.20 8 P Pn 20 34 37.9 -1.1
baz=190,SNR=72
WRGLY Wrigley 10.22 45 P Pn 20 34 37.8 -1.4
baz=239
G26K Porcupine Rive 10.23 351 P Pn 20 34 39.3 -0.1
G26K Porcupine Rive 10.23 351 P Pn 20 34 38.4 -1.0
baz=167,SNR=259
G25K Bearman Lake 10.32 346 P Pn 20 34 39.9 -0.6
G25K Bearman Lake 10.32 346 P Pn 20 34 39.8 -0.7
baz=160,SNR=229
G31M Satah River 10.33 12 P Pn 20 34 40.4 -0.3
G31M Satah River 10.33 12 P Pn 20 34 39.5 -1.1
baz=196,SNR=167
NCSB Newcastle Ridg 10.36 123 P Pn 20 34 40.4 -1.0
NCSB Sn Sn 20 36 34.1 -2.8
CHGN Chignik 10.37 274 P Pn 20 34 39.4 -1.9
baz=78,SNR=34
G24K Hadweenzic Riv 10.46 343 P Pn 20 34 40.7 -1.8
baz=156,SNR=251
N16K Nishlik Lake 10.56 298 P Pn 20 34 40.7 -3.2
baz=101,SNR=206
J19K Poorman 10.57 319 P Pn 20 34 40.9 -3.2
baz=124,SNR=313
H22K Ishtalitna Cre 10.58 333 P Pn 20 34 43.8 -0.4
baz=142,SNR=11
I20K Naaghedeneel 10.67 324 Pn 20 34 42.1 -3.3
I20K Naaghedeneel 10.67 324 P Pn 20 34 42.7 -2.7
baz=130,SNR=352
J18K Innoko River 10.70 315 P Pn 20 34 42.5 -3.3
baz=120,SNR=541
NTKA Nootka 10.70 128 P Pn 20 34 44.8 -1.0
F28M Old Crow 10.71 359 P Pn 20 34 46.2 +0.2
F28M Old Crow 10.71 359 P Pn 20 34 44.4 -1.6
baz=179,SNR=43
M16K Timber Creek 10.77 300 P Pn 20 34 43.4 -3.4
baz=104,SNR=92
H21K Melozitna Rive 10.77 330 P Pn 20 34 43.8 -3.0
baz=138,SNR=1000
L17K Donlin 10.79 307 P Pn 20 34 44.0 -3.1
baz=110,SNR=140
GDR Gold River 10.82 126 P Pn 20 34 46.8 -0.7
GDR Sn Sn 20 36 46.0 -1.9
F30M Barrier River 10.86 8 P Pn 20 34 48.4 +0.4
F30M Barrier River 10.86 8 P Pn 20 34 46.2 -1.7
baz=191,SNR=85
F31M Tsiigehtchic 10.88 12 P Pn 20 34 48.3 0.0
F31M Tsiigehtchic 10.88 12 P Pn 20 34 47.4 -0.8
baz=197,SNR=43
O15K Ungalikthiuk R 10.93 290 Pn 20 34 46.4 -2.5
O15K Ungalikthiuk R 10.93 290 P Pn 20 34 46.5 -2.4
baz=93,SNR=88
CBB Campbell River 10.94 123 P Pn 20 34 49.1 0.0
CBB Sn Sn 20 36 49.3 -1.5
G23K Bananza Creek 10.95 338 P Pn 20 34 47.0 -2.2
baz=148,SNR=741
F26K Sheenjek River 10.99 351 P Pn 20 34 50.0 +0.2
F26K Sheenjek River 10.99 351 P Pn 20 34 49.4 -0.5
baz=167,SNR=307
S14K Fog Glacier 11.00 275 P Pn 20 34 49.2 -0.8
baz=78,SNR=34
K17K Iditarod 11.01 309 P Pn 20 34 46.8 -3.3
baz=113,SNR=146
F25K Christian Rive 11.05 348 P Pn 20 34 51.0 +0.4
F25K Christian Rive 11.05 348 P Pn 20 34 50.2 -0.3
baz=162,SNR=343
N15K Kwethluk River 11.16 295 P Pn 20 34 49.8 -2.3
baz=98,SNR=81
L16K Owhat River 11.19 304 P Pn 20 34 49.5 -3.0
baz=106,SNR=86
H20K Anotleneega Mo 11.26 326 P Pn 20 34 50.6 -2.9
baz=132,SNR=557
F24K Squaw Lake 11.28 344 P Pn 20 34 52.7 -1.1
baz=156,SNR=200
E27K Coleen River 11.32 356 P Pn 20 34 54.4 0.0
E27K Coleen River 11.32 356 P Pn 20 34 53.5 -0.9
baz=174,SNR=67
WTMTA White Mountain 11.38 88 P Pn 20 34 56.2 +0.9
CHNA Chernabura Isl 11.40 268 P Pn 20 34 54.0 -1.4
CHNA Chernabura Isl 11.40 268 P Pn 20 34 53.7 -1.7
baz=71,SNR=30
CNBA Chernabura Isl 11.41 268 Pn 20 34 53.4 -2.1
COLD Coldfoot 11.43 339 P Pn 20 34 54.6 -1.2
COLD Coldfoot 11.43 339 P Pn 20 34 53.9 -1.9
baz=149,SNR=421
G22K Bettles 11.44 336 P Pn 20 34 53.5 -2.5
baz=145
GCSA Galena City Sc 11.45 320 P Pn 20 34 53.7 -2.4
baz=125,SNR=58
E29M Blow River 11.52 3 P Pn 20 34 55.8 -1.2
E29M Blow River 11.52 3 P Pn 20 34 54.9 -2.1
baz=185,SNR=55
M15K Kasigluk River 11.53 298 P Pn 20 34 53.8 -3.4
baz=100,SNR=51
E25K Arctic Village 11.54 349 P Pn 20 34 58.3 +0.9
E25K Arctic Village 11.54 349 P Pn 20 34 57.1 -0.3
baz=163,SNR=174
G21K Allakaket 11.61 331 P Pn 20 34 55.8 -2.4
baz=139,SNR=1000
J17K VABM Dome 11.61 312 P Pn 20 34 54.9 -3.4
baz=115,SNR=144
OZB Mount Ozzard 11.66 127 P Pn 20 35 00.3 +1.2
O14K Tigyukauivet M 11.67 290 P Pn 20 34 56.7 -2.4
baz=92,SNR=30
E28M Babbage River 11.71 0 P Pn 20 34 58.6 -1.0
E28M Babbage River 11.71 0 P Pn 20 34 58.1 -1.5
baz=180,SNR=54
SDPT Sand Point 11.73 271 P Pn 20 34 59.2 -0.7
SDPT Sand Point 11.73 271 P Pn 20 34 58.7 -1.3
baz=74,SNR=36
INK Inuvik 11.74 11 Pn Pn 20 34 59.2 -0.7
comp=E,3.9nm,0.3s,baz=194,slow=13,SNR=39
INK Sn Sn 20 37 01.1 -9.1
comp=E,8.0nm,0.3s,baz=127,slow=30,SNR=7.1
INK LR LR 20 39 27.7
comp=E,12µm,19.6s,baz=197,slow=38
comp=E,55nm,1.1s
INK Inuvik 11.74 11 P Pn 20 34 58.7 -1.3
INK Inuvik 11.74 11 P Pn 20 34 59.6 -0.4
baz=197,SNR=33
H19K Roundabout Mou 11.78 324 P Pn 20 34 57.6 -3.0
baz=129,SNR=276
BDMTA Bald Mountain 11.82 92 P Pn 20 35 01.6 +0.4
E24K Your Creek 11.88 344 P Pn 20 35 00.6 -1.5
baz=156,SNR=349
BFSB Bamfield 11.91 127 P Pn 20 35 03.7 +1.3
B928 Bamfield 11.91 127 P Pn 20 35 03.2 +0.8
N14K Kuskokwak Cree 11.92 294 P Pn 20 35 00.6 -1.9
baz=95,SNR=46
MGRB Mount Grey 11.99 125 P Pn 20 35 05.0 +1.4
MGRB Sn Sn 20 37 14.6 -2.0
WSLR Whistler 12.03 117 P Pn 20 35 05.6 +1.4
E23K Chandalar 12.05 342 P Pn 20 35 02.8 -1.6
baz=153,SNR=235
F22K John River 12.08 336 P Pn 20 35 02.6 -2.1
baz=145
L15K Ungalak Mounta 12.11 302 P Pn 20 35 03.3 -1.7
baz=103,SNR=18
F21K Alatna River 12.15 334 Pn 20 35 02.2 -3.4
F21K Alatna River 12.15 334 P Pn 20 35 03.0 -2.6
baz=141,SNR=194
M14K Bethel 12.16 298 P Pn 20 35 03.2 -2.5
baz=98,SNR=38
J16K Anvik River 12.20 310 P Pn 20 35 02.9 -3.5
baz=112,SNR=93
H18K Honhosa River 12.21 320 P Pn 20 35 03.6 -2.8
baz=124,SNR=186
WPB Watts Point 12.21 120 P Pn 20 35 07.8 +1.3
LLLB Lillooet 12.24 114 P Pn 20 35 07.8 +0.8
K15K Wolf Creek Mou 12.28 305 P Pn 20 35 04.0 -3.5
baz=106,SNR=74
D27M Malcolm River 12.37 358 P Pn 20 35 08.9 +0.2
D27M Malcolm River 12.37 358 P Pn 20 35 07.1 -1.5
baz=176,SNR=85
CLRS Cowichan Lake 12.37 125 P Pn 20 35 10.4 +1.7
CLRS Sn Sn 20 37 24.7 -1.2
G19K Purcell Mounta 12.38 325 P Pn 20 35 05.2 -3.6
baz=130,SNR=168
D28M Stokes Point 12.44 1 P Pn 20 35 11.7 +2.1
D28M Stokes Point 12.44 1 P Pn 20 35 08.5 -1.1
baz=182
PTRF Port Renfrew 12.45 126 P Pn 20 35 11.2 +1.4
I17K Unalakleet 12.47 313 Pn 20 35 07.4 -2.6
I17K Unalakleet 12.47 313 P Pn 20 35 07.1 -2.9
baz=114,SNR=13
S12K Black Hills 12.50 274 P Pn 20 35 09.4 -1.1
baz=75,SNR=16
E22K Anaktuvuk Pass 12.53 339 P Pn 20 35 08.9 -1.9
baz=148
TOLK Toolik Lake Re 12.57 343 P Pn 20 35 10.3 -1.1
baz=154,SNR=151
TOLK S Sn 20 37 29.1 -1.5
baz=154
F20K Avaraart Lake 12.60 330 P Pn 20 35 09.0 -2.7
baz=136,SNR=966
L14K Kuka Creek 12.60 300 P Pn 20 35 08.8 -2.9
baz=100,SNR=44
H17K Granite Mounta 12.65 318 P Pn 20 35 09.8 -2.6
baz=120,SNR=121
SYMB Survey Mountai 12.71 125 P Pn 20 35 15.0 +1.6
G18K Tagagawik 12.73 323 P Pn 20 35 10.6 -3.0
baz=126,SNR=289
D25K Kavik River 12.79 349 P Pn 20 35 15.8 +1.5
D25K Sn Sn 20 37 34.1 -1.8
D25K Kavik River 12.79 349 P Pn 20 35 13.8 -0.5
baz=163,SNR=244
M13K Dall Lake 12.80 296 P Pn 20 35 13.6 -0.8
baz=95,SNR=11
SNB Saturna Island 12.84 123 P Pn 20 35 16.6 +1.5
C27K Jago River 12.86 354 P Pn 20 35 17.1 +1.8
C27K Jago River 12.86 354 P Pn 20 35 14.4 -1.0
baz=170,SNR=142
BRLDA Berland Lookou 12.89 93 P Pn 20 35 17.0 +1.1
D24K Happy Valley 12.93 345 P Pn 20 35 15.5 -0.7
baz=157
F19K Shaleruckik Mo 13.04 327 Pn 20 35 13.5 -4.2
F19K Shaleruckik Mo 13.04 327 P Pn 20 35 14.5 -3.2
baz=131,SNR=290
D23K Nanushuk River 13.04 342 P Pn 20 35 17.1 -0.7
baz=152,SNR=86
G17K Kiwalik Mounta 13.21 319 P Pn 20 35 17.0 -3.0
baz=120,SNR=88
C26K Camden Bay 13.23 352 P Pn 20 35 22.4 +2.0
C26K Camden Bay 13.23 352 P Pn 20 35 21.0 +0.6
baz=167
E21K Killik River 13.23 336 P Pn 20 35 18.5 -1.9
baz=144
E19K Redstone River 13.30 330 P Pn 20 35 18.8 -2.5
baz=134,SNR=666
OSD Olympics--Snow 13.31 127 P Pn 20 35 24.8 +3.1
J14K Nanvaranak Lak 13.31 306 P Pn 20 35 17.1 -4.3
baz=105
D22K Ayikyak River 13.33 339 P Pn 20 35 19.9 -1.8
baz=147,SNR=77
H16K Elim 13.40 314 P Pn 20 35 19.4 -3.2
baz=114,SNR=8.3
C24K Franklin Bluff 13.44 346 P Pn 20 35 22.6 -0.5
baz=158
F18K Selawik 13.47 324 P Pn 20 35 20.2 -3.4
baz=126,SNR=134
FALS False Pass 13.49 271 Pn 20 35 21.4 -2.5
FALS False Pass 13.49 271 P Pn 20 35 22.7 -1.2
baz=71,SNR=23
E20K Nigu River 13.61 333 P Pn 20 35 23.7 -1.9
baz=138,SNR=414
K13K Kusilvak Mount 13.63 302 P Pn 20 35 24.1 -1.7
baz=100
HDW Hoodsport 13.72 126 P Pn 20 35 29.5 +2.2
YKA Yellowknife Ar 13.74 56 Pn Pn 20 35 25.9 -1.3
comp=E,5.3nm,0.3s,baz=261,slow=12,SNR=118
YKA LR LR 20 40 54.7
comp=E,16µm,18.1s,baz=273,slow=38
G16K Koyuk River 13.78 317 P Pn 20 35 24.8 -2.9
baz=117,SNR=40
YKAW1 Yellowknife Wh 13.79 56 P Pn 20 35 26.8 -1.2
C23K Itkillik River 13.81 344 P Pn 20 35 27.8 -0.4
baz=154,SNR=173
JCW Jim Creek 13.84 122 P Pn 20 35 32.0 +3.2
F17K Baldwin Pennin 13.91 322 P Pn 20 35 26.9 -2.7
baz=123,SNR=101
C21K Knifeblade Rid 13.99 337 P Pn 20 35 28.8 -1.8
baz=144,SNR=96
D20K Etivluk River 14.05 334 P Pn 20 35 29.7 -1.9
baz=139
M11K Mekoryuk 14.21 295 P Pn 20 35 32.2 -1.5
baz=92
C36M Paulatuk 14.22 23 P Pn 20 35 32.0 -1.9
C36M Paulatuk 14.22 23 P Pn 20 35 30.6 -3.2
baz=217,SNR=24
G15K Niukluk 14.25 314 P Pn 20 35 30.9 -3.3
baz=113
E18K Tukpahlearik C 14.27 326 P Pn 20 35 32.4 -2.0
baz=127,SNR=113
D19K Kuna River 14.27 332 P Pn 20 35 32.3 -2.3
baz=135,SNR=147
B21K Ikpikpuk River 14.33 339 P Pn 20 35 33.0 -2.4
baz=145,SNR=93
E17K Hotham Inlet 14.46 324 P Pn 20 35 34.3 -2.8
baz=124,SNR=56
ANM Nome 14.63 312 Pn 20 35 37.1 -2.3
ANM Nome 14.63 312 P Pn 20 35 37.1 -2.3
ANM Nome 14.63 312 P Pn 20 35 36.9 -2.6
baz=109,SNR=5.7
ANM S S 20 38 42.2 +2.6
baz=109
B22K Teshekpuk Lake 14.71 341 P Pn 20 35 37.6 -3.0
baz=149
B22K S S 20 38 40.9 -0.4
baz=149
F15K North Star Dit 14.77 317 P Pn 20 35 38.4 -3.0
baz=114,SNR=22
F15K S S 20 38 45.0 +2.4
baz=114
FMW Mount Fremont 14.88 125 P Pn 20 35 44.8 +1.6
LON Longmire 14.96 125 P P 20 35 47.2 -2.3
B08A Colville Reser 14.96 116 Pn 20 35 45.5 +1.4
B08A Colville Reser 14.96 116 P Pn 20 35 47.0 -2.6
AKUT Akutan 15.03 270 Pn 20 35 44.0 -0.9
AKUT IAmb IAmb 20 35 51.0
comp=Z,237nm,1.5s
AKUT Akutan 15.03 270 P Pn 20 35 43.2 -1.7
C19K Lookout Ridge 15.08 332 Pn 20 35 42.5 -3.1
C19K Lookout Ridge 15.08 332 P Pn 20 35 42.1 -3.5
baz=134,SNR=65
C19K S S 20 38 47.4 -1.6
baz=134
LTY Liberty 15.10 122 IAmb IAmb 20 35 50.6
comp=Z,306nm,1.7s
LTY Liberty 15.10 122 P Pn 20 35 48.1 +2.1
LVA Lava Point 15.16 271 Pn 20 35 46.0 -0.8
LVA IAmb IAmb 20 35 53.3
comp=Z,65nm,0.6s
B20K Meade River 15.17 337 Pn 20 35 43.8 -2.9
B20K Meade River 15.17 337 P Pn 20 35 44.4 -2.3
baz=141,SNR=45
B20K S S 20 38 50.1 -0.6
baz=141
D17K Noatak River 15.21 325 P Pn 20 35 44.7 -2.4
baz=124,SNR=225
D17K S S 20 38 52.2 +0.8
baz=124
C18K Utukok River 15.21 329 Pn 20 35 44.0 -3.3
C18K Utukok River 15.21 329 P Pn 20 35 44.5 -2.7
baz=130,SNR=206
C18K S S 20 38 51.1 -0.5
baz=130
F14K Arctic Creek 15.32 315 P Pn 20 35 46.6 -2.2
baz=111,SNR=29
F14K S S 20 38 56.0 +2.1
baz=111
RDOG Red Dog Mine 15.35 326 P Pn 20 35 46.7 -2.4
baz=125,SNR=45
RDOG S S 20 38 55.3 +0.9
baz=125
UNV Unalaska Valle 15.54 270 Pn 20 35 49.2 -2.4
UNV IAmb IAmb 20 35 57.8
comp=Z,119nm,0.9s
UNV Unalaska Valle 15.54 270 P Pn 20 35 50.2 -1.4
baz=68,SNR=21
UNV S S 20 39 00.8 +2.4
baz=68
A22K Sinclair Lake 15.55 341 P Pn 20 35 49.4 -2.3
baz=147
G03D McMinnville, O 15.55 132 IAmb IAmb 20 35 58.6
comp=Z,155nm,1.2s
KUKN Kugluktuk,NWT 15.62 36 P Pn 20 35 51.3 -1.2
C17K DeLong Mountai 15.68 327 P Pn 20 35 50.7 -2.6
baz=126,SNR=59
C17K S S 20 39 00.5 -0.6
baz=126
B18K Kokolik River 15.84 331 P Pn 20 35 52.4 -3.0
baz=131,SNR=126
B18K S S 20 39 03.2 -1.2
baz=131
TNA Tin City 15.98 314 Pn 20 35 54.1 -3.1
TNA IAmb IAmb 20 36 05.2
comp=Z,184nm,0.8s
TNA Tin City 15.98 314 P Pn 20 35 55.2 -2.0
baz=109,SNR=50
COR Corvallis 16.05 133 Pn 20 35 57.2 -1.1
COR Corvallis 16.05 133 P Pn 20 35 57.2 -1.1
COR pmax pmax
comp=Z,91nm,1.1s
D08A Wollman Farm, 16.07 119 IAmb IAmb 20 36 04.6
comp=Z,313nm,2.0s
A21K Barrow 16.12 340 P Pn 20 35 55.7 -3.2
baz=145,SNR=6.7
NEW Newport 16.13 113 Pn Pn 20 36 00.5 +1.2
comp=Z,0.5nm,0.3s,baz=318,slow=13,SNR=36
NEW LR LR 20 42 02.4
comp=Z,19µm,18.1s,baz=306,slow=36
comp=Z,17nm,1.0s
A19K Wainwright 16.22 334 P Pn 20 35 58.0 -2.2
baz=134,SNR=24
A19K S S 20 39 10.6 -1.6
baz=134
C16K Lisburne Hills 16.23 325 Pn 20 35 58.0 -2.4
C16K IAmb IAmb 20 36 06.1
comp=Z,221nm,0.8s
C16K Lisburne Hills 16.23 325 P Pn 20 35 58.6 -1.8
baz=122,SNR=41
C16K S S 20 39 11.0 -1.4
baz=122
A36M Sachs Harbour 16.24 16 Pn 20 35 56.7 -3.8
A36M IAmb IAmb 20 36 06.7
comp=Z,146nm,0.8s
A36M Sachs Harbour 16.24 16 P Pn 20 35 56.9 -3.6
baz=209
A36M S S 20 39 10.7 -1.9
baz=209
P08K Saint George I 16.35 281 Pn 20 36 00.7 -1.2
P08K IAmb IAmb 20 36 08.9
comp=Z,197nm,1.1s
P08K Saint George I 16.35 281 P Pn 20 36 02.8 +0.8
baz=76
P08K S S 20 39 18.1 +3.3
baz=76
BUCK Buck Mountain 16.50 134 Pn 20 36 03.6 -0.5
SPIA Saint Paul Isl 16.59 284 P Pn 20 36 05.2 +0.2
baz=78
SPIA S S 20 39 23.3 +3.5
baz=78
E09A Wood Farm, Sta 16.83 119 P P 20 36 09.2 -1.0
E09A IAmb IAmb 20 36 15.3
comp=Z,324nm,1.7s
I05D Terrebonne, OR 17.06 130 IAmb IAmb 20 36 19.5
comp=Z,243nm,1.5s
GAMB Gambell 17.13 307 Pn 20 36 10.3 -1.4
GAMB IAmb IAmb 20 36 17.4
comp=Z,156nm,0.8s
GAMB Gambell 17.13 307 P Pn 20 36 10.2 -1.5
baz=99
GAMB S S 20 39 30.8 +0.2
baz=99
HSPGA Hill Springs, 17.25 105 P P 20 36 18.4 +3.6

G08A	Pilot Rock	17.36	123			Pn		20 36 12.9	-2.0	
BSMT	Bassoo Peak	17.59	111	P		P		20 36 21.5	+2.8	
J04A	Umpqua Nationa	17.65	134	IAmb		IAmb		20 36 25.5		
	comp=Z,130nm,0.8s									
JTMT	Jette	17.91	110	P		P		20 36 26.5	+4.2	
J05D	Fort Rock, OR	17.97	132	IAmb		IAmb		20 36 30.9		
	comp=Z,228nm,1.2s									
KRMB	Red Mountain	18.46	140	P		P		20 36 26.1	-2.2	
KRMB				IAmb		IAmb		20 36 39.2		
	comp=Z,287nm,2.0s									
YBH	Yreka Blue Hor	18.71	137	P		Pn		20 36 33.7	+2.3	
	comp=Z,1.1nm,0.8s,baz=351,slow=8.7,SNR=30									
PLID	Pearl Lake	18.90	119			P		20 36 31.0	-2.3	
M02C	Callahan	18.95	138			P		20 36 32.3	-1.4	
M02C				IAmb		IAmb		20 36 45.2		
	comp=Z,318nm,2.0s									
OVMT	Ovando	19.02	110	P		Pn		20 36 37.9	+2.6	
J08A	Circle Bar Ran	19.08	126	IAmb		IAmb		20 36 44.7		
	comp=Z,425nm,2.0s									
BPMT	Black Pine Rid	19.21	112	P		P		20 36 35.6	-1.0	
N02D	Trinity Center	19.37	138	IAmb		IAmb		20 36 50.0		
	comp=Z,191nm,1.4s									
LYMT	Lyon Mountain	19.45	109	P		Pn		20 36 42.4	+1.9	
WVOR	Wild Horse Val	19.76	128	IAmb		IAmb		20 36 52.6		
	comp=Z,282nm,1.6s									
HRY	Holter Researc	19.86	109	P		P		20 36 42.5	-1.1	
HATC	Hat Creek Radi	19.97	136	IAmb		IAmb		20 36 53.5		
	comp=Z,243nm,1.2s									
EGMT	Eagleton	20.12	104			P		20 36 46.0	-0.3	
KCPM	Cahto Peak	20.20	142	IAmb		IAmb		20 36 59.0		
	comp=Z,302nm,1.6s									
MFID	Camas Ranch	20.24	122	P		P		20 36 48.1	+0.3	
O03E	Paynes Creek	20.30	138	P		P		20 36 49.0	+0.6	
O03E				IAmb		IAmb		20 37 04.9		
	comp=Z,231nm,1.4s									
DLMT	Dillon	20.38	113	P		P		20 36 49.2	-0.1	
DLMT				IAMs_20		IAMs_20		20 44 27.6		
	comp=Z,9µm,20.0s									
ATKA	Atka Island	20.45	271	P		P		20 36 50.4	+0.6	
BOZ	Bozeman (W)	20.71	111	IAMs_20		IAMs_20		20 44 58.1		
	comp=Z,13µm,20.0s									
HLID	Hailey	20.80	119	P		P		20 36 54.4	+0.5	
HOPS	Hopland Field	21.00	142	IAmb		IAmb		20 37 04.4		
	comp=Z,182nm,1.3s									
FFC	Flin Flon	21.08	80	P		P		20 36 55.7	-1.0	
FFC	Flin Flon	21.08	80	IAMs_20		IAMs_20		20 45 04.7		
	comp=Z,13µm,22.0s									
FFC	Flin Flon	21.08	80	P		P		20 36 57.9	+1.2	
FFC	Flin Flon	21.08	80	P		P		20 36 55.7	-1.0	
FFC				pmax		pmax				
	comp=Z,338nm,1.3s									
FFC				MLR		MLR				
	comp=Z,13µm,22.0s									
BEKR	Beckworth	21.21	135	IAmb		IAmb		20 37 11.6		
	comp=Z,158nm,1.3s									
GDXM	Geysers	21.26	141	P		P		20 37 01.2	+2.4	
GDXM				IAmb		IAmb		20 37 17.9		
	comp=Z,283nm,1.8s									
MNRC	McLaughlin Min	21.32	141	IAmb		IAmb		20 37 15.9		
	comp=Z,248nm,1.7s									
YHL	Hebgen Lake	21.45	112	IAmb		IAmb		20 37 10.9		
	comp=Z,117nm,0.9s									
GSTR	Great Sitkin T	21.52	273	P		P		20 37 01.6	+0.2	
PAHR	Pah Rah Range	21.73	134	IAmb		IAmb		20 37 13.8		
	comp=Z,225nm,1.6s									
AFDM	Forest Hills D	21.78	138	P		P		20 37 06.5	+2.1	
AFDM				IAmb		IAmb		20 37 14.8		
	comp=Z,370nm,2.0s									
CVS	Carmenet Viney	21.79	141	IAmb		IAmb		20 37 22.8		
	comp=Z,110nm,1.1s									
YNR	Norris Junctio	21.80	112	IAmb		IAmb		20 37 15.2		
	comp=Z,163nm,1.4s									
YNE	Yellowstone No	21.95	110	IAmb		IAmb		20 37 15.2		
	comp=Z,84nm,1.0s									
YMP	Mirror Lake Pl	22.05	111	IAmb		IAmb		20 37 12.4		
	comp=Z,99nm,1.1s									
BLKN	Baker Lake	22.22	53	P		P		20 37 07.5	-1.3	
BLKN	Baker Lake	22.22	53	P		P		20 37 09.6	+0.8	
TPAW	Teton Pass	22.54	114	IAmb		IAmb		20 37 21.6		
	comp=Z,93nm,1.3s									
ELK	Elko	22.62	125	IAmb		IAmb		20 37 22.6		
	comp=Z,180nm,1.9s									
ELK	Elko	22.62	125	LR		LR		20 45 35.4		
	comp=Z,5µm,18.0s,baz=326,slow=35									
LOHW	Long Hollow	22.63	114	P		P		20 37 13.2	-0.4	
LOHW				IAmb		IAmb		20 37 20.6		
	comp=Z,306nm,1.9s									
LOHW				IAMs_20		IAMs_20		20 45 51.1		
	comp=Z,7µm,18.0s									
SNOW	Snow King Moun	22.66	114	IAMs_20		IAMs_20		20 46 01.1		
	comp=Z,9µm,18.0s									
LAO	LASA Array	22.83	102	IAmb		IAmb		20 37 37.7		
	comp=Z,68nm,1.1s									
HVU	Hansel Valley	22.94	120	IAmb		IAmb		20 37 37.6		
	comp=Z,191nm,1.8s									
RYN	Ryan	23.00	134	P		P		20 37 17.8	+0.4	
AHID	Auburn Hatcher	23.00	116	IAMs_20		IAMs_20		20 47 11.4		
	comp=Z,7µm,18.0s									
BUCR	Buckhorn Ranch	23.21	138	IAmb		IAmb		20 37 27.7		
	comp=Z,181nm,1.7s									
LHV	Little Huntoon	23.33	134	IAmb		IAmb		20 37 29.1		
	comp=Z,94nm,1.3s									
BGU	Big Grassy Mou	23.48	122	IAmb		IAmb		20 37 36.5		
	comp=Z,103nm,1.6s									
BW06	Boulder Array	23.77	114	IAMs_20		IAMs_20		20 46 47.3		
	comp=Z,7µm,19.0s									
PD31	Pinedale Array	23.77	114	IAmb		IAmb		20 37 30.2		
	comp=Z,72nm,1.2s									
PDAR	Pinedale Array	23.77	114	P		P		20 37 24.7	-0.4	
PDAR	Pinedale Array	23.77	114	P		P		20 37 26.2	+1.1	
	comp=Z,16nm,0.9s,baz=313,slow=5.2,SNR=56									
PDAR				LR		LR		20 46 37.9		
	comp=Z,3µm,18.7s,baz=313,slow=36									
	comp=Z,16nm,0.9s									
FCC	Fort Churchill	23.95	66	P		P		20 37 25.3	-1.0	
FCC	Fort Churchill	23.95	66	P		P		20 37 27.3	+0.9	
FCC	Fort Churchill	23.95	66	P		P		20 37 25.3	-1.0	
FCC				pmax		pmax				
	comp=Z,240nm,1.2s									
TPH	Tonopah	23.99	132	IAmb		IAmb		20 37 41.2		
	comp=Z,72nm,1.1s									
TCUT	Toone Canyon	24.10	119	IAmb		IAmb		20 37 43.2		
	comp=Z,111nm,1.0s									
DUG	Dugway, Tooele	24.16	122	IAmb		IAmb		20 37 43.3		
	comp=Z,54nm,0.9s									
CTU	Camp Tracy	24.27	120	IAmb		IAmb		20 37 38.8		
	comp=Z,118nm,1.6s									
SPR3	Spring Creek 3	24.44	126	IAmb		IAmb		20 37 48.1		
	comp=Z,139nm,1.8s									
JLU	Jordanelle	24.48	120	P		P		20 37 31.3	-0.5	
JLU				IAmb		IAmb		20 37 40.2		
	comp=Z,63nm,1.3s									
RES	Resolute Bay	24.52	27	P		P		20 37 30.2	-1.3	
RES				IAmb		IAmb		20 37 44.8		
	comp=Z,95nm,1.0s									
RES	Resolute Bay	24.52	27	LR		LR		20 47 30.7		
	comp=Z,8µm,18.8s,baz=247,slow=38									
RES	Resolute Bay	24.52	27	P		P		20 37 32.3	+0.8	
RES	Resolute Bay	24.52	27	P		P		20 37 30.2	-1.3	
RES				pmax		pmax				
	comp=Z,95nm,1.0s									
BSUT	Blindstream Ca	24.86	119	IAmb		IAmb		20 37 43.4		
	comp=Z,104nm,1.4s									
PSUT	Pine Spring	25.04	126	P		P		20 37 37.4	+0.6	
TPNV	Topopah Spring	25.36	132	P		P		20 37 40.9	+1.3	
TPNV				IAmb		IAmb		20 37 59.7		
	comp=Z,86nm,1.4s									
TPNV				IAMs_20		IAMs_20		20 47 35.3		
	comp=Z,6µm,18.0s									
TPNV	Topopah Spring	25.36	132	P		P		20 37 40.9	+1.3	
TPNV				pmax		pmax				
	comp=Z,86nm,1.4s									
TPNV				MLR		MLR				
	comp=Z,6µm,18.0s									
K22A	Casper	25.39	110	IAmb		IAmb		20 37 45.5		
	comp=Z,74nm,1.2s									
PRN	Pahroc Range	25.46	130	IAmb		IAmb		20 38 03.4		
	comp=Z,52nm,1.1s									
FURC	Furnace Creek,	25.53	134	IAmb		IAmb		20 37 56.0		
	comp=Z,98nm,1.2s									
MPMC	Manual Prospec	25.64	135	P		P		20 37 42.3	+0.1	
MPMC				IAmb		IAmb		20 37 52.1		
	comp=Z,79nm,1.7s									
RSSD	Black Hills	25.67	105	P		P		20 37 42.7	+0.2	
RSSD	Black Hills	25.67	105	IAMs_20		IAMs_20		20 48 02.2		
	comp=Z,9µm,20.0s									
RSSD	Black Hills	25.67	105	P		P		20 37 42.7	+0.2	
RSSD				pmax		pmax				
	comp=Z,164nm,1.3s									
RSSD				MLR		MLR				
	comp=Z,9µm,20.0s									
MDND	Maddock	25.72	93	IAMs_20		IAMs_20		20 47 22.4		
	comp=Z,12µm,19.0s									
CLC	China Lake	25.81	136	IAmb		IAmb		20 38 06.4		
	comp=Z,60nm,1.3s									
P18A	Preston Nutter	25.82	120	IAmb		IAmb		20 37 53.7		
	comp=Z,98nm,1.5s									
E28A	Huff	25.89	97	IAMs_20		IAMs_20		20 48 12.2		
	comp=Z,13µm,19.0s									
QSM	Queen of Sheba	25.96	134	IAmb		IAmb		20 37 54.9		
	comp=Z,97nm,1.3s									
WSHM	Spangler Hills	26.04	136	IAmb		IAmb		20 37 53.6		
	comp=Z,63nm,1.5s									
CCUT	Cedar City	26.07	127	IAmb		IAmb		20 37 55.7		
	comp=Z,124nm,1.8s									
SRU	San Rafael Swe	26.09	121	P		P		20 37 46.0	-0.3	
SRU				IAmb		IAmb		20 37 54.6		
	comp=Z,88nm,1.3s									
SRU	San Rafael Swe	26.09	121	P		P		20 37 46.0	-0.3	
SRU				pmax		pmax				
	comp=Z,88nm,1.3s									
CCCA	Chr Cany lake	26.15	135	IAmb		IAmb		20 38 01.2		
	comp=Z,46nm,1.0s									
BILL	Bilibino	26.38	317	IAMs_20		IAMs_20		20 47 42.0		
	comp=Z,7µm,22.0s									
BILL	Bilibino	26.38	317⇑	*i*P		P		20 37 48.3	-0.1	
BILL				pmax		pmax				
	comp=Z,24nm,1.0s									
O20A	White River Ci	26.39	116	P		P		20 37 48.9	-0.1	
O20A				IAmb		IAmb		20 38 01.2		
	comp=Z,41nm,0.9s									
O20A				IAMs_20		IAMs_20		20 47 28.2		
	comp=Z,6µm,20.0s									
ULM	Lac du Bonnet	26.43	86	P		P		20 37 49.7	+0.7	
	comp=Z,13nm,0.6s,baz=298,slow=8.4,SNR=19									
	comp=Z,13nm,0.6s									
ULM	Lac du Bonnet	26.43	86	P		P		20 37 49.8	+0.7	
GSC	Goldstone, Bar	26.57	135	IAmb		IAmb		20 37 58.7		
	comp=Z,85nm,1.4s									
SHEM	Shemya Is, Ala	26.57	281	LR		LR		20 48 37.5		
	comp=Z,3µm,18.2s,baz=72,slow=37									
HAYD	Hayden	26.59	114	IAmb		IAmb		20 37 58.8		
	comp=Z,155nm,1.6s									
HAYD				IAMs_20		IAMs_20		20 47 36.0		
	comp=Z,5µm,18.0s									
PKCU	Pink Cliffs	26.62	125	P		P		20 37 51.6	+0.3	
PKCU				IAmb		IAmb		20 37 59.5		
	comp=Z,85nm,1.3s									
KNB	Kanab	26.75	127	IAmb		IAmb		20 38 00.3		
	comp=Z,52nm,1.2s									
HMU	Henry Mountain	26.93	123	IAmb		IAmb		20 38 17.4		
	comp=Z,96nm,1.8s									
PV23	Carpenter Ridg	27.33	119	P		P		20 37 58.5	+0.9	
PV23				IAMs_20		IAMs_20		20 48 19.3		
	comp=Z,9µm,18.0s									
PV22	Blue Mesa, Par	27.37	119	IAmb		IAmb		20 38 10.0		
	comp=Z,38nm,0.9s									
PV22				IAMs_20		IAMs_20		20 49 01.4		
	comp=Z,7µm,19.0s									
PV10	Paradox Valley	27.38	120	IAMs_20		IAMs_20		20 48 45.4		
	comp=Z,8µm,19.0s									
PV04	Paradox Valley	27.43	119	IAmb		IAmb		20 38 11.7		
	comp=Z,43nm,0.9s									
PV04				IAMs_20		IAMs_20		20 47 38.0		
	comp=Z,6µm,22.0s									
PV20	West Nyswonger	27.44	120	IAMs_20		IAMs_20		20 48 24.2		
	comp=Z,8µm,18.0s									
PV19	Morning Glory	27.46	120	IAmb		IAmb		20 38 13.6		
	comp=Z,61nm,1.0s									
U15A	North Rim	27.48	127	IAmb		IAmb		20 38 17.5		
	comp=Z,62nm,1.3s									
PV16	Nyswonger Mesa	27.49	120	IAmb		IAmb		20 38 06.0		
	comp=Z,65nm,1.3s									
PV16				IAMs_20		IAMs_20		20 48 48.5		
	comp=Z,5µm,18.0s									
AGMN	Agassiz Nation	27.51	89	IAmb		IAmb		20 38 01.2		
	comp=Z,71nm,1.4s									
AGMN				IAMs_20		IAMs_20		20 48 53.6		
	comp=Z,10µm,18.0s									
PV07	Paradox Valley	27.52	119	IAmb		IAmb		20 38 06.8		
	comp=Z,76nm,1.3s									
PV07				IAMs_20		IAMs_20		20 48 04.1		
	comp=Z,7µm,21.0s									
PV11	David Mesa, Pa	27.52	119	IAmb		IAmb		20 38 13.0		
	comp=Z,54nm,0.9s									
PV12	Saucer Basin,	27.54	119	IAMs_20		IAMs_20		20 48 26.8		
	comp=Z,10µm,18.0s									
PV03	Paradox Valley	27.57	119	IAmb		IAmb		20 38 11.6		
	comp=Z,43nm,1.0s									
PV05	Paradox Valley	27.59	120	IAmb		IAmb		20 38 12.0		
	comp=Z,43nm,1.1s									
PV13	Radium Mtn., P	27.66	120	IAmb		IAmb		20 38 12.6		
	comp=Z,60nm,0.9s									
PV02	Paradox Valley	27.66	119	P		P		20 38 01.4	+0.9	
PV02				IAmb		IAmb		20 38 07.5		
	comp=Z,76nm,1.0s									
PV02				IAMs_20		IAMs_20		20 47 56.0		
	comp=Z,12µm,22.0s									
ILON	Igloolik, Nuna	27.67	40	P		P		20 37 58.2	-1.7	
ILON				IAmb		IAmb		20 38 21.8		
	comp=Z,75nm,1.2s									
PV15	Paradox Valley	27.67	119	IAmb		IAmb		20 38 16.5		
	comp=Z,56nm,1.0s									
PV15				IAMs_20		IAMs_20		20 48 07.3		
	comp=Z,6µm,21.0s									
PV01	Paradox Valley	27.80	119	IAmb		IAmb		20 38 15.6		
	comp=Z,68nm,1.1s									
PV01				IAMs_20		IAMs_20		20 49 15.6		
	comp=Z,5µm,18.0s									
EPLO	Experimental L	27.91	85	IAmb		IAmb		20 38 30.5		
	comp=Z,57nm,1.2s									
SUSD	Miller	28.18	99	IAMs_20		IAMs_20		20 49 55.2		
	comp=Z,10µm,18.0s									
PFO	Pinyon Flats O	28.19	136	P		P		20 38 05.2	+0.1	
PFO	Pinyon Flats O	28.19	136	LR		LR		20 48 28.1		
	comp=Z,3µm,18.3s,baz=334,slow=34									
PFO	Pinyon Flats O	28.19	136	P		P		20 38 05.2	+0.1	
PFO				pmax		pmax				
	comp=Z,62nm,1.9s									
PFO				MLR		MLR				
	comp=Z,3µm,19.0s									
F33A	5 Mile Ranch,	28.74	94	IAmb		IAmb		20 38 12.5		
	comp=Z,54nm,1.3s									
POIN	Pond Inlet	28.84	33	P		P		20 38 09.2	-1.2	
K30B	Basset	29.02	102	IAMs_20		IAMs_20		20 49 00.5		
	comp=Z,6µm,21.0s									
SDCO	Great Sand Dun	29.59	116	IAMs_20		IAMs_20		20 49 27.9		
	comp=Z,6µm,18.0s									
ECSD	EROS Data Cent	29.92	98	IAmb		IAmb		20 38 22.7		
	comp=Z,56nm,1.6s									
ECSD	EROS Data Cent	29.92	98	IAMs_20		IAMs_20		20 50 12.0		
	comp=Z,8µm,19.0s									
EYMN	Ely	30.10	87	P		P		20 38 21.1	-0.7	
EYMN	Ely	30.10	87	IAMs_20		IAMs_20		20 49 48.0		
	comp=Z,7µm,21.0s									
T25A	Trinidad	30.61	115	IAMs_20		IAMs_20		20 50 55.6		
	comp=Z,6µm,18.0s									
BGNE	Belgrade	30.68	102	IAMs_20		IAMs_20		20 51 01.5		
	comp=Z,8µm,19.0s									
E38A	The Farm, Brul	30.87	89	IAmb		IAmb		20 39 32.7		
	comp=Z,80nm,1.4s									
E38A				IAMs_20		IAMs_20		20 49 21.4		
	comp=Z,5µm,18.0s									
SPMN	Marine on St.	31.04	92	IAmb		IAmb		20 38 33.1		
	comp=Z,105nm,1.8s									
TULEG	Thule	31.20	25	IAMs_20		IAMs_20		20 49 08.2		
	comp=Z,7µm,19.0s									
L34A	Svendsen Farm,	31.24	100	IAmb		IAmb		20 38 34.6		
	comp=Z,42nm,0.9s									
L34A				IAMs_20		IAMs_20		20 49 58.2		
	comp=Z,7µm,20.0s									
ANMO	Albuquerque	31.37	120	P		P		20 38 33.5	+0.2	
ANMO				IAmb		IAmb		20 38 41.0		
	comp=Z,47nm,1.8s									
ANMO	Albuquerque	31.37	120	LR		LR		20 50 48.8		
	comp=Z,5µm,18.3s,baz=56,slow=36									
ANMO	Albuquerque	31.37	120⇓	*e*P		P		20 38 36.0	+2.7	
ANMO				pmax		pmax				
	comp=Z,2.0nm,1.1s									
TUC	Tucson	31.63	129	IAMs_20		IAMs_20		20 51 24.7		
	comp=Z,4µm,18.0s									
CBKS	Cedar Bluff	31.71	108	IAmb		IAmb		20 38 48.2		
	comp=Z,35nm,0.8s									
CBKS				IAMs_20		IAMs_20		20 49 48.3		
	comp=Z,5µm,18.0s									
RTBA	Rita Blanca	31.99	114	IAmb		IAmb		20 38 46.1		
	comp=Z,80nm,1.4s									
N35A	Tabor	32.41	101	IAMs_20		IAMs_20		20 50 17.1		
	comp=Z,5µm,20.0s									
G40A	Rib Lake	32.44	90	IAMs_20		IAMs_20		20 51 54.0		
	comp=Z,8µm,21.0s									
COWI	Conover	32.50	88	IAMs_20		IAMs_20		20 51 50.6		
	comp=Z,7µm,19.0s									
R32A	Long Quarter,	32.54	107	IAMs_20		IAMs_20		20 50 56.2		
	comp=Z,5µm,18.0s									
121A	Cookes Peak, D	32.76	125	IAmb		IAmb		20 38 58.4		
	comp=Z,21nm,0.8s									
121A				IAMs_20		IAMs_20		20 51 34.3		
	comp=Z,5µm,20.0s									
SCIA	State Center	33.00	97	IAMs_20		IAMs_20		20 50 36.4		
	comp=Z,5µm,18.0s									
I40A	Norwalk	33.09	92	P		P		20 38 47.9	-0.2	
SEY	Seymchan	33.10	309	LR		LR		20 52 15.9		
	comp=Z,4µm,19.2s,baz=78,slow=36									
SEY	Seymchan	33.10	309	*e*P		P		20 38 47.3	-0.7	
SEY				pmax		pmax				
	comp=Z,18nm,1.5s									
F42A	Maple Grove Fa	33.26	87	IAMs_20		IAMs_20		20 50 09.6		
	comp=Z,4µm,18.0s									
AMTX	Amarillo	33.74	114	IAMs_20		IAMs_20		20 53 05.3		
	comp=Z,5µm,20.0s									
N38A	Joes South For	33.76	98	IAMs_20		IAMs_20		20 53 06.7		
	comp=Z,8µm,19.0s									
MSTX	Muleshoe	33.93	117	IAmb		IAmb		20 39 10.0		
	comp=Z,33nm,1.0s									
MSTX				IAMs_20		IAMs_20		20 52 18.8		
	comp=Z,4µm,20.0s									
L40A	Anamosa	33.98	95	IAmb		IAmb		20 38 58.0		
	comp=Z,36nm,1.1s									
L40A				IAMs_20		IAMs_20		20 52 28.2		
	comp=Z,7µm,21.0s									
OK038	West end E0370	33.99	109	IAmb		IAmb		20 39 08.3		
	comp=Z,38nm,0.8s									
FRB	Frobisher Bay	34.09	49	LR		LR		20 53 15.6		
	comp=Z,4µm,18.9s,baz=312,slow=37									
H43A	Windswept, Lux	34.28	89	IAMs_20		IAMs_20		20 53 17.6		
	comp=Z,7µm,20.0s									
SMWD	Samnorwood	34.29	113	P		P		20 38 59.1	+0.5	
SMWD				IAmb		IAmb		20 39 06.0		
	comp=Z,51nm,1.6s									
P38A	Dawn	34.42	100	IAMs_20		IAMs_20		20 51 42.4		
	comp=Z,6µm,19.0s									
HSIG		34.43	132	IAMs_20		IAMs_20		20 51 12.2		
	comp=Z,4µm,21.0s									
MNTX	Cornudas Mount	34.56	122	IAMs_20		IAMs_20		20 53 02.4		
	comp=Z,4µm,18.0s									
PET	Petropavlovsk	34.57	290	*e*P		P		20 39 02.3	+1.5	
PET				*e*S		S		20 44 24.9	-3.7	
PET				MLR		MLR				
	comp=Z,1µm,12.0s									
E46A	Sault Ste Mari	34.98	83	IAMs_20		IAMs_20		20 51 19.6		
	comp=Z,5µm,19.0s									
NEEM	North Greenlan	35.00	22	*i* P		P		20 39 06.6	+2.0	
NEEM				IAmb		IAmb		20 39 08.9		
	comp=Z,105nm,1.6s									
PEA0B	Petropavlovsk-	35.02	291	P		P		20 39 04.6	-0.1	
PEA0B	Petropavlovsk-	35.02	291⇓	*i*P		P		20 39 05.0	+0.3	
PETK	Petropavlovsk-	35.02	291	P		P		20 39 04.6	-0.1	
PETK	Petropavlovsk-	35.02	291	P		P		20 39 04.8	+0.1	
	comp=Z,22nm,0.9s,baz=70,slow=12,SNR=16									
PETK				LR		LR		20 53 21.5		
	comp=Z,2µm,19.9s,baz=73,slow=36									
	comp=Z,22nm,0.9s									
DKNS	Dickens	35.09	115	IAmb		IAmb		20 39 12.8		
	comp=Z,60nm,1.4s									
N41A	Harden Midland	35.11	96	IAmb		IAmb		20 39 07.7		
	comp=Z,60nm,1.2s									
N41A				IAMs_20		IAMs_20		20 51 54.3		
	comp=Z,6µm,20.0s									
OK029	Liberty Lake	35.18	109	IAMs_20		IAMs_20		20 51 58.2		
	comp=Z,5µm,18.0s									
MA2	Magadan	35.20	304	P		P		20 39 06.0	-0.2	
MA2	Magadan	35.20	304	P		P		20 39 08.3	+2.1	
	comp=Z,60nm,0.9s,baz=68,slow=9.1,SNR=19									
	comp=Z,60nm,0.9s									
MA2	Magadan	35.20	304⇓	*i*P		P		20 39 08.4	+2.2	
MA2				pmax		pmax				
	comp=Z,74nm,1.0s									
POST	Post	35.29	116	IAmb		IAmb		20 39 14.5		
	comp=Z,72nm,1.3s									
P40A	Paris	35.29	99	P		P		20 39 07.0	-0.2	
P40A				IAm

ILULI Ilulissat 38.15 35 IAMs_20 IAMs_20 20 53 11.1
comp=Z,6µm,21.0s
PBMO Poplar Bluff 38.17 100 IAmb IAmb 20 39 34.5
comp=Z,62nm,1.5s
PBMO IAMs_20 IAMs_20 20 54 37.5
comp=Z,6µm,19.0s
MIAR Mount Ida 38.17 106 IAmb IAmb 20 39 34.8
comp=Z,135nm,1.7s
CGM3 Cape Girardeau 38.20 99 IAMs_20 IAMs_20 20 54 00.3
comp=Z,5µm,18.0s
K50A Casco 38.21 87 IAMs_20 IAMs_20 20 54 45.5
comp=Z,5µm,20.0s
BUKO Buck Lake 38.22 81 IAMs_20 IAMs_20 20 52 46.3
comp=Z,4µm,21.0s
JCT Junction City 38.23 117 IAMs_20 IAMs_20 20 54 54.5
comp=Z,6µm,19.0s
WHAR Wooly Hollow 38.29 104 IAMs_20 IAMs_20 20 53 18.0
comp=Z,3µm,18.0s
LCAR Lake Charles 38.31 102 IAMs_20 IAMs_20 20 54 23.3
comp=Z,6µm,20.0s
NOR Nord 38.42 11 *i* P P 20 39 38.6 +5.3
NOR IAmb IAmb 20 39 44.3
comp=Z,28nm,1.2s
Z38A Mt. Pleasant 38.43 109 IAMs_20 IAMs_20 20 53 33.3
comp=Z,6µm,18.0s
O48B Farmland 38.54 92 IAmb IAmb 20 39 36.3
comp=Z,129nm,1.8s
N49A Columbus Grove 38.61 90 P P 20 39 35.3 -0.1
N49A IAmb IAmb 20 39 37.8
comp=Z,118nm,1.6s
PARMO Parma 38.62 100 IAMs_20 IAMs_20 20 55 49.4
comp=Z,6µm,19.0s
UALR University of 38.65 104 IAMs_20 IAMs_20 20 54 34.6
comp=Z,4µm,20.0s
SADO Sadowa 38.79 82 IAmb IAmb 20 39 39.7
comp=Z,111nm,1.7s
SADO Sadowa 38.79 82 LR LR 20 53 58.2
comp=Z,37µm,20.7s,baz=326,slow=34
USIN University of 38.80 97 IAMs_20 IAMs_20 20 55 29.9
comp=Z,5µm,20.0s
PVMO Portageville 38.83 100 IAMs_20 IAMs_20 20 56 06.1
comp=Z,6µm,19.0s
P48A Milroy 38.95 93 IAmb IAmb 20 39 40.0
comp=Z,150nm,1.9s
PEBM Pemiscott Bayo 38.97 101 IAMs_20 IAMs_20 20 55 01.7
comp=Z,5µm,18.0s
HICK Hickman 38.99 100 IAMs_20 IAMs_20 20 56 02.3
comp=Z,5µm,18.0s
LPIG La Paz 39.07 135 LR LR 20 53 16.2
comp=Z,2µm,21.9s,baz=339,slow=32
WLAR White Oak Lake 39.08 106 IAMs_20 IAMs_20 20 55 03.1
comp=Z,4µm,19.0s
SCHQ Schefferville 39.10 61 P P 20 39 40.4 +1.0
comp=Z,289nm,1.0s,baz=310,slow=8.0,SNR=14
SCHQ LR LR 20 56 04.8
comp=Z,92µm,18.0s,baz=310,slow=37
MIDW Midway 39.12 239 IAMs_20 IAMs_20 20 51 22.0
comp=Z,4µm,22.0s
UTMT University of 39.34 99 IAMs_20 IAMs_20 20 55 26.2
comp=Z,5µm,21.0s
WCI Wyandotte Cave 39.36 95 IAMs_20 IAMs_20 20 55 23.5
comp=Z,4µm,20.0s
SFJD Kangerlussuaq 39.39 38 P P 20 39 40.3 -1.3
SFJD Kangerlussuaq 39.39 38 IAMs_20 IAMs_20 20 55 27.8
comp=Z,6µm,19.0s
SFJD Kangerlussuaq 39.39 38 LR LR 20 55 39.1
comp=Z,6µm,18.8s,baz=304,slow=36
SFJD Kangerlussuaq 39.39 38 P P 20 39 40.3 -1.3
SFJD pmax pmax
comp=Z,64nm,1.5s
SFJD MLR MLR
comp=Z,6µm,19.0s
SFJD Kangerlussuaq 39.39 38 *i* P P 20 39 42.9 +1.3
HALT Halls 39.40 100 IAMs_20 IAMs_20 20 56 23.1
comp=Z,6µm,19.0s
Z41A Richland Creek 39.58 106 IAMs_20 IAMs_20 20 54 27.3
comp=Z,4µm,18.0s
N51A Ashland 39.61 89 IAmb IAmb 20 39 46.1
comp=Z,166nm,1.8s
CCAR Cane Creek 39.61 105 IAMs_20 IAMs_20 20 57 29.1
comp=Z,3µm,18.0s
ACSO Alum Creek Sta 39.75 90 IAmb IAmb 20 39 47.4
comp=Z,142nm,1.7s
ACSO IAMs_20 IAMs_20 20 56 55.5
comp=Z,4µm,18.0s
DELO Deloro Mine 39.78 81 P P 20 39 44.9 -0.3
DELO IAmb IAmb 20 39 48.3
comp=Z,99nm,1.7s
DELO PP 20 41 14.0 -2.4
DELO IAMs_20 IAMs_20 20 54 59.6
comp=Z,4µm,18.0s
NATX Nacogdoches 39.78 110 IAMs_20 IAMs_20 20 55 21.1
comp=Z,3µm,19.0s
SUMG Summit 40.04 27 IAMs_20 IAMs_20 20 54 52.9
comp=Z,5µm,19.0s
SUMG Summit 40.04 27 *i* P P 20 39 48.0 +0.5
SUMG IAmb IAmb 20 39 50.8
comp=Z,26nm,0.7s
WVT Waverly 40.05 99 P P 20 39 47.6 +0.1
WVT Waverly 40.05 99 IAMs_20 IAMs_20 20 56 44.3
comp=Z,7µm,20.0s
WVT Waverly 40.05 99 P P 20 39 47.6 +0.1
WVT pmax pmax
comp=Z,37nm,1.7s
WVT MLR MLR
comp=Z,7µm,20.0s
ERPA Erie 40.09 85 P P 20 39 47.7 -0.1
ERPA IAmb IAmb 20 39 50.8
comp=Z,109nm,1.9s
ERPA PP PP 20 41 16.1 -3.8
MEDO Medina 40.22 83 IAmb IAmb 20 39 52.1
comp=Z,150nm,1.5s
MEDO IAMs_20 IAMs_20 20 54 54.5
comp=Z,6µm,20.0s
Q51A Peebles 40.40 92 IAmb IAmb 20 39 52.5
comp=Z,79nm,1.5s
NUUK Nuuk 40.47 42 *i* P P 20 39 51.6 +1.0
NUUK IAmb IAmb 20 39 56.0
comp=Z,86nm,1.5s
J55A Hilton 40.50 82 P P 20 39 51.0 -0.1
J55A IAMs_20 IAMs_20 20 54 38.8
comp=Z,6µm,20.0s
PECO Prince Edward 40.51 81 IAmb IAmb 20 39 54.4
comp=Z,133nm,1.8s
N53A Lisbon 40.53 88 IAmb IAmb 20 39 54.0
comp=Z,85nm,1.7s
735A Kenedy 40.54 116 IAMs_20 IAMs_20 20 56 57.8
comp=Z,5µm,21.0s
P52A Corning 40.63 90 IAmb IAmb 20 39 54.2
comp=Z,68nm,1.5s
HKT Hockley 40.64 113 IAMs_20 IAMs_20 20 56 17.6
comp=Z,4µm,20.0s
PAOC Oil Creek Stat 40.67 86 IAmb IAmb 20 39 55.4
comp=Z,168nm,1.8s
PAOC IAMs_20 IAMs_20 20 54 29.5
comp=Z,4µm,21.0s
O53A New Philadelph 40.71 88 IAmb IAmb 20 39 55.2
comp=Z,80nm,1.6s
O53A IAMs_20 IAMs_20 20 57 07.7
comp=Z,7µm,21.0s
143A Socs Landing, 40.74 106 IAMs_20 IAMs_20 20 55 16.1
comp=Z,4µm,18.0s
PLAL Pickwick Lake 40.78 100 IAmb IAmb 20 39 57.0
comp=Z,130nm,1.9s
MMNY Mt. Morris Dam 40.81 83 IAMs_20 IAMs_20 20 56 47.1
comp=Z,4µm,20.0s
Y45A Yeager Farm, C 40.84 103 IAMs_20 IAMs_20 20 55 59.4
comp=Z,5µm,18.0s
U49A Red Boiling Sp 40.88 96 IAmb IAmb 20 39 57.0
comp=Z,75nm,1.6s
U49A IAMs_20 IAMs_20 20 55 52.1
comp=Z,4µm,18.0s
V48A Smith Brothers 40.89 98 IAmb IAmb 20 39 57.0
comp=Z,125nm,1.9s
CLTN Cedars of Leba 40.90 97 IAMs_20 IAMs_20 20 57 24.5
comp=Z,6µm,18.0s
T50A Nancy 41.03 95 IAmb IAmb 20 39 58.1
comp=Z,133nm,1.7s
T50A IAMs_20 IAMs_20 20 56 38.7
comp=Z,7µm,21.0s
Q52A Bidwell 41.04 91 P P 20 39 54.8 -0.8
Q52A IAmb IAmb 20 39 57.5
comp=Z,108nm,1.6s
Q52A IAMs_20 IAMs_20 20 55 12.6
comp=Z,3µm,19.0s
DY2G Dye2 41.13 38 *i* P P 20 39 57.6 +1.2
DY2G IAmb IAmb 20 39 59.6
comp=Z,140nm,1.6s

P53A Whipple 41.15 89 IAMs_20 IAMs_20 20 56 33.4
comp=Z,4µm,20.0s
O54A Avella 41.21 88 IAMs_20 IAMs_20 20 54 54.0
comp=Z,5µm,20.0s
MNTQ Montreal, Queb 41.29 77 IAmb IAmb 20 39 59.7
comp=Z,90nm,1.6s
J57A Williamstown 41.39 81 IAMs_20 IAMs_20 20 54 41.3
comp=Z,5µm,18.0s
L56A Greenwood 41.41 83 IAMs_20 IAMs_20 20 55 31.8
comp=Z,5µm,19.0s
K57A Scipio Center 41.57 82 IAMs_20 IAMs_20 20 55 12.0
comp=Z,6µm,20.0s
KVTX Kingsville 41.59 117 IAMs_20 IAMs_20 20 57 43.5
comp=Z,5µm,18.0s
VBMS Vicksburg 41.59 105 IAMs_20 IAMs_20 20 57 15.5
comp=Z,4µm,20.0s
LMQ La Malbaie 41.71 72 P P 20 40 00.0 -1.0
LMQ IAmb IAmb 20 40 03.6
comp=Z,115nm,1.8s
LMQ PP PP 20 41 33.0 -4.3
X48A Hartselle 41.73 100 IAmb IAmb 20 40 03.8
comp=Z,66nm,1.2s
FRNY Flat Rock 41.74 78 IAmb IAmb 20 40 03.6
comp=Z,139nm,1.9s
FRNY IAMs_20 IAMs_20 20 56 56.3
comp=Z,5µm,22.0s
SWET Sewanee 41.76 98 P P 20 40 01.3 -0.3
SWET IAmb IAmb 20 40 03.9
comp=Z,110nm,1.7s
Q54A Coxs Mills 41.81 90 IAmb IAmb 20 40 04.4
comp=Z,117nm,1.8s
MCWV Mont Chateau 41.87 88 IAMs_20 IAMs_20 20 54 40.5
comp=Z,4µm,20.0s
NCB Newcomb 41.98 79 IAMs_20 IAMs_20 20 55 40.5
comp=Z,6µm,21.0s
146A Union 42.04 103 IAMs_20 IAMs_20 20 55 11.3
comp=Z,4µm,18.0s
TZTN Tazewell 42.08 94 IAmb IAmb 20 40 06.9
comp=Z,88nm,1.7s
W50A Signal Mountai 42.11 97 IAmb IAmb 20 40 07.0
comp=Z,128nm,1.6s
J59A Piesco 42.16 80 IAMs_20 IAMs_20 20 54 53.5
comp=Z,4µm,19.0s
SSPA Standing Stone 42.26 85 P P 20 40 05.4 -0.2
SSPA IAmb IAmb 20 40 08.3
comp=Z,99nm,1.4s
SSPA Standing Stone 42.26 85 IAMs_20 IAMs_20 20 55 29.5
comp=Z,5µm,18.0s
S54A Dingess, Beckl 42.39 91 IAMs_20 IAMs_20 20 55 27.5
comp=Z,3µm,19.0s
FPAL Fort Paine 42.44 98 IAMs_20 IAMs_20 20 58 06.5
comp=Z,3µm,19.0s
VT1 Waterbury 42.52 78 IAMs_20 IAMs_20 20 56 12.1
comp=Z,5µm,19.0s
Y49A Blount Mountai 42.53 100 IAmb IAmb 20 40 10.4
comp=Z,129nm,1.8s
TKL Tuckaleechee C 42.61 95 IAmb IAmb 20 40 10.8
comp=Z,88nm,1.8s
TKL Tuckaleechee C 42.61 95 LR LR 20 57 48.9
comp=Z,4µm,19.6s,baz=323,slow=36
ACCN Adirondack Com 42.67 79 IAmb IAmb 20 40 11.9
comp=Z,145nm,1.7s
ACCN IAMs_20 IAMs_20 20 57 33.9
comp=Z,5µm,18.0s
Q56A Snyder Ridge, 42.67 88 IAmb IAmb 20 40 11.6
comp=Z,111nm,1.7s
Q56A IAMs_20 IAMs_20 20 55 47.6
comp=Z,5µm,18.0s
D62A Allapoint, All 42.68 72 IAMs_20 IAMs_20 20 56 28.5
comp=Z,5µm,18.0s
R55A Marlinton 42.70 90 IAmb IAmb 20 40 12.1
comp=Z,118nm,1.7s
E62A Clayton Lake 42.73 73 IAMs_20 IAMs_20 20 58 07.7
comp=Z,4µm,18.0s
L59A Walton 42.74 82 IAmb IAmb 20 40 21.2
comp=Z,41nm,0.9s
L59A IAMs_20 IAMs_20 20 55 57.8
comp=Z,5µm,19.0s
YAK Yakutsk 42.74 316 P P 20 40 09.2 +0.1
YAK Yakutsk 42.74 316 IAMs_20 IAMs_20 20 59 20.9
comp=Z,4µm,18.0s
YAK Yakutsk 42.74 316 *c i* P P 20 40 09.0 -0.2
YAK *e* *PP *sP* 20 40 13.7 -2.4
YAK *e* 20 41 48.2
YAK *e* 20 42 00.9
YAK *e* PPP PPP 20 42 18.8
YAK *e* S S 20 46 32.5 +1.1
YAK *e* *SS *sS* 20 46 41.0 +1.4
YAK *e* SS SS 20 49 44.0 +2.3
YAK *e* SSS SSS 20 50 17.2
YAK pmax pmax
comp=Z,111nm,0.9s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,23nm,1.3s
YAK pmax pmax
comp=Z,712nm,3.8s
YAK pmax pmax
comp=N,277nm,3.7s
YAK pmax pmax
comp=E,323nm,3.2s
YAK smax smax
comp=N,493nm,6.3s
YAK smax smax
comp=E,636nm,5.4s
YAK MLR MLR
comp=Z,4µm,26.0s
YAK MLR MLR
comp=N,3µm,17.0s
YAK MLR MLR
comp=E,3µm,26.0s
N58A Sunbury 42.76 84 P P 20 40 09.4 -0.2
N58A IAmb IAmb 20 40 12.4
comp=Z,52nm,1.0s
346A Big Creek Wild 42.79 105 IAMs_20 IAMs_20 20 56 12.4
comp=Z,4µm,20.0s
W52A Murphy 42.95 96 IAMs_20 IAMs_20 20 57 26.6
comp=Z,4µm,19.0s
DBG Daneborg 42.98 20 *i* P P 20 40 11.2 +0.2
DBG IAmb IAmb 20 40 12.0
comp=Z,30nm,1.4s
P57A Homestead Farm 43.00 87 IAmb IAmb 20 40 14.2
comp=Z,140nm,1.6s
P57A IAMs_20 IAMs_20 20 57 33.2
comp=Z,6µm,20.0s
LBNH Lisbon 43.03 77 IAmb IAmb 20 40 15.1
comp=Z,159nm,1.9s
LBNH IAMs_20 IAMs_20 20 57 22.2
comp=Z,3µm,21.0s
TRY Troy 43.11 80 IAmb IAmb 20 40 16.0
comp=Z,136nm,1.9s
TRY IAMs_20 IAMs_20 20 57 49.6
comp=Z,4µm,18.0s
G62A West of Eustis 43.12 75 IAmb IAmb 20 40 15.5
comp=Z,101nm,1.7s
G62A IAMs_20 IAMs_20 20 56 11.4
comp=Z,3µm,19.0s
V53A Saluda 43.13 95 IAmb IAmb 20 40 15.6
comp=Z,100nm,1.9s
HNH Hanover 43.20 78 P P 20 40 13.0 -0.1
HNH IAmb IAmb 20 40 16.6
comp=Z,95nm,1.9s
HNH PP PP 20 41 49.9 -3.4
H62A Milan 43.22 76 IAmb IAmb 20 40 16.3
comp=Z,88nm,1.7s
H62A IAMs_20 IAMs_20 20 55 21.1
comp=Z,4µm,19.0s
J61A Chester 43.29 78 IAmb IAmb 20 40 17.3
comp=Z,122nm,1.7s
BLA Blacksburg 43.30 91 IAmb IAmb 20 40 17.1
comp=Z,88nm,1.6s
ZAIG Zacatecas 43.48 126 IAMs_20 IAMs_20 20 57 10.5
comp=Z,5µm,22.0s
IVI Ivigtut 43.52 45 *i* P P 20 40 11.3 -4.2
MVL Millersville 43.54 85 IAmb IAmb 20 40 18.7
comp=Z,122nm,1.8s
MVL IAMs_20 IAMs_20 20 56 43.5
comp=Z,6µm,21.0s
I62A Tamworth 43.59 77 IAMs_20 IAMs_20 20 57 40.0
comp=Z,3µm,20.0s
SDMD Soldier's Deli 43.69 86 IAMs_20 IAMs_20 20 57 55.5
comp=Z,3µm,20.0s
S57A Dark Hollow, R 43.71 89 IAmb IAmb 20 40 20.4
comp=Z,68nm,1.6s
S57A IAMs_20 IAMs_20 20 57 47.3
comp=Z,5µm,19.0s

PKME Peaks-Kenny Pk 43.74 74 IAmb IAmb 20 40 21.4
comp=Z,94nm,1.6s
PKME IAMs_20 IAMs_20 20 57 09.9
comp=Z,3µm,19.0s
L61B Northampton 43.84 80 P P 20 40 18.2 -0.1
F64A Sherman 43.84 73 IAmb IAmb 20 40 21.8
comp=Z,44nm,1.2s
F64A IAMs_20 IAMs_20 20 56 23.4
comp=Z,4µm,20.0s
V55A Taylorsville 43.87 93 IAmb IAmb 20 40 21.6
comp=Z,110nm,1.7s
TYV Tymovskoe 43.87 297 *e* P P 20 40 20.2 +1.7
TYV *e* S S 20 46 50.4 +2.1
TYV pmax pmax
comp=Z,300nm,4.6s
TYV pmax pmax
comp=Z,23nm,0.9s
TYV smax smax
comp=N,400nm,8.1s
TYV smax smax
comp=E,500nm,8.1s
TYV MLR MLR
comp=Z,2µm,15.0s
I63A Otisfield 43.87 76 IAmb IAmb 20 40 22.9
comp=Z,104nm,1.7s
I63A IAMs_20 IAMs_20 20 58 13.5
comp=Z,5µm,21.0s
K62A Royalston 43.93 79 P P 20 40 19.2 +0.1
U56A King 43.96 92 IAmb IAmb 20 40 22.4
comp=Z,116nm,1.6s
WUPA West Chester U 44.00 84 IAmb IAmb 20 40 22.3
comp=Z,74nm,1.7s
WUPA IAMs_20 IAMs_20 20 58 53.4
comp=Z,6µm,22.0s
WVL Waterville 44.02 75 P P 20 40 19.8 +0.1
WVL IAmb IAmb 20 40 22.5
comp=Z,109nm,1.7s
WVL IAMs_20 IAMs_20 20 59 11.2
comp=Z,3µm,18.0s
250A Grady 44.04 101 IAMs_20 IAMs_20 20 56 35.1
comp=Z,3µm,18.0s
BATG Bathurst New B 44.10 70 P P 20 40 20.3 0.0
BATG IAmb IAmb 20 40 22.4
comp=Z,28nm,0.7s
T57A Hurt 44.10 90 IAmb IAmb 20 40 23.0
comp=Z,118nm,2.0s
R58B Mineral 44.16 88 IAmb IAmb 20 40 23.8
comp=Z,101nm,1.7s
R58B IAMs_20 IAMs_20 20 56 43.9
comp=Z,4µm,18.0s
PAL Palisades 44.17 82 IAMs_20 IAMs_20 20 56 42.8
comp=Z,5µm,20.0s
BRAL Brewton 44.25 103 IAMs_20 IAMs_20 20 58 07.8
comp=Z,5µm,21.0s
PAULI Pauline 44.30 95 IAMs_20 IAMs_20 20 58 31.4
comp=Z,4µm,21.0s
SPITS Spitsbergen Ar 44.34 7 P P 20 40 22.3 +0.3
comp=Z,12nm,1.0s,baz=328,slow=5.1,SNR=1.8
SPITS LR LR 20 58 34.8
comp=Z,1µm,22.0s,baz=342,slow=36
comp=Z,12nm,1.0s
WSPT Westport, CT 44.37 81 IAMs_20 IAMs_20 20 56 46.8
comp=Z,6µm,20.0s
GOGA Godfrey 44.46 97 IAmb IAmb 20 40 26.2
comp=Z,108nm,1.9s
ANGG Ammassalik, Gr 44.47 35 *i* P P 20 40 21.9 -1.1
ANGG IAmb IAmb 20 40 24.8
comp=Z,36nm,0.8s
HODGE Hodges 44.50 95 IAmb IAmb 20 40 26.3
comp=Z,72nm,1.7s
UCCT U. Connecticut 44.53 80 IAMs_20 IAMs_20 20 56 03.2
comp=Z,4µm,19.0s
NRS Narsarsuaq 44.60 44 *i* P P 20 40 22.2 -2.0
P61A Hammonton 44.62 84 IAMs_20 IAMs_20 20 56 41.0
comp=Z,5µm,18.0s
G65A Princeton 44.69 73 P P 20 40 24.4 -0.7
G65A IAmb IAmb 20 40 26.9
comp=Z,76nm,2.0s
G65A IAMs_20 IAMs_20 20 59 19.0
comp=Z,4µm,19.0s
M63A Gales Ferry 44.90 80 IAMs_20 IAMs_20 20 57 56.0
comp=Z,4µm,18.0s
JSC Jenkinsville 45.01 95 IAmb IAmb 20 40 30.5
comp=Z,76nm,1.9s
T59A Double "B" Far 45.05 89 IAmb IAmb 20 40 31.0
comp=Z,85nm,1.7s
W57A Gilead 45.05 93 IAmb IAmb 20 40 30.9
comp=Z,66nm,1.4s
W57A IAMs_20 IAMs_20 21 00 11.1
comp=Z,5µm,18.0s
EMMW East Machias 45.08 73 IAMs_20 IAMs_20 20 56 30.3
comp=Z,4µm,22.0s
GGN Saint George 45.13 73 IAmb IAmb 20 40 32.2
comp=Z,67nm,1.7s
352A Blakely 45.15 100 P P 20 40 28.4 -0.5
BIRD Birdtown, Kers 45.17 94 IAmb IAmb 20 40 32.1
comp=Z,88nm,1.8s
L64A Middleborough 45.18 79 IAMs_20 IAMs_20 20 57 15.3
comp=Z,4µm,21.0s
R61A Willards 45.28 86 IAMs_20 IAMs_20 20 57 46.6
comp=Z,5µm,20.0s
451A Vernon 45.38 102 IAMs_20 IAMs_20 20 58 54.6
comp=Z,6µm,22.0s
SCO Scoresbysund 45.40 25 IAMs_20 IAMs_20 21 00 24.3
comp=Z,3µm,20.0s
LMN Caledonia Moun 45.69 70 IAmb IAmb 20 40 35.4
comp=Z,20nm,0.8s
X58A Rowland 45.85 93 IAMs_20 IAMs_20 20 57 36.3
comp=Z,4µm,18.0s
YSS Yuzhno-Sakhali 46.38 292 P P 20 40 38.8 +0.3
YSS IAMs_20 IAMs_20 21 01 25.4
comp=Z,2µm,19.0s
YSS Yuzhno-Sakhali 46.38 292 *c e* P P 20 40 40.1 +1.6
YSS *e* *SP *pwP* 20 40 47.1 -0.9
YSS *e* 20 42 30.1
YSS *e* S S 20 47 27.8 +3.1
YSS pmax pmax
comp=Z,400nm,5.0s
YSS pmax pmax
comp=Z,40nm,1.0s
YSS smax smax
comp=N,500nm,4.8s
YSS smax smax
comp=E,400nm,4.5s
YSS MLR MLR
comp=Z,2µm,15.0s
YSS MLR MLR
comp=N,700nm,14.0s
YSS MLR MLR
comp=E,2µm,16.0s
MOIG Morelia 46.80 127 IAMs_20 IAMs_20 21 00 07.7
comp=Z,4µm,21.0s
GRNR Gornyy 46.94 300⇑ *i* P P 20 40 43.9 +1.1
GRNR pmax pmax
comp=Z,40nm,0.9s
GRNR MLR MLR
comp=E,2µm,17.0s
GRNR MLR MLR
comp=N,770nm,18.0s
GRNR MLR MLR
comp=Z,1µm,14.0s
456A Hilliard 47.30 98 IAMs_20 IAMs_20 21 01 06.2
comp=Z,5µm,19.0s
JMIC Jan Mayen 47.77 19 LR LR 21 00 10.1
comp=Z,2µm,19.4s,baz=331,slow=35
UNM Universidad Na 48.00 124 IAMs_20 IAMs_20 21 01 00.1
comp=Z,4µm,19.0s
656A Willston 48.08 100 IAMs_20 IAMs_20 20 59 06.0
comp=Z,4µm,19.0s
ASAJ Asahikawa 48.41 290 P P 20 40 56.0 +1.7
comp=Z,20nm,0.8s,baz=2.1,slow=4.7,SNR=22
comp=Z,20nm,0.8s
ASAJ Asahikawa 48.41 290 P P 20 40 56.0 +1.7
ZEA Zeya 49.08 308 *e* P P 20 41 00.1 +0.8
ZEA *e* S S 20 47 58.5 -4.2
ZEA pmax pmax
comp=Z,180nm,5.5s
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,30nm,1.4s
ZEA smax smax
comp=E,200nm,8.3s
ZEA smax smax
comp=N,600nm,9.5s

ZEA MLR MLR
comp=E,900nm,20.0s
ZEA MLR MLR
comp=N,1μm,14.0s
ZEA MLR MLR
comp=Z,2μm,14.0s
ERM Erimo 49.60 287 P **P** **20 41 04.3 +0.9**
ERM Erimo 49.60 287 *ce*P **P** **20 41 06.5 +3.1**
ERM pmax pmax
comp=Z,77nm,1.3s
TLIG Tlapa 49.83 125 IAMs_20 IAMs_20 21 03 41.5
comp=Z,3μm,20.0s
BORG Borgarnes 49.90 30 LR LR 21 03 20.5
comp=Z,2μm,18.5s,baz=323,slow=38
BOD Bodaibo 51.40 319 *e*P **P** **20 41 17.1 +0.3**
BOD pmax pmax
comp=Z,107nm,1.7s
HEH HeiHe 51.45 305 *e*P **P** **20 41 17.2 -0.1**
HEH sP **pwP** **20 41 26.2 -0.7**
HEH S **S** **20 48 33.2 -2.7**
HEH SS **SS** **20 52 08.7 -2.5**
HEH pmax pmax
comp=Z,41nm,0.8s
HEH pmax pmax
comp=Z,380nm,3.7s
HEH LR LR
comp=Z,5μm,15.9s
HEH LR LR
comp=Z,5μm,16.0s
HEH LR LR
comp=Z,2μm,15.6s
061Z Ochoppi 51.73 101 IAMs_20 IAMs_20 21 01 21.8
comp=Z,3μm,19.0s
CMIG Matias Romero 51.93 121 LR LR 21 06 08.6
comp=Z,2μm,18.9s,baz=318,slow=39
ARCES ARCESS Array B 53.37 6 P **P** **20 41 29.9 -1.3**
ARCES IAmb IAmb 20 42 47.2
comp=Z,48nm,1.9s
ARCES ARCESS Array B 53.37 6 P **P** **20 41 31.2 0.0**
comp=Z,2.7nm,0.7s,baz=346,slow=5.9,SNR=10
ARCES LR LR 21 04 11.1
comp=Z,749nm,21.4s,baz=344,slow=36
comp=Z,2.7nm,0.7s
ARCES ARCESS Array B 53.37 6 P **P** **20 41 29.9 -1.3**
ARCES pmax pmax
comp=Z,48nm,1.9s
USRK Ussuriysk Ar. 53.69 297 P **P** **20 41 34.5 +0.6**
comp=Z,11nm,0.8s,baz=55,slow=7.5,SNR=10
comp=Z,11nm,0.8s
CAMR Camarioca 53.74 104 IAMs_20 IAMs_20 21 03 17.0
comp=Z,7μm,19.0s
CCIG Comitan 53.93 119 IAMs_20 IAMs_20 21 05 23.4
comp=Z,2μm,21.0s
H11N2 WAKE ISLAND Hy 53.99 249 T T 21 40 53.0
baz=30,slow=76,SNR=30
H11N3 WAKE ISLAND Hy 53.99 249 T T 21 40 31.3
baz=30,slow=76,SNR=108
H11N1 WAKE ISLAND Hy 54.01 249 T T 21 40 53.5
baz=30,slow=76,SNR=28
MDJ Mudanjiang 54.54 299 IAMs_20 IAMs_20 21 05 04.5
comp=Z,2μm,19.0s
MDJ Mudanjiang 54.54 299 P **P** **20 41 40.9 +0.7**
MDJ S **S** **20 49 16.0 -2.1**
MDJ sS pS 20 49 22.7 -1.5
MDJ SS **SS** **20 52 58.5 -1.6**
MDJ pmax pmax
comp=Z,11nm,0.8s
MDJ pmax pmax
comp=Z,230nm,9.3s
MDJ LR LR
comp=Z,3μm,17.9s
MDJ LR LR
comp=Z,2μm,15.3s
MDJ LR LR
comp=Z,3μm,19.4s
BNX BinXian 54.75 301 ⇑P **P** **20 41 41.2 -0.4**
BNX PcP **PcP** **20 42 44.4 +0.4**
BNX PP **PP** **20 43 43.0 -1.0**
BNX S **S** **20 49 21.9 +1.0**
BNX pmax pmax
comp=Z,11nm,1.0s
BNX LR LR
comp=Z,3μm,15.9s
BNX LR LR
comp=Z,2μm,14.6s
BNX LR LR
comp=Z,1μm,15.7s
H11S1 WAKE ISLAND Hy 55.11 249 T T 21 42 53.7
baz=30,slow=76,SNR=40
H11S2 WAKE ISLAND Hy 55.12 249 T T 21 42 22.9
baz=30,slow=76,SNR=38
H11S3 WAKE ISLAND Hy 55.13 249 T T 21 42 32.1
baz=30,slow=76,SNR=33
MSHR Mys Shultsa 55.29 296 ⇑*i*P **P** **20 41 47.2 +1.6**
MSHR pmax pmax
comp=Z,15nm,0.8s
BBSR BB Station 55.51 82 IAMs_20 IAMs_20 21 02 58.7
comp=Z,2μm,20.0s
HIA Hailar 55.55 309 IAmb IAmb 20 41 50.5
comp=Z,22nm,0.9s
APA Apatity 55.70 3 ⇓*i*P **P** **20 41 45.3 -2.8**
APA *e* 20 43 51.0
APA *i*S **S** **20 49 29.5 -3.5**
APA *i* 20 51 35.2
APA *i*SS **SS** **20 53 14.4 -2.9**
APA MLR MLR
comp=Z,2μm,26.9s
CIT Chita 55.97 314 *e*P **P** **20 41 51.8 +1.4**
CIT *e* 20 42 48.0
CIT *e* 20 45 14.2
CIT *e* 20 49 45.4
CIT pmax pmax
comp=Z,148nm,3.2s
MAJO Matsushiro 56.22 286 P **P** **20 41 52.5 +0.1**
MAJO IAmb IAmb 20 41 56.6
comp=Z,35nm,1.2s
MAJO Matsushiro 56.22 286 ⇓*i*P **P** **20 41 53.7 +1.3**
MAJO pmax pmax
comp=Z,19nm,0.9s
MJAR Matsushiro Arr 56.22 286 P **P** **20 41 52.1 -0.3**
MJAR Matsushiro Arr 56.22 286 P **P** **20 41 54.0 +1.6**
comp=Z,8.1nm,0.9s,baz=15,slow=6.0,SNR=26
MJAR LR LR 21 06 12.3
comp=Z,811nm,20.9s,baz=49,slow=36
comp=Z,8.1nm,0.9s
MJAR Matsushiro Arr 56.22 286 P **P** **20 41 52.1 -0.3**
MJAR pmax pmax
comp=Z,24nm,1.4s
MJB9 Matsu-Tunnel 56.22 286 IAmb IAmb 20 41 56.6
comp=Z,34nm,1.2s
MTO3 Montecristo 56.89 117 IAMs_20 IAMs_20 21 08 25.7
comp=Z,2μm,19.0s
CN2 Changchun 57.12 301 P **P** **20 41 59.1 +0.4**
CN2 S **S** **20 49 51.5 -1.0**
CN2 SS **SS** **20 53 40.2 -0.5**
CN2 pmax pmax
comp=Z,40nm,0.9s
CN2 pmax pmax
comp=Z,140nm,3.5s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,2μm,15.0s
JHJ Hachijo jima 2 57.99 282 P **P** **20 42 05.2 +0.3**
comp=Z,50nm,0.8s,baz=60,slow=20,SNR=1.9
comp=Z,50nm,0.8s
TGUH Tegucigalpa,Un 58.21 115 IAMs_20 IAMs_20 21 06 34.5
comp=Z,2μm,22.0s
CHIV Chivirico 58.91 101 IAMs_20 IAMs_20 21 06 25.6
comp=Z,4μm,19.0s
NMDO Nuevo Mundo 59.20 100 IAMs_20 IAMs_20 21 07 32.3
comp=Z,7μm,18.0s
IRK Irkutsk 59.25 320 *e*P **P** **20 42 12.8 -0.6**
IRK *e*S **S** **20 50 15.0 -5.1**
IRK pmax pmax
comp=Z,100nm,3.2s
SNY Shenyang 59.52 301 ⇑P **P** **20 42 16.5 +1.1**
SNY S **S** **20 50 22.5 -1.3**
SNY pmax pmax
comp=Z,11nm,0.5s
SNY pmax pmax
comp=Z,130nm,4.2s
SNY LR LR
comp=Z,1μm,12.3s
SNY LR LR
comp=Z,4μm,13.3s
SNY LR LR
comp=Z,1μm,18.0s
HERN Volcan Telica 59.67 116 IAMs_20 IAMs_20 21 10 05.2
comp=Z,1μm,19.0s
MTDJ Mount Denham 59.74 104 IAMs_20 IAMs_20 21 05 13.9
comp=Z,3μm,20.0s
SIUN Universidad Ur 59.75 113 IAMs_20 IAMs_20 21 10 13.1
comp=Z,2μm,19.0s
NC204 NORSAR Array S 59.86 16 IAmb IAmb 20 43 35.1
comp=Z,32nm,1.4s
NC303 NORSAR Array S 60.00 16 IAmb IAmb 20 42 20.3
comp=Z,16nm,0.8s
NB2 NORSAR Subarra 60.15 16 P **P** **20 42 19.6 +0.1**
comp=Z,3.4nm,0.7s,baz=343,slow=6.9
NOA NORSAR Array B 60.15 16 P **P** **20 42 19.9 +0.3**
comp=Z,4.7nm,0.7s,baz=344,slow=6.9,SNR=29
comp=Z,4.7nm,0.7s
BILN Bilwi Airport 60.18 112 IAMs_20 IAMs_20 21 10 26.3
comp=Z,2μm,18.0s
NAO01 NORSAR Array S 60.29 16 IAmb IAmb 20 43 06.3
comp=Z,30nm,1.3s
JMN Monobe 60.65 287 IAmb IAmb 20 42 30.0
comp=Z,22nm,1.1s
KSRS Korea Array 60.80 294 P **P** **20 42 26.1 +1.8**
comp=Z,12nm,0.8s,baz=40,slow=6.1,SNR=36
comp=Z,12nm,0.8s
KSAR Wonju Array Be 60.83 294 P **P** **20 42 25.1 +0.6**
KSAR Wonju Array Be 60.83 294 P **P** **20 42 25.1 +0.6**
MOY Mondy 60.86 322 *e*P **P** **20 42 27.4 +2.8**
MOY pmax pmax
comp=Z,78nm,1.6s
ZAK Zakamensk 61.14 319 *e*P **P** **20 42 27.0 +0.5**
ZAK pmax pmax
comp=Z,26nm,1.8s
KONO Kongsberg 61.22 17 IAMs_20 IAMs_20 21 10 12.5
comp=Z,2μm,19.0s
ESPN Las Esperanzas 61.29 114 IAMs_20 IAMs_20 21 13 13.8
comp=Z,2μm,18.0s
XLT XiLinHaoTe 61.31 307 *e*P **P** **20 42 29.5 +1.8**
XLT sP pwP 20 42 39.2 +1.8
XLT S **S** **20 50 51.0 +4.2**
XLT pmax pmax
comp=Z,17nm,0.8s
XLT pmax pmax
comp=Z,310nm,4.9s
XLT LR LR
comp=Z,6μm,17.1s
XLT LR LR
comp=Z,1μm,19.7s
HFS Hagfors 61.38 15 P **P** **20 42 27.9 0.0**
comp=Z,4.6nm,0.6s,baz=345,slow=4.6,SNR=23
comp=Z,4.6nm,0.6s
FINES FINESS Array B 61.42 8 P **P** **20 42 28.2 +0.1**
comp=Z,3.9nm,0.6s,baz=5.0,slow=6.9,SNR=17
FINES LR LR 21 08 42.7
comp=Z,838nm,21.7s,baz=356,slow=36
comp=Z,3.9nm,0.6s
PRVC Isla de Provid 61.78 110 IAMs_20 IAMs_20 21 10 36.5
comp=Z,2μm,18.0s
ULN Ulaanbaatar 61.82 315 P **P** **20 42 31.1 -0.2**
ULN IAmb IAmb 20 42 35.0
comp=Z,25nm,0.9s
ULN Ulaanbaatar 61.82 315 *ce*P **P** **20 42 32.8 +1.6**
ULN pmax pmax
comp=Z,27nm,0.9s
SNART Snartemo 62.06 19 *i*P **P** **20 42 33.7 +1.3**
STRU Stroemstad 62.06 17 *i*P **P** **20 42 32.7 +0.3**
SONM Songino Array 62.10 316 P **P** **20 42 34.3 +1.2**
SONM IAmb IAmb 20 42 38.0
comp=Z,31nm,1.0s
SONM Songino Array 62.10 316 P **P** **20 42 35.1 +2.1**
comp=Z,20nm,0.9s,baz=46,slow=6.6,SNR=95
SONM LR LR 21 10 17.9
comp=Z,3μm,21.4s,baz=34,slow=37
comp=Z,20nm,0.9s
SONM Songino Array 62.10 316 P **P** **20 42 34.3 +1.2**
SONM pmax pmax
comp=Z,31nm,1.0s
HOMB Homborsund 62.35 18 *i*P **P** **20 42 35.3 +1.0**
SDDR Presa de Saban 62.49 97 IAmb IAmb 20 42 48.4
comp=Z,14nm,0.8s
SDDR IAMs_20 IAMs_20 21 07 07.1
comp=Z,3μm,19.0s
KLMR Klimovskoe 62.55 0 *e*P **P** **20 42 35.3 -0.3**
KLMR S **S** **20 51 00.0 -1.7**
KLMR pmax pmax
comp=Z,46nm,1.5s
KLMR MLR MLR
comp=Z,1μm,16.0s
JTS Las Juntas de 62.59 115 IAMs_20 IAMs_20 21 12 17.5
comp=Z,2μm,20.0s
JTS Las Juntas de 62.59 115 LR LR 21 12 37.3
comp=Z,2μm,18.4s,baz=320,slow=39
EKA Eskdalemuir Ar 62.65 26 P **P** **20 42 36.0 -0.4**
comp=Z,8.3nm,1.1s,baz=310,slow=4.3,SNR=6.8
comp=Z,8.3nm,1.1s
DL2 Dalian 62.73 300 P **P** **20 42 39.2 +2.0**
DL2 pmax pmax
comp=Z,78nm,1.7s
DL2 pmax pmax
comp=Z,300nm,5.1s
DL2 LR LR
comp=Z,2μm,16.1s
DL2 LR LR
comp=Z,3μm,13.7s
DL2 LR LR
comp=Z,2μm,18.4s
TJOU Tjoern 63.09 17 *i*P **P** **20 42 40.0 +0.7**
HDC Heredia 63.25 115 IAMs_20 IAMs_20 21 11 40.1
comp=Z,2μm,20.0s
BORU Boraas 63.65 16 *i*P **P** **20 42 43.5 +0.4**
ZAA0 Zalesovo Array 63.68 332 IAmb IAmb 20 42 55.2
comp=Z,35nm,1.2s
ZAA0 IAMs_20 IAMs_20 21 12 37.3
comp=Z,1μm,20.0s
ZALV Zalesovo Beam 63.68 332 P **P** **20 42 42.4 -0.9**
ZALV Zalesovo Beam 63.68 332 P **P** **20 42 44.2 +0.9**
comp=Z,12nm,0.9s,baz=19,slow=6.3,SNR=33
ZALV LR LR 21 12 48.5
comp=Z,1μm,19.9s,baz=12,slow=38
comp=Z,12nm,0.9s
DSB Dublin 63.72 29 IAMs_20 IAMs_20 21 08 24.8
comp=Z,3μm,21.0s
ONAU Onsala 63.75 17 *i*P **P** **20 42 44.1 +0.5**
FABU Falkenberg 64.25 16 *i*P **P** **20 42 46.4 -0.6**
BJI Beijing 64.36 304 P **P** **20 42 50.1 +2.2**
BJI PP **PP** **20 45 06.3 -2.8**
BJI S **S** **20 51 30.5 +5.6**
BJI pmax pmax
comp=Z,6.0nm,1.2s
BJI pmax pmax
comp=Z,79nm,4.1s
BJI LR LR
comp=Z,1μm,17.7s
BJI LR LR
comp=Z,1μm,17.1s
BJI LR LR
comp=Z,1μm,15.9s
BJT Baijiatuan 64.38 304 IAMs_20 IAMs_20 21 13 20.3
comp=Z,1μm,19.0s
KIRV Kirov 64.60 355 LR LR 21 13 04.4
comp=Z,1μm,19.7s,baz=9.4,slow=38
KIRV Kirov 64.60 355 *ce*P **P** **20 42 51.5 +2.3**
DEL Delary 64.94 16 *i*P **P** **20 42 51.3 -0.2**
BRU2 Volcan 65.00 114 IAMs_20 IAMs_20 21 13 42.3
comp=Z,3μm,19.0s
BJUU Bjuv 65.19 16 *i*P **P** **20 42 53.2 +0.1**
SVE Sverdlovsk 65.42 348 *e*P **P** **20 42 55.2 +0.6**
SVE *e*S **S** **20 51 38.8 +1.3**
SVE pmax pmax
comp=Z,39nm,1.5s
SVE MLR MLR
comp=Z,1μm,18.0s
AOPR Arecibo Observ 65.48 94 IAMs_20 IAMs_20 21 09 58.0
comp=Z,2μm,21.0s
TAOE Nuku Hiva Isla 65.56 181 *e*LQ LQ 20 59 32.2
comp=Z,8μm,27.0s
TAOE *e*LR LR 21 02 26.8
comp=Z,2μm,30.1s
CRPR Cabo Rojo, PR 65.56 94 IAMs_20 IAMs_20 21 11 30.2
comp=Z,2μm,18.0s
HHC Hu-ho-hao-te 65.74 308 *e*P **P** **20 42 56.9 -0.2**
HHC sP sP 20 43 02.7 -1.4
HHC S **S** **20 51 34.2 -8.0**
HHC sS pS 20 51 46.8 -1.7
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,160nm,5.1s
HHC LR LR
comp=Z,6μm,16.8s
HHC LR LR
comp=Z,8μm,17.2s
HHC LR LR
comp=Z,2μm,21.0s
CELP Cerrillos 65.80 94 IAMs_20 IAMs_20 21 13 19.4
comp=Z,2μm,19.0s
SJG San Juan 66.00 94 IAMs_20 IAMs_20 21 11 32.8
comp=Z,2μm,22.0s
SJG San Juan 66.00 94 LR LR 21 11 46.3
comp=Z,1μm,21.2s,baz=306,slow=36
ARTI Arti 66.09 349 P **P** **20 42 58.3 -0.7**
ARTI IAMs_20 IAMs_20 21 14 27.9
comp=Z,2μm,20.0s
ARTI Arti 66.09 349 LR LR 21 14 49.6
comp=Z,1μm,19.6s,baz=11,slow=39
ARTI Arti 66.09 349 *d*iP **P** **20 42 58.9 -0.1**
ARTI 20 43 32.7
ARTI S **S** **20 51 46.8 +1.0**
ARTI 20 52 47.4
ARTI SS **SS** **20 56 03.8 +3.6**
ARTI SSS SSS 20 59 01.6
ARTI pmax pmax
comp=Z,26nm,0.9s
ARTI MLR MLR
comp=Z,2μm,19.0s
BCIP Isla Barro Col 66.13 111 IAMs_20 IAMs_20 21 12 51.8
comp=Z,2μm,20.0s
PDPR Patillas Dam, 66.15 94 IAMs_20 IAMs_20 21 11 32.6
comp=Z,2μm,18.0s
BTO Baotou 66.60 309 *e*P **P** **20 43 01.0 -1.6**
BTO S **S** **20 51 51.5 -1.1**
BTO pmax pmax
comp=Z,13nm,0.5s
BTO pmax pmax
comp=Z,380nm,4.2s
BTO LR LR
comp=Z,8μm,13.7s
BTO LR LR
comp=Z,12μm,14.0s
BTO LR LR
comp=Z,13μm,16.5s
RGN Rugen 66.71 17 IAMs_20 IAMs_20 21 11 20.6
comp=Z,2μm,22.0s
TIA Tai'an 67.02 301 P **P** **20 43 06.7 +1.5**
TIA S **S** **20 52 02.4 +4.8**
TIA SS **SS** **20 56 15.0 -0.6**
TIA pmax pmax
comp=Z,8.0nm,1.0s
TIA LR LR
comp=Z,1μm,17.8s
TIA LR LR
comp=Z,3μm,18.4s
TIA LR LR
comp=Z,3μm,19.0s
PABE Paberze 67.12 10 IAMs_20 IAMs_20 21 10 45.6
comp=Z,1μm,20.0s
HNS HongShan 67.17 304 ⇓P **P** **20 43 05.3 -0.8**
HNS S **S** **20 51 59.7 +0.4**
HNS pmax pmax
comp=Z,39nm,0.9s
HNS pmax pmax
comp=Z,260nm,4.5s
HNS LR LR
comp=Z,620nm,15.1s
HNS LR LR
comp=Z,3μm,16.5s
HNS LR LR
comp=Z,3μm,15.3s
SMRC Santa Marta, M 67.37 105 IAMs_20 IAMs_20 21 14 55.1
comp=Z,2μm,18.0s
MOS Moscow 67.66 2 *e*P P 20 43 01.2 -7.7
MOS *e*S **S** **20 52 00.7 -3.9**
MOS *e* 20 53 02.0
MOS smax smax
comp=E,500nm,4.6s
MOS MLR MLR
comp=N,700nm,16.0s
MOS MLR MLR
comp=Z,800nm,16.0s
BVAR Borovoye Array 67.67 341 P **P** **20 43 09.6 +0.5**
comp=Z,7.6nm,0.8s,baz=28,slow=4.2,SNR=22
BVAR LR LR 21 17 09.7
comp=Z,2μm,19.8s,baz=22,slow=40
comp=Z,7.6nm,0.8s
IBBN Ibbenburen 67.87 21 *e*P **P** **20 43 11.4 +1.1**
comp=Z,4.1nm,0.8s,baz=341,slow=6.0
TIY Taiyuan 67.94 306 P **P** **20 43 15.0 +3.9**
TIY PcP **PcP** **20 43 36.3 -1.1**
TIY S **S** **20 52 13.0 +4.2**
TIY pmax pmax
comp=Z,28nm,0.4s
TIY LR LR
comp=Z,3μm,11.0s
TIY LR LR
comp=Z,2μm,13.1s
TIY LR LR
comp=Z,2μm,19.9s
NACGM Naroch 67.97 8 *e*P **P** **20 43 09.8 -1.1**
SABA Saba 67.99 91 IAMs_20 IAMs_20 21 11 08.3
comp=Z,2μm,21.0s
KURK Kurchatov 68.16 335 P **P** **20 43 11.3 -0.9**
KURK IAmb IAmb 20 43 29.2
comp=Z,45nm,1.5s
KURK Kurchatov 68.16 335 IAMs_20 IAMs_20 21 15 17.5
comp=Z,2μm,21.0s
KURK Kurchatov 68.16 335 P **P** **20 43 11.3 -0.9**
KURK pmax pmax
comp=Z,45nm,1.5s
KURK MLR MLR
comp=Z,2μm,21.0s
OBN Obninsk 68.26 2 IAMs_20 IAMs_20 21 14 55.7
comp=Z,1μm,19.0s
OBN Obninsk 68.26 2 LR LR 21 15 19.1
comp=Z,981nm,19.6s,baz=314,slow=38
OBN Obninsk 68.26 2 ⇓P **P** **20 43 11.8 -0.9**
OBN Obninsk 68.26 2 ⇑*i*P **P** **20 43 13.4 +0.7**
OBN *e* 20 45 42.7
OBN *e*PPP PPP 20 47 24.1
OBN *i*SS SS 20 56 34.8 +1.1
OBN pmax pmax
comp=Z,13nm,0.7s
OBN MLR MLR
comp=Z,835nm,15.0s
KURBB Kurchatov Arra 68.27 335 P **P** **20 43 13.2 +0.3**
comp=Z,3.7nm,0.7s,baz=22,slow=5.9,SNR=29
KURBB PP **PP** **20 45 43.6 +0.8**
comp=Z,3.0nm,0.9s,baz=26,slow=7.7,SNR=5.9
KURBB LR LR 21 15 41.9
comp=Z,2μm,20.5s,baz=22,slow=38
comp=Z,3.7nm,0.7s
MNK Minsk 68.45 8 *i*P **P** **20 43 14.7 +0.8**
comp=E,16nm,1.0s
MNK *i*P **P** **20 43 14.7 +0.8**
comp=N,8.0nm,0.7s
MNK *i*P **P** **20 43 14.7 +0.8**
comp=Z,20nm,0.8s,baz=353
MNK *i*PP **PP** **20 45 45.0 +0.7**
MNK *i*PPP PPP 20 47 22.6
MNK *i*S **S** **20 52 14.2 +0.1**
MNK *i*SS **SS** **20 56 44.5 +7.9**
MNK *i*SSS SSS 21 00 08.7
MNK *i*LQ LQ 21 09 06.8
MNK *i*LR LR 21 12 21.2
MNK *i*LRM MLR 21 14 49.9
comp=Z,2μm,17.4s
MNK *i*LRM MLR 21 14 52.8
comp=E,822nm,15.4s
MNK Minsk 68.45 8 *i*P **P** **20 43 14.6 +0.7**
MNK *i* 20 45 44.9
MNK *i*PPP PPP 20 47 22.6
MNK *i*S **S** **20 52 14.2 0.0**
MNK *i*SS **SS** **20 56 44.5 +7.8**
MNK pmax pmax
comp=N,8.0nm,0.7s
MNK pmax pmax
comp=Z,20nm,0.8s
MNK pmax pmax
comp=E,16nm,1.0s
MNK MLR MLR
comp=N,982nm,18.0s

MNK MLR MLR
comp=Z,2μm,17.0s
MNK MLR MLR
comp=E,822nm,15.0s
FLTG Flechtingen 68.49 19 *eP* **P 20 43 15.2 +1.0**
comp=E,5.5nm,0.8s,baz=341,slow=6.0
SUW Suwalki 68.52 11 *eP* **P 20 43 14.4 +0.1**
SUW Suwalki 68.52 11 IAMs_20 IAMs_20 21 14 16.5
comp=Z,2μm,18.0s
GKP Gorka Klasztor 68.53 15 *eP* **P 20 43 15.6 +1.2**
ASSE Asse, Remlinge 68.58 19 *eP* **P 20 43 15.6 +0.9**
comp=Z,4.3nm,0.8s,baz=341,slow=6.0
BUG Bochum--Univer 68.59 22 *eP* **P 20 43 15.6 +0.8**
comp=Z,8.9nm,0.7s,baz=341,slow=6.0
ANWB Willy Bob 68.75 90 IAMs_20 IAMs_20 21 12 49.3
comp=Z,2μm,21.0s
CLZ Clausthal 68.81 19 *eP* **P 20 43 17.1 +0.8**
comp=Z,8.1nm,0.7s,baz=341,slow=6.0
GTTG Gottingen 69.02 20 *eP* **P 20 43 18.1 +0.6**
baz=341,slow=6.0
JOW Kunigami 69.05 287 P **P 20 43 19.4 +1.4**
comp=Z,26nm,0.9s,baz=115,slow=11,SNR=4.6
JOW LR LR 21 12 59.1
comp=Z,402nm,20.9s,baz=55,slow=35
comp=Z,26nm,0.9s
BSTI Sart Tilman 69.05 23 *dP* **P 20 43 19.2 +1.5**
BGES Gesves 69.14 23 *dP* **P 20 43 19.5 +1.2**
BTNL Ternell 69.17 23 *dP* **P 20 43 20.3 +1.8**
SSE Sheshan 69.22 295 P **P 20 43 19.9 +0.8**
SSE S **S** **20 52 27.0 +3.1**
SSE pmax pmax
comp=Z,4.0nm,0.5s
SSE LR LR
comp=Z,380nm,15.3s
SSE LR LR
comp=Z,700nm,15.3s
BHOU Houvegnez 69.36 23 *dP* **P 20 43 20.2 +0.5**
ZSN Zaisan 69.58 330 ⇈ *iP* **P 20 43 22.1 +1.0**
comp=Z,17nm,0.9s
ZSN *eS* **S 20 52 29.9 +2.1**
ZSN Zaisan 69.58 330 *c iP* **P 20 43 22.1 +1.0**
ZSN *eS* **S 20 52 29.9 +2.1**
ZSN pmax pmax
comp=Z,17nm,0.9s
NJ2 Nanjing 69.59 297 ⇈P **P 20 43 22.8 +1.5**
NJ2 sP **pwP 20 43 28.7 -2.3**
NJ2 S **S 20 52 33.4 +5.2**
NJ2 sS sS 20 52 43.9 +7.1
NJ2 SS **SS 20 56 54.1 -1.3**
NJ2 pmax pmax
comp=Z,29nm,1.0s
NJ2 pmax pmax
comp=Z,240nm,4.7s
NJ2 LR LR
comp=Z,2μm,15.9s
NJ2 LR LR
comp=Z,2μm,15.3s
NJ2 LR LR
comp=Z,1μm,19.1s
NEUB Neuenburg 69.67 19 *eP* **P 20 43 22.5 +1.0**
comp=Z,9.4nm,0.8s,baz=341,slow=6.0
UBBA Unterbreizbach 69.72 20 *eP* **P 20 43 22.9 +1.2**
comp=Z,2.2nm,0.7s,baz=341,slow=6.0
CLL Collm 69.78 18 IAMs_20 IAMs_20 21 13 30.8
comp=Z,1μm,19.0s
CLL Collm 69.78 18 *i* P **P 20 43 22.9 +0.7**
CLL *eS* **S 20 52 33.0 +3.0**
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL MLR MLR
comp=Z,1μm,23.4s
CLL Collm 69.78 18 *eP* **P 20 43 23.1 +0.9**
comp=Z,2.9nm,0.7s,baz=341,slow=6.0
TNS Taunus Mts 69.99 21 *eP* **P 20 43 24.1 +0.5**
baz=341,slow=6.0
WLF Walferdange 70.05 23 *eP* **P 20 43 23.9 +0.1**
baz=341,slow=6.0
BRZS Berezniki 70.14 338 *eP* **P 20 43 25.1 +0.5**
BRZS Berezniki 70.14 338 *eP* **P 20 43 25.0 +0.5**
CBE Ff, Capester 70.15 91 IAMs_20 IAMs_20 21 17 26.5
comp=Z,2μm,20.0s
MOX Moxa 70.18 19 *eP* **P 20 43 26.0 +1.3**
comp=Z,3.1nm,0.8s,baz=341,slow=6.0
GDSD La Dsirade Is 70.25 90 IAMs_20 IAMs_20 21 13 54.0
comp=Z,2μm,20.0s
BRG Berggiesshubel 70.36 17 *eP* **P 20 43 27.6 +1.8**
comp=Z,5.0nm,0.8s,baz=341,slow=6.0
BRG Berggiesshubel 70.36 17 *i* P **P 20 43 29.4 +3.6**
BRG Amp 20 43 31.9
comp=Z,8.4nm,1.0s
BRG Berggiesshubel 70.36 17 S **S 20 52 42.0 +5.2**
BRG Berggiesshubel 70.36 17 SS SS 20 57 08.0 +1.8
MAGL Barre de l'ile 70.43 91 IAMs_20 IAMs_20 21 14 50.8
comp=Z,2μm,19.0s
LYN LuoYang 70.54 304 ⇓P **P 20 43 29.7 +2.5**
LYN S **S 20 52 42.2 +2.8**
LYN sS pS 20 52 44.4 -1.4
LYN pmax pmax
comp=Z,94nm,1.1s
LYN pmax pmax
comp=Z,500nm,4.0s
LYN LR LR
comp=Z,3μm,14.1s
LYN LR LR
comp=Z,3μm,14.1s
LYN LR LR
comp=Z,2μm,17.1s
TANN Tannenbergstha 70.55 19 *eP* **P 20 43 28.3 +1.2**
comp=Z,2.2nm,0.8s,baz=341,slow=6.0
RICC Richard 70.70 17 *eP* **P 20 43 30.2 +2.3**
RICC AMS AMS 21 13 30.0
comp=Z,1μm,19.2s
KSP Ksiaz 70.76 16 *eP* **P 20 43 29.8 +1.6**
PVCC Panska Ves 70.79 17 *eP* **P 20 43 29.8 +1.4**
PVCC *eS* **S 20 52 45.7 +3.9**
PVCC MLR MLR
comp=Z,1μm,13.4s
PVCC Panska Ves 70.79 17 *eP* **P 20 43 29.8 +1.4**
PVCC *eS* **S 20 52 45.7 +3.9**
PVCC AMS AMS 21 14 30.0
comp=Z,1μm,13.4s
GUMO Guam 70.81 265 LR LR 21 07 29.6
comp=Z,243nm,20.6s,baz=31,slow=30
BELG Belogornoye 70.87 355 *c iP* **P 20 43 28.9 +0.1**
BELG pmax pmax
comp=Z,8.0nm,0.9s
MK31 Makanchi Array 70.88 331 *c iP* **P 20 43 29.1 0.0**
MKAR Makanchi Array 70.88 331 P P **20 43 28.9 -0.2**
MKAR Makanchi Array 70.88 331 P P **20 43 29.5 +0.4**
comp=Z,15nm,0.9s,baz=39,slow=5.4,SNR=55
MKAR PP **PP 20 46 06.3 +0.8**
comp=Z,3.0nm,0.8s,baz=41,slow=7.7,SNR=3.2
MKAR LR LR 21 18 23.1
comp=Z,2μm,19.0s,baz=358,slow=39
comp=Z,15nm,0.9s
MANZ Manzenberg 70.90 19 *eP* **P 20 43 29.8 +0.7**
comp=Z,0.3nm,0.8s,baz=341,slow=6.0
MAKZ Makanchi 70.95 331 IAMs_20 IAMs_20 21 18 14.0
comp=Z,2μm,19.0s
MAKZ Makanchi 70.95 331 P P **20 43 30.0 +0.5**
CHVC Chvalec 70.97 16 *eP* **P 20 43 30.9 +1.4**
CHVC *eS* **S 20 52 44.8 +0.8**
CHVC MLR MLR
comp=Z,2μm,18.8s
CHVC Chvalec 70.97 16 *eP* **P 20 43 30.9 +1.4**
CHVC *eS* **S 20 52 44.8 +0.8**
CHVC AMS AMS 21 14 50.0
comp=Z,2μm,18.8s
GRA1 Grafenberg Arr 71.02 20 IAMs_20 IAMs_20 21 15 27.7
comp=Z,2μm,20.0s
GRF Grafenberg Arr 71.02 20 *eP* **P 20 43 30.6 +0.7**
comp=Z,3.9nm,0.6s,baz=341,slow=6.0
OSTC Ostas 71.02 16 *eP* **P 20 43 31.0 +1.1**
OSTC *eS* **S 20 52 45.3 +0.7**
OSTC MLR MLR
comp=Z,2μm,18.0s
OSTC Ostas 71.02 16 *eP* **P 20 43 31.0 +1.1**
OSTC *eS* **S 20 52 45.3 +0.7**
OSTC AMS AMS 21 15 00.0
comp=Z,2μm,18.0s
GRFO Grafenberg 71.03 20 IAMs_20 IAMs_20 21 15 26.7
comp=Z,2μm,20.0s
UPC Upice 71.04 16 *eP* **P 20 43 31.2 +1.2**
UPC *eS* **S 20 52 45.6 +0.9**
UPC MLR MLR
comp=Z,1μm,16.6s
UPC Upice 71.04 16 *eP* **P 20 43 31.2 +1.2**
UPC *eS* **S 20 52 45.6 +0.9**
UPC AMS AMS 21 15 00.0
comp=Z,1μm,16.6s
ROTZ Rotzenmuhle 71.13 19 *eP* **P 20 43 31.3 +0.8**
comp=Z,0.5nm,0.8s,baz=341,slow=6.0
SDV Santo Domingo 71.18 103 IAMs_20 IAMs_20 21 13 32.1
comp=Z,2μm,20.0s
PRA Prague 71.22 17 *eS* **S 20 52 48.7 +2.0**
PRA AMS AMS 21 13 30.0
comp=Z,1μm,18.8s
DPC Dobruska-Polom 71.24 16 *eP* **P 20 43 32.4 +1.2**
DPC *eS* **S 20 52 48.0 +0.8**
DPC MLR MLR
comp=Z,1μm,16.2s
DPC Dobruska-Polom 71.24 16 *eP* **P 20 43 32.4 +1.2**
DPC *eS* **S 20 52 48.0 +0.8**
DPC AMS AMS 21 16 00.0
comp=Z,1μm,16.2s
PRU Pruhonice 71.31 17 *eP* **P 20 43 32.8 +1.2**
PRU *eS* **S 20 52 50.6 +2.7**
PRU MLR MLR
comp=Z,1μm,18.4s
PRU Pruhonice 71.31 17 *eP* **P 20 43 32.8 +1.2**
PRU *eS* **S 20 52 50.6 +2.7**
PRU AMS AMS 21 13 40.0
comp=Z,1μm,18.4s
SVN Savane Anatole 71.40 91 IAMs_20 IAMs_20 21 12 41.6
comp=Z,2μm,20.0s
FDF Fort de France 71.50 91 IAMs_20 IAMs_20 21 12 45.2
comp=Z,2μm,20.0s
STU Stuttgart 71.52 21 IAMs_20 IAMs_20 21 15 07.8
comp=Z,2μm,18.0s
KRLC Kraliky 71.58 16 *eP* **P 20 43 34.3 +1.0**
KRLC MLR MLR
comp=Z,1μm,21.6s
KRLC Kraliky 71.58 16 *eP* **P 20 43 34.3 +1.0**
KRLC AMS AMS 21 13 40.0
comp=Z,1μm,21.6s
ILAM Ilet Lapin Mar 71.61 91 IAMs_20 IAMs_20 21 11 24.2
comp=Z,2μm,22.0s
ECH Echery 71.63 23 IAMs_20 IAMs_20 21 16 30.0
comp=Z,2μm,18.0s
GTA Gaotai 71.76 315 *eP* **P 20 43 35.5 +0.8**
GTA sP pwP 20 43 45.5 +1.1
GTA S S 20 52 44.3 -9.4
GTA pmax pmax
comp=Z,14nm,0.8s
GTA LR LR
comp=Z,3μm,20.3s
GTA LR LR
comp=Z,4μm,19.9s
GTA LR LR
comp=Z,3μm,20.7s
BFO Black Forest 71.77 22 IAMs_20 IAMs_20 21 16 55.5
comp=Z,1μm,18.0s
BFO Black Forest 71.77 22 *eP* **P 20 43 34.2 -0.2**
baz=341,slow=6.0
WET Wettzell 71.85 19 *eP* **P 20 43 35.7 +0.8**
comp=Z,3.3nm,0.9s,baz=341,slow=6.0
OJC Ojcow 71.86 14 *eP* **P 20 43 35.5 +0.7**
STEB Steborice 71.86 15 *eP* **P 20 43 35.6 +0.7**
MPOM Mont Pois Mar 71.89 91 IAMs_20 IAMs_20 21 13 31.6
comp=Z,2μm,21.0s
MORC Moravsky Berou 71.98 15 *eP* **P 20 43 35.4 -0.3**
MORC Moravsky Berou 71.98 15 ⇈P **P 20 43 36.6 +0.9**
MORC Moravsky Berou 71.98 15 P P **20 43 36.6 +0.9**
KHC Kasperske Hory 71.98 18 *ceP* **P 20 43 38.1 +2.4**
KHC pmax pmax
comp=Z,12nm,1.3s
KHC Kasperske Hory 71.98 18 *eP* **P 20 43 37.2 +1.5**
KHC *ePCP* **PcP 20 43 55.5 +1.3**
KHC *eS* **S 20 52 59.4 +3.7**
KHC AMS AMS 21 15 50.0
comp=Z,1μm,17.3s
AKTO Aktyubinsk 72.00 348 LR LR 21 19 28.7
comp=Z,750nm,18.5s,baz=38,slow=40
OKC Ostrava-Krasne 72.01 15 *eS* **S 20 52 59.4 +3.5**
OKC AMS AMS 21 18 20.0
comp=Z,1μm,14.1s
WMQ Urumqi 72.05 326 *eP* **P 20 43 38.5 +2.3**
WMQ S **S 20 53 00.6 +3.8**
WMQ pmax pmax
comp=Z,12nm,1.5s
WMQ pmax pmax
comp=Z,200nm,4.5s
WMQ LR LR
comp=Z,2μm,18.7s
WMQ LR LR
comp=Z,2μm,17.3s
WMQ LR LR
comp=Z,2μm,20.1s
TREC Trest 72.14 17 *eS* **S 20 53 02.0 +4.5**
TREC AMS AMS 21 14 40.0
comp=Z,2μm,19.3s
VSR Storozhevoye 72.20 1 *eP* **P 20 43 35.4 -1.5**
VSR pmax pmax
comp=Z,5.0nm,0.8s
VRH Novokhopyorsk 72.22 359 *eP* **P 20 43 38.5 +1.5**
VRH pmax pmax
comp=Z,5.0nm,0.8s
GEC2 GERESS Array S 72.28 18 *eP* **P 20 43 38.6 +1.1**
baz=341,slow=6.0
GERES GERESS Array B 72.28 18 P **P 20 43 38.3 +0.7**
comp=Z,1.9nm,0.7s,baz=352,slow=5.4,SNR=17
comp=Z,1.9nm,0.7s
VRAC Vranov 72.30 16 *eP* **P 20 43 37.8 +0.3**
VRAC Vranov 72.30 16 ⇓P **P 20 43 39.1 +1.6**
VRAC Vranov 72.30 16 P P **20 43 39.1 +1.6**
AKASG Malin Array Be 72.33 7 P **P 20 43 37.6 -0.1**
comp=Z,5.9nm,0.7s,baz=354,slow=5.9,SNR=26
AKASG PP **PP 20 46 18.3 +0.6**
comp=Z,1.1nm,0.6s,baz=1.8,slow=6.9,SNR=2.2
AKASG LR LR 21 18 16.0
comp=Z,655nm,18.1s,baz=356,slow=38
comp=Z,5.9nm,0.7s
AKASG Malin Array Be 72.33 7 *i* P **P 20 43 37.7 0.0**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 72.33 7 IAmb IAmb 20 44 54.0
comp=Z,66nm,1.8s
AKBB Malin Array Si 72.33 7 *ceP* **P 20 43 38.1 +0.4**
KIEV Kiev 72.33 7 P **P 20 43 37.4 -0.3**
KIEV IAmb IAmb 20 44 54.0
comp=Z,64nm,1.8s
KIEV Kiev 72.33 7 IAMs_20 IAMs_20 21 21 02.3
comp=Z,1μm,20.0s
KIEV Kiev 72.33 7 ⇓P **P 20 43 37.8 +0.1**
KIEV Kiev 72.33 7 P **P 20 43 37.4 -0.3**
KIEV pmax pmax
comp=Z,64nm,1.8s
KIEV MLR MLR
comp=Z,1μm,20.0s
RUSC La Rusia 72.40 107 IAMs_20 IAMs_20 21 14 39.7
comp=Z,2μm,20.0s
VORD Divnogorie 72.46 1 *eP* **P 20 43 37.7 -0.7**
VORD pmax pmax
comp=Z,6.0nm,0.9s
KRUC Moravsky 72.50 16 *eP* **P 20 43 39.0 +0.2**
XAN Xi'an 72.57 306 ⇓P **P 20 43 39.8 +0.3**
XAN pP pwP 20 43 48.7 -0.5
XAN S **S 20 53 03.6 +0.7**
XAN pmax pmax
comp=Z,26nm,1.0s
XAN pmax pmax
comp=Z,410nm,8.4s
XAN LR LR
comp=Z,5μm,18.6s
XAN LR LR
comp=Z,6μm,15.5s
XAN LR LR
comp=Z,3μm,13.7s
ROSC El Rosal 72.64 108 P **P 20 43 41.5 +1.0**
comp=Z,8.7nm,0.4s,baz=269,slow=13,SNR=5.0
comp=Z,8.7nm,0.4s
NIE Niedzica 72.71 14 *eP* **P 20 43 41.5 +1.4**
UBR Ueberruh 72.74 21 *eP* **P 20 43 40.6 +0.3**
comp=Z,2.9nm,0.8s,baz=341,slow=6.0
KWP Kalwaria Pacla 72.79 12 *eP* **P 20 43 41.1 +0.7**
STHS Stebnicka Huta 72.83 13 *eP* **P 20 43 41.1 +0.4**
LANS Liptovska Anna 72.86 14 *eP* **P 20 43 42.4 +1.5**
JAVC Velka Javorina 72.89 15 *eP* **P 20 43 42.5 +1.3**
AB31 Akbulak array 72.93 347 IAmb IAmb 20 44 04.3
comp=Z,28nm,1.1s
ABKAR Akbulak array 72.93 347 P **P 20 43 41.7 +0.4**
WHN Wuhan 73.00 300 P **P 20 43 44.5 +2.5**
WHN sP **pwP 20 43 53.0 +1.3**
WHN S **S 20 53 09.0 +1.3**
WHN pmax pmax
comp=Z,56nm,1.0s
WHN LR LR
comp=Z,4μm,14.9s
WHN LR LR
comp=Z,3μm,14.0s
WHN LR LR
comp=Z,4μm,17.5s
LZH Lanzhou 73.01 311 ⇈P **P 20 43 44.1 +1.9**
LZH sP pwP 20 43 53.5 +1.5
LZH S **S 20 53 10.8 +2.6**
LZH sS sS 20 53 19.8 +3.1
LZH SS **SS 20 57 51.8 +3.9**
LZH pmax pmax
comp=Z,42nm,1.3s
LZH pmax pmax
comp=Z,280nm,4.6s
LZH LR LR
comp=Z,3μm,17.5s
LZH LR LR
comp=Z,3μm,17.4s
LZH LR LR
comp=Z,4μm,17.5s
LZDM Lanzhou Array 73.19 311 P **P 20 43 44.6 +1.2**
comp=Z,6.0nm,0.5s,baz=59,slow=21,SNR=1.4
LZDM LR LR 21 17 32.2
comp=Z,3μm,18.7s,baz=40,slow=37
comp=Z,6.0nm,0.5s
RJOB Jochberg 73.19 19 *eP* **P 20 43 43.8 +0.8**
comp=Z,3.5nm,0.7s,baz=341,slow=6.0
MOTA Moosalm 73.26 20 *epP* **P 20 43 44.5 +1.0**
comp=Z,15nm,2.0s
PCRV Puerto La Cruz 73.35 97 LR LR 21 15 33.5
comp=Z,2μm,19.8s,slow=36
WATA Walderalm 73.35 20 *epP* **P 20 43 45.5 +1.4**
comp=Z,9.7nm,1.1s,SNR=7.1
GRGR Grenville 73.36 93 IAMs_20 IAMs_20 21 17 57.7
comp=Z,2μm,18.0s
BIOA Bad Ischl, Aus 73.38 18 *epP* **P 20 43 45.1 +1.1**
comp=Z,7.8nm,1.2s
SQTA Sankt Quirin 73.39 20 *epP* **P 20 43 45.5 +1.3**
comp=Z,7.4nm,0.8s
SENIN Lac Senin/Sane 73.42 23 IAMs_20 IAMs_20 21 15 47.3
comp=Z,2μm,20.0s
KOLS Kolonicke sedl 73.43 12 *eP* **P 20 43 46.3 +2.0**
WTTA Wattenberg 73.44 20 *epP* **P 20 43 45.8 +1.2**
comp=Z,12nm,0.8s,SNR=8.5
LESA Schwarzleotal 73.47 19 *epP* **P 20 43 46.2 +1.5**
comp=Z,6.3nm,1.2s
FETA Feichten 73.50 21 *epP* **P 20 43 45.6 +0.7**
comp=Z,12nm,1.7s
CONA Conrad Observa 73.53 17 *epP* **P 20 43 46.3 +1.3**
comp=Z,5.9nm,0.7s,SNR=5.8
TDK Taldyqorghan 73.55 333 *eP* **P 20 43 46.1 +1.0**
comp=Z,11nm,0.6s
TDK Taldyqorghan 73.55 333 *eP* **P 20 43 46.0 +1.0**
TDK pmax pmax
comp=Z,11nm,0.6s
DAVOX Davos/Dischmat 73.56 21 LR LR 21 16 11.8
comp=Z,2μm,20.8s,baz=337,slow=36
TUE Stuetta 73.75 22 IAMs_20 IAMs_20 21 18 06.9
comp=Z,2μm,18.0s
FUORN Ofenpass-Fuorn 73.79 21 IAmb IAmb 20 44 50.0
comp=Z,39nm,1.6s
FUORN IAMs_20 IAMs_20 21 16 08.9
comp=Z,2μm,20.0s
KBA Koelnbreinsper 73.92 19 *epP* **P 20 43 48.7 +1.3**
comp=Z,6.1nm,0.6s,SNR=9.1
PSZ Piszkesteto 74.13 14 IAmb IAmb 20 44 46.2
comp=Z,26nm,1.3s
PSZ Piszkesteto 74.13 14 ⇈P **P 20 43 50.0 +1.5**
PSZ Piszkesteto 74.13 14 P **P 20 43 49.9 +1.5**
BNI Bardonecchia 74.53 24 IAMs_20 IAMs_20 21 14 18.7
comp=Z,2μm,22.0s
BTLS Baital 74.55 336 ⇑ *iP* **P 20 43 51.7 +0.8**
BTLS Baital 74.55 336 *c iP* **P 20 43 51.6 +0.8**
SOKA Soboth 74.60 18 *i* pP **P 20 43 52.6 +1.3**
comp=Z,6.1nm,0.9s,SNR=5.3
CTI Castel Tesino 74.61 20 IAmb IAmb 20 44 54.2
comp=Z,36nm,1.7s
OBKA Obir 74.69 18 *i* pP **P 20 43 52.7 +1.0**
comp=Z,8.6nm,0.7s
PPT Papeete 74.69 190 LR LR 21 10 31.4
comp=Z,464nm,18.2s,baz=4.5,slow=31
PPT2 Papeete2 74.71 190 *eS* **S 20 53 32.4 +5.3**
comp=Z,148nm,27.8s
PPT2 *eSS* **SS 20 58 06.9 -8.4**
comp=Z,1μm,29.8s
PPT2 *eLQ* LQ 21 03 15.9
comp=Z,3μm,25.8s
PPT2 *eLR* LR 21 06 42.0
comp=Z,1μm,26.5s
PPT2 *eLR* LR 21 06 44.7
comp=Z,829nm,27.8s
FLOC Florencia 74.73 111 IAMs_20 IAMs_20 21 17 37.9
comp=Z,1μm,19.0s
BMR Baia Mare 74.81 12 ⇈P **P 20 43 54.0 +1.6**
BMR Baia Mare 74.81 12 P **P 20 43 53.9 +1.6**
SORM Soroca 74.82 8 ⇈P **P 20 43 52.8 +0.4**
SORM Soroca 74.82 8 P **P 20 43 52.7 +0.4**
COI Coimbra 74.85 37 IAMs_20 IAMs_20 21 19 02.8
comp=Z,1μm,20.0s
MTE Manteigas 74.96 36 IAMs_20 IAMs_20 21 17 45.6
comp=Z,2μm,20.0s
SHLS Shalkode 75.00 331 *eP* **P 20 43 54.1 +0.4**
comp=Z,20nm,1.0s
SHLS *eS* **S 20 53 31.2 +0.9**
SHLS Shalkode 75.00 331 *eP* **P 20 43 54.1 +0.4**
SHLS *eS* **S 20 53 31.1 +0.9**
SHLS pmax pmax
comp=Z,20nm,1.0s
BURAR Bucovina Array 75.05 11 P **P 20 43 53.1 -0.7**
BURAR Bucovina Array 75.05 11 ⇓P **P 20 43 54.5 +0.7**
BURAR Bucovina Array 75.05 11 P **P 20 43 54.5 +0.7**
UZB Uzynbulak 75.13 332 *eP* **P 20 43 55.5 +1.0**
UZB *eS* **S 20 53 33.9 +2.1**
UZB Uzynbulak 75.13 332 *eP* **P 20 43 55.4 +1.0**
UZB *eS* **S 20 53 33.8 +2.1**
SSLB Suanglung 75.33 291 IAMs_20 IAMs_20 21 20 19.0
comp=Z,1μm,18.0s
SATY Saty 75.37 332 *eP* **P 20 43 56.9 +1.1**
comp=Z,28nm,1.7s
SATY Saty 75.37 332 *eP* **P 20 43 56.9 +1.1**
SATY pmax pmax
comp=Z,28nm,1.7s
YULB Yu-li 75.48 290 P **P 20 43 57.6 +1.0**
QZH Quanzhou 75.57 293 *eP* **P 20 43 56.4 -0.6**
QZH S **S 20 53 42.9 +6.2**
QZH SS **SS 20 58 24.6 -2.5**
QZH LR LR
comp=Z,820nm,15.8s
QZH LR LR
comp=Z,1μm,15.5s
QZH LR LR
comp=Z,1μm,19.6s
DRGR 75.59 12 ⇈P **P 20 43 57.3 +0.3**
DRGR 75.59 12 P **P 20 43 57.2 +0.3**
AAA Alma-Ata 75.60 333 *eP* **P 20 43 58.1 +1.0**
comp=Z,36nm,1.4s
AAA Alma-Ata 75.60 333 *eP* **P 20 43 58.1 +1.0**
AAA pmax pmax
comp=Z,35nm,1.4s
MDOK Medeo 75.61 333 *eP* **P 20 43 58.2 +0.9**
MDOK Medeo 75.61 333 *eP* **P 20 43 58.1 +0.9**
MORH Mrgy, Hungar 75.62 15 ⇈P **P 20 43 57.9 +1.0**
MARR Marisel-Cluj 75.75 12 ⇈P **P 20 43 59.2 +1.3**
TNSS Tian-Shan 75.76 333 *eP* **P 20 43 59.0 +0.6**
TNSS Tian-Shan 75.76 333 *eP* **P 20 43 59.0 +0.6**
TPUB Ta-pu 75.90 291 IAMs_20 IAMs_20 21 20 55.0
comp=Z,1μm,18.0s
SGDS Sogindy 75.92 335 *eP* **P 20 43 59.8 +1.0**
comp=Z,21nm,2.0s
SIRR Siria 75.98 13 ⇈P **P 20 44 00.6 +1.6**
USP Ospenovka 76.13 335 P **P 20 44 02.0 +2.0**
SNR=8.6
TKM2 Tokmak 2 76.19 334 P **P 20 44 02.6 +1.9**
SNR=9.6
CHMS Chumysh 76.32 335 P **P 20 44 02.8 +1.7**
SNR=14
ONER Baraj Valea Uz 76.43 10 ⇓P **P 20 44 02.8 +1.2**
GOMU GeErMu 76.47 317 P **P 20 44 03.4 +0.9**
GOMU pP pP 20 44 06.2 -1.5
GOMU sP pwP 20 44 09.6 -2.7
GOMU S **S 20 53 47.1 -0.1**

GOMU					SS	**SS**	**20 58 47.4**	**+6.7**		
GOMU					pmax	pmax				
	comp=Z,4.0nm,0.8s									
GOMU					LR	LR				
	comp=Z,3µm,18.5s									
GOMU					LR	LR				
	comp=Z,1µm,18.3s									
GOMU					LR	LR				
	comp=Z,3µm,18.1s									
BOOM	**Boomskoye usch**	**76.52**	**334**		IAmb	IAmb	20 44 02.8			
	comp=Z,35nm,1.3s									
BOOM					IAMs_20	IAMs_20	21 20 36.7			
	comp=Z,2µm,19.0s									
FRU1	**Bishkek**	**76.53**	**335**		IAMs_20	IAMs_20	21 21 05.8			
	comp=Z,2µm,18.0s									
SURR	**Surduc**	**76.54**	**13**	⇑	P	**P**	**20 44 03.0**	**+0.8**		
KBK	**Karagaybulak**	**76.60**	**335**		P	**P**	**20 44 05.2**	**+2.3**		
	SNR=6.5									
OZUR		**76.61**	**10**	⇑	P	**P**	**20 44 03.5**	**+0.8**		
BZS	**Buzias**	**76.61**	**13**	⇑	P	**P**	**20 44 03.5**	**+0.8**		
BZS	**Buzias**	**76.61**	**13**		P	**P**	**20 44 03.4**	**+0.8**		
AAK	**Ala-Archa**	**76.72**	**335**		P	**P**	**20 44 05.7**	**+2.2**		
	SNR=6.5									
AAK	**Ala-Archa**	**76.72**	**335**		P	**P**	**20 44 04.0**	**+0.4**		
AAK					IAmb	IAmb	20 44 16.4			
	comp=Z,38nm,1.4s									
AAK	**Ala-Archa**	**76.72**	**335**		IAMs_20	IAMs_20	21 21 12.1			
	comp=Z,2µm,19.0s									
AAK	**Ala-Archa**	**76.72**	**335**		LR	LR	21 21 22.8			
	comp=Z,2µm,19.8s,baz=24,slow=38									
AAK	**Ala-Archa**	**76.72**	**335**	*ce*	P	**P**	**20 44 05.6**	**+2.0**		
AAK					pmax	pmax				
	comp=Z,24nm,1.7s									
ESDC	**Sonseca Array**	**76.74**	**34**		P	**P**	**20 44 03.2**	**-0.4**		
ESDC	**Sonseca Array**	**76.74**	**34**		P	**P**	**20 44 04.6**	**+1.0**		
	comp=Z,4.3nm,0.7s,baz=332,slow=5.5,SNR=20									
	comp=Z,4.3nm,0.7s									
PAB	**San Pablo**	**76.74**	**34**		IAMs_20	IAMs_20	21 19 23.7			
	comp=Z,1µm,19.0s									
GHRR		**76.80**	**9**	⇓	P	**P**	**20 44 05.3**	**+1.7**		
EKS2	**Erkin-Say**	**76.87**	**335**		P	**P**	**20 44 06.6**	**+2.3**		
	SNR=9.0									
COVR	**Voineasa-Covas**	**76.90**	**10**	⇑	P	**P**	**20 44 05.8**	**+1.5**		
VRI	**Vrincioaia**	**76.93**	**10**	⇑	P	**P**	**20 44 05.4**	**+0.9**		
VRI	**Vrincioaia**	**76.93**	**10**		P	**P**	**20 44 05.3**	**+0.9**		
PLOR	**Plostina**	**76.94**	**10**	⇓	P	**P**	**20 44 04.6**	**0.0**		
PLOR	**Plostina**	**76.94**	**10**		P	**P**	**20 44 04.5**	**0.0**		
GZR	**Gura Zlata**	**76.97**	**13**	⇓	P	**P**	**20 44 06.4**	**+1.5**		
GZR	**Gura Zlata**	**76.97**	**13**		P	**P**	**20 44 06.3**	**+1.5**		
KK31	**Karatay Array**	**77.16**	**338**		IAmb	IAmb	20 44 18.2			
	comp=Z,36nm,1.8s									
KKAR	**Karatay Array**	**77.16**	**338**		P	**P**	**20 44 05.7**	**-0.1**		
KKAR	**Karatay Array**	**77.16**	**338**		P	**P**	**20 44 05.7**	**-0.1**		
DZA	**Taraz**	**77.19**	**337**	*eP*	P	**P**	**20 44 07.1**	**+1.1**		
DZA	**Taraz**	**77.19**	**337**	*eP*	P	**P**	**20 44 07.1**	**+1.1**		
ARR	**Arges**	**77.21**	**11**	⇑	P	**P**	**20 44 07.8**	**+1.6**		
MLR	**Muntele Rosu**	**77.22**	**10**		IAMs_20	IAMs_20	21 17 27.8			
	comp=Z,2µm,21.0s									
MLR	**Muntele Rosu**	**77.22**	**10**	⇓	P	**P**	**20 44 07.7**	**+1.4**		
MLR	**Muntele Rosu**	**77.22**	**10**		P	**P**	**20 44 07.7**	**+1.4**		
BISRR	**Bisoca**	**77.24**	**10**	⇓	P	**P**	**20 44 07.0**	**+0.7**		
NEHR	**Nehoiu**	**77.32**	**10**	⇓	P	**P**	**20 44 07.6**	**+0.9**		
BRLS	**Boroldav**	**77.36**	**338**	*eP*	P	**P**	**20 44 09.5**	**+2.5**		
BRLS	**Boroldav**	**77.36**	**338**	*eP*	P	**P**	**20 44 09.5**	**+2.5**		
MDVR	**Moldovita**	**77.45**	**14**	⇑	P	**P**	**20 44 09.5**	**+2.1**		
CD2	**Chengdu**	**77.50**	**308**		P	**P**	**20 44 09.6**	**+1.6**		
CD2					S	**S**	**20 53 55.8**	**-2.1**		
CD2					SKS	**SKSac**	**20 54 11.2**	**-8.9**		
CD2					SS	**SS**	**20 58 52.3**	**-3.6**		
CD2					pmax	pmax				
	comp=Z,30nm,0.7s									
CD2					pmax	pmax				
	comp=Z,170nm,4.7s									
CD2					LR	LR				
	comp=Z,5µm,16.7s									
CD2					LR	LR				
	comp=Z,8µm,16.3s									
CD2					LR	LR				
	comp=Z,2µm,18.0s									
NRN	**Naryn**	**77.50**	**333**		IAMs_20	IAMs_20	21 20 09.3			
	comp=Z,2µm,21.0s									
CFR	**Carcaliu**	**77.73**	**9**	⇑	P	**P**	**20 44 09.9**	**+0.9**		
CFR	**Carcaliu**	**77.73**	**9**		P	**P**	**20 44 09.8**	**+0.9**		
FDMO	**Fiordimonte**	**77.78**	**20**		IAmb	IAmb	20 44 37.4			
	comp=Z,35nm,1.5s									
TLCR		**77.78**	**8**	⇓	P	**P**	**20 44 10.5**	**+1.3**		
TLCR		**77.78**	**8**		P	**P**	**20 44 10.5**	**+1.3**		
TPGR	**Topolog**	**78.08**	**9**	⇓	P	**P**	**20 44 11.2**	**+0.3**		
CHM	**Chimkent**	**78.09**	**338**	*eP*	P	**P**	**20 44 12.1**	**+1.1**		
CHM	**Chimkent**	**78.09**	**338**	*eP*	P	**P**	**20 44 12.1**	**+1.1**		
IUG	**Iuzhnay**	**78.17**	**338**	*eP*	P	**P**	**20 44 12.6**	**+0.9**		
	comp=Z,23nm,1.3s									
IUG	**Iuzhnay**	**78.17**	**338**	*eP*	P	**P**	**20 44 12.5**	**+0.9**		
IUG					pmax	pmax				
	comp=Z,23nm,1.3s									
HARR	**Harsova**	**78.20**	**9**	⇓	P	**P**	**20 44 12.2**	**+0.6**		
HARR	**Harsova**	**78.20**	**9**		P	**P**	**20 44 12.1**	**+0.6**		
ARSB	**Arslanbob**	**78.32**	**336**		IAmb	IAmb	20 44 24.6			
	comp=Z,29nm,1.2s									
ARSB					IAMs_20	IAMs_20	21 22 33.3			
	comp=Z,2µm,19.0s									
GOF	**Gofitskoye**	**78.35**	**358**	*ce*	P	**P**	**20 44 13.8**	**+1.4**		
TIRR	**Tirgusor**	**78.47**	**9**		IAMs_20	IAMs_20	21 20 39.8			
	comp=Z,1µm,20.0s									
BOVS	**Bovan**	**78.57**	**14**	⇑	P	**P**	**20 44 14.9**	**+1.3**		
GULI	**GuiLin**	**79.30**	**300**		P	**P**	**20 44 16.5**	**-1.4**		
GULI					S	**S**	**20 54 15.1**	**-2.1**		
GULI					SKS	**SKSac**	**20 54 33.6**	**+0.6**		
GULI					pmax	pmax				
	comp=Z,10.0nm,0.9s									
GULI					pmax	pmax				
	comp=Z,100nm,4.9s									
GULI					LR	LR				
	comp=Z,930nm,20.9s									
GULI					LR	LR				
	comp=Z,1µm,20.5s									
GULI					LR	LR				
	comp=Z,610nm,24.7s									
KSH	**Kashi**	**79.32**	**333**		P	**P**	**20 44 22.5**	**+4.5**		
KSH					PcP	**pwP**	**20 44 32.6**	**+4.8**		
KSH					S	**S**	**20 54 22.7**	**+5.4**		
KSH					pmax	pmax				
	comp=Z,17nm,0.9s									
KSH					LR	LR				
	comp=Z,2µm,18.6s									
KSH					LR	LR				
	comp=Z,3µm,15.7s									
KSH					LR	LR				
	comp=Z,3µm,13.9s									
PDG	**Podgorica**	**79.41**	**16**		IAMs_20	IAMs_20	21 20 39.7			
	comp=Z,1µm,20.0s									
KIV	**Kislovodsk**	**79.45**	**358**		P	**P**	**20 44 18.5**	**-0.1**		
KIV	**Kislovodsk**	**79.45**	**358**	⇓	P	**P**	**20 44 18.8**	**+0.2**		
KIV	**Kislovodsk**	**79.45**	**358**	*eP*	P	**P**	**20 44 19.5**	**+0.9**		
KIV					pmax	pmax				
	comp=Z,15nm,1.0s									
KIV					MLR	MLR				
	comp=Z,466nm,19.0s									
RAR	**Rarotonga**	**79.67**	**199**		LR	LR	21 14 52.5			
	comp=Z,299nm,18.8s,baz=344,slow=32									
KBZ	**Khabaz**	**79.68**	**358**		P	**P**	**20 44 21.0**	**+1.4**		
	comp=Z,3.9nm,0.9s,baz=291,slow=6.1,SNR=6.4									
	comp=Z,3.9nm,0.9s									
KBZ	**Khabaz**	**79.68**	**358**	⇑	*iP*	**P**	**20 44 20.7**	**+1.1**		
RKT	**Rikitea**	**79.84**	**176**		*eS*	**S**	**20 54 24.9**	**+2.5**		
	comp=Z,5µm,29.8s									
RKT					*e*SS	SS	20 59 17.8	-15		
	comp=Z,1µm,26.0s									
RKT	**Rikitea**	**79.84**	**176**		*e*LR	LR	21 09 18.3			
SOC	**Sochi**	**79.84**	**0**		*eP*	P	20 44 14.0	-6.6		
SOC					*e*		20 47 21.4			
SOC					*e*PPP	PPP	20 49 11.8			
SOC					*e*SSS	SSS	21 03 00.3			
SOC					MLR	MLR				
	comp=Z,900nm,17.0s									
GYA	**Guiyang**	**80.03**	**304**	⇑	P	**P**	**20 44 23.3**	**+1.3**		
GYA					pP	PcP	20 44 28.8	-0.6		
GYA					PcP	**pwP**	**20 44 33.5**	**+1.7**		
GYA					PP	**PP**	**20 47 23.2**	**-0.3**		
GYA					S	**S**	**20 54 26.1**	**+0.9**		
GYA					SKS	**SKSac**	**20 54 38.6**	**+0.2**		
GYA					SS	**SS**	**20 59 37.4**	**+3.0**		
GYA					pmax	pmax				
	comp=Z,38nm,0.9s									
GYA					LR	LR				
	comp=Z,1µm,21.2s									
GYA					LR	LR				
	comp=Z,960nm,20.9s									
GYA					LR	LR				
	comp=Z,1µm,16.6s									
MAK	**Makhachkala**	**80.29**	**355**	*c i*	P	**P**	**20 44 18.5**	**-4.5**		
MAK					*e*		20 47 23.9			
MAK					*e*PPP	PPP	20 49 24.9			
MAK					*e*S	**S**	**20 54 21.0**	**-6.1**		
MAK					*e*SS	**SS**	**20 59 34.0**	**-2.7**		
MAK					*e*SSS	SSS	21 03 03.7			
MAK					pmax	pmax				
	comp=Z,210nm,1.4s									
MAK					MLR	MLR				
	comp=Z,1µm,18.0s									
TBI	**Tubuai**	**80.40**	**189**		*e*S	**S**	**20 54 32.6**	**+4.3**		
	comp=Z,3µm,26.8s									
TBI					*e*SS	**SS**	**20 59 41.1**	**+0.1**		
	comp=Z,2µm,28.0s									
TBI					*e*LQ	LQ	21 05 35.6			
	comp=Z,6µm,26.8s									
TBI					*e*LR	LR	21 09 21.0			
	comp=Z,4µm,29.5s									
TBI					*e*LR	LR	21 09 25.3			
	comp=Z,1µm,25.5s									
VSL	**Villasalto**	**80.43**	**24**		IAMs_20	IAMs_20	21 20 12.7			
	comp=Z,2µm,20.0s									
ATAH	**Atahualpa**	**80.88**	**118**		LR	LR	21 21 32.8			
	comp=Z,1µm,20.2s,baz=347,slow=37									
CUC	**Castrocucco**	**81.23**	**19**		IAMs_20	IAMs_20	21 23 22.8			
	comp=Z,1µm,20.0s									
AVE	**Averroes**	**81.45**	**39**		IAMs_20	IAMs_20	21 16 30.6			
	comp=Z,1µm,20.0s									
SIMJ	**Simiganj**	**81.74**	**338**		P	**P**	**20 44 31.6**	**+0.6**		
SIMJ					IAmb	IAmb	20 44 48.1			
	comp=Z,49nm,1.4s									
AKT	**Akhty**	**81.75**	**354**	*e*	P	**P**	**20 44 30.6**	**-0.4**		
AKT					*e*		20 47 36.4			
AKT					pmax	pmax				
	comp=Z,17nm,1.8s									
BOAV	**Boa Vista**	**82.05**	**98**		P	**P**	**20 44 31.8**	**-0.9**		
BOAV					IAmb	IAmb	20 45 16.4			
	comp=Z,30nm,1.7s									
PZH	**PanZhiHua**	**82.19**	**307**		P	**P**	**20 44 35.2**	**+1.7**		
PZH					S	**S**	**20 54 46.8**	**-0.8**		
PZH					SKS	**SKSac**	**20 54 48.6**	**-4.6**		
PZH					sS	**sS**	**20 54 55.8**	**-0.5**		
PZH					SS	**SS**	**21 00 09.0**	**+2.5**		
PZH					pmax	pmax				
	comp=Z,30nm,1.0s									
PZH					pmax	pmax				
	comp=Z,150nm,4.7s									
PZH					LR	LR				
	comp=Z,2µm,22.6s									
PZH					LR	LR				
	comp=Z,4µm,22.1s									
PZH					LR	LR				
	comp=Z,2µm,19.6s									
HNR	**Honiara**	**82.49**	**240**		IAMs_20	IAMs_20	21 13 12.4			
	comp=Z,2µm,21.0s									
HNR	**Honiara**	**82.49**	**240**		LR	LR	21 13 34.0			
	comp=Z,1µm,21.7s,baz=9.5,slow=30									
CEL	**Celeste**	**82.93**	**19**		IAMs_20	IAMs_20	21 20 23.7			
	comp=Z,1µm,22.0s									
KMI	**Kunming**	**82.95**	**306**	⇑	P	**P**	**20 44 39.2**	**+1.6**		
KMI					SKS	**S**	**20 54 56.9**	**+1.2**		
KMI					LR	LR				
	comp=Z,2µm,19.0s									
KMI					LR	LR				
	comp=Z,3µm,20.7s									
KMI					LR	LR				
	comp=Z,1µm,24.7s									
TGY	**Tagaytay City**	**83.38**	**286**		LR	LR	21 21 34.7			
	comp=Z,164nm,19.9s,baz=40,slow=36									
BRTR	**Keskin Array B**	**83.53**	**5**		P	**P**	**20 44 39.1**	**-1.2**		
BRTR	**Keskin Array B**	**83.53**	**5**		P	**P**	**20 44 41.0**	**+0.7**		
	comp=Z,2.7nm,0.8s,baz=352,slow=2.5,SNR=14									
	comp=Z,2.7nm,0.8s									
BRTR	**Keskin Array B**	**83.53**	**5**		P	**P**	**20 44 41.0**	**+0.7**		
LSA	**Lhasa**	**83.64**	**317**		IAMs_20	IAMs_20	21 25 08.1			
	comp=Z,1µm,20.0s									
LSA	**Lhasa**	**83.64**	**317**		P	**P**	**20 44 41.5**	**+0.1**		
LSA					S	**S**	**20 54 56.5**	**-6.5**		
LSA					pmax	pmax				
	comp=Z,7.0nm,0.8s									
LSA					LR	LR				
	comp=Z,1µm,16.5s									
LSA					LR	LR				
	comp=Z,2µm,15.1s									
KEST	**Kesra**	**84.02**	**25**		P	**P**	**20 44 43.5**	**+0.7**		
	comp=Z,4.2nm,0.7s,baz=33,slow=3.4,SNR=5.3									
KEST					LR	LR	21 22 37.9			
	comp=Z,1µm,18.2s,baz=329,slow=36									
	comp=Z,4.2nm,0.7s									
MDP	**Montagnes des**	**84.11**	**90**		LR	LR	21 20 42.7			
	comp=Z,1µm,21.5s,baz=342,slow=35									
BNN	**Bunyan**	**84.50**	**4**		IAmb	IAmb	20 45 34.8			
	comp=Z,16nm,1.0s									
TNCH	**TengChong**	**84.87**	**309**	*eP*		**P**	**20 44 48.0**	**+0.6**		
TNCH					sP	pwP	20 44 58.5	+1.3		
TNCH					S	**SKSac**	**20 55 11.3**	**+0.5**		
TNCH					SS	**SS**	**21 00 46.6**	**+0.4**		
TNCH					pmax	pmax				
	comp=Z,24nm,1.2s									
TNCH					pmax	pmax				
	comp=Z,110nm,3.1s									
TNCH					LR	LR				
	comp=Z,2µm,16.7s									
TNCH					LR	LR				
	comp=Z,2µm,17.8s									
TNCH					LR	LR				
	comp=Z,2µm,20.3s									
QIZ	**Qiongzhong**	**84.88**	**297**		IAMs_20	IAMs_20	21 27 09.2			
	comp=Z,899nm,19.0s									
QIZ	**Qiongzhong**	**84.88**	**297**		P	**P**	**20 44 45.1**	**-2.2**		
QIZ					S	**SKSac**	**20 55 11.4**	**+0.8**		
QIZ					SS	**SS**	**21 00 50.2**	**+3.8**		
QIZ					LR	LR				
	comp=Z,780nm,16.5s									
QIZ					LR	LR				
	comp=Z,1µm,15.1s									
QIZ					LR	LR				
	comp=Z,950nm,17.2s									
ITM	**Ithomi**	**84.95**	**15**		IAmb	IAmb	20 44 58.3			
	comp=Z,11nm,0.8s									
WDD	**Wied Dalam**	**85.02**	**21**		IAMs_20	IAMs_20	21 25 29.2			
	comp=Z,1µm,19.0s									
NIL	**Nilore**	**85.56**	**333**		P	**P**	**20 44 50.7**	**+0.1**		
NIL					IAmb	IAmb	20 45 22.1			
	comp=Z,22nm,1.0s									
NIL	**Nilore**	**85.56**	**333**		IAMs_20	IAMs_20	21 26 22.1			
	comp=Z,2µm,21.0s									
NIL	**Nilore**	**85.56**	**333**		P	**P**	**20 44 50.7**	**+0.1**		
NIL					pmax	pmax				
	comp=Z,22nm,1.0s									
NIL					MLR	MLR				
	comp=Z,2µm,21.0s									
SLVN	**Son La**	**85.71**	**303**		IAmb	IAmb	20 45 05.2			
	comp=Z,21nm,1.2s									
SLVN					IAMs_20	IAMs_20	21 26 03.7			
	comp=Z,823nm,20.0s									
NNA	**Nana**	**85.83**	**119**		IAMs_20	IAMs_20	21 25 59.9			
	comp=Z,1µm,20.0s									
NNA	**Nana**	**85.83**	**119**		LR	LR	21 24 30.0			
	comp=Z,827nm,20.5s,baz=0.0,slow=36									
MARD	**Mardin**	**86.11**	**360**		IAmb	IAmb	20 45 33.9			
	comp=Z,21nm,1.0s									
JAY	**Jayapura**	**86.46**	**260**		LR	LR	21 17 59.7			
	comp=Z,480nm,20.4s,baz=14,slow=32									
DAV	**Davao City (W)**	**86.75**	**278**		LR	LR	21 19 24.2			
	comp=Z,443nm,21.4s,baz=56,slow=33									
KARP	**Karpathos**	**87.19**	**11**		IAMs_20	IAMs_20	21 29 03.6			
	comp=Z,1µm,20.0s									
IDI	**Anoyia**	**87.20**	**13**		LR	LR	21 25 23.3			
	comp=Z,446nm,19.0s,baz=333,slow=37									
RPN	**Rapa Nui**	**87.57**	**153**		LR	LR	21 14 49.8			
	comp=Z,701nm,20.7s,baz=338,slow=29									
PMG	**Port Moresby**	**88.83**	**251**		LR	LR	21 19 12.0			
	comp=Z,642nm,20.8s,baz=26,slow=32									
MAL2	**Monte Alegre,**	**89.18**	**95**		IAMs_20	IAMs_20	21 31 59.3			
	comp=Z,1µm,18.0s									
CHTO	**Chiang Mai**	**90.15**	**306**		P	**P**	**20 45 12.0**	**-0.7**		
CHTO					IAmb	IAmb	20 45 26.0			
	comp=Z,28nm,1.1s									
CHTO					IAMs_20	IAMs_20	21 30 17.7			
	comp=Z,1µm,18.0s									
CHTO	**Chiang Mai**	**90.15**	**306**		P	**P**	**20 45 12.0**	**-0.7**		
CHTO					pmax	pmax				
	comp=Z,28nm,1.2s									
CHTO					MLR	MLR				
	comp=Z,1µm,18.0s									
MMAI	**Mount Meron Ar**	**90.30**	**4**		LR	LR	21 30 41.8			
	comp=Z,380nm,18.2s,baz=350,slow=39									
CMAR	**Chiang Mai Arr**	**90.46**	**306**		P	**P**	**20 45 13.2**	**-1.0**		
CMAR	**Chiang Mai Arr**	**90.46**	**306**		P	**P**	**20 45 16.2**	**+2.0**		
	comp=Z,15nm,0.9s,baz=8.9,slow=4.8,SNR=66									
CMAR					LR	LR	21 27 36.0			
	comp=Z,962nm,18.6s,baz=20,slow=37									
	comp=Z,15nm,0.9s									
CMAR	**Chiang Mai Arr**	**90.46**	**306**	*i*	P	**P**	**20 45 16.5**	**+2.3**		
CMAR					pmax	pmax				
	comp=Z,16nm,1.0s									
DZM	**Mont Dzumac**	**90.75**	**229**	*e*	SS	SS	21 02 10.8	-2.6		
	comp=Z,464nm,28.6s									
SACV	**Santiago Islan**	**91.01**	**60**		IAMs_20	IAMs_20	21 23 48.1			
	comp=Z,1µm,20.0s									
DLV	**Lat**	**91.60**	**295**		IAMs_20	IAMs_20	21 31 34.6			
	comp=Z,954nm,18.0s									
RAO	**Raoul Island**	**91.76**	**213**		LR	LR	21 21 04.6			
	comp=Z,660nm,18.3s,baz=296,slow=32									
EIL	**Elat**	**93.61**	**5**		LR	LR	21 32 27.3			
	comp=Z,227nm,18.1s,baz=347,slow=39									
LPAZ	**La Paz**	**93.79**	**114**		P	**P**	**20 45 30.9**	**+0.8**		
	comp=Z,1.3nm,0.6s,baz=0.9,slow=15,SNR=3.6									
LPAZ					LR	LR	21 31 08.2			
	comp=Z,1µm,20.7s,baz=332,slow=38									
	comp=Z,1.3nm,0.6s									
PB18	**Visviri**	**94.22**	**116**		IAMs_20	IAMs_20	21 32 15.0			
	comp=Z,1µm,20.0s									
MBO	**M'Bour**	**94.60**	**55**		IAMs_20	IAMs_20	21 23 44.5			
	comp=Z,1µm,20.0s									
PB16	**IPOC Station P**	**94.84**	**116**		IAMs_20	IAMs_20	21 32 06.4			
	comp=Z,991nm,19.0s									
TAM	**Tamanrasset**	**95.33**	**32**		IAMs_20	IAMs_20	21 31 13.9			
	comp=Z,1µm,18.0s									
HMBC	**Humberstone**	**96.31**	**118**		IAMs_20	IAMs_20	21 29 07.5			
	comp=Z,1µm,20.0s									
TA01	**Diego Aracena**	**96.42**	**118**		IAMs_20	IAMs_20	21 29 07.2			
	comp=Z,829nm,18.0s									
SIV	**San Ignacio**	**97.14**	**108**		LR	LR	21 34 26.4			
	comp=Z,1µm,19.0s,baz=357,slow=38									
UOSS	**Minazif**	**97.35**	**346**		IAMs_20	IAMs_20	21 37 16.2			
	comp=Z,662nm,20.0s									
CTA	**Charters Tower**	**98.32**	**246**		LR	LR	21 27 14.6			
	comp=Z,14nm,18.4s,baz=28,slow=34									
CTAO	**Charters Tower**	**98.32**	**246**		IAMs_20	IAMs_20	21 25 36.1			
	comp=Z,976nm,19.0s									
HYB	**Hyderabad**	**99.35**	**323**	*e*	PKiKP	**PKiKP**	**20 50 24.1**	**-0.2**		
HYB				*e*	SKSac	**SKSac**	**20 56 32.8**	**+0.5**		
KAPI	**Kappang**	**99.98**	**276**		LR	LR	21 28 48.2			
	comp=Z,138nm,20.5s,baz=28,slow=34									
AC02	**Maricunga**	**102.24**	**120**		IAMs_20	IAMs_20	21 33 27.8			
	comp=Z,906nm,20.0s									
RCBR	**Riachuelo**	**102.34**	**82**		IAMs_20	IAMs_20	21 26 26.6			
	comp=Z,932nm,22.0s									
LHMI	**Lhok Sumawe**	**103.00**	**301**		IAMs_20	IAMs_20	21 42 36.8			
	comp=Z,1µm,18.0s									
TORD	**Torodi Ar. Bea**	**103.17**	**39**		IAMs_20	IAMs_20	21 35 46.4			
	comp=Z,906nm,20.0s									
TORD	**Torodi Ar. Bea**	**103.17**	**39**		PKKP		21 02 16.0			
	comp=Z,0.5nm,0.6s,baz=134,slow=2.4,SNR=4.4									
RPSI	**Rantau Prapat**	**104.28**	**298**		IAMs_20	IAMs_20	21 35 43.0			
	comp=Z,736nm,22.0s									
WRA	**Warramunga Arr**	**104.36**	**256**		Pdiff	**Pdif**	**20 46 18.0**	**+1.2**		
	comp=Z,0.6nm,0.9s,baz=34,slow=5.3,SNR=2.5									
VA03	**San Esteban**	**106.59**	**125**		IAMs_20	IAMs_20	21 25 27.4			
	comp=Z,924nm,19.0s									
ASAR	**Alice Springs**	**107.63**	**254**		Pdiff	**Pdif**	**20 46 31.6**	**+0.2**		
	comp=Z,0.5nm,0.8s,baz=36,slow=5.1,SNR=1.8									
PALK	**Pallekele**	**108.02**	**318**		IAMs_20	IAMs_20	21 36 50.7			
	comp=Z,1µm,22.0s									
SPB	**Sao Paulo**	**110.62**	**102**		IAMs_20	IAMs_20	21 39 31.0			
	comp=Z,1µm,20.0s									
TRQA	**Tornquist**	**114.89**	**122**		IAMs_20	IAMs_20	21 42 53.8			
	comp=Z,1µm,19.0s									
LODK	**Lodwar**	**119.70**	**6**		IAMs_20	IAMs_20	21 53 54.8			
	comp=Z,453nm,18.0s									
MG05	**Puerto Natales**	**121.45**	**138**		IAMs_20	IAMs_20	21 41 26.6			
	comp=Z,482nm,19.0s									
MBAR	**Mbarara**	**123.30**	**12**		IAMs_20	IAMs_20	21

SNAA	**Sanae**	59.29	176	P		P	20 45 37.4	+0.5
SNAA	**Sanae**	59.29	176	P		P	20 45 36.4	-0.5
	2.6nm,0.8s,baz=329,slow=6.8,SNR=8.0							
	2.6nm,0.8s							
TROLL	**Troll, Antarti**	60.08	174	⇓P		P	20 45 42.0	-0.3
	comp=Z,86nm,0.6s							
GERES	**GERESS Array B**	66.05	20	P		P	20 46 21.7	-0.5
	comp=Z,0.7nm,0.7s,baz=202,slow=7.4,SNR=3.2							
	comp=Z,0.7nm,0.7s							
AKASG	**Malin Array Be**	73.58	27	P		P	20 47 08.7	+0.3
	comp=Z,1.7nm,0.7s,baz=224,slow=6.8,SNR=5.7							
	comp=Z,1.7nm,0.7s							
NOA	**NORSAR Array B**	76.23	12	P		P	20 47 24.2	+0.6
	comp=Z,1.2nm,0.8s,baz=208,slow=5.9,SNR=4.0							
	comp=Z,1.2nm,0.8s							
QSPA	**South Pole Qui**	77.41	180	P		P	20 47 30.9	+0.4
	comp=Z,3.8nm,1.0s,baz=210,slow=3.4,SNR=5.2							
	comp=Z,3.8nm,1.0s							
FINES	**FINESS Array B**	80.42	18	P		P	20 47 47.0	+0.3
	comp=Z,2.6nm,0.9s,baz=226,slow=5.0,SNR=3.9							
	comp=Z,2.6nm,0.9s							
VNDA	**Vanda**	89.88	179	P		P	20 48 34.3	+0.3
	comp=Z,0.9nm,0.8s,baz=219,slow=4.8,SNR=7.7							
	comp=Z,0.9nm,0.8s							
MJAR	**Matsushiro Arr**	145.62	42	PKPbc		PKPdf	20 55 12.7	-1.7
	comp=Z,0.3nm,0.3s,baz=289,slow=3.7,SNR=4.5							

ANF ***10*** *20:40:19.5±0.8,56.79N×139.91W,h0km, Error ellipse: s-maj=9.0km s-min=3.6km az=41.0*

NEIC ***10*** *20:40:29.7±2.1,56.94N±0.05×139.61W±0.08,h10km±2km, mb4.0/4,MLS.9/106,ML3.4(AEIC), Error ellipse: s-maj=9.7km s-min=7.3km az=205.0*

AEIC ***10*** *20:40:34.5±1.7,56.91N±0.06×139.64W±0.09,h12km±6km, Error ellipse: s-maj=8.9km s-min=6.9km az=204.0*

ISC 10 20:40:28.3±0.9,56.96N±0.05×139.64W±0.05,h10km, n178,σ1º92/196,Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
S31K	**Pelican**	2.10	60			Pn	20 41 04.7	+1.3
S31K	**Pelican**	2.10	60			Sn	20 41 27.7	-1.8
S31K	**Pelican**	2.10	60	Pg		Pn	20 41 04.7	+1.3
	baz=242							
S31K				S		Sn	20 41 27.3	-2.2
	baz=242							
SIT	**Sitka**	2.36	86			Pn	20 41 08.4	+1.3
SIT	**Sitka**	2.36	86			Sn	20 41 34.8	-1.2
SIT	**Sitka**	2.36	86	Pg		Pn	20 41 08.3	+1.3
	baz=268							
SIT				S		Sn	20 41 34.6	-1.4
	baz=268							
YKU2	**Yakutat**	2.56	360	Pn		Pn	20 41 11.1	+1.4
YKU2	**Yakutat**	2.56	360			Sn	20 41 41.6	+0.7
PNL	**Peninsula**	2.72	3			Pn	20 41 13.7	+1.6
PNL						Pb	20 41 13.9	-3.1
PNL						Sn	20 41 45.0	0.0
PNL						Sb	20 41 45.6	-4.9
PNL	**Peninsula**	2.72	3	Pg		Pn	20 41 14.6	+2.6
	baz=184,SNR=84							
P29M	**Windy Craggy**	2.86	20			Pn	20 41 16.0	+2.0
P29M					IAML		20 41 51.8	
	comp=E,290nm,0.5s							
P29M	**Windy Craggy**	2.86	20			Sn	20 41 48.2	-0.2
P29M	**Windy Craggy**	2.86	20	Pb		Pn	20 41 16.6	+2.7
	baz=202,SNR=21							
P29M				S		Sn	20 41 47.6	-0.9
	baz=202							
BCPM	**Bancas Point**	3.00	0			Pn	20 41 17.7	+1.8
BCPM				Sn		Sn	20 41 50.1	-1.8
BCPM					IAML		20 42 14.6	
	comp=E,381nm,4.5s							
BCPM					IAML		20 42 20.1	
	comp=N,266nm,4.2s							
BESE	**Bessie Mountai**	3.04	56			Pn	20 41 18.4	+2.1
BESE	**Bessie Mountai**	3.04	56			Sn	20 41 52.2	-0.6
PLBC	**Pleasant Camp**	3.05	33			Pn	20 41 18.1	+1.7
PLBC						Sn	20 41 53.1	+0.2
PLBC	**Pleasant Camp**	3.05	33	Pb		Pn	20 41 19.8	+3.3
	baz=216							
PLBC				S		Sn	20 41 53.1	+0.2
	baz=216							
R32K	**Eaglecrest**	3.06	62			Pn	20 41 18.8	+2.2
R32K	**Eaglecrest**	3.06	62	Pb		Pn	20 41 19.3	+2.7
	baz=246							
JIS	**Juneau Island**	3.12	63			Pn	20 41 18.7	+1.3
JIS						Pb	20 41 19.7	-4.0
JIS						Sn	20 41 53.6	-1.1
PINM	**Pinnacle**	3.17	354	Pb		Pn	20 41 20.5	+2.3
	baz=175,SNR=124							
PCA	**Pinnacle**	3.17	354			Pn	20 41 20.0	+1.9
PCA				Sn		Sn	20 41 54.3	-1.7
PCA					IAML		20 41 60.0	
	comp=N,327nm,0.8s							
PCA					IAML		20 42 11.2	
	comp=E,262nm,0.5s							
CHX	**Chaix Hills**	3.21	347			Pn	20 41 21.2	+2.4
CHX						Sn	20 41 56.3	-0.8
SAMH	**Samovar Hills**	3.24	350			Pn	20 41 21.6	+2.4
SAMH						Sn	20 41 57.0	-0.8
SKAG	**Skagway**	3.39	40			Pn	20 41 24.1	+2.9
SKAG	**Skagway**	3.39	40			Sn	20 42 00.1	-1.3
SKAG	**Skagway**	3.39	40	Pb		Pn	20 41 24.6	+3.4
	baz=224							
SKAG				S		Sn	20 42 01.3	-0.1
	baz=224							
O29M	**Mount Kennedy**	3.40	9			Pn	20 41 24.0	+2.6
O29M				Sn		Sn	20 42 00.3	-1.6
O29M	**Mount Kennedy**	3.40	9	Pb		Pn	20 41 24.3	+2.9
	baz=190,SNR=14							
O29M				S		Sn	20 42 02.2	+0.3
	baz=190							
MESA	**MESA**	3.45	340			Pn	20 41 24.1	+1.9
MESA					IAML		20 42 20.5	
	comp=N,265nm,4.1s							
MESA					IAML		20 42 24.1	
	comp=E,256nm,4.6s							
MESA	**MESA**	3.45	340	Pb		Pn	20 41 24.1	+1.9
	baz=159							
RKAV	**Rock Avalanche**	3.47	346			Pn	20 41 24.6	+2.2
P30M	**Million Dollar**	3.47	23			Pn	20 41 24.9	+2.5
P30M	**Million Dollar**	3.47	23			Sn	20 42 02.1	-1.4
P30M	**Million Dollar**	3.47	23		IAML		20 42 00.6	
	comp=E,140nm,4.1s							
P30M	**Million Dollar**	3.47	23	S		Sn	20 42 04.1	+0.6
	baz=205							
CYK	**Cape Yakataga**	3.47	336			Pn	20 41 23.9	+1.6
TABL	**Table Mountain**	3.58	348			Pn	20 41 26.0	+2.0
TABL					IAML		20 41 53.2	
	comp=N,191nm,4.5s							
TABL					IAML		20 42 24.6	
	comp=E,170nm,4.5s							
YAH	**Yahtse**	3.59	343			Pn	20 41 26.1	+1.9
YAH					IAML		20 42 10.7	
	comp=N,213nm,3.7s							
YAH					IAML		20 42 41.3	
	comp=E,254nm,4.5s							
SNH	**Sunshine Point**	3.64	334			Pn	20 41 26.1	+1.5
BGLC	**Bering Glacier**	3.70	330			Pn	20 41 27.2	+1.8
BGLC	**Bering Glacier**	3.70	330	Pb		Pn	20 41 27.2	+1.8
	baz=148							
U33K	**Whale Pass**	3.71	100	Pn		Pn	20 41 27.9	+2.5
U33K				Sn		Sn	20 42 07.9	-1.3
U33K					IAML		20 42 10.1	
	comp=N,152nm,1.8s							
U33K	**Whale Pass**	3.71	100	Pb		Pn	20 41 28.1	+2.6
	baz=285							
U33K				S		Sn	20 42 08.7	-0.4
	baz=285							
BARK	**Barkley Ridge**	3.76	338			Pn	20 41 28.1	+1.7
BAGL	**Bagley Icefiel**	3.77	341			Pn	20 41 28.4	+2.1
SUCK	**Suckling Hills**	3.80	327	Pn		Pn	20 41 28.2	+1.4
O28M	**Mount Upton**	3.84	356			Pn	20 41 30.2	+2.6
O28M					IAML		20 42 14.6	
	comp=E,154nm,0.8s							
O28M					IAML		20 42 20.1	
	comp=N,132nm,4.9s							
O28M	**Mount Upton**	3.84	356	Pb		Pn	20 41 30.6	+3.0
	baz=176,SNR=292							
O28M				S		Sn	20 42 11.4	-1.4
	baz=176							
GRIN	**Grindle Hills**	3.85	332			Pn	20 41 29.1	+1.6
GRIN						Pb	20 41 29.3	-6.9
WAX	**Waxell Ridge**	3.88	336			Pn	20 41 29.4	+1.4
WAX					IAML		20 42 24.5	
	comp=N,191nm,2.9s							
WAX					IAML		20 42 37.6	
	comp=E,221nm,4.2s							
KAIM	**Kayak Island**	3.90	322			Pn	20 41 29.5	+1.4
KAIM	**Kayak Island**	3.90	322	Pb		Pn	20 41 29.6	+1.4
	baz=139							
ISLE	**Juniper Island**	3.92	340			Pn	20 41 30.4	+1.8
ISLE					IAML		20 42 11.9	
	comp=N,215nm,4.6s							
ISLE					IAML		20 42 15.4	
	comp=E,192nm,4.7s							
CRAG	**Craig**	3.93	110	Pn		Pn	20 41 30.9	+2.4
CRAG					IAML		20 42 08.5	
	comp=E,141nm,4.8s							
CRAG					IAML		20 42 40.5	
	comp=N,120nm,4.1s							
CRAG	**Craig**	3.93	110	Pb		Pn	20 41 31.2	+2.6
	baz=294							
CRAG				S		Sn	20 42 14.0	-0.7
	baz=294							
GRNC	**Granite Creek**	3.94	345	Pn		Pn	20 41 30.8	+1.9
GRNC					IAML		20 42 12.2	
	comp=N,127nm,5.0s							
LOGN	**Logan Glacier**	3.94	350			Pn	20 41 30.8	+1.9
LOGN					IAML		20 42 35.4	
	comp=E,119nm,4.6s							
KHIT	**Khitrov Hills**	3.97	333			Pn	20 41 30.4	+1.1
HYT	**Haines Junctio**	4.04	15			Pn	20 41 32.0	+1.9
HYT	**Haines Junctio**	4.04	15		IAML		20 42 37.1	
	comp=N,137nm,4.5s							
HYT	**Haines Junctio**	4.04	15	Pb		Pn	20 41 34.0	+3.8
	baz=197,SNR=25							
HYT				S		Sn	20 42 17.9	+0.4
	baz=197							
BERG	**Berg Lake**	4.05	330	Pn		Pn	20 41 31.3	+1.1
BERG					IAML		20 42 11.6	
	comp=E,160nm,4.4s							
WRAK	**Wrangell Islan**	4.06	95	Pn		Pn	20 41 32.5	+2.1
WRAK					IAML		20 42 28.2	
	comp=E,146nm,3.8s							
WRAK	**Wrangell Islan**	4.06	95	Pb		Pn	20 41 33.3	+2.9
	baz=280							
WRAK				S		Sn	20 42 17.7	-0.1
	baz=280							
P32M	**Atlin**	4.09	47			Pn	20 41 32.1	+1.2
P32M	**Atlin**	4.09	47		IAML		20 42 04.9	
	comp=N,103nm,4.8s							
P32M	**Atlin**	4.09	47	Pb		Pn	20 41 34.1	+3.2
	baz=232							
CTGM	**Chitina Glacie**	4.12	348	Pn		Pn	20 41 33.2	+1.9
CTGM					IAML		20 42 54.9	
	comp=N,101nm,4.1s							
CTG	**Chitna Glacier**	4.12	348	Pb		Pn	20 41 33.4	+2.2
	baz=168,SNR=72							
TGL	**Tana Glacier**	4.16	338	Pn		Pn	20 41 33.4	+1.6
TGL					IAML		20 42 19.0	
	comp=E,128nm,4.5s							
TGL					IAML		20 42 29.7	
	comp=N,157nm,4.9s							
HMT	**Hamilton**	4.16	326	Pn		Pn	20 41 33.0	+1.2
CRQE	**Cirque**	4.21	336	Pb		Pn	20 41 34.2	+1.7
	baz=154							
KIAG	**Kiagna River**	4.22	342			Pn	20 41 34.6	+1.9
CRQM	**Cirque**	4.22	336	Pn		Pn	20 41 33.9	+1.2
CRQM					IAML		20 42 26.5	
	comp=E,141nm,4.6s							
CRQM					IAML		20 42 30.9	
	comp=N,112nm,4.0s							
O30N	**Mendenhall**	4.25	24	Pn		Pn	20 41 37.0	+4.0
O30N					IAML		20 42 26.0	
	comp=N,94nm,2.8s							
O30N	**Mendenhall**	4.25	24	S		Sn	20 42 22.8	+0.3
	baz=207							
BARN	**Barnard Glacie**	4.25	347	Pn		Pn	20 41 35.1	+2.0
BARN					IAML		20 42 20.7	
	comp=N,115nm,4.4s							
BARN					IAML		20 43 10.1	
	comp=E,125nm,4.7s							
YUK5	**Granite Creek**	4.29	12			Pn	20 41 35.4	+1.8
BALM	**Baldy**	4.32	342			Pn	20 41 36.1	+2.0
RAGM	**Ragged Mountai**	4.33	325	Pn		Pn	20 41 35.1	+1.0
Q23K	**Middleton Isla**	4.33	308	Pn		Pn	20 41 34.0	0.0
Q32M	**Nakina River**	4.41	60	Pn		Pn	20 41 38.2	+2.8
Q32M					IAML		20 42 17.8	
	comp=N,123nm,4.4s							
Q32M					IAML		20 42 32.1	
	comp=E,134nm,4.1s							
YUK4	**Talbot Arm**	4.43	6	Pb		Pn	20 41 41.1	+5.5
	baz=188							
WHY	**Whitehorse**	4.46	32	Pn		Pn	20 41 38.2	+2.3
WHY					IAML		20 44 07.2	
	comp=E,144nm,4.6s							
WHY	**Whitehorse**	4.46	32	Pb		Pn	20 41 40.1	+4.1
	baz=216							
WHY				S		Sn	20 42 27.9	0.0
	baz=216							
PTPK	**Patty Peak**	4.49	342			Pn	20 41 38.6	+2.2
S34M	**Telegraph Cree**	4.70	75	Pn		Pn	20 41 39.9	+0.7
S34M					IAML		20 42 56.2	
	comp=N,82nm,1.4s							
N30M	**Aishikik Lake**	4.70	15	Pn		Pn	20 41 41.4	+2.2
N30M	**Aishikik Lake**	4.70	15	S		Sn	20 42 33.9	+0.1
	baz=198							
VRDI	**Verde Repeater**	4.71	337	Pn		Pn	20 41 40.9	+1.4
VRDI					IAML		20 42 40.6	
	comp=N,102nm,4.9s							
VRDI					IAML		20 42 52.5	
	comp=E,95nm,4.2s							
MCARA	**McCarthy VSAT**	4.77	340	Pn		Pn	20 41 41.5	+1.4
BMRM	**Bremner River**	4.77	330	Pn		Pn	20 41 40.7	+0.5
BMRM					IAML		20 42 40.8	
	comp=E,93nm,4.0s							
V35K	**Ketchikan**	4.78	107	Pn		Pn	20 41 42.9	+2.7
V35K					IAML		20 42 45.1	
	comp=E,88nm,3.9s							
V35K					IAML		20 43 31.2	
	comp=N,81nm,5.0s							
P33M	**Teslin, Yukon**	4.83	45	Pn		Pn	20 41 44.4	+3.2
P33M					IAML		20 42 27.9	
	comp=E,75nm,4.3s							
P33M					IAML		20 43 23.4	
	comp=N,96nm,4.6s							
YUK3	**Moose Creek**	4.85	355			Pn	20 41 43.6	+2.1
YUK2	**White River**	4.88	353			Pn	20 41 43.9	+2.1
N31M	**Braeburn, Yuko**	4.96	22	Pn		Pn	20 41 46.2	+3.5
HIN	**Hinchinbrook I**	4.97	317	Pn		Pn	20 41 43.5	+0.5
GLB	**Gilahina Butte**	4.98	336	Pn		Pn	20 41 44.6	+1.5
GLB					IAML		20 42 58.5	
	comp=E,77nm,4.5s							
T35M	**Bob Quinn**	5.14	86	Pn		Pn	20 41 46.4	+1.2
T35M					IAML		20 43 00.4	
	comp=N,75nm,3.8s							
T35M					IAML		20 43 31.1	
	comp=E,92nm,4.4s							
R33M	**Jennings River**	5.20	58	Pn		Pn	20 41 47.7	+1.6
R33M					IAML		20 42 29.9	
	comp=E,68nm,4.0s							
R33M					IAML		20 43 04.2	
	comp=N,80nm,4.7s							
FID	**Port Fidalgo**	5.20	320	Pn		Pn	20 41 46.6	+0.6
FID					IAML		20 43 42.4	
	comp=E,82nm,4.7s							
DIV	**Divide**	5.25	325	Pn		Pn	20 41 47.0	+0.2
DIV					IAML		20 43 18.2	
	comp=E,61nm,4.9s							
N25K	**Chitina, Valde**	5.31	333	Pn		Pn	20 41 49.3	+1.7
N25K					IAML		20 42 45.9	
	comp=E,70nm,3.8s							
N25K					IAML		20 43 04.9	
	comp=N,63nm,5.0s							
N32M	**Quiet Lake**	5.40	36	Pn		Pn	20 41 50.7	+2.0
GLI	**Glacier Island**	5.51	319	Pn		Pn	20 41 49.8	-0.5
M27K	**Edge Creek, AK**	5.54	349	Pn		Pn	20 41 53.3	+2.6
M29M	**Somme Creek**	5.54	6	Pn		Pn	20 41 53.2	+2.5
DIB	**Dawson Inlet,**	5.57	129	Pn		Pn	20 41 54.1	+2.9
KLU	**Klutina**	5.58	327	Pn		Pn	20 41 52.3	+1.0
M26K	**Nabesna, AK**	5.72	344	Pn		Pn	20 41 55.5	+2.3
M30M	**Minto, Yukon**	5.82	13	Pn		Pn	20 41 56.8	+2.3
MOBC	**Moresby Island**	5.83	128	Pn		Pn	20 41 56.9	+2.1
M31M	**Drury Creek, Y**	5.90	25	Pn		Pn	20 41 59.7	+4.1
PWL	**Port Wells**	5.97	315	Pn		Pn	20 41 56.7	+0.1
SEW	**Seward**	6.03	306	Pn		Pn	20 41 58.6	+1.2
M24K	**Tolsona, Glenn**	6.14	330	Pn		Pn	20 42 00.8	+1.9
L29M	**L29M**	6.22	6	Pn		Pn	20 42 03.2	+3.1
BCAR	**Beaver Creek A**	6.22	351	Pn		Pn	20 42 01.3	+1.2
L27K	**Beaver Creek,**	6.22	351	Pn		Pn	20 42 02.6	+2.6
SCM	**Sheep Creek Mo**	6.27	324	Pn		Pn	20 42 01.6	+0.8
O22K	**Cooper Landing**	6.33	308	Pn		Pn	20 42 02.3	+0.8
MENT	**Mentasta**	6.34	343	Pn		Pn	20 42 04.0	+2.3
KNK	**Knik Glacier**	6.36	318	Pn		Pn	20 42 03.3	+1.4
BRLK	**Bradley Lake**	6.55	300	Pn		Pn	20 42 05.7	+1.1
CNPM	**China Poot**	6.64	298	Pn		Pn	20 42 05.8	0.0
RC01	**Rabbit Creek A**	6.66	313	Pn		Pn	20 42 06.1	+0.1
PAX	**Paxson**	6.70	337	Pn		Pn	20 42 08.7	+2.0
PMR	**Palmer**	6.72	318	Pn		Pn	20 42 08.3	+1.4
GHO	**Glory Hole Cre**	6.77	319	Pn		Pn	20 42 08.6	+1.0
HG4B	**Hotspring**	6.77	130	Pn		Pn	20 42 09.4	+1.9
FIS	**Fire Island**	6.88	312	Pn		Pn	20 42 10.0	+0.9
WAT6	**Susitna Watana**	6.96	327			Pn	20 42 11.3	+1.0
K29M	**Barlow Dome**	6.99	8	Pn		Pn	20 42 13.2	+2.5
SYI	**Shuyak Island**	7.02	289	Pn		Pn	20 42 12.4	+1.4
KDAK	**Kodiak Island**	7.05	282	Pn		Pn	20 42 12.8	+1.4
DOT	**Dot Lake**	7.06	344	Pn		Pn	20 42 13.6	+2.0
MMPY	**Sheldon Lake,**	7.07	33	Pn		Pn	20 42 12.1	+0.3
DAWY	**Dawson**	7.13	1	Pn		Pn	20 42 16.2	+3.6
K27K	**Chicken**	7.20	351	Pn		Pn	20 42 14.8	+1.4
DHY	**Denali Highway**	7.25	331	Pn		Pn	20 42 16.2	+1.9
SUA	**Susitna One**	7.27	313	Pn		Pn	20 42 16.3	+1.8
RIDG	**Independent Ri**	7.28	341	Pn		Pn	20 42 18.1	+3.5
SCRK	**Sand Creek**	7.36	345	Pn		Pn	20 42 18.2	+2.5
OHAK	**Old Harbor**	7.44	278	Pn		Pn	20 42 17.7	+0.9
K24K	**Donnelly Dome**	7.51	339	Pn		Pn	20 42 21.6	+3.8
SPU	**Mount Spurr**	7.67	309	Pn		Pn	20 42 20.0	+0.1
STLK	**Strandline Lak**	7.73	311	Pn		Pn	20 42 21.0	+0.2
RND	**Reindeer**	7.93	328	Pn		Pn	20 42 26.0	+2.5
J25K	**Salcha River,**	8.17	342	Pn		Pn	20 42 29.3	+2.5
HDA	**Harding Lake**	8.29	337	Pn		Pn	20 42 30.9	+2.6
TRF	**Thorofare Moun**	8.39	325			Pn	20 42 32.2	+2.3
ILAR	**Eielson Array**	8.59	339	Pn		Pn	20 42 34.8	+2.2
CCB	**Clear Creek Bu**	8.68	336	Pn		Pn	20 42 35.7	+2.0
CHIR	**Chirikof Islan**	8.94	269	Pn		Pn	20 42 38.4	+1.1
BPAW	**Bear Paw Mtn.**	9.07	327	Pn		Pn	20 42 40.6	+1.5
H29M	**Whitestone**	9.31	3	Pn		Pn	20 42 43.7	+1.3
N17K	**Nushagak Hills**	9.79	299	Pn		Pn	20 42 49.5	+0.6
O16K	**Kokwok River B**	10.07	293	Pn		Pn	20 42 53.5	+0.8
G31M	**Satah River**	10.31	12	Pn		Pn	20 42 57.6	+1.7
H21K	**Melozitna Rive**	10.75	330	Pn		Pn	20 43 03.5	+1.4
O15K	**Ungalikthiuk R**	10.91	290	Pn		Pn	20 43 05.0	+0.8
CNBA	**Chernabura Isl**	11.40	268	Pn		Pn	20 43 13.0	+2.1
O14K	**Tigyukauivet M**	11.65	290	Pn		Pn	20 43 16.1	+1.7
OZB	**Mount Ozzard**	11.68	127	Pn		Pn	20 43 14.0	-0.9
SDPT	**Sand Point**	11.72	271	Pn		Pn	20 43 15.9	+0.6
LLLB	**Lillooet**	12.26	114	Pn		Pn	20 43 21.3	-1.4
CLRS	**Cowichan Lake**	12.39	125	Pn		Pn	20 43 23.6	-0.9
F19K	**Shaleruckik Mo**	13.02	327	Pn		Pn	20 43 32.8	+0.2
D20K	**Etivluk River**	14.04	334	Pn		Pn	20 43 48.8	+1.9
E18K	**Tukpahlearik C**	14.25	326	Pn		Pn	20 43 52.2	+2.4
D19K	**Kuna River**	14.25	332			Pn	20 43 51.4	+1.5
B20K	**Meade River**	15.15	337	Pn		Pn	20 44 02.0	0.0
B20K					IAmb	IAmb	20 44 15.1	
	comp=Z,4.5nm,0.9s							
C18K	**Utukok River**	15.19	329	Pn		Pn	20 44 02.7	+0.1
C16K	**Lisburne Hills**	16.21	325	Pn		Pn	20 44 15.9	+0.1
C16K					IAmb	IAmb	20 44 33.2	
	comp=Z,25nm,1.4s							
PAHR	**Pah Rah Range**	21.75	134	P		P	20 45 19.1	-0.8

IDC ***10*** *21:07:52.1±0.7,12.62S×14.46W,h0km,mb4.2/16, mbtmp4.2/16,MS4.1/3, Error ellipse: s-maj=30.9km s-min=15.8km az=107.0*

NEIC ***10*** *21:07:53.6±1.5,12.8S±0.1×14.41W±0.10,h10km±1km, mb4.9/43, Error ellipse: s-maj=19.1km s-min=16.4km az=170.0*

ISC 10 21:07:54.7±0.4,12.73S±0.08×14.44W±0.08,h18km,n99, σ0º99/89,mb4.8/44,MS4.1/3,2C-2D,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	3.75	357	T		T	21 12 49.1	
	baz=180,slow=74,SNR=280							
H10S3	**ASCENSION HYDR**	3.76	357	T		T	21 12 52.5	
	baz=40,slow=74,SNR=251							
H10N1	**ASCENSION HYDR**	4.85	360	T		T	21 14 15.4	
	baz=181,slow=73,SNR=41							
H10N3	**ASCENSION HYDR**	4.86	359	T		T	21 13 59.6	
	baz=181,slow=73,SNR=87							
H10N2	**ASCENSION HYDR**	4.87	359	T		T	21 14 25.3	
	baz=181,slow=73,SNR=51							
DBIC	**Dimbokro**	21.50	27			P	21 12 42.9	+0.2
DBIC	**Dimbokro**	21.50	27	P		P	21 12 42.4	-0.3
	13nm,1.2s,baz=235,slow=8.0,SNR=4.5							
	13nm,1.2s							
RCBR	**Riachuelo**	22.25	286	P		P	21 12 51.0	+0.1
RCBR					IAmb	IAmb	21 12 56.4	
	comp=Z,104nm,1.8s							
TORD	**Torodi Ar. Bea**	30.28	32			P	21 14 04.1	-0.9
TORD	**Torodi Ar. Bea**	30.28	32	P		P	21 14 04.9	-0.2
	comp=Z,1.3nm,0.9s,baz=225,slow=5.5,SNR=6.3							
	comp=Z,1.3nm,0.9s							
TSUM	**Tsumeb**	31.42	106	LR		LR	21 24 26.5	
	comp=Z,167nm,20.7s,baz=132,slow=32							
BDFB	**Brasilia**	32.66	261	P		P	21 14 27.6	+1.4
	comp=Z,2.9nm,0.7s,baz=85,slow=4.6,SNR=3.1							
	comp=Z,2.9nm

SQTA	**Sankt Quirin**	**63.94**	**19**	*e*P	**P**	**21 18 26.6**	**-0.1**
	comp=Z,9.2nm,1.4s							
MOTA	**Moosalm**	**64.01**	**19**	*e*P	**P**	**21 18 27.2**	**-0.1**
	comp=Z,6.4nm,1.4s							
RETA	**Reutte**	**64.03**	**19**	*e*P	**P**	**21 18 27.1**	**-0.2**
	comp=Z,8.3nm,1.4s							
BFO	**Black Forest**	**64.07**	**17**	P	**P**	**21 18 27.9**	**+0.5**
BFO				IAmb	IAmb	21 18 34.5		
	comp=Z,8.1nm,1.0s							
OBKA	**Obir**	**64.46**	**22**	*e*P	**P**	**21 18 30.6**	**+0.5**
	comp=Z,13nm,1.7s							
LESA	**Schwarzleotal**	**64.60**	**20**	P	**P**	**21 18 31.1**	**+0.1**
	comp=Z,4.1nm,1.1s							
SOKA	**Soboth**	**64.78**	**22**	*e*P	**P**	**21 18 33.2**	**+1.0**
	comp=Z,11nm,1.7s							
COHC	**Cochancay**	**64.90**	**273**	P	**P**	**21 18 33.3**	**-0.3**
BIOA	**Bad Ischl, Aus**	**65.15**	**21**	*e*P	**P**	**21 18 35.0**	**+0.4**
	comp=Z,3.5nm,1.0s							
ARSA	**Arzberg**	**65.44**	**22**	P	**P**	**21 18 36.4**	**-0.1**
ARSA				IAmb	IAmb	21 18 44.4		
	comp=Z,6.2nm,1.1s							
ARSA	**Arzberg**	**65.44**	**22**	*e*P	**P**	**21 18 37.0**	**+0.5**
	comp=Z,8.0nm,1.3s							
MOA	**Molln**	**65.50**	**21**	*e*P	**P**	**21 18 37.2**	**+0.4**
	comp=Z,8.3nm,1.3s							
SYO	**Syowa Base**	**65.75**	**161⇑***e*pP		**P**	**21 18 38.2**	**+0.1**
SYO	**Syowa Base**	**65.75**	**161⇑***e*sP		sP	21 18 42.6	-2.4
BELA	**Belgrano 2**	**65.95**	**185**		**P**	**21 18 39.2**	**-0.1**
RONA	**Rosalia, Austr**	**66.10**	**22**	*e*P	**P**	**21 18 41.1**	**+0.3**
	comp=Z,12nm,1.4s							
CONA	**Conrad Observa**	**66.14**	**22**	*e*P	**P**	**21 18 42.4**	**+1.4**
	comp=Z,12nm,1.6s							
GEC2	**GERESS Array S**	**66.17**	**20**		**P**	**21 18 41.4**	**+0.1**
GEC2				IAmb	IAmb	21 18 48.6		
	comp=Z,16nm,1.6s							
GERES	**GERESS Array B**	**66.17**	**20**	P	**P**	**21 18 41.2**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=224,slow=5.6,SNR=8.2							
	comp=Z,0.6nm,0.8s							
KRUC	**Moravsky**	**67.28**	**21**	*e*P	**P**	**21 18 48.1**	**-0.1**
VRAC	**Vranov**	**67.56**	**21**	LR	LR	21 49 52.6		
	comp=Z,394nm,18.2s,baz=326,slow=37							
VRAC	**Vranov**	**67.56**	**21**	*e*P	**P**	**21 18 50.4**	**+0.4**
JAVC	**Velka Javorina**	**67.58**	**22**	*e*P	**P**	**21 18 51.4**	**+1.3**
PSZ	**Piszkesteto**	**67.67**	**24**	P	**P**	**21 18 51.2**	**+0.4**
BRG	**Berggiesshubel**	**68.01**	**19**	*e*P	**P**	**21 18 52.6**	**+3.5**
BRG				Amp		21 18 59.3		
	comp=Z,7.8nm,1.3s							
CLL	**Collm**	**68.09**	**18**	*i* P	**P**	**21 18 54.3**	**+1.1**
	comp=Z,28nm,2.0s							
MORC	**Moravsky Berou**	**68.29**	**22**		**P**	**21 18 54.7**	**+0.2**
MORC				IAmb	IAmb	21 18 56.9		
	comp=Z,9.9nm,1.4s							
MORC	**Moravsky Berou**	**68.29**	**22**	*e*P	**P**	**21 18 54.8**	**+0.2**
MLR	**Muntele Rosu**	**68.46**	**29**		**P**	**21 18 56.1**	**+0.3**
BR131	**Keskin Array S**	**68.69**	**38**		**P**	**21 18 57.3**	**-0.2**
BR131				IAmb	IAmb	21 19 02.4		
	comp=Z,7.0nm,1.2s							
BRTR	**Keskin Array B**	**68.69**	**38**		**P**	**21 18 57.2**	**-0.2**
BRTR	**Keskin Array B**	**68.69**	**38**	P	**P**	**21 18 58.0**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=223,slow=5.9,SNR=6.8							
	comp=Z,1.0nm,0.8s							
KSP	**Ksiaz**	**68.75**	**20**	*e*P	**P**	**21 18 59.5**	**+2.1**
RAYN	**Ar Rayn**	**68.80**	**58**	P	**P**	**21 18 58.6**	**+0.3**
RAYN				IAmb	IAmb	21 19 13.6		
	comp=Z,22nm,1.9s							
NIE	**Niedzica**	**69.03**	**23**	*e*P	**P**	**21 18 60.0**	**+0.7**
OJC	**Ojcow**	**69.49**	**23**	*e*P	**P**	**21 19 03.1**	**+1.2**
OJC	**Ojcow**	**69.49**	**23**	P	**P**	**21 19 01.8**	**-0.2**
BNN	**Bunyan**	**69.51**	**40**	P	**P**	**21 19 02.7**	**+0.1**
BURAR	**Bucovina Array**	**69.69**	**27**	P	**P**	**21 19 00.8**	**-2.6**
BUR08	**Bucovina Ar. S**	**69.71**	**27**	P	**P**	**21 19 01.1**	**-2.4**
MAW	**Mawson**	**73.48**	**157**	P	**P**	**21 19 26.8**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=311,slow=5.5,SNR=4.7							
	comp=Z,1.9nm,0.8s							
KIEV	**Kiev**	**73.73**	**27**		**P**	**21 19 26.7**	**-0.8**
KIEV				IAmb	IAmb	21 19 34.6		
	comp=Z,23nm,1.4s							
AKASG	**Malin Array Be**	**73.75**	**27**	P	**P**	**21 19 26.3**	**-1.3**
AKASG				IAmb	IAmb	21 19 28.6		
	comp=Z,22nm,1.6s							
AKASG	**Malin Array Be**	**73.75**	**27**	P	**P**	**21 19 26.2**	**-1.3**
	comp=Z,1.7nm,0.7s,baz=228,slow=6.7,SNR=23							
	comp=Z,1.7nm,0.7s							
AKBB	**Malin Array Si**	**73.75**	**27**		**P**	**21 19 26.7**	**-0.9**
SUW	**Suwalki**	**73.78**	**22**	P	**P**	**21 19 25.7**	**-2.0**
HFS	**Hagfors**	**76.05**	**14**	P	**P**	**21 19 40.8**	**+0.1**
	comp=Z,3.7nm,0.9s,baz=164,slow=7.5,SNR=3.9							
	comp=Z,3.7nm,0.9s							
NB2	**NORSAR Subarra**	**76.30**	**13**	P	**P**	**21 19 43.1**	**+0.9**
	comp=Z,14nm,1.4s,baz=207,slow=5.9							
NOA	**NORSAR Array B**	**76.30**	**13**	P	**P**	**21 19 41.8**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=206,slow=6.0,SNR=6.8							
	comp=Z,1.7nm,0.8s							
QSPA	**South Pole Qui**	**77.42**	**180**		**P**	**21 19 48.1**	**-0.6**
QSPA				IAmb	IAmb	21 19 58.0		
	comp=Z,16nm,1.2s							
QSPA	**South Pole Qui**	**77.42**	**180**	P	**P**	**21 19 50.6**	**+1.9**
	comp=Z,3.2nm,0.8s,baz=255,slow=2.9,SNR=7.7							
	comp=Z,3.2nm,0.8s							
FINES	**FINESS Array B**	**80.54**	**18**	P	**P**	**21 20 03.6**	**-1.9**
FINES	**FINESS Array B**	**80.54**	**18**	P	**P**	**21 20 04.2**	**-1.3**
	comp=Z,2.2nm,0.9s,baz=226,slow=5.6,SNR=5.2							
	comp=Z,2.2nm,0.9s							
JMIC	**Jan Mayen**	**83.61**	**2**	LR	LR	21 51 09.0		
	comp=Z,86nm,21.2s,baz=231,slow=31							
SBA	**Scott Base**	**89.58**	**180**		**P**	**21 20 50.9**	**+0.2**
VNDA	**Vanda**	**89.89**	**179**	P	**P**	**21 20 53.0**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=247,slow=0.3,SNR=3.2							
	comp=Z,1.3nm,0.8s							
TXAR	**Lajitas Array**	**95.47**	**299**	P	**P**	**21 21 18.5**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=96,slow=5.9,SNR=4.9							
	comp=Z,0.2nm,0.7s							
MJAR	**Matsushiro Arr**	**145.87**	**41**	PKPbc	**PKPbc**	**21 27 33.7**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=281,slow=3.3,SNR=5.1							

*JMA **10** 21:24:54.9±0.1,23°.3N±1°.0×12°.1E±°, h45km±2km, MV3.5/16,TAIWAN REGION*
*TAP **10** 21:24:56.1,23°.31N×121°.44E, h42km, ML3.7, C*
ISC 10 21:24:56.2±0.9,23°28N±0°.02×121°51E±0°.02, h34km±1km, n159, σ0s87/244, 23C-19D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECBN	**Changbin**	**0.06**	**301**	⇓*i*P	**Pb**	**21 25 03.1**	**+1.2**
ECBN				*i* S	**Sb**	**21 25 08.3**	**+2.5**
CHKH	**Chenggong**	**0.14**	**229**	⇓*i*P	**Pb**	**21 25 03.1**	**+0.7**
CHKH				S	**Sb**	**21 25 08.3**	**+1.7**
EYUL	**Yuli**	**0.19**	**290**	P	**Pb**	**21 25 03.2**	**+0.5**
EYUL				S	**Sb**	**21 25 08.4**	**+1.2**
TWF1	**Yuli**	**0.21**	**289**	⇓*i*P	**Pb**	**21 25 03.0**	**0.0**
TWF1				S	**Sb**	**21 25 07.9**	**+0.3**
FULB	**Fuli**	**0.21**	**247**	⇓*i*P	**Pb**	**21 25 03.6**	**+0.5**
FULB				*e*S	**Sb**	**21 25 09.7**	**+1.9**
HGSD	**Ruisui**	**0.22**	**339**	⇑*i*P	**Pb**	**21 25 03.6**	**+0.4**
HGSD				S	**Sb**	**21 25 08.8**	**+0.9**
YULB	**Yu-li**	**0.22**	**299**	P	**Pn**	**21 25 02.8**	**+0.4**
YULB	**Yu-li**	**0.22**	**299**	S	**Sb**	**21 25 08.0**	**+0.1**
YULB	**Yu-li**	**0.22**	**299**	⇓*i*P	**Pn**	**21 25 03.1**	**+0.6**
YULB				S	**Sb**	**21 25 07.7**	**-0.2**
CHKT	**Chengkung**	**0.23**	**216**	⇓*i*P	**Pb**	**21 25 03.7**	**+0.5**
CHKT				*i* S	**Sb**	**21 25 09.8**	**+1.9**
EHYH	**Wanrong**	**0.26**	**324**	⇑*i*P	**Pn**	**21 25 03.5**	**+0.2**
EHYH				S	**Sb**	**21 25 08.6**	**0.0**
EHY	**Hungye**	**0.28**	**322**	⇑*i*P	**Pn**	**21 25 03.6**	**-0.2**
EHY				S	**Sn**	**21 25 08.4**	**+0.5**
EHD	**Haiduan**	**0.31**	**244**	⇓P	**Pb**	**21 25 03.9**	**-0.3**
EHD				*e*S	**Sn**	**21 25 08.7**	**-0.4**
ECS	**Chishang**	**0.33**	**235**	⇓*i*P	**Pb**	**21 25 04.6**	**+0.2**
ECS				*e*S	**Sb**	**21 25 11.0**	**+1.0**
EDH	**Donghe**	**0.36**	**211**	⇓*i*P	**Pb**	**21 25 05.0**	**+0.1**
EDH				*e*S	**Sb**	**21 25 11.6**	**+0.8**
EGFH	**Guangfu**	**0.39**	**349**	*i* P	**Pb**	**21 25 04.8**	**-0.5**
EGFH				*i* S	**Sb**	**21 25 11.0**	**-0.4**
TEGC	**Jichi Village**	**0.42**	**4**	⇑*i*P	**Pb**	**21 25 06.1**	**+0.3**
TEGC				*e*S	**Sn**	**21 25 13.0**	**+0.4**
WARBT	**Fenglin Townsh**	**0.45**	**345**	⇑*i*P	**Pb**	**21 25 05.2**	**-0.9**
WARBT				*e*S	**Sb**	**21 25 11.1**	**-1.8**
ELDTW	**Lidau**	**0.46**	**258**	⇓*i*P	**Pb**	**21 25 05.7**	**-0.7**
ELDTW				S	**Sb**	**21 25 12.0**	**-1.4**
SHUL	**Shoufeng**	**0.50**	**6**	⇑P	**Pb**	**21 25 07.0**	**+0.1**
SHUL				*e*S	**Sn**	**21 25 15.2**	**+0.6**
LONT	**Longtian**	**0.51**	**223**	⇓*i*P	**Pb**	**21 25 06.3**	**-0.8**
LONT				*e*S	**Sb**	**21 25 14.0**	**-0.5**
ESL	**Shilin**	**0.53**	**352**	⇑*i*P	**Pn**	**21 25 06.2**	**-1.2**
ESL				*e*S	**Sb**	**21 25 13.4**	**-1.7**
TEYL	**Yanliau Villag**	**0.59**	**8**	*e*P	**Pn**	**21 25 08.5**	**+0.3**
TEYL				*e*S	**Sb**	**21 25 18.7**	**+2.2**
LDUT	**Ludao**	**0.61**	**183**	*e*P	**Pn**	**21 25 07.9**	**-0.5**
LDUT				S	**Sn**	**21 25 17.3**	**+0.2**
TWGBT	**Beinan**	**0.61**	**220**	P	**Pn**	**21 25 07.0**	**-1.5**
TWGBT	**Beinan**	**0.61**	**220**	⇓*i*P	**Pn**	**21 25 07.2**	**-1.3**
TWGBT				S	**Sn**	**21 25 15.6**	**-1.6**
TWG	**Pinlang**	**0.61**	**221**	⇓*i*P	**Pn**	**21 25 07.2**	**-1.3**
TWG				*i* S	**Sn**	**21 25 15.6**	**-1.6**
TTN	**Taitung**	**0.62**	**212**	*e*P	**Pn**	**21 25 08.5**	**-0.1**
TTN				*i* S	**Sn**	**21 25 17.9**	**+0.4**
ETM	**Tongmen**	**0.68**	**359**	⇑P	**Pn**	**21 25 08.3**	**-1.2**
STYH	**Taoyuan**	**0.68**	**261**	⇓P	**Pn**	**21 25 09.3**	**-0.2**
STYH				*e*S	**Sn**	**21 25 18.4**	**-0.5**
ALS	**Alishan**	**0.69**	**289**	⇓*i*P	**Pn**	**21 25 09.9**	**+0.1**
ALS				*e*S	**Sn**	**21 25 19.3**	**-0.2**
HWA	**Hwalien**	**0.69**	**7**	*e*P	**Pn**	**21 25 09.6**	**-0.1**
SSLB	**Suanglung**	**0.71**	**315**	P	**Pn**	**21 25 09.5**	**-0.5**
SSLB	**Suanglung**	**0.71**	**315**	⇑*i*P	**Pn**	**21 25 09.6**	**-0.5**
SSLB				S	**Sn**	**21 25 18.7**	**-1.1**
WHYT	**Xinyi Township**	**0.73**	**304**	⇑P	**Pn**	**21 25 10.4**	**+0.2**
WHYT				*i* S	**Sn**	**21 25 20.2**	**0.0**
OWD	**Renai**	**0.73**	**335**	*e*P	**Pn**	**21 25 09.7**	**-0.7**
OWD				*i* S	**Sn**	**21 25 18.2**	**-2.3**
LXIB	**Xiulin Townshi**	**0.74**	**353**	⇑*i*P	**Pn**	**21 25 09.1**	**-1.3**
LXIB				*e*S	**Sn**	**21 25 18.3**	**-2.3**
WUSB	**Renai**	**0.79**	**333**	⇑*i*P	**Pn**	**21 25 10.7**	**-0.4**
WUSB				*e*S	**Sn**	**21 25 20.0**	**-1.9**
TWD	**Chiawan**	**0.80**	**6**	⇑P	**Pn**	**21 25 10.2**	**-0.9**
TPUB	**Ta-pu**	**0.81**	**271**	P	**Pn**	**21 25 10.8**	**+0.5**
TPUB	**Ta-pu**	**0.81**	**271**	⇓*i*P	**Pn**	**21 25 11.5**	**+0.2**
TPUB				*e*S	**Sn**	**21 25 22.8**	**+0.7**
SMLT	**Sun Moon Lake**	**0.82**	**317**	⇑*i*P	**Pn**	**21 25 11.6**	**+0.1**
SMLT				*e*S	**Sn**	**21 25 21.9**	**-0.5**
CHN5	**Tsauling**	**0.82**	**292**	*e*P	**Pn**	**21 25 12.1**	**+0.5**
CHN5				*e*S	**Sn**	**21 25 22.7**	**+0.1**
WTP	**Ta-pu**	**0.82**	**268**	⇓*i*P	**Pn**	**21 25 11.7**	**+0.1**
WTP				*e*S	**Sb**	**21 25 23.4**	**+0.3**
WCKO	**Fanlu**	**0.84**	**281**	⇓*e*P	**Pn**	**21 25 11.9**	**+0.1**
WCKO				*e*S	**Sn**	**21 25 23.2**	**+0.2**
ECL	**Taimali**	**0.85**	**217**	⇓P	**Pn**	**21 25 10.2**	**-1.7**
ECL				*e*S	**Sn**	**21 25 20.7**	**-2.5**
TYC	**Yuchr**	**0.86**	**316**	⇑*i*P	**Pn**	**21 25 12.2**	**+0.2**
TYC				S	**Sn**	**21 25 23.4**	**+0.1**
ETL	**Fush Village**	**0.88**	**7**	*e*P	**Pn**	**21 25 11.2**	**-1.1**
WHF	**Hehuan Shan**	**0.89**	**345**	⇑*i*P	**Pn**	**21 25 11.8**	**-0.9**
WHF				*e*S	**Sn**	**21 25 23.1**	**-1.5**
NACB	**Ninganchiao**	**0.89**	**5**	P	**Pn**	**21 25 11.1**	**-1.3**
NACB	**Ninganchiao**	**0.89**	**5**	⇑*i*P	**Pn**	**21 25 11.1**	**-1.3**
NACB				*e*S	**Sn**	**21 25 21.6**	**-2.4**
WJS	**Zhushan**	**0.90**	**307**	*e*P	**Pn**	**21 25 13.1**	**+0.7**
WJS				*i* S	**Sb**	**21 25 25.5**	**+0.4**
ETLH	**Xiulin Townshi**	**0.92**	**358**	⇑P	**Pn**	**21 25 11.6**	**-1.3**
SNST	**Tainan City**	**0.93**	**266**	*e*P	**Pn**	**21 25 13.5**	**+0.5**
SNST				*e*S	**Sb**	**21 25 26.3**	**+0.2**
TWK	**Hsinying**	**0.94**	**269**	*e*P	**Pn**	**21 25 13.4**	**+0.3**
TWK				*e*S	**Sb**	**21 25 26.4**	**0.0**
WCS	**Beigang Elemen**	**0.94**	**325**	⇑P	**Pn**	**21 25 13.5**	**+0.3**
WGK	**Gukeng**	**0.96**	**295**	P	**Pb**	**21 25 14.6**	**+0.2**
WGK				*e*S	**Sb**	**21 25 27.3**	**+0.5**
WNT	**Mingjian**	**0.96**	**308**	⇑P	**Pn**	**21 25 13.9**	**+0.6**
WNT				*e*S	**Sn**	**21 25 26.6**	**+0.7**
SSD	**Sandimen**	**0.97**	**237**	P	**Pn**	**21 25 13.1**	**-0.4**
SSD				*e*S	**Sn**	**21 25 26.6**	**+0.6**
WDLH	**Douliu**	**0.98**	**295**	*e*P	**Pb**	**21 25 14.8**	**0.0**
WDLH				*e*S	**Sb**	**21 25 28.3**	**+1.0**
CHN2	**Minshiung**	**0.98**	**285**	*e*P	**Pb**	**21 25 14.9**	**+0.1**
FUSS	**Fushou**	**0.99**	**346**	⇑*i*P	**Pn**	**21 25 13.7**	**-0.3**
TWT	**Tachien**	**1.01**	**343**	⇑P	**Pn**	**21 25 14.3**	**+0.1**
TWT				*e*S	**Sn**	**21 25 27.8**	**+0.4**
SCST	**Cishan**	**1.02**	**247**	P	**Pb**	**21 25 15.6**	**+0.2**
SCST				*e*S	**Sb**	**21 25 29.7**	**+1.3**
TDCB	**Techi**	**1.02**	**342**	⇑*i*P	**Pn**	**21 25 14.3**	**0.0**
MASBT	**Mashibuluo**	**1.05**	**231**	*e*P	**Pn**	**21 25 14.3**	**-0.3**
EAHA	**Aohua**	**1.06**	**11**	*e*P	**Pn**	**21 25 14.6**	**-0.2**
CHN3	**Shinhua**	**1.07**	**259**	*e*P	**Pb**	**21 25 16.7**	**+0.4**
CHN3				*e*S	**Sb**	**21 25 31.3**	**+1.2**
TAW	**Tawu**	**1.08**	**212**	*e*P	**Pn**	**21 25 13.9**	**-1.1**
TAW				S	**Sn**	**21 25 27.0**	**-1.9**
EAST	**Anshuo**	**1.08**	**214**	*e*P	**Pn**	**21 25 14.0**	**-1.1**
SGLT	**Jiouru**	**1.09**	**240**	*e*P	**Pb**	**21 25 17.3**	**+0.7**
TAWH	**Dawu Township**	**1.10**	**212**	*e*P	**Pn**	**21 25 14.3**	**-0.9**
TWM1	**Shoushan**	**1.10**	**246**	*e*P	**Pn**	**21 25 17.3**	**+0.5**
TWM1				*e*S	**Sb**	**21 25 32.1**	**+1.2**
WTK	**Tuku**	**1.10**	**292**	*e*P	**Pn**	**21 25 15.6**	**+0.3**
WTK				S	**Sn**	**21 25 30.1**	**+0.7**
EOS4	**EOS4**	**1.11**	**42**	*e*P	**Pn**	**21 25 15.4**	**+0.3**
EOS4				S	**Sn**	**21 25 29.1**	**-0.1**
WHP	**Taichung City**	**1.12**	**333**	*e*P	**Pn**	**21 25 16.4**	**+0.8**
WHP				*e*S	**Sn**	**21 25 30.5**	**+0.6**
ICHU	**Yijhu**	**1.13**	**274**	*e*P	**Pn**	**21 25 16.6**	**+0.9**
ICHU				*e*S	**Sn**	**21 25 31.4**	**+1.3**
NNSB	**Datong**	**1.15**	**354**	*e*P	**Pn**	**21 25 15.7**	**-0.3**
TCU	**Taichung**	**1.15**	**319**	*e*P	**Pn**	**21 25 17.0**	**+1.0**
ENA	**Nanau**	**1.16**	**11**	*e*P	**Pn**	**21 25 15.3**	**-0.8**
NNS	**Nan Shan**	**1.16**	**354**	*e*P	**Pn**	**21 25 15.7**	**-0.5**
WCH1	**Changhua City**	**1.18**	**312**	*e*P	**Pn**	**21 25 17.6**	**+1.2**
EWUT	**Wuta**	**1.18**	**12**	*e*P	**Pn**	**21 25 16.0**	**-0.4**
CHN8	**Yiju**	**1.20**	**273**	*e*P	**Pn**	**21 25 17.3**	**+0.7**
CHN8				*i* S	**Sn**	**21 25 33.0**	**+1.3**
WSL	**Shuilin Townsh**	**1.20**	**282**	⇑P	**Pn**	**21 25 17.1**	**+0.5**
WSL				*e*S	**Sn**	**21 25 33.0**	**+1.2**
SCLT	**Jiali**	**1.22**	**265**	*e*P	**Pn**	**21 25 17.6**	**+0.8**
SCLT				*e*S	**Sn**	**21 25 33.1**	**+1.0**
SCZT	**Fangliau**	**1.22**	**222**	P	**Pn**	**21 25 17.0**	**0.0**
WSF	**Szhu**	**1.23**	**287**	*e*P	**Pn**	**21 25 17.6**	**+0.5**
WSF				*e*S	**Sn**	**21 25 33.5**	**+0.9**
LAY	**Lan-yu**	**1.24**	**178**	*e*P	**Pn**	**21 25 16.4**	**-0.9**
EOS3	**EOS3**	**1.24**	**36**	*e*P	**Pn**	**21 25 17.7**	**+0.6**
EOS3				*e*S	**Sn**	**21 25 31.8**	**-0.8**
LATG	**Datong**	**1.25**	**1**	*e*P	**Pn**	**21 25 16.8**	**-0.7**
SLIU	**Shizi**	**1.25**	**212**	*e*P	**Pn**	**21 25 16.4**	**-0.9**
TWQ1	**Liyutan**	**1.26**	**328**	*i* P	**Pb**	**21 25 19.0**	**-0.5**
TWQ1				*e*S	**Sb**	**21 25 35.1**	**-0.2**
LYUB	**Lan-yu**	**1.28**	**177**	*e*P	**Pn**	**21 25 15.8**	**-1.9**
EOS2	**EOS2**	**1.31**	**30**	*e*P	**Pn**	**21 25 19.1**	**+1.0**
WSSB	**Gushan**	**1.31**	**241**	*e*P	**Pb**	**21 25 20.0**	**-0.4**
WSSB				*e*S	**Sb**	**21 25 36.8**	**-0.2**
TSCK	**Chigu Township**	**1.32**	**264**	*e*P	**Pn**	**21 25 18.7**	**+0.5**
TSCK				*i* S	**Sn**	**21 25 35.8**	**+1.1**
NSY	**Sanyi**	**1.32**	**329**	*e*P	**Pb**	**21 25 19.9**	**-0.6**
NSY				S	**Sb**	**21 25 37.5**	**+0.4**
WDJ	**Dajia District**	**1.32**	**323**	*e*P	**Pn**	**21 25 19.8**	**+1.4**
ENTT	**Nioudou**	**1.35**	**2**	*e*P	**Pn**	**21 25 18.4**	**-0.3**
TWC	**Suao**	**1.35**	**13**	*e*P	**Pn**	**21 25 18.7**	**-0.1**
NDS	**Dongshan**	**1.36**	**8**	*e*P	**Pn**	**21 25 18.6**	**-0.2**
YHNB	**Yeheng**	**1.39**	**355**	P	**Pn**	**21 25 19.5**	**+0.2**
YHNB	**Yeheng**	**1.39**	**355**	S	**Sn**	**21 25 36.1**	**-0.4**
YHNB	**Yeheng**	**1.39**	**355**	*e*P	**Pn**	**21 25 19.4**	**+0.2**
YHNB				*e*S	**Sn**	**21 25 36.0**	**-0.5**
NFF	**Wufeng Townshi**	**1.39**	**345**	P	**Pn**	**21 25 20.5**	**+1.1**
NFF				*e*S	**Sn**	**21 25 37.9**	**+1.3**
NSK	**Sanguang**	**1.39**	**354**	*i* P	**Pn**	**21 25 19.6**	**+0.2**
NSK				*e*S	**Sn**	**21 25 36.6**	**0.0**
WLCH	**Liuqiu**	**1.40**	**229**	*e*P	**Pb**	**21 25 22.2**	**+0.5**
NMLH	**Miaoli**	**1.41**	**332**	*e*P	**Pn**	**21 25 20.8**	**+1.3**
NMLH				*e*S	**Sb**	**21 25 38.7**	**+1.0**
TWP	**Hsiaoliuchiu**	**1.41**	**229**	*e*P	**Pb**	**21 25 21.9**	**-0.1**
NSTT	**Nanjuang**	**1.42**	**341**	*e*P	**Pn**	**21 25 20.6**	**+0.9**
NSTT				*e*S	**Sn**	**21 25 37.4**	**+0.2**
LIOB	**Emei**	**1.43**	**342**	*e*P	**Pn**	**21 25 21.1**	**+1.3**
LIOB				*e*S	**Sn**	**21 25 38.6**	**+1.1**
TWE	**Neicheng**	**1.44**	**6**	*e*P	**Pn**	**21 25 19.8**	**-0.1**
HEN	**Hengchun**	**1.46**	**209**	*e*P	**Pn**	**21 25 21.3**	**+1.1**
KSHI	**Guanxi Townshi**	**1.52**	**348**	*e*P	**Pn**	**21 25 22.9**	**-0.9**
EGS		**1.60**	**14**	*e*P	**Pn**	**21 25 24.4**	**-0.9**
TATO	**Taipei**	**1.68**	**359**	P	**Pn**	**21 25 23.6**	**+0.3**
TWA	**Mucha**	**1.69**	**2**	*e*P	**Pn**	**21 25 23.4**	**-0.1**
WDGT	**Dungji**	**1.70**	**270**	*e*P	**Pn**	**21 25 23.3**	**-0.2**
WDGT				*e*S	**Sn**	**21 25 42.8**	**-1.4**
TIPB	**Shuangxi**	**1.71**	**10**	*e*P	**Pn**	**21 25 24.4**	**+0.8**
JYNG	**Yonagunijimaku**	**1.75**	**48**	*e*P	**Pn**	**21 25 25.1**	**+0.8**
JYNG				*e*S	**Sn**	**21 25 46.2**	**+0.8**
TWB1	**Santiao Chiao**	**1.77**	**14**	*e*P	**Pn**	**21 25 25.1**	**+0.6**
PHUB	**P'eng-hu**	**1.79**	**278**	P	**Pn**	**21 25 24.7**	**-0.1**
NWF	**Wu-fen Shan**	**1.80**	**8**	*e*P	**Pn**	**21 25 24.8**	**-0.2**
WFSB	**Wu-fen Shan**	**1.80**	**8**	*e*P	**Pn**	**21 25 25.0**	**+0.1**
YOJ	**Yonaguni jima**	**1.81**	**49**	P	**Pn**	**21 25 25.8**	**+0.8**
YOJ	**Yonaguni jima**	**1.81**	**49**	*e*P	**Pn**	**21 25 25.9**	**+0.8**
YOJ	**Yonaguni jima**	**1.81**	**49**	*e*P	**Pn**	**21 25 26.0**	**+1.0**
YOJ				*e*S	**Sn**	**21 25 48.1**	**+1.4**
PNG	**Penghu**	**1.82**	**279**	*i* P	**Pn**	**21 25 24.9**	**-0.2**
SXI1	**Grass Mountain**	**1.83**	**10**	*e*P	**Pn**	**21 25 25.8**	**+0.3**
ZUZH	**Zhuzihu**	**1.87**	**1**	*e*P	**Pn**	**21 25 26.2**	**+0.3**
NTST	**Danshui**	**1.87**	**358**	*e*P	**Pn**	**21 25 26.4**	**+0.5**
TNOU	**National Taiwa**	**1.87**	**7**	*e*P	**Pn**	**21 25 25.1**	**-0.8**
ANP	**Anpu**	**1.89**	**0**	*e*P	**Pn**	**21 25 26.0**	**-0.3**
VCHM	**Qimei**	**1.91**	**268**	*e*P	**Pn**	**21 25 26.0**	**-0.5**
TWY	**Chenhua**	**1.98**	**2**	*e*P	**Pn**	**21 25 27.0**	**-0.4**
HATJ	**Hateruma jima**	**2.24**	**69**	*e*P	**Pn**	**21 25 31.6**	**+0.6**
HATJ				*e*S	**Sn**	**21 25 57.3**	**-0.2**
IRIF	**Iriomote-Funau**	**2.29**	**62**	*e*P	**Pn**	**21 25 32.5**	**+0.9**
IRIF				*e*S	**Sn**	**21 26 00.0**	**+1.4**
JKRS	**Kuro-shima**	**2.48**	**67**	*e*P	**Pn**	**21 25 35.2**	**+0.9**
JKRS				S	**Sn**	**21 26 04.3**	**+1.0**
VWUC	**VWUC**	**2.54**	**312**	*e*P	**Pn**	**21 25 34.5**	**-0.5**
JIJ	**Ishigaki jima**	**2.64**	**65**	P	**Pn**	**21 25 36.8**	**+0.3**
JIJ				*e*S	**Sn**	**21 26 06.8**	**-0.5**
PTMZ	**Houxiangcun**	**2.80**	**309**	*e*P	**Pn**	**21 25 37.9**	**-0.7**
JISG	**Ishigakijimahi**	**2.87**	**63**	P	**Pn**	**21 25 39.8**	**+0.2**
JISG				*e*S	**Sn**

KRL1				S	Sb	22 00 53.1	-0.5	
SMG	**Samos**	**0.31**	**182**	P	Pb	22 00 50.0	-0.3	
SMG				S	Sb	22 00 55.0	-0.3	
SMG	**Samos**	**0.31**	**182**	P	Pg	22 00 49.9	+0.7	
SMG				S	Sb	22 00 54.6	-0.8	
ZEYE	**Izmir, Urla-Ze**	**0.35**	**309**	P	Pg	22 00 50.2	+0.3	
ZEYE				S	Sb	22 00 55.8	-0.8	
ZEYE				*i* IAML		22 00 56.0		
	comp=N,1μm,0.4s							
BLCB	**Balcova**	**0.40**	**22**	P	Pg	22 00 51.1	+0.4	
BLCB				S	Sg	22 00 56.3	+0.3	
URLA	**Izmir**	**0.40**	**329**	Pg	Pg	22 00 51.2	+0.4	
URLA				Sg	Sb	22 00 57.4	-0.5	
URLA	**Izmir**	**0.40**	**329**	P	Pg	22 00 51.1	+0.4	
URLA				S	Sg	22 00 56.5	+0.4	
URLA				*i* IAML		22 01 01.0		
	comp=E,487nm,0.3s							
GCAM	**G?zelcaml?**	**0.44**	**137**	Pg	Pb	22 00 52.3	-0.2	
GCAM				Sg	Sb	22 00 58.7	-0.3	
GCAM	**G?zelcaml?**	**0.44**	**137**	P	Pg	22 00 52.0	+0.6	
GCAM				S	Sg	22 00 57.9	+0.6	
GCAM				*i* IAML		22 00 59.0		
	comp=N,1μm,0.2s							
CESE	**eme**	**0.54**	**306**	Pg	Pg	22 00 53.6	+0.3	
DDIM	**Aydin, Didim**	**0.64**	**151**	P	Pb	22 00 55.9	0.0	
DDIM				S	Sg	22 01 04.4	+0.7	
DDIM				*i* IAML		22 01 05.0		
	comp=E,184nm,0.4s							
DDIM				*i* IAML		22 01 06.0		
	comp=N,200nm,0.2s							
FOCM	**Foa**	**0.70**	**352**	Pg	Pb	22 00 56.8	-0.2	
DIDI	**Didim-Aydin**	**0.71**	**154**	Pg	Pg	22 00 56.4	-0.2	
CHOS	**Chios island**	**0.73**	**301**	Pg	Pb	22 00 57.6	+0.1	
CHOS	**Chios island**	**0.73**	**301**	P	Pb	22 00 57.2	-0.3	
CHOS	**Chios island**	**0.73**	**301**	P	Pb	22 00 57.3	-0.2	
CHOS				S	Sb	22 01 08.0	+0.5	
KARB	**zmir-Karabur**	**0.73**	**332**	P	Pg	22 00 56.5	-0.5	
KARB				S	Sg	22 01 06.8	+0.1	
KARB				*i* IAML		22 01 10.0		
	comp=E,416nm,0.3s							
EAG2	**Marmaro, Chios**	**0.79**	**312**	P	Pb	22 00 58.3	-0.1	
EAG2				S	Sb	22 01 09.9	+0.9	
AYDB	**Zeytinkoy-Aydi**	**0.82**	**95**	Pg	Pg	22 00 58.9	+0.1	
AYDB				Sg	Sb	22 01 10.8	+0.6	
IZMR	**zmir-demi**	**0.88**	**82**	P	Pg	22 00 59.4	-0.3	
IZMR				P	Pb	22 00 59.6	-0.4	
IZMR				S	Sg	22 01 09.7	-1.5	
IZMR				S	Sb	22 01 09.8	-1.8	
IZMR				*i* IAML		22 01 13.0		
	comp=N,162nm,0.4s							
IZMR				*i* IAML		22 01 13.0		
	comp=N,156nm,0.4s							
IZMR				*i* IAML		22 01 15.0		
	comp=E,135nm,0.4s							
AYDN	**Tasoluk**	**0.89**	**113**	P	Pb	22 01 00.8	+0.7	
AYDN				S	Sg	22 01 10.3	-1.2	
AYDN				*i* IAML		22 01 15.0		
	comp=N,255nm,0.3s							
ZEDA	**zmir-Bergama**	**0.96**	**10**	P	Pn	22 01 02.0	-0.2	
ZEDA				S	Sn	22 01 16.0	+0.2	
ZEDA				*i* IAML		22 01 17.0		
	comp=N,273nm,0.5s							
ZEDA				*i* IAML		22 01 18.0		
	comp=E,226nm,0.5s							
ODEM	**Odemis-Izmir**	**1.00**	**75**	Pg	Pn	22 01 02.6	-0.1	
GOMA	**Golmarmara-Man**	**1.08**	**50**	Pg	Pn	22 01 04.2	+0.4	
NAZL	**Nazilli-Aydin**	**1.14**	**92**	Pn	Pg	22 01 04.9	+0.2	
AKS	**Akhisar**	**1.14**	**41**	Pn	Pg	22 01 05.1	+0.3	
ESEN	**Aydn-Nazilli**	**1.20**	**100**	P	Pb	22 01 05.8	+0.3	
ESEN				S	Sb	22 01 20.9	-0.1	
KIRA	**zmir-Kiraz**	**1.23**	**81**	P	Pg	22 01 06.9	+0.4	
KIRA				S	Sb	22 01 22.5	+0.5	
SOMA	**Soma-Manisa**	**1.25**	**25**	Pn	Pb	22 01 06.4	0.0	
PRK	**Paraskevi**	**1.31**	**340**	P	Pb	22 01 07.2	-0.2	
PRK				S	Sg	22 01 25.1	+0.1	
GORD	**Gordes-Manisa**	**1.37**	**49**	Pn	Pb	22 01 08.3	-0.1	
MULA	**Mugla, Merkez-**	**1.39**	**123**	P	Pg	22 01 09.4	-0.1	
DAT	**Datca**	**1.41**	**156**	Pn	Pn	22 01 08.5	+0.1	
APE	**Apeiranthos**	**1.42**	**228**	Pn	Pn	22 01 07.6	-0.8	
APE	**Apeiranthos**	**1.42**	**228**	P	Pn	22 01 08.1	-0.3	
APE				S	Sb	22 01 27.5	+0.3	
MANT	**Manisa**	**1.42**	**70**	P	Pg	22 01 10.6	+0.4	
MANT				S	Sn	22 01 26.8	-0.6	
MANT				*i* IAML		22 01 30.0		
	comp=E,96nm,0.3s							
SIGR	**SIGRI**	**1.43**	**327**	Pn	Pb	22 01 09.0	-0.3	
SIGR	**SIGRI**	**1.43**	**327**	P	Pb	22 01 09.1	-0.2	
KULA	**Kula-Manisa**	**1.51**	**70**	Pn	Pn	22 01 10.3	+0.6	
YAYO	**Edremit-Balk**	**1.60**	**6**	Pn	Pb	22 01 12.1	-0.2	
TURN	**Turunc**	**1.66**	**138**	Pn	Pn	22 01 12.7	+0.9	
TAVA	**DENIZLI_Tavas**	**1.72**	**108**	P	Pb	22 01 14.8	+0.3	
DNIZ	**Denizli-Tavas-**	**1.77**	**102**	P	Pg	22 01 16.8	-0.1	
DEMI	**Demirci**	**1.78**	**54**	P	Pg	22 01 16.9	-0.1	
DEMI				S	Sb	22 01 37.7	-0.1	
DEMI				*i* IAML		22 01 41.0		
	comp=E,45nm,0.5s							
USAK	**Uak-Merkez**	**1.84**	**67**	P	Pg	22 01 18.0	-0.1	
USAK				S	Sn	22 01 38.3	+0.8	

*JMA **10** 22:21:32.3±0.2, 32.6°N±0.5×14.1°E±°, h45km, MV3.6/29, E OFF HACHIJOJIMA ISLAND*
*IDC **10** 22:21:35.5±2.6, 32.66N×140.82E, h52km±19km, mb3.4/9, mbtmp3.7/10, ML2.5/1, Error ellipse: s-maj=27.3km s-min=21.3km az=74.0*
ISC 10 22:21:33.8±2.4, 32.61N±0.09×141.0E±0.1, h41km±20km, n25, σ1§16/34, mb3.7/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.09**	**262**	*i* P	Pn	22 21 52.5	-0.1
JHCJ	**Hachijojimakas**	**1.14**	**294**	P	Pn	22 21 53.1	-0.2
JHCJ				eS	Sn	22 22 07.6	-0.1
JHJ2	**Mitsune**	**1.14**	**296**	*i* P	Pn	22 21 53.2	-0.1
JHJ2				eS	Sn	22 22 08.5	+0.7
JHJ	**Hachijo jima 2**	**1.17**	**296**	P	Pn	22 21 53.3	-0.5
	430nm,0.3s,baz=62,slow=23,SNR=131						
JHJ				S	Sn	22 22 05.8	-2.7
	261nm,0.3s,baz=213,slow=20,SNR=7.9						
JMKN	**Mikurajimanish**	**1.76**	**317**	P	Pn	22 22 01.8	-0.1
JMKN				eS	Sn	22 22 22.8	-0.3
JMYK	**Miyake Tsubota**	**1.91**	**320**	eP	Pn	22 22 04.0	+0.2
JMYK				eS	Sn	22 22 27.2	+0.5
BSO1	**Boso 1**	**2.04**	**359**	eP	Pn	22 22 04.7	-0.4
BSO1				eS	Sn	22 22 29.2	+0.2
BSO3	**Boso 3**	**2.23**	**349**	eP	Pn	22 22 07.6	-0.4
BSO3				eS	Sn	22 22 33.9	-0.3
JIM2	**Oshima 3**	**2.49**	**328**	P	Pn	22 22 12.0	+0.1
JIZS	**Izushimoda**	**2.77**	**320**	P	Pn	22 22 16.5	+0.8
JAG	**Ashikaga**	**4.02**	**341**	eP	Pn	22 22 33.6	+0.7
JIE	**Ise**	**4.03**	**297**	eP	Pn	22 22 33.9	+0.9
MJAR	**Matsushiro Arr**	**4.56**	**330**	P	Pn	22 22 41.5	+1.2
	0.3nm,0.3s,baz=164,slow=13,SNR=26						
MJAR				S	Sn	22 23 30.4	-1.7
	1.3nm,0.4s,baz=159,slow=25,SNR=1.6 3.3nm,0.4s						
MAT	**Matsushiro**	**4.56**	**330**	eP	Pn	22 22 42.6	+2.3
MAT				eS	Sn	22 23 34.2	+2.1
JYTA	**Yamagatataniai**	**4.64**	**311**	eP	Pn	22 22 43.5	+2.0
JTNC	**Tanabenakahech**	**4.71**	**286**	eP	Pn	22 22 44.3	+2.0
SONM	**Songino Array**	**30.21**	**310**	P	P	22 27 39.9	-0.6
	0.3nm,0.4s,baz=84,slow=7.9,SNR=2.6 0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**44.76**	**316**	P	P	22 29 42.0	-1.1
	0.4nm,0.3s,baz=116,slow=6.1,SNR=2.3 0.4nm,0.3s						
MKAR	**Makanchi Array**	**46.32**	**306**	P	P	22 29 54.4	-1.3
	1.2nm,0.5s,baz=85,slow=10,SNR=21 1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**48.57**	**311**	P	P	22 30 11.7	-1.3
	0.2nm,0.4s,baz=82,slow=7.1,SNR=4.9 0.2nm,0.4s						
WRA	**Warramunga Arr**	**52.65**	**188**	P	P	22 30 44.4	+0.4
	0.6nm,0.6s,baz=6.0,slow=7.4,SNR=1.7 0.6nm,0.6s						
BVAR	**Borovoye Array**	**53.39**	**315**	P	P	22 30 49.3	+0.1
	0.7nm,0.5s,baz=95,slow=6.8,SNR=6.0 0.7nm,0.5s						
ILAR	**Eielson Array**	**53.42**	**31**	P	P	22 30 48.5	-0.8
	0.2nm,0.6s,baz=276,slow=5.4,SNR=2.2 0.2nm,0.6s						
FINES	**FINESS Array B**	**72.58**	**333**	P	P	22 32 56.9	+0.4
	2.0nm,1.0s,baz=62,slow=6.1,SNR=3.8 2.0nm,1.0s						
PDAR	**Pinedale Array**	**81.00**	**45**	P	P	22 33 46.0	+1.4
	0.2nm,0.4s,baz=123,slow=1.1,SNR=5.1 0.2nm,0.4s						

*IDC **10** 22:24:26.0±3.5, 5.74N×127.12E, h90km±29km, mb3.7/10, mbtmp4.0/11, MS3.2/3, Error ellipse: s-maj=68.6km s-min=14.6km az=65.0*
*NEIC **10** 22:24:26.6±1.7, 5.28N±0.07×125.9E±0.2, h76km±11km, mb4.0/8, Error ellipse: s-maj=24.3km s-min=8.5km az=79.0*
ISC 10 22:24:27.8±0.7, 5.23N±0.05×125.9E±0.1, h100km, n28, σ1§40/29, mb4.1/14, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.86**	**349**		Pn	22 24 55.2	-3.4
DAV				Sn	Sn	22 25 20.9	-1.1
DAV	**Davao City (W)**	**1.86**	**349**	P	Pn	22 24 57.7	-0.9
	146nm,0.3s,baz=293,slow=24,SNR=3.9						
DAV				S	Sn	22 25 23.9	+1.8
	431nm,0.6s,baz=73,slow=23,SNR=11						
DAV				LR	LR	22 25 41.2	
	comp=Z,217nm,21.7s,baz=169,slow=37						
TNTI	**Ternate**	**4.66**	**162**	Pn	Pn	22 25 33.4	-2.6
TOLI2	**Tolitoli**	**6.57**	**232**		Pn	22 25 59.1	-2.8
MYLDM	**Lahad Datu**	**7.40**	**270**	Pn	Pn	22 26 12.4	-0.7
TGY	**Tagaytay City**	**10.09**	**331**	LR	LR	22 31 40.4	
	comp=Z,130nm,19.5s,baz=136,slow=42						
FITZ	**Fitzroy Crossi**	**23.18**	**181**	P	P	22 29 27.1	+1.2
FITZ				IAmb	IAmb	22 29 52.9	
	comp=Z,3.5nm,1.4s						
WB0	**Warramunga Arr**	**26.20**	**162**	P	P	22 29 53.4	0.0
WRA	**Warramunga Arr**	**26.35**	**162**	P	P	22 29 54.0	-0.7
WRA	**Warramunga Arr**	**26.35**	**162**	P	P	22 29 55.9	+1.2
	comp=Z,0.9nm,0.7s,baz=343,slow=10,SNR=8.0 comp=Z,0.9nm,0.7s						
AS31	**Alice Springs**	**29.76**	**165**	P	P	22 30 27.8	+2.7
ASAR	**Alice Springs**	**29.76**	**165**	P	P	22 30 25.4	+0.3
	comp=Z,0.3nm,0.6s,baz=349,slow=7.1,SNR=5.2						
ASAR				PcP	PcP	22 33 25.8	-0.8
	comp=Z,0.2nm,0.4s,baz=350,slow=3.2,SNR=2.3 comp=Z,0.3nm,0.6s						
SONM	**Songino Array**	**45.63**	**342**	P	P	22 32 37.1	-1.2
	comp=Z,0.2nm,0.3s,baz=134,slow=6.2,SNR=2.3 comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**55.87**	**325**	P	P	22 33 55.8	+0.7
MKAR	**Makanchi Array**	**55.87**	**325**	P	P	22 33 56.2	+1.1
	comp=Z,1.7nm,0.5s,baz=116,slow=7.4,SNR=48 comp=Z,1.7nm,0.5s						
ZAA0	**Zalesovo Array**	**58.90**	**333**	P	P	22 34 15.2	-0.9
ZAA0				IAmb	IAmb	22 34 15.8	
	comp=Z,1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**58.90**	**333**	P	P	22 34 15.3	-0.8
ZALV	**Zalesovo Beam**	**58.90**	**333**	P	P	22 34 15.5	-0.7
	comp=Z,0.9nm,0.5s,baz=118,slow=5.4,SNR=4.8						
ZALV				LR	LR	23 00 27.8	
	comp=Z,64nm,18.5s,baz=174,slow=37 comp=Z,0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**60.05**	**327**	P	P	22 34 24.6	+0.4
	comp=Z,4.9nm,0.6s,baz=125,slow=6.4,SNR=50 comp=Z,4.9nm,0.6s						
KURK	**Kurchatov**	**60.05**	**327**	P	P	22 34 24.6	+0.4
KK31	**Karatay Array**	**61.60**	**317**	P	P	22 34 35.5	+0.6
KK31				IAmb	IAmb	22 34 37.4	
	comp=Z,2.2nm,0.8s						
KKAR	**Karatay Array**	**61.60**	**317**	P	P	22 34 35.5	+0.7
BVAR	**Borovoye Array**	**65.63**	**327**	P	P	22 35 01.9	+0.7
	comp=Z,3.9nm,0.7s,baz=122,slow=7.3,SNR=17 comp=Z,3.9nm,0.7s						
AB31	**Akbulak array**	**70.49**	**321**	P	P	22 35 32.2	+0.6
AB31				IAmb	IAmb	22 35 34.3	
	comp=Z,1.4nm,0.7s						
ABKAR	**Akbulak array**	**70.49**	**321**	P	P	22 35 32.4	+0.8
ILAR	**Eielson Array**	**84.10**	**25**	P	P	22 36 41.5	-5.8
	comp=Z,0.2nm,0.5s,baz=268,slow=6.2,SNR=2.0 comp=Z,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**88.77**	**340**	P	P	22 37 10.3	+0.2
	comp=Z,1.2nm,0.7s,baz=66,slow=6.0,SNR=8.1 comp=Z,1.2nm,0.7s						
FINES	**FINESS Array B**	**90.14**	**332**	P	P	22 37 17.0	+0.4
	comp=Z,1.1nm,0.7s,baz=57,slow=7.0,SNR=5.6 comp=Z,1.1nm,0.7s						

*WEL **10** 22:32:45.9±0.6, 44°S±4°×17°7E±°, h33km, M4.5/29, ML4.6/30, MLv4.5/29, Error ellipse: s-maj=6.4km s-min=5.0km az=106.7, confirmed*
*NOU **10** 22:32:46.9, 43.77S×177.16E, h0km, mb4.9/11, Off E. Coast of S. Island, NZ.*
ISC 10 22:32:42.5±1.4, 44.20S±0.05×177.60E±0.05, h35km, n106, σ2§03/128, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRWZ	**Traveller**	**3.14**	**333**	P	Pn	22 33 31.2	+1.8
TRWZ				S	Sn	22 34 04.5	-1.1
PLWZ	**Palliser**	**3.15**	**326**	P	Pn	22 33 31.0	+1.4
PAWZ	**Paruwai Farm**	**3.24**	**330**	P	Pn	22 33 32.5	+1.6
PAWZ				S	Sn	22 34 06.5	-1.7
MSWZ	**Moikau Station**	**3.28**	**327**	P	Pn	22 33 32.5	+1.2
OKCZ	**Okains Bay**	**3.31**	**277**	P	Pn	22 33 33.2	+1.3
OKCZ				S	Sn	22 34 07.6	-2.4
TMWZ	**Te Maipa**	**3.34**	**337**	P	Pn	22 33 34.1	+1.8
MTW	**Mount Morrison**	**3.41**	**332**	P	Pn	22 33 34.7	+1.5
BHW	**Baring Head**	**3.44**	**323**	P	Pn	22 33 35.0	+1.4
BHW				S	Sn	22 34 11.5	-1.6
CPWZ	**Castlepoint**	**3.45**	**342**	P	Pn	22 33 36.0	+2.4
KHZ	**Kahutara**	**3.46**	**300**	P	Pn	22 33 34.7	+0.9
KHZ	**Kahutara**	**3.46**	**300**	P	Pn	22 33 34.7	+0.9
KHZ				S	Sn	22 34 11.3	-2.3
GVZ	**Greta Valley S**	**3.54**	**289**	P	Pn	22 33 36.9	+1.9
WEL	**Wellington**	**3.58**	**323**	P	Pn	22 33 37.2	+1.7
SNZO	**South Karori**	**3.59**	**323**	P	Pn	22 33 37.1	+1.5
SNZO	**South Karori**	**3.59**	**323**	S	Sn	22 34 13.6	-3.2
CAW	**Cannon Point**	**3.61**	**328**	P	Pn	22 33 37.4	+1.5
HOWZ	**Holdsworth Sta**	**3.64**	**334**	P	Pn	22 33 37.8	+1.4
TIWZ	**Tintock**	**3.65**	**339**	P	Pn	22 33 38.2	+1.7
BFZ	**Birch Farm**	**3.66**	**344**	P	Pn	22 33 38.2	+1.6
BFZ	**Birch Farm**	**3.66**	**344**	P	Pn	22 33 38.2	+1.6
BSWZ	**Blackbirch Sta**	**3.69**	**311**	P	Pn	22 33 37.3	+0.2
BSWZ				S	Sn	22 34 17.1	-2.2
OGWZ	**Otaki Gorge**	**3.83**	**331**	P	Pn	22 33 40.5	+1.6
OGWZ				S	Sn	22 34 21.7	-1.0
ANWZ	**Angora Road**	**3.83**	**347**	P	Pn	22 33 40.8	+1.9
PRWZ	**Pori Road**	**3.84**	**341**	P	Pn	22 33 41.1	+2.0
PRWZ				S	Sn	22 34 21.9	-1.0
MRZ	**Mangatainoka R**	**3.84**	**336**	P	Pn	22 33 40.4	+1.3
MRZ				S	Sn	22 34 19.0	-4.1
KIW	**Kapiti Island**	**3.89**	**328**	P	Pn	22 33 41.4	+1.6
KIW				S	Sn	22 34 21.2	-2.9
PRHZ	**Porangahau**	**4.00**	**349**	P	Pn	22 33 43.0	+1.8
DVHZ	**Dannevirke**	**4.04**	**344**	P	Pn	22 33 43.5	+1.6
DVHZ				S	Sn	22 34 24.9	-3.2
POWZ	**Post Office Ro**	**4.04**	**340**	P	Pn	22 33 43.9	+2.0
POWZ				S	Sn	22 34 26.7	-1.3
WACZ	**Wakanui South**	**4.16**	**272**	P	Pn	22 33 45.2	+1.7
WACZ				S	Sn	22 34 27.7	-3.1
CTZ	**Chatham Island**	**4.20**	**86**	P	Pn	22 33 44.7	+0.7
CTZ				S	Sn	22 34 29.4	-2.4
PXZ	**Pawanui**	**4.21**	**352**	P	Pn	22 33 45.5	+1.4
PXZ				S	Sn	22 34 31.8	-0.1
THZ	**Tophouse**	**4.22**	**304**	P	Pn	22 33 45.4	+1.0
THZ				S	Sn	22 34 31.5	-0.9
WPHZ	**Waipukurau**	**4.22**	**348**	P	Pn	22 33 46.2	+1.8
WPHZ				S	Sn	22 34 32.3	-0.1
TSZ	**Takapari Road**	**4.32**	**343**	P	Pn	22 33 47.4	+1.7
PNHZ	**Pukenui**	**4.41**	**346**	P	Pn	22 33 48.4	+1.4
PNHZ				S	Sn	22 34 34.7	-2.4
MHCZ	**Mount Hutt**	**4.41**	**277**	P	Pn	22 33 48.6	+1.6
KAHZ	**Kahuranaki**	**4.44**	**353**	P	Pn	22 33 48.7	+1.4
CKHZ	**Cape Kidnapper**	**4.56**	**355**	P	Pn	22 33 50.1	+1.2
ARCZ	**Arundel**	**4.63**	**271**	P	Pn	22 33 51.7	+1.7
TMZ	**Timaru**	**4.74**	**266**	P	Pn	22 33 53.0	+1.6
TMZ				S	Sn	22 34 42.1	-2.9
KWHZ	**Kaweka Forest**	**4.86**	**349**	P	Pn	22 33 54.8	+1.8
KWHZ				S	Sn	22 34 46.6	-1.5
MOVZ	**Moawhango**	**4.99**	**343**	P	Pn	22 33 56.7	+1.8
MOVZ				S	Sn	22 34 49.2	-2.2
ODZ	**Otahua Downs**	**5.04**	**258**	P	Pn	22 33 57.7	+2.2
QRZ	**Quartz Range**	**5.04**	**310**	P	Pn	22 33 56.6	+1.0
QRZ	**Quartz Range**	**5.04**	**310**	S	Sn	22 34 51.3	-1.3
MHGZ	**Mahia Peninsul**	**5.05**	**3**	P	Pn	22 33 56.6	+0.8
WNVZ	**Wahianoa**	**5.10**	**342**	P	Pn	22 33 58.8	+2.3
BKZ	**Black Stump Fm**	**5.10**	**350**	P	Pn	22 33 57.5	+1.0
BKZ	**Black Stump Fm**	**5.10**	**350**	P	Pn	22 33 57.5	+1.0
BKZ				S	Sn	22 34 52.0	-2.1
WVZ	**Waitaha Valley**	**5.11**	**280**	P	Pn	22 33 59.2	+2.8
WHHZ	**Waihua**	**5.13**	**357**	P	Pn	22 33 58.2	+1.4
TRVZ	**Turoa**	**5.13**	**342**	P	Pn	22 33 59.4	+2.4
TUVZ	**Tukino**	**5.14**	**343**	P	Pn	22 33 59.4	+2.3
WHVZ	**Whangaehu Hut**	**5.14**	**342**	P	Pn	22 33 59.3	+2.1
MAVZ	**Matarangi**	**5.16**	**342**	P	Pn	22 33 59.6	+2.1
FWVZ	**Far West T-bar**	**5.17**	**342**	P	Pn	22 34 00.4	+2.7
KNZ	**Kokohu**	**5.18**	**1**	P	Pn	22 33 58.2	+0.8
PKVZ	**Pokaka**	**5.19**	**340**	P	Pn	22 34 00.3	+2.6
SNVZ	**South Ngauruho**	**5.22**	**343**	P	Pn	22 34 00.5	+2.3
COVZ	**Chateau Observ**	**5.23**	**342**	P	Pn	22 34 00.9	+2.6
HHSZ	**Highcliff Hill**	**5.24**	**249**	P	Pn	22 34 00.8	+2.5
OTVZ	**Oturere**	**5.24**	**343**	P	Pn	22 34 00.7	+2.2
NGZ	**Ngauruhoe**	**5.24**	**343**	P	Pn	22 34 00.5	+2.0
ETVZ	**East Tongariro**	**5.26**	**344**	P	Pn	22 34 00.4	+1.8
TMVZ	**Te Maari**	**5.28**	**344**	P	Pn	22 34 00.7	+1.8
NNVZ	**North Ngauruho**	**5.28**	**343**	P	Pn	22 34 01.0	+1.9
PRGZ	**Paritu Road**	**5.28**	**2**	P	Pn	22 33 59.5	+0.7
RAHZ	**Arahi**	**5.30**	**356**	P	Pn	22 34 00.2	+1.1
WTVZ	**West Tongariro**	**5.30**	**343**	P	Pn	22 34 01.6	+2.4
LREZ	**Lake Rotokare**	**5.31**	**332**	P	Pn	22 34 01.9	+2.7
KRVZ	**Karewarewa**	**5.31**	**343**	P	Pn	22 34 02.6	+3.2
LBZ	**Lake Benmore**	**5.33**	**265**	P	Pn	22 34 01.6	+2.1
TWVZ	**Taurewa**	**5.38**	**342**	P	Pn	22 34 03.0	+2.7
RIGZ	**Rimuhau**	**5.49**	**1**	P	Pn	22 34 03.0	+1.2
VRZ	**Vera Road**	**5.50**	**336**	P	Pn	22 34 02.3	+0.4
RATZ	**Rangitukua**	**5.50**	**345**	P	Pn	22 34 04.9	+2.9
NMEZ	**Nanmu Road**	**5.53**	**329**	P	Pn	22 34 05.8	+3.5
NEZ	**North Egmont**	**5.58**	**331**	P	Pn	22 34 05.8	+2.7
KHEZ	**Kahui Hut**	**5.59**	**330**	P	Pn	22 34 05.3	+2.1
KHEZ	**Kahui Hut**	**5.59**	**330**	P	Pn	22 34 06.1	+2.9
RTZ	**Ruatahuna**	**5.60**	**355**	P	Pn	22 34 04.2	+0.8
DREZ	**Durham Road**	**5.62**	**332**	P	Pn	22 34 06.6	+3.1
NBEZ	**Newall Road No**	**5.67**	**329**	P	Pn	22 34 07.5	+3.3
FOZ	**Fox Glacier**	**5.67**	**274**	P	Pn	22 34 07.7	+3.6
PKE	**Pukeiti**	**5.69**	**330**	P	Pn	22 34 08.1	+3.6
RAGZ	**Rawiri**	**5.70**	**359**	P	Pn	22 34 05.3	+0.5
TUZ	**Tuapeka**	**5.91**	**250**	P	Pn	22 34 10.2	+2.7
URZ	**Urewera**	**5.95**	**356**	P	Pn	22 34 08.2	+0.2
URZ	**Urewera**	**5.95**	**356**	P	Pn	22 34 08.3	+0.3
EAZ	**Earnscleugh**	**6.00**	**257**	P	Pn	22 34 11.8	+3.1
HIZ	**Hauiti**	**6.05**	**339**	P	Pn	22 34 10.8	+1.4
HIZ	**Hauiti**	**6.05**	**339**	P	Pn	22 34 11.2	+1.8
TLZ	**Tolley Road**	**6.07**	**344**	P	Pn	22 34 11.8	+2.1
PUZ	**Puketiti**	**6.14**	**5**	P	Pn	22 34 11.0	+0.3
WKZ	**Wanaka**	**6.17**	**261**	P	Pn	22 34 14.5	+3.4
RUGZ	**Raukumara Rang**	**6.23**	**1**	P	Pn	22 34 12.3	+0.3
PKGZ	**Pakihiroa**	**6.34**	**3**	P	Pn	22 34 13.6	+0.1
JCZ	**Jackson Bay**	**6.34**	**268**	P	Pn	22 34 16.4	+2.8
SYZ	**Scrubby Hill**	**6.40**	**246**	P	Pn	22 34 16.7	+2.5
WMGZ	**Waiomatatini S**	**6.41**	**6**	P	Pn	22 34 14.8	+0.4
HAZ	**Te Kaha**	**6.44**	**1**	P	Pn	22 34 15.4	+0.6
TGRZ	**Tauranga**	**6.55**	**351**	P	Pn	22 34 17.6	+1.4
MXZ	**Matakaoa Point**	**6.66**	**5**	P	Pn	22 34 17.9	+0.2
MLZ	**Mavora Lakes**	**6.85**	**257**	P	Pn	22 34 23.7	+3.3
MSZ	**Milford Sound**	**6.94**	**263**	P	Pn	22 34 24.5	+2.9

IDC 10 22:38:15.1±6.5, 1.45S×100.91E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=375.7km s-min=21.9km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**37.50**	**122**	P	P	22 45 31.0	0.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLS	**Shishaldin Sou**	**0.44**	**333**		Pn	22 57 15.8	-0.3
SSLS					Sn	22 57 24.7	-0.3
ISNN	**Isanotski Nort**	**0.51**	**352**		Pn	22 57 16.8	+0.1
ISNN					Sn	22 57 26.1	-0.1
SSBA	**Shishaldin**	**0.53**	**329**		Pn	22 57 16.2	-0.6
SSBA					Sn	22 57 26.0	-0.5
SSLN	**Shishaldin Nor**	**0.53**	**338**		Pn	22 57 16.9	0.0
SSLN					Sn	22 57 26.6	+0.1
FALS	**False Pass**	**0.55**	**14**		Pn	22 57 16.7	-0.3
FALS					Sn	22 57 26.6	-0.1
WEBT	**Westdahl Beart**	**0.69**	**293**		Pn	22 57 17.9	-0.7
WEBT					Sn	22 57 29.4	-0.1
DT1	**Dutton Round H**	**1.12**	**45**		Pn	22 57 23.5	-0.2
DT1					Sn	22 57 38.2	-0.3
AKSA	**Akutan Strait**	**1.21**	**262**		Pn	22 57 25.1	+0.2
AKSA					Sn	22 57 41.3	+0.6
AKUT	**Akutan**	**1.26**	**262**	Pn	Pn	22 57 25.7	+0.2
AKUT				IAML		22 57 44.5	
	comp=N,126nm,0.4s						
AKUT				IAML		22 57 46.5	
	comp=E,169nm,0.4s						
AKUT	**Akutan**	**1.26**	**262**	P	Pn	22 57 25.7	+0.2
AKUT	**Akutan**	**1.26**	**262**	S	Sn	22 57 42.4	+0.7
AHB	**Akutan Harbor**	**1.29**	**261**		Pn	22 57 26.0	+0.1
AHB					Sn	22 57 43.1	+0.6
AKBBA	**Akutan Broad B**	**1.36**	**261**		Pn	22 57 26.7	-0.1
AKBBA					Sn	22 57 44.8	+0.7
LVA	**Lava Point**	**1.41**	**264**	Pn	Pn	22 57 27.4	-0.1
LVA				Sn	Sn	22 57 45.0	-0.3
LVA				IAML		22 57 54.2	
	comp=N,174nm,0.8s						
HAG	**Hague Volcano**	**1.42**	**45**		Pn	22 57 28.4	+0.7
PS4A	**Pavlof South-4**	**1.46**	**45**		Pn	22 57 28.6	+0.5
PS4A					Sn	22 57 48.0	+1.5
PS1A	**Pavlof South-1**	**1.56**	**44**		Pn	22 57 29.9	+0.5
PS1A					Sn	22 57 49.6	+0.7
S12K	**Black Hills**	**1.66**	**33**		Pn	22 57 30.5	-0.3
S12K					Sn	22 57 50.5	-0.8
S12K				IAML		22 57 52.6	
	comp=E,142nm,0.3s						
S12K				IAML		22 57 53.0	
	comp=N,132nm,0.2s						
UNV	**Unalaska Valle**	**1.75**	**255**		Pn	22 57 31.9	-0.1
UNV					Sn	22 57 51.8	-1.4
UNV	**Unalaska Valle**	**1.75**	**255**	P	Pn	22 57 31.7	-0.2
UNV	**Unalaska Valle**	**1.75**	**255**	S	Sn	22 57 52.3	-1.0
MTBL	**Makushin Table**	**1.81**	**260**		Pn	22 57 33.1	+0.1
MTBL					Sn	22 57 56.3	+1.2
MNAT	**Makushin Natee**	**1.84**	**257**		Pn	22 57 32.7	-0.5
MNAT					Sn	22 57 56.8	+1.3
MSW	**Makushin Switc**	**1.89**	**259**		Pn	22 57 33.5	-0.4
MSW					Sn	22 57 58.1	+1.4
MREP	**Makushin Rep't**	**1.89**	**255**		Pn	22 57 33.8	-0.2
SDPT	**Sand Point**	**2.10**	**60**		Pn	22 57 37.1	+0.4
SDPT					Sn	22 58 01.6	-0.3
SDPT				IAML		22 58 08.2	
	comp=E,66nm,0.3s						
SDPT				IAML		22 58 10.8	
	comp=N,74nm,0.6s						
SDPT	**Sand Point**	**2.10**	**60**	P	Pn	22 57 37.6	+0.9
CNBA	**Chernabura Isl**	**2.42**	**77**		Pn	22 57 41.1	+0.1
CNBA					Sn	22 58 10.1	+0.6
OKWE	**Okmok W'ng Wal**	**2.84**	**254**		Pn	22 57 47.1	+0.3
OKSP	**Okmok Steeple**	**2.95**	**251**		Pn	22 57 49.6	+1.3
VNKR	**Veniaminof 5**	**2.99**	**53**		Pn	22 57 50.1	+1.2
VNFG	**Fog Glacier, M**	**3.06**	**48**		Pn	22 57 50.7	+0.9
CHGN	**Chignik**	**3.59**	**54**	Pn	Pn	22 57 57.6	+0.7
CHGN				Sn	Sn	22 58 38.0	0.0
O14K	**Tigyukauivet M**	**5.11**	**14**	Pn	Pn	22 58 17.6	0.0
O14K				IAML		22 59 37.4	
	comp=E,7.4nm,1.5s						
O14K				IAML		22 59 58.3	
	comp=N,8.1nm,1.4s						
PLK4	**Peulik 4**	**5.27**	**48**	Pn	Pn	22 58 20.9	+1.0
PLK4				IAML		22 59 42.8	
	comp=N,10.0nm,1.2s						
PLK4				IAML		22 59 45.5	
	comp=E,9.2nm,1.2s						
O15K	**Ungalikthiuk R**	**5.30**	**22**	Pn	Pn	22 58 20.1	-0.1
O15K				IAML		23 00 10.9	
	comp=E,5.0nm,1.4s						
P16K	**Nushagak River**	**5.66**	**31**	Pn	Pn	22 58 25.2	+0.1
N14K	**Kuskokwak Cree**	**5.72**	**10**	Pn	Pn	22 58 26.1	+0.3
O16K	**Kokwok River B**	**6.09**	**28**	Pn	Pn	22 58 31.0	-0.1
N15K	**Kwethluk River**	**6.17**	**17**	Pn	Pn	22 58 32.7	+0.6
OHAK	**Old Harbor**	**6.53**	**59**	Pn	Pn	22 58 35.7	-1.3
OHAK	**Old Harbor**	**6.53**	**59**	P	Pn	22 58 36.1	-0.9
L14K	**Kuka Creek**	**7.06**	**4**	Pn	Pn	22 58 43.6	-0.6
KDAK	**Kodiak Island**	**7.10**	**56**	Pn	Pn	22 58 43.6	-1.2
M16K	**Timber Creek**	**7.17**	**19**	Pn	Pn	22 58 45.8	0.0
SYI	**Shuyak Island**	**7.57**	**51**	Pn	Pn	22 58 51.8	+0.5
L16K	**Owhat River**	**7.73**	**15**	Pn	Pn	22 58 52.9	-0.5
M17K	**Holitna River**	**7.83**	**22**	Pn	Pn	22 58 54.7	-0.1
K15K	**Wolf Creek Mou**	**8.07**	**7**	Pn	Pn	22 58 58.4	+0.3
J16K	**Anvik River**	**9.12**	**9**	Pn	Pn	22 59 13.0	+0.5
J17K	**VABM Dome**	**9.40**	**13**	Pn	Pn	22 59 15.9	-0.3

IDC 10 23:00:59.7±2.7, 43°.38N×104°.64E, h0km, mbtmp3.3/3, ML3.2/3, Error ellipse: s-maj=51.0km s-min=22.3km az=107.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**4.62**	**15**	Pn	Pn	23 02 10.2	-0.7
	0.6nm,0.3s,baz=194,slow=15,SNR=30						
SONM				Pg	Pg	23 02 25.0	-3.2
	1.1nm,0.3s,baz=202,slow=17,SNR=9.4						
SONM				Lg	Lg	23 03 26.4	
	3.5nm,0.3s,baz=196,slow=31,SNR=14						
	2.1nm,0.2s						
LZDM	**Lanzhou Array**	**7.45**	**186**	Pn	Pn	23 02 49.9	0.0
	baz=12,slow=15						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**16.14**	**290**	Pn	Pn	23 04 47.9	+0.1
	baz=101,slow=12,SNR=1.5						
	0.3nm,0.6s						

*GEN **10** 23:31:28.0, 44°.75N×6°.71E, h11km, Ml0.8*
*STR **10** 23:31:29.2±0.2, 45°.N±2°×±°, h3km, MLv2.0/19, LOCSAT earthModelID alpes_taup-2.11 preliminary*

LDG 10 23:31:29.0±0.1, 44°.74N×6°.73E, h2km, Md1.8/2, Ml1.6/3, Error ellipse: s-maj=1.4km s-min=1.0km az=75.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.03**	**107**	*e*Pg	Pg	23 31 29.9	+0.1
MBDF				*e*Sg	Sg	23 31 30.6	+0.3
	224nm,0.3s						
RRL	**Rocca Remolon**	**0.19**	**13**	P	Pg	23 31 32.9	+0.2
RRL				S	Sg	23 31 36.3	+1.0
RRL	**Rocca Remolon**	**0.19**	**13**	Pg	Pg	23 31 32.8	+0.1
RRL				Sg	Sg	23 31 36.4	+1.1
SURF	**Saint Ours**	**0.26**	**167**	P	Pg	23 31 34.3	+0.2
SURF				S	Sg	23 31 38.2	+0.7
SURF	**Saint Ours**	**0.26**	**167**	Pg	Pg	23 31 34.2	+0.2
SURF				Sg	Sg	23 31 38.2	+0.7
JAUF	**Jausiers**	**0.31**	**177**	Pg	Pg	23 31 34.8	-0.1
JAUF				P	Sg	23 31 40.1	+1.1
OGAG	**Argentiere**	**0.31**	**206**	P	Pg	23 31 31.7	-3.3
OGAG				S	Sg	23 31 34.2	-4.8
OGAG	**Argentiere**	**0.31**	**206**	Pg	Pg	23 31 31.6	-3.4
OGAG				Sg	Sg	23 31 34.2	-4.9
BNI	**Bardonecchia**	**0.32**	**354**	P	Pb	23 31 36.7	-0.8
BNI				S	Sg	23 31 39.7	+0.4
PZZ	**Stroppo**	**0.36**	**130**	P	Pg	23 31 36.1	+0.2
PZZ				S	Sg	23 31 41.1	+0.6
PZZ	**Stroppo**	**0.36**	**130**	Pg	Pg	23 31 36.0	+0.1
PZZ				Sg	Sg	23 31 41.1	+0.6
BHB	**Bricherasio**	**0.40**	**74**	P	Pg	23 31 36.8	+0.2
BHB				S	Sg	23 31 42.6	+0.9
BHB	**Bricherasio**	**0.40**	**74**	Pg	Pg	23 31 36.8	+0.3
BHB				Sg	Sg	23 31 42.6	+0.9
RSP	**Reno Superiore**	**0.56**	**43**	P	Pg	23 31 40.2	+0.5
RSP				S	Sg	23 31 47.3	+0.3
RSP	**Reno Superiore**	**0.56**	**43**	Pg	Pg	23 31 40.2	+0.4
RSP				Sg	Sg	23 31 47.5	+0.5
ISO	**Isola**	**0.60**	**157**	Pg	Pg	23 31 40.4	0.0
ISO				Sg	Sg	23 31 48.4	+0.2
ENAUX	**Enaux**	**0.63**	**177**	Pg	Pg	23 31 41.2	+0.2
ENAUX				Sg	Sg	23 31 50.2	+1.1
ORIF	**Oris-en-Rattie**	**0.63**	**287**	*e*Pg	Pg	23 31 40.6	-0.5
ORIF	**Oris-en-Rattie**	**0.63**	**287**	Pg	Pg	23 31 40.5	-0.6
STV	**Sant Anna di V**	**0.65**	**139**	P	Pg	23 31 41.8	+0.4
STV				S	Sg	23 31 51.2	+1.3
ENR	**Entracque**	**0.71**	**136**	Pg	Pg	23 31 43.0	+0.4
ENR				Sg	Sg	23 31 52.7	+0.9
LPG	**La Plagne**	**0.76**	**1**	*e*Pg	Pg	23 31 43.9	+0.3
LPG				*e*Sg	Sg	23 31 53.8	+0.3
	1.2nm,0.2s						
SPIF	**crte de Spivo**	**0.77**	**152**	Pg	Pg	23 31 43.9	+0.1
SPIF				Sg	Sg	23 31 54.4	+0.6
LSD	**Lago del Serru**	**0.78**	**22**	P	Pg	23 31 44.4	+0.5
LSD				S	Sg	23 31 54.4	+0.3
LSD	**Lago del Serru**	**0.78**	**22**	Pg	Pg	23 31 44.3	+0.3
LSD				Sg	Sg	23 31 54.4	+0.4
LPL	**La Plagne**	**0.78**	**0**	*e*Pg	Pg	23 31 44.2	+0.2
LPL				*e*Sg	Sg	23 31 54.3	+0.2
	5.0nm,0.4s						
SALSA	**La sagne**	**0.85**	**182**	Pg	Pg	23 31 45.9	+0.6
GRN	**Grenoble**	**0.86**	**306**	Pg	Pg	23 31 46.0	+0.5
GRN				Sg	Sg	23 31 57.5	+0.7
TURF	**col de Turini**	**0.90**	**148**	Pg	Pg	23 31 46.2	+0.1
GBOS	**Grotte di Boss**	**0.94**	**121**	Pg	Pg	23 31 46.8	-0.2
SAOF	**Saorge**	**0.96**	**141**	Pg	Pg	23 31 47.5	+0.2
SAOF				Sg	Sb	23 32 01.2	-0.2
CALF	**Calern**	**0.99**	**172**	Pg	Pg	23 31 47.2	-0.8
SBF	**Sospel**	**1.01**	**150**	*e*Pg	Pg	23 31 47.9	-0.4
TRIGF	**Trigance**	**1.01**	**193**	Pg	Pg	23 31 48.7	+0.3
TRIGF				Sn	Sn	23 32 07.0	+1.8
ESCA	**l'Escarene**	**1.02**	**153**	Pg	Pg	23 31 48.0	-0.5
ESCA				Sg	Sb	23 32 03.0	-0.2
MLYF	**Mely**	**1.02**	**223**	Pg	Pn	23 31 50.0	-0.4
MLYF				Sn	Sn	23 32 06.1	+0.9
SMRF	**Simiane la Rot**	**1.12**	**228**	*e*Pg	Pb	23 31 50.9	-0.3
SMRF				*e*Sg	Sb	23 32 06.1	-0.1
	1.3nm,0.2s						
LMR	**La Mourre**	**1.41**	**187**	*e*Pg	Pn	23 31 55.6	-0.1
LMR				*e*Sg	Sg	23 32 13.9	-0.4
	0.9nm,0.1s						
VIVF	**Saint-Julien-l**	**1.47**	**275**	*e*Pg	Pb	23 31 56.9	-0.2
VIVF				*e*Sg	Sg	23 32 15.8	-0.4
	0.3nm,0.2s						
OG35	**Corcelles**	**1.54**	**328**	Pg	Pg	23 31 59.0	+0.5
OG35				Sg	Sg	23 32 21.2	+2.6

*IDC **10** 23:32:18.8±0.2, 3°.90N×126°.55E, h0km, mb5.5/48, mbtmp5.5/49, ML4.7/1, MS5.1/63, Error ellipse: s-maj=12.9km s-min=6.5km az=76.0*
*MOS **10** 23:32:22.9±1.1, 4°.09N×126°.61E, h36km, mb5.9/73, MS5.2/35, Error ellipse: s-maj=7.6km s-min=3.9km az=120.0*
*NEIC **10** 23:32:23.4, 4°.04N×127°.09E, h36km, Moment Tensor Solution. Duration: 3s2 Moment tensor: Scale 10^17Nm; Mrr3.28; Mθθ0.12; Mφφ-3.40; Mrθ-0.42; Mθφ0.57; Mφr1.25; Fault plane solution: M0 3.64000×10^17 NP1: ϕs174.96000°, δ34.63000°, λ96.33000°. NP2: ϕs347.28000°, δ55.61000°, λ85.64000°. Principal axes: T 3.5324, Plg79.0000°, Azm241.0000°; N 0.1997, Plg4.0000°, Azm350.0000°; P -3.7321, Plg11.0000°, Azm80.0000°;*
*IPGP **10** 23:32:23.0, 4°.00N×126°.69E, h29km, Mw5.7, Fault plane solution: NP1:ϕs158.00000°, δ32.00000°, λ93.00000°. NP2:ϕs334.00000°, δ58.00000°, λ88.00000°.*
*ISC-PP **10** 23:32:23, 4°.03N×126°.68E, h35km±1km, Mwppsm6.0, Moment Tensor Solution. s48 Moment tensor: Scale 10^18Nm; Mrr0.16±.08; Mθθ0.67±.30; Mφφ-0.39±.17; Mrθ-0.27±.19; Mθφ0.00±.12; Mφr0.33±.13; Fault plane solution: M0 1.33000×10^18 NP1:ϕs207.20000°, δ70.40000°, λ170.30000°. NP2:ϕs300.50000°, δ80.80000°, λ19.80000°.*
*NEIC **10** 23:32:23.4, 4°.04N×126°.69E, h36km*
*NEIC **10** 23:32:23.8±2.4, 4°.03N±0°.05×126°.68E±0°.07, h27km±1km, mb5.7/398, Ms_20 5.3/797, Mwb5.6/52, Mww5.6/31, Error ellipse: s-maj=12.0km s-min=8.5km az=250.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr2.21; Mθθ-0.06; Mφφ-2.15; Mrθ-0.40; Mθφ1.05; Mφr1.09; Fault plane solution: M0 2.68000×10^17 NP1: ϕs338.65000°, δ57.97000°, λ91.38000°. NP2: ϕs156.05000°, δ32.06000°, λ87.80000°. Principal axes: T 2.4783, Plg77.0000°, Azm253.0000°; N 0.3710, Plg1.0000°, Azm158.0000°; P -2.8493, Plg13.0000°, Azm68.0000°;*
*NEIC **10** 23:32:23.4, 4°.04N×126°.69E, h24km*
*BJI **10** 23:32:23.1, 3°.95N×126°.55E, h45km, mB5.4/62, mb5.4/95, Ms5.4/98, Ms7 5.3/97*
*GCMT **10** 23:32:25.8±0.1, 4°.08N±0°.01×126°.79E±0°.01, h29km, MW5.7/159, Moment Tensor Solution. s157, c295; s159, c317; Duration: 1s7 Moment tensor: Scale 10^17 Nm; Mrr3.57±.04; Mθθ0.22±.03; Mφφ-3.79±.03; Mrθ-0.69±.06; Mθφ0.35±.03; Mφr1.72±.06; Best double couple: M0 4.13700×10^17 NP1:ϕs183.00000°, δ33.00000°, λ104.00000°. NP2:ϕs347.00000°, δ58.00000°, λ81.00000°. Principal axes: T 4.0470, Plg75.0000°, Azm233.0000°; N 0.1820, Plg7.0000°, Azm352.0000°; P -4.2270, Plg13.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **10** 23:32:25.9±0.2, 4°.N±2°×12°.7E±°, h48km±2km, M5.5/157, mB5.9/99, mb5.8/157, MLv5.9/18, Mw5.6/183, Mw(mB)5.5/99, MwMwp5.5/88, Mwp5.7/88*
*BGR **10** 23:33:03.2, 10°.62N×121°.31E, h33km, mb5.3*

ISC 10 23:32:25.0±0.3, 4°.01N±0°.02×126°.68E±0°.03, h42km±2km, h43km:pP-P, n1882, σ1956/1518, mb5.7/408, MS5.3/498, 89C-87D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.20**	**254**	P	Pn	23 32 46.8	+1.5
DAV	**Davao City (W)**	**3.23**	**340**	Pn	Pn	23 33 14.0	+0.8
DAV	**Davao City (W)**	**3.23**	**340**	Pn	Pn	23 33 18.6	+5.4
	134nm,0.3s,baz=246,slow=7.0,SNR=8.2						
DAV				Sn	Sn	23 33 57.7	+7.2
	347nm,0.3s,baz=27,slow=4.6,SNR=6.3						
DAV	**Davao City (W)**	**3.23**	**340**	P	Pn	23 33 15.8	+2.5
DAV				S	Sn	23 33 53.8	+3.4
DAV	**Davao City (W)**	**3.23**	**340**	P	Pn	23 33 14.4	+1.2
DAV	**Davao City (W)**	**3.23**	**340**	P	Pn	23 33 28.0	+15
TNTI	**Ternate**	**3.29**	**168**		Pn	23 33 14.5	+0.4
TNTI	**Ternate**	**3.29**	**168**	P	Pn	23 33 14.5	+0.4
TNTI	**Ternate**	**3.29**	**168**	P	Pn	23 33 14.7	+0.6
KMSI	**Cibinong**	**4.35**	**218**	P	Pn	23 33 31.7	+3.0
MRSI	**Marisa**	**5.90**	**234**	P	Pn	23 33 53.3	+3.4
SANI	**Sanana**	**6.06**	**187**	P	Pn	23 33 48.4	-3.8
SANI	**Sanana**	**6.06**	**187**	P	Pn	23 33 51.0	-1.2
SANI	**Sanana**	**6.06**	**187**	P	Pn	23 33 51.0	-1.2
	17μm9μm403nm,0.7s						
LUWI	**Luwuk**	**6.36**	**218**	P	Pn	23 33 59.6	+3.3
LUWI	**Luwuk**	**6.36**	**218**	Pn	Pn	23 34 00.6	+4.3
LUWI	**Luwuk**	**6.36**	**218**	P	Pn	23 33 57.1	+0.8
LUWI	**Luwuk**	**6.36**	**218**	P	Pn	23 34 00.0	+3.7
TOLI2	**Tolitoli**	**6.56**	**244**	Pn	Pn	23 34 00.0	+1.0
TOLI2	**Tolitoli**	**6.56**	**244**	P	Pn	23 34 00.4	+1.4
SWI	**Sorong**	**6.66**	**137**	P	Pn	23 34 00.5	+0.1
	3.0nm36μm9μm919nm,0.7s						
APSI	**Ampana**	**7.02**	**226**	P	Pn	23 34 10.1	+4.8
NLAI	**Namlea**	**7.22**	**177**	P	Pn	23 34 07.7	-0.3
	3.6nm9μm658nm,0.8s						
MSAI	**Masohi**	**7.65**	**163**	P	Pn	23 34 14.3	+0.3
	2.2nm20μm7μm558nm,0.8s						
MPSI	**Mapaga**	**7.70**	**242**	P	Pn	23 34 17.9	+3.3
AAI	**Ambon**	**7.80**	**169**	P	Pn	23 34 16.4	+0.4
	1.8nm15μm6μm504nm,0.9s						
MYLDM	**Lahad Datu**	**8.24**	**278**	Pn	Pn	23 34 26.2	+4.2
MYLDM	**Lahad Datu**	**8.24**	**278**	P	Pn	23 34 22.2	+0.2
PCI	**Palu**	**8.41**	**235**	P	Pn	23 34 27.3	+2.9
	17μm747nm,1.4s						
FAKI	**Fak Fak**	**8.85**	**141**	Pn	Pn	23 34 30.1	-0.4
FAKI	**Fak Fak**	**8.85**	**141**	P	Pn	23 34 31.0	+0.5
FAKI	**Fak Fak**	**8.85**	**141**	P	Pn	23 34 30.8	+0.3
	24μm4μm488nm,0.8s						
KDI	**Kendari**	**8.90**	**207**	P	Pn	23 34 32.5	+1.4
BNDI	**Bandanaira**	**9.07**	**159**	P	Pn	23 34 34.1	+0.6
	13μm15μm1μm,2.1s						
RKPI	**Ransiki, Papua**	**9.29**	**126**	P	Pn	23 34 38.0	+1.6
	22μm776nm,0.9s						
TTSI	**Tana Toraja**	**9.81**	**224**	P	Pn	23 34 47.0	+3.4
	20μm6μm515nm,0.9s						
BBSI	**Bau Bau**	**10.29**	**204**	P	Pn	23 34 53.1	+2.9
	10μm4μm451nm,0.9s						
KMPI	**Kaimana, Papua**	**10.36**	**137**	P	Pn	23 34 51.4	+0.2
	18μm518nm,0.7s						
SMKI	**Samarinda**	**10.45**	**245**	P	Pn	23 34 56.0	+3.6
	639nm,1.0s						
SPSI	**Sidrap Palu**	**10.51**	**221**	P	Pn	23 34 56.7	+3.5
	21μm4μm180nm,0.8s						
KKM	**Kota Kinabalu**	**10.62**	**281**	Pn	Pn	23 34 59.3	+4.5
KKM	**Kota Kinabalu**	**10.62**	**281**	P	Pn	23 34 55.4	+0.6
BNSI	**Bone**	**10.63**	**218**	P	Pn	23 34 58.1	+3.3
	19μm5μm286nm,1.3s						
BAKI	**Biak**	**10.75**	**119**	P	Pn	23 34 58.5	+2.1
	15μm1μm,1.2s						
BKB	**Balikpapan**	**11.09**	**242**	Pn	Pn	23 35 04.2	+3.0
BKB	**Balikpapan**	**11.09**	**242**	P	Pn	23 35 04.2	+3.0
	6μm399nm,0.8s						
SRPI	**Serui, Papua**	**11.20**	**121**	P	Pn	23 35 02.7	+0.1
	12μm7μm497nm,0.9s						
KAPI	**Kappang**	**11.33**	**218**	Pn	Pn	23 35 05.4	+1.0
KAPI	**Kappang**	**11.33**	**218**	Pn	Pn	23 35 06.3	+1.9
	1.9nm,0.3s,baz=18,slow=13,SNR=15						
KAPI				Sn	Sn	23 37 14.7	+5.0
	1.3nm,0.3s,baz=45,slow=18,SNR=1.0						
KAPI				LR	LR	23 39 59.1	
	comp=Z,22μm,20.1s,baz=45,slow=41						
KAPI	**Kappang**	**11.33**	**218**	P	Pn	23 35 04.6	+0.2
KAPI				P	Pn	23 35 04.6	+0.2
KAPI				P	Pn	23 35 04.6	+0.2
KAPI				S	Sn	23 37 10.8	+1.1
KAPI				S	Sn	23 37 10.8	+1.1
KAPI				S	Sn	23 37 10.8	+1.1
KAPI	**Kappang**	**11.33**	**218**	P	Pn	23 35 06.0	+1.6
KAPI	**Kappang**	**11.33**	**218**	*de*P	Pn	23 35 06.7	+2.3
BKSI	**Bulukumba**	**11.35**	**215**	P	Pn	23 35 07.2	+2.5
TGY	**Tagaytay City**	**11.51**	**331**	Pn	Pn	23 35 10.8	+3.8
	173nm,0.3s,baz=98,slow=1.6,SNR=2.2						
TGY				LR	LR	23 40 24.2	
	comp=Z,19μm,20.8s,baz=155,slow=42						
BSSI	**Bau Bau, Buton**	**11.83**	**212**	P	Pn	23 35 13.0	+1.7
	11μm4μm338nm,0.7s						
SAUI	**Saumlaki**	**12.78**	**159**	Pn	Pn	23 35 23.4	-0.9
SAUI	**Saumlaki**	**12.78**	**159**	P	Pn	23 35 24.6	+0.4
MMRI	**Maumere**	**13.32**	**199**	Pn	Pn	23 35 33.7	+1.9
MMRI	**Maumere**	**13.32**	**199**	P	Pn	23 35 31.9	+0.2
MMRI	**Maumere**	**13.32**	**199**	P	Pn	23 35 33.6	+1.9
SMPI	**Sarmi**	**13.42**	**116**	P	Pn	23 35 33.7	+0.7
	7μm323nm,1.4s						
EDFI	**Ende, Flores**	**13.62**	**201**	P	Pn	23 35 36.7	+0.9
	6μm696nm,0.8s						
SOEI	**Soe**	**13.89**	**190**	P	Pn	23 35 39.3	-0.2
SOEI	**Soe**	**13.89**	**190**	Pn	Pn	23 35 41.5	+2.0
SOEI	**Soe**	**13.89**	**190**	P	Pn	23 35 39.4	-0.1
SOEI	**Soe**	**13.89**	**190**	P	Pn	23 35 41.5	+2.0
	13μm7μm505nm,0.8s						
BATI	**Baumata**	**14.44**	**192**	Pn	Pn	23 35 49.0	+2.1
	16nm,0.3s,baz=150,slow=0.4,SNR=18						
BATI				Sn	Sn	23 38 30.0	+4.2
	2.5nm,0.3s,baz=132,slow=22,SNR=0.7						
BATI				LR	LR	23 40 54.8	
	comp=Z,4μm,21.3s,baz=332,slow=36						
BATI	**Baumata**	**14.44**	**192**	P	Pn	23 35 48.7	+1.8
	8μm735nm,0.8s						
SBUM	**Sibu**	**14.52**	**264**		P	23 35 51.0	-2.7
GENI	**Genyem**	**14.99**	**116**	P	Pn	23 35 54.5	+0.3
WSI	**Waingapu**	**15.01**	**205**	P	Pn	23 35 56.0	+1.6
WBSI	**Waikabubak, Su**	**15.39**	**208**	P	Pn	23 36 00.8	+1.4
BASI	**Baing, Sumba**	**15.39**	**203**	P	Pn	23 35 59.4	0.0
JAY	**Jayapura**	**15.44**	**115**	Pn	Pn	23 36 00.3	+0.2
	3.3nm,0.3s,baz=305,slow=2.1,SNR=19						
JAY				Sn	S	23 38 59.5	-5.2
	0.3nm,0.3s,baz=223,slow=19,SNR=1.5						
JAY				LR	LR	23 41 01.5	
	comp=Z,11μm,21.4s,baz=296,slow=34						
	184nm,0.9s						
JAY	**Jayapura**	**15.44**	**115**	P	Pn	23 35 59.7	-0.4
	5μm570nm,1.0s						
PLAI	**Plampang**	**15.54**	**215**	P	P	23 36 03.6	-1.5
PLAI	**Plampang**	**15.54**	**215**	P	Pn	23 36 02.7	+1.4
STKI	**Sintang**	**15.69**	**256**	P	P	23 36 07.4	+0.7
	12μm277nm,0.9s						
TWSI	**Taliwang, Sumb**	**16.00**	**218**	P	P	23 36 09.0	-1.1
	10μm7μm712nm,1.0s						
KSM	**Kuching**	**16.55**	**262**		P	23 36 16.8	+0.6
KSM				IAmb	IAmb	23 36 20.4	
	comp=Z,434nm,0.8s						
SRBI	**Singaraja**	**16.59**	**224**	P	P	23 36 17.1	+0.4
	comp=Z,10μmcomp=Z,7μmcomp=Z,532nm,1.1s						
KMMI	**Kalianget**	**16.79**	**229**	P	P	23 36 19.9	+1.0
	comp=Z,11μmcomp=Z,5μmcomp=Z,299nm,0.8s						
DRS	**Darwin Rock St**	**16.87**	**166**	P	Pn	23 36 15.9	-2.3
DNP	**Denpasar**	**17.02**	**222**	P	P	23 36 22.9	+1.4
	comp=Z,963nm,0.9

YOJ Yonaguni jima 20.64 350 P Pn 23 37 02.4 -1.2
YOJ Yonaguni jima 20.64 350 P **P** **23 37 00.5 -0.5**
YOJ pmax pmax
comp=Z,249nm,0.8s
YOJ MLR MLR
comp=Z,8µm,21.0s
KPJI Karang Pucung 21.00 238 P **P** **23 37 06.1 +1.1**
comp=Z,11µmcomp=Z,5µmcomp=Z,494nm,0.8s
JCJI Jatiwangi 21.14 240 P **P** **23 37 09.3 +2.8**
comp=Z,10µmcomp=Z,9µmcomp=Z,406nm,0.8s
YHNB Yeheng 21.16 347 IAMs_20 IAMs_20 23 46 02.2
comp=Z,12µm,22.0s
YHNB Yeheng 21.16 347 P **P** **23 37 06.7 -0.1**
PPBI Pangkal Pinang 21.43 254 P **P** **23 37 12.2 +2.5**
TATO Taipei 21.43 347 P **P** **23 37 10.1 +0.5**
TATO Taipei 21.43 347 IAMs_20 IAMs_20 23 46 10.2
comp=Z,9µm,22.0s
TATO Taipei 21.43 347 P **P** **23 37 10.2 +0.6**
TATO S **S** **23 41 06.2 +1.0**
TATO Taipei 21.43 347 P **P** **23 37 09.5 -0.1**
MANU Manus Island 21.53 106 P **P** **23 37 10.6 -0.2**
MANU IAmb IAmb 23 37 24.3
comp=Z,687nm,1.9s
KNMB Chin-men Tao 21.84 339 P **P** **23 37 15.4 +1.4**
KNMB IAmb IAmb 23 37 21.7
comp=Z,175nm,0.6s
KNMB IAMs_20 IAMs_20 23 46 04.3
comp=Z,9µm,20.0s
HKPS Hong Kong Po S 21.85 327 P **P** **23 37 13.8 -0.3**
LEM Lembang 21.86 241 P **P** **23 37 13.5 -1.0**
comp=Z,291nm,0.8s,baz=49,slow=9.6,SNR=18
LEM LR LR 23 47 07.2
comp=Z,8µm,19.1s,baz=48,slow=41
comp=Z,291nm,0.8s
LEM Lembang 21.86 241 P **P** **23 37 16.4 +1.9**
comp=Z,8µmcomp=Z,4µmcomp=Z,453nm,0.9s
FITZ Fitzroy Crossi 22.00 183 P **P** **23 37 14.5 -1.2**
FITZ Fitzroy Crossi 22.00 183 P **P** **23 37 14.9 -0.8**
comp=Z,136nm,0.6s,baz=13,slow=8.9,SNR=134
FITZ S **S** **23 41 11.9 -4.2**
comp=Z,154nm,1.3s,baz=18,slow=20,SNR=9.3
comp=Z,136nm,0.6s
BBJI Bungbulang 22.15 239 P **P** **23 37 16.3 -1.2**
QIZ Qiongzhong 22.21 314 P **P** **23 37 17.4 -0.6**
QIZ Qiongzhong 22.21 314 P **P** **23 37 16.9 -1.1**
QIZ S **S** **23 41 17.3 -2.9**
QIZ sS Sn 23 41 34.5 +1.1
QIZ pmax pmax
comp=Z,97nm,1.3s
QIZ pmax pmax
comp=Z,700nm,4.3s
QIZ LR LR
comp=Z,3µm,14.4s
QIZ LR LR
comp=Z,3µm,15.8s
QIZ LR LR
comp=Z,8µm,18.6s
QZH Quanzhou 22.22 340 P **P** **23 37 17.2 -0.8**
QZH S **S** **23 41 15.2 -5.0**
QZH pmax pmax
comp=Z,140nm,1.0s
QZH pmax pmax
comp=Z,1µm,8.6s
QZH LR LR
comp=Z,8µm,20.3s
QZH LR LR
comp=Z,6µm,21.6s
QZH LR LR
comp=Z,8µm,19.9s
TPRI Tanjung Pinang 22.34 263 P **P** **23 37 21.0 +1.5**
comp=Z,6µmcomp=Z,246nm,0.8s
DBJI Dramaga 22.50 242 P **P** **23 37 22.4 +1.2**
comp=Z,9µmcomp=Z,218nm,0.9s
CNJI Cibinong 22.52 240 P **P** **23 37 21.3 -0.1**
DSRI Dabo 22.53 259 P **P** **23 37 22.7 +1.1**
JOW Kunigami 22.74 4 P **P** **23 37 22.4 -1.2**
JOW Kunigami 22.74 4 P **P** **23 37 24.2 +0.6**
comp=Z,67nm,0.6s,baz=189,slow=8.7,SNR=34
JOW S **S** **23 41 26.0 -3.5**
comp=Z,14nm,0.9s,baz=114,slow=19,SNR=1.9
comp=Z,67nm,0.6s
JOW Kunigami 22.74 4 P **P** **23 37 23.8 +0.2**
SBJI Serang 22.86 244 P **P** **23 37 26.2 +1.3**
comp=Z,10µmcomp=Z,580nm,1.9s
SKJI Sukabumi 22.88 241 P **P** **23 37 25.8 +0.7**
comp=Z,7µmcomp=Z,7µmcomp=Z,773nm,1.2s
GZH Guangzhou 22.93 327 P **P** **23 37 27.4 +1.8**
GZH sP **sP** **23 37 40.5 -0.2**
GZH S **S** **23 41 36.4 +3.7**
GZH pmax pmax
comp=Z,330nm,0.9s
GZH LR LR
comp=Z,8µm,18.7s
GZH LR LR
comp=Z,9µm,19.0s
GZH LR LR
comp=Z,12µm,21.2s
PMBI Palembang 22.95 253 P **P** **23 37 27.5 +1.5**
PMBI Palembang 22.95 253 P **P** **23 37 28.5 +2.5**
comp=Z,9µmcomp=Z,531nm,0.8s
BTDF Bukit Timah Da 23.03 264 P **P** **23 37 28.2 +1.4**
BLSI Bandar Lampung 23.35 247 P **P** **23 37 31.3 +1.4**
comp=Z,5µmcomp=Z,206nm,0.9s
CGJI Cibinong 23.46 243 P **P** **23 37 29.5 -1.5**
comp=Z,3µmcomp=Z,275nm,0.8s
KLI Kotabumi 23.52 248 P **P** **23 37 32.6 +1.1**
comp=Z,8µmcomp=Z,5µmcomp=Z,322nm,0.8s
MDSI Maura Dua 24.02 250 P **P** **23 37 35.8 -0.4**
comp=Z,8µmcomp=Z,2µmcomp=Z,197nm,0.8s
KASI Kota Agung 24.10 247 P **P** **23 37 37.5 +0.6**
comp=Z,4µmcomp=Z,2µmcomp=Z,196nm,0.9s
COEN Coen 24.22 138 P **P** **23 37 36.2 -1.9**
comp=Z,88nm,1.0s
COEN Coen 24.22 138 P **P** **23 37 35.4 -2.6**
COEN Coen 24.22 138 P **P** **23 37 36.6 -1.4**
LWLI Liwa 24.31 249 P **P** **23 37 39.9 +0.9**
comp=Z,7µmcomp=Z,7µmcomp=Z,565nm,0.9s
PMG Port Moresby 24.38 123 P **P** **23 37 38.9 -0.5**
PMG Port Moresby 24.38 123 LR LR 23 48 24.1
comp=Z,4µm,20.0s,baz=304,slow=40
PMG Port Moresby 24.38 123 P **P** **23 37 38.9 -0.5**
PMG pmax pmax
comp=Z,103nm,1.1s
PMG MLR MLR
comp=Z,4µm,20.0s
LHSI Lahat 24.41 252 P **P** **23 37 40.6 +0.8**
comp=Z,7µmcomp=Z,3µmcomp=Z,225nm,1.2s
WRAB Tennant Creek 24.96 163 P **P** **23 37 43.8 -0.9**
WRAB Tennant Creek 24.96 163 ⇓*i*P **P** **23 37 43.4 -1.3**
WRAB pmax pmax
comp=Z,261nm,0.8s
WRA Warramunga Arr 24.97 163 P **P** **23 37 43.5 -1.3**
WRA Warramunga Arr 24.97 163 P **P** **23 37 44.6 -0.2**
comp=Z,260nm,1.0s,baz=344,slow=10,SNR=106
WRA S **S** **23 42 04.2 -1.6**
comp=Z,95nm,1.3s,baz=342,slow=17,SNR=7.5
WRA ScP **ScP** **23 45 00.4 +5.1**
comp=Z,3.1nm,0.9s,baz=342,slow=2.4,SNR=2.0
comp=Z,260nm,1.0s
MNAI Manna 25.12 251 IAMs_20 IAMs_20 23 48 35.8
comp=Z,8µm,20.0s
MNAI Manna 25.12 251 P **P** **23 37 47.9 +1.6**
MNAI Manna 25.12 251 P **P** **23 37 47.6 +1.3**
comp=Z,7µmcomp=Z,289nm,0.9s
KSI Kapahiang 25.25 253 P **P** **23 37 49.0 +1.6**
comp=Z,7µmcomp=Z,298nm,0.9s
MASI Maura Aman, Be 25.44 254 P **P** **23 37 50.4 +1.2**
IPM Ipoh 25.59 272 P **P** **23 37 50.2 -0.3**
IPM IAmb IAmb 23 37 54.2
comp=Z,137nm,0.8s
IPM Ipoh 25.59 272 P **P** **23 37 50.8 +0.3**
BKNI Bangkinang 25.88 262 P **P** **23 37 51.0 -2.1**
BKNI Bangkinang 25.88 262 P **P** **23 37 54.6 +1.5**
comp=Z,6µmcomp=Z,321nm,0.7s
KRJI Kerinci 25.92 257 P **P** **23 37 55.1 +1.5**
comp=Z,7µmcomp=Z,395nm,1.0s
MBWA Marble Bar 25.93 195 P **P** **23 37 53.7 +0.3**
comp=Z,0.0nmcomp=Z,466nm,0.8s
MBWA Marble Bar 25.93 195 P **P** **23 37 53.3 -0.1**
MBWA Marble Bar 25.93 195 P **P** **23 37 54.0 +0.6**
MBWA S **S** **23 42 24.3 +3.3**
MBWA Marble Bar 25.93 195 P **P** **23 37 53.7 +0.3**
KULM Kulim 25.98 274 P **P** **23 37 53.7 -0.3**
KULM IAmb IAmb 23 38 23.5
comp=Z,167nm,1.2s
KULM Kulim 25.98 274 P **P** **23 37 54.2 +0.2**

PSA00 Pilbara Seismi 26.30 194 P **P** **23 37 56.9 +0.1**
comp=Z,951nm,1.0s
PSA00 Pilbara Seismi 26.30 194 P **P** **23 37 56.9 +0.1**
PSA00 Pilbara Seismi 26.30 194 P **P** **23 37 56.9 +0.1**
GULI GuiLin 26.33 325 P **P** **23 37 53.9 -3.2**
GULI S **S** **23 42 32.4 +5.1**
GULI pmax pmax
comp=Z,120nm,0.9s
GULI pmax pmax
comp=Z,390nm,4.1s
GULI LR LR
comp=Z,4µm,17.7s
GULI LR LR
comp=Z,5µm,20.4s
GULI LR LR
comp=Z,9µm,18.4s
PPI Padang Panjang 26.64 261 P **P** **23 38 00.6 +0.6**
comp=Z,6µmcomp=Z,2µmcomp=Z,154nm,1.1s
PDSI Padang 26.65 260 P **P** **23 38 02.3 +2.1**
comp=Z,5µmcomp=Z,2µmcomp=Z,135nm,0.8s
MNSI Mandailing Nat 27.26 264 P **P** **23 38 05.9 +0.3**
comp=Z,5µmcomp=Z,3µmcomp=Z,189nm,1.0s
JCJ Chichijima 27.32 31 P **P** **23 38 06.2 +0.3**
SSE Sheshan 27.43 350 P **P** **23 38 07.9 +1.0**
SSE S **S** **23 42 47.3 +2.8**
SSE pmax pmax
comp=Z,18nm,0.8s
SSE pmax pmax
comp=Z,260nm,4.4s
SSE LR LR
comp=Z,1µm,18.4s
SSE LR LR
comp=Z,1µm,18.5s
PPSI Pulau Pagai 27.49 256 P **P** **23 38 07.8 +0.1**
comp=Z,252nm,0.9s
QIS Mount Isa 27.52 153 P **P** **23 38 08.2 +0.4**
comp=Z,249nm,1.0s
QIS Mount Isa 27.52 153 P **P** **23 38 08.6 +0.8**
PSI Prapat 27.73 268 LR LR 23 51 21.1
comp=Z,7µm,19.6s,baz=78,slow=41
PSI Prapat 27.73 268 P **P** **23 38 09.0 -1.0**
PSI pmax pmax
comp=Z,97nm,0.9s
PSI MLR MLR
comp=Z,6µm,19.0s
RPSI Rantau Prapat 27.74 268 P **P** **23 38 09.0 -0.9**
RPSI IAmb IAmb 23 38 12.6
comp=Z,97nm,0.9s
RPSI IAMs_20 IAMs_20 23 51 10.2
comp=Z,6µm,19.0s
SLVN Son La 28.03 310 P **P** **23 38 11.4 -1.1**
MTSU Mount Surprise 28.05 142 P **P** **23 38 12.8 +0.2**
comp=Z,46nm,0.9s
SISI Saibi 28.08 260 P **P** **23 38 13.2 +0.3**
comp=Z,158nm,0.7s
ASAR Alice Springs 28.40 166 P **P** **23 38 15.2 -0.4**
ASAR Alice Springs 28.40 166 P **P** **23 38 15.7 0.0**
comp=Z,29nm,0.7s,baz=351,slow=7.6,SNR=194
ASAR PcP **PcP** **23 41 29.7 +2.2**
comp=Z,4.2nm,0.7s,baz=338,slow=2.5,SNR=2.3
ASAR S **S** **23 43 05.4 +5.4**
comp=Z,12nm,1.1s,baz=348,slow=18,SNR=4.9
ASAR ScP **ScP** **23 45 09.4 +4.0**
comp=Z,2.0nm,0.9s,baz=345,slow=5.1,SNR=2.1
ASAR LR LR 23 50 21.0
comp=Z,2µm,21.3s,baz=352,slow=38
ASAR P3KPbc 00 10 31.1
comp=Z,0.5nm,0.5s,baz=154,slow=4.6,SNR=4.7
comp=Z,29nm,0.7s
PBSI Pulau Batu 28.66 263 P **P** **23 38 17.9 -0.2**
comp=Z,78nm,0.6s
WHN Wuhan 28.84 338 ⇑P **P** **23 38 19.8 +0.3**
WHN PcP **PcP** **23 41 30.2 +1.8**
WHN S **S** **23 43 06.5 -0.2**
WHN pmax pmax
comp=Z,190nm,0.8s
WHN pmax pmax
comp=Z,700nm,4.0s
WHN LR LR
comp=Z,14µm,18.9s
WHN LR LR
comp=Z,37µm,23.9s
WHN LR LR
comp=Z,34µm,20.2s
NJ2 Nanjing 28.84 346 ⇓*i*P **P** **23 38 20.8 +1.3**
NJ2 PcP **PcP** **23 41 29.3 +0.9**
NJ2 S **S** **23 43 11.2 +4.5**
NJ2 pmax pmax
comp=Z,36nm,0.8s
NJ2 pmax pmax
comp=Z,360nm,4.3s
NJ2 LR LR
comp=Z,4µm,20.8s
NJ2 LR LR
comp=Z,3µm,23.7s
NJ2 LR LR
comp=Z,5µm,23.5s
KCSI Kotacane, Aceh 28.85 270 P **P** **23 38 19.3 -0.5**
comp=Z,124nm,0.8s
WRKA Warakurna 28.92 177 P **P** **23 38 20.4 +0.2**
comp=Z,153nm,0.8s
GIRL Giralia 29.15 204 P **P** **23 38 23.7 +1.4**
comp=Z,128nm,1.1s
GIRL Giralia 29.15 204 P **P** **23 38 23.1 +0.8**
GIRL IAmb IAmb 23 38 27.2
comp=Z,96nm,0.9s
GSI Gunungsitoli 29.20 266 P **P** **23 38 21.3 -1.6**
GSI IAmb IAmb 23 38 23.6
comp=Z,164nm,0.8s
GSI Gunungsitoli 29.20 266 P **P** **23 38 22.3 -0.6**
GSI Gunungsitoli 29.20 266 P **P** **23 38 22.3 -0.6**
comp=Z,3µmcomp=Z,209nm,0.8s
JNU Nakatsue 29.22 7 P **P** **23 38 23.1 +0.2**
JNU PcP **PcP** **23 41 30.0 +0.6**
JNU Nakatsue 29.22 7 P **P** **23 38 22.6 -0.3**
GYA Guiyang 29.42 321 ⇓P **P** **23 38 25.5 +0.7**
GYA pP sP 23 38 41.4 +0.7
GYA PcP **PcP** **23 41 31.3 +1.1**
GYA S **S** **23 43 12.2 -4.0**
GYA pmax pmax
comp=Z,23nm,0.9s
GYA pmax pmax
comp=Z,450nm,7.5s
GYA LR LR
comp=Z,5µm,19.2s
GYA LR LR
comp=Z,3µm,23.6s
GYA LR LR
comp=Z,8µm,20.9s
LHMI Lhok Sumawe 29.66 273 IAmb IAmb 23 38 29.9
comp=Z,88nm,0.8s
LHMI Lhok Sumawe 29.66 273 P **P** **23 38 28.0 +1.0**
comp=Z,5µmcomp=Z,127nm,0.7s
MLSI Meulaboh, Aceh 30.20 272 P **P** **23 38 31.9 +0.2**
comp=Z,2µmcomp=Z,272nm,0.8s
JMN Monobe 30.32 12 P **P** **23 38 32.6 0.0**
SNSI Sinabang, Aceh 30.35 268 P **P** **23 38 32.8 -0.3**
comp=Z,254nm,1.0s
JTU Tsushima 30.46 4 P **P** **23 38 34.8 +1.0**
CM31 Chiang Mai Arr 30.69 300 IAmb IAmb 23 38 38.9
comp=Z,81nm,0.7s
CM31 Chiang Mai Arr 30.69 300 P **P** **23 38 35.5 -0.5**
SNR=32
CM31 P **P** **23 38 35.5 -0.5**
SNR=32
CMAR Chiang Mai Arr 30.69 300 P **P** **23 38 35.9 -0.2**
CMAR Chiang Mai Arr 30.69 300 P **P** **23 38 36.2 +0.2**
comp=Z,62nm,0.8s,baz=166,slow=6.1,SNR=4.2
CMAR PcP **PcP** **23 41 34.9 +1.4**
comp=Z,8.5nm,0.9s,baz=176,slow=1.0,SNR=5.8
CMAR ScP **ScP** **23 45 16.1 +3.2**
comp=Z,5.1nm,0.9s,baz=128,slow=1.6,SNR=7.7
CMAR PKiKP **PKiKP** **23 49 05.3 +0.7**
comp=Z,1.2nm,0.8s,baz=271,slow=1.0,SNR=5.1
CMAR LR LR 23 51 04.5
comp=Z,3µm,21.0s,baz=110,slow=37
comp=Z,62nm,0.8s
CTA Charters Tower 30.72 142 LR LR 23 52 58.9
comp=Z,100nm,18.6s,baz=299,slow=40
CTAO Charters Tower 30.72 142 P **P** **23 38 36.1 -0.1**
CTAO Charters Tower 30.72 142 P **P** **23 38 37.0 +0.8**
CTAO Charters Tower 30.72 142 P **P** **23 38 36.1 -0.1**
CTAO pmax pmax
comp=Z,48nm,1.0s
ENH Enshi 30.76 330 IAmb IAmb 23 38 37.3
comp=Z,130nm,0.8s
ENH IAMs_20 IAMs_20 23 51 41.2
comp=Z,8µm,21.0s
CHTO Chiang Mai 30.84 301 P **P** **23 38 36.8 -0.5**
CHTO IAmb IAmb 23 38 40.3
comp=Z,134nm,0.7s
CHTO **PcP** **23 41 35.0 +1.2**
CHTO Chiang Mai 30.84 301 P **P** **23 38 37.9 +0.6**
CHTO P **P** **23 38 37.9 +0.6**
CHTO S **S** **23 43 37.0 -1.4**
CHTO S **S** **23 43 37.0 -1.4**
CHTO Chiang Mai 30.84 301 P **P** **23 38 37.4 +0.1**
CHTO Chiang Mai 30.84 301 P **P** **23 38 36.8 -0.5**
CHTO 23 41 35.0
CHTO pmax pmax
comp=Z,134nm,0.7s
CHTO MLR MLR
comp=Z,3µm,21.0s
KMI Kunming 31.15 315 ⇓P **P** **23 38 39.9 -0.3**
KMI PcP **PcP** **23 41 37.1 +2.3**
KMI S **S** **23 43 37.1 -6.4**
KMI pmax pmax
comp=Z,46nm,1.0s
KMI LR LR
comp=Z,3µm,17.6s
KMI LR LR
comp=Z,2µm,21.5s
KMI LR LR
comp=Z,6µm,23.3s
JHJ Hachijo jima 2 31.44 21 LR LR 23 50 28.9
comp=Z,3µm,20.1s,baz=214,slow=34
MEEK Meekatharra 31.45 194 P **P** **23 38 42.5 -0.1**
comp=Z,699nm,0.9s
MEEK Meekatharra 31.45 194 P **P** **23 38 42.2 -0.5**
INU Inuyama 32.62 16 P **P** **23 38 51.1 -1.6**
PZH PanZhiHua 32.71 316 P **P** **23 38 54.1 +0.3**
PZH S **S** **23 44 10.1 +2.4**
PZH sS **sS** **23 44 28.2 +1.2**
PZH pmax pmax
comp=Z,50nm,1.1s
PZH pmax pmax
comp=Z,230nm,6.3s
PZH LR LR
comp=Z,3µm,23.5s
PZH LR LR
comp=Z,2µm,19.6s
PZH LR LR
comp=Z,4µm,22.2s
CMBY CAMPBELL BAY 32.73 277 *e*P P 23 38 46.0 -8.0
JGF Kuroka 32.95 16 P **P** **23 38 55.8 +0.1**
LYN LuoYang 33.13 338 ⇑P **P** **23 38 57.4 +0.2**
LYN PP **PP** **23 40 13.0 +0.2**
LYN PcP **PcP** **23 41 41.8 +2.1**
LYN S **S** **23 44 14.6 +0.9**
LYN pmax pmax
comp=Z,160nm,0.8s
LYN pmax pmax
comp=Z,520nm,5.8s
LYN LR LR
comp=Z,7µm,19.9s
LYN LR LR
comp=Z,6µm,20.5s
LYN LR LR
comp=Z,13µm,20.3s
TIA Tai'an 33.23 346 P **P** **23 38 58.1 0.0**
TIA S **S** **23 44 12.9 -2.4**
TIA pmax pmax
comp=Z,45nm,1.0s
TIA pmax pmax
comp=Z,540nm,4.9s
TIA LR LR
comp=Z,2µm,20.8s
TIA LR LR
comp=Z,3µm,18.9s
TIA LR LR
comp=Z,4µm,21.9s
KSAR Wonju Array Be 33.29 2 P **P** **23 38 58.0 -0.5**
KSAR Wonju Array Be 33.29 2 P **P** **23 38 58.0 -0.5**
KSRS Korea Array 33.30 2 P **P** **23 38 59.0 +0.4**
comp=Z,14nm,0.6s,baz=183,slow=9.6,SNR=36
KSRS PcP **PcP** **23 41 42.0 +1.9**
comp=Z,29nm,0.8s,baz=189,slow=2.8,SNR=22
KSRS ScP **ScP** **23 45 24.6 +3.3**
comp=Z,4.8nm,1.1s,baz=182,slow=3.1,SNR=5.3
KSRS LR LR 23 52 48.4
comp=Z,1656µm,21.2s,baz=180,slow=37
comp=Z,14nm,0.6s
MJAR Matsushiro Arr 34.06 17 P **P** **23 39 03.3 -2.1**
MJAR PcP **PcP** **23 41 43.1 +0.7**
MJAR Matsushiro Arr 34.06 17 P **P** **23 39 04.8 -0.6**
comp=Z,11nm,0.8s,baz=190,slow=8.7,SNR=16
MJAR PcP **PcP** **23 41 44.3 +1.9**
comp=Z,21nm,0.8s,baz=180,slow=3.1,SNR=12
MJAR LR LR 23 51 04.0
comp=Z,2µm,21.8s,baz=213,slow=33
comp=Z,11nm,0.8s
MAJO Matsushiro 34.07 17 P **P** **23 39 03.3 -2.1**
MAJO Matsushiro 34.07 17*c i*P **P** **23 39 02.7 -2.7**
MAJO pmax pmax
comp=Z,9.0nm,0.6s
MJB9 Matsu-Tunnel 34.07 17 P **P** **23 39 04.1 -1.3**
XAN Xi'an 34.14 333 ⇑P **P** **23 39 05.0 -1.1**
XAN S **S** **23 44 25.6 -4.0**
XAN pmax pmax
comp=Z,420nm,0.8s
XAN pmax pmax
comp=Z,280nm,4.3s
XAN LR LR
comp=Z,6µm,18.6s
XAN LR LR
comp=Z,6µm,18.8s
XAN LR LR
comp=Z,11µm,18.6s
TNCH TengChong 34.20 310 *e*P **P** **23 39 07.1 +0.2**
TNCH S **S** **23 44 31.9 +1.0**
TNCH sS sS 23 44 43.5 -6.8
TNCH SS **SnSn** **23 46 41.6 -0.4**
TNCH pmax pmax
comp=Z,36nm,0.7s
TNCH pmax pmax
comp=Z,400nm,6.1s
TNCH LR LR
comp=Z,1µm,15.7s
TNCH LR LR
comp=Z,2µm,17.5s
TNCH LR LR
comp=Z,5µm,23.1s
INKA Innaminka 34.36 158 IAmb IAmb 23 39 09.9
comp=Z,67nm,0.7s
CD2 Chengdu 34.39 324 P **P** **23 39 07.8 -0.5**
CD2 pP pP 23 39 15.1 -4.2
CD2 S **S** **23 44 31.4 -2.0**
CD2 sS sS 23 44 51.7 -1.1
CD2 pmax pmax
comp=Z,190nm,0.9s
CD2 pmax pmax
comp=Z,470nm,6.7s
CD2 LR LR
comp=Z,5µm,19.4s
CD2 LR LR
comp=Z,8µm,19.0s
CD2 LR LR
comp=Z,8µm,18.4s
PBA Port Blair 34.44 285 *e*P P 23 39 00.3 -8.6
MORW Morawa 34.44 197 P **P** **23 39 08.4 -0.4**
comp=Z,139nm,1.5s
MORW Morawa 34.44 197 P **P** **23 39 08.1 -0.6**
MORW Morawa 34.44 197 P **P** **23 39 08.3 -0.4**
DGPR DIGLIPUR 34.55 287 *e*P P 23 38 59.9 -10
DGPR IAmb IAmb 23 39 13.8
comp=Z,56nm,0.6s
QLP Quilpie 34.84 152 P **P** **23 39 11.9 -0.2**
comp=Z,165nm,1.3s
QLP Quilpie 34.84 152 P **P** **23 39 12.5 +0.3**
HNS HongShan 34.99 343 ⇑P **P** **23 39 13.4 +0.1**
HNS PP **PP** **23 40 36.3 +3.0**
HNS PcP **PcP** **23 41 46.8 +1.8**
HNS S **S** **23 44 40.1 -2.3**
HNS pmax pmax
comp=Z,110nm,1.0s
HNS pmax pmax
comp=Z,510nm,6.0s
HNS LR LR
comp=Z,4µm,21.2s
HNS LR LR
comp=Z,5µm,18.6s
HNS LR LR
comp=Z,6µm,20.6s

DL2	**Dalian**	**35.03**	**353**	P	**P**	**23**	**39**	**15.0**	**+1.3**
DL2				sP	**sP**	**23**	**39**	**29.3**	**-0.5**
DL2				S	**S**	**23**	**44**	**44.6**	**+1.6**
DL2				pmax	pmax				
	comp=Z,180nm,0.9s								
DL2				pmax	pmax				
	comp=Z,300nm,5.1s								
DL2				LR	LR				
	comp=Z,2µm,16.1s								
DL2				LR	LR				
	comp=Z,3µm,13.7s								
DL2				LR	LR				
	comp=Z,3µm,27.0s								
TATA	**Tatamba Isabel**	**35.26**	**111**	P	**P**	**23**	**39**	**17.3**	**+1.3**
BLDU	**Ballidu**	**35.73**	**195**	P	**P**	**23**	**39**	**19.5**	**-0.2**
	comp=Z,208nm,1.3s								
BLDU	**Ballidu**	**35.73**	**195**	P	**P**	**23**	**39**	**20.2**	**+0.4**
HNR	**Honiara**	**35.74**	**112**	LR	LR	23	53	11.1	
	comp=Z,3µm,21.1s,baz=290,slow=35								
TIY	**Taiyuan**	**35.98**	**341**	P	**P**	**23**	**39**	**22.2**	**+0.2**
TIY				sP	**sP**	**23**	**39**	**39.0**	**+0.6**
TIY				S	**S**	**23**	**45**	**00.4**	**+2.5**
TIY				SS	**SnSn**	**23**	**47**	**19.1**	**-5.8**
TIY				pmax	pmax				
	comp=Z,89nm,0.8s								
TIY				pmax	pmax				
	comp=Z,220nm,4.9s								
TIY				LR	LR				
	comp=Z,2µm,21.3s								
TIY				LR	LR				
	comp=Z,2µm,20.6s								
TIY				LR	LR				
	comp=Z,2µm,22.0s								
JMM	**Marumori**	**36.08**	**19**	IAmb	IAmb	23	39	40.6	
	comp=Z,106nm,0.8s								
JMM	**Marumori**	**36.08**	**19**	P	**P**	**23**	**39**	**22.6**	**-0.1**
KLBR	**Kellerberrin**	**36.41**	**193**	P	**P**	**23**	**39**	**25.6**	**0.0**
	comp=Z,753nm,0.7s								
KLBR	**Kellerberrin**	**36.41**	**193**	P	**P**	**23**	**39**	**25.4**	**-0.2**
BJT	**Baijiatuau**	**37.08**	**347**	IAmb	IAmb	23	39	36.1	
	comp=Z,98nm,0.7s								
BJT	**Baijiatuau**	**37.08**	**347**	P	**P**	**23**	**39**	**31.7**	**+0.5**
BJI	**Beijing**	**37.10**	**347**	P	**P**	**23**	**39**	**31.7**	**+0.4**
BJI				pP	**pP**	**23**	**39**	**40.6**	**-2.1**
BJI				sP	**sP**	**23**	**39**	**44.3**	**-3.4**
BJI				PcP	**PcP**	**23**	**41**	**53.0**	**+1.8**
BJI				S	**S**	**23**	**45**	**18.7**	**+4.1**
BJI				sS	**sS**	**23**	**45**	**33.6**	**-0.5**
BJI				pmax	pmax				
	comp=Z,37nm,0.5s								
BJI				pmax	pmax				
	comp=Z,250nm,3.5s								
BJI				LR	LR				
	comp=Z,670nm,21.9s								
BJI				LR	LR				
	comp=Z,1µm,21.0s								
BJI				LR	LR				
	comp=Z,1µm,21.0s								
MUN	**Mundaring**	**37.15**	**195**	P	**P**	**23**	**39**	**32.0**	**+0.1**
	comp=Z,194nm,1.0s								
MUN	**Mundaring**	**37.15**	**195**	P	**P**	**23**	**39**	**31.8**	**-0.1**
LKP	**Lekhapani**	**37.46**	**311**	*e*P	P	23	39	26.0	-8.6
LKP				IAmb	IAmb	23	39	31.6	
	comp=Z,65nm,0.8s								
EIDS	**Eidsvold**	**37.60**	**142**	P	**P**	**23**	**39**	**36.3**	**+0.5**
	comp=Z,210nm,0.8s								
EIDS	**Eidsvold**	**37.60**	**142**	IAmb	IAmb	23	39	37.3	
	comp=Z,154nm,0.8s								
EIDS	**Eidsvold**	**37.60**	**142**	P	**P**	**23**	**39**	**36.1**	**+0.3**
IMP	**Imphal**	**37.67**	**306**	*e*P	P	23	39	28.2	-8.3
IMP				IAmb	IAmb	23	39	39.0	
	comp=Z,100nm,0.9s								
BBOO	**Buckleboo**	**37.69**	**167**	P	**P**	**23**	**39**	**36.5**	**+0.1**
	comp=Z,379nm,1.1s								
BBOO	**Buckleboo**	**37.69**	**167**	P	**P**	**23**	**39**	**36.2**	**-0.2**
SNY	**Shenyang**	**37.75**	**356**	⇑P	**P**	**23**	**39**	**37.7**	**+0.9**
SNY				S	**S**	**23**	**45**	**24.5**	**0.0**
SNY				pmax	pmax				
	comp=Z,43nm,0.7s								
SNY				pmax	pmax				
	comp=Z,510nm,4.6s								
SNY				LR	LR				
	comp=Z,1µm,18.5s								
SNY				LR	LR				
	comp=Z,2µm,18.0s								
SNY				LR	LR				
	comp=Z,2µm,21.3s								
NWAO	**Narrogin (SRO)**	**37.82**	**193**	P	**P**	**23**	**39**	**37.9**	**+0.3**
	comp=Z,547nm,1.0s								
NWAO	**Narrogin (SRO)**	**37.82**	**193**	P	**P**	**23**	**39**	**37.0**	**-0.5**
NWAO	**Narrogin (SRO)**	**37.82**	**193**	LR	LR	23	58	50.8	
	comp=Z,1µm,18.2s,baz=8.0,slow=42								
NWAO	**Narrogin (SRO)**	**37.82**	**193**	P	**P**	**23**	**39**	**38.1**	**+0.5**
NWAO				S	**S**	**23**	**45**	**22.5**	**-3.2**
NWAO	**Narrogin (SRO)**	**37.82**	**193**	P	**P**	**23**	**39**	**37.8**	**+0.3**
NWAO	**Narrogin (SRO)**	**37.82**	**193**	P	**P**	**23**	**39**	**38.0**	**+0.5**
NWAO	**Narrogin (SRO)**	**37.82**	**193**	P	**P**	**23**	**39**	**37.0**	**-0.5**
NWAO				pmax	pmax				
	comp=Z,223nm,0.9s								
KOHI	**KOHIMA**	**37.97**	**308**	*e*P	P	23	39	30.2	-8.9
KOHI				IAmb	IAmb	23	39	39.1	
	comp=Z,102nm,0.9s								
AZL	**Aizawl**	**38.21**	**304**	*e*P	P	23	39	32.1	-9.0
AZL				IAmb	IAmb	23	39	43.2	
	comp=Z,103nm,0.8s								
LZDM	**Lanzhou Array**	**38.21**	**329**	P	**P**	**23**	**39**	**41.0**	**-0.2**
	comp=Z,93nm,0.9s,baz=163,slow=12,SNR=60								
LZDM				PcP	**PcP**	**23**	**41**	**56.9**	**+1.7**
	comp=Z,38nm,0.8s,baz=172,slow=4.0,SNR=6.7								
LZDM				ScP	**ScP**	**23**	**45**	**42.2**	**+2.4**
	comp=Z,2.8nm,0.5s,baz=116,slow=3.4,SNR=4.9								
LZDM				LR	LR	23	56	38.4	
	comp=Z,5µm,20.5s,baz=115,slow=38								
	comp=Z,93nm,0.9s								
LZH	**Lanzhou**	**38.23**	**329**	⇑P	**P**	**23**	**39**	**41.7**	**+0.5**
LZH				PcP	**PcP**	**23**	**41**	**56.7**	**+1.7**
LZH				S	**S**	**23**	**45**	**32.9**	**+0.6**
LZH				pmax	pmax				
	comp=Z,270nm,1.0s								
LZH				pmax	pmax				
	comp=Z,450nm,4.6s								
LZH				LR	LR				
	comp=Z,6µm,20.3s								
LZH				LR	LR				
	comp=Z,6µm,21.3s								
LZH				LR	LR				
	comp=Z,9µm,23.4s								
WHYH	**Whyalla**	**38.27**	**165**	P	**P**	**23**	**39**	**41.8**	**+0.5**
JORH	**JORHAT**	**38.36**	**309**	*e*P	P	23	39	31.7	-11
JORH				IAmb	IAmb	23	39	42.4	
	comp=Z,101nm,0.9s								
STKA	**Stephens Creek**	**38.41**	**159**	P	**P**	**23**	**39**	**42.7**	**+0.2**
	comp=Z,2µm,1.0s								
STKA	**Stephens Creek**	**38.41**	**159**	P	**P**	**23**	**39**	**42.6**	**+0.1**
	comp=Z,303nm,0.9s,baz=331,slow=8.8,SNR=335								
STKA				PP	**PP**	**23**	**41**	**09.7**	**-1.4**
	comp=Z,58nm,1.0s,baz=342,slow=11,SNR=2.9								
	comp=Z,303nm,0.9s								
STKA	**Stephens Creek**	**38.41**	**159**	P	**P**	**23**	**39**	**43.0**	**+0.5**
STKA	**Stephens Creek**	**38.41**	**159**	*c i*P	**P**	**23**	**39**	**43.0**	**+0.5**
MSHR	**Mys Shultsa**	**38.61**	**5**	*ce*P	**P**	**23**	**39**	**44.3**	**+0.3**
MSHR				pmax	pmax				
	comp=Z,47nm,1.5s								
BRDH	**Bariadhala**	**38.64**	**302**	LR	LR	23	56	41.3	
	comp=Z,3µm,20.8s,baz=150,slow=38								
JTM	**Tenmabayashi**	**38.83**	**18**	P	**P**	**23**	**39**	**46.9**	**+0.9**
HTT	**Hallett**	**39.00**	**164**	P	**P**	**23**	**39**	**48.0**	**+0.5**
	comp=Z,52nm,1.9s								
HTT	**Hallett**	**39.00**	**164**	P	**P**	**23**	**39**	**48.2**	**+0.7**
ZIRO	**ZIRO**	**39.07**	**310**	*e*P	P	23	39	40.1	-8.3
ZIRO				IAmb	IAmb	23	39	49.2	
	comp=Z,105nm,0.9s								
HHC	**Hu-ho-hao-te**	**39.12**	**342**	⇑*i*P	**P**	**23**	**39**	**48.9**	**+0.4**
HHC				pP	pP	23	39	55.4	-4.6
HHC				S	**S**	**23**	**45**	**45.5**	**+0.1**
HHC				pmax	pmax				
	comp=Z,46nm,0.9s								
HHC				pmax	pmax				
	comp=Z,610nm,7.2s								
HHC				LR	LR				
	comp=Z,4µm,20.2s								
HHC				LR	LR				
	comp=Z,2µm,21.9s								
HHC				LR	LR				
	comp=Z,4µm,21.9s								
TEZP	**TEZPUR**	**39.43**	**308**	*e*P	P	23	39	41.1	-10
TEZP				IAmb	IAmb	23	39	52.4	
	comp=Z,58nm,0.9s								
AGT	**Agartala**	**39.46**	**303**	*e*P	P	23	39	42.3	-9.2
AGT				IAmb	IAmb	23	39	54.1	
	comp=Z,104nm,0.9s								
RKGY	**Rocky Gully**	**39.49**	**193**	P	**P**	**23**	**39**	**52.9**	**+1.4**
	comp=Z,697nm,1.1s								
CN2	**Changchun**	**39.64**	**359**	P	**P**	**23**	**39**	**53.8**	**+1.2**
CN2				pP	pP	23	40	06.1	+1.7
CN2				PcP	**PcP**	**23**	**41**	**59.4**	**+0.4**
CN2				S	**S**	**23**	**45**	**53.2**	**+0.3**
CN2				sS	sS	23	46	15.2	+2.7
CN2				SS	**SS**	**23**	**48**	**44.5**	**-5.0**
CN2				pmax	pmax				
	comp=Z,30nm,1.6s								
CN2				pmax	pmax				
	comp=Z,320nm,6.0s								
CN2				LR	LR				
	comp=Z,2µm,17.0s								
CN2				LR	LR				
	comp=Z,1µm,17.0s								
CN2				LR	LR				
	comp=Z,2µm,18.0s								
SHL	**Shillong**	**39.67**	**306**	P	**P**	**23**	**39**	**53.2**	**-0.3**
	SNR=82								
SHL	**Shillong**	**39.67**	**306**	*e*P	P	23	39	44.3	-9.1
CMSA	**Cobar Meteorol**	**39.72**	**154**	P	**P**	**23**	**39**	**53.9**	**+0.4**
	comp=Z,127nm,1.2s								
CMSA	**Cobar Meteorol**	**39.72**	**154**	P	**P**	**23**	**39**	**54.4**	**+0.9**
USRK	**Ussuriysk Ar.**	**40.29**	**6**	P	**P**	**23**	**39**	**58.2**	**+0.2**
	comp=Z,16nm,0.6s,baz=196,slow=9.0,SNR=13								
	comp=Z,16nm,0.6s								
H01W3	**Cape Leeuwin H**	**40.45**	**196**	P	**P**	**23**	**40**	**01.6**	**+2.4**
	baz=33,slow=6.6,SNR=4.6								
H01W1	**Cape Leeuwin H**	**40.46**	**196**	P	**P**	**23**	**40**	**01.1**	**+1.8**
	baz=33,slow=6.6,SNR=4.5								
H01W2	**Cape Leeuwin H**	**40.47**	**196**	P	**P**	**23**	**40**	**00.9**	**+1.6**
	baz=33,slow=6.6,SNR=3.4								
MDJ	**Mudanjiang**	**40.52**	**3**	P	**P**	**23**	**40**	**00.6**	**+0.7**
MDJ				S	**S**	**23**	**46**	**08.4**	**+2.4**
MDJ				pmax	pmax				
	comp=Z,43nm,1.5s								
MDJ				pmax	pmax				
	comp=Z,510nm,9.8s								
MDJ				LR	LR				
	comp=Z,2µm,21.9s								
MDJ				LR	LR				
	comp=Z,1µm,19.5s								
MDJ				LR	LR				
	comp=Z,3µm,22.0s								
XLT	**XiLinHaoTe**	**40.81**	**348**	*e*P	**P**	**23**	**40**	**03.0**	**+0.5**
XLT				pP	pP	23	40	15.8	+1.9
XLT				S	**S**	**23**	**46**	**08.0**	**-2.6**
XLT				pmax	pmax				
	comp=Z,190nm,0.8s								
XLT				LR	LR				
	comp=Z,3µm,20.2s								
XLT				LR	LR				
	comp=Z,3µm,24.4s								
CAL	**Calcutta**	**41.43**	**300**	*e*P	P	23	39	58.9	-8.9
BNX	**BinXian**	**41.56**	**1**	⇑P	**P**	**23**	**40**	**09.7**	**+1.2**
BNX				pP	**pP**	**23**	**40**	**20.8**	**+0.5**
BNX				sP	**sP**	**23**	**40**	**26.0**	**+0.7**
BNX				PcP	**PcP**	**23**	**42**	**05.6**	**+0.4**
BNX				S	**S**	**23**	**46**	**24.4**	**+2.9**
BNX				pmax	pmax				
	comp=Z,17nm,1.7s								
BNX				pmax	pmax				
	comp=Z,300nm,5.1s								
BNX				LR	LR				
	comp=Z,2µm,19.0s								
BNX				LR	LR				
	comp=Z,1µm,21.0s								
BNX				LR	LR				
	comp=Z,3µm,21.2s								
H11S3	**WAKE ISLAND Hy**	**41.66**	**67**	T	T	00	24	35.2	
	baz=252,slow=75,SNR=48								
H11S1	**WAKE ISLAND Hy**	**41.68**	**67**	T	T	00	24	40.9	
	baz=252,slow=75,SNR=20								
H11S2	**WAKE ISLAND Hy**	**41.68**	**67**	T	T	00	24	40.8	
	baz=252,slow=75,SNR=22								
ARMA	**Armidale**	**41.73**	**147**	P	**P**	**23**	**40**	**11.2**	**+1.0**
	comp=Z,151nm,0.9s								
ARMA	**Armidale**	**41.73**	**147**	P	**P**	**23**	**40**	**10.3**	**+0.1**
ARMA	**Armidale**	**41.73**	**147**	P	**P**	**23**	**40**	**10.8**	**+0.6**
TEY	**Ternei**	**41.77**	**11**	*e*P	**P**	**23**	**40**	**06.0**	**-4.2**
TEY				*e*		23	42	06.9	
COBR	**COOCHBEHAR**	**41.95**	**306**	*e*P	P	23	40	02.6	-9.4
H11N1	**WAKE ISLAND Hy**	**42.18**	**65**	T	T	00	25	23.4	
	baz=249								
H11N2	**WAKE ISLAND Hy**	**42.19**	**65**	T	T	00	25	30.7	
	baz=249,slow=74								
H11N3	**WAKE ISLAND Hy**	**42.20**	**65**	T	T	00	25	28.1	
	baz=249,slow=74								
LSA	**Lhasa**	**42.22**	**311**	IAmb	IAmb	23	40	18.1	
	comp=Z,107nm,0.7s								
LSA	**Lhasa**	**42.22**	**311**	P	**P**	**23**	**40**	**14.0**	**-0.7**
LSA				S	S	23	46	19.1	-14
LSA				pmax	pmax				
	comp=Z,78nm,0.8s								
LSA				LR	LR				
	comp=Z,930nm,21.0s								
LSA				LR	LR				
	comp=Z,2µm,25.1s								
LSA	**Lhasa**	**42.22**	**311**	P	**P**	**23**	**40**	**15.6**	**+0.9**
LSA				P	**P**	**23**	**40**	**15.6**	**+0.9**
LSA				S	**S**	**23**	**46**	**31.1**	**-1.5**
LSA				S	**S**	**23**	**46**	**31.1**	**-1.5**
LSA	**Lhasa**	**42.22**	**311**	*i* P	**P**	**23**	**40**	**15.3**	**+0.6**
	SNR=7.7								
ASAJ	**Asahikawa**	**42.34**	**17**	P	**P**	**23**	**40**	**15.3**	**+0.5**
	comp=Z,29nm,0.6s,baz=212,slow=11,SNR=8.8								
ASAJ				LR	LR	23	58	05.0	
	comp=Z,3µm,20.6s,baz=238,slow=36								
	comp=Z,29nm,0.6s								
JKA	**Kamikawa-asahi**	**42.34**	**17**	P	**P**	**23**	**40**	**14.7**	**-0.1**
GTA	**Gaotai**	**42.83**	**329**	⇑P	**P**	**23**	**40**	**19.5**	**+0.4**
GTA				pP	pP	23	40	29.0	-1.3
GTA				PcP	**PcP**	**23**	**42**	**10.6**	**+0.8**
GTA				ScP	**ScP**	**23**	**46**	**00.4**	**+2.8**
GTA				PcS	**PcS**	**23**	**46**	**03.6**	**+1.5**
GTA				S	**S**	**23**	**46**	**47.5**	**+6.8**
GTA				pmax	pmax				
	comp=Z,53nm,0.7s								
GTA				pmax	pmax				
	comp=Z,290nm,9.2s								
GTA				LR	LR				
	comp=Z,6µm,22.3s								
GTA				LR	LR				
	comp=Z,4µm,22.7s								
GTA				LR	LR				
	comp=Z,10µm,21.1s								
BWNR	**Bhubaneshwar**	**42.94**	**296**	*e*P	P	23	40	11.2	-9.0
BWNR				IAmb	IAmb	23	40	22.6	
	comp=Z,48nm,0.6s								
ARPS	**Mount Arapiles**	**42.97**	**162**	P	**P**	**23**	**40**	**20.6**	**+0.5**
	comp=Z,248nm,1.2s								
YNG	**Young**	**43.26**	**153**	P	**P**	**23**	**40**	**23.2**	**+0.7**
	comp=Z,167nm,1.6s								
GOMU	**GeErMu**	**43.43**	**322**	P	**P**	**23**	**40**	**24.7**	**+0.4**
GOMU				S	**S**	**23**	**46**	**52.2**	**+2.1**
GOMU				pmax	pmax				
	comp=Z,28nm,0.9s								
GOMU				LR	LR				
	comp=Z,3µm,19.6s								
GOMU				LR	LR				
	comp=Z,3µm,19.5s								
GOMU				LR	LR				
	comp=Z,5µm,19.6s								
MGBR	**Mount Gambier**	**43.49**	**164**	P	**P**	**23**	**40**	**24.5**	**+0.2**
MGBR				IAmb	IAmb	23	40	26.8	
	comp=Z,181nm,1.0s								
BOK	**Bokaro**	**43.97**	**300**	*e*P	P	23	40	19.8	-8.6
BOK				IAmb	IAmb	23	40	30.4	
	comp=Z,43nm,0.8s								
RIV	**Riverview**	**44.17**	**150**	P	**P**	**23**	**40**	**31.6**	**+1.8**
	comp=Z,236nm,1.4s								
KNTI	**KHUNTI**	**44.25**	**299**	*e*P	P	23	40	23.1	-7.6
KNTI				IAmb	IAmb	23	40	33.0	
	comp=Z,37nm,0.7s								
CAN	**Canberra**	**44.39**	**154**	P	**P**	**23**	**40**	**32.5**	**+0.9**
	comp=Z,311nm,0.9s								
CAN	**Canberra**	**44.39**	**154**	P	**P**	**23**	**40**	**32.5**	**+0.9**
CAN	**Canberra**	**44.39**	**154**	P	**P**	**23**	**40**	**33.3**	**+1.7**
CAN	**Canberra**	**44.39**	**154**	P	**P**	**23**	**40**	**32.5**	**+0.9**
CAN				pmax	pmax				
	comp=Z,262nm,0.9s								
SANVU	**Saraoutou**	**44.53**	**117**	P	**P**	**23**	**40**	**32.1**	**-0.9**
SANVU				IAmb	IAmb	23	41	09.6	
	comp=Z,69nm,0.9s								
SANVU				IAMs_20	IAMs_20	23	58	31.3	
	comp=Z,3µm,20.0s								
CNB	**Canberra Magne**	**44.54**	**153**	P	**P**	**23**	**40**	**33.9**	**+1.0**
	comp=Z,190nm,1.0s								
EVN	**Everest**	**44.78**	**306**	P	**P**	**23**	**40**	**35.5**	**-0.1**
GAYA	**Gaya**	**44.88**	**302**	*e*P	P	23	40	27.0	-8.6
GAYA				IAmb	IAmb	23	40	36.1	
	comp=Z,105nm,1.1s								
TOO	**Toolangi**	**44.92**	**159**	P	**P**	**23**	**40**	**37.3**	**+1.5**
	comp=Z,68nm,1.4s								
TOO	**Toolangi**	**44.92**	**159**	P	**P**	**23**	**40**	**36.5**	**+0.7**
TOO				IAmb	IAmb	23	40	39.0	
	comp=Z,85nm,1.2s								
TOO	**Toolangi**	**44.92**	**159**	P	**P**	**23**	**40**	**36.5**	**+0.7**
TOO				pmax	pmax				
	comp=Z,85nm,1.2s								
YSS	**Yuzhno-Sakhali**	**44.98**	**16**	P	**P**	**23**	**40**	**35.8**	**-0.3**
YSS				IAmb	IAmb	23	40	44.0	
	comp=Z,148nm,1.4s								
YSS	**Yuzhno-Sakhali**	**44.98**	**16**	*e*P	**P**	**23**	**40**	**36.8**	**+0.7**
YSS				*e**PP	**pP**	**23**	**40**	**48.9**	**+1.0**
YSS				*e**SP	**sP**	**23**	**40**	**55.2**	**+2.4**
YSS				*e*		23	42	16.6	
YSS				*e*		23	42	23.1	
YSS				*e*S	**S**	**23**	**47**	**12.3**	**+0.7**
YSS				*e*SS	**ScS**	**23**	**50**	**30.8**	**+1.1**
YSS				pmax	pmax				
	comp=Z,200nm,3.3s								
YSS				pmax	pmax				
	comp=Z,70nm,1.2s								
YSS				smax	smax				
	comp=N,200nm,3.1s								
YSS				smax	smax				
	comp=E,200nm,4.0s								
YSS				MLR	MLR				
	comp=Z,1µm,17.0s								
YSS				MLR	MLR				
	comp=N,800nm,15.0s								
YSS				MLR	MLR				
	comp=E,1µm,17.0s								
JHSG	**JHARSUGUGA**	**45.18**	**297**	*e*P	P	23	40	29.3	-8.8
JHSG				IAmb	IAmb	23	40	40.6	
	comp=Z,101nm,0.8s								
HIA	**Hailar**	**45.48**	**354**	IAmb	IAmb	23	40	51.9	
	comp=Z,91nm,1.1s								
PALK	**Pallekele**	**45.85**	**276**	P	**P**	**23**	**40**	**42.6**	**-1.0**
PALK				IAmb	IAmb	23	40	59.7	
	comp=Z,56nm,0.9s								
PALK	**Pallekele**	**45.85**	**276**	LR	LR	00	00	22.2	
	comp=Z,1µm,21.2s,baz=120,slow=37								
PALK	**Pallekele**	**45.85**	**276**	P	**P**	**23**	**40**	**41.0**	**-2.6**
PALK	**Pallekele**	**45.85**	**276**	P	**P**	**23**	**40**	**42.6**	**-1.0**
PALK				pmax	pmax				
	comp=Z,56nm,1.0s								
PALK				MLR	MLR				
	comp=Z,2µm,21.0s								
HEH	**HeiHe**	**46.08**	**1**	*e*P	**P**	**23**	**40**	**44.7**	**0.0**
HEH				pP	**pP**	**23**	**40**	**53.8**	**-2.8**
HEH				PP	**PP**	**23**	**42**	**29.9**	**-3.5**
HEH				S	**S**	**23**	**47**	**24.1**	**-3.2**
HEH				pmax	pmax				
	comp=Z,62nm,1.1s								
HEH				pmax	pmax				
	comp=Z,510nm,5.4s								
HEH				LR	LR				
	comp=Z,1µm,21.6s								
HEH				LR	LR				
	comp=Z,2µm,20.9s								
HEH				LR	LR				
	comp=Z,4µm,20.4s								
TARA	**Tarawa**	**46.26**	**92**	IAMs_20	IAMs_20	23	55	38.8	
	comp=Z,4µm,22.0s								
DZM	**Mont Dzumac**	**46.74**	**125**	*e*P	**P**	**23**	**40**	**48.9**	**-1.6**
	comp=Z,171nm,1.1s								
DZM				*e*S	S	23	47	28.7	-9.0
	comp=Z,2µm,29.9s								
DZM				*e*SS	**SS**	**23**	**51**	**05.7**	**+1.0**
	comp=Z,2µm,27.5s								
DZM				*e*LR	LR	23	53	54.2	
	comp=Z,2µm,26.4s								
DZM	**Mont Dzumac**	**46.74**	**125**	IAmb	IAmb	23	41	06.3	
	comp=Z,78nm,1.0s								
DZM	**Mont Dzumac**	**46.74**	**125**	P	**P**	**23**	**40**	**50.7**	**+0.2**
	comp=Z,54nm,0.9s,baz=316,slow=8.5,SNR=14								
	comp=Z,54nm,0.9s								
DZM	**Mont Dzumac**	**46.74**	**125**	P	**P**	**23**	**40**	**50.6**	**+0.1**
ULN	**Ulaanbaatar**	**46.84**	**342**	P	**P**	**23**	**40**	**50.5**	**-0.4**
ULN				IAmb	IAmb	23	41	05.0	
	comp=Z,89nm,1.1s								
ULN	**Ulaanbaatar**	**46.84**	**342**	IAMs_20	IAMs_20	00	01	53.4	
	comp=Z,4µm,20.0s								
ULN	**Ulaanbaatar**	**46.84**	**342**	P	**P**	**23**	**40**	**51.5**	**+0.6**
ULN				P	**P**	**23**	**40**	**51.5**	**+0.6**
ULN				P	**P**	**23**	**40**	**51.5**	**+0.6**
ULN				S	**S**	**23**	**47**	**42.6**	**+4.1**
ULN				S	**S**	**23**	**47**	**42.6**	**+4.1**
ULN				S	**S**	**23**	**47**	**42.6**	**+4.1**
ULN	**Ulaanbaatar**	**46.84**	**342**	⇑*i*P	**P**	**23**	**40**	**51.3**	**+0.4**
ULN				pmax	pmax				
	comp=Z,52nm,0.8s								
LHI	**Lord Howe Isla**	**46.90**	**141**	P	**P**	**23**	**40**	**49.5**	**-2.0**
	comp=Z,88nm,1.2s								
SONM	**Songino Array**	**47.01**	**341**	P	**P**	**23**	**40**	**52.2**	**-0.1**
SONM				IAmb	IAmb	23	41	06.3	
	comp=Z,68nm,1.2s								
SONM	**Songino Array**	**47.01**	**341**	P	**P**	**23**	**40**	**52.2**	**-0.1**
	comp=Z,24nm,0.6s,baz=160,slow=8.6,SNR=86								
SONM				PcP	**PcP**	**23**	**42**	**25.0**	**+1.0**
	comp=Z,32nm,0.9s,baz=151,slow=2.9,SNR=9.1								
SONM				ScP	**ScP**	**23**	**46**	**19.7**	**+5.0**
	comp=Z,2.8nm,1.0s,baz=165,slow=3.4,SNR=3.8								
SONM				LR	LR	00	02	09.7	
	comp=Z,3µm,20.7s,baz=156,slow=38								
	comp=Z,24nm,0.6s								
**SONM

comp=Z,1μm,21.0s
TRD Trivandrum 49.60 278 *e*P P 23 41 04.0 -8.6
MOO Moorlands 49.84 160 P **P** **23 41 15.4 +1.4**
comp=Z,115nm,1.4s
MOO Moorlands 49.84 160 P **P** **23 41 16.0 +2.0**
ZAK Zakamensk 50.24 341 *e*P **P** **23 41 15.9 -1.1**
ZAK *e* 23 42 34.8
ZAK pmax pmax
comp=Z,36nm,1.6s
ZAK pmax pmax
comp=Z,26nm,1.1s
TAU Tasmania Unive 50.30 160 P **P** **23 41 18.3 +0.9**
TAU IAmb IAmb 23 41 19.5
comp=Z,126nm,1.1s
TAU Tasmania Unive 50.30 160 P **P** **23 41 18.3 +0.9**
TAU pmax pmax
comp=Z,126nm,1.2s
PTH Pithoragarh 50.74 305 *e*P P 23 41 12.7 -8.6
PTH IAmb IAmb 23 41 22.6
comp=Z,68nm,1.3s
JHNI Jhansi 50.84 300 *e*P P 23 41 12.8 -9.1
JHNI IAmb IAmb 23 41 20.9
comp=Z,128nm,1.2s
AKL Akola 51.03 293 *e*P P 23 41 12.3 -11
AKL IAmb IAmb 23 41 24.8
comp=Z,105nm,1.1s
NRDN NARMADA NAGAR 51.34 296 *e*P P 23 41 15.4 -10
NRDN IAmb IAmb 23 41 30.0
comp=Z,108nm,0.9s
IRK Irkutsk 51.54 343 *e*P **P** **23 41 25.3 -1.3**
IRK pmax pmax
comp=Z,154nm,2.0s
JOSI Joshimath 51.63 306 *e*P P 23 41 19.2 -8.8
JOSI IAmb IAmb 23 41 28.2
comp=Z,100nm,0.9s
TKRD Thakurdwara 51.72 304 *e*P P 23 41 19.5 -8.8
AGRA Agra 51.87 302 *e*P P 23 41 20.4 -9.1
MNGI Mangalore 51.97 283 *e*P P 23 41 21.3 -9.1
MNGI IAmb IAmb 23 41 30.7
comp=Z,101nm,0.5s
MOY Mondy 52.10 340 *e*P **P** **23 41 31.8 +0.9**
MOY pmax pmax
comp=Z,107nm,1.7s
WMQ Urumqi 52.47 325 ⇑P **P** **23 41 33.9 +0.2**
WMQ pP pP 23 41 43.4 -1.8
WMQ PcP **PcP** **23 42 46.8 +2.8**
WMQ S **S** **23 48 56.3 -0.9**
WMQ ScS **ScS** **23 51 20.4 +0.1**
WMQ pmax pmax
comp=Z,55nm,1.1s
WMQ pmax pmax
comp=Z,200nm,6.3s
WMQ LR LR
comp=Z,6μm,19.1s
WMQ LR LR
comp=Z,4μm,19.1s
WMQ LR LR
comp=Z,5μm,22.1s
ASOR Ausora 52.48 303 *e*P P 23 41 25.5 -8.6
KNGR Kungurtug, Tuv 52.51 337 ⇓ *i*P **P** **23 41 34.2 +0.2**
KNGR pmax pmax
comp=Z,33nm,1.1s
PWAL Palwal 52.66 303 *e*P P 23 41 25.7 -10
PWAL IAmb IAmb 23 41 35.6
comp=Z,95nm,0.7s
LDR Lodi Road 52.89 303 *e*P P 23 41 28.5 -8.5
LDR IAmb IAmb 23 41 39.4
comp=Z,111nm,0.2s
NDI New Delhi 52.92 303 *e*P P 23 41 29.1 -8.2
KLP Kalpa 53.03 307 *e*P P 23 41 29.5 -8.9
KLP IAmb IAmb 23 41 41.2
comp=Z,100nm,0.9s
NRLA Narela 53.06 303 *e*P P 23 41 30.0 -8.3
NRLA IAmb IAmb 23 41 37.5
comp=Z,66nm,0.5s
KAD Karad 53.08 289 *e*P P 23 41 30.5 -8.1
GNR GANAUR 53.23 304 *e*P P 23 41 30.4 -9.2
KUDL Kundal 53.37 302 *e*P P 23 41 31.9 -8.6
KUDL IAmb IAmb 23 41 41.0
comp=Z,91nm,1.2s
JHJR Jhajjar 53.38 303 *e*P P 23 41 31.6 -9.0
POO Poona 53.57 290 *e*P P 23 41 33.5 -8.8
KAAM Kaadhehdhoo 53.75 268 P **P** **23 41 42.5 -1.1**
KAAM IAmb IAmb 23 41 44.0
comp=Z,74nm,0.8s
KAAM Kaadhehdhoo 53.75 268 P **P** **23 41 42.4 -1.1**
SMLA Simla 53.76 306 *e*P P 23 41 36.4 -6.9
SMLA IAmb IAmb 23 41 44.1
comp=Z,80nm,1.1s
CGRH CHANDIGARH 53.94 305 *e*P P 23 41 36.1 -8.6
CGRH IAmb IAmb 23 41 46.1
comp=Z,106nm,0.8s
BHK Bhakra 54.46 306 *e*P P 23 41 36.7 -12
BHK IAmb IAmb 23 41 49.2
comp=Z,100nm,0.7s
BOD Bodaibo 54.58 352 *e*P **P** **23 41 49.3 +0.4**
BOD pmax pmax
comp=Z,168nm,1.3s
TLWR Talawar 55.01 307 *e*P P 23 41 42.4 -10
TLWR IAmb IAmb 23 41 54.6
comp=Z,39nm,0.8s
MSVF Nonsavu 55.08 115 P **P** **23 41 53.5 +0.2**
MSVF IAmb IAmb 23 41 55.8
comp=Z,72nm,0.9s
MSVF Nonsavu 55.08 115 P **P** **23 41 54.4 +1.2**
MSVF Nonsavu 55.08 115 P **P** **23 41 53.5 +0.2**
MSVF pmax pmax
comp=Z,72nm,1.0s
TSSA Tissa 55.15 308 *e*P P 23 41 44.8 -9.0
TSSA IAML 23 41 54.6
comp=Z,44nm,0.7s
PEA0B Petropavlovsk- 55.19 22 IAmb IAmb 23 42 12.2
comp=Z,54nm,0.8s
PEA0B IAMs_20 IAMs_20 00 07 27.5
comp=Z,2μm,19.0s
PEA0B Petropavlovsk- 55.19 22 *i* P **P** **23 41 53.9 +0.5**
PETK Petropavlovsk- 55.19 22 P **P** **23 41 54.3 +0.9**
PETK Petropavlovsk- 55.19 22 P **P** **23 41 54.0 +0.6**
comp=Z,23nm,0.7s,baz=187,slow=4.9,SNR=15
PETK LR LR 00 04 39.5
comp=Z,985nm,21.0s,baz=211,slow=35
comp=Z,23nm,0.7s
PETK Petropavlovsk- 55.19 22 P **P** **23 41 54.3 +0.9**
H08S2 Diego Garcia H 55.29 258 P **P** **23 41 53.9 -0.6**
baz=48,slow=8.6,SNR=4.7
H08S3 Diego Garcia H 55.30 258 P **P** **23 41 53.7 -0.8**
baz=48,slow=8.6,SNR=4.5
H08S1 Diego Carcia H 55.31 258 P **P** **23 41 53.9 -0.7**
baz=48,slow=8.6,SNR=7.0
PET Petropavlovsk 55.49 23 *e*P P 23 42 00.4 +4.9
PET *e*S **S** **23 49 38.9 +1.4**
PET *e*SS **SS** **23 53 20.0 -2.9**
PET pmax pmax
comp=Z,500nm,7.1s
PET pmax pmax
comp=Z,300nm,13.8s
PET pmax pmax
comp=Z,104nm,1.0s
PET MLR MLR
comp=Z,1μm,21.0s
PET MLR MLR
comp=Z,1μm,13.0s
JMU Jammu 56.10 307 *e*P P 23 41 52.5 -7.8
ZSN Zaisan 56.24 327 *e*P **P** **23 42 00.7 -0.4**
ZSN Zaisan 56.24 327 *e*P **P** **23 42 00.6 -0.5**
SHLS Shalkode 57.10 320 *e*P **P** **23 42 04.8 -2.6**
SHLS Shalkode 57.10 320 *e*P **P** **23 42 04.7 -2.6**
MK31 Makanchi Array 57.30 325 *i* P **P** **23 42 07.9 -0.7**
MK31 pmax pmax
comp=Z,59nm,0.7s
MKAR Makanchi Array 57.30 325 P **P** **23 42 08.1 -0.5**
MKAR Makanchi Array 57.30 325 P **P** **23 42 08.3 -0.3**
comp=Z,64nm,0.7s,baz=116,slow=7.3,SNR=180
MKAR PcP **PcP** **23 43 03.2 +0.8**
comp=Z,55nm,0.8s,baz=114,slow=4.4,SNR=7.9
MKAR ScP **ScP** **23 47 03.5 +4.5**
comp=Z,13nm,0.8s,baz=115,slow=5.4,SNR=6.8
MKAR LR LR 00 08 56.5
comp=Z,4μm,18.6s,baz=111,slow=38
MKAR PKPPKP **P'P'df** **00 11 52.5 -5.4**
comp=Z,1.3nm,1.0s,baz=321,slow=3.4,SNR=4.1
comp=Z,64nm,0.7s
UZB Uzynbulak 57.37 320 *e*P **P** **23 42 08.6 -0.8**
comp=Z,35nm,1.2s
UZB Uzynbulak 57.37 320 *e*P **P** **23 42 08.5 -0.8**
UZB pmax pmax
comp=Z,35nm,1.2s
NIL Nilore 57.71 308 P **P** **23 42 11.0 -0.8**
NIL Nilore 57.71 308 P **P** **23 42 11.4 -0.4**
NIL P **P** **23 42 11.4 -0.4**
NIL Nilore 57.71 308 P **P** **23 42 11.0 -0.8**
NIL pmax pmax
comp=Z,177nm,1.0s
SATY Saty 57.73 320 *e*P **P** **23 42 11.1 -0.8**
comp=Z,26nm,0.7s
SATY Saty 57.73 320 *e*P **P** **23 42 11.0 -0.8**
SATY pmax pmax
comp=Z,26nm,0.7s
KSH Kashi 57.81 315 P **P** **23 42 13.5 +1.0**
KSH S **S** **23 50 07.2 -1.9**
KSH pmax pmax
comp=Z,54nm,1.2s
KSH LR LR
comp=Z,2μm,20.0s
KSH LR LR
comp=Z,2μm,16.5s
KSH LR LR
comp=Z,3μm,21.9s
YAK Yakutsk 57.93 2 P **P** **23 42 12.7 +0.1**
YAK Yakutsk 57.93 2 LR LR 00 07 48.4
comp=Z,673nm,19.8s,baz=186,slow=37
YAK Yakutsk 57.93 2 *c i*P **P** **23 42 12.7 +0.1**
YAK *e**PP **pP** **23 42 24.4 -0.5**
YAK *e* 23 44 18.6
YAK *e*PPP PPP 23 45 39.7
YAK *e*S **S** **23 50 10.0 +0.5**
YAK *e**SS **sS** **23 50 29.7 0.0**
YAK *e* 23 51 58.9
YAK *e*SS **SS** **23 54 00.2 -0.8**
YAK pmax pmax
comp=Z,139nm,1.2s
YAK pmax pmax
comp=N,51nm,1.4s
YAK pmax pmax
comp=E,11nm,1.5s
YAK pmax pmax
comp=Z,413nm,7.6s
YAK pmax pmax
comp=N,179nm,5.1s
YAK pmax pmax
comp=E,41nm,1.7s
YAK smax smax
comp=N,452nm,8.1s
YAK smax smax
comp=E,289nm,4.9s
KDJ Kajisay 58.10 318 P **P** **23 42 13.7 -0.8**
KDJ Kajisay 58.10 318 P **P** **23 42 13.7 -0.8**
KDJ pmax pmax
comp=Z,75nm,0.6s
KDJ MLR MLR
comp=Z,4μm,22.0s
MIDW Midway 58.29 59 P **P** **23 42 16.0 +0.2**
MA2 Magadan 58.44 14 IAMs_20 IAMs_20 00 11 38.5
comp=Z,2μm,19.0s
MA2 Magadan 58.44 14 P **P** **23 42 16.8 +0.5**
comp=Z,10nm,0.5s,baz=169,slow=9.9,SNR=5.6
MA2 LR LR 00 06 11.4
comp=Z,984nm,21.8s,baz=208,slow=35
comp=Z,10nm,0.5s
NRN Naryn 58.59 317 IAmb IAmb 23 42 22.0
comp=Z,36nm,0.8s
ARXS Arharly 58.65 321 *e*P **P** **23 42 17.2 -1.0**
MDOK Medeo 58.66 319 *e*P **P** **23 42 17.4 -1.0**
MDOK Medeo 58.66 319 *e*P **P** **23 42 17.3 -1.0**
TDK Taldyqorghan 58.66 322 *e*P **P** **23 42 17.6 -0.7**
comp=Z,45nm,0.9s
TDK Taldyqorghan 58.66 322 *e*P **P** **23 42 17.5 -0.7**
TDK pmax pmax
comp=Z,45nm,0.9s
TNSS Tian-Shan 58.66 319 *e*P **P** **23 42 17.6 -1.1**
TNSS Tian-Shan 58.66 319 *e*P **P** **23 42 17.6 -1.1**
AAA Alma-Ata 58.76 319 *e*P **P** **23 42 18.3 -0.7**
comp=Z,42nm,0.7s
AAA Alma-Ata 58.76 319 *e*P **P** **23 42 18.3 -0.7**
AAA pmax pmax
comp=Z,42nm,0.7s
ULHL Ulahol 58.78 318 P **P** **23 42 21.6 +2.3**
SNR=5.2
CHKK Chushkaly 59.01 320 *e*P **P** **23 42 19.9 -0.7**
CHKK Chushkaly 59.01 320 *e*P **P** **23 42 19.9 -0.7**
KUU Kurty 59.45 320 *e*P **P** **23 42 22.9 -0.7**
comp=Z,50nm,0.9s
KUU Kurty 59.45 320 *e*P **P** **23 42 22.9 -0.7**
KUU pmax pmax
comp=Z,50nm,0.9s
TKM2 Tokmak 2 59.50 318 P **P** **23 42 24.2 -0.1**
SNR=46
KBK Karagaybulak 59.82 318 P **P** **23 42 26.6 +0.1**
SNR=26
UCH Uchtor 59.93 317 P **P** **23 42 27.9 +0.3**
SNR=64
CHMS Chumysh 60.10 318 P **P** **23 42 29.9 +1.8**
SNR=16
AAK Ala-Archa 60.12 318 P **P** **23 42 28.5 0.0**
SNR=13
AAK Ala-Archa 60.12 318 P **P** **23 42 27.6 -0.8**
AAK IAmb IAmb 23 43 15.8
comp=Z,67nm,1.3s
AAK Ala-Archa 60.12 318 LR LR 00 09 59.4
comp=Z,3μm,21.9s,baz=96,slow=38
AAK Ala-Archa 60.12 318 P **P** **23 42 28.5 0.0**
AAK P **P** **23 42 28.5 0.0**
AAK Ala-Archa 60.12 318 *i* P **P** **23 42 27.8 -0.6**
SNR=13
AAK Ala-Archa 60.12 318 *i* P **P** **23 42 28.2 -0.2**
AAK pmax pmax
comp=Z,297nm,1.4s
ZAA0 Zalesovo Array 60.31 333 P **P** **23 42 28.3 -1.0**
ZAA0 IAmb IAmb 23 42 50.6
comp=Z,42nm,0.9s
ZAA0 IAMs_20 IAMs_20 00 10 15.3
comp=Z,2μm,18.0s
ZALV Zalesovo Beam 60.31 333 P **P** **23 42 28.2 -1.1**
ZALV Zalesovo Beam 60.31 333 P **P** **23 42 28.8 -0.6**
comp=Z,30nm,0.5s,baz=125,slow=6.4,SNR=65
ZALV LR LR 00 10 26.9
comp=Z,2μm,18.5s,baz=128,slow=38
ZALV PKPPKP **P'P'df** **00 11 51.9 -0.9**
comp=Z,0.4nm,0.2s,baz=284,slow=1.2,SNR=4.9
comp=Z,30nm,0.5s
ZALV Zalesovo Beam 60.31 333 *i* P **P** **23 42 28.3 -1.1**
ZALV pmax pmax
comp=Z,30nm,0.5s
SGDS Sogindy 60.37 319 *e*P **P** **23 42 29.3 -0.7**
USP Ospenovka 60.38 318 P **P** **23 42 29.8 -0.2**
SNR=61
EKS2 Erkin-Say 60.61 318 P **P** **23 42 32.0 +0.3**
SNR=33
ARSB Arslanbob 60.62 316 IAMs_20 IAMs_20 00 11 32.0
comp=Z,3μm,21.0s
JCZ Jackson Bay 60.97 146 P **P** **23 42 36.0 +1.9**
DCZ Deep Cove 61.01 149 P **P** **23 42 34.3 +0.1**
QRZ Quartz Range 61.18 142 P **P** **23 42 36.1 +0.6**
QRZ Quartz Range 61.18 142 P **P** **23 42 37.1 +1.6**
KBU Kabul Universi 61.23 307 P **P** **23 42 33.3 -3.0**
KBL Kabul 61.31 307 P **P** **23 42 35.6 -1.1**
KBL Kabul 61.31 307 P **P** **23 42 36.3 -0.5**
SNR=42
KBL P **P** **23 42 36.3 -0.5**
SNR=42
KBL S **S** **23 50 47.6 -7.0**
KBL S **S** **23 50 47.6 -7.0**
KBL Kabul 61.31 307 P **P** **23 42 35.7 -1.1**
KBL pmax pmax
comp=Z,85nm,0.8s
HIZ Hauiti 61.40 138 P **P** **23 42 37.7 +0.7**
TOZ Tahuroa Road 61.42 137 P **P** **23 42 37.6 +0.5**
TOZ IAmb IAmb 23 42 48.2
comp=Z,53nm,0.9s
TOZ IAMs_20 IAMs_20 00 09 02.2
comp=Z,2μm,20.0s
BTLS Baital 61.43 320 ⇑ *i*P **P** **23 42 36.5 -0.7**
BTLS Baital 61.43 320 *c i*P **P** **23 42 36.4 -0.7**
KURBB Kurchatov Arra 61.47 327 P **P** **23 42 36.8 -0.5**
comp=Z,53nm,0.6s,baz=125,slow=6.2,SNR=183
KURBB LR LR 00 11 08.9
comp=Z,2μm,20.3s,baz=142,slow=38
KURBB PKPPKP **P'P'df** **00 11 49.2 -1.9**
comp=Z,1.8nm,0.9s,baz=279,slow=3.6,SNR=8.5
comp=Z,53nm,0.6s
KURK Kurchatov 61.48 327 P **P** **23 42 36.6 -0.7**
KURK Kurchatov 61.48 327 IAMs_20 IAMs_20 00 10 56.6
comp=Z,2μm,20.0s
KURK Kurchatov 61.48 327 P **P** **23 42 37.0 -0.3**
KURK P **P** **23 42 37.0 -0.3**
KURK S **S** **23 50 50.4 -5.2**
KURK S **S** **23 50 50.4 -5.2**
KURK Kurchatov 61.48 327 *i* P **P** **23 42 36.3 -1.0**
KURK pmax pmax
comp=Z,40nm,0.8s
WHZ Wether Hill Ro 61.71 148 IAmb IAmb 23 42 52.9
comp=Z,68nm,1.0s
SEY Seymchan 61.77 13 P **P** **23 42 39.5 +0.4**
comp=Z,11nm,0.9s,baz=220,slow=5.3,SNR=8.7
SEY LR LR 00 08 54.1
comp=Z,1μm,21.1s,baz=205,slow=36
comp=Z,11nm,0.9s
SEY Seymchan 61.77 13 *e*P **P** **23 42 38.9 -0.1**
SEY pmax pmax
comp=Z,44nm,1.3s
THZ Tophouse 61.95 142 IAmb IAmb 23 42 48.6
comp=Z,77nm,0.8s
RPZ Rata Peaks 62.02 145 P **P** **23 42 41.4 +0.3**
comp=Z,53nm,0.9s,baz=124,slow=2.2,SNR=8.6
comp=Z,53nm,0.9s
RPZ Rata Peaks 62.02 145 P **P** **23 42 42.0 +0.9**
LTZ Lake Taylor 62.17 144 P **P** **23 42 41.7 -0.4**
SHEM Shemya Is, Ala 62.24 30 P **P** **23 42 43.2 +0.8**
comp=Z,70nm,0.9s,baz=292,slow=17,SNR=3.6
SHEM LR LR 00 04 52.2
comp=Z,1μm,22.0s,baz=252,slow=31
comp=Z,70nm,0.9s
SMY Shemya 62.24 30 IAMs_20 IAMs_20 00 03 44.4
comp=Z,2μm,22.0s
DZA Taraz 62.35 317 *e*P **P** **23 42 42.7 -0.7**
comp=Z,51nm,1.0s
DZA Taraz 62.35 317 *e*P **P** **23 42 42.7 -0.7**
DZA pmax pmax
comp=Z,51nm,1.0s
OXZ Oxford 62.35 144 IAmb IAmb 23 42 49.3
comp=Z,34nm,0.7s
TUWZ Tuamarina 62.40 141 P **P** **23 42 43.5 -0.1**
RAO Raoul Island 62.54 126 LR LR 00 07 18.2
comp=Z,648nm,21.9s,baz=280,slow=34
SIMJ Simiganj 62.55 312 P **P** **23 42 44.3 -0.7**
SIMJ IAmb IAmb 23 43 29.4
comp=Z,76nm,1.1s
SIMJ IAMs_20 IAMs_20 00 14 45.3
comp=Z,2μm,22.0s
ODZ Otahua Downs 62.61 146 P **P** **23 42 45.7 +0.7**
KHZ Kahutara 62.72 143 P **P** **23 42 45.9 +0.2**
URZ Urewera 62.78 137 P **P** **23 42 46.1 -0.2**
comp=Z,22nm,0.8s,baz=10,slow=4.4,SNR=10
URZ LR LR 00 09 28.3
comp=Z,3μm,20.9s,baz=306,slow=36
comp=Z,22nm,0.8s
SNZO South Karori 62.81 141 P **P** **23 42 46.7 +0.3**
BKZ Black Stump Fm 62.83 138 IAmb IAmb 23 42 51.6
comp=Z,85nm,1.0s
BKZ Black Stump Fm 62.83 138 P **P** **23 42 47.2 +0.6**
RTZ Ruatahuna 62.87 137 P **P** **23 42 46.8 -0.2**
RTZ IAMs_20 IAMs_20 00 08 38.7
comp=Z,2μm,21.0s
IUG Iuzhnay 62.98 316 *e*P **P** **23 42 47.1 -0.7**
comp=Z,54nm,1.1s
IUG Iuzhnay 62.98 316 *e*P **P** **23 42 47.0 -0.7**
IUG pmax pmax
comp=Z,54nm,1.1s
KK31 Karatay Array 62.99 317 IAmb IAmb 23 42 49.4
comp=Z,84nm,1.1s
KK31 Karatay Array 62.99 317 *i* P **P** **23 42 46.3 -1.4**
KKAR Karatay Array 62.99 317 P **P** **23 42 46.7 -1.0**
KKAR Karatay Array 62.99 317 P **P** **23 42 46.7 -1.0**
MRZ Mangatainoka R 63.01 140 IAmb IAmb 23 42 55.2
comp=Z,54nm,0.9s
CHM Chimkent 63.34 316 *e*P **P** **23 42 49.3 -0.7**
comp=Z,25nm,0.8s
CHM Chimkent 63.34 316 *e*P **P** **23 42 49.2 -0.7**
CHM pmax pmax
comp=Z,25nm,0.8s
BRLS Borolday 63.43 317 ⇑ *i*P **P** **23 42 50.0 -0.6**
comp=Z,36nm,1.0s
BRLS Borolday 63.43 317 *c i*P **P** **23 42 49.9 -0.6**
BRLS pmax pmax
comp=Z,36nm,1.0s
AFI Afiamalu 63.58 108 IAMs_20 IAMs_20 00 06 03.8
comp=Z,2μm,19.0s
BRZS Berezniki 64.43 325 *e*P **P** **23 42 56.5 -0.5**
BRZS Berezniki 64.43 325 *e*P **P** **23 42 56.5 -0.5**
NIUE Niue 66.42 113 P **P** **23 43 10.7 +0.3**
comp=Z,279nm,0.9s
NIUE Niue 66.42 113 P **P** **23 43 09.8 -0.6**
KIWB Kanaga Island 66.48 34 P **P** **23 43 11.2 +1.1**
KIWB IAmb IAmb 23 43 18.0
comp=Z,78nm,0.8s
KIWB IAMs_20 IAMs_20 00 06 33.5
comp=Z,2μm,21.0s
ROCAM Rodrigues Isla 66.51 247 P **P** **23 43 10.0 -0.9**
BVA0 Borovoye Array 67.06 327 P **P** **23 43 11.9 -1.9**
BVAR Borovoye Array 67.06 327 P **P** **23 43 13.4 -0.5**
comp=Z,48nm,0.7s,baz=133,slow=8.5,SNR=152
BVAR PKPPKP **P'P'df** **00 11 41.2 -0.9**
comp=Z,0.4nm,0.5s,baz=247,slow=3.1,SNR=4.4
BVAR LR LR 00 13 30.1
comp=Z,2μm,20.5s,baz=120,slow=37
comp=Z,48nm,0.7s
GSTR Great Sitkin T 67.20 34 IAMs_20 IAMs_20 00 07 26.4
comp=Z,2μm,20.0s
JLN Jalan Bani Buh 67.45 292 P **P** **23 43 15.5 -1.5**
SNR=6.4
JLN P **P** **23 43 15.5 -1.5**
SNR=6.4
TIXI Tiksi 67.56 1 P **P** **23 43 15.9 -0.7**
TIXI IAmb IAmb 23 43 33.1
comp=Z,65nm,0.9s
TIXI Tiksi 67.56 1 LR LR 00 12 21.8
comp=Z,1μm,21.4s,baz=198,slow=36
TIXI Tiksi 67.56 1 ⇑ *i*P **P** **23 43 16.3 -0.3**
TIXI pmax pmax
comp=Z,61nm,1.1s
WSAR Wadi Sarin 68.27 293 P **P** **23 43 20.9 -1.2**
SNR=5.9
ATKA Atka Island 68.29 35 P **P** **23 43 21.5 -0.1**
ATKA IAMs_20 IAMs_20 00 07 02.8
comp=Z,2μm,22.0s
JMDO Jabal Madar 68.68 292 P **P** **23 43 23.3 -1.4**
SNR=7.6
JMDO P **P** **23 43 23.3 -1.4**
SNR=7.6
MHTO MHTO 68.70 291 P **P** **23 43 23.8 -1.0**
SNR=11
MHTO P **P** **23 43 23.8 -1.0**
SNR=11
BIDO Bidbid 68.75 294 P **P** **23 43 24.2 -0.9**
SNR=15
BIDO P **P** **23 43 24.2 -0.9**
SNR=15
BIDO P **P** **23 43 24.2 -0.9**
SNR=15
SMDO Samad 68.78 293 P **P** **23 43 24.2 -1.3**
SNR=5.6
SMDO P **P** **23 43 24.2 -1.3**
SNR=5.6
DQM DQM 69.04 290 P **P** **23 43 26.1 -0.8**
SNR=13
DQM P **P** **23 43 26.1 -0.8**
SNR=13
BILL Bilibino 69.29 15 IAMs_20 IAMs_20 00 14 43.0
comp=Z,1μm,21.0s
BILL Bilibino 69.29 15 ⇓ *i*P **P** **23 43 27.2 -0.4**
BILL pmax pmax
comp=Z,4.0nm,0.4s
ARQ Araqi 70.21 293 P **P** **23 43 33.1 -1.0**
ARQ P **P** **23 43 33.1 -1.0**
ARQ P **P** **23 43 33.1 -1.0**
SOHO SOHO 70.26 294 P **P** **23 43 33.1 -1.3**
SOHO SOHO 70.26 294 *i* P **P** **23 43 32.7 -1.6**
SNR=8.1
MDH Madha 70.56 295 P **P** **23 43 34.2 -2.0**
MDH Madha 70.56 295 P **P** **23 43 34.5 -1.7**
BANOM Banah 70.62 296 P **P** **23 43 36.4 -0.2**
BANOM Banah 70.62 296 P **P** **23 43 36.2 -0.4**
UOSS Minazif 70.62 295 P **P** **23 43 35.3 -1.3**
UOSS Minazif 70.62 295 P **P** **23 43 35.5 -1.0**
UOSS P **P** **23 43 35.5 -1.0**
UOSS Minazif 70.62 295 P **P** **23 43 35.6 -1.0**
HATD Hatta, Dubai 70.68 295 P **P** **23 43 36.2 -0.7**

SNR=5.7
HATD P P 23 43 36.2 -0.7
SNR=5.7
HATD Hatta, Dubai 70.68 295 *i* P P 23 43 35.9 -1.0
SNR=17
MSFE Esma-Masafi 70.70 295 *i* P P 23 43 37.2 +0.1
SNR=8.6
MASF Masafi 70.70 295 P P 23 43 37.5 +0.4
MASF P P 23 43 37.5 +0.4
ASHO Ashiyiah 70.73 295 P P 23 43 36.6 -0.7
SNR=5.8
ASHO P P 23 43 36.6 -0.7
SNR=5.8
ASHO Ashiyiah 70.73 295 *i* P P 23 43 36.1 -1.3
SNR=16
SHAO Shalim 70.76 288 P P 23 43 36.5 -1.0
SHAO Shalim 70.76 288 *i* P P 23 43 36.4 -1.1
SNR=8.2
SHME Shamm 70.77 296 P P 23 43 36.5 -0.9
SHME Shamm 70.77 296 P P 23 43 36.3 -1.2
ALNE Al Ain 70.97 294 P P 23 43 37.8 -0.9
SNR=13
ALNE P P 23 43 37.8 -0.9
SNR=13
ALNE Al Ain 70.97 294 *i* P P 23 43 37.8 -0.9
SNR=35
CASY Casey 71.09 187 P P 23 43 38.7 +0.2
CASY IAmb IAmb 23 43 41.0
comp=Z,60nm,0.9s
FAQ Al Faqa, Dubai 71.16 295 P P 23 43 38.8 -1.0
FAQ P P 23 43 38.8 -1.0
FAQ Al Faqa, Dubai 71.16 295 P P 23 43 39.2 -0.6
ASUD Al Ashush, Dub 71.39 295 P P 23 43 40.4 -0.8
SNR=5.1
ASUD P P 23 43 40.4 -0.8
SNR=5.1
ASUD Al Ashush, Dub 71.39 295 *i* P P 23 43 40.7 -0.6
SNR=9.7
DMTO DMTO 71.39 287 P P 23 43 39.3 -2.0
UMZA Um Al Zommool 71.42 292 P P 23 43 40.6 -0.9
UMZA P P 23 43 40.6 -0.9
AJN Ajban 71.70 294 P P 23 43 42.1 -1.0
SNR=5.7
AJN P P 23 43 42.1 -1.0
SNR=5.7
AJN Ajban 71.70 294 *i* P P 23 43 42.3 -0.7
SNR=9.4
AB31 Akbulak array 71.90 321 IAmb IAmb 23 43 46.6
comp=Z,47nm,0.8s
AB31 Akbulak array 71.90 321 P P 23 43 41.3 -2.5
ABKAR Akbulak array 71.90 321 P P 23 43 42.8 -1.0
RBK Rabkut 72.10 287 P P 23 43 44.9 -0.8
RBK P P 23 43 44.9 -0.8
DOK Doka 72.20 288 P P 23 43 45.5 -0.7
SNR=8.7
DOK P P 23 43 45.5 -0.7
SNR=8.7
SPIA Saint Paul Isl 72.28 31 P P 23 43 46.6 +0.8
baz=249
P08K Saint George I 72.44 31 IAMs_20 IAMs_20 00 09 54.3
comp=Z,2µm,22.0s
P08K Saint George I 72.44 31 P P 23 43 47.6 +0.7
baz=250
WHFO Wadi Hawf 72.52 287 P P 23 43 47.0 -1.2
SNR=6.1
WHFO P P 23 43 47.0 -1.2
SNR=6.1
ABTO Aybut 72.96 287 P P 23 43 49.8 -1.0
ABTO P P 23 43 49.8 -1.0
MZR Muzera 72.98 293 P P 23 43 51.0 +0.2
SNR=14
MZR P P 23 43 51.0 +0.2
SNR=14
MZR Muzera 72.98 293 *i* P P 23 43 50.2 -0.6
SNR=54
UNV Unalaska Valle 73.22 35 IAmb IAmb 23 44 03.4
comp=Z,58nm,0.8s
UNV IAMs_20 IAMs_20 00 12 51.2
comp=Z,2µm,22.0s
UNV Unalaska Valle 73.22 35 P P 23 43 52.4 +0.9
UNV Unalaska Valle 73.22 35 P P 23 43 51.8 +0.2
baz=253
AKTO Aktyubinsk 73.41 322 P P 23 43 52.6 -0.1
comp=Z,74nm,0.7s,baz=15,slow=3.4,SNR=5.5
AKTO LR LR 00 19 00.2
comp=Z,4µm,20.4s,baz=81,slow=38
comp=Z,74nm,0.7s
LVA Lava Point 73.57 34 IAmb IAmb 23 44 11.5
comp=Z,105nm,0.9s
GHWR Ruwais 73.58 294 P P 23 43 54.2 -0.1
GHWR P P 23 43 54.2 -0.1
JRN Qarnain Island 73.66 295 P P 23 43 54.4 -0.3
SNR=6.0
JRN P P 23 43 54.4 -0.3
SNR=6.0
SVE Sverdlovsk 73.69 328 *de* P P 23 43 54.3 0.0
SVE *e* S S 23 53 22.7 +0.8
SVE pmax pmax
comp=Z,78nm,0.8s
SVE MLR MLR
comp=Z,1µm,21.0s
AKUT Akutan 73.72 35 IAmb IAmb 23 43 56.0
comp=Z,92nm,0.8s
AKUT IAMs_20 IAMs_20 00 13 16.9
comp=Z,2µm,22.0s
GAMB Gambell 74.16 24 IAmb IAmb 23 44 12.9
comp=Z,51nm,1.0s
GAMB Gambell 74.16 24 P P 23 43 57.8 +1.0
baz=246
SLWR Sila 74.67 294 P P 23 44 00.6 -0.1
SLWR P P 23 44 00.6 -0.1
ARTI Arti 74.75 328 P P 23 43 59.6 -1.0
ARTI IAmb IAmb 23 44 03.7
comp=Z,76nm,0.8s
ARTI IAMs_20 IAMs_20 00 18 46.3
comp=Z,2µm,22.0s
ARTI Arti 74.75 328 LR LR 00 18 58.6
comp=Z,2µm,21.9s,baz=104,slow=37
ARTI Arti 74.75 328 *c i* P P 23 43 59.5 -1.0
ARTI 23 44 15.2
ARTI 23 46 43.6
ARTI S S 23 53 34.5 +0.7
ARTI SS SS 23 58 15.5 -6.5
ARTI pmax pmax
comp=Z,51nm,0.7s
ARTI MLR MLR
comp=Z,2µm,21.0s
TRNA Turayna 75.14 294 P P 23 44 03.2 -0.2
FALS False Pass 75.23 34 IAmb IAmb 23 44 21.9
comp=Z,102nm,0.8s
FALS False Pass 75.23 34 P P 23 44 03.4 +0.2
baz=256,SNR=6.1
M11K Mekoryuk 75.34 28 P P 23 44 05.4 +1.6
baz=252
SHMA Al-Shehemyia 75.41 296 P P 23 44 04.9 0.0
SMRA Abu-Samra 75.49 294 P P 23 44 04.7 -0.6
SAKB Bahrain 75.80 296 P P 23 44 07.1 0.0
S12K Black Hills 76.19 34 IAMs_20 IAMs_20 00 11 47.6
comp=Z,1µm,22.0s
S12K Black Hills 76.19 34 P P 23 44 08.9 +0.2
baz=257
RAR Rarotonga 76.19 113 P P 23 44 09.3 -0.1
comp=Z,9.6nm,0.6s,baz=281,slow=9.8,SNR=1.8
RAR LR LR 00 14 24.8
comp=Z,408nm,21.4s,baz=294,slow=33
comp=Z,9.6nm,0.6s
TNA Tin City 76.35 23 P P 23 44 10.3 +0.9
baz=249
K13K Kusilvak Mount 76.53 27 IAmb IAmb 23 44 26.9
comp=Z,65nm,0.9s
K13K Kusilvak Mount 76.53 27 P P 23 44 12.2 +1.6
baz=253,SNR=15
M13K Dall Lake 76.71 29 IAmb IAmb 23 44 28.1
comp=Z,58nm,1.1s
M13K Dall Lake 76.71 29 P P 23 44 13.1 +1.6
baz=254
F14K Arctic Creek 76.94 23 P P 23 44 13.9 +1.1
baz=250,SNR=14
SDPT Sand Point 76.99 34 IAMs_20 IAMs_20 00 13 07.4
comp=Z,2µm,22.0s
SDPT Sand Point 76.99 34 P P 23 44 13.5 +0.3
SDPT Sand Point 76.99 34 P P 23 44 13.5 +0.3
baz=258,SNR=21
ANM Nome 77.03 24 P P 23 44 14.4 +1.1
baz=252
MWH Mokuaweoweo 77.10 71 IAMs_20 IAMs_20 00 11 05.6
comp=Z,2µm,19.0s
J14K Nanvaranak Lak 77.26 26 P P 23 44 15.7 +1.2
baz=254
L14K Kuka Creek 77.27 28 IAmb IAmb 23 44 19.4
comp=Z,119nm,1.2s
L14K Kuka Creek 77.27 28 P P 23 44 16.2 +1.6
baz=255,SNR=35
CHNA Chernabura Isl 77.38 35 P P 23 44 16.0 +0.5
baz=259
N14K Kuskokwak Cree 77.39 29 IAmb IAmb 23 44 19.6
comp=Z,136nm,1.2s
N14K Kuskokwak Cree 77.39 29 P P 23 44 16.6 +1.2
baz=256,SNR=9.5
O14K Tigyukauivet M 77.43 30 P P 23 44 16.7 +1.0
baz=256,SNR=6.0
M14K Bethel 77.46 28 P P 23 44 15.6 -0.1
M14K IAmb IAmb 23 44 32.0
comp=Z,61nm,0.8s
M14K Bethel 77.46 28 P P 23 44 17.0 +1.3
baz=256,SNR=25
KNHH Kane Nui o Ham 77.51 71 P P 23 44 17.4 +0.4
STCH Steam Cracks 77.55 71 IAmb IAmb 23 44 20.2
comp=Z,101nm,0.9s
F15K North Star Dit 77.68 23 P P 23 44 18.1 +1.2
baz=252,SNR=9.0
S14K Fog Glacier 77.69 33 P P 23 44 18.0 +0.7
baz=259
G15K Niukluk 77.70 24 P P 23 44 17.8 +0.7
baz=253,SNR=7.8
L15K Ungalak Mounta 77.91 28 P P 23 44 19.4 +1.1
baz=256,SNR=21
K15K Wolf Creek Mou 78.04 27 IAmb IAmb 23 44 23.8
comp=Z,74nm,1.1s
K15K Wolf Creek Mou 78.04 27 P P 23 44 20.6 +1.5
baz=256,SNR=24
M15K Kasigluk River 78.05 29 P P 23 44 20.0 +0.9
baz=257,SNR=34
SBV Sambava 78.10 255 P P 23 44 21.6 +1.3
O15K Ungalikthiuk R 78.14 30 P P 23 44 20.6 +1.0
baz=258,SNR=9.0
N15K Kwethluk River 78.22 29 IAmb IAmb 23 44 36.8
comp=Z,83nm,1.0s
N15K Kwethluk River 78.22 29 P P 23 44 21.4 +1.3
baz=257,SNR=19
C16K Lisburne Hills 78.24 21 P P 23 44 21.1 +1.1
baz=251,SNR=12
CHGN Chignik 78.31 33 P P 23 44 20.9 +0.3
baz=260,SNR=5.8
H16K Elim 78.34 25 P P 23 44 21.4 +0.8
baz=254,SNR=8.2
G16K Koyuk River 78.50 24 P P 23 44 22.6 +1.1
baz=254,SNR=8.9
J16K Anvik River 78.70 26 P P 23 44 23.9 +1.3
J16K IAmb IAmb 23 44 39.3
comp=Z,60nm,1.0s
J16K Anvik River 78.70 26 P P 23 44 24.1 +1.5
baz=256,SNR=22
I17K Unalakleet 78.80 26 IAmb IAmb 23 44 40.0
comp=Z,96nm,1.1s
I17K Unalakleet 78.80 26 P P 23 44 24.9 +1.8
baz=256,SNR=8.3
L16K Owhat River 78.85 28 IAmb IAmb 23 44 39.8
comp=Z,65nm,0.9s
L16K Owhat River 78.85 28 P P 23 44 24.8 +1.3
baz=258,SNR=28
D17K Noatak River 78.87 21 P P 23 44 24.9 +1.4
baz=253,SNR=54
N16K Nishlik Lake 78.93 29 P P 23 44 25.4 +1.4
baz=258,SNR=25
M16K Timber Creek 78.95 29 IAmb IAmb 23 44 40.4
comp=Z,50nm,0.8s
M16K Timber Creek 78.95 29 P P 23 44 25.3 +1.3
baz=258,SNR=29
R16K Pilot Point 78.99 32 P P 23 44 25.9 +1.6
baz=260
P16K Nushagak River 79.04 31 IAmb IAmb 23 44 33.0
comp=Z,60nm,0.8s
P16K IAMs_20 IAMs_20 00 13 47.8
comp=Z,1µm,22.0s
P16K Nushagak River 79.04 31 P P 23 44 25.3 +0.8
baz=259
RDOG Red Dog Mine 79.04 21 IAmb IAmb 23 44 43.5
comp=Z,61nm,1.2s
RDOG Red Dog Mine 79.04 21 P P 23 44 25.6 +1.2
baz=253,SNR=7.1
C17K DeLong Mountai 79.06 21 P P 23 44 25.7 +1.1
baz=253,SNR=18
AKT Akhty 79.07 311 *e* P P 23 44 22.7 -2.6
AKT *e* 23 44 30.4
AKT *e* S S 23 54 18.7 -3.0
AKT pmax pmax
comp=Z,65nm,1.0s
O16K Kokwok River B 79.09 30 IAmb IAmb 23 44 29.1
comp=Z,68nm,1.2s
O16K Kokwok River B 79.09 30 P P 23 44 25.9 +1.1
baz=259,SNR=20
E17K Hotham Inlet 79.16 22 P P 23 44 26.5 +1.4
baz=254,SNR=17
F17K Baldwin Pennin 79.22 23 IAmb IAmb 23 44 47.3
comp=Z,59nm,1.1s
F17K Baldwin Pennin 79.22 23 P P 23 44 26.7 +1.4
baz=255,SNR=8.9
G17K Kiwalik Mounta 79.22 24 P P 23 44 26.8 +1.4
baz=256,SNR=26
MAK Makhachkala 79.35 313 *d* iP P 23 44 22.6 -4.0
MAK *e* PPP PPP 23 49 11.0
MAK *e* S S 23 54 20.0 -4.3
MAK *e* SS SS 23 59 25.1 -6.9
MAK *e* SSS SSS 00 02 56.0
MAK pmax pmax
comp=Z,162nm,1.1s
MAK MLR MLR
comp=Z,1µm,18.0s
H17K Granite Mounta 79.38 25 P P 23 44 27.7 +1.4
baz=257,SNR=22
J17K VABM Dome 79.39 26 IAmb IAmb 23 44 43.1
comp=Z,60nm,0.9s
J17K VABM Dome 79.39 26 P P 23 44 27.9 +1.5
baz=258,SNR=30
L17K Donlin 79.48 27 P P 23 44 28.9 +2.0
baz=259,SNR=46
K17K Iditarod 79.60 27 P P 23 44 28.4 +0.9
K17K IAmb IAmb 23 44 45.0
comp=Z,115nm,1.0s
K17K Iditarod 79.60 27 P P 23 44 29.4 +1.9
baz=258,SNR=46
O17K Koliganek Bris 79.62 30 P P 23 44 29.0 +1.3
baz=260,SNR=32
R17L Mt. Peulik Vol 79.65 32 P P 23 44 28.1 +0.2
baz=261,SNR=15
PLK4 Peulik 4 79.65 32 IAmb IAmb 23 44 43.7
comp=Z,57nm,0.8s
PLK4 IAMs_20 IAMs_20 00 17 30.1
comp=Z,1µm,20.0s
N17K Nushagak Hills 79.71 29 IAmb IAmb 23 44 33.3
comp=Z,66nm,1.1s
N17K Nushagak Hills 79.71 29 P P 23 44 29.7 +1.5
baz=260,SNR=38
E18K Tukpahlearik C 79.71 22 IAmb IAmb 23 44 44.7
comp=Z,76nm,1.0s
E18K Tukpahlearik C 79.71 22 P P 23 44 29.8 +1.7
baz=256,SNR=46
M17K Holitna River 79.74 28 IAmb IAmb 23 44 48.5
comp=Z,58nm,1.1s
M17K Holitna River 79.74 28 P P 23 44 30.1 +1.7
baz=260,SNR=16
CHIR Chirikof Islan 79.78 34 IAmb IAmb 23 44 33.2
comp=Z,137nm,1.4s
CHIR IAMs_20 IAMs_20 00 13 24.8
comp=Z,2µm,22.0s
CHIR Chirikof Islan 79.78 34 P P 23 44 30.1 +1.4
baz=262
B18K Kolik River 79.80 20 P P 23 44 30.2 +1.8
baz=254,SNR=21
C18K Utukok River 79.81 21 P P 23 44 30.0 +1.3
baz=255,SNR=17
P17K Kvichak River 79.85 31 P P 23 44 29.7 +0.8
baz=261,SNR=17
F18K Selawik 79.88 23 P P 23 44 30.1 +1.2
baz=256,SNR=28
KIRV Kirov 79.95 329 *c i* P P 23 44 29.4 -0.1
Q17K Contact Creek 79.99 32 P P 23 44 29.7 -0.3
baz=261
H18K Honhosa River 80.07 24 P P 23 44 31.1 +1.0
baz=258,SNR=15
G18K Tagagawik 80.11 24 P P 23 44 31.3 +1.0
baz=258,SNR=18
BELG Belogornoye 80.15 322 P P 23 44 29.9 -0.8
comp=Z,95nm,0.8s,baz=13,slow=0.5,SNR=36
BELG LR LR 00 21 51.1
comp=Z,1µm,19.2s,baz=92,slow=37
comp=Z,95nm,0.8s
BELG Belogornoye 80.15 322 ⇑ *i* P P 23 44 29.0 -1.7
BELG pmax pmax
comp=Z,11nm,0.9s
L18K Granite Mounta 80.24 28 IAmb IAmb 23 44 51.0
comp=Z,50nm,1.0s
L18K IAMs_20 IAMs_20 00 17 13.5
comp=Z,1µm,21.0s
L18K Granite Mounta 80.24 28 P P 23 44 32.8 +1.8
baz=260,SNR=29
A19K Wainwright 80.27 19 P P 23 44 32.9 +1.9
baz=255
ACHA Angle Creek He 80.28 32 IAMs_20 IAMs_20 00 14 58.7
comp=Z,2µm,22.0s
RAYN Ar Rayn 80.33 293 P P 23 44 31.2 -1.2
RAYN IAmb IAmb 23 44 33.3
comp=Z,65nm,0.8s
RAYN Ar Rayn 80.33 293 P P 23 44 31.5 -0.8
RAYN Ar Rayn 80.33 293 *i* P P 23 44 32.2 -0.2
SNR=11
RAYN Ar Rayn 80.33 293 P P 23 44 31.2 -1.2
RAYN pmax pmax
comp=Z,65nm,0.8s
N18K Kilae Creek 80.36 29 P P 23 44 33.3 +1.5
baz=261,SNR=15
J18K Innoko River 80.45 26 P P 23 44 33.1 +1.0
baz=260,SNR=12
C19K Lookout Ridge 80.49 20 IAmb IAmb 23 44 49.4
comp=Z,90nm,1.1s
C19K Lookout Ridge 80.49 20 P P 23 44 34.2 +1.9
baz=256,SNR=32
P18K Big Mountain, 80.50 31 P P 23 44 32.7 +0.1
baz=262,SNR=16
Q18K Katmai Hardscr 80.51 31 P P 23 44 32.5 -0.1
baz=262,SNR=16
M18K Stony River 80.52 28 P P 23 44 34.2 +1.6
baz=261,SNR=33
GCSA Galena City Sc 80.61 25 P P 23 44 34.1 +1.2
baz=259
F19K Shaleruckik Mo 80.66 23 P P 23 44 34.1 +0.9
baz=258,SNR=25
R18K Karluk 80.66 32 P P 23 44 33.6 +0.4
baz=263,SNR=9.9
SII Sitkinak Islan 80.68 33 IAmb IAmb 23 44 52.9
comp=Z,93nm,1.0s
SII Sitkinak Islan 80.68 33 P P 23 44 34.8 +1.2
baz=263,SNR=11
G19K Purcell Mounta 80.79 24 IAmb IAmb 23 44 37.9
comp=Z,60nm,0.9s
G19K Purcell Mounta 80.79 24 P P 23 44 35.3 +1.4
baz=259,SNR=46
D19K Kuna River 80.88 21 IAmb IAmb 23 44 57.8
comp=Z,81nm,1.1s
D19K Kuna River 80.88 21 P P 23 44 35.8 +1.4
baz=258,SNR=34
H19K Roundabout Mou 80.93 24 IAmb IAmb 23 44 57.0
comp=Z,99nm,1.1s
H19K Roundabout Mou 80.93 24 P P 23 44 36.4 +1.8
baz=260,SNR=62
E19K Redstone River 80.99 22 P P 23 44 36.0 +1.0
E19K Redstone River 80.99 22 P P 23 44 36.6 +1.6
baz=259,SNR=112
J19K Poorman 81.02 26 IAmb IAmb 23 44 40.0
comp=Z,74nm,1.1s
J19K Poorman 81.02 26 P P 23 44 36.8 +1.6
baz=261,SNR=62
O19K Port Alsworth 81.06 30 P P 23 44 36.4 +1.0
baz=262
N19K Bonanza Creek 81.07 29 IAmb IAmb 23 44 40.6
comp=Z,95nm,1.1s
N19K Bonanza Creek 81.07 29 P P 23 44 37.2 +1.6
baz=262,SNR=65
L19K White Mountain 81.08 28 IAmb IAmb 23 44 40.4
comp=Z,63nm,1.1s
L19K IAMs_20 IAMs_20 00 17 27.8
comp=Z,1µm,22.0s
L19K White Mountain 81.08 28 P P 23 44 37.1 +1.5
baz=262,SNR=63
OHAK Old Harbor 81.24 33 P P 23 44 37.4 +1.0
baz=264,SNR=15
Q19K Cape Douglas, 81.25 31 IAmb IAmb 23 44 51.8
comp=Z,74nm,0.8s
Q19K IAMs_20 IAMs_20 00 15 53.3
comp=Z,1µm,21.0s
Q19K Cape Douglas, 81.25 31 P P 23 44 36.5 -0.1
baz=263,SNR=18
GNI Garni 81.26 310 P P 23 44 38.0 +0.8
GNI IAmb IAmb 23 44 48.2
comp=Z,43nm,0.8s
GNI Garni 81.26 310 P P 23 44 36.2 -1.0
comp=Z,9.0nm,0.6s,baz=320,slow=7.4,SNR=7.0
GNI LR LR 00 28 41.7
comp=Z,444nm,18.7s,baz=86,slow=42
comp=Z,9.0nm,0.6s
GNI Garni 81.26 310 P P 23 44 36.9 -0.3
GNI P P 23 44 36.9 -0.3
GNI Garni 81.26 310 P P 23 44 38.0 +0.8
GNI pmax pmax
comp=Z,43nm,0.8s
ABPO Ambohimpanom 81.36 250 P P 23 44 37.7 -0.4
ABPO IAmb IAmb 23 44 40.4
comp=Z,87nm,0.9s
ABPO Ambohimpanom 81.36 250 P P 23 44 37.7 -0.4
ABPO pmax pmax
comp=Z,87nm,0.9s
D20K Etivluk River 81.46 21 IAmb IAmb 23 44 41.6
comp=Z,75nm,0.9s
D20K Etivluk River 81.46 21 P P 23 44 38.9 +1.4
baz=259,SNR=60
F20K Avaraart Lake 81.49 23 IAmb IAmb 23 44 41.9
comp=Z,59nm,1.1s
F20K Avaraart Lake 81.49 23 P P 23 44 39.1 +1.5
baz=260
B20K Meade River 81.53 20 IAmb IAmb 23 44 52.9
comp=Z,51nm,0.9s
B20K Meade River 81.53 20 P P 23 44 39.3 +1.6
baz=258
E20K Nigu River 81.53 22 P P 23 44 39.4 +1.6
baz=260,SNR=116
P19K Oil Pt 81.54 30 P P 23 44 39.9 +1.8
baz=264,SNR=5.5
H20K Anotleneega Mo 81.57 24 P P 23 44 39.7 +1.6
baz=261,SNR=39
L20K Farewell, AK 81.58 27 P P 23 44 39.9 +1.7
baz=262,SNR=25
K20K Telida 81.61 27 IAmb IAmb 23 44 55.2
comp=Z,70nm,1.1s
K20K Telida 81.61 27 P P 23 44 40.0 +1.7
baz=262,SNR=49
I20K Naaghedeneel 81.63 25 P P 23 44 40.3 +1.9
baz=262,SNR=20
KDAK Kodiak Island 81.68 32 P P 23 44 38.8 0.0
KDAK IAmb IAmb 23 44 55.2
comp=Z,49nm,0.8s
KDAK Kodiak Island 81.68 32 IAMs_20 IAMs_20 00 17 01.7
comp=Z,1µm,22.0s
KDAK Kodiak Island 81.68 32 LR LR 00 16 01.4
comp=Z,574nm,21.8s,baz=244,slow=32
KDAK Kodiak Island 81.68 32 ⇑ *eP* P 23 44 39.7 +0.9
KDAK pmax pmax
comp=Z,90nm,1.2s
KDAK Kodiak Island 81.68 32 P P 23 44 39.6 +0.9
baz=264
J20K Nowinta River 81.69 26 IAmb IAmb 23 44 55.6
comp=Z,67nm,1.0s
J20K Nowinta River 81.69 26 P P 23 44 40.4 +1.7
baz=262,SNR=45
M20K Styx River 81.85 28 IAmb IAmb 23 45 03.1
comp=Z,89nm,1.1s
M20K Styx River 81.85 28 P P 23 44 41.2 +1.5
baz=263
RED Redoubt Volcan 81.86 30 IAmb IAmb 23 44 42.7
comp=Z,55nm,0.9s
Q20K Shuyak Island 81.86 31 P P 23 44 40.1 +0.5
baz=264,SNR=14
SYI Shuyak Island 81.86 31 IAmb IAmb 23 44 49.0
comp=Z,62nm,0.9s
SYI IAMs_20 IAMs_20 00 21 54.6
comp=Z,1µm,21.0s
O20K Slope Mountain 81.89 30 P P 23 44 40.1 +0.1
baz=264
A21K Barrow 81.97 18 P P 23 44 41.3 +1.4
baz=259
IMAR Indian Mountai 82.11 24 P P 23 44 41.8 +1.0
VOI Vohitsoka 82.13 247 P P 23 44 41.0 -1.1
VOI Vohitsoka 82.13 247 P P 23 44 42.0 0.0

SNR=6.8
C21K **Knifeblade Rid** 82.19 21 P P 23 44 42.8 +1.5
baz=261,SNR=31
N20K **Mount Spurr** 82.21 29 P P 23 44 42.0 +0.4
baz=264,SNR=6.7
SPCR **Spurr Chakacha** 82.21 29 P P 23 44 42.0 +0.3
baz=264
G21K **Allakaket** 82.28 23 IAmb IAmb 23 44 58.5
comp=Z,67nm,1.0s
G21K **Allakaket** 82.28 23 P P 23 44 43.4 +1.6
baz=262,SNR=61
B21K **Ikpikpuk River** 82.32 20 IAMs_20 IAMs_20 00 28 02.3
comp=Z,1µm,19.0s
B21K **Ikpikpuk River** 82.32 20 P P 23 44 43.7 +1.8
baz=261,SNR=74
HOM **Homer** 82.34 30 P P 23 44 43.4 +1.2
baz=265
E21K **Killik River** 82.37 21 IAmb IAmb 23 44 46.2
comp=Z,64nm,0.9s
E21K **Killik River** 82.37 21 P P 23 44 43.6 +1.3
baz=262
FOMA **Nahampoana Res** 82.38 244 P P 23 44 42.8 -0.3
F21K **Alatna River** 82.38 23 P P 23 44 43.4 +1.1
baz=262,SNR=19
PPLA **Purkeypile** 82.40 27 IAmb IAmb 23 44 47.2
comp=Z,129nm,1.5s
PPLA IAMs_20 IAMs_20 00 18 32.5
comp=Z,1µm,22.0s
PPLA **Purkeypile** 82.40 27 P P 23 44 43.7 +1.1
baz=264,SNR=20
A22K **Sinclair Lake** 82.43 19 P P 23 44 44.2 +1.7
baz=260
H21K **Melozitna Rive** 82.45 24 IAmb IAmb 23 45 02.9
comp=Z,58nm,1.0s
H21K **Melozitna Rive** 82.45 24 P P 23 44 44.4 +1.7
baz=263,SNR=14
CHUM **Lake Minchumin** 82.45 26 P P 23 44 44.2 +1.6
baz=264,SNR=22
CNPM **China Poot** 82.54 31 IAmb IAmb 23 44 46.1
comp=Z,66nm,1.0s
CNPM IAMs_20 IAMs_20 00 16 00.4
comp=Z,1µm,22.0s
SKT **Skwentna** 82.61 28 IAmb IAmb 23 44 46.9
comp=Z,49nm,1.0s
SKT **Skwentna** 82.61 28 P P 23 44 43.7 +0.1
baz=265,SNR=26
GOF **Gofitskoye** 82.68 315 *ce*P P 23 44 44.4 +0.1
CAPN **Captain Cook N** 82.69 29 P P 23 44 45.4 +1.5
baz=265
BRLK **Bradley Lake** 82.73 30 IAmb IAmb 23 44 47.0
comp=Z,58nm,0.9s
I21K **Tanana** 82.73 25 IAmb IAmb 23 44 48.6
comp=Z,111nm,1.1s
I21K **Tanana** 82.73 25 P P 23 44 45.9 +1.7
baz=264
KBZ **Khabaz** 82.75 313 P P 23 44 44.2 -0.5
comp=Z,25nm,0.9s,baz=154,slow=3.2,SNR=25
KBZ LR LR 00 27 47.6
comp=Z,1µm,18.4s,baz=75,slow=40
comp=Z,25nm,0.9s
BRSE **Bradley Lake S** 82.81 30 P P 23 44 45.0 +0.3
baz=266,SNR=10
B22K **Teshekpuk Lake** 82.84 20 IAmb IAmb 23 44 48.7
comp=Z,81nm,0.8s
B22K IAMs_20 IAMs_20 00 23 57.8
comp=Z,1µm,21.0s
B22K **Teshekpuk Lake** 82.84 20 P P 23 44 46.0 +1.4
baz=262,SNR=7.5
D22K **Ayikyak River** 82.90 21 P P 23 44 46.9 +1.9
baz=263,SNR=18
KIV **Kislovodsk** 82.91 314 P P 23 44 46.5 +0.9
KIV IAmb IAmb 23 44 50.1
comp=Z,58nm,0.7s
KIV IAMs_20 IAMs_20 00 27 31.3
comp=Z,1µm,20.0s
KIV **Kislovodsk** 82.91 314 P P 23 44 47.1 +1.5
KIV P P 23 44 47.1 +1.5
KIV **Kislovodsk** 82.91 314 ⇑P P 23 44 46.1 +0.4
KIV **Kislovodsk** 82.91 314 *i* P P 23 44 47.4 +1.7
SNR=11
KIV **Kislovodsk** 82.91 314 *e*P P 23 44 45.0 -0.6
KIV *e* 23 47 55.6
KIV *e*S S 23 55 01.4 -0.1
KIV pmax pmax
comp=Z,49nm,1.0s
KIV pmax pmax
comp=Z,101nm,3.7s
F22K **John River** 82.92 23 P P 23 44 47.1 +2.0
baz=263
SUA **Susitna One** 82.94 29 IAmb IAmb 23 45 07.5
comp=Z,95nm,1.1s
SUA **Susitna One** 82.94 29 P P 23 44 45.7 +0.3
baz=265,SNR=29
KTH **Kantishna Hill** 83.03 27 IAmb IAmb 23 45 06.4
comp=Z,99nm,1.1s
BPAW **Bear Paw Mtn.** 83.05 26 IAmb IAmb 23 45 02.2
comp=Z,89nm,1.0s
BPAW **Bear Paw Mtn.** 83.05 26 P P 23 44 46.8 +1.0
baz=265,SNR=55
H22K **Ishtalitna Cre** 83.06 24 P P 23 44 47.9 +2.0
baz=264,SNR=49
G22K **Bettles** 83.11 23 P P 23 44 47.2 +1.1
baz=264
SLKM **Skilak Lake** 83.12 30 IAMs_20 IAMs_20 00 17 55.8
comp=Z,996nm,22.0s
E22K **Anaktuvuk Pass** 83.13 22 IAmb IAmb 23 45 21.0
comp=Z,79nm,1.1s
E22K **Anaktuvuk Pass** 83.13 22 P P 23 44 48.0 +1.7
baz=264
ATD **Arta Tunnel** 83.17 281 IAmb IAmb 23 44 49.7
comp=Z,80nm,1.1s
ATD **Arta Tunnel** 83.17 281 LR LR 00 21 27.7
comp=Z,15nm,19.8s,baz=88,slow=36
ATD **Arta Tunnel** 83.17 281 P P 23 44 47.7 +0.1
CUT **Chulitna** 83.24 28 P P 23 44 47.0 +0.2
baz=266
MLY **Manley** 83.24 25 IAmb IAmb 23 44 50.9
comp=Z,80nm,1.0s
MLY **Manley** 83.24 25 P P 23 44 48.2 +1.4
baz=265,SNR=81
M22K **Willow** 83.26 28 P P 23 44 47.2 +0.3
baz=266,SNR=19
TRF **Thorofare Moun** 83.31 27 P P 23 44 47.5 +0.1
TRF IAmb IAmb 23 44 51.1
comp=Z,79nm,1.0s
TRF IAMs_20 IAMs_20 00 19 01.6
comp=Z,1µm,22.0s
TRF **Thorofare Moun** 83.31 27 P P 23 44 47.9 +0.5
baz=266,SNR=43
O22K **Cooper Landing** 83.37 30 P P 23 44 47.5 +0.1
baz=266
RC01 **Rabbit Creek A** 83.40 29 IAmb IAmb 23 44 50.7
comp=Z,70nm,0.8s
RC01 **Rabbit Creek A** 83.40 29 P P 23 44 47.8 +0.1
baz=266,SNR=33
SEW **Seward** 83.48 30 IAmb IAmb 23 45 10.4
comp=Z,80nm,1.0s
SEW IAMs_20 IAMs_20 00 18 10.2
comp=Z,1µm,22.0s
SEW **Seward** 83.48 30 P P 23 44 48.8 +0.7
baz=267,SNR=12
D23K **Nanushuk River** 83.63 21 P P 23 44 50.8 +2.0
baz=265
COLD **Coldfoot** 83.65 23 P P 23 44 50.8 +2.0
baz=265,SNR=51
G23K **Bananza Creek** 83.68 23 P P 23 44 51.0 +2.0
baz=265,SNR=122
VNDA **Vanda** 83.71 173 IAmb IAmb 23 44 57.3
comp=Z,61nm,1.1s
VNDA **Vanda** 83.71 173 P P 23 44 49.7 +0.8
comp=Z,39nm,0.9s,baz=314,slow=6.1,SNR=98
VNDA PKKPbc **PKKPbc** 00 03 07.6 -1.8
comp=Z,2.9nm,0.9s,baz=198,slow=2.4,SNR=13
VNDA PKPPKP **P'P'df** 00 11 10.8 +0.7
comp=Z,1.4nm,1.0s,baz=269,slow=9.0,SNR=5.6
VNDA LR LR 00 23 14.8
comp=Z,447nm,18.7s,baz=342,slow=36
comp=Z,39nm,0.9s
PMR **Palmer** 83.72 29 P P 23 44 49.0 -0.2
PMR IAmb IAmb 23 44 52.8
comp=Z,77nm,1.0s
PMR **Palmer** 83.72 29 P P 23 44 49.1 -0.2
PMR pmax pmax
comp=Z,77nm,1.0s
PMR MLR MLR
comp=Z,500nm,21.0s
PMR **Palmer** 83.72 29 P P 23 44 49.6 +0.3
baz=267,SNR=14
VRH **Novokhopyorsk** 83.73 321 *e*P P 23 44 47.5 -2.1
VRH pmax pmax
comp=Z,70nm,0.8s
C23K **Itkillik River** 83.73 20 P P 23 44 51.0 +1.8
baz=264,SNR=36
H23K **Yukon River** 83.81 24 P P 23 44 51.5 +1.8
baz=266
GHO **Glory Hole Cre** 83.83 28 IAmb IAmb 23 45 10.4
comp=Z,60nm,0.9s
I23K **Minto, Yukon-K** 83.83 25 P P 23 44 51.2 +1.4
baz=266,SNR=67
NEA2 **Nenana** 83.92 26 IAmb IAmb 23 45 11.1
comp=Z,73nm,1.0s
NEA2 IAMs_20 IAMs_20 00 21 39.8
comp=Z,988nm,21.0s
NEA2 **Nenana** 83.92 26 P P 23 44 50.6 +0.3
baz=266,SNR=52
MCK **McKinley** 83.93 26 P P 23 44 50.8 +0.4
baz=267,SNR=27
E23K **Chandalar** 83.94 22 P P 23 44 52.5 +2.1
baz=266,SNR=115
RND **Reindeer** 83.95 27 IAMs_20 IAMs_20 00 19 42.4
comp=Z,1µm,22.0s
TOLK **Toolik Lake Re** 84.00 21 P P 23 44 52.0 +1.3
TOLK **Toolik Lake Re** 84.00 21 P P 23 44 52.6 +1.9
baz=266,SNR=44
MAW **Mawson** 84.00 200 P P 23 44 51.9 +1.4
MAW **Mawson** 84.00 200 P P 23 44 51.3 +0.8
comp=Z,12nm,0.8s,baz=78,slow=5.5,SNR=34
MAW PKKPbc **PKKPbc** 00 03 06.5 -2.0
comp=Z,5.1nm,0.8s,baz=237,slow=0.9,SNR=14
MAW PKPPKP **P'P'df** 00 11 14.6 +4.5
baz=272,slow=5.5,SNR=4.2
comp=Z,12nm,0.8s
KNK **Knik Glacier** 84.03 29 IAMs_20 IAMs_20 00 18 55.8
comp=Z,1µm,22.0s
KNK **Knik Glacier** 84.03 29 P P 23 44 51.8 +0.9
baz=267,SNR=52
WAT1 **Susitna Watana** 84.06 27 P P 23 44 51.3 +0.2
baz=267
PWL **Port Wells** 84.07 29 P P 23 44 51.9 +0.8
baz=268,SNR=34
D24K **Happy Valley** 84.31 21 IAMs_20 IAMs_20 00 29 21.7
comp=Z,867nm,19.0s
D24K **Happy Valley** 84.31 21 P P 23 44 54.0 +1.8
baz=266
MARD **Mardin** 84.33 307 IAmb IAmb 23 44 55.4
comp=Z,57nm,0.7s
E24K **Your Creek** 84.36 22 IAmb IAmb 23 45 08.5
comp=Z,36nm,0.9s
E24K **Your Creek** 84.36 22 P P 23 44 54.1 +1.6
baz=267
C24K **Franklin Bluff** 84.39 20 P P 23 44 54.0 +1.5
baz=266
M23K **Glacier View** 84.40 28 P P 23 44 53.4 +0.6
baz=268,SNR=32
WAT6 **Susitna Watana** 84.42 28 P P 23 44 53.8 +0.7
baz=268,SNR=50
COLA **College** 84.46 25 P P 23 44 52.4 -0.6
COLA **College** 84.46 25 P P 23 44 52.4 -0.6
COLA pmax pmax
comp=Z,24nm,0.9s
COLA MLR MLR
comp=Z,700nm,20.0s
COLA **College** 84.46 25 P P 23 44 53.0 0.0
CCB **Clear Creek Bu** 84.47 26 IAmb IAmb 23 45 14.6
comp=Z,88nm,1.3s
H24K **Noodor Dome** 84.49 24 P P 23 44 54.9 +1.6
baz=268,SNR=30
ERBR **Yeremizino-Bor** 84.49 315 *e*P P 23 44 53.0 -0.6
ERBR *e* 23 48 07.3
ERBR *e*S **SKSac** 23 55 13.0 -1.3
ERBR pmax pmax
comp=Z,62nm,0.8s
ERBR MLR MLR
comp=Z,2µm,22.0s
KOPT **Kop Dagi** 84.52 310 IAMs_20 IAMs_20 00 29 29.2
comp=Z,1µm,20.0s
F24K **Squaw Lake** 84.56 23 IAmb IAmb 23 45 07.0
comp=Z,78nm,1.1s
F24K **Squaw Lake** 84.56 23 P P 23 44 55.3 +1.8
baz=267,SNR=22
SCM **Sheep Creek Mo** 84.59 28 P P 23 44 54.8 +1.0
baz=268,SNR=30
DHY **Denali Highway** 84.60 27 IAmb IAmb 23 45 15.6
comp=Z,86nm,1.4s
DHY IAMs_20 IAMs_20 00 19 50.8
comp=Z,1µm,22.0s
DHY **Denali Highway** 84.60 27 P P 23 44 54.6 +0.6
baz=268,SNR=21
POKR **Poker Plat Res** 84.65 25 P P 23 44 53.7 -0.2
baz=268
GLI **Glacier Island** 84.68 29 P P 23 44 55.0 +0.8
baz=269,SNR=9.9
G24K **Hadweenzic Riv** 84.69 23 P P 23 44 55.8 +1.7
baz=268,SNR=63
HDA **Harding Lake** 84.83 26 IAmb IAmb 23 45 06.0
comp=Z,34nm,0.9s
HDA **Harding Lake** 84.83 26 P P 23 44 54.6 -0.4
baz=268,SNR=18
ILAR **Eielson Array** 84.87 25 P P 23 44 54.1 -1.0
ILAR **Eielson Array** 84.87 25 P P 23 44 55.7 +0.6
comp=Z,22nm,1.1s,baz=262,slow=4.0,SNR=42
ILAR PKKPbc **PKKPbc** 00 03 03.2 -2.9
comp=Z,0.5nm,0.9s,baz=80,slow=2.2,SNR=4.3
ILAR LR LR 00 22 17.8
comp=Z,349nm,20.8s,baz=242,slow=35
comp=Z,22nm,1.1s
HIN **Hinchinbrook I** 84.96 30 IAMs_20 IAMs_20 00 24 16.6
comp=Z,778nm,18.0s
Q23K **Middleton Isla** 85.03 31 P P 23 44 56.7 +0.8
baz=269
SOC **Sochi** 85.06 313 *e*P P 23 44 54.7 -1.8
SOC *e* 23 48 14.7
SOC *e*S **SKSac** 23 55 15.8 -2.1
SOC *e*SS **SS** 00 00 50.1 -6.6
SOC pmax pmax
comp=Z,43nm,0.6s
SOC MLR MLR
comp=Z,955nm,21.0s
KLMR **Klimovskoe** 85.13 331 *c i*P P 23 44 52.4 -4.1
KLMR S **SKSac** 23 55 13.1 -4.6
KLMR pmax pmax
comp=Z,505nm,0.9s
M24K **Tolsona, Glenn** 85.14 28 P P 23 44 57.7 +1.1
baz=269,SNR=28
D25K **Kavik River** 85.19 21 IAmb IAmb 23 45 10.2
comp=Z,80nm,1.2s
D25K **Kavik River** 85.19 21 P P 23 44 57.9 +1.2
baz=269
G25K **Bearman Lake** 85.24 23 P P 23 44 58.4 +1.6
baz=269,SNR=18
PPT **Papeete** 85.25 108 LR LR 00 20 11.7
comp=Z,352nm,18.1s,baz=277,slow=34
PPT2 **Papeete2** 85.25 108 *e*P P 23 44 51.3 -6.7
comp=Z,174nm,23.2s
PPT2 **Papeete2** 85.25 108 *e*S **SKSac** 23 55 23.3 +3.1
comp=Z,728nm,27.0s
PPT2 *e*SS **SS** 00 00 57.2 -3.8
comp=Z,945nm,30.0s
PPT2 *e*LQ LQ 00 08 14.7
comp=Z,3µm,37.8s
PPT2 *e*LR LR 00 11 44.1
comp=Z,1µm,26.5s
PPT2 *e*LR LR 00 11 51.4
comp=Z,2µm,26.2s
KLU **Klutina** 85.25 29 IAmb IAmb 23 45 17.3
comp=Z,57nm,1.0s
KLU **Klutina** 85.25 29 P P 23 44 58.1 +0.9
baz=270,SNR=28
VORD **Divnogorie** 85.26 321 *e*P P 23 44 56.1 -1.2
VORD pmax pmax
comp=Z,90nm,1.0s
VORR **Voronezh** 85.31 321 *e*P P 23 44 55.4 -2.1
VORR pmax pmax
comp=Z,180nm,1.0s
DIV **Divide** 85.32 29 P P 23 44 58.3 +0.8
EYAK **Cordova Ski Ar** 85.33 30 IAmb IAmb 23 45 17.4
comp=Z,91nm,1.2s
EYAK IAMs_20 IAMs_20 00 24 49.3
comp=Z,812nm,19.0s
EYAK **Cordova Ski Ar** 85.33 30 P P 23 44 58.9 +1.4
baz=270
K24K **Donnelly Dome** 85.34 26 IAmb IAmb 23 45 17.5
comp=Z,61nm,1.0s
K24K **Donnelly Dome** 85.34 26 P P 23 44 57.9 +0.4
baz=270,SNR=23
VSR **Storozhevoye** 85.34 321 *e*P P 23 44 54.4 -3.3
VSR pmax pmax
comp=Z,70nm,0.9s
H25L **Birch Creek** 85.34 24 P P 23 44 59.0 +1.6
baz=269,SNR=24
F25K **Christian Rive** 85.43 23 P P 23 44 59.6 +1.7
baz=269,SNR=40
PRP **Porcupine Dome** 85.46 25 P P 23 44 57.9 -0.3
baz=270
E25K **Arctic Village** 85.46 22 P P 23 44 59.6 +1.6
baz=269,SNR=31
LPSR **Galich'ya Gora** 85.47 322 *e*P P 23 44 56.0 -2.3
LPSR pmax pmax
comp=Z,140nm,0.9s
PAX **Paxson** 85.47 27 IAmb IAmb 23 45 11.3
comp=Z,52nm,1.1s
PAX IAMs_20 IAMs_20 00 20 18.8
comp=Z,1µm,22.0s
PAX **Paxson** 85.47 27 P P 23 44 59.0 +0.8
baz=270,SNR=23
J25K **Salcha River,** 85.52 26 P P 23 44 58.3 -0.2
baz=270,SNR=7.4
HARP **HAARP** 85.62 28 P P 23 45 00.0 +1.1
baz=270
C26K **Camden Bay** 85.71 20 P P 23 45 01.3 +2.1
baz=270
RIDG **Independent Ri** 85.75 26 IAmb IAmb 23 45 19.9
comp=Z,41nm,1.0s
RIDG **Independent Ri** 85.75 26 P P 23 44 59.8 +0.2
baz=270,SNR=28
BMAR **Burnt Mountain** 85.83 23 P P 23 45 01.7 +1.8
RAGM **Ragged Mountai** 85.87 30 IAMs_20 IAMs_20 00 18 43.6
comp=Z,1µm,22.0s
N25K **Chitina, Valde** 85.89 29 IAmb IAmb 23 45 21.6
comp=Z,83nm,1.2s
N25K **Chitina, Valde** 85.89 29 P P 23 45 01.5 +1.1
baz=271,SNR=16
BMRM **Bremner River** 85.89 29 P P 23 45 01.5 +1.1
baz=271,SNR=18
TBI **Tubuai** 85.95 114 *e*P P 23 44 58.2 -3.1
comp=Z,620nm,25.2s
TBI **Tubuai** 85.95 114 *e*PP PP 23 48 20.0 -1.7
comp=Z,358nm,26.8s
TBI *e*S S 23 55 32.1 -0.2
comp=Z,3µm,29.0s
TBI *e*SS SS 00 01 04.1 -6.8
comp=Z,4µm,34.8s
TBI *e*LQ LQ 00 08 28.9
comp=Z,6µm,39.0s
TBI *e*LR LR 00 12 05.5
comp=Z,2µm,26.2s
TBI *e*LR LR 00 12 13.6
comp=Z,10µm,26.5s
F26K **Sheenjek River** 86.00 22 P P 23 45 02.4 +1.7
baz=271,SNR=16
KAIM **Kayak Island** 86.00 30 P P 23 45 02.3 +1.4
baz=271
HMT **Hamilton** 86.07 30 IAMs_20 IAMs_20 00 18 36.0
comp=Z,1µm,21.0s
DOT **Dot Lake** 86.10 27 IAmb IAmb 23 45 36.9
comp=Z,33nm,1.0s
C27K **Jago River** 86.13 21 IAmb IAmb 23 45 15.2
comp=Z,83nm,1.3s
C27K **Jago River** 86.13 21 P P 23 45 03.0 +1.8
baz=271,SNR=20
SCRK **Sand Creek** 86.13 26 P P 23 45 02.3 +0.8
baz=271,SNR=8.4
G26K **Porcupine Rive** 86.15 23 IAmb IAmb 23 45 26.4
comp=Z,71nm,1.4s
G26K **Porcupine Rive** 86.15 23 P P 23 45 03.1 +1.7
baz=271,SNR=16
MOS **Moscow** 86.18 325 *e*P P 23 44 59.5 -2.2
MOS *e* 23 55 22.6
MOS *e*S S 23 55 31.0 -2.4
MOS pmax pmax
comp=Z,330nm,1.4s
MOS pmax pmax
comp=N,106nm,1.1s
MOS pmax pmax
comp=E,90nm,1.0s
MOS pmax pmax
comp=Z,800nm,2.0s
MOS pmax pmax
comp=N,200nm,1.6s
MOS pmax pmax
comp=E,200nm,1.6s
MOS MLR MLR
comp=N,700nm,20.0s
MOS MLR MLR
comp=Z,2µm,20.0s
MOS MLR MLR
comp=E,2µm,19.0s
GLB **Gilahina Butte** 86.27 29 IAMs_20 IAMs_20 00 19 50.9
comp=Z,985nm,22.0s
MENT **Mentasta** 86.27 27 IAMs_20 IAMs_20 00 20 51.9
comp=Z,1µm,22.0s
J26L **Joseph Creek** 86.30 26 P P 23 45 03.1 +0.8
baz=272,SNR=14
BERG **Berg Lake** 86.35 30 P P 23 45 03.9 +1.4
L26K **Log Cabin Wild** 86.44 27 IAMs_20 IAMs_20 00 20 58.3
comp=Z,2µm,22.0s
L26K **Log Cabin Wild** 86.44 27 P P 23 45 03.7 +0.8
baz=272
VRDI **Verde Repeater** 86.45 29 IAmb IAmb 23 45 20.2
comp=Z,46nm,1.0s
I26K **Coal Creek Min** 86.45 25 IAmb IAmb 23 45 15.1
comp=Z,34nm,1.1s
I26K **Coal Creek Min** 86.45 25 P P 23 45 03.2 +0.3
baz=272
M26K **Nabesna, AK** 86.62 28 P P 23 45 04.8 +0.9
baz=272
CRQE **Cirque** 86.64 29 P P 23 45 04.9 +0.8
baz=272,SNR=10.0
MCARA **McCarthy VSAT** 86.65 29 IAmb IAmb 23 45 37.0
comp=Z,40nm,1.0s
MCARA **McCarthy VSAT** 86.65 29 P P 23 45 05.1 +1.1
baz=272,SNR=7.2
ANN **Anapa** 86.67 315 *e*P P 23 45 03.5 -0.9
ANN *e* 23 55 37.7
ANN pmax pmax
comp=Z,168nm,0.8s
ANN pmax pmax
comp=N,51nm,1.0s
ANN pmax pmax
comp=E,35nm,0.7s
ANN MLR MLR
comp=Z,2µm,26.0s
ANN MLR MLR
comp=E,2µm,21.0s
ANN MLR MLR
comp=N,738nm,19.0s
TGL **Tana Glacier** 86.77 29 IAmb IAmb 23 45 25.2
comp=Z,93nm,1.3s
WAX **Waxell Ridge** 86.77 30 IAmb IAmb 23 45 21.0
comp=Z,47nm,0.8s
SNH **Sunshine Point** 86.79 30 IAmb IAmb 23 45 09.2
comp=Z,75nm,1.1s
SNH IAMs_20 IAMs_20 00 18 08.9
comp=Z,1µm,21.0s
OBN **Obninsk** 86.80 325 P P 23 45 03.9 -0.9
OBN **Obninsk** 86.80 325 P P 23 45 05.0 +0.2
comp=Z,75nm,0.6s,baz=13,slow=1.2,SNR=58
OBN LR LR 00 26 03.4
comp=Z,2µm,20.4s,baz=23,slow=37
comp=Z,75nm,0.6s
OBN **Obninsk** 86.80 325 ⇓P P 23 45 05.2 +0.4
OBN **Obninsk** 86.80 325 *c i*P P 23 45 04.6 -0.2
OBN *e* 23 48 28.0
OBN *i* S S 23 55 41.6 +2.2
OBN pmax pmax
comp=Z,377nm,1.6s
OBN MLR MLR
comp=Z,2µm,20.0s
E27K **Coleen River** 86.95 22 IAmb IAmb 23 45 09.2
comp=Z,30nm,1.0s
E27K **Coleen River** 86.95 22 P P 23 45 06.6 +1.3
baz=273,SNR=32
K27K **Chicken** 86.97 26 P P 23 45 07.0 +1.5
baz=273
G27K **Doyon Strip** 87.00 23 P P 23 45 06.9 +1.2
baz=273,SNR=14
ISLE **Juniper Island** 87.02 30 IAmb IAmb 23 45 19.9
comp=Z,49nm,1.0s
LVZ **Lovozero** 87.08 338 P P 23 45 06.2 +0.2
LVZ IAmb IAmb 23 45 10.0
comp=Z,42nm,1.0s
LVZ **Lovozero** 87.08 338 *ce*P P 23 45 06.4 +0.4
LVZ pmax pmax

comp=Z,48nm,1.0s
I27K Kandik River 87.08 25 P P 23 45 07.3 +1.2
baz=273,SNR=41
H27K Steamboat Moun 87.08 24 P P 23 45 07.3 +1.3
baz=273,SNR=18
D27M Malcolm River 87.11 21 P P 23 45 07.3 +1.2
baz=274
L27K Beaver Creek, 87.13 27 P P 23 45 07.4 +1.0
baz=273,SNR=10
M27K Edge Creek, AK 87.14 28 P P 23 45 07.5 +0.9
baz=273
BCAR Beaver Creek A 87.15 27 P P 23 45 06.8 +0.3
GAZ Gaziantep 87.18 307 IAmb IAmb 23 45 08.8
comp=Z,56nm,0.8s
MESA MESA 87.23 30 IAmb IAmb 23 45 24.1
comp=Z,39nm,1.0s
MESA IAMs_20 IAMs_20 00 18 47.7
comp=Z,1µm,22.0s
MESA MESA 87.23 30 P P **23 45 08.7 +1.6**
baz=273
GRNC Granite Creek 87.30 29 IAmb IAmb 23 45 30.6
comp=Z,45nm,1.0s
GRNC IAMs_20 IAMs_20 00 18 18.1
comp=Z,982nm,22.0s
YAH Yahtse 87.32 30 IAmb IAmb 23 45 21.5
comp=Z,57nm,1.2s
YAH IAMs_20 IAMs_20 00 19 39.0
comp=Z,906nm,22.0s
BARN Barnard Glacie 87.32 29 IAmb IAmb 23 45 29.2
comp=Z,61nm,1.2s
FURI Furi 87.42 279 IAMs_20 IAMs_20 00 21 18.0
comp=Z,1µm,22.0s
FURI Furi 87.42 279 LR LR 00 22 03.4
comp=Z,987nm,21.9s,baz=70,slow=34
CTG Chitna Glacier 87.48 29 P P **23 45 09.3 +1.1**
baz=274,SNR=12
CTGM Chitina Glacie 87.49 29 IAmb IAmb 23 45 36.7
comp=Z,56nm,1.1s
APA Apatity 87.57 337 *i* P P **23 45 07.5 -0.8**
APA *i* 23 48 31.0
APA *i* SS SS 00 01 28.8 -3.6
BVCY Beaver Creek 87.61 28 P P **23 45 09.7 +1.0**
baz=274
TABL Table Mountain 87.62 30 P P **23 45 09.2 +0.2**
TABL IAmb IAmb 23 45 27.7
comp=Z,40nm,1.0s
F28M Old Crow 87.64 22 IAmb IAmb 23 45 12.6
comp=Z,29nm,0.8s
F28M Old Crow 87.64 22 P P **23 45 09.6 +0.9**
baz=275,SNR=35
LOGN Logan Glacier 87.66 29 IAmb IAmb 23 45 29.7
comp=Z,35nm,1.2s
E28M Babbage River 87.68 21 IAmb IAmb 23 45 22.4
comp=Z,47nm,1.0s
E28M Babbage River 87.68 21 P P **23 45 09.6 +0.8**
baz=275,SNR=42
ASF Jabal al Asfar 87.70 302 P P **23 45 10.7 +0.8**
comp=Z,54nm0.7s,baz=128,slow=3.7,SNR=136
comp=Z,54nm,0.7s
I28M Miner Creek 87.79 25 P P **23 45 10.3 +0.8**
baz=275,SNR=40
YUK3 Moose Creek 87.85 28 P P **23 45 10.3 +0.2**
baz=274
FKH Fakeheh 87.99 304 *e*P P **23 45 11.7 +0.5**
O28M Mount Upton 88.06 29 IAmb IAmb 23 45 27.8
comp=Z,24nm,1.0s
O28M Mount Upton 88.06 29 P P **23 45 11.9 +0.7**
baz=275,SNR=11
PCA Pinnacle 88.08 30 IAmb IAmb 23 45 29.9
comp=Z,29nm,1.0s
PCA IAMs_20 IAMs_20 00 25 10.2
comp=Z,833nm,19.0s
PINM Pinnacle 88.08 30 P P **23 45 11.9 +0.9**
baz=275
DAWY Dawson 88.14 26 P P **23 45 11.4 +0.3**
baz=275,SNR=7.1
BEIL Beino 88.16 304 *e*P P **23 45 11.9 0.0**
BNN Bunyan 88.16 309 IAmb IAmb 23 45 14.6
comp=Z,57nm,0.9s
BNN IAMs_20 IAMs_20 00 29 17.7
comp=Z,900nm,22.0s
YUK8 Steele Glacier 88.22 29 P P **23 45 12.8 +0.9**
baz=275,SNR=6.6
E29M Blow River 88.30 22 P P **23 45 12.3 +0.6**
baz=276,SNR=15
H29M Whitestone 88.36 24 IAmb IAmb 23 45 47.0
comp=Z,27nm,1.1s
H29M Whitestone 88.36 24 P P **23 45 12.6 +0.4**
baz=276,SNR=7.0
HWQ Hawqa 88.37 304 *e*P P **23 45 13.1 +0.1**
G29M Pine Creek 88.42 23 IAmb IAmb 23 45 48.0
comp=Z,67nm,1.1s
G29M Pine Creek 88.42 23 P P **23 45 13.2 +0.8**
baz=276,SNR=28
ZAHL Zahle 88.45 304 *e*P P **23 45 13.8 +0.4**
RCY Rachaya 88.52 303 *e*P P **23 45 14.3 +0.6**
PNL Peninsula 88.55 30 P P **23 45 14.2 +1.1**
baz=275
SHBL Chebaa 88.60 303 *e*P P **23 45 14.5 +0.3**
J29N Klondike Camp 88.61 26 IAMs_20 IAMs_20 00 24 34.7
comp=Z,925nm,20.0s
J29N Klondike Camp 88.61 26 P P **23 45 14.8 +1.3**
baz=276
BHL Bhannes 88.64 304 *e*P P **23 45 14.4 +0.1**
QRWL Qaraoun 88.64 303 *e*P P **23 45 14.4 +0.1**
DQRL Deir Qamar 88.72 304 *e*P P **23 45 14.8 +0.1**
M29M Somme Creek 88.72 28 P P **23 45 15.2 +1.2**
baz=276,SNR=13
VADS Vadso 88.75 340 *e*P P **23 45 12.9 -0.9**
VADS IAmb IAmb 23 45 16.0
comp=Z,19nm,0.8s
VADS *e*SKsac **SKsac 23 55 40.1 +0.6**
VADS *e*SS **SS 00 01 53.2 +3.9**
YUK4 Talbot Arm 88.75 29 P P **23 45 15.4 +1.1**
baz=276
KIBK Kibwezi 88.80 268 P P **23 45 13.4 -2.0**
KIBK Kibwezi 88.80 268 IAMs_20 IAMs_20 00 20 59.8
comp=Z,1µm,22.0s
KIBK Kibwezi 88.80 268 P P **23 45 16.3 +0.9**
SNR=13
L29M L29M 88.80 27 IAmb IAmb 23 45 27.8
comp=Z,55nm,1.1s
L29M IAMs_20 IAMs_20 00 21 59.8
comp=Z,1µm,21.0s
L29M L29M 88.80 27 P P **23 45 15.7 +1.3**
baz=276,SNR=32
HOPEN Hopen 88.84 347 *e*P P **23 45 15.3 +1.1**
HOPEN IAmb IAmb 23 45 20.3
comp=Z,145nm,1.2s
HOPEN *e*SKsac **SKsac 23 55 41.0 +1.1**
HOPEN IAMs_20 IAMs_20 00 08 25.4
comp=Z,873nm,3.0s
GHAJ Ghor Haditha 88.89 301 IAMs_20 IAMs_20 00 32 09.6
comp=Z,886nm,19.0s
O29M Mount Kennedy 88.90 30 P P **23 45 15.7 +0.8**
O29M IAMs_20 IAMs_20 00 25 56.5
comp=Z,850nm,20.0s
O29M Mount Kennedy 88.90 30 P P **23 45 15.6 +0.7**
baz=276
MMAI Mount Meron Ar 88.91 303 P P **23 45 16.2 +0.7**
comp=Z,9.9nm,0.5s,baz=90,slow=5.8,SNR=39
comp=Z,9.9nm,0.5s
YUK6 Outpost Mounta 88.93 29 P P **23 45 14.7 -0.5**
baz=276
K29M Barlow Dome 88.99 26 P P **23 45 15.8 +0.5**
baz=277,SNR=7.8
EPYK Eagle Plains 89.00 24 IAmb IAmb 23 45 38.3
comp=Z,32nm,1.1s
EPYK Eagle Plains 89.00 24 P P **23 45 15.0 -0.2**
baz=278,SNR=14
SIM Simferopol' 89.01 315 *e*P P **23 45 15.2 -0.4**
SIM *e*S S **23 56 02.8 +1.8**
SIM pmax pmax
comp=Z,59µm,1.0s
SIM smax smax
comp=N,284nm,20.8s
SIM MLR MLR
comp=Z,746nm,22.4s
G30M tAoh Zraii Nji 89.11 23 P P **23 45 15.7 0.0**
baz=278,SNR=8.9
F30M Barrier River 89.19 22 IAmb IAmb 23 45 28.6
comp=Z,38nm,1.1s
F30M Barrier River 89.19 22 P P **23 45 16.2 +0.2**
baz=278,SNR=9.3
I30M Mount Dempster 89.30 25 P P **23 45 17.0 +0.3**
baz=278
HYT Haines Junctio 89.36 29 P P **23 45 18.1 +1.0**
baz=277,SNR=11
P29M Windy Craggy 89.39 30 IAMs_20 IAMs_20 00 20 18.7
comp=Z,856nm,21.0s
P29M Windy Craggy 89.39 30 P P **23 45 18.3 +1.2**
baz=277,SNR=8.0
J30M Hart River 89.41 25 IAMs_20 IAMs_20 00 25 09.8
comp=Z,1µm,22.0s
J30M Hart River 89.41 25 P P **23 45 17.9 +0.7**
baz=278
M30M Minto, Yukon 89.48 27 P P **23 45 18.5 +1.0**
baz=278,SNR=20
N30M Aishikik Lake 89.48 29 P P **23 45 18.7 +1.1**
baz=277,SNR=9.5
KMBO Kilima Mbogo 89.51 269 P P **23 45 19.7 +0.8**
comp=Z,61nm,0.9s,baz=52,slow=6.2,SNR=76
KMBO LR LR 00 22 13.0
comp=Z,768nm,21.8s,baz=100,slow=34
comp=Z,61nm,0.9s
EIL Elat 89.54 300 P P **23 45 18.6 +0.2**
comp=Z,55nm,0.9s,baz=27,slow=2.3,SNR=50
EIL LR LR 00 30 11.0
comp=Z,782nm,21.1s,baz=45,slow=39
comp=Z,55nm,0.9s
KEV Kevo 89.61 340 P P **23 45 18.5 +0.6**
KEV IAMs_20 IAMs_20 00 28 37.8
comp=Z,2µm,22.0s
KEV Kevo 89.61 340 P P **23 45 18.5 +0.6**
KEV pmax pmax
comp=Z,24nm,1.0s
KEV MLR MLR
comp=Z,2µm,22.0s
ILGA Ilgaz 89.63 311 IAmb IAmb 23 45 21.7
comp=Z,60nm,0.9s
KIRS Kirsehir-Merke 89.64 309 ⇓P P **23 45 18.6 -0.2**
P30M Million Dollar 89.72 30 P P **23 45 19.8 +1.1**
baz=278
MAYO Mayo, Yukon 89.74 26 P P **23 45 19.8 +1.1**
baz=278
BR131 Keskin Array S 89.80 310 P P **23 45 19.0 -0.7**
SNR=21
BR131 Keskin Array S 89.80 310 *ce*P P **23 45 18.6 -1.1**
BRTR Keskin Array B 89.80 310 P P **23 45 18.3 -1.4**
BRTR Keskin Array B 89.80 310 P P **23 45 19.2 -0.5**
comp=Z,45nm,0.8s,baz=121,slow=4.0,SNR=120
comp=Z,45nm,0.8s
BRTR Keskin Array B 89.80 310 *i* P P **23 45 18.7 -1.0**
BRTR pmax pmax
comp=Z,46nm,0.8s
G31M Satah River 89.88 23 IAmb IAmb 23 45 31.3
comp=Z,40nm,1.2s
G31M Satah River 89.88 23 P P **23 45 19.2 0.0**
baz=280,SNR=9.4
INK Inuvik 89.92 21 IAmb IAmb 23 45 31.6
comp=Z,38nm,1.2s
INK Inuvik 89.92 21 LR LR 00 24 58.1
comp=Z,360nm,21.9s,baz=280,slow=35
INK Inuvik 89.92 21 P P **23 45 19.4 +0.1**
baz=281,SNR=10
F31M Tsiigehtchic 89.99 22 IAmb IAmb 23 45 31.8
comp=Z,37nm,1.2s
F31M Tsiigehtchic 89.99 22 P P **23 45 19.8 +0.1**
baz=280
H31M Peel River 90.05 24 P P **23 45 20.2 +0.2**
baz=280
O30N Mendenhall 90.06 29 P P **23 45 21.3 +1.0**
baz=278
N31M Braeburn, Yuko 90.10 28 P P **23 45 21.5 +1.0**
baz=278,SNR=10
PLBC Pleasant Camp 90.11 30 P P **23 45 21.2 +0.8**
baz=278
ARA0 ARCESS Array S 90.17 340 *e*P P **23 45 20.0 -0.6**
ARA0 IAmb IAmb 23 45 36.6
comp=Z,25nm,0.9s
ARA0 *e*SKsac **SKsac 23 55 49.8 +1.8**
ARA0 *e*SS **SS 00 02 11.5 +1.6**
ARA0 IAMs_20 IAMs_20 00 09 52.5
comp=Z,359nm,6.2s
ARCES ARCESS Array B 90.17 340 P P **23 45 18.9 -1.6**
ARCES IAmb IAmb 23 45 22.8
comp=Z,45nm,0.9s
ARCES ARCESS Array B 90.17 340 P P **23 45 19.9 -0.7**
comp=Z,30nm,0.8s,baz=79,slow=6.3,SNR=51
ARCES PKiKP **PKiKP 23 50 16.5 +0.6**
comp=Z,0.8nm,0.5s,baz=64,slow=2.8,SNR=3.9
ARCES LR LR 00 29 04.1
comp=Z,2µm,21.6s,baz=87,slow=38
comp=Z,30nm,0.8s
ARCES ARCESS Array B 90.17 340 P P **23 45 18.9 -1.6**
ARCES pmax pmax
comp=Z,45nm,0.9s
SPB2 Spitsbergen Ar 90.19 349 IAmb IAmb 23 45 27.9
comp=Z,67nm,1.0s
SPA0 Spitsbergen Ar 90.19 349 *e*P P **23 45 20.1 -0.4**
SPA0 IAmb IAmb 23 45 23.2
comp=Z,94nm,1.2s
SPA0 *e*SKsac **SKsac 23 55 50.5 +2.6**
SPITS Spitsbergen Ar 90.19 349 P P **23 45 20.6 +0.1**
comp=Z,32nm,0.9s,baz=91,slow=9.4,SNR=16
SPITS LR LR 00 31 10.4
comp=Z,2µm,20.1s,baz=64,slow=39
comp=Z,32nm,0.9s
SPITS Spitsbergen Ar 90.19 349 P P **23 45 19.5 -1.0**
SPITS pmax pmax
comp=Z,86nm,1.2s
S31K Pelican 90.39 32 P P **23 45 22.2 +0.5**
baz=278
ANTO Ankara 90.44 310 P P **23 45 21.5 -1.0**
ANTO IAmb IAmb 23 45 24.4
comp=Z,30nm,0.8s
ANTO Ankara 90.44 310 P P **23 45 22.1 -0.4**
ANTO P P **23 45 22.1 -0.4**
ANTO Ankara 90.44 310 ⇓P P **23 45 22.3 -0.2**
ANTO Ankara 90.44 310 P P **23 45 21.5 -1.0**
ANTO pmax pmax
comp=Z,30nm,0.9s
HAMF Hammerfest 90.53 341 *e*P P **23 45 21.8 -0.4**
HAMF IAmb IAmb 23 45 23.7
comp=Z,37nm,0.8s
HAMF *e*SKsac **SKsac 23 55 52.3 +2.3**
HAMF IAMs_20 IAMs_20 00 08 35.6
comp=Z,255nm,16.1s
R31K City Hall, Gus 90.58 31 P P **23 45 23.6 +1.0**
baz=279
SKAG Skagway 90.63 30 IAMs_20 IAMs_20 00 20 54.4
comp=Z,1µm,22.0s
SKAG Skagway 90.63 30 P P **23 45 23.9 +1.0**
baz=279
M31M Drury Creek, Y 90.64 28 P P **23 45 23.4 +0.5**
baz=280
WHY Whitehorse 90.66 29 IAmb IAmb 23 45 46.8
comp=Z,50nm,1.2s
WHY Whitehorse 90.66 29 P P **23 45 24.1 +0.9**
baz=279,SNR=8.1
KBS Kingsbay 90.72 350 *e*P P **23 45 23.2 +0.3**
SIT Sitka 91.01 33 IAMs_20 IAMs_20 00 21 50.5
comp=Z,918nm,21.0s
SIT Sitka 91.01 33 P P **23 45 25.5 +0.9**
baz=279
BESE Bessie Mountai 91.01 31 IAmb IAmb 23 45 46.7
comp=Z,41nm,1.6s
KTK1 Kautokeino 91.07 339 *e*P P **23 45 24.0 -0.7**
KTK1 IAmb IAmb 23 45 26.3
comp=Z,23nm,0.9s
KTK1 *e*SKsac **SKsac 23 55 54.5 +1.3**
KTK1 IAMs_20 IAMs_20 00 08 19.2
comp=Z,290nm,16.4s
LODK Lodwar 91.08 273 P P **23 45 26.1 +0.1**
SNR=5.4
R32K Eaglecrest 91.24 31 P P **23 45 26.7 +0.9**
baz=280,SNR=5.9
P32M Atlin 91.42 30 IAMs_20 IAMs_20 00 21 42.2
comp=Z,1µm,22.0s
P32M Atlin 91.42 30 P P **23 45 27.6 +1.0**
baz=280
N32M Quiet Lake 91.44 29 IAmb IAmb 23 45 39.1
comp=Z,41nm,0.9s
N32M Quiet Lake 91.44 29 P P **23 45 27.6 +1.0**
baz=281
FINES FINESS Array B 91.56 332 P P **23 45 26.3 -0.8**
FINES FINESS Array B 91.56 332 P P **23 45 27.1 0.0**
comp=Z,41nm,0.8s,baz=81,slow=4.7,SNR=104
FINES PKiKP **PKiKP 23 50 18.4 0.0**
comp=Z,2.4nm,0.7s,baz=221,slow=1.3,SNR=3.5
FINES LR LR 00 30 41.0
comp=Z,2µm,19.9s,baz=76,slow=38
comp=Z,41nm,0.8s
MDUB Mudurnu 91.59 311 IAmb IAmb 23 45 38.4
comp=Z,39nm,0.8s
AKASG Malin Array Be 91.64 321 P P **23 45 26.4 -1.3**
AKASG Malin Array Be 91.64 321 P P **23 45 26.9 -0.8**
comp=Z,46nm,0.8s,baz=70,slow=4.6,SNR=125
AKASG LR LR 00 29 14.6
comp=Z,1µm,21.0s,baz=78,slow=37
comp=Z,46nm,0.8s
AKASG Malin Array Be 91.64 321 P P **23 45 26.4 -1.3**
AKASG pmax pmax
comp=Z,75nm,0.8s
AKBB Malin Array Si 91.64 321 IAMs_20 IAMs_20 00 28 52.8
comp=Z,1µm,20.0s
AKBB Malin Array Si 91.64 321 *c i* P P **23 45 26.9 -0.8**
AKBB pmax pmax
comp=Z,74nm,0.9s
KIEV Kiev 91.65 321 P P **23 45 26.4 -1.4**
KIEV Kiev 91.65 321 IAMs_20 IAMs_20 00 28 52.8
comp=Z,1µm,20.0s
KIEV Kiev 91.65 321 ⇑P P **23 45 27.0 -0.7**
KIEV Kiev 91.65 321 *i* P P **23 45 26.8 -1.0**
SNR=29
KIEV Kiev 91.65 321 P P **23 45 26.4 -1.4**
KIEV pmax pmax
comp=Z,54nm,0.9s
KIEV MLR MLR
comp=Z,1µm,20.0s
A36M Sachs Harbour 91.73 17 P P **23 45 28.5 +0.8**
baz=288
P33M Teslin, Yukon 91.75 29 IAMs_20 IAMs_20 00 21 25.0
comp=Z,1µm,22.0s
P33M Teslin, Yukon 91.75 29 P P **23 45 29.0 +0.8**
baz=281
PURM Purcari 91.80 317 ⇓P P **23 45 28.7 +0.1**
SAHE Sakarya_HENDEK 91.81 311 ⇑P P **23 45 27.1 -1.6**
MNK Minsk 91.86 325 *i* P P **23 45 28.2 -0.5**
MNK *i* 23 49 09.4
MNK *i* PPP PPP 23 51 04.9
MNK *i* S **SKSac 23 55 58.0 -0.2**
MNK pmax pmax
comp=Z,216nm,0.8s
MNK pmax pmax
comp=E,44nm,0.9s
MNK pmax pmax
comp=N,71nm,0.8s
MNK MLR MLR
comp=N,1µm,19.0s
MNK MLR MLR
comp=Z,2µm,18.0s
MNK MLR MLR
comp=E,721nm,18.0s
JETT Jettan, Norway 91.90 340 *e*P P **23 45 28.2 -0.4**
MMPY Sheldon Lake, 91.99 27 IAmb IAmb 23 45 42.4
comp=Z,25nm,1.1s
MMPY IAMs_20 IAMs_20 00 25 59.0
comp=Z,923nm,21.0s
MMPY Sheldon Lake, 91.99 27 P P **23 45 30.4 +1.2**
baz=283,SNR=19
Q32M Nakina River 92.27 31 IAmb IAmb 23 45 36.8
comp=Z,44nm,1.9s
Q32M Nakina River 92.27 31 P P **23 45 31.9 +1.2**
baz=282
U33K Whale Pass 92.37 33 IAmb IAmb 23 45 34.8
comp=Z,25nm,1.1s
U33K Whale Pass 92.37 33 P P **23 45 32.2 +1.2**
baz=281
TRO Tromso 92.37 341 *e*P P **23 45 29.9 -0.8**
KIS Kishinev 92.45 317 ⇑P P **23 45 31.2 -0.3**
KIS Kishinev 92.45 317 ⇑ *i* P P **23 45 30.0 -1.6**
comp=Z,60nm,1.3s
KIS LRM MLR 00 32 29.0
comp=Z,500nm,21.0s
KIS Kishinev 92.45 317 *c i* P P **23 45 30.0 -1.6**
KIS pmax pmax
comp=Z,270nm,1.3s
MILM Milestii Mici 92.46 317 ⇑P P **23 45 30.0 -1.6**
MILM Milestii Mici 92.46 317 ⇑ *i* P P **23 45 30.0 -1.6**
comp=Z,110nm,1.0s
MILM *e*L L 00 24 15.0
MILM LRM MLR 00 32 32.0
comp=Z,2µm,19.5s
MILM Milestii Mici 92.46 317 P P **23 45 30.0 -1.6**
CRAG Craig 92.49 34 P P **23 45 31.9 +0.4**
baz=281
SORM Soroca 92.59 318 ⇑P P **23 45 31.3 -0.9**
SORM Soroca 92.59 318 P P **23 45 31.3 -0.9**
SYO Syowa Base 92.67 201 ⇑ *i* P P **23 45 33.1 +1.1**
SYO Syowa Base 92.67 201 ⇑ *e* PcP **PcP 23 45 35.0 +2.3**
SYO Syowa Base 92.67 201 ⇑ *i* sP sP 23 45 46.0 -2.9
TLCR 92.72 315 ⇑P P **23 45 33.1 +0.3**
TLCR 92.72 315 P P **23 45 33.1 +0.3**
WRAK Wrangell Islan 92.73 33 IAmb IAmb 23 45 36.2
comp=Z,32nm,0.9s
WRAK Wrangell Islan 92.73 33 P P **23 45 33.9 +1.2**
baz=281,SNR=13
R33M Jennings River 92.83 30 P P **23 45 34.8 +1.5**
baz=283,SNR=11
C36M Paulatuk 92.96 20 P P **23 45 34.1 +0.6**
baz=289
TPGR Topolog 93.04 315 ⇑P P **23 45 34.8 +0.4**
S34M Telegraph Cree 93.07 32 IAMs_20 IAMs_20 00 21 06.0
comp=Z,1µm,22.0s
S34M Telegraph Cree 93.07 32 P P **23 45 35.7 +1.5**
baz=282,SNR=7.4
TIRR Tirgusor 93.11 315 IAMs_20 IAMs_20 00 31 19.1
comp=Z,1µm,22.0s
TIRR Tirgusor 93.11 315 ⇑P P **23 45 34.9 +0.2**
TIRR Tirgusor 93.11 315 P P **23 45 34.8 +0.2**
VLDR Vladesti 93.13 316 ⇓P P **23 45 35.3 +0.5**
TATR Tatarca 93.19 316 ⇑P P **23 45 34.8 -0.2**
CFR Carcaliu 93.19 316 ⇓P P **23 45 35.0 0.0**
CFR Carcaliu 93.19 316 P P **23 45 35.0 0.0**
VASR Vaslui 93.20 317 ⇓P P **23 45 35.4 +0.3**
SCTR Scanteiesti 93.21 316 ⇓P P **23 45 35.7 +0.6**
IASR Iasi 93.26 318 ⇓P P **23 45 35.2 -0.1**
VARL Varlezi 93.28 316 ⇑P P **23 45 36.2 +0.8**
H02S2 DAWSON INLET T 93.29 36 T T 01 29 44.1
SNR=18
TLBR Topalu 93.35 315 ⇑P P **23 45 36.1 +0.3**
V35K Ketchikan 93.36 34 P P **23 45 36.4 +0.8**
baz=282
IZVR Izvoarele 93.39 316 ⇑P P **23 45 36.8 +0.9**
HARR Harsova 93.41 315 ⇑P P **23 45 36.5 +0.4**
HARR Harsova 93.41 315 P P **23 45 36.4 +0.4**
TUDR 93.45 316 ⇓P P **23 45 36.8 +0.6**
DLBC Dease Lake 93.53 31 PKKPbc PKKPbc 00 02 42.2 -2.3
comp=Z,4.1nm,0.4s,baz=245,slow=6.3,SNR=3.7
DLBC LR LR 00 23 29.9
comp=Z,11µm,21.9s,baz=262,slow=33
DLBC Dease Lake 93.53 31 P P **23 45 37.5 +1.1**
baz=283,SNR=14
GHRR 93.56 316 ⇓P P **23 45 37.6 +0.9**
ICOR Ion Corvin 93.59 315 ⇑P P **23 45 35.5 -1.4**
TGTN Hyland Airport 93.62 28 P P **23 45 37.9 +1.2**
baz=285,SNR=6.5
COSR Cosmesti PH 93.66 316 ⇓P P **23 45 36.2 -1.0**
WTLY Watson Lake, Y 93.73 29 IAmb IAmb 23 45 50.7
comp=Z,52nm,1.1s
WTLY Watson Lake, Y 93.73 29 P P **23 45 38.4 +1.1**
baz=285,SNR=17
TAOE Nuku Hiva Isla 93.74 99 *e*P P **23 45 35.9 -2.4**
comp=Z,224nm,24.4s
TAOE Nuku Hiva Isla 93.74 99 *e*S S **23 56 39.9 -5.3**
comp=Z,745nm,30.9s
TAOE *e*SS **SS 00 03 09.7 +5.3**
comp=Z,459nm,36.3s
TAOE *e*LQ LQ 00 11 39.2
comp=Z,6µm,36.4s
TAOE *e*LR LR 00 15 48.2
comp=Z,2µm,22.6s
T35M Bob Quinn 93.75 32 IAMs_20 IAMs_20 00 23 14.8
comp=Z,872nm,21.0s
T35M Bob Quinn 93.75 32 P P **23 45 38.7 +1.3**
baz=283,SNR=9.1
PANC Panciu 93.77 316 ⇑P P **23 45 38.5 +0.8**
AMRR Amara 93.84 315 ⇑P P **23 45 39.1 +1.1**
AMRR Amara 93.84 315 P P **23 45 39.1 +1.1**
ODBI Odobesti 93.85 316 ⇓P P **23 45 39.6 +1.5**
MANT Manisa 93.87 309 IAmb IAmb 23 45 40.3
comp=Z,32nm,0.9s
MANT IAMs_20 IAMs_20 00 33 56.8
comp=Z,951nm,22.0s
QSPA South Pole Qui 93.92 180 P P **23 45 39.7 +1.7**
QSPA South Pole Qui 93.92 180 IAMs_20 IAMs_20 00 32 17.1
comp=Z,1µm,20.0s
QSPA South Pole Qui 93.92 180 P P **23 45 38.7 +0.7**
comp=Z,34nm,1.0s,baz=328,slow=2.1,SNR=34

QSPA PKKPbc **PKKPdf** **00 02 42.9 -0.1**
comp=Z,5.1nm,0.9s,baz=277,slow=0.9,SNR=11
QSPA LR LR 00 29 20.8
comp=Z,535nm,20.4s,baz=348,slow=36
comp=Z,34nm,1.0s
GRER **93.97 316** ⇑P **P** **23 45 39.9 +1.3**
TESR Tescani **94.00 317** ⇓P **P** **23 45 38.8 0.0**
VRI Vrincioaia **94.06 316** ⇓P **P** **23 45 39.8 +0.8**
VRI Vrincioaia **94.06 316** P **P** **23 45 39.8 +0.8**
PLOR Plostina **94.11 316** ⇑P **P** **23 45 39.4 +0.1**
PLOR Plostina **94.11 316** P **P** **23 45 39.4 +0.1**
BISRR Bisoca **94.12 316** ⇓P **P** **23 45 40.3 +0.8**
PRAR RASCA **94.13 318** ⇑P **P** **23 45 39.3 0.0**
ONER Baraj Valea Uz **94.20 317** ⇑P **P** **23 45 40.1 +0.4**
STEI Steigen **94.21 339** *eP* **P** **23 45 38.0 -1.1**
ISR Istrita **94.31 316** ⇑P **P** **23 45 40.5 +0.2**
ISR Istrita **94.31 316** P **P** **23 45 40.5 +0.2**
FAUS Fauske **94.39 339** *eP* **P** **23 45 39.3 -0.7**
FAUS IAmb IAmb 23 45 41.3
comp=Z,35nm,1.0s
FAUS *e*SKSac **SKSac** **23 56 13.6 +2.0**
FAUS IAMs_20 IAMs_20 00 09 48.3
comp=Z,558nm,5.5s
COVR Voineasa-Covas **94.42 316** ⇓P **P** **23 45 40.7 0.0**
NEHR Nehoiu **94.43 316** ⇑P **P** **23 45 41.1 +0.3**
TURR Turia **94.51 317** ⇓P **P** **23 45 41.9 +0.7**
LOZB Loznitsa **94.58 314** ⇓P **P** **23 45 41.3 -0.2**
SULR **94.59 315** ⇑P **P** **23 45 42.0 +0.5**
RAZG Razgrad **94.61 314** ⇓P **P** **23 45 40.5 -1.1**
MLR Muntele Rosu **94.66 316** P **P** **23 45 41.6 -0.3**
comp=Z,85nm,0.9s,baz=19,slow=2.3,SNR=99
MLR LR LR 00 34 40.2
comp=Z,2µm,20.5s,baz=66,slow=40
MLR Muntele Rosu **94.66 316** ⇑P **P** **23 45 41.9 -0.1**
MLR Muntele Rosu **94.66 316** P **P** **23 45 42.7 +0.7**
SUW Suwalki **94.66 325** *eP* **P** **23 45 41.1 -0.4**
BOSR Bodos **94.75 317** ⇓P **P** **23 45 42.8 +0.5**
BURAR Bucovina Array **94.76 318** P **P** **23 45 41.9 -0.5**
BURAR Bucovina Array **94.76 318** ⇓P **P** **23 45 43.0 +0.6**
BURAR Bucovina Array **94.76 318** ⇑P **P** **23 45 42.9 +0.6**
SGRR Singureni **94.87 315** ⇓P **P** **23 45 43.5 +0.7**
DOPR Dopca **94.96 317** ⇑P **P** **23 45 43.0 -0.2**
MOR8 Moi Rana **95.16 338** *eP* **P** **23 45 42.2 -1.4**
MOR8 IAmb IAmb 23 45 43.5
comp=Z,14nm,0.8s
MOR8 *e*SKSac **SKSac** **23 56 15.8 -0.1**
MOR8 IAMs_20 IAMs_20 00 10 12.5
comp=Z,505nm,5.3s
ELND Elena **95.17 314** ⇓P **P** **23 45 44.1 -0.1**
LIRD Liard River Hi **95.24 29** P **P** **23 45 45.2 +1.1**
baz=287
WRGLY Wrigley **95.25 25** P **P** **23 45 44.9 +0.9**
baz=290
EZN Ezine **95.38 310** ⇑P **P** **23 45 45.0 -0.2**
EZN Ezine **95.38 310** P **P** **23 45 44.9 -0.2**
COPA Copaceanca **95.42 315** ⇓P **P** **23 45 45.2 -0.1**
TGMR Targu Mures **95.44 317** ⇓P **P** **23 45 46.6 +1.3**
ARCR ARCALIA **95.44 318** ⇑P **P** **23 45 46.0 +0.7**
HUMR Humele **95.51 315** ⇓P **P** **23 45 45.5 -0.3**
ARR Arges **95.59 316** ⇓P **P** **23 45 46.4 +0.2**
LEIR Leirfjorden **95.68 338** *eP* **P** **23 45 45.3 -0.7**
LEIR IAmb IAmb 23 45 47.1
comp=Z,24nm,0.9s
LEIR *e*SKSac **SKSac** **23 56 18.2 -0.3**
RDO Rodhopi **95.74 312** IAmb IAmb 23 45 48.0
comp=Z,27nm,1.0s
TNR Turnu Rosu **95.78 316** ⇑P **P** **23 45 47.5 +0.5**
TNR Turnu Rosu **95.78 316** P **P** **23 45 47.5 +0.5**
TOAD Toad River Com **95.83 30** P **P** **23 45 47.7 +0.9**
baz=288
BMR Baia Mare **95.88 319** ⇓P **P** **23 45 48.1 +0.8**
BMR Baia Mare **95.88 319** P **P** **23 45 48.1 +0.8**
KWP Kalwaria Pacla **95.96 321** *eP* **P** **23 45 47.6 0.0**
MBAR Mbarara **95.97 270** P **P** **23 45 47.2 -1.5**
MBAR IAMs_20 IAMs_20 00 25 28.7
comp=Z,987nm,22.0s
MBAR Mbarara **95.97 270** P **P** **23 45 47.2 -1.5**
MBAR pmax pmax
comp=Z,10.0nm,0.9s
PLVB Pleven **95.99 314** ⇓P **P** **23 45 47.9 0.0**
KOTAN Kotaneelee Air **96.00 28** P **P** **23 45 48.8 +1.2**
baz=289
CJR Cluj-Napoca **96.02 318** ⇑P **P** **23 45 48.7 +0.6**
CJR Cluj-Napoca **96.02 318** P **P** **23 45 48.6 +0.6**
VLAD Vladila **96.02 315** ⇓P **P** **23 45 48.3 +0.3**
CBBR Cluj-Babes-Bol **96.04 318** ⇓P **P** **23 45 49.0 +0.9**
BBB Bella Bella **96.10 37** LR LR 00 22 57.1
comp=Z,354nm,21.8s,baz=276,slow=32
LOT Lotru **96.17 316** ⇓P **P** **23 45 49.1 +0.3**
R9F13 Warsaw-Wawer **96.29 323** *eP* **P** **23 45 49.4 +0.4**
MARR Marisel-Cluj **96.35 318** ⇑P **P** **23 45 49.9 +0.3**
KOLS Kolonicke sedl **96.40 320** *eP* **P** **23 45 50.0 +0.3**
KOLS pmax pmax
comp=Z,36nm,0.7s
DRGR **96.60 318** ⇑P **P** **23 45 50.9 +0.1**
DRGR **96.60 318** P **P** **23 45 50.8 +0.1**
BEL Belsk **96.60 323** *eP* **P** **23 45 50.9 +0.4**
DEV Deva **96.67 317** ⇓P **P** **23 45 51.7 +0.8**
DEV Deva **96.67 317** P **P** **23 45 51.7 +0.8**
SRE Strehaia **96.73 316** ⇑P **P** **23 45 52.1 +0.9**
SRE Strehaia **96.73 316** P **P** **23 45 52.1 +0.9**
NSS Namsos **96.76 337** *eP* **P** **23 45 50.1 -0.8**
GZR Gura Zlata **96.87 316** ⇓P **P** **23 45 52.1 +0.2**
GZR Gura Zlata **96.87 316** P **P** **23 45 52.1 +0.2**
STHS Stebnicka Huta **96.94 321** *eP* **P** **23 45 51.7 -0.4**
STHS pmax pmax
comp=Z,35nm,0.6s
BORR Bors **97.15 318** ⇓P Pdif 23 45 53.2 0.0
DJES Djerdap **97.20 316** ⇑P **P** **23 45 53.2 -0.2**
HERR Herculane **97.23 316** ⇓P Pdif 23 45 53.7 +0.1
SURR Surduc **97.23 317** ⇑P **P** **23 45 53.4 -0.1**
IDI Anoyia **97.28 306** IAmb IAmb 23 45 57.3
comp=Z,30nm,0.9s
IDI Anoyia **97.28 306** P **P** **23 45 53.5 -0.6**
comp=Z,26nm,0.8s,baz=57,slow=7.2,SNR=9.4
IDI LR LR 00 36 17.2
comp=Z,212nm,21.9s,baz=82,slow=40
comp=Z,26nm,0.8s
SIRR Siria **97.43 317** ⇑P Pdif 23 45 54.6 +0.1
NIE Niedzica **97.53 321** *eP* Pdif 23 45 55.2 +0.3
RES Resolute Bay **97.54 10** LR LR 00 38 49.0
comp=Z,288nm,18.1s,baz=316,slow=41
BZS Buzias **97.61 317** ⇑P **P** **23 45 54.9 -0.4**
BZS Buzias **97.61 317** P **P** **23 45 54.8 -0.4**
OJC Ojcow **97.63 322** *eP* Pdif 23 45 55.2 0.0
KECS Kecovo **97.66 320** *eP* Pdif 23 45 55.9 +0.5
KECS pmax pmax
comp=Z,76nm,0.8s
MDVR Moldovita **97.74 316** ⇑P **P** **23 45 55.9 0.0**
HFS Hagfors **97.75 332** P **P** **23 45 54.7 -0.7**
comp=Z,10nm,0.5s,baz=97,slow=4.8,SNR=22
HFS LR LR 00 34 23.1
comp=Z,2µm,19.7s,baz=66,slow=38
comp=Z,10nm,0.5s
TIM Timisoara **97.85 317** ⇓P Pdif 23 45 57.0 +0.7
TIM Timisoara **97.85 317** P Pdif 23 45 56.9 +0.6
VAY Valandovo **97.90 312** ⇑P **P** **23 45 55.2 -1.4**
BANR Banloc **98.00 317** ⇓P Pdif 23 45 57.7 +0.8
BOVS Bovan **98.01 315** ⇓P **P** **23 45 56.9 -0.2**
BSZH Besenyszg **98.10 319** ⇓P Pdif 23 45 58.1 +0.8
LANS Liptovska Anna **98.13 321** *eP* Pdif 23 45 58.5 +1.0
LANS pmax pmax
comp=Z,15nm,0.7s
PSZ Piszkesteto **98.18 319** IAmb IAmb 23 45 58.9
comp=Z,34nm,1.0s
PSZ Piszkesteto **98.18 319** ⇓P Pdif 23 45 58.2 +0.3
PSZ Piszkesteto **98.18 319** P Pdif 23 45 58.1 +0.2
LIT Litokhoron **98.22 311** IAmb IAmb 23 45 57.4
comp=Z,34nm,0.9s
GKP Gorka Klasztor **98.27 325** *eP* **P** **23 45 57.8 -0.2**
NC303 NORSAR Array S **98.37 334** IAmb IAmb 23 46 03.3
comp=Z,18nm,0.8s
NC602 NORSAR Array S **98.49 333** *eP* **P** **23 45 57.2 -1.6**
NB2 NORSAR Subarra **98.51 334** P **P** **23 45 57.7 -1.3**
comp=Z,10nm,0.8s,baz=67,slow=4.6
NB2 NORSAR Subarra **98.51 334** P **P** **23 45 57.7 -1.3**
comp=Z,10nm,0.8s,baz=67,slow=4.6
NOA NORSAR Array B **98.51 334** P **P** **23 45 58.3 -0.6**
comp=Z,6.6nm,0.7s,baz=67,slow=4.6,SNR=39
NOA PKKPbc **PKKPbc** **00 02 30.2 -0.8**
comp=Z,1.4nm,0.9s,baz=125,slow=20,SNR=4.1
NOA LR LR 00 36 13.3
comp=Z,2µm,19.0s,baz=70,slow=39
comp=Z,6.6nm,0.7s
SKO Skopje **98.58 313** *i* P **P** **23 45 59.0 -0.7**
NC204 NORSAR Array S **98.61 334** IAmb IAmb 23 46 01.0
comp=Z,19nm,0.8s
NAO01 NORSAR Array S **98.74 334** IAmb IAmb 23 46 01.2
comp=Z,20nm,0.9s
OKC Ostrava-Krasne **98.76 322** ⇓*i* P Pdif 23 46 00.9 +0.6
OKC MLR MLR
comp=Z,800nm,20.0s
OKC Ostrava-Krasne **98.76 322** ⇓*i* PDIFF Pdif 23 46 00.9 +0.6
OKC AMS AMS 00 32 30.0
comp=Z,800nm,20.0s
FNA Florina **98.90 312** IAmb IAmb 23 46 02.0
comp=Z,15nm,0.8s
FNA IAMs_20 IAMs_20 00 38 08.5
comp=Z,1µm,22.0s
BSD Bornholm Skovb **98.95 327** *i* P Pdif 23 46 00.9 0.0
BSD IAmb IAmb 23 46 02.9
comp=Z,58nm,1.0s
STEB Steborice **98.96 322** ⇓*i* PDIFF Pdif 23 46 01.8 +0.6
DOMB Dombas **99.01 335** *eP* **Pdif** **23 46 00.6 -0.6**
DEL Delary **99.02 329** *i* P **Pdif** **23 46 01.1 -0.2**
MATP Matopo **99.05 250** LR LR 00 28 58.7
comp=Z,904nm,18.9s,baz=76,slow=34
TULEG Thule **99.07 4** IAMs_20 IAMs_20 00 32 52.2
comp=Z,903nm,20.0s
MAUC Maruska **99.10 321** ⇓*i* PDIFF **Pdif** **23 46 03.0 +1.2**
MORC Moravsky Berou **99.15 322** IAmb IAmb 23 46 03.7
comp=Z,27nm,0.9s
MORC IAMs_20 IAMs_20 00 32 56.5
comp=Z,976nm,21.0s
MORC Moravsky Berou **99.15 322** *eP* **Pdif** **23 46 02.4 +0.3**
MORC Moravsky Berou **99.15 322** ⇑P **Pdif** **23 46 02.7 +0.6**
MORC Moravsky Berou **99.15 322** P **Pdif** **23 46 02.7 +0.6**
OSL Oslo **99.19 333** *eP* **Pdif** **23 46 01.2 -0.7**
LSZ Lusaka **99.23 255** P **Pdif** **23 46 02.2 -0.9**
LSZ IAmb IAmb 23 46 03.8
comp=Z,26nm,0.9s
LSZ Lusaka **99.23 255** LR LR 00 27 34.8
comp=Z,1µm,21.8s,baz=108,slow=34
LSZ Lusaka **99.23 255** P **Pdif** **23 46 02.8 -0.4**
LSZ P **Pdif** **23 46 02.8 -0.4**
LSZ Lusaka **99.23 255** P **Pdif** **23 46 02.3 -0.9**
LSZ pmax pmax
comp=Z,26nm,0.9s
RKT Rikitea **99.23 113** *e*S S 23 57 21.7 -10
comp=Z,3µm,34.8s
RKT Rikitea **99.23 113** *e*LQ LQ 00 14 07.4
comp=Z,3µm,34.0s
RKT *e*LR LR 00 18 20.1
SRO Srobarova **99.24 320** *eP* **Pdif** **23 46 02.6 +0.2**
SRO pmax pmax
comp=Z,29nm,0.8s
OHR Ohrid **99.25 313** ⇑*i* P **Pdif** **23 46 01.4 -1.3**
YKA Yellowknife Ar **99.26 24** P **Pdif** **23 46 02.6 +0.4**
comp=Z,2.8nm,0.9s,baz=308,slow=4.7,SNR=5.2
YKA LR LR 00 31 21.8
comp=Z,403nm,20.6s,baz=292,slow=36
comp=Z,2.8nm,0.9s
YKA Yellowknife Ar **99.26 24** *i* P **Pdif** **23 46 02.0 -0.2**
YKA pmax pmax
comp=Z,4.0nm,0.9s
ITM Ithomi **99.27 309** IAmb IAmb 23 46 08.6
comp=Z,20nm,0.8s
JAVC Velka Javorina **99.34 321** *eP* **Pdif** **23 46 04.3 +1.3**
STRU Stroemstad **99.35 332** *i* P **Pdif** **23 46 01.8 -0.9**
MOL Molde **99.40 336** *eP* **Pdif** **23 46 02.1 -0.7**
MORH Mrgy, Hungar **99.47 318** ⇑*i* P **Pdif** **23 46 03.0 -0.5**
MORH Mrgy, Hungar **99.47 318** ⇑P **Pdif** **23 46 03.4 -0.1**
IVA Berane **99.48 314** *eP* **Pdif** **23 46 03.5 -0.3**
KRLC Kraliky **99.53 322** ⇓*i* PDIFF **Pdif** **23 46 04.4 +0.6**
KRLC AMS AMS 00 33 00.0
comp=Z,1µm,21.0s
LUNU Lund **99.55 328** *i* P **Pdif** **23 46 03.8 +0.2**
JMIC Jan Mayen **99.57 346** LR LR 00 37 06.0
comp=Z,874nm,20.1s,baz=44,slow=39
KSP Ksiaz **99.59 323** *eP* **Pdif** **23 46 03.9 -0.1**
BJUU Bjuv **99.61 329** *i* P **Pdif** **23 46 04.0 +0.2**
ONAU Onsala **99.66 330** *i* P **Pdif** **23 46 03.1 -0.9**
RUDO Rudo **99.66 315** *eP* **Pdif** **23 46 02.4 -2.0**
OSTC Ostas **99.72 323** ⇓*i* P **Pdif** **23 46 05.5 +0.9**
OSTC MLR MLR
comp=Z,2µm,19.2s
OSTC Ostas **99.72 323** ⇓*i* PDIFF **Pdif** **23 46 05.5 +0.9**
OSTC AMS AMS 00 33 50.0
comp=Z,2µm,19.2s
DPC Dobruska-Polom **99.73 322** ⇓*i* P **Pdif** **23 46 05.5 +0.9**
DPC MLR MLR
comp=Z,2µm,21.1s
DPC Dobruska-Polom **99.73 322** ⇓*i* PDIFF **Pdif** **23 46 05.5 +0.9**
DPC *ex* x 23 57 45.2
DPC AMS AMS 00 33 30.0
comp=Z,2µm,21.1s
KOME Kolasin **99.75 315** *eP* **Pdif** **23 46 02.4 -2.6**
AKN Aaknes **99.81 336** *eP* **Pdif** **23 46 05.1 +0.4**
CHVC Chvalec **99.81 323** ⇓*i* P **Pdif** **23 46 05.8 +0.8**
CHVC MLR MLR
comp=Z,2µm,18.0s
CHVC Chvalec **99.81 323** ⇓*i* PDIFF **Pdif** **23 46 05.8 +0.8**
CHVC AMS AMS 00 33 50.0
comp=Z,2µm,18.0s
UPC Upice **99.86 323** ⇓*i* P **Pdif** **23 46 06.1 +0.9**
UPC MLR MLR
comp=Z,2µm,19.2s
UPC Upice **99.86 323** ⇓*i* PDIFF **Pdif** **23 46 06.1 +0.9**
UPC *ex* x 23 57 48.2
UPC AMS AMS 00 33 50.0
comp=Z,2µm,19.2s
VRAC Vranov **99.89 321** LR LR 00 34 57.4
comp=Z,718nm,18.8s,baz=70,slow=38
VRAC Vranov **99.89 321** *eP* **Pdif** **23 46 05.9 +0.6**
VRAC Vranov **99.89 321** ⇑P **Pdif** **23 46 06.1 +0.7**
VRAC Vranov **99.89 321** P **Pdif** **23 46 06.0 +0.6**
ZST Bratislava **99.90 320** *eP* **Pdif** **23 46 05.9 +0.5**
SKAR Skarslia **99.95 334** *eP* **Pdif** **23 46 05.6 +0.2**
PDG Podgorica **100.05 314** Pdif **Pdif** **23 46 04.9 -1.2**
PDG IAMs_20 IAMs_20 00 38 54.6
comp=Z,863nm,20.0s
PDG Podgorica **100.05 314** ⇑P **Pdif** **23 46 05.3 -0.8**
PDG Podgorica **100.05 314** *eP* **Pdif** **23 46 06.2 +0.1**
MREMI Moremi **100.05 248** *i* P **Pdif** **23 46 06.9 +0.2**
NLWA Neilton Lookou **100.06 41** IAMs_20 IAMs_20 00 23 10.5
comp=Z,1µm,21.0s
KRUC Moravsky **100.08 321** *eP* **Pdif** **23 46 06.4 +0.2**
BROLN Tihalogang **100.15 249** *i* P **Pdif** **23 46 08.1 +1.0**
DRME Dracevica, Mon **100.16 314** *eP* **Pdif** **23 46 05.1 -1.6**
NKME Niksic **100.17 315** *eP* **Pdif** **23 46 05.7 -1.1**
A04D Lummi Island **100.40 39** IAMs_20 IAMs_20 00 21 23.3
comp=Z,965nm,21.0s
BRY Bratogost **100.43 315** *eP* **Pdif** **23 46 07.1 -1.0**
RUE Ruedersdorf **100.51 325** *eP* **Pdif** **23 46 09.1 +1.2**
comp=Z,130nm,1.0s,baz=68,slow=4.5
RONA Rosalia, Austr **100.57 320** *e*Pdiff **Pdif** **23 46 08.0 -0.5**
comp=Z,4.6nm,0.7s
TREC Trest **100.58 322** ⇓*i* P **Pdif** **23 46 09.2 +0.8**
TREC MLR MLR
comp=Z,900nm,22.5s
TREC Trest **100.58 322** ⇓*i* PDIFF **Pdif** **23 46 09.2 +0.8**
TREC AMS AMS 00 33 30.0
comp=Z,900nm,22.5s
TREB Trebinje **100.61 315** ⇑*i* P **Pdif** **23 45 58.2 -11**
BEHE Becsehely **100.63 319** ⇑*i* P **Pdif** **23 46 08.8 +0.1**
GNW Green Mountain **100.68 40** IAMs_20 IAMs_20 00 22 27.2
comp=Z,1µm,22.0s
PVCC Panska Ves **100.73 323** ⇓*i* P **Pdif** **23 46 09.9 +0.9**
PVCC MLR MLR
comp=Z,1µm,18.6s
PVCC Panska Ves **100.73 323** ⇓*i* PDIFF **Pdif** **23 46 09.9 +0.9**
PVCC AMS AMS 00 34 50.0
comp=Z,1µm,18.6s
CONA Conrad Observa **100.78 320** *e*Pdiff **Pdif** **23 46 09.3 -0.1**
comp=Z,3.4nm,0.6s,SNR=7.5
BLY Banja Luka **100.86 317** ⇑*i* P **Pdif** **23 46 09.6 -0.1**
BLY Banja Luka **100.86 317** ⇓P **Pdif** **23 46 10.2 +0.4**
MOSL Moslavina **100.90 318** *eP* **Pdif** **23 46 09.4 -0.5**
PRU Pruhonice **100.93 322** ⇓*i* P **Pdif** **23 46 10.8 +0.9**
PRU MLR MLR
comp=Z,2µm,18.7s
PRU Pruhonice **100.93 322** ⇓*i* PDIFF **Pdif** **23 46 10.8 +0.9**
PRU AMS AMS 00 34 30.0
comp=Z,2µm,18.7s
PRA Prague **100.96 323** ⇓*i* P **Pdif** **23 46 11.0 +0.9**
PRA MLR MLR
comp=Z,2µm,18.9s
PRA Prague **100.96 323** ⇓*i* PDIFF **Pdif** **23 46 11.0 +0.9**
PRA AMS AMS 00 34 20.0
comp=Z,2µm,18.9s
BRG Berggiesshubel **100.98 323** *eP* **Pdif** **23 46 11.7 +1.6**
comp=Z,47nm,0.8s,baz=68,slow=4.5
BRG Berggiesshubel **100.98 323** ⇓*i* Pif 23 46 12.5
BRG Amp 23 46 13.8
comp=Z,47nm,0.8s
BRG Berggiesshubel **100.98 323** P **Pdif** **23 46 15.2 +5.1**
BRG Amp 23 46 16.7
comp=Z,36nm,0.8s
BRG Berggiesshubel **100.98 323** PP PP **23 50 23.0 +4.6**
BRG Berggiesshubel **100.98 323** PS PS 23 59 20.0 -1.3
RICC Richard **101.00 323** ⇓*e*PDIFF **Pdif** **23 46 11.2 +1.0**
SOOWA Sowa **101.19 250** *i* P **Pdif** **23 46 12.0 +0.2**
ARSA Arzberg **101.21 320** IAMs_20 IAMs_20 00 39 48.4
comp=Z,1µm,22.0s
ARSA Arzberg **101.21 320** *e*Pdiff **Pdif** **23 46 10.4 -0.9**
comp=Z,10nm,0.8s
COR Corvallis **101.27 43** IAMs_20 IAMs_20 00 24 24.9
comp=Z,1µm,22.0s
D05A Enumclaw **101.34 40** IAMs_20 IAMs_20 00 22 34.6
comp=Z,933nm,22.0s
CLL Collm **101.38 324** IAMs_20 IAMs_20 00 34 59.5
comp=Z,1µm,20.0s
CLL Collm **101.38 324** *i* P **Pdif** **23 46 11.9 0.0**
CLL *e*S **Sdif** **23 57 44.0 -4.8**
CLL pmax pmax
comp=Z,33nm,0.9s
CLL MLR MLR
comp=Z,1µm,21.5s
CLL Collm **101.38 324** *e*P **Pdif** **23 46 13.1 +1.2**
comp=Z,29nm,0.9s,baz=68,slow=4.5
CLL Collm **101.38 324** *i* Pdif **Pdif** **23 46 11.9 0.0**
comp=Z,33nm,0.9s
CLL *es*Pdif **pPdif** **23 46 24.0 -0.6**
CLL *e*PP **PP** **23 50 26.0 +4.6**
CLL *e*Sdif Sdif 23 57 47.0 -1.8
CLL *e*PS **PS** **23 59 19.0 -6.5**
CLL *e*SS **SS** **00 05 00.0 +10**
CLL *ex* x 00 09 42.0
CLL LmV 00 37 00.0
comp=Z,1µm,21.5s
I03D Drain, OR **101.49 44** IAMs_20 IAMs_20 00 30 10.0
comp=Z,967nm,20.0s
LPHEP Lephephe **101.51 247** *i* P **Pdif** **23 46 12.8 -0.4**
GCIS Gornji Cirnik **101.58 318** *i* P **Pdif** **23 46 13.1 +0.2**
KIJV Kijevo **101.61 316** ⇑*i* P **Pdif** **23 46 12.3 -0.8**
KSXB Camp Six Broad **101.65 46** IAMs_20 IAMs_20 00 26 04.4
comp=Z,928nm,21.0s
H04D Lebanon **101.67 43** IAMs_20 IAMs_20 00 24 01.6
comp=Z,1µm,22.0s
PERS Pernice **101.67 319** *eP* **Pdif** **23 46 13.2 -0.1**
CRES Cresnjevec Ost **101.70 318** *i* P **Pdif** **23 46 13.5 0.0**
SOKA Soboth **101.71 319** *e*Pdiff **Pdif** **23 46 13.3 -0.3**
comp=Z,14nm,0.9s,SNR=6.7
OZLJ Ozalj **101.76 318** ⇑*i* P **Pdif** **23 46 06.1 -7.6**
L02F Cave Junction **101.79 46** IAMs_20 IAMs_20 00 25 49.0
comp=Z,982nm,21.0s
KHC Kasperske Hory **101.81 322** ⇓*i* P **Pdif** **23 46 14.5 +0.6**
KHC *e* 23 50 25.0
KHC MLR MLR
comp=Z,2µm,18.5s
KHC Kasperske Hory **101.81 322** ⇓*i* PDIFF **Pdif** **23 46 14.5 +0.6**
KHC *e*PP **PP** **23 50 25.0 +0.3**
KHC *ex* x 23 58 01.9
KHC AMS AMS 00 36 40.0
comp=Z,2µm,18.5s
MOA Molln **101.82 320** *i* Pdiff **Pdif** **23 46 14.3 +0.3**
comp=Z,21nm,0.7s,SNR=11
GEC2 GERESS Array S **101.83 322** IAMs_20 IAMs_20 00 34 39.7
comp=Z,1µm,21.0s
GEC2 GERESS Array S **101.83 322** *eP* **Pdif** **23 46 14.8 +0.7**
comp=Z,27nm,1.0s,baz=68,slow=4.5
GERES GERESS Array B **101.83 322** P **Pdif** **23 46 14.4 +0.3**
comp=Z,12nm,0.9s,baz=66,slow=5.0,SNR=79
GERES PKKPbc **PKKPbc** **00 02 20.8 -0.4**
comp=Z,0.5nm,0.8s,baz=204,slow=2.9,SNR=4.1
KHWEE KHWEE **101.90 249** *i* P **Pdif** **23 46 14.6 -0.4**
BOSA Boshof **101.94 242** P **Pdif** **23 46 14.6 -0.5**
comp=Z,3.0nm,0.9s,baz=108,slow=9.7,SNR=3.1
FLTG Flechtingen **102.01 325** *eP* **Pdif** **23 46 15.2 +0.6**
comp=Z,24nm,0.9s,baz=68,slow=4.5
TANN Tannenbergstha **102.03 323** *eP* **Pdif** **23 46 15.7 +0.8**
comp=Z,21nm,0.9s,baz=68,slow=4.5
OBKA Obir **102.08 319** *e*Pdiff **Pdif** **23 46 15.1 -0.1**
comp=Z,17nm,1.1s
NEUB Neuenburg **102.13 324** *eP* **Pdif** **23 46 16.9 +1.6**
comp=Z,38nm,0.8s,baz=68,slow=4.5
LTY Liberty **102.17 40** IAMs_20 IAMs_20 00 24 31.6
comp=Z,976nm,22.0s
KSANE Kasane **102.18 253** *i* P **Pdif** **23 46 16.7 +0.4**
BBOR Butler Butte **102.20 45** IAMs_20 IAMs_20 00 27 20.7
comp=Z,760nm,21.0s
WET Wettzell **102.24 322** *eP* **Pdif** **23 46 16.6 +0.8**
comp=Z,12nm,1.1s,baz=68,slow=4.5
BIOA Bad Ischl, Aus **102.27 320** *e*Pdiff **Pdif** **23 46 15.9 -0.1**
comp=Z,4.0nm,0.6s
ASSE Asse, Remlinge **102.41 325** *eP* **Pdif** **23 46 17.2 +0.9**
comp=Z,34nm,1.2s,baz=68,slow=4.5
MOX Moxa **102.44 324** *eP* **Pdif** **23 46 18.0 +1.3**
comp=Z,20nm,0.9s,baz=68,slow=4.5
KHBM Hayfork Bally **102.45 47** IAMs_20 IAMs_20 00 23 28.8
comp=Z,805nm,21.0s
KCPM Cahto Peak **102.46 48** IAMs_20 IAMs_20 00 22 10.9
comp=Z,1µm,20.0s
J04A Umpqua Nationa **102.49 44** IAMs_20 IAMs_20 00 30 51.4
comp=Z,948nm,20.0s
M02C Callahan **102.51 46** IAMs_20 IAMs_20 00 25 29.2
comp=Z,824nm,20.0s
KDWAN Kaudwane **102.61 247** *i* P **Pdif** **23 46 17.4 -0.8**
B08A Colville Reser **102.63 39** IAMs_20 IAMs_20 00 22 32.6
comp=Z,785nm,22.0s
MXC Moxie City **102.64 41** IAMs_20 IAMs_20 00 23 14.9
comp=Z,1µm,20.0s
KBA Koelnbreinsper **102.67 320** *e*Pdiff **Pdif** **23 46 17.2 -0.7**
comp=Z,16nm,0.8s
I05D Terrebonne, OR **102.68 43** IAMs_20 IAMs_20 00 22 46.3
comp=Z,942nm,21.0s
CLZ Clausthal **102.69 325** *eP* **Pdif** **23 46 18.4 +0.7**
comp=Z,49nm,1.0s,baz=68,slow=4.5
TIP Timpagrande **102.73 311** IAMs_20 IAMs_20 00 38 50.6
comp=Z,979nm,22.0s
G06A Carlson Farm, **102.86 42** IAMs_20 IAMs_20 00 24 34.1
comp=Z,1µm,22.0s
K04D Chiloquin, OR **102.93 45** IAMs_20 IAMs_20 00 28 54.0
comp=Z,689nm,21.0s
E07A Sunnyside **102.93 40** IAMs_20 IAMs_20 00 25 17.7
comp=Z,935nm,22.0s
LESA Schwarzleotal **102.97 320** *e*Pdiff **Pdif** **23 46 18.8 -0.4**
comp=Z,16nm,0.8s,SNR=11
GRF Grafenberg Arr **103.04 323** *eP* **Pdif** **23 46 20.3 +0.9**
comp=Z,11nm,0.9s,baz=68,slow=4.5
GTTG Gottingen **103.05 325** *eP* **Pdif** **23 46 20.1 +0.8**
comp=Z,31nm,0.9s,baz=68,slow=4.5
WAH2 Wahluke Slope **103.05 40** IAMs_20 IAMs_20 00 24 12.8
comp=Z,970nm,21.0s
J05D Fort Rock, OR **103.08 44** IAMs_20 IAMs_20 00 31 22.1
comp=Z,856nm,20.0s
F07A Phinny Hill Vi **103.11 41** IAMs_20 IAMs_20 00 24 10.5
comp=Z,817nm,20.0s
PINE Pine Mountain **103.13 43** IAMs_20 IAMs_20 00 20 46.2
comp=Z,752nm,20.0s
HAWA Hanford **103.20 41** IAMs_20 IAMs_20 00 25 02.8
comp=Z,1µm,22.0s
CUC Castrocucco **103.20 312** IAMs_20 IAMs_20 00 41 39.9
comp=Z,772nm,22.0s
GDXM Geysers **103.29 49** IAMs_20 IAMs_20 00 21 58.0
comp=Z,1µm,22.0s
UBBA Unterbreizbach **103.32 324** *eP* **Pdif** **23 46 21.8 +1.4**
comp=Z,18nm,1.3s,baz=68,slow=4.5
ABTA Abfaltersbach **103.32 320** *e*Pdiff **Pdif** **23 46 19.9 -0.8**
comp=Z,11nm,1.0s
D08A Wollman Farm, **103.36 40** IAMs_20 IAMs_20 00 23 52.9
comp=Z,746nm,22.0s
E08A Dider Farm, El **103.47 40** IAMs_20 IAMs_20 00 25 22.9
comp=Z,944nm,21.0s
MNRC McLaughlin Min **103.53 49** IAMs_20 IAMs_20 00 22 55.1
comp=Z,1µm,22.0s
O03E Paynes Creek **103.59 47** IAMs_20 IAMs_20 00 23 28.9
comp=Z,1µm,22.0s
CEL Celeste **103.64 311** IAMs_20 IAMs_20 00 39 40.6
comp=Z,814nm,22.0s
CVS Carmenet Viney **103.67 49** IAMs_20 IAMs_20 00 22 09.2
comp=Z,1µm,21.0s
YPT Yellepit **103.69 41** IAMs_20 IAMs_20 00 24 53.8
comp=Z,1µm,21.0s

WTTA **Wattenberg** 103.69 321 *e*Pdiff **Pdif** 23 46 22.3 -0.2
comp=Z,25nm,0.8s,SNR=12
WATA **Walderalm** 103.70 321 *e*Pdiff **Pdif** 23 46 22.1 -0.4
comp=Z,17nm,1.0s,SNR=7.6
TROLL **Troll, Antarti** 103.89 195 ⇑P **Pdif** 23 46 25.2 +2.4
comp=Z,69nm,0.6s
G08A **Pilot Rock** 103.96 42 IAMs_20 IAMs_20 00 25 20.0
comp=Z,1µm,22.0s
IBBN **Ibbenburen** 103.97 326 *e*P **Pdif** 23 46 23.9 +0.6
comp=Z,26nm,0.9s,baz=68,slow=4.5
INTR **Introdacqua** 103.97 315 IAMs_20 IAMs_20 00 39 08.9
comp=Z,971nm,22.0s
SQTA **Sankt Quirin** 103.98 321 *e*Pdiff **Pdif** 23 46 23.6 -0.1
comp=Z,20nm,0.8s,SNR=7.9
MOTA **Moosalm** 104.00 321 *e*Pdiff **Pdif** 23 46 23.7 -0.2
comp=Z,16nm,0.9s,SNR=9.9
NEW **Newport** 104.03 38 IAMs_20 IAMs_20 00 24 26.7
comp=Z,880nm,22.0s
ORV **Oroville** 104.04 48 IAMs_20 IAMs_20 00 22 53.7
comp=Z,920nm,22.0s
E09A **Wood Farm, Sta** 104.05 40 IAMs_20 IAMs_20 00 25 07.3
comp=Z,830nm,20.0s
KASTN **Kahler Asten** 104.07 325 *e*P **Pdif** 23 46 24.6 +0.7
comp=Z,16nm,1.1s,baz=68,slow=4.5
CTI **Castel Tesino** 104.13 319 IAMs_20 IAMs_20 00 37 11.6
comp=Z,842nm,20.0s
RETA **Reutte** 104.16 321 *e*Pdiff **Pdif** 23 46 23.9 -0.5
comp=Z,3.2nm,0.9s
AQU **L'Aquila** 104.22 315 P **Pdif** 23 46 23.0 -1.8
FETA **Feichten** 104.36 321 *e*Pdiff **Pdif** 23 46 25.6 +0.1
comp=Z,15nm,0.9s,SNR=5.2
TNS **Taunus Mts** 104.47 324 *e*P **Pdif** 23 46 26.2 +0.5
comp=Z,13nm,1.1s,baz=68,slow=4.5
UBR **Ueberruh** 104.49 321 *e*P **Pdif** 23 46 25.9 0.0
comp=Z,16nm,1.0s,baz=68,slow=4.5
AFDM **Forest Hills D** 104.61 48 IAMs_20 IAMs_20 00 36 13.0
comp=Z,650nm,19.0s
BUG **Bochum--Univer** 104.62 326 *e*P **Pdif** 23 46 27.0 +0.7
comp=Z,19nm,1.0s,baz=68,slow=4.5
CESX **Cesi** 104.70 316 IAMs_20 IAMs_20 00 41 27.1
comp=Z,1µm,20.0s
KGCAE **Kacgae** 104.88 248 *i* P **Pdif** 23 46 29.6 +1.4
WELL **Weller Preserv** 104.95 49 IAMs_20 IAMs_20 00 24 20.9
comp=Z,718nm,22.0s
J08A **Circle Bar Ran** 104.96 43 IAMs_20 IAMs_20 00 29 00.7
comp=Z,750nm,20.0s
SCZ **Santa Cruz** 104.97 51 IAMs_20 IAMs_20 00 35 06.8
comp=Z,936nm,19.0s
WVOR **Wild Horse Val** 105.17 44 IAMs_20 IAMs_20 00 32 39.3
comp=Z,908nm,20.0s
BMO **Blue Mountains** 105.21 41 IAMs_20 IAMs_20 00 25 59.1
comp=Z,938nm,22.0s
CMB **Columbia Colle** 105.32 49 IAMs_20 IAMs_20 00 24 07.9
comp=Z,803nm,22.0s
BFO **Black Forest** 105.33 322 *e*P **Pdif** 23 46 29.5 -0.1
comp=Z,5.0nm,0.6s,baz=68,slow=4.5
TUE **Stuetta** 105.44 320 IAMs_20 IAMs_20 00 37 01.4
comp=Z,995nm,21.0s
SNAA **Sanae** 105.47 195 ⇑P **Pdif** 23 46 32.0 +2.3
comp=Z,45nm,0.6s
SNAA **Sanae** 105.47 195 IAMs_20 IAMs_20 00 34 19.8
comp=Z,880nm,20.0s
SNAA **Sanae** 105.47 195 Pdiff **Pdif** 23 46 30.3 +0.5
comp=Z,1.8nm,1.0s,baz=170,slow=4.3,SNR=6.6
SNAA PKKPbc **PKKPbc** 00 02 08.9 -2.1
comp=Z,3.6nm,0.8s,baz=209,slow=2.0,SNR=23
BTNL **Ternell** 105.64 325 *d*Pdif **Pdif** 23 46 32.3 +1.4
RAMR **Ramage Ranch** 105.66 51 IAMs_20 IAMs_20 00 31 00.1
comp=Z,857nm,19.0s
MEM **Membach** 105.70 325 *d*P **Pdif** 23 46 32.3 +1.2
BHOU **Houvegnez** 105.82 325 *d*Pdif **Pdif** 23 46 32.5 +0.8
BSTI **Sart Tilman** 105.97 325 *d*Pdif **Pdif** 23 46 33.3 +1.0
PLID **Pearl Lake** 105.98 41 IAMs_20 IAMs_20 00 27 01.4
comp=Z,912nm,22.0s
WLF **Walferdange** 106.05 324 *d*Pdif **Pdif** 23 46 35.9 +3.2
WLF **Walferdange** 106.05 324 *e*P **Pdif** 23 46 33.3 +0.6
baz=68,slow=4.5
BCLA **Clavier** 106.19 325 *d*Pdif **Pdif** 23 46 33.9 +0.6
BGES **Gesves** 106.33 325 *d*Pdif **Pdif** 23 46 34.4 +0.5
BMRD **Maredsous** 106.55 325 *d*Pdif **Pdif** 23 46 35.4 +0.5
MSO **Missoula** 106.59 39 IAMs_20 IAMs_20 00 29 33.3
comp=Z,663nm,20.0s
DOU **Dourbes** 106.74 325 *d*Pdif **Pdif** 23 46 36.2 +0.5
SENIN **Lac Senin/Sane** 106.78 321 IAMs_20 IAMs_20 00 38 26.7
comp=Z,1µm,20.0s
VES **Vestal, Richgr** 106.99 51 IAMs_20 IAMs_20 00 34 56.1
comp=Z,674nm,19.0s
TIN **Tinemaha, Big** 107.26 49 IAMs_20 IAMs_20 00 24 57.1
comp=Z,821nm,21.0s
ISA **Isabella, Lake** 107.52 51 IAMs_20 IAMs_20 00 32 18.1
comp=Z,798nm,20.0s
CWC **Cottonwood Cre** 107.57 50 IAMs_20 IAMs_20 00 36 14.5
comp=Z,990nm,19.0s
DLMT **Dillon** 108.06 40 IAMs_20 IAMs_20 00 28 58.3
comp=Z,717nm,22.0s
VSL **Villasalto** 108.06 314 IAMs_20 IAMs_20 00 41 19.3
comp=Z,738nm,22.0s
MPMC **Manual Prospec** 108.15 50 IAMs_20 IAMs_20 00 24 41.7
comp=Z,1µm,22.0s
ELK **Elko** 108.15 45 PKiKP **PKiKP** 23 50 50.6 +1.5
comp=Z,3.5nm,0.9s,baz=316,slow=2.6,SNR=12
LRMC **Laurel Mtn Rad** 108.19 51 IAMs_20 IAMs_20 00 31 42.8
comp=Z,761nm,20.0s
PASC **Pasadena Art C** 108.20 52 IAMs_20 IAMs_20 00 32 44.5
comp=Z,927nm,20.0s
MWC **Mount Wilson** 108.29 52 IAMs_20 IAMs_20 00 34 38.7
comp=Z,1µm,20.0s
WSHM **Spangler Hills** 108.29 51 IAMs_20 IAMs_20 00 36 23.7
comp=Z,710nm,20.0s
CCCA **Chr Cany lake** 108.42 51 IAMs_20 IAMs_20 00 33 25.9
comp=Z,708nm,20.0s
TPNV **Topopah Spring** 108.79 49 IAMs_20 IAMs_20 00 25 20.6
comp=Z,1µm,21.0s
GSC **Goldstone, Bar** 108.92 51 IAMs_20 IAMs_20 00 32 16.3
comp=Z,789nm,19.0s
ELS **Elsinore Mount** 108.97 53 IAMs_20 IAMs_20 00 28 53.7
comp=Z,908nm,20.0s
FFC **Flin Flon** 109.00 27 IAMs_20 IAMs_20 00 33 09.1
comp=Z,843nm,21.0s
SHOC **Shoshone, Teco** 109.13 50 IAMs_20 IAMs_20 00 37 02.7
comp=Z,755nm,19.0s
CPE **Camp Elliot** 109.46 53 IAMs_20 IAMs_20 00 30 13.9
comp=Z,806nm,20.0s
DPP **Dos Picos Cty** 109.56 53 IAMs_20 IAMs_20 00 29 56.4
comp=Z,911nm,21.0s
DNR **Dunn Ranch,Anz** 109.62 52 IAMs_20 IAMs_20 00 30 03.1
comp=Z,991nm,21.0s
PFO **Pinyon Flats O** 109.74 52 IAMs_20 IAMs_20 00 25 33.3
comp=Z,1µm,21.0s
PMD **Palm Desert** 109.80 52 IAMs_20 IAMs_20 00 25 35.6
comp=Z,1µm,22.0s
MTPC **Mountain Pass** 109.82 50 IAMs_20 IAMs_20 00 33 46.1
comp=Z,714nm,19.0s
BAR **Barrett** 109.87 53 IAMs_20 IAMs_20 00 25 21.8
comp=Z,1µm,22.0s
TPAW **Teton Pass** 109.94 41 IAMs_20 IAMs_20 00 29 07.1
comp=Z,860nm,20.0s
DUG **Dugway, Tooele** 110.07 45 IAMs_20 IAMs_20 00 35 33.7
comp=Z,584nm,19.0s
LOHW **Long Hollow** 110.11 41 IAMs_20 IAMs_20 00 29 12.7
comp=Z,1µm,22.0s
SALN **Salton City** 110.23 52 IAMs_20 IAMs_20 00 30 19.0
comp=Z,953nm,21.0s
DANC **Danby, Needles** 110.25 51 IAMs_20 IAMs_20 00 29 57.4
comp=Z,939nm,20.0s
HWUT **Hardware Ranch** 110.35 43 IAMs_20 IAMs_20 00 29 13.2
comp=Z,967nm,21.0s
YUH **Yuha Desert** 110.48 53 IAMs_20 IAMs_20 00 30 45.9
comp=Z,844nm,20.0s
BC3 **Big Chuckawall** 110.52 52 IAMs_20 IAMs_20 00 30 44.8
comp=Z,860nm,20.0s
NEE2 **Needles Airpor** 110.79 51 IAMs_20 IAMs_20 00 29 55.7
comp=Z,927nm,21.0s
CPBX **Cerro Prieto** 111.05 53 IAMs_20 IAMs_20 00 24 47.9
comp=Z,881nm,21.0s
PDAR **Pinedale Array** 111.17 41 PKiKP **PKiKP** 23 50 56.1 +1.3
comp=Z,2.4nm,0.9s,baz=121,slow=1.4,SNR=13
PDAR PKKPab **PKKPab** 00 02 00.8 -1.1
comp=Z,5.3nm,0.8s,baz=117,slow=6.8,SNR=18
BLYC **Blythe** 111.22 52 IAMs_20 IAMs_20 00 29 59.2
comp=Z,879nm,21.0s
GLA **Glamis** 111.22 52 IAMs_20 IAMs_20 00 29 47.3
comp=Z,921nm,20.0s
LAO **LASA Array** 111.33 36 IAMs_20 IAMs_20 00 28 41.6
comp=Z,632nm,20.0s
DGMT **Dagmar** 111.53 34 IAMs_20 IAMs_20 00 31 57.6
comp=Z,779nm,22.0s
U15A **North Rim** 111.94 48 IAMs_20 IAMs_20 00 39 06.9
comp=Z,726nm,18.0s
113A **Mohawk Valley,** 112.15 52 IAMs_20 IAMs_20 00 28 59.0
comp=Z,755nm,22.0s
Y14A **Wickenburg** 112.33 51 IAMs_20 IAMs_20 00 30 47.6
comp=Z,973nm,21.0s
214A **Organ Pipe Nat** 113.19 53 IAMs_20 IAMs_20 00 29 59.7
comp=Z,653nm,21.0s
O20A **White River Ci** 113.26 43 IAMs_20 IAMs_20 00 31 15.3
comp=Z,706nm,20.0s
PV22 **Blue Mesa, Par** 113.60 45 IAMs_20 IAMs_20 00 40 21.5
comp=Z,758nm,22.0s
RSSD **Black Hills** 114.00 38 IAMs_20 IAMs_20 00 35 09.2
comp=Z,633nm,21.0s
W18A **Petrified Fore** 114.36 49 IAMs_20 IAMs_20 00 32 24.2
comp=Z,839nm,21.0s
MVCO **Mesa Verde** 114.39 46 IAMs_20 IAMs_20 00 30 08.7
comp=Z,827nm,22.0s
MDND **Maddock** 114.39 32 IAMs_20 IAMs_20 00 43 39.1
comp=Z,548nm,20.0s
X18A **Snowflake** 114.44 49 IAMs_20 IAMs_20 00 35 04.3
comp=Z,772nm,20.0s
E28A **Huff** 114.56 34 IAMs_20 IAMs_20 00 33 27.8
comp=Z,615nm,21.0s
TUC **Tucson** 114.67 52 IAMs_20 IAMs_20 00 29 39.5
comp=Z,1µm,22.0s
ULM **Lac du Bonnet** 114.74 29 PKP **PKiKP** 23 51 00.9 -0.1
comp=Z,7.0nm,0.8s,baz=317,slow=2.9,SNR=8.4
ISCO **Idaho Springs** 115.19 42 IAMs_20 IAMs_20 00 37 28.5
comp=Z,549nm,20.0s
ECHE **Chera** 115.26 317 PKP **PKiKP** 23 51 00.4 -2.0
AGMN **Agassiz Nation** 116.04 30 IAMs_20 IAMs_20 00 40 18.6
comp=Z,712nm,21.0s
EPLO **Experimental L** 116.14 28 **PKiKP** 23 51 03.5 -0.3
319A **Douglas** 116.20 52 IAMs_20 IAMs_20 00 33 15.3
comp=Z,828nm,20.0s
SDCO **Great Sand Dun** 116.26 44 IAMs_20 IAMs_20 00 30 57.0
comp=Z,902nm,22.0s
UCM **Universidad Co** 116.41 319 PKP **PKPdf** 23 51 03.7 -0.9
ANMO **Albuquerque** 116.87 47 IAMs_20 IAMs_20 00 36 31.4
comp=Z,700nm,20.0s
ANMO **Albuquerque** 116.87 47 PKP **PKiKP** 23 51 06.7 +0.8
comp=Z,6.9nm,0.9s,baz=298,slow=3.5,SNR=16
121A **Cookes Peak, D** 116.91 50 IAMs_20 IAMs_20 00 30 43.7
comp=Z,779nm,22.0s
Y22D **IRIS PASSCAL I** 116.91 49 IAMs_20 IAMs_20 00 33 39.6
comp=Z,950nm,22.0s
Y22A **Sorro** 116.94 49 IAMs_20 IAMs_20 00 35 29.3
comp=Z,789nm,19.0s
OGNE **Ogallala** 116.95 40 IAMs_20 IAMs_20 00 33 34.6
comp=Z,779nm,22.0s
ESDC **Sonseca Array** 117.21 319 IAMs_20 IAMs_20 00 46 01.4
comp=Z,856nm,20.0s
ESDC **Sonseca Array** 117.21 319 PKP **PKiKP** 23 51 06.5 +0.3
comp=Z,1.9nm,0.9s,baz=360,slow=1.0,SNR=6.4
ESDC PKKPab **PKKPab** 00 01 34.8 -0.2
comp=Z,1.4nm,0.9s,baz=270,slow=4.4,SNR=4.1
T25A **Trinidad** 117.32 44 IAMs_20 IAMs_20 00 32 39.8
comp=Z,877nm,20.0s
KSCO **Kaye Shedlock'** 117.59 42 IAMs_20 IAMs_20 00 33 59.8
comp=Z,613nm,22.0s
MVO **Moncorvo** 118.35 322 *e*PKP **PKiKP** 23 51 09.9 +1.6
MVO *e*tx tx 00 01 16.7
MVO *e*LR LR 00 35 00.4
MVO *i* IAMs_20 IAMs_20 00 49 32.8
comp=Z,1µm,22.0s
EYMN **Ely** 118.41 28 IAMs_20 IAMs_20 00 38 03.0
comp=Z,667nm,21.0s
ECSD **EROS Data Cent** 118.58 34 IAMs_20 IAMs_20 00 43 11.2
comp=Z,568nm,20.0s
PGAV **Gavieira, Arco** 118.64 323 *e*PKP **PKiKP** 23 51 10.1 +1.2
PGAV *e*LR LR 00 34 24.9
PGAV *i* IAMs_20 IAMs_20 00 48 48.4
comp=Z,796nm,20.0s
POLO **Lamas de Olo** 118.70 322 *e*PKP **PKiKP** 23 51 10.9 +1.8
PVRL **Vila Real** 118.71 322 *e*PKP **PKiKP** 23 51 10.6 +1.5
MTE **Manteigas** 119.11 321 *e*PKP **PKiKP** 23 51 11.7 +1.8
MTE *e*LR LR 00 35 10.3
MTE *i* IAMs_20 IAMs_20 00 49 54.2
comp=Z,947nm,22.0s
PVIS **Viseu** 119.14 322 *e*PKP **PKiKP** 23 51 11.6 +1.7
E38A **The Farm, Brul** 119.33 29 IAMs_20 IAMs_20 00 40 17.5
comp=Z,661nm,21.0s
PCBR **Castelo Branco** 119.39 321 *e*PKP **PKiKP** 23 51 11.3 +1.0
PMRV **Marv??o** 119.57 320 *e*PKP **PKiKP** 23 51 11.9 +1.1
SPMN **Marine on St.** 119.66 31 IAMs_20 IAMs_20 00 52 31.5
comp=Z,583nm,18.0s
L34A **Svendsen Farm,** 119.82 36 IAMs_20 IAMs_20 00 45 15.1
comp=Z,606nm,20.0s
PCAS **Casmilo, Conde** 119.91 321 *e*PKP **PKiKP** 23 51 12.5 +1.2
PSARD **Sardoal** 119.96 321 *e*PKP **PKiKP** 23 51 12.8 +1.3
PESTR **Estremoz** 120.01 320 IAMs_20 IAMs_20 00 51 23.9
comp=Z,840nm,20.0s
PBAR **Barrancos** 120.04 319 *e*PKP **PKiKP** 23 51 13.1 +1.4
I37A **Lemond, Waseca** 120.17 33 IAMs_20 IAMs_20 00 39 12.0
comp=Z,897nm,21.0s
SCHQ **Schefferville** 120.30 9 PKP **PKiKP** 23 51 12.7 +1.0
comp=Z,149nm,0.6s,baz=342,slow=1.5,SNR=28
PMTG **Montargil** 120.30 320 *e*PKP **PKiKP** 23 51 13.1 +1.0
PSBE **Sao Bento** 120.41 321 *e*PKP **PKiKP** 23 51 14.3 +1.9
EVO **Evora** 120.47 320 *e*PKP **PKiKP** 23 51 14.2 +1.7
R32A **Long Quarter,** 120.48 40 PKPdf **PKiKP** 23 51 12.9 +0.3
PBEJ **Beja** 120.66 319 *e*PKP **PKiKP** 23 51 14.6 +1.7
COWI **Conover** 120.86 28 IAMs_20 IAMs_20 00 49 17.4
comp=Z,732nm,22.0s
PVAQ **Vaqueiros** 120.91 318 *e*PKP **PKiKP** 23 51 15.0 +1.6
PVAQ *e*LR LR 00 37 07.4
PVAQ *i* IAMs_20 IAMs_20 00 50 20.1
comp=Z,618nm,20.0s
N35A **Tabor** 120.94 37 IAMs_20 IAMs_20 00 37 49.8
comp=Z,709nm,19.0s
G40A **Rib Lake** 120.95 30 IAMs_20 IAMs_20 00 48 28.3
comp=Z,736nm,22.0s
PARRA **Arraiolos** 120.97 320 *e*PKP **PKiKP** 23 51 13.5 +0.1
PCVE **Castro Verde** 121.00 319 *e*PKP **PKiKP** 23 51 15.4 +1.9
MESJ **Messejana** 121.00 319 *e*PKP **PKiKP** 23 51 15.0 +1.5
MD01 **Midelt array s** 121.20 312 PKPdf **PKiKP** 23 51 14.4 +0.1
TXAR **Lajitas Array** 121.46 52 PKP **PKiKP** 23 51 15.6 +0.8
comp=Z,4.5nm,0.8s,baz=282,slow=1.0,SNR=35
OK038 **West end E0370** 121.55 42 IAMs_20 IAMs_20 00 44 40.5
comp=Z,614nm,20.0s
F42A **Maple Grove Fa** 121.58 28 IAMs_20 IAMs_20 00 50 17.9
comp=Z,774nm,21.0s
MORF **Manelete** 121.58 319 *e*PKP **PKiKP** 23 51 16.7 +1.9
SCIA **State Center** 121.67 34 IAMs_20 IAMs_20 00 37 56.9
comp=Z,721nm,22.0s
I40A **Norwalk** 121.71 31 IAMs_20 IAMs_20 00 49 32.7
comp=Z,780nm,20.0s
PFVI **Vila Bisbo** 121.80 319 *e*PKP **PKiKP** 23 51 17.1 +1.9
N38A **Joes South For** 122.39 35 IAMs_20 IAMs_20 00 44 48.0
comp=Z,744nm,21.0s
WMOK **Wichita Mounta** 122.47 44 IAMs_20 IAMs_20 00 38 14.1
comp=Z,890nm,21.0s
I42A **Draeger Farm,** 122.58 30 IAMs_20 IAMs_20 00 49 15.5
comp=Z,931nm,22.0s
JFWS **Jewell Farm** 122.59 32 IAMs_20 IAMs_20 00 46 18.9
comp=Z,716nm,20.0s
L40A **Anamosa** 122.67 33 IAMs_20 IAMs_20 00 46 12.1
comp=Z,693nm,20.0s
H43A **Windswept, Lux** 122.71 29 IAMs_20 IAMs_20 00 49 38.9
comp=Z,700nm,21.0s
TORD **Torodi Ar. Bea** 122.78 288 PKPdf **PKPdf** 23 51 16.4 -1.1
TORD IAMs_20 IAMs_20 00 42 34.8
comp=Z,555nm,20.0s
TORD **Torodi Ar. Bea** 122.78 288 PKP **PKiKP** 23 51 17.6 -0.1
comp=Z,14nm,0.7s,baz=35,slow=3.1,SNR=66
TORD PKKPbc **PKKPab** 00 01 11.1 +0.5
comp=Z,0.5nm,0.6s,baz=245,slow=3.0,SNR=3.5
ABTX **Abilene, Hawle** 122.96 47 IAMs_20 IAMs_20 00 37 14.5
comp=Z,922nm,22.0s
P38A **Dawn** 122.97 36 IAMs_20 IAMs_20 00 39 25.5
comp=Z,642nm,20.0s
OK052 **Battle Ridge R** 123.11 42 IAMs_20 IAMs_20 00 45 38.0
comp=Z,810nm,22.0s
L42A **Oliver, Polo** 123.54 32 IAMs_20 IAMs_20 00 50 32.0
comp=Z,726nm,21.0s
K43A **Burlington** 123.73 31 IAMs_20 IAMs_20 00 39 04.9
comp=Z,655nm,22.0s
I45A **Fountain** 123.77 28 IAMs_20 IAMs_20 00 48 37.6
comp=Z,864nm,22.0s
N41A **Harden Midland** 123.79 34 IAMs_20 IAMs_20 00 46 15.9
comp=Z,899nm,22.0s
TUL3 **Leonard** 123.83 41 IAMs_20 IAMs_20 00 47 07.9
comp=Z,760nm,20.0s
GLMI **Grayling** 123.90 26 IAMs_20 IAMs_20 00 46 56.0
comp=Z,741nm,21.0s
P40A **Paris** 123.90 36 IAMs_20 IAMs_20 00 45 33.1
comp=Z,681nm,21.0s
JCT **Junction City** 123.91 49 IAMs_20 IAMs_20 00 47 59.0
comp=Z,584nm,19.0s
Z35A **Perchaven, San** 124.29 45 IAMs_20 IAMs_20 00 39 00.5
comp=Z,889nm,22.0s
S39A **Bolivar** 124.32 38 IAMs_20 IAMs_20 00 47 16.7
comp=Z,512nm,20.0s
L44A **Lake County Fo** 124.33 31 IAMs_20 IAMs_20 00 45 38.7
comp=Z,827nm,21.0s
R40A **Maddies Statio** 124.58 37 IAMs_20 IAMs_20 00 56 55.2
comp=Z,546nm,19.0s
HDIL **Hopedale** 124.76 33 IAMs_20 IAMs_20 00 47 55.3
comp=Z,693nm,21.0s
M44A **Midewin, Midew** 124.83 31 IAMs_20 IAMs_20 00 52 33.1
comp=Z,540nm,20.0s
WHTX **Lake Whitney,** 124.87 46 IAMs_20 IAMs_20 00 38 44.0
comp=Z,648nm,22.0s
J47A **Sunmer** 125.04 28 IAMs_20 IAMs_20 00 50 51.2
comp=Z,854nm,21.0s
P43A **Skaggs, Pawnee** 125.27 34 IAMs_20 IAMs_20 00 52 06.0
comp=Z,620nm,21.0s
MGMO **Mountain Grove** 125.31 38 IAMs_20 IAMs_20 00 56 50.7
comp=Z,663nm,20.0s
CCM **Cathedral Cave** 125.35 37 IAMs_20 IAMs_20 00 41 46.4
comp=Z,686nm,22.0s
BUKO **Buck Lake** 125.55 22 IAMs_20 IAMs_20 00 49 28.3
comp=Z,772nm,21.0s
FVM **French Village** 125.88 36 IAMs_20 IAMs_20 00 42 15.4
comp=Z,754nm,21.0s
SFIN **Lafayette** 126.06 32 IAMs_20 IAMs_20 00 42 49.6
comp=Z,613nm,20.0s
Q44A **Meyer Farm, Va** 126.06 34 IAMs_20 IAMs_20 00 40 35.7
comp=Z,719nm,22.0s
FCAR **Ozark Folk Cen** 126.20 39 PKPdf **PKiKP** 23 51 23.9 0.0
SADO **Sadowa** 126.22 23 PKP **PKiKP** 23 51 23.6 -0.1
comp=Z,135nm,0.9s,baz=344,slow=3.0,SNR=5.6
AAM **Ann Arbor** 126.31 28 IAMs_20 IAMs_20 00 40 49.8
comp=Z,665nm,22.0s
K50A **Casco** 126.40 27 IAMs_20 IAMs_20 00 43 50.2
comp=Z,617nm,21.0s
N47A **Urbana** 126.41 30 IAMs_20 IAMs_20 00 53 35.7
comp=Z,641nm,20.0s
WHAR **Wooly Hollow** 126.48 40 IAMs_20 IAMs_20 00 50 01.7
comp=Z,554nm,20.0s
P46A **Rosedale** 126.55 32 IAMs_20 IAMs_20 00 42 27.7
comp=Z,597nm,22.0s
PBMO **Poplar Bluff** 126.67 37 IAMs_20 IAMs_20 00 48 09.6
comp=Z,613nm,20.0s
OLIL **Olney** 126.69 34 IAMs_20 IAMs_20 00 47 17.7
comp=Z,696nm,19.0s
LCAR **Lake Charles** 126.69 38 IAMs_20 IAMs_20 00 39 11.3
comp=Z,587nm,22.0s
CGM3 **Cape Girardeau** 126.79 36 IAMs_20 IAMs_20 00 46 24.5
comp=Z,536nm,21.0s
WLAR **White Oak Lake** 126.92 42 IAMs_20 IAMs_20 00 38 01.8
comp=Z,859nm,22.0s
NATX **Nacogdoches** 126.98 45 IAMs_20 IAMs_20 00 49 47.8
comp=Z,622nm,19.0s
N49A **Columbus Grove** 127.12 29 IAMs_20 IAMs_20 00 51 52.5
comp=Z,785nm,21.0s
HKT **Hockley** 127.13 47 IAMs_20 IAMs_20 00 36 54.8
comp=Z,796nm,22.0s
O48B **Farmland** 127.14 30 IAMs_20 IAMs_20 00 41 08.3
comp=Z,747nm,22.0s
PARMO **Parma** 127.16 37 IAMs_20 IAMs_20 00 48 42.4
comp=Z,662nm,20.0s
BLO **Bloomington** 127.24 32 IAMs_20 IAMs_20 00 53 38.9
comp=Z,681nm,20.0s
M50A **Fremont** 127.29 28 IAMs_20 IAMs_20 00 49 35.9
comp=Z,725nm,21.0s
HBAR **Harrisburg** 127.33 38 IAMs_20 IAMs_20 00 38 54.3
comp=Z,636nm,21.0s
GNAR **Gosnell** 127.46 38 IAMs_20 IAMs_20 00 53 30.5
comp=Z,573nm,22.0s
USIN **University of** 127.47 34 IAMs_20 IAMs_20 00 58 51.4
comp=Z,714nm,20.0s
HICK **Hickman** 127.55 37 IAMs_20 IAMs_20 00 41 50.8
comp=Z,706nm,22.0s
T45A **Paducah** 127.57 36 IAMs_20 IAMs_20 00 43 39.2
comp=Z,768nm,22.0s
P48A **Milroy** 127.60 31 IAMs_20 IAMs_20 00 52 59.4
comp=Z,716nm,22.0s
O49A **Covington** 127.61 30 IAMs_20 IAMs_20 00 41 34.5
comp=Z,819nm,21.0s
LNXT **Lenox** 127.69 37 IAMs_20 IAMs_20 00 42 08.5
comp=Z,592nm,22.0s
GLAT **Glass** 127.70 37 PKPpre 23 51 17.0
GLAT IAMs_20 IAMs_20 00 53 58.7
comp=Z,778nm,22.0s
UTMT **University of** 127.90 37 IAMs_20 IAMs_20 00 54 30.9
comp=Z,708nm,20.0s
HALT **Halls** 127.91 37 IAMs_20 IAMs_20 00 50 06.3
comp=Z,660nm,20.0s
M52A **Chesterland** 127.95 27 IAMs_20 IAMs_20 00 42 20.3
comp=Z,594nm,20.0s
LONY **Lake Ozonia** 127.97 19 IAMs_20 IAMs_20 00 42 45.0
comp=Z,740nm,22.0s
N51A **Ashland** 127.99 28 IAMs_20 IAMs_20 00 59 38.3
comp=Z,544nm,22.0s
J55A **Hilton** 128.00 23 IAMs_20 IAMs_20 00 50 40.0
comp=Z,715nm,22.0s
FRNY **Flat Rock** 128.09 18 IAMs_20 IAMs_20 00 43 42.2
comp=Z,820nm,21.0s
MMNY **Mt. Morris Dam** 128.41 23 IAMs_20 IAMs_20 00 48 07.1
comp=Z,738nm,22.0s
T47A **Sharon Grove** 128.48 35 IAMs_20 IAMs_20 00 44 50.1
comp=Z,615nm,21.0s
R49A **Shelbyville** 128.60 32 IAMs_20 IAMs_20 00 47 59.0
comp=Z,872nm,22.0s
WVT **Waverly** 128.66 36 IAMs_20 IAMs_20 00 50 37.0
comp=Z,754nm,20.0s
NCB **Newcomb** 128.66 19 IAMs_20 IAMs_20 00 46 36.3
comp=Z,775nm,22.0s
PAOC **Oil Creek Stat** 128.71 25 IAMs_20 IAMs_20 00 44 32.1
comp=Z,776nm,22.0s
N53A **Lisbon** 128.78 27 IAMs_20 IAMs_20 00 46 34.1
comp=Z,658nm,20.0s
OXF **Oxford** 128.79 39 IAMs_20 IAMs_20 00 46 59.8
comp=Z,640nm,20.0s
VT1 **Waterbury** 128.81 18 IAMs_20 IAMs_20 00 49 23.3
comp=Z,580nm,20.0s
O52A **Adamsville** 128.87 28 IAMs_20 IAMs_20 00 54 11.9
comp=Z,638nm,18.0s
K57A **Scipio Center** 128.95 22 IAMs_20 IAMs_20 00 55 00.1
comp=Z,773nm,21.0s
PAMR **Moraine State** 129.00 26 IAMs_20 IAMs_20 00 49 59.9
comp=Z,735nm,22.0s
H62A **Milan** 129.05 16 IAMs_20 IAMs_20 00 45 47.5
comp=Z,712nm,21.0s
L56A **Greenwood** 129.06 23 IAMs_20 IAMs_20 00 57 46.1
comp=Z,697nm,20.0s
P52A **Corning** 129.11 29 IAMs_20 IAMs_20 00 42 46.1
comp=Z,620nm,22.0s
Y45A **Yeager Farm, C** 129.13 39 IAMs_20 IAMs_20 00 41 37.9
comp=Z,757nm,20.0s
LBNH **Lisbon** 129.14 17 IAMs_20 IAMs_20 00 47 03.8
comp=Z,800nm,21.0s
ACCN **Adirondack Com** 129.37 19 IAMs_20 IAMs_20 00 53 58.0
comp=Z,591nm,20.0s
G65A **Princeton** 129.38 13 IAMs_20 IAMs_20 00 57 16.8
comp=Z,785nm,20.0s
WVL **Waterville** 129.47 15 IAMs_20 IAMs_20 00 48 26.3
comp=Z,856nm,22.0s
O54A **Avella** 129.49 27 IAMs_20 IAMs_20 00 47 07.9
comp=Z,803nm,21.0s
V48A **Smith Brothers** 129.52 36 IAMs_20 IAMs_20 00 50 01.7
comp=Z,583nm,21.0s
Q52A **Bidwell** 129.57 29 IAMs_20 IAMs_20 00 42 47.3
comp=Z,764nm,22.0s
P53A **Whipple** 129.58 28 IAMs_20 IAMs_20 01 00 37.4
comp=Z,720nm,22.0s
BINY **Binghamton** 129.60 22 IAMs_20 IAMs_20 00 59 57.4
comp=Z,566nm,21.0s
I63A **Otisfield** 129.70 16 IAMs_20 IAMs_20 00 46 27.5
comp=Z,771nm,22.0s
PMAR **Madeira** 129.74 319 *e*PKP **PKiKP** 23 51 33.1 +1.7
S51A **Beattyville** 129.91 31 IAMs_20 IAMs_20 00 54 52.7
comp=Z,816nm,22.0s
L59A **Walton** 129.96 21 IAMs_20 IAMs_20 00 57 41.7
comp=Z,594nm,21.0s
X48A **Hartselle** 130.28 37 IAMs_20 IAMs_20 00 48 17.0
comp=Z,790nm,21.0s
DBIC **Dimbokro** 130.47 282 PKP **PKiKP** 23 51 33.0 0.0
comp=Z,14nm,0.8s,baz=112,slow=2.0,SNR=12
DBIC SKPbc **SKPbc** 23 54 54.0 +1.6
comp=Z,16nm,1.0s,baz=181,slow=9.2,SNR=5.8
DBIC **Dimbokro** 130.47 282 PKIKP **PKiKP** 23 51 33.0 0.0
K62A **Royalston** 130.47 18 IAMs_20 IAMs_20 00 44 50.2
comp=Z,808nm,21.0s

Z47A	**Carrollton**	**130.49**	**39**	IAMs_20	IAMs_20	00 44 19.9		
	comp=Z,809nm,21.0s							
TZTN	**Tazewell**	**130.76**	**32**	IAMs_20	IAMs_20	00 43 03.2		
	comp=Z,704nm,21.0s							
W50A	**Signal Mountai**	**130.77**	**35**	IAMs_20	IAMs_20	00 46 08.7		
	comp=Z,731nm,22.0s							
HRV	**Adam Dziewonsk**	**130.83**	**18**	IAMs_20	IAMs_20	00 48 02.5		
	comp=Z,800nm,21.0s							
S54A	**Dingess, Beckl**	**130.94**	**29**	IAMs_20	IAMs_20	00 57 04.8		
	comp=Z,570nm,21.0s							
Q56A	**Snyder Ridge,**	**130.95**	**27**	IAMs_20	IAMs_20	00 43 46.6		
	comp=Z,601nm,22.0s							
WES	**Weston**	**131.01**	**18**	IAMs_20	IAMs_20	00 51 50.4		
	comp=Z,810nm,22.0s							
CPCT	**Cooper Cave**	**131.03**	**34**	IAMs_20	IAMs_20	00 48 18.7		
	comp=Z,660nm,20.0s							
R55A	**Marlinton**	**131.14**	**28**	PKPdf	**PKPdf**	**23 51 32.7**	**-0.2**	
R55A				IAMs_20	IAMs_20	00 53 54.6		
	comp=Z,611nm,20.0s							
TKL	**Tuckaleechee C**	**131.30**	**33**	SKPbc	**SKPab**	**23 54 57.7**	**+2.4**	
	comp=Z,10nm,0.9s,baz=99,slow=1.3,SNR=5.5							
MVL	**Millersville**	**131.35**	**24**	IAMs_20	IAMs_20	00 46 33.0		
	comp=Z,801nm,22.0s							
PAL	**Palisades**	**131.40**	**21**	IAMs_20	IAMs_20	00 55 59.9		
	comp=Z,792nm,21.0s							
BRNJ	**Basking Ridge**	**131.45**	**22**	IAMs_20	IAMs_20	00 46 09.2		
	comp=Z,743nm,22.0s							
WSPT	**Westport, CT**	**131.46**	**20**	IAMs_20	IAMs_20	00 46 57.1		
	comp=Z,841nm,22.0s							
X51A	**Calhoun**	**131.48**	**35**	IAMs_20	IAMs_20	00 57 36.7		
	comp=Z,712nm,20.0s							
N62A	**Caumsett State**	**131.62**	**20**	IAMs_20	IAMs_20	00 47 02.7		
	comp=Z,748nm,22.0s							
W52A	**Murphy**	**131.63**	**34**	IAMs_20	IAMs_20	00 55 31.3		
	comp=Z,677nm,20.0s							
U54A	**Nelsons Funny**	**131.68**	**31**	IAMs_20	IAMs_20	00 43 27.5		
	comp=Z,675nm,22.0s							
WUPA	**West Chester U**	**131.71**	**23**	IAMs_20	IAMs_20	00 44 07.2		
	comp=Z,468nm,22.0s							
BLA	**Blacksburg**	**131.84**	**29**	IAMs_20	IAMs_20	00 53 14.5		
	comp=Z,696nm,20.0s							
S57A	**Dark Hollow, R**	**132.10**	**28**	IAMs_20	IAMs_20	00 57 28.1		
	comp=Z,448nm,20.0s							
Y52A	**Lilburn**	**132.44**	**35**	IAMs_20	IAMs_20	00 50 25.1		
	comp=Z,650nm,22.0s							
V55A	**Taylorsville**	**132.51**	**31**	IAMs_20	IAMs_20	00 53 02.4		
	comp=Z,790nm,22.0s							
U56A	**King**	**132.54**	**30**	IAMs_20	IAMs_20	01 00 25.1		
	comp=Z,580nm,21.0s							
152A	**Waverly Hall**	**132.91**	**37**	IAMs_20	IAMs_20	00 49 43.7		
	comp=Z,641nm,19.0s							
PAULI	**Pauline**	**132.98**	**32**	PKPdf	**PKiKP**	**23 51 37.6**	**0.0**	
PAULI				IAMs_20	IAMs_20	00 55 28.1		
	comp=Z,741nm,22.0s							
KMSC	**Kings Mountain**	**132.99**	**32**	IAMs_20	IAMs_20	00 51 29.3		
	comp=Z,730nm,20.0s							
HODGE	**Hodges**	**133.19**	**33**	IAMs_20	IAMs_20	00 51 28.6		
	comp=Z,705nm,20.0s							
V58A	**Windy Hill, Pi**	**133.61**	**29**	IAMs_20	IAMs_20	00 53 22.2		
	comp=Z,530nm,20.0s							
352A	**Blakely**	**133.61**	**38**	IAMs_20	IAMs_20	00 42 05.0		
	comp=Z,765nm,22.0s							
W57A	**Gilead**	**133.68**	**31**	IAMs_20	IAMs_20	00 56 09.2		
	comp=Z,718nm,21.0s							
451A	**Vernon**	**133.68**	**40**	IAMs_20	IAMs_20	01 02 53.5		
	comp=Z,663nm,19.0s							
JSC	**Jenkinsville**	**133.69**	**32**	IAMs_20	IAMs_20	00 47 13.8		
	comp=Z,651nm,20.0s							
BIRD	**Birdtown, Kers**	**133.83**	**31**	IAMs_20	IAMs_20	00 53 28.4		
	comp=Z,648nm,20.0s							
CMIG	**Matias Romero**	**133.91**	**62**	PKP	**PKiKP**	**23 51 40.0**	**+0.1**	
	comp=Z,12nm,0.8s,baz=311,slow=2.7,SNR=11							
W59A	**Clinton**	**134.44**	**29**	IAMs_20	IAMs_20	00 53 55.1		
	comp=Z,586nm,20.0s							
V61A	**Roper**	**134.80**	**27**	IAMs_20	IAMs_20	00 56 56.5		
	comp=Z,577nm,21.0s							
Y58A	**Scranton**	**134.82**	**31**	IAMs_20	IAMs_20	00 52 44.5		
	comp=Z,550nm,20.0s							
NHSC	**New Hope**	**135.17**	**33**	IAMs_20	IAMs_20	00 43 56.9		
	comp=Z,643nm,22.0s							
CSU	**Charleston Sou**	**135.32**	**33**	IAMs_20	IAMs_20	00 57 46.8		
	comp=Z,600nm,20.0s							
Y60A	**Bolivia**	**135.48**	**30**	IAMs_20	IAMs_20	00 46 05.8		
	comp=Z,755nm,22.0s							
456A	**Hilliard**	**135.90**	**36**	IAMs_20	IAMs_20	00 48 34.8		
	comp=Z,760nm,21.0s							
DWPF	**Disney Wildern**	**138.13**	**39**	IAMs_20	IAMs_20	00 58 46.1		
	comp=Z,671nm,20.0s							
LL01	**San Ignacio de**	**138.18**	**159**	PKPdf	**PKPdf**	**23 51 45.4**	**-0.4**	
060A	**Indiantown**	**139.56**	**39**	IAMs_20	IAMs_20	00 49 12.9		
	comp=Z,606nm,20.0s							
PLCA	**Paso Flores**	**140.29**	**159**	PKhKP	PKPpre	23 51 40.9		
	comp=Z,2.8nm,0.9s,baz=175,slow=8.6,SNR=5.4							
PLCA				PKP	**PKPdf**	**23 51 50.1**	**+0.2**	
	comp=Z,6.3nm,1.0s,baz=336,slow=1.7,SNR=7.9							
PLCA	**Paso Flores**	**140.29**	**159**	*eP*	**PKPdf**	**23 51 49.4**	**-0.5**	
SOR	**Soroa**	**140.62**	**46**	IAMs_20	IAMs_20	01 04 15.1		
	comp=Z,483nm,19.0s							
SOR	**Soroa**	**140.62**	**46**	*eP*	**PKiKP**	**23 51 58.0**	**+4.6**	
BBSR	**BB Station**	**142.24**	**16**	IAMs_20	IAMs_20	00 55 29.2		
	comp=Z,611nm,20.0s							
HERN	**Volcan Telica**	**142.83**	**63**	IAMs_20	IAMs_20	00 47 18.0		
	comp=Z,341nm,20.0s							
MGV	**Manicaragua**	**143.20**	**44**	*eP*	**PKiKP**	**23 51 57.1**	**-1.6**	
CAIB	**Caibarien**	**143.29**	**43**	*eP*	**PKPdf**	**23 51 56.7**	**+1.1**	
SIUN	**Universidad Ur**	**144.16**	**60**	IAMs_20	IAMs_20	00 47 21.8		
	comp=Z,319nm,21.0s							
CBCY	**The Bluff, Cay**	**144.89**	**47**	*eP*	**PKPdf**	**23 51 59.8**	**+1.3**	
BILN	**Bilwi Airport**	**145.20**	**58**	IAMs_20	IAMs_20	00 47 44.2		
	comp=Z,327nm,20.0s							
TRQA	**Tornquist**	**145.21**	**168**	*eP*	**PKPab**	**23 51 58.3**	**0.0**	
TRQA	**Tornquist**	**145.21**	**168**	*eP*	**PKPbc**	**23 51 56.6**	**-1.6**	
LTUP	**Las Tunas**	**146.01**	**42**	*eP*	**PKiKP**	**23 52 03.1**	**-1.4**	
HDC	**Heredia**	**146.31**	**65**	*eP*	**PKPdf**	**23 51 59.8**	**-1.4**	
PILO	**Pilon**	**146.45**	**44**	*eP*	**PKPab**	**23 52 05.1**	**+0.6**	
MT05	**Renca**	**146.56**	**153**	IAMs_20	IAMs_20	00 38 12.7		
	comp=Z,372nm,20.0s							
LMGC	**Las Mercedes**	**146.62**	**43**	*eP*	**PKPab**	**23 52 03.7**	**-0.3**	
HLGC	**Holguin**	**146.68**	**41**	*eP*	**PKPab**	**23 52 04.7**	**+0.4**	
ROC1	**El Roble**	**146.78**	**152**	*eP*	**PKPab**	**23 52 04.3**	**-0.4**	
PEL	**Peldehue**	**146.79**	**153**	*eP*	**PKPdf**	**23 52 01.3**	**-0.2**	
CHIV	**Chivirico**	**147.09**	**43**	IAMs_20	IAMs_20	00 39 06.8		
	comp=Z,144nm,19.0s							
CHIV	**Chivirico**	**147.09**	**43**	*eP*	**PKPab**	**23 52 05.1**	**-0.7**	
PINC	**Pinares de May**	**147.14**	**41**	*eP*	**PKPbc**	**23 52 04.0**	**-0.5**	
VA03	**San Esteban**	**147.17**	**153**	*eP*	**PKPdf**	**23 52 02.4**	**+0.2**	
MARVS	**Santiago de Cu**	**147.41**	**42**	*eP*	**PKPbc**	**23 52 06.1**	**+0.8**	
MTNJ	**Mount Denham**	**147.47**	**46**	*eP*	**PKPbc**	**23 52 04.3**	**+0.7**	
AAGR	**Agrelo**	**147.65**	**155**	*eP*	**PKPbc**	**23 52 05.9**	**+0.2**	
ARCO	**CERRO ARCO**	**147.82**	**155**	*eP*	**PKPbc**	**23 52 06.0**	**-0.3**	
GTBY	**Guantanamo Bay**	**147.99**	**41**	PKPdf	**PKPdf**	**23 52 01.6**	**-2.1**	
GTBY				IAMs_20	IAMs_20	00 51 02.7		
	comp=Z,654nm,22.0s							
GTBY	**Guantanamo Bay**	**147.99**	**41**	*eP*	**PKiKP**	**23 52 08.3**	**-0.4**	
QMBU	**Quimbuelo**	**147.99**	**40**	*eP*	**PKPbc**	**23 52 05.5**	**-1.3**	
BRU2	**Volcan**	**148.07**	**66**	IAMs_20	IAMs_20	00 53 21.3		
	comp=Z,575nm,19.0s							
ASAL	**Salagasta**	**148.07**	**155**	*eP*	**PKPbc**	**23 52 05.4**	**-1.4**	
STH	**Stony Hill**	**148.09**	**46**	*eP*	**PKiKP**	**23 52 08.2**	**-0.8**	
CO02	**Combarbal**	**148.24**	**150**		**PKPbc**	**23 52 07.6**	**+0.2**	
MASC	**Masc**	**148.38**	**40**	*eP*	**PKiKP**	**23 52 09.4**	**0.0**	
RTLS	**Leoncito**	**148.55**	**153**	*eP*	**PKPbc**	**23 52 07.4**	**-1.0**	
ACAN	**Cantantal**	**149.02**	**157**	*eP*	**PKPdf**	**23 52 06.2**	**+1.1**	
CFA	**Coronel Fontan**	**149.18**	**155**	PKP	**PKPdf**	**23 52 05.8**	**+0.3**	
	comp=Z,12nm,0.7s,baz=234,slow=3.7,SNR=8.8							
CFA				PKPbc	**PKiKP**	**23 52 10.5**	**-0.3**	
	comp=Z,12nm,0.7s,baz=249,slow=2.6,SNR=22							
GO04	**Tololo Observa**	**149.18**	**149**	PKPbc	**PKPbc**	**23 52 09.4**	**-0.5**	
MRA	**San Martin**	**149.45**	**159**	*eP*	**PKPdf**	**23 52 07.2**	**+1.3**	
ACCO	**Cerro Coronel**	**149.68**	**152**	*eP*	**PKPdf**	**23 52 06.8**	**+0.2**	
AROD	**Rodeo**	**149.84**	**151**	*eP*	**PKPdf**	**23 52 09.0**	**+2.1**	
ACHE	**Chepes**	**150.22**	**157**	*eP*	**PKPdf**	**23 52 08.9**	**+1.6**	
AVFE	**Valle Fertil**	**150.33**	**155**	*eP*	**PKPdf**	**23 52 08.6**	**+1.2**	
BCIP	**Isla Barro Col**	**150.50**	**64**	PKPbc	**PKPbc**	**23 52 12.4**	**-0.9**	
BCIP	**Isla Barro Col**	**150.50**	**64**	PKIKP	**PKPbc**	**23 52 12.4**	**-0.9**	
TCA	**Tanti**	**150.82**	**160**	*eP*	**PKPdf**	**23 52 09.7**	**+1.6**	
PAPH	**Port-au-Prince**	**150.82**	**39**	*eP*	**PKPdf**	**23 52 10.6**	**+2.3**	
APLL	**PUNTA DE LOS L**	**150.94**	**156**	*eP*	**PKPdf**	**23 52 09.2**	**+0.9**	
SDDR	**Presa de Saban**	**151.10**	**37**	*eP*	**PKiKP**	**23 52 15.8**	**+0.6**	
GO03	**Copiapo**	**151.54**	**147**	*eP*	**PKPbc**	**23 52 14.2**	**-1.3**	
ACLC	**CERRO LA CRUZ**	**151.61**	**154**	*eP*	**PKPdf**	**23 52 10.0**	**+0.6**	
PLTB	**Pedras Altas**	**152.40**	**179**	PKPbc	**PKPbc**	**23 52 15.8**	**-1.4**	
PLTB	**Pedras Altas**	**152.40**	**179**	*eP*	**PKPdf**	**23 52 08.8**	**-1.6**	
AC02	**Maricunga**	**152.73**	**148**	*eP*	**PKPdf**	**23 52 14.0**	**+2.4**	
PSAL	**Palomas, Salto**	**152.77**	**172**	*eP*	**PKPdf**	**23 52 07.4**	**-3.4**	
CPSB	**Cacapava Do Su**	**153.75**	**180**	*eP*	**PKPdf**	**23 52 11.3**	**-1.1**	
SMRC	**Santa Marta, M**	**154.31**	**54**	IAMs_20	IAMs_20	01 14 00.8		
	comp=Z,636nm,22.0s							
OTAV	**Otavalo**	**154.53**	**81**	IAMs_20	IAMs_20	00 49 18.4		
	comp=Z,555nm,21.0s							
SJG	**San Juan**	**154.63**	**30**	IAMs_20	IAMs_20	01 09 10.1		
	comp=Z,482nm,22.0s							
PDPR	**Patillas Dam,**	**154.78**	**29**	IAMs_20	IAMs_20	01 01 53.8		
	comp=Z,395nm,20.0s							
ATAH	**Atahualpa**	**154.85**	**98**	PKP	**PKPdf**	**23 52 15.0**	**+0.2**	
	comp=Z,9.1nm,1.0s,baz=289,slow=4.6,SNR=6.4							
ATAH				PKPbc	**PKiKP**	**23 52 24.0**	**+0.5**	
	comp=Z,19nm,0.8s,baz=276,slow=3.5,SNR=13							
FSA	**Cafayete**	**154.90**	**152**	*eP*	**PKPdf**	**23 52 15.9**	**+1.7**	
NNA	**Nana**	**155.41**	**110**	PKP	**PKPdf**	**23 52 16.0**	**+0.9**	
	comp=Z,6.0nm,0.5s,baz=138,slow=9.3,SNR=1.7							
NNA	**Nana**	**155.41**	**110**	PKIKP	**PKPdf**	**23 52 16.0**	**+0.9**	
ITAB	**Concordia**	**156.88**	**183**	*eP*	**PKPdf**	**23 52 14.8**	**-1.8**	
CPUP	**Villa Florida**	**157.48**	**171**	PKP	**PKPdf**	**23 52 17.6**	**+0.1**	
	comp=Z,1.3nm,1.0s,baz=255,slow=2.9,SNR=6.2							
CPUP				PKPab	**PKPab**	**23 52 48.9**	**0.0**	
	comp=Z,5.5nm,0.8s,baz=39,slow=3.1,SNR=11							
RUSC	**La Rusia**	**157.95**	**64**	IAMs_20	IAMs_20	01 19 39.6		
	comp=Z,478nm,21.0s							
SDV	**Santo Domingo**	**158.50**	**53**	*eP*	**PKPdf**	**23 52 17.9**	**-1.4**	
PET01	**Itanhaem-SP**	**159.02**	**196**	*eP*	**PKPdf**	**23 52 18.3**	**-1.0**	
DUB01	**Friburgo-RJ**	**159.14**	**210**	*eP*	**PKPdf**	**23 52 18.1**	**-1.5**	
SVN	**Savane Anatole**	**159.72**	**22**	IAMs_20	IAMs_20	01 11 16.9		
	comp=Z,476nm,21.0s							
CZSB	**Cruzeiro do Su**	**160.37**	**102**	*eP*	**PKPdf**	**23 52 20.5**	**-0.6**	
LPAZ	**La Paz**	**161.01**	**131**	PKP	**PKPdf**	**23 52 23.1**	**+0.5**	
	comp=Z,6.9nm,1.0s,baz=17,slow=2.2,SNR=16							
LPAZ				PKPab	**PKPab**	**23 53 04.8**	**-0.6**	
	comp=Z,12nm,1.0s,baz=194,slow=2.7,SNR=6.0							
LPAZ	**La Paz**	**161.01**	**131**	*eP*	**PKPdf**	**23 52 20.5**	**-2.1**	
AMBA	**Amambai (Brazi**	**161.13**	**175**	*eP*	**PKPdf**	**23 52 21.3**	**-0.5**	
SJMB	**Sao Joao De Ma**	**161.19**	**218**	*eP*	**PKPdf**	**23 52 21.9**	**-0.1**	
CMC01	**Camacan, BA**	**162.35**	**229**	*eP*	**PKPdf**	**23 52 21.5**	**-1.7**	
RCBR	**Riachuelo**	**162.55**	**263**	PKP	**PKPdf**	**23 52 23.6**	**+0.1**	
	comp=Z,6.8nm,1.1s,baz=26,slow=22,SNR=3.9							
RCBR				PKPab	**PKPab**	**23 53 12.1**	**+0.3**	
	comp=Z,24nm,0.9s,baz=93,slow=9.9,SNR=17							
TBTG	**Tabatinga, AM**	**163.45**	**91**	*eP*	**PKPdf**	**23 52 21.5**	**-2.8**	
SIV	**San Ignacio**	**165.87**	**148**	PKP	**PKPdf**	**23 52 26.6**	**+0.2**	
	comp=Z,9.3nm,1.1s,baz=166,slow=2.8,SNR=15							
SIV				PKPab	**PKPab**	**23 53 26.1**	**+0.2**	
	comp=Z,12nm,1.2s,baz=226,slow=8.1,SNR=6.4							
JANB	**Januaria**	**165.89**	**218**	*eP*	**PKPdf**	**23 52 24.5**	**-1.9**	
PP1B	**Ponte de Pedra**	**166.41**	**174**	*eP*	**PKPdf**	**23 52 26.1**	**-0.6**	
BDFB	**Brasilia**	**167.32**	**204**	PKP	**PKPdf**	**23 52 27.5**	**-0.1**	
	comp=Z,7.3nm,1.0s,baz=107,slow=1.8,SNR=4.9							
BDFB				PKPab	**PKPab**	**23 53 31.0**	**-1.3**	
	comp=Z,8.9nm,1.0s,baz=155,slow=9.6,SNR=4.4							
SALV	**Santo Antonio**	**167.96**	**169**	*eP*	**PKPdf**	**23 52 26.6**	**-1.4**	
SMTB	**Santa Maria do**	**172.54**	**229**	*eP*	**PKPdf**	**23 52 28.8**	**-1.8**	
ITTB	**Itaituba**	**177.57**	**98**	*eP*	**PKPdf**	**23 52 32.4**	**+0.4**	

*UCR **10** 23:44:07.5±1.1, 11°.08N×86°.53W, h0km±6km, MW4.5*
*CATAC **10** 23:44:08.3±0.8, 11°.N±3°×.8°.7W±°, h19km±7km, M3.9/19, MLv3.9/19, Error ellipse: s-maj=8.6km s-min=4.2km az=53.1, confirmed*

ISC 10 23:44:07.3±1.6, 11°.07N±0°.04×86°.58W±0°.06, h10km±10km, n57, σ0.93/66, 2C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**0.86**	**38**	*eP*	**Pb**	**23 44 25.1**	**+0.7**
NADN				*eS*	**Sn**	**23 44 37.5**	**-0.7**
NADN	**Granada**	**0.86**	**38**	P	**Pb**	**23 44 24.9**	**+0.5**
NADN				S	**Sn**	**23 44 38.1**	**-0.1**
LCRUZ	**La Cruz**	**0.93**	**89**	*eP*	**Pg**	**23 44 25.1**	**-0.2**
LCRUZ				*eS*	**Sb**	**23 44 37.9**	**-0.1**
SABN	**Sabanita**	**0.97**	**25**	P	**Pb**	**23 44 26.7**	**+0.4**
NANN	**Nandasmo**	**0.97**	**27**	P	**Pn**	**23 44 27.8**	**+0.8**
NANN	**Nandasmo**	**0.97**	**27**	S	**Sn**	**23 44 41.2**	**+0.2**
JAPN	**AI SSO del Vol**	**0.99**	**63**	*eP*	**Pb**	**23 44 26.8**	**+0.2**
JAPN	**AI SSO del Vol**	**0.99**	**63**	P	**Pb**	**23 44 26.8**	**+0.2**
MORN	**AI O del Volca**	**1.03**	**62**	P	**Pg**	**23 44 26.6**	**-0.5**
CARN	**Rivas**	**1.04**	**83**	*eP*	**Pg**	**23 44 27.0**	**-0.4**
CARN				*eS*	**Sn**	**23 44 42.2**	**-0.4**
CARN	**Rivas**	**1.04**	**83**	P	**Pg**	**23 44 26.9**	**-0.4**
CARN				S	**Sb**	**23 44 41.3**	**+0.1**
CONN	**Concepcion**	**1.06**	**62**	P	**Pg**	**23 44 26.9**	**-0.7**
ABCN	**Banco Central**	**1.08**	**14**	S	**Sg**	**23 44 42.4**	**+0.2**
UNAN	**Cigeo UNAN**	**1.08**	**16**	P	**Pg**	**23 44 28.5**	**+0.4**
UNAN				S	**Sn**	**23 44 43.8**	**+0.2**
ELI1	**Hacienda Flor**	**1.09**	**113**	P	**Pb**	**23 44 28.6**	**+0.3**
ELI1	**Hacienda Flor**	**1.09**	**113**	S	**Sn**	**23 44 44.0**	**+0.2**
COPN	**Copaltepe**	**1.11**	**359**	*eP*	**Pb**	**23 44 28.6**	**+0.1**
COPN	**Copaltepe**	**1.11**	**359**	P	**Pb**	**23 44 28.6**	**+0.1**
SAPS	**Ciudad Sandino**	**1.11**	**9**	S	**Sb**	**23 44 43.6**	**+0.5**
SAPS	**Ciudad Sandino**	**1.11**	**9**	⇑P	**Pb**	**23 44 28.8**	**+0.3**
TISN	**Laguna Tiscapa**	**1.11**	**16**	⇑P	**Pb**	**23 44 28.5**	**-0.1**
TISN				S	**Sb**	**23 44 44.1**	**+1.0**
ALIBA	**Liberia Airpor**	**1.12**	**115**	*eP*	**Pb**	**23 44 28.9**	**+0.2**
ALIBA				*eS*	**Sn**	**23 44 45.4**	**+1.0**
MGAN	**Managua**	**1.12**	**17**	P	**Pb**	**23 44 29.2**	**+0.4**
R4DEC	**Barrio San Lui**	**1.12**	**17**	P	**Pb**	**23 44 28.9**	**+0.1**
APQ2	**Apoyeque**	**1.15**	**12**	P	**Pb**	**23 44 29.1**	**-0.2**
WILN	**Americas 2**	**1.15**	**19**	P	**Pb**	**23 44 29.2**	**-0.1**
LAPC	**Finca la Perla**	**1.16**	**105**	*eP*	**Pb**	**23 44 28.9**	**-0.6**
APQ3	**Volcan Apoyequ**	**1.22**	**10**	P	**Pn**	**23 44 30.3**	**0.0**
VRLE	**La Escondida,**	**1.22**	**103**	*eP*	**Pb**	**23 44 30.4**	**-0.1**
GPS3	**Bodega del ICE**	**1.23**	**105**	*eP*	**Pg**	**23 44 31.6**	**+0.6**
VORI	**VORI**	**1.23**	**101**	*eP*	**Pb**	**23 44 30.8**	**0.0**
BUAI	**Buenos Aires**	**1.24**	**99**	*eP*	**Pg**	**23 44 31.1**	**0.0**
GPS1	**Guardaparques**	**1.24**	**103**	*eP*	**Pb**	**23 44 30.7**	**-0.2**
JUD3	**Juan Diaz 3**	**1.36**	**131**	*eP*	**Pn**	**23 44 31.0**	**-1.4**
MOM2	**El Cardon**	**1.36**	**4**	P	**Pn**	**23 44 32.2**	**-0.2**
MOM2				S	**Sb**	**23 44 49.0**	**-1.4**
MESS	**Mesas**	**1.40**	**103**	*eP*	**Pb**	**23 44 33.6**	**+0.1**
PLVR	**Palo Verde**	**1.40**	**121**	*eP*	**Pg**	**23 44 34.2**	**0.0**
COLC	**Colonia**	**1.41**	**106**	*eP*	**Pn**	**23 44 33.0**	**-0.1**
HORNC	**Hornillas**	**1.42**	**104**	*eP*	**Pn**	**23 44 33.4**	**+0.2**
CNGA	**AI SSO del Vol**	**1.42**	**355**	P	**Pn**	**23 44 33.4**	**+0.1**
CUI	**Cuipilapa**	**1.45**	**106**	*eP*	**Pn**	**23 44 33.9**	**+0.3**
VMAR	**Armenia, Volca**	**1.46**	**100**	*eP*	**Pn**	**23 44 33.6**	**-0.2**
INVE	**Universidad In**	**1.60**	**111**	*eP*	**Pn**	**23 44 36.5**	**+0.8**
TIMP	**Tierras Morena**	**1.61**	**107**	*eP*	**Pn**	**23 44 36.4**	**+0.6**
TENO	**El Achiote**	**1.61**	**103**	*eP*	**Pn**	**23 44 36.7**	**+0.8**
ACON	**Acoyapa**	**1.64**	**57**	*eP*	**Pn**	**23 44 34.6**	**-1.6**
QUEB	**Quebradon, Cot**	**1.71**	**105**	*eP*	**Pn**	**23 44 37.9**	**+0.7**
CASO	**Castillo**	**1.92**	**109**	*eP*	**Pb**	**23 44 41.5**	**-1.0**
ARE1	**Arenal 1**	**1.92**	**108**	*eP*	**Pn**	**23 44 41.5**	**+1.4**
VARE2	**V. Arenal**	**1.92**	**108**	*eP*	**Pn**	**23 44 41.5**	**+1.3**
CEDE	**Laguna Cedeo**	**1.93**	**107**	*eP*	**Pn**	**23 44 41.5**	**+1.2**
SOCE	**Pocosol**	**2.04**	**109**	*eP*	**Pn**	**23 44 43.3**	**+1.5**
PICV	**PH. Pirrs**	**2.75**	**121**	*eP*	**Pn**	**23 44 52.0**	**+0.6**
VCA	**Vinchina**	**43.37**	**156**	*eP*	**P**	**23 52 12.0**	**+1.8**
AGUA	**GUANDACOL**	**43.93**	**157**	*eP*	**P**	**23 52 10.6**	**-4.0**
AANI	**Anillaco**	**43.95**	**155**	*eP*	**P**	**23 52 17.8**	**+2.9**
RPRD	**Ribas do Rio P**	**45.04**	**134**	*eP*	**P**	**23 52 22.8**	**-0.7**

*DJA **10** 23:46:07.2±0.9, 4°.N±8°×12°.7E±°, h22km±3km, M4.6/14, mB5.2/2, mb4.7/11, MLv4.6/14, Mw(mB)4.6/2*
*NEIC **10** 23:46:09.6±2.2, 4°.08N±0°.08×126°.67E±0°.08, h35km±1km, mb4.6/41, Error ellipse: s-maj=15.8km s-min=11.3km az=227.0*
*IDC **10** 23:46:17.4±1.5, 3°.86N×126°.54E, h118km±13km, mb3.9/25, mbtmp4.3/27, Error ellipse: s-maj=24.9km s-min=8.7km az=72.0*

ISC 10 23:46:09.9±0.4, 4°.05N±0°.05×126°.70E±0°.07, h45km, n99, σ1.9/11/98, mb4.5/46, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.23**	**253**	P	**Pn**	**23 46 30.1**	**-0.5**
SGSI				S	**Sn**	**23 46 47.6**	**+1.5**
DAV	**Davao City (W)**	**3.20**	**340**	P	Pn	23 47 07.3	+10
	157nm,0.3s,baz=306,slow=4.4,SNR=1.7						
DAV				S	Sn	23 47 49.7	+15
	206nm,0.4s,baz=257,slow=20,SNR=4.5						
TNTI	**Ternate**	**3.33**	**169**	Pn	**Pn**	**23 46 58.8**	**-0.7**
TNTI	**Ternate**	**3.33**	**169**	P	**Pn**	**23 47 00.3**	**+0.9**
KMSI	**Cibinong**	**4.40**	**218**	P	**Pn**	**23 47 14.3**	**+0.2**
MRSI	**Marisa**	**5.94**	**233**	P	**Pn**	**23 47 36.6**	**+1.3**
SANI	**Sanana**	**6.10**	**187**	P	**Pn**	**23 47 35.7**	**-1.9**
	0.1nm21nm,0.7s						
LUWI	**Luwuk**	**6.41**	**218**		**Pn**	**23 47 42.6**	**+0.8**
LUWI	**Luwuk**	**6.41**	**218**	P	**Pn**	**23 47 42.9**	**+1.2**
	0.5nm2µm103nm,0.6s						
TOLI2	**Tolitoli**	**6.60**	**244**		**Pn**	**23 47 44.0**	**-0.3**
APSI	**Ampana**	**7.06**	**226**	P	**Pn**	**23 47 51.3**	**+0.6**
	0.4nm89nm,0.8s						
NLAI	**Namlea**	**7.25**	**177**	P	**Pn**	**23 47 53.7**	**+0.3**
	0.2nm52nm,1.4s						
AAI	**Ambon**	**7.83**	**169**	P	**Pn**	**23 47 58.6**	**-2.7**
	42nm,0.7s						
MYLDM	**Lahad Datu**	**8.25**	**278**	Pn	**Pn**	**23 48 06.3**	**-0.8**
FAKI	**Fak Fak**	**8.87**	**141**	Pn	**Pn**	**23 48 16.4**	**+0.9**
FAKI	**Fak Fak**	**8.87**	**141**	P	**Pn**	**23 48 14.2**	**-1.3**
	43nm,1.2s						
BNDI	**Bandanaira**	**9.10**	**159**	P	**Pn**	**23 48 18.6**	**-0.1**
TTSI	**Tana Toraja**	**9.85**	**224**	P	**Pn**	**23 48 29.0**	**0.0**
JAY	**Jayapura**	**15.44**	**115**	P	**P**	**23 49 48.6**	**0.0**
	3.1nm,0.4s,baz=180,slow=8.1,SNR=3.5						
MTN	**Manton Dam**	**17.35**	**165**		**Pn**	**23 50 08.1**	**-0.8**
JAGI	**

H23K	**Yukon River**	**83.76**	**24**	IAmb	IAmb	23 58 36.7	
	comp=Z,5.6nm,0.8s						
ILAR	**Eielson Array**	**84.83**	**25**	P	**P**	**23 58 39.9**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=240,slow=6.8,SNR=5.8						
	comp=Z,0.6nm,0.7s						
BMAR	**Burnt Mountain**	**85.79**	**23**	P	**P**	**23 58 45.7**	**+1.4**
MMAI	**Mount Meron Ar**	**88.91**	**303**	P	**P**	**23 59 00.5**	**+0.4**
	comp=Z,3.5nm,0.4s,baz=61,slow=9.1,SNR=1.7						
	comp=Z,0.3nm,0.4s						
BRTR	**Keskin Array B**	**89.80**	**310**	P	**P**	**23 59 03.5**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=125,slow=2.5,SNR=7.0						
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**90.14**	**340**	P	**P**	**23 59 04.4**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=84,slow=6.2,SNR=8.4						
	comp=Z,0.7nm,0.4s						
FINES	**FINESS Array B**	**91.54**	**332**	P	**P**	**23 59 11.4**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=72,slow=3.9,SNR=16						
	comp=Z,2.1nm,0.7s						
AKASG	**Malin Array Be**	**91.63**	**321**	P	**P**	**23 59 11.3**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=69,slow=4.4,SNR=5.4						
	comp=Z,0.7nm,0.4s						
QSPA	**South Pole Qui**	**93.96**	**180**	P	**P**	**23 59 26.0**	**+3.2**
QSPA				IAmb	IAmb	23 59 27.2	
	comp=Z,5.6nm,1.4s						
QSPA	**South Pole Qui**	**93.96**	**180**	P	**P**	**23 59 26.1**	**+3.3**
	comp=Z,1.5nm,1.0s,baz=12,slow=3.5,SNR=2.1						
MLR	**Muntele Rosu**	**94.65**	**316**	P	**P**	**23 59 26.1**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=333,slow=6.8,SNR=3.4						
	comp=Z,2.2nm,0.7s						
BUR08	**Bucovina Ar. S**	**94.75**	**318**	P	**P**	**23 59 26.6**	**-0.2**
HFS	**Hagfors**	**97.72**	**332**	P	**P**	**23 59 39.2**	**-0.7**
	comp=Z,4.3nm,1.0s,baz=106,slow=4.8,SNR=6.2						
NOA	**NORSAR Array B**	**98.49**	**334**	P	**P**	**23 59 42.7**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=82,slow=6.0,SNR=1.5						
	comp=Z,0.2nm,0.4s						
SCHQ	**Schefferville**	**120.25**	**9**	PKP	**PKPdf**	**00 04 55.8**	**-0.3**
	comp=Z,45nm,0.9s,baz=257,slow=2.0,SNR=3.1						
TORD	**Torodi Ar. Bea**	**122.79**	**288**	PKPdf	**PKPdf**	**00 05 01.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**122.79**	**288**	PKP	**PKPdf**	**00 05 01.5**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=76,slow=1.9,SNR=7.3						
BOAB	**BOACO BROADBAN**	**148.89**	**63**	PKPdf	**PKPdf**	**00 05 40.7**	**-0.7**

IDC ***10*** *23:54:50.0±0.6, 14°.36N×91°.80W, h0km, mb4.3/18, mbtmp4.3/20, ML4.3/2, MS3.8/6, Error ellipse: s-maj=29.3km s-min=10.7km az=60.0*

GCMT ***10*** *23:54:51.7±0.5, 13°.82N±0°.03×92°.46W±0°.03, h36km, MW5.0/56, Moment Tensor Solution. s37,c42; s56,c74; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.69±.30; Mθθ-3.62±.17; Mϕϕ-1.07±.18; Mrθ0.84±.14; Mrϕ1.24±.09; Mθϕ0.14±.15; Best double couple: M0 4.48600×10^16 NP1:ϕs107.00000°, δ50.00000°, λ84.00000°. NP2: ϕs107.00000°, δ50.00000°, λ84.00000°. Principal axes: T 4.7870, Plg83.0000°, Azm336.0000°; N -0.6040, Plg5.0000°, Azm111.0000°; P -4.1840, Plg5.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

SNET ***10*** *23:54:52.8±2.7, 14°.10N×92°.45W, h29km, ML5.0*

CATAC ***10*** *23:54:53.3±0.6, 14°.N±2°×9°.2W±°, h1km, M5.1/13, MLv5.1/13, Error ellipse: s-maj=8.4km s-min=5.1km az=80.9, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr1.67; Mθθ-1.69; Mϕϕ0.02; Mrθ-0.19; Mθϕ0.61; Mϕr-0.35; Fault plane solution: M0 1.83053×10^16 NP1: ϕs121.52852°, δ45.47272°, λ110.13494°. NP2: ϕs273.92624°, δ47.98336°, λ70.71201°. Principal axes: T 1.7682, Plg75.7328°, Azm112.5279°; N 0.1189, Plg14.2060°, Azm287.1098°; P -1.8871, Plg1.2926°, Azm17.4370°; confirmed*

GCG ***10*** *23:54:55.6±1.9, 14°.07N×92°.17W, h11km±10km, MD4.2, ML5.0, MW4.4*

NEIC ***10*** *23:54:56.7±2.2, 14°.17N±0°.06×92°.26W±0°.05, h35km±1km, mb4.8/448, Error ellipse: s-maj=10.3km s-min=7.9km az=185.0*

MEX ***10*** *23:54:56.1±1.2, 14°.07N×92°.48W, h16km±49km, MD4.8*

RSNC ***10*** *23:55:00.9±3.0, 14°.N±10°×9°.2W±2°.2, h37km±20km, M4.5, mB5.2, mb4.7, ML4.2, Mw(mB)4.5*

ISC 10 23:54:55.1±0.5, 14°.07N±0°.05×92°.34W±0°.04, h40km±5km, n695, σ1 72/563, mb4.8/204, MS3.8/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RTAL	**Retalhuleu**	**0.77**	**54**			**Pn**	**23 55 09.7**	**+0.1**
RTAL				Sn		**Sn**	**23 55 17.2**	**-2.8**
RTAL	**Retalhuleu**	**0.77**	**54**	*eP*		**Pn**	**23 55 09.3**	**-0.3**
RTAL				*eS*		**Sn**	**23 55 18.0**	**-2.0**
RTAL	**Retalhuleu**	**0.77**	**54**	*iP*		**Pn**	**23 55 09.7**	**+0.1**
RTAL				*eS*		**Sn**	**23 55 19.7**	**-0.3**
SMCA	**Catarina**	**0.82**	**18**	*iP*		**Pn**	**23 55 09.7**	**-0.6**
SMCA				*iS*		**Sn**	**23 55 21.4**	**+0.1**
SMCA				IAML			23 55 39.0	
	comp=N,24μm,0.9s							
THIG		**0.84**	**5**	*eP*		**Pn**	**23 55 09.9**	**-0.5**
THIG				*eS*		**Sn**	**23 55 19.9**	**-1.7**
THIG		**0.84**	**5**	*iP*		**Pn**	**23 55 10.1**	**-0.4**
THIG				*iS*		**Sn**	**23 55 22.4**	**+0.8**
THIG				IAML			23 55 39.3	
	comp=N,58μm,0.7s							
CHUJ	**Union Juarez**	**1.04**	**12**	*eP*		**Pn**	**23 55 12.6**	**-0.9**
CHUJ				*eS*		**Sn**	**23 55 25.8**	**-1.2**
PATR	**El Naranjo**	**1.05**	**6**	*eP*		**Pn**	**23 55 12.5**	**-1.0**
PATR				*eS*		**Sn**	**23 55 26.4**	**-0.7**
PAVE	**Pavencul**	**1.13**	**8**	*eP*		**Pn**	**23 55 13.8**	**-0.8**
PAVE				*eS*		**Sn**	**23 55 27.2**	**-2.0**
SOKI	**Kika Raxquin**	**1.18**	**50**	*iP*		**Pn**	**23 55 15.5**	**+0.1**
SOKI				*iS*		**Sn**	**23 55 31.3**	**+0.8**
SOKI				IAML			23 55 39.9	
	comp=N,21μm,0.9s							
HUEH	**Huehuetenango**	**1.48**	**33**	Pn		**Pn**	**23 55 20.7**	**+1.1**
HUEH	**Huehuetenango**	**1.48**	**33**	*eP*		**Pn**	**23 55 20.3**	**+0.8**
HUEH				*eS*		**Sn**	**23 55 40.5**	**+2.7**
HUEH	**Huehuetenango**	**1.48**	**33**	*eP*		**Pn**	**23 55 20.6**	**+1.1**
HUEH				*eS*		**Sn**	**23 55 39.8**	**+1.9**
HUEH	**Huehuetenango**	**1.48**	**33**	*iP*		**Pn**	**23 55 20.8**	**+1.3**
HUEH				*iS*		**Sn**	**23 55 40.9**	**+3.1**
HUEH				IAML			23 56 09.9	
	comp=E,27μm,0.6s							
HUEH	**Huehuetenango**	**1.48**	**33**	P		**Pn**	**23 55 20.3**	**+0.8**
ESSG	**Sabana Grande**	**1.50**	**78**	*iP*		**Pn**	**23 55 19.1**	**-0.4**
ESSG				*iS*		**Sn**	**23 55 37.1**	**-0.8**
QUIS	**Sacapulas**	**1.71**	**45**	*iP*		**Pn**	**23 55 24.4**	**+1.8**
QUIS				*iS*		**Sn**	**23 55 48.2**	**+4.9**
QUIS				IAML			23 55 49.1	
	comp=E,15μm,0.4s							
FG8	**Yepocapa, Chim**	**1.73**	**83**	*iP*		**Pn**	**23 55 18.5**	**-4.4**
FG8				*iS*		**Sn**	**23 55 36.0**	**-7.9**
FG16	**Alotenango, Sa**	**1.79**	**83**	*iP*		**Pn**	**23 55 19.6**	**-4.1**
FG16				*iS*		**Sn**	**23 55 38.3**	**-6.9**
FG16				IAML			23 55 41.6	
	comp=N,107μm,0.2s							
GCG4	**OSOP**	**1.83**	**73**	*iP*		**Pn**	**23 55 25.5**	**+1.3**
PCIG		**1.84**	**333**	*eP*		**Pn**	**23 55 23.0**	**-1.1**
PCIG				*eS*		**Sn**	**23 55 42.8**	**-3.4**
CCIG	**Comitan**	**2.21**	**5**	Pn		**Pn**	**23 55 31.7**	**+2.2**
CCIG	**Comitan**	**2.21**	**5**	*eP*		**Pn**	**23 55 31.2**	**+1.7**
CCIG				*eS*		**Sn**	**23 55 56.1**	**+0.4**
CCIG	**Comitan**	**2.21**	**5**	*iP*		**Pn**	**23 55 32.4**	**+2.9**
CCIG				*iS*		**Sn**	**23 56 00.6**	**+4.9**
LOAL	**Lomas de Alarc**	**2.48**	**91**	P		**Pn**	**23 55 33.5**	**+0.4**
LOAL	**Lomas de Alarc**	**2.48**	**91**	S		**Sn**	**23 56 02.0**	**-0.2**
NUBE	**Las Nubes**	**2.49**	**93**	*eP*		**Pn**	**23 55 32.9**	**-0.4**
NUBE				*eS*		**Sn**	**23 56 00.9**	**-1.7**
NUBE	**Las Nubes**	**2.49**	**93**	*iP*		**Pn**	**23 55 34.4**	**+1.1**
NUBE	**Las Nubes**	**2.49**	**93**	P		**Pn**	**23 55 33.0**	**-0.3**
JUAM	**Asuncion Mita**	**2.57**	**84**	*iP*		**Pn**	**23 55 35.2**	**+0.9**
JUAM				IAML			23 56 12.5	
	comp=E,4μm,0.9s							
RTR	**El Retiro**	**2.62**	**93**	*eP*		**Pn**	**23 55 35.7**	**+0.6**
CEVE	**Cerro Verde**	**2.65**	**95**	*eP*		**Pn**	**23 55 35.7**	**+0.1**
CEVE	**Cerro Verde**	**2.65**	**95**	P		**Pn**	**23 55 35.9**	**+0.4**
SBLS	**San Blas**	**2.65**	**95**	*eP*		**Pn**	**23 55 35.7**	**+0.2**
SNJE	**San Jose**	**2.66**	**94**	*eP*		**Pn**	**23 55 35.7**	**0.0**
UNIC	**Universidad Ca**	**2.71**	**91**	P		**Pn**	**23 55 37.1**	**+0.8**
TGBT	**Tuxtla Gutierr**	**2.79**	**345**	*eP*		**Pn**	**23 55 37.4**	**+0.1**
TGBT				*iS*		**Sn**	**23 56 09.3**	**-0.4**
TGIG		**2.80**	**344**	*eP*		**Pn**	**23 55 37.5**	**0.0**
TGIG				*eS*		**Sn**	**23 56 10.5**	**+0.5**
JAYA	**Jayaque - finc**	**2.84**	**98**	*eP*		**Pn**	**23 55 37.7**	**-0.4**
JAYA	**Jayaque - finc**	**2.84**	**98**	*iP*		**Pn**	**23 55 37.7**	**-0.4**
JAYA				*iS*		**Sn**	**23 56 10.5**	**-0.6**
JAYA	**Jayaque - finc**	**2.84**	**98**	P		**Pn**	**23 55 37.6**	**-0.4**
MTO3	**Montecristo**	**2.91**	**83**	Pn		**Pn**	**23 55 39.8**	**+0.7**
MTO3	**Montecristo**	**2.91**	**83**	*iP*		**Pn**	**23 55 39.7**	**+0.6**
MTO3	**Montecristo**	**2.91**	**83**	P		**Pn**	**23 55 40.1**	**+1.0**
ESQI	**Esquipulas**	**2.95**	**80**	Pn		**Pn**	**23 55 40.1**	**+0.6**
PMON	**Piamonte**	**2.96**	**96**	*eP*		**Pn**	**23 55 39.9**	**+0.2**
PMON	**Piamonte**	**2.96**	**96**	P		**Pn**	**23 55 39.9**	**+0.2**
BOQS	**Boqueron**	**2.99**	**96**	*eP*		**Pn**	**23 55 40.4**	**+0.2**
UEES	**Universidad Ev**	**3.03**	**96**	*eP*		**Pn**	**23 55 41.0**	**+0.4**
LOMA	**Loma Larga**	**3.11**	**97**	*eP*		**Pn**	**23 55 41.6**	**-0.1**
LOMA	**Loma Larga**	**3.11**	**97**	P		**Pn**	**23 55 42.2**	**+0.5**
LFRS	**El Faro**	**3.21**	**98**	*eP*		**Pn**	**23 55 43.6**	**+0.4**
LBRS	**Las Brisas**	**3.22**	**95**	*eP*		**Pn**	**23 55 43.5**	**+0.2**
PAVA	**Las Pavas**	**3.32**	**96**	*eP*		**Pn**	**23 55 44.6**	**-0.1**
PAVA	**Las Pavas**	**3.32**	**96**	P		**Pn**	**23 55 44.9**	**+0.2**
UXUV	**UXUV**	**3.67**	**332**	*eP*		**Pn**	**23 55 50.4**	**+1.0**
UXUV				*eS*		**Sn**	**23 56 27.3**	**-4.2**
PETF	**Flores**	**3.70**	**40**	Pn		**Pn**	**23 55 51.5**	**+1.7**
PETF	**Flores**	**3.70**	**40**	*eP*		**Pn**	**23 55 51.8**	**+2.0**
PETF	**Flores**	**3.70**	**40**	*iP*		**Pn**	**23 55 52.0**	**+2.2**
PETF				*eS*		**Sn**	**23 56 31.3**	**-0.9**
PETF	**Flores**	**3.70**	**40**	*iP*		**Pn**	**23 55 52.0**	**+2.2**
PETF				IAML			23 57 12.7	
	comp=N,4μm,0.6s							
CMIG	**Matias Romero**	**3.88**	**321**	Pn		**Pn**	**23 55 52.1**	**-0.2**
	comp=N,14nm,0.3s,baz=159,slow=13,SNR=110							
CMIG				Sn		**Sn**	**23 56 35.4**	**-1.2**
	comp=N,125nm,0.3s,baz=130,slow=13,SNR=7.0							
CMIG				LR		LR	23 56 48.8	
	comp=N,487nm,18.3s,baz=156,slow=30							
	comp=N,112nm,0.6s							
CMIG	**Matias Romero**	**3.88**	**321**	*eP*		**Pn**	**23 55 51.7**	**-0.5**
CMIG				*eS*		**Sn**	**23 56 34.0**	**-2.6**
PACA	**Pacayal**	**3.95**	**98**	*eP*		**Pn**	**23 55 54.0**	**+0.7**
IZABA	**Izabal, Puerto**	**3.99**	**65**	Pn		**Pn**	23 56 02.2	+8.4
IZABA				*eS*		Sn	23 56 49.2	+10
HUIG	**Huatulco**	**4.02**	**295**	*eP*		**Pn**	**23 55 53.4**	**-0.7**
HUIG				*eS*		**Sn**	**23 56 33.7**	**-6.3**
LCND	**La Caada**	**4.39**	**99**	*eP*		**Pn**	**23 55 59.4**	**+0.1**
TUIG	**Tuzandepetl**	**4.42**	**333**	*eP*		**Pn**	**23 56 00.1**	**+0.3**
CNCH	**Conchagua**	**4.45**	**100**	*eP*		**Pn**	**23 56 00.6**	**+0.4**
CSGN	**Cosiguina Volc**	**4.77**	**103**	*eP*		**Pn**	**23 56 04.2**	**-0.4**
TGUH	**Tegucigalpa,Un**	**4.92**	**90**	Pn		**Pn**	**23 56 07.0**	**+0.4**
NEUV	**Arroyo Zacate**	**4.92**	**318**	*eP*		**Pn**	**23 56 05.7**	**-0.9**
SCIG	**Sabancuy**	**5.00**	**13**	*eP*		**Pn**	**23 56 06.8**	**-0.8**
SCIG				*eS*		**Sn**	**23 57 00.9**	**-3.2**
PEIG	**Puerto Escondi**	**5.03**	**293**	*eP*		**Pn**	**23 56 07.5**	**-0.6**
OXLC	**Oaxaca**	**5.15**	**306**	*eP*		**Pn**	**23 56 08.9**	**-1.0**
OXLC				*eS*		**Sn**	**23 57 03.8**	**-4.6**
VHO	**Vista Hermosa**	**5.18**	**306**	*eP*		**Pn**	**23 56 10.7**	**+0.3**
VHO				*eS*		**Sn**	**23 57 09.3**	**+0.3**
PMUV	**Sontecomapan**	**5.19**	**329**	*eP*		**Pn**	**23 56 09.8**	**-0.6**
PMUV				*eS*		**Sn**	**23 57 01.7**	**-7.4**
HERN	**Volcan Telica**	**5.55**	**104**	Pn		**Pn**	**23 56 14.6**	**-0.8**
CNGN	**Cerro Negro**	**5.71**	**105**	Pn		**Pn**	**23 56 17.6**	**+0.1**
YOIG	**Yosondua**	**5.74**	**300**	*eP*		**Pn**	**23 56 20.2**	**+2.2**
YOIG				*eS*		**Sn**	**23 57 25.4**	**+2.6**
COPN	**Copaltepe**	**5.91**	**108**	*eP*		**Pn**	**23 56 21.0**	**+0.8**
PNIG	**Pinotepa**	**6.05**	**293**	*eP*		**Pn**	**23 56 22.4**	**+0.3**
PNIG				*eS*		**Sn**	**23 57 22.1**	**-8.0**
TOIG	**Toxpalan**	**6.05**	**312**	*eP*		**Pn**	**23 56 23.8**	**+1.6**
TOIG				*eS*		Sn	23 57 21.0	-9.4
TXIG	**Tlaxiaco**	**6.11**	**302**	*eP*		**Pn**	**23 56 25.9**	**+2.7**
TXIG				*eS*		**Sn**	**23 57 25.8**	**-6.3**
MGAN	**Managua**	**6.23**	**107**	Pn		**Pn**	**23 56 25.4**	**+0.8**
MGAN	**Managua**	**6.23**	**107**	*eP*		**Pn**	**23 56 28.0**	**+3.3**
MGAN	**Managua**	**6.23**	**107**	P		**Pn**	**23 56 25.5**	**+0.8**
	comp=N,373nm,0.9s							
HLIG	**Huajuapan de L**	**6.45**	**306**	*eP*		**Pn**	**23 56 30.7**	**+2.9**
HLIG				*eS*		**Sn**	**23 57 33.8**	**-6.5**
TPIG		**6.48**	**313**	*eP*		**Pn**	**23 56 30.3**	**+2.1**
TPIG				*eS*		**Sn**	**23 57 37.5**	**-3.4**
BOAB	**BOACO BROADBAN**	**6.69**	**103**	Pn		**Pn**	**23 56 31.1**	**+0.2**
FTIG	**Fresnillo de T**	**6.75**	**305**	*eP*		**Pn**	**23 56 34.6**	**+2.8**
FTIG				*eS*		Sn	23 57 36.0	-12
JAUV	**Jalcomulco**	**6.79**	**322**	*eP*		**Pn**	**23 56 30.5**	**-1.8**
JAUV				*eS*		**Sn**	**23 57 42.8**	**-5.5**
LVIG	**Laguna Verde**	**6.84**	**326**	*eP*		**Pn**	**23 56 30.3**	**-2.7**
LVIG				*eS*		**Sn**	**23 57 44.2**	**-5.5**
TLIG	**Tlapa**	**6.93**	**301**	Pn		**Pn**	**23 56 36.6**	**+2.3**
TLIG	**Tlapa**	**6.93**	**301**	*eP*		**Pn**	**23 56 36.4**	**+2.2**
TLIG				*iS*		**Sn**	**23 57 49.5**	**-2.5**
CRIG	**Cruz Grande**	**7.07**	**293**	*eP*		**Pn**	**23 56 36.6**	**+0.6**
CRIG				*eS*		Sn	23 57 44.1	-11
TEIG	**Tepich**	**7.25**	**32**	Pn		**Pn**	**23 56 38.6**	**0.0**
TEIG	**Tepich**	**7.25**	**32**	Pn		**Pn**	**23 56 38.8**	**+0.2**
	baz=132,slow=24,SNR=38							
TEIG				Sn		**Sn**	**23 57 55.0**	**-4.6**
	baz=131,slow=24,SNR=5.7							
TEIG	**Tepich**	**7.25**	**32**	P		**Pn**	**23 56 39.6**	**+1.0**
	comp=N,15μmcomp=N,2μm,0.8s							
MYIG	**Merida**	**7.29**	**20**	*eP*		**Pn**	**23 56 41.5**	**+2.4**
MYIG				*eS*		**Sn**	**23 57 57.6**	**-2.9**
ACON	**Acoyapa**	**7.29**	**106**	Pn		**Pn**	**23 56 38.5**	**-0.6**
ACON	**Acoyapa**	**7.29**	**106**	*eP*		**Pn**	**23 56 38.0**	**-1.1**
ACON	**Acoyapa**	**7.29**	**106**	P		**Pn**	**23 56 38.6**	**-0.5**
	comp=N,955nmcomp=N,85nm,1.2s							
SIUN	**Universidad Ur**	**7.36**	**92**	Pn		**Pn**	**23 56 40.4**	**+0.3**
ELI1	**Hacienda Flor**	**7.45**	**116**	*eP*		**Pn**	**23 56 43.9**	**+2.5**
ALIBA	**Liberia Airpor**	**7.48**	**117**	*eP*		**Pn**	**23 56 44.4**	**+2.6**
LAPC	**Finca la Perla**	**7.50**	**115**	*eP*		**Pn**	**23 56 44.9**	**+2.8**
GPS3	**Bodega del ICE**	**7.57**	**115**	*eP*		Pn	23 56 51.6	+8.6
DAIG	**Los Arroyos**	**7.63**	**294**	*eP*		**Pn**	**23 56 44.6**	**+0.8**
DAIG				*eS*		**Sn**	**23 58 01.3**	**-7.8**
JUD3	**Juan Diaz 3**	**7.70**	**120**	*eP*		**Pn**	**23 56 46.8**	**+1.9**
MESS	**Mesas**	**7.72**	**115**	*eP*		**Pn**	**23 56 47.2**	**+2.0**
COLC	**Colonia**	**7.75**	**115**	*eP*		Pn	23 56 51.4	+5.9
HORNC	**Hornillas**	**7.75**	**115**	*eP*		**Pn**	**23 56 48.4**	**+2.9**
VMAR	**Armenia, Volca**	**7.76**	**114**	*eP*		**Pn**	**23 56 46.9**	**+1.2**
PLVR	**Palo Verde**	**7.77**	**118**	*eP*		**Pn**	**23 56 47.7**	**+1.9**
CUI	**Cuipilapa**	**7.79**	**115**	*eP*		**Pn**	**23 56 48.4**	**+2.4**
PPM	**Popocatepetl**	**7.81**	**310**	*eP*		**Pn**	**23 56 51.5**	**+4.7**
PPM				*eS*		**Sn**	**23 58 18.3**	**+4.1**
CXUV	**Coxquihui**	**7.88**	**321**	*eP*		**Pn**	**23 56 46.7**	**-0.5**
CXUV				*eS*		**Sn**	**23 58 12.0**	**-3.1**
INVE	**Universidad In**	**7.96**	**116**	*eP*		**Pn**	**23 56 51.8**	**+3.5**
MEIG	**Mezcala**	**7.98**	**300**	*eP*		**Pn**	**23 56 51.6**	**+2.9**
MEIG				*eS*		**Sn**	**23 58 14.3**	**-3.5**
YAIG	**Yautepec**	**8.02**	**307**	*eP*		**Pn**	**23 56 52.5**	**+3.2**
YAIG				*eS*		Sn	23 58 09.6	-9.3
QUEB	**Quebradon, Cot**	**8.04**	**114**	*eP*		**Pn**	**23 56 51.8**	**+2.3**
ESPN	**Las Esperanzas**	**8.05**	**102**	Pn		**Pn**	**23 56 51.0**	**+1.5**
ESPN	**Las Esperanzas**	**8.05**	**102**	*eP*		**Pn**	**23 56 50.6**	**+1.0**
CAIG	**El Cayaco**	**8.19**	**292**	*eP*		**Pn**	**23 56 52.7**	**+1.2**
CAIG				*eS*		Sn	23 58 10.5	-12
ARE1	**Arenal 1**	**8.27**	**115**	*eP*		**Pn**	**23 56 55.1**	**+2.6**
VARE2	**V. Arenal**	**8.27**	**115**	*eP*		**Pn**	**23 56 55.0**	**+2.3**
SOCE	**Pocosol**	**8.39**	**115**	Pn		**Pn**	**23 56 55.1**	**+0.9**
ARIG	**Puente Sto Nin**	**8.76**	**300**	*eP*		**Pn**	**23 57 02.3**	**+3.0**
ARIG				*eS*		**Sn**	**23 58 36.1**	**-0.7**
PICV	**PH. Pirrs**	**9.11**	**118**	*eP*		**Pn**	**23 57 07.5**	**+3.3**
LCR2	**La Lucha 2**	**9.22**	**117**	Pn		**Pn**	**23 57 07.3**	**+1.5**
VICA	**Volcano Irazu**	**9.25**	**115**	*eP*		**Pn**	**23 57 08.7**	**+2.3**
PIEC	**Cerro El Cedra**	**9.32**	**117**	*eP*		**Pn**	**23 57 09.2**	**+2.0**
ABRB	**Las Abras (San**	**9.35**	**115**	*eP*		**Pn**	**23 57 10.3**	**+2.6**
ZIIG	**Zihuatanejo**	**9.46**	**293**	*eP*		**Pn**	**23 57 10.3**	**+1.4**
ZIIG				*eS*		**Sn**	**23 59 02.2**	**+8.2**
BUS1	**Rivas**	**9.53**	**117**	*eP*		**Pn**	**23 57 12.7**	**+2.4**
DRK0	**Durika**	**10.11**	**117**	*eP*		**Pn**	**23 57 20.6**	**+2.7**
MOIG	**Morelia**	**10.14**	**305**	Pn		**Pn**	**23 57 22.6**	**+4.1**
JRQG	**Juriquilla Cam**	**10.17**	**312**	Pn		Pn	23 57 24.4	+5.5
PIRO	**Carate, Puerto**	**10.47**	**122**	Pn		**Pn**	**23 57 26.9**	**+4.2**
ALCO	**Alturas Coton,**	**10.61**	**118**	*eP*		**Pn**	**23 57 26.3**	**+1.4**
BRU2	**Volcan**	**10.81**	**118**	Pn		**Pn**	**23 57 29.3**	**+1.8**
BANCO	**falda S V. Bar**	**10.99**	**118**	*eP*		**Pn**	**23 57 31.4**	**+1.4**
JEFFS	**S de V. Baru**	**11.01**	**118**	*eP*		**Pn**	**23 57 30.4**	**+0.1**
GTIG	**Gomez Farias**	**11.04**	**325**	*eP*		**Pn**	**23 57 30.4**	**-0.2**
GTIG				*eS*		Sn	23 59 23.7	-9.2
MNGA	**Volcan de Coli**	**12.06**	**298**	*eP*		**Pn**	**23 57 49.2**	**+4.4**
MNGA				*e*			00 00 02.2	
INCO	**Volcan de Coli**	**12.07**	**298**	*eP*		**Pn**	**23 57 47.5**	**+2.5**
INCO				*e*			00 00 02.2	
SOMAC	**Volcano de Col**	**12.09**	**298**	*eP*		**Pn**	**23 57 49.2**	**+3.9**
SOMAC				*e*			00 00 24.1	
CEGR	**Campo Tres**	**12.23**	**297**	*eP*		**Pn**	**23 57 50.7**	**+3.6**
CEGR				*e*			00 00 02.2	
SOR	**Soroa**	**12.39**	**44**	Pn		**Pn**	**23 57 47.1**	**-1.9**
ZAIG	**Zacatecas**	**13.00**	**313**	Pn		**Pn**	**23 57 59.2**	**+1.6**
HBVL	**Hebbronville**	**14.22**	**336**	Pn		**Pn**	**23 58 15.2**	**+1.3**
833A	**Chaparral WMA,**	**15.63**	**336**	Pn		**Pn**	**23 58 32.6**	**0.0**
833A				IAmb		IAmb	23 58 34.9	
	comp=Z,49nm,1.1s							
EF04	**Eagle Ford 04**	**15.89**	**342**	Pn		**Pn**	**23 58 35.5**	**-0.5**
HKT	**Hockley**	**16.13**	**349**			**Pn**	**23 58 39.9**	**+0.9**
HKT	**Hockley**	**16.13**	**349**	Pn		**Pn**	**23 58 39.8**	**+0.8**
HKT				IAmb		IAmb	23 58 42.1	
	comp=Z,58nm,1.7s							
MLDN	**Muldoon**	**16.24**	**345**	P		**P**	**23 58 42.8**	**-0.2**
441A	**DeRidder**	**16.62**	**357**			**P**	**23 58 46.7**	**-0.5**
441A				IAmb		IAmb	23 58 53.6	
	comp=Z,72nm,0.9s							
HNDO	**Hondo**	**16.67**	**338**	Pn		**Pn**	**23 58 46.0**	**+0.1**
DRIO	**Del Rio**	**17.09**	**335**	Pn		**P**	**23 58 51.8**	**-0.7**
435B	**Jarrell**	**17.32**	**345**			**P**	**23 58 55.1**	**+0.1**
346A	**Big Creek Wild**	**17.44**	**8**			**P**	**23 58 56.9**	**+0.6**
346A				IAmb		IAmb	23 59 00.8	
	comp=Z,83nm,0.8s							
BRAL	**Brewton**	**17.70**	**15**			**P**	**23 58 59.9**	**+0.7**
BRAL				IAmb		IAmb	23 59 03.7	
	comp=Z,96nm,1.1s							
JCT	**Junction City**	**17.72**	**338**			**P**	**23 58 59.3**	**-0.2**
656A	**Williston**	**17.73**	**29**			**Pn**	**23 58 58.5**	**-0.4**
656A				IAmb		IAmb	23 59 03.0	
	comp=Z,59nm,0.9s							
NATX	**Nacogdoches**	**17.74**	**353**			**P**	**23 58 59.7**	**+0.1**
HPIG		**17.86**	**318**			**P**	**23 59 02.6**	**+1.4**
237A	**Washetta, Mont**	**18.13**	**350**			**P**	**23 59 04.1**	**+0.1**
VBMS	**Vicksburg**	**18.14**	**5**			**P**	**23 59 03.4**	**-0.6**
VBMS				IAmb		IAmb	23 59 08.9	
	comp=Z,48nm,0.8s							
BRDY	**Brady**

V53A	**Saluda**	23.15	20	IAmb	IAmb	00 00 16.7	
	comp=Z,23nm,0.9s						
121A	**Cookes Peak, D**	23.16	325	IAmb	IAmb	00 00 11.8	
	comp=Z,47nm,1.1s						
319A	**Douglas**	23.20	321	P	P	23 59 59.7	+0.9
319A				IAmb	IAmb	00 00 18.0	
	comp=Z,20nm,0.8s						
KMSC	**Kings Mountain**	23.21	23	IAmb	IAmb	00 00 23.6	
	comp=Z,25nm,1.0s						
NOKA	**Waynoka**	23.23	346	IAmb	IAmb	00 00 01.1	
	comp=Z,69nm,1.5s						
TZTN	**Tazewell**	23.73	18	IAmb	IAmb	00 00 25.3	
	comp=Z,50nm,1.4s						
W57A	**Gilead**	23.76	26	IAmb	IAmb	00 00 23.6	
	comp=Z,23nm,1.0s						
Y22A	**Socorro**	23.82	329	IAmb	IAmb	00 00 09.2	
	comp=Z,31nm,1.1s						
V55A	**Taylorsville**	23.88	23	IAmb	IAmb	00 00 25.1	
	comp=Z,24nm,1.1s						
Y22D	**IRIS PASSCAL I**	23.90	329	P	P	00 00 07.3	+1.9
	baz=143						
CCM	**Cathedral Cave**	23.91	2	P	P	00 00 03.2	-2.1
RTBA	**Rita Blanca**	24.14	339	IAmb	IAmb	00 00 10.8	
	comp=Z,48nm,1.0s						
USIN	**University of**	24.16	9	IAmb	IAmb	00 00 30.7	
	comp=Z,30nm,0.8s						
U54A	**Nelsons Funny**	24.26	21	IAmb	IAmb	00 00 09.8	
	comp=Z,17nm,0.8s						
ANMO	**Albuquerque**	24.38	331	P	P	00 00 11.0	+1.1
ANMO	**Albuquerque**	24.38	331	P	P	00 00 10.1	+0.2
	comp=Z,12nm,0.8s,baz=239,slow=12,SNR=30						
	comp=Z,12nm,0.8s						
U56A	**King**	24.64	24	IAmb	IAmb	00 00 39.8	
	comp=Z,21nm,1.0s						
WCI	**Wyandotte Cave**	24.66	11	P	P	00 00 10.3	-1.7
WCI				IAmb	IAmb	00 00 13.6	
	comp=Z,43nm,0.8s						
V58A	**Windy Hill, Pi**	24.68	26	IAmb	IAmb	00 00 13.4	
	comp=Z,20nm,1.0s						
R32A	**Long Quarter,**	24.91	348	IAmb	IAmb	00 00 37.9	
	comp=Z,30nm,0.9s						
Q44A	**Meyer Farm, Va**	24.91	6	IAmb	IAmb	00 00 15.7	
	comp=Z,30nm,1.0s						
R49A	**Shelbyville**	24.95	13	IAmb	IAmb	00 00 29.5	
	comp=Z,21nm,1.0s						
ATAH	**Atahualpa**	25.20	146	P	P	00 00 19.3	+1.5
	comp=Z,16nm,0.9s,baz=354,slow=5.2,SNR=7.6						
ATAH				LR	LR	00 07 06.8	
	comp=Z,140nm,20.6s,baz=291,slow=29						
	comp=Z,16nm,0.9s						
T25A	**Trinidad**	25.38	337	IAmb	IAmb	00 00 23.1	
	comp=Z,20nm,1.0s						
SJG	**San Juan**	25.47	77	LR	LR	00 10 32.1	
	comp=Z,271nm,20.7s,baz=239,slow=38						
BLO	**Bloomington**	25.53	11	IAmb	IAmb	00 00 22.6	
	comp=Z,16nm,0.8s						
P46A	**Rosedale**	25.85	9	IAmb	IAmb	00 00 23.3	
	comp=Z,23nm,0.8s						
P48A	**Milroy**	26.02	12	P	P	00 00 21.1	-3.3
P48A				IAmb	IAmb	00 00 24.2	
	comp=Z,19nm,0.9s						
Q51A	**Peebles**	26.10	16	IAmb	IAmb	00 00 57.4	
	comp=Z,27nm,0.9s						
O48B	**Farmland**	26.84	12	IAmb	IAmb	00 01 03.7	
	comp=Z,22nm,1.0s						
O49A	**Covington**	26.95	14	IAmb	IAmb	00 01 09.3	
	comp=Z,35nm,1.3s						
MVCO	**Mesa Verde**	27.18	331	P	P	00 00 37.0	+1.7
PV01	**Paradox Valley**	27.96	332	IAmb	IAmb	00 00 46.6	
	comp=Z,38nm,1.5s						
PV15	**Paradox Valley**	28.09	332	IAmb	IAmb	00 00 47.7	
	comp=Z,22nm,1.3s						
PV13	**Radium Mtn., P**	28.10	332	P	P	00 00 44.5	+1.1
PV13				IAmb	IAmb	00 00 48.1	
	comp=Z,38nm,1.0s						
PV05	**Paradox Valley**	28.16	331	IAmb	IAmb	00 00 48.4	
	comp=Z,34nm,1.0s						
PV03	**Paradox Valley**	28.19	332	IAmb	IAmb	00 00 48.1	
	comp=Z,41nm,1.2s						
PV07	**Paradox Valley**	28.25	332	IAmb	IAmb	00 00 48.9	
	comp=Z,23nm,1.1s						
PV17	**East Wray Mesa**	28.26	332	IAmb	IAmb	00 00 48.8	
	comp=Z,24nm,0.9s						
PV16	**Nysworngen Mesa**	28.26	332	IAmb	IAmb	00 00 48.9	
	comp=Z,30nm,1.0s						
PV14	**Lion Creek, Pa**	28.36	332	IAmb	IAmb	00 00 49.7	
	comp=Z,26nm,1.1s						
PV22	**Blue Mesa, Par**	28.39	332	IAmb	IAmb	00 00 49.9	
	comp=Z,20nm,1.0s						
PV23	**Carpenter Ridg**	28.42	332	IAmb	IAmb	00 00 50.8	
	comp=Z,34nm,0.9s						
N53A	**Lisbon**	28.47	19	IAmb	IAmb	00 01 48.0	
	comp=Z,15nm,0.9s						
PV21	**Cone Mtn., Par**	28.49	332	IAmb	IAmb	00 01 52.6	
	comp=Z,19nm,1.0s						
BC3	**Big Chuckawall**	28.64	317	P	P	00 00 49.5	+1.3
HMU	**Henry Mountain**	28.85	329	IAmb	IAmb	00 01 45.0	
	comp=Z,27nm,1.0s						
CZSB	**Cruzeiro do Su**	29.13	137	P	P	00 00 54.1	+1.5
CZSB				IAmb	IAmb	00 00 55.5	
	comp=Z,27nm,1.0s						
V12A	**Nelson**	29.56	321	IAmb	IAmb	00 01 10.0	
	comp=Z,14nm,1.1s						
SRU	**San Rafael Swe**	29.66	331	IAmb	IAmb	00 01 58.3	
	comp=Z,15nm,0.8s						
Q16A	**Castle Valley**	29.82	330	IAmb	IAmb	00 01 12.8	
	comp=Z,17nm,1.1s						
P18A	**Preston Nutter**	29.94	332	IAmb	IAmb	00 01 58.4	
	comp=Z,15nm,0.8s						
P17A	**Butcher Ranch,**	30.05	331	IAmb	IAmb	00 01 04.6	
	comp=Z,16nm,0.9s						
TMUT	**Trail Mountain**	30.13	330	IAmb	IAmb	00 02 02.8	
	comp=Z,16nm,0.8s						
MPU	**Maple Canyon**	30.90	330	P	P	00 01 10.5	+2.3
MPU				IAmb	IAmb	00 01 12.2	
	comp=Z,17nm,1.0s						
BSUT	**Blindstream Ca**	30.90	332	IAmb	IAmb	00 02 02.1	
	comp=Z,14nm,0.8s						
CCCA	**Chr Cany lake**	31.02	318	IAmb	IAmb	00 01 09.4	
	comp=Z,19nm,0.8s						
JLU	**Jordanelle**	31.27	331	IAmb	IAmb	00 02 08.4	
	comp=Z,9.4nm,0.8s						
CTU	**Camp Tracy**	31.48	331	IAmb	IAmb	00 01 17.8	
	comp=Z,11nm,0.8s						
RSSD	**Black Hills**	31.58	344	P	P	00 01 13.9	-0.2
HWUT	**Hardware Ranch**	32.12	332	IAmb	IAmb	00 02 05.6	
	comp=Z,10nm,0.8s						
PDAR	**Pinedale Array**	32.22	336	P	P	00 01 20.3	+0.5
	comp=Z,1.9nm,1.0s,baz=150,slow=9.9,SNR=6.8						
PDAR				PcP	PcP	00 04 09.8	+2.0
	comp=Z,0.3nm,0.5s,baz=168,slow=1.8,SNR=2.1						
PDAR				ScP	ScP	00 07 55.6	+7.1
	comp=Z,0.6nm,0.9s,baz=151,slow=3.4,SNR=3.7						
	comp=Z,1.9nm,1.0s						
BGU	**Big Grassy Mou**	32.27	330	IAmb	IAmb	00 01 24.4	
	comp=Z,12nm,0.9s						
DSP	**Deep Springs**	32.54	320	P	P	00 01 24.1	+1.7
SADO	**Sadowa**	32.60	18	P	P	00 01 18.7	-4.1
	comp=Z,21nm,0.4s,baz=207,slow=7.7,SNR=3.3						
SADO				LR	LR	00 16 23.4	
	comp=Z,5μm,18.1s,baz=232,slow=40						
HVU	**Hansel Valley**	32.81	331	IAmb	IAmb	00 01 29.0	
	comp=Z,27nm,1.2s						
DELO	**Deloro Mine**	32.84	20	IAmb	IAmb	00 01 24.7	
	comp=Z,13nm,0.9s						
AHID	**Auburn Hatcher**	32.85	334	IAmb	IAmb	00 02 24.3	
	comp=Z,22nm,1.2s						
LOHW	**Long Hollow**	33.35	336	IAmb	IAmb	00 02 25.4	
	comp=Z,19nm,1.2s						
TPAW	**Teton Pass**	33.39	335	IAmb	IAmb	00 01 33.5	
	comp=Z,24nm,1.2s						
LHV	**Little Huntoon**	33.42	321	IAmb	IAmb	00 01 47.3	
	comp=Z,7.8nm,0.9s						
BOAV	**Boa Vista**	33.50	107	P	P	00 01 29.7	-1.4
BOAV				IAmb	IAmb	00 01 31.6	
	comp=Z,8.1nm,0.9s						
LONY	**Lake Ozonia**	34.00	23	IAmb	IAmb	00 01 35.8	
	comp=Z,9.5nm,1.1s						
WAKR	**Walker**	34.15	320	IAmb	IAmb	00 02 28.9	
	comp=Z,24nm,1.9s						
YHL	**Hebgen Lake**	34.61	336	IAmb	IAmb	00 01 44.5	
	comp=Z,26nm,1.8s						
HLID	**Hailey**	34.96	332	IAmb	IAmb	00 01 48.0	
	comp=Z,12nm,0.9s						
MFID	**Camas Ranch**	35.52	330	IAmb	IAmb	00 01 54.1	
	comp=Z,16nm,1.1s						
BEKR	**Beckworth**	35.56	322	P	P	00 01 50.8	+2.0
BEKR				IAmb	IAmb	00 02 49.5	
	comp=Z,18nm,1.5s						
DLMT	**Dillon**	35.60	335	IAmb	IAmb	00 02 16.4	
	comp=Z,14nm,0.9s						
DGMT	**Dagmar**	35.68	346	IAmb	IAmb	00 01 53.1	
	comp=Z,9.3nm,0.8s						
ULM	**Lac du Bonnet**	36.20	356	P	P	00 01 51.0	-2.9
	comp=Z,3.5nm,0.8s,baz=152,slow=3.4,SNR=3.4						
	comp=Z,3.5nm,0.8s						
WVOR	**Wild Horse Val**	36.25	326	IAmb	IAmb	00 02 10.5	
	comp=Z,21nm,1.3s						
O03E	**Paynes Creek**	36.70	321	IAmb	IAmb	00 02 35.5	
	comp=Z,15nm,1.1s						
J08A	**Circle Bar Ran**	36.81	328	P	P	00 02 00.9	+1.5
PLID	**Pearl Lake**	36.86	332	IAmb	IAmb	00 02 03.6	
	comp=Z,21nm,0.9s						
BMO	**Blue Mountains**	37.30	330	IAmb	IAmb	00 02 06.3	
	comp=Z,15nm,1.2s						
PINE	**Pine Mountain**	38.41	326	IAmb	IAmb	00 02 18.6	
	comp=Z,18nm,1.5s						
LPAZ	**La Paz**	38.50	141	P	P	00 02 14.1	-0.4
	comp=Z,2.4nm,0.8s,baz=343,slow=13,SNR=5.4						
	comp=Z,2.4nm,0.8s						
J04A	**Umpqua Nationa**	38.70	325	IAmb	IAmb	00 02 29.2	
	comp=Z,26nm,1.0s						
HAWA	**Hanford**	39.49	330	P	P	00 02 22.9	+1.1
G05A	**Wamic**	39.58	328	IAmb	IAmb	00 02 28.0	
	comp=Z,15nm,0.8s						
H04A	**Detroit Lake**	39.67	326	IAmb	IAmb	00 02 36.1	
	comp=Z,31nm,1.2s						
C09A	**Chrisman Ranch**	39.94	333	IAmb	IAmb	00 02 29.1	
	comp=Z,16nm,0.8s						
LTY	**Liberty**	40.65	330	IAmb	IAmb	00 02 35.0	
	comp=Z,28nm,1.4s						
LON	**Longmire**	40.86	329	IAmb	IAmb	00 02 40.4	
	comp=Z,10nm,0.8s						
D05A	**Enumclaw**	41.25	329	IAmb	IAmb	00 02 52.2	
	comp=Z,28nm,1.1s						
VILB	**Vilhena**	41.65	129	P	P	00 02 40.3	+0.3
VILB				IAmb	IAmb	00 02 41.8	
	comp=Z,21nm,1.0s						
NLWA	**Neilton Lookou**	42.34	328	IAmb	IAmb	00 02 58.5	
	comp=Z,26nm,1.2s						
PGC	**Sidney**	42.97	330	IAmb	IAmb	00 02 54.3	
	comp=Z,27nm,1.0s						
SIV	**San Ignacio**	42.98	133	P	P	00 02 50.6	-0.2
	comp=Z,14nm,0.9s,baz=303,slow=9.6,SNR=29						
SIV				PcP	PcP	00 04 41.4	+0.6
	comp=Z,3.2nm,0.9s,baz=233,slow=2.6,SNR=3.8						
	comp=Z,14nm,0.9s						
CLRS	**Cowichan Lake**	43.41	330	P	P	00 02 56.7	+2.8
CLRS				IAmb	IAmb	00 03 06.8	
	comp=Z,14nm,1.0s						
LLLB	**Lillooet**	43.61	333	IAmb	IAmb	00 02 59.3	
	comp=Z,17nm,0.9s						
CBB	**Campbell River**	44.82	330	P	P	00 03 08.0	+2.8
CBB				IAmb	IAmb	00 03 09.8	
	comp=Z,18nm,0.9s						
H03N2	**Juan Fernandez**	48.94	165	T	T	00 56 26.3	
	baz=340						
H03N1	**Juan Fernandez**	48.95	165	T	T	00 56 25.4	
	baz=340						
H03N3	**Juan Fernandez**	48.96	165	T	T	00 56 25.3	
	baz=340						
YKA	**Yellowknife Ar**	50.88	347	P	P	00 03 52.0	+0.2
	comp=Z,5.0nm,0.9s,baz=151,slow=7.4,SNR=11						
YKA				PcP	PcP	00 05 08.8	+0.8
	comp=Z,1.8nm,0.8s,baz=25,slow=5.9,SNR=3.1						
	comp=Z,5.0nm,0.9s						
YKAW3	**Yellowknife Wh**	50.95	347	P	P	00 03 53.0	+0.6
YKAW3				IAmb	IAmb	00 03 54.9	
	comp=Z,14nm,1.1s						
TOAD	**Toad River Com**	50.96	339	P	P	00 03 54.3	+1.7
	baz=137						
CFA	**Coronel Fontan**	50.96	153	P	P	00 03 53.4	+0.4
	comp=Z,3.9nm,0.9s,baz=316,slow=6.9,SNR=6.6						
	comp=Z,3.9nm,0.9s						
VA03	**San Esteban**	51.02	156	IAmb	IAmb	00 03 56.1	
	comp=Z,20nm,1.0s						
V35K	**Ketchikan**	51.13	332	P	P	00 03 55.6	+1.7
	baz=128						
KOTAN	**Kotaneelee Air**	51.52	340	P	P	00 03 58.3	+1.6
	baz=139,SNR=12						
T35M	**Bob Quinn**	51.59	335	IAmb	IAmb	00 04 02.1	
	comp=Z,24nm,1.3s						
T35M	**Bob Quinn**	51.59	335	P	P	00 03 59.2	+1.9
	baz=130,SNR=6.1						
MT08	**Bocatoma Ro**	51.83	156	P	P	00 04 00.8	+1.1
MT08				IAmb	IAmb	00 04 02.2	
	comp=Z,20nm,1.1s						
CRAG	**Craig**	51.91	332	P	P	00 04 01.2	+1.6
	baz=126						
LMEL	**Las Melosas**	52.11	157	IAmb	IAmb	00 04 03.7	
	comp=Z,21nm,1.1s						
WRAK	**Wrangell Islan**	52.13	333	P	P	00 04 03.2	+1.9
	baz=128						
BO01	**Tunca**	52.26	158	P	P	00 04 03.6	+1.0
BO01				IAmb	IAmb	00 04 05.1	
	comp=Z,17nm,1.1s						
U33K	**Whale Pass**	52.29	332	P	P	00 04 04.5	+2.0
	baz=127						
DLBC	**Dease Lake**	52.46	336	P	P	00 04 05.5	+1.7
	comp=Z,134nm,1.0s,baz=118,slow=7.0,SNR=20						
DLBC	**Dease Lake**	52.46	336	P	P	00 04 05.5	+1.7
	baz=132,SNR=17						
S34M	**Telegraph Cree**	52.56	335	IAmb	IAmb	00 04 18.4	
	comp=Z,8.9nm,1.0s						
S34M	**Telegraph Cree**	52.56	335	P	P	00 04 06.2	+1.8
	baz=130						
CPUP	**Villa Florida**	52.65	140	P	P	00 04 04.7	-0.8
	comp=Z,1.1nm,0.8s,baz=286,slow=15,SNR=6.0						
CPUP				LR	LR	00 25 30.6	
	comp=Z,57nm,19.3s,baz=202,slow=35						
	comp=Z,1.1nm,0.8s						
BDFB	**Brasilia**	52.84	122	IAmb	IAmb	00 04 07.9	
	comp=Z,14nm,1.0s						
BDFB	**Brasilia**	52.84	122	P	P	00 04 06.6	-0.7
	comp=Z,8.6nm,0.9s,baz=267,slow=4.4,SNR=10						
	comp=Z,8.6nm,0.9s						
WTLY	**Watson Lake, Y**	53.13	338	P	P	00 04 10.2	+1.4
	baz=134,SNR=12						
R33M	**Jennings River**	53.46	337	P	P	00 04 12.9	+1.6
	baz=131,SNR=15						
Q32M	**Nakina River**	53.69	336	P	P	00 04 14.5	+1.4
	baz=129,SNR=10						
WRGLY	**Wrigley**	53.73	343	P	P	00 04 14.8	+1.8
	baz=141						
SIT	**Sitka**	53.83	333	P	P	00 04 15.2	+1.4
	baz=125						
TGTN	**Hyland Airport**	53.95	340	P	P	00 04 16.3	+1.5
	baz=135						
R32K	**Eaglecrest**	54.19	334	P	P	00 04 18.1	+1.7
	baz=126						
P32M	**Atlin**	54.66	336	IAmb	IAmb	00 04 33.3	
	comp=Z,9.2nm,1.0s						
P32M	**Atlin**	54.66	336	P	P	00 04 21.7	+1.8
	baz=128						
P33M	**Teslin, Yukon**	54.70	337	IAmb	IAmb	00 04 23.9	
	comp=Z,12nm,1.2s						
P33M	**Teslin, Yukon**	54.70	337	P	P	00 04 21.6	+1.4
	baz=129,SNR=9.5						
S31K	**Pelican**	54.75	333	P	P	00 04 22.3	+1.8
	baz=124						
N32M	**Quiet Lake**	55.40	337	P	P	00 04 27.0	+1.7
	baz=130						
PLBC	**Pleasant Camp**	55.67	335	P	P	00 04 28.9	+1.8
	baz=125						
MMPY	**Sheldon Lake,**	55.72	339	P	P	00 04 29.1	+1.6
	baz=132,SNR=17						
WHY	**Whitehorse**	55.78	336	IAmb	IAmb	00 04 40.8	
	comp=Z,15nm,1.0s						
WHY	**Whitehorse**	55.78	336	P	P	00 04 29.7	+1.6
	baz=127						
P30M	**Million Dollar**	56.30	335	P	P	00 04 33.4	+1.7
	baz=125,SNR=9.5						
O30N	**Mendenhall**	56.33	336	P	P	00 04 32.0	+0.1
O30N				IAmb	IAmb	00 04 45.7	
	comp=Z,20nm,1.2s						
O30N	**Mendenhall**	56.33	336	P	P	00 04 33.5	+1.6
	baz=126						
P29M	**Windy Craggy**	56.34	334	P	P	00 04 33.7	+1.7
	baz=124						
M31M	**Drury Creek, Y**	56.55	338	IAmb	IAmb	00 04 47.0	
	comp=Z,13nm,1.2s						
M31M	**Drury Creek, Y**	56.55	338	P	P	00 04 35.2	+1.8
	baz=129						
N31M	**Braeburn, Yuko**	56.63	337	IAmb	IAmb	00 04 47.0	
	comp=Z,15nm,0.9s						
N31M	**Braeburn, Yuko**	56.63	337	P	P	00 04 35.6	+1.6
	baz=127,SNR=6.5						
HYT	**Haines Junctio**	56.92	336	P	P	00 04 37.7	+1.5
HYT				IAmb	IAmb	00 04 40.2	
	comp=Z,19nm,1.4s						
HYT	**Haines Junctio**	56.92	336	P	P	00 04 37.7	+1.5
	baz=125,SNR=5.2						
O29M	**Mount Kennedy**	57.06	335	IAmb	IAmb	00 04 51.1	
	comp=Z,13nm,1.2s						
O29M	**Mount Kennedy**	57.06	335	P	P	00 04 39.0	+1.8
	baz=123						
N30M	**Aishikik Lake**	57.12	336	IAmb	IAmb	00 04 51.0	
	comp=Z,10nm,1.0s						
N30M	**Aishikik Lake**	57.12	336	P	P	00 04 39.0	+1.4
	baz=126						
YUK6	**Outpost Mounta**	57.34	335	P	P	00 04 41.0	+1.7
	baz=124						
PINM	**Pinnacle**	57.66	334	P	P	00 04 43.1	+1.7
	baz=121						
M30M	**Minto, Yukon**	57.67	337	IAmb	IAmb	00 04 44.4	
	comp=Z,21nm,1.4s						
M30M	**Minto, Yukon**	57.67	337	P	P	00 04 42.7	+1.3
	baz=126,SNR=13						
YUK4	**Talbot Arm**	57.67	336	P	P	00 04 43.0	+1.4
	baz=124						
O28M	**Mount Upton**	57.99	335	P	P	00 04 45.1	+1.2
	baz=122						
YUK8	**Steele Glacier**	58.09	335	P	P	00 04 45.8	+1.2
	baz=123						
PLCA	**Paso Flores**	58.15	161	P	P	00 04 45.1	+0.2
	comp=Z,4.7nm,1.0s,baz=350,slow=9.2,SNR=4.7						
	comp=Z,4.7nm,1.0s						
M29M	**Somme Creek**	58.22	337	P	P	00 04 46.8	+1.5
	baz=124,SNR=21						
MESA	**MESA**	58.43	333	P	P	00 04 47.9	+0.9
	baz=120						
L29M	**L29M**	58.48	338	IAmb	IAmb	00 04 50.7	
	comp=Z,12nm,1.1s						
L29M	**L29M**	58.48	338	P	P	00 04 48.0	+1.0
	baz=125,SNR=9.6						
CTGM	**Chitina Glacie**	58.57	334	IAmb	IAmb	00 05 01.4	
	comp=Z,15nm,1.2s						
CTG	**Chitna Glacier**	58.57	334	P	P	00 04 48.6	+0.8
	baz=121						
YUK3	**Moose Creek**	58.64	336	P	P	00 04 49.3	+0.9
	baz=122						
K29M	**Barlow Dome**	58.69	338	IAmb	IAmb	00 04 51.2	
	comp=Z,16nm,1.4s						
K29M	**Barlow Dome**	58.69	338	P	P	00 04 49.6	+1.0
	baz=126,SNR=6.9						
J30M	**Hart River**	58.72	339	P	P	00 04 49.8	+1.0
	baz=128						
C36M	**Paulatuk**	58.76	347	P	P	00 04 50.1	+1.3
	baz=143						
H31M	**Peel River**	58.85	341	P	P	00 04 50.7	+1.2
	baz=131						
TGL	**Tana Glacier**	59.10	334	IAmb	IAmb	00 05 04.9	
	comp=Z,13nm,0.9s						
I30M	**Mount Dempster**	59.13	340	P	P	00 04 51.4	-0.3
I30M				IAmb	IAmb	00 05 03.9	
	comp=Z,11nm,1.0s						
I30M	**Mount Dempster**	59.13	340	P	P	00 04 52.5	+0.9
	baz=128,SNR=9.2						
BVCY	**Beaver Creek**	59.14	336	P	P	00 04 52.8	+1.2
	baz=122						
CRQE	**Cirque**	59.21	334	P	P	00 04 53.1	+0.9
	baz=119						
RCBR	**Riachuelo**	59.38	106	P	P	00 04 51.4	-2.7
	comp=Z,6.2nm,1.0s,baz=300,slow=11,SNR=5.2						
	comp=Z,6.2nm,1.0s						
MCARA	**McCarthy VSAT**	59.49	334	P	P	00 04 55.0	+1.0
	baz=119						
DAWY	**Dawson**	59.49	338	P	P	00 04 55.0	+1.0
	baz=124						
M27K	**Edge Creek, AK**	59.51	336	IAmb	IAmb	00 05 07.4	
	comp=Z,7.4nm,1.0s						
M27K	**Edge Creek, AK**	59.51	336	P	P	00 04 55.0	+0.7
	baz=121						
G31M	**Satah River**	59.56	342	P	P	00 04 54.8	+0.4
	baz=131						
VRDI	**Verde Repeater**	59.59	334	IAmb	IAmb	00 05 08.2	
	comp=Z,12nm,1.1s						
F31M	**Tsiigehtchic**	59.76	343	P	P	00 04 56.0	+0.3
	baz=132						
BCAR	**Beaver Creek A**	59.84	336	P	P	00 04 56.6	+0.1
L27K	**Beaver Creek,**	59.86	336	IAmb	IAmb	00 05 09.4	
	comp=Z,13nm,0.9s						
L27K	**Beaver Creek,**	59.86	336	P	P	00 04 57.0	+0.4
	baz=121,SNR=7.4						
EPYK	**Eagle Plains**	59.96	341	IAmb	IAmb	00 05 09.2	
	comp=Z,11nm,1.0s						
EPYK	**Eagle Plains**	59.96	341	P	P	00 04 57.6	+0.4
	baz=128						
BMRM	**Bremner River**	59.96	334	P	P	00 04 57.8	+0.4
	baz=118						
M26K	**Nabesna, AK**	59.98	335	IAmb	IAmb	00 05 11.1	
	comp=Z,11nm,1.1s						
M26K	**Nabesna, AK**	59.98	335	P	P	00 04 57.9	+0.4
	baz=120						
Q23K	**Middleton Isla**	60.06	331	P	P	00 04 57.7	-0.2
	baz=115						
G30M	**tAoh Zraii Nji**	60.19	342	P	P	00 04 58.3	-0.4
	baz=129						
N25K	**Chitina, Valde**	60.26	334	P	P	00 04 59.2	-0.2
	baz=118						
EYAK	**Cordova Ski Ar**	60.27	333	P	P	00 04 59.7	+0.4
	baz=116						
INK	**Inuvik**	60.28	344	P	P	00 04 59.6	+0.4
	baz=132,SNR=7.4						
H29M	**Whitestone**	60.40	340	IAmb	IAmb	00 05 12.3	
	comp=Z,8.6nm,0.9s						
H29M	**Whitestone**	60.40	340	P	P	00 05 00.0	-0.1
	baz=126						
L26K	**Log Cabin Wild**	60.44	336	IAmb	IAmb	00 05 14.1	
	comp=Z,15nm,1.3s						
L26K	**Log Cabin Wild**	60.44	336	P	P	00 05 01.0	+0.5
	baz=120						
F30M	**Barrier River**	60.46	342	P	P	00 05 00.8	+0.2
	baz=130,SNR=5.3						
K27K	**Chicken**	60.46	337	P	P	00 05 01.0	+0.4
	baz=122						
I28M	**Miner Creek**	60.47	339	P	P	00 05 01.2	+0.4
	baz=124						
EGAK	**Eagle**	60.53	338	P	P	00 05 01.5	+0.5
	baz

G27K	Doyon Strip comp=Z,11nm,1.2s	61.81	340	IAmb	IAmb	00 05 21.9
G27K	Doyon Strip baz=123	61.81	340	P	P	00 05 09.6 -0.2
KNK	Knik Glacier baz=114	61.84	333	P	P	00 05 10.0 0.0
J25K	Salcha River, comp=Z,14nm,1.1s	62.00	337	IAmb	IAmb	00 05 23.8
J25K	Salcha River, baz=118,SNR=7.6	62.00	337	P	P	00 05 11.2 +0.1
WAT6	Susitna Watana baz=115,SNR=11	62.02	334	P	P	00 05 11.5 +0.2
O22K	Cooper Landing baz=112	62.04	332	P	P	00 05 11.8 +0.5
DHY	Denali Highway baz=116	62.08	335	P	P	00 05 11.8 0.0
E28M	Babbage River baz=126,SNR=11	62.18	342	P	P	00 05 12.2 0.0
BRSE	Bradley Lake S baz=111	62.24	331	P	P	00 05 13.2 +0.5
RC01	Rabbit Creek A comp=Z,12nm,0.9s	62.28	332	IAmb	IAmb	00 05 31.2
RC01	Rabbit Creek A baz=112	62.28	332	P	P	00 05 13.3 +0.4
D28M	Stokes Point baz=127	62.39	343	P	P	00 05 13.7 +0.2
CNPM	China Poot comp=Z,12nm,0.9s	62.40	330	IAmb	IAmb	00 05 18.7
WAT1	Susitna Watana baz=114	62.46	335	P	P	00 05 14.3 +0.2
KDAK	Kodiak Island baz=108	62.49	328	P	P	00 05 14.8 +0.4
PRP	Porcupine Dome baz=119,SNR=9.4	62.49	338	P	P	00 05 14.6 +0.1
HDA	Harding Lake baz=117,SNR=8.3	62.51	336	P	P	00 05 14.9 +0.5
E27K	Coleen River baz=124,SNR=15	62.56	341	P	P	00 05 15.3 +0.5
G26K	Porcupine Rive comp=Z,22nm,1.6s	62.60	340	IAmb	IAmb	00 05 17.6
G26K	Porcupine Rive baz=121	62.60	340	P	P	00 05 15.5 +0.6
ILAR	Eielson Array comp=Z,8.9nm,1.0s,baz=135,slow=3.7,SNR=30	62.65	337	P	P	00 05 14.9 -0.5
ILAR	Eielson Array comp=Z,8.9nm,1.0s	62.65	337	P	P	00 05 15.4 +0.1
Q20K	Shuyak Island baz=109	62.66	329	P	P	00 05 16.0 +0.6
OHAK	Old Harbor baz=107	62.68	328	P	P	00 05 16.3 +0.7
CAPN	Captain Cook N baz=111	62.80	332	P	P	00 05 16.8 +0.4
SUA	Susitna One baz=112	62.87	333	P	P	00 05 17.7 +0.6
CCB	Clear Creek Bu comp=Z,5.4nm,0.9s	62.94	337	IAmb	IAmb	00 05 20.9
SII	Sitkinak Islan baz=106	62.96	327	P	P	00 05 17.3 -0.2
H25L	Birch Creek baz=119	62.96	339	P	P	00 05 17.9 +0.6
D27M	Malcolm River comp=Z,9.7nm,0.8s	62.98	343	IAmb	IAmb	00 05 30.1
D27M	Malcolm River baz=125	62.98	343	P	P	00 05 18.0 +0.5
MCK	McKinley baz=114	63.00	335	P	P	00 05 18.1 +0.3
POKR	Poker Plat Res comp=Z,11nm,0.9s	63.01	337	IAmb	IAmb	00 05 30.1
POKR	Poker Plat Res baz=117	63.01	337	P	P	00 05 17.9 +0.1
CUT	Chulitna baz=113	63.02	334	P	P	00 05 17.9 +0.1
F26K	Sheenjek River comp=Z,9.8nm,1.0s	63.11	340	IAmb	IAmb	00 05 31.3
F26K	Sheenjek River baz=121,SNR=6.6	63.11	340	P	P	00 05 18.6 +0.2
BMAR	Burnt Mountain	63.12	340	P	P	00 05 19.1 +0.7
O20K	Slope Mountain baz=109	63.25	331	P	P	00 05 19.8 +0.3
G25K	Bearman Lake baz=119	63.30	339	P	P	00 05 19.6 0.0
SPU	Mount Spurr comp=Z,11nm,1.0s	63.36	332	IAmb	IAmb	00 05 32.7
Q19K	Cape Douglas, baz=108	63.37	329	P	P	00 05 20.4 +0.1
R18K	Karluk baz=106	63.38	328	P	P	00 05 20.9 +0.6
P19K	Oil Pt comp=Z,11nm,0.8s	63.40	330	IAmb	IAmb	00 05 24.6
P19K	Oil Pt baz=108	63.40	330	P	P	00 05 20.3 -0.2
SKT	Skwentna baz=111,SNR=7.2	63.41	333	P	P	00 05 20.6 +0.2
NEA2	Nenana baz=115,SNR=5.7	63.41	336	P	P	00 05 20.8 +0.4
N20K	Mount Spurr baz=110	63.44	332	P	P	00 05 21.0 +0.3
SPCR	Spurr Chakacha baz=110	63.44	332	P	P	00 05 21.2 +0.5
TRF	Thorofare Moun baz=113,SNR=10	63.44	335	P	P	00 05 20.9 +0.1
ILSW	Iliamna Southw comp=Z,8.1nm,0.8s	63.46	331	IAmb	IAmb	00 05 24.8
H24K	Noodor Dome	63.50	338	P	P	00 05 21.4 +0.3
H24K	Noodor Dome baz=116,SNR=11	63.50	338	P	P	00 05 21.7 +0.6
CHIR	Chirikof Islan baz=104	63.54	326	P	P	00 05 22.0 +0.6
F25K	Christian Rive baz=120,SNR=12	63.55	340	P	P	00 05 22.1 +0.8
KTH	Kantishna Hill comp=Z,9.4nm,0.8s	63.74	335	IAmb	IAmb	00 05 34.9
G24K	Hadweenzic Riv baz=117	63.75	339	P	P	00 05 23.3 +0.7
I23K	Minto, Yukon-K baz=115,SNR=18	63.76	337	P	P	00 05 23.0 +0.3
E25K	Arctic Village baz=120,SNR=10	63.79	340	P	P	00 05 23.6 +0.7
Q18K	Katmai Hardscr baz=106,SNR=8.4	63.97	329	P	P	00 05 24.8 +0.4
BPAW	Bear Paw Mtn. comp=Z,15nm,1.0s	63.98	335	IAmb	IAmb	00 05 27.4
BPAW	Bear Paw Mtn. baz=113,SNR=7.6	63.98	335	P	P	00 05 24.4 +0.2
C27K	Jago River baz=122,SNR=8.3	64.00	342	P	P	00 05 25.1 +0.8
ACHA	Angle Creek He comp=Z,11nm,1.4s	64.01	328	IAmb	IAmb	00 05 29.7
PPLA	Purkeypile baz=111	64.03	334	P	P	00 05 24.5 -0.2
M20K	Styx River comp=Z,6.9nm,0.8s	64.08	333	IAmb	IAmb	00 05 28.3
M20K	Styx River baz=110	64.08	333	P	P	00 05 25.0 -0.1
H23K	Yukon River baz=115	64.11	337	P	P	00 05 25.4 +0.4
MLY	Manley	64.25	336	P	P	00 05 26.3 +0.3
MLY	Manley baz=113,SNR=26	64.25	336	P	P	00 05 26.5 +0.5
F24K	Squaw Lake comp=Z,8.3nm,1.1s	64.27	339	IAmb	IAmb	00 05 39.2
F24K	Squaw Lake baz=117	64.27	339	P	P	00 05 26.7 +0.6
P18K	Big Mountain, comp=Z,8.6nm,1.1s	64.29	330	IAmb	IAmb	00 05 28.6
P18K	Big Mountain, baz=106	64.29	330	P	P	00 05 26.9 +0.6
Q17K	Contact Creek baz=105	64.31	328	P	P	00 05 27.2 +0.6
N19K	Bonanza Creek baz=108,SNR=12	64.36	331	P	P	00 05 27.2 +0.4
R17L	Mt. Peulik Vol baz=105	64.39	328	P	P	00 05 27.6 +0.6
CHUM	Lake Minchumin baz=111	64.44	335	P	P	00 05 27.5 +0.4
C26K	Camden Bay baz=121	64.51	342	P	P	00 05 27.5 0.0
L20K	Farewell, AK baz=109,SNR=13	64.61	333	P	P	00 05 28.7 +0.3
D25K	Kavik River baz=120	64.65	341	P	P	00 05 29.1 +0.6
G23K	Bananza Creek comp=Z,10nm,1.0s	64.67	338	IAmb	IAmb	00 05 41.9
G23K	Bananza Creek baz=115,SNR=5.9	64.67	338	P	P	00 05 29.3 +0.6
E24K	Your Creek comp=Z,9.1nm,1.1s	64.73	340	IAmb	IAmb	00 05 42.1
E24K	Your Creek	64.73	340	P	P	00 05 29.5 +0.5
	baz=117					
I21K	Tanana comp=Z,18nm,1.1s	64.79	336	IAmb	IAmb	00 05 32.8
I21K	Tanana baz=112	64.79	336	P	P	00 05 29.4 0.0
H22K	Ishtalitna Cre baz=113,SNR=6.6	64.83	337	P	P	00 05 30.0 +0.2
P17K	Kvichak River baz=105	64.83	329	P	P	00 05 30.5 +0.7
COLD	Coldfoot comp=Z,16nm,1.1s	64.95	339	IAmb	IAmb	00 05 43.8
COLD	Coldfoot baz=115	64.95	339	P	P	00 05 31.0 +0.5
L19K	White Mountain comp=Z,6.7nm,1.1s	64.95	333	IAmb	IAmb	00 05 42.8
L19K	White Mountain baz=108	64.95	333	P	P	00 05 30.8 +0.2
N18K	Kilae Creek	64.98	331	P	P	00 05 30.8 +0.1
N18K	comp=Z,8.4nm,0.9s			IAmb	IAmb	00 05 34.5
N18K	Kilae Creek baz=106,SNR=6.8	64.98	331	P	P	00 05 30.9 +0.1
K20K	Telida baz=109,SNR=11	64.99	334	P	P	00 05 30.6 -0.2
E23K	Chandalar baz=116,SNR=14	65.10	340	P	P	00 05 31.1 -0.5
CHGN	Chignik baz=102	65.17	326	P	P	00 05 32.2 +0.2
M18K	Stony River baz=107,SNR=7.5	65.18	332	P	P	00 05 31.8 -0.2
H21K	Melozitna Rive comp=Z,7.1nm,0.9s	65.29	337	IAmb	IAmb	00 05 35.5
H21K	Melozitna Rive baz=112,SNR=6.4	65.29	337	P	P	00 05 32.3 -0.4
G22K	Bettles baz=113	65.29	338	P	P	00 05 32.8 +0.2
J20K	Nowinta River baz=110	65.30	335	P	P	00 05 32.6 -0.1
O17K	Koliganek Bris baz=105	65.31	330	P	P	00 05 33.2 +0.3
D24K	Happy Valley comp=Z,13nm,1.1s	65.33	341	IAmb	IAmb	00 05 54.0
D24K	Happy Valley baz=117	65.33	341	P	P	00 05 32.6 -0.3
TOLK	Toolik Lake Re comp=Z,12nm,0.8s	65.35	340	IAmb	IAmb	00 05 45.7
TOLK	Toolik Lake Re baz=116	65.35	340	P	P	00 05 33.0 -0.1
CHNA	Chernabura Isl baz=100	65.54	324	P	P	00 05 34.4 0.0
N17K	Nushagak Hills comp=Z,8.7nm,0.9s	65.55	331	IAmb	IAmb	00 05 38.5
N17K	Nushagak Hills baz=105,SNR=7.4	65.55	331	P	P	00 05 34.5 0.0
C24K	Franklin Bluff baz=117	65.56	341	P	P	00 05 33.8 -0.5
P16K	Nushagak River baz=104	65.57	329	P	P	00 05 34.3 -0.2
I20K	Naaghedeneel baz=110,SNR=5.1	65.64	335	P	P	00 05 34.8 -0.1
O16K	Kokwok River B comp=Z,6.1nm,0.9s	65.75	329	IAmb	IAmb	00 05 49.5
O16K	Kokwok River B baz=104	65.75	329	P	P	00 05 35.7 -0.1
F22K	John River baz=113	65.76	339	P	P	00 05 35.7 -0.1
L18K	Granite Mounta comp=Z,14nm,1.2s	65.78	332	IAmb	IAmb	00 05 48.8
L18K	Granite Mounta baz=106	65.78	332	P	P	00 05 36.1 +0.2
S14K	Fog Glacier baz=101	65.79	326	P	P	00 05 35.7 -0.5
D23K	Nanushuk River baz=115	65.85	340	P	P	00 05 36.0 -0.2
J19K	Poorman baz=108,SNR=8.0	65.85	334	P	P	00 05 36.0 -0.3
G21K	Allakaket baz=111,SNR=9.5	65.87	337	P	P	00 05 36.6 +0.2
E22K	Anaktuvuk Pass baz=114	65.88	339	P	P	00 05 36.9 +0.4
M17K	Holitna River comp=Z,8.1nm,0.9s	65.90	331	IAmb	IAmb	00 05 40.3
M17K	Holitna River baz=105	65.90	331	P	P	00 05 37.2 +0.5
H20K	Anotleneega Mo baz=110	66.04	336	P	P	00 05 38.0 +0.5
F21K	Alatna River	66.12	338	P	P	00 05 38.9 +0.8
F21K	Alatna River baz=112,SNR=28	66.12	338	P	P	00 05 38.6 +0.5
SDPT	Sand Point baz=100	66.13	325	P	P	00 05 38.8 +0.5
J18K	Innoko River baz=107	66.15	334	P	P	00 05 38.7 +0.4
C23K	Itkillik River baz=116,SNR=8.6	66.20	341	P	P	00 05 39.2 +0.7
N16K	Nishlik Lake baz=104	66.30	330	P	P	00 05 39.9 +0.6
D22K	Ayikyak River baz=113,SNR=9.9	66.48	340	P	P	00 05 41.1 +0.8
L17K	Donlin baz=105	66.49	332	P	P	00 05 41.0 +0.6
M16K	Timber Creek baz=104	66.52	331	P	P	00 05 41.3 +0.6
O15K	Ungalikthiuk R baz=102	66.52	329	P	P	00 05 41.4 +0.7
GCSA	Galena City Sc baz=107	66.60	335	P	P	00 05 41.9 +0.8
K17K	Iditarod comp=Z,8.2nm,0.8s	66.64	333	IAmb	IAmb	00 05 45.0
K17K	Iditarod baz=105	66.64	333	P	P	00 05 41.7 +0.3
H19K	Roundabout Mou baz=108,SNR=13	66.67	336	P	P	00 05 41.7 +0.2
E21K	Killik River baz=112	66.74	339	P	P	00 05 42.6 +0.5
N15K	Kwethluk River baz=102	66.87	330	P	P	00 05 43.3 +0.4
F20K	Avaraart Lake baz=109	66.88	338	P	P	00 05 43.4 +0.6
L16K	Owhat River comp=Z,15nm,1.4s	66.92	332	IAmb	IAmb	00 05 55.9
L16K	Owhat River baz=104	66.92	332	P	P	00 05 43.2 0.0
S12K	Black Hills baz=99	67.08	325	P	P	00 05 44.7 +0.3
G19K	Purcell Mounta baz=108,SNR=5.9	67.11	336	P	P	00 05 44.8 +0.5
J17K	KABLOM Dome baz=105	67.16	333	P	P	00 05 45.8 +1.1
O14K	Tigyukauivet M baz=101	67.26	329	P	P	00 05 46.0 +0.6
M15K	Kasigluk River baz=102	67.27	330	P	P	00 05 45.9 +0.5
C21K	Knifeblade Rid baz=111,SNR=6.6	67.28	340	P	P	00 05 45.7 +0.3
B22K	Teshekpuk Lake baz=110	67.29	341	P	P	00 05 45.8 +0.5
H18K	Honhosa River comp=Z,16nm,1.1s	67.32	335	IAmb	IAmb	00 05 59.0
H18K	Honhosa River baz=106	67.32	335	P	P	00 05 46.4 +0.6
B21K	Ikpikpuk River comp=Z,12nm,0.9s	67.39	340	IAmb	IAmb	00 05 58.6
B21K	Ikpikpuk River baz=111	67.39	340	P	P	00 05 46.5 +0.4
E20K	Nigu River baz=109,SNR=12	67.45	339	P	P	00 05 46.6 +0.1
E19K	Redstone River comp=Z,7.1nm,1.1s	67.57	338	IAmb	IAmb	00 05 59.7
E19K	Redstone River baz=108	67.57	338	P	P	00 05 47.5 +0.3
F19K	Shaleruckik Mo comp=Z,18nm,1.1s	67.58	337	IAmb	IAmb	00 05 59.8
F19K	Shaleruckik Mo baz=107,SNR=11	67.58	337	P	P	00 05 47.6 +0.3
N14K	Kuskokwak Cree baz=101	67.60	329	P	P	00 05 47.9 +0.4
G18K	Tagagawik comp=Z,19nm,1.2s	67.65	336	IAmb	IAmb	00 06 00.7
G18K	Tagagawik baz=106,SNR=5.5	67.65	336	P	P	00 05 48.5 +0.7
D20K	Etivluk River baz=109,SNR=15	67.75	339	P	P	00 05 49.1 +0.8
J16K	Anvik River baz=103,SNR=6.6	67.80	333	P	P	00 05 49.6 +0.9
L15K	Ungalak Mounta baz=102	67.85	331	P	P	00 05 49.8 +0.7
M14K	Bethel	67.89	330	P	P	00 05 49.9 +0.6
	baz=101,SNR=6.3					
H17K	Granite Mounta	67.90	335	P	P	00 05 49.0 -0.4
H17K	comp=Z,23nm,1.6s			IAmb	IAmb	00 06 02.5
H17K	Granite Mounta baz=104	67.90	335	P	P	00 05 50.2 +0.8
I17K	Unalakleet baz=103	67.98	334	P	P	00 05 50.6 +0.7
K15K	Wolf Creek Mou baz=102	68.00	332	P	P	00 05 51.0 +1.0
A22K	Sinclair Lake baz=112	68.02	342	P	P	00 05 50.8 +0.9
D19K	Kuna River comp=Z,12nm,0.9s	68.20	339	IAmb	IAmb	00 06 03.8
D19K	Kuna River baz=108	68.20	339	P	P	00 05 52.1 +0.9
F18K	Selawik baz=105	68.23	337	P	P	00 05 52.3 +1.0
G17K	Kiwalik Mounta baz=104	68.34	335	P	P	00 05 52.6 +0.5
L14K	Kuka Creek baz=100	68.35	331	P	P	00 05 52.2 0.0
B20K	Meade River baz=109	68.36	340	P	P	00 05 53.0 +0.9
M13K	Dall Lake baz=99	68.51	330	P	P	00 05 53.7 +0.5
H16K	Elim baz=102	68.80	334	P	P	00 05 55.5 +0.6
E18K	Tukpahlearik C comp=Z,7.7nm,1.0s	68.80	337	IAmb	IAmb	00 06 07.3
E18K	Tukpahlearik C baz=105	68.80	337	P	P	00 05 55.1 +0.1
F17K	Baldwin Pennin baz=104	68.81	336	P	P	00 05 55.3 +0.3
C19K	Lookout Ridge baz=106,SNR=5.8	68.89	339	P	P	00 05 56.2 +0.6
J14K	Nanvaranak Lak comp=Z,12nm,0.8s	69.01	332	IAmb	IAmb	00 06 01.6
J14K	Nanvaranak Lak baz=100	69.01	332	P	P	00 05 56.6 +0.4
G16K	Koyuk River baz=102	69.01	335	P	P	00 05 56.8 +0.6
E17K	Hotham Inlet baz=103,SNR=5.4	69.18	337	P	P	00 05 57.4 +0.1
C18K	Utukok River comp=Z,13nm,1.0s	69.33	339	IAmb	IAmb	00 06 11.2
C18K	Utukok River baz=105	69.33	339	P	P	00 05 58.0 -0.3
K13K	Kusilvak Mount baz=99	69.38	331	P	P	00 05 58.5 -0.1
UNV	Unalaska Valle baz=94	69.42	322	P	P	00 05 59.1 +0.1
G15K	Niukluk baz=100	69.63	335	P	P	00 05 60.0 -0.1
A19K	Wainwright baz=105	69.70	340	P	P	00 06 00.4 +0.1
B18K	Kokolik River baz=104	69.72	339	P	P	00 06 00.7 +0.1
D17K	Noatak River baz=102	69.79	337	P	P	00 06 01.1 0.0
M11K	Mekoryuk baz=97	69.90	329	P	P	00 06 02.2 +0.4
C17K	DeLong Mountai baz=103	70.00	338	P	P	00 06 02.4 +0.1
F15K	North Star Dit comp=Z,14nm,1.1s	70.01	335	IAmb	IAmb	00 06 16.3
F15K	North Star Dit baz=100	70.01	335	P	P	00 06 03.1 +0.7
ANM	Nome baz=99	70.11	334	P	P	00 06 03.1 -0.1
F14K	Arctic Creek baz=99	70.66	335	P	P	00 06 06.7 +0.3
C16K	Lisburne Hills baz=100	70.75	338	P	P	00 06 07.2 +0.4
TNA	Tin City baz=97	71.33	335	P	P	00 06 11.1 +0.7
P08K	Saint George I baz=93	71.33	325	P	P	00 06 10.8 +0.2
EKA	Eskdalemuir Ar comp=Z,2.4nm,0.7s,baz=271,slow=6.0,SNR=5.1 comp=Z,2.4nm,0.7s	78.10	36	P	P	00 06 47.0 -2.9
ESDC	Sonseca Array comp=Z,1.4nm,1.0s,baz=266,slow=7.2,SNR=3.7 comp=Z,1.4nm,1.0s	79.93	52	P	P	00 06 57.1 -3.2
NOA	NORSAR Array B comp=Z,0.9nm,0.8s,baz=289,slow=5.2,SNR=4.3 comp=Z,0.9nm,0.8s	84.24	28	P	P	00 07 21.4 -1.1
ARCES	ARCESS Array B comp=Z,1.8nm,0.9s,baz=284,slow=2.0,SNR=3.6 comp=Z,1.8nm,0.9s	86.18	18	P	P	00 07 30.5 -1.4
GERES	GERESS Array B comp=Z,0.2nm,0.6s,baz=280,slow=6.6,SNR=3.4 comp=Z,0.2nm,0.6s	89.76	39	P	P	00 07 47.8 -1.8
TIXI	Tiksi	90.12	348	P	P	00 07 50.3 -0.3
MKAR	Makanchi Array comp=Z,1.4nm,0.9s,baz=334,slow=3.5,SNR=3.4	119.23	4	PKP	PKiKP	00 13 40.4 +0.1
BOSA	Boshof comp=Z,2.5nm,0.9s,baz=332,slow=5.7,SNR=3.3	120.68	115	PKP	PKiKP	00 13 44.0 +0.3
MAW	Mawson comp=Z,0.4nm,0.3s,baz=135,slow=2.9,SNR=1.8	124.10	169	PKP	PKiKP	00 13 49.7 +0.7
STKA	Stephens Creek comp=Z,4.3nm,0.9s,baz=13,slow=4.2,SNR=4.4	127.80	241	PKP	PKiKP	00 13 57.4 -0.2
WRA	Warramunga Arr	135.09	256	PKPdf	PKPdf	00 14 10.8 -0.3
WRA	Warramunga Arr comp=Z,0.2nm,0.4s,baz=89,slow=2.4,SNR=3.0	135.09	256	PKP	PKPdf	00 14 11.2 +0.1
ASAR	Alice Springs	135.38	251	PKPdf	PKPdf	00 14 12.1 +0.5
ASAR	Alice Springs comp=Z,0.2nm,0.3s,baz=81,slow=3.0,SNR=3.4	135.38	251	PKP	PKPdf	00 14 11.8 +0.2
CHTO	Chiang Mai	145.49	341		PKPbc	00 14 29.0 -0.9
CM31	Chiang Mai Arr	145.82	341	PKPdf	PKPbc	00 14 31.0 0.0
CMAR	Chiang Mai Arr	145.82	341	PKPdf	PKPdf	00 14 30.2 -0.3
CMAR	Chiang Mai Arr comp=Z,9.7nm,0.8s,baz=340,slow=3.8,SNR=48	145.82	341	PKPbc	PKPbc	00 14 30.9 -0.1

ISK ***11*** *00:13:30.9,36˚.46N×28˚.75E,h5km,ML3.1/16*
IDC ***11*** *00:13:31.2±1.5,36˚.36N×28˚.87E,h0km,mb3.9/1, mbtmp3.4/7,ML3.1/5,Error ellipse: s-maj=22.0km s-min=19.5km az=20.0*
ATH ***11*** *00:13:32.4,36˚.42N×28˚.78E,h9km±3km,ML2.9/11, Manual Solution by D.Makaris First location: 2019/09/11 00:14:58, This location: 2020/11/16 14:57:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
AFAD ***11*** *00:13:32.0,36˚.48N×28˚.73E,h7km±3km,ML2.9*
THE ***11*** *00:13:32.7,36˚N±51˝×2˚9E±6˚1,h1km±34km,M2.9/5, ML2.9/5*

ISC 11 00:13:32.5±1.0,36˚.46N±0˚.03×28˚.76E±0˚.02,h11km±8km, n60,σ1°39/80,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IZZE	Mula-Seydike	0.38	93	P		Pg		00 13 40.1	+0.1
IZZE				S		Sg		00 13 45.8	+0.7
IZZE				*i*	IAML			00 13 48.0	
	comp=E,2μm,0.3s								
IZZE				*i*	IAML			00 13 49.0	
	comp=N,4μm,0.3s								
SABU	Mula-Dalaman	0.41	25	P		Pg		00 13 40.1	-0.4
SABU				S		Sg		00 13 46.1	+0.1
SABU				*i*	IAML			00 13 48.0	
	comp=N,1μm,0.2s								
RODB	Rodos	0.43	269	P		Pg		00 13 40.7	-0.2
RODB				S		Sg		00 13 47.3	+0.6
TURN	Turunc	0.52	308	Pg		Pg		00 13 42.2	-0.5
TURN				Sg		Sg		00 13 50.3	+0.7
TURN	Turunc	0.52	308	P		Pg		00 13 42.0	-0.6
ARG	Arkhangelos	0.56	245	Pg		Pg		00 13 42.9	-0.5
ARG				Sg		Sb		00 13 51.9	-0.4
ARG	Arkhangelos	0.56	245	P		Pg		00 13 42.9	-0.5
ARG				S		Sb		00 13 52.4	+0.1
ARG	Arkhangelos	0.56	245	P		Pg		00 13 42.9	-0.5
ARG				S		Sg		00 13 51.1	+0.3
CAME	Cameli-Denizli	0.66	42	Pg		Pg		00 13 44.8	-0.5
AKAS	Kas	0.72	108	Pg		Pg		00 13 46.1	-0.4
AKAS	Kas	0.72	108	P		Pg		00 13 46.4	-0.1
KSL	Kastellorizon	0.73	114	P		Pg		00 13 46.4	-0.3
KSL				S		Sb		00 13 57.4	+0.1
KNIK	Mula-Seydike	0.77	59	P		Pg		00 13 46.4	-0.9
KNIK				S		Sg		00 13 57.8	+0.4
KNIK				*i*	IAML			00 14 00.0	
	comp=N,575nm,0.4s								
CAEL	Denizli, Camel	0.81	34	P		Pg		00 13 48.0	-0.1
DNZT	Denizli-Tavas-	0.85	15	P		Pg		00 13 46.4	-2.6

DNZT				P	Pb	00 13 47.5	-1.9
MULA	**Mugla, Merkez-**	**0.87**	**337**	P	Pg	00 13 49.4	0.0
MULA				S	Sg	00 13 59.7	-1.1
MULA				*i* IAML		00 14 04.0	
	comp=E,366nm,0.6s						
DEMR	**Demre-Antalya**	**0.95**	**103**	Pg	Pg	00 13 50.2	-0.7
DAT	**Datca**	**0.99**	**286**	Pg	Pg	00 13 50.9	-0.6
GOLH	**Golhisar**	**1.01**	**39**	P	Pg	00 13 51.8	-0.2
GOLH				S	Sg	00 14 04.8	-0.4
GOLH				*i* IAML		00 14 07.0	
	comp=E,407nm,0.6s						
GOLH				*i* IAML		00 14 13.0	
	comp=N,356nm,0.3s						
TAVA	**DENIZLI_Tavas**	**1.02**	**7**	P	Pg	00 13 50.7	-1.4
YAZI	**Mula-Dat§a-**	**1.07**	**283**	P	Pg	00 13 52.1	-1.0
APMY	**Acipayam-Deniz**	**1.11**	**23**	Pn	Pg	00 13 53.1	-0.7
DNIZ	**Denizli-Tavas-**	**1.19**	**11**	P	Pg	00 13 54.3	-1.1
AKUM	**Antalya-Kumluc**	**1.29**	**95**	P	Pn	00 13 55.9	-0.5
YKAV	**Yalikavak-Bodr**	**1.36**	**300**	Pn	Pb	00 13 58.1	+0.2
ESEN	**Aydn-Nazilli**	**1.38**	**347**	P	Pn	00 13 57.2	-0.4
ESEN				S	Sb	00 14 13.0	-2.9
ESEN				*i* IAML		00 14 19.0	
	comp=E,98nm,0.3s						
KORT	**Korkueli**	**1.39**	**67**	Pn	Pb	00 13 58.7	+0.1
KORT	**Korkueli**	**1.39**	**67**	P	Pg	00 13 59.7	+0.4
KORT				S	Sg	00 14 19.5	+2.2
KORT				*i* IAML		00 14 27.0	
	comp=N,173nm,0.4s						
KORT				*i* IAML		00 14 28.0	
	comp=E,240nm,0.6s						
INCE	**Denizli-Bozkur**	**1.41**	**27**	P	Pg	00 13 59.4	-0.2
NAZL	**Nazilli-Aydin**	**1.55**	**346**	Pn	Pn	00 14 00.5	+0.4
ANTB	**Antalya**	**1.59**	**73**	Pn	Pg	00 14 03.1	+0.1
AYDB	**Zeytinkoy-Aydi**	**1.64**	**335**	Pn	Pn	00 14 02.0	+0.6
BUCA	**Burdur, Bucak-**	**1.69**	**58**	P	Pg	00 14 05.1	+0.2
BUCA				S	Sg	00 14 29.3	+2.5
GCAM	**G?zelcaml?**	**1.74**	**316**	Pn	Pn	00 14 03.3	+0.7
BASM	**Basmaki-Afyon**	**1.79**	**35**	Pn	Pn	00 14 03.9	+0.5
ODEM	**Odemis-Izmir**	**1.90**	**344**	Pn	Pn	00 14 05.5	+0.6
ISP	**Isparta**	**1.96**	**45**	Pn	Pn	00 14 06.8	+1.0
ISP	**Isparta**	**1.96**	**45**	P	Pn	00 14 06.4	+0.6
SMG	**Samos**	**1.98**	**310**	P	Pn	00 14 06.4	+0.5
SMG				S	Sb	00 14 34.1	+0.9
SMG	**Samos**	**1.98**	**310**	P	Pn	00 14 06.2	+0.3
BLCB	**Balcova**	**2.36**	**325**	P	Pn	00 14 12.4	+1.2
APE	**Apeiranthos**	**2.66**	**284**	P	Pn	00 14 16.2	+0.9
NPS	**Neapolis**	**2.82**	**246**	P	Pn	00 14 18.6	+1.1
NPS	**Neapolis**	**2.82**	**246**	P	Pn	00 14 17.9	+0.5
CHOS	**Chios island**	**2.89**	**313**	P	Pn	00 14 19.5	+1.1
CHOS	**Chios island**	**2.89**	**313**	P	Pn	00 14 19.1	+0.6
AKMS	**Akamas**	**3.25**	**115**	P	Pn	00 14 22.4	-1.0
IDI	**Anoyia**	**3.35**	**251**	Pn	Pn	00 14 26.0	+1.2
	7.1nm,0.3s,baz=69,slow=17,SNR=16						
IDI				Sn	Sn	00 15 08.0	+3.4
	2.0nm,0.3s,baz=323,slow=10,SNR=9.5						
IDI	**Anoyia**	**3.35**	**251**	P	Pn	00 14 24.5	-0.3
ALFC	**Alefka**	**3.38**	**111**	P	Pn	00 14 24.8	-0.4
NATA	**Nata**	**3.53**	**117**	P	Pn	00 14 26.7	-0.6
CSS	**Mathiatis**	**4.01**	**110**	P	Pn	00 14 34.0	+0.2
DION	**Dionisos Attik**	**4.17**	**294**	P	Pn	00 14 36.0	-0.1
MVOU	**Mavrovouni**	**4.22**	**108**	P	Pn	00 14 36.9	+0.2
BRTR	**Keskin Array B**	**5.05**	**48**	Pn	Pn	00 14 50.0	+1.7
	0.4nm,0.3s,baz=230,slow=15,SNR=12						
BRTR				Sn	Sn	00 15 50.0	+3.3
	0.3nm,0.3s,baz=237,slow=26,SNR=7.4						
	1.5nm,0.6s						
MMAI	**Mount Meron Ar**	**6.46**	**120**	Pn	Pn	00 15 05.7	-1.9
	1.6nm,0.3s,baz=306,slow=12,SNR=9.9						
MMAI				Sn	Sn	00 16 18.7	-2.6
	0.7nm,0.3s,baz=299,slow=28,SNR=1.8						
	0.8nm,0.3s						
EIL	**Elat**	**8.53**	**141**	Pn	Pn	00 15 34.4	-1.6
	0.4nm,0.3s,baz=341,slow=6.3,SNR=5.7						
EIL				Sn	Sn	00 17 05.4	-6.8
	1.4nm,0.3s,baz=2.8,slow=7.6,SNR=9.7						
	1.2nm,0.3s						
MLR	**Muntele Rosu**	**9.27**	**348**	Pn	Pn	00 15 48.5	+2.3
	0.1nm,0.3s,baz=1.4,slow=3.5,SNR=4.1						
	2.6nm,0.9s						
GERES	**GERESS Array B**	**16.57**	**323**	Pn	P	00 17 28.8	+1.4
	baz=125,slow=8.5,SNR=1.6						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**25.07**	**357**	P	P	00 18 57.6	+1.0
	2.3nm,0.8s,baz=169,slow=13,SNR=4.6						
	2.3nm,0.8s						

IDC 11 00:14:37.2±63.0, 18°29S×179°98W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=1134.0km s-min=168.5km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.13**	**241**	P	P	00 21 50.1	+0.3
	0.7nm,0.3s,baz=68,slow=6.7,SNR=2.9						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**43.09**	**260**	P	P	00 22 39.2	-0.2
	1.5nm,0.8s,baz=97,slow=8.5,SNR=6.3						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**43.25**	**255**	P	P	00 22 40.4	-0.3
	2.6nm,0.7s,baz=84,slow=8.3,SNR=18						
	2.6nm,0.7s						

MOS ***11*** *00:25:34.7±1.1,50.00N×158.07E,h27km,mb4.2/1, Error ellipse: s-maj=27.0km s-min=5.0km az=89.1*
KRSC ***11*** *00:25:42.4±2.0,50.65N×157.97E,h43km±32km,Ml4.0*
ISC 11 00:25:39.9±2.6, 50.6N±0.1×157.97E±0.09, h5km±16km, n43, σ1§85/52, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.15**	**321**	PN	Pg	00 26 02.3	+0.4
PAU	**Pauzhetka**	**1.15**	**321**	*e*P	Pg	00 26 02.3	+0.4
PAU				*e*S	Sg	00 26 15.7	-1.0
SKR	**Severo-Kuril's**	**1.19**	**275**	*e*PN	Pg	00 25 59.2	-3.4
SKR				*e*S	Sg	00 26 16.3	-1.7
SKR				pmax	pmax		
	comp=Z,87nm,0.5s						
SKR				smax	smax		
	comp=E,381nm,0.2s						
SKR				smax	smax		
	comp=N,467nm,0.3s						
SKR	**Severo-Kuril's**	**1.19**	**275**	*e*P	Pg	00 26 03.0	+0.4
SKR				*e*S	Sg	00 26 17.0	-1.0
ASAK	**Asacha**	**1.80**	**359**	PN	Pn	00 26 12.1	+0.5
ASAK	**Asacha**	**1.80**	**359**	*e*P	Pn	00 26 12.2	+0.5
MIPR	**Malaya Ipel'ka**	**1.85**	**336**	PN	Pn	00 26 13.0	+0.7
MIPR	**Malaya Ipel'ka**	**1.85**	**336**	*e*P	Pn	00 26 13.0	+0.7
RUS	**Russkaya**	**1.88**	**10**	PN	Pn	00 26 12.7	+0.1
RUS	**Russkaya**	**1.88**	**10**	*e*P	Pn	00 26 12.8	+0.1
RUS				*e*S	Sn	00 26 34.0	-2.7
MTVR	**Mutnovka**	**1.90**	**4**	PN	Pn	00 26 13.6	+0.5
MTVR	**Mutnovka**	**1.90**	**4**	*e*P	Pn	00 26 13.6	+0.5
MTVR				*e*S	Sn	00 26 35.9	-1.6
GRL	**Gorelyy**	**1.97**	**2**	PN	Pn	00 26 14.7	+0.7
GRL	**Gorelyy**	**1.97**	**2**	*e*P	Pn	00 26 14.8	+0.7
GRL				*e*S	Sn	00 26 37.6	-1.5
KRMR	**Karymshinskiy**	**2.25**	**2**	PN	Pn	00 26 18.7	+1.0
KRMR	**Karymshinskiy**	**2.25**	**2**	*e*P	Pn	00 26 18.8	+1.0
KRMR				*e*S	Sn	00 26 44.7	-1.1
APC	**Apacha**	**2.40**	**348**	PN	Pn	00 26 22.9	+3.2
APC	**Apacha**	**2.40**	**348**	*e*P	Pn	00 26 22.9	+3.2
PET	**Petropavlovsk**	**2.48**	**10**	*e*PN	Pn	00 26 22.0	+1.2
PET	**Petropavlovsk**	**2.48**	**10**	*e*P	Pn	00 26 22.1	+1.3
PET				*e*S	Sn	00 26 50.5	-1.0
DALK	**Dalny**	**2.50**	**11**	PN	Pn	00 26 22.3	+1.2
DALK	**Dalny**	**2.50**	**11**	*e*P	Pn	00 26 22.3	+1.2
DALK				*e*S	Sn	00 26 50.5	-1.4
PEA0B	**Petropavlovsk-**	**2.53**	**356**	PN	Pn	00 26 22.8	+1.2
UGLR	**Uglovaya**	**2.68**	**11**	PN	Pn	00 26 27.3	+3.6
UGLR	**Uglovaya**	**2.68**	**11**	*e*P	Pn	00 26 27.3	+3.6
AVH	**Avacha**	**2.72**	**10**	PN	Pn	00 26 27.1	+2.8
AVH	**Avacha**	**2.72**	**10**	*e*P	Pn	00 26 27.1	+2.8
NLC	**Nalytchevo**	**2.72**	**18**	PN	Pn	00 26 26.8	+2.6
NLC	**Nalytchevo**	**2.72**	**18**	*e*P	Pn	00 26 26.8	+2.6
SMAR	**Somma**	**2.73**	**11**	PN	Pn	00 26 26.2	+1.7
SMAR	**Somma**	**2.73**	**11**	*e*P	Pn	00 26 26.3	+1.7
KOK	**Koryaka**	**2.74**	**8**	PN	Pn	00 26 27.7	+3.1
KOK	**Koryaka**	**2.74**	**8**	*e*P	Pn	00 26 27.7	+3.1
KOK				*e*S	Sn	00 27 00.4	+2.3
SDLR	**Sedlovina**	**2.75**	**11**	PN	Pn	00 26 26.8	+2.0
SDLR	**Sedlovina**	**2.75**	**11**	*e*P	Pn	00 26 26.8	+2.0
KRX	**Arik**	**2.81**	**8**	PN	Pn	00 26 28.2	+2.7
KRX	**Arik**	**2.81**	**8**	*e*P	Pn	00 26 28.2	+2.7
SPN	**Mys Shipunski**	**2.82**	**26**	PN	Pn	00 26 25.5	0.0
SPN	**Mys Shipunski**	**2.82**	**26**	*e*P	Pn	00 26 25.5	0.0
GNL	**Ganaly**	**3.11**	**360**	PN	Pn	00 26 30.5	+0.8
GNL	**Ganaly**	**3.11**	**360**	*e*P	Pn	00 26 30.6	+0.8
MKZ	**Mys Kozlova**	**4.59**	**28**	PN	Pn	00 26 49.9	+0.1
MKZ	**Mys Kozlova**	**4.59**	**28**	*e*P	Pn	00 26 49.9	+0.1

IDC ***11*** *00:36:00.6±0.8,4.00Nx126.61E,h0km,mb3.9/10, mbtmp3.9/10, Error ellipse: s-maj=81.1km s-min=16.3km az=68.0*
DJA ***11*** *00:36:05.0±0.9,4.7°N±10.7°×12.7°E±.°, h23km±4km, M4.0/6, mb4.0/1, MLv4.0/6*
NEIC ***11*** *00:36:07.4±0.8,3.9Nx126.48E±0.07,h44km±9km, mb4.4/16, Error ellipse: s-maj=21.1km s-min=5.7km az=153.0*
ISC 11 00:36:06.8±0.7, 4.01N±0.10×126.74E±0.10, h45km, n34, σ1§33/35, mb4.3/18, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.25**	**255**	P	Pn	00 36 28.5	+0.7
SGSI				S	Sn	00 36 45.3	+1.8
MRSI	**Marisa**	**5.94**	**234**	P	Pn	00 37 33.4	+1.2
TOLI2	**Tolitoli**	**6.61**	**244**	Pn	Pn	00 37 38.1	-3.3
WB0	**Warramunga Arr**	**24.80**	**163**	P	P	00 41 24.3	-0.5
WB0				IAmb	IAmb	00 41 44.1	
	comp=Z,15nm,1.2s						
WRA	**Warramunga Arr**	**24.95**	**163**	P	P	00 41 22.7	-3.5
WRA	**Warramunga Arr**	**24.95**	**163**	P	P	00 41 25.7	-0.4
	comp=Z,1.7nm,0.5s,baz=342,slow=10,SNR=12						
	comp=Z,1.7nm,0.5s						
WR8	**Warramunga Arr**	**25.01**	**163**	P	P	00 41 26.6	-0.1
WR8				IAmb	IAmb	00 42 04.7	
	comp=Z,15nm,1.4s						
ASAR	**Alice Springs**	**28.38**	**166**	P	P	00 41 56.9	-0.2
	comp=Z,0.4nm,0.5s,baz=351,slow=8.2,SNR=4.5						
	comp=Z,0.4nm,0.5s						
BBOO	**Buckleboo**	**37.67**	**167**	P	P	00 43 17.7	-0.1
STKA	**Stephens Creek**	**38.39**	**159**	P	P	00 43 24.1	+0.2
STKA	**Stephens Creek**	**38.39**	**159**	P	P	00 43 24.2	+0.3
	comp=Z,3.7nm,0.8s,baz=349,slow=14,SNR=5.3						
	comp=Z,3.7nm,0.8s						
SONM	**Songino Array**	**47.04**	**341**	P	P	00 44 32.3	-1.7
	comp=Z,0.3nm,0.3s,baz=161,slow=9.2,SNR=2.3						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**57.33**	**325**	P	P	00 45 50.0	-0.3
MKAR	**Makanchi Array**	**57.33**	**325**	P	P	00 45 50.4	0.0
	comp=Z,0.7nm,0.4s,baz=114,slow=7.9,SNR=12						
	comp=Z,0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**60.34**	**333**	P	P	00 46 10.2	-0.9
	comp=Z,0.4nm,0.3s,baz=141,slow=5.5,SNR=2.3						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**61.51**	**327**	P	P	00 46 18.8	-0.2
	comp=Z,0.7nm,0.4s,baz=124,slow=6.3,SNR=8.3						
	comp=Z,0.7nm,0.4s						
KURK	**Kurchatov**	**61.51**	**327**	P	P	00 46 18.6	-0.4
KURK				IAmb	IAmb	00 46 20.2	
	comp=Z,1.5nm,0.6s						
KKAR	**Karatay Array**	**63.03**	**317**	P	P	00 46 28.8	-0.6
BVAR	**Borovoye Array**	**67.09**	**327**	P	P	00 46 56.0	+0.4
	comp=Z,0.7nm,0.6s,baz=145,slow=5.4,SNR=5.4						
	comp=Z,0.7nm,0.6s						
AB31	**Akbulak array**	**71.94**	**321**	P	P	00 47 25.0	-0.5
ABKAR	**Akbulak array**	**71.94**	**321**	P	P	00 47 25.1	-0.4
J17K	**VABM Dome**	**79.37**	**26**	P	P	00 48 09.5	+1.7
J17K				IAmb	IAmb	00 48 15.9	
	comp=Z,9.0nm,1.4s						
L18K	**Granite Mounta**	**80.22**	**28**	P	P	00 48 13.7	+1.3
L18K				IAmb	IAmb	00 48 15.8	
	comp=Z,5.9nm,1.5s						
D19K	**Kuna River**	**80.86**	**21**	P	P	00 48 17.7	+1.9
D19K				IAmb	IAmb	00 48 33.6	
	comp=Z,6.7nm,1.4s						
E19K	**Redstone River**	**80.97**	**22**	P	P	00 48 17.6	+1.2
KDAK	**Kodiak Island**	**81.65**	**32**	P	P	00 48 21.2	+1.1
B21K	**Ikpikpuk River**	**82.31**	**20**	P	P	00 48 24.9	+1.5
B21K				IAmb	IAmb	00 48 26.3	
	comp=Z,3.0nm,0.7s						
E21K	**Killik River**	**82.35**	**21**	P	P	00 48 25.1	+1.4
ILAR	**Eielson Array**	**84.85**	**25**	P	P	00 48 37.8	+1.3
	comp=Z,0.3nm,0.7s,baz=277,slow=9.0,SNR=2.2						
	comp=Z,0.3nm,0.7s						
BMAR	**Burnt Mountain**	**85.82**	**23**	P	P	00 48 43.6	+2.2
FINES	**FINESS Array B**	**91.59**	**332**	P	P	00 49 08.6	-0.1
FINES	**FINESS Array B**	**91.59**	**332**	P	P	00 49 09.0	+0.3
	comp=Z,2.0nm,0.9s,baz=48,slow=2.8,SNR=5.4						
	comp=Z,2.0nm,0.9s						
BURAR	**Bucovina Array**	**94.80**	**318**	P	P	00 49 24.8	+0.8
BURAR				IAmb	IAmb	00 49 25.5	
	comp=Z,1.1nm,0.9s						
BUR08	**Bucovina Ar. S**	**94.80**	**318**	P	P	00 49 24.3	+0.3

TIF ***11*** *00:45:22.5,41.08Nx43.93E,h14km*
ISK ***11*** *00:45:22.9,41.01Nx43.90E,h5km,ML3.3/12*
NSSP ***11*** *00:45:22.2,41.08Nx43.97E,h10km,Ms3.2*
AFAD ***11*** *00:45:23.9,41.05Nx43.81E,h7km±3km,ML3.2*
MOS ***11*** *00:45:23.2±1.1,41.03Nx43.87E,h10km,mb3.9/1, Error ellipse: s-maj=7.5km s-min=5.6km az=79.5*
DRS ***11*** *00:45:24.6,41.14Nx43.73E,h15km*
AZER ***11*** *00:45:24.3,41.04Nx44.00E,h2km,ml3.3*
ISC 11 00:45:23.1±1.0, 41.07N±0.01×43.92E±0.01, h7km±8km, n118, σ1§42/199, 6C-4D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMOZ	**Kamo**	**0.25**	**175**	*e*P	Pg	00 45 28.9	+0.8
KMOZ				*e*S	Sg	00 45 33.2	+1.7
SRTK	**Saratovka**	**0.30**	**91**	*e*P	Pg	00 45 29.3	+0.1
SRTK				*e*S	Sg	00 45 33.9	+0.7
BGD	**Bogdanovka**	**0.31**	**308**	P	Pg	00 45 29.7	+0.5
BGD				S	Sg	00 45 34.5	+1.2
BGD	**Bogdanovka**	**0.31**	**308**	PG	Pg	00 45 29.7	+0.5
BGD				S	Sg	00 45 34.6	+1.2
EAK	**Akyaka**	**0.45**	**212**	P	Pg	00 45 31.5	-0.4
EAK				S	Sg	00 45 37.0	-0.9
EAK				*i* IAML		00 45 38.0	
	comp=N,3μm,0.7s						
AKH	**Akhalkalaki**	**0.47**	**316**	P	Pg	00 45 32.1	0.0
AKH				S	Sg	00 45 38.6	+0.4
AKH	**Akhalkalaki**	**0.47**	**316**	PG	Pg	00 45 32.1	0.0
AKH				S	Sg	00 45 38.6	+0.4
KZRT	**Kazreti**	**0.48**	**49**	P	Pg	00 45 30.2	-2.2
KZRT				S	Sg	00 45 36.7	-1.9
KZRT	**Kazreti**	**0.48**	**49**	PG	Pg	00 45 30.2	-2.2
TRLG	**Trialeti**	**0.48**	**16**	P	Pg	00 45 32.3	-0.2
TRLG				S	Sg	00 45 39.0	+0.1
TRLG	**Trialeti**	**0.48**	**16**	PG	Pg	00 45 32.3	-0.2
TRLG				S	Sg	00 45 39.0	+0.1
AMBZ	**Amberd**	**0.73**	**159**	*e*P	Pg	00 45 37.5	+0.3
AMBZ				*e*S	Sb	00 45 48.0	-0.7
DIGO	**Kars**	**0.78**	**212**	P	Pg	00 45 37.7	-0.3
DIGO				S	Sg	00 45 46.7	-1.4
DIGO				*i* IAML		00 45 49.0	
	comp=N,3μm,0.5s						
DIGO				*i* IAML		00 45 51.0	
	comp=E,3μm,0.4s						
ARUZ	**Aruch**	**0.80**	**171**	*e*P	Pg	00 45 38.4	-0.1
ARUZ				*e*S	Sb	00 45 50.0	-0.5
BOZK	**Kars-Merkez-Bo**	**0.86**	**236**	P	Pg	00 45 39.4	-0.3
BOZK				S	Sg	00 45 50.4	-0.5
TBLG	**Delisi**	**0.90**	**43**	P	Pg	00 45 39.6	-0.8
TBLG				S	Sg	00 45 51.9	-0.2
TBLG	**Delisi**	**0.90**	**43**	PG	Pg	00 45 39.6	-0.8
TBLG				S	Sg	00 45 51.9	-0.2
METS	**Metsamor**	**0.93**	**172**	*e*P	Pg	00 45 40.8	-0.1
METS				*e*S	Sb	00 45 54.2	0.0
KAPZ	**Kaputan**	**0.96**	**141**	*e*P	Pg	00 45 41.2	-0.2
KAPZ				*e*S	Sb	00 45 54.3	-0.7
VNNZ	**Vanand**	**0.97**	**184**	*e*P	Pg	00 45 41.6	-0.2
VNNZ				*e*S	Sb	00 45 54.6	-0.8
LSVT	**Lusahovit**	**0.97**	**99**	*e*P	Pg	00 45 40.9	-0.9
LSVT				*e*S	Sg	00 45 54.4	0.0
AHAN	**Ardahan-Merkez**	**0.98**	**276**	P	Pg	00 45 41.7	-0.3
AHAN				S	Sg	00 45 54.3	-0.4
AHAN				*i* IAML		00 45 56.0	
	comp=E,2μm,0.6s						
EPOS	**Posof**	**0.99**	**296**	P	Pg	00 45 41.6	-0.6
EPOS				S	Sg	00 45 53.5	-1.6
EPOS				*i* IAML		00 45 56.0	
	comp=N,888nm,0.6s						
EPOS				*i* IAML		00 45 57.0	
	comp=E,477nm,0.4s						
GOLE	**Ardahan-G¶le**	**1.03**	**257**	P	Pg	00 45 42.8	-0.1
GOLE				S	Sb	00 45 56.7	-0.5
GOLE				*i* IAML		00 45 58.0	
	comp=N,582nm,0.8s						
GOLE				*i* IAML		00 45 58.0	
	comp=E,1μm,0.2s						
QZX	**Qazax, Azerbai**	**1.10**	**90**	P	Pb	00 45 43.3	-1.2
QZX				S	Sg	00 45 58.8	+0.4
GNI	**Garni**	**1.12**	**146**	Pg	Pb	00 45 44.5	-0.3
GNI				Sg	Sn	00 46 00.3	-0.7
GNI	**Garni**	**1.12**	**146**	⇑*i*P	Pg	00 45 44.3	-0.3
GNI				⇑*i*S	Sn	00 46 00.7	-0.3
GNI	**Garni**	**1.12**	**146**	*c i*PG	Pg	00 45 44.2	-0.3
GNI				*i* S	Sn	00 46 01.2	+0.2
GNI				pmax	pmax		
	comp=Z,191nm,0.6s						
GNI				smax	smax		
	comp=Z,508nm,0.6s						
TASB	**TASBURUN-IGDIR**	**1.12**	**167**	Pg	Pg	00 45 44.1	-0.4
TASB				Sg	Sn	00 45 59.9	-1.0
DGRG	**David-gareji**	**1.16**	**71**	P	Pb	00 45 44.9	-0.6
DGRG				S	Sg	00 46 01.4	+1.1
DGRG	**David-gareji**	**1.16**	**71**	PG	Pb	00 45 44.9	-0.6
DGRG				S	Sg	00 46 01.5	+1.1
IGDI	**IGDIR**	**1.21**	**174**	P	Pb	00 45 45.1	-1.3
IGDI				S	Sb	00 46 00.6	-1.6
IGDI				*i* IAML		00 46 02.0	
	comp=Z,445nm,0.2s						
IGDI				*i* IAML		00 46 02.0	
	comp=Z,300nm,0.4s						
IGDI	**IGDIR**	**1.21**	**174**	P	Pb	00 45 44.9	-1.5
IGDI				S	Sb	00 46 01.1	-1.1
SENK	**Senkaya-Erzuru**	**1.30**	**247**	Pn	Pg	00 45 47.8	-0.2
GHRG	**Ghorjomi**	**1.36**	**300**	P	Pn	00 45 48.1	-0.6
GHRG				S	Sb	00 46 06.3	-0.3
KOTA	**Agri, Merkez-K**	**1.38**	**203**	P	Pg	00 45 49.8	+0.2
GDB	**GEDABAY**	**1.44**	**104**	P	Pn	00 45 48.7	-1.0
GDB				S	Sn	00 46 07.4	-1.6
GUDG	**Gudauri**	**1.45**	**17**	P	Pn	00 45 49.7	-0.3
GUDG				S	Sn	00 46 09.3	-0.1
GUDG	**Gudauri**	**1.45**	**17**	PG	Pn	00 45 49.7	-0.3
GUDG				S	Sn	00 46 09.3	-0.1
TKB	**Tkibuli**	**1.45**	**332**	P	Pn	00 45 49.9	+0.1
TKB				S	Sb	00 46 09.5	+0.3
TKB	**Tkibuli**	**1.45**	**332**	PG	Pn	00 45 49.9	+0.1
TKB				S	Sb	00 46 09.5	+0.3
HYR	**Heyderabad**	**1.53**	**152**	P	Pb	00 45 51.2	-0.6
HYR				S	Sg	00 46 12.6	+0.3
DYDN	**Diyadin**	**1.54**	**187**	P	Pg	00 45 52.1	+0.4
GARIG	**Gari**	**1.56**	**348**	P	Pn	00 45 51.8	+0.4
GARIG				S	Sb	00 46 13.0	+0.5
EATA	**Eleskirt**	**1.63**	**222**	P	Pb	00 45 53.0	-0.6
DDEM	**Demirkent**	**1.65**	**264**	P	Pb	00 45 53.1	-0.8
AGRB	**Hanur-Agry**	**1.66**	**206**	Pn	Pb	00 45 54.0	-0.1
DBAD	**Bademkaya**	**1.68**	**269**	P	Pg	00 46 13.5	+18
DBAD				S	Sg	00 46 34.6	+17
AYRK	**Ayrk**	**1.71**	**123**	*e*P	Pb	00 45 54.5	-0.6
AYRK				*e*S	Sb	00 46 17.2	+0.3
DBOC	**Borcka**	**1.72**	**280**	P	Pb	00 45 54.1	-1.0
DBOC				S	Sn	00 46 15.6	-0.2
DBOC				*i* IAML		00 46 17.0	
	comp=Z,270nm,0.3s						
BATM	**Batumi**	**1.76**	**288**	P	Pb	00 45 55.0	-0.7
BATM				S	Sb	00 46 17.4	-0.5
BATM	**Batumi**	**1.76**	**288**	PN	Pb	00 45 55.0	-0.7
BATM				S	Sb	00 46 17.4	-0.5
BCA	**Borcka**	**1.77**	**283**	Pn	Pb	00 45 55.6	-0.3
VAYK	**Vayk**	**1.79**	**140**	*i* P	Pb	00 45 56.1	-0.3
VAYK				*i* S	Sg	00 46 20.3	-0.5
SHTL	**Shatili**	**1.83**	**30**	P	Pb	00 45 56.7	-0.3
SHTL				S	Sb	00 46 20.6	+0.4
SHTL	**Shatili**	**1.83**	**30**	PN	Pb	00 45 56.7	-0.3
HOMI	**Horasan**	**1.85**	**237**	P	Pb	00 45 57.1	-0.2
GANJ	**Ganja**	**1.87**	**102**	P	Pn	00 45 55.9	+0.2
GANJ				S	Sb	00 46 20.3	-0.9
GANJ	**Ganja**	**1.87**	**102**	PN	Pn	00 45 55.8	+0.2
VSHL	**Vashlovani**	**1.88**	**84**	P	Pb	00 45 57.5	-0.2
VSHL				S	Sg	00 46 25.4	+1.9
HOPA

comp=Z,23nm,0.4s
UNCR Uncukul 2.70 52 *e*Pn **Pn 00 46 09.3 +2.2**
comp=Z,23nm,0.4s
UNCR *e*Sn **Sb 00 46 43.3 -1.9**
comp=Z,137nm,0.6s
KBZ Khabaz 2.76 344↓ *e*PN **Pb 00 46 11.4 -1.3**
KARO Karliova-Bingo 2.82 232 Pn **Pn 00 46 10.4 +1.6**
SHA1 Shidzhatmaz 2.82 341↑ *e*PN **Pb 00 46 12.3 -1.7**
KRNR Karanay 2.83 51 *e*PN **Pb 00 46 11.0 +2.1**
KRNR *e*S **Sb 00 46 46.7 -2.3**
KRNR pmax pmax
comp=Z,8.0nm,0.5s
AKT Akhty 2.90 81 *e*PN **Pn 00 46 12.1 +2.3**
AKT *e* 00 46 18.1
AKT *e* 00 46 19.9
AKT *e*S **Sb 00 46 51.6 +0.6**
AKT *e* 00 46 59.4
AKT pmax pmax
comp=Z,25nm,0.3s
AKT smax smax
comp=N,40nm,0.4s
AKT smax smax
comp=E,66nm,0.3s
AKT smax smax
comp=E,78nm,0.4s
AKT Akhty 2.90 81 *e*Pn **Pb 00 46 13.3 -1.9**
comp=E,24nm,0.6s
AKT *e*Sn **Sb 00 46 50.0 -1.0**
comp=E,78nm,0.4s
GURO Guroymak-BITLI 2.91 211 Pn **Pn 00 46 11.4 +1.4**
BAYT Aydıntepe-Bayb 2.95 258 Pn **Pn 00 46 12.6 +2.0**
QBL Gabala 2.97 91 P **Pb 00 46 14.4 -1.9**
QBL S **Sb 00 46 54.6 +1.8**
ZRD Zardab 2.97 104 P **Pb 00 46 14.8 -1.6**
ZRD S **Sg 00 46 56.6 -1.9**
KIV Kislovodsk 3.02 343 Pn **Pb 00 46 14.9 -2.4**
QRD Qoradiz 3.06 121 P **Pb 00 46 18.0 +0.1**
QRD S **Sg 00 47 03.0 +1.6**
BLQ Beylaqan 3.09 115 P **Pb 00 46 17.8 -0.6**
XNQ Khinaliq 3.19 87 P **Pb 00 46 17.5 -2.7**
XNQ S **Sb 00 46 58.7 -0.7**
KSMR Kasumkent 3.21 79 *e*PN **Pn 00 46 17.0 +3.0**
KSMR *e*S **Sb 00 46 57.2 -2.6**
KSMR pmax pmax
comp=Z,48nm,0.8s
KSMR Kasumkent 3.21 79 *e*Pn **Pn 00 46 17.0 +3.0**
comp=Z,48nm,0.8s
KSMR *e*Sn **Sb 00 46 57.3 -2.6**
comp=Z,139nm,0.4s
IML Ismayilli 3.24 94 P **Pb 00 46 18.8 -2.2**
IML S **Sb 00 47 02.8 +2.1**
QSAR Qusar 3.30 81 P **Pb 00 46 18.9 -3.1**
QSAR S **Sb 00 46 58.9 -3.6**
KDMR Kurdemir 3.31 101 P **Pb 00 46 20.9 -1.4**
KDMR S **Sb 00 47 03.4 +0.7**
QUBA Quba, Azerbaij 3.46 84 P **Pb 00 46 21.1 -3.6**
PQL Pirkuli 3.55 93 P **Pn 00 46 21.6 +2.8**
PQL S **Sn 00 47 04.9 +3.8**
SIZA Siyzn 3.77 88 P **Pn 00 46 25.4 +3.8**
ATGJ Altiaghaj 3.81 92 P **Pn 00 46 26.2 +3.9**
GBS Gobustan 3.85 96 P **Pb 00 46 27.7 -3.7**
GLBA Cilabad 3.89 117 P **Pb 00 46 29.8 -2.2**
YRD Yardimli 3.96 122 P **Pb 00 46 33.4 +0.1**
GOF Gofitskoye 4.03 351 *e*PN Pg 00 46 46.2 +5.9
GOF *e*S **Sg 00 47 34.6 +2.0**
GUZR Guzeripl' 4.05 317↑ *e*PN **Pn 00 46 24.0 -1.6**
LRK Lerik 4.18 124 P **Pb 00 46 35.3 -1.8**

*IDC **11** 00:51:10.6±0.7,4.°00N×126.°64E,h0km,mb4.0/15, mbtmp4.0/15,MS4.1/3,Error ellipse: s-maj=51.3km s-min=14.5km az=66.0*
*DJA **11** 00:51:15.0±0.9,4.°N±10.°×12.°7E±.°,h19km±5km,M4.1/5, MLv4.1/5*
*NEIC **11** 00:51:16.9±2.1,4.°0N±0.°1×126.°82E±0.°06,h35km±2km, mb4.3/19,Error ellipse: s-maj=20.9km s-min=3.7km az=154.0*
ISC 11 00:51:16.0±0.6,4.°07N±0.°08×126.°82E±0.°09,h36km,n42, σ1s08/41,mb4.2/26,MS4.4/3,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**1.34**	**254**	P		**Pn**	**00 51 38.2**	**-0.1**
SGSI				S		**Sn**	**00 51 55.8**	**+0.9**
TOLI2	**Tolitoli**	**6.71**	**244**			**Pn**	**00 52 52.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**22.06**	**183**	P		**P**	**00 56 08.4**	**+0.6**
WB0	**Warramunga Arr**	**24.83**	**163**	P		**P**	**00 56 34.2**	**-0.9**
WB0				IAmb		IAmb	00 56 36.2	
comp=Z,14nm,1.0s								
WRA	**Warramunga Arr**	**24.98**	**163**	P		**P**	**00 56 36.0**	**-0.5**
WRA	**Warramunga Arr**	**24.98**	**163**	P		**P**	**00 56 35.6**	**-0.9**
comp=Z,6.3nm,0.9s,baz=344,slow=10,SNR=19								
comp=Z,6.3nm,0.9s								
WR8	**Warramunga Arr**	**25.04**	**163**	P		**P**	**00 56 37.0**	**-0.1**
PSA00	**Pilbara Seismi**	**26.38**	**195**	P		**P**	**00 56 48.4**	**-0.7**
PSA00				IAmb		IAmb	00 56 51.3	
comp=Z,7.1nm,1.1s								
ASAR	**Alice Springs**	**28.42**	**166**	P		**P**	**00 57 07.3**	**-0.2**
comp=Z,0.4nm,0.5s,baz=329,slow=7.2,SNR=5.7								
comp=Z,0.4nm,0.5s								
CMAR	**Chiang Mai Arr**	**30.78**	**300**	P		**P**	**00 57 28.3**	**-0.2**
comp=Z,0.9nm,0.6s,baz=114,slow=6.8,SNR=6.2								
comp=Z,0.9nm,0.6s								
MORW	**Morawa**	**34.53**	**197**	P		**P**	**00 58 00.8**	**-0.3**
BBOO	**Buckleboo**	**37.71**	**167**	P		**P**	**00 58 28.4**	**+0.2**
STKA	**Stephens Creek**	**38.41**	**160**	P		**P**	**00 58 33.6**	**-0.6**
STKA	**Stephens Creek**	**38.41**	**160**	P		**P**	**00 58 33.6**	**-0.6**
comp=Z,3.5nm,0.7s,baz=337,slow=3.0,SNR=7.4								
comp=Z,3.5nm,0.7s								
BRDH	**Bariadhala**	**38.73**	**302**	LR		LR	01 15 06.1	
comp=Z,125nm,19.9s,baz=43,slow=37								
EVN	**Everest**	**44.86**	**306**	P		**P**	**00 59 28.0**	**+0.1**
EVN				IAmb		IAmb	00 59 29.0	
comp=Z,3.9nm,0.6s								
SONM	**Songino Aray**	**47.01**	**341**	P		**P**	**00 59 44.4**	**+0.5**
comp=Z,0.5nm,0.6s,baz=164,slow=7.5,SNR=2.3								
comp=Z,0.5nm,0.6s								
MKAR	**Makanchi Array**	**57.33**	**325**	P		**P**	**01 01 00.1**	**-0.5**
MKAR	**Makanchi Array**	**57.33**	**325**	P		**P**	**01 01 00.3**	**-0.2**
comp=Z,1.2nm,0.6s,baz=120,slow=7.3,SNR=11								
MKAR				PcP		**PcP**	**01 01 55.1**	**+0.8**
comp=Z,1.3nm,0.7s,baz=121,slow=5.6,SNR=5.7								
comp=Z,1.2nm,0.6s								
ZALV	**Zalesovo Beam**	**60.33**	**333**	P		**P**	**01 01 20.6**	**-0.5**
comp=Z,0.4nm,0.4s,baz=122,slow=11,SNR=2.4								
comp=Z,0.4nm,0.4s								
KURBB	**Kurchatov Arra**	**61.51**	**327**	P		**P**	**01 01 29.1**	**-0.2**
comp=Z,1.1nm,0.2s,baz=124,slow=6.5,SNR=13								
comp=Z,1.1nm,0.2s								
KURK	**Kurchatov**	**61.51**	**327**	P		**P**	**01 01 28.6**	**-0.6**
KURK				IAmb		IAmb	01 01 30.4	
comp=Z,2.3nm,0.6s								
BVAR	**Borovoye Array**	**67.09**	**327**	P		**P**	**01 02 04.9**	**-0.9**
comp=Z,0.8nm,0.6s,baz=104,slow=9.5,SNR=5.8								
comp=Z,0.8nm,0.6s								
AB31	**Akbulak array**	**71.95**	**321**	P		**P**	**01 02 36.0**	**+0.1**
ABKAR	**Akbulak array**	**71.95**	**321**	P		**P**	**01 02 35.4**	**-0.5**
E18K	**Tukpahlearik C**	**79.61**	**22**	P		**P**	**01 03 21.3**	**+2.0**
E18K				IAmb		IAmb	01 03 22.7	
comp=Z,2.0nm,0.8s								
RAYN	**Ar Rayn**	**80.43**	**293**	P		**P**	**01 03 24.6**	**-0.1**
H19K	**Roundabout Mou**	**80.83**	**24**	P		**P**	**01 03 27.6**	**+1.7**
H19K				IAmb		IAmb	01 03 29.4	
comp=Z,4.7nm,1.1s								
E19K	**Redstone River**	**80.89**	**22**	P		**P**	**01 03 27.4**	**+1.2**
E19K				IAmb		IAmb	01 03 30.1	
comp=Z,2.7nm,0.9s								
N19K	**Bonanza Creek**	**80.95**	**29**	P		**P**	**01 03 27.0**	**+0.3**
N19K				IAmb		IAmb	01 03 40.5	
comp=Z,4.2nm,1.1s								
M20K	**Styx River**	**81.74**	**28**	P		**P**	**01 03 33.5**	**+2.6**
M20K				IAmb		IAmb	01 04 14.9	
comp=Z,5.3nm,1.5s								
D22K	**Ayikyak River**	**82.80**	**21**	P		**P**	**01 03 38.1**	**+1.9**
D22K				IAmb		IAmb	01 04 07.2	
comp=Z,7.7nm,1.4s								
BPAW	**Bear Paw Mtn.**	**82.94**	**26**	P		**P**	**01 03 39.4**	**+2.3**
BPAW				IAmb		IAmb	01 03 40.1	
comp=Z,1.8nm,1.1s								
VNDA	**Vanda**	**83.75**	**173**	P		**P**	**01 03 41.7**	**+0.8**
comp=Z,1.0nm,0.8s,baz=324,slow=6.2,SNR=6.0								
comp=Z,1.0nm,0.8s								
ILAR	**Eielson Array**	**84.76**	**25**	P		**P**	**01 03 49.0**	**+2.7**
comp=Z,0.2nm,0.5s,baz=278,slow=6.7,SNR=1.7								
comp=Z,0.2nm,0.5s								
BRTR	**Keskin Array B**	**89.88**	**310**	P		**P**	**01 04 10.3**	**-1.5**
comp=Z,0.9nm,0.8s,baz=90,slow=6.2,SNR=5.5								
comp=Z,0.9nm,0.8s								
ARCES	**ARCESS Array B**	**90.17**	**340**	P		**P**	**01 04 10.9**	**-1.4**
comp=Z,1.3nm,1.0s,baz=93,slow=7.7,SNR=4.8								
comp=Z,1.3nm,1.0s								
FINES	**FINESS Array B**	**91.58**	**332**	P		**P**	**01 04 18.9**	**-0.1**
comp=Z,3.3nm,1.0s,baz=57,slow=5.1,SNR=6.3								
comp=Z,3.3nm,1.0s								
AKASG	**Malin Array Be**	**91.69**	**321**	P		**P**	**01 04 19.0**	**-0.7**
comp=Z,0.3nm,0.4s,baz=72,slow=4.5,SNR=3.1								
comp=Z,0.3nm,0.4s								
HFS	**Hagfors**	**97.76**	**332**	LR		LR	01 52 38.6	
comp=Z,120nm,20.2s,baz=266,slow=38								
LSZ	**Lusaka**	**99.38**	**255**	LR		LR	01 47 07.7	
comp=Z,139nm,18.2s,baz=289,slow=34								
TXAR	**Lajitas Array**	**121.32**	**52**	PKP		**PKPdf**	**01 10 05.8**	**-0.5**
comp=Z,0.2nm,0.8s,baz=258,slow=5.9,SNR=3.5								

*IDC **11** 00:58:28.0±1.0,6.°30S×150.°24E,h0km,mb4.2/6, mbtmp4.3/7,ML2.4/1,MS3.6/6,Error ellipse: s-maj=47.5km s-min=22.8km az=119.0*
*NEIC **11** 00:58:32.1±1.2,6.°73S±0.°09×150.°4E±0.°1,h10km±1km, mb4.5/18,Error ellipse: s-maj=22.3km s-min=10.9km az=305.0*
ISC 11 00:58:32.1±0.7,6.°79S±0.°08×150.°4E±0.°1,h10km,n39, σ1s54/33,mb4.3/8,MS3.5/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**3.11**	**34**	P		**Pn**	**00 59 20.9**	**-0.4**
PMG	**Port Moresby**	**4.14**	**231**			**Pn**	**00 59 35.9**	**+0.5**
PMG	**Port Moresby**	**4.14**	**231**	Pn		**Pn**	**00 59 36.0**	**+0.5**
16nm,0.3s,baz=57,slow=7.1,SNR=23								
PMG				Sn		**Sn**	**01 00 23.5**	**-0.5**
44nm,0.3s,baz=34,slow=9.5,SNR=14								
PMG				LR		LR	01 01 19.0	
comp=Z,544nm,19.3s,baz=23,slow=39								
154nm,0.8s								
MANU	**Manus Island**	**5.61**	**327**	Pn		**Pn**	**00 59 56.7**	**+0.9**
COEN	**Coen**	**10.07**	**224**	Pn		**Pn**	**01 01 00.1**	**+3.2**
JAY	**Jayapura**	**10.57**	**293**	LR		LR	01 05 31.2	
comp=Z,412nm,19.6s,baz=173,slow=41								
CTA	**Charters Tower**	**13.82**	**197**	LR		LR	01 06 52.4	
comp=Z,6.0nm,19.0s,baz=34,slow=35								
EIDS	**Eidsvold**	**18.48**	**178**	P		**P**	**01 02 49.3**	**+0.9**
WB0	**Warramunga Arr**	**20.21**	**229**	P		**P**	**01 03 06.5**	**-0.9**
WB0				IAmb		IAmb	01 03 07.4	
comp=Z,21nm,0.7s								
WR0	**Warramunga Arr**	**20.22**	**228**	P		**P**	**01 03 06.6**	**-0.9**
WR0				IAmb		IAmb	01 03 11.2	
comp=Z,40nm,1.1s								
WR8	**Warramunga Arr**	**20.25**	**228**	P		**P**	**01 03 06.8**	**-1.0**
WR8				IAmb		IAmb	01 03 11.4	
comp=Z,32nm,1.0s								
WRAB	**Tennant Creek**	**20.34**	**229**	P		**P**	**01 03 07.3**	**-1.6**
WRAB				IAmb		IAmb	01 03 11.2	
comp=Z,31nm,1.0s								
WB2	**Warramunga Arr**	**20.35**	**228**	P		**P**	**01 03 07.8**	**-1.1**
WB2				IAmb		IAmb	01 03 11.4	
comp=Z,25nm,0.9s								
WRA	**Warramunga Arr**	**20.36**	**229**	P		**P**	**01 03 07.1**	**-1.9**
WRA	**Warramunga Arr**	**20.36**	**229**	P		**P**	**01 03 08.0**	**-1.0**
comp=Z,16nm,0.6s,baz=52,slow=11,SNR=51								
WRA				LR		LR	01 12 25.8	
comp=Z,172nm,19.1s,baz=139,slow=41								
comp=Z,16nm,0.6s								
INKA	**Innaminka**	**22.77**	**203**	P		**P**	**01 03 34.5**	**-0.3**
INKA				IAmb		IAmb	01 03 37.0	
comp=Z,12nm,1.1s								
KNRA	**Kununurra**	**22.98**	**246**	P		**P**	**01 03 36.0**	**-1.1**
KNRA				IAmb		IAmb	01 03 57.5	
comp=Z,16nm,0.8s								
AS31	**Alice Springs**	**23.09**	**222**	P		**P**	**01 03 37.7**	**-0.6**
ASAR	**Alice Springs**	**23.09**	**222**	P		**P**	**01 03 37.8**	**-0.5**
ASAR	**Alice Springs**	**23.09**	**222**	P		**P**	**01 03 37.5**	**-0.9**
comp=Z,6.0nm,0.8s,baz=55,slow=8.8,SNR=36								
ASAR				LR		LR	01 12 33.1	
comp=Z,148nm,19.2s,baz=92,slow=36								
comp=Z,6.0nm,0.8s								
ARMA	**Armidale**	**23.53**	**177**	P		**P**	**01 03 42.9**	**+0.2**
ARMA				IAmb		IAmb	01 03 55.9	
comp=Z,17nm,1.1s								
STKA	**Stephens Creek**	**26.28**	**197**	P		**P**	**01 04 08.1**	**+0.2**
STKA	**Stephens Creek**	**26.28**	**197**	P		**P**	**01 04 07.7**	**-0.2**
comp=Z,9.2nm,1.0s,baz=6.8,slow=12,SNR=5.5								
comp=Z,9.2nm,1.0s								
FITZ	**Fitzroy Crossi**	**26.64**	**243**	P		**P**	**01 04 09.3**	**-1.9**
BBOO	**Buckleboo**	**29.13**	**205**	P		**P**	01 04 31.0	-2.4
MORW	**Morawa**	**39.26**	**231**	P		**P**	**01 06 00.2**	**-1.0**
AMKA	**Amchitka**	**63.04**	**20**	P		**P**	**01 08 56.1**	**-3.2**
CASY	**Casey**	**65.44**	**197**	P		**P**	**01 09 14.2**	**-0.6**
VNDA	**Vanda**	**70.95**	**177**	P		**P**	**01 09 49.4**	**+0.1**
VNDA				IAmb		IAmb	01 09 54.3	
comp=Z,5.6nm,1.5s								
VNDA	**Vanda**	**70.95**	**177**	P		**P**	**01 09 49.8**	**+0.4**
comp=Z,1.0nm,0.9s,baz=315,slow=4.3,SNR=5.6								
comp=Z,1.0nm,0.9s								
QSPA	**South Pole Qui**	**83.18**	**180**	P		**P**	**01 10 59.4**	**+0.9**
QSPA				IAmb		IAmb	01 11 21.1	
comp=Z,3.0nm,1.0s								
QSPA	**South Pole Qui**	**83.18**	**180**	P		**P**	**01 10 59.9**	**+1.5**
comp=Z,2.2nm,1.1s,baz=22,slow=5.4,SNR=7.9								
comp=Z,2.2nm,1.1s								
ILAR	**Eielson Array**	**84.89**	**22**	P		P	01 11 01.2	-5.8
comp=Z,0.7nm,0.8s,baz=258,slow=5.4,SNR=6.0								
comp=Z,0.7nm,0.8s								
DLBC	**Dease Lake**	**90.30**	**31**	LR		LR	01 45 35.5	
comp=Z,576nm,21.0s,baz=80,slow=31								
YBH	**Yreka Blue Hor**	**92.14**	**48**	LR		LR	01 46 49.2	
comp=Z,5.9nm,21.0s,baz=110,slow=32								
ELK	**Elko**	**97.67**	**50**	LR		LR	01 51 36.9	
comp=Z,108nm,18.9s,baz=120,slow=33								
GERES	**GERESS Array B**	**124.46**	**327**	PKP		**PKPdf**	**01 17 29.0**	**-2.9**
comp=Z,0.6nm,0.6s,baz=48,slow=2.2,SNR=5.9								
TORD	**Torodi Ar. Bea**	**148.58**	**284**	PKPbc		**PKPdf**	**01 18 17.3**	**+0.4**
comp=Z,2.2nm,0.6s,baz=81,slow=2.7,SNR=24								
BDFB	**Brasilia**	**151.19**	**141**	PKPbc		**PKPdf**	**01 18 25.4**	**+4.3**
comp=Z,1.3nm,0.4s,baz=152,slow=4.4,SNR=3.7								

*WEL **11** 01:21:49.0±0.4,43.°3S×17.°1E±.°,h5km,M3.2/7,ML3.4/8, MLv3.2/7,Error ellipse: s-maj=3.4km s-min=2.8km az=175.8,confirmed*
*NOU **11** 01:21:50.0,43.°17S×171.°03E,h11km,MLv3.8/12,South Island, New Zealand*
ISC 11 01:21:49.4±1.0,43.°13S±0.°03×170.°92E±0.°02,h7km±9km, n56,σ0s84/63,South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WVZ	**Waitaha Valley**	**0.15**	**293**	P		**Pg**	**01 21 52.3**	**-0.1**
WVZ				S		**Sg**	**01 21 54.2**	**-0.3**
WVAS	**Waitaha Valley**	**0.15**	**294**	P		**Pg**	**01 21 52.2**	**-0.2**
HAFS	**Harihari Fire**	**0.27**	**266**	P		**Pg**	**01 21 54.5**	**-0.1**
HAFS				S		**Sg**	**01 21 59.3**	**+1.0**
KOKS	**Kokatahi**	**0.29**	**33**	P		**Pg**	**01 21 54.7**	**-0.2**
HMCS	**Hokitika Medic**	**0.42**	**4**	S		**Sg**	**01 22 03.7**	**+0.8**
APPS	**Arthurs Pass P**	**0.51**	**69**	P		**Pg**	**01 21 59.1**	**0.0**
APPS				S		**Sg**	**01 22 06.2**	**+0.4**
INZ	**Inchbonnie**	**0.56**	**43**	P		**Pg**	**01 21 59.4**	**-0.7**
RPZ	**Rata Peaks**	**0.59**	**171**	P		**Pg**	**01 22 01.2**	**+0.5**
RPZ	**Rata Peaks**	**0.59**	**171**	P		**Pg**	**01 22 01.2**	**+0.5**
RPZ				S		**Sb**	**01 22 09.3**	**-1.4**
MHCZ	**Mount Hutt**	**0.62**	**131**	P		**Pb**	**01 22 01.8**	**-0.7**
MTHS	**Methven North**	**0.69**	**129**	P		**Pb**	**01 22 03.8**	**0.0**
MAYC	**Mayfield Schoo**	**0.78**	**152**	P		**Pb**	**01 22 05.4**	**+0.1**
ARCZ	**Arundel**	**0.83**	**167**	P		**Pb**	**01 22 05.7**	**-0.5**
ARCZ				S		**Sb**	**01 22 16.7**	**-1.0**
OXZ	**Oxford**	**0.84**	**104**	P		**Pb**	**01 22 06.0**	**-0.2**
OXZ				S		**Sb**	**01 22 17.5**	**-0.2**
FOZ	**Fox Glacier**	**0.90**	**243**	P		**Pg**	**01 22 06.3**	**-0.4**
FOZ				S		**Sg**	**01 22 19.5**	**+1.1**
WACZ	**Wakanui South**	**1.05**	**141**	P		**Pn**	**01 22 10.2**	**-0.3**
LTZ	**Lake Taylor**	**1.05**	**71**	P		**Pb**	**01 22 09.5**	**-0.4**
RACZ	**Rakaia**	**1.07**	**124**	P		**Pn**	**01 22 10.6**	**-0.1**
TMZ	**Timaru**	**1.25**	**177**	P		**Pg**	**01 22 13.4**	**0.0**
AMCZ	**Amberley**	**1.27**	**93**	P		**Pg**	**01 22 14.9**	**+1.3**
LBZ	**Lake Benmore**	**1.36**	**203**	P		**Pn**	**01 22 14.4**	**-0.5**
MQZ	**McQueen's Vall**	**1.39**	**115**	P		**Pg**	**01 22 15.5**	**-0.4**
DSZ	**Denniston Nort**	**1.53**	**26**	P		**Pn**	**01 22 16.7**	**-0.5**
GVZ	**Greta Valley S**	**1.56**	**85**	P		**Pb**	**01 22 18.2**	**-0.3**
AKCZ	**Akaroa Harbour**	**1.62**	**118**	P		**Pb**	**01 22 18.5**	**-1.1**
OKCZ	**Okains Bay**	**1.67**	**112**	P		**Pb**	**01 22 19.7**	**-0.6**
JCZ	**Jackson Bay**	**1.81**	**238**	P		**Pn**	**01 22 20.9**	**-0.2**
JCZ	**Jackson Bay**	**1.81**	**238**	S		**Sb**	**01 22 46.4**	**+0.4**
JCZ	**Jackson Bay**	**1.81**	**238**	P		**Pn**	**01 22 20.6**	**-0.6**
ODZ	**Otahua Downs**	**1.92**	**186**	P		**Pn**	**01 22 23.0**	**+0.5**
ODZ	**Otahua Downs**	**1.92**	**186**	S		**Sn**	**01 22 46.9**	**-0.1**
ODZ	**Otahua Downs**	**1.92**	**186**	P		**Pn**	**01 22 23.0**	**+0.5**
THZ	**Tophouse**	**2.01**	**48**	P		**Pn**	**01 22 24.5**	**+0.8**
KHZ	**Kahutara**	**2.06**	**71**	P		**Pn**	**01 22 23.0**	**-1.3**
KHZ	**Kahutara**	**2.06**	**71**	P		**Pn**	**01 22 23.1**	**-1.3**
WKZ	**Wanaka**	**2.18**	**218**	P		**Pn**	**01 22 26.6**	**+0.4**
EAZ	**Earnscleugh**	**2.40**	**208**	P		**Pn**	**01 22 29.6**	**+0.5**
TKNZ	**Takaka Hill**	**2.59**	**37**	P		**Pn**	**01 22 32.0**	**+0.4**
QRZ	**Quartz Range**	**2.60**	**28**	P		**Pn**	**01 22 31.8**	**0.0**
QRZ	**Quartz Range**	**2.60**	**28**	S		**Sn**	**01 23 03.6**	**0.0**
QRZ	**Quartz Range**	**2.60**	**28**	P		**Pn**	**01 22 31.6**	**-0.2**
BSWZ	**Blackbirch Sta**	**2.60**	**58**	P		**Pb**	**01 22 34.9**	**-1.5**
NNZ	**Nelson**	**2.65**	**44**	P		**Pn**	**01 22 33.7**	**+1.3**
TUZ	**Tuapeka**	**2.97**	**198**	P		**Pn**	**01 22 37.1**	**+0.2**
MLZ	**Mavora Lakes**	**3.01**	**221**	P		**Pn**	**01 22 38.8**	**+1.3**
TCW	**Tory Channel**	**3.15**	**54**	P		**Pn**	**01 22 41.8**	**+2.4**
DUWZ	**D'Urville Isla**	**3.23**	**45**	P		**Pn**	**01 22 42.0**	**+1.5**
SYZ	**Scrubby Hill**	**3.63**	**200**	P		**Pn**	**01 22 45.3**	**-0.7**
KIW	**Kapiti Island**	**3.74**	**54**	P		**Pn**	**01 22 47.7**	**+0.2**
KHEZ	**Kahui Hut**	**4.49**	**32**	P		**Pn**	**01 22 59.1**	**+1.3**
KHEZ	**Kahui Hut**	**4.49**	**32**	P		**Pn**	**01 22 59.2**	**+1.3**
NEZ	**North Egmont**	**4.54**	**33**	P		**Pn**	**01 23 00.0**	**+1.4**
PKE	**Pukeiti**	**4.56**	**31**	P		**Pn**	**01 23 00.5**	**+1.6**
VRZ	**Vera Road**	**4.94**	**37**	P		**Pn**	**01 23 05.1**	**+1.1**
HIZ	**Hauiti**	**5.49**	**34**	P		**Pn**	**01 23 12.0**	**+0.4**
HIZ	**Hauiti**	**5.49**	**34**	P		**Pn**	**01 23 11.8**	**+0.2**

*KRNET **11** 01:27:21.9±0.1,40.°98N×72.°07E,mb2.2*
*ISU **11** 01:27:24,40.°65N×73.°24E,h15km*
*SOME **11** 01:27:30.3,41.°30N×72.°02E,h10km*
*NNC **11** 01:27:32.3±3.0,41.°43N×71.°99E,h0km,mb2.8,mpv2.9, Error ellipse: s-maj=26.5km s-min=8.0km az=168.0*
ISC 11 01:27:21.5±1.5,41.°00N±0.°05×72.°05E±0.°03,h1km±14km, n12,σ0s93/15,9C-3D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TSTA	**Tashata**	**0.53**	**142**	S		Sn	01 27 44.7	-1.0
ARSB	**Arslanbob**	**0.78**	**65**	↓*i* P		**Pg**	**01 27 36.8**	**+0.5**
ARSB				↓*i* S		**Sb**	**01 27 47.7**	**-1.2**
TRKS	**Terek-Say**	**0.87**	**308**	↑*i* P		**Pg**	**01 27 38.0**	**-0.1**
TRKS				↑*i* S		**Sg**	**01 27 49.5**	**+0.1**
IUG	**Iuzhnay**	**1.90**	**308**	P		Pg	01 28 02.1	+4.1
10nm,0.2s								
IUG				S		**Sg**	**01 28 24.8**	**+2.2**
25nm,0.2s								
MRKS	**Merke**	**1.96**	**26**	P		Pg	01 28 01.7	+2.7
3.0nm,0.2s								
MRKS				S		**Sg**	**01 28 23.9**	**-0.3**
11nm,0.3s								
MRKS	**Merke**	**1.96**	**26**	*e*P		Pg	01 28 01.8	+2.9
3.0nm,0.2s								
MRKS				*e*S		**Sg**	**01 28 24.6**	**+0.4**
11nm,0.3s								
EKS2	**Erkin-Say**	**2.10**	**37**	↑*i* P		**Pb**	**01 28 00.6**	**+0.1**
EKS2				↑*i* S		**Sg**	**01 28 28.7**	**-0.4**
UCH	**Uchtor**	**2.22**	**55**	↑*i* P		**Pb**	**01 28 02.2**	**-0.4**
UCH				↑*i* S		**Sb**	**01 28 31.7**	**+1.0**
GAR	**Garm**	**2.40**	**214**	↑*i* P		**Pb**	**01 28 04.4**	**-1.1**
GAR				↑*i* S		**Sb**	**01 28 35.5**	**-0.1**
KK31	**Karatay Array**	**2.40**	**332**	↑Pg		**Pb**	**01 28 05.8**	**+0.4**
0.4nm,0.3s,baz=143,slow=15,SNR=14								
KK31				↓Lg		Lg	01 28 36.1	
2.0nm,0.4s,baz=136,slow=26,SNR=9.1								
BRLS	**Borolday**	**2.62**	**322**	Pg		Pg	01 28 12.0	+0.4
3.2nm,0.3s								
BRLS				Lg		Lg	01 28 41.6	
5.8nm,0.1s								
BRLS	**Borolday**	**2.62**	**322**	*e*P		Pg	01 28 11.8	+0.2
1.4nm,0.1s								
BRLS				*e*S		**Sb**	**01 28 41.7**	**-0.2**
5.8nm,0.1s								

*TRN **11** 01:31:24.0,10.°77N×62.°05W,h47km,MD4.5,North of the Paria peninsula. Felt widely in Trinidad, MMI IV, V, VI.*
*FUNV **11** 01:31:24.9,10.°75N×62.°06W,h48km,MW4.3*
*IDC **11** 01:31:25.6±2.7,11.°

	8.5nm,0.4s,baz=254,slow=16,SNR=6.3							
CAPV	**Capacho**	**10.46**	**255**	*e*P		**Pn**	**01 33 50.0**	**-0.1**
CAPV				*e*S		Sn	01 35 37.3	-8.7
MDP	**Montagnes des**	**10.93**	**120**	P		**Pn**	**01 33 52.0**	**-4.4**
	6.5nm,0.4s,baz=316,slow=15,SNR=37							
MDP				S		Sn	01 35 46.1	-11
	55nm,0.3s,baz=50,slow=18,SNR=20							
TXAR	**Lajitas Array**	**42.91**	**302**	P		**P**	**01 39 16.9**	**+0.8**
	0.3nm,0.7s,baz=98,slow=9.2,SNR=6.0							
TXAR				PcP		**PcP**	**01 41 06.5**	**+0.3**
	0.4nm,0.7s,baz=98,slow=4.1,SNR=5.8							
	0.3nm,0.7s							
ULM	**Lac du Bonnet**	**48.20**	**331**	P		**P**	**01 39 55.2**	**-2.2**
	1.8nm,0.6s,baz=131,slow=9.3,SNR=2.5							
	1.8nm,0.6s							
PDAR	**Pinedale Array**	**52.06**	**317**	P		**P**	**01 40 26.1**	**-1.1**
	0.9nm,0.8s,baz=115,slow=8.7,SNR=7.2							
	0.9nm,0.8s							
ESDC	**Sonseca Array**	**58.80**	**50**	P		**P**	**01 41 15.8**	**+0.3**
	0.7nm,0.7s,baz=265,slow=8.8,SNR=2.7							
	0.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**62.33**	**81**	P		**P**	**01 41 40.5**	**+0.6**
	0.2nm,0.4s,baz=292,slow=6.5,SNR=6.8							
	0.2nm,0.4s							
NOA	**NORSAR Array B**	**72.60**	**29**	P		**P**	**01 42 43.7**	**-0.2**
	1.1nm,0.9s,baz=262,slow=6.0,SNR=3.3							
	1.1nm,0.9s							
HFS	**Hagfors**	**73.69**	**30**	P		**P**	**01 42 51.4**	**+1.2**
	1.2nm,0.5s,baz=242,slow=3.1,SNR=9.0							
	1.2nm,0.5s							
SPITS	**Spitsbergen Ar**	**77.19**	**12**	P		**P**	**01 43 10.7**	**+0.6**
	6.5nm,0.9s,baz=270,slow=8.6,SNR=1.3							
	6.5nm,0.9s							
ARCES	**ARCESS Array B**	**79.18**	**21**	P		**P**	**01 43 21.7**	**+0.5**
	2.7nm,0.8s,baz=284,slow=4.9,SNR=9.8							
	2.7nm,0.8s							
FINES	**FINESS Array B**	**79.79**	**29**	P		**P**	**01 43 25.5**	**+0.8**
	1.6nm,0.8s,baz=262,slow=3.9,SNR=5.9							
	1.6nm,0.8s							
BRTR	**Keskin Array B**	**87.60**	**50**	P		**P**	**01 44 06.6**	**+1.3**
	0.5nm,0.7s,baz=269,slow=4.9,SNR=2.6							
	0.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**145.49**	**33**	PKPbc		**PKPdf**	**01 50 56.0**	**+0.6**
	1.7nm,0.6s,baz=313,slow=5.4,SNR=8.4							

*IDC **11** 01:34:39.8±1.2, 15°.22S×173°.93W, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=38.6km s-min=31.5km az=99.0*
*NEIC **11** 01:34:49.3±2.0, 15°.3S±0°.1×173°.9W±0°.1, h63km±13km, mb4.5/10, Error ellipse: s-maj=20.6km s-min=17.2km az=107.0*
ISC 11 01:34:51.7±0.7, 15°.3S±0°.1×173°.7W±0°.1, h100km, n20, σ1s58/21, mb4.2/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.28**	**54**			**Pn**	**01 35 28.4**	**+0.4**
AFI				Sn		**Sn**	**01 35 54.0**	**-1.9**
NIUE	**Niue**	**5.20**	**137**	Pn		**Pn**	**01 36 06.1**	**-1.2**
BHW	**Baring Head**	**27.87**	**199**	P		**P**	**01 40 31.6**	**-0.4**
LTZ	**Lake Taylor**	**29.95**	**201**	P		**P**	**01 40 50.2**	**-0.4**
LTZ				IAmb	IAmb	IAmb	01 41 05.9	
	comp=Z,28nm,1.2s							
WHZ	**Wether Hill Ro**	**34.20**	**203**	P		**P**	**01 41 28.2**	**+0.6**
WR8	**Warramunga Arr**	**49.47**	**257**	P		**P**	**01 43 30.6**	**-1.7**
WR8				IAmb	IAmb	IAmb	01 43 46.0	
	comp=Z,14nm,1.4s							
WB0	**Warramunga Arr**	**49.58**	**257**	P		**P**	**01 43 30.8**	**-2.3**
WB0				IAmb	IAmb	IAmb	01 44 13.5	
	comp=Z,7.1nm,1.2s							
WRA	**Warramunga Arr**	**49.62**	**257**	P		**P**	**01 43 31.7**	**-1.7**
WRA	**Warramunga Arr**	**49.62**	**257**	P		**P**	**01 43 31.5**	**-1.9**
	comp=Z,1.1nm,0.5s,baz=91,slow=6.9,SNR=12							
	comp=Z,1.1nm,0.5s							
AS31	**Alice Springs**	**49.90**	**252**	P		**P**	**01 43 33.3**	**-2.3**
ASAR	**Alice Springs**	**49.90**	**252**	P		**P**	**01 43 33.7**	**-1.8**
ASAR	**Alice Springs**	**49.90**	**252**	P		**P**	**01 43 33.9**	**-1.7**
	comp=Z,2.4nm,0.4s,baz=86,slow=8.4,SNR=30							
	comp=Z,2.4nm,0.4s							
SBA	**Scott Base**	**63.35**	**185**	P		**P**	**01 45 10.4**	**+0.6**
SBA				IAmb	IAmb	IAmb	01 45 37.5	
	comp=Z,5.0nm,1.5s							
VNDA	**Vanda**	**63.47**	**186**	P		**P**	**01 45 11.4**	**+0.8**
VNDA				IAmb	IAmb	IAmb	01 45 12.3	
	comp=Z,2.6nm,1.3s							
VNDA	**Vanda**	**63.47**	**186**	P		**P**	**01 45 11.4**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=9.3,slow=5.2,SNR=5.2							
	comp=Z,0.6nm,0.7s							
QSPA	**South Pole Qui**	**74.77**	**180**	P		**P**	**01 46 23.4**	**+2.6**
QSPA				IAmb	IAmb	IAmb	01 46 59.5	
	comp=Z,6.2nm,1.4s							
QSPA	**South Pole Qui**	**74.77**	**180**	P		**P**	**01 46 22.9**	**+2.1**
	comp=Z,1.4nm,0.6s,baz=25,slow=1.6,SNR=4.7							
	comp=Z,1.4nm,0.6s							
ILAR	**Eielson Array**	**82.38**	**11**	P		**P**	**01 47 03.0**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=207,slow=4.8,SNR=5.0							
	comp=Z,0.2nm,0.5s							
MAW	**Mawson**	**87.83**	**199**	P		**P**	**01 47 29.4**	**0.0**
	comp=Z,2.0nm,0.8s,baz=120,slow=15,SNR=7.0							
	comp=Z,2.0nm,0.8s							
BRTR	**Keskin Array B**	**145.90**	**321**	PKPbc		**PKPab**	**01 54 20.8**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=60,slow=1.7,SNR=11							

*KRNET **11** 02:51:50.5±0.1, 40°.65N×78°.40E, mb2.4*
*SOME **11** 02:51:53.2, 41°.72N×79°.27E, h10km*
*NNC **11** 02:51:54.2±1.9, 41°.73N×79°.32E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=12.3km s-min=12.2km az=32.0*
ISC 11 02:51:51.0±2.8, 41°.5N±0°.1×79°.26E±0°.09, h7km±16km, n12, σ0s71/21, 7C-1D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.11**	**282**	⇑*i*P		**Pg**	**02 52 12.1**	**-0.2**
TARG				⇑*i*S		**Sb**	**02 52 27.9**	**+0.3**
UZB	**Uzynbulak**	**1.64**	**354**	P		**Pn**	**02 52 20.6**	**+0.1**
	1.6nm,0.1s							
UZB				S		**Sn**	**02 52 40.4**	**-1.4**
	2.1nm,0.1s							
UZB	**Uzynbulak**	**1.64**	**354**	*e*P		**Pn**	**02 52 21.0**	**+0.5**
	0.5nm,0.1s							
UZB				*e*S		**Sn**	**02 52 40.9**	**-1.0**
	2.1nm,0.1s							
SHLS	**Shalkode**	**1.65**	**5**	P		**Pb**	**02 52 21.7**	**-0.2**
	5.2nm,0.2s							
SHLS				S		**Sn**	**02 52 42.2**	**+0.2**
	15nm,0.3s							
SHLS	**Shalkode**	**1.65**	**5**	*e*P		**Pb**	**02 52 21.9**	**0.0**
	2.1nm,0.1s							
SHLS				*e*S		**Sn**	**02 52 42.5**	**+0.5**
	15nm,0.3s							
SATY	**Saty**	**1.67**	**338**	P		**Pn**	**02 52 21.4**	**+0.6**
	1.0nm,0.1s							
SATY				S		**Sn**	**02 52 41.8**	**-0.7**
	8.7nm,0.1s							
KDJ	**Kajisay**	**1.67**	**292**	⇑*i*P		**Pb**	**02 52 21.9**	**-0.3**
KDJ				⇑*i*S		**Sg**	**02 52 44.8**	**+0.1**
PDGK	**Podgornoye**	**1.82**	**5**	⇓P		**Pn**	**02 52 23.3**	**+0.4**
	1.8nm,0.5s							
PDGK				⇑S		**Sn**	**02 52 44.9**	**-1.4**
	0.8nm,0.3s							
KPKS	**Kokpek**	**2.00**	**348**	P		**Pb**	**02 52 27.2**	**-0.5**
	0.1nm,0.1s							
KPKS				S		**Sn**	**02 52 51.7**	**+1.1**
	7.5nm,0.5s							
NRN	**Naryn**	**2.45**	**269**	⇑*i*P		Pn	02 52 25.4	-6.3
NRN				⇑*i*S		Sn	02 52 51.2	-11
ARXS	**Arharly**	**2.90**	**339**	Pg		**Pb**	**02 52 43.1**	**+0.1**
	1.0nm,0.2s							
ARXS				Lg		Lg	02 53 19.0	
	3.8nm,0.4s							
ARXS	**Arharly**	**2.90**	**339**	*e*P		**Pb**	**02 52 43.1**	**+0.1**
ARXS				*e*S		**Sb**	**02 53 19.0**	**+0.4**

CATAC 11 02:55:10.9±0.4, 12°N±2°×8°8W±°, h27km±3km, M3.5/30, MLv3.5/30, 4C-4D, Error ellipse: s-maj=4.4km s-min=2.1km az=28.8, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**0.89**	**12**	⇓P		Pn	02 55 27.2	-0.5
CSGN				S		Sb	02 55 39.2	-0.2
CRIN	**San Cristobal**	**0.91**	**49**	S		Sn	02 55 42.4	+2.2
CRIN	**San Cristobal**	**0.91**	**49**	P		Pb	02 55 28.2	+0.1
POTN	**Potosi Cosigui**	**0.92**	**15**	⇑P		Pn	02 55 28.1	0.0
POTN				S		Sn	02 55 40.9	+0.3
PKGN	**Cerro Pekin**	**0.94**	**53**	⇑P		Pn	02 55 28.0	-0.4
PLRN	**Geotermica Pol**	**1.07**	**63**	P		Pn	02 55 29.7	-0.6
PLRN				S		Sb	02 55 45.2	+0.6
CNGA	**Al SSO del Vol**	**1.10**	**69**	P		Pn	02 55 30.8	+0.2
CNGN	**Cerro Negro**	**1.10**	**69**	S		Sn	02 55 44.6	-0.5
CNGN	**Cerro Negro**	**1.10**	**69**	⇑P		Pn	02 55 31.0	+0.3
ILCN	**San Idelfonso**	**1.13**	**65**	P		Pn	02 55 30.5	-0.5
ILCN				S		Sb	02 55 46.4	+0.2
COPN	**Copaltepe**	**1.14**	**86**	⇓P		Sn	02 55 30.6	-0.5
CNCH	**Conchagua**	**1.17**	**356**	S		Sb	02 55 47.2	-0.2
CNCH	**Conchagua**	**1.17**	**356**	⇓P		Pn	02 55 32.1	+0.4
LCND	**La Caada**	**1.21**	**354**	⇑P		Pn	02 55 31.9	-0.2
MOM2	**El Cardon**	**1.28**	**75**	P		Pn	02 55 33.3	+0.2
MOM2				S		Sb	02 55 50.0	-0.5
SAPS	**Ciudad Sandino**	**1.32**	**87**	P		Pn	02 55 33.5	-0.1
SAPS	**Ciudad Sandino**	**1.32**	**87**	S		Sn	02 55 50.5	+0.1
APQ3	**Volcan Apoyequ**	**1.36**	**83**	P		Pn	02 55 34.2	0.0
APQ3				S		Sn	02 55 52.0	+0.5
CNRM	**Centro Naciona**	**1.42**	**343**	P		Pn	02 55 34.3	-0.7
CNRM	**Centro Naciona**	**1.42**	**343**	S		Sn	02 55 53.4	+0.5
UNAN	**Cigeo UNAN**	**1.45**	**90**	P		Pn	02 55 35.7	+0.3
UNAN				S		Sn	02 55 53.4	-0.2
TISN	**Laguna Tiscapa**	**1.45**	**88**	P		Pn	02 55 35.2	-0.2
PACA	**Pacayal**	**1.47**	**338**	P		Pn	02 55 36.1	+0.3
PACA	**Pacayal**	**1.47**	**338**	S		Sn	02 55 54.3	+0.2
R4DEC	**Barrio San Lui**	**1.47**	**88**	S		Sn	02 55 54.4	+0.4
R4DEC	**Barrio San Lui**	**1.47**	**88**	P		Pn	02 55 35.7	0.0
MGAN	**Managua**	**1.47**	**88**	P		Pn	02 55 35.7	-0.1
MGAN	**Managua**	**1.47**	**88**	S		Sn	02 55 54.7	+0.6
CHOHN	**Orocuina**	**1.49**	**23**	P		Pn	02 55 36.2	+0.2
CHOHN	**Orocuina**	**1.49**	**23**	S		Sn	02 55 55.5	+0.8
WILN	**Americas 2**	**1.53**	**88**	P		Pn	02 55 36.3	-0.2
WILN				S		Sb	02 55 57.0	-0.7
NANN	**Nandasmo**	**1.60**	**96**	P		Pn	02 55 37.6	+0.1
NANN	**Nandasmo**	**1.60**	**96**	S		Sn	02 55 57.9	+0.5
NADN	**Granada**	**1.72**	**102**	P		Pn	02 55 38.8	-0.3
NADN				S		Sn	02 56 00.2	0.0
UESV	**Universidad de**	**1.83**	**327**	P		Pn	02 55 40.9	+0.3
UESV	**Universidad de**	**1.83**	**327**	S		Sn	02 56 02.4	-0.6
OCON	**Estacion meteo**	**1.96**	**39**	P		Pn	02 55 43.0	+0.5
OCON				S		Sn	02 56 07.5	+1.2
MATN	**Matagalpa**	**1.97**	**65**	P		Pn	02 55 42.1	-0.5
MATN	**Matagalpa**	**1.97**	**65**	S		Sn	02 56 05.8	-0.6
PAVA	**Las Pavas**	**1.97**	**324**	P		Pn	02 55 43.0	+0.3
TGUH	**Tegucigalpa,Un**	**2.00**	**14**	P		Pn	02 55 43.1	0.0
TGUH				S		Sn	02 56 07.9	+0.7
YUSH	**Yuscaran**	**2.04**	**26**	P		Pn	02 55 44.4	+0.8
YUSH	**Yuscaran**	**2.04**	**26**	S		Sn	02 56 08.7	+0.4
MARCA	**Marcala la Paz**	**2.06**	**352**	P		Pn	02 55 44.0	0.0
MARCA	**Marcala la Paz**	**2.06**	**352**	S		Sn	02 56 09.9	+1.1
LOMA	**Loma Larga**	**2.06**	**318**	S		Sn	02 56 08.8	-0.1
LOMA	**Loma Larga**	**2.06**	**318**	P		Pn	02 55 44.7	+0.7
RCVN	**Varillal2**	**2.12**	**46**	⇓P		Pn	02 55 45.5	+0.8
JAYA	**Jayaque - finc**	**2.26**	**313**	P		Pn	02 55 46.6	0.0
JAYA	**Jayaque - finc**	**2.26**	**313**	S		Sn	02 56 13.6	-0.2
CEVE	**Cerro Verde**	**2.50**	**313**	P		Pn	02 55 49.9	-0.2
CEVE	**Cerro Verde**	**2.50**	**313**	S		Sn	02 56 20.0	+0.1
NUBE	**Las Nubes**	**2.67**	**312**	S		Sn	02 56 22.5	-1.2
NUBE	**Las Nubes**	**2.67**	**312**	P		Pn	02 55 53.5	+1.2

*SOME **11** 03:08:30.0, 39°.05N×74°.48E, h10km*
*NNC **11** 03:08:35.8±4.0, 39°.27N×74°.58E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=28.3km s-min=18.6km az=178.0*
ISC 11 03:08:39.9±2.6, 39°.4N±0°.1×74°.53E±0°.06, h10km, n19, σ2s17/26, 4C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AAK	**Ala-Archa**	**3.23**	**360**	⇑Pn		**Pb**	**03 09 33.2**	**-4.2**
	3.7nm,0.6s							
AAK				⇑Lg		Lg	03 10 20.6	
	11nm,0.7s							
MRKS	**Merke**	**3.48**	**344**	Pg		**Pn**	**03 09 35.4**	**+1.3**
MRKS				Lg		Lg	03 10 27.2	
MRKS	**Merke**	**3.48**	**344**	*e*P		**Pb**	**03 09 40.4**	**-1.2**
	2.8nm,0.2s							
MRKS				*e*S		**Sg**	**03 10 30.9**	**-0.7**
	10nm,0.8s							
KST	**Kastek**	**3.79**	**16**	Pg		**Pb**	**03 09 46.3**	**-0.7**
	3.9nm,0.4s							
KST				Lg		Lg	03 10 41.2	
	23nm,0.6s							
KST	**Kastek**	**3.79**	**16**	*e*P		**Pb**	**03 09 46.3**	**-0.7**
	3.9nm,0.4s							
KST				*e*S		**Sg**	**03 10 41.2**	**-0.5**
	23nm,0.6s							
MTBS	**Maitube**	**3.99**	**20**	Pg		**Pb**	**03 09 50.4**	**+0.1**
	3.8nm,0.2s							
MTBS				Lg		Lg	03 10 48.4	
	19nm,0.4s							
MTBS	**Maitube**	**3.99**	**20**	*e*P		**Pb**	**03 09 50.8**	**+0.5**
	0.7nm,0.1s							
MTBS				*e*S		**Sg**	**03 10 48.6**	**+0.7**
	19nm,0.4s							
SGDS	**Sogindy**	**4.05**	**1**	Pg		**Pb**	**03 09 51.5**	**+0.2**
	3.7nm,0.3s							
SGDS				Lg		Lg	03 10 50.0	
	6.4nm,0.4s							
TNSS	**Tian-Shan**	**4.06**	**26**	Pg		**Pb**	**03 09 51.8**	**0.0**
TNSS				Lg		Lg	03 10 50.5	
TNSS	**Tian-Shan**	**4.06**	**26**	*e*P		**Pb**	**03 09 52.0**	**+0.3**
	0.2nm,0.0s							
TNSS				*e*S		**Sg**	**03 10 51.0**	**+0.6**
	3.2nm,0.6s							
MDOK	**Medeo**	**4.21**	**26**	Pg		**Pb**	**03 09 53.4**	**-0.7**
	2.9nm,0.4s							
MDOK				Lg		Lg	03 10 53.6	
	9.8nm,0.6s							
KTBS	**Karatobe**	**4.60**	**20**	Pg		**Pb**	**03 10 01.5**	**+0.9**
	3.9nm,0.3s							
KTBS				Lg		Lg	03 11 07.6	
	16nm,0.5s							
SATY	**Saty**	**4.68**	**37**	Pg		**Pb**	**03 10 01.6**	**-0.4**
	4.1nm,0.3s							
SATY				Lg		Lg	03 11 07.5	
	9.8nm,0.3s							
KUU	**Kurty**	**4.69**	**16**	Pg		**Pb**	**03 10 03.3**	**+1.2**
KUU				Lg		Lg	03 11 10.4	
KUU	**Kurty**	**4.69**	**16**	*e*P		**Pb**	**03 10 03.3**	**+1.2**
	2.3nm,0.0s							
KUU				*e*S		**Sg**	**03 11 10.3**	**0.0**
	7.6nm,0.1s							
KK31	**Karatay Array**	**4.78**	**322**	⇓Pg		**Pb**	**03 10 03.5**	**-0.1**
	0.9nm,0.3s,baz=133,slow=17,SNR=8.2							
KK31				⇑Sn		**Sn**	**03 10 52.3**	**+5.0**
	2.9nm,0.6s							
KK31				⇑Lg		Lg	03 11 12.0	
	3.4nm,0.7s							
SHLS	**Shalkode**	**5.28**	**43**	Pg		**Pg**	**03 10 17.3**	**-3.6**
	8.3nm,0.2s							
SHLS	**Shalkode**	**5.28**	**43**	*e*P		**Pg**	**03 10 17.3**	**-3.6**
	3.2nm,0.1s							
SHLS				*e*S		**Sg**	**03 11 34.8**	**+5.4**
	12nm,0.6s							
ARXS	**Arharly**	**5.40**	**26**	*e*P		Pg	03 10 16.8	-6.5
ARXS				*e*S		**Sg**	**03 11 33.4**	**+0.2**

*SCB **11** 03:30:54.9±1.0, 22°.33S×67°.62W, h130km±22km, ML2.9/3, Error ellipse: s-maj=5.6km s-min=4.3km az=1.0*
*GUC **11** 03:30:54.1±0.6, 22°.40S×67°.72W, h178km±4km, ML2.8*
ISC 11 03:30:53.6±1.9, 22°.38S±0°.04×67°.70W±0°.05, h169km±19km, n23, σ0s82/39, 5C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PB09	**IPOC Station P**	**1.54**	**292**	⇑*e*P		**Pn**	**03 31 26.1**	**+0.8**
PB09				*e*S		**Sn**	**03 31 50.8**	**+1.1**
PB09	**IPOC Station P**	**1.54**	**292**	Pg		**Pn**	**03 31 25.6**	**+0.3**
PB06	**IPOC Station P**	**1.76**	**259**	*e*P		**Pn**	**03 31 27.6**	**+0.1**
PB06				*e*S		**Sn**	**03 31 54.0**	**+0.3**
PB06				IAML			03 31 56.7	
	comp=N,38nm,0.2s							
PB03	**IPOC Station P**	**1.93**	**279**	⇑*e*P		**Pn**	**03 31 29.5**	**+0.1**
PB03				*e*S		**Sn**	**03 31 56.8**	**-0.1**
PB03				IAML			03 31 57.4	
	comp=E,108nm,0.3s							
PB03	**IPOC Station P**	**1.93**	**279**	Pg		**Pn**	**03 31 30.0**	**+0.6**
PB01	**IPOC Station P**	**2.13**	**308**	*e*P		**Pn**	**03 31 31.8**	**+0.2**
PB01				*e*S		**Sn**	**03 32 00.8**	**0.0**
PB01				IAML			03 32 02.8	
	comp=N,44nm,0.2s							
PB01	**IPOC Station P**	**2.13**	**308**	Pg		**Pn**	**03 31 32.0**	**+0.5**
PB01				Sg		**Sn**	**03 31 59.8**	**-1.0**
PB01				IAML			03 32 02.2	
	comp=N,31nm,0.2s							
MOCB	**Mochara**	**2.22**	**60**	Pg		**Pn**	**03 31 31.8**	**-1.1**
SALTA		**2.22**	**146**	*e*P		**Pn**	**03 31 33.6**	**+0.6**
SALTA				*e*S		**Sn**	**03 32 04.1**	**+0.6**
PB02	**IPOC Station P**	**2.30**	**297**	⇑*e*P		**Pn**	**03 31 33.6**	**+0.2**
PB02				*e*S		**Sn**	**03 32 03.3**	**-0.9**
PB02				IAML			03 32 03.9	
	comp=N,64nm,0.3s							
PB02	**IPOC Station P**	**2.30**	**297**	Pg		**Pn**	**03 31 33.7**	**+0.2**
PB02				Sg		**Sn**	**03 32 03.5**	**-0.7**
PB02				IAML			03 32 03.9	
	comp=N,54nm,0.4s							
PB05	**IPOC Station P**	**2.36**	**258**	⇑*e*P		**Pn**	**03 31 34.3**	**+0.1**
PB05				*e*S		**Sn**	**03 32 04.4**	**-1.2**
PB05				IAML			03 32 05.3	
	comp=N,23nm,0.6s							
PB08	**IPOC Station P**	**2.60**	**328**	⇑*e*P		**Pn**	**03 31 38.5**	**+1.1**
PB08				*e*S		**Sn**	**03 32 12.2**	**+0.9**
PB08				IAML			03 32 15.6	
	comp=E,22nm,0.3s							
PB08	**IPOC Station P**	**2.60**	**328**	Pg		**Pn**	**03 31 37.9**	**+0.5**
PATCX	**Punta Patache**	**2.76**	**304**	*e*P		**Pn**	**03 31 38.8**	**-0.1**
PATCX				*e*S		**Sn**	**03 32 13.0**	**-1.0**
PATCX				IAML			03 32 17.2	
	comp=E,30nm,0.2s							
PB10	**IPOC Station P**	**2.87**	**246**	*e*P		**Pn**	**03 31 39.8**	**-0.3**
PB10				*e*S		**Sn**	**03 32 15.1**	**-1.2**
PB10				IAML			03 32 16.1	
	comp=N,13nm,0.2s							
GO01	**Chusmiza**	**3.03**	**332**	*e*P		**Pn**	**03 31 43.4**	**+0.7**
GO01				*e*S		**Sn**	**03 32 20.5**	**-0.3**
GO01	**Chusmiza**	**3.03**	**332**	Pg		**Pn**	**03 31 43.2**	**+0.5**
PB11	**IPOC Station P**	**3.18**	**325**	*e*P		**Pn**	**03 31 43.9**	**-0.3**
PB11				*e*S		**Sn**	**03 32 22.5**	**-1.0**
PB11	**IPOC Station P**	**3.18**	**325**	Pg		**Pn**	**03 31 44.2**	**0.0**
PB11				Sg		**Sn**	**03 32 22.5**	**-1.0**
PB11				IAML			03 32 23.3	
	comp=N,65nm,0.2s							
GO02	**Mina Guanaco**	**3.27**	**212**	⇓*e*P		**Pn**	**03 31 45.3**	**-0.2**
GO02				*e*S		**Sn**	**03 32 24.8**	**-1.0**
PB14	**IPOC Station P**	**3.34**	**227**	Pg		**Pn**	**03 31 48.3**	**+1.9**
PB16	**IPOC Station P**	**4.36**	**337**	Pg		**Pn**	**03 32 01.3**	**+1.6**

*LDG **11** 03:33:29.7±0.1, 46°.92N×8°.38E, h8km, Ml2.6/18, Error ellipse: s-maj=1.7km s-min=1.4km az=79.0*
*VIE **11** 03:33:29.0±0.2, 46°.94N×8°.40E, h8km, mb2.1/5, ml2.5/8, Error ellipse: s-maj=1.6km s-min=1.3km az=18.0 20 km WNW of Altdorf*
*PRU **11** 03:33:30.1, 46°.90N×8°.44E, h10km*
ISC 11 03:33:29.4±1.2, 46°.97N±0°.03×8°.29E±0°.03, h12km±11km, n32, σ1s91/54, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DAVA	**Damuels**	**1.13**	**73**	*e*Pg		**Pb**	**03 33 50.1**	**-0.8**
	1.3nm,0.1s,SNR=50							
DAVA				Sg		**Sb**	**03 34 05.6**	**-0.1**
	11nm,0.2s							
HINF	**Hinteralfeld**	**1.29**	**311**	*e*Pn		**Pg**	**03 33 53.8**	**-0.4**
HINF	**Hinteralfeld**	**1.29**	**311**	*e*Pg		**Pg**	**03 33 54.9**	**+0.7**
HINF				*e*Sg		**Sg**	**03 34 12.3**	**+1.3**
	27nm,0.3s							
CABF	**La Chapelle**	**1.56**	**257**	*e*Pg		**Pg**	**03 34 00.5**	**+1.3**
CABF				*e*Sg		**Sg**	**03 34 19.8**	**+0.4**
	21nm,0.2s							
CDF	**Champ du Feu**	**1.59**	**335**	*e*Pn		**Pb**	**03 33 58.0**	**-0.8**
CDF	**Champ du Feu**	**1.59**	**335**	*e*Pg		**Pg**	**03 34 00.8**	**+0.8**
CDF				*e*Sg		**Sg**	**03 34 21.2**	**+0.5**
	20nm,0.3s							
FETA	**Feichten**	**1.67**	**87**	*e*Pg		**Pb**	**03 33 59.8**	**-0.4**
	0.4nm,0.1s,SNR=8.5							
FETA				*e*Sg		**Sb**	**03 34 21.4**	**+0.2**
	3.1nm,0.2s							
HAU	**Haudompre**	**1.67**	**309**	*e*Pn		**Pb**	**03 33 59.5**	**-0.6**
HAU	**Haudompre**	**1.67**	**309**	*e*Pg		**Pg**	**03 34 02.1**	**+0.6**
HAU				*e*Sg		**Sg**	**03 34 24.4**	**+1.2**
	4.7nm,0.1s							
RETA	**Reutte**	**1

TXIG	**Tlaxiaco**	**1.12**	**347**	*eP*	**Pb**	**03 42 07.0**	**-0.2**
TXIG				*eS*	**Sb**	**03 42 20.8**	**-1.1**
VHO	**Vista Hermosa**	**1.18**	**39**	*eP*	**Pg**	**03 42 07.8**	**-0.4**
OXBJ	**Oaxaca**	**1.18**	**39**	*eP*	**Pg**	**03 42 08.2**	**-0.1**
OXBJ				*eS*	**Sg**	**03 42 23.4**	**-0.2**
OXLC	**Oaxaca**	**1.19**	**40**	*eP*	**Pg**	**03 42 07.6**	**-0.9**
OXLC				*eS*	**Sg**	**03 42 23.4**	**-0.5**
HUIG	**Huatulco**	**1.40**	**106**	*eP*	**Pg**	**03 42 11.8**	**-0.5**
HUIG				*eS*	**Sg**	**03 42 29.5**	**-1.1**
CRIG	**Cruz Grande**	**1.67**	**291**	*eP*	**Pn**	**03 42 13.5**	**-1.2**
CRIG				*eS*	**Sn**	**03 42 32.1**	**-3.9**
HLIG	**Huajuapan de L**	**1.69**	**350**	*eP*	**Pn**	**03 42 16.1**	**+0.8**
HLIG				*eS*	**Sn**	**03 42 34.5**	**-2.6**
TLIG	**Tlapa**	**1.73**	**324**	*P*	**Pn**	**03 42 16.1**	**+0.4**
TLIG				*S*	**Sn**	**03 42 38.2**	**+0.3**
TLIG	**Tlapa**	**1.73**	**324**	*eP*	**Pn**	**03 42 15.6**	**-0.2**
TLIG				*eS*	**Sn**	**03 42 35.0**	**-2.9**
FTIG	**Fresnillo de T**	**1.85**	**341**	*eP*	**Pn**	**03 42 18.1**	**+0.8**
FTIG				*eS*	**Sn**	**03 42 37.8**	**-3.0**
TOIG	**Toxpalan**	**1.98**	**12**	*eP*	**Pn**	**03 42 19.8**	**+0.7**
TOIG				*eS*	**Sn**	**03 42 42.5**	**-1.4**
DAIG	**Los Arroyos**	**2.23**	**293**	*eP*	**Pn**	**03 42 22.1**	**-0.4**
DAIG				*eS*	**Sn**	**03 42 46.4**	**-3.7**
NEUV	**Arroyo Zacate**	**2.25**	**46**	*eP*	**Pb**	**03 42 24.0**	**-2.2**
NEUV				*eS*	**Sn**	**03 42 49.9**	**-0.6**
TPIG	**Tehuac#an**	**2.26**	**3**	*eP*	**Pn**	**03 42 24.1**	**+1.0**
TPIG				*eS*	**Sn**	**03 42 49.8**	**-1.2**
CMIG	**Matias Romero**	**2.68**	**69**	*Pn*	**Pn**	**03 42 29.7**	**+1.0**
	7.4nm,0.3s,baz=263,slow=12,SNR=69						
CMIG				*Lg*	Lg	03 43 06.7	
	63nm,0.3s,baz=278,slow=10,SNR=5.6						
CMIG				*LR*	LR	03 43 19.9	
	comp=Z,112nm,18.1s,baz=246,slow=38 32nm,0.4s						
CMIG	**Matias Romero**	**2.68**	**69**	*eP*	**Pn**	**03 42 29.4**	**+0.8**
MEIG	**Mezcala**	**2.68**	**311**	*eP*	**Pn**	**03 42 30.3**	**+1.5**
MEIG				*eS*	**Sn**	**03 43 00.3**	**-1.0**
CAIG	**El Cayaco**	**2.79**	**289**	*eP*	**Pn**	**03 42 30.2**	**-0.1**
CAIG				*eS*	**Sn**	**03 42 57.9**	**-6.1**
YAIG	**Yautepec**	**3.08**	**331**	*eP*	**Pn**	**03 42 35.0**	**+0.7**
YAIG				*eS*	**Sn**	**03 43 11.5**	**+0.2**
PPM	**Popocatepetl**	**3.09**	**340**	*eP*	**Pn**	**03 42 37.2**	**+2.4**
PPM				*eS*	**Sn**	**03 42 12.1**	**+0.1**
AMVM	**AMECAMECA**	**3.21**	**338**	*eP*	**Pb**	**03 42 43.3**	**+0.6**
AMVM				*eS*	**Sn**	**03 43 15.5**	**+0.9**
JAUV	**Jalcomulco**	**3.27**	**12**	*eP*	**Pn**	**03 42 37.5**	**+0.7**
JAUV				*i S*	**Sn**	**03 43 14.9**	**-0.8**
PMUV	**Sontecomapan**	**3.29**	**43**	*eP*	**Pn**	**03 42 37.7**	**+0.5**
PMUV				*i S*	**Sn**	**03 43 15.5**	**-0.9**
MPVM	**San Francisco**	**3.36**	**335**	*eP*	**Pn**	**03 42 40.9**	**+2.7**
MPVM				*eS*	**Sn**	**03 43 18.0**	**-0.1**
MAVM	**Malinalco, Edo**	**3.37**	**326**	*eP*	**Pn**	**03 42 40.9**	**+2.5**
MAVM				*eS*	**Sn**	**03 43 19.5**	**+0.9**
UXUV	**UXUV**	**3.42**	**70**	*eP*	**Pn**	**03 42 40.3**	**+1.5**
UXUV				*eS*	**Sn**	**03 43 20.4**	**+1.0**
TLVM	**San Miguel Top**	**3.42**	**333**	*eP*	**Pn**	**03 42 40.3**	**+1.1**
TLVM				*eS*	**Sn**	**03 43 18.3**	**-1.7**
THVM	**De Xico**	**3.44**	**336**	*eP*	**Pn**	**03 42 42.7**	**+3.3**
THVM				*eS*	**Sn**	**03 43 19.6**	**-0.6**
ARIG	**Puente Sto Nin**	**3.44**	**308**	*eP*	**Pn**	**03 42 40.4**	**+1.2**
ARIG				*eS*	**Sn**	**03 43 21.8**	**+1.7**
XCVM	**Xochimilco**	**3.45**	**334**	*eP*	**Pn**	**03 42 40.5**	**+1.0**
XCVM				*eS*	**Sn**	**03 43 18.4**	**-2.0**
TUIG	**Tuzandepetl**	**3.49**	**57**	*eP*	**Pn**	**03 42 40.5**	**+0.6**
TUIG				*eS*	**Sn**	**03 43 21.5**	**+0.3**
UNM	**Universidad Na**	**3.54**	**333**		**Pn**	**03 42 42.3**	**+1.6**
UNM	**Universidad Na**	**3.54**	**333**	*eP*	**Pn**	**03 42 42.3**	**+1.6**
UNM				*eS*	**Sn**	**03 43 21.3**	**-1.5**
AOVM	**Tlapan**	**3.55**	**331**	*eP*	**Pn**	**03 42 43.0**	**+2.0**
COVM	**Coyoacan**	**3.55**	**334**	*eP*	**Pn**	**03 42 39.5**	**-1.4**
COVM				*eS*	**Sn**	**03 43 24.9**	**+1.9**
BJVM	**Benito Juarez**	**3.58**	**334**	*eP*	**Pn**	**03 42 44.6**	**+3.3**
BJVM				*eS*	**Sn**	**03 43 24.4**	**+0.8**
INVM	**La Marquesa**	**3.60**	**330**	*eP*	**Pn**	**03 42 44.4**	**+2.7**
INVM				*eS*	**Sn**	**03 43 25.7**	**+1.3**
PBVM	**Pinon**	**3.60**	**336**	*eP*	**Pn**	**03 42 43.9**	**+2.6**
PBVM				*eS*	**Sn**	**03 43 24.0**	**+0.2**
CJVM	**Cuajimalpa**	**3.62**	**332**	*eP*	**Pn**	**03 42 44.0**	**+2.2**
CJVM				*eS*	**Sn**	**03 43 26.1**	**+1.5**
MHVM	**Bosque de Chap**	**3.62**	**334**	*eP*	**Pn**	**03 42 43.8**	**+1.9**
MHVM				*eS*	**Sn**	**03 43 24.8**	**0.0**
CTVM	**Cuauhtemoc**	**3.64**	**334**	*eS*	**Sn**	**03 43 25.8**	**+0.6**
APVM	**Azcapotzalco**	**3.69**	**334**	*eP*	**Pb**	**03 42 50.8**	**-0.2**
LVIG	**Laguna Verde**	**3.70**	**16**	*eP*	**Pn**	**03 42 42.2**	**-0.5**
LVIG				*eS*	**Sn**	**03 43 24.6**	**-1.7**
TOVM	**TOLUCA**	**3.74**	**327**	*eP*	**Pn**	**03 42 45.9**	**+2.3**
TOVM				*eS*	**Sn**	**03 43 27.6**	**-0.2**
PTVM	**Pico Tres Padr**	**3.75**	**336**	*eP*	**Pn**	**03 42 47.5**	**+3.9**
PTVM				*eS*	**Sn**	**03 43 28.3**	**+0.4**
VTVM	**Tizayuca**	**3.80**	**342**	*eP*	**Pn**	**03 42 45.9**	**+1.6**
VTVM				*i S*	**Sn**	**03 43 31.3**	**+2.1**
VTVM				*eS*	**Sn**	**03 43 31.3**	**+2.1**
ZUVM	**ZUMPANGO**	**3.95**	**338**	*eP*	**Pb**	**03 42 52.5**	**-2.9**
ZUVM				*eS*	**Sn**	**03 43 32.4**	**-0.5**
CXUV	**Coxquihui**	**4.00**	**359**	*eP*	**Pb**	**03 42 51.8**	**-4.3**
CXUV				*i S*	**Sn**	**03 43 34.0**	**+0.2**
ZIIG	**Zihuatanejo**	**4.06**	**291**	*eP*	**Pn**	**03 42 47.8**	**+0.2**
ZIIG				*eS*	**Sn**	**03 43 29.8**	**-5.3**
TGIG		**4.25**	**81**	*eP*	**Pn**	**03 42 51.8**	**+1.5**
TGIG				*eS*	**Sn**	**03 43 42.2**	**+2.2**
ACIG	**Acambay**	**4.43**	**330**	*eP*	**Pn**	**03 42 53.1**	**+0.3**
ACIG				*eS*	**Sn**	**03 43 46.7**	**+2.2**
MOIG	**Morelia**	**4.96**	**316**	*Pn*	Pn	03 43 05.1	+4.8
MOIG	**Morelia**	**4.96**	**316**	*eP*	**Pn**	**03 42 58.5**	**-1.7**
MOIG				*eS*	**Sn**	**03 43 52.5**	**-5.3**
CCIG	**Comitan**	**5.16**	**88**		**Pn**	**03 43 02.8**	**-0.1**
CCIG	**Comitan**	**5.16**	**88**	*eP*	**Pn**	**03 43 04.2**	**+1.2**
CCIG				*eS*	**Sn**	**03 44 04.5**	**+2.0**
PATR	**El Naranjo**	**5.18**	**101**	*eP*	**Pn**	**03 43 05.2**	**+1.9**
PATR				*eS*	**Sn**	**03 44 04.8**	**+1.5**
PAVE	**Pavencul**	**5.22**	**100**	*eP*	Pn	03 43 08.9	+5.1
PAVE				*eS*	**Sn**	**03 44 07.5**	**+3.3**
CHUJ	**Union Juarez**	**5.30**	**101**	*eP*	**Pn**	**03 44 07.5**	**+2.5**
CHUJ				*eS*	**Sn**	**03 44 08.0**	**+1.7**
JRQG	**Juriquilla Cam**	**5.32**	**329**	*Pn*	**Pn**	**03 43 08.6**	**+3.4**
CTUV	**Llano Grande**	**5.35**	**351**	*eP*	**Pn**	**03 43 05.7**	**+0.2**
CTUV				*eS*	**Sn**	**03 44 07.5**	**+0.4**
RTAL	**Retalhuleu**	**5.83**	**105**	*eP*	Pn	03 43 16.3	+4.3
RTAL				*eS*	**Sn**	**03 44 23.5**	**+4.5**
HUEH	**Huehuetenango**	**5.84**	**97**	*Pn*	**Pn**	**03 43 10.6**	**-1.8**
IGIG	**Irapuato, Guan**	**5.84**	**322**	*eP*	**Pn**	**03 43 12.6**	**+0.3**
IGIG				*eS*	**Sn**	**03 44 18.2**	**-1.3**
MMIG	**Aquila**	**5.97**	**292**	*eP*	Pn	03 43 09.8	-4.1
MMIG				*eS*	**Sn**	**03 44 16.2**	**-6.2**
RPIG	**Rio Verde**	**6.17**	**338**	*eP*	**Pn**	**03 43 18.6**	**+1.9**
RPIG				*eS*	**Sn**	**03 44 26.9**	**-0.4**
SCIG	**Sabancuy**	**6.65**	**64**	*eP*	**Pn**	**03 43 21.9**	**-1.3**
SCIG				*eS*	**Sn**	**03 44 36.4**	**-2.6**
MNGA	**Volcan de Coli**	**6.69**	**300**	*eP*	**Pn**	**03 43 26.1**	**+2.0**
MNGA				*eS*	**Sn**	**03 43 42.9**	**+2.4**
INCO	**Volcan de Coli**	**6.71**	**301**	*eP*	**Pn**	**03 43 28.1**	**+3.7**
INCO				*eS*	**Sn**	**03 44 43.6**	**+2.5**
SOMAC	**Volcano de Col**	**6.73**	**301**	*eP*	**Pn**	**03 43 25.9**	**+1.3**
SOMAC				*eS*	**Sn**	**03 44 39.5**	**-2.0**
CDAR	**Ciudad de Arme**	**6.80**	**295**	*eP*	**Pn**	**03 43 26.9**	**+1.6**
CDAR				*eS*	**Sn**	**03 44 44.4**	**+1.7**
CEGR	**Campo Tres**	**6.86**	**299**	*eP*	**Pn**	**03 43 29.0**	**+2.8**
CEGR				*eS*	**Sb**	**03 45 09.1**	**+2.2**
PETF	**Flores**	**7.37**	**83**	*Pn*	Pn	03 43 28.1	-5.0
PETF	**Flores**	**7.37**	**83**	*eP*	**Pn**	**03 43 35.1**	**+2.0**
PETF				*eS*	**Sn**	**03 44 51.7**	**-5.0**
CJM	**Chamela**	**7.91**	**296**	*eP*	**Pn**	**03 43 37.4**	**-3.2**
CJM				*eS*	**Sn**	**03 45 03.4**	**-6.8**
MTO3	**Montecristo**	**8.05**	**101**	*Pn*	**Pn**	**03 43 42.3**	**-0.4**
ANIG	**Ahuacatlan**	**8.25**	**307**	*eP*	**Pn**	**03 43 42.1**	**-3.1**
ANIG				*eS*	**Sn**	**03 45 18.6**	**+0.1**
TEIG	**Tepich**	**9.66**	**64**		**Pn**	**03 44 00.5**	**-4.1**
TEIG	**Tepich**	**9.66**	**64**	*Pn*	**Pn**	**03 44 04.7**	**+0.1**
	baz=312,slow=24,SNR=9.5						
TEIG				*Sn*	**Sn**	**03 45 50.1**	**-3.1**
	baz=310,slow=24,SNR=7.3						
TXAR	**Lajitas Array**	**14.29**	**338**	*Pn*	**Pn**	**03 45 07.1**	**-1.0**
	baz=162,slow=8.7,SNR=4.0						
TXAR				*LR*	LR	03 51 19.3	
	comp=Z,320nm,18.0s,baz=139,slow=41 0.7nm,1.1s						
TX31	**Lajitas Ar. Si**	**14.29**	**338**	*Pn*	**Pn**	**03 45 07.5**	**-0.6**
SAND	**Sanderson**	**14.38**	**344**	*Pn*	**Pn**	**03 45 08.9**	**-0.3**
LPIG	**La Paz**	**14.38**	**305**	*Pn*	**Pn**	**03 45 11.1**	**+1.9**
	14nm,0.3s,baz=153,slow=3.1,SNR=4.3						

JCT	**Junction City**	**14.42**	**352**	*Pn*	**Pn**	**03 45 09.2**	**-0.5**
BRDY	**Brady**	**15.13**	**355**	*Pn*	**Pn**	**03 45 18.6**	**-0.7**
ALPN	**Alpine**	**15.23**	**339**	*Pn*	**Pn**	**03 45 19.4**	**-1.4**
MNHN	**Monahans**	**15.86**	**343**	*Pn*	**Pn**	**03 45 27.4**	**-1.6**
SGCY	**Sterling City**	**16.04**	**349**	*Pn*	**Pn**	**03 45 30.7**	**-0.5**
VHRN	**Van Horn**	**16.09**	**336**	*Pn*	**Pn**	**03 45 33.3**	**+1.3**
PECS	**Pecos**	**16.22**	**340**		**Pn**	**03 45 34.9**	**+1.3**
PECS				*IAmb*	IAmb	03 45 45.5	
	comp=Z,20nm,0.9s						
PLPT	**Palo Pinto**	**16.61**	**358**	*Pn*	**Pn**	**03 45 37.3**	**-1.1**
PLPT				*IAmb*	IAmb	03 45 49.5	
	comp=Z,31nm,1.3s						
POST	**Post**	**17.23**	**349**	*Pn*	**Pn**	**03 45 44.9**	**-1.4**
POST				*IAmb*	IAmb	03 45 56.6	
	comp=Z,23nm,1.0s						
APMT	**Aspermont**	**17.26**	**353**		**Pn**	**03 45 46.4**	**-0.3**
143A	**Socs Landing,**	**17.38**	**17**		**Pn**	**03 45 47.2**	**-0.9**
143A				*IAmb*	IAmb	03 45 53.1	
	comp=Z,16nm,0.9s						
DKNS	**Dickens**	**17.71**	**351**		**Pn**	**03 45 51.6**	**-0.7**
MIAR	**Mount Ida**	**18.65**	**10**		**P**	**03 46 00.4**	**-3.1**
MIAR				*IAmb*	IAmb	03 46 08.7	
	comp=Z,11nm,0.8s						
121A	**Cookes Peak, D**	**18.79**	**332**		**P**	**03 46 04.9**	**-0.3**
SMWD	**Samnorwood**	**19.03**	**353**	*IAmb*	IAmb	03 46 25.0	
	comp=Z,6.9nm,0.6s						
Y45A	**Yeager Farm, C**	**19.04**	**21**		**P**	**03 46 04.9**	**-2.8**
Y45A				*IAmb*	IAmb	03 46 27.4	
	comp=Z,14nm,0.8s						
TUL3	**Leonard**	**19.74**	**4**	*P*	**P**	**03 46 14.7**	**-0.7**
TUL3				*IAmb*	IAmb	03 46 21.2	
	comp=Z,8.9nm,0.6s						
SBM	**South Baldy**	**19.77**	**336**	*P*	**Pn**	**03 46 17.1**	**-0.6**
LENM	**Lemitar**	**19.86**	**336**	*P*	**P**	**03 46 16.9**	**0.0**
OK048	**Pawnee Station**	**20.19**	**1**	*P*	**P**	**03 46 19.1**	**-1.2**
FCAR	**Ozark Folk Cen**	**20.24**	**13**	*P*	**P**	**03 46 19.3**	**-1.5**
OK051	**E0350 and S346**	**20.28**	**2**	*P*	**P**	**03 46 20.1**	**-1.2**
HHAR	**Hobbs**	**20.30**	**8**	*P*	**P**	**03 46 19.3**	**-2.1**
ANMO	**Albuquerque**	**20.36**	**338**	*P*	**P**	**03 46 21.1**	**-1.3**
ANMO	**Albuquerque**	**20.36**	**338**	*P*	**P**	**03 46 22.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=242,slow=14,SNR=6.9						
ANMO				*LR*	LR	03 54 47.8	
	comp=Z,250nm,20.9s,baz=258,slow=39 comp=Z,0.9nm,0.4s						
U38A	**Gravette**	**20.40**	**7**	*P*	**P**	**03 46 20.7**	**-1.8**
X48A	**Hartselle**	**20.50**	**25**	*P*	**P**	**03 46 21.5**	**-2.2**
PLAL	**Pickwick Lake**	**20.57**	**23**	*P*	**P**	**03 46 21.6**	**-2.7**
LCAR	**Lake Charles**	**20.63**	**15**	*P*	**P**	**03 46 23.1**	**-1.9**
T35A	**Sooner Cattle**	**20.70**	**2**	*P*	**P**	**03 46 23.4**	**-2.4**
T35A				*IAmb*	IAmb	03 46 29.3	
	comp=Z,13nm,1.0s						
RTBA	**Rita Blanca**	**20.73**	**348**	*P*	**P**	**03 46 24.8**	**-1.5**
RTBA				*IAmb*	IAmb	03 46 37.3	
	comp=Z,16nm,1.2s						
LNXT	**Lenox**	**21.11**	**18**	*P*	**P**	**03 46 28.5**	**-1.8**
FPAL	**Fort Paine**	**21.20**	**28**		**P**	**03 46 29.5**	**-1.8**
GOGA	**Godfrey**	**21.36**	**34**	*P*	**P**	**03 46 30.4**	**-2.5**
GOGA				*IAmb*	IAmb	03 46 35.8	
	comp=Z,6.8nm,0.6s						
Y52A	**Lilburn**	**21.40**	**32**	*IAmb*	IAmb	03 46 40.2	
	comp=Z,14nm,1.1s						
MGMO	**Mountain Grove**	**21.43**	**12**		**P**	**03 46 32.1**	**-1.6**
MGMO				*IAmb*	IAmb	03 46 44.0	
	comp=Z,14nm,1.1s						
X18A	**Snowflake**	**21.44**	**331**	*IAmb*	IAmb	03 46 38.2	
	comp=Z,5.6nm,0.8s						
PBMO	**Poplar Bluff**	**21.48**	**16**	*P*	**P**	**03 46 31.8**	**-2.5**
PBMO				*IAmb*	IAmb	03 46 52.1	
	comp=Z,8.6nm,0.8s						
X51A	**Calhoun**	**21.57**	**29**	*IAmb*	IAmb	03 46 37.8	
	comp=Z,7.3nm,0.8s						
SWET	**Sewanee**	**21.63**	**26**	*IAmb*	IAmb	03 46 36.5	
	comp=Z,10.0nm,0.8s						
WVT	**Waverly**	**21.68**	**22**		**P**	**03 46 32.6**	**-3.8**
WVT				*IAmb*	IAmb	03 46 40.0	
	comp=Z,17nm,1.4s						
V48A	**Smith Brothers**	**21.71**	**24**	*IAmb*	IAmb	03 46 42.1	
	comp=Z,7.9nm,0.9s						
T25A	**Trinidad**	**21.78**	**345**	*P*	**P**	**03 46 38.1**	**+0.4**
T25A				*IAmb*	IAmb	03 46 43.4	
	comp=Z,13nm,0.9s						
CPCT	**Cooper Cave**	**22.45**	**29**	*IAmb*	IAmb	03 46 54.0	
	comp=Z,7.3nm,0.9s						
CCM	**Cathedral Cave**	**22.51**	**13**		**P**	**03 46 44.1**	**-1.1**
CCM				*IAmb*	IAmb	03 46 53.2	
	comp=Z,5.8nm,0.8s						
R40A	**Maddies Statio**	**22.53**	**11**		**P**	**03 46 43.8**	**-1.6**
R40A				*IAmb*	IAmb	03 46 53.3	
	comp=Z,14nm,1.2s						
HODGE	**Hodges**	**22.63**	**34**	*P*	**P**	**03 46 44.5**	**-2.0**
SDCO	**Great Sand Dun**	**22.64**	**343**		**P**	**03 46 46.7**	**-0.3**
T47A	**Sharon Grove**	**22.71**	**22**		**P**	**03 46 46.9**	**-0.5**
T47A				*IAmb*	IAmb	03 46 55.0	
	comp=Z,6.5nm,0.8s						
U49A	**Red Boiling Sp**	**22.80**	**25**	*IAmb*	IAmb	03 46 56.4	
	comp=Z,7.7nm,1.0s						
WUAZ	**Wupatki**	**22.92**	**330**	*IAmb*	IAmb	03 46 55.2	
	comp=Z,10nm,0.9s						
TKL	**Tuckaleechee C**	**22.97**	**30**	*IAmb*	IAmb	03 46 59.1	
	comp=Z,12nm,1.1s						
TKL	**Tuckaleechee C**	**22.97**	**30**	*P*	**P**	**03 46 50.0**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=198,slow=13,SNR=4.9						
TKL				*LR*	LR	03 56 36.3	
	comp=Z,50nm,21.9s,baz=190,slow=40 comp=Z,2.2nm,0.7s						
MVCO	**Mesa Verde**	**23.12**	**337**		**P**	**03 46 52.9**	**+0.9**
P38A	**Dawn**	**23.64**	**8**	*IAmb*	IAmb	03 46 58.3	
	comp=Z,5.7nm,0.7s						
TZTN	**Tazewell**	**23.80**	**29**	*IAmb*	IAmb	03 47 06.5	
	comp=Z,9.9nm,1.0s						
Q44A	**Meyer Farm, Va**	**23.86**	**17**	*IAmb*	IAmb	03 47 09.2	
	comp=Z,9.0nm,0.8s						
PV01	**Paradox Valley**	**23.97**	**338**	*IAmb*	IAmb	03 47 17.9	
	comp=Z,8.7nm,1.2s						
WCI	**Wyandotte Cave**	**24.11**	**22**		**P**	**03 46 58.2**	**-3.1**
WCI				*IAmb*	IAmb	03 47 02.3	
	comp=Z,7.6nm,0.8s						
PV15	**Paradox Valley**	**24.12**	**339**	*IAmb*	IAmb	03 47 08.1	
	comp=Z,6.8nm,1.1s						
PV03	**Paradox Valley**	**24.18**	**338**	*IAmb*	IAmb	03 47 17.0	
	comp=Z,7.8nm,1.2s						
PV18	**Skein Mesa, Pa**	**24.19**	**338**	*IAmb*	IAmb	03 47 17.2	
	comp=Z,11nm,1.1s						
PV07	**Paradox Valley**	**24.27**	**338**	*IAmb*	IAmb	03 47 11.2	
	comp=Z,7.9nm,1.2s						
PV23	**Carpenter Ridg**	**24.41**	**338**	*IAmb*	IAmb	03 47 17.1	
	comp=Z,7.4nm,0.8s						
V55A	**Taylorsville**	**24.41**	**33**	*IAmb*	IAmb	03 47 21.2	
	comp=Z,6.9nm,1.0s						
KNB	**Kanab**	**24.82**	**330**		**P**	**03 47 09.3**	**+1.3**
KNB				*IAmb*	IAmb	03 47 24.6	
	comp=Z,7.6nm,1.2s						
MTPU	**Mount Pierson**	**25.35**	**332**	*IAmb*	IAmb	03 47 28.8	
	comp=Z,6.9nm,1.0s						
V58A	**Windy Hill, Pi**	**25.53**	**37**	*IAmb*	IAmb	03 47 19.2	
	comp=Z,6.2nm,0.9s						
O20A	**White River Ci**	**25.66**	**341**	*IAmb*	IAmb	03 47 25.9	
	comp=Z,9.1nm,1.0s						
O48B	**Farmland**	**26.31**	**22**	*IAmb*	IAmb	03 47 21.5	
	comp=Z,6.2nm,0.9s						
L40A	**Anamosa**	**26.38**	**11**	*IAmb*	IAmb	03 47 24.3	
	comp=Z,6.8nm,0.9s						
P53A	**Whipple**	**27.18**	**28**		pP	03 47 35.3	+2.6
SDV	**Santo Domingo**	**27.19**	**102**	*LR*	LR	03 59 28.7	
	comp=Z,59nm,18.4s,baz=72,slow=39						
PDAR	**Pinedale Array**	**28.46**	**341**	*P*	**P**	**03 47 42.9**	**+2.1**
	comp=Z,0.6nm,0.8s,baz=145,slow=9.4,SNR=5.3						
PDAR				*LR*	LR	04 00 28.7	
	comp=Z,48nm,20.6s,baz=130,slow=40 comp=Z,0.6nm,0.8s						
ELK	**Elko**	**28.93**	**331**	*LR*	LR	04 01 14.2	
	comp=Z,40nm,21.9s,baz=149,slow=41						
SJG	**San Juan**	**30.01**	**82**	*LR*	LR	04 01 08.6	
	comp=Z,37nm,20.8s,baz=294,slow=39						
SADO	**Sadowa**	**32.47**	**25**	*LR*	LR	04 04 17.3	
	comp=Z,274nm,18.1s,baz=240,slow=42						
YBH	**Yreka Blue Hor**	**33.47**	**325**	*LR*	LR	04 02 16.8	
	comp=Z,5.2nm,19.2s,baz=146,slow=37						
ULM	**Lac du Bonnet**	**34.04**	**2**	*LR*	LR	04 03 30.4	
	comp=Z,80nm,19.5s,baz=204,slow=39						
NEW	**Newport**	**35.85**	**337**	*LR*	LR	04 04 40.0	
	comp=Z,125nm,18.6s,baz=142,slow=39						
F64A	**Sherman**	**38.35**	**33**	*P*	**P**	**03 49 06.0**	**-0.5**
LPAZ	**La Paz**	**43.35**	**137**	*LR*	LR	04 07 00.6	
	comp=Z,49nm,18.5s,baz=276,slow=35						
PB18	**Visviri**	**43.44**	**139**	*P*	**P**	**03 49 52.5**	**+3.1**

YKA	**Yellowknife Ar**	**47.83**	**349**	*LR*	LR	04 12 31.2	
	comp=Z,55nm,18.1s,baz=275,slow=39						
R32K	**Eaglecrest**	**50.19**	**336**	*P*	**P**	**03 50 42.8**	**+1.6**
FRB	**Frobisher Bay**	**51.57**	**16**	*LR*	LR	04 17 18.2	
	comp=Z,57nm,18.3s,baz=304,slow=42						
HMT	**Hamilton**	**55.44**	**334**	*P*	**P**	**03 51 21.1**	**+1.2**
C36M	**Paulatuk**	**55.71**	**349**	*P*	**P**	**03 51 23.0**	**+1.3**
BCAR	**Beaver Creek A**	**55.98**	**337**	*P*	**P**	**03 51 24.0**	**+0.2**
L27K	**Beaver Creek,**	**56.00**	**337**	*P*	**P**	**03 51 25.7**	**+1.8**
L27K				*IAmb*	IAmb	03 52 02.0	
	comp=Z,4.8nm,1.5s						
G29M	**Pine Creek**	**57.17**	**342**	*P*	**P**	**03 51 33.7**	**+1.5**
KDAK	**Kodiak Island**	**58.12**	**329**	*LR*	LR	04 16 47.5	
	comp=Z,99nm,18.1s,baz=60,slow=36						
RES	**Resolute Bay**	**58.56**	**1**	*LR*	LR	04 18 02.4	
	comp=Z,67nm,20.7s,baz=6.0,slow=38						
ILAR	**Eielson Array**	**58.81**	**338**	*P*	**P**	**03 51 45.5**	**+1.8**
	comp=Z,0.4nm,1.0s,baz=108,slow=4.2,SNR=4.2						
ILAR				*LR*	LR	04 19 35.5	
	comp=Z,109nm,18.3s,baz=100,slow=39 comp=Z,0.4nm,1.0s						
P19K	**Oil Pt**	**59.14**	**331**	*P*	**P**	**03 51 47.7**	**+1.6**
SFJD	**Kangerlussuaq**	**59.18**	**20**	*LR*	LR	04 19 07.1	
	comp=Z,40nm,20.8s,baz=204,slow=38						
PPT	**Papeete**	**61.28**	**239**	*LR*	LR	04 11 32.5	
	comp=Z,53nm,21.2s,baz=314,slow=29						
PLCA	**Paso Flores**	**61.88**	**157**	*P*	**P**	**03 52 07.0**	**+1.9**
PLCA	**Paso Flores**	**61.88**	**157**	*LR*	LR	04 14 19.0	
	comp=Z,53nm,18.1s,baz=36,slow=31						
BORG	**Borgarnes**	**69.62**	**26**	*LR*	LR	04 25 06.8	
	comp=Z,38nm,18.4s,baz=116,slow=38						
DSB	**Dublin**	**77.90**	**38**	*P*	**P**	**03 53 42.7**	**-0.7**
SPITS	**Spitsbergen Ar**	**79.03**	**11**	*LR*	LR	04 30 32.5	
	comp=Z,39nm,18.8s,baz=288,slow=37						
MKAR	**Makanchi Array**	**117.35**	**0**	PKPdf	**PKiKP**	**04 00 32.3**	**+0.9**

IDC ***11*** *03:54:19.3±1.9, 4.°16N×126.°98E, h0km, mb3.8/4, mbtmp3.8/4, MS3.1/2, Error ellipse: s-maj=157.9km s-min=22.7km az=66.0*
DJA ***11*** *03:54:23.5±1.2, 4.°N±10.°×12.°7E±.°, h22km±3km, M3.8/5, MLv3.8/5*
NEIC ***11*** *03:54:25.7±0.7, 4.°04N±0.°05×126.°8E±0.°1, h35km±1km, mb4.5/13, Error ellipse: s-maj=24.9km s-min=7.1km az=254.0*

**ISC 11 03:54:25.1±0.7, 4.°05N±0.°10×

APQ2	Apoyeque	1.02	52	P	Pn	04 36 54.9	-0.7
CNGN	Cerro Negro	1.02	26	P	Pn	04 36 55.7	0.0
TISN	Laguna Tiscapa	1.03	57	P	Pn	04 36 55.4	-0.4
APQ3	Volcan Apoyequ	1.03	48	P	Pn	04 36 56.4	+0.6
APQ3				S	Sn	04 37 09.6	+0.6
MGAN	Managua	1.05	57	P	Pn	04 36 56.4	+0.4
MGAN	Managua	1.05	57	S	Sn	04 37 09.6	+0.1
R4DEC	Barrio San Lui	1.05	57	P	Pn	04 36 56.4	+0.4
R4DEC	Barrio San Lui	1.05	57	S	Sn	04 37 11.5	+2.0
NANN	Nandasmo	1.07	70	P	Pn	04 36 57.1	+0.8
PLRN	Geotermica Pol	1.07	20	P	Pn	04 36 56.8	+0.4
PLRN				S	Sn	04 37 10.4	+0.4
MOM2	El Cardon	1.08	37	P	Pn	04 36 57.1	+0.7
PKGN	Cerro Pekin	1.10	9	P	Pn	04 36 57.1	+0.3
NADN	Granada	1.11	81	P	Pn	04 36 57.2	+0.4
NADN				S	Sn	04 37 11.4	+0.5
WILN	Americas 2	1.11	58	P	Pn	04 36 57.9	+1.0
WILN				S	Sn	04 37 12.0	+1.1
CRIN	San Cristobal	1.12	5	P	Pn	04 36 59.1	+2.0
JAPN	Al SSO del Vol	1.44	92	P	Pn	04 37 00.6	-0.9
CSGN	Cosiguina Volc	1.45	344	P	Pn	04 37 01.4	-0.3
CSGN				S	Sn	04 37 19.5	0.0
POTN	Potosi Cosigui	1.46	346	P	Pn	04 37 02.3	+0.6
POTN				S	Sn	04 37 20.4	+0.8
CONN	Concepcion	1.49	90	P	Pn	04 37 00.4	-1.7
CARN	Rivas	1.64	103	P	Pn	04 37 04.9	+0.7
BOAB	BOACO BROADBAN	1.69	59	P	Pn	04 37 03.9	-1.0
MATN	Matagalpa	1.80	41	P	Pn	04 37 05.5	-1.0
ACON	Acoyapa	1.97	78	P	Pn	04 37 09.2	+0.4
ACON	Acoyapa	1.97	78	S	Sn	04 37 33.0	+0.7
OCON	Estacion meteo	2.15	18	P	Pn	04 37 12.5	+1.3
RCPN	Sur Rio San Ju	2.20	28	P	Pn	04 37 13.0	+1.0
RCVN	Varillal2	2.21	25	P	Pn	04 37 12.8	+0.7

IDC ***11*** *04:35:57.4±5.4, 16°.32S×175°.68W, h0km, mb4.5/3, mbtmp4.5/3, Error ellipse: s-maj=164.0km s-min=105.0km az=151.0*

NEIC ***11*** *04:37:01.3±0.7, 17°.3S±0°.2×178°.0W±0°.2, h459km±8km, mb4.3/16, Error ellipse: s-maj=32.2km s-min=8.6km az=130.0*

ISC 11 04:36:60.0±0.9**, 17°.2S**±0°.2×**178°.1W**±0°.2**, h450**km**, n23, s0**9**0**/24**, mb4.2**/11**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARMA	Armidale	30.60	239	P	P	04 42 36.2	+0.4
ARMA				IAmb	IAmb	04 42 48.8	
	comp=Z,9.4nm,1.2s						
TOO	Toolangi	37.89	230	P	P	04 43 36.8	-0.4
STKA	Stephens Creek	39.28	240	P	P	04 43 48.7	+0.1
STKA	Stephens Creek	39.28	240	P	P	04 43 48.1	-0.4
	comp=Z,3.6nm,0.5s,baz=89,slow=11,SNR=10						
	comp=Z,3.6nm,0.5s						
BBOO	Buckleboo	44.05	240	P	P	04 44 25.8	-0.8
BBOO				IAmb	IAmb	04 44 30.8	
	comp=Z,27nm,1.5s						
WR8	Warramunga Arr	44.94	259	P	P	04 44 33.6	-0.1
WR8				IAmb	IAmb	04 44 36.2	
	comp=Z,16nm,1.5s						
WB0	Warramunga Arr	45.06	259	P	P	04 44 34.3	-0.2
WB0				IAmb	IAmb	04 44 37.4	
	comp=Z,12nm,1.3s						
WRA	Warramunga Arr	45.09	259	P	P	04 44 34.5	-0.3
	comp=Z,1.7nm,0.7s,baz=94,slow=7.1,SNR=16						
	comp=Z,1.7nm,0.7s						
AS31	Alice Springs	45.31	254	P	P	04 44 36.4	-0.2
AS31				IAmb	IAmb	04 44 37.0	
	comp=Z,4.2nm,0.7s						
ASAR	Alice Springs	45.31	254	P	P	04 44 36.0	-0.5
ASAR	Alice Springs	45.31	254	P	P	04 44 36.2	-0.3
	comp=Z,14nm,0.6s,baz=88,slow=8.4,SNR=164						
ASAR				PcP	pwP	04 46 05.7	+3.0
	comp=Z,0.4nm,0.5s,baz=96,slow=3.6,SNR=3.1						
	comp=Z,14nm,0.6s						
KNRA	Kununurra	50.90	264	P	P	04 45 18.9	+0.4
KNRA				IAmb	IAmb	04 45 24.4	
	comp=Z,20nm,1.2s						
PSA00	Pilbara Seismi	58.42	255	P	P	04 46 11.1	-0.5
PSA00				IAmb	IAmb	04 46 16.3	
	comp=Z,21nm,1.4s						
MBWA	Marble Bar	58.58	255	P	P	04 46 11.5	-1.2
MBWA				IAmb	IAmb	04 46 20.3	
	comp=Z,18nm,1.2s						
SBA	Scott Base	61.17	184	P	P	04 46 29.9	+0.9
VNDA	Vanda	61.20	185	P	P	04 46 29.0	-0.2
GIRL	Giralia	63.42	253	P	P	04 46 44.3	-0.4
QSPA	South Pole Qui	72.88	180	P	P	04 47 41.9	0.0
MCCM	Marconi Confer	75.53	42	P	P	04 47 58.0	+0.8
KRPM	Rodgers	76.61	39	P	P	04 48 03.8	+0.6
FOMA	Nahampoana Res	119.33	227	PKPdf	PKPdf	04 54 57.2	-0.8
PABE	Paberze	138.20	341	PKPdf	PKPdf	04 55 32.5	-0.2
TUE	Stuetta	150.14	350	PKPdf	PKPdf	04 55 52.3	-1.5

IDC ***11*** *05:10:31.5±0.7, 4°.09N×126°.78E, h0km, mb4.2/16, mbtmp4.2/16, MS3.6/4, Error ellipse: s-maj=47.5km s-min=13.9km az=67.0*

DJA ***11*** *05:10:36.8±1.0, 4°.N±16°×12°.7E±°, h23km±9km, M4.4/6, mB5.0/1, mb4.5/2, MLv4.3/6, Mw(mB)4.3/1*

NEIC ***11*** *05:10:37.7±0.5, 4°.06N±0°.05×126°.70E±0°.08, h35km±2km, mb4.6/17, Error ellipse: s-maj=15.9km s-min=3.8km az=120.0*

ISC 11 05:10:36.8±0.5**, 4°.10N**±0°.07×**126°.85E**±0°.08**, h36**km**, n43, s0**9**3**/41**, mb4.4**/23**, MS3.6**/3**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	1.38	253	P	Pn	05 10 59.6	+0.1
SGSI				S	Sn	05 11 16.7	+0.2
TNTI	Ternate	3.35	171	Pn	Pn	05 11 27.3	+0.6
MRSI	Marisa	6.08	234	P	Pn	05 12 06.8	+2.6
SANI	Sanana	6.17	188	P	Pn	05 12 04.1	-1.4
TOLI2	Tolitoli	6.75	244		Pn	05 12 11.9	-1.4
KAPI	Kappang	11.50	218	LR	LR	05 17 43.9	
	comp=Z,84nm,19.6s,baz=71,slow=38						
KNRA	Kununurra	19.75	175	P	Pn	05 15 03.9	-1.4
TPUB	Ta-pu	20.01	343	P	Pn	05 15 06.6	-1.8
TPUB				IAmb	IAmb	05 15 10.1	
	comp=Z,38nm,1.4s						
FITZ	Fitzroy Crossi	22.09	183	P	P	05 15 28.4	-0.6
WB0	Warramunga Arr	24.86	163	P	P	05 15 56.0	-0.1
WB0				IAmb	IAmb	05 16 02.5	
	comp=Z,9.0nm,0.8s						
WRA	Warramunga Arr	25.00	163	P	P	05 15 57.7	+0.2
WRA	Warramunga Arr	25.00	163	P	P	05 15 56.8	-0.7
	comp=Z,3.0nm,0.7s,baz=342,slow=10,SNR=18						
	comp=Z,3.0nm,0.7s						
WR8	Warramunga Arr	25.07	163	P	P	05 15 58.2	+0.2
WR8				IAmb	IAmb	05 16 04.8	
	comp=Z,11nm,1.0s						
MBWA	Marble Bar	26.06	195	P	P	05 16 07.2	+0.2
MBWA				IAmb	IAmb	05 16 22.0	
	comp=Z,28nm,1.4s						
PSA00	Pilbara Seismi	26.42	195	P	P	05 16 10.1	-0.2
PSA00				IAmb	IAmb	05 16 25.7	
	comp=Z,15nm,1.1s						
ASAR	Alice Springs	28.45	166	P	P	05 16 28.1	-0.4
	comp=Z,0.6nm,0.4s,baz=348,slow=7.7,SNR=6.6						
	comp=Z,0.6nm,0.4s						
CMAR	Chiang Mai Arr	30.79	300	P	P	05 16 49.9	+0.6
	comp=Z,2.2nm,0.8s,baz=109,slow=6.9,SNR=8.6						
	comp=Z,2.2nm,0.8s						
XAN	Xi'an	34.14	333	P	P	05 17 18.5	0.0
XAN				pmax	pmax		
	comp=Z,13nm,0.8s						
HNR	Honiara	35.62	112	LR	LR	05 30 41.4	
	comp=Z,45nm,19.1s,baz=9.5,slow=34						
BBOO	Buckleboo	37.74	167	P	P	05 17 49.5	+0.3
NWAO	Narrogin (SRO)	37.94	193	P	P	05 17 50.5	-0.4
STKA	Stephens Creek	38.44	160	P	P	05 17 55.6	+0.5
STKA	Stephens Creek	38.44	160	P	P	05 17 55.5	+0.4
	comp=Z,3.7nm,0.6s,baz=331,slow=7.1,SNR=7.9						
	comp=Z,3.7nm,0.6s						
EVN	Everest	44.86	306	P	P	05 18 48.5	-0.2
PALK	Pallekele	46.01	276	LR	LR	05 40 26.4	
	comp=Z,62nm,18.1s,baz=81,slow=39						
SONM	Songino Array	46.98	341	P	P	05 19 05.1	+0.6
	comp=Z,0.8nm,0.4s,baz=147,slow=8.2,SNR=2.7						
	comp=Z,0.8nm,0.4s						
PETK	Petropavlovsk-	55.04	22	P	P	05 20 06.1	+1.3
	comp=Z,2.0nm,0.7s,baz=222,slow=6.7,SNR=1.7						
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	57.32	325	P	P	05 20 21.3	+0.1
MKAR	Makanchi Array	57.32	325	P	P	05 20 21.1	-0.1
	comp=Z,1.8nm,0.4s,baz=123,slow=8.3,SNR=27						
MKAR				PcP	PcP	05 21 15.2	+0.1
	comp=Z,1.8nm,0.8s,baz=120,slow=4.5,SNR=6.0						
	comp=Z,1.8nm,0.4s						
KDJ	Kajisay	58.15	318	P	P	05 20 27.4	+0.1
KDJ				IAmb	IAmb	05 20 35.4	
	comp=Z,12nm,1.1s						
ZALV	Zalesovo Beam	60.31	333	P	P	05 20 40.4	-1.4
	comp=Z,0.9nm,0.4s,baz=124,slow=8.9,SNR=3.8						
	comp=Z,0.9nm,0.4s						
KURBB	Kurchatov Arra	61.49	327	P	P	05 20 49.7	-0.1
	comp=Z,1.5nm,0.5s,baz=125,slow=6.4,SNR=21						
	comp=Z,1.5nm,0.5s						
KURK	Kurchatov	61.49	327	P	P	05 20 50.0	+0.1
KURK				IAmb	IAmb	05 20 51.3	
	comp=Z,3.3nm,0.6s						
BVAR	Borovoye Array	67.07	327	P	P	05 21 26.5	+0.1
	comp=Z,1.7nm,0.7s,baz=132,slow=8.9,SNR=8.9						
	comp=Z,1.7nm,0.7s						
AB31	Akbulak array	71.94	321		P	05 21 56.4	-0.1
VNDA	Vanda	83.78	173	P	P	05 23 02.0	+0.2
	comp=Z,0.9nm,0.9s,baz=309,slow=8.0,SNR=6.0						
	comp=Z,0.9nm,0.9s						
BRTR	Keskin Array B	89.87	310	P	P	05 23 32.2	-0.3
	comp=Z,0.4nm,0.4s,baz=123,slow=5.3,SNR=3.0						
BRTR				LR	LR	06 10 24.1	
	comp=Z,178nm,19.1s,baz=315,slow=40						
	comp=Z,0.4nm,0.4s						
FINES	FINESS Array B	91.56	332	P	P	05 23 39.9	+0.3
	comp=Z,2.5nm,0.9s,baz=78,slow=8.7,SNR=1.8						
	comp=Z,2.5nm,0.9s						
AKASG	Malin Array Be	91.68	321	P	P	05 23 39.8	-0.6
	comp=Z,0.9nm,0.6s,baz=68,slow=4.7,SNR=4.4						
	comp=Z,0.9nm,0.6s						
QSPA	South Pole Qui	94.01	180	P	P	05 23 51.8	+0.8
QSPA				IAmb	IAmb	05 23 56.7	
	comp=Z,5.3nm,1.4s						
QSPA	South Pole Qui	94.01	180	P	P	05 23 53.0	+2.0
	comp=Z,0.7nm,0.8s,baz=328,slow=5.3,SNR=2.4						
	comp=Z,0.7nm,0.8s						
BURAR	Bucovina Array	94.80	318	P	P	05 23 52.9	-2.2
BURAR				IAmb	IAmb	05 23 56.6	
	comp=Z,2.2nm,0.9s						
NOA	NORSAR Array B	98.50	334	P	Pdif	05 24 10.8	-0.7
	comp=Z,0.3nm,0.5s,baz=66,slow=21,SNR=2.0						
	comp=Z,0.3nm,0.5s						

IDC ***11*** *05:14:34.0±0.9, 12°.22N×143°.95E, h0km, mb4.1/9, mbtmp4.0/9, MS3.5/9, Error ellipse: s-maj=31.0km s-min=15.9km az=102.0*

ISC 11 05:14:37.9±0.8**, 12°.2N**±0°.1×**144°.0E**±0°.2**, h26**km**, n23, s0**8**1**/11**, mb4.1**/9**, MS3.6**/8**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	1.65	32	Pn	Pn	05 15 05.2	+0.1
	91nm,0.3s,baz=214,slow=7.3,SNR=9.6						
GUMO				Sn	Sb	05 15 28.7	+0.8
	158nm,0.3s,baz=352,slow=22,SNR=11						
JAY	Jayapura	14.96	193	LR	LR	05 23 34.2	
	comp=Z,91nm,18.5s,baz=358,slow=36						
JHJ	Hachijo jima 2	21.19	350	LR	LR	05 26 30.9	
	comp=Z,96nm,20.4s,baz=112,slow=34						
H11S3	WAKE ISLAND Hy	22.77	71	T	T	05 43 21.1	
	baz=263,slow=74						
H11S1	WAKE ISLAND Hy	22.79	71	T	T	05 43 18.3	
	baz=263						
H11S2	WAKE ISLAND Hy	22.79	71	T	T	05 43 13.4	
	baz=263,slow=74						
H11N1	WAKE ISLAND Hy	23.26	68	T	T	05 43 47.5	
	baz=255,slow=75,SNR=11						
H11N2	WAKE ISLAND Hy	23.27	68	T	T	05 43 47.8	
	baz=255,slow=75,SNR=4.6						
H11N3	WAKE ISLAND Hy	23.27	68	T	T	05 43 48.7	
	baz=255,slow=75,SNR=7.8						
ASAJ	Asahikawa	31.84	358	LR	LR	05 34 26.1	
	comp=Z,31nm,20.1s,baz=181,slow=38						
WRA	Warramunga Arr	33.30	197	P	P	05 21 14.0	+0.3
	1.9nm,0.8s,baz=19,slow=9.2,SNR=7.6						
WRA				LR	LR	05 34 54.9	
	comp=Z,111nm,20.0s,baz=304,slow=37						
	1.9nm,0.8s						
ASAR	Alice Springs	36.97	195	P	P	05 21 46.2	+0.9
	1.1nm,0.8s,baz=17,slow=9.1,SNR=7.7						
ASAR				LR	LR	05 37 09.1	
	comp=Z,92nm,20.4s,baz=352,slow=37						
	1.1nm,0.8s						
PETK	Petropavlovsk-	42.27	12	LR	LR	05 38 10.5	
	comp=Z,48nm,21.8s,baz=136,slow=34						
STKA	Stephens Creek	43.87	183	P	P	05 22 42.2	0.0
	0.8nm,0.3s,baz=0.0,slow=5.1,SNR=3.1						
	0.8nm,0.3s						
SONM	Songino Array	47.38	326	P	P	05 23 10.8	+0.7
	0.3nm,0.3s,baz=111,slow=6.3,SNR=1.4						
	0.3nm,0.3s						
MKAR	Makanchi Array	61.90	317	P	P	05 24 55.5	+0.3
	0.8nm,0.8s,baz=100,slow=7.9,SNR=6.4						
	0.8nm,0.8s						
KURBB	Kurchatov Arra	65.13	320	P	P	05 25 16.4	-0.1
	2.9nm,0.9s,baz=103,slow=6.4,SNR=19						
	2.9nm,0.9s						
ILAR	Eielson Array	70.20	25	P	P	05 25 47.2	-1.1
	0.5nm,0.7s,baz=252,slow=6.0,SNR=6.2						
	0.5nm,0.7s						
BVAR	Borovoye Array	70.48	322	P	P	05 25 50.5	+0.3
	2.7nm,0.4s,baz=108,slow=8.6,SNR=13						
	2.7nm,0.4s						
ARTI	Arti	77.52	325	LR	LR	06 03 22.8	
	comp=Z,25nm,18.2s,baz=32,slow=38						
ELK	Elko	90.16	48	LR	LR	06 03 19.2	
	comp=Z,33nm,18.9s,baz=305,slow=32						
FINES	FINESS Array B	92.05	335	P	P	05 27 43.2	-1.3
	2.4nm,0.8s,baz=72,slow=6.2,SNR=5.7						
	2.4nm,0.8s						
MLR	Muntele Rosu	100.03	321	LR	LR	06 16 02.1	
	comp=Z,55nm,19.7s,baz=334,slow=37						

TAP ***11*** *05:26:01.0, 24°.44N×122°.74E, h84km, ML3.0, B*

JMA ***11*** *05:26:01.3±0.1, 24°.N±2°×122°.7E±0°.5, h80km±1km, MV2.5/12, NW OFF ISHIGAKIJIMA IS*

ISC 11 05:26:01.3±1.4**, 24°.41N**±0°.04×**122°.74E**±0°.02**, h84**km**±8km, n62, s0**9**64/**116**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	Yonagunijimaku	0.20	77	P	Pn	05 26 13.3	-0.1
JYNG				S	Sn	05 26 22.2	-0.3
YOJ	Yonaguni jima	0.26	77	*i* P	Pn	05 26 13.7	-0.1
YOJ				*i* S	Sn	05 26 22.7	-0.2
YOJ	Yonaguni jima	0.26	77	P	Pn	05 26 13.6	-0.1
YOJ				S	Sn	05 26 22.5	-0.4
EOS3	EOS3	0.40	253	*i* P	Pn	05 26 15.1	+0.7
EOS2	EOS2	0.46	272	*i* P	Pn	05 26 15.3	+0.5
EOS2				S	Sn	05 26 26.4	+1.4
EOS4	EOS4	0.47	233	P	Pn	05 26 15.0	+0.3
EOS4				eS	Sn	05 26 25.5	+0.8
TWC	Suao	0.83	284	P	Pn	05 26 18.3	-0.3
TWC				S	Sn	05 26 30.3	-1.2
EGS		0.85	301	eP	Pn	05 26 19.0	+0.2
EGS				eS	Sn	05 26 31.8	-0.1
ENA	Nanau	0.91	272	eP	Pn	05 26 19.7	+0.3
ENA				eS	Sn	05 26 33.3	+0.3
IRIF	Iriomote-Funau	0.91	94	P	Pn	05 26 19.5	0.0
IRIF				S	Sn	05 26 33.1	+0.1
TIPB	Shuangxi	1.00	304	P	Pn	05 26 20.4	-0.2
TIPB				S	Sn	05 26 33.6	-1.4
TWE	Neicheng	1.02	288	eP	Pn	05 26 20.9	+0.1
TWE				eS	Sn	05 26 35.3	-0.1
HATJ	Hateruma jima	1.04	109	eS	Sn	05 26 36.3	+0.6
SXI1	Grass Mountain	1.04	311	eP	Pn	05 26 21.1	0.0
SXI1				eS	Sn	05 26 35.9	0.0
NACB	Ninganchiao	1.07	258	*i* P	Pn	05 26 20.9	-0.4
NACB				*i* S	Sn	05 26 35.6	-0.8
TWD	Chiawan	1.09	253	P	Pn	05 26 21.3	-0.2
TWD				S	Sn	05 26 36.0	-0.8
ENTT	Nioudou	1.09	283	P	Pn	05 26 21.5	-0.1
ENTT				eS	Sn	05 26 37.2	+0.3
NWF	Wu-fen Shan	1.09	308	eP	Pn	05 26 21.8	+0.1
FUSB	Fushanzhiwuyua	1.10	289	P	Pn	05 26 22.1	+0.3
FUSB				eS	Sn	05 26 37.4	+0.2
LATG	Datong	1.11	277	eP	Pn	05 26 22.2	+0.2
LATG				eS	Sn	05 26 37.0	-0.5
ETLH	Xiulin Townshi	1.16	260	P	Pn	05 26 22.4	-0.2
ETLH				eS	Sn	05 26 37.6	-0.9
TEYL	Yanliau Villag	1.17	243	eP	Pn	05 26 22.4	-0.2
TEYL				S	Sn	05 26 37.9	-0.6
JKRS	Kuro-shima	1.17	98	P	Pn	05 26 23.3	+0.7
JKRS				S	Sn	05 26 39.6	+0.9
NWLT	Wulai	1.18	289	eP	Pn	05 26 23.1	+0.4
NWLT				eS	Sn	05 26 38.1	-0.8
NNSB	Datong	1.23	271	eP	Pn	05 26 23.4	0.0
NNSB				S	Sn	05 26 39.6	-0.6
NHY	Taipei	1.23	301	eS	Sn	05 26 39.2	-0.8
SHUL	Shoufeng	1.23	240	*i* P	Pn	05 26 23.2	-0.1
SHUL				S	Sn	05 26 39.7	-0.2
YHNB	Yeheng	1.27	282	eP	Pn	05 26 24.4	+0.6
YHNB				*i* S	Sn	05 26 41.1	+0.3
LXIB	Xiulin Townshi	1.27	253	P	Pn	05 26 23.5	-0.4
LXIB				eS	Sn	05 26 40.5	-0.4
NSK	Sanguang	1.28	282	eP	Pn	05 26 24.4	+0.4
NSK				eS	Sn	05 26 41.0	-0.2
JJJ	Ishigaki jima	1.28	92	*i* P	Pn	05 26 24.0	0.0
JJJ				S	Sn	05 26 40.2	-0.9
TEGC	Jichi Village	1.29	238	eP	Pn	05 26 24.1	0.0
ZUZH	Zhuzihu	1.32	305	P	Pn	05 26 24.5	0.0
ZUZH				S	Sn	05 26 40.7	-1.2
PCYT	Pengchaiyu	1.36	334	eP	Pn	05 26 24.5	-0.4
WHF	Hehuan Shan	1.37	259	eP	Pn	05 26 25.3	-0.1
WHF				eS	Sn	05 26 43.2	-0.3
FUSS	Fushou	1.37	264	eP	Pn	05 26 25.7	+0.4
FUSS				eS	Sn	05 26 43.0	-0.4
EGFH	Guangfu	1.40	239	eP	Pn	05 26 26.1	+0.7
EGFH				eS	Sn	05 26 43.0	-0.7
WARBT	Fenglin Townsh	1.41	241	eP	Pn	05 26 25.2	-0.4
WARBT				eS	Sn	05 26 42.9	-1.1
TWT	Tachien	1.43	264	eP	Pn	05 26 27.1	+1.1
TWT				eS	Sn	05 26 45.1	+0.5
TDCB	Techi	1.45	264	eP	Pn	05 26 26.1	-0.1
TDCB				eS	Sn	05 26 45.2	+0.2
JISG	Ishigakijimahi	1.45	83	P	Pn	05 26 26.0	-0.1
JISG				S	Sn	05 26 44.0	-0.7
NFF	Wufeng Townshi	1.49	279	eP	Pn	05 26 27.0	+0.4
NFF				eS	Sn	05 26 46.2	+0.3
HGSD	Ruisui	1.50	233	eP	Pn	05 26 26.6	-0.2
HGSD				eS	Sn	05 26 45.7	-0.3
WUSB	Renai	1.53	255	eP	Pn	05 26 27.6	+0.3
WUSB				eS	Sn	05 26 46.4	-0.5
EHYH	Wanrong	1.56	235	eP	Pn	05 26 27.8	+0.2
EHYH				eS	Sn	05 26 46.7	-0.7
EHY	Hungye	1.57	236	eP	Pn	05 26 27.3	-0.4
EHY				eS	Sn	05 26 46.2	-1.4
WHP	Taichung City	1.64	266	eP	Pn	05 26 29.5	+1.0
WHP				eS	Sn	05 26 49.9	+0.6
YULB	Yu-li	1.66	233	eP	Pn	05 26 28.4	-0.4
YULB				*i* S	Sn	05 26 48.5	-1.1
WPL	Puli Township	1.67	257	eS	Sn	05 26 50.8	+0.9
TWF1	Yuli	1.68	232	eP	Pn	05 26 28.8	-0.3
TWF1				eS	Sn	05 26 49.9	-0.3
WCS	Beigang Elemen	1.70	259	eP	Pn	05 26 30.5	+1.2
WCS				eS	Sn	05 26 51.6	+1.0
SSLB	Suanglung	1.74	250	eP	Pn	05 26 30.1	+0.2
SSLB				eS	Sn	05 26 51.2	-0.4
SMLT	Sun Moon Lake	1.75	253	eP	Pn	05 26 30.8	+0.7
SMLT				eS	Sn	05 26 52.6	+0.5
FULB	Fuli	1.79	228	eP	Pn	05 26 30.2	-0.3
FULB				eS	Sn	05 26 51.9	-0.7
TYC	Yuchr	1.79	254	eP	Pn	05 26 31.3	+0.9
TYC				eS	Sn	05 26 53.5	+0.9
JTJ	Tarama	1.81	82	eP	Pn	05 26 31.1	+0.4
JTJ				eS	Sn	05 26 53.0	-0.1
WHYT	Xinyi Township	1.86	248	eP	Pn	05 26 32.5	+1.1
WHYT				eS	Sn	05 26 55.5	+1.1
YUS	Yu-Shan	1.87	241	eP	Pn	05 26 32.3	+0.3
YUS				eS	Sn	05 26 55.0	-0.2
EHD	Haiduan	1.88	229	eP	Pn	05 26 31.8	+0.2
EHD				eS	Sn	05 26 54.3	-0.5
ECS	Chishang	1.91	227	eS	Sn	05 26 56.2	+0.8
EDH	Donghe	1.94	223	*i* P	Pn	05 26 31.9	-0.6
EDH				*i* S	Sn	05 26 54.1	-2.1
ALS	Alishan	1.98	244	eP	Pn	05 26 34.4	+1.2
ALS				eS	Sn	05 26 58.5	+1.0

BUC ***11*** *05:30:58.7±0.2, 45°.67N×26°.62E, h133km±1km, ml3.8/64, Error ellipse: s-maj=1.3km s-min=1.1km az=4.0*

CFUSG ***11*** *05:30:58.8, 45°.71N×26°.81E, h127km, mb3.0/3, MD3.3/1, Romania Magtype MSH 2.4 from 1 stations*

IDC ***11*** *05:30:58.4±0.9, 46°.13N×25°.57E, h120km±14km, mb3.3/3, mbtmp3.6/5, MS3.2/1, Error ellipse: s-maj=48.6km s-min=11.9km az=109.0*

SOF ***11*** *05:30:59.5, 45°.62N±0°.02×26°.64E±0°.02, h130km±6km, MD3.7/3*

ISC 11 05:30:57.7±0.8**, 45°.71N**±0°.03×**26°.63E**±0°.03**, h143**km±5km**, n90, s0**9**73/**143**, 61C-60D, Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	Plostina	0.15	4	||P	Pn	05 31 17.2	+0.1
PLOR				||S	Sn	05 31 30.9	-1.0
BISRR	Bisoca	0.17	161	||P	Pn	05 31 17.5	+0.3
BISRR				||S	Sn	05 31 31.3	-0.7

INCR	**INCERC-Sediu C**	**1.31**	**195**	⇓P		**Pn**	**05 31 25.0**	**+0.3**
INCR				⇑S		**Sn**	**05 31 44.8**	**-0.5**
BUC	**Bucharest**	**1.35**	**197**	⇑P		**Pn**	**05 31 25.5**	**+0.4**
BUC				⇓S		**Sn**	**05 31 45.5**	**-0.5**
CIOR	**Ciorogarla**	**1.36**	**203**	⇑P		**Pn**	**05 31 25.5**	**+0.2**
CIOR				⇑S		**Sn**	**05 31 46.1**	**-0.2**
HARR	**Harsova**	**1.37**	**137**	⇑P		**Pn**	**05 31 25.5**	**+0.2**
BUC1	**Bucharest**	**1.42**	**198**	⇑P		**Pn**	**05 31 26.2**	**+0.3**
BUC1				⇓S		**Sn**	**05 31 46.8**	**-0.6**
BUC1	**Bucharest**	**1.42**	**198**	⇑P		**Pn**	**05 31 26.2**	**+0.3**
BUC1				⇓S		**Sn**	**05 31 46.8**	**-0.6**
ARR	**Arges**	**1.45**	**257**	⇑P		**Pn**	**05 31 26.4**	**+0.2**
ARR				⇓S		**Sn**	**05 31 47.4**	**-0.6**
TPGR	**Topolog**	**1.52**	**123**	⇑P		**Pn**	**05 31 27.0**	**+0.1**
TLBR	**Topalu**	**1.53**	**139**	⇑P		**Pn**	**05 31 27.5**	**+0.4**
TLBR				⇓S		**Sn**	**05 31 48.4**	**-1.0**
CICN	**Ciocanesti**	**1.53**	**169**	⇑P		**Pn**	**05 31 27.3**	**+0.3**
CICN				⇑S		**Sn**	**05 31 48.6**	**-0.9**
SGRR	**Singureni**	**1.56**	**198**	⇑P		**Pn**	**05 31 27.5**	**+0.2**
SGRR				⇓S		**Sn**	**05 31 49.0**	**-0.9**
TLCR		**1.62**	**108**	⇑P		**Pn**	**05 31 28.2**	**+0.3**
TLCR				⇓S		**Sn**	**05 31 50.9**	**-0.3**
TNR	**Turnu Rosu**	**1.66**	**269**	⇑P		**Pn**	**05 31 28.7**	**+0.3**
TNR				⇑S		**Sn**	**05 31 51.1**	**-0.9**
HUMR	**Humele**	**1.66**	**225**	⇑P		**Pn**	**05 31 28.3**	**-0.1**
HUMR				⇓S		**Sn**	**05 31 50.8**	**-1.2**
CVDA	**Cernavoda**	**1.69**	**144**	⇑P		**Pn**	**05 31 29.3**	**+0.5**
CVDA				⇓S		**Sn**	**05 31 51.6**	**-1.0**
TIRR	**Tirgusor**	**1.77**	**134**	⇑P		**Pn**	**05 31 30.0**	**+0.3**
TIRR				⇑S		**Sn**	**05 31 53.2**	**-1.0**
ICOR	**Ion Corvin**	**1.79**	**152**	⇑P		**Pn**	**05 31 30.6**	**+0.7**
ICOR				⇑S		**Sn**	**05 31 53.6**	**-1.0**
COPA	**Copaceanca**	**1.87**	**213**	⇑P		**Pn**	**05 31 30.7**	**0.0**
COPA				⇑S		**Sn**	**05 31 54.8**	**-1.3**
MILM	**Milestii Mici**	**1.94**	**50**	⇓*i*P		**Pn**	**05 31 31.3**	**-0.3**
	110nm,0.1s							
MILM				*e*S		**Sn**	**05 31 55.5**	**-2.1**
	120nm,0.1s							
MFTR	**Murfatlar**	**1.99**	**140**	⇑P		**Pn**	**05 31 32.6**	**+0.4**
KIS	**Kishinev**	**1.99**	**49**	⇓P		**Pn**	**05 31 32.7**	**+0.5**
KIS	**Kishinev**	**1.99**	**49**	⇓*i*P		**Pn**	**05 31 32.7**	**+0.5**
	125nm,0.2s							
KIS				⇑*i*S		**Sn**	**05 31 57.6**	**-1.1**
	440nm,0.5s							
LOT	**Lotru**	**2.03**	**264**	⇑P		**Pn**	**05 31 33.0**	**+0.2**
LOT				⇓S		**Sn**	**05 32 00.1**	**+0.3**
TSCT	**Constanta Port**	**2.11**	**136**	⇑P		**Pn**	**05 31 34.0**	**+0.4**
TSCT				⇑S		**Sn**	**05 32 00.2**	**-1.0**
RAZG	**Razgrad**	**2.14**	**182**	⇑P		**Pn**	**05 31 34.2**	**+0.1**
RAZG				⇓S		**Sn**	**05 32 00.4**	**-1.6**
BURAR	**Bucovina Array**	**2.15**	**333**	⇑P		**Pn**	**05 31 35.4**	**+1.2**
BURAR				⇓S		**Sn**	**05 32 03.9**	**+1.6**
EFOR	**EFORIE**	**2.16**	**138**	⇓S		**Sn**	**05 32 01.6**	**-0.7**
ZIMR		**2.24**	**204**	⇑P		**Pn**	**05 31 35.0**	**-0.2**
ZIMR				⇑S		**Sn**	**05 32 02.5**	**-1.5**
PSN	**Preselentsi**	**2.33**	**152**	*i* P		**Pn**	**05 31 36.8**	**+0.5**
PSN				S		**Sn**	**05 32 04.9**	**-1.1**
VLAD	**Vladila**	**2.33**	**224**	⇓P		**Pn**	**05 31 36.1**	**-0.2**
LOZB	**Loznitsa**	**2.33**	**181**	⇑P		**Pn**	**05 31 36.5**	**+0.1**
MAGR	**Mangalia**	**2.34**	**143**	⇑P		**Pn**	**05 31 37.0**	**+0.5**
NEF	**NEVSHA**	**2.48**	**169**	P		**Pn**	**05 31 38.6**	**+0.3**
SZH	**Strazhitsa**	**2.48**	**191**	*i* P		**Pn**	**05 31 38.6**	**+0.3**
SZH				S		**Sn**	**05 32 07.5**	**-2.0**
PRD	**Provadia**	**2.60**	**167**	*i* P		**Pn**	**05 31 40.1**	**+0.4**
MARR	**Marisel-Cluj**	**2.63**	**293**	⇓P		**Pn**	**05 31 40.8**	**+0.7**
SORM	**Soroca**	**2.70**	**25**	⇓P		**Pn**	**05 31 40.9**	**0.0**
GZR	**Gura Zlata**	**2.73**	**265**	⇑P		**Pn**	**05 31 41.8**	**+0.5**
GZR				⇑S		**Sn**	**05 32 15.2**	**+0.2**
PLVB	**Pleven**	**2.73**	**213**	⇑P		**Pn**	**05 31 41.3**	**0.0**
ELND	**Elena**	**2.83**	**191**	⇑P		**Pn**	**05 31 42.9**	**+0.3**
DRGR		**2.93**	**293**	⇑P		**Pn**	**05 31 43.6**	**-0.3**
MPEP	**Malo Peshtene**	**3.13**	**222**	*i* P		**Pn**	**05 31 46.4**	**0.0**
JMB	**Yambol**	**3.21**	**181**	*i* P		**Pn**	**05 31 47.5**	**0.0**
MDVR	**Moldovita**	**3.60**	**257**	⇑P		**Pn**	**05 31 52.3**	**-0.2**
VTS	**Vitosha**	**3.94**	**220**	P		**Pn**	**05 31 57.5**	**+0.4**
TARU	**Tarkhankut**	**4.16**	**92**	*e*P		**Pn**	**05 32 00.4**	**+0.7**
TARU				Pm			05 32 00.8	
	comp=Z,27nm,0.3s							
DNZ2	**Donuzlav2**	**4.63**	**92**	*e*P		**Pn**	**05 32 06.2**	**+0.2**
DNZ2				Pm			05 32 06.5	
	comp=Z,21nm,0.3s							
SEV	**Sevastopol'**	**5.11**	**101**	*e*P		**Pn**	**05 32 12.9**	**+0.6**
SEV				Pm			05 32 13.2	
	comp=Z,5.0nm,0.4s							
SEV				Sm			05 32 15.4	
	comp=E,1.0nm,0.3s							
SEV				*e*S		**Sn**	**05 33 10.3**	**-0.3**
SEV				Sm			05 33 15.4	
	comp=N,5.0nm,0.4s							
AKASG	**Malin Array Be**	**5.29**	**18**	P		**Pn**	**05 32 14.6**	**-0.1**
	comp=N,0.7nm,0.2s,baz=212,slow=12,SNR=8.7							
AKASG				S		**Sn**	**05 33 11.1**	**-3.7**
	comp=N,2.5nm,0.4s,baz=204,slow=21,SNR=12							
BRTR	**Keskin Array B**	**7.89**	**137**	P		Pn	05 33 02.4	+13
	comp=N,0.3nm,0.4s,baz=309,slow=14,SNR=1.9							
FINES	**FINESS Array B**	**15.77**	**359**	P		**Pn**	**05 34 30.1**	**-1.5**
	comp=N,2.4nm,0.8s,baz=178,slow=11,SNR=6.5							
ARCES	**ARCESS Array B**	**23.90**	**359**	P		**P**	**05 35 57.8**	**+0.1**
	comp=N,1.0nm,0.8s,baz=181,slow=8.8,SNR=4.2							
	comp=N,1.0nm,0.8s							
KURBB	**Kurchatov Arra**	**34.37**	**63**	LR		LR	05 54 06.0	
	comp=N,37nm,18.6s,baz=154,slow=40							
TORD	**Torodi Ar. Bea**	**38.72**	**221**	P		**P**	**05 38 09.0**	**+1.2**
	comp=N,0.4nm,0.5s,baz=29,slow=9.2,SNR=5.1							
	comp=N,0.4nm,0.5s							
DBIC	**Dimbokro**	**47.48**	**225**	P		**P**	**05 39 18.8**	**+0.7**
	comp=N,2.8nm,0.9s,baz=38,slow=6.4,SNR=7.1							
	comp=N,2.8nm,0.9s							

WEL 11 05:33:06.0±0.8,33°S±13″×17°9E±2″4,h351km±20km, M4.0/7,mB4.7/6,ML4.5/7,MLv4.1/7,Mw(mB)3.9/6,Error ellipse: s-maj=33.9km s-min=9.3km az=115.4, confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.50**	**185**	P	Pn	05 34 20.5	+0.4
MXZ				S	S	05 35 20.3	+0.2
WMGZ	**Waiomatatini S**	**4.75**	**184**	P	Pn	05 34 23.4	+0.7
WMGZ				S	S	05 35 26.5	+1.6
HAZ	**Te Kaha**	**4.75**	**190**	P	Pn	05 34 22.4	-0.4
HAZ				S	S	05 35 26.3	+1.3
PKGZ	**Pakihiroa**	**4.83**	**187**	P	Pn	05 34 21.8	-1.8
PKGZ				S	S	05 35 26.2	-0.3
RUGZ	**Raukumara Rang**	**4.97**	**191**	P	Pn	05 34 23.9	-1.5
RUGZ				S	S	05 35 27.0	-2.6
TWGZ	**Tauwhareparae**	**5.14**	**188**	P	Pn	05 34 28.3	+1.2
TWGZ				S	S	05 35 33.6	+0.8
URZ	**Urewera**	**5.37**	**195**	P	Pn	05 34 28.6	-0.9
URZ				S	S	05 35 39.8	+2.6
CNGZ	**Carnagh Statio**	**5.43**	**185**	P	Pn	05 34 31.7	+1.5
RAGZ	**Rawiri**	**5.54**	**192**	P	Pn	05 34 31.2	-0.3
RAGZ				S	S	05 35 40.5	-0.3
MUGZ	**Murupara**	**5.65**	**197**	P	Pn	05 34 32.7	0.0
MUGZ				S	S	05 35 45.7	+2.6
RIGZ	**Rimuhau**	**5.69**	**189**	P	Pn	05 34 31.6	-1.6
RIGZ				S	S	05 35 45.3	+1.3
SNGZ	**Shannon Statio**	**5.83**	**192**	S	S	05 35 47.4	+0.7
PRGZ	**Paritu Road**	**5.89**	**187**	P	Pn	05 34 37.0	+1.5
PRGZ				S	S	05 35 47.5	-0.6
KNZ	**Kokohu**	**6.01**	**189**	P	Pn	05 34 37.6	+0.8
KNZ				S	S	05 35 50.3	-0.2
MHGZ	**Mahia Peninsul**	**6.12**	**187**	P	Pn	05 34 36.9	-1.1
MHGZ				S	S	05 35 55.5	+2.8
NMHZ	**Naumai**	**6.24**	**195**	P	Pn	05 34 40.1	+0.7
NMHZ				S	S	05 35 58.0	+2.7
ARHZ	**Aropaoanui**	**6.36**	**193**	P	Pn	05 34 41.8	+1.0
ARHZ				S	S	05 35 59.1	+1.4
BKZ	**Black Stump Fm**	**6.37**	**197**	P	Pn	05 34 38.5	-2.5
BKZ				S	S	05 35 53.4	-4.8
OTVZ	**Oturere**	**6.60**	**202**	P	Pn	05 34 42.6	-1.1
NGZ	**Ngauruhoe**	**6.63**	**202**	P	P	05 34 46.5	+1.0
WHVZ	**Whangaehu Hut**	**6.73**	**202**	P	P	05 34 46.5	-0.3
KRHZ	**Kereru**	**6.86**	**196**	P	Pn	05 34 47.0	+0.4
KRHZ				S	S	05 36 09.9	+1.5
PXZ	**Pawanui**	**7.13**	**192**	P	Pn	05 34 50.1	+0.4
PXZ				S	S	05 36 14.8	+0.8
TSZ	**Takapari Road**	**7.35**	**198**	P	Pn	05 34 52.5	+0.2
TSZ				S	S	05 36 20.3	+1.4
BFZ	**Birch Farm**	**7.88**	**195**	P	Pn	05 34 58.6	+0.1
BFZ				S	S	05 36 28.3	-2.0
NNZ	**Nelson**	**9.22**	**207**	P	P	05 35 15.7	-0.8
NNZ				S	S	05 37 00.3	+0.6
THZ	**Tophouse**	**9.87**	**207**	P	P	05 35 23.4	-0.4
DSZ	**Denniston Nort**	**10.30**	**211**	P	P	05 35 28.6	-0.1
GVZ	**Greta Valley S**	**10.88**	**203**	P	P	05 35 35.1	+0.1

IDC 11 05:57:25.5±0.9, 17°.80S×167°.64E, h0km, mb4.2/11, mbtmp4.2/12, ML3.7/1, MS3.5/7, Error ellipse: s-maj=28.4km s-min=18.9km az=87.0

NEIC 11 05:57:27.7±1.8, 17°.86S±0°.02×167°.1E±0°.1, h10km±1km, mb4.6/10, Error ellipse: s-maj=19.1km s-min=3.3km az=82.0

ISC 11 05:57:27.5±0.6, 17°.89S±0°.06×167°.2E±0°.1, h10km, n36, σ1s73/32, mb4.4/15, MS3.5/6, 3C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.43**	**0**	**Pn**	**Pn**	**05 58 06.9**	**-0.4**
DZM	**Mont Dzumac**	**4.22**	**189**		**Pn**	**05 58 32.2**	**+0.3**
DZM	**Mont Dzumac**	**4.22**	**189**	Pn	**Pn**	**05 58 32.0**	**+0.1**
	4.1nm,0.3s,baz=214,slow=23,SNR=28						
DZM				Sn	**Sn**	**05 59 19.6**	**-1.8**
	6.1nm,0.3s,baz=40,slow=18,SNR=5.3						
	8.0nm,0.3s						
ONTNC	**Ouen Toro**	**4.45**	**189**	Pn	**Pn**	**05 58 35.0**	**0.0**
PINNC	**Pines Island,**	**4.70**	**177**	Pn	**Pn**	**05 58 38.0**	**-0.5**
MSVF	**Nonsavu**	**10.34**	**91**		**Pn**	**05 59 57.4**	**+1.4**
HNR	**Honiara**	**10.96**	**319**	LR	LR	06 04 18.3	
	comp=Z,84nm,18.3s,baz=176,slow=37						
CTA	**Charters Tower**	**19.92**	**260**	LR	LR	06 08 29.6	
	comp=Z,4.8nm,18.9s,baz=44,slow=33						
URZ	**Urewera**	**22.07**	**159**	P	**P**	**06 02 22.3**	**-0.3**
	13nm,1.2s,baz=31,slow=5.9,SNR=2.4						
	13nm,1.2s						
STKA	**Stephens Creek**	**26.99**	**234**	P	**P**	**06 03 09.6**	**0.0**
STKA	**Stephens Creek**	**26.99**	**234**	P	**P**	**06 03 13.1**	**+3.5**
	5.5nm,1.0s,baz=49,slow=10,SNR=4.3						
STKA				LR	LR	06 13 21.6	
	comp=Z,117nm,18.4s,baz=86,slow=35						
	5.5nm,1.0s						
WR8	**Warramunga Arr**	**30.97**	**261**	P	**P**	**06 03 42.2**	**-2.9**
WR8				IAmb	IAmb	06 03 58.9	
	comp=Z,6.4nm,1.1s						
WB0	**Warramunga Arr**	**31.08**	**261**	P	**P**	**06 03 43.9**	**-2.2**
WB0				IAmb	IAmb	06 03 53.2	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**31.12**	**261**	P	**P**	**06 03 49.4**	**+2.9**
	comp=Z,1.2nm,0.9s,baz=84,slow=6.0,SNR=4.9						
WRA				LR	LR	06 15 20.4	
	comp=Z,35nm,18.7s,baz=74,slow=34						
	comp=Z,1.2nm,0.9s						
RAR	**Rarotonga**	**31.27**	**102**	LR	LR	06 13 44.5	
	comp=Z,43nm,21.0s,baz=308,slow=32						
ASAR	**Alice Springs**	**31.60**	**254**	P	**P**	**06 03 53.7**	**+3.0**
	comp=Z,0.8nm,0.4s,baz=82,slow=8.4,SNR=23						
ASAR				LR	LR	06 15 51.9	
	comp=Z,114nm,19.9s,baz=104,slow=34						
	comp=Z,0.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**39.46**	**263**	P	**P**	**06 04 57.2**	**-1.1**
NWAO	**Narrogin (SRO)**	**47.12**	**241**	P	**P**	**06 05 59.1**	**-1.0**
MORW	**Morawa**	**47.90**	**247**	P	**P**	**06 06 05.5**	**-0.7**
SBA	**Scott Base**	**59.99**	**180**	P	**P**	**06 07 35.0**	**+1.2**
SBA				IAmb	IAmb	06 07 44.0	
	comp=Z,4.7nm,1.1s						
MJAR	**Matsushiro Arr**	**60.67**	**333**	P	**P**	**06 07 39.0**	**0.0**
	comp=Z,9.9nm,1.0s,baz=168,slow=8.4,SNR=5.3						
	comp=Z,2.9nm,1.0s						
PETK	**Petropavlovsk-**	**71.18**	**354**	P	**P**	**06 08 46.3**	**0.0**
	comp=Z,9.6nm,1.1s,baz=207,slow=13,SNR=3.9						
	comp=Z,9.6nm,1.1s						
QSPA	**South Pole Qui**	**72.15**	**180**	P	**P**	**06 08 53.7**	**+1.5**
QSPA	**South Pole Qui**	**72.15**	**180**	P	**P**	**06 08 53.2**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=47,slow=3.7,SNR=15						
	comp=Z,3.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**76.18**	**295**	P	**P**	**06 09 19.0**	**+2.6**
	comp=Z,1.3nm,0.3s,baz=120,slow=4.3,SNR=11						
	comp=Z,1.3nm,0.3s						
BELA	**Belgrano 2**	**83.59**	**175**	P	**P**	**06 09 54.4**	**-1.2**
BELA				IAmb	IAmb	06 09 55.7	
	comp=Z,9.2nm,1.2s						
SONM	**Songino Array**	**84.99**	**324**	P	**P**	**06 10 03.3**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=120,slow=5.8,SNR=4.4						
	comp=Z,1.5nm,0.8s						
SYO	**Syowa Base**	**85.67**	**197**	*e*P	**P**	**06 10 06.4**	**+0.3**
SYO	**Syowa Base**	**85.67**	**197**	*e*PcP	**PcP**	**06 10 08.6**	**-0.4**
PMSA	**Palmer Station**	**88.83**	**160**	LR	LR	06 45 12.7	
	comp=Z,57nm,19.3s,baz=293,slow=32						
PFO	**Pinyon Flats O**	**88.89**	**54**	LR	LR	06 45 57.4	
	comp=Z,40nm,18.0s,baz=200,slow=33						
ILAR	**Eielson Array**	**89.54**	**18**	P	**P**	**06 10 22.1**	**-2.5**
	comp=Z,0.3nm,0.6s,baz=241,slow=4.4,SNR=6.1						
	comp=Z,0.3nm,0.6s						
TROLL	**Troll, Antarti**	**89.72**	**185**	⇑P	**P**	**06 10 25.4**	**-0.4**
	comp=Z,220nm,1.1s						
SNAA	**Sanae**	**90.40**	**183**	⇑P	**P**	**06 10 24.9**	**-3.9**
	comp=Z,42nm,1.3s						
SNAA	**Sanae**	**90.40**	**183**	P	**P**	**06 10 28.6**	**-0.3**
SNAA				IAmb	IAmb	06 10 44.6	
	comp=Z,7.0nm,1.3s						
SNAA	**Sanae**	**90.40**	**183**	P	**P**	**06 10 28.1**	**-0.8**
	comp=Z,3.5nm,1.2s,baz=207,slow=13,SNR=7.3						
	comp=Z,3.5nm,1.2s						

ASRS 11 06:00:40.0±1.3,54°.39N×86°.85E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 11 06:00:41.8±3.5,54°.45N×86°.79E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=30.8km s-min=18.7km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**247**	I	I	06 09 30.0	
	baz=68,slow=325,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.26**	**247**	Pg	Pg	06 01 04.0	-1.9
	0.6nm,0.3s,baz=64,slow=17,SNR=9.2						
ZALV				Lg	Lg	06 01 22.8	
	0.5nm,0.3s,baz=67,slow=26,SNR=4.1						
KURBB	**Kurchatov Arra**	**6.33**	**236**	Pn	Pn	06 02 16.9	+0.7
	0.1nm,0.3s,baz=54,slow=14,SNR=7.1						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**8.18**	**202**	Pn	Pn	06 02 43.4	+1.8
	0.1nm,0.3s,baz=21,slow=12,SNR=1.9						
MKAR				Lg	Lg	06 05 01.8	
	baz=17,slow=30,SNR=1.7						
	0.2nm,0.5s						

IDC 11 06:15:16.5±3.6,20°.82S×175°.71W, h0km, mb4.4/3, mbtmp4.4/3, MS3.6/1, Error ellipse: s-maj=270.3km s-min=66.8km az=162.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.59**	**245**	LR	LR	06 36 49.6	
	comp=Z,68nm,18.1s,baz=204,slow=33						
ASAR	**Alice Springs**	**46.53**	**257**	P	P	06 23 46.7	+0.5
	3.4nm,0.5s,baz=96,slow=8.1,SNR=52						
ASAR				PcP	PcP	06 25 19.8	-1.0
	0.3nm,0.6s,baz=92,slow=3.7,SNR=4.1						
	3.4nm,0.5s						
WRA	**Warramunga Arr**	**46.68**	**262**	P	P	06 23 47.2	-0.2
	1.5nm,0.3s,baz=98,slow=8.1,SNR=38						
	1.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**55.11**	**262**	P	P	06 24 50.3	-0.6
	3.2nm,0.6s,baz=105,slow=4.6,SNR=6.9						
	3.2nm,0.6s						
AKASG	**Malin Array Be**	**144.31**	**333**	PKP	PKPdf	06 34 54.8	+0.3
	1.0nm,0.4s,baz=45,slow=4.7,SNR=10.0						

IDC 11 06:25:58.3±0.9, 35°.85N×137°.19E, h235km±9km, mb3.3/7, mbtmp3.9/7, Error ellipse: s-maj=30.4km s-min=15.2km az=91.0

JMA 11 06:25:59.0±0.2, 35°.9N±0°.8×137°.5E±0°.9, h241km±1km, MV3.1/35, WESTERN NAGANO PREF

ISC 11 06:25:58.9±0.8,35°.89N±0°.07×137°.43E±0°.07, h241km±6km, n22, σ0s69/32, mb3.7/7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGF	**Kuroka**	**0.29**	**192**	*e*P	**Pn**	**06 26 30.0**	**-0.4**
JGF				*e*S	**S**	**06 26 54.1**	**-1.0**
JYTA	**Yamagatataniai**	**0.64**	**243**	*e*P	**Pn**	**06 26 31.4**	**+0.1**
JYTA					S	**S**	**06 26 56.5**	**0.0**
MAT	**Matsushiro**	**0.91**	**44**	*e*P	**Pn**	**06 26 32.6**	**+0.2**
MAT					S	**S**	**06 26 58.9**	**+0.1**
MJAR	**Matsushiro Arr**	**0.91**	**44**	P	**Pn**	**06 26 33.0**	**+0.5**
	61nm,0.5s,baz=225,slow=6.1,SNR=28							
MJAR					S	**S**	**06 26 59.0**	**+0.2**
	8.0nm,0.7s,baz=225,slow=12,SNR=2.0							
JKG	**Kaga**	**0.97**	**294**	*e*P	**Pn**	**06 26 33.2**	**+0.5**
JKG				*e*S	S	**06 27 00.0**	**+0.7**
JMY	**Shimob**	**0.99**	**113**	*e*P	**Pn**	**06 26 33.2**	**+0.1**
JYN				*e*S	S	**06 26 59.7**	**0.0**
JRY	**Ryogami san**	**1.20**	**83**	*e*P	**Pn**	**06 26 34.7**	**+0.4**
JRY				*e*S	**S**	**06 27 02.7**	**+0.8**
JSZ	**Suzu**	**1.56**	**358**	*e*P	**Pn**	**06 26 36.7**	**0.0**
JIE	**Ise**	**1.61**	**202**	*e*P	**Pn**	**06 26 37.0**	**-0.2**
JAG	**Ashikaga**	**1.72**	**71**	*e*P	**Pn**	**06 26 37.9**	**-0.3**
JAG				*e*S	**S**	**06 27 08.0**	**-0.9**
JWT	**Wachi**	**1.76**	**251**	P	**Pn**	**06 26 39.1**	**+0.5**
JWT				*e*S	**S**	**06 27 09.6**	**0.0**
TK02	**Tokai 2**	**1.96**	**172**	*e*P	**Pn**	**06 26 40.9**	**+0.8**
JSD	**Sado**	**2.25**	**17**	P	**Pn**	**06 26 43.3**	**+0.4**
JWY	**Kouya**	**2.25**	**223**	P	**Pn**	**06 26 43.7**	**+0.6**
JTNC	**Tanabenakahech**	**2.55**	**216**	P	**Pn**	**06 26 46.6**	**+0.4**
JTNC				*e*S	**S**	**06 27 23.1**	**-0.1**
SONM	**Songino Array**	**25.84**	**307**	P	**P**	**06 31 06.0**	**-2.4**
	0.9nm,0.3s,baz=98,slow=7.4,SNR=1.3							
	0.9nm,0.3s							
ILAR	**Eielson Array**	**52.17**	**32**	P	**P**	**06 34 45.1**	**+0.5**
	0.4nm,0.6s,baz=269,slow=6.2,SNR=7.9							
	0.4nm,0.6s							
WRA	**Warramunga Arr**	**55.60**	**184**	P	**P**	**06 35 09.2**	**-0.7**
	1.3nm,0.5s,baz=2.6,slow=7.2,SNR=16							
	1.3nm,0.5s							
ASAR	**Alice Springs**	**59.33**	**184**	P	**P**	**06 35 35.6**	**-0.2**
	0.7nm,0.6s,baz=5.5,slow=6.4,SNR=9.2							
	0.7nm,0.6s							
ARCES	**ARCESS Array B**	**63.91**	**339**	P	**P**	**06 36 06.4**	**+0.6**
	1.7nm,0.9s,baz=60,slow=5.4,SNR=3.9							
	1.7nm,0.9s							
FINES	**FINESS Array B**	**68.30**	**331**	P	**P**	**06 36 33.9**	**+0.2**
	1.3nm,0.7s,baz=53,slow=6.8,SNR=1.6							
	1.3nm,0.7s							
TXAR	**Lajitas Array**	**93.34**	**50**	P	**P**	**06 38 47.7**	**+0.7**
	0.2nm,0.5s,baz=316,slow=4.7,SNR=4.8							
	0.2nm,0.5s							

NOU 11 06:57:44.9, 40°.40S×174°.25E, h113km, MLv4.8/26, Cook Strait, New Zealand

NEIC 11 06:57:45.8±1.9, 40°.33S±0°.05×174°.25E±0°.06, h110km±6km, mb4.5/11, Error ellipse: s-maj=7.1km s-min=5.9km az=147.0

IDC 11 06:57:47.9±2.0, 40°.09S×174°.36E, h132km±22km, mb3.7/6, mbtmp4.1/7, Error ellipse: s-maj=22.2km s-min=16.9km az=63.0

WEL 11 06:57:48.3±0.7, 40°S±4°×17°4E±°, h85km±8km, M4.5/103, ML4.8/17, MLv4.5/103, Error ellipse: s-maj=6.1km s-min=4.9km az=103.8, confirmed

ISC 11 06:57:46.6±0.6, 40°.40S±0°.03×174°.22E±0°.03, h116km±5km, n233, σ1s48/256, mb4.5/14, 2C, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.46**	**210**	P	**Pn**	**06 58 03.1**	**-0.8**
DUWZ				S	Sn	06 58 14.7	-2.3
KIW	**Kapiti Island**	**0.70**	**132**	P	**Pn**	**06 58 04.7**	**-0.6**
KIW				S	Sn	06 58 17.1	-2.7
FXBS	**Foxton Beach S**	**0.77**	**95**	P	**Pn**	**06 58 06.0**	**0.0**
FXBS				S	Sn	06 58 19.8	-1.0
OTKS	**Otaki School**	**0.79**	**117**	P	**Pn**	**06 58 05.8**	**-0.4**
OTKS				S	Sn	06 58 19.0	-2.1
PAPS	**Paraparaumu Pr**	**0.79**	**131**	P	**Pn**	**06 58 05.9**	**-0.3**
PAPS				S	Sn	06 58 19.4	-1.7
WCDS	**Wanganui Civil**	**0.79**	**54**	P	**Pn**	**06 58 06.1**	**-0.2**
WCDS				S	Sn	06 58 20.5	-0.6
TCW	**Tory Channel**	**0.81**	**177**		**Pn**	**06 58

BFZ	Birch Farm	1.57	101	P		Pn	06 58 13.8	-0.7
COVZ	Chateau Observ	1.57	41	P		Pn	06 58 13.7	-1.0
TUVZ	Tukino	1.58	45	P		Pn	06 58 14.0	-0.8
CPWZ	Castlepoint	1.59	109	P		Pn	06 58 14.8	+0.1
PNHZ	Pukenui	1.59	73	P		Pn	06 58 13.7	-1.2
NGZ	Ngauruhoe	1.62	41	P		Pn	06 58 14.3	-1.0
TWVZ	Taurewa	1.63	36	P		Pn	06 58 14.2	-1.2
SNVZ	South Ngauruho	1.63	42	P		Pn	06 58 14.6	-0.9
NNVZ	North Ngauruho	1.66	41	P		Pn	06 58 14.8	-1.1
WTVZ	West Tongariro	1.66	40	P		Pn	06 58 14.7	-1.1
OTVZ	Oturere	1.66	42	P		Pn	06 58 15.0	-0.9
THZ	Tophouse	1.69	216			Pn	06 58 15.7	-0.3
THZ	Tophouse	1.69	216	P		Pn	06 58 15.6	-0.4
KRVZ	Karewarewa	1.70	40	P		Pn	06 58 15.0	-1.2
ETVZ	East Tongariro	1.71	43	P		Pn	06 58 15.4	-0.9
NTVZ	North Tongarir	1.72	41	P		Pn	06 58 15.4	-1.1
TMVZ	Te Maari	1.72	42	P		Pn	06 58 15.5	-1.0
ANWZ	Angora Road	1.72	93	P		Pn	06 58 15.7	-0.6
WPHZ	Waipukurau	1.73	80	P		Pn	06 58 15.7	-0.8
KRHZ	Kereru	1.81	66	P		Pn	06 58 16.3	-1.3
KATZ	Kakaramea	1.82	39	P		Pn	06 58 16.6	-1.2
PRHZ	Porangahau	1.85	87	P		Pn	06 58 17.2	-0.7
RITZ	Rihia Road	1.90	42	P		Pn	06 58 17.7	-1.0
RATZ	Rangitukua	1.94	38	P		Pn	06 58 18.1	-1.1
HIZ	Hauiti	1.95	15			Pn	06 58 17.6	-1.6
HIZ	Hauiti	1.95	15	P		Pn	06 58 18.3	-0.9
HIZ	Hauiti	1.95	15	P		Sn	06 58 42.2	-1.9
HIZ	Hauiti	1.95	15	P		Pn	06 58 18.3	-0.9
KWHZ	Kaweka Forest	1.95	61	P		Pn	06 58 18.0	-1.3
PXZ	Pawanui	2.06	80	P		Pn	06 58 19.3	-1.2
WATZ	Wairara	2.06	35	P		Pn	06 58 19.6	-0.9
KHZ	Kahutara	2.08	194			Pn	06 58 20.7	0.0
KHZ	Kahutara	2.08	194	P		Pn	06 58 20.6	-0.1
KHZ	Kahutara	2.08	194	S		Sn	06 58 44.7	-2.2
KHZ	Kahutara	2.08	194	P		Pn	06 58 20.7	0.0
HATZ	Hinemaiaia	2.09	44	P		Pn	06 58 19.2	-1.7
KAHZ	Kahuranaki	2.12	74	P		Pn	06 58 20.2	-1.2
MCHZ	McNeill Hill	2.13	64	P		Pn	06 58 20.4	-1.1
BKZ	Black Stump Fm	2.14	56			Pn	06 58 20.1	-1.5
BKZ	Black Stump Fm	2.14	56	P		Pn	06 58 19.9	-1.7
BKZ	Black Stump Fm	2.14	56	S		Sn	06 58 46.6	-1.9
BKZ	Black Stump Fm	2.14	56	P		Pn	06 58 19.9	-1.7
DSZ	Denniston Nort	2.27	233			Pn	06 58 22.5	-0.8
DSZ	Denniston Nort	2.27	233	P		Pn	06 58 22.4	-0.8
KUTZ	Kaahu Road	2.28	33	P		Pn	06 58 22.4	-1.0
TLZ	Tolley Road	2.31	27	P		Pn	06 58 22.5	-1.3
MRHZ	Matea Rd	2.31	48	P		Pn	06 58 21.7	-2.1
CKHZ	Cape Kidnapper	2.31	72	P		Pn	06 58 22.5	-1.2
NMHZ	Naumai	2.38	58	P		Pn	06 58 23.5	-1.3
WPRZ	Whakapapatarin	2.41	39	P		Pn	06 58 23.6	-1.5
ARHZ	Aropaoamui	2.42	63	P		Pn	06 58 23.6	-1.5
ALRZ	Allen Road	2.46	42	P		Pn	06 58 24.0	-1.7
GRRZ	Galatos Road	2.52	36	P		Pn	06 58 25.7	-0.8
PRRZ	Plateau Road	2.54	42	P		Pn	06 58 24.9	-1.8
MTHZ	Maungataniwha	2.55	53	P		Pn	06 58 24.8	-2.1
HRRZ	Handcock Road	2.57	39	P		Pn	06 58 25.7	-1.3
HSRZ	Hossack Road	2.61	38	P		Pn	06 58 26.4	-1.2
RAHZ	Arahi	2.66	57	P		Pn	06 58 26.3	-2.0
WHHZ	Waihua	2.67	61	P		Pn	06 58 26.7	-1.7
UTU	Utuhina	2.70	35	P		Pn	06 58 27.9	-0.9
HLRZ	Highlands Stat	2.71	38	P		Pn	06 58 28.0	-1.0
GVZ	Greta Valley S	2.71	199			Pn	06 58 28.2	-0.8
GVZ	Greta Valley S	2.71	199	P		Pn	06 58 28.1	-0.8
RRRZ	Republican Roa	2.72	42	P		Pn	06 58 27.3	-1.8
MUGZ	Murupara	2.75	47	P		Pn	06 58 27.0	-2.5
NGRZ	Ngongotaha	2.76	34	P		Pn	06 58 28.6	-1.0
RTZ	Ruatahuna	2.78	51			Pn	06 58 27.2	-2.7
RTZ	Ruatahuna	2.78	51	P		Pn	06 58 27.4	-2.5
LTZ	Lake Taylor	2.79	211			Pn	06 58 28.8	-1.2
LTZ	Lake Taylor	2.79	211	P		Pn	06 58 28.8	-1.2
OMRZ	Omania	2.83	37	P		Pn	06 58 29.3	-1.3
TOZ	Tahuroa Road	2.85	21			Pn	06 58 29.2	-1.5
TOZ	Tahuroa Road	2.85	21	P		Pn	06 58 29.3	-1.4
KARZ	Kaharoa	2.85	34	P		Pn	06 58 29.8	-1.0
MKRZ	Makatiti	2.85	38	P		Pn	06 58 29.8	-1.0
KMRZ	Kaimai	2.88	28	P		Pn	06 58 30.3	-0.9
LIRZ	Lichensteins R	2.92	36	P		Pn	06 58 30.7	-1.0
KNZ	Kokohu	3.00	64	P		Pn	06 58 30.1	-2.5
EDRZ	Edgecumbe	3.01	41	P		Pn	06 58 30.7	-2.2
AMCZ	Amberley	3.01	202	P		Pn	06 58 31.5	-1.3
MARZ	Manawahe	3.07	39	P		Pn	06 58 32.3	-1.5
URZ	Urewera	3.10	47	P		Pn	06 58 31.2	-2.9
	199nm,0.4s,baz=226,slow=6.4,SNR=240							
URZ				S		Sn	06 59 06.8	-3.7
	332nm,0.4s,baz=292,slow=19,SNR=22							
URZ	Urewera	3.10	47	P		Pn	06 58 31.1	-2.9
URZ	Urewera	3.10	47	S		Sn	06 59 07.5	-3.1
URZ	Urewera	3.10	47	P		Pn	06 58 31.1	-2.9
MHGZ	Mahia Peninsul	3.10	67	P		Pn	06 58 32.0	-2.0
TGRZ	Tauranga	3.10	31	P		Pn	06 58 33.3	-0.8
RAGZ	Rawiri	3.12	53	P		Pn	06 58 32.1	-2.3
INZ	Inchbonnie	3.12	221	P		Pn	06 58 33.1	-1.2
OPRZ	Ohinepanea	3.13	36	P		Pn	06 58 32.9	-1.6
PRGZ	Paritu Road	3.19	64	P		Pn	06 58 32.7	-2.6
RIGZ	Rimuhau	3.22	59	P		Pn	06 58 33.1	-2.5
WHRZ	Whale Island	3.32	41	P		Pn	06 58 38.3	+1.3
KBAZ	Karaka Road Bo	3.34	9	P		Pn	06 58 37.0	-0.3
OXZ	Oxford	3.35	208	P		Pn	06 58 34.9	-2.4
AWAZ	Awhitu Peninsu	3.35	6	P		Pn	06 58 36.4	-0.8
MKAZ	Moumakai	3.37	13	P		Pn	06 58 36.4	-1.2
OKCZ	Okains Bay	3.43	194	P		Pn	06 58 36.8	-1.6
WTAZ	Waiatarua	3.47	5	P		Pn	06 58 38.6	-0.4
MYRZ	Mayor Island	3.49	27	P		Pn	06 58 38.8	-0.5
MQZ	McQueen's Vall	3.50	199			Pn	06 58 37.0	-2.3
MQZ	McQueen's Vall	3.50	199	P		Pn	06 58 36.8	-2.5
EPAZ	Eden Park BICE	3.54	7	P		Pn	06 58 39.7	-0.2
HBAZ	Herne Bay Bore	3.57	7	P		Pn	06 58 40.1	-0.1
AKCZ	Akaroa Harbour	3.60	195	P		Pn	06 58 38.7	-1.9
CNGZ	Carnagh Statio	3.63	59	P		Pn	06 58 38.6	-2.5
MBAZ	Motutapu North	3.67	9	P		Pn	06 58 40.9	-0.7
RACZ	Rakaia	3.67	204	P		Pn	06 58 39.1	-2.4
MHCZ	Mount Hutt	3.70	211	P		Pn	06 58 39.5	-2.5
KUZ	Kuaotunu	3.83	18	P		Pn	06 58 42.1	-1.7
RPZ	Rata Peaks	4.07	214			Pn	06 58 46.1	-0.8
RPZ	Rata Peaks	4.07	214	P		Pn	06 58 44.6	-2.3
	187nm,0.3s,baz=40,slow=14,SNR=441							
RPZ				S		Sn	06 59 28.5	-5.1
	339nm,0.5s,baz=38,slow=19,SNR=33							
RPZ	Rata Peaks	4.07	214	P		Pn	06 58 44.6	-2.3
MXZ	Matakaoa Point	4.26	50			Pn	06 58 46.5	-3.0
MXZ	Matakaoa Point	4.26	50	P		Pn	06 58 46.5	-3.0
MXZ	Matakaoa Point	4.26	50	S		Sn	06 59 36.0	-2.3
OUZ	Omahuta	5.20	354	P		Pn	06 59 01.3	-0.8
ODZ	Otahua Downs	5.34	208	P		Pn	06 59 02.0	-1.9
JCZ	Jackson Bay	5.45	226	P		Pn	06 59 03.2	-2.4
MLZ	Mavora Lakes	6.69	220			Pn	06 59 20.4	-1.8
SYZ	Scrubby Hill	7.16	209	P		Pn	06 59 26.6	-1.9
DCZ	Deep Cove	7.25	223			Pn	06 59 26.7	-2.9
CTZ	Chatham Island	7.58	119	P		Pn	06 59 33.7	-0.6
PYZ	Puysegur Point	7.96	221	P		Pn	06 59 38.5	-0.9
DZM	Mont Dzumac	19.43	338	P		Pn	07 02 05.5	-0.8
	3.7nm,0.4s,baz=142,slow=19,SNR=7.7							
MSVF	Nonsavu	22.83	9	P		P	07 02 39.2	-0.6
MSVF				IAmb		IAmb	07 03 22.5	
	comp=Z,39nm,1.5s							
VNDA	Vanda	37.59	184	P		P	07 04 48.4	-0.8
VNDA				IAmb		IAmb	07 04 52.7	
	comp=Z,2.7nm,1.2s							
VNDA	Vanda	37.59	184	P		P	07 04 51.5	+2.3
	comp=Z,0.7nm,0.6s,baz=25,slow=7.9,SNR=4.7							
	comp=Z,0.7nm,0.6s							
ASAR	Alice Springs	37.67	284	P		P	07 04 47.1	-3.4
ASAR	Alice Springs	37.67	284	P		P	07 04 50.5	-0.1
	comp=Z,1.2nm,0.4s,baz=128,slow=8.3,SNR=25							
ASAR				PcP		PcP	07 07 04.2	-1.4
	comp=Z,0.3nm,0.5s,baz=122,slow=4.3,SNR=2.0							
	comp=Z,1.2nm,0.4s							
COEN	Coen	37.82	305	P		P	07 04 52.8	+0.9
WR8	Warramunga Arr	39.51	289	P		P	07 05 06.2	+0.3
WR8				IAmb		IAmb	07 05 18.3	
	comp=Z,16nm,1.3s							
WRAB	Tennant Creek	39.63	289	P		P	07 05 02.5	-4.5
WRAB				IAmb		IAmb	07 05 03.2	
	comp=Z,8.2nm,0.6s							
WRA	Warramunga Arr	39.63	289	P		P	07 05 06.0	-0.9
WRA	Warramunga Arr	39.63	289	P		P	07 05 07.1	+0.2
	comp=Z,2.9nm,0.3s,baz=127,slow=8.1,SNR=33							
	comp=Z,2.9nm,0.3s							
WB0	Warramunga Arr	39.70	289	P		P	07 05 08.1	+0.5
WB0				IAmb		IAmb	07 05 08.2	
	comp=Z,5.6nm,0.5s							

CASY	Casey	43.33	212	P		P	07 05 36.5	0.0
CASY				IAmb		IAmb	07 05 37.5	
	comp=Z,2.9nm,0.5s							
MTN	Manton Dam	46.65	294	P		P	07 06 03.0	-0.4
FITZ	Fitzroy Crossi	47.17	283	P		P	07 06 07.9	+0.5
QSPA	South Pole Qui	49.73	180	P		P	07 06 30.6	+4.0
	comp=Z,2.1nm,0.4s,baz=58,slow=16,SNR=30							
	comp=Z,2.1nm,0.4s							
MAW	Mawson	60.67	204	P		P	07 07 45.2	+0.4
	comp=Z,1.3nm,0.6s,baz=130,slow=9.4,SNR=6.7							
	comp=Z,1.3nm,0.6s							
TROLL	Troll, Antarti	67.74	183	⇑P		P	07 08 31.8	+0.6
	comp=Z,49nm,0.5s							
SNAA	Sanae	68.21	181	⇑P		P	07 08 35.0	+1.0
	comp=Z,6.2nm,0.3s							
SNAA	Sanae	68.21	181	P		P	07 08 35.1	+1.1
SNAA				IAmb		IAmb	07 09 06.5	
	comp=Z,6.1nm,1.4s							
SNAA	Sanae	68.21	181	P		P	07 08 35.3	+1.3
	comp=Z,0.6nm,0.7s,baz=202,slow=11,SNR=10							
	comp=Z,0.6nm,0.7s							
NJ2	Nanjing	88.42	316	*eP*		P	07 10 27.0	+1.7
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH	PanZhiHua	94.62	301	P		P	07 10 55.3	+0.9
HHC	Hu-ho-hao-te	98.89	317	*eP*		Pdif	07 11 15.5	+2.1
HHC				pmax		pmax		
	comp=Z,8.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,62nm,4.9s							
LZH	Lanzhou	99.84	309	*eP*		Pdif	07 11 23.1	+5.3
LZH				sP		sP	07 12 06.5	+6.3
LZH				pmax		pmax		
	comp=Z,20nm,0.9s							
KBZ	Khabaz	144.12	292	PKP		PKPab	07 17 06.0	+0.1
	comp=Z,2.1nm,0.9s,baz=52,slow=6.5,SNR=2.4							
DBIC	Dimbokro	146.40	182	PKPbc		PKPbc	07 17 14.0	-0.3
	comp=Z,2.8nm,0.6s,baz=180,slow=2.6,SNR=5.0							
ARCES	ARCESS Array B	146.50	341	PKPbc		PKPdf	07 17 11.7	+0.3
	comp=Z,0.7nm,0.4s,baz=42,slow=2.4,SNR=17							
BRTR	Keskin Array B	149.99	282	PKPbc		PKPbc	07 17 22.4	-0.8
	comp=Z,0.5nm,0.4s,baz=158,slow=1.8,SNR=2.3							
FINES	FINESS Array B	151.39	328	PKPbc		PKPbc	07 17 24.5	-1.1
	comp=Z,5.2nm,1.2s,baz=46,slow=6.4,SNR=3.4							
TORD	Torodi Ar. Bea	152.07	196	PKP		PKPdf	07 17 21.6	-0.3
	comp=Z,0.3nm,0.6s,baz=183,slow=1.6,SNR=1.9							
TORD				PKPbc		PKPbc	07 17 27.6	-1.0
	comp=Z,0.7nm,0.4s,baz=160,slow=3.4,SNR=15							
TORD				PKPab		PKPab	07 17 38.3	0.0
	comp=Z,0.4nm,0.4s,baz=176,slow=4.1,SNR=2.7							

IDC ***11*** *07:07:32.4±1.7, 11°.63N×86°.14W, h52km±18km, mb3.6/9, mbtmp4.0/11, ML3.8/2, MS3.2/11, Error ellipse: s-maj=24.8km s-min=10.6km az=51.0*
SNET ***11*** *07:07:34.4±3.6, 11°.64N×86°.40W, h18km, ML4.8*
CATAC ***11*** *07:07:34.7±0.2, 11°.1°×.8°6W±°, h45km±2km, M4.7/43, MLv4.7/43, Error ellipse: s-maj=4.2km s-min=1.9km az=47.4, confirmed*
UCR ***11*** *07:07:34.7±1.6, 11°.49N×86°.29W, h62km±6km, MB4.4(NEIC)*
NEIC ***11*** *07:07:35.2±2.4, 11°.48N±0°.05×86°.29W±0°.04, h56km±10km, mb4.4/35, Error ellipse: s-maj=8.1km s-min=5.1km az=193.0*
GCG ***11*** *07:07:42.4±2.0, 11°.83N×86°.64W, h50km±805km, MD4.6*
ISC 11 07:07:34.3±0.7, 11°.45N±0°.03×86°.34W±0°.03, h69km±6km, n314, σ1°01/359, mb4.3/23, 17C-97D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NADN	Granada	0.42	46	*eP*		Pn	07 07 46.1	-0.2
NADN	Granada	0.42	46	P		Pn	07 07 46.0	-0.2
NADN				S		Sn	07 07 54.7	-0.4
NANN	Nandasmo	0.53	24	S		Sn	07 07 58.2	+1.3
NANN	Nandasmo	0.53	24	⇑P		Pn	07 07 48.4	+1.0
SABN	Sabanita	0.53	20	⇑P		Pn	07 07 46.3	-1.0
MASN	Masaya	0.56	20	⇑P		Pn	07 07 47.2	-0.3
MASN				S		Sn	07 07 57.2	-0.3
JAPN	AI SSO del Vol	0.66	84	*eP*		Pn	07 07 48.3	-0.4
JAPN	AI SSO del Vol	0.66	84	⇓P		Pn	07 07 48.2	-0.4
JAPN				S		Sn	07 07 59.0	-0.2
UNAN	Cigeo UNAN	0.66	6	⇑P		Pn	07 07 48.8	+0.1
UNAN				S		Sn	07 07 59.4	+0.2
USIM	UNAN	0.66	6			Pn	07 07 48.9	+0.2
ABCN	Banco Central	0.66	3	S		Sn	07 07 59.8	+0.5
ABCN	Banco Central	0.66	3	⇓P		Pn	07 07 49.1	+0.3
TISN	Laguna Tiscapa	0.69	6	⇓P		Pn	07 07 49.0	0.0
MORN	AI O del Volca	0.69	82	⇓P		Pn	07 07 48.6	-0.4
MORN				S		Sn	07 07 59.9	0.0
MGAN	Managua	0.69	8			Pn	07 07 49.1	0.0
MGAN	Managua	0.69	8	*eP*		Pn	07 07 49.1	0.0
MGAN				eS		Sn	07 08 00.6	+0.6
MGAN	Managua	0.69	8	⇓P		Pn	07 07 49.1	0.0
R4DEC	Barrio San Lui	0.70	8	S		Sn	07 08 00.4	+0.4
R4DEC	Barrio San Lui	0.70	8	⇑P		Pn	07 07 50.1	0.0
ALLN	Telcor Managua	0.70	6	S		Sn	07 08 00.3	+0.2
ALLN	Telcor Managua	0.70	6	⇓P		Pn	07 07 49.2	0.0
AERN	Aeropuerto Man	0.71	14	P		Pn	07 07 49.0	-0.2
AERN	Aeropuerto Man	0.71	14	S		Sn	07 08 00.4	+0.3
CONN	Concepcion	0.71	81	⇓P		Pn	07 07 48.8	-0.4
CONN				S		Sn	07 08 00.3	-0.1
SAPS	Ciudad Sandino	0.71	355	S		Sn	07 08 00.6	+0.3
SAPS	Ciudad Sandino	0.71	355	⇑P		Pn	07 07 49.3	0.0
WILN	Americas 2	0.72	12	⇓P		Pn	07 07 49.3	-0.1
WILN				S		Sn	07 08 00.7	+0.3
APQ2	Apoyeque	0.74	1	⇓P		Pn	07 07 49.4	-0.2
APQ2				S		Sn	07 08 00.7	-0.1
COPN	Copaltepe	0.76	341	⇑*eP*		Pn	07 07 49.5	-0.4
COPN				eS		Sn	07 08 00.5	-0.8
COPN	Copaltepe	0.76	341	⇑P		Pn	07 07 49.5	-0.4
AMTN	Mateare	0.78	354	S		Sn	07 08 02.1	+0.4
AMTN	Mateare	0.78	354	⇓P		Pn	07 07 50.3	+0.2
LCRUZ	La Cruz	0.79	118	⇓P		Pn	07 07 48.8	-0.5
LCRUZ				eS		Sn	07 08 02.0	0.0
APQ3	Volcan Apoyequ	0.81	358	⇓P		Pn	07 07 50.3	-0.1
APQ3				S		Sn	07 08 02.7	+0.3
CARN	Rivas	0.85	108	⇓*iP*		Pn	07 07 50.5	-0.3
CARN				eS		Sn	07 08 02.9	-0.2
CARN	Rivas	0.85	108	⇓P		Pn	07 07 50.6	-0.3
CARN				S		Sn	07 08 03.0	-0.1
MOM2	El Cardon	0.99	352	⇓P		Pn	07 07 52.6	0.0
MOM2				S		Sn	07 08 06.7	+0.6
CNGA	AI SSO del Vol	1.09	341	⇓P		Pn	07 07 54.1	+0.1
CNGA				S		Sn	07 08 08.6	0.0
CNGN	Cerro Negro	1.09	342			Pn	07 07 54.1	+0.1
CNGN	Cerro Negro	1.09	342	S		Sn	07 08 08.7	0.0
CNGN	Cerro Negro	1.09	342	⇓P		Pn	07 07 54.1	+0.1
ELI1	Hacienda Flor	1.12	136	⇓*eP*		Pn	07 07 54.7	+0.5
ELI1	Hacienda Flor	1.12	136	S		Sn	07 08 10.3	+1.2
ELI1	Hacienda Flor	1.12	136	⇓P		Pn	07 07 54.7	+0.5
LAPC	Finca la Perla	1.12	127	⇓*eP*		Pn	07 07 53.5	-0.8
BUAI	Buenos Aires	1.15	120	⇓*iP*		Pn	07 07 54.4	-0.3
BUAI				eS		Sn	07 08 09.6	-0.2
PEJA	Penjamo Buenos	1.16	119	⇓*iP*		Pn	07 07 54.3	-0.4
PEJA				eS		Sn	07 08 09.8	-0.2
ALIBA	Liberia Airpor	1.16	137	⇓*iP*		Pn	07 07 55.2	+0.4
ALIBA				eS		Sn	07 08 10.9	+0.8
VORI	VORI	1.17	123	⇓*iP*		Pn	07 07 54.6	-0.4
VRLE	La Escondida,	1.17	124	⇓*iP*		Pn	07 07 54.5	-0.4
ILCN	San Idelfonso	1.17	343	⇓P		Pn	07 07 54.0	-0.9
ILCN				S		Sn	07 08 10.7	+0.4
GPS3	Bodega del ICE	1.19	126	⇓*eP*		Pn	07 07 54.8	-0.3
GPS3				eS		Sn	07 08 12.4	+1.6
GPS1	Guardaparques	1.19	125	⇓*eP*		Pn	07 07 54.9	-0.3
GPS1				eS		Sn	07 08 10.8	0.0
BOAB	BOACO BROADBAN	1.19	34			Pn	07 07 55.1	-0.1
BOAB	BOACO BROADBAN	1.19	34	S		Sn	07 08 11.1	+0.4
BOAB	BOACO BROADBAN	1.19	34	⇓P		Pn	07 07 55.0	-0.1
PLRN	Geotermica Pol	1.20	340	⇓P		Pn	07 07 55.2	-0.1
PLRN				S		Sn	07 08 11.0	+0.1
GPS2	Hotel Rincn d	1.20	126	⇓*eP*		Pn	07 07 55.1	-0.2
ERIA	Liberia	1.21	132	*eP*		Pn	07 07 55.6	+0.2
HERN	Volcan Telica	1.24	338			Pn	07 07 55.1	-0.9
ACON	Acoyapa	1.25	66			Pn	07 07 54.9	-1.1
ACON	Acoyapa	1.25	66	⇑*iP*		Pn	07 07 54.9	-1.1
ACON				eS		Sn	07 08 11.0	-1.3
ACON	Acoyapa	1.25	66	S		Sn	07 08 11.1	-1.2
ACON	Acoyapa	1.25	66	⇑P		Pn	07 07 54.9	-1.1
DELF	Filadelfia	1.27	142	⇓*eP*		Pn	07 07 56.3	+0.2
MESS	Mesas	1.33	122	⇓*iP*		Pn	07 07 57.0	-0.1
MESS				eS		Sn	07 08 15.3	+1.1
PKGN	Cerro Pekin	1.36	333	⇓P		Pn	07 07 57.7	+0.4
PKGN				S		Sn	07 08 15.3	+0.7
HORNC	Hornillas	1.36	123	⇓*eP*		Pn	07 07 57.4	-0.1
HORNC				eS		Sn	07 08 15.2	+0.3
VMAR	Armenia, Volca	1.37	118	⇓*eP*		Pn	07 07 57.1	-0.4
VMAR				eS		Sn	07 08 14.6	-0.4
COLC	Colonia	1.37	125	⇓*eP*		Pn	07 07 57.6	+0.1
SACU	Santa Cruz	1.40	148	⇓*eP*		Pn	07 07 57.6	-0.3
CUI	Cuipilapa	1.40	124	⇓*iP*		Pn	07 07 58.2	+0.2
CUI				eS		Sn	07 08 16.5	+0.7
CRIN	San Cristobal	1.42	331			Pn	07 07 58.6	+0.3
CRIN	San Cristobal	1.42	331	⇓*iP*		Pn	07 07 58.6	+0.3
CRIN				eS		Sn	07 08 17.0	+0.8
CRIN	San Cristobal	1.42	331	S		Sn	07 08 16.8	+0.6
CRIN	San Cristobal	1.42	331	⇓P		Pn	07 07 58.5	+0.3
AESN	El Sauce Leon	1.44	352	S		Sn	07 08 16.6	0.0
AESN	El Sauce Leon	1.44	352	P		Pn	07 07 58.6	+0.2
MOTZ	Rio Naranjo	1.46	121	⇓*iP*		Pn	07 07 59.0	+0.2
MOTZ				eS		Sn	07 08 18.1	+0.9
PLVR	Palo Verde	1.47	138	⇓*eP*		Pn	07 07 59.1	+0.1
PLVR				eS		Sn	07 08 16.8	-0.8
JUD3	Juan Diaz 3	1.50	148	⇓*eP*		Pn	07 07 58.9	-0.5
MATN	Matagalpa	1.52	16	S		Sn	07 08 18.5	-0.2
MATN	Matagalpa	1.52	16	⇓P		Pn	07 07 58.9	-0.7
TENO	El Achiote	1.54	119	⇓*eP*		Pn	07 07 59.6	-0.1
TENO				eS		Sn	07 08 19.3	+0.4
TIMP	Tierras Morena	1.56	124	⇓*iP*		Pn	07 08 00.0	-0.1
TIMP				eS		Sn	07 08 20.7	+1.1
INVE	Universidad In	1.59	128	⇓*iP*		Pn	07 08 00.6	+0.2
INVE				eS		Sn	07 08 20.0	-0.3
CNAS	Canas	1.60	129	⇓*iP*		Pn	07 08 01.2	+1.3
CNAS				eS		Sn	07 08 22.7	+2.4
QUEB	Quebradon, Cot	1.65	120	⇓*iP*		Pn	07 08 01.1	-0.1
LCHIL	Los Chiles	1.65	104	⇓*eP*		Pn	07 08 00.6	-0.6
LCHIL				eS		Sn	07 08 20.7	-0.9
TILA	Tilaran	1.67	126	⇓*iP*		Pn	07 08 01.5	0.0
TILA				eS		Sn	07 08 22.9	+0.8
CMARA	Lajas Hojancha	1.69	148	⇓*iP*		Pn	07 08 01.6	-0.2
CMARA	Lajas Hojancha	1.69	148	S		Sn	07 08 21.0	-1.7
CMARA	Lajas Hojancha	1.69	148

LLNJ	Naranjito	2.96	132	eP		Pn	07 08 21.0	+2.1
PIEC	Cerro El Cedra	2.97	128	eP		Pn	07 08 19.7	+0.3
VINA	Juan Vinas	2.99	121	eP		Pn	07 08 19.9	+0.5
VERB	Verbena	3.00	120	eP		Pn	07 08 20.6	+0.9
RESJ	San Isidro (Tu	3.01	118‖	eP		Pn	07 08 20.6	+0.9
TURIB	Turrialba	3.03	120	eP		Pn	07 08 20.6	+0.6
LCOCO	El Coco	3.06	116	eP		Pn	07 08 20.3	0.0
IRES	Siquirres	3.10	116	eP		Pn	07 08 21.5	+0.6
BUS1	Rivas	3.18	126	eP		Pn	07 08 22.6	+0.3
UESV	Universidad de	3.22	313	eP		Pn	07 08 23.2	+0.6
UESV				eS		Sn	07 08 57.0	-2.9
CORNA	Casa Canada	3.31	77	eP		Pn	07 08 21.7	-2.0
ZEDO	Perez Zeledon	3.35	128	eP		Pn	07 08 26.0	+1.7
PAVA	Las Pavas	3.38	312	eP		Pn	07 09 25.5	+0.7
PAVA				eS		Sn	07 09 01.1	-2.8
LFRS	El Faro	3.42	309	eP		Pn	07 08 25.6	+0.3
LFRS				eS		Sn	07 09 02.0	-2.8
VERH	Veragua Rainfo	3.45	116‖	eP		Pn	07 08 25.9	+0.2
LBRS	Las Brisas	3.48	311	eP		Pn	07 08 26.7	+0.6
SAJE	San Jernim	3.49	127	eP		Pn	07 08 27.8	+1.5
LOMA	Loma Larga	3.52	309	eP		Pn	07 08 27.1	+0.5
LOMA				eS		Sn	07 09 04.4	-2.7
LFU	La Fuente	3.54	310	eP		Pn	07 08 27.7	+0.8
EDPE	Pejibaye, P	3.56	130	eP		Pn	07 08 28.6	+1.5
UTEC	Universidad Te	3.57	309	eP		Pn	07 08 28.1	+0.7
UTEC				eS		Sn	07 09 05.9	-2.6
UESS	Universidad de	3.58	309	eP		Pn	07 08 28.4	+0.8
UESS				eS		Sn	07 09 05.7	-3.1
UEES	Universidad Ev	3.61	309	eP		Pn	07 08 28.9	+0.9
PIC2	El Picacho	3.64	309	eP		Pn	07 08 29.5	+1.0
LAES	El Progreso Va	3.65	117	eP		Pn	07 08 29.1	+0.7
BOQS	Boqueron	3.65	309	eP		Pn	07 08 29.9	+1.3
BOQS				eS		Sn	07 09 09.4	-1.2
PMON	Piamonte	3.67	308	eP		Pn	07 08 29.3	+0.6
BURE	Buenos Aires	3.73	127	eP		Pn	07 08 30.5	+1.0
JAYA	Jayaque - finc	3.74	306	eP		Pn	07 08 30.0	+0.3
JAYA				eS		Sn	07 09 09.1	-3.5
JAYA	Jayaque - finc	3.74	306	*i* P		Pn	07 08 30.2	+0.5
DRK0	Durika	3.75	125	eP		Pn	07 08 30.9	+1.0
PANP	Palmar Norte	3.77	131	eP		Pn	07 08 32.3	+2.2
FIMO	Fila Mora	3.83	129	eP		Pn	07 08 33.3	+2.4
EDP2	Potrero Grande	3.95	128	eP		Pn	07 08 34.3	+1.8
CEVE	Cerro Verde	3.98	307	eP		Pn	07 08 34.4	+1.4
SBLS	San Blas	3.98	307	eP		Pn	07 08 34.5	+1.4
SNJE	San Jose	3.99	307	eP		Pn	07 08 34.1	+1.0
UNIC	Universidad Ca	4.01	309	eP		Pn	07 08 34.7	+1.3
RTR	El Retiro	4.03	307	eP		Pn	07 08 34.8	+1.0
SARH	Santa Rosa de	4.05	325	*i* P		Pn	07 08 35.8	+1.8
NUBE	Las Nubes	4.14	306	eP		Pn	07 08 36.2	+0.9
NUBE	Las Nubes	4.14	306	*i* P		Pn	07 08 36.3	+1.1
NUBE				*i* S		Sn	07 09 20.5	-2.0
MTO3	Montecristo	4.15	315			Pn	07 08 36.4	+1.0
MTO3	Montecristo	4.15	315	eP		Pn	07 08 36.9	+1.5
MTO3	Montecristo	4.15	315	*i* P		Pn	07 08 36.7	+1.3
JIME	Puerto Jimenez	4.15	134	eP		Pn	07 08 36.8	+1.6
EDAD	Golfito	4.19	131	eP		Pn	07 08 44.7	+8.9
FITO	Golfito	4.22	132	eP		Pn	07 08 37.0	+0.8
PIRO	Carate, Puerto	4.24	135			Pn	07 08 38.0	+1.6
PIRO	Carate, Puerto	4.24	135‖	eP		Pn	07 08 37.9	+1.4
ESQI	Esquipulas	4.25	317			Pn	07 08 38.3	+1.6
ALCO	Alturas Coton,	4.26	125	eP		Pn	07 08 37.9	+1.0
NELY	Ciudad Neily	4.36	129	eP		Pn	07 08 39.2	+1.2
BRU2	Volcan	4.46	126			Pn	07 08 40.7	+1.0
BRU2	Volcan	4.46	126	eP		Pn	07 08 41.7	+2.0
TBS2		4.49	126	eP		Pn	07 08 40.8	+0.8
BANCO	falda S V. Bar	4.64	126‖	eP		Pn	07 08 43.0	+0.9
JEFFS	falda S de V. Baru	4.66	126	eP		Pn	07 08 43.5	+1.2
BQTLY	Boquete Panama	4.67	125	eP		Pn	07 08 43.4	+1.0
DAP26	falda E V. Bar	4.68	124	eP		Pn	07 08 43.7	+1.1
WILLF	Boquete	4.69	125	eP		Pn	07 08 43.8	+1.0
PBNVO	Pueblo Nuevo,	4.82	122	eP		Pn	07 08 45.3	+1.0
RBALA	Bur	4.86	121	eP		Pn	07 08 45.2	+0.3
CGUAY	Guayabal, Coch	4.93	127	eP		Pn	07 08 47.3	+1.4
FG16	Alotenango, Sa	4.94	305	*i* P		Pn	07 08 53.5	+7.3
FG16				*i* S		Sn	07 09 49.3	+7.3
FG8	Yepocapa, Chim	4.97	305	*i* P		Pn	07 08 54.4	+7.9
FG8				*i* S		Sn	07 09 50.6	+7.9
KKNTU	Kakint[2]	5.17	120	eP		Pn	07 08 49.8	+0.6
ESSG	Sabana Grande	5.25	304	*i* P		Pn	07 08 52.5	+2.2
ESSG				*i* S		Sn	07 09 47.5	-2.1
RTAL	Retalhuleu	6.04	301			Pn	07 09 03.4	+2.3
HUEH	Huehuetenango	6.32	308			Pn	07 09 08.0	+2.9
PETF	Flores	6.41	328			Pn	07 09 08.5	+2.4
CCIG	Comitan	7.39	311			Pn	07 09 22.7	+3.0
CCIG	Comitan	7.39	311	*i* P		Pn	07 09 22.7	+3.0
CMIG	Matias Romero	9.99	305	P		Pn	07 09 55.8	+0.7
	6.9nm,0.3s,baz=127,slow=12,SNR=240							
CMIG				S		Sn	07 11 43.5	-2.3
	1.6nm,0.3s,baz=60,slow=20,SNR=1.4 16nm,0.3s							
TLIG	Tlapa	13.30	299			Pn	07 10 42.5	+2.2
RUSC	La Rusia	14.22	112			P	07 10 59.4	+1.1
FLOC	Florencia	14.45	132			P	07 11 01.3	+0.9
COHC	Cochancay	15.52	153	P		P	07 11 12.8	+0.6
SDV	Santo Domingo	15.67	98	P		Pn	07 11 08.7	-2.7
	0.5nm,0.3s,baz=297,slow=6.8,SNR=4.5							
SDV				S		Sn	07 13 58.9	-5.5
	2.9nm,0.3s,baz=343,slow=14,SNR=1.3							
SDV				LR		LR	07 17 25.4	
	comp=Z,54nm,19.2s,baz=258,slow=38 3.7nm,0.5s							
ZAIG	Zacatecas	19.14	308	P		Pn	07 11 55.3	+1.5
HBVL	Hebbronville	19.38	325			P	07 11 55.3	+0.7
ATAH	Atahualpa	20.09	156	LR		LR	07 19 29.7	
	comp=Z,48nm,18.8s,baz=325,slow=36							
SJG	San Juan	20.61	60	P		P	07 12 04.9	-3.1
	8.4nm,0.3s,baz=328,slow=19,SNR=1.4							
SJG				LR		LR	07 19 01.1	
	comp=Z,43nm,20.8s,baz=243,slow=34 8.4nm,0.3s							
833A	Chaparral WMA,	20.76	326			P	07 12 09.7	+0.1
833A				IAmb	IAmb		07 12 12.9	
	comp=Z,14nm,0.8s							
MLDN	Muldoon	20.79	333	P		P	07 12 11.6	+1.7
PCRV	Puerto La Cruz	21.36	91	P		P	07 12 14.3	-1.9
	comp=Z,6.8nm,0.6s,baz=292,slow=2.5,SNR=3.8							
PCRV				LR		LR	07 21 01.9	
	comp=Z,46nm,18.3s,slow=38 comp=Z,6.8nm,0.6s							
HNDO	Hondo	21.65	328	P		P	07 12 18.3	-0.9
HNDO				IAmb	IAmb		07 12 19.2	
	comp=Z,7.6nm,0.7s							
DRIO	Del Rio	22.29	325			P	07 12 26.4	+0.4
DRIO				IAmb	IAmb		07 12 27.7	
	comp=Z,13nm,1.1s							
JCT	Junction City	22.68	329	P		P	07 12 29.0	-1.2
JCT				IAmb	IAmb		07 12 31.1	
	comp=Z,8.8nm,1.0s							
BRDY	Brady	22.95	331			P	07 12 31.8	-1.1
BRDY				IAmb	IAmb		07 12 32.8	
	comp=Z,15nm,1.4s							
OZNA	Ozona	23.72	327	P		P	07 12 39.8	-0.5
OZNA				IAmb	IAmb		07 12 40.7	
	comp=Z,22nm,1.4s							
HPIG		23.82	313	P		P	07 12 43.4	+2.0
PLPT	Palo Pinto	23.93	334	P		P	07 12 41.7	-0.4
PLPT				IAmb	IAmb		07 13 19.6	
	comp=Z,9.2nm,0.8s							
TX31	Lajitas Ar. Si	24.03	320	P		P	07 12 43.1	+0.1
TX31				IAmb	IAmb		07 12 44.6	
	comp=Z,11nm,0.9s							
TXAR	Lajitas Array	24.03	320	P		P	07 12 42.9	-0.2
TXAR	Lajitas Array	24.03	320	P		P	07 12 43.1	0.0
	comp=Z,9.7nm,0.9s,baz=132,slow=8.2,SNR=86							
TXAR				PcP		PcP	07 16 22.9	-0.5
	comp=Z,0.5nm,0.9s,baz=293,slow=1.5,SNR=4.8 comp=Z,9.7nm,0.9s							
TKL	Tuckaleechee C	24.21	5	P		P	07 12 43.3	-1.2
ABTX	Abilene, Hawle	24.36	332	P		P	07 12 46.5	+0.5
ABTX				IAmb	IAmb		07 12 47.2	
	comp=Z,16nm,1.0s							
ALPN	Alpine	24.74	322	P		P	07 12 48.5	-1.2
ODSA	Odessa	25.42	327	IAmb	IAmb		07 12 57.0	
	comp=Z,14nm,0.8s							
POST	Post	25.62	329	IAmb	IAmb		07 12 59.1	
	comp=Z,12nm,0.7s							
WMOK	Wichita Mounta	25.80	336	IAmb	IAmb		07 13 02.0	
	comp=Z,14nm,1.2s							
VHRN	Van Horn	25.86	321	P		P	07 12 59.3	-0.4
LPIG	La Paz	26.00	302	LR		LR	07 22 58.7	
	comp=Z,38nm,18.8s,baz=66,slow=36							
S39A	Bolivar	26.86	348	IAmb	IAmb		07 13 29.2	
	comp=Z,6.0nm,1.0s							

ANMO	Albuquerque	29.69	325	LR		LR	07 27 07.9	
	comp=Z,41nm,18.3s,baz=222,slow=40							
LPAZ	La Paz	32.93	146	P		P	07 14 03.7	+0.5
	comp=Z,0.4nm,0.6s,baz=321,slow=6.5,SNR=1.6							
LPAZ				LR		LR	07 27 25.9	
	comp=Z,44nm,19.6s,baz=338,slow=36 comp=Z,0.4nm,0.6s							
PV18	Skein Mesa, Pa	33.44	327	IAmb		IAmb	07 14 07.8	
	comp=Z,5.5nm,0.8s							
MDP	Montagnes des	33.92	98	LR		LR	07 29 21.1	
	comp=Z,34nm,18.7s,baz=286,slow=39							
PB16	IPOC Station P	33.95	150	P		P	07 14 12.5	+0.6
PB16				IAmb		IAmb	07 14 13.9	
	comp=Z,6.2nm,1.0s							
GO01	Chusmiza	35.24	151	P		P	07 14 25.5	+2.5
PDAR	Pinedale Array	37.16	331	P		P	07 14 37.8	-1.0
	comp=Z,0.3nm,0.6s,baz=139,slow=7.2,SNR=3.6 comp=Z,0.3nm,0.6s							
ULM	Lac du Bonnet	39.47	350	P		P	07 14 55.0	-2.9
	comp=Z,1.5nm,0.6s,baz=173,slow=10,SNR=1.5 comp=Z,1.5nm,0.6s							
LRM	Limekiln Ridge	40.83	332	P		P	07 15 09.9	+0.5
SCHQ	Schefferville	45.93	16	P		P	07 15 47.9	-2.2
	comp=Z,33nm,0.5s,baz=218,slow=8.0,SNR=9.6							
BDFB	Brasilia	46.52	125	LR		LR	07 35 38.5	
	comp=Z,39nm,18.3s,baz=193,slow=36							
CPUP	Villa Florida	46.98	143	P		P	07 15 59.0	+0.4
	comp=Z,0.4nm,0.9s,baz=328,slow=15,SNR=2.0 comp=Z,0.4nm,0.9s							
MT08	Bocatoma Ro	47.28	161	P		P	07 16 02.1	+0.9
PLCA	Paso Flores	53.94	165	P		P	07 16 51.4	+0.3
	comp=Z,3.9nm,0.8s,baz=334,slow=12,SNR=9.4 comp=Z,3.9nm,0.8s							
ILAR	Eielson Array	67.36	336	P		P	07 18 22.5	+0.5
	comp=Z,0.1nm,0.5s,baz=104,slow=7.3,SNR=1.5							
ILAR				LR		LR	07 50 47.3	
	comp=Z,46nm,18.1s,baz=236,slow=39 comp=Z,0.1nm,0.5s							
VRAC	Vranov	89.68	40	LR		LR	07 59 09.0	
	comp=Z,28nm,18.3s,baz=332,slow=35							
ASAR	Alice Springs	139.89	247	PKP		PKPdf	07 26 55.6	0.0
	comp=Z,1.9nm,0.7s,baz=98,slow=1.9,SNR=8.7							
WRA	Warramunga Arr	140.02	253	PKP		PKPdf	07 26 56.1	+0.3
	comp=Z,2.4nm,0.8s,baz=92,slow=2.2,SNR=14							

NEIC ***11*** *07:09:41.3, 37.98N×90.53W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{12}Nm; M_{rr}2.30; $M_{\theta\theta}$0.70; $M_{\phi\phi}$-3.00; $M_{r\theta}$1.64; $M_{r\phi}$1.89; $M_{\theta\phi}$0.89; Fault plane solution: $M_0$3.80000×10^{12} NP1:ϕ_s9.00000°, δ58.00000°, λ138.00000°. NP2:ϕ_s125.00000°, δ55.00000°, λ40.00000°. Principal axes: T 3.7996, Plg51.0000°, Azm335.0000°; N 0.0015, Plg39.0000°, Azm159.0000°; P -3.8011, Plg2.0000°, Azm68.0000°;*

SLM ***11*** *07:09:41.1±1.2, 37.98N±0.02×90.53W±0.01, h7km±2km Error ellipse: s-maj=2.1km s-min=1.7km az=194.0*

NEIC 11 07:09:41.4±0.9, 37.99N±0.01×90.531W±0.009, h6km±3km, mb_Lg2.5/56, ML2.6/14, Md2.6/21(SLM), Mwr2.3/4(SLM), Error ellipse: s-maj=2.0km s-min=0.9km az=160.0, Missouri-Illinois border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FVM	French Village	0.08	91	Pg	Pg	07 09 43.2	-0.1
FVM				Sg	Sg	07 09 44.4	-0.2
FVM				IAML		07 09 44.5	
	comp=E,2μm,0.2s						
CCM	Cathedral Cave	0.57	277		Pg	07 09 51.6	-0.7
CCM					Sg	07 09 59.1	-0.6
CCM	Cathedral Cave	0.57	277	IAML		07 09 59.5	
	comp=E,254nm,0.1s						
CCM				IAML		07 10 00.6	
	comp=E,406nm,0.1s						
SLM	Saint Louis	0.69	20	Pg	Pg	07 09 53.9	-0.8
SLM				Sg	Sg	07 10 03.0	-0.6
CGM3	Cape Girardeau	0.98	135		Pg	07 09 58.9	-1.2
CGM3					Sg	07 10 11.5	-1.2
S44A	Carbondale	1.05	106		Pg	07 10 00.3	-1.2
S44A				Sg	Sg	07 10 14.1	-1.1
S44A				IAmb_Lg		07 10 16.0	
	comp=Z,47nm,0.9s						
S44A				IAML		07 10 17.6	
	comp=Z,233nm,0.1s						
S44A				IAML		07 10 18.2	
	comp=Z,163nm,0.2s						
SIUC	Southern Illin	1.07	104		Pg	07 10 00.9	-1.1
SIUC	Southern Illin	1.07	104	Sg	Sg	07 10 14.0	-1.8
SIUC				IAML		07 10 16.9	
	comp=N,216nm,0.1s						
SIUC				IAmb_Lg		07 10 17.5	
	comp=Z,29nm,0.7s						
SIUC	Southern Illin	1.07	104	Pg	Pg	07 10 00.6	-1.4
PBMO	Poplar Bluff	1.21	176		Pg	07 10 03.2	-1.3
PBMO				Sg	Sg	07 10 18.7	-1.5
PBMO				IAML		07 10 19.5	
	comp=N,90nm,0.2s						
PBMO				IAML		07 10 25.6	
	comp=E,100nm,0.2s						
GUAMO	Guam	1.23	153		Pg	07 10 03.5	-1.4
BRNM	Bernie	1.33	161		Pn	07 10 05.3	-1.2
R40A	Maddies Statio	1.40	283		Pn	07 10 06.8	-0.8
MATM	Matthews	1.42	148		Pn	07 10 06.8	-0.9
BETM	Bethany	1.42	165		Pn	07 10 06.9	-0.9
MLDM	Malden	1.44	160		Pn	07 10 07.3	-0.8
DWDM	Dogwood	1.45	145		Pn	07 10 07.4	-0.7
PARMO	Parma	1.46	155		Pn	07 10 07.2	-1.1
PARMO				IAmb_Lg		07 10 26.6	
	comp=Z,38nm,1.0s						
Q44A	Meyer Farm, Va	1.50	52		Pn	07 10 08.2	-0.7
HENM	Henderson Moun	1.52	146		Pn	07 10 08.9	-0.3
CATM	Catron	1.54	153		Pn	07 10 09.1	-0.3
TOPM	Tallapoosa	1.54	160		Pn	07 10 09.2	-0.3
MGMO	Mountain Grove	1.61	240		Pn	07 10 10.3	-0.1
PENMO	Penman	1.69	155		Pn	07 10 11.3	-0.2
T45A	Paducah	1.78	122		Pn	07 10 12.8	+0.1
P43A	Skaggs, Pawnee	1.83	25		Pn	07 10 14.0	+0.6
P43A				IAmb_Lg		07 10 38.7	
	comp=Z,22nm,1.1s						
PEBM	Pemiscott Bayo	1.94	164		Pn	07 10 15.3	+0.3
P40A	Paris	1.94	323		Pn	07 10 15.7	+0.7
LCAR	Lake Charles	1.98	195		Pn	07 10 15.5	+0.1
GLAT	Glass	1.98	150		Pn	07 10 15.4	-0.1
OLIL	Olney	2.05	68		Pn	07 10 16.4	0.0
LNXT	Lenox	2.06	156		Pn	07 10 17.8	+1.3
GNAR	Gosnell	2.06	168		Pn	07 10 16.7	+0.2
GNAR				IAmb_Lg		07 10 47.6	
	comp=Z,15nm,0.8s						
UTMT	University of	2.11	140		Pn	07 10 16.7	-0.6
HBAR	Harrisburg	2.43	182		Pn	07 10 21.5	-0.2
HBAR				IAmb_Lg		07 10 59.0	
	comp=Z,22nm,0.8s						
FCAR	Ozark Folk Cen	2.45	212		Pn	07 10 22.2	+0.2
WVT	Waverly	2.85	130		Pn	07 10 26.8	-0.6
T47A	Sharon Grove	2.90	109		Pn	07 10 28.2	+0.1
HHAR	Hobbs	3.21	239		Pn	07 10 33.4	+1.0
HHAR				IAmb_Lg		07 11 26.3	
	comp=Z,10nm,0.9s						
U38A	Gravette	3.44	245	IAmb_Lg		07 11 33.1	
	comp=Z,11nm,1.0s						
UALR	University of	3.52	205	IAmb_Lg		07 11 34.8	
	comp=Z,14nm,1.2s						
OXF	Oxford	3.58	165	IAmb_Lg		07 11 44.4	
	comp=Z,11nm,0.9s						
PLAL	Pickwick Lake	3.59	146		Pn	07 10 37.3	-0.3
X40A	Basin Creek Fa	3.96	209	IAmb_Lg		07 11 46.2	
	comp=Z,8.6nm,0.9s						
MIAR	Mount Ida	4.22	217	IAmb_Lg		07 11 58.0	
	comp=Z,8.9nm,1.0s						
SCIA	State Center	4.43	333	IAmb_Lg		07 11 60.0	
	comp=Z,8.0nm,0.8s						
LUL3	Leonard	4.70	245	IAmb_Lg		07 12 21.1	
	comp=Z,7.7nm,0.9s						
N47A	Urbana	4.73	51	IAmb_Lg		07 12 07.8	
	comp=Z,9.6nm,0.9s						
O48B	Farmland	4.76	60	IAmb_Lg		07 12 10.9	
	comp=Z,7.6nm,0.9s						
WLAR	White Oak Lake	4.77	207	IAmb_Lg		07 12 25.4	
	comp=Z,6.6nm,0.8s						
T35A	Sooner Cattle	4.88	259	IAmb_Lg		07 12 22.2	
	comp=Z,9.1nm,0.8s						
W50A	Signal Mountai	5.04	122	IAmb_Lg		07 12 25.2	
	comp=Z,7.1nm,0.8s						
L46A	Eue Claire	5.17	38	IAmb_Lg		07 12 30.1	
	comp=Z,7.0nm,0.7s						

S51A	Beattyville	5.50	91	IAmb_Lg			07 12 50.5	
	comp=Z,6.1nm,0.8s							
TKL	Tuckaleechee C	5.90	111	IAmb_Lg			07 12 51.0	
	comp=Z,4.9nm,0.9s							
P51A	Williamsport	6.03	73	IAmb_Lg			07 12 57.3	
	comp=Z,9.3nm,0.7s							
W52A	Murphy	6.05	117	IAmb_Lg			07 12 53.8	
	comp=Z,4.9nm,0.8s							
V53A	Saluda	6.61	108	IAmb_Lg			07 13 12.6	
	comp=Z,4.9nm,0.9s							
Z35A	Perchaven, San	7.18	232	IAmb_Lg			07 13 47.2	
	comp=Z,5.4nm,0.7s							
O53A	New Philadelph	7.59	70	IAmb_Lg			07 13 39.4	
	comp=Z,6.8nm,1.0s							

IDC ***11*** *07:10:12.0±3.0, 53.53N×87.86E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=25.9km s-min=15.8km az=69.0*

ASRS 11 07:10:09.0±1.2, 53.62N×87.86E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.83	282	I	I	07 22 25.0	
	baz=98,slow=334,SNR=11						
ZALV	Zalesovo Beam	1.83	282	Pn	Pg	07 10 44.7	+0.6
	1.9nm,0.3s,baz=101,slow=16,SNR=17						
ZALV				Lg	Lg	07 11 10.3	
	2.4nm,0.3s,baz=103,slow=26,SNR=13						
KURBB	Kurchatov Arra	6.48	246	Pn	Pn	07 11 49.3	+3.7
	0.1nm,0.3s,baz=61,slow=14,SNR=3.3						
KURBB				Lg	Lg	07 13 37.4	
	0.1nm,0.3s,baz=61,slow=33,SNR=6.4 0.4nm,0.3s						
MKAR	Makanchi Array	7.71	210	Pn	Pn	07 12 06.1	+3.7
	0.1nm,0.3s,baz=28,slow=13,SNR=2.2						
MKAR				Sn	Sn	07 13 29.3	-1.1
	baz=29,slow=28						
MKAR				Lg	Lg	07 14 14.6	
	baz=31,slow=34,SNR=2.6 0.1nm,0.3s						

IDC ***11*** *07:11:46.6±1.8, 31.90N×140.03E, h64km±14km, mb3.6/12, mbtmp3.8/14, MS2.7/1, Error ellipse: s-maj=27.0km s-min=16.1km az=79.0*

NIED ***11*** *07:11:48.3, 32.24N×140.67E, h22km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.69; $M_{\theta\theta}$-0.31; $M_{\phi\phi}$-1.37; $M_{r\theta}$-2.15; $M_{r\phi}$-3.25; $M_{\theta\phi}$-6.02; Fault plane solution: $M_0$7.20000×10^{14} NP1: ϕ_s81.00000°, δ21.00000°, λ152.00000°. NP2: ϕ_s197.00000°, δ80.00000°, λ71.00000°.*

JMA ***11*** *07:11:48.3±0.1, 32.2N±0.5×140.7E±0.5, h22km, MV3.9/31, E OFF HACHIJOJIMA ISLAND*

ISC 11 07:11:47.4±1.6, 32.00N±0.09×140.4E±0.1, h73km±11km, n41, σ1s90/42, mb3.9/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	0.71	311	P	Pn	07 12 03.3	+0.7
JAOM				eS	Sn	07 12 14.3	+0.5
JHCJ	Hachijojimakas	1.19	335	P	Pn	07 12 08.4	+0.1
JHCJ				S	Sn	07 12 22.7	-1.3
JHJ2	Mitsune	1.21	336	P	Pn	07 12 08.8	+0.1
JHJ2				S	Sn	07 12 23.1	-1.5
JHJ	Hachijo jima 2	1.23	335	P	Pn	07 12 08.9	0.0
	96nm,0.3s,baz=166,slow=17,SNR=27						
JHJ				S	Sn	07 12 23.4	-1.7
	730nm,0.3s,baz=102,slow=20,SNR=15						
JMKN	Mikurajimanish	2.01	341	eP	Pn	07 12 20.0	+0.9
JMKN				eS	Sn	07 12 42.9	-0.5
JMYK	Miyake Tsubota	2.18	341	eP	Pn	07 12 22.6	+1.2
JMYK				eS	Sn	07 12 47.2	-0.3
BSO1	Boso 1	2.69	10	eP	Pn	07 12 27.6	-0.3
BSO3	Boso 3	2.80	2	P	Pn	07 12 29.4	-0.2
BSO3				S	Sn	07 13 00.4	-1.8
JIM2	Oshima 3	2.83	344	eS	Sn	07 13 03.4	0.0
TK02	Tokai 2	2.95	312	P	Pn	07 12 34.4	+2.7
JOD2	Odawara 2	3.44	342	P	Pn	07 12 40.5	+2.0
TTO1	TONANKAI O.B.S	3.44	299	eP	Pn	07 12 40.8	+2.4
JYN	Shimob	3.82	337	eP	Pn	07 12 47.7	+4.0
JRY	Ryogami san	4.20	343	eP	Pn	07 12 52.7	+3.8
JTNC	Tanabenakahech	4.42	296	P	Pn	07 12 54.3	+2.4
JAG	Ashikaga	4.49	350	eP	Pn	07 12 54.4	+1.6
JWY	Kouya	4.60	300	P	Pn	07 12 57.3	+2.9
JYTA	Yamagatataniai	4.71	321	eP	Pn	07 12 59.4	+3.6
MJAR	Matsushiro Arr	4.88	339	P	Pn	07 12 58.7	+0.5
	2.3nm,0.7s,baz=167,slow=11,SNR=12						
MJAR				S	Sn	07

GAR Garm 2.39 346 Pn 07 15 22.5 -0.5
CHGR Chuyangaron 2.48 324 Pn 07 15 22.9 -0.9
CHGR Chuyangaron 2.48 324 PN Pn 07 15 22.9 -0.9
SIMJ Simiganj 2.55 322 Pn 07 15 23.9 -0.8
KBL Kabul 2.68 218 Pn 07 15 25.2 -1.0
KBL Kabul 2.68 218 P Pn 07 15 25.2 -1.0
SNR=150
KBL S S 07 16 00.1 -3.4
KBL Kabul 2.68 218 PN Pn 07 15 25.2 -1.0
NIL Nilore 3.52 148 Pn 07 15 35.7 +0.1
NIL Nilore 3.52 148 P Pn 07 15 35.1 -0.5
NIL Nilore 3.52 148 PN Pn 07 15 35.7 +0.1
KSH Kashi 4.82 52 Pn Pn 07 15 46.2 -5.1
KSH Sn S 07 16 38.2 -11
KSH smax smax
comp=N,370nm,0.6s
KSH smax smax
comp=E,420nm,0.7s
TRKS Terek-Say 4.85 1 PN Pn 07 15 50.6 -1.1
ARSB Arslanbob 4.88 17 Pn 07 15 51.3 -0.8
ARSB Arslanbob 4.88 17 PN Pn 07 15 51.3 -0.8
JMU Jammu 5.07 140 eP Pn 07 15 53.9 -0.5
JMU eS S 07 16 49.6 -4.9
JMU IAML 07 16 52.0
comp=N,903nm,0.5s
JMU IAML 07 16 53.2
comp=E,545nm,0.3s
IUG Iuzhnay 5.52 352 eP Pn 07 15 59.8 -0.3
IUG Iuzhnay 5.52 352 ePN Pn 07 15 59.7 -0.3
TSSA Tissa 5.69 131 eP Pn 07 16 03.4 +1.0
TSSA eS S 07 17 05.9 -3.0
TSSA IAML 07 17 07.1
comp=N,164nm,0.0s
CHM Chimkent 5.75 349 eP Pn 07 16 02.5 -0.3
CHM Chimkent 5.75 349 ePN Pn 07 16 02.5 -0.3
NRN Naryn 6.12 38 Pn 07 16 06.0 -1.9
NRN Naryn 6.12 38 PN Pn 07 16 06.0 -1.9
UCH Uchtor 6.16 25 P Pn 07 16 08.2 -0.3
SNR=247
DHRM DHARAMSHALA 6.19 134 eP Pn 07 16 10.2 +1.4
DHRM eS S 07 17 17.1 -3.6
DHRM IAML 07 17 17.9
comp=E,777nm,0.2s
DZA Taraz 6.21 2 eP Pn 07 16 08.3 -0.4
DZA Taraz 6.21 2 ePN Pn 07 16 08.3 -0.4
EKS2 Erkin-Say 6.34 19 P Pn 07 16 09.6 -0.9
SNR=67
BRLS Boroldav 6.42 352 eP Pn 07 16 07.7 -3.7
BRLS Boroldav 6.42 352 ePN Pn 07 16 07.6 -3.7
KK31 Karatay Array 6.43 357 Pn 07 16 10.8 -0.7
KK31 Karatay Array 6.43 357 ePN Pn 07 16 10.4 -1.1
KKAR Karatay Array 6.43 357 Pn 07 16 10.7 -0.8
KKAR Karatay Array 6.43 357 PN Pn 07 16 10.7 -0.8
AAK Ala-Archa 6.53 23 P Pn 07 16 12.7 -0.1
SNR=66
AAK Ala-Archa 6.53 23 P Pn 07 16 12.5 -0.3
comp=E,89nm,0.5s,baz=204,slow=7.9,SNR=84
AAK S S 07 17 24.7 -3.4
comp=E,69nm,0.8s,baz=143,slow=20,SNR=6.0
AAK Ala-Archa 6.53 23 P Pn 07 16 13.0 +0.2
AAK S S 07 17 27.3 -0.8
AAK Ala-Archa 6.53 23 P Pn 07 16 12.6 -0.3
AAK Ala-Archa 6.53 23 PN Pn 07 16 12.6 -0.2
KBK Karagaybulak 6.69 26 P Pn 07 16 15.2 +0.2
SNR=31
FRU1 Bishkek 6.72 23 Pn 07 16 15.0 -0.3
FRU1 Bishkek 6.72 23 PN Pn 07 16 15.0 -0.3
ULHL Ulahol 6.87 34 P Pn 07 16 16.8 -0.5
SNR=20
BHK Bhakra 6.88 138 eP Pn 07 16 23.6 +6.2
BHK IAML 07 17 32.5
comp=N,726nm,1.0s
BHK IAML 07 17 33.9
comp=E,436nm,0.7s
BHK eS S 07 17 39.4 +3.0
CHMS Chumysh 6.93 23 P Pn 07 16 17.6 -0.3
SNR=15
USP Ospenovka 7.10 21 P Pn 07 16 18.9 -1.2
SNR=15
TKM2 Tokmak 2 7.16 28 P Pn 07 16 20.7 -0.3
SNR=142
KDJ Kajisay 7.23 39 Pn 07 16 21.5 -0.4
KDJ Kajisay 7.23 39 PN Pn 07 16 21.5 -0.4
TARG Taragay, Kyrgy 7.29 44 Pn 07 16 21.8 -1.0
TARG Taragay, Kyrgy 7.29 44 PN Pn 07 16 21.8 -1.0
SGDS Segindy 7.31 21 eP Pn 07 16 21.6 -1.2
SMLA Simla 7.52 136 eP Pn 07 16 27.1 +1.6
SMLA eS S 07 17 47.4 -3.7
SMLA IAML 07 17 48.1
comp=N,319nm,0.7s
SMLA IAML 07 17 50.1
comp=E,283nm,0.4s
TNSS Tian-Shan 7.81 34 eP Pn 07 16 28.7 -0.8
TNSS Tian-Shan 7.81 34 ePN Pn 07 16 28.7 -0.8
KLP Kalpa 7.88 129 eP Pn 07 16 32.4 +1.9
KLP eS S 07 17 54.5 -5.5
KLP IAML 07 17 57.4
comp=E,316nm,0.5s
KLP IAML 07 17 59.1
comp=N,425nm,0.7s
AAA Alma-Ata 7.93 33 eP Pn 07 16 30.3 -0.5
AAA Alma-Ata 7.93 33 ePN Pn 07 16 30.3 -0.5
MDOK Medeo 7.96 34 eP Pn 07 16 30.6 -0.6
MDOK eS S 07 18 01.5 0.0
MDOK Medeo 7.96 34 ePN Pn 07 16 30.6 -0.6
MDOK eS S 07 18 01.4 0.0
SATY Saty 8.53 39 eP Pn 07 16 37.5 -0.9
SATY Saty 8.53 39 ePN Pn 07 16 37.5 -0.9
BTLS Baital 8.66 14 eP Pn 07 16 39.3 -0.8
BTLS Baital 8.66 14 ePN Pn 07 16 39.2 -0.8
UZB Uzynbulak 8.91 41 eP Pn 07 16 42.2 -1.2
UZB Uzynbulak 8.91 41 ePN Pn 07 16 42.2 -1.2
SHLS Shalkode 9.15 42 eP Pn 07 16 48.5 +2.0
SHLS Shalkode 9.15 42 eP Pn 07 16 48.5 +2.0
TDK Taldyqorghan 10.01 32 eP Pn 07 16 56.3 -1.1
TDK Taldyqorghan 10.01 32 eP Pn 07 16 56.3 -1.1
MK31 Makanchi Array 13.13 36 deP Pn 07 17 35.3 -1.3
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 13.13 36 P Pn 07 17 35.8 -0.8
comp=Z,6.6nm,0.8s,baz=223,slow=18,SNR=34
BRZS Berezniki 13.36 5 eP Pn 07 17 38.7 -0.6
BRZS Berezniki 13.36 5 eP Pn 07 17 38.7 -0.6
WMQ Urumqi 14.57 56 eP P 07 17 55.5 +0.6
WMQ LR LR
comp=Z,110nm,22.3s
AB31 Akbulak array 14.95 331 Pn 07 17 57.6 -1.1
AB31 Akbulak array 14.95 331 eP Pn 07 17 57.4 -1.3
ABKAR Akbulak array 14.95 331 Pn 07 17 57.5 -1.3
KURBB Kurchatov Arra 14.95 19 P Pn 07 17 57.5 -1.2
comp=Z,4.4nm,0.6s,baz=206,slow=12,SNR=29
KURBB S S 07 20 45.4 +1.6
comp=Z,0.3nm,0.2s,baz=187,slow=30,SNR=4.4
KURK Kurchatov 15.06 19 Pn 07 18 00.0 0.0
KURK Kurchatov 15.06 19 P Pn 07 18 00.5 +0.4
KURK S S 07 20 49.2 +3.0
KURK Kurchatov 15.06 19 eP Pn 07 18 00.2 +0.2
KURK pmax pmax
comp=Z,4.0nm,1.2s
BVAR Borovoye Array 16.36 359 P P 07 18 14.9 +0.5
comp=Z,7.5nm,0.5s,baz=165,slow=12,SNR=39
BVAR S S 07 21 12.8 -1.2
comp=Z,5.5nm,0.8s,baz=183,slow=22,SNR=5.2
BANOM Banah 16.52 234 P P 07 18 16.5 0.0
BANOM S S 07 21 21.1 +3.3
BANOM Banah 16.52 234 P P 07 18 16.2 -0.2
SHME Shamm 16.53 234 P P 07 18 17.0 +0.4
SHME S S 07 21 21.1 +3.0
SHME Shamm 16.53 234 P P 07 18 16.1 -0.4
AKTO Aktyubinsk 16.65 330 P P 07 18 18.3 +0.7
comp=Z,36nm,0.8s,baz=143,slow=9.9,SNR=60
AKTO S S 07 21 18.9 -0.9
comp=Z,1.6nm,0.6s,baz=180,slow=20,SNR=1.3
MDH Madha 16.95 232 P P 07 18 21.5 +0.3
MDH Madha 16.95 232 P P 07 18 21.2 0.0
MASF Masafi 16.99 233 P P 07 18 22.3 +0.6
MASF S S 07 21 29.3 +2.1
MSFE Esma-Masafi 17.00 233 P Pn 07 18 22.9 -0.6
WSAR Wadi Sarin 17.15 222 P P 07 18 23.6 +0.2
comp=Z,0.1nm,0.6s,baz=52,slow=19,SNR=6.0
WSAR Wadi Sarin 17.15 222 P P 07 18 24.1 +0.7
BIDO Bidbid 17.20 224 P P 07 18 23.9 0.0
UMQ Umm Al-Quwin 17.21 234 P P 07 18 24.0 +0.1

UOSS Minazif 17.27 232 P P 07 18 24.9 +0.2
UOSS Minazif 17.27 232 P P 07 18 24.8 +0.2
UOSS Minazif 17.27 232 P P 07 18 24.5 -0.1
HATD Hatta, Dubai 17.40 231 P P 07 18 26.4 +0.3
ASHO Ashiyiah 17.55 231 P P 07 18 28.3 +0.6
SNR=12
ASHO Ashiyiah 17.55 231 P P 07 18 28.0 +0.3
NAZ Nazwa, Dubai 17.58 233 P P 07 18 28.7 +0.6
SMDO Samad 17.61 223 P P 07 18 29.5 +1.1
HOQ Hoqain 17.61 226 P P 07 18 28.4 -0.1
JLN Jalan Bani Buh 17.64 218 P P 07 18 29.3 +0.6
SOHO SOHO 17.66 229 P P 07 18 28.9 +0.1
FAQ Al Faqa, Dubai 17.80 232 P P 07 18 30.4 0.0
ASUD Al Ashush, Dub 18.05 233 P P 07 18 33.0 -0.1
ASUD Al Ashush, Dub 18.05 233 P P 07 18 33.8 +0.7
JMDO Jabal Madar 18.13 222 P P 07 18 34.3 +0.3
ALNE Al Ain 18.19 231 P P 07 18 34.9 +0.1
SNR=5.9
LSA Lhasa 18.20 107 P P 07 18 35.5 +0.3
ARQ Araqi 18.26 227 P P 07 18 35.8 +0.3
AJN Ajban 18.31 233 P P 07 18 35.6 -0.4
AKT Akhty 18.70 292 eP P 07 18 39.9 -0.3
MHTO MHTO 19.34 220 P P 07 18 47.4 +0.4
JRN Qarnain Island 19.48 238 P P 07 18 47.4 -1.0
UMZA Um Al Zommool 19.55 229 P P 07 18 49.4 +0.1
MZWR Madinat Zayed 19.59 234 P P 07 18 49.6 -0.1
ZAA0 Zalesovo Array 19.75 25 IAmb IAmb 07 18 52.2
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 19.75 25 P 07 18 51.1 0.0
ZALV Zalesovo Beam 19.75 25 P P 07 18 51.2 +0.2
comp=Z,10nm,0.4s,baz=213,slow=11,SNR=26
ZALV S S 07 22 17.9 -3.0
comp=Z,1.4nm,0.6s,baz=221,slow=24,SNR=2.3
ZALV Zalesovo Beam 19.75 25 i P P 07 18 51.4 +0.4
ZALV pmax pmax
comp=Z,14nm,0.6s
GHWR Ruwais 20.11 236 P P 07 18 55.2 0.0
SHMA Al-Shehemyia 20.23 243 P P 07 18 56.0 -0.4
SHMA S S 07 22 33.0 +2.4
MZR Muzera 20.39 233 P P 07 18 58.4 +0.1
MZR S S 07 22 34.9 +1.1
SAKB Bahrain 20.46 244 P P 07 18 59.0 -0.1
SAKB S S 07 22 37.0 +2.0
TRNA Turayna 20.74 241 P P 07 19 02.0 0.0
SLWR Sila 20.84 238 P P 07 19 02.9 -0.1
SHL Shillong 20.96 116 P P 07 19 04.7 +0.3
SHL Shillong 20.96 116 P P 07 19 04.0 -0.5
SHL Shillong 20.96 116 P P 07 19 04.7 +0.3
SHL pmax pmax
comp=Z,23nm,1.0s
SMRA Abu-Samra 21.01 241 P P 07 19 04.6 -0.1
SVE Sverdlovsk 21.34 344 eP P 07 19 08.5 +0.8
SVE pmax pmax
comp=Z,26nm,1.2s
ARTI Arti 21.49 341 P 07 19 09.5 +0.3
ARTI Arti 21.49 341 P P 07 19 09.8 +0.6
comp=Z,11nm,0.7s,baz=148,slow=8.0,SNR=14
comp=Z,11nm,0.7s
ARTI Arti 21.49 341 d iP P 07 19 10.0 +0.8
ARTI *PP pP 07 19 45.2 -2.5
ARTI S S 07 22 54.6 +2.7
ARTI pmax pmax
comp=Z,25nm,1.1s
BELG Belogornoye 22.77 321⇑ eP P 07 19 21.6 +0.4
BELG pmax pmax
comp=Z,4.0nm,0.8s
GTA Gaotai 22.79 74 P P 07 19 23.5 +1.8
GTA pP pP 07 20 06.4 +3.7
GTA sP sP 07 20 37.8 +6.1
GTA pmax pmax
comp=Z,6.0nm,1.0s
DOK Doka 23.34 224 P P 07 19 27.0 +0.4
WHFO Wadi Hawf 24.10 224 P P 07 19 33.5 -0.2
SNR=18
ABTO Aybut 24.82 224 P P 07 19 40.2 0.0
ABTO S S 07 23 49.6 +3.6
RAYN Ar Rayn 25.59 246 P P 07 19 47.1 0.0
RAYN Ar Rayn 25.59 246 P P 07 19 47.9 +0.7
RAYN S S 07 24 00.6 +2.4
RAYN Ar Rayn 25.59 246 P P 07 19 47.1 0.0
RAYN pmax pmax
comp=Z,15nm,0.4s
KIRV Kirov 26.10 334 ceP P 07 19 52.1 +1.0
PZH PanZhiHua 27.95 102 P P 07 20 09.8 +1.6
SONM Songino Array 28.21 56 P P 07 20 10.1 -0.2
comp=Z,3.2nm,0.8s,baz=263,slow=9.6,SNR=5.1
comp=Z,3.2nm,0.8s
ULN Ulaanbaatar 28.65 56⇑ eP P 07 20 14.9 +0.7
ULN pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 29.41 287 P P 07 20 21.3 +0.3
comp=Z,0.5nm,0.4s,baz=93,slow=9.1,SNR=2.6
comp=Z,0.5nm,0.4s
OBN Obninsk 29.83 319 eP P 07 20 23.9 -0.3
OBN e*PP pP 07 21 07.4 -2.3
OBN e 07 21 29.8
OBN e*SP sP 07 21 32.5 -3.5
OBN e 07 23 20.1
OBN pmax pmax
comp=Z,7.0nm,0.8s
CMAR Chiang Mai Arr 30.51 119 P P 07 20 28.4 -2.4
comp=Z,0.8nm,0.3s,baz=311,slow=8.2,SNR=7.7
comp=Z,0.8nm,0.3s
CMAR Chiang Mai Arr 30.51 119 ceP P 07 20 32.7 +2.0
CMAR pmax pmax
comp=Z,1.0nm,0.3s
KLMR Klimovskoe 31.34 331 eP P 07 20 34.8 -2.7
KLMR pmax pmax
comp=Z,18nm,1.2s
HHC Hu-ho-hao-te 31.67 70 eP P 07 20 41.2 +0.4
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,43nm,4.0s
AKASG Malin Array Be 32.86 309 P P 07 20 50.8 0.0
comp=Z,2.1nm,0.8s,baz=83,slow=7.2,SNR=10
comp=Z,2.1nm,0.8s
AKASG Malin Array Be 32.86 309 ceP P 07 20 51.5 +0.7
AKASG pmax pmax
comp=Z,2.0nm,0.6s
NACGM Naroch 35.11 316 eP P 07 21 12.0 +1.9
comp=Z,10.0nm,0.9s,baz=103
FIA1 FINESS Array S 37.36 326 P P 07 21 29.1 +0.2
FINES FINESS Array B 37.36 326 P P 07 21 29.8 +0.7
FINES FINESS Array B 37.36 326 P P 07 21 29.4 +0.4
comp=Z,6.0nm,0.6s,baz=110,slow=9.0,SNR=25
comp=Z,6.0nm,0.6s
FINES FINESS Array B 37.36 326 i P P 07 21 29.7 +0.7
FINES pmax pmax
comp=Z,6.0nm,0.6s
NJ2 Nanjing 39.42 82 eP P 07 21 47.0 +0.5
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
VADS Vadso 40.16 339 eP P 07 21 53.2 +1.0
KEV Kevo 40.65 338 P P 07 21 56.9 +0.8
KEV IAmb IAmb 07 21 57.9
comp=Z,11nm,0.9s
KEV Kevo 40.65 338 P P 07 21 56.9 +0.8
KEV pmax pmax
comp=Z,11nm,0.9s
ARA0 ARCESS Array S 41.00 338 eP P 07 22 00.0 +1.0
ARCES ARCESS Array B 41.00 338 P 07 21 59.8 +0.8
ARCES IAmb IAmb 07 22 00.9
comp=Z,10nm,0.8s
ARCES ARCESS Array B 41.00 338 P P 07 21 59.7 +0.8
comp=Z,9.9nm,0.6s,baz=118,slow=8.5,SNR=51
comp=Z,9.9nm,0.6s
ARCES ARCESS Array B 41.00 338 P P 07 21 59.8 +0.8
ARCES pmax pmax
comp=Z,10.0nm,0.8s
KTK1 Kautokeino 41.47 336 eP P 07 22 03.4 +0.6
ZEA Zeya 41.93 48 eP P 07 22 09.0 +2.3
ZEA pmax pmax
comp=Z,10.0nm,0.8s
HAMF Hammerfest 42.08 339 eP P 07 22 08.7 +1.0
HEH HeiHe 42.12 53 eP P 07 22 09.6 +1.3
HEH pmax pmax
comp=Z,22nm,0.8s
BNX BinXian 42.58 60 ⇑P P 07 22 11.0 -1.1
BNX pmax pmax
comp=Z,3.0nm,0.8s
HFS Hagfors 42.95 322 P P 07 22 15.2 +0.3
comp=Z,10nm,0.6s,baz=98,slow=10,SNR=26
comp=Z,10nm,0.6s

TRO Tromso 43.12 336 eP P 07 22 17.1 +1.1
FAUS Fauske 43.66 332 eP P 07 22 21.2 +0.8
MOR8 Moi Rana 43.68 331 eP P 07 22 20.6 -0.1
YAK Yakutsk 43.81 36 ceP P 07 22 23.2 +1.6
YAK pmax pmax
comp=Z,17nm,0.6s
NC303 NORSAR Array S 44.20 323 P P 07 22 25.8 +1.0
NC303 IAmb IAmb 07 23 08.8
comp=Z,33nm,1.4s
NB2 NORSAR Subarra 44.26 323 P P 07 22 25.3 0.0
comp=Z,3.4nm,0.6s,baz=95,slow=7.9
NB2 NORSAR Subarra 44.26 323 P P 07 22 25.3 0.0
comp=Z,3.4nm,0.6s,baz=95,slow=7.9
NOA NORSAR Array B 44.26 323 P P 07 22 25.1 -0.2
comp=Z,6.7nm,0.7s,baz=95,slow=8.0,SNR=17
comp=Z,6.7nm,0.7s
TIXI Tiksi 45.60 22 ceP P 07 22 37.3 +1.7
TIXI pmax pmax
comp=Z,11nm,1.0s
VLA Vladivostok 46.23 62 deP P 07 22 42.1 +1.2
VLA pmax pmax
comp=Z,18nm,0.8s
SPITS Spitsbergen Ar 47.33 347 P P 07 22 49.9 +0.9
comp=Z,3.7nm,0.6s,baz=103,slow=6.4,SNR=5.8
comp=Z,3.7nm,0.6s
TORD Torodi Ar. Bea 65.75 269 P P 07 24 57.0 -2.4
comp=Z,2.1nm,0.5s,baz=47,slow=6.1,SNR=25
comp=Z,2.1nm,0.5s
C16K Lisburne Hills 67.28 20 IAmb IAmb 07 25 09.8
comp=Z,7.3nm,0.7s
C16K Lisburne Hills 67.28 20 P P 07 25 08.8 +0.5
baz=314
B18K Kokolik River 67.42 18 P P 07 25 10.5 +1.3
baz=316,SNR=6.8
C17K DeLong Mountai 67.72 19 P P 07 25 11.9 +0.8
baz=315,SNR=5.4
B20K Meade River 68.03 16 P P 07 25 13.9 +1.0
baz=320
C18K Utukok River 68.10 18 IAmb IAmb 07 25 15.2
comp=Z,8.5nm,0.8s
C18K Utukok River 68.10 18 P P 07 25 14.1 +0.7
baz=317,SNR=7.8
C19K Lookout Ridge 68.15 17 P P 07 25 14.9 +1.1
baz=318,SNR=14
D17K Noatak River 68.30 19 P P 07 25 15.3 +0.8
baz=316,SNR=13
B22K Teshekpuk Lake 68.57 15 P P 07 25 17.3 +1.0
baz=323
B21K Ikpikpuk River 68.89 16 P P 07 25 19.5 +1.3
baz=322,SNR=7.7
F14K Arctic Creek 68.94 22 P P 07 25 19.7 +1.2
baz=314
D19K Kuna River 68.97 17 P P 07 25 19.7 +0.9
baz=319
E17K Hotham Inlet 69.08 20 P P 07 25 20.1 +0.7
baz=317
E18K Tukpahlearik C 69.15 19 IAmb IAmb 07 25 21.5
comp=Z,7.6nm,0.7s
E18K Tukpahlearik C 69.15 19 P P 07 25 20.7 +0.9
baz=318,SNR=6.8
D20K Etivluk River 69.16 17 IAmb IAmb 07 25 21.7
comp=Z,10nm,0.9s
D20K Etivluk River 69.16 17 P P 07 25 20.6 +0.7
baz=321
C21K Knifeblade Rid 69.22 16 P P 07 25 21.5 +1.2
baz=322,SNR=5.3
F15K North Star Dit 69.27 21 P P 07 25 21.9 +1.3
baz=315
C23K Itkillik River 69.55 14 P P 07 25 23.7 +1.5
baz=325,SNR=7.5
E20K Nigu River 69.61 17 P P 07 25 23.4 +0.7
baz=321
F17K Baldwin Pennin 69.70 20 P P 07 25 24.3 +1.1
baz=317,SNR=5.4
ANM Nome 69.86 23 P P 07 25 25.6 +1.3
baz=315
D22K Ayikyak River 69.90 15 IAmb IAmb 07 25 26.5
comp=Z,8.9nm,1.2s
D22K Ayikyak River 69.90 15 P P 07 25 25.5 +1.1
baz=324,SNR=6.7
G15K Niukluk 69.96 22 P P 07 25 25.7 +0.8
baz=316
E21K Killik River 69.97 16 IAmb IAmb 07 25 26.3
comp=Z,7.6nm,0.8s
E21K Killik River 69.97 16 P P 07 25 25.4 +0.5
baz=323
E19K Redstone River 69.98 18 P P 07 25 25.5 +0.6
baz=320
C24K Franklin Bluff 70.01 14 IAmb IAmb 07 25 27.3
comp=Z,8.8nm,0.8s
C24K Franklin Bluff 70.01 14 P P 07 25 26.4 +1.4
baz=327
F18K Selawik 70.02 19 P P 07 25 25.8 +0.7
baz=319,SNR=5.9
G16K Koyuk River 70.17 21 P P 07 25 27.3 +1.2
baz=317
D23K Nanushuk River 70.25 15 IAmb IAmb 07 25 28.7
comp=Z,9.8nm,1.1s
D23K Nanushuk River 70.25 15 P P 07 25 27.6 +1.0
baz=325,SNR=5.3
F19K Shaleruckik Mo 70.33 18 P P 07 25 27.8 +0.8
baz=320
D24K Happy Valley 70.47 14 P P 07 25 28.8 +0.9
baz=327
C26K Camden Bay 70.53 12 P P 07 25 29.5 +1.3
baz=330
G17K Kiwalik Mounta 70.57 20 P P 07 25 29.3 +0.8
baz=318
F20K Avaraart Lake 70.67 18 P P 07 25 30.1 +1.1
baz=322
E22K Anaktuvuk Pass 70.70 16 IAmb IAmb 07 25 31.0
comp=Z,9.7nm,1.2s
E22K Anaktuvuk Pass 70.70 16 P P 07 25 30.0 +0.7
baz=325
TOLK Toolik Lake Re 70.75 15 P P 07 25 30.7 +1.1
TOLK Toolik Lake Re 70.75 15 P P 07 25 30.7 +1.1
baz=326,SNR=10
H16K Elim 70.75 21 P P 07 25 30.7 +1.1
baz=317
D25K Kavik River 70.79 13 IAmb IAmb 07 25 32.2
comp=Z,7.5nm,0.8s
D25K Kavik River 70.79 13 P P 07 25 31.1 +1.3
baz=329,SNR=9.5
G18K Tagagawik 70.82 19 P P 07 25 31.0 +1.0
baz=320
C27K Jago River 70.99 12 P P 07 25 32.5 +1.5
baz=331,SNR=6.6
G19K Purcell Mounta 71.03 19 P P 07 25 31.9 +0.6
baz=321,SNR=8.2
F21K Alatna River 71.06 17 IAmb IAmb 07 25 34.2
comp=Z,6.5nm,0.8s
F21K Alatna River 71.06 17 P P 07 25 32.2 +0.7
baz=324,SNR=9.7
F22K John River 71.13 16 P P 07 25 33.0 +1.1
baz=324
H17K Granite Mounta 71.20 20 P P 07 25 33.1 +0.8
baz=319
E23K Chandalar 71.22 15 IAmb IAmb 07 25 34.7
comp=Z,8.9nm,1.2s
E23K Chandalar 71.22 15 P P 07 25 33.4 +0.8
baz=326
E24K Your Creek 71.44 15 IAmb IAmb 07 25 35.8
comp=Z,4.5nm,0.7s
E24K Your Creek 71.44 15 P P 07 25 35.0 +1.1
baz=327,SNR=8.2
H18K Honhosa River 71.46 20 P P 07 25 34.5 +0.6
baz=320
G21K Allakaket 71.63 17 P P 07 25 35.0 +0.2
baz=324,SNR=6.2
H19K Roundabout Mou 71.68 19 IAmb IAmb 07 25 36.9
comp=Z,5.8nm,0.7s
H19K Roundabout Mou 71.68 19 P P 07 25 36.1 +1.0
baz=321,SNR=5.9
G22K Bettles 71.76 16 P P 07 25 36.2 +0.6
baz=325
I17K Unalakleet 71.77 21 P P 07 25 36.5 +0.9
baz=318
D27M Malcolm River 71.79 11 P P 07 25 36.5 +0.6
baz=333
COLD Coldfoot 71.80 16 IAmb IAmb 07 25 37.7
comp=Z,9.4nm,1.0s
COLD Coldfoot 71.80 16 P P 07 25 36.7 +0.9
baz=326,SNR=9.8
K13K Kusilvak Mount 71.96 24 P P 07 25 37.9 +1.0
baz=316
E25K Arctic Village 71.98 14 P P 07 25 37.8 +0.8
baz=330
IMAR Indian Mountai 72.00 18 P P 07 25 37.6 +0.6

F24K	Squaw Lake baz=328	72.04	15	P	P	07 25 38.5	+1.2
D28M	Stokes Point baz=335	72.05	11	P	P	07 25 37.9	+0.6
H20K	Anotleneega Mo baz=323,SNR=9.1	72.11	18	P	P	07 25 38.4	+0.7
GCSA	Galena City Sc baz=321	72.18	20	P	P	07 25 39.2	+1.0
J16K	Anvik River baz=319	72.25	22	P	P	07 25 39.9	+1.3
G23K	Bananza Creek baz=326,SNR=5.7	72.27	16	P	P	07 25 39.5	+0.8
F25K	Christian Rive baz=330,SNR=7.1	72.42	14	P	P	07 25 41.1	+1.5
H21K	Melozitna Rive baz=324,SNR=5.5	72.49	18	P	P	07 25 40.8	+0.7
M11K	Mekoryuk baz=315	72.54	26	P	P	07 25 41.0	+0.7
E28M	Babbage River	72.59	11		P	07 25 41.8	+1.2
E28M	comp=Z,9.8nm,1.3s			IAmb	IAmb	07 25 42.9	
E28M	Babbage River baz=335,SNR=5.8	72.59	11	P	P	07 25 41.9	+1.3
J17K	VABM Dome baz=320	72.61	21	P	P	07 25 41.5	+0.8
F26K	Sheenjek River baz=331	72.61	13	P	P	07 25 41.8	+1.0
E27K	Coleen River baz=333,SNR=5.4	72.63	12	P	P	07 25 42.2	+1.4
H22K	Ishtalitna Cre baz=325	72.64	17	P	P	07 25 41.7	+0.8
K15K	Wolf Creek Mou baz=318	72.70	23	P	P	07 25 42.7	+1.4
BMAR	Burnt Mountain	72.77	14	P	P	07 25 43.0	+1.4
I20K	Naaghedeneel comp=Z,9.1nm,0.8s	72.77	19	IAmb	IAmb	07 25 43.6	
I20K	Naaghedeneel baz=323	72.77	19	P	P	07 25 42.7	+1.1
G24K	Hadweenzic Riv comp=Z,5.1nm,0.7s	72.82	15	IAmb	IAmb	07 25 44.1	
G24K	Hadweenzic Riv baz=328,SNR=6.7	72.82	15	P	P	07 25 43.2	+1.2
E29M	Blow River baz=336,SNR=5.6	73.04	11	P	P	07 25 44.5	+1.3
L14K	Kuka Creek baz=317	73.04	24	P	P	07 25 44.8	+1.6
G25K	Bearman Lake baz=330,SNR=5.9	73.05	15	P	P	07 25 44.7	+1.5
J19K	Poorman baz=322,SNR=11	73.11	20	P	P	07 25 44.7	+1.0
H23K	Yukon River comp=Z,5.6nm,0.8s	73.11	16	IAmb	IAmb	07 25 46.0	
H23K	Yukon River baz=327	73.11	16	P	P	07 25 45.0	+1.3
J18K	Innoko River comp=Z,7.2nm,0.7s	73.23	20	IAmb	IAmb	07 25 46.1	
J18K	Innoko River baz=322,SNR=9.0	73.23	20	P	P	07 25 45.3	+0.9
G26K	Porcupine Rive baz=331	73.34	14	P	P	07 25 46.0	+1.2
J20K	Nowinta River comp=Z,7.9nm,0.7s	73.36	19	IAmb	IAmb	07 25 47.0	
J20K	Nowinta River baz=324,SNR=13	73.36	19	P	P	07 25 46.1	+1.1
K17K	Iditarod baz=320,SNR=6.4	73.36	21	P	P	07 25 46.3	+1.2
F28M	Old Crow baz=334	73.44	12	P	P	07 25 46.7	+1.2
H24K	Noodor Dome baz=328,SNR=7.4	73.47	16	P	P	07 25 47.1	+1.3
M13K	Dall Lake baz=317	73.50	25	P	P	07 25 47.0	+1.1
MLY	Manley	73.50	17		P	07 25 46.8	+0.8
MLY	Manley baz=326,SNR=6.0	73.50	17	P	P	07 25 46.6	+0.6
H25L	Birch Creek baz=330	73.54	15	P	P	07 25 47.6	+1.6
C36M	Paulatuk baz=347	73.70	6	P	P	07 25 47.3	+0.4
M14K	Bethel baz=318	73.72	24	P	P	07 25 48.8	+1.6
I23K	Minto, Yukon-K comp=Z,8.0nm,0.9s	73.73	17	IAmb	IAmb	07 25 49.3	
I23K	Minto, Yukon-K baz=327,SNR=6.5	73.73	17	P	P	07 25 48.3	+1.1
INK	Inuvik	73.73	9		P	07 25 48.1	+1.0
INK	comp=Z,7.9nm,0.7s			IAmb	IAmb	07 25 49.1	
INK	Inuvik	73.73	9	P	P	07 25 48.1	+1.0
INK	comp=Z,8.0nm,0.7s			pmax	pmax		
INK	Inuvik baz=340,SNR=6.5	73.73	9	P	P	07 25 48.2	+1.0
L16K	Owhat River comp=Z,7.0nm,0.7s	73.78	23	IAmb	IAmb	07 25 49.6	
L16K	Owhat River baz=320	73.78	23	P	P	07 25 49.1	+1.6
L17K	Donlin baz=321	73.81	22	P	P	07 25 49.0	+1.2
G27K	Doyon Strip comp=Z,5.8nm,0.7s	73.85	13	IAmb	IAmb	07 25 50.3	
G27K	Doyon Strip baz=333,SNR=13	73.85	13	P	P	07 25 49.3	+1.4
K20K	Telida baz=324,SNR=12	74.04	19	P	P	07 25 50.1	+1.0
CHUM	Lake Minchumin baz=325	74.07	18	P	P	07 25 50.2	+1.0
F30M	Barrier River comp=Z,6.8nm,0.8s	74.07	10	IAmb	IAmb	07 25 52.0	
F30M	Barrier River baz=338	74.07	10	P	P	07 25 50.2	+1.1
M15K	Kasigluk River baz=319	74.17	24	P	P	07 25 51.5	+1.7
POKR	Poker Plat Res baz=329	74.19	16	P	P	07 25 50.9	+1.1
L18K	Granite Mounta baz=322	74.22	21	P	P	07 25 51.2	+1.1
BPAW	Bear Paw Mtn. comp=Z,9.1nm,1.2s	74.22	18	IAmb	IAmb	07 25 51.4	
BPAW	Bear Paw Mtn. baz=326,SNR=6.5	74.22	18	P	P	07 25 50.5	+0.4
PRP	Porcupine Dome baz=330	74.25	15	P	P	07 25 51.3	+0.9
NEA2	Nenana baz=328,SNR=5.4	74.26	17	P	P	07 25 50.9	+0.6
COLA	College	74.30	16	P	P	07 25 51.4	+0.9
COLA	College	74.30	16	P	P	07 25 51.4	+0.9
COLA	comp=Z,15nm,0.9s			pmax	pmax		
G29M	Pine Creek baz=336	74.38	11	P	P	07 25 52.0	+1.0
H27K	Steamboat Moun comp=Z,8.7nm,0.8s	74.40	13	IAmb	IAmb	07 25 53.4	
H27K	Steamboat Moun baz=333,SNR=9.7	74.40	13	P	P	07 25 52.4	+1.3
N14K	Kuskokwak Cree baz=318	74.43	25	P	P	07 25 52.3	+1.0
M16K	Timber Creek baz=320	74.47	23	P	P	07 25 53.0	+1.4
F31M	Tsiigehtchic baz=340	74.52	10	P	P	07 25 52.5	+0.8
G30M	tAoh Zraii Nji baz=338	74.59	11	P	P	07 25 53.1	+0.9
ILAR	Eielson Array	74.60	16	P	P	07 25 52.1	-0.2
ILAR	Eielson Array comp=Z,3.1nm,0.9s,baz=328,slow=6.2,SNR=35	74.60	16	P	P	07 25 52.0	-0.2
ILAR	comp=Z,3.1nm,0.9s Eielson Array	74.60	16	P	P	07 25 52.1	-0.2
M17K	Holitna River baz=321,SNR=5.2	74.64	22	P	P	07 25 53.9	+1.4
KTH	Kantishna Hill comp=Z,8.2nm,0.7s	74.69	18	IAmb	IAmb	07 25 54.3	
L19K	White Mountain baz=323	74.77	20	P	P	07 25 54.4	+1.0
L20K	Farewell, AK baz=324,SNR=5.4	74.80	20	P	P	07 25 54.6	+1.1
HDA	Harding Lake baz=329	74.90	16	P	P	07 25 54.3	+0.3
I26K	Coal Creek Min baz=332,SNR=5.8	74.91	14	P	P	07 25 55.1	+1.1
PPLA	Purkeypile baz=325	74.91	19	P	P	07 25 54.8	+0.6
G31M	Satah River baz=339	74.93	10	P	P	07 25 54.8	+0.8
TRF	Thorofare Moun baz=327	74.93	18	P	P	07 25 54.9	+0.5
I27K	Kandik River baz=333	74.94	13	P	P	07 25 55.3	+1.0
N16K	Nishlik Lake baz=321,SNR=5.1	74.95	23	P	P	07 25 56.0	+1.6
H29M	Whitestone baz=336,SNR=6.6	74.95	12	P	P	07 25 55.3	+1.0
MCK	McKinley baz=328	75.02	17	P	P	07 25 55.5	+0.8
M18K	Stony River baz=323	75.05	21	P	P	07 25 55.7	+0.9
J25K	Salcha River, baz=330,SNR=7.9	75.07	15	P	P	07 25 55.1	+0.1
O14K	Tigyukauivet M baz=319	75.07	25	P	P	07 25 55.8	+0.8
EPYK	Eagle Plains baz=337	75.08	11	P	P	07 25 55.6	+0.5
RND	Reindeer comp=Z,5.0nm,0.7s	75.32	17	IAmb	IAmb	07 25 57.1	
I28M	Miner Creek comp=Z,6.0nm,0.7s	75.39	13	IAmb	IAmb	07 25 58.3	
I28M	Miner Creek baz=335,SNR=8.4	75.39	13	P	P	07 25 57.5	+0.6
N17K	Nushagak Hills baz=322	75.40	22	P	P	07 25 58.2	+1.3
M20K	Styx River baz=325	75.49	20	P	P	07 25 58.2	+0.7
J26L	Joseph Creek comp=Z,5.8nm,0.7s	75.54	15	IAmb	IAmb	07 25 59.3	
J26L	Joseph Creek baz=332,SNR=9.5	75.54	15	P	P	07 25 58.5	+0.8
O15K	Ungalikthiuk R baz=320	75.61	24	P	P	07 25 59.3	+1.2
N18K	Kilae Creek baz=323	75.67	22	P	P	07 25 59.8	+1.3
K24K	Donnelly Dome baz=330,SNR=8.2	75.69	16	P	P	07 25 58.9	+0.4
SKT	Skwentna comp=Z,7.2nm,1.1s	75.84	19	IAmb	IAmb	07 26 00.7	
SKT	Skwentna baz=326,SNR=7.3	75.84	19	P	P	07 25 59.5	0.0
O16K	Kokwok River B baz=321	75.85	23	P	P	07 25 59.9	+0.5
WAT1	Susitna Watana baz=328	75.88	18	P	P	07 25 60.0	+0.3
SCRK	Sand Creek comp=Z,4.7nm,0.6s	75.92	15	IAmb	IAmb	07 26 01.5	
SCRK	Sand Creek baz=332,SNR=7.2	75.92	15	P	P	07 26 00.7	+0.7
RIDG	Independent Ri baz=331	75.95	16	P	P	07 26 00.3	+0.3
DHY	Denali Highway comp=Z,6.7nm,0.7s	75.95	17	IAmb	IAmb	07 26 01.7	
DHY	Denali Highway baz=329,SNR=8.1	75.95	17	P	P	07 26 00.4	+0.2
H31M	Peel River baz=339	75.97	10	P	P	07 26 00.7	+0.7
N19K	Bonanza Creek baz=324	75.98	21	P	P	07 26 01.1	+0.8
O17K	Koliganek Bris baz=322	76.03	23	P	P	07 26 01.6	+1.1
I30M	Mount Dempster comp=Z,5.6nm,0.8s	76.20	12	IAmb	IAmb	07 26 03.0	
I30M	Mount Dempster baz=338,SNR=8.0	76.20	12	P	P	07 26 02.2	+0.7
K27K	Chicken baz=333	76.27	14	P	P	07 26 02.8	+1.0
WAT6	Susitna Watana baz=329	76.29	17	P	P	07 26 01.7	-0.4
P16K	Nushagak River baz=321	76.33	24	P	P	07 26 03.0	+0.9
M22K	Willow baz=327	76.40	19	P	P	07 26 02.8	+0.3
SUA	Susitna One baz=327	76.48	19	P	P	07 26 03.4	+0.2
PAX	Paxson comp=Z,6.0nm,0.6s	76.48	16	IAmb	IAmb	07 26 04.2	
PAX	Paxson baz=331,SNR=6.9	76.48	16	P	P	07 26 03.4	+0.3
P17K	Kvichak River baz=323	76.69	23	P	P	07 26 05.7	+1.6
DAWY	Dawson	76.75	13	P	P	07 26 05.1	+0.6
DAWY	Dawson baz=335,SNR=6.5	76.75	13	P	P	07 26 04.7	+0.2
PMR	Palmer comp=Z,4.6nm,0.6s	76.79	18	IAmb	IAmb	07 26 38.3	
PMR	Palmer baz=328	76.79	18	P	P	07 26 05.3	+0.6
J30M	Hart River baz=338	76.81	12	P	P	07 26 05.4	+0.5
L26K	Log Cabin Wild baz=332	76.90	15	P	P	07 26 06.3	+1.0
P18K	Big Mountain, comp=Z,8.5nm,1.1s	76.91	22	IAmb	IAmb	07 26 07.3	
P18K	Big Mountain, baz=324	76.91	22	P	P	07 26 05.8	+0.3
M23K	Glacier View baz=329,SNR=7.0	76.97	18	P	P	07 26 06.4	+0.6
Q16K	King Salmon baz=322	77.03	23	P	P	07 26 07.1	+1.0
SCM	Sheep Creek Mo baz=329	77.03	18	P	P	07 26 06.4	+0.3
HARP	HAARP baz=331,SNR=6.9	77.05	16	P	P	07 26 06.8	+0.6
RC01	Rabbit Creek A baz=328	77.06	19	P	P	07 26 07.1	+0.8
M24K	Tolsona, Glenn baz=330	77.07	17	P	P	07 26 07.4	+1.1
KNK	Knik Glacier baz=328	77.12	18	P	P	07 26 06.9	+0.3
L27K	Beaver Creek, baz=334	77.18	15	P	P	07 26 07.8	+0.9
BCAR	Beaver Creek A	77.19	15	P	P	07 26 07.9	+0.9
K29M	Barlow Dome baz=337,SNR=5.5	77.28	13	P	P	07 26 08.3	+0.7
P19K	Oil Pt baz=325	77.29	21	P	P	07 26 07.7	+0.1
S12K	Black Hills baz=319	77.47	28	P	P	07 26 09.0	+0.4
M26K	Nabesna, AK baz=333	77.53	15	P	P	07 26 09.0	+0.1
Q18K	Katmai Hardscr baz=324	77.58	23	P	P	07 26 09.8	+0.5
Q17K	Contact Creek baz=323	77.61	23	P	P	07 26 09.0	-0.4
R16K	Pilot Point baz=322	77.61	24	P	P	07 26 09.5	+0.2
PWL	Port Wells baz=329	77.62	19	P	P	07 26 09.3	-0.1
KLU	Klutina baz=330	77.67	17	P	P	07 26 10.0	+0.4
HOM	Homer baz=326	77.74	21	P	P	07 26 11.0	+1.0
Q19K	Cape Douglas, baz=325	77.76	22	P	P	07 26 10.5	+0.3
MAYO	Mayo, Yukon baz=338	77.79	12	P	P	07 26 10.2	0.0
M27K	Edge Creek, AK baz=334,SNR=8.2	77.80	15	P	P	07 26 11.0	+0.5
L29M	L29M baz=336,SNR=6.5	77.85	13	P	P	07 26 11.1	+0.5
MORW	Morawa	77.86	141	P	P	07 26 10.5	-0.6
N25K	Chitina, Valde baz=331	77.88	17	P	P	07 26 11.1	+0.2
GLI	Glacier Island baz=330	77.92	18	P	P	07 26 11.6	+0.7
BRSE	Bradley Lake S baz=327	77.93	20	P	P	07 26 11.1	0.0
S14K	Fog Glacier baz=321	77.94	26	P	P	07 26 11.5	+0.3
BVCY	Beaver Creek baz=334,SNR=7.5	77.96	15	P	P	07 26 11.5	+0.3
R17L	Mt. Peulik Vol baz=323	77.96	24	P	P	07 26 11.3	0.0
SEW	Seward baz=328	77.97	19	P	P	07 26 10.9	-0.3
SDPT	Sand Point baz=320	78.32	27	P	P	07 26 13.3	+0.1
Q20K	Shuyak Island baz=326	78.40	22	P	P	07 26 14.0	+0.4
M29M	Somme Creek baz=336	78.40	14	P	P	07 26 13.7	0.0
MCARA	McCarthy VSAT baz=333	78.43	16	P	P	07 26 13.1	-0.7
BMRM	Bremner River	78.44	17	P	P	07 26 14.5	+0.6
BMRM	comp=Z,12nm,1.2s			IAmb	IAmb	07 26 16.4	
BMRM	Bremner River baz=326	78.44	17	P	P	07 26 13.7	-0.2
EYAK	Cordova Ski Ar baz=331	78.53	18	P	P	07 26 15.1	+0.8
M30M	Minto, Yukon	78.58	13	P	P	07 26 15.1	+0.5
M30M	Minto, Yukon baz=338	78.58	13	P	P	07 26 15.2	+0.5
YUK3	Moose Creek baz=335	78.62	15	P	P	07 26 15.4	+0.3
R18K	Karluk baz=324	78.63	23	P	P	07 26 15.4	+0.5
CRQE	Cirque baz=333	78.98	16	P	P	07 26 17.3	+0.4
KDAK	Kodiak Island	79.03	22	P	P	07 26 17.6	+0.6
KDAK	comp=Z,9.9nm,0.9s			IAmb	IAmb	07 26 18.5	
KDAK	Kodiak Island	79.03	22	P	P	07 26 17.7	+0.6
KDAK	comp=Z,10.0nm,1.0s			pmax	pmax		
KDAK	Kodiak Island baz=326	79.03	22	P	P	07 26 17.6	+0.6
CHNA	Chernabura Isl baz=321	79.05	27	P	P	07 26 17.6	+0.4
CTG	Chitna Glacier baz=334	79.17	15	P	P	07 26 18.6	+0.6
YUK8	Steele Glacier baz=335	79.21	15	P	P	07 26 18.9	+0.6
OHAK	Old Harbor	79.27	23	P	P	07 26 19.7	+1.4
OHAK	Old Harbor baz=325	79.27	23	P	P	07 26 19.3	+1.0
M31M	Drury Creek, Y baz=340	79.34	12	P	P	07 26 19.5	+0.7
YUK4	Talbot Arm baz=336	79.38	14	P	P	07 26 19.9	+0.7
KAIM	Kayak Island baz=332	79.40	17	P	P	07 26 20.2	+1.1
MMPY	Sheldon Lake, baz=342	79.43	10	P	P	07 26 20.1	+0.8
N30M	Aishikik Lake baz=337	79.57	13	P	P	07 26 20.7	+0.7
O28M	Mount Upton baz=335	79.59	15	P	P	07 26 20.8	+0.4
CHIR	Chirikof Islan baz=324	79.66	25	P	P	07 26 21.3	+0.8
MESA	MESA baz=334	79.75	16	P	P	07 26 20.8	-0.4
WRGLY	Wrigley baz=348	79.76	7	P	P	07 26 20.6	-0.3
N31M	Braeburn, Yuko baz=338	79.78	13	P	P	07 26 21.3	+0.2
YUK6	Outpost Mounta baz=336	79.80	14	P	P	07 26 21.7	+0.2
HYT	Haines Junctio baz=337	80.08	14	P	P	07 26 23.2	+0.4
PINM	Pinnacle baz=335	80.19	15	P	P	07 26 23.6	+0.2
O29M	Mount Kennedy baz=336	80.35	14	P	P	07 26 25.5	+1.2
O30N	Mendenhall baz=338	80.39	13	P	P	07 26 24.9	+0.5
N32M	Quiet Lake baz=341	80.55	12	P	P	07 26 25.5	+0.2
WHY	Whitehorse baz=339	80.71	13	P	P	07 26 26.4	+0.3
PNL	Peninsula baz=336	80.76	15	P	P	07 26 26.9	+0.5
P30M	Million Dollar baz=338	80.83	14	P	P	07 26 26.9	+0.1
TGTN	Hyland Airport baz=344	80.89	9	P	P	07 26 26.8	-0.2
YKA	Yellowknife Ar comp=Z,2.3nm,0.8s,baz=359,slow=5.4,SNR=6.3	81.07	3	P	P	07 26 27.0	-0.9
YKA	comp=Z,2.3nm,0.8s Yellowknife Ar	81.07	3*ce*	P	P	07 26 28.7	+0.8
YKA	comp=Z,1.0nm,0.5s			pmax	pmax		
P29M	Windy Craggy baz=337	81.13	14	P	P	07 26 28.4	+0.1
P33M	Teslin, Yukon baz=341,SNR=7.9	81.48	12	P	P	07 26 30.6	+0.4
PLBC	Pleasant Camp baz=338,SNR=5.1	81.56	14	P	P	07 26 31.2	+0.6
SKAG	Skagway baz=339	81.75	13	P	P	07 26 31.9	+0.4
P32M	Atlin baz=340	81.92	12	P	P	07 26 32.8	+0.3
WRA	Warramunga Arr comp=Z,4.0nm,0.8s,baz=313,slow=5.3,SNR=23	82.06	122	P	P	07 26 31.9	-1.7
WRA	comp=Z,4.0nm,0.8s Warramunga Arr	82.06	122 *i*	P	P	07 26 32.2	-1.5
WRA	comp=Z,4.0nm,0.8s			pmax	pmax		
WR8	Warramunga Arr	82.17	122	P	P	07 26 33.1	-1.2
WR8	comp=Z,9.7nm,1.1s			IAmb	IAmb	07 26 34.2	
WTLY	Watson Lake, Y baz=344	82.19	10	P	P	07 26 34.4	+0.6
R33M	Jennings River baz=342	82.56	11	P	P	07 26 36.1	+0.2
KOTAN	Kotaneelee Air baz=348	82.75	8	P	P	07 26 37.2	+0.6
Q32M	Nakina River baz=341	82.76	12	P	P	07 26 37.5	+0.5
S31K	Pelican baz=338	82.98	14	P	P	07 26 38.4	+0.6
R32K	Eaglecrest baz=340	83.02	13	P	P	07 26 38.7	+0.6
DLBC	Dease Lake baz=343	83.62	11	P	P	07 26 41.7	+0.5
TOAD	Toad River Com baz=347	83.87	8	P	P	07 26 43.0	+0.5
S34M	Telegraph Cree baz=342,SNR=5.0	83.95	12	P	P	07 26 43.6	+0.8
SIT	Sitka baz=339	84.00	14	P	P	07 26 43.2	+0.1
ASAR	Alice Springs comp=Z,4.3nm,0.7s,baz=314,slow=5.1,SNR=45	84.33	125	P	P	07 26 43.8	-1.4
WRAK	comp=Z,4.3nm,0.7s Wrangell Islan baz=341	85.16	13	P	P	07 26 48.8	-0.1
U33K	Whale Pass baz=341	85.31	13	P	P	07 26 49.7	+0.1
CRAG	Craig baz=341	85.92	14	P	P	07 26 52.6	0.0
V35K	Ketchikan baz=342	86.33	13	P	P	07 26 55.0	+0.4
Y22D	IRIS PASSCAL I baz=1.8	109.59	358	P	PKiKP	07 32 42.8	+0.3
TXAR	Lajitas Array comp=Z,0.1nm,0.4s,baz=15,slow=5.3,SNR=1.6	114.15	355	PKiKP	PKiKP	07 32 50.9	-0.3
VNDA	Vanda comp=Z,0.4nm,0.8s,baz=266,slow=3.6,SNR=2.8	125.66	164	PKP	PKPdf	07 33 10.5	-1.1
PLCA	Paso Flores comp=Z,3.8nm,0.8s,baz=113,slow=7.7,SNR=6.9	149.91	250	PKPbc	PKPbc	07 34 01.6	-0.1

IDC ***11*** *07:15:17.7±3.7,53.71N×88.11E,h0km,mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=36.4km s-min=20.6km az=49.0*

ASRS 11 07:15:14.0±1.2,53.72N×88.18E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA baz=94,slow=335,SNR=16	2.00	278	I	I	07 28 35.0	
ZALV	Zalesovo Beam 0.7nm,0.3s,baz=98,slow=12,SNR=12	2.00	278	Pn	Pg	07 15 52.5	+0.1
ZALV	1.5nm,0.3s,baz=98,slow=22,SNR=8.0			Lg	Lg	07 16 19.5	
KURBB	Kurchatov Arra 0.1nm,0.3s,baz=59,slow=14,SNR=2.1	6.70	246	Pn	Pn	07 16 57.3	+3.8
MKAR	0.6nm,0.5s Makanchi Array 0.1nm,0.3s,baz=32,slow=14,SNR=2.4	7.89	211	Pn	Pn	07 17 14.0	+4.1
	0.1nm,0.3s						

SOME ***11*** *07:24:39.8,49.57N×81.60E*

NNC 11 07:24:40.2±2.5,49.69N×81.66E,h0km,mb3.5,mpv2.7, 4C-2D,Error ellipse: s-maj=37.5km s-min=6.2km az=52.0,Suspected Mining explosion.,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov 5.5nm,0.8s	2.21	299	⇑Pg	Pb	07 25 20.5	-0.5
KURK	14nm,0.9s			⇓Lg	Lg	07 25 50.2	

KURBB	**Kurchatov Arra**	**2.22**	**296**	⇑Pg	Pb	07 25 20.9	-0.3
	14nm,0.8s						
KURBB				⇑Lg	Lg	07 25 50.4	
	39nm,0.7s						
MK31	**Makanchi Array**	**2.93**	**172**	⇑Pg	Pb	07 25 33.8	+0.4
	0.1nm,0.1s						
MK31				⇓Lg	Lg	07 26 12.9	
	4.2nm,0.6s,baz=359,slow=30,SNR=13						

IDC ***11*** *07:45:12.1±3.3,53.60N×87.81E,h0km,mbtmp2.7/2, ML2.2/2,Error ellipse: s-maj=27.9km s-min=17.2km az=58.0*

ASRS 11 07:45:08.0±1.2,53.64N×87.97E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**281**	I	I	07 57 30.0	
	baz=97,slow=337,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.90**	**281**	Pg	Pg	07 45 44.4	+0.1
	1.1nm,0.3s,baz=100,slow=15,SNR=24						
ZALV				Lg	Lg	07 46 10.3	
	2.2nm,0.3s,baz=104,slow=26,SNR=12						
KURBB	**Kurchatov Arra**	**6.55**	**246**	Pn	Pn	07 46 48.6	+3.1
	baz=62,slow=15,SNR=2.8						
KURBB				Lg	Lg	07 48 36.1	
	0.1nm,0.3s,baz=59,slow=32,SNR=4.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.76**	**210**	Pn	Pn	07 47 06.8	+4.6
	baz=28,slow=15,SNR=1.4						
MKAR				Lg	Lg	07 49 13.8	
	0.1nm,0.3s,baz=21,slow=30,SNR=2.0						
	0.2nm,0.4s						

ASRS ***11*** *07:54:31.0±1.0,53.94N×86.61E,h0km,M2.9,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC ***11*** *07:54:34.6±2.1,53.90N×86.57E,h0km,mbtmp3.3/3, ML2.9/3,Error ellipse: s-maj=17.9km s-min=10.8km az=63.0*

NNC ***11*** *07:54:34.2±3.0,53.86N×86.57E,h0km,mb2.8,mpv2.7, Error ellipse: s-maj=22.5km s-min=11.8km az=44.0, Suspected Mining explosion.*

ISC 11 07:54:33.5±3.5,54.0N±0.1×86.5E±0.2,h0km,n9,σ1968/15, 8C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**269**	I	I	08 01 40.0	
	baz=88,slow=326,SNR=2.6						
ZAA0	**Zalesovo Array**	**1.02**	**269**	⇑P	**Pb**	**07 54 53.1**	**-0.9**
	0.2nm,0.2s						
ZAA0				⇓S	**Sb**	**07 55 09.0**	**+1.1**
	1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**1.02**	**269**	Pg	**Pg**	**07 54 52.7**	**-0.3**
	2.1nm,0.3s,baz=91,slow=17,SNR=20						
ZALV				Lg	Lg	07 55 09.1	
	12nm,0.3s,baz=94,slow=29,SNR=46						
KURK	**Kurchatov**	**5.85**	**239**	⇑Pn	**Pn**	**07 56 03.2**	**+1.8**
KURK				⇑Sn	**Sn**	**07 57 08.4**	**-0.8**
KURK				⇓Lg	Lg	07 57 37.8	
KURBB	**Kurchatov Arra**	**5.96**	**239**	⇓Pn	**Pn**	**07 56 04.2**	**+1.4**
	1.8nm,0.3s						
KURBB				⇑Sn	**Sn**	**07 57 13.1**	**+1.4**
	2.3nm,0.5s						
KURBB				⇑Lg	Lg	07 57 44.0	
	5.7nm,0.7s						
KURBB	**Kurchatov Arra**	**5.96**	**239**	Pn	**Pn**	**07 56 04.8**	**+2.0**
	0.3nm,0.3s,baz=55,slow=13,SNR=19						
KURBB				Sn	**Sn**	**07 57 12.4**	**+0.8**
	baz=53,slow=23,SNR=1.6						
KURBB				Lg	Lg	07 57 41.9	
	0.1nm,0.3s,baz=60,slow=33,SNR=4.9						
	1.8nm,0.3s						
MK31	**Makanchi Array**	**7.69**	**202**	⇑Pn	**Pn**	**07 56 27.8**	**+1.1**
	0.1nm,0.2s,baz=22,slow=12,SNR=40						
MK31				⇑Sn	**Sn**	**07 57 52.6**	**-1.9**
	0.3nm,0.5s						
MK31				⇑Lg	Lg	07 58 32.6	
	0.5nm,0.6s,baz=30,slow=32,SNR=3.8						
MKAR	**Makanchi Array**	**7.69**	**202**	Pn	**Pn**	**07 56 27.7**	**+1.0**
	0.6nm,0.3s,baz=22,slow=13,SNR=25						
MKAR				Sn	**Sn**	**07 57 53.4**	**-1.1**
	0.1nm,0.3s,baz=27,slow=26,SNR=3.3						
MKAR				Lg	Lg	07 58 33.6	
	0.1nm,0.3s,baz=24,slow=28,SNR=5.9						
	0.9nm,0.3s						
BVAR	**Borovoye Array**	**9.68**	**271**	Pn	**Pn**	**07 56 55.1**	**+1.2**
	baz=83,slow=15,SNR=1.8						
BVAR				Sn	**Sn**	**07 58 39.9**	**-3.2**
	baz=83,slow=25,SNR=1.8						
	0.3nm,0.3s						

UPA ***11*** *08:04:30.8±1.6,9.54N×83.81W,h3km±10km,MW3.7*

CATAC ***11*** *08:04:30.7±0.2,10°N±2°×8°4W±°,h13km±1km,M3.5/11, MLv3.5/11,Error ellipse: s-maj=4.6km s-min=2.7km az=44.7,confirmed*

UCR ***11*** *08:04:31.1±1.2,9.55N×83.92W,h28km±1km,MW3.5*

ISC 11 08:04:31.3±0.9,9.55N±0.02×83.92W±0.02,h28km±4km, n156,σ0972/226,31C-44D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIEC	**Cerro El Cedra**	**0.09**	**333**	⇓*i*P	**Pb**	**08 04 36.3**	**-0.3**
PIEC				*e*S	**Sb**	**08 04 40.5**	**+0.3**
RAZU	**San Marcos de**	**0.15**	**317**	⇓*e*P	**Pb**	**08 04 36.7**	**-0.3**
RAZU				*e*S	**Sb**	**08 04 41.2**	**+0.3**
PITB	**Pirrs, San**	**0.15**	**318**	⇓*i*P	**Pb**	**08 04 36.7**	**-0.3**
PITB				*e*S	**Sb**	**08 04 41.1**	**+0.2**
BUS1	**Rivas**	**0.17**	**88**	⇓*i*P	**Pb**	**08 04 36.8**	**-0.6**
BUS1				*e*S	**Sb**	**08 04 41.5**	**-0.1**
LLNJ	**Naranjito**	**0.19**	**248**	⇑*i*P	**Pb**	**08 04 37.0**	**-0.2**
LLNJ				*e*S	**Sb**	**08 04 41.7**	**+0.5**
LCR2	**La Lucha 2**	**0.21**	**336**	⇓*i*P	**Pb**	**08 04 37.2**	**-0.5**
LCR2				*e*S	**Sb**	**08 04 42.0**	**0.0**
LCR2	**La Lucha 2**	**0.21**	**336**	P	**Pb**	**08 04 37.1**	**-0.5**
LCR2	**La Lucha 2**	**0.21**	**336**	S	**Sb**	**08 04 41.9**	**-0.1**
QUEP	**Quepos**	**0.27**	**245**	⇑*i*P	**Pb**	**08 04 37.5**	**-0.6**
QUEP				*e*S	**Sb**	**08 04 42.6**	**-0.2**
QUEP	**Quepos**	**0.27**	**245**	P	**Pb**	**08 04 37.5**	**-0.6**
SVQ2	**Quepos**	**0.27**	**245**	⇑*i*P	**Pb**	**08 04 37.5**	**-0.6**
SVQ2				*e*S	**Sb**	**08 04 42.7**	**-0.2**
REPA	**Paraso**	**0.28**	**10**	⇓*i*P	**Pb**	**08 04 38.1**	**-0.4**
REPA				*e*S	**Sb**	**08 04 43.9**	**+0.5**
PICV	**PH. Pirrs**	**0.28**	**286**	⇑*i*P	**Pb**	**08 04 37.9**	**-0.5**
PICV				*e*S	**Sb**	**08 04 43.3**	**+0.1**
TAGO	**Cartago**	**0.32**	**359**	⇓*i*P	**Pb**	**08 04 38.7**	**-0.3**
TAGO				*e*S	**Sb**	**08 04 44.8**	**+0.6**
PAR1A	**Puntarenas Pro**	**0.33**	**278**	*e*P	**Pb**	**08 04 38.9**	**-0.2**
ACOS	**Acosta**	**0.35**	**316**	⇑*i*P	**Pb**	**08 04 38.7**	**-0.7**
ACOS				*e*S	**Sb**	**08 04 44.5**	**-0.3**
TRIO	**Tres Rios**	**0.36**	**348**	⇓*i*P	**Pb**	**08 04 39.1**	**-0.6**
TRIO				*e*S	**Sb**	**08 04 45.4**	**+0.1**
AMPA	**Desamparados**	**0.38**	**338**	⇓*i*P	**Pb**	**08 04 39.1**	**-0.7**
AMPA				*e*S	**Sb**	**08 04 45.6**	**0.0**
PCAYA	**Pacayas**	**0.38**	**16**	⇓*i*P	**Pb**	**08 04 39.7**	**-0.4**
VINA	**Juan Vinas**	**0.39**	**26**	⇓*i*P	**Pb**	**08 04 39.6**	**-0.4**
VINA				*e*S	**Sb**	**08 04 46.5**	**+0.7**
LUJA	**Lujan**	**0.41**	**338**	⇓*i*P	**Pb**	**08 04 39.9**	**-0.4**
LUJA				*e*S	**Sb**	**08 04 46.5**	**+0.1**
SJS3	**Mercedes San J**	**0.41**	**341**	⇓*i*P	**Pb**	**08 04 40.2**	**-0.2**
SJS3				*e*S	**Sb**	**08 04 47.1**	**+0.6**
ECI	**Escuela Centro**	**0.41**	**341**	⇓*i*P	**Pb**	**08 04 40.0**	**-0.3**
ECI				*e*S	**Sb**	**08 04 47.0**	**+0.5**
CENT	**San Jose**	**0.41**	**337**	⇓*e*P	**Pb**	**08 04 41.0**	**+0.5**
CENT				*e*S	**Sn**	**08 04 47.7**	**-0.7**
LUPE	**Guadalupe**	**0.42**	**341**	⇓*i*P	**Pb**	**08 04 40.2**	**-0.4**
LUPE				*e*S	**Sb**	**08 04 47.4**	**+0.6**
RAFA	**San Farael, Vo**	**0.42**	**14**	⇓*i*P	**Pb**	**08 04 40.4**	**-0.3**
RAFA				*e*S	**Sb**	**08 04 47.3**	**+0.3**
MEXI	**Barrio Mexico**	**0.42**	**337**	⇓*i*P	**Pb**	**08 04 40.2**	**-0.4**
MEXI				*e*S	**Sb**	**08 04 47.2**	**+0.4**
TURIB	**Turrialba**	**0.42**	**33**	⇓*i*P	**Pb**	**08 04 39.9**	**-0.6**
TURIB				*e*S	**Sb**	**08 04 46.7**	**-0.1**
CORON	**Coronado**	**0.43**	**349**	⇓*i*P	**Pb**	**08 04 40.6**	**-0.1**
CORON				*e*S	**Sn**	**08 04 48.3**	**-0.7**
TIBA	**Tibas**	**0.44**	**340**	⇓*i*P	**Pb**	**08 04 40.6**	**-0.3**
TIBA				*e*S	**Sb**	**08 04 47.9**	**+0.7**
VICA	**Volcano Irazu**	**0.44**	**9**	⇓*i*P	**Pb**	**08 04 40.6**	**-0.5**
VICA				*e*S	**Sb**	**08 04 47.6**	**0.0**
SAJE	**San Jernim**	**0.45**	**116**	⇑*i*P	**Pb**	**08 04 39.9**	**-1.1**
SAJE				*e*S	**Sb**	**08 04 46.8**	**-0.8**
VERB	**Verbena**	**0.45**	**29**	⇓*i*P	**Pb**	**08 04 40.6**	**-0.4**
DOMI	**Santo Domingo**	**0.47**	**338**	⇓*i*P	**Pb**	**08 04 40.9**	**-0.3**
DOMI				*e*S	**Sb**	**08 04 48.8**	**+0.8**
SANTA	**Santa Ana**	**0.47**	**326**	⇓*i*P	**Pb**	**08 04 40.4**	**-0.8**
CVIMO	**Finca Echandi**	**0.47**	**357**	⇓*i*P	**Pb**	**08 04 41.1**	**-0.3**
CVIMO				*e*S	**Sb**	**08 04 49.0**	**+0.7**
CVTQ	**Turrialba Volc**	**0.48**	**18**	⇓*i*P	**Pb**	**08 04 41.3**	**-0.3**
CVTQ				*e*S	**Sb**	**08 04 49.1**	**+0.6**
CVTV	**Tajo**	**0.48**	**20**	⇓*i*P	**Pb**	**08 04 41.4**	**-0.3**
CVTV				*e*S	**Sb**	**08 04 49.2**	**+0.6**
PURI	**Puriscal**	**0.49**	**308**	⇑*i*P	**Pb**	**08 04 41.0**	**-0.6**
PURI				*e*S	**Sb**	**08 04 48.4**	**-0.1**
VTR0	**Volcan Turrial**	**0.49**	**18**	⇓*i*P	**Pb**	**08 04 41.6**	**-0.3**
VTR0				*e*S	**Sb**	**08 04 49.5**	**+0.5**
CVTR	**Volcan Turrial**	**0.49**	**18**	⇓*i*P	**Pb**	**08 04 41.5**	**-0.4**
CVTR				*e*S	**Sb**	**08 04 49.4**	**+0.3**
HEME	**Heredia, Merce**	**0.49**	**334**	⇓*i*P	**Pn**	**08 04 42.4**	**-0.3**
HEME				*e*S	**Sn**	**08 04 50.4**	**-0.1**
ABRB	**Las Abras (San**	**0.50**	**23**	⇓*i*P	**Pb**	**08 04 41.5**	**-0.3**
ABRB				*e*S	**Sb**	**08 04 49.7**	**+0.8**
BELE	**Belen**	**0.50**	**328**	⇓*e*P	**Pb**	**08 04 41.1**	**-0.7**
BELE				*e*S	**Sb**	**08 04 48.9**	**0.0**
EDPE	**Pejibaye, P**	**0.52**	**138**	⇑*i*P	**Pb**	**08 04 41.3**	**-0.6**
EDPE				*e*S	**Sb**	**08 04 49.1**	**-0.1**
RESJ	**San Isidro (Tu**	**0.55**	**29**	⇓*e*P	**Pb**	**08 04 42.2**	**-0.4**
VBV1	**V. Barva**	**0.59**	**342**	⇓*i*P	**Pb**	**08 04 42.9**	**-0.5**
VBV1				*e*S	**Sb**	**08 04 51.9**	**+0.3**
POAS	**San Pedro de P**	**0.62**	**329**	⇑*e*P	**Pb**	**08 04 43.6**	**0.0**
POAS				*e*S	**Sb**	**08 04 52.6**	**+0.5**
TCS1	**Tacares**	**0.62**	**323**	P	**Pb**	**08 04 43.2**	**-0.5**
ATEO	**Atenas**	**0.63**	**313**	⇑*i*P	**Pb**	**08 04 42.9**	**-0.9**
ATEO				*e*S	**Sb**	**08 04 52.0**	**-0.3**
LCOCO	**El Coco**	**0.64**	**34**	⇓*i*P	**Pb**	**08 04 43.4**	**-0.6**
RVLA	**Villa Bonita**	**0.65**	**30**	*e*P	**Pb**	**08 04 43.1**	**-1.0**
GREC	**Grecia**	**0.65**	**324**	⇑*e*P	**Pn**	**08 04 45.0**	**+0.1**
GREC				*e*S	**Sn**	**08 04 55.1**	**+0.8**
PILE	**Guapiles**	**0.68**	**11**	⇓*e*P	**Pb**	**08 04 44.2**	**-0.4**
PILE				*e*S	**Sn**	**08 04 54.7**	**-0.2**
IRES	**Siquirres**	**0.68**	**37**	⇓*e*P	**Pb**	**08 04 44.1**	**-0.6**
IRES				*e*S	**Sb**	**08 04 53.1**	**-0.7**
BURE	**Buenos Aires**	**0.68**	**123**	⇑*i*P	**Pb**	**08 04 43.8**	**-1.0**
BURE				*e*S	**Sb**	**08 04 53.5**	**-0.4**
SARCI	**Sarchi**	**0.69**	**322**	⇑*i*P	**Pb**	**08 04 44.5**	**-0.4**
SARCI				*e*S	**Sn**	**08 04 54.9**	**-0.3**
VPS8	**V Poas**	**0.70**	**333**	*e*P	**Pb**	**08 04 45.1**	**-0.2**
VPS5	**V. Poas**	**0.71**	**334**	*e*P	**Pb**	**08 04 38.0**	**-7.4**
PALD	**Palmares**	**0.72**	**315**	⇑*i*P	**Pb**	**08 04 44.2**	**-1.2**
PALD				*e*S	**Sb**	**08 04 54.6**	**-0.4**
DRK0	**Durika**	**0.72**	**113**	⇑*i*P	**Pb**	**08 04 44.0**	**-1.5**
DRK0				*i*S	**Sb**	**08 04 54.1**	**-1.0**
DRK0	**Durika**	**0.72**	**113**	*e*P	**Pb**	**08 04 44.0**	**-1.5**
DRK0				*e*S	**Sb**	**08 04 54.1**	**-1.0**
DRK0	**Durika**	**0.72**	**113**	P	**Pb**	**08 04 44.0**	**-1.5**
PANP	**Palmar Norte**	**0.74**	**142**	*e*P	**Pb**	**08 04 44.6**	**-1.0**
RAMO	**San Ramon**	**0.76**	**315**	⇑*i*P	**Pb**	**08 04 45.0**	**-1.1**
RAMO				*e*S	**Sb**	**08 04 55.7**	**-0.5**
SRA1	**San Ramn**	**0.77**	**314**	⇑*i*P	**Pb**	**08 04 44.1**	**-2.2**
TAAN	**Batan**	**0.78**	**46**	*e*P	**Pb**	**08 04 45.9**	**-0.4**
TAAN				*e*S	**Sn**	**08 04 57.6**	**+0.4**
FIMO	**Fila Mora**	**0.79**	**135**	*e*P	**Pb**	**08 04 45.7**	**-0.8**
ZARE	**Zarcero**	**0.79**	**324**	⇑*e*P	**Pb**	**08 04 46.1**	**-0.5**
VERH	**Veragua Rainfo**	**0.81**	**62**	⇑*i*P	**Pb**	**08 04 46.0**	**-0.9**
VERH				*e*S	**Sb**	**08 04 57.3**	**-0.2**
CARI	**Cariari**	**0.83**	**12**	⇓*i*P	**Pb**	**08 04 46.7**	**-0.6**
CARI				*e*S	**Sn**	**08 04 59.3**	**+0.5**
ARZA	**Esparza**	**0.86**	**301**	⇑*e*P	**Pb**	**08 04 46.4**	**-1.3**
ARZA				*e*S	**Sb**	**08 04 58.3**	**-0.6**
VPL2	**V. Platanar**	**0.88**	**329**	*e*P	**Pn**	**08 04 47.2**	**-0.8**
LAES	**El Progreso Va**	**0.88**	**76**	⇑*e*P	**Pn**	**08 04 47.3**	**-0.7**
LAES				*e*S	**Sn**	**08 05 00.4**	**+0.5**
EDP2	**Potrero Grande**	**0.90**	**126**	⇑*e*P	**Pn**	**08 04 47.2**	**-1.0**
EDP2				*e*S	**Sb**	**08 05 00.2**	**+0.1**
SARA	**Sarapiqu**	**0.91**	**354**	*e*P	**Pn**	**08 04 47.1**	**-1.1**
ROBF	**Roble, Puntare**	**0.92**	**298**	*e*P	**Pn**	**08 04 47.4**	**-1.0**
QUEU	**Ciudad Quesada**	**0.92**	**327**	*e*P	**Pn**	**08 04 48.5**	**0.0**
ITAL	**Pital**	**0.96**	**339**	*e*P	**Pn**	**08 04 49.0**	**-0.1**
CEUA	**Cerro Uatsi, L**	**0.97**	**86**	⇑*e*P	**Pb**	**08 04 49.6**	**0.0**
PAQE	**Paquera**	**1.04**	**285**	⇓*i*P	**Pn**	**08 04 49.6**	**-0.4**
PAQE				*e*S	**Sb**	**08 05 04.1**	**+0.1**
SOCE	**Pocosol**	**1.08**	**320**	⇑*e*P	**Pn**	**08 04 50.4**	**-0.3**
SOCE	**Pocosol**	**1.08**	**320**	P	**Pn**	**08 04 50.4**	**-0.3**
SOCE	**Pocosol**	**1.08**	**320**	S	**Sb**	**08 04 55.2**	**-0.2**
CBL1	**Cabuya**	**1.16**	**272**	*e*P	**Pn**	**08 04 50.9**	**-0.8**
EDAD	**Golfito**	**1.16**	**140**	*e*P	**Pn**	**08 04 49.7**	**-2.1**
PTJ1	**Puerto Jimnez**	**1.17**	**149**	P	**Pb**	**08 04 52.6**	**-0.5**
PTJ1	**Puerto Jimnez**	**1.17**	**149**	S	**Sb**	**08 05 10.3**	**+2.4**
FORC	**Fortuna**	**1.18**	**321**	*e*P	**Pn**	**08 04 52.2**	**+0.2**
MTEVE	**Monteverde**	**1.18**	**311**	⇓*i*P	**Pn**	**08 04 51.8**	**-0.4**
VITO	**San Vito**	**1.18**	**128**	*e*P	**Pn**	**08 04 52.5**	**+0.3**
VITO				*e*S	**Sb**	**08 05 09.5**	**+1.3**
VACR	**Volcan Arenal**	**1.19**	**321**	*e*P	**Pn**	**08 04 52.1**	**0.0**
FITO	**Golfito**	**1.19**	**140**	*e*P	**Pb**	**08 04 53.0**	**-0.2**
CASO	**Castillo**	**1.19**	**318**	*e*P	**Pn**	**08 04 52.1**	**-0.2**
ARE1	**Arenal 1**	**1.20**	**319**	⇑*e*P	**Pn**	**08 04 52.4**	**0.0**
VARE2	**V. Arenal**	**1.20**	**319**	⇑*e*P	**Pn**	**08 04 52.4**	**0.0**
CEDE	**Laguna Cedeo**	**1.21**	**320**	⇑*e*P	**Pn**	**08 04 52.7**	**+0.2**
CEDE				*e*S	**Sb**	**08 05 09.3**	**+0.3**
JCR1	**Jicaral**	**1.22**	**284**	*e*P	**Pn**	**08 04 52.3**	**-0.3**
ALCO	**Alturas Coton,**	**1.22**	**119**	*e*P	**Pn**	**08 04 51.8**	**-1.0**
ALCO				*e*S	**Sn**	**08 05 08.2**	**-0.4**
JUNT	**Juntas**	**1.26**	**306**	*e*P	**Pn**	**08 04 52.5**	**-0.6**
TABAC	**Tabacon**	**1.26**	**319**	*e*P	**Pn**	**08 04 53.8**	**+0.6**
RSRNO	**Rio Sereno**	**1.27**	**125**	*e*P	**Pn**	**08 04 53.9**	**+0.5**
RSRNO	**Rio Sereno**	**1.27**	**125**	*e*P	**Pn**	**08 04 51.4**	**-2.0**
PIRO	**Carate, Puerto**	**1.27**	**153**	*i*P	**Pn**	**08 04 53.7**	**+0.4**
PIRO				*i*S	**Sb**	**08 05 11.0**	**+0.4**
PIRO	**Carate, Puerto**	**1.27**	**153**	⇓*i*P	**Pn**	**08 04 53.6**	**+0.4**
PIRO	**Carate, Puerto**	**1.27**	**153**	P	**Pn**	**08 04 53.5**	**+0.2**
NELY	**Ciudad Neily**	**1.31**	**133**	*e*P	**Pn**	**08 04 53.8**	**0.0**
TILA	**Tilaran**	**1.38**	**312**	*e*P	**Pn**	**08 04 55.0**	**+0.1**
BRU2	**Volcan**	**1.42**	**122**	⇓*e*P	**Pn**	**08 04 55.3**	**-0.2**
BRU2				*i*S	**Sb**	**08 05 14.7**	**-0.5**
BRU2	**Volcan**	**1.42**	**122**	*e*P	**Pn**	**08 04 55.1**	**-0.4**
BRU2				*e*S	**Sn**	**08 05 13.2**	**-0.2**
BRU2	**Volcan**	**1.42**	**122**	⇑*e*P	**Pn**	**08 04 55.3**	**-0.2**
BRU2	**Volcan**	**1.42**	**122**	P	**Pn**	**08 04 55.4**	**-0.2**
CNI2	**El Empalme, Bo**	**1.43**	**95**	*i*P	**Pn**	**08 04 54.0**	**-0.7**
CNI2				*i*S	**Sb**	**08 05 14.4**	**-0.8**
QUEB	**Quebradon, Cot**	**1.44**	**318**	*e*P	**Pn**	**08 04 55.7**	**+0.1**
CNAS	**Canas**	**1.45**	**307**	*e*P	**Pn**	**08 04 58.3**	**+0.6**
TBS2		**1.45**	**121**	*e*P	**Pn**	**08 04 55.8**	**-0.2**
INVE	**Universidad In**	**1.46**	**309**	⇑*e*P	**Pn**	**08 04 56.4**	**+0.5**
BC3P	**Paso Ancho**	**1.48**	**119**	*e*P	**Pn**	**08 04 56.3**	**-0.1**
BC3P				*i*S	**Sn**	**08 05 15.6**	**+0.7**
TIMP	**Tierras Morena**	**1.50**	**314**	⇑*e*P	**Pn**	**08 04 56.7**	**+0.2**
CLLRA	**Cordillera,**	**1.52**	**122**	*e*P	**Pn**	**08 04 56.3**	**-0.5**
CLLRA				*e*S	**Sn**	**08 05 16.3**	**+0.6**
TENO	**El Achiote**	**1.55**	**318**	⇓*i*P	**Pn**	**08 04 57.9**	**+0.7**
CMARA	**Lajas Hojancha**	**1.56**	**288**	P	**Pn**	**08 04 57.2**	**-0.1**
CMARA	**Lajas Hojancha**	**1.56**	**288**	S	**Sb**	**08 05 17.9**	**-1.0**
LESP3	**La Esperanza,**	**1.59**	**135**	*e*P	Pb	08 05 10.3	+10
JEFFS	**S de V. Baru**	**1.62**	**122**	*e*P	**Pn**	**08 04 57.9**	**-0.4**
BQTLY	**Boquete Panama**	**1.64**	**118**	*e*P	**Pn**	**08 04 58.4**	**-0.1**
BQTLY				*e*S	**Sb**	**08 05 20.1**	**-1.2**
BQTLY	**Boquete Panama**	**1.64**	**118**	*e*P	**Pn**	**08 04 58.3**	**-0.1**
PTAR3	**Potrerillos Ar**	**1.64**	**121**	*e*P	**Pn**	**08 04 58.5**	**0.0**
PTAR3				*e*S	**Sn**	**08 05 19.4**	**+0.6**
CUI	**Cuipilapa**	**1.65**	**312**	*e*P	**Pn**	**08 04 59.1**	**+0.6**
WILLF	**Boquete**	**1.66**	**118**	*e*P	**Pn**	**08 04 58.5**	**-0.3**
BQSF3	**Alto Boquete,**	**1.67**	**118**	*e*P	**Pn**	**08 04 58.9**	**0.0**
BQSF3				*e*S	**Sn**	**08 05 20.7**	**+1.2**
PTPM	**Petroterminale**	**1.68**	**142**	*e*P	**Pb**	**08 05 01.9**	**+0.3**
PTPM				*i*S	**Sb**	**08 05 24.4**	**+2.0**
COLC	**Colonia**	**1.68**	**311**	*e*P	**Pn**	**08 04 59.8**	**+0.8**
HORNC	**Hornillas**	**1.70**	**313**	*e*P	**Pn**	**08 05 00.5**	**+1.2**
JUD3	**Juan Diaz 3**	**1.71**	**291**	*e*P	**Pn**	**08 04 59.5**	**+0.1**
VMAR	**Armenia, Volca**	**1.72**	**317**	⇑*i*P	**Pn**	**08 05 00.5**	**+0.9**
MESS	**Meseas**	**1.73**	**313**	*e*P	**Pn**	**08 05 00.8**	**+1.1**
DVD	**David**	**1.82**	**127**	*e*P	**Pn**	**08 05 01.9**	**+1.1**
PBNVO	**Pueblo Nuevo,**	**1.82**	**111**	*e*P	**Pn**	**08 05 00.4**	**-0.5**
CHGR2	**Aguacate**	**1.85**	**109**	*e*P	**Pn**	**08 05 00.9**	**-0.4**
CHGR2				*i*S	**Sn**	**08 05 25.0**	**+1.1**
LOCO3	**Loma Colorada,**	**1.86**	**127**	*e*P	**Pn**	**08 05 04.1**	**-0.7**
RBALA	**Bur**	**1.86**	**111**	*e*P	**Pn**	**08 05 01.5**	**0.0**
RBALA				*e*S	**Sn**	**08 05 24.6**	**+0.5**
RBALA	**Bur**	**1.86**	**111**	*e*P	**Pn**	**08 05 01.2**	**-0.2**
LOMA3	**Las Lomas, Chi**	**1.87**	**126**	*e*P	**Pb**	**08 05 08.7**	**+3.9**
CGUAY	**Guayabal, Coch**	**1.89**	**125**	*e*P	**Pn**	**08 05 02.2**	**+0.4**
CGUAY	**Guayabal, Coch**	**1.89**	**125**	*e*P	**Pn**	**08 05 02.2**	**+0.4**
LAPC	**Finca la Perla**	**1.92**	**309**	*e*P	**Pn**	**08 05 02.8**	**+0.5**
ELI1	**Hacienda Flor**	**1.94**	**304**	P	**Pn**	**08 05 03.8**	**+1.3**
ELI1	**Hacienda Flor**	**1.94**	**304**	S	**Sb**	**08 05 29.0**	**-1.0**
KKNTU	**Kakint²**	**2.20**	**108**	*e*P	**Pn**	**08 05 05.6**	**-0.5**
KKNTU	**Kakint²**	**2.20**	**108**	*e*P	**Pn**	**08 05 05.7**	**-0.4**
GMAL	**Guarumal, Vera**	**3.19**	**124**	*e*P	**Pn**	**08 05 19.9**	**+0.2**
BOAB	**BOACO BROADBAN**	**3.36**	**329**	P	**Pn**	**08 05 23.3**	**+1.3**
CACAO	**El Cacao, Vera**	**3.73**	**126**	*e*P	**Pn**	**08 05 25.4**	**-1.7**
BCIP	**Isla Barro Col**	**4.04**	**95**	*e*P	**Pn**	**08 05 31.7**	**+0.2**
GAMB1	**Gamboa**	**4.17**	**95**	*e*P	**Pn**	**08 05 33.3**	**0.0**

ASRS ***11*** *08:04:41.0±1.5,53.73N×91.09E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 11 08:04:47.8±3.7,53.60N×90.74E,h0km,mbtmp2.8/3, ML2.5/3,Error ellipse: s-maj=32.8km s-min=26.0km az=29.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.53**	**278**	I	I	08 26 40.0	
	baz=92,slow=338,SNR=2.5						
ZALV	**Zalesovo Beam**	**3.53**	**278**	Pn	Pn	08 05 44.0	+0.2
	0.7nm,0.3s,baz=90,slow=13,SNR=6.6						
ZALV				Lg	Lg	08 06 39.5	
	0.9nm,0.3s,baz=90,slow=24,SNR=5.8						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**8.09**	**253**	Pn	Pn	08 06 46.1	-0.3
	0.1nm,0.3s,baz=65,slow=14,SNR=4.1						
KURBB				Sn	Sn	08 08 17.0	-1.4
	0.1nm,0.3s,baz=66,slow=25,SNR=8.8						
KURBB				Lg	Lg	08 09 06.2	
	baz=60,slow=28,SNR=6.2						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**8.70**

NEO	**Neokhori**	**1.39**	**333**	P	**Pn**	**08 13 42.0**	**+0.2**
NEO	**Neokhori**	**1.39**	**333**	P	**Pn**	**08 13 41.8**	**0.0**
MHLO	**Agia Marina, M**	**1.41**	**168**	P	**Pn**	**08 13 42.8**	**+0.7**
MHLO				S	**Sn**	**08 14 00.9**	**+0.4**
MHLO	**Agia Marina, M**	**1.41**	**168**	P	**Pn**	**08 13 42.2**	**+0.2**
KLV	**Kalavryta, Ach**	**1.50**	**270**	P	**Pn**	**08 13 43.1**	**-0.2**
KLV	**Kalavryta, Ach**	**1.50**	**270**	P	**Pn**	**08 13 43.1**	**-0.2**
KALE	**Kalithea**	**1.54**	**283**	P	**Pn**	**08 13 43.7**	**-0.1**
APE	**Apeiranthos**	**1.54**	**130**	Pn	**Pn**	**08 13 43.7**	**-0.3**
APE				Sn	**Sb**	**08 14 05.5**	**+0.8**
APE	**Apeiranthos**	**1.54**	**130**	P	**Pb**	**08 13 45.0**	**-0.1**
APE				S	**Sn**	**08 14 04.4**	**+0.4**
APE	**Apeiranthos**	**1.54**	**130**	P	**Pn**	**08 13 43.5**	**-0.5**
APE				S	**Sb**	**08 14 05.3**	**+0.6**
APE	**Apeiranthos**	**1.54**	**130**	⇓P	**Pn**	**08 13 43.5**	**-0.5**
APE				⇓S	**Sb**	**08 14 05.5**	**+0.8**
CHOS	**Chios island**	**1.61**	**78**	Pn	**Pn**	**08 13 44.1**	**-0.8**
CHOS				Sn	**Sn**	**08 14 06.5**	**+0.8**
CHOS	**Chios island**	**1.61**	**78**	P	**Pn**	**08 13 44.7**	**-0.2**
VLI	**Veliai**	**1.61**	**214**	P	**Pn**	**08 13 44.3**	**-0.6**
VLI				S	**Sn**	**08 14 06.0**	**+0.4**
VLI	**Veliai**	**1.61**	**214**	P	**Pn**	**08 13 44.3**	**-0.6**
EFSA	**Agios Efstrati**	**1.64**	**26**	P	**Pn**	**08 13 44.6**	**-0.7**
AGG	**Agios Georgios**	**1.65**	**306**	P	**Pn**	**08 13 45.7**	**+0.3**
EFP	**Efpalio**	**1.72**	**283**	P	**Pn**	**08 13 46.9**	**+0.5**
ANX	**Ano Chora**	**1.75**	**288**	P	**Pn**	**08 13 47.3**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.77**	**303**	P	**Pb**	**08 13 48.3**	**-0.8**
MAKR	**Makrakomi, Fth**	**1.77**	**303**	P	**Pn**	**08 13 48.0**	**+0.9**
SIGR	**SIGRI**	**1.82**	**51**	Pn	**Pn**	**08 13 46.6**	**-1.1**
SIGR	**SIGRI**	**1.82**	**51**	P	**Pn**	**08 13 47.0**	**-0.6**
DRO	**Drossia**	**1.85**	**267**	P	**Pn**	**08 13 48.6**	**+0.4**
ITM	**Ithomi**	**1.90**	**243**	Pn	**Pn**	**08 13 48.6**	**-0.3**
ITM	**Ithomi**	**1.90**	**243**		**Pn**	**08 13 49.5**	**+0.6**
ITM				IAML		08 14 19.3	
	comp=N,274nm,0.5s						
ITM	**Ithomi**	**1.90**	**243**	P	**Pn**	**08 13 49.5**	**+0.6**
AMT	**Artemida-Makis**	**1.93**	**255**	P	**Pn**	**08 13 50.1**	**+0.9**
ZEYE	**Izmir, Urla-Ze**	**1.94**	**84**	P	**Pn**	**08 13 49.4**	**0.0**
ZEYE				S	**Sn**	**08 14 15.2**	**+1.6**
ZEYE				*i* IAML		08 14 22.0	
	comp=N,306nm,0.7s						
EVR	**Evrytania**	**1.95**	**296**	P	**Pn**	**08 13 50.4**	**+0.8**
KARB	**zmir-Karabur**	**1.95**	**72**	P	**Pb**	**08 13 52.5**	**+0.5**
KARB				S	**Sb**	**08 14 17.4**	**+1.1**
KTHA	**Kythira Island**	**1.97**	**204**	Pn	**Pn**	**08 13 49.4**	**-0.4**
URLA	**Izmir**	**2.03**	**81**	Pn	**Pn**	**08 13 50.6**	**-0.4**
URLA	**Izmir**	**2.03**	**81**	P	**Pn**	**08 13 50.6**	**+0.1**
URLA				S	**Sb**	**08 14 18.5**	**-0.1**
URLA				*i* IAML		08 14 32.0	
	comp=N,340nm,0.6s						
LIA	**Limnos Island**	**2.03**	**26**	P	**Pn**	**08 13 49.6**	**-1.0**
RLS	**Riolos of Patr**	**2.04**	**270**	P	**Pn**	**08 13 51.3**	**+0.6**
PVO	**Paravola**	**2.06**	**286**	P	**Pn**	**08 13 52.0**	**+1.1**
AXS	**Araxos**	**2.11**	**274**	P	**Pn**	**08 13 52.3**	**+0.6**
TYRN	**Tyrnavos**	**2.17**	**320**	P	**Pn**	**08 13 53.0**	**+0.6**
KOCA	**Canakkale, Ayv**	**2.17**	**48**	P	**Pn**	**08 13 51.7**	**-0.8**
KOCA				S	**Sb**	**08 14 23.6**	**+0.9**
KOCA				*i* IAML		08 14 32.0	
	comp=N,155nm,0.5s						
THL	**Klokotos Trika**	**2.18**	**314**	P	**Pn**	**08 13 53.0**	**+0.4**
FOCM	**Foa**	**2.20**	**72**	Pn	**Pn**	**08 13 52.4**	**-0.6**
SMG	**Samos**	**2.24**	**98**	P	**Pn**	**08 13 53.2**	**-0.2**
OUR	**Ouranopolis**	**2.26**	**359**	Pn	**Pn**	**08 13 52.8**	**-1.0**
OUR	**Ouranopolis**	**2.26**	**359**	P	**Pn**	**08 13 53.5**	**-0.3**
ANKY	**Antikythira Is**	**2.28**	**195**	P	**Pn**	**08 13 53.2**	**-0.8**
PLG	**Polygyros**	**2.35**	**349**	P	**Pn**	**08 13 54.8**	**-0.2**
BOZC	**Bozcaada**	**2.36**	**41**	Pn	**Pn**	**08 13 54.3**	**-0.9**
LIT	**Litokhoron**	**2.36**	**330**		**Pn**	**08 13 55.3**	**+0.1**
LIT				IAML		08 14 37.2	
	comp=E,119nm,0.8s						
LIT	**Litokhoron**	**2.36**	**330**	P	**Pn**	**08 13 55.5**	**+0.3**
BLCB	**Balcova**	**2.38**	**81**	Pn	**Pn**	**08 13 55.3**	**-0.1**
EZN	**Ezine**	**2.50**	**45**	Pn	**Pn**	**08 13 56.4**	**-0.6**
EZN	**Ezine**	**2.50**	**45**	⇑P	**Pg**	**08 14 04.0**	**-0.5**
EZN				⇑S	**Sg**	**08 14 38.8**	**+1.9**
TETR	**Tetrakomo, Epi**	**2.52**	**301**	P	**Pn**	**08 13 58.2**	**+0.8**
GCAM	**G?zelcaml?**	**2.55**	**97**	Pn	**Pn**	**08 13 58.1**	**+0.4**
GADA	**Gvkgeada**	**2.56**	**34**	Pn	**Pn**	**08 13 57.1**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**2.57**	**49**	P	**Pn**	**08 13 57.6**	**-0.4**
BAYC				S	**Sn**	**08 14 24.5**	**-4.6**
BAYC				*i* IAML		08 14 45.0	
	comp=E,46nm,0.6s						
THAS	**Thassos island**	**2.59**	**11**	P	**Pn**	**08 13 57.4**	**-0.8**
DDIM	**Aydin, Didim**	**2.60**	**103**	P	**Pn**	**08 14 00.9**	**+2.4**
DDIM				S	**Sg**	**08 14 40.9**	**+0.6**
DDIM				*i* IAML		08 14 48.0	
	comp=E,167nm,1.3s						
HORT	**Hortiatis**	**2.63**	**344**	P	**Pn**	**08 13 59.1**	**+0.2**
SMTH	**Samothraki Isl**	**2.66**	**25**	P	**Pn**	**08 13 57.9**	**-1.4**
EVIA	**Lefkada island**	**2.72**	**283**	P	**Pn**	**08 14 02.1**	**+2.0**
VLS	**Valsamata**	**2.73**	**273**	P	**Pn**	**08 14 01.7**	**+1.4**
LKD2	**Lefkada island**	**2.76**	**286**	P	**Pn**	**08 14 02.6**	**+2.0**
COMU	**Canakkale**	**2.77**	**42**	Pn	**Pn**	**08 14 00.0**	**-0.8**
FSK	**Fiskardo**	**2.77**	**279**	P	**Pn**	**08 14 02.2**	**+1.4**
YAYO	**Edremit-Balk**	**2.82**	**56**	Pn	**Pn**	**08 14 01.0**	**-0.4**
IDI	**Anoyia**	**2.86**	**166**	Pn	**Pn**	**08 14 02.7**	**+0.7**
IDI	**Anoyia**	**2.86**	**166**	Pn	**Pn**	**08 14 01.3**	**-0.7**
IDI				IAML		08 14 49.1	
	comp=E,78nm,0.5s						
IDI				IAML		08 14 52.6	
	comp=N,80nm,0.7s						
IDI	**Anoyia**	**2.86**	**166**	P	**Pn**	**08 14 01.9**	**-0.1**
GELI	**Tayfur-Gelibol**	**2.99**	**38**	Pn	**Pn**	**08 14 03.1**	**-0.7**
YAZI	**Mula-Dat§a-**	**3.05**	**116**	P	**Pn**	**08 14 04.0**	**-0.6**
YAZI				S	**Sb**	**08 14 46.0**	**-1.9**
ALN	**Alexandroupoli**	**3.22**	**28**	Pn	**Pn**	**08 14 06.4**	**-0.5**
ALN	**Alexandroupoli**	**3.22**	**28**	Pn	**Pn**	**08 14 06.9**	**0.0**
GVD	**Gavdhos**	**3.22**	**179**	Pn	**Pn**	**08 14 07.9**	**+0.9**
ERIK	**Erikli-Kesan**	**3.23**	**36**	Pn	**Pn**	**08 14 06.5**	**-0.5**
RDO	**Rodhopi**	**3.28**	**20**	Pn	**Pn**	**08 14 07.0**	**-0.8**
RDO	**Rodhopi**	**3.28**	**20**	Pn	**Pn**	**08 14 06.7**	**-1.1**
FNA	**Florina**	**3.41**	**323**	Pn	**Pn**	**08 14 08.8**	**-0.8**
ZKR	**Zakros**	**3.43**	**149**	Pn	**Pn**	**08 14 10.5**	**+0.7**
KARP	**Karpathos**	**3.55**	**134**	Pn	**Pn**	**08 14 12.5**	**+1.0**
KARP	**Karpathos**	**3.55**	**134**	Pn	**Pn**	**08 14 11.8**	**+0.3**
KARP				IAML		08 15 10.7	
	comp=N,78nm,1.3s						
MANT	**Manisa**	**3.57**	**82**	Pn	**Pn**	**08 14 12.4**	**+0.4**
KDZ	**Kurdzhali**	**3.69**	**15**	Pn	**Pn**	**08 14 13.0**	**-0.5**
ARG	**Arkhangelos**	**3.75**	**118**	Pn	**Pn**	**08 14 12.7**	**-1.5**
ARG				IAML		08 15 31.3	
	comp=E,50nm,1.4s						
ARG				IAML		08 15 42.6	
	comp=N,40nm,2.2s						
AKAS	**Kas**	**4.80**	**111**	Pn	**Pn**	**08 14 28.6**	**-0.2**
AKAS				IAML		08 15 45.3	
	comp=E,22nm,1.5s						
PDG	**Podgorica**	**5.69**	**321**	Pn	**Pn**	**08 14 41.7**	**+0.8**
TIP	**Timpagrande**	**5.81**	**283**	Pn	**Pn**	**08 14 42.3**	**-0.4**
BOVS	**Bovan**	**5.84**	**343**	⇑P	**Pn**	**08 14 45.6**	**+2.7**
CUC	**Castrocucco**	**6.69**	**289**	Pn	**Pn**	**08 14 55.7**	**+1.0**
ACER	**Acerenza**	**6.83**	**296**	Pn	**Pn**	**08 14 57.0**	**+0.3**
ARR	**Arges**	**7.30**	**3**	⇓P	**Pn**	**08 15 03.6**	**+0.5**
SGRT	**San Giovanni R**	**7.37**	**303**	Pn	**Pn**	**08 15 04.3**	**+0.3**
LOT	**Lotru**	**7.38**	**358**	⇑P	**Pn**	**08 15 04.3**	**+0.2**
GZR	**Gura Zlata**	**7.38**	**353**	⇑P	**Pn**	**08 15 05.6**	**+1.5**
MLR	**Muntele Rosu**	**7.55**	**10**	⇓P	**Pn**	**08 15 08.5**	**+1.9**
RAFF	**Raffo Rosso**	**7.73**	**267**	Pn	**Pn**	**08 15 09.9**	**+0.9**

TIR ***11*** *08:32:38.3, 40.56N×21.09E, h24km±13km, Md2.1/4, Ml3.0/1*

ATH ***11*** *08:32:39.8, 40.57N×21.02E, h15km±3km, ML2.2/7, Manual Solution by M.Charalampakis First location: 2019/09/11 08:34:01, This location: 2019/09/11 08:44:27 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*

SKO ***11*** *08:32:42.2, 40.62N×21.07E, h11km, ML2.2*

ISC 11 08:32:39.8±0.9, 40.57N±0.03×21.02E±0.03, h11km±6km, n21, σ1§10/33, 2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.16**	**173**	Pg	**Pg**	**08 32 42.4**	**-1.0**
NEST				Sg	**Sg**	**08 32 45.5**	**-0.5**
NEST				AML	AML	08 32 47.6	
	9.6nm,0.2s						
NEST				AMd		08 33 18.2	
NEST	**Nestorio**	**0.16**	**173**	P	**Pg**	**08 32 44.1**	**+0.6**
NEST				S	**Sg**	**08 32 47.1**	**+1.0**
KBN	**Korca**	**0.19**	**285**	Pg	**Pg**	**08 32 43.8**	**-0.1**
KBN				Sg	**Sg**	**08 32 47.7**	**+0.9**
KBN				AMd		08 33 17.3	
FNA	**Florina**	**0.34**	**52**	Pg	**Pg**	**08 32 45.6**	**-1.1**
FNA				Sg	**Sg**	**08 32 50.9**	**-0.3**
FNA				AMd		08 33 26.7	
FNA	**Florina**	**0.34**	**52**	*i* Pg	**Pb**	**08 32 47.4**	**-0.5**
FNA				*i* Sg	**Sg**	**08 32 52.4**	**+1.1**
FNA	**Florina**	**0.34**	**52**	P	**Pg**	**08 32 47.2**	**+0.6**
FNA				S	**Sg**	**08 32 52.3**	**+1.1**
PENT	**Pentalofos**	**0.39**	**167**	P	**Pg**	**08 32 48.0**	**+0.5**
PENT				S	**Sb**	**08 32 53.9**	**-0.9**
OHR	**Ohrid**	**0.56**	**342**	*i* Pg	**Pb**	**08 32 52.3**	**+0.7**
OHR				*i* Sg	**Sn**	**08 33 02.0**	**-1.2**
OHR				*e*Lg	Lg	08 33 02.2	
	comp=E,106nm,0.4s						
OHR				*e*Lg	Lg	08 33 03.3	
	comp=N,74nm,0.5s						
KZN	**Kozani**	**0.63**	**115**	P	**Pg**	**08 32 52.0**	**0.0**
KZN				S	**Sb**	**08 33 01.1**	**-0.6**
SRN	**Sarande**	**1.05**	**229**	Pn	**Pb**	**08 32 59.2**	**-0.7**
SRN				Sn	**Sn**	**08 33 15.0**	**+0.1**
SRN				AMd		08 33 50.3	
IGT	**Igoumenitsa**	**1.17**	**207**	P	**Pg**	**08 33 03.4**	**+1.2**
LIT	**Litokhoron**	**1.22**	**112**	*i* Pg	**Pn**	**08 33 02.4**	**-0.3**
LIT				*i* Sg	**Sg**	**08 33 22.9**	**+4.0**
LIT	**Litokhoron**	**1.22**	**112**	P	**Pn**	**08 33 02.4**	**-0.3**
TETR	**Tetrakomo, Epi**	**1.24**	**171**	P	**Pg**	**08 33 04.1**	**+0.5**
THL	**Klokotos Trika**	**1.26**	**143**	P	**Pn**	**08 33 02.6**	**-0.7**
TYRN	**Tyrnavos**	**1.27**	**133**	P	**Pb**	**08 33 03.2**	**-0.4**
KNT	**Kendrikon**	**1.54**	**67**	*i* Pg	**Pb**	**08 33 07.6**	**-0.7**
KNT				*i* Sg	**Sg**	**08 33 31.0**	**+1.7**
KNT	**Kendrikon**	**1.54**	**67**	P	**Pn**	**08 33 07.1**	**0.0**
HORT	**Hortiatis**	**1.58**	**88**	P	**Pb**	**08 33 08.3**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.78**	**151**	P	**Pb**	**08 33 11.6**	**-0.8**
SOH	**Sokhos**	**1.79**	**81**	*e*Pn	**Pn**	**08 33 11.2**	**+0.6**

IDC ***11*** *08:35:09.8±3.0, 53.54N×87.81E, h0km, mbtmp2.6/2, ML2.1/2, Error ellipse: s-maj=24.8km s-min=17.8km az=57.0*

ASRS 11 08:35:05.0±1.1, 53.64N×87.94E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**281**	I	I	08 47 35.0	
	baz=96,slow=338,SNR=7.7						
ZALV	**Zalesovo Beam**	**1.88**	**281**	Pn	Pg	08 35 42.5	+1.5
	0.9nm,0.3s,baz=102,slow=13,SNR=15						
ZALV				Lg	Lg	08 36 07.4	
	2.0nm,0.3s,baz=104,slow=24,SNR=18						
KURBB	**Kurchatov Arra**	**6.53**	**246**	Pn	Pn	08 36 46.8	+4.5
	baz=61,slow=14,SNR=1.6						
KURBB				Sn	Sn	08 37 58.5	+1.1
	baz=58,slow=12,SNR=1.4						
KURBB				Lg	Lg	08 38 33.0	
	0.1nm,0.3s,baz=63,slow=33,SNR=7.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.75**	**210**	Pn	Pn	08 37 03.1	+4.1
	0.1nm,0.3s,baz=33,slow=12,SNR=1.9						
MKAR				Lg	Lg	08 39 07.6	
	0.1nm,0.3s,baz=28,slow=31,SNR=2.7						
	0.1nm,0.3s						

NEIC ***11*** *08:49:55.1±1.3, 37.95N±0.01×116.62W±0.01, h1km±1km, Error ellipse: s-maj=1.7km s-min=1.3km az=142.0*

REN 11 08:49:55.4±1.0, 37.96N±0.01×116.61W±0.02, h2km±1km, ML2.5/26, ML2.3/42(NEIC), Error ellipse: s-maj=2.3km s-min=1.6km az=207.0, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPH	**Tonopah**	**0.50**	**283**		Pg	08 50 05.2	+0.2
TPH					Sg	08 50 12.1	+0.7
TPH	**Tonopah**	**0.50**	**283**	IAML		08 50 12.4	
	comp=E,176nm,0.4s						
TPH				IAML		08 50 12.4	
	comp=N,240nm,0.4s						
S11A	**Rachel**	**0.75**	**115**		Pg	08 50 10.5	+0.7
S11A					Sb	08 50 21.0	-1.1
S11A	**Rachel**	**0.75**	**115**	IAML		08 50 25.1	
	comp=N,147nm,0.4s						
S11A				IAML		08 50 30.7	
	comp=E,136nm,0.4s						
GMN	**Gold Mountain**	**0.84**	**218**		Pg	08 50 11.3	-0.2
GMN					Sg	08 50 22.9	+0.5
R11B	**Troy Canyon, C**	**0.90**	**64**		Pg	08 50 12.3	-0.2
Q09A	**Carvers**	**0.98**	**333**		Pb	08 50 14.8	-0.4
Q09A	**Carvers**	**0.98**	**333**	IAML		08 50 31.4	
	comp=N,78nm,0.5s						
SGV	**South Grapevin**	**1.04**	**199**		Pg	08 50 15.6	+0.3
TPNV	**Topopah Spring**	**1.05**	**164**		Pb	08 50 16.3	-0.2
TPNV				IAML		08 50 32.7	
	comp=N,76nm,0.4s						
TPNV				IAML		08 50 37.6	
	comp=N,48nm,0.5s						
LCH	**Last Change Ra**	**1.10**	**229**		Pg	08 50 16.7	+0.2
WCT	**Wildcat Mounta**	**1.17**	**181**		Pg	08 50 17.5	-0.3
WCT	**Wildcat Mounta**	**1.17**	**181**	IAML		08 50 36.6	
	comp=E,44nm,0.2s						
DSP	**Deep Springs**	**1.23**	**242**		Pg	08 50 19.0	0.0
DSP	**Deep Springs**	**1.23**	**242**	IAML		08 50 37.8	
	comp=E,66nm,0.4s						
NSP	**Numbskull Pass**	**1.27**	**165**		Pg	08 50 20.0	+0.2
SDH	**Striped Hills**	**1.33**	**171**		Pg	08 50 20.7	-0.3
PRN	**Pahroc Range**	**1.35**	**114**		Pg	08 50 20.5	-0.9
PRN	**Pahroc Range**	**1.35**	**114**	IAML		08 50 47.5	
	comp=N,36nm,0.5s						
PRN				IAML		08 50 47.6	
	comp=E,34nm,0.5s						
MCY	**Mercury**	**1.40**	**158**		Pg	08 50 22.2	+0.1
FURC	**Furnace Creek,**	**1.51**	**188**		Pn	08 50 23.5	+0.1
LHV	**Little Huntoon**	**1.52**	**281**		Pn	08 50 24.0	+0.3
LHV	**Little Huntoon**	**1.52**	**281**	IAML		08 50 47.4	
	comp=N,40nm,0.4s						
LHV				IAML		08 50 47.8	
	comp=E,47nm,0.4s						
AMDNV	**Amargosa**	**1.53**	**170**		Pg	08 50 24.7	0.0
RYN	**Ryan**	**1.65**	**294**		Pn	08 50 25.7	+0.1
RYN	**Ryan**	**1.65**	**294**	IAML		08 50 49.9	
	comp=N,40nm,0.4s						
RYN				IAML		08 50 51.2	
	comp=E,33nm,0.4s						
CWC	**Cottonwood Cre**	**1.92**	**218**		Pn	08 50 27.6	-1.7
SPR3	**Spring Creek 3**	**2.07**	**59**		Pn	08 50 30.1	-1.3
PSUT	**Pine Spring**	**2.24**	**74**	Pn	Pn	08 50 33.6	-0.2
PSUT				IAML		08 51 08.3	
	comp=E,12nm,0.6s						
PSUT				IAML		08 51 08.4	
	comp=N,15nm,0.8s						
CCUT	**Cedar City**	**2.61**	**98**	Pn	Pn	08 50 39.8	+0.9
GSC	**Goldstone, Bar**	**2.66**	**183**		Pn	08 50 40.2	+0.8

CATAC 11 08:54:13.7±0.4, 11.7N±3.7×8.6W±., h52km±4km, M2.5/16, MLv2.5/16, Error ellipse: s-maj=7.8km s-min=3.2km az=47.2, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**0.41**	**43**	P	Pn	08 54 25.3	+1.2
NADN				S	Sn	08 54 34.2	+2.7
NANN	**Nandasmo**	**0.52**	**21**	S	Sn	08 54 37.5	+3.7
NANN	**Nandasmo**	**0.52**	**21**	P	Pn	08 54 27.6	+2.3
SABN	**Sabanita**	**0.53**	**16**	P	Pn	08 54 25.9	+0.5
MORN	**Al O del Volca**	**0.66**	**81**	P	Pn	08 54 28.4	+1.4
MORN				S	Sn	08 54 39.3	+2.6
UNAN	**Cigeo UNAN**	**0.66**	**3**	P	Pn	08 54 28.2	+1.2
UNAN				S	Sn	08 54 38.7	+1.9
CONN	**Concepcion**	**0.68**	**80**	P	Pn	08 54 28.0	+0.7
CONN				S	Sn	08 54 39.6	+2.4
WILN	**Americas 2**	**0.72**	**10**	S	Sn	08 54 40.0	+2.0
SAPS	**Ciudad Sandino**	**0.72**	**353**	P	Pn	08 54 28.6	+0.8
SAPS	**Ciudad Sandino**	**0.72**	**353**	S	Sn	08 54 39.9	+1.8
COPN	**Copaltepe**	**0.78**	**339**	P	Pn	08 54 28.7	+0.2
CARN	**Rivas**	**0.82**	**109**	P	Pn	08 54 29.6	+0.6
CARN				S	Sn	08 54 41.9	+1.6
MOM2	**El Cardon**	**1.00**	**350**	P	Pn	08 54 31.8	+0.4
MOM2				S	Sn	08 54 45.6	+1.1
CNGA	**Al SSO del Vol**	**1.11**	**340**	P	Pn	08 54 33.2	+0.2
CNGA				S	Sn	08 54 47.9	+0.6
CNGN	**Cerro Negro**	**1.11**	**340**	P	Pn	08 54 32.8	-0.3
CNGN	**Cerro Negro**	**1.11**	**340**	S	Sn	08 54 47.7	+0.3
BOAB	**BOACO BROADBAN**	**1.18**	**32**	P	Pn	08 54 34.4	+0.5
BOAB	**BOACO BROADBAN**	**1.18**	**32**	S	Sn	08 54 49.4	+0.6
ILCN	**San Idelfonso**	**1.18**	**341**	P	Pn	08 54 33.2	-0.7
ILCN				S	Sn	08 54 49.2	+0.2
PLRN	**Geotermica Pol**	**1.21**	**338**	P	Pn	08 54 34.4	0.0
PLRN				S	Sn	08 54 50.0	+0.3
PKGN	**Cerro Pekin**	**1.38**	**332**	P	Pn	08 54 36.9	+0.4
PKGN				S	Sn	08 54 54.7	+1.0
MATN	**Matagalpa**	**1.52**	**14**	P	Pn	08 54 38.2	-0.4
MATN	**Matagalpa**	**1.52**	**14**	S	Sn	08 54 57.3	0.0
CMARA	**Lajas Hojancha**	**1.67**	**148**	P	Pn	08 54 40.6	0.0

AUST ***11*** *09:01:01.0±0.2, 24.2°S±2.2°×127.7E±., h10km, ML4.0/11, Error ellipse: s-maj=4.7km s-min=3.9km az=8.4*

IDC ***11*** *09:01:00.9±0.8, 23.40S×127.57E, h0km, mb4.0/4, mbtmp4.0/7, ML4.0/3, MS3.7/2, Error ellipse: s-maj=16.9km s-min=15.8km az=32.0*

NEIC ***11*** *09:01:00.6±1.4, 23.61S±0.07×127.48E±0.06, h10km±1km, mb4.1/9, Error ellipse: s-maj=13.1km s-min=7.1km az=150.0*

NOU ***11*** *09:01:02.8, 23.58S×127.48E, h41km, mb4.6/18, Western Australia*

ISC 11 09:01:01.0±0.4, 23.52S±0.05×127.47E±0.04, h10km, n95, σ2§15/105, mb4.2/8, MS4.1/3, 2C-1D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRKA	**Warakurna**	**1.69**	**154**	P	**Pg**	**09 01 34.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**5.66**	**342**	P	**Pn**	**09 02 26.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**5.66**	**342**	Pn	**Pn**	**09 02 26.3**	**+1.0**
	3.5nm,0.3s,baz=205,slow=3.1,SNR=136						
FITZ				Pg	**Pb**	**09 02 43.1**	**+3.1**
	3.1nm,0.3s,baz=176,slow=16,SNR=7.3						
FITZ				Sn	**Sn**	**09 03 27.1**	**-3.3**
	6.1nm,0.3s,baz=127,slow=20,SNR=11						
FITZ				Lg	Lg	09 03 56.9	
	7.6nm,0.3s,baz=84,slow=20,SNR=9.0						
	7.6nm,0.3s						
AUALC	**St Philip's Co**	**5.88**	**93**	P	**Pn**	**09 02 30.1**	**+1.8**
ASAR	**Alice Springs**	**5.90**	**93**		**Pn**	**09 02 30.2**	**+1.6**
ASAR	**Alice Springs**	**5.90**	**93**	Pn	**Pn**	**09 02 30.5**	**+1.8**
	3.5nm,0.3s,baz=276,slow=13,SNR=147						
ASAR				Pg	Pb	09 02 48.6	+4.6
	9.1nm,0.3s,baz=280,slow=17,SNR=21						
ASAR				Sn	**Sn**	**09 03 34.8**	**-1.5**
	21nm,0.3s,baz=270,slow=24,SNR=17						
ASAR				Lg	Lg	09 04 02.9	
	37nm,0.3s,baz=274,slow=27,SNR=17						
	13nm,0.5s						
AS31	**Alice Springs**	**5.90**	**93**		**Pn**	**09 02 28.1**	**-0.5**
AS31				Sn	**Sn**	**09 03 35.1**	**-1.3**
CAAN	**Eighty Mile Be**	**6.98**	**306**	P	**Pn**	**09 02 43.7**	**+0.3**
CAAN				S	**Sn**	**09 03 57.9**	**-5.0**
PSAC2	**Pilbara Seismi**	**7.27**	**284**	P	**Pn**	**09 02 48.2**	**+0.8**
PSAC2				S	**Sn**	**09 04 04.2**	**-5.8**
WC4	**Warramunga Arr**	**7.30**	**62**	P	**Pn**	**09 02 47.3**	**-0.5**
WB1	**Warramunga Ar.**	**7.30**	**62**	P	**Pn**	**09 02 47.5**	**-0.4**
WRA	**Warramunga Arr**	**7.31**	**62**		**Pn**	**09 02 47.9**	**0.0**
WRA	**Warramunga Arr**	**7.31**	**62**	Pn	**Pn**	**09 02 47.2**	**-0.7**
	2.5nm,0.3s,baz=239,slow=13,SNR=24						
WRA				Pg	Pb	09 03 13.4	+5.3
	3.0nm,0.3s,baz=247,slow=17,SNR=6.3						
WRA				Sn	**Sn**	**09 04 04.6**	**-6.4**
	13nm,0.3s,baz=244,slow=22,SNR=7.8						
WRA				Lg	Lg	09 04 47.5	
	20nm,0.3s,baz=237,slow=26,SNR=6.0						
	3.1nm,0.3s						
PSA00	**Pilbara Seismi**	**7.31**	**284**	P	**Pn**	**09 02 48.9**	**+0.9**
PSA00				S	**Sn**	**09 04 05.8**	**-5.3**
PSA00	**Pilbara Seismi**	**7.31**	**284**		**Pn**	**09 02 47.9**	**-0.1**
PSA00	**Pilbara Seismi**	**7.31**	**284**	P	**Pn**	**09 02 48.9**	**+0.9**
PSAA2	**Pilbara Seismi**	**7.32**	**284**

comp=Z,1.8nm,1.1s
VNDA Vanda 56.49 172 P **P** **09 10 43.6 +0.9**
comp=Z,0.3nm,0.4s,baz=329,slow=8.5,SNR=2.7
comp=Z,0.3nm,0.4s
HHC Hu-ho-hao-te 65.73 347 *e*P **P** **09 11 50.2 +4.2**
HHC pmax pmax
comp=Z,4.0nm,0.6s
HHC pmax pmax
comp=Z,57nm,4.1s
QSPA South Pole Qui 66.55 180 P **P** **09 11 54.8 +3.7**
comp=Z,0.8nm,0.5s,baz=357,slow=4.0,SNR=8.5
comp=Z,0.8nm,0.5s
BNX BinXian 68.93 360 ⇓P **P** **09 12 06.4 +0.4**
BNX pmax pmax
comp=Z,5.0nm,1.1s
WMQ Urumqi 76.30 332 *e*P **P** **09 12 52.4 +2.3**
WMQ LR LR
comp=Z,310nm,24.9s
TROLL Troll, Antarti 77.66 195 ⇑P **P** **09 13 00.1 +2.5**
comp=Z,71nm,0.7s
BELA Belgrano 2 78.28 184 P **P** **09 12 59.8 -0.9**
BELA IAmb IAmb 09 13 06.1
comp=Z,1.8nm,0.5s
SNAA Sanae 79.13 194 ⇑P **P** **09 13 07.7 +2.1**
comp=Z,22nm,0.6s
SNAA Sanae 79.13 194 P **P** **09 13 03.5 -2.1**
SNAA IAmb IAmb 09 13 29.4
comp=Z,1.5nm,1.1s
SNAA Sanae 79.13 194 P **P** **09 13 07.2 +1.6**
comp=Z,0.6nm,0.4s,baz=187,slow=7.5,SNR=9.5
comp=Z,0.6nm,0.4s
MKAR Makanchi Array 81.02 330 P **P** **09 13 17.0 +1.1**
comp=Z,1.2nm,0.4s,baz=152,slow=6.2,SNR=20
comp=Z,1.2nm,0.4s
GNI Garni 99.55 310 LR LR 10 07 33.8
comp=Z,16nm,18.2s,baz=180,slow=40
TORD Torodi Ar. Bea 127.77 269 PKP **PKiKP** **09 20 08.3 +0.1**
comp=Z,0.2nm,0.4s,baz=60,slow=1.8,SNR=4.2
SCHQ Schefferville 146.96 15 PKPbc **PKPbc** **09 20 44.0 +0.5**
comp=Z,31nm,0.6s,baz=334,slow=3.5,SNR=6.8

*NNC **11** 09:02:19.4±0.9, 42°.79N×78°.26E, h0km, mb3.0, mpv2.4, Error ellipse: s-maj=7.3km s-min=3.5km az=168.0*
*SOME **11** 09:02:20.5, 42°.87N×78°.28E, h0km*
ISC 11 09:02:20.2±2.2, 42°.8N±0°.1×78°.37E±0°.06, h24km, n7, σ1s74/12, 3C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.28**	**5**	P	**Pb**	**09 02 25.5**	**-1.5**
	7.4nm,0.2s						
SATY				S	**Sb**	**09 02 29.6**	**-2.0**
	43nm,0.2s						
UZB	**Uzynbulak**	**0.60**	**52**	P	**Pn**	**09 02 32.5**	**-1.0**
	2.4nm,0.3s						
UZB				S	**Sb**	**09 02 41.6**	**+1.2**
	4.1nm,0.2s						
UZB	**Uzynbulak**	**0.60**	**52**	*e*P	**Pn**	**09 02 32.5**	**-1.0**
	1.0nm,0.1s						
UZB				*e*S	**Sb**	**09 02 41.6**	**+1.2**
	2.7nm,0.1s						
KPKS	**Kokpek**	**0.72**	**18**	P	**Pb**	**09 02 33.6**	**-0.7**
	0.3nm,0.2s						
KPKS				S	**Sb**	**09 02 43.5**	**-0.3**
	1.9nm,0.3s						
PDGK	**Podgornoye**	**0.99**	**56**	⇑Pg	**Pb**	**09 02 40.1**	**+1.4**
	0.2nm,0.1s						
PDGK				⇑Lg	Lg	09 02 53.2	
	1.6nm,0.5s						
KNDC	**Almaty**	**1.12**	**294**	⇑Pg	**Pn**	**09 02 39.9**	**-0.6**
	12nm,0.2s						
KNDC				⇓Lg	Lg	09 02 52.9	
	6.7nm,0.3s						
ARXS	**Arharly**	**1.49**	**345**	*e*P	**Pb**	**09 02 48.6**	**+1.3**
ARXS				*e*S	**Sb**	**09 03 09.1**	**+3.4**

IDC 11 09:05:22.8±2.1, 53°.97N×85°.59E, h0km, mbtmp2.6/2, ML2.7/1, Error ellipse: s-maj=14.3km s-min=7.1km az=80.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.46**	**268**	I	I	09 08 10.0	
	baz=87,slow=333,SNR=3.1						
ZALV	**Zalesovo Beam**	**0.46**	**268**	Pg	Pg	09 05 31.3	-0.2
	0.7nm,0.3s,baz=88,slow=17,SNR=9.2						
ZALV				Lg	Lg	09 05 37.9	
	2.0nm,0.3s,baz=87,slow=28,SNR=16						
KURBB	**Kurchatov Arra**	**5.47**	**235**	Pn	Pn	09 06 46.0	+0.5
	0.2nm,0.3s,baz=52,slow=14,SNR=1.7						
KURBB				Lg	Lg	09 08 17.2	
	baz=51,slow=34,SNR=4.1						
MKAR	**Makanchi Array**	**7.49**	**198**	Pn	Pn	09 07 14.2	+1.1
	0.1nm,0.3s,baz=17,slow=13,SNR=4.0						
	0.2nm,0.4s						

*IDC **11** 09:25:29.8±1.3, 55°.64S×24°.88W, h0km, mb3.8/4, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=59.4km s-min=24.4km az=88.0*
ISC 11 09:25:31.5±1.4, 55°.7S±0°.2×24°.8W±0°.4, h10km, n10, σ0s87/10, mb3.9/3, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.67**	**161**	⇑P	**Pn**	**09 29 25.2**	**+0.4**
	comp=Z,3.2nm,0.4s						
VNA3	**Neumayer Olymp**	**16.93**	**163**	⇑P	**Pn**	**09 29 26.9**	**-1.3**
	comp=Z,3.3nm,0.4s						
SNAA	**Sanae**	**18.56**	**158**	⇑P	**Pn**	**09 29 48.3**	**-0.1**
	comp=Z,17nm,0.4s						
SNAA	**Sanae**	**18.56**	**158**	P	**P**	**09 29 47.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=306,slow=14,SNR=13						
	comp=Z,0.6nm,0.4s						
TROLL	**Troll, Antarti**	**20.00**	**155**	⇑P	**P**	**09 30 04.2**	**+0.2**
	comp=Z,156nm,0.6s						
QSPA	**South Pole Qui**	**34.58**	**180**	P	**P**	**09 32 20.5**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=200,slow=7.3,SNR=22						
	comp=Z,1.0nm,0.5s						
MAW	**Mawson**	**39.64**	**143**	P	**P**	**09 33 02.5**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=235,slow=9.7,SNR=6.4						
	comp=Z,1.0nm,0.8s						
VNDA	**Vanda**	**47.01**	**182**	P	**P**	**09 34 03.0**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=183,slow=6.1,SNR=6.7						
	comp=Z,0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**72.08**	**27**	P	**P**	**09 36 56.2**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=197,slow=6.2,SNR=5.6						
	comp=Z,1.1nm,0.7s						
ILAR	**Eielson Array**	**150.88**	**312**	PKPbc	**PKPbc**	**09 45 21.2**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=128,slow=1.6,SNR=5.8						

*SJA **11** 09:43:50.7±0.8, 24°.07S×67°.14W, h203km±6km, ML3.5, MW3.6*
*GUC **11** 09:43:53.7±0.7, 24°.07S×67°.21W, h172km±11km, ML3.6*
ISC 11 09:43:50.9±1.8, 24°.09S±0°.04×67°.20W±0°.04, h199km±15km, n31, σ1s24/51, 5C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALTA		**0.80**	**100**	⇓*i*P	**Pn**	**09 44 19.7**	**-0.3**
SALTA		**0.80**	**100**	*e*P	**Pn**	**09 44 19.6**	**-0.3**
AF01	**San Pedro de A**	**1.44**	**321**	*e*P	Pn	09 44 32.0	+7.6
AF01				IAML		09 45 09.4	
	comp=Z,120nm,1.0s						
SLA	**San Lorenzo**	**1.67**	**113**	⇓*i*P	**Pn**	**09 44 27.1**	**+0.8**
SLA	**San Lorenzo**	**1.67**	**113**	*e*P	**Pn**	**09 44 27.0**	**+0.8**
SLA				*e*S	**Sn**	**09 44 52.7**	**-1.0**
HJA	**Humahuaca**	**1.86**	**62**	*e*P	**Pn**	**09 44 28.9**	**+0.5**
HJA				*e*S	**Sn**	**09 44 57.7**	**+0.3**
AZAP	**Zapla**	**1.95**	**95**	*e*P	**Pn**	**09 44 29.4**	**+0.3**
FSA	**Cafayete**	**2.30**	**152**	*e*P	**Pn**	**09 44 33.5**	**+0.7**
GO02	**Mina Guanaco**	**2.43**	**243**	*e*P	**Pn**	**09 44 35.5**	**+1.3**
GO02				*e*S	**Sn**	**09 45 07.8**	**-0.2**
GO02				IAML		09 45 09.2	
	comp=N,264nm,0.5s						
GO02	**Mina Guanaco**	**2.43**	**243**	*e*P	**Pn**	**09 44 30.7**	**-3.5**
GO02				*e*S	**Sn**	**09 45 08.9**	**+0.9**
GO02				IAML		09 45 10.3	
	comp=Z,198nm,0.4s						
YJA	**Yavi**	**2.45**	**40**	*e*P	**Pn**	**09 44 35.6**	**+0.9**
YJA	**Yavi**	**2.45**	**40**	*e*P	**Pn**	**09 44 35.9**	**+1.1**
YJA				*e*S	**Sn**	**09 45 08.3**	**-0.5**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB06	**IPOC Station P**	**2.58**	**302**	⇑*i*P	**Pn**	**09 44 37.0**	**+1.2**
PB06				*e*S	**Sn**	**09 45 09.6**	**-1.2**
PB06	**IPOC Station P**	**2.58**	**302**	*e*P	**Pn**	**09 44 36.9**	**+1.1**
PB06				*e*S	**Sn**	**09 45 10.5**	**-0.2**
PB06				IAML		09 45 11.5	
	comp=Z,196nm,0.3s						
PB09	**IPOC Station P**	**2.96**	**320**	⇑*i*P	**Pn**	**09 44 41.9**	**+1.7**
PB09				*e*S	**Sn**	**09 45 18.1**	**-0.6**
PB09				IAML		09 45 21.1	
	comp=N,121nm,0.3s						
PB09	**IPOC Station P**	**2.96**	**320**	*e*P	**Pn**	**09 44 42.0**	**+1.8**
PB09				*e*S	**Sn**	**09 45 18.6**	**-0.1**
PB09				IAML		09 45 19.4	
	comp=Z,97nm,0.6s						
PB14	**IPOC Station P**	**2.97**	**259**	*e*P	**Pn**	**09 44 41.5**	**+1.0**
PB14				*e*S	**Sn**	**09 45 19.3**	**+0.1**
PB14				IAML		09 45 20.5	
	comp=Z,36nm,0.4s						
PB05	**IPOC Station P**	**3.02**	**293**	⇑*i*P	**Pn**	**09 44 42.0**	**+1.0**
PB05				IAML		09 45 21.6	
	comp=E,105nm,0.5s						
PB05	**IPOC Station P**	**3.02**	**293**	*e*P	**Pn**	**09 44 41.9**	**+1.0**
PB05				*e*S	**Sn**	**09 45 20.1**	**+0.2**
PB05				IAML		09 45 29.1	
	comp=Z,46nm,0.7s						
PB03	**IPOC Station P**	**3.10**	**310**	*e*P	**Pn**	**09 44 42.8**	**+0.9**
PB03				*e*S	**Sn**	**09 45 20.2**	**-1.6**
PB03				IAML		09 45 21.6	
	comp=Z,218nm,0.3s						
PB10	**IPOC Station P**	**3.13**	**280**	⇑*i*P	**Pn**	**09 44 43.2**	**+1.2**
PB10				IAML		09 45 23.9	
	comp=E,61nm,0.2s						
PB10	**IPOC Station P**	**3.13**	**280**	*e*P	**Pn**	**09 44 43.4**	**+1.4**
PB10				*e*S	**Sn**	**09 45 22.2**	**+0.3**
PB10				IAML		09 45 27.4	
	comp=Z,42nm,0.4s						
AC02	**Maricunga**	**3.25**	**212**	⇑*i*P	**Pn**	**09 44 45.5**	**+1.5**
AC02	**Maricunga**	**3.25**	**212**	*e*P	**Pn**	**09 44 45.5**	**+1.5**
AC02				*e*S	**Sn**	**09 45 26.0**	**+0.5**
PB01	**IPOC Station P**	**3.69**	**325**	*e*P	**Pn**	**09 44 49.7**	**+0.7**
PB01				*e*S	**Sn**	**09 45 32.8**	**-1.7**
PB01				IAML		09 45 36.5	
	comp=Z,52nm,0.4s						
AC01	**Pan de Azucar**	**3.70**	**236**	*e*P	**Pn**	**09 44 49.1**	**+0.1**
AC01				*e*S	**Sn**	**09 45 33.2**	**-1.4**
AC01				IAML		09 45 34.1	
	comp=Z,42nm,0.5s						
PB02	**IPOC Station P**	**3.71**	**317**	*e*P	**Pn**	**09 44 50.0**	**+0.7**
PB02				*e*S	**Sn**	**09 45 33.4**	**-1.6**
PB02				IAML		09 45 34.4	
	comp=Z,193nm,0.4s						
PB08	**IPOC Station P**	**4.32**	**335**	*e*P	**Pn**	**09 44 58.8**	**+1.6**
PB08				*e*S	**Sn**	**09 45 48.7**	**-0.5**
PB08				IAML		09 45 54.9	
	comp=Z,24nm,0.7s						
GO03	**Copiapo**	**4.44**	**217**	*e*P	**Pn**	**09 44 58.5**	**+0.3**
GO03				*e*S	**Sn**	**09 45 50.1**	**-1.1**
GO03				IAML		09 45 52.7	
	comp=Z,34nm,0.6s						
PB11	**IPOC Station P**	**4.87**	**332**	*e*P	**Pn**	**09 45 03.7**	**-0.2**
PB11				*e*S	**Sn**	**09 45 57.8**	**-3.5**
PB11				IAML		09 46 02.1	
	comp=Z,34nm,0.4s						
AC04	**Llanos de Chal**	**5.38**	**219**	*e*P	**Pn**	**09 45 09.7**	**-0.5**
AC04				*e*S	**Sn**	**09 46 12.0**	**-0.8**
AC04				IAML		09 46 22.7	
	comp=Z,26nm,2.1s						

*GCG **11** 09:46:07.8±1.5, 13°.44N×90°.23W, h28km±8km, MD3.6*
SNET 11 09:46:06.6±0.8, 13°.77N×89°.94W, h93km±14km, ML2.4, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.20**	**49**	*e*P	Pn	09 46 20.0	-0.2
NUBE				*e*S	Sn	09 46 30.4	+0.2
NUBE	**Las Nubes**	**0.20**	**49**	*i* P	Pn	09 46 20.1	0.0
NUBE				*i* S	Sn	09 46 30.8	+0.6
CEVE	**Cerro Verde**	**0.31**	**79**	*e*P	Pn	09 46 20.9	+0.2
CEVE				*e*S	Sn	09 46 32.7	+1.5
CEVE				IAML		09 46 35.1	
	comp=Z,192nm,0.2s						
RTR	**El Retiro**	**0.31**	**66**	*e*P	Pn	09 46 21.6	+0.9
SBLS	**San Blas**	**0.31**	**77**	*e*P	Pn	09 46 21.0	+0.2
SNJE	**San Jose**	**0.34**	**73**	*e*P	Pn	09 46 21.4	+0.6
JAYA	**Jayaque - finc**	**0.49**	**104**	*e*P	Pn	09 46 21.8	0.0
JAYA				*e*S	Sn	09 46 33.2	+0.2
JAYA				IAML		09 46 36.4	
	comp=Z,66nm,0.2s						
JAYA	**Jayaque - finc**	**0.49**	**104**	*i* P	Pn	09 46 23.4	+1.7
JAYA				*i* S	Sn	09 46 33.3	+0.3
MTO3	**Montecristo**	**0.84**	**42**	*i* P	Pn	09 46 29.9	+4.9
MTO3				*i* S	Sn	09 46 48.4	+10

*IDC **11** 09:59:20.1±1.3, 30°.86S×177°.60W, h0km, mb4.0/5, mbtmp4.0/5, MS3.5/1, Error ellipse: s-maj=35.0km s-min=24.3km az=73.0*
ISC 11 09:59:24.8±1.1, 30°.91S±0°.08×177°.8W±0°.2, h35km, n9, σ2s02/12, mb4.0/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.65**	**356**	Pn	**Pn**	**09 59 50.4**	**-0.9**
	81nm,0.3s,baz=108,slow=20,SNR=4.3						
RAO				Sn	**Sn**	**10 00 08.7**	**-2.6**
	155nm,0.3s,baz=96,slow=21,SNR=4.0						
URZ	**Urewera**	**8.45**	**208**	Pn	**Pn**	**10 01 21.8**	**-2.9**
	0.3nm,0.3s,baz=56,slow=9.4,SNR=1.2						
URZ				Sn	**Sn**	**10 02 56.6**	**-2.2**
	1.4nm,0.3s,baz=87,slow=23,SNR=7.5						
DZM	**Mont Dzumac**	**16.61**	**298**	LR	LR	10 08 50.0	
	comp=Z,141nm,18.4s,baz=56,slow=34						
STKA	**Stephens Creek**	**34.54**	**258**	P	**P**	**10 06 11.7**	**+1.7**
	1.9nm,0.6s,baz=103,slow=12,SNR=6.7						
	1.9nm,0.6s						
ASAR	**Alice Springs**	**43.26**	**267**	P	**P**	**10 07 25.1**	**+1.9**
	0.7nm,0.5s,baz=106,slow=7.2,SNR=19						
ASAR				PcP	**PcP**	**10 09 12.6**	**+0.7**
	0.6nm,0.8s,baz=129,slow=3.7,SNR=5.6						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**44.29**	**273**	P	**P**	**10 07 33.4**	**+1.9**
	2.7nm,0.8s,baz=112,slow=7.9,SNR=22						
WRA				PcP	**PcP**	**10 09 15.4**	**0.0**
	0.5nm,0.9s,baz=124,slow=3.3,SNR=1.7						
	2.7nm,0.8s						
QSPA	**South Pole Qui**	**59.21**	**180**	P	**P**	**10 09 24.4**	**+2.2**
	1.0nm,0.7s,baz=45,slow=5.5,SNR=8.7						
	1.0nm,0.7s						
SNAA	**Sanae**	**77.65**	**178**	P	**P**	**10 11 16.7**	**-0.5**
	1.2nm,1.0s,baz=180,slow=10,SNR=3.5						
	1.2nm,1.0s						
FINES	**FINESS Array B**	**145.68**	**340**	PKPbc	**PKPab**	**10 18 59.9**	**+0.4**
	1.8nm,0.4s,baz=57,slow=4.1,SNR=18						

*IDC **11** 10:12:55.4±1.4, 30°.66S×178°.39W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=35.5km s-min=24.8km az=116.0*
ISC 11 10:12:55.3±1.2, 30°.73S±0°.10×178°.3W±0°.2, h10km, n7, σ1s97/9, mb3.7/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.50**	**12**	Pn	**Pg**	**10 13 24.1**	**0.0**
	172nm,0.3s,baz=198,slow=20,SNR=7.6						
RAO				Sn	**Sn**	**10 13 40.0**	**-1.9**
	379nm,0.3s,baz=162,slow=20,SNR=6.4						
URZ	**Urewera**	**8.43**	**206**	Pn	**Pn**	**10 14 55.6**	**-1.7**
	0.6nm,0.3s,baz=120,slow=12,SNR=7.9						
URZ				Sn	**Sn**	**10 16 30.4**	**-2.2**
	1.4nm,0.3s,baz=120,slow=15,SNR=7.8						
STKA	**Stephens Creek**	**34.18**	**257**	P	**P**	**10 19 42.1**	**+1.2**
	1.7nm,0.7s,baz=101,slow=11,SNR=3.4						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**42.87**	**267**	P	**P**	**10 20 54.9**	**+0.9**
	0.3nm,0.6s,baz=106,slow=6.8,SNR=5.4						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**43.88**	**273**	P	**P**	**10 21 03.0**	**+0.8**
	0.3nm,0.3s,baz=111,slow=8.0,SNR=6.5						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**59.38**	**180**	P	**P**	**10 23 00.2**	**+2.6**
	0.6nm,0.6s,baz=107,slow=0.9,SNR=7.8						
	0.6nm,0.6s						

FINES FINESS Array B 145.37 340 PKPbc **PKPbc** **10 32 31.0 -1.6**
2.5nm,0.9s,baz=96,slow=7.2,SNR=3.5

IDC 11 10:14:13.9±5.2, 16°.46S×175°.47W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=231.9km s-min=34.5km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.78**	**240**	P	P	10 22 05.4	0.0
	1.9nm,1.0s,baz=69,slow=8.6,SNR=2.2						
	1.9nm,1.0s						
WRA	**Warramunga Arr**	**47.67**	**258**	P	P	10 22 52.6	+0.1
	0.7nm,0.7s,baz=84,slow=6.4,SNR=5.6						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**47.89**	**253**	P	P	10 22 54.0	-0.3
	3.1nm,0.7s,baz=87,slow=8.7,SNR=41						
	3.1nm,0.7s						
ILAR	**Eielson Array**	**83.88**	**12**	P	P	10 26 45.1	0.0
	0.2nm,0.4s,baz=213,slow=4.5,SNR=5.9						
	0.2nm,0.4s						

*IDC **11** 10:15:18.6±1.4, 30°.84S×177°.76W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=40.9km s-min=22.1km az=91.0*
ISC 11 10:15:24.4±1.4, 30°.86S±0°.10×177°.9W±0°.3, h46km, n13, σ2s28/9, mb4.2/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.60**	**0**	Pn	**Pn**	**10 15 47.9**	**-2.4**
	165nm,0.3s,baz=138,slow=18,SNR=3.5						
RAO				Sn	**Sn**	**10 16 09.2**	**-0.5**
	101nm,0.3s,baz=217,slow=20,SNR=1.8						
URZ	**Urewera**	**8.44**	**208**	Pn	Pn	10 17 19.0	-5.0
	0.2nm,0.3s,baz=4.0,slow=21,SNR=2.2						
URZ				Sn	**Sn**	**10 18 54.4**	**-3.4**
	1.4nm,0.3s,baz=56,slow=18,SNR=6.3						
ASAR	**Alice Springs**	**43.14**	**267**	P	**P**	**10 23 22.5**	**+1.8**
	1.0nm,0.6s,baz=105,slow=7.3,SNR=10						
ASAR				PcP	**PcP**	**10 25 09.8**	**0.0**
	0.8nm,1.0s,baz=99,slow=3.8,SNR=2.6						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**44.17**	**273**	P	**P**	**10 23 30.1**	**+1.1**
	3.0nm,0.7s,baz=113,slow=7.6,SNR=12						
	3.0nm,0.7s						
QSPA	**South Pole Qui**	**59.25**	**180**	P	**P**	**10 25 21.7**	**+0.8**
	1.7nm,0.8s,baz=54,slow=3.6,SNR=6.7						
	1.7nm,0.8s						
H03S2	**Juan Fernandez**	**80.16**	**123**	T	T	11 54 08.6	
	baz=238,slow=74,SNR=55						
H03S1	**Juan Fernandez**	**80.17**	**123**	T	T	11 54 10.6	
	baz=238,slow=74,SNR=56						
H03S3	**Juan Fernandez**	**80.18**	**123**	T	T	11 54 08.7	
	baz=238,slow=74,SNR=64						
H03N3	**Juan Fernandez**	**80.36**	**123**	T	T	11 54 27.6	
	baz=241,slow=72,SNR=10						
H03N2	**Juan Fernandez**	**80.36**	**123**	T	T	11 54 24.9	
	baz=241,slow=72,SNR=13						
H03N1	**Juan Fernandez**	**80.37**	**123**	T	T	11 54 24.8	
	baz=241,slow=72,SNR=24						
FINES	**FINESS Array B**	**145.60**	**340**	PKPbc	**PKPbc**	**10 34 57.1**	**-0.1**
	2.0nm,0.5s,baz=46,slow=4.0,SNR=18						
AKASG	**Malin Array Be**	**151.70**	**322**	PKPab	**PKPab**	**10 35 25.2**	**+2.9**
	1.3nm,0.6s,baz=67,slow=1.7,SNR=4.8						

*CATAC **11** 10:31:51.6±0.3, 13°.N±2°×8°.1W±°, h13km±2km, M3.9/13, MLv3.9/13, Error ellipse: s-maj=3.9km s-min=3.4km az=4.3, confirmed*
*RSNC **11** 10:31:51.7±0.0, 13°.N±3°×8°.1W±°, h1km±4km, M3.1, ML3.1, MLv3.8*
ISC 11 10:31:51.3±1.4, 13°.14N±0°.04×81°.04W±0°.04, h8km±11km, n14, σ0s64/24, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRVC	**Isla de Provid**	**0.39**	**306**	P	**Pg**	**10 31 59.0**	**0.0**
PRVC				S	**Sg**	**10 32 04.4**	**+0.2**
PRVC	**Isla de Provid**	**0.39**	**306**	P	**Pg**	**10 31 59.0**	**0.0**
PRVC				S	**Sg**	**10 32 03.5**	**-0.7**
SAIC	**Isla e San And**	**0.89**	**228**	P	**Pn**	**10 32 10.1**	**0.0**
SAIC				S	**Sn**	**10 32 23.6**	**+0.4**
RNCC	**Cayo Roncador,**	**1.02**	**65**	P	**Pb**	**10 32 11.9**	**+0.7**
RNCC				S	**Sn**	**10 32 26.8**	**+0.5**
SERC	**Banco Serrana,**	**1.31**	**30**	P	**Pn**	**10 32 15.3**	**-0.6**
SERC				S	**Sb**	**10 32 33.4**	**+0.2**
BILN	**Bilwi Airport**	**2.44**	**292**	P	**Pn**	**10 32 30.7**	**-0.8**
BILN				S	**Sn**	**10 33 01.4**	**-0.2**
ESPN	**Las Esperanzas**	**3.32**	**254**	P	**Pb**	**10 32 50.6**	**+0.1**
ESPN				S	**Sb**	**10 33 32.1**	**+1.0**
SIUN	**Universidad Ur**	**3.68**	**279**	P	**Pn**	**10 32 47.8**	**-0.8**
SIUN				S	**Sn**	**10 33 32.0**	**-0.1**
BCIP	**Isla Barro Col**	**4.12**	**163**	P	**Pn**	**10 32 54.2**	**-0.4**
BCIP				S	**Sn**	**10 33 43.2**	**+0.1**
BCIP	**Isla Barro Col**	**4.12**	**163**	P	**Pn**	**10 32 53.7**	**-0.9**
BCIP				S	**Sn**	**10 33 41.7**	**-1.4**
DRK0	**Durika**	**4.42**	**210**	P	**Pn**	**10 32 58.4**	**-0.5**
DRK0	**Durika**	**4.42**	**210**	S	**Sn**	**10 33 50.2**	**-0.5**
BOAB	**BOACO BROADBAN**	**5.57**	**262**	P	**Pn**	**10 33 00.9**	**+0.2**
BRU2	**Volcan**	**4.62**	**201**	S	**Sn**	**10 33 56.2**	**+0.7**

*IDC **11** 10:49:04.1±2.9, 14°.97S×178°.09W, h461km±31km, mb3.3/11, mbtmp4.1/12, Error ellipse: s-maj=19.9km s-min=14.4km az=145.0*
ISC 11 10:48:56.3±0.7, 15°.0S±0°.2×178°.1W±0°.1, h379km, n13, σ1s76/15, mb3.5/11, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.29**	**242**	P	**Pn**	**10 52 28.5**	**+1.2**
	5.7nm,0.8s,baz=55,slow=6.7,SNR=2.3						
STKA	**Stephens Creek**	**40.38**	**238**	P	**P**	**10 56 01.9**	**+2.7**
	1.6nm,0.6s,baz=60,slow=7.8,SNR=6.2						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**45.56**	**257**	P	**P**	**10 56 41.7**	**+1.3**
	0.4nm,0.3s,baz=90,slow=7.5,SNR=16						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**45.97**	**251**	P	**P**	**10 56 43.5**	**0.0**
	6.7nm,0.6s,baz=85,slow=8.4,SNR=148						
ASAR				PcP	**PcP**	**10 58 12.9**	**-0.3**
	0.4nm,0.5s,baz=92,slow=3.3,SNR=2.1						
ASAR				S	**S**	**11 02 55.3**	**-4.1**
	0.6nm,0.8s,baz=85,slow=15,SNR=7.2						
	6.7nm,0.6s			

SHUL	**Shoufeng**	**0.43 278**	*i* P	**Pn**	**11 04 34.6 0.0**
SHUL			*i* S	**Sn**	**11 04 41.8 +0.5**
TEGC	**Jichi Village**	**0.45 268**	*i* P	**Pn**	**11 04 34.9 +0.1**
TEGC			*i* S	**Sn**	**11 04 42.3 +0.6**
HWA	**Hwalien**	**0.46 303**	*i* P	**Pb**	**11 04 34.8 +0.1**
HWA			*e*S	**Sn**	**11 04 42.0 -0.1**
EOS4	**EOS4**	**0.47 34**⇓	*i*P	**Pn**	**11 04 34.9 0.0**
EOS4			*i* S	**Sn**	**11 04 42.0 +0.1**
TWD	**Chiawan**	**0.53 312**⇓	*i*P	**Pn**	**11 04 35.4 -0.5**
TWD			*i* S	**Sn**	**11 04 43.1 -0.7**
ETM	**Tongmen**	**0.55 296**⇓	*i*P	**Pn**	**11 04 35.6 -0.6**
ETM			S	**Sn**	**11 04 43.5 -0.7**
ESL	**Shilin**	**0.55 279**⇓	*i*P	**Pn**	**11 04 35.7 -0.5**
ESL			*i* S	**Sn**	**11 04 43.4 -1.0**
EGFH	**Guangfu**	**0.56 264**	*i* P	**Pn**	**11 04 36.4 +0.1**
EGFH			*i* S	**Sb**	**11 04 44.8 +0.8**
ETL	**Fush Village**	**0.57 319**	*i* P	**Pn**	**11 04 35.9 -0.6**
ETL			*i* S	**Sn**	**11 04 44.1 -0.7**
WARBT	**Fenglin Townsh**	**0.59 269**⇓	*i*P	**Pn**	**11 04 36.3 -0.5**
WARBT			*i* S	**Sn**	**11 04 45.0 -0.2**
NACB	**Ninganchiao**	**0.60 318**⇓	*i*P	**Pn**	**11 04 36.2 -0.6**
NACB			*i* S	**Sn**	**11 04 44.5 -1.0**
HGSD	**Ruisui**	**0.60 248**⇑	*i*P	**Pn**	**11 04 36.6 -0.2**
HGSD			*i* S	**Sn**	**11 04 45.3 -0.2**
EOS3	**EOS3**	**0.62 25**⇓	*i*P	**Pb**	**11 04 37.2 +0.2**
EOS3			*i* S	**Sb**	**11 04 46.2 +0.7**
LXIB	**Xiulin Townshi**	**0.64 298**⇓	*i*P	**Pn**	**11 04 37.0 -0.5**
LXIB			*i* S	**Sn**	**11 04 45.9 -0.7**
EAHA	**Aohua**	**0.66 336**	*i* P	**Pn**	**11 04 37.4 -0.3**
EAHA			*i* S	**Sb**	**11 04 46.9 +0.1**
ECBN	**Changbin**	**0.67 233**	*i* P	**Pn**	**11 04 37.8 0.0**
ECBN			*i* S	**Sn**	**11 04 46.8 +0.1**
EHYH	**Wanrong**	**0.67 250**	*i* P	**Pb**	**11 04 38.2 +0.3**
EHYH			*i* S	**Sb**	**11 04 47.9 +0.9**
EHY	**Hungye**	**0.69 252**	*i* P	**Pn**	**11 04 38.1 0.0**
EHY			S	**Sb**	**11 04 48.2 +0.7**
ETLH	**Xiulin Townshi**	**0.69 314**	*i* P	**Pn**	**11 04 37.8 -0.5**
ETLH			*i* S	**Sn**	**11 04 47.2 -0.7**
EOS2	**EOS2**	**0.71 15**	*e*P	**Pb**	**11 04 38.8 +0.1**
EOS2			*e*S	**Sb**	**11 04 49.3 +1.1**
ENA	**Nanau**	**0.75 339**	*i* P	**Pn**	**11 04 38.8 -0.2**
ENA			*i* S	**Sn**	**11 04 49.1 -0.1**
YULB	**Yu-li**	**0.75 244**	*i* P	**Pn**	**11 04 39.1 +0.2**
YULB			*i* S	**Sn**	**11 04 49.3 +0.1**
EYUL	**Yuli**	**0.75 240**	*i* P	**Pn**	**11 04 39.3 +0.4**
EYUL			*i* S	**Sb**	**11 04 49.7 +0.3**
TWF1	**Yuli**	**0.77 241**	*i* P	**Pn**	**11 04 39.4 +0.2**
TWF1			*i* S	**Sb**	**11 04 50.4 +0.5**
CHKH	**Chenggong**	**0.79 228**	*i* P	**Pn**	**11 04 38.9 -0.5**
CHKH			*i* S	**Sn**	**11 04 48.9 -1.2**
OWD	**Renai**	**0.81 286**	*i* P	**Pn**	**11 04 39.5 -0.5**
OWD			*i* S	**Sn**	**11 04 50.2 -0.8**
WHF	**Hehuan Shan**	**0.82 301**	*i* P	**Pn**	**11 04 39.9 -0.3**
WHF			*i* S	**Sn**	**11 04 50.9 -0.6**
FULB	**Fuli**	**0.85 232**	*i* P	**Pn**	**11 04 40.0 -0.4**
FULB			*i* S	**Sn**	**11 04 51.9 +0.1**
ESAO	**Su ao**	**0.86 349**	*i* P	**Pn**	**11 04 40.9 +0.4**
ESAO			*i* S	**Sn**	**11 04 51.8 -0.2**
CHKT	**Chengkung**	**0.87 225**	*i* P	**Pn**	**11 04 40.1 -0.5**
CHKT			*i* S	**Sn**	**11 04 50.9 -1.3**
WUSB	**Renai**	**0.88 288**	*i* P	**Pn**	**11 04 41.0 +0.2**
WUSB			*i* S	**Sb**	**11 04 52.8 -0.3**
FUSS	**Fushou**	**0.89 306**⇓	*i*P	**Pn**	**11 04 41.2 +0.1**
FUSS			*i* S	**Sb**	**11 04 53.1 -0.3**
TWC	**Suao**	**0.90 349**	*i* P	**Pb**	**11 04 41.5 -0.3**
TWC			*i* S	**Sn**	**11 04 52.8 0.0**
NNSB	**Datong**	**0.92 320**⇓	*i*P	**Pn**	**11 04 41.4 +0.1**
NNSB			S	**Sb**	**11 04 54.0 -0.2**
LATG	**Datong**	**0.93 330**⇓	*i*P	**Pn**	**11 04 41.5 0.0**
LATG			*i* S	**Sn**	**11 04 53.5 -0.3**
NNS	**Nan Shan**	**0.93 320**	*i* P	**Pn**	**11 04 41.6 0.0**
NNS			*i* S	**Sb**	**11 04 54.3 -0.2**
TWT	**Tachien**	**0.94 304**	*i* P	**Pb**	**11 04 42.3 -0.3**
TWT			*i* S	**Sb**	**11 04 54.7 -0.2**
EHD	**Haiduan**	**0.95 233**	*i* P	**Pn**	**11 04 41.7 0.0**
EHD			*i* S	**Sn**	**11 04 53.6 -0.6**
NDS	**Dongshan**	**0.95 342**	*i* P	**Pn**	**11 04 42.1 +0.4**
NDS			*i* S	**Sb**	**11 04 54.5 -0.4**
TDCB	**Techi**	**0.95 304**⇓	*i*P	**Pn**	**11 04 42.3 +0.4**
TDCB			*i* S	**Sb**	**11 04 54.9 -0.3**
ECS	**Chishang**	**0.97 230**	P	**Pn**	**11 04 41.6 -0.4**
ECS			S	**Sb**	**11 04 56.2 +0.6**
SSLB	**Suanglung**	**0.99 274**	*i* P	**Pn**	**11 04 42.7 +0.5**
SSLB			*e*S	**Sn**	**11 04 55.1 0.0**
EDH	**Donghe**	**1.00 222**	*i* P	**Pn**	**11 04 42.8 -0.3**
EDH			*i* S	**Sn**	**11 04 54.5 -0.9**
ENTT	**Nioudou**	**1.00 335**	*i* P	**Pn**	**11 04 42.8 +0.3**
ENTT			*i* S	**Sb**	**11 04 56.1 -0.5**
YUS	**Yu-Shan**	**1.02 257**	*i* P	**Pb**	**11 04 44.0 0.0**
YUS			*i* S	**Sn**	**11 04 56.3 -0.2**
TWE	**Neicheng**	**1.05 342**	*i* P	**Pn**	**11 04 43.6 +0.6**
TWE			*i* S	**Sb**	**11 04 57.6 0.0**
SMLT	**Sun Moon Lake**	**1.05 279**	*i* P	**Pb**	**11 04 43.9 -0.4**
SMLT			*i* S	**Sb**	**11 04 58.4 +0.6**
DPDB	**Guoxing**	**1.06 287**	*i* P	**Pn**	**11 04 43.8 +0.6**
DPDB			S	**Sb**	**11 04 58.0 0.0**
ELDTW	**Lidau**	**1.07 240**	*i* P	**Pn**	**11 04 43.5 0.0**
ELDTW			*i* S	**Sn**	**11 04 56.8 -0.5**
WHYT	**Xinyi Township**	**1.08 269**	*i* P	**Pb**	**11 04 44.8 0.0**
WHYT			S	**Sb**	**11 04 58.7 +0.1**
TYC	**Yuchr**	**1.09 280**	*i* P	**Pn**	**11 04 44.5 -0.4**
TYC			S	**Sb**	**11 04 58.8 -0.1**
JYNG	**Yonagunijimaku**	**1.11 49**	P	**Pn**	**11 04 44.4 +0.6**
JYNG			S	**Sn**	**11 04 58.4 +0.4**
FUSB	**Fushanzhiwuyua**	**1.11 339**	*i* P	**Pn**	**11 04 44.4 +0.5**
FUSB			*e*S	**Sn**	**11 04 58.3 +0.2**
YHNB	**Yeheng**	**1.11 328**⇓	*i*P	**Pn**	**11 04 44.5 +0.4**
YHNB			*i* S	**Sn**	**11 04 58.2 -0.1**
EGS		**1.12 355**	*i* P	**Pb**	**11 04 45.2 -0.3**
EGS			S	**Sb**	**11 04 59.6 -0.1**
NSK	**Sanguang**	**1.13 327**	*i* P	**Pn**	**11 04 44.6 +0.3**
NSK			*i* S	**Sn**	**11 04 58.8 +0.1**
WHP	**Taichung City**	**1.13 299**	*i* P	**Pb**	**11 04 45.6 -0.1**
WHP			*e*S	**Sb**	**11 05 00.2 -0.1**
ALS	**Alishan**	**1.14 259**	*i* P	**Pb**	**11 04 45.9 -0.2**
ALS			*i* S	**Sb**	**11 05 00.4 -0.3**
NWLT	**Wulai**	**1.15 335**	*i* P	**Pn**	**11 04 45.1 +0.6**
NWLT			*i* S	**Sn**	**11 04 59.5 +0.3**
YOJ	**Yonaguni jima**	**1.16 51**	*i* P	**Pn**	**11 04 45.0 +0.4**
YOJ			S	**Sn**	**11 04 59.4 +0.6**
LONT	**Longtian**	**1.16 226**	*i* P	**Pn**	**11 04 44.6 0.0**
LONT			*i* S	**Sn**	**11 04 59.5 +0.1**
LDUT	**Ludao**	**1.17 206**	*e*P	**Pn**	**11 04 44.4 -0.3**
LDUT			S	**Sn**	**11 04 58.3 -1.2**
WJS	**Zhushan**	**1.20 275**	*i* P	**Pb**	**11 04 47.6 +0.8**
WJS			*e*S	**Sb**	**11 05 02.9 +0.9**
NFF	**Wufeng Townshi**	**1.23 317**	*i* P	**Pb**	**11 04 46.7 -0.7**
NFF			S	**Sb**	**11 05 02.3 -0.7**
WNT	**Mingjian**	**1.24 277**	*i* P	**Pb**	**11 04 48.0 +0.5**
WNT			*i* S	**Sb**	**11 05 04.0 +0.8**
CHN5	**Tsauling**	**1.25 264**	*i* P	**Pb**	**11 04 47.7 0.0**
CHN5			*i* S	**Sb**	**11 05 04.2 +0.7**
TIPB	**Shuangxi**	**1.26 352**⇓	*i*P	**Pb**	**11 04 47.1 -0.7**
TIPB			*i* S	**Sn**	**11 05 02.5 +0.8**
TWGBT	**Beinan**	**1.26 224**	*i* P	**Pn**	**11 04 45.8 -0.2**
TWGBT			*i* S	**Sn**	**11 05 01.5 -0.2**
TWG	**Pinlang**	**1.26 225**	*i* P	**Pn**	**11 04 45.9 -0.1**
TWG			*i* S	**Sn**	**11 05 01.5 -0.3**
TTN	**Taitung**	**1.26 220**	*e*P	**Pn**	**11 04 43.2 -2.7**
TTN			S	**Sn**	**11 05 02.0 +0.2**
STYH	**Taoyuan**	**1.28 245**	*i* P	**Pn**	**11 04 47.3 +1.1**
STYH			S	**Sb**	**11 05 03.6 -0.6**
TWB1	**Santiao Chiao**	**1.28 358**	*i* P	**Pn**	**11 04 46.6 +0.4**
TWB1			S	**Sn**	**11 05 02.2 -0.1**
LIOB	**Emei**	**1.30 315**	*i* P	**Pb**	**11 04 48.5 -0.1**
LIOB			S	**Sb**	**11 05 04.7 -0.3**
NSTT	**Nanjuang**	**1.30 314**	*i* P	**Pb**	**11 04 48.4 -0.2**
NSTT			*i* S	**Sb**	**11 05 04.6 -0.3**
KSHI	**Guanxi Townshi**	**1.31 324**	*i* P	**Pb**	**11 04 48.5 -0.1**
KSHI			S	**Sb**	**11 05 05.2 +0.2**
TWQ1	**Liyutan**	**1.31 299**	*i* P	**Pb**	**11 04 48.8 +0.2**
TWQ1			*i* S	**Sb**	**11 05 06.0 +0.9**
TCU	**Taichung**	**1.31 289**	*i* P	**Pb**	**11 04 49.3 +0.7**
TCU			*i* S	**Sb**	**11 05 06.5 +1.4**
TWA	**Mucha**	**1.31 342**	*i* P	**Pb**	**11 04 48.4 -0.4**
TWA			*i* S	**Sb**	**11 05 04.4 -1.0**
NHDH	**Xindian Distri**	**1.32 340**	*i* P	**Pb**	**11 04 48.4 -0.4**
NHDH			*i* S	**Sb**	**11 05 05.0 -0.3**
NJD	**Zhudong**	**1.32 320**	P	**Pb**	**11 04 49.4 +0.4**
NJD			S	**Sb**	**11 05 06.5 +0.9**
WCKO	**Fanlu**	**1.34 258**	*i* P	**Pb**	**11 04 49.9 +0.7**
WCKO			*i* S	**Sb**	**11 05 07.1 +1.1**
WGK	**Gukeng**	**1.35 269**	P	**Pb**	**11 04 49.4 +0.1**
WGK			S	**Sb**	**11 05 06.3 +0.1**
NSY	**Sanyi**	**1.35 301**	*i* P	**Pb**	**11 04 49.4 +0.1**
NSY			*e*S	**Sb**	**11 05 06.3 -0.1**
TPUB	**Ta-pu**	**1.35 252**	*i* P	**Pb**	**11 04 49.4 0.0**
TPUB			*i* S	**Sb**	**11 05 07.5 +1.1**
NWF	**Wu-fen Shan**	**1.36 350**	*i* P	**Pb**	**11 04 49.0 -0.6**
NWF			*i* S	**Sb**	**11 05 06.0 -0.7**
WFSB	**Wu-fen Shan**	**1.36 350**	*i* P	**Pb**	**11 04 48.8 -0.7**
WFSB			S	**Sb**	**11 05 06.3 -0.3**
WDLH	**Douliu**	**1.37 269**	*i* P	**Pb**	**11 04 49.7 0.0**
WDLH			*i* S	**Sb**	**11 05 07.9 +1.1**
SXI1	**Grass Mountain**	**1.37 354**⇓	*i*P	**Pn**	**11 04 48.4 +0.9**
SXI1			*i* S	**Sn**	**11 05 05.2 +0.5**
WTP	**Ta-pu**	**1.39 250**	*i* P	**Pb**	**11 04 49.8 -0.2**
WTP			*i* S	**Sb**	**11 05 07.4 +0.1**
NMLH	**Miaoli**	**1.39 306**	*i* P	**Pb**	**11 04 49.8 -0.3**
NMLH			*i* S	**Sb**	**11 05 08.0 +0.5**
WDJ	**Dajia District**	**1.41 296**	*i* P	**Pb**	**11 04 50.4 -0.1**
WDJ			*e*S	**Sb**	**11 05 08.6 +0.5**
SBCB	**Hsinchu**	**1.43 318**	*i* P	**Pb**	**11 04 51.1 +0.4**
SBCB			*e*S	**Sb**	**11 05 10.2 +1.6**
TNOU	**National Taiwa**	**1.44 351**	*i* P	**Pn**	**11 04 49.1 +0.7**
TNOU			*i* S	**Sn**	**11 05 06.9 +0.7**
NCUH	**Zhongli**	**1.46 328**	*i* P	**Pb**	**11 04 50.2 -1.0**
NCUH			*i* S	**Sb**	**11 05 09.0 -0.4**
NCU	**National Centr**	**1.46 328**	*e*P	**Pn**	**11 04 46.1 -2.6**
NCU			*e*S	**Sn**	**11 05 04.8 -1.9**
TWS1	**Kuangyinshan**	**1.48 338**	*i* P	**Pn**	**11 04 50.3 +1.3**
TWS1			*i* S	**Sb**	**11 05 09.1 -0.9**
TWK	**Hsinying**	**1.49 252**	*i* P	**Pb**	**11 04 51.8 +0.1**
TWK			*i* S	**Sb**	**11 05 11.8 +1.1**
CHY	**Chiayi**	**1.49 262**	P	**Pb**	**11 04 51.4 -0.3**
CHY			*i* S	**Sb**	**11 05 10.9 +0.6**
SNST	**Tainan City**	**1.49 251**	*i* P	**Pb**	**11 04 51.8 -0.1**
SNST			*i* S	**Sb**	**11 05 11.8 +1.4**
ECL	**Taimali**	**1.50 222**	*i* P	**Pn**	**11 04 48.9 -0.4**
ECL			*e*S	**Sn**	**11 05 05.6 -2.1**
ZUZH	**Zhuzihu**	**1.50 343**	*i* P	**Pn**	**11 04 50.2 +1.0**
ZUZH			*i* S	**Sn**	**11 05 08.5 +0.7**
WTK	**Tuku**	**1.50 269**	*i* P	**Pb**	**11 04 52.1 +0.1**
WTK			*i* S	**Sb**	**11 05 11.8 +1.1**
ANP	**Anpu**	**1.53 342**	*i* P	**Pn**	**11 04 49.0 -0.7**
ANP			*e*S	**Sn**	**11 05 09.8 +1.2**
NTST	**Danshui**	**1.53 340**	P	**Pn**	**11 04 51.0 +1.3**
NTST			*i* S	**Sb**	**11 05 10.2 -1.2**
TWY	**Chenhua**	**1.59 346**	*i* P	**Pb**	**11 04 52.5 -1.0**
TWY			*e*S	**Sb**	**11 05 13.1 -0.1**
WTCT	**Ta-ch'eng**	**1.61 275**	*e*P	**Pb**	**11 04 52.6 -1.1**
WTCT			S	**Sb**	**11 05 14.0 +0.3**
SSD	**Sandimen**	**1.61 233**	*i* P	**Pb**	**11 04 52.8 -1.0**
SSD			*e*S	**Sn**	**11 05 11.8 +1.3**
SCST	**Cishan**	**1.64 240**	P	**Pb**	**11 04 53.3 -1.0**
SCST			*e*S	**Sb**	**11 05 15.5 +0.9**
HATJ	**Hateruma jima**	**1.66 78**	*e*P	**Pn**	**11 04 51.9 +0.5**
HATJ			S	**Sn**	**11 05 11.8 +0.2**
WSL	**Shuilin Townsh**	**1.67 263**	*i* P	**Pb**	**11 04 53.5 -1.1**
WSL			*i* S	**Sb**	**11 05 14.7 -0.6**
IRIF	**Iriomote-Funau**	**1.67 68**	P	**Pn**	**11 04 52.6 +1.1**
IRIF			S	**Sn**	**11 05 13.1 +1.3**
MASBT	**Mashibuluo**	**1.70 230**	*i* P	**Pn**	**11 04 53.1 +1.1**
MASBT			*e*S	**Sn**	**11 05 13.2 +0.6**
CHN8	**Yiju**	**1.71 258**	*e*P	**Pb**	**11 04 54.8 -0.7**
CHN8			*i* S	**Sb**	**11 05 16.4 -0.2**
EAST	**Anshuo**	**1.72 219**	*i* P	**Pn**	**11 04 53.5 +1.1**
EAST			S	**Sn**	**11 05 11.9 -1.3**
TAWH	**Dawu Township**	**1.73 218**	*i* P	**Pn**	**11 04 52.1 -0.4**
TAWH			*e*S	**Sn**	**11 05 12.7 -0.8**
LAY	**Lan-yu**	**1.73 195**	*i* P	**Pn**	**11 04 51.9 -0.7**
LAY			S	**Sn**	**11 05 10.5 -3.0**
LYUB	**Lan-yu**	**1.76 194**	*i* P	**Pn**	**11 04 52.1 -0.8**
LYUB			*e*S	**Sn**	**11 05 10.2 -4.0**
SCZT	**Fangliau**	**1.87 224**	*i* P	**Pn**	**11 04 56.4 +2.0**
SCZT			S	**Sn**	**11 05 18.6 +1.7**
TSCK	**Chigu Township**	**1.88 253**	P	**Pb**	**11 04 56.8 -1.4**
TSCK			*i* S	**Sb**	**11 05 20.2 -1.1**
JIJ	**Ishigaki jima**	**2.03 71**	P	**Pn**	**11 04 57.6 +1.0**
TSEB	**Hengchuen, Pin**	**2.09 210**	*e*P	**Pn**	**11 04 59.4 +2.0**
TSEB			*e*S	**Sn**	**11 05 23.8 +1.4**
TWKBT	**Hengchun**	**2.10 213**	*e*P	**Pn**	**11 04 59.7 +2.2**
TWKBT			S	**Sn**	**11 05 23.2 +0.6**
WDGT	**Dungji**	**2.22 258**	*i* P	**Pn**	**11 05 00.9 +1.7**
WDGT			*i* S	**Sn**	**11 05 27.0 +1.4**
JISG	**Ishigakijimahi**	**2.25 67**	P	**Pn**	**11 04 59.9 +0.3**
JISG			S	**Sn**	**11 05 25.4 -0.9**
PHUB	**P'eng-hu**	**2.26 265**	*i* P	**Pn**	**11 05 01.3 +1.5**
PHUB			*i* S	**Sn**	**11 05 28.2 +1.6**
PNG	**Penghu**	**2.27 267**	*i* P	**Pn**	**11 05 01.7 +1.7**
PNG			*i* S	**Sn**	**11 05 28.7 +1.9**
VCHM	**Qimei**	**2.44 258**	*i* P	**Pn**	**11 05 04.0 +1.7**
VCHM			*i* S	**Sn**	**11 05 31.7 +0.7**
VWUC	**VWUC**	**2.67 299**	*i* P	**Pn**	**11 05 05.8 +0.4**
VWUC			*i* S	**Sn**	**11 05 35.3 -1.3**
PTMZ	**Houxiangcun**	**2.96 297**	*i* P	**Pn**	**11 05 09.9 +0.6**
PTMZ			*i* S	**Sn**	**11 05 42.8 -0.9**
MATB	**Ma-tsu**	**3.07 322**	P	**Pn**	**11 05 12.2 +1.3**
MATB			S	**Sn**	**11 05 45.5 -0.9**
KNMB	**Chin-men Tao**	**3.41 283**	*i* P	**Pn**	**11 05 16.7 +1.2**
KNMB			*i* S	**Sn**	**11 05 53.9 -0.9**
XPSS	**Dashiqiu**	**3.60 333**	P	**Pn**	**11 05 18.4 +0.2**
XPSS			S	**Sn**	**11 05 57.2 -2.3**

IDC ***11*** *11:17:12.2±2.6,24˚.10S×179˚.17E,h543km±30km, mb3.3/10,mbtmp4.3/11,Error ellipse: s-maj=21.9km s-min=16.5km az=8.0*

NEIC ***11*** *11:17:13.8±0.8,24˚.2S±0˚.2×179˚.21E±0˚.03,h560km±15km, mb4.2/21,Error ellipse: s-maj=35.2km s-min=4.1km az=178.0*

ISC 11 11:17:12.9±0.7,24˚.4S±0˚.1×179˚.19E±0˚.10,h550km,n40, σ1§18/42,mb4.2/20,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PINNC	**Pines Island,**	**10.92**	**277**	P		**P**	**11 19 40.8**	**+0.5**
DZM	**Mont Dzumac**	**11.94**	**279**	P		**P**	**11 19 51.6**	**+0.5**
DZM	**Mont Dzumac**	**11.94**	**279**	P		**P**	**11 19 49.9**	**-1.2**
	8.4nm,0.7s,baz=101,slow=15,SNR=2.9							
URZ	**Urewera**	**13.94**	**187**	P		**P**	**11 20 09.7**	**-1.6**
	22nm,0.6s,baz=358,slow=1.8,SNR=16							
URZ				S		**S**	**11 22 34.2**	**-4.0**
	13nm,0.9s,baz=239,slow=22,SNR=10.0							
RPZ	**Rata Peaks**	**20.40**	**197**	P		**P**	**11 21 13.5**	**+1.0**
	20nm,1.1s,baz=136,slow=13,SNR=2.7							
	20nm,1.1s							
ARMA	**Armidale**	**25.16**	**250**	P		**P**	**11 21 55.6**	**+0.3**
ARMA					IAmb	IAmb	11 21 57.8	
	comp=Z,5.0nm,0.8s							
EIDS	**Eidsvold**	**25.50**	**262**	P		**P**	**11 21 57.8**	**-0.4**
EIDS					IAmb	IAmb	11 22 20.3	
	comp=Z,9.0nm,1.1s							
CAN	**Canberra**	**28.26**	**240**	P		**P**	**11 22 22.7**	**+0.4**
CAN					IAmb	IAmb	11 22 26.7	
	comp=Z,10.0nm,1.1s							
PPT	**Papeete**	**29.90**	**83**	P		**P**	**11 22 35.7**	**-1.0**
	comp=Z,30nm,0.7s,baz=257,slow=17,SNR=3.3							
	comp=Z,30nm,0.7s							
CTAO	**Charters Tower**	**30.74**	**271**	P		**P**	**11 22 44.2**	**+0.2**
TOO	**Toolangi**	**31.56**	**237**	P		**P**	**11 22 51.5**	**+0.7**
TOO					IAmb	IAmb	11 22 52.9	
	comp=Z,1.8nm,0.8s							
STKA	**Stephens Creek**	**33.85**	**249**	P		**P**	**11 23 10.9**	**+0.7**
STKA	**Stephens Creek**	**33.85**	**249**	P		**P**	**11 23 11.0**	**+0.8**
	comp=Z,3.9nm,0.5s,baz=93,slow=11,SNR=15							
	comp=Z,3.9nm,0.5s							
PMG	**Port Moresby**	**33.96**	**290**	P		**P**	**11 23 10.6**	**-0.7**
INKA	**Innaminka**	**34.60**	**256**	P		**P**	**11 23 17.7**	**+1.2**
INKA					IAmb	IAmb	11 23 18.5	
	comp=Z,3.5nm,0.9s							
COEN	**Coen**	**35.46**	**280**	P		**P**	**11 23 23.5**	**-0.4**
BBOO	**Buckleboo**	**38.57**	**247**	P		**P**	**11 23 48.9**	**-0.2**
BBOO					IAmb	IAmb	11 23 50.0	
	comp=Z,12nm,1.1s							
AS31	**Alice Springs**	**41.22**	**261**			**P**	**11 24 10.2**	**-0.3**
ASAR	**Alice Springs**	**41.23**	**261**	P		**P**	**11 24 09.7**	**-0.8**
ASAR	**Alice Springs**	**41.23**	**261**	P		**P**	**11 24 10.3**	**-0.2**
	comp=Z,5.1nm,0.7s,baz=95,slow=7.4,SNR=75							
ASAR				PcP		**PcP**	**11 25 56.3**	**0.0**
	comp=Z,0.5nm,0.8s,baz=112,slow=3.4,SNR=1.8							
	comp=Z,5.1nm,0.7s							
WR8	**Warramunga Arr**	**41.49**	**267**	P		**P**	**11 24 11.9**	**-0.7**
WR8					IAmb	IAmb	11 24 12.6	
	comp=Z,8.7nm,0.8s							
WRAB	**Tennant Creek**	**41.63**	**267**	P		**P**	**11 24 13.3**	**-0.4**
WRAB					IAmb	IAmb	11 24 13.7	
	comp=Z,6.1nm,0.7s							
WB0	**Warramunga Arr**	**41.63**	**267**			**P**	**11 24 13.0**	**-0.7**
WRA	**Warramunga Arr**	**41.64**	**267**			**P**	**11 24 13.2**	**-0.6**
WRA	**Warramunga Arr**	**41.64**	**267**	P		**P**	**11 24 13.2**	**-0.6**
	comp=Z,8.7nm,0.6s,baz=90,slow=5.8,SNR=60							
WRA				PcP		**pwP**	**11 25 56.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=101,slow=6.7,SNR=1.3							
	comp=Z,8.7nm,0.6s							
KNRA	**Kununurra**	**47.95**	**271**	P		**P**	**11 25 01.7**	**-0.5**
KNRA					IAmb	IAmb	11 25 02.7	
	comp=Z,11nm,0.9s							
FITZ	**Fitzroy Crossi**	**50.05**	**266**	P		**P**	**11 25 17.9**	**+0.1**
VNDA	**Vanda**	**53.84**	**185**	P		**P**	**11 25 44.8**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=328,slow=8.7,SNR=2.3							
	comp=Z,0.4nm,0.8s							
MBWA	**Marble Bar**	**54.56**	**261**	P		**P**	**11 25 49.5**	**-0.5**
MBWA					IAmb	IAmb	11 26 13.7	
	comp=Z,5.8nm,1.0s							
MORW	**Morawa**	**56.01**	**250**	P		**P**	**11 25 59.4**	**-0.6**
CASY	**Casey**	**59.35**	**206**	P		**P**	**11 26 22.7**	**+0.7**
CASY					IAmb	IAmb	11 26 22.7	
	comp=Z,3.0nm,0.6s							
QSPA	**South Pole Qui**	**65.70**	**180**	P		**P**	**11 27 06.0**	**+2.8**
QSPA	**South Pole Qui**	**65.70**	**180**	P		**P**	**11 27 05.8**	**+2.6**
	comp=Z,0.6nm,0.6s,baz=124,slow=3.6,SNR=7.6							
	comp=Z,0.6nm,0.6s							
MAW	**Mawson**	**77.03**	**201**	P		**P**	**11 28 10.3**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=130,slow=6.0,SNR=7.8							
	comp=Z,0.9nm,0.5s							
SNAA	**Sanae**	**84.19**	**179**	P		**P**	**11 28 47.4**	**+1.1**
	comp=Z,0.7nm,0.9s,baz=190,slow=12,SNR=2.0							
	comp=Z,0.7nm,0.9s							
TXAR	**Lajitas Array**	**91.32**	**58**	P		**P**	**11 29 20.7**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=214,slow=5.2,SNR=5.3							
	comp=Z,0.3nm,0.7s							
PV02	**Paradox Valley**	**91.82**	**49**			pP	**11 31 27.0**	**+3.6**
FINES	**FINESS Array B**	**138.66**	**341**	PKP		**PKPdf**	**11 35 35.2**	**-0.8**
	comp=Z,4.6nm,0.8s,baz=179,slow=34,SNR=3.1							
AKASG	**Malin Array Be**	**144.97**	**326**	PKP		**PKPdf**	**11 35 46.0**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=42,slow=3.9,SNR=4.9							
BRTR	**Keskin Array B**	**147.27**	**306**	PKPbc		**PKPbc**	**11 35 53.5**	**-1.7**
	comp=Z,1.2nm,0.9s,baz=72,slow=4.0,SNR=4.0							

IDC 11 11:20:53.3±1.5,12˚.32N×119˚.86E,h0km,mb3.7/3, mbtmp3.8/4,ML4.0/1,Error ellipse: s-maj=32.3km s-min=23.5km az=91.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TGY	**Tagaytay City**	**2.06**	**30**	Pn		Pn	**11 21 29.3**	**+0.1**
	50nm,0.3s,baz=198,slow=3.2,SNR=1.8							
TGY				Sn		Sb	11 21 57.5	-0.4
	203nm,0.3s,baz=171,slow=23,SNR=12							
	131nm,0.3s							
CMAR	**Chiang Mai Arr**	**21.06**	**289**	P		P	11 25 39.0	-0.3
	7.6nm,1.0s,baz=95,slow=8.0,SNR=33							
	7.6nm,1.

comp=Z,100nm,2.3s
SWI Sorong 17.02 287 P **P** **11 34 14.0 +2.2**
comp=Z,2µmcomp=Z,102nm,1.3s
MTN Manton Dam 17.57 246 P **P** **11 34 17.2 -0.7**
comp=Z,143nm,0.7s
MTN Manton Dam 17.57 246 **P** **11 34 17.8 -0.1**
MTN Manton Dam 17.57 246 P **P** **11 34 17.6 -0.3**
BNDI Bandanaira 17.62 274 P **Pn** **11 34 20.1 +1.0**
DRS Darwin Rock St 17.64 247 P **P** **11 34 17.9 -0.8**
WB0 Warramunga Arr 18.77 222 **P** **11 34 31.1 +0.1**
WB9 Warramunga Arr 18.79 222 P **P** **11 34 31.3 +0.1**
WR8 Warramunga Arr 18.83 221 P **P** **11 34 31.8 +0.1**
WRAB Tennant Creek 18.91 221 P **P** **11 34 32.8 +0.1**
WRAB Tennant Creek 18.91 221*d i* P **P** **11 34 32.9 +0.3**
WRAB pmax pmax
comp=Z,33nm,0.8s
WRA Warramunga Arr 18.93 221 P **P** **11 34 32.7 -0.1**
comp=Z,38nm,0.4s,baz=48,slow=10,SNR=308
WRA S **S** **11 38 01.3 -1.0**
comp=Z,6.6nm,0.6s,baz=41,slow=20,SNR=5.1
WRA LR LR 11 42 31.2
comp=Z,1µm,19.2s,baz=29,slow=38
AAI Ambon 19.41 276 P **P** **11 34 38.6 +0.5**
comp=Z,2µmcomp=Z,91nm,0.7s
GUMO Guam 19.59 352 LR LR 11 42 13.0
comp=Z,304nm,19.1s,baz=176,slow=37
EIDS Eidsvold 19.61 170 P **Pn** **11 34 42.6 +0.1**
comp=Z,64nm,1.3s
EIDS Eidsvold 19.61 170 **Pn** **11 34 41.8 -0.7**
EIDS Eidsvold 19.61 170 P **Pn** **11 34 43.3 +0.8**
NLAI Namlea 20.55 277 P **P** **11 34 49.3 -1.1**
comp=Z,2µmcomp=Z,66nm,0.6s
LBMI Labuha 20.69 284 P Pn 11 34 54.8 -0.4
QLP Quilpie 20.76 188 P **P** **11 34 54.1 +1.6**
comp=Z,173nm,0.8s
QLP Quilpie 20.76 188 P **P** **11 34 54.5 +2.0**
KNRA Kununurra 20.81 241 P **P** **11 34 52.7 -0.4**
comp=Z,133nm,0.7s
KNRA Kununurra 20.81 241 **P** **11 34 52.8 -0.4**
TNTI Ternate 21.22 288 P **P** **11 35 00.8 +3.2**
SANVU Saraoutou 21.48 118 P **P** **11 35 00.0 -0.3**
SANVU Saraoutou 21.48 118 P **P** **11 35 03.2 +2.9**
SANI Sanana 21.84 279 P **P** **11 35 02.3 -1.9**
SANI Sanana 21.84 279 P **P** **11 35 07.2 +3.0**
comp=Z,58nm,0.6s
AS31 Alice Springs 21.97 215 **P** **11 35 06.4 +0.9**
ASAR Alice Springs 21.97 215 P **P** **11 35 06.3 +0.8**
comp=Z,82nm,0.4s,baz=54,slow=8.9,SNR=1006
ASAR S **S** **11 39 04.2 +2.7**
comp=Z,21nm,0.8s,baz=31,slow=22,SNR=10
ASAR ScP **ScP** **11 42 29.9 +2.0**
comp=Z,4.9nm,1.0s,baz=46,slow=3.4,SNR=5.3
ASAR LR LR 11 44 40.4
comp=Z,2µm,19.3s,baz=46,slow=39
comp=Z,82nm,0.4s
INKA Innaminka 22.62 196 **P** **11 35 13.0 +1.0**
SOEI Soe 23.36 259 P **P** **11 35 19.0 -0.5**
SOEI Soe 23.36 259 P **P** **11 35 19.4 -0.1**
SOEI Soe 23.36 259 P **P** **11 35 20.5 +1.0**
BATI Baumata 24.01 258 P **P** **11 35 25.8 +0.5**
comp=Z,97nm,0.4s,baz=150,slow=4.6,SNR=12
BATI LR LR 11 48 16.3
comp=Z,654nm,19.1s,baz=110,slow=45
BATI Baumata 24.01 258 P **P** **11 35 27.1 +1.8**
DZM Mont Dzumac 24.30 133 *e*P **P** **11 35 25.7 -2.2**
comp=Z,55nm,1.1s
DZM *e*pP **pP** **11 35 48.3 -1.7**
comp=Z,99nm,1.1s
DZM *e*S **S** **11 39 33.6 -5.8**
comp=Z,429nm,25.8s
DZM *e*LQ LQ 11 40 29.8
comp=Z,2µm,29.5s
DZM *e*LR LR 11 41 33.0
comp=Z,1µm,29.4s
DZM Mont Dzumac 24.30 133 **P** **11 35 28.6 +0.7**
DZM Mont Dzumac 24.30 133 P **P** **11 35 29.4 +1.5**
FITZ Fitzroy Crossi 24.55 239 P **P** **11 35 30.6 +0.5**
FITZ Fitzroy Crossi 24.55 239 P **P** **11 35 30.7 +0.6**
FITZ Fitzroy Crossi 24.55 239 LR LR 11 46 07.3
comp=Z,935nm,19.7s,baz=60,slow=38
YATNC Mamie plateau, 24.62 132 P **P** **11 35 33.1 +2.4**
ARMA Armidale 24.64 172 P **P** **11 35 32.7 +1.8**
comp=Z,48nm,1.9s
ARMA Armidale 24.64 172 P **P** **11 35 32.1 +1.1**
ARMA Armidale 24.64 172 P **P** **11 35 34.4 +3.5**
BBSI Bau Bau 24.85 270 P **P** **11 35 34.6 +1.7**
comp=Z,2µmcomp=Z,78nm,1.1s
LUWI Luwuk 25.20 280 P **P** **11 35 34.4 -1.6**
LUWI Luwuk 25.20 280 P **P** **11 35 38.0 +2.0**
MMRI Maumere 25.24 262 P **P** **11 35 35.5 -0.9**
MMRI Maumere 25.24 262 P **P** **11 35 39.0 +2.6**
CMSA Cobar Meteorol 25.52 184 P **P** **11 35 39.9 +1.2**
comp=Z,20nm,1.0s
CMSA Cobar Meteorol 25.52 184 P **P** **11 35 40.9 +2.2**
EDFI Ende, Flores 25.79 262 P **P** **11 35 39.7 -1.8**
comp=Z,886nmcomp=Z,52nm,1.1s
APSI Ampana 26.32 280 P **P** **11 35 49.4 +3.2**
comp=Z,52nm,1.2s
STKA Stephens Creek 26.39 191 P **P** **11 35 47.3 +0.8**
comp=Z,104nm,1.3s
STKA Stephens Creek 26.39 191 P **P** **11 35 47.3 +0.8**
STKA Stephens Creek 26.39 191 P **P** **11 35 47.9 +1.3**
comp=Z,5.1nm,0.5s,baz=4.6,slow=9.3,SNR=14
STKA ScP **ScP** **11 42 42.2 +2.4**
comp=Z,7.7nm,1.1s,baz=57,slow=6.6,SNR=6.1
STKA LR LR 11 47 01.0
comp=Z,753nm,19.7s,baz=1.7,slow=38
comp=Z,5.1nm,0.5s
STKA Stephens Creek 26.39 191 P **P** **11 35 48.7 +2.1**
STKA Stephens Creek 26.39 191⇑*e*P **P** **11 35 47.4 +0.8**
WRKA Warakurna 26.47 222 P **P** **11 35 47.9 +0.5**
comp=Z,26nm,1.1s
BSSI Bau Bau, Buton 26.90 268 P **P** **11 35 52.5 +1.1**
comp=Z,57nm,1.3s
BASI Baing, Sumba 27.03 259 P **P** **11 35 55.1 +2.6**
WSI Waingapu 27.24 260 P **P** **11 35 56.7 +2.3**
BKSI Bulukumba 27.30 270 P **P** **11 35 56.4 +1.5**
comp=Z,19nm,1.2s
BNSI Bone 27.37 272 P **P** **11 35 58.3 +2.7**
comp=Z,20nm,0.6s
KAPI Kappang 27.68 271 P **P** **11 35 58.5 +0.2**
comp=Z,6.2nm,0.5s,baz=147,slow=5.1,SNR=6.3
KAPI LR LR 11 48 22.8
comp=Z,310nm,21.5s,baz=89,slow=39
comp=Z,6.2nm,0.5s
TTSI Tana Toraja 27.79 275 P P 11 36 12.7 +13
YNG Young 28.22 179 P **P** **11 36 04.5 +1.6**
comp=Z,20nm,1.7s
HTT Hallett 28.50 195 P **P** **11 36 06.6 +1.2**
comp=Z,5.5nm,1.4s
HTT Hallett 28.50 195 P **P** **11 36 08.4 +3.0**
PTPS Port Pirie 28.51 197 P **P** **11 36 07.1 +1.7**
BBOO Buckleboo 28.79 200 P **P** **11 36 08.6 +0.6**
comp=Z,24nm,1.1s
BBOO Buckleboo 28.79 200 P **P** **11 36 08.2 +0.2**
BBOO Buckleboo 28.79 200 P **P** **11 36 09.6 +1.6**
CAN Canberra 29.26 178 P **P** **11 36 13.3 +1.1**
CAN Canberra 29.26 178 P **P** **11 36 12.8 +0.6**
CAN IAmb IAmb 11 37 01.9
comp=Z,35nm,1.4s
CAN Canberra 29.26 178 P **P** **11 36 13.6 +1.4**
CAN Canberra 29.26 178 P **P** **11 36 12.8 +0.6**
CAN pmax pmax
comp=Z,35nm,1.4s
PLAI Plampang 29.65 263 P **P** **11 36 14.1 -1.8**
MBWA Marble Bar 30.89 238 P **P** **11 36 26.6 -0.1**
comp=Z,34nm,1.0s
MBWA Marble Bar 30.89 238 P **P** **11 36 26.8 +0.1**
MBWA IAmb IAmb 11 36 31.3
comp=Z,21nm,0.8s
MBWA Marble Bar 30.89 238 P **P** **11 36 27.3 +0.6**
MBWA Marble Bar 30.89 238 P **P** **11 36 27.0 +0.3**
MBWA sP **sP** **11 37 04.3 +0.5**
PSAC2 Pilbara Seismi 30.93 237 P **P** **11 36 27.1 0.0**
comp=Z,47nm,0.8s
PSA00 Pilbara Seismi 30.98 237 P **P** **11 36 27.4 -0.1**
comp=Z,37nm,1.1s
PSA00 Pilbara Seismi 30.98 237 P **P** **11 36 27.8 +0.4**
PSA00 IAmb IAmb 11 36 28.4
comp=Z,22nm,0.8s
PSA00 Pilbara Seismi 30.98 237 P **P** **11 36 27.4 -0.1**
PSA00 IAmb IAmb 11 36 28.8
comp=Z,8.6nm,0.7s
PSA00 Pilbara Seismi 30.98 237 P **P** **11 36 28.3 +0.8**
ARPS Mount Arapiles 31.12 189 P **P** **11 36 29.5 +1.0**
comp=Z,7.8nm,2.6s
TOO Toolangi 31.53 183 P **P** **11 36 33.5 +1.3**
comp=Z,5.0nm,3.0s
TOO Toolangi 31.53 183 P **P** **11 36 33.0 +0.8**
TOO Toolangi 31.53 183 P **P** **11 36 33.0 +0.8**
TOO pmax pmax
comp=Z,13nm,1.6s
H11N1 WAKE ISLAND Hy 31.82 36 T T 12 10 58.6
baz=218,slow=76,SNR=9.5
H11N3 WAKE ISLAND Hy 31.84 36 T T 12 10 58.5
baz=218,slow=76,SNR=5.7
H11N2 WAKE ISLAND Hy 31.84 36 T T 12 10 59.4
baz=218,slow=76,SNR=7.7
MSVF Nonsavu 32.01 114 P **P** **11 36 35.9 -0.8**
MSVF Nonsavu 32.01 114 P **P** **11 36 39.8 +3.1**
MSVF Nonsavu 32.01 114 P **P** **11 36 35.9 -0.8**
MSVF pmax pmax
comp=Z,67nm,1.8s
MGBR Mount Gambier 32.26 190 P **P** **11 36 36.9 -1.7**
TGY Tagaytay City 33.07 307 LR LR 11 50 30.3
comp=Z,148nm,19.9s,baz=128,slow=37
DGTI Dogotuki 33.17 111 P **P** **11 36 48.5 +1.8**
JAGI Jajag, Banyuwa 33.22 264 P **P** **11 36 44.6 -2.5**
JAGI Jajag, Banyuwa 33.22 264 P **P** **11 36 45.9 -1.3**
JCJ Chichijima 33.25 351 **P** **11 36 46.6 -0.7**
JCJ Chichijima 33.25 351 P **P** **11 36 46.1 -1.2**
MEEK Meekatharra 34.40 230 P **P** **11 36 57.8 +0.5**
comp=Z,60nm,0.9s
MEEK Meekatharra 34.40 230 P **P** **11 36 58.1 +0.8**
GIRL Giralia 36.16 239 P **P** **11 37 13.3 +0.9**
comp=Z,52nm,1.8s
GIRL Giralia 36.16 239 P **P** **11 37 14.1 +1.7**
WOJI Wonogiri, Jawa 36.40 265 P **P** **11 37 13.1 -1.4**
UGM Wanagama 36.80 265 P **P** **11 37 16.8 -1.1**
UGM Wanagama 36.80 265 P **P** **11 37 18.1 +0.1**
JOW Kunigami 37.55 331 LR LR 11 50 50.8
comp=Z,309nm,19.0s,baz=180,slow=33
MORW Morawa 37.61 229 P **P** **11 37 25.1 +0.5**
comp=Z,31nm,2.5s
MORW Morawa 37.61 229 P **P** **11 37 25.4 +0.8**
MORW Morawa 37.61 229 P **P** **11 37 25.5 +0.8**
OUZ Omahuta 37.74 144 P **P** **11 37 27.9 +2.3**
BLDU Balilidu 37.96 226 P **P** **11 37 27.5 0.0**
comp=Z,26nm,2.5s
BLDU Balilidu 37.96 226 P **P** **11 37 27.9 +0.4**
YULB Yu-li 38.83 320 P **P** **11 37 34.0 -0.9**
YULB IAmb IAmb 11 38 42.2
comp=Z,33nm,1.4s
NWAO Narrogin (SRO) 38.93 222 P **P** **11 37 35.9 +0.2**
NWAO Narrogin (SRO) 38.93 222 P **P** **11 37 36.4 +0.7**
NWAO Narrogin (SRO) 38.93 222 LR LR 11 54 08.0
comp=Z,605nm,18.1s,baz=61,slow=37
NWAO Narrogin (SRO) 38.93 222 P **P** **11 37 36.4 +0.7**
NWAO Narrogin (SRO) 38.93 222 P **P** **11 37 36.4 +0.7**
NWAO pmax pmax
comp=Z,111nm,1.8s
NWAO Narrogin (SRO) 38.93 222 P **P** **11 37 36.3 +0.7**
MUN Mundaring 39.08 225 P **P** **11 37 37.0 +0.1**
comp=Z,32nm,1.2s
MUN Mundaring 39.08 225 P **P** **11 37 37.9 +1.0**
TPUB Ta-pu 39.20 319 P **P** **11 37 38.1 +0.2**
TPUB IAmb IAmb 11 38 05.9
comp=Z,19nm,0.8s
SSLB Suanglung 39.33 320 P **P** **11 37 39.0 -0.1**
JHJ Hachijo jima 2 39.54 350 P **P** **11 37 39.6 -1.0**
comp=Z,44nm,0.6s,baz=75,slow=22,SNR=2.0
comp=Z,44nm,0.6s
BBJI Bungbulang 39.64 266 P **P** **11 37 40.9 -1.0**
LEM Lembang 39.68 266 LR LR 11 58 24.4
comp=Z,117nm,18.0s,baz=174,slow=42
RKGY Rocky Gully 40.13 221 P **P** **11 37 45.6 +0.1**
comp=Z,60nm,1.2s
CNJI Cibinong 40.16 266 P **P** **11 37 44.9 -1.2**
AFI Afiamalu 40.79 104 P **P** **11 37 51.3 -0.1**
AFI Afiamalu 40.79 104 P **P** **11 37 53.9 +2.5**
AFI Afiamalu 40.79 104 P **P** **11 37 51.3 -0.1**
AFI pmax pmax
comp=Z,41nm,1.0s
QRZ Quartz Range 41.30 151 P **P** **11 37 58.0 +2.9**
JMN Monobe 41.53 343 P **P** **11 37 56.4 -0.6**
JMN IAmb IAmb 11 38 36.3
comp=Z,25nm,1.0s
WTVZ West Tongariro 41.62 147 P **P** **11 38 02.4 +4.5**
NNVZ North Ngauruho 41.64 147 P **P** **11 38 02.3 +4.2**
NGZ Ngauruhoe 41.66 147 P **P** **11 38 02.7 +4.4**
OTVZ Oturere 41.69 147 P **P** **11 38 02.7 +4.2**
WNVZ Wahianoa 41.77 147 P **P** **11 38 02.5 +3.3**
URZ Urewera 41.88 144 LR LR 11 53 24.4
comp=Z,330nm,19.8s,baz=308,slow=33
URZ Urewera 41.88 144 P **P** **11 38 02.2 +2.4**
URZ Urewera 41.88 144 P **P** **11 38 01.5 +1.7**
HAZ Te Kaha 41.94 143 P **P** **11 38 02.9 +2.6**
JNU Nakatsue 41.95 339 P **P** **11 38 00.0 -0.5**
JNU IAmb IAmb 11 38 04.8
comp=Z,20nm,0.9s
RUGZ Raukumara Rang 42.01 144 P **P** **11 38 03.0 +1.9**
NNZ Nelson 42.02 151 P **P** **11 38 03.7 +2.8**
MXZ Matakaoa Point 42.12 143 P **P** **11 38 03.5 +1.6**
BKZ Black Stump Fm 42.15 146 P **P** **11 38 05.0 +2.9**
BKZ Black Stump Fm 42.15 146 P **P** **11 38 03.7 +1.6**
BKZ PcP **PcP** **11 39 53.4 -1.2**
PKGZ Pakihiroa 42.19 143 P **P** **11 38 05.0 +2.6**
THZ Tophouse 42.21 152 P **P** **11 38 04.1 +1.6**
KWHZ Kaweka Forest 42.29 146 P **P** **11 38 05.6 +2.3**
JGF Kuroka 42.42 348 P **P** **11 38 03.8 -0.5**
JGF IAmb IAmb 11 38 07.8
comp=Z,14nm,0.7s
JGF Kuroka 42.42 348 P **P** **11 38 03.5 -0.8**
PUZ Puketiti 42.43 143 P **P** **11 38 05.8 +1.5**
TSZ Takapari Road 42.49 147 P **P** **11 38 06.6 +1.8**
PNHZ Pukenui 42.51 147 P **P** **11 38 06.8 +1.7**
RIGZ Rimuhau 42.56 144 P **P** **11 38 07.2 +1.8**
LTZ Lake Taylor 42.71 153 P **P** **11 38 09.9 +3.3**
MRZ Mangatainoka R 42.72 148 P **P** **11 38 07.8 +1.2**
RPZ Rata Peaks 42.92 155 P **P** **11 38 11.0 +2.7**
PXZ Pawanui 42.96 147 P **P** **11 38 10.3 +1.7**
KHZ Kahutara 43.01 152 P **P** **11 38 09.6 +0.7**
BFZ Birch Farm 43.09 148 P **P** **11 38 11.6 +2.0**
BFZ Birch Farm 43.09 148 P **P** **11 38 10.9 +1.4**
MJAR Matsushiro Arr 43.16 349 P **P** **11 38 08.5 -1.7**
MJAR Matsushiro Arr 43.16 349 P **P** **11 38 07.9 -2.3**
comp=Z,5.2nm,0.6s,baz=166,slow=7.6,SNR=15
MJAR PcP **PcP** **11 40 00.0 +2.0**
comp=Z,4.3nm,0.9s,baz=182,slow=3.0,SNR=4.2
MJAR ScP **ScP** **11 43 38.4 -1.0**
comp=Z,1.7nm,0.8s,baz=172,slow=4.5,SNR=5.0
comp=Z,5.2nm,0.6s
MAJO Matsushiro 43.16 349 **P** **11 38 08.7 -1.5**
MAJO IAmb IAmb 11 38 11.5
comp=Z,12nm,0.6s
MAJO Matsushiro 43.16 349 P **P** **11 38 09.3 -0.9**
MAJO Matsushiro 43.16 349*ce*P **P** **11 38 09.1 -1.1**
MAJO pmax pmax
comp=Z,16nm,1.4s
MJB9 Matsu-Tunnel 43.17 349 **P** **11 38 08.7 -1.5**
MDSI Maura Dua 43.20 270 P **P** **11 38 09.2 -1.7**
comp=Z,25nm,1.3s
JMM Marumori 44.04 352 P **P** **11 38 16.3 -0.9**
JMM Marumori 44.04 352 P **P** **11 38 17.5 +0.3**
SSE Sheshan 44.63 327 P **P** **11 38 22.5 +0.5**
SSE S **S** **11 44 48.8 -1.4**
SSE pmax pmax
comp=Z,8.0nm,0.5s
SSE pmax pmax
comp=Z,35nm,5.7s
SSE LR LR
comp=Z,190nm,18.9s
SSE LR LR
comp=Z,180nm,18.8s
QIZ Qiongzhong 44.67 305 P **P** **11 38 23.4 +0.8**
QIZ pP **pP** **11 38 50.6 +3.3**
QIZ S **S** **11 44 49.1 -2.1**
QIZ sS **sS** **11 45 35.2 +0.9**
QIZ LR LR
comp=Z,170nm,15.1s
QIZ LR LR
comp=Z,170nm,13.1s
QIZ LR LR
comp=Z,220nm,15.9s
NJ2 Nanjing 46.64 326 *e*P **P** **11 38 38.7 +0.9**
NJ2 pmax pmax
comp=Z,13nm,0.5s
JTM Tenmabayashi 46.88 353 P **P** **11 38 39.5 0.0**
JTM Tenmabayashi 46.88 353 P **P** **11 38 39.0 -0.6**
KSRS Korea Array 46.90 339 P **P** **11 38 37.9 -1.8**
comp=Z,3.1nm,0.8s,baz=154,slow=9.7,SNR=9.3
KSRS PcP **PcP** **11 40 11.3 +0.5**
comp=Z,2.6nm,0.8s,baz=167,slow=1.9,SNR=5.3
comp=Z,3.1nm,0.8s
KULM Kulim 48.13 282 P **P** **11 38 49.1 -0.6**
ASAJ Asahikawa 50.03 355 P **P** **11 39 02.1 -1.5**
comp=Z,5.9nm,0.6s,baz=248,slow=10,SNR=9.8
ASAJ LR LR 11 57 00.5
comp=Z,116nm,21.7s,baz=176,slow=32
comp=Z,5.9nm,0.6s
VLA Vladivostok 50.86 345⇑*e*P **P** **11 39 09.2 -0.7**
VLA pmax pmax
comp=Z,11nm,0.9s
USRK Ussuriysk Ar. 51.85 346 P **P** **11 39 16.0 -1.3**
comp=Z,6.6nm,0.7s,baz=170,slow=7.4,SNR=7.9
USRK pP **pP** **11 39 43.3 +0.7**
comp=Z,6.8nm,0.7s,baz=156,slow=4.2,SNR=4.6
comp=Z,6.6nm,0.7s
YSS Yuzhno-Sakhali 52.84 356 *e*P **P** **11 39 24.6 +0.1**
YSS *e*S **S** **11 46 44.5 -0.4**
YSS *e**SS **sS** **11 47 24.2 -5.6**
YSS *e* 11 49 05.2
YSS *e*SS **SS** **11 50 27.3 +1.9**
YSS pmax pmax
comp=Z,200nm,3.5s
YSS pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 53.70 298 P **P** **11 39 31.6 +0.1**
comp=Z,0.7nm,0.4s,baz=123,slow=6.3,SNR=4.7
CMAR LR LR 12 03 33.9
comp=Z,37nm,20.1s,baz=110,slow=37
comp=Z,0.7nm,0.4s
CMAR Chiang Mai Arr 53.70 298*ce*P **P** **11 39 33.5 +2.1**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
BNX BinXian 54.51 343 ⇑P **P** **11 39 37.0 +0.2**
BNX pmax pmax
comp=Z,9.0nm,0.9s
PZH PanZhiHua 54.85 308 P **P** **11 39 42.1 +2.3**
CD2 Chengdu 55.63 314 P **P** **11 39 45.5 +0.3**
TYV Tymovskoe 56.74 356 *e*P **P** **11 39 53.1 +0.5**
TYV *e*S **S** **11 47 34.4 -2.5**
TYV pmax pmax
comp=Z,100nm,4.6s
TYV pmax pmax
comp=Z,6.0nm,1.2s
TYV smax smax
comp=E,100nm,6.4s
HHC Hu-ho-hao-te 57.07 328 *e*P **P** **11 39 59.1 +3.8**
HHC S **S** **11 47 41.0 -1.0**
HHC sS sS 11 48 23.1 -2.8
HHC pmax pmax
comp=E,11nm,0.6s
HHC pmax pmax
comp=E,52nm,5.1s
HHC LR LR
comp=E,110nm,16.0s
HHC LR LR
comp=E,130nm,19.3s
HHC LR LR
comp=E,160nm,20.2s
LZH Lanzhou 58.52 319 *e*P P 11 40 00.7 -4.9
LZH sP pP 11 40 34.4 +2.9
LZH PcP **PcP** **11 40 49.6 -5.4**
LZH S **S** **11 48 00.3 -0.9**
LZH sS sS 11 48 47.8 +2.4
LZH pmax pmax
comp=Z,13nm,1.0s
LZDM Lanzhou Array 58.54 319 P **P** **11 40 05.7 -0.3**
comp=Z,1.3nm,0.3s,baz=115,slow=31,SNR=1.6
comp=Z,1.3nm,0.3s
HEH HeiHe 58.63 345 *e*P **P** **11 40 05.2 -0.6**
HEH pmax pmax
comp=Z,7.0nm,0.5s
PEA0B Petropavlovsk- 59.46 7 P **P** **11 40 11.7 +0.2**
PEA0B Petropavlovsk- 59.46 7 P **P** **11 40 11.7 +0.2**
PEA0B pmax pmax
comp=Z,146nm,1.8s
PETK Petropavlovsk- 59.46 7 P **P** **11 40 11.1 -0.5**
PETK Petropavlovsk- 59.46 7 P **P** **11 40 10.8 -0.8**
comp=Z,9.1nm,0.9s,baz=161,slow=6.3,SNR=17
PETK pP **pP** **11 40 39.0 +1.3**
comp=Z,6.6nm,0.6s,baz=171,slow=6.8,SNR=3.0
PETK LR LR 12 01 25.7
comp=Z,168nm,21.9s,baz=188,slow=32
comp=Z,9.1nm,0.9s
PETK Petropavlovsk- 59.46 7 P **P** **11 40 11.1 -0.5**
PET Petropavlovsk 59.50 8 *e*P **P** **11 40 12.9 +1.1**
PET *e*S **S** **11 48 15.1 +2.4**
PET *e* 11 49 54.6
PET pmax pmax
comp=Z,100nm,13.1s
DRV Dumont d'Urvil 60.84 183 P **P** **11 40 22.1 +1.3**
DRV pP **pP** **11 40 46.1 -1.6**
POHA Pohakuloa 61.53 64 P **P** **11 40 28.9 +2.3**
BRDH Bariadhala 61.60 300 LR LR 12 08 53.2
comp=Z,117nm,19.2s,baz=114,slow=38
ZEA Zeya 61.87 346 *e*P **P** **11 40 28.3 +0.4**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,1.0s
PPT2 Papeete2 62.39 107 *e*P **P** **11 40 29.5 -2.7**
comp=Z,82nm,25.2s
PPT2 *e*S **S** **11 48 48.0 -3.0**
comp=Z,182nm,25.0s
PPT2 *e*LQ LQ 11 56 26.4
comp=Z,321nm,34.2s
PPT2 *e*LR LR 11 59 09.7
comp=Z,144nm,28.0s
PPT2 *e*LR LR 11 59 13.9
comp=Z,353nm,41.5s
SHEM Shemya Is, Ala 62.65 18 LR LR 12 07 23.4
comp=Z,18nm,18.3s,baz=78,slow=36
TBI Tubuai 62.89 113 *e*P **P** **11 40 33.7 -1.6**
comp=Z,756nm,35.5s
TBI *e*S **S** **11 48 50.4 -6.6**
comp=Z,648nm,27.0s
TBI *e*SS **SS** **11 52 58.0 -6.2**
comp=Z,588nm,30.5s
TBI *e*LQ LQ 11 56 46.5
comp=Z,1µm,28.5s
TBI *e*LR LR 11 59 34.0
comp=Z,3µm,40.2s
GTA Gaotai 63.05 320 *e*P **P** **11 40 39.0 +2.8**
GTA pP pP 11 41 07.2 +4.7
GTA pmax pmax
comp=Z,5.0nm,1.2s
ULN Ulaanbaatar 64.32 331⇑*e*P **P** **11 40 44.3 -0.2**
ULN pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 64.62 331 P **P** **11 40 46.4 0.0**
SONM Songino Array 64.62 331 P **P** **11 40 45.3 -1.1**
comp=Z,4.3nm,0.7s,baz=134,slow=4.3,SNR=8.3
SONM LR LR 12 08 09.4
comp=Z,143nm,21.6s,baz=131,slow=35
SONM PKP2bc 12 09 35.2
comp=Z,1.2nm,0.7s,baz=248,slow=1.6,SNR=5.6
comp=Z,4.3nm,0.7s
SONM Songino Array 64.62 331 P **P** **11 40 46.4 0.0**
SONM pmax pmax
comp=Z,4.0nm,0.7s
KIWB Kanaga Island 64.99 23 P **P** **11 40 48.6 +0.1**
MA2 Magadan 65.36 2 P **P** **11 40 50.7 -0.1**
MA2 Magadan 65.36 2 LR LR 12 06 09.2
comp=Z,53nm,21.8s,baz=176,slow=33
MA2 Magadan 65.36 2*ce*P **P** **11 40 50.5 -0.2**
MA2 pmax pmax
comp=Z,29nm,1.5s
CASY Casey 65.45 196 P **P** **11 40 51.9 +0.7**
CASY Casey 65.45 196 P **P** **11 40 52.0 +0.7**
CASY pP **pP** **11 41 18.0 -0.9**
ZAK Zakamensk 67.85 331 *e*P **P** **11 41 06.0 -0.9**
ZAK *e* 11 41 31.7
ZAK pmax pmax
comp=Z,9.0nm,1.1s
ZAK pmax pmax
comp=Z,8.0nm,1.3s
PALK Pallekele 67.97 280 LR LR 12 13 37.5
comp=Z,34nm,18.8s,baz=104,slow=38
SEY Seymchan 68.78 2 LR LR 12 07 45.1
comp=Z,83nm,21.6s,baz=182,slow=33
YAK Yakutsk 69.17 351 P **P** **11 41 13.7 -1.0**
YAK Yakutsk 69.17 351 LR LR 12 11 47.7
comp=Z,60nm,19.2s,baz=155,slow=36

YAK	**Yakutsk**	**69.17**	**351**	*e*P		**P**		**11 41 12.7**	**-2.0**
YAK				*e**PP		**PcP**		**11 41 37.4**	**-0.4**
YAK				*e*				11 43 46.9	
YAK				*e*PPP		PPP		11 45 26.5	
YAK				*e*S		**S**		**11 50 09.4**	**-2.2**
YAK				*e**SS		**sS**		**11 50 59.6**	**+2.4**
YAK				*e*SS		**SS**		**11 54 38.8**	**-1.4**
YAK	comp=Z,23nm,0.9s			pmax		pmax			
YAK	comp=N,21nm,1.9s			pmax		pmax			
YAK	comp=E,4.0nm,1.0s			pmax		pmax			
YAK	comp=Z,113nm,4.0s			pmax		pmax			
YAK	comp=N,132nm,5.4s			pmax		pmax			
YAK	comp=E,92nm,6.1s			pmax		pmax			
YAK	comp=E,63nm,2.2s			smax		smax			
YAK	comp=N,49nm,2.2s			smax		smax			
CCD	**Concordia, Ant**	**70.49**	**186**	P		**P**		**11 41 24.4**	**+1.3**
CCD				pP		**pP**		**11 41 50.3**	**-0.7**
UNV	**Unalaska Valle**	**70.92**	**27**	P		**P**		**11 41 26.1**	**+0.6**
TAOE	baz=229 **Nuku Hiva Isla**	**71.67**	**97**	*e*S		S		11 50 34.8	-7.9
TAOE	comp=N,178nm,32.1s			*e*SS		SS		11 55 09.6	-11
TAOE	comp=N,92nm,25.5s			*e*LR		LR		12 03 38.1	
VNDA	comp=N,109nm,30.7s **Vanda**	**71.93**	**177**	P		**P**		**11 41 32.4**	**+1.0**
VNDA				IAmb		IAmb		11 42 04.0	
VNDA	comp=Z,42nm,1.9s **Vanda**	**71.93**	**177**	P		**P**		**11 41 32.3**	**+1.0**
VNDA	comp=Z,3.3nm,0.6s,baz=336,slow=7.6,SNR=27			pP		**pP**		**11 41 58.3**	**-0.8**
VNDA	comp=Z,5.1nm,0.7s,baz=320,slow=5.1,SNR=6.4 comp=Z,3.3nm,0.6s **Vanda**	**71.93**	**177**	P		**P**		**11 41 32.4**	**+1.0**
VNDA	comp=Z,42nm,1.9s			pmax		pmax			
VNDA	**Vanda**	**71.93**	**177**	P		**P**		**11 41 32.8**	**+1.5**
VNDA				pP		**pP**		**11 41 58.6**	**-0.6**
FALS	**False Pass**	**72.96**	**27**	P		**P**		**11 41 38.4**	**+0.7**
WMQ	baz=232 **Urumqi**	**73.11**	**319**	*e*P		**P**		**11 41 41.7**	**+2.7**
WMQ	comp=Z,170nm,24.2s			LR		LR			
S12K	**Black Hills**	**74.09**	**27**	P		**P**		**11 41 45.3**	**+0.9**
SDPT	baz=233 **Sand Point**	**74.61**	**28**	P		**P**		**11 41 48.6**	**+1.3**
SDPT	**Sand Point**	**74.61**	**28**	P		**P**		**11 41 48.1**	**+0.8**
CHNA	baz=234 **Chernabura Isl**	**74.72**	**29**	P		**P**		**11 41 48.8**	**+0.8**
M11K	baz=235 **Mekoryuk**	**75.39**	**22**	P		**P**		**11 41 52.2**	**+0.5**
S14K	baz=228 **Fog Glacier**	**75.57**	**27**	P		**P**		**11 41 53.2**	**+0.2**
CHGN	baz=235 **Chignik**	**76.11**	**28**	P		**P**		**11 41 56.0**	**+0.1**
CHGN	comp=Z,27nm,1.2s			IAmb		IAmb		11 41 56.7	
CHGN	**Chignik**	**76.11**	**28**	P		**P**		**11 41 56.5**	**+0.7**
RKT	baz=236 **Rikitea**	**76.19**	**112**	*e*S		SKiKP		11 51 18.7	+13
RKT	comp=Z,621nm,30.2s **Rikitea**	**76.19**	**112**	*e*LQ		LQ		12 02 25.1	
RKT	comp=Z,4µm,39.5s			*e*LR		LR		12 05 33.2	
M13K	comp=Z,12µm,38.8s **Dall Lake**	**76.48**	**23**	P		**P**		**11 41 59.0**	**+1.1**
O14K	baz=231 **Tigyukauivet M**	**76.59**	**24**	P		**P**		**11 41 59.4**	**+0.9**
N14K	baz=233 **Kuskokwak Cree**	**76.82**	**24**	P		**P**		**11 42 00.5**	**+0.7**
K13K	baz=232 **Kusilvak Mount**	**76.98**	**21**	P		**P**		**11 42 01.3**	**+0.7**
O15K	baz=229 **Ungalikthiuk R**	**77.14**	**25**	P		**P**		**11 42 02.4**	**+0.8**
CHIR	baz=234 **Chirikof Islan**	**77.17**	**29**	P		**P**		**11 42 02.6**	**+0.7**
CHIR	**Chirikof Islan**	**77.17**	**29**	P		**P**		**11 42 02.8**	**+0.9**
CHIR	**Chirikof Islan**	**77.17**	**29**	P		**P**		**11 42 02.6**	**+0.7**
R16K	baz=239 **Pilot Point**	**77.19**	**27**	P		**P**		**11 42 02.9**	**+0.9**
M14K	baz=236 **Bethel**	**77.23**	**23**	P		**P**		**11 42 03.1**	**+1.1**
L14K	baz=232 **Kuka Creek**	**77.32**	**22**	P		**P**		**11 42 03.5**	**+0.9**
N15K	baz=231 **Kwethluk River**	**77.61**	**24**	P		**P**		**11 42 05.1**	**+0.8**
M15K	baz=234 **Kasigluk River**	**77.69**	**23**	P		**P**		**11 42 05.4**	**+0.7**
R17L	baz=233 **Mt. Peulik Vol**	**77.78**	**27**	P		**P**		**11 42 05.6**	**+0.3**
PLK4	baz=238 **Peulik 4**	**77.78**	**27**	IAmb		IAmb		11 42 07.9	
MK31	comp=Z,16nm,0.7s **Makanchi Array**	**77.80**	**320**	*de*P		**P**		**11 42 04.7**	**-1.0**
MKAR	**Makanchi Array** comp=Z,1.9nm,0.6s,baz=106,slow=7.3,SNR=15	**77.80**	**320**	P		**P**		**11 42 04.8**	**-0.9**
MKAR	comp=Z,29nm,19.4s,baz=86,slow=35 comp=Z,1.9nm,0.6s			LR		LR		12 16 05.0	
P16K	**Nushagak River** baz=236	**77.83**	**25**	P		**P**		**11 42 05.9**	**+0.4**
L15K	**Ungalak Mounta** baz=232	**77.98**	**22**	P		**P**		**11 42 06.6**	**+0.4**
O16K	**Kokwok River B** comp=Z,10.0nm,0.7s	**78.10**	**25**	IAmb		IAmb		11 42 08.3	
O16K	**Kokwok River B** baz=236	**78.10**	**25**	P		**P**		**11 42 07.2**	**+0.2**
Q16K	**King Salmon** baz=237	**78.21**	**26**	P		**P**		**11 42 07.8**	**+0.3**
SII	**Sitkinak Islan**	**78.23**	**29**	P		**P**		**11 42 09.1**	**+1.3**
SII	**Sitkinak Islan** baz=240	**78.23**	**29**	P		**P**		**11 42 08.1**	**+0.2**
N16K	**Nishlik Lake** baz=235	**78.33**	**24**	P		**P**		**11 42 08.6**	**+0.4**
Q17K	**Contact Creek** baz=238	**78.33**	**27**	P		**P**		**11 42 08.5**	**0.0**
K15K	**Wolf Creek Mou** baz=232	**78.34**	**22**	P		**P**		**11 42 08.8**	**+0.5**
TNA	**Tin City** baz=225	**78.38**	**17**	P		**P**		**11 42 08.9**	**+0.5**
TIXI	**Tiksi** comp=Z,47nm,21.4s,baz=176,slow=34	**78.41**	**354**	LR		LR		12 14 43.9	
ANM	**Nome** baz=228	**78.48**	**19**	P		**P**		**11 42 09.5**	**+0.5**
ACHA	**Angle Creek He**	**78.55**	**27**	P		**P**		**11 42 09.5**	**-0.1**
ACHA	comp=Z,7.7nm,0.6s			IAmb		IAmb		11 42 11.8	
M16K	**Timber Creek**	**78.56**	**24**			**P**		**11 42 10.0**	**+0.4**
M16K	comp=Z,15nm,0.8s			IAmb		IAmb		11 42 11.6	
M16K	**Timber Creek** baz=235	**78.56**	**24**	P		**P**		**11 42 10.3**	**+0.7**
P17K	**Kvichak River** baz=237	**78.59**	**26**	P		**P**		**11 42 09.9**	**+0.3**
R18K	**Karluk** baz=239	**78.62**	**28**	P		**P**		**11 42 10.3**	**+0.4**
O17K	**Koliganek Bris** baz=237	**78.62**	**25**	P		**P**		**11 42 10.3**	**+0.4**
L16K	**Owhat River** comp=Z,31nm,1.5s	**78.77**	**23**	IAmb		IAmb		11 42 12.2	
L16K	**Owhat River** baz=234	**78.77**	**23**	P		**P**		**11 42 11.1**	**+0.5**
F14K	**Arctic Creek** baz=227	**78.80**	**18**	P		**P**		**11 42 11.1**	**+0.4**
Q18K	**Katmai Hardscr** baz=239	**78.92**	**27**	P		**P**		**11 42 11.1**	**-0.6**
OHAK	**Old Harbor**	**78.99**	**28**	P		**P**		**11 42 12.9**	**+1.0**
OHAK	**Old Harbor** baz=240	**78.99**	**28**	P		**P**		**11 42 12.0**	**+0.1**
N17K	**Nushagak Hills** baz=236	**79.00**	**24**	P		**P**		**11 42 12.4**	**+0.5**
G15K	**Niukluk** baz=229	**79.20**	**19**	P		**P**		**11 42 13.4**	**+0.5**
P18K	**Big Mountain,** baz=238	**79.22**	**26**	P		**P**		**11 42 13.7**	**+0.5**
ZAA0	**Zalesovo Array**	**79.26**	**328**			**P**		**11 42 11.6**	**-1.8**
ZALV	**Zalesovo Beam** comp=Z,3.1nm,0.5s,baz=109,slow=6.1,SNR=15	**79.26**	**328**	P		**P**		**11 42 11.2**	**-2.2**
ZALV	comp=Z,4.4nm,0.7s,baz=102,slow=5.1,SNR=4.6			pP		**pP**		**11 42 39.4**	**-1.2**
ZALV	comp=Z,74nm,20.3s,baz=124,slow=36			LR		LR		12 17 13.1	
J16K	comp=Z,3.1nm,0.5s **Anvik River** baz=233	**79.29**	**21**	P		**P**		**11 42 13.8**	**+0.4**
M17K	**Holitna River** baz=236	**79.39**	**24**	P		**P**		**11 42 14.5**	**+0.5**
L17K	**Donlin** baz=235	**79.47**	**23**	P		**P**		**11 42 14.8**	**+0.4**
F15K	**North Star Dit** baz=228	**79.47**	**18**	P		**P**		**11 42 14.6**	**+0.2**
H16K	**Elim** baz=231	**79.56**	**20**	P		**P**		**11 42 15.1**	**+0.2**
KDAK	**Kodiak Island** comp=Z,75nm,20.7s,baz=229,slow=31	**79.60**	**28**	LR		LR		12 10 55.7	
KDAK	**Kodiak Island**	**79.60**	**28**	*e*P		**P**		**11 42 15.4**	**+0.2**
KDAK	comp=Z,12nm,1.5s			pmax		pmax			
KDAK	**Kodiak Island** baz=241	**79.60**	**28**	P		**P**		**11 42 15.1**	**-0.2**
I17K	**Unalakleet** baz=233	**79.62**	**21**	P		**P**		**11 42 15.6**	**+0.4**
N18K	**Kilae Creek** baz=238	**79.62**	**25**	P		**P**		**11 42 15.7**	**+0.3**
Q19K	**Cape Douglas,** baz=240,SNR=8.7	**79.68**	**27**	P		**P**		**11 42 15.9**	**+0.2**
K17K	**Iditarod** baz=235	**79.80**	**22**	P		**P**		**11 42 16.6**	**+0.4**
J17K	**VABM Dome** baz=234	**79.91**	**22**	P		**P**		**11 42 17.2**	**+0.4**
G16K	**Koyuk River** baz=231	**80.00**	**19**	P		**P**		**11 42 17.4**	**+0.2**
M18K	**Stony River** baz=238,SNR=7.0	**80.08**	**24**	P		**P**		**11 42 18.0**	**+0.3**
Q20K	**Shuyak Island** baz=241	**80.09**	**27**	P		**P**		**11 42 18.0**	**+0.2**
L18K	**Granite Mounta** baz=237,SNR=5.1	**80.14**	**23**	P		**P**		**11 42 18.6**	**+0.6**
P19K	**Oil Pt** baz=240,SNR=9.6	**80.22**	**26**	P		**P**		**11 42 18.5**	**-0.1**
N19K	**Bonanza Creek** baz=239	**80.28**	**25**	P		**P**		**11 42 19.1**	**+0.2**
ILSW	**Illiamna Southw** comp=Z,36nm,1.8s	**80.43**	**26**	IAmb		IAmb		11 42 19.8	
H17K	**Granite Mounta** comp=Z,25nm,1.5s	**80.53**	**20**	IAmb		IAmb		11 42 22.0	
H17K	**Granite Mounta** baz=233	**80.53**	**20**	P		**P**		**11 42 20.4**	**+0.3**
G17K	**Kiwalik Mounta** baz=232	**80.62**	**19**	P		**P**		**11 42 20.9**	**+0.3**
O20K	**Slope Mountain** baz=241	**80.70**	**26**	P		**P**		**11 42 21.4**	**+0.2**
J18K	**Innoko River** baz=236	**80.82**	**22**	P		**P**		**11 42 22.1**	**+0.4**
L19K	**White Mountain** comp=Z,23nm,1.3s	**80.84**	**24**	IAmb		IAmb		11 42 24.4	
L19K	**White Mountain** baz=238,SNR=8.7	**80.84**	**24**	P		**P**		**11 42 22.1**	**+0.2**
HOM	**Homer** baz=242	**80.93**	**27**	P		**P**		**11 42 22.5**	**+0.1**
C16K	**Lisburne Hills** baz=228	**81.00**	**16**	P		**P**		**11 42 22.5**	**0.0**
F17K	**Baldwin Pennin** baz=232	**81.01**	**18**	P		**P**		**11 42 22.8**	**+0.2**
E17K	**Hotham Inlet** baz=231	**81.23**	**18**	P		**P**		**11 42 24.3**	**+0.5**
D17K	**Noatak River** baz=230,SNR=5.1	**81.25**	**17**	P		**P**		**11 42 24.3**	**+0.4**
BRSE	**Bradley Lake S** baz=242	**81.38**	**27**	P		**P**		**11 42 24.3**	**-0.4**
M20K	**Styx River** baz=240,SNR=7.0	**81.39**	**24**	P		**P**		**11 42 24.7**	**-0.1**
L20K	**Farewell, AK** baz=239,SNR=7.0	**81.39**	**24**	P		**P**		**11 42 25.0**	**+0.2**
N20K	**Mount Spurr** baz=241	**81.43**	**25**	P		**P**		**11 42 26.0**	**+1.0**
SPCR	**Spurr Chakacha** baz=241	**81.43**	**25**	P		**P**		**11 42 26.0**	**+0.9**
GCSA	**Galena City Sc** baz=236	**81.47**	**21**	P		**P**		**11 42 25.5**	**+0.4**
KURK	**Kurchatov**	**81.49**	**323**	*e*P		**P**		**11 42 24.5**	**-1.0**
KURK	comp=Z,1.0nm,0.9s			pmax		pmax			
KURBB	**Kurchatov Arra**	**81.51**	**323**	P		**P**		**11 42 24.7**	**-0.9**
KURBB	comp=Z,0.9nm,0.2s,baz=110,slow=4.4,SNR=5.0 comp=Z,58nm,21.7s,baz=174,slow=35 comp=Z,0.9nm,0.2s			LR		LR		12 17 24.2	
J19K	**Poorman**	**81.52**	**22**	IAmb		IAmb		11 42 27.2	
J19K	comp=Z,20nm,1.4s **Poorman** baz=237	**81.52**	**22**	P		**P**		**11 42 25.6**	**+0.2**
G18K	**Tagagawik** baz=234,SNR=7.6	**81.52**	**20**	P		**P**		**11 42 25.6**	**+0.2**
RDOG	**Red Dog Mine** baz=230	**81.53**	**17**	P		**P**		**11 42 25.7**	**+0.3**
F18K	**Selawik** baz=233	**81.62**	**19**	P		**P**		**11 42 26.9**	**+1.1**
AAK	**Ala-Archa**	**81.69**	**314**	LR		LR		12 20 02.7	
AAK	comp=Z,28nm,20.0s,baz=105,slow=37 **Ala-Archa**	**81.69**	**314**	*e*P		**P**		**11 42 27.5**	**+0.5**
C17K	comp=Z,3.0nm,0.8s **DeLong Mountai** baz=230	**81.73**	**16**	P		**P**		**11 42 26.9**	**+0.5**
K20K	**Telida** baz=239,SNR=5.2	**81.77**	**23**	P		**P**		**11 42 27.3**	**+0.5**
E18K	**Tukpahlearik C** baz=232	**81.82**	**18**	P		**P**		**11 42 27.1**	**+0.3**
H19K	**Roundabout Mou** baz=236,SNR=6.9	**82.06**	**20**	P		**P**		**11 42 28.5**	**+0.4**
SKT	**Skwentna** baz=241	**82.09**	**25**	P		**P**		**11 42 28.7**	**+0.3**
SEW	**Seward** comp=Z,12nm,0.9s	**82.12**	**27**	IAmb		IAmb		11 42 29.5	
SEW	**Seward** baz=244,SNR=6.6	**82.12**	**27**	P		**P**		**11 42 28.4**	**-0.2**
J20K	**Nowinta River** comp=Z,18nm,1.4s	**82.16**	**22**	IAmb		IAmb		11 42 30.6	
J20K	**Nowinta River** baz=239	**82.16**	**22**	P		**P**		**11 42 29.4**	**+0.6**
O22K	**Cooper Landing** baz=243	**82.17**	**26**	P		**P**		**11 42 28.7**	**-0.1**
SUA	**Susitna One** baz=242	**82.18**	**25**	P		**P**		**11 42 28.6**	**-0.4**
G19K	**Purcell Mounta** comp=Z,24nm,1.3s	**82.19**	**20**	IAmb		IAmb		11 42 30.6	
G19K	**Purcell Mounta** baz=236,SNR=6.4	**82.19**	**20**	P		**P**		**11 42 29.0**	**+0.1**
PPLA	**Purkeypile** comp=Z,40nm,1.8s	**82.27**	**24**	IAmb		IAmb		11 42 31.1	
PPLA	**Purkeypile** baz=241	**82.27**	**24**	P		**P**		**11 42 29.4**	**-0.1**
F19K	**Shaleruckik Mo** baz=235,SNR=5.3	**82.36**	**19**	P		**P**		**11 42 29.9**	**+0.3**
I20K	**Naaghedeneel** comp=Z,24nm,1.2s	**82.37**	**21**	IAmb		IAmb		11 42 31.6	
I20K	**Naaghedeneel** baz=238	**82.37**	**21**	P		**P**		**11 42 30.1**	**+0.4**
C18K	**Utukok River** baz=232	**82.40**	**17**	P		**P**		**11 42 30.3**	**+0.3**
RC01	**Rabbit Creek A** baz=243	**82.44**	**26**	P		**P**		**11 42 30.0**	**-0.2**
MAW	**Mawson**	**82.50**	**203**	P		**P**		**11 42 31.2**	**+0.8**
MAW	comp=Z,3.1nm,0.6s,baz=87,slow=7.1,SNR=19 comp=Z,109nm,21.0s,baz=94,slow=34 comp=Z,3.1nm,0.6s			LR		LR		12 17 27.8	
M22K	**Willow** baz=243	**82.58**	**25**	P		**P**		**11 42 31.0**	**+0.1**
H20K	**Anotleneega Mo** baz=238	**82.59**	**21**	P		**P**		**11 42 31.4**	**+0.4**
B18K	**Kokolik River** baz=231	**82.69**	**16**	P		**P**		**11 42 31.5**	**+0.2**
CHUM	**Lake Minchumin** baz=240,SNR=11	**82.71**	**23**	P		**P**		**11 42 31.3**	**-0.3**
CUT	**Chulitna** baz=242	**82.82**	**25**	P		**P**		**11 42 32.1**	**-0.1**
E19K	**Redstone River** comp=Z,12nm,0.7s	**82.89**	**19**	IAmb		IAmb		11 42 35.6	
E19K	**Redstone River** baz=235	**82.89**	**19**	P		**P**		**11 42 32.6**	**+0.1**
PMR	**Palmer**	**82.93**	**26**	P		**P**		**11 42 32.8**	**+0.1**
PMR	**Palmer** baz=244,SNR=6.3	**82.93**	**26**	P		**P**		**11 42 32.5**	**-0.2**
PWL	**Port Wells** baz=244,SNR=9.8	**82.95**	**26**	P		**P**		**11 42 32.9**	**0.0**
GHO	**Glory Hole Cre** comp=Z,34nm,1.7s	**83.09**	**25**	IAmb		IAmb		11 42 34.3	
KNK	**Knik Glacier** baz=244	**83.14**	**26**	P		**P**		**11 42 34.0**	**+0.1**
C19K	**Lookout Ridge** comp=Z,21nm,1.1s	**83.15**	**17**	IAmb		IAmb		11 42 35.7	
C19K	**Lookout Ridge** baz=233	**83.15**	**17**	P		**P**		**11 42 34.6**	**+0.7**
F20K	**Avaraart Lake** comp=Z,15nm,1.4s	**83.15**	**19**	IAmb		IAmb		11 42 35.6	
F20K	**Avaraart Lake** baz=237,SNR=14	**83.15**	**19**	P		**P**		**11 42 34.2**	**+0.4**
D19K	**Kuna River** comp=Z,11nm,1.0s	**83.22**	**18**	IAmb		IAmb		11 42 35.6	
D19K	**Kuna River** baz=234	**83.22**	**18**	P		**P**		**11 42 34.5**	**+0.3**
IMAR	**Indian Mountai**	**83.25**	**21**			**P**		**11 42 34.1**	**-0.2**
TRF	**Thorofare Moun** baz=242,SNR=6.9	**83.30**	**24**	P		**P**		**11 42 34.9**	**+0.1**
BPAW	**Bear Paw Mtn.** baz=242	**83.33**	**23**	P		**P**		**11 42 34.3**	**-0.5**
A19K	**Wainwright** baz=232	**83.41**	**16**	P		**P**		**11 42 35.2**	**+0.2**
H21K	**Melozitna Rive** baz=240	**83.42**	**21**	P		**P**		**11 42 35.3**	**+0.1**
GLI	**Glacier Island** baz=246	**83.51**	**27**	P		**P**		**11 42 35.7**	**0.0**
G21K	**Allakaket** baz=239	**83.61**	**20**	P		**P**		**11 42 36.1**	**0.0**
M23K	**Glacier View** baz=245	**83.62**	**26**	P		**P**		**11 42 36.3**	**0.0**
E20K	**Nigu River** baz=236	**83.67**	**18**	P		**P**		**11 42 36.9**	**+0.4**
WAT1	**Susitna Watana** baz=244	**83.72**	**25**	P		**P**		**11 42 37.0**	**+0.1**
D20K	**Etivluk River** baz=236	**83.79**	**18**	P		**P**		**11 42 37.1**	**0.0**
SCM	**Sheep Creek Mo** comp=Z,16nm,1.1s	**83.81**	**26**	IAmb		IAmb		11 42 38.5	
SCM	**Sheep Creek Mo** baz=245	**83.81**	**26**	P		**P**		**11 42 37.4**	**0.0**
RND	**Reindeer** comp=Z,13nm,0.7s	**83.85**	**24**	IAmb		IAmb		11 42 37.6	
MLY	**Manley** comp=Z,10.0nm,0.8s	**83.86**	**22**	IAmb		IAmb		11 42 38.5	
MLY	**Manley** baz=242,SNR=21	**83.86**	**22**	P		**P**		**11 42 36.9**	**-0.7**
WAT6	**Susitna Watana** baz=245,SNR=6.8	**83.95**	**25**	P		**P**		**11 42 37.4**	**-0.8**
MCK	**McKinley** comp=Z,23nm,1.2s	**83.96**	**24**	IAmb		IAmb		11 42 38.2	
MCK	**McKinley** baz=244,SNR=6.1	**83.96**	**24**	P		**P**		**11 42 37.3**	**-0.8**
EYAK	**Cordova Ski Ar**	**83.98**	**27**	P		**P**		**11 42 39.5**	**+1.4**
EYAK	**Cordova Ski Ar** baz=247	**83.98**	**27**	P		**P**		**11 42 38.1**	**-0.1**
F21K	**Alatna River** baz=239	**83.98**	**20**	P		**P**		**11 42 38.4**	**+0.3**
QSPA	**South Pole Qui**	**84.02**	**180**	P		**P**		**11 42 39.6**	**+1.1**
QSPA	**South Pole Qui** comp=Z,13nm,0.5s,baz=283,slow=0.4,SNR=207	**84.02**	**180**	P		**P**		**11 42 40.7**	**+2.2**
QSPA	comp=Z,15nm,0.5s,baz=29,slow=0.2,SNR=7.4			pP		**pP**		**11 43 06.5**	**-0.7**
QSPA	comp=Z,74nm,18.6s,baz=5.5,slow=36 comp=Z,13nm,0.5s			LR		LR		12 20 20.8	
H22K	**Ishtalitna Cre** baz=241,SNR=5.6	**84.05**	**21**	P		**P**		**11 42 38.8**	**+0.4**
DIV	**Divide** comp=Z,21nm,1.3s	**84.20**	**27**	IAmb		IAmb		11 42 41.3	
KLU	**Klutina** comp=Z,13nm,1.1s	**84.28**	**26**	IAmb		IAmb		11 42 41.0	
KLU	**Klutina** baz=246,SNR=5.6	**84.28**	**26**	P		**P**		**11 42 40.0**	**+0.2**
NEA2	**Nenana** comp=Z,24nm,1.6s	**84.30**	**23**	IAmb		IAmb		11 42 40.4	
NEA2	**Nenana** baz=243,SNR=9.5	**84.30**	**23**	P		**P**		**11 42 39.3**	**-0.4**
DHY	**Denali Highway** baz=245,SNR=9.4	**84.31**	**25**	P		**P**		**11 42 40.0**	**0.0**
KAIM	**Kayak Island** baz=248	**84.35**	**28**	P		**P**		**11 42 40.4**	**+0.4**
B20K	**Meade River** baz=235	**84.37**	**17**	P		**P**		**11 42 40.3**	**+0.4**
M24K	**Tolsona, Glenn** baz=246,SNR=6.4	**84.41**	**26**	P		**P**		**11 42 40.6**	**+0.2**
I23K	**Minto, Yukon-K** comp=Z,5.6nm,0.5s	**84.44**	**22**	IAmb		IAmb		11 42 42.2	
I23K	**Minto, Yukon-K** baz=243,SNR=7.3	**84.44**	**22**	P		**P**		**11 42 40.2**	**-0.1**
E21K	**Killik River** baz=238	**84.46**	**18**	P		**P**		**11 42 40.7**	**+0.2**
G22K	**Bettles** baz=241	**84.50**	**20**	P		**P**		**11 42 40.8**	**+0.1**
F22K	**John River** baz=240,SNR=5.8	**84.56**	**20**	P		**P**		**11 42 41.1**	**+0.1**
C21K	**Knifeblade Rid** baz=238,SNR=5.4	**84.59**	**18**	P		**P**		**11 42 41.7**	**+0.6**
WRH	**Wood River Hil** comp=Z,17nm,1.2s	**84.62**	**23**	IAmb		IAmb		11 42 42.0	
KKAR	**Karatay Array**	**84.64**	**314**	P		**P**		**11 42 42.0**	**+0.1**
KKAR	**Karatay Array**	**84.64**	**314**	P		**P**		**11 42 42.0**	**+0.1**
BMRM	**Bremner River** baz=248	**84.66**	**27**	P		**P**		**11 42 42.0**	**+0.3**
H23K	**Yukon River** comp=Z,7.4nm,0.7s	**84.68**	**22**	IAmb		IAmb		11 42 42.8	
H23K	**Yukon River** baz=243	**84.68**	**22**	P		**P**		**11 42 41.8**	**+0.2**
SIMJ	**Simiganj**	**84.79**	**310**	P		**P**		**11 42 43.0**	**0.0**
CCB	**Clear Creek Bu**	**84.81**	**23**	P		**P**		**11 42 41.2**	**-1.1**
CCB	comp=Z,8.4nm,0.8s			IAmb		IAmb		11 42 42.0	
COLA	**College**	**84.89**	**23**	P		**P**		**11 42 41.0**	**-1.6**
COLA	comp=Z,14nm,0.8s			IAmb		IAmb		11 42 43.8	
COLA	**College**	**84.89**	**23**	P		**P**		**11 42 43.2**	**+0.6**
COLA	**College**	**84.89**	**23**	*d*P		**P**		**11 42 41.7**	**-0.9**
COLA	comp=Z,9.0nm,0.7s			pmax		pmax			
COLA	**College** baz=244	**84.89**	**23**	P		**P**		**11 42 42.2**	**-0.4**
B21K	**Ikpikpuk River**	**84.89**	**17**	IAmb		IAmb		11 42 45.9	
B21K	comp=Z,8.2nm,0.7s **Ikpikpuk River** baz=238	**84.89**	**17**	P		**P**		**11 42 43.1**	**+0.5**
N25K	**Chitina, Valde** comp=Z,30nm,1.7s	**84.91**	**26**	IAmb		IAmb		11 42 44.1	
N25K	**Chitina, Valde** baz=248	**84.91**	**26**	P		**P**		**11 42 43.2**	**+0.2**
G23K	**Bananza Creek** comp=Z,7.8nm,0.7s	**84.92**	**21**	IAmb		IAmb		11 42 45.7	
G23K	**Bananza Creek** baz=242,SNR=13	**84.92**	**21**	P		**P**		**11 42 43.1**	**+0.3**
HARP	**HAARP** baz=247	**84.97**	**26**	P		**P**		**11 42 43.5**	**+0.3**
E22K	**Anaktuvuk Pass** baz=240	**85.00**	**19**	P		**P**		**11 42 43.6**	**+0.4**
HDA	**Harding Lake** baz=245,SNR=9.0	**85.04**	**23**	P		**P**		**11 42 42.8**	**-0.7**
PAX	**Paxson** comp=Z,21nm,1.6s	**85.06**	**25**	IAmb		IAmb		11 42 44.5	
PAX	**Paxson** baz=247,SNR=6.3	**85.06**	**25**	P		**P**		**11 42 43.0**	**-0.6**
D22K	**Ayikyak River** comp=Z,20nm,1.3s	**85.09**	**18**	IAmb		IAmb		11 42 45.7	
D22K	**Ayikyak River** baz=240,SNR=12	**85.09**	**18**	P		**P**		**11 42 44.3**	**+0.7**
COLD	**Coldfoot** comp=Z,9.2nm,0.9s	**85.10**	**20**	IAmb		IAmb		11 42 46.8	
COLD	**Coldfoot** baz=242,SNR=8.9	**85.10**	**20**	P		**P**		**11 42 44.4**	**+0.7**
POKR	**Poker Plat Res** baz=245	**85.16**	**23**	P		**P**		**11 42 43.9**	**-0.1**
GLB	**Gilahina Butte** comp=Z,28nm,1.6s	**85.19**	**27**	IAmb		IAmb		11 42 45.4	
IL31	comp=Z,9.9nm,0.7s	**85.22**	**23**	IAmb		IAmb		11 42 43.8	
ILAR	**Eielson Array**	**85.22**	**23**	P		**P**		**11 42 41.6**	**-2.8**
ILAR	**Eielson Array** comp=Z,7.4nm,0.6s,baz=251,slow=4.9,SNR=117	**85.22**

K24K	**Donnelly Dome**	85.26	24	P	P	11 42 44.9	+0.3
	baz=246						
CRQE	**Cirque**	85.27	27	P	P	11 42 45.1	+0.2
	baz=249						
H24K	**Noodor Dome**	85.30	22	IAmb	IAmb	11 42 46.3	
	comp=Z,21nm,1.6s						
H24K	**Noodor Dome**	85.30	22	P	P	11 42 45.2	+0.5
	baz=244,SNR=9.6						
MCARA	**McCarthy VSAT**	85.53	27	P	P	11 42 46.1	+0.2
	baz=249						
A22K	**Sinclair Lake**	85.53	16	P	P	11 42 46.2	+0.5
	baz=237						
MESA	**MESA**	85.60	28	P	P	11 42 46.3	-0.2
	baz=250						
RIDG	**Independent Ri**	85.62	24	IAmb	IAmb	11 42 47.1	
	comp=Z,15nm,1.2s						
RIDG	**Independent Ri**	85.62	24	P	P	11 42 46.6	+0.2
	baz=247,SNR=7.1						
B22K	**Teshekpuk Lake**	85.62	17	P	P	11 42 46.4	+0.3
	baz=239						
E23K	**Chandalar**	85.68	20	P	P	11 42 46.7	0.0
	baz=243,SNR=5.4						
J25K	**Salcha River,**	85.75	23	P	P	11 42 46.0	-1.1
	baz=247,SNR=32						
D23K	**Nanushuk River**	85.76	19	P	P	11 42 47.5	+0.5
	baz=242,SNR=14						
MENT	**Mentasta**	85.79	25	IAmb	IAmb	11 42 49.8	
	comp=Z,6.6nm,0.7s						
MENT	**Mentasta**	85.79	25	P	P	11 42 49.1	+1.9
G24K	**Hadweenzic Riv**	85.82	21	P	P	11 42 47.6	+0.3
	baz=245,SNR=8.1						
M26K	**Nabesna, AK**	85.90	26	P	P	11 42 47.8	0.0
	baz=249						
DOT	**Dot Lake**	85.91	25	IAmb	IAmb	11 42 48.7	
	comp=Z,9.6nm,0.9s						
TOLK	**Toolik Lake Re**	85.97	19	P	P	11 42 48.2	+0.2
	baz=243						
L26K	**Log Cabin Wild**	85.98	25	IAmb	IAmb	11 42 50.6	
	comp=Z,7.5nm,0.6s						
L26K	**Log Cabin Wild**	85.98	25	P	P	11 42 48.3	+0.2
	baz=249,SNR=17						
F24K	**Squaw Lake**	86.03	20	IAmb	IAmb	11 42 50.2	
	comp=Z,9.0nm,0.8s						
F24K	**Squaw Lake**	86.03	20	P	P	11 42 48.6	+0.2
	baz=244,SNR=14						
BARN	**Barnard Glacie**	86.03	27	IAmb	IAmb	11 42 52.0	
	comp=Z,10nm,0.6s						
SCRK	**Sand Creek**	86.06	24	P	P	11 42 48.9	+0.2
	baz=248						
E24K	**Your Creek**	86.07	20	IAmb	IAmb	11 44 33.4	
	comp=Z,18nm,1.9s						
E24K	**Your Creek**	86.07	20	P	P	11 42 49.0	+0.5
	baz=244						
CTG	**Chitna Glacier**	86.15	28	P	P	11 42 49.3	+0.1
	baz=251,SNR=8.6						
CTGM	**Chitina Glacie**	86.15	28	IAmb	IAmb	11 42 50.6	
	comp=Z,15nm,0.9s						
C23K	**Itkillik River**	86.20	18	P	P	11 42 49.4	+0.4
	baz=242						
H25L	**Birch Creek**	86.24	22	P	P	11 42 50.0	+0.7
	baz=246,SNR=5.2						
LOGN	**Logan Glacier**	86.25	28	IAmb	IAmb	11 42 51.1	
	comp=Z,7.3nm,0.8s						
G25K	**Bearman Lake**	86.34	21	P	P	11 42 50.3	+0.5
	baz=246						
PINM	**Pinnacle**	86.37	29	P	P	11 42 50.0	-0.2
	baz=252						
M27K	**Edge Creek, AK**	86.38	26	P	P	11 42 50.3	0.0
	baz=250,SNR=18						
J26L	**Joseph Creek**	86.43	24	P	P	11 42 50.4	0.0
	baz=248,SNR=13						
D24K	**Happy Valley**	86.44	19	IAmb	IAmb	11 42 52.3	
	comp=Z,21nm,1.3s						
D24K	**Happy Valley**	86.44	19	P	P	11 42 50.7	+0.4
	baz=243						
O28M	**Mount Upton**	86.62	28	IAmb	IAmb	11 42 53.0	
	comp=Z,7.1nm,0.7s						
O28M	**Mount Upton**	86.62	28	P	P	11 42 51.7	0.0
	baz=252,SNR=5.8						
L27K	**Beaver Creek,**	86.64	25	IAmb	IAmb	11 42 52.8	
	comp=Z,10nm,1.1s						
PNL	**Peninsula**	86.65	29	P	P	11 42 52.9	+1.4
PNL	**Peninsula**	86.65	29	P	P	11 42 51.6	+0.1
	baz=252						
BCAR	**Beaver Creek A**	86.66	25		P	11 42 51.4	-0.1
C24K	**Franklin Bluff**	86.74	18	P	P	11 42 52.0	+0.3
	baz=243						
YUK3	**Moose Creek**	86.81	27	P	P	11 42 52.4	-0.1
	baz=251,SNR=6.8						
BVCY	**Beaver Creek**	86.84	26	P	P	11 42 52.8	+0.3
	baz=251,SNR=8.7						
F25K	**Christian Rive**	86.84	21	P	P	11 42 52.8	+0.4
	baz=246						
K27K	**Chicken**	86.87	25	P	P	11 42 52.9	+0.4
	baz=250						
I26K	**Coal Creek Min**	86.89	23	P	P	11 42 53.1	+0.6
	baz=249						
YUK8	**Steele Glacier**	86.97	27	P	P	11 42 53.4	+0.1
	baz=252,SNR=7.8						
BVAR	**Borovoye Array**	87.05	324	P	P	11 42 51.3	-2.2
	comp=Z,3.6nm,0.6s,baz=115,slow=7.0,SNR=11						
BVAR				pP	pP	11 43 23.1	+1.8
	comp=Z,4.4nm,0.8s,baz=102,slow=6.2,SNR=5.2						
BVAR				LR	LR	12 21 38.3	
	comp=Z,64nm,21.2s,baz=96,slow=35						
	comp=Z,3.6nm,0.6s						
E25K	**Arctic Village**	87.08	20	P	P	11 42 53.9	+0.4
	baz=246						
BMAR	**Burnt Mountain**	87.15	21		P	11 42 53.9	+0.1
O29M	**Mount Kennedy**	87.23	29	IAmb	IAmb	11 42 56.2	
	comp=Z,9.7nm,0.9s						
O29M	**Mount Kennedy**	87.23	29	P	P	11 42 54.6	+0.1
	baz=253,SNR=6.3						
G26K	**Porcupine Rive**	87.26	22	IAmb	IAmb	11 42 56.1	
	comp=Z,12nm,1.0s						
G26K	**Porcupine Rive**	87.26	22	P	P	11 42 54.9	+0.6
	baz=248,SNR=12						
D25K	**Kavik River**	87.30	19	IAmb	IAmb	11 42 56.4	
	comp=Z,18nm,1.3s						
D25K	**Kavik River**	87.30	19	P	P	11 42 55.0	+0.4
	baz=246						
F26K	**Sheenjek River**	87.41	21	IAmb	IAmb	11 42 57.0	
	comp=Z,17nm,1.4s						
F26K	**Sheenjek River**	87.41	21	P	P	11 42 55.6	+0.5
	baz=248,SNR=8.0						
P29M	**Windy Craggy**	87.44	29	IAmb	IAmb	11 42 56.9	
	comp=Z,9.4nm,0.7s						
P29M	**Windy Craggy**	87.44	29	P	P	11 42 55.7	+0.3
	baz=254,SNR=8.5						
YUK4	**Talbot Arm**	87.51	28	P	P	11 42 56.4	+0.5
	baz=253,SNR=9.7						
YUK6	**Outpost Mounta**	87.52	28	P	P	11 42 56.0	0.0
	baz=253						
I27K	**Kandik River**	87.59	23	P	P	11 42 56.2	+0.2
	baz=250,SNR=11						
S31K	**Pelican**	87.75	31	P	P	11 42 56.6	-0.2
	baz=255						
H27K	**Steamboat Moun**	87.84	23	P	P	11 42 56.9	-0.2
	baz=250,SNR=12						
HYT	**Haines Junctio**	87.89	28	IAmb	IAmb	11 42 59.2	
	comp=Z,11nm,0.9s						
HYT	**Haines Junctio**	87.89	28	P	P	11 42 57.7	+0.1
	baz=254,SNR=10						
M29M	**Somme Creek**	87.91	27	P	P	11 42 57.6	0.0
	baz=253,SNR=9.8						
P30M	**Million Dollar**	87.96	29	P	P	11 42 57.9	0.0
	baz=254						
G27K	**Doyon Strip**	87.99	22	P	P	11 42 57.6	-0.3
	baz=250						
DAWY	**Dawson**	88.00	25	IAmb	IAmb	11 43 00.0	
	comp=Z,16nm,1.2s						
DAWY	**Dawson**	88.00	25	P	P	11 42 57.9	0.0
	baz=252,SNR=9.5						
C26K	**Camden Bay**	88.01	19	P	P	11 42 58.4	+0.6
	baz=247						
PLBC	**Pleasant Camp**	88.07	30	P	P	11 42 58.4	+0.1
	baz=255,SNR=6.6						
R31K	**City Hall, Gus**	88.12	31	P	P	11 42 58.7	+0.2
	baz=256						
I28M	**Miner Creek**	88.20	23	IAmb	IAmb	11 43 00.0	
	comp=Z,10nm,1.2s						
I28M	**Miner Creek**	88.20	23	P	P	11 42 58.6	-0.3
	baz=252,SNR=6.3						
L29M	**L29M**	88.25	26	IAmb	IAmb	11 43 00.7	
	comp=Z,9.2nm,0.8s						
L29M	**L29M**	88.25	26	P	P	11 42 59.2	0.0
	baz=253,SNR=14						
N30M	**Aishikik Lake**	88.26	28	P	P	11 42 59.4	+0.2
	baz=254						
C27K	**Jago River**	88.29	19	IAmb	IAmb	11 43 01.0	
	comp=Z,10.0nm,0.9s						
C27K	**Jago River**	88.29	19	P	P	11 42 59.4	+0.3
	baz=248						
E27K	**Coleen River**	88.49	21	IAmb	IAmb	11 43 01.8	
	comp=Z,18nm,1.4s						
E27K	**Coleen River**	88.49	21	P	P	11 43 00.3	+0.2
	baz=250						
O30N	**Mendenhall**	88.54	28	IAmb	IAmb	11 43 02.0	
	comp=Z,10nm,1.3s						
O30N	**Mendenhall**	88.54	28	P	P	11 43 00.4	-0.1
	baz=255						
SKAG	**Skagway**	88.59	30	IAmb	IAmb	11 43 02.2	
	comp=Z,7.8nm,0.9s						
SKAG	**Skagway**	88.59	30	P	P	11 43 00.6	-0.1
	baz=256,SNR=5.9						
J29N	**Klondike Camp**	88.60	25	P	P	11 43 01.1	+0.3
	baz=253						
BESE	**Bessie Mountai**	88.61	31	IAmb	IAmb	11 43 02.4	
	comp=Z,7.3nm,0.9s						
M30M	**Minto, Yukon**	88.69	27	IAmb	IAmb	11 43 02.6	
	comp=Z,19nm,1.8s						
M30M	**Minto, Yukon**	88.69	27	P	P	11 43 01.1	-0.1
	baz=255						
R32K	**Eaglecrest**	88.71	31	P	P	11 43 01.2	-0.1
	baz=257						
K29M	**Barlow Dome**	88.72	25	IAmb	IAmb	11 43 02.9	
	comp=Z,9.1nm,0.8s						
K29M	**Barlow Dome**	88.72	25	P	P	11 43 01.5	+0.1
	baz=254,SNR=12						
N31M	**Braeburn, Yuko**	88.87	28	P	P	11 43 02.3	+0.2
	baz=256						
F28M	**Old Crow**	88.91	21	P	P	11 43 02.3	+0.2
	baz=252						
H29M	**Whitestone**	89.05	23	P	P	11 43 02.7	-0.1
	baz=253						
D27M	**Malcolm River**	89.06	20	P	P	11 43 02.8	-0.1
	baz=251						
WHY	**Whitehorse**	89.09	29	P	P	11 43 02.8	-0.5
	baz=256						
E28M	**Babbage River**	89.34	21	P	P	11 43 04.1	0.0
	baz=252						
G29M	**Pine Creek**	89.39	22	IAmb	IAmb	11 43 05.5	
	comp=Z,9.7nm,0.9s						
G29M	**Pine Creek**	89.39	22	P	P	11 43 04.6	+0.2
	baz=253						
P32M	**Atlin**	89.42	30	P	P	11 43 04.7	0.0
	baz=257						
J30M	**Hart River**	89.42	25	IAmb	IAmb	11 43 06.0	
	comp=Z,5.6nm,0.8s						
J30M	**Hart River**	89.42	25	P	P	11 43 04.6	-0.1
	baz=255						
I30M	**Mount Dempster**	89.57	24	P	P	11 43 05.4	+0.1
	baz=255						
V35K	**Ketchikan**	89.66	34	P	P	11 43 05.9	+0.2
	baz=259						
M31M	**Drury Creek, Y**	89.68	27	P	P	11 43 05.9	+0.1
	baz=257						
EPYK	**Eagle Plains**	89.74	23	P	P	11 43 06.2	+0.1
	baz=255						
D28M	**Stokes Point**	89.84	20	P	P	11 43 07.0	+0.6
	baz=258						
E29M	**Blow River**	89.86	21	P	P	11 43 06.8	+0.3
	baz=254						
P33M	**Teslin, Yukon**	89.99	29	P	P	11 43 07.7	+0.3
	baz=258						
Q32M	**Nakina River**	90.01	31	P	P	11 43 07.8	+0.1
	baz=259						
N32M	**Quiet Lake**	90.06	28	P	P	11 43 08.0	+0.3
	baz=258						
G30M	**tAn Zraii Nji**	90.09	22	P	P	11 43 07.9	+0.2
	baz=255						
S34M	**Telegraph Cree**	90.40	32	P	P	11 43 09.2	0.0
	baz=260						
F30M	**Barrier River**	90.41	22	IAmb	IAmb	11 43 09.8	
	comp=Z,7.6nm,0.9s						
F30M	**Barrier River**	90.41	22	P	P	11 43 09.1	-0.1
	baz=255						
H31M	**Peel River**	90.53	24	IAmb	IAmb	11 44 41.8	
	comp=Z,11nm,1.2s						
H31M	**Peel River**	90.53	24	P	P	11 43 09.9	+0.2
	baz=257						
T35M	**Bob Quinn**	90.70	33	P	P	11 43 11.1	+0.4
	baz=260						
R33M	**Jennings River**	90.75	30	P	P	11 43 11.1	+0.1
	baz=260						
G31M	**Satah River**	90.82	23	P	P	11 43 11.3	+0.3
	baz=257						
SYO	**Syowa Base**	90.83	200	*i* eP	P	11 43 12.6	+1.6
DLBC	**Dease Lake**	91.07	31	LR	LR	12 18 02.7	
	comp=Z,984nm,20.1s,baz=238,slow=32						
DLBC	**Dease Lake**	91.07	31	P	P	11 43 12.7	+0.3
	baz=260						
F31M	**Tsiigehtchic**	91.14	22	P	P	11 43 12.7	+0.3
	baz=257						
BBB	**Bella Bella**	91.19	38	LR	LR	12 17 17.0	
	comp=Z,86nm,20.2s,baz=269,slow=31						
MMPY	**Sheldon Lake,**	91.19	27	P	P	11 43 13.3	+0.4
	baz=260						
INK	**Inuvik**	91.41	21	IAmb	IAmb	11 43 15.3	
	comp=Z,8.2nm,1.1s						
INK	**Inuvik**	91.41	21	LR	LR	12 20 49.6	
	comp=Z,47nm,20.4s,baz=237,slow=33						
INK	**Inuvik**	91.41	21	P	P	11 43 14.2	+0.5
	baz=258						
WTLY	**Watson Lake, Y**	91.95	30	IAmb	IAmb	11 43 19.5	
	comp=E,6.0nm,0.8s						
WTLY	**Watson Lake, Y**	91.95	30	P	P	11 43 16.8	+0.4
	baz=262						
TGTN	**Hyland Airport**	92.41	29	P	P	11 43 19.0	+0.4
	baz=262						
AB31	**Akbulak array**	92.89	319	P	P	11 43 19.9	-1.1
ABKAR	**Akbulak array**	92.89	319	P	P	11 43 19.4	-1.6
LIRD	**Liard River Hi**	93.22	31	P	P	11 43 22.8	+0.5
	baz=264						
TOAD	**Toad River Com**	93.60	31	P	P	11 43 24.6	+0.4
	baz=265						
YBH	**Yreka Blue Hor**	93.72	49	LR	LR	12 18 33.0	
	comp=E,8.9nm,21.1s,baz=270,slow=31						
AKTO	**Aktyubinsk**	94.24	320	LR	LR	12 28 12.6	
	comp=E,54nm,19.4s,baz=80,slow=37						
KOTAN	**Kotaneelee Air**	94.31	30	P	P	11 43 27.7	+0.4
	baz=266						
WELL	**Weller Preserv**	95.01	52	P	P	11 43 29.9	-1.2
WELL				IAmb	IAmb	11 43 31.9	
	comp=Z,5.7nm,1.2s						
BELA	**Belgrano 2**	96.29	180	P	P	11 43 36.1	0.0
BELA				IAmb	IAmb	11 44 04.1	
	comp=Z,4.5nm,1.0s						
B08A	**Colville Reser**	96.48	42	P	P	11 43 37.2	-0.3
B08A				IAmb	IAmb	11 43 37.8	
	comp=Z,4.7nm,1.1s						
NEW	**Newport**	97.95	42		P	11 43 44.3	+0.1
NEW				IAmb	IAmb	11 43 45.1	
	comp=Z,3.0nm,0.8s						
NEW	**Newport**	97.95	42	LR	LR	12 21 40.3	
	comp=Z,74nm,20.4s,baz=275,slow=32						
NEW	**Newport**	97.95	42	P	P	11 43 44.3	+0.1
NEW				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PFO	**Pinyon Flats O**	98.25	57	LR	LR	12 20 09.8	
	comp=Z,40nm,21.6s,baz=250,slow=30						
YKA	**Yellowknife Ar**	98.87	28	P	P	11 43 46.7	-1.2
	comp=Z,2.9nm,1.0s,baz=282,slow=4.9,SNR=3.0						
YKA				LR	LR	12 26 01.2	
	comp=Z,45nm,18.6s,baz=296,slow=34						
	comp=Z,2.9nm,1.0s						
RPN	**Rapa Nui**	98.89	119	LR	LR	12 20 06.4	
	comp=Z,28nm,21.2s,baz=240,slow=30						
TROLL	**Troll, Antarti**	98.94	190	⇑P	P	11 43 48.0	-0.3
	comp=Z,39nm,0.4s						
KIRV	**Kirov**	99.28	328	LR	LR	12 29 38.5	
	comp=Z,63nm,20.9s,baz=89,slow=36						
SNAA	**Sanae**	100.13	189	⇑P	Pdif	11 43 55.4	+1.9
	comp=Z,48nm,1.6s						
SNAA	**Sanae**	100.13	189	P	Pdif	11 43 54.6	+1.1
	comp=Z,1.1nm,1.0s,baz=180,slow=9.1,SNR=6.5						
PDAR	**Pinedale Array**	103.48	48	Pdiff	Pdif	11 44 08.4	-0.7
	comp=Z,0.5nm,0.6s,baz=223,slow=2.4,SNR=5.5						
PDAR				PKKPbc	PKKPbc	12 00 01.7	-2.0
	comp=Z,0.2nm,0.5s,baz=121,slow=6.7,SNR=4.1						
ARCES	**ARCESS Array B**	106.38	342	PKKPbc	PKKPbc	11 59 49.9	-5.6
	comp=Z,0.7nm,0.6s,baz=238,slow=2.3,SNR=6.7						
OBN	**Obninsk**	106.79	326	*i* P	Pdif	11 44 23.6	+0.4
OBN				*e*		11 48 51.0	
OBN				*e*PPP	PPP	11 51 07.2	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TXAR	**Lajitas Array**	109.26	61	PKKPbc	PKKPbc	11 59 50.4	+5.3
	comp=Z,0.4nm,0.8s,baz=120,slow=7.5,SNR=3.4						
PLCA	**Paso Flores**	121.87	146	PKP	PKPdf	11 49 02.8	+0.6
	comp=Z,4.1nm,0.5s,baz=247,slow=2.4,SNR=36						
GERES	**GERESS Array B**	122.17	326	PKP	PKPdf	11 49 01.7	-0.9
	comp=Z,0.7nm,0.5s,baz=208,slow=2.6,SNR=5.0						
DAVOX	**Davos/Dischmat**	125.46	325	PKP	PKPdf	11 49 08.2	-0.8
	comp=Z,2.7nm,0.2s,baz=198,slow=5.8,SNR=4.0						
EKA	**Eskdalemuir Ar**	125.46	340	PKP	PKPdf	11 49 08.1	-0.4
	comp=Z,1.4nm,0.6s,baz=15,slow=3.5,SNR=3.7						
LPAZ	**La Paz**	138.36	123	PKhKP	PKPpre	11 49 26.2	
	comp=Z,1.2nm,0.4s,baz=328,slow=6.3,SNR=5.8						
LPAZ				PKP	PKPdf	11 49 35.0	+0.3
	comp=Z,2.8nm,0.5s,baz=259,slow=2.6,SNR=7.7						
CPUP	**Villa Florida**	139.86	144	PKhKP	PKPpre	11 49 28.8	
	comp=Z,0.4nm,0.5s,baz=72,slow=3.3,SNR=3.9						
CPUP				PKP	PKPdf	11 49 36.4	-0.1
	comp=Z,1.1nm,0.7s,baz=112,slow=2.6,SNR=6.4						
TORD	**Torodi Ar. Bea**	145.60	285	PKPbc	PKPdf	11 49 46.2	-0.6
	comp=Z,3.0nm,0.4s,baz=60,slow=4.3,SNR=31						
TORD				pPKPbc	pPKPdf	11 50 17.1	+0.6
	comp=Z,8.2nm,0.5s,baz=64,slow=4.3,SNR=8.1						
DBIC	**Dimbokro**	152.56	273	PKPbc	PKiKP	11 50 05.9	+0.6
	comp=Z,4.2nm,0.8s,baz=188,slow=2.7,SNR=5.2						
BDFB	**Brasilia**	153.59	144	PKP	PKPdf	11 49 58.6	-1.0
	comp=Z,2.9nm,0.6s,baz=267,slow=3.7,SNR=3.0						
BDFB				PKPbc	PKPbc	11 50 07.6	+0.2
	comp=Z,11nm,0.5s,baz=164,slow=0.6,SNR=13						
BDFB				PKPab	PKPab	11 50 20.4	+0.3
	comp=Z,7.1nm,0.8s,baz=145,slow=6.1,SNR=3.5						

IDC ***11*** *12:56:44.9±1.5,38.69N×49.09E,h0km,mb3.8/8, mbtmp3.9/10,ML3.5/2,MS3.8/2,Error ellipse: s-maj=25.7km s-min=16.6km az=178.0*
TEH ***11*** *12:56:47.5,38.65N×49.07E,h24km±29km*
DRS ***11*** *12:56:47.9,39.04N×49.22E,h50km*
MOS ***11*** *12:56:48.5±2.7,38.60N×49.19E,h44km,mb4.0/1,Error ellipse: s-maj=14.7km s-min=8.6km az=106.1*
AZER ***11*** *12:56:49.6,38.68N×48.76E,h21km,ml3.7*

ISC 11 12:56:48.3±0.8,38.66N±0.03×48.99E±0.03,h32km±5km, n96,σ2s31/138,mb3.8/7,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKRN	**Lenkeran, Azer**	**0.17**	**287**	P	**Pb**	**12 56 54.3**	**-0.3**
LKRN				S	**Sb**	**12 56 58.7**	**-0.1**
LKRN	**Lenkeran, Azer**	**0.17**	**287**	Pg	**Pb**	**12 56 54.3**	**-0.3**
LKRN	**Lenkeran, Azer**	**0.17**	**287**	P	**Pb**	**12 56 54.3**	**-0.3**
ASTR	**Astara**	**0.19**	**238**	P	**Pb**	**12 56 54.8**	**0.0**
ASTR				S	**Sb**	**12 56 59.3**	**+0.3**
ASTR	**Astara**	**0.19**	**238**	Pg	**Pb**	**12 56 54.7**	**0.0**
GAS1	**Astara - Iran**	**0.30**	**204**	Pg	**Pb**	**12 56 55.4**	**-0.6**
LRK	**Lerik**	**0.51**	**268**	P	**Pb**	**12 56 59.0**	**-0.3**
LRK				S	**Sb**	**12 57 06.5**	**-0.1**
LRK	**Lerik**	**0.51**	**268**	Pg	**Pb**	**12 56 58.9**	**-0.3**
YRD	**Yardimli**	**0.64**	**294**	P	**Pb**	**12 57 00.7**	**-0.7**
YRD				S	**Sb**	**12 57 09.3**	**-0.8**
YRD	**Yardimli**	**0.64**	**294**	Pg	**Pb**	**12 57 00.6**	**-0.7**
GLBA	**Clilabad**	**0.75**	**321**	P	**Pb**	**12 57 02.6**	**-0.3**
GLBA				S	**Sn**	**12 57 13.8**	**+0.9**
GLBA	**Clilabad**	**0.75**	**321**	Pg	**Pb**	**12 57 02.6**	**-0.3**
GRMI	**Germi**	**0.87**	**280**	Pg	**Pb**	**12 57 04.4**	**-0.7**
CSN1	**Caspian**	**1.10**	**176**	Pg	**Pn**	**12 57 07.6**	**+0.2**
SAAT	**Saatly**	**1.28**	**340**	P	**Pb**	**12 57 12.5**	**+0.7**
SAAT				S	**Sb**	**12 57 31.2**	**+3.3**
SAAT	**Saatly**	**1.28**	**340**	Pg	**Pb**	**12 57 12.2**	**+0.4**
ALIB	**&Aumlli-Bayram**	**1.30**	**0**	P	**Pb**	**12 57 14.0**	**+1.8**
ALIB				S	**Sb**	**12 57 32.7**	**+4.3**
ISRB	**Sarab**	**1.33**	**232**	Pg	**Pn**	**12 57 12.3**	**+1.3**
QRD	**Qoradiz**	**1.53**	**302**	Pn	**Pn**	**12 57 14.2**	**+0.8**
QRD				Sn	**Sn**	**12 57 33.7**	**+1.6**
BLQ	**Beylaqan**	**1.54**	**314**	Pn	**Pn**	**12 57 14.7**	**+1.1**
BLQ				Sn	**Sn**	**12 57 34.4**	**+1.0**
IHRS	**Heris**	**1.57**	**258**	Pg	**Pn**	**12 57 16.0**	**+1.9**
KDMR	**Kurdemir**	**1.82**	**340**	Pn	**Pb**	**12 57 19.8**	**-1.3**
KDMR				Sn	**Sb**	**12 57 42.2**	**-1.3**
GBS	**Qobustan**	**1.87**	**359**	Pg	**Pb**	**12 57 23.5**	**+1.5**
GBS				Sn	**Sb**	**12 57 47.3**	**+2.3**
ZRD	**Zardab**	**1.91**	**328**	Pn	**Pb**	**12 57 22.3**	**-0.2**
ZRD				Sn	**Sb**	**12 57 45.0**	**-0.9**
IHSH	**Hashtrud**	**1.92**	**226**	Pn	**Pn**	**12 57 20.5**	**+1.4**
AGDM	**Agdam**	**2.06**	**315**	Pn	**Pn**	**12 57 23.0**	**+2.4**
AGDM				Sn	**Sn**	**12 57 48.6**	**+3.4**
NDR	**Nardaran**	**2.07**	**22**	Sn	**Sb**	**12 57 51.7**	**+1.2**
BRDA	**Brd**	**2.13**	**319**	Pn	**Pn**	**12 57 24.2**	**+2.6**
BRDA				Sn	**Sb**	**12 57 51.4**	**-0.8**
PQL	**Pirkuli**	**2.15**	**352**	Pg	**Pb**	**12 57 27.2**	**+0.5**
PQL				Sn	**Sb**	**12 57 54.2**	**+1.2**
ATGJ	**Altiaghaj**	**2.20**	**359**	Pn	**Pb**	**12 57 26.7**	**-0.8**
ATGJ				Sn	**Sb**	**12 57 52.9**	**-1.5**
IML	**Ismayilli**	**2.22**	**344**	Pn	**Pn**	**12 57 25.2**	**+2.2**
IML				Sn	**Sb**	**12 57 54.7**	**-0.2**
ITBZ	**Tabriz**	**2.27**	**260**	Pn	**Pn**	**12 57 25.4**	**+1.6**
ORD	**Ordubad**	**2.36**	**277**	Pg	**Pn**	**12 57 26.4**	**+1.5**
ORD				Sn	**Sn**	**12 57 55.9**	**+3.1**
SIZA	**Siyzn**	**2.42**	**358**	Pn	**Pb**	**12 57 31.5**	**+0.3**
SIZA				Sn	**Sb**	**12 58 01.9**	**+1.3**
QBL	**Gabala**	**2.45**	**339**	Pn	**Pb**	**12 57 29.3**	**-2.4**
QBL				Sn	**Sn**	**12 57 57.1**	**+2.1**
IGZV	**Ghazvin**	**2.47**	**156**	Pn	**Pn**	**

comp=Z,19nm,0.4s
KMKR *e*Sn **Sb** **12 58 34.6 -4.7**
comp=Z,61nm,0.3s
IDMV Damavand 3.92 141 Pn **Pn** **12 57 47.9 +1.3**
SNQR Sonqor, Kerman 3.95 197 Pn **Pn** **12 57 48.8 +1.9**
IALA Alasht 3.98 129 Pn **Pn** **12 57 48.5 +1.1**
TLTR Tlyarata 3.99 331 *e*P **Pn** **12 57 51.7 +4.4**
TLTR *e*S **Sn** **12 58 40.0 +7.0**
TLTR pmax pmax
comp=Z,2.0nm,0.4s
TLTR Tlyarata 3.99 331 *e*Pn **Pn** **12 57 51.7 +4.4**
comp=Z,2.0nm,0.4s
TLTR *e*Sn **Sn** **12 58 40.1 +7.0**
comp=Z,39nm,1.9s
XNZR Khunzakh 4.25 337 *e*Pn **Pn** **12 57 54.0 +3.1**
comp=Z,12nm,0.5s
XNZR *e*Sn **Sn** **12 58 44.9 +5.3**
comp=Z,26nm,0.5s
IFIR Firoozkooh 4.25 134 Pn **Pn** **12 57 52.6 +1.5**
HNZR Khunzah 4.26 337 *e*P **Pn** **12 57 54.0 +2.9**
HNZR *e*S **Sn** **12 58 44.8 +5.0**
HNZR pmax pmax
comp=Z,12nm,0.5s
IGLO Ghaloghah 4.41 118 Pn **Pn** **12 57 54.0 +0.9**
IKIA Kiasar 4.46 122 Pn **Pn** **12 57 55.3 +1.3**
ISFB Sefidab 5.03 148 Pn **Pn** **12 58 02.7 +1.0**
IMND Minoodasht 5.26 103 Pn **Pn** **12 58 04.5 -0.2**
QAMS Qamsar 5.28 158 Pn **Pn** **12 58 06.9 +1.6**
ILBA Ilam Banvizeh 5.51 205 Pn **Pn** **12 58 10.4 +2.2**
MRVT Maraveh tapeh 5.68 98 Pn **Pn** **12 58 10.6 0.0**
SBZV Sabzevar 7.21 106 Pn **Pn** **12 58 32.7 +0.9**
ISFR Sfrayin 7.30 100 Pn **Pn** **12 58 34.3 +1.2**
IEMG Emamgholi 7.72 96 Pn **Pn** **12 58 39.2 +0.4**
IAKL Akhelmad 8.02 102 Pn **Pn** **12 58 42.9 +0.1**
IPAY Payeh 8.25 102 Pn **Pn** **12 58 46.6 +0.7**
IKRD Kardeh 8.55 99 Pn **Pn** **12 58 50.9 +0.8**
AKTO Aktyubinsk 13.40 26 Pn **Pn** **12 59 54.0 -2.2**
comp=Z,0.9nm,0.3s,baz=206,slow=10,SNR=13
AKTO Sn **Sn** **13 02 15.7 -8.3**
comp=Z,0.7nm,0.3s,baz=224,slow=22,SNR=7.5
comp=Z,1.9nm,0.3s
AKTO Aktyubinsk 13.40 26 P **Pn** **12 59 54.0 -2.2**
BVAR Borovoye Array 20.59 39 P **P** **13 01 24.7 +0.2**
comp=Z,1.7nm,0.4s,baz=224,slow=8.3,SNR=8.4
comp=Z,1.7nm,0.4s
KURBB Kurchatov Arra 24.01 51 P **P** **13 02 00.6 +0.6**
comp=Z,1.4nm,0.5s,baz=257,slow=9.4,SNR=10
comp=Z,1.4nm,0.5s
KURK Kurchatov 24.09 50 P **P** **13 02 00.6 -0.2**
MKAR Makanchi Array 25.63 61 P **P** **13 02 16.1 +1.4**
comp=Z,3.9nm,0.8s,baz=262,slow=8.4,SNR=19
comp=Z,3.9nm,0.8s
FINES FINESS Array B 26.86 336 P **P** **13 02 25.6 -0.1**
comp=Z,2.2nm,0.9s,baz=186,slow=8.3,SNR=4.3
comp=Z,2.2nm,0.9s
ZALV Zalesovo Beam 28.71 46 P **P** **13 02 43.4 +1.0**
comp=Z,0.5nm,0.3s,baz=268,slow=10,SNR=3.9
ZALV LR LR 13 17 08.2
comp=Z,25nm,19.5s,baz=27,slow=43
comp=Z,0.5nm,0.3s
NOA NORSAR Array B 32.37 326 P **P** **13 03 14.1 -0.5**
comp=Z,0.4nm,0.6s,baz=119,slow=8.3,SNR=3.8
comp=Z,0.4nm,0.6s
ARCES ARCESS Array B 33.39 345 P **P** **13 03 24.0 +0.6**
comp=Z,0.7nm,0.7s,baz=125,slow=7.9,SNR=1.7
comp=Z,0.7nm,0.7s
ARCES ARCESS Array B 33.39 345 P **P** **13 03 24.0 +0.6**
CMAR Chiang Mai Arr 47.63 100 P **P** **13 05 21.3 -0.2**
comp=Z,0.4nm,0.4s,baz=309,slow=6.9,SNR=4.6
comp=Z,0.4nm,0.4s
DLBC Dease Lake 83.26 359 LR LR 13 55 28.0
comp=Z,370nm,18.0s,baz=132,slow=42

*IDC **11** 13:04:21.0±2.5,24˚.02N×93˚.63E,h63km±28km, mb3.4/7, mbtmp3.7/10, ML4.0/3, Error ellipse: s-maj=20.8km s-min=15.4km az=81.0*
ISC 11 13:04:20.2±0.8,24˚.13N±0˚.08×93˚.53E±0˚.07,h57km,n20, σ1s47/28,mb3.5/7,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**2.26 231**		P	**Pn**	**13 04 56.0**	**+0.8**
	28nm,0.3s,baz=242,slow=24,SNR=1.2						
BRDH				S	**Sn**	**13 05 23.6**	**+1.7**
	289nm,0.3s,baz=210,slow=22,SNR=13						
	88nm,0.3s						
ODAN	**Odare**	**6.18 297**		Pn	**Pn**	**13 05 50.9**	**+1.8**
	baz=305,slow=0.0						
ODAN				Sn	**Sn**	**13 06 57.1**	**-1.5**
	104nm,0.3s,baz=305,slow=0.0						
RAMN	**Ramite**	**6.86 296**		Pn	**Pn**	**13 06 00.9**	**+2.4**
	baz=302,slow=0.0						
RAMN				Sg	**Sn**	**13 07 13.6**	**-1.7**
	45nm,0.3s,baz=302,slow=0.0						
CMAR	**Chiang Mai Arr**	**7.57 137**		P	**Pn**	**13 06 07.2**	**-0.8**
	0.3nm,0.3s,baz=312,slow=14,SNR=6.8						
	0.8nm,0.5s						
GUN	**Gumba**	**7.85 300**		Pn	**Pn**	**13 06 13.5**	**+1.4**
	baz=306,slow=0.0						
GUN				Sg	**Sn**	**13 07 38.4**	**-1.2**
	101nm,0.5s,baz=306,slow=0.0						
PKI	**Pulchoki**	**8.08 297**		Pn	**Pn**	**13 06 15.8**	**+0.6**
	baz=302,slow=0.0						
PKI				Sg	**Sn**	**13 07 44.7**	**-0.6**
	27nm,0.3s,baz=302,slow=0.0						
PKIN	**Phulchoki**	**8.09 297**		Pn	**Pn**	**13 06 15.8**	**+0.4**
	baz=302,slow=0.0						
PKIN				Sg	**Sn**	**13 07 44.8**	**-0.8**
	29nm,0.3s,baz=302,slow=0.0						
KKN	**Kakani**	**8.27 298**		Pn	**Pn**	**13 06 19.7**	**+1.9**
	baz=303,slow=0.0						
DMN	**Daman**	**8.34 296**		Pn	**Pn**	**13 06 19.1**	**+0.3**
	baz=302,slow=0.0						
GKN	**Gorkha**	**8.88 298**		Pn	**Pn**	**13 06 26.5**	**+0.5**
	baz=303,slow=0.0						
GKN				Sg	**Sn**	**13 08 02.5**	**-2.2**
	52nm,0.3s,baz=303,slow=0.0						
KOLN	**Koldanda**	**9.64 294**		Pn	**Pn**	**13 06 36.4**	**-0.2**
	baz=299,slow=0.0						
DANN	**Dangsing**	**9.73 298**		Pn	**Pn**	**13 06 37.1**	**-0.6**
	baz=302,slow=0.0						
DANN				Sg	**Sn**	**13 08 22.4**	**-3.3**
	30nm,0.5s,baz=302,slow=0.0						
LZDM	**Lanzhou Array**	**14.70 34**		P	**Pn**	**13 07 45.8**	**+0.6**
	baz=202,slow=7.7						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**24.35 341**		P	**P**	**13 09 34.3**	**+1.5**
	0.3nm,0.4s,baz=149,slow=11,SNR=5.0						
	0.3nm,0.4s						
SONM	**Songino Array**	**25.77 20**		P	**P**	**13 09 46.5**	**+0.7**
	1.5nm,1.1s,baz=210,slow=12,SNR=4.0						
	1.5nm,1.1s						
KURBB	**Kurchatov Arra**	**28.90 340**		P	**P**	**13 10 14.9**	**+1.4**
	0.2nm,0.6s,baz=155,slow=7.2,SNR=2.3						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**30.49 350**		P	**P**	**13 10 29.4**	**+1.7**
	0.4nm,0.4s,baz=163,slow=10,SNR=2.0						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**59.15 134**		P	**P**	**13 14 14.3**	**-1.1**
	0.7nm,0.4s,baz=320,slow=7.5,SNR=33						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**61.58 138**		P	**P**	**13 14 31.2**	**-0.7**
	0.8nm,0.4s,baz=319,slow=6.8,SNR=61						
	0.8nm,0.4s						
STKA	**Stephens Creek**	**72.19 138**		P	**P**	**13 15 38.4**	**-0.9**
	0.7nm,0.4s,baz=315,slow=7.2,SNR=3.3						
	0.7nm,0.4s						

SCB 11 13:15:03.7±1.3,22˚.08S×67˚.48W,h173km±18km,ML3.5/3, MW3.3,Error ellipse: s-maj=7.1km s-min=4.3km az=1.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.66 279**		Pg	Pn	13 15 38.2	+1.4
MOCB	**Mochara**	**1.90 65**		Pg	Pn	13 15 39.8	+0.1
PB06	**IPOC Station P**	**2.03 252**		Pg	Pn	13 15 41.6	+0.8
PB01	**IPOC Station P**	**2.13 298**		Pg	Pn	13 15 42.8	+1.0
PB01				Sg	Sn	13 16 12.2	+0.8
PB01				IAML		13 16 14.1	
	159nm,0.2s						
PB02	**IPOC Station P**	**2.37 288**		Pg	Pn	13 15 45.3	+0.7
PB02				Sg	Sn	13 16 16.1	-0.1
PB02				IAML		13 16 19.5	
	197nm,0.2s						
PB08	**IPOC Station P**	**2.48 321**		Pg	Pn	13 15 47.5	+1.3
PB05	**IPOC Station P**	**2.63 252**		Pg	Pn	13 15 48.3	+0.6
HMBC	**Humberstone**	**2.87 308**		Pg	Pn	13 15 50.7	+0.1
GO01	**Chusmiza**	**2.88 326**		Pg	Pn	13 15 51.8	+0.7
PB11	**IPOC Station P**	**3.07 318**		Pg	Pn	13 15 53.0	-0.1
PB11				Sg	Sn	13 16 30.3	-1.2
PB11				IAML		13 16 31.5	
	88nm,0.2s						
SOEO	**Opoqueri**	**3.52 354**		Pg	Pn	13 15 59.9	+0.9
PB14	**IPOC Station P**	**3.69 226**		Pg	Pn	13 16 01.3	+0.3
BBOE	**La Paz, Chanca**	**5.26 355**		Pg	Pn	13 16 22.0	+0.5
BBOB	**La Paz, Bander**	**5.94 354**		Pg	Pn	13 16 30.8	+0.5

*IDC **11** 13:16:04.8±0.5,34˚.72N×137˚.47E,h295km±6km, mb3.5/16, mbtmp4.1/21, Error ellipse: s-maj=15.9km s-min=8.2km az=69.0*
*JMA **11** 13:16:05.6±0.1,34˚.8N±0˚.8×137˚.5E±0˚.6,h300km, MV3.4/38, HAMANAKO LAKE REGION*
ISC 11 13:16:04.9±0.6,34˚.79N±0˚.06×137˚.53E±0˚.07,h300km±5km, n54,σ1s08/64,mb3.6/16,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSSY	**Shinshiroyabe**	**0.13 352**		*e*P	**Pn**	**13 16 43.7**	**+0.8**
JSSY				*e*S	**S**	**13 17 13.6**	**+0.6**
HMMJ	**Hamamatsu 2**	**0.17 66**		*e*P	**Pn**	**13 16 43.7**	**+0.9**
HMMJ				*e*S	**S**	**13 17 13.3**	**+0.2**
JHMK	**Hamakita**	**0.19 81**		*e*P	**Pn**	**13 16 43.5**	**+0.7**
JAO	**Obara**	**0.53 335**		*e*P	**Pn**	**13 16 44.4**	**+0.9**
JAO				*e*S	**S**	**13 17 14.8**	**+0.5**
JSG	**Sagara**	**0.55 101**		P	**Pn**	**13 16 44.9**	**+1.3**
JNY	**Yasuok**	**0.63 25**		*e*P	**Pn**	**13 16 44.8**	**+0.9**
JNY				*e*S	**S**	**13 17 15.5**	**+0.7**
INU	**Inuyama**	**0.70 323**		P	**Pn**	**13 16 44.4**	**+0.4**
INU	**Inuyama**	**0.70 323**		S	**S**	**13 17 15.0**	**-0.1**
JIE	**Ise**	**0.78 240**		*e*P	**Pn**	**13 16 45.0**	**+0.7**
JIE				*e*S	**S**	**13 17 15.8**	**+0.1**
JGF	**Kuroka**	**0.83 350**		P	**Pn**	**13 16 44.6**	**+0.1**
JGF	**Kuroka**	**0.83 350**		S	**S**	**13 17 15.6**	**-0.4**
JEG	**Eigenji**	**1.00 291**		*e*P	**Pn**	**13 16 46.0**	**+0.8**
JEG				*e*S	**S**	**13 17 17.1**	**-0.2**
JYTA	**Yamagatataniai**	**1.04 321**		*e*P	**Pn**	**13 16 46.1**	**+0.8**
JYTA				*e*S	**S**	**13 17 17.0**	**-0.5**
JYN	**Shimob**	**1.09 49**		*e*P	**Pn**	**13 16 46.6**	**+0.9**
MAJO	**Matsushiro**	**1.84 17**		P	**Pn**	**13 16 50.9**	**+0.6**
MAJO	**Matsushiro**	**1.84 17**		S	**S**	**13 17 26.9**	**+0.4**
MJAR	**Matsushiro Arr**	**1.84 17**		P	**Pn**	**13 16 51.1**	**+0.7**
	36nm,0.4s,baz=188,slow=8.9,SNR=124						
MJAR				S	**S**	**13 17 26.7**	**+0.1**
	48nm,0.9s,baz=194,slow=15,SNR=21						
JHJ	**Hachijo jima 2**	**2.50 131**		P	**Pn**	**13 16 56.8**	**+0.8**
	132nm,0.3s,baz=69,slow=6.0,SNR=30						
JHJ				S	**S**	**13 17 36.7**	**0.0**
	116nm,0.2s,baz=342,slow=23,SNR=8.0						
JHJ2	**Mitsune**	**2.53 131**		P	**Pn**	**13 16 56.7**	**+0.5**
JMN	**Monobe**	**3.20 252**		P	**Pn**	**13 17 02.6**	**-0.1**
JSD	**Sado**	**3.30 10**		P	**Pn**	**13 17 04.3**	**+0.8**
JSD	**Sado**	**3.30 10**		S	**S**	**13 17 49.3**	**-1.1**
JMM	**Marumori**	**4.05 40**		P	**Pn**	**13 17 11.4**	**-0.1**
JNU	**Nakatsue**	**5.77 255**		P	**Pn**	**13 17 31.5**	**0.0**
JTM	**Tenmabayashi**	**6.61 24**		P	**Pn**	**13 17 41.8**	**+0.4**
KSRS	**Korea Array**	**8.22 292**		P	**Pn**	**13 18 01.9**	**+0.8**
	3.0nm,0.6s,baz=110,slow=12,SNR=12						
ERM	**Erimo**	**8.46 30**		P	**Pn**	**13 18 03.2**	**-0.7**
JCJ	**Chichijima**	**8.64 151**		P	**Pn**	**13 18 03.5**	**-2.9**
ASAJ	**Asahikawa**	**10.11 21**		P	**Pn**	**13 18 23.4**	**-0.8**
	5.3nm,0.4s,baz=214,slow=14,SNR=40						
ASAJ				S	**S**	**13 20 12.8**	**-5.1**
	9.8nm,0.7s,baz=209,slow=19,SNR=5.6						
USRK	**Usuriysk Ar.**	**10.33 337**		P	**Pn**	**13 18 25.9**	**-0.9**
	1.9nm,0.6s,baz=160,slow=12,SNR=4.7						
JOW	**Kunigami**	**11.23 228**		P	**Pn**	**13 18 37.1**	**-1.0**
	12nm,0.7s,baz=185,slow=13,SNR=1.8						
YSS	**Yuzhno-Sakhali**	**12.78 16**		P	**Pn**	**13 18 56.6**	**0.0**
YHNB	**Yeheng**	**17.25 239**		P	**P**	**13 19 46.1**	**-0.6**
NACB	**Ninganchiao**	**17.42 237**		P	**P**	**13 19 47.5**	**-0.9**
SSLB	**Suanglung**	**18.12 237**		P	**P**	**13 19 54.8**	**-1.1**
YULB	**Yu-li**	**18.14 236**		P	**P**	**13 19 55.7**	**-0.5**
TPUB	**Ta-pu**	**18.66 237**		P	**P**	**13 19 59.3**	**-2.4**
TWGBT	**Beinan**	**18.68 235**		P	**P**	**13 20 01.0**	**-0.9**
SONM	**Songino Array**	**26.58 309**		P	**P**	**13 21 16.8**	**+0.7**
	3.6nm,0.7s,baz=115,slow=9.3,SNR=15						
	3.6nm,0.7s						
LZDM	**Lanzhou Array**	**27.54 282**		P	**P**	**13 21 24.5**	**-0.5**
	1.7nm,0.4s,baz=80,slow=7.9,SNR=1.4						
	1.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**37.87 255**		P	**P**	**13 22 53.0**	**-0.8**
	0.7nm,0.6s,baz=45,slow=7.1,SNR=5.8						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**41.16 314**		P	**P**	**13 23 20.9**	**+0.5**
	1.0nm,0.3s,baz=108,slow=6.8,SNR=7.0						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**42.69 304**		P	**P**	**13 23 33.4**	**+0.6**
	1.4nm,0.6s,baz=87,slow=11,SNR=16						
	1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**44.94 309**		P	**P**	**13 23 50.8**	**+0.4**
	1.7nm,0.5s,baz=92,slow=7.2,SNR=26						
	1.7nm,0.5s						
BVAR	**Borovoye Array**	**49.78 313**		P	**P**	**13 24 28.2**	**+0.7**
	1.2nm,0.5s,baz=98,slow=11,SNR=7.6						
	1.2nm,0.5s						
ILAR	**Eielson Array**	**53.06 31**		P	**P**	**13 24 52.7**	**+1.3**
	0.3nm,0.9s,baz=270,slow=7.3,SNR=2.5						
	0.3nm,0.9s						
WRA	**Warramunga Arr**	**54.51 184**		P	**P**	**13 25 01.8**	**-0.5**
	4.1nm,0.3s,baz=359,slow=7.6,SNR=8.4						
	4.1nm,0.3s						
ASAR	**Alice Springs**	**58.23 184**		P	**P**	**13 25 27.9**	**-0.5**
	1.0nm,0.3s,baz=353,slow=5.3,SNR=2.3						
	1.0nm,0.3s						
ARCES	**ARCESS Array B**	**64.97 339**		P	**P**	**13 26 13.3**	**+0.7**
	0.8nm,0.6s,baz=20,slow=11,SNR=1.6						
	0.8nm,0.6s						
STKA	**Stephens Creek**	**66.42 176**		P	**P**	**13 26 22.1**	**0.0**
	0.8nm,0.4s,baz=330,slow=12,SNR=3.3						
	0.8nm,0.4s						
FINES	**FINESS Array B**	**69.30 331**		P	**P**	**13 26 40.4**	**+0.6**
	1.7nm,0.4s,baz=60,slow=4.6,SNR=18						
	1.7nm,0.4s						
KBZ	**Khabaz**	**69.94 310**		P	**P**	**13 26 44.9**	**+1.0**
	4.2nm,0.8s,baz=98,slow=1.1,SNR=7.2						
	4.2nm,0.8s						
AKASG	**Malin Array Be**	**74.10 321**		P	**P**	**13 27 08.4**	**0.0**
	0.5nm,0.4s,baz=21,slow=38,SNR=2.8						
	0.5nm,0.4s						
TXAR	**Lajitas Array**	**93.98 50**		P	**P**	**13 28 50.8**	**+1.4**
	0.4nm,0.7s,baz=298,slow=2.7,SNR=4.6						
	0.4nm,0.7s						

*IDC **11** 13:16:08.8±4.7,7˚.46S×129˚.37E,h61km±47km, mb3.7/4, mbtmp4.3/9, ML4.6/5, MS3.0/1, Error ellipse: s-maj=42.6km s-min=20.3km az=41.0*
*DJA **11** 13:16:12.9±0.3,7˚.5S±2˚×12˚.9E±˚,h114km±12km, M4.6/16, mB5.4/2, mb4.5/9, MLv4.6/16, Mw(mB)4.9/2*
*NEIC **11** 13:16:12.6±1.7,7˚.39S±0˚.08×129˚.21E±0˚.04, h90km±9km, mb4.3/12, Error ellipse: s-maj=13.2km s-min=3.7km az=155.0*
ISC 11 13:16:11.9±0.5,7˚.58S±0˚.04×129˚.34E±0˚.05,h100km,n54, σ2s24/67,mb3.9/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.98 102**		Pn	**Pn**	**13 16 46.7**	**+2.4**
SAUI	**Saumlaki**	**1.98 102**		P	**Pn**	**13 16 46.6**	**+2.4**
SAUI				S	**Sn**	**13 17 12.8**	**+3.8**
BNDI	**Bandanaira**	**3.09 11**		P	**Pn**	**13 16 58.3**	**-0.6**
BNDI				S	**Sn**	**13 17 34.9**	**-0.1**
AAI	**Ambon**	**4.03 343**		P	**Pn**	**13 17 10.0**	**-1.6**
NLAI	**Namlea**	**4.85 333**		P	**Pn**	**13 17 22.4**	**-0.3**
DRS	**Darwin Rock St**	**5.06 162**		P	**Pn**	**13 17 28.5**	**+3.0**
FAKI	**Fak Fak**	**5.46 32**			**Pn**	**13 17 30.8**	**-0.2**
FAKI	**Fak Fak**	**5.46 32**		P	**Pn**	**13 17 30.6**	**-0.3**
	0.5nm76nm,1.3s						
FAKI				S	**Sn**	**13 18 32.0**	**-0.5**
	0.5nm76nm,1.3s						
SOEI	**Soe**	**5.46 246**			**Pn**	**13 17 31.0**	**-0.1**
SOEI	**Soe**	**5.46 246**		P	**Pn**	**13 17 31.9**	**+0.8**
	0.7nm116nm,0.7s						
SOEI				S	**Sn**	**13 18 34.7**	**+2.0**
	0.7nm116nm,0.7s						
MTN	**Manton Dam**	**5.52 162**			**Pn**	**13 17 33.5**	**+1.8**
MTN	**Manton Dam**	**5.52 162**		P	**Pn**	**13 17 33.5**	**+1.8**
KDU	**Kakadu**	**5.94 149**		P	**Pn**	**13 17 38.0**	**+0.6**
BATI	**Baumata**	**6.19 245**		P	**Pn**	**13 17 39.9**	**-1.0**
	29nm,0.3s,baz=129,slow=4.2,SNR=17						
BATI				S	**Sn**	**13 18 49.5**	**-0.8**
	108nm,0.5s,baz=69,slow=14,SNR=5.2						
BATI				LR	LR	13 19 33.8	
	comp=Z,123nm,20.6s,baz=136,slow=33						
	62nm,0.4s						
BATI	**Baumata**	**6.19 245**		P	**Pn**	**13 17 41.5**	**+0.7**
BATI				S	**Sn**	**13 18 52.1**	**+1.9**
SANI	**Sanana**	**6.43 329**		P	**Pn**	**13 17 43.9**	**-0.2**
SWI	**Sorong**	**6.94 16**		P	**Pn**	**13 17 50.8**	**-0.2**
	0.3nm32nm,1.0s						
SWI				S	**Sn**	**13 19 08.4**	**-0.1**
	0.3nm32nm,1.0s						
BBSI	**Bau Bau**	**7.04 287**		P	**Pn**	**13 17 53.1**	**+0.7**
	0.2nm46nm,1.1s						
BBSI				S	**Sn**	**13 19 11.2**	**+0.2**
	0.2nm46nm,1.1s						
MMRI	**Maumere**	**7.11 261**		P	**Pn**	**13 17 54.7**	**+1.3**
	0.5nm62nm,0.5s						
EDFI	**Ende, Flores**	**7.66 261**		P	**Pn**	**13 18 02.0**	**+1.0**
	0.1nm17nm,1.0s						
EDFI				S	**Sn**	**13 19 27.1**	**+0.8**
	0.1nm17nm,1.0s						
RKPI	**Ransiki, Papua**	**7.72 39**		P	**Pn**	**13 18 02.1**	**+0.5**
RKPI				S	**Sn**	**13 19 28.1**	**+0.6**
KNRA	**Kununurra**	**8.07 184**		P	**Pn**	**13 18 06.8**	**+0.4**
KAPI	**Kappang**	**9.87 284**		P	**Pn**	**13 18 27.9**	**-3.0**
	2.1nm,0.3s,baz=118,slow=16,SNR=1.8						
KAPI				S	Sn	13 20 08.8	-11
	7.5nm,0.3s,baz=171,slow=16,SNR=2.4						
	4.8nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.06 199**			**Pn**	**13 18 46.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.06 199**		P	**Pn**	**13 18 45.5**	**-1.6**
	2.6nm,0.3s,baz=30,slow=14,SNR=90						
FITZ				S	**Sn**	**13 20 43.7**	**-5.2**
	25nm,0.5s,baz=285,slow=21,SNR=7.5						
	5.7nm,0.3s						
WRA	**Warramunga Arr**	**13.21 159**			**Pn**	**13 19 13.2**	**-2.5**
WRA	**Warramunga Arr**	**13.21 159**		P	**Pn**	**13 19 13.7**	**-2.0**
	3.2nm,0.3s,baz=329,slow=13,SNR=96						
WRA				S	**Sn**	**13 21 33.1**	**-8.0**
	15nm,0.7s,baz=332,slow=21,SNR=12						
	4.4nm,0.5s						
WR8	**Warramunga Arr**	**13.28 158**			**Pn**	**13 19 15.1**	**-1.5**
COEN	**Coen**	**14.99 116**		P	**Pn**	**13 19 38.7**	**0.0**
QIS	**Mount Isa**	**16.29 143**		P	**P**	**13 19 56.0**	**0.0**
MBWA	**Marble Bar**	**16.39 214**		P	**P**	**13 19 56.7**	**-0.5**
MBWA				IAmb	IAmb	13 20 07.2	
	comp=Z,22nm,1.4s						
MBWA	**Marble Bar**	**16.39 214**		P	**P**	**13 20 01.6**	**+4.5**
AS31	**Alice Springs**	**16.59 165**			**Pn**	**13 19 57.8**	**-0.8**
AS31				IAmb	IAmb	13 20 01.2	
	comp=Z,4.9nm,0.3s						
ASAR	**Alice Springs**	**16.59 165**		P	**P**	**13 19 58.6**	**-0.8**
ASAR	**Alice Springs**	**16.59 165**		P	**P**	**13 19 58.8**	**-0.6**
	comp=Z,1.9nm,0.3s,baz=339,slow=10,SNR=229						
ASAR				S	**Sn**	**13 22 54.2**	**-8.5**
	comp=Z,2.9nm,0.6s,baz=349,slow=26,SNR=6.9						
	comp=Z,3.8nm,0.5s						
PSA00	**Pilbara Seismi**	**16.66 212**		P	**Pn**	**13 19 58.4**	**-1.0**
PSA00				IAmb	IAmb	13 20 17.6	
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**26.74 156**		P	**P**	**13 21 44.3**	**+2.1**
	comp=Z,1.7nm,0.8s,baz=337,slow=15,SNR=2.9						
	comp=Z,1.7nm,0.8s						
TPUB	**Ta-pu**	**31.85 345**		P	**P**	**13 22 25.7**	**-1.8**
JCJ	**Chichijima**	**36.65 19**		P	**P**	**13 23 06.6**	**-2.3**
PZH	**PanZhiHua**	**43.18 323**		P	**P**	**13 24 04.7**	**+1.5**
KSAR	**Wonju Array Be**	**44.80 358**		P	**P**	**13 24 15.0**	**-0.8**
KS19	**Wonju Array Si**	**44.86 358**		P	**P**	**13 24 15.1**	**-1.2**
KS19				IAmb	IAmb	13 24 47.2	
	comp=Z,25nm,1.4s						
JKA	**Kamikawa-asahi**	**52.83 12**		P	**P**	**13 25 17.2**	**+0.1**
MKAR	**Makanchi Array**	**68.35 327**		P	**P**	**13 27 02.7**	**+0.1**
MKAR	**Makanchi Array**	**68.35 327**		P	**P**	**13 27 03.0**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=120,slow=8.0,SNR=10						
	comp=Z,0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**71.81 334**		P	**P**	**13 27 23.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=113,slow=9.6,SNR=3.0						
	comp=Z,0.4nm,0.3s						
VNDA	**Vanda**	**71.96 173**		P	**P**	**13 27 26.6**	**+2.5**
KURBB	**Kurchatov Arra**	**72.66 329**		P	**P**	**13 27 30.2**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=127,slow=5.1,SNR=12						
	comp=Z,0.9nm,0.5s						
KURK	**Kurchatov**	**72.67 329**		P	**P**	**13 27 29.0**	**+0.3**
KURK				IAmb	IAmb	13 27 32.0	
	comp=Z,3.5nm,1.1s						
SBA	**Scott Base**	**72.85 172**		P	**P**	**13 27 32.5**	**+3.0**
KK31	**Karatay Array**	**73.34 319**		P	**P**	**13 27 34.6**	**+1.7**
KKAR	**Karatay Array**	**73.34 319**		P	**P**	**13 27 34.2**	**+1.3**
QSPA	**South Pole Qui**	**82.40 180**		P	**P**	**13 28 26.3**	**+3.4**
QSPA				IAmb	IAmb	13 28 56.5	
	comp=Z,3.7nm,1.2s						
ABKAR	**Akbulak array**	**82.55 322**		P	**P**	**13 28 23.4**	**-0.3**

*HVO **11** 13:36:00.1±1.6,19˚.436N±0˚.004×155˚.405W±0˚.006, h-0km±8km, ML2.8/35, ML2.7/

	comp=N,6µm,0.4s						
PUH	**Pauahi**	**0.20 112**			Pg	13 36 04.7	-0.4
PUH					Sg	13 36 08.2	+0.4
PUH	**Pauahi**	**0.20 112**		IAML		13 36 08.4	
	comp=E,1µm,0.5s						
PUH				IAML		13 36 10.4	
	comp=N,1µm,0.5s						
HTC	**Hot Caves**	**0.21 176**			Pg	13 36 05.0	-0.2
ALEP	**Alea Permanent**	**0.24 293**			Pg	13 36 05.9	+0.1
ALEP					Sg	13 36 09.9	+0.9
KNHH	**Kane Nui o Ham**	**0.24 106**			Pg	13 36 05.3	-0.4
KHU	**Kahuku**	**0.28 223**			Pg	13 36 06.0	-0.5
KHU					Sg	13 36 10.5	+0.3
STCH	**Steam Cracks**	**0.28 103**			Pg	13 36 05.9	-0.6
STCH					Sg	13 36 10.7	+0.5
STCH	**Steam Cracks**	**0.28 103**		IAML		13 36 12.0	
	comp=N,480nm,0.2s						
STCH				IAML		13 36 13.2	
	comp=E,873nm,0.4s						
NPOC	**North of Pu'u**	**0.29 101**			Pg	13 36 06.1	-0.6
NPOC					Sg	13 36 10.8	+0.2
JCUZ	**Jacuzzi**	**0.30 102**			Pg	13 36 06.3	-0.6
JCUZ					Sg	13 36 11.2	+0.3
JOKA	**Jonika Flow**	**0.39 92**			Pg	13 36 07.6	-0.9
JOKA					Sg	13 36 14.5	+0.9
HUH	**Hualalai**	**0.46 301**			Pg	13 36 10.6	+0.6
CPH	**Captain Cook**	**0.48 275**			Pg	13 36 09.8	-0.4
CPH					Sb	13 36 17.8	-1.1
HPAH	**Hawaii Prepara**	**0.64 335**			Pg	13 36 12.4	-0.9
HPAH					Sg	13 36 21.2	-0.5
MHA	**Mahukona**	**0.87 328**			Pg	13 36 15.6	-2.1
MHA	**Mahukona**	**0.87 328**			Sg	13 36 27.1	-1.9

*KRSC **11** 13:42:36.2±0.8,54.°58N×162.°77E,h47^{km}×20^{km},Ml4.6*
*MOS **11** 13:42:37.8±0.8,54.°63N×162.°76E,h50^{km},mb4.2/1,Error ellipse: s-maj=6.9km s-min=4.6km az=77.8*
*IDC **11** 13:42:45.9±2.6,54.°83N×161.°72E,h84^{km}±24^{km},mb3.5/14,mbtmp3.8/16,MS2.8/3,Error ellipse: s-maj=23.5km s-min=16.9km az=118.0*

ISC 11 13:42:38.1±1.1,**54.°61N**±0.°03×**162.°73E**±0.°04,**h40**^{km}±12^{km},**n120**,σ1$52/136,**mb3.8**/14,**2C-4D**,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MKZ	**Mys Kozlova**	**0.58**	**265**	PN	**Pn**		**13 42 48.8**	**-1.1**
MKZ	**Mys Kozlova**	**0.58**	**265**	*eP*	**Pn**		**13 42 48.8**	**-1.1**
TUMD	**Tumrok D**	**1.47**	**295**	PN	**Pn**		**13 43 02.0**	**0.0**
TUMD				S	**Sn**		**13 43 20.1**	**+0.1**
TUMD	**Tumrok D**	**1.47**	**295**	*eP*	**Pn**		**13 43 02.0**	**0.0**
TUMD				*eS*	**Sn**		**13 43 20.1**	**+0.1**
KBTR	**Krutoberegovo**	**1.60**	**2**	PN	**Pn**		**13 43 03.9**	**+0.1**
KBTR	**Krutoberegovo**	**1.60**	**2**	*eP*	**Pn**		**13 43 04.0**	**+0.1**
KBG	**Krutoberegovo**	**1.65**	**360**	PN	**Pn**		**13 43 04.8**	**+0.4**
KBG				S	**Sn**		**13 43 26.1**	**+1.8**
KBG	**Krutoberegovo**	**1.65**	**360**	*eP*	**Pn**		**13 43 04.9**	**+0.4**
KBG				*eS*	**Sn**		**13 43 26.2**	**+1.8**
BZGR	**Bezymyannyi-Gr**	**1.77**	**320**	PN	**Pn**		**13 43 07.1**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**1.77**	**320**	*eP*	**Pn**		**13 43 07.1**	**+0.9**
ZLN	**Zelenaya**	**1.79**	**323**	PN	**Pn**		**13 43 07.5**	**+1.0**
ZLN	**Zelenaya**	**1.79**	**323**	*eP*	**Pn**		**13 43 07.5**	**+1.0**
BZP	**Bezymyannyi-Pe**	**1.81**	**317**	PN	**Pn**		**13 43 07.2**	**+0.3**
BZP	**Bezymyannyi-Pe**	**1.81**	**317**	*eP*	**Pn**		**13 43 07.2**	**+0.3**
KMNR	**Kamenistaya**	**1.83**	**310**	PN	**Pn**		**13 43 07.9**	**+0.9**
KMNR	**Kamenistaya**	**1.83**	**310**	*eP*	**Pn**		**13 43 08.0**	**+0.9**
BZMR	**Bezymyannaya**	**1.84**	**317**	PN	**Pn**		**13 43 08.1**	**+0.8**
BZMR	**Bezymyannaya**	**1.84**	**317**	*eP*	**Pn**		**13 43 08.1**	**+0.8**
BZWR	**Bezymyannyi-We**	**1.86**	**318**	PN	**Pn**		**13 43 08.2**	**+0.7**
BZWR	**Bezymyannyi-We**	**1.86**	**318**	*eP*	**Pn**		**13 43 08.3**	**+0.7**
LGNR	**Loginova**	**1.88**	**323**	PN	**Pn**		**13 43 09.2**	**+1.3**
LGNR	**Loginova**	**1.88**	**323**	*eP*	**Pn**		**13 43 09.3**	**+1.3**
CIRR	**Tsirk**	**1.88**	**324**	PN	**Pn**		**13 43 09.2**	**+1.4**
CIRR	**Tsirk**	**1.88**	**324**	*eP*	**Pn**		**13 43 09.2**	**+1.4**
KIRR	**Kirishev**	**1.91**	**316**	PN	**Pn**		**13 43 09.1**	**+0.8**
KIRR	**Kirishev**	**1.91**	**316**	*eP*	**Pn**		**13 43 09.1**	**+0.8**
BKI	**Bering**	**1.97**	**71**	PN	**Pn**		**13 43 09.9**	**+1.1**
BKI				S	**Sn**		**13 43 32.2**	**0.0**
BKI	**Bering**	**1.97**	**71**	*eP*	**Pn**		**13 43 10.0**	**+1.1**
BKI				*eS*	**Sn**		**13 43 32.2**	**0.0**
KPT	**Kopyto**	**1.97**	**314**	PN	**Pn**		**13 43 09.8**	**+0.8**
KPT	**Kopyto**	**1.97**	**314**	*eP*	**Pn**		**13 43 09.9**	**+0.8**
KII	**Karymskiy**	**2.00**	**255**	PN	**Pn**		**13 43 09.9**	**+0.4**
KII				S	**Sn**		**13 43 33.9**	**+0.6**
KII	**Karymskiy**	**2.00**	**255**	*eP*	**Pn**		**13 43 09.9**	**+0.4**
KII				*eS*	**Sn**		**13 43 34.0**	**+0.6**
KLY	**Klyuchi**	**2.07**	**326**	PN	**Pn**		**13 43 10.7**	**+0.4**
KLY				S	**Sn**		**13 43 36.2**	**+1.4**
KLY	**Klyuchi**	**2.07**	**326**	*eP*	**Pn**		**13 43 10.8**	**+0.4**
KLY				*eS*	**Sn**		**13 43 36.3**	**+1.4**
SMKR	**Semkarok**	**2.10**	**341**	PN	**Pn**		**13 43 12.3**	**+1.6**
SMKR	**Semkarok**	**2.10**	**341**	*eP*	**Pn**		**13 43 12.4**	**+1.6**
KOZ	**Kozyrevsk**	**2.18**	**313**	PN	**Pn**		**13 43 13.3**	**+1.5**
KOZ	**Kozyrevsk**	**2.18**	**313**	*eP*	**Pn**		**13 43 13.4**	**+1.5**
SPN	**Mys Shipunski**	**2.21**	**228**	PN	**Pn**		**13 43 12.1**	**0.0**
SPN				S	**Sn**		**13 43 37.4**	**-0.7**
SPN	**Mys Shipunski**	**2.21**	**228**	*eP*	**Pn**		**13 43 12.2**	**+0.3**
SPN				*eS*	**Sn**		**13 43 37.4**	**-0.7**
SRDR	**Sredinnyy**	**2.42**	**316**	PN	**Pn**		**13 43 16.2**	**+1.1**
SRDR	**Sredinnyy**	**2.42**	**316**	*eP*	**Pn**		**13 43 16.3**	**+1.1**
NLC	**Nalytchevo**	**2.47**	**236**	PN	**Pn**		**13 43 16.2**	**+0.5**
NLC				S	**Sn**		**13 43 44.6**	**+0.1**
NLC	**Nalytchevo**	**2.47**	**236**	*eP*	**Pn**		**13 43 16.2**	**+0.5**
NLC				*eS*	**Sn**		**13 43 44.7**	**+0.1**
SDLR	**Sedlovina**	**2.63**	**241**	PN	**Pn**		**13 43 19.8**	**+1.7**
SDLR				S	**Sn**		**13 43 51.0**	**+2.1**
SDLR	**Sedlovina**	**2.63**	**241**	*eP*	**Pn**		**13 43 19.8**	**+1.7**
SDLR				*eS*	**Sn**		**13 43 51.0**	**+2.1**
ESO	**Esso**	**2.65**	**301**	PN	**Pn**		**13 43 19.4**	**+1.1**
ESO	**Esso**	**2.65**	**301**	*eP*	**Pn**		**13 43 19.4**	**+1.1**
SMAR	**Somma**	**2.69**	**241**	PN	**Pn**		**13 43 20.3**	**+1.4**
SMAR				S	**Sn**		**13 43 52.4**	**+2.1**
SMAR	**Somma**	**2.69**	**241**	*eP*	**Pn**		**13 43 20.3**	**+1.4**
SMAR				*eS*	**Sn**		**13 43 52.4**	**+2.1**
KRER	**Koryakskii**	**2.69**	**242**	PN	**Pn**		**13 43 20.9**	**+1.9**
KRER	**Koryakskii**	**2.69**	**242**	*eP*	**Pn**		**13 43 20.9**	**+1.9**
UGLR	**Uglovaya**	**2.70**	**240**	PN	**Pn**		**13 43 20.8**	**+1.7**
UGLR				S	**Sn**		**13 43 52.4**	**+1.8**
UGLR	**Uglovaya**	**2.70**	**240**	*eP*	**Pn**		**13 43 20.8**	**+1.7**
UGLR				*eS*	**Sn**		**13 43 52.4**	**+1.8**
KRX	**Arik**	**2.71**	**244**	PN	**Pn**		**13 43 20.7**	**+1.4**
KRX	**Arik**	**2.71**	**244**	*eP*	**Pn**		**13 43 20.7**	**+1.4**
AVH	**Avacha**	**2.72**	**242**	PN	**Pn**		**13 43 21.1**	**+1.9**
AVH				S	**Sn**		**13 43 53.9**	**+3.0**
AVH	**Avacha**	**2.72**	**242**	*eP*	**Pn**		**13 43 21.1**	**+1.9**
AVH				*eS*	**Sn**		**13 43 53.9**	**+3.0**
KOK	**Koryaka**	**2.75**	**243**	PN	**Pn**		**13 43 21.8**	**+2.0**
KOK	**Koryaka**	**2.75**	**243**	*eP*	**Pn**		**13 43 21.8**	**+2.0**
DALK	**Dalny**	**2.84**	**238**	PN	**Pn**		**13 43 21.9**	**+1.1**
DALK				S	**Sn**		**13 43 55.0**	**+1.3**
DALK	**Dalny**	**2.84**	**238**	*eP*	**Pn**		**13 43 22.0**	**+1.1**
DALK				*eS*	**Sn**		**13 43 55.0**	**+1.3**
INSR	**Institute**	**2.89**	**239**	PN	**Pn**		**13 43 23.0**	**+1.5**
INSR				S	**Sn**		**13 43 57.2**	**+2.2**
INSR	**Institute**	**2.89**	**239**	*eP*	**Pn**		**13 43 23.1**	**+1.5**
INSR				*eS*	**Sn**		**13 43 57.2**	**+2.2**
PET	**Petropavlovsk**	**2.89**	**238**	PN	**Pn**		**13 43 23.0**	**+1.5**
PET				S	**Sn**		**13 43 57.2**	**+2.2**
PET	**Petropavlovsk**	**2.89**	**238**	*eP*	**Pn**		**13 43 23.0**	**+1.5**
PET				*eS*	**Sn**		**13 43 57.2**	**+2.2**
GNL	**Ganaly**	**2.96**	**254**	PN	**Pn**		**13 43 24.1**	**+1.5**
GNL	**Ganaly**	**2.96**	**254**	*eP*	**Pn**		**13 43 24.1**	**+1.5**
KRMR	**Karymshinskiy**	**3.26**	**239**	PN	**Pn**		**13 43 28.4**	**+1.8**
KRMR	**Karymshinskiy**	**3.26**	**239**	*eP*	**Pn**		**13 43 28.4**	**+1.8**
RUS	**Russkaya**	**3.33**	**231**	PN	**Pn**		**13 43 28.8**	**+1.2**
RUS	**Russkaya**	**3.33**	**231**	*eP*	**Pn**		**13 43 28.8**	**+1.2**
PEA0B	**Petropavlovsk-**	**3.34**	**245**	*d iPN*	**Pn**		**13 43 29.4**	**+1.7**
PETK	**Petropavlovsk-**	**3.34**	**245**	P	**Pn**		**13 43 29.3**	**+1.6**
	40nm,0.3s,baz=67,slow=18,SNR=335							
PETK				S	**Sn**		**13 44 05.9**	**-0.2**
	17nm,0.4s,baz=112,slow=22,SNR=1.5							
MTVR	**Mutnovka**	**3.45**	**234**	PN	**Pn**		**13 43 31.1**	**+1.8**
MTVR	**Mutnovka**	**3.45**	**234**	*eP*	**Pn**		**13 43 31.1**	**+1.8**
GRL	**Gorelyy**	**3.46**	**235**	PN	**Pn**		**13 43 31.5**	**+2.1**
GRL	**Gorelyy**	**3.46**	**235**	*eP*	**Pn**		**13 43 31.5**	**+2.1**
ASAK	**Asacha**	**3.65**	**234**	PN	**Pn**		**13 43 34.4**	**+2.4**
ASAK	**Asacha**	**3.65**	**234**	*eP*	**Pn**		**13 43 34.4**	**+2.4**
APC	**Apacha**	**3.71**	**245**	PN	Pn		13 43 37.2	+4.4
APC	**Apacha**	**3.71**	**245**	*eP*	Pn		13 43 37.3	+4.5
OSSR	**Ossora**	**4.65**	**2**	PN	**Pn**		**13 43 46.1**	**+0.5**
OSSR	**Ossora**	**4.65**	**2**	*eP*	**Pn**		**13 43 46.2**	**+0.5**
PAU	**Pauzhetka**	**4.76**	**231**	PN	**Pn**		**13 43 49.2**	**+2.0**
PAU	**Pauzhetka**	**4.76**	**231**	*eP*	**Pn**		**13 43 49.2**	**+2.0**
SKR	**Severo-Kuril's**	**5.63**	**228**	*e*PN	**Pn**		**13 44 01.1**	**+2.0**
SKR				pmax	pmax			
SKR	comp=Z,46nm,0.4s			MLR	MLR			
	comp=Z,400nm,10.0s							
SKR	**Severo-Kuril's**	**5.63**	**228**	*e*P	**Pn**		**13 44 00.5**	**+1.4**
MA2	**Magadan**	**8.19**	**312**	LR	LR		13 48 08.9	
	comp=Z,33nm,20.7s,baz=62,slow=42							
YSS	**Yuzhno-Sakhali**	**14.74**	**247**	*e*P	**Pn**		**13 46 02.9**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**15.22**	**233**	*de*P	**Pn**		**13 46 07.7**	**-2.2**
ASAJ	**Asahikawa**	**16.73**	**239**	P	**P**		**13 46 29.9**	**-1.2**
	comp=Z,2.9nm,0.4s,baz=76,slow=10,SNR=7.6							
ASAJ				LR	LR		13 52 41.5	
	comp=Z,27nm,19.5s,baz=54,slow=36							
ASAJ	**Asahikawa**	**16.73**	**239**	P	**P**		**13 46 30.0**	**-1.2**
ERM	**Erimo**	**18.04**	**234**	*e*P	**P**		**13 46 42.2**	**-3.3**
TIXI	**Tiksi**	**22.40**	**332**	P	**P**		**13 47 31.1**	**-1.5**
	comp=Z,1.9nm,0.5s,baz=159,slow=14,SNR=1.6							
	comp=Z,1.9nm,0.5s							
VLA	**Vladivostok**	**23.12**	**253**	*e*P	**P**		**13 47 40.1**	**-0.2**
PSTR	**Posyet**	**24.03**	**253**	*i* P	**P**		**13 47 43.1**	**-5.8**
MAJO	**Matsushiro**	**24.71**	**233**	*e*P	**P**		**13 47 53.3**	**-2.0**
MJAR	**Matsushiro Arr**	**24.71**	**233**	P	**P**		**13 47 55.7**	**+0.4**
	comp=Z,2.7nm,0.9s,baz=17,slow=14,SNR=5.2							
	comp=Z,2.7nm,0.9s							
ILAR	**Eielson Array**	**26.64**	**47**	P	P		13 48 18.6	+6.2
	comp=Z,0.8nm,0.9s,baz=261,slow=7.7,SNR=6.1							
	comp=Z,0.8nm,0.9s							
TJN	**Taejon**	**30.33**	**248**	*i* P	**P**		**13 48 43.0**	**-2.5**
H11N2	**WAKE ISLAND Hy**	**34.97**	**173**	T	T		14 26 51.2	
	baz=355,slow=76,SNR=105							
H11N3	**WAKE ISLAND Hy**	**34.98**	**173**	T	T		14 26 48.0	
	baz=355,slow=76,SNR=101							
H11N1	**WAKE ISLAND Hy**	**34.98**	**173**	T	T		14 26 48.3	
	baz=355,slow=76,SNR=196							
H11S1	**WAKE ISLAND Hy**	**36.17**	**174**	T	T		14 28 22.2	
	baz=352,slow=76							
H11S3	**WAKE ISLAND Hy**	**36.18**	**174**	T	T		14 28 13.0	
	baz=352,slow=76							
H11S2	**WAKE ISLAND Hy**	**36.19**	**174**	T	T		14 28 16.6	
	baz=352,slow=76							
SPITS	**Spitsbergen Ar**	**45.89**	**351**	P	**P**		**13 50 57.2**	**+1.4**
	comp=Z,2.2nm,0.6s,baz=48,slow=11,SNR=5.7							
	comp=Z,2.2nm,0.6s							
KURK	**Kurchatov**	**48.25**	**302**	P	**P**		**13 51 14.6**	**+0.1**
KURBB	**Kurchatov Arra**	**48.35**	**302**	P	**P**		**13 51 14.6**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=55,slow=7.9,SNR=4.4							
	comp=Z,0.5nm,0.5s							
MKAR	**Makanchi Array**	**48.90**	**296**	P	**P**		**13 51 18.2**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=36,slow=5.4,SNR=2.5							
MKAR				LR	LR		14 12 35.3	
	comp=Z,34nm,18.1s,baz=304,slow=37							
	comp=Z,0.2nm,0.6s							
FINES	**FINESS Array B**	**59.33**	**337**	P	**P**		**13 52 35.4**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=30,slow=8.8,SNR=11							
	comp=Z,1.4nm,0.4s							
OBN	**Obninsk**	**62.06**	**328**	*e*P	P		13 53 01.1	+7.2
OBN				*e*			13 53 16.9	
OBN				*e**PP	PcP		13 53 24.6	-9.3
OBN				*e**SP	sP		13 53 35.8	+27
OBN				*e*			13 55 17.2	
NOA	**NORSAR Array B**	**62.50**	**345**	P	**P**		**13 52 57.3**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=23,slow=6.8,SNR=1.7							
	comp=Z,0.6nm,0.6s							
HFS	**Hagfors**	**62.96**	**343**	P	**P**		**13 53 00.2**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=57,slow=5.5,SNR=5.4							
	comp=Z,1.5nm,0.8s							
AKASG	**Malin Array Be**	**68.09**	**330**	P	**P**		**13 53 33.0**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=46,slow=7.1,SNR=2.3							
	comp=Z,0.5nm,0.3s							
TXAR	**Lajitas Array**	**68.62**	**69**	P	P		13 53 43.7	+6.7
	comp=Z,0.2nm,0.6s,baz=332,slow=7.3,SNR=4.8							
	comp=Z,0.2nm,0.6s							
BRTR	**Keskin Array B**	**76.41**	**322**	P	**P**		**13 54 23.5**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=5.7,slow=7.2,SNR=2.3							
	comp=Z,0.6nm,0.5s							
WRA	**Warramunga Arr**	**78.13**	**207**	P	**P**		**13 54 34.7**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=20,slow=6.0,SNR=1.9							
	comp=Z,0.4nm,0.7s							
ASAR	**Alice Springs**	**81.80**	**207**	P	P		13 54 54.9	+2.4
	comp=Z,0.3nm,0.7s,baz=6.2,slow=3.8,SNR=2.3							
	comp=Z,0.3nm,0.7s							

*NEIC **11** 14:15:47.8±1.6,69.°52N±0.°02×144.°13W±0.°04,h6^{km}±7^{km}, Error ellipse: s-maj=3.4km s-min=1.5km az=200.0*

AEIC 11 14:15:46.5±2.4,**69.°51N**±0.°02×**144.°14W**±0.°05,**h10**^{km}±6^{km}, **ML3.1**,**ML3.3**/98(NEIC),**Error ellipse: s-maj=4.2km s-min=1.4km az=143.0**,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
C27K	**Jago River**	**0.19**	**51**	Pg	Pg		14 15 52.4	-0.1
C27K				Sg	Sg		14 15 53.0	-0.3
C27K				IAML			14 15 57.2	
	comp=E,6µm,0.5s							
C26K	**Camden Bay**	**0.49**	**327**		Pb		14 15 57.0	-0.2
C26K					Sb		14 16 04.1	-0.3
D25K	**Kavik River**	**0.81**	**258**		Pg		14 16 01.8	-0.3
D25K				Sg	Sg		14 16 12.9	+0.2
D27M	**Malcolm River**	**1.15**	**102**	Pn	Pb		14 16 07.9	-0.6
D27M					Sn		14 16 24.7	+0.1
D27M				IAML			14 16 29.3	
	comp=N,560nm,0.5s							
E25K	**Arctic Village**	**1.49**	**201**	Pn	Pg		14 16 15.0	+0.1
E25K				Sn	Sg		14 16 35.7	+1.5
E25K				IAML			14 16 37.3	
	comp=N,369nm,0.6s							
C24K	**Franklin Bluff**	**1.61**	**280**	Pn	Pb		14 16 16.6	+0.3
C24K				Sn	Sg		14 16 38.1	-0.2
C24K				IAML			14 16 40.7	
	comp=N,289nm,0.5s							
C24K				IAML			14 16 46.5	
	comp=E,346nm,0.7s							
E27K	**Coleen River**	**1.62**	**144**	Pn	Pg		14 16 16.9	-0.5
E27K				Sn	Sg		14 16 38.1	-0.2
E27K				IAML			14 16 41.9	
	comp=E,387nm,0.6s							
E27K				IAML			14 16 42.3	
	comp=N,331nm,0.7s							
D24K	**Happy Valley**	**1.70**	**260**	Pn	Pg		14 16 19.0	-0.1
F26K	**Sheenjek River**	**1.82**	**180**	Pn	Pb		14 16 20.3	+0.5
F26K				IAML			14 16 47.5	
	comp=N,233nm,0.4s							
F26K				IAML			14 16 48.6	
	comp=E,343nm,0.8s							
F26K	**Sheenjek River**	**1.82**	**180**		Sb		14 16 43.7	+1.0
E28M	**Babbage River**	**1.89**	**117**	Pn	Pb		14 16 20.5	-0.5
D28M	**Stokes Point**	**1.92**	**93**		Pb		14 16 21.1	-0.3
F25K	**Christian Rive**	**2.00**	**197**	Pn	Pb		14 16 23.4	+0.4
F25K				IAML			14 16 51.5	
	comp=E,228nm,0.7s							
F25K				IAML			14 16 55.0	
	comp=N,284nm,0.7s							
BM02	**Burnt Mountain**	**2.09**	**184**		Pb		14 16 24.1	-0.3
BMAR	**Burnt Mountain**	**2.10**	**185**	Pn	Pb		14 16 24.1	-0.5
TOLK	**Toolik Lake Re**	**2.14**	**249**	Pn	Pb		14 16 25.2	0.0
TOLK				IAML			14 17 04.5	
	comp=N,180nm,0.8s							
E24K	**Your Creek**	**2.14**	**230**	Pn	Pb		14 16 25.7	+0.4
C23K	**Itkillik River**	**2.29**	**281**	Pn	Pb		14 16 26.8	-1.0
C23K				IAML			14 17 11.8	
	comp=E,208nm,0.5s							
F24K	**Squaw Lake**	**2.43**	**216**	Pn	Pn		14 16 27.9	+1.7
F28M	**Old Crow**	**2.46**	**139**	Pn	Pn		14 16 28.1	+1.4
F28M				IAML			14 17 08.2	
	comp=N,157nm,0.7s							
F28M				IAML			14 17 08.7	
	comp=E,124nm,0.7s							
E29M	**Blow River**	**2.52**	**114**		Pb		14 16 29.5	-2.1
E29M				IAML			14 17 07.9	
	comp=E,143nm,0.6s							
E29M				IAML			14 17 14.3	
	comp=N,127nm,0.8s							
G26K	**Porcupine Rive**	**2.57**	**177**	Pn	Pn		14 16 29.8	+1.6
G26K				IAML			14 17 11.1	
	comp=E,169nm,0.8s							
G27K	**Doyon Strip**	**2.87**	**160**	Pn	Pn		14 16 34.0	+1.8
G24K	**Hadweenzic Riv**	**3.08**	**206**	Pn	Pn		14 16 37.4	+2.2
G24K				IAML			14 17 32.4	
	comp=N,100nm,1.1s							
G24K				IAML			14 17 33.6	
	comp=E,89nm,1.2s							
D22K	**Ayikyak River**	**3.12**	**262**	Pn	Pn		14 16 37.2	+1.6
D22K				IAML			14 17 33.3	
	comp=E,90nm,0.7s							
D22K				IAML			14 17 35.3	
	comp=N,93nm,0.8s							
B22K	**Teshekpuk Lake**	**3.31**	**289**		Pn		14 16 39.6	+1.4
H27K	**Steamboat Moun**	**3.44**	**162**	Pn	Pn		14 16 42.4	+2.3
G29M	**Pine Creek**	**3.46**	**136**		Pn		14 16 42.3	+1.9
G23K	**Bananza Creek**	**3.57**	**221**	Pn	Pn		14 16 44.4	+2.5
G23K				IAML			14 17 48.7	
	comp=E,56nm,1.1s							
G23K				IAML			14 17 50.7	
	comp=N,48nm,1.1s							
F30M	**Barrier River**	**3.61**	**118**		Pn		14 16 45.3	+2.9
F30M				IAML			14 17 46.5	
	comp=N,65nm,0.8s							
F30M				IAML			14 17 51.3	
	comp=E,57nm,1.0s							
B21K	**Ikpikpuk River**	**3.68**	**277**	Pn	Pn		14 16 45.3	+2.0
B21K				IAML			14 17 58.4	
	comp=N,59nm,0.8s							
E21K	**Killik River**	**3.70**	**258**	Pn	Pn		14 16 45.5	+1.8
E21K				IAML			14 17 53.9	
	comp=E,61nm,0.9s							
E21K				IAML			14 17 55.0	
	comp=N,48nm,0.9s							
G30M	**tAoh Zraii Nji**	**3.89**	**127**		Pn		14 16 48.6	+2.3
G30M				IAML			14 18 03.0	
	comp=N,41nm,1.1s							
G30M				IAML			14 18 06.4	
	comp=E,38nm,0.7s							
H29M	**Whitestone**	**3.96**	**144**		Pn		14 16 49.5	+2.3
H29M				IAML			14 18 08.2	
	comp=N,52nm,1.2s							
INK	**Inuvik**	**4.02**	**102**		Pn		14 16 49.2	+1.2
PRP	**Porcupine Dome**	**4.04**	**188**		Pn		14 16 51.2	+2.7
PRP	**Porcupine Dome**	**4.04**	**188**	IAML			14 17 56.2	
	comp=E,33nm,1.1s							
PRP				IAML			14 18 00.0	
	comp=N,41nm,0.8s							
EPYK	**Eagle Plains**	**4.21**	**135**		Pn		14 16 52.9	+2.2
I26K	**Coal Creek Min**	**4.24**	**174**	Pn	Pn		14 16 53.3	+2.3
I28M	**Miner Creek**	**4.38**	**156**		Pn		14 16 54.8	+1.7
I28M				IAML			14 18 15.0	
	comp=E,30nm,1.0s							
I28M				IAML			14 18 17.3	
	comp=N,36nm,0.8s							
G31M	**Satah River**	**4.50**	**121**		Pn		14 16 56.5	+1.9
G31M				IAML			14 18 17.4	
	comp=N,29nm,0.6s							
D20K	**Etivluk River**	**4.54**	**266**	Pn	Pn		14 16 57.1	+2.0
D20K				IAML			14 18 24.7	
	comp=E,32nm,1.4s							
D20K				IAML			14 18 31.0	
	comp=N,31nm,1.1s							
B20K	**Meade River**	**4.55**	**282**		Pn		14 16 57.8	+2.5
I23K	**Minto, Yukon-K**	**4.82**	**207**	Pn	Pn		14 17 01.5	+2.5
I23K				IAML			14 18 30.3	
	comp=E,22nm,1.2s							
I23K				IAML			14 18 31.4	
	comp=N,24nm,1.3s							
J25K	**Salcha River,**	**4.94**	**186**		Pn		14 17 02.2	+1.5
J25K				IAML			14 18 33.8	
	comp=E,20nm,1.1s							
J26L	**Joseph Creek**	**5.03**	**177**		Pn		14 17 04.0	+2.0
J26L				IAML			14 18 37.3

HLP	**Hilina Pali**	**0.17**	**148**			Pg	14 22 37.9	-0.1
MWH	**Mokuaweoweo**	**0.18**	**283**			Pg	14 22 38.4	+0.1
MWH	**Mokuaweoweo**	**0.18**	**283**		IAML		14 22 43.3	
	comp=N,7µm,0.5s							
MWH					IAML		14 22 43.5	
	comp=E,7µm,0.3s							
PUH	**Pauahi**	**0.19**	**111**			Pg	14 22 38.1	-0.3
PUH					IAML		14 22 42.3	
	comp=E,2µm,0.5s							
PUH					IAML		14 22 43.1	
	comp=N,2µm,0.3s							
HTC	**Hot Caves**	**0.21**	**177**			Pg	14 22 38.5	-0.1
KNHH	**Kane Nui o Ham**	**0.23**	**106**			Pg	14 22 38.8	-0.3
ALEP	**Alea Permanent**	**0.24**	**293**			Pg	14 22 39.3	0.0
ALEP						Sg	14 22 43.3	+0.7
STCH	**Steam Cracks**	**0.27**	**103**			Pg	14 22 39.3	-0.5
STCH					IAML		14 22 47.9	
	comp=E,987nm,0.8s							
KHU	**Kahuku**	**0.28**	**225**			Pg	14 22 39.5	-0.5
KHU						Sg	14 22 44.0	+0.3
NPOC	**North of Pu'u**	**0.29**	**100**			Pg	14 22 39.6	-0.4
NPOC						Sg	14 22 44.8	+0.9
JCUZ	**Jacuzzi**	**0.29**	**102**			Pg	14 22 39.8	-0.5
JCUZ						Sg	14 22 44.5	+0.4
POHA	**Pohakuloa**	**0.33**	**339**			Pg	14 22 40.5	-0.5
POHA					IAML		14 22 52.6	
	comp=E,1µm,0.3s							
POHA					IAML		14 22 52.9	
	comp=E,949nm,0.5s							
JOKA	**Jonika Flow**	**0.38**	**92**			Pg	14 22 41.0	-0.9
HPO	**Honuapo**	**0.38**	**201**			Pg	14 22 42.0	+0.2
HUH	**Hualalai**	**0.47**	**301**			Pg	14 22 44.1	+0.5
CPH	**Captain Cook**	**0.48**	**275**			Pg	14 22 43.2	-0.6
CPH						Sg	14 22 50.9	+0.8
KKH	**Kailua Kona**	**0.61**	**290**			Pg	14 22 45.2	-1.1
KKH						Sg	14 22 53.6	-0.7
HPAH	**Hawaii Prepara**	**0.64**	**335**			Pg	14 22 45.9	-1.0
HPAH	**Hawaii Prepara**	**0.64**	**335**			Sg	14 22 54.5	-0.8
HPAH					IAML		14 23 07.5	
	comp=E,315nm,0.6s							
HPAH					IAML		14 23 08.3	
	comp=N,274nm,0.7s							
MHA	**Mahukona**	**0.87**	**328**			Pg	14 22 49.6	-1.7
MHA						Sg	14 23 00.6	-2.1

IDC 11 14:33:35.7±3.6, 10°.87S×118°.68E, h0km, mb3.3/1, mbtmp3.0/3, ML2.9/2, Error ellipse: s-maj=263.4km s-min=30.2km az=48.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.57**	**123**	P	Pn	14 37 40.8	-1.5
	baz=291,slow=14,SNR=1.5						
WRA				S	Sn	14 40 48.3	-10
	0.6nm,1.1s,baz=295,slow=26,SNR=1.8 0.2nm,0.9s						
ASAR	**Alice Springs**	**19.30**	**133**	P	Pn	14 38 03.6	+0.2
	baz=311,slow=12,SNR=5.1						
ASAR				S	Sn	14 41 30.2	-10
	0.3nm,0.7s,baz=296,slow=22,SNR=4.9 0.3nm,0.9s						
MKAR	**Makanchi Array**	**65.97**	**333**	P	P	14 44 23.8	-0.1
	0.2nm,0.4s,baz=155,slow=6.7,SNR=5.0 0.2nm,0.4s						

*NEIC **11** 14:52:30, 18°.01S×70°.06W, h96km*

*NEIC **11** 14:52:30.3±2.2, 18°.03S±0°.06×70°.0W±0°.1, h94km±6km, mb4.7/29, Mwr4.5/11, Mwr4.6(GUC), Error ellipse: s-maj=15.7km s-min=8.2km az=101.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.87; $M_{\theta\theta}$0.33; $M_{\phi\phi}$-3.20; $M_{r\theta}$0.81; $M_{\theta\phi}$-0.41; $M_{r\phi}$-5.62; Fault plane solution: M_o6.46000×10^{15} NP1:φs21.53000°, δ15.54000°, λ117.23000°. NP2:φs173.43000°, δ76.22000°, λ82.75000°. Principal axes: T 6.3573, Plg58.0000°, Azm74.0000°; N 0.1999, Plg7.0000°, Azm175.0000°; P -6.5572, Plg31.0000°, Azm269.0000°;*

*IDC **11** 14:52:31.4±0.6, 17°.95S×69°.87W, h102km±5km, mb4.1/16, mbtmp4.5/19, MS3.0/3 Error ellipse: s-maj=12.8km s-min=10.5km az=120.0*

*GUC **11** 14:52:31.5±0.6, 18°.11S×70°.13W, h71km±6km, ML4.5*

*VAO **11** 14:52:36.0±1.4, 17°.86S×69°.47W, h138km±7km, mb4.8*

ISC 11 14:52:30.1±0.5, 17°.96S±0°.04×69°.91W±0°.05, h99km±4km, n120, σ1s65/135, mb4.5/28, 3C-3D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.54**	**134**		**Pn**	**14 52 46.7**	**0.0**
PB16	**IPOC Station P**	**0.54**	**134**	↓*i* P	**Pn**	**14 52 47.2**	**+0.4**
PB16				*i* S	**Sn**	**14 52 59.8**	**+0.7**
PB16				IAML		14 53 00.8	
	comp=E,30µm,0.5s						
PB18	**Visviri**	**0.55**	**48**		**Pn**	**14 52 48.4**	**+1.6**
PB18	**Visviri**	**0.55**	**48**	↓*i* P	**Pn**	**14 52 48.9**	**+2.1**
PB18				*i* S	**Sn**	**14 53 02.7**	**+3.5**
PB11	**IPOC Station P**	**1.81**	**172**		**Pn**	**14 52 59.8**	**-0.5**
PB11	**IPOC Station P**	**1.81**	**172**	*e*P	**Pn**	**14 53 00.2**	**-0.1**
PB11				*i* S	**Sn**	**14 53 22.1**	**-1.3**
PB11				IAML		14 53 27.6	
	comp=N,4µm,1.0s						
GO01	**Chusmiza**	**1.83**	**158**		**Pn**	**14 53 01.4**	**+0.5**
GO01	**Chusmiza**	**1.83**	**158**	*e*P	**Pn**	**14 53 02.2**	**+1.3**
GO01				*i* S	**Sn**	**14 53 27.8**	**+3.5**
GO01				IAML		14 53 32.6	
	comp=E,6µm,0.5s						
PB08	**IPOC Station P**	**2.28**	**162**		**Pn**	**14 53 08.1**	**+1.3**
PB08	**IPOC Station P**	**2.28**	**162**	↓*i* P	**Pn**	**14 53 07.8**	**+1.1**
PB08				*i* S	**Sn**	**14 53 35.3**	**+0.6**
PB08				IAML		14 53 42.4	
	comp=E,3µm,0.3s						
HMBC	**Humberstone**	**2.31**	**179**		**Pn**	**14 53 05.2**	**-1.6**
HMBC	**Humberstone**	**2.31**	**179**	*e*P	**Pn**	**14 53 05.7**	**-1.1**
HMBC				*i* S	**Sn**	**14 53 27.6**	**-7.2**
HMBC				IAML		14 53 40.4	
	comp=N,10µm,0.5s						
LPAZ	**La Paz**	**2.38**	**46**		Pn	14 53 11.7	+3.5
LPAZ	**La Paz**	**2.38**	**46**	P	**Pn**	**14 53 10.6**	**+2.4**
	comp=N,62nm,0.4s,baz=223,slow=7.0,SNR=263						
LPAZ				S	**Sn**	**14 53 40.4**	**+3.0**
	comp=N,80nm,0.5s,baz=181,slow=8.7,SNR=4.0						
LPAZ	**La Paz**	**2.38**	**46**	*e*P	Pn	14 53 11.7	+3.5
TA01	**Diego Aracena**	**2.60**	**186**		**Pn**	**14 53 09.5**	**-1.1**
TA01	**Diego Aracena**	**2.60**	**186**	*e*P	**Pn**	**14 53 09.5**	**-1.1**
TA01				*i* S	**Sn**	**14 53 38.6**	**-3.0**
TA01				IAML		14 53 51.0	
	comp=E,3µm,0.2s						
PATCX	**Punta Patache**	**2.85**	**185**		**Pn**	**14 53 13.8**	**-0.2**
PB01	**IPOC Station P**	**3.09**	**173**		**Pn**	**14 53 16.9**	**-0.3**
PB01	**IPOC Station P**	**3.09**	**173**	*e*P	**Pn**	**14 53 16.5**	**-0.7**
PB02	**IPOC Station P**	**3.34**	**180**		**Pn**	**14 53 20.0**	**-0.6**
PB02	**IPOC Station P**	**3.34**	**180**	*e*		14 54 54.0	
PB09	**IPOC Station P**	**3.87**	**171**		**Pn**	**14 53 27.4**	**-0.3**
PB09	**IPOC Station P**	**3.87**	**171**	*e*P	**Pn**	**14 53 27.3**	**-0.4**
PB09				*i* S	**Sn**	**14 54 17.0**	**+4.8**
PB03	**IPOC Station P**	**4.07**	**178**		**Pn**	**14 53 29.9**	**-0.5**
PB06	**IPOC Station P**	**4.73**	**176**		**Pn**	**14 53 37.8**	**-1.6**
PB05	**IPOC Station P**	**4.88**	**183**		**Pn**	**14 53 38.9**	**-2.4**
PB14	**IPOC Station P**	**6.65**	**184**		**Pn**	**14 54 02.7**	**-2.9**
GO02	**Mina Guanaco**	**7.17**	**178**		**Pn**	**14 54 09.7**	**-2.9**
SIV	**San Ignacio**	**8.68**	**78**	P	**Pn**	**14 54 32.7**	**-0.3**
	comp=E,90nm,0.6s,baz=261,slow=10,SNR=195						
SIV				S	**Sn**	**14 56 06.7**	**-2.6**
	comp=E,18nm,0.6s,baz=356,slow=23,SNR=1.7						
AC02	**Maricunga**	**8.86**	**175**		**Pn**	**14 54 33.5**	**-2.3**
NNA	**Nana**	**8.95**	**311**	P	**Pn**	**14 54 36.7**	**+0.1**
	comp=E,15nm,0.4s,baz=128,slow=11,SNR=6.5						
NNA				S	**Sn**	**14 56 14.4**	**-1.4**
	comp=E,10nm,0.3s,baz=198,slow=22,SNR=1.2						
CZSB	**Cruzeiro do Su**	**10.53**	**345**		**Pn**	**14 54 56.8**	**-1.3**
VILB	**Vilhena**	**10.60**	**63**		**Pn**	**14 54 57.9**	**-1.3**
VILB	**Vilhena**	**10.60**	**63**	*e*P	**Pn**	**14 54 58.1**	**-1.0**
PTLB	**Pontes e Lacer**	**10.62**	**78**		**Pn**	**14 54 57.6**	**-1.8**
PTLB	**Pontes e Lacer**	**10.62**	**78**	*e*P	**Pn**	**14 54 58.0**	**-1.3**
CFA	**Coronel Fontan**	**13.67**	**174**	P	**Pn**	**14 55 37.0**	**-2.9**
	comp=E,0.8nm,0.3s,baz=356,slow=13,SNR=5.7						
CFA				S	**Sn**	**14 58 17.1**	**+6.8**
	comp=E,0.6nm,0.4s,baz=65,slow=19,SNR=1.0						
SALV	**Santo Antonio**	**13.76**	**84**	*e*P	**Pn**	**14 55 40.8**	**-0.3**
PDRB	**Porto dos Gac**	**14.22**	**65**	*e*P	**Pn**	**14 55 42.8**	**-4.3**
CPUP	**Villa Florida**	**14.32**	**128**		**Pn**	**14 55 47.5**	**-0.8**
CPUP	**Villa Florida**	**14.32**	**128**	P	**Pn**	**14 55 46.6**	**-1.6**
	comp=E,0.7nm,0.7s,baz=170,slow=12,SNR=5.7						
CPUP				LR	LR	15 02 11.9	
	comp=E,25nm,19.1s,baz=168,slow=41						
PP1B	**Ponte de Pedra**	**14.32**	**91**	*e*P	**Pn**	**14 55 46.2**	**-2.2**
SJPY	**San Joaquin**	**14.63**	**121**	*e*P	**Pn**	**14 55 53.5**	**+1.2**
AMBA	**Amambai (Brazi**	**14.83**	**112**	*e*P	**Pn**	**14 55 54.4**	**-0.4**
CLDB	**Colider**	**15.37**	**65**	*e*P	**Pn**	**14 56 01.6**	**-0.2**
RPRD	**Ribas do Rio P**	**15.52**	**102**	*e*P	**Pn**	**14 56 03.0**	**-0.5**
TRCB	**Terra Rica**	**16.89**	**109**	P	**P**	**14 56 20.6**	**-0.5**
TRCB				IAmb	IAmb	14 56 55.7	
	comp=Z,33nm,0.6s						
TRCB	**Terra Rica**	**16.89**	**109**	*e*P	**P**	**14 56 20.7**	**-0.3**
NPGB	**Novo Progresso**	**17.86**	**54**	*e*P	**P**	**14 56 31.0**	**-0.7**
COHC	**Cochancay**	**17.92**	**328**	P	**Pn**	**14 56 34.2**	**+1.1**
PTGB	**Pitanga**	**17.92**	**115**	*e*P	**Pn**	**14 56 32.4**	**-0.8**
ITTB	**Itaituba**	**19.37**	**47**	*e*P	**P**	**14 56 47.0**	**-1.2**
CPSB	**Cacapava Do Su**	**19.45**	**133**	*e*P	**P**	**14 56 48.3**	**-0.7**
PLTB	**Pedras Altas**	**20.16**	**136**		**P**	**14 56 55.8**	**-0.9**
PLTB	**Pedras Altas**	**20.16**	**136**	*e*P	**P**	**14 56 55.8**	**-0.9**
BB19B	**Bebedouro**	**20.39**	**102**	*e*P	**P**	**14 56 58.4**	**-0.9**
IPMB	**Ipameri, GO**	**20.64**	**93**	*e*P	**P**	**14 57 00.5**	**-1.6**
BDFB	**Brasilia**	**21.09**	**87**	P	**P**	**14 57 06.6**	**-0.3**
	comp=Z,16nm,0.4s,baz=263,slow=10.0,SNR=20 comp=E,16nm,0.4s						
TRQA	**Tornquist**	**21.19**	**162**		**P**	**14 57 07.7**	**0.0**
RCLB	**Rio Claro- Sao**	**21.46**	**106**	*e*P	**P**	**14 57 09.8**	**-1.0**
MAL2	**Monte Alegre,**	**22.12**	**46**		**P**	**14 57 16.7**	**-1.1**
MAL2				IAmb	IAmb	14 57 18.4	
	comp=Z,29nm,0.8s						
BOAV	**Boa Vista**	**22.24**	**26**		**P**	**14 57 18.4**	**-0.6**
BOAV				IAmb	IAmb	14 57 21.0	
	comp=Z,58nm,1.4s						
BOAV	**Boa Vista**	**22.24**	**26**	*e*P	**P**	**14 57 18.3**	**-0.8**
PMNB	**Patos De Minas**	**22.30**	**95**	*e*P	**P**	**14 57 17.6**	**-2.1**
PLCA	**Paso Flores**	**22.70**	**181**	P	**P**	**14 57 23.4**	**-0.3**
PLCA	**Paso Flores**	**22.70**	**181**	P	**P**	**14 57 24.4**	**+0.7**
	comp=Z,5nm,0.9s,baz=358,slow=9.8,SNR=4.8 comp=Z,2.5nm,0.9s						
PRPB	**Parauapebas**	**22.85**	**62**	*e*P	**P**	**14 57 23.3**	**-2.0**
RUSC	**La Rusia**	**23.91**	**352**		**P**	**14 57 34.8**	**-0.7**
JANB	**Januaria**	**24.71**	**87**	*e*P	**P**	**14 57 41.0**	**-1.4**
SDBA	**SAO DESIDERIO**	**24.75**	**81**	*e*P	**P**	**14 57 40.8**	**-1.9**
BAUV	**El Baul**	**26.80**	**4**		**P**	**14 58 00.2**	**-1.0**
BAUV				IAmb	IAmb	14 58 02.2	
	comp=Z,18nm,0.7s						
PCRV	**Puerto La Cruz**	**28.44**	**11**	LR	LR	15 09 44.3	
	comp=Z,64nm,20.9s,slow=36						
MDP	**Montagnes des**	**28.56**	**38**	LR	LR	15 09 42.1	
	comp=Z,40nm,19.7s,baz=306,slow=36						
CMC01	**Camacan, BA**	**29.22**	**89**	*e*P	**P**	**14 58 22.1**	**-0.7**
NBAN	**Anadia - AL**	**33.64**	**80**	*e*P	**P**	**14 59 00.6**	**-1.1**
SWET	**Sewanee**	**55.03**	**344**	P	**P**	**15 01 51.1**	**-0.5**
SWET				IAmb	IAmb	15 01 51.6	
	comp=Z,6.7nm,0.5s						
HNDO	**Hondo**	**55.06**	**329**	P	**P**	**15 01 52.7**	**+0.8**
V48A	**Smith Brothers**	**55.76**	**343**	P	**P**	**15 01 56.4**	**-0.4**
V48A				IAmb	IAmb	15 01 57.9	
	comp=Z,7.0nm,0.6s						
CLTN	**Cedars of Leba**	**55.96**	**344**	P	**P**	**15 01 57.8**	**-0.4**
CLTN				IAmb	IAmb	15 01 58.5	
	comp=Z,3.3nm,0.7s						
WVT	**Waverly**	**56.41**	**343**		**P**	**15 02 00.2**	**-1.2**
TXAR	**Lajitas Array**	**57.20**	**325**	P	**P**	**15 02 07.5**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=153,slow=10.0,SNR=5.7						
TXAR				pP	**pP**	**15 02 33.1**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=143,slow=9.6,SNR=4.4 comp=Z,0.4nm,0.5s						
R40A	**Maddies Statio**	**59.76**	**340**		**P**	**15 02 24.4**	**-0.3**
N49A	**Columbus Grove**	**60.06**	**348**	P	**P**	**15 02 25.8**	**-1.0**
SFIN	**Lafayette**	**60.20**	**345**	P	**P**	**15 02 27.0**	**-0.7**
VNA1	**Neumayer--Stat**	**63.92**	**161**	↑P	**P**	**15 02 53.2**	**+1.0**
	comp=Z,3.2nm,0.6s						
SNAA	**Sanae**	**65.92**	**161**	↑P	**P**	**15 03 06.1**	**+0.9**
	comp=Z,69nm,0.6s						
SNAA	**Sanae**	**65.92**	**161**		**P**	**15 03 05.8**	**+0.6**
SNAA				IAmb	IAmb	15 03 07.1	
	comp=Z,4.7nm,0.9s						
SNAA	**Sanae**	**65.92**	**161**	P	**P**	**15 03 06.3**	**+1.0**
	comp=Z,3.1nm,0.7s,baz=277,slow=7.4,SNR=26 comp=Z,3.1nm,0.7s						
PV03	**Paradox Valley**	**66.80**	**327**	P	**P**	**15 03 11.5**	**0.0**
PV03				IAmb	IAmb	15 03 15.0	
	comp=Z,14nm,1.0s						
TROLL	**Troll, Antarti**	**67.63**	**161**	↑P	**P**	**15 03 17.4**	**+1.1**
	comp=Z,158nm,0.6s						
DBIC	**Dimbokro**	**68.69**	**75**		**P**	**15 03 23.0**	**-0.6**
DBIC	**Dimbokro**	**68.69**	**75**	P	**P**	**15 03 23.1**	**-0.5**
	comp=Z,20nm,0.5s,baz=267,slow=5.2,SNR=31 comp=Z,20nm,0.5s						
PDAR	**Pinedale Array**	**70.59**	**330**	P	**P**	**15 03 37.2**	**+2.2**
	comp=Z,0.3nm,0.4s,baz=122,slow=8.8,SNR=4.4 comp=Z,0.3nm,0.4s						
ULM	**Lac du Bonnet**	**71.67**	**343**	P	**P**	**15 03 41.6**	**+0.6**
	comp=Z,2.6nm,0.4s,baz=146,slow=7.1,SNR=11						
ULM				pP	**pP**	**15 04 07.0**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=146,slow=5.6,SNR=2.1 comp=Z,2.6nm,0.4s						
QSPA	**South Pole Qui**	**72.21**	**180**	P	**P**	**15 03 46.7**	**+2.4**
QSPA	**South Pole Qui**	**72.21**	**180**	P	**P**	**15 03 47.2**	**+2.9**
	comp=Z,0.6nm,0.4s,baz=171,slow=5.0,SNR=19						
QSPA				pP	**pP**	**15 04 11.3**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=337,slow=7.4,SNR=3.5 comp=Z,0.6nm,0.4s						
SCHQ	**Schefferville**	**72.55**	**2**	P	**P**	**15 03 45.7**	**-0.5**
	comp=Z,16nm,0.5s,baz=221,slow=5.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**77.10**	**71**	P	**P**	**15 04 12.1**	**-1.2**
TORD				IAmb	IAmb	15 04 15.0	
	comp=Z,7.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**77.10**	**71**	P	**P**	**15 04 12.5**	**-0.8**
	comp=Z,9.4nm,0.4s,baz=258,slow=4.5,SNR=57						
TORD				pP	**pP**	**15 04 39.6**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=259,slow=6.5,SNR=2.0 comp=Z,9.4nm,0.4s						
TSUM	**Tsumeb**	**81.98**	**108**		**P**	**15 04 39.6**	**-0.3**
TSUM				IAmb	IAmb	15 04 41.5	
	comp=Z,6.3nm,0.9s						
TSUM	**Tsumeb**	**81.98**	**108**	P	**P**	**15 04 40.5**	**+0.6**
	comp=Z,4.2nm,0.8s,baz=237,slow=3.6,SNR=12 comp=Z,4.2nm,0.8s						
ESDC	**Sonseca Array**	**84.00**	**45**	P	**P**	**15 04 50.4**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=252,slow=5.1,SNR=9.8 comp=Z,2.1nm,0.8s						
GRTLG	**Ghanzi**	**84.63**	**111**	P	**P**	**15 04 53.9**	**+0.4**
GRTLG				IAmb	IAmb	15 04 54.6	
	comp=Z,5.8nm,0.6s						
QNGWA	**Qangwa**	**85.13**	**109**	P	**P**	**15 04 56.3**	**+0.2**
QNGWA				IAmb	IAmb	15 04 57.5	
	comp=Z,13nm,1.4s						
BOSA	**Boshof**	**85.95**	**119**	P	**P**	**15 04 59.7**	**-0.2**
BOSA				IAmb	IAmb	15 05 01.2	
	comp=Z,9.1nm,1.2s						
BOSA	**Boshof**	**85.95**	**119**	P	**P**	**15 04 59.5**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=243,slow=2.3,SNR=2.8 comp=Z,2.8nm,0.8s						
LBTB	**Lobatse**	**87.36**	**115**	P	**P**	**15 05 07.0**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=339,slow=8.7,SNR=3.0 comp=Z,3.1nm,0.8s						
YKA	**Yellowknife Ar**	**87.55**	**341**	P	**P**	**15 05 07.4**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=136,slow=4.3,SNR=4.1 comp=Z,1.4nm,0.6s						
MAW	**Mawson**	**87.97**	**164**	P	**P**	**15 05 09.9**	**+1.2**
	comp=Z,9.9nm,0.9s,baz=247,slow=4.6,SNR=6.1 comp=Z,2.9nm,0.9s						
LPHEP	**Lephephe**	**88.11**	**114**	P	**P**	**15 05 10.5**	**0.0**
LPHEP				IAmb	IAmb	15 05 14.0	
	comp=Z,7.8nm,1.2s						
MATP	**Matopo**	**91.39**	**112**	P	**P**	**15 05 26.5**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=266,slow=1.9,SNR=4.5 comp=Z,1.7nm,0.6s						
ASAR	**Alice Springs**	**132.54**	**210**	PKP	**PKiKP**	**15 11 35.7**	**+0.5**
	comp=Z,1.3nm,1.2s,baz=122,slow=0.8,SNR=4.3						
ASAR				pPKP	**pPKPdf**	**15 12 01.4**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=132,slow=1.7,SNR=2.4						
BVAR	**Borovoye Array**	**133.37**	**32**	PKP	**PKiKP**	**15 11 36.0**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=278,slow=4.3,SNR=3.8						
WRA	**Warramunga Arr**	**135.44**	**213**	PKP	**PKiKP**	**15 11 41.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=138,slow=2.1,SNR=2.1						
KURBB	**Kurchatov Arra**	**138.84**	**30**	PKP	**PKiKP**	**15 11 46.2**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=311,slow=2.7,SNR=5.4						
ZALV	**Zalesovo Beam**	**139.12**	**23**	PKP	**PKPdf**	**15 11 46.4**	**+1.2**
	comp=Z,3.1nm,0.6s,baz=295,slow=2.8,SNR=13						
ZALV				pPKP	**pPKPdf**	**15 12 13.8**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=278,slow=4.3,SNR=2.2						
ZALV				SKPbc	**SKPbc**	**15 15 10.7**	**-0.8**
	comp=Z,2.3nm,0.9s,baz=325,slow=2.3,SNR=6.7						
MKAR	**Makanchi Array**	**143.25**	**32**	PKhKP	PKPpre	15 11 50.2	
	comp=Z,0.6nm,0.6s,baz=11,slow=1.2,SNR=6.4						
MKAR				SKPbc	**SKPbc**	**15 15 19.4**	**-3.0**
	comp=Z,0.6nm,0.8s,baz=343,slow=3.8,SNR=4.3						
SONM	**Songino Array**	**150.05**	**5**	PKPbc	**PKiKP**	**15 12 10.6**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=347,slow=1.0,SNR=6.0						
SONM				PKPab	**PKPab**	**15 12 16.9**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=317,slow=2.5,SNR=4.6						
CMAR	**Chiang Mai Arr**	**169.40**	**86**	PKPab	**PKPab**	**15 13 40.1**	**0.0**
	comp=Z,0.9nm,0.6s,baz=276,slow=6.0,SNR=7.3						

*JMA **11** 15:05:26.2±0.3, 23°.36N±0°.08×123°.69E±0°.04, h51km±3km, MV3.3/13, NEAR ISHIGAKIJIMA ISLAND*

ISC 11 15:05:24.2±2.0, 23°.36N±0°.08×123°.69E±0°.04, h13km±11km, n19, σ9s60/30, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.70**	**9**	P	**Pn**	**15 05 40.1**	**+0.3**
HATJ				*e*S	**Sn**	**15 05 50.2**	**-0.2**
JKRS	**Kuro-shima**	**0.92**	**19**	P	**Pn**	**15 05 43.5**	**+0.7**
JKRS				*e*S	**Sn**	**15 05 56.0**	**+0.1**
IRIF	**Iriomote-Funau**	**0.97**	**2**	*i* P	**Pn**	**15 05 43.9**	**+0.4**
JIJ	**Ishigaki jima**	**1.08**	**23**	*i* P	**Pg**	**15 05 45.2**	**+0.2**
JIJ				S	**Sg**	**15 05 59.0**	**-0.1**
YOJ	**Yonaguni jima**	**1.26**	**331**	P	**Pg**	**15 05 48.3**	**-0.1**
YOJ	**Yonaguni jima**	**1.26**	**331**	P	**Pg**	**15 05 48.4**	**0.0**
YOJ				*e*S	**Sb**	**15 06 04.0**	**+0.1**
JYNG	**Yonagunijimaku**	**1.28**	**328**	P	**Pb**	**15 05 48.2**	**+0.1**
JYNG				*e*S	**Sb**	**15 06 03.9**	**-0.6**
JISG	**Ishigakijimahi**	**1.35**	**25**	*i* P	**Pn**	**15 05 48.5**	**-0.2**
JISG				*e*S	**Sn**	**15 06 05.5**	**-0.9**
JTJ	**Tarama**	**1.57**	**36**	*i* P	**Pb**	**15 05 52.5**	**-0.7**
JTJ				S	**Sn**	**15 06 12.1**	**+0.1**
JIRB	**Irabujima**	**1.99**	**43**	P	**Pn**	**15 05 58.2**	**+0.6**
JIRB				S	**Sn**	**15 06 21.9**	**-0.5**
JMJ2	**Miyako jima3**	**2.03**	**47**	P	**Pn**	**15 05 58.8**	**+0.7**
JMJ2				S	**Sn**	**15 06 23.7**	**+0.4**
NACB	**Ninganchiao**	**2.08**	**293**	P	**Pn**	**15 05 58.9**	**+0.1**
JOGS	**Gusukube**	**2.10**	**48**	*e*P	**Pn**	**15 05 59.8**	**+0.8**
JOGS				*e*S	**Sn**	**15 06 24.6**	**-0.4**
JIKM	**Ikemajima**	**2.11**	**42**	P	**Pn**	**15 05 59.9**	**+0.8**
JIKM				*e*S	**Sn**	**15 06 25.0**	**-0.2**
YULB	**Yu-li**	**2.20**	**271**	P	**Pn**	**15 05 59.8**	**-0.6**
TWGBT	**Beinan**	**2.46**	**258**	P	**Pn**	**15 06 03.8**	**-0.2**
YHNB	**Yeheng**	**2.48**	**302**	P	**Pn**	**15 06 05.7**	**+1.3**
SSLB	**Suanglung**	**2.54**	**280**	P	**Pn**	**15 06 05.5**	**+0.3**
TPUB	**Ta-pu**	**2.81**	**269**	P	**Pn**	**15 06 10.3**	**+1.5**

*IGQ **11** 15:18:03.3±0.3, 2°.S±2°.×7°.8W±°, h155km±3km, MLv4.1/48*

*NEIC **11** 15:18:03.4±2.1, 1°.87S±0°.06×77°.89W±0°.07, h143km±5km, mb4.5/149, Error ellipse: s-maj=10.8km s-min=8.3km az=95.0*

*IDC **11** 15:18:03.7±0.8, 1°.79S×77°.77W, h156km±6km, mb3.9/18, mbtmp4.4/24, MS3.2/5, Error ellipse: s-maj=15.8km s-min=9.3km az=76.0*

*VAO **11** 15:18:05.2±0.7, 1°.89S×77°.54W, h148km±6km, mb4.5*

*RSNC **11** 15:18:18.0±0.0, 2°.S±1°.×7°.9W±1°.7, h134km±40km, M4.2, mb5.0, mB5.2, ML3.7, Mw(mB)4.5, MwMwp4.6, Mwp5.0*

ISC 11 15:18:03.1±0.5, 1°.91S±0°.03×77°.95W±0°.04, h156km±4km, n311, σ1s32/293, mb4.5/90, 17C-38D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**0.42**	**350**	↓P	**Pn**	**15 18 24.7**	**

RVRD	Rio Verde	3.29	334	P		Pn	15 18 53.2	-1.1
CRUC	La Cruz	3.60	16	P		Pn	15 19 00.1	+1.5
PTLC	Puerto Leguiza	3.77	57	⇑P		Pn	15 18 57.8	-2.7
PTLC	Puerto Leguiza	3.77	57	P		Pn	15 18 58.1	-2.4
	3µm13µm1µm,1.0s							
BBAC	Balboa, Cauca	3.97	10	P		Pn	15 19 03.2	-0.1
BBAC	Balboa, Cauca	3.97	10	P		Pn	15 19 06.3	+3.0
FLOC	Florencia	4.16	34	Pn		Pn	15 19 04.5	-1.1
FLOC	Florencia	4.16	34	⇑P		Pn	15 19 04.9	-0.8
FLOC	Florencia	4.16	34	P		Pn	15 19 05.0	-0.6
POPC	Popayan, Colom	4.60	16	P		Pn	15 19 10.6	-1.0
GARC	Garzon, Huila	4.75	31	P		Pn	15 19 13.1	-0.5
GRIC	Gorgona, Isla	4.88	357	P		Pn	15 19 15.0	-0.1
BETC	Betania	5.21	29	P		Pn	15 19 20.4	+1.0
ATAH	Atahualpa	5.21	185	P		Pn	15 19 21.0	+1.3
	81nm,0.9s,baz=13,slow=9.2,SNR=30							
ATAH				S		Sn	15 20 19.6	-0.1
	138nm,0.8s,baz=217,slow=22,SNR=11							
JAMC	Jamundi, Valle	5.25	14	P		Pn	15 19 18.2	-1.9
MACC	Macarena, Meta	5.75	46	P		Pn	15 19 25.8	-0.8
	3µm210nm,0.6s							
YOTC	Yotoco, Valle	6.07	15	P		Pn	15 19 28.2	-2.7
URMC	La Uribe, Meta	6.24	35	P		Pn	15 19 33.8	+0.6
	6µm536nm,0.7s							
PRAC	Prado	6.37	29	P		Pn	15 19 33.7	-1.1
ORTC	Ortega, Tolima	6.38	25	P		Pn	15 19 33.7	-1.3
ANIL	Santa Ana	6.85	22	P		Pn	15 19 39.3	-2.1
VILC	Villavicencio,	7.34	35	P		Pn	15 19 47.4	-0.4
	3µm380nm,0.8s							
GUY2C	Guyana, Caldas	7.54	20	P		Pn	15 19 48.3	-2.5
	425nm32nm,0.9s							
ROSC	El Rosal	7.62	28	Pn		Pn	15 19 51.5	-0.3
ROSC	El Rosal	7.62	28	P		Pn	15 19 52.0	+0.2
	21nm,0.6s,baz=172,slow=8.7,SNR=6.3							
ROSC	El Rosal	7.62	28	P		Pn	15 19 52.6	+0.8
	844nm82nm,0.9s							
CZSB	Cruzeiro do Su	7.79	138	Pn		Pn	15 19 52.2	-1.5
CZSB	Cruzeiro do Su	7.79	138	eP		Pn	15 19 52.9	-0.9
CZSB	Cruzeiro do Su	7.79	138	P		Pn	15 19 52.1	-1.7
CBOC	Ciudad Bolivar	7.96	14	P		Pn	15 19 53.6	-2.5
NORC	Norcasia	8.04	23	P		Pn	15 19 53.9	-3.1
	370nm30nm,1.1s							
TBTG	Tabatinga, AM	8.34	106	Pn		Pn	15 19 58.6	-2.4
TBTG	Tabatinga, AM	8.34	106	eP		Pn	15 19 58.2	-2.8
TBTG	Tabatinga, AM	8.34	106	P		Pn	15 19 57.4	-3.7
DBBC	Dabeiba	9.04	11	P		Pn	15 20 11.6	+1.2
RUSC	La Rusia	9.15	32	Pn		Pn	15 20 11.5	-0.7
RUSC	La Rusia	9.15	32	P		Pn	15 20 11.8	-0.4
	2µm124nm,0.9s							
ZARC	Zaragoza, Cauc	9.84	18	P		Pn	15 20 19.3	-1.6
	58nm,0.8s							
APAC	Apartado, Choc	9.84	8	P		Pn	15 20 24.5	+3.6
	57nm,0.7s							
NNA	Nana	10.07	174	Pn		Pn	15 20 27.7	+3.7
NNA	Nana	10.07	174	P		Pn	15 20 28.0	+4.0
	8.8nm,0.4s,baz=16,slow=7.4,SNR=2.0							
NNA				S		Sn	15 22 08.1	-7.7
	13nm,0.3s,baz=221,slow=14,SNR=5.0							
SDV	Santo Domingo	12.97	34	Pn		Pn	15 20 59.7	-2.2
SDV	Santo Domingo	12.97	34	P		Pn	15 21 00.1	-1.8
	14nm,0.5s,baz=213,slow=12,SNR=6.5							
SDV	Santo Domingo	12.97	34	eP		Pn	15 21 00.6	-1.3
SDV	Santo Domingo	12.97	34	P		Pn	15 21 00.7	-1.3
HDC	Heredia	13.33	333	eP		P	15 21 11.3	+0.8
TEFE	Tefe	13.39	97	eP		Pn	15 21 04.0	-3.3
SOCE	Pocosol	13.90	332	P		P	15 21 17.8	+1.0
JTS	Las Juntas de	13.98	330	LR		LR	15 26 08.8	
	comp=Z,52nm,21.1s,baz=280,slow=35							
BAUV	El Baul	14.62	42	Pn		Pn	15 21 22.1	-0.6
PRVC	Isla de Provid	15.56	348	P		P	15 21 36.8	+1.6
LPAZ	La Paz	17.25	146	P		Pn	15 21 55.7	+0.4
LPAZ	La Paz	17.25	146	P		Pn	15 21 55.8	+0.4
	9.1nm,0.8s,baz=337,slow=12,SNR=21							
LPAZ	La Paz	17.25	146	eP		Pn	15 21 55.7	+0.4
PB18	Visviri	17.66	152	P		Pn	15 22 00.3	+0.1
PB18				IAmb		IAmb	15 22 04.2	
	comp=Z,31nm,0.9s							
PCRV	Puerto La Cruz	17.89	48	P		P	15 22 01.3	+0.5
	comp=Z,24nm,1.0s,baz=267,slow=4.1,SNR=11							
BOAV	Boa Vista	17.94	76	P		P	15 21 59.7	-1.8
BOAV	Boa Vista	17.94	76	eP		P	15 21 60.0	-1.5
PB16	IPOC Station P	18.30	154	P		Pn	15 22 07.4	-0.4
PB11	IPOC Station P	19.51	156	P		P	15 22 19.9	+1.3
MTO3	Montecristo	19.76	325	P		Pn	15 23 23.5	-1.0
MTO3				IAmb		IAmb	15 22 57.4	
	comp=Z,20nm,1.4s							
HMBC	Humberstone	19.88	157	P		P	15 22 23.3	+0.7
MTDJ	Mount Denham	20.01	1	P		P	15 22 25.0	+1.0
PB08	IPOC Station P	20.06	155	P		P	15 22 26.0	+1.3
VILB	Vilhena	20.72	123	P		P	15 22 31.6	+0.2
VILB				IAmb		IAmb	15 22 45.5	
	comp=Z,16nm,0.8s							
VILB	Vilhena	20.72	123	eP		P	15 22 30.6	-0.9
PB01	IPOC Station P	20.73	157	P		P	15 22 33.6	+2.0
PB01				IAmb		IAmb	15 22 36.1	
	comp=Z,38nm,1.2s							
PB02	IPOC Station P	20.83	158	P		P	15 22 33.7	+1.0
PB09	IPOC Station P	21.51	157	P		P	15 22 43.1	+3.1
PB09				IAmb		IAmb	15 22 58.0	
	comp=Z,24nm,1.0s							
PB03	IPOC Station P	21.55	159	P		P	15 22 43.2	+2.8
PB03				IAmb		IAmb	15 22 44.0	
	comp=Z,20nm,0.8s							
SIV	San Ignacio	21.73	131	P		P	15 22 42.3	-0.1
	comp=Z,7.9nm,0.7s,baz=319,slow=12,SNR=38							
	comp=Z,7.9nm,0.7s							
CHIV	Chivirico	21.80	4	P		P	15 22 42.8	-0.1
CHIV				IAmb		IAmb	15 22 43.4	
	comp=Z,13nm,1.0s							
PB05	IPOC Station P	22.14	161	P		P	15 22 48.1	+1.7
PB05				IAmb		IAmb	15 23 12.2	
	comp=Z,37nm,1.4s							
ITTB	Itaituba	22.32	97	eP		P	15 22 46.7	-1.4
PTLB	Pontes e Lacer	22.92	127	P		P	15 22 54.8	+1.0
PTLB	Pontes e Lacer	22.92	127	eP		P	15 22 54.7	+1.0
NPGB	Novo Progresso	23.09	103	eP		P	15 22 54.4	-1.0
PDRB	Porto dos Gac	23.15	116	eP		P	15 22 56.2	+0.3
CLDB	Colider	23.73	113	eP		P	15 23 01.0	-0.2
MAL2	Monte Alegre,	23.76	91	P		P	15 23 00.5	-0.9
MAL2				IAmb		IAmb	15 23 02.9	
	comp=Z,20nm,0.9s							
GO02	Mina Guanaco	24.48	161	P		P	15 23 09.5	+1.2
GO02				IAmb		IAmb	15 23 13.2	
	comp=Z,24nm,1.1s							
SALV	Santo Antonio	25.97	124	eP		P	15 23 21.8	+0.4
MDP	Montagnes des	26.23	74	LR		LR	15 34 45.2	
	comp=Z,64nm,18.7s,baz=188,slow=38							
PP1B	Ponte de Pedra	27.51	126	eP		P	15 23 35.5	+0.3
BDQN	Bodoquena, MS	27.71	133	eP		P	15 23 37.4	+0.4
MURT	Porto Murtinho	27.88	136	eP		P	15 23 38.5	0.0
SNDB	Serra Nova Dou	28.25	112	eP		P	15 23 42.0	+0.1
AQDB	Aquidauana	28.50	132	eP		P	15 23 44.6	+0.6
ARAG	Araguaiana, MT	29.18	120	eP		P	15 23 50.3	+0.2
CO02	Combarbal	29.87	168	P		P	15 23 57.4	+1.3
AMBA	Amambai (Brazi	30.54	135	eP		P	15 24 01.8	-0.2
CPUP	Villa Florida	31.34	143	P		P	15 24 08.2	-0.8
	comp=Z,0.5nm,0.6s,baz=173,slow=9.4,SNR=4.1							
	comp=Z,0.5nm,0.6s							
VA03	San Esteban	31.47	168	P		P	15 24 12.1	+2.0
MT08	Bocatoma Ro	32.24	168	P		P	15 24 20.1	+3.0
BDFB	Brasilia	32.51	117	P		P	15 24 18.8	-0.7
	comp=Z,1.7nm,0.4s,baz=311,slow=10,SNR=3.5							
	comp=Z,1.7nm,0.4s							
IPMB	Ipameri, GO	33.27	121	eP		P	15 24 26.1	+0.1
PTGB	Pitanga	33.74	134	eP		P	15 24 29.6	-0.5
SDBA	SAO DESIDERIO	34.36	109	eP		P	15 24 35.2	-0.3
PSAL	Palomas, Salto	34.81	149	eP		P	15 24 39.9	+0.9
PMNB	Patos De Minas	35.03	120	eP		P	15 24 41.2	-0.1
ITAB	Concordia	35.30	138	eP		P	15 24 42.8	-0.5
JANB	Januaria	35.67	113	eP		P	15 24 45.6	-1.1
W57A	Gilead	36.92	357	IAmb		IAmb	15 24 57.7	
	comp=Z,9.2nm,0.8s							
HNDO	Hondo	37.33	328	P		P	15 25 01.7	+1.2
HNDO				IAmb		IAmb	15 25 02.6	
	comp=Z,9.5nm,0.7s							
V58A	Windy Hill, Pi	37.52	358	IAmb		IAmb	15 25 02.9	
	comp=Z,10.0nm,0.8s							
U56A	King	38.13	357	P		P	15 25 07.0	-0.1
V48A	Smith Brothers	38.36	348	P		P	15 25 08.2	-0.8
V48A				IAmb		IAmb	15 25 12.6	
	comp=Z,5.2nm,0.8s							
T59A	Double "B" Far	38.69	1	P		P	15 25 11.5	-0.2
T57A	Hurt	38.73	358	P		P	15 25 12.3	+0.2
TRQA	Tornquist	38.85	160	P		P	15 25 13.4	+0.3
TRQA				IAmb		IAmb	15 25 14.6	
	comp=Z,12nm,1.0s							
PLCA	Paso Flores	39.22	171	P		P	15 25 17.7	+1.4
	comp=Z,10nm,0.8s,baz=344,slow=9.6,SNR=26							
PLCA				pP		pP	15 25 50.1	-0.1
	comp=Z,1.9nm,0.8s,baz=337,slow=8.3,SNR=1.7							
PLCA				PcP		PcP	15 27 23.0	+0.7
	comp=Z,1.5nm,0.7s,baz=325,slow=4.5,SNR=6.7							
	comp=Z,10nm,0.8s							
PLCA	Paso Flores	39.22	171	eP		P	15 25 17.7	+1.4
S57A	Dark Hollow, R	39.48	359	IAmb		IAmb	15 25 19.4	
	comp=Z,10.0nm,1.1s							
TXAR	Lajitas Array	39.63	324	P		P	15 25 21.3	+1.4
	comp=Z,1.0nm,0.6s,baz=146,slow=8.5,SNR=9.9							
TXAR				PcP		PcP	15 27 24.1	+0.3
	comp=Z,1.1nm,0.8s,baz=142,slow=6.4,SNR=7.8							
TXAR				ScP		ScP	15 30 58.0	-0.2
	comp=Z,0.9nm,0.9s,baz=145,slow=4.6,SNR=7.4							
	comp=Z,1.0nm,0.6s							
R55A	Marlinton	40.04	357	IAmb		IAmb	15 25 24.4	
	comp=Z,9.5nm,0.7s							
SGCY	Sterling City	40.19	329	P		P	15 25 25.2	+0.8
ALPN	Alpine	40.38	325	P		P	15 25 27.6	+1.5
ALPN				IAmb		IAmb	15 25 28.3	
	comp=Z,8.8nm,0.9s							
LL01	San Ignacio de	40.59	174	P		P	15 25 27.6	+0.2
LL01				IAmb		IAmb	15 25 29.4	
	comp=Z,9.7nm,0.8s							
LL02	Futaleuf	41.46	173	P		P	15 25 35.8	+1.3
LL02				IAmb		IAmb	15 25 36.5	
	comp=Z,12nm,0.9s							
DKNS	Dickens	41.48	331	P		P	15 25 36.4	+1.4
CCM	Cathedral Cave	41.62	344	P		P	15 25 35.6	-0.3
MVL	Millersville	41.73	2	P		P	15 25 37.1	+0.4
MVL				IAmb		IAmb	15 25 38.3	
	comp=Z,10nm,0.8s							
RCBR	Riachuelo	42.12	97	LR		LR	15 44 10.5	
	comp=Z,33nm,18.9s,baz=138,slow=37							
NBAN	Anadia, AL	42.13	102	eP		P	15 25 39.8	-0.7
M57A	Sunshine Farm,	43.05	1	IAmb		IAmb	15 25 48.9	
	comp=Z,12nm,0.7s							
BINY	Binghamton	43.94	2	IAmb		IAmb	15 25 56.0	
	comp=Z,12nm,0.8s							
121A	Cookes Peak, D	44.39	323	P		P	15 25 59.9	+1.4
121A				IAmb		IAmb	15 26 01.6	
	comp=Z,8.5nm,1.1s							
319A	Douglas	44.52	321	IAmb		IAmb	15 26 02.2	
	comp=Z,15nm,1.0s							
BNM	Barren Site	44.87	326	P		P	15 26 02.6	+0.2
J59A	Piesco	45.28	4	IAmb		IAmb	15 26 06.1	
	comp=Z,12nm,0.8s							
ANMO	Albuquerque	45.36	327	P		P	15 26 06.3	+0.2
ANMO				IAmb		IAmb	15 26 08.4	
	comp=Z,9.0nm,0.7s							
NCB	Newcomb	45.80	4	IAmb		IAmb	15 26 10.2	
	comp=Z,8.5nm,0.7s							
T25A	Trinidad	45.96	330	IAmb		IAmb	15 26 13.5	
	comp=Z,14nm,1.2s							
TUC	Tucson	46.09	320	P		P	15 26 12.9	+1.1
LBNH	Lisbon	46.26	6	IAmb		IAmb	15 26 14.1	
	comp=Z,11nm,0.7s							
SDCO	Great Sand Dun	46.98	330	P		P	15 26 19.4	+0.5
SDCO				IAmb		IAmb	15 26 21.1	
	comp=Z,7.7nm,0.8s							
W18A	Petrified Fore	47.35	324	P		P	15 26 23.1	+1.5
W18A				IAmb		IAmb	15 26 24.3	
	comp=Z,15nm,1.1s							
E62A	Clayton Lake	48.89	8			P	15 26 33.7	+0.7
PV05	Paradox Valley	49.10	327	P		P	15 26 34.4	-0.7
PV05				IAmb		IAmb	15 26 36.8	
	comp=Z,10nm,0.7s							
YUH	Yuha Desert	49.69	317	P		P	15 26 39.7	+0.3
YUH				IAmb		IAmb	15 26 41.5	
	comp=Z,5.3nm,0.8s							
W13A	Hualapai Mount	49.86	321	IAmb		IAmb	15 26 43.6	
	comp=Z,5.6nm,0.8s							
NEE2	Needles Airpor	50.12	320	P		P	15 26 43.5	+0.9
SRU	San Rafael Swe	50.62	327	IAmb		IAmb	15 26 48.4	
	comp=Z,6.4nm,1.0s							
BSUT	Blindstream Ca	51.77	328	IAmb		IAmb	15 26 57.3	
	comp=Z,7.9nm,1.2s							
GSC	Goldstone, Bar	51.86	319	P		P	15 26 57.2	+1.5
GSC				IAmb		IAmb	15 26 58.4	
	comp=Z,6.1nm,0.9s							
PSUT	Pine Spring	52.09	324	P		P	15 26 57.1	-0.4
TPNV	Topopah Spring	52.52	321	IAmb		IAmb	15 27 03.4	
	comp=Z,8.3nm,0.9s							
TCUT	Toone Canyon	52.53	328	P		P	15 27 01.5	+0.8
WCT	Wildcat Mounta	52.66	321	IAmb		IAmb	15 27 04.8	
	comp=Z,7.4nm,1.2s							
SPR3	Spring Creek 3	52.68	324	IAmb		IAmb	15 27 03.8	
	comp=Z,5.2nm,0.9s							
PDAR	Pinedale Array	52.81	331	P		P	15 27 02.3	-0.4
PDAR	Pinedale Array	52.81	331	P		P	15 27 03.0	+0.3
	comp=Z,0.8nm,0.6s,baz=125,slow=8.7,SNR=12							
PDAR				PcP		PcP	15 28 09.9	-0.1
	comp=Z,0.5nm,0.7s,baz=131,slow=6.8,SNR=4.4							
PDAR				ScP		ScP	15 31 53.0	+0.1
	comp=Z,0.1nm,0.3s,baz=145,slow=5.4,SNR=3.9							
	comp=Z,0.8nm,0.6s							
HWUT	Hardware Ranch	52.97	329	IAmb		IAmb	15 27 04.8	
	comp=Z,6.4nm,0.6s							
LOHW	Long Hollow	53.95	331	P		P	15 27 10.9	-0.1
ULM	Lac du Bonnet	54.19	346	P		P	15 27 10.8	-1.5
	comp=Z,2.2nm,0.5s,baz=157,slow=8.6,SNR=6.9							
ULM				LR		LR	15 51 34.8	
	comp=Z,21nm,18.2s,baz=354,slow=37							
	comp=Z,2.2nm,0.5s							
YNE	Yellowstone No	54.72	333	P		P	15 27 16.7	+0.1
YHL	Hebgen Lake	55.15	332	IAmb		IAmb	15 27 22.4	
	comp=Z,11nm,1.0s							
BOZ	Bozeman (W)	55.92	332	IAmb		IAmb	15 27 27.3	
	comp=Z,4.7nm,1.0s							
MCMT	McKenzie Canyo	55.94	331	P		P	15 27 25.8	+0.5
WELL	Weller Preserv	56.24	320	IAmb		IAmb	15 27 29.6	
	comp=Z,7.3nm,0.9s							
MFID	Camas Ranch	56.48	328	IAmb		IAmb	15 27 31.1	
	comp=Z,6.8nm,0.8s							
BEKR	Beckworth	56.85	322	IAmb		IAmb	15 27 33.9	
	comp=Z,6.3nm,0.8s							
SCHQ	Schefferville	57.29	8	P		P	15 27 33.8	-0.5
SCHQ	Schefferville	57.29	8	P		P	15 27 33.8	-0.5
	comp=Z,54nm,0.6s,baz=205,slow=6.2,SNR=9.9							
ORV	Oroville	57.38	321	P		P	15 27 36.4	+1.1
WVOR	Wild Horse Val	57.40	325	IAmb		IAmb	15 27 37.2	
	comp=Z,8.9nm,1.1s							
K05A	Summer Lake	58.89	324	IAmb		IAmb	15 27 51.8	
	comp=Z,9.2nm,1.4s							
F10A	Beach Ranch, E	58.95	329	IAmb		IAmb	15 27 51.0	
	comp=Z,4.8nm,0.9s							
G08A	Pilot Rock	59.41	327	IAmb		IAmb	15 27 51.2	
	comp=Z,7.4nm,0.9s							
J05D	Fort Rock, OR	59.42	324	P		P	15 27 50.4	+0.8
LNOR	Lincton Mounta	59.43	328	IAmb		IAmb	15 27 56.9	
	comp=Z,11nm,1.5s							
G06A	Carlson Farm,	60.28	327	P		P	15 27 56.4	+1.1
G06A				IAmb		IAmb	15 27 57.4	
	comp=Z,5.1nm,0.8s							
G05A	Wamic	60.67	326	P		P	15 27 59.3	+1.5
LON	Longmire	61.87	327	P		P	15 28 06.0	+0.1
LON				IAmb		IAmb	15 28 07.0	
	comp=Z,3.6nm,0.9s							
DY2G	Dye2	71.88	13	*i* P		P	15 29 07.6	-1.4
DY2G				IAmb		IAmb	15 29 09.9	
	comp=Z,12nm,0.5s							
ILULI	Ilulissat	73.30	10	*i* P		P	15 29 16.7	-0.3
ILULI				IAmb		IAmb	15 29 17.4	
	comp=Z,15nm,0.6s							
ANGG	Ammassalik, Gr	73.36	16	*i* P		P	15 29 16.7	-0.7
ANGG				IAmb		IAmb	15 29 27.2	
	comp=Z,199nm,1.7s							
DBIC	Dimbokro	73.45	83	P		P	15 29 18.4	-0.6
	comp=Z,5.8nm,0.7s,baz=274,slow=4.8,SNR=6.2							
	comp=Z,5.8nm,0.7s							
UPNV	Upernavik	75.83	7	*i* P		P	15 29 32.1	+0.5
UPNV				IAmb		IAmb	15 29 37.3	
	comp=Z,72nm,1.3s							
MD01	Midelt array s	76.98	56	P		P	15 29 39.2	+0.1
RES	Resolute Bay	77.16	355	LR		LR	16 07 24.0	
	comp=Z,29nm,18.4s,baz=20,slow=38							
SUMG	Summit	78.42	11	P		P	15 29 46.1	-0.4
SUMG				IAmb		IAmb	15 29 47.8	
	comp=Z,9.3nm,0.7s							
SUMG	Summit	78.42	11	*i* P		P	15 29 46.9	+0.4
SUMG				IAmb		IAmb	15 29 48.0	
	comp=Z,12nm,0.4s							
H31M	Peel River	78.59	340	IAmb		IAmb	15 29 48.8	
	comp=Z,7.7nm,0.9s							
L29M	L29M	78.67	336	P		P	15 29 47.9	+0.2
L29M				IAmb		IAmb	15 29 49.3	
	comp=Z,7.8nm,0.8s							
ESDC	Sonseca Array	78.95	49	P		P	15 29 49.3	-0.4
	comp=Z,1.6nm,0.9s,baz=262,slow=7.7,SNR=7.2							
	comp=Z,1.6nm,0.8s							
I30M	Mount Dempster	79.02	339	IAmb		IAmb	15 29 51.4	
	comp=Z,6.1nm,0.8s							
G31M	Satah River	79.16	340	IAmb		IAmb	15 29 51.7	
	comp=Z,12nm,0.8s							
BELA	Belgrano 2	79.28	172	P		P	15 29 51.5	+0.8
BELA				IAmb		IAmb	15 29 52.2	
	comp=Z,8.8nm,0.8s							
INK	Inuvik	79.67	342	IAmb		IAmb	15 29 54.4	
	comp=Z,9.8nm,1.0s							
F30M	Barrier River	80.02	341	IAmb		IAmb	15 29 56.7	
	comp=Z,8.5nm,0.9s							
TORD	Torodi Ar. Bea	80.36	76	P		P	15 29 56.5	-1.2
	comp=Z,0.7nm,0.4s,baz=282,slow=6.1,SNR=14							
TORD				pP		pP	15 30 35.9	-0.5
	comp=Z,2.2nm,1.1s,baz=291,slow=3.6,SNR=4.1							
	comp=Z,0.7nm,0.4s							
G29M	Pine Creek	80.43	340	IAmb		IAmb	15 29 58.4	
	comp=Z,10.0nm,0.8s							
EGAK	Eagle	80.61	337	P		P	15 29 58.5	+0.5
EGAK				IAmb		IAmb	15 29 59.5	
	comp=Z,9.1nm,0.8s							
NEEM	North Greenlan	80.64	6	*i* P		P	15 29 59.2	+0.9
NEEM				IAmb		IAmb	15 30 00.4	
	comp=Z,5.5nm,0.6s							
E29M	Blow River	81.10	341	IAmb		IAmb	15 30 01.9	
	comp=Z,7.5nm,0.9s							
VNA3	Neumayer Olymp	81.32	162	⇓P		P	15 30 02.5	+0.8
	comp=Z,13nm,0.8s							
VNA1	Neumayer-Stat	81.56	162	⇓P		P	15 30 04.1	+1.2
	comp=Z,12nm,0.9s							
E28M	Babbage River	81.74	341	IAmb		IAmb	15 30 04.6	
	comp=Z,6.8nm,1.0s							
J25K	Salcha River,	82.21	336	P		P	15 30 06.8	+0.2
J25K				IAmb		IAmb	15 30 07.7	
	comp=Z,5.1nm,0.7s							
ILAR	Eielson Array	82.88	336	P		P	15 30 09.8	-0.1
	comp=Z,2.6nm,0.9s,baz=130,slow=4.0,SNR=32							
ILAR				pP		pP	15 30 49.8	+0.4
	comp=Z,1.3nm,0.9s,baz=134,slow=3.5,SNR=5.0							
	comp=Z,2.6nm,0.9s							
EKA	Eskdalemuir Ar	82.95	34	P		P	15 30 09.3	-1.2
	comp=Z,4.6nm,0.8s,baz=258,slow=3.8,SNR=7.9							
	comp=Z,4.6nm,0.8s							
SNAA	Sanae	83.53	162	⇓P		P	15 30 13.7	+0.4
	comp=Z,91nm,0.7s							
SNAA	Sanae	83.53	162	P		P	15 30 13.8	+0.6
	comp=Z,5.3nm,0.9s,baz=268,slow=6.6,SNR=25							
	comp=Z,5.3nm,0.9s							
D25K	Kavik River	84.28	341	P		P	15 30 17.4	+0.4
D25K				IAmb		IAmb	15 30 19.9	
	comp=Z,5.0nm,0.8s							
TROLL	Troll, Antarti	85.25	162	⇓P		P	15 30 22.8	+0.8
	comp=Z,679nm,0.8s							
F21K	Alatna River	86.17	338	P		P	15 30 26.1	-0.3
F21K				IAmb		IAmb	15 30 28.2	
	comp=Z,5.4nm,0.9s							
B21K	Ikpikpuk River	87.15	340	P		P	15 30 31.6	+0.5
QSPA	South Pole Qui	88.16	180	P		P	15 30 38.9	+2.8
QSPA	South Pole Qui	88.16	180	P		P	15 30 39.1	+3.0
	comp=Z,15nm,0.9s,baz=161,slow=1.3,SNR=70							
	comp=Z,15nm,0.9s							
KEST	Kesra	88.91	54	P		P	15 30 41.6	+1.3
	comp=Z,5.0nm,0.7s,baz=352,slow=2.6,SNR=4.8							
	comp=Z,5.0nm,0.7s							
GERES	GERESS Array B	92.52	41	P		P	15 30 56.5	-0.3
	comp=Z,0.6nm,0.6s,baz=255,slow=8.2,SNR=4.4							
	comp=Z,0.6nm,0.6s							
VNDA	Vanda	94.42	191	P		P	15 31 06.4	+1.6
	comp=Z,1.2nm,0.8s,baz=120,slow=5.2,SNR=8.8							
	comp=Z,1.2nm,0.8s							
ARC

2.1nm,0.3s,baz=353,slow=18,SNR=5.0
14nm,1.1s
SLVN Son La 15.59 47 P **P** **15 43 57.9 -0.5**
ENH Enshi 25.35 38 P **P** **15 45 40.2 -1.0**
ENH IAmb IAmb 15 45 41.3
comp=Z,14nm,0.7s
H08S3 Diego Garcia H 26.60 227 T T 16 13 34.8
baz=46,slow=76
H08S2 Diego Garcia H 26.61 227 T T 16 13 35.7
baz=46,slow=76
H08S1 Diego Carcia H 26.62 227 T T 16 13 35.4
baz=46,slow=76
MYLDM Lahad Datu 27.08 100 P **P** **15 45 57.3 +0.3**
MYLDM IAmb IAmb 15 46 19.9
comp=Z,20nm,1.2s
TARG Taragay, Kyrgy 33.04 341 P **P** **15 46 50.8 +0.8**
TARG IAmb IAmb 15 47 20.4
comp=Z,1.8nm,0.9s
ARSB Arslanbob 34.49 335 P **P** **15 47 02.6 +0.3**
ARSB IAmb IAmb 15 47 15.4
comp=Z,5.6nm,1.0s
MKAR Makanchi Array 36.64 349 P **P** **15 47 20.4 -0.1**
MKAR Makanchi Array 36.64 349 P **P** **15 47 21.4 +0.9**
comp=Z,1.0nm,0.6s,baz=166,slow=8.3,SNR=13
comp=Z,1.0nm,0.6s
KKAR Karatay Array 37.00 334 P **P** **15 47 25.0 +1.4**
SONM Songino Array 38.80 16 P **P** **15 47 39.8 +0.9**
comp=Z,0.6nm,0.4s,baz=201,slow=7.3,SNR=4.1
comp=Z,0.6nm,0.4s
KSRS Korea Array 41.84 45 P **P** **15 48 03.4 -0.6**
comp=Z,0.5nm,0.5s,baz=236,slow=8.3,SNR=1.8
comp=Z,0.5nm,0.5s
ZALV Zalesovo Beam 43.27 354 P **P** **15 48 16.1 +0.7**
ZALV Zalesovo Beam 43.27 354 P **P** **15 48 16.0 +0.6**
comp=Z,1.0nm,0.5s,baz=162,slow=7.9,SNR=5.7
comp=Z,1.0nm,0.5s
FITZ Fitzroy Crossi 44.17 130 P **P** **15 48 22.4 -0.7**
KNRA Kunumurra 45.18 125 P **P** **15 48 30.6 -0.6**
BVAR Borovoye Array 45.37 342 P **P** **15 48 33.3 +1.1**
comp=Z,0.3nm,0.4s,baz=145,slow=7.9,SNR=3.7
comp=Z,0.3nm,0.4s
MTN Manton Dam 45.67 120 P **P** **15 48 33.0 -2.1**
ABKAR Akbulak array 46.44 332 P **P** **15 48 42.7 +1.9**
WB0 Warramunga Arr 51.89 126 P **P** **15 49 21.9 -1.0**
WB0 IAmb IAmb 15 49 32.2
comp=Z,4.6nm,0.6s
WRA Warramunga Arr 51.94 126 P **P** **15 49 22.7 -0.6**
WRA Warramunga Arr 51.94 126 P **P** **15 49 22.8 -0.5**
comp=Z,0.7nm,0.3s,baz=301,slow=10,SNR=76
WRA PcP **PcP** **15 50 35.2 -0.6**
comp=Z,0.3nm,0.5s,baz=314,slow=3.7,SNR=1.4
comp=Z,0.7nm,0.3s
WR8 Warramunga Arr 52.08 126 P **P** **15 49 23.8 -0.6**
WR8 IAmb IAmb 15 49 34.2
comp=Z,6.0nm,0.7s
AS31 Alice Springs 53.67 130 P **P** **15 49 35.7 -0.3**
ASAR Alice Springs 53.67 130 P **P** **15 49 34.8 -1.2**
ASAR Alice Springs 53.67 130 P **P** **15 49 35.8 -0.3**
comp=Z,0.9nm,0.5s,baz=304,slow=7.3,SNR=31
ASAR PcP **PcP** **15 50 42.7 +0.5**
comp=Z,0.5nm,0.6s,baz=308,slow=3.3,SNR=4.2
comp=Z,0.9nm,0.5s
BBOO Buckleboo 60.64 138 P **P** **15 50 25.8 +0.6**
STKA Stephens Creek 63.90 134 P **P** **15 50 47.0 -0.1**
STKA Stephens Creek 63.90 134 P **P** **15 50 46.9 -0.1**
comp=Z,1.1nm,0.5s,baz=278,slow=2.6,SNR=4.0
comp=Z,1.1nm,0.5s
H04N2 CROZET ISLANDS 67.18 209 T T 17 04 25.0
baz=43,slow=75
H04N1 CROZET ISLANDS 67.19 209 T T 17 04 23.7
baz=43,slow=75
H04N3 CROZET ISLANDS 67.20 209 T T 17 04 19.2
baz=43,slow=75
ARCES ARCESS Array B 71.61 340 P **P** **15 51 35.5 +0.4**
comp=Z,0.5nm,0.5s,baz=75,slow=4.2,SNR=5.3
comp=Z,0.5nm,0.5s
D19K Kuna River 87.11 20 P **P** **15 52 59.9 +0.4**
D19K IAmb IAmb 15 53 09.0
comp=Z,7.0nm,1.4s
SYO Syowa Base 87.63 197 *e*PcP **PcP** **15 53 06.2 +2.5**
E19K Redstone River 87.82 21 P **P** **15 53 03.1 +0.2**
E19K IAmb IAmb 15 53 26.8
comp=Z,3.8nm,1.1s
G21K Allakaket 89.55 21 P **P** **15 53 12.0 +0.9**
IMAR Indian Mountai 89.70 22 P **P** **15 53 12.8 +1.0**
D25K Kavik River 90.47 18 P **P** **15 53 17.4 +2.0**
D25K IAmb IAmb 15 53 34.9
comp=Z,2.1nm,1.1s
K20K Telida 90.76 24 P **P** **15 53 17.2 +0.4**
K20K IAmb IAmb 15 53 33.9
comp=Z,7.8nm,1.4s
M20K Styx River 91.81 25 P **P** **15 53 22.7 +0.9**
OHAK Old Harbor 93.86 30 P **P** **15 53 32.2 +1.0**
K30B Basset 125.66 10 PKPpre 15 59 07.0

*NEIC **11** 16:05:42.8±2.4,31°.25N±0°.06×130°.4E±0°.1,h163km±7km, mb4.4/41, Error ellipse: s-maj=13.5km s-min=8.9km az=106.0*
*IDC **11** 16:05:42.6±1.4,31°.28N×130°.43E,h165km±12km, mb3.8/21,mbtmp4.3/25,Error ellipse: s-maj=15.9km s-min=10.2km az=85.0*
*NIED **11** 16:05:43.2,31°.23N×130°.39E,h158km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.52; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-0.48; $M_{r\theta}$0.21; $M_{r\phi}$0.52; $M_{\theta\phi}$2.01; Fault plane solution: M_o2.14000×10^{15} NP1: ϕ_s117.00000°,δ16.00000°,λ24.00000°. NP2:ϕ_s3.00000°, δ83.00000°,λ105.00000°.*
*JMA **11** 16:05:43.2±0.1,31°.2N±0°.4×130°.4E±0°.8,h158km±1km, MV3.9/37,SATSUMA PENINSULA REGION*
ISC 11 16:05:42.5±0.5,31°.21N±0°.04×130°.35E±0°.05,h162km±4km, n118,σ1ϕ04/134,mb4.3/58,5D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSU	**Suzuyama**	**0.30**	**17**	⇓*i* P	**Pn**	**16 06 04.9**	**+0.4**
JTSR	**Tashiro 2**	**0.49**	**95**	*i* P	**Pn**	**16 06 05.5**	**+0.2**
JTSR				S	**Sn**	**16 06 21.9**	**-0.7**
JSJ	**Shimokoshiki**	**0.71**	**311**	⇓*i* P	**Pn**	**16 06 06.3**	**-0.1**
JSJ				⇓S	**Sn**	**16 06 24.4**	**-0.3**
JTN	**Tanegashima 3**	**0.78**	**136**	*i* P	**Pn**	**16 06 07.2**	**+0.4**
JTN				S	**Sn**	**16 06 25.4**	**0.0**
JTZ	**Takazaki**	**0.93**	**42**	*i* P	**Pn**	**16 06 08.2**	**+0.3**
JTZ				S	**Sn**	**16 06 26.5**	**-1.0**
JMTN	**Minamitane**	**0.94**	**150**	*i* P	**Pn**	**16 06 08.4**	**+0.4**
JMTN				S	**Sn**	**16 06 27.6**	**+0.1**
JYAK	**Yakushimahirau**	**0.98**	**172**	*i* P	**Pn**	**16 06 08.6**	**+0.3**
JYAK				S	**Sn**	**16 06 27.4**	**-0.7**
JIU3	**Izumi3**	**1.39**	**16**	*i* P	**Pn**	**16 06 12.4**	**+0.5**
JIU3				*e*S	**Sn**	**16 06 34.2**	**-0.5**
JNN	**Nakanoshima**	**1.43**	**197**	*i* P	**Pn**	**16 06 12.9**	**+0.6**
JNN				S	**Sn**	**16 06 35.5**	**+0.3**
JNU	**Nakatsue**	**1.96**	**13**		**Pn**	**16 06 17.7**	**-0.2**
JMN	**Monobe**	**3.90**	**49**	Pn	**Pn**	**16 06 41.4**	**-0.3**
JOW	**Kunigami**	**4.73**	**203**	Pn	**Pn**	**16 06 51.8**	**-0.8**
JOW	**Kunigami**	**4.73**	**203**	P	**Pn**	**16 06 52.0**	**-0.6**
	14nm,0.2s,baz=79,slow=19,SNR=57						
JOW				S	**Sn**	**16 07 42.9**	**-4.5**
	42nm,0.2s,baz=79,slow=19,SNR=12						
JMZ	**Minamidaito 2**	**5.43**	**172**	Pn	**Pn**	**16 07 02.6**	**+0.8**
TJN	**Taejon**	**5.72**	**335**	Pn	**Pn**	**16 07 07.0**	**+1.5**
KSAR	**Wonju Array Be**	**6.54**	**342**	Pn	**Pn**	**16 07 18.6**	**+2.3**
KSRS	**Korea Array**	**6.54**	**343**	P	**Pn**	**16 07 15.0**	**-1.4**
	6.7nm,0.9s,baz=171,slow=14,SNR=15						
INU	**Inuyama**	**6.94**	**52**	Pn	**Pn**	**16 07 23.6**	**+1.9**
JGF	**Kuroka**	**7.31**	**51**	Pn	**Pn**	**16 07 28.5**	**+1.9**
MAJO	**Matsushiro**	**8.42**	**49**	Pn	**Pn**	**16 07 41.9**	**+0.5**
MJB9	**Matsu-Tunnel**	**8.42**	**49**	Pn	**Pn**	**16 07 41.9**	**+0.5**
MJAR	**Matsushiro Arr**	**8.42**	**49**	P	**Pn**	**16 07 41.6**	**+0.2**
	1.2nm,0.4s,baz=228,slow=15,SNR=10						
MJAR				S	**Sn**	**16 09 14.8**	**-0.4**
	3.3nm,0.6s,baz=202,slow=18,SNR=9.2						
MDJ	**Mudanjiang**	**13.39**	**358**	P	Pn	16 08 40.2	-5.9
MDJ				pmax	pmax		
	comp=Z,32nm,0.8s						
HNS	**HongShan**	**14.32**	**300**	⇓P	**P**	**16 09 01.9**	**+1.7**
HNS				pmax	pmax		
	comp=Z,13nm,1.0s						
BJT	**Baijiatuau**	**14.49**	**311**	P	**P**	**16 09 04.1**	**+2.0**
BNX	**BinXian**	**14.69**	**352**	⇓P	**Pn**	**16 09 02.7**	**+0.4**
BNX				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LYN	**LuoYang**	**15.39**	**287**	P	**P**	**16 09 14.1**	**+2.0**
LYN				pmax	pmax		
	comp=Z,12nm,0.8s						
ASAJ	**Asahikawa**	**16.10**	**33**	P	**Pn**	**16 09 18.0**	**-1.7**
	comp=Z,6.2nm,0.6s,baz=229,slow=11,SNR=7.9						
JKA	**Kamikawa-asahi**	**16.10**	**33**	Pn	**Pn**	**16 09 17.1**	**-2.6**
XLT	**XiLinHaoTe**	**16.95**	**322**	*e*P	**Pn**	**16 09 30.4**	**+0.3**
XLT				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC	**Hu-ho-hao-te**	**17.95**	**308**	*e*P	**Pn**	**16 09 42.6**	**+0.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,5.1s						
ENH	**Enshi**	**17.96**	**272**	P	**Pn**	**16 09 42.3**	**+0.1**
XAN	**Xi'an**	**18.27**	**285**	P	**P**	**16 09 44.1**	**+0.3**
XAN				pmax	pmax		
	comp=Z,13nm,1.2s						
BTO	**Baotou**	**18.91**	**305**	*e*P	**P**	**16 09 47.3**	**-3.5**
BTO				sP	**sP**	**16 10 37.6**	**-1.5**
BTO				S	S	16 13 01.0	-16
BTO				pmax	pmax		
	comp=Z,12nm,0.5s						
BTO				pmax	pmax		
	comp=Z,240nm,4.6s						
BTO				LR	LR		
	comp=N,200nm,5.8s						
BTO				LR	LR		
	comp=E,140nm,9.4s						
BTO				LR	LR		
	comp=Z,100nm,4.2s						
LZDM	**Lanzhou Array**	**22.68**	**289**	P	**P**	**16 10 31.3**	**+0.8**
	comp=Z,11nm,0.6s,baz=134,slow=8.6,SNR=7.9						
	comp=Z,11nm,0.6s						
SONM	**Songino Array**	**24.69**	**319**	P	**P**	**16 10 48.4**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=139,slow=9.4,SNR=6.3						
	comp=Z,1.6nm,0.4s						
PZH	**PanZhiHua**	**25.46**	**267**	P	**P**	**16 10 56.8**	**+1.2**
GTA	**Gaotai**	**26.14**	**297**	P	**P**	**16 11 02.2**	**+0.6**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CHTO	**Chiang Mai**	**30.91**	**254**	P	**P**	**16 11 45.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**31.09**	**253**	P	**P**	**16 11 46.5**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=50,slow=8.3,SNR=13						
	comp=Z,1.5nm,0.6s						
KULM	**Kulim**	**37.97**	**233**	P	**P**	**16 12 45.5**	**+0.9**
ZALV	**Zalesovo Beam**	**39.58**	**319**	P	**P**	**16 12 56.9**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=116,slow=6.8,SNR=3.8						
ZALV				PcP	**PcP**	**16 15 00.3**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=113,slow=3.7,SNR=2.9						
ZALV				ScP	**ScP**	**16 18 33.1**	**-1.9**
	comp=Z,1.0nm,0.7s,baz=92,slow=4.3,SNR=3.8						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**39.82**	**307**	P	**P**	**16 12 59.2**	**-0.6**
MKAR				PcP	**PcP**	**16 15 02.0**	**-0.5**
MKAR	**Makanchi Array**	**39.82**	**307**	P	**P**	**16 12 59.6**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=92,slow=11,SNR=14						
MKAR				PcP	**PcP**	**16 15 01.8**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=81,slow=3.7,SNR=9.1						
MKAR				ScP	**ScP**	**16 18 34.7**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=96,slow=5.1,SNR=8.5						
	comp=Z,1.3nm,0.6s						
TIXI	**Tiksi**	**40.50**	**359**	P	**P**	**16 13 04.0**	**-1.0**
TIXI				IAmb	IAmb	16 13 21.2	
	comp=Z,9.8nm,1.1s						
KURK	**Kurchatov**	**42.66**	**313**	P	**P**	**16 13 22.0**	**-0.8**
KURBB	**Kurchatov Arra**	**42.70**	**312**	P	**P**	**16 13 22.9**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=94,slow=9.3,SNR=8.6						
	comp=Z,1.0nm,0.4s						
KNRA	**Kununurra**	**46.64**	**182**	P	**P**	**16 13 55.2**	**+0.6**
KNRA				IAmb	IAmb	16 14 30.3	
	comp=Z,8.1nm,1.1s						
BVAR	**Borovoye Array**	**47.93**	**315**	P	**P**	**16 14 04.6**	**+0.3**
	comp=Z,2.9nm,0.3s,baz=96,slow=9.7,SNR=34						
BVAR				PcP	**PcP**	**16 15 29.3**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=119,slow=3.4,SNR=6.0						
	comp=Z,2.9nm,0.3s						
KKAR	**Karatay Array**	**48.21**	**302**	P	**P**	**16 14 06.9**	**+0.3**
GAR	**Garm**	**48.95**	**296**	P	**P**	**16 14 14.0**	**+1.5**
FITZ	**Fitzroy Crossi**	**49.24**	**186**	P	**P**	**16 14 15.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**49.24**	**186**	P	**P**	**16 14 15.1**	**+0.6**
	comp=Z,2.0nm,0.5s,baz=345,slow=5.8,SNR=8.3						
	comp=Z,2.0nm,0.5s						
WB0	**Warramunga Arr**	**50.84**	**175**	P	**P**	**16 14 26.1**	**-0.5**
WB0				IAmb	IAmb	16 14 57.3	
	comp=Z,6.1nm,1.1s						
WRA	**Warramunga Arr**	**51.01**	**175**	P	**P**	**16 14 27.9**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=353,slow=7.9,SNR=6.3						
	comp=Z,0.3nm,0.4s						
AS31	**Alice Springs**	**54.67**	**176**	P	**P**	**16 14 54.8**	**+0.1**
ASAR	**Alice Springs**	**54.67**	**176**	P	**P**	**16 14 54.4**	**-0.4**
ASAR	**Alice Springs**	**54.67**	**176**	P	**P**	**16 14 55.2**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=359,slow=6.1,SNR=24						
	comp=Z,0.4nm,0.3s						
AB31	**Akbulak array**	**54.70**	**311**	P	**P**	**16 14 55.2**	**+0.5**
AB31				IAmb	IAmb	16 14 56.1	
	comp=Z,2.8nm,0.5s						
ABKAR	**Akbulak array**	**54.70**	**311**	P	**P**	**16 14 54.9**	**+0.2**
ARTI	**Arti**	**54.83**	**320**	P	**P**	**16 14 54.8**	**-0.7**
PPLA	**Purkeypile**	**57.07**	**32**	P	**P**	**16 15 13.2**	**+1.7**
PPLA				IAmb	IAmb	16 15 56.1	
	comp=Z,5.1nm,1.2s						
KDAK	**Kodiak Island**	**57.44**	**38**	P	**P**	**16 15 14.6**	**+0.7**
KDAK				IAmb	IAmb	16 15 54.0	
	comp=Z,6.2nm,1.1s						
SUA	**Susitna One**	**57.89**	**34**	P	**P**	**16 15 19.3**	**+2.1**
SUA				IAmb	IAmb	16 15 35.4	
	comp=Z,5.1nm,1.2s						
RND	**Reindeer**	**58.52**	**31**	P	**P**	**16 15 21.2**	**-0.3**
GLI	**Glacier Island**	**59.73**	**34**	P	**P**	**16 15 29.9**	**+0.2**
GLI				IAmb	IAmb	16 16 14.3	
	comp=Z,9.1nm,1.0s						
SPB2	**Spitsbergen Ar**	**64.36**	**348**	P	**P**	**16 15 59.4**	**-0.9**
SPITS	**Spitsbergen Ar**	**64.36**	**348**	P	**P**	**16 16 00.1**	**-0.3**
	comp=Z,2.6nm,0.4s,baz=80,slow=9.4,SNR=20						
	comp=Z,2.6nm,0.4s						
KBS	**Kingsbay**	**64.71**	**349**	P	**P**	**16 16 02.5**	**-0.1**
KEV	**Kevo**	**65.51**	**338**	P	**P**	**16 16 07.0**	**-0.8**
KEV				IAmb	IAmb	16 16 07.6	
	comp=Z,5.3nm,0.6s						
ARCES	**ARCESS Array B**	**66.08**	**338**	P	**P**	**16 16 10.2**	**-1.3**
ARCES				IAmb	IAmb	16 16 44.8	
	comp=Z,4.4nm,1.1s						
ARCES	**ARCESS Array B**	**66.08**	**338**	P	**P**	**16 16 11.0**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=59,slow=7.4,SNR=22						
	comp=Z,1.7nm,0.4s						
KBZ	**Khabaz**	**67.49**	**308**	P	**P**	**16 16 22.0**	**+1.1**
	comp=Z,7.1nm,0.8s,baz=95,slow=3.4,SNR=16						
	comp=Z,7.1nm,0.8s						
FIA1	**FINESS Array S**	**69.47**	**330**	P	**P**	**16 16 31.9**	**-0.9**
FINES	**FINESS Array B**	**69.47**	**330**	P	**P**	**16 16 32.2**	**-0.6**
	comp=Z,7.4nm,0.5s,baz=67,slow=5.6,SNR=64						
	comp=Z,7.4nm,0.5s						
MARD	**Mardin**	**71.56**	**303**	P	**P**	**16 16 47.1**	**+1.0**
AKASG	**Malin Array Be**	**72.97**	**319**	P	**P**	**16 16 53.3**	**-0.7**
AKASG	**Malin Array Be**	**72.97**	**319**	P	**P**	**16 16 53.5**	**-0.5**
	comp=Z,2.7nm,0.4s,baz=57,slow=6.2,SNR=23						
	comp=Z,2.7nm,0.4s						
AKBB	**Malin Array Si**	**72.97**	**319**	P	**P**	**16 16 53.2**	**-0.9**
AKBB				IAmb	IAmb	16 16 54.2	
	comp=Z,11nm,0.9s						
KIEV	**Kiev**	**72.98**	**319**	P	**P**	**16 16 53.6**	**-0.5**
KIEV				IAmb	IAmb	16 16 54.2	
	comp=Z,9.7nm,0.9s						
RAYN	**Ar Rayn**	**74.02**	**288**	P	**P**	**16 17 01.0**	**+0.2**
RAYN				IAmb	IAmb	16 17 01.9	
	comp=Z,7.2nm,0.9s						
HFS	**Hagfors**	**75.28**	**332**	P	**P**	**16 17 06.4**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=59,slow=3.8,SNR=13						
	comp=Z,2.5nm,0.5s						
NC405	**NORSAR Array S**	**75.44**	**334**	P	**P**	**16 17 07.0**	**-1.2**
NC405				IAmb	IAmb	16 17 07.9	
	comp=Z,7.4nm,0.6s						
BRTR	**Keskin Array B**	**75.46**	**308**	P	**P**	**16 17 09.1**	**+0.2**
BRTR	**Keskin Array B**	**75.46**	**308**	P	**P**	**16 17 09.2**	**+0.4**
	comp=Z,5.2nm,0.8s,baz=97,slow=5.2,SNR=28						
	comp=Z,5.2nm,0.8s						
NB201	**NORSAR Array S**	**75.64**	**334**	P	**P**	**16 17 08.2**	**-1.1**
NB201				IAmb	IAmb	16 17 11.7	
	comp=Z,7.5nm,1.1s						
NB2	**NORSAR Subarra**	**75.67**	**334**	P	**P**	**16 17 08.3**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=47,slow=5.6						
NOA	**NORSAR Array B**	**75.67**	**334**	P	**P**	**16 17 08.3**	**-1.2**
	comp=Z,2.0nm,0.5s,baz=50,slow=5.6,SNR=9.0						
	comp=Z,2.0nm,0.5s						
SUMG	**Summit**	**76.20**	**357**	P	**P**	**16 17 13.1**	**+0.3**
SUMG				IAmb	IAmb	16 17 14.3	
	comp=Z,5.6nm,0.8s						
BUR08	**Bucovina Ar. S**	**76.79**	**318**	P	**P**	**16 17 15.8**	**-0.4**
BUR08				IAmb	IAmb	16 17 17.2	
	comp=Z,5.1nm,0.8s						
BURAR	**Bucovina Array**	**76.80**	**318**	P	**P**	**16 17 16.4**	**+0.2**
BURAR				IAmb	IAmb	16 17 17.4	
	comp=Z,4.4nm,0.8s						
MMAI	**Mount Meron Ar**	**77.44**	**301**	P	**P**	**16 17 20.1**	**0.0**
	comp=Z,1.3nm,0.5s,baz=71,slow=9.8,SNR=2.7						
	comp=Z,1.3nm,0.5s						
MLR	**Muntele Rosu**	**77.49**	**316**	P	**P**	**16 17 20.2**	**0.0**
OJC	**Ojcow**	**78.35**	**322**	P	**P**	**16 17 24.6**	**0.0**
MORC	**Moravsky Berou**	**79.79**	**323**	P	**P**	**16 17 33.0**	**+0.5**
MORC				IAmb	IAmb	16 17 33.8	
	comp=Z,4.1nm,0.8s						
CLL	**Collm**	**81.12**	**326**	*i* P	**P**	**16 17 39.4**	**-0.1**
	comp=Z,9.0nm,0.7s						
RONA	**Rosalia, Austr**	**81.70**	**321**	*e*P	**P**	**16 17 40.8**	**-1.9**
	comp=Z,1.1nm,0.6s						
CONA	**Conrad Observa**	**81.79**	**322**	*i* P	**P**	**16 17 41.8**	**-1.4**
	comp=Z,5.1nm,0.6s						
GERES	**GERESS Array B**	**82.34**	**323**	P	**P**	**16 17 45.6**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=39,slow=6.8,SNR=11						
	comp=Z,1.5nm,0.6s						
ARSA	**Arzberg**	**82.39**	**321**	*i* P	**P**	**16 17 45.0**	**-1.4**
	comp=Z,3.1nm,0.8s						
MOA	**Molln**	**82.68**	**322**	*i* P	**P**	**16 17 46.0**	**-1.9**
	comp=Z,2.1nm,0.6s						
SOKA	**Soboth**	**83.01**	**321**	*i* PcP	**P**	**16 17 50.1**	**+0.5**
	comp=Z,6.7nm,0.9s						
BIOA	**Bad Ischl, Aus**	**83.11**	**323**	*e*PcP	**P**	**16 17 50.8**	**+0.8**
	comp=Z,3.9nm,0.8s						
OBKA	**Obir**	**83.38**	**321**	*i* PcP	**P**	**16 17 51.7**	**+0.2**
	comp=Z,7.8nm,0.9s						
KBA	**Koelnbreinsper**	**83.65**	**322**	*i* PcP	**P**	**16 17 53.2**	**+0.2**
	comp=Z,4.2nm,0.6s						
LESA	**Schwarzleotal**	**83.78**	**323**	*i* PcP	**P**	**16 17 54.0**	**+0.5**
	comp=Z,7.3nm,0.6s						
MYKA	**Terra Mystica**	**83.78**	**322**	*i* PcP	**P**	**16 17 53.3**	**-0.3**
	comp=Z,5.8nm,0.5s						
SABO	**M.te Sabotino**	**84.22**	**321**	P	**P**	**16 17 54.6**	**-1.1**
SABO				IAmb	IAmb	16 17 55.9	
	comp=Z,10.0nm,0.6s						
ABTA	**Abfaltersbach**	**84.30**	**322**	*i* P	**P**	**16 17 55.6**	**-0.6**
	comp=Z,5.8nm,0.7s						
WATA	**Walderalm**	**84.41**	**323**	*e*PcP	**P**	**16 17 57.5**	**+0.7**
	comp=Z,3.7nm,0.9s						
STAL	**STALIGIAL**	**84.52**	**322**	P	**P**	**16 17 56.0**	**-1.1**
STAL				IAmb	IAmb	16 17 57.0	
	comp=Z,9.7nm,0.7s						
ITM	**Ithomi**	**84.61**	**310**	P	**P**	**16 17 57.0**	**-0.8**
MOTA	**Moosalm**	**84.64**	**323**	*e*PcP	**P**	**16 17 57.9**	**-0.1**
	comp=Z,3.7nm,0.7s						
SQTA	**Sankt Quirin**	**84.67**	**323**	*e*PcP	**P**	**16 17 58.0**	**0.0**
	comp=Z,2.5nm,0.6s						
FETA	**Feichten**	**85.05**	**323**	*e*PcP	**P**	**16 18 00.1**	**+0.1**
	comp=Z,2.9nm,0.9s						
EKA	**Eskdalemuir Ar**	**85.06**	**335**	P	**P**	**16 17 59.9**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=39,slow=5.4,SNR=4.4						
	comp=Z,0.8nm,0.5s						
FDMO	**Fiordimonte**	**86.39**	**319**	P	**P**	**16 18 07.7**	**+1.1**
RAFF	**Raffo Rosso**	**89.38**	**314**	P	**P**	**16 18 20.7**	**-0.1**

*PRE **11** 16:08:17.6±0.9,25°.75S×28°.93E,h0km,ML2.1, Suspected explosion*
*BGSI **11** 16:08:21.3±1.4,25°.43S×28°.51E,h232km±49km,ML2.6*
ISC 11 16:08:17.3±1.1,25°.73S±0°.06×28°.84E±0°.05,h0km,n15, σ2ϕ02/28,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOED	**Hoedspruit, Li**	**2.31**	**56**	*e*P	**Pn**	**16 08 57.2**	**+0.5**
HOED				*e*S	**Sn**	**16 09 25.1**	**-0.8**
HOED				IAML		16 09 31.3	
	comp=Z,30nm,0.4s						
MOPA	**Mopani**	**3.21**	**47**	*e*P	**Pn**	**16 09 09.2**	**+0.2**
MOPA				*e*S	**Sn**	**16 09 46.8**	**-1.2**
MOPA				IAML		16 10 03.5	
	comp=Z,28nm,0.3s						
MREMI	**Moremi**	**3.40**	**338**	*i* P	**Pn**	**16 09 10.6**	**-1.1**
MREMI				*i* S	**Sn**	**16 09 48.8**	**-3.9**
MREMI				IAML		16 10 04.5	
	comp=E,60nm,0.3s						
SWZ	**Schweizer**	**3.46**	**245**	*e*P	**Pn**	**16 09 14.6**	**+2.0**
SWZ				*e*S	**Sn**	**16 09 56.5**	**+2.3**
SWZ				IAML		16 10 11.5	
	comp=Z,9.6nm,0.6s						
MUSN	**Musina, Limpop**	**3.56**	**15**	*e*P	**Pn**	**16 09 14.5**	**+0.7**
MUSN				*e*S	**Sn**	**16 09 57.2**	**+0.6**
MUSN				IAML		16 10 09.9	
	comp=Z,11nm,0.3s						
LPHEP	**Lephephe**	**3.59**	**310**	*i* P	**Pn**	**16 09 13.2**	**-1.2**
LPHEP				IAML		16 10 15.4	
	comp=E,16nm,2.1s						
PMBG	**Pietermaritzbu**	**4.05**	**159**	*e*P	**Pn**	**16 09 21.7**	**+1.2**
PMBG				*e*S	**Sn**	**16 10 07.7**	**-1.0**
PMBG				IAML		16 10 36.5	
	comp=Z,7.2nm,0.4s						
BOSA	**Boshof**	**4.29**	**227**	*e*P	**Pn**	**16 09 25.6**	**+1.7**
BOSA				*e*S	**Sn**	**16 10 16.5**	**+1.7**
BOSA				IAML		16 10 37.5	
	comp=Z,3.7nm,0.3s						
BROLN	**Tlhalogang**	**4.81**	**343**	*i* P	**Pn**	**16 09 28.8**	**-2.4**
BROLN				*i* S	Sn	16 10 17.0	-11
BROLN				IAML		16 11 06.7	
	comp=N,16nm,5.3s						
KSTD	**Kokstad**	**4.88**	**175**	*

GASW	**Gareloi Southw**	**0.46**	**349**			**Pg**	**16 18 02.4**	**+0.2**
GASW						**Sb**	**16 18 08.9**	**-1.1**
GANE	**Gareloi Northe**	**0.50**	**355**			**Pg**	**16 18 02.9**	**+0.2**
GANE						**Sb**	**16 18 10.0**	**-1.0**
TASE	**Tanaga Southea**	**0.66**	**39**			**Pb**	**16 18 06.1**	**-0.4**
TASE						**Sb**	**16 18 15.3**	**-0.4**
TAFL	**Tanaga Flats**	**0.67**	**49**			**Pg**	**16 18 05.9**	**0.0**
TAFL						**Sb**	**16 18 15.4**	**-0.5**
TANO	**Tanaga North**	**0.70**	**32**			**Pb**	**16 18 06.8**	**-0.4**
TAFP	**Tanaga Falls P**	**0.73**	**38**			**Pg**	**16 18 07.1**	**-0.1**
TAPA	**Tanaga Point A**	**0.74**	**48**			**Pg**	**16 18 07.4**	**0.0**
TAPA						**Sb**	**16 18 17.5**	**-0.7**
KIMD	**Kanaga Island**	**1.02**	**64**			**Pg**	**16 18 12.4**	**-0.2**
KIWB	**Kanaga Island**	**1.11**	**61**			**Pb**	**16 18 13.2**	**-0.9**
KIWB					Sn	**Sb**	**16 18 27.2**	**-1.3**
KIKV	**Kanaga Island**	**1.11**	**59**			**Pb**	**16 18 13.5**	**-0.7**
KIKV						**Sb**	**16 18 28.2**	**-0.4**
CEPE	**Semis' Perret**	**1.21**	**303**			**Pn**	**16 18 15.1**	**-0.7**
AMKA	**Amchitka**	**1.25**	**273**	Pn		**Pn**	**16 18 15.5**	**-0.9**
AMKA					Sn	**Sb**	**16 18 30.9**	**-1.6**
CEAP	**Semis' Anvil P**	**1.26**	**303**			**Pn**	**16 18 16.2**	**-0.3**
CETU	**Semis' Tuman**	**1.29**	**301**			**Pn**	**16 18 16.6**	**-0.3**
ADK	**Adak**	**1.38**	**65**	Pn		**Pn**	**16 18 17.7**	**-0.4**
ADK					Sn	**Sb**	**16 18 34.6**	**-1.8**
ADAG	**Mount Adagdak**	**1.47**	**63**			**Pn**	**16 18 19.7**	**+0.4**
ETKA	**Kagalaska Isla**	**1.53**	**69**			**Pn**	**16 18 20.4**	**+0.1**
GSSP	**Great Sitkin S**	**1.75**	**63**			**Pn**	**16 18 23.6**	**+0.3**
GSSP						**Sb**	**16 18 46.9**	**-0.3**
GSTD	**Great Sitkin T**	**1.76**	**64**			**Pn**	**16 18 24.0**	**+0.6**
GSTD						**Sb**	**16 18 46.9**	**-0.4**
GSMY	**Great Sitkin M**	**1.80**	**65**			**Pn**	**16 18 24.7**	**+0.8**
LSSE	**Little Sitkin**	**1.80**	**291**			**Pn**	**16 18 25.4**	**+1.4**
LSPA	**Little Sitkin**	**1.81**	**292**			**Pn**	**16 18 25.3**	**+1.3**
GSTR	**Great Sitkin T**	**1.82**	**64**	Pn		**Pn**	**16 18 24.5**	**+0.2**
GSTR					Sn	**Sn**	**16 18 46.6**	**-0.7**
LSNW	**Little Sitkin**	**1.84**	**292**			**Pn**	**16 18 25.7**	**+1.2**
ATKA	**Atka Island**	**2.94**	**71**	Pn		**Pn**	**16 18 39.2**	**-0.3**
ATKA					Sn	**Sn**	**16 19 14.5**	**-0.3**
K15K	**Wolf Creek Mou**	**14.41**	**34**	P		**P**	**16 21 24.9**	**+1.3**
M16K	**Timber Creek**	**14.61**	**41**	Pn		**P**	**16 21 22.9**	**-2.9**
N17K	**Nushagak Hills**	**15.11**	**44**	P		**P**	**16 21 32.7**	**+1.3**
M17K	**Holitna River**	**15.44**	**41**	Pn		**Pn**	**16 21 31.4**	**+0.9**
N18K	**Kilae Creek**	**15.75**	**45**	Pn		**Pn**	**16 21 35.5**	**+0.9**
N18K					IAmb	IAmb	16 21 53.1	
	comp=Z,20nm,1.5s							
OHAK	**Old Harbor**	**15.92**	**58**	Pn		**Pn**	**16 21 34.6**	**-2.1**
OHAK					IAmb	IAmb	16 21 47.8	
	comp=Z,14nm,1.4s							
Q19K	**Cape Douglas,**	**16.15**	**52**	Pn		**Pn**	**16 21 40.8**	**+1.0**
KDAK	**Kodiak Island**	**16.41**	**57**	Pn		**Pn**	**16 21 42.0**	**-0.9**
KDAK					IAmb	IAmb	16 22 04.2	
	comp=Z,9.3nm,1.2s							
N19K	**Bonanza Creek**	**16.43**	**45**	P		**Pn**	**16 21 43.3**	**0.0**
N19K					IAmb	IAmb	16 22 24.2	
	comp=Z,16nm,1.4s							
P19K	**Oil Pt**	**16.58**	**50**	P		**P**	**16 21 48.0**	**+0.3**
P19K					IAmb	IAmb	16 21 52.2	
	comp=Z,15nm,1.3s							
SYI	**Shuyak Island**	**16.70**	**54**	Pn		**Pn**	**16 21 46.6**	**0.0**
SYI					IAmb	IAmb	16 22 20.1	
	comp=Z,17nm,1.4s							
HOM	**Homer**	**17.35**	**51**			**Pn**	**16 21 55.0**	**+0.2**
M20K	**Styx River**	**17.47**	**43**			**Pn**	**16 21 57.1**	**+0.7**
CNPM	**China Poot**	**17.51**	**51**			**Pn**	**16 21 57.3**	**+0.5**
CNPM					IAmb	IAmb	16 22 07.7	
	comp=Z,11nm,1.3s							
SKT	**Skwentna**	**18.20**	**44**			**P**	**16 22 06.8**	**+1.3**
J20K	**Nowinta River**	**18.21**	**36**	P		**Pn**	**16 22 05.1**	**-0.2**
SLKM	**Skilak Lake**	**18.28**	**49**			**P**	**16 22 07.7**	**+1.2**
SLKM					IAmb	IAmb	16 22 34.3	
	comp=Z,8.1nm,1.2s							
PWL	**Port Wells**	**19.27**	**49**	P		**P**	**16 22 17.0**	**-0.3**
PWL					IAmb	IAmb	16 22 58.8	
	comp=Z,11nm,1.5s							
G21K	**Allakaket**	**19.80**	**30**	P		**P**	**16 22 22.2**	**-0.8**
SCM	**Sheep Creek Mo**	**20.02**	**46**	P		**P**	**16 22 23.6**	**-1.9**
SCM					IAmb	IAmb	16 22 28.2	
	comp=Z,10.0nm,1.2s							
HIN	**Hinchinbrook I**	**20.03**	**51**	P		**P**	**16 22 26.7**	**+1.1**
FID	**Port Fidalgo**	**20.12**	**50**	P		**P**	**16 22 27.1**	**+0.5**
FID					IAmb	IAmb	16 22 51.8	
	comp=Z,9.3nm,1.1s							
F21K	**Alatna River**	**20.25**	**29**	P		Pn	16 22 29.3	-0.5
NEA2	**Nenana**	**20.33**	**38**	P		**P**	**16 22 28.1**	**-0.7**
NEA2					IAmb	IAmb	16 22 33.8	
	comp=Z,5.7nm,1.1s							
DHY	**Denali Highway**	**20.40**	**43**			**P**	**16 22 29.9**	**+0.2**
DHY					IAmb	IAmb	16 22 31.2	
	comp=Z,4.1nm,0.6s							
D20K	**Etivluk River**	**20.42**	**23**	P		**P**	**16 22 28.1**	**-1.6**
D20K					IAmb	IAmb	16 22 32.1	
	comp=Z,4.8nm,0.9s							
I23K	**Minto, Yukon-K**	**20.47**	**36**	P		Pn	16 22 31.7	-0.8
M24K	**Tolsona, Glenn**	**20.62**	**46**	P		**P**	**16 22 31.2**	**-0.8**
E21K	**Killik River**	**20.91**	**26**	P		**P**	**16 22 35.8**	**+0.7**
BMRM	**Bremner River**	**21.07**	**50**	P		**P**	**16 22 37.2**	**+0.3**
BMRM					IAmb	IAmb	16 23 14.3	
	comp=Z,10nm,1.4s							
N25K	**Chitina, Valde**	**21.21**	**48**	P		**P**	**16 22 38.0**	**-0.4**
ILAR	**Eielson Array**	**21.25**	**39**	P		**P**	**16 22 40.6**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=255,slow=10,SNR=6.4							
	comp=Z,0.3nm,0.5s							
H24K	**Noodor Dome**	**21.34**	**35**	P		**P**	**16 22 40.8**	**+1.0**
GLB	**Gilahina Butte**	**21.54**	**48**	P		**P**	**16 22 40.2**	**-1.8**
GLB					IAmb	IAmb	16 22 44.7	
	comp=Z,2.6nm,0.7s							
D22K	**Ayikyak River**	**21.56**	**26**	P		**P**	**16 22 43.4**	**+1.4**
D22K					IAmb	IAmb	16 22 54.1	
	comp=Z,9.2nm,1.4s							
VRDI	**Verde Repeater**	**21.67**	**49**	P		**P**	**16 22 44.0**	**+0.6**
RIDG	**Independent Ri**	**21.70**	**42**	P		**P**	**16 22 41.8**	**-1.8**
RIDG					IAmb	IAmb	16 22 56.0	
	comp=Z,8.9nm,1.4s							
J25K	**Salcha River,**	**21.79**	**40**	P		**P**	**16 22 43.3**	**-1.3**
G24K	**Hadweenzic Riv**	**21.90**	**34**	P		**P**	**16 22 47.1**	**+1.4**
DOT	**Dot Lake**	**22.00**	**43**	P		**P**	**16 22 46.7**	**-0.1**
DOT					IAmb	IAmb	16 23 28.6	
	comp=Z,6.8nm,1.5s							
SCRK	**Sand Creek**	**22.14**	**42**	P		**P**	**16 22 47.1**	**-1.3**
D23K	**Nanushuk River**	**22.17**	**27**	P		**P**	**16 22 49.2**	**+0.7**
D23K					IAmb	IAmb	16 23 05.5	
	comp=Z,8.4nm,1.4s							
F24K	**Squaw Lake**	**22.18**	**31**	P		**P**	**16 22 49.5**	**+0.7**
TOLK	**Toolik Lake Re**	**22.29**	**28**	P		**P**	**16 22 50.8**	**+0.9**
TOLK					IAmb	IAmb	16 23 04.6	
	comp=Z,7.3nm,1.4s							
M27K	**Edge Creek, AK**	**22.63**	**47**	P		**P**	**16 22 55.4**	**+1.7**
L27K	**Beaver Creek,**	**22.81**	**45**	P		**P**	**16 22 54.4**	**-1.1**
BCAR	**Beaver Creek A**	**22.83**	**45**	P		**P**	**16 22 54.5**	**-1.2**
K27K	**Chicken**	**22.96**	**42**	P		**P**	**16 22 57.1**	**+0.1**
K27K					IAmb	IAmb	16 23 11.7	
	comp=Z,5.1nm,1.4s							
BMAR	**Burnt Mountain**	**23.25**	**33**	P		**P**	**16 23 00.3**	**+0.3**
G26K	**Porcupine Rive**	**23.32**	**35**	P		**P**	**16 23 00.7**	**+0.1**
G26K					IAmb	IAmb	16 23 06.2	
	comp=Z,3.0nm,0.9s							
EGAK	**Eagle**	**23.55**	**41**	P		**P**	**16 23 02.3**	**-0.7**
D25K	**Kavik River**	**23.62**	**28**	P		**P**	**16 23 03.8**	**+0.1**
D25K					IAmb	IAmb	16 23 11.8	
	comp=Z,7.0nm,1.5s							
M29M	**Somme Creek**	**24.21**	**47**	P		**P**	**16 23 08.4**	**-0.9**
M29M					IAmb	IAmb	16 23 25.1	
	comp=Z,4.8nm,1.4s							
I28M	**Miner Creek**	**24.24**	**40**	P		**P**	**16 23 08.8**	**-0.8**
I28M					IAmb	IAmb	16 23 40.1	
	comp=Z,3.1nm,1.1s							
L29M	**L29M**	**24.47**	**46**	P		**P**	**16 23 11.6**	**-0.1**
L29M					IAmb	IAmb	16 23 13.4	
	comp=Z,2.3nm,0.8s							
K29M	**Barlow Dome**	**24.87**	**44**	P		**P**	**16 23 14.1**	**-1.2**
K29M					IAmb	IAmb	16 23 17.6	
	comp=Z,3.2nm,1.1s							
J30M	**Hart River**	**25.52**	**42**	P		**P**	**16 23 20.2**	**-1.0**
J30M					IAmb	IAmb	16 23 49.2	
	comp=Z,2.5nm,1.1s							
EPYK	**Eagle Plains**	**25.77**	**38**	P		**P**	**16 23 22.3**	**-1.1**
H11N2	**WAKE ISLAND Hy**	**33.51**	**205**	T		T	17 00 06.4	
	baz=16,slow=76							
H11N3	**WAKE ISLAND Hy**	**33.52**	**205**	T		T	17 00 07.1	
	baz=16,slow=76							
H11N1	**WAKE ISLAND Hy**	**33.52**	**205**	T		T	17 00 07.8	
	baz=16,slow=76							
H11S1	**WAKE ISLAND Hy**	**34.73**	**205**	T		T	17 01 35.6	
	baz=16,slow=76							
H11S2	**WAKE ISLAND Hy**	**34.74**	**205**	T		T	17 01 37.3	
	baz=16,slow=76							
H11S3	**WAKE ISLAND Hy**	**34.74**	**205**	T		T	17 01 39.0	
	baz=16,slow=76							
YBH	**Yreka Blue Hor**	**38.83**	**82**	P		**P**	**16 25 19.3**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=304,slow=2.8,SNR=4.3							
LYMT	**Lyon Mountain**	**42.33**	**69**	P		**P**	**16 25 47.4**	**+0.5**
ELK	**Elko**	**44.01**	**78**	P		**P**	**16 26 02.4**	**+1.9**
ELK					IAmb	IAmb	16 26 03.2	
	comp=Z,1.6nm,0.8s							
ELK	**Elko**	**44.01**	**78**	P		**P**	**16 26 02.5**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=309,slow=8.0,SNR=7.6							
	comp=Z,1.4nm,0.8s							
YHH	**Holmes Hill**	**44.35**	**71**	P		**P**	**16 26 04.0**	**+0.7**
HVU	**Hansel Valley**	**44.91**	**75**	P		**P**	**16 26 09.2**	**+1.5**
R11B	**Troy Canyon, C**	**45.24**	**81**	P		**P**	**16 26 11.8**	**+1.5**
R11B					IAmb	IAmb	16 26 12.5	
	comp=Z,1.5nm,0.7s							
TPNV	**Topopah Spring**	**45.70**	**83**	P		**P**	**16 26 15.5**	**+1.5**
DUG	**Dugway, Tooele**	**45.83**	**77**	P		**P**	**16 26 17.0**	**+2.1**
PSUT	**Pine Spring**	**46.20**	**80**	P		**P**	**16 26 18.1**	**+0.2**
PSUT					IAmb	IAmb	16 26 23.6	
	comp=Z,1.6nm,0.8s							
BW06	**Boulder Array**	**46.27**	**72**	P		**P**	**16 26 17.8**	**-0.7**
BW06					IAmb	IAmb	16 26 23.6	
	comp=Z,1.4nm,0.8s							
PD31	**Pinedale Array**	**46.27**	**72**	P		**P**	**16 26 18.6**	**+0.1**
PD31					IAmb	IAmb	16 26 23.6	
	comp=Z,1.4nm,0.8s							
PDAR	**Pinedale Array**	**46.27**	**72**	P		**P**	**16 26 18.6**	**+0.1**
PDAR	**Pinedale Array**	**46.27**	**72**	P		**P**	**16 26 19.4**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=322,slow=3.3,SNR=11							
	comp=Z,0.9nm,0.6s							
BSUT	**Blindstream Ca**	**46.87**	**75**	P		**P**	**16 26 24.9**	**+1.6**
U15A	**North Rim**	**48.49**	**81**	P		**P**	**16 26 37.8**	**+1.9**
O20A	**White River Ci**	**48.64**	**74**	P		**P**	**16 26 37.1**	**+0.2**
PV13	**Radium Mtn., P**	**49.52**	**77**	P		**P**	**16 26 44.2**	**+0.5**
TX31	**Lajitas Ar. Si**	**58.60**	**81**	P		**P**	**16 27 50.2**	**+0.2**
TXAR	**Lajitas Array**	**58.61**	**81**	P		**P**	**16 27 50.8**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=304,slow=5.0,SNR=7.4							
	comp=Z,0.5nm,0.6s							
H03N2	**Juan Fernandez**	**121.08**	**106**	T		T	18 49 39.4	
	baz=315,slow=78,SNR=6.5							
H03N1	**Juan Fernandez**	**121.09**	**106**	T		T	18 49 42.9	
	baz=315,slow=78,SNR=8.0							
H03N3	**Juan Fernandez**	**121.09**	**106**	T		T	18 49 40.5	
	baz=315,slow=78,SNR=6.9							
MAW	**Mawson**	**146.47**	**218**	PKPbc		**PKPdf**	**16 37 29.7**	**-1.5**
	comp=Z,1.2nm,0.6s,baz=64,slow=4.6,SNR=6.4							

JMA ***11*** *16:25:41.4±0.2,23.4N±0.9×123.3E±0.5, h49km±4km, MV2.5/14, NEAR ISHIGAKIJIMA ISLAND*

ISC 11 16:25:42.5±2.7,23.48N±0.09×123.30E±0.05, h33km±8km, n16, σ0 56/23, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.74**	**39**	P		**Pn**	**16 25 56.4**	**-0.3**
HATJ				eS		**Sb**	**16 26 06.8**	**-0.1**
IRIF	**Iriomote-Funau**	**0.94**	**25**	P		**Pn**	**16 26 03.3**	**-0.1**
IRIF				eS		**Sn**	**16 26 12.3**	**+0.6**
JKRS	**Kuro-shima**	**1.00**	**41**	P		**Pn**	**16 26 00.1**	**-0.1**
JKRS				eS		**Sn**	**16 26 13.4**	**+0.3**
YOJ	**Yonaguni jima**	**1.02**	**345**	P		**Pn**	**16 26 00.0**	**-0.4**
YOJ	**Yonaguni jima**	**1.02**	**345**	*eP*		**Pn**	**16 26 00.1**	**-0.3**
YOJ				eS		**Sn**	**16 26 13.0**	**-0.5**
JYNG	**Yonagunijimaku**	**1.02**	**342**	P		**Pn**	**16 26 00.2**	**-0.3**
JYNG				eS		**Sn**	**16 26 13.4**	**-0.3**
JIJ	**Ishigaki jima**	**1.17**	**41**	*eP*		**Pn**	**16 26 02.1**	**-0.4**
JIJ				eS		**Sn**	**16 26 17.0**	**-0.5**
JISG	**Ishigakijimahi**	**1.44**	**40**	P		**Pn**	**16 26 06.1**	**-0.2**
JISG				eS		**Sn**	**16 26 24.0**	**0.0**
NACB	**Ninganchiao**	**1.71**	**294**	P		**Pn**	**16 26 11.0**	**+1.1**
JTJ	**Tarama**	**1.73**	**48**	*eP*		**Pn**	**16 26 10.6**	**+0.4**
YULB	**Yu-li**	**1.84**	**268**	P		**Pn**	**16 26 11.0**	**-0.8**
YHNB	**Yeheng**	**2.12**	**304**	P		**Pn**	**16 26 16.4**	**+0.7**
TWGBT	**Beinan**	**2.15**	**253**	P		**Pn**	**16 26 15.3**	**-0.7**
SSLB	**Suanglung**	**2.17**	**279**	P		**Pn**	**16 26 16.0**	**-0.4**
JIRB	**Irabujima**	**2.18**	**51**	*eP*		**Pn**	**16 26 16.9**	**+0.5**
TPUB	**Ta-pu**	**2.46**	**266**	P		**Pn**	**16 26 21.3**	**+1.0**

IDC ***11*** *16:34:16.7±4.8, 10.25S×109.22E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=250.1km s-min=26.7km az=47.0*

DJA ***11*** *16:34:18.8±0.7, 10°S±4°×10°9E±°, h10km, M4.1/10, mb4.8/1, MLv3.8/10*

ISC 11 16:34:19.9±1.5, 10.4S±0.1×108.63E±0.09, h35km, n9, σ1 38/12, mb3.3/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KPJI	**Karang Pucung**	**3.10**	**6**	P		**Pn**	**16 35 05.4**	**-1.0**
KPJI				S		**Sn**	**16 35 41.4**	**-0.8**
UGM	**Wanagama**	**3.13**	**37**	P		**Pn**	**16 35 06.4**	**-0.4**
UGM				S		**Sn**	**16 35 43.7**	**+0.6**
PCJI	**Pacitan**	**3.37**	**49**	P		**Pn**	**16 35 09.5**	**-0.5**
WOJI	**Wonogiri, Jawa**	**3.44**	**41**	P		**Pn**	**16 35 10.9**	**-0.1**
CNJI	**Cibinong**	**3.45**	**334**	P		**Pn**	**16 35 10.8**	**-0.3**
CNJI				S		**Sn**	**16 35 50.8**	**+0.1**
JAGI	**Jajag, Banyuwa**	**5.79**	**71**	P		**Pn**	**16 35 44.3**	**+0.9**
WRA	**Warramunga Arr**	**26.52**	**114**	P		**P**	**16 39 51.8**	**-2.6**
	0.4nm,0.9s,baz=289,slow=8.7,SNR=2.1							
	0.4nm,0.9s							
ASAR	**Alice Springs**	**27.45**	**122**	P		**P**	**16 40 01.5**	**-1.3**
	0.4nm,0.6s,baz=295,slow=9.6,SNR=11							
	0.4nm,0.6s							
MKAR	**Makanchi Array**	**61.65**	**340**	P		**P**	**16 44 36.5**	**+2.3**
	0.6nm,0.5s,baz=141,slow=7.7,SNR=9.5							
	0.6nm,0.5s							

CATAC ***11*** *16:38:00.5±1.1, 13°N±6°×9°1W±°, h4km±5km, M3.5/8, MLv3.5/8, Error ellipse: s-maj=14.4km s-min=4.7km az=19.2, confirmed*

GCG ***11*** *16:38:03.8±0.6, 13.55N×91.02W, h72km±14km, MD3.8*

SNET ***11*** *16:38:08.5±4.1, 13.72N×90.81W, h54km, ML3.2*

ISC 11 16:38:01.0±2.3, 13.48N±0.09×90.98W±0.08, h2km±13km, n24, σ0 70/32, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**0.48**	**79**	*eP*		**Pn**	**16 38 16.2**	**+1.3**
ESSJ				eS			16 38 28.3	
ESSG	**Sabana Grande**	**0.92**	**9**	*eP*		**Pn**	**16 38 20.6**	**-0.5**
ESSG				eS		**Sn**	**16 38 34.4**	**-0.5**
FG16	**Alotenango, Sa**	**0.92**	**30**	*eP*		**Pn**	**16 38 22.1**	**+0.9**
FG16				eS		**Sn**	**16 38 35.4**	**+0.3**
NUBE	**Las Nubes**	**1.24**	**70**	P		**Pn**	**16 38 24.4**	**-1.2**
NUBE	**Las Nubes**	**1.24**	**70**	S		**Sb**	**16 38 42.4**	**+0.5**
LOAL	**Lomas de Alarc**	**1.28**	**66**	eS		**Sb**	**16 38 41.7**	**-1.1**
LOAL	**Lomas de Alarc**	**1.28**	**66**	P		**Pn**	**16 38 25.2**	**-0.8**
CEVE	**Cerro Verde**	**1.37**	**75**	*eP*		**Pb**	**16 38 27.7**	**+0.2**
CEVE				eS		**Sn**	**16 38 45.8**	**-0.4**
SOKI	**Kika Raxquin**	**1.40**	**343**	*eP*		**Pg**	**16 38 27.8**	**-0.1**
SOKI				eS		**Sn**	**16 38 48.2**	**+0.9**
JAYA	**Jayaque - finc**	**1.50**	**83**	*eP*		**Pn**	**16 38 28.3**	**-0.9**
JAYA				eS		**Sn**	**16 38 49.0**	**-0.5**
JAYA	**Jayaque - finc**	**1.50**	**83**	P		**Pn**	**16 38 28.3**	**-0.9**
PMON	**Piamonte**	**1.64**	**82**	P		**Pn**	**16 38 31.7**	**+0.6**
BOQS	**Boqueron**	**1.68**	**81**	*eP*		**Pb**	**16 38 32.6**	**-0.2**
LOMA	**Loma Larga**	**1.77**	**84**	*eP*		**Pn**	**16 38 33.0**	**+0.2**
LOMA				eS		**Sn**	**16 38 55.5**	**-0.6**
LOMA	**Loma Larga**	**1.77**	**84**	P		**Pn**	**16 38 32.7**	**-0.2**
LOMA	**Loma Larga**	**1.77**	**84**	S		**Sn**	**16 38 57.1**	**+1.1**
QUIS	**Sacapulas**	**1.81**	**357**	*eP*		**Pg**	**16 38 35.9**	**+0.1**
QUIS				eS		**Sg**	**16 38 59.0**	**-0.3**
MTO3	**Montecristo**	**1.82**	**60**	*eP*		**Pb**	**16 38 34.9**	**-0.4**
MTO3	**Montecristo**	**1.82**	**60**	P		**Pn**	**16 38 34.1**	**+0.5**
MTO3	**Montecristo**	**1.82**	**60**	S		**Sn**	**16 38 58.1**	**+0.6**
LFRS	**El Faro**	**1.87**	**85**	*eP*		**Pn**	**16 38 34.9**	**+0.7**
ESQI	**Esquipulas**	**1.92**	**56**	*eP*		**Pb**	**16 38 36.5**	**-0.5**
ESQI				eS		**Sb**	**16 39 01.3**	**-0.2**
ESQI	**Esquipulas**	**1.92**	**56**	S		**Sg**	**16 39 03.6**	**+0.7**
ESQI	**Esquipulas**	**1.92**	**56**	P		**Pn**	**16 38 35.5**	**+0.5**

MOS ***11*** *16:44:45.9±1.1, 37.85N×141.74E, h49km, mb4.7/18, Error ellipse: s-maj=8.4km s-min=5.7km az=89.8*

NEIC ***11*** *16:44:47.8, 37.79N×141.67E, h46km*

JMA ***11*** *16:44:48.2±0.1, 37.8N±0.2×141.7E±0.5, h52km±1km, MD4.5/37, MV4.6/37, E OFF FUKUSHIMA PREF*

JMA Felt II J1 at E OFF FUKUSHIMA PREF .

NIED ***11*** *16:44:48.2, 37.80N×141.67E, h52km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr3.67; Mθθ-0.53; Mφφ-3.14; Mrθ-0.70; Mθφ-0.64; Mφr0.85; Fault plane solution: M0 3.63000×10¹⁵ NP1: φs204.00000°, δ41.00000°, λ107.00000°. NP2:φs1.00000°, δ52.00000°, λ76.00000°.*

IDC ***11*** *16:44:48.9±0.5, 37.78N×141.68E, h61km±4km, mb4.0/21, mbtmp4.3/27, MS3.4/20 Error ellipse: s-maj=11.8km s-min=9.5km az=133.0*

NEIC ***11*** *16:44:48.1±1.9, 37.78N±0.05×141.67E±0.07, h50km±6km, mb4.6/36, Mwr4.3/14, Error ellipse: s-maj=8.4km s-min=7.1km az=52.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr3.21; Mθθ1.11; Mφφ-4.32; Mrθ-1.22; Mθφ-0.33; Mφr0.46; Fault plane solution: M0 4.11000×10¹⁵ NP1:φs340.86000°, δ52.90000°, λ58.13000°. NP2:φs206.73000°, δ47.37000°, λ124.92000°. Principal axes: T 3.8074, Plg65.0000°, Azm189.0000°; N 0.5490, Plg25.0000°, Azm1.0000°; P -4.3564, Plg3.0000°, Azm93.0000°;*

ISC 11 16:44:46.8±0.5, 37.73N±0.04×141.88E±0.04, h45km±3km, h45km:pP-P, n217, σ1 62/204, mb4.5/60, MS3.4/19, 8C-23D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.67**	**331**	P		**Pn**	**16 45 00.0**	**0.0**
JIKH				S		**Sn**	**16 45 08.6**	**-0.9**
JIKH	**Ishinomakikobu**	**0.67**	**331**	A		A	16 45 00.0	
	comp=N,31nm,0.9s,comp=E,64nm,0.9s							
JMST	**Minamisoumatoc**	**0.79**	**270**	⇓P		**Pn**	**16 45 01.1**	**-0.5**
JMST				⇓*e*S		**Sn**	**16 45 10.3**	**-1.9**
JMST	**Minamisoumatoc**	**0.79**	**270**	A		A	16 45 01.1	
	comp=N,50nm,0.3s,comp=E,58nm,0.6s							
JIO	**Ouri**	**0.84**	**330**	*i* P		**Pn**	**16 45 02.1**	**-0.2**
JIO				S		**Sn**	**16 45 12.1**	**-1.4**
JIO	**Ouri**	**0.84**	**330**	A		A	16 45 02.1	
	comp=N,16nm,0.9s,comp=E,22nm,1.1s							
JMM	**Marumori**	**0.87**	**279**			**Pn**	**16 45 02.0**	**-0.7**
JMM				Sn		**Sn**	**16 45 10.8**	**-3.6**
JMM	**Marumori**	**0.87**	**279**	P		**Pn**	**16 45 01.9**	**-0.7**
JMM	**Marumori**	**0.87**	**279**	⇓*i*P		**Pn**	**16 45 02.0**	**-0.7**
JMM				⇓S		**Sn**	**16 45 11.0**	**-3.3**
JMM	**Marumori**	**0.87**	**279**	A		A	16 45 02.0	
	comp=N,23nm,0.3s,comp=E,42nm,1.0s							
JFK	**Kawauchi**	**0.88**	**246**	⇓P		**Pn**	**16 45 02.7**	**-0.1**
JFK				⇓S		**Sn**	**16 45 13.3**	**-1.2**
JFK	**Kawauchi**	**0.88**	**246**	A		A	16 45 02.7	
	comp=N,20nm,0.4s,comp=E,27nm,0.8s							
ONAJ	**Iwakimizuishiy**	**1.06**	**234**	⇓*i*P		**Pn**	**16 45 05.6**	**+0.2**
ONAJ				⇓S		**Sn**	**16 45 18.2**	**-0.9**
ONAJ	**Iwakimizuishiy**	**1.06**	**234**	A		A	16 45 05.6	
	comp=N,53nm,0.3s,comp=E,55nm,0.3s							
JKMT	**Kesennumamotoy**	**1.13**	**344**	A		A	16 45 06.5	
	comp=N,8.0nm,0.7s,comp=E,7.0nm,6.1s							
JOU	**Okura**	**1.15**	**304**	⇓*i*P		**Pn**	**16 45 05.8**	**-0.8**
JOU	**Okura**	**1.15**	**304**	A		A	16 45 05.8	
	comp=N,34nm,1.0s,comp=E,30nm,1.2s							
JOFO	**Osakifurukawao**	**1.16**	**319**

	comp=N,92nm,0.5s									
YUK					pmax	pmax				
	comp=E,57nm,0.2s									
JMN	**Monobe**	**7.63**	**241**		Pn	**Pn**	**16 46 35.0**	**-0.4**		
JMN	**Monobe**	**7.63**	**241**		P	**Pn**	**16 46 36.9**	**+1.4**		
TEY	**Ternei**	**8.31**	**333**		*e*P	**Pn**	**16 46 48.8**	**+4.2**		
KUR	**Kuril'sk**	**8.74**	**29**		*e*P	**Pn**	**16 46 51.0**	**+0.5**		
KUR					*e*S	**Sn**	**16 48 23.5**	**-4.1**		
KUR					pmax	pmax				
	comp=Z,45nm,0.9s									
KUR					smax	smax				
	comp=E,86nm,0.6s									
KUR					smax	smax				
	comp=N,73nm,0.7s									
YSS	**Yuzhno-Sakhali**	**9.24**	**4**		Pn	**Pn**	**16 46 58.0**	**+0.6**		
YSS	**Yuzhno-Sakhali**	**9.24**	**4**		*e*P	Pn	16 46 50.9	-6.5		
YSS					pmax	pmax				
	comp=Z,10.0nm,0.9s									
YSS					MLR	MLR				
	comp=Z,100nm,18.0s									
VLA	**Vladivostok**	**9.33**	**308**⇑		*e*P	Pn	16 46 54.1	-4.5		
VLA					pmax	pmax				
	comp=Z,20nm,1.2s									
USRK	**Ussuriysk Ar.**	**9.88**	**314**		P	**Pn**	**16 47 05.9**	**-0.3**		
	comp=Z,20nm,0.7s,baz=124,slow=14,SNR=12									
JCJ	**Chichijima**	**10.60**	**179**		Pn	**Pn**	**16 47 16.6**	**+0.4**		
JCJ	**Chichijima**	**10.60**	**179**		P	**Pn**	**16 47 17.5**	**+1.3**		
KSRS	**Korea Array**	**11.08**	**273**		P	**Pn**	**16 47 24.7**	**+2.1**		
	comp=Z,8.8nm,0.7s,baz=82,slow=14,SNR=26									
KSAR	**Wonju Array Be**	**11.11**	**273**		Pn	**Pn**	**16 47 23.6**	**+0.6**		
KSAR	**Wonju Array Be**	**11.11**	**273**		P	**Pn**	**16 47 23.6**	**+0.6**		
KS19	**Wonju Array Si**	**11.12**	**273**		Pn	**Pn**	**16 47 23.1**	**-0.1**		
MDJ	**Mudanjiang**	**11.53**	**310**		Pn	**Pn**	**16 47 29.1**	**+0.4**		
BNX	**BinXian**	**13.44**	**311**	⇓	P	**Pn**	**16 47 52.9**	**-1.9**		
BNX					pmax	pmax				
	comp=Z,8.0nm,1.4s									
DL2	**Dalian**	**15.94**	**280**		P	**P**	**16 48 31.5**	**+0.6**		
DL2					pmax	pmax				
	comp=Z,36nm,0.9s									
PETK	**Petropavlovsk-**	**18.90**	**30**		P	**Pn**	**16 49 06.5**	**+2.1**		
	comp=Z,4.4nm,1.0s,baz=228,slow=9.2,SNR=2.6									
PETK					LR	LR	16 56 08.2			
	comp=Z,40nm,20.9s,baz=226,slow=36									
ZEA	**Zeya**	**18.93**	**332**		*e*P	**P**	**16 49 02.8**	**-0.9**		
ZEA					pmax	pmax				
	comp=Z,10.0nm,0.7s									
TIA	**Tai'an**	**19.83**	**273**		P	**P**	**16 49 13.0**	**-0.7**		
TIA					pmax	pmax				
	comp=Z,22nm,1.1s									
XLT	**XiLinHaoTe**	**20.43**	**296**		*e*P	**P**	**16 49 18.0**	**-2.3**		
XLT					pmax	pmax				
	comp=Z,16nm,0.9s									
MA2	**Magadan**	**22.60**	**12**		P	**P**	**16 49 44.6**	**+1.3**		
MA2					IAmb	IAmb	16 49 59.9			
	comp=Z,18nm,0.8s									
MA2	**Magadan**	**22.60**	**12**		LR	LR	16 58 14.5			
	comp=Z,55nm,20.3s,baz=164,slow=36									
MA2	**Magadan**	**22.60**	**12**⇑		*e*P	**P**	**16 49 42.9**	**-0.4**		
MA2					pmax	pmax				
	comp=Z,6.0nm,0.7s									
TPUB	**Ta-pu**	**23.21**	**238**		P	**P**	**16 49 47.9**	**-2.0**		
TPUB					IAmb	IAmb	16 49 57.7			
	comp=Z,63nm,1.5s									
TWG	**Pinlang**	**23.24**	**236**		P	**P**	**16 49 49.6**	**-0.6**		
TWG					IAmb	IAmb	16 49 54.1			
	comp=Z,49nm,1.5s									
HHC	**Hu-ho-hao-te**	**23.61**	**287**		*e*P	**P**	**16 49 52.7**	**-1.1**		
HHC					pmax	pmax				
	comp=Z,7.0nm,0.5s									
HHC					pmax	pmax				
	comp=Z,71nm,4.5s									
LYN	**LuoYang**	**23.92**	**271**		P	**P**	**16 49 55.1**	**-1.4**		
LYN					pmax	pmax				
	comp=Z,25nm,1.0s									
YAK	**Yakutsk**	**25.48**	**347**			**P**	**16 50 09.3**	**-1.1**		
YAK					IAmb	IAmb	16 50 10.7			
	comp=Z,18nm,0.6s									
YAK	**Yakutsk**	**25.48**	**347**		LR	LR	17 00 43.6			
	comp=Z,43nm,18.8s,baz=100,slow=38									
YAK	**Yakutsk**	**25.48**	**347**		*e*P	**P**	**16 50 09.4**	**-1.0**		
YAK					*e**PP	**sP**	**16 50 28.7**	**+1.1**		
YAK					*e*		16 50 47.6			
YAK					*e*		16 53 36.2			
YAK					*e*S	**S**	**16 54 32.0**	**-2.2**		
YAK					*e*SS	**SnSn**	**16 55 34.0**	**+4.0**		
YAK					pmax	pmax				
	comp=Z,16nm,1.0s									
YAK					pmax	pmax				
	comp=N,2.0nm,0.7s									
YAK					pmax	pmax				
	comp=E,3.0nm,1.6s									
YAK					pmax	pmax				
	comp=Z,53nm,2.9s									
YAK					pmax	pmax				
	comp=N,124nm,6.8s									
YAK					pmax	pmax				
	comp=E,46nm,3.1s									
YAK					smax	smax				
	comp=E,86nm,3.3s									
YAK					smax	smax				
	comp=N,64nm,2.8s									
SEY	**Seymchan**	**26.04**	**11**		LR	LR	17 00 11.8			
	comp=N,68nm,20.4s,baz=149,slow=36									
SEY	**Seymchan**	**26.04**	**11**		*e*P	**P**	**16 50 15.4**	**-0.1**		
SEY					pmax	pmax				
	comp=Z,8.0nm,1.2s									
XAN	**Xi'an**	**26.88**	**272**		P	**P**	**16 50 22.6**	**-0.8**		
XAN					pmax	pmax				
	comp=Z,15nm,0.6s									
XAN					pmax	pmax				
	comp=Z,220nm,4.8s									
ULN	**Ulaanbaatar**	**27.28**	**303**⇓		*e*P	**P**	**16 50 24.0**	**-3.0**		
ULN					pmax	pmax				
	comp=Z,1.0nm,0.6s									
SONM	**Songino Array**	**27.72**	**303**		P	**P**	**16 50 30.2**	**-0.7**		
SONM	**Songino Array**	**27.72**	**303**		P	**P**	**16 50 30.4**	**-0.5**		
	comp=Z,2.7nm,0.6s,baz=107,slow=9.0,SNR=13									
	comp=Z,2.7nm,0.6s									
ENH	**Enshi**	**27.77**	**264**		P	**P**	**16 50 30.2**	**-1.2**		
ENH					IAmb	IAmb	16 50 33.0			
	comp=Z,17nm,0.6s									
H11N2	**WAKE ISLAND Hy**	**28.19**	**123**		T	T	17 20 55.6			
	baz=315,slow=75,SNR=582									
H11N1	**WAKE ISLAND Hy**	**28.20**	**123**		T	T	17 20 57.8			
	baz=315,slow=75,SNR=661									
H11N3	**WAKE ISLAND Hy**	**28.21**	**123**		T	T	17 20 57.0			
	baz=315,slow=75,SNR=529									
H11S1	**WAKE ISLAND Hy**	**28.93**	**125**		T	T	17 21 48.0			
	baz=317,slow=76,SNR=481									
H11S3	**WAKE ISLAND Hy**	**28.93**	**125**		T	T	17 21 48.1			
	baz=317,slow=76,SNR=463									
H11S2	**WAKE ISLAND Hy**	**28.95**	**125**		T	T	17 21 49.1			
	baz=317,slow=76,SNR=317									
LZH	**Lanzhou**	**30.32**	**279**		*e*P	**P**	**16 50 57.2**	**+3.0**		
LZH					sP	sP	16 51 12.2	+0.6		
LZH					pmax	pmax				
	comp=Z,19nm,1.1s									
GTA	**Gaotai**	**32.72**	**286**		P	**P**	**16 51 15.3**	**+0.1**		
GTA					pmax	pmax				
	comp=Z,3.0nm,0.8s									
TIXI	**Tiksi**	**34.65**	**353**		P	**P**	**16 51 30.9**	**-0.5**		
TIXI					IAmb	IAmb	16 52 14.2			
	comp=Z,12nm,1.4s									
TIXI	**Tiksi**	**34.65**	**353**		LR	LR	17 05 39.0			
	comp=Z,33nm,18.3s,baz=182,slow=36									
TIXI	**Tiksi**	**34.65**	**353**		P	**P**	**16 51 30.9**	**-0.5**		
TIXI					pmax	pmax				
	comp=Z,12nm,1.4s									
KMI	**Kunming**	**35.44**	**261**		P	**P**	**16 51 38.3**	**-0.7**		
KMI					pP	pP	16 51 52.8	+1.7		
KMI					pmax	pmax				
	comp=Z,10.0nm,0.7s									
PZH	**PanZhiHua**	**35.55**	**264**		P	**P**	**16 51 40.3**	**+0.5**		
TNCH	**TengChong**	**38.80**	**264**		P	**P**	**16 52 07.3**	**-0.2**		
TNCH					pP	pP	16 52 20.5	+0.9		
TNCH					sP	sP	16 52 26.7	+1.7		
TNCH					pmax	pmax				
	comp=Z,9.0nm,0.3s									
TNCH					pmax	pmax				
	comp=Z,95nm,4.1s									
ZAA0	**Zalesovo Array**	**41.73**	**312**		P	**P**	**16 52 29.3**	**-1.8**		
ZALV	**Zalesovo Beam**	**41.73**	**312**		P	**P**	**16 52 29.7**	**-1.5**		
ZALV	**Zalesovo Beam**	**41.73**	**312**		P	**P**	**16 52 30.2**	**-0.9**		
	comp=Z,3.2nm,0.7s,baz=88,slow=7.1,SNR=11									
ZALV					PcP	**PcP**	**16 54 25.8**	**-1.0**		
	comp=Z,1.5nm,0.7s,baz=112,slow=2.9,SNR=4.0									
ZALV					LR	LR	17 10 33.7			
	comp=Z,35nm,19.4s,baz=64,slow=37									
	comp=Z,3.2nm,0.7s									
CMAR	**Chiang Mai Arr**	**42.03**	**255**		P	**P**	**16 52 33.5**	**-0.5**		
	comp=Z,0.8nm,0.8s,baz=49,slow=6.4,SNR=5.2									
CMAR					LR	LR	17 10 04.2			
	comp=Z,18nm,18.9s,baz=30,slow=36									
	comp=Z,0.8nm,0.8s									
CMAR	**Chiang Mai Arr**	**42.03**	**255**		*e*P	**P**	**16 52 35.9**	**+1.8**		
CMAR					pmax	pmax				
	comp=Z,1.0nm,0.4s									
MK31	**Makanchi Array**	**44.07**	**302**	*d*	iP	**P**	**16 52 49.2**	**-1.0**		
MKAR	**Makanchi Array**	**44.07**	**302**		P	**P**	**16 52 48.5**	**-1.8**		
MKAR	**Makanchi Array**	**44.07**	**302**		P	**P**	**16 52 49.2**	**-1.0**		
	comp=Z,2.7nm,0.7s,baz=88,slow=8.8,SNR=16									
MKAR					PcP	**PP**	**16 54 33.8**	**+0.5**		
	comp=Z,0.5nm,0.6s,baz=77,slow=3.1,SNR=2.0									
MKAR					LR	LR	17 12 37.7			
	comp=Z,29nm,19.0s,baz=105,slow=38									
	comp=Z,2.7nm,0.7s									
KURK	**Kurchatov**	**45.80**	**308**		P	**P**	**16 53 02.3**	**-1.6**		
KURK	**Kurchatov**	**45.80**	**308**	*de*	P	**P**	**16 53 02.9**	**-1.0**		
KURK					pmax	pmax				
	comp=Z,3.0nm,0.8s									
KURBB	**Kurchatov Arra**	**45.87**	**308**		P	**P**	**16 53 03.6**	**-0.8**		
	comp=Z,8.3nm,0.5s,baz=83,slow=8.3,SNR=28									
	comp=Z,8.3nm,0.5s									
KDAK	**Kodiak Island**	**46.34**	**42**		LR	LR	17 14 51.4			
	comp=Z,31nm,19.2s,baz=208,slow=39									
KDAK	**Kodiak Island**	**46.34**	**42**⇑		*e*P	**P**	**16 53 09.6**	**+1.6**		
KDAK					pmax	pmax				
	comp=Z,8.0nm,1.0s									
EVN	**Everest**	**46.70**	**275**		P	**P**	**16 53 11.4**	**-0.7**		
E22K	**Anaktuvuk Pass**	**46.82**	**28**		P	**P**	**16 53 13.0**	**+1.3**		
E22K					IAmb	IAmb	16 53 14.6			
	comp=Z,6.0nm,1.0s									
D24K	**Happy Valley**	**47.99**	**27**		P	**P**	**16 53 21.9**	**+1.2**		
D24K					IAmb	IAmb	16 53 23.4			
	comp=Z,5.6nm,0.7s									
C24K	**Franklin Bluff**	**48.07**	**26**		P	**P**	**16 53 22.3**	**+1.0**		
C24K					IAmb	IAmb	16 53 23.8			
	comp=Z,9.6nm,0.9s									
IL31		**48.71**	**33**		P	**P**	**16 53 27.2**	**+0.9**		
IL31					IAmb	IAmb	16 53 43.9			
	comp=Z,2.8nm,0.7s									
ILAR	**Eielson Array**	**48.71**	**33**		P	**P**	**16 53 27.4**	**+1.1**		
	comp=Z,0.9nm,0.6s,baz=261,slow=5.4,SNR=11									
ILAR					pP	**pP**	**16 53 42.1**	**+3.4**		
	comp=Z,2.0nm,0.8s,baz=265,slow=6.2,SNR=10									
	comp=Z,0.9nm,0.6s									
BVAR	**Borovoye Array**	**50.38**	**312**		P	**P**	**16 53 38.3**	**-0.9**		
	comp=Z,2.9nm,0.5s,baz=64,slow=10,SNR=13									
BVAR					PcP	**PcP**	**16 54 56.8**	**-0.4**		
	comp=Z,2.4nm,0.6s,baz=96,slow=3.5,SNR=5.7									
	comp=Z,2.9nm,0.5s									
KSH	**Kashi**	**50.47**	**294**		P	**P**	**16 53 43.4**	**+3.2**		
KSH					pmax	pmax				
	comp=Z,4.0nm,0.7s									
AAK	**Ala-Archa**	**50.49**	**298**		LR	LR	17 17 11.3			
	comp=Z,33nm,18.2s,baz=64,slow=39									
AAK	**Ala-Archa**	**50.49**	**298**⇑		*e*P	**P**	**16 53 39.4**	**-1.0**		
AAK					pmax	pmax				
	comp=Z,2.0nm,0.8s									
EPYK	**Eagle Plains**	**52.74**	**30**		P	**P**	**16 53 58.8**	**+2.1**		
EPYK					IAmb	IAmb	16 53 59.6			
	comp=Z,6.5nm,0.8s									
KK31	**Karatay Array**	**53.10**	**300**		P	**P**	**16 54 00.6**	**+0.9**		
KK31					IAmb	IAmb	16 54 04.1			
	comp=Z,3.0nm,0.7s									
KK31	**Karatay Array**	**53.10**	**300**		P	**P**	**16 54 00.6**	**+0.9**		
KK31					pmax	pmax				
	comp=Z,3.0nm,0.7s									
KKAR	**Karatay Array**	**53.10**	**300**		P	**P**	**16 53 57.8**	**-1.9**		
KKAR	**Karatay Array**	**53.10**	**300**		P	**P**	**16 53 57.8**	**-1.9**		
HYT	**Haines Junctio**	**53.52**	**37**		P	**P**	**16 54 04.6**	**+1.9**		
HYT					IAmb	IAmb	16 54 07.0			
	comp=Z,4.2nm,1.0s									
GAR	**Garm**	**54.74**	**295**		P	**P**	**16 54 10.6**	**-1.3**		
SVE	**Sverdlovsk**	**54.88**	**318**	*e*	P	**P**	**16 54 12.1**	**-0.3**		
SVE					pmax	pmax				
	comp=Z,8.0nm,0.8s									
CHGR	**Chuyangaron**	**55.71**	**295**		P	**P**	**16 54 17.3**	**-1.5**		
CHGR	**Chuyangaron**	**55.71**	**295**		P	**P**	**16 54 17.3**	**-1.5**		
CHGR					pmax	pmax				
	comp=Z,20nm,0.8s									
SIMJ	**Simiganj**	**55.81**	**295**		P	**P**	**16 54 18.1**	**-1.5**		
SIMJ					IAmb	IAmb	16 54 19.4			
	comp=Z,5.8nm,0.8s									
ARTI	**Arti**	**56.20**	**318**		P	**P**	**16 54 20.1**	**-1.7**		
ARTI	**Arti**	**56.20**	**318**		LR	LR	17 20 53.4			
	comp=Z,51nm,18.0s,baz=68,slow=39									
ARTI	**Arti**	**56.20**	**318**	*d*	iP	**P**	**16 54 21.0**	**-0.9**		
ARTI							16 56 23.8			
ARTI					S	**S**	**17 02 13.5**	**+5.7**		
ARTI					SS	**SS**	**17 05 57.3**	**+3.1**		
ARTI					pmax	pmax				
	comp=Z,10.0nm,0.8s									
KBL	**Kabul**	**57.52**	**291**		P	**P**	**16 54 29.4**	**-2.5**		
KBL					IAmb	IAmb	16 54 31.1			
	comp=Z,5.8nm,0.7s									
KBL	**Kabul**	**57.52**	**291**		P	**P**	**16 54 29.4**	**-2.5**		
KBL					pmax	pmax				
	comp=Z,6.0nm,0.7s									
WB0	**Warramunga Arr**	**57.62**	**188**		P	**P**	**16 54 32.3**	**0.0**		
AB31	**Akbulak array**	**57.78**	**310**		P	**P**	**16 54 31.3**	**-1.9**		
AB31					IAmb	IAmb	16 54 32.6			
	comp=Z,2.7nm,0.8s									
ABKAR	**Akbulak array**	**57.78**	**310**		P	**P**	**16 54 31.6**	**-1.5**		
WR8	**Warramunga Arr**	**57.79**	**188**		P	**P**	**16 54 33.4**	**-0.1**		
WRA	**Warramunga Arr**	**57.80**	**188**		P	**P**	**16 54 33.3**	**-0.2**		
WRA	**Warramunga Arr**	**57.80**	**188**		P	**P**	**16 54 33.6**	**+0.1**		
	comp=Z,14nm,0.7s,baz=5.3,slow=7.0,SNR=175									
WRA					PcP	**PcP**	**16 55 26.6**	**+0.8**		
	comp=Z,1.7nm,0.6s,baz=4.0,slow=7.4,SNR=5.1									
	comp=Z,14nm,0.7s									
KIRV	**Kirov**	**59.92**	**323**	*ce*	P	**P**	**16 54 46.7**	**-1.1**		
AS31	**Alice Springs**	**61.52**	**188**		P	**P**	**16 54 59.5**	**+0.3**		
ASAR	**Alice Springs**	**61.53**	**188**		P	**P**	**16 54 59.1**	**0.0**		
ASAR	**Alice Springs**	**61.53**	**188**		P	**P**	**16 54 59.5**	**+0.3**		
	comp=Z,4.6nm,0.8s,baz=12,slow=6.6,SNR=46									
ASAR					pP	**pP**	**16 55 15.0**	**+3.1**		
	comp=Z,1.9nm,0.8s,baz=13,slow=6.1,SNR=6.4									
	comp=Z,4.6nm,0.8s									
ARCES	**ARCESS Array B**	**63.48**	**339**		P	**P**	**16 55 11.4**	**-0.3**		
	comp=Z,1.5nm,0.8s,baz=47,slow=8.8,SNR=3.6									
ARCES					LR	LR	17 25 04.2			
	comp=Z,28nm,20.0s,baz=296,slow=38									
	comp=Z,1.5nm,0.8s									
OBN	**Obninsk**	**67.76**	**323**		*e*P	**P**	**16 55 40.1**	**+0.6**		
OBN					*e*		16 56 05.2			
OBN					*e*		16 58 09.1			
OBN					*e*PPP	PPP	16 59 46.7			
OBN					pmax	pmax				
	comp=Z,4.0nm,0.9s									
FINES	**FINESS Array B**	**68.38**	**332**		P	**P**	**16 55 42.3**	**-0.9**		
	comp=Z,5.4nm,0.8s,baz=45,slow=8.4,SNR=12									
FINES					LR	LR	17 27 13.8			
	comp=Z,48nm,18.4s,baz=167,slow=37									
	comp=Z,5.4nm,0.8s									
STKA	**Stephens Creek**	**69.25**	**180**		P	**P**	**16 55 48.9**	**0.0**		
	comp=Z,2.4nm,0.7s,baz=344,slow=6.8,SNR=7.0									
	comp=Z,2.4nm,0.7s									
KBZ	**Khabaz**	**70.73**	**311**		P	**P**	**16 55 57.9**	**-0.2**		
	comp=Z,4.4nm,0.8s,baz=51,slow=2.2,SNR=10									
	comp=Z,4.4nm,0.8s									
KIV	**Kislovodsk**	**70.73**	**311**		*e*P	**P**	**16 55 58.1**	**-0.1**		
KIV					pmax	pmax				
	comp=Z,14nm,1.0s									
MNK	**Minsk**	**72.13**	**326**		*i* P	**P**	**16 56 05.4**	**-0.9**		
MNK					*i*		16 58 45.3			
MNK					*i* PPP	PPP	17 00 29.6			
MNK					*i* S	**S**	**17 05 29.1**	**+4.2**		
MNK					*i* SS	**SS**	**17 10 08.4**	**+6.5**		
MNK					pmax	pmax				
	comp=N,9.0nm,0.8s									
MNK					pmax	pmax				
	comp=E,16nm,0.9s									
MNK					pmax	pmax				
	comp=Z,13nm,0.9s									
MNK					MLR	MLR				
	comp=E,36nm,16.0s									
MNK					MLR	MLR				
	comp=N,43nm,16.0s									
MNK					MLR	MLR				
	comp=Z,44nm,16.0s									
LRM	**Limekiln Ridge**	**73.39**	**45**		P	**P**	**16 56 16.2**	**+1.9**		
DLMT	**Dillon**	**73.59**	**45**		P	**P**	**16 56 16.9**	**+1.5**		
HFS	**Hagfors**	**73.61**	**336**		P	**P**	**16 56 14.1**	**-0.9**		
	comp=Z,5.2nm,0.9s,baz=30,slow=6.7,SNR=4.1									
HFS					LR	LR	17 32 55.7			
	comp=Z,44nm,18.1s,baz=342,slow=39									
	comp=Z,5.2nm,0.9s									
NB2	**NORSAR Subarra**	**73.69**	**337**		P	**P**	**16 56 14.7**	**-0.8**		
	comp=Z,6.1nm,1.0s,baz=38,slow=6.2									
NOA	**NORSAR Array B**	**73.69**	**337**		P	**P**	**16 56 14.8**	**-0.8**		
	comp=Z,2.6nm,0.8s,baz=39,slow=5.9,SNR=6.9									
NOA					LR	LR	17 30 51.3			
	comp=Z,25nm,21.8s,baz=350,slow=38									
	comp=Z,2.6nm,0.8s									
AKASG	**Malin Array Be**	**73.98**	**322**		P	**P**	**16 56 16.0**	**-1.3**		
	comp=Z,2.0nm,0.5s,baz=46,slow=6.1,SNR=14									
AKASG					LR	LR	17 30 40.3			
	comp=Z,39nm,18.5s,baz=354,slow=37									
	comp=Z,2.0nm,0.5s									
AKBB	**Malin Array Si**	**73.98**	**322**	*de*	P	**P**	**16 56 16.3**	**-1.0**		
BOZ	**Bozeman (W)**	**73.99**	**44**		P	**P**	**16 56 18.9**	**+1.3**		
BOZ	**Bozeman (W)**	**73.99**	**44**		P	**P**	**16 56 19.0**	**+1.3**		
BOZ					pmax	pmax				
	comp=Z,3.0nm,0.9s									
YHH	**Holmes Hill**	**74.92**	**45**		P	**P**	**16 56 24.8**	**+1.5**		
SFJD	**Kangerlussuaq**	**75.16**	**5**		LR	LR	17 32 58.9			
	comp=Z,30nm,18.1s,baz=16,slow=38									
QSM	**Queen of Sheba**	**76.66**	**55**		P	**P**	**16 56 33.9**	**+0.8**		
QSM					IAmb	IAmb	16 56 35.6			
	comp=Z,4.5nm,0.9s									
PD31	**Pinedale Array**	**76.92**	**46**		P	**P**	**16 56 35.2**	**+0.5**		
PDAR	**Pinedale Array**	**76.92**	**46**		P	**P**	**16 56 35.3**	**+0.6**		
PDAR	**Pinedale Array**	**76.92**	**46**		P	**P**	**16 56 35.8**	**+1.1**		
	comp=Z,1.6nm,0.7s,baz=279,slow=2.3,SNR=11									
PDAR					pP	**sP**	**16 56 52.1**	**-0.6**		
	comp=Z,1.3nm,0.5s,baz=305,slow=0.7,SNR=7.4									
	comp=Z,1.6nm,0.7s									
BURAR	**Bucovina Array**	**78.00**	**322**		P	**P**	**16 56 38.8**	**-1.6**		
BR131	**Keskin Array S**	**78.67**	**312**		P	**P**	**16 56 43.0**	**-1.3**		
BR131					IAmb	IAmb	16 56 45.6			
	comp=Z,8.1nm,1.0s									
BR131	**Keskin Array S**	**78.67**	**312**	*ce*	P	**P**	**16 56 44.7**	**+0.4**		
BRTR	**Keskin Array B**	**78.67**	**312**		P	**P**	**16 56 43.6**	**-0.7**		
BRTR	**Keskin Array B**	**78.67**	**312**		P	**P**	**16 56 43.2**	**-1.1**		
	comp=Z,1.2nm,0.7s,baz=74,slow=4.4,SNR=6.2									
	comp=Z,1.2nm,0.7s									
BRTR	**Keskin Array B**	**78.67**	**312**		P	**P**	**16 56 43.6**	**-0.7**		
MLR	**Muntele Rosu**	**79.10**	**320**		LR	LR	17 32 51.4			
	comp=Z,56nm,18.6s,baz=348,slow=36									
CLL	**Collm**	**80.68**	**330**	*i*	P		**16 56 54.3**	**-0.5**		
CLL					pmax	pmax				
	comp=Z,8.0nm,1.1s									
CLL	**Collm**	**80.68**	**330**	*i*	P	**P**	**16 56 54.3**	**-0.5**		
	comp=Z,8.0nm,1.1s									
VRAC	**Vranov**	**80.74**	**327**		LR	LR	17 36 14.2			
	comp=Z,24nm,20.0s,baz=358,slow=38									
MMAI	**Mount Meron Ar**	**81.87**	**306**		P	**P**	**16 57 01.2**	**-0.3**		
	comp=Z,1.7nm,0.6s,baz=14,slow=7.2,SNR=3.7									
	comp=Z,1.7nm,0.6s									
KHC	**Kasperske Hory**	**82.15**	**329**⇓		*e*P	**P**	**16 57 02.4**	**-0.3**		
KHC					pmax	pmax				
	comp=Z,3.0nm,1.0s									
GERES	**GERESS Array B**	**82.32**	**328**		P	**P**	**16 57 03.1**	**-0.5**		
	comp=Z,1.3nm,0.8s,baz=34,slow=8.1,SNR=7.2									
	comp=Z,1.3nm,0.8s									
ANMO	**Albuquerque**	**83.86**	**50**⇑		*e*P	**P**	**16 57 13.7**	**+1.7**		
ANMO					pmax	pmax				
	comp=Z,6.0nm,2.5s									
SBM	**South Baldy**	**84.06**	**51**		P	**P**	**16 57 14.8**	**+1.5**		
FUORN	**Ofenpass-Fuorn**	**85.50**	**329**		P	**P**	**16 57 19.0**	**-1.1**		
TXAR	**Lajitas Array**	**89.40**	**53**		P	**P**	**16 57 40.0**	**+0.9**		
TXAR	**Lajitas Array**	**89.40**	**53**		P	**P**	**16 57 40.4**	**+1.3**		
	comp=Z,1.2nm,0.5s,baz=288,slow=2.5,SNR=17									
TXAR					pP	**sP**	**16 57 57.1**

HLIG Huajuapan de L 1.77 90 eP Pn 16 49 54.1 +2.0
HLIG eS Sn 16 50 14.6 +0.8
AZVM Cuida Lopez Ma 1.77 12 iP Pn 16 49 52.6 +0.3
AZVM iS Sn 16 50 14.0 0.0
PHPU Puebla 1.85 50 iP Pn 16 49 53.0 -0.4
PHPU iS Sn 16 50 15.3 -0.7
TXIG Tlaxiaco 1.90 108 eP Pn 16 49 56.1 +2.1
TXIG iS Sn 16 50 13.7 -3.3
ZUVM ZUMPANGO 2.05 16 iP Pn 16 49 55.8 -0.3
ZUVM iS Sn 16 50 30.9 +10
PNIG Pinotepa 2.05 134 eP Pn 16 49 57.1 +1.2
PNIG eS Sn 16 50 13.0 -7.5
VTVM Tizayuca 2.10 23 eP Pn 16 49 56.5 -0.3
ACIG Acambay 2.14 354 eP Pn 16 49 57.3 0.0
ACIG iS Sn 16 50 13.8 -9.0
YOIG Yosondua 2.24 115 eP Pn 16 50 01.1 +2.4
YOIG eS Sn 16 50 19.2 -6.2
TPIG Tehuac#an 2.26 75 eP Pn 16 50 00.1 +1.3
TPIG iS Sn 16 50 26.6 +0.8
MOIG Morelia 2.33 322 Pn Pn 16 50 00.9 +1.0
MOIG Morelia 2.33 322 eP Pn 16 50 00.0 +0.1
MOIG eS Sn 16 50 17.8 -10
TOIG Toxpalan 2.48 84 eP Pn 16 50 03.7 +1.9
TOIG iS Sn 16 50 22.0 -9.1
OZST Orizaba 2.64 67 eP Pn 16 50 03.0 -1.0
OZST iS Sn 16 50 35.1 +0.1
VHO Vista Hermosa 2.90 105 eP Pn 16 50 10.4 +2.8
VHO iS Sn 16 50 42.6 +1.3
OXBJ Oaxaca 2.91 105 eP Pn 16 50 19.7 +12
OXBJ iS Sn 16 50 40.7 -0.9
OXLC Oaxaca 2.92 105 iS Sn 16 50 41.0 -1.1
JRQG Juriquilla Cam 2.94 346 Pn Pn 16 50 07.8 +0.4
PEIG Puerto Escondi 3.02 127 eP Pn 16 50 11.3 +2.2
PEIG iS Sn 16 50 43.7 -0.5
CXUV Coxquihui 3.04 40 iP Pn 16 50 09.3 -0.1
CXUV iS Sn 16 50 45.5 +0.9
JAUV Jalcomulco 3.11 60 eP Pn 16 50 11.3 +1.0
JAUV iS Sn 16 50 51.6 +5.4
MMIG Aquila 3.53 278 eP Pn 16 50 16.0 -0.1
MMIG iS Sn 16 50 54.5 -2.2
NEUV Arroyo Zacate 3.68 91 eP Pn 16 50 19.6 +1.5
NEUV iS Sn 16 50 58.9 -1.3
CTUV Llano Grande 3.82 19 eP Pn 16 50 20.1 +0.1
HUIG Huatulco 3.98 121 eP Pn 16 50 24.6 +2.4
HUIG iS Sn 16 51 05.5 -2.1
MNGA Volcan de Coli 4.09 294 eP Pn 16 50 26.3 +2.3
MNGA iS Sn 16 51 13.9 +3.2
INCO Volcan de Coli 4.10 295 eP Pn 16 50 26.8 +2.6
INCO iS Sn 16 51 14.4 +3.3
SOMAC Volcano de Col 4.12 295 eP Pn 16 50 26.9 +2.4
SOMAC iS Sn 16 51 18.3 +4.7
CEGR Campo Tres 4.27 292 eP Pn 16 50 28.0 +1.7
CEGR iS Sn 16 51 15.8 +0.8
CDAR Ciudad de Arme 4.27 286 eP Pn 16 50 23.2 -3.0
CDAR iS Sn 16 51 10.4 -4.5
PMUV Sontecomapan 4.37 80 eP Pn 16 50 26.0 -1.6
PMUV iS Sn 16 51 12.4 -5.0
CMIG Matias Romero 4.62 99 P Pn 16 50 33.4 +2.4
3.3nm,0.3s,baz=279,slow=14,SNR=14
CMIG S Sn 16 51 23.3 -0.1
33nm,0.4s,baz=135,slow=21,SNR=13
CMIG Matias Romero 4.62 99 eP Pn 16 50 33.4 +2.4
CMIG iS Sn 16 51 22.4 -1.0
CJM Chamela 5.36 289 eP Pn 16 51 39.7 -1.9
CJM iS Sn 16 51 39.7 -1.9
ZAIG Zacatecas 5.61 331 Pn Pn 16 50 45.8 +0.9
TEIG Tepich 11.03 76 P Pn 16 51 56.8 -1.9
baz=132,slow=24,SNR=1.4
TEIG S Sn 16 53 54.1 -6.4
baz=132,slow=24,SNR=7.0
TXAR Lajitas Array 12.02 343 P Pn 16 52 14.9 +2.6
0.7nm,0.8s,baz=155,slow=15,SNR=6.9
SN07 Snyder 07 15.23 356 P P 16 52 58.0 -0.9
SN07 IAmb IAmb 16 53 20.1
comp=Z,12nm,0.5s
POST Post 15.25 354 P P 16 52 58.9 -0.3
POST IAmb IAmb 16 53 00.7
comp=Z,14nm,0.8s
APMT Aspermont 15.43 359 P P 16 53 00.3 -0.8
APMT IAmb IAmb 16 53 02.7
comp=Z,8.5nm,0.6s
DKNS Dickens 15.80 356 P P 16 53 04.7 -0.7
DKNS IAmb IAmb 16 53 32.9
comp=Z,17nm,0.4s
319A Douglas 16.05 329 P P 16 53 08.4 +0.2
SMWD Samnorwood 17.20 358 Pn 16 53 19.9 -0.1
SMWD IAmb IAmb 16 53 37.0
comp=Z,26nm,1.3s
BNM Barren Site 17.40 340 P 16 53 23.7 +0.5
Y22D IRIS PASSCAL I 17.43 339 P P 16 53 25.7 +2.3
ANMO Albuquerque 18.08 342 P Pn 16 53 31.1 +0.1
comp=Z,1.7nm,0.7s,baz=244,slow=13,SNR=2.7
ANMO LR LR 17 01 22.9
comp=Z,86nm,19.9s,baz=250,slow=40
OK052 Battle Ridge R 18.26 7 P P 16 53 31.1 -1.3
OK052 IAmb IAmb 16 53 36.1
comp=Z,47nm,1.4s
X16A Lo Mia Camp, P 19.58 330 P Pn 16 53 48.8 -0.1
PLAL Pickwick Lake 19.95 29 P P 16 53 49.7 -1.2
PFO Pinyon Flats O 21.76 319 LR LR 17 03 53.4
comp=Z,49nm,20.8s,baz=349,slow=40
TKL Tuckaleechee C 22.66 35 P P 16 54 16.0 -4.1
comp=Z,2.0nm,0.5s,baz=197,slow=14,SNR=5.7
comp=Z,2.0nm,0.5s
MTPU Mount Pierson 22.92 334 P P 16 54 24.2 +1.1
BSUT Blindstream Ca 24.56 339 P P 16 54 38.8 +0.4
PD31 Pinedale Array 26.23 343 P P 16 54 53.1 -0.3
PDAR Pinedale Array 26.23 343 P P 16 54 52.7 -0.7
PDAR Pinedale Array 26.23 343 P P 16 54 53.7 +0.3
comp=Z,1.0nm,0.7s,baz=138,slow=11,SNR=9.7
PDAR LR LR 17 06 08.6
comp=Z,43nm,18.1s,baz=132,slow=38
comp=Z,1.0nm,0.7s
ELK Elko 26.48 333 LR LR 17 06 43.1
comp=Z,125nm,19.0s,baz=152,slow=39
E28A Huff 28.67 359 P P 16 55 16.3 +1.5
BOZ Bozeman (W) 29.42 343 P P 16 55 22.4 +0.7
SSPA Standing Stone 29.46 35 P P 16 55 21.2 -0.7
SSPA IAmb IAmb 16 55 24.7
comp=Z,13nm,1.5s
SDV Santo Domingo 29.57 104 LR LR 17 07 07.0
comp=Z,57nm,18.4s,baz=250,slow=36
M57A Sunshine Farm, 30.36 35 P P 16 55 29.9 -0.1
M57A IAmb IAmb 16 55 30.3
comp=Z,4.7nm,0.5s
SADO Sadowa 31.88 28 LR LR 17 09 15.6
comp=Z,414nm,20.9s,baz=186,slow=38
L59A Walton 32.09 36 P P 16 55 45.4 +0.3
L59A IAmb IAmb 16 56 08.2
comp=Z,6.1nm,1.0s
ULM Lac du Bonnet 32.48 5 P P 16 55 45.8 -2.6
comp=Z,2.3nm,0.6s,baz=174,slow=9.2,SNR=2.3
comp=Z,2.3nm,0.6s
BIM Bigot 37.16 89 P P 16 56 30.1 +0.8
SCHQ Schefferville 44.65 27 P P 16 57 29.9 -0.4
SCHQ Schefferville 44.65 27 P P 16 57 26.2 -4.1
comp=Z,22nm,0.6s,baz=234,slow=10.0,SNR=7.1
YKA Yellowknife Ar 45.82 350 P P 16 57 37.5 -1.9
comp=Z,0.8nm,0.6s,baz=172,slow=8.7,SNR=0.9
comp=Z,0.8nm,0.6s
DLBC Dease Lake 46.27 338 LR LR 17 19 12.2
comp=Z,564nm,20.6s,baz=184,slow=39
BLKN Baker Lake 46.51 2 P P 16 57 45.1 +0.3
L29M L29M 52.39 339 P P 16 58 31.2 +1.4
L29M IAmb IAmb 16 58 54.5
comp=Z,3.7nm,1.1s
UWE Uwekahuna 52.55 281 P P 16 58 33.6 +1.9
EGAK Eagle 54.49 340 P P 16 58 45.7 +0.7
EGAK IAmb IAmb 16 59 06.9
comp=Z,2.9nm,1.1s
H29M Whitestone 54.57 342 P P 16 58 45.9 +0.3
H29M IAmb IAmb 16 58 54.8
comp=Z,3.7nm,1.1s
J26L Joseph Creek 55.14 339 P P 16 58 51.7 +1.8
J26L IAmb IAmb 16 59 13.4
comp=Z,4.3nm,0.9s
RIDG Independent Ri 55.16 337 P P 16 58 52.1 +2.1
RIDG IAmb IAmb 16 59 13.2
comp=Z,2.9nm,0.8s
G27K Doyon Strip 55.95 341 P P 16 58 55.7 +0.2
SUA Susitna One 56.33 333 P P 16 58 59.6 +1.1
TRF Thorofare Moun 57.08 336 P P 16 59 04.1 +0.3
H24K Noodor Dome 57.40 339 P P 16 59 06.6 +0.7
H24K IAmb IAmb 16 59 29.6
comp=Z,1.6nm,0.8s
M20K Styx River 57.54 333 P P 16 59 07.2 +0.2
M20K IAmb IAmb 16 59 30.8
comp=Z,3.3nm,0.8s
I23K Minto, Yukon-K 57.57 338 P P 16 59 08.3 +1.4
I23K IAmb IAmb 16 59 29.8
comp=Z,2.9nm,0.8s
N19K Bonanza Creek 57.70 332 P P 16 59 09.1 +1.0
N19K IAmb IAmb 16 59 30.6
comp=Z,4.4nm,0.8s
J20K Nowinta River 58.93 335 P P 16 59 17.1 +0.6
J20K IAmb IAmb 16 59 39.2
comp=Z,4.1nm,0.8s
N15K Kwethluk River 60.09 330 P P 16 59 26.1 +1.5
D22K Ayikyak River 60.56 341 P P 16 59 29.2 +1.5
D22K IAmb IAmb 16 59 51.4
comp=Z,1.8nm,0.7s
G19K Purcell Mounta 60.87 337 P P 16 59 30.8 +1.0
PLCA Paso Flores 64.25 156 P P 16 59 52.7 0.0
comp=Z,1.4nm,1.0s,baz=333,slow=4.5,SNR=2.8
comp=Z,1.4nm,1.0s
SPB2 Spitsbergen Ar 77.78 11 P P 17 01 15.4 +1.3
WRA Warramunga Arr 129.05 259 PKP PKiKP 17 08 26.5 0.0
comp=Z,0.3nm,0.7s,baz=89,slow=2.9,SNR=1.8
ASAR Alice Springs 129.81 254 PKP PKiKP 17 08 28.5 +0.6
comp=Z,0.5nm,0.9s,baz=74,slow=2.4,SNR=4.1

IDC 11 16:51:03.7±5.6, 29°.87S×178°.84W, h390km±51km, mb2.8/2, mbtmp3.9/4, Error ellipse: s-maj=58.9km s-min=38.9km az=53.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	9.02	201	P	P	16 53 10.4	-0.1
	3.2nm,0.3s,baz=14,slow=17,SNR=19						
URZ				S	S	16 54 53.7	-0.2
	2.8nm,0.4s,baz=260,slow=22,SNR=7.2						
DZM	Mont Dzumac	15.34	297	P	P	16 54 20.4	-0.1
	7.2nm,1.0s,baz=126,slow=18,SNR=1.9						
ASAR	Alice Springs	42.41	267	P	P	16 58 22.2	0.0
	0.5nm,0.4s,baz=102,slow=6.7,SNR=13						
	0.5nm,0.4s						
WRA	Warramunga Arr	43.35	272	P	P	16 58 29.1	-0.5
	0.4nm,0.4s,baz=112,slow=7.0,SNR=5.0						
	0.4nm,0.4s						
FINES	FINESS Array B	144.40	340	PKP	PKPbc	17 09 52.9	0.0
	1.6nm,0.9s,baz=58,slow=3.6,SNR=14						

*TEH **11** 17:02:27.8, 30°.27N×57°.51E, h8km±46km*
*THR **11** 17:02:29.3±0.0, 30°.13N×57°.43E, h25km±7km, ML4.1*
*OMAN **11** 17:02:30.1±1.5, 30°.36N×57°.44E, h10km, mb4.8/21, ml3.8/5, Error ellipse: s-maj=12.2km s-min=10.5km az=48.0*
*DSN **11** 17:02:34.4±1.4, 30°.11N×57°.35E, h10km, ML3.5/8, Error ellipse: s-maj=79.4km s-min=10.7km az=108.0*

ISC 11 17:02:29.9±0.8, 30°.29N±0°.04×57°.49E±0°.04, h15km, n85, σ2°65/107, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	Kerman Provinc	0.28	318	Pg	Pg	17 02 34.1	-1.9
CHMN	Cheshme madani	0.43	174	Pg	Pg	17 02 36.8	-1.9
CHMN				Sg	Sg	17 02 42.5	-2.2
KRBR	Kerman	0.70	244	Pg	Pg	17 02 42.3	-1.5
KRBR	Kerman	0.70	244	ePg	Pg	17 02 42.2	-1.5
KRBR				iS	Sg	17 02 51.5	-1.6
KRBR				IAML		17 02 55.1	
	comp=Z,23nm,1.0s						
KHGB	Koh Gabri	0.88	276	Pg	Pb	17 02 44.8	-2.2
NGRK	Negar Kerman	0.92	226	Pg	Pb	17 02 46.1	-1.7
ZRDN	Zarand Kerman	1.06	309	Pg	Pb	17 02 48.9	-1.2
KBAM	BAM	1.43	144	Pg	Pn	17 02 55.2	-0.1
KBAM				Sg	Sn	17 03 13.7	-0.2
IBAF	Bafgh	2.10	309	Pn	Pb	17 03 06.3	-1.4
KHNJ	Kahnooj	2.35	175	Pn	Pn	17 03 09.5	+1.5
NHDN	Nehbandan	2.46	63	Pn	Pn	17 03 10.7	+1.1
IKOO	Kooshah	2.49	31	Pn	Pn	17 03 10.6	+0.4
IMEH	Mehriz	2.70	295	Pn	Pn	17 03 14.7	+1.6
ITEG	Tejag	2.81	22	Pn	Pn	17 03 15.1	+0.6
TPRV	Parvadeh(Tabas	2.81	346	Pn	Pn	17 03 15.4	+1.0
ZHSF	Zahedan	2.93	103	Pn	Pn	17 03 16.9	+0.7
ZHSF	Zahedan	2.93	103	ePn	Pn	17 03 17.1	+1.0
ZHSF				eSg	Sn	17 03 53.6	+2.4
ZHSF				IAML		17 04 07.2	
	comp=Z,0.8nm,1.0s						
GENO	Geno	3.11	202	Pn	Pn	17 03 20.2	+1.6
BNDS	Bandar-Abbas	3.11	202	ePn	Pn	17 03 15.7	-2.9
BNDS				IAML		17 03 22.0	
	comp=Z,540nm,1.0s						
IDAH	Dahanechah	3.17	39	Pn	Pn	17 03 20.7	+1.1
YZKH	Yazd	3.24	311	ePnA		17 03 22.2	
YZKH				IAML		17 04 15.9	
	comp=Z,0.8nm,1.0s						
ICHK	Chekchek	3.28	307	Pn	Pn	17 03 22.7	+1.7
TKDS	Koohdasht(Taba	3.32	355	Pn	Pn	17 03 22.4	+0.9
TABS	Tabas	3.36	355	ePn	Pn	17 03 23.5	+1.5
TABS				IAML		17 04 27.7	
	comp=Z,1.0nm,1.0s						
AFRZ	Afriz	3.38	22	Pn	Pn	17 03 22.9	+0.6
TNSJ	Nastanj	3.73	349	Pn	Pn	17 03 28.5	+1.4
LAR1	LAR	3.78	227	Pn	Pn	17 03 29.6	+1.9
SHRT	Shahrakht	4.10	35	Pn	Pn	17 03 33.5	+1.4
SHRT	Shahrakht	4.10	35	ePnA		17 03 33.4	
SHRT				IAML		17 04 53.9	
	comp=Z,0.4nm,1.0s						
ANAR	Anarak	4.31	313	Pn	Pn	17 03 36.8	+1.7
SHME	Shamm	4.39	196	P	Pn	17 03 39.6	+3.6
	SNR=11						
SHME				S	Sn	17 04 30.8	+3.8
SHME	Shamm	4.39	196	iP	Pn	17 03 38.5	+2.4
	SNR=8.6						
SHME				S	Sn	17 04 28.6	+1.6
BANOM	Banah	4.48	194	P	Pn	17 03 39.5	+2.2
BANOM				S	Sn	17 04 34.5	+5.4
BANOM	Banah	4.48	194	iP	Pn	17 03 39.3	+2.0
	SNR=34						
UMQ	Umm Al-Quwin	5.02	199	P	Pn	17 03 48.7	+4.1
UMQ				S	Sn	17 04 50.7	+8.3
MASF	Masafi	5.04	194	P	Pn	17 03 48.5	+3.5
MASF				S	Sn	17 04 46.9	+3.8
MSFE	Esma-Masafi	5.05	194	P	Pn	17 03 47.6	+2.4
MDH	Madha	5.09	192	P	Pn	17 03 48.9	+3.3
MDH				S	Sb	17 04 53.5	-6.1
MDH	Madha	5.09	192	P	Pn	17 03 47.3	+1.7
SRVN	Saravan	5.18	123	Pn	Pn	17 03 48.6	+1.5
UOSS	Minazif	5.45	192	P	Pn	17 03 53.8	+3.2
UOSS				S	Sn	17 04 59.1	+6.0
UOSS	Minazif	5.45	192	P	Pn	17 03 53.6	+3.0
TBJM	Torbat-e-JAM	5.51	25	Pn	Pn	17 03 53.1	+1.6
NAZ	Nazwa, Dubai	5.53	197	P	Pn	17 03 54.8	+3.1
	SNR=8.7						
NAZ	Nazwa, Dubai	5.53	197	iP	Pn	17 03 55.0	+3.3
	SNR=9.0						
HATD	Hatta, Dubai	5.58	193	P	Pn	17 03 55.6	+3.2
HATD				S	Sn	17 04 58.6	+2.3
ASHO	Ashiyiah	5.73	193	P	Pn	17 03 57.2	+2.6
	SNR=11						
ASHO				S	Sn	17 05 03.2	+3.1
ASHO	Ashiyiah	5.73	193	iP	Pn	17 03 58.0	+3.4
	SNR=13						
FAQ	Al Faqa, Dubai	5.78	197	P	Pn	17 03 57.6	+2.5
	SNR=10						
SHRO	Shahrood	5.81	348	ePnA		17 03 57.9	
SHRO				IAML		17 05 15.2	
	comp=Z,0.0nm,1.0s						
KRSH	Karshahi	5.83	310	Pn	Pn	17 03 58.1	+2.1
ASUD	Al Ashush, Dub	5.96	199	P	Pn	17 04 00.6	+3.0
ASUD				S	Sn	17 05 08.9	+3.2
ISFB	Sefidab	6.01	314	Pn	Pn	17 04 00.5	+2.2
SBZV	Sabzevar	6.08	1	Pn	Pn	17 04 01.0	+1.6
SBZV	Sabzevar	6.08	1	ePn	Pn	17 04 01.4	+2.0
SBZV				IAML		17 05 58.9	
	comp=Z,50nm,1.0s						
AJN	Ajban	6.13	202	P	Pn	17 04 03.3	+3.4
AJN				S	Sn	17 05 12.9	+3.2
SOHO	SOHO	6.20	188	P	Pn	17 04 03.3	+2.4
SOHO	SOHO	6.20	188	iP	Pn	17 04 04.0	+3.1
	SNR=7.5						
IPAY	Payeh	6.27	11	Pn	Pn	17 04 03.8	+1.7
IAKL	Akhelmad	6.38	9	Pn	Pn	17 04 05.3	+1.6
ALNE	Al Ain	6.40	194	P	Pn	17 04 06.6	+2.8
IFIR	Firoozkooh	6.65	325	Pn	Pn	17 04 09.2	+1.8
IKRD	Kardeh	6.68	14	Pn	Pn	17 04 09.6	+1.8
HOQ	Hoqain	6.69	181	P	Pn	17 04 09.2	+1.5
	SNR=8.7						
HOQ				S	Sn	17 05 26.3	+2.7
ISFR	Sfrayin	6.75	3	Pn	Pn	17 04 10.4	+1.6
BIDO	Bidbid	6.77	175	P	Pn	17 04 09.5	+0.7
ARQ	Araqi	6.98	187	P	Pn	17 04 14.7	+3.0
	SNR=30						
IDMV	Damavand	6.98	320	Pn	Pn	17 04 13.8	+1.8
WSAR	Wadi Sarin	7.10	171	P	Pn	17 04 13.7	+0.4
	SNR=17						
WSAR				S	Sn	17 05 37.0	+3.2
IEMG	Emamgholi	7.17	7	Pn	Pn	17 04 16.0	+1.6
SMDO	Samad	7.22	176	P	Pn	17 04 15.6	+0.5
SMDO				S	Sn	17 05 39.7	+2.7
MZWR	Madinat Zayed	7.26	207	P	Pn	17 04 16.9	+1.4
MZWR				S	Sn	17 05 42.7	+5.0
SHMA	Al-Shehemyia	7.26	234	P	Pn	17 04 18.7	+3.2
SHMA				S	Sn	17 05 38.1	+0.4
MRVT	Maraveh tapeh	7.44	351	ePnA		17 04 20.1	
MRVT				IAML		17 06 46.3	
	comp=Z,0.1nm,1.0s						
UMZA	Um Al Zommool	7.83	196	P	Pn	17 04 25.5	+2.1
UMZA				S	Sn	17 05 52.8	+1.0
TRNA	Turayna	7.85	227	P	Pn	17 04 24.0	+0.3
TRNA				S	Sn	17 05 53.7	+1.4
JMDO	Jabal Madar	7.91	176	P	Pn	17 04 26.6	+2.1
JMDO				S	Sn	17 06 01.7	+8.0
SMRA	Abu-Samra	8.10	229	P	Pn	17 04 27.5	+0.6
	SNR=9.0						
SMRA				S	Sn	17 05 57.9	-0.3
JLN	Jalan Bani Buh	8.29	168	P	Pn	17 04 28.8	-0.9
JLN				S	Sn	17 06 07.1	+4.0
MHTO	MHTO	9.28	177	P	Pn	17 04 45.1	+1.9
MHTO				S	Sn	17 06 29.9	+2.5
DOK	Doka	12.02	195	P	Pn	17 05 20.8	+0.1
RAYN	Ar Rayn	12.64	241	P	Pn	17 05 28.9	-0.3
DMTO	DMTO	12.73	191	P	Pn	17 05 31.6	+1.0
WHFO	Wadi Hawf	12.78	196	P	Pn	17 05 30.6	-0.5
	SNR=9.8						
ABTO	Aybut	13.44	197	P	Pn	17 05 38.9	-1.3
	SNR=5.5						

*NOU **11** 17:28:25.4, 38°.69S×175°.95E, h167km, MLv4.7/27, North Island, New Zealand*
*IDC **11** 17:28:26.8±0.5, 38°.13S×176°.18E, h169km±6km, mb3.8/8, mbtmp4.3/8, Error ellipse: s-maj=25.3km s-min=14.1km az=48.0*
*NEIC **11** 17:28:27.2±1.8, 38°.67S±0°.07×175°.87E±0°.09, h158km±6km, mb4.6/13, Error ellipse: s-maj=10.4km s-min=9.0km az=54.0*
*WEL **11** 17:28:29.0±0.8, 39°S±5°×17°E±°, h141km±5km, M4.3/113, ML3.7/22, MLv4.3/113, Error ellipse: s-maj=9.5km s-min=6.3km az=118.9, confirmed*

ISC 11 17:28:27.1±0.6, 38°.66S±0°.03×175°.87E±0°.04, h168km±4km, n251, σ1°60/266, mb4.4/16, 4C, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	Wairara	0.12	244	P	Pn	17 28 49.2	-0.3
KUTZ	Kaahu Road	0.17	348	P	Pn	17 28 49.2	-0.5
RATZ	Rangitukua	0.23	200	P	Pn	17 28 49.3	-0.4
WPRZ	Whakapapatarin	0.27	59	P	Pn	17 28 49.2	-0.7
HATZ	Hinemaiaia	0.29	143	P	Pn	17 28 49.4	-0.5
HATZ				S	Sn	17 29 05.0	-2.5
RITZ	Rihia Road	0.32	181	P	Pn	17 28 49.9	-0.1
RITZ				S	Sn	17 29 06.7	-0.9
KATZ	Kakaramea	0.34	203	P	Pn	17 28 49.9	-0.2
GRRZ	Galatos Road	0.36	32	P	Pn	17 28 49.5	-0.6
ALRZ	Allen Road	0.39	76	P	Pn	17 28 49.3	-0.8
ALRZ				S	Sn	17 29 05.8	-2.0
TLZ	Tolley Road	0.42	322	P	Pn	17 28 49.9	-0.4
TLZ				S	Sn	17 29 06.9	-1.2
HRRZ	Handcock Road	0.42	51	P	Pn	17 28 49.6	-0.7
PRRZ	Plateau Road	0.44	69	P	Pn	17 28 49.5	-0.9
PRRZ				S	Sn	17 29 06.1	-2.0
HSRZ	Hossack Road	0.46	41	P	Pn	17 28 49.8	-0.7
MRHZ	Matea Rd	0.47	112	P	Pn	17 28 49.8	-0.6
MRHZ				S	Sn	17 29 05.6	-2.8
NTVZ	North Tongarir	0.47	199	P	Pn	17 28 50.2	-0.2
NTVZ				S	Sn	17 29 07.3	-1.4
KRVZ	Karewarewa	0.47	202	P	Pn	17 28 50.4	-0.2
TMVZ	Te Maari	0.47	195	P	Pn	17 28 50.5	-0.1
TMVZ				S	Sn	17 29 07.5	-1.3
ETVZ	East Tongariro	0.49	194	P	Pn	17 28 50.7	0.0
ETVZ				S	Sn	17 29 07.6	-1.4
WTVZ	West Tongariro	0.51	205	P	Pn	17 28 50.6	-0.2
WTVZ				S	Sn	17 29 07.7	-1.3
NNVZ	North Ngauruho	0.51	202	P	Pn	17 28 50.6	-0.2
OTVZ	Oturere	0.53	197	P	Pn	17 28 50.8	-0.1
OTVZ				S	Sn	17 29 08.0	-1.3
TWVZ	Taurewa	0.53	219	P	Pn	17 28 50.8	-0.1
TWVZ				S	Sn	17 29 08.0	-1.1
UTU	Utuhina	0.55	28	P	Pn	17 28 50.2	-0.6
HLRZ	Highlands Stat	0.56	43	P	Pn	17 28 50.6	-0.3
SNVZ	South Ngauruho	0.56	198	P	Pn	17 28 50.9	-0.1
NGZ	Ngauruhoe	0.56	202	P	Pn	17 28 50.7	-0.3
COVZ	Chateau Observ	0.60	205	P	Pn	17 28 50.9	-0.3
RRRZ	Republican Roa	0.60	58	P	Pn	17 28 50.3	-0.9
RRRZ				S	Sn	17 29 07.1	-2.3
NGRZ	Ngongotaha	0.61	24	P	Pn	17 28 50.5	-0.7
TUVZ	Tukino	0.63	195	P	Pn	17 28 51.5	+0.1
FWVZ	Far West T-bar	0.65	202	P	Pn	17 28 51.4	-0.2
MAVZ	Matarangi	0.65	201	P	Pn	17 28 51.6	-0.2
WHVZ	Whangaehu Hut	0.66	199	P	Pn	17 28 51.6	-0.1
OMRZ	Omania	0.68	36	P	Pn	17 28 50.6	-0.9
TRVZ	Turoa	0.69	201	P	Pn	17 28 51.9	+0.1
WNVZ	Wahianoa	0.70	197	P	Pn	17 28 51.9	+0.1
MKRZ	Makatiti	0.70	42	P	Pn	17 28 51.4	-0.4
KARZ	Kaharoa	0.70	25	P	Pn	17 28 50.8	-0.9
BKZ	Black Stump Fm	0.70	136			17 28 51.5	-0.2
BKZ	Black Stump Fm	0.70	136	P	Pn	17 28 51.3	-0.4
BKZ	Black Stump Fm	0.70	136	S	Sn	17 29 08.7	-1.9
BKZ	Black Stump Fm	0.70	136	P	Pn	17 28 51.5	-0.2
MUGZ	Murupara	0.73	76	P	Pn	17 28 50.6	-1.2
PKVZ	Pokaka	0.75	213	P	Pn	17 28 52.1	+0.1
MOVZ	Moawhango	0.75	187	P	Pn	17 28 51.9	-0.1
LIRZ	Lichensteins R	0.77	32	P	Pn	17 28 51.2	-0.9
MTHZ	Maungataniwha	0.79	105	P	Pn	17 28 51.8	-0.3
MTVZ	Mangateitei	0.79	203	P	Pn	17 28 52.4	+0.2
HIZ	Hauiti	0.81	280			17 28 52.0	-0.2
HIZ	Hauiti	0.81	280	P	Pn	17 28 52.0	-0.2
HIZ	Hauiti	0.81	280	S	Sn	17 29 11.1	-0.4
HIZ	Hauiti	0.81	280	P	Pn	17 28 52.1	-0.2
KMRZ	Kaimai	0.81	4	P	Pn	17 28 51.6	-0.8
NMHZ	Naumai	0.85	121	P	Pn	17 28 53.3	+0.6
RTZ	Ruatahuna	0.87	88			17 28 52.0	-0.8
RTZ					Sn	17 29 10.0	-2.5
RTZ	Ruatahuna	0.87	88	P	Pn	17 28 52.1	-0.7
EDRZ	Edgecumbe	0.88	52	P	Pn	17 28 51.7	-1.2
KWHZ	Kaweka Forest	0.88	151	P	Pn	17 28 53.2	+0.3
MARZ	Manawahe	0.93	44	P	Pn	17 28 52.2	-0.9
TOZ	Tahuroa Road	0.97	343			17 28 52.8	-0.6
TOZ	Tahuroa Road	0.97	343	P	Pn	17 28 52.8	-0.6
OPRZ	Ohinepanea	0.98	34	P	Pn	17 28 52.5	-1.0
TGRZ	Tauranga	0.98	19	P	Pn	17 28 52.5	-1.0
RAHZ	Arahi	0.99	106	P	Pn	17 28 53.7	+0.1
MCHZ	McNeill Hill	1.02	141	P	Pn	17 28 54.7	+0.9
URZ	Urewera	1.05	68	P	Pn	17 28 52.8	-1.3
	456nm,0.3s,baz=234,slow=4.3,SNR=1362						
URZ				S	Sn	17 29 11.0	-3.8

LREZ	Lake Rotokare	1.39	234	P	Pn	17 28 57.8	+0.7
TSZ	Takapari Road	1.40	177	P	Pn	17 28 57.5	+0.3
DREZ	Durham Road	1.40	247	P	Pn	17 28 57.7	+0.6
MYRZ	Mayor Island	1.41	12	P	Pn	17 28 56.5	-0.8
KNZ	Kokohu	1.46	105	P	Pn	17 28 57.5	-0.2
WPHZ	Waipukurau	1.47	163	P	Pn	17 28 58.2	+0.4
RIGZ	Rimuhau	1.48	92	P	Pn	17 28 57.7	-0.3
PREZ	Palmer Road	1.50	242	P	Pn	17 28 58.8	+0.7
NEZ	North Egmont	1.51	246	P	Pn	17 28 58.9	+0.6
WIZ	White Island	1.54	43	P	Pn	17 28 57.0	-1.5
PKE	Pukeiti	1.56	249	P	Pn	17 28 59.2	+0.5
PXZ	Pawanui	1.57	151	P	Pn	17 28 59.2	+0.4
KHEZ	Kahui Hut	1.58	246	P	Pn	17 28 59.3	+0.3
KHEZ	Kahui Hut	1.58	246	P	Sn	17 28 59.3	+0.6
KHEZ	Kahui Hut	1.58	246	P	Pn	17 28 59.4	+0.4
RUGZ	Raukumara Rang	1.58	65	P	Pn	17 28 57.2	-1.9
PRGZ	Paritu Road	1.60	100	P	Pn	17 28 58.8	-0.3
OHWZ	Ohakea	1.60	195	P	Pn	17 28 59.9	+0.8
MKAZ	Moumakai	1.65	340	P	Pn	17 28 59.0	-0.7
DVHZ	Dannevirke	1.66	172	P	Pn	17 28 59.7	0.0
MHGZ	Mahia Peninsul	1.67	108	P	Pn	17 28 59.9	+0.2
NBEZ	Newall Road No	1.67	248	P	Pn	17 29 00.2	+0.4
PRHZ	Porangahau	1.71	160	P	Pn	17 29 00.6	+0.3
NMEZ	Namu Road	1.72	243	P	Pn	17 29 00.7	+0.4
POWZ	Post Office Ro	1.73	183	P	Pn	17 29 00.5	0.0
KBAZ	Karaka Road Bo	1.74	333	P	Pn	17 29 00.2	-0.4
HAZ	Te Kaha	1.76	60	P	Pn	17 28 59.0	-1.7
CNGZ	Carnagh Station	1.84	85	P	Pn	17 29 01.5	-0.1
ETAZ	East Tamaki Re	1.86	336	P	Pn	17 29 01.1	-0.8
ANWZ	Angora Road	1.86	166	P	Pn	17 29 02.2	+0.4
AWAZ	Awhitu Peninsu	1.86	328	P	Pn	17 29 01.3	-0.6
PRWZ	Pori Road	1.90	178	P	Pn	17 29 02.4	+0.2
KUZ	Kuaotunu	1.91	356	P	Pn	17 29 01.2	-1.3
KUZ	Kuaotunu	1.91	356	P	Sn	17 29 27.5	-2.2
KUZ	Kuaotunu	1.91	356	P	Pn	17 29 01.4	-1.1
PKGZ	Pakihiroa	1.91	66	P	Pn	17 29 01.2	-1.2
WIAZ	Waiheke Island	1.95	342	P	Pn	17 29 02.1	-0.7
PUZ	Puketiti	1.97	73	P	Pn	17 29 02.0	-1.0
EPAZ	Eden Park BICE	1.99	333	P	Pn	17 29 02.6	-0.6
WTAZ	Waiatarua	2.00	329	P	Pn	17 29 03.2	-0.3
MRZ	Mangatainoka R	2.01	186		Pn	17 29 03.1	-0.4
MRZ	Mangatainoka R	2.01	186	P	Pn	17 29 03.3	-0.2
HBAZ	Herne Bay Bore	2.02	333	P	Pn	17 29 03.0	-0.6
MBAZ	Motutapu North	2.04	338	P	Pn	17 29 03.0	-0.8
BFZ	Birch Farm	2.04	172		Pn	17 29 03.7	-0.1
BFZ	Birch Farm	2.04	172	P	Pn	17 29 03.4	-0.4
BFZ	Birch Farm	2.04	172	P	Sn	17 29 30.8	-1.6
BFZ	Birch Farm	2.04	172	P	Pn	17 29 03.7	-0.1
TWZ	Tintock	2.12	180	P	Pn	17 29 04.5	-0.2
RVAZ	Riverhead Bore	2.14	331	P	Pn	17 29 04.4	-0.6
WMGZ	Waiomatatini S	2.17	68	P	Pn	17 29 04.1	-1.2
ABAZ	Army Bay	2.21	338	P	Pn	17 29 05.2	-0.6
MXZ	Matakaoa Point	2.21	61		Pn	17 29 04.7	-1.1
MXZ	Matakaoa Point	2.21	61	P	Pn	17 29 04.4	-1.4
MXZ	Matakaoa Point	2.21	61	S	Sn	17 29 33.0	-2.7
MXZ	Matakaoa Point	2.21	61	P	Pn	17 29 04.7	-1.1
OGWZ	Otaki Gorge	2.22	194	P	Pn	17 29 05.7	-0.2
HOWZ	Holdsworth Sta	2.25	187	P	Pn	17 29 05.7	-0.5
CPWZ	Castlepoint	2.26	174	P	Pn	17 29 06.6	+0.3
KIW	Kapiti Island	2.32	198	P	Pn	17 29 06.4	-0.6
GRZ	Great Barrier	2.42	352	P	Pn	17 29 07.5	-0.8
TMWZ	Te Maipa	2.45	180	P	Pn	17 29 07.9	-0.6
MTW	Mount Morrison	2.51	186	P	Pn	17 29 08.4	-0.8
CAW	Cannon Point	2.52	194	P	Pn	17 29 08.7	-0.7
DUWZ	D'Urville Isla	2.61	214	P	Pn	17 29 09.4	-1.1
TRWZ	Traveller	2.74	183	P	Pn	17 29 11.1	-0.9
PAWZ	Paruwai Farm	2.76	187	P	Pn	17 29 11.0	-1.0
WEL	Wellington	2.76	197	P	Pn	17 29 11.3	-0.9
MSWZ	Moikau Station	2.79	190		Pn	17 29 11.5	-1.1
MSWZ					Sn	17 29 45.4	-2.8
MSWZ	Moikau Station	2.79	190	P	Pn	17 29 11.6	-1.1
SNZO	South Karori	2.80	198		Pn	17 29 11.5	-1.2
SNZO	South Karori	2.80	198	P	Pn	17 29 11.3	-1.3
SNZO	South Karori	2.80	198	S	Sn	17 29 46.4	-1.7
TCW	Tory Channel	2.83	205		Pn	17 29 12.0	-1.0
TCW	Tory Channel	2.83	205	P	Pn	17 29 12.1	-1.0
BHW	Baring Head	2.85	195		Pn	17 29 12.1	-1.2
BHW	Baring Head	2.85	195	P	Pn	17 29 12.3	-1.1
PLWZ	Palliser	2.95	189		Pn	17 29 13.2	-1.3
PLWZ	Palliser	2.95	189	P	Pn	17 29 13.2	-1.3
WCZ	Waipu Caves	2.97	335	P	Pn	17 29 14.4	-0.5
TUWZ	Tuamarina	3.14	207		Pn	17 29 16.2	-0.7
TUWZ	Tuamarina	3.14	207	P	Pn	17 29 16.4	-0.4
NNZ	Nelson	3.19	216		Pn	17 29 16.1	-1.5
NNZ	Nelson	3.19	216	P	Pn	17 29 16.1	-1.5
TKNZ	Takaka Hill	3.26	222		Pn	17 29 16.6	-1.9
TKNZ	Takaka Hill	3.26	222	P	Pn	17 29 16.8	-1.7
CMWZ	Cape Campbell	3.34	202		Pn	17 29 18.8	-0.6
CMWZ	Cape Campbell	3.34	202	P	Pn	17 29 18.9	-0.4
QRZ	Quartz Range	3.36	229		Pn	17 29 17.8	-1.9
QRZ	Quartz Range	3.36	229	P	Pn	17 29 17.6	-2.1
QRZ	Quartz Range	3.36	229	S	Sn	17 29 58.3	-2.4
QRZ	Quartz Range	3.36	229	P	Pn	17 29 17.7	-1.9
BSWZ	Blackbirch Sta	3.41	206		Pn	17 29 19.0	-1.3
BSWZ	Blackbirch Sta	3.41	206	P	Pn	17 29 19.1	-1.3
MRNZ	Matariki Terra	3.63	220	P	Pn	17 29 21.2	-2.0
THZ	Tophouse	3.84	215		Pn	17 29 24.1	-1.7
THZ	Tophouse	3.84	215	P	Pn	17 29 24.1	-1.7
OUZ	Omahuta	3.88	331	P	Pn	17 29 26.1	-0.3
OUZ	Omahuta	3.88	331	S	Sn	17 30 13.0	+0.4
OUZ	Omahuta	3.88	331	P	Pn	17 29 26.2	-0.3
KHZ	Kahutara	4.15	205		Pn	17 29 28.4	-1.3
KHZ	Kahutara	4.15	205	P	Pn	17 29 28.2	-1.5
KHZ	Kahutara	4.15	205	S	Sn	17 30 17.1	-1.6
KHZ	Kahutara	4.15	205	P	Pn	17 29 28.4	-1.3
DSZ	Denniston Nort	4.38	224	P	Pn	17 29 30.1	-2.6
GVZ	Greta Valley S	4.81	206		Pn	17 29 36.4	-1.9
GVZ	Greta Valley S	4.81	206	P	Pn	17 29 36.4	-1.9
LTZ	Lake Taylor	4.94	212	P	Pn	17 29 37.4	-2.7
AMCZ	Amberley	5.13	207	P	Pn	17 29 40.3	-2.2
INZ	Inchbonnie	5.27	218	P	Pn	17 29 41.5	-2.8
OKCZ	Okains Bay	5.49	202	P	Pn	17 29 44.9	-2.3
OXZ	Oxford	5.49	211	P	Pn	17 29 44.2	-3.0
MQZ	McQueen's Vall	5.59	205	P	Pn	17 29 45.3	-3.2
AKCZ	Akaroa Harbour	5.67	202	P	Pn	17 29 47.1	-2.4
RACZ	Rakaia	5.79	208	P	Pn	17 29 47.9	-3.3
MHCZ	Mount Hutt	5.85	212	P	Pn	17 29 48.3	-3.7
WVZ	Waitaha Valley	5.88	220	P	Pn	17 29 48.9	-3.5
WACZ	Wakanui South	6.09	209	P	Pn	17 29 52.1	-2.9
RPZ	Rata Peaks	6.22	214	P	Pn	17 29 54.5	-2.3
	56nm,0.5s,baz=298,slow=1.2,SNR=83						
RPZ				S	Sn	17 31 01.4	-6.0
	119nm,0.6s,baz=12,slow=18,SNR=15						
RPZ	Rata Peaks	6.22	214	P	Pn	17 29 54.6	-2.3
RPZ	Rata Peaks	6.22	214	P	Pn	17 29 53.5	-3.3
ARCZ	Arundel	6.36	212	P	Pn	17 29 56.0	-2.7
FOZ	Fox Glacier	6.68	221	P	Pn	17 29 59.1	-3.7
TMZ	Timaru	6.78	211	P	Pn	17 30 00.6	-3.7
LBZ	Lake Benmore	7.13	215	P	Pn	17 30 06.0	-2.9
ODZ	Otahua Downs	7.48	210	P	Pn	17 30 11.1	-2.3
ODZ	Otahua Downs	7.48	210	P	Pn	17 30 10.6	-2.8
JCZ	Jackson Bay	7.59	222	P	Pn	17 30 12.5	-2.5
JCZ	Jackson Bay	7.59	222	P	Pn	17 30 10.6	-4.4
CTZ	Chatham Island	7.60	134	P	Pn	17 30 12.0	-3.1
EAZ	Earnscleugh	8.18	215	P	Pn	17 30 19.2	-3.6
MLZ	Mavora Lakes	8.84	218	Pn	Pn	17 30 29.3	-2.1
SYZ	Scrubby Hill	9.30	210	P	Pn	17 30 35.0	-2.5
WHZ	Wether Hill Ro	9.31	217	Pn	Pn	17 30 34.8	-2.9
DCZ	Deep Cove	9.39	221	Pn	Pn	17 30 35.6	-3.1
PINNC	Pines Island,	17.54	333	P	P	17 32 15.6	-4.5
ONTNC	Ouen Toro	18.18	331	P	P	17 32 22.3	-4.8
AS31	Alice Springs	38.55	280		P	17 35 34.4	+0.9
AS31				IAmb	IAmb	17 35 35.5	
	comp=Z,5.4nm,0.5s						
ASAR	Alice Springs	38.55	280	P	P	17 35 34.5	+0.9
	comp=Z,6.7nm,0.5s,baz=113,slow=5.8,SNR=338						
	comp=Z,6.7nm,0.5s						
VNDA	Vanda	39.42	185	P	P	17 35 41.8	+1.7
VNDA	Vanda	39.42	185	P	P	17 35 43.8	+3.7
	comp=Z,1.4nm,0.8s,baz=357,slow=7.3,SNR=12						
	comp=Z,1.4nm,0.8s						
WR8	Warramunga Arr	40.20	286	P	P	17 35 47.9	+0.7
WR8				IAmb	IAmb	17 35 54.0	
	comp=Z,11nm,1.2s						
WRA	Warramunga Arr	40.33	285	P	P	17 35 48.9	+0.6
	comp=Z,2.1nm,0.7s,baz=128,slow=6.9,SNR=25						
	comp=Z,2.1nm,0.7s						
WB0	Warramunga Arr	40.39	286	P	P	17 35 49.1	+0.3
WB0				IAmb	IAmb	17 35 59.6	
	comp=Z,14nm,1.4s						
CASY	Casey	45.48	211	P	P	17 36 29.5	+0.5
KNRA	Kununurra	47.12	286	P	P	17 36 43.2	+0.7
KNRA				IAmb	IAmb	17 37 18.4	
	comp=Z,14nm,1.2s						
MTN	Manton Dam	47.17	291	P	P	17 36 43.2	+0.3
MTN				IAmb	IAmb	17 36 44.1	
	comp=Z,23nm,1.1s						
FITZ	Fitzroy Crossi	48.05	281	P	P	17 36 50.6	+1.0
FITZ	Fitzroy Crossi	48.05	281	P	P	17 36 50.5	+1.0
	comp=Z,4.4nm,0.5s,baz=143,slow=6.4,SNR=33						
	comp=Z,4.4nm,0.5s						
SAUI	Saumlaki	50.34	295	P	P	17 37 07.8	+0.8
QSPA	South Pole Qui	51.47	180	P	P	17 37 20.2	+5.2
QSPA				IAmb	IAmb	17 37 21.0	
	comp=Z,16nm,1.1s						
QSPA	South Pole Qui	51.47	180	P	P	17 37 20.1	+5.2
	comp=Z,6.9nm,0.5s,baz=235,slow=0.8,SNR=98						
	comp=Z,6.9nm,0.5s						
BELA	Belgrano 2	62.26	173	P	P	17 38 32.5	+2.0
BELA				IAmb	IAmb	17 38 33.4	
	comp=Z,8.5nm,0.8s						
MAW	Mawson	62.78	203	P	P	17 38 35.8	+1.8
	comp=Z,1.3nm,0.6s,baz=141,slow=11,SNR=4.1						
	comp=Z,1.3nm,0.6s						
TROLL	Troll, Antarti	69.53	182	⇑P	P	17 39 18.6	+1.5
	comp=Z,68nm,0.3s						
SNAA	Sanae	69.97	180	⇑P	P	17 39 20.8	+1.1
	comp=Z,23nm,0.4s						
SNAA	Sanae	69.97	180	P	P	17 39 21.5	+1.7
	comp=Z,0.8nm,0.4s,baz=196,slow=9.6,SNR=16						
	comp=Z,0.8nm,0.4s						
VNA3	Neumayer Olymp	70.33	178	⇑P	P	17 39 23.1	+1.2
	comp=Z,5.0nm,0.8s						
VNA1	Neumayer--Stat	70.96	179	⇑P	P	17 39 26.7	+1.1
	comp=Z,3.8nm,0.4s						
PLCA	Paso Flores	80.42	135	P	P	17 40 22.1	+2.1
	comp=Z,1.9nm,0.8s,baz=247,slow=2.9,SNR=5.8						
	comp=Z,1.9nm,0.8s						
MKAR	Makanchi Array	119.05	308	PKP	PKPdf	17 46 53.2	-2.1
	comp=Z,0.4nm,0.5s,baz=117,slow=2.5,SNR=7.3						
KURBB	Kurchatov Arra	122.91	311	PKP	PKPdf	17 47 00.5	-2.0
	comp=Z,1.1nm,0.6s,baz=110,slow=1.9,SNR=6.4						
AB31	Akbulak array	133.97	305	P	Pdif	17 44 29.4	+5.9
	comp=Z,0.2nm,0.3s,baz=165,slow=11,SNR=8.7						
KBZ	Khabaz	144.62	294	PKP	PKPab	17 47 41.2	-1.1
	comp=Z,2.5nm,0.8s,baz=40,slow=5.9,SNR=4.6						
KEV	Kevo	144.73	342		PKPab	17 47 41.2	-0.7
ARCES	ARCESS Array B	145.25	342	PKPdf	PKPdf	17 47 42.5	-1.0
ARCES	ARCESS Array B	145.25	342	PKP	PKPdf	17 47 42.9	-0.6
	comp=Z,1.6nm,0.6s,baz=43,slow=2.3,SNR=14						
DBIC	Dimbokro	148.15	179	PKPbc	PKPbc	17 47 54.0	+0.6
FINES	FINESS Array B	150.54	331	PKPbc	PKPbc	17 47 56.5	-1.4
	comp=Z,2.1nm,0.5s,baz=47,slow=2.0,SNR=18						
BRTR	Keskin Array B	150.84	284	PKPbc	PKPbc	17 47 58.0	-1.6
	comp=Z,0.6nm,0.3s,baz=107,slow=3.0,SNR=5.7						
TORD	Torodi Ar. Bea	154.07	193	PKPbc	PKiKP	17 48 07.9	+0.6
	comp=Z,0.2nm,0.3s,baz=144,slow=1.7,SNR=2.3						

CATAC ***11*** *17:44:25.6±0.7, 7°N±3°×7°3W±°, h160km±11km, M4.4/5, MLv4.4/5, Error ellipse: s-maj=10.9km s-min=5.2km az=105.6, confirmed*

NEIC ***11*** *17:44:27.4±1.5, 6.86N±0.07°×73.08W±0.04°, h148km±9km, mb4.2/7, Error ellipse: s-maj=10.3km s-min=5.4km az=194.0*

IDC ***11*** *17:44:27.6±0.7, 6.88N×73.11W, h149km±9km, mb3.5/8, mbtmp4.1/12, Error ellipse: s-maj=18.2km s-min=7.8km az=131.0*

RSNC ***11*** *17:44:28.3±0.0, 7°N±1°×7°3W±°, h149km±2km, M4.1, mB4.7, mb4.3, ML3.8, Mw(mB)3.9*

ISC 11 17:44:27.4±0.6, 6.88N±0.03°×73.07W±0.04°, h151km±5km, n84, σ1°s41°/119, mb4.3/17, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	Barichara	0.31	202	P	Pn	17 44 48.6	+0.2
BARC				S	Sn	17 45 04.0	-0.4
PAMC	Pamplona, Colo	0.58	39	P	Pn	17 44 51.3	+1.4
PAMC				S	Sn	17 45 07.9	+0.9
BRJC	Barrancabermej	0.68	278	P	Pn	17 44 50.2	+0.3
BRJC				S	Sn	17 45 06.1	-0.9
RUSC	La Rusia	0.98	181		Pn	17 44 52.5	-0.3
RUSC				Sn	Sn	17 45 10.3	-1.8
RUSC	La Rusia	0.98	181	P	Pn	17 44 52.4	-0.3
RUSC	La Rusia	0.98	181	P	Pn	17 44 52.6	-0.1
RUSC				S	Sn	17 45 10.8	-1.3
OCAC	Ocana	1.37	350	P	Pn	17 44 56.5	+0.6
OCAC				S	Sn	17 45 18.8	+1.0
PTBC	PUERTO BERRIO,	1.42	256	P	Pn	17 44 55.1	-1.1
PTBC				S	Sn	17 45 15.5	-2.8
ZARC	Zaragoza, Cauc	1.88	289	P	Pn	17 45 01.1	-0.1
ZARC				S	Sn	17 45 27.3	+0.2
NORC	Norcasia	2.22	234	P	Pn	17 45 04.1	-1.1
NORC				S	Sn	17 45 32.5	-1.9
ROSC	El Rosal	2.38	212		Pn	17 45 08.4	+0.9
ROSC	El Rosal	2.38	212	P	Pn	17 45 09.0	+1.5
	628nm,0.3s,baz=360,slow=0.8,SNR=101						
ROSC				S	Sn	17 45 37.9	-0.5
	662nm,0.6s,baz=35,slow=20,SNR=5.5						
ROSC	El Rosal	2.38	212	P	Pn	17 45 08.4	+0.9
ROSC				S	Sn	17 45 39.9	+1.5
HELC	Santa Helena	2.54	254	P	Pn	17 45 10.2	+0.8
HELC				S	Sn	17 45 41.3	-0.5
HELC	Santa Helena	2.54	254	P	Pn	17 45 10.2	+0.8
HELC				S	Sn	17 45 41.7	-0.1
UREC	San Jos de Ur	2.59	290	P	Pn	17 45 09.2	-0.5
UREC				S	Sn	17 45 43.9	+1.5
GUY2C	Guyana, Caldas	2.82	234	P	Pn	17 45 13.0	0.0
GUY2C				S	Sn	17 45 47.6	-0.5
VILC	Villavicencio,	2.82	193	P	Pn	17 45 12.3	-0.4
VILC				S	Sn	17 45 47.9	+0.1
PTGC	Puerto Gaitan,	2.82	161	P	Pn	17 45 11.8	-0.8
PTGC				S	Sn	17 45 45.7	-1.9
RECRC	Villamaria, Ca	2.97	230	P	Pn	17 45 16.8	+1.9
NIZA	Niza - Manizal	3.00	233	P	Pn	17 45 17.6	+2.5
CBOC	Ciudad Bolivar	3.10	251	P	Pn	17 45 16.5	+0.3
CBOC				S	Sn	17 45 52.6	-1.3
DBBC	Dabeiba	3.12	273	P	Pn	17 45 16.5	+0.1
DBBC				S	Sn	17 45 52.2	-2.2
SDV	Santo Domingo	3.13	50		Pn	17 45 17.9	+1.2
SDV	Santo Domingo	3.13	50	P	Pn	17 45 18.0	+1.4
	151nm,0.3s,baz=231,slow=9.7,SNR=67						
SDV				S	Sn	17 45 55.0	+0.4
	285nm,0.4s,baz=88,slow=22,SNR=21						
SDV	Santo Domingo	3.13	50	P	Pn	17 45 18.0	+1.4
SDV				S	Sn	17 45 54.6	-0.1
ARGC	Ariguani, Magd	3.18	339	P	Pn	17 45 18.6	+1.5
ANIL	Santa Ana	3.32	224	P	Pn	17 45 19.5	+0.3
ANIL				S	Sn	17 46 00.9	+1.5
APAC	Apartado, Choc	3.63	286	P	Pn	17 45 22.3	-0.5
APAC				S	Sn	17 46 05.0	-0.9
PRAC	Prado	3.63	210	P	Pn	17 45 22.7	-0.2
PRAC				S	Sn	17 46 03.7	-2.4
PRAC	Prado	3.63	210	P	Pn	17 45 22.3	-0.7
PRAC				S	Sn	17 46 03.7	-2.4
SJCC	San Jacinto, C	3.65	325	P	Pn	17 45 23.0	-0.2
SJCC				S	Sn	17 46 03.5	-3.0
SJCC	San Jacinto, C	3.65	325	P	Pn	17 45 22.3	-0.9
SJCC				S	Sn	17 46 04.0	-2.6
ORTC	Ortega, Tolima	3.67	216	P	Pn	17 45 23.1	-0.3
ORTC				S	Sn	17 46 05.8	-1.1
URMC	La Uribe, Meta	3.84	200	P	Pn	17 45 25.6	-0.1
URMC				S	Sn	17 46 09.9	-1.1
CRJC	Cerrejon, Guaj	4.12	3	P	Pn	17 45 28.6	-0.7
CRJC				S	Sn	17 46 15.3	-2.2
GUVC	San Jose del G	4.33	174	P	Pn	17 45 31.7	-0.4
GUVC				S	Sn	17 46 19.4	-3.0
YOTC	Yotoco, Valle	4.35	229	P	Pn	17 45 31.4	-1.0
SMRC	Santa Marta, M	4.40	345		Pn	17 45 32.7	-0.3
SMRC	Santa Marta, M	4.40	345	P	Pn	17 45 33.0	0.0
SMRC				S	Sn	17 46 21.6	-2.5
CAPC	Capurgana	4.59	293	P	Pn	17 45 34.4	-1.0
MACC	Macarena, Meta	4.77	189	P	Pn	17 45 36.1	-1.8
MACC				S	Sn	17 46 28.1	-4.7
URI	Uribia	4.90	12	P	Pn	17 45 38.2	-1.4
URI				S	Sn	17 46 30.3	-5.5
URIC	Uribia, Colomb	4.90	12	P	Pn	17 45 38.8	-0.8
URIC				S	Sn	17 46 34.0	-1.9
JAMC	Jamundi, Valle	5.12	225	P	Pn	17 45 41.5	-1.1
	2µm23nm,0.6s						
GARC	Garzon, Huila	5.25	208	P	Pn	17 45 43.0	-1.5
BAUV	El Baul	5.38	67		Pn	17 45 44.6	-1.3
POPC	Popayan, Colom	5.62	220	P	Pn	17 45 49.0	-0.3
	402nm29nm,0.6s						
FLOC	Florencia	5.86	206		Pn	17 45 51.1	-1.3
FLOC	Florencia	5.86	206	P	Pn	17 45 52.1	-0.2
FLOC	Florencia	5.86	206	P	Pn	17 45 51.4	-1.0
	681nm28nm,0.8s						
BBAC	Balboa, Cauca	6.38	221	P	Pn	17 46 00.3	+0.9
GCUF	Volcan Galeras	7.05	217	P	Pn	17 46 10.3	+1.6
	537nm17nm,0.4s						
BCIP	Isla Barro Col	7.08	289	Pn	Pn	17 46 07.4	-1.1
BCIP	Isla Barro Col	7.08	289	P	Pn	17 46 08.8	+0.3
PCRV	Puerto La Cruz	8.96	68	P	Pn	17 46 36.1	+2.5
	3.3nm,0.3s,baz=265,slow=1.5,SNR=8.5						
PCRV				S	Sn	17 48 12.3	-0.9
	13nm,0.6s,baz=161,slow=22,SNR=1.9						
MTDJ	Mount Denham	12.09	339		Pn	17 47 17.6	+2.7
GTBY	Guantanamo Bay	13.12	352	P	P	17 47 32.3	-0.4
BOAV	Boa Vista	13.27	109	Pn	Pn	17 47 29.3	-0.8
ATAH	Atahualpa	14.90	201	P	P	17 47 52.6	-0.4
	3.6nm,0.4s,baz=33,slow=19,SNR=3.7						
MDP	Montagnes des	20.39	94	P	Pn	17 48 55.4	-1.0
	1.5nm,0.4s,baz=16,slow=1.7,SNR=4.6						
	1.5nm,0.4s						
VILB	Vilhena	23.49	147	P	P	17 49 23.1	-0.6
VILB				IAmb	IAmb	17 49 25.1	
	comp=Z,19nm,0.8s						
LPAZ	La Paz	23.54	168	P	P	17 49 22.8	-1.9
LPAZ	La Paz	23.54	168	P	P	17 49 24.7	-0.1
	comp=Z,1.7nm,0.5s,baz=345,slow=8.1,SNR=6.7						
	comp=Z,1.7nm,0.5s						
CCM	Cathedral Cave	35.14	335	P	P	17 51 06.8	+0.3
SFIN	Lafayette	35.64	341	P	P	17 51 10.8	+0.1
R40A	Maddies Statio	35.78	334	P	P	17 51 11.9	-0.1
R40A				IAmb	IAmb	17 51 12.7	
	comp=Z,2.6nm,0.5s						
TXAR	Lajitas Array	36.46	312	P	P	17 51 18.3	+0.3
TXAR	Lajitas Array	36.46	312	P	P	17 51 18.8	+0.7
	comp=Z,0.4nm,0.5s,baz=126,slow=9.9,SNR=7.9						
	comp=Z,0.4nm,0.5s						
TX31	Lajitas Ar. Si	36.46	312	P	P	17 51 18.1	0.0
TX31				IAmb	IAmb	17 52 01.2	
	comp=Z,3.1nm,1.4s						
ULM	Lac du Bonnet	47.25	340	P	P	17 52 44.8	-0.3
	comp=Z,3.3nm,0.4s,baz=132,slow=6.0,SNR=9.3						
	comp=Z,3.3nm,0.4s						
PDAR	Pinedale Array	48.06	324	P	P	17 52 52.3	+0.5
	comp=Z,0.5nm,0.5s,baz=119,slow=9.1,SNR=3.4						
	comp=Z,0.5nm,0.5s						
SCHQ	Schefferville	48.08	5	P	P	17 52 52.7	+1.2
	comp=Z,73nm,0.6s,baz=202,slow=6.7,SNR=10						
DY2G	Dye2	62.30	12	*i* P	P	17 54 33.3	-0.1
DY2G				IAmb	IAmb	17 54 35.5	
	comp=Z,8.1nm,1.0s						
YKA	Yellowknife Ar	63.22	340	P	P	17 54 39.7	+0.4
	comp=Z,2.4nm,0.6s,baz=136,slow=7.3,SNR=5.9						
	comp=Z,2.4nm,0.6s						
NUUG	Nuugaatsiaq	65.77	7	*i* P	P	17 54 58.4	+2.7
NUUG				IAmb	IAmb	17 54 59.6	
	comp=Z,24nm,1.0s						
UPNV	Upernavik	66.64	5	*i* P	P	17 55 02.8	+1.5
UPNV				IAmb	IAmb	17 55 03.9	
	comp=Z,28nm,0.9s						

GNW	**Green Mountain**	**5.12**	**40**		**Pn**	**17 51 07.2**	**+0.7**
GNW	**Green Mountain**	**5.12**	**40**	Pn	**Pn**	**17 51 07.2**	**+0.7**
GNW				Sn	**Sn**	**17 52 06.9**	**+1.6**
LON	**Longmire**	**5.12**	**52**	IAML		17 52 04.1	
	comp=N,13nm,0.1s						
LON				IAML		17 52 04.3	
	comp=E,13nm,0.1s						
STW	**Striped Peak**	**5.22**	**31**	Pn	**Pn**	**17 51 08.7**	**+0.7**
G06A	**Carlson Farm,**	**5.26**	**71**		**Pn**	**17 51 08.2**	**-0.4**
G06A				IAML		17 51 51.3	
	comp=E,9.8nm,3.0s						
D05A	**Enumclaw**	**5.28**	**47**		**Pn**	**17 51 09.5**	**+0.7**
D05A	**Enumclaw**	**5.28**	**47**	Pn	**Pn**	**17 51 10.6**	**+1.8**
D05A				Sn	**Sn**	**17 52 12.2**	**+2.8**
FMW	**Mount Fremont**	**5.30**	**51**	Pn	**Pn**	**17 51 10.5**	**+1.2**
PTRF	**Port Renfrew**	**5.31**	**24**	Pn	**Pn**	**17 51 09.2**	**0.0**
PTRF				Sn	**Sn**	**17 52 09.4**	**-0.7**
B928	**Bamfield**	**5.39**	**18**	Sn	**Sn**	**17 52 11.3**	**-0.6**
SYMB	**Survey Mountai**	**5.52**	**28**	Pn	**Pn**	**17 51 12.2**	**0.0**
SYMB				Sn	**Sn**	**17 52 13.9**	**-1.5**
O03E	**Paynes Creek**	**5.57**	**126**		**Pn**	**17 51 13.2**	**+0.2**
O03E				IAML		17 52 43.6	
	comp=E,11nm,4.8s						
O03E				IAML		17 53 18.8	
	comp=N,8.2nm,3.4s						
B926	**Mesachie Lake**	**5.64**	**25**	Sn	**Sn**	**17 52 16.7**	**-1.5**
CLRS	**Cowichan Lake**	**5.64**	**25**	Sn	**Sn**	**17 52 16.6**	**-1.6**
MGRB	**Mount Grey**	**5.65**	**20**	Pn	**Pn**	**17 51 15.4**	**+1.4**
MGRB				Sn	**Sn**	**17 52 18.5**	**-0.1**
B009	**North Saanich**	**5.72**	**29**	Pn	**Pn**	**17 51 15.2**	**+0.4**
B009				Sn	**Sn**	**17 52 18.9**	**-1.1**
PGC	**Sidney**	**5.72**	**29**	Pn	**Pn**	**17 51 15.2**	**+0.4**
PGC				Sn	**Sn**	**17 52 19.9**	**-0.2**
B011	**North Saanich**	**5.72**	**29**	Sn	**Sn**	**17 52 20.4**	**+0.3**
PABB	**Port Alberni**	**5.82**	**19**	Sn	**Sn**	**17 52 21.5**	**-1.2**
F07A	**Phinny Hill Vi**	**5.92**	**66**	Pn	**Pn**	**17 51 16.4**	**-1.2**
SNB	**Saturna Island**	**5.92**	**30**	Pn	**Pn**	**17 51 18.6**	**+1.0**
SNB				Sn	**Sn**	**17 52 25.9**	**+0.7**
MXC	**Moxie City**	**5.94**	**59**		**Pn**	**17 51 18.6**	**+0.7**
JCW	**Jim Creek**	**5.99**	**40**	Pn	**Pn**	**17 51 20.5**	**+1.9**
LTY	**Liberty**	**6.05**	**52**	Sn	**Sn**	**17 52 30.3**	**+1.8**
E07A	**Sunnyside**	**6.21**	**60**		**Pn**	**17 51 21.2**	**-0.4**
ORV	**Oroville**	**6.24**	**130**	Pn	**Pn**	**17 51 22.6**	**+0.6**
VDEB	**Vedder Mountai**	**6.58**	**34**	Pn	**Pn**	**17 51 27.9**	**+1.2**
VDEB				Sn	**Sn**	**17 52 41.1**	**-0.3**
LNOR	**Lincton Mounta**	**7.02**	**69**	Pn	**Pn**	**17 51 31.5**	**-1.2**
WELL	**Weller Preserv**	**7.46**	**133**	Pn	**Pn**	**17 51 39.7**	**+0.9**
CMB	**Columbia Colle**	**7.94**	**133**		**Pn**	**17 51 45.2**	**-0.2**
BUCR	**Buckhorn Ranch**	**8.34**	**134**	Pn	**Pn**	**17 51 51.6**	**+0.7**
NEW	**Newport**	**8.63**	**55**	Pn	**Pn**	**17 51 54.8**	**+0.1**
CWC	**Cottonwood Cre**	**10.36**	**132**	Pn	**Pn**	**17 52 21.3**	**+2.6**

*BJI **11** 17:51:54.4,25.0̈0S×178.3̈5E,h608km,mB5.2/38, mb5.0/63*

*MOS **11** 17:51:54.5±0.8,25.4̈3S×178.2̈3E,h609km,mb5.1/23, Error ellipse: s-maj=9.3km s-min=8.2km az=128.5*

*IDC **11** 17:51:54.5±0.6,25.4̈1S×178.2̈2E,h605km±6km,mb4.5/29, mbtmp5.4/30,Error ellipse: s-maj=8.1km s-min=7.3km az=18.0*

*NEIC **11** 17:51:55.3,25.5̈1S×178.3̈0E,h613km*

*NOU **11** 17:51:55.1,25.5̈2S×178.4̈3E,h624km,ML4.9/129,South of Fiji Islands*

*NEIC **11** 17:51:55.8±2.0,25.5̈4S±0.0̈9×178.3̈2E±0.1̈,h618km±5km, mb4.9/281,Mwb5.7/26,Mww5.6/24,Error ellipse: s-maj=13.7km s-min=12.9km az=123.0,Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr=2.18; Mθθ-0.07; Mϕϕ2.24; Mrθ-0.93; Mθϕ-2.41; Mϕr-2.07; Fault plane solution: M0 3.98000×1017 NP1:ϕs114.76000°, δ45.61000°,λ-146.88000°. NP2:ϕs0.23000°,δ67.02000°, λ-49.46000°. Principal axes: T 4.0388, Plg13.0000°, Azm62.0000°; N -0.1272, Plg37.0000°, Azm162.0000°; P -3.9116, Plg50.0000°, Azm316.0000°;*

*NEIC **11** 17:51:56.4,25.5̈5S×178.2̈8E,h630km*

*NEIC **11** 17:51:56.4,25.4̈5S×178.5̈0E,h630km,Moment Tensor Solution. Duration: 3s3 Moment tensor: Scale 1017Nm; Mrr-1.56; Mθθ-0.44; Mϕϕ2.00; Mrθ-1.29; Mθϕ-1.49; Mϕr-1.36; Fault plane solution: M0 3.00000×1017 NP1: ϕs122.00000°,δ48.56000°,λ-147.56000°. NP2:ϕs9.18000°, δ66.29000°,λ-46.29000°. Principal axes: T 2.8293, Plg11.0000°, Azm69.0000°; N 0.3219, Plg39.0000°, Azm168.0000°; P -3.1511, Plg49.0000°, Azm327.0000°;*

*GCMT **11** 17:51:57.4±0.2,25.4̈3S±0.0̈2×178.3̈1E±0.0̈1,h621km±1km, MW5.6/129,Moment Tensor Solution. s129,c215; Duration: 1s5 Moment tensor: Scale 1017Nm; Mrr-1.72±.04; Mθθ-0.57±.06; Mϕϕ2.28±.06; Mrθ-1.50±.06; Mθϕ-1.61±.05; Mϕr-0.97±.06; Best double couple: M0 3.15600×1017 NP1:ϕs122.00000°,δ55.00000°, λ-144.00000°. NP2:ϕs10.00000°, δ61.00000°, λ-41.00000°. Principal axes: T 3.0230, Plg4.0000°, Azm67.0000°; N 0.2600, Plg41.0000°, Azm161.0000°; P -3.2890, Plg49.0000°, Azm333.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

*BGR **11** 17:52:13.4,22.3̈8S×174.8̈3W,h612km*

ISC 11 17:51:55.1±0.3,25.5̈1S±0.0̈3×178.4̈5E±0.0̈3,h620km±2km, h621km:pP-P,n915,c1s39/944,mb5.0/267,114C-47D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.93**	**140**	P		**P**	**P**	**17 53 29.1**	**+0.4**
RAO	**Raoul Island**	**4.93**	**140**	P		**P**	**P**	**17 53 29.6**	**+1.0**
	5μm,0.8s,baz=292,slow=2.4,SNR=41								
RAO				S			**S**	**17 54 46.3**	**+1.1**
	499nm,0.3s,baz=88,slow=23,SNR=2.0								
RAO	**Raoul Island**	**4.93**	**140**	P			**P**	**17 53 30.3**	**+1.7**
RAO	**Raoul Island**	**4.93**	**140**	S			**S**	**17 54 46.0**	**+0.8**
GLKZ	**Green Lake**	**4.94**	**140**	P			**P**	**17 53 29.9**	**+1.2**
GLKZ				S			**S**	**17 54 51.7**	**+6.4**
LKBA	**Tubou, Lakemba**	**7.67**	**20**	P			**P**	**17 53 52.7**	**+0.4**
LKBA	**Tubou, Lakemba**	**7.67**	**20**	P			**S**	**17 55 29.3**	**+1.2**
MSVF	**Nonsavu**	**7.75**	**357**	P			**P**	**17 53 51.6**	**-1.5**
MSVF	**Nonsavu**	**7.75**	**357**	P			**P**	**17 53 52.2**	**-0.9**
MSVF	**Nonsavu**	**7.75**	**357**	S			**S**	**17 55 28.9**	**-0.6**
MSVF	**Nonsavu**	**7.75**	**357**	*ce*P			**P**	**17 53 52.0**	**-1.1**
MSVF					pmax		pmax		
	comp=Z,94nm,0.9s								
YSA	**Yasawairara**	**8.81**	**355**	P			**P**	**17 54 02.7**	**-0.2**
YSA	**Yasawairara**	**8.81**	**355**	S			**S**	**17 55 47.8**	**+0.2**
TAVE	**Taveuni**	**8.89**	**10**	P			**P**	**17 54 03.8**	**+0.1**
TAVE	**Taveuni**	**8.89**	**10**	P			**S**	**17 55 51.0**	**+1.9**
DGTI	**Dogotuki**	**9.24**	**8**	P			**P**	**17 54 06.5**	**-0.6**
NFK	**Norfolk Island**	**9.99**	**247**	P			**P**	**17 54 14.7**	**+0.6**
	comp=E,678nm,0.9s								
NFK	**Norfolk Island**	**9.99**	**247**	P			**P**	**17 54 15.2**	**+1.1**
PINNC	**Pines Island,**	**10.46**	**284**				**P**	**17 54 18.2**	**-0.7**
PINNC	**Pines Island,**	**10.46**	**284**	P			**P**	**17 54 19.1**	**+0.2**
PINNC	**Pines Island,**	**10.46**	**284**	P			**S**	**17 56 19.0**	**+2.2**
OUZ	**Omahuta**	**10.54**	**202**	P			**P**	**17 54 20.4**	**+0.9**
WCZ	**Waipu Caves**	**10.98**	**198**	P			**P**	**17 54 25.2**	**+1.5**
GRZ	**Great Barrier I**	**11.01**	**193**	P			**P**	**17 54 24.1**	**+0.1**
OUENC	**Ouen Island, N**	**11.05**	**284**	P			**P**	**17 54 25.1**	**+0.4**
OUENC	**Ouen Island, N**	**11.05**	**284**	P			**S**	**17 56 29.3**	**+1.9**
YATNC	**Mamie plateau,**	**11.13**	**286**	P			**P**	**17 54 25.3**	**-0.2**
ONTNC	**Ouen Toro**	**11.43**	**284**				**P**	**17 54 28.1**	**-0.2**
ONTNC	**Ouen Toro**	**11.43**	**284**	P			**P**	**17 54 28.4**	**0.0**
ONTNC	**Ouen Toro**	**11.43**	**284**	S			**S**	**17 56 34.1**	**+0.1**
KUZ	**Kuaotunu**	**11.44**	**191**	P			**P**	**17 54 28.8**	**+0.6**
KUZ	**Kuaotunu**	**11.44**	**191**	P			**S**	**17 56 34.7**	**+0.9**
KUZ	**Kuaotunu**	**11.44**	**191**	P			**P**	**17 54 28.8**	**+0.6**
DZM	**Mont Dzumac**	**11.51**	**285**	*ep*	P		**P**	**17 54 29.9**	**+0.6**
DZM	comp=Z,969nm,1.0s				*e*S		**S**	**17 56 33.1**	**-2.6**
	comp=Z,177nm,1.2s								
DZM	**Mont Dzumac**	**11.51**	**285**				**P**	**17 54 29.3**	**+0.1**
DZM	**Mont Dzumac**	**11.51**	**285**	P			**P**	**17 54 29.8**	**+0.5**
	comp=Z,322nm,0.4s,baz=96,slow=10,SNR=404								
DZM				S			**S**	**17 56 34.4**	**-1.3**
	comp=Z,41nm,1.0s,baz=339,slow=19,SNR=3.6								
DZM	**Mont Dzumac**	**11.51**	**285**	P			**P**	**17 54 29.4**	**+0.1**
FUTU	**Fugatoga**	**11.60**	**17**				**P**	**17 54 29.4**	**-0.8**
FUTU	**Fugatoga**	**11.60**	**17**	P			**P**	**17 54 30.0**	**-0.2**
MKAZ	**Moumakai**	**11.89**	**193**	P			**P**	**17 54 33.4**	**+0.8**
MXZ	**Matakaoa Point**	**12.02**	**181**	P			**P**	**17 54 30.6**	**-3.2**
MXZ	**Matakaoa Point**	**12.02**	**181**	P			**P**	**17 54 31.3**	**-2.5**
MXZ	**Matakaoa Point**	**12.02**	**181**	P			**P**	**17 54 30.3**	**-3.5**
MXZ							S		S	17 56 34.7	-9.3
HAZ	**Te Kaha**	**12.22**	**182**				P		P	**17 54 33.4**	**-2.4**
HAZ							S		S	**17 56 42.7**	**-4.9**
WMGZ	**Waiomatatini S**	**12.27**	**180**				P		P	**17 54 33.9**	**-2.4**
PKGZ	**Pakihiroa**	**12.32**	**181**				P		P	**17 54 33.7**	**-3.1**
PKGZ							S		S	**17 56 44.2**	**-5.3**
TGRZ	**Tauranga**	**12.32**	**188**				P		P	**17 54 38.2**	**+1.4**
OPRZ	**Ohinepanea**	**12.40**	**187**				P		P	**17 54 38.7**	**+1.1**
RUGZ	**Raukumara Rang**	**12.44**	**183**				P		P	**17 54 36.0**	**-2.0**
RUGZ							S		S	**17 56 46.7**	**-4.9**
RUGZ							ScP		**ScP**	**18 01 58.1**	**0.0**
TOZ	**Tahuroa Road**	**12.44**	**191**						**P**	**17 54 38.4**	**+0.5**
KMRZ	**Kaimai**	**12.48**	**189**	P					P	**17 54 37.9**	**-0.5**
NIUE	**Niue**	**12.52**	**62**	P					**P**	**17 54 39.1**	**+0.1**
	comp=Z,1μm,1.2s										
NIUE	**Niue**	**12.52**	**62**						**P**	**17 54 38.9**	**-0.1**
NIUE	**Niue**	**12.52**	**62**	P					P	**17 54 40.0**	**+1.0**
NIUE	**Niue**	**12.52**	**62**	P					P	**17 54 39.4**	**+0.4**
PUZ	**Puketiti**	**12.53**	**181**	P					**P**	**17 54 36.2**	**-2.5**
PUZ							S		S	**17 56 46.9**	**-6.2**
MARZ	**Manawahe**	**12.53**	**186**				P		P	**17 54 40.0**	**+1.1**
KARZ	**Kaharoa**	**12.61**	**188**				P		P	**17 54 41.0**	**+1.4**
OMRZ	**Omania**	**12.68**	**187**				P		P	**17 54 42.6**	**+2.3**
NGRZ	**Ngongotaha**	**12.70**	**188**				P		P	**17 54 42.5**	**+2.0**
URZ	**Urewera**	**12.76**	**185**	P					**P**	**17 54 38.5**	**-2.6**
	comp=Z,102nm,0.8s,baz=269,slow=3.4,SNR=51										
URZ							S		S	**17 56 50.1**	**-7.1**
	comp=Z,136nm,0.5s,baz=357,slow=23,SNR=12										
URZ							ScP		**ScP**	**18 01 59.2**	**+0.8**
	comp=Z,6.9nm,0.5s,baz=90,slow=4.6,SNR=2.2										
URZ	**Urewera**	**12.76**	**185**	P					**P**	**17 54 38.5**	**-2.6**
URZ	**Urewera**	**12.76**	**185**	P					P	**17 54 38.4**	**-2.6**
RRRZ	**Republican Roa**	**12.89**	**187**	P					P	**17 54 43.8**	**+1.4**
CNGZ	**Carnagh Statio**	**12.94**	**181**	P					P	**17 54 41.3**	**-1.5**
RAGZ	**Rawiri**	**12.98**	**184**	P					P	**17 54 41.5**	**-1.7**
MUGZ	**Murupara**	**13.01**	**186**	P					P	**17 54 41.9**	**-1.5**
KUTZ	**Kaahu Road**	**13.13**	**189**	P					P	**17 54 46.4**	**+1.8**
RIGZ	**Rimuhau**	**13.17**	**182**	P					P	**17 54 43.2**	**-1.9**
HIZ	**Hauiti**	**13.32**	**192**	P					P	**17 54 47.8**	**+1.3**
HIZ	**Hauiti**	**13.32**	**192**	P					P	**17 54 47.4**	**+0.9**
MTHZ	**Maungataniwha**	**13.37**	**185**	P					P	**17 54 45.3**	**-1.7**
PRGZ	**Paritu Road**	**13.38**	**182**	P					P	**17 54 47.2**	**+0.1**
BKZ	**Black Stump Fm**	**13.72**	**186**						P	**17 54 47.3**	**-3.1**
BKZ	**Black Stump Fm**	**13.72**	**186**	P					P	**17 54 48.2**	**-2.2**
KHEZ	**Kahui Hut**	**14.24**	**194**	P					P	**17 54 55.4**	**0.0**
SANVU	**Saraoutou**	**14.53**	**311**						P	**17 54 57.7**	**-0.6**
AFI	**Afiamalu**	**14.75**	**40**	P					P	**17 54 58.0**	**-2.4**
AFI	**Afiamalu**	**14.75**	**40**	P					P	**17 54 59.6**	**-0.9**
AFI	**Afiamalu**	**14.75**	**40**	P					P	**17 54 58.0**	**-2.4**
AFI	**Afiamalu**	**14.75**	**40**	P					P	**17 54 59.5**	**-0.9**
BFZ	**Birch Farm**	**15.24**	**186**	P					P	**17 55 02.6**	**-1.8**
BFZ	**Birch Farm**	**15.24**	**186**	P					P	**17 55 02.6**	**-1.8**
MRZ	**Mangatainoka R**	**15.30**	**188**						P	**17 55 02.7**	**-2.3**
TCW	**Tory Channel**	**16.04**	**191**	P					P	**17 55 11.4**	**-0.3**
QRZ	**Quartz Range**	**16.05**	**196**	P					P	**17 55 13.3**	**+1.5**
QRZ	**Quartz Range**	**16.05**	**196**	P					P	**17 55 12.2**	**+0.4**
SNZO	**South Karori**	**16.06**	**190**	P					P	**17 55 11.1**	**-0.8**
SNZO	**South Karori**	**16.06**	**190**	P					P	**17 55 11.6**	**-0.3**
MSWZ	**Moikau Station**	**16.09**	**189**	P					P	**17 55 11.1**	**-1.0**
BTHZ	**Baring Head**	**16.10**	**190**	P					P	**17 55 11.5**	**-1.0**
TKNZ	**Takaka Hill**	**16.14**	**195**	P					P	**17 55 12.8**	**+0.2**
NNZ	**Nelson**	**16.22**	**194**						P	**17 55 13.0**	**-0.3**
TUWZ	**Tuamarina**	**16.31**	**192**	P					P	**17 55 13.7**	**-0.4**
MRNZ	**Matariki Terra**	**16.54**	**195**	P					P	**17 55 16.3**	**+0.1**
MRNZ									S	**17 57 58.0**	**-1.8**
FUNA	**Funafuti**	**16.91**	**3**	P					P	**17 55 20.1**	**+0.1**
FUNA	**Funafuti**	**16.91**	**3**	P					P	**17 55 20.2**	**+0.2**
LHI	**Lord Howe Isla**	**18.05**	**246**	P					P	**17 55 31.0**	**+0.8**
	comp=Z,323nm,1.0s										
LHI	**Lord Howe Isla**	**18.05**	**246**						P	**17 55 31.9**	**+1.7**
LHI	**Lord Howe Isla**	**18.05**	**246**	P					P	**17 55 32.0**	**+1.8**
RPZ	**Rata Peaks**	**19.14**	**197**	P					P	**17 55 39.4**	**-0.5**
	comp=Z,34nm,0.5s,baz=356,slow=1.5,SNR=17										
RPZ							S		S	**17 58 35.6**	**-6.1**
	comp=Z,49nm,0.9s,baz=154,slow=10,SNR=4.8										
RPZ							ScP		**ScP**	**18 02 11.9**	**+1.0**
	comp=Z,8.5nm,0.7s,baz=157,slow=12,SNR=2.8										
RPZ	**Rata Peaks**	**19.14**	**197**	P					P	**17 55 40.1**	**+0.2**
JCZ	**Jackson Bay**	**20.12**	**201**	P					P	**17 55 49.3**	**+0.4**
RAR	**Rarotonga**	**20.44**	**82**	P					P	**17 55 53.1**	**+1.1**
RAR	**Rarotonga**	**20.44**	**82**	P					P	**17 55 53.0**	**+1.1**
	comp=Z,43nm,0.8s,baz=67,slow=1.4,SNR=8.9										
	comp=Z,43nm,0.8s										
RAR	**Rarotonga**	**20.44**	**82**	P					P	**17 55 53.8**	**+1.9**
RAR	**Rarotonga**	**20.44**	**82**	P					P	**17 55 53.1**	**+1.1**
ODZ	**Otahua Downs**	**20.48**	**196**	P					P	**17 55 51.5**	**-0.5**
WKZ	**Wanaka**	**20.73**	**199**						P	**17 55 53.6**	**-0.6**
MLZ	**Mavora Lakes**	**21.49**	**200**	P					P	**17 56 00.6**	**-0.5**
HURO	**Huro Makira**	**21.68**	**311**	P					P	**17 56 03.1**	**0.0**
DCZ	**Deep Cove**	**21.89**	**202**	P					P	**17 56 04.3**	**-0.2**
WHZ	**Wether Hill Ro**	**22.02**	**200**						P	**17 56 06.0**	**+0.4**
GC1S	**Gold Coast 1 S**	**22.40**	**258**	P					P	**17 56 10.9**	**+1.6**
ALEG	**Aligegeo Malai**	**23.73**	**311**	P					P	**17 56 20.0**	**-1.3**
HNR	**Honiara**	**23.76**	**309**	P					P	**17 56 20.1**	**-1.4**
HNR	**Honiara**	**23.76**	**309**	P					P	**17 56 20.4**	**-1.2**
	comp=Z,390nm,0.8s,baz=201,slow=2.0,SNR=13										
	comp=Z,390nm,0.8s										
HNR	**Honiara**	**23.76**	**309**	P					P	**17 56 21.0**	**-0.6**
TW1H	**Toowoomba 1 Ha**	**23.76**	**259**	P					P	**17 56 23.0**	**+1.5**
ARMA	**Armidale**	**24.16**	**252**	P					P	**17 56 25.8**	**+0.7**
	comp=Z,108nm,0.9s										
ARMA	**Armidale**	**24.16**	**252**						P	**17 56 25.7**	**+0.6**
ARMA	**Armidale**	**24.16**	**252**	P					P	**17 56 26.3**	**+1.2**
NTLH	**Newcastle Hard**	**24.44**	**246**	P					P	**17 56 29.1**	**+1.8**
TATA	**Tatamba Isabel**	**24.60**	**311**	P					P	**17 56 27.4**	**-1.6**
EIDS	**Eidsvold**	**24.70**	**264**	P					P	**17 56 29.7**	**-0.1**
	comp=Z,132nm,0.7s										
EIDS	**Eidsvold**	**24.70**	**264**	P					P	**17 56 29.6**	**-0.1**
MGCD	**Mangrove Creek**	**24.98**	**246**	P					P	**17 56 33.0**	**+0.8**
	comp=Z,212nm,0.8s										
MGCD	**Mangrove Creek**	**24.98**	**246**	P					P	**17 56 33.5**	**+1.4**
RIV	**Riverview**	**25.07**	**244**	P					P	**17 56 33.9**	**+1.1**
	comp=Z,109nm,0.8s										
SYDH	**Sydney Hard Ro**	**25.39**	**245**	P					P	**17 56 36.9**	**+1.2**
RMQ	**Roma**	**26.68**	**261**	P					P	**17 56 48.0**	**+0.9**
	comp=Z,51nm,1.0s										
CNB	**Canberra Magne**	**26.84**	**242**	P					P	**17 56 49.5**	**+1.0**
	comp=Z,101nm,1.1s										
CNB	**Canberra Magne**	**26.84**	**242**	P					P	**17 56 49.6**	**+1.2**
CAN	**Canberra**	**27.13**	**242**	P					P	**17 56 51.8**	**+0.9**
	comp=Z,106nm,1.2s										
CAN	**Canberra**	**27.13**	**242**						P	**17 56 51.1**	**+0.1**
CAN	**Canberra**	**27.13**	**242**	P					P	**17 56 51.8**	**+0.9**
CAN	**Canberra**	**27.13**	**242**	P					P	**17 56 51.1**	**+0.1**
TARA	**Tarawa**	**27.24**	**348**	P					P	**17 56 52.1**	**0.0**
YNG	**Young**	**27.41**	**244**	P					P	**17 56 54.2**	**+0.8**
	comp=Z,76nm,1.4s										
MILA	**Mila**	**27.45**	**238**	P					P	**17 56 54.9**	**+1.2**
TBI	**Tubuai**	**29.26**	**93**	*ep*					P	**17 57 11.6**	**+2.1**
	comp=Z,101nm,0.9s										
TBI				*e*S					**S**	**18 01 21.2**	**+0.5**
	comp=Z,1μm,42.5s										
TBI				*e*SS					**SS**	**18 04 16.9**	**-12**
	comp=Z,7μm,29.2s										
CMSA	**Cobar Meteorol**	**29.33**	**251**	P					P	**17 57 10.0**	**-0.1**
	comp=Z,146nm,1.0s										
CMSA	**Cobar Meteorol**	**29.33**	**251**	P					P	**17 57 09.9**	**-0.1**
TV1H	**Townsville Har**	**29.87**	**276**	P					P	**17 57 15.0**	**+0.2**
CTAO	**Charters Tower**	**30.12**	**274**						P	**17 57 16.7**	**-0.2**
CTAO	**Charters Tower**	**30.12**	**274**	P					P	**17 57 16.9**	**0.0**
CTAO	**Charters Tower**	**30.12**	**274**	P					P	**17 57 16.7**	**-0.2**
CTAO					pmax		pmax				
	comp=Z,122nm,0.6s										
CORO	**Coronation Par**	**30.36**	**231**	P					P	**17 57 20.0**	**+1.4**
TOO	**Toolangi**	**30.40**	**239**	P					P	**17 57 19.6**	**+0.5**
	comp=Z,38nm,2.0s										
TOO	**Toolangi**	**30.40**	**239**						P	**17 57 19.6**	**+0.5**
TOO						IAmb		IAmb	IAmb	17 57 21.1	
	comp=Z,66nm,1.4s										
TOO	**Toolangi**	**30.40**	**239**	P					P	**17 57 19.7**	**+0.6**
TOO					pmax		pmax				
	comp=Z,66nm,1.4s										
PAE	**Paea**	**30.68**	**82**	*ep*					P	**17 57 23.2**	**+1.5**
	comp=Z,40nm,1.1s										
PPT2	**Papeete2**	**30.71**	**82**	*ep*					P	**17 57 24.5**	**+2.5**
PPT2	comp=Z,110nm,1.1s			*e*S					**S**	**18 01 38.5**	**-4.7**
	comp=Z,434nm,32.2s										
PPT2				*e*SS					**SS**	**18 04 48.0**	**-4.9**
	comp=Z,1μm,25.2s										
PPT2				*e*LR					LR	18 06 42.7	
	comp=Z,244nm,23.5s										
QLP	**Quilpie**	**30.71**	**260**	P					P	**17 57 21.5**	**-0.4**
	comp=Z,306nm,0.4s										
QLP	**Quilpie**	**30.71**	**260**	P					P	**17 57 21.4**	**-0.4**
MOO	**Moorlands**	**30.71**	**229**	P					P	**17 57 22.1**	**+0.5**
	comp=Z,104nm,1.2s										
PPT	**Papeete**	**30.71**	**81**	P					P	**17 57 23.9**	**+1.8**
	comp=Z,52nm,0.5s,baz=274,slow=24,SNR=9.4										
	comp=Z,52nm,0.5s										
PPTF	**Pamatai, Papee**	**30.72**	**82**	P					P	**17 57 23.2**	**+1.1**
PPTF	**Pamatai, Papee**	**30.72**	**82**	P					P	**17 57 23.1**	**+1.0**
TAU	**Tasmania Unive**	**30.81**	**228**	P					P	**17 57 22.3**	**-0.1**
TAU	**Tasmania Unive**	**30.81**	**228**	P					P	**17 57 22.3**	**-0.1**
TAU					pmax		pmax				
	comp=Z,61nm,0.7s										
TIAR	**Tiarei**	**30.93**	**82**	*ep*					P	**17 57 25.7**	**+1.9**
	comp=Z,418nm,1.0s										
TVO	**Taravao**	**30.93**	**82**	*ep*					P	**17 57 25.5**	**+1.6**
	comp=Z,47nm,1.1s										
BRAT	**Ballarat**	**31.60**	**239**	P					P	**17 57 30.3**	**+1.0**
MTSU	**Mount Surprise**	**32.46**	**276**	P					P	**17 57 36.6**	**-0.2**
	comp=Z,128nm,0.7s										
MTSU	**Mount Surprise**	**32.46**	**276**	P					P	**17 57 36.7**	**-0.2**
STKA	**Stephens Creek**	**32.83**	**250**	P					P	**17 57 39.7**	**-0.1**
	comp=Z,418nm,0.8s										
STKA	**Stephens Creek**	**32.83**	**250**	P					P	**17 57 39.4**	**-0.4**
STKA	**Stephens Creek**	**32.83**	**250**	P					P	**17 57 40.0**	**+0.2**
	comp=Z,54nm,0.3s,baz=93,slow=10,SNR=410										
STKA					ScP		**ScP**		**18 02 53.8**	**+2.1**	
	comp=Z,5.4nm,0.7s,baz=81,slow=7.3,SNR=3.2										
	comp=Z,54nm,0.3s										
STKA	**Stephens Creek**	**32.83**	**250**	P					P	**17 57 39.6**	**-0.1**
STKA	**Stephens Creek**	**32.83**	**250**	*cp*					P	**17 57 39.9**	**+0.2**
ARPS	**Mount Arapiles**	**33.10**	**241**	P					P	**17 57 42.1**	**+0.2**
	comp=Z,53nm,1.1s										
PMOR	**Pomariorio Ree**	**33.17**	**78**	*ep*					P	**17 57 44.5**	**+1.7**
	comp=Z,180nm,1.0s										
VAH	**Vaihoa**	**33.32**	**79**	*ep*					P	**17 57 45.3**	**+1.3**
	comp=Z,39nm,1.1s										
PMG	**Port Moresby**	**33.75**	**293**	P					P

SBA ScP **ScP** **18 04 12.6 +1.8**
RKGY Rocky Gully 53.26 245 P **P** **18 00 17.0 -0.7**
comp=Z,91nm,1.2s
NWAO Narrogin (SRO) 53.30 247 P **P** **18 00 16.4 -1.6**
NWAO IAmb IAmb 18 00 18.4
comp=Z,38nm,0.9s
NWAO Narrogin (SRO) 53.30 247 P **P** **18 00 16.6 -1.4**
NWAO Narrogin (SRO) 53.30 247 P **P** **18 00 16.4 -1.6**
NWAO pmax pmax
comp=Z,38nm,0.9s
NWAO Narrogin (SRO) 53.30 247 P **P** **18 00 17.3 -0.7**
NWAO PcP **PcP** **18 01 15.3 +0.1**
MEEK Meekatharra 53.31 255 P **P** **18 00 16.4 -1.9**
comp=Z,38nm,0.6s
MEEK Meekatharra 53.31 255 P **P** **18 00 16.9 -1.4**
PSA00 Pilbara Seismi 53.51 261 P **P** **18 00 18.1 -1.5**
comp=Z,39nm,0.6s
PSA00 Pilbara Seismi 53.51 261 P **P** **18 00 17.5 -2.1**
PSA00 Pilbara Seismi 53.51 261 IAmb IAmb 18 00 20.1
comp=Z,29nm,0.6s
PSA00 Pilbara Seismi 53.51 261 P **P** **18 00 18.5 -1.1**
SOEI Soe 53.60 277 P **P** **18 00 21.4 +0.9**
SOEI Soe 53.60 277 P **P** **18 00 20.3 -0.2**
comp=Z,138nm,0.7s
MBWA Marble Bar 53.73 262 P **P** **18 00 20.0 -1.2**
comp=Z,48nm,0.5s
MBWA Marble Bar 53.73 262 P **P** **18 00 19.9 -1.3**
MBWA IAmb IAmb 18 00 21.4
comp=Z,36nm,0.8s
MBWA Marble Bar 53.73 262 P **P** **18 00 20.3 -0.9**
MBWA Marble Bar 53.73 262 P **P** **18 00 20.2 -0.9**
BATI Baumata 53.96 276 P **P** **18 00 22.8 -0.1**
comp=Z,2µmcomp=Z,195nm,0.6s
NLAI Namlea 54.02 286 P **P** **18 00 22.9 -0.4**
comp=Z,2µmcomp=Z,134nm,1.0s
BLDU Ballidu 54.13 250 P **P** **18 00 22.4 -1.6**
comp=Z,85nm,1.0s
BLDU Ballidu 54.13 250 P **P** **18 00 22.5 -1.4**
MUN Mundaring 54.31 248 P **P** **18 00 23.8 -1.4**
comp=Z,70nm,0.9s
MUN Mundaring 54.31 248 P **P** **18 00 24.3 -0.8**
MORW Morawa 55.01 251 IAmb IAmb 18 00 30.4
comp=Z,47nm,0.9s
MORW Morawa 55.01 251 P **P** **18 00 28.9 -1.2**
SANI Sanana 55.57 286 P **P** **18 00 33.1 -1.0**
SANI Sanana 55.57 286 P **P** **18 00 32.8 -1.3**
comp=Z,2µmcomp=Z,181nm,0.7s
TNTI Ternate 55.81 290 P **P** **18 00 34.4 -1.4**
TNTI IAmb IAmb 18 00 36.2
comp=Z,70nm,0.8s
TNTI Ternate 55.81 290 P **P** **18 00 35.4 -0.4**
TNTI Ternate 55.81 290 P **P** **18 00 34.9 -0.9**
comp=Z,595nmcomp=Z,2µmcomp=Z,92nm,0.8s
MMRI Maumere 55.89 277 P **P** **18 00 36.3 0.0**
MMRI Maumere 55.89 277 P **P** **18 00 35.6 -0.7**
comp=Z,132nm,0.6s
EDFI Ende, Flores 56.33 277 P **P** **18 00 38.3 -1.2**
comp=Z,1µmcomp=Z,99nm,0.5s
CCD Concordia, Ant 56.82 195 P **P** **18 00 42.5 +0.4**
CCD PcP **PcP** **18 01 28.7 -0.1**
CCD pP **pwP** **18 02 43.9 +0.7**
CCD ScP **ScP** **18 04 29.4 -0.1**
WSI Waingapu 57.21 275 P **P** **18 00 44.8 -0.5**
WBSI Waikabubak, Su 58.03 275 P **P** **18 00 50.0 -0.9**
comp=Z,101nm,0.7s
CASY Casey 58.05 206 P **P** **18 00 49.3 -0.8**
CASY IAmb IAmb 18 00 50.8
comp=Z,109nm,1.0s
CASY Casey 58.05 206 ⇑P **P** **18 00 49.9 -0.2**
CASY ScP **ScP** **18 04 36.1 +1.5**
GIRL Giralia 58.19 258 P **P** **18 00 51.6 -0.2**
comp=Z,85nm,1.1s
GIRL Giralia 58.19 258 IAmb IAmb 18 00 54.1
comp=Z,66nm,0.8s
KMSI Cibinong 58.61 288 P **P** **18 00 54.2 -0.5**
LUWI Luwuk 58.86 285 P **P** **18 00 55.5 -0.9**
LUWI Luwuk 58.86 285 P **P** **18 00 56.2 -0.2**
LUWI Luwuk 58.86 285 P **P** **18 00 55.8 -0.6**
comp=Z,1µmcomp=Z,148nm,1.0s
BKSI Bulukumba 59.21 279 P **P** **18 00 57.1 -1.6**
comp=Z,2µmcomp=Z,197nm,0.7s
BNSI Bone 59.63 280 P **P** **18 01 01.1 -0.4**
comp=Z,89nm,0.9s
KAPI Kappang 59.67 280 P **P** **18 01 01.1 -0.7**
KAPI IAmb IAmb 18 01 04.0
comp=Z,142nm,1.7s
KAPI Kappang 59.67 280 P **P** **18 01 02.2 +0.4**
KAPI Kappang 59.67 280 *de*P **P** **18 01 01.3 -0.5**
KAPI pmax pmax
comp=Z,31nm,0.9s
PLAI Plampang 59.82 275 P **P** **18 01 02.4 -0.4**
PLAI Plampang 59.82 275 P **P** **18 01 01.5 -1.3**
SPSI Sidrap Palu 60.13 281 P **P** **18 01 03.1 -1.7**
comp=Z,82nm,0.8s
MRSI Marisa 60.33 286 P **P** **18 01 05.7 -0.4**
TTSI Tana Toraja 60.51 282 P **P** **18 01 06.5 -0.8**
TWSI Taliwang, Sumb 60.66 274 P **P** **18 01 07.9 -0.4**
comp=Z,1µmcomp=Z,125nm,1.1s
DAV Davao City (W) 60.73 295 P **P** **18 01 07.4 -1.3**
comp=Z,139nm,0.4s,baz=187,slow=3.1,SNR=3.6
comp=Z,139nm,0.4s
PCI Palu 61.49 284 P **P** **18 01 13.5 -0.2**
comp=Z,2µmcomp=Z,75nm,1.0s
TOLI2 Tolitoli 61.64 286 P **P** **18 01 12.3 -2.4**
TOLI2 IAmb IAmb 18 01 15.6
comp=Z,54nm,0.8s
TOLI2 Tolitoli 61.64 286 P **P** **18 01 13.6 -1.1**
SRBI Singaraja 62.43 274 P **P** **18 01 19.5 -0.3**
comp=Z,144nm,0.9s
JAGI Jajag, Banyuwa 63.23 273 P **P** **18 01 22.6 -2.4**
JAGI Jajag, Banyuwa 63.23 273 P **P** **18 01 23.7 -1.2**
JAGI Jajag, Banyuwa 63.23 273 P **P** **18 01 23.7 -1.2**
comp=Z,2µmcomp=Z,135nm,0.7s
GMJI Gumukmas 63.95 273 P **P** **18 01 28.6 -0.9**
comp=Z,150nm,0.7s
BLJI Banyuglugur 64.03 274 P **P** **18 01 29.8 -0.2**
comp=Z,2µmcomp=Z,222nm,0.7s
QSPA South Pole Qui 64.58 180 P **P** **18 01 35.6 +2.9**
comp=Z,103nm,0.7s,baz=15,slow=1.0,SNR=471
comp=Z,103nm,0.7s
GRJI Gresik 65.38 274 P **P** **18 01 38.4 0.0**
MYLDM Lahad Datu 65.65 289 IAmb IAmb 18 01 50.7
comp=Z,32nm,0.9s
MYLDM Lahad Datu 65.65 289 P **P** **18 01 40.2 +0.1**
PCJI Pacitan 66.03 272 P **P** **18 01 41.9 -0.6**
WOJI Wonogiri, Jawa 66.41 272 P **P** **18 01 44.6 -0.2**
comp=Z,187nm,1.0s
KPJI Karang Pucung 68.41 272 P **P** **18 01 56.3 -0.7**
comp=Z,43nm,0.7s
TGY Tagaytay City 68.46 298 P **P** **18 01 57.1 -0.1**
comp=Z,145nm,0.4s,baz=155,slow=7.9,SNR=4.0
comp=Z,145nm,0.4s
STKI Sintang 69.33 280 P **P** **18 02 00.4 -2.1**
comp=Z,133nm,0.8s
BBJI Bungbulang 69.52 271 P **P** **18 02 03.5 -0.2**
SBUM Sibu 69.77 283 P **P** **18 02 05.0 -0.1**
SKJI Sukabumi 70.69 271 P **P** **18 02 09.9 -0.6**
DBJI Dramaga 70.70 272 P **P** **18 02 10.7 +0.1**
comp=Z,113nm,0.7s
KSM Kuching 71.01 281 P **P** **18 02 11.7 -0.7**
JOW Kunigami 71.05 313 P **P** **18 02 12.1 -0.1**
comp=Z,55nm,0.8s,baz=172,slow=5.1,SNR=12
comp=Z,55nm,0.8s
JOW Kunigami 71.05 313 P **P** **18 02 12.2 -0.1**
CGJI Cibinong 71.63 271 P **P** **18 02 14.7 -1.3**
comp=Z,3µmcomp=Z,159nm,0.7s
INU Inuyama 72.11 325 IAmb IAmb 18 02 20.0
comp=Z,53nm,0.9s
INU Inuyama 72.11 325 P **P** **18 02 18.2 -0.1**
JGF Kuroka 72.14 326 IAmb IAmb 18 02 19.8
comp=Z,36nm,0.7s
JGF Kuroka 72.14 326 P **P** **18 02 18.1 -0.4**
JMM Marumori 72.28 329 IAmb IAmb 18 02 21.6
comp=Z,40nm,1.0s
MJAR Matsushiro Arr 72.45 327 P **P** **18 02 19.1 -1.1**
MJAR IAmb IAmb 18 02 20.9
comp=Z,26nm,0.9s
MJAR Matsushiro Arr 72.45 327 P **P** **18 02 19.4 -0.8**
comp=Z,22nm,0.8s,baz=161,slow=5.4,SNR=41
comp=Z,22nm,0.8s
MAJO Matsushiro 72.45 327 P **P** **18 02 19.8 -0.4**
MAJO IAmb IAmb 18 02 21.1
comp=Z,23nm,0.8s
MAJO Matsushiro 72.45 327 P **P** **18 02 19.7 -0.5**
MAJO Matsushiro 72.45 327 *d*iP **P** **18 02 19.5 -0.7**

MAJO pmax pmax
comp=Z,29nm,0.8s
MJB9 Matsu-Tunnel 72.45 327 IAmb IAmb 18 02 20.9
comp=Z,32nm,0.8s
JMN Monobe 72.56 322 IAmb IAmb 18 02 24.2
comp=Z,28nm,0.9s
YOJ Yonaguni jima 73.10 308 P **P** **18 02 24.0 -0.1**
KASI Kota Agung 73.17 272 P **P** **18 02 23.5 -1.3**
comp=Z,76nm,0.9s
TWGBT Beinan 73.47 306 P **P** **18 02 24.2 -2.1**
TWG Pinlang 73.48 306 IAmb IAmb 18 02 25.6
comp=Z,37nm,0.7s
JSD Sado 73.61 328 P **P** **18 02 26.5 -0.2**
YULB Yu-li 73.67 306 IAmb IAmb 18 02 29.0
comp=Z,29nm,0.9s
YULB Yu-li 73.67 306 P **P** **18 02 25.2 -2.2**
LWLI Liwa 73.77 272 P **P** **18 02 27.6 -0.8**
comp=Z,2µmcomp=Z,194nm,0.8s
JNU Nakatsue 73.82 320 IAmb IAmb 18 02 30.6
comp=Z,40nm,0.8s
JNU Nakatsue 73.82 320 P **P** **18 02 27.9 -0.2**
MDSI Maura Dua 73.89 273 P **P** **18 02 26.7 -2.2**
comp=Z,1µmcomp=Z,153nm,0.9s
NACB Ninganchiao 73.93 307 IAmb IAmb 18 02 32.4
comp=Z,30nm,0.9s
NACB Ninganchiao 73.93 307 P **P** **18 02 27.9 -0.9**
TPUB Ta-pu 74.10 306 P **P** **18 02 27.9 -1.9**
SSLB Suanglung 74.16 307 IAmb IAmb 18 02 29.9
comp=Z,49nm,0.7s
SSLB Suanglung 74.16 307 P **P** **18 02 28.2 -2.0**
YHNB Yeheng 74.39 308 IAmb IAmb 18 02 33.0
comp=Z,61nm,1.1s
YHNB Yeheng 74.39 308 P **P** **18 02 31.6 +0.1**
TATO Taipei 74.50 308 P **P** **18 02 31.1 -0.9**
LHSI Lahat 74.76 273 P **P** **18 02 33.1 -0.7**
comp=Z,1µmcomp=Z,52nm,0.8s
BELA Belgrano 2 75.02 173 P **P** **18 02 34.1 0.0**
DSRI Dabo 75.25 277 P **P** **18 02 37.0 +0.5**
comp=Z,49nm,0.8s
MAW Mawson 75.75 201 P **P** **18 02 38.7 +0.4**
comp=Z,9.2nm,0.9s
MAW Mawson 75.75 201 P **P** **18 02 39.0 +0.7**
comp=Z,34nm,0.8s,baz=133,slow=6.2,SNR=95
comp=Z,34nm,0.8s
MAW Mawson 75.75 201 P **P** **18 02 39.0 +0.7**
TPRI Tanjung Pinang 75.91 278 P **P** **18 02 40.6 +0.4**
comp=Z,81nm,0.8s
MASI Maura Aman, Be 76.21 273 P **P** **18 02 40.7 -1.1**
JKA Kamikawa-asahi 76.68 334 IAmb IAmb 18 02 47.4
comp=Z,34nm,0.8s
BTDF Bukit Timah Da 76.78 278 P **P** **18 02 45.2 +0.3**
ADK Adak 77.18 3 P **P** **18 02 46.4 +0.3**
ADK Adak 77.18 3 P **P** **18 02 46.4 +0.3**
ADK pmax pmax
comp=Z,119nm,1.1s
KRJI Kerinci 77.36 274 P **P** **18 02 48.3 +0.1**
DLV Lat 77.59 290 IAmb IAmb 18 02 51.8
comp=Z,36nm,0.8s
DLV Lat 77.59 290 P **P** **18 02 49.7 +0.3**
PMSA Palmer Station 77.98 157 P **P** **18 02 51.9 +1.5**
PMSA IAmb IAmb 18 02 52.8
comp=Z,35nm,0.7s
TJN Taejon 78.16 320 P **P** **18 02 52.2 +0.4**
TJN Taejon 78.16 320 *c*iP **P** **18 02 52.2 +0.4**
KSRS Korea Array 78.59 321 P **P** **18 02 53.9 -0.1**
comp=Z,18nm,0.7s,baz=136,slow=5.7,SNR=56
comp=Z,18nm,0.7s
KSAR Wonju Array Be 78.61 321 P **P** **18 02 54.0 -0.1**
KSAR Wonju Array Be 78.61 321 P **P** **18 02 54.0 -0.1**
KS19 Wonju Array Si 78.66 321 IAmb IAmb 18 02 56.4
comp=Z,31nm,0.8s
PDSI Padang 78.77 274 P **P** **18 02 55.1 -0.5**
comp=Z,47nm,0.7s
YSS Yuzhno-Sakhali 79.01 336 P **P** **18 02 56.5 +0.6**
YSS Yuzhno-Sakhali 79.01 336 P **P** **18 02 57.3 +1.3**
YSS Yuzhno-Sakhali 79.01 336 *ce*P **P** **18 02 57.6 +1.6**
YSS *e*S **S** **18 12 09.2 +4.0**
YSS pmax pmax
comp=Z,110nm,0.8s
YSS pmax pmax
comp=Z,600nm,3.0s
YSS pmax pmax
comp=N,200nm,2.8s
YSS pmax pmax
comp=E,200nm,3.0s
TEY Ternei 79.91 331 *e*P **P** **18 02 56.0 -4.7**
QIZ Qiongzhong 80.04 297 P **P** **18 03 02.0 0.0**
QIZ sP **sP** **18 06 10.7 -1.2**
QIZ S **S** **18 12 16.1 -0.8**
QIZ sS **sS** **18 16 05.6 +0.5**
QIZ SS **SS** **18 17 43.1 -3.3**
QIZ pmax pmax
comp=E,17nm,1.0s
QIZ pmax pmax
comp=E,280nm,3.8s
PET Petropavlovsk 80.08 348 ⇓*e*P **P** **18 03 02.7 +1.3**
PET pmax pmax
comp=Z,36nm,1.1s
MNSI Mandailing Nat 80.30 276 P **P** **18 03 02.8 -0.8**
comp=Z,48nm,0.9s
PEA0B Petropavlovsk- 80.34 347 IAmb IAmb 18 03 04.8
comp=Z,54nm,1.0s
PEA0B Petropavlovsk- 80.34 347 *de*P **P** **18 03 03.4 +0.6**
PETK Petropavlovsk- 80.34 347 P **P** **18 03 02.9 +0.1**
PETK Petropavlovsk- 80.34 347 P **P** **18 03 02.8 0.0**
comp=Z,37nm,0.8s,baz=156,slow=5.6,SNR=71
comp=Z,37nm,0.8s
PETK Petropavlovsk- 80.34 347 P **P** **18 03 02.9 +0.1**
MSHR Mys Shultsa 80.56 327 *de*P **P** **18 03 04.6 +0.4**
MSHR pmax pmax
comp=Z,45nm,2.2s
VLA Vladivostok 80.61 327 *c*iP **P** **18 03 04.8 +0.4**
VLA pmax pmax
comp=Z,46nm,1.0s
IPM Ipoh 80.62 280 P **P** **18 03 04.2 -1.1**
IPM Ipoh 80.62 280 P **P** **18 03 04.7 -0.6**
NJ2 Nanjing 80.67 312 ⇓*i*P **P** **18 03 04.9 -0.1**
NJ2 S **S** **18 12 23.2 +0.4**
NJ2 pmax pmax
comp=Z,50nm,0.9s
NJ2 pmax pmax
comp=Z,410nm,3.6s
PSTR Posyet 80.79 326 *d*iP **P** **18 03 06.0 +0.6**
SYO Syowa Base 81.12 194 ⇑iP **P** **18 03 06.7 0.0**
SYO Syowa Base 81.12 194 ⇓*e*PcP **PcP** **18 03 11.2 +0.3**
SYO Syowa Base 81.12 194 ⇓*i*pP pP 18 05 15.0 0.0
KULM Kulim 81.32 280 IAmb IAmb 18 03 10.3
comp=Z,27nm,0.8s
KULM Kulim 81.32 280 P **P** **18 03 08.9 +0.1**
USRK Ussuriysk Ar. 81.36 328 P **P** **18 03 08.7 +0.4**
comp=Z,42nm,0.8s,baz=137,slow=3.6,SNR=45
comp=Z,42nm,0.8s
RPSI Rantau Prapat 81.72 277 IAmb IAmb 18 03 11.4
comp=Z,25nm,0.7s
PSI Prapat 81.76 277 P **P** **18 03 10.6 -0.6**
GSI Gunungsitoli 82.32 275 P **P** **18 03 14.0 +0.1**
TYV Tymovskoe 82.35 338 *e*P **P** **18 03 14.3 +1.2**
TYV *e*S **SKSac** **18 12 31.3 -3.9**
TYV pmax pmax
comp=Z,29nm,1.0s
TYV pmax pmax
comp=Z,400nm,4.2s
TYV smax smax
comp=N,200nm,4.8s
TYV smax smax
comp=E,100nm,4.8s
CNSH ChangSha 82.57 306 P **P** **18 03 13.9 -0.8**
CNSH pmax pmax
comp=E,32nm,1.3s
TROLL Troll, Antarti 82.70 181 ⇑P **P** **18 03 14.9 -0.1**
comp=Z,6µm,0.7s
TROLL ⇑SKSac **SKSac** **18 12 37.0 -0.7**
comp=N,153nm,1.1s
MDJ Mudanjiang 82.83 327 P **P** **18 03 16.6 +0.9**
MDJ S **SKSac** **18 12 39.3 +0.6**
MDJ ScS **ScS** **18 12 50.6 -3.1**
MDJ pmax pmax
comp=N,56nm,1.0s
MDJ pmax pmax
comp=N,430nm,5.2s
MDJ Mudanjiang 82.83 327 P **P** **18 03 16.4 +0.7**
WHN Wuhan 82.88 309 P **P** **18 03 16.7 +0.5**
WHN S **S** **18 12 46.3 +1.5**
WHN pmax pmax
comp=N,78nm,0.8s

WHN pmax pmax
comp=N,980nm,4.0s
GULI GuiLin 82.91 302 P **P** **18 03 18.2 +1.6**
GULI S **S** **18 12 47.2 +1.8**
GULI pmax pmax
comp=N,26nm,0.8s
GULI pmax pmax
comp=N,90nm,4.6s
SNAA Sanae 83.08 180 ⇑P **P** **18 03 16.9 +0.2**
comp=Z,897nm,0.6s
SNAA ⇑SKSac **SKSac** **18 12 38.4 -1.6**
comp=E,40nm,0.9s
SNAA Sanae 83.08 180 P **P** **18 03 16.4 -0.3**
SNAA IAmb IAmb 18 03 17.8
comp=Z,42nm,0.7s
SNAA Sanae 83.08 180 P **P** **18 03 16.9 +0.2**
comp=Z,46nm,0.8s,baz=206,slow=7.7,SNR=292
comp=Z,46nm,0.8s
KCSI Kotacane, Aceh 83.11 277 P **P** **18 03 16.7 -1.1**
DL2 Dalian 83.23 319 P **P** **18 03 18.5 +0.7**
DL2 SKS **SKSac** **18 12 39.2 -2.2**
DL2 S **S** **18 12 49.6 +1.7**
DL2 pmax pmax
comp=Z,56nm,1.1s
DL2 pmax pmax
comp=Z,440nm,4.8s
VNA3 Neumayer Olymp 83.34 177 ⇑P **P** **18 03 17.9 -0.1**
comp=Z,29nm,0.4s
VNA3 ⇑SKSac **SKSac** **18 12 40.3 -1.3**
comp=N,7.6nm,1.1s
VNA2 Neumayer--Watz 83.74 178 ⇑P **P** **18 03 20.0 +0.1**
comp=Z,31nm,0.6s,baz=166,slow=4.9
VNA2 ⇑SKSac **SKSac** **18 12 43.8 -0.2**
comp=N,2.8nm,0.6s,baz=320,slow=0.3
SURA Surathani 83.96 283 P **P** **18 03 23.0 +1.0**
PMPB Monarch Peak 83.97 45 IAmb IAmb 18 03 24.9
comp=Z,97nm,1.8s
VNA1 Neumayer--Stat 83.99 178 ⇑P **P** **18 03 21.2 +0.2**
comp=Z,37nm,0.8s
CVS Carmenet Viney 84.24 43 IAmb IAmb 18 03 26.3
comp=Z,39nm,0.9s
TIA Tai'an 84.33 315 P **P** **18 03 23.6 +0.3**
TIA pmax pmax
comp=Z,58nm,0.7s
CN2 Changchun 84.36 324 P **P** **18 03 23.2 0.0**
CN2 sP sP 18 06 31.3 -3.2
CN2 SKS **SKSac** **18 12 48.6 +0.2**
CN2 SS **SS** **18 18 51.7 +2.8**
CN2 pmax pmax
comp=Z,90nm,0.9s
CN2 pmax pmax
comp=Z,540nm,4.0s
CBX Cerro Bola 84.44 50 IAmb IAmb 18 03 27.8
comp=Z,32nm,0.8s
GRNR Gornyy 84.53 335 ⇓*i*P **P** **18 03 19.8 -4.1**
GRNR pmax pmax
comp=E,4.0nm,0.8s
GRNR pmax pmax
comp=N,4.0nm,0.7s
GRNR pmax pmax
comp=Z,2.0nm,0.7s
MNRC McLaughlin Min 84.58 42 IAmb IAmb 18 03 28.6
comp=Z,32nm,1.1s
LHMI Lhok Sumawe 84.59 278 P **P** **18 03 24.5 -0.6**
LHMI Lhok Sumawe 84.59 278 P **P** **18 03 25.4 +0.3**
LHMI Lhok Sumawe 84.59 278 P **P** **18 03 25.7 +0.6**
comp=Z,2µmcomp=Z,117nm,0.8s
DPP Dos Picos Cty 84.64 50 IAmb IAmb 18 03 28.3
comp=Z,25nm,0.7s
BAR Barrett 84.64 50 IAmb IAmb 18 03 28.8
comp=Z,43nm,1.6s
COYC Coyhaique 84.65 138 P **P** **18 03 26.9 +2.1**
COYC IAmb IAmb 18 03 28.6
comp=Z,42nm,1.0s
MLSI Meulaboh, Aceh 84.66 277 P **P** **18 03 25.6 +0.2**
comp=Z,111nm,0.8s
BNX BinXian 84.71 327 ⇓P **P** **18 03 24.6 -0.3**
BNX S **S** **18 13 05.4 +3.4**
BNX pmax pmax
comp=Z,33nm,0.9s
ESJX Sierra Juarez 84.77 51 IAmb IAmb 18 03 29.9
comp=Z,82nm,1.9s
TPO Tropico Hills 84.85 48 IAmb IAmb 18 03 29.6
comp=Z,40nm,1.3s
VES Vestal, Richgr 84.85 46 IAmb IAmb 18 03 28.8
comp=Z,23nm,0.7s
BFSC Mount Baldy Ra 84.86 48 IAmb IAmb 18 03 29.5
comp=Z,44nm,1.6s
ISA Isabella, Lake 85.15 47 IAmb IAmb 18 03 30.9
comp=Z,19nm,0.8s
BORC Borrego Spring 85.15 50 IAmb IAmb 18 03 31.1
comp=Z,24nm,0.9s
O02D Mt. Diablo Mer 85.19 41 IAmb IAmb 18 03 31.8
comp=Z,23nm,0.8s
PFO Pinyon Flats O 85.32 49 P **P** **18 03 29.8 +1.5**
PFO Pinyon Flats O 85.32 49 P **P** **18 03 29.2 +0.9**
comp=Z,5.8nm,0.8s,baz=192,slow=4.0,SNR=8.2
comp=Z,5.8nm,0.8s
PFO Pinyon Flats O 85.32 49 *de*P **P** **18 03 30.5 +2.2**
PFO pmax pmax
comp=Z,14nm,0.9s
N02D Trinity Center 85.75 41 IAmb IAmb 18 03 34.5
comp=Z,76nm,1.8s
WSHM Spangler Hills 85.76 47 IAmb IAmb 18 03 33.6
comp=Z,14nm,0.7s
OHAK Old Harbor 85.78 15 IAmb IAmb 18 03 33.3
comp=Z,90nm,2.0s
OHAK Old Harbor 85.78 15 P **P** **18 03 30.9 +1.2**
CLC China Lake 85.82 47 IAmb IAmb 18 03 33.9
comp=Z,18nm,0.8s
O03E Paynes Creek 85.86 41 IAmb IAmb 18 03 34.0
comp=Z,61nm,1.5s
BELC Belle Mtn. Jos 85.86 49 IAmb IAmb 18 03 34.6
comp=Z,17nm,0.8s
SLVN Son La 86.01 296 P **P** **18 03 32.5 +0.7**
GLA Glamis 86.14 51 IAmb IAmb 18 03 36.3
comp=Z,25nm,0.8s
YBH Yreka Blue Hor 86.22 40 P **P** **18 03 34.1 +1.8**
comp=Z,0.4nm,0.7s,baz=219,slow=0.5,SNR=18
ENH Enshi 86.23 306 P **P** **18 03 32.4 -0.2**
GYA Guiyang 86.36 301 ⇓P **P** **18 03 33.3 -0.1**
GYA S **S** **18 13 17.5 -1.3**
GYA pmax pmax
comp=Z,13nm,0.8s
HATC Hat Creek Radi 86.38 41 IAmb IAmb 18 03 36.9
comp=Z,46nm,1.2s
LYN LuoYang 86.46 311 ⇓P **P** **18 03 34.4 +0.9**
LYN SKS **SKSac** **18 13 02.0 +0.3**
LYN S **S** **18 13 21.4 +2.3**
LYN pmax pmax
comp=Z,60nm,0.9s
LYN pmax pmax
comp=Z,560nm,7.4s
BEKR Beckworth 86.46 43 IAmb IAmb 18 03 36.9
comp=Z,46nm,1.7s
IRM Iron Mountain 86.53 50 IAmb IAmb 18 03 38.0
comp=Z,38nm,1.5s
HNS HongShan 86.60 314 ⇓P **P** **18 03 35.0 +1.0**
HNS sP **sP** **18 06 45.8 -0.2**
HNS SKS **SKSac** **18 13 00.7 -1.7**
HNS S **S** **18 13 21.8 +1.6**
HNS pmax pmax
comp=Z,30nm,1.2s
DANC Danby, Needles 86.64 49 IAmb IAmb 18 03 38.3
comp=Z,19nm,0.8s
HSIG 86.78 56 IAmb IAmb 18 03 39.0
comp=Z,36nm,0.9s
214A Organ Pipe Nat 86.97 52 IAmb IAmb 18 03 40.2
comp=Z,18nm,0.9s
WCT Wildcat Mounta 87.02 47 IAmb IAmb 18 03 39.6
comp=Z,40nm,1.9s
BJT Baijiatuau 87.22 317 P **P** **18 03 37.7 +0.8**
NEE2 Needles Airpor 87.23 49 IAmb IAmb 18 03 41.0
comp=Z,30nm,1.2s
BJI Beijing 87.23 317 P **P** **18 03 37.5 +0.5**
BJI pP **pP** **18 05 45.6 -2.3**
BJI sP **sP** **18 06 51.2 +2.1**
BJI SKS **SKSac** **18 13 04.6 -1.4**
BJI S **ScS** **18 13 28.6 -1.7**
BJI sS **sS** **18 17 18.0 -2.3**
BJI pmax pmax
comp=Z,14nm,0.9s
BJI pmax pmax
comp=Z,170nm,4.2s
SYI Shuyak Island 87.25 15 IAmb IAmb 18 03 40.0
comp=Z,26nm,1.2s

TPH Tonopah 87.37 45 lAmb lAmb 18 03 41.3
comp=Z,24nm,1.1s
MA2 Magadan 87.79 346 P **P** **18 03 39.0 -0.1**
MA2 Magadan 87.79 346 *c i*P **P** **18 03 39.7 +0.6**
MA2 pmax pmax
comp=Z,111nm,2.4s
K05A Summer Lake 87.89 40 lAmb lAmb 18 03 44.1
comp=Z,28nm,0.8s
HEH HeiHe 87.92 330 *e*P **P** **18 03 39.7 -0.2**
HEH pmax pmax
comp=Z,19nm,1.1s
H04D Lebanon 87.97 38 lAmb lAmb 18 03 44.0
comp=Z,12nm,0.7s
P19K Oil Pt 88.00 14 lAmb lAmb 18 03 41.2
comp=Z,29nm,0.9s
J05D Fort Rock, OR 88.04 39 lAmb lAmb 18 03 44.7
comp=Z,28nm,0.8s
PLCA Paso Flores 88.15 135 P **P** **18 03 43.3 +1.7**
PLCA Paso Flores 88.15 135 P **P** **18 03 43.3 +1.7**
comp=Z,5.5nm,0.6s,baz=238,slow=4.6,SNR=29
PLCA PKKPbc **PKKPbc** **18 21 22.7 +0.3**
comp=Z,0.4nm,0.5s,baz=100,slow=5.1,SNR=3.4
comp=Z,5.5nm,0.6s
TIY Taiyuan 88.26 314 *e*P **P** **18 03 43.1 +1.2**
TIY SKS **SKSac** **18 13 13.4 +1.0**
TIY S **S** **18 13 37.1 +1.3**
TIY pmax pmax
comp=Z,36nm,0.8s
TIY pmax pmax
comp=Z,300nm,6.9s
ILSW Iliamna Southw 88.32 14 lAmb lAmb 18 03 44.3
comp=Z,28nm,1.0s
H04A Detroit Lake 88.38 38 lAmb lAmb 18 03 45.2
comp=Z,58nm,1.8s
PRN Pahroc Range 88.41 47 lAmb lAmb 18 03 46.8
comp=Z,53nm,1.7s
PINE Pine Mountain 88.52 39 lAmb lAmb 18 03 47.0
comp=Z,25nm,0.8s
TUC Tucson 88.61 53 P **P** **18 03 46.8 +3.1**
TUC lAmb lAmb 18 03 48.1
comp=Z,16nm,1.0s
TUC Tucson 88.61 53 P **P** **18 03 46.8 +3.1**
TUC pmax pmax
comp=Z,16nm,1.0s
BRLK Bradley Lake 88.63 15 lAmb lAmb 18 03 46.3
comp=Z,49nm,1.6s
I05D Terrebonne, OR 88.64 39 lAmb lAmb 18 03 47.0
comp=Z,14nm,0.7s
XAN Xi'an 88.64 309 ⇓P **P** **18 03 44.4 +0.6**
XAN pP pP 18 05 56.0 +0.9
XAN SKS **SKSac** **18 13 13.1 -1.6**
XAN S **S** **18 13 40.2 +0.9**
XAN sS sS 18 17 29.9 -5.2
XAN pmax pmax
comp=Z,52nm,0.8s
XAN pmax pmax
comp=Z,420nm,4.3s
CM31 Chiang Mai Arr 88.77 291 lAmb lAmb 18 03 48.5
comp=Z,19nm,1.0s
CMAR Chiang Mai Arr 88.77 291 P **P** **18 03 44.2 -0.5**
CMAR Chiang Mai Arr 88.77 291 P **P** **18 03 45.9 +1.2**
comp=Z,8.3nm,0.9s,baz=144,slow=3.5,SNR=43
CMAR PP **PP** **18 07 25.7 -0.2**
comp=Z,1.8nm,0.8s,baz=125,slow=5.8,SNR=5.8
CMAR PKKPbc **PKKPbc** **18 21 22.1 +2.0**
comp=Z,1.9nm,0.5s,baz=284,slow=4.4,SNR=12
comp=Z,8.3nm,0.9s
KMI Kunming 88.78 299 ⇓P **P** **18 03 45.7 +0.9**
KMI S **S** **18 13 43.0 +1.7**
KMI SS **SS** **18 19 54.6 +1.0**
KMI pmax pmax
comp=Z,21nm,0.7s
KMI pmax pmax
comp=Z,150nm,3.8s
CHTO Chiang Mai 88.93 291 P **P** **18 03 45.4 0.0**
CHTO lAmb lAmb 18 03 48.9
comp=Z,30nm,1.0s
CHTO Chiang Mai 88.93 291 P **P** **18 03 46.1 +0.7**
CHTO Chiang Mai 88.93 291 P **P** **18 03 45.4 0.0**
CHTO pmax pmax
comp=Z,30nm,1.0s
WVOR Wild Horse Val 89.05 41 lAmb lAmb 18 03 49.1
comp=Z,18nm,1.1s
319A Douglas 89.23 55 lAmb lAmb 18 03 51.1
comp=Z,22nm,1.1s
X16A Lo Mia Camp, P 89.25 51 lAmb lAmb 18 03 50.7
comp=Z,15nm,0.8s
LCMT Little Creek M 89.39 48 lAmb lAmb 18 03 50.9
comp=Z,11nm,0.8s
XLT XiLinHaoTe 89.60 320 *e*P **P** **18 03 48.1 +0.1**
XLT SKS **SKSac** **18 13 15.2 -4.7**
XLT S **S** **18 13 44.4 -3.3**
XLT pmax pmax
comp=Z,25nm,0.9s
XLT pmax pmax
comp=Z,200nm,4.3s
CCUT Cedar City 89.60 48 lAmb lAmb 18 03 52.3
comp=Z,10nm,0.9s
KNB Kanab 89.68 48 lAmb lAmb 18 03 52.5
comp=Z,17nm,0.8s
HPIG 89.79 60 lAmb lAmb 18 03 52.7
comp=Z,17nm,0.9s
SZCU Shurtz Canyon 89.81 48 lAmb lAmb 18 03 53.1
comp=Z,13nm,1.0s
BI02 San Fabin de 89.84 131 lAmb lAmb 18 03 52.2
comp=Z,20nm,0.7s
GNW Green Mountain 89.85 35 lAmb lAmb 18 03 52.2
comp=Z,31nm,1.5s
RC01 Rabbit Creek A 90.07 15 lAmb lAmb 18 03 50.7
comp=Z,14nm,0.9s
ELK Elko 90.15 44 lAmb lAmb 18 03 54.0
comp=Z,11nm,1.1s
ELK Elko 90.15 44 P **P** **18 03 52.0 +1.1**
comp=Z,6.9nm,0.8s,baz=240,slow=5.7,SNR=14
comp=Z,6.9nm,0.8s
ELK Elko 90.15 44 P **P** **18 03 52.0 +1.1**
SUA Susitna One 90.17 14 lAmb lAmb 18 03 51.0
comp=Z,14nm,0.9s
PWL Port Wells 90.20 16 lAmb lAmb 18 03 53.2
comp=Z,19nm,1.2s
PZH PanZhiHua 90.22 299 P **P** **18 03 53.2 +1.8**
X18A Snowflake 90.36 52 lAmb lAmb 18 03 55.5
comp=Z,13nm,0.7s
ZEA Zeya 90.47 332 *e*P **P** **18 03 52.5 +0.8**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,0.8s
GLI Glacier Island 90.52 16 lAmb lAmb 18 03 55.0
comp=Z,19nm,0.8s
SEY Seymchan 90.55 348 PKKPbc PKKPbc 18 21 15.8 -1.7
comp=Z,2.8nm,1.0s,baz=90,slow=2.9,SNR=3.7
SEY Seymchan 90.55 348 *de*P **P** **18 03 52.2 +0.4**
SEY pmax pmax
comp=Z,16nm,0.9s
G08A Pilot Rock 90.56 39 lAmb lAmb 18 03 57.1
comp=Z,23nm,1.8s
HHC Hu-ho-hao-te 90.57 316 ⇓*i*P **P** **18 03 53.3 +0.7**
HHC SKS **SKSac** **18 13 24.8 -0.8**
HHC S **ScS** **18 14 01.0 +2.7**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,73nm,5.0s
CD2 Chengdu 90.80 304 P **P** **18 03 54.3 +0.5**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,200nm,4.3s
GHO Glory Hole Cre 90.86 15 lAmb lAmb 18 03 54.5
comp=Z,13nm,0.7s
DIV Divide 91.07 16 lAmb lAmb 18 03 57.4
comp=Z,20nm,1.4s
BO02 Sierra Bellavi 91.17 130 lAmb lAmb 18 03 58.1
comp=Z,15nm,0.7s
BMRM Bremner River 91.24 17 lAmb lAmb 18 03 58.4
comp=Z,11nm,1.0s
WAX Waxell Ridge 91.28 18 lAmb lAmb 18 03 59.1
comp=Z,12nm,0.9s
SCM Sheep Creek Mo 91.29 15 lAmb lAmb 18 03 58.3
comp=Z,16nm,0.8s
DUG Dugway, Tooele 91.39 46 lAmb lAmb 18 03 59.5
comp=Z,26nm,1.9s
BTO Baotou 91.42 315 *e*P **P** **18 03 57.6 +1.1**
BTO SKS **SKSac** **18 13 29.0 -1.3**
BTO S **SKKSac** **18 13 55.4 +6.1**
BTO pmax pmax
comp=Z,19nm,1.1s
BTO pmax pmax
comp=Z,430nm,6.0s
YAH Yahtse 91.53 19 lAmb lAmb 18 07 03.9
comp=Z,7.2nm,0.8s
TABL Table Mountain 91.77 19 lAmb lAmb 18 04 01.1
comp=Z,11nm,0.8s
Q16A Castle Valley 91.79 47 lAmb lAmb 18 04 03.0
comp=Z,11nm,0.7s
GRNC Granite Creek 91.83 18 lAmb lAmb 18 04 01.4
comp=Z,9.8nm,1.0s
KTH Kantishna Hill 92.00 13 lAmb lAmb 18 05 09.4
comp=Z,38nm,1.9s
MCARA McCarthy VSAT 92.01 17 lAmb lAmb 18 04 02.2
comp=Z,11nm,1.0s
TRF Thorofare Moun 92.04 13 lAmb lAmb 18 04 00.2
comp=Z,8.9nm,0.7s
TNCH TengChong 92.11 297 *e*P **P** **18 04 00.4 +0.2**
TNCH pP pP 18 06 11.5 -0.7
TNCH S **S** **18 14 11.7 +0.8**
TNCH SS **SS** **18 20 39.6 -1.3**
TNCH pmax pmax
comp=Z,11nm,2.1s
BARN Barnard Glacie 92.12 18 lAmb lAmb 18 04 02.8
comp=Z,10nm,0.8s
HVU Hansel Valley 92.27 44 lAmb lAmb 18 04 03.6
comp=Z,6.1nm,0.7s
RND Reindeer 92.31 14 lAmb lAmb 18 04 02.5
comp=Z,8.4nm,0.7s
SRU San Rafael Swe 92.32 47 lAmb lAmb 18 04 04.0
comp=Z,14nm,0.8s
CTU Camp Tracy 92.35 46 lAmb lAmb 18 04 03.8
comp=Z,8.8nm,1.0s
P17A Butcher Ranch, 92.37 47 lAmb lAmb 18 04 05.3
comp=Z,15nm,1.3s
MT08 Bocatomo Ro 92.43 129 lAmb lAmb 18 04 05.1
comp=Z,7.7nm,0.8s
TX31 Lajitas Ar. Si 92.47 59 lAmb lAmb 18 04 05.2
comp=Z,7.2nm,0.8s
TXAR Lajitas Array 92.47 59 P **P** **18 04 03.2 +1.5**
TXAR Lajitas Array 92.47 59 P **P** **18 04 03.0 +1.3**
comp=Z,5.8nm,0.8s,baz=214,slow=6.4,SNR=60
TXAR PKKPbc **PKKPbc** **18 21 12.0 +0.6**
comp=Z,0.7nm,0.6s,baz=73,slow=4.2,SNR=6.4
comp=Z,5.8nm,0.8s
TXAR Lajitas Array 92.47 59 P **P** **18 04 03.2 +1.5**
JLU Jordanelle 92.49 46 lAmb lAmb 18 04 04.3
comp=Z,5.6nm,0.6s
TCUT Toone Canyon 92.79 45 lAmb lAmb 18 04 06.2
comp=Z,12nm,0.7s
BSUT Blindstream Ca 92.91 46 lAmb lAmb 18 04 06.9
comp=Z,12nm,0.8s
ALPN Alpine 92.98 58 lAmb lAmb 18 04 06.7
comp=Z,5.0nm,0.7s
ANMO Albuquerque 93.05 53 P **P** **18 04 04.9 +0.6**
ANMO Albuquerque 93.05 53 P **P** **18 04 05.9 +1.6**
comp=Z,5.1nm,0.8s,baz=307,slow=6.4,SNR=11
comp=Z,5.1nm,0.8s
ANMO Albuquerque 93.05 53 *d i*P **P** **18 04 06.1 +1.8**
ANMO pmax pmax
comp=Z,5.0nm,0.9s
LZH Lanzhou 93.26 309 *e*P **P** **18 04 06.3 +1.1**
LZH pP pP 18 06 19.2 +1.9
LZH SKS **SKSac** **18 13 41.0 +0.3**
LZH S **ScS** **18 14 24.2 +3.1**
LZH pmax pmax
comp=Z,36nm,1.3s
WRH Wood River Hil 93.40 14 lAmb lAmb 18 04 07.2
comp=Z,10nm,1.0s
HDA Harding Lake 93.60 14 lAmb lAmb 18 08 02.4
comp=Z,9.0nm,1.2s
COLA College 93.80 14 ⇑*e*P **P** **18 04 06.5 -0.2**
COLA pmax pmax
comp=Z,5.0nm,1.0s
IL31 93.92 14 P **P** **18 04 06.1 -1.1**
ILAR Eielson Array 93.92 14 P **P** **18 04 06.3 -1.0**
ILAR Eielson Array 93.92 14 P **P** **18 04 06.8 -0.5**
comp=Z,1.3nm,0.6s,baz=226,slow=6.0,SNR=13
ILAR PP **PP** **18 08 02.1 -2.7**
comp=Z,1.8nm,1.0s,baz=220,slow=7.3,SNR=5.6
comp=Z,1.3nm,0.6s
SAND Sanderson 93.95 59 lAmb lAmb 18 04 11.0
comp=Z,5.9nm,1.0s
CMIG Matias Romero 94.29 73 P **P** **18 04 12.0 +2.0**
comp=Z,3.5nm,0.7s,baz=274,slow=6.0,SNR=5.7
comp=Z,3.5nm,0.7s
O20A White River Ci 94.36 47 lAmb lAmb 18 07 52.8
comp=Z,12nm,1.6s
PDAR Pinedale Array 94.82 45 P **P** **18 04 12.2 0.0**
PDAR Pinedale Array 94.82 45 P **P** **18 04 13.3 +1.1**
comp=Z,1.7nm,0.7s,baz=212,slow=2.9,SNR=16
PDAR PP **PP** **18 08 11.9 -0.6**
comp=Z,0.9nm,0.9s,baz=232,slow=7.2,SNR=6.0
comp=Z,1.7nm,0.7s
DRIO Del Rio 94.88 60 lAmb lAmb 18 04 15.3
comp=Z,9.2nm,0.8s
YHL Hebgen Lake 94.88 42 lAmb lAmb 18 04 15.9
comp=Z,24nm,1.9s
BOZ Bozeman (W) 95.00 41 lAmb lAmb 18 04 15.7
comp=Z,14nm,1.9s
YAK Yakutsk 95.56 339 P **P** **18 04 14.4 -0.3**
YAK Yakutsk 95.56 339 *e*P **P** **18 04 14.7 0.0**
YAK *e*S **SKSac** **18 13 48.8 -2.4**
YAK *e* 18 14 39.7
YAK *e*SS **SS** **18 21 24.7 -2.8**
YAK *e*SSS SSS 18 25 14.8
YAK pmax pmax
comp=Z,25nm,1.2s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.2s
YAK pmax pmax
comp=Z,260nm,6.8s
YAK pmax pmax
comp=N,96nm,6.1s
YAK pmax pmax
comp=E,85nm,4.7s
YAK smax smax
comp=N,87nm,2.8s
YAK smax smax
comp=E,38nm,2.8s
ULN Ulaanbaatar 97.04 320 *d i*P Pdif 18 04 21.3 -0.6
ULN pmax pmax
comp=Z,8.0nm,1.2s
SONM Songino Array 97.41 320 Pdif 18 04 22.7 -0.9
SONM lAmb lAmb 18 08 28.3
comp=Z,17nm,1.9s
SONM Songino Array 97.41 320 P Pdif 18 04 22.8 -0.7
comp=Z,1.3nm,0.7s,baz=126,slow=3.6,SNR=6.5
SONM PP **PP** **18 08 26.8 -5.0**
comp=Z,1.0nm,0.7s,baz=116,slow=6.6,SNR=4.4
SONM PKKPbc **PKKPbc** **18 20 59.7 +0.5**
comp=Z,1.7nm,0.6s,baz=288,slow=4.6,SNR=6.4
comp=Z,1.3nm,0.7s
GTA Gaotai 97.64 310 P **P** **18 04 25.5 +0.7**
GTA pmax pmax
comp=Z,5.0nm,1.3s
HYB Hyderabad 106.00 282 *e*PKiKP **PKiKP** **18 09 10.4 -0.1**
WMQ Urumqi 107.71 311 Pdif **Pdif** **18 05 10.3 +1.0**
ZSN Zaisan 110.66 314 *e*PKiKP **PKiKP** **18 09 18.1 -0.3**
ZSN *e*PP **PP** **18 10 07.1 -1.2**
ZSN Zaisan 110.66 314 *i* PKIKP **PKiKP** **18 09 18.1 -0.3**
ZSN *e* 18 10 07.1
MK31 Makanchi Array 112.20 312 *c i*PKIKP **PKiKP** **18 09 20.3 -1.1**
MKAR Makanchi Array 112.20 312 Pdiff **Pdif** **18 05 31.2 +2.1**
comp=Z,0.6nm,0.7s,baz=99,slow=6.0,SNR=5.1
MKAR PKiKP **PKiKP** **18 09 20.6 -0.8**
comp=Z,0.5nm,0.4s,baz=189,slow=0.8,SNR=16
MKAR PP **PP** **18 10 18.8 -0.3**
comp=Z,2.8nm,0.9s,baz=105,slow=8.1,SNR=7.2
MKAR SKP 18 11 59.9
comp=Z,1.8nm,0.7s,baz=117,slow=2.5,SNR=6.5
MKAR PKKPbc **PKKPbc** **18 20 15.1 +0.3**
comp=Z,2.2nm,0.6s,baz=283,slow=3.7,SNR=15
MKAR PKKPab **PKKPab** **18 20 25.1 +1.2**
comp=Z,0.9nm,0.6s,baz=283,slow=4.8,SNR=4.5
ZALV Zalesovo Beam 112.29 320 PKiKP **PKiKP** **18 09 20.4 -0.8**
comp=Z,1.6nm,0.4s,baz=49,slow=1.6,SNR=12
ZALV SKP 18 11 59.9
comp=Z,1.4nm,0.7s,baz=130,slow=2.2,SNR=3.6
ZALV PKKPbc **PKKPbc** **18 20 14.4 -0.2**
comp=Z,1.0nm,0.6s,baz=288,slow=4.5,SNR=4.2
SHLS Shalkode 113.28 308 *e*PKiKP **PKiKP** **18 09 22.4 -1.3**
SHLS Shalkode 113.28 308 *i* PKiKP **PKiKP** **18 09 22.4 -1.3**
RES Resolute Bay 113.51 17 PKiKP **PKiKP** **18 09 22.6 -0.3**
comp=Z,9.2nm,1.0s,baz=226,slow=1.4,SNR=6.3
UZB Uzunbulak 113.59 308 *e*PKiKP **PKiKP** **18 09 23.5 -0.8**
UZB Uzunbulak 113.59 308 *i* PKIKP **PKiKP** **18 09 23.5 -0.8**
SATY Saty 114.01 308 *e*PKP PKPdf 18 09 24.4 -0.7
SATY Saty 114.01 308 *e*PKIKP PKPdf 18 09 24.3 -0.8
KSH Kashi 114.99 304 PKP **PKiKP** **18 09 29.1 +2.0**
MDOK Medeo 115.00 308 *e*PKP **PKPdf** **18 09 26.2 -0.8**
MDOK Medeo 115.00 308 *e*PKIKP **PKPdf** **18 09 26.1 -0.9**
KURK Kurchatov 115.38 316 **PKPdf** **18 09 26.3 -0.9**
KURK Kurchatov 115.38 316 PKIKP **PKPdf** **18 09 26.4 -0.9**
KURBB Kurchatov Arra 115.42 316 PKP **PKPdf** **18 09 26.4 -1.0**
comp=Z,1.9nm,0.4s,baz=115,slow=1.8,SNR=26
KURBB SKP 18 12 06.5
comp=Z,3.2nm,0.7s,baz=105,slow=2.1,SNR=12
KURBB PKKPbc **PKKPbc** **18 20 05.0 +1.0**
comp=Z,2.0nm,0.7s,baz=278,slow=3.9,SNR=13
KURBB PKKPab **PKKPab** **18 20 11.6 +2.1**
comp=Z,1.4nm,0.7s,baz=278,slow=5.1,SNR=8.0
OPO Ambohidratompo 115.45 232 PKP **PKiKP** **18 09 28.9 +0.3**
comp=Z,4.2nm,0.7s,baz=295,slow=2.4,SNR=5.7
SGDS Sogindy 116.79 308 *e*PKP **PKPdf** **18 09 29.7 -0.7**
BTLS Baital 117.48 309 *e*PKP **PKPdf** **18 09 30.8 -0.7**
BTLS *e*PP **PP** **18 10 54.1 -1.4**
BTLS Baital 117.48 309 *e*PKIKP **PKPdf** **18 09 30.8 -0.7**
BTLS *e* 18 10 54.1
BOAV Boa Vista 118.89 102 **PKPdf** **18 09 35.1 -0.1**
BDFB Brasilia 119.01 127 PKP **PKiKP** **18 09 36.2 +0.6**
comp=Z,5.8nm,0.7s,baz=216,slow=3.0,SNR=7.7
BRZS Berezniki 119.06 315 *e*PKP **PKPdf** **18 09 33.9 -0.5**
BRZS Berezniki 119.06 315 *e*PKIKP **PKPdf** **18 09 33.9 -0.5**
KBL Kabul 119.31 297 **PKPdf** **18 09 35.1 -0.5**
KBL Kabul 119.31 297 PKIKP **PKPdf** **18 09 35.2 -0.5**
KK31 Karatay Array 119.70 307 *i* PKIKP **PKPdf** **18 09 34.9 -1.0**
KKAR Karatay Array 119.70 307 **PKPdf** **18 09 34.3 -1.6**
KKAR Karatay Array 119.70 307 PKIKP **PKPdf** **18 09 34.3 -1.6**
IUG luzhnay 119.91 306 *e*PKP **PKPdf** **18 09 35.7 -0.7**
IUG luzhnay 119.91 306 *e*PKIKP **PKPdf** **18 09 35.7 -0.7**
SJG San Juan 120.07 83 **PKPdf** **18 09 35.9 -1.4**
SJG San Juan 120.07 83 PKIKP **PKPdf** **18 09 35.9 -1.4**
SIMJ Simiganj 120.13 301 **PKPdf** **18 09 36.0 -1.0**
BRLS Borolday 120.18 306 *e*PKP **PKPdf** **18 09 36.4 -0.5**
BRLS Borolday 120.18 306 *e*PKIKP **PKPdf** **18 09 36.3 -0.5**
BOSA Boshof 120.33 207 **PKiKP** **18 09 38.0 0.0**
BOSA Boshof 120.33 207 PKP **PKiKP** **18 09 38.3 +0.3**
comp=Z,6.2nm,0.7s,baz=201,slow=2.3,SNR=20
BOSA PP **PP** **18 11 13.8 0.0**
comp=Z,0.9nm,0.5s,baz=144,slow=2.7,SNR=3.6
BOSA PKKPbc **PKKPbc** **18 19 47.2 -0.3**
comp=Z,1.9nm,0.6s,baz=318,slow=4.3,SNR=8.2
BOSA Boshof 120.33 207 PKIKP **PKiKP** **18 09 38.0 0.0**
BVA0 Borovoye Array 120.70 318 PKIKP **PKPdf** **18 09 36.7 -0.8**
BVAR Borovoye Array 120.70 318 PKP **PKPdf** **18 09 37.3 -0.2**
comp=Z,8.5nm,0.3s,baz=133,slow=1.8,SNR=78
BVAR PP **PP** **18 11 18.6 +1.5**
comp=Z,7.8nm,0.9s,baz=90,slow=7.2,SNR=7.8
BVAR SKP 18 12 17.0
comp=Z,4.2nm,0.6s,baz=115,slow=2.1,SNR=6.4
MAL2 Monte Alegre, 122.22 110 **PKiKP** **18 09 42.5 +0.6**
MAKGR Makgori 122.98 208 *i* P **PKiKP** **18 09 43.7 +0.5**
LBTB Lobatse 123.33 210 PKP **PKiKP** **18 09 43.9 0.0**
comp=Z,5.5nm,0.7s,baz=123,slow=2.0,SNR=7.0
SKOMA Sekoma 124.49 208 *i* P **PKiKP** **18 09 46.5 +0.3**
MREMI Moremi 124.55 213 *i* P **PKiKP** **18 09 46.7 +0.4**
SCHQ Schefferville 124.61 40 PKP **PKiKP** **18 09 45.2 -0.1**
comp=Z,50nm,0.7s,baz=48,slow=16,SNR=4.1
LPHEP Lephephe 124.63 211 *i* P **PKiKP** **18 09 46.5 0.0**
KDWAN Kaudwane 125.16 210 *i* P **PKiKP** **18 09 47.8 +0.2**
MATP Matopo 125.80 215 PKP **PKiKP** **18 09 53.1 +4.1**
comp=Z,10nm,0.7s,baz=154,slow=1.9,SNR=25
BROLN Tlhalogang 125.84 214 *i* P **PKiKP** **18 09 49.0 0.0**
SVE Sverdlovsk 126.13 323 *e*PKIKP **PKPdf** **18 09 47.9 +0.2**
SVE pmax pmax
comp=Z,28nm,1.5s
LMN Caledonia Moun 126.20 51 **PKPdf** **18 09 48.2 -0.1**
SPA0 Spitsbergen Ar 126.61 355 *e*PKPdf **PKiKP** **18 09 49.8 +1.1**
SPITS Spitsbergen Ar 126.61 355 PKP **PKiKP** **18 09 48.8 +0.1**
comp=Z,4.1nm,0.5s,baz=120,slow=3.3,SNR=11
AB31 Akbulak array 127.31 314 *i* PKIKP **PKPdf** **18 09 49.7 -0.5**
ABKAR Akbulak array 127.31 314 **PKPdf** **18 09 50.0 -0.2**
KOOLE Kule 127.38 205 *i* P **PKiKP** **18 09 52.2 +0.1**
ARTI Arti 127.42 323 **PKiKP** **18 09 50.8 -0.1**
ARTI Arti 127.42 323 *i* PKIKP **PKiKP** **18 09 50.8 -0.1**
ARTI 18 12 00.8
ARTI 18 16 05.1
ARTI SP SP 18 21 03.7 -2.2
ARTI SS **SS** **18 28 21.7 -2.8**
GRTLG Ghanzi 128.43 207 *i* P **PKiKP** **18 09 54.9 +0.7**
SUMG Summit 128.76 13 **PKiKP** **18 09 53.3 -0.3**
SUMG Summit 128.76 13 PKIKP **PKiKP** **18 09 53.3 -0.3**
SFJD Kangerlussuaq 128.79 22 PKP **PKiKP** **18 09 53.1 -0.1**
comp=Z,2.1nm,0.3s,baz=240,slow=7.9,SNR=4.2
LSZ Lusaka 130.17 219 PKP **PKiKP** **18 09 57.6 -0.2**
comp=Z,4.2nm,0.3s,baz=76,slow=2.0,SNR=19
LSZ SKPbc **SKPab** **18 12 24.1 +0.6**
comp=Z,6.7nm,0.5s,baz=123,slow=2.4,SNR=17
KIRV Kirov 131.52 327 *c i*PKIKP **PKiKP** **18 09 58.6 -0.4**
TSUM Tsumeb 131.82 205 **PKPdf** **18 09 59.9 0.0**
TSUM Tsumeb 131.82 205 PKP **PKiKP** **18 10 01.2 +0.2**
comp=Z,7.7nm,0.6s,baz=123,slow=2.5,SNR=19
TSUM SKPbc **SKPab** **18 12 30.4 -0.1**
comp=Z,10nm,0.7s,baz=147,slow=4.6,SNR=16
VADS Vadso 131.89 346 *e*PKPdf **PKiKP** **18 09 59.8 +0.4**
HAMF Hammerfest 132.56 349 *e*PKPdf **PKiKP** **18 10 00.9 +0.1**
APA Apatity 132.82 343 *e*PKIKP **PKPdf** **18 09 59.5 -0.6**
ARA0 ARCESS Array S 133.16 347 *e*PKPdf **PKiKP** **18 10 01.9 -0.1**
ARCES ARCESS Array B 133.16 347 PKhKP PKPpre 18 09 53.3
comp=Z,1.5nm,0.3s,baz=136,slow=1.1,SNR=29
ARCES PKP **PKiKP** **18 10 01.6 -0.4**
comp=Z,4.8nm,0.5s,baz=73,slow=1.5,SNR=25
ARCES SKPbc **SKPbc** **18 12 32.7 +1.0**
comp=Z,18nm,0.8s,baz=35,slow=4.4,SNR=18
KTK1 Kautokeino 134.04 348 *e*PKPdf **PKiKP** **18 10 03.5 -0.3**
KMBO Kilima Mbogo 134.08 241 SKPbc **SKPbc** **18 12 38.3 +1.5**
comp=Z,3.7nm,0.8s,baz=147,slow=3.0,SNR=7.5
TRO Tromso 134.23 350 *e*PKPdf **PKiKP** **18 10 04.2 0.0**
KLMR Klimovskoe 134.99 333 *e*PKIKP PKPpre 18 10 01.0
KLMR pmax pmax
comp=Z,17nm,1.3s
STEI Steigen 136.34 351 *e* PKPpre 18 10 02.1
LOF Lofoten 136.38 352 *e* 18 10 08.9
LOF *e* PKPpre 18 10 03.4
AKT Akhty 136.51 304 *e*PKIKP **PKPdf** **18 10 06.5 -1.5**
AKT *e* 18 13 22.8
AKT *e*PPP PPP 18 16 02.7
AKT *e* 18 16 19.8
AKT pmax pmax
comp=Z,16nm,1.2s
FAUS Fauske 136.84 351 *e* PKPpre 18 10 03.6
KONS Konsvik 137.98 351 *e*PKPdf PKPpre 18 10 04.7
MOR8 Moi Rana 138.10 350 *e* PKPpre 18 10 02.0
STOK Stokkvaagen 138.15 351 *e*PKPdf **PKPdf** **18 10 07.1 -2.9**
VRH Novokhopyorsk 138.32 320 *e*PKIKP **PKPdf** **18 10 10.6 -0.2**
VRH pmax pmax
comp=Z,10.0nm,0.8s
MOS Moscow 138.54 327 *e*PKIKP **PKPdf** **18 10 11.8 +0.8**
LPSR Galich'ya Gora 139.34 323 *e*PKHKP PKPpre 18 10 03.8
LPSR pmax pmax
comp=Z,9.0nm,0.8s
OBN Obninsk 139.38 327 *e*PKIKP **PKPdf** **18 10 12.1 -0.5**
OBN *e* 18 13 13.7
OBN *e*PPP PPP 18 16 25.7
OBN pmax pmax
comp=Z,10.0nm,1.0s
FINES FINESS Array B 139.49 340 PKhKP PKPpre 18 10 04.7
comp=Z,4.8nm,0.3s,baz=52,slow=3.6,SNR=72
FINES PKP **PKiKP** **18 10 14.5 -0.6**
comp=Z,5.6nm,0.3s,baz=89,slow=3.9,SNR=14
FINES SKPbc **SKiKP** **18 12 52.2 -1.1**
comp=Z,17nm,0.7s,baz=64,slow=4.4,SNR=15
FINES SKPab **SKPab** **18 13 02.9 +0.1**
comp=Z,15nm,0.9s,baz=64,slow=4.4,SNR=8.1
VORR Voronezh 139.59 321 *e*PKIKP **PKPdf** **18 10 13.5 +0.4**
VORR pmax pmax
comp=Z,20nm,0.8s
KBZ Khabaz 139.70 308 PKhKP PKPpre 18 10 09.0
comp=Z,2.6nm,0.9s,baz=129,slow=3.6,SNR=4.0
KBZ SKPbc **SKiKP** **18 12 54.9 +0.6**
comp=Z,4.1nm,0.7s,baz=137,slow=2.3,SNR=7.8
VSR Storozhevoye 139.80 321 *e*PKHKP PKPpre 18 10 04.9
VSR pmax pmax
comp=Z,8.0nm,0.8s
KIV Kislovodsk 139.80 309 *e*PKIKP **PKiKP** **18 10 15.5 -1.0**

KIV pmax pmax
comp=Z,8.0nm,1.0s
VORD Divnogorie 139.82 320 *e*PKHKP **PKPdf 18 10 14.0 +0.5**
VORD pmax pmax
comp=Z,7.0nm,1.0s
NSS Namsos 140.01 351 *e*PKPdf PKPpre 18 10 07.8
ERBR Yeremizino-Bor 140.88 312 *i* PKIKP **PKPdf 18 10 13.3 -2.3**
ERBR pmax pmax
comp=Z,21nm,0.8s
SOC Sochi 141.98 309 *e*PKHKP PKPpre 18 10 13.3
SOC *e*PPP PPP 18 16 45.6
SOC *e*SS SS 18 31 12.3 -4.8
SOC *e*SSS SSS 18 36 49.9
MOL Molde 142.45 353 *e*PKPdf **PKPdf 18 10 15.6 -2.2**
DOMB Dombas 142.78 352 *e*PKPdf **PKPdf 18 10 16.4 -2.1**
AKN Aaknes 142.89 353 *e*PKPbc **PKPdf 18 10 17.2 -1.5**
ANN Anapa 143.21 312 *i* PKIKP PKPab 18 10 17.5 -0.6
ANN pmax pmax
comp=Z,109nm,1.0s
NC405 NORSAR Array S 143.27 349 PKPab 18 10 16.9 -1.0
NB2 NORSAR Subarra 143.43 350 PKP PKPab 18 10 17.8 -0.7
comp=Z,55nm,1.1s,baz=16,slow=3.2
NB2 NORSAR Subarra 143.43 350 PKP PKPab 18 10 17.8 -0.7
comp=Z,55nm,1.1s,baz=16,slow=3.2
NOA NORSAR Array B 143.43 350 PKP PKPab 18 10 17.7 -0.8
comp=Z,74nm,1.0s,baz=16,slow=5.0,SNR=117
FOO Floro 143.65 355 *e*PKPbc PKPab 18 10 19.2 0.0
NC602 NORSAR Array S 143.66 349 *e*PKPbc PKPbc 18 10 18.7 -0.5
MNK Minsk 143.80 331 *i* PKP PKPab 18 10 20.0 0.0
comp=E,64nm,0.9s
MNK *i* PKP PKPab 18 10 20.0 0.0
comp=N,53nm,1.0s
MNK *i* PKP PKPab 18 10 20.0 0.0
comp=Z,173nm,0.8s,baz=49
MNK *i* pPKP pPKPdf 18 12 41.7 -0.2
MNK *i* PP **PP 18 13 41.8 0.0**
MNK *i* SKS **SKSdf 18 16 34.4 +2.6**
MNK *i* PPP PPP 18 16 58.9
MNK *i* SKKS **SKKSdf 18 25 46.1 -1.4**
MNK *i* SS **SS 18 31 40.2 +3.8**
MNK *i* SSS SSS 18 37 16.4
MNK *i* LRM MLR 19 14 56.3
comp=E,33nm,15.5s
MNK *i* LRM MLR 19 15 12.6
comp=Z,50nm,16.3s
MNK *i* LRM MLR 19 15 14.6
comp=N,26nm,15.7s
MNK Minsk 143.80 331 *i* PKIKP PKPab 18 10 20.0 -0.1
MNK *i* 18 13 41.8
MNK *i* 18 16 34.3
MNK *i* PPP PPP 18 16 58.9
MNK *i* SS SS 18 31 40.1 +3.7
MNK *i* SSS SSS 18 37 16.3
MNK pmax pmax
comp=E,64nm,0.9s
MNK pmax pmax
comp=N,53nm,1.0s
MNK pmax pmax
comp=Z,173nm,0.8s
MNK MLR MLR
comp=E,33nm,15.0s
MNK MLR MLR
comp=Z,50nm,16.0s
MNK MLR MLR
comp=N,26nm,16.0s
HFS Hagfors 143.82 347 PKP PKPbc 18 10 19.5 -0.2
comp=N,43nm,0.3s,baz=64,slow=3.6,SNR=411
HYA Hoyanger 143.97 354 *e*PKPbc PKPbc 18 10 19.8 -0.3
SKAR Skarslia 144.20 352 *e*PKPbc **PKPdf 18 10 21.2 +0.1**
OSL Oslo 144.55 349 *e*PKPdf PKPbc 18 10 21.9 0.0
ASK Askoy 144.74 354 *e*PKPdf PKPbc 18 10 22.8 +0.3
BER Bergen 144.82 354 *e*PKPdf PKPbc 18 10 22.9 +0.2
KONO Kongsberg 145.00 350 *e*PKPdf **PKPbc 18 10 23.3 -0.1**
KONO Kongsberg 145.00 350 *ce*PKIKP **PKPab 18 10 24.2 -0.3**
KONO pmax pmax
comp=Z,60nm,1.3s
ODD1 Odda 145.15 353 *e*PKPbc **PKPbc 18 10 23.9 0.0**
STRU Stroemstad 145.32 348 *i* P **PKPbc 18 10 24.2 0.0**
SIM Simferopol' 145.37 313 *e*PKIKP **PKPbc 18 10 24.4 -0.5**
SIM pmax pmax
comp=Z,200nm,2.2s
AKASG Malin Array Be 145.51 325 **PKPdf 18 10 22.6 -0.9**
AKASG Malin Array Be 145.51 325 PKPbc **PKPdf 18 10 24.2 +0.7**
comp=Z,21nm,0.6s,baz=44,slow=4.0,SNR=83
AKASG SKPbc **SKiKP 18 13 07.8 +1.8**
comp=Z,7.3nm,0.7s,baz=48,slow=2.9,SNR=8.6
AKASG Malin Array Be 145.51 325 PKIKP **PKPdf 18 10 22.7 -0.9**
AKBB Malin Array Si 145.51 325 *ce*PKIKP **PKPdf 18 10 24.0 +0.5**
KIEV Kiev 145.53 325 **PKPdf 18 10 23.2 -0.3**
KIEV Kiev 145.53 325 ⇑P **PKPdf 18 10 24.1 +0.6**
KIEV Kiev 145.53 325 ⇑PKIKP **PKPdf 18 10 24.1 +0.6**
BNN Bunyan 145.91 302 **PKPdf 18 10 24.5 -0.3**
SUW Suwalki 146.12 334 *e*PKP **PKPbc 18 10 26.8 +0.1**
TJOU Tjoern 146.18 347 *i* P **PKPbc 18 10 26.6 -0.2**
BORU Boraas 146.31 346 *i* P **PKPbc 18 10 26.7 -0.4**
HOMB Homborsund 146.49 350 *e*PKPbc **PKPbc 18 10 28.1 +0.6**
HOMB Homborsund 146.49 350 *i* P **PKPbc 18 10 28.3 +0.7**
SNART Snartemo 146.61 352 *e*PKPbc **PKPbc 18 10 28.0 +0.1**
SNART Snartemo 146.61 352 *i* P **PKPbc 18 10 28.4 +0.5**
ONAU Onsala 146.71 347 *i* P **PKPbc 18 10 27.6 -0.6**
MMAI Mount Meron Ar 147.03 292 PKPbc **PKPbc 18 10 30.8 +0.8**
comp=Z,38nm,0.5s,baz=78,slow=4.4,SNR=92
MMAI SKPbc **SKiKP 18 13 13.0 +3.1**
comp=Z,3.9nm,0.7s,baz=95,slow=4.2,SNR=3.6
DEL Delary 147.11 344 *i* P **PKPbc 18 10 29.4 +0.1**
KIRS Kirsehir-Merke 147.31 303 ⇓P **PKPbc 18 10 30.5 0.0**
BRTR Keskin Array B 147.37 304 **PKPdf 18 10 26.0 -1.2**
BRTR Keskin Array B 147.37 304 PKP **PKPdf 18 10 26.7 -0.5**
comp=Z,14nm,0.7s,baz=142,slow=2.4,SNR=28
BRTR PKPbc **PKPbc 18 10 30.3 -0.4**
comp=Z,14nm,0.8s,baz=142,slow=5.8,SNR=43
BRTR SKPbc **SKiKP 18 13 12.2 +1.7**
comp=Z,2.6nm,0.8s,baz=116,slow=3.8,SNR=4.6
PURM Purcari 147.38 318 ⇓P **PKPbc 18 10 30.5 +0.2**
SORM Soroca 147.43 322 ⇑P **PKPbc 18 10 30.0 -0.4**
SORM Soroca 147.43 322 ⇑PKIKP **PKPbc 18 10 30.0 -0.4**
BJUU Bjuv 147.67 345 *i* P **PKPbc 18 10 30.9 +0.2**
MILM Milestii Mici 147.81 319 ⇑P **PKPbc 18 10 30.6 -0.7**
MILM Milestii Mici 147.81 319 *i* PKP **PKPbc 18 10 30.5 -0.9**
MILM Milestii Mici 147.81 319 ⇑PKIKP **PKPbc 18 10 30.7 -0.7**
ANTO Ankara 147.96 305 **PKPdf 18 10 27.5 -0.6**
ANTO Ankara 147.96 305 ⇑P **PKiKP 18 10 32.8 -0.6**
ANTO Ankara 147.96 305 ⇑PKP2 **PKiKP 18 10 32.8 -0.6**
LUNU Lund 147.97 344 *i* P **PKPbc 18 10 31.0 -0.5**
BSD Bornholm Skovb 148.04 342 *i* P **PKPbc 18 10 32.0 +0.3**
R9F13 Warsaw-Wawer 148.27 333 *e*PKP **PKiKP 18 10 32.9 -0.6**
DRBR Darabani 148.35 323 ⇑P **PKPbc 18 10 31.9 -0.8**
VASR Vaslui 148.56 320 ⇑P **PKiKP 18 10 34.0 -0.3**
TLCR 148.67 317 ⇑P **PKiKP 18 10 34.0 -0.5**
BEL Belsk 148.71 333 *e*PKP **PKiKP 18 10 34.1 -0.3**
VLDR Vladesti 148.80 318 ⇑P **PKiKP 18 10 34.3 -0.5**
BIR Birlad 148.85 319 ⇑P **PKiKP 18 10 35.8 +0.9**
BIR Birlad 148.85 319 ⇑PKP2 **PKiKP 18 10 35.8 +0.9**
GKP Gorka Klasztor 148.90 338 *e*PKP **PKPbc 18 10 34.2 +0.3**
SCTR Scanteiesti 148.94 318 ⇑P **PKiKP 18 10 35.0 -0.1**
TATR Tatarca 148.94 318 ⇑P **PKPbc 18 10 34.4 +0.3**
PRAR RASCA 149.05 322 ⇑P **PKPbc 18 10 34.6 +0.1**
SAHE Sakarya_HENDEK 149.07 308 ⇓P **PKPbc 18 10 34.6 -0.1**
NEGRR Negrea 149.07 318 ⇑P **PKiKP 18 10 35.4 +0.1**
TPGR Topolog 149.07 316 ⇑P **PKPbc 18 10 34.8 +0.2**
GHRR 149.09 319 ⇑P **PKiKP 18 10 35.2 -0.1**
CFR Carcaliu 149.09 317 ⇑P **PKPbc 18 10 34.5 0.0**
SCHL Schela 149.12 318 ⇑P **PKPbc 18 10 34.6 0.0**
SCHLR Schela 149.14 318 ⇑P **PKiKP 18 10 35.3 -0.2**
IZVR Izvoarele 149.14 318 ⇑P **PKPbc 18 10 33.5 -1.2**
TUDR 149.17 318 ⇑P **PKiKP 18 10 35.8 +0.2**
COSR Cosmesti PH 149.25 319 ⇑P **PKiKP 18 10 35.8 +0.1**
TIRR Tirgusor 149.27 316 ⇑P **PKPbc 18 10 35.2 +0.2**
TESR Tescani 149.29 320 ⇓P **PKPbc 18 10 35.1 0.0**
PANC Panciu 149.34 319 ⇑P **PKiKP 18 10 36.1 +0.2**
BIZ Bicaz 149.36 321 ⇑P **PKPab 18 10 49.6 +6.8**
MFTR Murfatlar 149.39 315 ⇓P **PKiKP 18 10 36.0 0.0**
KWP Kalwaria Pacla 149.44 328 *e*PKP **PKPbc 18 10 35.4 +0.1**
ODBI Odobesti 149.45 319 ⇓P **PKiKP 18 10 36.5 +0.4**
BURAR Bucovina Array 149.46 323 **PKPdf 18 10 30.4 +0.1**
BURAR Bucovina Array 149.46 323 ⇑P **PKiKP 18 10 36.6 +0.4**
TLBR Topalu 149.46 316 ⇑P **PKiKP 18 10 36.2 +0.1**
HARR Harsova 149.46 316 ⇑P **PKPbc 18 10 35.6 +0.1**
ONER Baraj Valea Uz 149.53 320 ⇓P **PKiKP 18 10 36.5 +0.2**
VRI Vrincioaia 149.59 319 ⇑P **PKiKP 18 10 36.2 -0.3**
PLOR Plostina 149.65 319 ⇑P **PKPbc 18 10 35.4 -0.6**
BISRR Bisoca 149.77 319 ⇑P **PKiKP 18 10 37.2 +0.3**

ICOR Ion Corvin 149.82 315 ⇑P **PKPbc 18 10 36.4 +0.1**
AMRR Amara 149.87 317 ⇑P **PKiKP 18 10 37.8 +0.8**
TURR Turia 149.91 320 ⇑P **PKiKP 18 10 38.4 +1.2**
COVR Voineasa-Covas 149.91 320 ⇑P **PKPbc 18 10 35.8 -0.8**
OZUR 150.02 320 ⇑P **PKiKP 18 10 37.5 +0.1**
NEHR Nehoiu 150.08 319 ⇑P **PKiKP 18 10 37.4 -0.1**
ISR Istrita 150.10 318 ⇓P **PKiKP 18 10 37.4 -0.2**
KOLS Kolonicke sedl 150.12 328 *e* 18 10 45.6
KOLS *e*PKHKP **PKPbc 18 10 38.1 +1.2**
EKA Eskdalemuir Ar 150.19 2 PKPbc **PKPbc 18 10 36.8 -0.1**
comp=Z,3.7nm,0.4s,baz=343,slow=2.5,SNR=48
EKA PKPab **PKPab 18 10 45.7 -0.1**
comp=Z,1.4nm,0.6s,baz=301,slow=3.4,SNR=3.5
ARCR ARCALIA 150.25 323 ⇑P **PKiKP 18 10 37.6 -0.2**
MLR Muntele Rosu 150.26 319 ⇓P **PKPbc 18 10 37.4 -0.1**
MLR Muntele Rosu 150.26 319 ⇓PKIKP **PKPbc 18 10 37.4 -0.1**
STHS Stebnicka Huta 150.27 329 *e*PKIKP **PKPbc 18 10 37.4 +0.1**
DOPR Dopca 150.32 320 ⇑P **PKiKP 18 10 37.9 -0.1**
OJC Ojcow 150.33 332 *e*PKP **PKPbc 18 10 37.6 +0.2**
BMR Baia Mare 150.34 325 ⇑P **PKiKP 18 10 38.0 +0.1**
BMR Baia Mare 150.34 325 ⇑PKIKP **PKiKP 18 10 38.0 +0.1**
NIE Niedzica 150.70 330 *e*PKP **PKiKP 18 10 39.3 +0.6**
CBBR Cluj-Babes-Bol 150.88 323 ⇑P **PKiKP 18 10 39.3 +0.3**
CJR Cluj-Napoca 150.88 323 ⇑P **PKPbc 18 10 39.0 +0.2**
CJR Cluj-Napoca 150.88 323 ⇑PKIKP **PKPbc 18 10 39.0 +0.2**
MTUR Matau 150.92 319 ⇓P **PKiKP 18 10 40.6 +1.3**
MTUR Matau 150.92 319 ⇓PKIKP **PKiKP 18 10 40.6 +1.3**
MESR Meseseni 150.96 324 ⇓P **PKiKP 18 10 39.6 +0.4**
ARR Arges 151.09 320 ⇑P **PKiKP 18 10 40.9 +1.3**
PHSR Pinarhisar 151.11 311 ⇑P **PKiKP 18 10 39.6 -0.2**
MARR Marisel-Cluj 151.17 323 ⇑P **PKPbc 18 10 39.4 -0.1**
BAND Balkesir-Ban 151.21 308 ⇑P **PKiKP 18 10 40.0 0.0**
KSP Ksiaz 151.23 336 *e*PKP **PKiKP 18 10 39.6 -0.1**
LANS Liptovska Anna 151.27 331 *e*PKIKP **PKiKP 18 10 41.1 +1.2**
DRGR 151.31 324 ⇑P **PKPbc 18 10 39.4 -0.4**
DRGR 151.31 324 ⇑PKIKP **PKPbc 18 10 39.4 -0.4**
OKC Ostrava-Krasne 151.31 333 *e*PKIKP **PKiKP 18 10 40.1 +0.2**
OKC Ostrava-Krasne 151.31 333 ⇑*e*PKP **PKiKP 18 10 40.1 +0.2**
HUMR Humele 151.35 318 ⇑P **PKPbc 18 10 39.9 +0.1**
STEB Steborice 151.39 333 ⇑*e*PKP **PKiKP 18 10 40.3 +0.3**
STEB *e*PKPAB **PKPab 18 10 51.7 +0.6**
OSTC Ostas 151.49 336 *e*PKIKP **PKiKP 18 10 40.7 +0.4**
OSTC Ostas 151.49 336 ⇑*e*PKP **PKiKP 18 10 40.7 +0.4**
FLTG Flechtingen 151.52 343 *e*PKPbc **PKiKP 18 10 40.4 +0.3**
baz=25,slow=2.3
FLTG *e*PKPab **PKPab 18 10 51.5 0.0**
baz=25,slow=4.3
CHVC Chvalec 151.53 336 *e*PKIKP **PKiKP 18 10 40.7 +0.4**
CHVC Chvalec 151.53 336 ⇑*e*PKP **PKiKP 18 10 40.7 +0.4**
LOT Lotru 151.55 321 ⇑P **PKPbc 18 10 40.1 -0.3**
ZIMR 151.57 316 ⇓P **PKiKP 18 10 40.6 0.0**
ZIMR 151.57 316 ⇓PKIKP **PKiKP 18 10 40.6 0.0**
MORC Moravsky Berou 151.61 334 *e*PKP **PKPdf 18 10 33.7 +0.3**
MORC Moravsky Berou 151.61 334 ⇑P **PKiKP 18 10 40.6 +0.1**
MORC Moravsky Berou 151.61 334 ⇑PKIKP **PKiKP 18 10 40.6 +0.1**
UPC Upice 151.61 336 *e*PKIKP **PKiKP 18 10 41.1 +0.6**
UPC Upice 151.61 336 ⇑*e*PKP **PKiKP 18 10 41.1 +0.6**
ELND Elena 151.62 315 ⇑P **PKPbc 18 10 40.4 -0.1**
DPC Dobruska-Polom 151.62 336 *e*PKIKP **PKiKP 18 10 40.7 +0.1**
DPC Dobruska-Polom 151.62 336 ⇑*e*PKP **PKiKP 18 10 40.7 +0.1**
DPC *e*PKPAB **PKPab 18 10 53.1 +1.0**
KRLC Kraliky 151.67 335 *e*PKIKP **PKiKP 18 10 41.2 +0.5**
KRLC *e* 18 10 53.0
KRLC Kraliky 151.67 335 ⇑*e*PKP **PKiKP 18 10 41.2 +0.5**
KRLC *e*PKPAB **PKPab 18 10 53.0 +0.7**
DEV Deva 151.77 322 ⇑P **PKiKP 18 10 41.3 +0.4**
DEV Deva 151.77 322 ⇑PKIKP **PKiKP 18 10 41.3 +0.4**
MAUC Maruska 151.81 333 ⇑*e*PKP **PKiKP 18 10 41.3 +0.3**
ASSE Asse, Remlinge 151.84 344 *e*PKPbc **PKiKP 18 10 41.1 +0.3**
baz=25,slow=2.3
ASSE *e*PKPab **PKPab 18 10 52.8 0.0**
baz=25,slow=4.3
CLL Collm 151.94 340 *i* PKIKP **PKPdf 18 10 34.1 +0.4**
CLL *i* 18 10 53.3
CLL pmax pmax
comp=Z,31nm,0.8s
CLL pmax pmax
comp=Z,31nm,0.8s
CLL pmax pmax
comp=Z,40nm,1.0s
CLL Collm 151.94 340 *e*PKPbc **PKiKP 18 10 41.5 +0.4**
baz=25,slow=2.3
CLL *e*PKPab **PKPab 18 10 53.9 +0.5**
baz=25,slow=4.3
CLL Collm 151.94 340 *i* PKPdf **PKPdf 18 10 34.1 +0.4**
comp=Z,31nm,0.8s
CLL *i* PKPbc **PKiKP 18 10 41.3 +0.2**
comp=Z,31nm,0.8s
CLL *i* PKiKP **PKPbc 18 10 42.0 +1.1**
CLL *i* PKPab **PKPab 18 10 53.3 0.0**
comp=Z,40nm,1.0s
CLL *i* pPKPbc **pPKPbc 18 13 01.6 +0.3**
comp=Z,4.0nm,0.4s
CLL *e*PP **PP 18 14 30.0 +1.7**
PSZ Piszkesteto 151.97 328 ⇑P **PKiKP 18 10 41.8 +0.4**
PSZ Piszkesteto 151.97 328 ⇑PKIKP **PKiKP 18 10 41.8 +0.4**
VLAD Vladila 151.99 318 ⇑P **PKPab 18 10 54.6 +0.7**
BRG Berggiesshubel 152.02 339 ⇓*e*PKPf 18 10 36.4
BRG Amp 18 10 38.5
comp=Z,11nm,1.4s
BRG ⇑PKP **PKiKP 18 10 43.5 +2.2**
BRG Amp 18 10 44.3
comp=Z,18nm,0.6s
BRG PKPab **PKPab 18 10 56.2 +2.5**
BRG Amp 18 10 57.2
comp=Z,8.5nm,0.8s
BRG pPKP pPKPbc 18 13 04.5 +2.9
BRG Amp 18 13 06.3
comp=Z,5.1nm,1.1s
BRG Berggiesshubel 152.02 339 PP PP 18 14 30.0 +1.2
PVCC Panska Ves 152.10 338 *e*PKIKP **PKiKP 18 10 42.3 +0.8**
PVCC *e* 18 10 55.0
PVCC Panska Ves 152.10 338 ⇑*e*PKP **PKiKP 18 10 42.3 +0.8**
PVCC *e*PKPAB **PKPab 18 10 55.0 +0.9**
GZR Gura Zlata 152.14 322 ⇑P **PKPbc 18 10 40.9 -0.8**
GZR Gura Zlata 152.14 322 ⇑PKIKP **PKPbc 18 10 40.9 -0.8**
PLVB Pleven 152.18 316 ⇑P **PKiKP 18 10 41.9 0.0**
CLZ Clausthal 152.18 344 *e*PKPbc **PKiKP 18 10 42.2 +0.6**
baz=25,slow=2.3
CLZ *e*PKPab **PKPab 18 10 54.4 0.0**
baz=25,slow=4.3
SIRR Siria 152.21 324 ⇑P **PKPbc 18 10 41.7 0.0**
JAVC Velka Javorina 152.27 332 *e*PKP **PKPdf 18 10 35.0 +0.6**
SURR Surduc 152.28 323 ⇑P **PKPbc 18 10 41.5 -0.4**
IBBN Ibbenburen 152.32 348 *e*PKPab **PKPab 18 10 55.1 +0.2**
baz=25,slow=4.3
VRAC Vranov 152.36 334 *e*PKP **PKPdf 18 10 34.5 0.0**
VRAC Vranov 152.36 334 ⇑P **PKPab 18 10 55.4 +0.1**
NEUB Neuenburg 152.38 342 *e*PKPbc **PKiKP 18 10 42.4 +0.4**
baz=25,slow=2.3
NEUB *e*PKPab **PKPab 18 10 55.4 +0.1**
baz=25,slow=4.3
GTTG Gottingen 152.56 344 *e*PKPab **PKPab 18 10 56.0 +0.1**
baz=25,slow=4.3
PRU Pruhonice 152.57 337 *e*PKIKP **PKiKP 18 10 42.6 +0.2**
PRU Pruhonice 152.57 337 ⇑*e*PKP **PKiKP 18 10 42.6 +0.2**
KRUC Moravsky 152.63 334 *e*PKP **PKPdf 18 10 34.7 -0.1**
BZS Buzias 152.64 323 ⇑P **PKPbc 18 10 42.6 -0.1**
BZS Buzias 152.64 323 ⇑PKIKP **PKPbc 18 10 42.6 -0.1**
HERR Herculane 152.65 321 ⇑P **PKPbc 18 10 42.3 -0.4**
EZN Ezine 152.67 308 ⇑P **PKPbc 18 10 42.1 -0.8**
EZN Ezine 152.67 308 ⇑PKIKP **PKPbc 18 10 42.1 -0.8**
TREC Trest 152.80 335 *e*PKP2 **PKPab 18 10 57.7 +0.6**
TREC Trest 152.80 335 *e*PKPAB **PKPab 18 10 57.7 +0.6**
TANN Tannenbergstha 152.89 340 *e*PKPbc **PKiKP 18 10 43.5 +0.3**
baz=25,slow=2.3
TANN *e*PKPab **PKPab 18 10 57.2 -0.3**
baz=25,slow=4.3
MOX Moxa 152.93 341 *e*PKPab **PKPab 18 10 57.5 -0.1**
baz=25,slow=4.3
MDVR Moldovita 153.11 322 ⇑P **PKiKP 18 10 44.1 +0.2**
KASTN Kahler Asten 153.23 346 *e*PKPab **PKPab 18 10 59.1 +0.2**
baz=25,slow=4.3
MANZ Manzenberg 153.37 340 *e*PKPbc **PKiKP 18 10 44.5 +0.3**
baz=25,slow=2.3
MANZ *e*PKPab **PKPab 18 10 59.4 -0.2**
baz=25,slow=4.3
ROTZ Rotzenmuhle 153.53 340 *e*PKPbc **PKiKP 18 10 45.2 +0.7**
baz=25,slow=2.3
ROTZ *e*PKPab **PKPab 18 11 00.1 -0.1**
baz=25,slow=4.3
KHC Kasperske Hory 153.63 337 *e*PKIKP **PKPdf 18 10 36.7 +0.4**
KHC *e* 18 11 01.0

KHC Kasperske Hory 153.63 337 *e*PKPDF **PKPdf 18 10 36.7 +0.4**
KHC ⇑*e*PKP **PKiKP 18 10 44.9 +0.2**
KHC *e*PKPAB **PKPab 18 11 01.0 +0.3**
RONA Rosalia, Austr 153.75 332 *i* PKP **PKPdf 18 10 37.1 +0.6**
comp=Z,6.2nm,1.3s
RONA *e*PKP **PKPbc 18 10 44.9 -0.1**
comp=Z,19nm,1.3s
RONA *i* PKP **PKPab 18 11 01.5 +0.2**
comp=Z,14nm,1.0s
CONA Conrad Observa 153.75 333 *i* PKP **PKPdf 18 10 37.5 +0.9**
comp=Z,6.6nm,1.4s
CONA *e*PKP **PKPbc 18 10 45.0 -0.1**
comp=Z,13nm,1.2s
CONA *i* PKP **PKPab 18 11 01.6 +0.3**
comp=Z,14nm,1.0s
MORH Mrgy, Hungar 153.78 327 ⇑P **PKPbc 18 10 44.8 -0.2**
BOVS Bovan 153.81 319 ⇑P **PKPbc 18 10 45.1 -0.1**
GEC2 GERESS Array S 153.83 337 *e*PKPab **PKPab 18 11 01.8 +0.2**
baz=25,slow=4.3
GERES GERESS Array B 153.83 337 PKP **PKPdf 18 10 36.2 -0.4**
comp=Z,0.9nm,0.7s,baz=13,slow=1.8,SNR=7.4
GERES PKPbc **PKiKP 18 10 45.6 +0.3**
comp=Z,2.1nm,0.8s,baz=240,slow=1.1,SNR=10
GERES PKPab **PKPab 18 11 01.9 +0.3**
comp=Z,4.9nm,0.6s,baz=32,slow=5.3,SNR=20
WET Wettzell 153.86 338 *e*PKPab **PKPab 18 11 01.7 +0.1**
baz=25,slow=4.3
GRF Grafenberg Arr 153.90 341 *e*PKPab **PKPab 18 11 01.5 -0.3**
baz=25,slow=4.3
TNS Taunus Mts 154.14 345 *e*PKPab **PKPab 18 11 02.7 -0.2**
baz=25,slow=4.3
MEM Membach 154.27 349 *d*PKP **PKPab 18 11 02.0 -1.3**
ARSA Arzberg 154.42 332 *i* PKP **PKPdf 18 10 38.1 +0.6**
comp=Z,3.6nm,0.8s
ARSA *e*PKiKP **PKPbc 18 10 47.7 +1.2**
comp=Z,2.1nm,0.7s
ARSA *i* PKP **PKPab 18 11 04.0 -0.1**
comp=Z,8.4nm,1.1s
MOA Molln 154.45 335 *i* PKP **PKPdf 18 10 37.1 -0.4**
comp=Z,4.2nm,1.2s
MOA *e*PKiKP **PKPbc 18 10 48.1 +1.6**
comp=Z,5.3nm,1.3s
MOA *i* PKP **PKPab 18 11 04.2 -0.1**
comp=Z,11nm,1.0s
BHOU Houvegnez 154.52 349 *d*PKP **PKPab 18 11 03.9 -0.5**
VAY Valandovo 154.55 314 *i* P **PKPab 18 11 04.8 -0.1**
BCLA Clavier 154.57 350 *d*PKP **PKPab 18 11 05.3 +0.8**
BGES Gesves 154.64 350 *d*PKP **PKPab 18 11 04.6 -0.3**
BMRD Maredsous 154.77 350 *d*PKP **PKPab 18 11 05.2 -0.2**
BIOA Bad Ischl, Aus 154.82 335 *i* PKP **PKPdf 18 10 38.7 +0.7**
comp=Z,4.9nm,1.2s
BIOA *i* PKP **PKPab 18 11 05.9 +0.1**
comp=Z,12nm,0.9s,SNR=5.5
RCHB Rochefort 154.84 350 *d*PKP **PKPab 18 11 05.8 +0.1**
PERS Pernice 155.08 332 *i* PKPdf **PKPdf 18 10 37.4 -1.0**
PERS *i* PKPab **PKPab 18 11 07.1 +0.1**
SOKA Soboth 155.08 332 *i* PKP **PKPdf 18 10 37.9 -0.5**
comp=Z,3.9nm,1.0s
SOKA *i* PKP **PKPab 18 11 06.7 -0.4**
comp=Z,13nm,0.8s,SNR=5.6
RJOB Jochberg 155.09 337 *e*PKPab **PKPab 18 11 07.1 +0.1**
baz=25,slow=4.3
WLF Walferdange 155.15 348 *d*PKP **PKPab 18 11 07.9 +0.8**
WLF Walferdange 155.15 348 *e*PKPab **PKPab 18 11 07.6 +0.4**
baz=25,slow=4.3
FUR Furstenfeldbru 155.23 339 *e*PKPab **PKPab 18 11 07.4 -0.2**
baz=25,slow=4.3
LESA Schwarzleotal 155.40 336 *i* PKP **PKPdf 18 10 38.4 -0.4**
comp=Z,4.0nm,0.9s
LESA *i* PKP **PKPab 18 11 08.4 0.0**
comp=Z,10nm,1.0s,SNR=5.2
OBKA Obir 155.42 333 *i* PKP **PKPdf 18 10 39.1 +0.2**
comp=Z,4.5nm,1.3s
OBKA *i* PKP **PKPab 18 11 08.4 -0.2**
comp=Z,16nm,1.1s,SNR=5.2
KBA Koelnbreinsper 155.44 335 *i* PKP **PKPdf 18 10 39.2 +0.2**
comp=Z,11nm,1.7s
KBA *i* PKP **PKPab 18 11 08.1 -0.6**
comp=Z,8.2nm,0.9s
BLY Banja Luka 155.54 326 ⇑P **PKPab 18 11 09.4 +0.4**
MYKA Terra Mystica 155.69 334 *i* PKP **PKPdf 18 10 39.2 0.0**
comp=Z,4.3nm,1.4s
MYKA *e*PKP **PKPab 18 11 09.4 -0.3**
comp=Z,8.0nm,0.5s
OHR Ohrid 155.79 316 *i* P **PKPab 18 11 10.6 +0.3**
LJU Ljubljana 155.80 332 *e*PKPdf **PKPdf 18 10 39.3 0.0**
LJU *e* 18 10 50.6
LJU *i* PKPab **PKPab 18 11 09.6 -0.5**
WATA Walderalm 155.86 338 *i* PKP **PKPdf 18 10 41.0 +1.4**
comp=Z,5.5nm,1.2s
WATA *i* PKP **PKPab 18 11 11.0 +0.6**
comp=Z,7.3nm,0.5s,SNR=5.9
WTTA Wattenberg 155.90 338 *i* PKP **PKPdf 18 10 39.8 +0.2**
comp=Z,16nm,1.7s
WTTA *i* PKP **PKPab 18 11 10.1 -0.6**
comp=Z,7.9nm,0.8s
BFO Black Forest 155.93 344 *e*PKPab **PKPab 18 11 10.3 -0.2**
baz=25,slow=4.3
CADS Cadrg 155.98 333 *i* PKPdf **PKPdf 18 10 38.9 -0.7**
RETA Reutte 156.00 339 *i* PKP **PKPab 18 11 11.8 +0.8**
comp=Z,16nm,1.0s,SNR=6.8
MOTA Moosalm 156.01 339 *i* PKP **PKPdf 18 10 40.1 +0.4**
comp=Z,4.5nm,1.0s
MOTA *i* PKP **PKPab 18 11 11.2 +0.1**
comp=Z,14nm,1.0s,SNR=5.1
ABTA Abfaltersbach 156.03 336 *i* PKP **PKPdf 18 10 38.8 -0.9**
comp=Z,11nm,1.6s
ABTA *i* PKP **PKPab 18 11 10.4 -0.8**
comp=Z,24nm,1.1s,SNR=6.1
SQTA Sankt Quirin 156.08 338 *e*PKP **PKPdf 18 10 41.4 +1.6**
comp=Z,8.2nm,1.2s
SQTA *i* PKP **PKPab 18 11 11.8 +0.3**
comp=Z,9.2nm,0.7s,SNR=5.1
FETA Feichten 156.42 339 *i* PKP **PKPdf 18 10 39.4 -0.9**
comp=Z,4.8nm,1.2s
FETA *i* PKP **PKPab 18 11 13.2 +0.2**
comp=Z,11nm,0.9s
DAVA Damuels 156.45 340 *i* PKP **PKPdf 18 10 40.2 -0.1**
comp=Z,3.9nm,1.1s
DAVA *i* PKP **PKPab 18 11 13.8 +0.8**
comp=Z,19nm,1.2s,SNR=7.6
ACER Acerenza 158.93 321 **PKPab 18 11 23.8 -0.2**
DBIC Dimbokro 161.00 170 PKP **PKPdf 18 10 46.6 +0.2**
comp=Z,4.0nm,0.8s,baz=50,slow=2.9,SNR=4.0
DBIC PKPab **PKPab 18 11 34.5 +1.2**
comp=Z,13nm,0.8s,baz=205,slow=4.6,SNR=11
DBIC Dimbokro 161.00 170 ⇑PKP2 **PKPab 18 11 33.9 +0.5**
ESDC Sonseca Array 165.73 8 PKP **PKPdf 18 10 50.4 +0.3**
comp=Z,0.8nm,0.7s,baz=359,slow=3.1,SNR=5.2
ESDC PKPab **PKPab 18 11 53.3 -0.5**
comp=Z,1.8nm,1.1s,baz=330,slow=5.1,SNR=4.9
KEST Kesra 166.16 320 PKPab **PKPab 18 11 56.4 +0.4**
comp=Z,9.7nm,0.8s,baz=344,slow=4.6,SNR=10
TORD Torodi Ar. Bea 167.33 195 PKP **PKPdf 18 10 52.1 +0.2**
comp=Z,0.8nm,0.5s,baz=153,slow=1.3,SNR=3.6
TORD PKPab **PKPab 18 12 00.6 -0.7**
comp=Z,14nm,0.7s,baz=134,slow=4.3,SNR=35

DJA 11 18:02:15.8±0.5, 4°S±5°×10°2E±°, h48km±8km, M3.1/6, MLv3.1/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.53**	**31**	P		Pn	18 02 28.8	+1.4
KSI				S		Sn	18 02 38.0	+2.3
KSI	**Kapahiang**	**0.53**	**31**	P		Sn	18 02 38.4	+2.7
MNAI	**Manna**	**0.68**	**111**	P		Pn	18 02 30.4	+1.2
MNAI				S		Sn	18 02 41.2	+2.2
MASI	**Maura Aman, Be**	**0.96**	**355**	P		Pn	18 02 33.2	+0.1
LHSI	**Lahat**	**1.23**	**77**	P		Pn	18 02 37.0	+0.4
LWLI	**Liwa**	**1.95**	**118**	P		Pn	18 02 46.6	0.0

IDC ***11*** *18:08:54.2±0.7,51.62N×176.14W, h0km, mb4.0/18, mbtmp4.0/19, ML4.0/1, MS3.2/2, Error ellipse: s-maj=23.5km s-min=13.9km az=168.0*
AEIC ***11*** *18:08:58.9±1.7,51.41N±0.06×176.01W±0.10, h29

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**0.49**	**334**		**Pn**	**18 09 09.6**	**+0.1**
ETKA					Sn	18 09 16.8	-0.2
GSIG	**Igitkin Island**	**0.57**	**9**		**Pn**	**18 09 10.8**	**+0.1**
GSIG					Sn	18 09 19.2	+0.2
GSCK	**Great Sitkin C**	**0.59**	**354**		**Pn**	**18 09 11.3**	**+0.3**
GSCK					Sn	18 09 20.1	+0.5
ADK	**Adak**	**0.60**	**320**		**Pn**	**18 09 10.9**	**-0.1**
ADK	**Adak**	**0.60**	**320**		**Sn**	**18 09 19.8**	**+0.1**
GSMY	**Great Sitkin M**	**0.62**	**0**		**Pn**	**18 09 11.6**	**+0.3**
GSMY					Sn	18 09 20.9	+0.7
GSTD	**Great Sitkin T**	**0.64**	**355**		**Pn**	**18 09 12.0**	**+0.4**
GSTD					Sn	18 09 21.5	+0.8
ADAG	**Mount Adagdak**	**0.65**	**329**		**Pn**	**18 09 12.4**	**+0.7**
ADAG					Sn	18 09 21.7	+0.8
GSTR	**Great Sitkin T**	**0.67**	**0**		**Sn**	**18 09 12.7**	**+0.6**
GSTR	**Great Sitkin T**	**0.67**	**0**		**Sn**	**18 09 22.9**	**+1.3**
GSSP	**Great Sitkin S**	**0.68**	**354**		**Pn**	**18 09 12.5**	**+0.5**
KIRH	**Kanaga Island**	**0.80**	**307**		**Pn**	**18 09 14.3**	**+0.5**
KIWB	**Kanaga Island**	**0.80**	**303**		**Pn**	**18 09 14.1**	**+0.3**
KIWB	**Kanaga Island**	**0.80**	**303**		**Sn**	**18 09 25.1**	**+0.4**
KIKV	**Kanaga Island**	**0.83**	**304**		**Pb**	**18 09 14.5**	**-0.2**
TAFL	**Tanaga Flats**	**1.19**	**287**		**Pn**	**18 09 19.7**	**+0.6**
TAFP	**Tanaga Falls P**	**1.29**	**293**		**Pn**	**18 09 21.4**	**+0.9**
TASE	**Tanaga Southea**	**1.30**	**289**		**Pn**	**18 09 21.6**	**+1.0**
ATKA	**Atka Island**	**1.40**	**55**		**Pn**	**18 09 21.9**	**-0.1**
ATKA					Sn	18 09 38.2	-1.1
GALAA	**Gareloi Lava P**	**1.72**	**282**		**Pb**	**18 09 28.5**	**-1.3**
GAKI	**Gareloi-Kavalg**	**1.72**	**276**		**Pn**	**18 09 27.1**	**+0.7**
GANE	**Gareloi Northe**	**1.74**	**284**		**Pn**	**18 09 28.2**	**+1.5**
CEPE	**Semis' Perret**	**2.72**	**283**		**Pn**	**18 09 41.6**	**+1.4**
AMKA	**Amchitka**	**2.90**	**271**		**Pn**	**18 09 44.0**	**+1.3**
LSPA	**Little Sitkin**	**3.38**	**281**		**Pn**	**18 09 50.6**	**+1.4**
LSNW	**Little Sitkin**	**3.42**	**281**		**Pn**	**18 09 51.0**	**+1.3**
SHEM	**Shemya Is, Ala**	**6.21**	**286**	LR	LR	18 13 02.5	
	comp=Z,69nm,18.5s,baz=106,slow=41						
P08K	**Saint George I**	**6.45**	**34**	Pn	**Pn**	**18 10 33.2**	**+1.9**
LVA	**Lava Point**	**6.67**	**62**	Pn	**Pn**	**18 10 37.4**	**+2.9**
SPIA	**Saint Paul Isl**	**6.69**	**28**	Pn	**Pn**	**18 10 38.6**	**+4.0**
SDPT	**Sand Point**	**10.10**	**61**	Pn	**Pn**	**18 11 21.6**	**+0.2**
CNBA	**Chernabura Isl**	**10.47**	**65**	Pn	**Pn**	**18 11 27.3**	**+0.9**
O14K	**Tigyukauivet M**	**11.49**	**41**	Pn	**Pn**	**18 11 44.0**	**+3.7**
O15K	**Ungalikthiuk R**	**12.05**	**44**	Pn	**Pn**	**18 11 51.6**	**+3.6**
O16K	**Kokwok River B**	**13.03**	**44**	Pn	**Pn**	**18 12 05.3**	**+4.0**
J16K	**Anvik River**	**14.47**	**29**	Pn	**Pn**	**18 12 21.3**	**+0.4**
N18K	**Kilae Creek**	**14.53**	**43**	Pn	**Pn**	**18 12 23.7**	**+1.8**
Q19K	**Cape Douglas,**	**14.79**	**51**	Pn	**Pn**	**18 12 25.6**	**+0.1**
KDAK	**Kodiak Island**	**14.97**	**56**		**Pn**	**18 12 26.6**	**-1.2**
KDAK	**Kodiak Island**	**14.97**	**56**	Pn	**Pn**	**18 12 26.1**	**-1.7**
	0.6nm,0.3s,baz=227,slow=1.5,SNR=14						
KDAK				Sn	**Sn**	**18 15 13.5**	**+1.2**
	0.1nm,0.3s,baz=169,slow=9.6,SNR=1.1 1.3nm,0.3s						
J17K	**VABM Dome**	**15.02**	**30**	P	**P**	**18 12 33.5**	**+0.1**
L18K	**Granite Mounta**	**15.07**	**37**	P	**P**	**18 12 33.4**	**-0.6**
L18K				IAmb	IAmb	18 12 48.8	
	comp=Z,7.9nm,1.0s						
N19K	**Bonanza Creek**	**15.20**	**43**		**P**	**18 12 34.6**	**-1.0**
N19K				IAmb	IAmb	18 12 38.7	
	comp=Z,11nm,0.8s						
SYI	**Shuyak Island**	**15.31**	**53**	Pn	**Pn**	**18 12 30.4**	**-1.8**
SYI				IAmb	IAmb	18 12 36.4	
	comp=Z,12nm,1.1s						
H17K	**Granite Mounta**	**15.93**	**26**	P	**P**	**18 12 44.9**	**+1.4**
H17K				IAmb	IAmb	18 12 49.5	
	comp=Z,22nm,1.5s						
CNPM	**China Poot**	**16.16**	**50**		**Pn**	**18 12 42.6**	**-0.6**
CNPM				IAmb	IAmb	18 12 51.0	
	comp=Z,26nm,1.4s						
M20K	**Styx River**	**16.29**	**41**	P	**P**	**18 12 48.8**	**+1.2**
M20K				IAmb	IAmb	18 13 09.4	
	comp=Z,14nm,1.4s						
BRLK	**Bradley Lake**	**16.41**	**50**	Pn	**Pn**	**18 12 45.7**	**-0.7**
J19K	**Poorman**	**16.56**	**33**		**Pn**	**18 12 47.5**	**-0.7**
J19K				IAmb	IAmb	18 12 56.8	
	comp=Z,9.5nm,0.8s						
STLK	**Strandline Lak**	**16.66**	**43**		**Pn**	**18 12 48.0**	**-1.6**
K20K	**Telida**	**16.72**	**36**		**Pn**	**18 12 51.2**	**+0.9**
G18K	**Tagagawik**	**17.00**	**25**	P	**P**	**18 12 56.2**	**+0.8**
SKT	**Skwentna**	**17.00**	**42**		**P**	**18 12 56.2**	**+0.8**
SKT				IAmb	IAmb	18 13 01.5	
	comp=Z,7.6nm,0.7s						
SUA	**Susitna One**	**17.11**	**44**		**Pn**	**18 12 54.4**	**-0.9**
PPLA	**Purkeypile**	**17.18**	**39**		**P**	**18 12 59.0**	**+1.5**
PPLA				IAmb	IAmb	18 13 05.7	
	comp=Z,9.1nm,0.8s						
J20K	**Nowinta River**	**17.18**	**34**		**Pn**	**18 12 56.3**	**+0.3**
J20K				IAmb	IAmb	18 13 24.8	
	comp=Z,16nm,1.4s						
H19K	**Roundabout Mou**	**17.34**	**28**		**Pn**	**18 12 57.9**	**-0.1**
H19K				IAmb	IAmb	18 13 00.8	
	comp=Z,14nm,1.4s						
PWL	**Port Wells**	**17.97**	**48**		**Pn**	**18 13 04.2**	**-1.6**
KTH	**Kantishna Hill**	**18.01**	**38**	P	**P**	**18 13 07.5**	**+0.9**
GHO	**Glory Hole Cre**	**18.04**	**44**		**Pn**	**18 13 06.3**	**-0.3**
TRF	**Thorofare Moun**	**18.21**	**39**		**Pn**	**18 13 08.6**	**-0.3**
BPAW	**Bear Paw Mtn.**	**18.27**	**36**	P	**P**	**18 13 10.7**	**+1.3**
H21K	**Melozitna Rive**	**18.55**	**31**	P	**Pn**	**18 13 13.8**	**+0.9**
H21K				IAmb	IAmb	18 13 19.0	
	comp=Z,11nm,0.8s						
F20K	**Avaraart Lake**	**18.65**	**25**	P	**Pn**	**18 13 14.1**	**+0.2**
HIN	**Hinchinbrook I**	**18.70**	**50**	P	**Pn**	**18 13 15.0**	**+0.4**
RND	**Reindeer**	**18.76**	**40**	P	**P**	**18 13 14.3**	**-0.5**
SCM	**Sheep Creek Mo**	**18.76**	**45**	P	**P**	**18 13 14.3**	**-0.6**
SCM				IAmb	IAmb	18 13 51.5	
	comp=Z,13nm,1.3s						
FID	**Port Fidalgo**	**18.81**	**49**	P	**P**	**18 13 13.9**	**-1.4**
FID				IAmb	IAmb	18 13 23.5	
	comp=Z,18nm,1.4s						
MCK	**McKinley**	**18.88**	**39**		**P**	**18 13 16.2**	**+0.2**
MCK				IAmb	IAmb	18 13 18.9	
	comp=Z,16nm,1.2s						
MLY	**Manley**	**18.88**	**34**		**Pn**	**18 13 17.3**	**+0.5**
MLY				IAmb	IAmb	18 13 21.5	
	comp=Z,6.6nm,0.6s						
BWN	**Browne**	**18.89**	**37**	P	**P**	**18 13 16.5**	**+0.4**
G21K	**Allakaket**	**18.90**	**28**	IAmb	IAmb	18 13 22.8	
	comp=Z,11nm,0.9s						
DHY	**Denali Highway**	**19.22**	**42**		**P**	**18 13 19.5**	**-0.4**
DHY				IAmb	IAmb	18 13 23.6	
	comp=Z,9.2nm,0.6s						
NEA2	**Nenana**	**19.25**	**36**	IAmb	IAmb	18 13 25.3	
	comp=Z,5.0nm,0.6s						
I23K	**Minto, Yukon-K**	**19.43**	**35**	IAmb	IAmb	18 13 41.7	
	comp=Z,9.2nm,0.9s						
WRH	**Wood River Hil**	**19.55**	**37**		**P**	**18 13 22.5**	**-0.9**
D20K	**Etivluk River**	**19.70**	**21**	IAmb	IAmb	18 13 56.0	
	comp=Z,15nm,1.4s						
H23K	**Yukon River**	**19.74**	**33**	IAmb	IAmb	18 13 44.7	
	comp=Z,7.4nm,0.9s						
BMRM	**Bremner River**	**19.75**	**49**	IAmb	IAmb	18 13 36.6	
	comp=Z,6.2nm,0.8s						
G23K	**Bananza Creek**	**20.10**	**31**	IAmb	IAmb	18 13 37.7	
	comp=Z,7.9nm,0.8s						
IL31		**20.15**	**37**	IAmb	IAmb	18 13 36.2	
	comp=Z,4.9nm,0.5s						
ILAR	**Eielson Array**	**20.15**	**37**	P	**P**	**18 13 27.9**	**-2.1**
	comp=Z,1.5nm,0.6s,baz=228,slow=10,SNR=25 comp=Z,1.5nm,0.6s						
H24K	**Noodor Dome**	**20.32**	**34**	IAmb	IAmb	18 13 34.7	
	comp=Z,12nm,1.1s						
COLD	**Coldfoot**	**20.36**	**29**	IAmb	IAmb	18 13 41.1	
	comp=Z,8.2nm,0.8s						
SEY	**Seymchan**	**20.38**	**317**	P	**P**	**18 13 30.7**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=104,slow=12,SNR=3.9 comp=Z,1.0nm,0.7s						
E22K	**Anaktuvuk Pass**	**20.48**	**26**	P	**P**	**18 13 34.0**	**+0.5**
E22K				IAmb	IAmb	18 13 41.8	
	comp=Z,8.9nm,1.2s						
RIDG	**Independent Ri**	**20.52**	**41**		**P**	**18 13 34.0**	**0.0**
MCARA	**McCarthy VSAT**	**20.59**	**48**		**P**	**18 13 35.6**	**+0.9**
MCARA				IAmb	IAmb	18 13 43.1	
	comp=Z,8.4nm,1.0s						
MENT	**Mentasta**	**20.72**	**44**	IAmb	IAmb	18 13 46.7	
	comp=Z,7.2nm,1.1s						
DOT	**Dot Lake**	**20.82**	**42**	P	**P**	**18 13 36.8**	**-0.4**
G24K	**Hadweenzic Riv**	**20.92**	**32**	IAmb	IAmb	18 13 43.0	
	comp=Z,7.4nm,1.0s						
PRP	**Porcupine Dome**	**21.01**	**36**		**P**	**18 13 40.0**	**+0.6**
F24K	**Squaw Lake**	**21.25**	**30**	IAmb	IAmb	18 13 49.7	
	comp=Z,5.7nm,0.7s						
D23K	**Nanushuk River**	**21.35**	**25**	IAmb	IAmb	18 13 47.7	
	comp=Z,7.9nm,0.9s						
TOLK	**Toolik Lake Re**	**21.44**	**27**	P	**P**	**18 13 44.1**	**+0.3**
TOLK				IAmb	IAmb	18 13 53.6	
	comp=Z,5.4nm,0.9s						
I26K	**Coal Creek Min**	**21.81**	**38**	IAmb	IAmb	18 13 57.9	
	comp=Z,9.8nm,1.4s						
I28M	**Miner Creek**	**23.12**	**39**	IAmb	IAmb	18 14 07.5	
	comp=Z,5.4nm,0.8s						
L29M	**L29M**	**23.22**	**45**	IAmb	IAmb	18 14 22.9	
	comp=Z,6.0nm,1.3s						
K29M	**Barlow Dome**	**23.65**	**44**	IAmb	IAmb	18 14 08.2	
	comp=Z,5.0nm,0.6s						
F28M	**Old Crow**	**23.96**	**34**	IAmb	IAmb	18 14 14.3	
	comp=Z,4.0nm,0.8s						
H29M	**Whitestone**	**23.99**	**38**	IAmb	IAmb	18 14 27.9	
	comp=Z,4.3nm,0.8s						
J30M	**Hart River**	**24.33**	**42**	IAmb	IAmb	18 14 14.9	
	comp=Z,6.0nm,0.8s						
G29M	**Pine Creek**	**24.36**	**36**	IAmb	IAmb	18 14 17.7	
	comp=Z,5.1nm,0.8s						
EPYK	**Eagle Plains**	**24.67**	**38**	IAmb	IAmb	18 14 21.4	
	comp=Z,4.7nm,0.8s						
E29M	**Blow River**	**24.96**	**33**	IAmb	IAmb	18 14 25.0	
	comp=Z,4.1nm,0.8s						
INK	**Inuvik**	**26.45**	**34**	P	**P**	**18 14 31.4**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=134,slow=16,SNR=1.4 comp=Z,1.0nm,0.4s						
ASAJ	**Asahikawa**	**28.42**	**272**	P	**P**	**18 14 50.5**	**+0.3**
	comp=Z,4.7nm,0.9s,baz=142,slow=14,SNR=1.9 comp=Z,4.7nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**34.35**	**209**	T	T	18 52 16.7	
	baz=18,slow=76,SNR=336						
H11N3	**WAKE ISLAND Hy**	**34.36**	**209**	T	T	18 52 17.4	
	baz=18,slow=76,SNR=447						
H11N1	**WAKE ISLAND Hy**	**34.37**	**209**	T	T	18 52 18.1	
	baz=18,slow=76,SNR=435						
USRK	**Ussuriysk Ar.**	**34.99**	**279**	P	**P**	**18 15 47.4**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=62,slow=9.0,SNR=3.6 comp=Z,2.9nm,0.7s						
MJAR	**Matsushiro Arr**	**35.49**	**263**	P	**P**	**18 15 52.7**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=50,slow=3.5,SNR=2.8 comp=Z,0.9nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**35.56**	**209**	T	T	18 53 44.6	
	baz=18,slow=76,SNR=172						
H11S2	**WAKE ISLAND Hy**	**35.58**	**209**	T	T	18 53 45.6	
	baz=18,slow=76,SNR=85						
H11S3	**WAKE ISLAND Hy**	**35.58**	**209**	T	T	18 53 43.1	
	baz=18,slow=76,SNR=56						
WVOR	**Wild Horse Val**	**39.31**	**80**	P	**P**	**18 16 25.8**	**+1.1**
WVOR				IAmb	IAmb	18 16 44.1	
	comp=Z,2.2nm,0.9s						
KSRS	**Korea Array**	**41.35**	**273**	P	**P**	**18 16 41.6**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=60,slow=7.8,SNR=3.1 comp=Z,1.0nm,0.7s						
YHH	**Holmes Hill**	**42.75**	**72**	P	**P**	**18 16 54.0**	**+0.9**
PDAR	**Pinedale Array**	**44.66**	**74**	P	**P**	**18 17 09.3**	**+0.9**
	comp=Z,2.8nm,0.6s,baz=306,slow=4.0,SNR=33 comp=Z,2.8nm,0.6s						
ZALV	**Zalesovo Beam**	**55.23**	**315**	P	**P**	**18 18 27.0**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=44,slow=7.9,SNR=2.1						
ZALV				PcP	**PcP**	**18 19 28.8**	**0.0**
	comp=Z,1.5nm,0.6s,baz=35,slow=3.2,SNR=8.0 comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array**	**56.95**	**83**	P	**P**	**18 18 41.6**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=298,slow=4.9,SNR=18 comp=Z,1.2nm,0.5s						
ARCES	**ARCESS Array B**	**58.33**	**351**	P	**P**	**18 18 48.4**	**-1.5**
	comp=Z,2.2nm,0.9s,baz=20,slow=7.3,SNR=2.2 comp=Z,2.2nm,0.9s						
KURBB	**Kurchatov Arra**	**60.32**	**315**	P	**P**	**18 19 03.1**	**-0.9**
	comp=Z,3.6nm,0.5s,baz=43,slow=6.5,SNR=39						
KURBB				PcP	**PcP**	**18 19 48.6**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=44,slow=3.2,SNR=5.1						
KURBB				LR	LR	18 46 18.9	
	comp=Z,55nm,20.6s,baz=166,slow=37 comp=Z,3.6nm,0.5s						
MKAR	**Makanchi Array**	**61.34**	**310**	P	**P**	**18 19 09.3**	**-1.6**
	comp=Z,1.0nm,0.4s,baz=47,slow=6.0,SNR=25 comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**61.95**	**321**	P	**P**	**18 19 14.8**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=56,slow=6.4,SNR=9.7 comp=Z,1.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**72.71**	**278**	P	**P**	**18 20 24.2**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=30,slow=6.7,SNR=11 comp=Z,1.5nm,0.7s						
AKASG	**Malin Array Be**	**76.01**	**344**	P	**P**	**18 20 41.3**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=22,slow=6.6,SNR=2.5 comp=Z,0.4nm,0.4s						
WRA	**Warramunga Arr**	**83.26**	**226**	P	**P**	**18 21 21.8**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=25,slow=5.0,SNR=1.7 comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**86.70**	**225**	P	**P**	**18 21 40.0**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=31,slow=4.6,SNR=10 comp=Z,0.9nm,0.8s						
H03N2	**Juan Fernandez**	**119.52**	**108**	T	T	20 39 04.7	
	baz=317,slow=77,SNR=32						
H03N1	**Juan Fernandez**	**119.53**	**108**	T	T	20 39 06.0	
	baz=317,slow=77,SNR=32						
H03N3	**Juan Fernandez**	**119.53**	**108**	T	T	20 39 04.6	
	baz=317,slow=77,SNR=35						
QSPA	**South Pole Qui**	**141.18**	**180**	PKhKP	PKPpre	18 28 20.5	
	comp=Z,1.2nm,1.0s,baz=336,slow=6.6,SNR=1.8						
MAW	**Mawson**	**147.56**	**218**	PKPbc	**PKPbc**	**18 28 38.2**	**+0.1**
	comp=Z,4.6nm,1.0s,baz=56,slow=3.7,SNR=6.0						
BOSA	**Boshof**	**152.17**	**317**	PKPbc	**PKPbc**	**18 28 50.6**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=57,slow=2.0,SNR=13						

*IDC **11** 18:26:41.3±5.3, 19.°50S×178.°06W, h508km±57km, mb3.2/10, mbtmp4.1/11, Error ellipse: s-maj=30.4km s-min=16.5km az=58.0*
*NEIC **11** 18:26:49.8±1.5, 19.°7S±0.°2×178.°29W±0.°09, h597km±10km, mb4.2/18, Error ellipse: s-maj=22.4km s-min=12.1km az=194.0*

ISC 11 18:26:49.4±0.7, 19.°7S±0.°1×178.°3W±0.°1, h600km, n44, σ0s95/42, mb4.0/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.99**	**298**	P	**P**	**18 28 15.6**	**+0.6**
FUTU	**Fugatoga**	**5.34**	**2**	P	**P**	**18 28 24.6**	**-0.6**
URZ	**Urewera**	**18.94**	**191**	P	**P**	**18 30 30.6**	**-2.8**
	4.7nm,0.3s,baz=264,slow=2.3,SNR=15						
CTAO	**Charters Tower**	**33.33**	**263**	P	**P**	**18 32 40.1**	**+0.5**
COEN	**Coen**	**37.29**	**273**	P	**P**	**18 33 13.0**	**+0.7**
BBOO	**Buckleboo**	**42.69**	**243**	P	**P**	**18 33 54.2**	**-0.9**
BBOO				IAmb	IAmb	18 33 56.0	
	comp=Z,26nm,1.3s						
WR8	**Warramunga Arr**	**44.32**	**261**	P	**P**	**18 34 07.0**	**-0.9**
WR8				IAmb	IAmb	18 34 40.9	
	comp=Z,8.1nm,1.2s						
WB0	**Warramunga Arr**	**44.45**	**262**	P	**P**	**18 34 08.2**	**-0.7**
WB0				IAmb	IAmb	18 34 33.2	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**44.47**	**256**	P	**P**	**18 34 09.0**	**-0.1**
ASAR	**Alice Springs**	**44.47**	**256**	P	**P**	**18 34 08.6**	**-0.4**
ASAR	**Alice Springs**	**44.47**	**256**	P	**P**	**18 34 09.0**	**0.0**
	comp=Z,3.5nm,0.8s,baz=86,slow=8.2,SNR=91 comp=Z,3.5nm,0.8s						
WRA	**Warramunga Arr**	**44.47**	**261**	P	**P**	**18 34 08.0**	**-1.1**
WRA	**Warramunga Arr**	**44.47**	**261**	P	**P**	**18 34 08.7**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=98,slow=7.4,SNR=36 comp=Z,1.2nm,0.4s						
KNRA	**Kununurra**	**50.47**	**266**	P	**P**	**18 34 53.6**	**-0.2**
KNRA				IAmb	IAmb	18 35 05.7	
	comp=Z,30nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.89**	**262**	P	**P**	**18 35 11.3**	**+0.1**
PSA00	**Pilbara Seismi**	**57.61**	**256**	P	**P**	**18 35 41.8**	**-2.1**
PSA00				IAmb	IAmb	18 36 15.9	
	comp=Z,29nm,1.4s						
MBWA	**Marble Bar**	**57.79**	**257**	P	**P**	**18 35 44.0**	**-1.0**
MBWA				IAmb	IAmb	18 36 08.4	
	comp=Z,21nm,1.4s						
SBA	**Scott Base**	**58.67**	**184**	P	**P**	**18 35 50.8**	**+0.9**
VNDA	**Vanda**	**58.70**	**185**	P	**P**	**18 35 51.0**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=3.8,slow=7.2,SNR=6.9 comp=Z,0.4nm,0.5s						
GIRL	**Giralia**	**62.53**	**254**	P	**P**	**18 36 17.2**	**+0.9**
CASY	**Casey**	**64.59**	**205**	P	**P**	**18 36 28.2**	**-0.4**
CASY				IAmb	IAmb	18 36 56.6	
	comp=Z,5.1nm,1.4s						
JHJ2	**Mitsune**	**66.02**	**322**	P	**P**	**18 36 38.0**	**+0.1**
MJAR	**Matsushiro Arr**	**69.41**	**324**	P	**P**	**18 36 57.6**	**-0.9**
MJAR	**Matsushiro Arr**	**69.41**	**324**	P	**P**	**18 36 58.6**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=167,slow=5.6,SNR=5.9 comp=Z,1.4nm,0.5s						
MAJO	**Matsushiro**	**69.41**	**324**	P	**P**	**18 36 58.9**	**+0.4**
MAJO				IAmb	IAmb	18 36 59.8	
	comp=Z,4.2nm,0.8s						
MJB9	**Matsu-Tunnel**	**69.41**	**324**	P	**P**	**18 36 58.7**	**+0.1**
MJB9				IAmb	IAmb	18 36 59.4	
	comp=Z,6.2nm,0.7s						
QSPA	**South Pole Qui**	**70.38**	**180**	P	**P**	**18 37 05.2**	**+1.3**
QSPA				IAmb	IAmb	18 37 09.3	
	comp=Z,6.8nm,1.1s						
QSPA	**South Pole Qui**	**70.38**	**180**	P	**P**	**18 37 05.4**	**+1.5**
	comp=Z,3.1nm,0.6s,baz=345,slow=0.3,SNR=20 comp=Z,3.1nm,0.6s						
KSRS	**Korea Array**	**76.11**	**319**	P	**P**	**18 37 37.3**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=120,slow=5.6,SNR=1.8 comp=Z,0.4nm,0.5s						
USRK	**Ussuriysk Ar.**	**78.15**	**326**	P	**P**	**18 37 46.5**	**-1.2**
	comp=Z,3.4nm,0.7s,baz=114,slow=5.5,SNR=4.1 comp=Z,3.4nm,0.7s						
ILAR	**Eielson Array**	**87.58**	**13**	P	**P**	**18 38 33.8**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=218,slow=4.7,SNR=6.2 comp=Z,0.9nm,0.6s						
PDAR	**Pinedale Array**	**88.54**	**43**	P	**P**	**18 38 39.5**	**0.0**
	comp=Z,0.3nm,0.6s,baz=236,slow=4.3,SNR=3.4 comp=Z,0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.61**	**290**	P	**P**	**18 38 46.4**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=141,slow=4.0,SNR=5.2 comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**118.29**	**320**	PKP	**PKPdf**	**18 44 28.5**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=90,slow=0.1,SNR=3.1						
ARCES	**ARCESS Array B**	**128.07**	**350**	PKP	**PKPdf**	**18 44 47.4**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=0.0,slow=2.4,SNR=6.8						
AKASG	**Malin Array Be**	**142.18**	**331**	PKhKP	PKPpre	18 45 10.2	
	comp=Z,1.0nm,0.3s,baz=44,slow=4.2,SNR=10						
EKA	**Eskdalemuir Ar**	**144.21**	**5**	PKP	PKPbc	18 45 16.7	-0.8
	comp=Z,1.1nm,0.8s,baz=344,slow=2.6,SNR=3.4						
BRTR	**Keskin Array B**	**146.10**	**313**		**PKPdf**	**18 45 22.8**	**+1.2**
BRTR	**Keskin Array B**	**146.10**	**313**	PKPbc	**PKPbc**	**18 45 23.4**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=68,slow=3.1,SNR=5.2						
BUR08	**Bucovina Ar. S**	**146.21**	**331**		**PKPbc**	**18 45 23.6**	**-0.1**
BURAR	**Bucovina Array**	**146.23**	**331**	PKPbc	**PKPbc**	**18 45 25.2**	**+1.4**
MMAI	**Mount Meron Ar**	**147.19**	**301**	PKPbc	**PKPbc**	**18 45 27.3**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=84,slow=2.9,SNR=4.9						
GERES	**GERESS Array B**	**149.35**	**344**	PKPbc	**PKPbc**	**18 45 31.8**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=20,slow=4.3,SNR=7.4						
DAVOX	**Davos/Dischmat**	**152.16**	**348**	PKPbc	**PKPbc**	**18 45 38.5**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=164,slow=17,SNR=2.8						

*GCG **11** 18:42:19.6±0.4, 14.°37N×90.°95W, h94km±3km, MD3.4, ML3.6*
*CATAC **11** 18:42:19.5±0.8, 14.°N±5.°×9.°1W±.°, h31km±6km, M3.3/8, MLv3.3/8, Error ellipse: s-maj=12.0km s-min=3.2km az=25.5, confirmed*

ISC 11 18:42:21.3±1.6, 14.°02N±0.°09×91.°08W±0.°05, h65km±13km, n20, σ1s33/27, 1C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.43**	**34**	*eP*	**Pn**	**18 42 33.1**	**0.0**
ESSG				*eS*	**Sn**	**18 42 43.7**	**+1.9**
FG8	**Yepocapa, Chim**	**0.56**	**65**	*eP*	**Pn**	**18 42 33.2**	**-1.3**
FG8				*eS*	**Sn**	**18 42 44.2**	**-0.1**
FG16	**Alotenango, Sa**	**0.61**	**66**	*eP*	**Pn**	**18 42 33.7**	**-1.4**
FG16				*eS*	**Sn**	**18 42 44.8**	**-0.3**
FG16				IAML		18 42 49.8	
	comp=N,7μm,0.2s						
ESSJ	**San Jos, E**	**0.73**	**129**	*eP*	**Pn**	**18 42 34.5**	**-1.7**
ESSJ				*eS*	**Sn**	**18 42 46.9**	**-0.2**
RTAL	**Retalhuleu**	**0.78**	**310**	P	**Pn**	**18 42 36.9**	**+0.1**
RTAL	**Retalhuleu**	**0.78**	**310**	S	**Sn**	**18 42 49.4**	**+1.2**
**L

ABTO Aybut 12.66 85 P **Pn** **19 09 58.7 +1.6**
WHFO Wadi Hawf 13.14 82 P **Pn** **19 10 03.0 -0.6**
DOK Doka 13.54 79 P **Pn** **19 10 08.1 -0.9**
EIL Elat 13.86 341 Pn **Pn** **19 10 14.5 +1.0**
0.2nm,0.3s,baz=60,slow=13,SNR=2.0
EIL LR LR 19 14 35.5
comp=Z,2µm,19.4s,baz=164,slow=33
2.1nm,0.5s
GHWR Ruwais 14.06 56 P **Pn** **19 10 15.6 -0.6**
MZR Muzera 14.12 61 P **Pn** **19 10 16.6 -0.5**
MZR Muzera 14.12 61 *i* P **Pn** **19 10 16.2 -0.9**
SNR=6.5
DMTO DMTO 14.24 83 P **Pn** **19 10 20.9 +2.1**
JRN Qarnain Island 14.54 53 P **Pn** **19 10 22.9 +0.2**
MZWR Madinat Zayed 14.78 59 P **Pn** **19 10 25.0 -1.1**
GHAJ Ghor Haditha 15.23 345 **P** **19 10 36.6 -0.3**
GHAJ IAmb IAmb 19 10 40.1
comp=Z,53nm,1.0s
UMZA Um Al Zommool 15.45 64 P **Pn** **19 10 32.9 -2.0**
ASF Jabal al Asfar 15.80 350 Pn **Pn** **19 10 41.4 +1.9**
comp=Z,0.9nm,0.3s,baz=190,slow=4.0,SNR=20
ASF LR LR 19 16 14.5
comp=Z,1µm,18.7s,baz=206,slow=35
comp=Z,50nm,1.1s
AJN Ajban 16.04 58 P **Pn** **19 10 41.2 -1.4**
ASUD Al Ashush, Dub 16.35 58 P **Pn** **19 10 45.4 -1.1**
SNR=9.0
ASUD Al Ashush, Dub 16.35 58 *i* P **Pn** **19 10 45.5 -1.1**
SNR=18
ALNE Al Ain 16.46 61 P **Pn** **19 10 46.2 -1.7**
SNR=15
ALNE Al Ain 16.46 61 *i* P **Pn** **19 10 46.1 -1.8**
SNR=18
FAQ Al Faqa, Dubai 16.62 58 P **Pn** **19 10 49.1 -0.8**
SNR=11
FAQ Al Faqa, Dubai 16.62 58 *i* P **Pn** **19 10 48.8 -1.1**
SNR=6.3
NAZ Nazwa, Dubai 16.78 58 P **Pn** **19 10 50.8 -1.2**
SNR=9.7
NAZ Nazwa, Dubai 16.78 58 *i* P **Pn** **19 10 51.0 -1.0**
SNR=10.0
ARQ Araqi 16.84 64 P **Pn** **19 10 50.7 -2.1**
SNR=9.0
DQM DQM 16.90 76 P **Pn** **19 10 50.8 -2.8**
SNR=7.3
MMAI Mount Meron Ar 16.91 346 Pn **P** **19 10 55.9 +0.3**
comp=Z,17nm,0.8s,baz=184,slow=12,SNR=25
MMAI LR LR 19 16 46.5
comp=Z,917nm,18.9s,baz=156,slow=35
ASHO Ashiyiah 16.97 59 P **Pn** **19 10 53.7 -0.8**
SNR=13
ASHO Ashiyiah 16.97 59 *i* P **Pn** **19 10 53.0 -1.4**
SNR=29
HATD Hatta, Dubai 17.09 59 P **Pn** **19 10 55.1 -0.9**
SNR=14
HATD Hatta, Dubai 17.09 59 *i* P **Pn** **19 10 55.0 -0.9**
SNR=38
SOHO SOHO 17.14 61 P **Pn** **19 10 55.6 -1.0**
SOHO SOHO 17.14 61 *i* P **Pn** **19 10 55.0 -1.6**
SNR=21
UOSS Minazif 17.20 58 **Pn** **19 10 55.8 -1.5**
UOSS IAmb IAmb 19 10 58.2
comp=Z,92nm,0.9s
UOSS Minazif 17.20 58 P **Pn** **19 10 56.2 -1.2**
UOSS Minazif 17.20 58 *i* P **Pn** **19 10 55.4 -2.0**
SNR=14
MSFE Esma-Masafi 17.35 57 *i* P **Pn** **19 10 57.4 -1.8**
SNR=5.7
MASF Masafi 17.36 57 P **Pn** **19 10 57.9 -1.3**
MDH Madha 17.44 57 P **Pn** **19 11 00.0 -0.2**
SNR=7.6
MDH Madha 17.44 57 *i* P **Pn** **19 10 59.6 -0.7**
SNR=14
MHTO MHTO 17.48 73 P **Pn** **19 10 59.2 -1.6**
SNR=47
HOQ Hoqain 17.60 64 P **Pn** **19 11 01.1 -1.3**
SNR=22
SHME Shamm 17.66 55 P **Pn** **19 11 01.8 -1.2**
SHME Shamm 17.66 55 P **Pn** **19 11 01.8 -1.2**
BANOM Banah 17.73 56 P **Pn** **19 11 02.9 -0.9**
BANOM Banah 17.73 56 *i* P **Pn** **19 11 03.0 -0.9**
SNR=8.3
KMBO Kilima Mbogo 17.81 189 P **Pn** **19 11 04.8 -0.3**
comp=Z,0.4nm,0.3s,baz=21,slow=10,SNR=7.3
KMBO LR LR 19 17 48.5
comp=Z,803nm,19.6s,baz=337,slow=37
comp=Z,0.8nm,0.3s
JMDO Jabal Madar 17.93 68 P **Pn** **19 11 04.8 -1.5**
SNR=19
SMDO Samad 18.08 66 P **Pn** **19 11 06.6 -1.6**
SNR=10
WSAR Wadi Sarin 18.64 66 P **P** **19 11 13.9 -0.8**
comp=Z,0.8nm,1.1s,baz=265,slow=24,SNR=32
WSAR LR LR 19 19 42.7
comp=Z,5.8nm,20.3s,baz=266,slow=41
JLN Jalan Bani Buh 19.05 70 P **P** **19 11 17.5 -1.7**
SNR=21
CSS Mathiatis 19.29 343 **P** **19 11 22.4 +0.7**
CSS IAmb IAmb 19 11 27.5
comp=Z,81nm,1.1s
MBAR Mbarara 19.40 209 P **P** **19 11 24.3 +1.0**
MBAR Mbarara 19.40 209⇑ *e*P **P** **19 11 23.1 -0.2**
MBAR pmax pmax
comp=Z,13nm,1.3s
MARD Mardin 20.67 2 **P** **19 11 37.8 +0.9**
GAZ Gaziantep 20.68 353 P **P** **19 11 38.0 +1.1**
GAZ IAmb IAmb 19 11 46.2
comp=Z,62nm,1.2s
AKAS Kas 21.69 337 P **P** **19 11 48.5 +0.6**
KARP Karpathos 22.14 331 **P** **19 11 53.1 +0.4**
BNN Bunyan 22.50 351 **P** **19 11 57.7 +1.0**
ISP Isparta 22.79 340 *de*P **P** **19 12 00.5 +0.9**
ISP pmax pmax
comp=Z,22nm,0.6s
IDI Anoyia 23.06 327 **P** **19 12 02.6 +0.2**
IDI IAmb IAmb 19 12 22.4
comp=Z,60nm,1.1s
KIRS Kirsehir-Merke 23.12 348 ⇑P **P** **19 12 04.7 +1.7**
KOPT Kop Dagi 23.36 1 **P** **19 12 07.3 +1.6**
BR131 Keskin Array S 23.74 348 IAmb IAmb 19 12 15.3
comp=Z,33nm,1.1s
BR131 Keskin Array S 23.74 348 P **P** **19 12 11.2 +1.9**
SNR=15
BR131 Keskin Array S 23.74 348 *d* iP **P** **19 12 10.6 +1.3**
BRTR Keskin Array B 23.74 348 **P** **19 12 09.8 +0.6**
BRTR Keskin Array B 23.74 348 P **P** **19 12 10.2 +1.0**
comp=Z,11nm,0.9s,baz=167,slow=13,SNR=61
BRTR PP **PnPn** **19 12 30.5 -6.5**
comp=Z,6.9nm,1.0s,baz=171,slow=8.4,SNR=5.2
BRTR PcP **PcP** **19 15 52.4 -0.8**
comp=Z,1.1nm,0.8s,baz=156,slow=2.4,SNR=4.1
comp=Z,11nm,0.9s
BRTR Keskin Array B 23.74 348 P **P** **19 12 09.9 +0.6**
GNI Garni 23.84 9 *de*P **P** **19 12 12.1 +1.9**
GNI pmax pmax
comp=Z,44nm,2.6s
ANTO Ankara 24.07 346 P **P** **19 12 13.1 +0.8**
ANTO IAmb IAmb 19 12 23.7
comp=Z,39nm,1.2s
ANTO Ankara 24.07 346 P **P** **19 12 14.0 +1.7**
ANTO Ankara 24.07 346 P **P** **19 12 13.1 +0.8**
ANTO pmax pmax
comp=Z,39nm,1.3s
MANT Manisa 24.07 337 **P** **19 12 13.5 +1.0**
MANT IAmb IAmb 19 12 18.5
comp=Z,53nm,1.2s
ILGA Ilgaz 25.01 349 IAmb IAmb 19 12 28.6
comp=Z,47nm,1.3s
AKT Akhty 25.68 13 *e*P **P** **19 12 26.2 -0.8**
AKT *e*PPP PPP 19 13 09.7
AKT *e*S **S** **19 16 56.6 +1.4**
AKT pmax pmax
comp=Z,31nm,1.4s
AKT MLR MLR
comp=Z,461nm,12.0s
SOC Sochi 26.92 359 *e*P **P** **19 12 36.8 -1.3**
SOC *e*PPP PPP 19 13 27.7
SOC *e*S **S** **19 17 15.3 +0.7**
SOC *e*SS **SnSn** **19 18 23.5 +3.4**
SOC *e*SSS SSS 19 18 37.4
SOC MLR MLR
comp=Z,183nm,14.0s
MAK Makhachkala 27.05 12 *c* iP **P** **19 12 35.7 -3.5**
MAK *e* 19 13 20.5

MAK *e*S **S** **19 17 12.8 -3.8**
MAK *e*SS **SnSn** **19 18 22.9 -0.3**
MAK pmax pmax
comp=Z,138nm,1.0s
MAK MLR MLR
comp=Z,541nm,13.0s
KBZ Khabaz 27.17 4 P **P** **19 12 42.0 +1.7**
comp=Z,6.1nm,0.9s,baz=201,slow=4.6,SNR=12
KBZ LR LR 19 24 16.3
comp=Z,461nm,19.1s,baz=203,slow=38
comp=Z,6.1nm,0.9s
KBZ Khabaz 27.17 4 *de*P **P** **19 12 41.7 +1.4**
KBZ pmax pmax
comp=Z,13nm,1.3s
KIV Kislovodsk 27.38 4 P **P** **19 12 42.6 +0.3**
KIV IAmb IAmb 19 12 47.8
comp=Z,51nm,1.4s
KIV Kislovodsk 27.38 4 *e*P **P** **19 12 42.4 +0.1**
KIV *e*S **S** **19 17 24.3 +2.3**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,246nm,15.0s
KVAR Kislovodsk Arr 27.38 4 LR LR 19 23 59.3
comp=Z,375nm,20.9s,baz=88,slow=37
RDO Rodhopi 27.52 336 IAmb IAmb 19 12 49.2
comp=Z,39nm,1.0s
LIT Litokhoron 27.99 330 IAmb IAmb 19 12 51.9
comp=Z,24nm,1.2s
SIM Simferopol' 28.73 351 *e*P **P** **19 12 55.7 +1.5**
SIM *e*S **S** **19 17 47.0 +3.9**
SIM pmax pmax
comp=Z,67nm,1.7s
SIM smax smax
comp=N,90nm,11.0s
SIM MLR MLR
comp=Z,100nm,20.0s
ELND Elena 28.94 338 ⇓P **P** **19 12 57.2 +1.1**
TPGR Topolog 29.86 343 ⇑P **P** **19 13 04.5 +0.2**
TLCR 30.06 344 ⇑P **P** **19 13 07.0 +1.0**
TLCR 30.06 344 P **P** **19 13 06.9 +1.0**
CFR Carcaliu 30.24 343 ⇑P **P** **19 13 08.3 +0.7**
CFR Carcaliu 30.24 343 P **P** **19 13 08.2 +0.7**
CEL Celeste 30.30 320 IAmb IAmb 19 13 13.6
comp=Z,20nm,0.9s
TIP Timpagrande 30.37 322 IAmb IAmb 19 13 14.1
comp=Z,21nm,1.0s
TIP Timpagrande 30.37 322 ⇑P **P** **19 13 09.6 +0.7**
VAE Valguarnera 30.76 318 LR LR 19 25 23.2
comp=Z,286nm,18.4s,baz=165,slow=36
BISRR Bisoca 30.99 342 ⇑P **P** **19 13 15.9 +1.6**
BOVS Bovan 31.17 334 ⇑P **P** **19 13 15.9 +0.1**
MLR Muntele Rosu 31.17 341 IAmb IAmb 19 13 23.1
comp=Z,13nm,0.9s
MLR Muntele Rosu 31.17 341 LR LR 19 27 26.7
comp=Z,157nm,19.4s,baz=153,slow=39
MLR Muntele Rosu 31.17 341 ⇑P **P** **19 13 17.0 +1.0**
MLR Muntele Rosu 31.17 341 P **P** **19 13 17.0 +1.0**
GHRR 31.25 343 ⇑P **P** **19 13 17.6 +1.2**
VRI Vrincioaia 31.27 342 ⇓P **P** **19 13 17.9 +1.2**
VRI Vrincioaia 31.27 342 P **P** **19 13 17.9 +1.2**
PLOR Plostina 31.28 342 ⇓P **P** **19 13 18.5 +1.7**
PLOR Plostina 31.28 342 P **P** **19 13 18.5 +1.7**
COVR Voineasa-Covas 31.41 341 ⇑P **P** **19 13 19.6 +1.7**
CUC Castrocucco 31.45 323 IAmb IAmb 19 13 23.1
comp=Z,16nm,1.0s
KBL Kabul 31.49 50 P **P** **19 13 19.0 0.0**
KBL IAmb IAmb 19 13 20.5
comp=Z,15nm,0.8s
KBL Kabul 31.49 50 P **P** **19 13 19.0 0.0**
KBL pmax pmax
comp=Z,15nm,0.8s
ARR Arges 31.50 339 ⇓P **P** **19 13 19.6 +0.8**
TURR Turia 31.66 341 ⇑P **P** **19 13 20.6 +0.4**
OZUR 31.76 341 ⇑P **P** **19 13 21.5 +0.5**
DOPR Dopca 31.78 340 ⇑P **P** **19 13 21.7 +0.5**
ONER Baraj Valea Uz 31.79 342 ⇓P **P** **19 13 22.5 +1.2**
LOT Lotru 31.87 338 ⇓P **P** **19 13 22.7 +0.5**
TESR Tescani 31.88 342 ⇓P **P** **19 13 22.4 +0.4**
MDVR Moldovita 32.10 335 ⇑P **P** **19 13 24.1 0.0**
GZR Gura Zlata 32.19 337 ⇑P **P** **19 13 25.4 +0.5**
GZR Gura Zlata 32.19 337 P **P** **19 13 25.4 +0.5**
SURR Surduc 32.74 336 ⇓P **P** **19 13 29.5 -0.1**
BZS Buzias 32.83 336 ⇑P **P** **19 13 30.1 -0.2**
BZS Buzias 32.83 336 P **P** **19 13 30.1 -0.2**
SORM Soroca 32.92 345 ⇓P **P** **19 13 31.3 +0.2**
SORM Soroca 32.92 345 P **P** **19 13 31.3 +0.2**
CJR Cluj-Napoca 33.03 339 ⇑P **P** **19 13 33.3 +1.2**
CJR Cluj-Napoca 33.03 339 P **P** **19 13 33.3 +1.2**
TAM Tamanrasset 33.08 286 P **P** **19 13 34.2 +1.2**
TAM Tamanrasset 33.08 286 P **P** **19 13 34.2 +1.2**
TAM pmax pmax
comp=Z,48nm,0.6s
MARR Marisel-Cluj 33.16 338 ⇓P **P** **19 13 34.2 +0.8**
BURAR Bucovina Array 33.30 342 P **P** **19 13 35.0 +0.5**
BURAR Bucovina Array 33.30 342 ⇑P **P** **19 13 36.2 +1.6**
BURAR Bucovina Array 33.30 342 P **P** **19 13 36.1 +1.6**
BUR08 Bucovina Ar. S 33.33 342 IAmb IAmb 19 13 40.2
comp=Z,16nm,1.1s
KEST Kesra 33.34 311 P **P** **19 13 36.6 +1.5**
KEST IAmb IAmb 19 13 41.3
comp=Z,19nm,0.9s
KEST Kesra 33.34 311 P **P** **19 13 36.8 +1.7**
comp=Z,13nm,0.8s,baz=72,slow=6.4,SNR=14
KEST LR LR 19 28 19.1
comp=Z,401nm,19.2s,baz=234,slow=38
comp=Z,13nm,0.8s
KEST Kesra 33.34 311 P **P** **19 13 37.2 +2.0**
SIRR Siria 33.35 336 ⇑P **P** **19 13 35.3 +0.3**
DRGR 33.41 338 ⇑P **P** **19 13 36.8 +1.3**
DRGR 33.41 338 P **P** **19 13 36.8 +1.3**
DRBR Darabani 33.43 344 ⇑P **P** **19 13 35.7 +0.1**
SIMJ Simiganj 33.53 43 P **P** **19 13 37.3 +0.5**
SIMJ IAmb IAmb 19 13 38.9
comp=Z,21nm,1.1s
LSZ Lusaka 33.76 201 LR LR 19 27 13.5
comp=Z,372nm,18.0s,baz=27,slow=36
BLY Banja Luka 34.07 330 ⇑P **P** **19 13 42.3 +1.1**
NIL Nilore 34.31 54 P **P** **19 13 44.7 +1.2**
NIL IAmb IAmb 19 13 46.0
comp=Z,16nm,0.8s
NIL Nilore 34.31 54 P **P** **19 13 44.7 +1.2**
NIL pmax pmax
comp=Z,17nm,0.9s
VORD Divnogorie 34.31 359 *e*P **P** **19 13 41.7 -1.5**
VORD pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 34.57 359 *e*P **P** **19 13 43.6 -1.8**
VSR pmax pmax
comp=Z,7.0nm,1.1s
VRH Novokhopyorsk 34.57 2 *e*P **P** **19 13 43.9 -1.5**
VRH pmax pmax
comp=Z,10.0nm,0.8s
CESX Cesi 35.00 324 IAmb IAmb 19 13 53.4
comp=Z,57nm,1.8s
VORR Voronezh 35.02 359 *e*P **P** **19 13 46.6 -2.7**
VORR pmax pmax
comp=Z,10.0nm,1.0s
KIEV Kiev 35.14 348 ⇑P **P** **19 13 50.5 +0.1**
KIEV Kiev 35.14 348 P **P** **19 13 50.5 +0.1**
AKASG Malin Array Be 35.15 348 P **P** **19 13 50.2 -0.2**
comp=Z,7.1nm,0.9s,baz=169,slow=7.3,SNR=10
AKASG LR LR 19 29 17.6
comp=Z,144nm,19.5s,baz=164,slow=38
comp=Z,7.1nm,0.9s
AKBB Malin Array Si 35.15 348 IAmb IAmb 19 13 54.5
comp=Z,18nm,1.0s
AKBB Malin Array Si 35.15 348 *de*P **P** **19 13 50.2 -0.2**
KOLS Kolonicke sedl 35.40 340 *e*P **P** **19 13 54.0 +1.4**
KOLS pmax pmax
comp=Z,8.0nm,1.1s
PSZ Piszkesteto 35.40 336 ⇑P **P** **19 13 53.6 +0.9**
PSZ Piszkesteto 35.40 336 P **P** **19 13 53.6 +0.9**
OPO Ambohidratompo 35.62 168 LR LR 19 27 31.8
comp=Z,172nm,20.7s,baz=172,slow=35
KWP Kalwaria Pacla 35.86 341 *e*P **P** **19 13 57.9 +1.3**
DOBS Dobrina 35.92 330 *i* P **P** **19 13 58.3 +1.1**
DOBS *i* 19 13 59.0
comp=Z,11nm,0.7s
SRO Srobarova 35.94 335 *e*P **P** **19 13 58.3 +1.0**
SRO pmax pmax
comp=Z,11nm,0.7s
ABPO Ambohimpanom 36.06 168 P **P** **19 14 00.3 +1.6**
ABPO Ambohimpanom 36.06 168 P **P** **19 14 00.4 +1.6**

ABPO pmax pmax
comp=Z,12nm,1.0s
KAAM Kaadhehdhoo 36.14 113 P **P** **19 13 59.5 0.0**
STHS Stebnicka Huta 36.16 339 *e*P **P** **19 13 59.3 +0.1**
STHS pmax pmax
comp=Z,12nm,0.8s
BELG Belogornoye 36.23 8⇑ *e*P **P** **19 13 59.9 +0.2**
BELG pmax pmax
comp=Z,4.0nm,0.8s
ABKAR Akbulak array 36.38 22 P **P** **19 14 01.1 +0.1**
TRI Trieste 36.44 328 IAmb IAmb 19 14 06.6
comp=Z,38nm,1.0s
PERS Pernice 36.44 331 *i* P **P** **19 14 02.9 +1.2**
NIE Niedzica 36.49 338 *e*P **P** **19 14 03.0 +1.0**
SOKA Soboth 36.51 331 *i* P **P** **19 14 03.4 +1.1**
comp=Z,14nm,0.9s,SNR=15
LANS Liptovska Anna 36.57 337 *e*P **P** **19 14 04.0 +1.3**
LANS pmax pmax
comp=Z,6.0nm,0.9s
OBKA Obir 36.62 330 *i* P **P** **19 14 04.4 +1.2**
comp=Z,16nm,0.8s,SNR=7.7
RONA Rosalia, Austr 36.70 333 *i* P **P** **19 14 04.7 +0.8**
comp=Z,17nm,0.8s,SNR=11
ARSA Arzberg 36.71 332 IAmb IAmb 19 14 06.1
comp=Z,24nm,0.9s
ARSA Arzberg 36.71 332 *i* P **P** **19 14 05.2 +1.3**
comp=Z,25nm,0.9s,SNR=9.4
AKTO Aktyubinsk 36.73 19 LR LR 19 31 05.8
comp=Z,312nm,18.7s,baz=210,slow=40
ZST Bratislava 36.74 334 *e*P **P** **19 14 05.9 +1.8**
HYB Hyderabad 36.75 83 *e*P **P** **19 14 05.0 +0.3**
HYB *e*S **S** **19 19 49.1 +0.7**
SMOL Smolenice 36.85 335 *e*P **P** **19 14 05.7 +0.6**
SMOL pmax pmax
comp=Z,10.0nm,1.1s
ROBS Robic 36.94 329 *i* P **P** **19 14 06.5 +0.6**
ROBS *i* 19 14 07.2
comp=Z,9.5nm,0.7s
KKAR Karatay Array 36.99 38 P **P** **19 14 07.5 +1.1**
KKAR Karatay Array 36.99 38 P **P** **19 14 07.5 +1.1**
JAVC Velka Javorina 37.03 335 *e*P **P** **19 14 07.2 +0.5**
CONA Conrad Observa 37.07 333 *i* P **P** **19 14 07.8 +0.8**
comp=Z,17nm,1.0s,SNR=12
MYKA Terra Mystica 37.14 329 *i* P **P** **19 14 09.0 +1.3**
comp=Z,5.6nm,0.9s
TORD Torodi Ar. Bea 37.23 270 P **P** **19 14 07.7 -1.1**
TORD IAmb IAmb 19 14 13.1
comp=Z,20nm,1.1s
TORD Torodi Ar. Bea 37.23 270 P **P** **19 14 08.7 0.0**
comp=Z,20nm,0.8s,baz=78,slow=6.8,SNR=60
TORD PcP **PcP** **19 16 30.4 +1.9**
comp=Z,0.3nm,0.4s,baz=51,slow=3.6,SNR=1.9
TORD LR LR 19 30 35.7
comp=Z,340nm,20.3s,baz=78,slow=38
comp=Z,20nm,0.8s
TEOL Teolo 37.28 326 IAmb IAmb 19 14 13.8
comp=Z,32nm,0.9s
OJC Ojcow 37.34 338 *e*P **P** **19 14 09.3 +0.1**
STAL STALIGIAL 37.35 328 IAmb IAmb 19 14 14.4
comp=Z,28nm,0.9s
MAUC Maruska 37.37 336 *e*P **P** **19 14 10.6 +1.1**
ARSB Arslanbob 37.53 42 IAmb IAmb 19 14 13.1
comp=Z,19nm,0.9s
KBA Koelnbreinsper 37.61 330 *i* P **P** **19 14 12.9 +1.1**
comp=Z,10nm,0.9s
KRUC Moravsky 37.71 334 *e*P **P** **19 14 12.7 +0.3**
MOA Molln 37.73 331 *i* P **P** **19 14 13.3 +0.8**
comp=Z,17nm,0.7s,SNR=10.0
ABTA Abfaltersbach 37.78 329 *i* P **P** **19 14 14.5 +1.4**
comp=Z,14nm,0.9s,SNR=9.3
MORC Moravsky Berou 37.81 336 IAmb IAmb 19 14 17.9
comp=Z,2.3nm,1.0s
MORC Moravsky Berou 37.81 336 *e*P **P** **19 14 13.7 +0.4**
MORC Moravsky Berou 37.81 336 ⇓P **P** **19 14 13.8 +0.4**
MORC Moravsky Berou 37.81 336 P **P** **19 14 13.7 +0.4**
VRAC Vranov 37.82 335 LR LR 19 33 03.9
comp=Z,75nm,18.1s,baz=156,slow=41
VRAC Vranov 37.82 335 *e*P **P** **19 14 13.6 +0.3**
VRAC Vranov 37.82 335 ⇑P **P** **19 14 13.7 +0.3**
VRAC Vranov 37.82 335 P **P** **19 14 13.6 +0.3**
STEB Steborice 37.85 336 *e*P **P** **19 14 13.8 +0.3**
BIOA Bad Ischl, Aus 37.90 331 *i* P **P** **19 14 14.6 +0.6**
comp=Z,10nm,0.7s,SNR=12
LESA Schwarzleotal 38.17 330 *i* P **P** **19 14 17.2 +0.8**
comp=Z,9.8nm,1.3s
TREC Trest 38.27 334 *e*P **P** **19 14 17.5 +0.4**
TREC *e* 19 14 20.8
TREC Trest 38.27 334 *e*P **P** **19 14 17.5 +0.4**
TREC *e*pP **pP** **19 14 20.8 -0.6**
KRLC Kraliky 38.35 336 *e*P **P** **19 14 18.2 +0.4**
KRLC Kraliky 38.35 336 *e*P **P** **19 14 18.2 +0.4**
MATP Matopo 38.49 198 LR LR 19 30 38.2
comp=Z,378nm,18.4s,baz=26,slow=37
OBN Obninsk 38.56 357 LR LR 19 30 19.2
comp=Z,138nm,19.2s,baz=56,slow=36
OBN Obninsk 38.56 357 *ce*P **P** **19 14 20.4 +1.0**
OBN *e* 19 15 48.6
OBN *e*PPP PPP 19 16 09.1
OBN *e* 19 16 30.0
OBN pmax pmax
comp=Z,62nm,1.7s
OBN MLR MLR
comp=Z,134nm,19.0s
WTTA Wattenberg 38.57 329 *i* P **P** **19 14 20.3 +0.4**
comp=Z,8.6nm,0.8s
WATA Walderalm 38.65 329 *i* P **P** **19 14 20.7 +0.2**
comp=Z,14nm,1.2s
KSH Kashi 38.68 47 P **P** **19 14 18.2 -2.6**
KSH pP pP 19 14 24.3 -0.8
KSH pmax pmax
comp=Z,5.0nm,0.7s
KSH LR LR
comp=Z,300nm,15.5s
KSH LR LR
comp=Z,200nm,22.0s
KSH LR LR
comp=Z,320nm,17.3s
GEC2 GERESS Array S 38.71 332 IAmb IAmb 19 14 25.5
comp=Z,32nm,1.1s
GERES GERESS Array B 38.71 332 P **P** **19 14 21.4 +0.4**
comp=Z,13nm,0.8s,baz=126,slow=6.8,SNR=101
GERES PcP **PcP** **19 16 32.6 0.0**
comp=Z,0.5nm,0.7s,baz=123,slow=2.9,SNR=3.5
comp=Z,13nm,0.8s
EKS2 Erkin-Say 38.74 41 P **P** **19 14 22.8 +1.5**
SNR=9.3
DPC Dobruska-Polom 38.75 336 *e*P **P** **19 14 21.6 +0.5**
DPC Dobruska-Polom 38.75 336 *e*P **P** **19 14 21.6 +0.5**
SQTA Sankt Quirin 38.76 328 *i* P **P** **19 14 21.8 +0.4**
comp=Z,13nm,1.0s,SNR=8.7
FETA Feichten 38.87 328 *i* P **P** **19 14 23.2 +0.8**
comp=Z,17nm,0.9s,SNR=11
MOTA Moosalm 38.90 328 *i* P **P** **19 14 22.3 -0.3**
comp=Z,12nm,0.8s,SNR=7.3
KHC Kasperske Hory 38.98 332 *e*P **P** **19 14 22.9 -0.2**
KHC *e* 19 14 26.5
KHC Kasperske Hory 38.98 332 *e*P **P** **19 14 22.9 -0.2**
KHC *e*pP **pP** **19 14 26.5 -0.9**
UCH Uchtor 38.98 42 P **P** **19 14 25.1 +1.4**
SNR=18
UPC Upice 38.99 336 *e*P **P** **19 14 23.3 +0.1**
UPC Upice 38.99 336 *e*P **P** **19 14 23.3 +0.1**
MNK Minsk 39.02 349 *i* P **P** **19 14 20.8 -2.5**
comp=E,18nm,1.1s
MNK *i* P **P** **19 14 20.8 -2.5**
comp=N,13nm,0.9s
MNK *i* P **P** **19 14 20.8 -2.5**
comp=Z,11nm,0.9s,baz=161
MNK *i* PP **PP** **19 15 51.7 -1.0**
MNK *i* PPP PPP 19 16 12.7
MNK *i* S **S** **19 20 21.0 -0.7**
MNK *i* SS **SnSn** **19 23 11.0 -2.3**
MNK *i* SSS SSS 19 23 31.4
MNK *i* LQ LQ 19 27 18.9
MNK *i* LR LR 19 30 12.9
MNK *i* LRM MLR 19 31 13.2
comp=E,154nm,21.4s
MNK *i* LRM MLR 19 31 15.8
comp=N,94nm,16.8s
MNK *i* LRM MLR 19 31 37.3
comp=Z,153nm,20.1s
MNK Minsk 39.02 349 *i* P **P** **19 14 20.7 -2.5**
MNK *i* 19 15 51.6
MNK *i* S **S** **19 20 21.0 -0.7**
MNK *i* SS **SnSn** **19 23 11.0 -2.3**

MNK					pmax	pmax			
	comp=Z,11nm,0.9s								
MNK					pmax	pmax			
	comp=N,13nm,0.9s								
MNK					pmax	pmax			
	comp=E,18nm,1.1s								
MNK					MLR	MLR			
	comp=E,154nm,21.0s								
MNK					MLR	MLR			
	comp=N,94nm,17.0s								
MNK					MLR	MLR			
	comp=Z,153nm,20.0s								
MOS	**Moscow**		**39.14 358**	*e*P	**P**		**19 14 23.7**	**-0.5**	
MOS					pmax	pmax			
	comp=Z,41nm,0.7s								
KSP	**Ksiaz**		**39.15 336**	*e*P	**P**		**19 14 24.6**	**+0.1**	
RETA	**Reutte**		**39.16 328**	*i* P	**P**		**19 14 24.5**	**-0.2**	
	comp=Z,8.0nm,1.1s								
AAK	**Ala-Archa**		**39.18 41**	*de*P	**P**		**19 14 26.9**	**+1.9**	
AAK					pmax	pmax			
	comp=Z,9.0nm,1.3s								
TUE	**Stuetta**		**39.24 326**	IAmb	IAmb		19 14 30.4		
	comp=Z,56nm,1.9s								
KBK	**Karagaybulak**		**39.48 42**	P	**P**		**19 14 28.6**	**+1.1**	
	SNR=8.1								
DAVA	**Damuels**		**39.48 327**	*i* P	**P**		**19 14 27.5**	**0.0**	
	comp=Z,30nm,0.7s,SNR=12								
USP	**Ospenovka**		**39.51 40**	P	**P**		**19 14 28.9**	**+1.3**	
	SNR=7.5								
PVCC	**Panska Ves**		**39.59 334**	*e*P	**P**		**19 14 28.4**	**+0.2**	
PVCC	**Panska Ves**		**39.59 334**	*e*P	**P**		**19 14 28.4**	**+0.2**	
NACGM	**Naroch**		**39.61 348**	*e*P	**P**		**19 14 28.2**	**0.0**	
	comp=Z,10.0nm,1.0s,baz=160								
SUW	**Suwalki**		**39.61 344**	*e*P	**P**		**19 14 28.5**	**+0.2**	
BNI	**Bardonecchia**		**39.88 322**	P	**P**		**19 14 30.6**	**-0.2**	
BNI	**Bardonecchia**		**39.88 322**	P	**P**		**19 14 30.6**	**-0.2**	
BNI					pmax	pmax			
	comp=Z,9.0nm,0.8s								
TKM2	**Tokmak 2**		**40.02 42**	P	**P**		**19 14 33.1**	**+1.0**	
	SNR=6.0								
BRG	**Berggiesshubel**		**40.12 334**	*e*P	**P**		**19 14 34.6**	**+2.2**	
BRG				Amp			19 14 35.5		
	comp=Z,19nm,1.0s								
BRG	**Berggiesshubel**		**40.12 334**	P	P		19 14 37.7	+5.2	
BRG				Amp			19 14 38.7		
	comp=Z,30nm,1.1s								
BRG	**Berggiesshubel**		**40.12 334**	S	S		19 20 48.0	+10	
SENIN	**Lac Senin/Sane**		**40.29 325**	P	**P**		**19 14 33.6**	**-0.7**	
GRA1	**Grafenberg Arr**		**40.45 331**	IAmb	IAmb		19 14 38.9		
	comp=Z,18nm,0.9s								
GRF	**Grafenberg**		**40.45 331**	*e*P	**P**		**19 14 34.2**	**-1.1**	
GRF	comp=Z,10nm,0.8s,baz=129,slow=7.0			*e*pP	**pP**		**19 14 37.4**	**-2.3**	
GRFO	**Grafenberg**		**40.45 331**	P	**P**		**19 14 33.8**	**-1.5**	
GRFO	**Grafenberg**		**40.45 331**	P	**P**		**19 14 33.8**	**-1.5**	
GRFO				pmax	pmax				
	comp=Z,18nm,0.9s								
PALK	**Pallekele**		**40.72 98**	LR	LR		19 29 31.0		
	comp=Z,170nm,18.1s,baz=284,slow=33								
PALK	**Pallekele**		**40.72 98**	P	**P**		**19 14 37.7**	**-0.4**	
PALK	**Pallekele**		**40.72 98**	*e*P	**P**		**19 14 38.1**	**0.0**	
PALK				pmax	pmax				
	comp=Z,22nm,1.0s								
CLL	**Collm**		**40.84 334**	IAmb	IAmb		19 14 42.3		
	comp=Z,27nm,1.1s								
CLL	**Collm**		**40.84 334**	*i* P	**P**		**19 14 38.1**	**-0.3**	
CLL				pmax	pmax				
	comp=Z,21nm,1.2s								
CLL	**Collm**		**40.84 334**	*i* P	**P**		**19 14 38.1**	**-0.3**	
	comp=Z,21nm,1.2s								
CLL				*i* Pmax			19 14 40.8		
	comp=Z,25nm,1.0s								
CLL				*e*PP	**PP**		**19 16 12.0**	**-0.6**	
CLL				Lm	MLR		20 24 00.0		
	comp=Z,300nm,22.0s								
BFO	**Black Forest**		**40.95 328**	P	**P**		**19 14 39.2**	**-0.3**	
BFO	**Black Forest**		**40.95 328**	P	**P**		**19 14 39.2**	**-0.3**	
BFO				pmax	pmax				
	comp=Z,14nm,1.0s								
TSUM	**Tsumeb**		**41.88 213**	LR	LR		19 32 41.0		
	comp=Z,162nm,18.9s,baz=40,slow=37								
CEST	**Esterri de Car**		**42.04 316**	P	**P**		**19 14 49.6**	**+1.0**	
ARTI	**Arti**		**42.10 15**	P	**P**		**19 14 48.8**	**0.0**	
ARTI	**Arti**		**42.10 15**	LR	LR		19 34 22.6		
	comp=Z,206nm,19.0s,baz=200,slow=39								
ARTI	**Arti**		**42.10 15**	*d i* P	**P**		**19 14 49.1**	**+0.4**	
ARTI							19 16 25.2		
ARTI				S	**S**		**19 21 11.1**	**+3.4**	
ARTI				pmax	pmax				
	comp=Z,19nm,1.2s								
KIRV	**Kirov**		**42.51 7**	LR	LR		19 33 26.6		
	comp=Z,198nm,19.1s,baz=178,slow=37								
KIRV	**Kirov**		**42.51 7**	*de*P	**P**		**19 14 52.1**	**+0.1**	
WLF	**Walferdange**		**42.91 328**	*d*P	**P**		**19 14 55.5**	**+0.1**	
	comp=Z,8.4nm,0.9s								
SVE	**Sverdlovsk**		**43.07 16**	*e*P	**P**		**19 14 57.3**	**+0.7**	
SVE				pmax	pmax				
	comp=Z,16nm,1.5s								
MDT	**Midelt**		**43.37 300**	LR	LR		19 33 56.1		
	comp=Z,367nm,18.3s,baz=48,slow=37								
BVAR	**Borovoye Array**		**43.44 26**	P	**P**		**19 14 59.8**	**+0.1**	
BVAR	comp=Z,2.3nm,0.8s,baz=250,slow=6.9,SNR=11			PcP	**PcP**		**19 16 46.9**	**-0.9**	
	comp=Z,2.6nm,0.8s,baz=242,slow=3.2,SNR=6.5								
BVAR				LR	LR		19 34 27.6		
	comp=Z,134nm,20.2s,baz=227,slow=38								
	comp=Z,2.3nm,0.8s								
BTNL	**Ternell**		**43.49 329**	*d*P	**P**		**19 15 00.6**	**+0.5**	
	comp=Z,12nm,0.9s								
MD01	**Midelt array s**		**43.51 300**	P	**P**		**19 15 01.6**	**+0.8**	
MD31	**MD31**		**43.51 300**	IAmb	IAmb		19 15 06.0		
	comp=Z,31nm,1.4s								
MEM	**Membach**		**43.57 329**	*d*P	**P**		**19 15 01.2**	**+0.4**	
	comp=Z,13nm,0.9s								
RCHB	**Rochefort**		**43.68 328**	*d*P	**P**		**19 15 01.2**	**-0.4**	
	comp=Z,7.3nm,1.0s								
LBTB	**Lobatse**		**43.68 199**	LR	LR		19 32 12.1		
	comp=Z,344nm,18.0s,baz=12,slow=35								
BSTI	**Sart Tilman**		**43.77 329**	*d*P	**P**		**19 15 03.4**	**+1.0**	
BGES	**Gesves**		**43.89 328**	*d*P	**P**		**19 15 03.6**	**+0.3**	
	comp=Z,24nm,0.7s								
BGES				*d*pP	**pP**		**19 15 07.0**	**-0.7**	
BMRD	**Maredsous**		**44.01 328**	*d*P	**P**		**19 15 04.0**	**-0.2**	
	comp=Z,16nm,0.9s								
KLMR	**Klimovskoe**		**44.22 360**	*e*P	**P**		**19 15 03.9**	**-1.9**	
KLMR				pmax	pmax				
	comp=Z,49nm,1.3s								
EVN	**Everest**		**44.46 67**	IAmb	IAmb		19 15 09.4		
	comp=Z,27nm,0.9s								
ESDC	**Sonseca Array**		**44.59 310**	P	**P**		**19 15 09.2**	**+0.1**	
ESDC	**Sonseca Array**		**44.59 310**	P	**P**		**19 15 09.5**	**+0.3**	
	comp=Z,7.1nm,1.1s,baz=103,slow=6.9,SNR=14								
ESDC				PcP	**PcP**		**19 16 52.3**	**+0.2**	
	comp=Z,0.3nm,0.4s,baz=98,slow=6.6,SNR=3.2								
ESDC				LR	LR		19 35 30.1		
	comp=Z,49nm,18.2s,baz=92,slow=38								
	comp=Z,7.1nm,1.1s								
MAKGR	**Makgori**		**44.68 200**	P	**P**		**19 15 11.1**	**+1.0**	
MAKGR				IAmb	IAmb		19 15 34.5		
	comp=Z,50nm,1.8s								
PAB	**San Pablo**		**44.83 310**	P	**P**		**19 15 11.5**	**+0.4**	
PAB				IAmb	IAmb		19 15 15.4		
	comp=Z,16nm,1.1s								
PAB	**San Pablo**		**44.83 310**	P	**P**		**19 15 11.5**	**+0.4**	
PAB				pmax	pmax				
	comp=Z,16nm,1.2s								
DBIC	**Dimbokro**		**45.02 263**	P	**P**		**19 15 12.0**	**-0.9**	
DBIC				IAmb	IAmb		19 15 16.2		
	comp=Z,21nm,1.1s								
DBIC	**Dimbokro**		**45.02 263**	P	**P**		**19 15 13.1**	**+0.2**	
	comp=Z,10nm,0.8s,baz=103,slow=8.4,SNR=9.4								
DBIC				LR	LR		19 34 00.9		
	comp=Z,367nm,19.3s,baz=83,slow=36								
	comp=Z,10nm,0.8s								
KURBB	**Kurchatov Arra**		**45.81 34**	P	**P**		**19 15 19.2**	**+0.6**	
	comp=Z,4.5nm,0.7s,baz=237,slow=8.1,SNR=32								
KURBB				PcP	**PcP**		**19 16 55.7**	**-0.2**	
	comp=Z,2.0nm,0.8s,baz=238,slow=4.3,SNR=4.3								
	comp=Z,4.5nm,0.7s								
KURK	**Kurchatov**		**45.91 33**	P	**P**		**19 15 20.3**	**+0.9**	
KURK	**Kurchatov**		**45.91 33**	*c i* P	**P**		**19 15 20.1**	**+0.7**	
KURK				pmax	pmax				
	comp=Z,4.0nm,1.1s								
FINES	**FINESS Array B**		**45.92 351**	P	**P**		**19 15 18.9**	**-0.3**	
	comp=Z,3.7nm,0.7s,baz=154,slow=7.9,SNR=12								
FINES				LR	LR		19 34 20.1		
	comp=Z,90nm,22.0s,baz=206,slow=36								
	comp=Z,3.7nm,0.7s								
FINES	**FINESS Array B**		**45.92 351**	*i* P	**P**		**19 15 19.1**	**-0.2**	
FINES				pmax	pmax				
	comp=Z,4.0nm,0.7s								
MK31	**Makanchi Array**		**46.05 40**	*c i* P	**P**		**19 15 20.9**	**+0.3**	
MKAR	**Makanchi Array**		**46.05 40**	P	**P**		**19 15 21.0**	**+0.4**	
MKAR	**Makanchi Array**		**46.05 40**	P	**P**		**19 15 21.1**	**+0.5**	
	comp=Z,3.2nm,0.5s,baz=242,slow=8.4,SNR=48								
MKAR				LR	LR		19 35 19.1		
	comp=Z,113nm,19.8s,baz=290,slow=37								
	comp=Z,3.2nm,0.5s								
BOSA	**Boshof**		**47.16 198**	LR	LR		19 34 15.8		
	comp=Z,213nm,18.0s,baz=26,slow=35								
HFS	**Hagfors**		**47.52 342**	P	**P**		**19 15 31.1**	**-0.8**	
	comp=Z,5.8nm,0.8s,baz=140,slow=9.7,SNR=12								
HFS				LR	LR		19 35 50.4		
	comp=Z,110nm,21.2s,baz=151,slow=36								
	comp=Z,5.8nm,0.8s								
LSA	**Lhasa**		**48.38 65**	IAmb	IAmb		19 15 42.5		
	comp=Z,11nm,0.9s								
LSA	**Lhasa**		**48.38 65**	P	**P**		**19 15 38.3**	**-1.3**	
WMQ	**Urumqi**		**48.42 46**	*e*P	**P**		**19 15 42.2**	**+3.0**	
WMQ				LR	LR				
	comp=Z,380nm,18.1s								
WMQ				LR	LR				
	comp=Z,190nm,22.1s								
SHL	**Shillong**		**48.90 70**	P	**P**		**19 15 42.4**	**-0.9**	
SHL	**Shillong**		**48.90 70**	P	**P**		**19 15 42.4**	**-0.9**	
SHL				pmax	pmax				
	comp=Z,30nm,0.9s								
NB2	**NORSAR Subarra**		**48.98 342**	P	**P**		**19 15 42.3**	**-0.9**	
	comp=Z,62nm,1.7s,baz=142,slow=7.9								
NB2	**NORSAR Subarra**		**48.98 342**	P	**P**		**19 15 42.3**	**-0.9**	
	comp=Z,62nm,1.7s,baz=142,slow=7.9								
NOA	**NORSAR Array B**		**48.98 342**	P	**P**		**19 15 42.5**	**-0.7**	
	comp=Z,5.5nm,0.9s,baz=141,slow=8.4,SNR=7.9								
NOA				LR	LR		19 37 42.4		
	comp=Z,74nm,20.9s,baz=260,slow=38								
	comp=Z,5.5nm,0.9s								
EKA	**Eskdalemuir Ar**		**50.82 330**	P	**P**		**19 15 56.6**	**-0.6**	
	comp=Z,5.7nm,0.6s,baz=122,slow=7.9,SNR=17								
	comp=Z,5.7nm,0.6s								
ZAA0	**Zalesovo Array**		**50.85 32**	IAmb	IAmb		19 16 06.5		
	comp=Z,12nm,0.8s								
ZALV	**Zalesovo Beam**		**50.85 32**	P	**P**		**19 15 57.3**	**-0.2**	
ZALV	**Zalesovo Beam**		**50.85 32**	P	**P**		**19 15 57.0**	**-0.5**	
	comp=Z,9.1nm,0.6s,baz=242,slow=7.7,SNR=50								
ZALV				LR	LR		19 38 26.9		
	comp=Z,79nm,19.9s,baz=258,slow=37								
	comp=Z,9.1nm,0.6s								
ZALV	**Zalesovo Beam**		**50.85 32**	*i* P	**P**		**19 15 57.2**	**-0.2**	
ZALV				pmax	pmax				
	comp=Z,9.0nm,0.6s								
APA	**Apatity**		**51.15 357**	*i* P	**P**		**19 15 58.3**	**-1.2**	
APA				*e*			19 17 51.8		
APA				pmax	pmax				
	comp=Z,12nm,0.9s								
APA				MLR	MLR				
	comp=Z,330nm,5.1s								
LVZ	**Lovozero**		**51.41 357**	P	**P**		**19 16 01.3**	**-0.3**	
LVZ				IAmb	IAmb		19 16 06.4		
	comp=Z,8.2nm,0.7s								
LVZ	**Lovozero**		**51.41 357**	*e*P	**P**		**19 16 01.7**	**+0.2**	
LVZ				pmax	pmax				
	comp=Z,9.0nm,0.7s								
GOMU	**GeErMu**		**52.07 57**	P	**P**		**19 16 07.0**	**-0.4**	
GOMU				pmax	pmax				
	comp=Z,34nm,0.9s								
GOMU				LR	LR				
	comp=Z,110nm,13.0s								
GOMU				LR	LR				
	comp=Z,150nm,15.6s								
ARCES	**ARCESS Array B**		**53.72 354**	P	**P**		**19 16 18.2**	**-0.3**	
ARCES	**ARCESS Array B**		**53.72 354**	P	**P**		**19 16 18.2**	**-0.3**	
	comp=Z,4.0nm,0.6s,baz=162,slow=8.4,SNR=21								
ARCES				LR	LR		19 39 24.4		
	comp=Z,87nm,18.5s,baz=201,slow=36								
	comp=Z,4.0nm,0.6s								
KEV	**Kevo**		**53.78 354**	P	**P**		**19 16 19.0**	**+0.1**	
KEV	**Kevo**		**53.78 354**	P	**P**		**19 16 19.0**	**+0.1**	
KEV				pmax	pmax				
	comp=Z,99nm,2.0s								
TNCH	**TengChong**		**54.92 71**	P	**P**		**19 16 28.1**	**-0.1**	
TNCH				pmax	pmax				
	comp=Z,25nm,1.1s								
CHTO	**Chiang Mai**		**55.89 78**	P	**P**		**19 16 33.6**	**-1.5**	
CHTO				IAmb	IAmb		19 16 35.4		
	comp=Z,26nm,1.9s								
CHTO	**Chiang Mai**		**55.89 78**	P	**P**		**19 16 33.5**	**-1.7**	
CHTO	**Chiang Mai**		**55.89 78**	P	**P**		**19 16 34.4**	**-0.7**	
CHTO	**Chiang Mai**		**55.89 78**	P	**P**		**19 16 33.6**	**-1.5**	
CHTO				pmax	pmax				
	comp=Z,26nm,1.9s								
CMAR	**Chiang Mai Arr**		**55.94 79**	P	**P**		**19 16 34.4**	**-1.1**	
CMAR	**Chiang Mai Arr**		**55.94 79**	P	**P**		**19 16 34.9**	**-0.6**	
	comp=Z,3.1nm,0.4s,baz=284,slow=7.8,SNR=27								
CMAR				PcP	**PcP**		**19 17 34.4**	**+0.3**	
	comp=Z,0.4nm,0.4s,baz=275,slow=3.9,SNR=3.0								
	comp=Z,3.1nm,0.4s								
GTA	**Gaotai**		**56.37 53**	P	**P**		**19 16 38.5**	**+0.1**	
GTA				pP	sP		19 16 43.2	-1.4	
GTA				pmax	pmax				
	comp=Z,21nm,1.2s								
GTA				LR	LR				
	comp=Z,160nm,21.1s								
GTA				LR	LR				
	comp=Z,160nm,19.3s								
GTA				LR	LR				
	comp=Z,220nm,18.9s								
KNGR	**Kungurtug, Tuv**		**56.80 40**	*de*P	**P**		**19 16 42.0**	**+0.7**	
KNGR				pmax	pmax				
	comp=Z,12nm,0.8s								
PZH	**PanZhiHua**		**57.73 69**	P	**P**		**19 16 49.3**	**+1.1**	
KMI	**Kunming**		**58.73 70**	P	**P**		**19 16 55.0**	**-0.4**	
KMI				pmax	pmax				
	comp=Z,9.0nm,0.8s								
LZDM	**Lanzhou Array**		**59.23 58**	P	**P**		**19 16 58.3**	**-0.5**	
	comp=Z,2.8nm,0.4s,baz=350,slow=3.4,SNR=1.4								
	comp=Z,2.8nm,0.4s								
LZH	**Lanzhou**		**59.35 58**	*e*P	**P**		**19 16 58.7**	**-0.7**	
LZH				sP	sP		19 17 08.4	+2.8	
LZH				ScP	**ScP**		**19 21 45.9**	**-2.1**	
LZH				pmax	pmax				
	comp=Z,32nm,1.0s								
LZH				LR	LR				
	comp=Z,150nm,16.7s								
LZH				LR	LR				
	comp=Z,190nm,15.1s								
PSI	**Prapat**		**59.37 97**	LR	LR		19 39 30.3		
	comp=Z,100nm,18.6s,baz=241,slow=33								
PSI	**Prapat**		**59.37 97**	P	**P**		**19 17 00.6**	**+0.8**	
SLVN	**Son La**		**60.19 75**	P	**P**		**19 17 04.9**	**-0.5**	
SLVN				IAmb	IAmb		19 17 06.4		
	comp=Z,8.5nm,0.9s								
SLVN	**Son La**		**60.19 75**	P	**P**		**19 17 05.4**	**+0.1**	
KULM	**Kulim**		**60.31 93**	P	**P**		**19 17 06.1**	**0.0**	
KULM				IAmb	IAmb		19 17 07.6		
	comp=Z,17nm,1.1s								
SONM	**Songino Array**		**62.02 44**	P	**P**		**19 17 17.8**	**+0.4**	
SONM	**Songino Array**		**62.02 44**	P	**P**		**19 17 17.7**	**+0.4**	
	comp=Z,4.4nm,0.9s,baz=262,slow=6.6,SNR=21								
SONM				LR	LR		19 46 32.1		
	comp=Z,107nm,20.8s,baz=259,slow=38								
	comp=Z,4.4nm,0.9s								
SONM	**Songino Array**		**62.02 44**	P	**P**		**19 17 17.8**	**+0.4**	
SONM				pmax	pmax				
	comp=Z,32nm,1.7s								
GYA	**Guiyang**		**62.13 69**	P	**P**		**19 17 18.1**	**-0.4**	
GYA				pmax	pmax				
	comp=Z,54nm,1.0s								
ULN	**Ulaanbaatar**		**62.46 44**	*e*P	**P**		**19 17 21.2**	**+0.8**	
ULN				pmax	pmax				
	comp=Z,4.0nm,1.0s								
SPB2	**Spitsbergen Ar**		**62.71 355**	P	**P**		**19 17 21.7**	**+0.4**	
SPITS	**Spitsbergen Ar**		**62.71 355**	P	**P**		**19 17 21.5**	**+0.1**	
	comp=Z,20nm,0.9s,baz=138,slow=10,SNR=21								
SPITS				LR	LR		19 44 59.0		
	comp=Z,92nm,21.9s,baz=152,slow=36								
	comp=Z,20nm,0.9s								
SPITS	**Spitsbergen Ar**		**62.71 355**	P	**P**		**19 17 21.9**	**+0.5**	
SPITS				pmax	pmax				
	comp=Z,34nm,1.0s								
BORG	**Borgarnes**		**63.07 335**	*i* P	**P**		**19 17 21.0**	**-2.9**	
XAN	**Xi'an**		**63.54 60**	P	**P**		**19 17 27.2**	**-0.5**	
XAN				pmax	pmax				
	comp=Z,19nm,1.0s								
BTO	**Baotou**		**64.25 53**	*e*P	**P**		**19 17 32.2**	**-0.1**	
BTO				S	**S**		**19 26 09.4**	**-0.5**	
BTO				pmax	pmax				
	comp=Z,19nm,0.8s								
BTO				pmax	pmax				
	comp=Z,140nm,5.6s								
BTO				LR	LR				
	comp=Z,280nm,9.2s								
BTO				LR	LR				
	comp=Z,170nm,5.5s								
BTO				LR	LR				
	comp=Z,210nm,9.2s								
ENH	**Enshi**		**64.27 64**	P	**P**		**19 17 31.5**	**-1.0**	
ENH				IAmb	IAmb		19 17 33.2		
	comp=Z,16nm,1.1s								
ENH	**Enshi**		**64.27 64**	P	**P**		**19 17 32.2**	**-0.3**	
HHC	**Hu-ho-hao-te**		**65.42 52**	*i* P	**P**		**19 17 41.0**	**+1.0**	
HHC				pmax	pmax				
	comp=Z,12nm,0.9s								
HHC				pmax	pmax				
	comp=Z,56nm,5.0s								
DLV	**Lat**		**66.18 84**	P	**P**		**19 17 46.0**	**+0.7**	
MDSI	**Maura Dua**		**66.68 102**	P	**P**		**19 17 48.2**	**-0.1**	
	comp=Z,27nm,1.0s								
XLT	**XiLinHaoTe**		**68.67 49**	*e*P	**P**		**19 18 01.5**	**+1.0**	
XLT				pmax	pmax				
	comp=Z,6.0nm,1.2s								
BJI	**Beijing**		**68.98 53**	P	**P**		**19 18 02.9**	**+0.6**	
BJI				S	**S**		**19 27 10.6**	**+3.8**	
BJI				pmax	pmax				
	comp=Z,3.0nm,1.3s								
BJI				LR	LR				
	comp=Z,72nm,13.5s								
BJI				LR	LR				
	comp=Z,66nm,13.5s								
BJI				LR	LR				
	comp=Z,88nm,15.1s								
NOR	**Nord**		**69.04 352**	*i* P	**P**		**19 18 03.8**	**+1.7**	
NOR				IAmb	IAmb		19 18 07.2		
	comp=Z,70nm,1.4s								
ANGG	**Ammassalik, Gr**		**69.97 334**	*i* P	P		19 18 15.3	+7.3	
ANGG				IAmb	IAmb		19 18 15.5		
	comp=Z,102nm,1.3s								
KSM	**Kuching**		**70.63 94**	P	**P**		**19 18 12.4**	**-0.6**	
KSM	**Kuching**		**70.63 94**	P	**P**		**19 18 13.5**	**+0.5**	
SUMG	**Summit**		**70.87 342**	P	**P**		**19 18 13.9**	**0.0**	
SUMG				IAmb	IAmb		19 18 18.4		
	comp=Z,14nm,1.1s								
SUMG	**Summit**		**70.87 342**	P	**P**		**19 18 13.9**	**0.0**	
SUMG				pmax	pmax				
	comp=Z,14nm,1.1s								
SUMG	**Summit**		**70.87 342**	*i* P	**P**		**19 18 14.1**	**+0.2**	
SUMG				IAmb	IAmb		19 18 17.6		
	comp=Z,11nm,0.9s								
NJ2	**Nanjing**		**72.04 61**	*e*P	**P**		**19 18 21.1**	**-0.1**	
NJ2				pmax	pmax				
	comp=Z,11nm,0.5s								
STKI	**Sintang**		**72.16 95**	P	**P**		**19 18 22.9**	**+0.7**	
	comp=Z,3µmcomp=Z,27nm,1.0s								
SBUM	**Sibu**		**72.18 93**	P	**P**		**19 18 22.2**	**-0.1**	
SBUM	**Sibu**		**72.18 93**	P	**P**		**19 18 23.0**	**+0.7**	
NRS	**Narsarsuaq**		**73.48 330**	*i* P	**P**		**19 18 32.1**	**+2.9**	
NRS				IAmb	IAmb		19 18 32.7		
	comp=Z,22nm,1.0s								
DY2G	**Dye2**		**73.49 335**	*i* P	**P**		**19 18 30.0**	**+0.5**	
DY2G				IAmb	IAmb		19 18 33.3		
	comp=Z,33nm,1.2s								
TIXI	**Tiksi**		**74.02 19**	LR	LR		19 56 46.3		
	comp=Z,144nm,19.4s,baz=286,slow=40								
ILULI	**Ilulissat**		**75.07 338**	*i* P	**P**		**19 18 36.9**	**-1.4**	
ILULI				IAmb	IAmb		19 18 39.1		
	comp=Z,15nm,0.8s								
ZEA	**Zeya**		**75.15 38**	*e*P	**P**		**19 18 40.0**	**+0.9**	
YAK	**Yakutsk**		**75.33 29**	P	**P**		**19 18 38.5**	**-1.5**	
YAK	**Yakutsk**		**75.33 29**	*e*P	**P**		**19 18 39.2**	**-0.7**	
YAK				*e**PP	**sP**		**19 18 49.6**	**+3.4**	
YAK				*e*			19 21 27.3		
YAK				*e*PPP	PPP		19 23 13.0		
YAK				*e*S	**S**		**19 28 17.3**	**-1.6**	
YAK				*e*SS	**SS**		**19 33 09.3**	**+0.9**	
YAK				pmax	pmax				
	comp=Z,13nm,1.2s								
YAK				pmax	pmax				
	comp=N,1.0nm,1.0s								
YAK				pmax	pmax				
	comp=E,4.0nm,1.5s								
YAK				pmax	pmax				
	comp=Z,128nm,6.2s								
YAK				pmax	pmax				
	comp=N,93nm,6.4s								
YAK				pmax	pmax				
	comp=E,118nm,5.8s								
YAK				smax	smax				
	comp=N,109nm,4.6s								
YAK				smax	smax				
	comp=E,40nm,3.7s								
HEH	**HeiHe**		**75.75 41**	*e*P	**P**		**19 18 41.7**	**-0.9**	
HEH				pmax	pmax				
	comp=E,11nm,0.9s								
BNX	**BinXian**		**76.48 46**	P	**P**		**19 18 46.0**	**-0.8**	
BNX				pmax	pmax				
	comp=E,7.0nm,0.9s								
MDJ	**Mudanjiang**		**78.20 47**	P	**P**		**19 18 56.6**	**0.0**	
MDJ				pmax	pmax				
	comp=E,7.0nm,2.0s								
KSRS	**Korea Array**		**78.43 54**	P	**P**		**19 18 57.3**	**-0.7**	
	comp=E,3.0nm,0.8s,baz=276,

MKHL P Pg 19 07 22.6 0.0

*IDC **11** 19:16:38.4±0.6,38˙30S×93˙47W,h0km,mb4.4/11, mbtmp4.4/12,ML3.9/1,MS4.6/41,Error ellipse: s-maj=21.2km s-min=16.0km az=106.0*

*NEIC **11** 19:16:40.7±2.2,38˙28S±0˙10×93˙0W±0˙2,h10km±1km, mb4.9/99,Mwb5.4/6,Mww5.4/26,Error ellipse: s-maj=20.1km s-min=16.6km az=273.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.30; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$-0.23; $M_{r\theta}$-0.09; $M_{\theta\phi}$-1.47; $M_{\theta r}$-0.27; Fault plane solution: $M_0$1.52000×10^{17} NP1:ϕ_s88.61000°, δ79.84000°,λ-179.45000°. NP2:ϕ_s358.51000°, δ89.46000°,λ-10.17000°. Principal axes: T 1.3417, Plg7.0000°, Azm44.0000°; N 0.3150, Plg80.0000°, Azm176.0000°; P -1.6567, Plg8.0000°, Azm313.0000°;*

*NEIC **11** 19:16:41.2,38˙14S×93˙97W,h20km,Moment Tensor Solution. Duration: 2≌6 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.26; $M_{\theta\theta}$-0.10; $M_{\phi\phi}$0.36; $M_{r\theta}$0.01; $M_{\theta\phi}$-1.34; $M_{\theta r}$0.25; Fault plane solution: $M_0$1.40000×10^{17} NP1: ϕ_s274.98000°,δ78.93000°,λ-177.18000°. NP2: ϕ_s184.44000°,δ87.23000°,λ-11.09000°. Principal axes: T 1.5077, Plg6.0000°, Azm230.0000°; N -0.2478, Plg79.0000°, Azm351.0000°; P -1.2599, Plg10.0000°, Azm139.0000°;*

*NEIC **11** 19:16:41.2,38˙34S×92˙95W,h20km*

*NEIC **11** 19:16:41.2,38˙34S×92˙95W,h10km*

*GCMT **11** 19:16:42.7±0.1,38˙32S±0˙01×93˙63W±0˙01,h12km, MW5.3/150,Moment Tensor Solution. s112,c178; s150,c281; Duration: 1≌1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.15±.01; $M_{\theta\theta}$-0.07±.01; $M_{\phi\phi}$0.21±.01; $M_{r\theta}$0.19±.03; $M_{\theta\phi}$-1.11±.01; $M_{\theta r}$-0.28±.04; Best double couple: $M_0$1.15900×10^{17} NP1:ϕ_s93.00000°,δ79.00000°, λ173.00000°. NP2:ϕ_s184.00000°,δ83.00000°,λ11.00000°. Principal axes: T 1.2730, Plg13.0000°, Azm49.0000°; N -0.2280, Plg76.0000°, Azm216.0000°; P -1.0450, Plg3.0000°, Azm318.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 19:16:39.1±0.4,38˚24S±0˙07×93˚36W±0˙06,h10km,n204, σ2≌00/150,mb4.9/49,MS4.6/40,7C,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**12.48**	**74**	T	T	19 32 39.2	
	baz=244,slow=74,SNR=6557						
H03S1	**Juan Fernandez**	**12.49**	**74**	T	T	19 32 42.1	
	baz=244,slow=74,SNR=9539						
H03S3	**Juan Fernandez**	**12.49**	**74**	T	T	19 32 40.9	
	baz=244,slow=74						
VA04	**Juan Fernnndez**	**12.63**	**73**	Pn	Pn	19 19 31.7	-7.1
H03N3	**Juan Fernandez**	**12.64**	**72**	T	T	19 32 48.2	
	baz=251,slow=72,SNR=1750						
H03N2	**Juan Fernandez**	**12.64**	**72**	T	T	19 32 45.6	
	baz=251,slow=72,SNR=2307						
H03N1	**Juan Fernandez**	**12.66**	**72**	T	T	19 32 49.7	
	baz=251,slow=72,SNR=3307						
LL05	**Los Muermos**	**15.60**	**108**	Pn	**Pn**	**19 20 14.7**	**-4.3**
LL05				IAmb	IAmb	19 20 20.1	
	comp=Z,32nm,0.5s						
GO07	**Milladeo Hill,**	**15.70**	**114**	Pn	**Pn**	**19 20 17.4**	**-2.9**
BI05	**Punta Hualpn**	**16.08**	**91**	Pn	**Pn**	**19 20 22.1**	**-3.1**
LL03	**Petrohue**	**16.38**	**107**		**Pn**	**19 20 25.9**	**-3.1**
LL03				IAmb	IAmb	19 20 34.5	
	comp=Z,62nm,1.0s						
LR03	**Panguipulli**	**16.41**	**101**		**P**	**19 20 34.7**	**+2.5**
LL01	**San Ignacio de**	**16.49**	**111**		**Pn**	**19 20 28.4**	**-2.0**
LR05	**Currie**	**16.66**	**104**		**Pn**	**19 20 30.1**	**-2.5**
LL02	**Futaleuf**	**17.02**	**114**		**Pn**	**19 20 34.5**	**-2.7**
RPN	**Rapa Nui**	**17.40**	**305**	LR	LR	19 25 30.5	
	comp=Z,4μm,18.8s,baz=137,slow=31						
COYC	**Coyhaique**	**17.42**	**122**		**Pn**	**19 20 39.8**	**-2.3**
BI02	**San Fabin de**	**17.60**	**92**		**Pn**	**19 20 43.7**	**-0.8**
AY03	**Cochrane**	**17.67**	**127**	P	**Pn**	**19 20 41.2**	**-4.0**
AY03				IAmb	IAmb	19 20 51.9	
	comp=Z,196nm,1.9s						
PLCA	**Paso Flores**	**17.77**	**105**		**Pn**	**19 20 42.5**	**-4.1**
PLCA	**Paso Flores**	**17.77**	**105**	P	**P**	**19 20 49.7**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=275,slow=12,SNR=13						
PLCA				LR	LR	19 26 00.4	
	comp=Z,2μm,18.5s,baz=272,slow=32						
	comp=Z,12nm,1.0s						
PLCA	**Paso Flores**	**17.77**	**105**	*eP*	**P**	**19 20 50.7**	**+3.3**
BO01	**Tunca**	**18.34**	**85**		**Pn**	**19 20 51.0**	**-2.6**
BO01				IAmb	IAmb	19 21 00.5	
	comp=Z,184nm,2.0s						
MT01	**Popeta**	**18.39**	**83**	P	**Pn**	**19 20 51.6**	**-2.5**
BO02	**Sierra Bellavi**	**18.46**	**86**	P	**P**	**19 20 51.0**	**-4.0**
MT09	**Talagante**	**18.62**	**83**	P	**P**	**19 20 52.0**	**-4.9**
MT09				IAmb	IAmb	19 21 03.5	
	comp=Z,140nm,1.3s						
MT02	**Curacav**	**18.69**	**81**		**P**	**19 20 54.8**	**-2.7**
MT02				IAmb	IAmb	19 21 04.5	
	comp=Z,126nm,1.8s						
VA06	**Catapilco**	**18.84**	**79**	P	**P**	**19 20 57.1**	**-2.0**
VA06				IAmb	IAmb	19 21 04.5	
	comp=Z,206nm,1.9s						
BO04	**La Punta**	**18.85**	**84**	P	**P**	**19 20 57.7**	**-1.5**
BO04				IAmb	IAmb	19 21 05.9	
	comp=Z,106nm,1.5s						
MT05	**Renca**	**18.95**	**82**	P	**P**	**19 20 58.1**	**-2.3**
PEL	**Peldehue**	**19.09**	**81**	P	**P**	**19 21 00.3**	**-1.5**
MT03	**Universidad Ad**	**19.10**	**83**	P	**P**	**19 20 58.8**	**-3.2**
MT16	**CCHEN**	**19.11**	**82**	P	**P**	**19 20 59.7**	**-2.4**
MT13	**San Alfonso**	**19.18**	**84**	P	**P**	**19 21 01.1**	**-1.9**
LMEL	**Las Melosas**	**19.21**	**84**	P	**P**	**19 21 01.8**	**-1.6**
LMEL				IAmb	IAmb	19 21 10.0	
	comp=Z,85nm,1.3s						
VA03	**San Esteban**	**19.34**	**81**	P	**P**	**19 21 03.1**	**-1.5**
VA03				IAmb	IAmb	19 21 09.9	
	comp=Z,95nm,1.4s						
MT08	**Bocatoma Ro**	**19.50**	**83**		**P**	**19 21 02.9**	**-3.7**
CO02	**Combarbal**	**19.64**	**76**	P	**P**	**19 21 05.8**	**-2.2**
GO09	**Cerro Castillo**	**19.72**	**138**	P	**P**	**19 21 08.0**	**-0.7**
MG05	**Puerto Natales**	**19.86**	**139**	P	**P**	**19 21 08.6**	**-1.5**
CO03	**El Pedregal**	**20.05**	**75**	P	**P**	**19 21 10.7**	**-1.7**
GO04	**Tololo Observa**	**20.28**	**73**	P	**P**	**19 21 13.3**	**-1.8**
AAGR	**Agrelo**	**20.56**	**83**	*eP*	Pn	19 21 21.4	+1.2
ARCO	**CERRO ARCO**	**20.57**	**82**	*eP*	Pn	19 21 22.0	+1.7
RTLS	**Leoncito**	**20.70**	**79**	*eP*	Pn	19 21 23.8	+1.7
ASAL	**Salagasta**	**20.74**	**82**	*eP*	Pn	19 21 22.2	0.0
CO01	**Juntas del Tor**	**20.91**	**74**	P	**P**	**19 21 21.5**	**-0.5**
CO01				IAmb	IAmb	19 21 32.9	
	comp=Z,154nm,2.0s						
LCO	**Las Campanas**	**20.95**	**71**	P	**P**	**19 21 23.0**	**+0.6**
LCO				IAmb	IAmb	19 21 26.1	
	comp=Z,69nm,1.2s						
MG04	**Isla Riesco**	**21.01**	**141**	P	**P**	**19 21 22.7**	**+0.1**
AROD	**Rodeo**	**21.29**	**75**	*eP*	**P**	**19 21 28.6**	**+2.4**
ACCO	**Cerro Coronel**	**21.41**	**76**	*eP*	**P**	**19 21 29.5**	**+2.1**
CFA	**Coronel Fontan**	**21.60**	**80**	P	**P**	**19 21 31.2**	**+2.0**
	comp=Z,14nm,1.1s,baz=247,slow=11,SNR=26						
CFA				LR	LR	19 28 25.7	
	comp=Z,414nm,18.9s,baz=262,slow=33						
	comp=Z,14nm,1.1s						
GO03	**Copiapo**	**22.07**	**68**	P	**P**	**19 21 32.7**	**-1.5**
GO03				IAmb	IAmb	19 21 39.3	
	comp=Z,59nm,1.4s						
MG03	**Isla Dawson**	**22.13**	**142**	P	**P**	**19 21 34.6**	**+0.1**
ACAN	**Cantantal**	**22.14**	**82**	*eP*	**P**	**19 21 35.1**	**+0.1**
AGUA	**GUANDACOL**	**22.37**	**74**	*eP*	**P**	**19 21 39.7**	**+2.2**
AVFE	**Valle Fertil**	**22.61**	**78**	*eP*	**P**	**19 21 41.4**	**+1.3**
AC01	**Pan de Azucar**	**22.65**	**65**	P	**P**	**19 21 41.1**	**+0.6**
AC01				IAmb	IAmb	19 21 45.4	
	comp=Z,39nm,0.9s						
VCA	**Vinchina**	**22.96**	**73**	*eP*	**P**	**19 21 46.0**	**+2.2**
AC02	**Maricunga**	**23.31**	**68**	P	**P**	**19 21 46.4**	**-1.3**
AC02				IAmb	IAmb	19 21 52.9	
	comp=Z,55nm,1.1s						
AC02	**Maricunga**	**23.31**	**68**	*eP*	**P**	**19 21 49.6**	**+1.9**
APLL	**PUNTA DE LOS L**	**23.44**	**79**	*eP*	**P**	**19 21 49.7**	**+1.0**
ACLC	**CERRO LA CRUZ**	**23.57**	**76**	*eP*	**P**	**19 21 50.9**	**+0.9**
USHA	**Ushuaia**	**23.66**	**143**	LR	LR	19 29 21.8	
	comp=Z,3μm,18.5s,baz=280,slow=32						
PB14	**IPOC Station P**	**23.75**	**62**	P	**P**	**19 21 51.9**	**0.0**
PB14				IAmb	IAmb	19 21 56.3	
	comp=Z,55nm,1.1s						
GO02	**Mina Guanaco**	**23.98**	**64**	P	**P**	**19 21 53.6**	**-0.5**
TRQA	**Tornquist**	**24.62**	**99**	P	**P**	**19 21 59.3**	**-0.3**
PB06	**IPOC Station P**	**25.58**	**60**	P	**P**	**19 22 08.6**	**0.0**
PB03	**IPOC Station P**	**25.91**	**58**	P	**P**	**19 22 11.5**	**-0.1**
FSA	**Cafayete**	**26.04**	**70**	*eP*	**P**	**19 22 12.4**	**-0.3**
PB09	**IPOC Station P**	**26.43**	**59**	P	**P**	**19 22 16.3**	**0.0**
PB01	**IPOC Station P**	**26.79**	**57**	P	**P**	**19 22 18.8**	**-0.6**
PB16	**IPOC Station P**	**28.74**	**53**	P	**P**	**19 22 35.9**	**-1.5**
PB16				IAmb	IAmb	19 22 41.2	
	comp=Z,40nm,1.4s						
NNA	**Nana**	**30.01**	**34**	LR	LR	19 31 42.1	
	comp=Z,3μm,21.1s,baz=201,slow=30						
LPAZ	**La Paz**	**31.14**	**52**	P	**P**	**19 22 58.9**	**+0.2**
LPAZ				IAmb	IAmb	19 23 02.7	
	comp=Z,21nm,1.1s						
LPAZ	**La Paz**	**31.14**	**52**	P	**P**	**19 23 00.9**	**+2.2**
	comp=Z,10nm,0.9s,baz=197,slow=7.8,SNR=24						
LPAZ				LR	LR	19 32 52.0	
	comp=Z,930nm,19.2s,baz=244,slow=31						
	comp=Z,10nm,0.9s						
LPAZ	**La Paz**	**31.14**	**52**	*eP*	**P**	**19 23 00.7**	**+2.0**
PMSA	**Palmer Station**	**31.66**	**156**	LR	LR	19 32 18.2	
	comp=Z,2μm,20.2s,baz=305,slow=30						
CPUP	**Villa Florida**	**32.49**	**79**	P	**P**	**19 23 08.6**	**-1.3**
CPUP	**Villa Florida**	**32.49**	**79**	P	**P**	**19 23 11.5**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=118,slow=14,SNR=9.0						
CPUP				LR	LR	19 35 05.0	
	comp=Z,252nm,18.1s,baz=104,slow=34						
	comp=Z,1.2nm,0.7s						
PLTB	**Pedras Altas**	**33.01**	**91**	P	**P**	**19 23 13.8**	**-0.6**
SMAI	**San Martin Ant**	**33.27**	**162**	P	**P**	**19 23 17.1**	**+0.9**
SMAI				IAmb	IAmb	19 23 18.3	
	comp=Z,22nm,1.4s						
ATAH	**Atahualpa**	**33.80**	**27**	LR	LR	19 34 16.3	
	comp=Z,2μm,18.4s,baz=215,slow=31						
SIV	**San Ignacio**	**36.00**	**61**	LR	LR	19 36 40.5	
	comp=Z,1μm,20.1s,baz=280,slow=33						
ITAB	**Concordia**	**36.11**	**85**	P	**P**	**19 23 40.6**	**-0.6**
AQDB	**Aquidauana**	**36.98**	**72**	P	**P**	**19 23 48.2**	**-0.5**
AQDB				IAmb	IAmb	19 23 52.7	
	comp=Z,20nm,1.1s						
PTLB	**Pontes e Lacer**	**37.71**	**62**	P	**P**	**19 23 54.5**	**-0.5**
PTLB	**Pontes e Lacer**	**37.71**	**62**	*eP*	**P**	**19 23 56.0**	**+1.1**
COHC	**Cochancay**	**37.87**	**23**		**P**	**19 23 57.0**	**+0.7**
RKT	**Rikitea**	**38.50**	**281**	*eP*	**P**	**19 23 57.3**	**-4.2**
RKT				*eS*	**S**	**19 29 49.7**	**-7.4**
	comp=Z,4μm,40.2s						
RKT				*eLQ*	LQ	19 32 56.2	
	comp=Z,4μm,47.0s						
VILB	**Vilhena**	**38.74**	**58**	P	**P**	**19 24 03.0**	**-0.7**
VILB				IAmb	IAmb	19 24 06.2	
	comp=Z,12μm,29.2s						
VILB	**Vilhena**	**38.74**	**58**	*eP*	**P**	**19 24 05.1**	**+1.4**
SALV	**Santo Antonio**	**39.86**	**67**	*eP*	**P**	**19 24 14.7**	**+1.8**
OTAV	**Otavalo**	**40.68**	**23**	P	**P**	**19 24 20.9**	**+0.7**
HOPE	**Hope Point**	**41.26**	**132**	P	**P**	**19 24 24.8**	**+0.6**
PDRB	**Porto dos Gac**	**42.06**	**61**	*eP*	**P**	**19 24 32.6**	**+1.4**
ARAG	**Araguaiana, MT**	**42.82**	**70**	*eP*	**P**	**19 24 38.6**	**+1.3**
FLOC	**Florencia**	**42.87**	**27**	P	**P**	**19 24 39.0**	**+1.4**
FLOC				IAmb	IAmb	19 25 52.0	
	comp=Z,24nm,1.5s						
CLDB	**Colider**	**43.22**	**61**	*eP*	**P**	**19 24 41.2**	**+0.6**
SNDB	**Serra Nova Dou**	**45.64**	**66**	*eP*	**P**	**19 25 01.5**	**+1.6**
BDFB	**Brasilia**	**45.70**	**73**	P	**P**	**19 25 00.1**	**-0.4**
BDFB				IAmb	IAmb	19 25 10.1	
	comp=Z,21nm,1.3s						
BDFB	**Brasilia**	**45.70**	**73**	P	**P**	**19 25 01.6**	**+1.0**
	comp=Z,2.3nm,0.4s,baz=199,slow=4.3,SNR=4.0						
BDFB				LR	LR	19 42 56.3	
	comp=Z,735nm,21.7s,baz=238,slow=34						
	comp=Z,2.3nm,0.4s						
NPGB	**Novo Progresso**	**46.29**	**58**	*eP*	**P**	**19 25 06.0**	**+0.9**
ROSC	**El Rosal**	**46.36**	**27**	P	**P**	**19 25 06.9**	**+0.9**
ROSC	**El Rosal**	**46.36**	**27**	P	**P**	**19 25 07.6**	**+1.6**
	comp=Z,9.6nm,0.4s,baz=202,slow=6.1,SNR=4.8						
ROSC				LR	LR	19 42 29.0	
	comp=Z,1μm,18.0s,baz=230,slow=33						
	comp=Z,9.6nm,0.4s						
BELA	**Belgrano 2**	**46.46**	**166**	P	**P**	**19 25 05.2**	**-0.5**
BELA				IAmb	IAmb	19 25 15.5	
	comp=Z,11nm,1.1s						
RUSC	**La Rusia**	**47.78**	**28**	P	**P**	**19 25 15.4**	**-1.8**
RUSC				IAmb	IAmb	19 26 16.6	
	comp=Z,9.9nm,1.1s						
ITTB	**Itaituba**	**48.05**	**55**	*eP*	**P**	**19 25 19.2**	**+0.4**
JANB	**Januaria**	**48.87**	**76**	*eP*	**P**	**19 25 26.2**	**+1.0**
JTS	**Las Juntas de**	**48.91**	**11**	LR	LR	19 40 51.7	
	comp=Z,1μm,21.4s,baz=186,slow=30						
TBI	**Tubuai**	**49.72**	**270**	*eS*	**S**	**19 32 43.0**	**+2.4**
	comp=Z,746nm,24.8s						
TBI				*eSS*	**SS**	**19 36 21.7**	**+8.8**
	comp=Z,1μm,28.5s						
TBI				*eLQ*	LQ	19 37 46.1	
	comp=Z,5μm,30.8s						
TBI				*eLR*	LR	19 39 43.7	
	comp=Z,946nm,25.5s						
TBI				*eLR*	LR	19 39 44.8	
	comp=Z,3μm,27.2s						
BOAV	**Boa Vista**	**50.54**	**45**		**P**	**19 25 37.7**	**-0.1**
BOAV				IAmb	IAmb	19 25 41.3	
	comp=Z,11nm,1.0s						
BOAV	**Boa Vista**	**50.54**	**45**	*eP*	**P**	**19 25 38.7**	**+0.9**
TAOE	**Nuku Hiva Isla**	**51.17**	**292**	*eS*	**S**	**19 32 57.8**	**-3.3**
	comp=Z,390nm,26.2s						
TAOE				*eLR*	LR	19 40 19.1	
	comp=Z,575nm,27.8s						
SDV	**Santo Domingo**	**51.45**	**29**	LR	LR	19 46 00.6	
	comp=Z,3μm,19.2s,baz=206,slow=34						
QSPA	**South Pole Qui**	**51.98**	**180**	P	**P**	**19 25 49.4**	**+1.2**
QSPA	**South Pole Qui**	**51.98**	**180**	P	**P**	**19 25 50.1**	**+1.9**
	comp=Z,2.0nm,0.7s,baz=122,slow=2.0,SNR=15						
QSPA				LR	LR	19 44 05.9	
	comp=Z,634nm,20.9s,baz=128,slow=32						
	comp=Z,2.0nm,0.7s						
VNA3	**Neumayer Olymp**	**52.32**	**156**	⇑P	**P**	**19 25 50.6**	**+0.1**
	comp=Z,12nm,0.8s						
MTO3	**Montecristo**	**52.49**	**5**	P	**P**	**19 25 53.5**	**+0.9**
MTO3				IAmb	IAmb	19 26 07.1	
	comp=Z,15nm,1.1s						
BAUV	**El Baul**	**52.55**	**32**		**P**	**19 25 52.0**	**-0.8**
BAUV				IAmb	IAmb	19 25 55.8	
	comp=Z,17nm,0.8s						
VNA1	**Neumayer--Stat**	**52.87**	**155**	⇑P	**P**	**19 25 55.3**	**+0.7**
	comp=Z,17nm,1.1s						
PPT2	**Papeete2**	**52.93**	**277**	*eP*	P	19 26 00.2	+4.4
	comp=Z,48nm,26.0s						
PPT2				*eS*	**S**	**19 33 23.3**	**-2.0**
	comp=Z,147nm,24.8s						
PPT2				*eSS*	**SKiKP**	**19 37 13.1**	**-2.3**
	comp=Z,239nm,23.2s						
PPT2				*eLQ*	LQ	19 39 03.0	
	comp=Z,952nm,30.0s						
PPT2				*eLR*	LR	19 41 11.0	
	comp=Z,273nm,23.5s						
PPT2				*eLR*	LR	19 41 17.5	
	comp=Z,278nm,22.0s						
PPT	**Papeete**	**52.95**	**277**	LR	LR	19 42 06.7	
	comp=Z,210nm,19.9s,baz=128,slow=29						
VNA2	**Neumayer--Watz**	**53.10**	**156**	⇑P	**P**	**19 25 56.7**	**+0.4**
	comp=Z,8.5nm,0.6s,baz=290,slow=4.8						
SNAA	**Sanae**	**54.38**	**157**	⇑P	**P**	**19 26 05.6**	**0.0**
	comp=Z,149nm,0.9s						
SNAA	**Sanae**	**54.38**	**157**	P	**P**	**19 26 04.1**	**-1.5**
SNAA	**Sanae**	**54.38**	**157**	P	**P**	**19 26 05.6**	**0.0**
	comp=Z,8.1nm,1.1s,baz=256,slow=5.9,SNR=22						
SNAA				LR	LR	19 45 39.9	
	comp=Z,560nm,19.7s,baz=286,slow=32						
	comp=Z,8.1nm,1.1s						
SBA	**Scott Base**	**54.99**	**195**	P	**P**	**19 26 11.0**	**+1.1**
SBA				IAmb	IAmb	19 26 33.0	
	comp=Z,30nm,1.7s						
PCRV	**Puerto La Cruz**	**55.13**	**35**	LR	LR	19 47 25.5	
	comp=Z,1μm,21.1s,slow=33						
TROLL	**Troll, Antarti**	**55.89**	**158**	⇑P	**P**	**19 26 17.2**	**+0.5**
	comp=Z,901nm,1.1s						
VNDA	**Vanda**	**56.09**	**195**	P	**P**	**19 26 18.4**	**+0.5**
VNDA	**Vanda**	**56.09**	**195**	P	**P**	**19 26 18.8**	**+1.0**
	comp=Z,1.6nm,1.0s,baz=108,slow=8.5,SNR=8.4						
VNDA				LR	LR	19 46 02.9	
	comp=Z,375nm,19.6s,baz=114,slow=32						
	comp=Z,1.6nm,1.0s						
MDP	**Montagnes des**	**57.31**	**51**	LR	LR	19 48 41.7	
	comp=Z,707nm,21.4s,baz=201,slow=34						
RAR	**Rarotonga**	**58.96**	**266**	LR	LR	19 44 47.2	
	comp=Z,398nm,22.0s,baz=130,slow=29						
RCBR	**Riachuelo**	**61.08**	**73**	LR	LR	19 52 44.8	
	comp=Z,246nm,18.2s,baz=219,slow=35						
SJG	**San Juan**	**61.60**	**30**	LR	LR	19 52 19.1	
	comp=Z,202nm,19.3s,baz=241,slow=35						
LPIG	**La Paz**	**64.02**	**343**	LR	LR	19 49 16.3	
	comp=Z,169nm,18.0s,baz=130,slow=31						
URZ	**Urewera**	**67.35**	**239**	LR	LR	19 50 50.8	
	comp=Z,1μm,19.0s,baz=150,slow=30						
SYO	**Syowa Base**	**67.56**	**163**	*ePP*	pP	19 27 35.8	-1.4
SYO	**Syowa Base**	**67.56**	**163**	*eSP*	sP	19 27 38.8	+0.9
TX31	**Lajitas Ar. Si**	**67.91**	**350**	P	**P**	**19 27 39.4**	**+1.5**
TX31				IAmb	IAmb	19 28 09.2	
	comp=Z,15nm,1.4s						
TXAR	**Lajitas Array**	**67.91**	**350**		**P**	**19 27 38.8**	**+0.9**
TXAR	**Lajitas Array**	**67.91**	**350**	P	**P**	**19 27 39.6**	**+1.8**
	comp=Z,1.6nm,0.8s,baz=168,slow=6.8,SNR=12						
	comp=Z,1.6nm,0.8s						
SAND	**Sanderson**	**68.33**	**352**		**P**	**19 27 41.8**	**+1.3**
SAND				IAmb	IAmb	19 27 56.9	
	comp=Z,8.7nm,1.3s						
RPZ	**Rata Peaks**	**68.36**	**231**	LR	LR	19 51 17.6	
	comp=Z,535nm,19.2s,baz=118,slow=30						
RAO	**Raoul Island**	**68.60**	**249**	LR	LR	19 49 35.7	
	comp=Z,591nm,21.9s,baz=139,slow=29						
LRAL	**Lakeview Retre**	**71.16**	**6**	P	**P**	**19 27 58.5**	**+0.8**
LRAL				IAmb	IAmb	19 30 18.7	
	comp=Z,24nm,1.6s						
MIAR	**Mount Ida**	**72.42**	**360**	IAmb	IAmb	19 28 16.7	
	comp=Z,11nm,1.2s						
MAW	**Mawson**	**72.95**	**171**	P	**P**	**19 28 07.7**	**-0.4**
	comp=Z,5.6nm,0.8s,baz=202,slow=8.1,SNR=13						
MAW				LR	LR	19 58 28.2	
	comp=Z,389nm,18.6s,baz=210,slow=34						
	comp=Z,5.6nm,0.8s						
WHAR	**Wooly Hollow**	**73.17**	**1**		**P**	**19 28 11.1**	**+1.4**
WHAR				IAmb	IAmb	19 28 20.5	
	comp=Z,15nm,1.3s						
ANMO	**Albuquerque**	**73.83**	**349**	LR	LR	19 54 54.3	
	comp=Z,402nm,19.0s,baz=262,slow=31						
TKL	**Tuckaleechee C**	**74.06**	**8**	LR	LR	19 55 47.7	
	comp=Z,158nm,19.3s,baz=174,slow=32						
CLTN	**Cedars of Leba**	**74.25**	**6**		**P**	**19 28 15.6**	**-0.5**
U38A	**Gravette**	**74.31**	**359**		**P**	**19 28 16.1**	**-0.3**
U38A				IAmb	IAmb	19 28 25.9	
	comp=Z,8.1nm,0.7s						
PFO	**Pinyon Flats O**	**74.64**	**340**	LR	LR	19 53 59.4	
	comp=Z,223nm,18.8s,baz=166,slow=30						
CCM	**Cathedral Cave**	**75.95**	**2**		**P**	**19 28 26.1**	**+0.3**
CCM				IAmb	IAmb	19 28 37.0	
	comp=Z,15nm,1.2s						
S51A	**Beattyville**	**76.04**	**8**	P	**P**	**19 28 27.5**	**+1.1**
S51A				IAmb	IAmb	19 28 36.1	
	comp=Z,17nm,1.2s						
CCUT	**Cedar City**	**77.64**	**344**	IAmb	IAmb	19 28 44.1	
	comp=Z,8.2nm,1.2s						
DSP	**Deep Springs**	**78.59**	**340**	IAmb	IAmb	19 29 03.9	
	comp=Z,7.9nm,1.1s						
BSUT	**Blindstream Ca**	**80.00**	**347**	IAmb	IAmb	19 28 56.1	
	comp=Z,13nm,1.3s						
WAKR	**Walker**	**80.05**	**340**		**P**	**19 28 50.8**	**+2.0**
WAKR				IAmb	IAmb	19 29 05.1	
	comp=Z,24nm,1.7s						
ELK	**Elko**	**81.12**	**343**	IAmb	IAmb	19 29 19.9	
	comp=Z,26nm,1.9s						
PDAR	**Pinedale Array**	**81.96**	**348**	P	**P**	**19 28 60.0**	**+1.0**
	comp=Z,3.9nm,0.9s,baz=163,slow=5.7,SNR=18						
	comp=Z,3.9nm,0.9s						
TPAW	**Teton Pass**	**82.90**	**347**	IAmb	IAmb	19 29 28.3	
	comp=Z,11nm,1.1s						
HLID	**Hailey**	**83.63**	**345**	IAmb	IAmb	19 29 32.4	
	comp=Z,6.1nm,1.0s						
YBH	**Yreka Blue Hor**	**83.98**	**338**	LR	LR	19 58 15.9	
	comp=Z,21nm,21.3s,baz=154,slow=30						
DZM	**Mont Dzumac**	**84.21**	**247**	*eLQ*	LQ	19 52 06.5	
	comp=Z,828nm,33.9s						
DZM				*eLR*	LR	19 55 45.3	
	comp=Z,1μm,27.3s						
RLMT	**Red Lodge**	**84.21**	**349**	IAmb	IAmb	19 30 14.6	
	comp=Z,7.2nm,0.8s						
J08A	**Circle Bar Ran**	**84.36**	**342**	IAmb	IAmb	19 29 22.0	
	comp=Z,13nm,1.2s						
J05D	**Fort Rock, OR**	**85.00**	**340**	IAmb	IAmb	19 29 45.9	
	comp=Z,13nm,1.2s						
PINE	**Pine Mountain**	**85.39**	**340**	IAmb	IAmb	19 29 32.3	
	comp=Z,8.7nm,1.0s						
G08A	**Pilot Rock**	**86.29**	**342**		**P**	**19 29 24.4**	**+3.5**
G08A				IAmb	IAmb	19 29 36.8	
	comp=Z,9.9nm,1.1s						
ULM	**Lac du Bonnet**	**88.14**	**358**	LR	LR	20 06 09.0	
	comp=Z,224nm,18

PMG				S		**Sn**	**19 22 13.3**		**-4.1**
	64nm,0.5s,baz=37,slow=20,SNR=6.9								
COEN	**Coen**	**11.37 220**		Pn		**P**	**19 22 33.8**		**-3.9**
CTAO	**Charters Tower**	**15.36 196**				**P**	**19 23 21.1**		**-0.9**
CTAO				IAmb	IAmb		19 23 35.0		
	comp=Z,15nm,1.1s								
EIDS	**Eidsvold**	**20.01 179**		P		**P**	**19 24 12.8**		**+0.2**
EIDS				IAmb	IAmb		19 24 52.2		
	comp=Z,14nm,1.2s								
WB0	**Warramunga Arr**	**21.42 226**		P		**P**	**19 24 26.6**		**-1.1**
WB0				IAmb	IAmb		19 24 29.2		
	comp=Z,4.5nm,0.8s								
WR8	**Warramunga Arr**	**21.47 226**		P		**P**	**19 24 27.1**		**-1.0**
WR8				IAmb	IAmb		19 25 02.7		
	comp=Z,9.6nm,1.2s								
WRA	**Warramunga Arr**	**21.57 226**		P		**P**	**19 24 28.7**		**-0.5**
WRA	**Warramunga Arr**	**21.57 226**		P		**P**	**19 24 28.6**		**-0.5**
	comp=Z,4.0nm,0.5s,baz=50,slow=10.0,SNR=35								
WRA				S		**S**	**19 28 15.5**		**+0.5**
	comp=Z,0.5nm,0.8s,baz=49,slow=17,SNR=1.8								
WRA				PcP		**PcP**	**19 28 24.3**		**+1.1**
	comp=Z,0.4nm,0.8s,baz=46,slow=2.0,SNR=1.7								
WRA				ScP		**ScP**	**19 31 44.2**		**+2.7**
	comp=Z,0.8nm,1.1s,baz=51,slow=2.7,SNR=5.5								
	comp=Z,4.0nm,0.5s								
DZM	**Mont Dzumac**	**22.65 139**		P		**P**	**19 24 39.3**		**-0.2**
KNRA	**Kununurra**	**23.87 243**		P		**P**	**19 24 50.8**		**+0.3**
INKA	**Innaminka**	**24.27 202**		P		**P**	**19 24 54.2**		**+0.2**
INKA				IAmb	IAmb		19 24 55.4		
	comp=Z,5.1nm,1.1s								
AS31	**Alice Springs**	**24.41 220**				**P**	**19 24 55.3**		**-0.1**
ASAR	**Alice Springs**	**24.41 220**		P		**P**	**19 24 55.7**		**+0.3**
ASAR	**Alice Springs**	**24.41 220**		P		**P**	**19 24 55.8**		**+0.4**
	comp=Z,5.5nm,0.6s,baz=53,slow=8.6,SNR=50								
ASAR				ScP		**ScP**	**19 31 51.9**		**+2.9**
	comp=Z,0.5nm,1.0s,baz=38,slow=3.0,SNR=2.6								
	comp=Z,5.5nm,0.6s								
ARMA	**Armidale**	**25.05 178**		P		**P**	**19 25 01.7**		**+0.5**
ARMA				IAmb	IAmb		19 25 15.0		
	comp=Z,25nm,1.5s								
FITZ	**Fitzroy Crossi**	**27.58 240**		P		**P**	**19 25 24.0**		**+0.1**
FITZ				IAmb	IAmb		19 25 59.2		
	comp=Z,3.0nm,1.4s								
STKA	**Stephens Creek**	**27.82 197**		P		**P**	**19 25 24.6**		**-1.2**
STKA	**Stephens Creek**	**27.82 197**		P		**P**	**19 25 25.5**		**-0.3**
	comp=Z,1.9nm,0.6s,baz=33,slow=11,SNR=4.5								
	comp=Z,1.9nm,0.6s								
SONM	**Songino Array**	**65.59 329**		P		**P**	**19 30 19.2**		**+1.6**
	comp=Z,0.6nm,0.5s,baz=145,slow=5.2,SNR=3.0								
	comp=Z,0.6nm,0.5s								
VNDA	**Vanda**	**72.47 177**		P		**P**	**19 31 00.2**		**+0.9**
VNDA	**Vanda**	**72.47 177**		P		**P**	**19 31 01.9**		**+2.7**
	comp=Z,0.3nm,0.3s,baz=0.0,slow=11,SNR=5.7								
	comp=Z,0.3nm,0.3s								
MKAR	**Makanchi Array**	**79.27 319**		P		**P**	**19 31 39.0**		**+0.6**
	comp=Z,0.3nm,0.6s,baz=108,slow=4.7,SNR=1.8								
	comp=Z,0.3nm,0.6s								
ZALV	**Zalesovo Beam**	**80.35 327**		P		**P**	**19 31 43.2**		**-0.7**
	comp=Z,0.7nm,0.6s,baz=153,slow=2.3,SNR=4.0								
	comp=Z,0.7nm,0.6s								
KURBB	**Kurchatov Arra**	**82.84 322**		P		**P**	**19 31 57.8**		**+0.7**
	comp=Z,0.3nm,0.7s,baz=101,slow=5.0,SNR=1.4								
	comp=Z,0.3nm,0.7s								
ILAR	**Eielson Array**	**83.38 22**		P		**P**	**19 31 59.0**		**-0.6**
	comp=Z,0.4nm,0.8s,baz=246,slow=5.1,SNR=2.8								
	comp=Z,0.4nm,0.8s								
QSPA	**South Pole Qui**	**84.71 180**		P		**P**	**19 32 07.8**		**+1.4**
QSPA				IAmb	IAmb		19 32 51.5		
	comp=Z,3.7nm,1.4s								
QSPA	**South Pole Qui**	**84.71 180**		P		**P**	**19 32 08.1**		**+1.7**
	comp=Z,0.5nm,0.5s,baz=343,slow=7.4,SNR=2.2								
	comp=Z,0.5nm,0.5s								
BELA	**Belgrano 2**	**96.94 179**		P		**P**	**19 33 05.4**		**+2.2**
BELA				IAmb	IAmb		19 33 19.9		
	comp=Z,3.2nm,1.4s								
TORD	**Torodi Ar. Bea**	**148.41 287**		PKPbc		**PKiKP**	**19 39 18.9**		**-1.6**
	comp=Z,0.6nm,0.5s,baz=56,slow=3.0,SNR=4.1								

*IDC **11** 19:36:44.4±1.8,34°.83N×80°.64E,h0km,mb3.9/3,*
mbtmp3.5/8,ML2.9/5,MS4.2/3,Error ellipse: s-maj=40.3km
s-min=18.2km az=58.0
ISC 11 19:36:47.4±1.3,35°.0N±0°.1×81°.0E±0°.1,h10km,n14,
σ1s25/13,mb3.9/3,MS4.3/3,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**9.15 328**		**Pn**	**Pn**	**19 39 01.1**	**+1.4**
	0.2nm,0.3s,baz=153,slow=8.1,SNR=1.1						
AAK				Pg		19 39 29.2	
	0.3nm,0.3s,baz=128,slow=17,SNR=1.6						
AAK				Lg	Lg	19 41 33.8	
	0.2nm,0.3s,baz=211,slow=18,SNR=5.6						
AAK				LR	LR	19 42 52.5	
	comp=Z,76nm,18.8s,baz=150,slow=40						
	2.2nm,0.6s						
LSA	**Lhasa**	**10.09 119**		P	**Pn**	**19 39 13.2**	**+0.4**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MKAR	**Makanchi Array**	**11.82 4**		Pn	**Pn**	**19 39 35.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=186,slow=12,SNR=8.7						
MKAR				Sn	**Sn**	**19 41 48.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=190,slow=25,SNR=2.5						
	comp=Z,0.6nm,0.6s						
GTA	**Gaotai**	**15.63 68**		P	**P**	**19 40 31.4**	**-0.7**
GTA				pmax	pmax		
	comp=Z,11nm,1.0s						
KURBB	**Kurchatov Arra**	**15.72 354**		Pn	**Pn**	**19 40 27.9**	**-0.9**
	baz=178,slow=12,SNR=5.8						
KURBB				Lg	Lg	19 45 07.0	
	baz=177,slow=26						
	comp=Z,0.2nm,0.6s						
TNCH	**TengChong**	**18.12 119**		P	**P**	**19 41 01.0**	**+1.2**
TNCH				pP	pP	19 41 04.6	+0.4
TNCH				sP	sP	19 41 06.6	+0.4
TNCH				S	**Sn**	**19 44 21.2**	**-0.7**
TNCH				sS	S	19 44 26.0	-1.6
TNCH				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TNCH				pmax	pmax		
	comp=Z,59nm,3.2s						
TNCH				LR	LR		
	comp=N,150nm,4.4s						
TNCH				LR	LR		
	comp=E,120nm,5.5s						
TNCH				LR	LR		
	comp=Z,180nm,9.3s						
ZALV	**Zalesovo Beam**	**19.14 7**		P	**Pn**	**19 41 11.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=194,slow=10,SNR=4.8						
	comp=Z,0.3nm,0.5s						
BVAR	**Borovoye Array**	**19.53 341**		P	**P**	**19 41 14.7**	**-0.2**
	baz=145,slow=9.8,SNR=9.1						
	comp=Z,0.9nm,0.5s						
SONM	**Songino Array**	**22.85 48**		P	**P**	**19 41 53.2**	**+2.3**
	comp=Z,2.0nm,0.7s,baz=254,slow=10,SNR=3.7						
	comp=Z,2.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**22.93 131**		P	**P**	**19 41 51.0**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=312,slow=11,SNR=21						
	comp=Z,3.4nm,0.9s						
FINES	**FINESS Array B**	**43.32 325**		P	**P**	**19 44 47.3**	**-1.9**
	comp=Z,2.3nm,0.8s,baz=111,slow=11,SNR=6.1						
	comp=Z,2.3nm,0.8s						
SHEM	**Shemya Is, Ala**	**64.78 42**		LR	LR	20 16 52.5	
	comp=Z,110nm,20.5s,baz=133,slow=37						
ESDC	**Sonseca Array**	**65.24 302**		LR	LR	20 19 31.8	
	comp=Z,282nm,19.5s,baz=234,slow=39						
RES	**Resolute Bay**	**70.56 359**		LR	LR	20 20 22.7	
	comp=Z,166nm,20.1s,baz=190,slow=37						

*ISK **11** 20:01:40.9,40°.63N×35°.39E,h5km,ML3.9/18*
*AFAD **11** 20:01:41.4,40°.63N×35°.37E,h11km±2km,MW3.8*
*IDC **11** 20:01:43.2±0.7,40°.69N×35°.20E,h0km,mb3.6/8,*
mbtmp3.6/13,ML3.7/4,MS3.7/4,Error ellipse:
s-maj=11.3km s-min=8.6km az=132.0
*CFUSG **11** 20:01:44.6,40°.74N×35°.49E,h33km,mb3.1/6,MD3.1/6,*
North Turkey Magtype MSH 3.1 from 8 stations
ISC 11 20:01:41.2±1.1,40°.63N±0°.02×35°.40E±0°.02,h1km±9km,
n82,σ1s50/113,mb3.5/7,MS3.8/4,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMSY	**Amasya-Merkez**	**0.33 88**		P	**Pb**	**20 01 48.7**	**-1.2**
AMSY				S	**Sb**	**20 01 54.0**	**-1.8**
AYAZ	**Ayas K¶y, M**	**0.42 277**		P	**Pg**	**20 01 49.9**	**+0.7**
AYAZ				S	**Sg**	**20 01 55.2**	**+0.5**
YARM	**Yarimca-Ladik(**	**0.44 47**		Pg	**Pb**	**20 01 50.9**	**-0.9**
YARM				Sg	**Sb**	**20 01 58.2**	**-0.7**
KIZO	**Buyukkizoglu-L**	**0.49 56**		Pg	**Pb**	**20 01 51.8**	**-0.9**
COAL	**Corum-Alaca**	**0.49 221**		P	**Pb**	**20 01 51.3**	**-1.4**
COAL				S	**Sg**	**20 01 57.7**	**+0.7**
CKRK	**Yozgat, Cekere**	**0.56 172**		P	**Pb**	**20 01 52.8**	**-1.1**
KAGI	**orum-Kargı**	**0.87 306**		P	**Pg**	**20 01 57.6**	**-0.2**
KAGI				S	**Sg**	**20 02 07.7**	**-1.4**
TOKA	**Tokat**	**0.88 110**		P	**Pn**	**20 01 59.5**	**-1.3**
TOKA				S	**Sn**	**20 02 11.2**	**-3.0**
TOKT	**Tokat**	**0.92 109**		Pg	**Pn**	**20 02 00.3**	**-1.1**
TOKT				Sg	**Sn**	**20 02 13.6**	**-1.7**
SAMS	**Samsun-Alacam**	**0.94 39**		P	**Pn**	**20 02 00.3**	**-1.3**
SAMS				S	**Sb**	**20 02 13.0**	**-0.4**
HACI	**Hacifakili, Ak**	**0.96 165**		P	**Pn**	**20 02 00.2**	**-1.7**
HACI				S	**Sn**	**20 02 14.9**	**-1.3**
YOZG	**Bozok Univ. Me**	**0.97 209**		P	**Pb**	**20 02 00.2**	**-0.7**
YOZG				S	**Sb**	**20 02 12.4**	**-1.7**
SUNG	**orum-Sungurl**	**0.99 244**		P	**Pb**	**20 02 00.5**	**-0.6**
SUNG				S	**Sb**	**20 02 13.4**	**-1.3**
YOZ	**Yozgat**	**0.99 184**		Pg	**Pn**	**20 02 00.8**	**-1.6**
ERBA	**Erbaa**	**1.03 87**		P	**Pb**	**20 02 01.2**	**-0.7**
ERBA				S	**Sb**	**20 02 15.2**	**-0.8**
BOYA	**Sinop/Boyabat-**	**1.06 329**		P	**Pg**	**20 02 01.2**	**-0.3**
BOYA				S	**Sg**	**20 02 12.9**	**-2.3**
TOS	**Tosya**	**1.12 292**		Pn	**Pb**	**20 02 03.1**	**-0.4**
YENC	**ankr-Yen**	**1.19 273**		P	**Pn**	**20 02 04.2**	**-0.9**
YENC				S	**Sg**	**20 02 18.7**	**-0.7**
CDAG	**Cicekdag**	**1.28 219**		P	**Pg**	**20 02 05.3**	**-0.4**
CDAG				S	**Sn**	**20 02 22.1**	**-2.0**
DELI	**KIRIKKALE**	**1.30 241**		P	**Pn**	**20 02 05.4**	**-1.2**
SIRC	**Yozgat**	**1.30 189**		P	**Pg**	**20 02 06.3**	**0.0**
SIRC				S	**Sn**	**20 02 23.5**	**-1.3**
ILGA	**Ilgaz**	**1.35 289**		P	**Pb**	**20 02 06.9**	**-0.5**
ILGA				S	**Sb**	**20 02 23.8**	**-1.4**
SINP	**Sinop**	**1.37 350**		Pn	**Pg**	**20 02 08.5**	**+0.9**
SINO	**SINOP_Merkez**	**1.40 354**		P	**Pb**	**20 02 07.9**	**-0.2**
SINO				S	**Sn**	**20 02 25.5**	**-1.4**
SNOP	**Sinop**	**1.40 354**		Pn	**Pg**	**20 02 08.5**	**+0.5**
SVSK	**Karacayir**	**1.41 120**		Pn	**Pg**	**20 02 08.7**	**+0.4**
SVSK				Sn	**Sg**	**20 02 29.3**	**+2.7**
KMON	**Kastamonu**	**1.43 302**		Pn	**Pg**	**20 02 08.8**	**+0.1**
KOZK	**Kozakli-Nevseh**	**1.48 196**		Pn	**Pg**	**20 02 09.4**	**-0.1**
KOZK				Sn	**Sg**	**20 02 30.4**	**+1.8**
ELDT	**Eldivan**	**1.51 265**		P	**Pb**	**20 02 09.3**	**-0.9**
ELDT				S	**Sn**	**20 02 28.0**	**-1.9**
SCER	**sogukcermik**	**1.53 120**		P	**Pg**	**20 02 10.5**	**0.0**
AKPI	**Kirsehir/Akpin**	**1.56 224**		P	**Pb**	**20 02 09.8**	**-1.1**
AKPI				S	**Sn**	**20 02 28.9**	**-2.1**
GOKD	**Ankara-Kalecik**	**1.57 250**		P	**Pb**	**20 02 10.7**	**-0.5**
GOKD				S	**Sb**	**20 02 30.9**	**-0.7**
SEYI	**Kastamonu-Seyd**	**1.61 309**		P	**Pb**	**20 02 11.3**	**-0.5**
SEYI				S	**Sn**	**20 02 31.6**	**-0.7**
MCUR	**KIREHR**	**1.61 205**		P	**Pb**	**20 02 11.2**	**-0.7**
MCUR				S	**Sb**	**20 02 31.7**	**-1.1**
BRTR	**Keskin Array B**	**1.62 237**		Pg	**Pb**	**20 02 11.5**	**-0.6**
	155nm,0.3s,baz=64,slow=14,SNR=1702						
BRTR				Lg	Lg	20 02 34.0	
	70nm,0.3s,baz=48,slow=14,SNR=5.4						
BRTR				LR	LR	20 02 48.7	
	comp=Z,888nm,20.7s,baz=322,slow=43						
BZK	**Bozkurt**	**1.70 322**		Pn	**Pb**	**20 02 13.0**	**-0.2**
KESK	**Krkkale-Ke**	**1.71 235**		P	**Pb**	**20 02 12.5**	**-1.0**
KESK				S	**Sb**	**20 02 35.1**	**-0.5**
PELI	**Kastamonı-Ara**	**1.72 294**		P	**Pb**	**20 02 12.9**	**-0.8**
PELI				S	**Sb**	**20 02 34.8**	**-1.0**
GUNE	**Kayseri**	**1.73 174**		P	**Pg**	**20 02 14.3**	**-0.2**
GUNE				S	**Sg**	**20 02 37.1**	**+0.2**
BNN	**Bunyan**	**1.81 169**		Pn	**Pg**	**20 02 15.2**	**-0.7**
BNN				Sn	**Sg**	**20 02 39.6**	**+0.3**
KAMT	**Kaman**	**1.81 226**		Pn	**Pb**	**20 02 14.5**	**-0.7**
AVNS	**Nevsehir-Avano**	**1.87 193**		P	**Pg**	**20 02 16.4**	**-0.6**
KIRS	**Kirsehir-Merke**	**1.88 218**		P	**Pb**	**20 02 15.9**	**-0.5**
KIRS				S	**Sb**	**20 02 38.9**	**-1.6**
BBAL	**Bala**	**2.06 239**		P	**Pb**	**20 02 17.8**	**-1.7**
BBAL				S	**Sb**	**20 02 44.0**	**-1.6**
ANTO	**Ankara**	**2.14 250**		Pn	**Pb**	**20 02 19.0**	**-1.8**
AFSR	**Afar-Bala (An**	**2.14 237**		Pn	**Pb**	**20 02 20.2**	**-0.7**
DERS	**Karabk-Eskip**	**2.18 277**		P	**Pb**	**20 02 19.8**	**-1.7**
KBAK	**KARABUK-Merkez**	**2.19 287**		P	**Pn**	**20 02 19.2**	**+0.5**
CMDR	**Camlidere-ANKA**	**2.23 268**		P	**Pb**	**20 02 20.4**	**-2.1**
KURC	**Kurucasile-Bar**	**2.34 302**		Pn	**Pn**	**20 02 21.9**	**+1.0**
AKSY	**AKSARAY - Alti**	**2.35 213**		P	**Pb**	**20 02 22.0**	**-2.4**
KKUL	**Konya-Kulu**	**2.40 234**		P	**Pb**	**20 02 22.8**	**-2.6**
NIG	**Nigde**	**2.59 194**		Pn	**Pb**	**20 02 26.0**	**-2.6**
POLA	**Polatl-ANKAR**	**2.65 251**		Pn	**Pn**	**20 02 26.2**	**+1.1**
ILIC	**ilic-Erzincan**	**2.70 115**		Pn	**Pb**	**20 02 27.9**	**-2.5**
YAL	**Yalta**	**3.96 347**		*e*P	**Pn**	**20 02 43.2**	**+0.1**
YAL				Pm		20 02 48.2	
	comp=Z,10.0nm,0.3s						
YAL				*e*S	**Sn**	**20 03 28.0**	**-2.2**
YAL				Sm		20 03 30.3	
	comp=N,23nm,0.4s						
YAL				Sm		20 03 30.3	
	comp=E,11nm,0.3s						
ALU	**Alushta**	**4.12 350**		*e*P	**Pn**	**20 02 45.0**	**-0.2**
ALU				Pm		20 02 47.1	
	comp=Z,15nm,0.3s						
ALU				*e*S	**Sn**	**20 03 30.9**	**-3.1**
ALU				Sm		20 03 31.8	
	comp=N,7.0nm,0.4s						
ALU				Sm		20 03 31.9	
	comp=E,31nm,0.6s						
SEV	**Sevastopol'**	**4.12 342**		*e*P	**Pn**	**20 02 46.5**	**+1.3**
SEV				Pm		20 02 56.3	
	comp=Z,5.0nm,0.3s						
SEV				*e*S	**Sn**	**20 03 33.7**	**-0.3**
SEV				Sm		20 03 37.4	
	comp=N,13nm,0.4s						
SEV				Sm		20 03 37.4	
	comp=E,2.0nm,0.3s						
SUDU	**Sudak**	**4.27 356**		*e*P	**Pn**	**20 02 47.1**	**-0.2**
SUDU				Pm		20 02 55.9	
	comp=Z,19nm,0.4s						
SUDU				*e*S	**Sn**	**20 03 35.7**	**-2.0**
SUDU				Sm		20 03 38.6	
	comp=N,160nm,0.7s						
SUDU				Sm		20 03 38.6	
	comp=E,9.0nm,0.3s						
FEO	**Feodosiya**	**4.39 360**		*e*S	**Sn**	**20 03 39.8**	**-0.8**
FEO				Sm		20 03 47.8	
	comp=N,43nm,0.3s						
FEO				Sm		20 03 47.8	
	comp=E,9.0nm,0.3s						
SIM	**Simferopol'**	**4.42 348**		*e*P	**Pn**	**20 02 50.9**	**+1.5**
SIM				Pm		20 02 51.1	
	comp=Z,21nm,0.4s						
SIM				*e*S	**Sn**	**20 03 40.2**	**-1.3**
SIM				Sm		20 03 47.9	
	comp=N,43nm,0.7s						
SIM				Sm		20 03 47.9	
	comp=E,79nm,0.7s						
DNZ2	**Donuzlav2**	**5.01 342**		*e*P	**Pn**	**20 02 58.9**	**+1.5**
DNZ2				Pm		20 02 59.5	
	comp=Z,65nm,0.5s						
DNZ2				*e*S	**Sn**	**20 03 54.7**	**-1.2**
DNZ2				Sm		20 03 58.8	
	comp=N,23nm,0.5s						
DNZ2				Sm		20 03 58.8	
	comp=E,57nm,0.7s						
TARU	**Tarkhankut**	**5.19 337**		*e*S	**Sn**	**20 03 58.2**	**-2.2**
TARU				Sm		20 04 01.3	
	comp=E,6.0nm,0.3s						
TARU				Sm		20 04 01.4	
	comp=N,19nm,0.5s						
KVAR	**Kislovodsk Arr**	**6.35 56**		Pn	Pn	20 03 20.2	+4.2
	comp=N,2.3nm,0.5s,baz=273,slow=19						
KBZ	**Khabaz**	**6.37 58**		Pn	**Pn**	**20 03 16.9**	**+0.8**
	comp=N,0.3nm,0.3s,baz=188,slow=4.2,SNR=6.7						
MMAI	**Mount Meron Ar**	**7.60 180**		Pn	**Pn**	**20 03 35.4**	**+2.2**
	comp=N,2.2nm,0.3s,baz=2.1,slow=12,SNR=11						
	comp=N,1.0nm,0.3s						
MLR	**Muntele Rosu**	**8.46 308**		Pn	**Pn**	**20 03 44.6**	**-0.3**
	comp=N,0.4nm,0.3s,baz=186,slow=11,SNR=5.8						
MLR				Sn	**Sn**	**20 05 20.1**	**-1.0**
	comp=N,0.7nm,0.3s,baz=180,slow=16,SNR=4.6						
	comp=N,1.1nm,0.4s						
ASF	**Jabal al Asfar**	**8.53 171**		Pn	**Pn**	**20 03 49.2**	**+3.3**
	comp=N,0.1nm,0.3s,baz=335,slow=21,SNR=1.8						
	comp=N,0.8nm,0.4s						
AKASG	**Malin Array Be**	**10.96 339**		Pn	**Pn**	**20 04 17.6**	**-1.4**
	comp=N,1.0nm,0.3s,baz=157,slow=13,SNR=1.4						
AKASG				Sn	**Sn**	**20 06 16.0**	**-6.2**
	comp=N,0.7nm,0.3s,baz=154,slow=23,SNR=2.3						
	comp=N,0.3nm,0.4s						
AKTO	**Aktyubinsk**	**18.57 51**		P	**Pn**	**20 05 59.2**	**-0.3**
	comp=N,1.4nm,0.7s,baz=247,slow=10,SNR=4.6						
KEST	**Kesra**	**21.02 265**		P	**P**	**20 06 28.7**	**+2.3**
	comp=N,1.1nm,0.7s,baz=84,slow=9.2,SNR=1.4						
	comp=N,1.1nm,0.7s						
FINES	**FINESS Array B**	**21.61 348**		P	**P**	**20 06 34.1**	**+1.8**
	comp=N,3.8nm,1.0s,baz=177,slow=12,SNR=1.6						
	comp=N,3.8nm,1.0s						
HFS	**Hagfors**	**23.73 333**		P	**P**	**20 06 54.6**	**0.0**
	comp=N,1.7nm,0.7s,baz=129,slow=12,SNR=2.4						
	comp=N,1.7nm,0.7s						
KURBB	**Kurchatov Arra**	**31.37 57**		P	P	20 08 07.8	+4.6
	comp=N,0.2nm,0.5s,baz=277,slow=9.2,SNR=4.0						
	comp=N,0.2nm,0.5s						
MKAR	**Makanchi Array**	**34.04 64**		P	P	20 08 31.4	+4.6
	comp=N,0.5nm,0.8s,baz=257,slow=9.6,SNR=0.8						
	comp=N,0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**35.33 51**		P	P	20 08 42.3	+4.5
	comp=N,0.3nm,0.4s,baz=298,slow=9.6,SNR=1.9						
	comp=N,0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**40.24 237**		P	**P**	**20 09 21.1**	**+1.5**
	comp=N,0.3nm,0.5s,baz=36,slow=9.3,SNR=4.3						
	comp=N,0.3nm,0.5s						
KMBO	**Kilima Mbogo**	**41.59 177**		P	**P**	**20 09 33.6**	**+2.6**
	comp=N,1.3nm,0.3s,baz=86,slow=15,SNR=3.9						
	comp=N,1.3nm,0.3s						
PALK	**Pallekele**	**52.22 117**		LR	LR	20 33 52.8	
	comp=N,153nm,18.5s,baz=183,slow=37						
TIXI	**Tiksi**	**53.08 23**		LR	LR	20 36 36.6	
	comp=N,107nm,18.9s,baz=58,slow=39						
CMAR	**Chiang Mai Arr**	**58.26 92**		LR	LR	20 44 25.7	
	comp=N,34nm,18.9s,baz=205,slow=44						
MDP	**Montagnes des**	**85.23 273**		LR	LR	20 47 58.4	
	comp=N,33nm,21.0s,baz=242,slow=33						

*CFUSG **11** 20:02:53.7,40°.76N×35°.36E,h3km,North Turkey*
Magtype MSH 2.6 from 6 stations
*AFAD **11** 20:02:54.6,40°.62N×35°.38E,h8km±2km,MW3.6*
*ISK **11** 20:02:54.9,40°.65N×35°.39E,h5km,ML3.3/9*
ISC 11 20:02:54.8±1.0,40°.65N±0°.02×35°.37E±0°.02,h8km±9km,
n45,σ0s76/66,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMSY	**Amasya-Merkez**	**0.36 91**		P	**Pg**	**20 03 01.9**	**+0.1**
AMSY				S	**Sg**	**20 03 06.9**	**+0.3**
AYAZ	**Ayas K¶y, M**	**0.39 275**		P	**Pg**	**20 03 03.2**	**+0.7**
AYAZ				S	**Sg**	**20 03 08.6**	**+1.0**
YARM	**Yarimca-Ladik(**	**0.45 52**		Pg	**Pg**	**20 03 04.0**	**+0.5**
YARM				Sg	**Sb**	**20 03 10.8**	**-1.1**
COAL	**Corum-Alaca**	**0.49 217**		P	**Pg**	**20 03 04.5**	**+0.3**
COAL				S	**Sg**	**20 03 10.0**	**-0.7**
KIZO	**Buyukkizoglu-L**	**0.50 59**		Pg	**Pg**	**20 03 04.8**	**+0.3**
CKRK	**Yozgat, Cekere**	**0.58 170**		P	**Pg**	**20 03 06.0**	**0.0**
CKRK				S	**Sg**	**20 03 13.6**	**-0.1**
KAGI	**orum-Kargı**	**0.83 306**		P	**Pg**	**20 03 11.0**	**+0.1**
KAGI				S	**Sg**	**20 03 21.0**	**-0.7**
TOKA	**Tokat**	**0.91 110**		P	**Pb**	**20 03 12.8**	**-0.1**
TOKA				S	**Sg**	**20 03 23.9**	**-0.2**
SAMS	**Samsun-Alacam**	**0.95 41**		P	**Pb**	**20 03 13.3**	**-0.2**
SAMS				S	**Sg**	**20 03 24.9**	**-0.4**
TOKT	**Tokat**	**0.96 110**		Pg	**Pb**	**20 03 13.5**	**-0.2**
TOKT				Sg	**Sb**	**20 03 26.9**	**+0.4**
SUNG	**orum-Sungurl**	**0.97 242**		P	**Pb**	**20 03 13.8**	**-0.1**
SUNG				S	**Sb**	**20 03 27.1**	**+0.2**
YOZG	**Bozok Univ. Me**	**0.97 207**		P	**Pg**	**20 03 13.2**	**-0.3**
YOZG				S	**Sg**	**20 03 25.4**	**-0.6**
HACI	**Hacifakili, Ak**	**0.98 163**		P	**Pb**	**20 03 14.3**	**+0.2**
HACI				S	**Sb**	**20 03 27.6**	**+0.2**
YOZ	**Yozgat**	**1.01 182**		Pg	**Pb**	**20 03 14.9**	**+0.3**
BOYA	**Sinop/Boyabat-**	**1.03 330**		P	**Pg**	**20 03 14.3**	**-0.2**
BOYA				S	**Sg**	**20 03 27.1**	**-0.8**
ERBA	**Erbaa**	**1.06 88**		P	**Pg**	**20 03 13.6**	**-1.5**
TOS	**Tosya**	**1.09 291**		Pn	**Pn**	**20 03 16.5**	**0.0**
YENC	**ankr-Yen**	**1.16 272**		P	**Pn**	**20 03 17.6**	**+0.2**
YENC				S	**S

mb4.3/15, Error ellipse: s-maj=31.1km s-min=10.4km az=136.0

ISC 11 20:14:40.6±0.6, 6°2S±0.1′×149°9E±0.1′, h52km, n31, σ1$27/35, mb3.7/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.02**	**49**	Pn	**Pn**	**20 15 26.1**	**+0.2**
PMG	**Port Moresby**	**4.18**	**220**		**Pn**	**20 15 42.6**	**+0.7**
PMG				Sn	**Sn**	**20 16 29.3**	**-0.2**
PMG	**Port Moresby**	**4.18**	**220**	Pn	**Pn**	**20 15 43.1**	**+1.2**
	12nm,0.3s,baz=25,slow=11,SNR=26						
PMG				Sn	**Sn**	**20 16 30.2**	**+0.7**
	44nm,0.3s,baz=72,slow=20,SNR=14						
PMG				LR	LR	20 17 21.3	
	comp=Z,198nm,21.9s,baz=337,slow=38						
	66nm,0.5s						
COEN	**Coen**	**10.15**	**220**	Pn	**Pn**	**20 17 02.5**	**-1.3**
COEN				Sn	**Sn**	**20 18 51.4**	**-4.9**
SAUI	**Saumlaki**	**18.54**	**263**	P	**P**	**20 18 52.9**	**-0.2**
MTN	**Manton Dam**	**19.64**	**249**	P	**P**	**20 19 05.4**	**+0.3**
MTN				IAmb	IAmb	20 19 32.0	
	comp=Z,36nm,1.2s						
WB0	**Warramunga Arr**	**20.22**	**227**	P	**P**	**20 19 11.3**	**-0.1**
WB0				IAmb	IAmb	20 19 22.8	
	comp=Z,12nm,1.1s						
WR8	**Warramunga Arr**	**20.26**	**226**	P	**P**	**20 19 13.0**	**+1.1**
WR8				IAmb	IAmb	20 19 37.2	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**20.36**	**226**	P	**P**	**20 19 13.8**	**+0.8**
WB2				IAmb	IAmb	20 19 22.2	
	comp=Z,6.4nm,0.8s						
WRA	**Warramunga Arr**	**20.37**	**226**	P	**P**	**20 19 12.4**	**-0.7**
WRA	**Warramunga Arr**	**20.37**	**226**	P	**P**	**20 19 13.8**	**+0.7**
	comp=Z,2.9nm,0.5s,baz=53,slow=11,SNR=42						
WRA				PcP	**PcP**	**20 23 25.2**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=45,slow=2.0,SNR=2.0						
	comp=Z,2.9nm,0.5s						
KNRA	**Kununurra**	**22.76**	**244**	P	**P**	**20 19 39.1**	**+0.3**
KNRA				IAmb	IAmb	20 19 39.2	
	comp=Z,20nm,1.2s						
AS31	**Alice Springs**	**23.20**	**220**	P	**P**	**20 19 41.8**	**-1.3**
ASAR	**Alice Springs**	**23.20**	**220**	P	**P**	**20 19 42.6**	**-0.6**
ASAR	**Alice Springs**	**23.20**	**220**	P	**P**	**20 19 43.6**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=59,slow=9.1,SNR=17						
	comp=Z,1.2nm,0.7s						
ARMA	**Armidale**	**24.14**	**176**	P	**P**	**20 19 52.3**	**+0.3**
ARMA				IAmb	IAmb	20 20 03.5	
	comp=Z,17nm,1.3s						
FITZ	**Fitzroy Crossi**	**26.45**	**241**	P	**P**	**20 20 13.2**	**+0.3**
STKA	**Stephens Creek**	**26.70**	**196**	P	**P**	**20 20 14.4**	**-0.6**
STKA	**Stephens Creek**	**26.70**	**196**	P	**P**	**20 20 16.3**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=359,slow=6.9,SNR=3.3						
	comp=Z,1.3nm,0.6s						
MBWA	**Marble Bar**	**32.77**	**240**	P	**P**	**20 21 08.9**	**0.0**
MBWA				IAmb	IAmb	20 21 51.8	
	comp=Z,15nm,1.4s						
SONM	**Songino Array**	**66.01**	**329**	P	**P**	**20 25 22.3**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=126,slow=6.2,SNR=1.6						
	comp=Z,0.3nm,0.5s						
VNDA	**Vanda**	**71.56**	**177**	P	**P**	**20 25 55.6**	**-0.2**
VNDA				IAmb	IAmb	20 26 10.3	
	comp=Z,1.9nm,1.2s						
VNDA	**Vanda**	**71.56**	**177**	P	**P**	**20 25 56.5**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=332,slow=6.1,SNR=5.2						
	comp=Z,0.6nm,0.7s						
MKAR	**Makanchi Array**	**79.50**	**320**	P	**P**	**20 26 43.5**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=102,slow=5.6,SNR=1.1						
	comp=Z,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**80.73**	**327**	P	**P**	**20 26 47.3**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=76,slow=3.8,SNR=2.7						
	comp=Z,0.3nm,0.3s						
QSPA	**South Pole Qui**	**83.77**	**180**	P	**P**	**20 27 06.2**	**+2.1**
QSPA				IAmb	IAmb	20 27 16.5	
	comp=Z,4.9nm,1.2s						
QSPA	**South Pole Qui**	**83.77**	**180**	P	**P**	**20 27 06.1**	**+2.0**
	comp=Z,2.2nm,0.9s,baz=67,slow=1.1,SNR=5.2						
	comp=Z,2.2nm,0.9s						
ILAR	**Eielson Array**	**84.55**	**23**	P	**P**	**20 27 07.7**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=252,slow=4.9,SNR=2.2						
	comp=Z,0.4nm,0.9s						
BELA	**Belgrano 2**	**96.00**	**179**	P	**P**	**20 28 00.4**	**-1.4**
GERES	**GERESS Array B**	**123.68**	**327**	PKP	**PKPdf**	**20 33 32.3**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=107,slow=1.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**147.93**	**285**	PKPbc	**PKPbc**	**20 34 20.9**	**-0.3**
	comp=Z,2.2nm,0.4s,baz=74,slow=2.5,SNR=46						

ASRS 11 20:29:08.6±0.2, 52°N±1°×9°8E±°, h8km, MLh3.8/12, 1C-1D, Error ellipse: s-maj=3.2km s-min=2.3km az=18.6, confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNGR	**Kungurtug, Tuv**	**1.71**	**194**	⇑Pg	Pn	20 29 39.2	+0.4
KNGR				Sg	Sb	20 30 01.5	-0.5
MOY	**Mondy**	**1.86**	**108**	⇓Pg	Pn	20 29 37.8	-3.0
MOY				Sg	Sn	20 30 00.5	-4.1
KZLR	**Kyzyl**	**2.35**	**258**	Pg	Pb	20 29 52.1	+0.9
KZLR				Sg	Sg	20 30 22.7	-1.4
ARDR	**Aradan**	**2.90**	**278**	Pg	Pb	20 30 00.4	-0.3
ARDR				Sg	Sg	20 30 39.5	-2.4
MINR	**Mina**	**3.54**	**320**	Pg	Pg	20 30 14.5	-1.8
MINR				Sg	Sg	20 31 02.3	+0.2
ZAK	**Zakamensk**	**3.73**	**118**	Pn	Pn	20 30 09.1	+2.5
ZAK				Pg	Pg	20 30 19.5	-0.6
ZAK				Sg	Sb	20 31 00.9	+0.7
CERR	**Cheremushki**	**4.15**	**281**	Pg	Pg	20 30 26.4	-1.6
CERR				Sg	Sg	20 31 18.5	-3.3
DJO	**Djoy, Khakassi**	**4.26**	**280**	Pn	Pn	20 30 13.3	-0.5
DJO				Pg	Pb	20 30 25.5	+1.7
DJO				Sg	Sg	20 31 23.1	-2.3
GZL	**Zheleznogorsk**	**4.83**	**328**	Pn	Pn	20 30 20.4	-1.2
GZL				Sg	Sg	20 31 40.9	-2.8
GZLN	**Zheleznogorsk**	**4.85**	**330**	Pg	Pb	20 30 37.6	+3.8
GZLN				Sg	Sg	20 31 44.0	-0.3
VEH	**Verkhnyaya Baz**	**4.86**	**285**	Pg	Pb	20 30 33.3	-0.6
VEH				Sg	Sg	20 31 38.9	-5.5
SHTK	**Zheleznogorsk-**	**4.87**	**329**	Pn	Pn	20 30 21.0	-1.1
SHTK				Pg	Pb	20 30 35.6	+1.5
SHTK				Sg	Sg	20 31 40.4	-4.3
TEL	**Teeli**	**5.10**	**259**	Pn	Pn	20 30 25.2	-0.1
TEL				Sg	Sg	20 31 46.8	-5.5
LUZB	**Luzhba, Kemero**	**5.76**	**288**	Pn	Pn	20 30 34.0	-0.3
LUZB				Pg	Pg	20 30 59.4	+0.5
LUZB				Sg	Sg	20 32 06.0	-7.4
YALR	**Yailyu, Altay**	**6.52**	**270**	Pn	Pn	20 30 45.8	+1.0
YALR				Pg	Pg	20 31 10.7	-2.8
YALR				Sg	Sg	20 32 34.5	-3.3
CUR	**Chagan-Uzun**	**6.53**	**254**	Pg	Pg	20 32 31.4	-6.7
ULGR	**Ulagan, Altay**	**6.58**	**260**	Pn	Pn	20 30 53.2	+7.6
ULGR				Pg	Pg	20 31 14.9	+0.5
ULGR				Sg	Sg	20 32 35.1	-4.5
BRCR	**Berchikul'**	**6.71**	**304**	Pg	Pb	20 31 09.9	+4.5
BRCR				Sg	Sg	20 32 39.7	-4.2
ARTR	**Artybash**	**6.72**	**270**	Pg	Pg	20 31 14.5	-2.7
ARTR				Sg	Sg	20 32 40.1	-4.1
AKAR	**Aktash**	**6.88**	**258**	Pg	Pg	20 31 15.7	-4.7
AKAR				Sg	Sg	20 32 43.2	-6.1
CHBI	**Chibit, Altay**	**6.95**	**258**	Pg	Pg	20 31 20.8	-0.9
CHBI				Sg	Sg	20 32 47.3	-4.4
DGZ	**Jazzator, Alta**	**7.23**	**253**	Pg	Pg	20 31 23.4	-3.6
DGZ				Sg	Sg	20 32 54.5	-6.1
ELDR	**Elanda**	**7.56**	**267**	Pn	Pn	20 31 06.6	+7.6
ELDR				Pg	Pg	20 31 29.4	-3.9
ELDR				Sg	Sg	20 33 08.0	-3.0

IDC 11 20:52:20.0±2.0, 30°.43N×80°.00E, h0km, mb3.5/6, mbtmp3.6/7, ML3.2/1, Error ellipse: s-maj=63.0km s-min=22.6km az=68.0

NDI 11 20:52:22.4±1.3, 30°.33N×79°.63E, h6km±7km, ML3.7, MW3.5

ISC 11 20:52:20.9±0.8, 30°.39N±0°.05×79°.75E±0°.07, h10km, n14, σ1$30/20, mb3.6/4, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOSI	**Joshimath**	**0.24**	**316**	*e*P	**Pg**	**20 52 27.0**	**+1.1**
JOSI				*e*S	**Sg**	**20 52 30.4**	**+1.2**
JOSI				IAML		20 52 30.6	
	comp=N,6μm,0.2s						
JOSI				IAML		20 52 30.8	
	comp=E,9μm,0.3s						
LGTI	**Lohaghat**	**1.03**	**155**	*e*P	**Pg**	**20 52 42.1**	**+1.4**
LGTI				*e*S	**Sb**	**20 52 56.2**	**+1.9**
LGTI				IAML		20 52 58.1	
	comp=E,312nm,0.2s						
LGTI				IAML		20 52 59.7	
	comp=N,451nm,0.1s						
TKRD	**Thakurdwara**	**1.46**	**212**	*e*P	**Pn**	**20 52 47.6**	**+0.3**
TKRD				*e*S	**Sg**	**20 53 05.8**	**-2.0**
TKRD				IAML		20 53 08.7	
	comp=E,5μm,0.2s						
TKRD				IAML		20 53 11.0	
	comp=N,6μm,0.2s						
SMLA	**Simla**	**2.34**	**289**	*e*P	**Pn**	**20 53 00.7**	**+1.3**
SMLA				*e*S	**Sn**	**20 53 27.9**	**-0.4**
SMLA				IAML		20 53 31.1	
	comp=E,736nm,0.3s						
SMLA				IAML		20 53 31.2	
	comp=N,865nm,0.4s						
DHRM	**DHARAMSHALA**	**3.49**	**303**	*e*P	**Pn**	**20 53 16.1**	**+0.6**
DHRM				*e*S	**Sn**	**20 53 54.9**	**-2.1**
DHRM				IAML		20 53 57.2	
	comp=E,180nm,0.4s						
DHRM				IAML		20 53 58.2	
	comp=N,239nm,0.2s						
TSSA	**Tissa**	**3.92**	**309**	*e*P	**Pn**	**20 53 22.3**	**+0.9**
TSSA				*e*S	**Sn**	**20 54 06.7**	**-1.0**
TSSA				IAML		20 54 09.7	
	comp=E,2μm,0.4s						
TSSA				IAML		20 54 10.1	
	comp=N,2μm,0.2s						
JMU	**Jammu**	**4.75**	**301**	*e*S	**Sn**	**20 54 27.9**	**+0.3**
JMU				IAML		20 54 29.5	
	comp=N,82nm,0.6s						
JMU				IAML		20 54 32.4	
	comp=E,83nm,0.3s						
MKAR	**Makanchi Array**	**16.50**	**6**	Pn	**Pn**	**20 56 10.8**	**-1.7**
	comp=E,0.1nm,0.3s,baz=191,slow=14,SNR=2.6						
	comp=E,1.1nm,0.9s						
KURBB	**Kurchatov Arra**	**20.24**	**358**	P	**P**	**20 56 56.4**	**+0.3**
	comp=E,0.4nm,0.4s,baz=184,slow=10,SNR=7.4						
	comp=E,0.4nm,0.4s						
LZDM	**Lanzhou Array**	**20.78**	**68**	P	**P**	**20 57 00.3**	**-2.3**
	comp=E,3.2nm,0.4s,baz=246,slow=10,SNR=1.8						
	comp=E,3.2nm,0.4s						
BVAR	**Borovoye Array**	**23.64**	**346**	P	**P**	**20 57 32.5**	**+0.3**
	comp=E,0.5nm,0.3s,baz=148,slow=12,SNR=6.8						
	comp=E,0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**23.83**	**7**	P	**P**	**20 57 33.7**	**-0.3**
	comp=E,0.2nm,0.4s,baz=194,slow=11,SNR=2.0						
	comp=E,0.2nm,0.4s						
WRA	**Warramunga Arr**	**72.52**	**126**	P	**P**	**21 03 48.5**	**+0.2**
	comp=E,0.2nm,0.3s,baz=320,slow=5.8,SNR=1.4						
	comp=E,0.2nm,0.3s						
ASAR	**Alice Springs**	**74.75**	**130**	P	**P**	**21 04 01.1**	**-0.2**
	comp=E,0.2nm,0.3s,baz=313,slow=5.8,SNR=6.8						
	comp=E,0.2nm,0.3s						

BGR 11 20:59:07.2, 48°.25N×152°.44E, h33km, mb5.0

MOS 11 20:59:07.9±1.1, 47°.13N×152°.44E, h121km, mb4.9/55, MS3.0/4, Error ellipse: s-maj=5.7km s-min=4.5km az=95.6

BJI 11 20:59:07.5, 47°.12N×152°.41E, h118km, mB4.9/22, mb5.2/73

SKHL 11 20:59:08.0±0.1, 47°.00N×152°.80E, h123km±5km, mb6.0/10, mbv5.7/2, msh5.8/2, msha6.5/8

NEIC 11 20:59:09.8±1.7, 47°.2N±0°.1×152°.4E±0°.1, h123km±5km, mb5.0/630, Error ellipse: s-maj=16.8km s-min=11.6km az=142.0

IDC 11 20:59:09.6±0.5, 47°.16N×152°.46E, h120km±4km, mb4.6/32, mbtmp5.1/38, MS3.6/21, Error ellipse: s-maj=9.4km s-min=7.3km az=134.0

GCMT 11 20:59:09.8±0.3, 47°.00N±0°.02×152°.77E±0°.03, h121km±4km, MW4.8/101, Moment Tensor Solution. s20,c21; s101,c142; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.47±.09; $M_{\theta\theta}$-0.47±.10; $M_{\phi\phi}$1.94±.09; $M_{r\theta}$0.93±.07; $M_{\theta\phi}$0.21±.09; $M_{\phi r}$0.90±.07; Best double couple: M_o2.18800×10^{16} NP1:ϕ_s339.00000°, δ36.00000°, λ-134.00000°. NP2:ϕ_s209.00000°, δ65.00000°, λ-63.00000°. Principal axes: T 2.2380, Plg16.0000°, Azm280.0000°; N -0.1050, Plg24.0000°, Azm17.0000°; P -2.1380, Plg60.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

JMA 11 20:59:12.1±0.8, 46°.N±3°×15°.3E±°, h137km, MV4.9/17, KURILE ISLANDS REGION

NIED 11 20:59:12.1, 46°.12N×152°.61E, h137km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.18; $M_{\theta\theta}$-1.62; $M_{\phi\phi}$1.43; $M_{r\theta}$0.60; $M_{\theta\phi}$-0.63; $M_{\phi r}$-0.33; Fault plane solution: M_o1.79000×10^{16} NP1: ϕ_s214.00000°, δ67.00000°, λ2.00000°. NP2:ϕ_s123.00000°, δ88.00000°, λ157.00000°.

ISC 11 20:59:09.0±0.3, 47°.09N±0°.04×152°.55E±0°.03, h121km±2km, h120km:pP-P, n1281, σ1$44/1077, mb5.0/467, 97C-30D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.74**	**242**	*c* iPN	**Pn**	**21 00 05.2**	**+0.1**
KUR				*i* S	**Sn**	**21 00 48.0**	**-0.5**
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				pmax	pmax		
	comp=N,225nm,0.3s						
KUR				pmax	pmax		
	comp=E,300nm,0.3s						
KUR				pmax	pmax		
	comp=Z,3μm,1.2s						
KUR				smax	smax		
	comp=E,13μm,1.4s						
KUR				smax	smax		
	comp=N,9μm,1.3s						
KUR				smax	smax		
	comp=E,2μm,0.5s						
KUR				smax	smax		
	comp=N,1μm,0.9s						
KUR	**Kuril'sk**	**3.74**	**242**	*i* P	**Pn**	**21 00 05.5**	**+0.4**
KUR				AMB	AMB	21 00 07.1	
	comp=N,2μm,0.5s						
KUR				*i* S	**Sn**	**21 00 48.7**	**+0.2**
KUR				A	A	21 00 50.3	
	comp=N,9μm,1.3s						
KUR				A	A	21 00 50.3	
	comp=N,13μm,1.3s						
KUR				A	A	21 00 51.3	
	comp=N,5μm,1.0s						
KUR				A	A	21 00 51.3	
	comp=N,5μm,1.0s						
SKR	**Severo-Kuril's**	**4.30**	**32**	*e*PN	**Pn**	**21 00 13.3**	**+0.8**
SKR				*e*S	**Sn**	**21 00 58.3**	**-3.5**
SKR				pmax	pmax		
	comp=Z,318nm,0.5s						
SKR				smax	smax		
	comp=N,1μm,0.3s						
SKR				smax	smax		
	comp=E,458nm,0.3s						
SKR				MLR	MLR		
	comp=Z,700nm,9.0s						
SKR	**Severo-Kuril's**	**4.30**	**32**	*e*P	**Pn**	**21 00 11.9**	**-0.6**
SKR				AMB	AMB	21 00 14.5	
	comp=Z,410nm,0.7s						
SKR				*e*S	**Sn**	**21 00 58.7**	**-3.1**
SKR				A	A	21 01 02.3	
	comp=Z,1μm,0.2s						
SKR				A	A	21 01 02.3	
	comp=Z,930nm,0.2s						
SHO	**Shikotan**	**5.15**	**233**	*e*P	**Pn**	**21 00 25.9**	**+2.0**
SHO				AMB	AMB	21 00 27.1	
	comp=Z,870nm,0.6s						
SHO				*e*S	**Sn**	**21 01 20.5**	**-1.7**
SHO				A	A	21 01 23.4	
	comp=Z,730nm,0.5s						
SHO				A	A	21 01 23.4	
	comp=Z,1μm,0.5s						
PAU	**Pauzhetka**	**5.20**	**31**	*e*P	**Pn**	**21 00 24.5**	**0.0**
PAU				AMB	AMB	21 00 30.0	
	comp=Z,150nm,0.5s						
PAU				*e*S	**Sn**	**21 01 21.0**	**-2.3**
PAU				A	A	21 01 22.2	
	comp=Z,1μm,0.4s						
PAU				A	A	21 01 22.2	
	comp=Z,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.60**	**239**	*c* iPN	**Pn**	**21 00 29.9**	**-0.1**
YUK				*i* S	**Sn**	**21 01 31.2**	**-1.8**
YUK				pmax	pmax		
	comp=Z,5μm,0.3s						
YUK				pmax	pmax		
	comp=N,476nm,0.4s						
YUK				pmax	pmax		
	comp=E,491nm,0.2s						
YUK				smax	smax		
	comp=N,2μm,0.6s						
YUK				smax	smax		
	comp=E,871nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.60**	**239**	*i* P	**Pn**	**21 00 29.9**	**-0.1**
YUK				AMB	AMB	21 00 30.4	
	comp=E,6μm,0.3s						
YUK				*i* S	**Sn**	**21 01 31.2**	**-1.8**
YUK				A	A	21 01 31.9	
	comp=E,2μm,0.8s						
YUK				A	A	21 01 31.9	
	comp=E,870nm,0.8s						
RUSJ	**Misakicho**	**5.93**	**242**	⇓*i* PN	**Pn**	**21 00 35.0**	**+0.6**
RUSJ				*i* S	**Sn**	**21 01 42.5**	**+1.5**
GLVR	**Golovnino**	**5.97**	**238**	*e*PN	**Pn**	**21 00 34.5**	**-0.5**
GLVR				*i* S	**Sn**	**21 01 39.4**	**-2.7**
GLVR				pmax	pmax		
	comp=Z,1μm,0.6s						
GLVR				pmax	pmax		
	comp=N,918nm,0.3s						
GLVR				pmax	pmax		
	comp=E,964nm,0.3s						
GLVR				smax	smax		
	comp=N,2μm,0.3s						
GLVR				smax	smax		
	comp=E,881nm,0.3s						
GLVR	**Golovnino**	**5.97**	**238**	*e*P	**Pn**	**21 00 34.5**	**-0.5**
GLVR				AMB	AMB	21 00 42.9	
	comp=E,1μm,0.6s						
GLVR				*i* S	**Sn**	**21 01 39.4**	**-2.7**
GLVR				A	A	21 01 47.7	
	comp=E,2μm,0.3s						
GLVR				A	A	21 01 47.7	
	comp=E,880nm,0.3s						
NEM2	**Nemuro 2**	**6.08**	**235**	*e*P	**Pn**	**21 00 33.8**	**-2.6**
NEM2				*e*S	**Sn**	**21 01 38.1**	**-6.5**
NMR	**Nemuro--Hokkai**	**6.08**	**235**	⇑*i* PN	**Pn**	**21 00 33.8**	**-2.7**
NMR				*i* S	**Sn**	**21 01 38.1**	**-6.6**
NMR	**Nemuro--Hokkai**	**6.08**	**235**	*i* P	**Pn**	**21 00 34.3**	**-2.2**
JRA	**Rausu**	**6.09**	**242**	P	**Pn**	**21 00 36.8**	**+0.2**
JNK	**Nakash**	**6.53**	**240**	P	**Pn**	**21 00 41.9**	**-0.7**
JNK				*e*S	**Sn**	**21 01 52.3**	**-3.3**
YSS	**Yuzhno-Sakhali**	**6.70**	**272**		**Pn**	**21 00 47.0**	**+2.3**
YSS				Sn	**Sn**	**21 02 03.7**	**+4.1**
YSS	**Yuzhno-Sakhali**	**6.70**	**272**	*ce*PN	**Pn**	**21 00 47.5**	**+2.7**
YSS				*e*S	**Sn**	**21 02 02.0**	**+2.4**
YSS				pmax	pmax		
	comp=Z,1μm,3.1s						
YSS				pmax	pmax		
	comp=E,1μm,3.0s						
YSS				pmax	pmax		
	comp=Z,430nm,1.0s						
YSS				smax	smax		
	comp=N,80nm,1.0s						
YSS				smax	smax		
	comp=E,200nm,0.9s						
YSS				smax	smax		
	comp=N,400nm,2.1s						
YSS				smax	smax		
	comp=E,500nm,2.9s						
YSS				MLR	MLR		
	comp=E,400nm,17.0s						
YSS				MLR	MLR		
	comp=Z,300nm,17.0s						
YSS	**Yuzhno-Sakhali**	**6.70**	**272**	*e*P	**Pn**	**21 00 47.2**	**+2.4**
YSS				AMB	AMB	21 00 48.0	
	comp=Z,1μm,3.0s						
YSS				AMB	AMB	21 00 49.8	
	comp=Z,520nm,0.6s						
YSS				*e*S	**Sn**	**21 02 00.5**	**+0.9**
YSS				A	A	21 02 08.6	
	comp=Z,80nm,0.9s						
YSS				A	A	21 02 08.6	
	comp=Z,160nm,0.9s						
YSS				A	A	21 02 11.0	
	comp=Z,400nm,3.0s						
YSS				A	A	21 02 11.0	
	comp=Z,500nm,3.0s						
AKK	**Akkeshi**	**6.80**	**236**	*e*P	**Pn**	**21 00 44.1**	**-2.1**
JTKR	**Abashiri--Toko**	**6.82**	**246**	P	**Pn**	**21 00 46.8**	**+0.3**
PEA0B	**Petropavlovsk-**	**6.88**	**27**		**Pn**	**21 00 47.0**	**-0.2**
PEA0B	**Petropavlovsk-**	**6.88**	**27**	⇑*e*PN	**Pn**	**21 00 47.1**	**-0.1**
PETK	**Petropavlovsk-**	**6.88**	**27**		**Pn**	**21 00 46.1**	**-1.1**
PETK	**Petropavlovsk-**	**6.88**	**27**	P	**Pn**	**21 00 47.7**	**+0.5**
	comp=Z,9.7nm,0.5s,baz=187,slow=12,SNR=12						
PETK				S	**Sn**	**21 01 58.6**	**-5.3**
	comp=Z,20nm,0.7s,baz=156,slow=15,SNR=1.0						
JAK	**Akkeshi**	**6.90**	**237**	P	**Pn**	**21 00 45.2**	**-2.4**
JAK				*e*S	**Sn**	**21 01 57.8**	**-6.8**
PET	**Petropavlovsk**	**7.12**	**31**	Pn	Pn	21 00 44.1	-6.4
PET	**Petropavlovsk**	**7.12**	**31**	*e*PN	**Pn**	**21 00 48.9**	**-1.6**
PET				*e*S	**Sn**	**21 02 05.2**	**-4.6**
PET				smax	smax		
	comp=N,226nm,0.6s						
PET				smax	smax		
	comp=E,153nm,0.7s						
PET				MLR	MLR		
	comp=Z,200nm,14.0s						
PET	**Petropavlovsk**	**7.12**	**31**	*e*S	**Sn**	**21 02 06.1**	**-3.7**
PET				A	A	21 02 13.0	
	comp=Z,170nm,0.5s						
PET				A	A	21 02 13.0	
	comp=Z,110nm,0.5s						
JAR	**Ashorobuto**	**7.27**	**242**	P	**Pn**	**21 00 52.0**	**-0.5**
JAR				*e*S	**Sn**	**21 02 09.4**	**-4.0**
UGL	**Uglegorsk**	**7.30**	**290**	*e*PN	**Pn**	**21 00 55.9**	**+3.0**
UGL				pmax	pmax		
	comp=Z,350nm,0.9s						
UGL	**Uglegorsk**	**7.30**	**290**	*e*P	**Pn**	**21 00 55.9**	**+3.0**
UGL				AMB	AMB	21 00 58.0	
	comp=Z,350nm,0.9s						
JOB	**Onbets**	**7.46**	**239**	*e*P	**Pn**	**21 00 53.1**	**-2.0**
JOB				*e*S	**Sn**	**21 02 12.6**	**-5.4**
TYV	**Tymovskoe**	**7.53**	**304**	*e*PN	**Pn**	**21 00 58.9**	**+3.0**
TYV				pmax	pmax		
	comp=Z,700nm,2.1s						
TYV				pmax	pmax		
	comp=Z,128nm,1.0s						
TYV	**Tymovskoe**	**7.53**	**304**	*e*P	**Pn**	**21 00 58.6**	**+2.7**
TYV				AMB	AMB	21 00 59.6	
	comp=Z,700nm,2.0s						
JKA	**Kamikawa-asahi**	**7.58**	**251**		**Pn**	**21 00 57.9**	**+1.1**
JKA	**Kamikawa-asahi**	**7.58**	**251**	*e*P	**Pn**	**21 00 58.2**	**+1.5**
ASAJ	**Asahikawa**	**7.58**	**251**	P	**Pn**	**21 00 58.2**	**+1.5**
	comp=Z,549nm,0.8s,baz=77,slow=14,SNR=357						
ASAJ				S	**Sn**	**21 02 18.1**	**-3.0**
	comp=Z,18nm,0.5s,baz=2.3,slow=18,SNR=0.8						
JKK2	**Kamakawa 2**	**7.60**	**249**	P	**Pn**	**21 00 58.0**	**+1.0**
JWK2	**Keihoku**	**7.60**	**260**	P	**Pn**	**21 01 00.6**	**+3.6**
JCH	**Churui**	**7.91**	**239**	P	**Pn**	**21 00 59.1**	**-2.1**
JCH				*e*S	**Sn**	**21 02 21.1**	**-7.9**

NKL pmax pmax
comp=Z,222nm,1.6s
NKL Nikolayevsk 9.74 313 *e*P **Pn 21 01 27.2 +1.5**
NKL AMB AMB 21 01 30.9
comp=Z,110nm,0.6s
JTM Tenmabayashi 10.39 237 Pn 21 01 30.0 -4.7
JTM Tenmabayashi 10.39 237 P **Pn 21 01 30.0 -4.7**
JANG Nango 10.42 234 P Pn 21 01 29.7 -5.4
JANG *e*S Sn 21 03 16.9 -13
JTH Tanohata 10.54 231 *e*P Pn 21 01 30.8 -5.9
JTH *e*S Sn 21 03 20.9 -12
GRNR Gornyy 11.23 295⇑*i*PN **Pn 21 01 46.6 +0.8**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=E,220nm,16.0s
GRNR MLR MLR
comp=N,220nm,17.0s
GRNR MLR MLR
comp=Z,170nm,16.0s
GRNR Gornyy 11.23 295 *e*P **Pn 21 01 46.6 +0.8**
TEY Ternei 11.27 265⇑*e*PN **Pn 21 01 48.0 +1.6**
TEY pmax pmax
comp=N,30nm,1.0s
TEY pmax pmax
comp=Z,30nm,1.0s
MA2 Magadan 12.56 356 Pn 21 02 00.8 -2.4
MA2 Magadan 12.56 356 P **P 21 02 07.3 -2.6**
comp=Z,11nm,0.5s,baz=160,slow=11,SNR=7.9
MA2 Magadan 12.56 356 P **Pn 21 02 04.5 +1.3**
MA2 Magadan 12.56 356⇑*e*PN **Pn 21 02 05.6 +2.4**
MA2 pmax pmax
comp=Z,29nm,1.9s
JMM Marumori 12.64 227 Pn 21 01 59.0 -5.5
JMM Marumori 12.64 227 P **Pn 21 02 01.8 -2.7**
JSD Sado 13.86 234 P **Pn 21 02 17.2 -3.0**
USRK Ussuriysk Ar. 14.66 266 P **Pn 21 02 30.6 +0.2**
comp=Z,30nm,0.4s,baz=73,slow=13,SNR=63
SHEM Shemya Is, Ala 14.96 60 P **P 21 02 36.3 -0.3**
comp=Z,94nm,0.4s,baz=270,slow=3.0,SNR=14
SHEM S **Sn 21 05 11.1 -8.3**
comp=Z,88nm,0.6s,baz=212,slow=19,SNR=8.7
SHEM LR LR 21 08 40.9
comp=Z,51nm,19.0s,baz=286,slow=38
SMY Shemya 14.96 60 P **Pn 21 02 34.6 +0.5**
MJAR Matsushiro Arr 14.98 230 Pn 21 02 31.4 -3.1
MJAR Matsushiro Arr 14.98 230 P **Pn 21 02 33.1 -1.4**
comp=Z,33nm,0.7s,baz=30,slow=13,SNR=101
MJAR S **Sn 21 05 14.1 -6.1**
comp=Z,1.5nm,0.7s,baz=86,slow=31,SNR=1.3
MJB9 Matsu-Tunnel 14.98 231 Pn 21 02 31.4 -3.1
MAJO Matsushiro 14.98 230 Pn 21 02 31.2 -3.3
MAJO Matsushiro 14.98 230 P **Pn 21 02 32.8 -1.7**
MAJO Matsushiro 14.98 230*d* *i*P **Pn 21 02 32.0 -2.5**
VLA Vladivostok 15.11 262*c* *i*P **Pn 21 02 35.3 -0.7**
VLA pmax pmax
comp=Z,32nm,0.8s
VLA Vladivostok 15.11 262 *e*P **Pn 21 02 35.3 -0.7**
MSHR Mys Shultsa 15.82 261*de*P **Pn 21 02 43.1 -1.7**
MSHR pmax pmax
comp=Z,17nm,1.1s
SEY Seymchan 15.88 360 P **P 21 02 46.6 -0.1**
comp=Z,15nm,0.6s,baz=177,slow=11,SNR=34
SEY Seymchan 15.88 360⇓*e*P **Pn 21 02 45.6 +0.2**
SEY pmax pmax
comp=Z,12nm,0.4s
SEY Seymchan 15.88 360 *e*P **Pn 21 02 45.6 +0.2**
PSTR Posyet 16.03 262*de*P **Pn 21 02 46.0 -1.4**
PSTR Posyet 16.03 262 *e*P **Pn 21 02 46.0 -1.4**
JGF Kuroka 16.15 230 Pn 21 02 47.2 -1.8
JGF Kuroka 16.15 230 P **Pn 21 02 47.7 -1.3**
MDJ Mudanjiang 16.17 270 P **Pn 21 02 47.6 -1.6**
MDJ Mudanjiang 16.17 270 P **Pn 21 02 48.8 -0.4**
MDJ pmax pmax
comp=Z,42nm,1.1s
MDJ pmax pmax
comp=Z,200nm,3.7s
MDJ Mudanjiang 16.17 270 P **P 21 02 50.6 +0.5**
INU Inuyama 16.52 230 Pn 21 02 51.6 -1.9
INU Inuyama 16.52 230 P **Pn 21 02 53.4 -0.1**
HEH Heihe 16.88 290 *e*P **Pn 21 02 57.5 -0.2**
HEH S **Sn 21 06 05.7 +0.2**
HEH SS S 21 06 24.3 +17
HEH pmax pmax
comp=Z,300nm,0.9s
HEH pmax pmax
comp=Z,670nm,5.4s
BNX BinXian 17.37 275⇑P **P 21 03 00.9 -2.4**
ZEA Zeya 17.39 302 *e*P **Pn 21 03 03.7 -0.2**
ZEA pmax pmax
comp=E,20nm,1.1s
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,30nm,0.9s
ZEA pmax pmax
comp=E,100nm,3.3s
ZEA pmax pmax
comp=Z,200nm,5.6s
ZEA Zeya 17.39 302 *e*P **Pn 21 03 03.7 -0.2**
CN2 Changchun 19.26 270 P **P 21 03 21.6 -2.3**
CN2 S **S 21 06 48.4 -7.0**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,190nm,15.0s
CN2 LR LR
comp=Z,120nm,15.0s
CN2 LR LR
comp=Z,150nm,16.0s
JMN Monobe 19.43 233 P 21 03 25.4 -0.5
JMN Monobe 19.43 233 P **P 21 03 26.7 +0.8**
YAK Yakutsk 19.43 327 Pn 21 03 26.8 -3.1
YAK Yakutsk 19.83 327 P **P 21 03 30.4 +0.6**
comp=Z,126nm,0.6s,baz=105,slow=2.9,SNR=21
YAK Yakutsk 19.83 327 *e*P **P 21 03 30.1 +0.2**
YAK *e*S **S 21 07 03.7 -2.6**
YAK pmax pmax
comp=Z,60nm,1.4s
YAK pmax pmax
comp=N,25nm,1.6s
YAK pmax pmax
comp=E,26nm,1.6s
YAK smax smax
comp=N,206nm,2.7s
YAK smax smax
comp=E,146nm,1.4s
YAK Yakutsk 19.83 327 *e*P **P 21 03 30.1 +0.2**
KSRS Korea Array 20.53 251 P Pn 21 03 39.2 -1.8
comp=E,60nm,0.8s,baz=61,slow=9.4,SNR=231
KSRS PcP **PcP 21 07 45.4 +1.5**
comp=E,3.2nm,0.8s,baz=338,slow=1.3,SNR=7.4
KSRS LR LR 21 10 29.3
comp=E,49μm,19.8s,baz=10.0,slow=33
comp=E,60nm,0.8s
KS19 Wonju Array Si 20.54 251 P Pn 21 03 39.4 -1.8
KSAR Wonju Array Be 20.57 251 P 21 03 38.8 +0.8
KSAR Wonju Array Be 20.57 251 P **P 21 03 38.8 +0.8**
INCN Inchon 21.36 253 P **P 21 03 46.3 -0.2**
INCN Inchon 21.36 253 P **P 21 03 47.4 +0.9**
INCN Inchon 21.36 253 P **P 21 03 46.3 -0.2**
JTU Tsushima 21.46 243 P **P 21 03 48.7 +1.1**
TJN Taejon 21.54 249 P 21 03 49.0 +0.6
TJN Taejon 21.54 249 P **P 21 03 49.8 +1.4**
TJN Taejon 21.54 249*ce*P **P 21 03 49.2 +0.8**
JNU Nakatsue 21.57 237 P 21 03 48.6 -0.2
JNU Nakatsue 21.57 237 P **P 21 03 49.9 +1.0**
ATKA Atka Island 22.01 64 P **P 21 03 53.1 -0.1**
BILL Bilibino 22.16 14*ce*P **P 21 03 56.2 +1.6**
BILL pmax pmax
comp=Z,32nm,1.0s
DL2 Dalian 23.93 261 P **P 21 04 12.5 +0.8**
DL2 sP **sP 21 04 52.9 +2.9**
DL2 S **S 21 08 24.1 +4.9**
DL2 pmax pmax
comp=Z,110nm,0.7s
DL2 pmax pmax
comp=Z,270nm,4.4s
BOD Bodaibo 25.48 309 *e*P **P 21 04 24.2 -1.3**
BOD pmax pmax
comp=Z,27nm,1.2s
XLT XiLinHaoTe 25.61 276 *e*P **P 21 04 27.1 0.0**
XLT pmax pmax
comp=Z,150nm,0.6s

TIXI Tiksi 27.04 344 P 21 04 37.8 -1.6
TIXI Tiksi 27.04 344⇓*e*P **P 21 04 36.9 -2.5**
TIXI pmax pmax
comp=Z,4.0nm,0.4s
BJI Beijing 27.10 268 P **P 21 04 42.1 +1.8**
BJI pP **pP 21 05 04.4 -0.9**
BJI sP **sP 21 05 16.2 -2.7**
BJI S **S 21 09 07.5 -1.9**
BJI pmax pmax
comp=Z,24nm,0.7s
BJI pmax pmax
comp=Z,33nm,3.5s
BJT Baijiatuau 27.11 268 P **P 21 04 39.8 -0.6**
BJT IAmb IAmb 21 04 44.2
comp=Z,34nm,0.7s
BJT Baijiatuau 27.11 268 P **P 21 04 43.1 +2.7**
BJT Baijiatuau 27.11 268 P **P 21 04 39.8 -0.6**
BJT pmax pmax
comp=Z,34nm,0.7s
TIA Tai'an 28.39 260 P **P 21 04 52.8 +1.0**
TIA pmax pmax
comp=Z,19nm,1.0s
F14K Arctic Creek 28.56 35 P **P 21 04 53.0 0.0**
baz=250
ANM Nome 28.65 37 P **P 21 04 53.5 -0.4**
baz=253
M13K Dall Lake 28.67 46 P **P 21 04 54.1 0.0**
baz=263
J14K Nanvaranak Lak 28.98 41 P **P 21 04 56.0 -0.7**
baz=258
L14K Kuka Creek 29.13 44 P **P 21 04 57.8 -0.3**
baz=262
S12K Black Hills 29.13 56 P **P 21 04 57.9 -0.3**
baz=272
F15K North Star Dit 29.30 35 P **P 21 04 59.4 -0.2**
baz=252
G15K Niukluk 29.33 37 P **P 21 04 59.3 -0.6**
baz=254
HNS HongShan 29.39 265⇑P **P 21 05 01.8 +1.2**
HNS pmax pmax
comp=Z,45nm,0.6s
M14K Bethel 29.40 46 P **P 21 04 59.6 -0.8**
baz=263
N14K Kuskokwak Cree 29.45 47 P **P 21 05 00.5 -0.4**
baz=265
O14K Tigyukauivet M 29.61 49 P **P 21 05 02.2 -0.1**
baz=267
H11N2 WAKE ISLAND Hy 29.70 152 T T 21 36 52.1
baz=340,slow=76,SNR=1991
H11N1 WAKE ISLAND Hy 29.71 152 T T 21 36 48.6
baz=340,slow=76,SNR=1484
H11N3 WAKE ISLAND Hy 29.71 152 T T 21 36 49.7
baz=340,slow=76,SNR=1547
NJ2 Nanjing 29.73 252 *e*P **P 21 05 04.2 +0.5**
NJ2 pmax pmax
comp=Z,13nm,0.6s
L15K Ungalak Mounta 29.75 44 P **P 21 05 03.9 +0.3**
baz=262
K15K Wolf Creek Mou 29.82 42 P **P 21 05 04.6 +0.4**
baz=261
HHC Hu-ho-hao-te 29.89 273⇑*i*P **P 21 05 05.8 +0.6**
HHC PP **PnPn 21 06 08.4 +1.5**
HHC pmax pmax
comp=Z,120nm,0.8s
HHC pmax pmax
comp=Z,94nm,5.1s
HHC LR LR
comp=Z,180nm,19.8s
HHC LR LR
comp=Z,96nm,12.3s
HHC LR LR
comp=Z,180nm,17.5s
C16K Lisburne Hills 29.96 30 P **P 21 05 06.2 +0.8**
baz=247
H16K Elim 29.98 38 P **P 21 05 06.6 +1.1**
baz=256
M15K Kasigluk River 30.01 46 P **P 21 05 07.1 +1.2**
baz=265
G16K Koyuk River 30.12 36 P **P 21 05 06.9 +0.1**
baz=255
N15K Kwethluk River 30.26 47 P **P 21 05 08.6 +0.4**
baz=266
O15K Ungalikthiuk R 30.34 49 P **P 21 05 09.9 +1.0**
baz=268
J16K Anvik River 30.40 41 P **P 21 05 09.7 +0.4**
baz=260
ULN Ulaanbaatar 30.42 288 P **P 21 05 08.4 -1.5**
ULN IAmb IAmb 21 05 16.6
comp=Z,18nm,0.8s
ULN Ulaanbaatar 30.42 288 P **P 21 05 09.0 -1.0**
ULN Ulaanbaatar 30.42 288*ce*P **P 21 05 08.9 -1.0**
ULN pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 30.42 288 *e*P **P 21 05 08.9 -1.0**
D17K Noatak River 30.54 32 P **P 21 05 11.7 +1.2**
baz=250
L16K Owhat River 30.70 44 P **P 21 05 12.9 +0.9**
baz=264
RDOG Red Dog Mine 30.73 31 P **P 21 05 13.1 +0.9**
RDOG IAmb IAmb 21 05 14.1
comp=Z,22nm,0.7s
RDOG Red Dog Mine 30.73 31 P **P 21 05 13.3 +1.1**
baz=250
TIY Taiyuan 30.77 267 *e*P **P 21 05 14.6 +1.6**
TIY S **S 21 10 15.3 +7.9**
TIY pmax pmax
comp=Z,56nm,0.7s
H11S1 WAKE ISLAND Hy 30.78 153 T T 21 37 57.6
baz=341,slow=76,SNR=1145
C17K DeLong Mountai 30.78 30 P **P 21 05 13.9 +1.2**
baz=249,SNR=6.8
H11S3 WAKE ISLAND Hy 30.79 153 T T 21 38 27.3
baz=341,slow=76,SNR=888
H11S2 WAKE ISLAND Hy 30.80 153 T T 21 38 28.1
baz=341,slow=76,SNR=524
E17K Hotham Inlet 30.80 33 P **P 21 05 14.1 +1.3**
baz=253,SNR=12
G17K Kiwalik Mounta 30.84 36 P **P 21 05 14.4 +1.2**
baz=257
F17K Baldwin Pennin 30.84 34 P **P 21 05 13.0 -0.1**
F17K Baldwin Pennin 30.84 34 P **P 21 05 14.5 +1.4**
baz=254,SNR=8.7
SONM Songino Array 30.86 289 P **P 21 05 12.7 -1.0**
SONM Songino Array 30.86 289 P **P 21 05 13.3 -0.4**
comp=Z,5.2nm,0.6s,baz=69,slow=8.8,SNR=13
SONM PcP **PcP 21 08 06.6 -0.9**
comp=Z,1.7nm,0.8s,baz=75,slow=1.6,SNR=2.9
comp=Z,5.2nm,0.6s
M16K Timber Creek 30.89 45 P **P 21 05 13.7 +0.1**
M16K IAmb IAmb 21 05 18.4
comp=Z,74nm,1.6s
M16K Timber Creek 30.89 45 P **P 21 05 13.7 +0.1**
baz=266
N16K Nishlik Lake 30.94 46 P **P 21 05 14.3 +0.1**
baz=267
H17K Granite Mounta 31.01 38 P **P 21 05 15.2 +0.4**
baz=258
BTO Baotou 31.05 274 *e*P **P 21 05 16.5 +1.1**
BTO PP **PnPn 21 06 18.6 -3.1**
BTO S **S 21 10 16.5 +4.9**
BTO pmax pmax
comp=Z,63nm,0.9s
BTO pmax pmax
comp=Z,260nm,5.2s
BTO LR LR
comp=Z,410nm,10.0s
BTO LR LR
comp=Z,190nm,9.9s
BTO LR LR
comp=Z,280nm,8.0s
J17K VABM Dome 31.10 41 P **P 21 05 16.0 +0.5**
baz=262
O16K Kokwok River B 31.24 48 P **P 21 05 17.2 +0.5**
baz=269
L17K Donlin 31.30 43 P **P 21 05 18.2 +0.9**
baz=264
E18K Tukpahlearik C 31.36 33 P **P 21 05 17.4 -0.3**
baz=254
K17K Iditarod 31.36 42 P **P 21 05 18.4 +0.6**
baz=264
F18K Selawik 31.50 34 P **P 21 05 19.7 +0.9**
baz=256,SNR=7.4
C18K Utukok River 31.53 30 IAmb IAmb 21 05 20.7
comp=Z,24nm,0.6s
C18K Utukok River 31.53 30 P **P 21 05 19.7 +0.4**
baz=251,SNR=14
R16K Pilot Point 31.54 52 P **P 21 05 19.4 +0.1**
baz=273
B18K Kokolik River 31.57 29 P **P 21 05 20.5 +1.0**
baz=249,SNR=5.1
M17K Holitna River 31.65 45 P **P 21 05 21.1 +0.8**
baz=267
H18K Honhosa River 31.70 37 P **P 21 05 21.7 +0.9**
baz=260
N17K Nushagak Hills 31.73 46 P **P 21 05 21.8 +0.8**
baz=268
G18K Tagagawik 31.73 36 IAmb IAmb 21 05 23.1
comp=Z,38nm,1.1s
G18K Tagagawik 31.73 36 P **P 21 05 21.8 +0.8**
baz=258,SNR=14
O17K Koliganek Bris 31.75 48 P **P 21 05 21.8 +0.6**
baz=270
Q16K King Salmon 31.98 50 P **P 21 05 24.1 +0.9**
baz=272
L18K Granite Mounta 32.06 43 P **P 21 05 25.2 +1.3**
baz=266,SNR=5.1
P17K Kvichak River 32.09 49 P **P 21 05 25.4 +1.3**
baz=271
A19K Wainwright 32.11 28 P **P 21 05 25.4 +1.2**
baz=249,SNR=6.9
J18K Innoko River 32.16 41 P **P 21 05 25.6 +0.8**
baz=264
ZAK Zakamensk 32.19 294 *e*P **P 21 05 24.4 -0.9**
ZAK pmax pmax
comp=Z,24nm,1.4s
C19K Lookout Ridge 32.23 30 IAmb IAmb 21 05 28.6
comp=Z,23nm,0.7s
C19K Lookout Ridge 32.23 30 P **P 21 05 26.4 +1.1**
baz=252
GCSA Galena City Sc 32.26 38 P **P 21 05 25.9 +0.4**
baz=262
F19K Shaleruckik Mo 32.28 34 PcP 21 08 10.7 -0.1
F19K Shaleruckik Mo 32.28 34 P **P 21 05 26.7 +0.9**
baz=258,SNR=9.4
N18K Kilae Creek 32.37 46 P **P 21 05 29.0 +2.4**
baz=269,SNR=6.4
Q17K Contact Creek 32.40 51 P **P 21 05 28.0 +1.0**
baz=273
G19K Purcell Mounta 32.41 36 P **P 21 05 27.8 +0.9**
baz=259,SNR=8.4
M18K Stony River 32.42 45 P **P 21 05 28.4 +1.3**
baz=268
LYN LuoYang 32.46 262 P **P 21 05 28.9 +1.2**
LYN pmax pmax
comp=Z,60nm,0.8s
H19K Roundabout Mou 32.56 37 P **P 21 05 29.0 +0.8**
baz=261,SNR=26
D19K Kuna River 32.56 31 IAmb IAmb 21 05 32.1
comp=Z,30nm,0.8s
D19K Kuna River 32.56 31 P **P 21 05 28.8 +0.5**
baz=255
E19K Redstone River 32.62 33 IAmb IAmb 21 05 31.0
comp=Z,41nm,1.1s
E19K Redstone River 32.62 33 P **P 21 05 29.8 +1.0**
baz=257,SNR=20
J19K Poorman 32.70 40 IAmb IAmb 21 05 31.2
comp=Z,26nm,1.1s
J19K Poorman 32.70 40 P **P 21 05 30.0 +0.5**
baz=264,SNR=10
P18K Big Mountain, 32.70 48 P **P 21 05 30.1 +0.4**
baz=272
CHIR Chirikof Islan 32.75 55 P **P 21 05 30.5 +0.5**
CHIR Chirikof Islan 32.75 55 P **P 21 05 30.0 +0.1**
baz=277
Q18K Katmai Hardscr 32.85 50 P **P 21 05 30.8 -0.2**
baz=273
L19K White Mountain 32.91 43 P **P 21 05 32.1 +0.6**
baz=268
N19K Bonanza Creek 33.06 46 P **P 21 05 33.6 +0.9**
baz=270
F20K Avaraart Lake 33.11 34 P **P 21 05 33.5 +0.5**
baz=259
D20K Etivluk River 33.15 31 P **P 21 05 34.3 +0.9**
baz=256,SNR=41
E20K Nigu River 33.19 32 P **P 21 05 34.9 +1.2**
baz=257,SNR=28
H20K Anotleneega Mo 33.20 37 P **P 21 05 34.8 +1.0**
baz=263,SNR=14
R18K Karluk 33.21 52 P **P 21 05 33.6 -0.4**
baz=275
I20K Naaghedeneel 33.28 39 P **P 21 05 35.3 +0.8**
baz=264
B20K Meade River 33.31 29 P **P 21 05 35.6 +1.0**
baz=253
K20K Telida 33.34 41 P **P 21 05 36.2 +1.2**
baz=267
J20K Nowinta River 33.37 40 IAmb IAmb 21 05 37.5
comp=Z,24nm,1.1s
J20K Nowinta River 33.37 40 P **P 21 05 36.3 +1.0**
baz=265,SNR=8.5
L20K Farewell, AK 33.38 43 P **P 21 05 36.3 +0.9**
baz=268
SII Sitkinak Islan 33.46 54 P **P 21 05 36.5 +0.3**
SII Sitkinak Islan 33.46 54 P **P 21 05 36.8 +0.6**
baz=277
Q19K Cape Douglas, 33.54 49 P **P 21 05 36.8 -0.1**
baz=274
WHN Wuhan 33.64 254 P **P 21 05 39.4 +1.4**
WHN pmax pmax
comp=Z,60nm,0.5s
M20K Styx River 33.72 44 P **P 21 05 39.5 +1.1**
baz=270
IMAR Indian Mountai 33.73 36 P **P 21 05 38.1 -0.2**
IMAR **PcP 21 08 15.8 +0.9**
OHAK Old Harbor 33.88 52 P 21 05 39.4 -0.4
OHAK IAmb IAmb 21 05 40.5
comp=Z,23nm,1.0s
OHAK Old Harbor 33.88 52 P **P 21 05 39.6 -0.1**
OHAK Old Harbor 33.88 52 P **P 21 05 39.1 -0.6**
baz=277,SNR=6.4
A21K Barrow 33.88 27 P **P 21 05 39.5 -0.1**
baz=252
G21K Allakaket 33.89 36 IAmb IAmb 21 05 42.1
comp=Z,27nm,0.8s
G21K Allakaket 33.89 36 P **P 21 05 40.5 +0.7**
baz=262,SNR=24
C21K Knifeblade Rid 33.90 31 P **P 21 05 41.1 +1.3**
baz=257,SNR=15
O20K Slope Mountain 34.00 47 P **P 21 05 41.4 +0.6**
baz=273
F21K Alatna River 34.01 34 P **P 21 05 41.3 +0.5**
baz=261,SNR=9.9
GUMO Guam 34.01 193 LR LR 21 19 05.0
comp=Z,43nm,19.7s,baz=212,slow=35
E21K Killik River 34.04 32 IAmb IAmb 21 05 43.1
comp=Z,38nm,1.4s
E21K Killik River 34.04 32 P **P 21 05 41.8 +0.7**
baz=259
B21K Ikpikpuk River 34.06 30 P **P 21 05 42.1 +0.9**
baz=257
H21K Melozitna Rive 34.08 37 IAmb IAmb 21 05 44.2
comp=Z,43nm,1.2s
H21K Melozitna Rive 34.08 37 P **P 21 05 42.6 +1.2**
baz=264,SNR=16
CHUM Lake Minchumin 34.15 40 P **P 21 05 43.2 +1.2**
baz=267,SNR=6.4
SPCR Spurr Chakacha 34.16 45 P **P 21 05 43.3 +1.0**
baz=272
PPLA Purkeypile 34.17 42 IAmb IAmb 21 05 45.5
comp=Z,29nm,1.2s
PPLA Purkeypile 34.17 42 P **P 21 05 43.8 +1.4**
baz=269
KDAK Kodiak Island 34.19 51 P **P 21 05 42.0 -0.5**
KDAK IAmb IAmb 21 05 43.1
comp=Z,34nm,0.9s
KDAK Kodiak Island 34.19 51*de*P **P 21 05 42.0 -0.5**
KDAK pmax pmax
comp=Z,30nm,0.9s
KDAK Kodiak Island 34.19 51 P **P 21 05 41.7 -0.7**
baz=276
KDAK Kodiak Island 34.19 51 P **P 21 05 41.9 -0.5**
KDAK pP **pP 21 06 08.9 +0.6**
Q20K Shuyak Island 34.21 50 P **P 21 05 42.5 -0.1**
baz=275,SNR=6.7
SYI Shuyak Island 34.22 50 IAmb IAmb 21 05 43.3
comp=Z,25nm,0.8s
A22K Sinclair Lake 34.30 27 P **P 21 05 44.2 +1.1**
baz=254
STLK Strandline Lak 34.34 45 IAmb IAmb 21 05 46.1
comp=Z,20nm,0.7s
SKT Skwentna 34.48 44 IAmb IAmb 21 05 47.1
comp=Z,11nm,0.6s
SKT Skwentna 34.48 44 P **P 21 05 45.8 +0.9**
baz=271,SNR=9.3
F22K John River 34.55 34 P **P 21 05 46.9 +1.4**

	baz=262					
D22K	**Ayikyak River**	**34.58**	**31**	IAmb	IAmb	21 05 48.2
	comp=Z,19nm,0.5s					
D22K	**Ayikyak River**	**34.58**	**31**	P	**P**	**21 05 46.5 +0.7**
	baz=260,SNR=28					
B22K	**Teshekpuk Lake**	**34.63**	**29**	P	**P**	**21 05 47.1 +1.0**
	baz=257					
H22K	**Ishtalitna Cre**	**34.68**	**37**	P	**P**	**21 05 47.8 +1.2**
	baz=265,SNR=18					
CNPM	**China Poot**	**34.73**	**48**	P	**P**	**21 05 46.8 -0.4**
G22K	**Bettles**	**34.73**	**35**	P	**P**	**21 05 47.7 +0.7**
	baz=264,SNR=34					
BPAW	**Bear Paw Mtn.**	**34.74**	**40**	IAmb	IAmb	21 05 49.4
	comp=Z,20nm,1.0s					
BPAW	**Bear Paw Mtn.**	**34.74**	**40**	P	**P**	**21 05 48.5 +1.3**
	baz=268,SNR=17					
E22K	**Anaktuvuk Pass**	**34.77**	**33**	P	**P**	**21 05 48.7 +1.2**
	baz=262,SNR=70					
SUA	**Susitna One**	**34.86**	**45**	P	**P**	**21 05 49.1 +0.7**
	baz=272,SNR=9.3					
MLY	**Manley**	**34.89**	**38**	IAmb	IAmb	21 05 50.8
	comp=Z,17nm,0.8s					
MLY					**PcP**	**21 08 19.1 +0.7**
MLY	**Manley**	**34.89**	**38**	P	**P**	**21 05 49.9 +1.4**
	baz=267,SNR=20					
BRLK	**Bradley Lake**	**34.89**	**48**	IAmb	IAmb	21 05 49.2
	comp=Z,15nm,0.6s					
BRSE	**Bradley Lake S**	**34.97**	**48**	P	**P**	**21 05 49.4 +0.3**
	baz=275					
TRF	**Thorofare Moun**	**35.04**	**41**	IAmb	IAmb	21 05 52.5
	comp=Z,17nm,0.9s					
TRF	**Thorofare Moun**	**35.04**	**41**	P	**P**	**21 05 50.7 +0.8**
	baz=270,SNR=11					
XAN	**Xi'an**	**35.16**	**264**	⇑P	**P**	**21 05 51.4 +0.3**
XAN				pmax	pmax	
	comp=Z,96nm,0.8s					
XAN				pmax	pmax	
	comp=Z,150nm,5.2s					
COLD	**Coldfoot**	**35.27**	**35**	IAmb	IAmb	21 05 53.8
	comp=Z,17nm,1.0s					
COLD	**Coldfoot**	**35.27**	**35**	P	**P**	**21 05 52.6 +1.0**
	baz=265,SNR=15					
G23K	**Bananza Creek**	**35.30**	**35**	IAmb	IAmb	21 05 54.0
	comp=Z,18nm,0.9s					
G23K	**Bananza Creek**	**35.30**	**35**	P	**P**	**21 05 52.9 +1.0**
	baz=266,SNR=13					
D23K	**Nanushuk River**	**35.31**	**31**	IAmb	IAmb	21 05 54.5
	comp=Z,18nm,0.8s					
D23K	**Nanushuk River**	**35.31**	**31**	P	**P**	**21 05 53.3 +1.3**
	baz=262					
RC01	**Rabbit Creek A**	**35.37**	**45**	IAmb	IAmb	21 05 53.8
	comp=Z,20nm,0.7s					
RC01	**Rabbit Creek A**	**35.37**	**45**	P	**P**	**21 05 52.8 +0.3**
	baz=274,SNR=11					
O22K	**Cooper Landing**	**35.42**	**46**	P	**P**	**21 05 53.0 +0.1**
	baz=275					
H23K	**Yukon River**	**35.43**	**37**	IAmb	IAmb	21 05 55.7
	comp=Z,28nm,0.8s					
H23K	**Yukon River**	**35.43**	**37**	P	**P**	**21 05 54.6 +1.5**
	baz=267,SNR=26					
C23K	**Itkillik River**	**35.47**	**30**	P	**P**	**21 05 54.5 +1.2**
	baz=260,SNR=16					
I23K	**Minto, Yukon-K**	**35.48**	**38**	P	**P**	**21 05 54.8 +1.4**
	baz=268,SNR=15					
E23K	**Chandalar**	**35.58**	**33**	IAmb	IAmb	21 05 56.9
	comp=Z,49nm,1.4s					
E23K	**Chandalar**	**35.58**	**33**	P	**P**	**21 05 55.6 +1.2**
	baz=264,SNR=17					
SEW	**Seward**	**35.58**	**47**	P	**P**	**21 05 53.8 -0.6**
SEW	**Seward**	**35.58**	**47**	P	**P**	**21 05 54.3 -0.1**
	baz=275					
NEA2	**Nenana**	**35.59**	**39**	IAmb	IAmb	21 05 56.4
	comp=Z,24nm,0.8s					
NEA2	**Nenana**	**35.59**	**39**	P	**P**	**21 05 55.5 +1.0**
	baz=269,SNR=31					
PMR	**Palmer**	**35.63**	**44**	P	**P**	**21 05 55.5 +0.7**
	baz=274					
MCK	**McKinley**	**35.65**	**41**	IAmb	IAmb	21 05 56.6
	comp=Z,24nm,1.0s					
MCK	**McKinley**	**35.65**	**41**	P	**P**	**21 05 55.7 +0.7**
	baz=271,SNR=12					
TOLK	**Toolik Lake Re**	**35.66**	**32**	IAmb	IAmb	21 05 57.1
	comp=Z,21nm,0.6s					
TOLK	**Toolik Lake Re**	**35.66**	**32**	P	**P**	**21 05 56.4 +1.4**
	baz=263,SNR=24					
KNGR	**Kungurtug, Tuv**	**35.69**	**296**	*de*P	**P**	**21 05 55.3 -0.2**
KNGR				pmax	pmax	
	comp=Z,13nm,0.8s					
RND	**Reindeer**	**35.69**	**41**	IAmb	IAmb	21 05 56.7
	comp=Z,22nm,0.8s					
GHO	**Glory Hole Cre**	**35.72**	**44**	IAmb	IAmb	21 05 57.0
	comp=Z,31nm,1.3s					
WAT1	**Susitna Watana**	**35.84**	**42**	P	**P**	**21 05 56.6 0.0**
	baz=272					
KNK	**Knik Glacier**	**35.96**	**45**	P	**P**	**21 05 58.2 +0.5**
	baz=274,SNR=16					
D24K	**Happy Valley**	**36.00**	**31**	P	**P**	**21 05 59.1 +1.3**
	baz=263					
E24K	**Your Creek**	**36.01**	**33**	P	**P**	**21 05 59.4 +1.4**
	baz=265					
WRH	**Wood River Hil**	**36.01**	**39**	P	**P**	**21 05 58.6 +0.6**
WRH				IAmb	IAmb	21 06 01.1
	comp=Z,20nm,1.0s					
PWL	**Port Wells**	**36.07**	**46**	IAmb	IAmb	21 05 59.5
	comp=Z,24nm,0.8s					
PWL	**Port Wells**	**36.07**	**46**	P	**P**	**21 05 58.5 0.0**
	baz=275,SNR=11					
C24K	**Franklin Bluff**	**36.11**	**30**	IAmb	IAmb	21 06 01.0
	comp=Z,31nm,0.9s					
C24K	**Franklin Bluff**	**36.11**	**30**	P	**P**	**21 05 59.7 +0.9**
	baz=263					
COLA	**College**	**36.12**	**39**	P	**P**	**21 05 59.8 +1.0**
COLA	**College**	**36.12**	**39**	P	**P**	**21 06 00.5 +1.7**
COLA	**College**	**36.12**	**39***d i*	P	**P**	**21 06 00.0 +1.2**
COLA				pmax	pmax	
	comp=Z,40nm,0.9s					
COLA	**College**	**36.12**	**39**	P	**P**	**21 06 00.0 +1.2**
	baz=270					
COLA	**College**	**36.12**	**39**	P	**P**	**21 06 00.1 +1.3**
COLA				sP	**sP**	**21 06 39.9 +1.4**
H24K	**Nooodor Dome**	**36.12**	**37**	IAmb	IAmb	21 06 01.6
	comp=Z,34nm,1.2s					
H24K	**Nooodor Dome**	**36.12**	**37**	P	**P**	**21 06 00.5 +1.5**
	baz=269,SNR=18					
CCB	**Clear Creek Bu**	**36.13**	**39**	IAmb	IAmb	21 06 01.1
	comp=Z,28nm,1.4s					
F24K	**Squaw Lake**	**36.19**	**34**		**PcP**	**21 08 22.4 +0.3**
F24K	**Squaw Lake**	**36.19**	**34**	P	**P**	**21 06 00.8 +1.3**
	baz=266,SNR=15					
WAT6	**Susitna Watana**	**36.23**	**43**	P	**P**	**21 06 00.2 +0.2**
	baz=273,SNR=6.2					
M23K	**Glacier View**	**36.28**	**44**	P	**P**	**21 06 01.0 +0.6**
	baz=274					
POKR	**Poker Plat Res**	**36.29**	**38**	P	**P**	**21 06 01.9 +1.5**
	baz=270,SNR=11					
G24K	**Hadweenzic Riv**	**36.31**	**36**	P	**P**	**21 06 02.2 +1.7**
	baz=268,SNR=35					
DHY	**Denali Highway**	**36.37**	**42**	P	**P**	**21 06 01.2 0.0**
DHY				IAmb	IAmb	21 06 02.6
	comp=Z,17nm,0.7s					
DHY	**Denali Highway**	**36.37**	**42**	P	**P**	**21 06 01.7 +0.5**
	baz=273,SNR=20					
SCM	**Sheep Creek Mo**	**36.47**	**44**	IAmb	IAmb	21 06 03.6
	comp=Z,23nm,0.9s					
SCM	**Sheep Creek Mo**	**36.47**	**44**	P	**P**	**21 06 02.5 +0.4**
	baz=275,SNR=10					
HDA	**Harding Lake**	**36.51**	**39**	P	**P**	**21 06 02.3 +0.1**
	baz=272,SNR=23					
IL31		**36.53**	**39**	IAmb	IAmb	21 06 04.7
	comp=Z,32nm,1.2s					
ILAR	**Eielson Array**	**36.53**	**39**	P	**P**	**21 06 02.3 -0.1**
ILAR	**Eielson Array**	**36.53**	**39**	P	**P**	**21 06 03.1 +0.7**
	comp=Z,12nm,0.9s,baz=262,slow=7.3,SNR=91					
ILAR				pP	**pP**	**21 06 29.6 +1.0**
	comp=Z,4.6nm,1.1s,baz=321,slow=11,SNR=2.6					
ILAR				PcP	**PcP**	**21 08 21.9 -1.2**
	comp=Z,1.0nm,0.5s,baz=273,slow=3.5,SNR=4.1					
	comp=Z,12nm,0.9s					
GLI	**Glacier Island**	**36.67**	**45**	IAmb	IAmb	21 06 04.7
	comp=Z,24nm,0.7s					
GLI	**Glacier Island**	**36.67**	**45**	P	**P**	**21 06 03.7 +0.1**
	baz=276					
G25K	**Bearman Lake**	**36.85**	**35**	P	**P**	**21 06 06.8 +1.7**
	baz=269,SNR=16					
D25K	**Kavik River**	**36.88**	**31**	P	**P**	**21 06 06.7 +1.3**
	baz=265					
H25L	**Birch Creek**	**36.96**	**36**	P	**P**	**21 06 07.8 +1.8**
	baz=270,SNR=18					
FID	**Port Fidalgo**	**36.98**	**46**	IAmb	IAmb	21 06 07.5
	comp=Z,38nm,1.2s					
M24K	**Tolsona, Glenn**	**36.99**	**43**	P	**P**	**21 06 07.7 +1.3**
	baz=275,SNR=8.3					
K24K	**Donnelly Dome**	**37.05**	**40**	P	**P**	**21 06 07.2 +0.3**
	baz=273,SNR=9.2					
ENH	**Enshi**	**37.05**	**259**	IAmb	IAmb	21 06 10.7
	comp=Z,11nm,0.6s					
F25K	**Christian Rive**	**37.05**	**34**	P	**P**	**21 06 08.5 +1.6**
	baz=268,SNR=8.8					
PRP	**Porcupine Dome**	**37.09**	**38**	IAmb	IAmb	21 06 09.5
	comp=Z,21nm,0.8s					
PRP	**Porcupine Dome**	**37.09**	**38**	P	**P**	**21 06 08.3 +1.0**
	baz=271,SNR=27					
E25K	**Arctic Village**	**37.10**	**33**	P	**P**	**21 06 08.9 +1.7**
	baz=268,SNR=16					
KLU	**Klutina**	**37.17**	**44**	IAmb	IAmb	21 06 09.9
	comp=Z,39nm,1.2s					
KLU	**Klutina**	**37.17**	**44**	P	**P**	**21 06 08.8 +0.8**
	baz=276,SNR=20					
J25K	**Salcha River,**	**37.19**	**39**	P	**P**	**21 06 07.7 -0.3**
	baz=273					
Q23K	**Middleton Isla**	**37.22**	**48**	P	**P**	**21 06 09.3 +1.0**
	baz=279					
PAX	**Paxson**	**37.24**	**42**	P	**P**	**21 06 09.2 +0.6**
	baz=275,SNR=8.7					
EYAK	**Cordova Ski Ar**	**37.36**	**46**	P	**P**	**21 06 10.3 +0.8**
	baz=278					
HARP	**HAARP**	**37.44**	**43**	P	**P**	**21 06 11.3 +1.2**
	baz=276,SNR=9.7					
C26K	**Camden Bay**	**37.44**	**30**	P	**P**	**21 06 11.4 +1.4**
	baz=266					
BMAR	**Burnt Mountain**	**37.46**	**34**		**P**	**21 06 11.6 +1.3**
RIDG	**Independent Ri**	**37.46**	**40**	IAmb	IAmb	21 06 12.1
	comp=Z,31nm,1.1s					
RIDG	**Independent Ri**	**37.46**	**40**	P	**P**	**21 06 10.5 +0.1**
	baz=274,SNR=16					
LZH	**Lanzhou**	**37.49**	**271**	⇑P	**P**	**21 06 12.1 +1.0**
LZH				pP	pwP	21 06 40.1 -1.0
LZH				sP	sP	21 06 53.7 +3.4
LZH				pmax	pmax	
	comp=Z,84nm,1.5s					
LZH				LR	LR	
	comp=Z,180nm,17.0s					
LZH				LR	LR	
	comp=Z,180nm,16.1s					
F26K	**Shoenjek River**	**37.63**	**34**	P	**P**	**21 06 13.4 +1.7**
	baz=270,SNR=9.6					
LZDM	**Lanzhou Array**	**37.66**	**271**	P	**P**	**21 06 13.7 +1.0**
	comp=Z,5.7nm,0.3s,baz=56,slow=2.7,SNR=15					
	comp=Z,5.7nm,0.3s					
G26K	**Porcupine Rive**	**37.77**	**35**	IAmb	IAmb	21 06 15.9
	comp=Z,35nm,1.1s					
G26K	**Porcupine Rive**	**37.77**	**35**	P	**P**	**21 06 14.9 +2.1**
	baz=271					
N25K	**Chitina, Valde**	**37.78**	**44**	IAmb	IAmb	21 06 15.3
	comp=Z,11nm,0.7s					
N25K	**Chitina, Valde**	**37.78**	**44**	P	**P**	**21 06 14.3 +1.1**
	baz=277,SNR=11					
SCRK	**Sand Creek**	**37.83**	**40**	IAmb	IAmb	21 06 14.2
	comp=Z,10nm,0.6s					
SCRK	**Sand Creek**	**37.83**	**40**	P	**P**	**21 06 13.4 -0.1**
	baz=275,SNR=21					
C27K	**Jago River**	**37.84**	**31**	IAmb	IAmb	21 06 15.4
	comp=Z,21nm,0.6s					
C27K	**Jago River**	**37.84**	**31**	P	**P**	**21 06 14.8 +1.4**
	baz=268					
BMRM	**Bremner River**	**37.87**	**45**	IAmb	IAmb	21 06 15.8
	comp=Z,31nm,0.9s					
BMRM	**Bremner River**	**37.87**	**45**	P	**P**	**21 06 14.8 +1.0**
	baz=278,SNR=18					
J26L	**Joseph Creek**	**37.97**	**39**	P	**P**	**21 06 15.0 +0.3**
	baz=274,SNR=12					
KAIM	**Kayak Island**	**38.11**	**47**	P	**P**	**21 06 17.3 +1.5**
	baz=280					
HMT	**Hamilton**	**38.12**	**46**	IAmb	IAmb	21 06 18.2
	comp=Z,33nm,1.1s					
L26K	**Log Cabin Wild**	**38.20**	**42**	IAmb	IAmb	21 06 19.1
	comp=Z,17nm,0.7s					
L26K	**Log Cabin Wild**	**38.20**	**42**	P	**P**	**21 06 17.8 +1.3**
	baz=276,SNR=24					
VRDI	**Verde Repeater**	**38.38**	**44**	IAmb	IAmb	21 06 20.4
	comp=Z,16nm,0.8s					
BERG	**Berg Lake**	**38.39**	**46**	IAmb	IAmb	21 06 20.3
	comp=Z,44nm,1.3s					
M26K	**Nabesna, AK**	**38.44**	**43**	P	**P**	**21 06 20.3 +1.7**
	baz=278,SNR=40					
GTA	**Gaotai**	**38.54**	**278**	P	**P**	**21 06 20.5 +0.7**
GTA				sP	sP	21 07 05.6 +6.4
GTA				pmax	pmax	
	comp=Z,56nm,0.9s					
MCARA	**McCarthy VSAT**	**38.56**	**44**	P	**P**	**21 06 21.0 +1.5**
	baz=279,SNR=7.3					
E27K	**Coleen River**	**38.59**	**33**	IAmb	IAmb	21 06 22.4
	comp=Z,17nm,0.9s					
E27K	**Coleen River**	**38.59**	**33**	P	**P**	**21 06 21.3 +1.6**
	baz=271,SNR=13					
G27K	**Doyon Strip**	**38.62**	**35**	P	**P**	**21 06 21.7 +1.7**
	baz=273,SNR=9.0					
CRQE	**Cirque**	**38.63**	**45**	P	**P**	**21 06 21.7 +1.4**
	baz=280,SNR=27					
K27K	**Chicken**	**38.66**	**40**	P	**P**	**21 06 21.7 +1.4**
	baz=276					
H27K	**Steamboat Moun**	**38.70**	**36**	IAmb	IAmb	21 06 23.7
	comp=Z,22nm,0.9s					
H27K	**Steamboat Moun**	**38.70**	**36**	P	**P**	**21 06 22.8 +2.1**
	baz=274,SNR=22					
I27K	**Kandik River**	**38.71**	**37**	P	**P**	**21 06 22.0 +1.2**
	baz=275					
TGL	**Tana Glacier**	**38.76**	**45**	IAmb	IAmb	21 06 23.6
	comp=Z,26nm,1.0s					
D27M	**Malcolm River**	**38.80**	**31**	IAmb	IAmb	21 06 24.1
	comp=Z,19nm,0.8s					
D27M	**Malcolm River**	**38.80**	**31**	P	**P**	**21 06 23.1 +1.6**
	baz=271					
SNH	**Sunshine Point**	**38.85**	**46**	IAmb	IAmb	21 06 25.5
	comp=Z,30nm,0.8s					
L27K	**Beaver Creek,**	**38.88**	**41**	IAmb	IAmb	21 06 24.6
	comp=Z,27nm,0.7s					
L27K	**Beaver Creek,**	**38.88**	**41**	P	**P**	**21 06 24.1 +1.9**
	baz=273					
BCAR	**Beaver Creek A**	**38.90**	**41**		**P**	**21 06 23.7 +1.3**
M27K	**Edge Creek, AK**	**38.96**	**42**	IAmb	IAmb	21 06 25.8
	comp=Z,27nm,0.8s					
M27K	**Edge Creek, AK**	**38.96**	**42**	P	**P**	**21 06 24.7 +1.7**
	baz=278,SNR=26					
EGAK	**Eagle**	**38.98**	**39**	P	**P**	**21 06 23.4 +0.5**
	baz=276,SNR=29					
ISLE	**Juniper Island**	**39.02**	**45**	IAmb	IAmb	21 06 25.8
	comp=Z,39nm,1.0s					
F28M	**Old Crow**	**39.27**	**34**	IAmb	IAmb	21 06 28.2
	comp=Z,24nm,1.1s					
F28M	**Old Crow**	**39.27**	**34**	P	**P**	**21 06 27.2 +1.9**
	baz=274					
MESA	**MESA**	**39.29**	**46**	IAmb	IAmb	21 06 28.4
	comp=Z,27nm,0.9s					
MESA	**MESA**	**39.29**	**46**	P	**P**	**21 06 27.5 +1.7**
	baz=281,SNR=6.2					
E28M	**Babbage River**	**39.34**	**32**	P	**P**	**21 06 27.5 +1.6**
	baz=273,SNR=12					
BVCY	**Beaver Creek**	**39.42**	**42**	P	**P**	**21 06 28.4 +1.7**
	baz=279,SNR=6.0					
I28M	**Miner Creek**	**39.42**	**37**	IAmb	IAmb	21 06 29.1
	comp=Z,25nm,0.7s					
I28M	**Miner Creek**	**39.42**	**37**	P	**P**	**21 06 28.0 +1.2**
	baz=276,SNR=30					
CTG	**Chitna Glacier**	**39.44**	**45**	P	**P**	**21 06 28.6 +1.6**
	baz=281,SNR=33					
LOGN	**Logan Glacier**	**39.63**	**45**	IAmb	IAmb	21 06 30.9
	comp=Z,27nm,0.9s					
TABL	**Table Mountain**	**39.63**	**45**	IAmb	IAmb	21 06 30.9
	comp=Z,33nm,0.8s					
YUK3	**Moose Creek**	**39.71**	**43**	P	**P**	**21 06 30.6 +1.2**
	baz=280,SNR=23					
DAWY	**Dawson**	**39.83**	**40**	P	**P**	**21 06 30.4 +0.3**
DAWY	**Dawson**	**39.83**	**40**	P	**P**	**21 06 30.9 +0.8**
	baz=278					
E29M	**Blow River**	**39.95**	**33**	IAmb	IAmb	21 06 34.0
	comp=Z,30nm,0.9s					
E29M	**Blow River**	**39.95**	**33**	P	**P**	**21 06 32.8 +1.8**
	baz=274,SNR=23					
H29M	**Whitestone**	**39.98**	**36**	IAmb	IAmb	21 06 34.0
	comp=Z,21nm,0.9s					
H29M	**Whitestone**	**39.98**	**36**	P	**P**	**21 06 33.1 +1.8**
	baz=277,SNR=14					
O28M	**Mount Upton**	**40.03**	**45**	IAmb	IAmb	21 06 34.2
	comp=Z,26nm,0.8s					
O28M	**Mount Upton**	**40.03**	**45**	P	**P**	**21 06 33.3 +1.2**
	baz=282,SNR=25					
G29M	**Pine Creek**	**40.04**	**35**	IAmb	IAmb	21 06 34.9
	comp=Z,28nm,0.8s					
G29M	**Pine Creek**	**40.04**	**35**	P	**P**	**21 06 33.9 +2.1**
	baz=276,SNR=18					
I29M	**Ogilvie Camp,**	**40.11**	**37**	IAmb	IAmb	21 06 34.5
	comp=Z,24nm,0.8s					
I29M	**Ogilvie Camp,**	**40.11**	**37**	P	**P**	**21 06 33.5 +1.1**
	baz=278					
YUK8	**Steele Glacier**	**40.13**	**44**	P	**P**	**21 06 34.0 +1.1**
	baz=281					
PCA	**Pinnacle**	**40.13**	**46**	P	**P**	**21 06 33.8 +1.1**
PCA				IAmb	IAmb	21 06 34.7
	comp=Z,25nm,0.7s					
PINM	**Pinnacle**	**40.14**	**46**	P	**P**	**21 06 33.8 +1.1**
	baz=282,SNR=7.4					
M29M	**Somme Creek**	**40.51**	**42**	IAmb	IAmb	21 06 38.5
	comp=Z,16nm,0.7s					
M29M	**Somme Creek**	**40.51**	**42**	P	**P**	**21 06 37.6 +1.8**
	baz=281,SNR=20					
CD2	**Chengdu**	**40.52**	**264**	P	**P**	**21 06 36.9 +0.7**
CD2				pmax	pmax	
	comp=Z,150nm,0.9s					
CD2				pmax	pmax	
	comp=Z,220nm,7.7s					
L29M	**L29M**	**40.54**	**41**	IAmb	IAmb	21 06 39.0
	comp=Z,29nm,0.8s					
L29M	**L29M**	**40.54**	**41**	P	**P**	**21 06 38.1 +2.2**
	baz=281					
EPYK	**Eagle Plains**	**40.62**	**36**	P	**P**	**21 06 38.2 +1.6**
EPYK				IAmb	IAmb	21 06 39.1
	comp=Z,50nm,1.1s					
EPYK	**Eagle Plains**	**40.62**	**36**	P	**P**	**21 06 38.1 +1.6**
	baz=278,SNR=14					
YUK4	**Talbot Arm**	**40.65**	**44**	P	**P**	**21 06 38.4 +1.4**
	baz=282,SNR=11					
PNL	**Peninsula**	**40.65**	**46**	P	**P**	**21 06 38.1 +1.2**
PNL	**Peninsula**	**40.65**	**46**	P	**P**	**21 06 37.6 +0.7**
	baz=284					
K29M	**Barlow Dome**	**40.68**	**40**	P	**P**	**21 06 38.7 +1.5**
	baz=280					
G30M	**tAoh Zraii Nji**	**40.74**	**35**	IAmb	IAmb	21 06 39.8
	comp=Z,20nm,0.9s					
G30M	**tAoh Zraii Nji**	**40.74**	**35**	P	**P**	**21 06 38.9 +1.3**
	baz=278					
F30M	**Barrier River**	**40.82**	**34**	P	**P**	**21 06 40.4 +2.2**
	baz=277,SNR=15					
YUK6	**Outpost Mounta**	**40.87**	**44**	P	**P**	**21 06 40.4 +1.5**
	baz=283,SNR=6.2					
I30M	**Mount Dempster**	**40.93**	**37**	P	**P**	**21 06 40.5 +1.3**
	baz=280,SNR=55					
J30M	**Hart River**	**41.06**	**38**	P	**P**	**21 06 41.8 +1.4**
	baz=280,SNR=7.8					
M30M	**Minto, Yukon**	**41.24**	**42**	P	**P**	**21 06 43.3 +1.5**
	baz=282,SNR=16					
HYT	**Haines Junctio**	**41.30**	**44**		**P**	**21 06 44.3 +1.9**
HYT				IAmb	IAmb	21 06 45.4
	comp=Z,24nm,1.0s					
HYT	**Haines Junctio**	**41.30**	**44**	P	**P**	**21 06 44.2 +1.9**
	baz=284,SNR=23					
N30M	**Aishikik Lake**	**41.35**	**43**	P	**P**	**21 06 44.2 +1.6**
	baz=283,SNR=7.1					
GYA	**Guiyang**	**41.41**	**257**	⇓P	**P**	**21 06 44.3 +0.7**
GYA				pmax	pmax	
	comp=Z,11nm,0.6s					
MAYO	**Mayo, Yukon**	**41.44**	**40**	IAmb	IAmb	21 06 49.2
	comp=Z,38nm,0.8s					
MAYO	**Mayo, Yukon**	**41.44**	**40**	P	**P**	**21 06 45.1 +1.9**
	baz=282					
P29M	**Windy Craggy**	**41.48**	**46**	IAmb	IAmb	21 06 46.7
	comp=Z,26nm,0.8s					
P29M	**Windy Craggy**	**41.48**	**46**	P	**P**	**21 06 45.8 +2.1**
	baz=285,SNR=16					
G31M	**Satah River**	**41.50**	**35**		**P**	**21 06 44.7 +1.0**
G31M				IAmb	IAmb	21 06 46.0
	comp=Z,20nm,0.6s					
G31M	**Satah River**	**41.50**	**35**	P	**P**	**21 06 44.9 +1.2**
	baz=279,SNR=9.2					
INK	**Inuvik**	**41.58**	**33**		**P**	**21 06 45.5 +1.2**
INK				IAmb	IAmb	21 06 46.7
	comp=Z,49nm,1.1s					
INK	**Inuvik**	**41.58**	**33**	P	**P**	**21 06 45.5 +1.2**
INK				pmax	pmax	
	comp=Z,49nm,1.2s					
INK	**Inuvik**	**41.58**	**33**	P	**P**	**21 06 45.8 +1.6**
	baz=278,SNR=22					
F31M	**Tsiigehtchic**	**41.62**	**34**	IAmb	IAmb	21 06 47.0
	comp=Z,48nm,1.1s					
F31M	**Tsiigehtchic**	**41.62**	**34**	P	**P**	**21 06 46.0 +1.3**
	baz=279,SNR=6.1					
H31M	**Peel River**	**41.67**	**36**	IAmb	IAmb	21 06 47.5
	comp=Z,25nm,0.9s					
H31M	**Peel River**	**41.67**	**36**	P	**P**	**21 06 46.5 +1.3**
	baz=281					
P30M	**Million Dollar**	**41.73**	**45**	P	**P**	**21 06 48.1 +2.3**
	baz=285					
N31M	**Braeburn, Yuko**	**41.96**	**43**	IAmb	IAmb	21 06 50.9
	comp=Z,31nm,0.8s					
N31M	**Braeburn, Yuko**	**41.96**	**43**	P	**P**	**21 06 49.9 +2.3**
	baz=284,SNR=20					
O30N	**Mendenhall**	**41.99**	**44**	IAmb	IAmb	21 06 51.4
	comp=Z,27nm,0.9s					
O30N	**Mendenhall**	**41.99**	**44**	P	**P**	**21 06 49.7 +1.9**
	baz=285,SNR=16					
ZAA0	**Zalesovo Array**	**42.10**	**305**		**P**	**21 06 47.2 -1.5**
ZALV	**Zalesovo Beam**	**42.10**	**305**	P	**P**	**21 06 47.0 -1.7**
ZALV	**Zalesovo Beam**	**42.10**	**305**	P	**P**	**21 06 47.4 -1.4**
	comp=Z,9.4nm,0.4s,baz=63,slow=7.1,SNR=59					
ZALV				PcP	**PcP**	**21 08 41.4 +0.4**
	comp=Z,7.0nm,0.7s,baz=73,slow=2.3,SNR=11					
ZALV				LR	LR	21 26 09.3
	comp=Z,96nm,18.3s,baz=120,slow=39					
	comp=Z,9.4nm,0.4s					
PLBC	**Pleasant Camp**	**42.20**	**46**	P	**P**	**21 06 51.5 +2.0**
	baz=286,SNR=16					
M31M	**Drury Creek, Y**	**42.42**	**42**	P	**P**	**21 06 53.3 +2.0**
	baz=284					
WHY	**Whitehorse**	**42.59**	**44**		**P**	**21 06 54.8 +2.0**
WHY				IAmb	IAmb	21 06 55.8
	comp=Z,32nm,0.9s					
WHY	**Whitehorse**	**42.59**	**44**	P	**P**	**21 06 54.6 +1.8**
	baz=286,SNR=12					
S31K	**Pelican**	**42.69**	**48**	P	**P**	**21 06 55.3 +1.9**
	baz=288					
SIT	**Sitka**	**43.44**	**49**	P	**P**	**21 07 01.8 +2.3**
	baz=289					
P32M	**Atlin**	**43.46**	**45**	P	**P**	**21 07 01.6 +1.9**
	baz=288,SNR=5.6					
R32K	**Eaglecrest**	**43.46**	**47**	P	**P**	**21 07 01.8 +2.1**
	baz=288,SNR=5.8					
GOMU	**GeErMu**	**43.58**	**277**	P	**P**	**21 07 01.0 -0.4**
GOMU				pmax	pmax	
	comp=Z,53nm,0.8s					
P33M	**Teslin, Yukon**	**43.70**	**44**	IAmb	IAmb	21 07 05.1
	comp=Z,25nm,1.0s					
P33M	**Teslin, Yukon**	**43.70**	**44**	P	**P**	**21 07 03.7 +2.0**
	baz=288,SNR=29					
MMPY	**Sheldon Lake,**	**43.72**	**41**	P	**P**	**21 07 03.5 +1.8**
	baz=286,SNR=10					
A36M	**Sachs Harbour**	**43.72**	**26**	P	**P**	**21 07 03.2 +1.6**
	baz=282					
Q32M	**Nakinia River**	**44.36**	**46**	P	**P**	**21 07 09.1 +2.1**
	baz=289					
WMQ	**Urumqi**	**44.44**	**291**	*e*P	**P**	**21 07

U33K Whale Pass 44.91 50 P P 21 07 13.7 +2.5
baz=292
KMI Kunming 44.92 259 P P 21 07 12.1 +0.1
KMI pP pP 21 07 39.3 +0.5
KMI S S 21 13 37.9 -3.2
KMI pmax pmax
comp=Z,15nm,1.1s
CRAG Craig 45.15 51 P P 21 07 16.0 +2.9
baz=292
WRAK Wrangell Islan 45.20 49 P P 21 07 16.1 +2.6
baz=292
S34M Telegraph Cree 45.28 47 P P 21 07 16.5 +2.4
baz=291
TGTN Hyland Airport 45.39 41 P P 21 07 17.2 +2.1
baz=290,SNR=6.4
WTLY Watson Lake, Y 45.63 43 P P 21 07 18.8 +1.9
baz=291,SNR=6.4
DLBC Dease Lake 45.64 46 P P 21 07 19.2 +2.2
baz=291,SNR=10
V35K Ketchikan 46.00 50 P P 21 07 22.6 +2.9
baz=293
T35M Bob Quinn 46.07 48 P P 21 07 23.4 +3.0
baz=292,SNR=10
MK31 Makanchi Array 46.44 297*c* *i*P P 21 07 22.6 -0.9
MK31 *i* *PP **pP** 21 07 49.9 -0.3
MKAR Makanchi Array 46.44 297 P P 21 07 22.5 -1.0
MKAR Makanchi Array 46.44 297 P P 21 07 23.0 -0.5
comp=Z,35nm,0.7s,baz=66,slow=6.7,SNR=208
MKAR PcP **PcP** 21 08 56.7 +0.6
comp=Z,2.5nm,0.6s,baz=72,slow=1.7,SNR=4.2
MKAR ScP **ScP** 21 12 39.0 +0.9
comp=Z,0.6nm,0.7s,baz=64,slow=5.5,SNR=2.4
MKAR LR LR 21 27 52.1
comp=Z,56nm,18.6s,baz=52,slow=37
comp=Z,35nm,0.7s
MKAR Makanchi Array 46.44 297 *e*P P 21 07 23.0 -0.5
MAKZ Makanchi 46.63 297 P P 21 07 24.1 -0.8
SLVN Son La 46.76 254 P P 21 07 26.4 +0.1
KURK Kurchatov 46.86 303 P P 21 07 25.5 -1.0
KURK Kurchatov 46.86 303 P P 21 07 25.3 -1.3
KURK Kurchatov 46.86 303*c* *i*P P 21 07 25.5 -1.0
KURK pmax pmax
comp=Z,16nm,0.8s
KURK Kurchatov 46.86 303 *e*P P 21 07 25.5 -1.0
KURK Kurchatov 46.86 303 P P 21 07 25.6 -0.9
WRGLY Wrigley 46.90 38 P P 21 07 28.8 +2.1
baz=292
KURBB Kurchatov Arra 46.95 303 P P 21 07 26.4 -0.9
comp=Z,40nm,0.7s,baz=69,slow=8.5,SNR=179
KURBB PcP **PcP** 21 08 58.3 +0.5
comp=Z,1.7nm,0.6s,baz=64,slow=4.1,SNR=3.8
KURBB ScP **ScP** 21 12 40.4 +0.3
comp=Z,0.2nm,0.2s,baz=81,slow=5.7,SNR=2.7
KURBB LR LR 21 28 24.0
comp=Z,42nm,19.6s,baz=176,slow=37
comp=Z,40nm,0.7s
LIRD Liard River Hi 47.16 44 P P 21 07 30.8 +1.9
baz=293
TOAD Toad River Com 47.80 44 P P 21 07 36.1 +2.3
baz=294,SNR=6.2
KOTAN Kotaneelee Air 47.83 42 P P 21 07 35.5 +1.5
baz=294
TNCH TengChong 47.83 262 P P 21 07 36.0 +1.3
TNCH pP pP 21 08 03.1 +1.3
TNCH sP sP 21 08 17.3 +2.4
TNCH pmax pmax
comp=Z,37nm,1.1s
TNCH pmax pmax
comp=Z,180nm,2.9s
TDK Taldyqorghan 49.68 296 *e*P P 21 07 47.9 -0.6
comp=Z,16nm,0.6s
TDK Taldyqorghan 49.68 296 *e*P P 21 07 47.8 -0.6
TDK pmax pmax
comp=Z,16nm,0.6s
LSA Lhasa 49.87 272 P P 21 07 50.6 +0.1
LSA pmax pmax
comp=Z,63nm,0.7s
LSA Lhasa 49.87 272 P P 21 07 52.8 +2.3
LSA Lhasa 49.87 272 P P 21 07 52.2 +1.7
SHLS Shalkode 49.98 294 *e*P P 21 07 48.4 -2.4
comp=Z,6.5nm,0.6s
SHLS Shalkode 49.98 294 *e*P P 21 07 48.4 -2.4
SHLS pmax pmax
comp=Z,6.0nm,0.6s
UZB Uzynbulak 50.26 294 *e*P P 21 07 52.5 -0.5
comp=Z,13nm,0.9s
UZB Uzynbulak 50.26 294 *e*P P 21 07 52.4 -0.5
UZB pmax pmax
comp=Z,13nm,0.9s
BVAR Borovoye Array 50.35 309 P P 21 07 52.9 -0.3
comp=Z,27nm,0.3s,baz=54,slow=8.0,SNR=371
BVAR PcP **PcP** 21 09 10.4 +0.4
comp=Z,5.6nm,0.5s,baz=66,slow=2.6,SNR=6.3
BVAR LR LR 21 31 52.6
comp=Z,47nm,19.1s,baz=63,slow=39
comp=Z,27nm,0.3s
BORK Borovoye 50.37 309 P P 21 07 53.0 -0.4
BRZS Berezniki 50.57 305 *e*P P 21 07 54.2 -0.8
BRZS Berezniki 50.57 305 *e*P P 21 07 54.1 -0.8
SATY Saty 50.69 294 *e*P P 21 07 55.6 -0.5
comp=Z,11nm,1.0s
SATY Saty 50.69 294 *e*P P 21 07 55.6 -0.5
SATY pmax pmax
comp=Z,11nm,1.0s
YKA Yellowknife Ar 50.89 37 P P 21 07 58.1 +1.0
comp=Z,7.4nm,0.9s,baz=306,slow=7.5,SNR=8.6
YKA PcP **PcP** 21 09 12.6 +0.7
comp=Z,1.6nm,0.5s,baz=309,slow=4.2,SNR=5.5
comp=Z,7.4nm,0.9s
CHKK Chushkaly 51.15 296 *e*P P 21 07 58.7 -0.8
CHKK Chushkaly 51.15 296 *e*P P 21 08 01.6 -0.8
MDOK Medeo 51.48 295 *e*P P 21 08 01.6 -0.4
MDOK Medeo 51.48 295 *e*P P 21 08 01.6 -0.4
AAA Alma-Ata 51.53 295 *e*P P 21 08 01.9 -0.5
comp=Z,27nm,0.9s
AAA Alma-Ata 51.53 295 *e*P P 21 08 01.8 -0.6
AAA pmax pmax
comp=Z,27nm,0.9s
AAA Alma-Ata 51.53 295 *e*P P 21 08 01.8 -0.6
TNSS Tian-Shan 51.61 295 *e*P P 21 08 02.4 -0.9
TNSS Tian-Shan 51.61 295 *e*P P 21 08 02.4 -0.9
TARG Taragay, Kyrgy 51.78 293 IAmb IAmb 21 08 06.7
comp=Z,11nm,0.7s
CHTO Chiang Mai 51.82 256 P P 21 08 05.8 +1.1
CHTO Chiang Mai 51.82 256 P P 21 08 06.0 +1.3
CHTO Chiang Mai 51.82 256 P P 21 08 05.8 +1.1
CHTO pmax pmax
comp=Z,11nm,0.8s
CHTO Chiang Mai 51.82 256 P P 21 08 05.9 +1.2
CHTO pP **pP** 21 08 30.4 -1.8
KDJ Kajisay 51.95 294 IAmb IAmb 21 08 06.8
comp=Z,27nm,0.8s
SHL Shillong 51.99 268 P P 21 08 06.2 +0.1
SHL Shillong 51.99 268 P P 21 08 06.8 +0.7
SHL Shillong 51.99 268 P P 21 08 06.2 +0.1
SHL pmax pmax
comp=Z,67nm,0.5s
CMAR Chiang Mai Arr 52.08 256 P P 21 08 05.9 -0.7
CMAR Chiang Mai Arr 52.08 256 P P 21 08 08.2 +1.6
comp=Z,5.5nm,0.8s,baz=36,slow=7.3,SNR=43
CMAR pP **pP** 21 08 33.3 -0.7
comp=Z,0.4nm,0.3s,baz=42,slow=7.4,SNR=2.2
CMAR PcP **PcP** 21 09 17.7 +0.7
comp=Z,2.3nm,0.8s,baz=18,slow=4.5,SNR=5.9
CMAR ScP **ScP** 21 13 03.5 +1.0
comp=Z,0.4nm,0.3s,baz=5.0,slow=3.6,SNR=5.1
comp=Z,5.5nm,0.8s
KBS Kingsbay 52.10 351 *e*P P 21 08 04.7 -1.3
KBS IAmb IAmb 21 08 06.5
comp=Z,76nm,1.6s
SPA0 Spitsbergen Ar 52.21 350 *e*P P 21 08 06.1 -0.7
SPITS Spitsbergen Ar 52.21 350 P P 21 08 05.9 -0.9
comp=Z,1.8nm,0.4s,baz=61,slow=7.7,SNR=28
SPITS PcP **PcP** 21 09 17.2 +0.6
comp=Z,3.7nm,0.5s,baz=104,slow=6.1,SNR=5.5
comp=Z,1.8nm,0.4s
BTLS Baital 52.31 299 *e*P P 21 08 07.2 -0.7
BTLS Baital 52.31 299 *e*P P 21 08 07.2 -0.7
ULHL Ulahol 52.47 295 P P 21 08 10.5 +1.0
SNR=8.1
TKM2 Tokmak 2 52.50 296 P P 21 08 10.2 +0.5
SNR=12
SGDS Sogindy 52.81 297 *e*P P 21 08 11.1 -0.7
CHMS Chumysh 52.98 296 P P 21 08 13.4 +0.4
SNR=6.0
USP Ospenovka 52.99 296 P P 21 08 13.2 +0.2
SNR=42
KBK Karagaybulak 53.05 296 P P 21 08 14.2 +0.5
SNR=10
CLRS Cowichan Lake 53.10 55 IAmb IAmb 21 08 15.2
comp=Z,10nm,0.8s
SVE Sverdlovsk 53.32 317 *e*P P 21 08 14.8 -0.4
SVE pmax pmax
comp=Z,24nm,1.0s
AAK Ala-Archa 53.34 296 P P 21 08 15.9 +0.2
SNR=7.6
AAK Ala-Archa 53.34 296 P P 21 08 15.9 +0.2
AAK Ala-Archa 53.34 296 *i* P P 21 08 15.9 +0.2
SNR=7.7
AAK Ala-Archa 53.34 296*ce* *e*P P 21 08 15.4 -0.4
AAK pmax pmax
comp=Z,17nm,0.8s
LLLB Lillooet 53.39 52 IAmb IAmb 21 08 18.0
comp=Z,9.6nm,0.7s
EKS2 Erkin-Say 53.76 296 P P 21 08 19.0 +0.2
SNR=25
NLWA Neilton Lookou 54.02 57 IAmb IAmb 21 08 22.9
comp=Z,19nm,0.8s
KSH Kashi 54.17 292 P P 21 08 25.8 +4.0
KSH pmax pmax
comp=Z,11nm,1.2s
ARTI Arti 54.61 317 P P 21 08 23.3 -1.3
ARTI Arti 54.61 317*c* *i*P P 21 08 23.6 -0.9
ARTI *PP **pP** 21 08 52.7 +0.5
ARTI 21 09 24.8
ARTI 21 10 24.1
ARTI S **S** 21 15 55.5 +0.9
ARTI *SS **sS** 21 16 44.6 +1.4
ARTI 21 17 59.2
ARTI SS **SS** 21 19 37.3 -0.9
ARTI pmax pmax
comp=Z,44nm,1.5s
ARTI Arti 54.61 317 P P 21 08 23.7 -0.9
ARTI PcP **PcP** 21 09 25.6 -0.4
NEEM North Greenlan 54.87 6 *i* P P 21 08 26.1 -0.5
NEEM IAmb IAmb 21 08 26.9
comp=Z,29nm,0.8s
ARSB Arslanbob 55.01 295 IAmb IAmb 21 08 30.2
comp=Z,36nm,1.4s
DZA Taraz 55.12 298 *e*P P 21 08 28.0 -0.6
DZA Taraz 55.12 298 *e*P P 21 08 27.9 -0.6
KK31 Karatay Array 55.50 298 IAmb IAmb 21 08 31.9
comp=Z,23nm,1.5s
KK31 Karatay Array 55.50 298 *e*P P 21 08 30.4 -0.8
KKAR Karatay Array 55.50 298 P P 21 08 30.4 -0.8
KKAR Karatay Array 55.50 298 P P 21 08 30.4 -0.8
LTY Liberty 55.90 55 IAmb IAmb 21 08 35.2
comp=Z,12nm,0.5s
BRLS Borolday 55.95 299 *e*P P 21 08 35.5 +1.0
BRLS Borolday 55.95 299 *e*P P 21 08 35.4 +1.0
B08A Colville Reser 56.02 54 IAmb IAmb 21 08 36.7
comp=Z,31nm,1.4s
VADS Vadso 56.08 340 *e*P P 21 08 34.0 -0.9
VADS IAmb IAmb 21 08 36.2
comp=Z,18nm,1.0s
DAG Danmarks Havn 56.29 358 *i* P P 21 08 35.9 -0.4
DAG IAmb IAmb 21 08 36.9
comp=Z,4.3nm,0.8s
IUG Iuzhnay 56.34 298 *e*P P 21 08 36.8 -0.5
comp=Z,8.5nm,0.4s
IUG Iuzhnay 56.34 298 *e*P P 21 08 36.8 -0.5
IUG pmax pmax
comp=Z,8.0nm,0.4s
PMG Port Moresby 56.44 186 LR LR 21 30 17.1
comp=Z,36nm,20.2s,baz=138,slow=33
CHM Chimkent 56.50 298 *e*P P 21 08 37.8 -0.6
comp=Z,10.0nm,0.5s
CHM Chimkent 56.50 298 *e*P P 21 08 37.7 -0.6
CHM pmax pmax
comp=Z,10.0nm,0.5s
E07A Sunnyside 56.76 56 IAmb IAmb 21 08 41.8
comp=Z,13nm,0.6s
K02D Willamette Mer 56.78 61 IAmb IAmb 21 08 43.2
comp=Z,26nm,1.0s
APA Apatity 56.88 336 *i* P P 21 08 38.1 -2.5
APA *i* *PP **pP** 21 09 07.9 -0.8
APA *e* 21 09 33.6
APA *eS **S** 21 16 15.9 -8.4
APA pmax pmax
comp=Z,8.0nm,0.7s
APA MLR MLR
comp=Z,316nm,5.0s
HAMF Hammerfest 56.95 342 *e*P P 21 08 40.7 -0.4
D08A Wollman Farm, 56.99 55 IAmb IAmb 21 08 42.9
comp=Z,8.1nm,0.6s
G06A Carlson Farm, 57.08 57 IAmb IAmb 21 08 45.0
comp=Z,22nm,1.7s
BBOR Butler Butte 57.26 60 IAmb IAmb 21 08 46.8
comp=Z,42nm,1.6s
KIRV Kirov 57.28 323 LR LR 21 34 57.2
comp=Z,43nm,18.6s,baz=15,slow=38
KIRV Kirov 57.28 323*c* *i*P P 21 08 42.7 -0.8
NEW Newport 57.28 53 IAmb IAmb 21 08 45.6
comp=Z,19nm,1.1s
ARA0 ARCESS Array S 57.41 341 *e*P P 21 08 44.2 -0.1
ARCES ARCESS Array B 57.41 341 P P 21 08 44.2 -0.1
comp=Z,2.5nm,0.4s,baz=24,slow=7.1,SNR=40
ARCES PcP **PcP** 21 09 37.1 +0.4
comp=Z,5.4nm,0.6s,baz=38,slow=6.1,SNR=8.3
comp=Z,2.5nm,0.4s
E09A Wood Farm, Sta 57.74 55 IAmb IAmb 21 08 49.0
comp=Z,19nm,1.0s
KHMM Horse Mountain 57.82 63 IAmb IAmb 21 08 50.8
comp=Z,16nm,0.8s
AB31 Akbulak array 57.91 309 *e*P P 21 08 47.7 -0.4
ABKAR Akbulak array 57.91 309 P 21 08 47.2 -0.9
YBH Yreka Blue Hor 57.92 62 IAmb IAmb 21 08 50.9
comp=Z,9.6nm,0.7s
M02C Callahan 58.04 62 IAmb IAmb 21 08 52.4
comp=Z,21nm,1.4s
AKTO Aktyubinsk 58.21 311 LR LR 21 36 12.2
comp=Z,74nm,19.5s,baz=57,slow=38
KTK1 Kautokeino 58.33 341 *e*P P 21 08 50.2 -0.5
KTK1 IAmb IAmb 21 08 51.5
comp=Z,11nm,0.3s
N02D Trinity Center 58.38 62 IAmb IAmb 21 08 54.0
comp=Z,14nm,0.6s
JETT Jettan, Norway 58.50 342 *e*P P 21 08 51.7 -0.3
JETT IAmb IAmb 21 08 53.9
comp=Z,24nm,0.5s
TRO Tromso 58.75 343 *e*P P 21 08 53.4 -0.2
TRO IAmb IAmb 21 08 54.0
comp=Z,29nm,1.1s
UPNV Upernavik 58.77 10 *i* P P 21 08 52.7 -1.0
UPNV IAmb IAmb 21 08 54.6
comp=Z,30nm,1.0s
O02D Mt. Diablo Mer 58.81 63 IAmb IAmb 21 08 59.2
comp=Z,11nm,1.0s
SIMJ Simiganj 59.04 295 P P 21 08 55.7 -0.6
SIMJ Simiganj 59.04 295 P P 21 08 56.1 -0.2
BMO Blue Mountains 59.21 56 IAmb IAmb 21 08 59.1
comp=Z,8.3nm,0.7s
NIL Nilore 59.43 288 P P 21 08 59.4 +0.5
NIL Nilore 59.43 288 P P 21 09 00.0 +1.1
NIL Nilore 59.43 288 P P 21 08 59.4 +0.5
NIL pmax pmax
comp=Z,113nm,1.1s
KLMR Klimovskoe 59.62 329 *e*P P 21 08 57.4 -2.3
KLMR *e* 21 09 42.7
KLMR pmax pmax
comp=Z,16nm,0.8s
ORV Oroville 59.98 63 IAmb IAmb 21 09 03.6
comp=Z,9.6nm,0.7s
SUMG Summit 60.39 4 P P 21 09 05.6 +0.3
SUMG Summit 60.39 4 P P 21 09 05.6 +0.3
SUMG pmax pmax
comp=Z,48nm,1.2s
SUMG Summit 60.39 4 *i* P P 21 09 06.2 +0.8
SUMG IAmb IAmb 21 09 06.8
comp=Z,38nm,1.1s
BEKR Beckworth 60.47 62 IAmb IAmb 21 09 08.1
comp=Z,19nm,0.9s
AFDM Forest Hills D 60.67 63 P P 21 09 08.2 +0.9
FFC Flin Flon 60.73 40 P P 21 09 07.9 +0.5
FFC IAmb IAmb 21 09 09.2
comp=Z,26nm,1.1s
FFC Flin Flon 60.73 40 P P 21 09 07.9 +0.5
FFC pmax pmax
comp=Z,26nm,1.1s
FFC Flin Flon 60.73 40 P P 21 09 08.0 +0.5
FFC pP **pP** 21 09 37.1 +1.3
JOF Joensuu 60.86 333 *e*P P 21 09 07.5 -0.6
STEI Steigen 60.91 343 *e*P P 21 09 08.3 -0.1
STEI IAmb IAmb 21 09 11.2
comp=Z,17nm,1.0s
NIAQ Niaqornat 60.92 10 *i* P P 21 09 10.1 +1.7
NIAQ IAmb IAmb 21 09 13.1
comp=Z,57nm,1.1s
MFID Camas Ranch 60.93 56 P P 21 09 09.8 +0.7
LOF Lofoten 61.08 344 *e*P P 21 09 09.2 -0.3
LOF IAmb IAmb 21 09 10.1
comp=Z,36nm,0.8s
SAATT Saattut 61.13 9 *i* P P 21 09 10.1 +0.3
SAATT IAmb IAmb 21 09 12.1
comp=Z,55nm,0.8s
PAHR Pah Rah Range 61.16 62 IAmb IAmb 21 09 12.4
comp=Z,14nm,0.6s
COEN Coen 61.34 190 P P 21 09 12.3 +0.4
COEN Coen 61.34 190 P P 21 09 12.6 +0.7
COEN IAmb IAmb 21 09 13.9
comp=Z,22nm,0.8s
FAUS Fauske 61.37 343 *e*P P 21 09 11.2 -0.3
FAUS IAmb IAmb 21 09 12.2
comp=Z,26nm,0.7s
SJUU Sjulsmark 61.51 339 *e*P P 21 09 12.2 -0.3
KBL Kabul 61.58 291 P P 21 09 13.0 -0.8
KBL Kabul 61.58 291 P P 21 09 13.6 -0.1
KBL Kabul 61.58 291 P P 21 09 13.0 -0.8
KBL pmax pmax
comp=Z,54nm,0.8s
HLID Hailey 61.64 56 P P 21 09 14.6 +0.6
SCZ Santa Cruz 61.88 66 IAmb IAmb 21 09 17.2
comp=Z,19nm,0.8s
WAKR Walker 61.88 63 IAmb IAmb 21 09 17.7
comp=Z,12nm,0.8s
BELG Belogornoye 62.02 318*c* *i*P P 21 09 15.7 -0.4
BELG pmax pmax
comp=Z,6.0nm,0.9s
VAGH Vaagaholmen 62.34 343 *e*P P 21 09 16.7 -1.3
VAGH IAmb IAmb 21 09 18.0
comp=Z,16nm,0.7s
RYN Ryan 62.36 62 IAmb IAmb 21 09 21.0
comp=Z,15nm,0.8s
KONS Konsvik 62.57 343 *e*P P 21 09 19.2 -0.3
BATI Baumata 62.58 212 P P 21 09 21.8 +1.5
comp=Z,19nm,0.6s,baz=96,slow=8.7,SNR=2.2
comp=Z,19nm,0.6s
MOR8 Moi Rana 62.58 342 *e*P P 21 09 17.3 -2.4
MOR8 IAmb IAmb 21 09 19.1
comp=Z,24nm,0.8s
NVAR Mina Array Bea 62.62 62 P P 21 09 21.3 +0.7
NVAR Mina Array Bea 62.62 62 P P 21 09 22.0 +1.3
comp=Z,15nm,0.6s,baz=299,slow=7.4,SNR=85
NVAR pP **pP** 21 09 50.7 +1.5
comp=Z,1.5nm,0.5s,baz=291,slow=7.7,SNR=2.6
comp=Z,15nm,0.6s
MTN Manton Dam 62.66 204 P P 21 09 20.9 +0.1
comp=Z,42nm,1.2s
MTN Manton Dam 62.66 204 P 21 09 20.9 +0.1
YHB Horse Butte 62.66 53 IAmb IAmb 21 09 22.7
comp=Z,11nm,0.6s
NV11 Mina Array Sit 62.71 62 IAmb IAmb 21 09 23.4
comp=Z,22nm,1.3s
ILULI Ilulissat 62.71 9 IAmb IAmb 21 09 22.5
comp=Z,28nm,0.7s
ILULI Ilulissat 62.71 9 *i* P P 21 09 20.1 -0.2
ILULI IAmb IAmb 21 09 22.3
comp=Z,29nm,0.6s
STOK Stokkvaagen 62.74 343 *e*P P 21 09 20.0 -0.6
LEIR Leirfjorden 62.91 343 *e*P P 21 09 21.6 -0.2
LEIR IAmb IAmb 21 09 22.5
comp=Z,12nm,0.6s
YNR Norris Junctio 62.97 53 IAmb IAmb 21 09 25.7
comp=Z,32nm,1.7s
YMP Mirror Lake Pl 63.24 52 IAmb IAmb 21 09 27.3
comp=Z,28nm,1.5s
KEF Keuruu 63.34 335 *e*P P 21 09 24.0 -0.7
RLMT Red Lodge 63.47 52 IAmb IAmb 21 09 28.7
comp=Z,25nm,1.2s
TPH Tonopah 63.50 62 IAmb IAmb 21 09 28.5
comp=Z,22nm,0.8s
DSP Deep Springs 63.50 63 IAmb IAmb 21 09 28.9
comp=Z,26nm,1.1s
FIA1 FINESS Array S 63.57 334 P 21 09 25.6 -0.6
FINES FINESS Array B 63.57 334 P P 21 09 25.6 -0.6
FINES FINESS Array B 63.57 334 P P 21 09 25.9 -0.3
comp=Z,31nm,0.6s,baz=37,slow=6.5,SNR=172
comp=Z,31nm,0.6s
FINES FINESS Array B 63.57 334 *i* P P 21 09 25.7 -0.5
FINES pmax pmax
comp=Z,31nm,0.6s
TPAW Teton Pass 63.62 54 IAmb IAmb 21 09 30.1
comp=Z,20nm,0.7s
HVU Hansel Valley 63.71 56 IAmb IAmb 21 09 29.9
comp=Z,12nm,0.8s
LOHW Long Hollow 63.73 54 IAmb IAmb 21 09 30.6
comp=Z,25nm,1.4s
LAO LASA Array 64.03 49 IAmb IAmb 21 09 31.9
comp=Z,25nm,0.9s
R11B Troy Canyon, C 64.30 61 IAmb IAmb 21 09 33.6
comp=Z,18nm,0.9s
HWUT Hardware Ranch 64.51 56 IAmb IAmb 21 09 34.8
comp=Z,13nm,0.6s
SPR3 Spring Creek 3 64.62 59 IAmb IAmb 21 09 36.5
comp=Z,19nm,0.7s
MPMC Manual Prospec 64.65 64 IAmb IAmb 21 09 35.9
comp=Z,16nm,1.0s
WCT Wildcat Mounta 64.69 63 IAmb IAmb 21 09 36.1
comp=Z,26nm,1.4s
DUG Dugway, Tooele 64.72 58 IAmb IAmb 21 09 36.6
comp=Z,21nm,0.8s
CLC China Lake 64.74 64 IAmb IAmb 21 09 36.3
comp=Z,24nm,0.9s
OBN Obninsk 64.81 325 P 21 09 33.4 -1.0
OBN Obninsk 64.81 325 ⇑P P 21 09 33.8 -0.6
OBN Obninsk 64.81 325*ce* *e*P P 21 09 33.8 -0.6
OBN *e* *PP **pwP** 21 10 05.3 -0.4
OBN *e* 21 10 08.8
OBN *e* *SP **sP** 21 10 18.5 +2.4
OBN *e* 21 11 56.0
OBN *e* PPP PPP 21 13 31.8
OBN *eS **S** 21 18 03.8 -1.5
OBN *eSS **SS** 21 22 18.4 +0.6
OBN pmax pmax
comp=Z,16nm,0.6s
OBN Obninsk 64.81 325 *e*P P 21 09 33.8 -0.6
TPNV Topopah Spring 64.82 62 IAmb IAmb 21 09 37.1
comp=Z,20nm,0.9s
BW06 Boulder Array 64.86 54 IAmb IAmb 21 09 37.0
comp=Z,13nm,0.7s
PD31 Pinedale Array 64.86 54 IAmb IAmb 21 09 37.0
comp=Z,12nm,0.7s
PDAR Pinedale Array 64.86 54 P P 21 09 35.7 +0.4
PDAR Pinedale Array 64.86 54 P P 21 09 36.1 +0.8
comp=Z,8.2nm,0.6s,baz=289,slow=1.3,SNR=114
PDAR pP **pwP** 21 10 06.2 -0.7
comp=Z,2.8nm,0.7s,baz=300,slow=1.2,SNR=2.9
comp=Z,8.2nm,0.6s
SFJD Kangerlussuaq 64.89 10 P 21 09 34.1 -0.6
SFJD IAmb IAmb 21 09 37.6
comp=Z,16nm,0.8s
SFJD Kangerlussuaq 64.89 10 P P 21 09 34.1 -0.6
SFJD pmax pmax
comp=Z,15nm,0.9s
SFJD Kangerlussuaq 64.89 10 *i* P P 21 09 34.0 -0.7
SFJD IAmb IAmb 21 09 37.4
comp=Z,16nm,0.8s
LRMC Laurel Mtn Rad 64.91 64 IAmb IAmb 21 09 37.2
comp=Z,33nm,1.6s
TCUT Toone Canyon 64.92 56 IAmb IAmb 21 09 37.9
comp=Z,14nm,0.8s
WSHM Spangler Hills 64.94 64 IAmb IAmb 21 09 37.5
comp=Z,20nm,1.0s
TPO Tropico Hills 64.96 65 IAmb IAmb 21 09 38.7
comp=Z,30nm,1.1s
CTU Camp Tracy 65.00 57 IAmb IAmb 21 09 38.1
comp=Z,13nm,0.7s
MEF Metsahovi 65.05 334 *e*P P 21 09 35.4 -0.4
GWY Greenwater Val 65.06 63 IAmb IAmb 21 09 38.5
comp=Z,20nm,0.8s
QSM Queen of Sheba 65.09 63 IAmb IAmb 21 09 38.6
comp=Z,23nm,0.9s
RAF Rauma 65.15 336 *e*P P 21 09 36.0 -0.4
PRN Pahroc Range 65.24 61 IAmb IAmb 21 09 39.5
comp=Z,13nm,0.6s
MTSU Mount Surprise 65.34 189 P P 21 09 39.0 +0.8
comp=Z,15nm,0.9s

MWC	Mount Wilson	65.50	66	IAmb	IAmb	21 09 41.3				
	comp=Z,43nm,1.4s									
VRH	Novokhopyorsk	65.50	320	*eP*	P	21 09 36.2	-2.7			
VRH				pmax	pmax					
	comp=Z,10.0nm,0.8s									
MPU	Maple Canyon	65.52	57	IAmb	IAmb	21 09 41.6				
	comp=Z,18nm,0.7s									
GSC	Goldstone, Bar	65.56	64	IAmb	IAmb	21 09 41.5				
	comp=Z,13nm,0.9s									
BSUT	Blindstream Ca	65.67	56	IAmb	IAmb	21 09 43.0				
	comp=Z,12nm,0.9s									
LPSR	Galich'ya Gora	65.70	322	*eP*	P	21 09 38.1	-2.1			
LPSR				pmax	pmax					
	comp=Z,20nm,0.8s									
VSU	Vasula	65.74	332	*eP*	P	21 09 39.2	-1.1			
DY2G	Dye2	65.86	8	*i* P	P	21 09 41.9	+0.6			
DY2G				IAmb	IAmb	21 09 44.2				
	comp=Z,34nm,0.6s									
CCUT	Cedar City	66.15	60	IAmb	IAmb	21 09 45.9				
	comp=Z,14nm,1.0s									
MTPC	Mountain Pass	66.21	63	IAmb	IAmb	21 09 45.9				
	comp=Z,16nm,1.1s									
TMUT	Trail Mountain	66.24	57	IAmb	IAmb	21 09 46.2				
	comp=Z,14nm,0.7s									
ELS	Elsinore Mount	66.27	66	IAmb	IAmb	21 09 45.4				
	comp=Z,12nm,0.8s									
P17A	Butcher Ranch,	66.39	57	IAmb	IAmb	21 09 47.2				
	comp=Z,25nm,1.0s									
MTPU	Mount Pierson	66.52	59	IAmb	IAmb	21 09 48.6				
	comp=Z,15nm,0.8s									
Q16A	Castle Valley	66.52	58	IAmb	IAmb	21 09 48.1				
	comp=Z,13nm,0.9s									
ULM	Lac du Bonnet	66.52	41	P	P	21 09 45.4	0.0			
	comp=Z,7.7nm,0.6s,baz=314,slow=5.1,SNR=13									
	comp=Z,7.7nm,0.6s									
ULM	Lac du Bonnet	66.52	41	*ce*P	P	21 09 44.9	-0.6			
LCMT	Little Creek M	66.58	60	IAmb	IAmb	21 09 48.6				
	comp=Z,25nm,0.8s									
K22A	Casper	66.59	52	IAmb	IAmb	21 09 48.1				
	comp=Z,13nm,0.5s									
HYB	Hyderabad	66.60	271	IVmB_BB		21 09 48.3				
	comp=Z,292nm,1.4s									
HYB				*eP*	P	21 09 48.6	+2.1			
VSR	Storozhevoye	66.61	321	*eP*	P	21 09 43.9	-2.1			
VSR				pmax	pmax					
	comp=Z,10.0nm,0.8s									
KNB	Kanab	66.83	60	IAmb	IAmb	21 09 50.4				
	comp=Z,27nm,0.9s									
PFO	Pinyon Flats O	66.90	65	P	P	21 09 47.9	-0.4			
PFO	Pinyon Flats O	66.90	65⇑	*eP*	P	21 09 47.0	-1.3			
PFO				pmax	pmax					
	comp=Z,22nm,1.5s									
RSSD	Black Hills	66.90	50		P	21 09 47.8	-0.5			
RSSD	Black Hills	66.90	50	P	P	21 09 47.8	-0.5			
RSSD				pmax	pmax					
	comp=Z,26nm,0.6s									
RSSD	Black Hills	66.90	50	P	P	21 09 48.8	+0.4			
CTAO	Charters Tower	67.10	186		P	21 09 49.2	-0.2			
CTAO				IAmb	IAmb	21 09 50.7				
	comp=Z,25nm,1.0s									
CTAO	Charters Tower	67.10	186	P	P	21 09 49.2	-0.2			
CTAO				pmax	pmax					
	comp=Z,25nm,1.0s									
MOL	Molde	67.18	343	IAmb	IAmb	21 09 50.5				
	comp=Z,25nm,1.2s									
MOL				*eP*	P	21 09 50.7	+1.3			
UPP	Uppsala	67.25	337	*eP*	P	21 09 49.8	-0.1			
IRM	Iron Mountain	67.34	64	IAmb	IAmb	21 09 53.0				
	comp=Z,24nm,1.1s									
ISOG	Isortoq, Green	67.35	5	*i* P	P	21 09 50.4	0.0			
ISOG				IAmb	IAmb	21 09 52.2				
	comp=Z,29nm,0.7s									
DOMB	Dombas	67.35	342	*eP*	P	21 09 51.0	+0.4			
DOMB				IAmb	IAmb	21 09 53.0				
	comp=Z,28nm,1.2s									
O20A	White River Ci	67.36	55	IAmb	IAmb	21 09 52.9				
	comp=Z,23nm,1.4s									
NUUK	Nuuk	67.44	11	*i* P	P	21 09 52.1	+1.1			
NUUK				IAmb	IAmb	21 09 54.9				
	comp=Z,13nm,0.8s									
U15A	North Rim	67.54	60	IAmb	IAmb	21 09 54.9				
	comp=Z,18nm,0.9s									
AKN	Aaknes	67.64	343	*eP*	P	21 09 53.8	+1.4			
AKN				IAmb	IAmb	21 09 54.7				
	comp=Z,25nm,1.0s									
NC204	NORSAR Array S	67.67	341	IAmb	IAmb	21 09 55.2				
	comp=Z,14nm,0.7s									
NB2	NORSAR Subarra	67.78	341	P	P	21 09 53.6	+0.3			
	comp=Z,11nm,0.7s,baz=31,slow=6.5									
NB2	NORSAR Subarra	67.78	341	P	P	21 09 53.6	+0.3			
	comp=Z,11nm,0.7s,baz=31,slow=6.5									
NOA	NORSAR Array B	67.78	341	P	P	21 09 53.6	+0.3			
	comp=Z,6.9nm,0.6s,baz=30,slow=6.6,SNR=36									
NOA				pP	pP	21 10 23.3	+1.0			
	comp=Z,1.8nm,0.7s,baz=26,slow=6.3,SNR=2.0									
NOA				LR	LR	21 41 38.0				
	comp=Z,21nm,20.2s,baz=45,slow=38									
	comp=Z,6.9nm,0.6s									
SLIT	Slitere, Latvi	67.80	334	*eP*	P	21 09 52.9	-0.4			
NC602	NORSAR Array S	67.98	341	*eP*	P	21 09 54.0	-0.6			
NC602				IAmb	IAmb	21 09 55.5				
	comp=Z,108nm,1.9s									
BLYC	Blythe	68.00	64	IAmb	IAmb	21 09 57.1				
	comp=Z,26nm,1.0s									
HFS	Hagfors	68.01	339	P	P	21 09 54.7	0.0			
	comp=Z,24nm,0.4s,baz=47,slow=6.5,SNR=135									
	comp=Z,24nm,0.4s									
PV22	Blue Mesa, Par	68.15	57	IAmb	IAmb	21 09 57.9				
	comp=Z,21nm,0.9s									
PV07	Paradox Valley	68.29	57	IAmb	IAmb	21 09 58.8				
	comp=Z,20nm,1.3s									
ESJX	Sierra Juarez	68.30	66	IAmb	IAmb	21 09 59.0				
	comp=Z,17nm,1.0s									
PV03	Paradox Valley	68.30	57	IAmb	IAmb	21 10 43.6				
	comp=Z,17nm,0.7s									
QIS	Mount Isa	68.33	193	P	P	21 09 56.9	-0.2			
	comp=Z,18nm,1.6s									
PV02	Paradox Valley	68.40	57	IAmb	IAmb	21 09 59.6				
	comp=Z,18nm,0.7s									
PV15	Paradox Valley	68.45	57	IAmb	IAmb	21 10 00.3				
	comp=Z,16nm,0.8s									
MNK	Minsk	68.51	329	*i* P	P	21 09 58.2	+0.3			
MNK				*i* *PP	pP	21 10 25.3	-1.6			
MNK				*i*		21 12 29.8				
MNK				*i* PPP	PPP	21 14 15.3				
MNK				*i* S	S	21 18 51.0	+1.1			
MNK				*i* *SS	ScS	21 19 45.8	-0.2			
MNK				*i* SS	SS	21 23 17.2	+2.2			
MNK				pmax	pmax					
	comp=Z,43nm,0.7s									
MNK				pmax	pmax					
	comp=N,16nm,1.1s									
MNK				pmax	pmax					
	comp=E,17nm,0.9s									
MNK				MLR	MLR					
	comp=N,27nm,14.0s									
MNK				MLR	MLR					
	comp=E,37nm,16.0s									
MNK				MLR	MLR					
	comp=E,15nm,14.0s									
WB0	Warramunga Arr	68.53	198	P	P	21 09 58.3	0.0			
FOO	Floro	68.55	344	*eP*	P	21 09 58.0	0.0			
NACGM	Naroch	68.57	330⇑	*eP*	P	21 09 57.8	-0.5			
	comp=N,7.0nm,0.8s									
WB2	Warramunga Arr	68.70	198	P	P	21 09 59.7	+0.2			
	comp=Z,12nm,0.7s									
WRA	Warramunga Arr	68.71	198	P	P	21 09 58.5	-1.0			
WRA	Warramunga Arr	68.71	198	P	P	21 09 59.4	0.0			
	comp=Z,4.9nm,0.6s,baz=15,slow=6.6,SNR=59									
WRA				PcP	PcP	21 10 24.1	+0.6			
	comp=Z,4.4nm,0.6s,baz=13,slow=4.6,SNR=11									
WRA				PKiKP	PKiKP	21 16 18.8	+1.2			
	comp=Z,0.9nm,0.9s,baz=350,slow=1.5,SNR=5.0									
	comp=Z,4.9nm,0.6s									
HYA	Hoyanger	68.73	343	*eP*	P	21 09 59.9	+0.8			
HYA				IAmb	IAmb	21 10 00.5				
	comp=Z,20nm,0.6s									
SKAR	Skarslia	68.74	342	*eP*	P	21 09 58.4	-0.9			
SKAR				IAmb	IAmb	21 09 59.2				
	comp=Z,30nm,1.3s									
Y14A	Wickenburg	68.80	63	IAmb	IAmb	21 10 02.0				
	comp=Z,19nm,0.7s									
PABE	Paberze	69.02	332	IAmb	IAmb	21 10 01.7				
	comp=Z,20nm,0.8s									
MVCO	Mesa Verde	69.22	58	IAmb	IAmb	21 10 04.7				
	comp=Z,19nm,0.9s									
FITZ	Fitzroy Crossi	69.26	207	P	P	21 10 03.7	+0.9			
	comp=Z,5.2nm,0.9s									
FITZ	Fitzroy Crossi	69.26	207	P	P	21 10 03.2	+0.3			
FITZ	Fitzroy Crossi	69.26	207	P	P	21 10 03.8	+0.9			
	comp=Z,16nm,0.8s,baz=16,slow=6.3,SNR=29									
	comp=Z,16nm,0.8s									
GOF	Gofitskoye	69.31	314	*ce*P	P	21 10 03.4	+0.4			
X16A	Lo Mia Camp, P	69.41	61	IAmb	IAmb	21 10 06.5				
	comp=Z,20nm,1.0s									
AKT	Akhty	69.49	309	*eP*	P	21 10 04.3	0.0			
AKT				*e*		21 10 26.5				
AKT				*e**PP	pwP	21 10 36.3	-0.3			
AKT				*e**SP	sP	21 10 49.5	+3.4			
AKT				*e*S	S	21 18 59.4	-2.7			
AKT				pmax	pmax					
	comp=Z,23nm,0.6s									
F33A	5 Mile Ranch,	69.54	44	IAmb	IAmb	21 10 05.4				
	comp=Z,36nm,1.1s									
ASK	Askoy	69.55	343	*eP*	P	21 10 05.4	+1.2			
ASK				IAmb	IAmb	21 10 05.7				
	comp=Z,85nm,1.3s									
STRU	Stroemstad	69.58	340	*eP*	P	21 10 04.3	-0.1			
STRU	Stroemstad	69.58	340	*i* P	P	21 10 04.8	+0.4			
BER	Bergen	69.62	343	*eP*	P	21 10 04.8	+0.2			
BER				IAmb	IAmb	21 10 07.2				
	comp=Z,53nm,0.9s									
ODD1	Odda	69.79	342	*eP*	P	21 10 05.4	-0.3			
ODD1				IAmb	IAmb	21 10 07.3				
	comp=Z,32nm,0.9s									
K30B	Basset	70.20	48	IAmb	IAmb	21 10 10.0				
	comp=Z,34nm,0.9s									
214A	Organ Pipe Nat	70.27	64	IAmb	IAmb	21 10 11.2				
	comp=Z,38nm,1.5s									
BLS5	Blasjo	70.27	342	*eP*	P	21 10 09.2	+0.5			
BLS5				IAmb	IAmb	21 10 11.3				
	comp=Z,473nm,2.2s									
KIV	Kislovodsk	70.29	314	P	P	21 10 08.6	-0.5			
KIV	Kislovodsk	70.29	314	P	P	21 10 09.7	+0.5			
KIV	Kislovodsk	70.29	314	⇑P	P	21 10 09.6	+0.5			
KIV	Kislovodsk	70.29	314	*i* P	P	21 10 09.8	+0.7			
	SNR=6.8									
KIV	Kislovodsk	70.29	314	*eP*	P	21 10 09.5	+0.3			
KIV				pmax	pmax					
	comp=Z,26nm,1.0s									
KBZ	Khabaz	70.35	314	P	P	21 10 10.3	+0.9			
	comp=Z,18nm,0.7s,baz=88,slow=3.1,SNR=39									
KBZ				LR	LR	21 45 32.5				
	comp=Z,35nm,18.9s,baz=118,slow=40									
	comp=Z,18nm,0.7s									
KBZ	Khabaz	70.35	314	*c* *i*P	P	21 10 10.0	+0.6			
KBZ				pmax	pmax					
	comp=Z,16nm,0.9s									
KBZ	Khabaz	70.35	314	*eP*	P	21 10 10.0	+0.6			
TJOU	Tjoern	70.37	339	*i* P	P	21 10 09.5	+0.3			
BORU	Boraas	70.44	338	*i* P	P	21 10 09.0	-0.7			
SUW	Suwalki	70.52	331	*eP*	P	21 10 10.2	0.0			
KMY	Karmoy	70.72	343	*eP*	P	21 10 11.1	-0.3			
IVI	Ivigtut	70.77	10	*i* P	P	21 10 12.3	+0.7			
ONAU	Onsala	70.86	339	*i* P	P	21 10 09.8	-2.5			
HOMB	Homborsund	70.88	341	*eP*	P	21 10 12.0	-0.4			
ECSD	EROS Data Cent	70.93	46	IAmb	IAmb	21 10 13.9				
	comp=Z,21nm,0.9s									
AKASG	Malin Array Be	71.05	326	P	P	21 10 13.0	-0.5			
AKASG	Malin Array Be	71.05	326	P	P	21 10 13.1	-0.5			
	comp=Z,30nm,0.4s,baz=37,slow=6.2,SNR=135									
AKASG				LR	LR	21 43 58.4				
	comp=Z,31nm,19.2s,baz=12,slow=38									
	comp=Z,30nm,0.4s									
AKBB	Malin Array Si	71.05	326	*c* *i*P	P	21 10 13.0	-0.5			
KIEV	Kiev	71.06	326	P	P	21 10 13.0	-0.6			
KIEV	Kiev	71.06	326	⇑P	P	21 10 13.0	-0.6			
KIEV	Kiev	71.06	326	*i* P	P	21 10 13.0	-0.6			
	SNR=18									
KIEV	Kiev	71.06	326	P	P	21 10 13.0	-0.6			
KIEV				pmax	pmax					
	comp=Z,41nm,0.6s									
KIEV	Kiev	71.06	326	P	P	21 10 13.0	-0.6			
SNART	Snartemo	71.11	342	*eP*	P	21 10 12.9	-0.8			
SNART	Snartemo	71.11	342	*i* P	P	21 10 14.8	+1.1			
DEL	Delary	71.18	337	*i* P	P	21 10 13.7	-0.5			
BJUU	Bjuv	71.76	337	*i* P	P	21 10 17.6	0.0			
ANMO	Albuquerque	71.99	58	P	P	21 10 20.5	+0.8			
ANMO	Albuquerque	71.99	58	*de*P	P	21 10 20.6	+0.9			
ANMO				pmax	pmax					
	comp=Z,12nm,1.3s									
ANMO	Albuquerque	71.99	58	P	P	21 10 20.3	+0.7			
SOC	Sochi	72.01	315	*eP*	P	21 10 18.3	-1.1			
SOC				*e*PPP	PPP	21 14 45.6				
SOC				*e*S	S	21 19 30.4	-0.6			
SOC				*e*SS	SS	21 24 07.9	-1.3			
GNI	Garni	72.02	310	LR	LR	21 45 44.0				
	comp=Z,29nm,18.7s,baz=36,slow=39									
GNI	Garni	72.02	310	P	P	21 10 20.8	+1.1			
LUNU	Lund	72.04	337	*i* P	P	21 10 19.5	+0.2			
BSD	Bornholm Skovb	72.09	336	*eP*	P	21 10 19.8	+0.2			
BSD	Bornholm Skovb	72.09	336	*i* P	P	21 10 19.9	+0.2			
BSD				IAmb	IAmb	21 10 21.8				
	comp=Z,20nm,0.7s									
DUN6	Lazy B Ranch	72.12	61	IAmb	IAmb	21 10 22.1				
	comp=Z,30nm,0.7s									
ASAR	Alice Springs	72.41	198	P	P	21 10 22.5	+0.6			
ASAR	Alice Springs	72.41	198	P	P	21 10 23.1	+1.2			
	comp=Z,30nm,0.7s,baz=12,slow=5.6,SNR=280									
ASAR				pP	pP	21 10 52.8	+1.6			
	comp=Z,3.0nm,0.6s,baz=15,slow=4.9,SNR=1.6									
	comp=Z,30nm,0.7s									
SCHQ	Schefferville	73.15	23	P	P	21 10 26.4	+0.4			
	comp=Z,81nm,0.5s,baz=330,slow=4.8,SNR=28									
SCHQ				LR	LR	21 45 01.5				
	comp=Z,353nm,19.9s,baz=332,slow=38									
SSRD	Sdr. Stenderup	73.15	339	*i* P	P	21 10 26.9	+1.0			
SORM	Soroca	73.45	325	⇑P	P	21 10 27.7	-0.1			
SORM	Soroca	73.45	325	P	P	21 10 27.6	-0.2			
N35A	Tabor	73.55	47	IAmb	IAmb	21 10 29.4				
	comp=Z,30nm,0.7s									
QLP	Quilpie	73.71	188	P	P	21 10 30.3	+0.9			
	comp=Z,45nm,1.2s									
PURM	Purcari	74.13	323	⇑P	P	21 10 31.9	0.0			
MILM	Milestii Mici	74.25	324	⇑P	P	21 10 31.8	-0.7			
KWP	Kalwaria Pacla	74.33	329	*eP*	P	21 10 33.9	+0.9			
RUE	Ruedersdorf	74.73	335	*eP*	P	21 10 35.8	+0.7			
	comp=Z,18nm,0.8s,baz=25,slow=5.7									
L40A	Anamosa	74.79	44	IAmb	IAmb	21 10 36.0				
	comp=Z,22nm,0.8s									
MSTX	Muleshoe	74.80	56	IAmb	IAmb	21 10 37.5				
	comp=Z,21nm,1.0s									
OJC	Ojcow	74.84	331	*eP*	P	21 10 36.6	+0.7			
VASR	Vaslui	74.89	324	⇑P	P	21 10 36.7	+0.5			
PRAR	RASCA	74.92	325	⇑P	P	21 10 37.3	+0.9			
STHS	Stebnicka Huta	75.03	329	*eP*	P	21 10 37.4	+0.4			
STHS				pmax	pmax					
	comp=Z,10.0nm,0.6s									
WRKA	Warakurna	75.05	203	P	P	21 10 38.5	+1.2			
	comp=Z,9.9nm,1.0s									
BUR08	Bucovina Ar. S	75.08	326	IAmb	IAmb	21 10 38.8				
	comp=Z,24nm,0.8s									
KOLS	Kolonicke sedl	75.08	329	*eP*	P	21 10 38.0	+0.7			
KOLS				pmax	pmax					
	comp=Z,13nm,0.6s									
BURAR	Bucovina Array	75.09	326	P	P	21 10 37.4	-0.1			
BURAR	Bucovina Array	75.09	326	⇑P	P	21 10 38.1	+0.6			
BURAR	Bucovina Array	75.09	326	P	P	21 10 38.0	+0.5			
BIR	Birlad	75.26	324	⇑P	P	21 10 39.8	+1.4			
NIE	Niedzica	75.35	330	*eP*	P	21 10 40.0	+1.2			
SMWD	Samnorwood	75.39	54	IAmb	IAmb	21 10 41.1				
	comp=Z,25nm,1.0s									
VLDR	Vladesti	75.42	323	⇑P	P	21 10 39.5	+0.3			
KSP	Ksiaz	75.43	333	*eP*	P	21 10 40.0	+0.7			
TESR	Tescani	75.45	325	⇑P	P	21 10 39.8	+0.3			
BANOM	Banah	75.50	292	P	P	21 10 41.0	+0.9			
BANOM	Banah	75.50	292	*i* P	P	21 10 41.1	+0.9			
	SNR=6.5									
SHME	Shamm	75.51	293	P	P	21 10 40.7	+0.6			
SHME	Shamm	75.51	293	*i* P	P	21 10 40.7	+0.6			
	SNR=9.6									
GHRR		75.52	324	⇑P	P	21 10 40.9	+1.1			
P38A	Dawn	75.54	47	IAmb	IAmb	21 10 40.9				
	comp=Z,23nm,0.8s									
FLTG	Flechtingen	75.58	337	*eP*	P	21 10 40.4	+0.3			
	comp=Z,15nm,0.7s,baz=25,slow=5.7									
TLCR		75.65	323	⇑P	P	21 10 40.8	+0.2			
VLDQ	Val d'Or	75.67	32	IAmb	IAmb	21 10 40.2				
	comp=Z,28nm,1.0s									
BMR	Baia Mare	75.69	327	⇑P	P	21 10 41.7	+0.9			
ONER	Baraj Valea Uz	75.69	325	⇑P	P	21 10 41.6	+0.7			
OSTC	Ostas	75.70	333	*eP*	P	21 10 41.5	+0.7			
OSTC	Ostas	75.70	333	*eP*	P	21 10 41.5	+0.7			
CHVC	Chvalec	75.72	333	*eP*	P	21 10 41.6	+0.6			
CHVC	Chvalec	75.72	333	*eP*	P	21 10 41.6	+0.6			
STEB	Steborice	75.75	332	*eP*	P	21 10 41.9	+0.8			
PANC	Panciu	75.77	324	⇑P	P	21 10 42.7	+1.4			
UPC	Upice	75.81	333	*eP*	P	21 10 42.4	+1.0			
UPC	Upice	75.81	333	*eP*	P	21 10 42.4	+1.0			
VHRN	Van Horn	75.83	60	IAmb	IAmb	21 10 43.8				
	comp=Z,21nm,0.8s									
DPC	Dobruska-Polom	75.85	333	*eP*	P	21 10 42.7	+1.0			
DPC	Dobruska-Polom	75.85	333	*eP*	P	21 10 42.7	+1.0			
ARCR	ARCALIA	75.86	326	⇑P	P	21 10 43.3	+1.6			
LANS	Liptovska Anna	75.86	330	*eP*	P	21 10 43.4	+1.6			
LANS				pmax	pmax					
	comp=Z,13nm,0.8s									
ODBI	Odobesti	75.90	324	⇑P	P	21 10 43.6	+1.6			
WSAR	Wadi Sarin	75.91	289	P	P	21 10 44.7	+2.3			
EKA	Eskdalemuir Ar	75.92	346	P	P	21 10 42.2	+0.3			
	comp=Z,2.4nm,0.3s,baz=20,slow=5.3,SNR=50									
EKA				pP	pP	21 11 11.6	+0.2			
	comp=Z,1.3nm,0.5s,baz=23,slow=4.7,SNR=1.6									
	comp=Z,2.4nm,0.3s									
CFR	Carcaliu	75.94	323	⇑P	P	21 10 42.6	+0.4			
MDH	Madha	75.94	292	P	P	21 10 42.3	-0.3			
KRLC	Kraliky	75.94	332	*eP*	P	21 10 43.0	+0.7			
KRLC	Kraliky	75.94	332	*eP*	P	21 10 43.0	+0.7			
VRI	Vrincioaia	75.95	324	⇓P	P	21 10 43.2	+0.9			
MORC	Moravsky Berou	75.96	332	*eP*	P	21 10 43.1	+0.7			
MORC	Moravsky Berou	75.96	332	⇑P	P	21 10 43.0	+0.6			
MORC	Moravsky Berou	75.96	332	P	P	21 10 43.3	+0.9			
MASF	Masafi	75.98	292	P	P	21 10 43.8	+0.9			
MSFE	Esma-Masafi	75.98	292	P	P	21 10 43.8	+0.9			
PLOR	Plostina	75.99	324	⇑P	P	21 10 43.4	+0.9			
CLL	Collm	76.00	335	*i* P	P	21 10 42.8	+0.3			
CLL				pmax	pmax					
	comp=Z,37nm,0.5s									
CLL	Collm	76.00	335	*eP*	P	21 10 43.0	+0.6			
	comp=Z,28nm,0.6s,baz=25,slow=5.7									
CLL	Collm	76.00	335	*i* P	P	21 10 42.8	+0.3			
	comp=Z,37nm,0.5s									
BIDO	Bidbid	76.03	289	P	P	21 10 45.0	+1.9			
PECS	Pecos	76.06	59	IAmb	IAmb	21 10 45.0				
	comp=Z,25nm,1.1s									
T35A	Sooner Cattle	76.06	50	IAmb	IAmb	21 10 43.9				
	comp=Z,26nm,1.0s									
TURR	Turia	76.07	325	⇑P	P	21 10 44.5	+1.5			
TPGR	Topolog	76.08	323	⇑P	P	21 10 43.6	+0.5			
KECS	Kecovo	76.09	329	*eP*	P	21 10 44.1	+1.1			
KECS				pmax	pmax					
	comp=Z,15nm,0.7s									
BRG	Berggiesshubel	76.11	334	*eP*	P	21 10 44.2	+1.1			
	comp=Z,4.2nm,0.7s,baz=25,slow=5.7									
BRG	Berggiesshubel	76.11	334	*eP*	P	21 10 45.4	+2.3			
BRG				Amp		21 10 46.0				
	comp=Z,6.2nm,0.6s									
BRG	Berggiesshubel	76.11	334	P	P	21 10 46.9	+3.8			
BRG				Amp		21 10 47.5				
	comp=Z,4.7nm,0.6s									
OZUR		76.13	325	⇓P	P	21 10 44.5	+1.1			
COVR	Voineasa-Covas	76.17	325	⇑P	P	21 10 44.8	+1.2			
JLN	Jalan Bani Buh	76.17	288	P	P	21 10 45.9	+2.0			
POST	Post	76.19	56	IAmb	IAmb	21 10 45.5				
	comp=Z,32nm,1.2s									
OK048	Pawnee Station	76.21	51	IAmb	IAmb	21 10 44.9				
	comp=Z,50nm,1.3s									
BISRR	Bisoca	76.22	324	⇑P	P	21 10 45.2	+1.3			
MAUC	Maruska	76.22	331	*eP*	P	21 10 44.6	+0.8			
PVCC	Panska Ves	76.23	334	*eP*	P	21 10 44.8	+1.0			
PVCC	Panska Ves	76.23	334	*eP*	P	21 10 44.8	+1.0			
CLZ	Clausthal	76.25	337	*eP*	P	21 10 44.3

comp=Z,14nm,0.5s
UBBA Unterbreizbach 77.27 337 *e*P **P 21 10 50.4 +0.9**
comp=Z,106nm,1.8s,baz=25,slow=5.7
AJN Ajban 77.30 292 P **P 21 10 51.0 +0.8**
AJN Ajban 77.30 292 P **P 21 10 50.7 +0.5**
KASTN Kahler Asten 77.34 338 *e*P **P 21 10 51.0 +0.9**
comp=Z,9.4nm,0.7s,baz=25,slow=5.7
SRO Srobarova 77.41 330 *e*P **P**
SRO pmax pmax **21 10 51.8 +1.4**
comp=Z,15nm,0.7s
RLO Rose Lookout 77.41 50 IAmb IAmb 21 10 51.1
comp=Z,14nm,0.7s
BUG Bochum--Univer 77.42 339 *e*P **P 21 10 51.1 +0.7**
comp=Z,11nm,0.7s,baz=25,slow=5.7
MANZ Manzenberg 77.44 335 *e*P **P 21 10 51.4 +0.7**
comp=Z,0.8nm,0.8s,baz=25,slow=5.7
LOT Lotru 77.45 326 ⇑P **P 21 10 51.2 +0.3**
SIRR Siria 77.55 328 ⇑P **P 21 10 52.2 +0.9**
ROTZ Rotzenmuhle 77.60 335 *e*P **P 21 10 52.7 +1.2**
comp=Z,1.2nm,0.7s,baz=25,slow=5.7
TXAR Lajitas Array 77.66 60 P **P 21 10 53.0 +0.6**
TXAR Lajitas Array 77.66 60 P **P 21 10 53.3 +1.0**
comp=Z,31nm,0.6s,baz=301,slow=4.3,SNR=501
TXAR pP **pwP 21 11 24.5 -0.3**
comp=Z,6.0nm,0.6s,baz=308,slow=4.1,SNR=3.9
comp=Z,31nm,0.6s
HUMR Humele 77.75 325 ⇑P **P 21 10 52.1 -0.3**
KHC Kasperske Hory 77.77 334 *e*P **P 21 10 53.4 +0.9**
KHC Kasperske Hory 77.77 334 *e*P **P 21 10 53.4 +0.9**
SURR Surduc 77.82 327 ⇑P **P 21 10 53.5 +0.8**
GZR Gura Zlata 77.88 326 ⇑P **P 21 10 53.3 +0.2**
GZR Gura Zlata 77.88 326 P **P 21 10 53.7 +0.5**
BR131 Keskin Array S 77.88 316 P **P 21 10 54.7 +1.3**
BRTR Keskin Array B 77.88 316 P **P 21 10 53.5 +0.1**
BRTR Keskin Array B 77.88 316 P **P 21 10 54.2 +0.8**
comp=Z,6.6nm,0.9s,baz=59,slow=3.2,SNR=24
comp=Z,6.6nm,0.9s
BRTR Keskin Array B 77.88 316 *i*P **P 21 10 54.2 +0.8**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
CCM Cathedral Cave 77.88 46 P **P 21 10 52.9 -0.4**
CCM Cathedral Cave 77.88 46 P **P 21 10 52.9 -0.4**
CCM pmax pmax
comp=Z,10.0nm,0.8s
SLBS Sierra La Lagu 77.89 68 P **P 21 10 54.8 +1.2**
RAZG Razgrad 77.93 323 ⇑P **P 21 10 54.1 +0.7**
LDAQ Lac Daran 77.93 28 IAmb IAmb 21 10 54.2
comp=Z,13nm,0.7s
MHTO MHTO 77.94 288 P **P 21 10 55.4 +1.6**
GRA1 Grafenberg Arr 77.95 335 IAmb IAmb 21 10 55.6
comp=Z,25nm,0.7s
GRF Grafenberg Arr 77.95 335 *e*P **P 21 10 54.5 +1.0**
comp=Z,21nm,0.6s,baz=25,slow=5.7
GRFO Grafenberg 77.95 335 P **P 21 10 53.7 +0.2**
GRFO IAmb IAmb 21 10 55.6
comp=Z,23nm,0.6s
GRFO Grafenberg 77.95 335 P **P 21 10 53.7 +0.2**
GRFO pmax pmax
comp=Z,23nm,0.6s
WET Wettzell 77.96 334 *e*P **P 21 10 54.8 +1.3**
comp=Z,7.7nm,0.7s,baz=25,slow=5.7
OZNA Ozona 77.98 57 IAmb IAmb 21 10 55.1
comp=Z,27nm,1.2s
GEC2 GERESS Array S 77.98 334 *e*P **P 21 10 54.6 +0.8**
comp=Z,4.7nm,0.7s,baz=25,slow=5.7
GERES GERESS Array B 77.98 334 P **P 21 10 54.2 +0.4**
comp=Z,4.3nm,0.5s,baz=32,slow=5.7,SNR=45
comp=Z,4.3nm,0.5s
LOZB Loznitsa 78.06 323 ⇑P **P 21 10 54.7 +0.6**
CONA Conrad Observa 78.12 332 *i*P **P 21 10 55.8 +1.3**
comp=Z,10nm,0.5s,SNR=9.8
BZS Buzias 78.12 327 ⇑P **P 21 10 54.8 +0.4**
BZS Buzias 78.12 327 P **P 21 10 54.8 +0.4**
ANTO Ankara 78.16 317 P **P 21 10 55.8 +0.9**
ANTO IAmb IAmb 21 10 57.0
comp=Z,19nm,0.7s
ANTO Ankara 78.16 317 P **P 21 10 55.9 +1.0**
ANTO Ankara 78.16 317 ⇑P **P 21 10 56.4 +1.5**
ANTO Ankara 78.16 317 P **P 21 10 55.8 +0.9**
ANTO pmax pmax
comp=Z,19nm,0.7s
PLPT Palo Pinto 78.16 54 IAmb IAmb 21 10 56.0
comp=Z,17nm,0.9s
RONA Rosalia, Austr 78.18 331 *i*P **P 21 10 56.3 +1.6**
comp=Z,22nm,1.0s,SNR=11
KIRS Kirsehir-Merke 78.22 316 ⇓P **P 21 10 56.2 +1.0**
TNS Taunus Mts 78.23 337 *e*P **P 21 10 56.1 +1.1**
comp=Z,17nm,0.6s,baz=25,slow=5.7
Q44A Meyer Farm, Va 78.30 44 IAmb IAmb 21 10 56.0
comp=Z,18nm,0.6s
TRQ Mont Tremblant 78.32 31 IAmb IAmb 21 10 56.0
comp=Z,17nm,0.8s
ZIMR 78.32 324 ⇑P **P 21 10 56.1 +0.6**
FVM French Village 78.34 46 IAmb IAmb 21 10 56.5
comp=Z,20nm,0.5s
JRN Qarnain Island 78.37 294 P **P 21 10 55.8 -0.3**
SZH Strazhitsa 78.39 323 *i*P **P 21 10 56.6 +0.6**
BEBN Eben Emael 78.40 339 *d*P **P 21 10 56.9 +1.0**
HERR Herculane 78.45 326 ⇑P **P 21 10 56.2 -0.1**
BTNL Ternell 78.49 339 *d*P **P 21 10 57.4 +1.0**
comp=Z,14nm,0.7s
MEM Membach 78.50 339 *d*P **P 21 10 57.6 +1.2**
comp=Z,23nm,0.9s
CMSA Cobar Meteorol 78.50 186 P **P 21 10 57.5 +1.1**
comp=Z,19nm,1.3s
UMZA Um Al Zommool 78.51 291 P **P 21 10 57.5 +0.5**
MZWR Madinat Zayed 78.57 292 P **P 21 10 57.7 +0.4**
BSTI Sart Tilman 78.63 339 *d*P **P 21 10 58.4 +1.3**
comp=Z,10nm,0.6s
MORH Mrgy, Hungar 78.68 329 ⇑P **P 21 10 57.5 +0.1**
MOA Molln 78.69 333 *e*P **P 21 10 58.7 +1.1**
comp=Z,7.0nm,0.8s
ELND Elena 78.72 323 ⇑P **P 21 10 58.4 +0.6**
BHOU Houvegnez 78.73 339 *d*P **P 21 10 59.0 +1.2**
comp=Z,14nm,0.6s
MDVR Moldovita 78.80 327 ⇓P **P 21 10 58.3 +0.1**
ARSA Arzberg 78.82 332 *i*P **P 21 10 59.6 +1.3**
comp=Z,2.8nm,0.3s,SNR=5.2
PLVB Pleven 78.84 324 ⇑P **P 21 10 58.7 +0.3**
SHMA Al-Shehemyia 78.87 296 P **P 21 10 59.5 +0.7**
SNR=12
OLIL Olney 78.87 44 IAmb IAmb 21 10 59.6
comp=Z,17nm,0.7s
N49A Columbus Grove 78.91 40 IAmb IAmb 21 10 59.5
comp=Z,23nm,0.6s
BGES Gesves 78.93 339 *d*P **P 21 10 58.8 0.0**
DQM DQM 78.97 287 P **P 21 11 00.6 +1.1**
BIOA Bad Ischl, Aus 79.03 333 *i*P **P 21 11 00.6 +1.1**
comp=Z,8.6nm,0.5s,SNR=7.5
VALD Valchedram 79.06 325 *i*P **P 21 11 00.5 +0.9**
BMRD Maredsous 79.08 340 *d*P **P 21 11 00.9 +1.3**
comp=Z,16nm,0.9s
PHSR Pinarhisar 79.09 321 ⇑P **P 21 11 01.2 +1.3**
RCHB Rochefort 79.10 339 *d*P **P 21 11 00.8 +1.0**
comp=Z,6.8nm,1.0s
S44A Carbondale 79.14 45 IAmb IAmb 21 11 01.1
comp=Z,22nm,0.7s
SIUC Southern Illin 79.14 45 IAmb IAmb 21 11 01.1
comp=Z,24nm,0.7s
STKA Stephens Creek 79.22 189 P **P 21 11 01.1 +0.8**
comp=Z,36nm,2.7s
STKA Stephens Creek 79.22 189 P **P 21 11 01.1 +0.8**
comp=Z,3.4nm,0.4s,baz=13,slow=7.0,SNR=12
comp=Z,3.4nm,0.4s
MPEP Malo Peshtene 79.22 325 *i*P **P 21 11 01.3 +0.8**
RJOB Jochberg 79.25 334 *e*P **P 21 11 01.6 +0.9**
comp=Z,7.2nm,0.8s,baz=25,slow=5.7
WHTX Lake Whitney, 79.26 54 IAmb IAmb 21 11 02.3
comp=Z,26nm,0.9s
PBMO Poplar Bluff 79.28 47 IAmb IAmb 21 11 01.5
comp=Z,21nm,0.6s
KOGS Kog 79.29 331 *i*P **P 21 11 01.3 +0.4**
FUR Furstenfeldbru 79.31 335 *e*P **P 21 11 02.1 +1.1**
comp=Z,9.3nm,0.8s,baz=25,slow=5.7
WLF Walferdange 79.33 339 *d*P **P 21 11 01.1 +0.1**
STU Stuttgart 79.35 336 *e*P **P 21 11 02.4 +1.3**
comp=Z,22nm,0.8s,baz=25,slow=5.7
MZR Muzera 79.37 292 P **P 21 11 02.9 +1.2**
SNR=22
MZR Muzera 79.37 292 *i*P **P 21 11 02.5 +0.8**
SNR=33
D62A Allapoint, All 79.41 27 IAmb IAmb 21 11 02.0
comp=Z,13nm,0.5s
O49A Covington 79.44 41 IAmb IAmb 21 11 02.0
comp=Z,20nm,0.5s
SOKA Soboth 79.49 332 *i*P **P 21 11 02.9 +0.9**
comp=Z,812nm,0.0s,SNR=11
PERS Pernice 79.50 332 *i*P **P 21 11 02.7 +0.7**
WHAR Wooly Hollow 79.50 49 IAmb IAmb 21 11 03.0
comp=Z,14nm,0.6s
TRNA Turayna 79.53 295 P **P 21 11 03.1 +0.6**
SNR=8.4
P48A Milroy 79.54 42 IAmb IAmb 21 11 02.8
comp=Z,26nm,0.9s
LESA Schwarzleotal 79.56 334 *i*P **P 21 11 03.8 +1.4**
comp=Z,13nm,0.4s,SNR=15
DIM Dimitrovgrad 79.57 323 *i*P **P 21 11 03.8 +1.4**
M52A Chesterland 79.62 38 IAmb IAmb 21 11 03.7
comp=Z,28nm,0.7s
KBA Koelnbreinsper 79.67 333 *i*P **P 21 11 04.3 +1.2**
comp=Z,21nm,0.4s,SNR=17
ERPA Erie 79.71 37 IAmb IAmb 21 11 04.1
comp=Z,19nm,0.6s
SMRA Abu-Samra 79.77 295 P **P 21 11 03.7 0.0**
BOVS Bovan 79.77 326 ⇑P **P 21 11 03.4 -0.1**
OBKA Obir 79.79 332 *i*P **P 21 11 04.6 +0.9**
comp=Z,6.6nm,0.4s
BAND Balkesir-Ban 79.89 320 ⇑P **P 21 11 04.9 +0.7**
MYKA Terra Mystica 79.97 333 *i*P **P 21 11 05.5 +0.9**
comp=Z,4.2nm,0.3s
WATA Walderalm 79.97 334 *i*P **P 21 11 05.8 +1.1**
comp=Z,19nm,0.5s,SNR=14
BFO Black Forest 79.99 337 P **P 21 11 05.1 +0.5**
BFO Black Forest 79.99 337 P **P 21 11 05.1 +0.5**
BFO pmax pmax
comp=Z,13nm,0.8s
BFO Black Forest 79.99 337 *e*P **P 21 11 05.8 +1.2**
comp=Z,9.1nm,0.8s,baz=25,slow=5.7
WTTA Wattenberg 80.02 334 *i*P **P 21 11 06.2 +1.2**
comp=Z,42nm,0.5s,SNR=22
MMNY Mt. Morris Dam 80.03 35 IAmb IAmb 21 11 05.2
comp=Z,33nm,1.0s
VTS Vitosha 80.04 325 *i*P **P 21 11 07.0 +1.8**
RETA Reutte 80.08 335 *e*P **P 21 11 06.3 +1.1**
comp=Z,9.2nm,0.7s
PLNA Plana 80.08 324 *i*P **P 21 11 06.7 +1.3**
UBR Ueberruh 80.09 335 *e*P **P 21 11 06.5 +1.2**
comp=Z,3.7nm,0.7s,baz=25,slow=5.7
MOTA Moosalm 80.10 335 *i*P **P 21 11 06.4 +1.0**
comp=Z,21nm,0.6s,SNR=11
WCI Wyandotte Cave 80.13 43 P **P 21 11 05.3 -0.1**
WCI IAmb IAmb 21 11 06.2
comp=Z,25nm,0.6s
WCI Wyandotte Cave 80.13 43 P **P 21 11 05.4 -0.1**
WCI pmax pmax
comp=Z,25nm,0.6s
BATG Bathurst New B 80.15 26 IAmb IAmb 21 11 07.0
comp=Z,28nm,0.8s
SQTA Sankt Quirin 80.19 334 *i*P **P 21 11 07.2 +1.4**
comp=Z,14nm,0.6s,SNR=9.4
RZN Rozhen 80.21 323 *i*P **P 21 11 07.4 +1.3**
ABTA Abfaltersbach 80.22 333 *e*P **P 21 11 06.4 +0.5**
comp=Z,5.8nm,0.7s
RDO Rodhopi 80.33 322 IAmb IAmb 21 11 08.6
comp=Z,21nm,0.7s
ECH Echery 80.41 337 IAmb IAmb 21 11 08.8
comp=Z,16nm,0.7s
BLY Banja Luka 80.46 329 ⇑P **P 21 11 07.7 +0.5**
FETA Feichten 80.51 335 *i*P **P 21 11 08.9 +1.3**
comp=Z,33nm,1.4s,SNR=6.5
DAVA Damuels 80.51 335 *i*P **P 21 11 08.6 +1.0**
comp=Z,12nm,0.7s,SNR=5.4
CEY Cerknica 80.51 332 *i*P **P 21 11 07.7 +0.2**
O52A Adamsville 80.60 39 IAmb IAmb 21 11 08.7
comp=Z,33nm,0.8s
R49A Shelbyville 80.60 42 IAmb IAmb 21 11 08.7
comp=Z,11nm,0.5s
PAMR Moraine State 80.65 38 IAmb IAmb 21 11 09.2
comp=Z,28nm,0.8s
L56A Greenwood 80.68 35 IAmb IAmb 21 11 08.5
comp=Z,19nm,0.5s
MMB Musomishta 80.74 324 *i*P **P 21 11 10.0 +1.2**
T47A Sharon Grove 80.74 44 IAmb IAmb 21 11 09.9
comp=Z,24nm,0.6s
P52A Corning 80.86 40 IAmb IAmb 21 11 09.8
comp=Z,19nm,0.8s
H62A Milan 80.93 30 IAmb IAmb 21 11 10.9
comp=Z,21nm,0.9s
R50A Paris 80.99 42 IAmb IAmb 21 11 10.7
comp=Z,10nm,0.5s
WVT Waverly 81.08 45 P **P 21 11 10.4 -0.2**
WVT IAmb IAmb 21 11 11.6
comp=Z,16nm,0.8s
WVT Waverly 81.08 45 P **P 21 11 10.4 -0.2**
WVT pmax pmax
comp=Z,16nm,0.8s
EZN Ezine 81.10 321 ⇑P **P 21 11 11.2 +0.5**
O54A Avella 81.16 38 IAmb IAmb 21 11 11.9
comp=Z,22nm,0.8s
MANT Manisa 81.22 319 IAmb IAmb 21 11 13.1
comp=Z,17nm,0.7s
Q52A Bidwell 81.36 40 IAmb IAmb 21 11 12.6
comp=Z,22nm,1.1s
TUE Stuetta 81.40 335 IAmb IAmb 21 11 17.2
comp=Z,17nm,0.8s
TAOE Nuku Hiva Isla 81.44 113 *e*LR LR 21 36 52.6
comp=Z,139nm,26.3s
M57A Sunshine Farm, 81.52 35 IAmb IAmb 21 11 13.6
comp=Z,26nm,0.9s
L59A Walton 81.60 34 IAmb IAmb 21 11 13.8
comp=Z,30nm,1.1s
PDG Podgorica 81.73 327 IAmb IAmb 21 11 15.0
comp=Z,22nm,0.7s
PDG Podgorica 81.73 327 ⇑P **P 21 11 13.9 0.0**
U49A Red Boiling Sp 81.75 44 IAmb IAmb 21 11 15.1
comp=Z,26nm,0.6s
T50A Nancy 81.78 43 IAmb IAmb 21 13 58.4
comp=Z,23nm,0.7s
CSS Mathiatis 81.81 314 IAmb IAmb 21 11 16.2
comp=Z,15nm,0.7s
LMN Caledonia Moun 81.81 25 IAmb IAmb 21 11 15.2
comp=Z,25nm,0.6s
SSPA Standing Stone 81.81 36 P **P 21 11 14.0 -0.4**
SSPA IAmb IAmb 21 11 15.3
comp=Z,15nm,0.7s
PLAL Pickwick Lake 81.87 46 IAmb IAmb 21 11 15.0
comp=Z,17nm,0.5s
V48A Smith Brothers 81.88 45 IAmb IAmb 21 11 15.6
comp=Z,18nm,0.6s
Q54A Coxs Mills 81.97 39 IAmb IAmb 21 11 16.3
comp=Z,26nm,1.1s
DOK Doka 82.14 289 P **P 21 11 16.4 0.0**
ASF Jabal al Asfar 82.18 309 LR LR 21 52 00.3
comp=Z,30nm,18.1s,baz=63,slow=39
MMAI Mount Meron Ar 82.30 311 P **P 21 11 18.7 +1.5**
comp=Z,12nm,0.5s,baz=46,slow=6.0,SNR=68
comp=Z,12nm,0.5s
MORW Morawa 82.65 212 P **P 21 11 19.0 +0.4**
comp=Z,19nm,1.3s
PPT Papeete 82.67 125 LR LR 21 42 56.5
comp=Z,38nm,20.1s,baz=190,slow=32
PPT2 Papeete2 82.69 125 *e*LR LR 21 37 09.9
comp=Z,71nm,28.0s
R55A Marlinton 82.86 39 IAmb IAmb 21 11 21.1
comp=Z,14nm,0.7s
WHFO Wadi Hawf 82.88 289 P **P 21 11 20.3 0.0**
SNR=12
MVL Millersville 82.97 36 IAmb IAmb 21 11 21.2
comp=Z,11nm,0.7s
W50A Signal Mountai 83.04 44 IAmb IAmb 21 11 21.6
comp=Z,13nm,0.7s
CPCT Cooper Cave 83.21 44 IAmb IAmb 21 11 22.2
comp=Z,12nm,0.6s
MURB Monte Urbino 83.34 332 IAmb IAmb 21 11 25.7
comp=Z,22nm,0.9s
FDMO Fiordimonte 83.36 331 IAmb IAmb 21 11 25.4
comp=Z,18nm,0.6s
TKL Tuckaleechee C 83.39 43 IAmb IAmb 21 11 23.2
comp=Z,10.0nm,0.6s
TKL Tuckaleechee C 83.39 43 LR LR 21 50 31.7
comp=Z,18nm,19.2s,baz=1.0,slow=37
OSSC Osservatorio P 83.51 333 IAmb IAmb 21 11 24.6
comp=Z,11nm,0.4s
NRCA Norcia 83.53 331 IAmb IAmb 21 11 25.7
comp=Z,20nm,0.7s
U54A Nelsons Funny 83.58 41 IAmb IAmb 21 11 24.5
comp=Z,12nm,0.8s
ABTO Aybut 83.60 288 P **P 21 11 24.3 +0.3**
BLA Blacksburg 83.62 40 IAmb IAmb 21 11 26.8
comp=Z,16nm,0.8s
BLDU Balidu 83.82 211 P **P 21 11 24.4 -0.2**
comp=Z,26nm,1.5s
V53A Saluda 83.83 42 IAmb IAmb 21 11 25.9
comp=Z,28nm,1.5s
RAYN Ar Rayn 83.92 298 P **P 21 11 26.2 +0.6**
RAYN Ar Rayn 83.92 298 P **P 21 11 26.4 +0.8**
RAYN Ar Rayn 83.92 298 *i*P **P 21 11 26.6 +1.0**
SNR=13
RAYN Ar Rayn 83.92 298 P **P 21 11 26.2 +0.6**
RAYN pmax pmax
comp=Z,7.0nm,0.6s
INTR Introdacqua 84.00 330 IAmb IAmb 21 11 28.0
comp=Z,18nm,1.1s
BG3 Lake Jocassee 84.33 43 IAmb IAmb 21 11 28.3
comp=Z,19nm,0.6s
ACER Acerenza 84.37 328 IAmb IAmb 21 11 29.7
comp=Z,26nm,1.0s
Y52A Lilburn 84.72 44 IAmb IAmb 21 11 30.6
comp=Z,14nm,0.9s
KMSC Kings Mountain 84.94 42 IAmb IAmb 21 11 30.9
comp=Z,11nm,0.5s
PAULI Pauline 84.98 42 IAmb IAmb 21 11 31.5
comp=Z,11nm,0.6s
EIL Elat 85.18 309 LR LR 21 53 42.4
comp=Z,36nm,18.2s,baz=354,slow=38
MUN Mundaring 85.24 210 P **P 21 11 31.2 -0.5**
comp=Z,26nm,1.2s
152A Waverly Hall 85.38 45 IAmb IAmb 21 11 33.0
comp=Z,10nm,0.5s
TIP Timpagrande 85.49 327 IAmb IAmb 21 11 35.2
comp=Z,39nm,1.6s
IDI Anoyia 85.51 319 IAmb IAmb 21 11 34.2
comp=Z,18nm,0.7s
NWAO Narrogin (SRO) 85.76 209 P **P 21 11 34.9 +0.6**
NWAO Narrogin (SRO) 85.76 209 P **P 21 11 34.9 +0.6**
NWAO pmax pmax
comp=Z,66nm,1.3s
PBRG Braganca 89.60 345 *e*P **P 21 11 52.4 -0.5**
POLO Lamas de Olo 90.21 345 *e*P **P 21 11 55.3 -0.5**
MVO Moncorvo 90.27 345 *e*P **P 21 11 55.6 -0.5**
PVRL Vila Real 90.29 345 *e*P **P 21 11 55.9 -0.2**
PVIS Viseu 90.86 345 *e*P **P 21 11 58.4 -0.4**
MTE Manteigas 91.11 345 *e*P **P 21 11 59.7 -0.2**
ESDC Sonseca Array 91.11 342 P **P 21 11 59.2 -0.8**
ESDC Sonseca Array 91.11 342 P **P 21 11 59.3 -0.7**
comp=Z,2.3nm,1.0s,baz=5.2,slow=4.1,SNR=8.5
ESDC LR LR 21 57 08.2
comp=Z,16nm,18.8s,baz=347,slow=38
comp=Z,2.3nm,1.0s
KEST Kesra 91.19 331 P **P 21 12 02.6 +2.2**
comp=Z,7.2nm,0.8s,baz=312,slow=1.0,SNR=12
comp=Z,7.2nm,0.8s
PCAS Casmilo, Conde 91.61 346 *e*P **P 21 12 01.8 -0.4**
PESTR Estremoz 92.61 345 *e*P **P 21 12 06.2 -0.7**
PARRA Arraiolos 92.91 346 *e*P **P 21 12 06.7 -1.5**
PVAQ Vaqueiros 94.05 344 *e*P **P 21 12 13.3 -0.2**
PVAQ *i* IAmb IAmb 21 12 18.8
comp=Z,41nm,1.8s
MORF Marmelete 94.31 345 *e*P **P 21 12 15.2 +0.5**
MORF *i* IAmb IAmb 21 12 16.8
comp=Z,57nm,1.6s
MDT Midelt 97.85 341 LR LR 22 01 28.9
comp=Z,60nm,18.6s,baz=40,slow=38
TORD Yorodi Ar. Bea 114.61 329 PKP **PKiKP 21 17 34.6 -0.6**
comp=Z,1.5nm,0.5s,baz=18,slow=2.1,SNR=23
TORD PKKPbc **PKKPbc 21 28 12.4 +0.7**
comp=Z,1.0nm,0.4s,baz=208,slow=1.9,SNR=20
DBIC Dimbokro 122.85 333 PKP **PKPdf 21 17 50.6 -0.4**
comp=Z,3.9nm,0.5s,baz=95,slow=0.8,SNR=6.3
VNDA Vanda 124.47 178 **PKPdf 21 17 52.1 -0.1**
VNDA Vanda 124.47 178 PKP **PKPdf 21 17 52.3 +0.1**
comp=Z,2.8nm,0.8s,baz=320,slow=4.3,SNR=21
SBA Scott Base 124.97 176 **PKiKP 21 17 53.5 0.0**
SBA Scott Base 124.97 176 PKIKP **PKiKP 21 17 53.5 0.0**
ITTB Itaituba 130.94 39 *e*P **PKPdf 21 18 06.6 +0.1**
MAW Mawson 132.29 211 PKP **PKPdf 21 18 07.6 +0.3**
comp=Z,6.2nm,0.8s,baz=13,slow=1.7,SNR=15
LPAZ La Paz 134.52 61 **PKPdf 21 18 14.1 +0.2**
LPAZ La Paz 134.52 61 PKP **PKPdf 21 18 14.7 +0.8**
comp=Z,2.8nm,0.6s,baz=334,slow=2.7,SNR=10
LPAZ La Paz 134.52 61 *e*P **PKPdf 21 18 13.9 0.0**
BOSA Boshof 135.39 275 PKhKP PKPpre 21 18 10.2
comp=Z,1.5nm,0.8s,baz=214,slow=9.2,SNR=2.1
VILB Vilhena 136.29 50 **PKPdf 21 18 17.0 +0.5**
VILB Vilhena 136.29 50 *e*P **PKPdf 21 18 17.0 +0.5**
CLDB Colider 136.69 43 *e*P **PKPdf 21 18 17.7 +0.4**
QSPA South Pole Qui 136.82 180 PKPpre 21 18 08.3
QSPA South Pole Qui 136.82 180 PKhKP PKPpre 21 18 06.9
comp=Z,2.5nm,0.7s,baz=279,slow=0.8,SNR=15
QSPA PKP **PKPdf 21 18 15.5 -0.4**
comp=Z,5.6nm,0.6s,baz=332,slow=0.2,SNR=14
PTLB Pontes e Lacer 138.94 50 **PKPdf 21 18 21.8 +0.5**
PTLB Pontes e Lacer 138.94 50 *e*P **PKPdf 21 18 21.7 +0.4**
H03N2 Juan Fernandez 139.14 90 T T 23 54 07.2
baz=308,slow=77,SNR=96
H03N1 Juan Fernandez 139.15 90 T T 23 54 05.8
baz=308,slow=77,SNR=10
H03N3 Juan Fernandez 139.15 90 T T 23 53 52.5
baz=308,slow=77,SNR=10
SYO Syowa Base 140.99 212‖ *e*Pdiff **Pdif 21 15 42.0 +0.5**
VCA Vinchina 143.50 75 *e*P PKPbc 21 18 27.7 +0.7
AROD Rodeo 143.58 78 *e*P PKPbc 21 18 27.5 +0.1
AGUA GUANDACOL 143.80 76 *e*P PKPbc 21 18 28.2 +0.4
ACCO Cerro Coronel 144.12 78 *e*P PKPbc 21 18 29.1 +0.1
BDFB Brasilia 144.30 35 PKPbc 21 18 29.6 0.0
BDFB Brasilia 144.30 35 PKP **PKPab 21 18 29.5 +0.3**
comp=Z,17nm,0.7s,baz=308,slow=4.4,SNR=15
BDQN Bodoquena, MS 144.33 52 *e*P **PKPdf 21 18 30.9 +0.1**
RTLS Leoncito 144.72 80 *e*P **PKPdf 21 18 31.4 -0.2**
ACLC CERRO LA CRUZ 144.77 74 *e*P **PKPab 21 18 30.8 -0.1**
MURT Porto Murtinho 144.84 54 *e*P **PKPab 21 18 30.0 -1.0**
MT16 CCHEN 144.86 83 PKPbc 21 18 30.5 -0.4
CYA Choya 144.87 72 *e*P PKPbc 21 18 30.7 -0.3
MT03 Universidad Ad 144.91 83 PKPbc 21 18 29.5 -1.6
AVFE Valle Fertil 145.24 76 *e*P **PKPbc 21 18 32.0 -0.2**
BO02 Sierra Bellavi 145.47 85 **PKPdf 21 18 32.0 -0.5**
ASAL Salagasta 145.51 80 *e*P **PKPdf 21 18 33.0 +0.3**
APLL PUNTA DE LOS L 145.68 75 *e*P **PKPdf 21 18 33.3 +0.3**
AAGR Agrelo 145.81 81 *e*P **PKPbc 21 18 34.1 +0.2**
ACHE Chepes 146.08 76 *e*P **PKPbc 21 18 34.6 -0.3**
ACAN Cantantal 146.42 78 *e*P **PKPbc 21 18 35.6 -0.1**
CMC01 Camacan, BA 146.81 22 *e*P **PKPdf 21 18 35.8 +0.6**
AMBA Amambai (Brazi 147.29 52 *e*P **PKPdf 21 18 36.5 +0.7**
LR05 Currie 147.41 94 **PKPbc 21 18 38.2 +0.1**
GUA01 Guaratinga, BA 147.91 23 *e*P **PKPdf 21 18 37.4 +0.4**
PLCA Paso Flores 148.62 94 **PKPbc 21 18 41.5 +0.1**
PLCA Paso Flores 148.62 94 PKPbc **PKPbc 21 18 42.3 +0.8**
comp=Z,7.0nm,1.0s,baz=232,slow=9.7,SNR=3.2
CPUP Villa Florida 148.63 59 **PKPbc 21 18 41.3 -0.5**
CPUP Villa Florida 148.63 59 PKPbc **PKPbc 21 18 42.0 +0.3**
comp=Z,3.1nm,0.6s,baz=177,slow=2.3,SNR=23
CPUP Villa Florida 148.63 59 PKP2 **PKPbc 21 18 41.3 -0.5**
COYC Coyhaique 149.46 104 **PKPbc 21 18 43.5 +0.3**
SJMB Sao Joao De Ma 149.53 26 *e*P **PKPdf 21 18 40.1 +0.6**
PTGB Pitanga 150.29 50 *e*P **PKPdf 21 18 41.7 +1.0**
TROLL Troll, Antarti 151.39 199 ⇑P **PKPbc 21 18 47.4 +0.2**
comp=Z,1μm,0.4s
PSAL Palomas, Salto 151.88 66 *e*P **PKPdf 21 18 43.7 +0.9**
SNAA Sanae 152.76 197 ⇑P **PKPbc 21 18 50.2 -0.1**
comp=Z,225nm,0.5s
SNAA Sanae 152.76 197 **PKPbc 21 18 49.3 -0.9**
SNAA Sanae 152.76 197 PKPbc **PKPbc 21 18 49.9 -0.3**
comp=Z,9.3nm,0.5s,baz=198,slow=4.7,SNR=62
SNAA PKPab **PKPab 21 19 00.5 -1.2**
comp=Z,6.3nm,0.7s,baz=204,slow=6.3,SNR=10
SNAA Sanae 152.76 197 PKIKP **PKPbc 21 18 49.3 -0.9**
VNA2 Neumayer--Watz 154.23 195 ⇑P **PKPbc 21 18 53.2 -0.2**
comp=Z,15nm,0.6s,baz=164,slow=1.4
VNA3 Neumayer Olymp 154.33 193 ⇑P **PKPbc 21 18 53.1 -0.5**
comp=Z,8.1nm,0.8s
VNA1 Neumayer--Stat 154.62 195 ⇑P **PKPdf 21 18 43.4 -2.1**
comp=Z,2.8nm,0.3s

IDC 11 21:04:21.8±11.0, 7.16S×127.07E, h246km±126km,
mb3.6/1, mbtmp3.5/4, Error ellipse: s-maj=89.1km
s-min=68.3km az=55.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.96**	**187**	P	Pn	21 06 53.1	+0.5
	2.0nm,1.0s,baz=14,slow=8.3,SNR=1.5						
FITZ				S	S	21 08 50.9	-4.6
	4.1nm,1.1s,baz=324,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**14.53**	**152**	P	Pn	21 07 35.6	-1.0
	0.9nm,0.8s,baz=335,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**17.68**	**159**	P	Pn	21 08 13.2	-0.8
	0.1nm,0.4s,baz=336,slow=12,SNR=1.2						

ILAR	**Eielson Array**	**94.73**	**25**	P		P		21 17 14.3	-0.6
	0.4nm,0.8s,baz=263,slow=4.1,SNR=4.2								
	0.4nm,0.8s								

ATH ***11*** *21:12:27.8, 35˚.88N×27˚.25E, h12km±3km, ML2.6/5, Manual Solution by F.Xalaris First location: 2019/09/11 21:13:44, This location: 2019/09/12 08:08:05 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
THE ***11*** *21:12:28.4, 36˚.N±2˚×2˚.7E±˚, h15km, M2.5/6, MLh2.5/6*
AFAD ***11*** *21:12:30.2, 35˚.94N×27˚.49E, h7km±2km, ML2.1*

ISC 11 21:12:27.9±0.9,**35˚.86N**±0˚.04×**27˚.28E**±0˚.04,**h17**km±9km, **n29,σ0s65/41,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KARP	**Karpathos**	**0.33**	**198**	P		**Pg**	**21 12 34.9**	**0.0**
KARP				S		**Sg**	**21 12 39.6**	**0.0**
KARP	**Karpathos**	**0.33**	**198**	P		**Pg**	**21 12 34.9**	**0.0**
KARP				S		**Sg**	**21 12 39.7**	**0.0**
ARG	**Arkhangelos**	**0.77**	**62**	P		**Pb**	**21 12 43.0**	**+0.1**
ARG				S		**Sb**	**21 12 53.9**	**+0.9**
ARG	**Arkhangelos**	**0.77**	**62**	P		**Pb**	**21 12 43.0**	**+0.1**
ARG				S		**Sb**	**21 12 54.1**	**+1.1**
YAZI	**Mula-Dat§a-**	**0.83**	**10**	P		**Pb**	**21 12 44.4**	**+0.5**
YAZI				S		**Sb**	**21 12 54.9**	**+0.1**
DAT	**Datca**	**0.90**	**15**	P		**Pn**	**21 12 45.7**	**-0.2**
DAT				S		**Sb**	**21 12 56.8**	**-0.1**
DAT				*i*	IAML		21 13 00.0	
	comp=N,103nm,0.2s							
DAT				*i*	IAML		21 13 00.0	
	comp=E,68nm,0.2s							
ZKR	**Zakros**	**1.14**	**230**	P		**Pg**	**21 12 49.6**	**-0.5**
ZKR	**Zakros**	**1.14**	**230**	P		**Pg**	**21 12 49.4**	**-0.6**
ZKR				S		**Sg**	**21 13 04.6**	**-0.4**
TURN	**Turunc**	**1.20**	**40**	P		**Pb**	**21 12 50.0**	**-0.2**
TURN				S		**Sb**	**21 13 05.6**	**+0.2**
TURN				*i*	IAML		21 13 09.0	
	comp=N,63nm,0.4s							
TURN				*i*	IAML		21 13 10.0	
	comp=E,58nm,0.4s							
BDRM	**Kayabasi**	**1.21**	**6**	P		**Pn**	**21 12 51.1**	**+1.0**
NPS	**Neapolis**	**1.48**	**247**	P		**Pn**	**21 12 54.3**	**+0.5**
NPS				S		**Sn**	**21 13 12.0**	**-0.8**
THERA	**Ancient Thera,**	**1.55**	**290**	P		**Pn**	**21 12 55.0**	**+0.3**
THERA				S		**Sn**	**21 13 14.1**	**-0.3**
THR3	**Thira Island,**	**1.62**	**290**	P		**Pn**	**21 12 56.2**	**+0.6**
SNT5	**Nea Kammeni, S**	**1.62**	**290**	P		**Pn**	**21 12 55.8**	**+0.1**
MULA	**Mugla, Merkez-**	**1.63**	**31**	P		**Pb**	**21 12 57.3**	**-0.2**
MULA				*i*	IAML		21 13 24.0	
	comp=E,33nm,0.8s							
SABU	**Mula-Dalaman**	**1.67**	**54**	P		**Pg**	**21 12 58.6**	**-1.4**
SABU				S		**Sb**	**21 13 18.9**	**0.0**
SABU				*i*	IAML		21 13 33.0	
	comp=E,22nm,0.7s							
SABU				*i*	IAML		21 13 34.0	
	comp=N,27nm,0.6s							
IZZE	**Mula-Seydike**	**1.68**	**69**	P		**Pb**	**21 12 58.2**	**-0.1**
IZZE				*i*	IAML		21 13 25.0	
	comp=E,33nm,0.3s							
GCAM	**G?zelcaml?**	**1.84**	**359**	P		**Pg**	**21 13 04.0**	**+0.7**
GCAM				*i*	IAML		21 13 51.0	
	comp=N,43nm,1.7s							
GCAM				*i*	IAML		21 14 07.0	
	comp=E,24nm,1.5s							
APE	**Apeiranthos**	**1.86**	**311**	P		**Pn**	**21 12 59.3**	**+0.3**
APE				S		**Sn**	**21 13 20.9**	**-1.2**
APE	**Apeiranthos**	**1.86**	**311**	P		**Pn**	**21 12 59.3**	**+0.3**
AYDN	**Tasoluk**	**1.86**	**15**	P		**Pb**	**21 13 00.9**	**-0.6**
SMG	**Samos**	**1.88**	**349**	P		**Pn**	**21 12 59.4**	**+0.2**
DNZT	**Denizli-Tavas-**	**1.99**	**44**	P		**Pb**	**21 13 04.1**	**+0.3**
DNZT				*i*	IAML		21 13 32.0	
	comp=E,13nm,0.7s							
DNZT				*i*	IAML		21 13 40.0	
	comp=N,13nm,0.6s							
IDI	**Anoyia**	**2.03**	**254**	P		**Pn**	**21 13 01.8**	**+0.4**
IDI	**Anoyia**	**2.03**	**254**	P		**Pn**	**21 13 01.7**	**+0.3**
TAVA	**DENIZLI_Tavas**	**2.07**	**39**	P		**Pb**	**21 13 04.7**	**-0.4**
TAVA				*i*	IAML		21 13 32.0	
	comp=N,14nm,0.5s							
TAVA				*i*	IAML		21 13 33.0	
	comp=E,18nm,0.7s							
ESEN	**Aydn-Nazilli**	**2.12**	**24**	P		**Pn**	**21 13 03.5**	**+1.1**
ANKY	**Antikythira Is**	**3.23**	**271**	P		**Pn**	**21 13 19.1**	**+1.2**
VLI	**Veliai**	**3.61**	**285**	P		**Pn**	**21 13 24.6**	**+1.5**

SOME ***11*** *21:25:22.2, 39˚.07N×74˚.52E, h10km*
IDC ***11*** *21:25:23.3±0.9, 39˚.02N×74˚.59E, h0km, mb3.7/12, mbtmp3.6/18, ML3.0/5, MS2.7/2, Error ellipse: s-maj=17.8km s-min=13.3km az=97.0*
NNC ***11*** *21:25:25.9±1.4, 39˚.16N×74˚.60E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=11.3km s-min=7.2km az=152.0*

ISC 11 21:25:25.7±0.8,**39˚.26N**±0˚.06×**74˚.43E**±0˚.05,**h10**km,**n55, σ2s31/62,mb3.6**/10,**5C-2D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UCH	**Uchtor**	**2.97**	**1**	P		**Pb**	**21 26 18.2**	**-0.7**
	SNR=24							
ULHL	**Ulahol**	**3.29**	**24**	P		**Pg**	**21 26 26.7**	**-1.9**
	SNR=12							
AAK	**Ala-Archa**	**3.38**	**1**	P		**Pb**	**21 26 26.0**	**+0.3**
	SNR=9.3							
AAK	**Ala-Archa**	**3.38**	**1**	⇑Pg		**Pg**	**21 26 28.7**	**-1.6**
AAK	4.3nm,0.4s							
				⇑Lg		Lg	21 27 16.3	
	50nm,0.8s							
AAK	**Ala-Archa**	**3.38**	**1**	Pn		**Pb**	**21 26 24.8**	**-0.9**
	3.0nm,0.3s,baz=182,slow=5.9,SNR=16							
AAK					Sn	**Sb**	**21 27 08.8**	**+2.0**
	2.5nm,0.3s,baz=255,slow=22,SNR=1.1							
AAK					Lg	Lg	21 27 17.2	
	2.2nm,0.3s,baz=127,slow=20,SNR=4.0							
AAK					LR	LR	21 27 55.8	
	comp=Z,75nm,20.6s,baz=108,slow=42							
	12nm,0.5s							
KBK	**Karagaybulak**	**3.42**	**6**	P		**Pb**	**21 26 27.2**	**+0.8**
	SNR=31							
EKS2	**Erkin-Say**	**3.44**	**352**	P		**Pb**	**21 26 27.2**	**+0.6**
	SNR=23							
MRKS	**Merke**	**3.60**	**346**	Pg		**Pb**	**21 26 27.1**	**-2.4**
	17nm,0.7s							
MRKS					Lg	Lg	21 27 11.8	
	33nm,1.1s							
MRKS	**Merke**	**3.60**	**346**	*e*P		**Pg**	**21 26 32.7**	**-1.9**
	16nm,0.5s							
MRKS				*e*S		**Sg**	**21 27 24.0**	**+2.7**
	30nm,0.5s							
TKM2	**Tokmak 2**	**3.76**	**13**	P		**Pb**	**21 26 29.1**	**-3.2**
	SNR=17							
KST	**Kastek**	**3.95**	**17**	Pg		**Pg**	**21 26 41.2**	**-0.2**
	14nm,0.4s							
KST					Lg	Lg	21 27 35.5	
	42nm,0.8s							
KST	**Kastek**	**3.95**	**17**	*e*P		**Pb**	**21 26 37.7**	**+2.2**
	7.6nm,0.3s							
KST				*e*S		**Sg**	**21 27 32.5**	**-0.1**
	61nm,0.6s							
USP	**Ospenovka**	**4.00**	**1**	P		**Pb**	**21 26 34.2**	**-2.1**
	SNR=5.3							
MTBS	**Maitube**	**4.15**	**21**	Pg		**Pg**	**21 26 43.9**	**-1.3**
	13nm,0.7s							
MTBS					Lg	Lg	21 27 40.5	
	24nm,0.7s							
MTBS	**Maitube**	**4.15**	**21**	*e*P		**Pg**	**21 26 42.0**	**-3.1**
	8.6nm,0.3s							
MTBS				*e*S		**Sg**	**21 27 39.2**	**+0.3**
	59nm,0.4s							
SGDS	**Sogindy**	**4.19**	**2**	Pg		**Pg**	**21 26 44.8**	**-1.2**
	5.3nm,0.6s							
SGDS					Lg	Lg	21 27 42.2	
	24nm,1.0s							
TNSS	**Tian-Shan**	**4.22**	**26**	Pg		**Pg**	**21 26 43.3**	**-3.3**
	3.6nm,0.7s							
TNSS					Lg	Lg	21 27 39.0	
	8.9nm,1.0s							
TNSS	**Tian-Shan**	**4.22**	**26**	*e*P		**Pg**	**21 26 43.4**	**-3.3**
	3.8nm,0.4s							
TNSS				*e*S		**Sg**	**21 27 42.0**	**+0.6**
	17nm,0.8s							
MDOK	**Medeo**	**4.37**	**26**	Pg		**Pg**	**21 26 46.0**	**-3.4**
	8.8nm,0.6s							
MDOK					Lg	Lg	21 27 43.9	
	14nm,0.6s							
KNDC	**Almaty**	**4.39**	**25**	⇑Pg		**Pg**	**21 26 47.0**	**-2.8**
	38nm,0.6s							
KNDC				⇓Lg		Lg	21 27 47.1	
	106nm,0.6s							
KRBS	**Karabastau**	**4.53**	**11**	Pg		**Pg**	**21 26 49.9**	**-2.5**
	11nm,0.8s							
KRBS					Lg	Lg	21 27 50.6	
	3.6nm,1.0s							
KTBS	**Karatobe**	**4.76**	**20**	Pg		**Pg**	**21 26 54.8**	**-2.0**
	13nm,0.4s							
KTBS					Lg	Lg	21 27 59.1	
	32nm,0.9s							
SATY	**Saty**	**4.84**	**37**	Pg		**Pg**	**21 26 54.3**	**-4.0**
	23nm,0.7s							
SATY					Lg	Lg	21 27 58.4	
	34nm,1.8s							
KUU	**Kurty**	**4.85**	**17**	Pg		**Pg**	**21 26 56.1**	**-2.4**
	18nm,0.4s							
KUU					Lg	Lg	21 28 01.2	
	38nm,0.6s							
KUU	**Kurty**	**4.85**	**17**	*e*P		**Pg**	**21 26 54.6**	**-3.9**
	1.7nm,0.1s							
KUU				*e*S		**Sg**	**21 28 00.8**	**-0.4**
	59nm,0.6s							
KK31	**Karatay Array**	**4.85**	**324**	Pn		Pn	21 26 42.7	+4.0
	2.4nm,0.5s,baz=130,slow=12,SNR=38							
KK31				⇓Pg		**Pg**	**21 26 55.7**	**-2.8**
	4.4nm,0.5s,baz=142,slow=16,SNR=13							
KK31				⇑Lg		Lg	21 28 07.0	
	11nm,0.6s							
CHKK	**Chushkaly**	**4.97**	**22**	Pg		**Pg**	**21 26 58.0**	**-3.0**
	13nm,0.9s							
CHKK					Lg	Lg	21 28 04.6	
	20nm,1.1s							
CHKK	**Chushkaly**	**4.97**	**22**	*e*P		**Pg**	**21 26 57.4**	**-3.6**
	7.0nm,0.3s							
CHKK				*e*S		**Sg**	**21 28 05.8**	**+0.5**
	20nm,0.6s							
UZB	**Uzynbulak**	**5.20**	**40**	Pg		**Pb**	**21 26 59.5**	**+2.7**
	13nm,0.8s							
UZB					Lg	Lg	21 28 07.6	
	12nm,0.9s							
UZB	**Uzynbulak**	**5.20**	**40**	*e*P		Pg	21 26 60.0	-5.3
	15nm,0.3s							
UZB				*e*S		**Sg**	**21 28 09.9**	**-2.8**
	20nm,1.1s							
KPKS	**Kokpek**	**5.28**	**36**	Pg		**Pg**	**21 27 02.4**	**-4.4**
	12nm,0.5s							
KPKS					Lg	Lg	21 28 11.7	
	28nm,0.7s							
SHLS	**Shalkode**	**5.44**	**43**	Pg		**Pg**	**21 27 08.8**	**-1.0**
	20nm,1.2s							
SHLS	**Shalkode**	**5.44**	**43**	*e*P		**Pg**	**21 27 09.0**	**-0.8**
	15nm,0.4s							
SHLS				*e*S		**Sg**	**21 28 25.3**	**+5.2**
	33nm,1.0s							
ARXS	**Arharly**	**5.56**	**26**	Pg		**Pg**	**21 27 07.9**	**-4.3**
	11nm,0.8s							
ARXS	**Arharly**	**5.56**	**26**	*e*P		**Pg**	**21 27 07.9**	**-4.3**
ARXS				*e*S		**Sg**	**21 28 23.4**	**-0.8**
KAPS	**Kapalarasan**	**7.04**	**30**	Pg		Pg	21 27 34.0	-6.4
	2.3nm,0.9s							
MKAR	**Makanchi Array**	**9.47**	**35**	Pn		**Pn**	**21 27 44.5**	**+2.4**
	0.1nm,0.3s,baz=212,slow=14,SNR=5.8							
MKAR					Lg	Lg	21 30 26.7	
	0.1nm,0.3s,baz=3.1,slow=9.1,SNR=3.6							
	1.2nm,0.9s							
KURBB	**Kurchatov Arra**	**11.72**	**13**	Pn		**Pn**	**21 28 13.7**	**+0.8**
	0.2nm,0.5s,baz=194,slow=12,SNR=1.5							
KURBB					Lg	Lg	21 31 38.4	
	baz=202,slow=30,SNR=8.2							
BVAR	**Borovoye Array**	**14.05**	**350**	Pn		**Pn**	**21 28 44.7**	**+0.1**
	baz=167,slow=14,SNR=5.9							
BVAR					Lg	Lg	21 32 57.1	
	baz=158,slow=28							
	0.6nm,0.5s							
AB31	**Akbulak array**	**14.38**	**319**	P		**Pn**	**21 28 49.5**	**+0.3**
	0.8nm,0.5s,baz=131,slow=13,SNR=17							
AKTO	**Aktyubinsk**	**16.09**	**319**	⇑P		**P**	**21 29 13.8**	**-1.5**
	3.8nm,1.2s							
AKTO	**Aktyubinsk**	**16.09**	**319**	Pn		**Pn**	**21 29 11.2**	**-0.7**
	0.2nm,0.3s,baz=121,slow=12,SNR=3.9							
	0.9nm,0.5s							
ZALV	**Zalesovo Beam**	**16.31**	**22**	Pn		**P**	**21 29 15.9**	**-1.7**
	0.1nm,0.3s,baz=186,slow=12,SNR=4.2							
	0.6nm,0.5s							
ARTI	**Arti**	**20.16**	**334**	P		Pn	21 30 03.2	+1.5
	3.4nm,0.6s,baz=152,slow=6.9,SNR=9.6							
	3.4nm,0.6s							
SONM	**Songino Array**	**24.56**	**59**	P		**P**	**21 30 46.3**	**+0.6**
	1.3nm,0.6s,baz=243,slow=9.8,SNR=4.3							
	1.3nm,0.6s							
BRTR	**Keskin Array B**	**31.29**	**284**	P		**P**	**21 31 47.4**	**+1.3**
	0.5nm,0.7s,baz=89,slow=8.7,SNR=2.5							
	0.5nm,0.7s							
FINES	**FINESS Array B**	**36.81**	**323**	P		**P**	**21 32 34.2**	**+0.8**
	1.6nm,0.7s,baz=116,slow=8.7,SNR=6.0							
	1.6nm,0.7s							
ARCES	**ARCESS Array B**	**39.70**	**335**	P		**P**	**21 32 58.1**	**+0.4**
	1.4nm,0.8s,baz=110,slow=8.0,SNR=5.1							
	1.4nm,0.8s							
HFS	**Hagfors**	**42.64**	**320**	P		**P**	**21 33 22.9**	**+0.9**
	5.2nm,1.0s,baz=90,slow=12,SNR=2.2							
	5.2nm,1.0s							
GERES	**GERESS Array B**	**43.62**	**303**	P		**P**	**21 33 32.3**	**+2.2**
	0.2nm,0.4s,baz=79,slow=8.7,SNR=2.1							
	0.2nm,0.4s							
NOA	**NORSAR Array B**	**43.88**	**321**	P		**P**	**21 33 32.1**	**+0.2**
	0.5nm,0.7s,baz=101,slow=7.2,SNR=1.7							
NOA					LR	LR	21 53 26.7	
	comp=Z,11nm,19.9s,baz=5.0,slow=38							
	0.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**68.48**	**270**	P		**P**	**21 36 28.6**	**+0.3**
	0.4nm,0.6s,baz=48,slow=5.9,SNR=4.8							
	0.4nm,0.6s							
ILAR	**Eielson Array**	**71.36**	**17**	P		**P**	**21 36 46.1**	**+0.7**
	0.1nm,0.5s,baz=351,slow=6.5,SNR=2.0							
	0.1nm,0.5s							
WRA	**Warramunga Arr**	**81.23**	**125**	P		**P**	**21 37 39.2**	**-2.8**
	0.2nm,0.6s,baz=334,slow=5.9,SNR=1.5							
	0.2nm,0.6s							
ASAR	**Alice Springs**	**83.68**	**127**	P		**P**	**21 37 52.0**	**-2.7**
	0.3nm,0.6s,baz=308,slow=5.5,SNR=4.3							
	0.3nm,0.6s							

ROM 11 21:45:06.1±0.1,**41˚.870N**±0˚.005×**14˚.892E**±0˚.006, **h17**km,**ML2.6**/118,**7C-2D,Error ellipse: s-maj=0.5km s-min=0.4km az=23.0,Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GLNS	**Guglionesi**	**0.05**	**25**	⇑P		Pg	21 45 09.7	+0.4
GLNS				S		Sg	21 45 12.4	+1.1
MCLF	**Montecilfone**	**0.05**	**308**	P		Pg	21 45 09.2	-0.1
MCLF				S		Sg	21 45 11.7	+0.3
LRNO	**Larino**	**0.07**	**161**	⇓P		Pg	21 45 09.1	-0.2
LRNO				S		Sg	21 45 11.8	+0.3
PLTA	**Palata**	**0.08**	**282**	P		Pg	21 45 09.3	-0.1
PLTA				S		Sg	21 45 12.0	+0.3
FRES	**Fresagrandinar**	**0.20**	**302**	P		Pb	21 45 11.2	-0.1
FRES				S		Sb	21 45 14.7	-0.1
FRES					AML	AML		
	comp=N,1750μm,0.8s							
FRES					AML	AML		
	comp=E,2560μm,1.3s							
FRES					AML	AML		
	comp=E,2560μm,0.7s							
CIGN	**Sant'Elia a Pi**	**0.22**	**177**	⇑P		Pg	21 45 11.4	+0.2
CIGN				S		Sg	21 45 14.4	-0.1
CIGN					AML	AML		
	comp=E,2860μm,0.5s							
CIGN					AML	AML		
	comp=N,3495μm,0.5s							
MELA	**Melanico ??? S**	**0.24**	**133**	⇓P		Pg	21 45 11.8	+0.2
MELA				S		Sb	21 45 16.2	+0.2
MELA					AML	AML		
	comp=N,3525μm,1.2s							
MELA					AML	AML		
	comp=E,7530μm,0.6s							
MELA					AML	AML		
	comp=N,3720μm,1.2s							
MELA					AML	AML		
	comp=E,6890μm,0.6s							
MELA					AML	AML		
	comp=N,3525μm,1.3s							
TRIV	**Trivento**	**0.28**	**248**	⇑P		Pb	21 45 12.5	-0.2
TRIV				S		Sb	21 45 17.6	+0.5
TRIV				AML	AML			
	comp=N,1455μm,1.4s							
TRIV				AML	AML			
	comp=N,1420μm,1.4s							
TRIV				AML	AML			
	comp=N,1420μm,0.6s							
TRIV				AML	AML			
	comp=N,1455μm,0.6s							
TRIV				AML	AML			
	comp=E,1985μm,0.6s							
TRIV				AML	AML			
	comp=E,1885μm,0.6s							
GATE	**Gambatesa**	**0.36**	**178**	⇑P		Pb	21 45 14.3	+0.3
GATE				S		Sb	21 45 20.9	+1.5
GATE				AML	AML			
	comp=E,1715μm,1.6s							
GATE				AML	AML			
	comp=N,1215μm,0.4s							
GATE				AML	AML			
	comp=E,1660μm,1.6s							
GATE				AML	AML			
	comp=N,1230μm,0.4s							
GATE				AML	AML			
	comp=E,1660μm,0.4s							
GATE				AML	AML			
	comp=E,1715μm,0.4s							
BSSO	**Busso**	**0.39**	**215**	⇑P		Pg	21 45 14.4	+0.2
BSSO				S		Sb	21 45 20.8	+0.3
BSSO				AML	AML			
	comp=E,662μm,0.3s							
BSSO				AML	AML			
	comp=N,635μm,0.5s							
BSSO				AML	AML			
	comp=E,289μm,0.3s							
BSSO				AML	AML			
	comp=E,662μm,0.3s							
BSSO				AML	AML			
	comp=N,232μm,0.5s							
SACR	**S. Croce Del S**	**0.49**	**197**	⇑P		Pg	21 45 15.7	-0.3
SACR				S		Sb	21 45 23.0	-0.3
SACR				AML	AML			
	comp=E,1092μm,1.3s							
SACR				AML	AML			
	comp=E,726μm,0.4s							
SACR				AML	AML			
	comp=N,414μm,1.4s							
SACR				AML	AML			
	comp=N,412μm,1.4s							
SACR				AML	AML			
	comp=N,412μm,0.6s							
SACR				AML	AML			
	comp=N,414μm,0.6s							
SACR				AML	AML			
	comp=E,1092μm,1.3s							
MIDA	**Miranda**	**0.53**	**245**	⇑P		Pg	21 45 16.0	-0.7
MIDA				S		Sg	21 45 23.9	0.0
LPEL	**Lama dei Pelig**	**0.56**	**289**	P		Pg	21 45 16.9	-0.3
LPEL				AML	AML			
	comp=E,454μm,0.7s							
LPEL				AML	AML			
	comp=N,492μm,0.3s							
LPEL				AML	AML			
	comp=E,484μm,0.1s							
LPEL				AML	AML			
	comp=N,539μm,0.3s							
RNI2	**Rionero Sannit**	**0.58**	**253**	P		Pg	21 45 17.2	-0.4
RNI2				S		Sb	21 45 25.6	-0.2
RNI2				AML	AML			
	comp=E,828μm,0.5s							
RNI2				AML	AML			
	comp=N,1220μm,0.1s							
RNI2				AML	AML			
	comp=E,880μm,0.2s							
RNI2				AML	AML			
	comp=N,1305μm,0.1s							
RNI2				AML	AML			
	comp=E,828μm,1.5s							
RNI2				AML	AML			
	comp=N,1225μm,0.1s							
SGG	**Gregorio Mates**	**0.62**	**219**	P		Pg	21 45 17.3	-1.1
SGG				AML	AML			
	comp=N,312μm,0.4s							
SGG				AML	AML			
	comp=E,322μm,0.5s							
SGG				AML	AML			
	comp=N,338μm,1.2s							
SGG				AML	AML			
	comp=N,312μm,0.4s							
SGG				AML	AML			
	comp=E,471μm,0.5s							
VCRE	**Vesuvio Crater**	**1.11**	**198**	AML	AML			
	comp=E,488μm,1.0s							
VCRE				AML	AML			
	comp=N,443μm,0.6s							
VCRE				AML	AML			
	comp=N,443μm,1.4s							
RCAV	**Rocca di Cave**	**1.45**	**270**	AML	AML			
	comp=E,84μm,0.5s							
RCAV				AML	AML			
	comp=N,103μm,1.5s							
RCAV				AML	AML			
	comp=N,103μm,0.5s							

AUST 11 22:37:17.8±0.6,**34˚S**±7˚×**13˚1E**±˚,**h10**km,**mb3.4**/6, **ML2.9**/5,**ML3.6/7,Error ellipse: s-maj=14.8km s-min=8.7km az=20.0,Off south coast of Australia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BBOO	**Buckleboo**	**4.19**	**75**	P		Pn	22 38 21.2	-0.6
BBOO				S		Sn	22 39 07.2	-3.6
MULG	**Mulgathing**	**4.42**	**33**	P		Pn	22 38 25.6	+0.6
MULG				S		Sn	22 39 12.4	-4.1
KELC	**Kelly Hill Cav**	**5.03**	**114**	P		Pn	22 38 33.5	+0.2
	comp=Z,0.1nmcomp=Z,67μmcomp=Z,26nm,1.5s							
KELC				S		Sn	22 39 27.0	-4.3
YAPP	**Yappala Statio**	**6.30**	**72**	P		Pn	22 38 50.7	-0.2
	comp=Z,22μmcomp=Z,6.9nm,1.9s,comp=Z,0.0nm							
YAPP				S		Sn	22 39 56.6	-6.3
DNDOZ	**Balladonia**	**6.39**	**282**	P		Pn	22 38 52.0	0.0
	comp=Z,0.2nmcomp=Z,168μmcomp=Z,40nm,1.6s							
SDAN	**Sedan**	**6.70**	**96**	P		Pn	22 38 56.4	+0.1
	comp=Z,0.0nmcomp=Z,20μmcomp=Z,5.6nm,2.8s							
OOD	**Oodnadatta**	**7.28**	**33**	P		Pn	22 39 04.1	-0.1
	comp=Z,0.0nmcomp=Z,19μmcomp=Z,2.5nm,1.3s							
WRKA	**Warakurna**	**9.32**	**343**	P		Pn	22 39 32.1	-0.2
	comp=Z,0.0nmcomp=Z,3.1nm,3.0s							

AFAD ***11*** *22:58:54.4, 38˚.00N×26˚.83E, h6km±1km, ML2.3*
ISK ***11*** *22:58:54.8, 38˚.02N×26˚.87E, h5km, ML2.6/22*
THE ***11*** *22:58:54.9, 38˚N±4˚×2˚.7E±˚, h13km±5km, M2.4/5, MLh2.4/5*

ISC 11 22:58:54.6±0.8,**38˚.02N**±0˚.02×**26˚.85E**±0˚.02,**h8**km±5km, **n45,σ0s66/63,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DGB	**zmir**	**0.04**	**35**	P		**Pg**	**22 58 56.3**	**+0.1**
DGB				*i*	IAML		22 58 57.0	
	comp=E,2μm,0.5s							
DGB				S		**Sg**	**22 58 57.0**	**-0.4**
DGB				*i*	IAML		22 58 58.0	
	comp=N,3μm,0.2s							
GMLD	**Gumuldur**	**0.08**	**40**	Pg		**Pg**	**22 58 56.9**	**+0.2**
GMLD				Sg		**Sg**	**22 58 57.9**	**-0.3**
SMG	**Samos**	**0.31**	**182**	P		**Pg**	**22 59 01.4**	**+0.8**
SMG				S		**S

comp=N,215nm,0.4s
GCAM G?zelcaml? 0.44 136 Pg Pg 22 59 03.9 +0.8
GCAM Sg Sg 22 59 10.1 +1.3
GCAM G?zelcaml? 0.44 136 P Pg 22 59 03.9 +0.8
GCAM S Sg 22 59 10.1 +1.3
GCAM *i* IAML 22 59 11.0
comp=N,356nm,0.4s
GCAM *i* IAML 22 59 11.0
comp=E,328nm,0.1s
CESE eme 0.54 306 Pg Pb 22 59 05.9 -0.3
DDIM Aydin, Didim 0.64 151 P Pg 22 59 07.5 +0.6
DDIM S Sg 22 59 15.2 -0.1
FOCM Foa 0.70 352 Pg Pb 22 59 08.9 -0.1
DIDI Didim-Aydin 0.71 154 Pg Pb 22 59 09.1 -0.1
CHOS Chios island 0.73 301 Pg Pg 22 59 08.9 +0.2
CHOS Chios island 0.73 301 P Pg 22 59 08.8 +0.2
CHOS S Sb 22 59 19.9 +0.2
AYDB Zeytinkoy-Aydi 0.82 95 Pg Pg 22 59 10.8 +0.3
AYDN Tasoluk 0.89 113 P Pb 22 59 12.3 +0.1
AYDN S Sg 22 59 23.4 +0.1
AYDN *i* IAML 22 59 28.0
comp=N,112nm,0.3s
AYDN *i* IAML 22 59 28.0
comp=E,86nm,0.4s
ZEDA zmir-Bergama 0.96 11 P Pg 22 59 13.3 +0.1
ZEDA S Sb 22 59 27.6 +1.2
ZEDA *i* IAML 22 59 29.0
comp=N,105nm,0.4s
ZEDA *i* IAML 22 59 29.0
comp=E,97nm,0.7s
IZMD zmir-Dikili- 0.97 4 P Pb 22 59 14.3 +0.7
ODEM Odemis-Izmir 1.00 75 Pg Pg 22 59 14.0 +0.2
BDRM Kayabasi 1.06 153 P Pg 22 59 14.8 -0.2
BDRM S Sg 22 59 28.0 -0.7
BDRM *i* IAML 22 59 30.0
comp=E,43nm,0.8s
GOMA Golmarmara-Man 1.09 50 Pg Pb 22 59 15.9 +0.3
NAZL Nazilli-Aydin 1.14 92 Pn Pb 22 59 16.7 +0.2
ESEN Aydn-Nazilli 1.20 100 P Pg 22 59 17.4 -0.3
ESEN S Sg 22 59 32.9 -0.4
KIRA zmir-Kiraz 1.23 81 P Pg 22 59 17.8 -0.5
KIRA S Sg 22 59 32.3 -2.0
SOMA Soma-Manisa 1.26 25 Pn Pn 22 59 19.0 +0.6
AYVA Ayvalik 1.30 354 P Pg 22 59 20.2 +0.7
AYVA *i* IAML 22 59 43.0
comp=N,34nm,0.7s
AYVA *i* IAML 22 59 44.0
comp=E,33nm,0.8s
PRK Paraskevi 1.31 340 P Pb 22 59 19.7 +0.3
PRK S Sb 22 59 36.0 -0.4
GORD Gordes-Manisa 1.37 49 Pn Pb 22 59 20.8 +0.3
MULA Mugla, Merkez- 1.39 123 P Pg 22 59 21.5 +0.2
DAT Datca 1.41 156 Pn Pb 22 59 21.7 +0.5
APE Apeiranthos 1.41 228 Pn Pg 22 59 22.0 +0.3
APE Apeiranthos 1.41 228 P Pn 22 59 19.7 -1.0
YAZI Mula-Dat§a- 1.42 160 P Pn 22 59 20.3 -0.3
MANT Manisa 1.43 70 P Pg 22 59 22.1 +0.2
MANT S Sb 22 59 38.2 -1.7
MANT *i* IAML 22 59 42.0
comp=N,27nm,0.3s
SIGR SIGRI 1.43 327 Pn Pb 22 59 21.9 +0.5
SIGR SIGRI 1.43 327 P Pn 22 59 20.5 -0.2
SIGR S Sb 22 59 38.2 -1.5
BUHA Balikesir, Bur 1.49 7 P Pg 22 59 23.0 -0.2
BUHA *i* IAML 22 59 49.0
comp=E,29nm,0.6s
BUHA *i* IAML 22 59 50.0
comp=N,33nm,0.5s
KULA Kula-Manisa 1.51 70 Pn Pb 22 59 23.1 +0.2
STEP BALIKESIR_Sava 1.52 26 P Pg 22 59 23.7 0.0
STEP *i* IAML 22 59 48.0
comp=N,48nm,0.4s
STEP *i* IAML 22 59 48.0
comp=E,62nm,0.7s
YAYO Edremit-Balk 1.60 6 Pn Pb 22 59 24.5 +0.1
TURN Turunc 1.66 138 Pn Pb 22 59 25.5 +0.1
EZN Ezine 1.85 347 Pn Pb 22 59 28.1 -0.6
TVSB Tavsanli 2.49 54 Pn Pn 22 59 37.0 +1.5

*IDC **11** 22:59:16.1±2.9,20°.83S×178°.57W,h608km±36km,mb3.3/9, mbtmp4.2/10,Error ellipse: s-maj=35.1km s-min=14.5km az=157.0*

ISC 11 22:59:15.6±0.8,**20°.8S**±0°.2×**178°.6W**±0°.2,**h600**km,**n21**, σ0§**91**/21,**mb3.8/9**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.81**	**191**	**P**	**P**	**23 02 47.7**	**-1.5**
	3.7nm,0.3s,baz=324,slow=7.6,SNR=11						
STKA	**Stephens Creek**	**37.17**	**244**	P	**P**	**23 05 38.3**	**+1.1**
	0.9nm,0.3s,baz=79,slow=13,SNR=4.4						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**43.92**	**257**	P	**P**	**23 06 31.4**	**+0.4**
	3.2nm,0.5s,baz=93,slow=7.7,SNR=50						
ASAR				PcP	**PcP**	**23 08 03.2**	**-0.2**
	0.6nm,0.6s,baz=97,slow=3.5,SNR=4.5						
ASAR				S	**S**	**23 12 19.6**	**-0.5**
	1.6nm,1.0s,baz=89,slow=17,SNR=6.2						
	3.2nm,0.5s						
WRA	**Warramunga Arr**	**44.01**	**262**	P	**P**	**23 06 31.6**	**0.0**
	2.7nm,0.3s,baz=97,slow=7.3,SNR=42						
	2.7nm,0.3s						
PETK	**Petropavlovsk-**	**76.40**	**346**	P	**P**	**23 10 03.3**	**-0.8**
	1.0nm,0.6s,baz=108,slow=9.5,SNR=1.8						
	1.0nm,0.6s						
NVAR	**Mina Array Bea**	**81.61**	**44**	P	**P**	**23 10 32.7**	**+0.4**
	0.8nm,0.7s,baz=221,slow=10,SNR=3.7						
	0.8nm,0.7s						
TXAR	**Lajitas Array**	**87.67**	**58**	P	**P**	**23 11 02.8**	**+1.0**
	0.7nm,0.9s,baz=197,slow=3.9,SNR=6.0						
	0.7nm,0.9s						
ILAR	**Eielson Array**	**88.71**	**13**	P	**P**	**23 11 04.5**	**-1.2**
	0.6nm,0.5s,baz=220,slow=4.9,SNR=6.6						
	0.6nm,0.5s						
PDAR	**Pinedale Array**	**89.55**	**43**	P	**P**	**23 11 10.4**	**0.0**
	0.7nm,0.5s,baz=196,slow=5.0,SNR=3.5						
	0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.69**	**290**	P	**P**	**23 11 11.2**	**-0.1**
	1.2nm,0.3s,baz=135,slow=3.5,SNR=5.8						
	1.2nm,0.3s						
BVAR	**Borovoye Array**	**118.94**	**320**	PKP	**PKPdf**	**23 16 55.5**	**-1.2**
	1.2nm,0.3s,baz=118,slow=2.8,SNR=9.2						
ARCES	**ARCESS Array B**	**129.10**	**349**	PKP	**PKPdf**	**23 17 15.2**	**-0.5**
	1.3nm,0.7s,baz=48,slow=1.8,SNR=6.5						
FINES	**FINESS Array B**	**135.89**	**343**	PKP	**PKPdf**	**23 17 29.4**	**+0.8**
	2.7nm,0.8s,baz=29,slow=3.2,SNR=1.0						
HFS	**Hagfors**	**139.73**	**351**	PKhKP	PKPpre	23 17 29.1	
	3.7nm,1.0s,baz=79,slow=7.7,SNR=6.8						
AKASG	**Malin Array Be**	**142.99**	**330**	PKhKP	PKPpre	23 17 38.4	
	2.9nm,0.4s,baz=44,slow=4.2,SNR=25						
EKA	**Eskdalemuir Ar**	**145.33**	**5**	PKPbc	**PKPdf**	**23 17 46.4**	**+0.8**
	0.6nm,0.6s,baz=4.9,slow=3.6,SNR=1.5						
BRTR	**Keskin Array B**	**146.62**	**312**	PKPbc	**PKPdf**	**23 17 50.5**	**+2.0**
	0.9nm,0.6s,baz=127,slow=5.2,SNR=5.8						
MMAI	**Mount Meron Ar**	**147.47**	**299**	PKPbc	**PKPbc**	**23 17 54.0**	**+0.4**
	1.4nm,0.4s,baz=86,slow=5.1,SNR=10						
GERES	**GERESS Array B**	**150.32**	**344**	PKPbc	**PKPbc**	**23 17 59.1**	**-0.9**
	0.5nm,0.6s,baz=5.7,slow=1.3,SNR=6.2						
CONA	**Conrad Observa**	**150.51**	**340**	*e*PKP	**PKPbc**	**23 18 00.3**	**-0.2**
	1.5nm,0.6s						
RONA	**Rosalia, Austr**	**150.57**	**339**	*e*PKP	**PKPbc**	**23 18 00.4**	**-0.2**
	1.7nm,0.4s						

*IDC **11** 23:11:33.4±0.7,6°.39S×131°.02E,h0km,mb4.4/10, mbtmp4.5/15,ML4.6/5,Error ellipse: s-maj=33.7km s-min=14.7km az=72.0*

*DJA **11** 23:11:46.8±0.2,7°.S±2°×13°.1E±°,h110km±3km,M4.8/35, mb4.6/35,mB5.3/7,MLv5.1/14,Mw(mB)4.7/7*

*NEIC **11** 23:11:46.0±1.6,6°.54S±0°.05×130°.61E±0°.10,h94km±8km, mb4.4/21,Error ellipse: s-maj=13.6km s-min=7.9km az=90.0*

ISC 11 23:11:46.0±0.4,**6°.63S**±0°.04×**130°.57E**±0°.05,**h100**km,**n102**, σ1§**61**/105,**mb4.3**/21,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.53**	**152**	Pn	**Pn**	**23 12 14.5**	**+1.9**
SAUI				Sn	**Sn**	**23 12 33.6**	**+0.9**
SAUI	**Saumlaki**	**1.53**	**152**	P	**Pn**	**23 12 13.2**	**+0.6**
SAUI	**Saumlaki**	**1.53**	**152**	P	**Pn**	**23 12 14.5**	**+1.9**
BNDI	**Bandanaira**	**2.19**	**342**	P	**Pn**	**23 12 22.6**	**+1.5**
BNDI	**Bandanaira**	**2.19**	**342**	P	**Pn**	**23 12 21.5**	**+0.4**
MSAI	**Masohi**	**3.65**	**333**	P	**Pn**	**23 12 40.6**	**+0.2**
FAKI	**Fak Fak**	**4.05**	**24**		**Pn**	**23 12 44.9**	**-0.9**
FAKI				Sn	**Sn**	**23 13 28.2**	**-4.0**
FAKI	**Fak Fak**	**4.05**	**24**	P	**Pn**	**23 12 44.9**	**-0.9**
FAKI	**Fak Fak**	**4.05**	**24**	P	**Pn**	**23 12 44.6**	**-1.2**
KMPI	**Kaimana, Papua**	**4.29**	**47**	P	**Pn**	**23 12 49.0**	**-0.1**
SWI	**Sorong**	**5.77**	**7**	P	**Pn**	**23 13 07.6**	**-1.6**
DRS	**Darwin Rock St**	**5.78**	**177**	P	**Pn**	**23 13 08.9**	**-0.3**
DRS	**Darwin Rock St**	**5.78**	**177**	S	**Sn**	**23 14 11.7**	**-2.5**
MTN	**Manton Dam**	**6.20**	**175**		**Pn**	**23 13 14.6**	**-0.4**
MTN	**Manton Dam**	**6.20**	**175**	P	**Pn**	**23 13 14.6**	**-0.4**
RKPI	**Ransiki, Papua**	**6.23**	**35**	P	**Pn**	**23 13 15.2**	**-0.2**
KDU	**Kakadu**	**6.30**	**163**	P	**Pn**	**23 13 15.4**	**-1.0**
SANI	**Sanana**	**6.45**	**315**	P	**Pn**	**23 13 20.1**	**+1.7**
SANI	**Sanana**	**6.45**	**315**	P	**Pn**	**23 13 20.3**	**+1.9**
SOEI	**Soe**	**6.97**	**243**		**Pn**	**23 13 27.3**	**+1.8**
SOEI	**Soe**	**6.97**	**243**	P	**Pn**	**23 13 26.9**	**+1.3**
SOEI	**Soe**	**6.97**	**243**	S	**Sn**	**23 14 44.1**	**+0.6**
SOEI	**Soe**	**6.97**	**243**	P	**Pn**	**23 13 27.2**	**+1.6**
	1.4nm77nm,0.8s						
BATI	**Baumata**	**7.70**	**242**	Pn	**Pn**	**23 13 35.4**	**-0.1**
	12nm,0.3s,baz=69,slow=2.0,SNR=6.3						
BATI				Sn	**Sn**	**23 14 58.5**	**-2.7**
	25nm,0.3s,baz=73,slow=19,SNR=9.3						
	26nm,0.3s						
BATI	**Baumata**	**7.70**	**242**	P	**Pn**	**23 13 37.0**	**+1.5**
	0.7nm57nm,0.6s						
BAKI	**Biak**	**7.72**	**46**	P	**Pn**	**23 13 37.5**	**+1.7**
	0.5nm85nm,0.6s						
EDFI	**Ende, Flores**	**9.05**	**256**	P	**Pn**	**23 13 57.0**	**+3.1**
KNRA	**Kununurra**	**9.16**	**191**		**Pn**	**23 13 54.0**	**-1.3**
SMPI	**Sarmi**	**9.33**	**61**	P	**Pn**	**23 13 58.3**	**+0.7**
	4µm67nm,1.4s						
BKSI	**Bulukumba**	**10.47**	**277**	P	**Pn**	**23 14 13.0**	**-0.2**
	20nm,0.9s						
KAPI	**Kapping**	**10.88**	**278**	Pn	**Pn**	**23 14 16.6**	**-2.1**
	1.2nm,0.3s,baz=71,slow=21,SNR=1.4						
	3.2nm,0.3s						
JAY	**Jayapura**	**10.90**	**68**	P	**Pn**	**23 14 19.5**	**+0.5**
	37nm,1.4s						
WBSI	**Waikabubak, Su**	**11.46**	**254**	P	**Pn**	**23 14 28.9**	**+2.3**
	32nm,0.7s						
FITZ	**Fitzroy Crossi**	**12.37**	**202**	Pn	**Pn**	**23 14 35.2**	**-3.4**
FITZ	**Fitzroy Crossi**	**12.37**	**202**	Pn	**Pn**	**23 14 35.5**	**-3.1**
	4.4nm,0.3s,baz=28,slow=11,SNR=98						
FITZ				Sn	Sn	23 16 42.0	-13
	7.5nm,0.3s,baz=104,slow=16,SNR=8.3						
	18nm,0.3s						
TOLI2	**Tolitoli**	**12.43**	**308**	P	**Pn**	**23 14 40.4**	**+0.9**
PLAI	**Plampang**	**12.86**	**259**	P	**Pn**	**23 14 45.5**	**+0.3**
PLAI	**Plampang**	**12.86**	**259**	P	**Pn**	**23 14 44.9**	**-0.3**
	34nm,0.9s						
TWSI	**Taliwang, Sumb**	**13.73**	**260**	P	**Pn**	**23 14 57.2**	**+0.7**
	15nm,1.2s						
WRA	**Warramunga Arr**	**13.73**	**165**	Pn	Pn	23 14 51.2	-5.3
	2.5nm,0.3s,baz=345,slow=13,SNR=30						
WRA				Sn	Sn	23 17 14.9	-13
	6.0nm,0.3s,baz=341,slow=21,SNR=11						
	8.3nm,0.4s						
COEN	**Coen**	**14.38**	**121**	Pn	**Pn**	**23 15 04.8**	**0.0**
COEN	**Coen**	**14.38**	**121**	P	**Pn**	**23 15 05.4**	**+0.5**
JAGI	**Jajag, Banyuwa**	**16.38**	**263**	Pn	**Pn**	**23 15 29.9**	**-0.2**
JAGI				IAmb	IAmb	23 16 13.9	
	comp=Z,42nm,1.3s						
JAGI	**Jajag, Banyuwa**	**16.38**	**263**	P	**P**	**23 15 31.1**	**0.0**
JAGI	**Jajag, Banyuwa**	**16.38**	**263**	P	**P**	**23 15 30.6**	**-0.5**
	comp=Z,16nm,0.6s						
QIS	**Mount Isa**	**16.39**	**149**	P	**Pn**	**23 15 29.1**	**-1.0**
PMG	**Port Moresby**	**16.66**	**101**		**P**	**23 15 34.1**	**0.0**
PMG				IAmb	IAmb	23 15 36.5	
	comp=Z,26nm,0.8s						
GMJI	**Gumukmas**	**17.06**	**263**	P	**P**	**23 15 38.5**	**-0.1**
AS31	**Alice Springs**	**17.24**	**170**		**P**	**23 15 39.5**	**-1.2**
ASAR	**Alice Springs**	**17.24**	**170**		**P**	**23 15 40.2**	**-0.4**
ASAR	**Alice Springs**	**17.24**	**170**	P	**P**	**23 15 39.3**	**-1.4**
	comp=Z,2.2nm,0.3s,baz=345,slow=8.6,SNR=38						
ASAR				S	**Sn**	**23 18 41.7**	**-11**
	comp=Z,4.0nm,0.6s,baz=347,slow=22,SNR=7.9						
	comp=Z,3.9nm,0.5s						
MBWA	**Marble Bar**	**17.85**	**215**		**Pn**	**23 15 47.9**	**-0.1**
MBWA				IAmb	IAmb	23 15 49.0	
	comp=Z,16nm,0.5s						
MBWA	**Marble Bar**	**17.85**	**215**	P	**Pn**	**23 15 48.7**	**+0.7**
PSA00	**Pilbara Seismi**	**18.12**	**214**		**P**	**23 15 49.9**	**-0.4**
PSA00				IAmb	IAmb	23 16 02.1	
	comp=Z,32nm,1.4s						
PSA00	**Pilbara Seismi**	**18.12**	**214**	P	**Pn**	**23 15 51.5**	**+0.3**
KKM	**Kota Kinabalu**	**19.07**	**311**	P	**P**	**23 16 00.8**	**-0.1**
KKM				IAmb	IAmb	23 16 35.7	
	comp=Z,46nm,1.3s						
PCJI	**Pacitan**	**19.29**	**264**	P	**P**	**23 16 02.1**	**-1.0**
	comp=Z,43nm,1.4s						
KPJI	**Karang Pucung**	**21.49**	**267**	P	**P**	**23 16 29.1**	**+2.3**
	comp=Z,26nm,0.6s						
BBJI	**Bungbulang**	**22.76**	**267**	P	**P**	**23 16 40.2**	**0.0**
MEEK	**Meekatharra**	**22.93**	**208**	P	**P**	**23 16 42.4**	**+0.7**
CNJI	**Cibinong**	**23.28**	**267**	P	**P**	**23 16 44.1**	**-1.0**
	comp=Z,69nm,0.9s						
FORT	**Forest**	**24.14**	**185**	P	**P**	**23 16 52.6**	**-0.1**
CGJI	**Cibinong**	**24.71**	**269**	P	**P**	**23 16 58.3**	**+0.2**
MORW	**Morawa**	**26.20**	**210**	P	**P**	**23 17 12.0**	**+0.6**
MORW	**Morawa**	**26.20**	**210**	P	**P**	**23 17 12.4**	**+1.0**
BBOO	**Buckleboo**	**26.55**	**170**	P	**P**	**23 17 14.9**	**+0.4**
STKA	**Stephens Creek**	**27.15**	**159**	P	**P**	**23 17 19.1**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=323,slow=12,SNR=2.0						
	comp=Z,0.9nm,0.3s						
BLDU	**Ballidu**	**27.18**	**207**	P	**P**	**23 17 20.6**	**+0.4**
GSI	**Gunungsitoli**	**33.86**	**282**	P	**P**	**23 18 19.7**	**+0.4**
	comp=Z,19nm,0.8s						
MLSI	**Meulaboh, Aceh**	**35.78**	**287**	P	**P**	**23 18 36.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**39.93**	**309**	P	**P**	**23 19 11.4**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=133,slow=7.3,SNR=15						
CMAR				PcP	**PcP**	**23 21 15.8**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=169,slow=2.2,SNR=4.7						
	comp=Z,1.9nm,0.6s						
CHTO	**Chiang Mai**	**40.14**	**310**	P	**P**	**23 19 11.9**	**-0.5**
CHTO				IAmb	IAmb	23 19 13.4	
	comp=Z,4.2nm,0.8s						
PZH	**PanZhiHua**	**43.20**	**321**	P	**P**	**23 19 39.4**	**+2.0**
HHC	**Hu-ho-hao-te**	**50.37**	**341**	*e*P	P	23 20 37.2	+4.1
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,56nm,4.6s						
GTA	**Gaotai**	**53.92**	**331**	*e*P	**P**	**23 21 00.3**	**+0.8**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
EVN	**Everest**	**54.46**	**311**		**P**	**23 21 03.8**	**-0.3**
ULN	**Ulaanbaatar**	**58.09**	**342**		**P**	**23 21 28.9**	**-0.1**
ULN				IAmb	IAmb	23 21 30.7	
	comp=Z,4.5nm,0.9s						
SONM	**Songino Array**	**58.27**	**341**	P	**P**	**23 21 30.7**	**+0.4**
SONM	**Songino Array**	**58.27**	**341**	P	**P**	**23 21 30.6**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=168,slow=6.3,SNR=8.1						
	comp=Z,1.5nm,0.6s						
MK31	**Makanchi Array**	**68.23**	**326**	P	**P**	**23 22 36.4**	**+0.5**
MKAR	**Makanchi Array**	**68.23**	**326**		**P**	**23 22 36.3**	**+0.4**
MKAR	**Makanchi Array**	**68.23**	**326**	P	**P**	**23 22 36.5**	**+0.6**
	comp=Z,11nm,0.4s,baz=118,slow=6.9,SNR=253						
	comp=Z,11nm,0.4s						
ARSB	**Arslanbob**	**71.00**	**318**	P	**P**	**23 22 53.7**	**+0.5**
ZAA0	**Zalesovo Array**	**71.50**	**333**		**P**	**23 22 55.0**	**-0.8**
ZAA0				IAmb	IAmb	23 22 56.1	
	comp=Z,3.6nm,0.8s						
ZALV	**Zalesovo Beam**	**71.50**	**333**	P	**P**	**23 22 55.4**	**-0.4**
	comp=Z,3.6nm,0.7s,baz=120,slow=5.3,SNR=15						
	comp=Z,3.6nm,0.7s						
GAR	**Garm**	**71.81**	**315**		**P**	**23 22 58.0**	**-0.1**
CHGR	**Chuyangaron**	**72.49**	**314**		**P**	**23 23 02.3**	**+0.1**
KURBB	**Kurchatov Arra**	**72.49**	**328**	P	**P**	**23 23 01.9**	**+0.2**
	comp=Z,4.8nm,0.8s,baz=128,slow=4.9,SNR=53						
	comp=Z,4.8nm,0.8s						
KURK	**Kurchatov**	**72.50**	**328**		**P**	**23 23 01.3**	**-0.5**
KURK				IAmb	IAmb	23 23 02.6	
	comp=Z,5.2nm,0.9s						
SIMJ	**Simiganj**	**72.60**	**314**		**P**	**23 23 02.8**	**0.0**
SIMJ				IAmb	IAmb	23 23 04.3	
	comp=Z,4.5nm,0.7s						
VNDA	**Vanda**	**72.75**	**173**	P	**P**	**23 23 03.7**	**+0.9**
VNDA	**Vanda**	**72.75**	**173**	P	**P**	**23 23 03.9**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=312,slow=11,SNR=6.4						
	comp=Z,0.9nm,0.5s						
KKAR	**Karatay Array**	**73.44**	**319**	P	**P**	**23 23 06.8**	**-0.8**
MAW	**Mawson**	**75.50**	**201**	P	**P**	**23 23 20.4**	**+1.5**
	comp=Z,1.5nm,0.4s,baz=73,slow=5.5,SNR=2.6						
	comp=Z,1.5nm,0.4s						
BVAR	**Borovoye Array**	**78.05**	**328**	P	**P**	**23 23 33.8**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=116,slow=6.8,SNR=7.8						
	comp=Z,1.8nm,0.4s						
VOI	**Vohitsoka**	**81.81**	**249**	P	**P**	**23 23 54.7**	**0.0**
QSPA	**South Pole Qui**	**83.34**	**180**	P	**P**	**23 24 03.8**	**+2.1**
	comp=Z,3.4nm,0.8s,baz=210,slow=8.1,SNR=1.9						
	comp=Z,3.4nm,0.8s						
RAYN	**Ar Rayn**	**88.11**	**294**	P	**P**	**23 24 26.3**	**+0.2**
RAYN				IAmb	IAmb	23 24 27.5	
	comp=Z,2.5nm,0.7s						
BMAR	**Burnt Mountain**	**94.09**	**23**	P	**P**	**23 24 53.0**	**+0.1**
GERES	**GERESS Array B**	**112.50**	**320**	PKiKP	**PKiKP**	**23 30 10.8**	**0.0**
	comp=Z,0.4nm,0.5s,baz=126,slow=1.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**129.29**	**282**	PKP	**PKiKP**	**23 30 44.2**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=71,slow=2.5,SNR=14						
LPAZ	**La Paz**	**150.66**	**141**	PKPbc	**PKiKP**	**23 31 29.6**	**+0.7**
	comp=Z,2.0nm,0.4s,baz=12,slow=4.6,SNR=9.3						

*BJI **11** 23:11:49.5,25°.65S×179°.99E,h531km,mB4.7/8,mb4.5/21*

*IDC **11** 23:11:49.8±0.5,25°.77S×179°.43E,h516km±4km,mb4.0/25, mbtmp4.9/29,Error ellipse: s-maj=8.2km s-min=8.1km az=68.0*

*NOU **11** 23:11:49.3,25°.81S×179°.75E,h523km,mb5.0/39,South of Fiji Islands*

*NEIC **11** 23:11:50.4±1.5,25°.70S±0°.09×179°.5E±0°.1,h519km±5km, mb4.9/103,Error ellipse: s-maj=13.3km s-min=13.0km az=98.0*

*GCMT **11** 23:11:52.4±0.2,25°.79S±0°.02×179°.35E±0°.04,h528km±1km, MW5.3/85,Moment Tensor Solution. s85,c117; Duration: 1§0 Moment tensor: Scale 10^17^Nm; Mrr0.58±.03; Mθθ-0.80±.04; Mϕϕ0.21±.05; Mrθ0.21±.05; Mθϕ-0.40±.04; Mϕr-0.65±.04; Best double couple: M§1.05000×10^17^ NP1:ϕ§104.00000°,δ57.00000°, λ141.00000°. NP2:ϕ§218.00000°,δ58.00000°,λ40.00000°. Principal axes: T 1.1600, Plg50.0000°, Azm71.0000°; N -0.2200, Plg40.0000°, Azm250.0000°; P -0.9400, Plg1.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 11 23:11:50.1±0.3,**25°.80S**±0°.04×**179°.53E**±0°.05,**h524**km±3km, **h524**km:**pP-P,n487**,σ1§**39**/549,**mb4.8**/90,**68C-7D**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.11**	**147**	P	**P**	**23 13 11.7**	**+0.9**
RIZ				S	**S**	**23 14 22.7**	**+6.0**
RAO	**Raoul Island**	**4.12**	**147**		**P**	**23 13 11.5**	**+0.6**
RAO	**Raoul Island**	**4.12**	**147**	P	**P**	**23 13 11.9**	**+1.0**
	914nm,0.3s,baz=238,slow=19,SNR=18						
RAO				S	**S**	**23 14 18.1**	**+1.2**
	411nm,0.2s,baz=86,slow=21,SNR=1.3						
RAO	**Raoul Island**	**4.12**	**147**	P	**P**	**23 13 11.0**	**+0.1**
RAO	**Raoul Island**	**4.12**	**147**	S	**S**	**23 14 14.7**	**-2.2**
GLKZ	**Green Lake**	**4.12**	**147**	P	**P**	**23 13 11.4**	**+0.5**
GLKZ				S	**S**	**23 14 21.3**	**+4.3**
LKBA	**Tubou, Lakemba**	**7.69**	**12**	P	**P**	**23 13 43.1**	**-0.9**
MSVF	**Nonsavu**	**8.15**	**350**		**P**	**23 13 46.9**	**-1.9**
MSVF	**Nonsavu**	**8.15**	**350**	P	**P**	**23 13 47.0**	**-1.8**
TAVE	**Taveuni**	**9.06**	**3**	P	**P**	**23 13 57.9**	**-0.2**
YSA	**Yasawairara**	**9.24**	**348**	P	**P**	**23 13 58.9**	**-1.0**
DGTI	**Dogotuki**	**9.46**	**1**	P	**P**	**23 14 01.5**	**-0.7**
GRZ	**Great Barrier**	**10.98**	**198**	P	**P**	**23 14 19.5**	**+1.8**
WCZ	**Waipu Caves**	**11.04**	**203**	P	**P**	**23 14 21.1**	**+2.7**
KUZ	**Kuaotunu**	**11.38**	**196**	P	**P**	**23 14 23.7**	**+1.8**
KUZ	**Kuaotunu**	**11.38**	**196**	P	**P**	**23 14 23.5**	**+1.6**
PINNC	**Pines Island,**	**11.48**	**284**		**P**	**23 14 23.4**	**+0.3**
PINNC	**Pines Island,**	**11.48**	**284**	P	**P**	**23 14 24.8**	**+1.7**
FUTU	**Fugatoga**	**11.65**	**11**		**P**	**23 14 23.6**	**-1.4**
FUTU	**Fugatoga**	**11.65**	**11**	P	**P**	**23 14 24.2**	**-0.8**
MXZ	**Matakaoa Point**	**11.77**	**185**	P	**P**	**23 14 25.3**	**-0.7**
MXZ	**Matakaoa Point**	**11.77**	**185**	P	**P**	**23 14 25.2**	**-0.7**
NIUE	**Niue**	**11.82**	**58**	P	**P**	**23 14 25.6**	**-1.2**
NIUE	**Niue**	**11.82**	**58**	P	**P**	**23 14 24.8**	**-2.0**
NIUE	**Niue**	**11.82**	**58**	P	**P**	**23 14 25.6**	**-1.2**
MKAZ	**Moumakai**	**11.87**	**197**	P	**P**	**23 14 28.5**	**+1.5**
HAZ	**Te Kaha**	**12.01**	**187**	P	**P**	**23 14 28.5**	**0.0**
HAZ				S	**S**	**23 16 34.3**	**-4.6**
OUENC	**Ouen Island, N**	**12.07**	**284**	P	**P**	**23 14 30.6**	**+1.2**
PKGZ	**Pakihiroa**	**12.09**	**185**	P	**P**	**23 14 29.2**	**-0.2**
PKGZ				S	**S**	**23 16 36.6**	**-4.0**
YATNC	**Mamie plateau,**	**12.14**	**285**	P	**P**	**23 14 31.2**	**+1.0**
WHRZ	**Whale Island**	**12.21**	**190**	P	**P**	**23 14 31.3**	**+0.6**
RUGZ	**Raukumara Rang**	**12.23**	**187**	P	**P**	**23 14 30.2**	**-0.7**
OPRZ	**Ohinepanea**	**12.27**	**191**	P	**P**	**23 14 32.2**	**+1.1**
PUZ	**Puketiti**	**12.28**	**185**	P	**P**	**23 14 31.7**	**+0.4**
PUZ				S	**S**	**23 16 39.2**	**-5.0**
ONTNC	**Ouen Toro**	**12.44**	**283**		**P**	**23 14 33.0**	**-0.3**
**

OGWZ Otaki Gorge 15.41 193 P **P** 23 15 00.2 -3.8
HOWZ Holdsworth Sta 15.42 192 P **P** 23 15 00.9 -3.3
SANVU Saraoutou 15.46 309 P **P** 23 15 03.2 -1.6
KIW Kapiti Island 15.50 193 P **P** 23 15 01.6 -3.4
TMWZ Te Maipa 15.56 190 P **P** 23 15 02.6 -3.0
DUWZ D'Urville Isla 15.67 196 P **P** 23 15 04.4 -2.4
MTW Mount Morrison 15.68 191 P **P** 23 15 05.0 -1.7
CAW Cannon Point 15.71 193 P **P** 23 15 04.9 -2.1
TRWZ Traveller 15.88 191 P **P** 23 15 07.0 -1.8
PAWZ Paruwai Farm 15.91 191 P **P** 23 15 05.9 -3.3
SNZO South Karori 15.98 193 P **P** 23 15 08.1 -1.7
QRZ Quartz Range 16.08 200 P **P** 23 15 10.3 -0.5
FUNA Funafuti 17.18 359 P **P** 23 15 18.5 -3.4
KHZ Kahutara 17.29 195 P **P** 23 15 21.1 -1.4
CTZ Chatham Island 18.16 171 P **P** 23 15 32.4 +1.9
RPZ Rata Peaks 19.16 199 P **P** 23 15 39.2 -0.4
38nm,0.7s,baz=354,slow=1.3,SNR=22
RPZ S **S** 23 18 42.6 -3.7
8.8nm,0.8s,baz=19,slow=23,SNR=1.8
RPZ Rata Peaks 19.16 199 P **P** 23 15 39.8 +0.2
RAR Rarotonga 19.52 81 P **P** 23 15 42.6 -0.5
RAR Rarotonga 19.52 81 P **P** 23 15 43.0 -0.2
18nm,0.6s,baz=238,slow=9.8,SNR=5.5
JCZ Jackson Bay 20.21 203 P **P** 23 15 49.0 -0.3
ODZ Otahua Downs 20.50 198 P **P** 23 15 51.7 0.0
ARMA Armidale 25.01 253 P **P** 23 16 33.7 +1.2
ARMA Armidale 25.01 253 P **P** 23 16 33.5 +1.1
NTLH Newcastle Hard 25.22 247 P **P** 23 16 35.3 +1.2
TATA Tatamba Isabel 25.54 309 P **P** 23 16 39.4 +2.3
EIDS Eidsvold 25.65 265 P **P** 23 16 38.1 +0.1
EIDS Eidsvold 25.65 265 P **P** 23 16 39.3 +1.3
TARA Tarawa 27.74 346 P **P** 23 16 55.2 -1.4
TBI Tubuai 28.27 92 *eP* **P** 23 17 02.0 +0.9
98nm,0.9s
TBI *eS* **S** 23 21 09.7 -0.7
498nm,27.8s
TBI *es*S sS 23 23 42.8 -9.2
2µm,30.2s
PAE Paea 29.76 80 *eP* **P** 23 17 14.2 +0.1
18nm,1.1s
PPT Papeete 29.80 80 P **P** 23 17 14.1 -0.3
26nm,0.3s,baz=198,slow=6.4,SNR=5.0
26nm,0.3s
PPTF Pamatai, Papee 29.80 80 P **P** 23 17 14.1 -0.4
TIAR Tiarei 30.00 80 *eP* **P** 23 17 16.5 +0.3
375nm,1.4s
TVO Taravao 30.01 81 *eP* **P** 23 17 16.5 +0.2
17nm,0.7s
CMSA Cobar Meteorol 30.16 251 P **P** 23 17 18.8 +1.4
TV1H Townsville Har 30.87 275 P **P** 23 17 24.3 +0.6
CTAO Charters Tower 31.11 274 P **P** 23 17 25.8 0.0
CTAO IAmb IAmb 23 17 26.7
comp=Z,35nm,0.7s
CTAO Charters Tower 31.11 274 P **P** 23 17 26.5 +0.7
CTAO Charters Tower 31.11 274 P **P** 23 17 26.1 +0.4
TAU Tasmania Unive 31.35 229 P **P** 23 17 27.9 +0.5
QLP Quilpie 31.62 261 P **P** 23 17 30.6 +0.6
PMOR Pomariorio Ree 32.28 77 *eP* **P** 23 17 34.6 -1.1
comp=Z,91nm,1.2s
VAH Vaihoa 32.42 78 *eP* **P** 23 17 36.9 0.0
comp=Z,40nm,1.2s
STKA Stephens Creek 33.66 251 P **P** 23 17 47.0 -0.2
comp=Z,2.9nm,0.5s,baz=95,slow=14,SNR=5.5
STKA ScP **ScP** 23 23 09.0 +2.0
comp=Z,12nm,0.9s,baz=82,slow=6.3,SNR=11
comp=Z,2.9nm,0.5s
STKA Stephens Creek 33.66 251 P **P** 23 17 48.4 +1.2
PMG Port Moresby 34.76 292 P **P** 23 17 55.7 -1.0
PMG IAmb IAmb 23 17 57.2
comp=Z,38nm,0.8s
PMG Port Moresby 34.76 292 P **P** 23 17 55.6 -1.0
comp=Z,31nm,0.8s,baz=104,slow=5.8,SNR=4.3
comp=Z,31nm,0.8s
HTT Hallett 35.94 248 P **P** 23 18 07.1 +0.8
QIS Mount Isa 36.97 270 P **P** 23 18 15.4 +0.4
BBOO Buckleboo 38.34 249 P **P** 23 18 26.9 +0.9
ASAR Alice Springs 41.34 263 P **P** 23 18 50.2 -0.1
comp=Z,6.6nm,0.4s,baz=85,slow=6.8,SNR=16
ASAR pP **pP** 23 20 23.2 +0.4
comp=Z,5.4nm,0.8s,baz=89,slow=8.5,SNR=2.8
ASAR ScP **ScP** 23 23 38.2 +1.8
comp=Z,6.9nm,0.8s,baz=108,slow=4.1,SNR=11
ASAR S **S** 23 24 25.4 -1.6
comp=Z,6.0nm,0.8s,baz=96,slow=16,SNR=10
comp=Z,6.6nm,0.4s
RKT Rikitea 41.34 96 *es*S sS 23 27 13.7 -3.6
comp=Z,968nm,28.8s
TAOE Nuku Hiva Isla 41.81 74 *eP* **P** 23 18 55.0 +0.9
comp=Z,280nm,1.1s
TAOE Nuku Hiva Isla 41.81 74 P **P** 23 18 55.0 +0.9
WRA Warramunga Arr 41.89 268 P **P** 23 18 53.7 -0.9
WRA Warramunga Arr 41.89 268 P **P** 23 18 53.8 -0.9
comp=Z,16nm,0.7s,baz=105,slow=7.9,SNR=9.0
WRA ScP **ScP** 23 23 41.2 +2.6
comp=Z,6.9nm,0.8s,baz=103,slow=3.8,SNR=10
WRA S **S** 23 24 33.2 -1.8
comp=Z,9.8nm,1.1s,baz=98,slow=15,SNR=14
comp=Z,16nm,0.7s
WB0 Warramunga Arr 41.89 269 P **P** 23 18 53.6 -1.1
WB0 IAmb IAmb 23 18 54.8
comp=Z,30nm,0.9s
JAY Jayapura 43.91 295 P **P** 23 19 09.3 -1.2
comp=Z,12nm,0.7s,baz=130,slow=13,SNR=2.0
comp=Z,12nm,0.7s
FORT Forrest 45.28 251 P **P** 23 19 19.6 -1.2
DRV Dumont d'Urvil 47.62 200 P **P** 23 19 38.0 +0.1
DRV PcP **PcP** 23 20 57.6 +0.3
KNRA Kununurra 48.28 272 P **P** 23 19 43.3 -0.4
KNRA IAmb IAmb 23 19 44.5
comp=Z,43nm,1.1s
FITZ Fitzroy Crossi 50.29 267 P **P** 23 19 57.8 -0.7
FITZ Fitzroy Crossi 50.29 267 P **P** 23 19 58.7 +0.2
comp=Z,11nm,0.5s,baz=128,slow=8.0,SNR=3.0
FITZ pP **pP** 23 21 36.5 +0.1
comp=Z,7.5nm,0.9s,baz=119,slow=7.4,SNR=2.2
comp=Z,11nm,0.5s
FAKI Fak Fak 50.76 289 P **P** 23 20 00.7 -1.3
FAKI IAmb IAmb 23 21 02.0
comp=Z,68nm,1.2s
VNDA Vanda 52.46 185 P **P** 23 20 14.5 +1.2
VNDA PcP **PcP** 23 21 16.5 +1.3
VNDA Vanda 52.46 185 P **P** 23 20 14.8 +1.6
comp=Z,2.7nm,0.6s,baz=5.3,slow=8.0,SNR=24
VNDA PcP **PcP** 23 21 16.6 +1.3
comp=Z,3.7nm,0.8s,baz=356,slow=4.2,SNR=6.0
VNDA ScP **ScP** 23 24 23.6 +1.5
comp=Z,2.5nm,0.7s,baz=346,slow=3.5,SNR=6.7
comp=Z,7.2nm,0.6s
VNDA Vanda 52.46 185 P **P** 23 20 14.9 +1.6
VNDA PcP **PcP** 23 21 15.9 +0.7
VNDA ScP **ScP** 23 24 23.2 +1.1
SBA Scott Base 52.46 183 P **P** 23 20 14.1 +0.8
SBA Scott Base 52.46 183 P **P** 23 20 15.9 +2.6
SBA PcP **PcP** 23 21 17.0 +1.8
SWI Sorong 52.67 290 P **P** 23 20 15.0 -0.8
BATI Baumata 54.96 276 P **P** 23 20 33.0 +0.9
comp=Z,26nm,0.5s,baz=87,slow=4.3,SNR=3.9
comp=Z,26nm,0.5s
MORW Morawa 55.84 251 P **P** 23 20 37.1 -0.8
CCD Concordia, Ant 56.78 195 P **P** 23 20 44.6 +0.5
CCD PcP **PcP** 23 21 33.3 +0.7
CCD pP **pP** 23 22 26.9 +1.2
CCD ScP **ScP** 23 24 41.1 -0.6
CASY Casey 58.22 206 P **P** 23 20 53.4 -0.2
CASY Casey 58.22 206 P **P** 23 20 52.8 -0.8
CASY PcP **PcP** 23 21 38.4 +0.5
TOLI2 Tolitoli 62.66 286 P **P** 23 21 23.4 -0.4
JAGI Jajag, Banyuwa 64.22 273 P **P** 23 21 32.4 -1.5
JAGI IAmb IAmb 23 23 25.9
comp=Z,68nm,1.3s
QSPA South Pole Qui 64.29 180 P **P** 23 21 36.3 +2.8
QSPA South Pole Qui 64.29 180 P **P** 23 21 35.3 +1.8
comp=Z,5.6nm,0.7s,baz=350,slow=0.8,SNR=39
QSPA PKP2bc 23 50 21.4
comp=Z,2.7nm,1.0s,baz=287,slow=2.3,SNR=4.9
comp=Z,5.6nm,0.7s
QSPA South Pole Qui 64.29 180 P **P** 23 21 36.6 +3.1
JOW Kunigami 71.96 313 P **P** 23 22 19.9 -0.7
JOW IAmb IAmb 23 23 02.8
comp=Z,39nm,1.1s
JGF Kuroka 72.93 325 P **P** 23 22 25.4 -0.7
JGF IAmb IAmb 23 22 55.0
comp=Z,39nm,1.5s
MJAR Matsushiro Arr 73.23 326 P **P** 23 22 27.2 -0.6
comp=Z,13nm,0.8s,baz=156,slow=5.3,SNR=21
comp=Z,13nm,0.8s
MAJO Matsushiro 73.23 326 P **P** 23 22 26.9 -0.9
MJB9 Matsu-Tunnel 73.23 326 **P** 23 22 27.1 -0.6
SMAI San Martin Ant 74.49 159 P **P** 23 22 36.0 +1.7
BELA Belgrano 2 74.61 173 P **P** 23 22 35.2 +0.2
JNU Nakatsue 74.67 319 P **P** 23 22 35.0 -1.0
JNU IAmb IAmb 23 24 30.6
comp=Z,76nm,1.6s
SSLB Suanglung 75.11 306 P **P** 23 22 37.2 -1.5
SSLB IAmb IAmb 23 24 12.7
comp=Z,93nm,1.9s
MAW Mawson 75.83 201 P **P** 23 22 43.2 +1.3
comp=Z,2.3nm,0.6s,baz=145,slow=6.8,SNR=10
comp=Z,2.3nm,0.6s
ASAJ Asahikawa 77.37 334 P **P** 23 22 52.2 +1.6
comp=Z,10nm,0.7s,baz=238,slow=11,SNR=5.4
comp=Z,10nm,0.7s
KSRS Korea Array 79.43 321 P **P** 23 23 02.4 +0.6
comp=Z,5.1nm,0.7s,baz=140,slow=5.8,SNR=18
comp=Z,5.1nm,0.7s
KSAR Wonju Array Be 79.45 321 P **P** 23 23 02.2 +0.3
PEA0B Petropavlovsk- 80.84 347 P **P** 23 23 09.0 +0.2
PEA0B IAmb IAmb 23 25 22.6
comp=Z,71nm,1.6s
PETK Petropavlovsk- 80.84 347 P **P** 23 23 08.6 -0.2
PETK Petropavlovsk- 80.84 347 P **P** 23 23 09.6 +0.8
comp=Z,7.6nm,0.8s,baz=133,slow=6.3,SNR=9.4
comp=Z,7.6nm,0.8s
SYO Syowa Base 81.07 194⇑ *eP* **P** 23 23 09.6 -0.3
SYO Syowa Base 81.07 194⇑ *eP* **PcP** 23 23 15.4 +0.9
NJ2 Nanjing 81.59 312 *eP* **P** 23 23 15.3 +2.1
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
USRK Ussuriysk Ar. 82.13 328 P **P** 23 23 16.5 +0.9
comp=Z,6.0nm,0.5s,baz=118,slow=3.1,SNR=8.8
comp=Z,6.0nm,0.5s
TROLL Troll, Antarti 82.43 181 ⇑P **P** 23 23 17.3 +0.2
comp=Z,2µm,0.6s
TROLL ⇓pP **pwP** 23 25 12.1 -1.6
comp=Z,298nm,0.8s
TROLL ⇑SKSac **SKSac** 23 32 46.0 -1.7
comp=E,396nm,1.0s
SNAA Sanae 82.78 179 ⇑P **P** 23 23 17.8 -0.9
comp=Z,92nm,0.7s
SNAA ⇑pP **pP** 23 25 09.4 -1.7
comp=Z,56nm,0.8s
SNAA ⇑SKSac **SKSac** 23 32 48.9 -0.9
comp=E,68nm,1.2s
SNAA Sanae 82.78 179 **P** 23 23 18.7 0.0
SNAA Sanae 82.78 179 P **P** 23 23 18.6 -0.1
comp=E,5.1nm,0.9s,baz=202,slow=5.2,SNR=27
comp=E,5.1nm,0.9s
VNA3 Neumayer Olymp 83.01 177 ⇑P **P** 23 23 19.8 0.0
comp=Z,35nm,0.6s
VNA3 ⇑pP **pP** 23 25 09.3 -3.2
comp=Z,3.2nm,0.4s
VNA3 ⇑SKSac **SKSac** 23 32 51.1 -0.1
comp=E,18nm,1.2s
GSI Gunungsitoli 83.32 275 P **P** 23 23 22.2 -0.2
GSI IAmb IAmb 23 25 25.8
comp=Z,32nm,1.3s
SCZ Santa Cruz 83.34 44 P **P** 23 23 22.4 +0.5
SCZ IAmb IAmb 23 23 24.3
comp=Z,41nm,1.4s
VNA2 Neumayer--Watz 83.42 178 ⇑SKSac **SKSac** 23 32 54.1 +0.3
comp=E,5.1nm,0.8s,baz=317,slow=1.1
PMPB Monarch Peak 83.48 45 **P** 23 23 22.9 +0.2
PMPB IAmb IAmb 23 23 25.4
comp=Z,47nm,1.2s
MDJ Mudanjiang 83.61 327 P **P** 23 23 24.4 +1.4
MDJ S **S** 23 33 02.9 +1.3
MDJ pmax pmax
comp=Z,13nm,1.0s
VNA1 Neumayer--Stat 83.66 177 ⇑P **P** 23 23 23.5 +0.5
comp=Z,13nm,0.8s
COYC Coyhaique 83.78 138 P **P** 23 23 25.1 +1.0
COYC IAmb IAmb 23 23 27.0
comp=Z,21nm,0.8s
HOPS Hopland Field 83.84 41 P **P** 23 23 25.3 +0.9
CBX Cerro Bola 83.88 50 **P** 23 23 26.0 +1.1
MTOS Mt Oso, Westle 83.96 43 P **P** 23 23 25.5 +0.5
MTOS IAmb IAmb 23 23 27.6
comp=Z,56nm,1.2s
SLBS Sierra La Lagu 84.11 60 **P** 23 23 27.7 +1.6
ELS Elsinore Mount 84.14 48 **P** 23 23 26.8 +0.7
SRIG Santa Rosalia 84.27 56 P **P** 23 23 27.6 +0.8
SRIG IAmb IAmb 23 23 30.1
comp=Z,52nm,1.2s
TPO Tropico Hills 84.33 47 P **P** 23 23 27.9 +0.9
AFDM Forest Hills D 85.08 42 **P** 23 23 30.9 +0.4
AFDM IAmb IAmb 23 23 32.5
comp=Z,32nm,1.2s
LL02 Futaleuf 85.14 136 **P** 23 23 31.6 +0.7
LL02 IAmb IAmb 23 23 33.4
comp=Z,23nm,0.8s
CN2 Changchun 85.16 324 P **P** 23 23 31.5 +0.8
CN2 S **S** 23 33 18.9 +2.2
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,100nm,4.0s
BNX BinXian 85.49 326 ⇑P **P** 23 23 34.5 +2.2
BNX pmax pmax
comp=Z,6.0nm,1.0s
LL03 Petrohue 85.84 134 P **P** 23 23 35.5 +1.3
BEKR Beckworth 86.02 42 **P** 23 23 35.1 0.0
HSIG 86.14 55 **P** 23 23 36.7 +0.9
HSIG IAmb IAmb 23 23 38.3
comp=Z,42nm,1.1s
113A Mohawk Valley, 86.15 51 **P** 23 23 36.8 +1.1
113A IAmb IAmb 23 23 38.5
comp=Z,32nm,1.2s
NVAR Mina Array Bea 86.41 44 P **P** 23 23 38.0 +0.8
comp=Z,14nm,1.0s,baz=219,slow=7.6,SNR=22
comp=Z,14nm,1.0s
NV11 Mina Array Sit 86.50 44 P **P** 23 23 37.9 +0.4
NV11 IAmb IAmb 23 23 39.5
comp=Z,29nm,1.2s
LR05 Currie 86.56 133 **P** 23 23 38.5 +0.8
BBOR Butler Butte 86.58 39 **P** 23 23 38.4 +0.6
BBOR IAmb IAmb 23 23 40.0
comp=Z,28nm,1.3s
LR03 Panguipulli 86.65 133 **P** 23 23 39.1 +0.9
LR03 IAmb IAmb 23 23 41.1
comp=Z,53nm,1.3s
PLCA Paso Flores 87.25 134 **P** 23 23 42.0 +0.9
PLCA Paso Flores 87.25 134 P **P** 23 23 42.7 +1.6
comp=Z,10nm,1.0s,baz=244,slow=4.2,SNR=11
comp=Z,10nm,1.0s
HNS HongShan 87.50 314 ⇓P **P** 23 23 43.9 +2.0
HNS S **S** 23 33 33.0 -6.1
HNS pmax pmax
comp=Z,15nm,0.6s
TUC Tucson 88.01 53 P **P** 23 23 45.9 +1.3
BJI Beijing 88.11 317 P **P** 23 23 45.2 +0.5
BJI S **S** 23 33 48.4 +3.8
BJI pmax pmax
comp=Z,3.0nm,0.8s
CNPM China Poot 88.37 14 **P** 23 23 45.7 +0.2
F04D Rainier, OR 88.47 36 **P** 23 23 47.4 +1.1
WVOR Wild Horse Val 88.62 41 **P** 23 23 48.0 +0.7
BRLK Bradley Lake 88.66 14 **P** 23 23 47.1 +0.2
LCMT Little Creek M 88.86 48 **P** 23 23 49.1 +0.6
LCMT IAmb IAmb 23 23 51.0
comp=Z,23nm,1.1s
NLWA Neilton Lookou 88.88 35 **P** 23 23 48.9 +0.7
NLWA IAmb IAmb 23 23 50.8
comp=Z,26nm,1.1s
BI02 San Fabin de 88.91 131 **P** 23 23 49.7 +0.8
BI02 IAmb IAmb 23 23 51.2
comp=Z,18nm,0.9s
KNB Kanab 89.15 48 **P** 23 23 51.0 +1.1
SLKM Skilak Lake 89.48 14 P **P** 23 23 50.3 -0.4
ZAIG Zacatecas 89.55 64 **P** 23 23 53.3 +1.0
ZAIG IAmb IAmb 23 23 55.1
comp=Z,16nm,1.1s
CMAR Chiang Mai Arr 89.79 291 P **P** 23 23 53.7 +0.6
comp=Z,1.3nm,0.3s,baz=218,slow=27,SNR=5.8
CMAR pP **pP** 23 25 47.1 -0.2
comp=Z,0.6nm,0.3s,baz=142,slow=3.3,SNR=2.6
comp=Z,1.3nm,0.3s
RC01 Rabbit Creek A 90.10 14 **P** 23 23 53.5 0.0
PWL Port Wells 90.22 15 P **P** 23 23 53.6 -0.5
PWL IAmb IAmb 23 23 54.8
comp=Z,18nm,1.1s
BO02 Sierra Bellavi 90.23 129 P **P** 23 23 55.7 +0.6
BO02 IAmb IAmb 23 23 57.2
comp=Z,18nm,1.0s
JRQG Juriquilla Cam 90.34 67 P **P** 23 23 56.1 +0.2
MT01 Popeta 90.39 128 P **P** 23 23 56.0 +0.4
XLT XiLinHaoTe 90.45 320 *eP* **P** 23 23 56.3 +0.6
XLT S **S** 23 34 06.3 +0.4
XLT pmax pmax
comp=Z,8.0nm,1.0s
TLIG Tlapa 90.50 71 **P** 23 23 57.1 +0.6
GLI Glacier Island 90.53 16 P **P** 23 23 55.1 -0.4
HAWA Hanford 90.54 37 **P** 23 23 56.3 +0.5
HAWA IAmb IAmb 23 23 58.0
comp=Z,27nm,1.4s
MT09 Talagante 90.62 128 P **P** 23 23 57.6 +0.6
MT09 IAmb IAmb 23 23 58.8
comp=Z,21nm,1.1s
BMO Blue Mountains 90.85 39 **P** 23 23 57.1 -0.4
BMO IAmb IAmb 23 23 58.4
comp=Z,20nm,1.9s
MFID Camas Ranch 90.87 41 **P** 23 23 57.7 0.0
MFID IAmb IAmb 23 23 59.6
comp=Z,24nm,1.2s
GHO Glory Hole Cre 90.89 14 P **P** 23 23 56.2 -1.0
GHO IAmb IAmb 23 23 58.0
comp=Z,29nm,1.2s
MT13 San Alfonso 91.14 129 P **P** 23 24 00.6 +1.3
MT13 IAmb IAmb 23 24 01.7
comp=Z,19nm,0.9s
LMEL Las Melosas 91.14 129 P **P** 23 24 00.3 +1.0
LMEL IAmb IAmb 23 24 01.9
comp=Z,21nm,1.3s
PZH PanZhiHua 91.22 299 P **P** 23 24 01.2 +1.5
WAX Waxell Ridge 91.26 18 P **P** 23 23 59.4 +0.5
WAX IAmb IAmb 23 24 00.6
comp=Z,31nm,1.4s
HHC Hu-ho-hao-te 91.46 315 *eP* P 23 24 06.4 +6.0
HHC S **S** 23 34 19.1 +4.0
HHC pmax pmax
comp=Z,4.0nm,0.5s
HHC pmax pmax
comp=Z,92nm,5.5s
VHRN Van Horn 91.49 56 **P** 23 24 01.3 +0.5
VHRN IAmb IAmb 23 24 03.3
comp=Z,22nm,1.4s
Y22A Socorro 91.59 53 **P** 23 24 02.1 +0.8
Y22A IAmb IAmb 23 24 03.6
comp=Z,12nm,1.1s
PLID Pearl Lake 91.74 40 **P** 23 24 01.9 +0.2
N25K Chitina, Valde 91.78 16 **P** 23 24 01.3 -0.1
N25K IAmb IAmb 23 24 02.5
comp=Z,12nm,1.1s
TXAR Lajitas Array 91.79 58 P **P** 23 24 03.1 +0.9
comp=Z,8.4nm,0.9s,baz=216,slow=4.7,SNR=42
comp=Z,8.4nm,0.9s
HLID Hailey 91.80 42 **P** 23 24 02.1 +0.1
GLB Gilahina Butte 91.84 17 **P** 23 24 01.4 -0.2
JLU Jordanelle 92.00 45 P **P** 23 24 03.6 +0.5
MCARA **McCarthy VSAT 92.00 17** **P** 23 24 02.6 +0.3
MCARA IAmb IAmb 23 24 10.1
comp=Z,12nm,1.0s
BARN Barnard Glacie 92.10 18 P **P** 23 24 02.9 -0.1
RND Reindeer 92.35 14 P **P** 23 24 03.1 -0.9
RND IAmb IAmb 23 24 04.4
comp=Z,17nm,1.1s
CO03 El Pedregal 92.38 126 P **P** 23 24 06.0 +1.0
ANMO Albuquerque 92.46 52 **P** 23 24 05.6 +0.3
HWUT Hardware Ranch 92.47 44 **P** 23 24 05.1 0.0
AHID Auburn Hatcher 93.38 44 P **P** 23 24 09.6 +0.2
AHID IAmb IAmb 23 24 11.4
comp=Z,17nm,1.2s
WRH Wood River Hil 93.45 13 **P** 23 24 07.8 -1.0
WRH IAmb IAmb 23 24 09.0
comp=Z,11nm,1.1s
HDA Harding Lake 93.64 14 P **P** 23 24 08.9 -0.9
BCAR Beaver Creek A 93.72 17 **P** 23 24 09.9 -0.3
SCRK Sand Creek 93.94 15 P **P** 23 24 10.8 -0.5
ILAR Eielson Array 93.97 14 P **P** 23 24 10.1 -1.2
comp=Z,3.6nm,1.1s,baz=226,slow=5.6,SNR=13
comp=Z,3.6nm,1.1s
LZH Lanzhou 94.21 308 *eP* **P** 23 24 13.3 +0.1
LZH pP pwP 23 26 14.3 +0.6
LZH pmax pmax
comp=Z,14nm,1.0s
LZDM Lanzhou Array 94.25 308 P **P** 23 24 12.5 -1.1
comp=Z,0.6nm,0.3s,baz=100,slow=41,SNR=1.6
comp=Z,0.6nm,0.3s
BW06 Boulder Array 94.35 44 P **P** 23 24 13.0 -0.8
BW06 IAmb IAmb 23 24 15.1
comp=Z,7.9nm,1.3s
PDAR Pinedale Array 94.35 44 P **P** 23 24 13.4 -0.4
PDAR Pinedale Array 94.35 44 P **P** 23 24 14.0 +0.2
comp=Z,2.5nm,1.0s,baz=219,slow=3.8,SNR=13
comp=Z,2.5nm,1.0s
SDCO Great Sand Dun 94.50 50 P **P** 23 24 14.9 +0.2
SDCO IAmb IAmb 23 24 16.2
comp=Z,12nm,1.4s
BOZ Bozeman (W) 94.58 41 P **P** 23 24 14.7 0.0
BOZ IAmb IAmb 23 24 18.2
comp=Z,9.4nm,1.3s
PRP Porcupine Dome 94.91 14 **P** 23 24 14.9 -0.7
EGAK Eagle 95.30 16 P **P** 23 24 16.8 -0.4
EGAK IAmb IAmb 23 24 18.6
comp=Z,9.6nm,1.1s
BMAR Burnt Mountain 96.74 13 P **P** 23 24 23.7 0.0
SONM Songino Array 98.26 319 P Pdif 23 24 30.6 -0.5
comp=Z,0.4nm,0.7s,baz=144,slow=4.9,SNR=2.6
comp=Z,0.4nm,0.7s
WMQ Urumqi 108.64 310 Pdif **Pdif** 23 25 17.6 +0.3
MKAR Makanchi Array 113.12 312 PKiKP **PKiKP** 23 29 26.7 -1.0
comp=Z,1.9nm,1.0s,baz=90,slow=1.2,SNR=7.4
MKAR PKKPbc **PKKPbc** 23 40 15.4 -0.6
comp=Z,1.4nm,0.7s,baz=284,slow=2.8,SNR=8.6
ZALV Zalesovo Beam 113.14 320 PKiKP **PKiKP** 23 29 25.6 -1.8
comp=Z,0.9nm,0.7s,baz=180,slow=0.1,SNR=5.7
KURK Kurchatov 116.27 316 **PKPdf** 23 29 31.9 -1.6
KURBB **Kurchatov Arra 116.31 316** PKiKP **PKPdf** 23 29 32.5 -1.2
comp=Z,4.1nm,0.9s,baz=106,slow=2.2,SNR=30
KURBB SKP 23 32 20.0
comp=Z,1.2nm,0.8s,baz=99,slow=2.3,SNR=6.7
KURBB PKKPbc **PKKPbc** 23 40 05.4 +0.2
comp=Z,1.5nm,0.8s,baz=277,slow=4.5,SNR=4.3
BOAV Boa Vista 117.88 102 PKPdf **PKPdf** 23 29 36.9 -0.9
SUR Sutherland 118.69 200 PKPdf **PKPdf** 23 29 38.8 -0.4
POGA Pongola 118.74 213 PKPdf **PKPdf** 23 29 38.8 -0.4
PDPR Patillas Dam, 119.21 83 **PKPdf** 23 29 39.1 -1.1
HUMP Col San Antoni 119.41 83 **PKPdf** 23 29 39.7 -0.9
GAR Garm 120.17 302 **PKPdf** 23 29 41.1 -0.6
KBL Kabul 120.32 296 **PKPdf** 23 29 41.1 -1.0
BOSA Boshof 120.52 206 PKPdf **PKPdf** 23 29 42.5 -0.2
BOSA Boshof 120.52 206 PKP **PKiKP** 23 29 43.4 +0.5
comp=Z,2.7nm,0.7s,baz=146,slow=2.5,SNR=6.8
KK31 Karatay Array 120.66 306 **PKPdf** 23 29 41.4 -0.9
KKAR Karatay Array 120.66 306 **PKPdf** 23 29 41.3 -1.0
CHGR Chuyangaron 121.00 301 **PKPdf** 23 29 42.6 -0.6
SIMJ Simiganj 121.11 301 **PKPdf** 23 29 42.5 -0.9
BVAR Borovoye Array 121.57 318 PKP **PKPdf** 23 29 43.1 -0.6
comp=Z,4.1nm,0.6s,baz=90,slow=3.0,SNR=21
MAKGR **Makgori 123.18 207** **PKiKP** 23 29 48.1 -0.1
SCHQ Schefferville 124.21 40 PKP **PKPdf** 23 29 48.3 -0.4
comp=Z,34nm,0.8s,baz=166,slow=1.4,SNR=5.2
SKOMA **Sekoma 124.69 207** *i* P **PKiKP** 23 29 51.5 +0.3
MREMI **Moremi 124.83 212** *i* P **PKiKP** 23 29 51.8 +0.3
MREMI **Moremi 124.83 212** **PKPdf** 23 29 50.9 -0.2
LPHEP **Lephephe 124.87 210** PKPdf **PKPdf** 23 29 51.1 0.0
KDWAN **Kaudwane 125.39 209** *eP* **PKiKP** 23 29 52.5 -0.1
LMN **Caledonia Moun 125.62 51** **PKPdf** 23 29 50.9 -0.8
LKGWB **Lokgwabe 126.12 205** **PKPdf** 23 29 53.5 -0.1
BROLN **Tlhalosang 126.13 213** *i* P **PKiKP** 23 29 54.1 0.0
KHWEE **KHWEE 126.29 210** *i* P **PKiKP** 23 29 54.3 -0.1
KGCAE **Kacgae 126.88 206** *i* P **PKiKP** 23 29 55.6 0.0
KGCAE **Kacgae 126.88 206** **PKiKP** 23 29 55.5 0.0
SPITS Spitsbergen Ar 126.98 356 PKP **PKPdf** 23 29 53.0 -0.5
comp=Z,9.7nm,1.0s,baz=108,slow=2.7,SNR=6.7
SOOWA **Sowa 127.13 212** *i* P **PKiKP** 23 29 56.5 +0.4
KOOLE **Kule 127.52 204** *i* P **PKiKP** 23 29 57.5 +0.5
KOOLE **Kule 127.52 204** **PKiKP** 23 29 56.7 -0.2
GBN Guysborough 127.93 51 PKPdf **PKPdf** 23 29 55.5 -0.6
ARTI Arti 128.25 323 PKP **PKPdf** 23 29 56.0 -0.3
comp=Z,7.3nm,0.8s,baz=128,slow=2.9,SNR=12
GRTLG **Ghanzi 128.61 206** *i* P **PKiKP** 23 29 59.0 -0.1
GRTLG **Ghanzi 128.61 206** **PKiKP** 23 29 58.8 -0.3
KSANE **Kasane 130.00 213** **PKiKP** 23 30 01.6 -0.3
QNGWA **Qangwa 130.27 207** **PKPdf** 23 30 01.0 -0.5
LSZ Lusaka 130.55 218 **PKPdf** 23 30 02.2 0.0

TSUM	Tsumeb	131.95	203			PKPdf	23 30 04.7	0.0
KIRV	Kirov	132.30	327	PKP		PKPdf	23 30 04.1	+0.2
	comp=Z,5.3nm,0.7s,baz=12,slow=1.4,SNR=4.8							
KIRV				SKPbc		SKPbc	23 32 42.2	+0.6
	comp=Z,5.6nm,0.5s,baz=101,slow=2.2,SNR=7.4							
ARCES	ARCESS Array B	133.65	348	PKP		PKPdf	23 30 05.7	-0.5
	comp=Z,5.5nm,0.8s,baz=7.1,slow=1.6,SNR=14							
ARCES				SKPbc		SKPbc	23 32 46.4	+0.5
	comp=Z,3.1nm,0.5s,baz=35,slow=3.6,SNR=16							
KMBO	Kilima Mbogo	134.78	240	PKP		PKPdf	23 30 11.0	+0.6
	comp=Z,1.4nm,0.4s,baz=14,slow=3.6,SNR=3.6							
KMBO				SKPbc		SKPbc	23 32 52.5	+0.9
	comp=Z,5.0nm,0.8s,baz=124,slow=2.8,SNR=9.4							
BELG	Belogornoye	135.32	320	PKP		PKPdf	23 30 09.8	0.0
	comp=Z,22nm,1.0s,baz=201,slow=5.0,SNR=5.1							
RAYN	Ar Rayn	138.32	277			PKPdf	23 30 15.6	-0.7
FINES	FINESS Array B	140.10	340	PKhKP		PKPpre	23 30 11.2	
	comp=Z,2.8nm,0.9s,baz=132,slow=26,SNR=15							
FINES				PKP		PKPdf	23 30 19.2	+0.9
	comp=Z,2.5nm,0.6s,baz=77,slow=2.0,SNR=7.4							
FINES				SKPbc		SKPbc	23 33 05.8	+0.9
	comp=Z,4.2nm,0.8s,baz=318,slow=3.9,SNR=4.9							
OBN	Obninsk	140.15	327	PKP		PKPdf	23 30 18.4	-0.2
	comp=Z,4.5nm,0.4s,baz=67,slow=22,SNR=3.8							
KBZ	Khabaz	140.65	308	PKP		PKPdf	23 30 20.4	+0.6
	comp=Z,1.7nm,0.9s,baz=92,slow=3.8,SNR=3.5							
KOPT	Kop Dagi	143.13	300			PKPbc	23 30 23.5	+0.6
MARD	Mardin	143.29	298			PKPbc	23 30 23.5	+0.2
NC303	NORSAR Array S	143.68	350			PKPab	23 30 22.5	-1.0
NB2	NORSAR Subarra	143.88	350	PKP		PKPbc	23 30 23.2	-1.0
	comp=Z,90nm,1.1s,baz=20,slow=3.3							
NB2	NORSAR Subarra	143.88	350	PKP		PKPbc	23 30 23.2	-1.0
	comp=Z,90nm,1.1s,baz=20,slow=3.3							
NOA	NORSAR Array B	143.88	350	PKP		PKPbc	23 30 23.3	-1.0
	comp=Z,38nm,0.9s,baz=16,slow=4.9,SNR=61							
HFS	Hagfors	144.31	348	PKP		PKPbc	23 30 24.7	-0.9
	comp=Z,12nm,0.4s,baz=72,slow=4.8,SNR=94							
MNK	Minsk	144.52	331	*i* PKP		PKPdf	23 30 25.8	-0.6
	comp=E,27nm,0.9s							
MNK				*i* PKP		PKPdf	23 30 25.8	-0.6
	comp=N,24nm,1.0s							
MNK				*i* PKP		PKPdf	23 30 25.8	-0.6
	comp=Z,65nm,1.1s,baz=48							
MNK				*i* pPKP		pPKPdf	23 32 23.7	-5.1
MNK				*i* PP		PP	23 33 48.9	-0.1
MNK				*i* PPP		PPP	23 37 06.2	
MNK				*i* SKKS			23 45 58.6	
MNK				*i* SS		SS	23 51 57.7	+3.9
MNK				*i* SSS		SSS	23 57 31.6	
MNK				*i* LRM		MLR	00 36 16.6	
	comp=E,17nm,13.4s							
MNK				*i* LRM		MLR	00 36 20.4	
	comp=N,23nm,16.7s							
PABE	Paberze	145.38	336			PKPdf	23 30 27.4	-0.4
KONO	Kongsberg	145.45	351			PKPdf	23 30 27.7	0.0
STRU	Stroemstad	145.79	349	*i* P		PKPbc	23 30 29.2	-0.8
AKASG	Malin Array Be	146.31	325			PKPdf	23 30 28.5	-1.0
AKASG	Malin Array Be	146.31	325	PKPbc		PKPbc	23 30 30.8	-0.9
	comp=N,19nm,0.9s,baz=42,slow=4.0,SNR=37							
AKASG				pPKP		pPKPab	23 32 30.1	-1.4
	comp=N,2.3nm,0.7s,baz=46,slow=3.9,SNR=4.0							
AKBB	Malin Array Si	146.31	325			PKPdf	23 30 28.3	-1.2
KIEV	Kiev	146.32	325			PKPdf	23 30 28.3	-1.2
KIEV	Kiev	146.32	325	⇑P		PKPbc	23 30 30.9	-0.9
TJOU	Tjoern	146.67	348	*i* P		PKPbc	23 30 31.6	-0.8
SUW	Suwalki	146.80	334	*e*PKP		PKPbc	23 30 32.4	-0.5
SUW	Suwalki	146.80	334			PKPbc	23 30 31.6	-1.3
BORU	Boraas	146.82	347	*i* P		PKPbc	23 30 31.7	-1.2
BNN	Bunyan	146.89	302			PKPdf	23 30 30.3	-0.7
HOMB	Homborsund	146.94	351	*i* P		PKPbc	23 30 32.8	-0.3
ONAU	Onsala	147.21	348	*i* P		PKPbc	23 30 32.8	-1.1
FABU	Falkenberg	147.41	347	*i* P		PKPbc	23 30 33.6	-0.9
DEL	Delary	147.65	345	*i* P		PKPbc	23 30 34.6	-0.5
MMAI	Mount Meron Ar	148.05	292	PKPbc		PKiKP	23 30 37.7	-0.6
	comp=N,20nm,0.8s,baz=90,slow=2.6,SNR=40							
MMAI				pPKPbc		pPKPbc	23 32 37.8	+0.3
	comp=N,12nm,1.1s,baz=146,slow=2.8,SNR=5.6							
BJUU	Bjuv	148.21	346	*i* P		PKPbc	23 30 35.8	-0.7
SORM	Soroca	148.26	322	⇑P		PKPbc	23 30 36.1	-0.8
KIRS	Kirsehir-Merke	148.29	303	⇑P		PKPbc	23 30 37.1	-0.3
BR131	Keskin Array S	148.34	305			PKPdf	23 30 31.9	-1.5
BRTR	Keskin Array B	148.34	305			PKPdf	23 30 31.9	-1.5
BRTR	Keskin Array B	148.34	305	PKP		PKPdf	23 30 32.5	-1.0
	comp=N,9.0nm,1.1s,baz=116,slow=2.9,SNR=6.1							
BRTR				PKPbc		PKPbc	23 30 37.0	-0.6
	comp=N,7.1nm,1.0s,baz=90,slow=1.4,SNR=24							
BRTR				pPKPbc		pPKPdf	23 32 37.1	+1.2
	comp=N,1.2nm,0.9s,baz=132,slow=2.1,SNR=3.8							
MUD	Monsted U'grnd	148.59	350	*i* P		PKPbc	23 30 37.2	-0.2
BSD	Bornholm Skovb	148.61	343	*i* P		PKPbc	23 30 37.0	-0.6
MILM	Milestii Mici	148.67	320	⇑P		PKPbc	23 30 36.5	-1.5
ANTO	Ankara	148.93	305			PKPdf	23 30 33.7	-0.5
ANTO	Ankara	148.93	305	⇓P		PKPbc	23 30 39.0	0.0
BEL	Belsk	149.40	334	*e*PKP		PKPbc	23 30 39.9	+0.3
VASR	Vaslui	149.41	320	⇓P		PKiKP	23 30 41.2	+0.6
GKP	Gorka Klasztor	149.53	339	*e*PKP		PKPbc	23 30 39.9	+0.1
TLCR		149.55	317	⇑P		PKPbc	23 30 40.0	-0.1
CSS	Mathiatis	149.56	296			PKPdf	23 30 35.4	0.0
VLDR	Vladesti	149.66	319	⇑P		PKiKP	23 30 40.9	-0.2
SCTR	Scanteiesti	149.80	318	⇑P		PKiKP	23 30 41.2	-0.2
TATR	Tatarca	149.81	318	⇑P		PKPbc	23 30 40.9	+0.1
PRAR	RASCA	149.88	323	⇑P		PKPbc	23 30 40.8	-0.1
GHRR		149.95	315	⇑P		PKiKP	23 30 41.9	+0.2
TPGR	Topolog	149.96	317	⇑P		PKPbc	23 30 41.2	0.0
CFR	Carcaliu	149.97	317	⇑P		PKPbc	23 30 40.9	-0.2
SCHLR	Schela	150.01	318	⇑P		PKPbc	23 30 40.8	-0.4
IZVR	Izvoarele	150.01	318	⇑P		PKPbc	23 30 41.4	+0.2
SAHE	Sakarya_HENDEK	150.02	308	⇑P		PKPbc	23 30 40.7	-0.7
TESR	Tescani	150.13	321	⇑P		PKPbc	23 30 41.3	-0.3
KWP	Kalwaria Pacla	150.20	329	*e*PKP		PKPbc	23 30 41.5	0.0
BUR08	Bucovina Ar. S	150.26	324			PKPbc	23 30 41.3	-0.6
BURAR	Bucovina Array	150.27	324			PKPbc	23 30 41.4	-0.5
BURAR	Bucovina Array	150.27	324	⇑P		PKiKP	23 30 42.9	+0.4
MFTR	Murfatlar	150.29	315	⇑P		PKiKP	23 30 42.3	-0.1
HARR	Harsova	150.34	317	⇑P		PKPbc	23 30 41.3	-0.8
TLBR	Topalu	150.34	316	⇑P		PKPbc	23 30 42.0	0.0
ONER	Baraj Valea Uz	150.38	321	⇑P		PKiKP	23 30 42.6	0.0
EKB	Eskdalemuir	150.43	3	PKPbc		PKPbc	23 30 41.2	-0.7
EKA	Eskdalemuir Ar	150.43	3	PKPbc		PKPbc	23 30 40.9	-1.0
	comp=N,3.2nm,0.4s,baz=342,slow=2.8,SNR=36							
VRI	Vrincioaia	150.45	320	⇑P		PKPbc	23 30 41.9	-0.4
PLOR	Plostina	150.50	320	⇑P		PKPbc	23 30 41.8	-0.6
ICOR	Ion Corvin	150.71	316	⇑P		PKiKP	23 30 43.5	+0.1
COVR	Voineasa-Covas	150.76	320	⇑P		PKPbc	23 30 41.8	-1.2
OZUR		150.86	321	⇑P		PKPbc	23 30 43.5	+0.2
OJC	Ojcow	151.04	333	*e*PKP		PKPbc	23 30 43.4	-0.1
OJC	Ojcow	151.04	333			PKPbc	23 30 42.8	-0.7
ARCR	ARCALIA	151.06	324	⇓P		PKiKP	23 30 44.2	+0.2
MLR	Muntele Rosu	151.11	320			PKPbc	23 30 42.7	-1.3
MLR	Muntele Rosu	151.11	320	⇑P		PKPbc	23 30 43.2	-0.8
BMR	Baia Mare	151.14	325	⇑P		PKPbc	23 30 42.9	-0.9
DOPR	Dopca	151.16	321	⇑P		PKPbc	23 30 44.1	+0.1
NIE	Niedzica	151.44	331	*e*PKP		PKiKP	23 30 45.1	+0.4
CBBR	Cluj-Babes-Bol	151.69	324	⇑P		PKiKP	23 30 45.6	+0.3
CJR	Cluj-Napoca	151.70	324	⇓P		PKiKP	23 30 45.5	+0.1
MESR	Meseseni	151.76	325	⇑P		PKiKP	23 30 45.6	+0.2
LOZB	Loznitsa	151.84	315	⇑P		PKPbc	23 30 45.4	-0.1
KSP	Ksiaz	151.88	337	*e*PKP		PKiKP	23 30 45.8	+0.2
ARR	Arges	151.94	321	⇑P		PKiKP	23 30 46.9	+1.0
MARR	Marisel-Cluj	151.98	324	⇑P		PKPbc	23 30 45.4	-0.5
STEB	Steborice	152.08	334	⇑*e*PKP		PKiKP	23 30 46.1	+0.1
DRGR		152.12	325	⇑P		PKPbc	23 30 45.8	-0.3
OSTC	Ostas	152.15	337	⇑*e*PKP		PKiKP	23 30 46.5	+0.3
CHVC	Chvalec	152.18	337	⇑*e*PKP		PKiKP	23 30 46.3	+0.1
HUMR	Humele	152.22	319	⇑P		PKPbc	23 30 45.6	-0.7
DSB	Dublin	152.24	8	PKPbc		PKPbc	23 30 44.9	-1.1
DPC	Dobruska-Polom	152.28	337	⇑*e*PKP		PKiKP	23 30 46.6	+0.1
MORC	Moravsky Berou	152.30	334			PKPbc	23 30 45.2	-1.2
MORC	Moravsky Berou	152.30	334	*e*PKP		PKPdf	23 30 38.6	-0.4
MORC	Moravsky Berou	152.30	334	⇑P		PKiKP	23 30 46.6	0.0
KRLC	Kraliky	152.34	336	⇑*e*PKP		PKPbc	23 30 46.5	+0.1
MAUC	Maruska	152.51	334	⇑*e*PKP		PKiKP	23 30 47.0	0.0
ELND	Elena	152.51	315	⇑P		PKPbc	23 30 47.0	0.0
CLL	Collm	152.53	342			PKPbc	23 30 45.5	-1.2
CLL	Collm	152.53	342	*e*PKPdf		PKPdf	23 30 39.0	-0.2
CLL				*i* PKPbc		PKPbc	23 30 46.2	-0.5
	comp=Z,27nm,1.0s							
CLL				*ep*PKPbc		pPKPbc	23 32 50.5	+2.0
	comp=Z,11nm,1.1s							
BRG	Berggiesshubel	152.63	340	⇓*e*PKPf			23 30 41.2	
BRG				Amp			23 30 43.1	
	comp=Z,2.0nm,1.0s							
BRG				⇑PKP		PKiKP	23 30 49.0	+1.9
BRG				Amp			23 30 50.2	
	comp=Z,15nm,1.1s							
BRG				PKPab		PKPab	23 31 02.5	+2.4
BRG				Amp			23 31 03.5	
	comp=Z,14nm,1.2s							
BRG				pPKP		pPKPab	23 32 55.4	-1.2
BRG				Amp			23 32 56.8	
	comp=Z,6.5nm,1.2s							
PVCC	Panska Ves	152.74	339	⇑*e*PKP		PKiKP	23 30 47.5	+0.2
GZR	Guna Zlata	152.97	322	⇑P		PKPbc	23 30 47.5	-0.5
JAVC	Velka Javorina	152.97	333	*e*PKP		PKPdf	23 30 40.4	+0.3
SIRR	Siria	153.01	325	⇑P		PKPbc	23 30 47.5	-0.5
VRAC	Vranov	153.04	335	*e*PKP		PKPdf	23 30 39.7	-0.4
VRAC	Vranov	153.04	335	⇑P		PKPbc	23 30 47.5	-0.4
PLVB	Pleven	153.06	317	⇑P		PKPbc	23 30 47.6	-0.5
SURR	Surduc	153.10	324	⇑P		PKPbc	23 30 47.1	-1.1
KRUC	Moravsky	153.32	335	*e*PKP		PKPdf	23 30 39.7	-0.8
BZS	Buzias	153.46	324	⇑P		PKPbc	23 30 48.7	-0.3
KHC	Kasperske Hory	154.27	338	⇑*e*PKP		PKiKP	23 30 50.5	-0.1
KHC				*e*PKPAB		PKPab	23 31 07.7	+0.4
CONA	Conrad Observa	154.44	334	*e*PKP		PKPdf	23 30 41.6	-0.6
	comp=Z,3.9nm,1.2s							
CONA				*ep*PKP		pPKPab	23 33 10.3	+6.0
	comp=Z,4.3nm,1.0s							
RONA	Rosalia, Austr	154.45	333	*e*PKP		PKPdf	23 30 41.9	-0.3
	comp=Z,3.6nm,1.0s							
RONA				*ep*PKP		pPKPab	23 33 10.1	+5.8
	comp=Z,4.4nm,1.1s							
GERES	GERESS Array B	154.47	338	PKP		PKPdf	23 30 41.6	-0.7
	comp=Z,1.6nm,1.0s,baz=35,slow=4.9,SNR=9.0							
GERES				PKPbc		PKiKP	23 30 51.0	-0.1
	comp=Z,1.9nm,0.9s,baz=45,slow=4.2,SNR=7.6							
GERES				PKPab		PKPab	23 31 08.5	+0.3
	comp=Z,0.7nm,0.6s,baz=38,slow=5.2,SNR=4.4							
GERES				pPKPab		pPKPab	23 33 02.6	-1.7
	comp=Z,0.7nm,0.8s,baz=29,slow=6.9,SNR=3.3							
GRF	Grafenberg Arr	154.48	342	*e*P		PKPab	23 31 08.6	+0.4
	comp=Z,13nm,1.2s,baz=29,slow=3.9							
MORH	Mrgy, Hungar	154.55	328	⇑P		PKPdf	23 30 40.9	-1.4
MOA	Molln	155.12	336	*e*PKP		PKPdf	23 30 44.5	+1.5
	comp=Z,7.4nm,1.8s							
MOA				*ep*PKP		pPKPab	23 33 13.3	+6.3
	comp=Z,12nm,1.7s							
BIOA	Bad Ischl, Aus	155.48	337	*e*PKP		PKPdf	23 30 43.0	-0.6
	comp=Z,3.3nm,1.0s							
BIOA				*e*PKP		PKPab	23 31 12.8	+0.3
	comp=Z,8.0nm,1.2s							
SOKA	Soboth	155.79	333	*e*PKP		PKPdf	23 30 43.8	-0.2
	comp=Z,4.1nm,1.5s							
LESA	Schwarzleotal	156.04	338	*e*PKP		PKPdf	23 30 44.1	-0.3
	comp=Z,6.5nm,1.3s							
LESA				*e*PKP		PKPab	23 31 15.1	+0.1
	comp=Z,6.0nm,1.2s							
WATA	Walderalm	156.49	339	*e*PKP		PKPdf	23 30 45.0	0.0
	comp=Z,1.5nm,0.5s							
WATA				*e*PKP		PKPab	23 31 17.8	+0.7
	comp=Z,6.7nm,1.2s							
WTTA	Wattenberg	156.53	339	*e*PKP		PKPab	23 31 17.8	+0.5
	comp=Z,5.0nm,0.8s							
WTTA				*ep*PKP		pPKPab	23 33 18.4	+5.1
	comp=Z,5.3nm,1.2s							
RETA	Reutte	156.60	341	*e*PKP		PKPab	23 31 18.0	+0.5
	comp=Z,11nm,1.1s							
MOTA	Moosalm	156.63	340	*e*PKP		PKPab	23 31 18.0	+0.4
	comp=Z,12nm,1.2s							
ABTA	Abfaltersbach	156.68	337	*e*PKP		PKPdf	23 30 43.6	-1.6
	comp=Z,5.2nm,1.1s							
ABTA				*e*PKP		PKPab	23 31 17.1	-0.7
	comp=Z,3.1nm,0.8s							
SQTA	Sankt Quirin	156.71	340	*e*PKP		PKPdf	23 30 44.5	-0.8
	comp=Z,5.5nm,1.2s							
SQTA				*e*PKP		PKPab	23 31 18.5	+0.5
	comp=Z,9.3nm,1.3s							
PDG	Podgorica	156.81	321	⇑P		PKPab	23 31 18.9	+0.4
FETA	Feichten	157.03	340	*e*PKP		PKPdf	23 30 44.7	-1.0
	comp=Z,6.7nm,1.2s							
DAVA	Damuels	157.04	342	*e*PKP		PKPab	23 31 19.6	+0.1
	comp=Z,13nm,1.2s							
FUORN	Ofenpass-Fuorn	157.53	340			PKPab	23 31 21.3	-0.4
TUE	Stuetta	157.94	342			PKPab	23 31 23.2	-0.2
ESDC	Sonseca Array	165.86	11	PKPdf		PKPdf	23 30 55.1	+0.2
ESDC						PKPab	23 31 57.1	-1.1
ESDC	Sonseca Array	165.86	11	PKPab		PKPab	23 31 58.0	-0.2
	comp=Z,6.3nm,1.1s,baz=339,slow=3.9,SNR=17							
TORD	Torodi Ar. Bea	167.25	190			PKPdf	23 30 55.2	-1.3
TORD						PKPab	23 32 04.2	-0.5
TORD	Torodi Ar. Bea	167.25	190	PKP		PKPdf	23 30 55.9	-0.7
	comp=Z,4.9nm,1.1s,baz=167,slow=2.1,SNR=14							
TORD				PKPab		PKPab	23 32 04.8	+0.1
	comp=Z,4.5nm,0.8s,baz=170,slow=2.4,SNR=15							
TORD				pPKPab		pPKPab	23 34 00.2	-0.1
	comp=Z,3.2nm,1.1s,baz=148,slow=1.4,SNR=4.8							
MD01	Midelt array s	172.03	27			PKPdf	23 30 58.5	-0.6
TAM	Tamanrasset	173.77	243	PKPdf		PKPdf	23 31 00.2	+0.1

*NOU **11** 23:29:57.4,20°.37S×177°.44W,h549km,mb4.9/20,Fiji Islands Region*
*NEIC **11** 23:30:01.8±1.4,20°.50S±0°.09×178°.0W±0°.1,h549km±5km, mb4.5/95,Error ellipse: s-maj=14.8km s-min=12.3km az=127.0*
*IDC **11** 23:30:02.3±0.7,20°.59S×178°.14W,h558km±8km,mb3.8/19, mbtmp4.7/22,Error ellipse: s-maj=10.5km s-min=8.5km az=118.0*

ISC 11 23:30:00.1±0.3,20°.53S±0°.05×178°.04W±0°.06,h534km, n234,σ1°35/248,mb4.5/75,12C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.62	306	P	P	23 31 30.2	+4.2
FUTU	Fugatoga	6.18	359	P	P	23 31 43.1	+3.2
NIUE	Niue	7.78	81		P	23 31 57.1	+1.9
NIUE	Niue	7.78	81	P	P	23 31 57.5	+2.3
RAO	Raoul Island	8.69	179	P	P	23 32 05.6	+1.4
	174nm,0.4s,baz=49,slow=20,SNR=2.1						
RAO				S	S	23 33 45.5	-0.7
	276nm,0.3s,baz=90,slow=20,SNR=4.4						
GLKZ	Green Lake	8.70	179	P	P	23 32 05.8	+1.5
AFI	Afiamalu	8.89	43	P	P	23 32 06.2	-0.4
PINNC	Pines Island,	13.66	259	P	P	23 32 58.5	+2.5
DZM	Mont Dzumac	14.54	261	P	P	23 33 06.7	+1.5
	36nm,0.8s,baz=70,slow=15,SNR=12						
SANVU	Saraoutou	14.91	287		P	23 33 10.4	+1.4
OUZ	Omahuta	16.39	205	P	P	23 33 25.7	+2.0
KOUNC	Koumac, New Ca	16.55	267	P	P	23 33 28.8	+3.3
KOUNC	Koumac, New Ca	16.55	267	S	S	23 36 19.6	+6.2
WCZ	Waipa Caves	16.75	202	P	P	23 33 29.4	+2.3
WIAZ	Waiheke Island	17.27	199	P	P	23 33 34.4	+2.4
MXZ	Matakaoa Point	17.27	190	P	P	23 33 31.9	-0.1
MXZ	Matakaoa Point	17.27	190	P	P	23 33 33.1	+1.1
MBAZ	Motutapu North	17.32	199	P	P	23 33 35.4	+3.0
HAZ	Te Kaha	17.55	191	P	P	23 33 34.4	-0.1
MKAZ	Moumakai	17.55	198	P	P	23 33 37.0	+2.5
PKGZ	Pakihiroa	17.61	190	P	P	23 33 38.1	+3.1
AWAZ	Awhitu Peninsu	17.67	200	P	P	23 33 37.2	+1.6
RUGZ	Raukumara Rang	17.77	191	P	P	23 33 37.9	+1.3
TOZ	Tahuroa Road	18.04	197	P	P	23 33 41.1	+2.2
URZ	Urewera	18.16	192	P	P	23 33 39.8	-0.3
	16nm,0.5s,baz=347,slow=4.2,SNR=8.3						
URZ				S	S	23 36 33.2	-6.0
	13nm,0.7s,baz=36,slow=24,SNR=12						
RAGZ	Rawiri	18.33	191	P	P	23 33 42.1	+0.3
MUGZ	Murupara	18.44	193	P	P	23 33 43.2	+0.5
TLZ	Tolley Road	18.59	196	P	P	23 33 47.4	+3.3
MRZ	Mangatainoka R	20.80	194	P	P	23 34 04.1	+0.1
MRZ				S	S	23 37 18.6	-2.9
THZ	Tophouse	22.52	198	P	P	23 34 20.2	+0.7
THZ				S	S	23 37 43.0	-5.8
PPT	Papeete	27.05	89	P	P	23 35 00.5	+0.4
	30nm,0.5s,baz=255,slow=20,SNR=2.0						
	30nm,0.5s						
TW1H	Toowoomba 1 Ha	28.21	250	P	P	23 35 11.9	+1.8
EIDS	Eidsvold	28.80	255	P	P	23 35 15.3	+0.1
EIDS				IAmb	IAmb	23 35 16.7	
	comp=Z,18nm,0.8s						
ARMA	Armidale	29.02	244	P	P	23 35 18.1	+1.0
ARMA				IAmb	IAmb	23 35 19.5	
	comp=Z,13nm,0.7s						
ARMA	Armidale	29.02	244	P	P	23 35 18.8	+1.6
XMAS	Kiritimati	30.18	44	P	P	23 35 26.9	-0.3
CAN	Canberra	32.46	236	P	P	23 35 47.5	+0.9
CAN				IAmb	IAmb	23 35 48.5	
	comp=Z,18nm,1.0s						
CTAO	Charters Tower	33.45	264		P	23 35 55.6	+0.5
CTAO	Charters Tower	33.45	264	P	P	23 35 55.7	+0.6
CMSA	Cobar Meteorol	34.24	244	P	P	23 36 02.2	+0.6
QLP	Quilpie	35.01	253	P	P	23 36 08.5	+0.4
PMG	Port Moresby	35.31	283		P	23 36 10.7	0.0
PMG	Port Moresby	35.31	283	P	P	23 36 11.3	+0.6
MTSU	Mount Surprise	35.55	267	P	P	23 36 13.3	+0.6
TOO	Toolangi	35.85	234	P	P	23 36 15.1	+0.1
BRAT	Ballarat	37.03	234	P	P	23 36 26.3	+1.7
COEN	Coen	37.54	274		P	23 36 29.6	+0.4
COEN	Coen	37.54	274	P	P	23 36 29.9	+0.7
STKA	Stephens Creek	37.74	244		P	23 36 31.2	+0.7
STKA	Stephens Creek	37.74	244	P	P	23 36 31.2	+0.7
	comp=Z,18nm,0.7s,baz=94,slow=9.5,SNR=27						
	comp=Z,18nm,0.7s						
STKA	Stephens Creek	37.74	244	P	P	23 36 31.3	+0.7
INKA	Innaminka	38.15	251	P	P	23 36 35.0	+1.0
INKA				IAmb	IAmb	23 36 36.3	
	comp=Z,12nm,0.8s						
QIS	Mount Isa	39.58	262	P	P	23 36 45.6	0.0
HTT	Hallett	40.18	242	P	P	23 36 50.6	+0.3
WHYH	Whyalla	41.25	243	P	P	23 36 59.2	+0.4
BBOO	Buckleboo	42.50	244		P	23 37 08.7	+0.1
BBOO	Buckleboo	42.50	244	P	P	23 37 08.8	+0.1
JAY	Jayapura	44.01	289	P	P	23 37 21.0	+0.3
	comp=Z,134nm,0.9s						
GENI	Genyem	44.45	288	P	P	23 37 25.1	+1.0
GENI	Genyem	44.45	288	P	P	23 37 24.4	+0.3
AS31	Alice Springs	44.47	257		P	23 37 24.1	0.0
AS31				IAmb	IAmb	23 37 25.0	
	comp=Z,14nm,0.7s						
ASAR	Alice Springs	44.47	257	P	P	23 37 24.2	0.0
	comp=Z,55nm,0.8s,baz=98,slow=7.6,SNR=313						
ASAR				PcP	PcP	23 38 55.4	-0.8
	comp=Z,4.8nm,0.7s,baz=106,slow=3.8,SNR=6.4						
ASAR				pP	pwP	23 39 04.0	-1.2
	comp=Z,0.9nm,0.6s,baz=100,slow=6.9,SNR=2.0						
ASAR				ScP	ScP	23 41 56.7	-0.8
	comp=Z,0.9nm,0.6s,baz=104,slow=4.4,SNR=3.6						
ASAR				S	S	23 43 17.5	-3.1
	comp=Z,7.1nm,0.8s,baz=94,slow=16,SNR=26						
	comp=Z,55nm,0.8s						
WB0	Warramunga Arr	44.53	262		P	23 37 24.3	-0.4
WRA	Warramunga Arr	44.56	262		P	23 37 24.1	-0.8
WRA	Warramunga Arr	44.56	262	P	P	23 37 24.6	-0.3
	comp=Z,36nm,0.9s,baz=95,slow=6.7,SNR=130						
W

TPNV	Topopah Spring	81.59	46			P		23 41 22.3	-0.3
K05A	Summer Lake	82.01	39	P		P		23 41 25.0	+0.4
K05A				IAmb		IAmb		23 41 26.3	
	comp=Z,22nm,0.9s								
J05D	Fort Rock, OR	82.15	38			P		23 41 25.6	+0.4
W13A	Hualapai Mount	82.21	48			P		23 41 25.9	+0.1
BNX	BinXian	82.42	325	⇑P		P		23 41 25.9	-0.4
BNX				pmax		pmax			
	comp=Z,9.0nm,1.1s								
CNPM	China Poot	82.73	13	P		P		23 41 27.0	-0.6
TUC	Tucson	83.03	52	P		P		23 41 29.8	0.0
TUC				IAmb		IAmb		23 41 32.0	
	comp=Z,12nm,1.0s								
IPM	Ipoh	83.09	277			P		23 41 30.1	-0.4
IPM				IAmb		IAmb		23 41 31.4	
	comp=Z,20nm,0.7s								
WVOR	Wild Horse Val	83.18	40	P		P		23 41 30.1	-0.2
319A	Douglas	83.70	53			P		23 41 33.6	+0.4
319A				IAmb		IAmb		23 41 35.4	
	comp=Z,19nm,1.0s								
KULM	Kulim	83.73	278	P		P		23 41 33.6	0.0
KULM				IAmb		IAmb		23 41 34.3	
	comp=Z,11nm,0.7s								
J08A	Circle Bar Ran	83.81	39			P		23 41 33.0	-0.5
SLKM	Skilak Lake	83.84	13	P		P		23 41 32.1	-1.0
SLKM				IAmb		IAmb		23 41 33.1	
	comp=Z,14nm,0.9s								
ELK	Elko	84.33	43			P		23 41 35.8	-0.5
RPSI	Rantau Prapat	84.42	275			P		23 41 35.9	-1.1
RPSI				IAmb		IAmb		23 41 37.0	
	comp=Z,12nm,0.9s								
G08A	Pilot Rock	84.66	37			P		23 41 37.6	0.0
G08A				IAmb		IAmb		23 41 38.9	
	comp=Z,10nm,1.0s								
HAWA	Hanford	84.99	36			P		23 41 39.1	+0.1
HAWA				IAmb		IAmb		23 41 40.5	
	comp=Z,14nm,1.1s								
GSI	Gunungsitoli	85.19	273	P		P		23 41 40.4	-0.4
BMO	Blue Mountains	85.36	39			P		23 41 40.7	-0.3
LYN	LuoYang	85.74	309	P		P		23 41 43.6	+0.7
LYN				pmax		pmax			
	comp=Z,16nm,0.8s								
ENH	Enshi	86.02	304	P		P		23 41 44.1	-0.3
PLID	Pearl Lake	86.26	39			P		23 41 45.1	-0.4
HLID	Hailey	86.37	41			P		23 41 45.7	-0.3
VHRN	Van Horn	86.70	56			P		23 41 48.0	+0.3
VHRN				IAmb		IAmb		23 41 49.5	
	comp=Z,9.4nm,0.9s								
RND	Reindeer	86.73	13	P		P		23 41 46.0	-1.0
RND				IAmb		IAmb		23 41 47.0	
	comp=Z,9.1nm,0.8s								
TX31	Lajitas Ar. Si	87.10	57	P		P		23 41 49.9	+0.2
TX31				IAmb		IAmb		23 41 51.5	
	comp=Z,8.4nm,1.1s								
TXAR	Lajitas Array	87.10	57	P		P		23 41 50.3	+0.6
	comp=Z,4.5nm,0.8s,baz=216,slow=6.5,SNR=45								
TXAR				pP		pwP		23 43 52.3	+3.3
	comp=Z,1.0nm,0.9s,baz=212,slow=4.4,SNR=8.1								
	comp=Z,4.5nm,0.8s								
M27K	Edge Creek, AK	87.44	16	P		P		23 41 49.8	-0.7
M27K				IAmb		IAmb		23 41 51.4	
	comp=Z,7.4nm,1.0s								
ANMO	Albuquerque	87.45	51			P		23 41 50.1	-1.1
TROLL	Troll, Antarti	87.70	180	⇑P		P		23 41 50.3	-1.5
	comp=Z,202nm,0.6s								
MLY	Manley	87.83	11	P		P		23 41 50.5	-1.6
WRH	Wood River Hil	87.84	13			P		23 41 51.0	-1.1
WRH				IAmb		IAmb		23 41 51.7	
	comp=Z,5.6nm,0.8s								
SNAA	Sanae	87.99	178	⇑P		P		23 41 52.0	-1.0
	comp=Z,27nm,0.6s								
SNAA	Sanae	87.99	178	P		P		23 41 52.0	-1.0
SNAA	Sanae	87.99	178	P		P		23 41 51.9	-1.0
	comp=Z,1.3nm,0.7s,baz=201,slow=10,SNR=18								
	comp=Z,1.3nm,0.7s								
MCMT	McKenzie Canyo	88.00	40			P		23 41 54.2	+0.5
HDA	Harding Lake	88.02	13	P		P		23 41 51.6	-1.4
HDA				IAmb		IAmb		23 41 52.9	
	comp=Z,4.7nm,0.6s								
CCB	Clear Creek Bu	88.05	13	P		P		23 41 51.5	-1.5
CCB				IAmb		IAmb		23 41 52.5	
	comp=Z,5.9nm,0.7s								
XAN	Xi'an	88.11	307	⇑P		P		23 41 54.8	+0.6
XAN				pmax		pmax			
	comp=Z,23nm,0.8s								
VNA3	Neumayer Olymp	88.12	176	⇑P		P		23 41 51.7	-1.9
	comp=Z,19nm,0.7s								
IMAR	Indian Mountai	88.19	10	P		P		23 41 53.1	-0.6
ILAR	Eielson Array	88.35	13	P		P		23 41 52.9	-1.6
	comp=Z,1.9nm,0.8s,baz=220,slow=5.4,SNR=9.8								
ILAR				pP		pwP		23 43 55.4	+1.3
	comp=Z,1.0nm,0.9s,baz=240,slow=6.5,SNR=3.6								
	comp=Z,1.9nm,0.8s								
M29M	Somme Creek	88.43	17	P		P		23 41 54.8	-0.2
M29M				IAmb		IAmb		23 41 55.7	
	comp=Z,5.8nm,0.8s								
LOHW	Long Hollow	88.76	42			P		23 41 56.2	-1.0
LOHW				IAmb		IAmb		23 41 57.8	
	comp=Z,3.1nm,0.7s								
VNA1	Neumayer--Stat	88.79	177	⇑P		P		23 41 55.6	-1.0
	comp=Z,7.2nm,0.8s								
M30M	Minto, Yukon	89.01	18	P		P		23 41 57.1	-0.6
M30M				IAmb		IAmb		23 41 58.2	
	comp=Z,6.3nm,0.8s								
PD31	Pinedale Array	89.01	43	P		P		23 41 57.7	-0.7
PD31				IAmb		IAmb		23 41 58.9	
	comp=Z,4.7nm,0.8s								
PDAR	Pinedale Array	89.01	43	P		P		23 41 57.6	-0.8
PDAR	Pinedale Array	89.01	43	P		P		23 41 58.2	-0.2
	comp=Z,3.3nm,0.6s,baz=221,slow=3.3,SNR=19								
	comp=Z,3.3nm,0.6s								
YHL	Hebgen Lake	89.03	41			P		23 41 59.1	+0.6
YHL				IAmb		IAmb		23 42 00.4	
	comp=Z,8.8nm,1.0s								
L29M	L29M	89.06	17	P		P		23 41 58.0	+0.1
L29M				IAmb		IAmb		23 41 58.9	
	comp=Z,9.3nm,0.8s								
BOZ	Bozeman (W)	89.13	40	P		P		23 41 58.4	-0.4
BOZ				IAmb		IAmb		23 42 00.1	
	comp=Z,5.1nm,0.9s								
KMI	Kunming	89.33	297	P		P		23 42 01.5	+1.2
KMI				pmax		pmax			
	comp=Z,13nm,0.9s								
YNE	Yellowstone No	89.83	41	P		P		23 42 01.5	-0.6
YNE				IAmb		IAmb		23 42 03.7	
	comp=Z,4.7nm,1.0s								
CM31	Chiang Mai Arr	90.08	290			P		23 42 03.9	+0.3
CMAR	Chiang Mai Arr	90.08	290			P		23 42 03.7	+0.1
CMAR	Chiang Mai Arr	90.08	290	P		P		23 42 04.2	+0.6
	comp=Z,4.8nm,0.7s,baz=121,slow=2.8,SNR=35								
CMAR				PP		PP		23 45 46.4	-0.5
	comp=Z,1.4nm,0.3s,baz=125,slow=5.4,SNR=6.1								
	comp=Z,4.8nm,0.7s								
CHTO	Chiang Mai	90.21	290			P		23 42 04.0	-0.2
PZH	PanZhiHua	90.69	298	P		P		23 42 07.3	+0.9
BMAR	Burnt Mountain	91.13	12	P		P		23 42 07.5	+0.1
LZDM	Lanzhou Array	92.81	307	P		P		23 42 16.8	+0.5
	comp=Z,0.9nm,0.3s,baz=87,slow=11,SNR=1.8								
	comp=Z,0.9nm,0.3s								
SONM	Songino Array	95.75	319	P		P		23 42 29.3	+0.3
	comp=Z,0.4nm,0.6s,baz=108,slow=3.2,SNR=1.6								
	comp=Z,0.4nm,0.6s								
ZALV	Zalesovo Beam	110.49	321	PKiKP		PKiKP		23 47 29.7	-1.8
	comp=Z,0.8nm,0.6s,baz=95,slow=0.4,SNR=5.0								
MKAR	Makanchi Array	111.19	313	PKiKP		PKiKP		23 47 31.2	-1.9
	comp=Z,0.8nm,0.6s,baz=92,slow=0.6,SNR=10.0								
KURBB	Kurchatov Arra	114.04	317	PKiKP		PKPdf		23 47 36.5	-1.9
	comp=Z,1.2nm,0.6s,baz=99,slow=1.8,SNR=12								
BVAR	Borovoye Array	119.07	320	PKP		PKPdf		23 47 46.4	-1.6
	comp=Z,2.6nm,0.5s,baz=106,slow=3.1,SNR=14								
KK31	Karatay Array	119.23	309			PKPdf		23 47 46.9	-1.8
KKAR	Karatay Array	119.23	309	PKPdf		PKPdf		23 47 47.0	-1.7
ARTI	Arti	125.31	325			PKPdf		23 47 58.8	-1.1
BOSA	Boshof	126.21	206	PKP		PKPdf		23 48 02.1	-0.7
	comp=Z,2.0nm,1.0s,baz=99,slow=6.4,SNR=2.4								
ARCES	ARCESS Array B	128.94	350	PKPdf		PKPdf		23 48 05.1	-1.4
ARCES	ARCESS Array B	128.94	350	PKP		PKPdf		23 48 06.1	-0.4
	comp=Z,9.0nm,1.3s,baz=34,slow=1.1,SNR=5.2								
MATP	Matopo	131.72	214	PKP		PKPdf		23 48 14.1	+0.7
	comp=Z,1.1nm,0.6s,baz=132,slow=3.1,SNR=6.9								
MATP				SKPab		SKPbc		23 50 49.2	-0.2
	comp=Z,5.6nm,0.8s,baz=157,slow=3.9,SNR=12								
KGCAE	Kacgae	132.57	206	PKPdf		PKPdf		23 48 15.2	+0.3
KOOLE	Kule	133.23	203	PKPdf		PKPdf		23 48 15.8	-0.4
FINES	FINESS Array B	135.78	344	SKPbc		SKPbc		23 50 57.6	-3.5
	comp=Z,4.2nm,1.0s,baz=190,slow=9.5,SNR=3.5								

QNGWA	Qangwa	135.97	207	PKPdf		PKPdf		23 48 21.3	-0.1
LSZ	Lusaka	136.07	218	PKP		PKPdf		23 48 21.8	+0.2
	comp=Z,1.1nm,0.3s,baz=152,slow=2.1,SNR=4.6								
AKASG	Malin Array Be	143.02	331	PKhKP		PKPpre		23 48 28.9	
	comp=Z,7.9nm,0.6s,baz=44,slow=4.3,SNR=52								
LODK	Lodwar	143.30	247			PKPab		23 48 32.9	+0.1
EKA	Eskdalemuir Ar	145.03	5	PKPbc		PKPdf		23 48 35.4	-0.9
	comp=Z,0.9nm,0.7s,baz=269,slow=6.7,SNR=1.8								
GAZ	Gaziantep	145.19	306			PKPdf		23 48 37.1	-0.2
BNN	Bunyan	145.62	310			PKPdf		23 48 38.2	+0.2
ILGA	Ilgaz	146.18	314			PKPdf		23 48 39.9	+0.8
BR131	Keskin Array S	146.83	312			PKPdf		23 48 40.9	+0.9
BRTR	Keskin Array B	146.83	312			PKPdf		23 48 41.1	+1.1
BRTR	Keskin Array B	146.83	312	PKPbc		PKPbc		23 48 41.9	-1.0
	comp=Z,4.0nm,0.7s,baz=116,slow=3.4,SNR=24								
BURAR	Bucovina Array	147.06	331			PKPbc		23 48 42.0	-1.2
ANTO	Ankara	147.34	313			PKPbc		23 48 42.7	-1.4
MMAI	Mount Meron Ar	147.79	300	PKPbc		PKPbc		23 48 45.0	-0.5
	comp=Z,11nm,0.7s,baz=64,slow=3.8,SNR=28								
OSTC	Ostas	147.98	343	⇑ *e*PKP		PKPbc		23 48 45.3	0.0
GHAJ	Ghor Haditha	148.04	296	PKPbc		PKPbc		23 48 45.3	-0.7
STEB	Steborice	148.08	341	⇑ *e*PKP		PKPbc		23 48 44.8	-0.8
CLL	Collm	148.08	347			PKPbc		23 48 44.1	-1.3
DPC	Dobruska-Polom	148.14	342	⇑ *e*PKP		PKPbc		23 48 45.4	-0.4
MLR	Muntele Rosu	148.22	327	PKPbc		PKPbc		23 48 45.0	-1.2
KRLC	Kraliky	148.25	342	⇑ *e*PKP		PKPbc		23 48 45.5	-0.6
CSS	Mathiatis	148.88	304			PKPbc		23 48 46.4	-1.6
PRU	Pruhonice	148.95	344	⇑ *e*PKP		PKPbc		23 48 47.1	-0.6
KHC	Kasperske Hory	149.98	345	⇑ *e*PKP		PKPbc		23 48 49.6	-0.7
GEC2	GERESS Array S	150.21	344			PKPbc		23 48 49.4	-1.5
GERES	GERESS Array B	150.21	344	PKPbc		PKPbc		23 48 49.8	-1.1
	comp=Z,2.1nm,0.8s,baz=352,slow=2.7,SNR=15								
CONA	Conrad Observa	150.44	341	*e*PKP		PKPbc		23 48 50.8	-0.6
	comp=Z,4.1nm,0.7s								
RONA	Rosalia, Austr	150.51	340	*i* PKP		PKPbc		23 48 50.7	-0.8
	comp=Z,4.5nm,0.6s								
MANT	Manosa	150.89	314	PKPbc		PKPbc		23 48 51.4	-1.6
MOA	Molln	150.98	343	*e*PKiKP		PKiKP		23 48 54.4	+1.4
	comp=Z,2.4nm,0.9s								
BIOA	Bad Ischl, Aus	151.29	343	*e*PKP		PKPbc		23 48 52.0	-1.3
	comp=Z,2.5nm,0.8s								
RDO	Rodhopi	151.31	321			PKPbc		23 48 51.8	-1.7
LESA	Schwarzleotal	151.79	345	*e*PKP		PKPbc		23 48 53.3	-1.2
	comp=Z,1.4nm,0.5s								
SOKA	Soboth	151.81	341	*e*PKP		PKPbc		23 48 53.0	-1.6
	comp=Z,1.3nm,0.7s								
OBKA	Obir	152.11	341	*e*PKP		PKPbc		23 48 54.0	-1.3
	comp=Z,3.1nm,1.0s								
WTTA	Wattenberg	152.19	346	*e*PKP		PKPbc		23 48 54.6	-0.9
	comp=Z,3.3nm,0.7s								
MYKA	Terra Mystica	152.27	343	*e*PKP		PKPbc		23 48 53.9	-1.6
	comp=Z,2.2nm,0.5s								
ABTA	Abfaltersbach	152.46	344	*e*PKP		PKPbc		23 48 54.5	-1.5
	comp=Z,4.0nm,0.6s								
TORD	Torodi Ar. Bea	172.66	178	PKP		PKPdf		23 49 06.8	-1.9
	comp=Z,1.0nm,0.8s,baz=137,slow=0.1,SNR=5.5								
TORD				PKPab		PKPab		23 50 37.4	-0.5
	comp=Z,1.1nm,0.8s,baz=196,slow=3.0,SNR=6.5								

*ATH **11** 23:46:13.8,36°.51N×28°.66E,h48km±4km, MLZ.3/2, Manual Solution by A.Papageorgiou First location: 2019/09/11 23:47:48, This location: 2019/09/12 01:17:51 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km*

*AFAD **11** 23:46:14.5,36°.49N×28°.74E,h7km±3km, ML2.4*

*ISK **11** 23:46:15.1,36°.44N×28°.68E,h8km, ML2.5/16*

ISC 11 23:46:14.3±1.1,36°.47N±0°.02×28°.70E±0°.02,h6km±10km, n45,σ0°90/68,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RDI1	Rhodes Town Ha	0.39	267	P		Pb	23 46 23.4	-0.2
RDI1				S		Sb	23 46 30.3	+0.5
RODB	Rodos	0.39	266	P		Pb	23 46 24.4	+0.8
RODB				S		Sb	23 46 31.1	+1.2
SABU	Mula-Dalaman	0.41	31	P		Pg	23 46 22.2	-0.1
SABU				S		Sg	23 46 28.2	+0.6
IZZE	Mula-Seydike	0.42	95	P		Pg	23 46 21.8	-0.7
IZZE				S		Sg	23 46 28.4	+0.4
IZZE				*i* IAML			23 46 31.0	
	comp=N,670nm,0.3s							
IZZE				*i* IAML			23 46 32.0	
	comp=E,417nm,0.3s							
TURN	Turunc	0.48	309	Pg		Pb	23 46 24.6	-0.5
TURN				Sg		Sb	23 46 32.4	+0.1
TURN	Turunc	0.48	309	P		Pb	23 46 24.3	-0.7
TURN				S		Sb	23 46 31.4	-0.9
TURN				*i* IAML			23 46 33.0	
	comp=N,363nm,0.3s							
ARG	Arkhangelos	0.53	241	Pg		Pb	23 46 25.4	-0.6
ARG	Arkhangelos	0.53	241	P		Pb	23 46 25.3	-0.7
ARG				S		Sb	23 46 33.2	-0.8
AKAS	Kas	0.77	108	Pg		Pg	23 46 29.3	+0.3
AKAS	Kas	0.77	108	P		Pg	23 46 29.0	0.0
AKAS				*i* IAML			23 46 48.0	
	comp=E,127nm,0.8s							
AKAS				*i* IAML			23 46 51.0	
	comp=N,244nm,0.5s							
RGE1	Gennadi, Rhode	0.77	235	P		Pg	23 46 28.6	-0.4
RGE1				S		Sg	23 46 39.0	0.0
KSL	Kastellorizon	0.78	114	P		Pg	23 46 29.2	0.0
KSL				S		Sg	23 46 40.7	+1.3
KNIK	Mula-Seydike	0.79	62	P		Pg	23 46 29.3	-0.2
KNIK				S		Sg	23 46 39.9	+0.1
CAEL	Denizli, Camel	0.81	37	P		Pg	23 46 28.8	-1.2
CAEL				S		Sg	23 46 40.2	-0.3
CAEL				*i* IAML			23 46 57.0	
	comp=N,130nm,0.9s							
CAEL				*i* IAML			23 46 57.0	
	comp=E,135nm,0.6s							
MULA	Mugla, Merkez-	0.84	339	P		Pb	23 46 31.0	-0.3
MULA				S		Sg	23 46 40.8	-0.5
MULA				*i* IAML			23 46 46.0	
	comp=E,101nm,0.7s							
DNZT	Denizli-Tavas-	0.84	18	P		Pg	23 46 30.1	-0.4
DAT	Datca	0.94	286	Pg		Pn	23 46 33.8	-0.3
DAT	Datca	0.94	286	P		Pn	23 46 33.5	-0.6
DAT				S		Sn	23 46 47.1	-0.9
DAT				*i* IAML			23 46 53.0	
	comp=E,82nm,0.2s							
DAT				*i* IAML			23 46 56.0	
	comp=N,75nm,0.3s							
TAVA	DENIZLI_Tavas	1.00	10	P		Pg	23 46 33.6	0.0
TAVA				S		Sn	23 46 48.9	-0.6
GOLH	Golhisar	1.03	42	P		Pg	23 46 33.3	-0.7
GOLH				S		Sg	23 46 46.5	-0.8
GOLH				*i* IAML			23 46 50.0	
	comp=E,88nm,0.6s							
GOLH				*i* IAML			23 46 56.0	
	comp=N,83nm,0.4s							
YAZI	Mula-Dat§a-	1.03	282	P		Pn	23 46 35.0	-0.2
YAZI				S		Sb	23 46 48.4	+0.2
BDRM	Kayabasi	1.17	301	P		Pn	23 46 37.5	+0.3
BDRM				*i* IAML			23 46 59.0	
	comp=E,84nm,0.6s							
DNIZ	Denizli-Tavas-	1.18	13	P		Pg	23 46 36.9	-0.1
DNIZ				*i* IAML			23 46 58.0	
	comp=N,115nm,0.4s							
AKUM	Antalya-Kumluc	1.33	96	P		Pb	23 46 40.1	+0.5
AKUM				S		Sb	23 46 57.1	+0.1
ESEN	Aydn-Nazilli	1.35	348	P		Pg	23 46 40.3	+0.1
ESEN				S		Sb	23 46 57.1	-0.4
AYDN	Tasoluk	1.36	331	P		Pg	23 46 41.0	+0.7
AYDN				S		Sn	23 46 58.2	0.0
AYDN				*i* IAML			23 47 02.0	
	comp=E,90nm,0.4s							
AYDN				*i* IAML			23 47 05.0	
	comp=N,59nm,0.3s							
INCE	Denizli-Bozkur	1.42	29	P		Pb	23 46 41.2	0.0
INCE				S		Sb	23 46 58.8	-0.8
INCE				*i* IAML			23 47 06.0	
	comp=N,56nm,0.6s							
INCE				*i* IAML			23 47 06.0	
	comp=E,59nm,0.8s							
KORT	Korkueli	1.42	68	Pn		Pg	23 46 42.5	+0.9
KORT	Korkueli	1.42	68	P		Pg	23 46 42.8	+1.2
KORT				S		Sg	23 47 02.5	+2.4
KORT				*i* IAML			23 47 11.0	
	comp=E,56nm,0.6s							
NAZL	Nazilli-Aydin	1.52	348	Pn		Pg	23 46 43.8	+0.3
DDIM	Aydin, Didim	1.53	310	P		Pg	23 46 44.6	+1.0
DDIM				*i* IAML			23 47 20.0	
	comp=E,62nm,0.8s							
KARP	Karpathos	1.56	234	Pn		Pb	23 46 43.1	-0.4
AYDB	Zeytinkoy-Aydi	1.61	336	Pn		Pg	23 46 44.9	-0.2
GCAM	G?zelcami?	1.70	317	Pn		Pb	23 46 45.9	0.0
GCAM	G?zelcami?	1.70	317	P		Pb	23 46 45.5	-0.3
GCAM				S		Sg	23 47 07.9	-1.0
GCAM				*i* IAML			23 47 12.0	
	comp=N,72nm,0.2s							
GCAM				*i* IAML			23 47 13.0	
	comp=E,61nm,0.4s							
BUCA	Burdur, Bucak-	1.71	60	P		Pg	23 46 47.2	+0.1
BUCA				S		Sn	23 47 07.4	+0.4
ODEM	Odemis-Izmir	1.87	345	Pn		Pb	23 46 48.6	-0.2
PASA	Karahalli, USA	1.97	18	P		Pn	23 46 49.0	+0.7
KULA	Kula-Manisa	2.04	359	Pn		Pb	23 46 51.3	-0.4
URLA	Izmir	2.52	319	Pn		Pb	23 46 57.7	-2.3
SEYD	Seydisehir-KON	2.68	69	Pn		Pb	23 47 01.2	-1.5
CHOS	Chios island	2.84	313	Pn		Pn	23 47 02.3	+2.0
AKMS	Akamas	3.29	115	P		Pn	23 47 04.5	-1.9
IDI	Anoyia	3.31	250	Pn		Pn	23 47 08.2	+1.4
YAYO	Edremit-Balk	3.39	338	Pn		Pn	23 47 10.5	+2.8

*GCG **11** 23:53:34.1±1.7, 13°.54N×88°.98W, h141km±18km, MD4.0, ML4.5*

*SNET **11** 23:53:35.9±1.4, 13°.06N×88°.76W, h74km, ML3.3*

*CATAC **11** 23:53:35.6±0.9, 13°.N±6°×8°.9W±°, h31km±9km, M3.4/8, MLv3.4/8, Error ellipse: s-maj=13.2km s-min=4.7km az=23.3, confirmed*

ISC 11 23:53:36.1±1.5,12°.9N±0°.1×88°.83W±0°.05,h45km±50km, n29,σ0°60/37,1D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UESV	Universidad de	0.75	3	P		Pn	23 53 50.3	-0.2
UESV	Universidad de	0.75	3	S		Sn	23 54 00.5	-0.3
PACA	Pacayal	0.77	40	*e*P		Pn	23 53 50.7	0.0
PACA				*e*S		Sn	23 54 01.5	+0.3
PACA	Pacayal	0.77	40	P		Pn	23 53 50.8	+0.1
LFRS	El Faro	0.77	343	*e*P		Pn	23 53 50.5	-0.3
LFRS				*e*S		Sn	23 54 01.2	-0.1
BLLM	Bellamira	0.80	46	*e*P		Pn	23 53 50.9	-0.2
LOMA	Loma Larga	0.83	336	*e*P		Pn	23 53 51.1	-0.4
PAVA	Las Pavas	0.83	353	*e*P		Pn	23 53 51.4	-0.2
PAVA	Las Pavas	0.83	353	P		Pn	23 53 51.4	-0.2
PAVA	Las Pavas	0.83	353	S		Sn	23 54 03.0	+0.1
PMON	Piamonte	0.95	330	P		Pn	23 53 55.5	+2.3
BOQS	Boqueron	0.95	333	*e*P		Pn	23 53 53.4	0.0
JAYA	Jayaque - finc	0.98	322	*e*P		Pn	23 53 53.6	0.0
JAYA				*e*S		Sn	23 54 06.0	-0.4
JAYA	Jayaque - finc	0.98	322	*i* P		Pn	23 53 53.5	0.0
JAYA	Jayaque - finc	0.98	322	P		Pn	23 53 53.4	-0.2
JAYA	Jayaque - finc	0.98	322	S		Sn	23 54 05.9	-0.5
LCND	La Caada	1.01	65	*e*P		Pn	23 53 54.3	+0.3
LCND	La Caada	1.01	65	P		Pn	23 53 54.2	+0.3
CNCH	Conchagua	1.05	68	*e*P		Pn	23 53 54.3	-0.3
CSGN	Cosiguina Volc	1.24	86	⇓P		Pn	23 53 57.0	-0.1
CSGN				S		Sn	23 54 13.9	+1.1
POTN	Potosi Cosigui	1.30	85	P		Pn	23 53 58.1	+0.3
POTN				S		Sn	23 54 15.1	+1.1
NUBE	Las Nubes	1.37	318	*e*P		Pn	23 53 59.1	+0.1
NUBE	Las Nubes	1.37	318	*i* P		Pn	23 53 59.0	0.0
NUBE				*i* S		Sn	23 54 15.8	+0.3
NUBE	Las Nubes	1.37	318	P		Pn	23 53 58.8	-0.2
MARCA	Marcala la Paz	1.49	31	*i* P		Pn	23 53 59.8	-0.7
MARCA				*i* S		Sn	23 54 19.0	+0.2
PKGN	Cerro Pekin	1.82	96	P		Pn	23 54 03.8	-1.2
PKGN				S		Sn	23 54 26.9	0.0
FG16	Alotenango, Sa	2.14	310	*i* P		Pn	23 54 09.9	+0.3
FG16				IAML			23 54 21.5	
	comp=N,2µm,0.4s							
FG8	Yepocapa, Chim	2.17	309	*i* P

NEIC ***12*** *00:42:46.3±1.1,56°.24N±0°.07×149°.25W±0°.09,h22km±5km, mb4.1/10,ML3.9/66,ML3.8(AEIC),Error ellipse: s-maj=10.2km s-min=7.7km az=177.0*

IDC ***12*** *00:42:48.1±6.2,56°.08N×149°.14W,h29km±44km,mb3.4/9, mbtmp3.6/13,ML3.1/4,MS3.4/30,Error ellipse: s-maj=26.0km s-min=15.9km az=26.0*

AEIC ***12*** *00:42:49.7±1.4,56°.21N±0°.05×149°.20W±0°.10,h11km±6km, Error ellipse: s-maj=8.3km s-min=6.8km az=113.0*

ISC 12 00:42:48.5±0.6,56°.25N±0°.06×149°.22W±0°.05,h35km, n184,σ1§37/167,mb3.9/14,MS3.3/26,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.40**	**311**			**Pn**	**00 43 24.2**	**-1.0**
KDAK						**Sn**	**00 43 51.5**	**-1.8**
KDAK	**Kodiak Island**	**2.40**	**311**	Pn		**Pn**	**00 43 24.2**	**-1.0**
	3.7nm,0.3s,baz=142,slow=8.7,SNR=344							
KDAK				Sn		**Sn**	**00 43 52.5**	**-0.9**
	17nm,0.3s,baz=113,slow=22,SNR=28							
KDAK				LR		LR	00 44 36.9	
	comp=Z,684nm,19.6s,baz=137,slow=43 21nm,0.5s							
OHAK	**Old Harbor**	**2.44**	**295**			**Pn**	**00 43 24.5**	**-1.4**
OHAK						**Sn**	**00 43 52.1**	**-2.3**
OHAK	**Old Harbor**	**2.44**	**295**	P		**Pn**	**00 43 24.4**	**-1.4**
OHAK	**Old Harbor**	**2.44**	**295**	S		**Sn**	**00 43 52.2**	**-2.3**
SII	**Sitkinak Islan**	**2.77**	**279**			**Pn**	**00 44 29.7**	**-0.8**
SII						**Sn**	**00 44 01.1**	**-1.7**
SII				IAML			00 44 16.8	
	comp=E,373nm,0.6s							
SII	**Sitkinak Islan**	**2.77**	**279**	P		**Pn**	**00 43 30.0**	**-0.5**
SII	**Sitkinak Islan**	**2.77**	**279**	S		**Sn**	**00 44 00.9**	**-1.8**
SYI	**Shuyak Island**	**2.92**	**325**			**Pn**	**00 43 31.6**	**-0.8**
SYI						**Sn**	**00 44 05.3**	**-1.0**
SYI				IAML			00 44 07.2	
	comp=E,266nm,0.7s							
R18K	**Karluk**	**3.16**	**297**			**Pn**	**00 43 34.7**	**-0.9**
R18K						**Sn**	**00 44 10.0**	**-2.0**
R18K				IAML			00 44 18.2	
	comp=E,484nm,0.5s							
R18K				IAML			00 44 19.5	
	comp=N,384nm,0.6s							
CNPM	**China Poot**	**3.46**	**343**			**Pn**	**00 43 38.7**	**-1.1**
CNPM						**Sn**	**00 44 17.7**	**-1.8**
Q23K	**Middleton Isla**	**3.54**	**25**	Pn		**Pn**	**00 43 39.0**	**-1.9**
Q23K				IAML			00 44 19.5	
	comp=N,205nm,0.8s							
Q23K				IAML			00 44 19.5	
	comp=E,198nm,0.8s							
Q19K	**Cape Douglas,**	**3.59**	**320**			**Pn**	**00 43 40.5**	**-1.1**
BRSE	**Bradley Lake S**	**3.60**	**348**			**Pn**	**00 43 40.5**	**-1.2**
CHIR	**Chirikof Islan**	**3.62**	**266**	Pn		**Pn**	**00 43 40.4**	**-1.6**
CHIR	**Chirikof Islan**	**3.62**	**266**	P		**Pn**	**00 43 40.6**	**-1.4**
CHIR	**Chirikof Islan**	**3.62**	**266**	S		**Sn**	**00 44 20.6**	**-2.8**
BRLK	**Bradley Lake**	**3.63**	**347**			**Pn**	**00 43 40.6**	**-1.7**
BRLK				IAML			00 44 26.8	
	comp=E,186nm,0.6s							
KAHG	**Katmai Hook Gl**	**3.66**	**310**			**Pn**	**00 43 43.1**	**+0.5**
KAKN	**Katmai Knife C**	**3.78**	**305**			**Pn**	**00 43 44.7**	**+0.4**
SEW	**Seward**	**3.87**	**358**			**Pn**	**00 43 43.5**	**-1.9**
KAHC	**Katmai Hardscr**	**3.94**	**310**			**Pn**	**00 43 46.6**	**0.0**
P19K	**Oil Pt**	**4.03**	**330**	Pn		**Pn**	**00 43 46.0**	**-1.7**
P19K				IAML			00 44 41.3	
	comp=E,220nm,0.9s							
ILS	**Iliamna Low So**	**4.24**	**333**			**Pn**	**00 43 49.8**	**-0.9**
O22K	**Cooper Landing**	**4.25**	**357**	Pn		**Pn**	**00 43 47.9**	**-2.8**
SLKM	**Skilak Lake**	**4.30**	**353**			**Pn**	**00 43 49.6**	**-1.9**
SLKM				IAML			00 44 41.7	
	comp=N,120nm,0.7s							
SLKM				IAML			00 44 45.3	
	comp=E,139nm,0.8s							
HIN	**Hinchinbrook I**	**4.40**	**18**			**Pn**	**00 43 51.5**	**-1.3**
HIN				IAML			00 44 41.1	
	comp=E,161nm,0.6s							
KAIM	**Kayak Island**	**4.48**	**33**			**Pn**	**00 43 53.0**	**-0.9**
P18K	**Big Mountain,**	**4.50**	**317**	Pn		**Pn**	**00 43 52.8**	**-1.3**
RED	**Redoubt Volcan**	**4.58**	**337**			**Pn**	**00 43 53.4**	**-1.9**
RED				IAML			00 44 50.8	
	comp=E,158nm,0.7s							
RED				IAML			00 44 56.7	
	comp=N,110nm,0.9s							
PWL	**Port Wells**	**4.65**	**5**			**Pn**	**00 43 54.8**	**-1.4**
PWL				IAML			00 44 48.1	
	comp=N,91nm,0.7s							
PWL				IAML			00 44 52.1	
	comp=E,90nm,0.7s							
RDT	**Redoubt**	**4.65**	**340**			**Pn**	**00 43 54.8**	**-1.5**
EYAK	**Cordova Ski Ar**	**4.68**	**22**			**Pn**	**00 43 55.4**	**-1.2**
EYAK				IAML			00 44 48.0	
	comp=N,129nm,0.8s							
EYAK				IAML			00 44 48.4	
	comp=E,144nm,1.2s							
EYAK	**Cordova Ski Ar**	**4.68**	**22**	P		**Pn**	**00 43 55.7**	**-0.9**
EYAK	**Cordova Ski Ar**	**4.68**	**22**	S		**Sn**	**00 44 47.2**	**-2.4**
FID	**Port Fidalgo**	**4.74**	**17**			**Pn**	**00 43 55.9**	**-1.5**
FID				IAML			00 44 48.9	
	comp=E,84nm,0.8s							
FID				IAML			00 44 50.0	
	comp=N,70nm,0.4s							
GLI	**Glacier Island**	**4.78**	**13**			**Pn**	**00 43 56.6**	**-1.4**
GLI				IAML			00 44 52.2	
	comp=N,82nm,1.0s							
GLI				IAML			00 45 00.7	
	comp=E,85nm,0.6s							
SUCK	**Suckling Hills**	**4.80**	**35**			**Pn**	**00 43 57.3**	**-0.9**
HMT	**Hamilton**	**4.86**	**30**			**Pn**	**00 43 58.3**	**-0.8**
RC01	**Rabbit Creek A**	**4.86**	**357**			**Pn**	**00 43 57.7**	**-1.4**
RC01				IAML			00 44 58.4	
	comp=E,81nm,1.0s							
RC01				IAML			00 44 59.0	
	comp=N,66nm,1.2s							
BERG	**Berg Lake**	**5.07**	**33**			**Pn**	**00 44 00.9**	**-1.0**
CHGN	**Chignik**	**5.12**	**274**			**Pn**	**00 44 02.2**	**-0.4**
CHGN				IAML			00 45 12.4	
	comp=E,102nm,0.3s							
CHGN				IAML			00 45 24.6	
	comp=N,89nm,0.1s							
SPU	**Mount Spurr**	**5.16**	**345**			**Pn**	**00 44 01.5**	**-1.7**
SNH	**Sunshine Point**	**5.19**	**38**			**Pn**	**00 44 02.7**	**-0.9**
SNH				IAML			00 45 18.6	
	comp=N,86nm,0.9s							
KNK	**Knik Glacier**	**5.20**	**4**			**Pn**	**00 44 03.0**	**-0.7**
KNK				IAML			00 45 13.9	
	comp=N,49nm,0.9s							
KNK				IAML			00 45 18.1	
	comp=E,61nm,0.8s							
DIV	**Divide**	**5.22**	**19**			**Pn**	**00 44 03.1**	**-0.9**
DIV				IAML			00 45 08.3	
	comp=N,49nm,0.9s							
SUA	**Susitna One**	**5.29**	**352**			**Pn**	**00 44 03.7**	**-1.4**
SUA				IAML			00 45 29.6	
	comp=N,56nm,1.0s							
SUA				IAML			00 45 37.3	
	comp=E,50nm,1.2s							
BMRM	**Bremner River**	**5.31**	**25**			**Pn**	**00 44 04.7**	**-0.7**
BMRM				IAML			00 45 11.2	
	comp=N,95nm,1.0s							
N19K	**Bonanza Creek**	**5.34**	**331**			**Pn**	**00 44 04.6**	**-1.2**
N19K				IAML			00 45 13.4	
	comp=E,46nm,0.9s							
N19K				IAML			00 45 20.9	
	comp=N,45nm,0.8s							
WAX	**Waxell Ridge**	**5.38**	**36**			**Pn**	**00 44 05.3**	**-1.1**
STLK	**Strandline Lak**	**5.44**	**347**			**Pn**	**00 44 06.1**	**-0.9**
MESA	**MESA**	**5.50**	**41**			**Pn**	**00 44 07.7**	**-0.4**
CRQM	**Cirque**	**5.53**	**33**			**Pn**	**00 44 07.6**	**-0.8**
KLU	**Klutina**	**5.53**	**17**			**Pn**	**00 44 07.7**	**-0.7**
GHO	**Glory Hole Cre**	**5.54**	**1**			**Pn**	**00 44 08.2**	**-0.3**
SCM	**Sheep Creek Mo**	**5.69**	**9**	Pn		**Pn**	**00 44 10.2**	**-0.2**
YAH	**Yahtse**	**5.71**	**41**			**Pn**	**00 44 10.2**	**-0.6**
CHX	**Chaix Hills**	**5.75**	**45**			**Pn**	**00 44 11.5**	**+0.2**
O16K	**Kokwok River B**	**5.79**	**309**			**Pn**	**00 44 11.3**	**-0.5**
VRDI	**Verde Repeater**	**5.83**	**29**			**Pn**	**00 44 11.5**	**-1.0**
SKT	**Skwentna**	**5.87**	**349**			**Pn**	**00 44 11.8**	**-1.1**
N25K	**Chitina, Valde**	**5.88**	**22**			**Pn**	**00 44 12.6**	**-0.5**
TABL	**Table Mountain**	**5.98**	**42**			**Pn**	**00 44 13.9**	**-0.7**
M20K	**Styx River**	**6.00**	**342**			**Pn**	**00 44 13.3**	**-1.5**
CHNA	**Chernabura Isl**	**6.05**	**261**	P		**Pn**	**00 44 14.8**	**-0.6**
CHNA	**Chernabura Isl**	**6.05**	**261**	S		**Sn**	**00 45 20.6**	**-2.8**
CNBA	**Chernabura Isl**	**6.06**	**261**	Pn		**Pn**	**00 44 14.6**	**-0.9**
MCARA	**McCarthy VSAT**	**6.07**	**29**			**Pn**	**00 44 15.2**	**-0.5**
M24K	**Tolsona, Glenn**	**6.08**	**14**			**Pn**	**00 44 15.4**	**-0.4**
PCA	**Pinnacle**	**6.11**	**47**			**Pn**	**00 44 15.4**	**-0.9**
PNL	**Peninsula**	**6.25**	**53**	P		**Pn**	**00 44 17.5**	**-0.7**
WACK	**Wrangell Chich**	**6.28**	**22**			**Pn**	**00 44 18.3**	**-0.5**
LOGN	**Logan Glacier**	**6.29**	**40**			**Pn**	**00 44 17.8**	**-1.0**
BCPM	**Bancas Point**	**6.29**	**50**			**Pn**	**00 44 18.3**	**-0.4**
O15K	**Ungalikthiuk R**	**6.39**	**302**			**Pn**	**00 44 20.1**	**0.0**
SDPT	**Sand Point**	**6.41**	**267**	Pn		**Pn**	**00 44 19.4**	**-0.9**
SDPT	**Sand Point**	**6.41**	**267**	P		**Pn**	**00 44 20.1**	**-0.2**
SDPT	**Sand Point**	**6.41**	**267**	S		**Sn**	**00 45 28.7**	**-3.5**
HARP	**HAARP**	**6.51**	**17**			**Pn**	**00 44 22.4**	**+0.6**
O28M	**Mount Upton**	**6.55**	**42**			**Pn**	**00 44 22.6**	**+0.1**
DHY	**Denali Highway**	**6.91**	**7**			**Pn**	**00 44 26.8**	**-0.5**
O29M	**Mount Kennedy**	**6.93**	**50**			**Pn**	**00 44 26.9**	**-0.6**
M26K	**Nabesna, AK**	**6.94**	**25**			**Pn**	**00 44 27.5**	**-0.2**
P29M	**Windy Craggy**	**6.99**	**56**			**Pn**	**00 44 27.4**	**-0.9**
PAX	**Paxson**	**7.00**	**14**			**Pn**	**00 44 28.4**	**-0.1**
YUK2	**White River**	**7.04**	**34**			**Pn**	**00 44 29.6**	**+0.6**
YUK8	**Steele Glacier**	**7.04**	**40**			**Pn**	**00 44 29.6**	**+0.3**
YUK3	**Moose Creek**	**7.15**	**36**			**Pn**	**00 44 31.4**	**+0.7**
RND	**Reindeer**	**7.18**	**1**			**Pn**	**00 44 30.8**	**-0.2**
M27K	**Edge Creek, AK**	**7.18**	**28**			**Pn**	**00 44 30.6**	**-0.5**
HAG	**Hague Volcano**	**7.21**	**268**			**Pn**	**00 44 31.3**	**-0.1**
S12K	**Black Hills**	**7.23**	**271**	Pn		**Pn**	**00 44 31.4**	**-0.2**
TRF	**Thorofare Moun**	**7.25**	**356**			**Pn**	**00 44 31.4**	**-0.5**
S31K	**Pelican**	**7.28**	**71**			**Pn**	**00 44 28.9**	**-3.3**
YUK6	**Outpost Mounta**	**7.37**	**46**			**Pn**	**00 44 33.8**	**+0.1**
K20K	**Telida**	**7.54**	**343**			**Pn**	**00 44 34.5**	**-1.2**
HYT	**Haines Junctio**	**7.65**	**48**	Pn		**Pn**	**00 44 36.9**	**-0.6**
SIT	**Sitka**	**7.71**	**78**	Pn		**Pn**	**00 44 34.3**	**-3.8**
SIT	**Sitka**	**7.71**	**78**	P		**Pn**	**00 44 35.3**	**-2.7**
K24K	**Donnelly Dome**	**7.77**	**11**			**Pn**	**00 44 39.1**	**0.0**
L27K	**Beaver Creek,**	**7.79**	**26**			**Pn**	**00 44 38.2**	**-1.1**
BCAR	**Beaver Creek A**	**7.80**	**26**	Pn		**Pn**	**00 44 38.6**	**-0.8**
RIDG	**Independent Ri**	**7.83**	**14**			**Pn**	**00 44 38.4**	**-1.4**
BPAW	**Bear Paw Mtn.**	**7.93**	**354**			**Pn**	**00 44 38.5**	**-2.6**
BESE	**Bessie Mountai**	**8.10**	**67**			**Pn**	**00 44 42.1**	**-1.5**
FALS	**False Pass**	**8.17**	**266**	Pn		**Pn**	**00 44 43.1**	**-1.3**
FALS	**False Pass**	**8.17**	**266**	P		**Pn**	**00 44 43.6**	**-0.8**
HDA	**Harding Lake**	**8.27**	**7**			**Pn**	**00 44 45.9**	**+0.2**
WRH	**Wood River Hil**	**8.27**	**3**			**Pn**	**00 44 45.0**	**-0.7**
JIS	**Juneau Island**	**8.30**	**70**	P		**Pn**	**00 44 44.8**	**-1.4**
NEA2	**Nenana**	**8.37**	**0**			**Pn**	**00 44 46.0**	**-1.2**
CCB	**Clear Creek Bu**	**8.46**	**4**			**Pn**	**00 44 47.1**	**-1.2**
J25K	**Salcha River,**	**8.60**	**11**			**Pn**	**00 44 49.9**	**-0.5**
IL31		**8.63**	**7**			**Pn**	**00 44 49.3**	**-1.4**
ILAR	**Eielson Array**	**8.63**	**7**	Pn		**Pn**	**00 44 50.5**	**-0.2**
ILAR	**Eielson Array**	**8.63**	**7**	Pn		**Pn**	**00 44 51.5**	**+0.8**
	comp=N,0.5nm,0.3s,baz=189,slow=13,SNR=18							
ILAR						**Sn**	**00 46 24.6**	**-2.1**
	comp=N,0.4nm,0.3s,baz=184,slow=22,SNR=10.0							
ILAR				LR		LR	00 48 19.8	
	comp=N,192nm,19.7s,baz=144,slow=38 comp=N,1.8nm,0.5s							
WHY	**Whitehorse**	**8.72**	**54**	Pn		**Pn**	**00 44 51.8**	**-0.3**
P32M	**Atlin**	**8.90**	**62**			**Pn**	**00 44 53.5**	**-1.0**
I23K	**Minto, Yukon-K**	**8.93**	**360**			**Pn**	**00 44 54.1**	**-0.7**
U33K	**Whale Pass**	**8.98**	**84**	Pn		**Pn**	**00 44 52.1**	**-3.4**
CRAG	**Craig**	**9.09**	**88**	Pn		**Pn**	**00 44 53.6**	**-3.4**
Q32M	**Nakina River**	**9.49**	**66**	Pn		**Pn**	**00 45 02.1**	**-0.7**
P33M	**Teslin, Yukon**	**9.51**	**59**			**Pn**	**00 45 01.9**	**-1.0**
IMAR	**Indian Mountai**	**10.01**	**349**	Pn		**Pn**	**00 45 07.9**	**-1.7**
UNV	**Unalaska Valle**	**10.20**	**264**	Pn		**Pn**	**00 45 10.6**	**-1.7**
R33M	**Jennings River**	**10.23**	**65**			**Pn**	**00 45 11.5**	**-1.3**
G23K	**Bananza Creek**	**10.51**	**358**			**Pn**	**00 45 14.9**	**-1.5**
G24K	**Hadweenzic Riv**	**10.52**	**4**			**Pn**	**00 45 15.7**	**-0.9**
DLBC	**Dease Lake**	**10.60**	**70**	Pn		**Pn**	**00 45 17.0**	**-0.7**
	comp=N,3.3nm,0.3s,baz=261,slow=9.8,SNR=7.1							
DLBC				Sn		**Sn**	**00 47 14.4**	**-0.7**
	comp=N,2.5nm,0.3s,baz=133,slow=21,SNR=2.0							
MMPY	**Sheldon Lake,**	**11.12**	**48**	Pn		**Pn**	**00 45 24.8**	**-0.1**
H31M	**Peel River**	**11.96**	**31**			**Pn**	**00 45 36.1**	**-0.2**
E21K	**Killik River**	**12.43**	**352**			**Pn**	**00 45 41.2**	**-1.5**
BBB	**Bella Bella**	**12.99**	**99**	LR	LR	LR	00 49 40.4	
	comp=N,275nm,19.3s,baz=280,slow=32							
F30M	**Barrier River**	**12.99**	**23**	Pn		**Pn**	**00 45 50.0**	**-0.3**
C23K	**Itkillik River**	**13.65**	**358**			**Pn**	**00 45 57.6**	**-1.7**
INK	**Inuvik**	**14.06**	**24**	Pn		**Pn**	**00 46 03.7**	**-1.1**
INK	**Inuvik**	**14.06**	**24**	Pn		**Pn**	**00 46 07.0**	**+2.1**
	comp=N,0.1nm,0.3s,baz=230,slow=10,SNR=3.5							
INK				LR		LR	00 51 50.6	
	comp=N,92nm,18.9s,baz=242,slow=38 comp=N,3.3nm,1.0s							
ATKA	**Atka Island**	**15.12**	**265**	Pn		**Pn**	**00 46 17.9**	**-1.3**
C36M	**Paulatuk**	**17.25**	**31**	Pn		**Pn**	**00 46 45.4**	**-0.9**
C36M				IAmb		IAmb	00 46 50.6	
	comp=Z,22nm,1.1s							
YKA	**Yellowknife Ar**	**18.53**	**56**	P		**P**	**00 47 02.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=264,slow=12,SNR=3.6							
YKA				LR		LR	00 53 56.7	
	comp=Z,80nm,19.5s,baz=331,slow=36 comp=Z,1.6nm,0.8s							
MXC	**Moxie City**	**20.33**	**106**	P		**P**	**00 47 21.0**	**-0.5**
E07A	**Sunnyside**	**20.58**	**106**	P		**P**	**00 47 23.0**	**-1.1**
E07A				IAmb		IAmb	00 47 38.5	
	comp=Z,9.1nm,1.1s							
NEW	**Newport**	**21.05**	**99**	LR		LR	00 54 24.5	
	comp=Z,120nm,21.2s,baz=312,slow=33							
SHEM	**Shemya Is, Ala**	**21.43**	**276**	LR		LR	00 56 00.4	
	comp=Z,41nm,19.6s,baz=290,slow=37							
BBOR	**Butler Butte**	**21.62**	**117**	P		**P**	**00 47 35.0**	**-0.6**
BBOR				IAmb		IAmb	00 47 39.5	
	comp=Z,9.3nm,1.1s							
PINE	**Pine Mountain**	**21.85**	**113**	P		**P**	**00 47 36.4**	**-1.6**
PINE				IAmb		IAmb	00 47 53.4	
	comp=Z,10nm,1.2s							
J05D	**Fort Rock, OR**	**22.06**	**114**	P		**P**	**00 47 40.0**	**-0.2**
J05D				IAmb		IAmb	00 47 48.0	
	comp=Z,6.4nm,1.0s							
F10A	**Beach Ranch, E**	**22.36**	**104**	P		**P**	**00 47 43.5**	**+0.1**
YBH	**Yreka Blue Hor**	**22.47**	**119**	LR		LR	00 54 17.4	
	comp=Z,11nm,19.1s,baz=300,slow=31							
WVOR	**Wild Horse Val**	**24.00**	**112**	P		**P**	**00 47 59.7**	**-0.1**
ELK	**Elko**	**26.98**	**111**	LR		LR	00 57 25.1	
	comp=Z,60nm,20.4s,baz=275,slow=33							
NVAR	**Mina Array Bea**	**27.17**	**118**	P		**P**	**00 48 29.7**	**+1.1**
NVAR	**Mina Array Bea**	**27.17**	**118**	P		**P**	**00 48 28.0**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=296,slow=7.2,SNR=4.1							
NVAR				LR		LR	00 57 15.5	
	comp=Z,140nm,19.3s,baz=274,slow=32 comp=Z,0.4nm,0.6s							
RES	**Resolute Bay**	**27.58**	**28**	LR		LR	01 00 03.0	
	comp=Z,69nm,18.5s,baz=80,slow=37							
PDAR	**Pinedale Array**	**28.63**	**101**	LR		LR	00 58 05.7	
	comp=Z,28nm,22.0s,baz=304,slow=32							
SEY	**Seynchan**	**29.35**	**307**	LR		LR	01 01 38.4	
	comp=Z,110nm,19.9s,baz=74,slow=38							
PETK	**Petropavlovsk-**	**30.22**	**287**	P		**P**	**00 48 58.1**	**+2.7**
	comp=Z,0.8nm,0.6s,baz=52,slow=9.3,SNR=1.8							
PETK				LR		LR	01 00 58.3	
	comp=Z,44nm,20.9s,baz=86,slow=36 comp=Z,0.8nm,0.6s							
MA2	**Magadan**	**31.11**	**301**	LR		LR	01 01 46.0	
	comp=Z,66nm,19.8s,baz=108,slow=36							
ULM	**Lac du Bonnet**	**31.78**	**78**	LR		LR	01 01 45.5	
	comp=Z,116nm,18.6s,baz=287,slow=36							
PFO	**Pinyon Flats O**	**31.91**	**121**	LR		LR	00 59 45.7	
	comp=Z,67nm,19.0s,baz=337,slow=32							
TIXI	**Tiksi**	**35.72**	**328**	LR		LR	01 06 53.1	
	comp=Z,25nm,20.5s,baz=40,slow=40							
ANMO	**Albuquerque**	**35.93**	**108**	LR		LR	01 02 45.6	
	comp=Z,51nm,18.9s,baz=18,slow=33							
TXAR	**Lajitas Array**	**41.78**	**111**	P		**P**	**00 50 34.4**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=327,slow=9.0,SNR=2.2							
TXAR				LR		LR	01 07 03.9	
	comp=Z,40nm,18.3s,baz=282,slow=35 comp=Z,0.1nm,0.4s							
ASAJ	**Asahikawa**	**43.53**	**284**	LR		LR	01 08 05.4	
	comp=Z,34nm,19.1s,baz=23,slow=35							
SADO	**Sadowa**	**44.13**	**74**	LR		LR	01 10 13.3	
	comp=Z,339nm,18.5s,baz=340,slow=37							
TKL	**Tuckaleechee C**	**47.90**	**87**	LR		LR	01 11 25.7	
	comp=Z,158nm,19.2s,baz=322,slow=36							
H11N2	**WAKE ISLAND Hy**	**48.90**	**240**	T		T	01 44 49.5	
	baz=30,slow=74							
H11N3	**WAKE ISLAND Hy**	**48.90**	**240**	T		T	01 44 49.0	
	baz=30							
H11N1	**WAKE ISLAND Hy**	**48.91**	**240**	T		T	01 44 53.3	
	baz=30,slow=74							
H11S1	**WAKE ISLAND Hy**	**50.04**	**239**	T		T	01 46 18.0	
	baz=29,slow=76							
H11S2	**WAKE ISLAND Hy**	**50.05**	**239**	T		T	01 46 17.8	
	baz=29,slow=76							
H11S3	**WAKE ISLAND Hy**	**50.05**	**239**	T		T	01 46 21.8	
	baz=29,slow=76							
SONM	**Songino Array**	**58.69**	**310**	P		**P**	**00 52 43.6**	**+1.4**
	comp=Z,1.2nm,0.9s,baz=51,slow=7.8,SNR=4.8							
SONM				LR		LR	01 19 34.8	
	comp=Z,46nm,18.9s,baz=74,slow=38 comp=Z,1.2nm,0.9s							
ZALV	**Zalesovo Beam**	**61.61**	**327**	P		**P**	**00 53 04.7**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=14,slow=6.4,SNR=3.5 comp=Z,0.3nm,0.3s							
HHC	**Hu-ho-hao-te**	**61.78**	**302**	*e*P		**P**	**00 53 03.8**	**+0.3**
HHC				pmax		pmax		
	comp=Z,13nm,0.6s							
HHC				pmax		pmax		
	comp=Z,58nm,5.4s							
FINES	**FINESS Array B**	**62.59**	**3**	P		**P**	**00 53 10.0**	**+1.6**
	comp=Z,2.3nm,1.0s,baz=0.7,slow=12,SNR=3.3 comp=Z,2.3nm,1.0s							
ARTI	**Arti**	**65.51**	**344**	LR		LR	01 23 19.1	
	comp=Z,21nm,20.5s,baz=6.5,slow=37							
KURBB	**Kurchatov Arra**	**66.39**	**329**	P		**P**	**00 53 34.0**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=28,slow=7.5,SNR=2.0 comp=Z,0.1nm,0.4s							
JTS	**Las Juntas de**	**67.31**	**106**	LR		LR	01 26 17.2	
	comp=Z,24nm,18.2s,baz=329,slow=39							
MKAR	**Makanchi Array**	**68.64**	**325**	P		**P**	**00 53 48.1**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=17,slow=6.8,SNR=1.5							
MKAR				LR		LR	01 26 33.1	
	comp=Z,23nm,20.0s,baz=336,slow=38 comp=Z,0.5nm,0.8s							
WMQ	**Urumqi**	**69.39**	**320**	*e*P		**P**	**00 53 56.0**	**+3.5**
WMQ				pmax		pmax		
	comp=Z,40nm,1.1s							
WMQ				LR		LR		
	comp=Z,220nm,24.0s							
SJG	**San Juan**	**71.31**	**85**	LR		LR	01 26 54.5	
	comp=Z,20nm,18.7s,baz=312,slow=37							
AKASG	**Malin Array Be**	**73.41**	**1**	P		**P**	**00 54 17.8**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=3.0,slow=7.0,SNR=2.5							
AKASG				LR		LR	01 28 01.5	
	comp=Z,35nm,18.7s,baz=334,slow=37 comp=Z,0.5nm,0.5s							
CMAR	**Chiang Mai Arr**	**86.33**	**298**	LR		LR	01 39 06.8	
	comp=Z,20nm,18.3s,baz=325,slow=39							

GCG ***12*** *01:33:29.9±1.9,15°.37N×92°.07W,h158km±10km,MD4.2, ML4.1,MW3.6*

MEX ***12*** *01:33:31.8±0.7,15°.29N×92°.08W,h165km±5km,MD4.6*

NEIC ***12*** *01:33:31.6±1.6,15°.29N±0°.04×92°.11W±0°.06,h156km±6km, mb4.1/12,Md4.6/90(MEX),Error ellipse: s-maj=8.6km s-min=6.1km az=65.0*

CATAC ***12*** *01:33:32.3±0.4,15°N±3°×9°.2W±°,h142km±3km,M4.0/19, MLv4.0/19,Error ellipse: s-maj=8.3km s-min=3.8km az=37.8,confirmed*

ISC 12 01:33:31.6±0.7,15°.36N±0°.04×92°.12W±0°.04,h157km±6km, n145,σ§26/206,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PAVE	**Pavencul**	**0.17**	**197**			**Pn**	**01 33 52.7**	**-0.3**
PAVE						**Sn**	**01 34 09.1**	**-0.1**
PAVE	**Pavencul**	**0.17**	**197**	*e*P		**Pn**	**01 33 52.7**	**-0.3**
PAVE				*e*S		**Sn**	**01 34 09.1**	**-0.1**
CHUJ	**Union Juarez**	**0.26**	**177**	*e*P		**Pn**	**01 33 52.3**	**-0.9**
CHUJ				*e*S		**Sn**	**01 34 09.7**	**+0.1**
PATR	**El Naranjo**	**0.26**	**204**			**Pn**	**01 33 52.0**	**-1.2**
PATR						**Sn**	**01 34 08.5**	**-1.1**
PATR	**El Naranjo**	**0.26**	**204**	*e*P		**Pn**	**01 33 52.0**	**-1.2**
PATR				*e

IZABA				eS		Sn	01 35 01.4	-4.5
SCIG	**Sabancuy**	**3.70**	**14**	eP		Pn	01 34 22.9	-5.2
SCIG				eS		Sn	**01 35 10.5**	**-1.6**
SCIG	**Sabancuy**	**3.70**	**14**	*i* P		**Pn**	**01 34 25.3**	**-2.8**
HUIG	**Huatulco**	**3.86**	**277**			**Pn**	**01 34 28.9**	**-1.4**
HUIG	**Huatulco**	**3.86**	**277**	eP		**Pn**	**01 34 28.9**	**-1.4**
HUIG	**Huatulco**	**3.86**	**277**	*i* P		**Pn**	**01 34 28.5**	**-1.7**
NEUV	**Arroyo Zacate**	**4.23**	**304**			**Pn**	**01 34 34.9**	**-0.1**
NEUV						Sn	01 35 21.4	-3.2
NEUV	**Arroyo Zacate**	**4.23**	**304**	eP		**Pn**	**01 34 34.9**	**-0.1**
NEUV				eS		Sn	01 35 21.4	-3.2
PMUV	**Sontecomapan**	**4.28**	**318**			**Pn**	**01 34 36.7**	**+1.1**
PMUV						Sn	01 35 20.9	-4.7
PMUV	**Sontecomapan**	**4.28**	**318**	eP		**Pn**	**01 34 36.7**	**+1.1**
PMUV				eS		Sn	01 35 20.9	-4.7
OXLC	**Oaxaca**	**4.71**	**292**			**Pn**	**01 34 41.4**	**-0.2**
OXLC						Sn	01 35 31.2	-5.0
OXLC	**Oaxaca**	**4.71**	**292**	eP		**Pn**	**01 34 41.4**	**-0.2**
OXLC				eS		Sn	01 35 31.2	-5.0
OXBJ	**Oaxaca**	**4.74**	**292**			**Pn**	**01 34 36.7**	**+1.1**
OXBJ	**Oaxaca**	**4.74**	**292**	eS		**Sn**	**01 35 34.0**	**-2.6**
OXIG	**Oaxaca**	**4.75**	**292**			**Pn**	**01 34 43.2**	**+1.3**
OXIG						Sn	01 35 33.3	-3.5
VHO	**Vista Hermosa**	**4.75**	**292**	eP		**Pn**	**01 34 43.2**	**+1.3**
VHO				eS		Sn	01 35 33.3	-3.5
TGUH	**Tegucigalpa,Un**	**4.87**	**105**			**Pn**	**01 34 43.0**	**-0.6**
PEIG	**Puerto Escondi**	**4.88**	**278**			**Pn**	**01 34 42.8**	**-0.8**
PEIG	**Puerto Escondi**	**4.88**	**278**	eP		**Pn**	**01 34 42.8**	**-0.8**
YOIG	**Yosondua**	**5.42**	**287**			**Pn**	**01 34 52.1**	**+1.2**
YOIG	**Yosondua**	**5.42**	**287**	eP		**Pn**	**01 34 52.1**	**+1.2**
TOIG	**Toxpalan**	**5.46**	**301**			**Pn**	**01 34 52.9**	**+1.6**
TOIG						Sn	01 35 51.6	-2.0
TOIG	**Toxpalan**	**5.46**	**301**	eP		**Pn**	**01 34 52.9**	**+1.6**
TOIG				eS		Sn	01 35 51.6	-2.0
TXIG	**Tlaxiaco**	**5.74**	**290**			**Pn**	**01 34 56.7**	**+1.5**
TXIG						Sn	01 35 54.8	-5.7
TXIG	**Tlaxiaco**	**5.74**	**290**	eP		**Pn**	**01 34 56.7**	**+1.5**
TXIG				eS		Sn	01 35 54.8	-5.7
TPIG	**Tehuac#an**	**5.87**	**302**			**Pn**	**01 34 58.2**	**+1.5**
TPIG						Sn	01 36 00.8	-2.6
TPIG	**Tehuac#an**	**5.87**	**302**	eP		**Pn**	**01 34 58.2**	**+1.5**
TPIG				eS		Sn	01 36 00.8	-2.6
PNIG	**Pinotepa**	**5.87**	**281**			**Pn**	**01 34 56.8**	**+0.1**
PNIG	**Pinotepa**	**5.87**	**281**	eP		**Pn**	**01 34 56.8**	**+0.1**
PNIG				eS		Sn	01 35 58.1	-5.2
LVIG	**Laguna Verde**	**5.97**	**317**	eP		**Pn**	**01 34 57.7**	**-0.2**
LVIG				eS		Sn	01 35 59.9	-5.7
HLIG	**Huajuapan de L**	**5.97**	**295**			**Pn**	**01 34 59.6**	**+1.4**
HLIG						Sn	01 36 02.2	-3.9
HLIG	**Huajuapan de L**	**5.97**	**295**	eP		**Pn**	**01 34 59.6**	**+1.4**
HLIG				eS		Sn	01 36 02.2	-3.9
JAUV	**Jalcomulco**	**5.99**	**312**			**Pn**	**01 34 57.6**	**-0.7**
JAUV						Sn	01 36 02.2	-4.0
JAUV	**Jalcomulco**	**5.99**	**312**	eP		**Pn**	**01 34 57.6**	**-0.7**
JAUV				eS		Sn	01 36 02.2	-4.0
TEIG	**Tepich**	**6.07**	**37**			**Pn**	**01 34 58.5**	**-0.8**
TLIG	**Tlapa**	**6.56**	**290**			**Pn**	**01 35 06.5**	**+0.6**
TLIG	**Tlapa**	**6.56**	**290**	eP		**Pn**	**01 35 07.6**	**+1.7**
TLIG				eS		Sn	01 36 15.9	-4.0
CRIG	**Cruz Grande**	**6.88**	**282**			**Pn**	**01 35 10.5**	**+0.4**
CRIG						Sn	01 36 18.5	-8.8
CRIG	**Cruz Grande**	**6.88**	**282**	eP		**Pn**	**01 35 10.5**	**+0.4**
CRIG				eS		Sn	01 36 18.5	-8.8
BOAB	**BOACO BROADBAN**	**6.90**	**114**		Pn	**Pn**	**01 35 10.0**	**-0.4**
CXUV	**Coxquihui**	**7.07**	**313**			**Pn**	**01 35 13.9**	**+1.3**
CXUV						Sn	01 36 29.8	-2.3
CXUV	**Coxquihui**	**7.07**	**313**	eP		**Pn**	**01 35 13.9**	**+1.3**
CXUV				eS		Sn	01 36 29.8	-2.3
PPM	**Popocatepetl**	**7.23**	**302**	eP		**Pn**	**01 35 18.9**	**+3.8**
PPM				eS		Sn	01 36 34.7	-1.7
PPIG	**Popocatepetl**	**7.23**	**302**			**Pn**	**01 35 18.9**	**+3.8**
PPIG						Sn	01 36 34.7	-1.8
DAIG	**Los Arroyos**	**7.42**	**284**			**Pn**	**01 35 18.1**	**+0.8**
DAIG						Sn	01 36 32.6	-7.7
DAIG	**Los Arroyos**	**7.42**	**284**	eP		**Pn**	**01 35 18.1**	**+0.8**
DAIG				eS		Sn	01 36 32.6	-7.7
YAIG	**Yautepec**	**7.50**	**299**			**Pn**	**01 35 21.2**	**+2.8**
YAIG						Sn	01 36 35.5	-6.9
YAIG	**Yautepec**	**7.50**	**299**	eP		**Pn**	**01 35 21.2**	**+2.8**
YAIG				eS		Sn	01 36 35.5	-6.9
MEIG	**Mezcala**	**7.62**	**291**			**Pn**	**01 35 22.5**	**+2.4**
MEIG						Sn	01 36 39.0	-6.4
MEIG	**Mezcala**	**7.62**	**291**	eP		**Pn**	**01 35 22.5**	**+2.4**
MEIG				eS		Sn	01 36 39.0	-6.4
AOVM	**Tlapan**	**7.90**	**301**			**Pn**	**01 35 25.6**	**+1.5**
AOVM	**Tlapan**	**7.90**	**301**	eP		**Pn**	**01 35 25.6**	**+1.5**
MAVM	**Malinalco, Edo**	**7.90**	**298**			**Pn**	**01 35 27.0**	**+3.1**
MAVM	**Malinalco, Edo**	**7.90**	**298**	eP		**Pn**	**01 35 27.0**	**+3.1**
CAIG	**El Cayaco**	**8.00**	**283**			**Pn**	**01 35 26.2**	**+1.2**
CAIG						Sn	01 36 47.2	-7.2
CAIG	**El Cayaco**	**8.00**	**283**	eP		**Pn**	**01 35 26.2**	**+1.2**
CAIG				eS		Sn	01 36 47.2	-7.2
ARIG	**Puente Sto Nin**	**8.39**	**291**			**Pn**	**01 35 33.3**	**+3.1**
ARIG						Sn	01 37 01.2	-2.6
ARIG	**Puente Sto Nin**	**8.39**	**291**	eP		**Pn**	**01 35 33.3**	**+3.1**
ARIG				eS		Sn	01 37 01.2	-2.6
JTS	**Las Juntas de**	**8.62**	**125**			**Pn**	**01 35 31.7**	**-1.6**
SOCE	**Pocosol**	**8.83**	**123**		Pn	**Pn**	**01 35 37.4**	**+1.2**
ZIIG	**Zihuatanejo**	**9.24**	**285**			**Pn**	**01 35 44.3**	**+2.9**
ZIIG	**Zihuatanejo**	**9.24**	**285**	eP		**Pn**	**01 35 44.3**	**+2.9**
HDC	**Heredia**	**9.46**	**123**		Pn	**Pn**	**01 35 42.6**	**-1.9**
MOIG	**Morelia**	**9.65**	**298**	eP		**Pn**	**01 35 46.0**	**-1.2**
MMIG	**Aquila**	**11.13**	**287**			**Pn**	**01 36 09.5**	**+3.1**
MMIG	**Aquila**	**11.13**	**287**	eP		**Pn**	**01 36 09.5**	**+3.1**
JUBC	**Volcan de Coli**	**11.68**	**292**	eP		**P**	**01 36 21.9**	**+1.1**
MNGA	**Volcan de Coli**	**11.71**	**292**	eS		**Sn**	**01 38 29.8**	**+5.9**
INCO	**Volcan de Coli**	**11.71**	**292**	eP		**P**	**01 36 21.9**	**+0.6**
INCO				eS		Sn	**01 38 27.4**	**+3.2**
SOMAC	**Volcano de Col**	**11.73**	**292**	eP		**P**	**01 36 20.9**	**-0.6**
SOMAC				eS		Sn	**01 38 30.2**	**+5.5**
CEGR	**Campo Tres**	**11.90**	**291**	eP		**P**	**01 36 22.3**	**-0.8**
CEGR				eS		Sn	**01 38 30.2**	**+1.9**
CJM	**Chamela**	**13.00**	**290**	eP		**P**	**01 36 38.3**	**+3.1**
MTDJ	**Mount Denham**	**14.26**	**76**	P		**P**	**01 36 49.1**	**-0.2**
CHIV	**Chivirico**	**15.66**	**71**	P		**P**	**01 37 06.1**	**+1.5**
CHIV					IAmb	IAmb	01 37 16.6	
	comp=Z,13nm,1.1s							
456A	**Hilliard**	**17.88**	**29**	P		**P**	**01 37 27.6**	**-1.4**
Z47A	**Carrollton**	**18.14**	**11**	P		**P**	**01 37 32.3**	**+0.5**
Z47A					IAmb	IAmb	01 37 34.9	
	comp=Z,12nm,0.9s							
Y49A	**Blount Mountai**	**19.13**	**15**	P		**P**	**01 37 43.1**	**+0.4**
FPAL	**Fort Paine**	**19.98**	**16**	P		**P**	**01 37 53.0**	**+1.1**
SWET	**Sewanee**	**20.54**	**15**	P		**P**	**01 37 58.5**	**+0.7**
SWET					IAmb	IAmb	01 38 01.9	
	comp=Z,12nm,1.5s							
LCAR	**Lake Charles**	**20.64**	**2**	P		**P**	**01 37 58.7**	**-0.1**
LCAR					IAmb	IAmb	01 38 20.9	
	comp=Z,3.5nm,0.7s							
CLTN	**Cedars of Leba**	**21.29**	**13**	P		**P**	**01 38 06.2**	**+0.5**
U49A	**Red Boiling Sp**	**21.81**	**14**	P		**P**	**01 38 10.3**	**-1.1**
U49A					IAmb	IAmb	01 38 12.3	
	comp=Z,8.0nm,1.0s							
SIUC	**Southern Illin**	**22.42**	**6**	P		**P**	**01 38 17.2**	**-0.1**
WCI	**Wyandotte Cave**	**23.36**	**12**	P		**P**	**01 38 25.9**	**0.0**
V58A	**Windy Hill, Pi**	**23.44**	**27**	P		**P**	**01 38 27.2**	**+0.5**
V58A					IAmb	IAmb	01 38 27.9	
	comp=Z,10nm,1.1s							

NOU ***12*** *01:42:51.7, 15.°60S×167.°75E, h247km, MLv4.6/6, Vanuatu Islands*

NEIC ***12*** *01:42:56.4±2.0, 15.°7S±0.°1×167.°9E±0.°1, h206km±5km, mb4.4/23, Error ellipse: s-maj=18.4km s-min=14.9km az=67.0*

IDC ***12*** *01:42:57.6±4.2, 15.°70S×167.°91E, h224km±40km, mb3.4/7, mbtmp4.0/8, Error ellipse: s-maj=39.2km s-min=22.6km az=168.0*

ISC 12 01:42:55.3±0.6, 15.°62S±0.°07×168.°0E±0.°1, h200km, n50, σ1§12/50, mb4.3/19, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.75**	**283**		**Pn**	**01 43 25.5**	**+1.9**
SANVU				Sn	**Sn**	**01 43 46.6**	**+1.3**
SANVU	**Saraoutou**	**0.75**	**283**	P	**Pn**	**01 43 25.2**	**+1.7**
DVP	**Devils Point**	**2.10**	**174**	P	**Pn**	**01 43 35.9**	**+1.1**
DZM	**Mont Dzumac**	**6.57**	**192**	Pn	**Pn**	**01 44 31.2**	**+1.1**
DZM	**Mont Dzumac**	**6.57**	**192**	P	**Pn**	**01 44 31.6**	**+1.5**
	5.9nm,0.4s,baz=36,slow=20,SNR=13						
DZM				S	**Sn**	**01 45 47.6**	**+2.4**
	5.8nm,0.5s,baz=307,slow=22,SNR=1.7						
ONTNC	**Ouen Toro**	**6.80**	**192**	Pn	**Pn**	**01 44 34.0**	**+1.1**
PINNC	**Pines Island,**	**6.97**	**184**	Pn	**Pn**	**01 44 35.6**	**+0.5**
EIDS	**Eidsvold**	**18.53**	**236**	P	**P**	**01 46 57.7**	**+0.8**
EIDS				IAmb	IAmb	01 46 59.3	
	comp=Z,7.6nm,0.8s						
ARMA	**Armidale**	**21.00**	**223**	P	**P**	**01 47 22.5**	**-1.0**
ARMA				IAmb	IAmb	01 47 26.3	
	comp=Z,10nm,1.1s						
TOZ	**Tahuroa Road**	**23.01**	**165**	P	**P**	**01 47 43.2**	**+0.6**
TOZ				IAmb	IAmb	01 47 47.9	
	comp=Z,17nm,1.2s						
BKZ	**Black Stump Fm**	**24.62**	**164**	P	**P**	**01 47 57.2**	**-0.1**
BKZ				IAmb	IAmb	01 48 35.7	
	comp=Z,24nm,1.3s						
STKA	**Stephens Creek**	**28.94**	**231**	P	**P**	**01 48 36.6**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=141,slow=20,SNR=1.5						
	comp=Z,1.2nm,0.5s						
WR8	**Warramunga Arr**	**32.12**	**257**	P	**P**	**01 49 02.6**	**-1.5**
WR8				IAmb	IAmb	01 49 35.5	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**32.21**	**258**	P	**P**	**01 49 03.5**	**-1.5**
WB0				IAmb	IAmb	01 49 16.1	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**32.26**	**257**	P	**P**	**01 49 04.0**	**-1.3**
WB2				IAmb	IAmb	01 49 34.1	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**32.27**	**257**	P	**P**	**01 49 03.4**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=88,slow=8.8,SNR=8.0						
	comp=Z,0.7nm,0.3s						
AS31	**Alice Springs**	**32.99**	**251**	P	**P**	**01 49 10.8**	**-0.9**
ASAR	**Alice Springs**	**32.99**	**251**	P	**P**	**01 49 10.4**	**-1.3**
ASAR	**Alice Springs**	**32.99**	**251**	P	**P**	**01 49 10.7**	**-1.1**
	comp=Z,2.4nm,0.7s,baz=76,slow=9.1,SNR=26						
	comp=Z,2.4nm,0.7s						
BBOO	**Buckleboo**	**33.58**	**234**	P	**P**	**01 49 16.4**	**-0.2**
KNRA	**Kununurra**	**37.71**	**264**	P	**P**	**01 49 50.5**	**-1.4**
FORT	**Forrest**	**39.43**	**240**	P	**P**	**01 50 05.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**40.52**	**260**	P	**P**	**01 50 14.5**	**-0.6**
PSA00	**Pilbara Seismi**	**45.85**	**255**	P	**P**	**01 50 57.8**	**0.0**
PSA00				IAmb	IAmb	01 50 58.6	
	comp=Z,11nm,0.9s						
MBWA	**Marble Bar**	**45.96**	**256**	P	**P**	**01 50 57.9**	**-0.8**
MBWA				IAmb	IAmb	01 50 59.4	
	comp=Z,24nm,1.2s						
MORW	**Morawa**	**49.49**	**245**	P	**P**	**01 51 24.2**	**-1.6**
MORW				IAmb	IAmb	01 51 33.2	
	comp=Z,13nm,1.5s						
SSLB	**Suanglung**	**60.36**	**310**	P	**P**	**01 52 43.2**	**-0.4**
VNDA	**Vanda**	**61.99**	**182**	P	**P**	**01 52 53.3**	**-0.4**
CASY	**Casey**	**62.96**	**203**	P	**P**	**01 52 59.8**	**-0.5**
CASY				IAmb	IAmb	01 53 34.3	
	comp=Z,8.9nm,1.4s						
QSPA	**South Pole Qui**	**74.41**	**180**	P	**P**	**01 54 10.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**75.92**	**294**	P	**P**	**01 54 21.8**	**+1.3**
	comp=Z,0.7nm,0.4s,baz=129,slow=5.7,SNR=4.9						
	comp=Z,0.7nm,0.4s						
O15K	**Ungalikthiuk R**	**79.03**	**16**	P	**P**	**01 54 36.5**	**-0.2**
SUA	**Susitna One**	**83.52**	**19**	P	**P**	**01 55 01.3**	**+0.8**
SUA				IAmb	IAmb	01 55 22.3	
	comp=Z,6.6nm,1.3s						
SONM	**Songino Array**	**83.61**	**323**	P	**P**	**01 55 01.9**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=140,slow=5.4,SNR=6.8						
	comp=Z,1.2nm,0.6s						
FID	**Port Fidalgo**	**84.36**	**21**	P	**P**	**01 55 05.2**	**+0.6**
G18K	**Tagagawik**	**85.04**	**13**	P	**P**	**01 55 07.7**	**-0.3**
G18K				IAmb	IAmb	01 55 28.8	
	comp=Z,15nm,1.5s						
ILAR	**Eielson Array**	**87.17**	**18**	P	**P**	**01 55 17.1**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=238,slow=5.0,SNR=7.6						
	comp=Z,0.5nm,0.5s						
NVAR	**Mina Array Bea**	**87.35**	**49**	P	**P**	**01 55 21.0**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=250,slow=3.5,SNR=2.0						
	comp=Z,0.2nm,0.6s						
H03S2	**Juan Fernandez**	**99.58**	**129**	T	T	03 49 03.9	
H03S1	**Juan Fernandez**	**99.59**	**129**	T	T	03 49 06.4	
H03S3	**Juan Fernandez**	**99.60**	**129**	T	T	03 49 04.8	
SPITS	**Spitsbergen Ar**	**115.89**	**354**	PKP	**PKPdf**	**02 01 12.2**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=358,slow=3.5,SNR=14						
CPUP	**Villa Florida**	**119.36**	**133**	PKP	**PKPdf**	**02 01 20.1**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=137,slow=1.8,SNR=5.2						
ARCES	**ARCESS Array B**	**121.28**	**345**	PKP	**PKPdf**	**02 01 23.2**	**-0.7**
	comp=Z,2.4nm,1.0s,baz=58,slow=2.1,SNR=10.0						
CUC	**Castrocucco**	**145.67**	**320**	PKPdf	**PKPdf**	**02 02 09.1**	**-1.0**
CEL	**Celeste**	**146.64**	**318**	PKPbc	**PKPdf**	**02 02 12.9**	**+1.1**
BNI	**Bardonecchia**	**146.68**	**336**	PKPbc	**PKPdf**	**02 02 13.2**	**+1.3**
RAFF	**Raffo Rosso**	**148.23**	**318**		**PKPbc**	**02 02 19.2**	**+1.2**
VSL	**Villasalto**	**149.72**	**326**	PKPbc	**PKPbc**	**02 02 20.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**166.47**	**261**	PKP	**PKPdf**	**02 02 36.8**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=133,slow=2.6,SNR=1.4						
TORD				PKPab	**PKPab**	**02 03 40.6**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=51,slow=1.5,SNR=1.9						

NNC 12 01:43:19.6±11.0, 40.°55N×83.°50E, h0km, mb3.5, mpv3.1, 1C-3D, Error ellipse: s-maj=81.3km s-min=47.3km az=166.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**4.08**	**314**	⇑Pg	Pb	01 44 33.3	+1.0
	4.5nm,0.6s						
PDGK				⇓Lg	Lg	01 45 29.2	
	22nm,0.5s						
MK31	**Makanchi Array**	**6.30**	**352**	⇓Pg	Pg	01 45 15.9	-4.4
	1.0nm,0.5s,baz=177,slow=15,SNR=8.8						
MK31				⇓Lg	Lg	01 46 40.6	
	7.4nm,0.7s,baz=169,slow=28						
MAKZ	**Makanchi**	**6.35**	**351**	Pg	Pb	01 45 16.1	+5.1
	0.5nm,0.5s						
MAKZ				Lg	Lg	01 46 38.8	
	3.1nm,0.8s						

CATAC ***12*** *01:59:33.6±0.2, 9.°N±2.°×8.°4W±.°, h12km±1km, M4.2/18, MLv4.2/18, Error ellipse: s-maj=5.3km s-min=2.6km az=33.7, confirmed*

UPA ***12*** *01:59:34.2±2.5, 9.°32N×83.°73W, h11km±8km, MW3.9*

UCR ***12*** *01:59:34.4±1.4, 9.°30N×83.°75W, h30km±1km, MW4.0*

ISC 12 01:59:34.8±0.9, 9.°28N±0.°02×83.°76W±0.°02, h30km±5km, n177, σ1§01/232, 37C-33D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZEDO	**Perez Zeledon**	**0.11**	**46**	⇓*i*P	**Pb**	**01 59 39.8**	**-0.4**
ZEDO				eS	**Sb**	**01 59 44.0**	**+0.1**
EDPE	**Pejibaye, P**	**0.22**	**122**	⇓*i*P	**Pb**	**01 59 41.1**	**-0.2**
EDPE				eS	**Sb**	**01 59 46.1**	**+0.4**
SAJE	**San Jernim**	**0.26**	**75**	⇓*i*P	**Pb**	**01 59 41.0**	**-0.9**
SAJE				eS	**Sb**	**01 59 46.0**	**-0.6**
BUS1	**Rivas**	**0.27**	**3**	⇓*i*P	**Pb**	**01 59 41.4**	**-0.9**
BUS1				eS	**Sb**	**01 59 47.0**	**-0.4**
LLNJ	**Naranjito**	**0.39**	**300**	⇑*i*P	**Pb**	**01 59 42.8**	**-0.6**
LLNJ				eS	**Sb**	**01 59 49.5**	**+0.2**
PIEC	**Cerro El Cedra**	**0.39**	**331**	*e*P	**Pb**	**01 59 43.1**	**-0.7**
QUEP	**Quepos**	**0.42**	**291**	⇑*i*P	**Pb**	**01 59 42.9**	**-1.1**
QUEP				eS	**Sb**	**01 59 49.7**	**-0.6**
QUEP	**Quepos**	**0.42**	**291**	P	**Pb**	**01 59 42.9**	**-1.1**
SVQ2	**Quepos**	**0.43**	**291**	⇑*e*P	**Pb**	**01 59 42.9**	**-1.2**
SVQ2				eS	**Sb**	**01 59 49.6**	**-0.8**
BURE	**Buenos Aires**	**0.43**	**104**	⇑*i*P	**Pb**	**01 59 43.5**	**-0.7**
BURE				eS	**Sb**	**01 59 50.3**	**-0.3**
PANP	**Palmar Norte**	**0.44**	**136**	*e*P	**Pb**	**01 59 43.8**	**-0.5**
PANP				eS	**Sn**	**01 59 51.5**	**-0.6**
RAZU	**San Marcos de**	**0.46**	**326**	⇓*e*P	**Pb**	**01 59 44.2**	**-0.5**
RAZU				eS	**Sb**	**01 59 51.9**	**+0.4**
PITB	**Pirrs, San**	**0.46**	**326**	*e*P	**Pb**	**01 59 43.9**	**-0.8**
DRK0	**Durika**	**0.51**	**92**	⇓*i*P	**Pb**	**01 59 44.5**	**-1.1**
DRK0				*i* S	**Sb**	**01 59 52.2**	**-0.7**
DRK0	**Durika**	**0.51**	**92**	⇑*i*P	**Pb**	**01 59 44.5**	**-1.1**
DRK0				eS	**Sb**	**01 59 52.2**	**-0.7**
DRK0	**Durika**	**0.51**	**92**	P	**Pb**	**01 59 44.5**	**-1.1**
LCR2	**La Lucha 2**	**0.52**	**333**	*e*P	**Pb**	**01 59 44.6**	**-1.1**
LCR2				eS	**Sb**	**01 59 52.8**	**-0.3**
LCR2	**La Lucha 2**	**0.52**	**333**	P	**Pb**	**01 59 44.8**	**-0.9**
PICV	**PH. Pirrs**	**0.55**	**309**	⇑*i*P	**Pb**	**01 59 45.2**	**-0.8**
PICV				eS	**Sb**	**01 59 53.6**	**-0.2**
REPA	**Paraso**	**0.56**	**349**	⇓*e*P	**Pb**	**01 59 45.0**	**-1.3**
PAR1A	**Puntarenas Pro**	**0.58**	**303**	⇓*e*P	**Pb**	**01 59 46.0**	**-0.4**
TAGO	**Cartago**	**0.60**	**345**	*e*P	**Pb**	**01 59 45.8**	**-1.3**
VINA	**Juan Vinas**	**0.61**	**2**	⇓*e*P	**Pb**	**01 59 46.1**	**-1.0**
TURIB	**Turrialba**	**0.63**	**7**	⇓*e*P	**Pb**	**01 59 46.2**	**-1.2**
EDP2	**Potrero Grande**	**0.64**	**114**	⇑*i*P	**Pb**	**01 59 46.8**	**-0.7**
EDP2				eS	**Sb**	**01 59 56.3**	**+0.2**
PCAYA	**Pacayas**	**0.64**	**356**	⇑*e*P	**Pb**	**01 59 46.8**	**-0.9**
PCAYA				eS	**Sb**	**01 59 55.9**	**-0.5**
ACOS	**Acosta**	**0.65**	**322**	⇑*e*P	**Pb**	**01 59 46.3**	**-1.4**
ACOS				eS	**Sb**	**01 59 55.3**	**-1.3**
TRIO	**Tres Rios**	**0.66**	**340**	*e*P	**Pb**	**01 59 46.9**	**-1.2**
TRIO				eS	**Sb**	**01 59 56.0**	**-1.0**
VERB	**Verbena**	**0.67**	**6**	⇓*e*P	**Pb**	**01 59 47.0**	**-1.1**
RAFA	**San Farael, Vo**	**0.68**	**356**	⇓*e*P	**Pb**	**01 59 47.3**	**-1.1**
RAFA				eS	**Sb**	**01 59 57.0**	**-0.6**
AMPA	**Desamparados**	**0.68**	**334**	*e*P	**Pb**	**01 59 47.6**	**-0.7**
AMPA				eS	**Sb**	**01 59 56.7**	**-0.8**
VICA	**Volcano Irazu**	**0.71**	**353**	*e*P	**Pb**	**01 59 47.8**	**-1.1**
VICA				eS	**Sb**	**01 59 57.7**	**-0.8**
LUJA	**Lujan**	**0.71**	**335**	*e*P	**Pb**	**01 59 47.1**	**-1.7**
ECI	**Escuela Centro**	**0.71**	**337**	*e*P	**Pb**	**01 59 47.8**	**-1.1**
SJS3	**Mercedes San J**	**0.71**	**337**	*e*P	**Pb**	**01 59 47.7**	**-1.2**
CENT	**San Jose**	**0.72**	**334**	*e*P	**Pb**	**01 59 49.0**	**0.0**
CVTQ	**Turrialba Volc**	**0.72**	**360**	⇓*e*P	**Pb**	**01 59 48.1**	**-1.1**
CVTQ				eS	**Sb**	**01 59 58.5**	**-0.4**
CVTV	**Tajo**	**0.72**	**1**	⇓*e*P	**Pb**	**01 59 48.2**	**-0.9**
CVTV				eS	**Sb**	**01 59 58.5**	**-0.3**
ABRB	**Las Abras (San**	**0.72**	**4**	⇓*i*P	**Pb**	**01 59 48.2**	**-0.9**
ABRB				eS	**Sb**	**01 59 58.7**	**-0.1**
LUPE	**Guadalupe**	**0.72**	**337**	*e*P	**Pb**	**01 59 48.3**	**-0.8**
CORON	**Coronado**	**0.73**	**341**	*e*P	**Pb**	**01 59 48.0**	**-1.1**
MEXI	**Barrio Mexico**	**0.73**	**334**	*e*P	**Pb**	**01 59 49.0**	**-0.2**
VTR0	**Volcan Turrial**	**0.73**	**0**	⇓*e*P	**Pb**	**01 59 48.4**	**-1.0**
VTR0				eS	**Sb**	**01 59 58.5**	**-0.8**
CVTR	**Volcan Turrial**	**0.74**	**0**	⇓*e*P	**Pb**	**01 59 48.3**	**-1.2**
CVTR				eS	**Sb**	**01 59 58.5**	**-0.8**
RESJ	**San Isidro (Tu**	**0.76**	**9**	⇓*e*P	**Pb**	**01 59 48.5**	**-0.8**
RESJ				eS	**Sb**	**01 59 59.1**	**-0.5**
CVIMO	**Finca Echandi**	**0.76**	**347**	⇓*e*P	**Pb**	**01 59 48.6**	**-1.2**
DOMI	**Santo Domingo**	**0.77**	**335**	*e*P	**Pb**	**01 59 48.9**	**-1.0**
SANTA	**Santa Ana**	**0.77**	**327**	*e*P	**Pb**	**01 59 48.3**	**-1.6**
SANTA				eS	**Sb**	**01 59 58.6**	**-1.4**
PURI	**Puriscal**	**0.78**	**316**	*e*P	**Pb**	**01 59 48.7**	**-1.3**
HDC	**Heredia**	**0.80**	**334**	*e*P	**Pb**	**01 59 49.0**	**-1.2**
HDC				eS	**Sb**	**02 00 00.2**	**-0.5**
HEME	**Heredia, Merce**	**0.80**	**333**	*e*P	**Pn**	**01 59 51.0**	**+0.7**
BELE	**Belen**	**0.81**	**329**	⇑*

MOTZ	Rio Naranjo	1.90	317	*e*P	Pb	02 00 07.3	-1.6
CUI	Cuipilapa	1.94	315	*e*P	Pn	02 00 06.8	+0.9
JUD3	Juan Diaz 3	1.96	297	*e*P	Pn	02 00 06.1	0.0
COLC	Colonia	1.98	314	*e*P	Pn	02 00 07.9	+1.5
KKNTU	Kakint²	1.98	103	⇑*i*P	Pn	02 00 06.1	-0.3
KKNTU				*e*S	Sn	02 00 30.2	0.0
KKNTU	Kakint²	1.98	103	*e*P	Pn	02 00 05.8	-0.6
HORNC	Hornillas	1.99	316	*e*P	Pn	02 00 07.4	+0.8
VMAR	Armenia, Volca	2.02	319	⇑*e*P	Pn	02 00 08.3	+1.4
MESS	Mesas	2.02	316	*e*P	Pn	02 00 08.1	+1.1
GPS2	Hotel Rincn d	2.14	313	*e*P	Pb	02 00 11.3	-1.7
GPS3	Bodega del ICE	2.15	313	*e*P	Pb	02 00 12.0	-1.2
ALIBA	Liberia Airpor	2.19	307	*e*P	Pn	02 00 10.9	+1.7
LAPC	Finca la Perla	2.21	312	⇑*e*P	Pn	02 00 10.8	+1.2
BUAI	Buenos Aires	2.21	316	*e*P	Pn	02 00 09.8	+0.1
CARN	Rivas	2.57	318	P	Pn	02 00 15.4	+1.0
CARN				S	Sn	02 00 47.3	+2.6
MESA3	La Mesa, Verag	2.79	114	*e*P	Pb	02 00 22.3	-1.7
RSUS3	Rio de Jesus,	2.88	116	*e*P	Pn	02 00 21.3	+2.6
GMAL	Guarumal, Vera	2.92	121	*e*P	Pn	02 00 19.2	-0.1
SFRA3	San Francisco,	2.94	110	*e*P	Pn	02 00 21.1	+1.5
STIA3	Santiago, Vera	3.00	113	*e*P	Pn	02 00 21.4	+1.0
ACON	Acoyapa	3.01	333	*e*P	Pn	02 00 20.1	-0.5
CRIS3	El Cristo, Coc	3.27	108	*e*P	Pn	02 00 25.7	+1.6
CACAO	El Cacao, Vera	3.46	124	*e*P	Pn	02 00 28.4	+1.7
NANN	Nandasmo	3.52	319	P	Pn	02 00 28.6	+1.0
CHIT3	Chitre	3.56	111	*e*P	Pn	02 00 30.1	+2.0
BOAB	BOACO BROADBAN	3.66	329	P	Pn	02 00 30.5	+1.0
BOAB				S	Sn	02 01 14.7	+2.9
AZU	Azuero	3.75	113	*e*P	Pn	02 00 32.6	+1.8
MLIR	Monte Lirio	3.86	90	*e*P	Pn	02 00 33.2	+1.0
ZANG	Zanguenga, Cho	3.86	94	*e*P	Pn	02 00 32.6	+0.4
FRIJ	El Hiral	3.99	90	⇓*i*P	Pn	02 00 34.4	+0.4
GAMB1	Gamboa	4.00	92	*e*P	Pn	02 00 34.5	+0.3

UPA **12** *02:21:14.4±1.3,9.°34N×83.°72W,h15km±4km,MW3.7*
UCR **12** *02:21:14.6±1.2,9.°30N×83.°75W,h31km±1km,MW3.7*
CATAC **12** *02:21:14.4±0.2,9.°N±2.°×8.°4W±.°,h9km±2km,M3.6/14, MLv3.6/14,Error ellipse: s-maj=5.5km s-min=2.6km az=40.0,confirmed*

ISC 12 02:21:14.4±0.9,9.°29N±0.°02×83.°75W±0.°02,h31km±6km, n118,σ1⇟06/145,11C-21D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDPE	Pejibaye, P	0.22	127	⇓*i*P	Pb	02 21 21.3	+0.2
EDPE				*e*S	Sn	02 21 26.2	0.0
SAJE	San Jernim	0.24	78	⇓*i*P	Pb	02 21 21.2	-0.2
SAJE				*e*S	Sb	02 21 26.2	-0.1
BUS1	Rivas	0.26	1	⇓*i*P	Pb	02 21 21.7	-0.2
BUS1				*e*S	Sb	02 21 27.3	+0.3
LLNJ	Naranjito	0.39	297	⇑*i*P	Pb	02 21 23.0	-0.2
LLNJ				*e*S	Sb	02 21 29.6	+0.4
BURE	Buenos Aires	0.42	106	⇑*e*P	Pb	02 21 23.9	+0.1
QUEP	Quepos	0.43	289	P	Pn	02 21 24.4	0.0
SVQ2	Quepos	0.43	289	*e*P	Pb	02 21 23.0	-0.9
PANP	Palmar Norte	0.44	139	*e*P	Pb	02 21 23.8	-0.2
RAZU	San Marcos de	0.45	323	*e*P	Pb	02 21 24.3	0.0
PITB	Pirrs, San	0.45	324	*e*P	Pb	02 21 24.3	-0.1
DRK0	Durika	0.50	93	⇓*i*P	Pb	02 21 24.8	-0.2
DRK0				*i* S	Sb	02 21 32.4	0.0
DRK0	Durika	0.50	93	⇑*e*P	Pb	02 21 24.9	-0.2
DRK0	Durika	0.50	93	P	Pb	02 21 24.8	-0.2
DRK0	Durika	0.50	93	S	Sb	02 21 30.5	-1.8
LCR2	La Lucha 2	0.51	331	⇑*i*P	Pb	02 21 24.8	-0.5
LCR2				*i* S	Sb	02 21 32.9	+0.1
LCR2	La Lucha 2	0.51	331	⇑*e*P	Pb	02 21 25.1	-0.2
LCR2				*e*S	Sb	02 21 32.8	+0.1
LCR2	La Lucha 2	0.51	331	P	Pb	02 21 25.0	-0.2
LCR2	La Lucha 2	0.51	331	S	Sb	02 21 31.1	-1.6
REPA	Paraso	0.54	348	⇓*e*P	Pb	02 21 25.3	-0.4
PICV	PH. Pirrs	0.55	307	⇑*i*P	Pb	02 21 25.5	-0.2
PICV				*e*S	Sb	02 21 33.6	+0.1
PAR1A	Puntarenas Pro	0.58	301	*e*P	Pb	02 21 26.0	-0.2
VINA	Juan Vinas	0.60	0	*e*P	Pb	02 21 26.3	-0.3
TURIB	Turrialba	0.61	6	*e*P	Pb	02 21 26.4	-0.4
EDP2	Potrero Grande	0.63	116	⇑*e*P	Pb	02 21 27.0	-0.1
ACOS	Acosta	0.65	321	⇑*i*P	Pb	02 21 26.6	-0.8
VERB	Verbena	0.65	5	⇓*e*P	Pb	02 21 27.3	-0.2
VERB				*e*S	Sn	02 21 37.0	+0.1
TRIO	Tres Rios	0.65	338	*e*P	Pb	02 21 26.7	-0.8
RAFA	San Farael, Vo	0.66	355	*e*P	Pb	02 21 27.4	-0.4
VICA	Volcano Irazu	0.69	352	*e*P	Pb	02 21 27.7	-0.7
CVTV	Tajo	0.71	4	*e*P	Pb	02 21 28.0	-0.7
SJS3	Mercedes San J	0.71	335	*e*P	Pb	02 21 29.4	+1.0
CVTQ	Turrialba Volc	0.71	359	⇓*e*P	Pb	02 21 28.4	-0.2
ABRB	Las Abras (San	0.71	3	⇓*i*P	Pb	02 21 28.5	0.0
ABRB				*e*S	Sn	02 21 39.0	+0.5
LUPE	Guadalupe	0.72	335	*e*P	Pn	02 21 28.5	-0.1
VTR0	Volcan Turrial	0.72	359	⇓*e*P	Pb	02 21 28.7	-0.1
CVTR	Volcan Turrial	0.72	359	⇓*e*P	Pb	02 21 28.6	-0.2
CVTR				*e*S	Sn	02 21 39.0	0.0
RESJ	San Isidro (Tu	0.74	8	*e*P	Pn	02 21 28.9	0.0
CVIMO	Finca Echandi	0.75	345	*e*P	Pn	02 21 28.5	-0.6
SANTA	Santa Ana	0.77	326	*e*P	Pn	02 21 28.4	-0.8
HDC	Heredia	0.79	333	*e*P	Pn	02 21 29.4	-0.1
HEME	Heredia, Merce	0.80	331	*e*P	Pb	02 21 30.7	+0.8
BELE	Belen	0.80	328	*e*P	Pn	02 21 29.0	-0.7
LCOCO	El Coco	0.81	14	⇓*i*P	Pn	02 21 29.9	+0.2
LCOCO				*e*S	Sb	02 21 41.7	+1.1
RVLA	Villa Bonita	0.83	11	*e*P	Pn	02 21 29.8	-0.1
IRES	Siquirres	0.83	17	*e*P	Pn	02 21 30.3	+0.2
LAES	El Progreso Va	0.83	56	⇓*e*P	Pb	02 21 30.5	0.0
VERH	Veragua Rainfo	0.84	41	*e*P	Pb	02 21 30.5	-0.1
EDAD	Golfito	0.86	138	*e*P	Pn	02 21 29.4	-1.0
CEUA	Cerro Uatsi, L	0.86	68	⇑*i*P	Pb	02 21 31.7	+0.7
PTJ1	Puerto Jimnez	0.87	149	P	Pb	02 21 31.9	+0.8
VBV1	V. Barva	0.89	337	*e*P	Pn	02 21 30.4	-0.6
BITO	Garabito Jaco	0.92	291	*e*P	Pn	02 21 31.2	0.0
TCS1	Tacares	0.92	324	P	Pn	02 21 31.7	+0.4
ATEO	Atenas	0.92	318	*e*P	Pn	02 21 31.1	-0.2
ALCO	Alturas Coton,	0.97	111	⇑*e*P	Pn	02 21 31.6	-0.4
PIRO	Carate, Puerto	0.97	155	*e*P	Pb	02 21 32.9	+0.1
PIRO				*e*S	Sb	02 21 46.5	+1.2
PIRO	Carate, Puerto	0.97	155	*e*P	Pb	02 21 32.7	0.0
PIRO	Carate, Puerto	0.97	155	P	Pb	02 21 33.2	+0.5
PIRO	Carate, Puerto	0.97	155	S	Sb	02 21 48.1	+2.8
BRIBI	Bribri	0.97	70	*e*P	Pb	02 21 33.4	+0.6
SARCI	Sarchi	0.99	323	*e*P	Pn	02 21 32.8	+0.1
VPS8	V Poas	1.00	331	*e*P	Pn	02 21 33.4	+0.1
RAMO	San Ramon	1.06	318	*e*P	Pn	02 21 33.2	0.0
SRA1	San Ramn	1.07	318	*e*P	Pn	02 21 32.3	-1.1
ZARE	Zarcero	1.09	325	*e*P	Pn	02 21 33.8	+0.1
VPL1	V. Platanar	1.13	328	*e*P	Pn	02 21 34.4	0.0
ARTO	Ro Cuarto	1.14	336	*e*P	Pb	02 21 38.6	+3.0
BRU2	Volcan	1.16	115	⇑*i*P	Pn	02 21 34.5	-0.1
BRU2				⇓*i*P	Pn	02 21 34.6	0.0
BRU2				*i* S	Sb	02 21 50.5	-0.2
BRU2				*e*S	Sn	02 21 50.8	+1.3
BRU2	Volcan	1.16	115	*e*P	Pn	02 21 34.6	0.0
BRU2	Volcan	1.16	115	S	Sb	02 21 51.4	+0.7
BRU2	Volcan	1.16	115	P	Pb	02 21 35.6	-0.4
RGM0	Gandoca	1.17	75	P	Pb	02 21 35.5	-0.5
RGM0	Gandoca	1.17	75	S	Sn	02 21 49.9	+0.5
VPL2	V. Platanar	1.18	328	*e*P	Pn	02 21 35.4	+0.4
BC3P	Paso Ancho	1.22	113	⇓*i*P	Pn	02 21 35.5	-0.1
BC3P				*i* S	Sn	02 21 50.7	-0.4
CLLRA	Cordillera,	1.25	116	⇓*i*P	Pn	02 21 36.0	+0.1
CNI2	El Empalme, Bo	1.27	84	⇓*i*P	Pn	02 21 36.5	+0.5
CNI2				*i* S	Sn	02 21 51.3	-0.7
PTAR3	Potrerillos Ar	1.38	116	*e*P	Pn	02 21 38.0	+0.4
PTAR3				*e*S	Sn	02 21 52.9	-1.9
BQTLY	Boquete Panama	1.38	113	⇓*i*P	Pn	02 21 38.2	+0.6
BQTLY				*e*S	Sb	02 21 56.5	-0.6
BQTLY	Boquete Panama	1.38	113	*e*P	Pn	02 21 37.8	+0.1
SOCE	Pocosol	1.38	322	*e*P	Pn	02 21 38.5	+0.9
SOCE	Pocosol	1.38	322	P	Pb	02 21 38.8	-0.9
SOCE	Pocosol	1.38	322	S	Sb	02 21 57.0	0.0
PTPM	Petroterminale	1.38	141	*e*P	Pb	02 21 39.4	-0.2
PTPM				*e*S	Sb	02 21 57.1	+0.1
BQSF3	Alto Boquete,	1.41	113	*e*P	Pn	02 21 38.6	+0.5
VACR	Volcan Arenal	1.49	322	*e*P	Pn	02 21 40.1	+1.1
CASO	Castillo	1.49	320	*e*P	Pn	02 21 40.2	+1.1
ARE1	Arenal 1	1.50	321	*e*P	Pn	02 21 40.5	+1.2
VARE2	V. Arenal	1.50	321	*e*P	Pn	02 21 40.4	+1.0
DVD	David	1.54	123	*e*P	Pn	02 21 40.4	+0.7
JTS	Las Juntas de	1.54	310	*i* P	Pn	02 21 40.7	+0.9
JTS				*i* S	Sb	02 22 00.5	-1.2
JTS	Las Juntas de	1.54	310	*e*P	Pn	02 21 40.8	+0.9
JTS	Las Juntas de	1.54	310	P	Pn	02 21 41.1	+1.3
JTS				S	Sb	02 22 02.1	+0.4
LOCO3	Loma Colorada,	1.58	124	*e*P	Pn	02 21 40.9	+0.6
PBNVO	Pueblo Nuevo,	1.59	104	*e*P	Pn	02 21 40.7	+0.3
LOMA3	Las Lomas, Chi	1.59	122	*e*P	Pn	02 21 41.1	+0.6
CGUAY	Guayabal, Coch	1.61	121	⇓*i*P	Pn	02 21 41.2	+0.5
CHGR2	Aguacate	1.62	102	*e*P	Pn	02 21 41.4	+0.4
CHGR2				*e*S	Sn	02 22 01.0	+0.2
RBALA	Bur	1.63	105	*e*P	Pn	02 21 41.0	0.0
RBALA				*e*S	Sn	02 22 01.2	+0.3
RBALA	Bur	1.63	105	*e*P	Pn	02 21 40.8	-0.2
CHIR3	Chiriqui UPA,	1.66	122	*e*P	Pn	02 21 41.8	+0.4
TIMP	Tierras Morena	1.79	316	*e*P	Pb	02 21 45.3	-1.3
CMARA	Lajas Hojancha	1.80	294	P	Pb	02 21 46.2	-0.6
CUI	Cuipilapa	1.94	314	*e*P	Pn	02 21 46.9	+1.6
KKNTU	Kakint²	1.97	103	⇓*i*P	Pn	02 21 42.3	-3.4
KKNTU				*e*S	Sn	02 22 10.9	+1.6
HORNC	Hornillas	1.99	315	*e*P	Pn	02 21 47.6	+1.6
VMAR	Armenia, Volca	2.02	318	*e*P	Pn	02 21 48.2	+1.8
LAPC	Finca la Perla	2.21	312	*e*P	Pn	02 21 51.0	+2.0
ELI1	Hacienda Flor	2.23	307	S	Sb	02 22 20.4	-0.8
ELI1	Hacienda Flor	2.23	307	P	Pb	02 21 51.8	-2.2
GMAL	Guarumal, Vera	2.92	121	*e*P	Pn	02 21 56.9	-1.8
ESPN	Las Esperanzas	2.93	349	P	Pn	02 22 00.4	+1.5
ACON	Acoyapa	3.00	332	P	Pn	02 22 02.7	+2.8
AZU	Azuero	3.75	113	*e*P	Pn	02 22 09.6	-0.5
ZANG	Zanguenga, Cho	3.85	95	*e*P	Pn	02 22 12.7	+1.2
FRIJ	El Hiral	3.97	91	⇓*i*P	Pn	02 22 14.7	+1.4
FRIJ				*i* S	Sn	02 22 52.1	-6.6
GAMB1	Gamboa	3.99	92	*i* P	Pn	02 22 14.9	+1.4
GAMB1				*i* S	Sn	02 22 59.8	+0.5
ARRA3	Arraijan, Pana	4.05	94	*e*P	Pn	02 22 09.4	-5.0

BGR **12** *02:38:09.6,15.°95S×173.°88W,h33km*
MOS **12** *02:38:40.6±1.1,15.°32S×174.°93W,h287km,mb4.6/25, Error ellipse: s-maj=9.8km s-min=9.2km az=7.6*
NEIC **12** *02:38:41.4±1.4,15.°44S±0.°09×174.°89W±0.°06, h286km±5km,mb4.5/200,Error ellipse: s-maj=13.7km s-min=7.9km az=185.0*
NOU **12** *02:38:41.5,15.°49S×174.°74W,h289km,mb5.0/59,Tonga Islands*
IDC **12** *02:38:47.2±3.6,15.°50S×174.°96W,h343km±35km, mb4.1/22,mbtmp4.8/23,Error ellipse: s-maj=11.8km s-min=11.3km az=149.0*

ISC 12 02:38:41.2±0.3,15.°47S±0.°06×174.°84W±0.°04,h286km, n698,σ0⇟84/604,mb4.6/164,49C-56D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.34	63		Pn	02 39 38.4	-1.3
AFI	Afiamalu	3.34	63	P	Pn	02 39 38.8	-0.9
AFI	Afiamalu	3.34	63	S	S	02 40 26.0	-0.3
AFI	Afiamalu	3.34	63	P	Pn	02 39 38.4	-1.3
FUTU	Fugatoga	3.38	290		Pn	02 39 40.8	+0.9
FUTU	Fugatoga	3.38	290	P	Pn	02 39 41.1	+1.2
LKBA	Tubou, Lakemba	4.70	234	P	Pn	02 39 56.7	+2.1
TAVE	Taveuni	5.03	255	P	Pn	02 40 00.4	+1.9
DGTI	Dogotuki	5.29	260	P	Pn	02 40 02.8	+1.2
NIUE	Niue	5.91	128		Pn	02 40 08.8	-0.2
NIUE	Niue	5.91	128	P	Pn	02 40 09.9	+0.9
NIUE	Niue	5.91	128	S	S	02 41 17.5	-2.2
MSVF	Nonsavu	7.18	251		Pn	02 40 24.9	+0.2
MSVF	Nonsavu	7.18	251	P	Pn	02 40 26.4	+1.8
MSVF	Nonsavu	7.18	251	*de*P	Pn	02 40 26.5	+1.8
MSVF				pmax	pmax		
	comp=Z,114nm,1.2s						
FUNA	Funafuti	9.03	319		Pn	02 40 46.1	-1.5
FUNA	Funafuti	9.03	319	P	Pn	02 40 47.9	+0.3
RAR	Rarotonga	15.40	114	P	Pn	02 42 05.9	+1.1
	comp=Z,20nm,0.7s,baz=235,slow=20,SNR=3.1						
SANVU	Saraoutou	17.31	268	P	P	02 42 24.9	+0.5
SANVU	Saraoutou	17.31	268	P	Pn	02 42 25.9	-1.4
DZM	Mont Dzumac	18.89	247	*e*P	P	02 42 39.4	-2.0
	comp=Z,160nm,1.4s						
DZM				*e*pP	pP	02 43 25.6	+1.0
	comp=Z,170nm,26.5s						
DZM				*e*S	S	02 45 55.7	-5.1
	comp=Z,243nm,24.8s						
DZM	Mont Dzumac	18.89	247		P	02 42 39.9	-1.5
DZM	Mont Dzumac	18.89	247	P	P	02 42 39.7	-1.7
	comp=Z,19nm,0.7s,baz=78,slow=17,SNR=10						
DZM	Mont Dzumac	18.89	247	P	P	02 42 43.0	+1.6
PAE	Paea	24.30	99	*e*P	P	02 43 33.3	-0.1
	comp=Z,16nm,1.1s						
PPT	Papeete	24.31	98	P	P	02 43 34.4	+1.0
	comp=Z,22nm,0.6s,baz=257,slow=9.8,SNR=4.0						
	comp=Z,22nm,0.6s						
PPT2	Papeete2	24.31	99	*e*sS	sS	02 49 00.7	-4.0
	comp=Z,519nm,26.0s						
TIAR	Tiarei	24.52	98	*e*P	P	02 43 35.8	+0.4
	comp=Z,55nm,0.9s						
TVO	Taravao	24.62	99	*e*P	P	02 43 36.7	+0.4
	comp=Z,31nm,1.0s						
BKZ	Black Stump Fm	24.81	196	P	P	02 43 37.2	-0.6
BKZ				IAmb	IAmb	02 44 13.4	
	comp=Z,26nm,1.4s						
ALEG	Aligegeo Malai	24.82	283	P	P	02 43 39.4	+1.3
TBI	Tubuai	25.16	112	*e*P	P	02 43 41.9	+0.9
	comp=Z,56nm,1.1s						
TBI				*e*sS	sS	02 49 21.1	-0.2
	comp=Z,2μm,30.0s						
SAVO	Savo Central	25.53	281	P	P	02 43 45.2	+0.7
PMOR	Pomarrio Ree	26.00	93	*e*P	P	02 43 49.2	+0.6
	comp=Z,219nm,1.2s						
VAH	Vaihoa	26.24	93	*e*P	P	02 43 50.7	0.0
	comp=Z,42nm,0.9s						
TAOE	Nuku Hiva Isla	34.51	83	*e*P	P	02 45 00.5	-2.8
	comp=Z,50nm,25.3s						
TAOE				*e*SS	SS	02 52 50.8	-3.3
	comp=Z,79nm,26.9s						
PMG	Port Moresby	37.56	275		P	02 45 26.9	-1.9
PMG	Port Moresby	37.56	275	P	P	02 45 28.8	+0.9
PMG	Port Moresby	37.56	275	P	P	02 45 29.5	+0.6
PMG	Port Moresby	37.56	275	*de*P	P	02 45 28.9	0.0
PMG				pmax	pmax		
	comp=Z,52nm,1.3s						
CNB	Canberra Magne	37.62	232	P	P	02 45 29.1	-0.1
RKT	Rikitea	38.30	108	*e*SS	SS	02 54 13.8	+4.5
	comp=Z,3μm,35.2s						
MTSU	Mount Surprise	39.14	260	P	P	02 45 42.2	+0.2
CMSA	Cobar Meteorol	39.33	239	P	P	02 45 44.3	+0.9
QLP	Quilpie	39.62	247	P	P	02 45 46.8	+1.0
COEN	Coen	40.59	266		P	02 45 52.4	-1.6
COEN				IAmb	IAmb	02 45 56.2	
	comp=Z,30nm,0.9s						
COEN	Coen	40.59	266	P	P	02 45 54.2	+0.3
TOO	Toolangi	41.35	230		P	02 45 57.4	-2.4
TOO				IAmb	IAmb	02 46 00.8	
	comp=Z,24nm,1.1s						
TOO	Toolangi	41.35	230	P	P	02 45 57.4	-2.4
TOO				pmax	pmax		
	comp=Z,24nm,1.1s						
BRAT	Ballarat	42.51	231	P	P	02 46 09.8	+0.8
STKA	Stephens Creek	42.80	240		P	02 46 10.3	-1.3
STKA	Stephens Creek	42.80	240	P	P	02 46 09.9	-1.6
	comp=Z,11nm,0.6s,baz=84,slow=8.9,SNR=16						
	comp=Z,11nm,0.6s						
STKA	Stephens Creek	42.80	240	P	P	02 46 11.2	-0.3
STKA	Stephens Creek	42.80	240	*d*iP	P	02 46 10.7	-0.8
INKA	Innaminka	42.85	246		P	02 46 11.0	-0.9
INKA				IAmb	IAmb	02 46 20.3	
	comp=Z,20nm,0.9s						
QIS	Mount Isa	43.51	256	P	P	02 46 16.1	-1.3
JAY	Jayapura	45.64	282	P	P	02 46 33.7	-0.5
	comp=Z,63nm,1.0s						
GENI	Genyem	46.12	282	P	P	02 46 38.8	+0.9
GENI	Genyem	46.12	282	P	P	02 46 37.8	-0.1
WHYH	Whyalla	46.36	239	P	P	02 46 39.5	+0.1
BBOO	Buckleboo	47.58	240		P	02 46 47.3	-1.6
BBOO				IAmb	IAmb	02 46 48.4	
	comp=Z,27nm,0.8s						
BBOO	Buckleboo	47.58	240	P	P	02 46 49.5	+0.6
WR8	Warramunga Arr	48.33	257	P	P	02 46 52.9	-1.9
WR8				IAmb	IAmb	02 46 55.5	
	comp=Z,35nm,1.2s						
WB0	Warramunga Arr	48.44	257		P	02 46 54.0	-1.6
WB0				IAmb	IAmb	02 46 55.7	
	comp=Z,38nm,0.9s						
WRAB	Tennant Creek	48.47	257	P	P	02 46 54.4	-1.5
WRAB				IAmb	IAmb	02 46 55.9	
	comp=Z,25nm,0.8s						
WRAB	Tennant Creek	48.47	257	*de*P	P	02 46 54.3	-1.5
WRAB				pmax	pmax		
	comp=Z,21nm,0.9s						
WRA	Warramunga Arr	48.48	257		P	02 46 54.4	-1.5
WRA	Warramunga Arr	48.48	257	P	P	02 46 54.3	-1.5
	comp=Z,18nm,0.8s,baz=91,slow=7.1,SNR=94						
WRA				PcP	PcP	02 48 17.1	-0.2
	comp=Z,5.9nm,1.0s,baz=90,slow=3.8,SNR=5.0						
	comp=Z,18nm,0.8s						
WRA	Warramunga Arr	48.48	257	P	P	02 46 54.4	-1.5
WRA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
AS31	Alice Springs	48.77	252		P	02 46 56.6	-1.5
ASAR	Alice Springs	48.77	252	P	P	02 46 56.7	-1.4
ASAR	Alice Springs	48.77	252	P	P	02 46 57.1	-1.0
	comp=Z,134nm,0.7s,baz=85,slow=8.5,SNR=864						
KDU	Kakadu	51.08	266	P	P	02 47 16.3	+0.9
MTN	Manton Dam	52.34	266		P	02 47 23.1	-1.6
MTN	Manton Dam	52.34	266	P	P	02 47 24.8	+0.1
FORT	Forrest	54.15	243	P	P	02 47 36.3	-1.3
FORT				IAmb	IAmb	02 47 37.2	
	comp=Z,34nm,1.2s						
KNRA	Kununurra	54.18	262	P	P	02 47 37.3	-0.7
KNRA				IAmb	IAmb	02 47 44.1	
	comp=Z,24nm,0.8s						
SWI	Sorong	55.11	280	P	P	02 47 44.3	-0.4
SOEI	Soe	59.54	268	P	P	02 48 14.5	-1.2
SOEI	Soe	59.54	268	P	P	02 48 17.0	+1.4
SOEI	Soe	59.54	268	P	P	02 48 15.0	-0.6
SANI	Sanana	59.79	277	P	P	02 48 18.0	+0.8
SANI	Sanana	59.79	277	P	P	02 48 16.7	-0.5
	comp=Z,66nm,1.1s						
PSA00	Pilbara Seismi	61.85	254		P	02 48 29.1	-1.8
PSA00	Pilbara Seismi	61.85	254		P	02 48 30.0	-1.0
PSA00				IAmb	IAmb	02 48 31.0	
	comp=Z,55nm,1.1s						
PSA00	Pilbara Seismi	61.85	254	P	P	02 48 30.0	-1.0
MBWA	Marble Bar	62.01	254		P	02 48 31.1	-0.9
MBWA	Marble Bar	62.01	254	P	P	02 48 31.6	-0.4
EDFI	Ende, Flores	62.24	268	P	P	02 48 32.5	-1.2
MEEK	Meekatharra	62.51	248	P	P	02 48 35.9	+0.7
LUWI	Luwuk	63.15	277	P	P	02 48 38.6	-1.0
LUWI	Luwuk	63.15	277	P	P	02 48 40.8	+1.2
LUWI	Luwuk	63.15	277	P	P	02 48 39.4	-0.2
	comp=Z,7μmcomp=Z,54nm,0.5s						
VNDA	Vanda	63.17	186	P	P	02 48 39.7	+1.1
VNDA	Vanda	63.17	186	P	P	02 48 39.5	+0.9
	comp=Z,1.3nm,0.7s,baz=28,slow=5.7,SNR=8.8						
	comp=Z,1.3nm,0.7s						
VNDA	Vanda	63.17	186	P	P	02 48 39.7	+1.1
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
MORW	Morawa	64.60	245		P	02 48 47.8	-1.0
MORW	Morawa	64.60	245	P	P	02 48 50.1	+1.3
BNSI	Bone	64.81	272	P	P	02 48 50.8	+0.5
	comp=Z,77nm,1.3s						
KAPI	Kappang	64.99	272		P	02 48 50.3	-1.3
KAPI	Kappang	64.99	272	P	P	02 48 52.0	+0.5
KAPI	Kappang	64.99	272	*de*P	P	02 48 51.0	-0.5
KAPI				pmax	pmax		
	comp=Z,20nm,0.7s						
TOLI2	Tolitoli	65.68	278	P	P	02 48 54.6	-1.3
TOLI2	Tolitoli	65.68	278

comp=Z,5.1nm,0.7s
QSPA South Pole Qui 74.58 180 P P 02 49 50.7 +1.8
comp=Z,4.8nm,0.7s,baz=9.0,slow=1.2,SNR=16
comp=Z,4.8nm,0.7s
WAKR Walker 74.62 42 P 02 49 50.6 +0.9
WAKR IAmb IAmb 02 49 51.8
comp=Z,6.2nm,0.7s
GSC Goldstone, Bar 74.63 46 P P 02 49 50.1 +0.5
GSC IAmb IAmb 02 49 51.5
comp=Z,7.5nm,1.0s
GSC Goldstone, Bar 74.63 46 P P 02 49 50.1 +0.5
GSC pmax pmax
comp=Z,7.0nm,1.0s
BC3 Big Chuckawall 74.73 48 P 02 49 51.0 +0.8
BEKR Beckworth 74.81 40 P 02 49 51.0 +0.3
QSM Queen of Sheba 74.94 45 P P 02 49 51.4 +0.1
QSM IAmb IAmb 02 49 53.1
comp=Z,5.6nm,0.8s
DSP Deep Springs 74.95 44 P 02 49 52.8 +1.6
LHV Little Huntoon 75.08 43 P P 02 49 52.6 +0.6
LHV IAmb IAmb 02 49 54.4
comp=Z,6.2nm,0.8s
GWY Greenwater Val 75.19 45 P P 02 49 53.5 +0.5
IRM Iron Mountain 75.20 48 P 02 49 52.9 0.0
IRM IAmb IAmb 02 49 55.1
comp=Z,11nm,1.0s
KSRS Korea Array 75.24 316 P P 02 49 53.4 +0.5
comp=Z,5.7nm,0.9s,baz=131,slow=5.9,SNR=15
comp=Z,5.7nm,0.9s
KSAR Wonju Array Be 75.26 316 P 02 49 52.7 -0.3
KSAR Wonju Array Be 75.26 316 P P 02 49 52.7 -0.3
KDAK Kodiak Island 75.27 12 *ce*P P **02 49 51.5 -1.1**
KDAK pmax pmax
comp=Z,34nm,1.5s
KDAK Kodiak Island 75.27 12 P P 02 49 53.3 +0.7
baz=202
NVAR Mina Array Bea 75.31 43 P P 02 49 53.6 -0.1
NVAR Mina Array Bea 75.31 43 P P 02 49 54.9 +1.2
comp=Z,5.0nm,0.7s,baz=226,slow=9.4,SNR=49
comp=Z,5.0nm,0.7s
PAHR Pah Rah Range 75.33 41 P P 02 49 53.9 +0.2
GMN Gold Mountain 75.39 44 P P 02 49 54.7 +0.6
GMN IAmb IAmb 02 49 55.9
comp=Z,5.5nm,0.7s
NV11 Mina Array Sit 75.41 43 P P 02 49 54.0 -0.1
BLYC Blythe 75.44 48 P P 02 49 55.5 +1.3
BLYC IAmb IAmb 02 49 56.4
comp=Z,9.6nm,0.9s
113A Mohawk Valley, 75.51 50 P 02 49 55.2 +0.6
113A IAmb IAmb 02 49 56.6
comp=Z,7.0nm,0.8s
J04A Umpqua Nationa 75.77 37 IAmb IAmb 02 49 59.0
comp=Z,11nm,0.9s
TYV Tymovskoe 75.79 334 *e*P P **02 49 55.4 -0.3**
TYV pmax pmax
comp=Z,12nm,1.0s
TYV pmax pmax
comp=Z,100nm,3.7s
KSM Kuching 75.81 276 P 02 49 56.6 -0.1
KSM Kuching 75.81 276 P P 02 49 57.4 +0.7
214A Organ Pipe Nat 75.83 51 IAmb IAmb 02 49 58.6
comp=Z,8.2nm,1.1s
TPH Tonopah 75.83 43 P P 02 49 57.1 +0.6
TPH IAmb IAmb 02 49 58.4
comp=Z,5.8nm,0.8s
TPH Tonopah 75.83 43 P P 02 49 57.1 +0.6
TPH pmax pmax
comp=Z,6.0nm,0.8s
TPNV Topopah Spring 75.88 45 P 02 49 57.2 +0.4
TPNV IAmb IAmb 02 49 58.8
comp=Z,6.7nm,0.8s
TPNV Topopah Spring 75.88 45 P P 02 49 57.2 +0.4
TPNV pmax pmax
comp=Z,7.0nm,0.8s
M11K Mekoryuk 75.91 4 P P 02 49 56.8 +0.6
baz=189
MSHR Mys Shultsa 76.12 322⇑ *e*P P **02 49 56.9 -0.9**
MSHR pmax pmax
comp=Z,6.0nm,1.0s
INCN Inchon 76.12 316 P P 02 49 57.7 -0.3
INCN Inchon 76.12 316 P P 02 49 58.9 +0.9
INCN Inchon 76.12 316 P P 02 49 57.7 -0.3
INCN pmax pmax
comp=Z,31nm,0.9s
K05A Summer Lake 76.17 38 P P 02 49 58.8 +0.4
P18K Big Mountain, 76.28 10 P P 02 49 58.9 +0.6
baz=199
O17K Koliganek Bris 76.35 9 P P 02 49 59.3 +0.7
baz=198
SHPR Sheep Range 76.39 46 P 02 50 00.4 +0.7
W13A Hualapai Mount 76.58 47 P P 02 50 01.8 +1.0
W13A IAmb IAmb 02 50 03.0
comp=Z,6.6nm,0.9s
USRK Ussuriysk Ar. 76.61 324 P P 02 49 59.4 -1.1
comp=Z,4.0nm,0.9s,baz=108,slow=4.7,SNR=11
comp=Z,4.0nm,0.9s
Y14A Wickenburg 76.64 49 P 02 50 02.2 +1.2
Y14A IAmb IAmb 02 50 03.0
comp=Z,11nm,0.8s
M14K Bethel 76.66 6 P P 02 50 01.2 +0.8
baz=193
M15K Kasigluk River 76.75 7 P P 02 50 01.6 +0.7
baz=194
PINE Pine Mountain 76.78 37 P 02 50 01.7 0.0
N17K Nushagak Hills 77.05 9 P P 02 50 03.4 +0.8
baz=197
R11B Troy Canyon, C 77.06 44 P 02 50 03.9 +0.4
L14K Kuka Creek 77.16 6 P P 02 50 04.1 +1.0
baz=192
O19K Port Alsworth 77.20 10 P P 02 50 04.3 +0.9
baz=200
ILSW Iliamna Southw 77.21 11 P P 02 50 03.8 +0.2
M16K Timber Creek 77.28 8 P P 02 50 04.7 +0.9
baz=196
N18K Kilae Creek 77.40 9 P P 02 50 05.0 +0.5
baz=199
O20K Slope Mountain 77.40 11 P P 02 50 05.4 +0.8
baz=202
BRSE Bradley Lake S 77.45 12 P P 02 50 05.4 +0.6
baz=204
TUC Tucson 77.51 51 P P 02 50 06.3 +0.4
TUC IAmb IAmb 02 50 08.4
comp=Z,8.3nm,0.8s
TUC Tucson 77.51 51 P P 02 50 06.3 +0.4
TUC pmax pmax
comp=Z,8.0nm,0.8s
L15K Ungalak Mounta 77.61 6 P P 02 50 06.3 +0.7
baz=193
N19K Bonanza Creek 77.75 10 P P 02 50 06.9 +0.3
baz=200
M17K Holitna River 77.85 8 P P 02 50 07.8 +0.8
baz=197
L16K Owhat River 77.88 7 P P 02 50 07.9 +0.8
baz=195
LCMT Little Creek M 77.98 46 P P 02 50 08.3 -0.2
X16A Lo Mia Camp, P 78.00 49 IAmb IAmb 02 50 11.7
comp=Z,13nm,0.9s
SEW Seward 78.05 13 P P 02 50 08.7 +0.7
baz=205
M18K Stony River 78.18 9 P P 02 50 09.2 +0.4
baz=199
K15K Wolf Creek Mou 78.21 6 P P 02 50 09.6 +0.7
baz=193
319A Douglas 78.23 53 IAmb IAmb 02 50 12.3
comp=Z,13nm,0.9s
MDJ Mudanjiang 78.24 323 P P 02 50 10.2 +0.7
MDJ pmax pmax
comp=Z,10.0nm,1.0s
SLKM Skilak Lake 78.26 12 IAmb IAmb 02 50 10.2
comp=Z,17nm,1.0s
U15A North Rim 78.36 47 IAmb IAmb 02 50 13.2
comp=Z,8.9nm,0.9s
L17K Donlin 78.44 8 P P 02 50 10.9 +0.7
baz=196
N20K Mount Spurr 78.52 11 P P 02 50 11.0 +0.3
baz=202
SPCR Spurr Chakacha 78.52 11 P P 02 50 10.9 +0.2
baz=202
SPU Mount Spurr 78.53 11 IAmb IAmb 02 50 11.5
comp=Z,8.7nm,1.1s
WUAZ Wupatki 78.57 48 IAmb IAmb 02 50 14.1
comp=Z,7.1nm,1.0s
L18K Granite Mounta 78.75 9 P P 02 50 12.2 +0.4
baz=198
PKCU Pink Cliffs 78.84 46 IAmb IAmb 02 50 16.4
comp=Z,11nm,1.2s

STLK Strandline Lak 78.86 11 IAmb IAmb 02 50 12.6
comp=Z,7.6nm,1.1s
RC01 Rabbit Creek A 78.89 12 P P 02 50 12.9 +0.3
baz=205
CRAG Craig 78.93 23 P P 02 50 13.1 +0.2
baz=221
PWL Port Wells 78.97 13 IAmb IAmb 02 50 13.9
comp=Z,16nm,1.2s
PWL Port Wells 78.97 13 P P 02 50 13.1 0.0
baz=206
L19K White Mountain 78.98 9 P P 02 50 13.3 +0.1
baz=200
M20K Styx River 78.99 10 P P 02 50 13.5 +0.2
baz=201
K17K Iditarod 79.00 8 P P 02 50 13.6 +0.4
baz=196
HKPS Hong Kong Po S 79.01 297 P P 02 50 15.3 +1.1
SUA Susitna One 79.03 12 IAmb IAmb 02 50 14.1
comp=Z,7.4nm,0.8s
SUA Susitna One 79.03 12 P P 02 50 13.4 -0.1
baz=204
KAIM Kayak Island 79.06 15 P P 02 50 13.8 +0.2
baz=210
NJ2 Nanjing 79.10 308 ⇑P P **02 50 15.6 +1.2**
NJ2 pmax pmax
comp=Z,12nm,0.6s
X18A Snowflake 79.15 50 IAmb IAmb 02 50 17.2
comp=Z,5.8nm,0.8s
J16K Anvik River 79.28 6 P P 02 50 15.0 +0.3
baz=194
SKT Skwentna 79.36 11 P P 02 50 14.8 -0.4
baz=203
L20K Farewell, AK 79.42 10 P P 02 50 15.4 -0.2
baz=200
M22K Willow 79.42 12 P P 02 50 15.5 +0.1
baz=204
KNK Knik Glacier 79.45 13 P P 02 50 15.8 +0.1
baz=206
PMR Palmer 79.47 12 IAmb IAmb 02 50 17.3
comp=Z,12nm,1.4s
PMR Palmer 79.47 12 P P 02 50 15.9 +0.2
baz=205
BGLC Bering Glacier 79.51 15 P P 02 50 16.5 +0.5
baz=211
J17K VABM Dome 79.56 7 P P 02 50 17.3 +1.1
baz=195
KASI Kota Agung 79.57 267 P P 02 50 16.9 -0.5
comp=Z,47nm,1.0s
MA2 Magadan 79.81 343 P P 02 50 16.6 -1.0
comp=Z,9.0nm,0.6s,baz=153,slow=6.8,SNR=6.3
comp=Z,9.0nm,0.6s
MA2 Magadan 79.81 343 P P 02 50 18.4 +0.8
MA2 Magadan 79.81 343⇑ *e*P P **02 50 17.1 -0.5**
MA2 pmax pmax
comp=Z,15nm,1.7s
I17K Unalakleet 79.86 6 P P 02 50 18.8 +1.1
baz=194
121A Cookes Peak, D 79.88 52 IAmb IAmb 02 50 21.5
comp=Z,7.8nm,0.8s
WAX Waxell Ridge 79.91 15 IAmb IAmb 02 50 19.2
comp=Z,10nm,0.8s
MESA MESA 79.91 16 P P 02 50 18.9 +0.5
baz=212
BMRM Bremner River 79.92 14 P P 02 50 18.4 +0.2
baz=210
J18K Innoko River 79.93 8 P P 02 50 18.9 +0.7
baz=198
WRAK Wrangell Islan 79.94 22 P P 02 50 18.8 +0.5
baz=221
M23K Glacier View 79.94 13 P P 02 50 18.6 +0.2
baz=206
CUT Chulitna 79.99 11 P P 02 50 18.7 +0.2
baz=204
SCM Sheep Creek Mo 80.06 13 P P 02 50 19.1 +0.1
baz=207
KLU Klutina 80.07 14 IAmb IAmb 02 50 20.1
comp=Z,6.0nm,1.0s
KLU Klutina 80.07 14 P P 02 50 19.1 0.0
baz=208
PPLA Purkeypile 80.09 10 P P 02 50 19.6 +0.3
baz=202
CRQE Cirque 80.11 15 P P 02 50 19.6 +0.2
baz=211
ANM Nome 80.11 4 P P 02 50 19.3 +0.1
baz=189
MDSI Maura Dua 80.14 268 P P 02 50 18.4 -2.0
comp=Z,25nm,1.1s
BNX BinXian 80.15 323 ⇓P P **02 50 19.4 -0.3**
BNX pmax pmax
comp=Z,17nm,1.0s
TGL Tana Glacier 80.18 15 IAmb IAmb 02 50 20.9
comp=Z,15nm,1.2s
PNL Peninsula 80.19 17 P P 02 50 19.7 0.0
baz=214
K20K Telida 80.22 9 IAmb IAmb 02 50 21.5
comp=Z,15nm,1.2s
K20K Telida 80.22 9 P P 02 50 20.1 +0.4
baz=200
PINM Pinnacle 80.30 17 P P 02 50 20.4 0.0
baz=214
VRDI Verde Repeater 80.43 15 IAmb IAmb 02 50 22.2
comp=Z,20nm,1.4s
GRNC Granite Creek 80.43 16 IAmb IAmb 02 50 21.8
comp=Z,5.1nm,0.8s
H16K Elim 80.44 5 P P 02 50 21.4 +0.5
baz=192
N25K Chitina, Valde 80.48 14 P P 02 50 21.4 +0.2
baz=210
GLB Gilahina Butte 80.52 15 IAmb IAmb 02 50 22.4
comp=Z,20nm,1.5s
M24K Tolsona, Glenn 80.56 13 P P 02 50 22.0 +0.4
baz=208
J19K Poorman 80.59 8 P P 02 50 22.2 +0.5
baz=199
G15K Niukluk 80.64 5 P P 02 50 22.4 +0.5
baz=190
P29M Windy Craggy 80.65 18 IAmb IAmb 02 50 23.4
comp=Z,8.3nm,0.8s
P29M Windy Craggy 80.65 18 P P 02 50 22.5 +0.4
baz=216,SNR=6.1
WAT6 Susitna Watana 80.65 12 P P 02 50 22.5 +0.3
baz=206
MCARA McCarthy VSAT 80.67 15 P P 02 50 22.1 0.0
baz=211
WAT1 Susitna Watana 80.71 12 P P 02 50 22.4 0.0
baz=206
BARN Barnard Glacie 80.74 16 IAmb IAmb 02 50 23.9
comp=Z,5.9nm,0.9s
CTG Chitna Glacier 80.74 16 P P 02 50 22.9 +0.2
baz=213
O28M Mount Upton 80.89 16 P P 02 50 23.7 0.0
baz=214
PLBC Pleasant Camp 80.93 19 P P 02 50 23.9 +0.4
baz=217
TRF Thorofare Moun 80.94 11 IAmb IAmb 02 50 25.9
comp=Z,12nm,1.0s
TRF Thorofare Moun 80.94 11 P P 02 50 23.6 -0.2
baz=204
O29M Mount Kennedy 80.95 17 P P 02 50 24.1 +0.3
baz=215
TNA Tin City 80.95 3 P P 02 50 24.0 +0.5
baz=187
F14K Arctic Creek 80.95 4 P P 02 50 24.0 +0.5
baz=188
J20K Nowinta River 80.98 9 P P 02 50 24.1 +0.4
baz=200
CHUM Lake Minchumin 80.99 10 P P 02 50 24.1 +0.3
baz=202
HARP HAARP 81.04 14 P P 02 50 24.5 +0.4
baz=209
Y22A Socorro 81.10 51 IAmb IAmb 02 50 27.6
comp=Z,6.9nm,0.9s
T35M Bob Quinn 81.13 23 P P 02 50 25.1 +0.4
baz=223
GCSA Galena City Sc 81.14 8 P P 02 50 25.0 +0.5
baz=198
G16K Koyuk River 81.17 5 P P 02 50 25.5 +0.8
baz=192
RND Reindeer 81.17 12 IAmb IAmb 02 50 25.8
comp=Z,14nm,1.0s
SKAG Skagway 81.25 19 P P 02 50 26.0 +0.8
baz=218
P30M Million Dollar 81.28 18 P P 02 50 25.9 +0.4
baz=217,SNR=5.9
VHRN Van Horn 81.33 55 IAmb IAmb 02 50 28.7
comp=Z,10.0nm,0.7s
PV05 Paradox Valley 81.38 47 IAmb IAmb 02 50 29.1
comp=Z,5.4nm,0.8s

BPAW Bear Paw Mtn. 81.42 10 IAmb IAmb 02 50 25.8
comp=Z,13nm,1.4s
BPAW Bear Paw Mtn. 81.42 10 P P 02 50 26.1 +0.1
baz=203
G17K Kiwalik Mounta 81.43 6 P P 02 50 26.3 +0.2
baz=194
MCK McKinley 81.45 11 P P 02 50 26.1 -0.2
baz=205
PAX Paxson 81.48 13 P P 02 50 26.2 -0.3
baz=208
S34M Telegraph Cree 81.49 22 P P 02 50 26.6 0.0
baz=222
I20K Naaghedeneel 81.51 9 P P 02 50 26.9 +0.4
baz=200
M26K Nabesna, AK 81.55 14 IAmb IAmb 02 50 28.1
comp=Z,15nm,1.1s
M26K Nabesna, AK 81.55 14 P P 02 50 26.9 0.0
baz=211,SNR=14
PV18 Skein Mesa, Pa 81.59 47 IAmb IAmb 02 50 29.5
comp=Z,7.2nm,0.8s
PV20 West Nyswonger 81.59 47 IAmb IAmb 02 50 29.9
comp=Z,11nm,0.9s
YUK3 Moose Creek 81.65 16 P P 02 50 27.6 0.0
baz=213,SNR=5.8
HYT Haines Junctio 81.68 17 P P 02 50 28.1 +0.5
baz=216
M27K Edge Creek, AK 81.78 15 IAmb IAmb 02 50 29.8
comp=Z,12nm,1.1s
M27K Edge Creek, AK 81.78 15 P P 02 50 28.4 +0.3
baz=212,SNR=10
TXAR Lajitas Array 81.80 57 P 02 50 29.6 +0.6
TXAR Lajitas Array 81.80 57 P P 02 50 29.9 +1.0
comp=Z,3.4nm,1.0s,baz=218,slow=7.9,SNR=25
comp=Z,3.4nm,1.0s
TXAR Lajitas Array 81.80 57 P P 02 50 30.0 +1.0
MENT Mentasta 81.84 14 P P 02 50 28.6 +0.3
MENT IAmb IAmb 02 50 29.1
comp=Z,5.7nm,0.9s
MENT Mentasta 81.84 14 P P 02 50 28.9 +0.6
Q32M Nakina River 81.88 21 P P 02 50 29.1 +0.3
baz=221
ANMO Albuquerque 81.91 50 P 02 50 28.2 -1.3
ANMO IAmb IAmb 02 50 31.6
comp=Z,7.4nm,0.9s
ANMO Albuquerque 81.91 50 *ce*P P **02 50 30.4 +0.9**
ANMO pmax pmax
comp=Z,7.0nm,1.0s
PV15 Paradox Valley 81.93 47 P 02 50 29.0 -0.6
PV15 IAmb IAmb 02 50 31.2
comp=Z,6.9nm,0.8s
H19K Roundabout Mou 81.94 8 P P 02 50 28.4 -0.2
H19K Roundabout Mou 81.94 8 P P 02 50 29.2 +0.5
baz=198
L26K Log Cabin Wild 82.00 14 IAmb IAmb 02 50 30.4
comp=Z,11nm,1.3s
L26K Log Cabin Wild 82.00 14 P P 02 50 29.6 +0.5
baz=211
G18K Tagagawik 82.03 7 P P 02 50 29.5 +0.4
baz=196
O30N Mendenhall 82.06 18 P P 02 50 29.8 +0.3
baz=218
BVCY Beaver Creek 82.09 15 P P 02 50 30.0 +0.4
baz=213,SNR=5.2
H20K Anotleneega Mo 82.11 8 P P 02 50 30.1 +0.5
baz=199
K24K Donnelly Dome 82.15 13 P P 02 50 30.0 +0.1
baz=208
TIA Tai'an 82.20 311 P P 02 50 31.4 +0.7
TIA pmax pmax
comp=Z,20nm,0.8s
NEA2 Nenana 82.21 11 P P 02 50 30.4 +0.3
baz=205
SEY Seymchan 82.23 346 P P 02 50 29.9 -0.4
comp=Z,22nm,0.9s,baz=143,slow=5.4,SNR=25
comp=Z,22nm,0.9s
SEY Seymchan 82.23 346⇑ *e*P P **02 50 30.1 -0.1**
SEY pmax pmax
comp=Z,39nm,1.1s
I21K Tanana 82.25 10 P P 02 50 30.5 +0.1
baz=202
DLBC Dease Lake 82.28 22 P P 02 50 30.8 +0.1
baz=223
RIDG Independent Ri 82.29 13 IAmb IAmb 02 50 32.2
comp=Z,8.6nm,1.1s
RIDG Independent Ri 82.29 13 P P 02 50 30.8 +0.2
baz=209
F17K Baldwin Pennin 82.30 5 P P 02 50 31.0 +0.5
baz=193
MLY Manley 82.32 10 IAmb IAmb 02 50 31.1
comp=Z,14nm,1.3s
MLY Manley 82.32 10 P P 02 50 30.8 +0.1
baz=203
WHY Whitehorse 82.34 19 P P 02 50 31.3 +0.3
baz=219
DOT Dot Lake 82.38 13 IAmb IAmb 02 50 32.1
comp=Z,18nm,1.4s
L27K Beaver Creek, 82.39 14 P P 02 50 31.7 +0.6
L27K Beaver Creek, 82.39 14 P P 02 50 31.5 +0.3
baz=212
BCAR Beaver Creek A 82.41 15 P P 02 50 31.3 +0.1
HDA Harding Lake 82.45 12 P P 02 50 30.4 -1.0
HDA IAmb IAmb 02 50 33.6
comp=Z,10nm,1.0s
HDA Harding Lake 82.45 12 P P 02 50 31.2 -0.1
baz=207,SNR=7.8
G19K Purcell Mounta 82.45 7 P P 02 50 31.6 +0.3
baz=197
H21K Melozitna Rive 82.57 9 P P 02 50 32.3 +0.3
baz=201
P33M Teslin, Yukon 82.64 20 P P 02 50 32.6 +0.1
baz=221
R33M Jennings River 82.65 21 P P 02 50 32.8 +0.1
baz=222
I23K Minto, Yukon-K 82.66 11 IAmb IAmb 02 50 33.2
comp=Z,12nm,1.1s
I23K Minto, Yukon-K 82.66 11 P P 02 50 32.8 +0.4
baz=205
SCRK Sand Creek 82.69 13 P P 02 50 32.8 +0.1
baz=210,SNR=6.1
COLA College 82.69 11 P P 02 50 32.4 -0.1
COLA College 82.69 11 P P 02 50 32.1 -0.5
COLA College 82.69 11 *d*/P P **02 50 32.0 -0.5**
COLA pmax pmax
comp=Z,17nm,0.9s
COLA College 82.69 11 P P 02 50 32.6 +0.1
baz=206
TPAW Teton Pass 82.70 41 IAmb IAmb 02 50 35.3
comp=Z,6.0nm,0.7s
M29M Somme Creek 82.74 16 P P 02 50 33.4 +0.3
baz=215
IMAR Indian Mountai 82.74 9 P 02 50 33.1 +0.3
IL31 82.78 12 P P 02 50 33.2 +0.2
IL31 IAmb IAmb 02 50 33.8
comp=Z,7.5nm,0.8s
ILAR Eielson Array 82.78 12 P P 02 50 32.8 -0.3
ILAR Eielson Array 82.78 12 P P 02 50 32.4 -0.7
comp=Z,2.8nm,0.6s,baz=226,slow=5.6,SNR=32
comp=Z,2.8nm,0.6s
ILAR Eielson Array 82.78 12 P P 02 50 32.8 -0.3
E17K Hotham Inlet 82.87 5 P P 02 50 33.7 +0.3
baz=193
J25K Salcha River, 82.95 12 IAmb IAmb 02 50 35.0
comp=Z,16nm,1.2s
J25K Salcha River, 82.95 12 P P 02 50 34.3 +0.3
baz=208,SNR=9.5
POKR Poker Plat Res 82.99 11 P P 02 50 33.9 -0.2
baz=206
H22K Ishtalitna Cre 83.01 9 P P 02 50 34.1 -0.1
baz=203
F19K Shaleruckik Mo 83.03 7 P P 02 50 34.6 +0.3
baz=197
K27K Chicken 83.16 14 IAmb IAmb 02 50 36.9
comp=Z,10nm,1.2s
K27K Chicken 83.16 14 P P 02 50 35.4 +0.4
baz=212
YHL Hebgen Lake 83.22 40 IAmb IAmb 02 50 38.6
comp=Z,6.0nm,0.7s
J26L Joseph Creek 83.23 13 P P 02 50 35.6 +0.1
baz=210,SNR=14
PD31 Pinedale Array 83.25 42 P P 02 50 35.7 -0.5
PD31 IAmb IAmb 02 50 37.3
comp=Z,4.5nm,0.7s
PDAR Pinedale Array 83.25 42 P P 02 50 36.1 -0.2
PDAR Pinedale Array 83.25 42 P P 02 50 36.6 +0.4
comp=Z,3.7nm,0.6s,baz=214,slow=3.4,SNR=42
comp=Z,3.7nm,0.6s
H23K Yukon River 83.25 10 P P 02 50 35.8 +0.3

baz=204
G21K Allakaket 83.27 8 P P 02 50 36.0 +0.5
baz=201,SNR=6.6
M30M Minto, Yukon 83.30 17 P P 02 50 35.9 +0.1
baz=217
E18K Tukpahlearik C 83.31 5 P P 02 50 36.0 +0.3
baz=194,SNR=5.3
L29M L29M 83.37 16 P P 02 50 36.6 +0.4
baz=215
D17K Noatak River 83.38 4 P P 02 50 36.3 +0.3
baz=191
F20K Avaraart Lake 83.48 7 P P 02 50 37.0 +0.4
baz=198
H24K Noodor Dome 83.56 11 P P 02 50 37.2 +0.2
baz=206
M31M Drury Creek, Y 83.69 18 P P 02 50 37.7 -0.1
baz=219
E19K Redstone River 83.69 7 P P 02 50 38.0 +0.3
baz=197,SNR=9.9
PRP Porcupine Dome 83.72 12 P P 02 50 38.0 0.0
baz=208,SNR=9.8
DAWY Dawson 83.83 15 IAmb IAmb 02 50 39.9
comp=Z,16nm,1.2s
DAWY Dawson 83.83 15 P P 02 50 38.8 +0.3
baz=214,SNR=7.8
WTLY Watson Lake, Y 83.93 21 P P 02 50 39.2 +0.2
baz=224
F21K Alatna River 83.94 8 IAmb IAmb 02 50 40.1
comp=Z,10nm,1.1s
F21K Alatna River 83.94 8 P P 02 50 39.2 +0.3
baz=201,SNR=5.6
G22K Bettles 83.94 9 P P 02 50 39.2 +0.3
baz=203,SNR=6.2
G23K Bananza Creek 83.98 10 IAmb IAmb 02 50 40.5
comp=Z,12nm,1.1s
G23K Bananza Creek 83.98 10 P P 02 50 39.0 -0.1
baz=204,SNR=7.0
EGAK Eagle 84.01 14 P P 02 50 39.6 +0.3
baz=212,SNR=6.6
I26K Coal Creek Min 84.02 13 IAmb IAmb 02 50 40.8
comp=Z,16nm,1.3s
I26K Coal Creek Min 84.02 13 P P 02 50 39.5 +0.2
baz=211,SNR=5.5
K29M Barlow Dome 84.13 16 IAmb IAmb 02 50 41.7
comp=Z,6.7nm,0.9s
K29M Barlow Dome 84.13 16 P P 02 50 40.1 +0.1
baz=216
C17K DeLong Mountai 84.13 4 P P 02 50 40.1 +0.3
baz=191
H25L Birch Creek 84.32 11 P P 02 50 41.2 +0.5
baz=208
TOAD Toad River Com 84.35 23 P P 02 50 41.4 +0.2
baz=228
F22K John River 84.39 9 P P 02 50 41.6 +0.5
baz=202
BILL Bilibino 84.40 353⇓ *e*P P 02 50 40.9 -0.3
BILL pmax pmax
comp=Z,35nm,1.7s
G24K Hadweenzic Riv 84.41 11 P P 02 50 41.7 +0.4
baz=206
COLD Coldfoot 84.43 9 P P 02 50 41.9 +0.6
baz=204,SNR=7.6
J29N Klondike Camp 84.45 15 P P 02 50 41.8 +0.3
baz=215
HNS HongShan 84.45 311 ⇑P P 02 50 43.5 +1.4
HNS pmax pmax
comp=Z,31nm,1.2s
BJT Baijiatuau 84.51 314 P P 02 50 42.9 +0.6
BJI Beijing 84.51 314 P P 02 50 42.8 +0.5
BJI pmax pmax
comp=Z,11nm,1.1s
BJI pmax pmax
comp=Z,51nm,3.8s
E20K Nigu River 84.58 7 P P 02 50 42.6 +0.5
baz=198,SNR=13
D19K Kuna River 84.60 6 P P 02 50 42.3 +0.1
baz=196,SNR=5.6
I27K Kandik River 84.61 13 P P 02 50 42.9 +0.5
baz=212
G25K Bearman Lake 84.71 11 P P 02 50 43.3 +0.6
baz=208
ZEA Zeya 84.77 330 *e*P P 02 50 43.6 +0.3
I28M Miner Creek 84.86 14 IAmb IAmb 02 50 44.6
comp=Z,5.9nm,1.0s
I28M Miner Creek 84.86 14 P P 02 50 43.7 +0.1
baz=214
MMPY Sheldon Lake, 84.95 19 P P 02 50 44.5 +0.4
baz=222
D20K Etivluk River 84.97 7 P P 02 50 44.3 +0.3
baz=198,SNR=7.2
LYN LuoYang 85.00 308 P P 02 50 45.5 +0.6
LYN pmax pmax
comp=Z,53nm,0.9s
E21K Killik River 85.02 8 IAmb IAmb 02 50 45.5
comp=Z,11nm,1.1s
E21K Killik River 85.02 8 P P 02 50 44.5 +0.2
baz=200
E22K Anaktuvuk Pass 85.03 8 IAmb IAmb 02 50 45.7
comp=Z,11nm,0.9s
E22K Anaktuvuk Pass 85.03 8 P P 02 50 44.7 +0.3
baz=202
J30M Hart River 85.03 16 P P 02 50 44.5 0.0
baz=217
C19K Lookout Ridge 85.05 5 IAmb IAmb 02 50 45.9
comp=Z,12nm,0.9s
C19K Lookout Ridge 85.05 5 P P 02 50 44.9 +0.5
baz=195
F24K Squaw Lake 85.07 10 P P 02 50 45.0 +0.4
baz=206
H27K Steamboat Moun 85.16 13 IAmb IAmb 02 50 46.7
comp=Z,7.8nm,1.1s
H27K Steamboat Moun 85.16 13 P P 02 50 45.3 +0.3
baz=212
I29M Ogilvie Camp, 85.17 15 P P 02 50 45.3 +0.2
baz=215
E23K Chandalar 85.28 9 IAmb IAmb 02 50 48.3
comp=Z,10nm,1.4s
E23K Chandalar 85.28 9 P P 02 50 46.1 +0.4
baz=204
G26K Porcupine Rive 85.31 12 P P 02 50 46.3 +0.6
baz=210
E24K Your Creek 85.47 10 P P 02 50 46.8 +0.3
baz=205
F25K Christian Rive 85.53 11 P P 02 50 47.5 +0.6
baz=208
I30M Mount Dempster 85.53 15 IAmb IAmb 02 50 48.1
comp=Z,7.6nm,1.0s
I30M Mount Dempster 85.53 15 P P 02 50 47.1 0.0
baz=217
BMAR Burnt Mountain 85.58 11 P 02 50 46.8 -0.3
C21K Knifeblade Rid 85.60 7 P P 02 50 47.5 +0.4
baz=199
D22K Ayikyak River 85.60 8 P P 02 50 47.5 +0.4
baz=201
G27K Doyon Strip 85.63 13 P P 02 50 47.8 +0.5
baz=212
KOTAN Kotaneelee Air 85.66 23 P P 02 50 48.0 +0.4
baz=228
ENH Enshi 85.79 303 P P 02 50 49.7 +0.8
TOLK Toolik Lake Re 85.82 9 P P 02 50 48.6 +0.3
baz=204
H29M Whitestone 85.86 14 P P 02 50 47.5 -0.9
H29M IAmb IAmb 02 50 49.1
comp=Z,8.3nm,1.1s
H29M Whitestone 85.86 14 P P 02 50 48.8 +0.3
baz=215
F26K Sheenjek River 85.90 11 P P 02 50 49.0 +0.4
baz=210
D23K Nanushuk River 85.96 9 P P 02 50 49.2 +0.3
baz=203
A19K Wainwright 85.99 5 P P 02 50 49.4 +0.5
baz=193
E25K Arctic Village 86.01 11 P P 02 50 49.7 +0.5
baz=208
B20K Meade River 86.15 6 P P 02 50 50.1 +0.4
baz=197
XLT XiLinHaoTe 86.23 317 *e*P P 02 50 51.1 +0.2
XLT pmax pmax
comp=Z,11nm,1.3s
XLT pmax pmax
comp=Z,120nm,3.8s
EPYK Eagle Plains 86.37 14 P P 02 50 51.0 0.0
baz=217
G29M Pine Creek 86.51 14 P P 02 50 51.6 0.0
baz=215
H31M Peel River 86.52 16 P P 02 50 51.9 +0.3
baz=219
C23K Itkillik River 86.77 8 P P 02 50 53.0 +0.3
C23K IAmb IAmb 02 50 53.9
comp=Z,5.6nm,0.8s
C23K Itkillik River 86.77 8 P P 02 50 53.1 +0.3
baz=203
GYA Guiyang 86.85 298 ⇓P P 02 50 55.2 +0.9
GYA pmax pmax
comp=Z,30nm,1.1s
C24K Franklin Bluff 86.94 9 P P 02 50 53.7 +0.2
baz=205
G30M tAoh Zraii Nji 86.98 14 P P 02 50 53.7 -0.2
baz=217
MAW Mawson 87.28 199 P P 02 50 55.6 +0.2
comp=Z,4.6nm,0.7s,baz=115,slow=8.1,SNR=12
comp=Z,4.6nm,0.7s
A22K Sinclair Lake 87.33 6 P P 02 50 55.7 +0.4
baz=199
G31M Satah River 87.41 15 P P 02 50 55.6 -0.2
baz=219
XAN Xi'an 87.55 306 P P 02 50 58.2 +0.9
XAN pmax pmax
comp=Z,53nm,1.1s
E28M Babbage River 87.58 12 P P 02 50 56.5 -0.1
baz=214
C27K Jago River 87.66 10 P P 02 50 57.1 +0.1
baz=210
SLVN Son La 87.66 293 P P 02 50 58.7 +0.5
C26K Camden Bay 87.71 10 P P 02 50 57.2 0.0
baz=209
D27M Malcolm River 87.83 11 P P 02 50 57.8 -0.1
baz=212
F31M Tsiigehtchic 87.94 15 P P 02 50 58.3 0.0
baz=219
HHC Hu-ho-hao-te 88.06 313 *e*P P 02 51 00.4 +0.7
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,95nm,5.5s
SURA Surathani 88.15 280 P P 02 51 01.3 +0.8
D28M Stokes Point 88.34 12 P P 02 51 00.2 0.0
baz=215
KCSI Kotacane, Aceh 88.42 274 P P 02 51 03.6 +1.8
comp=Z,9.1nm,1.2s
YAK Yakutsk 88.63 337⇑ *e*P P 02 51 00.3 -1.3
YAK pmax pmax
comp=Z,15nm,0.5s
INK Inuvik 88.67 14 P P 02 51 01.3 -0.3
baz=220
BTO Baotou 89.06 313 *e*P P 02 51 06.1 +1.8
BTO sP **sP** 02 52 49.5 +7.7
BTO PP PP 02 54 50.5 +11
BTO Baotou 89.06 313 S **S** 03 01 25.3 -2.8
BTO pmax pmax
comp=Z,43nm,0.9s
BTO pmax pmax
comp=Z,250nm,5.4s
KMI Kunming 89.81 296 ⇓P P 02 51 09.8 +1.5
KMI pmax pmax
comp=Z,21nm,1.5s
PLCA Paso Flores 90.49 133 P P 02 51 12.9 +1.8
comp=Z,1.3nm,0.8s,baz=225,slow=5.7,SNR=3.4
comp=Z,1.3nm,0.8s
PZH PanZhiHua 91.06 297 P P 02 51 14.3 +0.3
CMAR Chiang Mai Arr 91.32 289 P P 02 51 15.8 +0.6
comp=Z,7.9nm,0.7s,baz=97,slow=4.5,SNR=53
comp=Z,7.9nm,0.7s
CMAR Chiang Mai Arr 91.32 289 *i* P P 02 51 16.6 +1.4
CMAR pmax pmax
comp=Z,8.0nm,0.7s
CHTO Chiang Mai 91.42 289 P P 02 51 16.4 +0.8
C36M Paulatuk 91.80 16 P P 02 51 15.7 -0.5
baz=228
LZH Lanzhou 92.15 307 *e*P P 02 51 18.9 0.0
LZH pP PcP 02 51 25.6 +6.1
LZH pmax pmax
comp=Z,23nm,1.1s
LZDM Lanzhou Array 92.22 307 P P 02 51 20.2 +0.7
comp=Z,1.7nm,0.4s,baz=74,slow=5.4,SNR=7.6
comp=Z,1.7nm,0.4s
ULN Ulaanbaatar 93.56 319⇓ *e*P P 02 51 24.5 -0.6
ULN pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 93.97 319 P P 02 51 26.3 -0.6
comp=Z,1.2nm,0.7s,baz=130,slow=3.1,SNR=4.7
comp=Z,1.2nm,0.7s
GTA Gaotai 96.14 309 *e*P P 02 51 37.6 +0.6
GTA pmax pmax
comp=Z,5.0nm,1.1s
MKAR Makanchi Array 109.89 315 PKiKP **PKiKP** 02 56 37.3 -1.2
comp=Z,0.8nm,0.8s,baz=106,slow=3.1,SNR=5.0
KURK Kurchatov 112.28 319 *i* PKIKP **PKiKP** 02 56 42.0 -0.9
KURBB Kurchatov Arra 112.34 319 PKiKP **PKiKP** 02 56 42.0 -1.0
comp=Z,1.1nm,0.8s,baz=95,slow=1.7,SNR=10
BVAR Borovoye Array 117.08 322 PKP **PKPdf** 02 56 51.5 -0.5
comp=Z,3.3nm,0.8s,baz=100,slow=1.8,SNR=14
ARTI Arti 122.77 328 *i* PKIKP **PKPdf** 02 57 02.5 -0.4
ARTI 02 58 48.6
ARTI 03 03 46.7
ARTI SS SS 03 15 07.9 +3.6
ARCES ARCESS Array B 124.47 351 PKP **PKPdf** 02 57 05.0 -0.8
comp=Z,3.9nm,0.7s,baz=28,slow=2.9,SNR=11
ARCES ARCESS Array B 124.47 351 PKIKP **PKPdf** 02 57 05.0 -0.8
KIRV Kirov 125.98 333*c* *i* PKIKP **PKPdf** 02 57 08.7 -0.2
FINES FINESS Array B 131.70 347 PKP **PKPdf** 02 57 19.9 +0.1
comp=Z,4.3nm,1.0s,baz=32,slow=3.9,SNR=6.3
OBN Obninsk 133.61 336 *e*PKIKP **PKPdf** 02 57 23.2 -0.3
OBN pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 139.85 336 PKhKP PKPpre 02 57 27.2
comp=Z,0.4nm,0.4s,baz=37,slow=3.0,SNR=4.2
AKASG PKP **PKPdf** 02 57 34.3 -0.9
comp=Z,1.2nm,0.7s,baz=39,slow=2.7,SNR=5.7
AKASG Malin Array Be 139.85 336*c* *i* PKIKP **PKiKP** 02 57 37.2 -0.5
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKBB Malin Array Si 139.85 336 ⇓ *i* PKIKP **PKPdf** 02 57 35.0 -0.2
FLTG Flechtingen 142.91 354 *e*PKPbc **PKPdf** 02 57 36.7 -4.0
baz=8.8,slow=3.2
OJC Ojcow 143.36 344 *e*PKP PKPab 02 57 39.0 +0.6
KSP Ksiaz 143.59 348 *e*PKP PKPbc 02 57 40.6 +0.4
STHS Stebnicka Huta 143.68 342 *e*PKIKP PKPab 02 57 39.8 +0.1
CLL Collm 143.70 352 *i* PKIKP PKPab 02 57 39.5 -0.1
CLL pmax pmax
comp=Z,6.0nm,0.7s
CLL Collm 143.70 352 *e*PKPbc PKPab 02 57 39.2 -0.4
baz=8.8,slow=3.2
CLL Collm 143.70 352 *i* PKPdf PKPab 02 57 39.5 -0.1
comp=Z,6.0nm,0.7s
GTTG Gottingen 143.80 355 *e*PKPbc PKPab 02 57 39.6 -0.5
baz=8.8,slow=3.2
OSTC Ostas 143.88 348 *e*PKIKP PKPbc 02 57 41.2 +0.2
OSTC Ostas 143.88 348 *e*PKP PKPbc 02 57 41.2 +0.2
BURAR Bucovina Array 143.90 337 ⇑P PKPab 02 57 40.7 +0.1
BURAR Bucovina Array 143.90 337 ⇑PKIKP PKPab 02 57 40.7 0.0
NEUB Neuenburg 143.95 353 *e*PKPbc PKPab 02 57 40.5 -0.1
baz=8.8,slow=3.2
NIE Niedzica 143.95 343 *e*PKP PKPbc 02 57 41.5 +0.2
UPC Upice 143.96 348 *e*PKIKP PKPbc 02 57 41.6 +0.3
UPC Upice 143.96 348 *e*PKP PKPbc 02 57 41.6 +0.3
BRG Berggiesshubel 143.98 351 *e*PKPbc PKPab 02 57 40.6 -0.1
baz=8.8,slow=3.2
BRG Berggiesshubel 143.98 351 *e*PKP **PKPdf** 02 57 42.8 +0.2
BRG Amp 02 57 44.2
comp=Z,4.5nm,1.1s
BRG Berggiesshubel 143.98 351 P **PKiKP** 02 57 47.3 +1.1
BRG Amp 02 57 48.2
comp=Z,6.2nm,1.1s
DPC Dobruska-Polom 144.05 348 *e*PKIKP PKPbc 02 57 41.8 +0.2
DPC Dobruska-Polom 144.05 348 *e*PKP PKPbc 02 57 41.8 +0.2
STEB Steborice 144.13 346 *e*PKP **PKPab** 02 57 41.6 +0.3
OKC Ostrava-Krasne 144.13 346 *e*PKIKP PKPbc 02 57 42.0 +0.3
OKC Ostrava-Krasne 144.13 346 *e*PKP PKPbc 02 57 42.0 +0.3
PVCC Panska Ves 144.21 350 *e*PKIKP **PKPab** 02 57 41.7 +0.1
PVCC Panska Ves 144.21 350 *e*PKP **PKPab** 02 57 41.7 +0.1
KRLC Kraliky 144.21 347 *e*PKIKP **PKPab** 02 57 42.0 +0.3
KRLC Kraliky 144.21 347 *e*PKP **PKPab** 02 57 42.0 +0.3
TESR Tescani 144.22 334 ⇑P **PKPab** 02 57 41.8 -0.1
KMBO Kilima Mbogo 144.25 245 PKP PKPbc 02 57 44.1 +0.6
comp=Z,14nm,0.9s,baz=85,slow=2.3,SNR=17
GHRR 144.26 333 ⇑P **PKPdf** 02 57 42.9 -0.3
KASTN Kahler Asten 144.26 356 *e*PKPbc **PKPab** 02 57 41.1 -0.7
baz=8.8,slow=3.2
MORC Moravsky Berou 144.33 346 *e*PKP **PKPab** 02 57 42.1 -0.1
MORC Moravsky Berou 144.33 346 ⇑P **PKPab** 02 57 42.0 -0.1
MORC Moravsky Berou 144.33 346 ⇑PKIKP **PKPab** 02 57 42.0 -0.1
LANS Liptovska Anna 144.43 344 *e*PKIKP PKPbc 02 57 43.0 +0.3
ONER Baraj Valea Uz 144.47 334 ⇑P PKPbc 02 57 43.3 +0.4
BMR Baia Mare 144.48 339 ⇑P PKPbc 02 57 43.1 +0.2
BMR Baia Mare 144.48 339 ⇑PKIKP PKPbc 02 57 43.1 +0.2
IZVR Izvoarele 144.50 332 ⇑P **PKPab** 02 57 42.5 -0.4
PANC Panciu 144.52 333 ⇑P PKPbc 02 57 43.5 +0.4
UBBA Unterbreizbach 144.52 355 *e*PKPbc **PKPab** 02 57 42.3 -0.4
baz=8.8,slow=3.2
MOX Moxa 144.53 353 *e*PKPbc **PKPab** 02 57 42.6 -0.3
baz=8.8,slow=3.2
CFR Carcaliu 144.61 332 ⇓P **PKPab** 02 57 42.6 -0.7
CFR Carcaliu 144.61 332 ⇓PKIKP **PKPab** 02 57 42.6 -0.7
PLN Plauen 144.62 352 *e*PKPbc **PKPab** 02 57 42.8 -0.4
baz=8.8,slow=3.2
ODBI Odobesti 144.64 333 ⇑P PKPbc 02 57 43.6 +0.2
MAUC Maruska 144.64 346 *e*PKP **PKPdf** 02 57 43.9 0.0
TANN Tannenbergstha 144.64 352 *e*PKPbc **PKPab** 02 57 43.1 -0.3
baz=8.8,slow=3.2
ARCR ARCALIA 144.66 337 ⇓P PKPbc 02 57 43.8 +0.3
VRI Vrincioaia 144.70 334 ⇓P PKPbc 02 57 43.5 -0.1
VRI Vrincioaia 144.70 334 ⇓PKIKP PKPbc 02 57 43.5 -0.1
TPGR Topolog 144.72 331 ⇓P **PKPdf** 02 57 44.2 +0.1
PRU Pruhonice 144.73 350 *e*PKIKP PKPbc 02 57 43.4 -0.2
PRU Pruhonice 144.73 350 *e*PKP PKPbc 02 57 43.4 -0.2
PLOR Plostina 144.75 334 ⇑P **PKPab** 02 57 44.0 +0.1
PLOR Plostina 144.75 334 ⇑PKIKP **PKPdf** 02 57 45.8 +1.6
UCC Uccle 144.75 1 *d*PKP PKPbc 02 57 43.1 -0.5
BEBN Eben Emael 144.76 359 *d*PKP **PKPdf** 02 57 44.0 +0.1
TURR Turia 144.85 334 ⇑P PKPbc 02 57 40.9 -3.2
OZUR 144.91 335 ⇓P PKPbc 02 57 42.5 -1.9
MEM Membach 144.94 359 *d*PKP PKPbc 02 57 44.0 -0.2
COVR Voineasa-Covas 144.94 334 ⇑P PKPbc 02 57 44.4 0.0
BTNL Ternell 144.96 359 *d*PKP PKPbc 02 57 44.2 0.0
BSTI Sart Tilman 144.97 360 *d*PKP **PKPdf** 02 57 44.5 +0.2
VRAC Vranov 144.98 347 *e*PKP PKPbc 02 57 44.4 0.0
VRAC Vranov 144.98 347 ⇑P PKPbc 02 57 44.0 -0.4
VRAC Vranov 144.98 347 ⇑PKIKP PKPbc 02 57 44.0 -0.4
TIRR Tirgusor 145.02 330 ⇓P **PKPab** 02 57 45.5 +0.6
TIRR Tirgusor 145.02 330 ⇓PKIKP **PKPab** 02 57 45.5 +0.6
HARR Harsova 145.08 331 ⇓P **PKPab** 02 57 45.1 0.0
HARR Harsova 145.08 331 ⇓PKIKP **PKPab** 02 57 45.1 0.0
MANZ Manzenberg 145.11 352 *e*PKPbc **PKPdf** 02 57 44.7 0.0
baz=8.8,slow=3.2
TLBR Topalu 145.13 331 ⇑P **PKPab** 02 57 45.5 +0.2
BGES Gesves 145.17 0 *d*PKP **PKPdf** 02 57 44.4 -0.3
DOPR Dopca 145.18 335 ⇓P **PKPab** 02 57 46.0 +0.5
BHOU Houvegnez 145.20 359 *d*PKP **PKPab** 02 57 45.5 +0.1
TNS Taunus Mts 145.23 356 *e*PKPbc **PKPdf** 02 57 45.1 +0.2
baz=8.8,slow=3.2
NEHR Nehoiu 145.24 334 ⇑P **PKPdf** 02 57 45.3 +0.3
BMRD Maredsous 145.25 0 *d*PKP **PKPbc** 02 57 45.5 +0.3
KRUC Moravsky 145.25 347 *e*PKP **PKPdf** 02 57 45.0 +0.1
CJR Cluj-Napoca 145.26 338 ⇓P **PKPab** 02 57 45.7 -0.1
CJR Cluj-Napoca 145.26 338 ⇓PKP2 **PKPab** 02 57 45.7 -0.1
ROTZ Rotzenmuhle 145.31 352 *e*PKPbc **PKPdf** 02 57 45.2 +0.2
baz=8.8,slow=3.2
BR131 Keskin Array S 145.32 320 *de*PKP2 **PKPdf** 02 57 45.5 0.0
BRTR Keskin Array B 145.32 320 PKPbc **PKPdf** 02 57 45.7 +0.2
comp=Z,11nm,0.7s,baz=93,slow=2.9,SNR=60
MLR Muntele Rosu 145.34 334 ⇑P **PKPbc** 02 57 45.8 +0.1
ISR Istrita 145.37 333 ⇓P **PKPab** 02 57 47.5 +1.2
ISR Istrita 145.37 333 ⇓PKP2 **PKPab** 02 57 47.5 +1.2
RCHB Rochefort 145.40 360 *d*PKP **PKPdf** 02 57 44.0 -1.0
AMRR Amara 145.41 332 ⇓P **PKPab** 02 57 47.5 +1.1
AMRR Amara 145.41 332 ⇓PKP2 **PKPab** 02 57 47.5 +1.1
PSZ Piszkesteto 145.43 342 ⇑P **PKPdf** 02 57 45.7 +0.4
PSZ Piszkesteto 145.43 342 ⇑PKP2 **PKPdf** 02 57 45.7 +0.4
DOU Dourbes 145.46 1 *d*PKiKP **PKPbc** 02 57 46.0 +0.2
MARR Marisel-Cluj 145.46 338 ⇓P **PKPdf** 02 57 45.6 +0.2
KIRS Kirsehir-Merke 145.49 319 ⇓P **PKPbc** 02 57 46.5 +0.1
GRF Grafenberg Arr 145.51 353 *e*PKPbc **PKPdf** 02 57 45.4 +0.1
baz=8.8,slow=3.2
DRGR 145.51 339 ⇑P **PKPdf** 02 57 45.8 +0.3
MODS Modra-Piesok 145.70 346 *e*PKHKP PKPpre 02 57 42.2
KHC Kasperske Hory 145.73 350 *de*PKP2 **PKPbc** 02 57 46.6 -0.1
KHC Kasperske Hory 145.73 350 *e*PKP **PKPbc** 02 57 47.0 +0.3
ANTO Ankara 145.76 321 ⇑P **PKPab** 02 57 47.7 -0.3
ANTO Ankara 145.76 321 ⇑PKP2 **PKPab** 02 57 47.7 -0.3
WET Wettzell 145.82 351 *e*PKPbc **PKPbc** 02 57 47.1 +0.1
baz=8.8,slow=3.2
WLF Walferdange 145.88 359 *d*PKP **PKPab** 02 57 47.9 -0.2
WLF Walferdange 145.88 359 *e*PKPbc **PKPbc** 02 57 47.3 +0.3
baz=8.8,slow=3.2
ARR Arges 145.98 335 ⇓P **PKPab** 02 57 48.7 +0.1
GEC2 GERESS Array S 145.98 350 *e*PKPbc **PKPbc** 02 57 47.5 -0.1
baz=8.8,slow=3.2
GERES GERESS Array B 145.98 350 PKPbc **PKPbc** 02 57 47.0 -0.5
comp=Z,3.9nm,0.7s,baz=25,slow=3.5,SNR=34
DEV Deva 146.22 337 ⇓P **PKPbc** 02 57 48.3 +0.1
DEV Deva 146.22 337 ⇓PKP2 **PKPbc** 02 57 48.3 +0.1
SIRR Siria 146.33 339 ⇓P **PKPbc** 02 57 48.1 -0.4
CONA Conrad Observa 146.44 347 *e*PKP **PKPbc** 02 57 48.7 -0.1
comp=Z,20nm,0.9s,SNR=13
RONA Rosalia, Austr 146.56 346 *e*PKP **PKPbc** 02 57 49.5 +0.4
comp=Z,33nm,1.0s,SNR=17
SURR Surduc 146.61 338 ⇓P **PKPbc** 02 57 49.3 0.0
STU Stuttgart 146.62 355 *e*PKPbc **PKPbc** 02 57 49.1 -0.1
baz=8.8,slow=3.2
GZR Gura Zlata 146.68 337 ⇑P **PKPbc** 02 57 49.6 0.0
GZR Gura Zlata 146.68 337 ⇑PKP2 **PKPbc** 02 57 49.6 0.0
LOZB Loznitsa 146.71 331 ⇑P **PKPbc** 02 57 49.6 0.0
MOA Molln 146.84 349 *e*PKP **PKPbc** 02 57 50.1 +0.2
comp=Z,15nm,0.9s,SNR=6.8
BZS Buzias 146.91 339 ⇓P **PKPbc** 02 57 50.0 -0.1
BZS Buzias 146.91 339 ⇓PKP2 **PKPbc** 02 57 50.0 -0.1
FUR Furstenfeldbru 147.00 352 *e*PKPbc **PKPbc** 02 57 50.4 +0.1
baz=8.8,slow=3.2
BIOA Bad Ischl, Aus 147.11 349 *e*PKP **PKPbc** 02 57 50.4 -0.2
comp=Z,18nm,1.0s
BFO Black Forest 147.12 356 *e*PKPbc **PKPbc** 02 57 50.7 0.0
baz=8.8,slow=3.2
ARSA Arzberg 147.16 347 *e*PKP **PKPbc** 02 57 50.9 +0.1
comp=Z,13nm,1.5s,SNR=5.2
RJOB Jochberg 147.21 350 *e*PKPbc **PKPbc** 02 57 50.9 -0.1
baz=8.8,slow=3.2
HERR Herculane 147.25 337 ⇓P **PKPbc** 02 57 50.9 -0.2
MORH Mrgy, Hungar 147.33 343 ⇑P **PKPbc** 02 57 50.8 -0.4
ELND Elena 147.38 331 ⇑P **PKPbc** 02 57 51.7 +0.1
MMAI Mount Meron Ar 147.52 308 PKPbc **PKPbc** 02 57 52.7 +0.4
comp=Z,13nm,0.8s,baz=98,slow=1.7,SNR=18
LESA Schwarzleotal 147.53 350 *e*PKP **PKPbc** 02 57 51.6 -0.2
comp=Z,11nm,1.2s
PLVB Pleven 147.59 333 ⇑P **PKPbc** 02 57 51.2 -0.8
MDVR Moldovita 147.59 338 ⇓P **PKPbc** 02 57 52.5 +0.4
RETA Reutte 147.74 353 *e*PKP **PKPbc** 02 57 52.7 +0.3
comp=Z,14nm,1.0s,SNR=7.7
KBA Koelnbreinsper 147.75 349 *e*PKP **PKPbc** 02 57 52.2 -0.4
comp=Z,20nm,0.7s
WATA Walderalm 147.78 352 *e*PKP **PKPbc** 02 57 52.4 -0.2
comp=Z,14nm,1.0s
SOKA Soboth 147.81 347 *e*PKP **PKPbc** 02 57 51.5 -1.1
comp=Z,16nm,1.1s,SNR=7.0
MOTA Moosalm 147.83 352 *e*PKP **PKPbc** 02 57 52.2 -0.5
comp=Z,16nm,0.9s,SNR=6.7
WTTA Wattenberg 147.84 352 *i* PKP **PKPbc** 02 57 52.9 +0.1
comp=Z,19nm,0.9s,SNR=6.3
SQTA Sankt Quirin 147.94 352 *i* PKP **PKPbc** 02 57 52.4 -0.6
comp=Z,16nm,1.2s
MPEP Malo Peshtene 147.99 334 *i* P **PKPbc** 02 57 53.2 +0.1
DAVA Damuels 148.03 354 *e*PKiKP **PKPbc** 02 57 53.5 +0.2
comp=Z,22nm,1.0s,SNR=7.3
OBKA Obir 148.07 348 *i* PKP **PKPdf** 02 57 49.5 -0.3
comp=Z,5.0nm,0.8s
MYKA Terra Mystica 148.13 349 *e*PKP **PKPbc** 02 57 52.8 -0.7
comp=Z,8.1nm,0.6s
BAND Balkesir-Ban 148.16 326 ⇑P **PKPbc** 02 57 53.3 -0.3
FETA Feichten 148.20 353 *e*PKP **PKPbc** 02 57 53.4 -0.4
comp=Z,13nm,1.1s,SNR=6.3
ABTA Abfaltersbach 148.21 350 *e*PKP **PKPbc** 02 57 53.1 -0.5
comp=Z,22nm,1.0s,SNR=9.6
PGB Panagyurishte 148.48 333 *i* P **PKPbc** 02 57 54.7 +0.3
BOVS Bovan 148.58 337 ⇓P **PKPbc** 02 57 54.1 -0.4
VTS Vitosha 148.81 334 *i* P **PKiKP** 02 57 56.2 -0.4
PLNA Plana 148.84 333 *i* P **PKiKP** 02 57 56.4 -0.2
BLY Banja Luka 149.09 343 ⇑P **PKPbc** 02 57 55.8 0.0
MMB Musomishta 149.44 332 *i* P **PKPbc** 02 57 56.5 -0.4
KKB Krupnik 149.48 333 *i* P **PKPbc** 02 57 57.0 +0.1
EZN Ezine 149.49 327 ⇑P **PKPbc** 02 57 56.0 -0.9
EZN Ezine 149.49 327 ⇑PKHKP **PKPbc** 02 57 56.0 -0.9
PDG Podgorica 150.52 339 ⇑P **PKPbc** 02 57 59.0 -0.4
PGAV Gavieira, Arco 151.16 21 *e*PKPbc **PKiKP** 02 58 01.6 +0.2
PBRG Braganca 151.81 19 *e*PKPbc **PKiKP** 02 58 02.8 +0.1
POLO Lamas de Olo 151.85 21 *e*PKPbc **PKiKP** 02 58 03.4 +0.6
MVO Moncorvo 152.30 20 *e*PKPbc **PKiKP** 02 58 04.3 +0.6

PVIS	**Viseu**	**152.40**	**22**	*e*PKPdf	**PKPdf**	02 57 56.3	-0.4
PSBE	**So Bento**	**153.10**	**24**	*e*PKPab	**PKPab**	02 58 17.7	-0.2
PMOZ	**Porto Moniz, M**	**153.36**	**46**	*e*PKPdf	**PKPdf**	02 57 56.3	-2.0
ESDC	**Sonseca Array**	**154.59**	**17**	PKPab	**PKPab**	02 58 24.4	+0.1
	comp=Z,2.4nm,0.9s,baz=313,slow=4.6,SNR=7.5						
TORD	**Torodi Ar. Bea**	**175.93**	**124**	PKPab	**PKPab**	02 59 58.3	-0.5
	comp=Z,2.3nm,0.7s,baz=266,slow=3.4,SNR=12						

NEIC ***12*** *02:47:00.6±1.4, 19°.33N±0°.02×154°.93W±0°.02, h8km±4km, Error ellipse: s-maj=4.1km s-min=1.4km az=141.0*

HVO 12 02:47:00.9±1.5, 19°.36N±0°.02×154°.95W±0°.02, h4km±6km, ML2.5/30, ML2.5/38(NEIC), Error ellipse: s-maj=3.7km s-min=1.2km az=139.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.09**	**326**			Pg	02 47 03.2	+0.4
JOKA						Sg	02 47 05.2	+1.0
JOKA	**Jonika Flow**	**0.09**	**326**	IAML			02 47 05.3	
	comp=N,6μm,0.7s							
JOKA				IAML			02 47 05.6	
	comp=E,3μm,0.5s							
JCUZ	**Jacuzzi**	**0.15**	**281**			Pg	02 47 04.4	+0.6
JCUZ						Sg	02 47 06.9	+1.1
NPOC	**North of Pu'u**	**0.16**	**284**			Pg	02 47 04.6	+0.6
NPOC						Sg	02 47 07.0	+0.9
STCH	**Steam Cracks**	**0.17**	**280**			Pg	02 47 04.8	+0.6
STCH						Sg	02 47 07.5	+1.0
STCH	**Steam Cracks**	**0.17**	**280**	IAML			02 47 07.7	
	comp=E,1μm,0.2s							
STCH				IAML			02 47 08.6	
	comp=N,604nm,0.4s							
KNHH	**Kane Nui o Ham**	**0.21**	**277**			Pg	02 47 05.5	+0.5
PUH	**Pauahi**	**0.25**	**274**			Pg	02 47 06.1	+0.3
PUH						Sg	02 47 10.6	+1.4
PUH	**Pauahi**	**0.25**	**274**	IAML			02 47 12.9	
	comp=N,323nm,0.8s							
PUH				IAML			02 47 13.6	
	comp=E,391nm,1.0s							
BYL	**Byron's Ledge**	**0.30**	**281**			Pg	02 47 07.5	+0.8
BYL	**Byron's Ledge**	**0.30**	**281**	IAML			02 47 14.2	
	comp=E,466nm,0.6s							
BYL				IAML			02 47 15.7	
	comp=N,532nm,0.9s							
HATHI	**Halema'uma'u T**	**0.30**	**283**			Pg	02 47 07.1	+0.3
HATHI						Sg	02 47 11.5	+0.7
HATHI	**Halema'uma'u T**	**0.30**	**283**	IAML			02 47 15.5	
	comp=E,492nm,0.6s							
HATHI				IAML			02 47 15.8	
	comp=N,537nm,0.6s							
KKO	**Keanakako'i**	**0.30**	**278**			Pg	02 47 07.0	+0.2
KKO						Sb	02 47 12.8	-1.6
RIM	**Rim**	**0.31**	**277**			Pg	02 47 07.1	+0.1
RIM						Sg	02 47 12.1	+1.0
SBLHI	**Steaming Bluff**	**0.31**	**283**			Pg	02 47 07.2	+0.3
SBLHI						Sb	02 47 13.9	-0.7
UWB	**Uwekahuna Bluf**	**0.32**	**283**			Pg	02 47 07.7	+0.6
UWB						Sg	02 47 12.2	+0.9
OBL	**Observatory Le**	**0.32**	**281**			Pg	02 47 08.1	+0.9
OBL						Sb	02 47 14.2	-0.8
SDHHI	**Sand Hill**	**0.33**	**276**			Pg	02 47 08.0	+0.8
SDHHI						Sb	02 47 13.8	-1.4
RSD	**Rainshed**	**0.33**	**289**			Pg	02 47 08.3	+1.0
RSD						Sb	02 47 13.8	-1.4
UWE	**Uwekahuna**	**0.33**	**281**			Pg	02 47 08.2	+0.9
UWE						Sb	02 47 14.1	-1.1
UWE	**Uwekahuna**	**0.33**	**281**	IAML			02 47 15.9	
	comp=N,612nm,0.3s							
UWE				IAML			02 47 16.4	
	comp=E,715nm,0.4s							
WRMHI	**West Rim**	**0.34**	**279**			Pg	02 47 08.1	+0.7
WRMHI						Sb	02 47 13.7	-1.6
HLP	**Hilina Pali**	**0.34**	**260**			Pb	02 47 08.7	-1.0
HLP						Sb	02 47 14.5	-1.0
HLP	**Hilina Pali**	**0.34**	**260**	IAML			02 47 14.8	
	comp=N,691nm,0.3s							
HLP				IAML			02 47 15.1	
	comp=E,1μm,0.5s							
MLH	**Mauna Loa**	**0.44**	**289**			Pg	02 47 09.7	+0.4
MLH						Sg	02 47 16.4	+1.3
MLH	**Mauna Loa**	**0.44**	**289**	IAML			02 47 16.4	
	comp=E,320nm,1.3s							
MLH				IAML			02 47 16.7	
	comp=N,747nm,0.6s							
HTC	**Hot Caves**	**0.44**	**255**			Pg	02 47 10.2	+0.8
HTC						Sb	02 47 18.4	+0.1
AIN	**Ainahou**	**0.48**	**272**			Pg	02 47 10.6	+0.4
AIN						Sb	02 47 18.3	-1.3
AIN	**Ainahou**	**0.48**	**272**	IAML			02 47 18.6	
	comp=E,1μm,0.4s							
AIN				IAML			02 47 18.8	
	comp=N,1μm,0.5s							
HMH	**Humu'ula Sheep**	**0.56**	**296**			Pg	02 47 11.6	-0.1
HMH						Sg	02 47 20.2	+1.2
HMH	**Humu'ula Sheep**	**0.56**	**296**	IAML			02 47 20.4	
	comp=N,1μm,0.4s							
HMH				IAML			02 47 26.2	
	comp=E,866nm,0.6s							
MWH	**Mokuaweoweo**	**0.63**	**282**			Pg	02 47 12.5	-0.5
MWH	**Mokuaweoweo**	**0.63**	**282**	IAML			02 47 30.4	
	comp=E,446nm,1.3s							
MWH				IAML			02 47 36.0	
	comp=N,444nm,1.4s							
HPO	**Honuapo**	**0.63**	**245**			Sg	02 47 21.3	+0.1
KHU	**Kahuku**	**0.64**	**260**			Pg	02 47 12.6	-0.6
KHU						Sg	02 47 21.5	0.0
POHA	**Pohakuloa**	**0.68**	**306**			Pg	02 47 12.9	-1.1
POHA						Sg	02 47 21.8	-1.1
POHA	**Pohakuloa**	**0.68**	**306**	IAML			02 47 35.4	
	comp=N,214nm,0.6s							
POHA				IAML			02 47 37.8	
	comp=N,267nm,1.0s							
ALEP	**Alea Permanent**	**0.68**	**286**			Pg	02 47 13.3	-0.7
ALEP						Sg	02 47 23.3	+0.4
HUH	**Hualalai**	**0.90**	**292**	Pg		Pg	02 47 17.5	-0.7

TAP ***12*** *02:56:09.6, 24°.39N×121°.42E, h6km, ML3.8, B*
JMA ***12*** *02:56:09.9±0.2, 24°.4N±0°.5×12°.1E±°, h3km, MV3.3/10, TAIWAN REGION*

ISC 12 02:56:10.1±0.8, 24°.39N±0°.01×121°.40E±0°.01, h6km±5km, n119, σ0.60/189, 7C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.04**	**330**	⇓*i*P		**Pg**	02 56 11.5	-0.1
NNSB				*i* S		**Sg**	02 56 12.3	-0.3
NNS	**Nan Shan**	**0.05**	**328**	⇓*i*P		**Pg**	02 56 11.7	-0.1
NNS				*i* S		**Sg**	02 56 12.7	-0.3
LATG	**Datong**	**0.18**	**38**	⇑*i*P		**Pg**	02 56 13.6	-0.2
LATG				S		**Sg**	02 56 16.6	+0.4
ETLH	**Xiulin Townshi**	**0.20**	**159**	*e*P		**Pg**	02 56 14.7	+0.6
ETLH				S		**Sg**	02 56 18.0	+1.2
FUSS	**Fushou**	**0.21**	**225**	P		**Pg**	02 56 14.6	+0.3
FUSS				*e*S		**Sg**	02 56 18.1	+1.0
TWT	**Tachien**	**0.25**	**236**	P		**Pg**	02 56 15.5	+0.4
TWT				*e*S		**Sg**	02 56 19.1	+0.7
TDCB	**Techi**	**0.26**	**238**	⇑P		**Pg**	02 56 15.5	+0.2
TDCB				*e*S		**Sg**	02 56 19.0	+0.2
YHNB	**Yeheng**	**0.28**	**355**	P		**Pg**	02 56 15.5	0.0
YHNB	**Yeheng**	**0.28**	**355**	⇓*i*P		**Pg**	02 56 15.8	+0.3
YHNB				S		**Sg**	02 56 19.3	0.0
WHF	**Hehuan Shan**	**0.28**	**207**	*e*P		**Pg**	02 56 16.0	+0.3
WHF				*e*S		**Sg**	02 56 19.9	+0.5
NACB	**Ninganchiao**	**0.28**	**142**	P		**Pg**	02 56 16.1	+0.5
NACB	**Ninganchiao**	**0.28**	**142**	P		**Pg**	02 56 16.1	+0.5
NACB				*e*S		**Sg**	02 56 20.1	+0.8
NSK	**Sanguang**	**0.28**	**351**	P		**Pg**	02 56 15.9	+0.2
NSK				*e*S		**Sg**	02 56 19.6	+0.1
ENTT	**Nioudou**	**0.29**	**31**	⇑P		**Pg**	02 56 15.7	0.0
ENTT				*e*S		**Sg**	02 56 19.7	+0.2
ETL	**Fush Village**	**0.31**	**139**	*e*P		**Pg**	02 56 16.6	+0.5
ETL				*e*S		**Sg**	02 56 21.2	+1.0
ENA	**Nanau**	**0.31**	**84**	P		**Pg**	02 56 16.2	+0.1
ENA				*e*S		**Sg**	02 56 20.4	+0.2
EAHA	**Aohua**	**0.31**	**102**	*e*P		**Pg**	02 56 16.3	+0.1
EWUT	**Wuta**	**0.34**	**81**	*e*P		**Pg**	02 56 16.6	-0.2
EWUT				*e*S		**Sg**	02 56 21.0	-0.3
NFF	**Wufeng Townshi**	**0.35**	**312**	P		**Pg**	02 56 17.6	+0.6
NFF				*e*S		**Sg**	02 56 22.3	+0.7
TWD	**Chiawan**	**0.36**	**151**	*e*P		**Pb**	02 56 17.6	-1.2
TWD				*e*S		**Sg**	02 56 22.6	+0.9
LXIB	**Xiulin Townshi**	**0.37**	**179**	⇓*i*P		**Pg**	02 56 17.8	+0.4
LXIB				S		**Sg**	02 56 22.9	+0.6
NDS	**Dongshan**	**0.37**	**50**	P		**Pg**	02 56 17.1	-0.2
NWLT	**Wulai**	**0.39**	**13**	*e*P		**Pg**	02 56 17.7	0.0
NWLT				*e*S		**Sg**	02 56 22.5	-0.4
FUSB	**Fushanzhiwuyua**	**0.40**	**25**	⇑P		**Pg**	02 56 17.9	0.0
FUSB				*e*S		**Sg**	02 56 24.1	+0.9
TWE	**Neicheng**	**0.40**	**36**	⇑*i*P		**Pg**	02 56 18.1	+0.1
TWE				*e*S		**Sg**	02 56 24.0	+0.7
ETM	**Tongmen**	**0.43**	**169**	*e*P		**Pg**	02 56 18.9	+0.4
ETM				*e*S		**Sg**	02 56 24.7	+0.5
KSHI	**Guanxi Townshi**	**0.43**	**331**	*e*P		**Pb**	02 56 19.7	-0.4
KSHI				*e*S		**Sb**	02 56 25.9	-1.0
LIOB	**Emei**	**0.43**	**305**	*i* P		**Pb**	02 56 19.5	-0.6
LIOB				S		**Sb**	02 56 25.4	-1.5
WHP	**Taichung City**	**0.43**	**255**	⇑*i*P		**Pb**	02 56 19.2	-1.0
WHP				S		**Sg**	02 56 24.7	+0.5
NSTT	**Nanjuang**	**0.44**	**303**	P		**Pb**	02 56 19.4	-0.8
NSTT				S		**Sg**	02 56 25.3	+1.0
ESAO	**Su ao**	**0.44**	**66**	*e*P		**Pg**	02 56 18.0	-0.6
ESAO				*e*S		**Sg**	02 56 24.2	-0.1
HWA	**Hwalien**	**0.45**	**156**	*e*P		**Pb**	02 56 19.9	-0.5
TWC	**Suao**	**0.46**	**62**	P		**Pg**	02 56 18.6	-0.4
TWC				*e*S		**Sg**	02 56 25.1	+0.2
WUSB	**Renai**	**0.48**	**213**	⇑*i*P		**Pg**	02 56 19.2	-0.1
WUSB				S		**Sg**	02 56 25.3	-0.3
OWD	**Renai**	**0.48**	**206**	*e*P		**Pg**	02 56 19.3	-0.2
OWD				*e*S		**Sg**	02 56 25.7	-0.1
SBCB	**Hsinchu**	**0.55**	**316**	*e*P		**Pb**	02 56 22.1	0.0
TEYL	**Yanliau Villag**	**0.55**	**161**	*e*P		**Pg**	02 56 21.0	+0.3
HSN	**Hsinchu**	**0.57**	**316**	*e*P		**Pb**	02 56 22.8	+0.3
HSN				*e*S		**Sb**	02 56 30.8	+0.1
NMLH	**Miaoli**	**0.58**	**284**	*e*P		**Pb**	02 56 22.8	+0.2
NMLH				*e*S		**Sb**	02 56 31.0	0.0
ESL	**Shilin**	**0.58**	**177**	*e*P		**Pg**	02 56 21.4	+0.2
ESL				*e*S		**Sg**	02 56 29.1	+0.3
TWQ1	**Liyutan**	**0.58**	**266**	*e*P		**Pb**	02 56 22.3	-0.3
TWQ1				*e*S		**Sb**	02 56 30.2	-0.8
TATO	**Taipei**	**0.58**	**7**	P		**Pg**	02 56 21.7	+0.3
TATO	**Taipei**	**0.58**	**7**	S		**Sg**	02 56 29.3	+0.3
NSY	**Sanyi**	**0.59**	**272**	*e*P		**Pb**	02 56 22.7	0.0
NSY				*e*S		**Sb**	02 56 31.0	-0.3
NCUH	**Zhongli**	**0.61**	**341**	*e*P		**Pb**	02 56 23.3	+0.2
NCUH				*e*S		**Sb**	02 56 32.7	+0.8
TWA	**Mucha**	**0.61**	**16**	P		**Pg**	02 56 22.1	+0.4
TWA				*e*S		**Sg**	02 56 29.5	-0.2
SHUL	**Shoufeng**	**0.62**	**166**	*e*P		**Pb**	02 56 22.9	-0.4
SHUL				*e*S		**Sb**	02 56 31.6	-0.7
TAP	**Taipei**	**0.65**	**8**	*e*P		**Pb**	02 56 23.3	-0.5
TAP				*e*S		**Sg**	02 56 31.9	+0.9
EGS		**0.66**	**47**	P		**Pg**	02 56 22.9	+0.1
NHY	**Taipei**	**0.66**	**13**	*e*P		**Pb**	02 56 23.7	-0.3
NHY				*e*S		**Sb**	02 56 32.4	-1.0
WARBT	**Fenglin Townsh**	**0.67**	**181**	P		**Pg**	02 56 22.9	-0.1
WARBT				*e*S		**Sg**	02 56 31.8	0.0
SMLT	**Sun Moon Lake**	**0.69**	**222**	*i* P		**Pg**	02 56 23.3	0.0
TIPB	**Shuangxi**	**0.69**	**34**	*i* P		**Pg**	02 56 23.1	-0.3
TIPB				*e*S		**Sg**	02 56 31.6	-0.8
TYC	**Yuchr**	**0.70**	**226**	P		**Pg**	02 56 23.2	-0.3
TYC				*e*S		**Sg**	02 56 31.7	-0.9
WDJ	**Dajia District**	**0.70**	**266**	*e*P		**Pn**	02 56 25.4	-1.0
WDJ				*e*S		**Sb**	02 56 33.8	-0.6
TWS1	**Kuangyinshan**	**0.70**	**1**	P		**Pb**	02 56 25.1	+0.4
TWS1				*e*S		**Sb**	02 56 34.8	+0.1
TCU	**Taichung**	**0.71**	**250**	*e*P		**Pb**	02 56 25.4	+0.6
TCU				*e*S		**Sb**	02 56 35.3	+0.5
EGFH	**Guangfu**	**0.72**	**178**	*e*P		**Pb**	02 56 24.1	-0.9
EGFH				*e*S		**Sg**	02 56 33.9	+0.5
SSLB	**Suanglung**	**0.73**	**214**	P		**Pg**	02 56 23.2	-0.9
SSLB	**Suanglung**	**0.73**	**214**	P		**Pg**	02 56 23.4	-0.7
WFSB	**Wu-fen Shan**	**0.76**	**27**	P		**Pg**	02 56 24.8	+0.1
WFSB				*e*S		**Sg**	02 56 35.2	+0.8
NTST	**Danshui**	**0.77**	**3**	*e*P		**Pb**	02 56 26.0	+0.2
ZUZH	**Zhuzihu**	**0.78**	**9**	*e*P		**Pb**	02 56 25.8	-0.2
ZUZH				*e*S		**Sb**	02 56 38.0	+1.2
ANP	**Anpu**	**0.80**	**8**	*e*P		**Pb**	02 56 26.1	-0.2
ANP				*e*S		**Sn**	02 56 39.1	-1.0
TWB1	**Santiao Chiao**	**0.81**	**41**	*e*P		**Pg**	02 56 25.3	-0.4
TWB1				*e*S		**Sg**	02 56 36.3	+0.1
SXI1	**Grass Mountain**	**0.82**	**31**	P		**Pg**	02 56 25.8	-0.1
SXI1				*e*S		**Sb**	02 56 38.6	+0.5
TNOU	**National Taiwa**	**0.82**	**24**	*e*P		**Pg**	02 56 25.9	0.0
WCHH	**Zhanghua**	**0.83**	**248**	*e*P		**Pn**	02 56 27.8	-0.5
EOS3	**EOS3**	**0.84**	**97**	*e*P		**Pb**	02 56 27.0	-0.4
WJS	**Zhushan**	**0.84**	**227**	*e*P		**Pb**	02 56 27.1	+0.1
WJS				*e*S		**Sn**	02 56 41.9	+0.9
WCH1	**Changhua City**	**0.85**	**248**	*e*S		**Sn**	02 56 40.0	-1.1
WHYT	**Xinyi Township**	**0.86**	**216**	*e*P		**Pg**	02 56 26.2	-0.4
EOS4	**EOS4**	**0.88**	**108**	*e*P		**Pb**	02 56 27.0	-0.4
EHY	**Hungye**	**0.89**	**185**	*e*P		**Pg**	02 56 26.9	-0.2
EHY				*e*S		**Sg**	02 56 38.5	-0.1
TWY	**Chenhua**	**0.90**	**11**	*e*P		**Pb**	02 56 27.8	-0.2
EHYH	**Wanrong**	**0.90**	**183**	*e*P		**Pb**	02 56 27.4	-0.6
EHYH				*e*S		**Sb**	02 56 39.9	-0.3
HGSD	**Ruisui**	**0.90**	**179**	P		**Pb**	02 56 27.7	-0.3
HGSD				*e*S		**Sg**	02 56 38.8	-0.2
YULB	**Yu-li**	**1.00**	**186**	P		**Pb**	02 56 29.5	-0.3
YULB	**Yu-li**	**1.00**	**186**	*e*P		**Pb**	02 56 29.2	-0.6
YULB				*e*S		**Sb**	02 56 43.2	-0.1
ALS	**Alishan**	**1.04**	**212**	*e*P		**Pg**	02 56 29.7	-0.3
TWF1	**Yuli**	**1.04**	**185**	*e*P		**Pg**	02 56 29.7	-0.4
TWF1				*e*S		**Sg**	02 56 43.3	-0.5
WGK	**Gukeng**	**1.04**	**228**	*e*S		**Sn**	02 56 46.7	+0.6
WDLH	**Douliu**	**1.06**	**229**	*e*P		**Pn**	02 56 31.4	0.0
WDLH				*e*S		**Sn**	02 56 46.8	+0.3
WTCT	**Ta-ch'eng**	**1.15**	**243**	*e*S		**Sn**	02 56 48.6	-0.2
WTK	**Tuku**	**1.17**	**233**	*e*S		**Sn**	02 56 48.5	-0.5
FULB	**Fuli**	**1.19**	**185**	*e*P		**Pn**	02 56 33.8	+0.5
CHKH	**Chenggong**	**1.20**	**180**	*e*P		**Pg**	02 56 31.5	-1.5
WCKO	**Fanlu**	**1.20**	**218**	*e*P		**Pb**	02 56 32.9	-0.3
WCKO				*e*S		**Sn**	02 56 50.2	+0.2
ELDTW	**Lidau**	**1.25**	**197**	*e*P		**Pg**	02 56 33.6	-0.5
EHD	**Haiduan**	**1.25**	**188**	*e*P		**Pg**	02 56 33.5	-0.6
EHD				*e*S		**Sb**	02 56 50.2	-0.3
TPUB	**Ta-pu**	**1.30**	**213**	P		**Pb**	02 56 35.8	+0.9
TPUB	**Ta-pu**	**1.30**	**213**	*e*P		**Pb**	02 56 34.7	-0.2
TPUB				*e*S		**Sn**	02 56 53.0	+0.6
WSF	**Szhu**	**1.32**	**235**	*e*S		**Sn**	02 56 53.4	+0.6
STYH	**Taoyuan**	**1.35**	**205**	*e*P		**Pg**	02 56 36.0	+0.1
WTP	**Ta-pu**	**1.35**	**213**	*e*P		**Pg**	02 56 36.2	+0.2
WTP				*e*S		**Sn**	02 56 56.2	+2.4
PCYT	**Pengchaiyu**	**1.37**	**26**	P		**Pn**	02 56 35.1	-0.6
WSL	**Shuilin Townsh**	**1.38**	**231**	*e*P		**Pg**	02 56 36.4	-0.2
WSL				*e*S		**Sn**	02 56 55.5	+1.1
TWK	**Hsinying**	**1.40**	**217**	*e*P		**Pg**	02 56 37.4	+0.4
JYNG	**Yonagunijimaku**	**1.41**	**87**	*e*P		**Pb**	02 56 36.5	-0.2
YOJ	**Yonaguni jima**	**1.47**	**87**	P		**Pb**	02 56 37.4	-0.3
YOJ	**Yonaguni jima**	**1.47**	**87**	*e*P		**Pn**	02 56 37.1	+0.1
YOJ	**Yonaguni jima**	**1.47**	**87**	*e*P		**Pn**	02 56 37.2	+0.1
YOJ				*e*S		**Sg**	02 56 57.1	-0.2
CHN8	**Yiju**	**1.51**	**227**	*e*S		**Sg**	02 56 59.9	+1.2
TWG	**Pinlang**	**1.59**	**191**	*e*P		**Pb**	02 56 39.3	-0.7
TWGBT	**Beinan**	**1.60**	**191**	P		**Pg**	02 56 40.7	0.0
TWGBT	**Beinan**	**1.60**	**191**	*e*P		**Pg**	02 56 40.3	-0.4
SSD	**Sandimen**	**1.79**	**204**	*e*P		**Pb**	02 56 43.3	+0.1
SSD				*e*S		**Sg**	02 57 07.2	-0.4
ECL	**Taimali**	**1.84**	**193**	*e*P		**Pg**	02 56 44.6	-0.8
PNG	**Penghu**	**1.88**	**244**	*e*S		**Sb**	02 57 08.5	0.0
PHUB	**P'eng-hu**	**1.89**	**243**	*e*S		**Sb**	02 57 08.0	-0.8
MASBT	**Mashibuluo**	**1.91**	**202**	*e*P		**Pb**	02 56 45.5	+0.3
MASBT				*e*S		**Sg**	02 57 11.1	-0.4
WDGT	**Dungji**	**1.96**	**235**	*e*P		**Pn**	02 56 43.9	+0.2
WDGT				*e*S		**Sb**	02 57 10.9	+0.2
EAST	**Anshuo**	**2.07**	**194**	*e*P		**Pb**	02 56 47.8	-0.1
IRIF	**Iriomote-Funau**	**2.12**	**91**	P		**Pn**	02 56 46.5	+0.4
IRIF				*e*S		**Sn**	02 57 11.1	-1.6
SCZT	**Fangliau**	**2.14**	**200**	*e*P		**Pb**	02 56 48.5	-0.7
SCZT				*e*S		**Sg**	02 57 17.4	-1.4
VCHM	**Qimei**	**2.16**	**237**	*e*P		**Pn**	02 56 47.4	+0.9
PTMZ	**Houxiangcun**	**2.17**	**288**	*e*P		**Pn**	02 56 46.8	+0.1
JJJ	**Ishigaki jima**	**2.50**	**90**	*e*S		**Sn**	02 57 23.9	+1.9
JISG	**Ishigakijimahi**	**2.66**	**85**	*e*P		**Pn**	02 56 54.2	+0.9

IDC ***12*** *03:05:52.6±3.1, 33°.76S×179°.30W, h0km, mb3.5/2, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=73.4km s-min=36.2km az=113.0*

WEL ***12*** *03:05:57.4±0.7, 34°S±6°×17°9W±1°2, h12km, M4.0/13, mB4.6/4, ML4.4/19, MLv4.1/13, Mw(mB)3.8/4, Error ellipse: s-maj=16.4km s-min=5.1km az=111.5, confirmed*

ISC 12 03:05:56.7±1.4, 33°.94S±0°.08×179°.0W±0°.1, h50km, n33, σ1°.54/44, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.22**	**210**		P	**Pn**	03 06 58.6	+0.1
MXZ					S	**Sn**	03 07 47.6	+1.1
WMGZ	**Waiomatatini S**	**4.40**	**208**		P	**Pn**	03 07 02.6	+1.7
WMGZ					S	**Sn**	03 07 52.4	+1.6
PKGZ	**Pakihiroa**	**4.57**	**210**		P	**Pn**	03 07 04.3	+0.9
PKGZ					S	**Sn**	03 07 56.0	+0.8
HAZ	**Te Kaha**	**4.61**	**214**		P	**Pn**	03 07 05.3	+1.5
HAZ					S	**Sn**	03 07 57.4	+1.3
PUZ	**Puketiti**	**4.68**	**208**		P	**Pn**	03 07 06.3	+1.5
PUZ					S	**Sn**	03 07 57.0	-0.8
GLKZ	**Green Lake**	**4.76**	**11**		P	**Pn**	03 07 05.4	-0.5
RUGZ	**Raukumara Rang**	**4.83**	**213**		P	**Pn**	03 07 08.1	+1.1
RUGZ					S	**Sn**	03 08 01.2	-0.5
TWGZ	**Tauwhareparae**	**4.88**	**209**		P	**Pn**	03 07 08.6	+1.0
TWGZ					S	**Sn**	03 08 03.5	+0.7
CNGZ	**Carnagh Statio**	**5.06**	**206**		P	**Pn**	03 07 12.0	+2.0
WHRZ	**Whale Island**	**5.09**	**219**		P	**Pn**	03 07 12.3	+1.8
MWZ	**Matawai**	**5.20**	**212**		P	**Pn**	03 07 11.8	-0.2
MWZ					S	**Sn**	03 08 09.4	-1.3
URZ	**Urewera**	**5.33**	**215**		Pn	**Pn**	03 07 14.9	+1.2
	1.8nm,0.3s,baz=273,slow=3.9,SNR=22							
URZ					Sn	**Sn**	03 08 14.2	+0.4
	4.3nm,0.3s,baz=95,slow=23,SNR=6.4							
	5.2nm,0.3s							
URZ	**Urewera**	**5.33**	**215**	P		**Pn**	03 07 14.5	+0.8
URZ				S		**Sn**	03 08 09.2	-4.7
RAGZ	**Rawiri**	**5.38**	**211**	P		**Pn**	03 07 15.3	+0.7
RAGZ				S		**Sn**	03 08 14.1	-1.2
RIGZ	**Rimuhau**	**5.42**	**208**	P		**Pn**	03 07 16.9	+1.9
RIGZ				S		**Sn**	03 08 14.1	-2.0
PRGZ	**Paritu Road**	**5.57**	**206**	P		**Pn**	03 07 17.8	+0.8
SNGZ	**Shannon Statio**	**5.66**	**210**	P		**Pn**	03 07 18.8	+0.5
SNGZ				S		**Sn**	03 08 20.7	-1.2
MUGZ	**Murupara**	**5.67**	**216**	P		**Pn**	03 07 17.8	-0.5
MUGZ				S		**Sn**	03 08 19.1	-3.0
MKAZ	**Moumakai**	**5.71**	**235**	P		**Pn**	03 07 19.8	+0.9
MHGZ	**Mahia Peninsul**	**5.76**	**205**	P		**Pn**	03 07 19.1	-0.5
MHGZ				S		**Sn**	03 08 23.7	-0.7
WCZ	**Waipu Caves**	**5.81**	**248**	P		**Pn**	03 07 21.9	+1.6
MTHZ	**Maungataniwha**	**5.93**	**213**	P		**Pn**	03 07 24.1	+2.1
MTHZ				S		**Sn**	03 08 28.4	-0.3
OUZ	**Omahuta**	**6.24**	**256**	P		**Pn**	03 07 27.0	+0.8
BKZ	**Black Stump Fm**	**6.35**	**214**	P		**Pn**	03 07 26.8	-0.9
BKZ			

PRN	**Pahroc Range**	**2.09**	**258**		Pn	03 08 23.6	+0.2
PRN				IAML		03 09 10.3	
	comp=E,309nm,0.7s						
P17A	**Butcher Ranch,**	**2.10**	**40**		Pn	03 08 24.0	+0.5
MPU	**Maple Canyon**	**2.23**	**17**		Pn	03 08 25.7	+0.3
P18A	**Preston Nutter**	**2.47**	**44**		Pn	03 08 29.3	+0.5
P18A				IAML		03 09 07.6	
	comp=E,99nm,0.5s						
P18A				IAML		03 09 11.9	
	comp=N,80nm,0.8s						
R11B	**Troy Canyon, C**	**2.49**	**282**		Pn	03 08 28.6	-0.4
R11B				IAML		03 09 17.0	
	comp=E,89nm,0.6s						
WUAZ	**Wupatki**	**2.52**	**159**		Pn	03 08 29.9	+0.6
S11A	**Rachel**	**2.60**	**266**		Pn	03 08 30.6	+0.2
PV05	**Paradox Valley**	**2.68**	**85**		Pn	03 08 33.5	+1.9
PV10	**Paradox Valley**	**2.76**	**79**		Pn	03 08 32.7	0.0
PV14	**Lion Creek, Pa**	**2.77**	**79**		Pn	03 08 33.4	+0.6
PV19	**Morning Glory**	**2.79**	**80**		Pn	03 08 34.4	+1.3
PV23	**Carpenter Ridg**	**2.79**	**77**		Pn	03 08 33.2	0.0
PV17	**East Wray Mesa**	**2.81**	**81**		Pn	03 08 33.9	+0.6
PV20	**West Nyswonger**	**2.81**	**79**		Pn	03 08 33.6	+0.3
JLU	**Jordanelle**	**2.83**	**16**		Pn	03 08 33.7	0.0
PV18	**Skein Mesa, Pa**	**2.84**	**81**		Pn	03 08 33.7	-0.1
PV21	**Cone Mtn., Par**	**2.84**	**75**	Pn	Pn	03 08 33.7	-0.1
PV16	**Nyswonger Mesa**	**2.84**	**80**		Pn	03 08 33.6	-0.2
PV04	**Paradox Valley**	**2.87**	**79**		Pn	03 08 34.2	+0.1
CTU	**Camp Tracy**	**2.87**	**11**	Pn	Pn	03 08 34.3	+0.2
V12A	**Nelson**	**2.87**	**222**	Pn	Pn	03 08 33.8	-0.2
PV11	**David Mesa, Pa**	**2.88**	**81**		Pn	03 08 34.2	0.0
PV03	**Paradox Valley**	**2.89**	**81**		Pn	03 08 34.0	-0.5
PV13	**Radium Mtn., P**	**2.90**	**83**		Pn	03 08 34.5	-0.1
PV12	**Saucer Basin,**	**2.93**	**80**		Pn	03 08 35.1	+0.1
BSUT	**Blindstream Ca**	**2.97**	**26**	Pn	Pn	03 08 35.4	-0.4
PV02	**Paradox Valley**	**2.97**	**83**		Pn	03 08 35.1	-0.5
PV22	**Blue Mesa, Par**	**2.98**	**76**		Pn	03 08 34.9	-0.8
W13A	**Hualapai Mount**	**3.00**	**203**	Pn	Pn	03 08 36.0	+0.1
BGU	**Big Grassy Mou**	**3.07**	**352**	Pn	Pn	03 08 36.5	-0.4
PV07	**Paradox Valley**	**3.07**	**78**	Pn	Pn	03 08 36.6	-0.3
PV01	**Paradox Valley**	**3.10**	**84**	Pn	Pn	03 08 37.1	-0.2
TPNV	**Topopah Spring**	**3.14**	**254**		Pn	03 08 37.6	-0.3
PV15	**Paradox Valley**	**3.19**	**80**		Pn	03 08 38.0	-0.6
MVCO	**Mesa Verde**	**3.23**	**101**		Pn	03 08 38.8	-0.4
TCUT	**Toone Canyon**	**3.34**	**14**	Pn	Pn	03 08 40.6	-0.1
WCT	**Wildcat Mounta**	**3.48**	**253**		Pn	03 08 42.4	0.0
X16A	**Lo Mia Camp, P**	**3.56**	**166**		Pn	03 08 43.3	-0.2
ELK	**Elko**	**3.57**	**324**		Pn	03 08 43.7	-0.2
SHOC	**Shoshone, Teco**	**3.63**	**238**		Pn	03 08 45.7	+1.3
TPH	**Tonopah**	**3.75**	**274**		Pn	03 08 46.8	+0.5
GWY	**Greenwater Val**	**3.75**	**245**		Pn	03 08 47.2	+0.9
FURC	**Furnace Creek,**	**3.77**	**249**		Pn	03 08 47.0	+0.6
GMN	**Gold Mountain**	**3.84**	**263**		Pn	03 08 47.5	-0.1
HVU	**Hansel Valley**	**3.90**	**357**		Pn	03 08 47.9	-0.4
X18A	**Snowflake**	**3.92**	**148**		Pn	03 08 50.1	+1.5
O20A	**White River Ci**	**4.00**	**54**		Pn	03 08 49.4	-0.2
QSM	**Queen of Sheba**	**4.00**	**243**	Pn	Pn	03 08 49.6	0.0
IRM	**Iron Mountain**	**4.30**	**211**	Pn	Pn	03 08 53.9	+0.3
DSP	**Deep Springs**	**4.39**	**265**		Pn	03 08 55.5	+0.7
MPMC	**Manual Prospec**	**4.40**	**247**	Pn	Pn	03 08 55.9	+0.7

NEIC ***12*** *03:09:35.0±0.6, 37.°86N±0.°01×112.°46W±0.°01, h8km±5km, Error ellipse: s-maj=2.1km s-min=1.0km az=155.0*

UUSS 12 03:09:35.1±0.5, 37.°88N±0.°01×112.°49W±0.°02, h3km±4km, ML2.9/9, ML3.0/22(NEIC), Error ellipse: s-maj=2.2km s-min=1.8km az=113.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTPU	**Mount Pierson**	**0.29**	**56**		Pg	03 09 40.5	-0.2
MTPU					Sg	03 09 45.4	+0.8
MTPU	**Mount Pierson**	**0.29**	**56**	IAML		03 09 45.7	
	comp=N,2µm,0.3s						
MTPU				IAML		03 09 46.1	
	comp=E,3µm,0.6s						
PKCU	**Pink Cliffs**	**0.46**	**162**		Pg	03 09 43.9	-0.1
PKCU	**Pink Cliffs**	**0.46**	**162**	IAML		03 09 53.2	
	comp=N,1µm,0.4s						
DWU	**Dry Willow Pea**	**0.46**	**299**		Pg	03 09 44.6	+0.6
BTU	**Barney Top**	**0.50**	**104**		Pg	03 09 44.9	+0.1
CCPU	**Cedar City Par**	**0.52**	**246**		Pg	03 09 45.6	+0.5
CCPU					Sg	03 09 52.8	+0.9
SZCU	**Shurtz Canyon**	**0.56**	**239**		Pg	03 09 45.9	+0.2
SZCU	**Shurtz Canyon**	**0.56**	**239**	IAML		03 09 56.1	
	comp=N,903nm,0.2s						
SZCU				IAML		03 09 57.2	
	comp=E,1µm,0.4s						
NMUT	**North Mineral**	**0.70**	**336**		Pg	03 09 48.6	+0.1
TCRU	**Three Creeks R**	**0.73**	**2**		Pg	03 09 49.1	0.0
TCRU	**Three Creeks R**	**0.73**	**2**	IAML		03 10 01.9	
	comp=E,517nm,0.6s						
TCRU				IAML		03 10 03.1	
	comp=N,526nm,0.5s						
ZNPU	**Zion National**	**0.73**	**224**		Pg	03 09 49.0	-0.1
ARUT	**Antelope Range**	**0.76**	**263**		Pg	03 09 49.9	+0.2
KNB	**Kanab**	**0.89**	**197**		Pg	03 09 52.0	-0.5
IMU	**Iron Mountain**	**0.92**	**325**		Pg	03 09 52.8	+0.1
LCMT	**Little Creek M**	**1.06**	**215**		Pg	03 09 54.6	-0.8
LCMT	**Little Creek M**	**1.06**	**215**	IAML		03 10 10.2	
	comp=E,325nm,0.4s						
LCMT				IAML		03 10 12.9	
	comp=N,229nm,0.2s						
PSUT	**Pine Spring**	**1.26**	**302**		Pg	03 09 59.1	-0.2
ICU	**Indian Springs**	**1.35**	**238**		Pn	03 10 00.4	-0.6
HMU	**Henry Mountain**	**1.38**	**87**		Pn	03 10 00.8	-0.6
U15A	**North Rim**	**1.46**	**174**		Pn	03 10 01.9	-0.7
U15A	**North Rim**	**1.46**	**174**	IAML		03 10 21.3	
	comp=N,216nm,0.5s						
U15A				IAML		03 10 22.4	
	comp=E,181nm,0.5s						
FLU	**Fool Peak**	**1.52**	**9**		Pn	03 10 03.6	+0.3

NEIC ***12*** *03:52:23.9±1.6, 37.°866N±0.°009×112.°48W±0.°01, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=130.0*

UUSS 12 03:52:25.0±1.8, 37.°871N±0.°009×112.°49W±0.°02, h4km±5km, ML2.2/10, ML2.6/104(NEIC), Error ellipse: s-maj=2.6km s-min=0.7km az=66.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTPU	**Mount Pierson**	**0.30**	**55**		Pg	03 52 30.6	-0.3
MTPU					Sg	03 52 35.7	+0.9
MTPU	**Mount Pierson**	**0.30**	**55**	IAML		03 52 36.3	
	comp=E,553nm,0.5s						
MTPU				IAML		03 52 36.4	
	comp=N,341nm,0.2s						
PKCU	**Pink Cliffs**	**0.45**	**162**		Pg	03 52 33.8	+0.1
PKCU					Sg	03 52 40.4	+0.8
PKCU	**Pink Cliffs**	**0.45**	**162**	IAML		03 52 43.4	
	comp=N,295nm,0.4s						
PKCU				IAML		03 52 43.4	
	comp=E,528nm,0.3s						
DWU	**Dry Willow Pea**	**0.47**	**300**		Pg	03 52 32.6	-1.4
BTU	**Barney Top**	**0.50**	**103**		Pg	03 52 34.8	+0.2
SZCU	**Shurtz Canyon**	**0.55**	**240**		Pg	03 52 35.7	+0.2
SZCU	**Shurtz Canyon**	**0.55**	**240**	IAML		03 52 46.2	
	comp=E,631nm,0.2s						
SZCU				IAML		03 52 46.5	
	comp=N,328nm,0.2s						
NMUT	**North Mineral**	**0.70**	**336**		Pg	03 52 38.7	+0.2
TCRU	**Three Creeks R**	**0.74**	**3**		Pg	03 52 39.3	+0.1
TCRU	**Three Creeks R**	**0.74**	**3**	IAML		03 52 51.6	
	comp=N,125nm,0.3s						
TCRU				IAML		03 52 51.9	
	comp=E,123nm,0.5s						
ARUT	**Antelope Range**	**0.76**	**264**		Pg	03 52 39.9	+0.3
CCUT	**Cedar City**	**0.76**	**245**		Pg	03 52 39.5	-0.1
KNB	**Kanab**	**0.89**	**197**		Pg	03 52 41.6	-0.6
IMU	**Iron Mountain**	**0.93**	**326**		Pg	03 52 42.9	+0.1
LCMT	**Little Creek M**	**1.05**	**215**		Pg	03 52 44.3	-0.7
LCMT	**Little Creek M**	**1.05**	**215**	IAML		03 53 03.6	
	comp=N,115nm,0.2s						
LCMT				IAML		03 53 03.7	
	comp=E,142nm,0.2s						
PSUT	**Pine Spring**	**1.26**	**302**		Pg	03 52 49.2	0.0
PSUT	**Pine Spring**	**1.26**	**302**	IAML		03 53 09.9	
	comp=E,75nm,0.7s						
PSUT				IAML		03 53 10.5	
	comp=N,77nm,0.7s						
ICU	**Indian Springs**	**1.35**	**238**		Pn	03 52 50.3	-0.4
HMU	**Henry Mountain**	**1.38**	**87**		Pn	03 52 50.1	-1.3
HMU				IAML		03 53 15.5	
	comp=E,156nm,0.5s						
HMU				IAML		03 53 15.8	
	comp=N,122nm,0.4s						
U15A	**North Rim**	**1.45**	**174**		Pn	03 52 51.6	-0.6
U15A	**North Rim**	**1.45**	**174**	IAML		03 53 11.0	
	comp=E,52nm,0.3s						
U15A				IAML		03 53 11.3	
	comp=N,60nm,0.5s						
Q16A	**Castle Valley**	**1.47**	**44**		Pn	03 52 51.9	-0.6
TMUT	**Trail Mountain**	**1.74**	**35**		Pn	03 52 55.6	-0.7
SPR3	**Spring Creek 3**	**1.83**	**308**		Pn	03 52 56.7	-0.9
SRU	**San Rafael Swe**	**1.98**	**51**		Pn	03 52 59.3	-0.2
SRU				IAML		03 53 35.5	
	comp=E,22nm,0.6s						
PRN	**Pahroc Range**	**2.08**	**258**		Pn	03 53 01.1	+0.2
PRN				IAML		03 53 34.6	
	comp=N,38nm,0.4s						
PRN				IAML		03 53 36.2	
	comp=E,30nm,0.7s						
P18A	**Preston Nutter**	**2.48**	**44**	Pn	Pn	03 53 06.2	-0.3
P18A				IAML		03 53 44.9	
	comp=E,15nm,0.5s						
R11B	**Troy Canyon, C**	**2.49**	**282**		Pn	03 53 06.0	-0.4
WUAZ	**Wupatki**	**2.52**	**159**		Pn	03 53 06.5	-0.3
SHPR	**Sheep Range**	**2.53**	**238**	Pn	Pn	03 53 07.4	+0.3
S11A	**Rachel**	**2.59**	**266**	Pn	Pn	03 53 08.6	+0.7
S11A				IAML		03 53 49.4	
	comp=N,37nm,0.7s						
S11A				IAML		03 53 59.0	
	comp=E,25nm,0.9s						
PV05	**Paradox Valley**	**2.69**	**85**	Pn	Pn	03 53 10.5	+1.2
PV10	**Paradox Valley**	**2.77**	**78**	Pn	Pn	03 53 10.5	+0.1
PV14	**Lion Creek, Pa**	**2.78**	**79**	Pn	Pn	03 53 10.3	-0.3
PV14				IAML		03 53 54.0	
	comp=N,48nm,0.5s						
PV19	**Morning Glory**	**2.80**	**80**	Pn	Pn	03 53 10.8	0.0
PV23	**Carpenter Ridg**	**2.80**	**77**	Pn	Pn	03 53 10.0	-0.9
PV20	**West Nyswonger**	**2.82**	**79**	Pn	Pn	03 53 10.7	-0.4
PV16	**Nyswonger Mesa**	**2.85**	**80**		Pn	03 53 11.4	-0.1
PV16				IAML		03 53 55.6	
	comp=E,41nm,0.4s						
PV16				IAML		03 54 00.9	
	comp=N,37nm,0.7s						
V12A	**Nelson**	**2.86**	**222**	Pn	Pn	03 53 11.1	-0.4
PV04	**Paradox Valley**	**2.88**	**78**	Pn	Pn	03 53 11.2	-0.5
PV04				IAML		03 53 58.0	
	comp=N,43nm,0.6s						
PV04				IAML		03 54 03.1	
	comp=E,34nm,0.6s						
PV11	**David Mesa, Pa**	**2.89**	**80**	Pn	Pn	03 53 11.7	-0.2
PV03	**Paradox Valley**	**2.90**	**81**		Pn	03 53 11.8	-0.3
PV13	**Radium Mtn., P**	**2.91**	**83**		Pn	03 53 11.5	-0.9
PV13				IAML		03 53 54.3	
	comp=N,45nm,0.5s						
PV12	**Saucer Basin,**	**2.94**	**80**		Pn	03 53 12.0	-0.7
PV02	**Paradox Valley**	**2.98**	**82**		Pn	03 53 13.0	-0.3
W13A	**Hualapai Mount**	**2.99**	**203**	Pn	Pn	03 53 13.0	-0.3
PV22	**Blue Mesa, Par**	**2.99**	**76**	Pn	Pn	03 53 13.1	-0.3
PV22				IAML		03 53 56.8	
	comp=E,41nm,0.6s						
PV22				IAML		03 53 57.6	
	comp=N,33nm,0.6s						
PV07	**Paradox Valley**	**3.08**	**78**	Pn	Pn	03 53 14.4	-0.3
PV07				IAML		03 54 01.9	
	comp=E,22nm,1.0s						
PV07				IAML		03 54 05.9	
	comp=N,16nm,0.8s						
PV01	**Paradox Valley**	**3.11**	**84**	Pn	Pn	03 53 15.0	0.0
PV01				IAML		03 54 00.9	
	comp=N,23nm,0.7s						
PV01				IAML		03 54 01.1	
	comp=E,36nm,0.3s						
TPNV	**Topopah Spring**	**3.13**	**254**		Pn	03 53 15.3	0.0
TPNV				IAML		03 54 07.4	
	comp=E,6.8nm,0.6s						
TPNV				IAML		03 54 08.0	
	comp=E,9.4nm,0.5s						
PV15	**Paradox Valley**	**3.20**	**80**	Pn	Pn	03 53 16.1	-0.2
MVCO	**Mesa Verde**	**3.24**	**101**	Pn	Pn	03 53 16.9	+0.1
MVCO				IAML		03 54 14.9	
	comp=E,21nm,0.5s						
MVCO				IAML		03 54 21.7	
	comp=E,23nm,0.7s						
W18A	**Petrified Fore**	**3.53**	**140**	Pn	Pn	03 53 20.8	0.0
W18A				IAML		03 54 21.0	
	comp=E,23nm,0.5s						
X16A	**Lo Mia Camp, P**	**3.55**	**166**	Pn	Pn	03 53 20.5	-0.5
X16A				IAML		03 54 20.3	
	comp=N,6.0nm,0.6s						
X16A				IAML		03 54 22.0	
	comp=E,6.3nm,0.7s						
GWY	**Greenwater Val**	**3.74**	**245**	Pn	Pn	03 53 24.4	+0.7
GWY				IAML		03 54 29.1	
	comp=N,4.8nm,0.8s						
GWY				IAML		03 54 35.2	
	comp=E,4.7nm,1.2s						
TPH	**Tonopah**	**3.75**	**275**	Pn	Pn	03 53 23.4	-0.4
TPH				IAML		03 54 27.0	
	comp=E,4.5nm,0.7s						

GII ***12*** *03:55:31.7±0.0, 33.°340N±0.°001×35.°786E±0.°001, h6km, Mws1.8, confirmed*

GRAL ***12*** *03:55:31.5±0.3, 33.°28N×35.°83E, h0km±17km, MD2.7*

ISC 12 03:55:31.8±1.0, 33.°34N±0.°02×35.°80E±0.°05, h8km±6km, n39, σ0.°76/41, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHBL	**Chebaa**	**0.04**	**278**	*e*P	**Pg**	**03 55 33.4**	**-0.3**
NATI	**Neve Ativ**	**0.09**	**213**	P	**Pg**	**03 55 34.0**	**-0.1**
NATI	**Neve Ativ**	**0.09**	**213**	S	**Sg**	**03 55 35.9**	**+0.1**
RCY	**Rachaya**	**0.16**	**12**	*e*P	**Pg**	**03 55 35.4**	**+0.2**
RCY				*e*S	**Sg**	**03 55 38.4**	**+0.7**
GEM	**Giv'at Ha'Em**	**0.17**	**221**	P	**Pg**	**03 55 35.4**	**0.0**
GEM	**Giv'at Ha'Em**	**0.17**	**221**	S	**Sg**	**03 55 38.1**	**+0.2**
MTLA	**Metula**	**0.19**	**251**	P	**Pg**	**03 55 35.7**	**-0.1**
MTLA	**Metula**	**0.19**	**251**	S	**Sg**	**03 55 39.5**	**+1.0**
QRWL	**Qaraoun**	**0.23**	**335**	*e*P	**Pg**	**03 55 36.8**	**+0.4**
QRWL				*e*S	**Sg**	**03 55 40.8**	**+1.3**
MSAM	**Misgav Am**	**0.23**	**246**	P	**Pg**	**03 55 36.6**	**+0.2**
MSAM	**Misgav Am**	**0.23**	**246**	S	**Sg**	**03 55 40.6**	**+1.0**
KIRY	**Kiryat Shemona**	**0.23**	**235**	P	**Pg**	**03 55 36.6**	**+0.1**
KIRY	**Kiryat Shemona**	**0.23**	**235**	S	**Sg**	**03 55 40.6**	**+0.9**
LVBS	**Lehavot Habash**	**0.23**	**212**	P	**Pg**	**03 55 36.5**	**0.0**
LVBS	**Lehavot Habash**	**0.23**	**212**	S	**Sg**	**03 55 40.4**	**+0.7**
KDZV	**Kedmat Zvi**	**0.32**	**195**	P	**Pg**	**03 55 38.7**	**+0.5**
KDZV	**Kedmat Zvi**	**0.32**	**195**	S	**Sg**	**03 55 44.0**	**+1.5**
KSHT	**Keshet**	**0.36**	**178**	P	**Pg**	**03 55 39.4**	**+0.5**
KSHT	**Keshet**	**0.36**	**178**	S	**Sb**	**03 55 45.3**	**-0.9**
DQRL	**Deir Qamar**	**0.41**	**332**	*e*P	**Pg**	**03 55 40.1**	**+0.3**
RSPN	**Rosh Pina**	**0.43**	**210**	P	**Pg**	**03 55 40.6**	**+0.5**
RSPN	**Rosh Pina**	**0.43**	**210**	S	**Sg**	**03 55 47.1**	**+1.4**
HDNS	**Had-Ness**	**0.43**	**198**	P	**Pg**	**03 55 40.7**	**+0.5**
HDNS	**Had-Ness**	**0.43**	**198**	S	**Sb**	**03 55 47.6**	**-0.6**
MMA0B	**Mount Meron ar**	**0.46**	**226**	P	**Pg**	**03 55 41.5**	**+0.6**
MMA0B	**Mount Meron ar**	**0.46**	**226**	S	**Sg**	**03 55 48.2**	**+1.2**
MMC7	**Mount Meron ar**	**0.47**	**227**	P	**Pg**	**03 55 40.9**	**+0.1**
AMID	**Amiad**	**0.47**	**208**	P	**Pg**	**03 55 41.4**	**+0.5**
AMID	**Amiad**	**0.47**	**208**	S	**Sb**	**03 55 48.4**	**-0.8**
ZRT	**Zar'it**	**0.49**	**241**	P	**Pg**	**03 55 41.2**	**-0.1**
ZRT	**Zar'it**	**0.49**	**241**	S	**Sg**	**03 55 49.1**	**+1.4**
KNHM	**Kefar Nahum**	**0.49**	**202**	P	**Pg**	**03 55 41.4**	**0.0**
KNHM	**Kefar Nahum**	**0.49**	**202**	S	**Sg**	**03 55 49.1**	**+1.3**
ZAHL	**Zahle**	**0.52**	**8**	*e*P	**Pg**	**03 55 42.0**	**+0.1**
GOLA	**Golan Heights**	**0.64**	**191**	P	**Pg**	**03 55 44.6**	**+0.5**
MMLI	**Mount Malkishu**	**0.95**	**199**	P	**Pb**	**03 55 50.1**	**-0.5**
MMLI	**Mount Malkishu**	**0.95**	**199**	S	**Sg**	**03 56 03.6**	**+1.1**
HMDT	**Nahal Hemdat**	**1.11**	**192**	P	**Pb**	**03 55 52.6**	**-0.6**
HMDT	**Nahal Hemdat**	**1.11**	**192**	S	**Sn**	**03 56 08.3**	**-0.7**

IPEC ***12*** *04:35:46.8±0.3, 49.°82N×18.°56E, h1km, ML2.6/4, Error ellipse: s-maj=2.1km s-min=1.7km az=71.0*

PRU ***12*** *04:35:49.1, 49.°81N×18.°42E, h0km, Mining Induced Event Csm, E=4.4e+05*

ISC 12 04:35:45.9±0.9, 49.°86N±0.°04×18.°57E±0.°03, h0km, n31, σ1.°09/51, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.28**	**265**	*e*PG	**Pb**	**04 35 52.5**	**-1.3**
OKC				*e*SG	**Sg**	**04 35 55.7**	**+0.9**
	262nm,0.4s						
STEB	**Steborice**	**0.52**	**278**	*e*PG	**Pb**	**04 35 57.2**	**-0.8**
STEB				*e*SG	**Sg**	**04 36 04.2**	**+1.5**
	119nm,0.4s						
MORC	**Moravsky Berou**	**0.67**	**263**	*e*Pg	**Pg**	**04 35 59.3**	**+0.5**
	baz=86						
MORC				*e*Sg	**Sg**	**04 36 07.7**	**+0.2**
	177nm,0.4s,baz=86						
MORC	**Moravsky Berou**	**0.67**	**263**	*e*PG	**Pg**	**04 35 59.4**	**+0.6**
MORC				*e*SG	**Sg**	**04 36 07.8**	**+0.2**
OJC	**Ojcow**	**0.87**	**65**	*e*Pg	**Pb**	**04 36 03.7**	**-0.2**
OJC				*e*Sg	**Sb**	**04 36 15.8**	**-0.3**
JAVC	**Velka Javorina**	**1.16**	**211**	*e*Pg	**Pb**	**04 36 08.7**	**-0.2**
	baz=31						
KRLC	**Kraliky**	**1.18**	**281**	*e*PG	**Pg**	**04 36 08.3**	**-0.2**
KRLC				*e*SG	**Sg**	**04 36 24.2**	**+0.5**
	108nm,0.2s						
NIE	**Niedzica**	**1.21**	**111**	*e*Pg	**Pn**	**04 36 09.7**	**-0.4**
NIE				*e*Sg	**Sn**	**04 36 27.4**	**+0.2**
VRAC	**Vranov**	**1.40**	**248**	*e*Pg	**Pn**	**04 36 12.4**	**-0.3**
	baz=68						
VRAC				*e*Sg	**Sg**	**04 36 29.8**	**-1.2**
	58nm,0.3s,baz=68						
VRAC	**Vranov**	**1.40**	**248**	*e*PG	**Pn**	**04 36 12.5**	**-0.3**
VRAC				*e*SG	**Sg**	**04 36 29.9**	**-1.1**
DPC	**Dobruska-Polom**	**1.53**	**290**	*e*PG	**Pg**	**04 36 15.1**	**-0.2**
DPC				*e*SG	**Sn**	**04 36 35.6**	**+0.4**
	32nm,0.3s						
KRUC	**Moravsky**	**1.63**	**241**	*e*Pg	**Pn**	**04 36 15.7**	**-0.2**
	baz=61						
KRUC				*e*Sg	**Sn**	**04 36 37.3**	**-0.3**
	56nm,0.2s,baz=61						
OSTC	**Ostas**	**1.67**	**296**	*e*PG	**Pg**	**04 36 17.8**	**-0.1**
OSTC				*e*SG	**Sg**	**04 36 39.6**	**+0.1**
	60nm,0.8s						
KSP	**Ksiaz**	**1.76**	**305**	*e*Pg	**Pg**	**04 36 20.0**	**+0.3**
KSP				*e*Sg	**Sg**	**04 36 43.4**	**+0.9**
UPC	**Upice**	**1.77**	**292**	*e*PG	**Pb**	**04 36 19.3**	**0.0**
UPC				*e*SG	**Sb**	**04 36 42.0**	**0.0**
	24nm,0.5s						
CHVC	**Chvalec**	**1.77**	**295**	*e*SG	**Sg**	**04 36 42.9**	**0.0**
	25nm,0.3s						
TREC	**Trest**	**2.09**	**255**	*e*PG	**Pb**	**04 36 24.2**	**-0.5**
TREC				*e*SG	**Sb**	**04 36 51.2**	**0.0**
PRU	**Puhonice**	**2.61**	**274**	*e*SG	**Sb**	**04 37 07.4**	**+1.3**
	16nm,0.5s						
CONA	**Conrad Observa**	**2.63**	**224**	*e*Pn	**Pn**	**04 36 28.7**	**-1.1**
	1.5nm,0.2s						
CONA				*e*Sn	**Sn**	**04 37 00.7**	**-1.8**
	3.9nm,0.2s						
RONA	**Rosalia, Austr**	**2.64**	**216**	*e*Pn	**Pn**	**04 36 29.5**	**-0.3**
	1.1nm,0.1s						
RONA				*e*Sn	**Sn**	**04 37 02.5**	**+0.1**
	5.4nm,0.5s						
PRA	**Prague**	**2.68**	**276**	*e*SG	**Sg**	**04 37 10.7**	**-1.4**
	23nm,0.7s						
BRG	**Berggiesshubel**	**3.13**	**291**	Pg	**Pg**	**04 36 46.6**	**+0.6**
BRG				Sg	**Sg**	**04 37 26.9**	**+0.3**
BRG				Amp		04 37 28.4	
	comp=Z,8.6nm,0.5s						
ARSA	**Arzberg**	**3.31**	**219**	Sg	**Sg**	**04 37 34.6**	**+2.5**
	comp=Z,2.1nm,0.5s						
KHC	**Kasperske Hory**	**3.34**	**259**	*e*PG	**Pb**	**04 36 47.4**	**+1.4**
KHC				*e*SG	**Sg**	**04 37 31.2**	**-1.9**
	comp=Z,25nm,0.7s						
MOA	**Molln**	**3.48**	**236**	Pg	**Pb**	**04 36 49.8**	**+1.3**
	comp=Z,0.9nm,0.2s						
MOA				Sg	**Sg**	**04 37 36.4**	**-1.4**
	comp=Z,12nm,0.6s						
CLL	**Collm**	**3.83**	**294**	*i* Sg	**Sg**	**04 37 48.8**	**-0.3**
	comp=Z,10.0nm,0.5s						
BIOA	**Bad Ischl, Aus**	**3.92**	**238**	*e*Sg	**Sg**	**04 37 50.1**	**-1.7**
	comp=Z,10nm,0.5s						
LESA	**Schwarzleotal**	**4.61**	**240**	Sg	**Sg**	**04 38 15.3**	**+1.4**
	comp=Z,8.9nm,0.5s						
WTTA	**Wattenberg**	**5.29**	**243**	*e*Sg	**Sg**	**04 38 39.4**	**+3.7**
	comp=Z,6.3nm,0.6s						
MOTA	**Moosalm**	**5.56**	**246**	*e*Sg	**Sg**	**04 38 44.8**	**+0.4**
	comp=Z,4.3nm,0.4s						
SQTA	**Sankt Quirin**	**5.56**	**244**	*e*Sg	**Sg**	**04 38 42.7**	**-1.7**
	comp=Z,3.1nm,0.4s						

IDC ***12*** *05:08:14.3±5.2, 23.°925×179.°97W, h634km±68km, mb3.3/7, mbtmp4.3/8, Error ellipse: s-maj=46.2km s-min=26.4km az=179.0*

ISC 12 05:08:05.9±0.8, 23.°6S±0.°1×179.°8W±0.°2, h532km, n14, σ1.°38/13, mb3.7/7, South of Fiji Islands

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

HNR Honiara 8.81 125 LR LR 06 13 19.7
comp=Z,91nm,19.5s,baz=332,slow=38
DZM Mont Dzumac 22.08 144 P **P** **06 12 24.2 -2.4**
DZM IAmb IAmb 06 12 33.4
comp=Z,16nm,1.1s
WB0 Warramunga Arr 23.43 228 P **P** **06 12 41.0 +0.6**
WB0 IAmb IAmb 06 12 42.0
comp=Z,5.9nm,0.6s
WR8 Warramunga Arr 23.47 227 P **P** **06 12 41.3 +0.5**
WR8 IAmb IAmb 06 12 43.2
comp=Z,7.2nm,0.6s
WRAB Tennant Creek 23.57 228 P **P** **06 12 42.2 +0.6**
WRA Warramunga Arr 23.58 228 P **P** **06 12 40.6 -1.1**
WRA Warramunga Arr 23.58 228 P **P** **06 12 42.5 +0.7**
comp=Z,4.6nm,0.5s,baz=50,slow=10,SNR=58
WRA LR LR 06 21 42.2
comp=Z,73nm,19.0s,baz=158,slow=36
comp=Z,4.6nm,0.5s
KNRA Kununurra 26.00 243 P **P** **06 13 05.2 +1.4**
AS31 Alice Springs 26.32 222 P **P** **06 13 06.9 +0.1**
ASAR Alice Springs 26.33 222 P **P** **06 13 07.9 +1.2**
ASAR Alice Springs 26.33 222 P **P** **06 13 07.8 +1.0**
comp=Z,0.7nm,0.4s,baz=53,slow=9.0,SNR=20
comp=Z,0.7nm,0.4s
H11N1 WAKE ISLAND Hy 27.77 30 T T 06 42 24.0
baz=205,slow=74
H11N3 WAKE ISLAND Hy 27.78 30 T T 06 42 30.4
baz=205,slow=74
H11N2 WAKE ISLAND Hy 27.79 30 T T 06 42 15.5
baz=205,slow=74
BBOO Buckleboo 32.23 207 P **P** **06 13 58.6 -0.4**
BBOO IAmb IAmb 06 14 15.6
comp=Z,4.8nm,1.0s
FORT Forrest 34.99 219 P **P** **06 14 23.7 +0.7**
FORT IAmb IAmb 06 14 24.2
comp=Z,6.4nm,1.1s
MBWA Marble Bar 36.02 240 P **P** **06 14 32.6 +0.6**
MBWA IAmb IAmb 06 14 45.2
comp=Z,5.9nm,1.0s
PSA00 Pilbara Seismi 36.09 239 P **P** **06 14 33.6 +1.1**
GIRL Giralia 41.31 240 P **P** **06 15 17.5 +1.2**
MORW Morawa 42.46 231 P **P** **06 15 25.8 +0.2**
MORW IAmb IAmb 06 15 29.2
comp=Z,2.1nm,0.7s
PETK Petropavlovsk- 57.46 4 LR LR 06 38 35.5
comp=Z,8.1nm,19.5s,baz=145,slow=33
VNDA Vanda 73.22 178 P **P** **06 19 01.8 +1.3**
VNDA IAmb IAmb 06 19 20.1
comp=Z,1.3nm,0.8s
ILAR Eielson Array 81.86 22 P **P** **06 19 46.8 -2.1**
comp=Z,0.5nm,0.8s,baz=257,slow=6.3,SNR=6.5
comp=Z,0.5nm,0.8s
H02S2 DAWSON INLET T 84.53 36 T T 07 53 03.4
SNR=19
QSPA South Pole Qui 85.55 180 P **P** **06 20 10.7 +2.8**
comp=Z,1.6nm,0.7s,baz=53,slow=0.2,SNR=12
comp=Z,1.6nm,0.7s
MAW Mawson 85.86 203 P **P** **06 20 10.2 +1.0**
comp=Z,1.0nm,0.6s,baz=91,slow=6.2,SNR=7.5
comp=Z,1.0nm,0.6s
LPIG La Paz 98.22 66 LR LR 07 01 04.3
comp=Z,116nm,18.2s,baz=130,slow=33
TORD Torodi Ar. Bea 150.02 289 PKPbc **PKPbc** **06 27 20.5 -0.8**
comp=Z,0.7nm,0.6s,baz=88,slow=2.8,SNR=11
BDFB Brasilia 151.46 135 PKPbc **PKiKP** **06 27 25.3 +0.1**
comp=Z,1.7nm,0.5s,baz=240,slow=1.3,SNR=3.6

SJA 12 06:14:54.9±0.6, 22°.93S×66°.15W, h276km±4km, ML3.6, MW3.4, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**0.73**	**112**	*eP*		Pn	06 15 32.5	+0.5
YJA	**Yavi**	**0.95**	**38**	*eP*		Pn	06 15 33.6	+0.5
YJA				*eS*		S	06 16 02.0	-1.2
SALTA		**1.30**	**188**	*eP*		Pn	06 15 30.2	-4.8
SALTA				*eP*			06 15 35.1	
AZAP	**Zapla**	**1.62**	**143**	*eP*		Pn	06 15 37.1	+0.3
AF01	**San Pedro de A**	**1.87**	**269**	*eP*		Pn	06 15 39.6	+0.7
PB09	**IPOC Station P**	**3.08**	**291**	*eP*		Pn	06 15 50.7	+0.6
PB09				*eS*		S	06 16 32.2	-1.8
PB09				IAML			06 16 35.5	
comp=Z,63nm,0.2s								
FSA	**Cafayete**	**3.17**	**177**	*eP*		Pn	06 15 52.1	+1.2
PB06	**IPOC Station P**	**3.17**	**273**	*eP*		Pn	06 15 40.6	-10
PB06				*eS*		S	06 16 33.1	-2.5
PB06				IAML			06 16 36.1	
comp=Z,76nm,0.1s								
PB03	**IPOC Station P**	**3.45**	**284**	*eP*		Pn	06 15 53.6	-0.4
PB03				*eS*		S	06 16 36.4	-4.7
PB03				IAML			06 16 40.4	
comp=Z,144nm,0.1s								
PB01	**IPOC Station P**	**3.63**	**301**	*eP*		Pn	06 15 56.3	+0.4
PB01				*eS*		S	06 16 41.5	-3.0
PB01				IAML			06 16 42.1	
comp=Z,100nm,0.1s								
PB05	**IPOC Station P**	**3.74**	**270**	*eP*		Pn	06 15 57.0	-0.1
PB05				*eS*		S	06 16 43.0	-3.8
PB05				IAML			06 16 43.0	
comp=Z,26nm,1.3s								
PB02	**IPOC Station P**	**3.83**	**294**	*eP*		Pn	06 15 58.3	+0.2
PB02				*eS*		S	06 16 44.1	-4.5
PB02				IAML			06 16 45.5	
comp=Z,191nm,0.1s								
GO02	**Mina Guanaco**	**3.85**	**234**	*eP*		Pn	06 15 58.8	+0.3
GO02				*eS*		S	06 16 46.4	-2.9
GO02				IAML			06 16 47.5	
comp=Z,55nm,0.4s								
PB08	**IPOC Station P**	**3.94**	**314**	*eP*		Pn	06 16 01.1	+1.4
PB08				IAML			06 16 54.0	
comp=Z,20nm,0.1s								
PB10	**IPOC Station P**	**4.10**	**261**	*eP*		Pn	06 16 01.1	+0.1
PB10				*eS*		S	06 16 48.9	-5.0
PB10				IAML			06 16 50.1	
comp=Z,27nm,0.3s								
PATCX	**Punta Patache**	**4.27**	**299**	*eP*		Pn	06 16 03.6	+0.4
PATCX				*eS*		S	06 16 53.8	-3.9
PATCX				IAML			06 16 57.0	
comp=Z,55nm,0.2s								
GO01	**Chusmiza**	**4.32**	**318**	*eP*		Pn	06 16 05.9	+1.8
GO01				IAML			06 17 02.4	
comp=Z,32nm,0.6s								
TA01	**Diego Aracena**	**4.43**	**301**	*eP*		Pn	06 16 05.4	+0.5
TA01				*eS*		S	06 16 56.6	-4.2
TA01				IAML			06 16 57.1	
comp=Z,34nm,1.1s								
PB11	**IPOC Station P**	**4.54**	**313**	*eP*		Pn	06 16 06.7	+0.3
PB11				IAML			06 17 04.4	
comp=Z,43nm,0.2s								
AC02	**Maricunga**	**4.74**	**214**	*eP*		Pn	06 16 09.7	+0.8
AC01	**Pan de Azucar**	**5.17**	**231**	*eP*		Pn	06 16 12.8	-0.8
AC01				*eS*		S	06 17 11.2	-5.3
AC01				IAML			06 17 47.0	
comp=Z,28nm,1.9s								

DJA 12 06:24:54.7±0.4, 9°S±3°×111°9E±°, h100km±5km, M3.9/13, mb4.1/1, MLv3.8/13, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.88**	**152**	P		Pn	06 25 13.5	-0.5
WBSI				S		Sn	06 25 29.5	+1.1
PLAI	**Plampang**	**1.18**	**271**	P		Pn	06 25 17.9	+0.8
PLAI				S		Sn	06 25 35.2	+1.1
WSI	**Waingapu**	**1.54**	**122**	P		Pn	06 25 21.5	+0.1
WSI				S		Sn	06 25 41.8	+0.1
TWSI	**Taliwang, Sumb**	**2.07**	**273**	P		Pn	06 25 29.3	+1.1
TWSI				S		Sn	06 25 54.8	+1.1
BASI	**Baing, Sumba**	**2.08**	**131**	P		Pn	06 25 28.8	+0.4
EDFI	**Ende, Flores**	**2.69**	**88**	P		Pn	06 25 37.0	+0.5
EDFI				S		Sn	06 26 09.2	+0.7
BSSI	**Bau Bau, Buton**	**3.09**	**29**	P		Pn	06 25 42.1	+0.4
BSSI				S		Sn	06 26 17.1	-0.9
MMRI	**Maumere**	**3.24**	**86**	P		Pn	06 25 43.7	0.0
JAGI	**Jajag, Banyuwa**	**4.78**	**274**	P		Pn	06 26 03.6	-0.9
JAGI				S		Sn	06 26 57.9	-0.8
GMJI	**Gumukmas**	**5.50**	**276**	P		Pn	06 26 13.9	-0.3

*VAO **12** 06:27:54.8±0.4, 32°.10S×67°.32W, h121km, mb4.7*
*NEIC **12** 06:27:56.4±1.8, 31°.99S±0°.06×67°.23W±0°.09, h124km±5km, mb4.5/109, Error ellipse: s-maj=11.0km s-min=9.3km az=88.0*
*SJA **12** 06:27:56.8±0.6, 31°.95S×67°.36W, h132km±3km, ML4.5, MW4.4*
*IDC **12** 06:27:57.1±0.3, 31°.87S×67°.36W, h129km±3km, mb4.2/12, mbtmp4.5/15, Error ellipse: s-maj=12.7km s-min=9.1km az=40.0*

ISC 12 06:27:56.6±0.4, 31°.93S±0°.03×67°.32W±0°.03, h129km±3km, n245, σ1°36/246, mb4.5/57, 3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ACAN	**Cantantal**	**0.36**	**162**	*eP*		Pn	**06 28 15.8**	**+0.8**
ACAN				IAML			06 28 34.0	
comp=Z,18μm,0.3s								
CFA	**Coronel Fontan**	**0.85**	**292**	P		Pn	**06 28 18.7**	**+0.5**
comp=Z,469nm,0.4s,baz=103,slow=14,SNR=8693								
CFA				S		Sn	**06 28 34.6**	**+0.3**
comp=Z,4μm,0.3s,baz=14,slow=22,SNR=42								
CFA	**Coronel Fontan**	**0.85**	**292**	*eP*		Pn	**06 28 18.1**	**0.0**
ACHE	**Chepes**	**0.95**	**36**	*eP*		Pn	**06 28 20.9**	**+1.7**
SJA	**San Juan**	**1.13**	**290**	*eP*		Pn	**06 28 21.9**	**+1.1**
SJA				*eS*		Sn	**06 28 38.9**	**-0.2**
SJA				IAML			06 28 41.4	
comp=Z,4μm,0.7s								
AVFE	**Valle Fertil**	**1.27**	**355**	*eP*		Pn	**06 28 21.2**	**-1.1**
AVFE				*eS*		Sn	**06 28 43.4**	**+1.7**
AVFE				IAML			06 28 43.7	
comp=Z,2μm,0.6s								
MRA	**San Martin**	**1.44**	**110**	*eP*		Pn	**06 28 26.0**	**+1.8**
MRA				IAML			06 28 48.9	
comp=Z,3μm,0.5s								
ASAL	**Salagasta**	**1.45**	**242**	*eP*		Pn	**06 28 25.1**	**+1.0**
ARCO	**CERRO ARCO**	**1.64**	**236**	*eP*		Pn	**06 28 27.3**	**+0.8**
ARCO				*eS*		Sn	**06 28 47.0**	**-2.2**
ARCO				IAML			06 28 51.6	
comp=Z,8μm,1.0s								
APLL	**PUNTA DE LOS L**	**1.67**	**24**	*eP*		Pn	**06 28 28.4**	**+1.6**
RTLS	**Leoncito**	**1.69**	**274**	*eP*		Pn	**06 28 28.1**	**+1.0**
RTLS				*eS*		Sn	**06 28 51.6**	**+1.2**
RTLS				IAML			06 28 53.0	
comp=Z,10μm,0.7s								
AAGR	**Agrelo**	**1.72**	**227**	*eP*		Pn	**06 28 28.3**	**+1.0**
AAGR				*eS*		Sn	**06 28 51.4**	**+0.7**
AVIZ	**Vizcacheras**	**1.84**	**213**	*eP*		Pn	**06 28 29.8**	**+1.0**
AVIZ				*eS*		Sn	**06 28 48.2**	**-5.1**
ACCO	**Cerro Coronel**	**2.01**	**311**	*eP*		Pn	**06 28 32.4**	**+1.5**
ACCO				*eS*		Sn	**06 28 52.3**	**-4.8**
ACDV	**Cuesta del Vie**	**2.34**	**318**	*eP*		Pn	**06 28 36.2**	**+1.3**
ACDV				*eS*		Sn	**06 29 05.2**	**+1.0**
ACDV				IAML			06 29 08.4	
comp=Z,719nm,0.2s								
TCA	**Tanti**	**2.40**	**76**	*eP*		Pn	**06 28 37.1**	**+1.5**
TCA				*eS*		Sn	**06 29 06.6**	**+1.1**
TCA				IAML			06 29 08.2	
comp=Z,1μm,0.5s								
ACLC	**CERRO LA CRUZ**	**2.51**	**7**	*eP*		Pn	**06 28 38.5**	**+1.3**
ACLC				*eS*		Sn	**06 29 03.7**	**-4.6**
ACLC				IAML			06 29 10.5	
comp=Z,2μm,1.1s								
AROD	**Rodeo**	**2.55**	**313**	*eP*		Pn	**06 28 39.2**	**+1.5**
AROD				*eS*		Sn	06 28 59.5	-10
AGUA	**GUANDACOL**	**2.63**	**337**	*eP*		Pn	**06 28 40.1**	**+1.5**
AGUA				*eS*		Sn	**06 29 06.8**	**-4.1**
AGUA				IAML			06 29 17.7	
comp=Z,1μm,0.7s								
MT08	**Bocatoma Ro**	**2.73**	**236**			Pn	**06 28 40.9**	**+0.9**
MT08					Sn	Sn	**06 29 14.6**	**+1.3**
MT08	**Bocatoma Ro**	**2.73**	**236**	*eP*		Pn	**06 28 41.0**	**+1.1**
MT08				*eS*		Sn	**06 29 13.1**	**-0.2**
MT08				*eS*			06 29 15.4	
MT08				IAML			06 29 16.1	
comp=Z,2μm,0.7s								
MT04	**Ro Olivares**	**2.80**	**237**	*eP*		Pn	**06 28 41.0**	**+0.3**
MT04				*eS*		Sn	**06 29 15.7**	**+0.9**
MT04				IAML			06 29 16.5	
comp=Z,989nm,0.3s								
VA03	**San Esteban**	**2.86**	**252**			Pn	**06 28 42.3**	**+0.8**
VA03					Sn	Sn	**06 29 17.4**	**+1.4**
VA03	**San Esteban**	**2.86**	**252**	*eP*		Pn	**06 28 42.3**	**+0.8**
VA03				*eS*		Sn	**06 29 18.8**	**+2.8**
VA03				IAML			06 29 21.0	
comp=Z,1μm,0.3s								
PIL	**Pilar**	**2.94**	**86**	*eP*		Pn	**06 28 44.2**	**+1.8**
PIL				*eS*		Sn	**06 29 14.8**	**-2.9**
RFA	**San Rafael**	**2.99**	**198**	*eP*		Pn	**06 28 42.7**	**-0.5**
RFA				IAML			06 29 19.7	
comp=Z,3μm,0.5s								
CO01	**Juntas del Tor**	**3.08**	**308**			Pn	**06 28 46.6**	**+2.1**
CO01	**Juntas del Tor**	**3.08**	**308**	*eP*		Pn	**06 28 46.7**	**+2.1**
CO01				*eP*			06 28 46.7	
CO01				*eS*		Sn	**06 29 22.5**	**+1.2**
CO01				IAML			06 29 23.6	
comp=Z,910nm,0.6s								
CO03	**El Pedregal**	**3.08**	**290**			Pn	**06 28 46.0**	**+1.6**
CO03	**El Pedregal**	**3.08**	**290**	*eP*		Pn	**06 28 45.9**	**+1.5**
CO03				*eS*		Sn	**06 29 21.8**	**+0.6**
CO03				IAML			06 29 25.3	
comp=Z,2μm,0.5s								
MT13	**San Alfonso**	**3.08**	**233**			Pn	**06 28 45.1**	**+0.8**
MT13	**San Alfonso**	**3.08**	**233**	*eP*		Pn	**06 28 45.2**	**+0.8**
MT13				*eS*		Sn	**06 29 22.1**	**+0.8**
MT13				IAML			06 29 31.2	
comp=Z,969nm,0.6s								
MT16	**CCHEN**	**3.09**	**240**			Pn	**06 28 44.9**	**+0.5**
LMEL	**Las Melosas**	**3.09**	**231**			Pn	**06 28 45.5**	**+0.9**
LMEL	**Las Melosas**	**3.09**	**231**	*eP*		Pn	**06 28 45.1**	**+0.5**
LMEL				*eS*		Sn	**06 29 16.9**	**-4.6**
LMEL				IAML			06 29 20.2	
comp=Z,778nm,0.8s								
PEL	**Peldehue**	**3.09**	**246**			Pn	**06 28 44.8**	**+0.3**
PEL	**Peldehue**	**3.09**	**246**	*eP*		Pn	06 28 39.1	-5.3
PEL				*eS*		Sn	**06 29 17.6**	**-3.7**
PEL				IAML			06 29 22.9	
comp=Z,1μm,1.0s								
MT03	**Universidad Ad**	**3.11**	**239**			Pn	**06 28 45.3**	**+0.6**
MT03	**Universidad Ad**	**3.11**	**239**	*eP*		Pn	**06 28 45.4**	**+0.6**
MT03				*eS*		Sn	06 29 11.2	-11
MT03				IAML			06 29 21.5	
comp=Z,2μm,0.6s								
CO02	**Combarbal**	**3.22**	**282**			Pn	**06 28 47.1**	**+0.9**
CO02	**Combarbal**	**3.22**	**282**	*eP*		Pn	**06 28 47.1**	**+0.9**
CO02				*eS*		Sn	06 29 15.4	-9.1
CO02				IAML			06 29 27.1	
comp=Z,3μm,0.8s								
MT05	**Renca**	**3.23**	**242**			Pn	**06 28 46.5**	**+0.3**
MT05	**Renca**	**3.23**	**242**	*eP*		Pn	**06 28 46.5**	**+0.3**
MT05				*eS*		Sn	**06 29 27.5**	**+2.9**
MT05				IAML			06 29 57.1	
comp=Z,1μm,0.9s								
VCA	**Vinchina**	**3.27**	**346**	*eP*		Pn	**06 28 48.6**	**+1.7**
VCA				*eS*		Sn	**06 29 26.5**	**+0.8**
VCA				IAML			06 29 30.8	
comp=Z,1μm,0.7s								
ROC1	**El Roble**	**3.29**	**251**	*eP*		Pn	**06 28 46.7**	**-0.6**
ROC1				*eS*		Sn	06 29 14.2	-12
VA06	**Catapilco**	**3.43**	**258**			Pn	**06 28 47.8**	**-1.0**
BO04	**La Punta**	**3.45**	**233**			Pn	**06 28 49.5**	**+0.4**
GO04	**Tololo Observa**	**3.46**	**299**			Pn	**06 28 50.2**	**+0.8**
GO04	**Tololo Observa**	**3.46**	**299**	*eP*		Pn	**06 28 50.3**	**+0.8**
GO04				*eS*		Sn	06 29 16.4	-14
GO04				IAML			06 29 31.6	
comp=Z,3μm,0.5s								
MT02	**Curacav**	**3.49**	**247**			Pn	**06 28 48.8**	**-0.8**
MT02	**Curacav**	**3.49**	**247**	*eP*		Pn	**06 28 48.8**	**-0.8**
MT02				*eS*		Sn	06 29 17.4	-13
MT02				IAML			06 29 29.6	
comp=Z,656nm,1.0s								
MT09	**Talagante**	**3.60**	**238**			Pn	**06 28 50.6**	**-0.5**
CYA	**Choya**	**3.71**	**21**	*eP*		Pn	**06 28 53.1**	**+0.4**
CYA				*eS*		Sn	06 29 22.5	-14
CYA				*eS*			06 29 23.3	
CYA				IAML			06 29 36.2	
comp=Z,1μm,0.5s								
VA01	**Torpederas**	**3.82**	**252**	*eP*		Pn	**06 28 52.2**	**-1.7**
VA01				IAML			06 29 44.6	
comp=Z,391nm,0.6s								
MT01	**Popeta**	**3.83**	**239**			Pn	**06 28 52.7**	**-1.4**
MT01	**Popeta**	**3.83**	**239**	*eP*		Pn	**06 28 53.0**	**-1.1**
MT01				*eS*		Sn	**06 29 38.3**	**-0.3**
MT01				IAML			06 29 40.0	
comp=Z,560nm,0.5s								
CO06	**Fray Jorge**	**3.90**	**288**			Pn	**06 28 54.1**	**-1.0**
CO05	**La Serena**	**3.92**	**300**			Pn	**06 28 55.1**	**-0.1**

BO01 Tunca 4.00 231 Pn **06 28 55.6 -0.7**
BO01 Tunca 4.00 231 *eP* Pn **06 28 55.6 -0.7**
BO01 *eS* Sn 06 29 31.1 -12
BO01 IAML 06 29 45.2
comp=Z,386nm,0.8s
BO02 Sierra Bellavi 4.07 224 Pn **06 28 57.7 +0.4**
BO02 Sierra Bellavi 4.07 224 *eP* Pn **06 28 58.0 +0.7**
BO02 *eS* Sn 06 29 31.6 -13
BO02 IAML 06 29 54.1
comp=Z,330nm,0.3s
LCO Las Campanas 4.12 314 Pn **06 28 59.1 +0.9**
LCO Las Campanas 4.12 314 *eP* Pn **06 28 59.3 +1.1**
LCO *eS* Sn 06 29 26.5 -19
LCO IAML 06 29 50.3
comp=Z,1μm,0.6s
EDS3 Malargue 4.21 204 *eP* Pn **06 29 00.9 +1.7**
EDS3 *eS* Sn 06 29 34.4 -13
AC04 Llanos de Chal 4.94 318 Pn **06 29 09.1 +0.2**
AC04 Llanos de Chal 4.94 318 *eP* Pn **06 29 09.0 +0.2**
AC04 *eS* Sn 06 29 48.5 -17
AC04 IAML 06 30 15.5
comp=Z,288nm,0.5s
GO03 Copiapo 5.01 329 Pn **06 29 10.4 +0.5**
GO03 Copiapo 5.01 329 *eP* Pn **06 29 10.9 +1.0**
GO03 *eS* Sn **06 30 06.0 -0.9**
GO03 IAML 06 30 58.0
comp=Z,165nm,0.7s
AC06 Mina Casimiro 5.26 329 Pn **06 29 12.9 -0.4**
AC02 Maricunga 5.32 342 Pn **06 29 16.7 +2.3**
AC02 Maricunga 5.32 342 *eP* Pn **06 29 16.4 +2.0**
AC02 *eS* Sn **06 30 15.2 +0.3**
BI02 San Fabin de 5.75 214 Pn **06 29 19.1 -0.7**
AC01 Pan de Azucar 6.43 333 Pn **06 29 29.0 0.0**
GO02 Mina Guanaco 7.03 343 Pn Pn **06 29 37.6 +0.3**
TRQA Tornquist 7.52 146 Pn **06 29 43.7 +0.1**
PSAL Palomas, Salto 8.34 87 *eP* Pn **06 29 54.1 -0.4**
LC02 Puerto Saavedr 8.45 214 Pn Pn **06 29 52.6 -3.4**
LR03 Panguipulli 8.70 207 Pn **06 29 55.9 -3.6**
PB10 IPOC Station P 8.86 340 Pn Pn **06 30 00.5 -1.2**
LR05 Currie 9.11 203 Pn **06 30 02.5 -2.3**
PLCA Paso Flores 9.16 196 P Pn **06 30 05.9 +0.2**
comp=Z,2.9nm,0.5s,baz=357,slow=12,SNR=27
PLCA Paso Flores 9.16 196 *eP* Pn 06 30 00.5 -5.3
PB05 IPOC Station P 9.39 343 Pn **06 30 07.5 -1.6**
PB06 IPOC Station P 9.40 347 Pn **06 30 08.1 -1.0**
VA04 Juan Fernndez 9.84 257 Pn **06 30 12.5 -2.3**
LL03 Petrohue 10.06 203 Pn **06 30 14.1 -3.5**
PB03 IPOC Station P 10.08 347 Pn **06 30 16.3 -1.9**
CPUP Villa Florida 10.36 60 Pn **06 30 20.0 -1.9**
CPUP Villa Florida 10.36 60 P Pn **06 30 19.7 -2.1**
comp=Z,9.9nm,0.9s,baz=94,slow=12,SNR=66
CPUP Villa Florida 10.36 60 *eP* Pn **06 30 20.1 -1.7**
PB02 IPOC Station P 10.81 347 Pn **06 30 25.9 -2.1**
PB01 IPOC Station P 11.01 349 Pn Pn **06 30 28.6 -2.0**
LL01 San Ignacio de 11.19 200 Pn Pn **06 30 28.9 -3.8**
PLTB Pedras Altas 11.67 93 Pn **06 30 37.0 -2.1**
PLTB Pedras Altas 11.67 93 *eP* Pn **06 30 36.7 -2.4**
CPSB Cacapava Do Su 11.98 86 *eP* Pn **06 30 40.6 -2.7**
SJPY San Joaquin 12.04 58 *eP* Pn **06 30 42.1 -2.0**
PB11 IPOC Station P 12.30 350 Pn Pn **06 30 44.8 -2.8**
PB16 IPOC Station P 13.68 351 Pn **06 31 05.3 -0.6**
ITAB Concordia 14.02 74 Pn **06 31 08.6 -1.0**
ITAB Concordia 14.02 74 *eP* Pn **06 31 08.6 -1.0**
AMBA Amambai (Brazi 14.14 54 *eP* Pn **06 31 10.9 -0.3**
CNLB Canela 14.42 84 *eP* Pn **06 31 12.8 -1.9**
BDQN Bodoquena, MS 14.84 42 *eP* Pn **06 31 18.9 -1.1**
PTGB Pitanga 15.22 66 *eP* Pn **06 31 24.4 -0.6**
AQDB Aquidauana 15.44 45 Pn **06 31 26.3 -1.2**
AQDB IAmb IAmb 06 31 30.4
comp=Z,28nm,1.2s
AQDB Aquidauana 15.44 45 *eP* Pn **06 31 26.6 -0.9**
LPAZ La Paz 15.59 357 *eP* Pn **06 31 29.4 -0.6**
LPAZ La Paz 15.59 357 P Pn **06 31 28.6 -1.4**
comp=Z,1.7nm,0.6s,baz=165,slow=9.5,SNR=12
LPAZ La Paz 15.59 357 *eP* Pn **06 31 29.7 -0.3**
TRCB Terra Rica 15.89 59 Pn **06 31 32.1 -1.1**
TRCB IAmb IAmb 06 31 47.4
comp=Z,27nm,0.6s
TRCB Terra Rica 15.89 59 *eP* Pn **06 31 32.4 -0.8**
MAJ01 Sao Joao Batis 16.54 79 *eP* Pn **06 31 39.0 -2.0**
RPRD Ribas do Rio P 16.69 50 *eP* Pn **06 31 42.1 -0.8**
SIV San Ignacio 16.85 21 P **P** **06 31 45.0 +0.1**
comp=Z,29nm,0.7s,baz=200,slow=11,SNR=120
FRTB Fartura 17.89 66 *eP* **P** **06 31 56.9 +0.7**
PTLB Pontes e Lacer 18.02 26 **P** **06 31 57.8 +0.1**
PTLB IAmb IAmb 06 32 01.7
comp=Z,20nm,0.8s
PTLB Pontes e Lacer 18.02 26 *eP* Pn **06 31 58.8 -0.1**
PP1B Ponte de Pedra 18.17 41 *eP* **P** **06 32 00.0 +0.7**
SALV Santo Antonio 19.14 36 *eP* **P** **06 32 10.5 +0.6**
PET01 Itanhaem-SP 19.23 72 *eP* **P** **06 32 09.8 -1.1**
SPB Sao Paulo 19.44 70 P **P** **06 32 12.5 -0.6**
SPB IAmb IAmb 06 32 15.1
comp=Z,18nm,0.8s
SPB Sao Paulo 19.44 70 *eP* **P** **06 32 14.0 +0.9**
ITRB Iturama 19.50 55 *eP* **P** **06 32 14.0 +0.3**
RCLB Rio Claro- Sao 19.96 67 *eP* **P** **06 32 19.1 +0.2**
BB19B Bebedouro 19.97 62 *eP* **P** **06 32 18.6 -0.3**
VILB Vilhena 19.99 21 **P** **06 32 17.8 -1.3**
VILB Vilhena 19.99 21 *eP* **P** **06 32 18.3 -0.8**
VAO Valinhos 20.10 69 **P** **06 32 19.2 -1.1**
VAO Valinhos 20.10 69 *eP* **P** **06 32 21.2 +0.8**
PARB Paraibuna 21.01 71 *eP* **P** **06 32 30.2 0.0**
SLP01 Ubatuba-SP 21.40 72 *eP* **P** **06 32 34.2 0.0**
ARAG Araguaiana, MT 21.45 45 *eP* **P** **06 32 33.8 -0.9**
MG03 Isla Dawson 22.02 185 P **P** **06 32 38.6 -1.8**
IPMB Ipameri, GO 22.15 56 *eP* **P** **06 32 41.9 -0.2**
PDRB Porto dos Gac 22.45 28 *eP* **P** **06 32 46.4 +1.2**
BSCB Bom Sucesso 22.89 67 *eP* **P** **06 32 49.2 -0.2**
PMNB Patos De Minas 23.07 60 *eP* **P** **06 32 51.2 +0.1**
CLDB Colider 23.50 29 *eP* **P** **06 32 54.1 -0.9**
BDFB Brasilia 23.91 52 **P** **06 32 56.9 -2.0**
BDFB Brasilia 23.91 52 P **P** **06 32 58.6 -0.3**
comp=Z,29nm,0.8s,baz=219,slow=10,SNR=36
comp=Z,29nm,0.8s
DUB01 Friburgo-RJ 24.24 72 *eP* **P** **06 33 02.1 +0.4**
CZSB Cruzeiro do Su 24.59 347 P **P** **06 33 05.5 +0.6**
CZSB Cruzeiro do Su 24.59 347 *eP* **P** **06 33 05.9 +1.0**
SNDB Serra Nova Dou 24.74 40 *eP* **P** **06 33 06.2 0.0**
DIAM Diamantina, MG 25.28 63 *eP* **P** **06 33 11.5 +0.3**
JANB Januaria 26.87 57 *eP* **P** **06 33 25.4 -0.1**
SJMB Sao Joao De Ma 26.96 67 *eP* **P** **06 33 26.5 +0.3**
NPGB Novo Progresso 27.16 27 *eP* **P** **06 33 28.3 +0.3**
SDBA SAO DESIDERIO 28.32 52 *eP* **P** **06 33 38.2 -0.2**
TEFE Tefe 28.38 6 *eP* **P** **06 33 39.7 +0.8**
GUA01 Guaratinga, BA 29.26 65 *eP* **P** **06 33 46.6 0.0**
CMC01 Camacan, BA 30.21 63 *eP* **P** **06 33 55.5 +0.4**
COHC Cochancay 31.39 337 P **P** **06 34 05.2 +0.4**
FLOC Florencia 34.25 345 **P** **06 34 30.6 +0.3**
BOAV Boa Vista 34.74 12 P **P** **06 34 35.0 +0.4**
BOAV IAmb IAmb 06 34 36.0
comp

comp=Z,15nm,0.6s
833A Chaparral WMA, 67.25 329 P P 06 38 37.9 +0.8
HNDO Hondo 68.25 330 IAmb IAmb 06 38 45.3
comp=Z,10nm,0.8s
X48A Hartselle 68.59 343 P P **06 38 45.1 -0.3**
V53A Saluda 68.80 347 IAmb IAmb 06 38 47.4
comp=Z,4.9nm,0.8s
W50A Signal Mountai 68.88 344 P P **06 38 47.2 0.0**
W50A IAmb IAmb 06 38 48.1
comp=Z,9.1nm,0.9s
HPIG 69.01 324 P P **06 38 49.0 +0.5**
HPIG IAmb IAmb 06 38 50.4
comp=Z,5.0nm,0.9s
SWET Sewanee 69.04 344 IAmb IAmb 06 38 49.0
comp=Z,10nm,0.9s
JCT Junction City 69.29 330 IAmb IAmb 06 38 51.4
comp=Z,7.7nm,0.8s
BRDY Brady 69.66 331 IAmb IAmb 06 38 53.4
comp=Z,7.0nm,1.1s
V48A Smith Brothers 69.76 343 IAmb IAmb 06 38 53.4
comp=Z,9.8nm,0.9s
SAND Sanderson 69.85 328 IAmb IAmb 06 38 55.2
comp=Z,7.1nm,0.9s
TXAR Lajitas Array 70.03 327 P P **06 38 55.2 +0.6**
comp=Z,1.5nm,0.8s,baz=147,slow=7.3,SNR=19
TXAR pP **pP 06 39 27.2 +0.7**
comp=Z,1.1nm,0.7s,baz=148,slow=8.2,SNR=6.0
comp=Z,1.5nm,0.8s
OZNA Ozona 70.24 329 IAmb IAmb 06 38 57.0
comp=Z,8.0nm,0.7s
WVT Waverly 70.38 342 P **06 38 56.1 -0.2**
PLPT Palo Pinto 70.73 333 IAmb IAmb 06 38 59.4
comp=Z,5.9nm,0.8s
DBIC Dimbokro 70.75 69 P P **06 38 59.9 +0.7**
comp=Z,6.5nm,0.9s,baz=241,slow=9.6,SNR=4.7
comp=Z,6.5nm,0.9s
R55A Marlinton 70.86 349 IAmb IAmb 06 39 01.2
comp=Z,8.4nm,0.7s
T47A Sharon Grove 71.01 343 IAmb IAmb 06 39 00.6
comp=Z,10nm,1.1s
MNHN Monahans 71.32 328 IAmb IAmb 06 39 03.7
comp=Z,8.8nm,0.8s
PBMO Poplar Bluff 71.69 341 IAmb IAmb 06 39 05.1
comp=Z,10nm,0.8s
ODSA Odessa 71.89 329 IAmb IAmb 06 39 06.9
comp=Z,13nm,1.0s
HHAR Hobbs 72.29 338 IAmb IAmb 06 39 08.8
comp=Z,5.3nm,0.9s
MGMO Mountain Grove 72.58 339 IAmb IAmb 06 39 10.7
comp=Z,7.8nm,0.9s
CCM Cathedral Cave 73.11 340 P **06 39 12.4 -0.3**
CCM IAmb IAmb 06 39 13.6
comp=Z,11nm,1.1s
MSTX Muleshoe 73.56 330 IAmb IAmb 06 39 16.7
comp=Z,7.0nm,0.7s
MAW Mawson 73.99 162 P P **06 39 18.1 +0.6**
comp=Z,6.9nm,0.6s,baz=202,slow=6.3,SNR=39
MAW pP **pP 06 39 50.9 +1.1**
comp=Z,3.7nm,0.7s,baz=198,slow=7.6,SNR=3.7
comp=Z,6.9nm,0.6s
319A Douglas 74.45 324 IAmb IAmb 06 39 23.2
comp=Z,8.0nm,0.8s
121A Cookes Peak, D 74.65 325 IAmb IAmb 06 39 24.4
comp=Z,6.7nm,0.8s
ANMO Albuquerque 76.01 328 P **06 39 30.4 +0.6**
T25A Trinidad 76.96 330 P **06 39 35.1 +0.1**
T25A IAmb IAmb 06 39 37.3
comp=Z,5.0nm,0.7s
N35A Tabor 77.01 338 P P **06 39 34.7 -0.3**
BOSA Boshof 77.46 116 P P **06 39 37.4 -0.8**
BOSA IAmb IAmb 06 40 12.7
comp=Z,11nm,0.9s
BOSA Boshof 77.46 116 P P **06 39 38.4 +0.2**
comp=Z,2.3nm,0.7s,baz=199,slow=2.6,SNR=5.3
BOSA pP **pP 06 40 11.5 +0.9**
comp=Z,6.6nm,0.8s,baz=240,slow=4.7,SNR=7.2
comp=Z,2.3nm,0.7s
X16A Lo Mia Camp, P 77.97 324 IAmb IAmb 06 39 43.1
comp=Z,5.2nm,1.0s
ISCO Idaho Springs 79.71 331 P **06 39 51.0 +0.7**
TORD Torodi Ar. Bea 79.76 68 P P **06 39 51.2 +0.5**
comp=Z,2.5nm,0.7s,baz=225,slow=7.7,SNR=15
TORD pP **pP 06 40 23.3 0.0**
comp=Z,2.6nm,0.7s,baz=262,slow=2.9,SNR=5.8
comp=Z,2.5nm,0.7s
PV03 Paradox Valley 79.83 328 IAmb IAmb 06 39 52.5
comp=Z,7.5nm,1.5s
PV18 Skein Mesa, Pa 79.85 328 IAmb IAmb 06 39 52.7
comp=Z,5.1nm,0.8s
ECSD EROS Data Cent 79.92 339 IAmb IAmb 06 39 51.8
comp=Z,7.0nm,0.8s
U15A North Rim 79.98 325 IAmb IAmb 06 39 54.2
comp=Z,6.3nm,1.2s
KNB Kanab 80.71 325 IAmb IAmb 06 39 58.0
comp=Z,5.7nm,1.0s
P18A Preston Nutter 81.58 328 IAmb IAmb 06 40 02.2
comp=Z,4.4nm,0.9s
SHOC Shoshone, Teco 81.60 322 IAmb IAmb 06 40 07.8
comp=Z,8.7nm,0.7s
CASY Casey 82.09 179 P P **06 40 02.7 +0.4**
CASY IAmb IAmb 06 40 38.2
comp=Z,9.0nm,0.9s
K22A Casper 82.48 332 IAmb IAmb 06 40 06.7
comp=Z,7.0nm,0.9s
SPR3 Spring Creek 3 83.00 325 IAmb IAmb 06 40 09.4
comp=Z,5.2nm,1.2s
VES Vestal, Richgr 83.06 320 P P **06 40 08.6 +1.0**
VES IAmb IAmb 06 40 09.7
comp=Z,10nm,0.9s
PDAR Pinedale Array 83.83 330 P P **06 40 11.8 0.0**
comp=Z,0.8nm,0.7s,baz=125,slow=5.4,SNR=11
PDAR pP **pP 06 40 44.2 -0.5**
comp=Z,0.5nm,0.7s,baz=132,slow=5.2,SNR=3.2
comp=Z,0.8nm,0.7s
NVAR Mina Array Bea 84.57 322 P P **06 40 16.2 +0.7**
comp=Z,1.0nm,0.9s,baz=169,slow=6.7,SNR=6.8
comp=Z,1.0nm,0.9s
RLMT Red Lodge 85.64 332 IAmb IAmb 06 40 21.7
comp=Z,2.7nm,0.7s
ULM Lac du Bonnet 85.64 342 P P **06 40 20.4 +0.1**
comp=Z,5.6nm,0.8s,baz=156,slow=4.9,SNR=6.9
comp=Z,5.6nm,0.8s
YNE Yellowstone No 85.85 331 IAmb IAmb 06 40 23.1
comp=Z,3.2nm,0.8s
YMR Madison River 85.97 330 IAmb IAmb 06 40 24.1
comp=Z,5.9nm,0.8s
SCHQ Schefferville 86.41 0 P P **06 40 23.8 -0.2**
comp=Z,27nm,0.8s,baz=197,slow=7.9,SNR=3.6
comp=Z,27nm,0.8s
HLID Hailey 86.60 328 P **06 40 26.1 +0.7**
HLID IAmb IAmb 06 40 27.5
comp=Z,4.7nm,1.0s
DLMT Dillon 87.22 330 IAmb IAmb 06 40 31.1
comp=Z,8.4nm,1.3s
PLID Pearl Lake 88.50 328 IAmb IAmb 06 40 36.2
comp=Z,5.2nm,0.9s
J05D Fort Rock, OR 89.65 324 IAmb IAmb 06 40 42.6
comp=Z,10nm,1.5s
ASAR Alice Springs 121.11 203 PKP **PKPdf 06 46 33.6 -1.0**
comp=Z,1.0nm,0.6s,baz=148,slow=1.9,SNR=4.5
ASAR pPKP **pPKPdf 06 47 08.1 -1.3**
comp=Z,0.9nm,0.8s,baz=151,slow=2.7,SNR=3.2
WRA Warramunga Arr 124.40 205 PKP **PKPdf 06 46 40.3 -0.7**
comp=Z,3.3nm,0.6s,baz=164,slow=1.6,SNR=17
WRA pPKP **pPKPdf 06 47 14.7 -1.1**
comp=Z,1.4nm,0.5s,baz=165,slow=1.5,SNR=6.3
ABKAR Akbulak array 137.30 50 PKPdf **PKPdf 06 47 05.4 +1.1**
BVAR Borovoye Array 143.07 43 PKP **PKPdf 06 47 14.3 -0.4**
comp=Z,0.8nm,0.5s,baz=332,slow=4.9,SNR=3.2
SIMJ Simiganj 143.99 67 PKPbc 06 47 15.3 0.0
CHGR Chuyangaron 144.11 67 PKPdf PKPbc 06 47 15.8 +0.2
KURBB Kurchatov Arra 148.64 43 PKPbc **PKPbc 06 47 28.7 +0.6**
comp=Z,9.4nm,0.8s,baz=297,slow=3.3,SNR=24
KURBB pPKPbc **pPKPbc 06 48 03.3 +0.6**
comp=Z,3.4nm,0.5s,baz=297,slow=3.3,SNR=6.8
KURK Kurchatov 148.66 43 **PKiKP 06 47 29.2 -0.3**
ZAA0 Zalesovo Array 150.33 34 **PKiKP 06 47 32.8 0.0**
ZALV Zalesovo Beam 150.33 34 **PKiKP 06 47 33.0 +0.1**
ZALV Zalesovo Beam 150.33 34 PKPbc **PKPbc 06 47 32.5 +0.4**
comp=Z,14nm,0.7s,baz=296,slow=2.9,SNR=65
ZALV pPKPbc **pPKPbc 06 48 06.9 +0.1**
comp=Z,6.0nm,0.6s,baz=294,slow=3.1,SNR=6.7
MKAR Makanchi Array 152.42 49 **PKPbc 06 47 37.5 +0.2**
MKAR Makanchi Array 152.42 49 PKPbc **PKPbc 06 47 37.2 0.0**
comp=Z,4.1nm,0.7s,baz=288,slow=2.0,SNR=35
MKAR pPKPbc **pPKPbc 06 48 11.8 -0.1**
comp=Z,3.2nm,0.7s,baz=298,slow=1.9,SNR=9.0
SONM Songino Array 163.41 15 PKPab **PKPab 06 48 35.7 +0.3**
comp=Z,1.0nm,0.7s,baz=344,slow=4.3,SNR=4.0

ASRS ***12*** *06:30:00.0±1.0, 54.°36N×86.°75E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 12 06:30:03.9±3.0, 54.°26N×86.°59E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=22.9km s-min=15.5km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.09**	**254**	I	I	06 38 00.0	
	baz=72,slow=333,SNR=1.6						
ZALV	**Zalesovo Beam**	**1.09**	**254**	Pg	Pg	06 30 23.5	-1.2
	1.6nm,0.3s,baz=71,slow=18,SNR=17						
ZALV				Lg	Lg	06 30 41.3	
	1.8nm,0.3s,baz=74,slow=28,SNR=8.8						
KURBB	**Kurchatov Arra**	**6.12**	**237**	Pn	Pn	06 31 36.7	+1.2
	0.1nm,0.3s,baz=54,slow=14,SNR=9.2						
KURBB				Sn	Sn	06 32 43.7	-2.6
	baz=49,slow=29,SNR=1.1						
KURBB				Lg	Lg	06 33 17.3	
	baz=48,slow=26						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**7.96**	**202**	Pn	Pn	06 32 01.7	+0.9
	0.1nm,0.3s,baz=23,slow=15,SNR=3.1						
	0.2nm,0.3s						

IDC ***12*** *06:35:09.5±3.2, 53.°71N×88.°04E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=28.3km s-min=19.1km az=54.0*

ASRS 12 06:35:06.0±1.0, 53.°77N×88.°26E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.05**	**276**	I	I	06 48 30.0	
	0.1nm,0.8s,baz=93,slow=337,SNR=12						
ZALV	**Zalesovo Beam**	**2.05**	**276**	Pn	Pb	06 35 43.7	-0.3
	1.0nm,0.3s,baz=96,slow=15,SNR=16						
ZALV				Lg	Lg	06 36 10.3	
	2.2nm,0.3s,baz=98,slow=23,SNR=19						
KURBB	**Kurchatov Arra**	**6.76**	**246**	Pn	Pn	06 36 48.8	+2.4
	0.1nm,0.3s,baz=57,slow=12,SNR=4.1						
KURBB				Lg	Lg	06 38 38.4	
	baz=60,slow=34,SNR=3.1						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.96**	**211**	Pn	Pn	06 37 05.6	+2.7
	0.1nm,0.3s,baz=28,slow=13,SNR=1.8						
MKAR				Lg	Lg	06 39 17.5	
	0.1nm,0.3s,baz=29,slow=30,SNR=3.8						
	0.1nm,0.3s						

DJA ***12*** *06:39:31.0±0.7, 8.°3S×11.°8E±.°, h12km±7km, M4.8/28, mB5.2/4, mb5.0/7, MLv4.7/28, Mw(mB)4.5/4*

NEIC ***12*** *06:39:33.1±1.2, 7.°94S±0.°09×117.°70E±0.°02, h36km±11km, mb4.2/11, Error ellipse: s-maj=13.2km s-min=2.4km az=174.0*

IDC ***12*** *06:39:34.5±3.0, 7.°92S×117.°84E, h45km±31km, mb3.8/8, mbtmp4.0/10, ML4.1/4, MS2.9/2, Error ellipse: s-maj=29.0km s-min=13.0km az=74.0*

ISC 12 06:39:33.0±0.5, 7.°95S±0.°04×117.°73E±0.°05, h35km, n60, σ0.°82/65, mb4.1/13, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.87**	**177**	P	**Pn**	**06 39 48.5**	**-0.3**
PLAI				S	**Sn**	**06 40 00.9**	**+0.6**
TWSI	**Taliwang, Sumb**	**1.15**	**227**	P	**Pn**	**06 39 52.2**	**-0.3**
TWSI				S	**Sn**	**06 40 07.6**	**+0.6**
WBSI	**Waikabubak, Su**	**2.35**	**136**	P	**Pn**	**06 40 09.8**	**+0.7**
SRBI	**Singaraja**	**2.50**	**267**	P	**Pn**	**06 40 10.1**	**-1.0**
DNP	**Denpasar**	**2.59**	**254**	P	**Pn**	**06 40 11.3**	**-1.2**
WSI	**Waingapu**	**3.06**	**124**	P	**Pn**	**06 40 19.7**	**+0.8**
BSSI	**Bau Bau, Buton**	**3.28**	**57**	P	**Pn**	**06 40 22.4**	**+0.5**
ABJI	**Asem Bagus**	**3.46**	**272**	P	**Pn**	**06 40 24.1**	**-0.3**
BKSI	**Bulukumba**	**3.53**	**42**	P	**Pn**	**06 40 25.6**	**+0.2**
KAPI	**Kappang**	**3.54**	**35**		**Pn**	**06 40 25.1**	**-0.4**
KAPI	**Kappang**	**3.54**	**35**	P	**Pn**	**06 40 25.3**	**-0.3**
	63nm,0.3s,baz=197,slow=3.0,SNR=95						
KAPI				S	**Sn**	**06 41 06.2**	**-0.1**
	136nm,0.3s,baz=216,slow=22,SNR=10						
KAPI				LR	LR	06 41 56.6	
	comp=Z,190nm,18.8s,baz=213,slow=41						
JAGI	**Jajag, Banyuwa**	**3.58**	**261**		**Pn**	**06 40 25.3**	**-0.7**
JAGI				Sn	**Sn**	**06 41 07.0**	**-0.1**
JAGI	**Jajag, Banyuwa**	**3.58**	**261**	P	**Pn**	**06 40 25.6**	**-0.4**
BASI	**Baing, Sumba**	**3.60**	**129**	P	**Pn**	**06 40 28.0**	**+1.6**
KMMI	**Kalianget**	**3.84**	**283**	P	**Pn**	**06 40 29.0**	**-0.6**
EDFI	**Ende, Flores**	**4.00**	**102**	P	**Pn**	**06 40 32.9**	**+1.0**
BLJI	**Banyuglugur**	**4.10**	**273**	P	**Pn**	**06 40 32.6**	**-0.6**
BNSI	**Bone**	**4.25**	**34**	P	**Pn**	**06 40 36.1**	**+0.9**
GMJI	**Gumukmas**	**4.25**	**265**	P	**Pn**	**06 40 35.9**	**+0.6**
SPSI	**Sidrap Palu**	**4.45**	**27**	P	**Pn**	**06 40 38.2**	**+0.2**
MMRI	**Maumere**	**4.51**	**99**	Pn	**Pn**	**06 40 39.1**	**+0.2**
MMRI	**Maumere**	**4.51**	**99**	P	**Pn**	**06 40 39.7**	**+0.8**
TTSI	**Tana Toraja**	**5.30**	**23**	P	**Pn**	**06 40 49.8**	**+0.1**
	0.3nm1μm48nm,0.4s						
GRJI	**Gresik**	**5.31**	**281**	P	**Pn**	**06 40 49.3**	**-0.5**
	1.0nm305nm,0.9s						
BWJI	**Bawean**	**5.45**	**292**	P	**Pn**	**06 40 50.9**	**-0.9**
BATI	**Baumata**	**6.28**	**111**	P	**Pn**	**06 41 03.5**	**+0.4**
	3.2nm,0.3s,baz=295,slow=14,SNR=3.9						
PCJI	**Pacitan**	**6.49**	**267**	P	**Pn**	**06 41 05.9**	**-0.2**
	0.3nm2μm90nm,0.7s						
UGM	**Wanagama**	**7.14**	**270**	Pn	**Pn**	**06 41 15.5**	**+0.5**
UGM	**Wanagama**	**7.14**	**270**	P	**Pn**	**06 41 15.0**	**0.0**
	136nm,0.5s						
SMRI	**Semarang**	**7.28**	**277**	Pn	**Pn**	**06 41 15.7**	**-1.3**
SMRI	**Semarang**	**7.28**	**277**	P	**Pn**	**06 41 16.2**	**-0.8**
	57nm,0.5s						
FITZ	**Fitzroy Crossi**	**12.69**	**143**	Pn	**Pn**	**06 42 31.1**	**0.0**
FITZ	**Fitzroy Crossi**	**12.69**	**143**	P	**Pn**	**06 42 30.7**	**-0.4**
	0.7nm,0.3s,baz=328,slow=7.2,SNR=8.3						
FITZ				S	**Sn**	**06 44 48.2**	**-3.0**
	3.9nm,0.6s,baz=207,slow=7.6,SNR=4.7						
	1.7nm,0.5s						
KNRA	**Kununurra**	**13.25**	**126**	Pn	**Pn**	**06 42 38.0**	**-0.7**
MBWA	**Marble Bar**	**13.27**	**172**	Pn	**Pn**	**06 42 38.1**	**-0.9**
PSA00	**Pilbara Seismi**	**13.70**	**172**	Pn	**Pn**	**06 42 44.0**	**-0.8**
GIRL	**Giralia**	**14.99**	**193**	Pn	**Pn**	**06 43 01.7**	**-0.7**
WB0	**Warramunga Arr**	**19.97**	**128**	P	**P**	**06 44 01.9**	**-0.5**
WB0				IAmb	IAmb	06 44 13.6	
	comp=Z,6.6nm,0.8s						
WRA	**Warramunga Arr**	**20.02**	**128**	P	**P**	**06 44 02.6**	**-0.5**
WRA	**Warramunga Arr**	**20.02**	**128**	P	**P**	**06 44 02.9**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=302,slow=12,SNR=14						
	comp=Z,1.5nm,0.8s						
WR8	**Warramunga Arr**	**20.16**	**128**	P	**P**	**06 44 04.5**	**0.0**
WR8				IAmb	IAmb	06 44 22.3	
	comp=Z,9.6nm,0.9s						
RPSI	**Rantau Prapat**	**21.53**	**299**	P	**P**	**06 44 21.6**	**+2.2**
PSI	**Prapat**	**21.59**	**299**	P	**P**	**06 44 21.6**	**+1.5**
	comp=Z,4.2nm,0.6s,baz=146,slow=9.6,SNR=4.5						
	comp=Z,4.2nm,0.6s						
AS31	**Alice Springs**	**22.02**	**137**		**P**	**06 44 24.5**	**0.0**
ASAR	**Alice Springs**	**22.02**	**137**		**P**	**06 44 25.0**	**+0.5**
ASAR	**Alice Springs**	**22.02**	**137**	P	**P**	**06 44 24.8**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=309,slow=9.3,SNR=25						
	comp=Z,2.5nm,0.6s						
FORT	**Forrest**	**24.68**	**158**	P	**P**	**06 44 50.5**	**-0.3**
FORT				IAmb	IAmb	06 45 02.7	
	comp=Z,6.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**24.86**	**181**	P	**P**	**06 44 52.0**	**-0.3**
NWAO				IAmb	IAmb	06 45 05.4	
	comp=Z,15nm,1.1s						
COEN	**Coen**	**25.67**	**106**	P	**P**	**06 44 59.2**	**-0.7**
COEN				IAmb	IAmb	06 45 08.9	
	comp=Z,10nm,0.9s						
BBOO	**Buckleboo**	**30.01**	**148**	P	**P**	**06 45 39.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**32.13**	**325**	P	**P**	**06 45 58.6**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=149,slow=6.4,SNR=5.7						
CMAR				LR	LR	07 00 35.7	
	comp=Z,20nm,19.7s,baz=185,slow=39						
	comp=Z,0.6nm,0.3s						
STKA	**Stephens Creek**	**32.56**	**140**	P	**P**	**06 46 01.6**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=305,slow=12,SNR=1.5						
	comp=Z,1.2nm,0.5s						
SONM	**Songino Array**	**56.44**	**351**	P	**P**	**06 49 12.2**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=170,slow=7.3,SNR=5.1						
	comp=Z,1.3nm,0.7s						
MKAR	**Makanchi Array**	**62.96**	**333**	P	**P**	**06 49 56.7**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=142,slow=7.8,SNR=11						
	comp=Z,2.2nm,0.6s						
KURBB	**Kurchatov Arra**	**67.48**	**334**	P	**P**	**06 50 25.5**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=140,slow=5.2,SNR=7.6						
	comp=Z,1.1nm,0.8s						
ZALV	**Zalesovo Beam**	**67.62**	**340**	P	**P**	**06 50 25.8**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=144,slow=5.3,SNR=5.6						
	comp=Z,2.1nm,0.5s						
AB31	**Akbulak array**	**75.99**	**325**	P	**P**	**06 51 16.2**	**-0.2**
AB31				IAmb	IAmb	06 51 17.8	
	comp=Z,3.1nm,1.0s						
ABKAR	**Akbulak array**	**75.99**	**325**	P	**P**	**06 51 15.9**	**-0.6**
QSPA	**South Pole Qui**	**82.04**	**180**	P	**P**	**06 51 48.4**	**-1.1**
QSPA				IAmb	IAmb	06 52 08.9	
	comp=Z,1.6nm,1.1s						
BELA	**Belgrano 2**	**92.93**	**186**	P	**P**	**06 52 42.1**	**0.0**

IDC ***12*** *06:42:19.7±0.7, 36.°28N×92.°41W, h0km, mb3.9/6, mbtmp3.9/12, ML3.5/6, MS3.0/3, Error ellipse: s-maj=12.0km s-min=8.1km az=164.0*

SLM ***12*** *06:42:22.3±0.7, 36.°13N±0.°02×92.°41W±0.°02, h18km±6km, Error ellipse: s-maj=2.8km s-min=2.0km az=50.0*

NEIC ***12*** *06:42:22.7±0.4, 36.°12N±0.°02×92.°41W±0.°02, h15km±6km, mb3.9/56, mb_Lg4.1/161, ML4.3/12, Mwr3.7/82, Md3.6/86(SLM), Error ellipse: s-maj=3.0km s-min=1.7km az=222.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}1.25; $M_{\theta\theta}$0.30; $M_{\phi\phi}$-1.55; $M_{r\theta}$1.01; $M_{\theta\phi}$3.75; $M_{\phi r}$2.31; Fault plane solution: $M_0$4.74000×10^{14} NP1:ϕ_s101.49000°, δ56.93000°, λ16.55000°. NP2: ϕ_s2.28000°, δ76.19000°, λ145.81000°. Principal axes: T 4.7219, Plg34.0000°, Azm317.0000°; N 0.0282, Plg53.0000°, Azm163.0000°; P -4.7501, Plg13.0000°, Azm55.0000°;*

NEIC ***12*** *06:42:22.3, 36.°13N×92.°41W, h18km*

ISC 12 06:42:21.6±1.0, 36.°13N±0.°04×92.°44W±0.°03, h24km±9km, n337, σ1°39/321, mb3.9/10, Missouri-Arkansas border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FCAR	**Ozark Folk Cen**	**0.35**	**133**		**Pb**	**06 42 29.1**	**-0.1**
FCAR				Sg	**Sb**	**06 42 33.9**	**-0.6**
FCAR				IAML		06 42 34.1	
	comp=N,27μm,0.2s						
FCAR				IAML		06 42 34.2	
	comp=E,26μm,0.1s						
U40A	**Yellville**	**0.40**	**304**		**Pb**	**06 42 30.7**	**+0.5**
U40A					Sn	06 42 36.5	-2.3
WHAR	**Wooly Hollow**	**0.84**	**172**		**Pn**	**06 42 37.5**	**-0.5**
WHAR				Sg	**Sn**	**06 42 49.2**	**-0.5**
MGMO	**Mountain Grove**	**1.03**	**8**		**Pn**	**06 42 41.0**	**+0.4**
MGMO				IAML		06 42 55.7	
	comp=E,13μm,0.1s						
MGMO	**Mountain Grove**	**1.03**	**8**		**Sb**	**06 42 54.9**	**+0.9**
LCAR	**Lake Charles**	**1.04**	**93**		**Pn**	**06 42 40.4**	**-0.3**
LCAR				Sg	**Sn**	**06 42 53.7**	**-0.8**
LCAR				IAML		06 42 57.1	
	comp=N,11μm,0.3s						
LCAR				IAML		06 42 57.4	
	comp=E,5μm,0.2s						
SEAR	**Searcy**	**1.05**	**146**		**Pn**	**06 42 40.8**	**0.0**
SEAR					**Sn**	**06 42 54.7**	**0.0**
HHAR	**Hobbs**	**1.22**	**278**		**Pn**	**06 42 44.5**	**+1.3**
HHAR				Sg	**Sb**	**06 43 00.9**	**+1.5**
UALR	**University of**	**1.35**	**177**		**Pn**	**06 42 45.9**	**+1.0**
UALR				IAML		06 43 06.5	
	comp=E,4μm,0.4s						
UALR				IAmb_Lg		06 43 06.9	
	comp=Z,1μm,0.9s						
UALR	**University of**	**1.35**	**177**		**Sn**	**06 43 04.3**	**+2.2**
QUAR	**Qualls**	**1.53**	**108**		**Pn**	**06 42 49.2**	**+1.8**
QUAR					**Sn**	**06 43 10.0**	**+3.4**
HBAR	**Harrisburg**	**1.56**	**111**		**Pn**	**06 42 49.2**	**+1.4**
HBAR	**Harrisburg**	**1.56**	**111**		**Sn**	**06 43 10.3**	**+3.1**
V43A	**Jonesboro**	**1.58**	**102**		**Pn**	**06 42 49.6**	**+1.6**
V43A					**Sn**	**06 43 10.5**	**+2.9**
U38A	**Gravette**	**1.60**	**282**		**Pn**	**06 42 50.4**	**+2.0**
X40A	**Basin Creek Fa**	**1.67**	**191**		**Pn**	**06 42 51.1**	**+1.8**
X40A	**Basin Creek Fa**	**1.67**	**191**		**Sn**	**06 43 13.7**	**+3.8**
X40A	**Basin Creek Fa**	**1.67**	**191**	IAmb_Lg		06 43 15.5	
	comp=Z,622nm,0.8s						
TWAR	**Twist**	**1.71**	**116**		**Pn**	**06 42 51.4**	**+1.5**
PBMO	**Poplar Bluff**	**1.75**	**68**		**Pn**	**06 42 52.1**	**+1.7**
PBMO	**Poplar Bluff**	**1.75**	**68**		**Sb**	**06 43 15.0**	**+0.6**
LVAR	**Leachville**	**1.81**	**96**		**Pn**	**06 42 53.2**	**+2.0**
LPAR	**Lepanto**	**1.82**	**106**		**Pn**	**06 42 52.8**	**+1.5**
MIAR	**Mount Ida**	**1.83**	**211**		**Pn**	**06 42 53.6**	**+2.1**
MSAR	**Manila South**	**1.89**	**100**		**Pn**	**06 42 53.8**	**+1.4**
GNAR	**Gosnell**	**1.97**	**94**		**Pn**	**06 42 54.9**	**+1.5**
GNAR	**Gosnell**	**1.97**	**94**		**Sb**	**06 43 22.2**	**+1.3**
GNAR	**Gosnell**	**1.97**	**94**	IAmb_Lg		06 43 28.6	
	comp=Z,4μm,0.9s						
BETM	**Bethany**	**1.98**	**75**		**Pn**	**06 42 55.2**	**+1.6**
DLAR	**Dell**	**2.00**	**98**		**Pn**	**06 42 55.4**	**+1.5**
CHNM	**Channel**	**2.04**	**92**		**Pn**	**06 42 55.8**	**+1.5**
BRNM	**Bernie**	**2.06**	**72**		**Pn**	**06 42 56.2**	**+1.6**
PEBM	**Pemiscott Bayo**	**2.09**	**90**		**Pn**	**06 42 56.4**	**+1.4**
BRGM	**Braggadocio**	**2.09**	**87**		**Pn**	**06 42 56.7**	**+1.6**
RLO	**Rose Lookout**	**2.09**	**272**		**Pn**	**06 42 56.9**	**+1.7**
TOPM	**Tallapoosa**	**2.10**	**78**		**Pn**	**06 42 56.8**	**+1.6**
SFTN	**Shelby Forest**	**2.11**	**111**		**Pn**	**06 42 56.8**	**+1.4**
CCM	**Cathedral Cave**	**2.15**	**26**		**Pn**	**06 42 57.7**	**+1.8**
WADM	**Wardell**	**2.15**	**83**		**Pn**	**06 42 57.6**	**+1.7**
R40A	**Maddies Statio**	**2.16**	**4**		**Pn**	**06 42 58.4**	**+2.3**
PARMO	**Parma**	**2.23**	**75**		**Pn**	**06 42 58.5**	**+1.4**
PVMO	**Portageville**	**2.23**	**82**		**Pn**	**06 42 58.9**	**+1.8**
CCAR	**Cane Creek**	**2.27**	**166**		**Pn**	**06 42 57.8**	**+0.2**
CCAR				IAmb_Lg		06 43 37.7	
	comp=Z,1μm,0.9s						
MET	**Memphis--Engin**	**2.27**	**115**		**Pn**	**06 42 58.4**	**+0.7**
PENMO	**Penman**	**2.29**	**81**		**Pn**	**06 42 59.4**	**+1.5**
LNXT	**Lenox**	**2.39**	**90**		**Pn**	**06 43 00.6**	**+1.4**
FVM	**French Village**	**2.46**	**40**		**Pn**	**06 43 01.3**	**+1.2**
HENM	**Henderson Moun**	**2.46**	**75**		**Pn**	**06 43 01.9**	**+1.6**
WLAR	**White Oak Lake**	**2.50**	**193**		**Pn**	**06 43 03.1**	**+2.4**
WLAR				IAmb_Lg		06 43 42.5	
	comp=Z,656nm,0.7s						
CGM3	**Cape Girardeau**	**2.52**	**62**		**Pn**

comp=Z,394nm,0.9s
PLAL Pickwick Lake 3.74 107 Pn 06 43 18.5 +0.7
PLAL IAmb_Lg 06 44 27.7
comp=Z,403nm,0.8s
Q44A Meyer Farm, Va 3.88 43 Pn 06 43 22.1 +2.3
Q44A IAmb_Lg 06 44 28.9
comp=Z,695nm,1.1s
BLOK Blackwell 3.90 281 Pn 06 43 21.9 +1.9
BLOK IAmb_Lg 06 44 29.1
comp=Z,660nm,0.8s
ADOK Arcadia Dam 4.03 265 Pn 06 43 22.5 +0.6
OK029 Liberty Lake 4.08 267 Pn 06 43 23.3 +0.8
OKCSW OKLAHOMA CITY 4.13 261 Pn 06 43 24.2 +1.0
OKCSW IAmb_Lg 06 44 42.7
comp=Z,544nm,0.8s
FNO Franklin 4.13 259 IAmb_Lg 06 44 37.6
comp=Z,430nm,0.9s
P43A Skaggs, Pawnee 4.20 32 Pn 06 43 26.6 +2.5
USIN University of 4.24 63 Pn 06 43 25.7 +1.1
USIN IAmb_Lg 06 44 38.3
comp=Z,366nm,0.9s
OLIL Olney 4.32 52 Pn 06 43 27.6 +1.7
T47A Sharon Grove 4.38 77 Pn 06 43 28.2 +1.6
KAN01 Argonia South 4.40 285 Pn **Pn 06 43 29.0 +2.2**
GC02 Grant County # 4.43 281 Pn 06 43 28.7 +1.5
LOOK Love County 4.43 243 Pn 06 43 29.2 +1.9
LOOK IAmb_Lg 06 44 54.8
comp=Z,471nm,1.0s
KSU1 Kansas State U 4.45 313 Pn 06 43 29.1 +1.6
KSU1 Kansas State U 4.45 313 IAmb_Lg 06 44 57.0
comp=Z,649nm,0.7s
146A Union 4.47 140 IAmb_Lg 06 44 56.2
comp=Z,328nm,0.7s
CROK Carrier 4.49 276 Pn 06 43 29.4 +1.2
CROK IAmb_Lg 06 44 50.2
comp=Z,457nm,0.8s
KAN14 Manchester OK 4.52 282 Pn 06 43 30.1 +1.5
KAN14 IAmb_Lg 06 44 54.1
comp=Z,380nm,0.8s
TREL Terrell 4.54 223 Pn 06 43 30.7 +2.0
V48A Smith Brothers 4.58 93 Pn 06 43 29.6 +0.4
V48A IAmb_Lg 06 44 49.9
comp=Z,322nm,0.9s
KAN08 Anthony NE Sta 4.58 285 Pn 06 43 30.7 +1.4
Z47A Carrollton 4.64 128 Pn 06 43 31.1 +1.0
Z47A IAmb_Lg 06 44 49.9
comp=Z,332nm,0.8s
X34A Smith Ranch, M 4.66 252 Pn 06 43 32.4 +1.9
N38A Joes South For 4.70 353 Pn 06 43 32.5 +1.6
X48A Hartselle 4.72 109 Pn 06 43 31.9 +0.6
X48A IAmb_Lg 06 44 51.3
comp=Z,406nm,0.7s
NATX Nacogdoches 4.73 204 Pn 06 43 32.8 +1.3
N41A Harden Midland 4.74 15 Pn 06 43 33.0 +1.4
N41A IAmb_Lg 06 44 55.4
comp=Z,490nm,0.7s
SNAG San Augustine 4.82 198 Pn 06 43 34.1 +1.4
Z35A Perchaven, San 4.85 236 Pn 06 43 34.9 +1.9
CLTN Cedars of Leba 4.95 89 Pn 06 43 35.8 +1.4
CLTN IAmb_Lg 06 45 00.4
comp=Z,242nm,1.1s
237A Washetta, Mont 4.97 215 Pn 06 43 36.4 +1.7
HDIL Hopedale 5.07 28 Pn 06 43 37.9 +1.9
CSTR Hydro, Custer 5.10 266 Pn 06 43 37.6 +1.1
OK038 West end E0370 5.10 276 IAmb_Lg 06 45 15.0
comp=Z,428nm,0.7s
NOKA Waynoka 5.26 277 IAmb_Lg 06 45 22.4
comp=Z,422nm,0.7s
FW06 Azle 5.27 235 Pn 06 43 40.5 +1.7
WCI Wyandotte Cave 5.34 65 Pn 06 43 41.0 +1.2
WCI IAmb_Lg 06 45 13.4
comp=Z,424nm,0.8s
346A Big Creek Wild 5.34 152 Pn 06 43 40.5 +0.8
N35A Tabor 5.35 333 Pn 06 43 41.6 +1.7
WMOK Wichita Mounta 5.36 257 Pn **Pn 06 43 41.5 +1.4**
WMOK IAmb_Lg 06 45 15.4
comp=Z,323nm,0.9s
SWET Sewanee 5.38 98 Pn 06 43 41.3 +1.0
SWET IAmb_Lg 06 45 16.3
comp=Z,286nm,0.8s
U49A Red Boiling Sp 5.39 84 Pn 06 43 41.9 +1.4
P46A Rosedale 5.41 48 Pn 06 43 42.3 +1.6
P46A IAmb_Lg 06 45 19.0
comp=Z,377nm,0.7s
Y49A Blount Mountai 5.44 113 Pn 06 43 41.6 +0.4
Y49A IAmb_Lg 06 45 21.8
comp=Z,255nm,0.7s
LRAL Lakeview Retre 5.45 123 Pn 06 43 42.6 +1.3
WTFS Witchita Falls 5.48 246 Pn 06 43 43.9 +2.2
R32A Long Quarter, 5.50 296 Pn 06 43 43.5 +1.5
R32A IAmb_Lg 06 45 28.5
comp=Z,494nm,0.9s
BLO Bloomington 5.59 55 Pn 06 43 44.9 +1.7
BLO IAmb_Lg 06 45 18.2
comp=Z,305nm,0.8s
FW13 Cleburne 5.59 229 Pn 06 43 44.8 +1.6
ELIS Ellis County 5.65 271 Pn 06 43 45.5 +1.4
ELIS IAmb_Lg 06 45 32.9
comp=Z,402nm,0.7s
FPAL Fort Paine 5.80 104 Pn 06 43 46.6 +0.5
SCIA State Center 5.80 354 Pn 06 43 47.3 +1.2
WHTX Lake Whitney, 5.86 227 Pn 06 43 48.4 +1.4
PLPT Palo Pinto 5.87 237 Pn 06 43 48.7 +1.6
W50A Signal Mountai 5.88 97 Pn 06 43 47.5 +0.3
SFIN Lafayette 5.97 43 Pn 06 43 49.9 +1.4
SFIN IAmb_Lg 06 45 35.9
comp=Z,283nm,0.7s
L40A Anamosa 6.00 9 Pn 06 43 49.9 +1.1
T50A Nancy 6.18 79 Pn 06 43 52.5 +1.2
R49A Shelbyville 6.19 67 Pn 06 43 52.8 +1.3
L42A Oliver, Polo 6.25 19 Pn 06 43 52.6 +0.3
M44A Midewin, Midew 6.28 32 IAmb_Lg 06 45 48.1
comp=Z,188nm,0.9s
X51A Calhoun 6.39 102 Pn 06 43 54.6 +0.4
X51A IAmb_Lg 06 45 49.1
comp=Z,384nm,0.8s
CBKS Cedar Bluff 6.39 297 Pn 06 43 55.2 +0.9
CBKS IAmb_Lg 06 46 02.4
comp=Z,247nm,0.7s
SMWD Samnorwood 6.44 263 Pn 06 43 55.6 +0.7
CPCT Cooper Cave 6.47 94 Pn 06 43 56.4 +1.0
CPCT IAmb_Lg 06 45 50.7
comp=Z,215nm,0.9s
P48A Milroy 6.47 57 Pn 06 43 55.5 +0.2
P48A IAmb_Lg 06 45 45.7
comp=Z,269nm,0.7s
250A Grady 6.58 127 Pn 06 43 57.4 +0.5
250A IAmb_Lg 06 45 59.8
comp=Z,197nm,0.8s
L34A Svendsen Farm, 6.58 333 Pn 06 43 57.9 +1.0
HQIL Hanson Quary C 6.70 31 IAmb_Lg 06 45 52.6
comp=Z,316nm,1.1s
R50A Paris 6.82 69 Pn 06 44 01.2 +1.1
ABTX Abilene, Hawle 6.91 242 Pn 06 44 02.1 +0.8
BGNE Belgrade 6.91 321 Pn 06 44 02.5 +1.2
APMT Aspermont 6.92 248 Pn 06 44 01.3 -0.1
JFWS Jewell Farm 6.99 13 Pn 06 44 03.0 +0.7
L44A Lake County Fo 6.99 29 IAmb_Lg 06 46 06.1
comp=Z,352nm,1.1s
W52A Murphy 7.01 96 Pn 06 44 03.1 +0.3
TKL Tuckaleechee C 7.05 91 Pn 06 44 03.9 +0.6
TKL IAmb_Lg 06 46 08.1
comp=Z,198nm,0.9s
TKL Tuckaleechee C 7.05 91 Pn **Pn 06 44 04.1 +0.8**
comp=Z,3.9nm,0.3s,baz=267,slow=12,SNR=78
TKL Sn **Sn 06 45 23.3 +0.6**
comp=Z,9.1nm,0.3s,baz=208,slow=16,SNR=4.5
TKL Lg Lg 06 45 57.3
comp=Z,16nm,0.3s,baz=325,slow=11,SNR=3.8
TKL LR LR 06 46 56.3
comp=Z,63nm,19.9s,baz=242,slow=39
comp=Z,7.3nm,0.3s
O48B Farmland 7.06 52 Pn 06 44 03.2 -0.2
O48B IAmb_Lg 06 46 07.5
comp=Z,232nm,0.7s
N47A Urbana 7.10 46 Pn **Pn 06 44 03.8 -0.2**
N47A IAmb_Lg 06 46 06.7
comp=Z,221nm,0.9s
TZTN Tazewell 7.19 84 Pn 06 44 06.3 +1.2
TZTN IAmb_Lg 06 46 17.6
comp=Z,224nm,0.8s
Y52A Lilburn 7.24 106 IAmb_Lg 06 46 19.2
comp=Z,224nm,0.9s
S51A Beattyville 7.25 75 Pn 06 44 07.5 +1.5
S51A IAmb_Lg 06 46 14.0
comp=Z,292nm,0.8s
152A Waverly Hall 7.25 116 IAmb_Lg 06 46 11.0
comp=Z,181nm,0.7s
BRDY Brady 7.29 230 Pn 06 44 07.2 +0.6
K43A Burlington 7.29 25 IAmb_Lg 06 46 14.4
comp=Z,232nm,0.9s
DKNS Dickens 7.39 253 Pn 06 44 09.2 +1.2
O49A Covington 7.56 55 Pn **Pn 06 44 09.9 -0.4**
O49A IAmb_Lg 06 46 19.6
comp=Z,216nm,0.8s
L46A Eue Claire 7.57 37 Pn 06 44 11.3 +0.9
L46A IAmb_Lg 06 46 26.7
comp=Z,195nm,0.9s
SN07 Snyder 07 7.60 249 Pn 06 44 11.9 +1.1
AMTX Amarillo 7.64 263 Pn 06 44 12.3 +0.9
AMTX IAmb_Lg 06 46 41.0
comp=Z,306nm,1.0s
Q51A Peebles 7.78 65 Pn 06 44 13.5 +0.3
V53A Saluda 7.83 91 Pn 06 44 14.6 +0.6
V53A IAmb_Lg 06 46 33.0
comp=Z,244nm,0.9s
BG3 Lake Jocassee 7.83 96 IAmb_Lg 06 46 38.5
comp=Z,191nm,0.8s
GOGA Godfrey 7.87 108 IAmb_Lg 06 46 43.4
comp=Z,150nm,0.9s
I40A Norwalk 7.88 10 Pn 06 44 14.8 +0.1
I40A IAmb_Lg 06 46 27.8
comp=Z,204nm,0.9s
I37A Lemond, Waseca 7.91 355 IAmb_Lg 06 46 35.6
comp=Z,221nm,0.9s
N49A Columbus Grove 8.05 51 Pn 06 44 17.0 +0.1
N49A IAmb_Lg 06 46 49.1
comp=Z,151nm,0.8s
POST Post 8.07 250 Pn 06 44 18.0 +0.6
I42A Draeger Farm, 8.21 18 Pn **Pn 06 44 19.1 0.0**
I42A IAmb_Lg 06 46 39.5
comp=Z,188nm,0.8s
RTBA Rita Blanca 8.32 275 Pn 06 44 21.3 +0.5
SGCY Sterling City 8.35 242 Pn 06 44 21.9 +0.7
JCT Junction City 8.35 230 Pn 06 44 21.6 +0.4
ACSO Alum Creek Sta 8.50 58 Pn 06 44 23.6 +0.4
ACSO IAmb_Lg 06 46 50.7
comp=Z,158nm,0.9s
Q52A Bidwell 8.56 68 Pn 06 44 24.7 +0.7
K30B Basset 8.57 322 Pn 06 44 25.1 +0.9
K30B IAmb_Lg 06 47 05.4
comp=Z,224nm,0.7s
U54A Nelsons Funny 8.58 84 Pn 06 44 24.5 +0.2
KSCO Kaye Shedlock' 8.59 293 Pn 06 44 25.3 +0.9
TIGA Tifton 8.72 120 IAmb_Lg 06 46 54.0
comp=Z,148nm,0.8s
HNDO Hondo 8.74 223 Pn 06 44 27.2 +0.7
MSTX Muleshoe 8.74 259 Pn 06 44 26.5 -0.1
PAULI Pauline 8.77 95 Pn 06 44 26.9 +0.1
P52A Corning 8.87 64 Pn 06 44 28.8 +0.5
OZNA Ozona 8.92 237 Pn 06 44 29.7 +0.7
OGNE Ogallala 8.92 306 Pn 06 44 29.9 +0.9
OGNE IAmb_Lg 06 47 18.1
comp=Z,234nm,0.9s
H43A Windswept, Lux 9.06 22 Pn **Pn 06 44 30.4 -0.5**
S54A Dingess, Beckl 9.06 76 Pn 06 44 31.1 +0.2
SPMN Marine on St. 9.09 358 Pn 06 44 31.6 +0.3
SPMN IAmb_Lg 06 47 18.5
comp=Z,139nm,0.8s
KMSC Kings Mountain 9.10 93 Pn 06 44 31.6 +0.2
V55A Taylorsville 9.10 88 Pn 06 44 31.5 +0.1
J47A Sunmer 9.21 37 IAmb_Lg 06 47 20.2
comp=Z,161nm,0.9s
I45A Fountain 9.22 29 Pn **Pn 06 44 33.1 +0.2**
N51A Ashland 9.22 56 Pn **Pn 06 44 33.9 +0.8**
O52A Adamsville 9.25 61 Pn 06 44 34.0 +0.5
ODSA Odessa 9.28 247 Pn 06 44 34.9 +0.9
G40A Rib Lake 9.29 10 Pn 06 44 33.5 -0.4
G40A IAmb_Lg 06 47 18.9
comp=Z,109nm,0.8s
JSC Jenkinsville 9.33 98 Pn 06 44 34.0 -0.6
P53A Whipple 9.37 66 Pn 06 44 35.0 0.0
DRIO Del Rio 9.59 228 Pn **Pn 06 44 39.2 +1.0**
Q54A Coxs Mills 9.65 69 Pn **Pn 06 44 39.1 +0.3**
T25A Trinidad 9.68 280 Pn 06 44 39.9 +0.4
BLA Blacksburg 9.72 80 Pn 06 44 40.2 +0.3
O53A New Philadelph 9.75 62 Pn 06 44 40.8 +0.5
MNHN Monahans 9.83 244 Pn 06 44 41.7 +0.2
BIRD Birdtown, Kers 9.89 95 Pn 06 44 41.2 -1.0
R55A Marlinton 10.06 74 Pn 06 44 44.5 -0.1
K50A Casco 10.08 46 Pn 06 44 44.6 -0.2
F33A 5 Mile Ranch, 10.13 345 Pn 06 44 45.7 +0.3
W57A Gilead 10.18 92 Pn 06 44 45.8 -0.3
SAND Sanderson 10.19 236 Pn 06 44 47.1 +0.7
M52A Chesterland 10.19 55 Pn 06 44 46.2 -0.1
N53A Lisbon 10.22 59 Pn 06 44 45.9 -0.9
O54A Avella 10.32 63 Pn 06 44 47.9 -0.3
HBVL Hebbronville 10.48 212 Pn 06 44 50.1 -0.2
E38A The Farm, Brul 10.49 3 Pn 06 44 49.9 -0.5
GLMI Grayling 10.53 32 Pn **Pn 06 44 50.9 0.0**
MCWV Mont Chateau 10.56 67 Pn 06 44 50.4 -1.0
SDCO Great Sand Dun 10.58 283 Pn 06 44 53.1 +1.1
PECS Pecos 10.63 247 Pn 06 44 52.9 +0.4
T57A Hurt 10.64 81 Pn 06 44 52.1 -0.5
Y58A Scranton 10.71 98 Pn **Pn 06 44 51.7 -1.7**
PAMR Mcmaine State 10.79 60 Pn 06 44 54.0 -0.5
V58A Windy Hill, Pi 10.81 88 Pn 06 44 53.8 -1.0
X58A Rowland 10.82 95 Pn 06 44 54.0 -0.9
Q56A Snyder Ridge, 10.91 71 Pn 06 44 55.0 -1.3
S57A Dark Hollow, R 10.92 77 Pn 06 44 56.5 +0.2
ALPN Alpine 10.99 242 Pn 06 44 57.5 +0.1
ISCO Idaho Springs 11.03 293 Pn 06 44 58.2 +0.1
PAOC Oil Creek Stat 11.31 58 Pn 06 45 00.4 -1.2
ANMO Albuquerque 11.48 268 Pn **Pn 06 45 05.4 +1.2**
comp=Z,0.1nm,0.3s,baz=291,slow=23,SNR=3.3
ANMO Sn **Sn 06 47 10.6 -1.2**
comp=Z,0.8nm,0.3s,baz=186,slow=9.5,SNR=3.5
ANMO Lg Lg 06 48 18.8
comp=Z,2.8nm,0.3s,baz=102,slow=9.4,SNR=9.5
ANMO LR LR 06 49 19.4
comp=Z,43nm,20.4s,baz=163,slow=36
comp=Z,0.4nm,0.4s
MNTX Cornudas Mount 11.62 251 Pn 06 45 05.7 -0.3
TX31 Lajitas Ar. Si 11.62 238 Pn 06 45 05.8 -0.3
TXAR Lajitas Array 11.62 238 Pn 06 45 06.0 -0.1
TXAR Lajitas Array 11.62 238 Pn **Pn 06 45 05.3 -0.8**
comp=Z,0.6nm,0.3s,baz=60,slow=12,SNR=31
TXAR Sn **Sn 06 47 09.2 -5.9**
comp=Z,1.0nm,0.3s,baz=55,slow=19,SNR=1.2
TXAR Lg Lg 06 48 19.4
comp=Z,1.1nm,0.3s,baz=47,slow=30,SNR=1.6
comp=Z,1.1nm,0.3s
VHRN Van Horn 11.75 247 Pn 06 45 08.2 +0.4
R58B Mineral 11.78 77 Pn **Pn 06 45 07.2 -0.8**
BNM Barren Site 11.78 264 Pn **Pn 06 45 08.3 -0.1**
EYMN Ely 11.83 3 Pn **Pn 06 45 06.8 -2.0**
E46A Sault Ste Mari 11.91 28 Pn **Pn 06 45 08.3 -1.6**
T59A Double "B" Far 12.00 82 Pn 06 45 10.3 -0.8
SSPA Standing Stone 12.27 64 Pn 06 45 13.3 -1.5
AGMN Agassiz Nation 12.42 349 Pn 06 45 14.6 -2.2
K22A Casper 12.69 305 Pn 06 45 19.9 -0.7
MEDO Medina 12.86 53 Pn **Pn 06 45 21.1 -1.7**
MDND Maddock 12.86 338 Pn 06 45 20.5 -2.2
L56A Greenwood 13.01 58 Pn 06 45 22.9 -2.0
MMNY Mt. Morris Dam 13.02 55 Pn **Pn 06 45 22.7 -2.2**
M57A Sunshine Farm, 13.03 62 Pn 06 45 23.3 -1.9
N58A Sunbury 13.18 64 Pn **Pn 06 45 25.6 -1.6**
MVL Millersville 13.25 68 Pn **Pn 06 45 26.2 -2.0**
SADO Sadowa 13.29 45 Pn **Pn 06 45 26.2 -2.4**
SADO Sadowa 13.29 45 Pn **Pn** 06 45 24.7 -4.0
comp=Z,7.1nm,0.3s,baz=244,slow=13,SNR=8.3
SADO Sn Sn 06 47 46.1 -10
comp=Z,23nm,0.3s,baz=359,slow=8.6,SNR=4.2
SADO Lg Lg 06 49 10.7
comp=Z,11nm,0.3s,baz=340,slow=22,SNR=10
SADO LR LR 06 50 51.7
comp=Z,287nm,21.7s,baz=318,slow=39
BUKO Buck Lake 13.56 43 Pn **Pn 06 45 30.7 -1.6**
EPLO Experimental L 13.57 356 Pn 06 45 30.2 -2.3
WUPA West Chester U 13.80 69 Pn **Pn 06 45 33.8 -1.9**
KSPA Keystone Colle 14.07 62 Pn **Pn 06 45 36.2 -3.1**
ULM Lac du Bonnet 14.33 351 Pn **Pn** 06 45 38.2 -4.7
comp=Z,1.5nm,0.3s,baz=166,slow=12,SNR=31
ULM Sn Sn 06 48 08.5 -12
comp=Z,2.8nm,0.3s,baz=266,slow=20,SNR=4.6
comp=Z,2.9nm,0.3s
J57A Williamstown 14.57 55 Pn **Pn 06 45 44.6 -1.5**
LAO LASA Array 14.75 320 Pn **Pn 06 45 45.7 -3.0**
BW06 Boulder Array 14.78 302 Pn 06 45 47.8 -1.5
PD31 Pinedale Array 14.78 302 Pn 06 45 47.8 -1.5
PDAR Pinedale Array 14.78 302 Pn 06 45 47.9 -1.4
PDAR Pinedale Array 14.78 302 Pn **Pn 06 45 46.4 -2.9**
comp=Z,1.3nm,0.3s,baz=115,slow=14,SNR=30
PDAR Sn Sn 06 48 23.0 -9.4
comp=Z,0.3nm,0.3s,baz=109,slow=17,SNR=1.4
PDAR Lg Lg 06 49 52.3
comp=Z,0.6nm,0.3s,baz=332,slow=38,SNR=2.3
L59A Walton 14.78 61 Pn **Pn 06 45 46.1 -2.9**
RLMT Red Lodge 15.59 310 Pn 06 45 58.6 -1.4
RLMT IAmb IAmb 06 46 07.0
comp=Z,4.5nm,0.6s
J59A Piesco 15.60 57 Pn **Pn 06 45 55.9 -3.9**
J59A IAmb IAmb 06 46 12.1
comp=Z,7.5nm,1.0s
KSCT Kent School, K 15.77 63 Pn 06 46 00.4 -1.5
LOHW Long Hollow 15.80 304 Pn 06 46 01.4 -1.3
SNOW Snow King Moun 15.85 303 Pn 06 46 04.2 +0.9
SNOW IAmb IAmb 06 46 16.8
comp=Z,4.3nm,0.6s
HWUT Hardware Ranch 15.86 296 Pn 06 46 03.2 -0.2
HWUT IAmb IAmb 06 46 09.5
comp=Z,5.8nm,0.7s
YMP Mirror Lake Pl 15.97 308 Pn 06 46 04.4 -0.6
YMP IAmb IAmb 06 46 32.8
comp=Z,6.4nm,0.6s
NCB Newcomb 15.98 55 Pn **Pn 06 46 01.9 -2.8**
TPAW Teton Pass 15.99 303 Pn 06 46 03.7 -1.5
YNE Yellowstone No 16.00 309 Pn **Pn 06 46 03.8 -1.5**
YNE IAmb IAmb 06 46 32.8
comp=Z,5.8nm,0.6s
LONY Lake Ozonia 16.01 53 Pn **Pn 06 46 02.5 -2.6**
LONY IAmb IAmb 06 46 05.7
comp=Z,19nm,1.4s
ACCN Adirondack Com 16.13 58 Pn **Pn 06 46 04.7 -2.0**
ACCN IAmb IAmb 06 46 12.4
comp=Z,9.4nm,0.8s
YPP Pitchstone Pla 16.19 306 Pn 06 46 07.8 0.0
YFT Old Faithful 16.29 306 Pn 06 46 09.7 +0.7
YFT IAmb IAmb 06 46 17.2
comp=Z,9.5nm,0.8s
VLDQ Val d'Or 16.30 38 Pn **Pn 06 46 08.1 -0.7**
YMR Madison River 16.46 307 Pn 06 46 11.3 +0.2
L61B Northampton 16.53 62 Pn **Pn 06 46 10.4 -1.4**
L61B IAmb IAmb 06 46 17.8
comp=Z,8.7nm,0.9s
YHL Hebgen Lake 16.68 307 Pn 06 46 14.1 +0.2
YHL IAmb IAmb 06 46 20.5
comp=Z,5.3nm,0.9s
UCCT U. Connecticut 16.70 64 Pn **Pn 06 46 10.9 -3.0**
LCMT Little Creek M 16.74 279 Pn 06 46 14.7 +0.1
FRNY Flat Rock 16.74 53 Pn 06 46 11.3 -3.1
FRNY IAmb IAmb 06 46 36.8
comp=Z,17nm,1.5s
TRQ Mont Tremblant 16.79 48 Pn 06 46 11.9 -3.1
TRQ IAmb IAmb 06 46 20.8
comp=Z,8.3nm,0.7s
BGU Big Grassy Mou 16.80 293 Pn 06 46 15.1 -0.3
QLMT Earthquake Lak 16.83 307 Pn **Pn 06 46 16.3 +0.6**
K62A Royalston 16.91 61 Pn **Pn 06 46 15.7 -0.9**
VT1 Waterbury 17.09 55 P **Pn 06 46 16.8 -2.1**
VT1 IAmb IAmb 06 46 24.6
comp=Z,6.6nm,0.8s
PSUT Pine Spring 17.20 284 Pn 06 46 20.6 +0.2
PSUT IAmb IAmb 06 46 30.9
comp=Z,5.3nm,0.8s
BOZ Bozeman (W) 17.29 309 P **Pn 06 46 21.4 0.0**
MCMT McKenzie Canyo 17.76 306 P **Pn 06 46 27.8 +0.4**
DLMT Dillon 17.80 307 P 06 46 29.3 +0.8
DLMT IAmb IAmb 06 46 33.4
comp=Z,5.8nm,0.9s
HRY Holter Researc 17.93 312 P **Pn 06 46 28.5 -0.9**
H62A Milan 18.25 56 P **P 06 46 32.9 -0.3**
H62A IAmb IAmb 06 46 51.3
comp=Z,12nm,1.1s
LYMT Lyon Mountain 18.33 312 P **P 06 46 34.0 -0.4**
HLID Hailey 18.40 301 P 06 46 35.6 +0.5
ELK Elko 18.43 291 P **P 06 46 35.0 -0.5**
ELK Elko 18.43 291 P **P 06 46 35.4 0.0**
comp=Z,0.1nm,0.3s,baz=98,slow=8.1,SNR=3.1
comp=Z,0.4nm,0.4s
S11A Rachel 18.70 282 P **P 06 46 38.6 +0.3**
S11A IAmb IAmb 06 46 52.1
comp=Z,11nm,0.9s
BPMT Black Pine Rid 18.80 310 P 06 46 39.8 +0.3
OVMT Ovando 18.80 312 P **P 06 46 39.2 -0.2**
CMIG Matias Romero 19.09 187 P **Pn 06 46 47.5 +4.1**
comp=Z,0.1nm,0.3s,baz=4.4,slow=13,SNR=2.1
comp=Z,1.9nm,0.8s
LDAQ Lac Daran 19.62 46 P **P 06 46 48.0 -0.3**
LDAQ IAmb IAmb 06 47 14.9
comp=Z,14nm,1.4s
FFC Flin Flon 19.73 343 P **P 06 46 49.3 0.0**
FFC IAmb IAmb 06 46 53.2
comp=Z,4.6nm,0.6s
PLID Pearl Lake 19.95 304 P 06 46 52.6 +0.6
E62A Clayton Lake 20.07 51 P **P 06 46 54.1 +1.0**
E62A IAmb IAmb 06 47 01.5
comp=Z,11nm,1.2s
NVAR Mina Array Bea 20.69 284 P **P 06 47 00.9 +0.7**
NVAR Mina Array Bea 20.69 284 P Pn 06 47 02.9 +0.3
comp=Z,3.1nm,0.8s,baz=89,slow=8.3,SNR=19
comp=Z,3.1nm,0.8s
BMO Blue Mountains 20.76 302 P 06 47 01.2 +0.5
BMO IAmb IAmb 06 47 03.6
comp=Z,3.3nm,0.9s
LHV Little Huntoon 20.85 284 P **P 06 47 02.0 +0.3**
RYN Ryan 20.86 285 P **P 06 47 02.8 +0.9**
F10A Beach Ranch, E 21.05 305 P **P 06 47 05.0 +1.2**
PAHR Pah Rah Range 21.52 288 P **P 06 47 09.1 0.0**
PAHR IAmb IAmb 06 47 13.0
comp=Z,3.8nm,0.9s
LNOR Lincton Mounta 21.72 305 P 06 47 12.3 +1.4
NEW Newport 21.84 311 P 06 47 12.7 +0.6
NEW IAmb IAmb 06 47 18.4
comp=Z,6.9nm,1.0s
NEW Newport 21.84 311 P **P 06 47 13.1 +1.0**
comp=Z,4.7nm,0.8s,baz=118,slow=11,SNR=7.6
comp=Z,4.7nm,0.8s
G08A Pilot Rock 22.01 303 P P 06 47 15.0 +0.9
G08A IAmb IAmb 06 47 17.1
comp=Z,6.2nm,1.3s
K05A Summer Lake 22.88 295 P P 06 47 24.6 +1.1
E07A Sunnyside 22.96 305 P P 06 47 24.7 +0.6
E07A IAmb IAmb 06 47 37.6
comp=Z,4.3nm,1.0s
PINE Pine Mountain 23.07 298 P 06 47 26.2 +0.7
PINE IAmb IAmb 06 47 29.2
comp=Z,3.5nm,0.8s
G06A Carlson Farm, 23.14 302 P 06 47 27.4 +1.4
HATC Hat Creek Radi 23.14 290 P 06 47 27.4 +1.2
J05D Fort Rock, OR 23.20 297 P **P 06 47 27.9 +1.2**
J05D IAmb IAmb 06 47 48.9
comp=Z,4.7nm,1.3s
B08A Colville Reser 23.23 310 P P 06 47 27.5 +0.7
H04A Detroit Lake 24.11 300 P P 06 47 36.6 +1.2
D05A Enumclaw 24.54 306 P P 06 47 39.7 +0.4
DLBC Dease Lake 33.21 324 LR LR 07 03 18.5
comp=Z,631nm,21.2s,baz=200,slow=38
ILAR Eielson Array 42.94 329 P P 06 50 18.6 +0.4
comp=Z,0.7nm,0.6s,baz=110,slow=7.6,SNR=12
comp=Z,0.7nm,0.6s
LPAZ La Paz 56.98 152 P P 06 52 10.3 +4.4
comp=Z,0.6nm,0.4s,baz=340,slow=4.5,SNR=5.2
comp=Z,0.6nm,0.4s
ARCES ARCESS Array B 65.41 20 P P 06 53 01.7 -0.1
comp=Z,2.1nm,0.8s,baz=309,slow=5.5,SNR=6.6
comp=Z,2.1nm,0.8s
FINES FINESS Array B 70.79 27 P P 06 53 35.9 +0.3
comp=Z,2.3nm,0.8s,baz=306,slow=6.6,SNR=4.9
comp=Z,2.3nm,0.8s

*IDC **12** 07:01:04.7±3.2, 54°.40N×86°.97E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=26.8km s-min=19.5km az=50.0*

ASRS 12 07:01:03.0±1.0, 54°.44N×86°.85E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**248**	I	I	07 10 00.0	

baz=70,slow=327,SNR=1.7
ZALV Zalesovo Beam 1.29 248 Pg Pn 07 01 29.0 +0.7
1.7nm,0.3s,baz=70,slow=9.8,SNR=19
ZALV Lg Lg 07 01 47.9
2.0nm,0.3s,baz=69,slow=25,SNR=8.9
KURBB Kurchatov Arra 6.35 236 Pn Pn 07 02 41.0 +3.2
0.2nm,0.3s,baz=54,slow=14,SNR=4.5
KURBB Sn Sn 07 03 52.6 +1.6
0.1nm,0.3s,baz=50,slow=36,SNR=1.8
0.9nm,0.3s
MKAR Makanchi Array 8.18 203 Pn Pn 07 03 05.8 +2.8
0.1nm,0.3s,baz=24,slow=14,SNR=2.3
0.2nm,0.3s

NOU ***12*** *07:08:05.9, 32.˝23S×178.˚12W, h211km, mb4.4/11, South of Kermadec Islands*
WEL ***12*** *07:08:08.5±0.8, 32˚S±6˝×17˚8W±1˚6, h33km, mB5.5/29, ML5.0/13, MLv5.3/11, Mw(mB)4.9/37, Error ellipse: s-maj=21.9km s-min=4.3km az=106.6, confirmed*
NEIC ***12*** *07:08:12.2±1.8, 32˚0S±0.˚1×179˚45W±0.˚06, h120km±5km, mb4.7/18, Error ellipse: s-maj=17.1km s-min=5.4km az=158.0*
IDC ***12*** *07:08:13.1±1.5, 31.˚77S×179.˚51W, h136km±13km, mb3.9/12, mbtmp4.3/14, MS3.4/1, Error ellipse: s-maj=17.4km s-min=14.0km az=125.0*
ISC 12 07:08:09.6±0.4, 32˚04S±0˚04×179˚36W±0˚07, h100km, n159, σ2820/141, mb4.7/23, 1C-2D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GLKZ	**Green Lake**	**3.04**	**24**	P		**Pn**	**07 08 55.7**	**-0.1**
GLKZ				S		**Sn**	**07 09 31.0**	**-0.4**
RAO	**Raoul Island**	**3.05**	**24**	P		**Pn**	**07 08 57.1**	**+1.1**
	330nm,0.3s,baz=110,slow=20,SNR=2.8							
RAO				S		**Sn**	**07 09 33.0**	**+1.3**
	807nm,0.3s,baz=99,slow=21,SNR=8.8							
RIZ	**Raoul Island**	**3.05**	**24**	P		**Pn**	**07 08 57.6**	**+1.6**
MXZ	**Matakaoa Point**	**5.83**	**199**	P		**Pn**	**07 09 34.8**	**+1.2**
MXZ	**Matakaoa Point**	**5.83**	**199**	P		**Pn**	**07 09 33.9**	**+0.4**
MXZ				S		**Sn**	**07 10 39.9**	**+0.9**
WMGZ	**Waiomatatini S**	**6.05**	**197**	P		**Pn**	**07 09 36.8**	**+0.3**
WMGZ				S		**Sn**	**07 10 45.0**	**+0.7**
HAZ	**Te Kaha**	**6.17**	**202**	P		**Pn**	**07 09 39.1**	**+1.0**
HAZ				S		**Sn**	**07 10 52.1**	**+5.0**
PKGZ	**Pakihiroa**	**6.18**	**199**	P		**Pn**	**07 09 38.4**	**+0.1**
KUZ	**Kuaotunu**	**6.21**	**220**	P		Pn	07 09 44.8	+6.1
KUZ	**Kuaotunu**	**6.21**	**220**	P		Pn	07 09 44.1	+5.4
PUZ	**Puketiti**	**6.33**	**197**	P		**Pn**	**07 09 39.8**	**-0.5**
PUZ				S		**Sn**	**07 10 50.7**	**-0.4**
RUGZ	**Raukumara Rang**	**6.39**	**202**	P		**Pn**	**07 09 41.7**	**+0.4**
RUGZ				S		**Sn**	**07 10 53.3**	**+0.5**
WCZ	**Waipu Caves**	**6.52**	**232**	P		Pn	07 09 50.2	+7.3
OUZ	**Omahuta**	**6.68**	**240**	P		Pn	07 09 52.0	+6.9
OUZ	**Omahuta**	**6.68**	**240**	P		Pn	07 09 51.8	+6.7
OPRZ	**Ohinepanea**	**6.69**	**209**	P		**Pn**	**07 09 49.4**	**+4.2**
CNGZ	**Carnagh Statio**	**6.73**	**197**	P		**Pn**	**07 09 45.4**	**-0.3**
CNGZ				S		**Sn**	**07 11 02.3**	**+1.5**
MARZ	**Manawahe**	**6.76**	**208**	P		Pn	07 09 51.2	+4.9
MWZ	**Matawai**	**6.78**	**201**	P		**Pn**	**07 09 46.0**	**-0.5**
MWZ				S		**Sn**	**07 11 04.2**	**+2.2**
MKAZ	**Moumakai**	**6.78**	**220**	P		Pn	07 09 52.0	+5.6
EDRZ	**Edgecumbe**	**6.84**	**207**	P		**Pn**	**07 09 52.1**	**+4.7**
URZ	**Urewera**	**6.84**	**204**	P		**Pn**	**07 09 47.2**	**-0.1**
	59nm,0.3s,baz=279,slow=1.4,SNR=42							
URZ				S		**Sn**	**07 11 03.4**	**-0.2**
	104nm,0.4s,baz=336,slow=23,SNR=12							
URZ	**Urewera**	**6.84**	**204**	P		**Pn**	**07 09 48.2**	**+0.9**
URZ	**Urewera**	**6.84**	**204**	P		**Pn**	**07 09 47.7**	**+0.4**
RAGZ	**Rawiri**	**6.96**	**201**	P		**Pn**	**07 09 49.6**	**+0.7**
KARZ	**Kaharoa**	**6.97**	**210**	P		Pn	07 09 53.8	+4.8
OMRZ	**Omania**	**6.99**	**209**	P		Pn	07 09 54.6	+5.3
RIGZ	**Rimuhau**	**7.05**	**199**	P		**Pn**	**07 09 49.8**	**-0.4**
TOZ	**Tahuroa Road**	**7.07**	**215**	P		Pn	07 09 56.6	+6.2
HLRZ	**Highlands Stat**	**7.12**	**208**	P		**Pn**	**07 09 55.8**	**+4.6**
MUGZ	**Murupara**	**7.16**	**205**	P		**Pn**	**07 09 51.7**	**+0.1**
RTZ	**Ruatahuna**	**7.21**	**204**	P		**Pn**	**07 09 51.5**	**-0.9**
HSRZ	**Hossack Road**	**7.22**	**209**	P		**Pn**	**07 09 57.1**	**+4.7**
PRGZ	**Paritu Road**	**7.22**	**197**	P		**Pn**	**07 09 52.5**	**0.0**
SNGZ	**Shannon Statio**	**7.24**	**201**	P		**Pn**	**07 09 51.9**	**-0.9**
PRRZ	**Plateau Road**	**7.32**	**207**	P		**Pn**	**07 09 56.9**	**+3.1**
KNZ	**Kokohu**	**7.37**	**198**	P		**Pn**	**07 09 55.4**	**+0.9**
ALRZ	**Allen Road**	**7.39**	**207**	P		**Pn**	**07 09 56.1**	**+1.3**
WPRZ	**Whakapapataran**	**7.43**	**208**	P		**Pn**	**07 09 59.4**	**+4.1**
MHGZ	**Mahia Peninsul**	**7.43**	**197**	P		**Pn**	**07 09 54.2**	**-1.2**
RAHZ	**Arahi**	**7.45**	**202**	P		**Pn**	**07 09 54.2**	**-1.4**
MTHZ	**Maungataniwha**	**7.47**	**203**	P		**Pn**	**07 09 57.6**	**+1.7**
KUTZ	**Kaahu Road**	**7.54**	**210**	P		Pn	07 10 01.6	+4.8
WHHZ	**Waihua**	**7.55**	**201**	P		**Pn**	**07 09 58.1**	**+1.2**
MRHZ	**Matea Rd**	**7.60**	**206**	P		**Pn**	**07 09 59.7**	**+2.0**
NMHZ	**Naumai**	**7.70**	**203**	P		**Pn**	**07 09 58.2**	**-0.8**
WAIZ	**Wairara**	**7.75**	**210**	P		**Pn**	**07 09 57.3**	**+3.8**
ARHZ	**Aropaoanui**	**7.79**	**201**	P		**Pn**	**07 09 59.6**	**-0.6**
BKZ	**Black Stump Fm**	**7.87**	**204**	P		**Pn**	**07 10 00.9**	**-0.4**
BKZ	**Black Stump Fm**	**7.87**	**204**	P		**Pn**	**07 09 59.6**	**-1.7**
RITZ	**Rihia Road**	**7.94**	**208**	P		**Pn**	**07 10 05.3**	**+3.0**
HIZ	**Hauiti**	**8.00**	**215**	P		**Pn**	**07 10 05.7**	**+2.6**
HIZ	**Hauiti**	**8.00**	**215**	P		**Pn**	**07 10 07.7**	**+4.6**
MCHZ	**McNeill Hill**	**8.05**	**202**	P		**Pn**	**07 10 03.4**	**-0.3**
CKHZ	**Cape Kidnapper**	**8.13**	**200**	P		**Pn**	**07 10 05.8**	**+0.9**
ETVZ	**East Tongariro**	**8.14**	**208**	P		**Pn**	**07 10 07.5**	**+2.5**
NNVZ	**North Ngauruho**	**8.17**	**209**	P		**Pn**	**07 10 08.2**	**+2.7**
FWVZ	**Far West T-bar**	**8.30**	**209**	P		**Pn**	**07 10 07.9**	**+0.5**
WHVZ	**Whangaehu Hut**	**8.31**	**208**	P		**Pn**	**07 10 09.4**	**+1.9**
KAHZ	**Kahuranaki**	**8.31**	**200**	P		Pn	07 10 05.3	-2.1
KRHZ	**Kereru**	**8.34**	**203**	P		Pn	07 10 05.3	-2.4
TRVZ	**Turoa**	**8.34**	**208**	P		**Pn**	**07 10 09.8**	**+1.9**
KHEZ	**Kahui Hut**	**9.02**	**215**	P		**Pn**	**07 10 19.9**	**+2.9**
BFZ	**Birch Farm**	**9.32**	**201**	Pn		Pn	07 10 17.2	-3.8
MRZ	**Mangatainoka R**	**9.52**	**204**	Pn		Pn	07 10 20.3	-3.4
MSWZ	**Moikau Station**	**10.30**	**203**	Pn		Pn	07 10 29.7	-4.7
SNZO	**South Karori**	**10.40**	**206**	P		Pn	07 10 33.5	-2.2
QRZ	**Quartz Range**	**10.93**	**214**	P		**Pn**	**07 10 41.9**	**-0.9**
KHZ	**Kahutara**	**11.79**	**207**	P		Pn	07 10 50.5	-3.9
RPZ	**Rata Peaks**	**13.88**	**210**	P		Pn	07 11 17.9	-4.0
	6.2nm,0.3s,baz=47,slow=18,SNR=2.0							
RPZ				S		Sn	07 13 42.2	-13
	14nm,0.5s,baz=59,slow=17,SNR=6.9							
PINNC	**Pines Island,**	**15.01**	**305**	Pn		**Pn**	**07 11 34.0**	**-2.5**
ODZ	**Otahua Downs**	**15.14**	**208**	P		**Pn**	**07 11 34.4**	**-3.6**
DZM	**Mont Dzumac**	**16.07**	**305**	eLR		LR	07 15 22.5	
	135nm,28.9s							
DZM	**Mont Dzumac**	**16.07**	**305**	P		**Pn**	**07 11 48.0**	**-1.9**
	4.2nm,0.9s,baz=102,slow=18,SNR=2.3							
SANVU	**Saraoutou**	**20.56**	**320**	P		**P**	**07 12 38.7**	**-1.8**
EIDS	**Eidsvold**	**26.71**	**277**	P		**P**	**07 13 39.9**	**+0.2**
EIDS					IAmb	IAmb	07 14 12.4	
	comp=Z,16nm,1.2s							
TBI	**Tubuai**	**27.78**	**79**	*e*LR		LR	07 20 52.8	
	comp=Z,627nm,38.0s							
HNR	**Honiara**	**29.57**	**315**	LR		LR	07 22 56.6	
	comp=Z,76nm,21.0s,baz=10,0,slow=30							
PPT2	**Papeete2**	**30.50**	**69**	eLR		LR	07 21 55.3	
	comp=Z,33nm,23.2s							
CTAO	**Charters Tower**	**32.97**	**283**	P		**P**	**07 14 35.5**	**+0.4**
CTAO					IAmb	IAmb	07 15 08.0	
	comp=Z,16nm,1.1s							
STKA	**Stephens Creek**	**33.01**	**260**	P		**P**	**07 14 34.3**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=43,slow=11,SNR=3.1							
	comp=Z,1.3nm,0.7s							
BBOO	**Buckleboo**	**37.43**	**257**	P		**P**	**07 15 12.5**	**-0.7**
COEN	**Coen**	**38.65**	**289**	P		**P**	**07 15 22.3**	**-1.3**
COEN					IAmb	IAmb	07 15 30.5	
	comp=Z,14nm,1.1s							
AS31	**Alice Springs**	**41.89**	**269**			**P**	**07 15 49.6**	**-0.8**
ASAR	**Alice Springs**	**41.90**	**269**			**P**	**07 15 49.8**	**-0.5**
ASAR	**Alice Springs**	**41.90**	**269**	P		**P**	**07 15 49.5**	**-0.9**
	comp=Z,12nm,0.8s,baz=105,slow=7.0,SNR=44							
ASAR				PcP		**PcP**	**07 17 42.0**	**-2.3**
	comp=Z,0.9nm,0.6s,baz=105,slow=4.5,SNR=2.0							
ASAR				ScP		**ScP**	**07 21 18.2**	**-7.3**
	comp=Z,0.3nm,0.8s,baz=91,slow=4.1,SNR=1.7							
	comp=Z,12nm,0.8s							
WR8	**Warramunga Arr**	**42.89**	**275**	P		**P**	**07 15 57.8**	**-0.7**
WR8					IAmb	IAmb	07 16 01.8	
	comp=Z,14nm,0.8s							
WRA	**Warramunga Arr**	**43.03**	**275**			**P**	**07 15 58.2**	**-1.4**
WRA	**Warramunga Arr**	**43.03**	**275**	P		**P**	**07 15 58.6**	**-1.0**
	comp=Z,16nm,0.8s,baz=115,slow=7.5,SNR=36							
WRA				PcP		**PP**	**07 17 46.2**	**+4.8**
	comp=Z,0.7nm,0.6s,baz=121,slow=3.1,SNR=1.4							
	comp=Z,16nm,0.8s							
MTN	**Manton Dam**	**49.12**	**281**	P		**P**	**07 16 46.2**	**-1.2**
FITZ	**Fitzroy Crossi**	**51.22**	**272**	P		**P**	**07 17 02.4**	**-0.8**
CASY	**Casey**	**53.15**	**208**	P		**P**	**07 17 15.4**	**-1.3**
CASY					IAmb	IAmb	07 17 31.7	
	comp=Z,9.9nm,1.5s							
MORW	**Morawa**	**54.97**	**255**	P		**P**	**07 17 28.6**	**-2.0**
MORW					IAmb	IAmb	07 17 31.1	
	comp=Z,7.6nm,1.1s							
QSPA	**South Pole Qui**	**58.07**	**180**	P		**P**	**07 17 55.6**	**+3.4**
QSPA					IAmb	IAmb	07 17 59.1	
	comp=Z,15nm,1.4s							
QSPA	**South Pole Qui**	**58.07**	**180**	P		**P**	**07 17 55.1**	**+3.0**
	comp=Z,4.0nm,0.6s,baz=53,slow=4.5,SNR=23							
	comp=Z,4.0nm,0.6s							
MAW	**Mawson**	**70.36**	**201**	P		**P**	**07 19 11.6**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=134,slow=7.4,SNR=3.9							
	comp=Z,1.6nm,0.8s							
SYO	**Syowa Base**	**75.25**	**194**	*e*P		**P**	**07 19 41.4**	**+0.4**
TROLL	**Troll, Antarti**	**76.23**	**181**	⇓P		**P**	**07 19 46.6**	**-0.1**
	comp=Z,199nm,1.0s							
SNAA	**Sanae**	**76.55**	**179**	⇑P		**P**	**07 19 48.8**	**+0.3**
	comp=Z,34nm,0.7s							
SNAA	**Sanae**	**76.55**	**179**	P		**P**	**07 19 47.8**	**-0.7**
SNAA	**Sanae**	**76.55**	**179**	P		**P**	**07 19 48.5**	**0.0**
	comp=Z,0.7nm,0.5s,baz=149,slow=13,SNR=5.1							
	comp=Z,0.7nm,0.5s							
H03S2	**Juan Fernandez**	**80.52**	**124**	T		T	08 48 45.3	
	baz=236,slow=74,SNR=13							
H03S1	**Juan Fernandez**	**80.53**	**124**	T		T	08 49 01.6	
	baz=236,slow=74,SNR=12							
H03S3	**Juan Fernandez**	**80.54**	**124**	T		T	08 49 00.7	
	baz=236,slow=74,SNR=18							
H03N3	**Juan Fernandez**	**80.72**	**124**	T		T	08 49 18.4	
	baz=240,slow=72,SNR=15							
H03N2	**Juan Fernandez**	**80.73**	**124**	T		T	08 49 28.3	
	baz=240,slow=72,SNR=14							
H03N1	**Juan Fernandez**	**80.74**	**124**	T		T	08 49 24.6	
	baz=240,slow=72,SNR=24							
PLCA	**Paso Flores**	**82.23**	**133**	P		**P**	**07 20 21.1**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=249,slow=8.6,SNR=4.0							
	comp=Z,1.4nm,0.6s							
KSRS	**Korea Array**	**84.86**	**321**	P		**P**	**07 20 31.9**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=152,slow=5.9,SNR=2.6							
	comp=Z,1.0nm,0.7s							
NJ2	**Nanjing**	**86.44**	**311**	*e*P		**P**	**07 20 42.3**	**+1.3**
NJ2					pmax	pmax		
	comp=Z,15nm,0.6s							
PETK	**Petropavlovsk-**	**87.12**	**346**	P		**P**	**07 20 43.9**	**+0.1**
PETK	**Petropavlovsk-**	**87.12**	**346**	P		**P**	**07 20 42.7**	**-1.1**
	comp=Z,2.0nm,0.5s,baz=182,slow=6.4,SNR=4.2							
	comp=Z,2.0nm,0.5s							
NVAR	**Mina Array Bea**	**90.23**	**43**	P		**P**	**07 20 58.9**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=219,slow=7.0,SNR=7.3							
	comp=Z,0.9nm,0.8s							
TIA	**Tai'an**	**90.25**	**314**	P		**P**	**07 20 59.7**	**+0.7**
TIA					pmax	pmax		
	comp=Z,6.0nm,0.6s							
K05A	**Summer Lake**	**91.70**	**39**	P		**P**	**07 21 05.9**	**+0.1**
K05A					IAmb	IAmb	07 21 18.8	
	comp=Z,11nm,1.5s							
J05D	**Fort Rock, OR**	**91.90**	**38**	P		**P**	**07 21 06.8**	**+0.1**
J05D					IAmb	IAmb	07 21 10.8	
	comp=Z,6.2nm,1.3s							
WIFE	**Three Sisters-**	**92.14**	**37**	P		**P**	**07 21 08.1**	**+0.2**
WIFE					IAmb	IAmb	07 21 08.7	
	comp=Z,4.7nm,0.8s							
PINE	**Pine Mountain**	**92.41**	**38**	P		**P**	**07 21 09.4**	**+0.4**
TXAR	**Lajitas Array**	**94.25**	**58**	P		**P**	**07 21 17.5**	**-0.3**
	comp=Z,0.4nm,1.0s,baz=241,slow=1.2,SNR=2.2							
	comp=Z,0.4nm,1.0s							
PZH	**PanZhiHua**	**95.04**	**298**	P		**P**	**07 21 23.8**	**+2.3**
HHC	**Hu-ho-hao-te**	**96.55**	**314**	*e*P		**P**	**07 21 29.4**	**+1.4**
HHC					pmax	pmax		
	comp=Z,14nm,0.6s							
HHC					pmax	pmax		
	comp=Z,100nm,4.5s							
ILAR	**Eielson Array**	**99.79**	**14**	P		**Pdif**	**07 21 39.9**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=213,slow=6.2,SNR=7.0							
	comp=Z,0.2nm,0.6s							
MKAR	**Makanchi Array**	**117.93**	**310**	PKP		**PKPdf**	**07 26 41.9**	**-2.3**
	comp=Z,0.9nm,0.8s,baz=81,slow=2.2,SNR=6.3							
ZALV	**Zalesovo Beam**	**118.48**	**318**	PKP		**PKPdf**	**07 26 43.0**	**-2.0**
	comp=Z,0.6nm,0.4s,baz=104,slow=6.6,SNR=3.9							
KURBB	**Kurchatov Arra**	**121.37**	**313**	PKP		**PKPdf**	**07 26 48.3**	**-2.3**
	comp=Z,1.6nm,0.5s,baz=110,slow=2.2,SNR=11							
BVAR	**Borovoye Array**	**126.75**	**315**	PKP		**PKPdf**	**07 26 58.7**	**-2.2**
	comp=Z,1.7nm,0.4s,baz=90,slow=3.0,SNR=13							
SPITS	**Spitsbergen Ar**	**133.25**	**356**	PKP		**PKPdf**	**07 27 11.5**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=89,slow=5.4,SNR=7.2							
ARA0	**ARCESS Array S**	**139.93**	**347**	*e*PKPdf		**PKPdf**	**07 27 26.9**	**+1.8**
ARCES	**ARCESS Array B**	**139.93**	**347**	PKhKP		PKPpre	07 27 18.0	
	comp=Z,0.7nm,0.4s,baz=50,slow=1.9,SNR=7.9							
ARCES				PKP		**PKPdf**	**07 27 25.0**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=11,slow=1.2,SNR=14							
KTK1	**Kautokeino**	**140.81**	**347**	*e*PKPdf		**PKPdf**	**07 27 28.5**	**+1.7**
STEI	**Steigen**	**143.07**	**351**	*e*PKPdf		**PKPdf**	**07 27 31.5**	**+0.7**
VAGH	**Vaagaholmen**	**144.47**	**351**	*e*PKPbc		**PKPab**	**07 27 31.5**	**-0.3**
STOK	**Stokkvaagen**	**144.88**	**351**	*e*PKPbc		**PKPab**	**07 27 31.7**	**-1.6**
KBZ	**Khabaz**	**145.02**	**302**	PKP		PKPbc	07 27 33.2	-1.3
	comp=Z,8.5nm,0.9s,baz=111,slow=3.1,SNR=12							
LEIR	**Leirfjorden**	**145.08**	**351**	*e*PKPbc		PKPbc	07 27 34.1	+0.1
FINES	**FINESS Array B**	**146.26**	**338**	PKPbc		**PKPdf**	**07 27 35.6**	**-0.9**
	comp=Z,11nm,0.4s,baz=56,slow=3.5,SNR=84							
NSS	**Namsos**	**146.74**	**351**	*e*PKPdf		**PKPdf**	**07 27 37.9**	**+0.7**
MOL	**Molde**	**149.14**	**354**	*e*		**PKPdf**	**07 27 45.4**	**+4.2**
DOMB	**Dombas**	**149.50**	**352**	*e*		**PKPdf**	**07 27 46.2**	**+4.3**
AKN	**Aaknes**	**149.57**	**354**	*e*		**PKPdf**	**07 27 46.5**	**+4.5**
NB2	**NORSAR Subarra**	**150.18**	**350**	PKP		**PKPdf**	**07 27 46.1**	**+3.1**
	comp=Z,5.8nm,0.5s,baz=17,slow=4.1							
NB2	**NORSAR Subarra**	**150.18**	**350**	PKP		**PKPdf**	**07 27 46.1**	**+3.1**
	comp=Z,5.8nm,0.5s,baz=17,slow=4.1							
NOA	**NORSAR Array B**	**150.18**	**350**	PKPbc		**PKPdf**	**07 27 46.0**	**+3.0**
	comp=Z,5.7nm,0.5s,baz=16,slow=4.2,SNR=21							
FOO	**Floro**	**150.29**	**356**	*e*		**PKPbc**	**07 27 48.4**	**+0.1**
NC602	**NORSAR Array S**	**150.41**	**349**	*e*		**PKPdf**	**07 27 48.0**	**+4.7**
HFS	**Hagfors**	**150.60**	**347**	PKPbc		**PKPdf**	**07 27 46.6**	**+3.0**
	comp=Z,5.6nm,0.4s,baz=30,slow=3.6,SNR=26							
HYA	**Hoyanger**	**150.64**	**355**	*e*		**PKPdf**	**07 27 48.5**	**+4.9**
MMAI	**Mount Meron Ar**	**150.75**	**281**	PKPbc		**PKPdf**	**07 27 49.2**	**+4.3**
	comp=Z,5.3nm,0.6s,baz=96,slow=2.9,SNR=6.7							
SKAR	**Skarslia**	**150.91**	**352**	*e*PKPbc		**PKPbc**	**07 27 50.3**	**+0.4**
ASK	**Askoy**	**151.39**	**355**	*e*PKPbc		**PKPbc**	**07 27 51.2**	**+0.3**
KONO	**Kongsberg**	**151.75**	**350**	*e*PKPbc		**PKPbc**	**07 27 51.8**	**+0.1**
ODD1	**Odda**	**151.84**	**354**	*e*PKPbc		**PKPbc**	**07 27 52.3**	**+0.2**
AKASG	**Malin Array Be**	**151.85**	**320**	PKPbc		**PKPdf**	**07 27 50.8**	**+5.0**
	comp=Z,3.1nm,0.5s,baz=59,slow=2.5,SNR=14							
BRTR	**Keskin Array B**	**152.31**	**295**	PKPbc		**PKPdf**	**07 27 52.3**	**+5.2**
	comp=Z,2.1nm,0.6s,baz=121,slow=4.1,SNR=10							
BLS5	**Blasjo**	**152.34**	**354**	*e*PKPbc		**PKPbc**	**07 27 54.2**	**+1.0**
KMY	**Karmoy**	**152.65**	**355**	*e*PKPbc		**PKPbc**	**07 27 54.0**	**+0.2**
HOMB	**Hombersund**	**153.23**	**351**	*e*PKPbc		**PKPbc**	**07 27 54.7**	**-0.4**
EKA	**Eskdalemuir Ar**	**156.56**	**5**	PKPab		**PKPab**	**07 28 19.6**	**-2.0**
	comp=Z,0.5nm,0.4s,baz=353,slow=3.4,SNR=2.2							
TORD	**Torodi Ar. Bea**	**161.17**	**183**	PKPab		**PKPab**	**07 28 41.7**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=163,slow=2.9,SNR=4.6							

NNC 12 07:09:35.2±4.8, 42˚04N×88˚33E, h0km, mb3.6, mpv3.2, 3C-3D, Error ellipse: s-maj=36.9km s-min=29.9km az=140.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MK31	**Makanchi Array**	**6.42**	**320**	⇓Pn		Pn	07 11 10.5	-0.5
	0.5nm,0.4s,baz=129,slow=14,SNR=7.2							
MK31				⇑Sn		Sn	07 12 27.6	+2.6
	2.4nm,0.6s,baz=139,slow=22,SNR=3.6							
MK31				⇑Lg		Lg	07 12 59.9	
	4.8nm,0.8s,baz=137,slow=28,SNR=4.5							
MAKZ	**Makanchi**	**6.58**	**318**	Pn		Pn	07 11 12.6	-0.6
	1.0nm,0.4s							
MAKZ				Lg		Lg	07 12 59.9	
	6.7nm,1.1s							
PDGK	**Podgornoye**	**6.64**	**284**	⇑Pn		Pn	07 11 15.1	+1.0
	2.1nm,0.8s							
PDGK				⇓Sn		Sn	07 12 31.2	+0.6
	5.5nm,0.7s							
PDGK				⇓Lg		Lg	07 13 05.0	
	10nm,0.9s							

RSNC 12 07:23:23.1±0.0, 7˚N±1˚×7˚7W±˚, h6km±2km, M2.9, mb4.0, ML2.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DBBC	**Dabeiba**	**0.50**	**76**	P		Pg	07 23 32.5	-0.3
DBBC				S		Sb	07 23 40.9	-1.1
SOLC	**Bahia Solano**	**0.97**	**226**	P		Pg	07 23 39.5	-2.3
SOLC				S		Sg	07 23 54.2	-0.2
APAC	**Apartado, Choc**	**1.00**	**7**	P		Pg	07 23 41.4	-0.9
APAC				S		Sn	07 23 57.9	-0.3
PTAC	**Punta Ardita,**	**1.13**	**283**	P		Pg	07 23 43.0	-1.8
PTAC				S		Sg	07 23 57.1	-2.3
CBOC	**Ciudad Bolivar**	**1.24**	**146**	P		Pg	07 23 43.5	-3.3
CBOC				S		Sg	07 23 59.1	-3.8
MEDEC	**Medelln, Ant**	**1.27**	**119**	P		Pg	07 23 45.2	-2.2
MEDEC				S		Sg	07 24 03.0	-0.9
HELC	**Santa Helena**	**1.36**	**121**	P		Pn	07 23 46.5	-2.5
HELC				S		Sg	07 24 05.0	-1.9
UREC	**San Jos de Ur**	**1.43**	**54**	P		Pn	07 23 47.7	-2.0
UREC				S		Sb	07 24 07.2	-1.6
CAPC	**Capurgana**	**1.84**	**340**	P		Pn	07 23 53.0	-2.3
CAPC				S		Sn	07 24 18.8	-0.1
GUY2C	**Guyana, Caldas**	**2.13**	**141**	P		Pn	07 23 58.1	-1.6
GUY2C				S		Sn	07 24 26.3	-0.4
CMAN1	**Manizales, Cal**	**2.16**	**147**	P		Pn	07 23 59.3	-0.6
CMAN1				S		Sn	07 24 26.2	-1.0
NORC	**Norcasia**	**2.25**	**126**	P		Pn	07 24 00.7	-0.3
NORC				S		Sn	07 24 28.1	-1.1
PTBC	**PUERTO BERRIO,**	**2.26**	**99**	P		Pn	07 23 59.6	-1.4
PTBC				S		Sn	07 24 28.9	-0.3
RECRC	**Villamaria, Ca**	**2.35**	**145**	P		Pn	07 24 02.9	+0.2
RECRC				S		Sn	07 24 31.5	-0.7
ANIL	**Santa Ana**	**2.72**	**152**	P		Pn	07 24 09.9	+2.3
ANIL				S		Sn	07 24 39.7	-1.3
SPBC	**San Pablo de B**	**2.89**	**115**	P		Pn	07 24 09.8	0.0
SPBC				S		Sn	07 24 43.4	-1.6
YOTC	**Yotoco, Valle**	**2.92**	**173**	P		Pn	07 24 05.2	-5.0
YOTC				S		Sn	07 24 37.3	-8.4
BRJC	**Barrancabermej**	**2.94**	**88**	P		Pn	07 24 10.5	+0.2
BRJC				S		Sn	07 24 45.7	-0.2
ORTC	**Ortega, Tolima**	**3.31**	**154**	P		Pn	07 24 15.5	0.0
ORTC				S		Sn	07 24 55.5	+0.4
SJCC	**San Jacinto, C**	**3.34**	**27**	P		Pn	07 24 13.3	-2.6
SJCC				S		Sn	07 24 50.3	-5.6
OCAC	**Ocana**	**3.61**	**68**	P		Pn	07 24 18.9	-0.8

comp=Z,8.6nm,0.8s
WR8 Warramunga Arr 45.60 263 P **P** 07 35 28.7 -1.8
WRA Warramunga Arr 45.76 263 **P** 07 35 30.2 -1.5
WRA Warramunga Arr 45.76 263 P **P** 07 35 29.6 -2.1
comp=Z,3.5nm,0.4s,baz=95,slow=7.8,SNR=63
WRA PcP **PcP** 07 37 06.5 -0.2
comp=Z,0.6nm,0.9s,baz=109,slow=3.5,SNR=1.8
comp=Z,3.5nm,0.4s
FORT Forrest 49.95 248 P **P** 07 36 01.3 -2.5
FORT IAmb IAmb 07 36 03.9
comp=Z,8.7nm,1.1s
SBA Scott Base 56.40 184 P **P** 07 36 52.6 +2.4
SBA IAmb IAmb 07 37 00.9
comp=Z,8.1nm,1.2s
VNDA Vanda 56.48 186 P **P** 07 36 53.1 +2.3
comp=Z,1.2nm,0.9s,baz=13,slow=7.0,SNR=4.4
comp=Z,1.2nm,0.9s
PSA00 Pilbara Seismi 58.65 258 P **P** 07 37 06.9 0.0
CASY Casey 63.14 206 P **P** 07 37 36.7 +0.4
CASY IAmb IAmb 07 37 48.1
comp=Z,13nm,1.4s
QSPA South Pole Qui 68.00 180 **P** 07 38 10.8 +3.1
QSPA IAmb IAmb 07 38 12.2
comp=Z,4.7nm,0.8s
QSPA South Pole Qui 68.00 180 P **P** 07 38 10.8 +3.1
comp=Z,4.9nm,0.8s,baz=21,slow=2.1,SNR=11
comp=Z,4.9nm,0.8s
M02C Callahan 80.37 38 P **P** 07 39 20.9 +1.4
MAW Mawson 80.55 200 P **P** 07 39 21.0 +1.1
comp=Z,2.4nm,0.6s,baz=136,slow=6.9,SNR=20
comp=Z,2.4nm,0.6s
H03S2 Juan Fernandez 83.98 124 T T 09 12 09.8
baz=247,slow=74,SNR=22
H03S1 Juan Fernandez 84.00 124 T T 09 12 12.7
baz=247,slow=74,SNR=20
H03S3 Juan Fernandez 84.00 124 T T 09 11 55.8
baz=247,slow=74,SNR=23
TROLL Troll, Antarti 86.16 180 ⇑P **P** 07 39 49.3 +0.5
comp=Z,71nm,0.3s
SNAA Sanae 86.40 178 P **P** 07 39 50.0 +0.2
SNAA IAmb IAmb 07 40 22.6
comp=Z,7.7nm,1.5s
LR05 Currie 86.44 132 P **P** 07 39 51.6 +1.0
TXAR Lajitas Array 86.76 57 P **P** 07 39 53.6 +1.3
comp=Z,1.8nm,0.9s,baz=210,slow=6.0,SNR=15
comp=Z,1.8nm,0.9s
PLCA Paso Flores 87.21 133 P **P** 07 39 55.0 +0.7
comp=Z,3.9nm,1.1s,baz=223,slow=7.6,SNR=3.8
comp=Z,3.9nm,1.1s
HDA Harding Lake 89.21 12 P **P** 07 40 02.4 -0.5
HDA IAmb IAmb 07 40 09.1
comp=Z,3.0nm,0.7s
CCB Clear Creek Bu 89.26 12 **P** 07 40 02.1 -1.1
CCB IAmb IAmb 07 40 03.7
comp=Z,4.2nm,0.5s
IL31 89.55 12 P **P** 07 40 03.6 -0.9
ILAR Eielson Array 89.55 12 P **P** 07 40 04.0 -0.6
comp=Z,0.9nm,0.5s,baz=221,slow=6.0,SNR=27
comp=Z,0.9nm,0.5s
E19K Redstone River 90.41 7 P **P** 07 40 08.5 0.0
DAWY Dawson 90.60 15 P **P** 07 40 10.0 +0.5
DAWY IAmb IAmb 07 40 10.8
comp=Z,2.9nm,0.9s
MKAR Makanchi Array 113.26 313 PKiKP **PKiKP** 07 45 43.1 -1.2
comp=Z,0.5nm,0.7s,baz=80,slow=2.2,SNR=5.3
KURBB Kurchatov Arra 116.12 317 PKP **PKPdf** 07 45 47.8 -1.8
comp=Z,0.3nm,0.3s,baz=87,slow=2.2,SNR=6.2
BVAR Borovoye Array 121.16 320 PKP **PKPdf** 07 45 58.4 -0.9
comp=Z,2.0nm,0.3s,baz=110,slow=2.3,SNR=12
ARCES ARCESS Array B 130.70 350 PKP **PKPdf** 07 46 16.5 -0.6
comp=Z,0.6nm,0.4s,baz=27,slow=3.0,SNR=6.7
HFS Hagfors 141.29 352 PKhKP PKPpre 07 46 29.2
comp=Z,1.0nm,0.3s,baz=61,slow=3.7,SNR=10
AKASG Malin Array Be 145.04 331 PKP **PKPbc** 07 46 41.2 -2.4
comp=Z,1.4nm,0.4s,baz=45,slow=4.2,SNR=12
EKA Eskdalemuir Ar 146.42 7 PKPbc **PKPbc** 07 46 47.9 +0.3
comp=Z,2.8nm,0.8s,baz=339,slow=2.1,SNR=5.2
BRTR Keskin Array B 148.90 311 PKPbc **PKPbc** 07 46 53.8 -1.3
comp=Z,1.3nm,0.6s,baz=84,slow=4.5,SNR=5.8
MMAI Mount Meron Ar 149.77 298 PKPbc **PKPbc** 07 46 55.6 -1.6
comp=Z,3.5nm,0.4s,baz=72,slow=4.7,SNR=5.9
CLL Collm 149.89 348 *i* PKPbc **PKPbc** 07 46 57.1 +0.3
comp=Z,8.0nm,0.9s
GERES GERESS Array B 152.07 345 PKPbc **PKPbc** 07 47 01.4 -0.8
comp=Z,1.0nm,0.7s,baz=46,slow=5.9,SNR=4.8

*IDC **12** 07:35:27.0±14.0, 52°.20N×179°.14E, h0km, mb3.6/3, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=407.5km s-min=93.9km az=126.0*
*AEIC **12** 07:35:41.3±1.3, 51°.31N±0°.08×179°.10W±0°.05, h52km±6km, Error ellipse: s-maj=11.5km s-min=4.6km az=169.0*
*NEIC **12** 07:35:42.1±0.9, 51°.4N±0°.1×179°.11W±0°.06, h59km±7km, mb3.8/10, ML3.8/8, ML3.3(AEIC), Error ellipse: s-maj=18.7km s-min=4.4km az=171.0*
ISC 12 07:35:41.5±1.0, **51°.4N**±0°.1×**179°.08W**±0°.03, **h61**km±7km, **n57**, σ0**88**/61, **mb3.7**/8, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.26**	**40**		**Pn**	**07 35 51.4**	**0.0**
GAKI					**Sn**	**07 35 58.6**	**0.0**
GASW	**Gareloi Southw**	**0.44**	**18**		**Pn**	**07 35 53.0**	**0.0**
GALAA	**Gareloi Lava P**	**0.45**	**25**		**Pn**	**07 35 53.2**	**+0.2**
GAEA	**Gareloi East**	**0.47**	**26**		**Sn**	**07 36 02.4**	**+0.5**
GANO	**Gareloi North**	**0.49**	**20**		**Pn**	**07 35 53.5**	**0.0**
GANE	**Gareloi Northe**	**0.50**	**22**		**Pn**	**07 35 53.6**	**+0.1**
GANE					**Sn**	**07 36 03.1**	**+0.8**
TASE	**Tanaga Southea**	**0.81**	**53**		**Pn**	**07 35 57.6**	**+0.5**
TASE					**Sn**	**07 36 09.6**	**+1.0**
TANO	**Tanaga North**	**0.82**	**46**		**Pn**	**07 35 57.6**	**+0.4**
TANO					**Sn**	**07 36 09.8**	**+1.0**
TAFL	**Tanaga Flats**	**0.84**	**61**		**Pn**	**07 35 57.8**	**+0.4**
TAFL					**Sn**	**07 36 10.1**	**+0.8**
TAPA	**Tanaga Point A**	**0.91**	**59**		**Pn**	**07 35 58.9**	**+0.4**
TAPA					**Sn**	**07 36 11.8**	**+0.8**
CERB	**Semis' Cerberu**	**0.99**	**306**		**Pn**	**07 35 59.9**	**+0.4**
CEPE	**Semis' Perret**	**1.00**	**308**		**Pn**	**07 35 59.7**	**+0.1**
AMKA	**Amchitka**	**1.02**	**272**	Pn	**Pn**	**07 35 59.8**	**0.0**
AMKA	**Amchitka**	**1.02**	**272**		**Sn**	**07 36 13.4**	**+0.1**
CEAP	**Semis' Anvil P**	**1.06**	**308**		**Pn**	**07 36 00.7**	**+0.3**
CETU	**Semis' Tuman**	**1.08**	**305**		**Pn**	**07 36 01.0**	**+0.4**
KIMD	**Kanaga Island**	**1.22**	**70**		**Pn**	**07 36 02.6**	**+0.2**
KIMD					**Sn**	**07 36 18.2**	**+0.2**
KIKV	**Kanaga Island**	**1.30**	**66**		**Pn**	**07 36 03.8**	**+0.3**
KIKV					**Sn**	**07 36 20.6**	**+0.7**
KIWB	**Kanaga Island**	**1.30**	**67**		**Pn**	**07 36 03.5**	**0.0**
KIWB				IAML		07 36 21.7	
	comp=E,1μm,0.7s						
KIWB				IAML		07 36 23.1	
	comp=N,1μm,0.4s						
KIWB	**Kanaga Island**	**1.30**	**67**		**Sn**	**07 36 20.5**	**+0.5**
LSSE	**Little Sitkin**	**1.58**	**292**		**Pn**	**07 36 07.7**	**+0.5**
ADK	**Adak**	**1.58**	**70**		**Pn**	**07 36 07.6**	**+0.4**
ADK				IAML		07 36 28.2	
	comp=N,2μm,0.3s						
ADK	**Adak**	**1.58**	**70**		**Sn**	**07 36 27.1**	**+0.4**
LSPA	**Little Sitkin**	**1.58**	**293**		**Pn**	**07 36 07.8**	**+0.5**
LSNW	**Little Sitkin**	**1.62**	**293**		**Pn**	**07 36 08.0**	**+0.2**
ADAG	**Mount Adagdak**	**1.66**	**67**		**Pn**	**07 36 09.5**	**+1.1**
ADAG					**Sn**	**07 36 30.2**	**+1.5**
ETKA	**Kagalaska Isla**	**1.74**	**72**		**Pn**	**07 36 09.8**	**+0.4**
ETKA					**Sn**	**07 36 30.4**	**-0.2**
GSCK	**Great Sitkin C**	**1.93**	**69**		**Pn**	**07 36 12.4**	**+0.5**
GSMY	**Great Sitkin M**	**2.00**	**69**		**Sn**	**07 36 37.8**	**+0.9**
GSTR	**Great Sitkin T**	**2.02**	**67**	Pn	**Pn**	**07 36 11.9**	**-1.3**
GSTR				IAML		07 36 43.9	
	comp=E,615nm,0.4s						
GSIG	**Igitkin Island**	**2.06**	**71**		**Pn**	**07 36 14.1**	**+0.3**
ATKA	**Atka Island**	**3.15**	**73**	Pn	**Pn**	**07 36 28.4**	**-0.1**
ATKA	**Atka Island**	**3.15**	**73**		**Sn**	**07 37 05.5**	**+0.6**
SPIA	**Saint Paul Isl**	**7.79**	**38**	Pn	**Pn**	**07 37 32.1**	**+0.1**
UNV	**Unalaska Valle**	**8.05**	**67**	Pn	**Pn**	**07 37 34.8**	**-0.8**
KDAK	**Kodiak Island**	**16.58**	**57**	Pn	**Pn**	**07 39 25.6**	**-4.0**
	comp=E,0.4nm,0.3s,baz=270,slow=6.1,SNR=6.1						
	comp=E,6.9nm,1.0s						
CUT	**Chulitna**	**19.05**	**43**	P	**P**	**07 39 57.7**	**-0.6**
KTH	**Kantishna Hill**	**19.25**	**40**	P	**Pn**	**07 40 00.5**	**-1.7**
KTH				IAmb	IAmb	07 40 01.1	
	comp=Z,4.2nm,0.8s						
IMAR	**Indian Mountai**	**19.48**	**32**	P	**Pn**	**07 40 03.4**	**-1.5**
M29M	**Somme Creek**	**24.36**	**47**	P	**P**	**07 40 52.8**	**-0.7**
L29M	**L29M**	**24.61**	**46**	P	**P**	**07 40 54.6**	**-1.1**
L29M				IAmb	IAmb	07 41 05.2	
	comp=Z,3.7nm,1.1s						
HYT	**Haines Junctio**	**24.64**	**51**	P	**P**	**07 40 55.0**	**-1.1**
HYT				IAmb	IAmb	07 40 58.8	
	comp=Z,2.5nm,1.1s						
F28M	**Old Crow**	**25.08**	**35**	P	**P**	**07 41 00.3**	**+0.4**
F28M				IAmb	IAmb	07 41 20.6	
	comp=Z,2.6nm,1.3s						
R32K	**Eaglecrest**	**26.17**	**57**	P	**P**	**07 41 11.3**	**+1.5**
R32K				IAmb	IAmb	07 41 38.2	
	comp=Z,9.5nm,1.4s						
MMPY	**Sheldon Lake,**	**27.70**	**47**	P	**P**	**07 41 23.2**	**-0.3**
MMPY				IAmb	IAmb	07 41 28.8	
	comp=Z,3.2nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**33.44**	**204**	T	T	08 18 02.5	
	baz=16,slow=76,SNR=41						
H11N3	**WAKE ISLAND Hy**	**33.45**	**204**	T	T	08 18 02.9	
	baz=16,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**33.46**	**204**	T	T	08 18 02.4	
	baz=16,slow=76,SNR=66						
H11S1	**WAKE ISLAND Hy**	**34.66**	**204**	T	T	08 20 08.8	
	baz=17,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**34.68**	**204**	T	T	08 20 01.1	
	baz=17,slow=76,SNR=7.0						
H11S3	**WAKE ISLAND Hy**	**34.68**	**204**	T	T	08 19 45.0	
	baz=17,slow=76,SNR=6.9						
NVAR	**Mina Array Bea**	**43.73**	**83**	P	**P**	**07 43 41.7**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=312,slow=7.4,SNR=2.7						
	comp=Z,0.3nm,0.6s						
PDAR	**Pinedale Array**	**46.48**	**72**	P	**P**	**07 44 02.3**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=317,slow=3.3,SNR=10						
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**58.83**	**81**	P	**P**	**07 45 33.5**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=319,slow=6.9,SNR=6.1						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**59.91**	**308**	P	**P**	**07 45 41.5**	**+0.7**
WRAB	**Tennant Creek**	**81.87**	**224**	P	**P**	**07 47 54.2**	**+0.2**
WRA	**Warramunga Arr**	**81.88**	**224**	P	**P**	**07 47 55.0**	**+0.9**

*NEIC **12** 07:37:54.8±0.8, 37°.87N±0°.01×112°.48W±0°.02, h8km±5km, Error ellipse: s-maj=2.5km s-min=1.3km az=118.0*
UUSS 12 07:37:54.9±0.9, **37°.88N**±0°.01×**112°.49W**±0°.02, **h5**km±5km, **ML2.5**/13, **ML2.6**/56(NEIC), **Error ellipse: s-maj=2.0km s-min=1.7km az=74.0, Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTPU	**Mount Pierson**	**0.29**	**56**	Pg	Pg	07 38 00.3	-0.4
MTPU				IAML		07 38 05.9	
	comp=E,731nm,0.6s						
PKCU	**Pink Cliffs**	**0.46**	**162**	Pg	Pg	07 38 03.7	-0.2
PKCU				IAML		07 38 13.5	
	comp=N,754nm,0.5s						
DWU	**Dry Willow Pea**	**0.46**	**299**		Pg	07 38 04.2	+0.3
BTU	**Barney Top**	**0.50**	**104**		Pg	07 38 04.8	+0.2
SZCU	**Shurtz Canyon**	**0.55**	**239**		Pg	07 38 06.0	+0.4
SZCU				IAML		07 38 18.6	
	comp=N,753nm,0.3s						
SZCU	**Shurtz Canyon**	**0.55**	**239**		Sg	07 38 13.4	+0.6
NMUT	**North Mineral**	**0.69**	**336**		Pg	07 38 08.3	0.0
TCRU	**Three Creeks R**	**0.73**	**3**		Pg	07 38 08.8	-0.1
TCRU				IAML		07 38 20.7	
	comp=E,155nm,0.8s						
TCRU				IAML		07 38 22.9	
	comp=N,185nm,0.5s						
ZNPU	**Zion National**	**0.73**	**224**		Pg	07 38 08.8	-0.1
ARUT	**Antelope Range**	**0.76**	**263**		Pg	07 38 09.6	+0.1
CCUT	**Cedar City**	**0.77**	**245**		Pg	07 38 09.0	-0.6
CCUT				IAML		07 38 20.9	
	comp=N,133nm,0.6s						
KNB	**Kanab**	**0.90**	**197**		Pg	07 38 11.5	-0.8
IMU	**Iron Mountain**	**0.92**	**325**		Pg	07 38 12.7	+0.2
LCMT	**Little Creek M**	**1.05**	**215**		Pg	07 38 14.4	-0.8
LCMT				IAML		07 38 29.1	
	comp=N,151nm,0.6s						
LCMT				IAML		07 38 33.8	
	comp=E,242nm,0.2s						
PSUT	**Pine Spring**	**1.26**	**302**		Pg	07 38 18.5	-0.5
PSUT				IAML		07 38 40.3	
	comp=E,190nm,0.9s						
PSUT				IAML		07 38 43.4	
	comp=N,225nm,1.0s						
HMU	**Henry Mountain**	**1.38**	**87**		Pn	07 38 19.4	-1.7
U15A	**North Rim**	**1.46**	**174**		Pn	07 38 21.9	-0.3
U15A				IAML		07 38 41.3	
	comp=N,138nm,0.5s						
U15A				IAML		07 38 42.0	
	comp=E,130nm,0.4s						
Q16A	**Castle Valley**	**1.46**	**45**		Pn	07 38 22.1	-0.1
Q16A				IAML		07 38 45.1	
	comp=E,53nm,1.1s						
TMUT	**Trail Mountain**	**1.73**	**35**		Pn	07 38 26.5	+0.5
TMUT				IAML		07 38 51.3	
	comp=E,39nm,0.9s						
SPR3	**Spring Creek 3**	**1.83**	**308**		Pn	07 38 26.2	-1.1
SPR3				IAML		07 38 53.0	
	comp=N,54nm,0.6s						
SPR3				IAML		07 38 58.6	
	comp=E,63nm,0.8s						
SRU	**San Rafael Swe**	**1.97**	**51**		Pb	07 38 30.5	-0.9
SRU				IAML		07 39 00.3	
	comp=E,46nm,0.5s						
PRN	**Pahroc Range**	**2.09**	**258**		Pb	07 38 32.3	-1.1
PRN				IAML		07 39 04.6	
	comp=N,81nm,0.4s						
PRN				IAML		07 39 15.4	
	comp=E,67nm,0.8s						
P17A	**Butcher Ranch,**	**2.10**	**40**		Pn	07 38 31.6	+0.7
MPU	**Maple Canyon**	**2.23**	**17**		Pn	07 38 31.8	-1.0
P18A	**Preston Nutter**	**2.47**	**44**		Pb	07 38 38.1	-1.9
P18A				IAML		07 39 14.2	
	comp=E,28nm,0.9s						
P18A				IAML		07 39 18.9	
	comp=N,21nm,0.8s						
R11B	**Troy Canyon, C**	**2.49**	**282**		Pn	07 38 35.6	-0.7
R11B				IAML		07 39 24.1	
	comp=E,21nm,0.8s						
WUAZ	**Wupatki**	**2.52**	**159**		Pb	07 38 39.0	-1.8
SHPR	**Sheep Range**	**2.54**	**238**		Pn	07 38 37.0	+0.1
PV03	**Paradox Valley**	**2.90**	**82**		Pn	07 38 41.9	0.0

*IDC **12** 07:46:02.9±3.9, 5°.59S×148°.51E, h128km±33km, mb3.4/3, mbtmp3.9/5, Error ellipse: s-maj=60.5km s-min=28.5km az=120.0*
ISC 12 07:46:05.4±1.3, **5°.7S**×0°.2×**148°.5E**±0°.5, **h150**km, **n6**, σ0**80**/7, **mb3.6**/3, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.89**	**200**	P	**Pn**	**07 47 03.9**	**-0.3**
	28nm,0.4s,baz=4.3,slow=6.1,SNR=8.0						
PMG				S	**Sn**	**07 47 49.4**	**-0.7**
	44nm,0.5s,baz=198,slow=12,SNR=7.0						
WRA	**Warramunga Arr**	**19.74**	**223**	P	**P**	**07 50 24.0**	**+0.3**
	2.7nm,0.5s,baz=48,slow=10,SNR=22						
ASAR	**Alice Springs**	**22.72**	**217**	P	**P**	**07 50 55.5**	**+0.7**
	1.1nm,0.5s,baz=52,slow=8.8,SNR=19						
	1.1nm,0.5s						
QSPA	**South Pole Qui**	**84.23**	**180**	P	**P**	**07 58 20.9**	**+0.9**
	0.6nm,0.6s,baz=21,slow=1.2,SNR=5.1						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**84.65**	**23**	P	**P**	**07 58 21.1**	**-0.7**
	0.6nm,0.6s,baz=252,slow=4.8,SNR=11						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**146.50**	**285**	PKPbc	**PKPdf**	**08 05 28.5**	**0.0**
	0.2nm,0.4s,baz=68,slow=3.3,SNR=1.9						

*TEH **12** 07:58:33.4, 27°.23N×53°.63E, h19km±39km*
*DSN **12** 07:58:36.9±1.2, 27°.21N×53°.97E, h10km, ML2.8/8, Error ellipse: s-maj=12.7km s-min=11.4km az=30.0*
ISC 12 07:58:33.9±1.1, **27°.20N**±0°.05×**53°.68E**±0°.06, **h10**km, **n16**, σ1**42**/18, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.48**	**286**	Pg	**Pb**	**07 58 42.9**	**-1.6**
LAR1	**LAR**	**0.77**	**53**	Pg	**Pb**	**07 58 49.6**	**+0.1**
JHRM	**Jahrom**	**1.30**	**356**	Pg	**Pg**	**07 58 59.5**	**+0.5**
QIR1	**Qir**	**1.39**	**336**	Pg	**Pb**	**07 58 58.9**	**-1.1**
QIR1				Sg	**Sg**	**07 59 19.0**	**+0.4**
BNDS	**Bandar-Abbas**	**2.22**	**84**	Pn	**Pn**	**07 59 06.7**	**-4.3**
GENO	**Geno**	**2.22**	**84**	Pn	**Pn**	**07 59 11.4**	**+0.3**
SHME	**Shamm**	**2.48**	**117**	P	**Pn**	**07 59 15.5**	**+1.0**
BANOM	**Banah**	**2.67**	**118**	P	**Pn**	**07 59 16.8**	**-0.2**
NAZ	**Nazwa, Dubai**	**2.83**	**141**	P	**Pn**	**07 59 20.7**	**+1.4**
MSFE	**Esma-Masafi**	**2.88**	**129**	P	**Pn**	**07 59 19.7**	**-0.3**
UOSS	**Minazif**	**3.19**	**134**	P	**Pn**	**07 59 24.3**	**0.0**
HATD	**Hatta, Dubai**	**3.23**	**137**	P	**Pn**	**07 59 24.8**	**0.0**
HATD				S	**Sn**	**08 00 03.5**	**+0.1**
ASHO	**Ashiyiah**	**3.30**	**139**	P	**Pn**	**07 59 27.0**	**+1.3**
SOHO	**SOHO**	**4.00**	**139**	P	**Pn**	**07 59 35.7**	**+0.5**
IMEH	**Mehriz**	**4.25**	**11**	Pn	**Pn**	**07 59 39.7**	**+0.7**
IRAM	**Ramesheh**	**4.73**	**346**	Pn	**Pn**	**07 59 46.9**	**+1.4**

*ASRS **12** 07:59:56.0±0.7, 53°.65N×86°.83E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 12 07:59:58.4±2.9, **53°.70N**×**86°.90E**, **h0**km, **mbtmp2.8**/2, **ML2.4**/2, **Error ellipse: s-maj=26.9km s-min=15.8km az=73.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**282**	I	I	08 08 30.0	
	baz=101,slow=342,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.26**	**282**	Pg	Pg	08 00 21.3	-1.2
	1.4nm,0.3s,baz=102,slow=16,SNR=7.7						
ZALV				Lg	Lg	08 00 40.0	
	1.7nm,0.3s,baz=102,slow=32,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.00**	**242**	Pn	Pn	08 01 28.2	-0.2
	0.1nm,0.3s,baz=57,slow=13,SNR=2.8						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.52**	**205**	Pn	Pn	08 01 51.4	+2.2
	0.1nm,0.3s,baz=25,slow=14,SNR=3.0						
	0.2nm,0.4s						

IDC 12 08:03:03.4±3.1, **32°.67S**×**178°.02W**, **h0**km, **mb3.7**/2, **mbtmp3.7**/3, **ML2.8**/1, **Error ellipse: s-maj=73.8km s-min=37.2km az=119.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.85**	**214**	Pn	Pn	08 04 44.4	-0.6
	0.2nm,0.3s,baz=214,slow=2.8,SNR=1.7						
URZ				Sn	Sn	08 06 05.6	+2.0
	0.7nm,0.3s,baz=240,slow=22,SNR=7.2						
	7.9nm,1.0s						
RPZ	**Rata Peaks**	**13.96**	**215**	Sn	Sn	08 09 00.5	+2.3
	0.7nm,0.3s,baz=79,slow=18,SNR=1.4						
ASAR	**Alice Springs**	**43.02**	**269**	P	P	08 11 05.0	+0.1
	0.5nm,0.6s,baz=114,slow=8.1,SNR=9.6						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**44.21**	**274**	P	P	08 11 14.1	-0.4
	0.9nm,0.5s,baz=116,slow=7.5,SNR=10						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**147.26**	**339**	PKPbc	PKPbc	08 22 47.3	-0.7
	7.5nm,1.0s,baz=48,slow=2.1,SNR=6.1						

CATAC 12 08:06:29.5±0.9, **11°N**±3°×**8°6W**±°, **h21**km±5km, **M2.8**/7, **MLv2.8**/7, **Error ellipse: s-maj=12.0km s-min=6.2km az=80.3, confirmed, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELI1	**Hacienda Flor**	**0.59**	**88**	P	Pn	08 06 42.0	-0.6
ELI1	**Hacienda Flor**	**0.59**	**88**	S	Sb	08 06 50.2	+1.1
CARN	**Rivas**	**0.83**	**48**	P	Pn	08 06 46.1	+0.2
CARN				S	Sn	08 06 58.4	+0.8
CMARA	**Lajas Hojancha**	**0.93**	**130**	P	Pb	08 06 47.2	+0.1
CMARA	**Lajas Hojancha**	**0.93**	**130**	S	Sn	08 07 00.5	+0.3
CONN	**Concepcion**	**1.07**	**29**	P	Pn	08 06 48.8	-0.4
JTS	**Las Juntas de**	**1.22**	**106**	P	Pn	08 06 51.0	-0.4
JTS				S	Sb	08 07 07.7	+0.4
ACON	**Acoyapa**	**1.64**	**36**	P	Pn	08 06 56.8	-0.3
ACON	**Acoyapa**	**1.64**	**36**	S	Sn	08 07 18.0	+0.3

*IDC **12** 08:20:13.9±3.7, 54°.30N×87°.40E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=32.5km s-min=20.6km az=42.0*
ASRS 12 08:20:12.0±1.3, **54°.20N**×**87°.03E**, **h0**km, **M2.6**, **The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.33**	**260**	I	I	08 29 10.0	
	baz=78,slow=331,SNR=3.5						
ZALV	**Zalesovo Beam**	**1.33**	**260**	Pg	Pn	08 20 40.3	+2.5
	0.6nm,0.3s,baz=75,slow=16,SNR=8.7						
ZALV				Lg	Lg	08 21 04.6	
	2.2nm,0.3s,baz=77,slow=28,SNR=8.9						
KURBB	**Kurchatov Arra**	**6.31**	**239**	Pn	Pn	08 21 51.5	+5.2
	baz=54,slow=13,SNR=1.4						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.01**	**204**	Pn	Pn	08 22 16.1	+6.5
	0.1nm,0.3s,baz=28,slow=14,SNR=1.8						
	0.3nm,0.6s						

RSNC 12 08:43:15.6±0.0, **7°N**±1°×**7°3W**±°, **h143**km±2km, **M3.0**, **mB4.3, mb3.4, ML2.7, Mw(mB)3.4, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**190**	P	Pn	08 43 35.0	-0.5
BARC				S	Sn	08 43 49.7	-0.8
BRJC	**Barrancabermej**	**0.62**	**283**	P	Pn	08 43 36.8	0.0
BRJC				S	Sn	08 43 53.5	+0.6
PAMC	**Pamplona, Colo**	**0.67**	**41**	P	Pn	08 43 37.8	+0.1
PAMC				S	Sn	08 43 54.6	+0.1
RUSC	**La Rusia**	**0.93**	**177**	P	Pn	08 43 38.9	-0.8
RUSC				S	Sn	08 43 57.1	-0.9
PTBC	**PUERTO BERRIO,**	**1.34**	**258**	P	Pn	08 43 41.7	-1.3
PTBC				S	Sn	08 44 02.4	-1.4
OCAC	**Ocana**	**1.41**	**353**	P	Pn	08 43 43.3	-0.6
OCAC				S	Sn	08 44 05.1	-0.4
SPBC	**San Pablo de B**	**1.49**	**218**	P	Pn	08 43 44.1	-0.6
SPBC				S	Sn	08 44 06.2	-0.7
NORC	**Norcasia**	**2.13**	**234**	P	Pn	08 43 51.6	-0.3
NORC				S	Sn	08 44 19.1	-0.7
ROSC	**El Rosal**	**2.30**	**211**	P	Pn	08 43 55.5

GARC	**Garzon, Huila**	**5.17 207**	P	Pn	08 44 28.4	-3.1
GARC			S	Sn	08 45 27.1	-3.5
POPC	**Popayan, Colom**	**5.53 220**	P	Pn	08 44 35.2	-1.0
	3.2nm,0.9s					
POPC			S	Sn	08 45 39.2	+0.1
	3.2nm,0.9s					
FLOC	**Florencia**	**5.78 206**	P	Pn	08 44 38.2	-1.2
	7.6nm,1.4s					
BBAC	**Balboa, Cauca**	**6.29 221**	P	Pn	08 44 45.9	-0.5
BBAC			S	Sn	08 45 57.6	+0.3
GCUF	**Volcan Galeras**	**6.97 217**	P	Pn	08 44 55.8	+0.1
	4.1nm,0.8s					
SGC2	**Sao Gabriel da**	**9.27 138**	P	Pn	08 45 25.2	-0.9
SGC2			S	Sn	08 47 02.4	-6.4

IDC ***12*** *08:48:31.0±0.8, 18˚.19S×168˚.27E, h0km, mb4.2/12, mbtmp4.2/13, ML3.6/1, MS3.2/4, Error ellipse: s-maj=28.4km s-min=19.0km az=111.0*

NOU ***12*** *08:48:34.1, 18˚.36S×168˚.07E, h9km, MLv4.8/15, Vanuatu Islands*

ISC 12 08:48:35.4±0.6, 18˚.31S±0˚.04×168˚.15E±0˚.08, h29km, n38, σ0.97/36, mb4.2/12, MS3.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**0.59**	**4**	P	**Pn**	**08 48 47.6**	**-0.2**
DVP	**Devils Point**	**0.59**	**4**	S	**Sn**	**08 48 57.0**	**+0.6**
INH	**Isangel**	**1.62**	**139**	P	**Pn**	**08 49 02.5**	**+0.4**
INH	**Isangel**	**1.62**	**139**	S	**Sb**	**08 49 24.7**	**-0.1**
SANVU	**Saraoutou**	**2.99**	**342**	P	**Pn**	**08 49 20.8**	**-0.1**
YATNC	**Mamie plateau,**	**3.91**	**197**	P	**Pn**	**08 49 33.3**	**-0.2**
DZM	**Mont Dzumac**	**4.07**	**203**	Pn	**Pn**	**08 49 35.3**	**-0.5**
	3.1nm,0.3s,baz=68,slow=12,SNR=27						
DZM				Sn	**Sn**	**08 50 21.3**	**-1.2**
	11nm,0.5s						
DZM	**Mont Dzumac**	**4.07**	**203**	P	**Pn**	**08 49 35.2**	**-0.5**
OUENC	**Ouen Island, N**	**4.26**	**196**	P	**Pn**	**08 49 38.2**	**-0.2**
KOUNC	**Koumac, New Ca**	**4.27**	**238**	P	**Pn**	**08 49 38.3**	**-0.2**
HNR	**Honiara**	**11.89**	**317**	LR	LR	08 55 22.9	
	comp=Z,172nm,18.6s,baz=155,slow=35						
CTA	**Charters Tower**	**20.75**	**262**	LR	LR	09 00 40.7	
	comp=Z,5.5nm,18.2s,baz=43,slow=35						
STKA	**Stephens Creek**	**27.49**	**235**	P	**P**	**08 54 21.5**	**+2.2**
	2.7nm,0.8s,baz=72,slow=8.0,SNR=5.8						
	2.7nm,0.8s						
RAR	**Rarotonga**	**30.30**	**101**	LR	LR	09 04 11.6	
	comp=Z,70nm,20.8s,baz=280,slow=31						
WRA	**Warramunga Arr**	**31.95**	**262**	P	**P**	**08 54 59.0**	**-0.1**
	0.7nm,0.7s,baz=101,slow=8.2,SNR=5.4						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**32.36**	**255**	P	**P**	**08 55 02.8**	**+0.1**
	2.0nm,0.7s,baz=88,slow=8.1,SNR=28						
ASAR				LR	LR	09 07 42.9	
	comp=Z,121nm,19.4s,baz=100,slow=35						
	2.0nm,0.7s						
MJAR	**Matsushiro Arr**	**61.46**	**333**	P	**P**	**08 58 47.3**	**-2.0**
	1.9nm,0.9s,baz=159,slow=7.4,SNR=4.5						
	1.9nm,0.9s						
USRK	**Ussuriysk Ar.**	**70.45**	**333**	P	**P**	**08 59 48.3**	**+1.4**
	3.5nm,0.6s,baz=163,slow=5.3,SNR=5.4						
	3.5nm,0.6s						
PETK	**Petropavlovsk-**	**71.70**	**353**	P	**P**	**08 59 53.8**	**-0.5**
	2.8nm,0.8s,baz=166,slow=6.2,SNR=4.6						
	2.8nm,0.8s						
QSPA	**South Pole Qui**	**71.73**	**180**	P	**P**	**08 59 57.0**	**+2.3**
	6.4nm,0.8s,baz=359,slow=1.4,SNR=8.2						
	6.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**77.18**	**294**	P	**P**	**09 00 28.4**	**+1.4**
	0.8nm,0.3s,baz=118,slow=6.0,SNR=10						
	0.8nm,0.3s						
SONM	**Songino Array**	**85.86**	**323**	P	**P**	**09 01 13.5**	**+1.0**
	2.1nm,0.8s,baz=158,slow=29,SNR=7.0						
	2.1nm,0.8s						
NVAR	**Mina Array Bea**	**88.97**	**49**	P	**P**	**09 01 26.6**	**-1.2**
	0.5nm,0.7s,baz=255,slow=7.5,SNR=4.1						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**89.66**	**18**	P	**P**	**09 01 28.9**	**-1.3**
	0.5nm,0.6s,baz=232,slow=4.4,SNR=7.8						
	0.5nm,0.6s						
SNAA	**Sanae**	**90.03**	**183**	P	**P**	**09 01 31.5**	**-0.6**
	1.2nm,0.6s,baz=293,slow=4.6,SNR=4.1						
	1.2nm,0.6s						
ARCES	**ARCESS Array B**	**123.91**	**345**	PKP	**PKiKP**	**09 07 29.8**	**-0.5**
	0.8nm,0.4s,baz=62,slow=2.1,SNR=8.7						
OBKA	**Obir**	**144.44**	**328**	*i* PKP	**PKPdf**	**09 08 08.2**	**-0.9**
	6.4nm,1.0s						
KBA	**Koelnbreinsper**	**144.64**	**330**	*i* PKP	**PKPdf**	**09 08 09.1**	**-0.4**
	7.5nm,1.5s						
LESA	**Schwarzleotal**	**144.70**	**331**	*i* PKP	**PKPdf**	**09 08 08.6**	**-0.9**
	7.0nm,1.0s						
MYKA	**Terra Mystica**	**144.81**	**329**	*e*PKP	**PKPdf**	**09 08 08.5**	**-1.2**
	1.9nm,0.4s						
WATA	**Walderalm**	**145.27**	**332**	*i* PKP	**PKPdf**	**09 08 10.7**	**+0.2**
	3.9nm,0.6s						
ABTA	**Abfaltersbach**	**145.27**	**330**	*i* PKP	**PKPdf**	**09 08 10.0**	**-0.5**
	6.9nm,0.8s						
WTTA	**Wattenberg**	**145.29**	**332**	*i* PKP	**PKPdf**	**09 08 10.5**	**-0.2**
	3.1nm,0.6s						
MOTA	**Moosalm**	**145.47**	**332**	*i* PKP	**PKPab**	**09 08 11.3**	**+0.2**
	11nm,0.9s						
RETA	**Reutte**	**145.51**	**333**	*i* PKP	**PKPdf**	**09 08 09.7**	**-1.2**
	4.9nm,0.9s						
SQTA	**Sankt Quirin**	**145.52**	**332**	*i* PKP	**PKPab**	**09 08 11.2**	**-0.1**
	8.7nm,0.8s						
FETA	**Feichten**	**145.88**	**332**	*i* PKP	**PKPab**	**09 08 12.2**	**-0.5**
	7.7nm,0.9s						
DAVA	**Damuels**	**146.05**	**333**	*e*PKP	**PKPab**	**09 08 13.4**	**0.0**
	6.1nm,0.9s						

IDC ***12*** *08:48:38.9±0.5, 52˚.43S×13˚.19E, h0km, mb4.6/18, mbtmp4.6/18, MS4.2/41, Error ellipse: s-maj=18.1km s-min=14.5km az=65.0*

NEIC ***12*** *08:48:40.2±1.2, 52˚.6S±0˚.1×13˚.2E±0˚.2, h10km±1km, mb5.0/43, Error ellipse: s-maj=20.1km s-min=14.6km az=136.0*

GCMT ***12*** *08:48:42.2±0.3, 52˚.46S±0˚.02×13˚.40E±0˚.05, h18km±1km, MW5.0/101, Moment Tensor Solution. s20,c22; s101,c127; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.75±.23; Mθθ 3.53±.17; Mϕϕ 0.21±.13; Mrθ 1.57±.38; Mθϕ 0.05±.10; Mϕr 1.03±.43; Best double couple: Mo4.08400×10^16 NP1:ϕs100.00000°, δ34.00000°, λ-70.00000°. NP2:ϕs256.00000°, δ58.00000°, λ-103.00000°. Principal axes: T 3.8730, Plg12.0000°, Azm356.0000°; N 0.4170, Plg11.0000°, Azm263.0000°; P -4.2960, Plg73.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 08:48:40.2±0.3, 52˚.51S±0˚.07×13˚.20E±0˚.09, h10km, n130, σ1.24/82, mb4.9/35, MS4.2/43, 5C-3D, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TROLL	**Troll, Antarti**	**20.12**	**190**	⇑P	**P**	**08 53 15.1**	**+1.1**
	comp=Z,2μm,0.8s						
SNAA	**Sanae**	**20.50**	**194**	⇑P	**P**	**08 53 19.0**	**+1.0**
	comp=Z,915nm,0.9s						
SNAA	**Sanae**	**20.50**	**194**		**P**	**08 53 17.9**	**-0.1**
SNAA				IAmb	IAmb	08 53 24.2	
	comp=Z,56nm,1.0s						
SNAA	**Sanae**	**20.50**	**194**	P	Pn	08 53 19.8	-0.4
	comp=Z,39nm,0.9s,baz=20,slow=9.9,SNR=45						
SNAA				LR	LR	09 00 10.0	
	comp=Z,534nm,18.1s,baz=176,slow=34						
	comp=Z,39nm,0.9s						
VNA1	**Neumayer--Stat**	**20.64**	**200**	⇑P	Pn	08 53 21.5	-0.2
	comp=Z,44nm,0.9s						
SYO	**Syowa Base**	**20.68**	**153**	⇓*e*Pn	**P**	**08 53 18.6**	**-1.2**
SYO	**Syowa Base**	**20.68**	**153**	⇑*es*P	Pn	08 53 21.4	-0.8
SYO	**Syowa Base**	**20.68**	**153**	⇑*e*P	Pn	08 53 22.0	-0.2
SUR	**Sutherland**	**20.87**	**18**	P	**P**	**08 53 21.3**	**-1.1**
SUR				IAmb	IAmb	08 53 29.2	
	comp=Z,53nm,0.8s						
VNA3	**Neumayer Olymp**	**21.39**	**200**	⇓P	**P**	**08 53 27.0**	**-0.6**
	comp=Z,57nm,0.8s						
GRHM	**Grahamstown, E**	**21.45**	**31**	P	**P**	**08 53 27.1**	**-1.4**
GRHM				IAmb	IAmb	08 53 35.7	
	comp=Z,52nm,1.1s						
H04S2	**CROZET ISLANDS**	**25.44**	**93**	T	T	09 20 46.9	
	baz=243,slow=76,SNR=36						
H04S3	**CROZET ISLANDS**	**25.45**	**93**	T	T	09 20 48.3	
	baz=243,slow=76,SNR=41						
H04S1	**CROZET ISLANDS**	**25.46**	**93**	T	T	09 20 47.8	
	baz=243,slow=76,SNR=42						
BOSA	**Boshof**	**25.50**	**25**	P	**P**	**08 54 08.6**	**-0.2**
BOSA				IAmb	IAmb	08 54 16.9	
	comp=Z,31nm,1.1s						
BOSA	**Boshof**	**25.50**	**25**	P	**P**	**08 54 08.9**	**+0.2**
	comp=Z,7.1nm,0.9s,baz=197,slow=10,SNR=8.1						
BOSA				LR	LR	09 02 13.2	
	comp=Z,852nm,21.7s,baz=208,slow=32						
	comp=Z,7.1nm,0.9s						
MAW	**Mawson**	**28.04**	**142**	P	**P**	**08 54 31.9**	**+0.8**
	comp=Z,5.2nm,0.8s,baz=295,slow=12,SNR=14						
MAW				LR	LR	09 03 22.0	
	comp=Z,571nm,21.3s,baz=292,slow=31						
	comp=Z,5.2nm,0.8s						
LBTB	**Lobatse**	**29.02**	**24**		**P**	**08 54 41.1**	**+0.8**
LBTB	**Lobatse**	**29.02**	**24**	LR	LR	09 04 29.1	
	comp=Z,533nm,20.2s,baz=194,slow=33						
WIN	**Windhoek**	**30.05**	**7**	P	**P**	**08 54 49.6**	**+0.1**
KDWAN	**Kaudwane**	**30.38**	**21**	P	**P**	**08 54 52.1**	**-0.3**
KDWAN				IAmb	IAmb	08 55 40.2	
	comp=Z,13nm,0.9s						
KGCAE	**Kacgae**	**30.41**	**17**		**P**	**08 54 53.2**	**+0.6**
KGCAE				IAmb	IAmb	08 55 00.3	
	comp=Z,53nm,1.5s						
BELA	**Belgrano 2**	**30.64**	**198**		**P**	**08 54 53.5**	**-0.7**
BELA				IAmb	IAmb	08 54 56.0	
	comp=Z,14nm,0.8s						
MREMI	**Moremi**	**31.83**	**26**	P	**P**	**08 55 05.0**	**-0.2**
MREMI				IAmb	IAmb	08 55 12.3	
	comp=Z,32nm,1.6s						
TSUM	**Tsumeb**	**33.42**	**8**		**P**	**08 55 19.4**	**+0.3**
TSUM	**Tsumeb**	**33.42**	**8**	LR	LR	09 07 17.6	
	comp=Z,908nm,18.8s,baz=154,slow=34						
PHDHD	**Phuduhudu**	**33.44**	**20**	P	**P**	**08 55 18.4**	**-0.8**
PHDHD				IAmb	IAmb	08 55 26.4	
	comp=Z,19nm,0.9s						
QNGWA	**Qangwa**	**33.50**	**14**	P	**P**	**08 55 19.6**	**-0.2**
QNGWA				IAmb	IAmb	08 55 27.6	
	comp=Z,17nm,1.1s						
MATP	**Matopo**	**34.16**	**26**	LR	LR	09 08 08.4	
	comp=Z,736nm,18.1s,baz=211,slow=34						
XAUDM	**Khaudum**	**34.50**	**14**	P	**P**	**08 55 28.5**	**+0.1**
XAUDM				IAmb	IAmb	08 55 36.3	
	comp=Z,48nm,1.5s						
QSPA	**South Pole Qui**	**37.72**	**180**	P	**P**	**08 55 58.2**	**+2.4**
	comp=Z,13nm,0.9s,baz=65,slow=1.0,SNR=65						
QSPA				LR	LR	09 10 20.1	
	comp=Z,640nm,21.4s,baz=221,slow=34						
	comp=Z,13nm,0.9s						
LSZ	**Lusaka**	**39.01**	**23**	P	**P**	**08 56 05.7**	**-1.3**
LSZ	**Lusaka**	**39.01**	**23**	LR	LR	09 10 19.0	
	comp=Z,610nm,21.4s,baz=178,slow=33						
PMSA	**Palmer Station**	**39.38**	**221**	LR	LR	09 08 50.8	
	comp=Z,310nm,18.2s,baz=91,slow=31						
SMAI	**San Martin Ant**	**39.43**	**216**	P	**P**	**08 56 09.7**	**-0.1**
ABPO	**Ambohimpanom**	**42.65**	**51**	P	**P**	**08 56 38.7**	**+1.7**
CASY	**Casey**	**46.19**	**146**		**P**	**08 57 01.7**	**-2.9**
CASY				IAmb	IAmb	08 57 19.6	
	comp=Z,14nm,0.7s						
VNDA	**Vanda**	**48.78**	**171**		**P**	**08 57 24.6**	**+0.1**
VNDA				IAmb	IAmb	08 57 34.0	
	comp=Z,26nm,1.7s						
VNDA	**Vanda**	**48.78**	**171**	P	**P**	**08 57 25.6**	**+1.0**
	comp=Z,5.0nm,0.8s,baz=222,slow=7.1,SNR=24						
VNDA				LR	LR	09 16 42.2	
	comp=Z,730nm,21.3s,baz=192,slow=34						
	comp=Z,5.0nm,0.8s						
H10S2	**ASCENSION HYDR**	**48.98**	**322**	T	T	09 50 07.9	
	baz=157,slow=74,SNR=6.1						
H10S3	**ASCENSION HYDR**	**48.99**	**322**	T	T	09 50 08.9	
	baz=63,slow=74,SNR=9.3						
TRQA	**Tornquist**	**52.46**	**254**	P	**P**	**08 57 52.1**	**-0.8**
TRQA				IAmb	IAmb	08 57 54.0	
	comp=Z,19nm,1.1s						
KIBK	**Kibwezi**	**54.11**	**31**	P	**P**	**08 58 06.5**	**+1.2**
KIBK				IAmb	IAmb	08 58 15.5	
	comp=Z,34nm,1.4s						
KMBO	**Kilima Mbogo**	**55.01**	**30**	LR	LR	09 20 28.0	
	comp=Z,303nm,18.7s,baz=101,slow=35						
PLCA	**Paso Flores**	**55.59**	**246**	P	**P**	**08 58 15.1**	**-0.7**
PLCA	**Paso Flores**	**55.59**	**246**	P	**P**	**08 58 14.6**	**-1.2**
	comp=Z,5.2nm,0.9s,baz=143,slow=7.4,SNR=9.5						
PLCA				LR	LR	09 18 14.9	
	comp=Z,110nm,21.4s,baz=116,slow=32						
	comp=Z,5.2nm,0.9s						
LR03	**Panguipulli**	**57.35**	**246**	P	**P**	**08 58 27.8**	**-0.5**
CPUP	**Villa Florida**	**57.86**	**268**		**P**	**08 58 31.6**	**-0.3**
CPUP	**Villa Florida**	**57.86**	**268**	P	**P**	**08 58 31.7**	**-0.3**
	comp=Z,3.2nm,1.0s,baz=347,slow=6.1,SNR=15						
CPUP				LR	LR	09 21 09.0	
	comp=Z,12nm,18.2s,baz=16,slow=34						
	comp=Z,3.2nm,1.0s						
LODK	**Lodwar**	**58.80**	**26**	P	**P**	**08 58 39.2**	**+0.6**
LODK				IAmb	IAmb	08 58 49.7	
	comp=Z,20nm,1.6s						
BI02	**San Fabin de**	**58.81**	**249**		**P**	**08 58 37.8**	**-0.8**
BI02				IAmb	IAmb	08 58 39.6	
	comp=Z,16nm,0.9s						
BDFB	**Brasilia**	**60.29**	**284**	P	**P**	**08 58 49.0**	**-0.1**
BDFB				IAmb	IAmb	08 58 57.5	
	comp=Z,24nm,1.2s						
BDFB	**Brasilia**	**60.29**	**284**	P	**P**	**08 58 49.5**	**+0.4**
	comp=Z,6.7nm,0.9s,baz=112,slow=3.4,SNR=8.6						
	comp=Z,6.7nm,0.9s						
MT01	**Popeta**	**60.78**	**252**	P	**P**	**08 58 53.0**	**+0.9**
DBIC	**Dimbokro**	**60.93**	**339**	LR	LR	09 20 35.4	
	comp=Z,211nm,19.4s,baz=185,slow=32						
VA03	**San Esteban**	**61.16**	**253**	P	**P**	**08 58 54.5**	**-0.3**
AQDB	**Aquidauana**	**61.21**	**274**		**P**	**08 58 55.4**	**+0.2**
AQDB				IAmb	IAmb	08 59 03.7	
	comp=Z,21nm,1.1s						
CO01	**Juntas del Tor**	**62.91**	**255**		**P**	**08 59 07.4**	**+0.6**
AC02	**Maricunga**	**64.64**	**259**		**P**	**08 59 18.7**	**+0.2**
FURI	**Furi**	**64.94**	**28**	LR	LR	09 25 32.7	
	comp=Z,400nm,21.5s,baz=191,slow=34						
AC06	**Mina Casimiro**	**64.98**	**257**	P	**P**	**08 59 20.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**66.14**	**348**		**P**	**08 59 26.1**	**-1.5**
TORD				IAmb	IAmb	08 59 34.3	
	comp=Z,6.3nm,1.1s						
TORD	**Torodi Ar. Bea**	**66.14**	**348**	P	**P**	**08 59 26.2**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=179,slow=5.7,SNR=8.8						
TORD				LR	LR	09 24 10.9	
	comp=Z,124nm,20.3s,baz=142,slow=32						
	comp=Z,1.6nm,0.8s						
PTLB	**Pontes e Lacer**	**67.15**	**274**	P	**P**	**08 59 33.8**	**-0.4**
PTLB				IAmb	IAmb	08 59 42.7	
	comp=Z,22nm,1.2s						
SIV	**San Ignacio**	**67.91**	**272**	LR	LR	09 25 02.8	
	comp=Z,193nm,21.3s,baz=113,slow=32						
ATD	**Arta Tunnel**	**68.69**	**31**	LR	LR	09 29 46.1	
	comp=Z,4.7nm,18.0s,baz=204,slow=36						
H01W2	**Cape Leeuwin H**	**69.18**	**120**	T	T	10 16 03.9	
	baz=220,slow=75,SNR=27						
H01W3	**Cape Leeuwin H**	**69.19**	**120**	T	T	10 16 04.9	
	baz=220,slow=75,SNR=21						
H01W1	**Cape Leeuwin H**	**69.19**	**120**	T	T	10 16 05.0	
	baz=220,slow=75,SNR=28						
VILB	**Vilhena**	**69.72**	**275**	P	**P**	**08 59 49.8**	**-0.6**
VILB				IAmb	IAmb	08 59 59.3	
	comp=Z,24nm,1.1s						
PB16	**IPOC Station P**	**71.26**	**264**	P	**P**	**09 00 00.9**	**+0.4**
LPAZ	**La Paz**	**71.99**	**267**	P	**P**	**09 00 04.7**	**-0.1**
LPAZ	**La Paz**	**71.99**	**267**	P	**P**	**09 00 05.4**	**+0.5**
	comp=Z,27nm,0.9s,baz=120,slow=5.3,SNR=101						
LPAZ				LR	LR	09 29 10.0	
	comp=Z,77nm,20.1s,baz=88,slow=34						
	comp=Z,27nm,0.9s						
NWAO	**Narrogin (SRO)**	**72.33**	**121**	P	**P**	**09 00 05.3**	**-0.7**
	comp=Z,5.8nm,0.8s,baz=71,slow=13,SNR=1.6						
	comp=Z,5.8nm,0.8s						
MACA	**Manacapuru-AM**	**77.71**	**281**	P	**P**	**09 00 36.7**	**-0.6**
MACA				IAmb	IAmb	09 00 46.3	
	comp=Z,26nm,1.4s						
FORT	**Forrest**	**79.52**	**127**	P	**P**	**09 00 46.5**	**-0.5**
MDP	**Montagnes des**	**79.67**	**293**	LR	LR	09 31 12.5	
	comp=Z,78nm,21.2s,baz=160,slow=32						
EIL	**Elat**	**84.02**	**19**	LR	LR	09 38 12.2	
	comp=Z,339nm,19.0s,baz=166,slow=35						
STKA	**Stephens Creek**	**84.66**	**138**	P	**P**	**09 01 13.4**	**-0.6**
STKA	**Stephens Creek**	**84.66**	**138**	P	**P**	**09 01 14.5**	**+0.5**
	comp=Z,7.2nm,0.8s,baz=150,slow=4.6,SNR=5.7						
	comp=Z,7.2nm,0.8s						
ATAH	**Atahualpa**	**85.36**	**264**	LR	LR	09 37 50.0	
	comp=Z,59nm,20.2s,baz=118,slow=35						
RPN	**Rapa Nui**	**86.21**	**229**	LR	LR	09 31 14.6	
	comp=Z,41nm,20.4s,baz=106,slow=30						
MDT	**Midelt**	**86.38**	**345**	LR	LR	09 36 28.3	
	comp=Z,142nm,18.9s,baz=176,slow=33						
ASF	**Jabal al Asfar**	**86.84**	**20**	LR	LR	09 40 46.7	
	comp=Z,150nm,18.2s,baz=226,slow=36						
MMAI	**Mount Meron Ar**	**87.35**	**19**	LR	LR	09 40 33.6	
	comp=Z,144nm,18.0s,baz=194,slow=36						
KEST	**Kesra**	**87.94**	**357**	P	**P**	**09 01 29.4**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=50,slow=15,SNR=1.9						
KEST				LR	LR	09 39 32.5	
	comp=Z,122nm,19.1s,baz=254,slow=35						
	comp=Z,2.7nm,0.8s						
IDI	**Anoyia**	**88.03**	**10**	LR	LR	09 41 33.2	
	comp=Z,123nm,20.6s,baz=247,slow=36						
ASAR	**Alice Springs**	**88.29**	**128**	P	**P**	**09 01 31.2**	**-0.8**
ASAR	**Alice Springs**	**88.29**	**128**	P	**P**	**09 01 31.9**	**-0.1**
	comp=Z,7.2nm,0.8s,baz=205,slow=5.2,SNR=56						
ASAR				LR	LR	09 33 40.0	
	comp=Z,123nm,21.1s,baz=172,slow=31						
	comp=Z,7.2nm,0.8s						
AS31	**Alice Springs**	**88.30**	**128**	P	**P**	**09 01 30.9**	**-1.1**
URZ	**Urewera**	**88.52**	**167**	LR	LR	09 41 15.6	
	comp=Z,221nm,18.2s,baz=186,slow=36						
FITZ	**Fitzroy Crossi**	**88.71**	**118**	LR	LR	09 37 32.4	
	comp=Z,47nm,19.4s,baz=206,slow=33						
HYB	**Hyderabad**	**89.55**	**60**	*e*P	**P**	**09 01 37.9**	**+0.2**
VAE	**Valguarnera**	**89.62**	**1**	LR	LR	09 41 52.6	
	comp=Z,193nm,18.1s,baz=138,slow=36						
PCRV	**Puerto La Cruz**	**90.69**	**286**	LR	LR	09 38 35.1	
	comp=Z,44nm,20.1s,slow=33						
WRA	**Warramunga Arr**	**91.66**	**126**	P	**P**	**09 01 47.0**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=206,slow=3.7,SNR=9.7						
WRA				LR	LR	09 35 27.0	
	comp=Z,65nm,19.4s,baz=206,slow=31						
	comp=Z,1.6nm,0.8s						
ROSC	**El Rosal**	**92.29**	**275**	P	**P**	**09 01 51.8**	**+0.7**
	comp=Z,5.5nm,0.4s,baz=117,slow=20,SNR=4.0						
ROSC				LR	LR	09 39 28.5	
	comp=Z,54nm,20.3s,baz=79,slow=33						
	comp=Z,5.5nm,0.4s						
ESDC	**Sonseca Array**	**93.02**	**347**	P	**P**	**09 01 54.8**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=171,slow=4.4,SNR=10						
ESDC				LR	LR	09 41 27.5	
	comp=Z,74nm,19.2s,baz=162,slow=34						
	comp=Z,1.8nm,0.8s						
SDV	**Santo Domingo**	**93.24**	**280**	LR	LR	09 40 39.8	
	comp=Z,47nm,21.2s,baz=70,slow=34						
BRTR	**Keskin Array B**	**93.56**	**16**	P	**P**	**09 01 56.0**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=132,slow=4.1,SNR=1.7						
	comp=Z,0.4nm,0.7s						
KAPI	**Kappang**	**96.01**	**106**	LR	LR	09 40 13.6	
	comp=Z,24nm,18.4s,baz=316,slow=32						
GNI	**Garni**	**96.26**	**24**	LR	LR	09 46 09.3	
	comp=Z,211nm,19.5s,baz=206,slow=36						
RAO	**Raoul Island**	**98.01**	**170**	LR	LR	09 46 53.5	
	comp=Z,95nm,18.2s,baz=165,slow=36						
MLR	**Muntele Rosu**	**98.24**	**9**	LR	LR	09 48 34.4	
	comp=Z,144nm,20.6s,baz=186,slow=37						
DAVOX	**Davos/Dischmat**	**98.95**	**358**	LR	LR	09 44 11.4	
	comp=Z,39nm,21.8s,baz=216,slow=34						
KBZ	**Khabaz**	**99.23**	**21**	LR	LR	09 48 05.6	
	comp=Z,43nm,18.7s,baz=188,slow=36						
DZM	**Mont Dzumac**	**102.15**	**155**	*e*LR	LR	09 36 03.4	
	comp=Z,159nm,22.4s						
TBI	**Tubuai**	**102.96**	**196**	*e*LR	LR	09 36 20.3	
	comp=Z,1μm,31.2s						
TBI				*e*LR	LR	09 36 23.6	
	comp=Z,1μm,26.5s						
PPT2	**Papeete2**	**108.61**	**197**	*e*LR	LR	09 38 49.3	
	comp=Z,140nm,21.8s						
PPT2				*e*LR	LR	09 38 50.9	
	comp=Z,151nm,32.5s						
TAOE	**Nuku Hiva Isla**	**114.76**	**209**	*e*LR	LR	09 41 41.6	
	comp=Z,82nm,26.3s						
MKAR	**Makanchi Array**	**115.17**	**45**	PKP	**PKiKP**	**09 07 21.5**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=208,slow=2.8,SNR=3.8						
WMQ	**Urumqi**	**115.33**	**51**	*e*PKP	**PKiKP**	**09 07 22.0**	**+0.7**
BVAR	**Borovoye Array**	**115.52**	**34**	PKP	**PKiKP**	**09 07 21.3**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=203,slow=3.0,SNR=6.2						
KURBB	**Kurchatov Arra**	**116.60**	**40**	PKP	**PKiKP**	**09 07 24.2**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=227,slow=2.5,SNR=4.2						
GTA	**Gaotai**	**118.20**	**61**	*e*PKP	**PKiKP**	**09 07 27.1**	**0.0**
ZALV	**Zalesovo Beam**	**121.64**	**41**	PKP	**PKPdf**	**09 07 32.2**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=222,slow=1.9,SNR=3.7						
NJ2	**Nanjing**	**123.92**	**80**	*e*P	**PKiKP**	**09 07 38.7**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HNS

IDC ***12*** *08:54:17.3±1.0,5°.91N×125°.79E, h176km±13km, mb3.3/4, mbtmp4.0/5, Error ellipse: s-maj=72.8km s-min=15.6km az=64.0*

ISC 12 08:54:15.4±1.2,5°.6N±0°.1×125°.4E±0°.3, h150km, n6, σ1♀66/7, mb3.8/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.50**	**8**	P	**Pn**	**08 54 45.8**	**+0.9**
	158nm,0.4s,baz=156,slow=8.8,SNR=1.4						
DAV				S	**Sn**	**08 55 08.4**	**+0.8**
	337nm,0.4s,baz=167,slow=19,SNR=2.9						
JAY	**Jayapura**	**17.30**	**117**	P	**P**	**08 58 05.3**	**-1.8**
	9.9nm,0.8s,baz=4.7,slow=19,SNR=1.0						
WRA	**Warramunga Arr**	**26.85**	**161**	P	**P**	**08 59 43.0**	**+0.9**
	0.3nm,0.4s,baz=342,slow=8.7,SNR=9.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**30.24**	**164**	P	**P**	**09 00 13.8**	**+1.6**
	0.9nm,0.4s,baz=341,slow=8.6,SNR=33						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**55.27**	**325**	P	**P**	**09 03 32.3**	**-0.9**
	0.4nm,0.3s,baz=119,slow=7.5,SNR=7.3						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**59.46**	**327**	P	**P**	**09 04 00.9**	**-1.5**
	0.7nm,0.5s,baz=121,slow=7.1,SNR=2.7						
	0.7nm,0.5s						

ASRS ***12*** *09:05:02.0±1.2,53°.58N×87°.88E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 12 09:05:03.3±3.9,53°.59N×87°.93E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=39.0km s-min=18.8km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**282**	I	I	09 17 35.0	
	baz=100,slow=336,SNR=12						
ZALV	**Zalesovo Beam**	**1.88**	**282**	Pg	Pn	09 05 37.4	+0.7
	1.1nm,0.3s,baz=98,slow=15,SNR=9.6						
ZALV				Lg	Lg	09 06 02.5	
	2.9nm,0.3s,baz=112,slow=24,SNR=12						
KURBB	**Kurchatov Arra**	**6.51**	**247**	Pn	Pn	09 06 41.3	+1.0
	0.1nm,0.3s,baz=64,slow=14,SNR=5.9						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**7.71**	**210**	Pn	Pn	09 06 57.4	+0.7
	0.1nm,0.3s,baz=25,slow=13,SNR=2.1						
	0.1nm,0.3s						

BGR ***12*** *09:21:56.8, 36°.28N×73°.32E, h270km, mb4.9*

GCMT ***12*** *09:22:30.7±0.3, 36°.56N±0°.02×70°.46E±0°.03, h259km±3km, MW5.0/100, Moment Tensor Solution. s35,c35; s100,c131; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.74±.13; Mθθ -4.02±.13; Mφφ 1.27±.13; Mrθ 0.34±.13; Mθφ -0.24±.15; Mφr 2.17±.13; Best double couple: Mo 4.18100×10^16 NP1: φ297.00000°, δ51.00000°, λ138.00000°. NP2: φ57.00000°, δ58.00000°, λ47.00000°. Principal axes: T 4.2980, Plg54.0000°, Azm272.0000°; N -0.2460, Plg35.0000°, Azm83.0000°; P -4.0630, Plg4.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***12*** *09:22:31.0±1.0, 36°.64N×70°.70E, h264km, mb4.9/48 Error ellipse: s-maj=4.9km s-min=3.5km az=89.3*

BJI ***12*** *09:22:31.9, 36°.69N×70°.79E, h262km, mB4.6/20, mb4.6/55*

NEIC ***12*** *09:22:32.7±1.5, 36°.67N±0°.06×70°.69E±0°.09, h261km±5km, mb4.9/291, Error ellipse: s-maj=9.9km s-min=9.3km az=88.0*

IDC ***12*** *09:22:32.6±0.3, 36°.59N×70°.71E, h269km±2km, mb4.4/36, mbtmp5.1/42, Error ellipse: s-maj=7.2km s-min=5.6km az=7.0*

NNC ***12*** *09:22:36.3±2.5, 36°.95N×71°.02E, h278km±18km, mb4.3, mpv5.5, Error ellipse: s-maj=22.8km s-min=13.6km az=22.0*

ISC 12 09:22:32.1±0.2, 36°.64N±0°.03×70°.72E±0°.03, h264km±2km, h264km: pP-P, n946, σ1♀30/971, mb4.9/280, 41C-45D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHGR	**Chuyangaron**	**2.36**	**329**		**Pn**	**09 23 18.7**	**-0.4**
CHGR	**Chuyangaron**	**2.36**	**329**	PN	**Pn**	**09 23 18.7**	**-0.4**
GAR	**Garm**	**2.38**	**352**		**Pn**	**09 23 19.2**	**0.0**
SIMJ	**Simiganj**	**2.43**	**327**		**Pn**	**09 23 19.3**	**-0.5**
KBL	**Kabul**	**2.50**	**214**		**Pn**	**09 23 20.2**	**-0.5**
KBL	**Kabul**	**2.50**	**214**	P	**Pn**	**09 23 20.2**	**-0.5**
	SNR=560						
KBL				S	**S**	**09 23 56.2**	**-2.9**
KBL	**Kabul**	**2.50**	**214**	PN	**Pn**	**09 23 20.2**	**-0.5**
NIL	**Nilore**	**3.63**	**144**		**Pn**	**09 23 33.3**	**+0.8**
NIL	**Nilore**	**3.63**	**144**	P	**Pn**	**09 23 33.4**	**+0.8**
NIL	**Nilore**	**3.63**	**144**	PN	**Pn**	**09 23 33.3**	**+0.8**
ARSB	**Arslanbob**	**5.00**	**20**		**Pn**	**09 23 47.9**	**-0.5**
ARSB	**Arslanbob**	**5.00**	**20**	PN	**Pn**	**09 23 47.9**	**-0.5**
KSH	**Kashi**	**5.04**	**54**	P	**Pn**	**09 23 44.3**	**-4.7**
KSH				S	S	09 24 38.3	-12
KSH				smax	smax		
	comp=N,6μm,0.5s						
KSH				smax	smax		
	comp=E,4μm,0.4s						
IUG	**Iuzhnay**	**5.53**	**355**	⇓*i* P	**Pn**	**09 23 54.7**	**0.0**
IUG	**Iuzhnay**	**5.53**	**355** *d*	*i* PN	**Pn**	**09 23 54.7**	**0.0**
CHM	**Chimkent**	**5.74**	**352**	*e*P	**Pn**	**09 23 57.4**	**+0.1**
CHM	**Chimkent**	**5.74**	**352**	*e*PN	**Pn**	**09 23 57.3**	**+0.1**
DZA	**Taraz**	**6.26**	**4**	*e*P	**Pn**	**09 24 03.5**	**-0.2**
DZA	**Taraz**	**6.26**	**4**	*e*PN	**Pn**	**09 24 03.5**	**-0.2**
UCH	**Uchtor**	**6.31**	**27**	P	**Pn**	**09 24 04.6**	**-0.1**
	SNR=601						
NRN	**Naryn**	**6.31**	**39**		**Pn**	**09 24 03.4**	**-1.2**
NRN	**Naryn**	**6.31**	**39**	PN	**Pn**	**09 24 03.4**	**-1.2**
DHRM	**DHARAMSHALA**	**6.36**	**132**	*e*P	**Pn**	**09 24 00.9**	**-4.4**
DHRM				*e*S	S	09 25 09.5	-10
DHRM				IAML		09 25 13.6	
	comp=N,2μm,0.7s						
BRLS	**Borolday**	**6.42**	**354**	⇓*i* P	**Pn**	**09 24 02.0**	**-3.7**
BRLS	**Borolday**	**6.42**	**354** *d*	*i* PN	**Pn**	**09 24 01.9**	**-3.7**
KK31	**Karatay Array**	**6.46**	**359**		**Pn**	**09 24 05.7**	**-0.4**
KK31	**Karatay Array**	**6.46**	**359**	⇓P	**Pn**	**09 24 05.7**	**-0.4**
	comp=N,215nm,0.3s,baz=187,slow=11,SNR=2858						
KK31				⇑S	**S**	**09 25 21.5**	**-0.1**
	comp=N,84nm,0.3s,baz=190,slow=20,SNR=7.8						
KK31	**Karatay Array**	**6.46**	**359**	PN	**Pn**	**09 24 05.7**	**-0.4**
KKAR	**Karatay Array**	**6.46**	**359**		**Pn**	**09 24 05.7**	**-0.4**
KKAR	**Karatay Array**	**6.46**	**359**	PN	**Pn**	**09 24 05.7**	**-0.4**
EKS2	**Erkin-Say**	**6.46**	**20**	P	**Pn**	**09 24 06.4**	**+0.1**
	SNR=335						
AAK	**Ala-Archa**	**6.66**	**25**	P	**Pn**	**09 24 09.0**	**+0.2**
	SNR=206						
AAK	**Ala-Archa**	**6.66**	**25**		**Pn**	**09 24 08.9**	**+0.2**
AAK	**Ala-Archa**	**6.66**	**25**	⇑P	**Pn**	**09 24 08.8**	**0.0**
	comp=N,107nm,0.5s						
AAK				⇑S	**S**	**09 25 21.8**	**-4.6**
	comp=N,225nm,0.5s						
AAK	**Ala-Archa**	**6.66**	**25**	P	**Pn**	**09 24 09.3**	**+0.5**
	comp=N,269nm,0.3s,baz=191,slow=6.0,SNR=221						
AAK				S	**S**	**09 25 22.1**	**-4.3**
	comp=N,285nm,0.6s,baz=223,slow=20,SNR=6.1						
AAK	**Ala-Archa**	**6.66**	**25**	P	**Pn**	**09 24 08.9**	**+0.2**
AAK				S	**S**	**09 25 26.5**	**+0.1**
AAK	**Ala-Archa**	**6.66**	**25**	P	**Pn**	**09 24 09.0**	**+0.2**
AAK	**Ala-Archa**	**6.66**	**25** *d*	*i* PN	**Pn**	**09 24 08.8**	**0.0**
AAK				pmax	pmax		
	comp=Z,1μm,0.5s						
KBK	**Karagaybulak**	**6.84**	**27**	P	**Pn**	**09 24 11.5**	**+0.5**
	SNR=65						
FRU1	**Bishkek**	**6.86**	**25**		**Pn**	**09 24 11.4**	**+0.2**
FRU1	**Bishkek**	**6.86**	**25**	PN	**Pn**	**09 24 11.4**	**+0.2**
BHK	**Bhakra**	**7.04**	**136**	*e*P	**Pn**	**09 24 13.2**	**-0.3**
BHK				*e*S	**S**	**09 25 31.1**	**-3.9**
BHK				IAML		09 25 33.1	
	comp=E,1μm,0.3s						
ULHL	**Ulahol**	**7.04**	**36**	P	**Pn**	**09 24 13.7**	**0.0**
	SNR=103						
CHMS	**Chumysh**	**7.07**	**25**	P	**Pn**	**09 24 13.5**	**-0.3**
	SNR=26						
USP	**Ospenovka**	**7.23**	**23**	P	**Pn**	**09 24 16.6**	**+0.8**
	SNR=149						
TKM2	**Tokmak 2**	**7.31**	**29**	P	**Pn**	**09 24 17.0**	**0.0**
	SNR=312						
KDJ	**Kajisay**	**7.42**	**40**		**Pn**	**09 24 18.3**	**0.0**
KDJ	**Kajisay**	**7.42**	**40**	PN	**Pn**	**09 24 18.3**	**-0.0**
SGDS	**Sogindy**	**7.44**	**23**	*e*P	**Pn**	**09 24 17.8**	**-0.6**
TARG	**Taragay, Kyrgy**	**7.49**	**45**		**Pn**	**09 24 18.8**	**-0.6**
TARG	**Taragay, Kyrgy**	**7.49**	**45**	PN	**Pn**	**09 24 18.8**	**-0.6**
SMLA	**Simla**	**7.68**	**134**	*e*P	**Pn**	**09 24 17.7**	**-3.8**
SMLA				*e*S	S	09 25 38.5	-11
SMLA				IAML		09 25 43.3	
	comp=E,283nm,0.5s						
SMLA				IAML		09 25 46.0	
	comp=N,968nm,0.2s						
HNLY	**HANLEY**	**7.81**	**117**	*e*P	**Pn**	**09 24 19.4**	**-4.2**
HNLY				*e*S	S	09 25 41.7	-12
HNLY				IAML		09 25 58.0	
	comp=N,273nm,0.8s						
TNSS	**Tian-Shan**	**7.99**	**35**	*e*P	**Pn**	**09 24 24.9**	**-0.6**
TNSS	**Tian-Shan**	**7.99**	**35**	*e*PN	**Pn**	**09 24 24.9**	**-0.6**
AAA	**Alma-Ata**	**8.11**	**34**	*e*P	**Pn**	**09 24 26.8**	**0.0**
AAA	**Alma-Ata**	**8.11**	**34**	*e*PN	**Pn**	**09 24 26.7**	**0.0**
MDOK	**Medeo**	**8.13**	**35**	*e*P	**Pn**	**09 24 27.2**	**+0.1**
MDOK	**Medeo**	**8.13**	**35**	*e*PN	**Pn**	**09 24 27.2**	**+0.1**
KNDC	**Almaty**	**8.13**	**34**	⇑P	**Pn**	**09 24 27.1**	**0.0**
	comp=N,399nm,0.7s						
CHKK	**Chushkaly**	**8.65**	**32**	*e*P	**Pn**	**09 24 32.9**	**-0.7**
CHKK	**Chushkaly**	**8.65**	**32**	*e*PN	**Pn**	**09 24 32.8**	**-0.7**
SATY	**Saty**	**8.72**	**40**	*e*P	**Pn**	**09 24 34.1**	**-0.4**
SATY				*e*S	**S**	**09 26 13.8**	**+0.3**
SATY	**Saty**	**8.72**	**40**	*e*PN	**Pn**	**09 24 34.1**	**-0.4**
BTLS	**Baital**	**8.76**	**16**	⇓*i* P	**Pn**	**09 24 34.9**	**-0.1**
BTLS	**Baital**	**8.76**	**16** *d*	*i* PN	**Pn**	**09 24 34.8**	**-0.1**
BKNR	**BIKANER**	**8.86**	**165**	*e*P	Pn	09 24 30.5	-5.9
BKNR				*e*S	S	09 26 01.0	-16
BKNR				IAML		09 26 11.5	
	comp=N,817nm,0.4s						
UZB	**Uzynbulak**	**9.11**	**42**	*e*P	**Pn**	**09 24 39.2**	**-0.2**
UZB	**Uzynbulak**	**9.11**	**42**	*e*P	**Pn**	**09 24 39.1**	**-0.2**
SHLS	**Shalkode**	**9.35**	**43**	⇓*i* P	**P**	**09 24 45.4**	**-3.1**
SHLS	**Shalkode**	**9.35**	**43** *d*	*i* P	**P**	**09 24 45.4**	**-3.1**
PDGK	**Podgornoye**	**9.48**	**43**	⇓P	**Pn**	**09 24 43.2**	**-0.9**
PDGK	comp=N,76nm,0.7s			⇑S	**S**	**09 26 25.4**	**-5.7**
	comp=N,76nm,0.9s						
PDGK	**Podgornoye**	**9.48**	**43**	P	**Pn**	**09 24 43.2**	**-0.9**
TDK	**Taldyqorghan**	**10.18**	**32**	*e*P	**Pn**	**09 24 52.6**	**-0.1**
TDK	**Taldyqorghan**	**10.18**	**32**	*e*P	**Pn**	**09 24 52.6**	**-0.1**
UGON	**Onchagaon**	**10.29**	**142**	*e*P	**Pn**	**09 24 51.5**	**-2.6**
UGON				IAML		09 26 35.3	
	comp=N,171nm,0.9s						
UGON				*e*S	S	09 26 37.5	-12
AJM	**Ajmer**	**10.67**	**161**	*e*P	**Pn**	**09 24 57.4**	**-1.6**
AJM				*e*S	S	09 26 47.1	-12
AJM				IAML		09 27 12.7	
	comp=N,219nm,0.8s						
AJM				IAML		09 27 13.0	
	comp=E,258nm,0.4s						
MAKZ	**Makanchi**	**13.18**	**36**	P	**Pn**	**09 25 29.2**	**-0.4**
	comp=E,236nm,0.8s						
MAKZ	**Makanchi**	**13.18**	**36**	P	**Pn**	**09 25 28.7**	**-0.9**
MK31	**Makanchi Array**	**13.31**	**37**	⇓P	**Pn**	**09 25 31.1**	**-0.3**
	comp=E,81nm,0.6s,baz=209,slow=8.7,SNR=599						
MK31	**Makanchi Array**	**13.31**	**37** *ce*	P	**Pn**	**09 25 30.8**	**-0.5**
MKAR	**Makanchi Array**	**13.31**	**37**	P	**Pn**	**09 25 30.8**	**-0.5**
MKAR	**Makanchi Array**	**13.31**	**37**	P	**Pn**	**09 25 31.1**	**-0.3**
	comp=E,96nm,0.8s,baz=223,slow=13,SNR=306						
BRZS	**Berezniki**	**13.41**	**5**	*e*P	**Pn**	**09 25 31.9**	**-0.6**
BRZS	**Berezniki**	**13.41**	**5**	*e*P	**Pn**	**09 25 31.9**	**-0.6**
WMQ	**Urumqi**	**14.81**	**56**	*e*P	**Pn**	**09 25 50.8**	**+1.4**
WMQ				S	**S**	**09 28 31.2**	**-1.1**
WMQ				pmax	pmax		
	comp=E,27nm,0.7s						
WMQ				pmax	pmax		
	comp=E,240nm,3.7s						
AB31	**Akbulak array**	**14.85**	**331**		**P**	**09 25 48.7**	**-0.6**
AB31	**Akbulak array**	**14.85**	**331**	⇓P	**P**	**09 25 48.2**	**-1.1**
	comp=E,31nm,0.6s,baz=146,slow=12,SNR=590						
AB31				⇑S	**S**	**09 28 33.3**	**+0.3**
	comp=E,60nm,0.9s						
AB31	**Akbulak array**	**14.85**	**331**	*e*P	**P**	**09 25 48.7**	**-0.6**
ABKAR	**Akbulak array**	**14.85**	**331**		**P**	**09 25 48.7**	**-0.6**
ZSN	**Zaisan**	**15.05**	**40**	*e*P	**P**	**09 25 51.5**	**0.0**
ZSN	**Zaisan**	**15.05**	**40**	*e*P	**P**	**09 25 51.5**	**0.0**
KURBB	**Kurchatov Arra**	**15.07**	**19**	⇑P	**P**	**09 25 51.3**	**-0.3**
	comp=E,145nm,0.6s						
KURBB	**Kurchatov Arra**	**15.07**	**19**	P	**P**	**09 25 51.3**	**-0.3**
	comp=E,116nm,0.7s,baz=209,slow=11,SNR=320						
KURBB				S	**S**	**09 28 36.8**	**-0.7**
	comp=E,11nm,0.9s,baz=207,slow=20,SNR=5.2						
KURK	**Kurchatov**	**15.17**	**20**		**P**	**09 25 53.0**	**+0.2**
KURK	**Kurchatov**	**15.17**	**20**	⇓P	**P**	**09 25 53.1**	**+0.2**
	comp=E,78nm,0.9s						
KURK	**Kurchatov**	**15.17**	**20**	P	**Pn**	**09 25 53.2**	**-0.4**
KURK				S	**S**	**09 28 43.2**	**+3.5**
KURK	**Kurchatov**	**15.17**	**20** *d*	*i* P	**P**	**09 25 52.6**	**-0.2**
KURK				pmax	pmax		
	comp=Z,87nm,0.9s						
EVN	**Everest**	**16.12**	**118**		**Pn**	**09 26 05.9**	**+0.2**
BANOM	**Banah**	**16.29**	**233**	P	**P**	**09 26 05.2**	**-0.1**
BANOM				S	**S**	**09 29 00.1**	**-2.4**
BANOM	**Banah**	**16.29**	**233**	*i* P	**P**	**09 26 04.4**	**-0.9**
	SNR=8.8						
SHME	**Shamm**	**16.30**	**234**	P	**P**	**09 26 05.4**	**-0.1**
SHME				S	**S**	**09 29 01.5**	**-1.2**
SHME	**Shamm**	**16.30**	**234**	*i* P	**P**	**09 26 04.2**	**-1.3**
	SNR=8.5						
BVA0	**Borovoye Array**	**16.39**	**359**	⇑P	**P**	**09 26 06.7**	**+0.6**
	comp=Z,120nm,0.8s,baz=164,slow=12,SNR=282						
BVAR	**Borovoye Array**	**16.39**	**359**	P	**P**	**09 26 06.7**	**+0.6**
	comp=Z,87nm,0.4s,baz=162,slow=11,SNR=171						
BVAR				S	**S**	**09 29 02.8**	**-1.0**
	comp=Z,36nm,0.7s,baz=170,slow=18,SNR=4.1						
AKTO	**Aktyubinsk**	**16.55**	**330**	⇑P	**Pn**	**09 26 09.0**	**-0.9**
	comp=Z,184nm,0.8s						
AKTO				⇑S	**S**	**09 29 06.7**	**-0.4**
	comp=Z,148nm,1.1s						
AKTO	**Aktyubinsk**	**16.55**	**330**	P	**Pn**	**09 26 08.8**	**-1.0**
	comp=Z,269nm,0.8s,baz=144,slow=8.0,SNR=143						
AKTO				S	**S**	**09 29 06.9**	**-0.2**
	comp=Z,34nm,0.7s,baz=14,slow=11,SNR=12						
MDH	**Madha**	**16.73**	**232**	P	**P**	**09 26 10.1**	**0.0**
MDH				S	**S**	**09 29 06.4**	**-4.8**
MASF	**Masafi**	**16.77**	**232**	P	**P**	**09 26 10.7**	**+0.1**
MASF				S	**S**	**09 29 11.0**	**-1.1**
MSFE	**Esma-Masafi**	**16.77**	**232**	*i* P	**P**	**09 26 10.9**	**+0.2**
	SNR=10						
WSAR	**Wadi Sarin**	**16.95**	**221**	P	**P**	**09 26 13.4**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=62,slow=24,SNR=29						
WSAR				S	**S**	**09 29 16.0**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=193,slow=24,SNR=2.8						
WSAR	**Wadi Sarin**	**16.95**	**221**	P	**P**	**09 26 13.3**	**+0.8**
	SNR=5.1						
WSAR				S	**S**	**09 29 15.5**	**-0.2**
UMQ	**Umm Al-Quwin**	**16.98**	**233**	P	**P**	**09 26 13.2**	**+0.4**
UMQ				S	**S**	**09 29 16.0**	**-0.2**
BIDO	**Bidbid**	**17.00**	**223**	P	**P**	**09 26 13.9**	**+0.9**
BIDO				S	**S**	**09 29 16.4**	**-0.2**
UOSS	**Minazif**	**17.04**	**231**		**P**	**09 26 12.2**	**-1.4**
UOSS	**Minazif**	**17.04**	**231**	P	**P**	**09 26 13.5**	**0.0**
UOSS				S	**S**	**09 29 17.1**	**-0.5**
UOSS	**Minazif**	**17.04**	**231**	*i* P	**P**	**09 26 12.0**	**-1.6**
	SNR=15						
HATD	**Hatta, Dubai**	**17.18**	**231**	P	**P**	**09 26 14.9**	**-0.1**
HATD				S	**S**	**09 29 17.6**	**-2.6**
HATD	**Hatta, Dubai**	**17.18**	**231**	*i* P	**P**	**09 26 13.8**	**-1.2**
	SNR=12						
ASHO	**Ashiyiah**	**17.32**	**231**	P	**P**	**09 26 16.8**	**+0.2**
	SNR=12						
ASHO				S	**S**	**09 29 22.1**	**-1.1**
ASHO	**Ashiyiah**	**17.32**	**231**	*i* P	**P**	**09 26 17.4**	**+0.7**
	SNR=69						
NAZ	**Nazwa, Dubai**	**17.35**	**232**	P	**P**	**09 26 17.0**	**0.0**
NAZ				S	**S**	**09 29 23.3**	**-0.5**
NAZ	**Nazwa, Dubai**	**17.35**	**232**	*i* P	**P**	**09 26 17.4**	**+0.5**
	SNR=10						
HOQ	**Hoqain**	**17.41**	**225**	P	**P**	**09 26 17.6**	**0.0**
HOQ				S	**S**	**09 29 23.1**	**-1.6**
SMDO	**Samad**	**17.41**	**222**	P	**P**	**09 26 18.4**	**+0.7**
SMDO				S	**S**	**09 29 24.6**	**-0.4**
SOHO	**SOHO**	**17.44**	**228**	P	**P**	**09 26 16.6**	**-1.3**
SOHO				S	**S**	**09 29 23.9**	**-1.5**
JLN	**Jalan Bani Buh**	**17.46**	**217**	P	**P**	**09 26 19.4**	**+1.3**
	SNR=7.1						
JLN				S	**S**	**09 29 25.9**	**+0.1**
JLN				S	S	09 29 26.9	+1.1
LKRN	**Lenkeran, Azer**	**17.49**	**283**	P	**P**	**09 26 18.9**	**+0.7**
FAQ	**Al Faqa, Dubai**	**17.57**	**232**	P	**P**	**09 26 19.3**	**+0.1**
FAQ				S	**S**	**09 29 27.3**	**-0.7**
FAQ	**Al Faqa, Dubai**	**17.57**	**232**	P	**P**	**09 26 19.4**	**+0.1**
ASUD	**Al Ashush, Dub**	**17.82**	**232**	P	**P**	**09 26 22.4**	**+0.3**
	SNR=6.5						
ASUD				S	**S**	**09 29 32.8**	**-0.2**
ASUD	**Al Ashush, Dub**	**17.82**	**232**	*i* P	**P**	**09 26 22.8**	**+0.7**
	SNR=12						
JMDO	**Jabal Madar**	**17.94**	**221**	P	**P**	**09 26 24.4**	**+1.1**
	SNR=5.8						
JMDO				S	**S**	**09 29 35.3**	**0.0**
ALNE	**Al Ain**	**17.97**	**230**	P	**P**	**09 26 23.8**	**+0.2**
	SNR=16						
ALNE				S	**S**	**09 29 34.3**	**-1.7**
ALNE	**Al Ain**	**17.97**	**230**	*i* P	**P**	**09 26 24.1**	**+0.4**
	SNR=37						
ARQ	**Araqi**	**18.05**	**227**	P	**P**	**09 26 25.2**	**+0.7**
ARQ				S	**S**	**09 29 37.2**	**-0.3**
AJN	**Ajban**	**18.09**	**233**	P	**P**	**09 26 24.9**	**+0.1**
	SNR=6.7						
AJN				S	**S**	**09 29 34.9**	**-3.3**
AJN	**Ajban**	**18.09**	**233**	*i* P	**P**	**09 26 24.7**	**-0.2**
	SNR=16						
LSA	**Lhasa**	**18.44**	**106**		**Pn**	**09 26 32.2**	**-0.5**
LSA	**Lhasa**	**18.44**	**106**	P	**P**	**09 26 30.3**	**+1.2**
LSA				S	**S**	**09 29 43.4**	**-2.4**
LSA				LR	LR		
	comp=Z,310nm,5.7s						
LSA	**Lhasa**	**18.44**	**106**	P	**Pn**	**09 26 31.8**	**-0.9**
LSA	**Lhasa**	**18.44**	**106**	P	**Pn**	**09 26 32.2**	**-0.5**
AKT	**Akhty**	**18.48**	**292**	⇑*i* P	**P**	**09 26 29.2**	**+0.2**
AKT				*e*S	**S**	**09 29 49.9**	**+4.2**
AKT				pmax	pmax		
	comp=Z,37nm,1.0s						
AKT				smax	smax		
	comp=N,14nm,0.7s						
AKT				smax	smax		
	comp=E,13nm,0.4s						
SEKA	**Sheki**	**18.84**	**291**	P	**P**	**09 26 33.3**	**+0.4**
MNGR	**Mingechevir, A**	**18.88**	**290**	P	**P**	**09 26 33.7**	**+0.5**
MAK	**Makhachkala**	**18.89**	**297** *c*	*i* P	**P**	**09 26 31.4**	**-1.9**
MAK				*e*S	**S**	**09 29 50.6**	**-2.9**
MAK				pmax	pmax		
	comp=Z,183nm,1.2s						
MAK				MLR	MLR		
	comp=Z,122nm,15.0s						
MHTO	**MHTO**	**19.15**	**219**	P	**P**	**09 26 37.8**	**+1.5**
JRN	**Qarnain Island**	**19.24**	**238**	P	**P**	**09 26 36.9**	**-0.3**
JRN				S	**S**	**09 29 56.7**	**-4.0**
UMZA	**Um Al Zommool**	**19.33**	**228**	P	**P**	**09 26 38.3**	**0.0**
UMZA				S	**S**	**09 29 59.9**	**-2.8**
MZWR	**Madinat Zayed**	**19.36**	**233**	P	**P**	**09 26 38.5**	**0.0**
MZWR				S	**S**	**09 30 00.7**	**-2.6**
GOMU	**GeErMu**	**19.39**	**84**	P	**P**	**09 26 40.0**	**+0.8**
GOMU				pmax	pmax		
	comp=Z,17nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,110nm,4.7s						
GANJ	**Ganja**	**19.45**	**289**	P	**P**	**09 26 39.4**	**+0.1**
GHWR	**Ruwais**	**19.88**	**236**	P	**P**	**09 26 42.5**	**-1.5**
GHWR				S	**S**	**09 30 07.4**	**-5.6**
ZAA0	**Zalesovo Array**	**19.89**	**25**	⇓P	**P**	**09 26 43.3**	**-0.5**
	comp=Z,11nm,0.6s						
ZALV	**Zalesovo Beam**	**19.89**	**25**	P	**P**	**09 26 43.8**	**+0.1**
	comp=Z,103nm,0.5s,baz=220,slow=11,SNR=468						
ZALV				S	**S**	**09 30 12.4**	**-0.2**
	comp=Z,4.5nm,0.6s,baz=208,slow=18,SNR=6.4						
SHMA	**Al-Shehemyia**	**19.98**	**243**	P	**P**	**09 26 44.7**	**-0.3**
	SNR=6.2						
SHMA				S	**S**	**09 30 11.2**	**-3.7**
NAX	**Nakhchivan**	**20.04**	**285**	P	**P**	**09 26 46.5**	**+0.8**
MZR	**Muzera**	**20.16**	**232**	P	**P**	**09 26 45.7**	**-1.3**
	SNR=5.9						
MZR				S	**S**	**09 30 13.5**	**-4.8**
MZR	**Muzera**	**20.16**	**232**	*i* P	**P**	**09 26 45.3**	**-1.7**
	SNR=33						
SAKB	**Bahrain**	**20.21**	**244**	P	**P**	**09 26 47.2**	**-0.4**
SAKB				S	**S**	**09 30 18.8**	**-0.2**
DQM	**DQM**	**20.26**	**218**	P	**P**	**09 26 49.8**	**+1.7**
TRNA	**Turayna**	**20.50**	**240**	P	**P**	**09 26 49.4**	**-1.2**
	SNR=5.3						
TRNA				S	**S**	**09 30 19.7**	**-4.2**
SLWR	**Sila**	**20.60**	**238**	P	**P**	**09 26 51.6**	**-0.1**
SLWR				S	**S**	**09 30 22.5**	**-3.2**
GNI	**Garni**	**20.63**	**288**		**P**	**09 26 53.6**	**+1.6**
GNI	**Garni**	**20.63**	**288**	P	**P**	**09 26 53.3**	**+1.3**
	comp=Z,116nm,1.1s,baz=102,slow=2.0,SNR=30						
	comp=Z,116nm,1.1s						
**GNI

MOY Mondy 26.17 45 *e*P **P** **09 27 44.8 +2.2**
MOY *e* 09 28 39.1
MOY pmax pmax
comp=Z,27nm,1.7s
ANN Anapa 26.37 298 *e*P **P** **09 27 44.5 +0.3**
ANN *e**PP **pP** **09 28 37.5 +2.1**
ANN *e*S **S** **09 31 59.7 +2.4**
ANN pmax pmax
comp=Z,54nm,0.7s
TNCH TengChong 26.44 108 P **P** **09 27 47.5 +2.2**
TNCH pP pP 09 28 35.6 -2.1
TNCH sP sP 09 29 09.7 +0.7
TNCH S **S** **09 31 58.5 -0.7**
TNCH sS sS 09 33 31.8 -2.1
TNCH pmax pmax
comp=Z,20nm,0.5s
TNCH pmax pmax
comp=Z,110nm,3.7s
TNCH LR LR
comp=Z,220nm,4.8s
TNCH LR LR
comp=Z,180nm,3.9s
TNCH LR LR
comp=Z,76nm,9.1s
LZDM Lanzhou Array 26.52 82 P **P** **09 27 47.4 +1.3**
comp=Z,0.9nm,0.3s,baz=274,slow=7.3,SNR=4.3
LZDM pP **pP** **09 28 38.3 -0.2**
comp=Z,4.0nm,0.5s,baz=270,slow=8.6,SNR=2.3
comp=Z,0.9nm,0.3s
VORD Divnogorie 26.58 313 *e*P **P** **09 27 44.6 -1.4**
VORD pmax pmax
comp=Z,30nm,1.0s
GAZ Gaziantep 26.72 281 IAmb IAmb 09 27 50.4
comp=Z,33nm,1.0s
VSR Storozhevoye 26.74 313 *e*P **P** **09 27 44.8 -2.7**
VSR pmax pmax
comp=Z,30nm,1.0s
VORR Voronezh 26.88 314 *e*P **P** **09 27 46.9 -1.8**
VORR pmax pmax
comp=Z,50nm,1.0s
ZAK Zakamensk 27.07 49 *e*P **P** **09 27 51.9 +1.3**
ZAK *e* 09 28 45.5
ZAK pmax pmax
comp=Z,20nm,1.1s
ZAK pmax pmax
comp=Z,21nm,1.9s
LPSR Galich'ya Gora 27.39 316 *e*P **P** **09 27 51.1 -2.1**
LPSR pmax pmax
comp=Z,60nm,0.9s
CD2 Chengdu 27.97 92 *e*P **P** **09 28 00.6 +1.9**
PZH PanZhiHua 28.19 102 P **P** **09 28 03.1 +2.3**
SONM Songino Array 28.45 56 **P**
SONM IAmb IAmb 09 28 05.6
comp=Z,23nm,0.8s
SONM Songino Array 28.45 56 P **P** **09 28 04.8 +1.9**
comp=Z,25nm,0.8s,baz=258,slow=9.9,SNR=76
SONM pP **pP** **09 28 56.0 +0.3**
comp=Z,9.8nm,0.9s,baz=258,slow=9.6,SNR=4.9
comp=Z,25nm,0.8s
BZK Bozkurt 28.75 292 ⇑P **P** **09 28 06.4 +1.0**
ULN Ulaanbaatar 28.89 56 **P** **09 28 08.3 +1.5**
ULN IAmb IAmb 09 28 09.3
comp=Z,23nm,0.7s
ULN Ulaanbaatar 28.89 56 P **P** **09 28 08.4 +1.7**
ULN Ulaanbaatar 28.89 56*c e*P **P** **09 28 08.2 +1.5**
ULN pmax pmax
comp=Z,23nm,0.7s
ILGA Ilgaz 29.01 290 IAmb IAmb 09 28 10.4
comp=Z,33nm,1.0s
KIRS Kirsehir-Merke 29.02 286 ⇑P **P** **09 28 09.3 +1.3**
MMAI Mount Meron Ar 29.11 273 P **P** **09 28 09.9 +1.2**
comp=Z,6.0nm,0.7s,baz=67,slow=9.4,SNR=6.1
MMAI PcP **PcP** **09 31 09.2 -0.3**
comp=Z,2.0nm,0.4s,baz=225,slow=3.5,SNR=6.6
MMAI ScP **ScP** **09 34 24.4 -1.1**
comp=Z,0.4nm,0.3s,baz=48,slow=2.1,SNR=4.9
comp=Z,6.0nm,0.7s
BR131 Keskin Array S 29.17 287 P **P** **09 28 10.0 +0.6**
SNR=6.1
BR131 Keskin Array S 29.17 287*c i*P **P** **09 28 09.9 +0.6**
BRTR Keskin Array B 29.17 287 **P** **09 28 10.1 +0.7**
BRTR Keskin Array B 29.17 287 P **P** **09 28 09.9 +0.6**
comp=Z,12nm,0.8s,baz=101,slow=8.8,SNR=64
BRTR PcP **PcP** **09 31 09.5 -0.1**
comp=Z,3.3nm,1.0s,baz=111,slow=3.9,SNR=2.4
comp=Z,12nm,0.8s
BRTR Keskin Array B 29.17 287 P **P** **09 28 10.1 +0.7**
MOS Moscow 29.41 321 *e*P **P** **09 28 09.7 -1.3**
MOS *e**PP **pP** **09 28 59.1 -3.8**
MOS *e*S **S** **09 32 40.4 -4.4**
MOS *e**SS sS 09 34 10.3 -10
MOS pmax pmax
comp=Z,100nm,1.2s
MOS pmax pmax
comp=Z,92nm,1.0s
KMI Kunming 29.65 104 P **P** **09 28 13.9 +0.1**
KMI ScP **ScP** **09 34 26.4 -1.2**
KMI pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 29.68 319 **P** **09 28 13.8 +0.4**
OBN Obninsk 29.68 319 ⇓P **P** **09 28 13.9 +0.5**
OBN Obninsk 29.68 319*c i*P **P** **09 28 13.9 +0.5**
OBN *e**PP **pP** **09 29 02.7 -2.6**
OBN *i* S **S** **09 32 50.1 +1.0**
OBN pmax pmax
comp=Z,70nm,1.0s
ANTO Ankara 29.81 288 P **P** **09 28 14.8 0.0**
HMDM Hanimaadhoo 29.81 175 P **P** **09 28 16.9 +2.0**
CHTO Chiang Mai 30.49 118 P **P** **09 28 23.1 +2.1**
CHTO Chiang Mai 30.49 118 P **P** **09 28 23.4 +2.5**
CM31 Chiang Mai Arr 30.72 119 P **P** **09 28 25.0 +1.9**
SNR=5.3
CMAR Chiang Mai Arr 30.72 119 **P** **09 28 24.2 +1.2**
CMAR Chiang Mai Arr 30.72 119 P **P** **09 28 23.9 +0.9**
comp=Z,5.5nm,0.5s,baz=301,slow=8.0,SNR=40
CMAR pP **pP** **09 29 14.9 -1.1**
comp=Z,10nm,0.9s,baz=311,slow=9.0,SNR=4.0
CMAR ScP **ScP** **09 34 29.1 -1.8**
comp=Z,1.5nm,0.3s,baz=305,slow=3.1,SNR=7.4
comp=Z,5.5nm,0.5s
BTO Baotou 30.79 70 *e*P **P** **09 28 24.0 +0.5**
BTO pP **pP** **09 29 17.8 +1.0**
BTO pmax pmax
comp=Z,17nm,0.9s
BTO pmax pmax
comp=Z,180nm,4.7s
BTO LR LR
comp=Z,230nm,5.1s
BTO LR LR
comp=Z,250nm,10.8s
XAN Xi'an 31.14 83 P **P** **09 28 27.4 +0.8**
XAN pP pP 09 29 22.3 +2.4
XAN S **S** **09 33 14.2 +1.7**
XAN pmax pmax
comp=Z,30nm,0.9s
XAN pmax pmax
comp=Z,130nm,5.8s
KLMR Klimovskoe 31.25 331 *e*P **P** **09 28 25.2 -1.9**
KLMR *e**PP **pP** **09 29 19.5 0.0**
KLMR *e**SP **sP** **09 29 47.3 -3.1**
KLMR pmax pmax
comp=Z,83nm,1.2s
HHC Hu-ho-hao-te 31.93 70 *e*P **P** **09 28 35.2 +1.8**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,50nm,4.7s
GYA Guiyang 32.11 98 ⇓P **P** **09 28 36.6 +1.4**
GYA pmax pmax
comp=Z,20nm,0.9s
MILM Milestii Mici 32.54 302 ⇑P **P** **09 28 38.7 +0.1**
MILM Milestii Mici 32.54 302 ⇑*i* P **P** **09 28 37.9 -0.6**
comp=Z,80nm,1.0s
MILM Milestii Mici 32.54 302 P **P** **09 28 38.6 +0.1**
SLVN Son La 32.60 109 **P** **09 28 40.8 +1.4**
SLVN Son La 32.60 109 P **P** **09 28 41.2 +1.8**
AKASG Malin Array Be 32.68 309 P **P** **09 28 40.0 +0.3**
AKASG IAmb IAmb 09 28 41.2
comp=Z,40nm,1.1s
AKASG Malin Array Be 32.68 309 P **P** **09 28 39.4 -0.2**
comp=Z,19nm,0.8s,baz=88,slow=7.2,SNR=43
AKASG pP **pP** **09 29 32.0 +0.1**
comp=Z,11nm,0.8s,baz=86,slow=7.1,SNR=3.4
AKASG PP **PP** **09 29 56.1 -3.3**
comp=Z,13nm,0.8s,baz=86,slow=10,SNR=7.6
AKASG PcP **PcP** **09 31 17.8 -0.7**
comp=Z,3.5nm,0.6s,baz=82,slow=3.2,SNR=4.2
AKASG ScP **ScP** **09 34 34.5 -2.5**
comp=Z,3.3nm,0.7s,baz=81,slow=3.2,SNR=7.9
comp=Z,19nm,0.8s
AKASG Malin Array Be 32.68 309*c e*P **P** **09 28 39.7 +0.1**
AKASG pmax pmax
comp=Z,33nm,0.9s
AKBB Malin Array Si 32.68 309 *i* P **P** **09 28 39.6 0.0**
AKBB pmax pmax
comp=Z,24nm,0.9s
KIEV Kiev 32.69 309 **P** **09 28 39.1 -0.6**
KIEV Kiev 32.69 309 P **P** **09 28 39.1 -0.6**
KIEV pmax pmax
comp=Z,117nm,1.7s
KIEV Kiev 32.69 309 P **P** **09 28 39.8 +0.1**
TPGR Topolog 32.77 298 ⇓P **P** **09 28 41.4 +0.8**
CFR Carcaliu 32.97 298 ⇑P **P** **09 28 43.2 +1.0**
CFR Carcaliu 32.97 298 P **P** **09 28 43.2 +1.0**
ICOR Ion Corvin 33.23 297 ⇓P **P** **09 28 45.9 +1.4**
MANT Manisa 33.26 286 IAmb IAmb 09 28 46.8
comp=Z,30nm,1.1s
CIT Chita 33.73 49 *e*P **P** **09 28 49.0 +0.2**
CIT *e* 09 29 44.2
CIT *e* 09 30 12.8
CIT pmax pmax
comp=Z,86nm,1.5s
LYN LuoYang 33.83 81 P **P** **09 28 52.0 +2.2**
LYN pP pP 09 29 48.2 +4.8
LYN pmax pmax
comp=Z,28nm,0.9s
PLOR Plostina 34.01 300 ⇓P **P** **09 28 52.8 +1.5**
PLOR Plostina 34.01 300 P **P** **09 28 52.8 +1.5**
TESR Tescani 34.02 301 ⇑P **P** **09 28 52.2 +0.9**
ISR Istrita 34.10 298 ⇓P **P** **09 28 53.8 +1.7**
ISR Istrita 34.10 298 P **P** **09 28 53.7 +1.7**
ONER Baraj Valea Uz 34.19 301 ⇓P **P** **09 28 54.0 +1.2**
MNK Minsk 34.24 315 *i* P **P** **09 28 52.2 -0.8**
comp=E,16nm,0.6s
MNK *i* P **P** **09 28 52.2 -0.8**
comp=N,42nm,1.0s
MNK *i* P **P** **09 28 52.2 -0.8**
comp=Z,58nm,0.9s,baz=103
MNK *i* pP **pP** **09 29 44.1 -1.5**
MNK *i* PP **PP** **09 30 15.9 -0.6**
MNK *i* S **S** **09 34 00.3 +0.6**
MNK *i* SS **SS** **09 36 41.6 +1.5**
MNK *i* LR LR 09 42 41.4
MNK *i* LRM MLR 09 45 09.7
comp=N,94nm,16.2s
MNK *i* LRM MLR 09 45 24.2
comp=E,204nm,16.4s
MNK Minsk 34.24 315 *i* P **P** **09 28 52.2 -0.8**
MNK *i* *PP **pP** **09 29 44.1 -1.5**
MNK *i* 09 30 15.9
MNK *i* S **S** **09 34 00.2 +0.6**
MNK pmax pmax
comp=N,42nm,1.0s
MNK pmax pmax
comp=Z,58nm,0.9s
MNK pmax pmax
comp=E,16nm,0.6s
MNK MLR MLR
comp=N,94nm,16.0s
MNK MLR MLR
comp=E,204nm,16.0s
MNK MLR MLR
comp=Z,119nm,17.0s
COVR Voineasa-Covas 34.33 300 ⇓P **P** **09 28 55.5 +1.5**
MLR Muntele Rosu 34.51 299 ⇓P **P** **09 28 57.2 +1.6**
MLR Muntele Rosu 34.51 299 P **P** **09 28 57.2 +1.6**
ELND Elena 34.70 295 ⇑P **P** **09 28 58.1 +0.9**
DOPR Dopca 34.89 300 ⇓P **P** **09 29 00.4 +1.6**
HNS HongShan 34.90 75 ⇑P **P** **09 29 00.7 +1.9**
NACGM Naroch 34.95 316 *e*P **P** **09 28 59.8 +0.7**
XLT XiLinHaoTe 35.01 64 *e*P **P** **09 29 01.6 +1.7**
XLT pP pP 09 29 56.4 +2.6
XLT pmax pmax
comp=Z,6.0nm,0.9s
XLT pmax pmax
comp=Z,77nm,5.3s
BURAR Bucovina Array 35.02 303 **P** **09 28 59.7 -0.2**
BURAR Bucovina Array 35.02 303 ⇓P **P** **09 29 00.7 +0.8**
BURAR Bucovina Array 35.02 303 P **P** **09 29 00.7 +0.8**
BOD Bodaibo 35.39 39 *e*P **P** **09 29 03.4 +0.7**
BOD pmax pmax
comp=Z,42nm,1.2s
ATD Arta Tunnel 35.42 232 P **P** **09 29 05.3 +1.6**
ATD Arta Tunnel 35.42 232 P **P** **09 29 04.9 +1.2**
SNR=5.5
ATD Arta Tunnel 35.42 232 P **P** **09 29 05.1 +1.5**
ARR Arges 35.44 299 ⇑P **P** **09 29 04.6 +1.1**
BJI Beijing 35.52 70 P **P** **09 29 06.0 +1.8**
BJI pmax pmax
comp=Z,5.0nm,0.5s
VSU Vasula 35.93 322*c e*P **P** **09 29 07.3 0.0**
VSU pmax pmax
comp=Z,109nm,1.7s
MARR Marisel-Cluj 36.45 301 ⇑P **P** **09 29 13.3 +1.3**
DRGR 36.73 301 ⇓P **P** **09 29 15.8 +1.5**
DRGR 36.73 301 P **P** **09 29 15.8 +1.5**
KWP Kalwaria Pacla 36.74 306 *e*P **P** **09 29 15.1 +0.7**
SUW Suwalki 36.85 313 *e*P **P** **09 29 15.1 -0.1**
KOLS Kolonicke sedl 37.01 305 *e*P **P** **09 29 17.8 +1.2**
KOLS pmax pmax
comp=Z,18nm,1.0s
TIA Tai'an 37.06 76 P **P** **09 29 19.2 +2.0**
TIA pmax pmax
comp=Z,22nm,0.7s
SURR Surduc 37.18 300 ⇑P **P** **09 29 19.4 +1.3**
FINES FINESS Array B 37.24 326 P **P** **09 29 18.8 +0.5**
comp=Z,29nm,0.7s,baz=109,slow=8.8,SNR=63
FINES pP **pP** **09 30 13.0 +1.1**
comp=Z,4.3nm,0.5s,baz=112,slow=8.1,SNR=1.8
comp=Z,29nm,0.7s
FINES FINESS Array B 37.24 326 *i* P **P** **09 29 19.1 +0.8**
FINES pmax pmax
comp=Z,29nm,0.7s
LVZ Lovozero 37.24 338 P **P** **09 29 19.0 +0.7**
LVZ IAmb IAmb 09 29 19.8
comp=Z,30nm,0.8s
LVZ Lovozero 37.24 338*c e*P **P** **09 29 19.5 +1.2**
LVZ pmax pmax
comp=Z,20nm,0.7s
LVZ Lovozero 37.24 338 P **P** **09 29 19.1 +0.7**
APA Apatity 37.42 337 ⇓*i* P **P** **09 29 19.0 -0.7**
APA *i* *PP **pP** **09 30 09.9 -3.5**
APA *e* 09 30 49.3
APA *e* 09 31 32.5
APA *i* S **S** **09 34 44.2 -3.4**
APA MLR MLR
comp=Z,281nm,4.0s
SIRR Siria 37.48 301 ⇓P **P** **09 29 21.9 +1.3**
MDVR Moldovita 37.54 298 ⇓P **P** **09 29 21.7 +0.6**
BOVS Bovan 37.66 296 ⇓P **P** **09 29 22.7 +0.6**
STHS Stebnicka Huta 37.69 306 *e*P **P** **09 29 21.5 -0.8**
STHS *e* 09 30 58.9
STHS pmax pmax
comp=Z,7.0nm,0.9s
NIE Niedzica 38.31 306 *e*P **P** **09 29 29.0 +1.5**
OJC Ojcow 38.64 307 *e*P **P** **09 29 30.0 -0.1**
LANS Liptovska Anna 38.85 305 *e*P **P** **09 29 36.6 +4.6**
LANS pmax pmax
comp=Z,6.0nm,1.2s
NJ2 Nanjing 39.68 82 *e*P **P** **09 29 40.1 +1.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
DL2 Dalian 39.88 71 P **P** **09 29 41.7 +1.2**
DL2 pmax pmax
comp=Z,36nm,0.8s
STEB Steborice 39.94 307 *e*P **P** **09 29 42.0 +1.1**
MORC Moravsky Berou 40.10 306 **P** **09 29 42.8 +0.7**
MORC Moravsky Berou 40.10 306 *e*P **P** **09 29 42.9 +0.7**
MORC Moravsky Berou 40.10 306 ⇑P **P** **09 29 43.1 +0.9**
MORC Moravsky Berou 40.10 306 *i* P **P** **09 29 43.1 +0.9**
VADS Vadso 40.10 339 *e*P **P** **09 29 42.6 +0.7**
GKP Gorka Klasztor 40.31 312 *e*P **P** **09 29 44.2 +0.4**
KRLC Kraliky 40.58 307 *e*P **P** **09 29 47.3 +1.2**
KRLC Kraliky 40.58 307 *e*P **P** **09 29 47.3 +1.2**
KEV Kevo 40.59 338 P **P** **09 29 46.6 +0.8**
KEV Kevo 40.59 338 P **P** **09 29 46.6 +0.8**
KEV pmax pmax
comp=Z,30nm,0.9s
KEV Kevo 40.59 338 P **P** **09 29 46.6 +0.8**
VRAC Vranov 40.73 306 *e*P **P** **09 29 48.4 +1.1**
DPC Dobruska-Polom 40.87 307 *e*P **P** **09 29 49.7 +1.2**
DPC Dobruska-Polom 40.87 307 *e*P **P** **09 29 49.7 +1.2**
DPC *e*SS SS 09 38 58.3 +6.2
KSP Ksiaz 40.87 308 *e*P **P** **09 29 48.8 +0.3**
KRUC Moravsky 40.88 305 *e*P **P** **09 29 49.3 +0.8**
ARA0 ARCESS Array S 40.93 338 *e*P **P** **09 29 49.3 +0.7**
ARCES ARCESS Array B 40.93 338 **P** **09 29 49.5 +0.9**
ARCES IAmb IAmb 09 29 50.6
comp=Z,47nm,0.8s
ARCES ARCESS Array B 40.93 338 P **P** **09 29 49.5 +0.9**
comp=Z,47nm,0.7s,baz=112,slow=7.9,SNR=176
ARCES pP **pP** **09 30 45.8 +2.6**
comp=Z,10nm,1.0s,baz=118,slow=7.7,SNR=1.8
comp=Z,47nm,0.7s
CHVC Chvalec 41.03 308 *e*P **P** **09 29 51.0 +1.2**
CHVC Chvalec 41.03 308 *e*P **P** **09 29 51.0 +1.2**
RONA Rosalia, Austr 41.04 303 *i* P **P** **09 29 50.5 +0.6**
comp=Z,16nm,1.3s,SNR=5.4
RONA *i* PP **PP** **09 31 30.6 +0.1**
comp=Z,18nm,1.3s
CONA Conrad Observa 41.31 304 *i* P **P** **09 29 52.7 +0.6**
comp=Z,35nm,1.3s,SNR=15
CONA *i* PP **PP** **09 31 31.5 -1.9**
comp=Z,9.4nm,1.3s
KTK1 Kautokeino 41.40 336 *e*P **P** **09 29 53.0 +0.6**
ARSA Arzberg 41.60 303 *i* P **P** **09 29 54.2 -0.3**
comp=Z,7.7nm,1.3s
ARSA *i* PP **PP** **09 31 33.2 -3.3**
comp=Z,6.0nm,0.9s
GROS Grobnik 41.70 301 *i* P **P** **09 29 55.4 +0.1**
PERS Pernik 41.95 302 *i* P **P** **09 29 57.8 +0.5**
SOKA Soboth 42.00 302 *i* P **P** **09 29 58.6 +0.8**
comp=Z,22nm,1.1s,SNR=6.4
SOKA *i* PP **PcP** **09 31 45.6 -1.8**
comp=Z,8.1nm,0.9s
BOJS Bojanci 42.00 300 *i* P **P** **09 29 58.1 +0.5**
HAMF Hammerfest 42.01 339 *e*P **P** **09 29 58.6 +1.3**
PRU Pruhonice 42.03 307 *e*P **P** **09 29 59.6 +1.8**
PRU Pruhonice 42.03 307 *e*P **P** **09 29 59.6 +1.8**
ZEA Zeya 42.14 48 *e*P **P** **09 29 58.4 -0.3**
ZEA *e* 09 30 58.1
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=E,20nm,0.5s
ZEA pmax pmax
comp=Z,30nm,0.8s
ZVC Zvikov 42.29 306 *e*P **P** **09 30 01.0 +1.1**
HEH HeiHe 42.35 53 *e*P **P** **09 30 02.2 +1.9**
HEH pmax pmax
comp=Z,110nm,0.8s
OBKA Obir 42.35 302 *i* P **P** **09 30 00.7 +0.1**
comp=Z,15nm,1.2s
OBKA *i* PP **PP** **09 31 46.4 +1.9**
comp=Z,3.0nm,0.8s
BRG Berggiesshubel 42.36 308 Pg P 09 29 50.9 -10
BRG Berggiesshubel 42.36 308 *i* P **P** **09 30 03.5 +3.1**
BRG Amp 09 30 04.5
comp=Z,35nm,1.2s
MOA Molln 42.39 304 *i* P **P** **09 30 01.6 +0.9**
comp=Z,16nm,0.9s,SNR=7.1
DEL Delary 42.40 316 *i* P **P** **09 30 01.0 +0.3**
IPM Ipoh 42.41 132 P **P** **09 30 04.9 +3.6**
JETT Jettan, Norway 42.54 336 *e*P **P** **09 30 02.4 +0.7**
PSI Prapat 42.54 136 P **P** **09 30 05.3 +2.9**
LUNU Lund 42.60 315 *i* P **P** **09 30 02.6 +0.3**
GERES GERESS Array B 42.66 305 P **P** **09 30 03.6 +0.5**
comp=Z,2.4nm,0.8s,baz=82,slow=12,SNR=9.2
GERES PP **PP** **09 31 45.7 -2.1**
comp=Z,2.8nm,0.8s,baz=72,slow=13,SNR=4.7
GERES ScP **ScP** **09 35 14.2 -0.7**
comp=Z,0.3nm,0.2s,baz=74,slow=5.6,SNR=4.0
comp=Z,2.4nm,0.8s
KHC Kasperske Hory 42.72 306 *e*P **P** **09 30 04.6 +1.2**
KHC *e* 09 39 31.2
KHC Kasperske Hory 42.72 306 *e*P **P** **09 30 04.6 +1.2**
KHC *e*SS SS 09 39 31.2 +3.3
HFS Hagfors 42.82 322 P **P** **09 30 04.4 +0.4**
comp=Z,48nm,0.6s,baz=98,slow=11,SNR=78
HFS pP **pP** **09 31 00.5 +1.7**
comp=Z,17nm,0.7s,baz=90,slow=10,SNR=3.3
comp=Z,48nm,0.6s
BNX BinXian 42.82 59 ⇓P **P** **09 30 05.9 +1.7**
BNX pmax pmax
comp=Z,11nm,1.0s
BIOA Bad Ischl, Aus 42.83 303 *i* P **P** **09 30 04.2 0.0**
comp=Z,2.0nm,0.4s
CLL Collm 42.92 309 P **P** **09 30 05.3 +0.3**
CLL Collm 42.92 309 *i* P **P** **09 30 05.2 +0.3**
CLL pmax pmax
comp=Z,19nm,1.2s
CLL Collm 42.92 309 *i* P **P** **09 30 05.2 +0.3**
comp=Z,19nm,1.2s
CLL *e*sP **sP** **09 31 31.0 +1.3**
CLL *e*PP **PP** **09 31 50.0 -0.4**
CLL *e*sS **sS** **09 37 48.0 -0.3**
CLL *e*SS **ScS** **09 39 36.0 0.0**
MYKA Terra Mystica 42.96 302 *i* P **P** **09 30 06.1 +0.7**
comp=Z,6.6nm,1.5s
MYKA *i* PP **PP** **09 31 47.6 -3.3**
comp=Z,0.1nm,0.2s
GSI Gunungsitoli 43.05 139 P **P** **09 30 05.8 -0.6**
GSI Gunungsitoli 43.05 139 P **P** **09 30 09.3 +2.9**
GSI Gunungsitoli 43.05 139 P **P** **09 30 06.4 0.0**
comp=Z,41nm,0.7s
TRO Tromso 43.05 336 *e*P **P** **09 30 05.3 -0.3**
FABU Falkenberg 43.06 317 *i* P **P** **09 30 06.0 0.0**
BORU Boraas 43.07 318 *i* P **P** **09 30 06.1 +0.1**
SABO M.te Sabotino 43.08 301 IAmb IAmb 09 30 07.8
comp=Z,90nm,1.3s
KBA Koelnbreinsper 43.10 303 *i* P **P** **09 30 06.7 +0.1**
comp=Z,3.4nm,0.6s
KBA *i* PcP **PcP** **09 31 47.3 -3.9**
comp=Z,9.9nm,1.2s
LESA Schwarzleotal 43.51 303 *i* P **P** **09 30 09.8 +0.1**
comp=Z,18nm,1.1s,SNR=9.3
ONAU Onsala 43.52 318 *i* P **P** **09 30 09.5 -0.1**
FAUS Fauske 43.57 332 *e*P **P** **09 30 10.8 +1.0**
MOR8 Moi Rana 43.58 331 *e*P **P** **09 30 10.0 0.0**
ABTA Abfaltersbach 43.71 302 *i* P **P** **09 30 11.4 0.0**
comp=Z,10nm,1.2s
ABTA *i* PcP **PcP** **09 31 51.2 -2.0**
comp=Z,5.3nm,0.9s
STEI Steigen 43.75 333 *e*P **P** **09 30 11.7 +0.5**
NC405 NORSAR Array S 43.90 323 IAmb IAmb 09 30 13.8
comp=Z,54nm,0.8s
NC602 NORSAR Array S 43.94 323 *e*P **P** **09 30 12.1 -0.8**
YAK Yakutsk 43.99 36 P **P** **09 30 13.9 +0.7**
YAK Yakutsk 43.99 36 *e*P **P** **09 30 13.6 +0.4**
YAK *e**PP **pP** **09 31 07.8 -1.3**
YAK *e* 09 31 52.6
YAK *e* 09 32 02.2
YAK *e*PPP PPP 09 32 49.8
YAK *e*S **S** **09 36 25.4 +1.0**
YAK *e**SS **sS** **09 38 02.7 -1.0**
YAK *e* 09 39 43.2
YAK pmax pmax
comp=Z,16nm,0.6s
YAK pmax pmax
comp=N,3.0nm,0.6s
YAK pmax pmax
comp=E,17nm,0.9s
YAK pmax pmax
comp=Z,158nm,4.4s
YAK pmax pmax
comp=N,23nm,1.6s
YAK pmax pmax
comp=E,57nm,2.5s
YAK smax smax
comp=E,91nm,1.4s
YAK smax smax
comp=N,28nm,1.1s
YAK Yakutsk 43.99 36 P **P** **09 30 13.9 +0.7**
NC303 NORSAR Array S 44.08 323 IAmb IAmb 09 30 15.2
comp=Z,66nm,0.8s
LEIR Leirfjorden 44.09 330 *e*P **P** **09 30 13.7 -0.3**
NB201 NORSAR Array S 44.09 323 IAmb IAmb 09 30 15.1
comp=Z,90nm,1.4s
NB2 NORSAR Subarra 44.13 323 P **P** **09 30 14.0 -0.4**
comp=Z,44nm,0.8s,baz=95,slow=7.9
NB2 NORSAR Subarra 44.13 323 P **P** **09 30 14.0 -0.4**
comp=Z,44nm,0.8s,baz=95,slow=7.9
NOA NORSAR Array B 44.13 323 P **P** **09 30 14.1 -0.4**
comp=Z,29nm,0.7s,baz=97,slow=7.7,SNR=95

NOA pP **pP** **09 31 10.2 +0.5**
comp=Z,8.7nm,1.0s,baz=95,slow=8.0,SNR=1.6
NOA sP **sP** **09 31 39.2 -0.4**
comp=Z,5.8nm,0.7s,baz=95,slow=8.1,SNR=3.0
comp=Z,29nm,0.7s
VAGH Vaagaholmen 44.17 331 *eP* **P** **09 30 15.7 +1.1**
KONS Konsvik 44.18 331 *eP* **P** **09 30 15.2 +0.5**
GRF Grafenberg Arr 44.19 307 *eP* **P** **09 30 17.0 +1.9**
comp=Z,9.6nm,0.8s,baz=93,slow=7.0
GRF *es*P **sP** **09 31 43.9 +3.9**
WTTA Wattenberg 44.23 303 *i* P **P** **09 30 14.8 -0.8**
comp=Z,12nm,0.8s,SNR=5.1
WATA Walderalm 44.26 303 *i* P **P** **09 30 15.4 -0.4**
comp=Z,6.8nm,0.5s
WATA *i* PcP **PcP** **09 31 54.6 -0.6**
comp=Z,5.4nm,0.6s
MURB Monte Urbino 44.32 297 IAmb IAmb 09 30 18.8
comp=Z,117nm,1.5s
NBO00 NORSAR Array S 44.34 323 IAmb IAmb 09 30 16.8
comp=Z,39nm,0.7s
NC204 NORSAR Array S 44.37 323 IAmb IAmb 09 30 17.3
comp=Z,36nm,0.7s
CTI Castel Tesino 44.41 301 P **P** **09 30 16.5 -0.5**
CTI Castel Tesino 44.41 301 P **P** **09 30 16.5 -0.5**
CTI pmax pmax
comp=Z,23nm,1.3s
LOF Lofoten 44.42 333 *eP* **P** **09 30 16.7 +0.2**
RAFF Raffo Rosso 44.47 288 IAmb IAmb 09 30 20.4
comp=Z,52nm,0.9s
SQTA Sankt Quirin 44.52 303 *i* P **P** **09 30 17.0 -0.9**
comp=Z,5.8nm,0.8s
SQTA *i* PcP **PcP** **09 31 55.1 -1.0**
comp=Z,6.9nm,0.6s
MDJ Mudanjiang 44.53 61 P **P** **09 30 18.9 +1.1**
MDJ pmax pmax
comp=Z,6.0nm,0.5s
MOTA Moosalm 44.57 303 *i* P **P** **09 30 18.1 -0.2**
comp=Z,12nm,0.9s
MOTA *i* PcP **PcP** **09 31 55.7 -0.6**
comp=Z,9.4nm,0.7s
RETA Reutte 44.78 304 *i* P **P** **09 30 19.5 -0.3**
comp=Z,8.0nm,1.0s
KONO Kongsberg 44.83 321 P **P** **09 30 20.3 +0.4**
KONO Kongsberg 44.83 321 *eP* **P** **09 30 19.8 -0.2**
KONO Kongsberg 44.83 321 *ce*P **P** **09 30 20.6 +0.7**
KONO pmax pmax
comp=Z,13nm,0.8s
KONO Kongsberg 44.83 321 P **P** **09 30 20.1 +0.2**
FETA Feichten 44.88 303 *i* P **P** **09 30 20.5 -0.2**
comp=Z,11nm,1.1s
FETA *i* PcP **PcP** **09 31 57.5 +0.1**
comp=Z,15nm,0.8s
KSAR Wonju Array Be 45.02 71 **P** **09 30 22.1 +0.3**
KSAR Wonju Array Be 45.02 71 P **P** **09 30 22.1 +0.3**
KSRS Korea Array 45.05 71 P **P** **09 30 22.4 +0.5**
comp=Z,12nm,0.5s,baz=273,slow=6.8,SNR=105
KSRS pP **pP** **09 31 18.7 +0.3**
comp=Z,6.7nm,1.0s,baz=290,slow=6.1,SNR=3.6
comp=Z,12nm,0.5s
BJO1 Bjornoya 45.06 343 *eP* **P** **09 30 21.8 +0.2**
HOMB Homborsund 45.36 319 *eP* **P** **09 30 24.1 +0.1**
DAVA Damuels 45.41 303 *i* P **P** **09 30 24.9 0.0**
comp=Z,35nm,1.0s,SNR=8.8
SKAR Skarslia 45.53 322 *eP* **P** **09 30 26.8 +1.4**
TIXI Tiksi 45.73 22 P **P** **09 30 27.8 +1.0**
TIXI IAmb IAmb 09 30 28.6
comp=Z,64nm,0.8s
TIXI Tiksi 45.73 22 *ce*P **P** **09 30 27.5 +0.8**
TIXI pmax pmax
comp=Z,76nm,1.0s
TIXI Tiksi 45.73 22 P **P** **09 30 27.5 +0.8**
SNART Snartemo 46.05 319 *eP* **P** **09 30 30.5 +1.1**
SNART Snartemo 46.05 319 *i* P **P** **09 30 30.1 +0.7**
BFO Black Forest 46.27 305 **P** **09 30 31.0 -0.3**
BFO Black Forest 46.27 305 P **P** **09 30 31.0 -0.3**
BFO pmax pmax
comp=Z,7.0nm,0.8s
USRK Ussuriysk Ar. 46.30 61 P **P** **09 30 32.2 +0.6**
comp=Z,3.7nm,0.5s,baz=269,slow=9.4,SNR=9.7
comp=Z,3.7nm,0.5s
ODD1 Odda 46.34 321 *eP* **P** **09 30 33.2 +1.4**
LODK Lodwar 46.36 233 P **P** **09 30 33.9 +1.4**
SNR=8.2
PDSI Padang 46.46 137 P **P** **09 30 33.1 -0.1**
comp=Z,38nm,0.5s
BER Bergen 46.99 322 *eP* **P** **09 30 37.9 +1.2**
ASK Askoy 47.06 322 *eP* **P** **09 30 37.5 +0.4**
SPITS Spitsbergen Ar 47.30 347 P **P** **09 30 40.3 +1.4**
comp=Z,12nm,0.5s,baz=122,slow=11,SNR=30
comp=Z,12nm,0.5s
BTNL Ternell 47.32 308 *dP* **P** **09 30 40.1 +0.6**
comp=Z,13nm,1.1s
MEM Membach 47.40 308 *dP* **P** **09 30 41.0 +1.0**
comp=Z,13nm,1.0s
BHOU Houvegnez 47.44 308 *dP* **P** **09 30 41.0 +0.7**
WLF Walferdange 47.46 307 *dP* **P** **09 30 41.8 +1.4**
comp=Z,25nm,1.1s
BCLA Clavier 47.87 308 *dP* **P** **09 30 44.2 +0.6**
RCHB Rochefort 47.96 308 *dP* **P** **09 30 44.8 +0.5**
GRNR Gornyy 48.00 51 *i*P P 09 30 32.0 -13
GRNR pmax pmax
comp=Z,2.0nm,0.6s
BGES Gesves 48.01 308 *dP* **P** **09 30 45.3 +0.6**
comp=Z,6.3nm,0.9s
BMRD Maredsous 48.23 308 *dP* **P** **09 30 47.5 +1.2**
comp=Z,19nm,1.1s
DOU Dourbes 48.38 308 *dP* **P** **09 30 48.1 +0.7**
comp=Z,12nm,1.2s
DOU *d*PcP **PcP** **09 32 09.4 -0.1**
KBS Kingsbay 48.42 347 *ce*P **P** **09 30 49.2 +1.8**
KBS pmax pmax
comp=Z,41nm,1.7s
KMBO Kilima Mbogo 48.76 227 P **P** **09 30 52.0 +1.0**
comp=Z,10nm,0.5s,baz=45,slow=9.3,SNR=9.8
comp=Z,10nm,0.5s
KEST Kesra 48.77 288 IAmb IAmb 09 30 52.9
comp=Z,62nm,1.4s
KEST Kesra 48.77 288 P **P** **09 30 51.5 +0.7**
comp=Z,11nm,0.5s,baz=360,slow=2.7,SNR=18
comp=Z,11nm,0.5s
KEST Kesra 48.77 288 P **P** **09 30 51.4 +0.6**
SNR=5.7
KIBK Kibwezi 49.27 225 P **P** **09 30 56.2 +1.4**
KIBK IAmb IAmb 09 30 57.1
comp=Z,38nm,0.8s
KIBK Kibwezi 49.27 225 P **P** **09 30 56.2 +1.4**
SNR=8.5
JOW Kunigami 49.28 84 P **P** **09 30 54.5 -0.1**
comp=Z,15nm,0.4s,baz=297,slow=9.0,SNR=8.5
comp=Z,15nm,0.4s
CLF Chambon-Foret 50.30 306 IAmb IAmb 09 31 03.2
comp=Z,53nm,1.3s
TYV Tymovskoe 51.85 50 *eP* **P** **09 31 15.4 +2.0**
TYV pmax pmax
comp=Z,10.0nm,0.6s
TYV pmax pmax
comp=Z,100nm,3.5s
EKA Eskdalemuir Ar 52.03 316 P **P** **09 31 14.3 -0.3**
comp=Z,16nm,0.8s,baz=87,slow=7.9,SNR=21
EKA pP **pP** **09 32 12.9 +1.3**
comp=Z,5.3nm,0.7s,baz=74,slow=7.6,SNR=4.2
comp=Z,16nm,0.8s
ESK Eskdalemuir 52.06 316 P **P** **09 31 15.2 +0.4**
ESK Eskdalemuir 52.06 316 P **P** **09 31 15.2 +0.4**
ESK pmax pmax
comp=Z,41nm,1.2s
ESK Eskdalemuir 52.06 316 P **P** **09 31 14.8 0.0**
MBAR Mbarara 52.40 234 P **P** **09 31 18.4 +0.3**
MBAR IAmb IAmb 09 31 19.5
comp=Z,48nm,0.8s
MBAR Mbarara 52.40 234 *i* P **P** **09 31 17.9 -0.2**
MBAR pmax pmax
comp=Z,39nm,0.9s
JSD Sado 52.61 67 P **P** **09 31 19.4 +0.2**
YSS Yuzhno-Sakhali 52.93 55 P **P** **09 31 22.0 +0.6**
YSS IAmb IAmb 09 31 23.4
comp=Z,45nm,0.8s
YSS Yuzhno-Sakhali 52.93 55 P **P** **09 31 22.7 +1.4**
YSS Yuzhno-Sakhali 52.93 55 *eP* **P** **09 31 21.6 +0.3**
YSS *e* 09 32 23.8
YSS *e**SP **PcP** **09 32 25.4 -1.1**
YSS *e*S **S** **09 38 28.6 -0.9**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS pmax pmax
comp=Z,200nm,4.8s
comp=Z,3.5nm,0.7s,baz=46,slow=5.7,SNR=1.7
TORD sP **sP** **09 34 17.1 +1.1**
comp=Z,5.4nm,0.7s,baz=43,slow=6.1,SNR=3.8
comp=Z,28nm,0.6s
DY2G Dye2 66.56 337 *i* P **P** **09 32 54.2 +0.4**
DY2G IAmb IAmb 09 32 55.8
comp=Z,49nm,1.1s
A19K Wainwright 67.10 17 P **P** **09 32 57.6 +0.8**
baz=317
A21K Barrow 67.24 15 P **P** **09 32 58.8 +1.1**
baz=320
C16K Lisburne Hills 67.40 20 P **P** **09 32 59.6 +0.9**
baz=314
B18K Kokolik River 67.54 18 P **P** **09 33 01.2 +1.6**
baz=316,SNR=7.1
SFJD Kangerlussuaq 67.54 339 *i* P **P** **09 33 00.5 +0.8**
SFJD IAmb IAmb 09 33 00.9
comp=Z,16nm,1.1s
C17K DeLong Mountai 67.83 19 P **P** **09 33 02.5 +1.0**
baz=316,SNR=8.6
B20K Meade River 68.14 16 **P** **09 33 04.5 +1.2**
B20K IAmb IAmb 09 33 05.1
comp=Z,23nm,0.8s
B20K Meade River 68.14 16 P **P** **09 33 04.6 +1.3**
baz=320,SNR=9.6
C18K Utukok River 68.21 18 IAmb IAmb 09 33 05.4
comp=Z,24nm,0.7s
C18K Utukok River 68.21 18 P **P** **09 33 04.8 +1.0**
baz=317,SNR=7.6
C19K Lookout Ridge 68.26 17 P **P** **09 33 05.6 +1.4**
baz=318,SNR=19
D17K Noatak River 68.41 19 P **P** **09 33 06.0 +0.9**
baz=316,SNR=11
TNA Tin City 68.52 22 P **P** **09 33 07.2 +1.5**
baz=312
B22K Teshekpuk Lake 68.67 15 P **P** **09 33 07.8 +1.2**
baz=323
B21K Ikpikpuk River 68.99 15 P **P** **09 33 09.9 +1.3**
baz=322
F14K Arctic Creek 69.06 22 P **P** **09 33 10.5 +1.4**
baz=314
D19K Kuna River 69.08 17 P **P** **09 33 10.2 +1.0**
baz=320
KSANE Kasane 69.14 227 IAmb IAmb 09 33 11.9
comp=Z,33nm,1.1s
E17K Notham Inlet 69.20 19 P **P** **09 33 10.6 +0.7**
baz=317
D20K Etivluk River 69.26 17 P **P** **09 33 11.4 +1.1**
baz=321
E18K Tukpahlearik C 69.27 19 P **P** **09 33 11.3 +0.9**
baz=318
C21K Knifeblade Rid 69.33 16 P **P** **09 33 12.1 +1.5**
baz=322,SNR=11
GUMO Guam 69.37 88 P **P** **09 33 10.6 -1.2**
comp=Z,65nm,0.4s,baz=70,slow=21,SNR=2.0
F15K North Star Dit 69.40 21 P **P** **09 33 12.5 +1.4**
baz=315
C23K Itkillik River 69.64 14 P **P** **09 33 14.1 +1.6**
baz=326,SNR=17
E20K Nigu River 69.72 17 P **P** **09 33 14.1 +0.9**
baz=321
F17K Baldwin Pennin 69.83 20 P **P** **09 33 15.1 +1.4**
baz=318
D22K Ayikyak River 70.00 15 IAmb IAmb 09 33 17.2
comp=Z,60nm,1.6s
D22K Ayikyak River 70.00 15 P **P** **09 33 15.9 +1.1**
baz=324,SNR=8.8
E21K Killik River 70.08 16 IAmb IAmb 09 33 16.5
comp=Z,21nm,0.6s
E21K Killik River 70.08 16 P **P** **09 33 16.0 +0.7**
baz=323
G15K Niukluk 70.09 22 P **P** **09 33 16.4 +1.0**
baz=316
E19K Redstone River 70.09 18 IAmb IAmb 09 33 17.9
comp=Z,16nm,0.8s
E19K Redstone River 70.09 18 P **P** **09 33 16.0 +0.7**
baz=321
C24K Franklin Bluff 70.11 14 P **P** **09 33 16.8 +1.4**
baz=327
F18K Selawik 70.13 19 P **P** **09 33 16.3 +0.8**
baz=319,SNR=7.1
G16K Koyuk River 70.29 21 P **P** **09 33 17.8 +1.3**
baz=317
D23K Nanushuk River 70.35 15 P **P** **09 33 18.2 +1.3**
baz=326,SNR=12
F19K Shaleruckik Mo 70.44 18 P **P** **09 33 17.4 0.0**
baz=320,SNR=6.3
D24K Happy Valley 70.56 14 IAmb IAmb 09 33 19.8
comp=Z,14nm,0.6s
D24K Happy Valley 70.56 14 P **P** **09 33 19.1 +0.9**
baz=327
C26K Camden Bay 70.62 12 P **P** **09 33 19.6 +1.1**
baz=330
G17K Kiwalik Mounta 70.69 20 P **P** **09 33 20.0 +1.0**
baz=318
F20K Avaraart Lake 70.78 18 P **P** **09 33 20.0 +0.6**
baz=322,SNR=6.4
E22K Anaktuvuk Pass 70.80 16 P **P** **09 33 20.5 +0.8**
baz=325
TOLK Toolik Lake Re 70.84 15 P **P** **09 33 21.1 +1.2**
baz=327,SNR=32
D25K Kavik River 70.88 13 P **P** **09 33 21.6 +1.5**
baz=329,SNR=23
G18K Tagagawik 70.93 19 P **P** **09 33 21.1 +0.7**
baz=320
C27K Jago River 71.08 12 IAmb IAmb 09 33 23.6
comp=Z,22nm,0.7s
C27K Jago River 71.08 12 P **P** **09 33 23.1 +1.9**
baz=331,SNR=21
A36M Sachs Harbour 71.09 5 P **P** **09 33 22.5 +1.2**
baz=346,SNR=6.1
G19K Purcell Mounta 71.15 19 IAmb IAmb 09 33 23.1
comp=Z,27nm,0.7s
G19K Purcell Mounta 71.15 19 P **P** **09 33 22.5 +0.7**
baz=321,SNR=9.2
F21K Alatna River 71.17 17 IAmb IAmb 09 33 24.7
comp=Z,21nm,0.9s
F21K Alatna River 71.17 17 P **P** **09 33 22.7 +0.8**
baz=324,SNR=18
F22K John River 71.23 16 P **P** **09 33 23.5 +1.3**
baz=325
H17K Granite Mounta 71.32 20 P **P** **09 33 23.9 +1.1**
baz=319
E23K Chandalar 71.33 15 IAmb IAmb 09 33 25.1
comp=Z,48nm,1.6s
E23K Chandalar 71.33 15 P **P** **09 33 24.0 +1.1**
baz=327,SNR=11
E24K Your Creek 71.54 14 IAmb IAmb 09 33 25.8
comp=Z,17nm,0.6s
E24K Your Creek 71.54 14 P **P** **09 33 25.3 +1.2**
baz=328,SNR=21
H18K Honhosa River 71.58 20 P **P** **09 33 25.2 +0.9**
baz=320
MREMI Moremi 71.66 222 IAmb IAmb 09 33 26.4
comp=Z,28nm,1.1s
G21K Allakaket 71.74 17 IAmb IAmb 09 33 26.6
comp=Z,58nm,1.8s
G21K Allakaket 71.74 17 P **P** **09 33 25.5 +0.3**
baz=324
H19K Roundabout Mou 71.80 19 IAmb IAmb 09 33 27.1
comp=Z,17nm,0.7s
H19K Roundabout Mou 71.80 19 P **P** **09 33 26.6 +1.1**
baz=322,SNR=8.0
J14K Nanvaranak Lak 71.86 23 P **P** **09 33 27.7 +1.7**
baz=317
G22K Bettles 71.86 16 P **P** **09 33 26.6 +0.7**
baz=325,SNR=15
D27M Malcolm River 71.87 11 P **P** **09 33 27.5 +1.5**
baz=334,SNR=12
I17K Unalakleet 71.89 21 P **P** **09 33 27.0 +0.9**
baz=319
COLD Coldfoot 71.90 16 P **P** **09 33 27.3 +1.1**
COLD IAmb IAmb 09 33 27.8
comp=Z,19nm,0.8s
COLD Coldfoot 71.90 16 P **P** **09 33 27.1 +1.0**
baz=326,SNR=20
E25K Arctic Village 72.07 13 P **P** **09 33 28.2 +1.0**
baz=330,SNR=15
K13K Kusilvak Mount 72.10 24 P **P** **09 33 28.7 +1.3**
baz=316
IMAR Indian Mountai 72.11 18 **P** **09 33 27.6 +0.2**
D28M Stokes Point 72.14 11 P **P** **09 33 28.9 +1.4**
baz=336,SNR=5.3
F24K Squaw Lake 72.14 15 P **P** **09 33 28.4 +0.8**
baz=328,SNR=7.8
H20K Anotleneega Mo 72.22 18 P **P** **09 33 28.9 +0.8**
baz=323,SNR=13
GCSA Galena City Sc 72.30 19 P **P** **09 33 29.6 +1.1**

MAJO Matsushiro 53.11 68 P **P** **09 31 23.7 +0.8**
MAJO Matsushiro 53.11 68 P **P** **09 31 23.4 +0.5**
MAJO Matsushiro 53.11 68 P **P** **09 31 23.7 +0.8**
MAJO pmax pmax
comp=Z,204nm,0.9s
MAJO Matsushiro 53.11 68 P **P** **09 31 22.9 0.0**
MAJO PcP **pP** **09 32 23.6 +2.2**
MJAR Matsushiro Arr 53.12 68 P **P** **09 31 23.1 +0.2**
MJAR Matsushiro Arr 53.12 68 P **P** **09 31 23.3 +0.4**
comp=Z,14nm,0.8s,baz=294,slow=9.3,SNR=27
MJAR pP **pP** **09 32 21.9 +0.4**
comp=Z,6.1nm,1.0s,baz=293,slow=7.9,SNR=4.1
MJAR ScP **ScP** **09 35 57.9 -1.4**
comp=Z,1.4nm,0.7s,baz=284,slow=4.6,SNR=2.7
comp=Z,14nm,0.8s
SBV Sambava 53.55 205 P **P** **09 31 27.1 +0.9**
ASAJ Asahikawa 53.68 58 P **P** **09 31 26.6 -0.2**
comp=Z,6.9nm,0.6s,baz=268,slow=7.3,SNR=2.5
comp=Z,6.9nm,0.6s
ILTH Belurgan, Co L 54.12 315 P **P** **09 31 29.6 -0.2**
MA2 Magadan 54.40 38 P **P** **09 31 32.7 +0.9**
MA2 Magadan 54.40 38 P **P** **09 31 31.7 0.0**
MA2 Magadan 54.40 38 *ce*P **P** **09 31 32.0 +0.3**
MA2 pmax pmax
comp=Z,45nm,2.5s
MA2 Magadan 54.40 38 P **P** **09 31 32.5 +0.8**
MA2 PcP **PcP** **09 32 31.1 -0.8**
SEY Seymchan 54.43 34 *i* P **P** **09 31 32.2 +0.3**
SEY pmax pmax
comp=Z,23nm,0.7s
IDGL Inch Island, C 54.52 316 P **P** **09 31 33.0 +0.4**
JMM Marumori 54.54 66 IAmb IAmb 09 31 34.4
comp=Z,41nm,0.7s
JMM Marumori 54.54 66 P **P** **09 31 33.7 +0.6**
ERM Erimo 54.76 60 P **P** **09 31 35.1 +0.6**
ERM Erimo 54.76 60 P **P** **09 31 35.2 +0.6**
ERM pmax pmax
comp=Z,101nm,1.3s
IWEX Carrickbyrne, 54.81 313 P **P** **09 31 34.2 -0.6**
VAL Valentia 56.98 313 P **P** **09 31 51.0 +0.9**
ESDC Sonseca Array 57.19 298 **P** **09 31 51.6 -0.3**
ESDC Sonseca Array 57.19 298 P **P** **09 31 51.5 -0.3**
comp=Z,9.6nm,0.9s,baz=59,slow=7.3,SNR=38
ESDC PcP **PcP** **09 32 42.7 -0.5**
comp=Z,2.0nm,0.7s,baz=71,slow=5.2,SNR=5.4
ESDC pP **pP** **09 32 50.7 +0.8**
comp=Z,3.1nm,0.9s,baz=70,slow=7.8,SNR=3.2
comp=Z,9.6nm,0.9s
TAM Tamanrasset 57.30 275 P **P** **09 31 52.2 -0.8**
TAM Tamanrasset 57.30 275 P **P** **09 31 52.2 -0.8**
TAM pmax pmax
comp=Z,71nm,0.3s
TAM Tamanrasset 57.30 275 P **P** **09 31 53.0 0.0**
PAB San Pablo 57.51 298 P **P** **09 31 53.1 -1.1**
PAB San Pablo 57.51 298 P **P** **09 31 53.1 -1.1**
PAB pmax pmax
comp=Z,26nm,1.3s
BILL Bilibino 58.58 26 *ce*P **P** **09 32 02.5 +1.5**
BILL pmax pmax
comp=Z,31nm,0.8s
MVO Moncorvo 58.77 300 *eP* **P** **09 32 03.7 +0.9**
MVO *i* IAmb IAmb 09 32 04.8
comp=Z,17nm,1.7s
ALE Alert 58.87 354 P **P** **09 32 04.1 +1.3**
ALE sP **sP** **09 33 33.4 +2.0**
POLO Lamas de Olo 59.21 301 *eP* **P** **09 32 01.6 -4.3**
POLO *i* IAmb IAmb 09 32 05.4
comp=Z,8.1nm,2.4s
OPO Ambohidratompo 59.24 206 P **P** **09 32 07.7 +1.5**
PCAB Cabril 59.24 301 *eP* **P** **09 32 06.8 +0.8**
PCAB *i* IAmb IAmb 09 32 07.5
comp=Z,42nm,1.2s
PGAV Gavieira, Arco 59.31 302 *eP* **P** **09 32 07.3 +0.8**
PGAV *i* IAmb IAmb 09 32 09.9
comp=Z,19nm,1.1s
AVY Angavokely 59.38 205 P **P** **09 32 08.6 +1.3**
MRSI Marisa 59.43 115 P **P** **09 32 08.3 +0.8**
comp=Z,47nm,0.4s
MTE Manteigas 59.43 300 IAmb IAmb 09 32 09.0
comp=Z,30nm,1.0s
MTE Manteigas 59.43 300 *eP* **P** **09 32 08.0 +0.7**
MTE *i* IAmb IAmb 09 32 09.2
comp=Z,40nm,1.2s
FIRM Firavahana 59.47 206 P **P** **09 32 09.3 +1.4**
PVIS Viseu 59.55 300 *eP* **P** **09 32 08.8 +0.7**
PCBR Castelo Branco 59.61 299 *eP* **P** **09 32 09.7 +1.3**
PCBR *i* IAmb IAmb 09 32 12.2
comp=Z,19nm,1.6s
ABPO Ambohimpanom 59.64 206 P **P** **09 32 09.7 +0.7**
ABPO Ambohimpanom 59.64 206 P **P** **09 32 09.7 +0.7**
ABPO pmax pmax
comp=Z,14nm,0.7s
ABPO Ambohimpanom 59.64 206 P **P** **09 32 10.4 +1.4**
ABPO Ambohimpanom 59.64 206 P **P** **09 32 09.7 +0.7**
ABPO pP **pP** **09 33 12.8 +3.9**
PMRV Marv??o 59.72 299 *eP* **P** **09 32 09.6 +0.3**
PMRV *i* IAmb IAmb 09 32 15.6
comp=Z,19nm,1.8s
MDSM Mandiavato 59.77 206 P **P** **09 32 11.0 +1.2**
PBAR Barrancos 59.99 297 *eP* **P** **09 32 10.6 -0.4**
PBAR *i* IAmb IAmb 09 32 12.4
comp=Z,54nm,1.4s
PETK Petropavlovsk- 60.03 44 P **P** **09 32 11.2 +0.1**
comp=Z,4.1nm,0.8s,baz=0.0,slow=1.5,SNR=7.3
PETK PcP **PcP** **09 32 54.2 +0.1**
comp=Z,2.7nm,0.7s,baz=280,slow=4.2,SNR=2.5
comp=Z,4.1nm,0.8s
PESTR Estremoz 60.09 298 *eP* **P** **09 32 12.3 +0.5**
PESTR *i* IAmb IAmb 09 32 18.8
comp=Z,18nm,1.5s
DGRM Ambatolahisoa 60.15 207 P **P** **09 32 13.9 +1.5**
ABM Ambohimiarambe 60.30 205 P **P** **09 32 15.4 +1.9**
PMTG Montargil 60.46 299 *eP* **P** **09 32 15.8 +1.6**
PMTG *i* IAmb IAmb 09 32 20.9
comp=Z,16nm,1.5s
MD01 Midelt array s 60.61 291 P **P** **09 32 14.8 -0.8**
MD31 MD31 60.61 291 P **P** **09 32 15.3 -0.2**
PBEJ Beja 60.64 297 *eP* **P** **09 32 16.4 +0.9**
PVAQ Vaqueiros 60.80 297 *eP* **P** **09 32 16.8 +0.3**
PVAQ *i* IAmb IAmb 09 32 23.1
comp=Z,52nm,1.8s
NEEM North Greenlan 60.85 348 *i* P **P** **09 32 17.1 +0.5**
NEEM IAmb IAmb 09 32 17.9
comp=Z,20nm,0.8s
SUMG Summit 60.85 341 **P** **09 32 18.5 +1.7**
SUMG IAmb IAmb 09 32 19.4
comp=Z,41nm,1.2s
SUMG Summit 60.85 341 P **P** **09 32 18.5 +1.7**
SUMG pmax pmax
comp=Z,41nm,1.2s
SUMG Summit 60.85 341 *i* P **P** **09 32 17.0 +0.2**
SUMG IAmb IAmb 09 32 19.1
comp=Z,49nm,1.3s
MESJ Messejana 60.98 297 *eP* **P** **09 32 18.3 +0.5**
MESJ IAmb IAmb 09 32 19.3
comp=Z,22nm,0.9s
MESJ Messejana 60.98 297 *eP* **P** **09 32 18.7 +1.0**
MESJ *i* IAmb IAmb 09 32 21.5
comp=Z,24nm,1.9s
PBDV Barranco-do-Ve 61.02 297 *eP* **P** **09 32 18.9 +0.8**
PBDV *i* IAmb IAmb 09 32 26.2
comp=Z,51nm,1.5s
PMAFR Mafra 61.25 299 *eP* **P** **09 32 20.3 +0.8**
PMAFR *i* IAmb IAmb 09 32 27.7
comp=Z,69nm,1.7s
VOI Vohitsoka 62.46 205 **P** **09 32 28.3 +0.5**
VOI Vohitsoka 62.46 205 P **P** **09 32 28.7 +0.9**
VOI Vohitsoka 62.46 205 P **P** **09 32 29.0 +1.2**
EDA Edea 64.32 255 P **P** **09 32 38.9 -1.1**
EDA IAmb IAmb 09 32 40.1
comp=Z,23nm,0.8s
LSZ Lusaka 65.39 226 P **P** **09 32 46.1 -0.8**
LSZ IAmb IAmb 09 32 48.0
comp=Z,22nm,0.8s
LSZ Lusaka 65.39 226 P **P** **09 32 47.3 +0.4**
LSZ Lusaka 65.39 226 P **P** **09 32 46.1 -0.8**
LSZ pmax pmax
comp=Z,23nm,0.8s
LSZ Lusaka 65.39 226 P **P** **09 32 47.0 +0.1**
TOA0 Torodi Ar. Sit 65.49 268 P **P** **09 32 46.3 -1.3**
TORD Torodi Ar. Bea 65.49 268 **P** **09 32 44.7 -2.9**
TORD Torodi Ar. Bea 65.49 268 P **P** **09 32 46.1 -1.5**
comp=Z,28nm,0.6s,baz=45,slow=5.8,SNR=210
TORD pP **pP** **09 33 46.8 -0.5**

baz=322
G23K **Bananza Creek** 72.37 16 IAmb IAmb 09 33 31.2
comp=Z,58nm,1.8s
G23K **Bananza Creek** 72.37 16 P P 09 33 30.0 +1.0
baz=327,SNR=13
J16K **Anvik River** 72.37 22 IAmb IAmb 09 33 32.7
comp=Z,33nm,0.8s
J16K **Anvik River** 72.37 22 P P 09 33 30.3 +1.3
baz=319,SNR=6.2
F25K **Christian Rive** 72.51 14 P P 09 33 31.3 +1.5
baz=330,SNR=20
H21K **Melozitna Rive** 72.60 17 IAmb IAmb 09 33 33.1
comp=Z,35nm,1.3s
H21K **Melozitna Rive** 72.60 17 P P 09 33 31.2 +0.8
baz=325,SNR=8.4
E28M **Babbage River** 72.67 11 IAmb IAmb 09 33 33.5
comp=Z,38nm,1.4s
E28M **Babbage River** 72.67 11 P P 09 33 32.2 +1.5
baz=335,SNR=21
F26K **Sheenjek River** 72.71 13 P P 09 33 32.2 +1.3
baz=331,SNR=9.7
E27K **Coleen River** 72.72 12 IAmb IAmb 09 33 33.0
comp=Z,15nm,0.8s
E27K **Coleen River** 72.72 12 P P 09 33 32.5 +1.5
baz=333,SNR=18
J17K **VABM Dome** 72.73 21 P P 09 33 32.2 +1.1
baz=320
H22K **Ishtalitna Cre** 72.75 17 P P 09 33 32.3 +1.1
baz=326,SNR=8.7
K15K **Wolf Creek Mou** 72.83 23 P P 09 33 33.1 +1.4
baz=318
BMAR **Burnt Mountain** 72.86 13 P 09 33 33.5 +1.6
I20K **Naaghedeneel** 72.89 19 P P 09 33 33.2 +1.3
baz=323
G24K **Hadweenzic Riv** 72.92 15 IAmb IAmb 09 33 34.1
comp=Z,18nm,0.7s
G24K **Hadweenzic Riv** 72.92 15 P P 09 33 33.6 +1.4
baz=329,SNR=20
E29M **Blow River** 73.12 11 IAmb IAmb 09 33 36.0
comp=Z,59nm,1.4s
E29M **Blow River** 73.12 11 P P 09 33 34.7 +1.4
baz=336,SNR=23
G25K **Bearman Lake** 73.14 14 P P 09 33 35.3 +1.8
baz=330,SNR=12
L14K **Kuka Creek** 73.18 24 P P 09 33 35.4 +1.7
baz=318
I21K **Tanana** 73.19 17 IAmb IAmb 09 33 35.9
comp=Z,54nm,1.6s
I21K **Tanana** 73.19 17 P P 09 33 34.9 +1.2
baz=325
H23K **Yukon River** 73.22 16 IAmb IAmb 09 33 36.1
comp=Z,16nm,0.7s
H23K **Yukon River** 73.22 16 P P 09 33 35.6 +1.6
baz=327
J19K **Poorman** 73.23 19 P P 09 33 35.3 +1.3
baz=323,SNR=11
L15K **Ungalak Mounta** 73.31 23 P P 09 33 35.9 +1.4
baz=318
J18K **Innoko River** 73.35 20 IAmb IAmb 09 33 36.4
comp=Z,22nm,0.7s
J18K **Innoko River** 73.35 20 P P 09 33 35.9 +1.1
baz=322,SNR=13
G26K **Porcupine Rive** 73.43 13 P P 09 33 36.6 +1.5
baz=332,SNR=12
J20K **Nowinta River** 73.47 19 IAmb IAmb 09 33 37.2
comp=Z,20nm,0.7s
J20K **Nowinta River** 73.47 19 P P 09 33 36.7 +1.3
baz=324,SNR=15
K17K **Iditarod** 73.49 21 P P 09 33 36.9 +1.3
baz=321
F28M **Old Crow** 73.52 12 IAmb IAmb 09 33 38.3
comp=Z,37nm,1.4s
F28M **Old Crow** 73.52 12 P P 09 33 37.2 +1.5
baz=335,SNR=14
H24K **Noodor Dome** 73.58 16 P P 09 33 37.4 +1.3
baz=328,SNR=13
MLY **Manley** 73.61 17 IAmb IAmb 09 33 39.0
comp=Z,48nm,1.6s
MLY **Manley** 73.61 17 P P 09 33 37.2 +0.9
baz=326,SNR=5.6
H25L **Birch Creek** 73.63 15 P P 09 33 38.1 +1.8
baz=330,SNR=8.3
M13K **Dall Lake** 73.64 25 P P 09 33 38.0 +1.5
baz=317
C36M **Paulatuk** 73.76 5 P P 09 33 37.5 +0.5
baz=348,SNR=11
MBWA **Marble Bar** 73.79 133 P 09 33 37.4 -0.4
INK **Inuvik** 73.80 9 P P 09 33 38.4 +1.2
baz=340,SNR=28
I23K **Minto, Yukon-K** 73.83 16 IAmb IAmb 09 33 39.9
comp=Z,56nm,1.4s
I23K **Minto, Yukon-K** 73.83 16 P P 09 33 38.7 +1.2
baz=327,SNR=12
KDWAN **Kaudwane** 73.83 224 IAmb IAmb 09 33 40.3
comp=Z,37nm,0.9s
M14K **Bethel** 73.85 24 P P 09 33 39.4 +1.7
baz=318,SNR=5.9
L16K **Owhat River** 73.91 22 IAmb IAmb 09 33 40.3
comp=Z,23nm,0.7s
L16K **Owhat River** 73.91 22 P P 09 33 39.8 +1.8
baz=320,SNR=7.6
L17K **Donlin** 73.94 22 P P 09 33 39.9 +1.7
baz=321
G27K **Doyon Strip** 73.94 13 IAmb IAmb 09 33 40.7
comp=Z,17nm,0.6s
G27K **Doyon Strip** 73.94 13 P P 09 33 39.9 +1.7
baz=333,SNR=31
P08K **Saint George I** 74.07 30 P P 09 33 39.9 +0.9
baz=314
F30M **Barrier River** 74.15 10 IAmb IAmb 09 33 41.5
comp=Z,38nm,1.1s
F30M **Barrier River** 74.15 10 P P 09 33 40.6 +1.3
baz=338,SNR=16
K20K **Telida** 74.16 19 P P 09 33 40.7 +1.2
baz=324,SNR=12
CHUM **Lake Minchumin** 74.18 18 P P 09 33 40.7 +1.2
baz=325,SNR=5.5
GRTLG **Ghanzi** 74.23 227 IAmb IAmb 09 33 42.1
comp=Z,25nm,1.0s
POKR **Poker Plat Res** 74.29 16 P P 09 33 41.5 +1.3
baz=329,SNR=9.3
M15K **Kasigluk River** 74.31 24 P P 09 33 42.0 +1.7
baz=319
BPAW **Bear Paw Mtn.** 74.33 18 IAmb IAmb 09 33 42.1
comp=Z,25nm,1.2s
BPAW **Bear Paw Mtn.** 74.33 18 P P 09 33 40.9 +0.5
baz=326,SNR=9.4
L18K **Granite Mounta** 74.34 21 P P 09 33 41.6 +1.1
baz=322
PRP **Porcupine Dome** 74.35 15 P P 09 33 41.9 +1.2
baz=330,SNR=14
NEA2 **Nenana** 74.37 17 P P 09 33 41.2 +0.5
baz=328,SNR=29
COLA **College** 74.41 16 P P 09 33 41.7 +1.0
COLA IAmb IAmb 09 33 42.6
comp=Z,30nm,0.8s
COLA **College** 74.41 16 P P 09 33 41.8 +1.0
COLA **College** 74.41 16*c i* P P 09 33 41.5 +0.7
COLA pmax pmax
comp=Z,37nm,1.1s
COLA **College** 74.41 16 P P 09 33 41.7 +1.0
baz=329
G29M **Pine Creek** 74.46 11 IAmb IAmb 09 33 43.5
comp=Z,71nm,1.8s
G29M **Pine Creek** 74.46 11 P P 09 33 42.2 +1.1
baz=336,SNR=9.1
DBIC **Dimbokro** 74.48 267 P 09 33 40.9 -1.1
DBIC IAmb IAmb 09 33 41.9
comp=Z,42nm,1.2s
DBIC **Dimbokro** 74.48 267 P P 09 33 40.6 -1.4
comp=Z,16nm,0.8s,baz=74,slow=6.6,SNR=14
comp=Z,16nm,0.8s
DBIC **Dimbokro** 74.48 267 P P 09 33 40.9 -1.1
DBIC pmax pmax
comp=Z,42nm,1.3s
H27K **Steamboat Moun** 74.49 13 P P 09 33 42.8 +1.5
baz=334,SNR=28
N14K **Kuskokwak Cree** 74.56 24 P P 09 33 42.5 +0.7
baz=319
F31M **Tsiigehtchic** 74.59 10 P P 09 33 42.7 +0.9
baz=340,SNR=18
CCB **Clear Creek Bu** 74.61 16 IAmb IAmb 09 33 43.5
comp=Z,56nm,1.9s
LBTB **Lobatse** 74.63 222 IAmb IAmb 09 33 44.8
comp=Z,38nm,1.1s
G30M **tAoh Zrail Nji** 74.67 11 IAmb IAmb 09 33 44.3
comp=Z,34nm,0.9s
G30M **tAoh Zrail Nji** 74.67 11 P P 09 33 43.2 +0.9
baz=338,SNR=18
WRH **Wood River Hil** 74.70 16 IAmb IAmb 09 33 43.7
comp=Z,45nm,1.6s
IL31 **** 74.71 16 IAmb IAmb 09 33 44.5
comp=Z,30nm,1.4s
ILAR **Eielson Array** 74.71 16 P P 09 33 42.5 0.0
comp=Z,8.3nm,1.0s,baz=280,slow=5.3,SNR=85
ILAR pP pP 09 34 44.0 -1.0
comp=Z,3.3nm,0.9s,baz=316,slow=3.6,SNR=4.0
comp=Z,8.3nm,1.0s
M17K **Holitna River** 74.77 22 P P 09 33 44.8 +1.8
baz=322
KTH **Kantishna Hill** 74.80 18 IAmb IAmb 09 33 44.9
comp=Z,49nm,1.2s
TSUM **Tsumeb** 74.82 232 P 09 33 43.7 -0.3
TSUM IAmb IAmb 09 33 46.0
comp=Z,21nm,0.8s
L19K **White Mountain** 74.89 20 IAmb IAmb 09 33 46.1
comp=Z,32nm,1.3s
L19K **White Mountain** 74.89 20 P P 09 33 45.1 +1.4
baz=324,SNR=5.1
N15K **Kwethluk River** 74.90 24 P P 09 33 44.5 +0.7
baz=320
L20K **Farewell, AK** 74.92 20 P P 09 33 44.9 +1.0
baz=324,SNR=5.6
HDA **Harding Lake** 75.01 16 P P 09 33 44.2 0.0
baz=330,SNR=7.6
G31M **Satah River** 75.01 10 P P 09 33 45.0 +0.8
baz=340,SNR=17
I26K **Coal Creek Min** 75.01 14 IAmb IAmb 09 33 45.9
comp=Z,14nm,0.7s
I26K **Coal Creek Min** 75.01 14 P P 09 33 45.2 +1.0
baz=332
PPLA **Purkeypile** 75.03 19 IAmb IAmb 09 33 46.3
comp=Z,15nm,0.6s
PPLA **Purkeypile** 75.03 19 P P 09 33 44.8 +0.2
baz=326
I27K **Kandik River** 75.03 13 P P 09 33 45.5 +1.0
baz=334,SNR=18
H29M **Whitestone** 75.04 12 P P 09 33 45.7 +1.2
baz=336,SNR=24
TRF **Thorofare Moun** 75.05 18 P P 09 33 45.0 +0.3
baz=327
N16K **Nishlik Lake** 75.09 23 P P 09 33 46.5 +1.7
baz=321
MCK **McKinley** 75.13 17 IAmb IAmb 09 33 46.8
comp=Z,13nm,0.5s
MCK **McKinley** 75.13 17 P P 09 33 45.4 +0.3
baz=328,SNR=8.8
EPYK **Eagle Plains** 75.17 11 P P 09 33 45.6 +0.4
baz=338,SNR=7.5
J25K **Salcha River,** 75.17 15 IAmb IAmb 09 33 46.1
comp=Z,11nm,0.6s
J25K **Salcha River,** 75.17 15 P P 09 33 45.5 +0.2
baz=331,SNR=19
M18K **Stony River** 75.17 21 P P 09 33 46.0 +0.8
baz=323
O14K **Tigyukauivet M** 75.21 25 P P 09 33 46.4 +0.9
baz=319
RND **Reindeer** 75.43 17 IAmb IAmb 09 33 48.4
comp=Z,41nm,1.2s
I28M **Miner Creek** 75.48 13 IAmb IAmb 09 33 48.3
comp=Z,17nm,0.7s
I28M **Miner Creek** 75.48 13 P P 09 33 47.8 +0.7
baz=335,SNR=24
KNRA **Kununurra** 75.50 122 IAmb IAmb 09 33 48.3
comp=Z,18nm,0.9s
N17K **Nushagak Hills** 75.53 22 P P 09 33 48.3 +1.0
baz=322
M20K **Styx River** 75.61 20 P P 09 33 48.3 +0.4
baz=325
J26L **Joseph Creek** 75.64 15 P P 09 33 48.7 +0.8
baz=332,SNR=26
K24K **Donnelly Dome** 75.79 16 P P 09 33 48.8 +0.1
baz=330,SNR=5.5
N18K **Kilae Creek** 75.80 22 P P 09 33 50.3 +1.4
baz=323
I29M **Ogilvie Camp,** 75.84 12 IAmb IAmb 09 33 50.7
comp=Z,57nm,1.5s
I29M **Ogilvie Camp,** 75.84 12 P P 09 33 49.4 +0.4
baz=336,SNR=25
EGAK **Eagle** 75.86 13 P P 09 33 49.9 +0.8
baz=334,SNR=13
CUT **Chulitna** 75.93 18 P P 09 33 49.3 -0.1
baz=327
SKT **Skwentna** 75.96 19 IAmb IAmb 09 33 51.4
comp=Z,42nm,1.1s
SKT **Skwentna** 75.96 19 P P 09 33 49.7 0.0
baz=326,SNR=16
O16K **Kokwok River B** 75.99 23 P P 09 33 51.0 +1.2
baz=330,SNR=5.5
WAT1 **Susitna Watana** 76.00 17 P P 09 33 49.5 -0.4
baz=328
SCRK **Sand Creek** 76.02 15 P P 09 33 51.1 +0.9
baz=332,SNR=29
RIDG **Independent Ri** 76.05 15 IAmb IAmb 09 33 51.6
comp=Z,28nm,1.1s
RIDG **Independent Ri** 76.05 15 P P 09 33 50.4 +0.2
baz=331,SNR=14
H31M **Peel River** 76.05 10 IAmb IAmb 09 33 51.4
comp=Z,23nm,0.7s
H31M **Peel River** 76.05 10 P P 09 33 50.9 +0.7
baz=340,SNR=20
DHY **Denali Highway** 76.06 17 IAmb IAmb 09 33 51.8
comp=Z,24nm,0.7s
DHY **Denali Highway** 76.06 17 P P 09 33 50.4 -0.1
baz=329,SNR=17
N19K **Bonanza Creek** 76.11 21 P P 09 33 51.4 +0.8
baz=324
O17K **Koliganek Bris** 76.16 23 P P 09 33 51.7 +0.9
baz=322
I30M **Mount Dempster** 76.28 11 IAmb IAmb 09 33 53.4
comp=Z,40nm,1.2s
I30M **Mount Dempster** 76.28 11 P P 09 33 52.2 +0.6
baz=338,SNR=30
DOT **Dot Lake** 76.30 15 IAmb IAmb 09 33 53.1
comp=Z,51nm,1.7s
K27K **Chicken** 76.36 14 IAmb IAmb 09 33 54.4
comp=Z,46nm,1.4s
K27K **Chicken** 76.36 14 P P 09 33 53.3 +1.4
baz=333
WAT6 **Susitna Watana** 76.40 17 P P 09 33 52.4 +0.1
baz=329,SNR=7.5
N20K **Mount Spurr** 76.43 20 P P 09 33 52.7 +0.3
baz=326
P16K **Nushagak River** 76.46 24 P P 09 33 52.5 0.0
baz=322
M22K **Willow** 76.52 19 P P 09 33 52.7 0.0
baz=327
PAX **Paxson** 76.59 16 IAmb IAmb 09 33 54.3
comp=Z,22nm,0.6s
PAX **Paxson** 76.59 16 P P 09 33 53.7 +0.4
baz=331,SNR=28
SUA **Susitna One** 76.60 19 IAmb IAmb 09 33 55.2
comp=Z,20nm,1.0s
SUA **Susitna One** 76.60 19 P P 09 33 53.7 +0.3
baz=327,SNR=6.6
O19K **Port Alsworth** 76.66 21 IAmb IAmb 09 33 55.6
comp=Z,62nm,1.5s
O19K **Port Alsworth** 76.66 21 P P 09 33 53.8 +0.3
baz=324
J29N **Klondike Camp** 76.69 12 P P 09 33 54.8 +0.9
baz=336
P17K **Kvichak River** 76.82 23 P P 09 33 55.9 +1.3
baz=323,SNR=5.7
DAWY **Dawson** 76.84 13 IAmb IAmb 09 33 56.6
comp=Z,67nm,1.6s
DAWY **Dawson** 76.84 13 P P 09 33 55.4 +0.7
baz=336,SNR=27
J30M **Hart River** 76.89 12 IAmb IAmb 09 33 57.2
comp=Z,41nm,1.4s
J30M **Hart River** 76.89 12 P P 09 33 56.0 +1.0
baz=338,SNR=16
PMR **Palmer** 76.91 18 P P 09 33 55.2 +0.2
PMR **Palmer** 76.91 18 P P 09 33 55.1 +0.2
baz=328,SNR=5.5
MENT **Mentasta** 77.00 15 IAmb IAmb 09 33 57.5
comp=Z,31nm,1.6s
MENT **Mentasta** 77.00 15 P P 09 33 57.2 +1.7
L26K **Log Cabin Wild** 77.00 15 IAmb IAmb 09 33 58.5
comp=Z,28nm,1.3s
L26K **Log Cabin Wild** 77.00 15 P P 09 33 56.6 +1.1
baz=332,SNR=10
P18K **Big Mountain,** 77.04 22 P P 09 33 56.6 +0.8
baz=324
M23K **Glacier View** 77.08 18 P P 09 33 56.4 +0.4
baz=329,SNR=19
SCM **Sheep Creek Mo** 77.15 17 IAmb IAmb 09 33 57.5
comp=Z,25nm,0.6s
SCM **Sheep Creek Mo** 77.15 17 P P 09 33 56.9 +0.5
baz=330,SNR=11
HARP **HAARP** 77.16 16 P P 09 33 57.9 +1.4
baz=331,SNR=24
Q16K **King Salmon** 77.17 23 P P 09 33 57.9 +1.4
baz=323
RC01 **Rabbit Creek A** 77.18 19 P P 09 33 56.7 +0.2
baz=328
M24K **Tolsona, Glenn** 77.18 17 P P 09 33 57.9 +1.3
baz=330,SNR=19
KNK **Knik Glacier** 77.23 18 IAmb IAmb 09 33 58.7
comp=Z,33nm,1.0s
KNK **Knik Glacier** 77.23 18 P P 09 33 57.4 +0.6
baz=329,SNR=7.9
L27K **Beaver Creek,** 77.28 15 IAmb IAmb 09 33 59.6
comp=Z,48nm,1.5s
L27K **Beaver Creek,** 77.28 15 P P 09 33 58.4 +1.3
baz=334,SNR=15
BCAR **Beaver Creek A** 77.29 15 P 09 33 58.1 +0.9
K29M **Barlow Dome** 77.38 12 IAmb IAmb 09 34 00.0
comp=Z,51nm,1.4s
K29M **Barlow Dome** 77.38 12 P P 09 33 58.8 +1.1
baz=337,SNR=22
P19K **Oil Pt** 77.42 21 P P 09 33 58.0 +0.1
baz=325
SLKM **Skilak Lake** 77.54 19 IAmb IAmb 09 33 59.6
comp=Z,15nm,0.6s
M26K **Nabesna, AK** 77.63 15 P P 09 33 60.0 +0.9
baz=333,SNR=9.3
O22K **Cooper Landing** 77.70 19 P P 09 33 59.9 +0.6
baz=328
BOSA **Boshof** 77.71 220 IAmb IAmb 09 34 00.6
comp=Z,35nm,1.1s
BOSA **Boshof** 77.71 220 P P 09 33 59.4 -0.5
comp=Z,19nm,0.8s,baz=29,slow=4.3,SNR=29
BOSA pP pP 09 35 02.4 -0.8
comp=Z,4.2nm,0.9s,baz=29,slow=6.2,SNR=2.4
BOSA sP sP 09 35 30.5 -1.1
comp=Z,8.5nm,1.0s,baz=45,slow=7.0,SNR=4.8
comp=Z,19nm,0.8s
Q18K **Katmai Hardscr** 77.71 23 P P 09 33 59.8 +0.2
baz=324
PWL **Port Wells** 77.74 18 IAmb IAmb 09 34 01.7
comp=Z,19nm,1.0s
PWL **Port Wells** 77.74 18 P P 09 34 00.1 +0.5
baz=329
KLU **Klutina** 77.78 17 IAmb IAmb 09 34 02.1
comp=Z,31nm,1.0s
KLU **Klutina** 77.78 17 P P 09 34 00.7 +0.8
baz=331,SNR=13
Q19K **Cape Douglas,** 77.89 22 P P 09 34 00.8 +0.3
baz=325
M27K **Edge Creek, AK** 77.90 15 P P 09 34 02.0 +1.3
baz=334,SNR=27
L29M **L29M** 77.94 13 IAmb IAmb 09 34 03.2
comp=Z,35nm,1.2s
L29M **L29M** 77.94 13 P P 09 34 01.9 +1.1
baz=337,SNR=20
N25K **Chitina, Valde** 77.98 16 IAmb IAmb 09 34 03.5
comp=Z,50nm,1.6s
N25K **Chitina, Valde** 77.98 16 P P 09 34 02.0 +1.0
baz=332,SNR=7.1
BRLK **Bradley Lake** 77.99 20 IAmb IAmb 09 34 02.3
comp=Z,30nm,1.1s
MORW **Morawa** 78.00 140 P 09 34 00.8 -0.7
GLI **Glacier Island** 78.03 18 P P 09 34 01.7 +0.5
baz=330
BRSE **Bradley Lake S** 78.05 20 P P 09 34 01.0 -0.3
baz=327
BVCY **Beaver Creek** 78.06 14 P P 09 34 02.8 +1.4
baz=335,SNR=8.6
SEW **Seward** 78.09 19 P P 09 34 01.6 +0.1
baz=328
DIV **Divide** 78.13 17 IAmb IAmb 09 34 03.2
comp=Z,15nm,0.6s
CHGN **Chignik** 78.47 25 P P 09 34 04.7 +1.1
baz=322
M29M **Somme Creek** 78.50 13 P P 09 34 05.0 +1.1
baz=336,SNR=15
Q20K **Shuyak Island** 78.52 21 P P 09 34 04.6 +0.7
baz=326
MCARA **McCarthy VSAT** 78.53 16 P P 09 34 04.7 +0.8
baz=333
BMRM **Bremner River** 78.55 17 IAmb IAmb 09 34 06.3
comp=Z,38nm,1.0s
BMRM **Bremner River** 78.55 17 P P 09 34 04.9 +0.8
baz=332,SNR=13
VRDI **Verde Repeater** 78.58 16 IAmb IAmb 09 34 06.4
comp=Z,26nm,1.1s
EYAK **Cordova Ski Ar** 78.64 17 IAmb IAmb 09 34 06.9
comp=Z,48nm,1.2s
EYAK **Cordova Ski Ar** 78.64 17 P P 09 34 06.5 +2.0
EYAK **Cordova Ski Ar** 78.64 17 P P 09 34 05.7 +1.2
baz=331,SNR=5.9
M30M **Minto, Yukon** 78.68 13 P P 09 34 05.5 +0.8
baz=338,SNR=8.1
YUK3 **Moose Creek** 78.72 15 P P 09 34 06.1 +0.9
baz=335,SNR=17
R18K **Karluk** 78.76 23 P P 09 34 05.9 +0.7
baz=324
BLKN **Baker Lake** 78.83 354 IAmb IAmb 09 34 07.1
comp=Z,26nm,0.9s
CRQM **Cirque** 79.07 16 IAmb IAmb 09 34 09.2
comp=Z,54nm,1.4s
CRQE **Cirque** 79.08 16 P P 09 34 08.0 +0.9
baz=333,SNR=6.9
BARN **Barnard Glacie** 79.12 15 IAmb IAmb 09 34 09.7
comp=Z,24nm,1.0s
KDAK **Kodiak Island** 79.16 22 P P 09 34 08.1 +0.8
KDAK **Kodiak Island** 79.16 22 P P 09 34 08.1 +0.8
KDAK pmax pmax
comp=Z,40nm,1.0s
KDAK **Kodiak Island** 79.16 22 P P 09 34 08.1 +0.8
baz=326
CTG **Chitna Glacier** 79.27 15 P P 09 34 09.3 +1.2
baz=334
CTGM **Chitina Glacie** 79.27 15 IAmb IAmb 09 34 10.6
comp=Z,44nm,1.4s
YUK8 **Steele Glacier** 79.31 14 P P 09 34 09.4 +0.9
baz=336
GRNC **Granite Creek** 79.39 16 IAmb IAmb 09 34 11.6
comp=Z,17nm,1.0s
OHAK **Old Harbor** 79.40 23 IAmb IAmb 09 34 10.1
comp=Z,44nm,1.1s
OHAK **Old Harbor** 79.40 23 P P 09 34 09.9 +1.2
OHAK **Old Harbor** 79.40 23 P P 09 34 09.5 +0.8
baz=325
WAX **Waxell Ridge** 79.41 16 IAmb IAmb 09 34 10.6
comp=Z,13nm,0.5s
M31M **Drury Creek, Y** 79.43 12 IAmb IAmb 09 34 11.5
comp=Z,26nm,1.1s
M31M **Drury Creek, Y** 79.43 12 P P 09 34 09.8 +0.9
baz=340,SNR=14
LOGN **Logan Glacier** 79.47 15 IAmb IAmb 09 34 21.7
comp=Z,23nm,0.7s
YUK4 **Talbot Arm** 79.47 14 P P 09 34 10.2 +0.9
baz=336,SNR=12
Q23K **Middleton Isla** 79.47 18 P P 09 34 10.0 +1.0
baz=330
MMPY **Sheldon Lake,** 79.51 10 P P 09 34 10.6 +1.3
baz=342,SNR=5.7
N30M **Aishikik Lake** 79.66 13 IAmb IAmb 09 34 12.6
comp=Z,22nm,1.1s
N30M **Aishikik Lake** 79.66 13 P P 09 34 11.6 +1.4
baz=338,SNR=9.9
SII **Sitkinak Islan** 79.67 23 P P 09 34 11.9 +1.7
baz=325
O28M **Mount Upton** 79.69 15 P P 09 34 11.6 +1.0
baz=335,SNR=6.2
WRGLY **Wrigley** 79.83 6 P P 09 34 12.5 +1.6
baz=348,SNR=8.9
MESA **MESA** 79.85 16 P P 09 34 12.6 +1.3
baz=334
N31M **Braeburn, Yuko** 79.87 13 IAmb IAmb 09 34 13.2
comp=Z,28nm,0.9s
N31M **Braeburn, Yuko** 79.87 13 P P 09 34 12.1 +0.9
baz=339,SNR=17
YUK6 **Outpost Mounta** 79.90 14 P P 09 34 12.9 +1.3
baz=337,SNR=6.2
HYT **Haines Junctio** 80.17 14 IAmb IAmb 09 34 15.4
comp=Z,27nm,1.1s
HYT **Haines Junctio** 80.17 14 P P 09 34 14.4 +1.5
baz=337,SNR=14
PINM **Pinnacle** 80.29 15 P P 09 34 14.9 +1.4
baz=335,SNR=5.1
O29M **Mount Kennedy** 80.44 14 P P 09 34 15.7 +1.3
baz=336

O30N	**Mendenhall**	**80.48**	**13**	IAmb	IAmb	09 34 16.5
	comp=Z,22nm,1.1s					
O30N	**Mendenhall**	**80.48**	**13**	P	**P**	**09 34 15.6 +1.1**
	baz=338,SNR=18					
N32M	**Quiet Lake**	**80.64**	**11**	P	**P**	**09 34 15.6 +0.3**
	baz=341					
WHY	**Whitehorse**	**80.80**	**12**	IAmb	IAmb	09 34 17.5
	comp=Z,40nm,1.3s					
WHY	**Whitehorse**	**80.80**	**12**	P	**P**	**09 34 16.5 +0.3**
	baz=339,SNR=9.7					
PNL	**Peninsula**	**80.86**	**15**	P	**P**	**09 34 17.8 +1.3**
	baz=336					
P30M	**Million Dollar**	**80.92**	**14**	P	**P**	**09 34 18.0 +1.1**
	baz=338					
TGTN	**Hyland Airport**	**80.97**	**9**	P	**P**	**09 34 18.6 +1.6**
	baz=345,SNR=9.3					
YKAW3	**Yellowknife Wh**	**81.05**	**2**	IAmb	IAmb	09 34 19.1
	comp=Z,22nm,1.1s					
YKA	**Yellowknife Ar**	**81.12**	**2**	P	**P**	**09 34 18.1 +0.4**
	comp=Z,9.5nm,0.8s,baz=329,slow=11,SNR=22					
YKA				pP	**pP**	**09 35 21.1 0.0**
	comp=Z,5.8nm,0.9s,baz=352,slow=6.3,SNR=4.2					
YKA				sP	**sP**	**09 35 48.4 -1.1**
	comp=Z,6.1nm,0.9s,baz=352,slow=5.8,SNR=3.9					
	comp=Z,5nm,0.8s					
YKAW1	**Yellowknife Wh**	**81.13**	**2**	IAmb	IAmb	09 34 19.6
	comp=Z,5nm,0.9s					
P29M	**Windy Craggy**	**81.23**	**14**	P	**P**	**09 34 19.3 +0.9**
	baz=337					
P33M	**Teslin, Yukon**	**81.57**	**12**	P	**P**	**09 34 20.9 +0.7**
	baz=341,SNR=25					
PLBC	**Pleasant Camp**	**81.66**	**14**	P	**P**	**09 34 21.9 +1.3**
	baz=338,SNR=15					
SKAG	**Skagway**	**81.85**	**13**	IAmb	IAmb	09 34 24.1
	comp=Z,32nm,1.2s					
SKAG	**Skagway**	**81.85**	**13**	P	**P**	**09 34 23.5 +1.9**
SKAG	**Skagway**	**81.85**	**13**	P	**P**	**09 34 23.1 +1.5**
	baz=339,SNR=12					
SCHQ	**Schefferville**	**81.88**	**337**	P	**P**	**09 34 22.6 +0.7**
SCHQ	**Schefferville**	**81.88**	**337**	P	**P**	**09 34 21.9 0.0**
	comp=Z,72nm,0.9s,baz=31,slow=1.9,SNR=5.0					
SCHQ				pP	**pP**	**09 35 24.9 +0.1**
	comp=Z,69nm,1.0s,baz=45,slow=1.4,SNR=3.5					
	comp=Z,72nm,0.9s					
P32M	**Atlin**	**82.01**	**12**	IAmb	IAmb	09 34 24.4
	comp=Z,21nm,1.1s					
P32M	**Atlin**	**82.01**	**12**	P	**P**	**09 34 23.5 +1.0**
	baz=340,SNR=6.8					
WRA	**Warramunga Arr**	**82.26**	**122**	P	**P**	**09 34 22.8 -1.5**
	comp=Z,6.4nm,0.8s,baz=326,slow=4.8,SNR=59					
WRA				pP	**pP**	**09 35 27.8 -0.4**
	comp=Z,3.5nm,0.9s,baz=314,slow=5.7,SNR=3.6					
WRA				sP	**sP**	**09 35 55.8 -0.6**
	comp=Z,3.9nm,0.6s,baz=314,slow=5.5,SNR=2.4					
WRA				PKKPbc	**PKKPbc**	**09 52 49.9 +0.3**
	comp=Z,0.9nm,0.6s,baz=114,slow=1.9,SNR=12					
	comp=Z,6.4nm,0.8s					
WRA	**Warramunga Arr**	**82.26**	**122**	*i* P	**P**	**09 34 22.1 -2.2**
WRA				pmax	pmax	
	comp=Z,7.0nm,0.8s					
WTLY	**Watson Lake, Y**	**82.26**	**10**	P	**P**	**09 34 24.8 +1.0**
	baz=344					
R33M	**Jennings River**	**82.64**	**11**	IAmb	IAmb	09 34 27.9
	comp=Z,24nm,1.1s					
R33M	**Jennings River**	**82.64**	**11**	P	**P**	**09 34 26.9 +1.1**
	baz=343,SNR=15					
R31K	**City Hall, Gus**	**82.75**	**14**	P	**P**	**09 34 27.5 +1.2**
	baz=339					
BESE	**Bessie Mountai**	**82.76**	**13**	IAmb	IAmb	09 34 28.4
	comp=Z,23nm,1.1s					
KOTAN	**Kotaneelee Air**	**82.81**	**7**	P	**P**	**09 34 28.0 +1.4**
	baz=348					
Q32M	**Nakina River**	**82.85**	**12**	P	**P**	**09 34 28.2 +1.2**
	baz=342,SNR=5.2					
SUR	**Sutherland**	**83.01**	**221**	P	**P**	**09 34 29.0 +0.9**
S31K	**Pelican**	**83.08**	**14**	P	**P**	**09 34 29.1 +1.2**
	baz=338					
R32K	**Eaglecrest**	**83.11**	**13**	IAmb	IAmb	09 34 31.4
	comp=Z,21nm,1.1s					
R32K	**Eaglecrest**	**83.11**	**13**	P	**P**	**09 34 29.8 +1.7**
	baz=340,SNR=5.7					
JIS	**Juneau Island**	**83.13**	**13**	P	**P**	**09 34 30.1 +1.9**
LIRD	**Liard River Hi**	**83.29**	**9**	P	**P**	**09 34 30.2 +1.2**
	baz=346,SNR=5.9					
DLBC	**Dease Lake**	**83.70**	**11**	P	**P**	**09 34 32.4 +1.2**
	baz=343,SNR=7.8					
TOAD	**Toad River Com**	**83.94**	**8**	P	**P**	**09 34 33.3 +0.9**
	baz=347,SNR=12					
S34M	**Telegraph Cree**	**84.03**	**12**	P	**P**	**09 34 34.3 +1.5**
	baz=342,SNR=13					
SIT	**Sitka**	**84.10**	**14**	P	**P**	**09 34 34.1 +1.0**
	baz=339					
AS31	**Alice Springs**	**84.52**	**125**		**P**	**09 34 34.6 -1.2**
ASAR	**Alice Springs**	**84.52**	**125**		**P**	**09 34 33.8 -1.9**
ASAR	**Alice Springs**	**84.52**	**125**	P	**P**	**09 34 34.3 -1.5**
	comp=Z,5.3nm,0.6s,baz=311,slow=5.0,SNR=120					
ASAR				pP	**pP**	**09 35 39.4 -0.1**
	comp=Z,4.4nm,0.7s,baz=314,slow=5.2,SNR=7.0					
ASAR				sP	**sP**	**09 36 08.7 +1.2**
	comp=Z,2.7nm,0.7s,baz=311,slow=5.5,SNR=3.1					
ASAR				PKKPbc	**PKKPbc**	**09 52 44.5 -0.1**
	comp=Z,0.6nm,0.8s,baz=123,slow=2.7,SNR=7.2					
ASAR				PKPPKP	**P'P'df**	**10 00 48.5 +0.1**
	comp=Z,0.5nm,1.0s,baz=178,slow=3.4,SNR=4.1					
	comp=Z,5.3nm,0.6s					
T35M	**Bob Quinn**	**85.06**	**11**	P	**P**	**09 34 39.3 +1.3**
	baz=343					
WRAK	**Wrangell Islan**	**85.25**	**13**	P	**P**	**09 34 39.9 +1.1**
	baz=342					
U33K	**Whale Pass**	**85.40**	**13**	P	**P**	**09 34 40.9 +1.3**
	baz=341					
FORT	**Forrest**	**85.93**	**133**	IAmb	IAmb	09 34 42.6
	comp=Z,14nm,0.7s					
CRAG	**Craig**	**86.01**	**13**	P	**P**	**09 34 44.4 +1.8**
	baz=341					
V35K	**Ketchikan**	**86.42**	**13**	P	**P**	**09 34 46.1 +1.5**
	baz=342					
FFC	**Flin Flon**	**88.78**	**356**		**P**	**09 34 55.6 -0.2**
FFC				IAmb	IAmb	09 34 57.5
	comp=Z,22nm,1.2s					
FFC	**Flin Flon**	**88.78**	**356**	P	**P**	**09 34 55.7 -0.2**
FFC				pmax	pmax	
	comp=Z,22nm,1.2s					
VLDQ	**Val d'Or**	**90.97**	**339**	IAmb	IAmb	09 35 07.9
	comp=Z,15nm,1.1s					
LLLB	**Lillooet**	**92.42**	**8**	IAmb	IAmb	09 35 15.2
	comp=Z,14nm,1.2s					
ULM	**Lac du Bonnet**	**92.68**	**351**	P	**P**	**09 35 13.7 -0.3**
	comp=Z,8.3nm,1.1s,baz=29,slow=0.7,SNR=5.6					
	comp=Z,8.3nm,1.1s					
A04D	**Lummi Island**	**94.18**	**9**	IAmb	IAmb	09 35 22.8
	comp=Z,11nm,1.0s					
AGMN	**Agassiz Nation**	**94.59**	**351**	IAmb	IAmb	09 35 24.0
	comp=Z,19nm,1.4s					
B08A	**Colville Reser**	**94.90**	**7**	IAmb	IAmb	09 35 26.0
	comp=Z,9.4nm,1.4s					
STKA	**Stephens Creek**	**95.06**	**126**	P	**P**	**09 35 23.7 -1.3**
	comp=Z,2.4nm,1.0s,baz=290,slow=13,SNR=2.5					
	comp=Z,2.4nm,1.0s					
NEW	**Newport**	**95.18**	**5**	IAmb	IAmb	09 35 27.4
	comp=Z,7.8nm,1.1s					
GNW	**Green Mountain**	**95.30**	**9**	IAmb	IAmb	09 35 28.5
	comp=Z,8.9nm,1.1s					
C09A	**Chrisman Ranch**	**95.55**	**6**	IAmb	IAmb	09 35 29.2
	comp=Z,15nm,1.5s					
MXC	**Moxie City**	**96.57**	**8**	IAmb	IAmb	09 35 33.6
	comp=Z,6.5nm,1.1s					
E09A	**Wood Farm, Sta**	**96.84**	**6**	IAmb	IAmb	09 35 35.4
	comp=Z,21nm,1.9s					
YNE	**Yellowstone No**	**98.73**	**1**	IAmb	IAmb	09 35 44.8
	comp=Z,4.7nm,1.2s					
MAW	**Mawson**	**104.09**	**183**	Pdiff	**Pdif**	**09 36 06.6 +2.2**
	comp=Z,0.6nm,0.6s,baz=14,slow=8.2,SNR=2.2					
NVAR	**Mina Array Bea**	**104.84**	**7**	Pdiff	**Pdif**	**09 36 08.2 -0.9**
	comp=Z,0.2nm,0.7s,baz=336,slow=2.5,SNR=3.8					
NVAR				PKiKP	**PKiKP**	**09 40 24.3 +1.5**
	comp=Z,0.5nm,0.8s,baz=354,slow=3.6,SNR=3.2					
TXAR	**Lajitas Array**	**114.16**	**355**	PKP	**PKiKP**	**09 40 40.0 -0.4**
	comp=Z,0.1nm,0.5s,baz=216,slow=0.7,SNR=4.1					
TXAR				PKKPbc	**PKKPbc**	**09 51 20.2 -0.9**
	comp=Z,0.5nm,0.8s,baz=173,slow=4.0,SNR=7.3					
TROLL	**Troll, Antarti**	**118.16**	**199**	⇓PKPdf	**PKPdf**	**09 40 46.0 -0.7**
	comp=Z,343nm,0.7s					
SNAA	**Sanae**	**119.45**	**200**	PKP	**PKPdf**	**09 40 47.7 -1.4**
	comp=Z,2.1nm,0.8s,baz=170,slow=9.9,SNR=7.5					
CMIG	**Matias Romero**	**124.86**	**343**	PKP	**PKPdf**	**09 41 00.5 -0.7**
	comp=Z,2.9nm,0.7s,baz=350,slow=6.1,SNR=2.4					
QSPA	**South Pole Qui**	**126.44**	**180**		**PKiKP**	**09 41 03.3 +0.2**
QSPA	**South Pole Qui**	**126.44**	**180**	PKP	**PKiKP**	**09 41 03.1 0.0**
	comp=Z,4.3nm,0.7s,baz=267,slow=6.9,SNR=22					
QSPA				pPKP	**pPKPdf**	**09 42 11.2 +0.5**
	comp=Z,4.3nm,1.0s,baz=242,slow=2.0,SNR=4.0					
ROSC	**El Rosal**	**127.38**	**314**	PKP	**PKiKP**	**09 41 07.0 -0.1**
	comp=Z,24nm,0.8s,baz=158,slow=6.4,SNR=9.6					
ROSC	**El Rosal**	**127.38**	**314**	PKiKP	**PKiKP**	**09 41 07.0 -0.1**
AQDB	**Aquidauana**	**130.87**	**274**		**PKPdf**	**09 41 12.0 -0.3**
CPUP	**Villa Florida**	**134.99**	**268**		**PKPdf**	**09 41 19.6 -0.4**
CPUP	**Villa Florida**	**134.99**	**268**	PKP	**PKPdf**	**09 41 18.8 -1.2**
	comp=Z,2.0nm,0.9s,baz=276,slow=3.6,SNR=3.0					
CPUP	**Villa Florida**	**134.99**	**268**	PKiKP	**PKPdf**	**09 41 19.6 -0.4**
LPAZ	**La Paz**	**138.35**	**288**	PKP	**PKPdf**	**09 41 25.1 -2.2**
	comp=Z,4.0nm,1.0s,baz=42,slow=3.3,SNR=9.5					
PLCA	**Paso Flores**	**149.66**	**250**	PKP	**PKPdf**	**09 41 45.4 0.0**
	comp=Z,45nm,1.1s,baz=48,slow=4.0,SNR=5.6					
PLCA				PKPbc	**PKiKP**	**09 41 51.0 -0.3**
	comp=Z,34nm,1.0s,baz=70,slow=3.0,SNR=31					

ASRS ***12*** *09:50:06.0±1.3,54°.26N×86°.13E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 12 09:50:08.0±2.4,54°.23N×86°.14E,h0km,mbtmp3.1/2, ML2.9/2,Error ellipse: s-maj=18.3km s-min=11.2km az=56.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.82**	**251**	I	I	09 56 00.0	
	baz=70,slow=330,SNR=0.8						
ZALV	**Zalesovo Beam**	**0.82**	**251**	Pg	Pg	09 50 22.8	-1.0
	1.2nm,0.3s,baz=67,slow=16,SNR=16						
ZALV				Lg	Lg	09 50 35.6	
	5.9nm,0.3s,baz=69,slow=32,SNR=25						
KURBB	**Kurchatov Arra**	**5.89**	**235**	Pn	Pn	09 51 37.9	+1.4
	0.2nm,0.3s,baz=51,slow=13,SNR=8.9						
KURBB				Lg	Lg	09 53 15.2	
	0.1nm,0.3s,baz=35,slow=28,SNR=4.7						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**7.83**	**200**	Pn	Pn	09 52 03.8	+0.6
	0.3nm,0.3s,baz=24,slow=13,SNR=8.6						
MKAR				Sn	Sn	09 53 31.9	-0.6
	0.1nm,0.3s,baz=23,slow=27,SNR=2.7						
MKAR				Lg	Lg	09 54 14.4	
	0.1nm,0.3s,baz=31,slow=32,SNR=2.3						
	0.3nm,0.3s						

IDC ***12*** *09:59:12.6±3.4,53°.60N×87°.75E,h0km,mbtmp3.1/2, ML2.7/2,Error ellipse: s-maj=31.3km s-min=18.0km az=50.0*

ASRS 12 09:59:09.0±1.5,53°.61N×87°.82E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**282**	I	I	10 11 10.0	
	baz=100,slow=336,SNR=5.5						
ZALV	**Zalesovo Beam**	**1.81**	**282**	Pg	Pg	09 59 44.2	+0.5
	1.5nm,0.3s,baz=98,slow=16,SNR=11						
ZALV				Lg	Lg	10 00 09.1	
	2.7nm,0.3s,baz=102,slow=22,SNR=9.0						
KURBB	**Kurchatov Arra**	**6.46**	**246**	Pn	Pn	10 00 48.9	+3.7
	0.1nm,0.3s,baz=62,slow=14,SNR=8.4						
KURBB				Lg	Lg	10 02 35.0	
	baz=63,slow=31,SNR=5.1						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**7.69**	**210**	Pn	Pn	10 01 06.6	+4.5
	0.2nm,0.3s,baz=27,slow=14,SNR=3.1						
	0.3nm,0.4s						

IDC 12 10:37:02.1±2.0,6°.29S×129°.69E,h0km,mb4.2/1, mbtmp3.9/4,ML3.8/3,Error ellipse: s-maj=82.1km s-min=26.9km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.38**	**198**	Pn	Pn	10 40 01.8	+2.0
	0.5nm,0.3s,baz=18,slow=11,SNR=25						
FITZ				Sn	Sn	10 42 07.9	-11
	0.4nm,0.3s,baz=201,slow=20,SNR=6.5						
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**14.30**	**162**	Pn	Pn	10 40 25.2	-0.8
	0.3nm,0.3s,baz=339,slow=12,SNR=18						
WRA				Sn	Sn	10 42 50.7	-15
	0.6nm,0.3s,baz=344,slow=21,SNR=8.5						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**17.74**	**167**	P	Pn	10 41 09.7	-1.1
	0.5nm,0.3s,baz=350,slow=11,SNR=46						
ASAR				S	Sn	10 44 16.1	-13
	0.3nm,0.5s,baz=350,slow=25,SNR=6.5						
	2.3nm,0.7s						
MKAR	**Makanchi Array**	**67.47**	**327**	P	P	10 47 59.9	0.0
	1.2nm,0.5s,baz=118,slow=8.0,SNR=11						
	1.2nm,0.5s						

UCC 12 10:40:59.0,50°.71N×3°.85E,h0km±6km,ML2.0,26D, Mining explosion.,Belgium

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSKQ	**Steenkerk**	**0.16**	**113**	*d*P	Pg	10 41 01.7	-0.4
BSKQ				*d*S	Sg	10 41 04.0	-0.2
BRQR	**Ronquire**	**0.26**	**114**	*d*P	Pg	10 41 03.5	-0.5
BRQR				*d*S	Sg	10 41 07.0	-0.5
BRQR	**Ronquire**	**0.26**	**114**	*d*P	Pg	10 41 03.6	-0.4
UCC	**Uccle**	**0.34**	**75**	*d*P	Pg	10 41 03.7	-1.7
DOU	**Dourbes**	**0.78**	**142**	*d*P	Pg	10 41 14.1	+0.1
DOU				*d*S	Sg	10 41 23.5	-0.6
DOU	**Dourbes**	**0.78**	**142**	*d*P	Pg	10 41 14.4	+0.4
DOU				*d*S	Sg	10 41 24.0	-0.1
BGES	**Gesves**	**0.86**	**112**	*d*P	Pg	10 41 14.2	-1.2
BGES	**Gesves**	**0.86**	**112**	*d*P	Pb	10 41 16.4	-0.3
BGES				*d*S	Sg	10 41 26.7	+0.2
BCLA	**Clavier**	**0.97**	**107**	*d*P	Pg	10 41 16.9	-0.7
BCLA				*d*S	Sg	10 41 30.7	+0.4
	comp=N,8.5nm,0.0s						
BCLA	**Clavier**	**0.97**	**107**	*d*P	Pb	10 41 18.5	-0.3
BCLA				*d*S	Sb	10 41 31.2	-0.9
RCHB	**Rochefort**	**1.05**	**122**	*d*P	Pb	10 41 19.6	-0.3
RCHB	**Rochefort**	**1.05**	**122**	*d*P	Pb	10 41 19.6	-0.3
RCHB				*d*S	Sb	10 41 33.6	-0.5
MEM	**Membach**	**1.38**	**94**	*d*P	Pg	10 41 23.8	-1.7
MEM	**Membach**	**1.38**	**94**	*d*P	Pg	10 41 23.9	-1.6
MEM				*d*P	Pg	10 41 23.9	-1.6
MEM				*d*S	Sb	10 41 44.0	+0.1
BHOU	**Houvegnez**	**1.43**	**104**	*d*P	Pn	10 41 24.0	-2.1
LKLB	**Kalborn**	**1.57**	**112**	*d*P	Pn	10 41 26.1	-2.0

KRNET ***12*** *10:42:56.3±0.1,41°.75N×72°.53E,h16km,mb2.4*
SOME ***12*** *10:42:56.3,41°.80N×72°.58E,h5km*
NNC ***12*** *10:42:57.6±0.9,41°.83N×72°.59E,h0km,mb4.2,mpv3.4, Error ellipse: s-maj=9.3km s-min=3.4km az=155.0*

ISC 12 10:42:55.8±1.3,41°.80N±0°.04×72°.56E±0°.03,h0km±13km, n12,σ0s85/22,10C-4D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**0.57**	**146**	⇑*i*P	**Pg**	**10 43 06.8**	**0.0**
ARSB				⇑*i*S	**Sg**	**10 43 14.5**	**+0.3**
MRKS	**Merke**	**1.07**	**28**	P	**Pb**	**10 43 17.1**	**0.0**
	2.4nm,0.1s						
MRKS				S	**Sb**	**10 43 31.9**	**+0.3**
	8.8nm,0.2s						
MRKS	**Merke**	**1.07**	**28**	*e*P	**Pb**	**10 43 17.1**	**0.0**
	2.4nm,0.1s						
MRKS				*e*S	**Sb**	**10 43 31.9**	**+0.3**
	8.8nm,0.2s						
TRKS	**Terek-Say**	**1.10**	**256**	⇑*i*P	**Pg**	**10 43 16.3**	**-0.5**
TRKS				⇑*i*S	**Sg**	**10 43 30.4**	**-0.6**
EKS2	**Erkin-Say**	**1.25**	**46**	⇓*i*P	**Pn**	**10 43 20.5**	**-0.1**
EKS2				⇓*i*S	**Sn**	**10 43 37.9**	**-0.3**
UCH	**Uchtor**	**1.52**	**73**	⇑*i*P	**Pg**	**10 43 25.1**	**+0.2**
UCH				⇑*i*S	**Sg**	**10 43 46.0**	**+1.4**
AAK	**Ala-Archa**	**1.66**	**59**	⇓*i*P	**Pg**	**10 43 27.6**	**-0.1**
AAK				⇓*i*S	**Sg**	**10 43 50.5**	**+1.3**
IUG	**Iuzhnay**	**1.92**	**281**	Pg	**Pg**	**10 43 33.0**	**+0.5**
	20nm,0.2s						
IUG				Lg	Lg	10 43 59.1	
	19nm,0.4s						

CHMS	**Chumysh**	**2.02**	**53**	⇑*i*P	**Pb**	**10 43 33.1**	**-0.2**
CHMS				⇑*i*S	**Sg**	**10 43 59.8**	**-0.8**
JNKS	**Jany-Kuch**	**2.44**	**107**	⇑*i*P	**Pn**	**10 43 38.5**	**+1.4**
JNKS				⇑*i*S	**Sb**	**10 44 09.5**	**-1.9**
KST	**Kastek**	**2.81**	**63**	Pg	**Pg**	**10 43 48.7**	**-0.9**
KST				Lg	Lg	10 44 25.8	
KST	**Kastek**	**2.81**	**63**	*e*P	**Pg**	**10 43 48.7**	**-0.9**
KST				*e*S	**Sg**	**10 44 25.8**	**-0.3**

ASRS ***12*** *11:05:48.0±2.3,54°.03N×90°.18E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 12 11:05:57.1±4.7,53°.81N×89°.86E,h0km,mbtmp2.9/3, ML2.4/3,Error ellipse: s-maj=48.0km s-min=26.8km az=46.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.98**	**275**	I	I	11 26 40.0	
	baz=88,slow=341,SNR=2.7						
ZALV	**Zalesovo Beam**	**2.98**	**275**	Pn	Pn	11 06 47.4	+1.8
	0.4nm,0.3s,baz=88,slow=15,SNR=4.5						
ZALV				Lg	Lg	11 07 31.0	
	1.0nm,0.3s,baz=92,slow=25,SNR=11						
	0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**7.65**	**250**	Pn	Pn	11 07 49.7	0.0
	0.1nm,0.3s,baz=65,slow=16,SNR=2.5						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.53**	**218**	Pn	Pn	11 08 02.3	+0.5
	0.1nm,0.3s,baz=32,slow=13,SNR=3.0						
	0.3nm,0.3s						

IDC 12 11:16:29.0±3.0,32°.64S×178°.06W,h0km,mb4.0/2, mbtmp4.0/3,ML3.7/1,Error ellipse: s-maj=70.6km s-min=36.1km az=119.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.86**	**214**	Pn	Pn	11 18 11.1	+0.3
	1.3nm,0.3s,baz=242,slow=3.6,SNR=8.2						
URZ				Sn	Sn	11 19 29.5	0.0
	1.5nm,0.3s,baz=7.1,slow=23,SNR=6.8						
	8.4nm,0.8s						
ASAR	**Alice Springs**	**42.99**	**269**	P	P	11 24 30.9	+0.7
	1.0nm,0.4s,baz=112,slow=8.0,SNR=11						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**44.18**	**274**	P	P	11 24 39.1	-0.8
	1.6nm,0.5s,baz=116,slow=7.9,SNR=26						
	1.6nm,0.5s						
QSPA	**South Pole Qui**	**57.48**	**180**	P	P	11 26 25.5	+5.8
	1.1nm,0.6s,baz=15,slow=0.9,SNR=14						
FINES	**FINESS Array B**	**147.22**	**339**	PKPbc	PKPbc	11 36 12.6	-0.9
	3.6nm,0.8s,baz=57,slow=5.1,SNR=8.2						

IDC 12 11:19:42.6±3.1,32°.51S×178°.17W,h0km,mb3.8/2, mbtmp3.9/3,ML3.5/1,Error ellipse: s-maj=72.9km s-min=36.8km az=116.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.91**	**213**	Pn	Pn	11 21 26.1	+1.0
	0.9nm,0.3s,baz=255,slow=3.6,SNR=7.3						
URZ				Sn	Sn	11 22 42.9	-1.6
	1.3nm,0.3s,baz=243,slow=19,SNR=6.2						
	12nm,0.8s						
ASAR	**Alice Springs**	**42.90**	**269**	P	P	11 27 43.7	+0.6
	0.4nm,0.4s,baz=109,slow=8.4,SNR=4.3						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**44.08**	**274**	P	P	11 27 52.1	-0.6
	0.6nm,0.3s,baz=116,slow=7.8,SNR=17						
	0.6nm,0.3s						
QSPA	**South Pole Qui**	**57.61**	**180**	P	P	11 29 39.2	+5.1
	0.4nm,0.5s,baz=325,slow=1.6,SNR=6.6						
FINES	**FINESS Array B**	**147.06**	**339**	PKPbc	PKPbc	11 39 25.6	-1.0
	1.4nm,0.7s,baz=64,slow=3.5,SNR=5.7						

IDC ***12*** *11:24:55.0±3.7,18°.08S×177°.85W,h587km±45km, mb3.3/10,mbtmp4.2/10,Error ellipse: s-maj=24.4km s-min=17.6km az=156.0*

ISC 12 11:24:55.3±0.7,18°.1S±0°.2×178°.0W±0°.2,h590km,n15, σ1s11/17,mb3.8/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.57**	**191**	P	**P**	**11 28 53.0**	**-1.4**
	14nm,0.9s,baz=246,slow=2.4,SNR=6.2						
	14nm,0.9s						
WRA	**Warramunga Arr**	**45.00**	**260**	P	**P**	**11 32 20.6**	**+1.0**
	1.1nm,0.6s,baz=96,slow=7.5,SNR=35						
WRA				PcP	**PcP**	**11 33 47.4**	**-0.4**
	0.5nm,0.6s,baz=92,slow=3.2,SNR=5.9						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**45.13**	**254**	P	**P**	**11 32 21.8**	**+1.3**
	2.2nm,0.6s,baz=87,slow=8.5,SNR=20						
ASAR				PcP	**PcP**	**11 33 48.0**	**-0.3**
	0.9nm,0.5s,baz=102,slow=3.9,SNR=7.6						
ASAR				S	**S**	**11 38 16.1**	**-2.1**
	0.3nm,0.5s,baz=94,slow=13,SNR=9.0						
	2.2nm,0.6s						
QSPA	**South Pole Qui**	**71.99**	**180**	P	**P**	**11 35 21.0**	**+1.0**
	1.7nm,1.2s,baz=63,slow=3.0,SNR=2.0						
	1.7nm,1.2s						
PETK	**Petropavlovsk-**	**73.93**	**345**	P	**P**	**11 35 31.0**	**0.0**
	2.9nm,0.6s,baz=114,slow=7.8,SNR=9.2						
	2.9nm,0.6s						
NVAR	**Mina Array Bea**	**

	comp=N,1μm,0.3s							
OBL	**Observatory Le**	**0.23**	**27**		**Pn**	11 49 33.9	-0.8	
OBL					Sn	11 49 38.5	+0.1	
PUH	**Pauahi**	**0.23**	**46**		**Pn**	11 49 34.0	-0.8	
PUH					Sn	11 49 38.4	-0.1	
PUH	**Pauahi**	**0.23**	**46**	IAML		11 49 38.7		
	comp=N,797nm,1.0s							
PUH				IAML		11 49 38.8		
	comp=E,939nm,0.2s							
BYL	**Byron's Ledge**	**0.24**	**32**		**Pn**	11 49 34.0	-0.9	
BYL					Sn	11 49 38.7	0.0	
BYL	**Byron's Ledge**	**0.24**	**32**	IAML		11 49 38.9		
	comp=N,770nm,0.9s							
BYL				IAML		11 49 40.6		
	comp=E,584nm,0.6s							
UWB	**Uwekahuna Bluf**	**0.24**	**27**		**Pn**	11 49 33.9	-1.0	
UWB					Sn	11 49 38.4	-0.4	
HATHI	**Halema'uma'u T**	**0.25**	**31**		**Pn**	11 49 34.0	-1.0	
HATHI					Sn	11 49 39.0	-0.1	
HATHI	**Halema'uma'u T**	**0.25**	**31**	IAML		11 49 39.6		
	comp=E,694nm,0.2s							
HATHI				IAML		11 49 45.6		
	comp=N,521nm,0.6s							
SBLHI	**Steaming Bluff**	**0.25**	**29**		**Pn**	11 49 34.0	-1.0	
SBLHI					Sn	11 49 38.6	-0.4	
KNHH	**Kane Nui o Ham**	**0.27**	**52**		**Pb**	11 49 34.4	-0.9	
RSD	**Rainshed**	**0.27**	**24**		**Pb**	11 49 34.3	-1.1	
RSD					Sn	11 49 39.5	-0.6	
MLH	**Mauna Loa**	**0.28**	**2**		**Pb**	11 49 34.7	-0.9	
MLH					Sn	11 49 39.8	-0.6	
MLH	**Mauna Loa**	**0.28**	**2**	IAML		11 49 40.0		
	comp=E,1μm,0.2s							
MLH				IAML		11 49 41.6		
	comp=N,779nm,0.1s							
STCH	**Steam Cracks**	**0.31**	**56**		**Pb**	11 49 34.7	-1.0	
STCH					Sb	11 49 39.8	-1.3	
STCH	**Steam Cracks**	**0.31**	**56**	IAML		11 49 40.2		
	comp=E,1μm,0.1s							
STCH				IAML		11 49 40.6		
	comp=N,824nm,0.1s							
NPOC	**North of Pu'u**	**0.33**	**56**		**Pb**	11 49 34.9	-1.0	
NPOC					Sb	11 49 40.2	-1.3	
JCUZ	**Jacuzzi**	**0.33**	**58**		**Pb**	11 49 35.0	-1.0	
JCUZ					Sb	11 49 40.3	-1.2	
MWH	**Mokuaweoweo**	**0.33**	**325**		**Pb**	11 49 35.2	-1.3	
MWH					Sn	11 49 40.8	-1.6	
MWH	**Mokuaweoweo**	**0.33**	**325**	IAML		11 49 40.9		
	comp=E,2μm,0.4s							
MWH				IAML		11 49 42.0		
	comp=N,1μm,0.3s							
HMH	**Humu'ula Sheep**	**0.40**	**348**		**Pn**	11 49 42.4	+4.9	
HMH	**Humu'ula Sheep**	**0.40**	**348**		**Pb**	11 49 36.2	-0.9	
HMH				IAML		11 49 42.6		
	comp=E,425nm,0.1s							
HMH				IAML		11 49 42.6		
	comp=N,1μm,0.2s							
ALEP	**Alea Permanent**	**0.40**	**324**		**Pb**	11 49 35.7	-1.5	
ALEP					Sb	11 49 41.8	-2.0	
JOKA	**Jonika Flow**	**0.43**	**59**		**Pb**	11 49 36.1	-1.3	
JOKA					Pn	11 49 42.1	+4.3	
JOKA	**Jonika Flow**	**0.43**	**59**	IAML		11 49 42.7		
	comp=E,512nm,0.4s							
JOKA				IAML		11 49 43.1		
	comp=N,661nm,0.6s							
POHA	**Pohakuloa**	**0.56**	**347**		**Pb**	11 49 37.6	-1.9	
CPH	**Captain Cook**	**0.57**	**299**		**Pb**	11 49 37.4	-2.0	
HUH	**Hualalai**	**0.63**	**319**		**Pn**	11 49 39.0	-1.7	
HUH				IAML		11 49 52.7		
	comp=N,765nm,0.2s							
HUH				IAML		11 49 57.3		
	comp=E,601nm,0.3s							
KKH	**Kailua Kona**	**0.74**	**307**		**Pn**	11 49 39.7	-2.2	
KKH					Sn	11 49 48.5	-3.5	
HPAH	**Hawaii Prepara**	**0.86**	**341**		**Pn**	11 49 41.5	-2.2	
HPAH					Sn	11 49 51.5	-3.8	
HPAH	**Hawaii Prepara**	**0.86**	**341**	IAML		11 49 52.1		
	comp=E,228nm,0.1s							
MHA	**Mahukona**	**1.08**	**334**	Pn	**Pn**	11 49 44.7	-2.0	
MHA	**Mahukona**	**1.08**	**334**		Sn	11 49 57.0	-3.5	
HLK	**Haleakala**	**1.74**	**333**		**Pn**	11 49 53.4	-2.5	
HLK					Sn	11 50 13.1	-3.9	
KHLH	**Kahului Airpor**	**1.94**	**330**		**Pn**	11 49 56.7	-1.7	
KHLH					Sn	11 50 18.7	-2.9	
WMR	**Waimanalo Ridg**	**3.00**	**315**		**Pn**	11 50 10.2	-2.9	
WMR					Sn	11 50 42.4	-5.6	
HON	**Honolulu**	**3.23**	**311**		**Pn**	11 50 13.3	-2.8	
HON					Sn	11 50 48.8	-4.6	
OPA	**Opana**	**3.48**	**316**		**Pn**	11 50 18.5	-1.1	
OPA					Sn	11 50 53.3	-6.3	

*NEIC **12** 11:59:54.9±1.9,22.°05N±0.°08×144.°0E±0.°1,h113^{km}±7^{km}, mb4.6/59,Error ellipse: s-maj=18.5km s-min=11.8km az=82.0*

*MOS **12** 11:59:55.7±1.4,22.°02N×144.°13E,h144^{km},mb4.5/13, Error ellipse: s-maj=15.9km s-min=6.6km az=108.2*

*IDC **12** 12:00:00.1±2.8,21.°99N×144.°03E,h170^{km}±25^{km}, mb4.0/25,mbtmp4.5/27,MS2.5/1,Error ellipse: s-maj=15.4km s-min=9.2km az=76.0*

ISC 12 11:59:53.2±0.5,22.°02N±0.°06×144.°16E±0.°09,h105^{km}, n138,σ1$30/125,mb4.6/71,1C-1D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.36**	**341**		**Pn**	**12 01 11.1**	**+0.3**
JCJ					**Sn**	**12 02 10.2**	**-1.0**
GUMO	**Guam**	**8.41**	**175**	P	Pn	12 01 57.6	+5.3
	61nm,0.4s,baz=42,slow=17,SNR=2.1						
INU	**Inuyama**	**14.67**	**336**	Pn	**Pn**	**12 03 15.8**	**+0.3**
JMN	**Monobe**	**14.77**	**324**	Pn	**Pn**	**12 03 16.0**	**-0.8**
JGF	**Kuroka**	**14.78**	**338**	Pn	**Pn**	**12 03 16.8**	**0.0**
JOW	**Kunigami**	**15.23**	**291**	P	**P**	**12 03 26.6**	**+1.5**
	22nm,0.9s,baz=89,slow=15,SNR=2.1						
MJAR	**Matsushiro Arr**	**15.36**	**342**	Pn	**Pn**	**12 03 24.4**	**+0.2**
MJAR	**Matsushiro Arr**	**15.36**	**342**	P	**Pn**	**12 03 22.7**	**-1.5**
	1.6nm,0.5s,baz=152,slow=10,SNR=4.3						
MJAR	**Matsushiro Arr**	**15.36**	**342**	P	**Pn**	**12 03 24.4**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAJO	**Matsushiro**	**15.37**	**342**	Pn	**Pn**	**12 03 23.9**	**-0.3**
MAJO	**Matsushiro**	**15.37**	**342**	P	**Pn**	**12 03 23.9**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,12nm,1.0s						
MJB9	**Matsu-Tunnel**	**15.37**	**342**	Pn	**Pn**	**12 03 23.5**	**-0.8**
JMM	**Marumori**	**16.05**	**350**	P	**Pn**	**12 03 34.0**	**+1.2**
JMM				IAmb	IAmb	12 03 38.1	
	comp=Z,30nm,0.7s						
JNU	**Nakatsue**	**16.13**	**316**	P	**P**	**12 03 36.1**	**+1.0**
JNU				IAmb	IAmb	12 03 52.3	
	comp=Z,38nm,1.4s						
JTM	**Tenmabayashi**	**18.89**	**353**	P	**P**	**12 04 06.7**	**+1.4**
ERM	**Erimo**	**19.95**	**358**	P	**Pn**	**12 04 20.2**	**+0.8**
ERM	**Erimo**	**19.95**	**358**	P	**Pn**	**12 04 20.2**	**+0.8**
ERM				pmax	pmax		
	comp=Z,160nm,1.5s						
KSRS	**Korea Array**	**20.81**	**321**	P	Pn	12 04 29.8	+0.3
	comp=Z,5.9nm,0.7s,baz=152,slow=9.0,SNR=38						
	comp=Z,5.9nm,0.7s						
KSAR	**Wonju Array Be**	**20.83**	**321**	P	Pn	12 04 29.6	-0.1
KSAR	**Wonju Array Be**	**20.83**	**321**	P	Pn	12 04 29.6	-0.1
KS19	**Wonju Array Si**	**20.88**	**321**	P	Pn	12 04 29.8	-0.6
KS19				IAmb	IAmb	12 04 40.5	
	comp=Z,60nm,1.5s						
YHNB	**Yeheng**	**21.08**	**282**	P	**P**	**12 04 29.8**	**+0.6**
YHNB				IAmb	IAmb	12 04 31.6	
	comp=Z,31nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**21.37**	**92**	T	T	12 27 01.4	
	baz=279						
H11N2	**WAKE ISLAND Hy**	**21.37**	**92**	T	T	12 27 03.4	
	baz=279,slow=74						
H11N3	**WAKE ISLAND Hy**	**21.38**	**92**	T	T	12 26 30.5	
	baz=279,slow=74						
H11S3	**WAKE ISLAND Hy**	**21.42**	**95**	T	T	12 27 12.4	
	baz=282						
H11S1	**WAKE ISLAND Hy**	**21.43**	**95**	T	T	12 27 09.5	
	baz=282						
H11S2	**WAKE ISLAND Hy**	**21.44**	**95**	T	T	12 27 13.7	
	baz=282						
SSLB	**Suanglung**	**21.44**	**279**		**P**	**12 04 35.0**	**+1.9**
SSLB				IAmb	IAmb	12 04 36.3	
	comp=Z,22nm,0.5s						
TPUB	**Ta-pu**	**21.75**	**278**	P	**P**	**12 04 35.5**	**-0.8**
TPUB				IAmb	IAmb	12 05 08.9	
	comp=Z,63nm,1.5s						
ASAJ	**Asahikawa**	**22.07**	**357**	LR	LR	12 13 12.0	
	comp=Z,13nm,20.9s,baz=163,slow=36						
VLA	**Vladivostok**	**23.39**	**337**	*i* P	**P**	**12 04 54.3**	**+1.8**
VLA				pmax	pmax		
	comp=Z,17nm,0.9s						
USRK	**Ussuriysk Ar.**	**24.30**	**338**	P	**P**	**12 05 02.1**	**+1.4**
	comp=Z,3.6nm,0.6s,baz=150,slow=8.1,SNR=8.0						
	comp=Z,3.6nm,0.6s						
NJ2	**Nanjing**	**24.60**	**299**	*e*P	**P**	**12 05 03.6**	**0.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
YSS	**Yuzhno-Sakhali**	**24.90**	**358**	*e*P	**P**	**12 05 06.4**	**+0.3**
YSS				*e**PP	**pwP**	**12 05 32.9**	**+0.7**
YSS				*e*S	**S**	**12 09 17.7**	**-3.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YSS				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2	**Changchun**	**26.68**	**329**	*e*P	**P**	**12 05 24.9**	**+2.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TIA	**Tai'an**	**27.41**	**307**	P	**P**	**12 05 30.9**	**+2.0**
TIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HEH	**HeiHe**	**31.10**	**339**	*e*P	**P**	**12 06 02.3**	**+0.9**
HEH				pP	**pwP**	**12 06 30.8**	**+2.8**
HEH				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC	**Hu-ho-hao-te**	**33.28**	**312**	*e*P	**P**	**12 06 22.4**	**+1.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,62nm,5.0s						
ZEA	**Zeya**	**34.18**	**342**	*e*P	**P**	**12 06 28.8**	**+0.6**
ZEA				*e*		12 06 57.5	
ZEA				pmax	pmax		
	comp=N,10.0nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
COEN	**Coen**	**35.77**	**182**	P	**P**	**12 06 42.9**	**+0.7**
MTN	**Manton Dam**	**36.93**	**201**	P	**P**	**12 06 51.5**	**-0.6**
CD2	**Chengdu**	**37.07**	**292**	*e*P	**P**	**12 06 52.5**	**-0.8**
LZH	**Lanzhou**	**37.65**	**301**	*e*P	**P**	**12 06 58.8**	**+0.5**
LZH				pmax	pmax		
	comp=Z,19nm,1.4s						
LZDM	**Lanzhou Array**	**37.74**	**301**	P	**P**	**12 06 59.4**	**+0.1**
	comp=Z,4.5nm,0.4s,baz=141,slow=9.6,SNR=10						
	comp=Z,4.5nm,0.4s						
PZH	**PanZhiHua**	**38.80**	**285**	P	**P**	**12 07 08.3**	**+0.3**
ULN	**Ulaanbaatar**	**39.29**	**320**	*i* P	**P**	**12 07 11.7**	**-0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**39.67**	**320**	P	**P**	**12 07 15.1**	**+0.1**
SONM	**Songino Array**	**39.67**	**320**	P	**P**	**12 07 14.8**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=138,slow=7.5,SNR=7.5						
	comp=Z,1.8nm,0.5s						
KNRA	**Kununurra**	**40.39**	**203**	P	**P**	**12 07 21.0**	**0.0**
KNRA				IAmb	IAmb	12 07 39.7	
	comp=Z,20nm,1.4s						
YAK	**Yakutsk**	**41.20**	**350**	P	**P**	**12 07 27.4**	**+0.2**
YAK	**Yakutsk**	**41.20**	**350**	P	**P**	**12 07 27.9**	**+0.7**
	comp=Z,9.9nm,0.3s,baz=59,slow=2.3,SNR=5.7						
	comp=Z,9.9nm,0.3s						
YAK	**Yakutsk**	**41.20**	**350**	*i* P	**P**	**12 07 27.7**	**+0.5**
YAK				pmax	pmax		
	comp=Z,13nm,0.7s						
SEY	**Seymchan**	**41.27**	**6**	P	**P**	**12 07 29.0**	**+1.3**
	comp=Z,2.9nm,0.5s,baz=188,slow=6.9,SNR=8.8						
	comp=Z,2.9nm,0.5s						
SEY	**Seymchan**	**41.27**	**6**	P	**P**	**12 07 29.0**	**+1.3**
GTA	**Gaotai**	**41.42**	**305**	*e*P	**P**	**12 07 30.2**	**+0.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**42.46**	**274**	P	**P**	**12 07 38.2**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=53,slow=9.0,SNR=9.9						
	comp=Z,1.1nm,0.6s						
WB0	**Warramunga Arr**	**42.62**	**194**	P	**P**	**12 07 39.0**	**-0.2**
WB0				IAmb	IAmb	12 07 59.3	
	comp=Z,13nm,1.4s						
WR8	**Warramunga Arr**	**42.77**	**193**	P	**P**	**12 07 40.4**	**-0.1**
WRAB	**Tennant Creek**	**42.79**	**194**	P	**P**	**12 07 40.5**	**-0.1**
WRAB				IAmb	IAmb	12 07 40.7	
	comp=Z,4.8nm,0.5s						
WRAB	**Tennant Creek**	**42.79**	**194**	*i* P	**P**	**12 07 40.2**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,4.0nm,1.3s						
WRA	**Warramunga Arr**	**42.80**	**194**	P	**P**	**12 07 40.2**	**-0.5**
WRA	**Warramunga Arr**	**42.80**	**194**	P	**P**	**12 07 40.4**	**-0.3**
	comp=Z,2.1nm,0.3s,baz=13,slow=8.8,SNR=77						
WRA				PcP	**PcP**	**12 09 29.8**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=10,slow=3.3,SNR=4.9						
	comp=Z,2.1nm,0.3s						
WRA	**Warramunga Arr**	**42.80**	**194**	P	**P**	**12 07 40.2**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.4s						
FITZ	**Fitzroy Crossi**	**43.80**	**206**	P	**P**	**12 07 49.3**	**+0.6**
GOMU	**GeErMu**	**44.91**	**300**	P	**P**	**12 07 58.5**	**+0.6**
GOMU				S	S	12 14 48.8	+20
GOMU				pmax	pmax		
	comp=Z,19nm,0.7s						
GOMU				LR	LR		
	comp=N,310nm,9.0s						
GOMU				LR	LR		
	comp=E,320nm,9.0s						
GOMU				LR	LR		
	comp=Z,480nm,9.8s						
KULM	**Kulim**	**45.22**	**255**	P	**P**	**12 08 01.3**	**+1.1**
KULM				IAmb	IAmb	12 08 02.0	
	comp=Z,6.4nm,0.7s						
AS31	**Alice Springs**	**46.49**	**193**		**P**	**12 08 09.4**	**-0.6**
ASAR	**Alice Springs**	**46.50**	**193**	P	**P**	**12 08 09.3**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=12,slow=6.7,SNR=18						
ASAR				PcP	**PcP**	**12 09 42.4**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=3.0,slow=3.6,SNR=2.0						
	comp=Z,0.5nm,0.3s						
PSI	**Prapat**	**47.87**	**253**	P	**P**	**12 08 21.7**	**+0.6**
PSI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
RPSI	**Rantau Prapat**	**47.92**	**253**	P	**P**	**12 08 21.7**	**+0.4**
RPSI				IAmb	IAmb	12 08 22.3	
	comp=Z,8.3nm,0.6s						
BILL	**Bilibino**	**48.03**	**11**	*i* P	**P**	**12 08 19.6**	**-1.7**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GSI	**Gunungsitoli**	**49.76**	**252**		**P**	**12 08 35.2**	**-0.1**
WMQ	**Urumqi**	**51.07**	**309**	*e*P	**P**	**12 08 49.2**	**+4.2**
WMQ				pP	sP	12 09 18.2	-1.9
WMQ				pmax	pmax		
	comp=Z,49nm,1.1s						
EVN	**Everest**	**51.91**	**289**		**P**	**12 08 52.1**	**0.0**
STKA	**Stephens Creek**	**53.65**	**183**		**P**	**12 09 02.9**	**-1.0**
STKA	**Stephens Creek**	**53.65**	**183**	P	**P**	**12 09 03.2**	**-0.7**
	comp=Z,4.7nm,0.7s,baz=357,slow=8.5,SNR=12						
	comp=Z,4.7nm,0.7s						
STKA	**Stephens Creek**	**53.65**	**183**	*i* P	**P**	**12 09 03.8**	**-0.1**
ZAA0	**Zalesovo Array**	**54.52**	**321**		**P**	**12 09 09.5**	**-0.6**
ZALV	**Zalesovo Beam**	**54.52**	**321**		**P**	**12 09 09.5**	**-0.6**
ZALV	**Zalesovo Beam**	**54.52**	**321**	P	**P**	**12 09 09.2**	**-0.8**
	comp=Z,5.9nm,0.3s,baz=114,slow=7.3,SNR=26						
ZALV				PcP	**PcP**	**12 10 10.7**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=103,slow=3.0,SNR=1.7						
	comp=Z,5.9nm,0.3s						
FORT	**Forrest**	**54.73**	**197**	P	**P**	**12 09 11.5**	**-0.2**
FORT				IAmb	IAmb	12 09 12.4	
	comp=Z,5.6nm,0.6s						
BBOO	**Buckleboo**	**55.07**	**188**	P	**P**	**12 09 14.1**	**-0.1**
BBOO				IAmb	IAmb	12 09 14.7	
	comp=Z,6.9nm,0.7s						
MK31	**Makanchi Array**	**55.14**	**312**	*i* P	**P**	**12 09 14.7**	**0.0**
MKAR	**Makanchi Array**	**55.14**	**312**		**P**	**12 09 14.8**	**+0.1**
MKAR	**Makanchi Array**	**55.14**	**312**	P	**P**	**12 09 14.4**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=90,slow=9.0,SNR=25						
MKAR				PcP	**PcP**	**12 10 14.0**	**-0.7**
	comp=Z,1.5nm,0.4s,baz=88,slow=3.2,SNR=8.0						
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**55.14**	**312**	P	**P**	**12 09 14.9**	**+0.1**
KURK	**Kurchatov**	**57.85**	**317**		**P**	**12 09 33.4**	**-0.4**
KURK	**Kurchatov**	**57.85**	**317**	P	**P**	**12 09 33.5**	**-0.3**
KURBB	**Kurchatov Arra**	**57.91**	**317**	P	**P**	**12 09 33.5**	**-0.6**
	comp=Z,16nm,0.5s,baz=93,slow=7.6,SNR=138						
	comp=Z,16nm,0.5s						
KSH	**Kashi**	**59.80**	**304**	P	**P**	**12 09 50.7**	**+3.0**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
E23K	**Chandalar**	**60.92**	**23**	IAmb	IAmb	12 09 57.3	
	comp=Z,15nm,1.4s						
E24K	**Your Creek**	**61.34**	**23**	IAmb	IAmb	12 09 59.5	
	comp=Z,12nm,1.4s						
ILAR	**Eielson Array**	**61.34**	**27**	P	**P**	**12 09 56.8**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=257,slow=5.4,SNR=29						
	comp=Z,1.2nm,0.6s						
D25K	**Kavik River**	**62.35**	**22**	IAmb	IAmb	12 10 06.3	
	comp=Z,5.5nm,0.7s						
BVAR	**Borovoye Array**	**63.01**	**319**	P	**P**	**12 10 08.7**	**-0.2**
	comp=Z,9.0nm,0.3s,baz=91,slow=7.9,SNR=62						
	comp=Z,9.0nm,0.3s						
KK31	**Karatay Array**	**63.56**	**308**	P	**P**	**12 10 13.0**	**+0.3**
KK31				IAmb	IAmb	12 10 13.7	
	comp=Z,4.8nm,0.7s						
KK31	**Karatay Array**	**63.56**	**308**	P	**P**	**12 10 13.0**	**+0.3**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KKAR	**Karatay Array**	**63.56**	**308**	P	**P**	**12 10 12.2**	**-0.5**
KKAR	**Karatay Array**	**63.56**	**308**	P	**P**	**12 10 12.2**	**-0.5**
H27K	**Steamboat Moun**	**63.74**	**26**	IAmb	IAmb	12 10 15.5	
	comp=Z,4.4nm,0.9s						
D27M	**Malcolm River**	**64.24**	**22**	P	**P**	**12 10 18.5**	**+1.7**
D27M				IAmb	IAmb	12 10 19.1	
	comp=Z,3.7nm,0.6s						
E28M	**Babbage River**	**64.70**	**23**	P	**P**	**12 10 21.4**	**+1.7**
E28M				IAmb	IAmb	12 10 21.9	
	comp=Z,5.1nm,1.1s						
G29M	**Pine Creek**	**65.18**	**25**	P	**P**	**12 10 24.2**	**+1.4**
G29M				IAmb	IAmb	12 10 24.6	
	comp=Z,4.2nm,0.8s						
SIMJ	**Simiganj**	**65.28**	**304**	P	**P**	**12 10 24.4**	**+0.2**
SIMJ				IAmb	IAmb	12 10 24.9	
	comp=Z,5.1nm,0.7s						
G31M	**Satah River**	**66.66**	**25**	P	**P**	**12 10 33.1**	**+0.9**
G31M				IAmb	IAmb	12 10 34.0	
	comp=Z,9.9nm,0.9s						
ARTI	**Arti**	**69.64**	**324**		**P**	**12 10 50.2**	**-0.9**
ARTI	**Arti**	**69.64**	**324**	*c i* P	**P**	**12 10 51.5**	**+0.4**
ARTI						12 13 23.6	
ARTI				S	**S**	**12 19 53.3**	**+2.1**
ARTI				SS	**SS**	**12 24 13.7**	**-6.8**
ARTI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AB31	**Akbulak array**	**69.94**	**316**	IAmb	IAmb	12 10 53.2	
	comp=Z,5.7nm,0.9s						
ABKAR	**Akbulak array**	**69.94**	**316**	P	**P**	**12 10 52.4**	**-0.6**
PINE	**Pine Mountain**	**78.48**	**47**		**P**	**12 11 44.6**	**+1.5**
PINE				IAmb	IAmb	12 11 45.4	
	comp=Z,6.2nm,0.8s						
ARCES	**ARCESS Array B**	**78.90**	**342**	P	**P**	**12 11 44.3**	**-0.3**
	comp=Z,4.1nm,0.6s,baz=72,slow=7.7,SNR=29						
	comp=Z,4.1nm,0.6s						
BEKR	**Beckworth**	**80.23**	**51**	P	**P**	**12 11 53.5**	**+0.9**
OBN	**Obninsk**	**81.72**	**326**	ǁ *e*P	**P**	**12 11 56.7**	**-3.2**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NVAR	**Mina Array Bea**	**82.23**	**52**	P	**P**	**12 12 04.4**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=282,slow=5.7,SNR=20						
	comp=Z,1.6nm,0.6s						
KBZ	**Khabaz**	**82.79**	**314**	P	**P**	**12 12 05.8**	**+0.1**
	comp=Z,7.3nm,0.8s,baz=89,slow=5.3,SNR=15						
	comp=Z,7.3nm,0.8s						
KBZ	**Khabaz**	**82.79**	**314**	*i* P	**P**	**12 12 05.9**	**+0.1**
KBZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KIV	**Kislovodsk**	**82.84**	**314**	*e*P	**P**	**12 12 06.0**	**-0.2**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
FINES	**FINESS Array B**	**83.28**	**335**	P	**P**	**12 12 06.5**	**-1.4**
	comp=Z,6.6nm,0.3s,baz=67,slow=4.5,SNR=25						
	comp=Z,6.6nm,0.3s						
GWY	**Greenwater Val**	**84.29**	**53**	IAmb	IAmb	12 12 31.7	
	comp=Z,3.9nm,0.5s						
GSC	**Goldstone, Bar**	**84.53**	**54**	IAmb	IAmb	12 12 21.8	
	comp=Z,4.2nm,0.8s						
RLMT	**Red Lodge**	**85.65**	**43**	IAmb	IAmb	12 12 22.5	
	comp=Z,3.2nm,0.6s						
PDAR	**Pinedale Array**	**86.53**	**45**	P	**P**	**12 12 24.7**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=275,slow=3.1,SNR=4.9						
	comp=Z,2.0nm,0.5s						
KNB	**Kanab**	**86.78**	**51**	IAmb	IAmb	12 12 28.2	
	comp=Z,4.2nm,0.7s						
U15A	**North Rim**	**87.42**	**52**	P	**P**	**12 12 29.7**	**+0.3**
AKASG	**Malin Array Be**	**87.77**	**325**	P	**P**	**12 12 27.6**	**-2.7**
	comp=Z,1.1nm,0.5s,baz=55,slow=5.7,SNR=6.4						
	comp=Z,1.1nm,0.5s						
HFS	**Hagfors**	**88.78**	**338**	P	**P**	**12 12 32.8**	**-2.2**
	comp=Z,2.1nm,0.4s,baz=85,slow=3.1,SNR=17						
	comp=Z,2.1nm,0.4s						
PV23	**Carpenter Ridg**	**88.86**	**49**	IAmb	IAmb	12 13 08.7	
	comp=Z,5.8nm,0.8s						
PV20	**West Nyswonger**	**88.94**	**49**	IAmb	IAmb	12 12 37.8	
	comp=Z,5.0nm,0.8s						
NOA	**NORSAR Array B**	**88.97**	**339**	P	**P**	**12 12 34.0**	**-1.9**
	comp=Z,1.0nm,0.7s,baz=36,slow=4.6,SNR=1.9						
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**90.77**	**314**	P	**P**	**12 12 43.2**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=77,slow=5.8,SNR=3.7						
	comp=Z,0.7nm

INU	**Inuyama**	**5.03**	**350**	P		**P**		**12 07 39.9**	**+0.8**		
JTO	**Tosashimizu**	**5.15**	**300**	*e*P		**P**		**12 07 41.6**	**+1.3**		
JGF	**Kuroka**	**5.24**	**353**			**P**		**12 07 41.4**	**+0.3**		
JGF	**Kuroka**	**5.24**	**353**	P		**P**		**12 07 41.3**	**+0.2**		
JRY	**Ryogami san**	**5.65**	**7**	*e*P		**P**		**12 07 44.5**	**-0.6**		
JRY				*e*S		**S**		**12 08 57.2**	**-3.0**		
MJAR	**Matsushiro Arr**	**6.14**	**1**	P		**P**		**12 07 48.5**	**-1.4**		
	40nm,0.7s,baz=182,slow=10,SNR=49										
MJAR				S		**S**		**12 09 06.2**	**-2.7**		
	12nm,0.7s,baz=170,slow=17,SNR=6.3										
MAJO	**Matsushiro**	**6.14**	**1**			**P**		**12 07 48.7**	**-1.2**		
MAJO	**Matsushiro**	**6.14**	**1**	P		**P**		**12 07 48.7**	**-1.2**		
MAJO	**Matsushiro**	**6.14**	**1**	*i* P		**P**		**12 07 48.6**	**-1.3**		
MJB9	**Matsu-Tunnel**	**6.14**	**1**			**P**		**12 07 48.7**	**-1.2**		
JHS	**Saijyo**	**6.23**	**319**	*e*P		**P**		**12 07 52.0**	**+1.2**		
JHS				*e*S		**S**		**12 09 11.6**	**+1.0**		
JNU	**Nakatsue**	**6.73**	**296**			**P**		**12 07 56.5**	**+0.7**		
JNU	**Nakatsue**	**6.73**	**296**	P		**P**		**12 07 57.1**	**+1.2**		
JSJ	**Shimokoshiki**	**7.31**	**282**	*e*P		**P**		**12 08 02.6**	**+0.8**		
JSD	**Sado**	**7.63**	**1**	P		**P**		**12 08 03.8**	**-1.2**		
JMM	**Marumori**	**7.79**	**16**	P		**P**		**12 08 06.2**	**-0.4**		
JMM	**Marumori**	**7.79**	**16**	P		**P**		**12 08 06.0**	**-0.7**		
JTU	**Tsushima**	**8.43**	**302**	P		**P**		**12 08 14.4**	**+0.9**		
JMK	**Ichinoseki**	**8.92**	**16**	*e*P		**P**		**12 08 18.8**	**+0.1**		
JMK				*e*S		**S**		**12 09 58.5**	**-3.3**		
JOW	**Kunigami**	**9.33**	**250**	P		**P**		**12 08 21.2**	**-2.1**		
	14nm,0.8s,baz=75,slow=16,SNR=34										
JTM	**Tenmabayashi**	**10.65**	**12**			**P**		**12 08 37.6**	**+0.4**		
TJN	**Taejon**	**10.78**	**306**			**P**		**12 08 38.2**	**-0.5**		
TJN	**Taejon**	**10.78**	**306**	P		**P**		**12 08 38.2**	**-0.5**		
KSRS	**Korea Array**	**11.00**	**313**	P		**P**		**12 08 41.0**	**0.0**		
	20nm,0.6s,baz=125,slow=10,SNR=113										
KSAR	**Wonju Array Be**	**11.02**	**312**			**P**		**12 08 41.0**	**-0.2**		
KSAR	**Wonju Array Be**	**11.02**	**312**	P		**P**		**12 08 41.0**	**-0.2**		
KS19	**Wonju Array Si**	**11.07**	**313**	P		**P**		**12 08 41.3**	**-0.4**		
ERM	**Erimo**	**12.30**	**18**	P		**P**		**12 08 55.8**	**+1.0**		
ERM	**Erimo**	**12.30**	**18**	*ce*P		**P**		**12 08 55.8**	**+1.0**		
ERM					pmax	pmax					
	comp=Z,123nm,1.7s										
MSHR	**Mys Shultsa**	**13.38**	**337**	*i* P		**P**		**12 09 06.0**	**-0.4**		
MSHR					pmax	pmax					
	comp=Z,4.0nm,0.3s										
PSTR	**Posyet**	**13.56**	**336**	*i* P		**P**		**12 09 08.7**	**+0.3**		
VLA	**Vladivostok**	**13.64**	**340**	*i* P		**P**		**12 09 09.8**	**+0.6**		
ASAJ	**Asahikawa**	**14.16**	**13**	P		**P**		**12 09 15.8**	**+1.0**		
	comp=Z,26nm,0.4s,baz=236,slow=10,SNR=83										
ASAJ	**Asahikawa**	**14.16**	**13**	P		**P**		**12 09 15.9**	**+1.2**		
JKA	**Kamikawa-asahi**	**14.16**	**13**			**P**		**12 09 15.9**	**+1.2**		
USRK	**Ussuriysk Ar.**	**14.61**	**342**	P		**P**		**12 09 19.5**	**0.0**		
	comp=Z,74nm,0.6s,baz=167,slow=11,SNR=153										
TEY	**Ternei**	**14.67**	**356**	*e*P		**P**		**12 09 19.9**	**-0.2**		
MDJ	**Mudanjiang**	**15.71**	**337**			**P**		**12 09 31.2**	**+0.1**		
MDJ	**Mudanjiang**	**15.71**	**337**	P		**P**		**12 09 30.9**	**-0.2**		
MDJ					pmax	pmax					
	comp=Z,13nm,0.9s										
YULB	**Yu-li**	**16.52**	**249**	P		**P**		**12 09 38.3**	**-1.7**		
SSLB	**Suanglung**	**16.62**	**251**	P		**P**		**12 09 41.1**	**+0.1**		
CN2	**Changchun**	**16.74**	**327**	*e*P		**P**		**12 09 41.5**	**-0.5**		
CN2					pmax	pmax					
	comp=Z,20nm,0.6s										
YSS	**Yuzhno-Sakhali**	**16.93**	**11**			**P**		**12 09 44.3**	**+0.4**		
YSS	**Yuzhno-Sakhali**	**16.93**	**11**	*e*P		**P**		**12 09 43.9**	**0.0**		
YSS				*e*S		**S**		**12 12 40.6**	**+3.5**		
YSS					pmax	pmax					
	comp=Z,20nm,0.8s										
YSS					pmax	pmax					
	comp=Z,100nm,3.5s										
BNX	**BinXian**	**17.46**	**334**	ǁP		**P**		**12 09 48.8**	**-0.5**		
BNX					pmax	pmax					
	comp=Z,53nm,0.6s										
TIA	**Tai'an**	**18.46**	**294**	P		**P**		**12 09 57.8**	**-1.2**		
TIA					pmax	pmax					
	comp=Z,13nm,0.7s										
GRNR	**Gornyy**	**20.40**	**357**	ǁ *i* P		**P**		**12 10 17.5**	**+1.0**		
GRNR					pmax	pmax					
	comp=Z,5.0nm,0.7s										
TYV	**Tymovskoe**	**20.74**	**8**	*e*P		**P**		**12 10 20.6**	**+1.1**		
TYV					pmax	pmax					
	comp=Z,5.0nm,0.6s										
TYV					pmax	pmax					
	comp=Z,100nm,3.9s										
HEH	**HeiHe**	**21.41**	**341**	*e*P		**P**		**12 10 25.8**	**+0.2**		
HEH					pmax	pmax					
	comp=Z,15nm,0.7s										
HHC	**Hu-ho-hao-te**	**23.88**	**303**	*e*P		**P**		**12 10 48.3**	**+0.2**		
HHC					pmax	pmax					
	comp=Z,11nm,0.6s										
HHC					pmax	pmax					
	comp=Z,46nm,5.3s										
ZEA	**Zeya**	**24.63**	**344**	*e*P		**P**		**12 10 54.8**	**+0.4**		
ZEA					pmax	pmax					
	comp=N,10.0nm,0.7s										
ZEA					pmax	pmax					
	comp=Z,10.0nm,0.7s										
XAN	**Xi'an**	**24.92**	**286**	P		**P**		**12 10 57.0**	**-0.4**		
XAN					pmax	pmax					
	comp=Z,12nm,0.6s										
LZDM	**Lanzhou Array**	**29.23**	**290**	P		**P**		**12 11 35.4**	**-0.2**		
	comp=Z,1.2nm,0.3s,baz=134,slow=8.3,SNR=1.5										
	comp=Z,1.2nm,0.3s										
ULN	**Ulaanbaatar**	**29.47**	**315**	*ce*P		**P**		**12 11 37.5**	**+0.1**		
ULN					pmax	pmax					
	comp=Z,2.0nm,0.6s										
SONM	**Songino Array**	**29.86**	**315**	P		**P**		**12 11 40.5**	**-0.2**		
	comp=Z,0.9nm,0.5s,baz=108,slow=7.7,SNR=4.1										
SONM				pP		**pP**		**12 13 03.9**	**+0.5**		
	comp=Z,1.0nm,0.7s,baz=94,slow=6.4,SNR=2.2										
SONM				PcP		**PcP**		**12 14 29.1**	**-0.1**		
	comp=Z,0.7nm,0.4s,baz=133,slow=3.3,SNR=4.6										
	comp=Z,0.9nm,0.5s										
SLVN	**Son La**	**31.96**	**262**			**P**		**12 11 59.7**	**+0.5**		
PZH	**PanZhiHua**	**32.12**	**272**	P		**P**		**12 12 00.8**	**+0.4**		
YAK	**Yakutsk**	**32.13**	**353**	*i* P		**P**		**12 12 01.2**	**+1.4**		
YAK					pmax	pmax					
	comp=Z,6.0nm,0.5s										
GTA	**Gaotai**	**32.47**	**297**	P		**P**		**12 12 03.6**	**+0.3**		
GTA				S		**S**		**12 16 41.1**	**-2.5**		
GTA					pmax	pmax					
	comp=Z,6.0nm,1.0s										
GTA				LR		LR					
	comp=N,400nm,13.1s										
GTA				LR		LR					
	comp=E,600nm,13.5s										
GTA				LR		LR					
	comp=Z,280nm,13.1s										
CHTO	**Chiang Mai**	**37.25**	**261**			**P**		**12 12 43.6**	**+0.1**		
CHTO				IAmb		IAmb		12 12 44.3			
	comp=Z,8.0nm,0.8s										
CHTO	**Chiang Mai**	**37.25**	**261**	P		**P**		**12 12 43.6**	**+0.1**		
CHTO					pmax	pmax					
	comp=Z,8.0nm,0.8s										
CMAR	**Chiang Mai Arr**	**37.40**	**261**	P		**P**		**12 12 45.0**	**+0.3**		
	comp=Z,2.1nm,0.7s,baz=54,slow=6.6,SNR=17										
CMAR				PcP		**PcP**		**12 14 51.6**	**+0.3**		
	comp=Z,0.7nm,0.4s,baz=70,slow=3.8,SNR=5.1										
	comp=Z,2.1nm,0.7s										
KSM	**Kuching**	**39.01**	**228**	P		**P**		**12 12 59.2**	**+1.2**		
TIXI	**Tiksi**	**41.62**	**356**	P		**P**		**12 13 16.0**	**-2.0**		
	comp=Z,0.9nm,0.3s,baz=180,slow=10,SNR=1.6										
	comp=Z,0.9nm,0.3s										
MTN	**Manton Dam**	**43.50**	**190**	P		**P**		**12 13 34.9**	**+1.3**		
EVN	**Everest**	**44.54**	**280**			**P**		**12 13 42.1**	**-0.2**		
EVN				IAmb		IAmb		12 13 43.4			
	comp=Z,5.4nm,0.6s										
ZALV	**Zalesovo Beam**	**44.66**	**318**	P		**P**		**12 13 41.7**	**-0.4**		
	comp=Z,0.6nm,0.3s,baz=94,slow=8.5,SNR=2.8										
ZALV				PcP		**PcP**		**12 15 14.0**	**-0.7**		
	comp=Z,2.3nm,0.4s,baz=114,slow=3.7,SNR=9.3										
	comp=Z,0.6nm,0.3s										
MK31	**Makanchi Array**	**45.63**	**307**	*ce*P		**P**		**12 13 50.2**	**+0.4**		
MKAR	**Makanchi Array**	**45.63**	**307**	P		**P**		**12 13 49.8**	**0.0**		
MKAR	**Makanchi Array**	**45.63**	**307**	P		**P**		**12 13 49.2**	**-0.6**		
	comp=Z,1.3nm,0.6s,baz=91,slow=9.6,SNR=11										
MKAR				PcP		**PcP**		**12 15 17.9**	**-0.5**		
	comp=Z,0.9nm,0.3s,baz=85,slow=5.6,SNR=12										
MKAR				ScP		**ScP**		**12 18 23.8**	**-1.5**		
	comp=Z,0.9nm,0.9s,baz=76,slow=5.1,SNR=5.2										
	comp=Z,1.3nm,0.6s										
MKAR	**Makanchi Array**	**45.63**	**307**	P		**P**		**12 13 49.8**	**0.0**		
UNV	**Unalaska Valle**	**45.87**	**43**	P		**P**		**12 13 51.6**	**+0.2**		
	baz=262										
KNRA	**Kununurra**	**46.67**	**192**	P		**P**		**12 13 58.7**	**+0.7**		
GSI	**Gunungsitoli**	**48.09**	**241**			**P**		**12 14 08.8**	**0.0**		
KURK	**Kurchatov**	**48.13**	**313**	*i* P		**P**		**12 14 08.7**	**+0.1**		
KURK					pmax	pmax					
	comp=Z,1.0nm,1.0s										
KURBB	**Kurchatov Arra**	**48.18**	**313**	P		**P**		**12 14 08.2**	**-0.8**		
	comp=Z,2.4nm,0.6s,baz=91,slow=8.0,SNR=20										
KURBB				PcP		**PcP**		**12 15 26.4**	**-1.0**		
	comp=Z,1.0nm,0.7s,baz=91,slow=4.5,SNR=5.1										
	comp=Z,2.4nm,0.6s										
L14K	**Kuka Creek**	**49.14**	**33**	P		**P**		**12 14 17.1**	**+1.1**		
	baz=259										
F15K	**North Star Dit**	**49.34**	**27**	P		**P**		**12 14 17.6**	**+0.2**		
	baz=253										
M14K	**Bethel**	**49.38**	**34**	P		**P**		**12 14 19.3**	**+1.6**		
N14K	**Kuskokwak Cree**	**49.38**	**35**	P		**P**		**12 14 18.2**	**+0.5**		
	baz=261										
FITZ	**Fitzroy Crossi**	**49.68**	**196**	P		**P**		**12 14 21.4**	**+0.9**		
L15K	**Ungalak Mounta**	**49.77**	**33**	P		**P**		**12 14 20.0**	**-0.6**		
	baz=260										
K15K	**Wolf Creek Mou**	**49.86**	**32**	P		**P**		**12 14 20.4**	**-0.9**		
	baz=259										
M15K	**Kasigluk River**	**49.99**	**34**	P		**P**		**12 14 22.5**	**+0.3**		
	baz=261										
WB0	**Warramunga Arr**	**49.99**	**185**	P		**P**		**12 14 23.1**	**+0.2**		
WB0				IAmb		IAmb		12 14 23.9			
	comp=Z,7.0nm,0.6s										
CHNA	**Chernabura Isl**	**49.99**	**42**	P		**P**		**12 14 22.0**	**-0.4**		
	baz=267										
WRAB	**Tennant Creek**	**50.16**	**185**	P		**P**		**12 14 24.4**	**+0.3**		
WRAB	**Tennant Creek**	**50.16**	**185**	P		**P**		**12 14 24.4**	**+0.3**		
WRAB					pmax	pmax					
	comp=Z,4.0nm,0.9s										
WRA	**Warramunga Arr**	**50.17**	**185**			**P**		**12 14 24.3**	**+0.1**		
WRA	**Warramunga Arr**	**50.17**	**185**	P		**P**		**12 14 24.3**	**+0.1**		
	comp=Z,3.4nm,0.5s,baz=0.6,slow=7.8,SNR=80										
WRA				PcP		**PcP**		**12 15 35.9**	**+0.8**		
	comp=Z,1.3nm,0.8s,baz=3.7,slow=3.9,SNR=6.8										
WRA				pP		**pP**		**12 15 56.3**	**+1.2**		
	comp=Z,1.2nm,0.7s,baz=7.4,slow=7.6,SNR=4.4										
WRA				S		**S**		**12 20 57.4**	**-2.5**		
	comp=Z,1.6nm,1.1s,baz=357,slow=12,SNR=7.2										
	comp=Z,3.4nm,0.5s										
WRA	**Warramunga Arr**	**50.17**	**185**	*ce*P		**P**		**12 14 24.5**	**+0.4**		
WRA					pmax	pmax					
	comp=Z,5.0nm,0.6s										
G16K	**Koyuk River**	**50.17**	**28**	P		**P**		**12 14 23.0**	**-0.6**		
	baz=256										
WR8	**Warramunga Arr**	**50.17**	**184**	P		**P**		**12 14 24.8**	**+0.6**		
WR8				IAmb		IAmb		12 14 25.3			
	comp=Z,8.4nm,0.8s										
O15K	**Ungalikthiuk R**	**50.22**	**36**	P		**P**		**12 14 25.6**	**+1.6**		
O15K	**Ungalikthiuk R**	**50.22**	**36**	P		**P**		**12 14 23.0**	**-1.0**		
	baz=264										
J16K	**Anvik River**	**50.46**	**31**	P		**P**		**12 14 25.1**	**-0.6**		
	baz=259										
C17K	**DeLong Mountai**	**50.70**	**24**	P		**P**		**12 14 27.7**	**+0.3**		
	baz=253										
L16K	**Owhat River**	**50.72**	**33**	P		**P**		**12 14 26.5**	**-1.1**		
	baz=262										
CHGN	**Chignik**	**50.73**	**40**	P		**P**		**12 14 26.8**	**-1.0**		
	baz=267										
E17K	**Hotham Inlet**	**50.80**	**26**	P		**P**		**12 14 27.3**	**-0.9**		
	baz=255										
N16K	**Nishlik Lake**	**50.90**	**35**	P		**P**		**12 14 30.1**	**+1.1**		
	baz=263										
AAK	**Ala-Archa**	**51.45**	**302**	*i* P		**P**		**12 14 34.1**	**+0.6**		
AAK					pmax	pmax					
	comp=Z,2.0nm,0.7s										
C19K	**Lookout Ridge**	**52.13**	**24**	P		**P**		**12 14 39.4**	**+1.6**		
	baz=256										
Q17K	**Contact Creek**	**52.20**	**38**	P		**P**		**12 14 39.7**	**+1.1**		
	baz=268										
H19K	**Roundabout Mou**	**52.62**	**28**	P		**P**		**12 14 43.2**	**+1.9**		
	baz=262										
E19K	**Redstone River**	**52.63**	**26**	P		**P**		**12 14 42.9**	**+1.5**		
	baz=259										
J19K	**Poorman**	**52.77**	**30**	P		**P**		**12 14 43.4**	**+1.0**		
	baz=264										
O19K	**Port Alsworth**	**53.08**	**35**	P		**P**		**12 14 46.4**	**+1.7**		
	baz=268										
D20K	**Etivluk River**	**53.09**	**25**	P		**P**		**12 14 45.7**	**+1.0**		
	baz=259										
F20K	**Avaraart Lake**	**53.14**	**27**	P		**P**		**12 14 46.6**	**+1.6**		
	baz=261										
B20K	**Meade River**	**53.17**	**23**	P		**P**		**12 14 46.7**	**+1.5**		
	baz=258										
BVAR	**Borovoye Array**	**53.20**	**316**	P		**P**		**12 14 45.5**	**-0.2**		
	comp=Z,4.5nm,0.4s,baz=96,slow=7.1,SNR=21										
BVAR				PcP		**PcP**		**12 15 45.8**	**-0.4**		
	comp=Z,2.3nm,0.5s,baz=94,slow=3.8,SNR=7.9										
	comp=Z,4.5nm,0.4s										
H20K	**Anotleneega Mo**	**53.26**	**29**	P		**P**		**12 14 47.8**	**+1.8**		
	baz=263										
K20K	**Telida**	**53.40**	**31**	P		**P**		**12 14 48.7**	**+1.7**		
	baz=266										
J20K	**Nowinta River**	**53.43**	**30**	P		**P**		**12 14 49.1**	**+2.0**		
	baz=265										
C21K	**Knifeblade Rid**	**53.83**	**24**	P		**P**		**12 14 51.4**	**+1.5**		
	baz=260										
AS31	**Alice Springs**	**53.90**	**185**			**P**		**12 14 51.5**	**+0.4**		
ASAR	**Alice Springs**	**53.90**	**185**	P		**P**		**12 14 51.5**	**+0.5**		
	comp=Z,1.5nm,0.4s,baz=19,slow=12,SNR=55										
ASAR				PcP		**PcP**		**12 15 50.2**	**+1.0**		
	comp=Z,0.9nm,0.8s,baz=15,slow=4.5,SNR=5.3										
	comp=Z,1.5nm,0.4s										
G21K	**Allakaket**	**53.94**	**27**	P		**P**		**12 14 52.0**	**+1.3**		
	baz=264										
KDAK	**Kodiak Island**	**53.95**	**38**	P		**P**		**12 14 52.0**	**+1.1**		
	baz=271										
B21K	**Ikpikpuk River**	**53.96**	**24**	P		**P**		**12 14 52.0**	**+1.2**		
	baz=260										
E21K	**Killik River**	**54.01**	**25**	P		**P**		**12 14 52.0**	**+0.8**		
	baz=262										
H21K	**Melozitna Rive**	**54.14**	**29**	P		**P**		**12 14 53.6**	**+1.4**		
	baz=265										
N20K	**Mount Spurr**	**54.15**	**34**	P		**P**		**12 14 53.9**	**+1.5**		
	baz=269										
KK31	**Karatay Array**	**54.27**	**303**	IAmb		IAmb		12 14 54.3			
	comp=Z,7.4nm,0.9s										
KKAR	**Karatay Array**	**54.27**	**303**			**P**		**12 14 53.6**	**0.0**		
KKAR	**Karatay Array**	**54.27**	**303**	P		**P**		**12 14 53.6**	**0.0**		
SKT	**Skwentna**	**54.49**	**33**	P		**P**		**12 14 56.3**	**+1.5**		
	baz=269										
D22K	**Ayikyak River**	**54.53**	**25**	P		**P**		**12 14 56.1**	**+1.1**		
	baz=263										
H22K	**Ishtalitna Cre**	**54.74**	**28**	P		**P**		**12 14 58.5**	**+2.0**		
	baz=266										
E22K	**Anaktuvuk Pass**	**54.77**	**26**	P		**P**		**12 14 58.0**	**+1.4**		
	baz=264										
G22K	**Bettles**	**54.77**	**27**	P		**P**		**12 14 57.7**	**+1.2**		
	baz=265										
BPAW	**Bear Paw Mtn.**	**54.81**	**31**	P		**P**		**12 14 58.7**	**+1.8**		
	baz=268										
SUA	**Susitna One**	**54.86**	**34**	P		**P**		**12 14 59.6**	**+2.1**		
	baz=270										
BRSE	**Bradley Lake S**	**54.88**	**36**	P		**P**		**12 14 59.7**	**+2.2**		
	baz=271										
D23K	**Nanushuk River**	**55.26**	**25**	P		**P**		**12 15 01.9**	**+1.8**		
	baz=265										
G23K	**Bananza Creek**	**55.34**	**27**	P		**P**		**12 15 02.4**	**+1.8**		
	baz=267										
C23K	**Itkillik River**	**55.37**	**24**	P		**P**		**12 15 02.6**	**+1.9**		
	baz=264										
H23K	**Yukon River**	**55.49**	**28**	P		**P**		**12 15 03.3**	**+1.5**		
	baz=268										
PMR	**Palmer**	**55.63**	**34**	P		**P**		**12 15 03.4**	**+0.7**		
	baz=271										
TOLK	**Toolik Lake Re**	**55.64**	**25**	P		**P**		**12 15 02.6**	**-0.1**		
	baz=266										
MCK	**McKinley**	**55.71**	**31**	P		**P**		**12 15 04.3**	**+1.1**		
	baz=270										
D24K	**Happy Valley**	**55.94**	**24**	P		**P**		**12 15 06.1**	**+1.3**		
	baz=266										
KNK	**Knik Glacier**	**55.96**	**34**	P		**P**		**12 15 06.1**	**+1.1**		
	baz=272										
E24K	**Your Creek**	**56.00**	**26**	P		**P**		**12 15 06.9**	**+1.6**		
	baz=267										
C24K	**Franklin Bluff**	**56.02**	**24**	P		**P**		**12 15 06.0**	**+0.7**		
	baz=266										
H24K	**Noodor Dome**	**56.18**	**28**	P		**P**		**12 15 07.8**	**+1.3**		
	baz=269										
CHGR	**Chuyangaron**	**56.21**	**298**			**P**		**12 15 07.2**	**-0.1**		
CHGR	**Chuyangaron**	**56.21**	**298**	P		**P**		**12 15 07.2**	**-0.1**		
CHGR					pmax	pmax					
	comp=Z,36nm,0.6s										
F24K	**Squaw Lake**	**56.21**	**26**	P		**P**		**12 15 08.2**	**+1.5**		
	baz=268										
WAT6	**Susitna Watana**	**56.27**	**32**	P		**P**		**12 15 07.7**	**+0.4**		
	baz=272										
M23K	**Glacier View**	**56.30**	**33**	P		**P**		**12 15 08.0**	**+0.6**		
	baz=272										
SIMJ	**Simiganj**	**56.32**	**298**			**P**		**12 15 08.0**	**-0.1**		
SIMJ				IAmb		IAmb		12 15 09.2			
	comp=Z,7.0nm,0.8s										
G24K	**Hadweenzic Riv**	**56.35**	**27**	P		**P**		**12 15 09.0**	**+1.3**		
	baz=269										
DHY	**Denali Highway**	**56.42**	**32**	P		**P**		**12 15 09.4**	**+1.0**		
	baz=272										
SCM	**Sheep Creek Mo**	**56.49**	**33**	P		**P**		**12 15 09.4**	**+0.7**		
	baz=273										
HDA	**Harding Lake**	**56.58**	**30**	P		**P**		**12 15 09.5**	**+0.2**		
HDA	**Harding Lake**	**56.58**	**30**	P		**P**		**12 15 09.7**	**+0.4**		
	baz=271										
IL31		**56.60**	**30**	P		**P**		**12 15 10.3**	**+1.0**		
ILAR	**Eielson Array**	**56.60**	**30**	P		**P**		**12 15 08.8**	**-0.5**		
ILAR	**Eielson Array**	**56.60**	**30**	P		**P**		**12 15 09.4**	**+0.1**		
	comp=Z,0.8nm,0.8s,baz=254,slow=5.0,SNR=13										
ILAR				PcP		**PcP**		**12 15 57.6**	**-1.6**		
	comp=Z,0.2nm,0.6s,baz=271,slow=5.1,SNR=1.9										
	comp=Z,0.8nm,0.8s										
D25K	**Kavik River**	**56.82**	**24**	P		**P**		**12 15 12.1**	**+1.2**		
	baz=268										
G25K	**Bearman Lake**	**56.90**	**27**	P		**P**		**12 15 13.3**	**+1.9**		
	baz=270										
M24K	**Tolsona, Glenn**	**57.02**	**33**	P		**P**		**12 15 14.0**	**+1.6**		
	baz=273										
F25K	**Christian Rive**	**57.07**	**26**	P		**P**		**12 15 15.1**	**+2.4**		
	baz=270										
E25K	**Arctic Village**	**57.10**	**26**	P		**P**		**12 15 14.5**	**+1.6**		
	baz=270										
PRP	**Porcupine Dome**	**57.16**	**29**	P		**P**		**12 15 13.8**	**+0.5**		
	baz=272										
KLU	**Klutina**	**57.17**	**34**	P		**P**		**12 15 14.7**	**+1.2**		
	baz=274										
J25K	**Salcha River,**	**57.25**	**30**	P		**P**		**12 15 15.4**	**+1.5**		
	baz=272										
PAX	**Paxson**	**57.29**	**32**	P		**P**		**12 15 15.1**	**+0.8**		
	baz=273										
EYAK	**Cordova Ski Ar**	**57.33**	**35**	P		**P**		**12 15 15.4**	**+0.9**		
	baz=275										
HARP	**HAARP**	**57.47**	**33**	P		**P**		**12 15 17.2**	**+1.7**		
	baz=274										
RIDG	**Independent Ri**	**57.53**	**31**	P		**P**		**12 15 16.4**	**+0.5**		
	baz=274										
F26K	**Sheenjek River**	**57.64**	**26**	P		**P**		**12 15 19.0**	**+2.4**		
	baz=272										
C27K	**Jago River**	**57.76**	**24**	P		**P**		**12 15 19.3**	**+1.9**		
C27K	**Jago River**	**57.76**	**24**	P		**P**		**12 15 18.9**	**+1.6**		
	baz=271										
N25K	**Chitina, Valde**	**57.80**	**33**	P		**P**		**12 15 18.9**	**+1.1**		
	baz=275										
G26K	**Porcupine Rive**	**57.81**	**27**	P		**P**		**12 15 19.0**	**+1.4**		
	baz=272										
BMRM	**Bremner River**	**57.85**	**34**	P		**P**		**12 15 19.6**	**+1.4**		
	baz=276										
DOT	**Dot Lake**	**57.88**	**31**	P		**P**		**12 15 19.2**	**+0.9**		
DOT				IAmb		IAmb		12 15 19.4			
	comp=Z,5.4nm,0.6s										
SCRK	**Sand Creek**	**57

baz=281
HYT Haines Junctio 61.31 34 P **P 12 15 43.3 +2.0**
baz=282
N30M Aishikik Lake 61.38 33 P **P 12 15 43.8 +2.1**
baz=282
P29M Windy Craggy 61.43 35 P **P 12 15 43.8 +1.7**
baz=282
G31M Satah River 61.53 27 P **P 12 15 43.5 +1.0**
baz=281,SNR=14
INK Inuvik 61.55 25 P **P 12 15 43.5 +0.9**
baz=281,SNR=25
F31M Tsiigehtchic 61.63 26 P **P 12 15 43.9 +0.7**
baz=281,SNR=6.5
P30M Million Dollar 61.71 34 P **P 12 15 45.5 +1.5**
baz=282
H31M Peel River 61.72 28 IAmb IAmb 12 15 46.1
comp=Z,6.1nm,0.8s
H31M Peel River 61.72 28 P **P 12 15 45.8 +1.9**
baz=282
N31M Braeburn, Yuko 61.99 33 P **P 12 15 47.7 +2.0**
baz=282
O30N Mendenhall 62.00 34 P **P 12 15 47.4 +1.6**
baz=283
STKA Stephens Creek 62.01 177 P **P 12 15 46.9 +0.8**
comp=Z,2.6nm,0.6s,baz=347,slow=5.4,SNR=6.1
comp=Z,2.6nm,0.6s
PLBC Pleasant Camp 62.15 35 P **P 12 15 48.4 +1.7**
baz=283
M31M Drury Creek, Y 62.47 32 P **P 12 15 50.5 +1.7**
baz=283
WHY Whitehorse 62.60 34 P **P 12 15 51.7 +1.9**
baz=284
SKAG Skagway 62.67 35 P **P 12 15 52.2 +2.2**
baz=284
N32M Quiet Lake 63.33 33 P **P 12 15 55.3 +0.9**
baz=285
R32K Eaglecrest 63.37 36 P **P 12 15 56.5 +1.8**
baz=285
P32M Atlin 63.43 35 P **P 12 15 56.6 +1.5**
baz=285
A36M Sachs Harbour 63.44 20 P **P 12 15 56.2 +1.4**
baz=286
P33M Teslin, Yukon 63.70 34 P **P 12 15 58.2 +1.3**
baz=286
MMPY Sheldon Lake, 63.78 31 P **P 12 15 58.8 +1.5**
baz=286
C36M Paulatuk 64.61 23 P **P 12 16 03.7 +1.4**
baz=289
R33M Jennings River 64.83 34 P **P 12 16 06.2 +2.1**
baz=287
S34M Telegraph Cree 65.20 36 P **P 12 16 07.6 +1.3**
baz=288
TGTN Hyland Airport 65.44 32 P **P 12 16 09.6 +1.7**
baz=289
DLBC Dease Lake 65.59 35 P **P 12 16 10.9 +2.0**
baz=289
T35M Bob Quinn 65.95 37 P **P 12 16 12.6 +1.5**
baz=289
BELG Belogornoye 66.84 318 *i* P **P 12 16 16.4 -0.2**
BELG pmax pmax
comp=Z,3.0nm,0.9s
LIRD Liard River Hi 67.18 34 P **P 12 16 20.7 +2.1**
baz=291
TOAD Toad River Com 67.80 34 P **P 12 16 23.9 +1.3**
baz=292
ARCES ARCESS Array B 69.24 340 P **P 12 16 31.2 +0.1**
comp=Z,3.9nm,0.4s,baz=64,slow=8.7,SNR=71
comp=Z,3.9nm,0.4s
YKA Yellowknife Ar 70.94 28 P **P 12 16 41.4 +0.2**
comp=Z,1.4nm,0.8s,baz=303,slow=6.6,SNR=5.3
comp=Z,1.4nm,0.8s
OBN Obninsk 71.78 324 *e*P **P 12 16 46.4 +0.1**
OBN pmax pmax
comp=Z,8.0nm,1.0s
KBZ Khabaz 73.15 311 P **P 12 16 54.3 -0.1**
comp=Z,5.9nm,0.8s,baz=80,slow=5.8,SNR=9.2
comp=Z,5.9nm,0.8s
KBZ Khabaz 73.15 311 *ce*P **P 12 16 54.8 +0.3**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 73.19 311 *e*P **P 12 16 55.8 +0.9**
KIV pmax pmax
comp=Z,7.0nm,1.0s
FINES FINESS Array B 73.40 332 P **P 12 16 55.0 -0.6**
comp=Z,4.0nm,0.4s,baz=66,slow=5.1,SNR=48
comp=Z,4.0nm,0.4s
FINES FINESS Array B 73.40 332 *ce*P **P 12 16 55.2 -0.4**
FINES pmax pmax
comp=Z,5.0nm,0.4s
LTY Liberty 75.29 44 IAmb IAmb 12 17 08.3
comp=Z,4.1nm,0.5s
PINE Pine Mountain 76.81 47 **P 12 17 17.6 +2.2**
J05D Fort Rock, OR 76.87 47 IAmb IAmb 12 17 18.4
comp=Z,6.0nm,0.8s
E09A Wood Farm, Sta 77.16 43 P **P 12 17 17.9 +0.9**
E09A IAmb IAmb 12 17 19.3
comp=Z,3.1nm,0.6s
AKASG Malin Array Be 77.84 322 P **P 12 17 19.6 -0.9**
comp=Z,1.8nm,0.3s,baz=54,slow=5.6,SNR=13
comp=Z,1.8nm,0.3s
AKASG Malin Array Be 77.84 322 *ce*P **P 12 17 19.8 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKBB Malin Array Si 77.84 322 *i* P **P 12 17 20.2 -0.3**
AKBB pmax pmax
comp=Z,6.0nm,0.7s
J08A Circle Bar Ran 78.58 46 IAmb IAmb 12 17 27.4
comp=Z,7.0nm,1.1s
HFS Hagfors 78.97 335 P **P 12 17 25.9 -0.5**
comp=Z,6.0nm,0.4s,baz=61,slow=5.8,SNR=35
comp=Z,6.0nm,0.4s
NB2 NORSAR Subarra 79.21 337 P **P 12 17 27.3 -0.4**
comp=Z,3.1nm,0.5s,baz=47,slow=5.1
NOA NORSAR Array B 79.21 337 P **P 12 17 27.1 -0.6**
comp=Z,3.9nm,0.6s,baz=44,slow=5.1,SNR=4.3
comp=Z,3.9nm,0.6s
RAYN Ar Rayn 80.57 292 **P 12 17 35.6 -0.1**
RAYN IAmb IAmb 12 17 36.9
comp=Z,4.2nm,0.6s
RAYN Ar Rayn 80.57 292 P **P 12 17 35.6 -0.1**
RAYN pmax pmax
comp=Z,4.0nm,0.6s
DLMT Dillon 81.05 42 IAmb IAmb 12 17 40.1
comp=Z,9.9nm,1.5s
BR131 Keskin Array S 81.14 311 P **P 12 17 38.1 -0.4**
BR131 IAmb IAmb 12 17 39.3
comp=Z,6.0nm,0.9s
BR131 Keskin Array S 81.14 311 P **P 12 17 38.1 -0.4**
BR131 pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 81.14 311 **P 12 17 38.0 -0.5**
BRTR Keskin Array B 81.14 311 P **P 12 17 38.5 0.0**
comp=Z,3.6nm,0.8s,baz=101,slow=3.9,SNR=14
comp=Z,3.6nm,0.8s
NVAR Mina Array Bea 81.25 51 P **P 12 17 40.5 +1.3**
comp=Z,1.5nm,0.6s,baz=295,slow=5.3,SNR=17
comp=Z,1.5nm,0.6s
BUR08 Bucovina Ar. S 81.75 321 **P 12 17 41.5 +0.1**
BUR08 IAmb IAmb 12 17 42.4
comp=Z,5.1nm,0.7s
BURAR Bucovina Array 81.76 321 **P 12 17 41.6 +0.2**
BURAR IAmb IAmb 12 17 42.6
comp=Z,5.2nm,0.7s
TPH Tonopah 82.16 50 IAmb IAmb 12 17 46.6
comp=Z,4.7nm,0.9s
GMN Gold Mountain 82.56 51 IAmb IAmb 12 17 48.0
comp=Z,2.5nm,0.7s
RLMT Red Lodge 83.10 41 IAmb IAmb 12 17 51.2
comp=Z,2.3nm,0.6s
FURC Furnace Creek, 83.27 52 IAmb IAmb 12 17 51.4
comp=Z,6.5nm,0.9s
TPNV Topopah Spring 83.42 51 IAmb IAmb 12 17 52.2
comp=Z,5.2nm,0.8s
QSM Queen of Sheba 83.54 52 IAmb IAmb 12 17 52.6
comp=Z,5.9nm,0.9s
GWY Greenwater Val 83.56 52 IAmb IAmb 12 17 52.8
comp=Z,3.9nm,1.0s
DUG Dugway, Tooele 83.85 47 IAmb IAmb 12 17 54.5
comp=Z,4.4nm,0.8s
PRN Pahroc Range 83.97 50 IAmb IAmb 12 17 55.3
comp=Z,3.2nm,1.0s
TCUT Toone Canyon 84.19 45 IAmb IAmb 12 17 56.2
comp=Z,3.7nm,0.7s
PDAR Pinedale Array 84.34 43 P **P 12 17 55.5 +0.8**
comp=Z,0.3nm,0.4s,baz=337,slow=1.3,SNR=9.0
comp=Z,0.3nm,0.4s
BELC Belle Mtn. Jos 85.21 53 IAmb IAmb 12 18 00.5
comp=Z,2.3nm,0.5s

KNB Kanab 85.66 49 P **P 12 18 03.6 +2.4**
KNB IAmb IAmb 12 18 04.3
comp=Z,4.9nm,1.2s
KNB Kanab 85.66 49 P **P 12 18 03.6 +2.4**
KNB pmax pmax
comp=Z,5.0nm,1.2s
SRU San Rafael Swe 85.92 47 IAmb IAmb 12 18 05.1
comp=Z,2.7nm,0.9s
PV10 Paradox Valley 87.29 46 IAmb IAmb 12 18 11.3
comp=Z,3.8nm,0.9s
EKA Eskdalemuir Ar 88.40 339 P **P 12 18 13.0 -0.4**
comp=Z,0.3nm,0.4s,baz=40,slow=3.7,SNR=1.3
comp=Z,0.3nm,0.4s
ANMO Albuquerque 91.03 48 *ce*P **P 12 18 27.4 +1.1**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
TXAR Lajitas Array 96.41 51 P **P 12 18 51.5 +0.7**
comp=Z,0.3nm,0.5s,baz=302,slow=3.8,SNR=4.6
TXAR pP **pP 12 20 38.9 +1.0**
comp=Z,0.4nm,0.8s,baz=312,slow=4.5,SNR=4.8
comp=Z,0.3nm,0.5s
TORD Torodi Ar. Bea 119.73 309 PKP **PKPdf 12 24 08.2 -0.9**
comp=Z,0.4nm,0.4s,baz=46,slow=1.4,SNR=7.8
QSPA South Pole Qui 120.15 180 PKP **PKiKP 12 24 09.6 +1.0**
comp=Z,1.3nm,0.6s,baz=292,slow=0.6,SNR=14
BOSA Boshof 122.33 254 PKP **PKPdf 12 24 14.0 +0.1**
comp=Z,0.9nm,0.5s,baz=29,slow=0.3,SNR=4.3
BOSA Boshof 122.33 254 PKIKP **PKPdf 12 24 14.0 +0.1**
LPAZ La Paz 152.21 66 PKPbc **PKPbc 12 25 15.2 -0.5**
comp=Z,1.0nm,0.5s,baz=324,slow=3.1,SNR=6.2

*KRSC **12** 12:10:53.6±1.2,54.°97N×164.°75E, h47km±23km, Ml3.9*
*IDC **12** 12:10:55.2±1.8,55.°37N×164.°28E, h0km, mb3.2/3, mbtmp3.2/4, ML2.7/1, MS3.0/1, Error ellipse: s-maj=67.0km s-min=24.2km az=159.0*
ISC 12 12:10:54.0±0.8,55.°07N±0.°06×164.°58E±0.°05, h10km, n38, σ1s91/46, mb3.1/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.81**	**80**	*eP*	**Pg**	**12 11 08.0**	**-1.7**
BKI				*eS*	**Sg**	**12 11 17.5**	**-2.7**
KBTR	**Krutoberegovo**	**1.51**	**319**	*eP*	**Pb**	**12 11 20.8**	**-1.4**
KBTR				*eS*	**Sb**	**12 11 40.5**	**-0.9**
KBG	**Krutoberegovo**	**1.59**	**319**	*eP*	**Pb**	**12 11 22.5**	**-1.0**
KBG				*eS*	**Sb**	**12 11 42.5**	**-1.1**
MKZ	**Mys Kozlova**	**1.73**	**254**	*eP*	**Pb**	**12 11 24.9**	**-0.9**
MKZ				*eS*	**Sb**	**12 11 46.1**	**-1.4**
ZLN	**Zelenaya**	**2.34**	**295**	*eP*	**Pb**	**12 11 35.3**	**-1.1**
BZGR	**Bezymyannyi-Gr**	**2.37**	**293**	*eP*	**Pb**	**12 11 35.7**	**-1.2**
TUMD	**Tumrok D**	**2.40**	**275**	*eP*	**Pb**	**12 11 35.6**	**-1.7**
TUMD				*eS*	**Sb**	**12 12 05.7**	**-1.4**
BZMR	**Bezymyannaya**	**2.48**	**292**	*eP*	**Pb**	**12 11 37.5**	**-1.3**
BZWR	**Bezymyannyi-We**	**2.49**	**293**	*eP*	**Pb**	**12 11 37.6**	**-1.3**
KLY	**Klyuchi**	**2.55**	**301**	*eP*	**Pb**	**12 11 36.6**	**-3.2**
KIRR	**Kirishev**	**2.57**	**292**	*eP*	**Pb**	**12 11 38.9**	**-1.4**
KMNR	**Kamenistaya**	**2.57**	**287**	*eP*	**Pb**	**12 11 38.8**	**-1.4**
KPT	**Kopyto**	**2.63**	**292**	*eP*	**Pb**	**12 11 39.9**	**-1.4**
KOZ	**Kozyrevsk**	**2.85**	**292**	*eP*	**Pb**	**12 11 43.1**	**-1.9**
KII	**Karymskiy**	**3.16**	**253**	*eP*	**Pb**	**12 11 46.7**	**-3.6**
SPN	**Mys Shipunski**	**3.33**	**235**	*eP*	**Pn**	**12 11 46.6**	**+0.4**
SPN				*eS*	**Sn**	**12 12 23.6**	**-2.1**
ESO	**Esso**	**3.45**	**287**	*eP*	**Pb**	**12 11 50.6**	**-4.6**
SDLR	**Sedlovina**	**3.80**	**244**	*eP*	**Pn**	**12 11 54.7**	**+2.0**
SDLR				*eS*	**Sn**	**12 12 37.5**	**0.0**
SMAR	**Somma**	**3.85**	**244**	*eP*	**Pn**	**12 11 55.4**	**+1.9**
SMAR				*eS*	**Sn**	**12 12 39.4**	**+0.6**
KRER	**Koryakskii**	**3.86**	**245**	*eP*	**Pn**	**12 11 55.7**	**+2.1**
KRER				*eS*	**Sn**	**12 12 39.2**	**+0.2**
UGLR	**Uglovaya**	**3.87**	**243**	*eP*	**Pn**	**12 11 55.8**	**+2.2**
UGLR				*eS*	**Sn**	**12 12 40.2**	**+1.1**
AVH	**Avacha**	**3.88**	**245**	*eP*	**Pn**	**12 11 56.0**	**+2.2**
AVH				*eS*	**Sn**	**12 12 40.2**	**+0.7**
KRX	**Arik**	**3.88**	**246**	*eP*	**Pn**	**12 11 55.8**	**+1.9**
KRX				*eS*	**Sn**	**12 12 39.7**	**+0.2**
KOK	**Koryaka**	**3.92**	**245**	*eP*	**Pn**	**12 11 56.5**	**+2.1**
KOK				*eS*	**Sn**	**12 12 40.4**	**0.0**
DALK	**Dalny**	**4.00**	**242**	*eP*	**Pn**	**12 11 56.5**	**+1.3**
DALK				*eS*	**Sn**	**12 12 40.4**	**-1.7**
PETK	**Petropavlovsk-**	**4.50**	**247**	Pn	**Pn**	**12 12 04.0**	**+1.8**
	1.8nm,0.3s,baz=64,slow=15,SNR=24						
PETK				Sn	**Sn**	**12 12 56.6**	**+1.9**
	1.1nm,0.3s,baz=32,slow=23,SNR=3.7						
	2.6nm,0.4s						
GRL	**Gorelyy**	**4.61**	**239**	*eP*	**Pn**	**12 12 05.9**	**+2.1**
ASAK	**Asacha**	**4.79**	**239**	*eP*	**Pn**	**12 12 08.6**	**+2.3**
SHEM	**Shamya Is, Ala**	**6.10**	**109**	LR	LR	12 14 28.4	
	comp=Z,128nm,21.2s,baz=304,slow=34						
ILAR	**Eielson Array**	**25.53**	**48**	P	**P**	**12 16 23.6**	**+1.1**
	0.2nm,0.8s,baz=270,slow=9.2,SNR=1.5						
	0.2nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.33**	**176**	T	T	12 55 47.2	
	baz=359,slow=76,SNR=35						
H11N3	**WAKE ISLAND Hy**	**35.34**	**176**	T	T	12 55 47.4	
	baz=359,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**35.34**	**176**	T	T	12 55 45.6	
	baz=359,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**36.53**	**177**	T	T	12 56 50.1	
	baz=360						
H11S3	**WAKE ISLAND Hy**	**36.55**	**177**	T	T	12 56 56.4	
	baz=360						
H11S2	**WAKE ISLAND Hy**	**36.55**	**177**	T	T	12 56 54.7	
	baz=360						
KURBB	**Kurchatov Arra**	**49.01**	**303**	P	**P**	**12 19 41.1**	**+0.6**
	0.5nm,0.6s,baz=59,slow=7.5,SNR=4.3						
	0.5nm,0.6s						
TXAR	**Lajitas Array**	**67.46**	**71**	P	**P**	**12 21 53.6**	**+3.7**
	0.1nm,0.7s,baz=318,slow=4.8,SNR=2.2						
	0.1nm,0.7s						

*IDC **12** 12:17:52.8±0.7,28.°40N×104.°78E, h0km, mb4.0/12, mbtmp4.0/15, ML3.9/2, MS3.2/9, Error ellipse: s-maj=21.0km s-min=14.5km az=60.0*
*BJI **12** 12:17:54.6,28.°41N×104.°80E, h10km, mB4.5/10, mb4.3/27, ML4.2/22, Ms4.0/26, Ms7 3.8/27*
*NEIC **12** 12:17:56.9±1.5,28.°65N±0.°06×104.°8E±0.°1, h10km±1km, mb4.5/13, Error ellipse: s-maj=15.6km s-min=9.9km az=257.0*
ISC 12 12:17:55.6±0.5,28.°37N±0.°03×104.°82E±0.°04, h19km, n65, σ1s86/73, mb4.2/16, MS3.2/7, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GYA	**Guiyang**	**2.51**	**139**	Pn	**Pb**	**12 18 38.4**	**-1.8**
GYA				Sn	**Sb**	**12 19 12.0**	**+1.3**
GYA				smax	smax		
	comp=N,2μm,0.7s						
GYA				smax	smax		
	comp=E,1μm,0.8s						
CD2	**Chengdu**	**2.70**	**340**	Pn	**Pn**	**12 18 38.8**	**+0.8**
CD2				Pg	**Pb**	**12 18 43.8**	**+0.5**
CD2				Sn	**Sn**	**12 19 11.7**	**+1.5**
CD2				Sg	**Sb**	**12 19 17.7**	**+1.7**
CD2				smax	smax		
	comp=N,2μm,0.7s						
CD2				smax	smax		
	comp=E,3μm,0.7s						
PZH	**PanZhiHua**	**3.30**	**237**	Pn	**Pn**	**12 18 50.2**	**+3.8**
PZH				Sn	**Sb**	**12 19 30.0**	**-3.6**
PZH				Sg	**Sg**	**12 19 42.1**	**+0.3**
PZH				smax	smax		
	comp=N,310nm,1.0s						
PZH				smax	smax		
	comp=E,260nm,1.2s						
KMI	**Kunming**	**3.73**	**210**	↑Pn	**Pb**	**12 18 57.6**	**-3.3**
KMI				Sn	**Sb**	**12 19 41.4**	**-4.4**
KMI				smax	smax		
	comp=N,100nm,1.2s						
KMI				smax	smax		
	comp=E,81nm,1.2s						
KMI				LR	LR		
	comp=N,1μm,7.5s						
KMI				LR	LR		
	comp=Z,460nm,8.7s						
ENH	**Enshi**	**4.50**	**64**		**Pn**	**12 19 05.0**	**+2.2**
GULI	**GuiLin**	**5.83**	**120**	Pn	**Pn**	**12 19 22.6**	**+1.6**
GULI				Sn	**Sn**	**12 20 28.2**	**+0.9**
GULI				smax	smax		
	comp=N,290nm,1.1s						
GULI				smax	smax		
	comp=E,200nm,0.9s						
GULI				LR	LR		
	comp=N,560nm,3.8s						
GULI				LR	LR		
	comp=E,660nm,6.0s						
GULI				LR	LR		
	comp=Z,890nm,5.7s						
TNCH	**TengChong**	**6.54**	**241**	Pn	**Pn**	**12 19 31.3**	**+0.3**
TNCH				Sn	**Sn**	**12 20 46.7**	**+1.5**
TNCH				Sg	**Sg**	**12 21 28.4**	**+2.9**
TNCH				smax	smax		
	comp=N,130nm,1.0s						
TNCH				smax	smax		
	comp=E,110nm,1.0s						
XAN	**Xi'an**	**6.66**	**31**	Pn	**Pn**	**12 19 32.8**	**+0.4**
XAN				Pg	Pg	12 19 57.1	-5.9
XAN				Sn	**Sn**	**12 20 43.9**	**-3.9**
XAN				Sg	**Sg**	**12 21 22.4**	**-6.8**
XAN				smax	smax		
	comp=N,1μm,1.0s						
XAN				smax	smax		
	comp=E,910nm,1.0s						
XAN				LR	LR		
	comp=N,1μm,5.8s						
XAN				LR	LR		
	comp=E,1μm,6.2s						
XAN				LR	LR		
	comp=Z,1μm,6.5s						
SLVN	**Son La**	**7.05**	**187**		Pn	12 19 45.1	+7.2
CNSH	**ChangSha**	**7.16**	**90**	Pn	**Pn**	**12 19 41.3**	**+2.0**
LZDM	**Lanzhou Array**	**7.63**	**353**	Pn	**Pn**	**12 19 46.2**	**+0.2**
	baz=169,slow=17						
LZDM				Sn	**Sn**	**12 21 09.0**	**-3.0**
	baz=162,slow=24						
LZDM				Lg	Lg	12 21 55.0	
	baz=148,slow=46						
	3.0nm,0.4s						
WHN	**Wuhan**	**8.59**	**73**	P	**Pn**	**12 20 00.0**	**+1.1**
WHN				S	**Sn**	**12 21 34.9**	**-0.4**
WHN				LR	LR		
	comp=N,3μm,10.5s						
WHN				LR	LR		
	comp=E,3μm,5.8s						
WHN				LR	LR		
	comp=Z,4μm,9.5s						
LYN	**LuoYang**	**8.98**	**45**	P	**Pn**	**12 20 03.2**	**-1.1**
LYN				sP		12 20 11.4	
LYN				S	**Sn**	**12 21 40.2**	**-4.7**
LYN				smax	smax		
	comp=N,110nm,1.1s						
LYN				smax	smax		
	comp=E,140nm,1.0s						
LYN				LR	LR		
	comp=N,1μm,6.2s						
LYN				LR	LR		
	comp=E,1μm,5.4s						
LYN				LR	LR		
	comp=Z,1μm,6.3s						
QIZ	**Qiongzhong**	**10.37**	**153**	P	**Pn**	**12 20 23.4**	**0.0**
QIZ				S	**Sn**	**12 22 21.3**	**+2.2**
QIZ				LR	LR		
	comp=E,400nm,8.2s						
QIZ				LR	LR		
	comp=Z,310nm,9.1s						
CHTO	**Chiang Mai**	**10.93**	**211**		Pn	12 20 36.3	+5.3
CMAR	**Chiang Mai Arr**	**11.24**	**210**	Pn	Pn	12 20 41.4	+6.2
CMAR	**Chiang Mai Arr**	**11.24**	**210**	Pn	**Pn**	**12 20 35.7**	**+0.4**
	0.1nm,0.3s,baz=24,slow=11,SNR=21						
CMAR				LR	LR	12 25 21.5	
	comp=Z,109nm,20.4s,baz=30,slow=40						
	0.3nm,0.4s						
GTA	**Gaotai**	**11.77**	**341**	*eP*	**Pn**	**12 20 45.3**	**+2.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				LR	LR		
	comp=N,390nm,10.5s						
GTA				LR	LR		
	comp=E,600nm,13.1s						
GTA				LR	LR		
	comp=Z,280nm,9.5s						
NJ2	**Nanjing**	**12.68**	**70**	*eP*	**Pn**	**12 20 54.5**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				LR	LR		
	comp=N,740nm,11.4s						
NJ2				LR	LR		
	comp=E,420nm,10.4s						
NJ2				LR	LR		
	comp=Z,780nm,9.0s						
BTO	**Baotou**	**12.94**	**18**	*eP*	**Pn**	**12 20 58.0**	**-0.5**
BTO				S	**Sn**	**12 23 23.8**	**+1.8**
BTO				pmax	pmax		
	comp=Z,14nm,0.5s						
BTO				pmax	pmax		
	comp=Z,130nm,7.9s						
BTO				LR	LR		
	comp=N,470nm,7.1s						
BTO				LR	LR		
	comp=E,820nm,6.0s						
BTO				LR	LR		
	comp=Z,450nm,9.8s						
TIA	**Tai'an**	**13.01**	**50**	P	**Pn**	**12 20 59.9**	**+0.4**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TIA				LR	LR		
	comp=N,230nm,7.6s						
TIA				LR	LR		
	comp=E,210nm,7.2s						
TIA				LR	LR		
	comp=Z,460nm,9.3s						
BRDH	**Bariadhala**	**13.17**	**247**	LR	LR	12 26 49.8	
	comp=Z,93nm,21.9s,baz=134,slow=41						
HHC	**Hu-ho-hao-te**	**13.63**	**22**	*eP*	**Pn**	**12 21 07.2**	**-0.7**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,49nm,4.7s						
HHC				LR	LR		
	comp=N,170nm,8.4s						
HHC				LR	LR		
	comp=E,220nm,8.0s						
HHC				LR	LR		
	comp=Z,120nm,8.0s						
SSE	**Sheshan**	**14.48**	**75**	P	**Pn**	**12 21 17.4**	**-2.1**
SSE				S	**Sn**	**12 23 59.5**	**-0.1**
SSE				pmax	pmax		
	comp=Z,15nm,0.7s						
SSE				pmax	pmax		
	comp=Z,71nm,3.8s						
SSE				LR	LR		
	comp=N,260nm,11.7s						
SSE				LR	LR		
	comp=E,110nm,11.7s						
BJI	**Beijing**	**14.95**	**36**	P	**Pn**	**12 21 26.7**	**+0.9**
BJI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
DL2	**Dalian**	**17.48**	**49**	P	**Pn**	**12 21 58.4**	**+0.2**
DL2				S	**Sn**	**12 25 12.4**	**+0.1**
DL2				pmax	pmax		
	comp=Z,27nm,1.5s						
DL2				pmax	pmax		
	comp=Z,79nm,5.5s						
DL2				LR	LR		
	comp=N,220nm,12.7s						
DL2				LR	LR		
	comp=E,220nm,13.4s						
DL2				LR	LR		
	comp=Z,270nm,14.7s						
SONM	**Songino Array**	**19.48**	**3**	P	**Pn**	**12 22 22.4**	**-0.3**
	1.4nm,0.6s,baz=188,slow=12,SNR=7.3						
SONM				LR	LR	12 30 43.0	
	comp=Z,69nm,18.3s,baz=179,slow=40						
INCN	**Inchon**	**20.41**	**58**	P	Pn	12 22 32.9	-0.8
INCN				IAmb	IAmb	12 22 36.6	
	comp=Z,45nm,1.2s						
TJN	**Taejon**	**20.62**	**61**	P	Pn	12 22 35.0	-1.0
WMQ	**Urumqi**	**20.66**	**323**	*eP*	**P**	**12 22 32.0**	**-2.2**
WMQ				pmax	pmax		
	comp=Z,38nm,1.1s						
WMQ				LR	LR		
	comp=Z,130nm,24.2s						
JOW	**Kunigami**	**20.84**	**89**	P	Pn	12 22 37.9	-0.9
JOW				IAmb	IAmb	12 23 05.7	
	comp=Z,34nm,1.1s						
JOW	**Kunigami**	**20.84**	**89**	P	**P**	**12 22 37.3**	**+1.0**
	comp=Z,8.1nm,0.5s,baz=296,slow=16,SNR=1.7						
	comp=Z,8.1nm,0.5s						
KSAR	**Wonju Array Be**	**21.34**	**59**	P	**P**	**12 22 42.4**	**+0.9**
KS19	**Wonju Array Si**	**21.34**	**59**	P	**P**	**12 22 42.2**	**+0.6**

KS19 IAmb IAmb 12 22 50.5
comp=Z,29nm,1.4s
KSRS Korea Array 21.37 59 P **P 12 22 41.7 -0.1**
comp=Z,6.1nm,0.6s,baz=242,slow=11,SNR=21
comp=Z,6.1nm,0.6s
MKAR Makanchi Array 25.48 322 P **P 12 23 22.4 -0.1**
MKAR Makanchi Array 25.48 322 P **P 12 23 22.2 -0.3**
comp=Z,4.1nm,0.7s,baz=127,slow=11,SNR=33
MKAR LR LR 12 34 25.8
comp=Z,84nm,18.3s,baz=128,slow=39
comp=Z,4.1nm,0.7s
TARG Taragay, Kyrgy 25.70 308 P **P 12 23 25.8 +0.8**
USRK Ussuriysk Ar. 26.84 47 P **P 12 23 34.0 -0.8**
comp=Z,4.2nm,0.7s,baz=248,slow=7.6,SNR=7.2
comp=Z,4.2nm,0.7s
NRN Naryn 26.85 307 P **P 12 23 36.5 +1.2**
NRN IAmb IAmb 12 23 40.4
comp=Z,9.8nm,1.4s
AAK Ala-Archa 28.32 308 LR LR 12 37 15.3
comp=Z,60nm,20.3s,baz=93,slow=41
MJAR Matsushiro Arr 29.22 65 LR LR 12 36 43.5
comp=Z,50nm,18.1s,baz=244,slow=39
ZAA0 Zalesovo Array 29.46 336 P **P 12 23 56.8 -1.2**
ZALV Zalesovo Beam 29.46 336 P **P 12 23 56.7 -1.3**
ZALV Zalesovo Beam 29.46 336 P **P 12 23 57.3 -0.7**
comp=Z,1.5nm,0.6s,baz=141,slow=5.7,SNR=6.3
comp=Z,1.5nm,0.6s
KURBB Kurchatov Arra 29.81 325 P **P 12 24 01.0 -0.3**
comp=Z,3.1nm,0.8s,baz=133,slow=9.5,SNR=17
comp=Z,3.1nm,0.8s
KURK Kurchatov 29.83 326 **P 12 24 01.8 +0.4**
KURK IAmb IAmb 12 24 02.4
comp=Z,4.2nm,0.9s
BVAR Borovoye Array 35.34 324 P **P 12 24 49.8 +0.2**
comp=Z,0.9nm,0.6s,baz=113,slow=11,SNR=4.0
BVAR PcP **PcP 12 27 18.4 -1.1**
comp=Z,0.4nm,0.4s,baz=90,slow=1.4,SNR=1.9
comp=Z,0.9nm,0.6s
YAK Yakutsk 37.46 19 LR LR 12 42 14.0
comp=Z,40nm,18.1s,baz=198,slow=39
AB31 Akbulak array 39.98 314 P **P 12 25 28.9 0.0**
ABKAR Akbulak array 39.98 314 P **P 12 25 28.9 0.0**
TIXI Tiksi 45.31 10 LR LR 12 48 01.6
comp=Z,32nm,18.7s,baz=252,slow=40
GNI Garni 50.17 300 LR LR 12 50 31.0
comp=Z,20nm,21.2s,baz=100,slow=39
WRA Warramunga Arr 55.86 146 P **P 12 27 32.5 +0.4**
comp=Z,1.3nm,0.7s,baz=333,slow=8.0,SNR=7.3
comp=Z,1.3nm,0.7s
BRTR Keskin Array B 58.66 301 P **P 12 27 51.8 -0.2**
comp=Z,1.0nm,0.8s,baz=121,slow=10,SNR=3.9
comp=Z,1.0nm,0.8s
ASAR Alice Springs 58.84 149 P **P 12 27 56.8 +3.7**
ASAR Alice Springs 58.84 149 P **P 12 27 54.0 +0.9**
comp=Z,0.9nm,0.6s,baz=325,slow=6.8,SNR=7.9
comp=Z,0.9nm,0.6s
C19K Lookout Ridge 65.77 23 P **P 12 28 39.9 +0.9**
D19K Kuna River 66.46 24 P **P 12 28 44.0 +0.6**
E21K Killik River 67.92 23 P **P 12 28 52.6 -0.1**
E21K IAmb IAmb 12 28 54.4
comp=Z,8.0nm,1.4s
IMAR Indian Mountai 68.92 25 P **P 12 29 00.1 +1.2**
GERES GERESS Array B 69.91 315 P **P 12 29 04.7 -0.7**
comp=Z,0.3nm,0.4s,baz=91,slow=8.7,SNR=1.9
comp=Z,0.3nm,0.4s
E24K Your Creek 69.94 23 P **P 12 29 06.0 +0.7**
E24K IAmb IAmb 12 29 22.5
comp=Z,6.9nm,1.5s
ILAR Eielson Array 72.03 25 P **P 12 29 18.0 +0.1**
comp=Z,0.3nm,0.6s,baz=287,slow=5.4,SNR=5.5
comp=Z,0.3nm,0.6s
QSPA South Pole Qui 118.15 180 PKP **PKiKP 12 36 41.4 +0.7**
comp=Z,1.2nm,1.1s,baz=100,slow=6.1,SNR=2.3

DJA 12 12:21:36.3±0.3,**4°S**±3°×**12°5E**±°,**h499**km±6km,**M4.3**/21,
mb4.1/19,**mB4.5**/3,**MLv4.5**/21,**Mw(mB)3.6**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**2.51**	**61**	P	P	12 22 43.6	-0.5
SANI	**Sanana**	**2.64**	**24**	P	P	12 22 44.9	-0.1
AAI	**Ambon**	**3.37**	**77**	P	P	12 22 48.9	-0.9
MSAI	**Masohi**	**4.16**	**74**	P	P	12 22 55.2	-0.8
BKSI	**Bulukumba**	**4.84**	**260**	P	P	12 23 02.1	+0.2
MMRI	**Maumere**	**4.91**	**213**	P	P	12 23 03.1	+0.7
KMSI	**Cibinong**	**5.11**	**350**	P	P	12 23 05.1	+0.8
SPSI	**Sidrap Palu**	**5.15**	**276**	P	P	12 23 05.1	+0.4
SOEI	**Soe**	**5.28**	**187**	P	P	12 23 05.7	-0.3
EDFI	**Ende, Flores**	**5.31**	**217**	P	P	12 23 06.7	+0.5
	0.1nm705nm27nm,0.7s						
BATI	**Baumata**	**5.82**	**192**	P	P	12 23 11.0	+0.1
WSI	**Waingapu**	**6.89**	**221**	P	P	12 23 21.3	-0.1
	49nm,0.4s						
BASI	**Baing, Sumba**	**7.14**	**217**	P	P	12 23 24.6	+0.7
SWI	**Sorong**	**7.29**	**61**	P	P	12 23 26.3	+0.8
	0.2nm52nm,0.7s						
FAKI	**Fak Fak**	**7.49**	**78**	P	P	12 23 27.3	-0.2
WBSI	**Waikabubak, Su**	**7.50**	**227**	P	P	12 23 26.6	-1.1
	0.3nm42nm,1.0s						
PLAI	**Plampang**	**8.30**	**238**	P	P	12 23 35.0	-0.8
	30nm,0.6s						
TWSI	**Taliwang, Sumb**	**9.03**	**242**	P	P	12 23 43.6	+0.2
	17nm,0.8s						
JAGI	**Jajag, Banyuwa**	**11.40**	**249**	P	P	12 24 08.7	+0.1
	20nm,1.1s						

*UCR **12** 12:45:33.8±1.3, 11°.49N×86°.05W,h111km±5km, MW3.8*
*CATAC **12** 12:45:36.4±0.4, 12°N±3°×8°.6W±°, h86km±4km, M3.2/23,*
MLv3.2/23, Error ellipse: s-maj=9.2km s-min=3.6km
az=49.0, confirmed

ISC 12 12:45:34.9±1.5,**11°.56N**±0°.04×**86°.01W**±0°.05,**h109**km±8km,
n65,σ0**°65**/80,**6C-8D**,**Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NADN	**Granada**	**0.19**	**353**	*i*P	**Pn**	**12 45 50.3**	**+0.2**
NADN				eS	**Sn**	**12 46 03.1**	**+1.5**
JAPN	**AI SSO del Vol**	**0.32**	**95**	*i*P	**Pn**	**12 45 50.7**	**+0.1**
JAPN	**AI SSO del Vol**	**0.32**	**95**	P	**Pn**	**12 45 50.6**	**+0.1**
MORN	**AI O del Volca**	**0.35**	**91**	P	**Pn**	**12 45 50.9**	**+0.2**
CONN	**Concepcion**	**0.37**	**89**	P	**Pn**	**12 45 51.0**	**+0.1**
NANN	**Nandasmo**	**0.40**	**344**	S	**Sn**	**12 46 02.7**	**-0.4**
NANN	**Nandasmo**	**0.40**	**344**	P	**Pn**	**12 45 51.4**	**+0.4**
MASN	**Masaya**	**0.45**	**342**	P	**Pn**	**12 45 51.8**	**+0.4**
MASN				S	**Sn**	**12 46 03.6**	**-0.2**
CARN	**Rivas**	**0.60**	**127**	*e*P	**Pn**	**12 45 52.3**	**0.0**
CARN				eS	**Sn**	**12 46 05.9**	**+0.5**
CARN	**Rivas**	**0.60**	**127**	P	**Pn**	**12 45 52.2**	**0.0**
CARN				S	**Sn**	**12 46 05.3**	**-0.1**
UNAN	**Cigeo UNAN**	**0.61**	**335**	P	**Pn**	**12 45 53.0**	**+0.5**
WILN	**Americas 2**	**0.63**	**344**	P	**Pn**	**12 45 53.0**	**+0.5**
MGAN	**Managua**	**0.63**	**338**	P	**Pn**	**12 45 53.1**	**+0.5**
TISN	**Laguna Tiscapa**	**0.64**	**336**	P	**Pn**	**12 45 53.1**	**+0.5**
SAPS	**Ciudad Sandino**	**0.72**	**328**	P	**Pn**	**12 45 53.9**	**+0.6**
SAPS	**Ciudad Sandino**	**0.72**	**328**	S	**Sn**	**12 46 07.4**	**+0.2**
COPN	**Copaltepe**	**0.84**	**317**	*e*P	**Pn**	**12 45 54.2**	**-0.2**
COPN				eS	**Sn**	**12 46 08.8**	**-0.4**
COPN	**Copaltepe**	**0.84**	**317**	P	**Pn**	**12 45 54.3**	**-0.2**
ACON	**Acoyapa**	**0.91**	**63**	P	**Pn**	**12 45 54.3**	**-0.8**
BUAI	**Buenos Aires**	**0.94**	**135**	*e*P	**Pn**	**12 45 55.2**	**-0.2**
BUAI				eS	**Sn**	**12 46 11.0**	**+0.1**
BOAB	**BOACO BROADBAN**	**0.95**	**21**	P	**Pn**	**12 45 55.5**	**+0.1**
BOAB	**BOACO BROADBAN**	**0.95**	**21**	S	**Sn**	**12 46 09.7**	**-1.3**
LAPC	**Finca la Perla**	**0.96**	**144**	*i*P	**Pn**	**12 45 54.9**	**-0.8**
LAPC				eS	**Sn**	**12 46 10.4**	**-0.9**
MOM2	**El Cardon**	**0.99**	**332**	P	**Pn**	**12 45 55.9**	**0.0**
MOM2				S	**Sn**	**12 46 10.6**	**-1.2**
ELI1	**Hacienda Flor**	**1.01**	**154**	*e*P	**Pn**	**12 45 56.0**	**0.0**
ELI1				eS	**Sn**	**12 46 12.5**	**+0.5**
ELI1	**Hacienda Flor**	**1.01**	**154**	P	**Pn**	**12 45 56.3**	**+0.2**
GPS1	**Guardaparques**	**1.01**	**140**	*e*P	**Pn**	**12 45 55.9**	**-0.3**
ALIBA	**Liberia Airpor**	**1.06**	**155**	*i*P	**Pn**	**12 45 56.3**	**-0.3**
ALIBA				eS	**Sn**	**12 46 13.3**	**+0.3**
VMAR	**Armenia, Volca**	**1.15**	**130**	*i*P	**Pn**	**12 45 57.0**	**-0.5**
VMAR				eS	**Sn**	**12 46 14.8**	**0.0**
CNGA	**AI SSO del Vol**	**1.16**	**324**	P	**Pn**	**12 45 58.0**	**+0.3**
CNGN	**Cerro Negro**	**1.16**	**324**	*e*P	**Pn**	**12 45 58.2**	**+0.5**
CNGN	**Cerro Negro**	**1.16**	**324**	P	**Pn**	**12 45 58.3**	**+0.5**
CNGN	**Cerro Negro**	**1.16**	**324**	S	**Sn**	**12 46 14.4**	**-0.6**
HORNC	**Hornillas**	**1.17**	**136**	*e*P	**Pn**	**12 45 56.7**	**-1.1**
PLRN	**Geotermica Pol**	**1.27**	**324**	P	**Pn**	**12 45 59.3**	**+0.4**
PLVR	**Palo Verde**	**1.36**	**152**	*i*P	**Pn**	**12 46 00.5**	**+0.3**
PLVR				eS	**Sn**	**12 46 17.6**	**-1.7**
MATN	**Matagalpa**	**1.37**	**3**	S	**Sn**	**12 46 18.4**	**-0.9**
MATN	**Matagalpa**	**1.37**	**3**	P	**Pn**	**12 45 59.3**	**-0.9**
TIMP	**Tierras Morena**	**1.37**	**135**	*i*P	**Pn**	**12 45 59.7**	**-0.5**
INVE	**Universidad In**	**1.42**	**139**	*e*P	**Pn**	**12 45 59.4**	**-1.2**
INVE				eS	**Sn**	**12 46 20.5**	**+0.3**
QUEB	**Quebradon, Cot**	**1.43**	**130**	*i*P	**Pn**	**12 46 00.5**	**-0.3**
QUEB				eS	**Sn**	**12 46 22.0**	**+1.5**
JUD3	**Juan Diaz 3**	**1.46**	**162**	*e*P	**Pn**	**12 46 00.5**	**-0.7**
PKGN	**Cerro Pekin**	**1.46**	**320**	P	**Pn**	**12 46 01.5**	**+0.4**
PKGN				S	**Sn**	**12 46 21.1**	**+0.1**
CRIN	**San Cristobal**	**1.53**	**318**	P	**Pn**	**12 46 02.3**	**+0.2**
CRIN	**San Cristobal**	**1.53**	**318**	S	**Sn**	**12 46 22.3**	**-0.4**
JTS	**Las Juntas de**	**1.63**	**140**	*e*P	**Pn**	**12 46 02.4**	**-0.8**
JTS	**Las Juntas de**	**1.63**	**140**	P	**Pn**	**12 46 03.6**	**+0.4**
CMARA	**Lajas Hojancha**	**1.63**	**159**	P	**Pn**	**12 46 03.8**	**+0.5**
ARE1	**Arenal 1**	**1.67**	**131**	*i*P	**Pn**	**12 46 03.2**	**-0.5**
VARE2	**V. Arenal**	**1.67**	**131**	*e*P	**Pn**	**12 46 03.2**	**-0.6**
ESPN	**Las Esperanzas**	**1.79**	**69**	*i*P	**Pn**	**12 46 05.1**	**0.0**
SOCE	**Pocosol**	**1.79**	**130**	P	**Pn**	**12 46 05.7**	**+0.5**
RCPN	**Sur Rio San Ju**	**1.96**	**358**	P	**Pn**	**12 46 08.4**	**+0.9**
CSGN	**Cosiguina Volc**	**2.07**	**313**	*e*P	**Pn**	**12 46 08.1**	**-0.7**
CSGN	**Cosiguina Volc**	**2.07**	**313**	P	**Pn**	**12 46 09.4**	**+0.6**
CBL1	**Cabuya**	**2.15**	**155**	*e*P	**Pn**	**12 46 08.4**	**-1.3**
VPS8	**V Poas**	**2.21**	**128**	*e*P	**Pn**	**12 46 12.2**	**+1.4**
CHOHN	**Orocuina**	**2.22**	**330**	P	**Pn**	**12 46 11.0**	**+0.2**
BLUN	**Bluefields**	**2.23**	**78**	P	**Pn**	**12 46 11.1**	**+0.3**
YUSH	**Yuscaran**	**2.52**	**341**	P	**Pn**	**12 46 15.1**	**+0.4**
PICV	**PH. Pirrs**	**2.62**	**137**	*e*P	**Pn**	**12 46 16.2**	**+0.3**
PIEC	**Cerro El Cedra**	**2.78**	**133**	*e*P	**Pn**	**12 46 18.4**	**+0.2**
BUS1	**Rivas**	**2.98**	**132**	*e*P	**Pn**	**12 46 21.4**	**+0.3**
EDPE	**Pejibaye, P**	**3.38**	**135**	*e*P	**Pn**	**12 46 26.0**	**0.0**
DRK0	**Durika**	**3.54**	**130**	*i*P	**Pn**	**12 46 29.5**	**+1.2**

DJA 12 12:48:37.5±0.2,**2°S**±3°×**12°1E**±°,**h10**km,**M3.9**/12,**mb4.1**/3,
MLv3.9/12,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**1.43**	**11**	P	Pn	12 49 02.5	-1.0
TTSI	**Tana Toraja**	**1.72**	**245**	P	Pn	12 49 06.0	-1.5
LUWI	**Luwuk**	**1.88**	**48**	P	Pn	12 49 08.9	-0.9
PCI	**Palu**	**2.09**	**312**	P	Pn	12 49 13.5	+0.9
SPSI	**Sidrap Palu**	**2.29**	**225**	P	Pn	12 49 14.9	-0.5
BNSI	**Bone**	**2.43**	**212**	P	Pn	12 49 17.9	+0.7
MRSI	**Marisa**	**2.83**	**11**	P	Pn	12 49 22.3	-0.6
MPSI	**Mapaga**	**3.03**	**331**	P	Pn	12 49 25.4	-0.1
BKSI	**Bulukumba**	**3.23**	**203**	P	Pn	12 49 28.6	+0.2
BBSI	**Bau Bau**	**3.36**	**159**	P	Pn	12 49 30.8	+0.7
BSSI	**Bau Bau, Buton**	**3.90**	**193**	P	Pn	12 49 37.2	-0.3
EDFI	**Ende, Flores**	**6.39**	**177**	P	Pn	12 50 11.3	-0.7
	0.0nm7.9nm,1.3s						

*SCB **12** 13:09:05.4±1.3, 15°.72S×64°.71W,h594km±23km, ML4.5/1,*
MW4.0, Error ellipse: s-maj=11.8km s-min=7.4km az=0.0
*VAO **12** 13:09:11.9±0.2, 15°.33S×64°.83W,h584km±4km, mb4.7*
*IDC **12** 13:09:12.4±0.5, 15°.22S×64°.76W,h584km±4km, mb3.7/12,*
mbtmp4.7/18, Error ellipse: s-maj=11.7km s-min=10.6km
az=37.0
*NEIC **12** 13:09:12.3±1.4, 15°.39S±0°.10×64°.9W±0°.1,h585km±6km,*
mb4.7/42, Error ellipse: s-maj=16.2km s-min=13.8km
az=69.0

ISC 12 13:09:12.5±0.3,**15°.31S**±0°.06×**64°.82W**±0°.05,**h600**km,
n169,σ1**°53**/177,**mb4.4**/22,**Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBOB	**La Paz, Bander**	**3.29**	**255**	Pg	**P**	**13 10 32.2**	**-1.8**
LPAZ	**La Paz**	**3.33**	**253**	P	**P**	**13 10 32.6**	**-1.7**
LPAZ	**La Paz**	**3.33**	**253**	P	**P**	**13 10 33.0**	**-1.4**
	690nm,0.7s,baz=63,slow=5.1,SNR=1092						
LPAZ				S	**S**	**13 11 36.6**	**-4.4**
	128nm,1.0s,baz=127,slow=3.9,SNR=5.4						
BBOE	**La Paz, Chanca**	**3.39**	**243**	Pg	**P**	**13 10 32.2**	**-2.5**
BBOJ	**La Paz, Jacaqu**	**3.64**	**242**	Pg	**P**	**13 10 33.9**	**-2.3**
SIV	**San Ignacio**	**3.68**	**101**	P	**P**	**13 10 35.0**	**-0.9**
	128nm,0.6s,baz=283,slow=6.5,SNR=399						
SIV				S	**S**	**13 11 41.3**	**-2.5**
	15nm,0.7s,baz=24,slow=22,SNR=8.5						
SIV	**San Ignacio**	**3.68**	**101**	Pg	**P**	**13 10 32.6**	**-3.3**
BBOD	**La Paz, Gloria**	**3.87**	**249**	Pg	**P**	**13 10 35.9**	**-1.8**
PB18	**Visviri**	**5.01**	**242**		**P**	**13 10 44.4**	**-1.8**
VILB	**Vilhena**	**5.06**	**63**		**P**	**13 10 45.2**	**-0.8**
VILB	**Vilhena**	**5.06**	**63**	Pg	**P**	**13 10 45.5**	**-0.5**
VILB	**Vilhena**	**5.06**	**63**	*e*P	**P**	**13 10 45.1**	**-0.9**
PB16	**IPOC Station P**	**5.40**	**235**	P	**P**	**13 10 46.9**	**-2.4**
PB16	**IPOC Station P**	**5.40**	**235**	Pg	**P**	**13 10 47.6**	**-1.7**
PB16				Sg	**S**	**13 12 04.2**	**-4.1**
PB16				IAML		13 12 10.5	
	55nm,0.1s						
PTLB	**Pontes e Lacer**	**5.49**	**92**		**P**	**13 10 48.6**	**-0.7**
PTLB	**Pontes e Lacer**	**5.49**	**92**	Pg	**P**	**13 10 48.6**	**-0.7**
PTLB	**Pontes e Lacer**	**5.49**	**92**	*e*P	**P**	**13 10 47.8**	**-1.6**
MOCB	**Mochara**	**5.96**	**187**	Pg	**P**	**13 10 51.2**	**-2.6**
GO01	**Chusmiza**	**6.02**	**223**	P	**P**	**13 10 51.7**	**-2.7**
GO01	**Chusmiza**	**6.02**	**223**	Pg	**P**	**13 10 52.2**	**-2.2**
PB08	**IPOC Station P**	**6.33**	**220**		**P**	**13 10 54.2**	**-2.8**
PB08	**IPOC Station P**	**6.33**	**220**	Pg	**P**	**13 10 55.3**	**-1.7**
PB11	**IPOC Station P**	**6.39**	**225**		**P**	**13 10 53.9**	**-3.4**
YJA	**Yavi**	**6.86**	**185**	Pg	**P**	**13 10 59.9**	**-1.9**
PB01	**IPOC Station P**	**7.22**	**217**	P	**P**	**13 11 01.8**	**-2.9**
TA01	**Diego Aracena**	**7.30**	**224**		**P**	**13 11 02.3**	**-3.0**
PATCX	**Punta Patache**	**7.47**	**222**	P	**P**	**13 11 04.0**	**-2.9**
PB02	**IPOC Station P**	**7.68**	**218**	P	**P**	**13 11 06.1**	**-2.8**
PB09	**IPOC Station P**	**7.69**	**212**	P	**P**	**13 11 06.7**	**-2.4**
PB09	**IPOC Station P**	**7.69**	**212**	Pg	**P**	**13 11 08.9**	**-0.2**
PB03	**IPOC Station P**	**8.17**	**214**	P	**P**	**13 11 11.5**	**-2.1**
PB06	**IPOC Station P**	**8.62**	**211**	P	**P**	**13 11 15.3**	**-2.6**
PDRB	**Porto dos Gac**	**8.69**	**66**	*e*P	**P**	**13 11 18.0**	**-0.6**
SALV	**Santo Antonio**	**8.81**	**95**	*e*P	**P**	**13 11 19.0**	**-0.7**
PB05	**IPOC Station P**	**9.06**	**213**		**P**	**13 11 20.1**	**-2.2**
BDQN	**Bodoquena, MS**	**9.23**	**125**	*e*P	**P**	**13 11 22.8**	**-0.9**
PP1B	**Ponte de Pedra**	**9.81**	**105**	*e*P	**P**	**13 11 28.7**	**-0.8**
CLDB	**Colider**	**9.83**	**64**	*e*P	**P**	**13 11 28.7**	**-1.1**
AQDB	**Aquidauana**	**10.09**	**122**		**P**	**13 11 31.3**	**-0.9**
AQDB	**Aquidauana**	**10.09**	**122**	*e*P	**P**	**13 11 31.4**	**-0.8**
GO02	**Mina Guanaco**	**10.78**	**204**		**P**	**13 11 37.2**	**-2.0**
CZSB	**Cruzeiro do Su**	**10.79**	**313**	P	**P**	**13 11 37.9**	**-1.4**
CZSB	**Cruzeiro do Su**	**10.79**	**313**	*e*P	**P**	**13 11 38.0**	**-1.2**
TEFE	**Tefe**	**11.73**	**1**	*e*P	**P**	**13 11 48.2**	**-0.5**
RPRD	**Ribas do Rio P**	**11.77**	**118**	*e*P	**P**	**13 11 49.1**	**+0.1**
C2SB	**Chapadao do Su**	**11.97**	**108**	*e*P	**P**	**13 11 51.4**	**+0.4**
AMBA	**Amambai (Brazi**	**11.98**	**101**	*e*P	**P**	**13 11 50.1**	**-1.0**
TBTG	**Tabatinga, AM**	**12.13**	**335**	*e*P	**P**	**13 11 52.5**	**-0.3**
NNA	**Nana**	**12.14**	**284**		**P**	**13 11 51.5**	**-1.4**
NNA	**Nana**	**12.14**	**284**	P	**P**	**13 11 51.6**	**-1.2**
	95nm,0.5s,baz=124,slow=6.6,SNR=33						
NNA				S	**S**	**13 14 06.2**	**+1.6**
	3.5nm,0.3s,baz=21,slow=23,SNR=1.1						
AC02	**Maricunga**	**12.15**	**199**		**P**	**13 11 51.9**	**-1.4**
AC02	**Maricunga**	**12.15**	**199**	*e*P	**P**	**13 11 52.7**	**-0.6**
NPGB	**Novo Progresso**	**12.39**	**50**	*e*P	**P**	**13 11 54.1**	**-1.2**
ARAG	**Araguaiana, MT**	**12.55**	**94**	*e*P	**P**	**13 11 55.9**	**-1.0**
SJPY	**San Joaquin**	**12.64**	**141**	*e*P	**P**	**13 11 56.2**	**-1.5**
MACA	**Manacapuru-AM**	**12.74**	**19**		**P**	**13 11 58.4**	**-0.5**
MACA	**Manacapuru-AM**	**12.74**	**19**	*e*P	**P**	**13 11 58.3**	**-0.5**
CPUP	**Villa Florida**	**13.01**	**149**	P	**P**	**13 11 59.0**	**-2.4**
	1.8nm,0.6s,baz=188,slow=9.5,SNR=16						
CPUP	**Villa Florida**	**13.01**	**149**	*e*P	**P**	**13 11 59.3**	**-2.1**
CYA	**Choya**	**13.10**	**184**	*e*P	**P**	**13 11 59.9**	**-2.4**
SNDB	**Serra Nova Dou**	**13.56**	**78**	*e*P	**P**	**13 12 06.2**	**-0.9**
TRCB	**Terra Rica**	**13.71**	**125**	*e*P	**P**	**13 12 07.3**	**-1.3**
VCA	**Vinchina**	**13.72**	**193**	*e*P	**P**	**13 12 08.2**	**-0.6**
ITTB	**Itaituba**	**14.08**	**40**	*e*P	**P**	**13 12 11.7**	**-0.6**
ACLC	**CERRO LA CRUZ**	**14.19**	**188**	*e*P	**P**	**13 12 12.2**	**-1.1**
ITRB	**Iturama**	**14.47**	**110**	*e*P	**P**	**13 12 15.2**	**-0.7**
AGUA	**GUANDACOL**	**14.51**	**193**	*e*P	**P**	**13 12 15.9**	**-0.4**
LCO	**Las Campanas**	**14.68**	**201**	P	**P**	**13 12 17.0**	**-1.0**
PTGB	**Pitanga**	**15.20**	**130**	*e*P	**P**	**13 12 22.0**	**-0.6**
ACDV	**Cuesta del Vie**	**15.31**	**194**	*e*P	**P**	**13 12 24.9**	**+1.3**
CO01	**Juntas del Tor**	**15.38**	**197**		**P**	**13 12 24.9**	**+0.5**
ARDD	**Rodeo**	**15.39**	**195**	*e*P	**P**	**13 12 25.7**	**+1.1**
AVFE	**Valle Fertil**	**15.47**	**189**	*e*P	**P**	**13 12 24.4**	**-0.6**
ATAH	**Atahualpa**	**15.59**	**300**	P	**P**	**13 12 28.0**	**+1.3**
	36nm,0.8s,baz=130,slow=5.7,SNR=17						
ATAH				S	**S**	**13 15 07.8**	**+2.9**
	8.1nm,0.7s,baz=87,slow=8.0,SNR=3.5						
ACCO	**Cerro Coronel**	**15.70**	**194**	*e*P	**P**	**13 12 28.7**	**+1.3**
ACHE	**Chepes**	**15.87**	**186**	*e*P	**P**	**13 12 28.1**	**-0.7**
IPMB	**Ipameri, GO**	**16.14**	**102**	*e*P	**P**	**13 12 30.9**	**-0.4**
BDFB	**Brasilia**	**16.20**	**93**		**P**	**13 12 32.5**	**+0.5**
BDFB				IAmb	IAmb	13 12 33.8	
	comp=Z,55nm,0.8s						
BDFB	**Brasilia**	**16.20**	**93**	P	**P**	**13 12 33.0**	**+1.0**
	comp=Z,55nm,0.8s,baz=266,slow=12,SNR=53						
FRTB	**Fartura**	**16.46**	**121**	*e*P	**P**	**13 12 33.4**	**-0.8**
BB19B	**Bebedouro**	**16.50**	**113**	*e*P	**P**	**13 12 34.8**	**+0.2**
CFA	**Coronel Fontan**	**16.52**	**190**	P	**P**	**13 12 35.2**	**+0.6**
	comp=Z,40nm,0.5s,baz=3.2,slow=9.8,SNR=92						
CFA				S	**S**	**13 15 22.9**	**+3.8**
	comp=Z,1.0nm,0.3s,baz=215,slow=21,SNR=2.2						
CO06	**Fray Jorge**	**16.52**	**201**		**P**	**13 12 34.6**	**0.0**
ITAB	**Concordia**	**16.74**	**137**	*e*P	**P**	**13 12 37.0**	**+0.4**
CO02	**Combarbal**	**16.80**	**199**	IAmb	IAmb	13 12 39.4	
	comp=Z,77nm,1.1s						
PSAL	**Palomas, Salto**	**17.04**	**158**	*e*P	**P**	**13 12 39.2**	**0.0**
PRPB	**Parauapebas**	**17.30**	**60**	*e*P	**P**	**13 12 42.4**	**+0.4**
RCLB	**Rio Claro- Sao**	**17.82**	**116**	*e*P	**P**	**13 12 46.8**	**+0.2**
PMNB	**Patos De Minas**	**17.88**	**103**	*e*P	**P**	**13 12 47.2**	**-0.1**
SMTB	**Santa Maria do**	**18.02**	**71**	*e*P	**P**	**13 12 48.9**	**+0.3**
BOAV	**Boa Vista**	**18.10**	**14**		**P**	**13 12 50.4**	**+1.2**
BOAV				IAmb	IAmb	13 12 51.4	
	comp=Z,6.6nm,0.7s						
BOAV	**Boa Vista**	**18.10**	**14**	*e*P	**P**	**13 12 49.6**	**+0.4**
VA03	**San Esteban**	**18.14**	**196**	IAmb	IAmb	13 13 22.6	
	comp=Z,19nm,0.8s						
VA06	**Catapilco**	**18.16**	**198**	IAmb	IAmb	13 12 50.9	
	comp=Z,44nm,0.8s						
CPSB	**Cacapava Do Su**	**18.30**	**147**	*e*P	**P**	**13 12 50.1**	**-0.7**
SPB	**Sao Paulo**	**18.34**	**119**	*e*P	**P**	**13 12 51.4**	**+0.1**
VAO	**Valinhos**	**18.51**	**117**		**P**	**13 12 53.1**	**+0.1**
VAO	**Valinhos**	**18.51**	**117**	*e*P	**P**	**13 12 52.8**	**-0.2**
MT08	**Bocatoma Ro**	**18.66**	**194**	IAmb	IAmb	13 13 22.7	
	comp=Z,9.9nm,0.8s						
PET01	**Itanhaem-SP**	**18.76**	**121**	*e*P	**P**	**13 12 54.7**	**-0.4**
MT02	**Curacav**	**18.77**	**197**	IAmb	IAmb	13 12 56.8	
	comp=Z,28nm,0.9s						
CNLB	**Canela**	**18.98**	**140**	*e*P	**P**	**13 12 57.5**	**+0.4**
MAJ01	**Sao Joao Batis**	**18.99**	**132**	*e*P	**P**	**13 12 57.6**	**+0.5**
COHC	**Cochancay**	**19.11**	**310**		**P**	**13 13 00.2**	**+1.8**
COHC				IAmb	IAmb	13 13 01.3	
	comp=Z,6.2nm,0.5s						
MT09	**Talagante**	**19.21**	**196**	IAmb	IAmb	13 12 59.8	
	comp=Z,32nm,0.6s						
PLTB	**Pedras Altas**	**19.32**	**150**		**P**	**13 12 59.5**	**-0.6**
PLTB				IAmb	IAmb	13 13 39.0	
	comp=Z,25nm,1.3s						
BO04	**La Punta**	**19.32**	**195**	IAmb	IAmb	13 13 00.9	
	comp=Z,16nm,0.7s						
MT01	**Popeta**	**19.37**	**196**	IAmb	IAmb	13 13 03.6	
	comp=Z,12nm,0.8s						
SDBA	**SAO DESIDERIO**	**19.55**	**84**	*e*P	**P**	**13 13 02.4**	**-0.1**
PARB	**Paraibuna**	**19.79**	**117**	*e*P	**P**	**13 13

KURBB	**Kurchatov Arra**	**134.06**	**32**	PKP	**PKiKP**	**13 27 23.6**	**-0.5**		
	comp=Z,1.9nm,0.3s,baz=317,slow=2.3,SNR=2.6								
KURBB				SKPbc	**SKPab**	**13 29 58.0**	**-2.3**		
	comp=Z,1.5nm,0.3s,baz=309,slow=3.8,SNR=4.1								
ZALV	**Zalesovo Beam**	**134.73**	**25**	PKP	**PKiKP**	**13 27 25.1**	**-0.2**		
	comp=Z,1.6nm,0.5s,baz=282,slow=2.9,SNR=8.9								
ZALV				SKPbc	**SKPab**	**13 30 00.9**	**-2.4**		
	comp=Z,4.3nm,0.5s,baz=311,slow=3.8,SNR=21								
ASAR	**Alice Springs**	**137.16**	**206**	PKhKP	PKPpre	13 27 20.2			
	comp=Z,0.4nm,0.5s,baz=140,slow=2.2,SNR=17								
ASAR				PKP	**PKiKP**	**13 27 30.1**	**-1.2**		
	comp=Z,0.6nm,0.6s,baz=154,slow=1.5,SNR=6.3								
ASAR				SKPbc	**SKPbc**	**13 30 08.3**	**+1.3**		
	comp=Z,1.8nm,0.5s,baz=143,slow=4.3,SNR=28								
MKAR	**Makanchi Array**	**138.36**	**34**	PKhKP	PKPpre	13 27 24.6			
	comp=Z,0.4nm,0.4s,baz=354,slow=1.4,SNR=4.7								
MKAR				PKP	**PKiKP**	**13 27 31.8**	**-1.2**		
	comp=Z,0.3nm,0.4s,baz=358,slow=2.3,SNR=3.9								
MKAR				SKPbc	**SKiKP**	**13 30 11.4**	**-1.5**		
	comp=Z,1.9nm,0.8s,baz=329,slow=2.7,SNR=14								
WRA	**Warramunga Arr**	**140.22**	**209**	PKhKP	PKPpre	13 27 25.4			
	comp=Z,0.5nm,0.5s,baz=159,slow=3.2,SNR=4.6								
WRA				PKP	**PKiKP**	**13 27 36.3**	**-1.4**		
	comp=Z,1.1nm,0.4s,baz=160,slow=1.7,SNR=11								
WRA				SKPbc	**SKiKP**	**13 30 17.0**	**-0.7**		
	comp=Z,2.6nm,0.6s,baz=155,slow=2.4,SNR=23								
SONM	**Songino Array**	**146.76**	**11**	PKPbc	**PKiKP**	**13 27 49.5**	**-0.9**		
	comp=Z,2.0nm,0.6s,baz=346,slow=2.1,SNR=10								
SONM				pPKPbc	**pPKPdf**	**13 30 02.8**	**-1.9**		
	comp=Z,0.7nm,0.5s,baz=321,slow=1.8,SNR=3.2								
SONM				SKPbc	**SKiKP**	**13 30 32.3**	**+2.0**		
	comp=Z,0.8nm,0.4s,baz=248,slow=1.2,SNR=3.0								
MJAR	**Matsushiro Arr**	**150.54**	**320**	PKPbc	**PKiKP**	**13 27 58.8**	**+0.4**		
	comp=Z,0.6nm,0.5s,baz=74,slow=2.2,SNR=1.6								
CMAR	**Chiang Mai Arr**	**164.15**	**76**	PKPab	**PKPab**	**13 29 07.8**	**+0.8**		
	comp=Z,1.2nm,0.6s,baz=282,slow=4.4,SNR=8.8								

IDC 12 13:50:30.7±1.9, 27°95S×74°26E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=51.8km s-min=41.4km az=88.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.26**	**355**	T	T	14 15 47.8	
	baz=176						
H08S1	**Diego Carcia H**	**20.26**	**355**	T	T	14 15 51.7	
	baz=176						
H08S3	**Diego Garcia H**	**20.28**	**355**	T	T	14 15 48.8	
	baz=176						
H04N2	**CROZET ISLANDS**	**25.39**	**218**	T	T	14 22 21.7	
	baz=53						
H04N1	**CROZET ISLANDS**	**25.40**	**218**	T	T	14 22 22.3	
	baz=53						
H04N3	**CROZET ISLANDS**	**25.41**	**218**	T	T	14 22 20.1	
	baz=53						
H04S1	**CROZET ISLANDS**	**25.75**	**217**	T	T	14 22 46.9	
	baz=51						
H04S3	**CROZET ISLANDS**	**25.76**	**217**	T	T	14 22 48.0	
	baz=51						
H04S2	**CROZET ISLANDS**	**25.77**	**217**	T	T	14 22 48.2	
	baz=51						
ASAR	**Alice Springs**	**53.42**	**100**	P	P	13 59 52.6	0.0
	0.7nm,1.0s,baz=250,slow=6.6,SNR=8.2						
	0.7nm,1.0s						
WRA	**Warramunga Arr**	**55.03**	**96**	P	P	14 00 04.3	-0.1
	0.6nm,0.9s,baz=249,slow=7.2,SNR=2.3						
	0.6nm,0.9s						
QSPA	**South Pole Qui**	**62.19**	**180**	P	P	14 00 53.8	0.0
	1.4nm,1.2s,baz=304,slow=3.6,SNR=1.6						
	1.4nm,1.2s						
MKAR	**Makanchi Array**	**74.74**	**6**	P	P	14 02 12.2	0.0
	0.2nm,0.8s,baz=168,slow=7.4,SNR=2.2						
	0.2nm,0.8s						

*IDC **12** 13:51:20.5±0.7, 27°76S×74°02E, h0km, mb3.9/13, mbtmp3.9/13, Error ellipse: s-maj=27.3km s-min=19.7km az=86.0*

ISC 12 13:51:22.6±0.7, 27°8S±0°1×74°0E±0°2, h12km, n25, σ1§00/13, mb3.9/12, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.08**	**356**	T	T	14 16 45.3	
	baz=177,slow=76,SNR=69						
H08S1	**Diego Carcia H**	**20.08**	**355**	T	T	14 16 46.6	
	baz=177,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**20.10**	**356**	T	T	14 16 42.6	
	baz=177,slow=76,SNR=16						
H04N2	**CROZET ISLANDS**	**25.40**	**218**	T	T	14 23 15.3	
	baz=52,slow=74,SNR=1410						
H04N1	**CROZET ISLANDS**	**25.41**	**218**	T	T	14 23 17.7	
	baz=52,slow=74,SNR=1305						
H04N3	**CROZET ISLANDS**	**25.41**	**218**	T	T	14 23 14.5	
	baz=52,slow=74,SNR=1507						
H04S1	**CROZET ISLANDS**	**25.76**	**216**	T	T	14 23 40.9	
	baz=51,slow=76,SNR=169						
H04S3	**CROZET ISLANDS**	**25.77**	**217**	T	T	14 23 42.5	
	baz=51,slow=76,SNR=153						
H04S2	**CROZET ISLANDS**	**25.78**	**216**	T	T	14 23 41.0	
	baz=51,slow=76,SNR=189						
H01W2	**Cape Leeuwin H**	**34.80**	**112**	T	T	14 35 04.7	
	baz=270,slow=75,SNR=6.0						
H01W3	**Cape Leeuwin H**	**34.80**	**112**	T	T	14 34 52.9	
	baz=270,slow=75,SNR=6.1						
H01W1	**Cape Leeuwin H**	**34.82**	**112**	T	T	14 34 53.9	
	baz=270,slow=75,SNR=7.4						
CMAR	**Chiang Mai Arr**	**51.91**	**31**	P	**P**	**14 00 31.8**	**+0.4**
	0.5nm,0.5s,baz=212,slow=8.1,SNR=5.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**53.64**	**100**	P	**P**	**14 00 43.8**	**-0.6**
	2.5nm,0.8s,baz=255,slow=6.5,SNR=21						
	2.5nm,0.8s						
WRA	**Warramunga Arr**	**55.24**	**96**	P	**P**	**14 00 55.6**	**-0.4**
	2.4nm,0.8s,baz=252,slow=7.6,SNR=9.2						
	2.4nm,0.8s						
SNAA	**Sanae**	**59.77**	**201**	P	**P**	**14 01 28.7**	**+1.5**
	0.7nm,0.7s,baz=182,slow=23,SNR=2.2						
	0.7nm,0.7s						
QSPA	**South Pole Qui**	**62.36**	**180**	P	**P**	**14 01 44.4**	**-0.6**
	2.1nm,0.9s,baz=300,slow=4.0,SNR=6.1						
	2.1nm,0.9s						
VNDA	**Vanda**	**62.62**	**166**	P	**P**	**14 01 45.9**	**-0.5**
	0.1nm,0.3s,baz=328,slow=7.1,SNR=4.0						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**74.60**	**6**	P	**P**	**14 02 59.5**	**-1.9**
	1.1nm,0.9s,baz=185,slow=5.7,SNR=6.6						
	1.1nm,0.9s						
KURBB	**Kurchatov Arra**	**78.16**	**3**	P	**P**	**14 03 20.9**	**-0.5**
	1.0nm,0.2s,baz=184,slow=2.8,SNR=2.2						
	1.0nm,0.2s						
BVAR	**Borovoye Array**	**80.52**	**358**	P	**P**	**14 03 34.0**	**-0.3**
	1.6nm,1.0s,baz=142,slow=7.3,SNR=2.9						
	1.6nm,1.0s						
TORD	**Torodi Ar. Bea**	**80.96**	**290**	P	**P**	**14 03 36.7**	**-0.8**
	0.6nm,0.9s,baz=127,slow=3.9,SNR=3.2						
	0.6nm,0.9s						
ZALV	**Zalesovo Beam**	**81.92**	**6**	P	**P**	**14 03 41.9**	**+0.2**
	0.4nm,0.5s,baz=187,slow=5.8,SNR=1.5						
	0.4nm,0.5s						
KSRS	**Korea Array**	**82.25**	**40**	P	**P**	**14 03 45.2**	**+1.4**
	0.9nm,0.8s,baz=222,slow=3.6,SNR=3.4						
	0.9nm,0.8s						
AKASG	**Malin Array Be**	**87.60**	**333**	P	**P**	**14 04 10.5**	**+0.2**
	0.2nm,0.3s,baz=116,slow=4.2,SNR=2.0						
	0.2nm,0.3s						

*SOME **12** 13:57:28.9, 41°78N×72°93E, h0km*
*KRNET **12** 13:57:28.8±0.1, 41°76N×72°96E, h25km, mb2.4*
*NNC **12** 13:57:29.5±1.5, 41°78N×72°99E, h8km±9km, mb3.1, mpv2.8, Error ellipse: s-maj=13.0km s-min=7.0km az=157.0*

ISC 12 13:57:28.6±1.4, 41°79N±0°05×72°94E±0°03, h4km±11km, n20, σ0§71/35, 22C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.98**	**13**	P	**Pb**	**13 57 48.4**	**+0.3**
	5.9nm,0.2s						
MRKS				S	**Sn**	**13 58 02.8**	**-0.7**
	14nm,0.2s						
MRKS	**Merke**	**0.98**	**13**	*e*P	**Pb**	**13 57 48.4**	**+0.3**
	5.9nm,0.2s						
MRKS				*e*S	**Sn**	**13 58 02.8**	**-0.7**
	14nm,0.2s						
EKS2	**Erkin-Say**	**1.07**	**35**	⇑*i*P	**Pg**	**13 57 49.3**	**+0.2**
EKS2				⇑*i*S	**Sb**	**13 58 04.0**	**-0.1**
UCH	**Uchtor**	**1.25**	**69**	⇑*i*P	**Pg**	**13 57 52.0**	**-0.6**
UCH				⇑*i*S	**Sg**	**13 58 08.7**	**-0.2**
TRKS	**Terek-Say**	**1.37**	**260**	⇑*i*P	**Pn**	**13 57 54.0**	**-0.6**
TRKS				⇑*i*S	**Sb**	**13 58 12.2**	**-0.6**
AAK	**Ala-Archa**	**1.43**	**53**	⇓Pn	**Pb**	**13 57 56.1**	**+0.2**
	1.5nm,0.8s						
AAK				⇑Sn	**Sg**	**13 58 15.2**	**+0.6**
	1.1nm,0.6s						
AAK	**Ala-Archa**	**1.43**	**53**	⇑*i*P	**Pn**	**13 57 55.3**	**-0.2**
AAK				⇑*i*S	**Sn**	**13 58 14.6**	**-0.2**
KBK	**Karagaybulak**	**1.73**	**59**	⇑*e*P	**Pb**	**13 58 00.3**	**-0.6**
KBK				⇑*i*S	**Sb**	**13 58 23.1**	**+0.1**
CHMS	**Chumysh**	**1.81**	**48**	⇑*i*P	**Pb**	**13 58 01.5**	**-0.7**
CHMS				⇑*i*S	**Sb**	**13 58 25.2**	**0.0**
USP	**Ospenovka**	**1.87**	**38**	⇑*i*P	**Pb**	**13 58 02.5**	**-0.8**
USP				⇑*i*S	**Sb**	**13 58 27.3**	**+0.2**
JNKS	**Jany-Kuch**	**2.17**	**109**	⇑*i*P	**Pn**	**13 58 06.2**	**+0.5**
JNKS				⇑*i*S	**Sn**	**13 58 33.2**	**+0.1**
IUG	**Iuzhnay**	**2.20**	**280**	Pg	**Pg**	**13 58 11.2**	**+0.5**
	6.6nm,0.2s						
IUG				Lg	Lg	13 58 41.5	
	34nm,0.3s						
KK31	**Karatay Array**	**2.22**	**307**	⇓Pg	**Pb**	**13 58 09.8**	**+0.5**
	0.9nm,0.3s,baz=118,slow=17,SNR=7.1						
KK31				⇑Lg	Lg	13 58 40.8	
	3.5nm,0.3s,baz=128,slow=28,SNR=16						
TKM2	**Tokmak 2**	**2.27**	**59**	⇑*i*P	**Pn**	**13 58 07.9**	**+0.9**
TKM2				⇑*i*S	**Sn**	**13 58 36.4**	**+0.8**
NRN	**Naryn**	**2.33**	**98**	⇑*i*P	**Pn**	**13 58 08.1**	**+0.2**
NRN				⇑*i*S	**Sn**	**13 58 36.4**	**-0.6**
KST	**Kastek**	**2.56**	**60**	Pg	**Pb**	**13 58 15.7**	**+0.5**
	1.3nm,0.2s						
KST				Lg	Lg	13 58 49.3	
	6.2nm,0.3s						
KST	**Kastek**	**2.56**	**60**	*e*P	**Pb**	**13 58 15.7**	**+0.5**
	1.3nm,0.2s						
KST				*e*S	**Sg**	**13 58 49.3**	**-1.7**
	6.2nm,0.3s						
BRLS	**Borolday**	**2.61**	**299**	Pg	**Pg**	**13 58 18.0**	**-0.6**
	1.0nm,0.3s						
BRLS				Lg	Lg	13 58 53.4	
	5.8nm,0.4s						
BRLS	**Borolday**	**2.61**	**299**	*e*P	**Pg**	**13 58 18.0**	**-0.6**
	1.0nm,0.3s						
BRLS				*e*S	**Sg**	**13 58 53.4**	**+1.0**
	5.8nm,0.4s						
KTBS	**Karatobe**	**3.36**	**54**	Pg	**Pb**	**13 58 30.5**	**+1.8**
KTBS				Lg	Lg	13 59 14.5	

IDC 12 14:02:21.2±14.0, 27°31S×74°56E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=480.6km s-min=45.5km az=46.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**19.66**	**354**	T	T	14 27 38.7	
	baz=177,slow=76,SNR=22						
H08S1	**Diego Carcia H**	**19.66**	**354**	T	T	14 27 42.3	
	baz=177,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**19.68**	**354**	T	T	14 27 49.4	
	baz=177,slow=76,SNR=33						
H04N2	**CROZET ISLANDS**	**26.05**	**218**	T	T	14 34 15.0	
	baz=52						
H04N1	**CROZET ISLANDS**	**26.06**	**218**	T	T	14 34 17.7	
	baz=52						
H04N3	**CROZET ISLANDS**	**26.07**	**218**	T	T	14 34 08.2	
	baz=52						
H04S1	**CROZET ISLANDS**	**26.42**	**216**	T	T	14 34 42.0	
	baz=53,slow=76,SNR=42						
H04S3	**CROZET ISLANDS**	**26.43**	**216**	T	T	14 34 46.4	
	baz=53,slow=76,SNR=34						
H04S2	**CROZET ISLANDS**	**26.43**	**216**	T	T	14 34 42.8	
	baz=53,slow=76,SNR=38						
ASAR	**Alice Springs**	**53.26**	**100**	P	P	14 11 42.0	0.0
	0.4nm,0.7s,baz=252,slow=6.4,SNR=11						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**54.82**	**96**	P	P	14 11 53.3	-0.2
	0.6nm,0.7s,baz=250,slow=7.4,SNR=2.6						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**74.09**	**6**	P	P	14 13 59.0	0.0
	0.3nm,0.9s,baz=188,slow=4.4,SNR=1.5						
	0.3nm,0.9s						

*KRNET **12** 14:07:18.2±0.1, 41°89N×78°12E, h22km, mb2.2*
*SOME **12** 14:07:18.0, 42°18N×78°13E, h15km*
*NNC **12** 14:07:19.5±1.4, 42°28N×78°17E, h0km, mb2.7, mpv2.9, Error ellipse: s-maj=10.5km s-min=4.9km az=173.0*

ISC 12 14:07:20.6±1.4, 42°22N±0°08×78°04E±0°04, h17km±10km, n15, σ1§50/29, 8C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.38**	**46**	⇑*i*P	**Pn**	**14 07 30.6**	**-0.9**
PRZ				⇑*i*S	**Sn**	**14 07 40.0**	**+1.5**
KDJ	**Kajisay**	**0.64**	**262**	⇑*i*P	**Pg**	**14 07 32.2**	**-1.1**
KDJ				⇑*i*S	**Sg**	**14 07 42.4**	**+0.5**
SATY	**Saty**	**0.88**	**18**	P	**Pb**	**14 07 34.2**	**-3.3**
	0.9nm,0.1s						
SATY				S	**Sb**	**14 07 46.0**	**-3.0**
	5.3nm,0.1s						
TNSS	**Tian-Shan**	**1.15**	**316**	P	**Pn**	**14 07 41.2**	**-1.1**
	0.4nm,0.1s						
TNSS				S	**Sb**	**14 07 57.7**	**+0.7**
	1.6nm,0.1s						
TNSS	**Tian-Shan**	**1.15**	**316**	*e*P	**Pn**	**14 07 41.2**	**-1.1**
	0.4nm,0.1s						
TNSS				*e*S	**Sb**	**14 07 57.7**	**+0.7**
	1.6nm,0.1s						
ULHL	**Ulahol**	**1.33**	**272**	⇑*i*P	**Pn**	**14 07 44.6**	**-0.1**
ULHL				⇑*i*S	**Sg**	**14 08 03.7**	**0.0**
SHLS	**Shalkode**	**1.41**	**48**	P	**Pg**	**14 07 47.8**	**+0.1**
	1.6nm,0.1s						
SHLS				S	**Sg**	**14 08 09.1**	**+3.1**
	3.7nm,0.2s						
SHLS	**Shalkode**	**1.41**	**48**	*e*P	**Pg**	**14 07 47.8**	**+0.1**
	1.6nm,0.1s						
SHLS				*e*S	**Sg**	**14 08 09.1**	**+3.1**
	3.7nm,0.2s						
KST	**Kastek**	**1.74**	**299**	P	**Pb**	**14 07 51.9**	**-0.2**
	1.0nm,0.3s						
KST				S	**Sg**	**14 08 16.9**	**+0.3**
	5.7nm,0.4s						
KST	**Kastek**	**1.74**	**299**	*e*P	**Pb**	**14 07 51.9**	**-0.2**
	1.0nm,0.3s						
KST				*e*S	**Sg**	**14 08 16.9**	**+0.3**
	5.7nm,0.4s						
CHKK	**Chushkaly**	**1.80**	**335**	P	**Pb**	**14 07 52.3**	**-0.9**
	1.2nm,0.1s						
CHKK				S	**Sb**	**14 08 16.9**	**+1.3**
	5.9nm,0.1s						
CHKK	**Chushkaly**	**1.80**	**335**	*e*P	**Pb**	**14 07 52.3**	**-0.9**
	1.2nm,0.1s						
CHKK				*e*S	**Sb**	**14 08 16.9**	**+1.3**
	5.9nm,0.1s						
TKM2	**Tokmak 2**	**1.93**	**292**	⇓*i*P	**Pb**	**14 07 54.7**	**-0.8**
TKM2				⇓*i*S	**Sb**	**14 08 21.0**	**+1.6**
KRBS	**Karabastau**	**2.28**	**311**	Pg	**Pb**	**14 08 01.1**	**-0.1**
	7.2nm,0.3s						
KRBS				Lg	Lg	14 08 32.1	
	1.0nm,0.2s						
UCH	**Uchtor**	**2.62**	**271**	⇑*i*P	**Pn**	**14 08 02.8**	**+0.3**
UCH				⇑*i*S	**Sn**	**14 08 34.9**	**+0.8**

*VAO **12** 14:08:11.8±0.6, 22°18S×68°87W, h78km±5km, mb4.9*
*SJA **12** 14:08:17.7±0.6, 22°15S×68°71W, h132km, ML4.7, MW4.5*
*GUC **12** 14:08:18.5±0.8, 22°13S×68°64W, h114km±3km, ML4.6*
*NEIC **12** 14:08:18.3, 22°07S×68°64W, h130km, Moment Tensor Solution. Duration: 1§1 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.19; $M_{\theta\theta}$=0.34; $M_{\phi\phi}$=0.53; $M_{r\theta}$=0.24; $M_{\theta\phi}$=-0.35; $M_{\phi r}$=1.00; Fault plane solution: M_0=1.18000×10^{16} NP1: ϕ_s=131.64000°, δ13.40000°, λ=-127.49000°. NP2: ϕ_s=349.89000°, δ79.40000°, λ=-81.75000°. Principal axes: T 1.3398, Plg34.0000°, Azm73.0000°; N -0.4435, Plg8.0000°, Azm168.0000°; P -0.8963, Plg55.0000°, Azm270.0000°;*
*NEIC **12** 14:08:18.2±1.4, 22°18S±0°01×68°65W±0°07, h124km±6km, mb4.8/23, Mww4.6/10, Mwr4.6(GUC) Error ellipse: s-maj=10.0km s-min=1.2km az=82.0*
*NEIC **12** 14:08:18.3, 22°17S×68°64W, h130km*

*IDC **12** 14:08:20.2±0.5, 22°02S×68°33W, h116km±4km, mb4.1/13, mbtmp4.6/15, MS3.2/7, Error ellipse: s-maj=16.5km s-min=12.4km az=70.0*

ISC 12 14:08:18.3±0.4, 22°17S±0°03×68°61W±0°03, h118km±3km, n182, σ1§92/211, mb4.7/18, 7C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.69**	**302**		**Pn**	**14 08 37.6**	**-0.1**
PB09	**IPOC Station P**	**0.69**	**302**	⇑*i*P	**Pn**	**14 08 38.1**	**+0.5**
PB09				*e*S	**Sn**	**14 08 52.0**	**-0.2**
PB09				IAML		14 08 52.9	
	comp=N,36μm,0.5s						
PB09	**IPOC Station P**	**0.69**	**302**	*e*P	**Pn**	**14 08 37.4**	**-0.3**
PB09				IAML		14 08 52.9	
	comp=Z,22μm,0.5s						
AF01	**San Pedro de A**	**0.88**	**153**		**Pn**	**14 08 40.0**	**+0.7**
AF01	**San Pedro de A**	**0.88**	**153**	*e*P	**Pn**	**14 08 40.2**	**+0.9**
AF01				*e*S	**Sn**	**14 08 56.2**	**+1.0**
AF01				IAML		14 09 13.6	
	comp=N,32μm,0.1s						
AF01	**San Pedro de A**	**0.88**	**153**	*e*P	Pn	14 08 29.3	-10
AF01				IAML		14 09 21.2	
	comp=Z,20μm,0.9s						
PB06	**IPOC Station P**	**1.04**	**239**		**Pn**	**14 08 41.2**	**+0.5**
PB06	**IPOC Station P**	**1.04**	**239**	⇑*i*P	**Pn**	**14 08 41.5**	**+0.7**
PB06				*e*S	**Sn**	**14 08 58.4**	**+0.7**
PB06				IAML		14 09 00.4	
	comp=E,15μm,0.4s						
PB06	**IPOC Station P**	**1.04**	**239**	*e*P	**Pn**	**14 08 41.3**	**+0.5**
PB06				*e*S	**Sn**	**14 08 59.1**	**+1.3**
PB06				IAML		14 09 00.4	
	comp=Z,16μm,0.6s						
PB03	**IPOC Station P**	**1.07**	**276**		**Pn**	**14 08 41.2**	**+0.1**
PB03	**IPOC Station P**	**1.07**	**276**	⇑*i*P	**Pn**	**14 08 41.4**	**+0.4**
PB03				*e*S	**Sn**	**14 08 58.2**	**-0.1**
PB03				IAML		14 08 59.5	
	comp=N,17μm,0.2s						
PB03	**IPOC Station P**	**1.07**	**276**	*e*P	**Pn**	**14 08 40.6**	**-0.4**
PB03				IAML		14 09 00.9	
	comp=Z,17μm,0.4s						
PB01	**IPOC Station P**	**1.39**	**324**		**Pn**	**14 08 44.5**	**+0.1**
PB01	**IPOC Station P**	**1.39**	**324**	*e*P	**Pn**	**14 08 44.5**	**+0.1**
PB01				*e*S	**Sn**	**14 09 04.0**	**-0.2**
PB01				IAML		14 09 06.7	
	comp=N,8μm,0.5s						
PB01	**IPOC Station P**	**1.39**	**324**	*e*P	**Pn**	**14 08 44.5**	**+0.1**
PB01				*e*S	**Sn**	**14 09 05.0**	**+0.7**
PB01				IAML		14 09 06.4	
	comp=Z,6μm,0.3s						
PB02	**IPOC Station P**	**1.47**	**305**		**Pn**	**14 08 45.4**	**0.0**
PB02	**IPOC Station P**	**1.47**	**305**	⇑*i*P	**Pn**	**14 08 45.7**	**+0.3**
PB02				*e*S	**Sn**	**14 09 05.4**	**-0.5**
PB02	**IPOC Station P**	**1.47**	**305**	*e*P	**Pn**	**14 08 45.6**	**+0.3**
PB02				*e*S	**Sn**	**14 09 06.0**	**+0.2**
PB02				IAML		14 09 10.2	
	comp=Z,19μm,0.4s						
PB05	**IPOC Station P**	**1.62**	**245**		**Pn**	**14 08 47.5**	**+0.3**
PB05	**IPOC Station P**	**1.62**	**245**	⇑*i*P	**Pn**	**14 08 47.5**	**+0.3**
PB05				*e*S	**Sn**	**14 09 09.2**	**0.0**
PB05				IAML		14 09 15.8	
	comp=E,6μm,0.4s						
PB05	**IPOC Station P**	**1.62**	**245**	*e*P	**Pn**	**14 08 47.5**	**+0.3**
PB05				*e*S	**Sn**	**14 09 11.8**	**+2.6**
PB05				IAML		14 09 13.0	
	comp=Z,5μm,1.3s						
PATCX	**Punta Patache**	**1.97**	**313**		**Pn**	**14 08 51.4**	**0.0**
PB08	**IPOC Station P**	**2.08**	**346**		**Pn**	**14 08 53.4**	**+0.3**
PB08	**IPOC Station P**	**2.08**	**346**	*e*P	**Pn**	**14 08 54.4**	**+1.3**
PB08				*e*S	**Sn**	**14 09 21.6**	**+2.0**
PB08				IAML		14 09 25.2	
	comp=E,3μm,0.3s						
PB08	**IPOC Station P**	**2.08**	**346**	*e*P	**Pn**	**14 08 54.4**	**+1.3**
PB08				*e*S	**Sn**	**14 09 22.0**	**+2.4**
PB08				IAML		14 09 23.6	
	comp=Z,2μm,0.8s						
TA01	**Diego Aracena**	**2.17**	**317**		**Pn**	**14 08 53.6**	**-0.2**
TA01	**Diego Aracena**	**2.17**	**317**	*e*P	**Pn**	**14 08 53.6**	**-0.2**
TA01				*e*S	**Sn**	**14 09 20.6**	**-0.4**
TA01				IAML		14 09 26.2	
	comp=N,8μm,0.3s						
TA01	**Diego Aracena**	**2.17**	**317**	*e*P	**Pn**	**14 08 53.6**	**-0.2**
TA01				*e*S	**Sn**	**14 09 20.7**	**-0.2**
TA01				IAML		14 09 30.1	
	comp=Z,4μm,0.6s						
HMBC	**Humberstone**	**2.23**	**327**		**Pn**	**14 08 54.2**	**-0.5**
HMBC	**Humberstone**	**2.23**	**327**	*e*P	**Pn**	**14 08 54.5**	**-0.3**
HMBC	**Humberstone**	**2.23**	**327**	*e*P	**Pn**	**14 08 53.8**	**-1.0**
PB10	**IPOC Station P**	**2.24**	**233**		**Pn**	**14 08 54.2**	**-0.5**
PB10	**IPOC Station P**	**2.24**	**233**	*e*P	**Pn**	**14 08 55.2**	**+0.5**
PB10				*e*S	**Sn**	**14 09 19.8**	**-2.8**
PB10				IAML		14 09 30.0	
	comp=E,2μm,0.5s						
PB10	**IPOC Station P**	**2.24**	**233**	*e*P	**Pn**	**14 08 54.6**	**-0.1**
PB10				*e*S	**Sn**	**14 09 16.5**	**-6.2**
PB10				IAML		14 09 32.4	
	comp=Z,2μm,1.3s						
TA02	**Huaiquique**	**2.36**	**323**	*e*P	**Pn**	**14 08 55.9**	**-0.4**
TA02				*e*S	**Sn**	**14 09 26.3**	**+0.9**
TA02				IAML		14 09 35.4	
	comp=Z,3μm,0.3s						
GO01	**Chusmiza**	**2.55**	**347**		**Pn**	**14 08 59.2**	**0.0**
GO01	**Chusmiza**	**2.55**	**347**	*e*P	**Pn**	**14 08 59.9**	**+0.7**
GO01	**Chusmiza**	**2.55**	**347**	*e*P	**Pn**

comp=Z,151nm,0.5s,baz=261,slow=11,SNR=3.6
SIV LR LR 14 14 53.6
comp=Z,144nm,18.7s,baz=291,slow=43
CFA Coronel Fontan 9.41 178 P **Pn 14 10 28.3 -2.5**
comp=Z,3.4nm,0.4s,baz=352,slow=14,SNR=14
CFA S **Sn 14 12 20.3 +5.5**
comp=Z,6.2nm,0.6s,baz=9.3,slow=16,SNR=1.9
CPUP Villa Florida 11.09 114 P **Pn 14 10 52.0 -1.6**
comp=Z,0.2nm,0.3s,baz=251,slow=19,SNR=1.0
CPUP LR LR 14 16 01.2
comp=Z,29nm,19.6s,baz=164,slow=42
PTLB Pontes e Lacer 11.18 55 *eP* **Pn 14 10 51.0 -3.8**
PTLB Pontes e Lacer 11.18 55 *eP* **Pn 14 10 50.7 -4.1**
BDQN Bodoquena, MS 11.19 83 *eP* **Pn 14 10 50.5 -4.3**
MT09 Talagante 11.75 190 Pn 14 11 00.9 -1.6
SJPY San Joaquin 11.81 106 *eP* **Pn 14 11 00.5 -2.6**
MT01 Popeta 11.88 191 Pn 14 11 01.4 -2.6
AQDB Aquidauana 12.15 84 *eP* **Pn 14 11 04.0 -3.6**
VILB Vilhena 12.17 43 Pn 14 11 05.3 -2.7
VILB Vilhena 12.17 43 *eP* **Pn 14 11 05.0 -3.0**
AMBA Amambai (Brazi 12.61 96 *eP* **Pn 14 11 11.0 -2.6**
PSAL Palomas, Salto 13.24 134 *eP* **Pn 14 11 17.7 -4.0**
PP1B Ponte de Pedra 13.69 73 *eP* **Pn 14 11 25.6 -2.1**
SALV Santo Antonio 13.71 65 *eP* **Pn 14 11 24.5 -3.4**
RPRD Ribas do Rio P 13.99 86 *eP* **Pn 14 11 30.4 -1.2**
H03N1 Juan Fernandez 14.45 217 P **P 14 11 39.4 -1.0**
baz=48
H03N1 T T 14 25 56.4
baz=38,slow=72,SNR=42
H03N2 Juan Fernandez 14.46 217 P **P 14 11 38.8 -1.7**
baz=48
H03N2 T T 14 25 27.1
baz=38,slow=72,SNR=24
H03N3 Juan Fernandez 14.47 217 P **Pn 14 11 36.6 -0.7**
baz=48
H03N3 T T 14 25 30.7
baz=38,slow=72,SNR=21
H03S3 Juan Fernandez 14.74 216 P **Pn 14 11 40.7 0.0**
baz=197
H03S1 Juan Fernandez 14.75 216 P **Pn 14 11 41.6 +0.8**
baz=197
H03S2 Juan Fernandez 14.76 216 P **P 14 11 42.3 -1.4**
baz=197
TRCB Terra Rica 14.78 95 Pn **Pn 14 11 40.1 -1.5**
TRCB Terra Rica 14.78 95 *eP* **Pn 14 11 40.6 -1.0**
C2SB Chapadao do Su 15.16 80 *eP* **Pn 14 11 44.8 -1.5**
PTGB Pitanga 15.39 103 *eP* **Pn 14 11 49.1 -0.3**
PDRB Porto dos Gac 15.46 49 *eP* **Pn 14 11 47.8 -2.4**
ITAB Concordia 15.80 112 P **P 14 11 55.2 -0.4**
ITAB IAmb IAmb 14 11 57.4
comp=Z,48nm,0.7s
ITAB Concordia 15.80 112 *eP* **Pn 14 11 53.2 -1.0**
CPSB Cacapava Do Su 15.87 124 *eP* **Pn 14 11 53.2 -2.0**
PLTB Pedras Altas 16.42 129 *eP* **Pn 14 11 59.5 -2.4**
CLB Colider 16.63 59 *eP* **Pn 14 12 02.8 -1.8**
TRQA Tornquist 16.83 162 P **Pn 14 12 05.0 -1.8**
ARAG Araguaiana, MT 17.13 71 *eP* **P 14 12 09.6 -0.9**
ITRB Iturama 17.22 85 *eP* **P 14 12 11.1 -0.4**
CNLB Canela 17.50 118 *eP* **P 14 12 13.1 -1.4**
FRTB Fartura 17.61 97 *eP* **P 14 12 15.8 +0.1**
LR05 Currie 18.24 188 IAmb IAmb 14 12 26.6
comp=Z,23nm,0.6s
MAJ01 Sao Joao Batis 18.53 110 *eP* **P 14 12 25.1 -0.7**
PLCA Paso Flores 18.58 185 IAmb IAmb 14 12 34.3
comp=Z,21nm,0.8s
PLCA Paso Flores 18.58 185 P **Pn 14 12 27.4 -0.5**
comp=Z,4.6nm,0.7s,baz=2.0,slow=12,SNR=12
PLCA PcP **PcP 14 16 52.7 +2.1**
comp=Z,2.1nm,0.8s,baz=312,slow=0.3,SNR=4.6
PLCA Paso Flores 18.58 185 *eP* **P 14 12 22.1 -4.2**
BB19B Bebedouro 18.70 90 *eP* **P 14 12 27.3 -0.4**
SNDB Serra Nova Dou 19.39 61 *eP* **P 14 12 33.4 -1.8**
RCLB Rio Claro- Sao 19.50 95 *eP* **P 14 12 35.9 -0.6**
SPB Sao Paulo 19.56 98 *eP* **P 14 12 36.8 -0.3**
IPMB Ipameri, GO 19.60 81 *eP* **P 14 12 36.5 -1.0**
PET01 Itanhaem-SP 19.72 100 *eP* **P 14 12 38.0 -0.7**
NPGB Novo Progresso 19.73 42 *eP* **P 14 12 36.8 -2.1**
VAO Valinhos 20.00 97 P **P 14 12 40.1 -1.8**
VAO Valinhos 20.00 97 *eP* **P 14 12 41.1 -0.8**
MACA Manacapuru-AM 20.40 23 P **P 14 12 43.9 -2.2**
MACA Manacapuru-AM 20.40 23 *eP* **P 14 12 44.2 -1.9**
BDFB Brasilia 20.52 75 P **P 14 12 45.8 -1.8**
BDFB IAmb IAmb 14 12 49.7
comp=Z,42nm,1.4s
BDFB Brasilia 20.52 75 P **P 14 12 46.3 -1.2**
comp=Z,13nm,0.7s,baz=238,slow=10,SNR=9.9
BDFB LR LR 14 21 49.4
comp=Z,82nm,18.2s,baz=32,slow=40
comp=Z,13nm,0.7s
PMNB Patos De Minas 21.09 84 *eP* **P 14 12 52.6 -1.0**
LL02 Futaleuf 21.14 187 P **P 14 12 52.4 -1.4**
LL02 IAmb IAmb 14 12 57.9
comp=Z,28nm,0.9s
PARB Paraibuna 21.23 98 *eP* **P 14 12 52.4 -2.7**
ITTB Itaituba 21.65 37 *eP* **P 14 12 57.1 -2.4**
SLP01 Ubatuba-SP 21.66 98 *eP* **P 14 12 59.9 +0.2**
BSCB Bom Sucesso 22.19 91 *eP* **P 14 13 03.6 -1.6**
MAN01 Angra dos Reis 22.77 96 *eP* **P 14 13 10.0 -1.0**
VAS01 Vassouras-RJ 23.29 95 *eP* **P 14 13 14.7 -1.2**
DIAM Diamantina, MG 23.70 85 *eP* **P 14 13 18.6 -1.2**
JANB Januaria 24.07 77 *eP* **P 14 13 21.2 -1.8**
PRPB Paraupebas 24.13 52 *eP* **P 14 13 21.7 -1.8**
SMTB Santa Maria do 24.15 60 *eP* **P 14 13 22.2 -1.4**
SDBA SAO DESIDERIO 24.59 71 *eP* **P 14 13 26.2 -1.5**
BOAV Boa Vista 25.66 19 P 14 13 38.0 +0.6
BOAV IAmb IAmb 14 13 39.2
comp=Z,41nm,0.7s
BOAV Boa Vista 25.66 19 *eP* **P 14 13 35.5 -1.9**
TMAB Tom-Au,PA,Br 28.01 48 *eP* **P 14 13 56.9 -1.5**
RUSC La Rusia 28.23 351 P **P 14 13 59.4 -1.5**
RUSC IAmb IAmb 14 14 03.1
comp=Z,18nm,0.9s
MDP Montagnes des 31.29 32 LR LR 14 28 04.4
comp=Z,89nm,20.2s,baz=310,slow=38
PCRV Puerto La Cruz 32.38 7 LR LR 14 29 52.1
comp=Z,30nm,18.5s,slow=40
RCBR Riachuelo 35.52 68 P **P 14 15 03.3 -0.9**
FDF Fort de France 37.39 12 P **P 14 15 20.3 +0.3**
PDPR Patillas Dam, 40.02 4 P **P 14 15 40.2 -1.6**
PDPR IAmb IAmb 14 15 41.2
comp=Z,19nm,0.8s
SMAI San Martin Ant 45.97 179 P **P 14 16 29.4 +0.2**
HNDO Hondo 59.28 329 P **P 14 18 06.0 -1.7**
HNDO IAmb IAmb 14 18 38.4
comp=Z,6.9nm,0.9s
VNA3 Neumayer Olymp 59.36 161 ⇑P **P 14 18 10.0 +2.3**
comp=Z,6.7nm,0.7s
TXAR Lajitas Array 61.33 325 P **P 14 18 23.8 +2.0**
comp=Z,0.7nm,0.6s,baz=149,slow=9.7,SNR=8.3
TXAR pP **pP 14 18 52.3 +0.8**
comp=Z,0.6nm,0.6s,baz=141,slow=8.9,SNR=4.2
comp=Z,0.7nm,0.6s
SNAA Sanae 61.56 161 ⇑P **P 14 18 24.4 +1.7**
comp=Z,166nm,0.6s
SNAA Sanae 61.56 161 P **P 14 18 21.5 -1.3**
SNAA Sanae 61.56 161 P **P 14 18 24.6 +1.9**
comp=Z,7.8nm,0.7s,baz=286,slow=7.5,SNR=16
SNAA pP **pP 14 18 52.3 -0.1**
comp=Z,1.7nm,0.6s,baz=176,slow=23,SNR=2.2
comp=Z,7.8nm,0.7s
TROLL Troll, Antarti 63.27 161 ⇓P **P 14 18 36.5 +2.3**
comp=Z,423nm,0.5s
QSPA South Pole Qui 68.03 180 P **P 14 19 09.0 +4.2**
comp=Z,11nm,0.5s,baz=241,slow=0.2,SNR=134
QSPA pP **pP 14 19 37.5 +2.6**
comp=Z,3.6nm,0.5s,baz=106,slow=14,SNR=1.7
comp=Z,11nm,0.5s
DBIC Dimbokro 68.66 73 P **P 14 19 09.6 +0.2**
DBIC IAmb IAmb 14 19 10.9
comp=Z,25nm,0.8s
DBIC Dimbokro 68.66 73 P **P 14 19 10.1 +0.6**
comp=Z,24nm,0.8s,baz=253,slow=6.0,SNR=21
comp=Z,24nm,0.8s
SDCO Great Sand Dun 68.96 329 P 14 19 12.4 +1.3
ISCO Idaho Springs 70.66 331 P **P 14 19 21.6 0.0**
PDAR Pinedale Array 74.83 330 P **P 14 19 47.5 +1.5**
comp=Z,0.6nm,0.6s,baz=124,slow=3.7,SNR=3.3
PDAR pP **pP 14 20 16.2 -0.7**
comp=Z,0.7nm,0.6s,baz=116,slow=4.4,SNR=2.7
comp=Z,0.6nm,0.6s
ULM Lac du Bonnet 76.03 342 P **P 14 19 54.1 +1.7**
comp=Z,1.5nm,0.5s,baz=316,slow=13,SNR=1.7
comp=Z,1.5nm,0.5s
NVAR Mina Array Bea 76.19 322 P **P 14 19 55.4 +1.5**
comp=Z,0.5nm,0.7s,baz=143,slow=5.6,SNR=3.8
NVAR pP **pP 14 20 25.9 +1.0**
comp=Z,0.5nm,0.7s,baz=83,slow=4.5,SNR=2.0
comp=Z,0.5nm,0.7s
TORD Torodi Ar. Bea 77.32 70 P **P 14 19 59.3 -1.1**
TORD IAmb IAmb 14 20 03.8
comp=Z,6.5nm,0.7s
TORD Torodi Ar. Bea 77.32 70 P **P 14 20 00.8 +0.4**
comp=Z,7.3nm,0.6s,baz=261,slow=4.8,SNR=37
TORD pP **pP 14 20 31.0 -0.7**
comp=Z,3.5nm,0.8s,baz=264,slow=4.5,SNR=2.9
comp=Z,7.3nm,0.6s
TSUM Tsumeb 79.58 107 P **P 14 20 13.9 +0.8**
comp=Z,12nm,0.9s,baz=245,slow=4.1,SNR=15
comp=Z,12nm,0.9s
MAW Mawson 83.61 163 P **P 14 20 35.1 +2.0**
comp=Z,2.3nm,0.5s,baz=228,slow=6.2,SNR=9.0
MAW pP **pP 14 21 05.4 +1.0**
comp=Z,1.1nm,0.7s,baz=315,slow=3.1,SNR=2.2
comp=Z,2.3nm,0.5s
LBTB Lobatse 84.48 115 P **P 14 20 38.6 0.0**
comp=Z,2.5nm,0.8s,baz=270,slow=3.7,SNR=4.1
comp=Z,2.5nm,0.8s
ESDC Sonseca Array 86.11 44 P 14 20 45.0 -1.2
ESDC Sonseca Array 86.11 44 P **P 14 20 46.6 +0.5**
comp=Z,3.1nm,1.1s,baz=229,slow=5.6,SNR=8.4
comp=Z,3.1nm,1.1s
DAVOX Davos/Dischmat 98.36 43 LR LR 15 04 03.3
comp=Z,48nm,20.7s,baz=68,slow=34
H11S2 WAKE ISLAND Hyl 28.24 277 T T 16 47 30.5
baz=103,slow=74,SNR=87
H11S1 WAKE ISLAND Hyl 28.24 277 T T 16 47 30.7
baz=103,slow=74,SNR=36
H11S3 WAKE ISLAND Hyl 28.25 277 T T 16 47 32.1
baz=103,slow=74,SNR=51
H11N3 WAKE ISLAND Hyl 28.33 278 T T 16 47 46.5
baz=104,slow=74,SNR=24
H11N2 WAKE ISLAND Hyl 28.35 278 T T 16 47 47.6
baz=104,slow=74,SNR=20
H11N1 WAKE ISLAND Hyl 28.35 278 T T 16 47 43.2
baz=104,slow=74,SNR=15
ASAR Alice Springs 129.45 207 PKP **PKiKP 14 27 15.9 +1.2**
comp=Z,2.4nm,0.8s,baz=132,slow=1.8,SNR=19
ASAR pPKP **pPKPdf 14 27 46.9 +0.2**
comp=Z,0.6nm,0.8s,baz=143,slow=2.3,SNR=2.5
WRA Warramunga Arr 132.52 210 PKP **PKiKP 14 27 22.0 +1.1**
comp=Z,1.2nm,0.6s,baz=158,slow=1.7,SNR=15
WRA pPKP **pPKPdf 14 27 53.7 +1.1**
comp=Z,0.3nm,0.6s,baz=147,slow=1.8,SNR=1.2
PETK Petropavlovsk- 133.26 323 PKP **PKiKP 14 27 22.4 +1.1**
comp=Z,2.2nm,0.9s,baz=360,slow=0.8,SNR=4.1
KURBB Kurchatov Arra 141.74 34 PKP **PKPdf 14 27 36.2 +0.4**
comp=Z,0.3nm,0.6s,baz=305,slow=3.3,SNR=1.6
ZALV Zalesovo Beam 142.43 26 PKP **PKiKP 14 27 38.4 -1.5**
comp=Z,1.2nm,0.6s,baz=277,slow=2.2,SNR=5.8
ZALV pPKP **pPKPdf 14 28 10.8 +0.8**
comp=Z,0.6nm,0.5s,baz=289,slow=4.5,SNR=2.0
MKAR Makanchi Array 146.00 37 PKPbc **PKPab 14 27 45.9 +0.8**
comp=Z,5.5nm,0.9s,baz=323,slow=1.8,SNR=32
MKAR pPKPbc **pPKPdf 14 28 16.1 -0.3**
comp=Z,1.3nm,0.7s,baz=344,slow=3.0,SNR=3.3
SONM Songino Array 154.08 8 PKPbc **PKPdf 14 27 59.5 +3.3**
comp=Z,0.5nm,0.5s,baz=321,slow=2.0,SNR=1.7
SONM PKPab **PKPab 14 28 20.2 +2.0**
comp=Z,0.5nm,0.4s,baz=319,slow=4.2,SNR=1.8
CMAR Chiang Mai Arr 167.75 105 PKPab **PKPab 14 29 20.8 +2.1**
comp=Z,0.6nm,0.3s,baz=73,slow=24,SNR=2.2

IDC 12 14:08:27.4±6.0, 28°.18S×73°.60E, h0km, mb3.7/4, mbtmp3.7/4, MS4.0/1, Error ellipse: s-maj=160.6km s-min=38.8km az=54.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**26.01**	**286**	LR	LR	14 22 30.3	
	comp=Z,328nm,18.1s,baz=360,slow=32						
CMAR	**Chiang Mai Arr**	**52.45**	**31**	P	P	14 17 41.9	-0.1
	0.3nm,0.4s,baz=215,slow=8.0,SNR=4.3						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**53.95**	**100**	P	P	14 17 53.5	+0.2
	1.2nm,0.6s,baz=250,slow=6.6,SNR=25						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**55.58**	**96**	P	P	14 18 04.7	-0.5
	1.0nm,0.7s,baz=250,slow=7.4,SNR=6.9						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**75.03**	**6**	P	P	14 20 10.7	+0.1
	0.4nm,0.8s,baz=188,slow=6.5,SNR=2.7						
	0.4nm,0.8s						

*BJI **12** 14:08:50.6,28°.30S×73°.57E,h23km,mB5.2/22,mb4.8/56, Ms4.9/53,Ms7 4.8/52*
*MOS **12** 14:08:51.9±1.1,27°.91S×74°.15E,h10km,mb5.1/32,Error ellipse: s-maj=11.8km s-min=8.1km az=96.9*
*IDC **12** 14:08:51.8±0.4,27°.97S×74°.08E,h0km,mb4.6/26, mbtmp4.6/26,MS4.7/13,Error ellipse: s-maj=15.9km s-min=12.7km az=79.0*
*NEIC **12** 14:08:53.6±1.6,27°.9S±0°.1×74°.1E±0°.1,h10km±1km, mb5.1/82,Error ellipse: s-maj=18.0km s-min=16.2km az=196.0*
*GCMT **12** 14:08:55.6±0.1,27°.86S±0°.01×73°.95E±0°.01,h12km, MW5.2/144,Moment Tensor Solution. s69,c90; s144,c244; Duration: 1ſ0 Moment tensor: Scale 10^17 Nm; Mrr-0.73±.01; Mθθ 0.14±.01; Mϕϕ 0.58±.01; Mrθ 0.26±.03; Mθϕ-0.33±.01; Mϕr 0.21±.03; Best double couple: M0 0.81400×10^17 NP1:ϕs312.00000°,δ46.00000°, λ-120.00000°. NP2:ϕs172.00000°,δ51.00000°, λ-62.00000°. Principal axes: T 0.7640, Plg3.0000°, Azm243.0000°; N 0.0990, Plg21.0000°, Azm334.0000°; P -0.8630, Plg69.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 14:08:53.0±0.8, 27°.96S±0°.05×73°.98E±0°.06, h7km±4km, n242, σ1ſ47/246, mb5.0/108, MS4.8/38, 13C-5D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**20.25**	**356**	T	T	14 34 16.6	
	baz=177,slow=76,SNR=1255						
H08S1	**Diego Carcia H**	**20.26**	**356**	T	T	14 34 15.8	
	baz=177,slow=76,SNR=522						
H08S3	**Diego Garcia H**	**20.27**	**356**	T	T	14 34 14.3	
	baz=177,slow=76,SNR=2021						
DGAR	**Diego Garcia**	**20.49**	**356**	*i* P	**P**	**14 13 31.5**	**0.0**
DGAR				pmax	pmax		
	comp=Z,127nm,1.1s						
H04N2	**CROZET ISLANDS**	**25.22**	**218**	T	T	14 40 42.8	
	baz=52,slow=74						
H04N1	**CROZET ISLANDS**	**25.23**	**218**	T	T	14 40 44.2	
	baz=52,slow=74						
H04N3	**CROZET ISLANDS**	**25.24**	**218**	T	T	14 40 45.4	
	baz=52,slow=74						
VOI	**Vohitsoka**	**25.35**	**278**		**P**	**14 14 20.9**	**+0.1**
VOI				IAmb	IAmb	14 14 32.4	
	comp=Z,51nm,1.3s						
H04S1	**CROZET ISLANDS**	**25.59**	**217**	T	T	14 41 01.5	
	baz=51,slow=76,SNR=3464						
H04S3	**CROZET ISLANDS**	**25.60**	**217**	T	T	14 41 11.7	
	baz=51,slow=76,SNR=2261						
H04S2	**CROZET ISLANDS**	**25.61**	**217**	T	T	14 41 15.3	
	baz=51,slow=76,SNR=3744						
H01W2	**Cape Leeuwin H**	**34.78**	**112**	T	T	14 52 24.6	
	baz=270,slow=75,SNR=78						
H01W3	**Cape Leeuwin H**	**34.78**	**112**	T	T	14 52 26.4	
	baz=270,slow=75,SNR=106						
H01W1	**Cape Leeuwin H**	**34.80**	**112**	T	T	14 52 26.5	
	baz=270,slow=75,SNR=97						
PALK	**Pallekele**	**35.62**	**12**	*i* P	**P**	**14 15 52.6**	**+1.1**
PALK				pmax	pmax		
	comp=Z,18nm,1.0s						
MORW	**Morawa**	**36.84**	**102**		**P**	**14 16 00.8**	**-1.1**
MORW				IAmb	IAmb	14 16 04.4	
	comp=Z,24nm,1.2s						
MORW	**Morawa**	**36.84**	**102**	P	**P**	**14 16 03.8**	**+1.9**
LHSI	**Lahat**	**36.99**	**55**	P	**P**	**14 16 05.0**	**+1.8**
	comp=Z,2μmcomp=Z,36nm,1.1s						
PPI	**Padang Panjang**	**37.26**	**47**	P	**P**	**14 16 08.2**	**+2.7**
	comp=Z,20nm,1.2s						
KCSI	**Kotacane, Aceh**	**38.79**	**40**	P	**P**	**14 16 18.8**	**+0.3**
	comp=Z,8.7nm,1.4s						
PSI	**Prapat**	**38.88**	**42**	LR	LR	14 29 44.3	
	comp=Z,2μm,18.6s,baz=222,slow=32						
MEEK	**Meekatharra**	**39.52**	**99**	P	**P**	**14 16 25.6**	**+1.0**
MAW	**Mawson**	**40.23**	**187**	P	**P**	**14 16 30.8**	**+0.9**
	comp=Z,8.1nm,0.9s,baz=9.1,slow=9.1,SNR=19						
	comp=Z,8.1nm,0.9s						
IPM	**Ipoh**	**41.47**	**43**	P	**P**	**14 16 39.6**	**-1.1**
KULM	**Kulim**	**41.89**	**42**		**P**	**14 16 43.1**	**-1.1**
KULM	**Kulim**	**41.89**	**42**	P	**P**	**14 16 45.3**	**+1.2**
PSA00	**Pilbara Seismi**	**41.95**	**92**		**P**	**14 16 44.4**	**-0.2**
PSA00	**Pilbara Seismi**	**41.95**	**92**		**P**	**14 16 44.7**	**+0.2**
PSA00				IAmb	IAmb	14 16 46.6	
	comp=Z,10nm,1.1s						
PSA00	**Pilbara Seismi**	**41.95**	**92**	P	**P**	**14 16 45.9**	**+1.3**
MATP	**Matopo**	**41.97**	**270**	LR	LR	14 31 17.4	
	comp=Z,1μm,20.6s,baz=104,slow=32						
MBWA	**Marble Bar**	**41.97**	**91**		**P**	**14 16 44.6**	**-0.2**
MBWA				IAmb	IAmb	14 16 46.8	
	comp=Z,28nm,1.1s						
MBWA	**Marble Bar**	**41.97**	**91**	P	**P**	**14 16 46.3**	**+1.5**
MREMI	**Moremi**	**42.23**	**267**	P	**P**	**14 16 47.6**	**+0.7**
MREMI				IAmb	IAmb	14 17 00.1	
	comp=Z,43nm,1.6s						
JAGI	**Jajag, Banyuwa**	**42.54**	**71**	P	**P**	**14 16 48.1**	**-1.4**
JAGI				IAmb	IAmb	14 17 05.8	
	comp=Z,58nm,1.3s						
BOSA	**Boshof**	**42.67**	**257**		**P**	**14 16 50.7**	**+0.1**
BOSA				IAmb	IAmb	14 17 04.0	
	comp=Z,45nm,1.6s						
BOSA	**Boshof**	**42.67**	**257**	P	**P**	**14 16 51.6**	**+1.1**
BOSA				LR	LR	14 31 05.8	
	comp=Z,1μm,20.7s,baz=104,slow=31						
	comp=Z,4.6nm,1.0s						
KIBK	**Kibwezi**	**42.73**	**300**	P	**P**	**14 16 51.5**	**+0.4**
LBTB	**Lobatse**	**43.18**	**262**		**P**	**14 16 55.7**	**+1.0**
LBTB				IAmb	IAmb	14 17 08.1	
	comp=Z,56nm,1.8s						
LBTB	**Lobatse**	**43.18**	**262**	P	**P**	**14 16 55.7**	**+1.0**
LBTB				pmax	pmax		
	comp=Z,56nm,1.8s						
LPHEP	**Lephephe**	**43.40**	**265**		**P**	**14 16 57.6**	**+1.1**
MAKGR	**Makgori**	**43.68**	**261**	P	**P**	**14 17 00.2**	**+1.4**
KMBO	**Kilima Mbogo**	**44.11**	**301**	P	**P**	**14 17 03.5**	**+1.1**
	comp=Z,1.5nm,0.4s,baz=111,slow=13,SNR=4.2						
	comp=Z,1.5nm,0.4s						
KMBO	**Kilima Mbogo**	**44.11**	**301**	*ce*P	**P**	**14 17 02.7**	**+0.3**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.4s						
LSZ	**Lusaka**	**44.16**	**277**		**P**	**14 17 03.6**	**+0.9**
LSZ				IAmb	IAmb	14 17 12.5	
	comp=Z,31nm,1.4s						
LSZ	**Lusaka**	**44.16**	**277**	LR	LR	14 33 08.6	
	comp=Z,1μm,19.8s,baz=121,slow=33						
LSZ	**Lusaka**	**44.16**	**277**	P	**P**	**14 17 03.6**	**+0.9**
LSZ				pmax	pmax		
	comp=Z,31nm,1.4s						
KHWEE	**KHWEE**	**44.18**	**267**	P	**P**	**14 17 03.4**	**+0.6**
KHWEE				IAmb	IAmb	14 17 16.6	
	comp=Z,20nm,0.9s						
CASY	**Casey**	**44.44**	**160**		**P**	**14 17 04.5**	**+0.3**
CASY				IAmb	IAmb	14 17 07.2	
	comp=Z,41nm,1.5s						
KDWAN	**Kaudwane**	**44.45**	**264**	P	**P**	**14 17 05.0**	**0.0**
HYB	**Hyderabad**	**45.33**	**6**	*eP*	**P**	**14 17 11.6**	**-0.1**
HYB				*eS*	S	**14 23 51.9**	**-0.9**
HYB				IVMs_BB	IVMs_BB	14 32 50.4	
	comp=Z,563nm,13.6s						
PHPEN	**Phepeng**	**45.46**	**261**	P	**P**	**14 17 12.3**	**-0.7**
PHPEN				IAmb	IAmb	14 17 26.3	
	comp=Z,50nm,1.4s						
STKI	**Sintang**	**45.47**	**59**	P	**P**	**14 17 12.7**	**-0.3**
KSM	**Kuching**	**45.54**	**56**	P	**P**	**14 17 11.1**	**-2.4**
KSM				IAmb	IAmb	14 17 32.4	
	comp=Z,21nm,1.3s						
PHDHD	**Phuduhudu**	**45.55**	**268**	P	**P**	**14 17 13.7**	**0.0**
SYO	**Syowa Base**	**45.72**	**197**	*eP*	**P**	**14 17 16.4**	**+2.1**
SYO	**Syowa Base**	**45.72**	**197**	*ep*P	pP	14 17 18.0	+2.3
SUR	**Sutherland**	**45.79**	**251**	P	**P**	**14 17 15.5**	**-0.2**
KGCAE	**Kacgae**	**46.76**	**264**	P	**P**	**14 17 23.7**	**+0.5**
FORT	**Forrest**	**46.84**	**107**	P	**P**	**14 17 22.5**	**-1.2**
LKGWB	**Lokgwabe**	**47.26**	**262**	P	**P**	**14 17 23.9**	**-3.3**
SBUM	**Sibu**	**47.60**	**57**	P	**P**	**14 17 28.9**	**-0.8**
SBUM	**Sibu**	**47.60**	**57**	P	**P**	**14 17 30.8**	**+1.1**
GRTLG	**Ghanzi**	**48.10**	**266**	P	**P**	**14 17 33.4**	**-0.3**
GRTLG				IAmb	IAmb	14 17 48.0	
	comp=Z,29nm,1.4s						
FITZ	**Fitzroy Crossi**	**48.25**	**90**	P	**P**	**14 17 33.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**48.25**	**90**	LR	LR	14 36 24.9	
	comp=Z,888nm,18.9s,baz=274,slow=34						
FITZ	**Fitzroy Crossi**	**48.25**	**90**	P	**P**	**14 17 35.8**	**+1.1**
LODK	**Lodwar**	**48.52**	**304**	P	**P**	**14 17 36.4**	**-0.5**
QNGWA	**Qangwa**	**48.75**	**268**	P	**P**	**14 17 38.9**	**+0.1**
QNGWA				IAmb	IAmb	14 17 48.2	
	comp=Z,24nm,1.3s						
XAUDM	**Khaudum**	**48.95**	**269**	P	**P**	**14 17 40.4**	**+0.1**
MMRI	**Maumere**	**49.32**	**77**	P	**P**	**14 17 41.4**	**-1.6**
MMRI	**Maumere**	**49.32**	**77**	P	**P**	**14 17 44.0**	**+1.0**
ATD	**Arta Tunnel**	**49.50**	**318**	P	**P**	**14 17 44.5**	**+0.2**
ATD				IAmb	IAmb	14 17 58.9	
	comp=Z,34nm,1.2s						
BNSI	**Bone**	**49.70**	**70**	P	**P**	**14 17 47.2**	**+1.3**
	comp=Z,29nm,1.6s						
TTSI	**Tana Toraja**	**50.21**	**69**	P	**P**	**14 17 47.9**	**-1.9**
	comp=Z,14nm,1.0s						
SOEI	**Soe**	**50.54**	**79**	P	**P**	**14 17 50.9**	**-1.5**
SOEI	**Soe**	**50.54**	**79**	P	**P**	**14 17 54.9**	**+2.5**
WIN	**Windhoek**	**51.34**	**262**	P	**P**	**14 17 59.5**	**+1.1**
WIN				IAmb	IAmb	14 18 30.4	
	comp=Z,29nm,1.6s						
WIN	**Windhoek**	**51.34**	**262**	P	**P**	**14 17 59.5**	**+1.1**
WIN				pmax	pmax		
	comp=Z,29nm,1.6s						
DLV	**Lat**	**51.87**	**45**	P	**P**	**14 18 01.4**	**-1.0**
KNRA	**Kununurra**	**51.93**	**88**	P	**P**	**14 18 01.4**	**-1.4**
KNRA				IAmb	IAmb	14 18 05.2	
	comp=Z,29nm,1.4s						
TSUM	**Tsumeb**	**52.03**	**267**	P	**P**	**14 18 03.5**	**-0.2**
TSUM				IAmb	IAmb	14 18 17.4	
	comp=Z,19nm,1.3s						
TSUM	**Tsumeb**	**52.03**	**267**	LR	LR	14 37 13.9	
	comp=Z,2μm,20.3s,baz=146,slow=33						
CM31	**Chiang Mai Arr**	**52.09**	**31**	P	**P**	**14 18 02.8**	**-0.9**
CM31				IAmb	IAmb	14 18 05.7	
	comp=Z,16nm,0.9s						
CMAR	**Chiang Mai Arr**	**52.09**	**31**	P	**P**	**14 18 02.3**	**-1.5**
CMAR	**Chiang Mai Arr**	**52.09**	**31**	P	**P**	**14 18 03.7**	**-0.1**
	comp=Z,6.2nm,0.8s,baz=214,slow=7.7,SNR=31						
	comp=Z,6.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**52.09**	**31**	*ce*P	**P**	**14 18 04.5**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHTO	**Chiang Mai**	**52.41**	**30**	P	**P**	**14 18 05.4**	**-0.7**
CHTO	**Chiang Mai**	**52.41**	**30**	P	**P**	**14 18 06.8**	**+0.7**
CHTO	**Chiang Mai**	**52.41**	**30**	P	**P**	**14 18 05.4**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,13nm,1.0s						
BBOO	**Buckleboo**	**53.11**	**112**	P	**P**	**14 18 10.8**	**-0.5**
BBOO				IAmb	IAmb	14 18 16.3	
	comp=Z,45nm,1.6s						
BRDH	**Bariadhala**	**53.15**	**21**	LR	LR	14 37 25.8	
	comp=Z,998nm,20.3s,baz=172,slow=32

WRA LR LR 14 40 39.4
comp=Z,1µm,18.3s,baz=286,slow=35
comp=Z,28nm,0.8s
WRAB Tennant Creek 55.29 96 P **P** **14 18 25.7 -1.6**
WRAB Tennant Creek 55.29 96*d* iP **P** **14 18 26.6 -0.8**
WRAB pmax pmax
comp=Z,32nm,0.9s
HTT Hallett 55.32 113 P **P** **14 18 29.0 +1.5**
WB0 Warramunga Arr 55.38 96 P **P** **14 18 27.0 -1.1**
WR8 Warramunga Arr 55.41 96 P **P** **14 18 27.5 -0.7**
SHL Shillong 55.94 20 P **P** **14 18 32.0 +0.1**
SHL IAmb IAmb 14 18 33.4
comp=Z,21nm,1.1s
SHL Shillong 55.94 20 P **P** **14 18 32.1 +0.1**
SHL pmax pmax
comp=Z,21nm,1.1s
SLVN Son La 56.91 34 P **P** **14 18 38.1 -0.6**
SLVN Son La 56.91 34 P **P** **14 18 39.9 +1.1**
EVN Everest 56.95 14 P **P** **14 18 37.5 -2.1**
STKA Stephens Creek 57.88 112 P **P** **14 18 44.9 -0.8**
STKA Stephens Creek 57.88 112 P **P** **14 18 45.3 -0.3**
comp=Z,15nm,0.9s,baz=259,slow=6.4,SNR=18
STKA PcP **PcP** **14 19 38.4 +0.3**
comp=Z,1.8nm,0.6s,baz=236,slow=3.6,SNR=1.3
STKA LR LR 14 41 55.8
comp=Z,631nm,18.0s,baz=240,slow=34
comp=Z,15nm,0.9s
STKA Stephens Creek 57.88 112 P **P** **14 18 46.6 +0.9**
TROLL Troll, Antarti 57.94 200 ⇑P **P** **14 18 46.9 +1.3**
comp=Z,335nm,0.8s
RAYN Ar Rayn 58.09 329 P **P** **14 18 47.5 +0.4**
RAYN Ar Rayn 58.09 329 P **P** **14 18 47.5 +0.4**
RAYN pmax pmax
comp=Z,6.0nm,0.9s
QIZ Qiongzhong 58.20 41 P **P** **14 18 48.3 +0.4**
QIZ S **S** **14 26 51.8 +1.8**
QIZ LR LR
comp=Z,470nm,15.1s
QIZ LR LR
comp=Z,350nm,14.5s
QIZ LR LR
comp=Z,640nm,15.2s
INKA Innaminka 58.32 107 P **P** **14 18 47.8 -1.0**
INKA IAmb IAmb 14 18 51.2
comp=Z,23nm,1.1s
SNAA Sanae 59.58 201 ⇑P **P** **14 18 58.8 +1.9**
comp=Z,79nm,0.4s
SNAA Sanae 59.58 201 P **P** **14 18 57.5 +0.5**
SNAA IAmb IAmb 14 18 59.8
comp=Z,18nm,1.2s
SNAA Sanae 59.58 201 P **P** **14 18 57.9 +0.9**
comp=Z,11nm,1.0s,baz=77,slow=6.1,SNR=8.3
comp=Z,11nm,1.0s
SNAA Sanae 59.58 201*ce*P **P** **14 18 58.9 +1.9**
SNAA pmax pmax
comp=Z,12nm,1.1s
TOO Toolangi 59.60 119 P **P** **14 18 57.3 -0.3**
TOO IAmb IAmb 14 19 00.5
comp=Z,23nm,1.4s
TOO Toolangi 59.60 119 P **P** **14 18 57.3 -0.3**
TOO pmax pmax
comp=Z,23nm,1.4s
KMI Kunming 59.60 30 P **P** **14 18 59.5 +1.7**
KMI S **S** **14 27 13.0 +4.5**
KMI pmax pmax
comp=Z,11nm,1.1s
KMI LR LR
comp=Z,430nm,18.6s
KMI LR LR
comp=Z,310nm,22.4s
KMI LR LR
comp=Z,530nm,22.9s
LSA Lhasa 59.64 17 P **P** **14 18 57.6 -0.7**
LSA S **S** **14 27 07.5 -1.8**
LSA LR LR
comp=Z,310nm,16.3s
LSA LR LR
comp=Z,410nm,17.7s
QIS Mount Isa 59.68 99 P **P** **14 18 59.3 +1.0**
PZH PanZhiHua 60.37 29 P **P** **14 19 05.2 +2.3**
PZH S **S** **14 27 21.8 +3.6**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,150nm,5.3s
PZH LR LR
comp=Z,280nm,23.0s
PZH LR LR
comp=Z,350nm,22.1s
PZH LR LR
comp=Z,500nm,20.0s
VNA1 Neumayer--Stat 61.34 202 ⇑P **P** **14 19 11.4 +2.5**
comp=Z,14nm,0.9s
VNA3 Neumayer Olymp 61.77 201 ⇑P **P** **14 19 13.7 +1.9**
comp=Z,7.3nm,0.8s
QSPA South Pole Qui 62.17 180 P **P** **14 19 14.9 +0.2**
comp=Z,17nm,0.8s,baz=304,slow=4.2,SNR=18
comp=Z,17nm,0.8s
KBL Kabul 62.34 355 P **P** **14 19 15.9 -0.3**
KBL IAmb IAmb 14 19 19.2
comp=Z,13nm,1.1s
KBL Kabul 62.34 355 P **P** **14 19 15.9 -0.3**
KBL pmax pmax
comp=Z,13nm,1.1s
VNDA Vanda 62.46 166 P **P** **14 19 16.9 +0.6**
VNDA IAmb IAmb 14 19 18.7
comp=Z,12nm,1.1s
VNDA Vanda 62.46 166 P **P** **14 19 16.3 0.0**
comp=Z,5.8nm,1.0s,baz=269,slow=7.6,SNR=25
comp=Z,5.8nm,1.0s
VNDA Vanda 62.46 166 P **P** **14 19 16.9 +0.6**
VNDA pmax pmax
comp=Z,12nm,1.1s
GYA Guiyang 62.57 33 P **P** **14 19 18.7 +0.9**
GYA PP **PP** **14 21 34.3 -1.4**
GYA S **S** **14 27 41.2 -4.9**
GYA pmax pmax
comp=Z,15nm,1.3s
GYA LR LR
comp=Z,440nm,20.3s
GYA LR LR
comp=Z,440nm,20.3s
GYA LR LR
comp=Z,800nm,22.3s
CAN Canberra 62.91 117 P **P** **14 19 19.4 -0.7**
CAN IAmb IAmb 14 19 22.5
comp=Z,22nm,1.0s
CAN Canberra 62.91 117 P **P** **14 19 19.4 -0.7**
CAN pmax pmax
comp=Z,23nm,1.0s
SBA Scott Base 63.47 166 P **P** **14 19 19.2 -3.8**
SBA IAmb IAmb 14 19 21.2
comp=Z,12nm,1.0s
SBA Scott Base 63.47 166 P **P** **14 19 19.2 -3.8**
SBA pmax pmax
comp=Z,12nm,1.0s
CD2 Chengdu 65.07 28 P **P** **14 19 33.8 -0.3**
CD2 S **S** **14 28 18.5 +1.6**
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 pmax pmax
comp=Z,120nm,5.5s
CD2 LR LR
comp=Z,810nm,21.2s
CD2 LR LR
comp=Z,530nm,18.4s
CD2 LR LR
comp=Z,570nm,17.6s
CTAO Charters Tower 65.65 101 P **P** **14 19 35.8 -2.4**
CTAO Charters Tower 65.65 101 P **P** **14 19 35.8 -2.4**
CTAO pmax pmax
comp=Z,31nm,1.1s
SIMJ Simiganj 66.44 356 P **P** **14 19 40.2 -2.7**
ARMA Armidale 66.52 113 P **P** **14 19 42.6 -1.2**
BELA Belgrano 2 66.66 193 P **P** **14 19 43.9 +0.1**
BELA IAmb IAmb 14 19 46.2
comp=Z,36nm,1.8s
GOMU GeErMu 66.77 18 P **P** **14 19 45.7 +0.4**
GOMU PcP **PcP** **14 20 15.6 +1.4**
GOMU S **S** **14 28 40.0 +1.9**
GOMU pmax pmax
comp=Z,3.0nm,0.7s
GOMU LR LR
comp=Z,240nm,18.9s
GOMU LR LR
comp=Z,100nm,20.0s
GOMU LR LR
comp=Z,290nm,19.7s
KSH Kashi 67.16 2 P **P** **14 19 45.2 -2.2**
KSH sP pwP 14 19 56.0 +3.3
KSH pmax pmax
comp=Z,9.0nm,0.9s
KSH LR LR
comp=Z,270nm,22.0s
KSH LR LR
comp=Z,430nm,17.7s
KSH LR LR
comp=Z,420nm,21.6s
ARSB Arslanbob 68.94 359 IAmb IAmb 14 20 00.7
comp=Z,26nm,1.5s
NRN Naryn 69.07 2 IAmb IAmb 14 20 03.0
comp=Z,13nm,1.1s
LZDM Lanzhou Array 69.47 25 P **P** **14 20 01.7 -0.6**
comp=Z,1.3nm,0.3s,baz=134,slow=8.2,SNR=1.7
comp=Z,1.3nm,0.3s
LZH Lanzhou 69.64 25 *e*P **P** **14 20 04.0 +0.8**
LZH pP pwP 14 20 09.1 +0.7
LZH S **S** **14 29 15.5 +3.5**
LZH pmax pmax
comp=Z,13nm,1.5s
LZH pmax pmax
comp=Z,220nm,4.5s
LZH LR LR
comp=Z,530nm,17.5s
LZH LR LR
comp=Z,460nm,16.8s
LZH LR LR
comp=Z,780nm,19.0s
WHN Wuhan 69.78 37 P **P** **14 20 04.4 +0.5**
WHN pmax pmax
comp=Z,32nm,0.4s
KDJ Kajisay 69.80 3 IAmb IAmb 14 20 05.2
comp=Z,10nm,1.2s
XAN Xi'an 69.99 30 P **P** **14 20 05.5 +0.3**
XAN S **S** **14 29 16.4 +0.5**
XAN pmax pmax
comp=Z,18nm,1.0s
XAN pmax pmax
comp=Z,220nm,4.5s
XAN LR LR
comp=Z,470nm,17.5s
XAN LR LR
comp=Z,540nm,18.4s
XAN LR LR
comp=Z,1µm,22.2s
AAK Ala-Archa 70.25 0 P **P** **14 20 04.2 -2.5**
AAK IAmb IAmb 14 20 23.8
comp=Z,15nm,1.4s
AAK Ala-Archa 70.25 0*ce*P **P** **14 20 07.5 +0.8**
AAK pmax pmax
comp=Z,8.0nm,1.7s
KK31 Karatay Array 70.78 357 IAmb IAmb 14 20 22.8
comp=Z,19nm,1.3s
KKAR Karatay Array 70.78 357 P **P** **14 20 08.2 -1.6**
KKAR Karatay Array 70.78 357 P **P** **14 20 08.2 -1.6**
PMG Port Moresby 70.84 91*ce*P **P** **14 20 11.9 +1.1**
PMG pmax pmax
comp=Z,44nm,1.1s
MMAI Mount Meron Ar 70.84 326 P **P** **14 20 11.7 +1.3**
comp=Z,0.3nm,0.3s,baz=10,slow=9.1,SNR=1.9
comp=Z,0.3nm,0.3s
GTA Gaotai 71.22 21 *e*P **P** **14 20 13.0 +0.3**
GTA sP PcP 14 20 25.5 -7.1
GTA S **S** **14 29 31.5 +1.2**
GTA pmax pmax
comp=Z,8.0nm,2.1s
GTA LR LR
comp=Z,190nm,19.6s
GTA LR LR
comp=Z,250nm,19.3s
GTA LR LR
comp=Z,250nm,18.2s
LYN LuoYang 72.05 33 P **P** **14 20 19.1 +1.5**
LYN S **S** **14 29 43.6 +3.9**
LYN SS **SS** **14 34 15.9 -1.5**
LYN pmax pmax
comp=Z,16nm,1.6s
LYN pmax pmax
comp=Z,190nm,5.9s
LYN LR LR
comp=Z,1µm,19.8s
LYN LR LR
comp=Z,350nm,17.7s
LYN LR LR
comp=Z,1µm,23.0s
WMQ Urumqi 72.53 10 *e*P **P** **14 20 22.1 +1.7**
WMQ PcP **PcP** **14 20 38.3 +0.3**
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ LR LR
comp=Z,240nm,23.9s
WMQ LR LR
comp=Z,280nm,24.5s
NJ2 Nanjing 73.38 39 *e*P **P** **14 20 26.8 +1.2**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
NJ2 LR LR
comp=Z,570nm,17.1s
NJ2 LR LR
comp=Z,450nm,18.9s
NJ2 LR LR
comp=Z,1µm,18.6s
SSE Sheshan 73.99 41 P **P** **14 20 29.6 +0.4**
SSE S **S** **14 30 03.6 +1.7**
SSE pmax pmax
comp=Z,17nm,0.7s
SSE pmax pmax
comp=Z,110nm,3.7s
SSE LR LR
comp=Z,170nm,22.3s
SSE LR LR
comp=Z,150nm,21.5s
MAK Makhachkala 74.66 340*d* iP **P** **14 20 30.9 -1.9**
MAK *e*PPP PPP 14 25 01.1
MAK *e*S **S** **14 30 06.0 -2.8**
MAK *e*SS **SS** **14 34 51.0 -5.9**
MAK pmax pmax
comp=Z,177nm,1.3s
MKAR Makanchi Array 74.78 6 P **P** **14 20 31.9 -1.6**
MKAR Makanchi Array 74.78 6 P **P** **14 20 32.6 -0.8**
comp=Z,5.4nm,0.9s,baz=183,slow=5.1,SNR=28
comp=Z,5.4nm,0.9s
HNS HongShan 75.42 32 ⇑P **P** **14 20 38.6 +1.3**
HNS S **S** **14 30 19.6 +2.0**
HNS LR LR
comp=Z,430nm,22.6s
HNS LR LR
comp=Z,410nm,21.6s
HNS LR LR
comp=Z,560nm,22.3s
TIA Tai'an 75.66 35 P **P** **14 20 39.4 +0.6**
TIA S **S** **14 30 20.5 +0.1**
TIA pmax pmax
comp=Z,14nm,1.1s
TIA LR LR
comp=Z,350nm,15.1s
TIA LR LR
comp=Z,160nm,15.1s
TIA LR LR
comp=Z,370nm,14.4s
BTO Baotou 75.98 27 *e*P **P** **14 20 42.3 +1.7**
BTO S **S** **14 30 27.4 +3.4**
BTO pmax pmax
comp=Z,13nm,0.5s
BTO pmax pmax
comp=Z,260nm,5.9s
BTO LR LR
comp=Z,420nm,18.6s
BTO LR LR
comp=Z,570nm,13.1s
BTO LR LR
comp=Z,500nm,17.5s
KBZ Khabaz 76.82 337 P **P** **14 20 44.1 -1.0**
comp=Z,2.1nm,0.8s,baz=152,slow=8.6,SNR=3.8
KBZ LR LR 14 52 04.0
comp=Z,63nm,20.9s,baz=145,slow=34
comp=Z,2.1nm,0.8s
KBZ Khabaz 76.82 337 *i* P **P** **14 20 46.2 +1.1**
KBZ pmax pmax
comp=Z,15nm,2.5s
HHC Hu-ho-hao-te 76.83 28 *e*P **P** **14 20 46.2 +0.8**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,140nm,5.0s
HHC LR LR
comp=Z,450nm,21.4s
HHC LR LR
comp=Z,350nm,19.9s
HHC LR LR
comp=Z,330nm,19.1s
KIV Kislovodsk 77.10 337 *e*P **P** **14 20 46.1 -0.7**
KIV pmax pmax
comp=Z,10.0nm,1.0s
BR131 Keskin Array S 77.11 329 *i* P **P** **14 20 48.2 +1.1**
BRTR Keskin Array B 77.11 329 P **P** **14 20 47.0 -0.1**
BRTR Keskin Array B 77.11 329 P **P** **14 20 47.9 +0.8**
comp=Z,1.8nm,0.9s,baz=165,slow=6.4,SNR=7.5
comp=Z,1.8nm,0.9s
BRTR Keskin Array B 77.11 329*ce*P **P** **14 20 48.2 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
ABKAR Akbulak array 77.88 351 P **P** **14 20 49.3 -1.7**
BJI Beijing 78.22 32 P **P** **14 20 53.7 +0.7**
BJI PcP **PcP** **14 21 05.0 +2.5**
BJI S **S** **14 30 48.0 0.0**
BJI pmax pmax
comp=Z,3.0nm,1.3s
BJI pmax pmax
comp=Z,78nm,3.5s
BJI LR LR
comp=Z,110nm,16.7s
BJI LR LR
comp=Z,120nm,15.7s
BJI LR LR
comp=Z,170nm,20.1s
KURBB Kurchatov Arra 78.34 3 P **P** **14 20 52.8 -0.7**
comp=Z,2.9nm,0.9s,baz=193,slow=6.1,SNR=15
comp=Z,2.9nm,0.9s
KURK Kurchatov 78.44 3 P **P** **14 20 52.3 -1.7**
KURK Kurchatov 78.44 3 *i* P **P** **14 20 54.7 +0.7**
KURK pmax pmax
comp=Z,2.0nm,1.1s
ERBR Yeremizino-Bor 79.39 337 *e*P **P** **14 20 59.6 +0.2**
ERBR *e**PP **sP** **14 21 02.5 +1.0**
ERBR *e*S **S** **14 31 03.3 +2.9**
ERBR *e* 14 31 13.9
ERBR pmax pmax
comp=Z,22nm,0.6s
ANN Anapa 79.72 334 *e*P **P** **14 21 03.1 +1.9**
ANN *e*S **S** **14 31 04.4 +0.5**
ANN *e* 14 31 16.2
ANN pmax pmax
comp=Z,66nm,1.4s
GUMO Guam 80.06 69 LR LR 14 54 14.6
comp=Z,69nm,20.1s,baz=236,slow=34
BVAR Borovoye Array 80.70 358 P **P** **14 21 06.7 +0.4**
comp=Z,7.7nm,1.0s,baz=154,slow=7.6,SNR=15
comp=Z,7.7nm,1.0s
SONM Songino Array 80.88 21 P **P** **14 21 06.1 -1.5**
SONM Songino Array 80.88 21 P **P** **14 21 06.4 -1.2**
comp=Z,1.5nm,0.7s,baz=208,slow=5.6,SNR=7.4
comp=Z,1.5nm,0.7s
TORD Torodi Ar. Bea 80.98 290 P **P** **14 21 09.6 +1.0**
comp=Z,3.3nm,1.0s,baz=114,slow=6.8,SNR=8.1
comp=Z,3.3nm,1.0s
ULN Ulaanbaatar 81.12 22*ce*P **P** **14 21 09.5 +0.6**
ULN pmax pmax
comp=Z,9.0nm,1.7s
DZM Mont Dzumac 82.02 111 *e*LR LR 14 46 47.0
comp=Z,459nm,22.3s
DZM Mont Dzumac 82.02 111 LR LR 14 56 55.8
comp=Z,458nm,18.3s,baz=214,slow=35
ZALV Zalesovo Beam 82.11 6 P **P** **14 21 12.4 -1.3**
ZALV Zalesovo Beam 82.11 6 P **P** **14 21 13.1 -0.6**
comp=Z,3.5nm,0.8s,baz=190,slow=6.0,SNR=12
comp=Z,3.5nm,0.8s
KSAR Wonju Array Be 82.39 40 P **P** **14 21 13.8 -1.8**
KSAR Wonju Array Be 82.39 40 P **P** **14 21 13.8 -1.8**
KSRS Korea Array 82.42 40 P **P** **14 21 15.3 -0.4**
comp=Z,4.6nm,0.8s,baz=230,slow=5.2,SNR=14
comp=Z,4.6nm,0.8s
LIT Litokhoron 82.92 323 IAmb IAmb 14 21 25.4
comp=Z,16nm,1.0s
BELG Belogornoye 83.27 344 *i* P **P** **14 21 21.5 +1.7**
BELG pmax pmax
comp=Z,2.0nm,1.0s
DBIC Dimbokro 83.32 281 LR LR 14 56 05.8
comp=Z,572nm,19.9s,baz=164,slow=34
VRH Novokhopyorsk 83.80 340 *e*P **P** **14 21 22.0 -0.5**
VRH pmax pmax
comp=Z,7.0nm,1.0s
FNA Florina 84.00 323 IAmb IAmb 14 21 25.4
comp=Z,11nm,1.1s
VSR Storozhevoye 84.60 339 *e*P **P** **14 21 25.5 -1.1**
VSR pmax pmax
comp=Z,5.0nm,0.9s
ARTI Arti 85.05 351 P **P** **14 21 27.8 -1.0**
ARTI IAmb IAmb 14 21 32.8
comp=Z,22nm,1.5s
ARTI Arti 85.05 351*c* iP **P** **14 21 29.8 +1.0**
ARTI 14 24 44.6
ARTI S **SKSac** **14 31 54.2 +0.9**
ARTI SS **SS** **14 37 31.3 -0.9**
ARTI pmax pmax
comp=Z,31nm,2.7s
SVE Sverdlovsk 85.21 353 *e*P **P** **14 21 31.4 +1.9**
SVE pmax pmax
comp=Z,20nm,1.5s
CN2 Changchun 85.57 35 *e*P **P** **14 21 32.3 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CIT Chita 86.87 23 *e*P **P** **14 21 39.0 +1.0**
CIT *e* 14 21 45.6
CIT pmax pmax
comp=Z,55nm,2.3s
BURAR Bucovina Array 87.07 329 P **P** **14 21 36.4 -2.7**
AKASG Malin Array Be 87.73 333 P **P** **14 21 42.3 +0.2**
comp=Z,4.2nm,0.8s,baz=142,slow=4.3,SNR=15
comp=Z,4.2nm,0.8s
KIEV Kiev 87.74 333 P **P** **14 21 40.3 -1.8**
KIEV IAmb IAmb 14 21 49.7
comp=Z,12nm,0.8s
KIEV Kiev 87.74 333 P **P** **14 21 40.3 -1.8**
KIEV pmax pmax
comp=Z,12nm,0.8s
KEST Kesra 87.87 313 P **P** **14 21 41.8 -1.4**
KEST Kesra 87.87 313 P **P** **14 21 44.6 +1.4**
comp=Z,11nm,0.9s,baz=42,slow=2.7,SNR=6.8
comp=Z,11nm,0.9s
BNX BinXian 87.93 34 ⇓P **P** **14 21 43.2 +0.1**
BNX pmax pmax
comp=Z,5.0nm,0.7s
MJAR Matsushiro Arr 88.10 47 P **P** **14 21 41.8 -2.4**
MJAR IAmb IAmb 14 21 45.3
comp=Z,8.2nm,1.2s
MJAR Matsushiro Arr 88.10 47 P **P** **14 21 42.3 -1.9**
comp=Z,5.4nm,1.0s,baz=217,slow=6.7,SNR=6.2
comp=Z,5.4nm,1.0s
MDJ Mudanjiang 88.26 36 P **P** **14 21 43.7 -1.1**
MDJ pmax pmax
comp=Z,7.0nm,1.2s
MDJ LR LR
comp=Z,370nm,16.5s
MDJ LR LR
comp=Z,280nm,18.6s
MDJ LR LR
comp=Z,610nm,23.8s
OBN Obninsk 88.74 340 *e*P **P** **14 21 48.8 +2.1**
OBN pmax pmax
comp=Z,5.0nm,0.9s
MOS Moscow 88.95 340 *e*P **P** **14 21 48.2 +0.5**
USRK Ussuriysk Ar. 89.25 38 P **P** **14 21 49.7 +0.3**
comp=Z,1.4nm,0.6s,baz=318,slow=5.1,SNR=4.3
comp=Z,1.4nm,0.6s
HEH HeiHe 91.11 31 *e*P **P** **14 21 57.4 -0.6**
HEH LR LR
comp=Z,240nm,19.2s
HEH LR LR
comp=Z,200nm,19.4s
HEH LR LR
comp=Z,330nm,21.6s
MNK Minsk 91.21 335 *i* P **P** **14 21 57.8 -0.5**
MNK *i* 14 25 34.6
MNK *i* PPP PPP 14 27 32.8
MNK *i* S **SKSac** **14 32 29.6 -0.9**
MNK *i* PS **PnS** **14 34 06.6 -0.2**
MNK *i* SSS SSS 14 42 40.2
MNK pmax pmax

comp=E,16nm,0.7s
MNK pmax pmax
comp=N,16nm,0.7s
MNK pmax pmax
comp=E,9.0nm,0.6s
MNK MLR MLR
comp=E,197nm,21.0s
MNK MLR MLR
comp=N,39nm,13.0s
MNK MLR MLR
comp=Z,56nm,18.0s
MODS Modra-Piesok 91.36 326 *eP* P 14 22 05.7 +6.5
KLMR Klimovskoe 92.84 344 *eP* **P** **14 22 07.6 +1.9**
KLMR pmax pmax
comp=Z,9.0nm,1.2s
ZEA Zeya 93.49 28 *eP* **P** **14 22 11.8 +2.9**
ZEA MLR MLR
comp=Z,200nm,20.0s
ESDC Sonseca Array 98.86 310 P Pdif 14 22 35.1 +1.3
comp=Z,0.2nm,0.4s,baz=114,slow=3.1,SNR=1.8
comp=Z,0.2nm,0.4s
YAK Yakutsk 100.16 23 *i* P **Pdif** **14 22 39.3 +0.5**
YAK pmax pmax
comp=Z,3.0nm,0.8s
TBI Tubuai 113.99 136 *e*LR LR 15 01 35.7
comp=Z,770nm,29.8s
PPT2 Papeete2 118.12 132 *e*LR LR 15 03 34.4
comp=Z,314nm,27.2s
PPT2 *e*LR LR 15 03 35.6
comp=Z,178nm,26.2s
RKT Rikitea 122.04 148 *e*LR LR 15 05 24.5
comp=Z,10μm,41.5s
LPAZ La Paz 122.71 225 PKP **PKPdf** **14 27 51.4 +0.4**
comp=Z,1.6nm,0.9s,baz=162,slow=4.0,SNR=4.8
TAOE Nuku Hiva Isla 130.72 133 *e*LR LR 15 09 25.1
comp=Z,93nm,23.4s
ILAR Eielson Array 135.08 23 PKP **PKPdf** **14 28 11.0 -1.2**
comp=Z,1.7nm,1.0s,baz=291,slow=4.0,SNR=8.4
YKA Yellowknife Ar 145.00 7 **PKPab** **14 28 28.3 -1.3**
YKA Yellowknife Ar 145.00 7 PKPbc **PKPab** **14 28 29.1 -0.5**
comp=Z,5.5nm,0.9s,baz=339,slow=4.8,SNR=7.7
PDAR Pinedale Array 164.95 10 PKP **PKPdf** **14 28 57.2 -0.9**
comp=Z,2.5nm,1.0s,baz=180,slow=0.9,SNR=16
PDAR PKPab **PKPab** **14 29 53.3 -0.9**
comp=Z,0.5nm,0.7s,baz=313,slow=2.1,SNR=1.6
NVAR Mina Array Bea 165.36 41 PKP **PKPdf** **14 28 58.2 -0.3**
comp=Z,1.5nm,0.9s,baz=232,slow=1.7,SNR=4.6
NVAR PKPab **pPKPab** **14 29 56.9 -1.0**
comp=Z,1.3nm,0.8s,baz=300,slow=6.5,SNR=4.3
TXAR Lajitas Array 177.52 304 PKP **PKPdf** **14 29 05.2 +0.6**
comp=Z,1.1nm,1.0s,baz=95,slow=1.5,SNR=9.0
TXAR PKPab PKPab 14 30 51.2 +0.9
comp=Z,0.6nm,0.8s,baz=29,slow=2.9,SNR=3.4
TXAR PP **PP** **14 34 44.7 +1.1**
comp=Z,0.1nm,0.5s,baz=254,slow=7.6,SNR=3.6

DJA 12 14:20:58.5±1.3, **8˚S**±5˚×**10˚8E**±˚, **h16**km±12km, **M4.0**/16, **mB6.3**/**1**, **mb4.3**/2, **MLv3.8**/16, **Mw(mB)6.0**/1, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**1.15**	**317**	P	Pn	14 21 19.5	-0.4
KPJI	**Karang Pucung**	**1.30**	**51**	P	Pn	14 21 21.9	-0.2
LEM	**Lembang**	**1.36**	**348**	P	Pn	14 21 22.8	-0.1
SKJI	**Sukabumi**	**1.77**	**310**	P	Pn	14 21 28.5	+0.1
DBJI	**Dramaga**	**1.97**	**324**	P	Pn	14 21 31.1	-0.1
UGM	**Wanagama**	**2.60**	**85**	P	Pn	14 21 39.8	-0.1
CGJI	**Cibinong**	**2.68**	**305**	P	Pn	14 21 41.2	+0.2
SMRI	**Semarang**	**2.74**	**66**	P	Pn	14 21 42.4	+0.5
WOJI	**Wonogiri, Jawa**	**3.00**	**84**	P	Pn	14 21 45.1	-0.3
PCJI	**Pacitan**	**3.23**	**91**	P	Pn	14 21 48.8	+0.2
GMJI	**Gumukmas** 0.1nm27nm,1.5s	**5.48**	**92**	P	Pn	14 22 18.3	-1.2
SMKI	**Samarinda**	**12.02**	**51**	P	Pn	14 23 48.9	-0.5

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*IDC **12** 14:47:47.3±5.0, 5˚.42S×104˚.38E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=254.8km s-min=30.5km az=50.0*
*DJA **12** 14:48:03.6±0.4, 6˚S±4˚×10˚5E±˚, h101km±4km, M3.7/12, mb4.2/3, MLv3.5/12*
ISC 12 14:48:03.9±1.1, **5˚.53S**±0˚.07×**104˚.96E**±0˚.07, **h110**km±8km, **n17**, σ**0˚75**/**18**, **mb3.1**/3, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLSI	**Bandar Lampung**	**0.33**	**60**	P	**Pn**	**14 48 19.3**	**-0.5**
BLSI				S	**Sn**	**14 48 31.6**	**-0.2**
KASI	**Kota Agung**	**0.46**	**271**	P	**Pn**	**14 48 20.4**	**-0.1**
KASI				S	**Sn**	**14 48 33.1**	**+0.1**
KLI	**Kotabumi**	**0.67**	**351**	P	**Pn**	**14 48 22.2**	**+0.1**
KLI				S	**Sn**	**14 48 36.4**	**+0.7**
LWLI	**Liwa**	**1.03**	**300**	P	**Pn**	**14 48 25.3**	**-0.3**
MDSI	**Maura Dua**	**1.30**	**323**	P	**Pn**	**14 48 28.3**	**-0.1**
MDSI				S	**Sn**	**14 48 46.9**	**0.0**
CGJI	**Cibinong**	**1.30**	**146**	P	**Pn**	**14 48 28.2**	**-0.2**
CGJI				S	**Sn**	**14 48 46.8**	**-0.2**
MNAI	**Manna**	**2.31**	**300**	P	**Pn**	**14 48 41.1**	**+0.2**
CNJI	**Cibinong**	**2.79**	**129**	P	**Pn**	**14 48 46.3**	**-0.8**
TPI	**Tanjungpandan**	**3.85**	**44**	P	**Pn**	**14 49 00.6**	**-0.7**
PPSI	**Pulau Pagai** 141nm,1.1s	**5.65**	**299**	P	**Pn**	**14 49 23.5**	**-2.0**
UGM	**Wanagama**	**6.01**	**113**	P	**Pn**	**14 49 31.4**	**+0.9**
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=294,slow=8.8,SNR=8.7 0.4nm,0.9s	**31.96**	**119**	P	**P**	**14 54 19.5**	**-0.1**
H08S2	**Diego Garcia H** baz=90	**32.31**	**264**	T	T	15 27 38.2	
H08S3	**Diego Garcia H** baz=90	**32.32**	**265**	T	T	15 26 53.3	
H08S1	**Diego Carcia H** baz=90	**32.33**	**264**	T	T	15 27 14.8	
ASAR	**Alice Springs** 0.1nm,0.3s,baz=301,slow=8.5,SNR=13 0.1nm,0.3s	**33.19**	**126**	P	**P**	**14 54 31.2**	**+0.9**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=143,slow=9.0,SNR=2.6 0.1nm,0.4s	**55.84**	**341**	P	P	14 57 24.5	-5.3

IDC 12 15:14:37.3±2.8, **55˚.91N**×**164˚.38E**, **h0**km, **mb3.5**/2, **mbtmp3.4**/3, **ML1.5**/1, **Error ellipse: s-maj=93.2km s-min=31.8km az=151.0**, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-** 0.1nm,0.3s,baz=52,slow=14,SNR=12	**4.80**	**237**	Pn	Pn	15 15 50.9	+0.1
PETK	0.1nm,0.3s,baz=307,slow=30,SNR=1.8 2.2nm,1.1s			Sn	Sn	15 16 42.9	-4.2
YKA	**Yellowknife Ar** 1.3nm,0.7s,baz=296,slow=7.1,SNR=3.0 1.3nm,0.7s	**39.40**	**46**	P	P	15 22 08.1	-0.1
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=60,slow=8.8,SNR=2.1 0.2nm,0.5s	**49.18**	**296**	P	P	15 23 26.5	-0.2

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*BJI **12** 15:28:37.1, 1˚.21N×128˚.82E, h126km, mB4.7/9, mb4.8/47*
*DJA **12** 15:28:45.5±0.2, 2˚N±2˚×12˚8E±˚, h119km±2km, M4.5/27, mb4.7/27, mB4.9/6, MLv4.6/16, Mw(mB)4.2/6*
*NEIC **12** 15:28:45.2±1.5, 1˚.91N±0˚.07×128˚.24E±0˚.07, h123km±1km, mb4.6/77, Error ellipse: s-maj=11.1km s-min=9.6km az=217.0*
*IDC **12** 15:28:47.2±1.8, 1˚.90N×128˚.25E, h146km±16km, mb4.0/23, mbtmp4.4/25, Error ellipse: s-maj=19.5km s-min=8.6km az=77.0*
ISC 12 15:28:45.5±0.8, **1˚.89N**±0˚.05×**128˚.24E**±0˚.05, **h132**km±7km, **n167**, σ**1˚11**/175, **mb4.6**/71, **1D**, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.41**	**218**	P	**Pn**	**15 29 12.4**	**-0.4**
TNTI				Sn	**Sn**	**15 29 31.1**	**-2.4**
TNTI	**Ternate**	**1.41**	**218**	P	**Pn**	**15 29 13.1**	**+0.4**
TNTI				S	**Sn**	**15 29 33.0**	**-0.5**
SGSI	**Sangihe**	**3.24**	**304**	P	**Pn**	**15 29 34.9**	**-0.4**
SGSI				S	**Sn**	**15 30 12.9**	**-0.9**
SWI	**Sorong**	**4.08**	**132**	P	**Pn**	**15 29 47.6**	**+1.3**
SWI				S	**Sn**	**15 30 32.4**	**-1.1**
KMSI	**Cibinong**	**4.45**	**253**	P	**Pn**	**15 29 51.6**	**+0.3**
SANI	**Sanana**	**4.51**	**210**	P	**Pn**	**15 29 51.3**	**-0.8**
AAI	**Ambon**	**5.54**	**180**	P	**Pn**	**15 30 07.3**	**+1.4**
	0.3nm76nm,1.3s						
LUWI	**Luwuk**	**6.19**	**242**		**Pn**	**15 30 13.7**	**-0.9**
LUWI				Sn	**Sn**	**15 31 26.3**	**+2.1**
LUWI	**Luwuk**	**6.19**	**242**	P	**Pn**	**15 30 15.4**	**+0.8**
FAKI	**Fak Fak**	**6.24**	**140**	Pn	**Pn**	**15 30 16.0**	**+0.8**
FAKI				Sn	**Sn**	**15 31 22.2**	**-3.2**
FAKI	**Fak Fak**	**6.24**	**140**	P	**Pn**	**15 30 17.0**	**+1.7**
MRSI	**Marisa** 0.7nm2μm112nm,0.5s	**6.45**	**258**	P	**Pn**	**15 30 18.5**	**+0.4**
APSI	**Ampana** 0.6nm2μm187nm,1.3s	**7.15**	**247**	P	**Pn**	**15 30 27.1**	**-0.4**
TOLI2	**Tolitoli**	**7.49**	**264**		**Pn**	**15 30 31.1**	**-1.0**
BAKI	**Biak** 142nm,1.1s	**8.44**	**111**	P	**Pn**	**15 30 46.7**	**+1.7**
PCI	**Palu** 35nm,0.7s	**8.84**	**252**	P	**Pn**	**15 30 50.7**	**+0.3**
TTSI	**Tana Toraja**	**9.74**	**240**	P	**Pn**	**15 31 02.0**	**-0.3**
BNSI	**Bone**	**10.25**	**232**	P	**Pn**	**15 31 08.9**	**-0.3**
MYLDM	**Lahad Datu**	**10.25**	**289**		**Pn**	**15 31 09.6**	**+0.4**
SPSI	**Sidrap Palu**	**10.27**	**236**	P	**Pn**	**15 31 10.2**	**+0.7**
BKSI	**Bulukumba** 26nm,0.5s	**10.82**	**228**	P	**Pn**	**15 31 18.7**	**+1.9**
KAPI	**Kappang** 6.1nm,0.4s,baz=33,slow=23,SNR=4.9	**10.90**	**231**	P	**Pn**	**15 31 20.5**	**+2.6**
BSSI	**Bau Bau, Buton** 56nm,1.1s	**11.11**	**224**	P	**Pn**	**15 31 23.5**	**+2.8**
EDFI	**Ende, Flores**	**12.42**	**212**	P	**P**	**15 31 42.7**	**-1.8**
JAY	**Jayapura** 10nm,0.9s,baz=192,slow=19,SNR=1.4	**13.21**	**109**	P	**Pn**	**15 31 49.8**	**+1.6**
PLAI	**Plampang** 38nm,1.3s	**14.90**	**224**	P	**P**	**15 32 13.1**	**+1.1**
SBUM	**Sibu**	**16.01**	**272**	P	**P**	**15 32 24.8**	**+0.4**
JAGI	**Jajag, Banyuwa**	**17.41**	**234**	P	**Pn**	**15 32 41.6**	**+1.2**
JAGI	comp=E,68nm,1.3s			IAmb	IAmb	15 32 52.1	
JAGI	**Jajag, Banyuwa** comp=E,44nm,1.4s	**17.41**	**234**	P	**Pn**	**15 32 42.1**	**+1.7**
KNRA	**Kununurra**	**17.46**	**178**	P	**P**	**15 32 40.5**	**+0.2**
KSM	**Kuching**	**17.92**	**269**		**P**	**15 32 45.0**	**-0.4**
KSM	comp=E,19nm,0.6s			IAmb	IAmb	15 32 48.6	
PCJI	**Pacitan** comp=Z,58nm,0.8s	**19.74**	**239**	P	**P**	**15 33 07.5**	**+2.3**
FITZ	**Fitoy Crossi**	**20.02**	**187**	P	**P**	**15 33 07.7**	**-0.5**
FITZ	**Fitzroy Crossi** comp=Z,2.1nm,0.8s,baz=23,slow=7.8,SNR=6.4 comp=Z,2.1nm,0.8s	**20.02**	**187**	P	**P**	**15 33 09.6**	**+1.4**
UGM	**Wanagama**	**20.17**	**241**	P	**P**	**15 33 09.4**	**-0.4**
KPJI	**Karang Pucung** comp=Z,42nm,0.8s	**21.33**	**244**	P	**P**	**15 33 23.7**	**+1.4**
TWG	**Pinlang**	**21.94**	**342**	P	**P**	**15 33 26.5**	**-2.1**
TWG	comp=E,27nm,0.6s			IAmb	IAmb	15 33 27.5	
DLV	**Lat**	**21.98**	**298**	P	**P**	**15 33 29.0**	**-0.4**
WB0	**Warramunga Arr**	**22.35**	**165**		**P**	**15 33 32.4**	**-0.5**
YULB	**Yu-li**	**22.41**	**343**	P	**P**	**15 33 30.6**	**-2.7**
WRAB	**Tennant Creek**	**22.50**	**165**	P	**P**	**15 33 32.8**	**-1.5**
WRA	**Warramunga Arr** comp=Z,3.2nm,0.5s,baz=343,slow=10,SNR=43	**22.51**	**165**	P	**P**	**15 33 34.3**	**-0.1**
WRA	comp=Z,0.3nm,0.6s,baz=338,slow=1.8,SNR=2.1			PcP	**PcP**	**15 37 23.6**	**-0.1**
WRA	comp=Z,0.6nm,0.3s,baz=345,slow=2.9,SNR=21 comp=Z,3.2nm,0.5s			ScP	**ScP**	**15 40 48.1**	**-1.2**
TPUB	**Ta-pu**	**22.53**	**341**		**P**	**15 33 33.0**	**-1.5**
TPUB	comp=Z,36nm,0.8s			IAmb	IAmb	15 33 35.1	
WR8	**Warramunga Arr**	**22.56**	**164**	P	**P**	**15 33 34.7**	**-0.2**
SSLB	**Suanglung**	**22.88**	**343**	P	**P**	**15 33 37.1**	**-0.9**
SSLB	comp=E,26nm,1.0s			IAmb	IAmb	15 33 39.6	
YOJ	**Yonaguni jima**	**23.00**	**348**	P	**P**	**15 33 37.8**	**-1.2**
NACB	**Ninganchiao**	**23.07**	**344**	P	**P**	**15 33 38.8**	**-0.8**
NACB	comp=E,13nm,0.6s			IAmb	IAmb	15 33 41.0	
YHNB	**Yeheng**	**23.60**	**344**	P	**P**	**15 33 44.4**	**-0.2**
CGJI	**Cibinong** comp=Z,37nm,0.8s	**24.04**	**249**	P	**P**	**15 33 48.3**	**-0.3**
KNMB	**Chin-men Tao**	**24.38**	**338**	P	**P**	**15 33 52.6**	**+1.0**
QIZ	**Qiongzhong**	**24.79**	**315**	P	**P**	**15 33 56.1**	**+0.7**
QIZ	comp=E,14nm,0.8s			IAmb	IAmb	15 33 58.6	
KASI	**Kota Agung** comp=Z,19nm,0.8s	**24.83**	**253**	P	**P**	**15 33 57.1**	**+1.3**
AS31	**Alice Springs**	**25.99**	**168**		**P**	**15 34 05.8**	**-0.4**
ASAR	**Alice Springs**	**25.99**	**168**	P	**P**	**15 34 06.0**	**-0.2**
ASAR	**Alice Springs** comp=Z,0.8nm,0.5s,baz=350,slow=7.5,SNR=31	**25.99**	**168**	P	**P**	**15 34 06.3**	**+0.1**
ASAR	comp=Z,2.2nm,0.5s,baz=352,slow=2.2,SNR=30			PcP	**PcP**	**15 37 31.1**	**-0.2**
ASAR	comp=Z,0.9nm,0.7s,baz=348,slow=3.1,SNR=10 comp=Z,0.8nm,0.5s			ScP	**ScP**	**15 40 57.3**	**-1.7**
MASI	**Maura Aman, Be** comp=Z,62nm,1.1s	**26.46**	**259**	P	**P**	**15 34 13.0**	**+2.4**
KCSI	**Kotacane, Aceh** comp=Z,7.8nm,0.9s	**30.47**	**274**	P	**P**	**15 34 46.0**	**-0.2**
GSI	**Gunungsitoli**	**30.65**	**269**		**P**	**15 34 47.4**	**-0.4**
GSI	**Gunungsitoli**	**30.65**	**269**	P	**P**	**15 34 46.9**	**-0.9**
JNU	**Nakatsue**	**31.17**	**4**	P	**P**	**15 34 52.0**	**-0.2**
NJ2	**Nanjing**	**31.28**	**345**	*e*P	**P**	**15 34 53.2**	**+0.2**
NJ2	comp=E,11nm,0.5s			pmax	pmax		
NJ2	comp=Z,220nm,15.2s			LR	LR		
NJ2	comp=Z,380nm,23.7s			LR	LR		
NJ2	comp=Z,440nm,18.5s			LR	LR		
INKA	**Innaminka**	**31.82**	**159**	P	**P**	**15 34 57.5**	**-0.3**
JMN	**Monobe**	**32.11**	**9**	P	**P**	**15 34 58.4**	**-2.0**
MORW	**Morawa**	**32.92**	**200**	P	**P**	**15 35 06.1**	**-1.4**
CMAR	**Chiang Mai Arr**	**33.10**	**302**	P	**P**	**15 35 08.2**	**-1.0**
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.3s,baz=126,slow=7.1,SNR=9.5 comp=Z,0.6nm,0.3s	**33.10**	**302**	P	**P**	**15 35 08.4**	**-0.8**
CHTO	**Chiang Mai**	**33.26**	**302**		**P**	**15 35 10.1**	**-0.5**
CHTO	comp=E,10nm,1.4s			IAmb	IAmb	15 35 13.1	
ENH	**Enshi**	**33.37**	**330**	P	**P**	**15 35 10.4**	**-1.0**
ENH	comp=E,8.6nm,0.7s			IAmb	IAmb	15 35 13.8	
KMI	**Kunming**	**33.74**	**315**	P	**P**	**15 35 17.4**	**+2.5**
KMI	comp=E,15nm,0.9s			pmax	pmax		
BBOO	**Buckleboo**	**35.30**	**169**	P	**P**	**15 35 27.9**	**0.0**
PZH	**PanZhiHua**	**35.30**	**316**	P	**P**	**15 35 30.5**	**+2.3**
KSAR	**Wonju Array Be**	**35.38**	**360**	P	**P**	**15 35 28.2**	**-0.4**
KSRS	**Korea Array** comp=Z,4.4nm,0.5s,baz=176,slow=9.8,SNR=46	**35.39**	**360**	P	**P**	**15 35 29.1**	**+0.4**
KSRS	comp=Z,1.0nm,0.6s,baz=186,slow=3.1,SNR=5.3 comp=Z,4.4nm,0.5s			PcP	**PcP**	**15 37 56.5**	**+0.7**
KS19	**Wonju Array Si**	**35.44**	**359**	P	**P**	**15 35 28.9**	**-0.2**
KS19	comp=E,13nm,1.1s			IAmb	IAmb	15 35 30.7	
LYN	**LuoYang**	**35.67**	**337**	P	**P**	**15 35 32.3**	**+1.2**
LYN				sP	sP	15 36 17.4	+3.8
LYN	comp=Z,26nm,0.7s			pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,2.7nm,0.7s,baz=189,slow=9.6,SNR=6.6 comp=Z,2.7nm,0.7s	**35.69**	**14**	P	**P**	**15 35 29.8**	**-1.5**
MAJO	**Matsushiro**	**35.70**	**14**	P	**P**	**15 35 31.0**	**-0.3**
MAJO	comp=E,18nm,1.4s			IAmb	IAmb	15 35 33.4	
MJB9	**Matsu-Tunnel**	**35.70**	**14**	P	**P**	**15 35 30.8**	**-0.5**
MJB9	comp=E,17nm,1.4s			IAmb	IAmb	15 35 33.4	
STKA	**Stephens Creek**	**35.89**	**160**		**P**	**15 35 33.3**	**+0.2**
STKA	**Stephens Creek** comp=Z,5.6nm,0.4s,baz=342,slow=9.5,SNR=22 comp=Z,5.6nm,0.4s	**35.89**	**160**	P	**P**	**15 35 33.8**	**+0.7**
XAN	**Xi'an**	**36.73**	**333**	P	**P**	**15 35 40.9**	**+0.7**
XAN	comp=E,38nm,0.9s			pmax	pmax		
CD2	**Chengdu**	**37.01**	**324**	P	**P**	**15 35 43.4**	**+0.8**
CD2	comp=E,10.0nm,0.8s			pmax	pmax		
HNS	**HongShan**	**37.47**	**342**	⇓P	**P**	**15 35 47.2**	**+0.9**
HNS	comp=Z,19nm,1.1s			pmax	pmax		
ARMA	**Armidale**	**39.11**	**147**	P	**P**	**15 36 01.0**	**+0.7**
ARMA	comp=E,18nm,1.4s			IAmb	IAmb	15 36 43.4	
BJT	**Baijiatuau**	**39.51**	**345**		**P**	**15 36 03.5**	**+0.2**
BJI	**Beijing**	**39.52**	**345**	P	**P**	**15 36 03.9**	**+0.5**
BJI	comp=Z,24nm,0.7s			pmax	pmax		
BJI	comp=Z,28nm,3.6s			pmax	pmax		
LZDM	**Lanzhou Array** comp=Z,5.1nm,0.5s,baz=180,slow=11,SNR=8.7 comp=Z,5.1nm,0.5s	**40.82**	**329**	P	**P**	**15 36 16.4**	**+1.8**
LZH	**Lanzhou**	**40.84**	**329**	*e*P	**P**	**15 36 16.7**	**+2.1**
LZH				sP	sP	15 36 55.7	-1.9
LZH	comp=Z,45nm,1.3s			pmax	pmax		
H11S3	**WAKE ISLAND Hy** baz=251	**41.14**	**64**	T	T	16 20 04.2	
H11S2	**WAKE ISLAND Hy** baz=251	**41.16**	**64**	T	T	16 20 16.5	
H11S1	**WAKE ISLAND Hy** baz=251	**41.16**	**64**	T	T	16 20 17.0	
HHC	**Hu-ho-hao-te**	**41.61**	**341**	*e*P	**P**	**15 36 21.9**	**+1.2**
HHC	comp=Z,20nm,0.7s			pmax	pmax		
HHC	comp=Z,47nm,3.9s			pmax	pmax		
H11N1	**WAKE ISLAND Hy** baz=248,slow=75	**41.73**	**62**	T	T	16 20 48.7	
H11N2	**WAKE ISLAND Hy** baz=248	**41.74**	**62**	T	T	16 21 13.0	
H11N3	**WAKE ISLAND Hy** baz=248,slow=75	**41.75**	**62**	T	T	16 20 56.3	
SHL	**Shillong**	**42.18**	**307**		**P**	**15 36 25.8**	**+0.2**
USRK	**Ussuriysk Ar.** comp=Z,5.6nm,0.7s,baz=186,slow=8.2,SNR=8.0 comp=Z,5.6nm,0.7s	**42.26**	**4**	P	**P**	**15 36 26.2**	**+0.4**
TOO	**Toolangi**	**42.39**	**160**	P	**P**	**15 36 27.8**	**+0.7**
TOO	comp=Z,15nm,1.5s			IAmb	IAmb	15 36 39.7	
MDJ	**Mudanjiang**	**42.56**	**1**		**P**	**15 36 28.1**	**-0.1**
MDJ	comp=Z,7.6nm,0.7s			IAmb	IAmb	15 36 29.8	
MDJ	**Mudanjiang** comp=Z,13nm,0.9s	**42.56**	**1**	P	**P**	**15 36 29.2**	**+1.0**
MDJ				pmax	pmax		
XLT	**XiLinHaoTe**	**43.20**	**347**	*e*P	**P**	**15 36 33.8**	**+0.3**
XLT	comp=Z,19nm,0.7s			pmax	pmax		
JKA	**Kamikawa-asahi** comp=Z,14nm,1.2s	**43.94**	**15**	P	**P**	**15 36 39.6**	**+0.4**
JKA				IAmb	IAmb	15 37 16.6	
LSA	**Lhasa** comp=Z,14nm,0.8s	**44.78**	**312**	P	**P**	**15 36 48.3**	**+1.5**
LSA				IAmb	IAmb	15 36 49.9	
GTA	**Gaotai**	**45.44**	**329**	P	**P**	**15 36 53.6**	**+2.1**
GTA				PcP	**PcP**	**15 38 29.9**	**+1.5**
GTA	comp=Z,19nm,0.5s			pmax	pmax		
GOMU	**GeErMu** comp=Z,4.0nm,0.9s	**46.05**	**322**	P	**P**	**15 36 57.9**	**+1.3**
GOMU				pmax	pmax		
EVN	**Everest**	**47.29**	**307**		**P**	**15 37 07.3**	**+0.6**
HEH	**HeiHe**	**48.19**	**359**	*e*P	**P**	**15 37 12.4**	**-0.1**
HEH	comp=Z,10.0nm,0.8s			pmax	pmax		
ULN	**Ulaanbaatar**	**49.33**	**341**		**P**	**15 37 22.1**	**+0.7**
ULN				PcP	**PcP**	**15 38 42.2**	**+0.1**
SONM	**Songino Array**	**49.52**	**341**		**P**	**15 37 22.9**	**0.0**
SONM	comp=Z,8.4nm,0.6s			IAmb	IAmb	15 37 24.5	
SONM				PcP	**PcP**	**15 38 42.6**	**-0.2**
SONM	**Songino Array** comp=Z,9.4nm,0.6s,baz=154,slow=8.1,SNR=44	**49.52**	**341**	P	**P**	**15 37 23.6**	**+0.8**
SONM	comp=Z,1.8nm,0.6s,baz=173,slow=3.2,SNR=5.9 comp=Z,9.4nm,0.6s			PcP	**PcP**	**15 38 41.9**	**-0.9**
PETK	**Petropavlovsk-** comp=Z,1.9nm,0.7s,baz=174,slow=3.3,SNR=5.6 comp=Z,1.9nm,0.7s	**56.58**	**21**	P	**P**	**15 38 14.8**	**+0.5**
LBZ	**Lake Benmore**	**59.33**	**146**	P	**P**	**15 38 33.8**	**+0.1**
MKAR	**Makanchi Array**	**59.91**	**325**		**P**	**15 38 38.0**	**+0.3**
MKAR				PcP	**PcP**	**15 39 21.9**	**-0.8**
MKAR	**Makanchi Array** comp=Z,14nm,0.4s,baz=115,slow=8.0,SNR=239	**59.91**	**325**	P	**P**	**15 38 38.3**	**+0.6**
MKAR	comp=Z,2.2nm,0.7s,baz=121,slow=4.9,SNR=5.8 comp=Z,14nm,0.4s			PcP	**PcP**	**15 39 22.5**	**-0.2**
YAK	**Yakutsk**	**60.01**	**1**		**P**	**15 38 37.5**	**-0.5**
YAK				PcP	**PcP**	**15 39 22.5**	**-0.1**
KSH	**Kashi**	**60.40**	**315**	P	**P**	**15 38 43.2**	**+1.9**
KSH	comp=Z,6.0nm,0.9s			pmax	pmax		
KDJ	**Kajisay**	**60.71**	**318**		**P**	**15 38 43.7**	**+0.2**
NRN	**Naryn** comp=Z,4.1nm,0.8s	**61.20**	**317**	IAmb	IAmb	15 38 48.1	
ZAA0	**Zalesovo Array**	**62.90**	**333**		**P**	**15 38 56.7**	**-0.8**
ZALV	**Zalesovo Beam**	**62.90**	**333**		**P**	**15 38 56.0**	**-1.5**
ZALV	**Zalesovo Beam** comp=Z,2.6nm,0.5s,baz=116,slow=5.7,SNR=14 comp=Z,2.6nm,0.5s	**62.90**	**333**	P	**P**	**15 38 56.9**	**-0.7**
ARSB	**Arslanbob** comp=Z,8.1nm,1.0s	**63.22**	**316**	IAmb	IAmb	15 39 01.7	
KBL	**Kabul** comp=Z,7.5nm,1.0s	**63.83**	**308**	P	**P**	**15 39 04.0**	**-0.3**
KBL				IAmb	IAmb	15 39 05.2	
KURBB	**Kurchatov Arra** comp=Z,22nm,0.6s,baz=128,slow=6.0,SNR=306 comp=Z,22nm,0.6s	**64.09**	**327**	P	**P**	**15 39 05.6**	**+0.2**
KURK	**Kurchatov**	**64.09**	**327**		**P**	**15 39 05.2**	**-0.2**
GAR	**Garm**	**64.27**	**313**		**P**	**15 39 06.9**	**-0.1**
SIMJ	**Simiganj**	**65.12**	**312**	P	**P**	**15 39 12.8**	**+0.2**
SIMJ	comp=Z,8.3nm,1.3s			IAmb	IAmb	15 39 13.8	
KK31	**Karatay Array** comp=Z,8.3nm,0.9s	**65.59**	**317**	IAmb	IAmb	15 39 16.4	
KKAR	**Karatay Array**	**65.59**	**317**		**P**	**15 39 14.9**	**-0.5**
TIXI	**Tiksi**	**69.66**	**0**		**P**	**15 39 39.2**	**-1.1**
TIXI	comp=Z,9.5nm,0.8s			IAmb	IAmb	15 39 40.8	
BVAR	**Borovoye Array** comp=Z,7.0nm,0.6s,baz=136,slow=7.5,SNR=32 comp=Z,7.0nm,0.6s	**69.67**	**327**	P	**P**	**15 39 40.7**	**-0.1**
P08K	**Saint George I**	**73.44**	**31**	P	**P**	**15 40 03.9**	**+0.6**
AB31	**Akbulak array**	**74.52**	**321**		**P**	**15 40 09.2**	**-0.5**
ABKAR	**Akbulak array**	**74.52**	**321**		**P**	**15 40 09.0**	**-0.7**
M14K	**Bethel**	**78.58**	**28**	P	**P**	**15 40 33.8**	**+1.5**
J17K	**VABM Dome**	**80.61**	**26**	P	**P**	**15 40 44.8**	**+1.5**
J17K	comp=Z,24nm,1.3s			IAmb	IAmb	15 40 55.7	
L18K	**Granite Mounta**	**81.40**	**27**	P	**P**	**15 40 48.8**	**+1.4**
L18K	comp=Z,19nm,1.4s			IAmb	IAmb	15 41 26.4	
VNDA	**Vanda** comp=Z,0.6nm,0.5s,baz=318,slow=7.3,SNR=5.2 comp=Z,0.6nm,0.5s	**81.42**	**173**	P	**P**	**15 40 46.6**	**-0.6**
C19K	**Lookout Ridge**	**81.94**	**20**	P	**P**	**15 40 52.0**	**+1.8**
C19K	comp=Z,18nm,1.4s			IAmb	IAmb	15 41 19.2	
E19K	**Redstone River**	**82.36**	**22**	P	**P**	**15 40 52.8**	**+0.4**
E19K	comp=Z,14nm,0.9s			IAmb	IAmb	15 40 54.9	
MAW	**Mawson** comp=Z,1.8nm,0.6s,baz=79,slow=6.0,SNR=8.5 comp=Z,1.8nm,0.6s	**82.56**	**201**	P	**P**	**15 40 52.9**	**-0.5**
RAYN	**

comp=Z,0.9nm,0.7s
KEV Kevo 92.12 340 P P 15 41 38.3 -1.3
SPITS Spitsbergen Ar 92.56 349 P P 15 41 41.3 -0.3
comp=Z,4.7nm,0.7s,baz=64,slow=9.9,SNR=1.8
comp=Z,4.7nm,0.7s
ARCES ARCESS Array B 92.68 340 P P 15 41 41.0 -1.2
ARCES ARCESS Array B 92.68 340 P P 15 41 41.2 -1.0
comp=Z,3.6nm,0.5s,baz=83,slow=6.0,SNR=38
comp=Z,3.6nm,0.5s
MMPY Sheldon Lake, 93.16 27 P P 15 41 44.1 -0.6
MMPY IAmb IAmb 15 41 46.5
comp=Z,2.5nm,0.9s
FIA1 FINESS Array S 94.15 332 P P 15 41 47.7 -1.4
FINES FINESS Array B 94.15 332 P P 15 41 47.5 -1.6
comp=Z,2.8nm,0.8s,baz=68,slow=2.6,SNR=11
comp=Z,2.8nm,0.8s
HFS Hagfors 100.34 332 P Pdif 15 42 15.7 -1.4
comp=Z,4.2nm,0.9s,baz=89,slow=7.4,SNR=2.9
TORD Torodi Ar. Bea 124.91 287 PKP PKPdf 15 47 30.2 -0.9
comp=Z,0.4nm,0.4s,baz=73,slow=1.8,SNR=3.8
PLCA Paso Flores 137.76 159 PKP PKPdf 15 47 55.2 +0.5
comp=Z,1.8nm,1.1s,baz=133,slow=22,SNR=1.6
MT02 Curacav 143.89 152 PKPdf PKPab 15 48 02.9 -0.3
CHIV Chivirico 147.49 47 PKPbc **PKPbc 15 48 14.8 -0.2**
LCO Las Campanas 147.55 148 PKPbc **PKPdf 15 48 12.5 -0.1**
PLTB Pedras Altas 150.23 177 PKPbc **PKPdf 15 48 19.1 +2.6**

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*BJI **12** 15:36:29.7,28˙.14S×73˙.63E,h26km,mB5.2/19,mb4.8/57, Ms4.8/40,Ms7 4.5/41*
*IDC **12** 15:36:30.1±0.4,27˙.82S×74˙.02E,h0km,mb4.6/25, mbtmp4.6/25,MS4.2/53,Error ellipse: s-maj=15.1km s-min=12.9km az=79.0*
*MOS **12** 15:36:30.1±0.8,27˙.85S×74˙.12E,h10km,mb5.2/24,Error ellipse: s-maj=13.3km s-min=8.6km az=95.7*
*GCMT **12** 15:36:32.8±0.2,27˙.81S±0˙.02×73˙.93E±0˙.01,h12km, MW5.1/125,Moment Tensor Solution. s55,c65; s125,c192; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.31±.09; $M_{\theta\theta}$0.89±.09; $M_{\phi\phi}$3.43±.08; $M_{r\theta}$1.98±.34; $M_{\theta\phi}$-1.51±.07; $M_{\phi r}$2.12±.28; Best double couple: M_{o}4.98600×10^{16} NP1:ϕ_s315.00000°,δ41.00000°, λ-127.00000°. NP2:ϕ_s181.00000°,δ58.00000°, λ-62.00000°. Principal axes: T 4.3050, Plg9.0000°, Azm251.0000°; N 1.3670, Plg23.0000°, Azm345.0000°; P -5.6670, Plg65.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **12** 15:36:32.8±1.5,27˙.9S±0˙.1×74˙.2E±0˙.1,h10km±1km, mb5.1/75 Error ellipse: s-maj=18.2km s-min=16.6km az=184.0*
ISC 12 15:36:32.1±0.3,27˙.91S±0˙.06×74˙.04E±0˙.06,h12km,n267, σ1$25/245,mb5.0/103,MS4.3/78,15C-1D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.21**	**356**	T	T	16 01 59.7	
	baz=177,slow=76,SNR=456						
H08S1	**Diego Garcia H**	**20.21**	**355**	T	T	16 01 57.2	
	baz=177,slow=76,SNR=211						
H08S3	**Diego Garcia H**	**20.23**	**356**	T	T	16 01 57.1	
	baz=177,slow=76,SNR=855						
DGAR	**Diego Garcia**	**20.44**	**355**	*ce*P	Pn	15 41 10.7	-0.9
DGAR				pmax	pmax		
	comp=Z,243nm,1.4s						
FOMA	**Nahampoana Res**	**24.39**	**271**	P	**P**	**15 41 51.0**	**+0.6**
FOMA				IAmb	IAmb	15 41 53.8	
	comp=Z,46nm,1.1s						
H04N2	**CROZET ISLANDS**	**25.30**	**218**	T	T	16 08 24.4	
	baz=52,slow=74,SNR=3697						
H04N1	**CROZET ISLANDS**	**25.31**	**218**	T	T	16 08 22.5	
	baz=52,slow=74,SNR=4467						
H04N3	**CROZET ISLANDS**	**25.32**	**218**	T	T	16 08 23.6	
	baz=52,slow=74,SNR=4211						
VOI	**Vohitsoka**	**25.40**	**278**		**P**	**15 42 00.5**	**+0.8**
VOI				IAmb	IAmb	15 42 07.7	
	comp=Z,78nm,1.8s						
H04S1	**CROZET ISLANDS**	**25.67**	**217**	T	T	16 08 50.2	
	baz=51,slow=75,SNR=281						
H04S3	**CROZET ISLANDS**	**25.68**	**217**	T	T	16 08 56.7	
	baz=51,slow=75,SNR=366						
H04S2	**CROZET ISLANDS**	**25.68**	**217**	T	T	16 08 58.5	
	baz=51,slow=75,SNR=475						
H01W2	**Cape Leeuwin H**	**34.75**	**112**	T	T	16 20 01.8	
	baz=270,slow=74,SNR=18						
H01W3	**Cape Leeuwin H**	**34.75**	**112**	T	T	16 20 02.7	
	baz=270,slow=74,SNR=17						
H01W1	**Cape Leeuwin H**	**34.76**	**112**	T	T	16 19 59.7	
	baz=270,slow=74,SNR=16						
PALK	**Pallekele**	**35.56**	**11**	LR	LR	15 54 48.5	
	comp=Z,372nm,19.8s,baz=190,slow=31						
KRJI	**Kerinci**	**36.68**	**50**	P	**P**	**15 43 41.1**	**+1.9**
MORW	**Morawa**	**36.79**	**102**	P	**P**	**15 43 39.2**	**-0.7**
MORW				IAmb	IAmb	15 43 42.2	
	comp=Z,57nm,1.8s						
PDSI	**Padang**	**36.88**	**48**	P	**P**	**15 43 40.7**	**-0.1**
	comp=Z,19nm,1.4s						
PPI	**Padang Panjang**	**37.19**	**47**	P	**P**	**15 43 44.6**	**+1.3**
NWAO	**Narrogin (SRO)**	**37.39**	**109**	LR	LR	15 56 45.2	
	comp=Z,622nm,19.6s,baz=297,slow=32						
MNSI	**Mandailing Nat**	**37.62**	**45**	P	**P**	**15 43 49.0**	**+2.0**
LEM	**Lembang**	**38.08**	**63**	LR	LR	15 55 45.3	
	comp=Z,658nm,21.9s,baz=198,slow=30						
KCSI	**Kotacane, Aceh**	**38.72**	**40**	P	**P**	**15 43 57.1**	**+0.8**
	comp=Z,11nm,1.4s						
PSI	**Prapat**	**38.80**	**42**	LR	LR	15 57 12.7	
	comp=Z,830nm,18.9s,baz=159,slow=32						
MAW	**Mawson**	**40.29**	**187**	P	**P**	**15 44 09.1**	**+0.3**
	comp=Z,4.1nm,0.8s,baz=18,slow=9.2,SNR=9.4						
MAW				LR	LR	15 56 49.1	
	comp=Z,260nm,21.6s,baz=9.0,slow=30						
	comp=Z,4.1nm,0.8s						
IPM	**Ipoh**	**41.40**	**43**	P	**P**	**15 44 18.1**	**-0.5**
IPM				IAmb	IAmb	15 44 21.8	
	comp=Z,54nm,1.7s						
KULM	**Kulim**	**41.81**	**42**		**P**	**15 44 21.6**	**-0.3**
KULM				IAmb	IAmb	15 44 29.2	
	comp=Z,35nm,1.3s						
PSA00	**Pilbara Seismi**	**41.89**	**92**	P	**P**	**15 44 22.1**	**-0.4**
PSA00				IAmb	IAmb	15 44 29.1	
	comp=Z,55nm,1.6s						
PSA00	**Pilbara Seismi**	**41.89**	**92**		**P**	**15 44 22.0**	**-0.5**
PSA00				IAmb	IAmb	15 44 29.0	
	comp=Z,22nm,1.4s						
MBWA	**Marble Bar**	**41.92**	**91**		**P**	**15 44 22.4**	**-0.4**
MBWA				IAmb	IAmb	15 44 24.6	
	comp=Z,111nm,1.9s						
MATP	**Matopo**	**42.02**	**270**	LR	LR	15 58 55.4	
	comp=Z,684nm,20.6s,baz=94,slow=32						
BOSA	**Boshof**	**42.74**	**257**		**P**	**15 44 30.5**	**+1.0**
BOSA				IAmb	IAmb	15 44 32.4	
	comp=Z,78nm,1.8s						
BOSA	**Boshof**	**42.74**	**257**	P	**P**	**15 44 29.9**	**+0.3**
	comp=Z,8.1nm,1.1s,baz=98,slow=5.8,SNR=5.8						
BOSA				LR	LR	15 58 33.5	
	comp=Z,742nm,21.1s,baz=126,slow=31						
	comp=Z,8.1nm,1.1s						
KIBK	**Kibwezi**	**42.75**	**300**	P	**P**	**15 44 30.4**	**+0.7**
LBTB	**Lobatse**	**43.25**	**262**	P	**P**	**15 44 34.5**	**+0.8**
LBTB				IAmb	IAmb	15 44 45.8	
	comp=Z,73nm,1.9s						
LBTB	**Lobatse**	**43.25**	**262**	LR	LR	16 00 17.0	
	comp=Z,252nm,18.3s,baz=102,slow=33						
LBTB	**Lobatse**	**43.25**	**262**	P	**P**	**15 44 34.5**	**+0.8**
LBTB				pmax	pmax		
	comp=Z,73nm,1.9s						
LPHEP	**Lephephe**	**43.46**	**265**		**P**	**15 44 36.3**	**+0.8**
LPHEP				IAmb	IAmb	15 44 48.0	
	comp=Z,68nm,1.6s						
MAKGR	**Makgori**	**43.74**	**261**	P	**P**	**15 44 38.0**	**+0.2**
MAKGR				IAmb	IAmb	15 44 40.4	
	comp=Z,80nm,1.9s						
KMBO	**Kilima Mbogo**	**44.14**	**301**	P	**P**	**15 44 41.0**	**-0.1**
	comp=Z,1.9nm,0.3s,baz=151,slow=5.1,SNR=5.3						
KMBO				LR	LR	15 58 54.0	
	comp=Z,222nm,21.9s,baz=108,slow=30						
	comp=Z,1.9nm,0.3s						
KMBO	**Kilima Mbogo**	**44.14**	**301**	*ce*P	**P**	**15 44 40.4**	**-0.7**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LSZ	**Lusaka**	**44.21**	**277**		**P**	**15 44 42.8**	**+1.2**
LSZ	**Lusaka**	**44.21**	**277**	LR	LR	16 01 06.1	
	comp=Z,730nm,19.1s,baz=124,slow=33						
LSZ	**Lusaka**	**44.21**	**277**	P	P	**15 44 42.8**	**+1.2**
LSZ				pmax	pmax		
	comp=Z,18nm,1.2s						
KDWAN	**Kaudwane**	**44.51**	**264**	P	**P**	**15 44 45.4**	**+1.5**
KDWAN				IAmb	IAmb	15 44 47.1	
	comp=Z,40nm,1.1s						
HYB	**Hyderabad**	**45.27**	**6**	*e*P	**P**	**15 44 50.3**	**+0.5**
HYB				*e*PP	**PP**	**15 46 36.4**	**+0.5**
STKI	**Sintang**	**45.40**	**59**	P	**P**	**15 44 52.2**	**+1.3**
FORT	**Forrest**	**46.80**	**107**	P	**P**	**15 45 02.0**	**+0.3**
KGCAE	**Kacgae**	**46.83**	**264**		**P**	**15 45 02.8**	**+0.6**
LKGWB	**Lokgwabe**	**47.33**	**262**	P	**P**	**15 45 04.0**	**-2.2**
GRTLG	**Ghanzi**	**48.16**	**266**	P	**P**	**15 45 13.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**48.19**	**90**		**P**	**15 45 12.3**	**-0.4**
FITZ				IAmb	IAmb	15 45 14.5	
	comp=Z,28nm,1.9s						
FITZ	**Fitzroy Crossi**	**48.19**	**90**	P	**P**	**15 45 13.2**	**+0.4**
	comp=Z,14nm,0.9s,baz=231,slow=6.9,SNR=15						
FITZ				LR	LR	16 04 02.7	
	comp=Z,501nm,19.0s,baz=270,slow=34						
	comp=Z,14nm,0.9s						
LODK	**Lodwar**	**48.54**	**304**		**P**	**15 45 16.1**	**+0.6**
KOOLE	**Kule**	**48.55**	**263**	IAmb	IAmb	15 45 19.3	
	comp=Z,40nm,1.4s						
EDFI	**Ende, Flores**	**48.72**	**76**	P	**P**	**15 45 17.9**	**+0.9**
	comp=Z,14nm,1.8s						
KAPI	**Kappang**	**49.00**	**71**	LR	LR	16 05 22.9	
	comp=Z,179nm,18.6s,baz=222,slow=35						
ATD	**Arta Tunnel**	**49.50**	**318**	P	**P**	**15 45 24.6**	**+1.8**
ATD	**Arta Tunnel**	**49.50**	**318**	LR	LR	16 02 19.5	
	comp=Z,7.0nm,21.4s,baz=172,slow=31						
MBAR	**Mbarara**	**49.55**	**296**	*i* P	**P**	**15 45 24.4**	**+1.0**
MBAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FURI	**Furi**	**50.09**	**312**	LR	LR	16 03 13.8	
	comp=Z,181nm,20.9s,baz=158,slow=32						
TTSI	**Tana Toraja**	**50.14**	**69**	P	**P**	**15 45 27.4**	**-0.3**
	comp=Z,595nmcomp=Z,20nm,1.5s						
KNRA	**Kununurra**	**51.87**	**88**		**P**	**15 45 40.6**	**-0.1**
KNRA				IAmb	IAmb	15 45 47.0	
	comp=Z,51nm,1.4s						
CM31	**Chiang Mai Arr**	**52.02**	**30**	P	**P**	**15 45 41.6**	**0.0**
CM31				IAmb	IAmb	15 45 49.1	
	comp=Z,33nm,1.1s						
CMAR	**Chiang Mai Arr**	**52.02**	**30**	P	**P**	**15 45 41.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**52.02**	**30**	P	**P**	**15 45 42.2**	**+0.6**
	comp=Z,5.1nm,0.9s,baz=215,slow=7.7,SNR=39						
CMAR				LR	LR	16 05 03.6	
	comp=Z,312nm,19.3s,baz=215,slow=33						
	comp=Z,5.1nm,0.9s						
TSUM	**Tsumeb**	**52.10**	**267**		**P**	**15 45 43.4**	**+0.9**
TSUM	**Tsumeb**	**52.10**	**267**	LR	LR	16 05 11.6	
	comp=Z,848nm,19.4s,baz=150,slow=33						
CHTO	**Chiang Mai**	**52.33**	**30**		**P**	**15 45 44.2**	**+0.3**
CHTO				IAmb	IAmb	15 45 51.3	
	comp=Z,23nm,1.1s						
CHTO	**Chiang Mai**	**52.33**	**30**	P	**P**	**15 45 44.2**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,23nm,1.2s						
BRDH	**Bariadhala**	**53.08**	**20**	LR	LR	16 06 47.8	
	comp=Z,499nm,18.8s,baz=182,slow=34						
ASAR	**Alice Springs**	**53.61**	**100**	P	**P**	**15 45 53.0**	**-0.6**
ASAR				PcP	**PcP**	**15 46 59.9**	**-0.2**
ASAR	**Alice Springs**	**53.61**	**100**	P	**P**	**15 45 53.5**	**-0.1**
	comp=Z,19nm,0.7s,baz=250,slow=6.5,SNR=346						
ASAR				PcP	**PcP**	**15 46 59.8**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=254,slow=3.1,SNR=1.0						
ASAR				LR	LR	16 05 25.6	
	comp=Z,422nm,21.8s,baz=268,slow=32						
	comp=Z,19nm,0.7s						
AS31	**Alice Springs**	**53.61**	**100**	P	**P**	**15 45 53.0**	**-0.6**
WRA	**Warramunga Arr**	**55.22**	**96**	P	**P**	**15 46 04.3**	**-1.0**
WRA				PcP	**PcP**	**15 47 06.3**	**0.0**
WRA	**Warramunga Arr**	**55.22**	**96**	P	**P**	**15 46 05.3**	**0.0**
	comp=Z,18nm,0.8s,baz=251,slow=7.5,SNR=100						
WRA				PcP	**PcP**	**15 47 05.7**	**-0.6**
	comp=Z,1.5nm,1.0s,baz=251,slow=2.6,SNR=5.1						
WRA				LR	LR	16 08 26.3	
	comp=Z,891nm,18.2s,baz=305,slow=35						
	comp=Z,18nm,0.8s						
WRAB	**Tennant Creek**	**55.23**	**96**	P	**P**	**15 46 05.3**	**-0.1**
WRAB	**Tennant Creek**	**55.23**	**96**	*i* P	**P**	**15 46 05.4**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,25nm,1.0s						
WB0	**Warramunga Arr**	**55.33**	**96**	PcP	**PcP**	**15 47 03.7**	**-3.0**
SLVN	**Son La**	**56.83**	**34**	IAmb	IAmb	15 46 18.9	
	comp=Z,34nm,1.7s						
EVN	**Everest**	**56.88**	**14**	IAmb	IAmb	15 46 19.4	
	comp=Z,38nm,1.6s						
TNCH	**TengChong**	**57.67**	**26**	⇓P	**P**	**15 46 23.0**	**+0.3**
TNCH				pP	pwP	15 46 28.3	-1.6
TNCH				sS	sS	15 54 37.9	+12
TNCH				pmax	pmax		
	comp=Z,23nm,1.5s						
TNCH				pmax	pmax		
	comp=Z,100nm,3.0s						
TNCH				LR	LR		
	comp=Z,240nm,11.7s						
TNCH				LR	LR		
	comp=Z,150nm,7.9s						
TNCH				LR	LR		
	comp=Z,240nm,16.8s						
STKA	**Stephens Creek**	**57.85**	**112**	P	**P**	**15 46 24.0**	**+0.1**
	comp=Z,5.1nm,0.8s,baz=267,slow=8.2,SNR=8.5						
STKA				LR	LR	16 09 06.1	
	comp=Z,427nm,18.4s,baz=221,slow=34						
	comp=Z,5.1nm,0.8s						
STKA	**Stephens Creek**	**57.85**	**112**	*i* P	**P**	**15 46 24.1**	**+0.2**
TROLL	**Troll, Antarti**	**58.01**	**200**	⇑P	**P**	**15 46 25.1**	**+0.5**
	comp=Z,220nm,0.7s						
RAYN	**Ar Rayn**	**58.07**	**329**	P	**P**	**15 46 25.4**	**+0.1**
RAYN	**Ar Rayn**	**58.07**	**329**	P	**P**	**15 46 25.5**	**+0.1**
RAYN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
QIZ	**Qiongzhong**	**58.12**	**41**	P	**P**	**15 46 26.4**	**+0.6**
QIZ				S	**S**	**15 54 29.4**	**+2.4**
QIZ				LR	LR		
	comp=Z,210nm,12.4s						
QIZ				LR	LR		
	comp=Z,180nm,12.4s						
QIZ				LR	LR		
	comp=Z,350nm,19.6s						
INKA	**Innaminka**	**58.28**	**107**	IAmb	IAmb	15 46 29.8	
	comp=Z,14nm,1.1s						
KMI	**Kunming**	**59.53**	**30**	P	**P**	**15 46 36.6**	**+0.9**
KMI				S	**S**	**15 54 49.6**	**+4.1**
KMI				pmax	pmax		
	comp=Z,14nm,1.4s						
KMI				LR	LR		
	comp=Z,190nm,21.3s						
KMI				LR	LR		
	comp=Z,210nm,23.6s						
KMI				LR	LR		
	comp=Z,290nm,21.7s						
LSA	**Lhasa**	**59.57**	**17**	IAmb	IAmb	15 46 39.3	
	comp=Z,36nm,1.7s						
LSA	**Lhasa**	**59.57**	**17**	P	**P**	**15 46 35.2**	**-1.0**
LSA				pmax	pmax		
	comp=Z,10.0nm,1.5s						
SNAA	**Sanae**	**59.65**	**201**	⇑P	**P**	**15 46 36.3**	**+0.4**
	comp=Z,144nm,0.9s						
SNAA	**Sanae**	**59.65**	**201**	P	**P**	**15 46 35.6**	**-0.3**
SNAA	**Sanae**	**59.65**	**201**	P	**P**	**15 46 36.1**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=118,slow=7.4,SNR=7.2						
SNAA				LR	LR	16 09 12.4	
	comp=Z,199nm,18.0s,baz=109,slow=33						
	comp=Z,1.7nm,0.7s						
SNAA	**Sanae**	**59.65**	**201**	*i* P	**P**	**15 46 36.5**	**+0.6**
SNAA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH	**PanZhiHua**	**60.30**	**29**	P	**P**	**15 46 40.9**	**0.0**
PZH				S	**S**	**15 54 54.7**	**-0.5**
PZH				pmax	pmax		
	comp=Z,20nm,1.4s						
PZH				pmax	pmax		
	comp=Z,130nm,4.5s						
PZH				LR	LR		
	comp=Z,210nm,18.1s						
PZH				LR	LR		
	comp=Z,230nm,18.2s						
PZH				LR	LR		
	comp=Z,300nm,19.6s						
DAV	**Davao City (W)**	**60.70**	**63**	LR	LR	16 10 09.0	
	comp=Z,205nm,21.6s,baz=194,slow=33						
VNA1	**Neumayer--Stat**	**61.41**	**202**	⇑P	**P**	**15 46 48.9**	**+1.1**
	comp=Z,9.9nm,0.9s						
TGY	**Tagaytay City**	**61.70**	**54**	LR	LR	16 12 36.3	
	comp=Z,197nm,19.8s,baz=233,slow=35						
VNA3	**Neumayer Olymp**	**61.84**	**201**	⇑P	**P**	**15 46 51.3**	**+0.6**
	comp=Z,5.6nm,0.7s						
QSPA	**South Pole Qui**	**62.23**	**180**	P	**P**	**15 46 54.2**	**+0.6**
QSPA				IAmb	IAmb	15 47 01.5	
	comp=Z,22nm,1.1s						
QSPA	**South Pole Qui**	**62.23**	**180**	P	**P**	**15 46 55.1**	**+1.5**
	comp=Z,5.1nm,0.7s,baz=282,slow=2.6,SNR=45						
QSPA				LR	LR	16 10 04.4	
	comp=Z,164nm,22.0s,baz=290,slow=32						
	comp=Z,5.1nm,0.7s						
KBL	**Kabul**	**62.29**	**355**	P	**P**	**15 46 54.2**	**-0.1**
KBL				IAmb	IAmb	15 47 01.6	
	comp=Z,14nm,1.0s						
KBL	**Kabul**	**62.29**	**355**	P	**P**	**15 46 54.2**	**-0.1**
KBL				pmax	pmax		
	comp=Z,14nm,1.0s						
VNDA	**Vanda**	**62.50**	**166**	P	**P**	**15 46 54.6**	**-0.4**
VNDA	**Vanda**	**62.50**	**166**	P	**P**	**15 46 55.1**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=266,slow=11,SNR=10						
VNDA				LR	LR	16 10 46.4	
	comp=Z,75nm,20.1s,baz=262,slow=33						
	comp=Z,2.1nm,0.8s						
CD2	**Chengdu**	**65.00**	**28**	P	**P**	**15 47 11.9**	**-0.2**
CD2				pP	sP	15 47 16.9	+1.0
CD2				S	**S**	**15 55 57.8**	**+3.8**
CD2				pmax	pmax		
	comp=Z,30nm,1.2s						
CD2				pmax	pmax		
	comp=Z,160nm,4.4s						
CD2				LR	LR		
	comp=Z,430nm,16.3s						
CD2				LR	LR		
	comp=Z,370nm,16.5s						
CD2				LR	LR		
	comp=Z,420nm,13.1s						
CTA	**Charters Tower**	**65.60**	**101**	LR	LR	16 12 40.1	
	comp=Z,16nm,21.8s,baz=248,slow=33						
SIMJ	**Simiganj**	**66.39**	**356**	P	**P**	**15 47 20.3**	**-0.7**
ARMA	**Armidale**	**66.49**	**113**	P	**P**	**15 47 22.0**	**-0.1**
BELA	**Belgrano 2**	**66.72**	**193**	P	**P**	**15 47 22.8**	**+0.2**
BELA				IAmb	IAmb	15 47 24.1	
	comp=Z,18nm,1.5s						
KSH	**Kashi**	**67.10**	**2**	P	**P**	**15 47 23.0**	**-2.5**
KSH				pP	pP	15 47 28.1	-0.2
KSH				pmax	pmax		
	comp=Z,11nm,1.3s						
KSH				LR	LR		
	comp=Z,160nm,22.0s						
KSH				LR	LR		
	comp=Z,230nm,15.2s						
KSH				LR	LR		
	comp=Z,240nm,19.4s						
JAY	**Jayapura**	**68.25**	**81**	LR	LR	16 16 01.2	
	comp=Z,187nm,20.7s,baz=210,slow=35						
EIL	**Elat**	**68.38**	**324**	LR	LR	16 14 08.3	
	comp=Z,191nm,18.6s,baz=166,slow=33						
ARSB	**Arslanbob**	**68.89**	**359**	IAmb	IAmb	15 47 38.7	
	comp=Z,15nm,1.0s						
NRN	**Naryn**	**69.02**	**2**	IAmb	IAmb	15 47 44.4	
	comp=Z,17nm,1.0s						
LZDM	**Lanzhou Array**	**69.40**	**25**	P	**P**	**15 47 39.3**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=108,slow=4.7,SNR=1.3						
LZDM				LR	LR	16 15 34.9	
	comp=Z,218nm,21.4s,baz=60,slow=34						
	comp=Z,0.7nm,0.3s						
LZH	**Lanzhou**	**69.57**	**25**	*e*P	**P**	**15 47 42.0**	**+0.9**
LZH				pP	sP	15 47 46.0	+1.0
LZH				pmax	pmax		
	comp=Z,13nm,1.5s						
LZH				LR	LR		
	comp=Z,270nm,18.1s						
LZH				LR	LR		
	comp=Z,260nm,16.2s						
LZH				LR	LR		
	comp=Z,400nm,15.9s						
WHN	**Wuhan**	**69.71**	**37**	P	**P**	**15 47 42.7**	**+0.9**
WHN				pmax	pmax		
	comp=Z,240nm,2.1s						
KDJ	**Kajisay**	**69.75**	**2**	IAmb	IAmb	15 47 43.3	
	comp=Z,26nm,1.5s						
XAN	**Xi'an**	**69.91**	**30**	P	**P**	**15 47 42.6**	**-0.5**
XAN				S	**S**	**15 56 49.8**	**-3.1**
XAN				pmax	pmax		
	comp=Z,22nm,1.2s						
XAN				pmax	pmax		
	comp=Z,250nm,4.5s						
XAN				LR	LR		
	comp=Z,250nm,17.7s						
XAN				LR	LR		
	comp=Z,360nm,17.2s						
XAN				LR	LR		
	comp=Z,700nm,21.8s						
PRZ	**Przheval'sk**	**70.16**	**3**	IAmb	IAmb	15 47 47.5	
	comp=Z,27nm,1.2s						
AAK	**Ala-Archa**	**70.19**	**0**	P	**P**	**15 47 45.0**	**+0.2**
AAK				IAmb	IAmb	15 47 47.4	
	comp=Z,33nm,1.6s						
AAK	**Ala-Archa**	**70.19**	**0**	LR	LR	16 16 55.6	
	comp=Z,164nm,18.0s,baz=180,slow=35						
AAK	**Ala-Archa**	**70.19**	**0**	*ce*P	**P**	**15 47 45.0**	**+0.2**
AAK				pmax	pmax		
	comp=Z,25nm,1.7s						
KK31	**Karatay Array**	**70.73**	**357**	IAmb	IAmb	15 47 50.4	
	comp=Z,18nm,1.1s						
KKAR	**Karatay Array**	**70.73**	**357**	P	**P**	**15 47 47.8**	**-0.1**
KKAR	**Karatay Array**	**70.73**	**357**	P	**P**	**15 47 47.8**	**-0.1**
PMG	**Port Moresby**	**70.78**	**91**	LR	LR	16 18 32.9	
	comp=Z,338nm,18.8s,baz=252,slow=36						
MMAI	**Mount Meron Ar**	**70.83**	**326**	LR	LR	16 15 59.7	
	comp=Z,110nm,18.2s,baz=136,slow=34						
GTA	**Gaotai**	**71.16**	**21**	P	**P**	**15 47 51.5**	**+0.8**
GTA				pP	pwP	15 47 56.8	-1.1
GTA				pmax	pmax		
	comp=Z,14nm,1.8s						
GTA				LR	LR		
	comp=Z,140nm,19.6s						
GTA				LR	LR		
	comp=Z,210nm,20.4s						
GTA				LR	LR		
	comp=Z,140nm,20.0s						
LYN	**LuoYang**	**71.98**	**33**	P	**P**	**15 47 57.4**	**+1.8**
LYN				PP	**PP**	**15 50 37.9**	**+2.0**
LYN				pmax	pmax		
	comp=Z,41nm,0.9s						
LYN				LR	LR		
	comp=Z,530nm,21.2s						
LYN				LR	LR		
	comp=Z,450nm,21.0s						
LYN				LR	LR		
	comp=Z,710nm,21.2s						
WMQ	**Urumqi**	**72.47**	**10**	*e*P	**P**	**15 47 59.7**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,35nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,97nm,3.6s						
WMQ				LR	LR		
	comp=Z,160nm,24.2s						
GNI	**Garni**	**72.99**	**337**	LR	LR	16 18 28.3	
	comp=Z,61nm,20.9s,baz=

MKAR	**Makanchi Array**	**74.72**	**6**	P	**P**	**15 48 10.7**	**-0.9**		
	comp=Z,6.9nm,0.9s,baz=183,slow=4.9,SNR=35								
MKAR				LR	LR	16 19 19.2			
	comp=Z,146nm,20.4s,baz=174,slow=34								
	comp=Z,6.9nm,0.9s								
JOW	**Kunigami**	**75.33**	**49**	LR	LR	16 17 04.2			
	comp=Z,204nm,22.0s,baz=316,slow=32								
HNS	**HongShan**	**75.34**	**32**	⇑P	**P**	**15 48 16.2**	**+0.9**		
HNS				S	**S**	**15 57 56.8**	**+2.1**		
HNS				pmax	pmax				
	comp=Z,30nm,1.3s								
HNS				LR	LR				
	comp=Z,260nm,21.6s								
HNS				LR	LR				
	comp=Z,210nm,21.8s								
HNS				LR	LR				
	comp=Z,300nm,20.6s								
TIA	**Tai'an**	**75.59**	**35**	P	**P**	**15 48 16.7**	**-0.1**		
TIA				pmax	pmax				
	comp=Z,18nm,1.5s								
TIA				LR	LR				
	comp=Z,180nm,14.4s								
TIA				LR	LR				
	comp=Z,130nm,16.5s								
TIA				LR	LR				
	comp=Z,220nm,13.7s								
BTO	**Baotou**	**75.91**	**27**	*e*P	**P**	**15 48 19.0**	**+0.4**		
BTO				S	**S**	**15 57 58.6**	**-2.5**		
BTO				pmax	pmax				
	comp=Z,16nm,1.2s								
BTO				pmax	pmax				
	comp=Z,160nm,5.5s								
BTO				LR	LR				
	comp=Z,320nm,12.6s								
BTO				LR	LR				
	comp=Z,380nm,15.8s								
BTO				LR	LR				
	comp=Z,290nm,17.8s								
HHC	**Hu-ho-hao-te**	**76.75**	**28**	*e*P	**P**	**15 48 24.6**	**+1.2**		
HHC				pmax	pmax				
	comp=Z,12nm,0.7s								
HHC				pmax	pmax				
	comp=Z,140nm,3.8s								
HHC				LR	LR				
	comp=Z,190nm,16.0s								
HHC				LR	LR				
	comp=Z,160nm,16.8s								
HHC				LR	LR				
	comp=Z,190nm,17.6s								
KBZ	**Khabaz**	**76.80**	**337**	P	**P**	**15 48 23.8**	**+0.3**		
	comp=Z,3.3nm,1.1s,baz=202,slow=12,SNR=3.9								
KBZ				LR	LR	16 19 52.4			
	comp=Z,48nm,20.5s,baz=152,slow=34								
	comp=Z,3.3nm,1.1s								
KBZ	**Khabaz**	**76.80**	**337**	*i* P	**P**	**15 48 24.6**	**+1.2**		
KBZ				pmax	pmax				
	comp=Z,4.0nm,1.1s								
KIV	**Kislovodsk**	**77.07**	**337**	*e*P	**P**	**15 48 25.2**	**+0.1**		
KIV				pmax	pmax				
	comp=Z,9.0nm,1.0s								
BR131	**Keskin Array S**	**77.09**	**329**	IAmb	IAmb	15 50 13.3			
	comp=Z,19nm,0.9s								
BRTR	**Keskin Array B**	**77.09**	**329**	P	**P**	**15 48 25.6**	**+0.1**		
BRTR	**Keskin Array B**	**77.09**	**329**	P	**P**	**15 48 24.5**	**-0.9**		
	comp=Z,2.5nm,0.8s,baz=146,slow=6.9,SNR=18								
	comp=Z,2.5nm,0.8s								
BRTR	**Keskin Array B**	**77.09**	**329**	*ce*P	**P**	**15 48 25.8**	**+0.4**		
BRTR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
ABKAR	**Akbulak array**	**77.84**	**351**	P	**P**	**15 48 28.2**	**-0.9**		
ILGA	**Ilgaz**	**78.13**	**330**	IAmb	IAmb	15 48 33.7			
	comp=Z,29nm,1.4s								
BJI	**Beijing**	**78.14**	**32**	P	**P**	**15 48 31.1**	**+0.1**		
BJI				pmax	pmax				
	comp=Z,3.0nm,1.4s								
BJI				pmax	pmax				
	comp=Z,60nm,3.5s								
BJI				LR	LR				
	comp=Z,69nm,17.7s								
BJI				LR	LR				
	comp=Z,91nm,18.5s								
BJI				LR	LR				
	comp=Z,100nm,18.6s								
KURBB	**Kurchatov Arra**	**78.28**	**3**	P	**P**	**15 48 31.1**	**-0.5**		
	comp=Z,3.5nm,0.2s,baz=193,slow=5.7,SNR=22								
KURBB				LR	LR	16 21 14.3			
	comp=Z,129nm,19.6s,baz=172,slow=34								
	comp=Z,3.5nm,0.2s								
KURK	**Kurchatov**	**78.38**	**3**	P	**P**	**15 48 31.6**	**-0.4**		
KURK				IAmb	IAmb	15 48 33.9			
	comp=Z,15nm,1.2s								
KURK	**Kurchatov**	**78.38**	**3**	*i* P	**P**	**15 48 31.8**	**-0.3**		
KURK				pmax	pmax				
	comp=Z,4.0nm,1.2s								
AKTO	**Aktyubinsk**	**79.28**	**350**	LR	LR	16 23 06.3			
	comp=Z,73nm,19.3s,baz=32,slow=35								
GUMO	**Guam**	**79.98**	**69**	LR	LR	16 19 48.9			
	comp=Z,100nm,19.6s,baz=208,slow=32								
SMAI	**San Martin Ant**	**80.01**	**194**	P	**P**	**15 48 41.4**	**+0.4**		
SMAI				IAmb	IAmb	15 48 48.1			
	comp=Z,17nm,1.0s								
BVAR	**Borovoye Array**	**80.65**	**358**	P	**P**	**15 48 44.2**	**-0.3**		
	comp=Z,4.9nm,0.9s,baz=152,slow=6.6,SNR=21								
BVAR				LR	LR	16 22 45.1			
	comp=Z,129nm,20.0s,baz=169,slow=34								
	comp=Z,4.9nm,0.9s								
SONM	**Songino Array**	**80.81**	**21**	P	**P**	**15 48 44.6**	**-1.0**		
SONM	**Songino Array**	**80.81**	**21**	P	**P**	**15 48 44.4**	**-1.2**		
	comp=Z,3.5nm,1.0s,baz=202,slow=4.2,SNR=16								
SONM				LR	LR	16 24 59.4			
	comp=Z,106nm,18.4s,baz=271,slow=36								
	comp=Z,3.5nm,1.0s								
SONM	**Songino Array**	**80.81**	**21**	P	**P**	**15 48 44.6**	**-1.0**		
SONM				pmax	pmax				
	comp=Z,15nm,1.4s								
TORD	**Torodi Ar. Bea**	**81.02**	**290**		**P**	**15 48 46.8**	**-0.5**		
TORD	**Torodi Ar. Bea**	**81.02**	**290**	P	**P**	**15 48 46.6**	**-0.6**		
	comp=Z,3.0nm,0.9s,baz=96,slow=4.6,SNR=11								
TORD				LR	LR	16 24 16.5			
	comp=Z,186nm,18.2s,baz=120,slow=35								
	comp=Z,3.0nm,0.9s								
ULN	**Ulaanbaatar**	**81.05**	**22**	P	**P**	**15 48 47.1**	**+0.2**		
ULN	**Ulaanbaatar**	**81.05**	**22**	*ce*P	**P**	**15 48 46.4**	**-0.5**		
ULN				pmax	pmax				
	comp=Z,17nm,1.7s								
XLT	**XiLinHaoTe**	**81.17**	**29**	*e*P	**P**	**15 48 48.2**	**+0.6**		
XLT				pmax	pmax				
	comp=Z,7.0nm,0.9s								
XLT				pmax	pmax				
	comp=Z,160nm,6.0s								
XLT				LR	LR				
	comp=Z,21nm,22.2s								
XLT				LR	LR				
	comp=Z,150nm,15.8s								
XLT				LR	LR				
	comp=Z,340nm,24.9s								
DZM	**Mont Dzumac**	**81.98**	**111**	*e*LR	LR	16 14 27.1			
	comp=Z,262nm,21.1s								
PMSA	**Palmer Station**	**82.04**	**197**	LR	LR	16 22 35.5			
	comp=Z,45nm,20.8s,baz=129,slow=34								
ZAA0	**Zalesovo Array**	**82.05**	**6**	IAmb	IAmb	15 48 57.0			
	comp=Z,14nm,1.2s								
ZALV	**Zalesovo Beam**	**82.05**	**6**	P	**P**	**15 48 50.5**	**-1.3**		
ZALV	**Zalesovo Beam**	**82.05**	**6**	P	**P**	**15 48 50.7**	**-1.1**		
	comp=Z,2.6nm,0.7s,baz=197,slow=4.6,SNR=16								
ZALV				LR	LR	16 24 56.6			
	comp=Z,105nm,18.2s,baz=179,slow=36								
	comp=Z,2.6nm,0.7s								
HNR	**Honiara**	**82.06**	**96**	LR	LR	16 22 47.9			
	comp=Z,179nm,19.9s,baz=240,slow=34								
ZAK	**Zakamensk**	**82.14**	**18**	*e*P	**P**	**15 48 50.9**	**-1.6**		
ZAK				pmax	pmax				
	comp=Z,13nm,1.9s								
KSAR	**Wonju Array Be**	**82.31**	**40**	P	**P**	**15 48 53.5**	**-0.1**		
KSAR	**Wonju Array Be**	**82.31**	**40**	P	**P**	**15 48 53.5**	**-0.1**		
KSRS	**Korea Array**	**82.34**	**40**	P	**P**	**15 48 54.0**	**+0.2**		
	comp=Z,4.6nm,0.9s,baz=225,slow=5.5,SNR=14								
	comp=Z,4.6nm,0.9s								
KSRS	**Korea Array**	**82.34**	**40**	P	**P**	**15 48 54.0**	**+0.2**		
BELG	**Belogornoye**	**83.24**	**344**	*i* P	**P**	**15 48 59.7**	**+1.7**		
BELG				pmax	pmax				
	comp=Z,3.0nm,1.1s								
DBIC	**Dimbokro**	**83.37**	**281**	LR	LR	16 23 34.0			
	comp=Z,316nm,20.1s,baz=159,slow=34								
VRH	**Novokhopyorsk**	**83.77**	**340**	*e*P	**P**	**15 48 59.4**	**-1.4**		
VRH				pmax	pmax				
	comp=Z,10.0nm,1.0s								

VSR	**Storozhevoye**	**84.57**	**339**	*e*P	**P**	**15 49 02.3**	**-2.6**		
VSR				pmax	pmax				
	comp=Z,9.0nm,1.2s								
ARTI	**Arti**	**85.01**	**351**	P	**P**	**15 49 06.3**	**-0.7**		
ARTI	**Arti**	**85.01**	**351**	LR	LR	16 26 29.5			
	comp=Z,80nm,18.1s,baz=143,slow=35								
ARTI	**Arti**	**85.01**	**351**	*c i*P	**P**	**15 49 07.0**	**0.0**		
ARTI						15 52 19.4			
ARTI				S	**SKSac**	**15 59 31.6**	**+0.7**		
ARTI				SS	**SS**	**16 05 10.3**	**+0.8**		
ARTI				pmax	pmax				
	comp=Z,25nm,1.4s								
SVE	**Sverdlovsk**	**85.16**	**353**	*e*P	**P**	**15 49 08.5**	**+0.8**		
SVE				pmax	pmax				
	comp=Z,32nm,1.6s								
CN2	**Changchun**	**85.49**	**35**	*e*P	P	15 49 14.8	+5.1		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
BURAR	**Bucovina Array**	**87.06**	**329**	P	**P**	**15 49 17.9**	**+0.4**		
AKASG	**Malin Array Be**	**87.71**	**333**	P	**P**	**15 49 20.3**	**-0.1**		
	comp=Z,6.9nm,0.9s,baz=143,slow=4.3,SNR=24								
AKASG				LR	LR	16 26 34.0			
	comp=Z,56nm,21.1s,baz=162,slow=34								
	comp=Z,6.9nm,0.9s								
AKASG	**Malin Array Be**	**87.71**	**333**	*ce*P	**P**	**15 49 20.7**	**+0.3**		
AKASG				pmax	pmax				
	comp=Z,7.0nm,0.8s								
AKBB	**Malin Array Si**	**87.71**	**333**	*i* P	**P**	**15 49 19.6**	**-0.8**		
AKBB				pmax	pmax				
	comp=Z,24nm,1.1s								
KIEV	**Kiev**	**87.72**	**333**	P	**P**	**15 49 20.0**	**-0.4**		
KIEV	**Kiev**	**87.72**	**333**	P	**P**	**15 49 20.0**	**-0.4**		
KIEV				pmax	pmax				
	comp=Z,18nm,1.1s								
BNX	**BinXian**	**87.85**	**34**	⇑P	**P**	**15 49 20.4**	**-0.8**		
BNX				pmax	pmax				
	comp=Z,6.0nm,1.1s								
KEST	**Kesra**	**87.88**	**313**	P	**P**	**15 49 20.9**	**-0.7**		
	comp=Z,12nm,1.0s,baz=238,slow=1.9,SNR=7.1								
KEST				LR	LR	16 28 36.2			
	comp=Z,150nm,18.5s,baz=299,slow=36								
	comp=Z,12nm,1.0s								
MJB9	**Matsu-Tunnel**	**88.02**	**46**	P	**P**	**15 49 20.1**	**-2.1**		
MJAR	**Matsushiro Arr**	**88.02**	**46**	P	**P**	**15 49 21.2**	**-1.1**		
	comp=Z,7.8nm,1.1s,baz=223,slow=4.5,SNR=9.3								
MJAR				LR	LR	16 25 58.2			
	comp=Z,156nm,21.1s,baz=218,slow=34								
	comp=Z,7.8nm,1.1s								
MDJ	**Mudanjiang**	**88.19**	**36**	P	**P**	**15 49 22.3**	**-0.5**		
MDJ				pmax	pmax				
	comp=Z,10.0nm,1.2s								
OBN	**Obninsk**	**88.71**	**340**	⇑*e*P	**P**	**15 49 25.7**	**+0.7**		
OBN				*e*		15 52 57.0			
OBN				pmax	pmax				
	comp=Z,41nm,1.7s								
OBN				MLR	MLR				
	comp=Z,69nm,17.0s								
MOS	**Moscow**	**88.92**	**340**	*e*P	**P**	**15 49 25.0**	**-1.0**		
MOS				*e*		15 52 53.4			
MOS				*e*S	**SKSac**	**15 59 51.3**	**-3.7**		
MOS				pmax	pmax				
	comp=Z,30nm,0.7s								
USRK	**Ussuriysk Ar.**	**89.18**	**38**	P	**P**	**15 49 27.6**	**+0.1**		
	comp=Z,1.5nm,0.6s,baz=283,slow=2.5,SNR=7.3								
	comp=Z,1.5nm,0.6s								
HEH	**HeiHe**	**91.03**	**31**	*e*P	**P**	**15 49 35.0**	**-1.0**		
HEH				pmax	pmax				
	comp=Z,12nm,1.3s								
HEH				LR	LR				
	comp=Z,230nm,20.8s								
HEH				LR	LR				
	comp=Z,180nm,20.6s								
HEH				LR	LR				
	comp=Z,220nm,19.5s								
MNK	**Minsk**	**91.18**	**335**	*i* P	**P**	**15 49 34.4**	**-2.2**		
MNK				*i*		15 53 11.0			
MNK				*i* PPP	PPP	15 55 09.1			
MNK				*i* S	**SKSac**	**16 00 06.2**	**-2.0**		
MNK				*i* PS	**PS**	**16 01 42.7**	**-1.7**		
MNK				*i* SS	**SS**	**16 06 38.4**	**-1.2**		
MNK				*i* SSS	SSS	16 10 15.9			
MNK				pmax	pmax				
	comp=Z,8.0nm,0.9s								
MNK				pmax	pmax				
	comp=E,6.0nm,0.6s								
MNK				pmax	pmax				
	comp=N,12nm,0.7s								
MNK				MLR	MLR				
	comp=Z,56nm,16.0s								
MNK				MLR	MLR				
	comp=E,31nm,15.0s								
MNK				MLR	MLR				
	comp=N,26nm,13.0s								
VRAC	**Vranov**	**92.31**	**326**	LR	LR	16 31 30.7			
	comp=N,22nm,19.0s,baz=162,slow=36								
KLMR	**Klimovskoe**	**92.81**	**344**	*e*P	**P**	**15 49 42.4**	**-1.6**		
KLMR				pmax	pmax				
	comp=Z,36nm,1.5s								
ZEA	**Zeya**	**93.42**	**28**	*e*P	**P**	**15 49 45.9**	**-1.1**		
ZEA				MLR	MLR				
	comp=E,100nm,12.0s								
ZEA				MLR	MLR				
	comp=Z,100nm,14.0s								
DAVOX	**Davos/Dischmat**	**94.20**	**322**	LR	LR	16 31 09.5			
	comp=Z,44nm,19.8s,baz=242,slow=35								
ASAJ	**Asahikawa**	**95.16**	**42**	LR	LR	16 30 16.5			
	comp=Z,76nm,21.3s,baz=213,slow=34								
MDT	**Midelt**	**96.00**	**304**	LR	LR	16 34 57.2			
	comp=Z,143nm,18.0s,baz=148,slow=37								
ESDC	**Sonseca Array**	**98.87**	**310**	LR	LR	16 35 32.1			
	comp=Z,78nm,18.7s,baz=129,slow=36								
TBI	**Tubuai**	**113.98**	**136**	*e*LR	LR	16 29 21.0			
	comp=Z,720nm,34.2s								
BILL	**Bilibino**	**116.38**	**25**	*i* PKIKP	**PKiKP**	**15 55 16.9**	**+2.1**		
BILL				pmax	pmax				
	comp=Z,6.0nm,1.1s								
PPT2	**Papeete2**	**118.12**	**132**	*e*LR	LR	16 31 12.8			
	comp=Z,226nm,26.2s								
PPT2				*e*LR	LR	16 31 15.3			
	comp=Z,174nm,28.0s								
LPAZ	**La Paz**	**122.79**	**224**	PKP	**PKPdf**	**15 55 28.6**	**-0.9**		
	comp=Z,1.7nm,0.9s,baz=335,slow=0.3,SNR=3.7								
TAOE	**Nuku Hiva Isla**	**130.71**	**133**	*e*LR	LR	16 37 02.7			
	comp=Z,57nm,22.4s								
F21K	**Alatna River**	**131.42**	**23**		**PKiKP**	**15 55 44.2**	**-0.5**		
IMAR	**Indian Mountai**	**131.93**	**24**		**PKPdf**	**15 55 44.6**	**0.0**		
ILAR	**Eielson Array**	**135.01**	**23**	PKP	**PKPdf**	**15 55 49.1**	**-1.4**		
	comp=Z,0.9nm,0.8s,baz=306,slow=3.5,SNR=6.5								
F28M	**Old Crow**	**135.35**	**18**		**PKPdf**	**15 55 51.4**	**+0.4**		
H27K	**Steamboat Moun**	**135.84**	**20**		**PKPdf**	**15 55 51.9**	**-0.2**		
INK	**Inuvik**	**136.38**	**14**	PKP	**PKiKP**	**15 55 53.6**	**-1.0**		
	comp=Z,1.3nm,1.0s,baz=321,slow=3.9,SNR=3.7								
BCAR	**Beaver Creek A**	**137.84**	**23**		PKPpre	15 55 45.4			
BCAR				PKPdf	**PKPdf**	**15 55 55.2**	**-0.7**		
R33M	**Jennings River**	**144.13**	**22**		PKPbc	15 56 05.8	+0.4		
YKAW3	**Yellowknife Wh**	**144.88**	**7**		**PKPab**	**15 56 06.8**	**-0.7**		
YKA	**Yellowknife Ar**	**144.94**	**7**		**PKPab**	**15 56 06.4**	**-1.3**		
YKA	**Yellowknife Ar**	**144.94**	**7**	PKP	**PKPab**	**15 56 07.1**	**-0.6**		
	comp=Z,6.7nm,0.9s,baz=342,slow=4.5,SNR=10								
DLBC	**Dease Lake**	**145.19**	**22**	PKPbc	**PKPdf**	**15 56 09.3**	**+0.1**		
	comp=Z,294nm,1.0s,baz=311,slow=3.9,SNR=25								
WRAK	**Wrangell Islan**	**145.85**	**26**		**PKPdf**	**15 56 09.3**	**-1.0**		
LDAQ	**Lac Daran**	**146.48**	**316**		**PKPdf**	**15 56 10.2**	**-1.5**		
NCB	**Newcomb**	**149.95**	**311**		**PKPbc**	**15 56 21.5**	**-0.9**		
VLDQ	**Val d'Or**	**150.09**	**320**		**PKiKP**	**15 56 22.7**	**-0.6**		
FFC	**Flin Flon**	**153.05**	**355**		**PKPbc**	**15 56 27.7**	**-1.4**		
FFC	**Flin Flon**	**153.05**	**355**	PKiKP	**PKPbc**	**15 56 27.7**	**-1.4**		
B08A	**Colville Reser**	**157.09**	**23**	PKPdf	**PKPdf**	**15 56 25.3**	**-2.3**		
B08A					**PKPab**	**15 56 57.1**	**-0.9**		
NEW	**Newport**	**157.90**	**20**	PKPdf	**PKPdf**	**15 56 27.2**	**-1.4**		
NEW					**PKPab**	**15 57 00.6**	**-1.0**		
NEW	**Newport**	**157.90**	**20**	PKP	**PKPdf**	**15 56 27.5**	**-1.1**		
	comp=Z,0.8nm,0.5s,baz=167,slow=1.0,SNR=4.3								
NEW				PKPab	**PKPab**	**15 57 01.1**	**-0.5**		
	comp=Z,1.5nm,0.6s,baz=342,slow=11,SNR=6.1								
MXC	**Moxie City**	**158.21**	**27**		**PKPab**	**15 57 02.3**	**-0.6**		
H04A	**Detroit Lake**	**158.82**	**33**	PKPdf	**PKPdf**	**15 56 28.2**	**-1.7**		
H04A					**PKPab**	**15 57 04.7**	**-1.0**		
G06A	**Carlson Farm,**	**159.13**	**30**	PKPdf	**PKPdf**	**15 56 28.8**	**-1.4**		
G06A					**PKPab**	**15 57 06.0**	**-1.0**		
F10A	**Beach Ranch, E**	**159.88**	**23**	PKPdf	**PKPdf**	**15 56 29.2**	**-1.9**		
F10A					**PKPab**	**15 57 08.4**	**-1.8**		
PINE	**Pine Mountain**	**160.08**	**33**		**PKPdf**	**15 56 30.2**	**-1.3**		
PINE					**PKPab**	**15 57 10.9**	**-0.4**		
M02C	**Callahan**	**160.70**	**41**		**PKPdf**	**15 56 30.8**	**-1.4**		
M02C					**PKPab**	**15 57 12.8**	**-1.2**		
PLID	**Pearl Lake**	**161.07**	**22**		**PKPdf**	**15 56 30.7**	**-1.9**		
PLID					**PKPab**	**15 57 13.9**	**-1.7**		
DLMT	**Dillon**	**161.79**	**15**		**PKPdf**	**15 56 32.0**	**-1.3**		
DLMT					**PKPab**	**15 57 17.8**	**-0.8**		
YHL	**Hebgen Lake**	**162.58**	**12**	PKPdf	**PKPdf**	**15 56 32.5**	**-1.7**		
YHL					**PKPab**	**15 57 21.0**	**-1.3**		
BEKR	**Beckworth**	**163.14**	**41**		**PKPdf**	**15 56 32.2**	**-2.6**		
BEKR					**PKPab**	**15 57 23.8**	**-1.1**		
PDAR	**Pinedale Array**	**164.89**	**10**		**PKPdf**	**15 56 34.2**	**-2.2**		
PDAR	**Pinedale Array**	**164.89**	**10**	PKP	**PKPdf**	**15 56 35.5**	**-0.9**		
	comp=Z,1.4nm,1.0s,baz=164,slow=1.1,SNR=8.3								
PDAR				PKPab	**PKPab**	**15 57 31.5**	**-0.9**		
	comp=Z,0.5nm,0.6s,baz=16,slow=4.6,SNR=2.9								
ELK	**Elko**	**165.09**	**28**		**PKPdf**	**15 56 34.0**	**-2.6**		
ELK					**PKPab**	**15 57 32.3**	**-1.1**		
ELK	**Elko**	**165.09**	**28**	PKP	**PKPdf**	**15 56 37.2**	**+0.6**		
	comp=Z,1.4nm,0.8s,baz=150,slow=2.9,SNR=5.3								
ELK				PKPab	**PKPab**	**15 57 33.9**	**+0.5**		
	comp=Z,2.5nm,0.9s,baz=318,slow=4.3,SNR=5.1								
ELK	**Elko**	**165.09**	**28**	PKP2	**PKPab**	**15 57 32.3**	**-1.1**		
ELK						16 56 34.0			
NVAR	**Mina Array Bea**	**165.28**	**41**		**PKPdf**	**15 56 35.2**	**-1.6**		
NVAR					**PKPab**	**15 57 33.3**	**-1.1**		
NVAR	**Mina Array Bea**	**165.28**	**41**	PKP	**PKPdf**	**15 56 35.3**	**-1.6**		
	comp=Z,0.4nm,0.5s,baz=309,slow=2.4,SNR=4.1								
NVAR				PKPab	**PKPab**	**15 57 34.2**	**-0.2**		
	comp=Z,1.5nm,0.8s,baz=312,slow=4.4,SNR=6.0								
DSP	**Deep Springs**	**166.17**	**44**		**PKPdf**	**15 56 36.2**	**-1.1**		
DSP					**PKPab**	**15 57 37.0**	**-1.0**		
GMN	**Gold Mountain**	**166.65**	**43**		**PKPdf**	**15 56 37.0**	**-0.9**		
GMN					**PKPab**	**15 57 39.4**	**-1.1**		
PV07	**Paradox Valley**	**169.26**	**11**		**PKPdf**	**15 56 39.1**	**-0.6**		
PV07					**PKPab**	**15 57 50.6**	**-1.2**		
PV03	**Paradox Valley**	**169.40**	**12**		**PKPdf**	**15 56 38.7**	**-1.1**		
PV03					**PKPab**	**15 57 51.6**	**-0.8**		
PV13	**Radium Mtn., P**	**169.50**	**12**		**PKPdf**	**15 56 38.1**	**-1.8**		
PV13					**PKPab**	**15 57 51.8**	**-1.1**		
U15A	**North Rim**	**169.95**	**31**		**PKPdf**	**15 56 54.1**	**-1.0**		
TXAR	**Lajitas Array**	**177.54**	**306**		**PKPdf**	**15 56 41.4**	**-1.6**		
TXAR					PKPab	15 58 26.3	-2.5		
TXAR	**Lajitas Array**	**177.54**	**306**	PKP	**PKPdf**	**15 56 43.3**	**+0.3**		
	comp=Z,1.7nm,1.1s,baz=108,slow=2.8,SNR=8.3								
TXAR				PKPab	PKPab	15 58 29.0	+0.2		
	comp=Z,0.9nm,0.9s,baz=79,slow=2.7,SNR=9.4								
TXAR				PP	**PP**	**16 02 28.6**	**+6.5**		
	comp=Z,0.1nm,0.3s,baz=228,slow=1.5,SNR=3.6								
TXAR	**Lajitas Array**	**177.54**	**306**	PKP2	PKPab	15 58 26.3	-2.5		
TXAR						16 56 41.4			

TEH ***12*** *15:37:28.8,34˚.59N×45˚.22E,h8km±70km*
ISN ***12*** *15:37:29.2±1.8,34˚.43N×45˚.19E,h12km±11km,ML2.5*
ISC 12 15:37:26.0±2.2,34.7N±0˚.1×45.10E±0˚.09,h10km,n8,
σ0s61/11,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.45**	**115**	Pg	**Pb**	**15 37 35.6**	**-0.3**
KGS1				Sg	**Sg**	**15 37 40.1**	**-0.5**
GLG1	**Gilan-e-Gharb**	**0.89**	**131**	Pg	**Pb**	**15 37 43.5**	**0.0**
IDHR	**Dehrash**	**1.06**	**90**	Pg	**Pn**	**15 37 47.4**	**+0.3**
IGHG	**Ghaleghazi**	**1.27**	**107**	Pg	**Pg**	**15 37 51.0**	**+0.6**
IBA	**Ilam Banvizeh**	**1.41**	**139**	Pg	**Pg**	**15 37 52.9**	**-0.2**
BHD	**Baghdad**	**1.55**	**203**	*e*Pg	**Pn**	**15 37 53.5**	**-0.1**
	baz=30						
BHD				*e*Sg	**Sn**	**15 38 13.5**	**-0.2**
SNQR	**Sonqor, Kerman**	**2.09**	**85**	Pn	**Pg**	**15 38 05.7**	**-0.3**
RAFI	**Al-Rafai**	**3.09**	**164**	*e*Pn	**Pn**	**15 38 16.0**	**+1.2**
RAFI				*e*Sn	**Sn**	**15 38 51.0**	**-0.7**

IDC ***12*** *16:03:41.1±2.0,39˚.48N×139˚.76E,h0km,mb3.6/4,*
mbtmp3.5/5,ML2.4/1,Error ellipse: s-maj=42.1km
s-min=32.9km az=113.0
JMA ***12*** *16:03:51.7±0.1,38˚.5N±0˚.4×140˚.0E±0˚.6,h140km,*
MV2.9/38,NORTHERN YAMAGATA PREF
ISC 12 16:03:51.5±0.9,38˚.55N±0˚.06×140˚.02E±0˚.06,h141km±7km,
n21,σ0s36/29,mb3.4/4,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYA	**Atsumi**	**0.24**	**281**	*i* P	**Pn**	**16 04 11.1**	**+0.3**
JYA				S	**Sn**	**16 04 25.7**	**+0.2**
JYS	**Shirataka**	**0.33**	**174**	*i* P	**Pn**	**16 04 11.3**	**+0.2**
JYS				*e*S	**Sn**	**16 04 26.3**	**+0.3**
JYK	**

GO01 IAML 16 15 29.0
comp=Z,2µm,0.2s
PB11 IPOC Station P 0.96 195 eP Pn 16 15 12.3 +1.0
PB11 Sn **Sn 16 15 28.8 +0.7**
PB11 IPOC Station P 0.96 195 ‖ iP Pn 16 15 12.4 +1.2
PB11 *i* S **Sn 16 15 29.1 +1.1**
PB11 IAML 16 15 29.9
comp=N,6µm,0.4s
PB11 IPOC Station P 0.96 195 eP Pn 16 15 12.2 +1.0
PB11 eS **Sn 16 15 29.5 +1.4**
PB11 IAML 16 15 30.2
comp=Z,2µm,0.2s
PB18 Visviri 1.23 356 Pn 16 15 16.4 +2.0
PB18 Visviri 1.23 356 ‖ eP Pn 16 15 16.4 +2.1
PB08 IPOC Station P 1.33 170 Pn 16 15 16.4 +1.2
PB08 Sn **Sn 16 15 36.4 +1.3**
PB08 IPOC Station P 1.33 170 ‖ iP Pn 16 15 16.7 +1.5
PB08 eS **Sn 16 15 36.4 +1.3**
PB08 IAML 16 15 38.6
comp=E,1µm,0.1s
PB08 IPOC Station P 1.33 170 eP Pn 16 15 16.7 +1.5
PB08 eS **Sn 16 15 36.5 +1.5**
HMBC Humberstone 1.52 198 Pn 16 15 18.2 +1.1
HMBC Sn **Sn 16 15 39.2 +0.8**
HMBC Humberstone 1.52 198 ‖ iP Pn 16 15 18.2 +1.1
HMBC *i* S **Sn 16 15 39.0 +0.5**
HMBC IAML 16 15 45.2
comp=N,2µm,0.2s
HMBC Humberstone 1.52 198 eP Pn 16 15 18.2 +1.1
HMBC eS **Sn 16 15 40.3 +1.8**
HMBC IAML 16 15 44.7
comp=Z,1µm,0.3s
PX03 IPOC Station P 1.59 188 eP Pn 16 15 18.5 +0.6
PX03 eS **Sn 16 15 40.5 +0.7**
PX03 IAML 16 15 44.2
comp=N,844nm,0.3s
TA02 Huaiquique 1.60 206 eP Pn 16 15 18.7 +0.9
TA02 eS **Sn 16 15 40.6 +0.8**
TA02 IAML 16 15 43.9
comp=N,3µm,0.6s
TA02 Huaiquique 1.60 206 eP Pn 16 15 20.0 +2.2
TA02 eS **Sn 16 15 41.7 +1.9**
TA02 IAML 16 15 43.4
comp=Z,818nm,0.6s
TA01 Diego Aracena 1.89 203 Pn 16 15 22.2 +1.0
TA01 Sn **Sn 16 15 45.8 -0.2**
TA01 Diego Aracena 1.89 203 ‖ eP Pn 16 15 22.2 +1.0
TA01 eS **Sn 16 15 46.3 +0.4**
TA01 IAML 16 15 50.9
comp=N,671nm,0.3s
TA01 Diego Aracena 1.89 203 eP Pn 16 15 22.4 +1.2
TA01 eS **Sn 16 15 46.5 +0.6**
TA01 IAML 16 15 50.4
comp=Z,341nm,0.4s
PATCX Punta Patache 2.11 200 Pn 16 15 25.2 +1.1
PATCX Sn **Sn 16 15 49.9 -1.1**
PATCX Punta Patache 2.11 200 ‖ eP Pn 16 15 25.2 +1.1
PATCX eS **Sn 16 15 50.5 -0.5**
PATCX IAML 16 15 59.3
comp=N,650nm,0.3s
PATCX Punta Patache 2.11 200 eP Pn 16 15 25.4 +1.3
PATCX IAML 16 15 59.1
comp=Z,324nm,0.5s
PB01 IPOC Station P 2.21 182 Pn 16 15 26.7 +1.3
PB01 Sn **Sn 16 15 53.5 +0.2**
PB01 IPOC Station P 2.21 182 ‖ eP Pn 16 15 26.7 +1.3
PB01 eS **Sn 16 15 53.8 +0.5**
PB01 IAML 16 15 55.1
comp=N,504nm,0.3s
PB01 IPOC Station P 2.21 182 eP Pn 16 15 26.8 +1.3
PB01 eS **Sn 16 15 54.6 +1.3**
PB01 IAML 16 16 01.9
comp=Z,233nm,0.3s
PB02 IPOC Station P 2.53 191 Pn 16 15 30.9 +1.5
PB02 Sn **Sn 16 15 57.5 -3.0**
PB02 IPOC Station P 2.53 191 eP Pn 16 15 30.9 +1.5
PB02 eS **Sn 16 16 01.8 +1.3**
PB02 IAML 16 16 14.0
comp=E,794nm,0.4s
PB02 IPOC Station P 2.53 191 eP Pn 16 15 31.1 +1.7
PB02 eS **Sn 16 16 01.8 +1.3**
PB02 IAML 16 16 11.9
comp=Z,736nm,0.4s
LPAZ La Paz 2.79 26 Pn 16 15 35.1 +1.8
LPAZ La Paz 2.79 26 P Pn 16 15 34.8 +1.4
comp=Z,49nm,0.3s,baz=184,slow=1.9,SNR=352
LPAZ S **Sn 16 16 07.7 +0.3**
comp=Z,27nm,0.8s,baz=196,slow=9.0,SNR=4.6
LPAZ La Paz 2.79 26 ‖ eP Pn 16 15 35.1 +1.8
LPAZ eS **Sn 16 16 12.9 +5.5**
LPAZ La Paz 2.79 26 eP Pn 16 15 35.1 +1.8
LPAZ La Paz 2.79 26 eP Pn 16 15 35.2 +1.9
PB09 IPOC Station P 2.96 177 Pn 16 15 36.6 +1.5
PB09 IPOC Station P 2.96 177 ‖ eP Pn 16 15 36.8 +1.7
PB09 IAML 16 16 12.6
comp=E,201nm,0.2s
PB09 IPOC Station P 2.96 177 eP Pn 16 15 36.8 +1.7
PB09 eS **Sn 16 16 12.8 +2.2**
PB09 IAML 16 16 42.5
comp=Z,216nm,0.7s
PB03 IPOC Station P 3.23 186 Pn 16 15 39.7 +1.1
PB03 IPOC Station P 3.23 186 eP Pn 16 15 39.8 +1.3
PB03 IAML 16 16 23.9
comp=E,188nm,0.3s
PB03 IPOC Station P 3.23 186 eP Pn 16 15 40.0 +1.4
PB03 eS **Sn 16 16 16.6 -0.2**
PB03 IAML 16 16 45.1
comp=Z,174nm,0.5s
PB06 IPOC Station P 3.87 182 Pn 16 15 47.8 +0.8
PB05 IPOC Station P 4.08 191 Pn 16 15 50.7 +0.9
PB05 IPOC Station P 4.08 191 eP Pn 16 15 50.7 +0.9
PB05 eS **Sn 16 16 37.0 0.0**
PB05 IAML 16 16 39.8
comp=Z,86nm,0.4s
AF01 San Pedro de A 4.26 165 Pn Pn 16 15 51.9 -0.5
PB10 IPOC Station P 4.79 193 Pn Pn 16 15 59.0 -0.2
PB10 IPOC Station P 4.79 193 eP Pn 16 15 59.2 0.0
PB10 eS **Sn 16 16 52.8 -1.0**
PB10 IAML 16 16 53.6
comp=Z,33nm,0.7s
GO02 Mina Guanaco 6.31 182 Pn Pn 16 16 20.2 +0.3
AC01 Pan de Azucar 7.37 188 Pn Pn 16 16 31.9 -2.1
AC02 Maricunga 7.98 178 Pn Pn 16 16 42.1 -0.6
SIV San Ignacio 8.43 72 P Pn 16 16 45.7 -2.6
comp=Z,9.2nm,0.4s,baz=249,slow=12,SNR=35
LCO Las Campanas 10.21 186 Pn Pn 16 17 12.0 -0.5
PTLB Pontes e Lacer 10.36 73 Pn 16 17 11.0 -3.4
PTLB Pontes e Lacer 10.36 73 eP Pn 16 17 11.6 -2.8
VILB Vilhena 10.59 58 Pn 16 17 15.3 -2.2
VILB Vilhena 10.59 58 eP Pn 16 17 15.9 -1.7
MURT Porto Murtinho 11.41 106 eP Pn 16 17 26.0 -2.4
CZSB Cruzeiro do Su 11.49 343 Pn 16 17 28.7 -0.7
CZSB Cruzeiro do Su 11.49 343 eP P 16 17 34.1 -3.9
BDQN Bodoquena, MS 12.02 100 eP Pn 16 17 32.8 -3.6
SALV Santo Antonio 13.40 80 eP Pn 16 17 52.3 -2.0
AMBA Amambai (Brazi 14.06 109 eP Pn 16 18 02.4 -0.5
PDRB Porto dos Gac 14.16 61 eP Pn 16 18 01.9 -2.3
RPRD Ribas do Rio P 14.87 99 eP Pn 16 18 11.8 -1.3
CLDB Colider 15.33 61 eP Pn 16 18 17.2 -1.7
TRCB Terra Rica 16.16 107 eP Pn 16 18 28.1 -1.1
PSAL Palomas, Salto 16.21 141 eP P 16 18 32.4 +2.0
H03N1 Juan Fernandez 16.87 208 T T 16 36 19.7
baz=30,slow=72,SNR=20
H03N2 Juan Fernandez 16.87 209 T T 16 35 55.1
baz=30,slow=72,SNR=15
H03N3 Juan Fernandez 16.88 208 T T 16 36 09.0
baz=30,slow=72,SNR=19
ARAG Araguaiana, MT 17.07 82 eP P 16 18 38.7 -1.4
PTGB Pitanga 17.12 113 eP P 16 18 41.3 +0.6
ITAB Concordia 17.94 121 P P 16 18 50.1 +0.5
ITAB IAmb IAmb 16 19 15.0
comp=Z,12nm,1.3s
ITAB Concordia 17.94 121 eP Pn 16 18 51.5 +0.8
SNDB Serra Nova Dou 18.72 71 eP P 16 18 57.4 -0.8
FRTB Fartura 19.04 107 eP P 16 19 01.3 -0.3
PLTB Pedras Altas 19.20 135 P P 16 19 03.6 +0.3
PLTB IAmb IAmb 16 19 12.5
comp=Z,19nm,1.4s
ITTB Itaituba 19.61 45 eP P 16 19 06.3 -1.5
BB19B Bebedouro 19.74 100 eP P 16 19 08.3 -1.0
CNLB Canela 19.86 125 eP P 16 19 11.8 +1.3
IPMB Ipameri, GO 20.12 91 eP P 16 19 12.8 -0.6
TRQA Tornquist 20.23 163 P Pn 16 19 16.3 -1.1
TRQA IAmb IAmb 16 19 17.2
comp=Z,7.7nm,0.9s
MAJ01 Sao Joao Batis 20.57 118 eP P 16 19 18.9 +0.7
BDFB Brasilia 20.66 84 P P 16 19 21.1 +1.8
BDFB Brasilia 20.66 84 P P 16 19 20.2 +1.0
comp=Z,5.7nm,0.4s,baz=248,slow=5.8,SNR=7.8
comp=Z,5.7nm,0.4s
PLCA Paso Flores 21.86 182 P P 16 19 33.2 +1.4
PLCA IAmb IAmb 16 19 52.1
comp=Z,4.7nm,1.2s
BOAV Boa Vista 22.82 23 P P 16 19 42.3 +0.7
JANB Januaria 24.27 85 eP P 16 19 53.6 -1.4
DIAM Diamantina, MG 24.38 93 eP P 16 19 55.7 -0.3
RUSC La Rusia 24.83 351 P P 16 20 00.9 +0.5
RUSC IAmb IAmb 16 20 03.5
comp=Z,11nm,1.2s
TXAR Lajitas Array 58.19 325 P P 16 24 31.9 +1.6
comp=Z,0.4nm,0.8s,baz=146,slow=7.5,SNR=3.0
comp=Z,0.4nm,0.8s
QSPA South Pole Qui 71.35 180 P P 16 26 00.1 +4.8
comp=Z,0.7nm,0.4s,baz=344,slow=1.2,SNR=12
comp=Z,0.7nm,0.4s
PDAR Pinedale Array 71.58 330 P P 16 25 59.6 +2.6
comp=Z,0.2nm,0.4s,baz=134,slow=4.3,SNR=1.4
comp=Z,0.2nm,0.4s
TORD Torodi Ar. Bea 76.90 71 P P 16 26 27.6 -0.7
comp=Z,0.6nm,0.5s,baz=254,slow=5.2,SNR=5.2
comp=Z,0.6nm,0.5s
H11S2 WAKE ISLAND Hy 27.05 279 T T 18 53 14.5
baz=101,slow=75,SNR=12
H11S1 WAKE ISLAND Hy 27.06 279 T T 18 53 17.5
baz=101,slow=75,SNR=6.2
H11N3 WAKE ISLAND Hy 27.06 281 T T 18 53 23.5
baz=100,slow=75,SNR=7.3
H11S3 WAKE ISLAND Hy 27.07 279 T T 18 53 15.8
baz=101,slow=75,SNR=6.3
H11N2 WAKE ISLAND Hy 27.07 281 T T 18 53 23.9
baz=100,slow=75,SNR=8.2
H11N1 WAKE ISLAND Hy 27.08 281 T T 18 53 16.4
baz=100,slow=75,SNR=4.0
ASAR Alice Springs 132.04 209 PKP PKiKP 16 33 50.6 +0.8
comp=Z,0.1nm,0.3s,baz=132,slow=1.6,SNR=9.9
WRA Warramunga Arr 134.99 212 PKP PKiKP 16 33 56.6 +0.7
comp=Z,0.4nm,0.6s,baz=141,slow=1.6,SNR=7.3
ZALV Zalesovo Beam 139.71 23 PKP PKiKP 16 34 03.6 -0.8
comp=Z,1.3nm,0.6s,baz=325,slow=2.1,SNR=5.4
MKAR Makanchi Array 143.70 33 PKP PKPdf 16 34 10.3 +0.9
comp=Z,0.2nm,0.5s,baz=250,slow=2.4,SNR=3.5
USRK Ussuriysk Ar. 149.00 329 PKPbc PKPab 16 34 25.2 -1.8
comp=Z,2.2nm,0.7s,baz=51,slow=1.9,SNR=9.3
MJAR Matsushiro Arr 150.01 312 PKPbc PKiKP 16 34 27.9 +1.7
comp=Z,1.8nm,0.6s,baz=90,slow=2.0,SNR=4.2
SONM Songino Array 150.86 6 PKPbc PKiKP 16 34 29.5 +1.8
comp=Z,2.5nm,0.4s,baz=309,slow=1.6,SNR=9.8

IDC 12 16:29:07.2±2.7, 6°47N×128°03E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=216.1km s-min=26.0km az=66.0, East of Philippine Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.50**	**284**			Sn	Sn	16 30 22.3	+1.8
	29nm,0.3s,baz=43,slow=12,SNR=1.3								
WRA	**Warramunga Arr**	**26.97**	**167**	P		P		16 34 50.8	0.0
	0.7nm,1.0s,baz=347,slow=10,SNR=2.0								
	0.7nm,1.0s								
ASAR	**Alice Springs**	**30.49**	**169**	P		P		16 35 22.2	0.0
	0.4nm,1.0s,baz=350,slow=9.6,SNR=2.4								
	0.4nm,1.0s								
STKA	**Stephens Creek**	**40.27**	**162**	P		P		16 36 46.0	-0.1
	1.1nm,0.6s,baz=340,slow=12,SNR=3.1								
	1.1nm,0.6s								
MKAR	**Makanchi Array**	**56.09**	**324**	P		P		16 38 48.3	-0.1
	0.4nm,0.5s,baz=119,slow=7.9,SNR=6.6								
	0.4nm,0.5s								

*IDC **12** 16:35:55.6±1.7, 35°45N×140°47E, h42km±15km, mb3.6/7, mbtmp3.8/12, ML3.3/5, MS3.2/2, Error ellipse: s-maj=20.6km s-min=7.4km az=74.0*
*NEIC **12** 16:35:56.6±1.1, 35°52N±0°06×140°32E±0°10, h42km±10km, mb4.0/9, Error ellipse: s-maj=11.9km s-min=8.1km az=106.0*
*JMA **12** 16:35:56.7±0.2, 35°6N±0°5×140°2E±0°8, h56km±1km, MV3.3/32, CENTRAL CHIBA PREF .*
JMA Felt II J1 at CENTRAL CHIBA PREF .
*NIED **12** 16:35:56.7, 35°56N×140°19E, h56km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-4.30; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$4.43; $M_{r\theta}$-0.26; $M_{\theta\phi}$3.32; $M_{\phi r}$4.94; Fault plane solution: $M_0$7.35000×10^{14} NP1:ϕ_s55.00000°, δ31.00000°, λ-44.00000°. NP2:ϕ_s184.00000°, δ69.00000°, λ-114.00000°.*

ISC 12 16:35:57.3±0.8, 35°49N±0°05×140°22E±0°05, h53km±7km, n64, σ1°911/63, mb4.1/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.24**	**51**	*i*	P		**Pn**	**16 36 06.2**	**-0.1**
JSMT						eS	**Sn**	**16 36 14.0**	**+1.3**
JKUC	**kamogawauchiur**	**0.33**	**182**		P		**Pn**	**16 36 07.2**	**+0.1**
JKUC					S		**Sn**	**16 36 15.6**	**+1.7**
TOK	**Tokyo**	**0.42**	**298**		eS		**Sn**	**16 36 16.1**	**+0.7**
BSO3	**Boso 3**	**0.73**	**161**	*i*	P		**Pn**	**16 36 11.3**	**0.0**
BSO3					eX			16 36 22.8	
JOD2	**Odawara 2**	**0.95**	**256**	*i*	P		**Pn**	**16 36 14.0**	**-0.5**
JOD2					S		**Sn**	**16 36 26.1**	**-1.0**
JIM2	**Oshima 3**	**1.00**	**220**	*e*	P		**Pn**	**16 36 14.5**	**-0.7**
JIM2					eS		**Sn**	**16 36 27.6**	**-0.8**
BSO1	**Boso 1**	**1.04**	**143**		P		**Pn**	**16 36 14.4**	**-0.8**
BSO1					eS		**Sn**	**16 36 29.0**	**+0.5**
JAG	**Ashikaga**	**1.12**	**327**	*i*	P		**Pn**	**16 36 15.8**	**-0.9**
JAG					eS		**Sn**	**16 36 30.1**	**-1.0**
JRY	**Ryogami san**	**1.19**	**297**	*i*	P		**Pn**	**16 36 17.4**	**-0.3**
JSG	**Sagara**	**1.85**	**244**				**Pn**	**16 36 27.9**	**+1.3**
JSG	**Sagara**	**1.85**	**244**		P		**Pn**	**16 36 29.7**	**+3.0**
MJAR	**Matsushiro Arr**	**1.94**	**303**				**Pn**	**16 36 27.2**	**-0.7**
MJAR	**Matsushiro Arr**	**1.94**	**303**		P		**Pn**	**16 36 27.4**	**-0.5**
	3.9nm,0.3s,baz=126,slow=14,SNR=144								
MJAR					S		**Sn**	**16 36 54.4**	**+3.4**
	31nm,0.5s,baz=189,slow=27,SNR=4.2								
MJAR					LR		LR	16 37 31.8	
	comp=Z,126nm,21.1s,baz=193,slow=45								
	26nm,0.3s								
MAJO	**Matsushiro**	**1.94**	**303**				**Pn**	**16 36 27.8**	**-0.1**
MAJO	**Matsushiro**	**1.94**	**303**		P		**Pn**	**16 36 28.0**	**+0.1**
MJB9	**Matsu-Tunnel**	**1.94**	**303**				**Pn**	**16 36 27.9**	**-0.1**
JGF	**Kuroka**	**2.33**	**274**				**Pn**	**16 36 33.9**	**+0.6**
JGF	**Kuroka**	**2.33**	**274**		P		**Pn**	**16 36 34.4**	**+1.1**
JHJ	**Hachijo jima 2**	**2.39**	**189**		P		**Pn**	**16 36 33.5**	**-0.6**
	45nm,0.3s,baz=323,slow=21,SNR=8.5								
JHJ					S		**Sn**	**16 37 00.5**	**-1.7**
	330nm,0.3s,baz=50,slow=22,SNR=12								
	84nm,0.3s								
JHJ2	**Mitsune**	**2.40**	**188**		Pn		**Pn**	**16 36 33.8**	**-0.4**
JHJ2	**Mitsune**	**2.40**	**188**		P		**Pn**	**16 36 35.1**	**+1.0**
JMM	**Marumori**	**2.42**	**11**				**Pn**	**16 36 34.3**	**-0.1**
JMM	**Marumori**	**2.42**	**11**		P		**Pn**	**16 36 34.6**	**+0.2**
INU	**Inuyama**	**2.62**	**268**				**Pn**	**16 36 37.4**	**+0.2**
INU	**Inuyama**	**2.62**	**268**		P		**Pn**	**16 36 37.7**	**+0.6**
JSD	**Sado**	**2.99**	**329**		P		**Pn**	**16 36 41.6**	**-0.6**
JTM	**Tenmabayashi**	**5.33**	**7**		Pn		**Pn**	**16 37 14.1**	**-0.2**
JTM	**Tenmabayashi**	**5.33**	**7**		P		**Pn**	**16 37 15.5**	**+1.2**
JMN	**Monobe**	**5.51**	**253**		Pn		**Pn**	**16 37 17.8**	**+0.9**
ERM	**Erimo**	**6.91**	**19**		Pn		**Pn**	**16 37 34.1**	**-1.8**
JCJ	**Chichijima**	**8.54**	**168**		P		**Pn**	**16 37 56.8**	**-1.5**
ASAJ	**Asahikawa**	**8.81**	**11**		P		**Pn**	**16 37 58.9**	**-3.0**
	0.8nm,0.3s,baz=230,slow=17,SNR=8.4								
ASAJ					S		**Sn**	**16 39 38.5**	**-1.2**
	6.7nm,1.0s,baz=44,slow=22,SNR=2.0								
	3.4nm,0.5s								
JKA	**Kamikawa-asahi**	**8.81**	**11**		Pn		**Pn**	**16 37 59.1**	**-2.8**
KSRS	**Korea Array**	**10.09**	**285**		P		**Pn**	**16 38 20.7**	**+1.2**
	0.2nm,0.3s,baz=107,slow=13,SNR=4.1								
	1.2nm,0.7s								
KSAR	**Wonju Array Be**	**10.12**	**285**		Pn		**Pn**	**16 38 18.7**	**-1.2**
USRK	**Ussuriysk Ar.**	**10.75**	**327**		P		**Pn**	**16 38 28.9**	**+0.5**
	0.1nm,0.3s,baz=144,slow=12,SNR=4.3								
	1.2nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**28.26**	**117**		T		T	17 11 25.6	
	baz=309,slow=75,SNR=35								
H11N1	**WAKE ISLAND Hy**	**28.26**	**117**		T		T	17 11 26.1	
	baz=309,slow=75,SNR=35								
H11N3	**WAKE ISLAND Hy**	**28.27**	**117**		T		T	17 11 26.8	
	baz=309,slow=75,SNR=32								
H11S3	**WAKE ISLAND Hy**	**28.90**	**119**		T		T	17 11 40.7	
	baz=312,slow=75,SNR=42								
H11S1	**WAKE ISLAND Hy**	**28.90**	**119**		T		T	17 11 49.8	
	baz=312,slow=75,SNR=46								
H11S2	**WAKE ISLAND Hy**	**28.92**	**119**		T		T	17 11 40.5	
	baz=312,slow=75,SNR=22								
ZAA0	**Zalesovo Array**	**42.26**	**314**		P		**P**	**16 43 45.0**	**-0.2**
ZAA0						IAmb	IAmb	16 43 46.2	
	comp=Z,2.5nm,0.6s								
ZALV	**Zalesovo Beam**	**42.26**	**314**		P		**P**	**16 43 44.9**	**-0.3**
ZALV	**Zalesovo Beam**	**42.26**	**314**		P		**P**	**16 43 45.4**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=91,slow=6.0,SNR=8.8								
	comp=Z,1.5nm,0.4s								
MKAR	**Makanchi Array**	**44.13**	**303**		P		**P**	**16 43 59.8**	**-0.7**
MKAR	**Makanchi Array**	**44.13**	**303**		P		**P**	**16 44 00.6**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=89,slow=9.4,SNR=9.1								
	comp=Z,0.8nm,0.6s								
KURK	**Kurchatov**	**46.14**	**309**				**P**	**16 44 16.0**	**-0.2**
KURBB	**Kurchatov Arra**	**46.20**	**309**		P		**P**	**16 44 16.8**	**0.0**
	comp=Z,1.3nm,0.3s,baz=85,slow=7.7,SNR=14								
	comp=Z,1.3nm,0.3s								
E24K	**Your Creek**	**50.66**	**27**		P		**P**	**16 44 51.7**	**+0.8**
E24K						IAmb	IAmb	16 45 11.6	
	comp=Z,2.2nm,1.1s								
BVAR	**Borovoye Array**	**50.90**	**313**		P		**P**	**16 44 53.0**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=93,slow=5.1,SNR=2.5								
	comp=Z,0.6nm,0.6s								
KNRA	**Kununurra**	**52.03**	**194**		P		**P**	**16 45 01.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**55.06**	**197**		P		**P**	**16 45 24.1**	**+0.3**
FITZ						IAmb	IAmb	16 45 41.6	
	comp=Z,3.1nm,1.4s								
WB0	**Warramunga Arr**	**55.23**	**187**		P		**P**	**16 45 24.8**	**-0.2**
WR8	**Warramunga Arr**	**55.41**	**187**		P		**P**	**16 45 26.0**	**-0.3**
WRA	**Warramunga Arr**	**55.41**	**187**		P		**P**	**16 45 26.4**	**+0.1**
WRA	**Warramunga Arr**	**55.41**	**187**		P		**P**	**16 45 25.7**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=1.6,slow=7.5,SNR=14								
	comp=Z,1.4nm,0.7s								
AS31	**Alice Springs**	**59.14**	**187**		P		**P**	**16 45 53.8**	**+1.3**
AS31						IAmb	IAmb	16 46 09.7	
	comp=Z,0.5nm,0.9s								
ASAR	**Alice Springs**	**59.14**	**187**		P		**P**	**16 45 52.3**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=1.8,slow=6.0,SNR=8.9								
	comp=Z,0.2nm,0.5s								
YKA	**Yellowknife Ar**	**65.62**	**29**		LR		LR	17 19 08.0	
	comp=Z,75nm,18.1s,baz=48,slow=40								
PDAR	**Pinedale Array**	**79.44**	**45**		P		**P**	**16 47 58.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=264,slow=6.8,SNR=2.4								
	comp=Z,0.1nm,0.3s								
H03N2	**Juan Fernandez**	**147.80**	**98**		T		T	19 40 31.8	
	baz=285								
H03N3	**Juan Fernandez**	**147.81**	**98**		T		T	19 40 28.4	
	baz=285								
H03N1	**Juan Fernandez**	**147.82**	**98**		T		T	19 40 25.7	
	baz=285								

*IDC **12** 16:53:18.0±0.6, 44°46S×81°85W, h0km, mb4.1/10, mbtmp4.1/12, ML3.7/2, MS4.0/32, Error ellipse: s-maj=24.5km s-min=16.3km az=104.0*
*NEIC **12** 16:53:18.1±1.5, 44°42S±0°07×81°54W±0°07, h10km±1km, mb4.9/83, Mww4.9/16, Error ellipse: s-maj=14.5km s-min=4.1km az=215.0*
*NEIC **12** 16:53:18.3, 44°45S×81°55W, h16km*
*NEIC **12** 16:53:18.3, 44°55S×82°67W, h16km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.26; $M_{\theta\theta}$0.02; $M_{\phi\phi}$2.24; $M_{r\theta}$-0.79; $M_{\theta\phi}$-0.70; $M_{\phi r}$-1.69; Fault plane solution: $M_0$3.00000×10^{16} NP1: ϕ_s144.23000°, δ32.93000°, λ-127.41000°. NP2:ϕ_s6.57000°, δ64.42000°, λ-68.52000°. Principal axes: T 2.8615, Plg17.0000°, Azm81.0000°; N 0.2656, Plg19.0000°, Azm177.0000°; P -3.1271, Plg64.0000°, Azm313.0000°;*
*GCMT **12** 16:53:22.1±0.3, 44°47S±0°03×82°05W±0°02, h17km, MW4.9/93, Moment Tensor Solution. s31,c35; s93,c121; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.86±.15; $M_{\theta\theta}$0.34±.09; $M_{\phi\phi}$2.52±.10; $M_{r\theta}$0.81±.32; $M_{\theta\phi}$-0.68±.06; $M_{\phi r}$-0.61±.23; Best double couple: $M_0$2.96100×10^{16} NP1:ϕ_s174.00000°, δ38.00000°, λ-73.00000°. NP2: ϕ_s333.00000°, δ54.00000°, λ-103.00000°. Principal axes: T 2.8330, Plg8.0000°, Azm72.0000°; N 0.2580, Plg10.0000°, Azm341.0000°; P -3.0890, Plg77.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 16:53:18.4±0.4, 44°37S±0°06×81°70W±0°08, h10km, n147, σ1°931/97, mb4.9/48, MS4.0/30, 3C-1D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**5.96**	**81**				**Pn**	16 54 35.1	-11
AY03	**Cochrane**	**6.99**	**118**				**Pn**	**16 54 57.0**	**-3.7**
LL01	**San Ignacio de**	**7.06**	**77**				**Pn**	**16 54 58.4**	**-3.2**
LL02	**Futaleuf**	**7.23**	**84**				**Pn**	**16 55 02.8**	**-1.3**
LL03	**Petrohue**	**7.57**	**68**		Pn		**Pn**	**16 55 08.1**	**-0.6**
LR05	**Currie**	**8.29**	**63**				**Pn**	**16 55 16.9**	**-1.8**
LR03	**Panguipulli**	**8.42**	**59**				**Pn**	**16 55 19.2**	**-1.2**
PLCA	**Paso Flores**	**9.00**	**70**				**Pn**	**16 55 27.3**	**-1.1**
PLCA	**Paso Flores**	**9.00**	**70**		Pn		**Pn**	**16 55 30.6**	**+2.2**
	0.2nm,0.3s,baz=237,slow=17,SNR=6.5								
PLCA					LR		LR	16 58 39.8	
	comp=Z,2µm,20.0s,baz=258,slow=35								
	10nm,1.1s								
GO09	**Cerro Castillo**	**9.34**	**141**		Pn		**Pn**	**16 55 31.2**	**-1.8**
H03S1	**Juan Fernandez**	**10.73**	**13**		T		T	17 07 12.4	
	baz=190,slow=73,SNR=895								
H03S2	**Juan Fernandez**	**10.74**	**13**		T		T	17 07 11.2	
	baz=190,slow=73,SNR=911								
H03S3	**Juan Fernandez**	**10.75**	**13**		T		T	17 07 12.0	
	baz=190,slow=73,SNR=1316								
BI02	**San Fabin de**	**11.05**	**49**				**Pn**	**16 55 55.1**	**-1.4**
MG03	**Isla Dawson**	**11.99**	**146**		Pn		**Pn**	**16 56 08.3**	**-0.9**
BO02	**Sierra Bellavi**	**12.73**	**45**				**Pn**	**16 56 18.8**	**-0.7**
MT01	**Popeta**	**13.25**	**41**		Pn		**Pn**	**16 56 25.8**	**-0.7**
MT09	**Talagante**	**13.45**	**42**		Pn		**Pn**	**16 56 28.4**	**-0.9**
BO04	**La Punta**	**13.46**	**43**		Pn		**Pn**	**16 56 27.8**	**-1.5**
MT02	**Curacav**	**13.80**	**40**		Pn		**Pn**	**16 56 32.5**	**-1.6**
MT08	**Bocatoma Ro**	**14.19**	**44**				**Pn**	**16 56 39.3**	**-0.2**
VA06	**Catapilco**	**14.32**	**38**		Pn		**Pn**	**16 56 41.2**	**+0.1**
VA03	**San Esteban**	**14.49**	**41**		Pn		**Pn**	**16 56 42.9**	**-0.6**
CO02	**Combarbal**	**15.61**	**36**				**Pn**	**16 56 56.0**	**-2.5**
CO06	**Fray Jorge**	**15.81**	**34**		Pn		**Pn**	**16 57 00.0**	**-1.1**
TRQA	**Tornquist**	**16.11**	**74**		P		**Pn**	**16 57 05.2**	**+0.3**
CFA	**Coronel Fontan**	**16.56**	**44**		Pn		**P**	**16 57 13.4**	**+0.3**
	0.1nm,0.3s,

comp=Z,1.4nm,0.3s,baz=231,slow=19,SNR=1.8
BDFB LR LR 17 18 16.1
comp=Z,547nm,18.5s,baz=203,slow=37
comp=Z,1.4nm,0.3s
COHC Cochancay 41.78 4 P P 17 01 08.3 +0.3
VNA3 Neumayer Olymp 43.03 153 ⇑P P 17 01 19.3 +1.6
comp=Z,11nm,1.0s
VNA1 Neumayer–Stat 43.52 152 ⇑P P 17 01 23.6 +2.1
comp=Z,15nm,1.1s
SNAA Sanae 45.18 154 ⇓P P 17 01 35.6 +0.7
comp=Z,182nm,1.1s
SNAA Sanae 45.18 154 P 17 01 33.5 -1.4
SNAA IAmb IAmb 17 01 45.0
comp=Z,22nm,1.2s
SNAA Sanae 45.18 154 P P 17 01 35.5 +0.6
comp=Z,3.9nm,1.0s,baz=232,slow=11,SNR=9.0
SNAA LR LR 17 16 27.6
comp=Z,52nm,21.7s,baz=292,slow=31
comp=Z,3.9nm,1.0s
QSPA South Pole Qui 45.87 180 P P 17 01 41.5 +0.9
QSPA LR LR 17 17 37.4
comp=Z,69nm,18.9s,baz=136,slow=32
comp=Z,2.9nm,1.0s
TROLL Troll, Antarti 46.78 155 ⇑P P 17 01 49.1 +1.4
comp=Z,405nm,1.1s
ROSC El Rosal 49.43 10 LR LR 17 20 32.6
comp=Z,283nm,21.5s,baz=194,slow=33
BOAV Boa Vista 50.27 28 P P 17 02 14.6 -0.3
RUSC La Rusia 50.63 11 P P 17 02 17.5 -0.7
RUSC IAmb IAmb 17 02 28.8
comp=Z,14nm,1.1s
SBA Scott Base 51.30 195 P P 17 02 21.7 -0.3
VNDA Vanda 52.36 194 P P 17 02 28.6 -1.3
VNDA Vanda 52.36 194 P P 17 02 31.3 +1.4
comp=Z,1.4nm,1.0s,baz=125,slow=12,SNR=4.5
VNDA LR LR 17 21 44.1
comp=Z,77nm,18.2s,baz=121,slow=33
comp=Z,1.4nm,1.0s
SDV Santo Domingo 53.95 14 LR LR 17 24 48.5
comp=Z,102nm,18.2s,baz=238,slow=35
JTS Las Juntas de 54.48 356 LR LR 17 20 32.4
comp=Z,79nm,19.8s,baz=257,slow=30
BAUV El Baul 54.49 17 P P 17 02 44.2 -1.9
RCBR Riachuelo 55.41 60 LR LR 17 27 52.4
comp=Z,143nm,18.2s,baz=244,slow=37
MDP Montagnes des 55.74 36 LR LR 17 25 37.1
comp=Z,116nm,20.5s,baz=246,slow=35
PCRV Puerto La Cruz 56.45 20 LR LR 17 25 27.2
comp=Z,163nm,19.0s,slow=34
TBI Tubuai 58.39 267 *eS* **S 17 11 15.3 -1.6**
comp=Z,1μm,35.8s
TBI *eLR* LR 17 20 08.5
comp=Z,3μm,41.2s
TAOE Nuku Hiva Isla 61.48 287 *eLR* LR 17 21 44.6
comp=Z,200nm,27.0s
PPT2 Papeete2 62.16 272 *eS* **S 17 12 05.5 -0.1**
comp=Z,113nm,28.5s
PPT2 *eSS* **SS 17 16 05.8 -2.6**
comp=Z,119nm,22.5s
PPT2 *eLR* LR 17 21 54.2
comp=Z,192nm,24.0s
PPT2 *eLR* LR 17 22 05.1
comp=Z,184nm,22.8s
PPT Papeete 62.18 272 LR LR 17 22 54.4
comp=Z,105nm,18.3s,baz=145,slow=29
MAW Mawson 65.18 166 P P 17 03 59.5 +0.4
comp=Z,3.5nm,1.0s,baz=215,slow=7.9,SNR=6.1
MAW LR LR 17 31 46.2
comp=Z,53nm,19.1s,baz=170,slow=35
comp=Z,3.5nm,1.0s
RAR Rarotonga 67.11 262 LR LR 17 25 05.1
comp=Z,255nm,18.9s,baz=130,slow=28
URZ Urewera 71.33 235 LR LR 17 31 14.8
comp=Z,122nm,18.8s,baz=199,slow=32
LPIG La Paz 73.00 333 LR LR 17 29 21.4
comp=Z,70nm,18.1s,baz=225,slow=30
HPIG 74.27 338 P P 17 04 55.5 -0.3
HPIG IAmb IAmb 17 05 06.4
comp=Z,17nm,1.1s
HNDO Hondo 75.28 344 P P 17 05 00.9 -0.4
TXAR Lajitas Array 76.05 340 P P 17 05 04.8 -1.0
TXAR Lajitas Array 76.05 340 P P 17 05 06.6 +0.8
comp=Z,1.2nm,0.9s,baz=163,slow=9.1,SNR=10.0
comp=Z,1.2nm,0.9s
SAND Sanderson 76.28 342 IAmb IAmb 17 05 17.4
comp=Z,14nm,1.4s
BRDY Brady 76.93 345 P P 17 05 09.3 -1.4
BRDY IAmb IAmb 17 05 20.4
comp=Z,25nm,1.9s
OZNA Ozona 77.00 343 P P 17 05 11.2 0.0
OZNA IAmb IAmb 17 05 21.0
comp=Z,15nm,1.2s
ALPN Alpine 77.04 341 IAmb IAmb 17 05 21.9
comp=Z,21nm,1.3s
SWET Sewanee 79.31 356 P P 17 05 24.0 +0.2
SWET IAmb IAmb 17 05 33.5
comp=Z,17nm,1.1s
319A Douglas 79.47 336 P P 17 05 25.1 +0.2
319A IAmb IAmb 17 05 35.9
comp=Z,17nm,1.5s
WMOK Wichita Mounta 80.25 346 P P 17 05 29.7 +0.8
WMOK IAmb IAmb 17 05 38.6
comp=Z,18nm,1.3s
FCAR Ozark Folk Cen 80.44 351 P P 17 05 29.6 -0.3
DEOK Depew 80.96 348 P P 17 05 32.2 -0.4
214A Organ Pipe Nat 81.09 334 IAmb IAmb 17 05 44.6
comp=Z,13nm,1.2s
Y22A Socorro 81.26 339 IAmb IAmb 17 05 45.2
comp=Z,8.1nm,0.8s
BOSA Boshof 81.48 122 LR LR 17 37 18.1
comp=Z,49nm,19.8s,baz=224,slow=32
VTX Valle De La Tr 81.56 331 P P 17 05 35.8 -0.3
VTX IAmb IAmb 17 05 47.1
comp=Z,17nm,1.4s
MGMO Mountain Grove 81.71 351 IAmb IAmb 17 05 46.7
comp=Z,21nm,1.4s
ANMO Albuquerque 82.09 340 P P 17 05 39.5 +0.6
ANMO IAmb IAmb 17 05 49.6
comp=Z,11nm,1.0s
ANMO Albuquerque 82.09 340 LR LR 17 36 28.0
comp=Z,64nm,18.6s,baz=254,slow=32
CCM Cathedral Cave 82.50 352 P P 17 05 40.3 -0.5
X16A Lo Mia Camp, P 82.95 336 P P 17 05 42.8 -0.6
TSUM Tsumeb 83.20 110 LR LR 17 38 24.1
comp=Z,53nm,18.7s,baz=208,slow=32
BC3 Big Chuckawall 83.51 332 P P 17 05 46.1 -0.1
BC3 IAmb IAmb 17 05 57.1
comp=Z,7.5nm,1.0s
PFO Pinyon Flats O 83.81 331 P P 17 05 47.8 -0.1
PFO IAmb IAmb 17 05 58.9
comp=Z,14nm,1.4s
IRM Iron Mountain 83.87 333 P P 17 05 49.0 +1.0
IRM IAmb IAmb 17 05 59.0
comp=Z,10nm,1.2s
BELC Belle Mtn. Jos 84.01 332 IAmb IAmb 17 05 59.9
comp=Z,9.9nm,1.1s
P40A Paris 84.04 352 P P 17 05 48.9 +0.2
LBTB Lobatse 84.29 119 LR LR 17 37 01.4
comp=Z,51nm,20.5s,baz=215,slow=31
V12A Nelson 85.21 333 P 17 05 54.5 -0.3
DBIC Dimbokro 85.31 76 LR LR 17 37 11.6
comp=Z,95nm,21.5s,baz=206,slow=31
WSHM Spangler Hills 85.97 331 P P 17 05 59.2 +0.7
WSHM IAmb IAmb 17 06 09.4
comp=Z,18nm,1.7s
SHPR Sheep Range 86.03 334 IAmb IAmb 17 06 10.2
comp=Z,13nm,1.3s
HMU Henry Mountain 86.04 337 IAmb IAmb 17 06 10.0
comp=Z,9.6nm,1.0s
CLC China Lake 86.20 331 IAmb IAmb 17 06 10.4
comp=Z,20nm,1.8s
CCUT Cedar City 86.43 335 IAmb IAmb 17 06 12.4
comp=Z,13nm,1.3s
TPNV Topopah Spring 86.78 333 P P 17 06 02.3 -0.3
TPNV IAmb IAmb 17 06 13.8
comp=Z,12nm,1.1s
GMN Gold Mountain 87.44 332 IAmb IAmb 17 06 17.5
comp=Z,14nm,1.6s
PSUT Pine Spring 87.49 335 IAmb IAmb 17 06 17.0
comp=Z,12nm,1.2s
DSP Deep Springs 87.74 332 IAmb IAmb 17 06 19.1
comp=Z,8.6nm,1.4s
R11B Troy Canyon, C 87.85 334 IAmb IAmb 17 06 18.8
comp=Z,9.3nm,1.2s
LHV Little Huntoon 88.71 332 IAmb IAmb 17 06 22.4
comp=Z,8.5nm,1.1s

NVAR Mina Array Bea 88.81 332 P P 17 06 12.5 +0.1
NVAR Mina Array Bea 88.81 332 P P 17 06 14.5 +2.2
comp=Z,0.6nm,0.5s,baz=131,slow=4.2,SNR=4.4
comp=Z,0.6nm,0.5s
DZM Mont Dzumac 89.27 239 *e*LR LR 17 34 36.8
comp=Z,358nm,23.6s
MATP Matopo 89.46 118 LR LR 17 42 44.2
comp=Z,39nm,19.6s,baz=191,slow=33
WELL Weller Preserv 89.65 330 IAmb IAmb 17 06 26.9
comp=Z,9.1nm,1.2s
AFDM Forest Hills D 90.19 330 IAmb IAmb 17 06 29.7
comp=Z,13nm,1.3s
PDAR Pinedale Array 90.26 340 P P 17 06 19.2 +0.1
PDAR Pinedale Array 90.26 340 P P 17 06 20.6 +1.5
comp=Z,1.3nm,0.8s,baz=155,slow=4.9,SNR=5.4
PDAR LR LR 17 40 53.9
comp=Z,42nm,19.0s,baz=152,slow=32
comp=Z,1.3nm,0.8s
BEKR Beckworth 90.80 331 IAmb IAmb 17 06 32.2
comp=Z,10nm,1.2s
WVOR Wild Horse Val 92.53 334 IAmb IAmb 17 06 40.3
comp=Z,4.8nm,1.1s
N02D Trinity Center 92.60 330 P 17 06 30.4 +0.6
LSZ Lusaka 93.04 115 LR LR 17 46 35.7
comp=Z,93nm,18.4s,baz=190,slow=34
STKA Stephens Creek 94.46 216 LR LR 17 40 45.6
comp=Z,127nm,19.3s,baz=187,slow=30
H11S2 WAKE ISLAND Hyl 18.04 269 T T 19 20 43.3
baz=132,slow=74
H11S1 WAKE ISLAND Hyl 18.06 269 T T 19 20 44.8
baz=132
H11S3 WAKE ISLAND Hyl 18.06 269 T T 19 20 41.1
baz=132,slow=74
H11N3 WAKE ISLAND Hyl 18.69 270 T T 19 21 30.5
baz=131
H11N1 WAKE ISLAND Hyl 18.70 270 T T 19 21 30.7
baz=131
H11N2 WAKE ISLAND Hyl 18.71 270 T T 19 21 32.1
baz=131
ILAR Eielson Array 120.04 333 PKP **PKiKP 17 12 08.6 +0.5**
comp=Z,0.6nm,0.8s,baz=33,slow=1.6,SNR=4.5
BRTR Keskin Array B 132.87 72 PKP **PKPdf 17 12 33.8 +0.3**
comp=Z,0.3nm,0.5s,baz=199,slow=3.1,SNR=1.8
PETK Petropavlovsk- 140.90 305 PKPdf 17 12 46.4 -1.3
PETK Petropavlovsk- 140.90 305 PKP **PKPdf 17 12 48.9 +1.2**
comp=Z,5.2nm,1.0s,baz=90,slow=1.5,SNR=6.4
BELG Belogornoye 146.02 58 PKPbc **PKPab 17 12 59.3 +1.2**
comp=Z,9.1nm,0.9s,baz=161,slow=9.2,SNR=4.5
MJAR Matsushiro Arr 148.89 269 PKPdf 17 13 00.6 -1.5
MJAR Matsushiro Arr 148.89 269 PKPbc **PKPbc 17 13 06.9 +0.9**
comp=Z,3.9nm,1.1s,baz=203,slow=1.9,SNR=5.6
YSS Yuzhno-Sakhali 149.13 291 PKPbc **PKPbc 17 13 06.3 0.0**
ARTI Arti 152.26 50 PKPbc **PKiKP 17 13 14.5 +0.9**
comp=Z,1.2nm,0.6s,baz=322,slow=4.5,SNR=3.5
CMAR Chiang Mai Arr 154.16 181 PKPbc **PKiKP 17 13 19.3 +0.5**
comp=Z,1.0nm,0.7s,baz=233,slow=3.7,SNR=7.5
KURBB **Kurhatov Arra 165.27 58** PKP **PKPdf 17 13 22.5 +0.4**
comp=Z,0.6nm,0.8s,baz=237,slow=1.5,SNR=4.5
KURBB PKPab **pPKPab 17 14 21.2 -1.0**
comp=Z,0.3nm,0.5s,baz=319,slow=5.1,SNR=4.2
ZALV Zalesovo Beam 167.00 38 PKP **PKPdf 17 13 23.3 -0.1**
comp=Z,0.3nm,0.4s,baz=48,slow=2.2,SNR=4.2
ZALV PKPab **pPKPab 17 14 28.4 -1.3**
comp=Z,0.2nm,0.3s,baz=316,slow=6.0,SNR=1.6
MKAR Makanchi Array 168.52 72 PKPab **PKPab 17 14 35.7 +1.2**
comp=Z,5.2nm,0.8s,baz=246,slow=5.2,SNR=4.2
SONM Songino Array 173.39 304 PKP **PKPdf 17 13 28.0 +0.6**
comp=Z,0.2nm,0.3s,baz=45,slow=2.2,SNR=2.1
SONM PKPab **PKPab 17 14 57.3 +1.2**
comp=Z,0.3nm,0.4s,baz=85,slow=6.1,SNR=1.4

IDC ***12*** *17:00:52.2±0.8, 67°.09N×21°.08E, h0km, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=14.7km s-min=6.2km az=115.0*
HEL ***12*** *17:00:52.1±0.2, 67°.07N×20°.84E, h0km, ML2.3, Suspected explosion*
UPP ***12*** *17:00:52.0±0.1, 67°.06N×20°.93E, h0km, ML2.5, Suspected explosion*
ISC 12 17:00:51.7±0.7, 67°.06N±0°.02×20°.92E±0°.02, h0km, n51, σ1ᵉ22/75, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.15**	**293**	P	**Pg**	**17 00 55.2**	**+0.7**
DUNU				S	**Sg**	**17 00 57.3**	**+0.9**
MASU	**Masugnsbyn**	**0.58**	**46**	P	**Pg**	**17 01 03.0**	**+0.3**
ERTU	**Ertsjaerv**	**0.72**	**135**	P	**Pg**	**17 01 05.3**	**-0.1**
ERTU	**Ertsjaerv**	**0.72**	**135**	PG	**Pg**	**17 01 05.1**	**-0.3**
ERTU				SB	**Sg**	**17 01 15.8**	**+1.0**
PAJU	**Pajala**	**0.86**	**92**	P	**Pg**	**17 01 08.0**	**-0.3**
PAJU	**Pajala**	**0.86**	**92**	PG	**Pg**	**17 01 07.8**	**-0.4**
baz=275							
PAJU				SB	**Sb**	**17 01 20.7**	**-1.0**
HARU	**Harads**	**0.91**	**178**	P	**Pg**	**17 01 08.8**	**-0.2**
RATU	**Laukkuluspa**	**0.92**	**327**	P	**Pg**	**17 01 09.1**	**-0.2**
KUA	**Kurravaara**	**0.92**	**346**	P	**Pg**	**17 01 08.9**	**-0.4**
SALU	**Saltoluokta**	**0.99**	**290**	P	**Pg**	**17 01 10.6**	**-0.1**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**17 01 11.6**	**-0.6**
LANU	**Lannavaara**	**1.07**	**22**	PG	**Pg**	**17 01 11.5**	**-0.7**
LANU				SB	**Sb**	**17 01 28.3**	**+0.6**
KOVU	**Salmi**	**1.20**	**346**	P	**Pg**	**17 01 14.1**	**-0.6**
KALU	**Kalix**	**1.56**	**140**	P	**Pn**	**17 01 20.3**	**-0.3**
KALU	**Kalix**	**1.56**	**140**	PG	**Pn**	**17 01 20.3**	**-0.3**
KALU				SN	**Sg**	**17 01 43.0**	**+1.3**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**17 01 20.9**	**-0.2**
SJUU	**Sjulsmark**	**1.59**	**170**	*e*P	**Pn**	**17 01 21.0**	**-0.1**
TOF	**Tornio**	**1.68**	**124**	PG	**Pn**	**17 01 22.6**	**+0.3**
TOF				MSG		17 01 43.4	
comp=Z,22nm,0.2s							
TOF				SN	**Sg**	**17 01 45.8**	**+0.1**
HEF	**Hetta**	**1.71**	**36**	*e*P	**Pn**	**17 01 22.9**	**+0.2**
HEF	**Hetta**	**1.71**	**36**	PG	**Pn**	**17 01 22.4**	**-0.3**
baz=223							
HEF				MSG		17 01 43.4	
comp=Z,22nm,0.2s							
HEF				SN	**Sg**	**17 01 46.8**	**+0.3**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*P	**Pn**	**17 01 26.4**	**+0.5**
KIF	**Kilpisjarvi**	**1.95**	**359**	PG	**Pb**	**17 01 27.6**	**-0.5**
KIF				MSG		17 01 51.2	
comp=Z,39nm,0.2s							
KIF				SG	**Sg**	**17 01 55.3**	**+1.0**
KTK1	**Kautokeino**	**2.14**	**23**	PG	**Pb**	**17 01 30.3**	**-1.1**
KTK1				SG	**Sg**	**17 02 00.7**	**+0.3**
RANF	**Ranua**	**2.58**	**111**	PN	**Pn**	**17 01 35.2**	**+0.6**
baz=298							
RANF				SG	**Sb**	**17 02 12.1**	**+1.3**
TRO	**Tromso**	**2.68**	**345**	PB	**Pn**	**17 01 38.3**	**+2.2**
TRO				SG	**Sb**	**17 02 12.6**	**-1.4**
OBF4	**Vikkela, Lumij**	**2.84**	**141**	PN	**Pn**	**17 01 39.2**	**+1.0**
baz=328							
OBF4				MSG		17 02 16.3	
comp=Z,6.4nm,0.2s							
OUL	**Oulu**	**2.84**	**132**	PB	**Pn**	**17 01 40.1**	**+1.8**
OUL				SG	**Sb**	**17 02 20.5**	**+2.1**
OBF0	**Syolatti, Pyha**	**2.92**	**150**	PB	**Pn**	**17 01 41.0**	**+1.7**
OBF0				MSG		17 02 18.4	
comp=Z,8.5nm,0.2s							
ARA0	**ARCESS Array S**	**3.01**	**32**	PN	**Pn**	**17 01 41.2**	**+0.6**
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**17 01 41.1**	**+0.5**
comp=Z,1.2nm,0.3s,baz=213,slow=14,SNR=102							
ARCES				Sn	**Sn**	**17 02 17.7**	**+0.4**
comp=Z,0.8nm,0.3s,baz=217,slow=22,SNR=3.3							
ARCES				Lg	Lg	17 02 23.6	
comp=Z,1.6nm,0.3s,baz=218,slow=27,SNR=6.8							
comp=Z,2.5nm,0.2s							
OUF	**Merijarvi**	**3.13**	**148**	PN	**Pn**	**17 01 43.9**	**+1.6**
OUF				SB	**Sb**	**17 02 26.2**	**-0.7**
RAJF	**Raja-Jooseppi**	**3.15**	**60**	PN	**Pn**	**17 01 43.1**	**+0.6**
UMAU	**Umeaa**	**3.20**	**182**	PB	**Pn**	**17 01 44.2**	**+1.1**
UMAU				SG	**Sg**	**17 02 31.7**	**-2.6**
KU2	**Taivalkoski**	**3.24**	**111**	PN	**Pn**	**17 01 44.7**	**+0.9**
VRF	**Varrio**	**3.42**	**74**	PN	**Pn**	**17 01 47.7**	**+1.4**
baz=266							
VRF				SG	**Sb**	**17 02 37.8**	**+2.5**
OLKF	**Oulanka, Finla**	**3.46**	**99**	PN	**Pn**	**17 01 47.7**	**+1.0**
MSF	**Maaselka**	**3.46**	**106**	PN	**Pn**	**17 01 47.8**	**+1.1**
MSF				SG	**Sg**	**17 02 40.5**	**-2.1**
KEV	**Kevo**	**3.52**	**37**	PN	**Pn**	**17 01 47.8**	**+0.3**
KEV				SN	**Sn**	**17 02 31.5**	**+1.8**
KU6	**Riekki**	**3.74**	**102**	PN	**Pn**	**17 01 51.9**	**+1.3**
baz=291							
KU6				SG	**Sg**	**17 02 49.9**	**-1.7**
KU1	**Kurvinen**	**3.80**	**109**	PN	**Pn**	**17 01 53.9**	**+2.5**
HUSU	**Husum**	**3.81**	**192**	PN	**Pn**	**17 01 53.3**	**+1.8**
HUSU				SN	**Sn**	**17 02 37.3**	**+0.4**
HEMU	**Hemsoen**	**4.57**	**197**	PN	**Pn**	**17 02 03.6**	**+1.5**
HEMU				SN	**Sn**	**17 02 55.8**	**0.0**
NIF	**Nilsia**	**4.69**	**139**	PN	**Pn**	**17 02 05.2**	**+1.5**
baz=322							
RMF	**Romuvaara**	**4.70**	**123**	PN	**Pn**	**17 02 06.3**	**+2.5**
baz=307							
KEF	**Keuruu**	**5.20**	**159**	*e*P	**Pn**	**17 02 12.3**	**+1.7**
JOF	**Joensuu**	**6.06**	**129**	*e*P	**Pn**	**17 02 23.9**	**+1.4**
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**17 02 23.9**	**+1.3**
comp=Z,0.3nm,0.3s,baz=348,slow=13,SNR=14							
FINES				Sn	**Sn**	**17 03 33.1**	**+0.4**
comp=Z,0.9nm,0.3s,baz=344,slow=22,SNR=10							
FINES				Lg	Lg	17 04 00.2	
comp=Z,0.6nm,0.3s,baz=340,slow=26,SNR=3.4							
comp=Z,0.6nm,0.3s							
RAF	**Rauma**	**6.08**	**176**	*e*P	**Pn**	**17 02 23.5**	**+0.8**
MEF	**Metsahovi**	**7.05**	**166**	*e*P	**Pn**	**17 02 36.7**	**+0.7**
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**17 02 39.4**	**-1.3**
baz=31,slow=11,SNR=2.3							
NOA				Sn	**Sn**	**17 04 03.5**	**-1.6**
baz=140,slow=20,SNR=2.0							
NOA				Lg	Lg	17 04 43.5	
baz=48,slow=13,SNR=1.0							
comp=Z,0.6nm,0.8s							
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**17 02 44.3**	**-0.1**
comp=Z,0.2nm,0.3s,baz=21,slow=12,SNR=7.1							
HFS				Sn	**Sn**	**17 04 09.1**	**-2.7**
comp=Z,0.3nm,0.3s,baz=33,slow=21,SNR=2.5							
HFS				Lg	Lg	17 04 54.7	
comp=Z,0.3nm,0.3s,baz=28,slow=28,SNR=2.7							
comp=Z,0.7nm,0.3s							

NIED ***12*** *17:09:36.7, 39°.34N×142°.08E, h48km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.46; Mθθ-0.03; Mφφ-1.43; Mrθ0.67; Mθφ-0.67; Mφr1.49; Fault plane solution: M₀2.27000×10¹⁴ NP1: φs200.00000°, δ22.00000°, λ86.00000°. NP2: φs24.00000°, δ68.00000°, λ91.00000°.*
JMA ***12*** *17:09:36.7±0.1, 39°.3N±0°.2×142°.1E±0°.6, h48km, MV3.6/37, E OFF IWATE PREF.*
JMA Felt I J1 at E OFF IWATE PREF .
IDC ***12*** *17:09:38.3±3.8, 39°.86N×140°.88E, h0km, mb3.6/4, mbtmp3.5/6, ML2.8/2, MS3.7/5, Error ellipse: s-maj=75.6km s-min=27.9km az=115.0*
ISC 12 17:09:36.4±1.4, 39°.34N±0°.05×142°.10E±0°.10, h46km±9km, n27, σ0ᵉ70/25, mb3.6/4, MS4.0/5, 18D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.32**	**318**	⇓*i*P	**Pn**	**17 09 45.6**	**+0.3**
MIYJ				⇓S	**Sn**	**17 09 51.8**	**+0.1**
OFUJ	**Ofunato**	**0.42**	**233**	⇓*i*P	**Pn**	**17 09 46.8**	**+0.3**
OFUJ				⇓S	**Sn**	**17 09 53.6**	**0.0**
JTH	**Tanohata**	**0.63**	**343**	⇓*i*P	**Pn**	**17 09 49.2**	**+0.1**
JTH				⇓S	**Sn**	**17 09 57.9**	**-0.3**
JOM	**Ohasama**	**0.64**	**282**	⇓*i*P	**Pn**	**17 09 49.3**	**+0.1**
JOM				⇓S	**Sn**	**17 09 58.5**	**+0.1**
JKMT	**Kesennumamotoy**	**0.72**	**223**	⇓*i*P	**Pn**	**17 09 50.2**	**0.0**
JKMT				⇓S	**Sn**	**17 09 59.7**	**-0.5**
JMK	**Ichinoseki**	**0.79**	**241**	⇓*i*P	**Pn**	**17 09 51.1**	**0.0**
JMK				⇓S	**Sn**	**17 10 01.4**	**-0.4**
JKZ	**Kuzumaki**	**0.88**	**318**	⇓*i*P	**Pn**	**17 09 52.9**	**+0.5**
JKZ				⇓S	**Sn**	**17 10 04.7**	**+0.5**
JIO	**Ouri**	**1.06**	**214**	⇓*i*P	**Pn**	**17 09 54.7**	**-0.1**
JANG	**Nango**	**1.13**	**337**	⇓*i*P	**Pn**	**17 09 55.8**	**0.0**
JRG	**Rokugo**	**1.14**	**273**	⇓*i*P	**Pn**	**17 09 56.0**	**+0.1**
JRG				⇓*e*S	**Sn**	**17 10 10.8**	**+0.4**
MJAR	**Matsushiro Arr**	**4.16**	**229**	Pn	**Pn**	**17 10 39.8**	**+2.4**
0.1nm,0.3s,baz=30,slow=12,SNR=8.4							
3.8nm,0.8s							
ASAJ	**Asahikawa**	**4.79**	**4**	Pn	**Pn**	**17 10 47.1**	**+1.1**
0.7nm,0.3s,baz=219,slow=11,SNR=12							
ASAJ				Sn	**Sn**	**17 11 40.0**	**-0.1**
0.5nm,0.3s,baz=6.0,slow=15,SNR=1.8							
2.0nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.95**	**125**	T	T	17 45 55.4	
baz=318,slow=76,SNR=90							
H11N1	**WAKE ISLAND Hy**	**28.96**	**125**	T	T	17 45 56.2	
baz=318,slow=76,SNR=56							
H11N3	**WAKE ISLAND Hy**	**28.97**	**125**	T	T	17 45 56.8	
baz=318,slow=76,SNR=75							
H11S1	**WAKE ISLAND Hy**	**29.74**	**127**	T	T	17 47 02.8	
baz=319,slow=76,SNR=39							
H11S3	**WAKE ISLAND Hy**	**29.74**	**127**	T	T	17 47 03.0	
baz=319,slow=76,SNR=45							
H11S2	**WAKE ISLAND Hy**	**29.75**	**127**	T	T	17 47 04.0	
baz=319,slow=76,SNR=39							
ZALV	**Zalesovo Beam**	**40.80**	**310**	P	**P**	**17 17 13.1**	**+0.1**
0.5nm,0.4s,baz=83,slow=8.4,SNR=3.4							
0.5nm,0.4s							
MKAR	**Makanchi Array**	**43.39**	**300**	P	**P**	**17 17 33.2**	**-1.0**
0.2nm,0.5s,baz=81,slow=8.9,SNR=2.8							
0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**45.04**	**306**	P	**P**	**17 17 46.6**	**-0.8**
0.6nm,0.6s,baz=73,slow=9.1,SNR=4.6							
0.6nm,0.6s							
BVAR	**Borovoye Array**	**49.45**	**311**	P	**P**	**17 18 21.5**	**-0.2**
0.4nm,0.4s,baz=83,slow=6.1,SNR=2.7							
0.4nm,0.4s							
PSI	**Prapat**	**53.45**	**238**	LR	LR	17 42 25.1	
comp=Z,18nm,18.1s,baz=44,slow=37							
ASAR	**Alice Springs**	**63.14**	**188**	LR	LR	17 47 28.2	
comp=Z,100nm,19.4s,baz=128,slow=36							
FRB	**Frobisher Bay**	**74.41**	**14**	LR	LR	17 56 18.3	
comp=Z,25nm,19.1s,baz=113,slow=38							
EIL	**Elat**	**83.57**	**303**	LR	LR	18 02 01.7	
comp=Z,74nm,18.7s,baz=162,slow=38							
DAVOX	**Davos/Dischmat**	**84.23**	**329**	LR	LR	18 01 06.8	
comp=Z,103nm,22.0s,baz=262,slow=37							

DJA ***12*** *17:21:46.4±0.6, 4°.N±7°×12°.7E±°, h21km±3km, M4.3/11, mB5.7/1, mb4.3/8, MLv4.3/11, Mw(mB)5.3/1*
NEIC ***12*** *17:21:47.1±1.3, 4°.04N±0°.06×126°.81E±0°.04, h35km±2km, mb4.4/22, Error ellipse: s-maj=10.4km s-min=6.5km az=7.0*
IDC ***12*** *17:21:49.5±11.0, 3°.95N×126°.64E, h61km±109km, mb3.7/12, mbtmp4.0/12, Error ellipse: s-maj=45.1km s-min=19.1km az=58.0*
ISC 12 17:21:46.6±0.5, 4°.10N±0°.05×126°.85E±0°.07, h36km, n54, σ1ᵉ17/56, mb4.2/24, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.38**	**253**	P	**Pn**	**17 22 09.1**	**-0.2**
SGSI				S	**Sn**	**17 22 26.8**	**+0.5**
DAV	**Davao City (W)**	**3.21**	**337**	Pn	**Pn**	**17 22 33.6**	**-1.0**
DAV	**Davao City (W)**	**3.21**	**337**	S	**Sn**	**17 23 12.3**	**+0.7**
243nm,0.4s,baz=215,slow=7.8,SNR=2.0							
TNTI	**Ternate**	**3.34**	**171**	Pn	**Pn**	**17 22 34.2**	**-2.1**
KMSI	**Cibinong**	**4.52**	**219**	P	**Pn**	**17 22 54.7**	**+2.2**
MRSI	**Marisa**	**6.08**	**234**	P	**Pn**	**17 23 16.4**	**+2.4**
LUWI	**Luwuk**	**6.53**	**219**	Pn	**Pn**	**17 23 19.3**	**-0.8**
SWI	**Sorong**	**6.61**	**138**	P	**Pn**	**17 23 22.6**	**+1.4**
TOLI2	**Tolitoli**	**6.75**	**244**	Pn	**Pn**	**17 23 22.0**	**-1.1**
TOLI2				Sn	**Sn**	**17 24 34.6**	**-4.1**
APSI	**Ampana**	**7.19**	**226**	P	**Pn**	**17 23 32.7**	**+3.4**
84nm,1.3s							
MYLDM	**Lahad Datu**	**8.39**	**278**	Pn	**Pn**	**17 23 44.2**	**-1.5**
FAKI	**Fak Fak**	**8.81**	**142**	Pn	**Pn**	**17 23 50.5**	**-1.0**
RKPI	**Ransiki, Papua**	**9.20**	**127**	P	**Pn**	**17 23 56.4**	**-0.4**
4μm24nm,1.4s							
GMJI	**Gumukmas**	**18.16**	**227**	P	**P**	**17 25 57.3**	**+1.2**
KNRA	**Kununurra**

WB2	**Warramunga Arr**	**25.00**	**163**	P	**P**	**17 27 05.9**	**-1.3**
WB2				IAmb	IAmb	17 27 13.5	
	comp=Z,9.3nm,1.1s						
WR8	**Warramunga Arr**	**25.05**	**163**	P	**P**	**17 27 07.6**	**-0.1**
WR8				IAmb	IAmb	17 27 25.4	
	comp=Z,15nm,1.5s						
ASAR	**Alice Springs**	**28.44**	**166**	P	**P**	**17 27 37.5**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=346,slow=7.2,SNR=5.4						
	comp=Z,0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.79**	**300**	P	**P**	**17 27 59.4**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=111,slow=6.6,SNR=7.4						
	comp=Z,0.8nm,0.7s						
CHTO	**Chiang Mai**	**30.94**	**300**	P	**P**	**17 28 00.4**	**0.0**
XAN	**Xi'an**	**34.15**	**333**	P	**P**	**17 28 28.4**	**+0.1**
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
EIDS	**Eidsvold**	**37.56**	**142**	P	**P**	**17 28 56.7**	**-1.0**
EIDS				IAmb	IAmb	17 29 34.0	
	comp=Z,12nm,1.4s						
BBOO	**Buckleboo**	**37.73**	**167**	P	**P**	**17 28 58.6**	**-0.4**
BBOO				IAmb	IAmb	17 29 29.2	
	comp=Z,12nm,1.4s						
STKA	**Stephens Creek**	**38.43**	**160**	P	**P**	**17 29 04.8**	**0.0**
STKA	**Stephens Creek**	**38.43**	**160**	P	**P**	**17 29 05.8**	**+1.0**
	comp=Z,2.4nm,0.7s,baz=342,slow=8.2,SNR=6.2						
	comp=Z,2.4nm,0.7s						
SHL	**Shillong**	**39.76**	**306**	P	**P**	**17 29 15.3**	**-1.1**
LSA	**Lhasa**	**42.29**	**311**	P	**P**	**17 29 37.6**	**+0.1**
LSA				IAmb	IAmb	17 29 40.4	
	comp=Z,3.9nm,0.6s						
EVN	**Everest**	**44.87**	**306**	P	**P**	**17 29 58.3**	**-0.2**
PETK	**Petropavlovsk-**	**55.05**	**22**	P	**P**	**17 31 16.6**	**+2.0**
	comp=Z,1.3nm,0.8s,baz=225,slow=7.9,SNR=4.7						
	comp=Z,1.3nm,0.8s						
MKAR	**Makanchi Array**	**57.33**	**325**	P	**P**	**17 31 30.9**	**-0.2**
MKAR	**Makanchi Array**	**57.33**	**325**	P	**P**	**17 31 31.3**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=120,slow=8.2,SNR=18						
	comp=Z,1.1nm,0.4s						
MAKZ	**Makanchi**	**57.51**	**325**	P	**P**	**17 31 32.4**	**0.0**
MAKZ				IAmb	IAmb	17 31 35.4	
	comp=Z,6.6nm,1.4s						
YAK	**Yakutsk**	**57.84**	**2**	P	**P**	**17 31 35.3**	**+1.0**
ZAA0	**Zalesovo Array**	**60.32**	**333**	P	**P**	**17 31 51.5**	**-0.1**
ZAA0				IAmb	IAmb	17 32 25.3	
	comp=Z,1.5nm,0.9s						
ZALV	**Zalesovo Beam**	**60.32**	**333**	P	**P**	**17 31 51.7**	**+0.1**
ZALV	**Zalesovo Beam**	**60.32**	**333**	P	**P**	**17 31 51.5**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=140,slow=6.7,SNR=5.4						
	comp=Z,0.9nm,0.5s						
ARSB	**Arslanbob**	**60.68**	**316**	P	**P**	**17 31 54.9**	**+0.4**
ARSB				IAmb	IAmb	17 31 56.1	
	comp=Z,3.5nm,1.2s						
KURBB	**Kurchatov Arra**	**61.50**	**327**	P	**P**	**17 31 59.3**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=126,slow=6.5,SNR=9.8						
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**61.50**	**327**	P	**P**	**17 31 59.7**	**0.0**
KURK				IAmb	IAmb	17 32 01.0	
	comp=Z,1.8nm,0.6s						
GAR	**Garm**	**61.77**	**312**	P	**P**	**17 32 01.8**	**-0.2**
KK31	**Karatay Array**	**63.05**	**317**	P	**P**	**17 32 09.6**	**-0.7**
KK31				IAmb	IAmb	17 32 11.9	
	comp=Z,1.5nm,1.1s						
KKAR	**Karatay Array**	**63.05**	**317**	P	**P**	**17 32 11.0**	**+0.7**
BVAR	**Borovoye Array**	**67.08**	**327**	P	**P**	**17 32 37.1**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=128,slow=9.6,SNR=6.5						
	comp=Z,1.0nm,0.6s						
AB31	**Akbulak array**	**71.94**	**321**	P	**P**	**17 33 06.8**	**+0.4**
ABKAR	**Akbulak array**	**71.94**	**321**	P	**P**	**17 33 06.8**	**+0.4**
BRTR	**Keskin Array B**	**89.88**	**310**	P	**P**	**17 34 41.6**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=123,slow=5.3,SNR=4.2						
	comp=Z,1.0nm,0.9s						
ARCES	**ARCESS Array B**	**90.15**	**340**	P	**P**	**17 34 43.1**	**+0.3**
	comp=Z,3.1nm,1.0s,baz=78,slow=5.8,SNR=3.8						
	comp=Z,3.1nm,1.0s						

IDC 12 17:59:01.2±11.0, 28.81N×140.76E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=428.8km s-min=33.8km az=68.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.42**	**308**	P	P	18 07 45.0	-0.1
	0.2nm,0.4s,baz=101,slow=7.5,SNR=5.4						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**48.86**	**188**	P	P	18 07 48.4	-0.3
	0.7nm,0.9s,baz=10,slow=8.0,SNR=2.9						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**52.59**	**188**	P	P	18 08 16.9	+0.1
	0.3nm,0.8s,baz=13,slow=7.1,SNR=4.4						
	0.3nm,0.8s						

*NIED **12** 18:38:43.2, 41.52N×146.94E, h23km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.11; Mθθ1.18; Mϕϕ-1.29; Mrθ-0.61; Mθϕ 1.09; Mϕr0.62; Fault plane solution: M₀1.84000×10¹⁴ NP1: ϕs206.00000°, δ65.00000°, λ-175.00000°. NP2: ϕs114.00000°, δ85.00000°, λ-25.00000°.*

*JMA **12** 18:38:43.2±0.4, 42°N±1°×14°7E±°, h23km, MV3.6/23, FAR SE OFF HOKKAIDO*

ISC 12 18:38:40.9±3.4, 41°22N±0°10′×147°1E±0°2, h35km, n10, σ1s96/14, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**2.36**	**336**	P	**Pn**	**18 39 17.5**	**+0.4**
NEM2				eS	**Sn**	**18 39 42.6**	**-2.2**
JAK	**Akkeshi**	**2.50**	**316**	P	**Pn**	**18 39 19.9**	**+0.8**
JAK				eS	**Sn**	**18 39 47.3**	**-1.0**
JCH	**Churui**	**3.10**	**298**	eP	**Pn**	**18 39 29.3**	**+2.1**
JAR	**Ashorobuto**	**3.21**	**311**	eP	**Pn**	**18 39 30.2**	**+1.4**
JAR				eS	**Sn**	**18 40 04.1**	**-1.7**
JNBK	**Urakawa-nobuka**	**3.40**	**290**	eP	**Pn**	**18 39 34.0**	**+2.6**
JTKR	**Abashiri--Toko**	**3.61**	**321**	eP	**Pn**	**18 39 35.6**	**+1.3**
JEW	**Eniwo**	**4.49**	**293**	eP	**Pn**	**18 39 49.3**	**+2.9**
JOT	**Ohata**	**4.54**	**274**	eP	**Pn**	**18 39 48.4**	**+1.3**
JOT				eS	**Sn**	**18 40 35.9**	**-2.7**
JOM	**Ohasama**	**4.75**	**250**	eP	**Pn**	**18 39 50.5**	**+0.6**
JMK	**Ichinoseki**	**5.03**	**245**	eP	**Pn**	**18 39 54.0**	**+0.2**

*IDC **12** 19:02:31.5±1.2, 2°62S×140°57E, h0km, mb3.2/2, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=39.8km s-min=6.8km az=139.0*

*DJA **12** 19:02:32.5±0.8, 2°S±10°×14°1E±°, h10km, M3.3/3, MLv3.3/3*

ISC 12 19:02:32.3±1.0, 2°6S±0°1×140°7E±0°1, h13km±10km, n14, σ0s75/10, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.06**	**49**	Pg	**Pg**	**19 02 34.9**	**0.0**
	1μm,0.3s,baz=311,slow=19						
JAY				Lg	Lg	19 02 36.9	
	5μm,0.3s,baz=311,slow=19,SNR=341						
JAY	**Jayapura**	**0.06**	**49**	Pg	**Pg**	**19 02 34.9**	**0.0**
JAY				Sg	**Sg**	**19 02 36.8**	**+0.1**
GENI	**Genyem**	**0.49**	**265**	P	**Pb**	**19 02 42.0**	**-1.0**
GENI				S	**Sb**	**19 02 50.5**	**+0.4**
SMPI	**Sarmi**	**2.03**	**286**	P	**Pn**	**19 03 06.8**	**+0.5**
WAMI	**Wamena**	**2.35**	**236**	P	**Pn**	**19 03 12.0**	**+1.2**
WRA	**Warramunga Arr**	**18.36**	**199**	P	**Pn**	**19 06 46.3**	**-0.6**
	0.2nm,0.3s,baz=22,slow=12,SNR=10						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**21.98**	**197**	P	**P**	**19 07 25.9**	**-0.5**
	0.7nm,0.8s,baz=18,slow=9.7,SNR=9.5						
	0.7nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**33.07**	**50**	T	T	19 43 52.3	
	baz=232,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**33.08**	**50**	T	T	19 43 54.1	
	baz=232,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**33.09**	**50**	T	T	19 43 55.4	
	baz=232,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**33.96**	**48**	T	T	19 45 05.4	
	baz=229,slow=76,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**33.97**	**48**	T	T	19 45 06.8	
	baz=229,slow=76,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**33.98**	**48**	T	T	19 45 09.7	
	baz=229,slow=76,SNR=4.2						
CMAR	**Chiang Mai Arr**	**46.06**	**299**	P	**P**	**19 10 56.7**	**+0.2**
	0.3nm,0.6s,baz=113,slow=9.0,SNR=1.5						
	0.3nm,0.6s						

*IDC **12** 19:29:33.3±2.6, 8°25S×110°88E, h0km, mb3.7/4, mbtmp3.6/5, ML3.2/1, MS3.2/2, Error ellipse: s-maj=147.3km s-min=25.0km az=50.0*

*DJA **12** 19:29:51.4±0.3, 8°S±8°×11°1E±°, h129km±4km, M3.7/22, mb4.0/6, MLv3.5/22*

ISC 12 19:29:51.1±0.8, 8°2S±0°1×111°47E±0°06, h142km±8km, n24, σ0s84/28, mb3.5/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**0.29**	**264**	P	**Pn**	**19 30 11.1**	**+0.5**
PCJI				S	**Sn**	**19 30 25.2**	**-0.2**
WOJI	**Wonogiri, Jawa**	**0.63**	**301**	P	**Pn**	**19 30 12.5**	**+0.2**
WOJI				S	**Sn**	**19 30 28.0**	**-0.4**
NGJI	**Ngawi**	**0.79**	**359**	P	**Pn**	**19 30 14.2**	**+0.8**
UGM	**Wanagama**	**0.97**	**285**	P	**Pn**	**19 30 15.1**	**+0.2**
UGM				S	**Sn**	**19 30 32.3**	**-0.7**
SMRI	**Semarang**	**1.51**	**317**	P	**Pn**	**19 30 20.5**	**+0.3**
GMJI	**Gumukmas**	**1.96**	**93**	P	**Pn**	**19 30 25.4**	**+0.2**
GMJI				S	**Sn**	**19 30 51.6**	**+0.2**
BLJI	**Banyuglugur**	**2.15**	**79**	P	**Pn**	**19 30 28.6**	**+1.1**
KPJI	**Karang Pucung**	**2.65**	**288**	P	**Pn**	**19 30 34.2**	**+0.5**
KPJI				S	**Sn**	**19 31 08.0**	**+1.5**
JAGI	**Jajag, Banyuwa**	**2.67**	**97**	P	**Pn**	**19 30 34.0**	**0.0**
JAGI				S	**Sn**	**19 31 06.7**	**-0.4**
ABJI	**Asem Bagus**	**2.76**	**83**	P	**Pn**	**19 30 36.7**	**+1.6**
SRBI	**Singaraja**	**3.71**	**89**	P	**Pn**	**19 30 48.1**	**+0.8**
CNJI	**Cibinong**	**4.38**	**281**	P	**Pn**	**19 30 56.3**	**0.0**
TWSI	**Taliwang, Sumb**	**5.38**	**96**	P	**Pn**	**19 31 09.1**	**-0.4**
	0.1nm24nm,1.1s						
CGJI	**Cibinong**	**5.93**	**285**	P	**Pn**	**19 31 17.3**	**+0.4**
	29nm,1.6s						
PLAI	**Plampang**	**6.27**	**96**	P	**Pn**	**19 31 21.3**	**-0.1**
	0.1nm21nm,1.1s						
KASI	**Kota Agung**	**7.41**	**290**	P	**Pn**	**19 31 37.1**	**+0.5**
WBSI	**Waikabubak, Su**	**7.96**	**101**	P	**Pn**	**19 31 43.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**16.95**	**127**	P	**P**	**19 33 38.6**	**-1.0**
	0.1nm,0.3s,baz=312,slow=16,SNR=1.0						
FITZ				S	Sn	19 36 37.8	-12
	0.9nm,0.3s,baz=302,slow=13,SNR=7.9						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**25.04**	**120**	P	**P**	**19 35 02.6**	**+0.2**
	0.4nm,0.7s,baz=295,slow=9.5,SNR=5.6						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**26.45**	**128**	P	**P**	**19 35 16.0**	**+0.9**
	0.5nm,0.4s,baz=302,slow=8.8,SNR=22						
	0.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**29.20**	**335**	LR	LR	19 48 16.9	
	comp=Z,11nm,18.1s,baz=350,slow=39						
STKA	**Stephens Creek**	**36.62**	**134**	P	**P**	**19 36 45.1**	**+1.2**
	0.9nm,0.4s,baz=314,slow=17,SNR=5.5						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**60.57**	**337**	P	**P**	**19 39 44.6**	**-2.0**
	0.3nm,0.5s,baz=148,slow=7.9,SNR=5.1						
	0.3nm,0.5s						
ARCES	**ARCESS Array B**	**96.17**	**339**	LR	LR	20 31 21.5	
	comp=Z,37nm,18.5s,baz=140,slow=39						

*ATH **12** 19:33:37.7, 36°46N×26°62E, h136km±5km, ML2.9/4, Manual Solution by K.Orfanogiannaki First location: 2019/09/12 19:35:02, This location: 2019/09/12 19:40:36 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*

*THE **12** 19:33:37.9, 36°N±62°×2°7E±13°0, h135km±52km, MLh2.9/2*

*AFAD **12** 19:33:37.9, 36°55N×26°91E, h7km±1km, ML2.1*

ISC 12 19:33:37.3±1.7, 36°44N±0°07′×26°65E±0°04, h134km±15km, n28, σ0s77/37, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THERA	**Ancient Thera,**	**0.95**	**266**	P	**Pn**	**19 34 00.7**	**+0.6**
THERA	**Ancient Thera,**	**0.95**	**266**	P	**Pn**	**19 34 00.8**	**+0.6**
KARP	**Karpathos**	**0.98**	**155**	P	**Pn**	**19 34 01.6**	**+1.1**
KARP	**Karpathos**	**0.98**	**155**	P	**Pn**	**19 34 01.5**	**+1.1**
APE	**Apeiranthos**	**1.09**	**305**	P	**Pn**	**19 34 02.0**	**+0.5**
APE	**Apeiranthos**	**1.09**	**305**	P	**Pn**	**19 34 01.9**	**+0.5**
ARG	**Arkhangelos**	**1.21**	**100**	P	**Pn**	**19 34 03.5**	**+0.9**
ARG	**Arkhangelos**	**1.21**	**100**	P	**Pn**	**19 34 03.5**	**+0.9**
TURN	**Turunc**	**1.33**	**75**	P	**Pn**	**19 34 04.3**	**+0.6**
TURN				S	**Sn**	**19 34 23.5**	**-0.4**
ZKR	**Zakros**	**1.37**	**195**	P	**Pn**	**19 34 04.0**	**-0.2**
NPS	**Neapolis**	**1.45**	**216**	P	**Pn**	**19 34 05.9**	**+0.8**
IDI	**Anoyia**	**1.83**	**232**	P	**Pn**	**19 34 10.1**	**+0.5**
IDI				S	**Sn**	**19 34 33.1**	**-1.1**
IDI	**Anoyia**	**1.83**	**232**	P	**Pn**	**19 34 10.1**	**+0.5**
SABU	**Mula-Dalaman**	**1.90**	**78**	P	**Pn**	**19 34 10.8**	**+0.5**
SABU				S	**Sn**	**19 34 35.1**	**-0.5**
IZZE	**Mula-Seydike**	**2.08**	**89**	P	**Pn**	**19 34 12.8**	**+0.4**
IZZE				S	**Sn**	**19 34 38.0**	**-1.3**
IZZE				*i*	IAML	19 34 40.0	
	comp=N,58nm,0.3s						
IZZE				*i*	IAML	19 34 46.0	
	comp=E,27nm,0.3s						
DNZT	**Denizli-Tavas-**	**2.08**	**66**	P	**Pn**	**19 34 12.8**	**+0.3**
DNZT				S	**Sn**	**19 34 38.7**	**-0.8**
DNZT				*i*	IAML	19 34 39.0	
	comp=E,9.2nm,0.5s						
DNZT				*i*	IAML	19 35 20.0	
	comp=N,10nm,2.3s						
TAVA	**DENIZLI_Tavas**	**2.08**	**60**	P	**Pn**	**19 34 12.7**	**+0.2**
TAVA				S	**Sn**	**19 34 38.2**	**-1.3**
TAVA				*i*	IAML	19 34 39.0	
	comp=N,12nm,0.8s						
TAVA				*i*	IAML	19 35 26.0	
	comp=E,11nm,1.8s						
CAEL	**Denizli, Camel**	**2.25**	**72**	P	**Pn**	**19 34 15.0**	**+0.3**
CAEL				S	**Sn**	**19 34 43.0**	**-0.3**
CAEL				*i*	IAML	19 34 58.0	
	comp=E,47nm,1.5s						
CAEL				*i*	IAML	19 35 00.0	
	comp=N,35nm,2.1s						
KNIK	**Mula-Seydike**	**2.39**	**79**	P	**Pn**	**19 34 17.0**	**+0.6**
KNIK				S	**Sn**	**19 34 45.9**	**-0.4**
KNIK				*i*	IAML	19 34 47.0	
	comp=E,11nm,0.2s						
KNIK				*i*	IAML	19 34 48.0	
	comp=N,14nm,0.4s						
GOLH	**Golhisar**	**2.47**	**70**	P	**Pn**	**19 34 17.9**	**+0.6**
GOLH				S	**Sn**	**19 34 48.0**	**-0.1**
GOLH				*i*	IAML	19 34 57.0	
	comp=N,10nm,0.4s						
GOLH				*i*	IAML	19 34 57.0	
	comp=E,19nm,1.1s						
GVD	**Gavdhos**	**2.63**	**233**	P	**Pn**	**19 34 19.9**	**+0.5**
ANKY	**Antikythira Is**	**2.77**	**259**	P	**Pn**	**19 34 21.2**	**+0.2**
ANKY	**Antikythira Is**	**2.77**	**259**	P	**Pn**	**19 34 21.3**	**+0.2**
VLI	**Veliai**	**3.00**	**276**	P	**Pn**	**19 34 23.9**	**-0.1**
GUR	**Goura**	**3.75**	**295**	P	**Pn**	**19 34 34.2**	**+0.2**
KLV	**Kalavryta, Ach**	**3.93**	**295**	P	**Pn**	**19 34 36.6**	**+0.3**
DRO	**Drossia**	**4.22**	**292**	P	**Pn**	**19 34 42.2**	**+2.1**
ANX	**Ano Chora**	**4.33**	**301**	P	**Pn**	**19 34 42.2**	**+0.6**

*SCB **12** 19:34:26.5±1.2, 20°70S×67°99W, h155km±10km, ML3.4/5, MW3.0, Error ellipse: s-maj=3.3km s-min=2.7km az=1.0*

*IDC **12** 19:34:29.0±3.3, 20°35S×67°52W, h185km±31km, mb3.4/2, mbtmp3.9/5, Error ellipse: s-maj=37.3km s-min=23.5km az=2.0*

ISC 12 19:34:25.9±0.8, 20°66S±0°04×67°98W±0°05, h164km±8km, n33, σ1s22/45, 6C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**1.46**	**255**	⇑*i*P	**Pn**	**19 34 56.4**	**+0.2**
PB01					IAML	19 35 21.3	
	comp=N,306nm,0.2s						
PB01	**IPOC Station P**	**1.46**	**255**	Pg	**Pn**	**19 34 56.5**	**+0.2**
PB01				Sg	**Sn**	**19 35 19.3**	**-0.3**
PB01					IAML	19 35 22.8	
	comp=N,205nm,0.2s						
GO01	**Chusmiza**	**1.51**	**311**	Pg	**Pn**	**19 34 57.4**	**+0.2**
PB09	**IPOC Station P**	**1.63**	**226**	⇑*i*P	**Pn**	**19 34 59.2**	**+1.1**
PB09				*i*	S**n**	**19 35 25.0**	**+2.1**
PB09	**IPOC Station P**	**1.63**	**226**	Pg	**Pn**	**19 34 58.5**	**+0.4**
PB11	**IPOC Station P**	**1.81**	**300**	⇑*i*P	**Pn**	**19 35 00.4**	**+0.4**
PB11				*i*	S**n**	**19 35 26.2**	**-0.1**
PB11					IAML	19 35 29.7	
	comp=E,2μm,0.2s						
PB11	**IPOC Station P**	**1.81**	**300**	Pg	**Pn**	**19 35 00.5**	**+0.4**
PB11				Sg	**Sn**	**19 35 26.8**	**+0.5**
PB11					IAML	19 35 29.5	
	comp=E,2μm,0.2s						
HMBC	**Humberstone**	**1.83**	**282**	⇑*i*P	**Pn**	**19 35 00.1**	**0.0**
HMBC				*i* S	**Sn**	**19 35 26.1**	**-0.4**
HMBC					IAML	19 35 29.9	
	comp=N,627nm,0.4s						
HMBC	**Humberstone**	**1.83**	**282**	Pg	**Pn**	**19 35 00.2**	**0.0**
PB02	**IPOC Station P**	**1.90**	**250**	⇑*i*P	**Pn**	**19 35 01.1**	**+0.2**
PB02				*i* S	**Sn**	**19 35 27.8**	**-0.2**
PB02					IAML	19 35 29.2	
	comp=N,247nm,0.1s						
PB02	**IPOC Station P**	**1.90**	**250**	Pg	**Pn**	**19 35 01.4**	**+0.5**
PB02				Sg	**Sn**	**19 35 28.0**	**0.0**
PB02					IAML	19 35 34.1	
	comp=N,196nm,0.4s						
TA02	**Huaiquique**	**2.05**	**281**	*e*P	**Pn**	**19 35 03.1**	**+0.6**
TA02				*i* S	**Sn**	**19 35 30.2**	**-0.5**
TA01	**Diego Aracena**	**2.06**	**272**	⇑*i*P	**Pn**	**19 35 02.5**	**-0.1**
TA01				*i* S	**Sn**	**19 35 29.6**	**-1.3**
TA01					IAML	19 35 30.4	
	comp=E,337nm,0.2s						
SOEO	**Opoqueri**	**2.09**	**3**	Pg	**Pn**	**19 35 04.0**	**+0.5**
PB03	**IPOC Station P**	**2.15**	**230**	e*P*	**Pn**	**19 35 04.0**	**+0.2**
PB03				*i* S	**Sn**	**19 35 32.2**	**-0.9**
PB03					IAML	19 35 32.9	
	comp=E,293nm,0.1s						
PB03	**IPOC Station P**	**2.15**	**230**	Pg	**Pn**	**19 35 04.2**	**+0.4**
MOCB	**Mochara**	**2.27**	**105**	Pg	**Pn**	**19 35 05.8**	**+0.3**
MOCB				Sg	**Sn**	**19 35 36.1**	**+0.1**
MOCB					IAML	19 35 39.4	
	comp=E,25nm,0.4s						
PB16	**IPOC Station P**	**2.73**	**328**	Pg	**Pn**	**19 35 12.6**	**+1.5**
PB16				Sg	**Sn**	**19 35 47.5**	**+1.5**
PB16					IAML	19 35 49.7	
	comp=E,192nm,0.4s						
YJA	**Yavi**	**2.75**	**124**	Pg	**Pn**	**19 35 12.7**	**+1.5**
SOET	**ToroToro**	**3.26**	**39**	Pg	**Pn**	**19 35 18.0**	**+0.5**
BBOJ	**La Paz, Jacaqu**	**3.67**	**357**	Pg	**Pn**	**19 35 24.7**	**+1.8**
SOEJ	**Jacaque**	**3.67**	**357**	Pg	**Pn**	**19 35 24.8**	**+1.9**
BBOE	**La Paz, Chanca**	**3.83**	**0**	Pg	**Pn**	**19 35 26.8**	**+1.8**
LPAZ	**La Paz**	**4.36**	**358**	P	**Pn**	**19 35 33.0**	**+1.2**
	comp=E,5.4nm,0.3s,baz=176,slow=7.9,SNR=28						
LPAZ				S	**Sn**	**19 36 21.0**	**-2.1**
	comp=E,3.1nm,0.7s,baz=97,slow=16,SNR=1.7						
LPAZ	**La Paz**	**4.36**	**358**	Pg	**Pn**	**19 35 33.0**	**+1.2**
BBOB	**La Paz, Bander**	**4.50**	**358**	Pg	**Pn**	**19 35 34.7**	**+1.1**
PB14	**IPOC Station P**	**4.53**	**209**	Pg	**Pn**	**19 35 34.2**	**+0.5**
SIV	**San Ignacio**	**8.04**	**56**	P	Pn	19 36 16.0	-3.9
	comp=E,5.7nm,0.3s,baz=242,slow=12,SNR=22						
SIV				S	Sn	19 37 40.5	-9.3
	comp=E,1.0nm,0.6s,baz=270,slow=19,SNR=5.7						
BDFB	**Brasilia**	**19.62**	**79**	P	**P**	**19 38 38.3**	**-3.6**
	comp=E,1.3nm,0.3s,baz=245,slow=19,SNR=3.2						
QSPA	**South Pole Qui**	**69.52**	**180**	P	**P**	**19 45 19.1**	**+2.5**
	comp=E,0.5nm,0.6s,baz=116,slow=0.5,SNR=1.7						
	comp=E,0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.26**	**70**	P	**P**	**19 45 55.0**	**-1.9**
	comp=E,0.6nm,0.4s,baz=254,slow=5.2,SNR=9.1						
	comp=E,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**140.17**	**33**	PKP	**PKPdf**	**19 53 36.1**	**+1.3**
	comp=E,0.2nm,0.5s,baz=315,slow=2.1,SNR=1.3						
MKAR	**Makanchi Array**	**144.45**	**36**	PKP	**PKPab**	**19 53 41.1**	**-0.2**
	comp=E,0.6nm,0.9s,baz=321,slow=5.8,SNR=2.1						

*SOME **12** 19:48:18.7, 43°12N×78°28E, h20km*

*NNC **12** 19:48:18.1±0.3, 43°14N×78°31E, h1km±3km, mb3.5, mpv3.6, Error ellipse: s-maj=4.5km s-min=1.6km az=172.0*

*KRNET **12** 19:48:18.5±0.1, 43°13N×78°31E, h18km, mb3.4*

*KNET **12** 19:48:21.3±0.3, 42°93N×78°13E, h9km±8km, ml2.7, Error ellipse: s-maj=13.5km s-min=2.3km az=131.0*

ISC 12 19:48:19.3±0.7, 43°18N±0°02×78°25E±0°01, h10km, n61, σ1s51/110, 32C-16D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.16**	**136**	P	**Pg**	**19 48 21.8**	**-1.1**
	1μm,0.1s						
SATY				S	**Sg**	**19 48 24.1**	**-1.4**
	18μm,0.1s						
SATY	**Saty**	**0.16**	**136**	e*P*	**Pg**	**19 48 21.8**	**-1.1**
SATY				e*S*	**Sg**	**19 48 24.1**	**-1.4**
KPKS	**Kokpek**	**0.43**	**47**	P	**Pg**	**19 48 27.4**	**-0.3**
	0.6nm,0.1s						
KPKS				S	**Sb**	**19 48 33.6**	**-2.0**
	317nm,0.2s						
KPKS	**Kokpek**	**0.43**	**47**	e*P*	**Pg**	**19 48 27.4**	**-0.3**
KPKS				e*S*	**Sb**	**19 48 33.6**	**-2.0**
UZB	**Uzynbulak**	**0.56**	**93**	P	**Pg**	**19 48 28.7**	**-1.6**
	248nm,0.1s						
UZB				S	**Sg**	**19 48 35.7**	**-2.1**
	718nm,0.1s						
UZB	**Uzynbulak**	**0.56**	**93**	e*P*	**Pg**	**19 48 28.7**	**-1.6**
UZB				e*S*	**Sg**	**19 48 35.7**	**-2.1**
UZB	**Uzynbulak**	**0.56**	**93**	e*P*	**Pg**	**19 48 28.7**	**-1.6**

MTBS				S		Sg	19 49 02.4	+0.2
	59nm,0.2s							
MTBS	**Maitube**	**1.33**	**269**	*eP*		**Pb**	**19 48 44.3**	**-0.1**
MTBS				*eS*		**Sg**	**19 49 02.4**	**+0.2**
MTBS	**Maitube**	**1.33**	**269**	*eP*		**Pb**	**19 48 44.3**	**-0.1**
	23nm,0.2s							
MTBS				*eS*		**Sg**	**19 49 02.4**	**+0.2**
	59nm,0.2s							
KUU	**Kurty**	**1.56**	**298**	P		**Pb**	**19 48 48.1**	**-0.2**
	36nm,0.3s							
KUU				S		**Sg**	**19 49 09.6**	**0.0**
	28nm,0.3s							
KUU	**Kurty**	**1.56**	**298**	*eP*		**Pb**	**19 48 48.1**	**-0.2**
KUU				*eS*		**Sg**	**19 49 09.6**	**0.0**
KUU	**Kurty**	**1.56**	**298**	*eP*		**Pb**	**19 48 48.1**	**-0.2**
	36nm,0.3s							
KUU				*eS*		**Sg**	**19 49 09.6**	**0.0**
	28nm,0.3s							
KST	**Kastek**	**1.68**	**266**	P		**Pb**	**19 48 50.3**	**-0.1**
	12nm,0.2s							
KST				S		**Sg**	**19 49 13.2**	**-0.1**
	28nm,0.4s							
KST	**Kastek**	**1.68**	**266**	*eP*		**Pb**	**19 48 50.3**	**-0.1**
	12nm,0.2s							
KST				*eS*		**Sg**	**19 49 13.2**	**-0.1**
	28nm,0.4s							
ULHL	**Ulahol**	**1.75**	**239**	⇑P		**Pb**	**19 48 50.8**	**-0.8**
	6.6nm,0.1s,SNR=6.9							
ULHL				⇓S		**Sb**	**19 49 13.0**	**-0.7**
	90nm,0.2s							
ULHL	**Ulahol**	**1.75**	**239**	⇑*i*P		**Pn**	**19 48 49.9**	**+0.1**
ULHL				⇑*i*S		**Sb**	**19 49 14.1**	**+0.5**
TDK	**Taldyqorghan**	**1.83**	**3**	P		**Pg**	**19 48 53.2**	**-1.2**
	11nm,0.1s							
TDK				S		**Sg**	**19 49 17.8**	**-0.2**
	141nm,0.2s							
TDK	**Taldyqorghan**	**1.83**	**3**	*eP*		**Pg**	**19 48 53.2**	**-1.2**
	11nm,0.1s							
TDK				*eS*		**Sg**	**19 49 17.8**	**-0.2**
	141nm,0.2s							
KRBS	**Karabastau**	**1.95**	**286**	Pg		**Pb**	**19 48 54.6**	**-0.2**
	2.4nm,0.2s							
KRBS				Lg		Lg	19 49 20.7	
	38nm,0.5s							
TKM2	**Tokmak 2**	**1.96**	**263**	⇑*i*P		**Pb**	**19 48 53.8**	**-1.4**
TKM2				⇑*i*S		**Sb**	**19 49 19.8**	**0.0**
NRN	**Naryn**	**2.41**	**225**	⇑*i*P		**Pn**	**19 49 00.1**	**+1.0**
NRN				⇑*i*S		**Sn**	**19 49 30.2**	**+1.4**
KBK	**Karagaybulak**	**2.48**	**259**	⇑P		**Pb**	**19 49 03.3**	**-0.7**
	11nm,0.1s,SNR=13							
KBK	**Karagaybulak**	**2.48**	**259**	⇑*i*P		**Pn**	**19 49 01.2**	**+1.3**
KBK				⇑*i*S		**Sn**	**19 49 31.9**	**+1.6**
CHMS	**Chumysh**	**2.57**	**267**	⇓P		**Pb**	**19 49 04.6**	**-0.9**
	5.0nm,0.2s,SNR=9.7							
CHMS				⇑S		**Sb**	**19 49 38.8**	**+1.7**
	16nm,0.2s							
CHMS	**Chumysh**	**2.57**	**267**	⇓*i*P		**Pn**	**19 49 02.4**	**+1.4**
CHMS				⇓*i*S		**Sn**	**19 49 33.9**	**+1.6**
SGDS	**Sogindy**	**2.66**	**277**	Pg		**Pb**	**19 49 06.1**	**-0.8**
	2.6nm,0.1s							
SGDS				Lg		Lg	19 49 41.5	
	20nm,0.4s							
FRU1	**Bishkek**	**2.68**	**263**	⇓*i*P		**Pn**	**19 49 04.0**	**+1.5**
FRU1				⇓*i*S		**Sn**	**19 49 36.7**	**+1.6**
USP	**Ospenovka**	**2.74**	**273**	⇓P		**Pb**	**19 49 07.4**	**-1.0**
	4.9nm,0.2s,SNR=9.7							
USP	**Ospenovka**	**2.74**	**273**	⇑*i*P		**Pn**	**19 49 04.8**	**+1.4**
USP				⇑*i*S		**Sn**	**19 49 38.2**	**+1.6**
AAK	**Ala-Archa**	**2.81**	**260**	⇑Pg		**Pb**	**19 49 09.2**	**-0.5**
	2.7nm,0.6s							
AAK				⇑Lg		Lg	19 49 48.7	
	11nm,0.7s							
AAK	**Ala-Archa**	**2.81**	**260**	⇑*i*P		**Pn**	**19 49 05.9**	**+1.5**
AAK				⇑*i*S		**Sn**	**19 49 39.8**	**+1.3**
UCH	**Uchtor**	**2.91**	**252**	⇑*i*P		**Pn**	**19 49 07.5**	**+1.4**
UCH				⇑*i*S		**Sn**	**19 49 42.4**	**+1.0**
EKS2	**Erkin-Say**	**3.33**	**263**	⇓*i*P		**Pn**	**19 49 13.0**	**+1.6**
EKS2				⇓*i*S		**Sn**	**19 49 52.2**	**+1.1**
BTLS	**Baital**	**3.56**	**303**	Pg		**Pg**	**19 49 24.6**	**-2.7**
	9.5nm,0.3s							
BTLS				Lg		Lg	19 50 10.2	
	1.5nm,0.3s							
BTLS	**Baital**	**3.56**	**303**	*eP*		**Pg**	**19 49 24.6**	**-2.7**
	9.5nm,0.3s							
BTLS				*eS*		**Sg**	**19 50 10.2**	**-3.3**
	1.5nm,0.3s							
ARSB	**Arslanbob**	**4.33**	**246**	⇑*i*P		**Pn**	**19 49 26.8**	**+1.6**
ARSB				⇑*i*S		**Sn**	**19 50 16.1**	**+0.3**
MAKZ	**Makanchi**	**4.49**	**35**	⇑Pn		**Pn**	**19 49 29.0**	**+1.6**
	0.2nm,0.4s							
MAKZ				⇑Sn		**Sn**	**19 50 23.4**	**+3.7**
	0.3nm,0.5s							
MAKZ				⇑Lg		Lg	19 50 41.5	
	4.5nm,1.1s							
MK31	**Makanchi Array**	**4.62**	**37**	⇑Pn		**Pn**	**19 49 30.1**	**+1.0**
	0.3nm,0.3s,baz=214,slow=13,SNR=16							
MK31				⇑Sn		**Sn**	**19 50 24.6**	**+1.9**
	0.7nm,0.3s							
MK31				⇑Lg		Lg	19 50 44.1	
	2.3nm,0.5s							
KK31	**Karatay Array**	**5.66**	**272**	⇓Pg		**Pb**	**19 50 01.8**	**+3.7**
	0.8nm,0.6s,baz=83,slow=17,SNR=9.3							
KK31				⇑Lg		Lg	19 51 16.9	
	1.1nm,0.4s,baz=80,slow=30,SNR=7.8							
KURBB	**Kurchatov Arra**	**7.45**	**1**	⇑Lg		Lg	19 52 14.1	
	5.4nm,0.7s							
KURK	**Kurchatov**	**7.55**	**2**	⇓Lg		Lg	19 52 15.6	
	1.7nm,0.8s							

*IDC **12** 19:58:24.4±1.4,34°.39N×137°.99E,h304km±21km,mb2.7/2, mbtmp3.4/4,Error ellipse: s-maj=54.2km s-min=28.9km az=69.0*
*JMA **12** 19:58:25.1±0.3,34°N±4′×13°8E±°,h308km,MV2.7/12, ENSYUNADA*
ISC 12 19:58:25.4±1.2,34°.4N±0°.1×137°.7E±0°.1,h300km,n10, σ1ˢ53/12,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.48**	**170**		*eP*	**Pn**		**19 59 05.0**	**+1.2**
JIE	**Ise**	**0.79**	**268**		*eP*	**Pn**		**19 59 05.8**	**+0.9**
JYTA	**Yamagatataniai**	**1.39**	**327**		*eP*	**Pn**		**19 59 08.6**	**+0.8**
JOD2	**Odawara 2**	**1.44**	**54**		*eP*	**Pn**		**19 59 09.4**	**+1.2**
JRY	**Ryogami san**	**1.89**	**32**		*eP*	**Pn**		**19 59 12.6**	**+1.3**
JRY					*eS*	**S**		**19 59 49.7**	**+1.9**
JWT	**Wachi**	**2.04**	**295**		*eP*	**Pn**		**19 59 13.4**	**+0.9**
MJAR	**Matsushiro Arr**	**2.16**	**12**	P		**Pn**		**19 59 13.8**	**+0.4**
	4.3nm,0.4s,baz=189,slow=9.6,SNR=27								
MJAR				S		**S**		**19 59 51.1**	**-0.6**
	2.4nm,0.9s,baz=193,slow=10.0,SNR=4.9								
ASAJ	**Asahikawa**	**10.40**	**20**	P		**Pn**		**20 00 45.9**	**-2.5**
	2.4nm,0.8s,baz=195,slow=20,SNR=1.1								
SONM	**Songino Array**	**26.88**	**309**	P		**P**		**20 03 40.3**	**+1.0**
	0.2nm,0.4s,baz=123,slow=8.4,SNR=2.0								
	0.2nm,0.4s								
WRA	**Warramunga Arr**	**54.16**	**184**	P		**P**		**20 07 18.8**	**-1.6**
	0.1nm,0.2s,baz=3.0,slow=7.3,SNR=5.0								
	0.1nm,0.2s								

*IDC **12** 20:04:00.0±2.4,38°.47N×141°.24E,h51km±23km,mb3.3/6, mbtmp3.5/9,ML3.0/4,MS2.0/1,Error ellipse: s-maj=26.4km s-min=16.0km az=116.0*
*JMA **12** 20:04:00.6±0.1,38°.0N±0°.2×141°.3E±0°.3,h77km,MV3.4/40, SENDAI BAY REGION*
JMA Felt I J1 at SENDAI BAY REGION .
ISC 12 20:04:00.6±1.0,38°.01N±0°.04×141°.25E±0°.06,h73km±6km, n32,σ1ˢ97/41,mb3.7/6,1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.34**	**30**		*i*P	**Pn**		**20 04 13.2**	**+0.9**
JIKH					*eS*	**Sn**		**20 04 22.1**	**+1.2**
JMM	**Marumori**	**0.39**	**248**		P	**Pn**		**20 04 13.0**	**+0.3**
JMM					S	**Sn**		**20 04 22.4**	**+0.9**
JMST	**Minamisoumatoc**	**0.40**	**225**		P	**Pn**		**20 04 13.1**	**+0.4**
JMST					S	**Sn**		**20 04 22.4**	**+0.7**
JIO	**Ouri**	**0.45**	**10**		*i*P	**Pn**		**20 04 14.2**	**+1.1**
JIO					*eS*	**Sn**		**20 04 23.9**	**+1.5**
JOU	**Okura**	**0.58**	**308**		*i*P	**Pn**		**20 04 15.2**	**+0.7**
JOU					*eS*	**Sn**		**20 04 26.6**	**+1.9**
JFK	**Kawauchi**	**0.71**	**205**		*i*P	**Pn**		**20 04 15.7**	**-0.1**
JFK					*eS*	**Sn**		**20 04 26.8**	**-0.2**
JOTO	**OTAMA OYAMA**	**0.85**	**238**		P	**Pn**		**20 04 17.7**	**+0.3**
JOTO					*eS*	**Sn**		**20 04 30.7**	**+0.8**
JMK	**Ichinoseki**	**0.94**	**359**		*i*P	**Pn**		**20 04 19.4**	**+0.9**
JMK					S	**Sn**		**20 04 33.2**	**+1.5**
JYS	**Shirataka**	**0.95**	**283**		*i*P	**Pn**		**20 04 19.6**	**+0.9**
JYS					S	**Sn**		**20 04 34.3**	**+2.1**
JYK	**Kaneyama**	**1.14**	**323**		*eP*	**Pn**		**20 04 22.1**	**+1.1**
JYK					*eS*	**Sn**		**20 04 38.3**	**+2.0**
JYA	**Atsumi**	**1.34**	**296**		⇓P	**Pn**		**20 04 24.5**	**+1.0**
JFY	**Yanaizu**	**1.36**	**244**		*i*P	**Pn**		**20 04 24.3**	**+0.5**
JFY					*eS*	**Sn**		**20 04 42.3**	**+0.9**
JOM	**Ohasama**	**1.46**	**1**		*eP*	**Pn**		**20 04 26.2**	**+1.1**
JOM					*eS*	**Sn**		**20 04 45.2**	**+1.7**
JRG	**Rokugo**	**1.46**	**341**		*eP*	**Pn**		**20 04 26.7**	**+1.5**
JRG					*eS*	**Sn**		**20 04 46.0**	**+2.3**
JNS	**Sasagawa**	**1.54**	**263**		*eP*	**Pn**		**20 04 26.9**	**+0.7**
JNS					*eS*	**Sn**		**20 04 46.9**	**+1.5**
JAW	**Awa shima**	**1.64**	**286**		P	**Pn**		**20 04 28.4**	**+1.1**
MJAR	**Matsushiro Arr**	**2.83**	**240**		P	**Pn**		**20 04 44.5**	**+1.0**
	0.3nm,0.3s,baz=54,slow=10,SNR=18								
MJAR					S	**Sn**		**20 05 22.9**	**+6.2**
	3.4nm,0.5s,baz=47,slow=25,SNR=3.8								
MJAR					LR	LR		20 06 11.9	
	comp=Z,27nm,19.6s,baz=166,slow=43 1.7nm,0.3s								
JHJ	**Hachijo jima 2**	**5.03**	**194**		P	**Pn**		**20 05 17.7**	**+4.2**
	5.8nm,0.3s,baz=12,slow=9.3,SNR=1.8								
JHJ					S	**Sn**		**20 06 05.7**	**-4.5**
	159nm,0.6s,baz=41,slow=19,SNR=1.6								
ASAJ	**Asahikawa**	**6.18**	**9**	P		Pn		20 05 23.4	-5.8
	0.7nm,0.3s,baz=175,slow=15,SNR=9.5								
ASAJ					S	**Sn**		**20 06 36.8**	**-1.6**
	1.5nm,0.5s,baz=120,slow=20,SNR=0.9 3.7nm,0.9s								
USRK	**Ussuriysk Ar.**	**9.33**	**314**	P		**Pn**		**20 06 08.4**	**-3.7**
	0.1nm,0.3s,baz=128,slow=11,SNR=1.7 0.8nm,0.5s								
SONM	**Songino Array**	**27.14**	**302**	P		**P**		**20 09 35.6**	**-1.4**
	0.4nm,0.7s,baz=104,slow=11,SNR=2.4 0.4nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**28.77**	**122**	T		T		20 40 12.0	
	baz=316,slow=75,SNR=22								
H11N1	**WAKE ISLAND Hy**	**28.78**	**122**	T		T		20 40 12.5	
	baz=316,slow=75,SNR=44								
H11N3	**WAKE ISLAND Hy**	**28.79**	**122**	T		T		20 40 13.3	
	baz=316,slow=75,SNR=26								
H11S1	**WAKE ISLAND Hy**	**29.51**	**124**	T		T		20 41 07.8	
	baz=317,slow=76,SNR=31								
H11S3	**WAKE ISLAND Hy**	**29.51**	**124**	T		T		20 41 08.1	
	baz=317,slow=76,SNR=29								
H11S2	**WAKE ISLAND Hy**	**29.52**	**124**	T		T		20 41 09.1	
	baz=317,slow=76,SNR=26								
ZALV	**Zalesovo Beam**	**41.16**	**312**	P		**P**		**20 11 36.5**	**-1.1**
	0.7nm,0.6s,baz=90,slow=7.2,SNR=2.8 0.7nm,0.6s								
MKAR	**Makanchi Array**	**43.49**	**301**	P		**P**		**20 11 55.7**	**-0.9**
	1.1nm,0.9s,baz=77,slow=14,SNR=4.9 1.1nm,0.9s								
KURBB	**Kurchatov Arra**	**45.30**	**307**	P		**P**		**20 12 10.3**	**-0.6**
	1.1nm,0.5s,baz=81,slow=7.9,SNR=9.6 1.1nm,0.5s								
ILAR	**Eielson Array**	**48.74**	**33**	P		**P**		**20 12 36.1**	**-1.5**
	0.3nm,0.7s,baz=269,slow=6.3,SNR=3.2 0.3nm,0.7s								
WRA	**Warramunga Arr**	**58.01**	**188**	P		P		20 13 51.6	+5.7
	0.5nm,0.9s,baz=8.5,slow=6.7,SNR=2.1 0.5nm,0.9s								

*BER **12** 20:21:12.3±1.7,81°.94N×5°.39W,h10km,mb(Pn)3.4, ML1.9(DNK),Confirmed Earthquake*
*DNK **12** 20:21:12.5±3.2,81°.98N×4°.44W,h36km±29km,ML1.9*
*FCIAR **12** 20:21:14.0,82°.18N×1°.93W,h10km,station ZFI2 has station magnitude of 4.00*
ISC 12 20:21:07.0±1.1,81°.96N±0°.08×5°.61W±0°.05,h10km,n19, σ3ˢ21/28,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.63**	**263**		*eP*	**Pg**		**20 21 39.2**	**+1.0**
NOR	**Nord**	**1.63**	**263**		*eP*	**Pg**		**20 21 39.2**	**+1.0**
KBS	**Kingsbay**	**4.20**	**127**		*eP*	**Pn**		**20 22 13.5**	**+2.5**
KBS					IAML			20 23 00.6	
	comp=Z,4.2nm,1.0s								
KBS	**Kingsbay**	**4.20**	**127**		*eP*	**Pn**		**20 22 12.4**	**+1.5**
KBS					*eS*	**Sn**		**20 22 55.0**	**-5.0**
BRBB	**Barentsburg B**	**5.15**	**128**		*eP*	**Pn**		**20 22 27.4**	**+3.5**
BRBA	**Barentsburg A**	**5.18**	**128**		*eP*	**Pn**		**20 22 28.1**	**+3.7**
SPA0	**Spitsbergen Ar**	**5.32**	**124**		*eP*	**Pn**		**20 22 29.0**	**+2.6**
SPA0					*eS*	**Sn**		**20 23 25.1**	**-2.6**
SPA0	**Spitsbergen Ar**	**5.32**	**124**		*eP*	**Pn**		**20 22 28.9**	**+2.6**
SPA0					IAML			20 22 38.2	
	comp=Z,4.9nm,0.5s								
DAG	**Danmarks Havn**	**5.72**	**211**		*eP*	**Pn**		**20 22 35.8**	**+4.0**
DAG					*eS*	**Sn**		**20 23 35.6**	**-1.7**
DAG					IAML			20 23 40.2	
	comp=Z,8.9nm,0.2s								
DAG	**Danmarks Havn**	**5.72**	**211**		*eP*	**Pn**		**20 22 35.8**	**+4.0**
DAG					*eS*	**Sn**		**20 23 35.6**	**-1.7**
DAG					IAML			20 23 40.2	
	comp=Z,8.9nm,0.2s								
HSPB	**Hornsund (broa**	**6.24**	**131**		*eP*	**Pn**		**20 22 41.3**	**+2.4**
HSPB					*eS*	**Sn**		**20 23 49.3**	**-0.9**
HSPB	**Hornsund (broa**	**6.24**	**131**		*eP*	**Pn**		**20 22 42.0**	**+3.0**
ZFI2	**Zemlya Franca-**	**7.82**	**71**		*eP*	**Pn**		**20 23 01.8**	**+1.2**
ZFI2					*eS*	Sn		20 24 19.7	-9.3
	comp=Z,42nm,2.3s								
DBG	**Daneborg**	**8.21**	**209**		*eP*	**Pn**		**20 23 06.3**	**+0.4**
DBG					*eS*	**Sn**		**20 24 33.3**	**-5.2**
DBG					IAML			20 24 42.8	
	comp=Z,3.4nm,0.2s								
DBG	**Daneborg**	**8.21**	**209**		*eP*	**Pn**		**20 23 06.3**	**+0.4**
DBG					*eS*	**Sn**		**20 24 33.3**	**-5.2**
DBG					IAML			20 24 42.8	
	comp=Z,3.4nm,0.2s								
NEEM	**North Greenlan**	**9.01**	**265**		*eP*	**Pn**		**20 23 18.2**	**+1.1**
NEEM					*eS*	**Sn**		**20 24 53.9**	**-4.6**
NEEM					IAML			20 25 03.2	
	comp=Z,1.3nm,0.9s								
NEEM	**North Greenlan**	**9.01**	**265**		*eP*	**Pn**		**20 23 18.2**	**+1.1**
NEEM					*eS*	**Sn**		**20 24 53.9**	**-4.6**
NEEM					IAML			20 25 03.2	
	comp=Z,1.3nm,0.9s								
SUMG	**Summit**	**11.57**	**235**		*eP*	**Pn**		**20 23 55.5**	**+3.2**
SUMG					*eS*	Sn		20 25 51.2	-10
SUMG					IAML			20 25 58.9	
	comp=Z,1.3nm,0.3s								
SUMG	**Summit**	**11.57**	**235**		*eP*	**Pn**		**20 23 55.5**	**+3.2**
SUMG					*eS*	Sn		20 25 51.2	-10
SUMG					IAML			20 25 58.9	
	comp=Z,1.3nm,0.3s								

IDC 12 20:48:12.1±2.3,20°.35S×175°.54W,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=60.7km s-min=49.5km az=33.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.80**	**256**		P	P		20 56 43.1	-0.7
	1.4nm,0.8s,baz=95,slow=8.2,SNR=12 1.4nm,0.8s								
WRA	**Warramunga Arr**	**46.91**	**261**		P	P		20 56 45.1	+0.4
	2.3nm,0.9s,baz=101,slow=8.1,SNR=9.1 2.3nm,0.9s								
VNDA	**Vanda**	**58.27**	**186**		P	P		20 58 08.4	+0.3
	0.4nm,0.5s,baz=12,slow=6.3,SNR=2.1 0.4nm,0.5s								
AKASG	**Malin Array Be**	**143.97**	**333**	PKP		PKPbc		21 07 47.0	-0.1
	1.1nm,0.7s,baz=45,slow=2.4,SNR=6.2								
BRTR	**Keskin Array B**	**148.42**	**314**	PKPbc		PKPbc		21 08 00.9	-0.1
	0.4nm,0.5s,baz=42,slow=2.3,SNR=1.7								

*IDC **12** 20:55:49.0±3.4,44°.63N×18°.62E,h0km,mb3.5/1, mbtmp3.4/3,ML3.1/2,MS2.4/2,Error ellipse: s-maj=63.7km s-min=19.7km az=76.0*
*PRU **12** 20:55:49.9,44°.66N×18°.67E,h1km*
*PDG **12** 20:55:50.2±0.4,44°.60N×18°.56E,h10km±1km,ML3.7/9, Error ellipse: s-maj=1.3km s-min=1.0km az=90.0*
*RHSSO **12** 20:55:50.0±0.4,44°.67N×18°.58E,h6km±3km,ML3.6/8*
*BEO **12** 20:55:51.1±0.3,44°.66N×18°.53E,h19km±2km,ML3.6/21*
*BGR **12** 20:55:53.2±2.9,44°.69N×18°.56E,h10km,ML3.5/5,Error ellipse: s-maj=41.1km s-min=8.9km az=141.0*
ISC 12 20:55:49.8±1.0,44°.68N±0°.02×18°.57E±0°.01,h12km±8km, n163,σ1ˢ57/258,31C-27D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TEKS	**Tekeris**	**0.69**	**100**		*eP*	**Pg**		**20 56 04.1**	**+0.2**
TEKS					*eS*	**Sb**		**20 56 14.3**	**+0.9**
BLY	**Banja Luka**	**0.99**	**275**		⇑*i*P	**Pg**		**20 56 08.3**	**-0.6**
BLY					*eSg*	**Sg**		**20 56 22.1**	**+0.2**
BLY	**Banja Luka**	**0.99**	**275**		⇓P	**Pg**		**20 56 08.5**	**-0.4**
BLY					⇑S	**Sg**		**20 56 20.9**	**-1.0**
BLY	**Banja Luka**	**0.99**	**275**		*eP*g	**Pg**		**20 56 09.0**	**+0.1**
BLY					*eSg*	**Sg**		**20 56 21.0**	**-0.9**
FRGS	**Fruska Gora**	**1.00**	**61**		*eP*g	**Pn**		**20 56 10.0**	**+0.3**
FRGS					*eSg*	**Sn**		**20 56 24.9**	**+1.1**
BBLS	**Lazi&#263i**	**1.01**	**143**		*eP*g	**Pg**		**20 56 08.6**	**-0.6**
BBLS					*eSg*	**Sb**		**20 56 23.4**	**+0.9**
DIVS	**Divibare**	**1.17**	**119**		*eP*g	**Pb**		**20 56 12.3**	**+0.3**
DIVS					*eSg*	**Sg**		**20 56 27.8**	**+0.3**
RUDO	**Rudo**	**1.20**	**151**		⇑*i*Pg	**Pb**		**20 56 11.0**	**-1.5**
RUDO					*eSg*	**Sg**		**20 56 28.4**	**-0.2**
BEO	**Beograd**	**1.36**	**84**		*eP*g	**Pb**		**20 56 15.5**	**+0.3**
BEO					*eSg*	**Sg**		**20 56 34.8**	**+1.3**
AVAS	**Avala Beograd**	**1.38**	**89**		*eP*g	**Pg**		**20 56 16.6**	**+0.3**
AVAS					*eSg*	**Sg**		**20 56 36.3**	**+2.0**
TRUS	**Trudelj**	**1.39**	**108**		*eP*g	**Pg**		**20 56 16.3**	**-0.1**
TRUS					*eSg*	**Sg**		**20 56 36.4**	**+1.9**
UPM	**Unac-Piva**	**1.49**	**171**		⇓*i*Pg	**Pb**		**20 56 17.5**	**-0.1**
UPM					*i* Sg	**Sg**		**20 56 38.7**	**+0.9**
KLINJ	**Klinje**	**1.51**	**180**		*eP*g	**Pn**		**20 56 17.2**	**+0.5**
KLINJ					*eSg*	**Sn**		**20 56 36.8**	**+0.4**
MORH	**Mrgy, Hungar**	**1.54**	**2**		⇑*i*Pn	**Pn**		**20 56 17.4**	**+0.3**
MORH					*eSn*	**Sg**		**20 56 39.2**	**-0.1**
MORH	**Mrgy, Hungar**	**1.54**	**2**		⇓P	**Pn**		**20 56 17.4**	**+0.3**
MORH					⇓S	**Sg**		**20 56 39.7**	**+0.5**
RICI	**Ricice**	**1.57**	**222**		*eP*n	**Pn**		**20 56 18.1**	**+0.6**
RICI					Sn	**Sb**		**20 56 39.6**	**+0.9**
MOSL	**Moslavina**	**1.59**	**307**		⇑*i*Pn	**Pn**		**20 56 18.1**	**+0.1**
MOSL					*eSn*	**Sb**		**20 56 40.1**	**+0.8**
MOSL	**Moslavina**	**1.59**	**307**		*eP*n	**Pn**		**20 56 17.9**	**0.0**
MOSL					Sn	**Sb**		**20 56 39.5**	**+0.2**
SUBS	**Subotica**	**1.62**	**27**		*eP*g	**Pg**		**20 56 22.1**	**+1.2**
SUBS					*eSg*	**Sg**		**20 56 44.7**	**+2.7**
KIJV	**Kijevo**	**1.69**	**247**		⇑*i*Pn	**Pn**		**20 56 20.1**	**+0.8**
KIJV					*eSn*	**Sn**		**20 56 41.8**	**+0.9**
KIJV	**Kijevo**	**1.69**	**247**		*eP*n	**Pn**		**20 56 20.2**	**+0.9**
KIJV					Sn	**Sb**		**20 56 42.4**	**+0.2**
GRUS	**Gruza**	**1.73**	**116**		*eP*n	**Pb**		**20 56 21.0**	**-0.5**
GRUS					*eSg*	**Sg**		**20 56 48.2**	**+2.9**
SJES	**Sjenica**	**1.74**	**144**		*eP*n	**Pn**		**20 56 20.6**	**+0.7**
SJES					*eSg*	**Sg**		**20 56 48.0**	**+2.3**
BRY	**Bratogost**	**1.77**	**181**		⇑*i*Pn	**Pb**		**20 56 22.1**	**-0.3**
BRY					*i* Sn	**Sb**		**20 56 44.8**	**+0.2**
MAKA	**Makarska**	**1.79**	**219**		*eP*n	**Pn**		**20 56 21.1**	**+0.7**
MAKA					Sn	**Sb**		**20 56 44.3**	**-0.5**
NKME	**Niksic**	**1.93**	**172**		⇓*i*Pn	**Pn**		**20 56 23.0**	**+0.7**
BANR	**Banloc**	**1.95**	**68**		⇑P	**Pn**		**20 56 23.4**	**+0.7**
BANR					⇓S	**Sb**		**20 56 49.8**	**+0.4**
KOME	**Kolasin**	**1.95**	**159**		⇑*i*Pn	**Pn**		**20 56 23.6**	**+0.8**
KOME					*i* Sn	**Sb**		**20 56 49.1**	**-0.5**
TREB	**Trebinje**	**1.97**	**185**		⇑*i*Pn	**Pn**		**20 56 24.1**	**+1.1**
TREB					*eSn*	**Sb**		**20 56 49.2**	**-0.8**
GOCS	**Kraljevo Serbi**	**2.00**	**123**		*eP*n	**Pn**		**20 56 24.4**	**+0.9**
GOCS					*eSn*	**Sn**		**20 56 48.7**	**+0.3**
VRSS	**Vrsac**	**2.00**	**76**		*eP*n	**Pn**		**20 56 23.7**	**+0.2**
VRSS					*eSn*	**Sn**		**20 56 50.3**	**+1.8**
UDBI	**Udbina**	**2.01**	**267**		*eP*n	**Pn**		**20 56 23.8**	**+0.1**
UDBI					Sn	**Sn**		**20 56 50.3**	**+1.5**
DBRK	**Dubrovnik**	**2.03**	**189**		*eP*n	**Pb**		**20 56 25.5**	**-1.1**
DBRK					Sn	**Sb**		**20 56 51.1**	**-0.7**
IVA	**Berane**	**2.04**	**152**		⇓*i

BORR Bors 3.29 42 ⇑P Pn 20 56 43.2 +2.0
SRE Strehaia 3.30 89 ⇑P Pn 20 56 43.2 +1.8
ARSA Arzberg 3.34 322 *i* Pn Pn 20 56 42.9 +1.0
comp=Z,94nm,0.3s,SNR=134
ARSA *e*Sn **Sn** 20 57 20.3 -1.2
comp=Z,22nm,0.4s
ARSA Arzberg 3.34 322 *e*Pn Pn 20 56 42.9 +1.0
OBKA Obir 3.37 304 *i* Pn Pn 20 56 43.1 +0.7
comp=Z,4.2nm,0.2s,SNR=13
OBKA *e*Pg **Pg** 20 56 56.5 +2.2
comp=Z,21nm,0.5s
OBKA Sn **Sg** 20 57 39.6 +1.7
comp=Z,70nm,0.6s
OBKA Obir 3.37 304 *e*Pn Pn 20 56 43.0 +0.7
PSZ Piszkesteto 3.37 15 ⇓P Pn 20 56 42.6 +0.3
RONA Rosalia, Austr 3.41 333 *i* Pn Pn 20 56 43.9 +1.0
comp=Z,20nm,0.2s,SNR=56
RONA *e*Sn **Sn** 20 57 25.1 +1.8
comp=Z,26nm,0.6s
BRJN Brijuni 3.44 276 *e*Pn Pn 20 56 44.6 +1.4
BRJN *e*Sn **Sn** 20 57 24.6 +0.7
TRAN Tran 3.48 121 P Pn 20 56 46.1 +2.3
VOJS Vojsko 3.57 294 *i* Pn Pn 20 56 45.5 +0.3
BOSS Bosilegrad 3.58 126 *e*Pn Pn 20 56 45.7 +0.6
BOSS *e*Sn **Sn** 20 57 26.0 -1.4
DRGR 3.59 52 ⇓P Pn 20 56 46.6 +1.3
CONA Conrad Observa 3.76 331 *i* Pn Pn 20 56 48.4 +0.8
comp=Z,7.7nm,0.2s,SNR=41
CONA *i* Sn **Sn** 20 57 33.2 +1.3
comp=Z,18nm,0.4s
LOT Lotru 3.76 76 ⇑P Pn 20 56 48.1 +0.4
LOT ⇓S **Sn** 20 57 34.1 +2.1
MARR Marisel-Cluj 3.76 56 ⇑P Pn 20 56 48.5 +0.8
MARR ⇓S **Sn** 20 57 33.3 +1.3
OHR Ohrid 3.92 155 *e*Pn Pn 20 56 52.6 +2.7
MPEP Malo Peshtene 3.95 108 P Pb 20 56 55.4 -4.0
VTS Vitosha 3.96 120 P Pn 20 56 51.6 +1.1
MYKA Terra Mystica 3.97 301 *i* Pn Pn 20 56 52.0 +1.4
comp=Z,4.2nm,0.2s,SNR=5.6
CJR Cluj-Napoca 4.07 58 ⇓P Pn 20 56 53.6 +1.7
PLNA Plana 4.16 120 P Pb 20 56 59.3 -3.6
JAVC Velka Javorina 4.23 352 *e*PN Pn 20 56 55.0 +0.9
JAVC Velka Javorina 4.23 352 *e*Pn Pn 20 56 55.7 +1.6
ARR Arges 4.35 79 ⇑P Pn 20 56 56.6 +0.8
MOA Molln 4.36 318 *i* Pn Pn 20 56 57.4 +1.6
comp=Z,7.0nm,0.2s,SNR=30
MOA *e*Sn **Sn** 20 57 47.8 +1.2
comp=Z,11nm,0.2s
MOA Molln 4.36 318 *e*Pn Pn 20 56 57.3 +1.5
KKB Krupnik 4.37 129 P Pn 20 56 57.9 +1.9
KBA Koelnbreinsper 4.37 305 *e*Pn Pn 20 56 56.8 +0.7
comp=Z,3.8nm,0.3s
VAY Valandovo 4.45 137 *e*Pn Pn 20 56 58.1 +1.0
PLVB Pleven 4.55 104 ⇓P Pn 20 56 59.3 +0.9
BIOA Bad Ischl, Aus 4.56 313 *i* Pn Pn 20 57 00.3 +1.6
comp=Z,8.4nm,0.3s,SNR=18
BIOA *e*Sn **Sn** 20 57 53.1 +1.4
comp=Z,19nm,0.4s
KRUC Moravsky 4.63 342 *e*PN Pn 20 57 00.1 +0.5
KRUC *e*SN **Sn** 20 57 55.0 +1.6
KRUC Moravsky 4.63 342 *e*Pn Pn 20 57 00.5 +0.9
MAUC Maruska 4.72 354 *e*PN Pn 20 57 03.2 +2.4
ABTA Abfaltersbach 4.72 298 *i* Pn Pn 20 57 02.7 +1.7
comp=Z,1.8nm,0.3s,SNR=8.2
VRAC Vranov 4.83 344 *e*PN Pn 20 57 03.0 +0.7
VRAC *e*SN **Sn** 20 57 58.7 +0.6
VRAC Vranov 4.83 344 ⇑P Pn 20 57 03.5 +1.3
VRAC Vranov 4.83 344 *e*Pn Pn 20 57 03.7 +1.4
LESA Schwarzleotal 4.94 306 *i* Pn Pn 20 57 05.0 +1.1
comp=Z,5.5nm,0.3s,SNR=18
LESA *e*Sn **Sn** 20 58 03.7 +2.7
comp=Z,9.9nm,0.4s
RJOB Jochberg 5.04 309 *e*Pn Pn 20 57 07.4 +2.1
CKRC Cesky Krumlov 5.08 326 *e*PN Pn 20 57 06.9 +1.2
TREC Trest 5.08 337 *e*PN Pn 20 57 06.5 +0.7
MORC Moravsky Berou 5.15 353 *e*PN Pn 20 57 08.1 +1.3
MORC *e*SN **Sn** 20 58 05.4 -0.7
MORC Moravsky Berou 5.15 353 ⇑P Pn 20 57 07.6 +0.8
MORC ⇓S **Sn** 20 58 07.7 +1.6
MORC Moravsky Berou 5.15 353 *e*Pn Pn 20 57 08.5 +1.8
OKC Ostrava-Krasne 5.17 357 *e*SN Sn 20 58 06.4 -0.2
GEC2 GERESS Array S 5.35 323 *e*Pn Pn 20 57 10.9 +1.4
GERES GERESS Array B 5.35 323 Pn Pn 20 57 11.0 +1.4
comp=Z,0.2nm,0.3s,baz=140,slow=14,SNR=21
GERES Sn **Sn** 20 58 14.2 +3.2
comp=Z,0.1nm,0.3s,baz=140,slow=29,SNR=2.5
comp=Z,2.2nm,0.4s
WTTA Wattenberg 5.48 301 *i* Pn Pn 20 57 13.5 +2.0
comp=Z,4.2nm,0.2s,SNR=15
WTTA *e*Sn **Sn** 20 58 20.0 +5.4
comp=Z,10nm,0.7s
WTTA Wattenberg 5.48 301 *e*Pn Pn 20 57 13.4 +1.9
SZH Strazhitsa 5.53 102 P Pn 20 57 12.2 +0.3
KRLC Kraliky 5.54 348 *e*PN Pn 20 57 13.3 +1.2
WATA Walderalm 5.55 301 *i* Pn Pn 20 57 14.7 +2.3
comp=Z,2.3nm,0.2s,SNR=4.6
WATA *e*Sn **Sn** 20 58 19.7 +3.5
comp=Z,4.9nm,0.4s
KHC Kasperske Hory 5.62 324 *e*PN Pn 20 57 14.7 +1.5
KHC *e*SN **Sn** 20 58 19.7 +2.0
KHC Kasperske Hory 5.62 324 *e*Pn Pn 20 57 14.6 +1.5
TIP Timpagrande 5.66 194 ⇓P Pn 20 57 13.8 0.0
TIP ⇓S **Sn** 20 58 18.2 -0.5
SQTA Sankt Quirin 5.73 299 *i* Pn Pn 20 57 17.3 +2.5
comp=Z,4.8nm,0.4s,SNR=8.7
SQTA *e*Sn **Sn** 20 58 24.6 +4.1
comp=Z,5.3nm,0.5s
MOTA Moosalm 5.85 300 *i* Pn Pn 20 57 17.7 +1.3
comp=Z,1.8nm,0.2s,SNR=5.8
MOTA *i* Sn **Sn** 20 58 27.7 +4.2
comp=Z,12nm,0.7s
VRI Vrincioaia 5.88 75 ⇑P Pn 20 57 17.5 +0.8
DPC Dobruska-Polom 5.88 346 *e*PN Pn 20 57 16.6 -0.1
DPC Dobruska-Polom 5.88 346 *e*Pn Pn 20 57 18.8 +2.1
WET Wettzell 5.93 321 *e*Pn Pn 20 57 19.3 +1.9
FETA Feichten 5.96 296 *i* Pn Pn 20 57 20.6 +2.6
comp=Z,2.5nm,0.2s,SNR=12
UPC Upice 6.08 344 *e*PN Pn 20 57 19.9 +0.3
OSTC Ostas 6.09 346 *e*PN Pn 20 57 21.4 +1.7
OBER Oberstdorf 6.38 298 *e*Pn Pn 20 57 25.2 +1.6
DAVA Damuels 6.60 296 *i* Pn Pn 20 57 28.5 +1.8
comp=Z,4.5nm,0.3s,SNR=9.6
DAVA Damuels 6.60 296 *e*Pn Pn 20 57 28.5 +1.8
UBR Ueberruh 6.60 300 *e*Pn Pn 20 57 27.8 +1.1
MANZ Manzenberg 6.89 323 *e*Pn Pn 20 57 32.1 +1.4
WILA Wila 7.26 296 *e*Pn Pn 20 57 36.8 +1.0
MOX Moxa 7.59 324 *e*Pn Pn 20 57 41.5 +1.2
CLL Collm 7.61 333 *i* Pn Pn 20 57 41.3 +0.8
CLL *e*Sg **Sb** 20 59 24.0 -8.3
comp=Z,14nm,0.9s
SLE Schleitheim 7.64 297 *e*Pn Pn 20 57 41.2 +0.2
SULZ Cheisacher 7.81 295 *e*Pn Pn 20 57 43.9 +0.6
BALST Balsthal 8.03 293 *e*Pn Pn 20 57 47.0 +0.7
TNS Taunus Mts 8.82 313 *e*Pn Pn 20 57 58.3 +1.2
AKASG Malin Array Be 9.37 46 LR LR 21 02 13.1
comp=Z,29nm,19.0s,baz=199,slow=41
MNK Minsk 11.53 28 *i* P Pn 20 58 30.3 -3.8
comp=E,14nm,0.7s
MNK *i* P **Pn** 20 58 30.3 -3.8
comp=N,5.0nm,0.7s
MNK *i* P **Pn** 20 58 30.3 -3.8
comp=Z,5.0nm,0.4s,baz=215
MNK *i* PP **PnPn** 20 58 38.1 -3.7
MNK *i* PPP PPP 20 58 45.7
MNK *i* S **Sn** 21 00 39.6 -3.1
MNK *i* SS **SnSn** 21 00 52.6 -1.9
MNK *i* SSS SSS 21 01 05.1
MNK *i* LQ LQ 21 01 50.9
MNK *i* LR LR 21 02 43.3
MNK *i* LRM MLR 21 03 24.1
comp=E,24nm,16.1s
MNK *i* LRM MLR 21 03 32.9
comp=N,7.0nm,10.5s
MNK *i* LRM MLR 21 03 47.9
comp=Z,32nm,17.1s
NOA NORSAR Array B 16.96 348 LR LR 21 06 23.4
comp=Z,12nm,19.6s,baz=0.0,slow=37
ESDC Sonseca Array 17.42 261 P **Pn** 20 59 52.3 -0.4
baz=60,slow=12,SNR=1.2
comp=Z,0.2nm,0.3s
TORD Torodi Ar. Bea 34.57 210 P **P** 21 02 39.7 +1.2
comp=Z,0.5nm,0.7s,baz=13,slow=9.2,SNR=3.6
comp=Z,0.5nm,0.7s
SCHQ Schefferville 52.80 314 LR LR 21 25 24.3
comp=Z,410nm,19.7s,baz=46,slow=34

IDC 12 20:57:16.4±4.2, 30.39N×142.40E, h0km, mb3.5/2, mbtmp3.5/4, ML2.9/2, MS2.8/1, Error ellipse: s-maj=144.6km s-min=30.2km az=69.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.06**	**331**	Pn	Pn	20 59 00.6	-0.4
	0.1nm,0.3s,baz=153,slow=14,SNR=7.5						
	1.2nm,0.7s						
KSRS	**Korea Array**	**13.92**	**304**	Pn	Pn	21 00 35.6	+0.7
	0.1nm,0.3s,baz=109,slow=14,SNR=3.2						
	1.9nm,1.0s						
SEY	**Seymchan**	**33.18**	**8**	LR	LR	21 22 00.1	
	comp=Z,14nm,18.4s,baz=144,slow=45						
WRA	**Warramunga Arr**	**50.64**	**190**	P	P	21 06 18.9	+1.4
	0.5nm,0.7s,baz=8.1,slow=7.5,SNR=5.2						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**54.37**	**190**	P	P	21 06 43.1	-2.0
	0.3nm,0.6s,baz=358,slow=7.9,SNR=2.2						
	0.3nm,0.6s						

*NEIC **12** 21:08:39.5±2.5, 43.93N±0.04×105.51W±0.06, h0km±1km, ML3.6/52, Error ellipse: s-maj=8.8km s-min=4.0km az=128.0*
*IDC **12** 21:08:45.6±0.9, 44.17N×105.85W, h0km, mbtmp3.3/5, ML3.4/5, Error ellipse: s-maj=25.1km s-min=7.0km az=146.0*
ISC 12 21:08:43.6±0.7, 43.76N±0.05×105.20W±0.04, h0km, n66, σ1 s44/59, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.92**	**66**		**Pb**	**21 09 03.2**	**+0.5**
K22A	**Casper**	**1.47**	**222**		**Pn**	**21 09 07.9**	**-3.7**
LAO	**LASA Array**	**3.02**	**347**		Pn	21 09 26.6	-6.2
RLMT	**Red Lodge**	**3.21**	**297**		Pn	21 09 28.2	-7.4
RLMT				IAML		21 10 31.4	
	145nm,1.1s						
BW06	**Boulder Array**	**3.33**	**254**		**Pn**	**21 09 33.8**	**-3.4**
BW06				IAML		21 10 35.5	
	118nm,0.9s						
PDAR	**Pinedale Array**	**3.33**	**254**		Pn	21 09 31.2	-6.0
PDAR	**Pinedale Array**	**3.33**	**254**	Pn	**Pn**	**21 09 37.0**	**-0.3**
	3.2nm,0.3s,baz=69,slow=18,SNR=22						
PDAR				Lg	Lg	21 10 21.5	
	17nm,0.3s,baz=60,slow=12,SNR=5.1						
	3.0nm,0.3s						
OGNE	**Ogallala**	**3.66**	**139**	Pn	**Pn**	**21 09 41.2**	**-0.4**
YNE	**Yellowstone No**	**3.66**	**292**		**Pn**	**21 09 42.1**	**+0.3**
YNE				IAML		21 10 44.0	
	comp=N,180nm,0.8s						
YNE				IAML		21 10 45.2	
	comp=E,117nm,0.9s						
YMP	**Mirror Lake Pl**	**3.69**	**287**		**Pn**	**21 09 43.0**	**+0.8**
YMP				IAML		21 10 44.4	
	comp=N,217nm,1.0s						
LKWY	**Lake**	**3.83**	**284**		Pn	21 09 37.8	-6.2
LKWY				IAML		21 10 55.5	
	comp=N,121nm,1.1s						
LKWY				IAML		21 10 59.2	
	comp=N,94nm,2.4s						
LOHW	**Long Hollow**	**3.92**	**270**		**Pn**	**21 09 47.0**	**+1.7**
LOHW				IAML		21 10 51.5	
	comp=N,68nm,1.2s						
LOHW				IAML		21 10 53.0	
	comp=N,67nm,1.0s						
SNOW	**Snow King Moun**	**4.04**	**268**	Pn	Pn	21 09 41.0	-6.0
SNOW				IAML		21 11 02.3	
	comp=N,154nm,1.2s						
SNOW				IAML		21 11 04.0	
	comp=N,130nm,1.1s						
YNR	**Norris Junctio**	**4.05**	**286**		**Pn**	**21 09 43.0**	**-4.1**
YPP	**Pitchstone Pla**	**4.07**	**279**		Pn	21 09 42.0	-5.5
YFT	**Old Faithful**	**4.12**	**282**		Pn	21 09 41.4	-6.6
YFT				IAML		21 11 02.0	
	comp=E,65nm,1.2s						
TPAW	**Teton Pass**	**4.18**	**268**		**Pn**	**21 09 49.2**	**+0.3**
TPAW				IAML		21 11 07.7	
	comp=E,78nm,1.1s						
TPAW				IAML		21 11 29.1	
	comp=E,72nm,1.9s						
YHH	**Holmes Hill**	**4.18**	**286**	Pg	**Pn**	**21 09 51.0**	**+2.0**
E28A	**Huff**	**4.26**	**47**		**Pn**	**21 09 49.7**	**0.0**
YHB	**Horse Butte**	**4.42**	**285**	Pn	**Pn**	**21 09 51.6**	**-0.6**
AHID	**Auburn Hatcher**	**4.42**	**259**		**Pn**	**21 09 51.2**	**-0.9**
AHID				IAML		21 11 12.1	
	comp=E,113nm,1.1s						
AHID				IAML		21 11 13.2	
	comp=E,102nm,1.0s						
YHL	**Hebgen Lake**	**4.43**	**286**		**Pn**	**21 09 52.0**	**-0.4**
YHL				IAML		21 11 12.5	
	comp=N,86nm,1.0s						
YHL				IAML		21 11 15.7	
	comp=E,108nm,1.1s						
QLMT	**Earthquake Lak**	**4.60**	**286**		**Pb**	**21 10 07.3**	**+2.1**
DGMT	**Dagmar**	**4.77**	**8**		**Pn**	**21 09 57.8**	**+1.0**
BOZ	**Bozeman (W)**	**4.94**	**294**		**Pn**	**21 09 58.8**	**-0.5**
BOZ				IAML		21 11 21.6	
	comp=E,36nm,1.0s						
BOZ				IAML		21 11 23.2	
	comp=E,36nm,1.0s						
HWUT	**Hardware Ranch**	**5.16**	**248**		**Pn**	**21 10 02.2**	**0.0**
HWUT				IAML		21 11 39.5	
	comp=E,66nm,1.5s						
HWUT				IAML		21 11 45.0	
	comp=E,56nm,1.0s						
BSUT	**Blindstream Ca**	**5.24**	**234**		**Pn**	**21 10 03.0**	**-0.6**
BSUT				IAML		21 11 31.6	
	comp=N,34nm,2.1s						
BSUT				IAML		21 11 48.0	
	comp=E,35nm,2.4s						
TCUT	**Toone Canyon**	**5.29**	**242**		**Pn**	**21 10 04.1**	**-0.1**
HRY	**Holter Researc**	**5.53**	**305**		**Pn**	**21 10 07.7**	**+0.4**
MCMT	**McKenzie Canyo**	**5.59**	**284**		**Pn**	**21 10 08.4**	**+0.1**
MDND	**Maddock**	**5.66**	**42**		**Pn**	**21 10 10.0**	**+0.9**
MDND					**Pg**	**21 10 29.9**	**-2.2**
BGNE	**Belgrade**	**5.71**	**112**	Pg	**Pg**	**21 10 33.6**	**+0.6**
PV22	**Blue Mesa, Par**	**5.88**	**209**		**Pn**	**21 10 12.1**	**-0.1**
HVU	**Hansel Valley**	**5.91**	**253**		**Pn**	**21 10 12.2**	**-0.4**
PV07	**Paradox Valley**	**5.92**	**207**		**Pn**	**21 10 11.9**	**-0.8**
PV21	**Cone Mtn., Par**	**5.92**	**210**		**Pn**	**21 10 11.5**	**-1.2**
P17A	**Butcher Ranch,**	**5.96**	**226**		**Pn**	**21 10 12.7**	**-0.6**
PV12	**Saucer Basin,**	**6.08**	**208**		**Pn**	**21 10 15.4**	**+0.5**
MPU	**Maple Canyon**	**6.08**	**234**		**Pg**	**21 10 37.8**	**-2.3**
PV14	**Lion Creek, Pa**	**6.10**	**209**		**Pn**	**21 10 15.6**	**+0.3**
PV10	**Paradox Valley**	**6.11**	**210**		**Pn**	**21 10 16.6**	**+1.2**
SRU	**San Rafael Swe**	**6.12**	**223**		**Pn**	**21 10 15.2**	**-0.3**
PV19	**Morning Glory**	**6.14**	**209**		**Pn**	**21 10 15.6**	**-0.2**
PV03	**Paradox Valley**	**6.15**	**208**		**Pn**	**21 10 15.4**	**-0.5**
PV02	**Paradox Valley**	**6.15**	**207**		**Pn**	**21 10 15.9**	**-0.1**
PV17	**East Wray Mesa**	**6.16**	**209**		**Pg**	**21 10 39.6**	**-2.2**
PV01	**Paradox Valley**	**6.17**	**206**		**Pn**	**21 10 16.5**	**+0.3**
PV01					**Pg**	**21 10 39.4**	**-2.5**
PV18	**Skein Mesa, Pa**	**6.18**	**208**		**Pn**	**21 10 16.5**	**+0.2**
ECSD	**EROS Data Cent**	**6.22**	**87**		**Pn**	**21 10 18.2**	**+1.5**
PV13	**Radium Mtn., P**	**6.22**	**207**		**Pn**	**21 10 16.6**	**-0.4**
TMUT	**Trail Mountain**	**6.33**	**227**		**Pn**	**21 10 18.2**	**-0.3**
PV05	**Paradox Valley**	**6.39**	**209**		**Pn**	**21 10 18.0**	**-1.3**
BPMT	**Black Pine Rid**	**6.42**	**298**		**Pn**	**21 10 19.7**	**0.0**
Q16A	**Castle Valley**	**6.60**	**225**		**Pn**	**21 10 21.2**	**-0.8**
T25A	**Trinidad**	**6.64**	**175**	Pg	**Pg**	**21 10 49.2**	**-1.6**
F33A	**5 Mile Ranch,**	**6.67**	**69**	Pn	**Pn**	**21 10 23.6**	**+0.7**
HLID	**Hailey**	**6.68**	**272**	Pn	**Pn**	**21 10 22.1**	**-1.1**
DUG	**Dugway, Tooele**	**6.69**	**240**		**Pn**	**21 10 22.0**	**-1.4**
ELK	**Elko**	**8.03**	**251**	Pn	**Pn**	**21 10 41.9**	**+0.1**
	comp=E,0.1nm,0.3s,baz=56,slow=7.3,SNR=2.3						
ELK				Lg	Lg	21 12 45.7	
	comp=E,0.1nm,0.3s,baz=73,slow=20,SNR=2.6						
	comp=E,0.5nm,0.4s						
ANMO	**Albuquerque**	**8.85**	**187**	Lg	Lg	21 13 37.1	
	comp=E,0.2nm,0.3s,baz=43,slow=19,SNR=1.2						
ULM	**Lac du Bonnet**	**9.10**	**41**	Pn	**Pn**	**21 10 55.7**	**-0.4**
	comp=E,2.2nm,0.3s,baz=229,slow=9.3,SNR=18						
ULM				Sn	**Sn**	**21 12 37.0**	**-2.1**
	comp=E,0.7nm,0.3s,baz=192,slow=19,SNR=4.3						
ULM				Lg	Lg	21 13 26.8	
	comp=E,0.6nm,0.3s,baz=279,slow=16,SNR=3.0						
	comp=E,3.8nm,0.3s						
NEW	**Newport**	**9.44**	**303**	Lg	Lg	21 13 20.9	
	comp=E,0.2nm,0.3s,baz=127,slow=20,SNR=1.1						
I56US	**NEWPORT INFRAS**	**9.44**	**303**	I	I	22 04 00.0	
	baz=115,slow=319,SNR=2.4						
NVAR	**Mina Array Bea**	**11.22**	**246**	Pn	**Pn**	**21 11 27.5**	**+2.1**
	comp=E,0.5nm,0.3s,baz=64,slow=14,SNR=5.2						
NVAR				Lg	Lg	21 14 30.4	
	comp=E,0.1nm,0.3s,baz=47,slow=43,SNR=1.7						
	comp=E,0.8nm,0.8s						
YBH	**Yreka Blue Hor**	**13.03**	**267**	Pn	**Pn**	**21 11 51.1**	**+1.1**
	baz=90,slow=4.0,SNR=3.7						
TXAR	**Lajitas Array**	**14.45**	**175**	Pn	**P**	**21 12 19.8**	**+3.3**
	baz=353,slow=11,SNR=2.4						
TXAR				Pg		21 13 17.4	
	comp=E,0.1nm,0.3s,baz=353,slow=20,SNR=4.8						
TXAR				Lg	Lg	21 16 19.8	
	baz=0.3,slow=25,SNR=5.9						
	comp=E,0.2nm,0.6s						

*OSPL **12** 21:17:39.5±1.6, 18.70N×69.14W, h92km±16km, ML2.6*
SDD 12 21:17:43.8±1.4, 19.09N×69.57W, h88km±7km, MD3.3, ML2.6, MW3.0,5C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADR	**Nagua**	**0.38**	**315** ⇓	*e*Sg	Sn	21 18 12.0	+4.5
NADR				IAML		21 18 15.5	
	comp=E,414nm,0.3s						
NADR				IAML		21 18 17.3	
	comp=N,386nm,0.2s						
NADR				IAML		21 18 17.3	
	comp=N,386nm,0.2s						
SMDR	**Samana, DR**	**0.41**	**61**	*e*Pg	Pn	21 17 57.7	0.0
SMDR				*e*Sg	Sn	21 18 10.4	+2.4
SMDR				IAML		21 18 13.7	
	comp=N,256nm,0.3s						
SMDR				IAML		21 18 14.0	
	comp=E,202nm,0.4s						
MIDR	**Miches**	**0.50**	**102** ⇓	*e*Pg	Pn	21 17 57.0	-1.3
MIDR				*e*Sg	Sn	21 18 08.1	-1.1
MIDR				IAML		21 18 09.3	
	comp=E,146nm,0.1s						
MIDR				IAML		21 18 09.4	
	comp=N,216nm,0.1s						
MIDR	**Miches**	**0.50**	**102**	*e*Pg	Pn	21 17 57.0	-1.4
MIDR				*e*Pg		21 17 57.0	
MIDR				*e*Sg	Sn	21 18 07.6	-1.5
MIDR				*e*Sg		21 18 08.0	
MIDR				IAML		21 18 09.4	
	comp=N,216nm,0.1s						
MIDR				IAML		21 18 09.4	
	comp=N,92nm,0.1s						
SDD	**Santo Domingo**	**0.70**	**208** ⇑	*e*Pg	Pn	21 17 56.7	-3.5
SDD			⇑	*e*Sg	Sn	21 18 07.6	-4.7
SDD				IAML		21 18 09.0	
	comp=N,20nm,0.9s						
SDD	**Santo Domingo**	**0.70**	**208**	*e*S	Sn	21 18 08.2	-4.1
HIDR	**Higuey Centro**	**0.95**	**121**	*i* Sg	Sn	21 18 12.5	-4.4
HIDR				*e*Sg	Sn	21 18 12.5	-4.4
HIDR				IAML		21 18 12.9	
	comp=E,210nm,0.2s						
HIDR				IAML		21 18 13.6	
	comp=N,246nm,0.2s						
HIDR				IAML		21 18 13.6	
	comp=N,246nm,0.2s						
BANI	**BANI**	**1.02**	**227**	*e*Pg	Pn	21 18 01.9	-1.8
BANI			⇑	*e*Sg	Sn	21 18 16.4	-2.2
BANI				IAML		21 18 20.2	
	comp=N,201nm,0.1s						
BANI				IAML		21 18 20.2	
	comp=N,201nm,0.1s						
BANI				IAML		21 18 21.4	
	comp=E,97nm,0.5s						
BANI	**BANI**	**1.02**	**227**	*e*Pg	Pn	21 18 01.8	-1.9
BANI				*e*Pg		21 18 01.9	
BANI				*e*Sg	Sn	21 18 16.5	-2.0
BANI				*e*Sg		21 18 17.1	
BANI				IAML		21 18 20.2	
	comp=N,21nm,0.2s						
BANI				IAML		21 18 20.3	
	comp=N,201nm,0.1s						
ABDR	**Alto Bandera**	**1.04**	**255**	*e*Pg	Pn	21 18 03.6	-0.5
ABDR			⇑	*e*Sg	Sn	21 18 20.5	+1.2
ABDR				IAML		21 18 21.7	
	comp=E,207nm,0.3s						
ABDR				IAML		21 18 22.9	
	comp=N,164nm,0.2s						
ABDR				IAML		21 18 22.9	
	comp=N,164nm,0.2s						
ABDR	**Alto Bandera**	**1.04**	**255**	*e*Pg	Pn	21 18 03.7	-0.4
ABDR				*e*Sg	Sn	21 18 18.0	-1.3
ABDR				IAML		21 18 22.9	
	comp=N,164nm,0.2s						
PCDR	**Punta Cana, DR**	**1.26**	**117** ⇑	*e*Sg	Sn	21 18 19.2	-4.3
PCDR				IAML		21 18 49.3	
	comp=N,114nm,2.2s						
SDDR	**Presa de Saban**	**1.63**	**267**	*e*Pg	Pn	21 18 12.7	+1.6
SDDR				IAML		21 18 36.6	
	comp=E,29nm,0.7s						
SDDR				IAML		21 18 38.4	
	comp=N,42nm,0.6s						
SDDR	**Presa de Saban**	**1.63**	**267**	*i* P	Pn	21 18 12.7	+1.6
SDDR				*e*S	Sn	21 18 35.3	+3.5
SDDR				IAML		21 18 40.2	
	comp=Z,16nm,0.3s						
LOPP1	**Punta Rusia, P**	**1.72**	**297**	*i* P	Pn	21 18 13.6	+1.3
LOPP1				*e*S	Sn	21 18 38.9	+5.1
LOPP1				IAML		21 18 40.3	
	comp=Z,30nm,1.0s						
LONE3	**El Aguacate, B**	**1.85**	**255**	*i* P	Pn	21 18 13.3	-0.8
LONE3				IAML		21 18 44.1	
	comp=Z,12nm,2.2s						
PODR	**Polo**	**1.86**	**241**	*i* P	Pn	21 18 12.4	-1.9
PODR				*e*S	Sn	21 18 36.6	-0.9
LOVI	**El Cajuil, Ovi**	**2.13**	**233**	*i* P	Pn	21 18 14.4	-3.3
LOVI				*e*S	Sn	21 18 39.3	-4.3
LOVI				IAML		21 18 42.3	
	comp=Z,53nm,1.2s						
CRPR	**Cabo Rojo, PR**	**2.57**	**114**	*e*Pg	Pn	21 18 22.1	-1.4
CRPR				*e*Sg	Sn	21 18 50.5	-3.4
CRPR				IAML		21 18 52.1	
	comp=N,26nm,2.0s						
AOPR	**Arecibo Observ**	**2.77**	**105**	*e*Pg	Pn	21 18 25.2	-1.0
AOPR				*e*Sg	Sn	21 18 55.4	-3.4
AOPR				IAML		21 19 01.2	
	comp=N,40nm,0.2s						
GRTK	**Grand Turk**	**2.82**	**329**	*i* P	Pn	21 18 27.8	+0.9
GRTK				IAML		21 19 07.5	
	comp=Z,36nm,0.6s						

IDC 12 21:28:50.4±3.4, 15.31S×175.63W, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=95.0km s-min=42.2km az=23.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.23**	**239**	P	P	21 36 44.1	-1.4
	3.0nm,0.7s,baz=90,slow=11,SNR=9.1						
	3.0nm,0.7s						
WRA	**Warramunga Arr**	**47.77**	**257**	P	P	21 37 30.9	+1.1
	0.8nm,0.3s,baz=94,slow=7.6,SNR=39						
WRA				PcP	PcP	21 38 58.3	-0.7
	0.1nm,0.3s,baz=90,slow=3.3,SNR=1.3						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**48.09**	**252**	P	P	21 37 32.5

CHMI				S		**Sb**	**21 37 10.2**	**-0.5**
FRG	**Fergana**	**0.42**	**47**	P		**Pg**	**21 37 09.9**	**+0.1**
FRG				S		**Sb**	**21 37 16.9**	**+0.2**
MINT	**Mingtut**	**0.49**	**320**	P		**Pb**	**21 37 11.1**	**-0.7**
MINT				S		**Sb**	**21 37 18.6**	**-0.3**
TSTA	**Tashata**	**0.97**	**59**	S		**Sn**	**21 37 34.7**	**+0.7**
CHDK	**Chadak**	**1.01**	**332**	P		**Pn**	**21 37 21.1**	**0.0**
CHDK				S		**Sn**	**21 37 35.6**	**+0.5**
GAR	**Garm**	**1.36**	**218**	⇓*iP*		**Pn**	**21 37 25.0**	**-1.1**
GAR				⇓*iS*		**Sb**	**21 37 42.4**	**-1.7**
TRKS	**Terek-Say**	**1.45**	**353**	⇑*eP*		**Pn**	**21 37 26.6**	**-0.7**
TRKS				⇑*iS*		**Sn**	**21 37 45.6**	**-0.6**
ARSB	**Arslanbob**	**1.73**	**44**	⇑*iP*		**Pb**	**21 37 32.6**	**-0.4**
ARSB				⇑*iS*		**Sg**	**21 37 56.1**	**-1.1**
CHMG	**Chimgan**	**1.80**	**325**	P		**Pb**	**21 37 33.4**	**-0.7**
CHMG				S		**Sb**	**21 37 57.3**	**+0.8**
TGS	**TashGRES**	**1.95**	**314**	S		**Sg**	**21 38 05.8**	**+1.7**
CHGR	**Chuyangaron**	**2.24**	**231**	⇑*iP*		**Pn**	**21 37 38.8**	**+0.7**
CHGR				⇑*iS*		**Sn**	**21 38 06.4**	**+0.9**
IUG	**Iuzhnay**	**2.30**	**334**	Pg		**Pb**	**21 37 42.6**	**-0.1**
	14nm,0.2s							
IUG				Lg		Lg	21 38 13.6	
	106nm,0.4s							
BXML	**Bakhmal**	**2.61**	**262**	S		**Sg**	**21 38 27.3**	**+1.9**
MRKS	**Merke**	**2.99**	**27**	Pg		**Pb**	**21 37 55.7**	**+1.2**
	1.4nm,0.2s							
MRKS				Lg		Lg	21 38 35.9	
	9.2nm,0.2s							
MRKS	**Merke**	**2.99**	**27**	*eP*		**Pb**	**21 37 55.8**	**+1.2**
	1.4nm,0.2s							
MRKS				*eS*		**Sg**	**21 38 35.9**	**-1.7**
	9.2nm,0.2s							
KK31	**Karatay Array**	**3.08**	**348**	⇓Pn		**Pn**	**21 37 50.8**	**+1.2**
	0.1nm,0.2s,baz=39,slow=15,SNR=4.8							
KK31				⇑Pg		**Pb**	**21 37 57.2**	**+1.2**
	1.5nm,0.3s,baz=166,slow=18,SNR=27							
KK31				⇑Lg		Lg	21 38 37.7	
	4.3nm,0.3s,baz=162,slow=29,SNR=19							
BRLS	**Borolday**	**3.16**	**339**	Pg		**Pb**	**21 37 55.1**	**-2.3**
	3.0nm,0.2s							
BRLS				Lg		Lg	21 38 34.8	
	8.8nm,0.2s							
BRLS	**Borolday**	**3.16**	**339**	*eP*		**Pb**	**21 37 55.1**	**-2.3**
	3.0nm,0.2s							
BRLS				*eS*		**Sb**	**21 38 34.8**	**-0.9**
	8.8nm,0.2s							
AAK	**Ala-Archa**	**3.46**	**42**	⇑Pg		**Pb**	**21 38 03.6**	**+1.2**
	0.8nm,0.7s							
AAK				⇑Lg		Lg	21 38 51.4	
	3.0nm,0.8s							

IDC 12 21:38:07.0±6.5, 22°.33S×177°.73W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=188.7km s-min=103.3km az=145.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.25**	**246**	P	P	21 45 21.1	+0.5
	0.6nm,0.4s,baz=82,slow=15,SNR=3.3						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**44.37**	**258**	P	P	21 46 19.0	-0.6
	0.9nm,0.5s,baz=101,slow=7.5,SNR=13						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**44.62**	**264**	P	P	21 46 21.5	-0.1
	1.6nm,0.6s,baz=102,slow=8.0,SNR=26						
	1.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.05**	**264**	P	P	21 47 26.3	-0.1
	2.1nm,1.0s,baz=90,slow=4.0,SNR=1.7						
	2.1nm,1.0s						
HFS	**Hagfors**	**141.38**	**351**	PKP	PKPdf	21 57 38.7	-0.7
	2.3nm,0.8s,baz=45,slow=0.6,SNR=5.3						

IDC 12 21:48:12.7±1.5, 71°.52N×2°.14W, h0km, mb3.8/9, mbtmp3.7/13, ML2.6/3, MS3.2/13, Error ellipse: s-maj=27.7km s-min=19.5km az=77.0
NAO 12 21:48:14.6±3.0, 71°.69N×2°.52W, h11km±31km, ML3.2
BER 12 21:48:15.2±2.2, 71°.57N×2°.79W, h10km, mb(Pn)4.3, Confirmed Earthquake

ISC 12 21:48:13.0±0.8, 71°.63N±0°.07×2°.31W±0°.08, h10km, n58, σ1s68/50, mb3.7/8, MS3.1/10, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**5.89**	**305**	P	**Pn**	**21 49 37.0**	**-3.2**
DBG	**Daneborg**	**5.89**	**305**	*eP*	**Pn**	**21 49 37.0**	**-3.2**
DBG				*eS*	Sn	21 50 37.7	-10
LOF	**Lofoten**	**6.49**	**115**	*eP*	**Pn**	**21 49 49.0**	**+0.8**
LOF				*eS*	**Sn**	**21 50 58.3**	**-3.9**
LOF				IAML		21 51 04.3	
	comp=Z,7.7nm,0.6s						
BEA6	**Bear Island, N**	**6.83**	**55**	Pn	**Pn**	**21 49 54.7**	**+1.7**
BJO1	**Bjornoya**	**6.83**	**55**	*eP*	**Pn**	**21 49 54.8**	**+1.9**
STEI	**Steigen**	**7.11**	**113**	*eP*	**Pn**	**21 49 57.3**	**+0.5**
STEI				*eS*	Sn	21 51 11.5	-5.9
STEI				IAML		21 51 14.7	
	comp=Z,7.7nm,0.5s						
HSPB	**Hornsund (broa**	**7.20**	**34**	*eP*	**Pn**	**21 49 59.1**	**+1.0**
TRO	**Tromso**	**7.32**	**96**	Pn	Pn	21 49 59.0	-0.7
TRO				Sn	Sn	21 51 16.6	-6.1
TRO	**Tromso**	**7.32**	**96**	*eP*	Pn	21 49 58.9	-0.8
TRO				*eS*	Sn	21 51 17.4	-5.3
TRO				IAML		21 51 31.4	
	comp=Z,2.7nm,0.6s						
VAGH	**Vaagaholmen**	**7.40**	**124**	*eP*	**Pn**	**21 50 01.4**	**+0.6**
VAGH				*eS*	Sn	21 51 18.9	-5.7
VAGH				IAML		21 51 23.9	
	comp=Z,3.0nm,0.6s						
FAUS	**Fauske**	**7.48**	**116**	*eP*	**Pn**	**21 50 02.0**	**+0.1**
FAUS				*eS*	Sn	21 51 20.0	-6.6
FAUS				IAML		21 51 25.9	
	comp=Z,3.5nm,0.4s						
KONS	**Konsvik**	**7.53**	**126**	*eP*	**Pn**	**21 50 03.6**	**+1.0**
KONS				*eS*	Sn	21 51 21.4	-6.6
KONS				IAML		21 51 24.7	
	comp=Z,4.8nm,0.7s						
STOK	**Stokkvaagen**	**7.63**	**127**	*eP*	**Pn**	**21 50 04.7**	**+0.6**
STOK				*eS*	Sn	21 51 23.9	-6.5
STOK				IAML		21 51 26.2	
	comp=Z,3.6nm,0.4s						
BRBB	**Barentsburg B**	**7.75**	**26**	Pn	**Pn**	**21 50 07.2**	**+1.6**
BRBB	**Barentsburg B**	**7.75**	**26**	*eP*	**Pn**	**21 50 07.1**	**+1.4**
JETT	**Jettan, Norway**	**7.82**	**94**	Pn	**Pn**	**21 50 06.9**	**+0.3**
JETT	**Jettan, Norway**	**7.82**	**94**	*eP*	**Pn**	**21 50 06.7**	**0.0**
JETT				*eS*	Sn	21 51 28.1	-7.0
LEIR	**Leirfjorden**	**7.83**	**127**	*eP*	**Pn**	**21 50 06.9**	**+0.2**
LEIR				*eS*	Sn	21 51 26.8	-8.5
LEIR				IAML		21 51 33.7	
	comp=Z,5.1nm,0.5s						
SPA0	**Spitsbergen Ar**	**8.13**	**28**	Pn	**Pn**	**21 50 12.9**	**+2.1**
	baz=231,slow=18						
SPA0	**Spitsbergen Ar**	**8.13**	**28**	*eP*	**Pn**	**21 50 12.4**	**+1.7**
SPA0				*eS*	**Sn**	**21 51 39.1**	**-3.4**
SPA0				IAML		21 51 39.5	
	comp=Z,2.5nm,1.1s						
SPITS	**Spitsbergen Ar**	**8.13**	**28**	Pn	**Pn**	**21 50 12.4**	**+1.7**
	comp=Z,2.5nm,0.3s,baz=206,slow=13,SNR=29						
SPITS				Sn	**Sn**	**21 51 40.7**	**-1.8**
	baz=262,slow=20						
MOR8	**Moi Rana**	**8.13**	**124**	*eP*	**Pn**	**21 50 12.0**	**+1.1**
MOR8				*eS*	Sn	21 51 36.9	-5.7
MOR8				IAML		21 51 42.5	
	comp=Z,4.8nm,0.4s						
KBS	**Kingsbay**	**8.14**	**20**	*eP*	**Pn**	**21 50 11.7**	**+0.8**
KIF	**Kilpisjarvi**	**8.20**	**98**	Pn	**Pn**	**21 50 12.2**	**+0.4**
KIF				Sn	Sn	21 51 40.5	-3.9
KIF	**Kilpisjarvi**	**8.20**	**98**	*eP*	**Pn**	**21 50 11.9**	**+0.1**
KIF				*eS*	Sn	21 51 38.7	-5.6
SALU	**Saltoluokta**	**8.42**	**110**	*eP*	**Pn**	**21 50 16.1**	**+1.3**
SALU				*eS*	Sn	21 51 44.5	-5.3
HAMF	**Hammerfest**	**8.45**	**84**	*eP*	Pn	21 50 14.0	-1.1
NSS	**Namsos**	**8.88**	**136**	*eP*	**Pn**	**21 50 23.1**	**+2.1**
NSS				*eS*	**Sn**	**21 51 55.9**	**-5.0**
NSS				IAML		21 52 08.1	
	comp=Z,2.5nm,0.5s						
KTK1	**Kautokeino**	**8.97**	**95**	Pn	**Pn**	**21 50 22.8**	**+0.5**
KTK1	**Kautokeino**	**8.97**	**95**	*eP*	**Pn**	**21 50 22.7**	**+0.4**
KTK1				IAML		21 52 13.8	
	comp=Z,1.8nm,0.6s						
HEF	**Hetta**	**9.41**	**97**	Pn	**Pn**	**21 50 28.3**	**0.0**
HEF	**Hetta**	**9.41**	**97**	*eP*	**Pn**	**21 50 27.9**	**-0.4**
HEF				*eS*	Sn	21 52 06.5	-7.5
ARA0	**ARCESS Array S**	**9.45**	**89**	Pn	**Pn**	**21 50 29.4**	**+0.6**
	baz=291,slow=11						
ARA0				Sn	Sn	21 52 10.6	-4.3
	baz=298,slow=22						
ARCES	**ARCESS Array B**	**9.45**	**89**	Pn	**Pn**	**21 50 28.5**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=295,slow=11,SNR=31						
	comp=Z,0.9nm,0.3s						
KEV	**Kevo**	**9.83**	**87**	*eP*	**Pn**	**21 50 33.7**	**-0.3**
AKN	**Aaknes**	**10.15**	**155**	P	**Pn**	**21 50 40.6**	**+2.0**
NOA	**NORSAR Array B**	**11.89**	**146**	Pn	**Pn**	**21 51 00.9**	**-1.5**
	baz=332,slow=12,SNR=1.3						
NOA				LR	LR	21 55 27.4	
	comp=Z,72nm,21.1s,baz=330,slow=37						
	comp=Z,0.9nm,0.9s						
HFS	**Hagfors**	**13.19**	**143**	P	**Pn**	**21 51 21.8**	**+1.7**
	baz=350,slow=14						
HFS	**Hagfors**	**13.19**	**143**	Pn	Pn	21 51 17.2	-2.8
	comp=Z,0.4nm,0.3s,baz=344,slow=9.0,SNR=10						
HFS				LR	LR	21 56 06.8	
	comp=Z,96nm,18.6s,baz=340,slow=36						
FIA0	**FINESS Array S**	**15.03**	**118**	P	**Pn**	**21 51 45.5**	**+0.4**
	baz=324,slow=12						
FINES	**FINESS Array B**	**15.03**	**118**	Pn	**Pn**	**21 51 45.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=322,slow=12,SNR=1.6						
FINES				LR	LR	21 56 59.9	
	comp=Z,80nm,21.1s,baz=288,slow=35						
	comp=Z,1.8nm,0.8s						
VRAC	**Vranov**	**24.02**	**149**	LR	LR	22 02 49.4	
	comp=Z,48nm,18.5s,baz=336,slow=37						
RES	**Resolute Bay**	**24.43**	**320**	LR	LR	22 02 48.7	
	comp=Z,73nm,18.3s,baz=2.5,slow=36						
AKASG	**Malin Array Be**	**25.34**	**129**	P	**P**	**21 53 38.0**	**-1.5**
	comp=Z,1.7nm,0.7s,baz=343,slow=9.0,SNR=1.8						
AKASG				LR	LR	22 03 12.4	
	comp=Z,54nm,18.4s,baz=348,slow=36						
	comp=Z,1.7nm,0.7s						
DAVOX	**Davos/Dischmat**	**25.59**	**160**	LR	LR	22 02 39.2	
	comp=Z,30nm,20.8s,baz=59,slow=34						
BELG	**Belogornoye**	**29.01**	**105**	P	**P**	**21 54 12.9**	**+0.5**
	comp=Z,5.9nm,1.1s,baz=24,slow=10.0,SNR=2.5						
	comp=Z,5.9nm,1.1s						
ARTI	**Arti**	**29.01**	**89**	P	**P**	**21 54 14.1**	**+1.6**
	comp=Z,2.2nm,0.9s,baz=321,slow=6.5,SNR=3.8						
ARTI				LR	LR	22 05 41.9	
	comp=Z,31nm,19.6s,baz=344,slow=36						
	comp=Z,2.2nm,0.9s						
MLR	**Muntele Rosu**	**29.48**	**137**	LR	LR	22 05 53.6	
	comp=Z,62nm,18.9s,baz=22,slow=36						
SCHQ	**Schefferville**	**31.52**	**272**	LR	LR	22 05 13.9	
	comp=Z,261nm,21.4s,baz=132,slow=32						
KBZ	**Khabaz**	**35.39**	**117**	P	**P**	**21 55 08.5**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=321,slow=9.5,SNR=1.4						
	comp=Z,0.6nm,0.5s						
BVAR	**Borovoye Array**	**35.63**	**82**	P	**P**	**21 55 11.6**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=327,slow=7.6,SNR=3.9						
	comp=Z,0.6nm,0.5s						
BRTR	**Keskin Array B**	**36.71**	**131**	P	**P**	**21 55 20.7**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=351,slow=13,SNR=5.6						
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**38.36**	**316**	LR	LR	22 12 19.2	
	comp=Z,3nm,19.2s,baz=264,slow=38						
KURBB	**Kurchatov Arra**	**40.25**	**77**	P	**P**	**21 55 50.6**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=326,slow=7.8,SNR=4.8						
	comp=Z,0.5nm,0.9s						
ILAR	**Eielson Array**	**41.74**	**338**	P	**P**	**21 56 02.5**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=16,slow=8.5,SNR=4.1						
	comp=Z,0.6nm,0.9s						
ULM	**Lac du Bonnet**	**44.40**	**294**	LR	LR	22 13 30.8	
	comp=Z,3nm,20.1s,baz=316,slow=34						
NEW	**Newport**	**51.92**	**310**	LR	LR	22 18 29.8	
	comp=Z,49nm,18.4s,baz=348,slow=35						
TORD	**Torodi Ar. Bea**	**58.50**	**175**	P	**P**	**21 58 10.8**	**+1.8**
	comp=Z,0.4nm,0.8s,baz=346,slow=7.2,SNR=2.0						
	comp=Z,0.4nm,0.8s						

AZER 12 22:03:52.4, 39°.61N×44°.48E, h19km, ml3.6
IDC 12 22:03:52.2±2.4, 39°.49N×44°.81E, h0km, mb3.3/2, mbtmp3.1/5, ML2.8/2, MS2.1/1, Error ellipse: s-maj=34.5km s-min=10.5km az=105.0
NSSP 12 22:03:53.0, 39°.67N×44°.53E, h10km, Ms3.4
AFAD 12 22:03:53.8, 39°.70N×44°.54E, h7km±1km, ML3.2
TIF 12 22:03:54.1, 39°.66N×44°.47E, h10km±2km
ISK 12 22:03:54.2, 39°.66N×44°.48E, h5km, ML3.2/13
TEH 12 22:03:55.4, 39°.69N×44°.43E, h19km±36km

ISC 12 22:03:54.9±0.9, 39°.68N±0°.02×44°.50E±0°.01, h14km±7km, n104, σ1s31/167, 3C-1D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYR	**Heyderabad**	**0.28**	**82**	P	**Pb**	**22 04 01.0**	**-0.8**
HYR				S	**Sb**	**22 04 05.9**	**-0.4**
TASB	**TASBURUN-IGDIR**	**0.36**	**327**	Pg	**Pg**	**22 04 02.5**	**+0.2**
TASB				Sg	**Sb**	**22 04 08.9**	**+0.1**
IGDI	**IGDIR**	**0.37**	**300**	P	**Pg**	**22 04 01.9**	**-0.6**
IGDI				S	**Sg**	**22 04 07.9**	**+0.2**
IGDI				*i* IAML		22 04 09.0	
	comp=E,4μm,0.5s						
IGDI				*i* IAML		22 04 13.0	
	comp=N,4μm,0.3s						
IGDI	**IGDIR**	**0.37**	**300**	P	**Pg**	**22 04 01.9**	**-0.6**
IGDI				S	**Sb**	**22 04 08.2**	**-0.9**
IGDI	**IGDIR**	**0.37**	**300**	Pg	**Pg**	**22 04 01.9**	**-0.6**
GNI	**Garni**	**0.50**	**22**	Pg	**Pb**	**22 04 05.3**	**-0.3**
GNI				Sg	**Sb**	**22 04 14.0**	**+1.0**
GNI	**Garni**	**0.50**	**22**	Pg	**Pb**	**22 04 05.4**	**-0.3**
	325nm,0.3s,baz=180,slow=4.0,SNR=1794						
GNI				Lg	Lg	22 04 13.9	
	739nm,0.3s,baz=180,slow=20,SNR=41						
GNI				LR	LR	22 04 38.9	
	comp=Z,172nm,20.0s,baz=142,slow=70						
GNI	**Garni**	**0.50**	**22**	Pg	**Pb**	**22 04 05.5**	**-0.2**
GNI				Sg	**Sb**	**22 04 13.9**	**+0.9**
GNI	**Garni**	**0.50**	**22**	⇑*iP*	**Pb**	**22 04 05.5**	**-0.2**
GNI				⇑*iS*	**Sb**	**22 04 14.6**	**+1.6**
METS	**Metsamor**	**0.57**	**326**	*eP*	**Pg**	**22 04 05.4**	**-0.8**
METS				*eS*	**Sb**	**22 04 14.4**	**-0.3**
DYDN	**Diyadin**	**0.64**	**258**	P	**Pg**	**22 04 07.2**	**-0.4**
DYDN				S	**Sb**	**22 04 17.1**	**+0.2**
DYDN				*i* IAML		22 04 25.0	
	comp=E,1μm,0.9s						
DYDN				*i* IAML		22 04 26.0	
	comp=N,1μm,0.5s						
DYDN	**Diyadin**	**0.64**	**258**	Pg	**Pg**	**22 04 07.1**	**-0.4**
KAPZ	**Kaputan**	**0.66**	**14**	*eP*	**Pb**	**22 04 08.1**	**-0.2**
KAPZ				*eS*	**Sb**	**22 04 18.7**	**+1.3**
VNNZ	**Vanand**	**0.67**	**309**	*eP*	**Pg**	**22 04 07.5**	**-0.5**
VNNZ				*eS*	**Sb**	**22 04 17.9**	**+0.2**
VAYK	**Vayk**	**0.72**	**89**	⇓*iP*	**Pg**	**22 04 08.5**	**-0.4**
VAYK				⇑*iS*	**Sb**	**22 04 19.5**	**+0.5**
AMBZ	**Amberd**	**0.73**	**346**	*eP*	**Pb**	**22 04 09.3**	**-0.3**
AMBZ				*eS*	**Sb**	**22 04 20.9**	**+1.3**
SBZ	**Shahbuz**	**0.86**	**109**	P	**Pg**	**22 04 11.0**	**-0.7**
SBZ				S	**Sb**	**22 04 24.0**	**+0.7**
NAX	**Nakhchivan**	**0.92**	**123**	P	**Pg**	**22 04 11.7**	**-1.1**
NAX				S	**Sb**	**22 04 25.3**	**+0.3**
VMUR	**Van-Muradiye**	**1.00**	**226**	P	**Pg**	**22 04 12.9**	**-1.3**
VMUR				S	**Sb**	**22 04 27.1**	**0.0**
VMUR				*i* IAML		22 04 32.0	
	comp=N,680nm,0.4s						
VMUR				*i* IAML		22 04 33.0	
	comp=E,603nm,0.8s						
VMUR	**Van-Muradiye**	**1.00**	**226**	Pg	**Pg**	**22 04 12.9**	**-1.3**
KOTA	**Agri, Merkez-K**	**1.00**	**277**	P	**Pg**	**22 04 13.3**	**-1.0**
KOTA				S	**Sn**	**22 04 29.8**	**+1.0**
KOTA				*i* IAML		22 04 34.0	
	comp=N,266nm,0.7s						
KOTA				*i* IAML		22 04 37.0	
	comp=E,356nm,0.5s						
AYRK	**Ayrk**	**1.08**	**66**	*eP*	**Pg**	**22 04 15.4**	**-0.5**
AYRK				*eS*	**Sn**	**22 04 31.1**	**+0.2**
OZAP	**Van, Ozalp-Mer**	**1.09**	**201**	P	**Pg**	**22 04 14.8**	**-1.2**
OZAP				S	**Sn**	**22 04 31.7**	**+0.7**
OZAP				*i* IAML		22 04 40.0	
	comp=N,652nm,0.7s						
OZAP				*i* IAML		22 04 40.0	
	comp=E,871nm,0.7s						
ERCV	**ERCIS-VAN**	**1.11**	**234**	Pn	**Pn**	**22 04 16.2**	**-0.1**
ERCV				Sn	**Sn**	**22 04 32.5**	**+1.0**
DIGO	**Kars**	**1.13**	**311**	P	**Pg**	**22 04 14.9**	**-1.9**
DIGO				*i* IAML		22 04 43.0	
	comp=N,1μm,0.8s						
DIGO				*i* IAML		22 04 48.0	
	comp=E,2μm,0.5s						
AGRB	**Hanur-Agry**	**1.17**	**265**	Pn	**Pb**	**22 04 16.3**	**-0.7**
AGRB				Sn	**Sn**	**22 04 34.2**	**+1.3**
EAK	**Akyaka**	**1.21**	**326**	P	**Pn**	**22 04 17.9**	**+0.2**
EAK				S	**Sn**	**22 04 35.8**	**+1.8**
EAK				*i* IAML		22 04 40.0	
	comp=E,1μm,0.6s						
EAK				*i* IAML		22 04 46.0	
	comp=N,1μm,0.5s						
EAK	**Akyaka**	**1.21**	**326**	Pg	**Pn**	**22 04 17.8**	**+0.2**
KMOZ	**Kamo**	**1.21**	**340**	*eP*	**Pn**	**22 04 17.1**	**-0.6**
KMOZ				*eS*	**Sb**	**22 04 33.9**	**+0.4**
LSVT	**Lusahovit**	**1.34**	**23**	*eP*	**Pn**	**22 04 19.6**	**+0.2**
LSVT				*eS*	**Sg**	**22 04 38.0**	**-0.2**
ORD	**Ordubad**	**1.38**	**122**	P	**Pn**	**22 04 19.2**	**-0.7**
ORD				S	**Sb**	**22 04 37.5**	**-0.7**
SRTK	**Saratovka**	**1.39**	**355**	*eP*	**Pb**	**22 04 20.6**	**-0.2**
SRTK				*eS*	**Sg**	**22 04 40.0**	**+0.2**
GDB	**GEDABAY**	**1.42**	**42**	P	**Pb**	**22 04 21.4**	**+0.2**
GDB				S	**Sg**	**22 04 41.8**	**+1.2**
TVAN	**Van**	**1.43**	**217**	P	**Pg**	**22 04 21.7**	**-0.7**
TVAN				S	**Sg**	**22 04 44.1**	**+3.0**
TVAN				*i* IAML		22 04 47.0	
	comp=N,472nm,0.5s						
TVAN				*i* IAML		22 04 54.0	
	comp=E,468nm,0.6s						
TVAN	**Van**	**1.43**	**217**	Pg	**Pg**	**22 04 21.7**	**-0.7**
BOZK	**Kars-Merkez-Bo**	**1.48**	**308**	P	**Pn**	**22 04 21.3**	**0.0**
BOZK				*i* IAML		22 04 48.0	
	comp=N,166nm,0.9s						
BOZK				*i* IAML		22 04 52.0	
	comp=E,252nm,0.9s						
QZX	**Qazax, Azerbai**	**1.53**	**26**	P	**Pb**	**22 04 22.8**	**-0.3**
QZX				S	**Sg**	**22 04 44.9**	**+0.7**
EATA	**Eleskirt**	**1.56**	**277**	P	**Pb**	**22 04 23.5**	**-0.2**
EATA				*i* IAML		22 04 55.0	
	comp=E,198nm,0.5s						
EATA				*i* IAML		22 04 56.0	
	comp=N,179nm,0.5s						
EATA	**Eleskirt**	**1.56**	**277**	Pg	**Pb**	**22 04 23.5**	**-0.2**
MLAZ	**Malazgirt-MUS**	**1.60**	**251**	Pn	**Pb**	**22 04 24.3**	**-0.1**
EGVZ	**Egvard**	**1.65**	**105**	*eP*	**Pg**	**22 04 26.3**	**-0.3**
EGVZ				*eS*	**Sg**	**22 04 50.2**	**+2.2**
GANJ	**Ganja**	**1.70**	**55**	P	**Pb**	**22 04 25.7**	**-0.3**
GANJ				S	**Sg**	**22 04 49.9**	**+0.3**
KZRT	**Kazreti**	**1.71**	**358**	P	**Pn**	**22 04 24.0**	**-0.3**
KZRT				S	**Sn**	**22 04 46.8**	**+0.9**
BGD	**Bogdanovka**	**1.72**	**337**	P	**Pb**	**22 04 26.6**	**+0.1**
BGD				S	**Sg**	**22 04 51.5**	**+1.0**
AKDM	**Akdamar-Van**	**1.79**	**222**	Pn	**Pb**	**22 04 27.3**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.87**	**299**	Pn	**Pb**	**22 04 28.8**	**-0.1**
TRLG	**Trialeti**	**1.88**	**351**	P	**Pb**	**22 04 29.0**	**-0.1**
TRLG				S	**Sg**	**22 04 54.5**	**-0.9**
AKH	**Akhalkalaki**	**1.89**	**336**	P	**Pb**	**22 04 29.1**	**-0.2**
AKH				S	**Sg**	**22 04 55.0**	**-0.8**
AKH	**Akhalkalaki**	**1.89**	**336**	Pn	**Pb**	**22 04 29.0**	**-0.3**
DGRG	**David-gareji**	**1.89**	**20**	P	**Pb**	**22 04 29.7**	**+0.5**
DGRG				S	**Sg**	**22 04 57.3**	**+1.5**
AGDM	**Agdam**	**2.05**	**77**	P	**Pn**	**22 04 29.4**	**+0.3**
AGDM				S	**Sb**	**22 04 56.3**	**-1.1**
TBLG	**Delisi**	**2.06**	**5**	P	**Pb**	**22 04 32.2**	**+0.1**
TBLG				S	**Sg**	**22 05 00.4**	**-0.7**
KOPR	**Koprukoy-ERZUR**	**2.06**	**280**	Pn	**Pb**	**22 04 31.3**	**-0.9**
SEAG	**Tbilisi Sea**	**2.09**	**6**	P	**Pb**	**22 04 33.4**	**+0.7**
SEAG				S	**Sg**	**22 05 01.9**	**-0.4**
VSHL	**Vashlovani**	**2.12**	**43**	P	**Pb**	**22 04 34.2**	**+1.1**
VSHL				S	**Sg**	**22 05 07.2**	**+4.0**
BRDA	**Brd**	**2.14**	**73**	P	**Pn**	**22 04 30.5**	**+0.3**
BRDA				S	**Sb**	**22 04 59.1**	**-0.8**
QRD	**Qoradiz**	**2.19**	**95**	P	**Pn**	**22 04 31.6**	**+0.7**
QRD				S	**Sb**	**22 05 00.2**	**-1.2**
HAKT	**HAKKARI**	**2.21**	**197**	P	**Pn**	**22 04 31.4**	**0.0**
HAKT				S	**Sn**	**22 04 59.4**	**+0.8**
GURO	**Guroymak-BITLI**	**2.23**	**240**	Pn	**Pb**	**22 04 33.1**	**-1.9**
MNGR	**Mingechevir, A**	**2.26**	**60**	P	**Pn**	**22 04 33.3**	**+1.4**
MNGR				S	**Sb**	**22 05 02.6**	**-0.7**
IAZR	**Azarshahr**	**2.31**	**149**	Pn	**Pb**	**22 04 34.6**	**-1.9**
BLQ	**Beylaqan**	**2.36**	**88**	P	**Pn**	**22 04 33.7**	**+0.4**
BLQ				S	**Sb**	**22 05 05.0**	**-1.2**
IHRS	**Heris**	**2.41**	**124**	Pn	**Pb**	**22 04 36.1**	**-2.0**
ZRD	**Zardab**	**2.52**	**75**	P	**Pn**	**22 04 36.1**	**+0.6**
ZRD				S	**Sb**	**22 05 10.2**	**-0.6**
ZKTA	**Zakatala**	**2.54**	**39**

mbtmp4.1/19,MS2.4/1,Error ellipse: s-maj=21.1km s-min=8.2km az=76.0
ISC 12 22:16:48.1±0.5,**1°.68N**±0°.05×**127°.41E**±0°.06,**h128**km,**n62,** σ1ᵗ**37**/67,**mb4.1**/22,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.91**	**183**		**Pn**	**22 17 11.9**	**+1.9**
TNTI	**Ternate**	**0.91**	**183**	P	**Pn**	**22 17 12.1**	**+2.1**
TNTI				S	**Sn**	**22 17 29.0**	**+2.4**
SGSI	**Sangihe**	**2.74**	**317**	P	**Pn**	**22 17 30.9**	**-0.4**
KMSI	**Cibinong**	**3.60**	**252**	P	**Pn**	**22 17 43.1**	**+0.5**
SANI	**Sanana**	**3.97**	**201**	P	**Pn**	**22 17 47.4**	**-0.1**
SWI	**Sorong**	**4.60**	**123**	P	**Pn**	**22 17 57.9**	**+2.0**
NLAI	**Namlea**	**4.90**	**184**	P	**Pn**	**22 18 00.7**	**+0.9**
LUWI	**Luwuk**	**5.37**	**240**	Pn	**Pn**	**22 18 07.5**	**+1.3**
LUWI					**Sn**	**22 19 07.9**	**+0.9**
LUWI	**Luwuk**	**5.37**	**240**	P	**Pn**	**22 18 08.0**	**+1.8**
MRSI	**Marisa**	**5.60**	**258**	P	**Pn**	**22 18 10.2**	**+0.9**
APSI	**Ampana**	**6.31**	**246**	P	**Pn**	**22 18 18.8**	**-0.1**
FAKI	**Fak Fak**	**6.65**	**133**		**Pn**	**22 18 26.5**	**+3.0**
FAKI	**Fak Fak** 0.3nm68nm,1.0s	**6.65**	**133**	P	**Pn**	**22 18 26.7**	**+3.2**
TOLI2	**Tolitoli**	**6.65**	**265**		**Pn**	**22 18 23.2**	**-0.3**
PCI	**Palu** 0.2nm44nm,1.0s	**8.00**	**251**	P	**Pn**	**22 18 41.6**	**0.0**
TTSI	**Tana Toraja**	**8.93**	**238**	P	**Pn**	**22 18 53.3**	**-0.8**
BNSI	**Bone** 20nm,0.6s	**9.48**	**230**	P	**Pn**	**22 19 01.4**	**-0.1**
SPSI	**Sidrap Palu**	**9.48**	**234**	P	**Pn**	**22 19 02.6**	**+1.1**
MYLDM	**Lahad Datu**	**9.55**	**292**	Pn	**Pn**	**22 19 03.7**	**+1.2**
BKSI	**Bulukumba** 18nm,0.9s	**10.07**	**226**	P	**Pn**	**22 19 11.4**	**+1.9**
KAPI	**Kappang** 7.7nm,0.4s,baz=141,slow=6.5,SNR=4.3	**10.14**	**229**	P	**Pn**	**22 19 11.6**	**+1.2**
KAPI				S	**Sn**	**22 20 59.0**	**-3.4**
JAY	**Jayapura** 6.6nm,0.7s,baz=208,slow=4.1,SNR=5.1 19nm,0.4s,baz=68,slow=19,SNR=11	**13.93**	**107**	P	**Pn**	**22 20 00.7**	**+0.5**
MTN	**Manton Dam**	**14.90**	**166**	Pn	**Pn**	**22 20 11.9**	**-0.4**
GMJI	**Gumukmas**	**17.08**	**234**	P	**Pn**	**22 20 42.7**	**+3.4**
KNRA	**Kununurra**	**17.30**	**176**	P	**P**	**22 20 42.0**	**+0.7**
KNRA	comp=Z,6.5nm,0.8s			IAmb	IAmb	22 20 54.5	
PCJI	**Pacitan** comp=Z,36nm,1.2s	**18.93**	**239**	P	**P**	**22 21 00.5**	**+1.2**
UGM	**Wanagama**	**19.36**	**240**	P	**P**	**22 21 04.0**	**+0.1**
UGM	comp=Z,24nm,1.0s			IAmb	IAmb	22 21 08.6	
FITZ	**Fitzroy Crossi**	**19.73**	**185**	P	**P**	**22 21 07.2**	**-0.7**
FITZ	**Fitzroy Crossi** comp=Z,1.3nm,0.6s,baz=48,slow=12,SNR=1.7	**19.73**	**185**	P	**P**	**22 21 07.2**	**-0.7**
DLV	**Lat**	**21.36**	**299**	P	**P**	**22 21 27.4**	**+1.8**
COEN	**Coen**	**22.03**	**135**	P	**P**	**22 21 32.2**	**-0.4**
COEN	comp=Z,12nm,1.1s			IAmb	IAmb	22 21 39.6	
WB0	**Warramunga Arr**	**22.39**	**163**	P	**P**	**22 21 35.3**	**-0.8**
WB0	comp=Z,11nm,0.6s			IAmb	IAmb	22 21 36.6	
TPUB	**Ta-pu**	**22.48**	**343**	P	**P**	**22 21 35.9**	**-1.0**
TPUB	comp=Z,15nm,0.8s			IAmb	IAmb	22 21 49.5	
WRA	**Warramunga Arr**	**22.54**	**163**	P	**P**	**22 21 35.5**	**-2.1**
WRA	**Warramunga Arr** comp=Z,9.7nm,0.7s,baz=342,slow=10,SNR=63	**22.54**	**163**	P	**P**	**22 21 37.3**	**-0.3**
WRA	comp=Z,0.6nm,0.9s,baz=335,slow=20,SNR=2.2 comp=Z,9.7nm,0.7s			S	**S**	**22 25 33.1**	**-2.3**
WR8	**Warramunga Arr**	**22.60**	**162**	P	**P**	**22 21 38.0**	**-0.2**
CGJI	**Cibinong**	**23.19**	**249**	P	**P**	**22 21 43.3**	**-0.6**
KASI	**Kota Agung** comp=Z,18nm,0.8s	**23.98**	**252**	P	**P**	**22 21 51.5**	**+0.5**
MDSI	**Maura Dua**	**24.01**	**255**	P	**P**	**22 21 51.6**	**+0.3**
AS31	**Alice Springs**	**25.97**	**166**	P	**P**	**22 22 08.8**	**-0.3**
ASAR	**Alice Springs**	**25.98**	**166**	P	**P**	**22 22 08.7**	**-0.3**
ASAR	**Alice Springs** comp=Z,1.2nm,0.5s,baz=346,slow=7.3,SNR=19	**25.98**	**166**	P	**P**	**22 22 08.9**	**-0.1**
ASAR	comp=Z,0.4nm,0.8s,baz=341,slow=19,SNR=2.6 comp=Z,1.2nm,0.5s			S	**S**	**22 26 27.2**	**-3.1**
JNU	**Nakatsue**	**31.44**	**6**	P	**P**	**22 22 55.5**	**-1.9**
MORW	**Morawa**	**32.46**	**199**	P	**P**	**22 23 06.0**	**-0.4**
MORW	comp=Z,3.5nm,1.1s			IAmb	IAmb	22 23 10.0	
CMAR	**Chiang Mai Arr** comp=Z,1.0nm,0.3s,baz=117,slow=6.5,SNR=4.7	**32.52**	**303**	P	**P**	**22 23 06.5**	**-0.6**
CMAR	comp=Z,5.7nm,18.8s,baz=205,slow=36 comp=Z,1.0nm,0.3s			LR	LR	22 36 38.1	
KSRS	**Korea Array** comp=Z,1.8nm,0.5s,baz=177,slow=9.5,SNR=16 comp=Z,1.8nm,0.5s	**35.60**	**1**	P	**P**	**22 23 33.8**	**+0.4**
STKA	**Stephens Creek**	**35.98**	**159**	P	**P**	**22 23 36.9**	**+0.2**
STKA	**Stephens Creek** comp=Z,13nm,0.7s,baz=328,slow=9.1,SNR=35 comp=Z,13nm,0.7s	**35.98**	**159**	P	**P**	**22 23 36.9**	**+0.2**
MJAR	**Matsushiro Arr** comp=Z,1.9nm,0.2s,baz=191,slow=9.9,SNR=6.5 comp=Z,1.9nm,0.2s	**36.10**	**15**	P	**P**	**22 23 36.4**	**-1.2**
LZDM	**Lanzhou Array** comp=Z,1.1nm,0.3s,baz=182,slow=8.7,SNR=2.2 comp=Z,1.1nm,0.3s	**40.58**	**330**	P	**P**	**22 24 15.5**	**-0.1**
USRK	**Ussuriysk Ar.** comp=Z,3.0nm,0.8s,baz=189,slow=7.0,SNR=5.4 comp=Z,3.0nm,0.8s	**42.53**	**5**	P	**P**	**22 24 31.4**	**+0.5**
SONM	**Songino Array** comp=Z,1.0nm,0.8s,baz=158,slow=6.3,SNR=4.6 comp=Z,1.0nm,0.8s	**49.44**	**341**	P	**P**	**22 25 25.1**	**-0.2**
PETK	**Petropavlovsk-** comp=Z,2.0nm,0.6s,baz=165,slow=5.1,SNR=4.9 comp=Z,2.0nm,0.6s	**57.07**	**21**	P	**P**	**22 26 20.9**	**+0.1**
MKAR	**Makanchi Array** comp=Z,1.3nm,0.3s,baz=120,slow=8.0,SNR=29 comp=Z,1.3nm,0.3s	**59.62**	**326**	P	**P**	**22 26 39.1**	**+0.5**
ZALV	**Zalesovo Beam** comp=Z,0.8nm,0.7s,baz=134,slow=8.4,SNR=2.2 comp=Z,0.8nm,0.7s	**62.71**	**333**	P	**P**	**22 27 01.1**	**+1.8**
KURBB	**Kurchatov Arra** comp=Z,1.3nm,0.6s,baz=127,slow=6.0,SNR=14 comp=Z,1.3nm,0.6s	**63.82**	**328**	P	**P**	**22 27 06.1**	**-0.6**
KURK	**Kurchatov**	**63.82**	**328**	P	**P**	**22 27 06.5**	**-0.2**
KURK	comp=Z,2.6nm,0.8s			IAmb	IAmb	22 27 07.1	
KKAR	**Karatay Array**	**65.19**	**317**	P	**P**	**22 27 16.1**	**+0.2**
BVAR	**Borovoye Array** comp=Z,0.8nm,0.6s,baz=148,slow=8.7,SNR=4.7 comp=Z,0.8nm,0.6s	**69.40**	**327**	P	**P**	**22 27 41.7**	**-0.4**
VNDA	**Vanda** comp=Z,1.0nm,0.6s,baz=310,slow=6.7,SNR=6.8 comp=Z,1.0nm,0.6s	**81.32**	**173**	P	**P**	**22 28 49.1**	**-0.7**
ILAR	**Eielson Array** comp=Z,0.2nm,0.5s,baz=267,slow=5.6,SNR=2.0 comp=Z,0.2nm,0.5s	**86.65**	**25**	P	**P**	**22 29 15.4**	**-1.6**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.7s,baz=49,slow=3.5,SNR=2.7	**124.19**	**287**	PKP	**PKPdf**	**22 35 31.6**	**-1.1**

*AZER **12** 22:26:28.9,38°.42N×47°.00E,h10km,ml2.7*
*TEH **12** 22:26:29.7,38°.43N×46°.96E,h10km,t74km*
ISC 12 22:26:30.4±1.0,**38°.41N**±0°.03×**46°.92E**±0°.02,**h13**km±8km, **n30,** σ1ᵗ**01**/49,**Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.13**	**131**	Pg	**Pg**	**22 26 33.8**	**-0.3**
ITBZ	**Tabriz**	**0.63**	**254**	Pg	**Pg**	**22 26 42.8**	**+0.1**
GRMI	**Germi**	**0.87**	**62**	Pg	**Pg**	**22 26 46.1**	**-1.1**
ORD	**Ordubad**	**0.89**	**306**	P	**Pg**	**22 26 47.3**	**-0.4**
ORD				S	**Sn**	**22 27 00.6**	**-0.9**
ISHB	**Shabestar**	**1.03**	**264**	Pg	**Pg**	**22 26 50.0**	**-0.3**
IAZR	**Azarshahr**	**1.03**	**226**	Pg	**Pn**	**22 26 51.1**	**+0.3**
QRD	**Qoradiz**	**1.10**	**17**	P	**Pn**	**22 26 51.6**	**0.0**
QRD				S	**Sn**	**22 27 06.9**	**+0.3**
IHSH	**Hashtrud**	**1.13**	**166**	Pg	**Pb**	**22 26 51.4**	**-0.6**
LRK	**Lerik**	**1.14**	**78**	P	**Pb**	**22 26 51.5**	**-0.6**
LRK				S	**Sg**	**22 27 07.6**	**+0.3**
YRD	**Yardimli**	**1.16**	**63**	P	**Pb**	**22 26 51.8**	**-0.6**
YRD				S	**Sg**	**22 27 07.8**	**-0.1**
NAX	**Nakhchivan**	**1.35**	**305**	P	**Pb**	**22 26 55.4**	**-0.2**
NAX				S	**Sg**	**22 27 14.8**	**+0.8**
BLQ	**Beylaqan**	**1.41**	**21**	P	**Pg**	**22 26 57.2**	**-0.3**
BLQ				S	**Sg**	**22 27 17.4**	**+1.6**
GLBA	**Clilabad**	**1.43**	**54**	P	**Pb**	**22 26 57.2**	**+0.4**
GLBA				S	**Sg**	**22 27 17.9**	**+1.6**
SBZ	**Shahbuz**	**1.45**	**313**	P	**Pg**	**22 26 57.7**	**-0.7**
SBZ				S	**Sg**	**22 27 17.8**	**+0.5**
ASTR	**Astara**	**1.48**	**83**	P	**Pb**	**22 26 58.0**	**+0.3**
ASTR				S	**Sg**	**22 27 18.1**	**+0.1**
LKRN	**Lenkeran, Azer**	**1.49**	**78**	P	**Pb**	**22 26 57.9**	**0.0**
LKRN				S	**Sg**	**22 27 18.9**	**+0.4**
GAS1	**Astara - Iran**	**1.51**	**90**	Pg	**Pn**	**22 26 57.6**	**+0.5**
AGDM	**Agdam**	**1.71**	**5**	P	**Pb**	**22 27 02.0**	**+0.4**
AGDM				S	**Sg**	**22 27 25.1**	**-0.3**
BRDA	**Brd**	**1.87**	**6**	S	**Sg**	**22 27 32.5**	**+2.0**
SAAT	**Saatly**	**1.87**	**38**	S	**Sg**	**22 27 29.4**	**-1.1**
ZRD	**Zardab**	**1.96**	**17**	P	**Pb**	**22 27 06.4**	**+0.4**
ZRD				S	**Sg**	**22 27 33.9**	**+0.3**
HYR	**Heyderabad**	**2.07**	**310**	P	**Pb**	**22 27 07.9**	**0.0**
HYR				S	**Sg**	**22 27 36.8**	**-0.3**
KDMR	**Kurdemir**	**2.20**	**26**	S	**Sb**	**22 27 37.8**	**+0.7**
GANJ	**Ganja**	**2.29**	**349**	P	**Pb**	**22 27 10.9**	**-0.6**
GANJ				S	**Sb**	**22 27 48.3**	**-1.5**
PQL	**Pirkuli**	**2.71**	**28**	P	**Pn**	**22 27 14.9**	**+1.2**
PQL				S	**Sb**	**22 27 50.8**	**-1.2**
SEKA	**Sheki**	**2.81**	**4**	P	**Pb**	**22 27 18.2**	**-2.3**
QZX	**Qazax, Azerbai**	**2.91**	**336**	P	**Pn**	**22 27 18.9**	**+2.5**
QZX				S	**Sb**	**22 27 57.0**	**-0.5**

*AFAD **12** 22:37:03.8,39°.36N×40°.37E,h7km±4km,ML2.8*
*ISK **12** 22:37:05.3,39°.43N×40°.48E,h6km,ML2.6/12*
ISC 12 22:37:04.7±1.1,**39°.39N**±0°.03×**40°.43E**±0°.03,**h7**km±8km, **n21,** σ0ᵗ**83**/32,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	**Yedisu-Bingol**	**0.10**	**61**	Pg	**Pg**	**22 37 07.1**	**0.0**
YEDI				Sg	**Sg**	**22 37 08.9**	**+0.1**
ECAT	**Cat-ERZURUM**	**0.48**	**63**	P	**Pg**	**22 37 13.6**	**-0.3**
ECAT				S	**Sg**	**22 37 20.0**	**-0.3**
ECAT	comp=N,1μm,0.5s			*i* IAML		22 37 22.0	
ECAT	comp=E,1μm,0.5s			*i* IAML		22 37 25.0	
KARO	**Karliova-Bingo**	**0.49**	**99**	Pg	**Pg**	**22 37 14.2**	**0.0**
KARO				Sg	**Sg**	**22 37 21.9**	**+1.3**
SLHN	**Bingol, Solhan**	**0.63**	**133**	P	**Pg**	**22 37 17.3**	**+0.4**
SLHN				S	**Sb**	**22 37 26.8**	**-0.6**
SLHN	comp=N,651nm,0.6s			*i* IAML		22 37 30.0	
SLHN	comp=E,1μm,0.6s			*i* IAML		22 37 31.0	
ETEKE	**Tekederesi - E**	**0.68**	**53**	P	**Pb**	**22 37 18.6**	**-0.5**
ETEKE				S	**Sb**	**22 37 29.1**	**+0.2**
ETEKE	comp=N,306nm,0.3s			*i* IAML		22 37 30.0	
ETEKE	comp=E,325nm,0.5s			*i* IAML		22 37 39.0	
EJDE	**Erzurum, Palan**	**0.81**	**56**	P	**Pg**	**22 37 20.4**	**0.0**
EJDE				S	**Sb**	**22 37 32.8**	**+0.1**
EJDE	comp=N,836nm,0.6s			*i* IAML		22 37 34.0	
EJDE	comp=E,933nm,0.5s			*i* IAML		22 37 35.0	
ERZM	**Erzurum**	**0.89**	**54**	P	**Pg**	**22 37 21.7**	**-0.2**
ERZM				S	**Sb**	**22 37 34.8**	**-0.1**
BAYT	**Aydıntepe-Bayb**	**1.03**	**348**	Pg	**Pb**	**22 37 24.9**	**-0.1**
BAYT				Sg	**Sb**	**22 37 39.2**	**+0.4**
MUSM	**Mu-Merkez**	**1.07**	**128**	P	**Pg**	**22 37 24.8**	**-0.5**
MUSM				S	**Sg**	**22 37 39.7**	**+0.4**
MUSM	comp=N,318nm,0.5s			*i* IAML		22 37 40.0	
MUSM	comp=E,286nm,0.5s			*i* IAML		22 37 40.0	
KOPR	**Koprukoy-ERZUR**	**1.25**	**61**	Pn	**Pg**	**22 37 28.6**	**-0.2**
KOPR				Sn	**Sn**	**22 37 45.7**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.38**	**154**	P	**Pn**	**22 37 28.9**	**-1.5**
SVAN				S	**Sn**	**22 37 48.9**	**0.0**
SVAN	comp=N,50nm,1.0s			*i* IAML		22 37 51.0	
SVAN	comp=E,81nm,0.6s			*i* IAML		22 37 51.0	
ILIC	**ilic-Erzincan**	**1.44**	**273**	Pn	**Pg**	**22 37 33.4**	**+1.1**
DYBB	**Diyarbakir**	**1.45**	**189**	Pn	**Pg**	**22 37 33.8**	**+1.3**
GURO	**Guroymak-BITLI**	**1.50**	**123**	Pn	**Pb**	**22 37 32.7**	**-0.4**
MLAZ	**Malazgirt-MUS**	**1.67**	**98**	Pn	**Pb**	**22 37 35.5**	**-0.3**
CHOM	**Cayeli-Rize**	**1.73**	**8**	Pn	**Pb**	**22 37 35.9**	**-0.9**
SENK	**Senkaya-Erzuru**	**1.89**	**51**	Pn	**Pn**	**22 37 38.2**	**+0.6**
AGRB	**Hanur-Agry**	**1.99**	**84**	Pn	**Pn**	**22 37 40.0**	**+1.0**
BCA	**Borcka**	**2.25**	**24**	Pn	**Pn**	**22 37 43.4**	**+1.0**
AKDM	**Akdamar-Van**	**2.26**	**117**	Pn	**Pn**	**22 37 43.9**	**+1.3**
SVSK	**Karacayir**	**2.70**	**282**	Pn	**Pb**	**22 37 50.9**	**-2.4**

*IDC **12** 22:55:13.9±0.8,23°.07S×169°.63E,h0km,mb4.1/10, mbtmp4.1/11,ML4.0/1,MS3.4/7,Error ellipse: s-maj=27.5km s-min=22.4km az=161.0*
*NEIC **12** 22:55:14.2±1.4,22°.8S±0°.1×169°.8E±0°.1,h10km±2km, mb4.4/9,Error ellipse: s-maj=22.0km s-min=15.7km az=53.0*
ISC 12 22:55:17.2±0.7,**23°.0S**±0°.2×**169°.57E**±0°.09,**h23**km,**n61,** σ0ᵗ**91**/57,**mb4.3**/14,**MS3.5**/5,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**2.00**	**282**		**Pn**	**22 55 49.6**	**0.0**
DZM	**Mont Dzumac**	**3.04**	**288**		**Pn**	**22 56 03.8**	**-0.3**
DZM	**Mont Dzumac** 18nm,0.3s,baz=128,slow=13,SNR=390	**3.04**	**288**	Pn	**Pn**	**22 56 04.5**	**+0.5**
DZM	18nm,0.3s,baz=127,slow=14,SNR=3.7			Sn	**Sn**	**22 56 39.9**	**+0.2**
DZM	comp=Z,417nm,19.4s,baz=208,slow=40 88nm,0.5s			LR	LR	22 57 19.1	
URZ	**Urewera** comp=Z,116nm,19.1s,baz=303,slow=33	**16.50**	**159**	LR	LR	23 04 17.2	
CTAO	**Charters Tower**	**21.87**	**273**	P	**P**	**23 00 10.2**	**+1.6**
CTAO	comp=Z,11nm,0.9s			IAmb	IAmb	23 00 15.7	
STKA	**Stephens Creek**	**26.28**	**244**	P	**P**	**23 00 51.6**	**+0.6**
STKA	comp=Z,5.2nm,0.6s			IAmb	IAmb	23 00 56.0	
STKA	**Stephens Creek** comp=Z,1.6nm,0.5s,baz=86,slow=11,SNR=4.2 comp=Z,1.6nm,0.5s	**26.28**	**244**	P	**P**	**23 00 52.4**	**+1.4**
COEN	**Coen**	**26.57**	**285**	P	**P**	**23 00 54.4**	**+0.6**
COEN	comp=Z,21nm,1.1s			IAmb	IAmb	23 00 56.9	
BBOO	**Buckleboo**	**31.06**	**244**	P	**P**	**23 01 33.9**	**+0.3**
ASAR	**Alice Springs**	**32.70**	**262**	P	**P**	**23 01 47.8**	**-0.3**
ASAR	**Alice Springs** comp=Z,3.4nm,0.7s,baz=92,slow=9.7,SNR=39 comp=Z,3.4nm,0.7s	**32.70**	**262**	P	**P**	**23 01 48.6**	**+0.5**
WR8	**Warramunga Arr**	**32.72**	**269**	P	**P**	**23 01 46.8**	**-1.5**
WR8	comp=Z,4.6nm,1.1s			IAmb	IAmb	23 02 00.3	
WRA	**Warramunga Arr** comp=Z,0.8nm,0.5s,baz=100,slow=8.3,SNR=9.3	**32.88**	**269**	P	**P**	**23 01 49.7**	**0.0**
WRA	comp=Z,49nm,21.2s,baz=103,slow=36 comp=Z,0.8nm,0.5s			LR	LR	23 15 14.7	
FORT	**Forrest**	**37.64**	**249**	P	**P**	**23 02 30.9**	**+0.4**
FORT	comp=Z,6.4nm,0.7s			IAmb	IAmb	23 02 32.5	
FITZ	**Fitzroy Crossi**	**41.30**	**268**	P	**P**	**23 03 01.3**	**0.0**
FITZ	**Fitzroy Crossi** comp=Z,0.7nm,0.4s,baz=98,slow=10,SNR=1.3 comp=Z,0.7nm,0.4s	**41.30**	**268**	P	**P**	**23 03 01.7**	**+0.4**
PSA00	**Pilbara Seismi**	**45.85**	**262**	P	**P**	**23 03 37.8**	**-0.1**
GIRL	**Giralia**	**50.73**	**259**	P	**P**	**23 04 13.5**	**-2.1**
DAV	**Davao City (W)** comp=Z,22nm,19.5s,baz=168,slow=36	**52.39**	**300**	LR	LR	23 26 36.9	
TOLI2	**Tolitoli**	**53.17**	**290**	P	**P**	**23 04 32.0**	**-1.8**
QSPA	**South Pole Qui** comp=Z,2.4nm,1.0s,baz=28,slow=2.1,SNR=5.2 comp=Z,2.4nm,1.0s	**67.04**	**180**	P	**P**	**23 06 09.1**	**+0.8**
SHEM	**Shemya Is, Ala** comp=Z,32nm,20.2s,baz=114,slow=31	**75.54**	**3**	LR	LR	23 34 15.7	
PETK	**Petropavlovsk-** comp=Z,3.1nm,1.0s,baz=185,slow=7.1,SNR=3.7 comp=Z,3.1nm,1.0s	**76.52**	**353**	P	**P**	**23 07 04.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**80.35**	**295**	P	**P**	**23 07 28.4**	**+1.3**
SNAA	**Sanae** comp=Z,1.7nm,0.8s,baz=135,slow=9.9,SNR=3.9	**85.40**	**182**	P	**P**	**23 07 51.1**	**-1.4**
SNAA	comp=Z,29nm,18.8s,baz=139,slow=34 comp=Z,1.7nm,0.8s			LR	LR	23 43 37.1	
PFO	**Pinyon Flats O** comp=Z,16nm,18.2s,baz=235,slow=31	**90.12**	**53**	LR	LR	23 41 13.2	
SONM	**Songino Array** comp=Z,0.8nm,0.7s,baz=132,slow=2.1,SNR=4.0 comp=Z,0.8nm,0.7s	**90.42**	**323**	P	**P**	**23 08 17.4**	**+0.6**
NVAR	**Mina Array Bea** comp=Z,1.0nm,0.7s,baz=224,slow=6.2,SNR=5.8 comp=Z,1.0nm,0.7s	**91.08**	**48**	P	**P**	**23 08 21.4**	**+1.1**
ARCES	**ARCESS Array B** comp=Z,1.2nm,0.7s,baz=48,slow=1.8,SNR=4.6	**128.79**	**345**	PKP	**PKPdf**	**23 14 21.7**	**-0.3**
STEB	**Steborice**	**145.24**	**328**	*e*PKP	**PKPdf**	**23 14 54.2**	**+1.4**
OSTC	**Ostas**	**145.57**	**330**	*e*PKP	**PKPab**	**23 14 55.0**	**+1.1**
CHVC	**Chvalec**	**145.62**	**330**	*e*PKP	**PKPab**	**23 14 54.7**	**+0.6**
KRLC	**Kraliky**	**145.63**	**329**	*e*PKP	**PKPab**	**23 14 55.2**	**+1.1**
DPC	**Dobruska-Polom**	**145.66**	**329**	*e*PKP	**PKPab**	**23 14 55.5**	**+1.3**
DPC				*ex*	x	23 15 04.7	
JAVC	**Velka Javorina**	**145.97**	**326**	*e*PKP	**PKiKP**	**23 14 57.4**	**-1.0**
VRAC	**Vranov** comp=Z,0.6nm,0.3s,baz=49,slow=2.4,SNR=4.9	**146.23**	**328**	PKPbc	**PKPab**	**23 14 56.4**	**0.0**
VRAC	**Vranov**	**146.23**	**328**	*e*PKP	**PKPab**	**23 14 57.0**	**+0.6**
BRG	**Berggiesshubel**	**146.37**	**332**	*e*P	**PKiKP**	**23 14 59.1**	**0.0**
BRG				Amp		23 14 59.8	
BRG	**Berggiesshubel** comp=Z,4.9nm,0.7s	**146.37**	**332**	P	PKiKP	23 15 08.7	+10
BRG	comp=Z,4.4nm,0.9s			Amp		23 15 10.9	
CLL	**Collm** comp=Z,5.0nm,0.7s	**146.45**	**333**	*i* PKPbc	**PKPab**	**23 14 57.1**	**0.0**
KRUC	**Moravsky**	**146.49**	**327**	*e*PKP	**PKPab**	**23 14 57.7**	**+0.3**
PRU	**Pruhonice**	**146.74**	**330**	*e*PKP	**PKPab**	**23 14 58.5**	**+0.2**
ZVC	**Zvikov**	**147.29**	**330**	*e*PKP	**PKPab**	**23 14 59.8**	**-0.7**
EKA	**Eskdalemuir Ar** comp=Z,2.3nm,0.7s,baz=360,slow=2.9,SNR=5.5	**147.29**	**352**	PKPbc	**PKPbc**	**23 14 57.4**	**-1.1**
RONA	**Rosalia, Austr** comp=Z,1.7nm,0.5s	**147.42**	**326**	*e*PKP	**PKPab**	**23 15 00.5**	**-0.6**
CONA	**Conrad Observa** comp=Z,2.1nm,0.7s	**147.50**	**326**	*e*PKP	**PKPab**	**23 15 01.0**	**-0.4**
CKRC	**Cesky Krumlov**	**147.66**	**329**	*e*PKP	**PKiKP**	**23 15 01.0**	**-0.8**
CKRC				*ex*	x	23 15 06.7	
KHC	**Kasperske Hory**	**147.79**	**330**	*e*PKP	**PKiKP**	**23 15 01.3**	**-0.8**
GERES	**GERESS Array B** comp=Z,1.9nm,0.8s,baz=56,slow=3.7,SNR=13	**147.93**	**329**	PKPbc	**PKiKP**	**23 15 01.6**	**-0.8**
MOA	**Molln** comp=Z,0.7nm,0.3s	**148.35**	**328**	*i* PKP	**PKiKP**	**23 15 02.4**	**-0.8**
SOKA	**Soboth** comp=Z,0.6nm,0.3s	**148.74**	**325**	*e*PKP	**PKiKP**	**23 15 03.2**	**-1.0**
LESA	**Schwarzleotal** comp=Z,3.1nm,0.5s	**149.42**	**328**	*i* PKP	**PKiKP**	**23 15 05.0**	**-0.5**
ABTA	**Abfaltersbach** comp=Z,2.3nm,0.6s	**149.98**	**328**	*e*PKP	**PKiKP**	**23 15 06.0**	**-0.8**
WATA	**Walderalm** comp=Z,1.8nm,0.4s	**150.01**	**329**	*e*PKiKP	**PKPab**	**23 15 08.9**	**-2.8**
WTTA	**Wattenberg** comp=Z,2.0nm,0.6s	**150.03**	**329**	*e*PKP	**PKiKP**	**23 15 07.1**	**+0.1**
MOTA	**Moosalm** comp=Z,4.6nm,0.8s	**150.22**	**330**	*e*PKP	**PKiKP**	**23 15 07.2**	**-0.1**
SQTA	**Sankt Quirin** comp=Z,3.4nm,0.6s	**150.26**	**330**	*e*PKP	**PKiKP**	**23 15 07.4**	**0.0**
RETA	**Reutte** comp=Z,0.3nm,0.2s	**150.28**	**330**	*e*PKP	**PKiKP**	**23 15 07.2**	**-0.1**
FETA	**Feichten** comp=Z,3.0nm,0.7s	**150.63**	**330**	*e*PKP	**PKiKP**	**23 15 08.4**	**+0.2**
DAVA	**Damuels** comp=Z,1.8nm,0.6s	**150.82**	**331**	*e*PKP	**PKiKP**	**23 15 08.7**	**+0.2**
DAVOX	**Davos/Dischmat** comp=Z,4.9nm,0.8s,baz=79,slow=5.2,SNR=14	**151.20**	**330**	PKPbc	**PKiKP**	**23 15 10.0**	**+0.6**

*SOME **12** 23:26:48.2,43°.15N×78°.70E,h15km*
*KRNET **12** 23:26:49.1±0.1,40°.54N×76°.85E,mb2.2*
NNC 12 23:26:47.1±0.5,**43°.16N×78°.76E,h6**km±3km,**mb3.2, mpv2.9,4C-2D,Error ellipse: s-maj=4.9km s-min=3.0km az=4.0,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzunbulak** 26nm,0.1s	**0.20**	**94**	P	Pg	**23 26 52.2**	**+1.2**
UZB	185nm,0.1s			S	Sg	23 26 55.0	+1.4
UZB	**Uzunbulak** 26nm,0.1s	**0.20**	**94**	*e*P	Pg	23 26 52.2	+1.2
UZB	185nm,0.1s			*e*S	Sg	23 26 55.0	+1.4
SATY	**Saty** 6.9nm,0.1s	**0.28**	**248**	P	Pg	23 26 53.5	+1.0
SATY	226nm,0.1s			S	Sg	23 26 57.7	+1.4
KPKS	**Kokpek** 2.3nm,0.1s	**0.31**	**350**	P	Pg	23 26 54.1	+1.0
KPKS	90nm,0.2s			S	Sg	23 26 58.3	+1.1
SHLS	**Shalkode** 0.6nm,0.1s	**0.52**	**90**	P	Pn	23 27 03.6	+2.4
SHLS	9.7nm,0.3s			S	Sn	23 27 14.6	+4.3
SHLS	**Shalkode** 0.6nm,0.1s	**0.52**	**90**	*e*P	Pn	23 27 03.6	+2.4
SHLS	9.7nm,0.3s			*e*S	Sn	23 27 14.6	+4.3
ARXS	**Arharly** 2.1nm,0.1s	**1.25**	**328**	P	Pg	23 27 10.8	-0.2
ARXS	4.2nm,0.1s			S	Sg	23 27 27.2	0.0
ARXS	**Arharly**	**1.25**	**328**	*e*P	Pg	23 27 10.8	-0.2
ARXS				*e*S	Sg	23 27 27.2

	comp=Z,6.1nm,0.9s						
WRAB	**Tennant Creek**	**21.74**	**162**	P	**P**	**23 42 31.2**	**-0.3**
WRAB				IAmb	IAmb	23 42 32.2	
	comp=Z,7.6nm,0.8s						
WRA	**Warramunga Arr**	**21.75**	**163**	P	**P**	**23 42 29.6**	**-1.9**
WRA	**Warramunga Arr**	**21.75**	**163**	P	**P**	**23 42 31.7**	**+0.2**
	comp=Z,3.7nm,0.6s,baz=342,slow=11,SNR=18						
	comp=Z,3.7nm,0.6s						
WR8	**Warramunga Arr**	**21.81**	**162**	P	**P**	**23 42 32.0**	**-0.1**
WR8				IAmb	IAmb	23 42 32.8	
	comp=Z,6.4nm,0.8s						
DLV	**Lat**	**21.86**	**301**	P	**P**	**23 42 30.6**	**-2.3**
ASAR	**Alice Springs**	**25.18**	**166**	P	**P**	**23 43 03.2**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=346,slow=12,SNR=8.8						
	comp=Z,0.6nm,0.3s						
FORT	**Forrest**	**31.49**	**179**	P	**P**	**23 43 59.1**	**+0.4**
FORT				IAmb	IAmb	23 44 16.6	
	comp=Z,4.9nm,1.0s						
MORW	**Morawa**	**31.75**	**199**	P	**P**	**23 44 01.4**	**+0.5**
MORW				IAmb	IAmb	23 44 17.9	
	comp=Z,4.5nm,1.0s						
BBOO	**Buckleboo**	**34.47**	**167**	P	**P**	**23 44 24.7**	**+0.3**
BBOO				IAmb	IAmb	23 44 26.3	
	comp=Z,5.7nm,1.1s						
STKA	**Stephens Creek**	**35.20**	**159**	P	**P**	**23 44 31.3**	**+0.6**
STKA	**Stephens Creek**	**35.20**	**159**	P	**P**	**23 44 31.6**	**+0.9**
	comp=Z,3.6nm,0.8s,baz=341,slow=5.8,SNR=7.7						
	comp=Z,3.6nm,0.8s						
KSRS	**Korea Array**	**36.39**	**1**	P	**P**	**23 44 40.4**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=171,slow=9.5,SNR=5.5						
	comp=Z,0.5nm,0.6s						
SONM	**Songino Array**	**50.23**	**342**	P	**P**	**23 46 31.8**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=152,slow=6.7,SNR=3.8						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**60.34**	**326**	P	**P**	**23 47 44.1**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=115,slow=8.0,SNR=30						
	comp=Z,1.3nm,0.3s						
KURBB	**Kurchatov Arra**	**64.56**	**328**	P	**P**	**23 48 10.3**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=126,slow=6.2,SNR=6.8						
	comp=Z,1.6nm,0.3s						
BVAR	**Borovoye Array**	**70.13**	**327**	P	**P**	**23 48 46.0**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=133,slow=8.5,SNR=2.7						
	comp=Z,0.6nm,0.6s						
VNDA	**Vanda**	**80.52**	**173**	P	**P**	**23 49 44.2**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=12,slow=3.9,SNR=3.6						
	comp=Z,0.9nm,0.9s						

JMA ***12*** *23:43:51.6±0.3,25°N±2°,122°.5E±0°.6, h109km±2km, MV2.5/10, NW OFF ISHIGAKIJIMA IS*
TAP ***12*** *23:43:51.1,24°.75N×122°.57E, h112km, ML3.1, D*

ISC 12 23:43:51.3±1.5, 24°.65N±0°.04×122°.54E±0°.03, h113km±8km, n88, σ0s93/150, 2C-12D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.36**	**230**	*i* P	**Pn**	**23 44 08.1**	**+0.7**
EOS2				S	**Sn**	**23 44 20.1**	**+0.6**
EOS3	**EOS3**	**0.41**	**209**	P	**Pn**	**23 44 08.6**	**+0.9**
EOS3				*i* S	**Sn**	**23 44 21.4**	**+1.4**
JYNG	**Yonagunijimaku**	**0.42**	**118**	P	**Pn**	**23 44 08.2**	**+0.3**
YOJ	**Yonaguni jima**	**0.47**	**114**	P	**Pn**	**23 44 08.5**	**+0.3**
YOJ	**Yonaguni jima**	**0.47**	**114**	⇑*i* P	**Pn**	**23 44 08.3**	**+0.1**
YOJ				*i* S	**Sn**	**23 44 20.7**	**-0.2**
YOJ	**Yonaguni jima**	**0.47**	**114**	P	**Pn**	**23 44 08.4**	**+0.3**
EOS4	**EOS4**	**0.56**	**201**	P	**Pn**	**23 44 08.8**	**+0.4**
EOS4				S	**Sn**	**23 44 21.3**	**0.0**
TWB1	**Santiao Chiao**	**0.61**	**306**	⇓P	**Pn**	**23 44 09.3**	**+0.2**
TWB1				eS	**Sn**	**23 44 22.4**	**-0.2**
TWC	**Suao**	**0.63**	**266**	*e*P	**Pn**	**23 44 09.2**	**-0.1**
TWC				eS	**Sn**	**23 44 21.2**	**-1.6**
ESAO	**Su ao**	**0.63**	**263**	*e*P	**Pn**	**23 44 09.4**	**+0.1**
ESAO				eS	**Sn**	**23 44 22.1**	**-0.8**
EWUT	**Wuta**	**0.72**	**254**	*e*P	**Pn**	**23 44 10.4**	**+0.4**
EWUT				eS	**Sn**	**23 44 23.4**	**-0.8**
TIPB	**Shuangxi**	**0.72**	**296**	*e*P	**Pn**	**23 44 10.3**	**+0.2**
TIPB				eS	**Sn**	**23 44 23.6**	**-0.7**
SXI1	**Grass Mountain**	**0.74**	**306**	⇓*i* P	**Pn**	**23 44 10.6**	**+0.3**
SXI1				eS	**Sn**	**23 44 24.6**	**-0.1**
NDS	**Dongshan**	**0.75**	**269**	*e*P	**Pn**	**23 44 10.8**	**+0.5**
ENA	**Nanau**	**0.76**	**253**	*e*P	**Pn**	**23 44 10.6**	**+0.3**
ENA				eS	**Sn**	**23 44 24.3**	**-0.4**
EAHA	**Aohua**	**0.79**	**246**	*e*P	**Pn**	**23 44 10.9**	**+0.3**
EAHA				eS	**Sn**	**23 44 25.5**	**+0.2**
TWE	**Neicheng**	**0.79**	**275**	⇓*i* P	**Pn**	**23 44 11.1**	**+0.4**
TWE				eS	**Sn**	**23 44 24.4**	**-0.8**
NWF	**Wu-fen Shan**	**0.80**	**302**	*e*P	**Pn**	**23 44 10.9**	**+0.1**
NWF				eS	**Sn**	**23 44 25.5**	**-0.1**
WFSB	**Wu-fen Shan**	**0.80**	**302**	*e*P	**Pn**	**23 44 11.3**	**+0.6**
FUSB	**Fushanzhiwuyua**	**0.87**	**277**	⇓*i* P	**Pn**	**23 44 12.3**	**+0.3**
FUSB				*i* S	**Sn**	**23 44 25.2**	**-1.4**
ENTT	**Nioudou**	**0.88**	**269**	*e*P	**Pn**	**23 44 12.3**	**+0.8**
TWA	**Mucha**	**0.93**	**291**	*e*P	**Pn**	**23 44 12.0**	**+0.1**
LATG	**Datong**	**0.93**	**263**	*e*P	**Pn**	**23 44 12.6**	**+0.5**
LATG				eS	**Sn**	**23 44 27.9**	**+0.2**
NWLT	**Wulai**	**0.95**	**278**	⇓*e*P	**Pn**	**23 44 12.3**	**+0.1**
NWLT				eS	**Sn**	**23 44 27.0**	**-1.0**
ETL	**Fush Village**	**0.97**	**240**	*e*P	**Pn**	**23 44 12.1**	**-0.3**
ETL				eS	**Sn**	**23 44 27.4**	**-0.9**
NHDH	**Xindian Distri**	**0.97**	**289**	*e*P	**Pn**	**23 44 12.5**	**+0.2**
NACB	**Ninganchiao**	**0.98**	**241**	P	**Pn**	**23 44 11.9**	**-0.6**
NACB	**Ninganchiao**	**0.98**	**241**	*e*P	**Pn**	**23 44 12.2**	**-0.3**
NACB				eS	**Sn**	**23 44 27.5**	**-0.9**
TWD	**Chiawan**	**1.03**	**237**	*e*P	**Pn**	**23 44 12.9**	**-0.1**
TWD				eS	**Sn**	**23 44 28.9**	**-0.4**
ZUZH	**Zhuzihu**	**1.03**	**300**	*e*P	**Pn**	**23 44 13.3**	**+0.2**
ZUZH				eS	**Sn**	**23 44 28.4**	**-1.2**
TWY	**Chenhua**	**1.05**	**306**	*e*P	**Pn**	**23 44 13.9**	**+0.7**
YHNB	**Yeheng**	**1.06**	**271**	P	**Pn**	**23 44 14.1**	**+0.8**
YHNB	**Yeheng**	**1.06**	**271**	⇓*i* P	**Pn**	**23 44 14.0**	**+0.8**
YHNB				eS	**Sn**	**23 44 29.7**	**-0.3**
ETLH	**Xiulin Townshi**	**1.06**	**245**	*e*P	**Pn**	**23 44 13.6**	**+0.2**
ETLH				eS	**Sn**	**23 44 29.8**	**-0.2**
NSK	**Sanguang**	**1.07**	**272**	⇓*i* P	**Pn**	**23 44 14.1**	**+0.6**
NSK				eS	**Sn**	**23 44 30.1**	**-0.1**
NNSB	**Datong**	**1.07**	**258**	⇑*i* P	**Pn**	**23 44 14.1**	**+0.5**
NNSB				eS	**Sn**	**23 44 30.1**	**-0.3**
NNS	**Nan Shan**	**1.08**	**259**	*e*P	**Pn**	**23 44 14.2**	**+0.6**
NNS				eS	**Sn**	**23 44 30.0**	**-0.5**
TWS1	**Kuangyinshan**	**1.11**	**294**	*e*P	**Pn**	**23 44 13.9**	**+0.1**
NTST	**Danshui**	**1.11**	**298**	*e*P	**Pn**	**23 44 14.2**	**+0.5**
IRIF	**Iriomote-Funau**	**1.13**	**106**	P	**Pn**	**23 44 14.4**	**+0.4**
IRIF				eS	**Sn**	**23 44 31.0**	**-0.3**
TEYL	**Yanliau Villag**	**1.16**	**228**	*e*S	**Sn**	**23 44 32.1**	**+0.4**
ETM	**Tongmen**	**1.17**	**235**	*e*P	**Pn**	**23 44 14.5**	**+0.1**
ETM				eS	**Sn**	**23 44 30.9**	**-1.1**
LXIB	**Xiulin Townshi**	**1.20**	**239**	⇓*i* P	**Pn**	**23 44 14.9**	**-0.1**
LXIB				eS	**Sn**	**23 44 31.9**	**-0.9**
SHUL	**Shoufeng**	**1.24**	**226**	*e*P	**Pn**	**23 44 15.5**	**+0.3**
SHUL				eS	**Sn**	**23 44 33.3**	**0.0**
KSHI	**Guanxi Townshi**	**1.24**	**276**	*e*P	**Pn**	**23 44 16.1**	**+0.9**
FUSS	**Fushou**	**1.24**	**251**	*e*P	**Pn**	**23 44 16.2**	**+0.7**
FUSS				eS	**Sn**	**23 44 33.5**	**-0.3**
WHF	**Hehuan Shan**	**1.26**	**247**	*e*P	**Pn**	**23 44 16.4**	**+0.4**
WHF				eS	**Sn**	**23 44 34.0**	**-0.6**
NFF	**Wufeng Townshi**	**1.29**	**269**	*e*P	**Pn**	**23 44 16.6**	**+0.7**
NFF				eS	**Sn**	**23 44 34.4**	**-0.1**
TWT	**Tachien**	**1.30**	**253**	*e*P	**Pn**	**23 44 17.4**	**+1.3**
TWT				eS	**Sn**	**23 44 35.1**	**+0.2**
TDCB	**Techi**	**1.32**	**253**	⇓P	**Pn**	**23 44 17.3**	**+1.0**
TDCB				eS	**Sn**	**23 44 34.8**	**-0.3**
LIOB	**Emei**	**1.38**	**270**	*e*P	**Pn**	**23 44 17.6**	**+0.7**
LIOB				eS	**Sn**	**23 44 36.3**	**0.0**
NSTT	**Nanjuang**	**1.40**	**269**	*e*P	**Pn**	**23 44 17.3**	**+0.3**
NSTT				eS	**Sn**	**23 44 36.4**	**-0.2**
WARBT	**Fenglin Townsh**	**1.40**	**229**	⇓P	**Pn**	**23 44 16.8**	**-0.3**
WARBT				eS	**Sn**	**23 44 35.3**	**-1.4**
JKRS	**Kuro-shima**	**1.40**	**107**	*e*P	**Pn**	**23 44 18.0**	**+0.9**
JKRS				eS	**Sn**	**23 44 37.0**	**+0.4**
EGFH	**Guangfu**	**1.41**	**226**	eS	**Sn**	**23 44 35.5**	**-1.2**
OWD	**Renai**	**1.42**	**241**	*e*P	**Pn**	**23 44 17.9**	**+0.5**
OWD				eS	**Sn**	**23 44 36.1**	**-1.2**
WUSB	**Renai**	**1.45**	**243**	⇓P	**Pn**	**23 44 18.6**	**+0.9**
WUSB				eS	**Sn**	**23 44 37.9**	**0.0**
JIJ	**Ishigaki jima**	**1.49**	**101**	*e*P	**Pn**	**23 44 18.6**	**+0.5**
JIJ				eS	**Sn**	**23 44 37.5**	**-1.0**
WHP	**Taichung City**	**1.50**	**256**	⇓*i* P	**Pn**	**23 44 19.7**	**+1.4**
WHP				eS	**Sn**	**23 44 39.2**	**+0.5**
HGSD	**Ruisui**	**1.54**	**222**	*e*P	**Pn**	**23 44 19.0**	**+0.3**
HGSD				eS	**Sn**	**23 44 39.3**	**-0.2**
EHYH	**Wanrong**	**1.58**	**224**	*e*P	**Pn**	**23 44 19.3**	**+0.1**
EHYH				eS	**Sn**	**23 44 39.6**	**-0.9**
EHY	**Hungye**	**1.59**	**224**	*e*P	**Pn**	**23 44 19.0**	**-0.3**
EHY				eS	**Sn**	**23 44 38.7**	**-2.0**
NMLH	**Miaoli**	**1.59**	**266**	*e*P	**Pn**	**23 44 20.0**	**+0.6**
JISG	**Ishigakijimahi**	**1.62**	**92**	*e*S	**Sn**	**23 44 40.8**	**-0.4**
ECBN	**Changbin**	**1.66**	**217**	*e*P	**Pn**	**23 44 20.4**	**+0.2**
ECBN				eS	**Sn**	**23 44 41.2**	**-0.8**
SMLT	**Sun Moon Lake**	**1.68**	**243**	*e*P	**Pn**	**23 44 21.8**	**+1.4**
SMLT				eS	**Sn**	**23 44 44.9**	**+2.2**
SSLB	**Suanglung**	**1.68**	**240**	P	**Pn**	**23 44 22.4**	**+2.0**
SSLB	**Suanglung**	**1.68**	**240**	*e*P	**Pn**	**23 44 21.4**	**+0.9**
SSLB				eS	**Sn**	**23 44 43.4**	**+0.8**
YULB	**Yu-li**	**1.69**	**222**	P	**Pn**	**23 44 20.7**	**+0.2**
YULB	**Yu-li**	**1.69**	**222**	*e*P	**Pn**	**23 44 20.2**	**-0.3**
YULB				eS	**Sn**	**23 44 41.2**	**-1.6**
TWF1	**Yuli**	**1.72**	**221**	*e*P	**Pn**	**23 44 20.9**	**0.0**
TWF1				eS	**Sn**	**23 44 42.1**	**-1.4**
CHKH	**Chenggong**	**1.79**	**216**	*e*P	**Pn**	**23 44 21.6**	**-0.1**
CHKH				eS	**Sn**	**23 44 43.3**	**-1.6**
WHYT	**Xinyi Township**	**1.81**	**239**	*e*P	**Pn**	**23 44 23.8**	**+1.8**
WHYT				eS	**Sn**	**23 44 47.2**	**+1.8**
FULB	**Fuli**	**1.84**	**218**	*e*P	**Pn**	**23 44 22.8**	**+0.4**
FULB				eS	**Sn**	**23 44 46.2**	**+0.1**
CHKT	**Chengkung**	**1.88**	**215**	*e*P	**Pn**	**23 44 22.8**	**-0.1**
CHKT				eS	**Sn**	**23 44 45.1**	**-1.9**
EHD	**Haiduan**	**1.93**	**219**	*e*P	**Pn**	**23 44 23.9**	**+0.4**
ALS	**Alishan**	**1.95**	**235**	*e*P	**Pn**	**23 44 25.4**	**+1.4**
CHN5	**Tsauling**	**2.00**	**239**	*e*P	**Pn**	**23 44 26.0**	**+1.6**
CHN5				eS	**Sn**	**23 44 51.5**	**+1.8**
LONT	**Longtian**	**2.16**	**217**	*e*P	**Pn**	**23 44 27.0**	**+0.5**
STYH	**Taoyuan**	**2.18**	**228**	*e*P	**Pn**	**23 44 28.3**	**+1.6**
STYH				eS	**Sn**	**23 44 54.4**	**+0.6**
LDUT	**Ludao**	**2.20**	**207**	*e*P	**Pn**	**23 44 25.6**	**-1.3**
LDUT				eS	**Sn**	**23 44 52.0**	**-2.1**
TPUB	**Ta-pu**	**2.20**	**233**	P	**Pn**	**23 44 29.7**	**+2.7**
TPUB	**Ta-pu**	**2.20**	**233**	*e*P	**Pn**	**23 44 28.5**	**+1.6**
TPUB				eS	**Sn**	**23 44 56.0**	**+1.7**
WTP	**Ta-pu**	**2.25**	**232**	*e*P	**Pn**	**23 44 29.0**	**+1.4**
TWK	**Hsinying**	**2.33**	**234**	*e*P	**Pn**	**23 44 30.0**	**+1.4**
TWK				eS	**Sn**	**23 44 58.0**	**+0.8**
VWUC	**VWUC**	**2.83**	**278**	*e*P	**Pn**	**23 44 34.9**	**-0.1**
VWUC				eS	**Sn**	**23 45 05.4**	**-3.3**
PHUB	**P'eng-hu**	**2.94**	**248**	*e*P	**Pn**	**23 44 36.0**	**-0.4**
PHUB				eS	**Sn**	**23 45 09.5**	**-1.8**
WDGT	**Dungji**	**2.97**	**243**	*e*P	**Pn**	**23 44 37.4**	**+0.5**

AZER ***12*** *23:54:56.1,39°.59N×44°.56E, h20km, ml2.5*
ISK ***12*** *23:54:56.5,39°.68N×44°.47E, h5km, ML2.3/8*
AFAD ***12*** *23:54:56.0,39°.66N×44°.48E, h7km±1km, ML2.2*

ISC 12 23:54:57.0±1.1, 39°.67N±0°.02×44°.49E±0°.02, h7km±9km, n33, σ0s97/54, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYR	**Heyderabad**	**0.29**	**79**	P	**Pg**	**23 55 03.0**	**+0.3**
HYR				S	**Sb**	**23 55 08.2**	**-1.3**
TASB	**TASBURUN-IGDIR**	**0.37**	**329**	Pg	**Pg**	**23 55 04.6**	**+0.3**
TASB				Sg	**Sb**	**23 55 10.7**	**-1.3**
IGDI	**IGDIR**	**0.38**	**303**	P	**Pg**	**23 55 03.9**	**-0.4**
IGDI				S	**Sg**	**23 55 09.6**	**+0.2**
IGDI				*i* IAML		23 55 11.0	
	comp=N,270nm,0.5s						
IGDI				*i* IAML		23 55 12.0	
	comp=E,400nm,0.3s						
IGDI	**IGDIR**	**0.38**	**303**	P	**Pg**	**23 55 03.9**	**-0.4**
IGDI				S	**Sg**	**23 55 09.4**	**+0.1**
GNI	**Garni**	**0.52**	**22**	Pg	**Pg**	**23 55 07.4**	**+0.3**
GNI				Sg	**Sb**	**23 55 16.2**	**-0.2**
SBZ	**Shahbuz**	**0.87**	**108**	P	**Pg**	**23 55 13.1**	**-0.5**
SBZ				S	**Sb**	**23 55 25.9**	**-0.3**
NAX	**Nakhchivan**	**0.92**	**122**	P	**Pg**	**23 55 14.0**	**-0.7**
NAX				S	**Sb**	**23 55 27.2**	**-0.6**
VMUR	**Van-Muradiye**	**0.98**	**227**	P	**Pg**	**23 55 14.9**	**-0.9**
VMUR				*i* IAML		23 55 29.0	
	comp=N,62nm,0.6s						
VMUR				S	**Sg**	**23 55 29.1**	**+0.6**
VMUR				*i* IAML		23 55 38.0	
	comp=E,57nm,0.5s						
KOTA	**Agri, Merkez-K**	**1.00**	**278**	P	**Pg**	**23 55 15.1**	**-1.0**
KOTA				S	**Sn**	**23 55 31.8**	**-0.1**
KOTA				*i* IAML		23 55 37.0	
	comp=N,24nm,0.6s						
KOTA				*i* IAML		23 55 38.0	
	comp=E,36nm,0.4s						
OZAP	**Van, Ozalp-Mer**	**1.07**	**201**	P	**Pg**	**23 55 16.6**	**-1.0**
OZAP				*i* IAML		23 55 42.0	
	comp=N,54nm,0.7s						
OZAP				*i* IAML		23 55 42.0	
	comp=E,58nm,0.8s						
DIGO	**Kars**	**1.14**	**312**	P	**Pg**	**23 55 18.2**	**-0.6**
DIGO				*i* IAML		23 55 46.0	
	comp=E,194nm,0.6s						
DIGO				*i* IAML		23 55 48.0	
	comp=N,105nm,0.5s						
AGRB	**Hanur-Agry**	**1.16**	**266**	Pn	**Pb**	**23 55 19.6**	**+0.2**
AGRB				Sn	**Sn**	**23 55 36.4**	**+0.5**
EAK	**Akyaka**	**1.22**	**327**	P	**Pb**	**23 55 20.0**	**-0.5**
EAK				S	**Sn**	**23 55 37.8**	**+0.3**
EAK				*i* IAML		23 55 38.0	
	comp=E,117nm,0.4s						
EAK				*i* IAML		23 55 43.0	
	comp=N,123nm,0.4s						
DORK	**Agr/Tutak/Do**	**1.35**	**259**	P	**Pb**	**23 55 22.7**	**0.0**
DORK				S	**Sn**	**23 55 43.5**	**+2.9**
DORK				*i* IAML		23 55 44.0	
	comp=N,88nm,0.8s						
DORK				*i* IAML		23 55 44.0	
	comp=E,36nm,0.7s						
ORD	**Ordubad**	**1.38**	**122**	P	**Pn**	**23 55 21.9**	**-0.8**
ORD				S	**Sb**	**23 55 40.3**	**-0.7**
TVAN	**Van**	**1.41**	**217**	P	**Pb**	**23 55 23.7**	**0.0**
TVAN				S	**Sg**	**23 55 46.0**	**+3.5**
TVAN				*i* IAML		23 55 47.0	
	comp=N,46nm,0.4s						
TVAN				*i* IAML		23 55 52.0	
	comp=E,57nm,0.8s						
GDB	**GEDABAY**	**1.43**	**42**	P	**Pb**	**23 55 24.0**	**-0.1**
GDB				S	**Sg**	**23 55 43.6**	**+0.5**
QZX	**Qazax, Azerbai**	**1.55**	**26**	P	**Pb**	**23 55 26.1**	**+0.1**
QZX				S	**Sg**	**23 55 46.6**	**-0.1**
EATA	**Eleskirt**	**1.55**	**278**	P	**Pb**	**23 55 26.2**	**0.0**
EATA				*i* IAML		23 55 58.0	
	comp=N,16nm,0.6s						
EATA				*i* IAML		23 56 05.0	
	comp=E,17nm,1.1s						
MLAZ	**Malazgirt-MUS**	**1.59**	**251**	Pn	**Pb**	**23 55 26.8**	**0.0**
GANJ	**Ganja**	**1.71**	**55**	P	**Pb**	**23 55 28.6**	**-0.2**
GANJ				S	**Sg**	**23 55 51.4**	**-0.7**
AKDM	**Akdamar-Van**	**1.78**	**222**	Pn	**Pb**	**23 55 29.6**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.87**	**299**	Pn	**Pb**	**23 55 30.9**	**-0.6**
AKH	**Akhalkalaki**	**1.90**	**337**	Pn	**Pb**	**23 55 31.5**	**-0.6**
KOPR	**Koprukoy-ERZUR**	**2.06**	**280**	Pn	**Pb**	**23 55 34.0**	**-0.7**
AGDM	**Agdam**	**2.06**	**77**	P	**Pn**	**23 55 33.0**	**+0.9**
AGDM				S	**Sn**	**23 55 58.9**	**+0.9**
BRDA	**Brd**	**2.15**	**73**	S	**Sn**	**23 56 00.7**	**+0.5**
HAKT	**HAKKARI**	**2.19**	**196**	P	**Pn**	**23 55 34.2**	**+0.2**
HAKT				S	**Sn**	**23 56 02.5**	**+1.0**
QRD	**Qoradiz**	**2.20**	**94**	P	**Pn**	**23 55 33.9**	**+0.1**
QRD				S	**Sn**	**23 56 01.7**	**+0.3**
GURO	**Guroymak-BITLI**	**2.21**	**241**	Pn	**Pb**	**23 55 35.8**	**-1.5**
ZRD	**Zardab**	**2.53**	**75**	S	**Sb**	**23 56 11.8**	**-2.2**
ZKTA	**Zakatala**	**2.55**	**39**	S	**Sb**	**23 56 13.9**	**-0.8**
SEKA	**Sheki**	**2.58**	**52**	P	**Pn**	**23 55 40.8**	**+1.6**
SEKA				S	**Sb**	**23 56 15.2**	**-0.3**

IDC ***13*** *00:25:29.5±14.0, 36°.19N×71°.09E, h196km±171km, mb3.3/6, mbtmp3.8/7, ML3.6/1, MS2.5/1, Error ellipse: s-maj=98.4km s-min=48.9km az=97.0*

ISC 13 00:25:32.7±2.2, 36°.6N±0°.2×70°.9E±0°.2, h200km, n16, σ1s27/17, mb3.7/4, 1C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**6.25**	**26**	P	**Pn**	**00 27 04.2**	**+0.7**
	SNR=42						
EKS2	**Erkin-Say**	**6.41**	**19**	P	**Pn**	**00 27 06.3**	**+0.9**
	SNR=22						
KK31	**Karatay Array**	**6.46**	**358**	⇓Pn	**Pn**	**00 27 06.4**	**+0.5**
	4.3nm,0.3s,baz=183,slow=12,SNR=137						
KK31				⇑Sn	Sn	00 28 15.3	-4.4
	3.0nm,0.3s,baz=186,slow=24,SNR=7.4						
AAK	**Ala-Archa**	**6.61**	**24**	P	**Pn**	**00 27 08.8**	**+1.0**
	SNR=5.8						
AAK	**Ala-Archa**	**6.61**	**24**	⇓Pn	**Pn**	**00 27 07.1**	**-0.8**
	1.2nm,0.4s						
AAK				⇓Sn	**Sn**	**00 28 20.8**	**-2.5**
	2.4nm,0.4s						
KBK	**Karagaybulak**	**6.78**	**26**	P	**Pn**	**00 27 12.0**	**+1.9**
	SNR=6.6						
CHMS	**Chumysh**	**7.01**	**24**	P	**Pn**	**00 27 13.8**	**+0.8**
	SNR=5.2						
USP	**Ospenovka**	**7.18**	**22**	P	**Pn**	**00 27 15.7**	**+0.5**
	SNR=11						
TKM2	**Tokmak 2**	**7.25**	**29**	P	**Pn**	**00 27 17.0**	**+0.8**
	SNR=8.5						
MKAR	**Makanchi Array**	**13.23**	**36**	P	**Pn**	**00 28 33.0**	**+0.1**
	0.3nm,0.3s,baz=223,slow=14,SNR=7.0						
MKAR				LR	LR	00 34 14.4	
	comp=Z,20nm,19.6s,baz=134,slow=39						
	0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**19.83**	**25**	P	**P**	**00 29 49.0**	**+1.0**
	1.7nm,0.4s,baz=221,slow=11,SNR=14						
	1.7nm,0.4s						
FINES	**FINESS Array B**	**37.31**	**326**	P	**P**	**00 32 26.6**	**+1.3**
	2.6nm,1.0s,baz=103,slow=8.0,SNR=1.3						
	2.6nm,1.0s						
ARCES	**ARCESS Array B**	**40.98**	**338**	P	**P**	**00 32 55.6**	**0.0**
	1.8nm,1.0s,baz=119,slow=7.9,SNR=1.5						
	1.8nm,1.0s						
HFS	**Hagfors**	**42.90**	**322**	P	**P**	**00 33 12.3**	**+1.1**
	3.1nm,0.8s,baz=103,slow=13,SNR=2.7						
	3.1nm,0.8s						
NOA	**NORSAR Array B**	**44.21**	**323**	P	**P**	**00 33 22.4**	**+0.8**
	0.3nm,0.7s,baz=98,slow=7.9,SNR=1.4						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**65.62**	**268**	P	**P**	**00 35 53.9**	**-1.8**
	0.3nm,0.5s,baz=43,slow=5.8,SNR=7.5						
	0.3nm,0.5s						

NIED ***13*** *00:30:24.1, 39°.16N×144°.38E, h51km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-2.02; Mθθ0.51; Mϕϕ1.51; Mrθ0.99; Mθϕ0.94; Mϕr1.87; Fault plane solution: Mo2.94000×10¹⁴ NP1:ϕs33.00000°, δ22.00000°, λ-86.00000°. NP2:ϕs209.00000°, δ68.00000°, λ-92.00000°.*

JMA 13 00:30:24.1±0.2, 39°.2N±0°.9×14°.4E±°, h51km, MV3.8/35, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.02**	**283**	*i* P	Pn	00 30 56.8	+1.0
MIYJ				S	Sn	00 31 20.8	+1.0
OFUJ	**Ofunato**	**2.11**	**269**	*i* P	Pn	00 30 57.6	+0.9
OFUJ				S	Sn	00 31 22.4	+0.5
JOM	**Ohasama**	**2.41**	**278**	*i* P	Pn	00 31 02.7	+1.6
JOM				S	Sn	00 31 31.0	+1.6
JMK	**Ichinoseki**	**2.47**	**266**	eS	Sn	00 31 31.6	+0.8
JANG	**Nango**	**2.52**	**300**	P	Pn	00 31 03.2	+0.7
JYK	**Kaneyama**	**3.14**	**267**	P	Pn	00 31 13.2	+2.2
JYK				eS	Sn	00 31 50.5	+3.2
JNBK	**Urakawa-nobuka**	**3.35**	**339**	*e*P	Pn	00 31 14.8	+0.8
JNBK				eS	Sn	00 31 53.9	+1.5
JCH	**Churui**	**3.53**	**348**	*e*P	Pn	00 31 16.7	+0.3
JCH				eS	Sn	00 31 56.2	-0.7
JOTO	**OTAMA OYAMA**	**3.56**	**245**	P	Pn	00 31 17.6	+0.8
JOTO				S	Sn	00 31 57.9	+0.3
JAK	**Akkeshi**	**3.84**	**4**	*e*P	Pn	00 31 19.4	-1.2
JAK		

KTH					IAmb	IAmb	00 42 28.9		
	comp=Z,6.9nm,0.9s								
GHO	**Glory Hole Cre**	**15.70**	**47**			**P**	**00 42 22.0**	**+2.3**	
KNK	**Knik Glacier**	**15.77**	**48**			**P**	**00 42 22.4**	**+1.9**	
BPAW	**Bear Paw Mtn.**	**15.95**	**38**			**P**	**00 42 25.5**	**+3.0**	
BPAW					IAmb	IAmb	00 42 29.9		
	comp=Z,7.5nm,1.0s								
GLI	**Glacier Island**	**16.23**	**51**			**P**	**00 42 26.6**	**+1.1**	
HIN	**Hinchinbrook I**	**16.38**	**53**			**P**	**00 42 28.7**	**+1.5**	
E19K	**Redstone River**	**16.39**	**22**	P		**P**	**00 42 30.2**	**+3.1**	
RND	**Reindeer**	**16.42**	**41**	P		**P**	**00 42 29.6**	**+2.0**	
SCM	**Sheep Creek Mo**	**16.43**	**48**	P		**P**	**00 42 28.0**	**+0.3**	
SCM					IAmb	IAmb	00 42 31.3		
	comp=Z,12nm,0.8s								
FID	**Port Fidalgo**	**16.48**	**52**			**P**	**00 42 29.3**	**+1.1**	
MCK	**McKinley**	**16.54**	**40**			**P**	**00 42 31.5**	**+2.6**	
MCK					IAmb	IAmb	00 42 32.6		
	comp=Z,14nm,0.9s								
MLY	**Manley**	**16.57**	**35**			**P**	**00 42 31.2**	**+2.0**	
MLY					IAmb	IAmb	00 42 36.1		
	comp=Z,5.7nm,0.6s								
EYAK	**Cordova Ski Ar**	**16.78**	**53**			**P**	**00 42 33.0**	**+1.5**	
EYAK					IAmb	IAmb	00 42 37.3		
	comp=Z,21nm,1.0s								
DHY	**Denali Highway**	**16.88**	**44**			**P**	**00 42 35.2**	**+2.5**	
DHY					IAmb	IAmb	00 42 37.5		
	comp=Z,13nm,0.8s								
DIV	**Divide**	**16.92**	**51**			**P**	**00 42 34.7**	**+1.6**	
DIV					IAmb	IAmb	00 42 37.1		
	comp=Z,8.4nm,0.7s								
D19K	**Kuna River**	**17.05**	**19**			**P**	**00 42 35.1**	**+0.6**	
D19K					IAmb	IAmb	00 42 45.2		
	comp=Z,4.3nm,0.7s								
I23K	**Minto, Yukon-K**	**17.11**	**36**	P		**P**	**00 42 38.0**	**+2.9**	
I23K					IAmb	IAmb	00 42 43.4		
	comp=Z,6.5nm,0.6s								
F21K	**Alatna River**	**17.15**	**27**			**P**	**00 42 37.8**	**+2.3**	
F21K					IAmb	IAmb	00 42 44.0		
	comp=Z,3.2nm,0.7s								
WRH	**Wood River Hil**	**17.22**	**39**			**P**	**00 42 37.3**	**+0.9**	
WRH					IAmb	IAmb	00 42 43.4		
	comp=Z,3.4nm,0.8s								
CCB	**Clear Creek Bu**	**17.42**	**38**			**P**	**00 42 39.5**	**+1.1**	
CCB					IAmb	IAmb	00 42 42.6		
	comp=Z,4.4nm,0.6s								
D20K	**Etivluk River**	**17.54**	**21**			**P**	**00 42 41.9**	**+2.1**	
D20K					IAmb	IAmb	00 42 48.4		
	comp=Z,4.1nm,0.8s								
N25K	**Chitina, Valde**	**17.59**	**50**	IAmb		IAmb	00 42 52.3		
	comp=Z,5.9nm,0.7s								
PAX	**Paxson**	**17.64**	**45**	IAmb		IAmb	00 42 47.1		
	comp=Z,6.8nm,0.6s								
IL31		**17.82**	**39**	IAmb		IAmb	00 42 47.0		
	comp=Z,6.8nm,0.4s								
ILAR	**Eielson Array**	**17.82**	**39**			**P**	**00 42 44.3**	**+1.4**	
ILAR	**Eielson Array**	**17.82**	**39**	P		**P**	**00 42 43.0**	**0.0**	
	comp=Z,3.3nm,0.5s,baz=226,slow=11,SNR=38								
ILAR					S	**S**	**00 45 57.0**	**0.0**	
	comp=Z,0.2nm,0.5s,baz=272,slow=11,SNR=2.3								
GLB	**Gilahina Butte**	**17.91**	**51**	IAmb		IAmb	00 42 49.4		
	comp=Z,8.8nm,0.5s								
J25K	**Salcha River,**	**18.33**	**40**	P		**P**	**00 42 49.2**	**+0.7**	
MENT	**Mentasta**	**18.38**	**46**			**P**	**00 42 50.7**	**+1.7**	
MENT					IAmb	IAmb	00 43 08.7		
	comp=Z,6.9nm,0.9s								
DOT	**Dot Lake**	**18.48**	**44**	IAmb		IAmb	00 42 52.6		
	comp=Z,13nm,1.0s								
M26K	**Nabesna, AK**	**18.54**	**48**	IAmb		IAmb	00 42 57.4		
	comp=Z,6.5nm,0.6s								
G24K	**Hadweenzic Riv**	**18.62**	**33**	P		**P**	**00 42 52.2**	**+0.7**	
PRP	**Porcupine Dome**	**18.69**	**38**			**P**	**00 42 54.6**	**+2.2**	
PRP					IAmb	IAmb	00 42 57.9		
	comp=Z,2.3nm,0.6s								
BARN	**Barnard Glacie**	**18.84**	**52**	P		**P**	**00 42 55.2**	**+1.0**	
BARN					IAmb	IAmb	00 43 01.3		
	comp=Z,7.6nm,1.1s								
BCAR	**Beaver Creek A**	**19.26**	**46**			**P**	**00 43 00.1**	**+1.6**	
C23K	**Itkillik River**	**19.77**	**23**	P		**P**	**00 43 04.0**	**+2.2**	
C23K					IAmb	IAmb	00 43 08.5		
	comp=Z,9.2nm,0.8s								
EGAK	**Eagle**	**20.06**	**42**	P		**P**	**00 43 08.8**	**+1.8**	
EGAK					IAmb	IAmb	00 43 10.8		
	comp=Z,4.1nm,0.5s								
H27K	**Steamboat Moun**	**20.48**	**38**	P		**P**	**00 43 13.0**	**+1.5**	
I28M	**Miner Creek**	**20.78**	**41**	P		**P**	**00 43 15.6**	**+0.8**	
L29M	**L29M**	**20.88**	**48**	P		**P**	**00 43 17.1**	**+1.3**	
K29M	**Barlow Dome**	**21.31**	**46**	P		**P**	**00 43 21.0**	**+0.7**	
H29M	**Whitestone**	**21.66**	**39**	P		**P**	**00 43 24.4**	**+0.6**	
H29M					IAmb	IAmb	00 43 25.0		
	comp=Z,3.1nm,0.8s								
J30M	**Hart River**	**21.99**	**44**	P		**P**	**00 43 28.6**	**+1.4**	
G29M	**Pine Creek**	**22.03**	**38**	P		**P**	**00 43 28.8**	**+1.3**	
I30M	**Mount Dempster**	**22.14**	**42**	P		**P**	**00 43 29.4**	**+0.8**	
I30M					IAmb	IAmb	00 43 30.7		
	comp=Z,3.3nm,0.5s								
E29M	**Blow River**	**22.66**	**34**	P		**P**	**00 43 34.8**	**+1.7**	
E29M					IAmb	IAmb	00 43 37.2		
	comp=Z,4.0nm,0.9s								
F30M	**Barrier River**	**23.09**	**37**	P		**P**	**00 43 38.9**	**+1.8**	
H31M	**Peel River**	**23.10**	**41**	P		**P**	**00 43 38.7**	**+1.5**	
G31M	**Satah River**	**23.43**	**39**	P		**P**	**00 43 40.9**	**+0.8**	
INK	**Inuvik**	**24.13**	**36**	P		**P**	**00 43 48.0**	**+1.5**	
NVAR	**Mina Array Bea**	**40.13**	**89**	P		**P**	**00 46 05.4**	**-0.4**	
	comp=Z,0.8nm,0.8s,baz=293,slow=7.6,SNR=4.6								
	comp=Z,0.8nm,0.8s								
PDAR	**Pinedale Array**	**42.67**	**77**	P		**P**	**00 46 26.9**	**+0.4**	
	comp=Z,1.4nm,0.4s,baz=310,slow=3.6,SNR=6.1								
	comp=Z,1.4nm,0.4s								
JOW	**Kunigami**	**50.11**	**262**	LR		LR	01 04 48.0		
	comp=Z,36nm,21.0s,baz=64,slow=31								
KURBB	**Kurchatov Arra**	**60.25**	**316**	P		**P**	**00 48 35.4**	**-0.8**	
	comp=Z,0.7nm,0.5s,baz=44,slow=6.9,SNR=7.0								
	comp=Z,0.7nm,0.5s								
MKAR	**Makanchi Array**	**61.47**	**311**	P		**P**	**00 48 43.0**	**-1.4**	
	comp=Z,0.3nm,0.4s,baz=38,slow=7.3,SNR=2.4								
	comp=Z,0.3nm,0.4s								
BVAR	**Borovoye Array**	**61.62**	**322**	P		**P**	**00 48 44.0**	**-1.4**	
	comp=Z,0.6nm,0.6s,baz=40,slow=7.9,SNR=2.9								
	comp=Z,0.6nm,0.6s								
WRA	**Warramunga Arr**	**85.59**	**228**	P		**P**	**00 51 01.7**	**-3.3**	
	comp=Z,0.2nm,0.5s,baz=23,slow=6.7,SNR=2.1								
	comp=Z,0.2nm,0.5s								
ASAR	**Alice Springs**	**89.04**	**227**	P		**P**	**00 51 19.9**	**-1.6**	
	comp=Z,0.5nm,0.6s,baz=22,slow=5.1,SNR=3.9								
	comp=Z,0.5nm,0.6s								
QSPA	**South Pole Qui**	**142.88**	**180**	PKP		**PKPdf**	**00 57 53.0**	**-4.5**	
	comp=Z,1.1nm,1.0s,baz=27,slow=2.3,SNR=2.6								

*NEIC **13** 00:52:18.8±0.7, 19°.20N±0°.06×155°.49W±0°.02, h38km±4km, Error ellipse: s-maj=8.6km s-min=2.3km az=164.0*

HVO 13 00:52:19.7±0.9, 19°.15N±0°.03×155°.46W±0°.03, h35km±2km, ML2.6/3, ML2.0/27(NEIC), Error ellipse: s-maj=5.3km s-min=2.6km az=133.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.10**	**33**		Pn	00 52 25.4	-2.5
KHU	**Kahuku**	**0.18**	**302**		Pn	00 52 25.7	-1.9
KHU					Sn	00 52 30.1	-3.8
HLP	**Hilina Pali**	**0.20**	**44**		Sn	00 52 30.9	-2.4
HLP	**Hilina Pali**	**0.20**	**44**		Pn	00 52 26.1	-1.3
HLP				IAML		00 52 38.5	
	comp=N,330nm,2.1s						
HLP	**Hilina Pali**	**0.20**	**44**	IAML		00 52 29.9	
	comp=E,401nm,2.2s						
AIN	**Ainahou**	**0.22**	**360**		Pn	00 52 26.2	-1.3
AIN					Sn	00 52 31.1	-2.5
AIN	**Ainahou**	**0.22**	**360**	IAML		00 52 33.0	
	comp=N,155nm,3.9s						
AIN				IAML		00 52 38.7	
	comp=E,196nm,4.2s						
SDHHI	**Sand Hill**	**0.28**	**33**		Pn	00 52 26.6	-1.2
SDHHI					Sn	00 52 31.6	-2.1
WRMHI	**West Rim**	**0.29**	**30**		Pn	00 52 26.7	-1.1
WRMHI					Sn	00 52 31.9	-2.0
KKO	**Keanakako'i**	**0.30**	**36**		Pn	00 52 26.8	-1.1
KKO					Sn	00 52 31.9	-2.1
UWE	**Uwekahuna**	**0.31**	**30**		Sn	00 52 32.2	-1.9
UWE	**Uwekahuna**	**0.31**	**30**		Pn	00 52 27.5	-0.5
UWE				IAML		00 52 30.4	
	comp=N,273nm,3.1s						
UWE				IAML		00 52 34.2	
	comp=E,203nm,3.4s						
OBL	**Observatory Le**	**0.31**	**32**		Pn	00 52 26.8	-1.2
OBL					Sn	00 52 32.3	-1.7
PUH	**Pauahi**	**0.32**	**46**		Sn	00 52 32.3	-1.8
PUH	**Pauahi**	**0.32**	**46**		Pn	00 52 26.1	-1.9
PUH				IAML		00 52 30.3	
	comp=N,170nm,2.7s						
PUH				IAML		00 52 42.4	
	comp=E,114nm,2.6s						
HATHI	**Halema'uma'u T**	**0.33**	**34**		Pn	00 52 26.9	-1.2
HATHI	**Halema'uma'u T**	**0.33**	**34**	IAML		00 52 35.5	
	comp=N,167nm,3.4s						
HATHI				IAML		00 52 39.7	
	comp=E,111nm,2.8s						
SBLHI	**Steaming Bluff**	**0.33**	**33**		Pn	00 52 26.8	-1.3
SBLHI					Sn	00 52 32.5	-1.7
MLH	**Mauna Loa**	**0.35**	**11**		Pn	00 52 27.3	-1.2
MLH	**Mauna Loa**	**0.35**	**11**		Sn	00 52 33.1	-1.8
MLH	**Mauna Loa**	**0.35**	**11**	IAML		00 52 32.9	
	comp=N,133nm,3.9s						
RSD	**Rainshed**	**0.35**	**28**		Pn	00 52 26.3	-2.1
MWH	**Mokuaweoweo**	**0.36**	**338**		Pn	00 52 27.5	-1.4
MWH	**Mokuaweoweo**	**0.36**	**338**	IAML		00 52 30.8	
	comp=E,175nm,2.5s						
MWH				IAML		00 52 35.5	
	comp=N,149nm,2.8s						
STCH	**Steam Cracks**	**0.39**	**53**		Pn	00 52 28.2	-0.6
STCH				IAML		00 52 34.9	
	comp=N,135nm,3.7s						
STCH	**Steam Cracks**	**0.39**	**53**		Sn	00 52 33.5	-1.8
NPOC	**North of Pu'u**	**0.41**	**54**		Pn	00 52 28.7	-0.3
NPOC					Sn	00 52 33.9	-1.8
ALEP	**Alea Permanent**	**0.43**	**335**		Pn	00 52 27.9	-1.7
HMH	**Humu'ula Sheep**	**0.45**	**357**		Sn	00 52 35.4	-1.6
HMH	**Humu'ula Sheep**	**0.45**	**357**		Pn	00 52 28.7	-1.2
HMH				IAML		00 52 40.3	
	comp=E,160nm,4.0s						
HMH	**Humu'ula Sheep**	**0.45**	**357**	IAML		00 52 33.1	
	comp=N,90nm,2.7s						
JOKA	**Jonika Flow**	**0.51**	**57**		Pn	00 52 29.2	-1.3
JOKA				IAML		00 52 52.2	
	comp=E,67nm,1.5s						
JOKA	**Jonika Flow**	**0.51**	**57**		Sn	00 52 36.0	-2.2
JOKA	**Jonika Flow**	**0.51**	**57**	IAML		00 52 34.2	
	comp=N,140nm,1.6s						

*BGSI **13** 00:57:11.5±0.3, 28°.17S×22°.53E, h15km, ML2.7*

ISC 13 00:57:11.5±1.6, 28°.0S±0°.3×22°.6E±0°.4, h10km, n4, σ0s15/4, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKGR	**Makgori**	**2.94**	**43**	*i* P	**Pn**	**00 57 58.4**	**+0.1**
MAKGR				IAML		00 58 56.4	
	comp=E,76nm,0.6s						
CVNA	**Calvinia**	**4.26**	**214**	*i* P	Pn	00 58 09.6	-7.0
CVNA				*i* S	**Sb**	**00 59 18.2**	**0.0**
CVNA				IAML		00 59 36.3	
	comp=Z,11nm,0.6s						
KDWAN	**Kaudwane**	**4.95**	**23**	*i* P	**Pn**	**00 58 26.1**	**+0.1**
KDWAN				IAML		01 00 14.0	
	comp=N,27nm,1.1s						
LPHEP	**Lephephe**	**5.47**	**34**	*i* P	**Pn**	**00 58 33.0**	**-0.1**
LPHEP				IAML		01 00 23.3	
	comp=N,15nm,2.3s						

*NEIC **13** 00:59:56.1±2.2, 36°.23N±0°.08×84°.0E±0°.2, h10km±2km, mb4.4/2, Error ellipse: s-maj=23.1km s-min=8.5km az=117.0*

*IDC **13** 00:59:57.9±1.2, 36°.56N×84°.05E, h0km, mb3.6/3, mbtmp3.7/9, ML3.2/6, Error ellipse: s-maj=40.3km s-min=19.8km az=53.0*

*NNC **13** 01:00:10.0±3.4, 37°.48N×84°.06E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=38.8km s-min=24.7km az=68.0*

ISC 13 01:00:00.7±0.7, 36°.64N±0°.07×84°.10E±0°.06, h35km, n30, σ2s46/36, mb3.6/5, 4C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**7.02**	**297**	Pn	**Pn**	**01 01 42.1**	**+1.0**
KSH				Sn	**Sn**	**01 03 00.5**	**+0.7**
KSH				smax	smax		
	comp=N,170nm,0.7s						
KSH				smax	smax		
	comp=E,230nm,0.7s						
PDGK	**Podgornoye**	**7.56**	**334**	⇓Pn	**Pn**	**01 01 50.3**	**+1.8**
	comp=E,4.6nm,0.7s						
PDGK				⇓Sn	**Sn**	**01 03 11.1**	**-1.9**
	comp=E,25nm,0.5s						
PDGK				⇑Lg	Lg	01 03 45.4	
	comp=E,52nm,1.0s						
KDJ	**Kajisay**	**7.67**	**318**	Pn	**Pn**	**01 01 51.9**	**+1.9**
WMQ	**Urumqi**	**7.69**	**20**	P	Pn	01 01 56.6	+6.5
NRN	**Naryn**	**7.91**	**310**		**Pn**	**01 01 54.1**	**+0.6**
AAK	**Ala-Archa**	**9.53**	**312**	Pn	**Pn**	**01 02 16.9**	**+1.5**
	comp=E,0.2nm,0.3s,baz=186,slow=18,SNR=1.6						
AAK				Lg	Lg	01 04 53.1	
	comp=E,0.5nm,0.3s,baz=204,slow=20,SNR=2.3						
	comp=E,2.1nm,0.6s						
ARSB	**Arslanbob**	**9.84**	**302**		**Pn**	**01 02 20.0**	**+0.3**
MK31	**Makanchi Array**	**10.24**	**353**	Pn	**Pn**	**01 02 27.4**	**+2.4**
	comp=E,1.1nm,0.5s,baz=190,slow=12,SNR=20						
MK31				⇑Sn	**Sn**	**01 04 12.4**	**-6.1**
	comp=E,5.9nm,0.8s,baz=179,slow=25,SNR=6.1						
MK31				⇑Lg	Lg	01 05 06.5	
	comp=E,5.5nm,0.8s						
MKAR	**Makanchi Array**	**10.24**	**353**		**Pn**	**01 02 27.1**	**+2.0**
MKAR	**Makanchi Array**	**10.24**	**353**	Pn	**Pn**	**01 02 27.9**	**+2.8**
	comp=E,0.6nm,0.3s,baz=181,slow=12,SNR=18						
MKAR				Sn	**Sn**	**01 04 14.4**	**-4.2**
	comp=E,0.8nm,0.3s,baz=181,slow=24,SNR=6.7						
MKAR				Lg	Lg	01 05 20.7	
	comp=E,0.1nm,0.3s,baz=184,slow=30,SNR=1.3						
	comp=E,1.0nm,0.4s						
MAKZ	**Makanchi**	**10.29**	**352**	Pn	**Pn**	**01 02 27.4**	**+1.7**
	comp=E,2.1nm,0.5s						
MAKZ				Sn	**Sn**	**01 04 17.0**	**-2.7**
	comp=E,4.4nm,0.7s						
MAKZ				⇑Lg	Lg	01 05 09.7	
	comp=E,7.7nm,1.4s						
GAR	**Garm**	**11.15**	**286**	Pn	**Pn**	**01 02 35.1**	**-2.6**
CHGR	**Chuyangaron**	**12.02**	**284**		**Pn**	**01 02 45.5**	**-3.9**
SIMJ	**Simiganj**	**12.13**	**284**	Pn	**Pn**	**01 02 47.1**	**-4.0**
KK31	**Karatay Array**	**12.27**	**306**	Pn	**Pn**	**01 02 52.2**	**-0.6**
KURBB	**Kurchatov Arra**	**14.54**	**346**	Pn	**Pn**	**01 03 26.1**	**+2.3**
	comp=E,0.1nm,0.3s,baz=156,slow=11,SNR=2.4						
	comp=E,0.9nm,0.2s						
LZDM	**Lanzhou Array**	**15.82**	**87**	Pn	**P**	**01 03 43.7**	**-0.8**
	baz=272,slow=13						
	comp=E,0.7nm,0.3s						
LZH	**Lanzhou**	**15.92**	**86**	*e*P	**Pn**	**01 03 42.2**	**+0.1**
LZH				pP	P	01 03 47.0	+1.6
LZH				pmax	pmax		
	comp=Z,22nm,1.4s						
ZALV	**Zalesovo Beam**	**17.32**	**1**	Pn	**P**	**01 04 01.7**	**+1.1**
ZALV	**Zalesovo Beam**	**17.32**	**1**	P	**Pn**	**01 04 00.6**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=179,slow=14,SNR=4.6						
	comp=Z,0.6nm,0.5s						
PZH	**PanZhiHua**	**18.09**	**119**	P	**Pn**	**01 04 07.4**	**-1.9**
BVAR	**Borovoye Array**	**19.00**	**334**	P	**Pn**	**01 04 21.0**	**+1.0**
	baz=127,slow=9.8,SNR=5.8						
	comp=Z,1.1nm,0.6s						
HYB	**Hyderabad**	**19.76**	**196**	*e*P	**P**	**01 04 22.7**	**-5.0**
BTO	**Baotou**	**20.61**	**71**	*e*P	**P**	**01 04 35.2**	**-1.7**
BTO				PP	**PnPn**	**01 04 55.4**	**+0.3**
BTO				S	**S**	**01 08 26.0**	**+0.6**
BTO				pmax	pmax		
	comp=Z,12nm,0.7s						
BTO				pmax	pmax		
	comp=Z,140nm,5.5s						
AB31	**Akbulak array**	**21.61**	**313**		**P**	**01 04 48.0**	**+0.6**
AB31				IAmb	IAmb	01 04 53.9	
	comp=Z,3.9nm,0.7s						
ABKAR	**Akbulak array**	**21.61**	**313**		**P**	**01 04 48.3**	**+0.9**
HHC	**Hu-ho-hao-te**	**21.79**	**70**	*e*P	**P**	**01 04 50.9**	**+1.3**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,60nm,6.2s						
BRTR	**Keskin Array B**	**39.36**	**290**	P	**P**	**01 07 29.5**	**+2.6**
	comp=Z,0.8nm,0.9s,baz=76,slow=7.6,SNR=4.0						
	comp=Z,0.8nm,0.9s						
WRA	**Warramunga Arr**	**73.59**	**131**	P	**P**	**01 11 32.9**	**+2.5**
	comp=Z,0.4nm,0.6s,baz=321,slow=5.9,SNR=5.2						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**76.18**	**134**	P	**P**	**01 11 47.8**	**+2.5**
	comp=Z,0.4nm,0.8s,baz=334,slow=8.2,SNR=2.2						
	comp=Z,0.4nm,0.8s						

NOU 13 01:15:02.1, 15°.98S×167°.53E, h79km, mb3.7/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.62**	**329**	P	Pn	01 15 18.2	+1.4
SANVU	**Saraoutou**	**0.62**	**329**	S	Sn	01 15 30.4	+2.7
DVP	**Devils Point**	**1.85**	**160**	P	Pn	01 15 32.4	+0.5
DVP	**Devils Point**	**1.85**	**160**	S	Sn	01 15 54.4	-0.2
YATNC	**Mamie plateau,**	**6.08**	**186**	P	Pn	01 16 28.5	-0.9
DZM	**Mont Dzumac**	**6.14**	**189**	P	Pn	01 16 30.9	+0.5
OUENC	**Ouen Island, N**	**6.44**	**186**	P	Pn	01 16 34.6	+0.3

*IDC **13** 01:20:08.0±2.2, 14°.16N×93°.20W, h0km, mb3.8/4, mbtmp3.8/6, ML3.2/3, MS3.1/10, Error ellipse: s-maj=59.3km s-min=29.4km az=36.0*

*MEX **13** 01:20:08.5±0.6, 13°.90N×93°.33W, h8km±43km, MD4.2*

*NEIC **13** 01:20:09.8±2.2, 14°.04N±0°.07×93°.12W±0°.06, h10km±2km, mb4.1/31, Md4.2/34(MEX), Error ellipse: s-maj=12.6km s-min=9.3km az=160.0*

*CATAC **13** 01:20:11.5±0.9, 14°.N±4°.×9°.3W±°., h30km±11km, M4.0/12, MLv4.0/12, Error ellipse: s-maj=12.3km s-min=5.0km az=47.1, confirmed*

ISC 13 01:20:07.2±1.3, 14°.04N±0°.05×93°.26W±0°.03, h6km±7km, n98, σ2s27/103, mb4.1/12, MS3.2/11, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.30**	**48**		**Pg**	**01 20 31.2**	**-0.9**
THIG					**Sn**	**01 20 48.8**	**-0.8**
THIG		**1.30**	**48**	*e*P	**Pg**	**01 20 31.2**	**-0.9**
THIG				*e*S	**Sn**	**01 20 48.8**	**-0.8**
PATR	**El Naranjo**	**1.46**	**43**		**Pb**	**01 20 33.7**	**-1.3**
PATR					**Sg**	**01 20 53.9**	**-0.4**
PATR	**El Naranjo**	**1.46**	**43**	*e*P	**Pb**	**01 20 33.7**	**-1.3**
PATR				*e*S	**Sg**	**01 20 53.9**	**-0.4**
CHUJ	**Union Juarez**	**1.53**	**47**	*e*P	**Pb**	**01 20 34.7**	**-1.5**
PAVE	**Pavencul**	**1.56**	**42**		**Pb**	**01 20 35.2**	**-1.4**
PAVE					**Sg**	**01 20 55.8**	**-1.5**
PAVE	**Pavencul**	**1.56**	**42**	*e*P	**Pb**	**01 20 35.2**	**-1.4**
PAVE				*e*S	**Sg**	**01 20 55.8**	**-1.5**
RTAL	**Retalhuleu**	**1.59**	**72**		**Pb**	**01 20 36.3**	**-0.8**
RTAL	**Retalhuleu**	**1.59**	**72**	*e*P	**Pb**	**01 20 35.6**	**-1.5**
RTAL				*e*S	**Sn**	**01 20 54.8**	**-2.2**
RTAL	**Retalhuleu**	**1.59**	**72**	P	**Pg**	**01 20 36.5**	**-1.2**
RTAL	**Retalhuleu**	**1.59**	**72**	S	**Sb**	**01 20 56.0**	**-1.5**
PCIG		**1.66**	**1**		**Pn**	**01 20 36.2**	**-0.7**
PCIG					**Sb**	**01 20 57.2**	**-2.2**
PCIG		**1.66**	**1**	*e*P	**Pn**	**01 20 36.2**	**-0.7**
PCIG				*e*S	**Sb**	**01 20 57.2**	**-2.2**
CCIG	**Comitan**	**2.48**	**26**		**Pb**	**01 20 51.2**	**-1.1**
CCIG	**Comitan**	**2.48**	**26**	*e*P	**Pb**	**01 20 50.3**	**-2.0**
CCIG				*e*S	**Sb**	**01 21 21.1**	**-2.2**
CCIG	**Comitan**	**2.48**	**26**	P	**Pb**	**01 20 51.3**	**-1.1**
TGIG		**2.73**	**3**		**Pn**	**01 20 52.5**	**+0.8**
TGIG					**Sn**	**01 21 25.4**	**+0.3**
TGIG		**2.73**	**3**	*e*P	**Pn**	**01 20 52.5**	**+0.8**
TGIG				*e*S	**Sn**	**01 21 25.4**	**+0.3**
HUIG	**Huatulco**	**3.25**	**302**		**Pn**	**01 20 57.8**	**-1.0**
HUIG					**Sn**	**01 21 30.0**	**-7.8**
HUIG	**Huatulco**	**3.25**	**302**	*e*P	**Pn**	**01 20 57.8**	**-1.0**
HUIG				*e*S	**Sn**	**01 21 30.0**	**-7.8**
NUBE	**Las Nubes**	**3.38**	**92**	P	**Pn**	**01 21 00.8**	**+0.1**
NUBE	**Las Nubes**	**3.38**	**92**	S	**Sn**	**01 21 38.7**	**-2.6**
CMIG	**Matias Romero**	**3.42**	**333**		**Pn**	**01 21 00.6**	**-0.5**
CMIG					**Sn**	**01 21 40.1**	**-1.9**
CMIG	**Matias Romero**	**3.42**	**333**	Pn	**Pn**	**01 21 00.2**	**-0.9**
	0.6nm,0.3s,baz=154,slow=12,SNR=6.3						
CMIG				Sn	**Sn**	**01 21 39.7**	**-2.3**
	3.7nm,0.3s,baz=123,slow=19,SNR=8.4						
CMIG	**Matias Romero**	**3.42**	**333**	*e*P	**Pn**	**01 21 00.6**	**-0.5**
CMIG				*e*S	**Sn**	**01 21 40.1**	**-1.9**
CEVE	**Cerro Verde**	**3.54**	**93**	P	**Pn**	**01 21 03.6**	**+0.7**
CEVE	**Cerro Verde**	**3.54**	**93**	S	**Sn**	**01 21 41.8**	**-3.4**
JAYA	**Jayaque - finc**	**3.72**	**95**	P	**Pn**	**01 21 05.6**	**+0.2**
JAYA	**Jayaque - finc**	**3.72**	**95**	S	**Sn**	**01 21 46.8**	**-2.9**
MTO3	**Montecristo**	**3.80**	**84**		**Pn**	**01 21 06.9**	**+0.4**
PETF	**Flores**	**4.35**	**48**		**Pn**	**01 21 16.3**	**+2.5**
PETF	**Flores**	**4.35**	**48**	*e*P	**Pn**	**01 21 15.4**	**+1.5**
NEUV	**Arroyo Zacate**	**4.40**	**327**		**Pn**	**01 21 13.8**	**-0.8**
NEUV					**Sn**	**01 22

SMWD					IAmb	IAmb	01 25 03.9	
	comp=Z,12nm,1.0s							
HHAR	**Hobbs**	**22.16**	**359**		IAmb	IAmb	01 25 06.1	
	comp=Z,7.5nm,1.2s							
121A	**Cookes Peak, D**	**22.69**	**327**			**P**	**01 25 13.0**	**+3.2**
121A					IAmb	IAmb	01 25 26.1	
	comp=Z,7.7nm,0.9s							
TKL	**Tuckaleechee C**	**23.16**	**20**	LR	LR	LR	01 35 45.2	
	comp=Z,46nm,18.7s,baz=193,slow=41							
CRNM	**Carthage**	**23.29**	**331**	P		**P**	**01 25 18.2**	**+2.1**
BNM	**Barren Site**	**23.41**	**331**	P		**P**	**01 25 20.5**	**+3.2**
CCM	**Cathedral Cave**	**23.99**	**4**			**P**	**01 25 21.6**	**-1.0**
CCM					IAmb	IAmb	01 25 39.7	
	comp=Z,6.1nm,1.1s							
R40A	**Maddies Statio**	**24.18**	**2**	P		**P**	**01 25 23.7**	**-0.7**
R40A					IAmb	IAmb	01 25 26.0	
	comp=Z,3.8nm,0.7s							
T25A	**Trinidad**	**25.07**	**339**		IAmb	IAmb	01 25 39.2	
	comp=Z,6.2nm,1.0s							
ATAH	**Atahualpa**	**25.69**	**144**	LR		LR	01 33 38.9	
	comp=Z,56nm,19.9s,baz=35,slow=32							
SJG	**San Juan**	**26.35**	**78**	LR		LR	01 37 08.3	
	comp=Z,53nm,18.8s,baz=146,slow=39							
PDAR	**Pinedale Array**	**31.90**	**337**	P		**P**	**01 26 34.1**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=175,slow=4.6,SNR=2.2							
	comp=Z,0.5nm,0.3s							
NVAR	**Mina Array Bea**	**32.89**	**322**	P		**P**	**01 26 43.6**	**+1.1**
	comp=Z,1.0nm,1.0s,baz=120,slow=8.8,SNR=4.9							
	comp=Z,1.0nm,1.0s							
SADO	**Sadowa**	**32.90**	**19**	LR		LR	01 40 35.4	
	comp=Z,513nm,19.8s,baz=262,slow=38							
MDP	**Montagnes des**	**40.97**	**98**	LR		LR	01 47 22.4	
	comp=Z,19nm,19.4s,baz=191,slow=40							
SCHQ	**Schefferville**	**45.62**	**21**	LR		LR	01 47 49.1	
	comp=Z,534nm,18.6s,baz=256,slow=36							
YKA	**Yellowknife Ar**	**50.72**	**347**	P		**P**	**01 29 08.4**	**+0.9**
	comp=Z,2.7nm,0.9s,baz=147,slow=7.1,SNR=7.8							
YKA				LR		LR	01 52 58.2	
	comp=Z,20nm,18.2s,baz=338,slow=39							
	comp=Z,2.7nm,0.9s							
ILAR	**Eielson Array**	**62.33**	**337**	P		**P**	**01 30 31.3**	**+1.1**
	comp=Z,0.9nm,1.0s,baz=133,slow=5.2,SNR=6.1							
	comp=Z,0.9nm,1.0s							
BORG	**Borgarnes**	**69.71**	**26**	LR		LR	02 00 12.3	
	comp=Z,22nm,19.8s,baz=298,slow=35							
NOA	**NORSAR Array B**	**84.69**	**28**	LR		LR	02 08 44.3	
	comp=Z,7.8nm,21.9s,baz=295,slow=34							
ARCES	**ARCESS Array B**	**86.48**	**18**	LR		LR	02 10 18.5	
	comp=Z,17nm,22.0s,baz=322,slow=35							
FINES	**FINESS Array B**	**90.98**	**25**	LR		LR	02 13 24.9	
	comp=Z,15nm,18.3s,baz=232,slow=35							
CMAR	**Chiang Mai Arr**	**145.54**	**339**	PKPbc		**PKPab**	**01 39 47.8**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=0.2,slow=3.0,SNR=9.1							

*UCR **13** 01:39:19.3±0.7, 11°.84N×85°.31W, h8km±3km, MW3.8*
*CATAC **13** 01:39:19.6±0.1, 11°.8N±0°.9×85°.3W±0°.9, h1km, M3.9/41, MLv3.9/41, Error ellipse: s-maj=2.1km s-min=1.6km az=45.6, confirmed*

ISC 13 01:39:19.3±0.8, 11°.83N±0°.02×85°.30W±0°.02, h15km±6km, n92, σ0°72/117, 18C-3D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACON	**Acoyapa**	**0.19**	**41**	*eP*	**Pg**	**01 39 23.3**	**-0.5**
ACON				*eS*	**Sg**	**01 39 27.1**	**+0.3**
ACON	**Acoyapa**	**0.19**	**41**	↑P	**Pg**	**01 39 23.8**	**0.0**
ACON				S	**Sg**	**01 39 27.0**	**+0.3**
CONN	**Concepcion**	**0.41**	**231**	↑P	**Pb**	**01 39 28.2**	**-0.1**
CON				S	**Sb**	**01 39 34.5**	**+0.1**
MORN	**Al O del Volca**	**0.44**	**231**	P	**Pb**	**01 39 28.7**	**-0.1**
MORN				S	**Sb**	**01 39 35.1**	**0.0**
JAPN	**Al SSO del Vol**	**0.48**	**231**	*eP*	**Pg**	**01 39 29.0**	**+0.2**
JAPN	**Al SSO del Vol**	**0.48**	**231**	↑P	**Pg**	**01 39 29.0**	**+0.2**
JAPN				S	**Sg**	**01 39 35.2**	**0.0**
BOAB	**BOACO BROADBAN**	**0.71**	**330**	S	**Sb**	**01 39 42.8**	**-0.2**
BOAB	**BOACO BROADBAN**	**0.71**	**330**	↑P	**Pg**	**01 39 33.2**	**-0.1**
NADN	**Granada**	**0.72**	**264**	*eP*	**Pb**	**01 39 33.0**	**-0.5**
NADN				*eS*	**Sg**	**01 39 43.5**	**+0.6**
NADN	**Granada**	**0.72**	**264**	↑P	**Pb**	**01 39 33.2**	**-0.3**
NADN				S	**Sg**	**01 39 43.5**	**+0.6**
LCRUZ	**La Cruz**	**0.81**	**204**	*eS*	**Sg**	**01 39 46.2**	**+0.4**
NANN	**Nandasmo**	**0.81**	**278**	S	**Sg**	**01 39 45.8**	**0.0**
NANN	**Nandasmo**	**0.81**	**278**	↑P	**Pn**	**01 39 35.7**	**-0.5**
MASN	**Masaya**	**0.85**	**281**	*eP*	**Pb**	**01 39 35.0**	**-0.7**
MASN				*eS*	**Sg**	**01 39 47.2**	**+0.3**
MASN	**Masaya**	**0.85**	**281**	↑P	**Pb**	**01 39 35.3**	**-0.4**
MASN				S	**Sg**	**01 39 47.1**	**+0.1**
SABN	**Sabanita**	**0.85**	**279**	↑P	**Pb**	**01 39 34.5**	**-1.3**
MAS3	**Al N del Volca**	**0.88**	**283**	↑P	**Pb**	**01 39 35.7**	**-0.6**
MAS3				S	**Sg**	**01 39 47.9**	**-0.1**
AERN	**Aeropuerto Man**	**0.91**	**291**	P	**Pb**	**01 39 36.3**	**-0.4**
AERN	**Aeropuerto Man**	**0.91**	**291**	S	**Sg**	**01 39 48.6**	**-0.2**
WILN	**Americas 2**	**0.93**	**291**	↑P	**Pb**	**01 39 37.0**	**-0.1**
WILN				S	**Sg**	**01 39 49.6**	**+0.1**
BUAI	**Buenos Aires**	**0.94**	**182**	*eP*	**Pg**	**01 39 37.5**	**-0.1**
MGAN	**Managua**	**0.98**	**289**	*eP*	**Pb**	**01 39 36.9**	**-1.1**
MGAN				*eS*	**Sg**	**01 39 51.0**	**-0.1**
MGAN	**Managua**	**0.98**	**289**	↑P	**Pb**	**01 39 37.7**	**-0.2**
R4DEC	**Barrio San Lui**	**0.98**	**289**	↓P	**Pb**	**01 39 37.7**	**-0.3**
R4DEC	**Barrio San Lui**	**0.98**	**289**	S	**Sn**	**01 39 51.5**	**-0.6**
CRUN	**El Crucero**	**0.99**	**279**	P	**Pb**	**01 39 37.3**	**-1.0**
UNAN	**Cigeo UNAN**	**0.99**	**287**	↑P	**Pb**	**01 39 37.8**	**-0.4**
UNAN				S	**Sg**	**01 39 51.2**	**-0.3**
ALLN	**Telcor Managua**	**1.01**	**289**	P	**Pb**	**01 39 38.2**	**-0.2**
ALLN	**Telcor Managua**	**1.01**	**289**	S	**Sn**	**01 39 52.2**	**-0.6**
VMAR	**Armenia, Volca**	**1.02**	**170**	*eP*	**Pb**	**01 39 38.5**	**-0.2**
VMAR				*eS*	**Sg**	**01 39 52.7**	**+0.2**
ABCN	**Banco Central**	**1.03**	**287**	P	**Pb**	**01 39 38.4**	**-0.4**
ABCN	**Banco Central**	**1.03**	**287**	S	**Sg**	**01 39 52.4**	**-0.3**
ESPN	**Las Esperanzas**	**1.04**	**69**	*eP*	**Pb**	**01 39 37.4**	**-1.7**
ESPN				*eS*	**Sn**	**01 39 53.4**	**-0.3**
ESPN	**Las Esperanzas**	**1.04**	**69**	P	**Pg**	**01 39 39.2**	**-0.3**
LAPC	**Finca la Perla**	**1.06**	**187**	*eP*	**Pb**	**01 39 38.8**	**-0.5**
APQ2	**Apoyeque**	**1.07**	**290**	P	**Pb**	**01 39 39.1**	**-0.3**
APQ2				S	**Sg**	**01 39 54.1**	**+0.1**
MESS	**Mesas**	**1.08**	**174**	*eP*	**Pb**	**01 39 39.5**	**-0.3**
MESS				*eS*	**Sn**	**01 39 54.4**	**-0.4**
SAPS	**Ciudad Sandino**	**1.13**	**288**	↑P	**Pn**	**01 39 40.1**	**-0.5**
APQ3	**Volcan Apoyequ**	**1.14**	**293**	↑P	**Pb**	**01 39 40.6**	**0.0**
APQ3				S	**Sg**	**01 39 56.1**	**+0.1**
MOTZ	**Rio Naranjo**	**1.16**	**169**	*eP*	**Pb**	**01 39 41.1**	**+0.1**
COLC	**Colonia**	**1.16**	**175**	*eS*	**Sn**	**01 39 56.1**	**-0.4**
TENO	**El Achiote**	**1.16**	**164**	*eP*	**Pg**	**01 39 41.7**	**0.0**
CUI	**Cuipilapa**	**1.17**	**173**	*eP*	**Pn**	**01 39 40.7**	**-0.4**
ELI1	**Hacienda Flor**	**1.20**	**192**	*eP*	**Pn**	**01 39 41.2**	**-0.3**
ELI1				*eS*	**Sg**	**01 39 58.0**	**-0.1**
ELI1	**Hacienda Flor**	**1.20**	**192**	P	**Pn**	**01 39 41.4**	**-0.1**
MATN	**Matagalpa**	**1.25**	**331**	S	**Sb**	**01 39 58.3**	**-0.4**
MATN	**Matagalpa**	**1.25**	**331**	↑P	**Pn**	**01 39 41.4**	**-0.9**
QUEB	**Quebradon, Cot**	**1.26**	**162**	*eS*	**Sg**	**01 40 00.0**	**0.0**
MOM2	**El Cardon**	**1.31**	**298**	↑P	**Pn**	**01 39 42.5**	**-0.5**
MOM2				S	**Sg**	**01 40 01.0**	**-0.6**
COPN	**Copaltepe**	**1.31**	**286**	*eP*	**Pn**	**01 39 42.5**	**-0.5**
COPN	**Copaltepe**	**1.31**	**286**	P	**Pn**	**01 39 42.9**	**-0.1**
CEDE	**Laguna Cedeo**	**1.45**	**156**	*eP*	**Pb**	**01 39 45.6**	**-0.5**
ARE1	**Arenal 1**	**1.47**	**157**	*eP*	**Pb**	**01 39 45.9**	**-0.5**
VARE2	**V. Arenal**	**1.47**	**157**	*eP*	**Pb**	**01 39 45.8**	**-0.6**
VACR	**Volcan Arenal**	**1.48**	**156**	*eP*	**Pb**	**01 39 46.2**	**-0.3**
CNGN	**Cerro Negro**	**1.52**	**296**	*eP*	**Pb**	**01 39 46.5**	**-0.8**
CNGN	**Cerro Negro**	**1.52**	**296**	P	**Pb**	**01 39 46.7**	**-0.5**
CNGN	**Cerro Negro**	**1.52**	**296**	S	**Sg**	**01 40 07.8**	**-0.7**
CNGA	**Al SSO del Vol**	**1.52**	**296**	P	**Pb**	**01 39 46.9**	**-0.4**
JTS	**Las Juntas de**	**1.56**	**167**	*eP*	**Pn**	**01 39 46.4**	**-0.2**
JTS	**Las Juntas de**	**1.56**	**167**	P	**Pb**	**01 39 47.0**	**-0.9**
JTS				S	**Sb**	**01 40 07.8**	**+0.3**
SOCE	**Pocosol**	**1.58**	**155**	*eP*	**Pb**	**01 39 47.5**	**-0.8**
SOCE	**Pocosol**	**1.58**	**155**	P	**Pb**	**01 39 47.8**	**-0.5**
SOCE	**Pocosol**	**1.58**	**155**	S	**Sb**	**01 40 08.6**	**+0.4**
PLRN	**Geotermica Pol**	**1.62**	**298**	S	**Sb**	**01 40 09.9**	**+0.7**
JUD3	**Juan Diaz 3**	**1.67**	**188**	*eP*	**Pn**	**01 39 47.7**	**-0.3**
ITAL	**Pital**	**1.70**	**143**	*eS*	**Sb**	**01 40 11.9**	**+0.4**
VPL2	**V. Platanar**	**1.76**	**149**	*eP*	**Pb**	**01 39 50.9**	**-0.4**
CMARA	**Lajas Hojancha**	**1.80**	**184**	P	**Pb**	**01 39 51.3**	**-0.7**
CMARA	**Lajas Hojancha**	**1.80**	**184**	S	**Sb**	**01 40 14.7**	**+0.3**
PKGN	**Cerro Pekin**	**1.84**	**297**	↓P	**Pb**	**01 39 52.1**	**-0.5**
PKGN				S	**Sb**	**01 40 16.8**	**+1.3**
RCPN	**Sur Rio San Ju**	**1.86**	**335**	P	**Pb**	**01 39 52.8**	**-0.3**
RCPN	**Sur Rio San Ju**	**1.86**	**335**	S	**Sb**	**01 40 17.2**	**+1.1**
SIUN	**Universidad Ur**	**1.95**	**15**	P	**Pb**	**01 39 53.8**	**-0.7**
SIUN				S	**Sb**	**01 40 19.3**	**+0.7**
RCVN	**Varillal2**	**1.95**	**334**	S	**Sb**	**01 40 20.1**	**+1.3**
VBV1	**V. Barva**	**2.07**	**145**	*eP*	**Pb**	**01 39 57.6**	**+0.8**
OCON	**Estacion meteo**	**2.13**	**327**	↓P	**Pn**	**01 39 55.5**	**+1.1**
OCON				S	**Sb**	**01 40 24.9**	**+1.0**
LCR2	**La Lucha 2**	**2.43**	**148**	*eP*	**Pn**	**01 39 59.9**	**+1.2**
LCR2	**La Lucha 2**	**2.43**	**148**	P	**Pn**	**01 39 60.0**	**+1.3**
LCR2	**La Lucha 2**	**2.43**	**148**	S	**Sb**	**01 40 33.2**	**+0.5**
PICV	**PH. Pirrs**	**2.44**	**153**	*eP*	**Pn**	**01 39 58.8**	**+0.1**
PAR1A	**Puntarenas Pro**	**2.44**	**155**	*eP*	**Pb**	**01 40 00.6**	**-2.4**
CHOHN	**Orocuina**	**2.45**	**312**	↑P	**Pn**	**01 39 59.5**	**+0.7**
CHOHN	**Orocuina**	**2.45**	**312**	S	**Sb**	**01 40 33.8**	**+0.7**
CSGN	**Cosiguina Volc**	**2.48**	**298**	P	**Pb**	**01 40 03.2**	**-0.5**
PIEC	**Cerro El Cedra**	**2.56**	**149**	*eP*	**Pn**	**01 40 01.5**	**+1.0**
YUSH	**Yuscaran**	**2.59**	**325**	S	**Sb**	**01 40 39.3**	**+1.9**
YUSH	**Yuscaran**	**2.59**	**325**	↑P	**Pn**	**01 40 02.1**	**+1.3**
BUS1	**Rivas**	**2.73**	**146**	*eP*	**Pn**	**01 40 04.1**	**+1.2**
LCND	**La Caada**	**2.93**	**301**	P	**Pb**	**01 40 09.4**	**-1.7**
TGUH	**Tegucigalpa,Un**	**2.94**	**319**	P	**Pn**	**01 40 06.5**	**+0.9**
TGUH				S	**Sb**	**01 40 49.4**	**+2.2**
DRK0	**Durika**	**3.25**	**141**	P	**Pn**	**01 40 11.4**	**+1.4**

*IDC **13** 01:47:03.5±1.1, 11°.28S×163°.36E, h0km, mb3.7/7, mbtmp3.8/8, ML4.9/1, MS3.5/7, Error ellipse: s-maj=31.8km s-min=26.7km az=158.0*
*NEIC **13** 01:47:06.1±1.7, 11°.1S±0°.1×163°.31E±0°.07, h10km±1km, mb4.4/11, Error ellipse: s-maj=21.9km s-min=4.5km az=30.0*
*NOU **13** 01:47:08.4, 11°.06S×163°.27E, h26km, MLv4.9/17, Solomon Islands*

ISC 13 01:47:08.9±0.6, 11°.09S±0°.07×163°.26E±0°.06, h31km, n49, σ1§17/41, mb3.9/12, MS3.4/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HURO	**Huro Makira**	**1.47**	**295**	P	**Pn**	**01 47 31.6**	**-1.7**
HURO	**Huro Makira**	**1.47**	**295**	S	**Sb**	**01 47 52.4**	**-1.6**
LUES	**Luesalemba Tem**	**2.64**	**81**	P	**Pn**	**01 47 48.4**	**-1.0**
NGOA	**Tingoa Renbel**	**3.17**	**261**	P	**Pn**	**01 47 55.7**	**-1.0**
NGOA	**Tingoa Renbel**	**3.17**	**261**	S	**Sn**	**01 48 34.6**	**+1.1**
ALEG	**Aligegeo Malai**	**3.43**	**312**	P	**Pn**	**01 47 59.6**	**-0.7**
ALEG	**Aligegeo Malai**	**3.43**	**312**	S	**Sn**	**01 48 40.1**	**+0.2**
HNR	**Honiara**	**3.65**	**296**		**Pn**	**01 48 04.5**	**+1.2**
HNR	**Honiara**	**3.65**	**296**	Pn	**Pn**	**01 48 04.7**	**+1.4**
	87nm,0.3s,baz=162,slow=2.5,SNR=8.4						
HNR				Sn	**Sn**	**01 48 49.0**	**+3.6**
	118nm,0.3s,baz=308,slow=22,SNR=5.6						
HNR				LR	LR	01 49 40.4	
	comp=Z,498nm,18.9s,baz=158,slow=41						
	278nm,0.5s						
SAVO	**Savo Central**	**3.90**	**299**	P	**Pn**	**01 48 08.0**	**+1.2**
SAVO	**Savo Central**	**3.90**	**299**	S	**Sn**	**01 48 53.3**	**+1.7**
TATA	**Tatamba Isabel**	**4.34**	**308**	P	**Pn**	**01 48 12.7**	**0.0**
TATA	**Tatamba Isabel**	**4.34**	**308**	S	**Sn**	**01 49 03.4**	**+1.1**
SANVU	**Saraoutou**	**5.79**	**139**		**Pn**	**01 48 33.3**	**+0.5**
SANVU	**Saraoutou**	**5.79**	**139**	P	**Pn**	**01 48 33.2**	**+0.5**
SANVU	**Saraoutou**	**5.79**	**139**	S	**Sn**	**01 49 38.3**	**+0.2**
DVP	**Devils Point**	**8.14**	**145**	P	**Pn**	**01 49 05.6**	**+0.6**
DZM	**Mont Dzumac**	**11.34**	**165**	Pn	**Pn**	**01 49 48.4**	**-0.5**
DZM	**Mont Dzumac**	**11.34**	**165**	P	**Pn**	**01 49 49.2**	**+0.2**
PMG	**Port Moresby**	**15.93**	**275**	LR	LR	01 56 54.4	
	comp=Z,107nm,19.7s,baz=132,slow=37						
WR8	**Warramunga Arr**	**29.04**	**249**	P	**P**	**01 53 05.0**	**-1.6**
WR8				IAmb	IAmb	01 53 21.5	
	comp=Z,15nm,1.5s						
WB0	**Warramunga Arr**	**29.10**	**249**	P	**P**	**01 53 06.3**	**-0.8**
WB0				IAmb	IAmb	01 53 24.0	
	comp=Z,8.5nm,1.1s						
WRA	**Warramunga Arr**	**29.19**	**249**	P	**P**	**01 53 07.0**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=79,slow=9.2,SNR=5.0						
WRA				LR	LR	02 04 53.4	
	comp=Z,88nm,18.6s,baz=106,slow=37						
	comp=Z,0.4nm,0.5s						
H11S2	**WAKE ISLAND Hy**	**29.59**	**7**	T	T	02 24 11.5	
	baz=188,slow=76,SNR=51						
H11S3	**WAKE ISLAND Hy**	**29.59**	**7**	T	T	02 24 06.0	
	baz=188,slow=76,SNR=39						
H11S1	**WAKE ISLAND Hy**	**29.60**	**7**	T	T	02 24 11.9	
	baz=188,slow=76,SNR=30						
AS31	**Alice Springs**	**30.61**	**242**	P	**P**	**01 53 19.5**	**-0.9**
ASAR	**Alice Springs**	**30.61**	**242**	P	**P**	**01 53 19.5**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=62,slow=9.9,SNR=10						
ASAR				LR	LR	02 04 03.6	
	comp=Z,69nm,21.2s,baz=98,slow=33						
	comp=Z,1.1nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**30.81**	**7**	T	T	02 25 42.2	
	baz=188,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**30.82**	**7**	T	T	02 25 44.2	
	baz=188,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy**	**30.83**	**7**	T	T	02 25 40.5	
	baz=188,slow=76,SNR=15						
SAUI	**Saumlaki**	**31.66**	**273**	P	**P**	**01 53 29.0**	**-0.8**
BBOO	**Buckleboo**	**33.05**	**225**	P	**P**	**01 53 41.4**	**-0.3**
KNRA	**Kununurra**	**33.84**	**258**	P	**P**	**01 53 47.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**37.02**	**255**	P	**P**	**01 54 15.0**	**-1.1**
MORW	**Morawa**	**47.47**	**241**	P	**P**	**01 55 41.3**	**0.0**
MORW				IAmb	IAmb	01 55 58.3	
	comp=Z,3.4nm,1.0s						
LEM	**Lembang**	**55.07**	**269**	LR	LR	02 23 24.2	
	comp=Z,12nm,19.1s,baz=198,slow=40						
PETK	**Petropavlovsk-**	**64.11**	**356**	P	**P**	**01 57 40.0**	**+0.1**
SONM	**Songino Array**	**77.27**	**325**	P	**P**	**01 59 01.8**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=116,slow=3.4,SNR=1.1						
	comp=Z,0.3nm,0.3s						
QSPA	**South Pole Qui**	**78.92**	**180**	P	**P**	**01 59 11.6**	**+2.3**
QSPA				IAmb	IAmb	01 59 48.2	
	comp=Z,3.1nm,1.2s						
QSPA	**South Pole Qui**	**78.92**	**180**	P	**P**	**01 59 07.9**	**-1.4**
	comp=Z,0.7nm,1.0s,baz=358,slow=4.3,SNR=2.2						
QSPA				LR	LR	02 30 38.8	
	comp=Z,36nm,18.5s,baz=45,slow=33						
	comp=Z,0.7nm,1.0s						
J18K	**Innoko River**	**80.39**	**17**	P	**P**	**01 59 17.6**	**+0.6**
J18K				IAmb	IAmb	01 59 37.6	
	comp=Z,9.2nm,1.4s						
IMAR	**Indian Mountai**	**83.13**	**16**	P	**P**	**01 59 31.7**	**+0.2**
ILAR	**Eielson Array**	**84.34**	**19**	P	**P**	**01 59 37.4**	**-0.3**
	comp=Z,0.3nm,1.0s,baz=219,slow=7.0,SNR=2.0						
	comp=Z,0.3nm,1.0s						
DLBC	**Dease Lake**	**87.61**	**29**	LR	LR	02 35 09.6	
	comp=Z,227nm,18.8s,baz=198,slow=33						
NVAR	**Mina Array Bea**	**87.92**	**50**	P	**P**	**01 59 56.3**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=266,slow=4.6,SNR=3.8						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**91.89**	**317**	P	**P**	**02 00 13.4**	**-0.9**
MKAR	**Makanchi Array**	**91.89**	**317**	P	**P**	**02 00 13.9**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=84,slow=6.4,SNR=1.5						
	comp=Z,0.2nm,0.5s						
ZAA0	**Zalesovo Array**	**92.17**	**325**	P	**P**	**02 00 14.9**	**-0.4**
ZAA0				IAmb	IAmb	02 00 39.4	
	comp=Z,1.4nm,0.8s						

*IDC **13** 01:51:28.0±1.3, 25°.54S×175°.05W, h0km, mb4.0/4, mbtmp4.1/5, ML3.5/1, MS3.6/3, Error ellipse: s-maj=48.3km s-min=34.1km az=178.0*

ISC 13 01:51:32.9±0.9, 25°.6S±0°.3×174°.9W±0°.1, h35km, n9, σ1§46/7, mb4.0/4, MS3.5/3, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.56**	**76**	Pn	**Pn**	**01 54 56.0**	**-0.4**
	2.2nm,0.3s,baz=243,slow=5.7,SNR=4.0						
	8.7nm,0.5s						
PPT	**Papeete**	**24.84**	**76**	LR	LR	02 06 11.7	
	comp=Z,64nm,18.2s,baz=305,slow=35						
ASAR	**Alice Springs**	**46.34**	**261**	P	**P**	**01 59 55.6**	**-0.3**
	0.6nm,0.6s,baz=90,slow=8.0,SNR=7.2						
ASAR				LR	LR	02 18 24.3	
	comp=Z,53nm,18.7s,baz=102,slow=35						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**46.91**	**266**	P	**P**	**01 59 58.3**	**-2.1**
	1.4nm,0.7s,baz=103,slow=8.1,SNR=11						
	1.4nm,0.7s						
QSPA	**South Pole Qui**	**64.51**	**180**	P	**P**	**02 02 06.2**	**+0.1**
	1.1nm,1.0s,baz=11,slow=6.6,SNR=1.9						
	1.1nm,1.0s						
TGY	**Tagaytay City**	**73.86**	**295**	LR	LR	02 34 37.6	
	comp=Z,97nm,18.4s,baz=28,slow=35						
CMAR	**Chiang Mai Arr**	**94.45**	**288**	P	**P**	**02 04 51.2**	**+1.3**
	0.8nm,0.3s,baz=115,slow=4.9,SNR=5.5						
	0.8nm,0.3s						
AKASG	**Malin Array Be**	**148.81**	**330**	PKPbc	**PKPbc**	**02 11 15.9**	**-0.6**
	1.1nm,0.6s,baz=43,slow=3.3,SNR=6.2						
BRTR	**Keskin Array B**	**152.27**	**308**	PKPbc	**PKiKP**	**02 11 26.9**	**+1.4**
	0.5nm,0.6s,baz=90,slow=4.3,SNR=3.7						

*SNET **13** 02:19:57.9±1.2, 13°.32N×89°.53W, h66km, ML3.7*
*GCG **13** 02:19:57.9±0.9, 13°.32N×89°.52W, h62km±7km, MD4.0, ML3.7*
*CATAC **13** 02:19:57.7±0.4, 13°N±3°.×9°.0W±°, h44km±3km, M3.9/19, MLv3.9/19, Error ellipse: s-maj=6.6km s-min=3.6km az=32.2, confirmed*

ISC 13 02:19:58.3±1.7, 13°.32N±0°.07×89°.53W±0°.05, h66km±8km, n64, σ0§63/73, 2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAYA	**Jayaque - finc**	**0.34**	**13**	*eP*	**Pn**	**02 20 08.8**	**-0.7**
JAYA				*eS*	**Sn**	**02 20 17.9**	**+0.2**
JAYA	**Jayaque - finc**	**0.34**	**13**	*i P*	**Pn**	**02 20 08.9**	**-0.7**
JAYA	**Jayaque - finc**	**0.34**	**13**	P	**Pn**	**02 20 08.9**	**-0.7**
PMON	**Piamonte**	**0.44**	**28**	S	**Sn**	**02 20 19.3**	**+0.2**
PMON	**Piamonte**	**0.44**	**28**	P	**Pn**	**02 20 09.9**	**-0.4**
PANCS	**Alcalda de**	**0.45**	**49**	S	**Sn**	**02 20 18.8**	**-0.3**
PANCS	**Alcalda de**	**0.45**	**49**	P	**Pn**	**02 20 09.6**	**-0.7**
LOMA	**Loma Larga**	**0.47**	**47**	*eP*	**Pn**	**02 20 10.0**	**-0.6**
LOMA	**Loma Larga**	**0.47**	**47**	S	**Sn**	**02 20 20.1**	**+0.5**
LOMA	**Loma Larga**	**0.47**	**47**	P	**Pn**	**02 20 10.1**	**-0.5**
BOQS	**Boqueron**	**0.48**	**30**	*eP*	**Pn**	**02 20 10.5**	**-0.3**
UEES	**Universidad Ev**	**0.48**	**35**	S	**Sn**	**02 20 20.3**	**+0.5**
UEES	**Universidad Ev**	**0.48**	**35**	P	**Pn**	**02 20 10.3**	**-0.4**
UTEC	**Universidad Te**	**0.49**	**40**	S	**Sn**	**02 20 20.3**	**+0.4**
UTEC	**Universidad Te**	**0.49**	**40**	P	**Pn**	**02 20 10.4**	**-0.4**
CEDA	**San Andres**	**0.50**	**15**	*eP*	**Pn**	**02 20 10.2**	**-0.7**
CEDA	**San Andres**	**0.50**	**15**	S	**Sn**	**02 20 20.1**	**+0.2**
CEDA	**San Andres**	**0.50**	**15**	P	**Pn**	**02 20 10.3**	**-0.5**
CEVE	**Cerro Verde**	**0.52**	**349**	*eP*	**Pn**	**02 20 10.8**	**-0.4**
CEVE				*eS*	**Sn**	**02 20 22.4**	**+1.8**
CEVE	**Cerro Verde**	**0.52**	**349**	P	**Pn**	**02 20 10.8**	**-0.4**
CEVE	**Cerro Verde**	**0.52**	**349**	S	**Sn**	**02 20 21.4**	**+0.8**
IGN	**Direccin Gen**	**0.52**	**41**	*eP*	**Pn**	**02 20 10.8**	**-0.2**
IGN				*eS*	**Sn**	**02 20 21.2**	**+0.8**
IGN	**Direccin Gen**	**0.52**	**41**	P	**Pn**	**02 20 10.5**	**-0.5**
UDBS	**Universidad Do**	**0.54**	**42**	P	**Pn**	**02 20 10.8**	**-0.3**
UDBS	**Universidad Do**	**0.54**	**42**	S	**Sn**	**02 20 21.0**	**+0.5**
LFRS	**El Faro**	**0.54**	**56**	*i P*	**Pn**	**02

comp=Z,26nm,1.5s
FITZ Fitzroy Crossi 25.08 239 P P 02 58 41.0 +0.6
FITZ IAmb IAmb 02 58 41.8
comp=Z,10nm,0.6s
FITZ Fitzroy Crossi 25.08 239 P P 02 58 41.1 +0.6
CMSA Cobar Meteorol 25.61 185 P P 02 58 45.3 +0.2
STKA Stephens Creek 26.56 193 P 02 58 53.8 +0.1
STKA Stephens Creek 26.56 193 P P 02 58 53.5 -0.1
comp=Z,11nm,0.8s,baz=342,slow=8.2,SNR=23
comp=Z,11nm,0.8s
STKA Stephens Creek 26.56 193 P P 02 58 54.1 +0.4
BBOO Buckleboo 29.04 201 P P 02 59 15.9 +0.1
BBOO Buckleboo 29.04 201 P P 02 59 16.0 +0.1
MBWA Marble Bar 31.42 238 P P 02 59 36.9 0.0
MBWA IAmb IAmb 02 59 37.8
comp=Z,18nm,1.1s
PSA00 Pilbara Seismi 31.50 238 P P 02 59 37.5 -0.1
PSA00 Pilbara Seismi 31.50 238 P P 02 59 37.8 +0.2
PSA00 IAmb IAmb 02 59 38.5
comp=Z,15nm,1.0s
NWAO Narrogin (SRO) 39.36 223 P P 03 00 45.4 +0.5
RTZ Ruatahuna 41.75 145 P P 03 01 05.2 +0.7
RTZ IAmb IAmb 03 01 08.5
comp=Z,15nm,1.0s
TCW Tory Channel 42.20 150 P P 03 01 08.7 +0.7
MJAR Matsushiro Arr 43.23 348 P P 03 01 13.4 -3.0
comp=Z,1.2nm,0.6s,baz=168,slow=8.6,SNR=1.7
comp=Z,1.2nm,0.6s
MAJO Matsushiro 43.23 348 P P 03 01 15.9 -0.5
MAJO IAmb IAmb 03 01 41.1
comp=Z,12nm,1.1s
MJB9 Matsu-Tunnel 43.24 348 P P 03 01 15.9 -0.5
MJB9 IAmb IAmb 03 01 41.1
comp=Z,12nm,1.1s
NJ2 Nanjing 46.93 325 *e*P **P 03 01 48.4 +2.7**
NJ2 pmax pmax
comp=Z,7.0nm,1.0s
PZH PanZhiHua 55.28 308 P P 03 02 51.5 +2.9
HHC Hu-ho-hao-te 57.35 328 *e*P **P 03 03 05.8 +2.9**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,39nm,3.5s
PETK Petropavlovsk- 59.34 7 P P 03 03 17.2 +0.8
SONM Songino Array 64.87 330 P P 03 03 52.6 -1.1
comp=Z,0.6nm,0.6s,baz=151,slow=3.3,SNR=1.4
comp=Z,0.6nm,0.6s
CASY Casey 65.65 196 P P 03 03 58.2 -0.1
CASY IAmb IAmb 03 03 58.8
comp=Z,3.6nm,0.9s
VNDA Vanda 71.95 177 P P 03 04 37.6 +0.5
VNDA Vanda 71.95 177 P P 03 04 37.4 +0.3
comp=Z,1.2nm,0.6s,baz=331,slow=5.6,SNR=9.6
comp=Z,1.2nm,0.6s
MKAR Makanchi Array 78.14 320 P P 03 05 11.2 -2.1
comp=Z,0.3nm,0.4s,baz=103,slow=8.6,SNR=2.5
comp=Z,0.3nm,0.4s
ZALV Zalesovo Beam 79.53 328 P P 03 05 18.1 -2.6
comp=Z,0.5nm,0.4s,baz=94,slow=4.3,SNR=1.3
comp=Z,0.5nm,0.4s
MAW Mawson 82.77 203 P P 03 05 37.0 -0.6
comp=Z,1.5nm,0.7s,baz=117,slow=7.8,SNR=4.7
comp=Z,1.5nm,0.7s
QSPA South Pole Qui 84.07 180 P P 03 05 45.1 +0.6
comp=Z,1.3nm,0.5s,baz=51,slow=3.8,SNR=18
comp=Z,1.3nm,0.5s
ILAR Eielson Array 84.95 23 P P 03 05 46.8 -1.9
comp=Z,0.7nm,0.7s,baz=250,slow=4.9,SNR=10
comp=Z,0.7nm,0.7s
TORD Torodi Ar. Bea 146.16 285 PKPbc **PKPdf 03 12 53.1 -0.5**
comp=Z,0.8nm,0.4s,baz=77,slow=3.3,SNR=14

SDD ***13*** *02:57:55.0±1.1, 18.˚12N×71.˚54W, h20km±9km, MD3.0, ML1.7, MW2.4*
OSPL ***13*** *02:57:55.8±1.6, 18.˚25N×71.˚52W, h23km±11km, ML1.6*
ISC 13 02:57:54.2±1.3**, 18˚22N**±0˚04×**71˚51W**±0˚05**, h35**km**, n9,**
σ1§**47**/18**, 1C-6D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LODU1	**El Espartillar**	**0.14**	**15**	*i* P	**Pn**	**02 57 59.2**	**-1.4**
LODU1				*e*S	**Sn**	**02 58 02.7**	**-2.2**
LODU1				IAML		02 58 03.0	
	comp=Z,391nm,0.3s						
PODR	**Polo**	**0.23**	**103**	⇓*e*Pg	**Pn**	**02 58 00.6**	**-1.0**
PODR				⇑*e*Sg	**Sn**	**02 58 05.1**	**-1.4**
PODR				IAML		02 58 06.4	
	comp=N,149nm,0.1s						
PODR	**Polo**	**0.23**	**103**	*i* P	**Pn**	**02 58 00.4**	**-1.2**
PODR				*e*S	**Sn**	**02 58 04.9**	**-1.6**
NEDR	**Neiba UASD**	**0.28**	**18**	*e*Pg	**Pn**	**02 58 01.7**	**-0.3**
NEDR				⇓*e*Sg	**Sn**	**02 58 07.2**	**0.0**
NEDR				IAML		02 58 07.8	
	comp=N,78nm,0.3s						
LOBH	**Bahia de las A**	**0.37**	**199**	*i* P	**Pn**	**02 58 03.1**	**0.0**
LOBH				*e*S	**Sn**	**02 58 10.1**	**+0.9**
LOBH				IAML		02 58 16.2	
	comp=Z,48nm,1.2s						
LONE3	**El Aguacate, B**	**0.39**	**7**	*i* P	**Pn**	**02 58 02.9**	**-0.6**
LONE3				*e*S	**Sn**	**02 58 09.6**	**-0.2**
LONE3				IAML		02 58 11.0	
	comp=Z,31nm,0.3s						
JIDR	**Jimani**	**0.42**	**310**	⇓*e*Pg	**Pn**	**02 58 04.0**	**+0.2**
JIDR				⇓*e*Sg	**Sn**	**02 58 10.8**	**+0.4**
JIDR				IAML		02 58 11.4	
	comp=N,45nm,0.2s						
LOVI	**El Cajuil, Ovi**	**0.44**	**162**	*i* P	**Pn**	**02 58 04.1**	**+0.1**
LOVI				*e*S	**Sn**	**02 58 11.8**	**+1.0**
LOVI				IAML		02 58 13.6	
	comp=Z,51nm,0.7s						
ABDR	**Alto Bandera**	**1.03**	**55**	⇓*e*Pg	**Pn**	**02 58 13.9**	**+1.4**
ABDR				⇓*e*Sg	**Sn**	**02 58 29.6**	**+3.8**
ABDR				IAML		02 58 44.4	
	comp=N,17nm,2.0s						

NEIC ***13*** *03:02:15.8±1.7, 2.˚1N±0.˚1×122.˚7E±0.˚1, h462km±11km, mb4.4/29, Error ellipse: s-maj=20.0km s-min=14.1km az=55.0*
DJA ***13*** *03:02:16.2±0.7, 2.˚N±7.˚×12.˚3E±.˚, h448km±6km, M4.7/13, mB5.0/5, mb4.8/6, MLv4.8/13, Mw(mB)4.3/5*
IDC ***13*** *03:02:16.1±1.4, 2.˚19N×122.˚85E, h476km±16km, mb3.7/12, mbtmp4.5/13, Error ellipse: s-maj=36.6km s-min=8.6km az=66.0*
ISC 13 03:02:14.7±0.5**, 2˚16N**±0˚06×**122˚80E**±0˚09**, h450**km**, n82,**
σ1§**38**/84**, mb4.3**/32**, 1C, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.88**	**207**	P	**P**	**03 03 16.0**	**+1.4**
MRSI				S	**S**	**03 04 04.7**	**+1.6**
KMSI	**Cibinong**	**1.97**	**143**	P	**P**	**03 03 17.0**	**+1.9**
KMSI				S	**S**	**03 04 05.1**	**+1.2**
TOLI2	**Tolitoli**	**2.27**	**243**		**P**	**03 03 17.6**	**+0.7**
SGSI	**Sangihe**	**3.12**	**61**	P	**P**	**03 03 23.8**	**+1.1**
LUWI	**Luwuk**	**3.18**	**180**	P	**P**	**03 03 23.6**	**+0.5**
LUWI	**Luwuk**	**3.18**	**180**	P	**P**	**03 03 24.1**	**+1.0**
LUWI				S	**S**	**03 04 17.0**	**-1.7**
TNTI	**Ternate**	**4.77**	**107**		**P**	**03 03 37.2**	**+0.3**
TNTI	**Ternate**	**4.77**	**107**	P	**P**	**03 03 37.4**	**+0.5**
TNTI	**Ternate**	**4.77**	**107**	P	**P**	**03 03 37.4**	**+0.5**
MYLDM	**Lahad Datu**	**5.24**	**305**	P	**P**	**03 03 42.2**	**+0.8**
MYLDM	**Lahad Datu**	**5.24**	**305**	P	**P**	**03 03 45.7**	**+4.3**
SANI	**Sanana**	**5.26**	**143**	P	**P**	**03 03 41.0**	**-0.6**
SANI	**Sanana**	**5.26**	**143**	P	**P**	**03 03 41.1**	**-0.6**
	1.3nm4µm291nm,0.7s						
TTSI	**Tana Toraja**	**5.97**	**210**	P	**P**	**03 03 51.3**	**+2.6**
	0.8nm2µm254nm,0.6s						
SPSI	**Sidrap Palu**	**6.79**	**206**	P	**P**	**03 03 59.3**	**+2.0**
NLAI	**Namlea**	**6.87**	**141**	P	**P**	**03 04 00.2**	**+2.1**
KKM	**Kota Kinabalu**	**7.62**	**301**	P	**P**	**03 04 07.4**	**+1.3**
KAPI	**Kappang**	**7.75**	**203**	P	**P**	**03 04 09.8**	**+2.3**
	32nm,0.6s,baz=24,slow=6.3,SNR=13						
FAKI	**Fak Fak**	**10.71**	**118**	P	**P**	**03 04 41.1**	**+1.5**
FAKI	**Fak Fak**	**10.71**	**118**	P	**P**	**03 04 41.3**	**+1.6**
SOEI	**Soe**	**11.93**	**173**		**P**	**03 04 55.4**	**+2.4**
SOEI	**Soe**	**11.93**	**173**	P	**P**	**03 04 54.9**	**+1.9**
PLAI	**Plampang**	**12.01**	**205**	P	**P**	**03 04 56.1**	**+2.4**
TGY	**Tagaytay City**	**12.01**	**351**	P	**P**	**03 04 55.2**	**+1.4**
	141nm,0.3s,baz=176,slow=0.8,SNR=8.0						
BATI	**Baumata**	**12.31**	**176**	P	**P**	**03 04 59.0**	**+2.0**
	166nm,0.5s,baz=286,slow=2.6,SNR=15						
KSM	**Kuching**	**12.50**	**267**		**P**	**03 04 59.7**	**+0.5**

DRS Darwin Rock St 16.58 151 P P 03 05 43.2 +0.5
MTN Manton Dam 17.05 151 P 03 05 48.6 +1.0
MTN Manton Dam 17.05 151 P P 03 05 48.4 +0.8
KDU Kakadu 17.60 147 P P 03 05 52.9 -0.6
KNRA Kununurra 18.68 162 P 03 06 03.1 -0.9
FITZ Fitzroy Crossi 20.32 172 P 03 06 18.3 -0.8
FITZ Fitzroy Crossi 20.32 172 P P 03 06 19.0 -0.1
16nm,0.6s,baz=13,slow=9.7,SNR=38
16nm,0.6s
FITZ Fitzroy Crossi 20.32 172 P P 03 06 19.1 0.0
MBWA Marble Bar 23.37 187 P P 03 06 45.8 -0.9
MBWA IAmb IAmb 03 06 47.3
comp=Z,13nm,0.8s
PSA00 Pilbara Seismi 23.76 187 P 03 06 49.6 -0.6
PSA00 Pilbara Seismi 23.76 187 P P 03 06 48.9 -1.3
PSA00 IAmb IAmb 03 06 50.6
comp=Z,8.4nm,0.8s
PSA00 Pilbara Seismi 23.76 187 P P 03 06 50.1 -0.1
WB0 Warramunga Arr 24.58 153 P P 03 06 56.5 -1.1
WB0 IAmb IAmb 03 06 57.2
comp=Z,9.4nm,0.5s
WRA Warramunga Arr 24.71 153 P P 03 06 57.6 -1.2
comp=Z,6.6nm,0.4s,baz=335,slow=9.6,SNR=66
WRA ScP ScP **03 13 13.8 -3.3**
comp=Z,1.1nm,0.8s,baz=335,slow=3.6,SNR=7.0
comp=Z,6.6nm,0.4s
WR8 Warramunga Arr 24.80 153 P 03 06 58.4 -1.1
WR8 IAmb IAmb 03 06 59.3
comp=Z,8.8nm,0.5s
GSI Gunungsitoli 25.23 268 P P 03 07 02.3 -1.1
AS31 Alice Springs 27.85 158 P 03 07 26.8 +0.3
ASAR Alice Springs 27.85 158 P P 03 07 26.6 +0.1
ASAR Alice Springs 27.85 158 P P 03 07 26.3 -0.2
comp=Z,2.8nm,0.5s,baz=340,slow=7.1,SNR=48
ASAR ScP ScP **03 13 23.2 -3.3**
comp=Z,1.0nm,0.5s,baz=337,slow=2.8,SNR=12
comp=Z,2.8nm,0.5s
CMAR Chiang Mai Arr 28.45 306 P P 03 07 32.5 +0.7
comp=Z,1.0nm,0.3s,baz=134,slow=7.3,SNR=7.7
comp=Z,1.0nm,0.3s
PZH PanZhiHua 31.54 322 P P 03 07 59.8 +1.1
MORW Morawa 31.72 191 P P 03 07 59.4 -0.6
FORT Forrest 33.14 172 IAmb IAmb 03 08 13.2
comp=Z,10nm,0.8s
LYN LuoYang 33.64 344 ⇑P **P 03 08 17.2 +0.9**
LYN pmax pmax
comp=Z,27nm,0.6s
XAN Xi'an 34.27 339 P P 03 08 22.2 +0.5
XAN pmax pmax
comp=Z,12nm,0.9s
NWAO Narrogin (SRO) 35.29 188 P P 03 08 29.3 -1.0
BBOO Buckleboo 36.97 161 P P 03 08 44.2 -0.2
BBOO IAmb IAmb 03 08 45.2
comp=Z,12nm,0.9s
LZH Lanzhou 38.05 335 *e*P P 03 08 49.2 -4.2
LZH sP sP 03 11 12.4 +5.3
LZH pmax pmax
comp=Z,22nm,1.4s
STKA Stephens Creek 38.26 154 P 03 08 55.3 +0.3
STKA Stephens Creek 38.26 154 P P 03 08 55.4 +0.4
comp=Z,10nm,0.6s,baz=327,slow=8.1,SNR=23
comp=Z,10nm,0.6s
HHC Hu-ho-hao-te 39.83 347 *e*P **P 03 09 08.7 +1.0**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,79nm,4.8s
LSA Lhasa 40.66 316 IAmb IAmb 03 09 17.8
comp=Z,10nm,0.6s
GTA Gaotai 42.58 333 P P 03 09 31.4 +1.7
GTA pmax pmax
comp=Z,13nm,0.9s
CAN Canberra 44.63 149 P P 03 09 47.2 +1.5
SONM Songino Array 47.66 345 P P 03 10 09.3 +0.4
SONM Songino Array 47.66 345 P P 03 10 08.9 0.0
comp=Z,4.8nm,0.7s,baz=160,slow=8.7,SNR=21
comp=Z,4.8nm,0.7s
NIL Nilore 55.84 310 P 03 11 08.4 0.0
NIL IAmb IAmb 03 11 08.9
comp=Z,13nm,0.6s
KSH Kashi 56.45 317 P P 03 11 13.9 +1.2
KSH pmax pmax
comp=Z,8.0nm,0.8s
MKAR Makanchi Array 56.69 328 P P 03 11 13.7 -0.4
comp=Z,3.5nm,0.4s,baz=127,slow=8.0,SNR=39
MKAR PcP PcP **03 12 03.0 -1.1**
comp=Z,0.7nm,0.6s,baz=143,slow=3.6,SNR=2.2
comp=Z,3.5nm,0.4s
NRN Naryn 57.38 319 P P 03 11 19.2 -0.1
NRN IAmb IAmb 03 11 20.1
comp=Z,6.3nm,0.6s
AAK Ala-Archa 58.95 320 P 03 11 29.0 -0.8
KBL Kabul 59.41 309 P 03 11 32.5 -0.6
KBL IAmb IAmb 03 11 33.5
comp=Z,12nm,0.7s
GAR Garm 60.16 315 IAmb IAmb 03 11 38.8
comp=Z,26nm,1.1s
ZALV Zalesovo Beam 60.28 335 P P 03 11 36.7 -1.5
comp=Z,1.1nm,0.3s,baz=116,slow=6.8,SNR=6.8
comp=Z,1.1nm,0.3s
CHGR Chuyangaron 60.85 314 P P **03 11 41.6 -0.9**
CHGR IAmb IAmb 03 11 43.2
comp=Z,22nm,1.0s
SIMJ Simiganj 60.96 314 P 03 11 42.8 -0.5
SIMJ IAmb IAmb 03 11 43.5
comp=Z,7.1nm,0.8s
KURBB Kurchatov Arra 61.01 329 P P 03 11 42.6 -0.6
comp=Z,11nm,1.0s,baz=128,slow=5.9,SNR=46
comp=Z,11nm,1.0s
KURK Kurchatov 61.02 330 P 03 11 42.5 -0.8
KURK IAmb IAmb 03 11 43.8
comp=Z,16nm,0.8s
KK31 Karatay Array 61.76 319 P P 03 11 48.2 -0.1
KK31 IAmb IAmb 03 11 49.3
comp=Z,7.6nm,1.0s
KKAR Karatay Array 61.76 319 P P 03 11 48.0 -0.3
BVAR Borovoye Array 66.55 329 P P 03 12 16.6 -2.1
comp=Z,2.1nm,0.6s,baz=145,slow=8.2,SNR=12
comp=Z,2.1nm,0.6s
AB31 Akbulak array 70.91 322 P 03 12 44.3 -1.0
ABKAR Akbulak array 70.91 322 P 03 12 44.1 -1.2
BRTR Keskin Array B 87.99 310 P **P 03 14 15.4 -0.8**
comp=Z,0.7nm,0.8s,baz=123,slow=5.2,SNR=4.3
comp=Z,0.7nm,0.8s
ARCES ARCESS Array B 90.55 340 P P 03 14 24.7 -2.6
comp=Z,3.2nm,1.0s,baz=90,slow=3.6,SNR=3.9
comp=Z,3.2nm,1.0s
TORD Torodi Ar. Bea 119.63 286 PKP **PKPdf 03 20 11.6 -2.0**
comp=Z,0.2nm,0.4s,baz=132,slow=2.2,SNR=4.1

IDC ***13*** *03:45:26.5±0.8, 2.˚27N×128.˚82E, h0km, mb4.0/13, mbtmp4.0/13, MS3.3/2, Error ellipse: s-maj=43.7km s-min=13.3km az=73.0*
DJA ***13*** *03:45:31.8±0.5, 2.˚N±4.˚×12.˚9E±.˚, h11km±3km, M4.5/12, mB6.0/1, mb4.6/4, MLv4.5/12, Mw(mB)5.6/1*
NEIC ***13*** *03:45:33.3±2.1, 2.˚15N±0.˚05×128.˚7E±0.˚1, h35km±2km, mb4.4/10, Error ellipse: s-maj=20.1km s-min=5.9km az=71.0*
ISC 13 03:45:37.9±0.6**, 2˚00N**±0˚07×**128˚5E**±0˚1**, h92**km**, n43,**
σ1§**71**/32**, mb4.0**/17**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.67**	**223**		**Pn**	**03 46 03.5**	**-2.4**
TNTI	**Ternate**	**1.67**	**223**	P	**Pn**	**03 46 03.4**	**-2.5**
TNTI				S	**Sn**	**03 46 27.5**	**+0.3**
SGSI	**Sangihe**	**3.42**	**299**	P	Pn	03 46 21.6	-7.5
SWI	**Sorong**	**3.95**	**136**	P	Pn	03 46 31.9	-4.4
KMSI	**Cibinong**	**4.74**	**253**	P	**Pn**	**03 46 45.9**	**-1.2**
FAKI	**Fak Fak**	**6.15**	**143**	Pn	Pn	03 47 02.5	-3.7
FAKI	**Fak Fak**	**6.15**	**143**	P	Pn	03 47 03.0	-3.2
	0.3nm36nm,0.7s						
RKPI	**Ransiki, Papua**	**6.65**	**122**	P	Pn	03 47 09.6	-3.5
	10µm56nm,1.0s						
MRSI	**Marisa**	**6.74**	**257**	P	**Pn**	**03 47 13.7**	**-0.5**
TOLI2	**Tolitoli**	**7.78**	**264**	Pn	**Pn**	**03 47 26.0**	**-2.4**
JAY	**Jayapura**	**12.99**	**110**	LR	LR	03 52 54.7	
	comp=Z,104nm,19.7s,baz=352,slow=35						
MTN	**Manton Dam**	**14.97**	**170**	Pn	**Pn**	**03 49 01.5**	**-3.2**
MTN				IAmb	IAmb	03 49 21.8	
	comp=Z,36nm,1.4s						
KNRA	**Kununurra**	**17.56**	**179**	P	**P**	**03 49 35.9**	**-0.7**
KNRA				IAmb	IAmb	03 50 20.6	
	comp=Z,19nm,1.2s						

FITZ Fitzroy Crossi 20.17 188 P P 03 50 04.7 -0.4
FITZ Fitzroy Crossi 20.17 188 P P 03 50 04.9 -0.2
comp=Z,1.8nm,0.5s,baz=6.3,slow=8.4,SNR=8.0
comp=Z,1.8nm,0.5s
COEN Coen 21.51 138 P P 03 50 21.1 +1.5
COEN IAmb IAmb 03 50 48.3
comp=Z,27nm,1.4s
WRA Warramunga Arr 22.54 166 P P 03 50 29.4 -1.1
WRA Warramunga Arr 22.54 166 P P 03 50 30.4 0.0
comp=Z,1.9nm,0.5s,baz=348,slow=12,SNR=16
comp=Z,1.9nm,0.5s
WR8 Warramunga Arr 22.59 165 P P 03 50 31.1 +0.1
WR8 IAmb IAmb 03 50 37.4
comp=Z,12nm,0.8s
ASAR Alice Springs 26.04 169 P P 03 51 04.5 +1.7
ASAR Alice Springs 26.04 169 P P 03 51 03.9 +1.1
comp=Z,3.8nm,0.8s,baz=352,slow=8.3,SNR=20
ASAR LR LR 04 02 55.0
comp=Z,82nm,18.7s,baz=118,slow=40
comp=Z,3.8nm,0.8s
CMAR Chiang Mai Arr 33.28 301 P P 03 52 08.6 +1.6
comp=Z,0.8nm,0.3s,baz=112,slow=6.6,SNR=7.8
comp=Z,0.8nm,0.3s
KSRS Korea Array 35.29 359 P P 03 52 19.9 -4.0
comp=Z,0.4nm,0.5s,baz=181,slow=9.2,SNR=1.6
comp=Z,0.4nm,0.5s
BBOO Buckleboo 35.35 169 P P 03 52 25.8 +1.2
MJAR Matsushiro Arr 35.52 14 P P 03 52 23.0 -3.0
comp=Z,1.4nm,0.6s,baz=192,slow=9.5,SNR=2.5
comp=Z,1.4nm,0.6s
STKA Stephens Creek 35.91 161 P P 03 52 31.1 +1.7
STKA Stephens Creek 35.91 161 P P 03 52 30.7 +1.4
comp=Z,8.4nm,0.7s,baz=337,slow=8.7,SNR=21
comp=Z,8.4nm,0.7s
H11S3 WAKE ISLAND Hy 40.84 64 T T 04 36 34.5
baz=251,slow=75,SNR=34
H11S2 WAKE ISLAND Hy 40.86 64 T T 04 36 34.0
baz=251,slow=75,SNR=36
H11S1 WAKE ISLAND Hy 40.86 64 T T 04 36 31.6
baz=251,slow=75,SNR=25
LZDM Lanzhou Array 40.87 329 P P 03 53 13.9 +2.6
comp=Z,1.1nm,0.3s,baz=131,slow=9.8,SNR=1.7
H11N1 WAKE ISLAND Hy 41.44 62 T T 04 37 15.6
baz=250,slow=75,SNR=103
H11N2 WAKE ISLAND Hy 41.45 62 T T 04 37 16.4
baz=250,slow=75,SNR=45
H11N3 WAKE ISLAND Hy 41.45 62 T T 04 37 17.2
baz=250,slow=75,SNR=55
EVN Everest 47.45 307 P P 03 54 04.9 +0.5
EVN IAmb IAmb 03 54 06.2
comp=Z,5.1nm,0.8s
SONM Songino Array 49.50 341 P P 03 54 19.6 +0.4
comp=Z,0.7nm,0.6s,baz=148,slow=6.8,SNR=2.7
comp=Z,0.7nm,0.6s
MKAR Makanchi Array 59.98 325 P P 03 55 34.2 -0.6
MKAR Makanchi Array 59.98 325 P P 03 55 34.3 -0.5
comp=Z,1.8nm,0.7s,baz=112,slow=7.9,SNR=12
comp=Z,1.8nm,0.7s
ZALV Zalesovo Beam 62.93 333 P P 03 55 53.2 -1.3
comp=Z,0.5nm,0.3s,baz=107,slow=5.0,SNR=1.8
comp=Z,0.5nm,0.3s
KURBB Kurchatov Arra 64.15 327 P P 03 56 01.6 -1.0
comp=Z,3.3nm,0.9s,baz=125,slow=5.9,SNR=4.9
comp=Z,3.3nm,0.9s
BVAR Borovoye Array 69.73 327 P P 03 56 37.7 -0.2
comp=Z,1.9nm,0.8s,baz=122,slow=7.2,SNR=7.5
comp=Z,1.9nm,0.8s
AB31 Akbulak array 74.61 321 P P 03 57 08.2 +1.1
AB31 IAmb IAmb 03 57 17.9
comp=Z,2.5nm,1.1s
VNDA Vanda 81.50 173 P P 03 57 45.5 +0.9
comp=Z,0.6nm,0.8s,baz=319,slow=4.7,SNR=3.9
comp=Z,0.6nm,0.8s

NEIC ***13*** *03:59:51.8±1.9, 36.˚577N±0.˚009×121.˚17W±0.˚02, h5km±1km, Error ellipse: s-maj=3.2km s-min=2.1km az=235.0*
NCEDC 13 03:59:52.2±1.9**, 36˚60N**±0˚02×**121˚20W**±0˚03**, h6**km±6km**,**
ML3.3/57**, ML3.0**/120(NEIC)**, Error ellipse: s-maj=3.8km**
s-min=2.2km az=87.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJOM	**Mount Johnson**	**0.10**	**287**		Pg	03 59 54.5	+0.1
BJOM					Sg	03 59 56.1	+0.3
BBGB	**Big Mountain B**	**0.13**	**99**		Pg	03 59 55.9	+0.9
BBGB				IAML		03 59 58.1	
	comp=N,4µm,0.6s						
BBGB				IAML		03 59 59.1	
	comp=E,6µm,0.6s						
BJCM	**Johnson Can.**	**0.16**	**251**		Pg	03 59 55.5	0.0
SCZ	**Santa Cruz**	**0.16**	**269**		Pg	03 59 55.5	0.0
SCZ				IAML		03 59 58.3	
	comp=N,6µm,0.2s						
SCZ				IAML		03 59 58.6	
	comp=E,5µm,0.5s						
BSGM	**Shirttail Gulc**	**0.19**	**194**		Pg	03 59 55.8	-0.2
BSGM					Sg	03 59 58.5	-0.1
SAO	**San Andreas Ge**	**0.26**	**309**		Pg	03 59 57.4	+0.1
BSRM	**Salinas Radio**	**0.27**	**285**		Pg	03 59 57.5	0.0
FRP	**Fremont Peak**	**0.28**	**303**		Pg	03 59 57.7	0.0
BSMM	**Soledad Missio**	**0.28**	**221**		Pg	03 59 57.9	+0.1
BCWM	**Chews Ridge**	**0.42**	**225**		Pg	04 00 00.3	0.0
HFEM	**San Felipe**	**0.42**	**337**		Pb	04 00 01.2	-0.8
HTUM	**Tustin Road**	**0.42**	**303**		Pg	04 00 00.3	-0.1
HERM	**Elkhorn Road**	**0.46**	**296**		Pg	04 00 01.2	+0.1
HPCM	**Pacheco Lake**	**0.46**	**352**		Pg	04 00 02.0	+0.8
BPRM	**Ponciano Ridge**	**0.47**	**246**		Pg	04 00 01.2	-0.1
SLD	**San Luis Dam**	**0.47**	**358**		Pg	04 00 02.0	+0.7
FORD	**Fort Ord Natur**	**0.48**	**281**		Pg	04 00 01.9	+0.3
HCAM	**Canada Road**	**0.48**	**332**		Pb	04 00 02.9	-0.3
HCBM	**Chamberlain**	**0.50**	**312**		Pg	04 00 01.8	-0.1
HCOM	**Corn Cob Canyo**	**0.50**	**305**		Pg	04 00 01.9	+0.1
PMPB	**Monarch Peak**	**0.50**	**140**		Pg	04 00 02.0	+0.2
PMPB				IAML		04 00 12.3	
	comp=N,2µm,0.9s						
PMPB				IAML		04 00 15.9	
	comp=E,2µm,1.0s						
PCCM	**Crazy Canyon**	**0.51**	**177**		Pg	04 00 02.2	+0.2
GHS	**Gilroy Hot Spr**	**0.53**	**338**		Pg	04 00 03.3	+0.8
HLPM	**Lions Peak**	**0.56**	**322**		Pg	04 00 03.4	+0.4
HULI	**Fort Hunter Li**	**0.58**	**183**		Pg	04 00 03.2	-0.1
HULI				IAML		04 00 18.4	
	comp=N,1µm,0.7s						
HULI				IAML		04 00 20.1	
	comp=E,738nm,0.7s						
SCKWR	**San Luis Creek**	**0.59**	**10**		Pb	04 00 05.0	+0.1
JELB	**Ellicott, Sant**	**0.60**	**303**		Pg	04 00 03.8	0.0
PPTM	**Peach Tree Val**	**0.62**	**142**		Pg	04 00 04.1	-0.1
PSAM	**San Ardo**	**0.63**	**156**		Pg	04 00 04.0	-0.2
CADM	**Anderson Res.**	**0.66**	**329**		Pg	04 00 05.3	+0.4
JLAB	**Laurel Hill**	**0.70**	**322**		Pg	04 00 06.0	+0.3
PSMM	**Smith Mountain**	**0.72**	**137**		Pg	04 00 06.1	+0.1
CCOB	**Coe Ranch Numb**	**0.76**	**330**		Pb	04 00 07.6	-0.3
PHPM	**Hope Ranch**	**0.78**	**142**		Pg	04 00 06.7	-0.5
ARN	**Arnold Ranch**	**0.79**	**340**		Pb	04 00 08.1	-0.4
MHC	**Mount Hamilton**	**0.82**	**334**		Pb	04 00 08.5	-0.5
PKD	**Bear Valley Ra**	**0.84**	**141**		Pg	04 00 07.8	-0.6
PANM	**San Antonio Re**	**0.85**	**164**		Pg	04 00 08.3	-0.3
PVCM	**Vineyard Canyo**	**0.86**	**141**		Pg	04 00 08.3	-0.5
JJOM	**Saint Joseph's**	**0.87**	**314**		Pg	04 00 08.6	-0.3
SCCB	**Santa Clara Co**	**0.87**	**322**		Pg	04 00 09.1	+0.2
PPO	**Portuguese Can**	**0.87**	**147**		Pg	04 00 08.8	-0.1
MTOS	**Mt Oso, Westle**	**0.91**	**354**		Pb	04 00 10.4	0.0
CMLM	**Mount Lewis**	**0.95**	**338**		Pg	04 00 10.6	+0.1
CTM	**Castle Mountai**	**0.96**	**133**		Pb	04 00 11.7	+0.3
PHFM	**Heflinger Ranc**	**0.96**	**138**		Pg	04 00 10.4	-0.3
CALM	**Calaveras Res.**	**0.98**	**331**		Pg	04 00 10.8	-0.2
RAMR	**Ramage Ranch**	**1.00**	**164**		Pg	04 00 10.6	-0.8
MYLM	**Yosemite Lake**	**1.00**	**38**		Pg	04 00 11.4	0.0
LCUV	**Le Cuvier**	**1.02**	**158**		Pg	04 00 11.1	-0.6
JSJM	**St Joseph**	**1.02**	**316**		Pg	04 00 11.3	-0.6
LEGD	**La Grand CA**	**1.04**	**54**		Pg	04 00 11.8	-0.4
JBMM	**Black Mountain**	**1.05**	**313**		Pg	04 00 11.6	-0.7
CSTL	**Corral Hollow**	**1.06**	**347**		Pb	04 00 12.9	-0.2

JRSC	**Jasper Ridge**	**1.16**	**314**			Pg	04 00 12.6	-1.8
PAGB	**Antelope Grade**	**1.16**	**138**			Pg	04 00 13.2	-1.2
CBZL	**Buffer Zone**	**1.17**	**339**			Pg	04 00 14.4	-0.2
MHDM	**Hidden Dam**	**1.17**	**63**			Pg	04 00 13.7	-0.9
BGH	**Bear Gulch**	**1.18**	**309**			Pg	04 00 13.3	-1.5
CNIC	**Niles Canyon**	**1.18**	**329**			Pg	04 00 13.5	-1.3
TSCN	**Private Proper**	**1.26**	**147**			Pg	04 00 14.7	-1.7
CBSNC	**Byron Hot Spri**	**1.27**	**344**			Pn	04 00 15.7	-0.8
CMOB	**Morgan Territo**	**1.30**	**338**			Pg	04 00 18.6	+1.5
JCHM	**Cahill Ridge**	**1.31**	**315**			Pn	04 00 14.9	-2.2
CLCB	**Lake Chabot**	**1.33**	**329**			Pn	04 00 15.9	-1.5
JCPM	**Coyote Point**	**1.33**	**318**			Pn	04 00 15.3	-2.0
CSLM	**San Leandro Hi**	**1.34**	**327**			Pn	04 00 16.9	-0.5
BUCR	**Buckhorn Ranch**	**1.36**	**38**			Pn	04 00 17.1	-0.7
BUCR					IAML		04 00 35.3	
	comp=E,241nm,0.7s							
BUCR					IAML		04 00 36.3	
	comp=N,250nm,0.8s							
PBPM	**Bitterwater Pu**	**1.36**	**138**			Pn	04 00 16.8	-1.1
SAC	**San Andreas**	**1.38**	**316**			Pn	04 00 16.0	-2.1
DCD	**Diablo Creek**	**1.42**	**168**			Pg	04 00 19.2	-0.1
JSBM	**San Bruno Moun**	**1.44**	**319**			Pn	04 00 16.4	-2.5
JPRM	**Presidio of Sa**	**1.57**	**320**			Pn	04 00 17.8	-2.8
CMB	**Columbia Colle**	**1.57**	**24**			Pn	04 00 20.0	-0.7
CMB					IAML		04 00 45.5	
	comp=N,172nm,0.7s							
CMB					IAML		04 00 45.9	
	comp=E,192nm,1.2s							
CPIM	**Pinole Ridge**	**1.61**	**330**			Pn	04 00 19.5	-1.6
CPMM	**Point Molate**	**1.66**	**325**			Pn	04 00 20.4	-1.4
SNT	**Sears Point**	**1.87**	**328**			Pn	04 00 23.2	-1.5
VES	**Vestal, Richgr**	**1.87**	**113**			Pn	04 00 23.1	-1.6
VES					IAML		04 00 52.0	
	comp=N,139nm,0.8s							
VES					IAML		04 00 55.7	
	comp=E,120nm,0.7s							
WELL	**Weller Preserv**	**1.87**	**11**			Pn	04 00 24.4	-0.5
WELL					IAML		04 00 52.4	
	comp=E,137nm,0.8s							
WELL					IAML		04 00 53.6	
	comp=N,90nm,0.4s							
MRDM	**Red Cones**	**1.98**	**59**			Pb	04 00 28.4	-0.4
MDPB	**Devils Postpil**	**1.98**	**58**			Pb	04 00 28.4	-0.5
MDPB	**Devils Postpil**	**1.98**	**58**		IAML		04 01 00.5	
	comp=E,159nm,1.0s							
MMPM	**Mammoth Pass**	**2.01**	**59**			Pb	04 00 28.1	-1.2
CVS	**Carmenet Viney**	**2.01**	**330**			Pn	04 00 24.9	-1.8
CVS					IAML		04 01 02.5	
	comp=E,96nm,0.7s							
CVS					IAML		04 01 03.1	
	comp=N,79nm,0.6s							
MCCM	**Marconi Confer**	**2.04**	**320**			Pn	04 00 25.0	-2.1
MCCM					IAML		04 01 04.7	
	comp=E,137nm,0.9s							
MCCM					IAML		04 01 12.3	
	comp=N,102nm,0.9s							
AFDM	**Forest Hills D**	**2.35**	**4**			Pn	04 00 31.3	-0.1
AFDM					IAML		04 01 18.6	
	comp=N,56nm,0.6s							
WAKR	**Walker**	**2.36**	**36**			Pn	04 00 33.1	+1.4
WAKR					IAML		04 01 09.6	
	comp=N,118nm,1.0s							
ISA	**Isabella, Lake**	**2.40**	**112**			Pn	04 00 32.3	+0.3
ISA					IAML		04 01 06.8	
	comp=N,67nm,0.9s							
TIN	**Tinemaha, Big**	**2.42**	**78**			Pn	04 00 34.4	+1.9
CWC	**Cottonwood Cre**	**2.52**	**93**			Pn	04 00 34.6	+0.8
DSP	**Deep Springs**	**2.70**	**72**			Pb	04 00 38.5	-2.3
DSP					IAML		04 01 29.6	
	comp=E,63nm,0.9s							
DSP					IAML		04 01 33.3	
	comp=N,49nm,0.9s							
HOPS	**Hopland Field**	**2.81**	**329**	Pn	Pn		04 00 36.0	-1.7
RYN	**Ryan**	**2.94**	**46**		IAML		04 01 27.6	
	comp=N,52nm,0.8s							
NVAR	**Mina Array Bea**	**2.94**	**51**			Pb	04 00 44.0	-1.2
ORV	**Oroville**	**2.96**	**355**			Pn	04 00 40.1	+0.3
ORV					IAML		04 01 35.7	
	comp=E,39nm,1.7s							
LRMC	**Laurel Mtn Rad**	**3.06**	**110**		IAML		04 01 27.6	
	comp=N,32nm,1.1s							
WSHM	**Spangler Hills**	**3.16**	**107**		IAML		04 02 10.6	
	comp=N,42nm,0.3s							
WSHM					IAML		04 02 10.8	
	comp=N,38nm,0.2s							
GMN	**Gold Mountain**	**3.23**	**76**		IAML		04 01 40.8	
	comp=E,26nm,1.0s							
GMN					IAML		04 01 41.6	
	comp=N,30nm,1.0s							
BEKR	**Beckworth**	**3.33**	**11**		IAML		04 01 38.6	
	comp=N,28nm,0.7s							
BEKR					IAML		04 01 44.1	
	comp=E,47nm,1.1s							
PAHR	**Pah Rah Range**	**3.42**	**24**		IAML		04 01 48.5	
	comp=N,29nm,1.2s							
PAHR					IAML		04 01 49.3	
	comp=E,36nm,1.3s							
MWC	**Mount Wilson**	**3.49**	**132**		IAML		04 01 48.2	
	comp=E,21nm,1.9s							
FURC	**Furnace Creek,**	**3.49**	**91**		IAML		04 01 49.1	
	comp=E,38nm,1.1s							
FURC					IAML		04 01 50.9	
	comp=N,41nm,1.2s							
TPH	**Tonopah**	**3.49**	**64**		IAML		04 01 53.2	
	comp=N,45nm,1.1s							
QSM	**Queen of Sheba**	**3.56**	**99**		IAML		04 01 56.4	
	comp=N,27nm,0.9s							
GWY	**Greenwater Val**	**3.68**	**95**		IAML		04 02 03.4	
	comp=E,18nm,1.0s							
O03E	**Paynes Creek**	**3.72**	**353**		IAML		04 02 04.4	
	comp=N,28nm,0.8s							
GSC	**Goldstone, Bar**	**3.79**	**109**		IAML		04 02 03.9	
	comp=E,23nm,0.7s							
GSC					IAML		04 02 10.8	
	comp=N,20nm,1.0s							
TPNV	**Topopah Spring**	**3.99**	**84**		IAML		04 02 14.2	
	comp=N,24nm,1.4s							
TPNV					IAML		04 02 20.0	
	comp=N,26nm,1.1s							
R11B	**Troy Canyon, C**	**4.79**	**67**		IAML		04 02 28.4	
	comp=N,8.5nm,2.7s							
BELC	**Belle Mtn. Jos**	**4.98**	**120**		IAML		04 02 35.8	
	comp=E,11nm,2.1s							

ASRS ***13*** *04:08:01.6±0.3,51°N±1°×8°7E±°, h13km±6km, MLh5.4/9, Error ellipse: s-maj=3.5km s-min=2.5km az=48.4, confirmed*

IDC ***13*** *04:08:03.2±0.4,50.6′61N×87.4′45E, h0km, mb4.6/34, mbtmp4.6/41, ML4.4/8, MS4.4/77, Error ellipse: s-maj=8.5km s-min=6.7km az=176.0*

MOS ***13*** *04:08:03.4±1.4, 50.5′53N×87.4′40E, h10km, mb5.1/43, MS4.6/25, Error ellipse: s-maj=4.4km s-min=3.2km az=83.3*

MOS Felt (II-III) at Zyryanovsk, Ridder, Ust'-Kamenogorsk.

GCMT ***13*** *04:08:04.5±0.1,50.57N±0.01′×87.45E±0.01′, h21km, MW5.1/137, Moment Tensor Solution. s66,c97; s137,c230; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.49±.12; Mθθ=5.55±.10; Mφφ=6.04±.11; Mrθ=0.45±.20; Mθφ=2.11±.09; Mφr=0.97±.18; Best double couple: M=6.25000×10¹⁶ NP1=φs145.00000°, δ82.00000°, λ176.00000°. NP2=φs235.00000°, δ86.00000°, λ8.00000°. Principal axes: T 6.5640, Plg8.0000°, Azm100.0000°; N -0.6330, Plg81.0000°, Azm261.0000°; P -5.9360, Plg3.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***13*** *04:08:04.0,50.6′60N×87.5′50E, h10km, mB5.1/23, mb4.7/74, ML5.5/7, Ms5.4/86, Ms7 5.0/84*

GII ***13*** *04:08:04.7±0.0,50.5′57N×87.3′38E, h10km, confirmed*

NEIC ***13*** *04:08:05.5±2.0,50.6′62N±0.06′×87.4′E±0.1′, h10km±1km, mb5.0/199, Error ellipse: s-maj=12.6km s-min=9.5km az=107.0*

SOME ***13*** *04:08:06.3,50.27N×88.10E, h10km*

NNC ***13*** *04:08:06.9±1.5,50.69N×86.90E, h0km, mb5.5, mpv5.4, Error ellipse: s-maj=12.6km s-min=7.6km az=91.0*

ISC 13 04:08:04.6±0.4,50.54N±0.02×87.37E±0.02, h7km±2km, h7km:pP-P,n624,σ2.07/634,mb4.9/192,MS4.6/121, 38C-33D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHBI	**Chibit, Altay**	**0.24**	**159**	Pg	**Pg**	**Pg**	**04 08 07.1**	**-2.4**
CHBI				Sg	**Sg**	**Sg**	**04 08 09.8**	**-2.9**
CHBI	**Chibit, Altay**	**0.24**	**159**	PG	**Pg**	**Pg**	**04 08 07.0**	**-2.4**
AKAR	**Aktash**	**0.27**	**143**	Pg	**Pg**	**Pg**	**04 08 07.3**	**-2.7**
AKAR				Sg	**Sg**	**Sg**	**04 08 10.5**	**-3.1**
AKAR	**Aktash**	**0.27**	**143**	PG	**Pg**	**Pg**	**04 08 07.3**	**-2.7**
ULGR	**Ulagan, Altay**	**0.39**	**77**	Pg	**Pg**	**Pg**	**04 08 09.5**	**-2.8**
ULGR				Sg	**Sg**	**Sg**	**04 08 14.3**	**-3.1**
ULGR	**Ulagan, Altay**	**0.39**	**77**	PG	**Pg**	**Pg**	**04 08 09.4**	**-2.8**
CUR	**Chagan-Uzun**	**0.77**	**124**	Pg	**Pg**	**Pg**	**04 08 16.1**	**-3.3**
CUR				Sg	**Sg**	**Sg**	**04 08 26.5**	**-2.9**
CUR	**Chagan-Uzun**	**0.77**	**124**	PG	**Pg**	**Pg**	**04 08 15.9**	**-3.5**
CUR				S	**Sg**	**Sg**	**04 08 26.1**	**-3.3**
DGZ	**Jazzator, Alta**	**0.84**	**177**	Pg	**Pg**	**Pg**	**04 08 18.2**	**-2.5**
DGZ				Sg	**Sg**	**Sg**	**04 08 28.8**	**-2.9**
DGZ	**Jazzator, Alta**	**0.84**	**177**	PG	**Pg**	**Pg**	**04 08 18.2**	**-2.5**
DGZ							04 08 28.7	
ELDR	**Elanda**	**1.06**	**311**	Pg	**Pg**	**Pg**	**04 08 23.2**	**-1.8**
ELDR				Sg	**Sg**	**Sg**	**04 08 37.1**	**-1.5**
ELDR	**Elanda**	**1.06**	**311**	PG	**Pg**	**Pg**	**04 08 23.1**	**-1.8**
ELDR							04 08 37.1	
YALR	**Yailyu, Altay**	**1.24**	**7**	Pg	**Pb**	**Pb**	**04 08 25.9**	**-2.6**
YALR				Sg	**Sg**	**Sg**	**04 08 42.1**	**-2.5**
YALR	**Yailyu, Altay**	**1.24**	**7**	PG	**Pb**	**Pb**	**04 08 25.1**	**-3.4**
YALR				S	**Sg**	**Sg**	**04 08 41.2**	**-3.4**
ARTR	**Artybash**	**1.26**	**358**	Pg	**Pn**	**Pn**	**04 08 26.2**	**-2.6**
ARTR				Sg	**Sg**	**Sg**	**04 08 43.7**	**-1.6**
ARTR	**Artybash**	**1.26**	**358**	PG	**Pn**	**Pn**	**04 08 26.1**	**-2.6**
ARTR							04 08 43.6	
UKR	**Ust'-Kan**	**1.70**	**285**	Pg	**Pn**	**Pn**	**04 08 35.1**	**+0.3**
UKR				Sg	**Sb**	**Sb**	**04 08 58.2**	**+0.4**
UKR	**Ust'-Kan**	**1.70**	**285**	PN	**Pn**	**Pn**	**04 08 35.0**	**+0.3**
UKR							04 08 58.2	
TEL	**Teeli**	**1.86**	**74**	Pg	**Pn**	**Pn**	**04 08 35.9**	**-1.1**
TEL				Sg	**Sn**	**Sn**	**04 09 01.4**	**+0.5**
TEL	**Teeli**	**1.86**	**74**	PN	**Pn**	**Pn**	**04 08 35.9**	**-1.1**
TEL							04 09 01.4	
ELT	**Eltsovka**	**2.82**	**346**	Pg	**Pn**	**Pn**	**04 08 51.6**	**+1.5**
ELT				Sg	**Sb**	**Sb**	**04 09 30.3**	**+0.4**
ELT	**Eltsovka**	**2.82**	**346**	PN	**Pn**	**Pn**	**04 08 50.9**	**+0.8**
ELT				S	**Sb**	**Sb**	**04 09 27.0**	**-2.9**
LUZB	**Luzhba, Kemero**	**3.27**	**16**	PN	**Pn**	**Pn**	**04 08 57.0**	**+0.7**
LUZB				S	**Sb**	**Sb**	**04 09 42.9**	**0.0**
VEH	**Verkhnyaya Baz**	**3.28**	**33**	PN	**Pn**	**Pn**	**04 08 57.1**	**+0.6**
VEH				S	**Sb**	**Sb**	**04 09 39.5**	**-3.8**
DJO	**Djoy, Khakassi**	**3.29**	**45**	PN	**Pn**	**Pn**	**04 08 56.6**	**0.0**
DJO				S	**Sn**	**Sn**	**04 09 39.4**	**+3.5**
DJOS	**Djoyskaya Sosn**	**3.38**	**46**	PN	**Pn**	**Pn**	**04 08 59.2**	**+1.4**
DJOS				S	**Sb**	**Sb**	**04 09 43.8**	**-2.3**
CERR	**Cheremushki**	**3.42**	**46**	PN	**Pn**	**Pn**	**04 08 59.5**	**+1.1**
CERR				S	**Sb**	**Sb**	**04 09 45.4**	**-2.0**
ZSN	**Zaisan**	**3.50**	**209**	*e*P	**Pn**	**Pn**	**04 09 02.2**	**+2.7**
	1μm,0.7s							
ZSN				*e*S	**Sb**	**Sb**	**04 09 47.0**	**-2.7**
	10μm,1.1s							
ZSN	**Zaisan**	**3.50**	**209**	*e*P	**Pn**	**Pn**	**04 09 01.9**	**+2.3**
ZSN	**Zaisan**	**3.50**	**209**	*e*PN	**Pn**	**Pn**	**04 09 01.8**	**+2.3**
ERU	**Erunakovo, Kuz**	**3.61**	**0**	PN	**Pn**	**Pn**	**04 09 01.9**	**+0.9**
ERU				S	**Sn**	**Sn**	**04 09 47.0**	**+3.2**
ZAA0	**Zalesovo Array**	**3.76**	**336**		**Pn**	**Pn**	**04 09 03.0**	**0.0**
ZAA0	**Zalesovo Array**	**3.76**	**336**	⇓Pn	**Pn**	**Pn**	**04 09 02.9**	**0.0**
	51nm,0.6s							
ZAA0				⇑Lg	Lg	Lg	04 09 59.8	
	630nm,0.8s							
ZALV	**Zalesovo Beam**	**3.76**	**336**		**Pn**	**Pn**	**04 09 03.0**	**0.0**
ZALV	**Zalesovo Beam**	**3.76**	**336**	Pn	**Pn**	**Pn**	**04 09 03.5**	**+0.6**
	126nm,0.3s,baz=157,slow=14,SNR=837							
ZALV				Sn	**Sn**		**04 09 47.9**	**+0.4**
	200nm,0.3s,baz=150,slow=22,SNR=7.2							
ZALV				Lg	Lg	Lg	04 09 59.9	
	461nm,0.3s,baz=161,slow=25,SNR=10							
	400nm,0.4s							
BJR3	**Bachatsky-3 (S**	**3.77**	**349**	PN	**Pn**	**Pn**	**04 09 04.5**	**+1.4**
SALR	**Pechorkino, Sa**	**4.02**	**346**	PN	**Pn**	**Pn**	**04 09 07.2**	**+0.7**
SALR				S	**Sn**	**Sn**	**04 09 57.2**	**+3.4**
ARDR	**Aradan**	**4.30**	**59**	PN	**Pn**	**Pn**	**04 09 10.8**	**+0.3**
SEM	**Semipalatinsk**	**4.55**	**271**	*e*P	**Pb**	**Pb**	**04 09 21.4**	**-3.5**
	338nm,0.3s							
SEM				*e*S	**Sb**	**Sb**	**04 10 20.5**	**+0.5**
	945nm,0.6s							
KHAR	**Kharino, NSO,**	**4.69**	**332**	PN	**Pn**	**Pn**	**04 09 14.9**	**-0.8**
KHAR				S	**Sn**	**Sn**	**04 10 11.3**	**+1.6**
KEM	**Kemerovo**	**4.88**	**351**	PN	**Pn**	**Pn**	**04 09 16.7**	**-1.6**
BSTK	**Bystrovka, Nov**	**4.96**	**326**	PN	**Pn**	**Pn**	**04 09 19.3**	**-0.1**
NVSII	**Novosibirsk**	**4.99**	**331**	PN	**Pn**	**Pn**	**04 09 18.6**	**-1.3**
NVS	**Novosibirsk**	**4.99**	**331**	PN	**Pn**	**Pn**	**04 09 18.6**	**-1.3**
MK31	**Makanchi Array**	**5.03**	**224**	⇑Pn	**Pn**	**Pn**	**04 09 23.6**	**+3.0**
	1μm,0.7s,baz=46,slow=12,SNR=6567							
MK31				⇑Sn	**Sn**	**Sn**	**04 10 23.5**	**+4.5**
	409nm,0.5s,baz=60,slow=28,SNR=6.7							
MK31				⇓Lg	Lg	Lg	04 10 43.1	
	6μm,1.0s,baz=50,slow=31,SNR=8.2							
MK31	**Makanchi Array**	**5.03**	**224**	*ce*PN	**Pn**	**Pn**	**04 09 23.3**	**+2.7**
MKAR	**Makanchi Array**	**5.03**	**224**	Pn	**Pn**	**Pn**	**04 09 23.3**	**+2.7**
	100nm,0.3s,baz=42,slow=13,SNR=1238							
MKAR				Sn	**Sn**	**Sn**	**04 10 20.9**	**+1.9**
	70nm,0.3s,baz=54,slow=25,SNR=3.8							
MKAR				Lg	Lg	Lg	04 10 41.9	
	291nm,0.3s,baz=23,slow=29,SNR=4.8							
MKAR	**Makanchi Array**	**5.03**	**224**	*i* PN	**Pn**	**Pn**	**04 09 23.2**	**+2.7**
MKAR				pmax	pmax			
	comp=Z,818nm,0.5s							
BRCR	**Berchikul'**	**5.14**	**6**	PN	**Pn**	**Pn**	**04 09 22.5**	**+0.5**
MAKZ	**Makanchi**	**5.16**	**226**	Pn	**Pn**	**Pn**	**04 09 25.3**	**+2.9**
MAKZ	**Makanchi**	**5.16**	**226**	Pn	**Pn**	**Pn**	**04 09 25.0**	**+2.7**
	comp=Z,2μm,0.8s							
MAKZ				Sn	**Sn**	**Sn**	**04 10 24.7**	**+2.5**
	comp=Z,854nm,0.5s							
MAKZ				⇓Lg	Lg	Lg	04 10 45.8	
	comp=Z,5μm,1.2s							
MAKZ	**Makanchi**	**5.16**	**226**	PN	**Pn**	**Pn**	**04 09 24.6**	**+2.2**
MAKZ				S	**Sn**	**Sn**	**04 10 23.4**	**+1.2**
KURK	**Kurchatov**	**5.57**	**275**		**Pn**	**Pn**	**04 09 28.1**	**+0.2**
KURK	**Kurchatov**	**5.57**	**275**	⇑Pn	**Pn**	**Pn**	**04 09 28.0**	**+0.2**
	comp=Z,75nm,0.8s							
KURK				⇓Lg	Lg	Lg	04 10 56.1	
	comp=Z,674nm,0.6s							
KURK	**Kurchatov**	**5.57**	**275**	P	**Pn**	**Pn**	**04 09 29.8**	**+1.9**
KURK				S	**Sn**	**Sn**	**04 10 37.0**	**+4.9**
KURK	**Kurchatov**	**5.57**	**275**	*i* PN	**Pn**	**Pn**	**04 09 28.4**	**+0.5**
KURK				MLR	MLR			
	comp=Z,2μm,12.0s							
KURBB	**Kurchatov Arra**	**5.63**	**274**	⇓Pn	**Pn**	**Pn**	**04 09 29.1**	**+0.3**
	comp=Z,207nm,0.4s							
KURBB				⇓Sn	**Sn**	**Sn**	**04 10 33.0**	**-0.6**
	comp=Z,901nm,0.6s							
KURBB				⇓Lg	Lg	Lg	04 10 56.2	
	comp=Z,4μm,0.7s							
KURBB	**Kurchatov Arra**	**5.63**	**274**	Pn	**Pn**	**Pn**	**04 09 29.2**	**+0.5**
	comp=Z,16nm,0.3s,baz=86,slow=14,SNR=455							
KURBB				Sn	**Sn**	**Sn**	**04 10 32.3**	**-1.3**
	comp=Z,17nm,0.3s,baz=73,slow=19,SNR=5.3							
KURBB				Lg	Lg	Lg	04 11 01.2	
	comp=Z,38nm,0.3s,baz=88,slow=31,SNR=3.4							
KURBB				LR	LR	LR	04 11 30.5	
	comp=Z,1μm,21.5s,baz=108,slow=36							
	comp=Z,149nm,0.5s							
KURBB	**Kurchatov Arra**	**5.63**	**274**	PN	**Pn**	**Pn**	**04 09 29.6**	**+0.9**
KURBB							04 10 36.5	
WMQ	**Urumqi**	**6.72**	**178**	Pn	**Pn**	**Pn**	**04 09 47.8**	**+4.0**
WMQ				Sn	**Sn**	**Sn**	**04 11 00.6**	**-0.1**
WMQ				smax	smax	smax		
	comp=Z,3μm,1.3s							
WMQ				smax	smax	smax		
	comp=Z,3μm,1.1s							
TDK	**Taldyqorghan**	**8.19**	**231**	*e*P	**Pn**	**Pn**	**04 10 05.1**	**+1.2**
TDK	**Taldyqorghan**	**8.19**	**231**	*e*P	**Pn**	**Pn**	**04 10 05.1**	**+1.2**
PDGK	**Podgornoye**	**9.00**	**220**	⇓Pn	**Pn**	**Pn**	**04 10 15.2**	**+0.2**
	comp=Z,395nm,0.6s							
PDGK				⇓Sn	**Sn**	**Sn**	**04 11 57.4**	**+0.7**
	comp=Z,478nm,0.7s							
PDGK				⇓Lg	Lg	Lg	04 12 49.9	
	comp=Z,3μm,1.4s							
PDGK	**Podgornoye**	**9.00**	**220**	P	**Pn**	**Pn**	**04 10 15.3**	**+0.2**
PDGK							04 11 54.4	
ARXS	**Arharly**	**9.05**	**229**	*e*P	**Pn**	**Pn**	**04 10 16.2**	**+0.5**
SHLS	**Shalkode**	**9.15**	**219**	*e*P	**Pn**	**Pn**	**04 10 16.4**	**-0.8**
SHLS	**Shalkode**	**9.15**	**219**	*e*P	**Pn**	**Pn**	**04 10 16.4**	**-0.8**
UZB	**Uzynbulak**	**9.34**	**221**	*e*P	**Pn**	**Pn**	**04 10 20.7**	**+0.8**
UZB	**Uzynbulak**	**9.34**	**221**	*e*P	**Pn**	**Pn**	**04 10 20.6**	**+0.8**
BRZS	**Berezniki**	**9.43**	**272**	*e*P	**Pn**	**Pn**	**04 10 19.6**	**-1.2**
BRZS	**Berezniki**	**9.43**	**272**	*e*P	**Pn**	**Pn**	**04 10 19.6**	**-1.2**
PRZ	**Przheval'sk**	**10.15**	**221**		**Pn**	**Pn**	**04 10 34.9**	**+4.0**
PRZ	**Przheval'sk**	**10.15**	**221**	P	**Pn**	**Pn**	**04 10 34.9**	**+4.0**
ZAK	**Zakamensk**	**10.15**	**85**	*e*P	**Pn**	**Pn**	**04 10 34.4**	**+3.6**
ZAK				pmax	pmax			
	comp=Z,444nm,1.7s							
KNDC	**Almaty**	**10.21**	**228**	⇑Pn	**Pn**	**Pn**	**04 10 31.9**	**+0.3**
	comp=Z,476nm,0.8s							
KNDC				⇓Lg	Lg	Lg	04 13 27.7	
	comp=Z,4μm,1.3s							
KNDC	**Almaty**	**10.21**	**228**	P	**Pn**	**Pn**	**04 10 31.9**	**+0.3**
MDOK	**Medeo**	**10.21**	**228**	*e*P	**Pn**	**Pn**	**04 10 31.9**	**+0.2**
MDOK	**Medeo**	**10.21**	**228**	*e*P	**Pn**	**Pn**	**04 10 31.9**	**+0.2**
TNSS	**Tian-Shan**	**10.35**	**228**	*e*P	**Pn**	**Pn**	**04 10 34.4**	**+0.5**
TNSS	**Tian-Shan**	**10.35**	**228**	*e*P	**Pn**	**Pn**	**04 10 34.4**	**+0.5**
BTLS	**Baital**	**10.51**	**244**	*e*P	**Pn**	**Pn**	**04 10 36.1**	**+0.5**
BTLS	**Baital**	**10.51**	**244**	*e*P	**Pn**	**Pn**	**04 10 36.1**	**+0.5**
IRK	**Irkutsk**	**10.70**	**74**	*e*P	**Pn**	**Pn**	**04 10 38.8**	**+0.5**
IRK				pmax	pmax			
	comp=Z,97nm,0.1s							
BVA0	**Borovoye Array**	**10.81**	**290**	⇑Pn	**Pn**	**Pn**	**04 10 38.7**	**-1.0**
	comp=Z,52nm,0.8s,baz=95,slow=14,SNR=136							
BVA0				⇑Sn	**Sn**		**04 12 36.9**	**-4.0**
	comp=Z,108nm,0.7s,baz=104,slow=24,SNR=5.5							
BVA0	**Borovoye Array**	**10.81**	**290**	P	**Pn**	**Pn**	**04 10 38.7**	**-1.0**
BVA0				S	**Sn**	**Sn**	**04 12 36.9**	**-4.0**
BVAR	**Borovoye Array**	**10.81**	**290**	Pn	**Pn**	**Pn**	**04 10 38.6**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=98,slow=15,SNR=81							
BVAR				Sn	**Sn**	**Sn**	**04 12 36.0**	**-4.9**
	comp=Z,3.4nm,0.3s,baz=104,slow=24,SNR=8.3							
BVAR				Lg	Lg	Lg	04 13 41.3	
	baz=87,slow=31							
BVAR				LR	LR	LR	04 15 03.6	
	comp=Z,4μm,20.2s,baz=93,slow=39							
	comp=Z,34nm,0.5s							
KDJ	**Kajisay**	**10.96**	**224**		**Pn**	**Pn**	**04 10 44.7**	**+2.7**
KDJ	**Kajisay**	**10.96**	**224**	P	**Pn**	**Pn**	**04 10 44.7**	**+2.7**
TARG	**Taragay, Kyrgy**	**11.02**	**221**		**Pn**	**Pn**	**04 10 45.7**	**+2.7**
TARG	**Taragay, Kyrgy**	**11.02**	**221**	P	**Pn**	**Pn**	**04 10 45.7**	**+2.7**
TKM2	**Tokmak 2**	**11.09**	**231**	P	**Pn**	**Pn**	**04 10 46.1**	**+2.3**
	SNR=31							
ULHL	**Ulahol**	**11.29**	**227**	P	**Pn**	Pn	04 10 51.8	+5.2
	SNR=87							
USP	**Ospenovka**	**11.41**	**235**	P	**Pn**	**Pn**	**04 10 50.1**	**+2.1**
	SNR=26							
KBK	**Karagaybulak**	**11.61**	**232**	P	**Pn**	**Pn**	**04 10 51.3**	**+0.4**
	SNR=19							
AAK	**Ala-Archa**	**11.86**	**233**	P	**Pn**	**Pn**	**04 10 58.2**	**+4.0**
	SNR=9.4							
AAK	**Ala-Archa**	**11.86**	**233**			**Pn**	**04 10 53.6**	**-0.6**
AAK	**Ala-Archa**	**11.86**	**233**	⇑Pn	**Pn**	**Pn**	**04 10 53.9**	**-0.3**
	comp=Z,18nm,0.6s							
AAK				⇑Sn	**Sn**	**Sn**	**04 13 05.5**	**-1.3**
	comp=Z,172nm,1.5s							
AAK				⇑Lg	Lg	Lg	04 14 19.4	
	comp=Z,731nm,1.4s							
AAK	**Ala-Archa**	**11.86**	**233**	Pn	**Pn**	**Pn**	**04 10 54.7**	**+0.5**
	comp=Z,3.7nm,0.3s,baz=68,slow=10,SNR=16							
AAK				Sn	**Sn**	**Sn**	**04 13 04.8**	**-1.9**
	comp=Z,4.5nm,0.3s,baz=114,slow=20,SNR=3.9							
AAK				Lg	Lg	Lg	04 14 15.8	
	comp=Z,3.8nm,0.3s,baz=120,slow=20,SNR=9.3							
	comp=Z,9.7nm,0.4s							
AAK	**Ala-Archa**	**11.86**	**233**	P	**Pn**	**Pn**	**04 10 55.9**	**+1.7**
AAK				S	**Sn**	**

AB31 ⇓Lg Lg 04 17 20.7
comp=Z,105nm,1.2s
AB31 Akbulak array 17.68 276 P **Pn 04 12 08.1 -3.1**
ABKAR Akbulak array 17.68 276 **Pn 04 12 08.0 -3.2**
ARTI Arti 18.13 300 **Pn 04 12 13.4 -3.4**
ARTI IAmb IAmb 04 12 17.3
comp=Z,228nm,1.7s
ARTI Arti 18.13 300 P **Pn 04 12 13.6 -3.1**
comp=Z,24nm,0.8s,baz=107,slow=8.0,SNR=40
ARTI S **Sn 04 15 35.8 -3.3**
comp=Z,18nm,0.5s,baz=86,slow=19,SNR=7.0
ARTI LR LR 04 19 48.3
comp=Z,3μm,19.4s,baz=96,slow=39
ARTI Arti 18.13 300*c i*P **Pn 04 12 14.4 -2.4**
ARTI S **Sn 04 15 36.6 -2.5**
ARTI pmax pmax
comp=Z,132nm,1.5s
ARTI MLR MLR
comp=Z,2μm,16.0s
AKTO Aktyubinsk 18.63 281 ⇑Pn **P 04 12 19.5 -3.1**
comp=Z,51nm,1.2s
AKTO ⇑Sn **Sn 04 15 46.5 -4.6**
comp=Z,30nm,1.1s
AKTO ⇓Lg Lg 04 17 49.9
comp=Z,98nm,1.5s
AKTO Aktyubinsk 18.63 281 P **P 04 12 20.4 -2.2**
comp=Z,1.6nm,0.3s,baz=78,slow=9.4,SNR=33
AKTO Lg Lg 04 17 53.8
comp=Z,0.8nm,0.3s,baz=10.0,slow=17,SNR=1.8
AKTO LR LR 04 19 42.9
comp=Z,2μm,19.3s,baz=83,slow=38
comp=Z,18nm,0.7s
BTO Baotou 18.64 113 *e*P **P 04 12 21.6 -1.3**
BTO PP **PnPn 04 12 37.4 +2.5**
BTO S **Sn 04 15 47.4 -4.4**
BTO pmax pmax
comp=Z,37nm,0.7s
BTO pmax pmax
comp=Z,1μm,3.7s
BTO LR LR
comp=Z,8μm,5.3s
BTO LR LR
comp=Z,7μm,4.2s
BTO LR LR
comp=Z,6μm,7.4s
LZH Lanzhou 18.71 134 *e*P **Pn 04 12 24.8 +0.7**
LZH sP sP 04 12 30.6 +3.2
LZH S **Sn 04 15 47.5 -6.0**
LZH pmax pmax
comp=Z,19nm,1.5s
LZH LR LR
comp=Z,13μm,14.0s
LZH LR LR
comp=Z,18μm,14.9s
LZH LR LR
comp=Z,8μm,12.7s
LZDM Lanzhou Array 18.75 135 P **P 04 12 23.9 -0.4**
baz=285,slow=13
LZDM Lg Lg 04 17 57.9
baz=318,slow=23
LZDM LR LR 04 19 43.9
comp=Z,1μm,21.7s,baz=225,slow=37
comp=Z,8.4nm,0.7s
HHC Hu-ho-hao-te 19.40 111 *e*P **P 04 12 31.6 +0.3**
HHC PP **PnPn 04 12 48.9 +3.6**
HHC S **Sn 04 16 06.3 -3.8**
HHC sS S 04 16 10.5 -0.4
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,480nm,4.0s
HHC LR LR
comp=Z,2μm,8.2s
HHC LR LR
comp=Z,4μm,8.2s
HHC LR LR
comp=Z,4μm,9.0s
NIL Nilore 19.80 217 P **P 04 12 35.9 +0.3**
NIL Nilore 19.80 217 P **Pn 04 12 37.5 +0.4**
NIL Nilore 19.80 217 P **P 04 12 35.9 +0.3**
NIL pmax pmax
comp=Z,280nm,1.1s
XLT XiLinHaoTe 20.52 98 *e*P **P 04 12 44.1 +0.7**
XLT S **S 04 16 27.4 -5.7**
XLT pmax pmax
comp=Z,120nm,1.6s
XLT pmax pmax
comp=Z,280nm,3.9s
XLT LR LR
comp=Z,4μm,9.2s
XLT LR LR
comp=Z,4μm,10.0s
HIA Hailar 20.81 81 P **P 04 12 46.0 -0.3**
HIA IAmb IAmb 04 12 50.5
comp=Z,58nm,1.0s
HIA Hailar 20.81 81 P **P 04 12 46.1 -0.3**
HIA pmax pmax
comp=Z,58nm,1.0s
KBL Kabul 20.83 227 P **P 04 12 47.7 +0.7**
KBL IAmb IAmb 04 12 53.6
comp=Z,83nm,1.0s
KBL Kabul 20.83 227 P Pn 04 12 48.8 -0.6
SNR=49
KBL S **S 04 16 42.0 +2.3**
KBL Kabul 20.83 227 P **P 04 12 47.7 +0.7**
KBL pmax pmax
comp=Z,83nm,1.0s
LSA Lhasa 21.01 171 P **P 04 12 50.5 +1.3**
LSA S **S 04 16 45.4 +1.8**
LSA pmax pmax
comp=Z,32nm,0.9s
LSA LR LR
comp=Z,710nm,11.8s
LSA LR LR
comp=Z,760nm,12.4s
TIY Taiyuan 21.97 116 *e*P **P 04 13 04.8 +5.8**
TIY PP **PnPn 04 13 25.4 +5.0**
TIY pmax pmax
comp=Z,80nm,1.4s
TIY LR LR
comp=Z,2μm,5.8s
TIY LR LR
comp=Z,3μm,9.1s
TIY LR LR
comp=Z,2μm,11.0s
EVN Everest 22.55 181 P **P 04 13 06.7 +0.7**
BJI Beijing 22.69 106 P **P 04 13 07.3 +0.7**
BJI S **S 04 17 14.5 -0.5**
BJI pmax pmax
comp=Z,31nm,1.1s
BJI LR LR
comp=Z,3μm,10.2s
BJI LR LR
comp=Z,2μm,9.9s
BJI LR LR
comp=Z,2μm,15.7s
BJT Baijiatuau 22.70 106 P **P 04 13 07.7 +1.0**
BJT IAmb IAmb 04 13 15.8
comp=Z,83nm,1.2s
BJT Baijiatuau 22.70 106 P **P 04 13 07.7 +1.0**
BJT pmax pmax
comp=Z,83nm,1.2s
XAN Xi'an 22.81 128 P **P 04 13 07.9 -0.1**
XAN PP **PnPn 04 13 39.0 +7.1**
XAN S **S 04 17 16.5 -0.9**
XAN pmax pmax
comp=Z,54nm,1.3s
XAN pmax pmax
comp=Z,190nm,3.8s
XAN LR LR
comp=Z,11μm,8.8s
XAN LR LR
comp=Z,7μm,8.9s
XAN LR LR
comp=Z,6μm,10.3s
CD2 Chengdu 23.11 142 P **P 04 13 11.1 -0.1**
CD2 S **S 04 17 23.0 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,190nm,4.1s
CD2 LR LR
comp=Z,11μm,13.3s
CD2 LR LR
comp=Z,23μm,16.5s
CD2 LR LR
comp=Z,4μm,8.9s
KIRV Kirov 23.16 305 P **P 04 13 10.8 -0.5**
comp=Z,39nm,0.6s,baz=104,slow=6.8,SNR=21
KIRV LR LR 04 23 08.9
comp=Z,3μm,19.0s,baz=96,slow=39
comp=Z,39nm,0.6s
KIRV Kirov 23.16 305*i* P **P 04 13 12.0 +0.7**
HNS HongShan 23.50 113 ⇓P **P 04 13 16.0 +1.1**
HNS pmax pmax
comp=Z,87nm,1.8s
HNS LR LR
comp=Z,3μm,11.9s
HNS LR LR
comp=Z,1μm,11.2s
HNS LR LR
comp=Z,2μm,12.7s
LYN LuoYang 24.27 122 ⇓P **P 04 13 25.5 +3.2**
LYN PP **PnPn 04 13 59.0 +7.1**
LYN S **S 04 17 40.8 -0.4**
LYN sS sS 04 17 48.0 +2.5
LYN pmax pmax
comp=Z,29nm,1.0s
LYN LR LR
comp=Z,5μm,11.2s
LYN LR LR
comp=Z,4μm,9.3s
LYN LR LR
comp=Z,3μm,10.3s
BELG Belogornoye 24.62 290 P **P 04 13 25.6 +0.3**
comp=Z,79nm,1.0s,baz=105,slow=0.6,SNR=20
BELG LR LR 04 23 18.1
comp=Z,2μm,18.4s,baz=84,slow=37
comp=Z,79nm,1.0s
BELG Belogornoye 24.62 290*i* P **P 04 13 26.3 +1.0**
BELG pmax pmax
comp=Z,10.0nm,1.0s
SHL Shillong 25.17 170 P **P 04 13 30.4 -0.4**
SHL Shillong 25.17 170 P **P 04 13 32.1 +1.4**
SNR=14
SHL Shillong 25.17 170 P **P 04 13 30.4 -0.4**
SHL pmax pmax
comp=Z,69nm,0.9s
HEH HeiHe 25.32 75 *e*P **P 04 13 31.8 +0.1**
HEH pP **pP 04 13 34.4 0.0**
HEH S **S 04 17 58.0 +0.1**
HEH pmax pmax
comp=Z,21nm,1.1s
HEH LR LR
comp=Z,3μm,7.2s
YAK Yakutsk 25.65 47 P **P 04 13 33.6 -1.0**
comp=Z,23nm,0.5s,baz=254,slow=7.8,SNR=6.9
YAK LR LR 04 23 56.8
comp=Z,974nm,21.9s,baz=258,slow=37
comp=Z,23nm,0.5s
YAK Yakutsk 25.65 47 *e*P **P 04 13 33.8 -0.8**
YAK *e**PP **sP 04 13 42.3 +4.0**
YAK *e* 04 14 13.9
YAK *e*S **S 04 18 02.7 -0.2**
YAK *e*SS **SnSn 04 18 59.2 +2.8**
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,16nm,1.3s
YAK pmax pmax
comp=Z,267nm,5.0s
YAK pmax pmax
comp=N,108nm,4.7s
YAK pmax pmax
comp=E,83nm,3.1s
YAK smax smax
comp=E,512nm,11.8s
YAK smax smax
comp=N,468nm,13.6s
YAK MLR MLR
comp=Z,1μm,12.0s
YAK MLR MLR
comp=N,694nm,11.0s
YAK MLR MLR
comp=E,804nm,14.0s
TIA Tai'an 25.73 112 P **P 04 13 38.4 +2.9**
TIA pmax pmax
comp=E,24nm,1.4s
TIA pmax pmax
comp=E,170nm,3.8s
TIA LR LR
comp=E,2μm,9.1s
TIA LR LR
comp=E,2μm,9.3s
TIA LR LR
comp=E,3μm,12.1s
SNY Shenyang 26.32 95 ⇓P **P 04 13 43.6 +2.8**
SNY S **S 04 18 13.5 -0.3**
SNY pmax pmax
comp=E,28nm,1.5s
SNY LR LR
comp=E,2μm,17.1s
SNY LR LR
comp=E,2μm,17.5s
SNY LR LR
comp=E,3μm,17.5s
PZH PanZhiHua 26.41 150 P **P 04 13 42.6 +0.7**
PZH pmax pmax
comp=E,10.0nm,1.5s
PZH pmax pmax
comp=E,130nm,4.7s
PZH LR LR
comp=E,3μm,14.7s
PZH LR LR
comp=E,10μm,15.3s
PZH LR LR
comp=E,3μm,14.5s
CN2 Changchun 26.52 90 P **P 04 13 43.1 +0.4**
CN2 sP sP 04 13 49.9 +3.4
CN2 S **S 04 18 13.9 -3.2**
CN2 pmax pmax
comp=E,20nm,1.1s
CN2 LR LR
comp=E,5μm,13.0s
CN2 LR LR
comp=E,3μm,13.0s
CN2 LR LR
comp=E,3μm,13.0s
DL2 Dalian 26.74 102 P **P 04 13 47.8 +3.2**
DL2 pmax pmax
comp=E,38nm,1.4s
DL2 pmax pmax
comp=E,230nm,3.6s
DL2 LR LR
comp=E,2μm,17.9s
DL2 LR LR
comp=E,2μm,17.7s
DL2 LR LR
comp=E,2μm,17.7s
TNCH TengChong 26.89 157 P **P 04 13 48.3 +2.0**
TNCH pP sP 04 13 54.0 +3.9
TNCH PP **PnPn 04 14 34.1 +6.2**
TNCH S **S 04 18 22.3 -1.1**
TNCH sS sS 04 18 28.9 +1.1
TNCH pmax pmax
comp=E,66nm,1.3s
TNCH LR LR
comp=E,2μm,10.5s
TNCH LR LR
comp=E,3μm,9.0s
TNCH LR LR
comp=E,3μm,10.4s
BNX BinXian 26.91 85 ⇑P **P 04 13 46.6 +0.5**
BNX pP **sP 04 13 49.8 -0.1**
BNX sP **pP 04 13 51.0 +2.3**
BNX S **S 04 18 24.1 +1.1**
BNX sS **sS 04 18 30.0 +2.6**
BNX pmax pmax
comp=E,12nm,1.4s
BNX LR LR
comp=E,5μm,12.2s
BNX LR LR
comp=E,3μm,12.5s
BNX LR LR
comp=E,2μm,15.2s
BRDH Bariadhala 28.01 172 LR LR 04 27 43.1
comp=E,671nm,20.7s,baz=5.5,slow=42
KMI Kunming 28.01 149 P **P 04 13 58.3 +1.9**
KMI S **S 04 18 43.3 +2.1**
KMI pmax pmax
comp=E,11nm,1.6s
KMI pmax pmax
comp=E,97nm,3.6s
KMI LR LR
comp=E,4μm,16.5s
KMI LR LR
comp=E,10μm,17.2s
KMI LR LR
comp=E,1μm,12.3s
MAK Makhachkala 28.07 270*c i*P **P 04 13 53.6 -2.9**
MAK *e* 04 14 49.2
MAK *e*S **S 04 18 36.7 -4.6**
MAK pmax pmax
comp=Z,156nm,1.4s
MAK MLR MLR
comp=Z,4μm,16.0s
TIXI Tiksi 28.15 26 LR LR 04 25 27.1
comp=Z,2μm,18.4s,baz=260,slow=37
TIXI Tiksi 28.15 26*i* P **P 04 13 58.6 +1.6**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
TIXI MLR MLR
comp=Z,2μm,18.0s
GYA Guiyang 28.23 141 P **P 04 14 00.0 +1.8**
GYA S **S 04 18 45.0 +0.7**
GYA LR LR
comp=Z,2μm,9.8s
GYA LR LR
comp=Z,7μm,9.9s
GYA LR LR
comp=Z,3μm,10.5s
KLMR Klimovskoe 28.23 310 *e*P **P 04 13 53.7 -4.1**
KLMR S **S 04 18 38.3 -5.4**
KLMR pmax pmax
comp=Z,55nm,1.4s
KLMR MLR MLR
comp=Z,2μm,12.0s
WHN Wuhan 28.37 125 P **P 04 14 01.9 +2.6**
WHN LR LR
comp=Z,5μm,8.1s
WHN LR LR
comp=Z,4μm,7.9s
WHN LR LR
comp=Z,10μm,11.7s
VRH Novokhopyorsk 28.46 289 *e*P **P 04 14 00.5 +0.5**
VRH pmax pmax
comp=Z,30nm,0.8s
VRH MLR MLR
comp=Z,1μm,15.0s
AKT Akhty 28.68 267 *e*P **P 04 14 04.5 +2.3**
AKT *e* 04 14 54.7
AKT *e*S **S 04 18 52.6 +1.3**
AKT pmax pmax
comp=Z,38nm,1.0s
AKT MLR MLR
comp=Z,2μm,17.0s
MDJ Mudanjiang 28.79 85 P **P 04 14 03.3 +0.3**
MDJ S **S 04 18 54.8 +2.1**
MDJ sS sS 04 18 59.9 +2.8
MDJ pmax pmax
comp=Z,10.0nm,1.2s
MDJ LR LR
comp=Z,6μm,14.1s
MDJ LR LR
comp=Z,4μm,13.4s
MDJ LR LR
comp=Z,4μm,15.5s
NJ2 Nanjing 29.69 116 *e*P **P 04 14 11.9 +0.9**
NJ2 S **S 04 19 06.9 -0.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
NJ2 pmax pmax
comp=Z,250nm,3.8s
NJ2 LR LR
comp=Z,2μm,14.7s
NJ2 LR LR
comp=Z,3μm,16.1s
NJ2 LR LR
comp=Z,2μm,9.8s
LPSR Galich'ya Gora 29.73 293 *e*P **P 04 14 11.6 +0.4**
LPSR pmax pmax
comp=Z,30nm,0.6s
LPSR MLR MLR
comp=Z,580nm,9.0s
MOS Moscow 29.75 300 *e*P **P 04 14 10.3 -1.0**
MOS *e* 04 15 08.4
MOS *e*S **S 04 19 06.9 -0.7**
MOS *e*SS **SnSn 04 20 34.8 -1.7**
MOS *e*SSS SSS 04 21 01.1
MOS pmax pmax
comp=Z,26nm,0.7s
MOS MLR MLR
comp=Z,300nm,12.0s
VORR Voronezh 29.83 291 *e*P **P 04 14 12.2 +0.1**
VORR pmax pmax
comp=Z,10.0nm,0.9s
GOF Gofitskoye 29.92 277*ce*P **P 04 14 14.9 +1.9**
VSR Storozhevoye 29.99 290 *e*P **P 04 14 13.8 +0.3**
VSR pmax pmax
comp=Z,30nm,1.0s
VSR MLR MLR
comp=Z,2μm,15.0s
VORD Divnogorie 29.99 290 *e*P **P 04 14 14.1 +0.6**
VORD pmax pmax
comp=Z,20nm,0.9s
NCK Nalchik 30.30 274*i* P **P 04 14 17.4 +1.0**
NCK pmax pmax
comp=Z,14nm,1.0s
NCK MLR MLR
comp=Z,656nm,16.0s
OBN Obninsk 30.47 299 P **P 04 14 17.8 +0.1**
comp=Z,20nm,0.3s,baz=115,slow=2.4,SNR=6.5
OBN LR LR 04 27 02.5
comp=Z,1μm,19.8s,baz=18,slow=37
comp=Z,20nm,0.3s
OBN Obninsk 30.47 299⇓*e*P **P 04 14 17.5 -0.2**
OBN *e**PP **pP 04 14 19.8 -0.6**
OBN *e**SP **sP 04 14 21.6 +0.2**
OBN PPP PPP 04 15 23.0
OBN *i*S **S 04 19 24.4 +5.6**
OBN *e*SS **ScP 04 20 57.7 -1.6**
OBN SSS SSS 04 21 17.0
OBN pmax pmax
comp=Z,22nm,1.5s
OBN MLR MLR
comp=Z,1μm,17.0s
USRK Ussuriysk Ar. 30.50 84 P **P 04 14 16.8 -1.3**
comp=Z,13nm,0.8s,baz=300,slow=7.6,SNR=18
comp=Z,13nm,0.8s
KBZ Khabaz 30.63 275 P **P 04 14 19.4 +0.2**
comp=Z,1.3nm,0.6s,baz=63,slow=14,SNR=6.0
KBZ LR LR 04 28 22.0
comp=Z,1μm,18.7s,baz=106,slow=40
comp=Z,1.3nm,0.6s
KBZ Khabaz 30.63 275*i* P **P 04 14 20.7 +1.5**
KBZ pmax pmax
comp=Z,7.0nm,1.1s
KVAR Kislovodsk Arr 30.65 275 LR LR 04 27 42.6
comp=Z,768nm,19.3s,slow=38
KIV Kislovodsk 30.66 275 *e*P **P 04 14 21.0 +1.4**
KIV *e*S **S 04 19 24.3 +2.1**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,816nm,15.0s
SHA1 Shidzhatmaz 30.78 275*i* P **P 04 14 21.6 +0.7**
GULI GuiLin 30.81 136 P **P 04 14 22.5 +1.5**
GULI S **S 04 19 21.0 -3.7**
GULI pmax pmax
comp=Z,8.0nm,1.1s
GULI LR LR
comp=Z,2μm,13.6s
GULI LR LR
comp=Z,5μm,12.8s
GULI LR LR
comp=Z,1μm,10.4s
VLA Vladivostok 30.96 86*i* P **P 04 14 22.1 0.0**
VLA pmax pmax
comp=Z,28nm,1.0s
GNI Garni 31.31 267 LR LR 04 28 23.4
comp=Z,749nm,18.2s,baz=84,slow=39
GNI Garni 31.31 267*i* P **P 04 14 26.9 +1.4**
GNI pmax pmax
comp=Z,13nm,1.1s
KSAR Wonju Array Be 31.55 99 P **P 04 14 25.7 -1.7**
KSAR Wonju Array Be 31.55 99 P **P 04 14 25.7 -1.7**
KSRS Korea Array 31.56 99 P **P 04 14 26.3 -1.2**

comp=Z,10nm,0.9s,baz=302,slow=6.9,SNR=26
KSRS PcP **PcP** **04 17 20.6 +0.7**
comp=Z,2.0nm,0.9s,baz=296,slow=3.5,SNR=4.1
comp=Z,10nm,0.9s
SSE Sheshan 31.74 115 P **P** **04 14 28.4 -0.7**
SSE S **S** **04 19 38.5 -0.6**
SSE pmax pmax
comp=Z,6.0nm,0.7s
SSE pmax pmax
comp=Z,88nm,3.5s
SSE LR LR
comp=Z,910nm,18.2s
SSE LR LR
comp=Z,760nm,18.1s
SLVN Son La 31.92 150 P **P** **04 14 31.7 +0.8**
SLVN IAmb IAmb 04 14 37.4
comp=Z,13nm,1.0s
SOC Sochi 32.72 277 *e*P **P** **04 14 35.0 -2.7**
SOC *e* 04 15 44.8
SOC *e*S **S** **04 19 51.2 -3.1**
SOC *e*SS **SnSn** **04 21 49.8 +0.7**
SOC *e*SSS SSS 04 22 08.8
SOC MLR MLR
comp=Z,1μm,17.0s
CHTO Chiang Mai 32.97 160 P **P** **04 14 40.2 +0.2**
CHTO IAmb IAmb 04 14 43.8
comp=Z,26nm,1.3s
CHTO Chiang Mai 32.97 160 P **P** **04 14 40.9 +0.9**
CHTO Chiang Mai 32.97 160 P **P** **04 14 40.2 +0.2**
CHTO pmax pmax
comp=Z,26nm,1.3s
CM31 Chiang Mai Arr 33.31 160 P **P** **04 14 46.1 +3.1**
SNR=8.6
CMAR Chiang Mai Arr 33.31 160 P **P** **04 14 43.7 +0.7**
CMAR Chiang Mai Arr 33.31 160 P **P** **04 14 43.1 +0.1**
comp=Z,8.7nm,0.7s,baz=342,slow=8.9,SNR=39
CMAR PcP **PcP** **04 17 26.3 +1.3**
comp=Z,3.3nm,0.5s,baz=346,slow=4.0,SNR=4.7
CMAR LR LR 04 29 25.0
comp=Z,350nm,19.5s,baz=355,slow=38
comp=Z,8.7nm,0.7s
CMAR Chiang Mai Arr 33.31 160 *ce*P **P** **04 14 42.9 -0.1**
CMAR pmax pmax
comp=Z,9.0nm,0.7s
ANN Anapa 33.58 280 *e*P **P** **04 14 43.4 -1.7**
ANN pmax pmax
comp=Z,36nm,0.8s
HYB Hyderabad 33.79 195 *e*P **P** **04 14 48.2 +1.0**
HYB *e*S **S** **04 20 13.4 +2.2**
GURO Guroymak-BITLI 33.94 267 IAmb IAmb 04 15 05.5
comp=Z,22nm,1.0s
GZH Guangzhou 34.06 134 P **P** **04 14 50.4 +0.9**
GZH S **S** **04 20 12.5 -2.8**
GZH LR LR
comp=Z,4μm,15.1s
GZH LR LR
comp=Z,7μm,15.5s
GZH LR LR
comp=Z,2μm,15.2s
SHME Shamm 34.19 236 P **P** **04 14 52.1 +1.4**
SHME P **P** **04 14 52.1 +1.4**
BANOM Banah 34.21 236 P **P** **04 14 51.2 +0.4**
BANOM P **P** **04 14 51.2 +0.4**
BANOM P **pP** **04 14 52.2 -1.3**
BANOM P **pP** **04 14 52.2 -1.3**
ARCES ARCESS Array B 34.25 327 P **P** **04 14 49.8 -0.9**
comp=Z,3.5nm,0.7s,baz=81,slow=7.3,SNR=8.7
ARCES PcP **PcP** **04 17 28.1 +1.3**
comp=Z,2.8nm,0.6s,baz=81,slow=2.2,SNR=6.4
ARCES LR LR 04 29 20.4
comp=Z,490nm,19.2s,baz=94,slow=37
comp=Z,3.5nm,0.7s
FINES FINESS Array B 34.66 312 P **P** **04 14 53.6 -0.7**
comp=Z,3.3nm,0.5s,baz=70,slow=9.1,SNR=26
FINES LR LR 04 28 23.9
comp=Z,773nm,20.9s,baz=82,slow=35
comp=Z,3.3nm,0.5s
MDH Madha 34.72 235 P **P** **04 14 53.5 -1.6**
MDH P **P** **04 14 53.5 -1.6**
MASF Masafi 34.73 235 P **P** **04 14 56.1 +0.7**
UMQ Umm Al-Quwin 34.87 236 P **P** **04 14 59.1 +2.7**
VSU Vasula 34.97 307 *i* P **P** **04 14 58.0 +1.0**
VSU pmax pmax
comp=Z,33nm,1.0s
KTK1 Kautokeino 35.06 326 *e*P **P** **04 14 56.7 -1.0**
HATD Hatta, Dubai 35.19 235 P **P** **04 15 01.4 +2.1**
WSAR Wadi Sarin 35.24 230 LR LR 04 29 58.5
comp=Z,5.5nm,21.9s,baz=94,slow=37
WSAR Wadi Sarin 35.24 230 P **P** **04 15 02.2 +2.5**
BIDO Bidbid 35.25 231 P **P** **04 15 02.3 +2.5**
BIDO P **P** **04 15 02.3 +2.5**
NAZ Nazwa, Dubai 35.30 236 P **P** **04 15 01.3 +1.1**
ASHO Ashiyiah 35.34 235 P **P** **04 15 00.7 0.0**
ASHO P **P** **04 15 00.7 0.0**
MNK Minsk 35.47 300 *i* P **P** **04 15 03.8 +2.4**
comp=E,3.0nm,0.9s
MNK *i* P **P** **04 15 03.8 +2.4**
comp=N,3.0nm,0.8s
MNK *i* P **P** **04 15 03.8 +2.4**
comp=Z,9.0nm,0.7s,baz=71
MNK *i* PP **PP** **04 16 22.9 +1.3**
MNK *i* PPP PPP 04 16 36.2
MNK *i* S **S** **04 20 40.4 +3.9**
MNK *i* SS **SnSn** **04 22 44.0 -11**
MNK *i* SSS SSS 04 23 18.2
MNK *i* LQ LQ 04 26 56.2
MNK *i* LR LR 04 29 11.2
MNK *i* LRM MLR 04 30 09.1
comp=N,314nm,12.0s
MNK *i* LRM MLR 04 30 13.6
comp=Z,564nm,14.2s
MNK *i* LRM MLR 04 30 19.0
comp=E,497nm,13.9s
MNK Minsk 35.47 300 *i* P **P** **04 15 03.7 +2.4**
MNK *i* 04 16 22.9
MNK *i* PPP PPP 04 16 36.2
MNK *i* 04 17 32.4
MNK *i* S **S** **04 20 40.4 +3.9**
MNK *i* SSS SSS 04 23 18.2
MNK pmax pmax
comp=N,3.0nm,0.8s
MNK pmax pmax
comp=Z,9.0nm,0.7s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK MLR MLR
comp=N,314nm,12.0s
MNK MLR MLR
comp=Z,564nm,14.0s
MNK MLR MLR
comp=E,497nm,14.0s
SOHO SOHO 35.55 234 P **P** **04 15 05.0 +2.7**
SIM Simferopol' 35.59 282 *e*P **P** **04 15 03.9 +1.4**
SIM *e* 04 16 25.0
SIM *e*S **S** **04 20 40.0 +1.5**
SIM pmax pmax
comp=Z,36nm,0.8s
SIM MLR MLR
comp=Z,600nm,18.8s
WBK Wadi Bani Khal 35.61 229 P **P** **04 15 06.6 +3.7**
SMDO Samad 35.68 231 P **P** **04 15 06.2 +2.6**
SNR=5.6
SMDO P **P** **04 15 06.2 +2.6**
SNR=5.6
JLN Jalan Bani Buh 35.79 228 P **P** **04 15 07.1 +2.7**
JLN P **P** **04 15 07.1 +2.7**
NACGM Naroch 35.95 301 *e*P **P** **04 15 04.2 -1.3**
YSS Yuzhno-Sakhali 35.98 74 *e*P P 04 14 57.9 -7.9
YSS MLR MLR
comp=Z,1μm,14.0s
YSS MLR MLR
comp=N,1μm,13.0s
ALNE Al Ain 36.02 235 P **P** **04 15 08.0 +1.6**
ALNE P **P** **04 15 08.0 +1.6**
JETT Jettan, Norway 36.04 327 *e*P **P** **04 15 05.1 -1.1**
AKASG Malin Array Be 36.06 293 P **P** **04 15 06.4 -0.1**
AKASG IAmb IAmb 04 15 10.0
comp=Z,28nm,1.9s
AKASG Malin Array Be 36.06 293 P **P** **04 15 05.8 -0.7**
comp=Z,3.3nm,0.4s,baz=62,slow=9.2,SNR=16
AKASG LR LR 04 30 28.8
comp=Z,2μm,20.9s,baz=68,slow=37
comp=Z,3.3nm,0.4s
AKASG Malin Array Be 36.06 293 *i* P **P** **04 15 09.3 +2.8**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKBB Malin Array Si 36.06 293 IAmb IAmb 04 15 13.4
comp=Z,30nm,1.4s
AKBB Malin Array Si 36.06 293 *i* P **P** **04 15 07.1 +0.6**
AKBB pmax pmax
comp=Z,30nm,1.8s
KIEV Kiev 36.07 293 P **P** **04 15 06.5 -0.1**
KIEV IAmb IAmb 04 15 13.4
comp=Z,27nm,1.4s
KIEV Kiev 36.07 293 ⇓P **P** **04 15 07.8 +1.3**
KIEV Kiev 36.07 293 P **P** **04 15 06.5 -0.1**
KIEV pmax pmax
comp=Z,27nm,1.4s
MA2 Magadan 36.08 51 LR LR 04 30 40.7
comp=Z,209nm,18.1s,baz=274,slow=38
SEY Seymchan 36.10 45 LR LR 04 31 30.3
comp=Z,558nm,18.0s,baz=278,slow=39
SEY Seymchan 36.10 45 *i* P **P** **04 15 06.7 0.0**
SEY pmax pmax
comp=Z,15nm,1.5s
QIZ Qiongzhong 36.16 142 P **P** **04 15 08.6 +1.0**
QIZ S **S** **04 20 50.1 +2.4**
QIZ pmax pmax
comp=Z,16nm,0.6s
QIZ LR LR
comp=Z,2μm,13.1s
QIZ LR LR
comp=Z,5μm,15.1s
QIZ LR LR
comp=Z,2μm,8.9s
ARQ Araqi 36.21 233 P **P** **04 15 10.7 +2.6**
ARQ P **P** **04 15 10.7 +2.6**
JMDO Jabal Madar 36.23 230 P **P** **04 15 10.9 +2.7**
BSY Bisya 36.36 231 P **P** **04 15 11.9 +2.5**
TRO Tromso 36.55 327 *e*P **P** **04 15 09.1 -1.3**
SPITS Spitsbergen Ar 37.23 341 P **P** **04 15 15.6 -0.6**
comp=Z,9.1nm,0.9s,baz=98,slow=11,SNR=9.3
SPITS PcP **PcP** **04 17 35.6 +0.1**
comp=Z,5.0nm,0.7s,baz=97,slow=3.3,SNR=5.5
SPITS LR LR 04 33 44.0
comp=Z,864nm,19.0s,baz=82,slow=41
comp=Z,9.1nm,0.9s
PABE Paberze 37.27 303 IAmb IAmb 04 15 31.9
comp=Z,28nm,0.8s
MHTO MHTO 37.47 229 P **P** **04 15 21.1 +2.4**
SNR=5.7
MHTO P **P** **04 15 21.1 +2.4**
SNR=5.7
BNN Bunyan 37.72 272 P **P** **04 15 21.4 +0.6**
BNN IAmb IAmb 04 15 27.3
comp=Z,25nm,1.1s
GAZ Gaziantep 37.83 269 IAmb IAmb 04 15 27.7
comp=Z,35nm,1.1s
TRNA Turayna 37.92 241 P **P** **04 15 24.3 +1.8**
MILM Milestii Mici 37.93 288 ⇑P **P** **04 15 22.9 +0.5**
MILM Milestii Mici 37.93 288 *e*P **P** **04 15 22.9 +0.5**
comp=Z,170nm,1.9s
MILM *e*S **S** **04 21 18.0 +3.9**
MILM LQM 04 28 50.0
comp=Z,900nm,18.5s
MILM LRM MLR 04 31 22.0
comp=Z,800nm,14.5s
MILM Milestii Mici 37.93 288 P **P** **04 15 22.9 +0.5**
MZR Muzera 38.07 236 P **P** **04 15 24.4 +0.6**
MZR P **P** **04 15 24.4 +0.6**
STEI Steigen 38.11 324 *e*P **P** **04 15 23.2 -0.4**
FAUS Fauske 38.19 323 *e*P **P** **04 15 23.8 -0.6**
DQM DQM 38.58 229 P **P** **04 15 29.9 +1.7**
DQM P **P** **04 15 29.9 +1.7**
BR131 Keskin Array S 38.62 275 P **P** **04 15 28.6 +0.1**
BR131 IAmb IAmb 04 15 36.1
comp=Z,20nm,0.8s
BR131 Keskin Array S 38.62 275 P **P** **04 15 30.1 +1.6**
SNR=15
BR131 Keskin Array S 38.62 275 *i* P **P** **04 15 29.3 +0.8**
BRTR Keskin Array B 38.62 275 P **P** **04 15 28.7 +0.2**
BRTR Keskin Array B 38.62 275 P **P** **04 15 28.9 +0.4**
comp=Z,19nm,1.0s,baz=82,slow=4.3,SNR=28
comp=Z,19nm,1.0s
BRTR Keskin Array B 38.62 275 P **P** **04 15 28.7 +0.2**
MJAR Matsushiro Arr 38.65 91 LR LR 04 31 55.7
comp=Z,1μm,19.7s,baz=318,slow=37
MOR8 Moi Rana 38.77 322 *e*P **P** **04 15 28.1 -1.2**
KIRS Kirsehir-Merke 38.78 274 ⇑P **P** **04 15 32.1 +2.3**
JOW Kunigami 39.05 112 LR LR 04 33 03.0
comp=Z,756nm,18.6s,baz=308,slow=38
ANTO Ankara 39.08 276 P P 04 15 37.2 +4.9
ANTO P P 04 15 37.2 +4.9
ANTO Ankara 39.08 276 ⇑P **P** **04 15 34.2 +1.9**
ANTO Ankara 39.08 276 P **P** **04 15 34.2 +1.9**
VAGH Vaagaholmen 39.10 323 *e*P **P** **04 15 30.7 -1.3**
TPGR Topolog 39.16 285 ⇓P **P** **04 15 34.0 +1.1**
CFR Carcaliu 39.18 286 ⇓P **P** **04 15 34.3 +1.4**
CFR Carcaliu 39.18 286 P **P** **04 15 34.3 +1.4**
KONS Konsvik 39.21 322 *e*P **P** **04 15 32.4 -0.5**
TESR Tescani 39.43 288 ⇑P **P** **04 15 35.7 +0.7**
VRI Vrincioaia 39.70 288 ⇑P **P** **04 15 37.8 +0.4**
VRI Vrincioaia 39.70 288 P **P** **04 15 37.7 +0.4**
PLOR Plostina 39.75 288 ⇓P **P** **04 15 39.3 +1.5**
PLOR Plostina 39.75 288 P **P** **04 15 39.3 +1.5**
BUR08 Bucovina Ar. S 39.76 291 P **P** **04 15 37.6 -0.4**
BURAR Bucovina Array 39.77 291 P **P** **04 15 38.4 +0.4**
BURAR Bucovina Array 39.77 291 ⇑P **P** **04 15 38.8 +0.8**
BURAR Bucovina Array 39.77 291 P **P** **04 15 38.7 +0.8**
NEHR Nehoiu 40.18 287 ⇓P **P** **04 15 42.7 +1.4**
ISR Istrita 40.18 287 ⇓P **P** **04 15 43.2 +1.8**
ISR Istrita 40.18 287 P **P** **04 15 43.2 +1.8**
KWP Kalwaria Pacla 40.31 295 *e*P **P** **04 15 41.0 -1.3**
MLR Muntele Rosu 40.36 287 ⇓P **P** **04 15 44.5 +1.5**
MLR Muntele Rosu 40.36 287 P **P** **04 15 44.4 +1.5**
DOPR Dopca 40.46 288 ⇓P **P** **04 15 44.5 +0.9**
ARCR ARCALIA 40.54 290 ⇓P **P** **04 15 45.4 +1.2**
BILL Bilibino 40.57 35 *i* P **P** **04 15 46.3 +2.1**
BILL pmax pmax
comp=Z,65nm,3.5s
BILL MLR MLR
comp=Z,673nm,14.0s
HFS Hagfors 40.86 313 P **P** **04 15 45.2 -1.5**
comp=Z,18nm,0.8s,baz=86,slow=7.6,SNR=21
HFS LR LR 04 31 53.5
comp=Z,734nm,19.1s,baz=72,slow=35
comp=Z,18nm,0.8s
KOLS Kolonicke sedl 40.88 294 *e*P **P** **04 15 50.9 +3.8**
KOLS *e* 04 17 22.9
ASF Jabal al Asfar 41.20 263 LR LR 04 35 31.8
comp=Z,573nm,18.6s,baz=89,slow=40
ARR Arges 41.22 288 ⇑P **P** **04 15 51.1 +1.1**
NATI Neve Ativ 41.22 265 P **P** **04 15 49.8 -0.1**
STHS Stebnicka Huta 41.26 295 *e*P **P** **04 15 54.2 +4.0**
GEM Giv'at Ha'Em 41.30 265 P **P** **04 15 50.4 -0.2**
KSHT Keshet 41.35 265 P **P** **04 15 51.2 0.0**
DOK Doka 41.37 232 P **P** **04 15 52.3 +1.0**
NC405 NORSAR Array S 41.42 315 P **P** **04 15 50.1 -1.2**
MARR Marisel-Cluj 41.48 291 ⇑P **P** **04 15 53.0 +0.9**
NC303 NORSAR Array S 41.54 315 P **P** **04 15 51.8 -0.5**
NC303 IAmb IAmb 04 16 10.2
comp=Z,68nm,1.6s
MMAI Mount Meron Ar 41.59 265 P **P** **04 15 52.7 -0.5**
comp=Z,3.3nm,0.7s,baz=58,slow=11,SNR=7.2
MMAI LR LR 04 35 36.1
comp=Z,506nm,19.7s,baz=46,slow=40
comp=Z,3.3nm,0.7s
NC602 NORSAR Array S 41.64 314 P **P** **04 15 52.0 -1.1**
NC602 IAmb IAmb 04 15 55.8
comp=Z,18nm,0.8s
NC602 NORSAR Array S 41.64 314 *e*P **P** **04 15 52.0 -1.1**
DRGR 41.66 291 ⇑P **P** **04 15 53.7 +0.2**
DRGR 41.66 291 P **P** **04 15 53.7 +0.2**
NB2 NORSAR Subarra 41.67 315 P **P** **04 15 52.0 -1.5**
comp=Z,12nm,0.8s,baz=65,slow=7.9
NB2 NORSAR Subarra 41.67 315 P **P** **04 15 52.0 -1.5**
comp=Z,12nm,0.8s,baz=65,slow=7.9
NOA NORSAR Array B 41.67 315 P **P** **04 15 52.2 -1.3**
comp=Z,7.0nm,0.8s,baz=64,slow=7.8,SNR=19
NOA LR LR 04 32 21.9
comp=Z,639nm,20.6s,baz=65,slow=35
comp=Z,7.0nm,0.8s
HNTI Hanita 41.70 266 P **P** **04 15 53.8 -0.1**
ISP Isparta 41.71 275 *i* P **P** **04 15 54.8 +0.7**
ISP pmax pmax
comp=Z,17nm,0.9s
OJC Ojcow 41.71 297 *e*P **P** **04 15 56.8 +2.9**
NIE Niedzica 41.80 296 *e*P **P** **04 15 55.5 +0.8**
JHJ Hachijo jima 2 41.81 94 LR LR 04 32 13.8
comp=Z,231nm,20.1s,baz=280,slow=35
NAO01 NORSAR Array S 41.90 315 IAmb IAmb 04 15 57.7
comp=Z,22nm,0.8s
BLGI Bet Lehem HaGe 41.91 265 P **P** **04 15 55.0 -0.7**
PEA0B Petropavlovsk- 41.95 58 *i* P **P** **04 15 56.6 +0.9**
PETK Petropavlovsk- 41.95 58 P **P** **04 15 54.9 -0.8**
PETK Petropavlovsk- 41.95 58 P **P** **04 15 53.6 -2.1**
comp=Z,2.1nm,0.6s,baz=300,slow=3.2,SNR=5.4
PETK LR LR 04 34 00.9
comp=Z,347nm,18.1s,baz=296,slow=37
comp=Z,2.1nm,0.6s
HMDT Nahal Hemdat 42.02 264 P **P** **04 15 56.2 -0.3**
RAYN Ar Rayn 42.12 246 P **P** **04 15 57.0 -0.5**
RAYN IAmb IAmb 04 16 03.1
comp=Z,18nm,0.7s
RAYN Ar Rayn 42.12 246 P **P** **04 15 57.9 +0.4**
RAYN Ar Rayn 42.12 246 P **P** **04 15 57.0 -0.5**
RAYN pmax pmax
comp=Z,18nm,0.7s
WHFO Wadi Hawf 42.14 232 P **P** **04 15 57.0 -0.7**
DEL Delary 42.17 308 *e*P **P** **04 15 56.5 -1.0**
BSD Bornholm Skovb 42.21 305 *e*P **P** **04 15 55.7 -2.1**
BSD IAmb IAmb 04 16 00.8
comp=Z,24nm,0.9s
BORU Boraas 42.25 310 *e*P **P** **04 15 57.7 -0.4**
DOMB Dombas 42.26 317 *e*P **P** **04 15 56.5 -1.8**
RBK Rabkut 42.28 231 P **P** **04 15 58.4 -0.4**
GZR Gura Zlata 42.33 289 ⇓P **P** **04 16 00.6 +1.5**
GZR Gura Zlata 42.33 289 P **P** **04 16 00.5 +1.5**
SLTI Sal'it 42.33 265 P **P** **04 15 58.5 -0.6**
LANS Liptovska Anna 42.41 296 *e*P P 04 16 04.5 +4.9
LANS *e* 04 17 40.1
STRU Stroemstad 42.45 312 *e*P **P** **04 15 59.3 -0.5**
FABU Falkenberg 42.53 309 *e*P **P** **04 15 58.7 -1.7**
SURR Surduc 42.54 290 ⇑P **P** **04 16 02.4 +1.7**
SIRR Siria 42.55 291 ⇑P **P** **04 16 01.9 +1.2**
DSI Dead Sea 42.56 264 P **P** **04 16 00.4 -0.5**
GHAJ Ghor Haditha 42.62 263 P **P** **04 16 02.9 +1.5**
GHAJ Ghor Haditha 42.62 263 P **P** **04 16 01.0 -0.4**
TJOU Tjoern 42.65 310 *e*P **P** **04 15 58.6 -2.7**
MOL Molde 42.72 318 *e*P **P** **04 16 00.9 -0.9**
ONAU Onsala 42.77 309 *e*P **P** **04 16 01.4 -0.8**
BJUU Bjuv 42.77 307 *e*P **P** **04 15 59.1 -3.3**
HERR Herculane 42.82 289 ⇓P **P** **04 16 03.9 +1.0**
OKC Ostrava-Krasne 42.83 297 AMS AMS 04 34 20.0
comp=Z,1μm,18.9s
ABTO Aybut 42.86 232 P **P** **04 16 04.0 +0.5**
BZS Buzias 42.91 290 ⇑P **P** **04 16 04.3 +0.6**
BZS Buzias 42.91 290 P **P** **04 16 04.2 +0.6**
STEB Steborice 43.00 297 *e*P **P** **04 16 06.2 +1.9**
SKAR Skarslia 43.13 315 *e*P **P** **04 16 04.4 -0.9**
MORC Moravsky Berou 43.20 297 *e*P **P** **04 16 05.1 -1.0**
MORC *e* 04 17 46.9
MORC Moravsky Berou 43.20 297 ⇑P **P** **04 16 06.2 +0.1**
MORC Moravsky Berou 43.20 297 P **P** **04 16 06.1 +0.1**
ZFRI Zfri 43.37 263 P **P** **04 16 07.2 -0.3**
KSP Ksiaz 43.39 299 *e*P **P** **04 16 11.1 +3.5**
PALK Pallekele 43.48 190 LR LR 04 35 44.0
comp=Z,688nm,19.4s,baz=348,slow=38
PALK Pallekele 43.48 190 P **P** **04 16 11.3 +2.7**
KRLC Kraliky 43.49 298 *e*P **P** **04 16 11.4 +3.0**
KRLC MLR MLR
comp=Z,1μm,13.0s
KRLC Kraliky 43.49 298 *e*P **P** **04 16 11.4 +3.0**
KRLC AMS AMS 04 34 30.0
comp=Z,1μm,13.0s
OSTC Ostas 43.58 299 *e*P **P** **04 16 13.7 +4.7**
OSTC MLR MLR
comp=Z,900nm,13.7s
OSTC Ostas 43.58 299 *e*P **P** **04 16 13.7 +4.7**
OSTC AMS AMS 04 34 40.0
comp=Z,900nm,13.7s
JAVC Velka Javorina 43.58 296 *e*P **P** **04 16 10.2 +1.1**
JAVC *e* 04 17 52.3
PRNI Paran 43.62 263 P **P** **04 16 09.3 -0.3**
KZIT Kziot 43.63 264 P **P** **04 16 09.3 -0.3**
UPC Upice 43.71 299 *e*P **P** **04 16 12.0 +1.9**
UPC MLR MLR
comp=Z,1μm,12.0s
UPC Upice 43.71 299 *e*P **P** **04 16 12.0 +1.9**
UPC AMS AMS 04 34 50.0
comp=Z,1μm,12.0s
SRO Srobarova 43.74 294 *e*P **P** **04 16 14.4 +4.1**
HRFI Mount Harif 43.81 263 P **P** **04 16 10.9 -0.2**
BOVS Bovan 43.91 287 ⇑P **P** **04 16 12.4 +0.6**
KRMI Paran Flat 43.95 263 P **P** **04 16 11.9 -0.3**
VRAC Vranov 43.97 297 P **P** **04 16 12.4 +0.2**
comp=Z,2.0nm,0.4s,baz=105,slow=16,SNR=4.1
VRAC LR LR 04 35 28.5
comp=Z,1μm,19.2s,baz=59,slow=37
comp=Z,2.0nm,0.4s
VRAC Vranov 43.97 297 *e*P **P** **04 16 13.5 +1.3**
HOMB Homborsund 44.05 312 *e*P **P** **04 16 12.3 -0.3**
MBRI Mt Berech 44.05 262 P **P** **04 16 12.7 -0.5**
EIL Elat 44.12 262 LR LR 04 37 33.4
comp=Z,535nm,19.0s,baz=348,slow=40
EIL Elat 44.12 262 P **P** **04 16 13.2 -0.3**
KRUC Moravsky 44.21 297 *e*P **P** **04 16 14.6 +0.5**
MORH Mrgy, Hungar 44.37 292 ⇑P **P** **04 16 15.7 +0.3**
PVCC Panska Ves 44.51 300 *e*P **P** **04 16 18.2 +1.8**
PVCC MLR MLR
comp=Z,1μm,18.2s
PVCC Panska Ves 44.51 300 *e*P **P** **04 16 18.2 +1.8**
PVCC AMS AMS 04 35 20.0
comp=Z,1μm,18.2s
BRG Berggiesshubel 44.68 300 *e*P **P** **04 16 21.7 +3.9**
BRG Amp 04 16 24.1
comp=Z,5.1nm,1.0s
BRG Berggiesshubel 44.68 300 P P 04 16 27.2 +9.4
BRG Amp 04 16 28.8
comp=Z,5.2nm,0.9s
BRG PP **PP** **04 18 06.8 +5.0**
BRG Amp 04 18 12.6
comp=Z,4.7nm,0.8s
BRG Berggiesshubel 44.68 300 SS SS 04 26 23.0 +9.0
RICC Richard 44.76 300 AMS AMS 04 35 40.0
comp=Z,1μm,14.5s
PRU Pruhonice 44.79 299 *e*P **P** **04 16 22.4 +3.7**
PRU MLR MLR
comp=Z,1μm,13.8s
PRU Pruhonice 44.79 299 *e*P **P** **04 16 22.4 +3.7**
PRU AMS AMS 04 35 30.0
comp=Z,1μm,13.8s
RONA Rosalia, Austr 44.96 295 *i* pP **P** **04 16 21.1 +0.9**
comp=Z,1.9nm,0.6s
RONA *e*PP **PP** **04 18 05.9 +1.0**
comp=Z,18nm,2.1s
CLL Collm 44.98 301 IAmb IAmb 04 16 23.5
comp=Z,15nm,1.0s
CLL Collm 44.98 301 *i* P **P** **04 16 22.6 +2.4**
CLL *e*S **S** **04 22 56.0 -2.6**
CLL pmax pmax
comp=Z,15nm,1.0s
CLL MLR MLR
comp=Z,400nm,25.0s
CLL Collm 44.98 301 *i* P **P** **04 16 21.4 +1.2**
comp=Z,15nm,1.0s
CLL *i* PP **PP** **04 18 03.5 -1.5**
comp=Z,26nm,1.6s
CLL *e*S **S** **04 23 00.0 +1.4**
CLL *e*SS **ScS** **04 26 18.0 +0.5**
JMIC Jan Mayen 45.09 333 LR LR 04 38 54.5
comp=Z,134nm,18.4s,baz=23,slow=41
CONA Conrad Observa 45.09 296 *i* pP **pP** **04 16 23.5 -0.5**
comp=Z,1.7nm,0.6s
CONA *e*PP **PP** **04 18 04.8 -1.6**
comp=Z,6.0nm,0.7s
ZVC Zvikov 45.26 298 *e*P **P** **04 16 22.3 -0.2**
ZVC *ex* x 04 16 26.4
ZVC AMS AMS 04 35 30.0
comp=Z,1μm,19.5s
TGY Tagaytay City 45.39 131 LR LR 04 34 20.2
comp=Z,559nm,18.1s,baz=196,slow=35
CKRC Cesky Krumlov 45.52 298 *e*P **P** **04 16 27.5 +3.0**
CKRC *e*S S 04 23 16.4 +10
CKRC MLR MLR
comp=Z,1μm,23.5s
CKRC Cesky Krumlov 45.52 298 *e*P **P** **04 16 27.5 +3.0**
CKRC *e*S S 04 23 16.4 +10
CKRC AMS AMS 04 35 50.0
comp=Z,1μm,23.5s
ARSA Arzberg 45.65 295 *i* pP **pP** **04 16 28.7 +0.4**
comp=Z,1.5nm,0.6s
ARSA *i* PP **PP** **04 18 10.2 -2.0**

comp=Z,7.2nm,1.0s
KHC Kasperske Hory 45.77 298 *i* P **P** **04 16 27.4 +0.9**
KHC pmax pmax
comp=Z,7.0nm,1.1s
KHC Kasperske Hory 45.77 298 *eP* **P** **04 16 28.0 +1.5**
KHC *ex* x 04 16 33.3
KHC *eS* **S** **04 23 12.0 +1.9**
KHC AMS AMS 04 36 00.0
comp=Z,1µm,17.7s
GERES GERESS Array B 45.85 298 P **P** **04 16 27.6 +0.4**
GERES GERESS Array B 45.85 298 P **P** **04 16 28.7 +1.5**
comp=Z,1.2nm,0.7s,baz=53,slow=8.9,SNR=8.9
GERES LR LR 04 36 46.1
comp=Z,1µm,18.7s,baz=82,slow=38
comp=Z,1.2nm,0.7s
GERES GERESS Array B 45.85 298 P **P** **04 16 27.6 +0.4**
MOA Molln 46.05 296 *i* pP **pP** **04 16 30.6 -0.9**
comp=Z,1.3nm,1.0s
MOA *i* PP **PP** **04 18 13.5 -3.0**
comp=Z,14nm,1.4s
MOX Moxa 46.07 301 *eL* L 04 33 57.9
comp=Z,452nm,20.3s
SOKA Soboth 46.23 295 *i* pP **P** **04 16 31.4 +1.1**
comp=Z,2.0nm,0.6s
SOKA *e*PP **PP** **04 18 21.6 +3.1**
comp=Z,20nm,2.0s
KULM Kulim 46.45 162 P **P** **04 16 32.9 +0.7**
KULM IAmb IAmb 04 16 35.5
comp=Z,13nm,0.7s
BIOA Bad Ischl, Aus 46.49 297 *ep*P **pP** **04 16 34.0 -1.0**
comp=Z,1.9nm,0.6s
BIOA *i* PcP **PcP** **04 18 04.4 -2.2**
comp=Z,5.3nm,1.0s
BIOA *i* PP **PP** **04 18 21.5 +0.3**
comp=Z,7.9nm,1.2s
OBKA Obir 46.61 295 *i* pP **pP** **04 16 35.2 -0.8**
comp=Z,4.0nm,0.8s
OBKA *i* PP **PP** **04 18 23.3 +0.8**
comp=Z,11nm,1.1s
GRF Grafenberg Arr 46.79 300 *e*P **P** **04 16 34.5 0.0**
comp=Z,13nm,1.1s,baz=57,slow=6.7
GRF *e*PP **PP** **04 18 23.3 -0.9**
baz=55,slow=10
GRF *e*L L 04 37 43.8
comp=Z,983nm,18.4s
IDI Anoyia 46.84 276 LR LR 04 39 04.6
comp=Z,302nm,22.0s,baz=76,slow=40
MYKA Terra Mystica 47.07 295 *i* pP **P** **04 16 38.0 +1.2**
comp=Z,0.7nm,0.6s
MYKA ⇓*i*PP **PP** **04 18 28.0 +0.9**
comp=Z,28nm,1.7s
LESA Schwarzleotal 47.19 297 *i* pP **P** **04 16 39.1 +1.3**
comp=Z,3.4nm,0.6s
LESA *i* PP **PP** **04 18 30.1 +1.8**
comp=Z,11nm,1.2s
ABTA Abfaltersbach 47.65 296 *i* PP **PP** **04 18 32.8 +0.2**
comp=Z,12nm,1.5s
WATA Walderalm 47.86 297 *ep*P **P** **04 16 44.2 +1.2**
comp=Z,3.7nm,0.7s
WATA *i* PP **PP** **04 18 36.7 +2.1**
comp=Z,21nm,1.8s
WTTA Wattenberg 47.87 297 *i* pP **P** **04 16 44.4 +1.3**
comp=Z,2.4nm,0.9s
WTTA *i* PcP **PcP** **04 18 09.9 -1.8**
comp=Z,13nm,1.7s
WTTA *i* PP **PP** **04 18 37.4 +2.7**
comp=Z,17nm,1.5s
MOTA Moosalm 48.12 297 *i* pP **pP** **04 16 46.6 -1.2**
comp=Z,3.4nm,0.7s
MOTA *i* PP **PP** **04 18 38.9 +1.9**
comp=Z,12nm,1.1s
SQTA Sankt Quirin 48.13 297 *ep*P **P** **04 16 46.4 +1.3**
comp=Z,3.2nm,0.6s
SQTA *i* PP **PP** **04 18 40.0 +3.0**
comp=Z,16nm,1.5s
RETA Reutte 48.24 298 *i* pP **P** **04 16 46.6 +0.7**
comp=Z,2.4nm,0.6s
RETA *e*PP **PP** **04 18 40.3 +2.4**
comp=Z,4.2nm,0.9s
FETA Feichten 48.51 297 *i* pP **P** **04 16 49.3 +1.1**
comp=Z,4.3nm,0.8s
PSI Prapat 48.56 165 LR LR 04 39 01.6
comp=Z,361nm,19.9s,baz=318,slow=38
DAVA Damuels 48.84 298 *i* pP pP 04 16 52.5 -0.9
comp=Z,2.7nm,0.6s
DAVOX Davos/Dischmat 49.13 297 LR LR 04 38 52.9
comp=Z,1µm,19.8s,baz=42,slow=38
MSSA Maissana 50.77 295 IAmb IAmb 04 17 12.7
comp=Z,11nm,0.6s
SENIN Lac Senin/Sane 50.83 298 P **P** **04 17 06.8 +1.0**
EKA Eskdalemuir Ar 51.06 313 P **P** **04 17 06.3 -0.8**
comp=Z,3.9nm,0.5s,baz=65,slow=6.7,SNR=11
comp=Z,3.9nm,0.5s
BNI Bardonecchia 51.95 297 IAmb IAmb 04 17 37.4
comp=Z,20nm,1.2s
VAE Valguarnera 52.03 285 LR LR 04 43 52.7
comp=Z,337nm,18.3s,baz=114,slow=41
E19K Redstone River 52.78 26 IAmb IAmb 04 17 31.3
comp=Z,15nm,0.8s
E21K Killik River 52.96 24 IAmb IAmb 04 17 24.4
comp=Z,34nm,1.6s
ATD Arta Tunnel 53.21 239 LR LR 04 41 03.5
comp=Z,28nm,19.7s,baz=32,slow=37
DAV Davao City (W) 53.72 130 LR LR 04 42 18.3
comp=Z,368nm,19.0s,baz=11,slow=38
TOLK Toolik Lake Re 53.92 22 IAmb IAmb 04 17 31.5
comp=Z,24nm,1.6s
F21K Alatna River 53.97 25 P **P** **04 17 29.6 +0.9**
D25K Kavik River 54.15 21 IAmb IAmb 04 19 16.2
comp=Z,7.3nm,0.8s
E23K Chandalar 54.35 23 IAmb IAmb 04 17 38.4
comp=Z,8.0nm,0.7s
COLD Coldfoot 54.83 24 IAmb IAmb 04 17 42.4
comp=Z,10nm,1.0s
RES Resolute Bay 55.05 1 LR LR 04 42 39.2
comp=Z,325nm,18.2s,baz=24,slow=38
L14K Kuka Creek 55.28 33 P **P** **04 17 39.8 +1.7**
D27M Malcolm River 55.38 19 IAmb IAmb 04 17 51.6
comp=Z,16nm,0.9s
F25K Christian Rive 55.67 22 IAmb IAmb 04 17 44.8
comp=Z,22nm,1.4s
K17K Iditarod 55.80 31 P **P** **04 17 41.7 -0.1**
K17K IAmb IAmb 04 18 06.7
comp=Z,18nm,0.9s
G24K Hadweenzic Riv 55.93 23 IAmb IAmb 04 17 52.2
comp=Z,33nm,1.7s
BMAR Burnt Mountain 56.05 21 P **P** **04 17 43.5 -0.2**
H23K Yukon River 56.07 25 IAmb IAmb 04 19 31.7
comp=Z,20nm,1.4s
E27K Coleen River 56.11 20 IAmb IAmb 04 17 56.5
comp=Z,15nm,1.1s
E28M Babbage River 56.20 19 IAmb IAmb 04 17 48.4
comp=Z,33nm,1.6s
KEST Kesra 56.26 287 P **P** **04 17 46.5 +0.8**
comp=Z,1.4nm,0.4s,baz=342,slow=21,SNR=1.9
KEST LR LR 04 43 48.8
comp=Z,218nm,20.2s,baz=350,slow=38
comp=Z,1.4nm,0.4s
G26K Porcupine Rive 56.62 22 IAmb IAmb 04 17 54.0
comp=Z,13nm,1.0s
POIN Pond Inlet 56.63 355 P **P** **04 17 48.1 +0.5**
F28M Old Crow 56.96 20 IAmb IAmb 04 18 02.6
comp=Z,9.9nm,0.9s
COLA College 57.26 25 *i* P **P** **04 17 53.3 +1.1**
COLA pmax pmax
comp=Z,8.0nm,1.0s
ILAR Eielson Array 57.60 24 P **P** **04 17 53.2 -1.4**
ILAR Eielson Array 57.60 24 P **P** **04 17 53.6 -1.0**
comp=Z,2.2nm,0.7s,baz=324,slow=5.6,SNR=19
ILAR LR LR 04 46 00.3
comp=Z,435nm,18.6s,baz=298,slow=40
comp=Z,2.2nm,0.7s
ILAR Eielson Array 57.60 24 P **P** **04 17 53.2 -1.4**
INK Inuvik 57.63 17 IAmb IAmb 04 17 58.4
comp=Z,9.4nm,0.9s
INK Inuvik 57.63 17 LR LR 04 45 02.8
comp=Z,233nm,18.8s,baz=332,slow=39
FURI Furi 57.69 241 LR LR 04 45 09.8
comp=Z,706nm,19.7s,baz=41,slow=38
F30M Barrier River 57.80 18 P **P** **04 17 56.4 +0.4**
F30M IAmb IAmb 04 18 08.1
comp=Z,19nm,1.1s
G29M Pine Creek 57.94 19 IAmb IAmb 04 18 10.2
comp=Z,15nm,1.0s
M20K Styx River 58.05 29 IAmb IAmb 04 18 11.2
comp=Z,12nm,0.9s
I26K Coal Creek Min 58.11 22 IAmb IAmb 04 18 11.4
comp=Z,11nm,1.0s

G30M tAoh Zraii Nji 58.26 19 IAmb IAmb 04 18 10.9
comp=Z,11nm,0.8s
H29M Whitestone 58.45 20 IAmb IAmb 04 18 05.9
comp=Z,13nm,1.1s
SFJD Kangerlussuaq 58.56 342 LR LR 04 46 18.3
comp=Z,490nm,18.8s,baz=25,slow=39
G31M Satah River 58.70 18 IAmb IAmb 04 18 05.8
comp=Z,12nm,0.8s
STLK Strandline Lak 58.74 29 IAmb IAmb 04 18 15.4
comp=Z,11nm,0.8s
DHY Denali Highway 58.81 26 IAmb IAmb 04 18 09.8
comp=Z,8.3nm,0.7s
EGAK Eagle 59.03 22 IAmb IAmb 04 18 16.3
comp=Z,22nm,1.5s
GUMO Guam 59.13 107 LR LR 04 43 26.2
comp=Z,170nm,21.5s,baz=308,slow=36
I29M Ogilvie Camp, 59.20 20 IAmb IAmb 04 18 10.1
comp=Z,7.3nm,0.8s
K27K Chicken 59.43 23 IAmb IAmb 04 18 19.9
comp=Z,11nm,1.2s
H31M Peel River 59.66 19 IAmb IAmb 04 18 53.1
comp=Z,13nm,1.3s
LEM Lembang 59.76 157 LR LR 04 44 58.6
comp=Z,514nm,18.5s,baz=322,slow=37
J29N Klondike Camp 59.99 21 IAmb IAmb 04 18 17.8
comp=Z,9.7nm,0.9s
TTSI Tana Toraja 60.19 142 P **P** **04 18 13.0 -0.2**
L27K Beaver Creek, 60.30 23 P **P** **04 18 13.5 +0.1**
BCAR Beaver Creek A 60.30 23 P **P** **04 18 12.8 -0.7**
J30M Hart River 60.31 20 P **P** **04 18 12.6 -1.0**
J30M IAmb IAmb 04 18 20.0
comp=Z,12nm,1.4s
K29M Barlow Dome 60.67 21 IAmb IAmb 04 18 39.1
comp=Z,22nm,1.8s
L29M L29M 61.16 22 IAmb IAmb 04 18 31.8
comp=Z,14nm,1.1s
KDAK Kodiak Island 61.38 32 LR LR 04 45 57.4
comp=Z,378nm,19.3s,baz=300,slow=37
ESDC Sonseca Array 61.43 299 P **P** **04 18 22.4 +0.8**
ESDC Sonseca Array 61.43 299 P **P** **04 18 21.6 0.0**
comp=Z,5.2nm,1.1s,baz=47,slow=6.3,SNR=15
ESDC LR LR 04 44 16.2
comp=Z,512nm,20.2s,baz=49,slow=35
comp=Z,5.2nm,1.1s
KAPI Kappang 61.97 143 LR LR 04 45 33.1
comp=Z,206nm,20.8s,baz=316,slow=36
M31M Drury Creek, Y 62.81 21 IAmb IAmb 04 18 42.7
comp=Z,14nm,1.0s
O30N Mendenhall 63.67 22 IAmb IAmb 04 18 40.3
comp=Z,7.3nm,0.7s
P33M Teslin, Yukon 64.93 21 IAmb IAmb 04 18 56.7
comp=Z,6.8nm,0.8s
YKAW3 Yellowknife Wh 65.91 11 IAmb IAmb 04 19 07.1
comp=Z,9.2nm,1.0s
YKA Yellowknife Ar 65.97 11 P **P** **04 18 52.2 +1.2**
YKA Yellowknife Ar 65.97 11 P **P** **04 18 51.1 +0.1**
comp=Z,2.9nm,0.8s,baz=343,slow=7.5,SNR=8.4
YKA LR LR 04 48 05.1
comp=Z,263nm,21.3s,baz=340,slow=36
comp=Z,2.9nm,0.8s
YKA Yellowknife Ar 65.97 11 *i* P **P** **04 18 53.0 +2.0**
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKAW1 Yellowknife Wh 66.00 11 IAmb IAmb 04 19 05.1
comp=Z,11nm,0.9s
MDT Midelt 66.62 294 LR LR 04 49 55.4
comp=Z,371nm,18.2s,baz=46,slow=38
MD01 Midelt array s 66.67 294 P **P** **04 18 54.8 -1.4**
KMBO Kilima Mbogo 66.79 237 P **P** **04 18 58.2 +1.0**
comp=Z,7.0nm,0.8s,baz=42,slow=9.7,SNR=8.7
KMBO LR LR 04 50 37.4
comp=Z,337nm,18.4s,baz=25,slow=38
comp=Z,7.0nm,0.8s
KMBO Kilima Mbogo 66.79 237 *ce*P **P** **04 18 57.9 +0.7**
KMBO pmax pmax
comp=Z,7.0nm,0.8s
DLBC Dease Lake 67.16 20 LR LR 04 51 20.5
comp=Z,4µm,21.0s,baz=304,slow=39
S34M Telegraph Cree 67.39 21 IAmb IAmb 04 19 13.5
comp=Z,13nm,1.1s
KIBK Kibwezi 67.40 235 P **P** **04 19 02.0 +1.2**
MBAR Mbarara 69.94 243 *i* P **P** **04 19 17.5 +0.6**
MBAR pmax pmax
comp=Z,5.0nm,0.9s
SCHQ Schefferville 72.81 345 P **P** **04 19 33.0 -0.4**
comp=Z,40nm,0.7s,baz=45,slow=7.1,SNR=4.2
SCHQ LR LR 04 54 22.0
comp=Z,3µm,19.5s,baz=16,slow=38
BBB Bella Bella 73.33 22 LR LR 04 53 07.1
comp=Z,281nm,21.1s,baz=310,slow=37
KDU Kakadu 74.25 134 P **P** **04 19 43.9 +1.6**
comp=Z,21nm,0.8s
FFC Flin Flon 74.82 6 P **P** **04 19 46.2 +1.0**
FFC IAmb IAmb 04 19 48.0
comp=Z,14nm,1.1s
FFC Flin Flon 74.82 6 P **P** **04 19 46.2 +1.0**
FFC pmax pmax
comp=Z,14nm,1.1s
KNRA Kununurra 75.27 139 P **P** **04 19 49.6 +1.4**
comp=Z,24nm,0.6s
KNRA Kununurra 75.27 139 P **P** **04 19 48.7 +0.5**
FITZ Fitzroy Crossi 76.19 143 P **P** **04 19 54.3 +0.9**
comp=Z,2.7nm,0.7s
FITZ Fitzroy Crossi 76.19 143 P **P** **04 19 52.2 -1.2**
FITZ Fitzroy Crossi 76.19 143 LR LR 04 55 30.1
comp=Z,113nm,20.5s,baz=342,slow=37
MBWA Marble Bar 76.89 149 P **P** **04 19 58.8 +1.5**
comp=Z,10nm,1.6s
TORD Torodi Ar. Bea 77.24 275 P **P** **04 19 58.8 -0.8**
TORD IAmb IAmb 04 20 44.4
comp=Z,7.5nm,0.8s
TORD Torodi Ar. Bea 77.24 275 P **P** **04 19 58.1 -1.5**
comp=Z,1.1nm,0.8s,baz=28,slow=6.2,SNR=12
comp=Z,1.1nm,0.8s
PSAB2 Pibara Seismi 77.30 149 P **P** **04 20 01.0 +1.3**
comp=Z,11nm,1.2s
OPO Ambohidratompo 77.36 219 LR LR 04 51 35.5
comp=Z,106nm,20.8s,baz=150,slow=34
NEW Newport 79.35 16 LR LR 04 58 52.0
comp=Z,152nm,19.8s,baz=349,slow=38
ULM Lac du Bonnet 79.55 2 P **P** **04 20 09.2 -2.6**
comp=Z,8.1nm,0.8s,baz=353,slow=5.6,SNR=9.3
ULM LR LR 05 00 07.3
comp=Z,321nm,18.2s,baz=7.0,slow=39
comp=Z,8.1nm,0.8s
ULM Lac du Bonnet 79.55 2 *i* P **P** **04 20 12.3 +0.4**
E09A Wood Farm, Sta 80.84 18 IAmb IAmb 04 20 32.7
comp=Z,32nm,1.8s
VLDQ Val d'Or 80.86 350 P **P** **04 20 20.8 +1.8**
VLDQ IAmb IAmb 04 20 21.6
comp=Z,16nm,0.8s
DGMT Dagmar 80.87 8 IAmb IAmb 04 20 22.5
comp=Z,20nm,1.0s
WB0 Wamaunga Arr 81.33 136 IAmb IAmb 04 20 27.2
comp=Z,10nm,0.8s
WRAB Tennant Creek 81.45 136 P **P** **04 20 22.9 +0.6**
WRAB Tennant Creek 81.45 136 P **P** **04 20 22.9 +0.6**
WRAB pmax pmax
comp=Z,17nm,0.6s
WRA Warramunga Arr 81.46 136 P **P** **04 20 23.1 +0.8**
WRA Warramunga Arr 81.46 136 P **P** **04 20 20.3 -2.1**
comp=Z,9.8nm,1.0s,baz=341,slow=5.8,SNR=36
comp=Z,9.8nm,1.0s
WRA Warramunga Arr 81.46 136 *ce*P **P** **04 20 24.0 +1.6**
WRA pmax pmax
comp=Z,7.0nm,0.7s
WR8 Warramunga Arr 81.54 136 IAmb IAmb 04 20 24.9
comp=Z,8.2nm,0.8s
G06A Carlson Farm, 81.56 20 IAmb IAmb 04 20 27.2
comp=Z,15nm,1.3s
PLID Pearl Lake 82.62 16 IAmb IAmb 04 20 32.3
comp=Z,7.2nm,0.9s
J05D Fort Rock, OR 83.29 21 IAmb IAmb 04 20 39.6
comp=Z,12nm,1.1s
LSZ Lusaka 83.46 237 LR LR 05 01 50.3
comp=Z,374nm,18.1s,baz=47,slow=39
LSZ Lusaka 83.46 237 P **P** **04 20 36.3 +3.2**
RLMT Red Lodge 83.63 12 IAmb IAmb 04 20 37.6
comp=Z,16nm,1.6s
YHL Hebgen Lake 83.64 13 IAmb IAmb 04 20 45.5
comp=Z,19nm,1.7s
J08A Circle Bar Ran 83.81 19 IAmb IAmb 04 20 39.3
comp=Z,5.5nm,0.8s
LONY Lake Ozonia 83.93 347 P **P** **04 20 34.6 -0.5**
MFID Camas Ranch 84.27 17 IAmb IAmb 04 20 43.3
comp=Z,17nm,1.8s
SADO Sadowa 84.35 350 LR LR 05 01 14.6

comp=Z,3µm,18.5s,baz=6.5,slow=38
HLID Hailey 84.38 16 IAmb IAmb 04 20 51.4
comp=Z,14nm,1.8s
YBH Yreka Blue Hor 84.42 22 LR LR 05 01 03.9
comp=Z,12nm,18.2s,baz=327,slow=38
ASAR Alice Springs 84.54 138 P **P** **04 20 36.9 -1.4**
ASAR Alice Springs 84.54 138 P **P** **04 20 36.5 -1.9**
comp=Z,3.7nm,0.6s,baz=331,slow=5.3,SNR=31
ASAR LR LR 05 04 01.3
comp=Z,94nm,18.4s,baz=321,slow=40
comp=Z,3.7nm,0.6s
WVOR Wild Horse Val 84.66 19 IAmb IAmb 04 20 43.5
comp=Z,5.0nm,0.8s
TPAW Teton Pass 85.00 13 IAmb IAmb 04 21 14.4
comp=Z,18nm,1.8s
RSSD Black Hills 85.20 8 P **P** **04 20 40.1 -1.7**
RSSD Black Hills 85.20 8 P **P** **04 20 40.1 -1.7**
RSSD pmax pmax
comp=Z,12nm,0.9s
PD31 Pinedale Array 85.91 12 IAmb IAmb 04 20 49.8
comp=Z,14nm,2.0s
PDAR Pinedale Array 85.91 12 P **P** **04 20 43.4 -2.0**
comp=Z,0.6nm,0.6s,baz=25,slow=2.2,SNR=8.4
PDAR LR LR 05 01 22.9
comp=Z,108nm,19.6s,baz=350,slow=37
comp=Z,0.6nm,0.6s
O03E Paynes Creek 86.00 22 IAmb IAmb 04 23 02.8
comp=Z,12nm,1.2s
ECSD EROS Data Cent 86.05 3 IAmb IAmb 04 20 47.8
comp=Z,7.6nm,0.9s
DBIC Dimbokro 86.32 276 P **P** **04 20 47.3 -0.1**
comp=Z,3.6nm,0.8s,baz=42,slow=6.5,SNR=5.2
DBIC LR LR 05 05 22.4
comp=Z,248nm,18.7s,baz=60,slow=40
comp=Z,3.6nm,0.8s
HNR Honiara 86.38 109 LR LR 04 59 52.0
comp=Z,110nm,19.5s,baz=330,slow=36
HWUT Hardware Ranch 86.75 14 IAmb IAmb 04 20 53.1
comp=Z,11nm,1.1s
L56A Greenwood 86.77 349 P **P** **04 20 49.1 -0.3**
ELK Elko 86.96 17 LR LR 05 03 48.6
comp=Z,148nm,19.6s,baz=341,slow=38
NWAO Narrogin (SRO) 87.20 155 LR LR 05 00 28.2
comp=Z,153nm,21.7s,baz=336,slow=36
MATP Matopo 87.58 233 LR LR 05 02 29.0
comp=Z,128nm,19.3s,baz=23,slow=37
PAOC Oil Creek Stat 87.63 350 P **P** **04 20 51.1 -2.4**
BSUT Blindstream Ca 87.92 14 IAmb IAmb 04 21 09.7
comp=Z,10nm,1.3s
NVAR Mina Array Bea 88.57 20 P **P** **04 20 57.9 -0.5**
comp=Z,2.2nm,0.8s,baz=318,slow=3.6,SNR=7.2
NVAR LR LR 05 04 43.3
comp=Z,294nm,19.0s,baz=340,slow=38
comp=Z,2.2nm,0.8s
O20A White River Ci 88.67 12 IAmb IAmb 04 21 05.7
comp=Z,7.3nm,0.9s
SPR3 Spring Creek 3 88.82 17 IAmb IAmb 04 21 04.4
comp=Z,9.1nm,0.9s
P18A Preston Nutter 88.89 14 IAmb IAmb 04 21 18.0
comp=Z,13nm,1.4s
TMUT Trail Mountain 89.06 14 IAmb IAmb 04 21 05.1
comp=Z,5.9nm,0.8s
DSP Deep Springs 89.66 20 P **P** **04 21 05.5 +2.4**
PV22 Blue Mesa, Par 90.17 13 IAmb IAmb 04 21 09.8
comp=Z,12nm,1.0s
PV23 Carpenter Ridg 90.22 13 IAmb IAmb 04 21 20.4
comp=Z,7.2nm,0.9s
PV20 West Nyswonger 90.34 13 IAmb IAmb 04 21 27.6
comp=Z,13nm,1.3s
PV19 Morning Glory 90.36 13 IAmb IAmb 04 21 13.2
comp=Z,12nm,1.4s
PV15 Paradox Valley 90.40 12 IAmb IAmb 04 21 11.0
comp=Z,11nm,0.9s
PV13 Radium Mtn., P 90.54 13 IAmb IAmb 04 21 11.8
comp=Z,15nm,1.6s
S22A 4UR Ranch, Cre 91.21 11 IAmb IAmb 04 21 16.3
comp=Z,8.8nm,1.5s
TSUM Tsumeb 92.48 243 LR LR 05 07 29.2
comp=Z,202nm,18.5s,baz=334,slow=38
LBTB Lobatse 92.86 233 LR LR 05 04 24.9
comp=Z,140nm,20.9s,baz=30,slow=36
PFO Pinyon Flats O 93.61 20 LR LR 05 05 41.0
comp=Z,159nm,21.8s,baz=335,slow=37
TKL Tuckaleechee C 93.82 353 LR LR 05 04 52.1
comp=Z,237nm,21.7s,baz=7.0,slow=36
ANMO Albuquerque 94.01 11 P **P** **04 21 25.6 +2.0**
ANMO Albuquerque 94.01 11 LR LR 05 09 38.4
comp=Z,226nm,18.4s,baz=94,slow=39
ANMO Albuquerque 94.01 11 P **P** **04 21 25.6 +2.0**
ANMO pmax pmax
comp=Z,4.0nm,1.2s
WMOK Wichita Mounta 94.92 5 IAmb IAmb 04 21 33.6
comp=Z,3.6nm,0.8s
STKA Stephens Creek 95.01 136 P **P** **04 21 28.7 +1.0**
comp=Z,3.0nm,0.7s,baz=341,slow=6.5,SNR=8.8
STKA LR LR 05 07 17.0
comp=Z,89nm,20.3s,baz=347,slow=37
comp=Z,3.0nm,0.7s
BOSA Boshof 95.99 231 LR LR 05 09 33.7
comp=Z,161nm,18.5s,baz=25,slow=38
TXAR Lajitas Array 99.88 10 P **Pdif** **04 21 50.7 +0.6**
comp=Z,0.2nm,0.6s,baz=13,slow=5.9,SNR=3.0
TXAR LR LR 05 09 29.2
comp=Z,91nm,19.7s,baz=338,slow=37
comp=Z,0.2nm,0.6s
DZM Mont Dzumac 100.11 112 *e*LR LR 04 54 31.5
comp=Z,525nm,24.6s
MAW Mawson 119.25 190 PKP **PKiKP** **04 26 54.2 +1.2**
comp=Z,1.9nm,0.9s,baz=306,slow=5.1,SNR=5.4
TAOE Nuku Hiva Isla 122.93 60 *e*LR LR 05 05 04.7
comp=Z,156nm,23.2s
PPT2 Papeete2 124.28 75 *e*LR LR 05 05 31.7
comp=Z,184nm,26.2s
PPT2 *e*LR LR 05 05 35.2
comp=Z,298nm,26.2s
SYO Syowa Base 124.31 199 ⇓*e*Pdiff **Pdif** **04 23 41.3 +4.0**
VNDA Vanda 135.59 163 PKP **PKiKP** **04 27 25.6 +0.1**
comp=Z,0.9nm,0.8s,baz=307,slow=3.4,SNR=4.0
QSPA South Pole Stat 140.31 180 PKhKP PKPpre 04 27 28.3
comp=Z,1.1nm,0.6s,baz=317,slow=1.9,SNR=11
CPUP Villa Florida 143.81 299 PKhKP PKPpre 04 27 36.1
comp=Z,3.9nm,0.7s,baz=256,slow=3.6,SNR=9.4

ASRS **13** *04:13:18.6±0.3,51°N±1°×8°7E±°, h16km±5km, MLh3.6/11, Error ellipse: s-maj=3.4km s-min=2.4km az=51.0, confirmed*
ISC 13 04:13:18.9±1.0**, 50°54N**±0°03×**87°43E**±0°03, **h15**km±9km, **n11**, σ0**s87**/21, **1C-1D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHBI	**Chibit, Altay**	**0.23**	**168**	⇓Pg	**Pg**	**04 13 24.2**	**0.0**
CHBI				Sg	**Sg**	**04 13 27.5**	**-0.3**
AKAR	**Aktash**	**0.26**	**151**	⇑Pg	**Pg**	**04 13 24.6**	**+0.1**
AKAR				Sg	**Sg**	**04 13 28.1**	**-0.3**
ULGR	**Ulagan, Altay**	**0.35**	**76**	Pg	**Pb**	**04 13 26.6**	**-0.3**
ULGR				Sg	**Sg**	**04 13 31.3**	**+0.2**
CUR	**Chagan-Uzun**	**0.74**	**126**	Pg	**Pb**	**04 13 33.4**	**-0.1**
CUR				Sg	**Sb**	**04 13 43.7**	**+0.2**
DGZ	**Jazzator, Alta**	**0.84**	**180**	Pg	**Pg**	**04 13 35.4**	**+0.1**
DGZ				Sg	**Sg**	**04 13 46.3**	**-0.1**
ELDR	**Elanda**	**1.08**	**309**	Pg	**Pg**	**04 13 40.0**	**+0.2**
ELDR				Sg	**Sn**	**04 13 54.2**	**-0.1**
YALR	**Yailyu, Altay**	**1.23**	**5**	Pg	**Pg**	**04 13 42.8**	**+0.2**
YALR				Sg	**Sg**	**04 13 59.3**	**+0.6**
ARTR	**Artybash**	**1.26**	**356**	Pg	**Pg**	**04 13 43.5**	**+0.3**
ARTR				Sg	**Sg**	**04 14 00.4**	**+0.8**
UKR	**Ust'-Kan**	**1.73**	**284**	Pg	**Pg**	**04 13 52.3**	**+0.1**
UKR				Sg	**Sg**	**04 14 15.9**	**+1.3**
TEL	**Teeli**	**1.82**	**74**	Pg	**Pg**	**04 13 54.1**	**+0.3**
TEL				Sg	**Sg**	**04 14 18.1**	**+0.5**
ELT	**Eltsovka**	**2.82**	**345**	Sg	**Sg**	**04 14 46.3**	**-3.1**

ASRS **13** *04:29:45.1±0.2,51°N±1°×8°7E±°, h15km, MLv4.7/12, Error ellipse: s-maj=3.4km s-min=2.2km az=56.4, confirmed*
MOS **13** *04:29:46.2±1.2, 50°.50N×87°.38E, h11km, mb4.7/30, Error ellipse: s-maj=5.2km s-min=3.5km az=93.2*
IDC **13** *04:29:46.0±0.5, 50°.62N×87°.55E, h0km, mb4.3/28, mbtmp4.4/34, ML4.3/7, MS3.8/13, Error ellipse: s-maj=9.4km s-min=8.2km az=170.0*
SOME **13** *04:29:47.3, 50°.23N×88°.38E, h10km*
NEIC **13** *04:29:48.1±2.1, 50°.62N±0°.07×87°.3E±0°.1, h10km±1km, mb4.7/112, Error ellipse: s-maj=15.2km s-min=12.6km*

az=82.0
*NNC **13** 04:29:50.8±1.6,50˙69N×86˙87E,h0km,mb5.2,mpv5.2,*
Error ellipse: s-maj=14.4km s-min=7.7km az=94.0
ISC 13 04:29:47.3±0.5,50˙58N±0˙02×87˙37E±0˙02,h10km±3km,
n342,σ2s01/366,mb4.6/114,MS3.8/13,36C-33D,
Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHBI	**Chibit, Altay**	**0.28**	**162**	⇓Pg	**Pg**	**04 29 50.9**	**-2.0**
CHBI				Sg	**Sg**	**04 29 54.1**	**-2.5**
CHBI	**Chibit, Altay**	**0.28**	**162**	PG	**Pg**	**04 29 50.9**	**-2.0**
AKAR	**Aktash**	**0.30**	**148**	⇓Pg	**Pg**	**04 29 51.3**	**-2.1**
AKAR				Sg	**Sg**	**04 29 54.7**	**-2.7**
AKAR	**Aktash**	**0.30**	**148**	PG	**Pg**	**04 29 51.3**	**-2.1**
ULGR	**Ulagan, Altay**	**0.38**	**83**	⇑Pg	**Pg**	**04 29 53.3**	**-1.5**
ULGR				Sg	**Sg**	**04 29 58.1**	**-1.7**
ULGR	**Ulagan, Altay**	**0.38**	**83**	PG	**Pg**	**04 29 53.3**	**-1.5**
TUNR	**Tungur**	**0.79**	**238**	PG	**Pg**	**04 30 01.7**	**-0.7**
TUNR				S	**Sg**	**04 30 12.2**	**-0.5**
CUR	**Chagan-Uzun**	**0.79**	**127**	Pg	**Pg**	**04 30 00.0**	**-2.5**
CUR				Sg	**Sg**	**04 30 10.2**	**-2.6**
CUR	**Chagan-Uzun**	**0.79**	**127**	PG	**Pg**	**04 30 00.0**	**-2.5**
CUR						04 30 10.2	
DGZ	**Jazzator, Alta**	**0.88**	**177**	⇓Pg	**Pg**	**04 30 02.1**	**-2.1**
DGZ				Sg	**Sg**	**04 30 12.7**	**-2.9**
DGZ	**Jazzator, Alta**	**0.88**	**177**	PG	**Pg**	**04 30 02.1**	**-2.1**
DGZ						04 30 12.7	
ELDR	**Elanda**	**1.03**	**309**	⇑Pg	**Pg**	**04 30 06.6**	**-0.6**
ELDR				Sg	**Sg**	**04 30 20.6**	**0.0**
ELDR	**Elanda**	**1.03**	**309**	PG	**Pg**	**04 30 06.5**	**-0.6**
ELDR						04 30 20.6	
YALR	**Yailyu, Altay**	**1.20**	**7**	Pg	**Pb**	**04 30 09.4**	**-0.9**
YALR				Sg	**Sb**	**04 30 25.0**	**-0.9**
YALR	**Yailyu, Altay**	**1.20**	**7**	PG	**Pb**	**04 30 09.3**	**-0.9**
YALR				S	**Sb**	**04 30 24.1**	**-1.8**
ARTR	**Artybash**	**1.22**	**357**	⇓Pg	**Pb**	**04 30 09.8**	**-0.7**
ARTR				Sg	**Sn**	**04 30 26.7**	**-0.5**
ARTR	**Artybash**	**1.22**	**357**	PG	**Pb**	**04 30 09.9**	**-0.7**
ARTR						04 30 26.4	
UKR	**Ust'-Kan**	**1.69**	**283**	⇑Pg	**Pb**	**04 30 18.5**	**0.0**
UKR				Sg	**Sg**	**04 30 41.7**	**+0.1**
UKR	**Ust'-Kan**	**1.69**	**283**	PN	**Pb**	**04 30 18.3**	**-0.2**
UKR						04 30 42.8	
TEL	**Teeli**	**1.85**	**75**	⇓Pg	**Pn**	**04 30 19.3**	**+0.1**
TEL				Sg	**Sn**	**04 30 42.9**	**+0.2**
TEL	**Teeli**	**1.85**	**75**	PN	**Pn**	**04 30 19.8**	**+0.6**
TEL						04 30 45.3	
ELT	**Eltsovka**	**2.78**	**346**	Pn	**Pb**	**04 30 34.9**	**-2.2**
ELT				Pg	**Pg**	**04 30 37.7**	**-2.8**
ELT				Sg	**Sg**	**04 31 14.9**	**-1.5**
ELT	**Eltsovka**	**2.78**	**346**	PN	**Pb**	**04 30 34.8**	**-2.2**
ELT						04 30 37.6	
ELT						04 31 14.9	
KALT2	**Kaltan 2**	**2.83**	**359**	⇓Pn	**Pb**	**04 30 35.6**	**-2.3**
KALT2				Pg	**Pg**	**04 30 38.4**	**-3.0**
KALT2				Sg	**Sg**	**04 31 15.1**	**-3.0**
LUZB	**Luzhba, Kemero**	**3.23**	**16**	⇓Pn	**Pn**	**04 30 40.8**	**+2.7**
LUZB				Pg	**Pb**	**04 30 44.9**	**+0.2**
LUZB				Sg	**Sg**	**04 31 28.1**	**-2.9**
LUZB	**Luzhba, Kemero**	**3.23**	**16**	PN	**Pn**	**04 30 40.8**	**+2.7**
LUZB						04 30 44.9	
LUZB						04 31 28.0	
VEH	**Verkhnyaya Baz**	**3.24**	**33**	Pn	**Pn**	**04 30 41.3**	**+2.9**
VEH				Pg	**Pb**	**04 30 45.3**	**+0.3**
VEH				Sg	**Sb**	**04 31 26.1**	**+1.5**
VEH	**Verkhnyaya Baz**	**3.24**	**33**	PN	**Pn**	**04 30 41.2**	**+2.9**
VEH						04 30 45.3	
VEH						04 31 26.0	
DJO	**Djoy, Khakassi**	**3.26**	**46**	Pn	**Pn**	**04 30 40.8**	**+2.3**
DJO				Pg	**Pb**	**04 30 45.9**	**+0.7**
DJO				Sg	**Sb**	**04 31 27.5**	**+2.5**
DJO	**Djoy, Khakassi**	**3.26**	**46**	PN	**Pn**	**04 30 40.8**	**+2.3**
DJO						04 30 45.9	
DJO						04 31 27.4	
DJOS	**Djoyskaya Sosn**	**3.35**	**47**	PN	**Pn**	**04 30 42.0**	**+2.3**
CERR	**Cheremushki**	**3.40**	**46**	⇓Pn	**Pn**	**04 30 42.9**	**+2.6**
CERR				Pg	**Pb**	**04 30 48.3**	**+0.8**
CERR				Sg	**Sb**	**04 31 31.3**	**+2.4**
CERR	**Cheremushki**	**3.40**	**46**	PN	**Pn**	**04 30 42.9**	**+2.6**
CERR						04 30 48.3	
CERR						04 31 31.3	
ZSN	**Zaisan** 170nm,0.3s	**3.54**	**209**	*e*P	**Pn**	**04 30 45.9**	**+3.5**
ZSN	4μm,0.7s			*e*S	**Sb**	**04 31 29.4**	**-3.5**
ERU	**Erunakovo, Kuz**	**3.57**	**0**	PN	**Pn**	**04 30 46.0**	**+3.3**
ERU				S	**Sb**	**04 31 29.8**	**-4.1**
ZAA0	**Zalesovo Array**	**3.72**	**336**		**Pn**	**04 30 46.8**	**+1.9**
ZAA0	**Zalesovo Array** 26nm,0.4s	**3.72**	**336**	⇓Pn	**Pn**	**04 30 46.8**	**+1.9**
ZAA0	584nm,0.9s			⇑Lg	Lg	04 31 42.5	
ZALV	**Zalesovo Beam**	**3.72**	**336**		**Pn**	**04 30 46.8**	**+1.9**
ZALV	**Zalesovo Beam** 57nm,0.3s,baz=157,slow=13,SNR=669	**3.72**	**336**	Pn	**Pn**	**04 30 46.5**	**+1.7**
ZALV	80nm,0.3s,baz=162,slow=14,SNR=5.8			Sn	**Sn**	**04 31 29.4**	**+0.7**
ZALV	247nm,0.3s,baz=159,slow=25,SNR=8.2 141nm,0.3s			Lg	Lg	04 31 42.6	
ZALV	**Zalesovo Beam**	**3.72**	**336**	*i* PN	**Pn**	**04 30 46.7**	**+1.9**
ZALV	comp=Z,172nm,0.4s			pmax	pmax		
BJR3	**Bachatsky-3 (S**	**3.73**	**349**	PN	**Pn**	**04 30 48.1**	**+3.2**
BJR3				S	**Sn**	**04 31 32.4**	**+3.5**
BJR1	**Bachatsky 1, K**	**3.76**	**348**	PN	**Pn**	**04 30 48.4**	**+3.1**
BJR1				S	**Sn**	**04 31 32.2**	**+2.6**
BJR2	**Bachatsky-2, K**	**3.79**	**349**	PN	**Pn**	**04 30 49.1**	**+3.4**
BJR2				S	**Sn**	**04 31 33.3**	**+3.0**
POMOR	**Pomortsevo, Ku**	**3.87**	**353**	PN	**Pn**	**04 30 50.6**	**+3.7**
SALR	**Pechorkino, Sa**	**3.98**	**346**	PN	**Pn**	**04 30 51.5**	**+3.1**
SALR				S	**Sn**	**04 31 38.4**	**+3.4**
ARDR	**Aradan**	**4.28**	**60**	PN	**Pn**	**04 30 54.3**	**+1.7**
SEM	**Semipalatinsk** comp=Z,520nm,0.4s	**4.55**	**271**	*e*P	**Pb**	**04 31 04.5**	**-2.8**
SEM	comp=Z,3μm,0.8s			*e*S	**Sb**	**04 32 01.7**	**-0.6**
KEM	**Kemerovo**	**4.84**	**351**	PN	**Pn**	**04 31 03.0**	**+2.9**
KEM				S	**Sn**	**04 31 59.5**	**+3.3**
BSTK	**Bystrovka, Nov**	**4.92**	**326**	PN	**Pn**	**04 31 02.5**	**+1.2**
BSTK				S	**Sn**	**04 32 00.0**	**+1.7**
NVS	**Novosibirsk**	**4.96**	**331**	PN	**Pn**	**04 31 02.6**	**+0.9**
NVS				S	**Sn**	**04 32 00.4**	**+1.3**
NVSII	**Novosibirsk**	**4.96**	**331**	PN	**Pn**	**04 31 02.6**	**+0.9**
NVSII				S	**Sn**	**04 32 00.6**	**+1.5**
MK31	**Makanchi Array** comp=Z,778nm,0.9s,baz=47,slow=13,SNR=3211	**5.06**	**224**	⇓Pn	**Pn**	**04 31 07.0**	**+3.7**
MK31	comp=Z,181nm,0.5s,baz=63,slow=25,SNR=9.8			⇓Sn	**Sn**	**04 32 06.1**	**+4.3**
MK31	comp=Z,900nm,0.8s,baz=46,slow=31,SNR=7.8			⇓Lg	Lg	04 32 25.8	
MK31	**Makanchi Array**	**5.06**	**224**	*ce*PN	**Pn**	**04 31 06.8**	**+3.5**
MKAR	**Makanchi Array** comp=Z,76nm,0.3s,baz=40,slow=12,SNR=2029	**5.06**	**224**	Pn	**Pn**	**04 31 07.0**	**+3.6**
MKAR	comp=Z,182nm,0.3s,baz=60,slow=28,SNR=17			Sn	**Sn**	**04 32 05.6**	**+3.7**
MKAR	comp=Z,56nm,0.3s,baz=45,slow=31,SNR=6.2 comp=Z,435nm,0.7s			Lg	Lg	04 32 23.7	
BRCR	**Berchikul'**	**5.11**	**6**	PN	**Pn**	**04 31 06.3**	**+2.5**
BRCR				S	**Sn**	**04 32 06.3**	**+3.5**
MAKZ	**Makanchi** comp=Z,517nm,0.8s	**5.19**	**225**	Pn	**Pn**	**04 31 08.6**	**+3.5**
MAKZ	comp=Z,876nm,0.7s			Sn	**Sn**	**04 32 09.1**	**+4.0**
MAKZ	comp=Z,2μm,1.0s			Lg	Lg	04 32 28.7	
MAKZ	**Makanchi**	**5.19**	**225**	PN	**Pn**	**04 31 08.6**	**+3.5**
MAKZ				S	**Sn**	**04 32 09.5**	**+4.5**
KURK	**Kurchatov** comp=Z,98nm,0.8s	**5.57**	**275**	⇑Pn	**Pn**	**04 31 12.0**	**+1.8**
KURK	comp=Z,523nm,0.7s			⇑Lg	Lg	04 32 38.3	
KURK	**Kurchatov**	**5.57**	**275**	*c i* PN	**Pn**	**04 31 12.1**	**+1.9**
KURBB	**Kurchatov Arra** comp=Z,510nm,0.7s	**5.63**	**274**	⇓Pn	**Pn**	**04 31 12.9**	**+1.9**
KURBB	comp=Z,4μm,0.9s			⇑Lg	Lg	04 32 38.3	
KURBB	**Kurchatov Arra** comp=Z,17nm,0.3s,baz=86,slow=14,SNR=708	**5.63**	**274**	Pn	**Pn**	**04 31 13.0**	**+1.9**
KURBB				Sn	**Sn**	**04 32 15.8**	**+0.1**
	comp=Z,7.5nm,0.3s,baz=80,slow=28,SNR=4.8						
KURBB				Lg	Lg	04 32 42.5	
	comp=Z,21nm,0.3s,baz=88,slow=34,SNR=8.2						
KURBB				LR	LR	04 33 33.9	
	comp=Z,910nm,18.7s,baz=342,slow=40 comp=Z,337nm,0.6s						
KURBB	**Kurchatov Arra**	**5.63**	**274**	PN	**Pn**	**04 31 12.9**	**+1.9**
KURBB				S	**Sb**	**04 32 38.3**	**+5.2**
WMQ	**Urumqi**	**6.76**	**178**	Pn	Pn	04 31 31.6	+4.9
WMQ				smax	smax		
	comp=Z,400nm,1.1s						
WMQ				smax	smax		
	comp=Z,470nm,1.1s						
PDGK	**Podgornoye** comp=Z,74nm,0.4s	**9.03**	**220**	⇑Pn	**Pn**	**04 31 58.8**	**+1.0**
PDGK				⇑Sn	**Sn**	**04 33 40.3**	**+0.8**
	comp=Z,303nm,0.7s						
PDGK				⇓Lg	Lg	04 34 35.2	
	comp=Z,497nm,1.1s						
PDGK	**Podgornoye**	**9.03**	**220**	P	**Pn**	**04 31 58.8**	**+1.0**
PDGK				S	**Sn**	**04 33 40.3**	**+0.8**
PRZ	**Przheval'sk**	**10.18**	**221**		**Pn**	**04 32 16.9**	**+3.3**
PRZ	**Przheval'sk**	**10.18**	**221**	P	**Pn**	**04 32 16.9**	**+3.3**
IRK	**Irkutsk**	**10.69**	**74**	*e*P	**Pn**	**04 32 21.8**	**+1.4**
IRK	comp=N,119nm,0.1s			pmax	pmax		
BVA0	**Borovoye Array** comp=N,26nm,0.6s,baz=98,slow=16,SNR=182	**10.80**	**290**	⇓Pn	**Pn**	**04 32 21.2**	**-0.7**
BVA0	comp=N,97nm,0.7s,baz=39,slow=24,SNR=7.5			⇓Sn	**Sn**	**04 34 17.8**	**-4.9**
BVA0	**Borovoye Array**	**10.80**	**290**	P	**Pn**	**04 32 21.2**	**-0.7**
BVA0				S	**Sn**	**04 34 17.8**	**-4.9**
BVAR	**Borovoye Array** comp=N,1.2nm,0.3s,baz=94,slow=14,SNR=172	**10.80**	**290**	Pn	**Pn**	**04 32 22.9**	**+1.0**
BVAR	comp=N,2.5nm,0.3s,baz=104,slow=24,SNR=13			Sn	**Sn**	**04 34 20.6**	**-2.1**
BVAR	comp=N,398nm,21.8s,baz=72,slow=39 comp=N,44nm,0.6s			LR	LR	04 36 49.0	
KDJ	**Kajisay**	**10.99**	**224**		**Pn**	**04 32 26.6**	**+1.9**
KDJ	**Kajisay**	**10.99**	**224**	P	**Pn**	**04 32 26.6**	**+1.9**
TARG	**Taragay, Kyrgy**	**11.05**	**220**		**Pn**	**04 32 28.8**	**+3.1**
TARG	**Taragay, Kyrgy**	**11.05**	**220**	P	**Pn**	**04 32 28.8**	**+3.1**
AAK	**Ala-Archa**	**11.88**	**233**		**Pn**	**04 32 37.3**	**+0.5**
AAK	**Ala-Archa** comp=N,6.1nm,0.6s	**11.88**	**233**	⇑Pn	**Pn**	**04 32 37.8**	**+0.9**
AAK	comp=N,33nm,0.8s			⇑Sn	**Sn**	**04 34 50.9**	**+1.4**
AAK	comp=N,547nm,1.5s			⇓Lg	Lg	04 36 01.9	
AAK	**Ala-Archa** comp=N,2.4nm,0.3s,baz=82,slow=7.8,SNR=7.7	**11.88**	**233**	Pn	**Pn**	**04 32 38.3**	**+1.4**
AAK	comp=N,1.4nm,0.3s,baz=301,slow=18,SNR=4.9			Sn	**Sn**	**04 34 46.3**	**-3.2**
AAK	comp=N,2.1nm,0.3s,baz=8.5,slow=19,SNR=3.6 comp=N,8.1nm,0.4s			Lg	Lg	04 35 59.8	
AAK	**Ala-Archa**	**11.88**	**233**	*ce*P	**Pn**	**04 32 38.0**	**+1.1**
AAK	comp=Z,14nm,0.7s			pmax	pmax		
NRN	**Naryn**	**12.07**	**225**		**Pn**	**04 32 44.0**	**+4.4**
NRN	**Naryn**	**12.07**	**225**	P	**Pn**	**04 32 44.1**	**+4.4**
SONM	**Songino Array** comp=Z,0.2nm,0.3s,baz=282,slow=14,SNR=4.2	**12.74**	**95**	Pn	**Pn**	**04 32 48.5**	**0.0**
SONM	comp=Z,0.4nm,0.3s,baz=273,slow=27,SNR=2.2			Sn	**Sn**	**04 35 02.9**	**-7.5**
SONM	comp=Z,0.8nm,0.3s,baz=292,slow=28,SNR=2.8			Lg	Lg	04 36 22.0	
SONM	comp=Z,488nm,19.8s,baz=304,slow=39			LR	LR	04 37 55.8	
ULN	**Ulaanbaatar** comp=Z,1.0nm,1.1s	**13.15**	**94**	*i* P	**Pn**	**04 32 55.7**	**+1.6**
ULN				pmax	pmax		
KSH	**Kashi** comp=Z,22nm,1.1s	**13.66**	**220**	P	**P**	**04 33 10.8**	**+0.7**
KSH	comp=Z,820nm,6.5s			pmax	pmax		
KSH	comp=Z,2μm,12.6s			LR	LR		
KSH	comp=Z,2μm,10.3s			LR	LR		
KK31	**Karatay Array** comp=Z,22nm,0.8s,baz=55,slow=10,SNR=12	**13.73**	**244**	Pn	**Pn**	**04 33 00.5**	**-1.5**
KK31	comp=Z,21nm,0.6s,baz=48,slow=19,SNR=3.6			⇑Sn	**Sn**	**04 35 34.7**	**+0.3**
KK31	comp=Z,112nm,0.8s,baz=47,slow=28,SNR=6.1			⇑Lg	Lg	04 37 01.8	
KKAR	**Karatay Array**	**13.73**	**244**	Pn	**Pn**	**04 33 00.7**	**-1.3**
KKAR	**Karatay Array**	**13.73**	**244**	P	**Pn**	**04 33 00.7**	**-1.3**
GTA	**Gaotai**	**14.20**	**137**	*e*P	**Pn**	**04 33 07.8**	**-0.7**
GTA				sP	P	04 33 16.3	+0.3
GTA	comp=Z,3.0nm,1.3s			pmax	pmax		
GTA	comp=Z,2μm,11.3s			LR	LR		
GTA	comp=Z,2μm,10.5s			LR	LR		
GTA	comp=Z,500nm,11.3s			LR	LR		
GOMU	**GeErMu**	**15.34**	**157**	P	**P**	**04 33 29.1**	**+0.1**
GOMU				pP	pP	04 33 32.3	0.0
GOMU				sP	sP	04 33 36.8	+3.0
GOMU				S	**Sn**	**04 36 21.9**	**+7.5**
GOMU	comp=Z,10.0nm,1.0s			pmax	pmax		
GOMU	comp=Z,330nm,8.1s			LR	LR		
GOMU	comp=Z,470nm,8.9s			LR	LR		
GOMU	comp=Z,310nm,8.8s			LR	LR		
GAR	**Garm**	**16.70**	**233**		**P**	**04 33 43.2**	**-0.6**
SVE	**Sverdlovsk**	**16.95**	**302**	*e*P	**Pn**	**04 33 42.5**	**-1.8**
SVE	comp=Z,45nm,1.3s			pmax	pmax		
CHGR	**Chuyangaron**	**17.55**	**234**		**Pn**	**04 33 50.9**	**-1.2**
CHGR	comp=Z,76nm,1.0s			IAmb	IAmb	04 33 59.4	
CHGR	**Chuyangaron**	**17.55**	**234**	P	**Pn**	**04 33 50.9**	**-1.2**
CHGR	comp=Z,77nm,1.0s			pmax	pmax		
SIMJ	**Simiganj**	**17.63**	**235**		**Pn**	**04 33 51.7**	**-1.4**
AB31	**Akbulak array**	**17.68**	**276**		**Pn**	**04 33 52.0**	**-1.5**
AB31	**Akbulak array** comp=Z,12nm,0.6s,baz=79,slow=15,SNR=118	**17.68**	**276**	⇑Pn	**Pn**	**04 33 51.3**	**-2.1**
AB31	comp=Z,55nm,1.4s,baz=84,slow=28,SNR=3.7			⇑Lg	Lg	04 38 59.6	
AB31	**Akbulak array**	**17.68**	**276**	P	**Pn**	**04 33 51.3**	**-2.1**
ABKAR	**Akbulak array**	**17.68**	**276**		**Pn**	**04 33 51.1**	**-2.3**
ARTI	**Arti**	**18.12**	**300**		**Pn**	**04 33 56.5**	**-2.3**
ARTI	**Arti** comp=Z,18nm,1.0s,baz=102,slow=8.2,SNR=18	**18.12**	**300**	P	**Pn**	**04 33 56.7**	**-2.1**
ARTI	comp=Z,5.4nm,0.4s,baz=53,slow=24,SNR=2.1			S	**Sn**	**04 37 11.5**	**-9.3**
ARTI	comp=Z,252nm,18.1s,baz=131,slow=40			LR	LR	04 42 03.0	
ARTI	**Arti**	**18.12**	**300**	*c i* P	**Pn**	**04 33 57.3**	**-1.5**
ARTI				S	**Sn**	**04 37 19.3**	**-1.5**
ARTI	comp=Z,38nm,1.3s			pmax	pmax		
AKTO	**Aktyubinsk** comp=Z,33nm,1.2s	**18.62**	**281**	⇑Pn	**P**	**04 34 02.3**	**-2.5**
AKTO	comp=Z,10nm,0.8s			⇓Sn	**Sn**	**04 37 31.7**	**-1.4**
AKTO	comp=Z,38nm,1.5s			⇑Lg	Lg	04 39 35.0	
AKTO	**Aktyubinsk** comp=Z,36nm,1.0s,baz=72,slow=9.5,SNR=43	**18.62**	**281**	P	**P**	**04 34 03.3**	**-1.5**
AKTO	comp=Z,0.2nm,0.3s,baz=164,slow=16,SNR=3.6			Lg	Lg	04 39 36.2	
AKTO	comp=Z,285nm,18.2s,baz=70,slow=37			LR	LR	04 41 18.7	
AKTO	**Aktyubinsk**	**18.62**	**281**	P	**P**	**04 34 02.3**	**-2.5**
BTO	**Baotou**	**18.66**	**114**	*e*P	**P**	**04 34 04.8**	**-0.6**
BTO				S	**Sn**	**04 37 32.0**	**-2.3**
BTO	comp=Z,14nm,0.5s			pmax	pmax		
BTO	comp=Z,400nm,7.9s			pmax	pmax		
BTO	comp=Z,880nm,7.6s			LR	LR		
BTO	comp=Z,770nm,7.1s			LR	LR		
BTO	comp=Z,820nm,6.9s			LR	LR		
LZH	**Lanzhou**	**18.73**	**134**	*e*P	**Pn**	**04 34 09.0**	**+2.3**
LZH				pP	sP	04 34 12.8	+1.8
LZH	comp=Z,17nm,1.1s			pmax	pmax		
LZH	comp=Z,1μm,14.3s			LR	LR		
LZH	comp=Z,1μm,12.4s			LR	LR		
LZH	comp=Z,500nm,12.7s			LR	LR		
LZDM	**Lanzhou Array** baz=309,slow=9.4 comp=Z,0.8nm,0.3s	**18.77**	**135**	P	**P**	**04 34 06.3**	**-0.6**
HHC	**Hu-ho-hao-te**	**19.42**	**111**	*e*P	**Pn**	**04 34 15.6**	**+0.8**
HHC	comp=Z,11nm,0.6s			pmax	pmax		
HHC	comp=Z,89nm,4.4s			pmax	pmax		
HHC	comp=Z,230nm,5.4s			LR	LR		
HHC	comp=Z,280nm,5.9s			LR	LR		
HHC	comp=Z,380nm,8.8s			LR	LR		
NIL	**Nilore**	**19.84**	**217**	P	**P**	**04 34 17.7**	**-0.5**
NIL	**Nilore**	**19.84**	**217**	P	**P**	**04 34 17.7**	**-0.5**
NIL	comp=Z,54nm,0.8s			pmax	pmax		
XLT	**XiLinHaoTe**	**20.52**	**98**	*e*P	Pn	04 34 28.1	+0.3
XLT				sP	sP	04 34 35.0	+4.6
XLT	comp=Z,18nm,1.0s			pmax	pmax		
XLT	comp=Z,140nm,5.1s			pmax	pmax		
XLT	comp=Z,550nm,8.2s			LR	LR		
XLT	comp=Z,640nm,8.4s			LR	LR		
HIA	**Hailar**	**20.80**	**81**	P	**P**	**04 34 29.5**	**+0.9**
HIA	**Hailar**	**20.80**	**81**	P	**P**	**04 34 29.5**	**+0.9**
HIA	comp=Z,22nm,1.2s			pmax	pmax		
KBL	**Kabul**	**20.86**	**227**	P	**P**	**04 34 29.5**	**-0.1**
KBL	**Kabul**	**20.86**	**227**	P	**P**	**04 34 29.5**	**-0.1**
KBL	comp=Z,17nm,0.8s			pmax	pmax		
LSA	**Lhasa**	**21.05**	**171**		**P**	**04 34 33.5**	**+1.7**
LSA	**Lhasa**	**21.05**	**171**	P	**P**	**04 34 33.6**	**+1.7**
LSA	comp=Z,13nm,0.8s			pmax	pmax		
EVN	**Everest**	**22.59**	**181**	P	**P**	**04 34 50.2**	**+1.6**
BJI	**Beijing**	**22.70**	**107**	P	**P**	**04 34 53.8**	**+4.9**
BJI	comp=Z,7.0nm,0.9s			pmax	pmax		
BJT	**Baijiatuau**	**22.70**	**107**	P	**P**	**04 34 49.8**	**+0.8**
BJT	**Baijiatuau**	**22.70**	**107**	P	**P**	**04 34 49.8**	**+0.8**
BJT	comp=Z,13nm,1.0s			pmax	pmax		
XAN	**Xi'an**	**22.83**	**128**	P	**P**	**04 34 49.8**	**-0.6**
XAN				S	**S**	**04 38 59.6**	**-0.1**
XAN	comp=Z,13nm,1.1s			pmax	pmax		
XAN	comp=Z,260nm,4.1s			pmax	pmax		
XAN	comp=Z,1μm,10.3s			LR	LR		
XAN	comp=Z,690nm,10.7s			LR	LR		
XAN	comp=Z,660nm,10.8s			LR	LR		
KIRV	**Kirov**	**23.14**	**305**	*ce*P	**P**	**04 34 54.2**	**+0.9**
CD2	**Chengdu**	**23.14**	**142**	P	**P**	**04 34 56.1**	**+2.4**
CD2	comp=Z,20nm,0.7s			pmax	pmax		
HNS	**HongShan**	**23.51**	**114**	⇑P	**P**	**04 35 00.4**	**+3.1**
HNS	comp=Z,23nm,1.3s			pmax	pmax		
HRA	**Herat**	**24.43**	**238**	P	**P**	**04 35 05.8**	**-0.5**
HRA	comp=Z,12nm,0.8s			IAmb	IAmb	04 35 11.6	
BELG	**Belogornoye**	**24.61**	**290**	*i* P	**P**	**04 35 07.6**	**+0.2**
BELG	comp=Z,11nm,1.0s			pmax	pmax		
HEH	**HeiHe**	**25.31**	**75**	*e*P	**P**	**04 35 17.6**	**+3.8**
HEH	comp=Z,2μm,8.8s			LR	LR		
HEH	comp=Z,560nm,8.4s			LR	LR		
HEH	comp=Z,500nm,8.0s			LR	LR		
YAK	**Yakutsk** comp=Z,263nm,18.8s,baz=330,slow=38	**25.62**	**47**	LR	LR	04 45 51.4	
YAK	**Yakutsk**	**25.62**	**47**	*e*P	**P**	**04 35 16.0**	**-0.5**
YAK				*e*PP	**sP**	**04 35 24.8**	**+3.4**
YAK				*e*		04 35 53.5	
YAK				*e*S	**S**	**04 39 44.6**	**+0.2**
YAK				*e*SS	**sS**	**04 39 52.7**	**+2.7**
YAK				*e*SS	**SnSn**	**04 40 43.3**	**+5.4**
YAK	comp=Z,14nm,0.8s			pmax	pmax		
YAK	comp=E,3.0nm,1.0s			pmax	pmax		
YAK	comp=N,3.0nm,0.8s			pmax	pmax		
YAK	comp=Z,195nm,6.4s			pmax	pmax		
YAK	comp=N,114nm,5.4s			pmax	pmax		
YAK	comp=E,150nm,5.6s			smax	smax		
YAK	comp=E,4.0nm,0.9s			smax	smax		
YAK	comp=N,3.0nm,0.6s						
TIA	**Tai'an** comp=N,10.0nm,1.7s	**25.74**	**112**	P	**P**	**04 35 21.8**	**+3.9**
TIA				pmax	pmax		
PZH	**PanZhiHua**	**26.44**	**150**	P	**P**	**04 35 27.8**	**+3.4**
TNCH	**TengChong**	**26.92**	**157**	P	**P**	**04 35 31.4**	**+2.6**
TNCH				pP	sP	04 35 34.1	+0.3
TNCH	comp=N,29nm,0.7s			pmax	pmax		
MAK	**Makhachkala**	**28.07**	**270**	*d i* P	**P**	**04 35 34.9**	**-3.9**
MAK				*e*		04 36 22.7	
MAK				*e*S	**S**	**04 40 19.2**	**-4.1**
MAK	comp=Z,129nm,1.2s			pmax	pmax		
MAK	comp=Z,472nm,14.0s			MLR	MLR		
TIXI	**Tiksi** comp=Z,159nm,19.8s,baz=268,slow=35	**28.12**	**26**	LR	LR	04 46 16.3	
TIXI	**Tiksi**	**28.12**	**26**	*ce*P	**P**	**04 35 38.5**	**-0.4**
TIXI	comp=Z,9.0nm,1.0s			pmax	pmax		
KLMR	**Klimovskoe**	**28.21**	**310**	*e*P	**P**	**04 35 38.5**	**-1.4**
KLMR				*e*		04 36 27.6	
KLMR	comp=Z,20nm,1.1s			pmax	pmax		
GYA	**Guiyang**	**28.25**	**141**	P	**P**	**04 35 43.8**	**+3.1**
GYA	comp=Z,14nm,1.0s			pmax	pmax		
GYA	comp=Z,260nm,13.2s			LR	LR		
VRH	**Novokhopyorsk**	**28.45**	**289**	*e*P	**P**	**04 35 40.6**	**-1.5**
VRH	comp=Z,10.0nm,0.9s			pmax	pmax		
NJ2	**Nanjing**	**29.71**	**117**	*e*P	**P**	**04 35 55.5**	**+2.1**
NJ2	comp=Z,10.0nm,1.1s			pmax	pmax		
LPSR	**Galich'ya Gora**	**29.72**	**293**	*e*P	**P**	**04 35 52.3**	**-1.0**
LPSR	comp=Z,10.0nm,0.9s			pmax	pmax		
VSR	**Storozhevoye** comp=Z,10.0nm,1.1s	**29.98**	**290**	*e*P	**P**	**04 35 54.3**	**-1.4**
VSR				pmax	pmax		
OBN	**Obninsk**	**30.45**	**299**	⇓*e*P	**P**	**04 36 00.2**	**+0.4**
OBN				*e*PP	**pP**	**04 36 01.7**	**-1.5**
OBN				*e*SP	**sP**	**04 36 03.2**	**-1.5**
OBN				PPP	PPP	04 37 15.0	
OBN				S	**S**	**04 40 58.0**	**-2.5**
OBN	comp=Z,14nm,1.0s			pmax	pmax		
OBN	comp=Z,160nm,15.0s			MLR	MLR	

comp=Z,2.5nm,0.8s
KBZ Khabaz 30.63 275 P **P** **04 36 03.1 +1.6**
comp=Z,2.2nm,0.8s,baz=24,slow=10.0,SNR=2.7
KBZ LR LR 04 49 58.3
comp=Z,113nm,18.1s,baz=16,slow=39
comp=Z,2.2nm,0.8s
KBZ Khabaz 30.63 275 *i* P **P** **04 36 00.7 -0.8**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
KIV Kislovodsk 30.66 275 *eP* **P** **04 36 02.0 +0.2**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,53nm,15.0s
MSHR Mys Shultsa 30.76 88 *i* P **P** **04 36 04.1 +1.5**
MSHR pmax pmax
comp=Z,22nm,1.2s
SHA1 Shidzhatmaz 30.78 275 *i* P **P** **04 36 04.5 +1.4**
GNI Garni 31.31 267 *i* P **P** **04 36 08.2 +0.5**
GNI pmax pmax
comp=Z,10.0nm,1.0s
KSRS Korea Array 31.57 99 P **P** **04 36 10.5 +0.7**
comp=Z,3.0nm,0.9s,baz=301,slow=6.6,SNR=11
comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr 33.35 160 P **P** **04 36 26.1 +0.5**
CMAR Chiang Mai Arr 33.35 160 P **P** **04 36 26.2 +0.7**
comp=Z,1.5nm,0.4s,baz=342,slow=9.2,SNR=8.7
comp=Z,1.5nm,0.4s
ARA0 ARCESS Array S 34.22 327 *eP* **P** **04 36 33.1 +0.4**
ARCES ARCESS Array B 34.22 327 P **P** **04 36 33.1 +0.5**
comp=Z,3.4nm,0.9s,baz=83,slow=8.7,SNR=17
ARCES PcP **PcP** **04 39 09.1 +0.1**
comp=Z,3.8nm,0.7s,baz=106,slow=4.4,SNR=5.1
comp=Z,3.4nm,0.9s
FINES FINESS Array B 34.64 312 P **P** **04 36 37.0 +0.6**
comp=Z,4.0nm,0.6s,baz=83,slow=9.0,SNR=15
FINES PcP **PcP** **04 39 10.1 -0.2**
comp=Z,2.4nm,0.8s,baz=64,slow=3.2,SNR=1.8
comp=Z,4.0nm,0.6s
HAMF Hammerfest 34.86 328 *eP* **P** **04 36 35.7 -2.5**
KTK1 Kautokeino 35.03 326 *eP* **P** **04 36 39.6 0.0**
MNK Minsk 35.45 300 *i* P **P** **04 36 43.4 0.0**
comp=E,6.0nm,0.6s
MNK *i* P **P** **04 36 43.4 0.0**
comp=N,4.0nm,0.6s
MNK *i* P **P** **04 36 43.4 0.0**
comp=Z,8.0nm,0.7s,baz=71
MNK *i* PP **PnPn** **04 38 02.5 +0.6**
MNK *i* PPP PPP 04 38 15.8
MNK *i* S **S** **04 42 19.9 +1.7**
MNK *i* SS SnSn 04 44 11.5 -26
MNK *i* SSS SSS 04 45 00.4
MNK Minsk 35.45 300 *i* P **P** **04 36 43.4 0.0**
MNK *i* 04 38 02.5
MNK *i* 04 39 12.1
MNK *i* S **S** **04 42 19.9 +1.7**
MNK *i* SSS SSS 04 45 00.4
MNK *i* 04 47 02.9
MNK pmax pmax
comp=N,4.0nm,0.6s
MNK pmax pmax
comp=E,6.0nm,0.6s
MNK pmax pmax
comp=Z,8.0nm,0.7s
MARD Mardin 35.48 266 P **P** **04 36 43.0 -1.0**
NACGM Naroch 35.93 301 *eP* **P** **04 36 48.8 +1.2**
JETT Jettan, Norway 36.01 327 *eP* **P** **04 36 48.9 +0.8**
AKASG Malin Array Be 36.05 293 P **P** **04 36 48.8 +0.2**
comp=Z,3.2nm,0.6s,baz=60,slow=8.9,SNR=10
AKASG LR LR 04 52 04.1
comp=Z,247nm,18.7s,baz=93,slow=37
comp=Z,3.2nm,0.6s
AKASG Malin Array Be 36.05 293*ceP* **P** **04 36 51.4 +2.8**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 36.05 293 P **P** **04 36 48.6 +0.1**
AKBB IAmb IAmb 04 36 51.9
comp=Z,7.5nm,0.8s
AKBB Malin Array Si 36.05 293 *i* P **P** **04 36 48.3 -0.3**
AKBB pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 36.06 293 P **P** **04 36 48.5 -0.1**
KIEV Kiev 36.06 293 ⇓P **P** **04 36 49.2 +0.5**
KIEV Kiev 36.06 293 P **P** **04 36 49.2 +0.5**
SEY Seymchan 36.08 45 LR LR 04 52 05.4
comp=Z,113nm,18.6s,baz=280,slow=37
SEY Seymchan 36.08 45 *eP* **P** **04 36 44.4 -4.3**
SEY pmax pmax
comp=Z,6.0nm,1.5s
TRO Tromso 36.52 327 *eP* **P** **04 36 52.7 +0.3**
SPITS Spitsbergen Ar 37.19 341 P **P** **04 36 58.7 +0.6**
comp=Z,6.1nm,0.8s,baz=96,slow=15,SNR=2.0
SPITS PcP **PcP** **04 39 17.8 +0.2**
comp=Z,5.9nm,0.6s,baz=132,slow=2.1,SNR=2.7
comp=Z,6.1nm,0.8s
BNN Bunyan 37.72 272 P **P** **04 37 01.9 -1.2**
BNN IAmb IAmb 04 37 06.3
comp=Z,14nm,1.1s
MILM Milestii Mici 37.92 288 ⇑P **P** **04 37 04.9 +0.3**
MILM Milestii Mici 37.92 288 P **P** **04 37 04.8 +0.3**
STEI Steigen 38.08 324 *eP* **P** **04 37 05.8 +0.2**
FAUS Fauske 38.16 323 *eP* **P** **04 37 06.6 +0.3**
BR131 Keskin Array S 38.62 275 IAmb IAmb 04 37 13.4
comp=Z,22nm,1.0s
BR131 Keskin Array S 38.62 275 *i* P **P** **04 37 11.5 +0.8**
BRTR Keskin Array B 38.62 275 P **P** **04 37 12.2 +1.4**
BRTR Keskin Array B 38.62 275 P **P** **04 37 12.4 +1.7**
comp=Z,12nm,0.8s,baz=77,slow=7.1,SNR=49
BRTR PcP **PcP** **04 39 22.8 0.0**
comp=Z,2.0nm,0.8s,baz=52,slow=4.4,SNR=3.6
comp=Z,12nm,0.8s
BRTR Keskin Array B 38.62 275*ceP* **P** **04 37 12.3 +1.6**
BRTR pmax pmax
comp=Z,12nm,0.8s
MJAR Matsushiro Arr 38.65 91 LR LR 04 53 34.4
comp=Z,175nm,19.0s,baz=318,slow=37
LOF Lofoten 38.67 325 *eP* **P** **04 37 10.2 -0.3**
MOR8 Moi Rana 38.74 322 *eP* **P** **04 37 10.5 -0.8**
KIRS Kirsehir-Merke 38.78 274 ⇓P **P** **04 37 14.0 +2.0**
JOW Kunigami 39.06 112 LR LR 04 53 32.7
comp=Z,120nm,20.5s,baz=96,slow=37
VAGH Vaagaholmen 39.07 323 *eP* **P** **04 37 13.9 0.0**
ANTO Ankara 39.08 276 ⇑P **P** **04 37 16.3 +1.9**
ANTO Ankara 39.08 276 P **P** **04 37 16.3 +1.9**
TPGR Topolog 39.16 285 ⇓P **P** **04 37 15.2 +0.2**
CFR Carcaliu 39.17 286 ⇑P **P** **04 37 16.4 +1.3**
CFR Carcaliu 39.17 286 P **P** **04 37 16.3 +1.3**
KONS Konsvik 39.18 322 *eP* **P** **04 37 15.4 +0.5**
STOK Stokkvaagen 39.26 322 *eP* **P** **04 37 15.6 0.0**
TESR Tescani 39.42 288 ⇑P **P** **04 37 17.9 +0.8**
BURAR Bucovina Array 39.76 291 P **P** **04 37 20.8 +0.7**
BURAR Bucovina Array 39.76 291 ⇓P **P** **04 37 21.2 +1.2**
BURAR Bucovina Array 39.76 291 P **P** **04 37 21.2 +1.2**
ISR Istrita 40.17 287 ⇓P **P** **04 37 25.5 +1.9**
ISR Istrita 40.17 287 P **P** **04 37 25.4 +1.9**
MLR Muntele Rosu 40.35 287 P **P** **04 37 26.6 +1.5**
MLR Muntele Rosu 40.35 287 ⇓P **P** **04 37 26.1 +1.0**
MLR Muntele Rosu 40.35 287 P **P** **04 37 26.1 +1.0**
DOPR Dopca 40.45 288 ⇑P **P** **04 37 27.2 +1.4**
BILL Bilibino 40.54 35 *i* P **P** **04 37 27.0 +0.8**
BILL pmax pmax
comp=Z,3.0nm,1.1s
HFS Hagfors 40.83 313 P **P** **04 37 28.8 +0.1**
comp=Z,11nm,0.7s,baz=82,slow=11,SNR=24
comp=Z,11nm,0.7s
ARR Arges 41.21 288 ⇓P **P** **04 37 33.8 +1.7**
NC405 NORSAR Array S 41.40 315 P **P** **04 37 33.8 +0.4**
MARR Marisel-Cluj 41.46 291 ⇑P **P** **04 37 35.0 +0.8**
MMAI Mount Meron Ar 41.60 265 P **P** **04 37 37.0 +1.5**
comp=Z,5.7nm,0.6s,baz=58,slow=7.0,SNR=7.8
comp=Z,5.7nm,0.6s
NC602 NORSAR Array S 41.61 314 *eP* **P** **04 37 35.2 +0.1**
DRGR 41.65 291 ⇑P **P** **04 37 37.0 +1.3**
DRGR 41.65 291 P **P** **04 37 36.9 +1.3**
NB2 NORSAR Subarra 41.65 315 P **P** **04 37 35.3 -0.2**
comp=Z,6.0nm,0.5s,baz=66,slow=7.9
NB2 NORSAR Subarra 41.65 315 P **P** **04 37 35.3 -0.2**
comp=Z,6.0nm,0.5s,baz=66,slow=7.9
NOA NORSAR Array B 41.65 315 P **P** **04 37 35.4 -0.1**
comp=Z,4.5nm,0.6s,baz=64,slow=7.8,SNR=41
comp=Z,4.5nm,0.6s
ELND Elena 41.73 284 ⇑P **P** **04 37 37.2 +0.9**
PETK Petropavlovsk- 41.92 58 P **P** **04 37 35.7 -2.1**
comp=Z,1.6nm,0.7s,baz=287,slow=10,SNR=3.5
comp=Z,1.6nm,0.7s
RAYN Ar Rayn 42.14 246 P **P** **04 37 40.3 +0.4**
RAYN IAmb IAmb 04 37 41.2
comp=Z,11nm,0.7s
RAYN Ar Rayn 42.14 246 P **P** **04 37 40.3 +0.4**
RAYN pmax pmax
comp=Z,11nm,0.7s
DEL Delary 42.15 308 *i* P **P** **04 37 39.5 0.0**
BSD Bornholm Skovb 42.19 305 *i* P **P** **04 37 39.8 0.0**
BORU Boraas 42.23 309 *i* P **P** **04 37 40.2 +0.1**
DOMB Dombas 42.24 317 *eP* **P** **04 37 40.3 +0.1**
STRU Stroemstad 42.43 312 *i* P **P** **04 37 41.8 0.0**
FABU Falkenberg 42.51 309 *i* P **P** **04 37 42.7 +0.2**
SURR Surduc 42.52 290 ⇓P **P** **04 37 44.7 +1.9**
TJOU Tjoern 42.62 310 *i* P **P** **04 37 43.6 +0.3**
GHAJ Ghor Haditha 42.63 263 P **P** **04 37 44.8 +1.1**
GHAJ IAmb IAmb 04 37 46.8
comp=Z,15nm,0.9s
LUNU Lund 42.72 307 *i* P **P** **04 37 45.1 +0.9**
ONAU Onsala 42.74 309 *i* P **P** **04 37 44.3 0.0**
BJUU Bjuv 42.75 307 *i* P **P** **04 37 44.9 +0.6**
HERR Herculane 42.80 289 ⇓P **P** **04 37 46.4 +1.4**
BZS Buzias 42.90 290 ⇓P **P** **04 37 47.3 +1.4**
BZS Buzias 42.90 290 P **P** **04 37 47.2 +1.4**
SKAR Skarslia 43.10 315 *eP* **P** **04 37 48.0 +0.7**
MORC Moravsky Berou 43.19 297 ⇓P **P** **04 37 49.5 +1.4**
MORC Moravsky Berou 43.19 297 P **P** **04 37 49.5 +1.4**
MDVR Moldovita 43.28 289 ⇓P **P** **04 37 50.5 +1.6**
BOVS Bovan 43.90 287 ⇓P **P** **04 37 55.5 +1.6**
MORH Mrgy, Hungar 44.36 292 ⇑P **P** **04 37 59.1 +1.6**
TREC Trest 44.59 298 *eP* **P** **04 38 01.1 +1.7**
TREC Trest 44.59 298 *eP* **P** **04 38 01.1 +1.7**
PRU Pruhonice 44.77 299 *eP* **P** **04 38 02.2 +1.4**
PRU Pruhonice 44.77 299 *eP* **P** **04 38 02.2 +1.4**
RONA Rosalia, Austr 44.95 295 *i* pP pP 04 38 04.5 -1.3
comp=Z,2.0nm,1.1s
CLL Collm 44.96 301 IAmb IAmb 04 38 03.9
comp=Z,9.8nm,0.7s
CLL Collm 44.96 301 *i* P **P** **04 38 03.0 +0.7**
CLL pmax pmax
comp=Z,12nm,0.6s
CLL Collm 44.96 301 *i* P **P** **04 38 03.0 +0.7**
comp=Z,12nm,0.6s
CLL *i* x x 04 38 08.0
CONA Conrad Observa 45.08 296 *i* pP pP 04 38 05.6 -1.3
comp=Z,2.4nm,0.7s
ZVC Zvikov 45.25 298 *eP* **P** **04 38 05.8 +1.2**
CKRC Cesky Krumlov 45.50 298 *eP* **P** **04 38 08.4 +1.8**
CKRC Cesky Krumlov 45.50 298 *eP* **P** **04 38 08.4 +1.8**
KHC Kasperske Hory 45.75 298 *eP* **P** **04 38 10.0 +1.4**
KHC Kasperske Hory 45.75 298 *eP* **P** **04 38 10.0 +1.4**
GERES GERESS Array B 45.83 298 P **P** **04 38 10.1 +0.7**
comp=Z,1.3nm,0.8s,baz=51,slow=7.0,SNR=7.7
comp=Z,1.3nm,0.8s
MOA Molln 46.03 296 *i* P **P** **04 38 10.5 -0.4**
comp=Z,2.3nm,0.8s
SOKA Soboth 46.22 295 *i* pP **P** **04 38 12.7 +0.3**
comp=Z,2.4nm,0.7s
BIOA Bad Ischl, Aus 46.48 297 *i* pP pP 04 38 16.5 -1.5
comp=Z,0.4nm,0.5s
OBKA Obir 46.59 295 *e*pP **P** **04 38 16.6 +1.3**
comp=Z,3.4nm,0.6s
MYKA Terra Mystica 47.05 295 *i* pP **P** **04 38 20.1 +1.3**
comp=Z,1.8nm,0.7s
LESA Schwarzleotal 47.17 297 *i* pP pP 04 38 21.7 -1.7
comp=Z,1.3nm,0.5s
ABTA Abfaltersbach 47.63 296 *i* pP **P** **04 38 24.5 +1.0**
comp=Z,2.5nm,0.8s
WATA Walderalm 47.84 297 *i* pP **P** **04 38 25.7 +0.5**
comp=Z,1.1nm,0.5s
WTTA Wenberg 47.85 297 *e*pP **P** **04 38 27.0 +1.7**
comp=Z,5.6nm,0.7s
MOTA Moosalm 48.10 297 *i* pP **P** **04 38 28.7 +1.5**
comp=Z,2.2nm,0.7s
SQTA Sankt Quirin 48.12 297 *i* pP **P** **04 38 28.9 +1.7**
comp=Z,3.2nm,0.6s
RETA Reutte 48.22 298 *i* pP **P** **04 38 29.7 +1.7**
comp=Z,2.3nm,0.6s
FETA Feichten 48.50 297 *i* pP **P** **04 38 31.7 +1.5**
comp=Z,6.0nm,0.7s
DAVA Damuels 48.83 298 *i* pP **P** **04 38 34.3 +1.6**
comp=Z,8.0nm,0.7s
MSSA Maissana 50.75 295 IAmb IAmb 04 38 48.9
comp=Z,8.3nm,0.7s
EKA Eskdalemuir Ar 51.03 313 P **P** **04 38 49.3 +0.1**
comp=Z,3.0nm,0.5s,baz=71,slow=6.4,SNR=21
comp=Z,3.0nm,0.5s
BNI Bardonecchia 51.94 297 P **P** **04 38 56.6 +0.3**
BNI IAmb IAmb 04 39 00.7
comp=Z,7.2nm,0.8s
BNI Bardonecchia 51.94 297 P **P** **04 38 56.6 +0.3**
BNI pmax pmax
comp=Z,7.0nm,0.8s
E19K Redstone River 52.74 26 IAmb IAmb 04 39 11.2
comp=Z,6.5nm,0.8s
F21K Alatna River 53.94 25 P **P** **04 39 11.9 +1.4**
E23K Chandalar 54.31 23 IAmb IAmb 04 39 21.9
comp=Z,5.5nm,0.8s
COLD Coldfoot 54.80 24 IAmb IAmb 04 39 21.5
comp=Z,6.9nm,0.9s
BMAR Burnt Mountain 56.02 22 P **P** **04 39 26.6 +1.0**
E27K Coleen River 56.08 20 IAmb IAmb 04 39 30.9
comp=Z,4.7nm,0.8s
E28M Babbage River 56.16 19 IAmb IAmb 04 39 31.6
comp=Z,4.5nm,0.7s
KEST Kesra 56.25 287 P **P** **04 39 28.9 +1.1**
comp=Z,3.0nm,0.8s,baz=68,slow=11,SNR=3.5
comp=Z,3.0nm,0.8s
G26K Porcupine Rive 56.59 22 IAmb IAmb 04 39 35.0
comp=Z,12nm,1.2s
G27K Doyon Strip 57.19 21 IAmb IAmb 04 39 38.6
comp=Z,9.2nm,1.4s
PRP Porcupine Dome 57.32 23 P **P** **04 39 36.1 +1.1**
PRP IAmb IAmb 04 39 39.6
comp=Z,9.2nm,1.3s
ILAR Eielson Array 57.56 24 P **P** **04 39 36.1 -0.5**
ILAR Eielson Array 57.56 24 P **P** **04 39 36.9 +0.3**
comp=Z,2.2nm,0.8s,baz=323,slow=5.2,SNR=16
comp=Z,2.2nm,0.8s
FURI Furi 57.71 241 LR LR 05 05 20.4
comp=Z,90nm,20.0s,baz=23,slow=37
G29M Pine Creek 57.90 19 P **P** **04 39 39.8 +0.8**
G29M IAmb IAmb 04 39 56.5
comp=Z,8.5nm,1.1s
G30M tAoh Zraii Nji 58.22 19 IAmb IAmb 04 39 46.5
comp=Z,5.1nm,0.7s
J26L Joseph Creek 58.63 23 IAmb IAmb 04 39 48.1
comp=Z,2.2nm,1.1s
G31M Satah River 58.66 18 IAmb IAmb 04 39 49.3
comp=Z,3.8nm,0.7s
I29M Ogilvie Camp, 59.16 20 IAmb IAmb 04 39 51.2
comp=Z,12nm,1.2s
L27K Beaver Creek, 60.26 23 P **P** **04 39 56.1 +0.8**
L27K IAmb IAmb 04 40 00.4
comp=Z,8.6nm,1.2s
BCAR Beaver Creek A 60.27 23 P **P** **04 39 56.3 +0.9**
ESBB Sonseca Array 61.42 299 P **P** **04 40 04.1 +0.5**
ESDC Sonseca Array 61.42 299 P **P** **04 40 04.2 +0.6**
ESDC Sonseca Array 61.42 299 P **P** **04 40 03.9 +0.3**
comp=Z,3.9nm,0.8s,baz=45,slow=6.5,SNR=23
comp=Z,3.9nm,0.8s
M29M Somme Creek 61.62 22 IAmb IAmb 04 40 10.4
comp=Z,4.2nm,0.8s
M31M Drury Creek, Y 62.77 21 IAmb IAmb 04 40 17.1
comp=Z,8.5nm,1.1s
HYT Haines Junctio 63.24 23 P **P** **04 40 15.8 +0.2**
HYT IAmb IAmb 04 40 20.5
comp=Z,8.9nm,1.2s
P33M Teslin, Yukon 64.90 21 IAmb IAmb 04 40 35.3
comp=Z,8.7nm,1.3s
YKA Yellowknife Ar 65.93 11 P **P** **04 40 33.6 +0.6**
comp=Z,0.9nm,0.8s,baz=351,slow=7.2,SNR=3.7
comp=Z,0.9nm,0.8s
KMBO Kilima Mbogo 66.81 237 P **P** **04 40 38.8 -0.7**
comp=Z,1.4nm,0.4s,baz=30,slow=12,SNR=4.3
comp=Z,1.4nm,0.4s
KIBK Kibwezi 67.42 235 P **P** **04 40 42.3 -0.9**
KIBK IAmb IAmb 04 40 47.7
comp=Z,6.2nm,1.0s
TORD Torodi Ar. Bea 77.23 275 P **P** **04 41 41.6 -0.2**
comp=Z,1.0nm,0.4s,baz=38,slow=5.1,SNR=10
comp=Z,1.0nm,0.4s
ULM Lac du Bonnet 79.51 2 P **P** **04 41 53.1 -0.8**
comp=Z,5.3nm,1.1s,baz=358,slow=4.7,SNR=3.0
comp=Z,5.3nm,1.1s
VLDQ Val d'Or 80.83 350 P **P** **04 42 01.3 +0.3**
VLDQ IAmb IAmb 04 42 02.0
comp=Z,10nm,0.8s
WRA Warramunga Arr 81.48 136 P **P** **04 42 03.8 -0.9**
comp=Z,2.9nm,0.8s,baz=340,slow=5.6,SNR=12
comp=Z,2.9nm,0.8s
F10A Beach Ranch, E 81.50 17 IAmb IAmb 04 42 09.4
comp=Z,7.9nm,1.1s
DLMT Dillon 82.89 14 IAmb IAmb 04 42 16.8
comp=Z,4.5nm,0.8s
J05D Fort Rock, OR 83.25 21 IAmb IAmb 04 42 20.0
comp=Z,5.3nm,0.9s
ASAR Alice Springs 84.57 138 P **P** **04 42 20.1 -0.5**
comp=Z,1.5nm,0.8s,baz=335,slow=5.6,SNR=9.6
comp=Z,1.5nm,0.8s
WVOR Wild Horse Val 84.62 19 IAmb IAmb 04 42 25.3
comp=Z,3.8nm,0.8s
LOHW Long Hollow 84.89 13 IAmb IAmb 04 42 26.8
comp=Z,6.2nm,1.4s
RSSD Black Hills 85.16 8 **P** **04 42 24.1 +0.3**
RSSD Black Hills 85.16 8 P **P** **04 42 24.1 +0.3**
RSSD pmax pmax
comp=Z,8.0nm,1.0s
PDAR Pinedale Array 85.87 12 P **P** **04 42 26.9 -0.5**
comp=Z,0.8nm,0.6s,baz=358,slow=2.8,SNR=11
comp=Z,0.8nm,0.6s
ECSD EROS Data Cent 86.01 3 IAmb IAmb 04 42 31.3
comp=Z,8.8nm,1.1s
DBIC Dimbokro 86.31 276 P **P** **04 42 28.6 -1.0**
comp=Z,4.5nm,1.0s,baz=51,slow=5.5,SNR=2.3
comp=Z,4.5nm,1.0s
HVU Hansel Valley 86.35 15 IAmb IAmb 04 42 33.9
comp=Z,4.9nm,0.7s
BSUT Blindstream Ca 87.88 14 IAmb IAmb 04 42 42.1
comp=Z,4.1nm,1.1s
MPU Maple Canyon 88.26 14 IAmb IAmb 04 42 43.3
comp=Z,2.9nm,0.8s
NVAR Mina Array Bea 88.54 20 P **P** **04 42 41.6 +1.3**
comp=Z,1.5nm,0.8s,baz=340,slow=3.5,SNR=12
comp=Z,1.5nm,0.8s
NV11 Mina Array Sit 88.57 20 IAmb IAmb 04 42 45.2
comp=Z,5.0nm,1.2s
SPR3 Spring Creek 3 88.78 17 IAmb IAmb 04 42 47.0
comp=Z,6.4nm,1.0s
P18A Preston Nutter 88.85 14 IAmb IAmb 04 42 46.6
comp=Z,8.2nm,1.3s
TMUT Trail Mountain 89.03 14 IAmb IAmb 04 42 47.4
comp=Z,6.2nm,1.0s
ISCO Idaho Springs 89.28 10 IAmb IAmb 04 42 51.3
comp=Z,2.8nm,0.7s
PSUT Pine Spring 89.32 16 IAmb IAmb 04 42 48.9
comp=Z,4.6nm,1.0s
MTPU Mount Pierson 90.09 15 IAmb IAmb 04 43 21.1
comp=Z,6.1nm,1.5s
PV22 Blue Mesa, Par 90.13 13 IAmb IAmb 04 42 52.6
comp=Z,4.5nm,0.8s
SZCU Shurtz Canyon 90.37 16 IAmb IAmb 04 42 51.8
comp=Z,5.9nm,1.4s
PV01 Paradox Valley 90.56 13 IAmb IAmb 04 42 54.2
comp=Z,2.9nm,0.8s
KNB Kanab 90.98 16 IAmb IAmb 04 42 57.2
comp=Z,3.9nm,1.2s
ANMO Albuquerque 93.97 11*ce*P **P** **04 43 05.4 -0.2**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
TXAR Lajitas Array 99.84 10 P **Pdif** **04 43 31.3 -0.8**
comp=Z,0.1nm,0.6s,baz=13,slow=6.1,SNR=1.0
comp=Z,0.1nm,0.6s
QSPA South Pole Qui 140.35 180 PKhKP PKPpre 04 49 06.5
comp=Z,1.2nm,1.0s,baz=306,slow=2.4,SNR=2.0
CPUP Villa Florida 143.79 299 PKhKP PKPpre 04 49 19.8
comp=Z,1.4nm,0.6s,baz=267,slow=2.3,SNR=12

ASRS 13 04:33:54.4±0.3,51°N±1°×8°7E±°, h15km±4km, MLh3.2/10, 1C-2D, Error ellipse: s-maj=3.3km s-min=2.3km az=56.0, confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHBI	**Chibit, Altay**	**0.21**	**173**	⇓Pg	Pg	04 33 59.5	0.0
CHBI				Sg	Sg	04 34 02.4	-0.4
AKAR	**Aktash**	**0.23**	**154**	⇓Pg	Pg	04 33 59.7	+0.1
AKAR				Sg	Sg	04 34 02.8	-0.4
ULGR	**Ulagan, Altay**	**0.33**	**73**	⇑Pg	Pb	04 34 02.1	0.0
ULGR				Sg	Sg	04 34 06.6	+0.4
CUR	**Chagan-Uzun**	**0.71**	**127**	Pg	Pb	04 34 08.6	0.0
CUR				Sg	Sb	04 34 18.7	+0.5
DGZ	**Jazzator, Alta**	**0.83**	**181**	Pg	Pg	04 34 10.5	0.0
DGZ				Sg	Sb	04 34 21.5	0.0
ELDR	**Elanda**	**1.11**	**309**	Pg	Pg	04 34 16.2	+0.3
ELDR				Sg	Sn	04 34 31.2	+0.7
YALR	**Yailyu, Altay**	**1.25**	**4**	Pg	Pg	04 34 18.9	+0.4
YALR				Sg	Sg	04 34 37.0	+2.3
ARTR	**Artybash**	**1.28**	**355**	Pg	Pg	04 34 19.3	+0.2
ARTR				Sg	Sg	04 34 37.5	+1.8
UKR	**Ust'-Kan**	**1.76**	**285**	Pg	Pg	04 34 29.7	+1.5
UKR				Sg	Sg	04 34 53.5	+2.5
TEL	**Teeli**	**1.81**	**73**	Pg	Pg	04 34 29.8	+0.6
TEL				Sg	Sg	04 34 54.8	+2.2
ELT	**Eltsovka**	**2.84**	**345**	Sg	Sg	04 35 24.7	-1.0
KALT2	**Kaltan 2**	**2.88**	**358**	Sg	Sg	04 35 28.6	+1.7

ASRS 13 04:34:48.5±0.3,51°N±1°×8°7E±°, h16km±5km, MLh3.4/12, 1C-2D, Error ellipse: s-maj=3.4km s-min=2.4km az=50.9, confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHBI	**Chibit, Altay**	**0.24**	**167**	⇓Pg	Pg	04 34 54.2	+0.3
CHBI				Sg	Sg	04 34 57.5	0.0
AKAR	**Aktash**	**0.26**	**150**	⇓Pg	Pg	04 34 54.5	+0.3
AKAR				Sg	Sg	04 34 58.1	0.0
ULGR	**Ulagan, Altay**	**0.35**	**77**	⇑Pg	Pb	04 34 56.5	-0.1
ULGR				Sg	Sg	04 35 01.3	+0.4
CUR	**Chagan-Uzun**	**0.74**	**126**	Pg	Pb	04 35 03.6	+0.4
CUR				Sg	Sb	04 35 13.2	0.0
DGZ	**Jazzator, Alta**	**0.85**	**179**	Pg	Pg	04 35 05.3	+0.3
DGZ				Sg	Sb	04 35 16.1	0.0
ELDR	**Elanda**	**1.08**	**309**	Pg	Pg	04 35 09.8	+0.5
ELDR				Sg	Sn	04 35 24.1	+0.4
YALR	**Yailyu, Altay**	**1.23**	**6**	Pg	Pg	04 35 12.2	-0.1
YALR				Sg	Sg	04 35 28.2	-0.1
ARTR	**Artybash**	**1.26**	**356**	Pg	Pg	04 35 13.2	+0.5
ARTR				Sg	Sg	04 35 30.8	+1.7
UKR	**Ust'-Kan**	**1.73**	**284**	Pg	Pg	04 35 22.1	+0.5
UKR				Sg	Sg	04 35 44.9	+0.8
TEL	**Teeli**	**1.83**	**74**	Pg	Pg	04 35 24.1	+0.5
TEL				Sg	Sg	04 35 48.6	+1.3
ELT	**Eltsovka**	**2.82**	**345**	Sg	Sg	04 36 18.2	-0.8
KALT2	**Kaltan 2**	**2.86**	**359**	Sg	Sg	04 36 18.9	-1.4
VEH	**Verkhnyaya Baz**	**3.25**	**32**	Sg	Sg	04 36 30.3	-2.7
CERR	**Cheremushki**	**3.39**	**46**	Sg	Sg	04 36 36.0	-1.4

*ASRS **13** 04:53:00.2±0.2,50.6°N±0.8×8.7°E±°, h5km, MLh3.6/21, Error ellipse: s-maj=2.6km s-min=1.6km az=70.5, confirmed*
*NNC **13** 04:53:05.1±1.3,50.6°3N×87.0°7E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=11.2km s-min=6.3km az=99.0*
*SOME **13** 04:53:07.7,50.4°8N×86.8°2E, h0km*

ISC 13 04:53:00.9±0.7,50°59N±0.02×87°47E±0.02, h10km, n27, s2°05/52, 7C-9D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHBI	**Chibit, Altay**	**0.28**	**176**	⇓Pg	**Pg**	**04 53 05.8**	**-0.7**
CHBI				Sg	**Sg**	**04 53 09.0**	**-1.3**
AKAR	**Aktash**	**0.28**	**160**	⇓Pg	**Pg**	**04 53 06.2**	**-0.5**
AKAR				Sg	**Sg**	**04 53 09.6**	**-1.0**
ULGR	**Ulagan, Altay**	**0.31**	**83**	⇑Pg	**Pb**	**04 53 08.2**	**-0.5**
ULGR				Sg	**Sb**	**04 53 12.9**	**-1.0**
CUR	**Chagan-Uzun**	**0.74**	**131**	⇓Pg	**Pg**	**04 53 14.9**	**-0.4**
CUR				Sg	**Sg**	**04 53 25.1**	**+0.1**
DGZ	**Jazzator, Alta**	**0.89**	**182**	⇓Pg	**Pg**	**04 53 17.0**	**-1.0**
DGZ				Sg	**Sg**	**04 53 27.8**	**-1.8**
ELDR	**Elanda**	**1.08**	**306**	Pg	**Pg**	**04 53 21.4**	**-0.2**
ELDR				Sg	**Sb**	**04 53 35.8**	**0.0**
YALR	**Yailyu, Altay**	**1.19**	**4**	⇓Pg	**Pn**	**04 53 24.2**	**+0.6**
YALR				Sg	**Sn**	**04 53 39.6**	**-0.2**
ARTR	**Artybash**	**1.22**	**354**	Pg	**Pg**	**04 53 24.8**	**+0.5**
ARTR				Sg	**Sn**	**04 53 41.3**	**+0.8**
UKR	**Ust'-Kan**	**1.75**	**283**	Pg	**Pb**	**04 53 33.8**	**+0.7**
UKR				Sg	**Sb**	**04 53 56.3**	**+1.1**
TEL	**Teeli**	**1.78**	**75**	Pg	**Pb**	**04 53 34.1**	**+0.4**

TEL					Sg		Sg	04 54 00.3	+2.1
ELT	**Eltsovka**	**2.78**	**345**		Pn		Pn	04 53 46.3	+0.8
ELT					Pg		Pg	04 53 52.7	-1.5
ELT					Sg		Sg	04 54 31.7	+1.5
KALT2	**Kaltan 2**	**2.82**	**358**		Pg		Pg	04 53 53.5	-1.3
KALT2					Sg		Sg	04 54 31.5	+0.1
VEH	**Verkhnyaya Baz**	**3.20**	**32**		Pn		Pb	04 53 57.0	-0.8
VEH					Pg		Pg	04 54 02.6	+0.5
VEH					Sg		Sg	04 54 42.1	-1.4
LUZB	**Luzhba, Kemero**	**3.20**	**15**		Pn		Pb	04 53 54.8	-3.0
LUZB					Pg		Pg	04 53 59.9	-2.3
LUZB					Sg		Sg	04 54 45.8	+2.1
DJO	**Djoy, Khakassi**	**3.20**	**45**		Pg		Pg	04 54 02.6	+0.4
DJO					Sg		Sg	04 54 43.0	-0.7
CERR	**Cheremushki**	**3.34**	**46**		Sg		Sg	04 54 46.9	-1.3
ZSN	**Zaisan**	**3.58**	**210**	*eP*			Pb	04 54 00.8	-3.5
	18nm,0.2s								
ZSN					*eS*		Sb	04 54 45.1	-2.6
	59nm,0.5s								
ZAA0	**Zalesovo Array**	**3.74**	**335**	⇓Pn			Pn	04 54 01.4	+2.8
	1.1nm,0.6s								
ZAA0				⇑Lg			Lg	04 55 00.7	
	10nm,0.8s								
SALR	**Pechorkino, Sa**	**3.98**	**345**		Pn		Pb	04 54 06.4	-4.7
SALR					Sg		Sg	04 55 06.7	-2.0
ARDR	**Aradan**	**4.22**	**59**		Pn		Pb	04 54 06.5	+1.2
ARDR					Pg		Pg	04 54 20.1	-1.5
ARDR					Sg		Sg	04 55 17.0	+0.8
NVS	**Novosibirsk**	**4.98**	**330**		Sg		Sg	04 55 42.5	+2.0
MK31	**Makanchi Array**	**5.12**	**224**	⇑Pn			Pn	04 54 21.9	+4.3
	6.0nm,0.5s,baz=46,slow=13,SNR=86								
MK31				⇑Sn			Sn	04 55 20.0	+3.3
	8.2nm,0.6s								
MK31				⇑Lg			Lg	04 55 40.9	
	11nm,0.5s,baz=44,slow=28,SNR=4.7								
MAKZ	**Makanchi**	**5.25**	**226**		Pn		Pn	04 54 23.4	+4.0
	7.3nm,0.3s								
MAKZ					Sn		Sn	04 55 23.5	+3.6
	7.5nm,0.4s								
MAKZ					Lg		Lg	04 55 45.0	
	24nm,0.9s								
KURK	**Kurchatov**	**5.63**	**275**	⇑Sn			Sn	04 55 30.8	+1.5
	1.8nm,0.4s								
KURK				⇓Lg			Lg	04 55 57.2	
	27nm,0.8s								
KURK	**Kurchatov**	**5.63**	**275**		Sg		Sg	04 55 56.7	-4.9
KURBB	**Kurchatov Arra**	**5.69**	**274**	⇓Pn			Pn	04 54 27.6	+2.1
	6.0nm,0.4s								
KURBB				⇓Sn			Sn	04 55 30.7	-0.1
	9.5nm,0.5s								
KURBB				⇑Lg			Lg	04 55 58.9	
	64nm,0.6s								
MINR	**Mina**	**5.94**	**41**		Sg		Sg	04 56 08.4	-3.2

SDD ***13*** *05:15:33.7±0.8, 17°.83N×68°.13W, h170km±9km, MD3.4, ML2.4, MW2.5*
NEIC ***13*** *05:15:34.3±1.2, 18°.2N±0°.1×67°.89W±0°.10, h174km±6km, ML2.1/16, Md3.0/15(RSPR), Error ellipse: s-maj=21.0km s-min=12.7km az=196.0*
OSPL ***13*** *05:15:34.3±1.0, 18°.07N×68°.03W, h179km±10km, ML2.5*
RSPR ***13*** *05:15:34.5, 18°.38N×67°.95W, h166km±2km, MD3.0/15*

ISC 13 05:15:31.6±1.8, 18°.1N±0°.1×68°.05W±0°.04, h181km±12km, n65, σ1°08/77, 15C-12D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDE	**Isla Desecheo**	**0.61**	**64**		**Pn**	**05 15 57.6**	**+0.6**
IDE					**Sn**	**05 16 16.4**	**-0.2**
IDE	**Isla Desecheo**	**0.61**	**64**	⇑*eP*	**Pn**	**05 15 57.6**	**+0.6**
IDE	**Isla Desecheo**	**0.61**	**64**	*eS*	**Sn**	**05 16 16.4**	**-0.2**
HIDR	**Higuey Centro**	**0.79**	**307**	⇑*eP*	**Pn**	**05 15 58.5**	**+0.5**
HIDR	**Higuey Centro**	**0.79**	**307**	*eS*	**Sn**	**05 16 17.9**	**-0.5**
HIDR	**Higuey Centro**	**0.79**	**307**	⇓*ePg*	**Pn**	**05 15 58.9**	**+0.9**
HIDR				⇓*eSg*	**Sn**	**05 16 17.4**	**-1.0**
HIDR				IAML		05 16 22.0	
	comp=N,32nm,0.2s						
PRSN	**Puerto Rico Se**	**0.87**	**84**	Pn	**Pn**	**05 16 00.3**	**+1.8**
CRPR	**Cabo Rojo, PR**	**0.90**	**97**		**Pn**	**05 15 59.7**	**+1.0**
CRPR					**Sn**	**05 16 18.6**	**-0.9**
CRPR	**Cabo Rojo, PR**	**0.90**	**97**	IAML		05 16 19.7	
	comp=N,19nm,2.1s						
CRPR				IAML		05 16 23.5	
	comp=E,19nm,1.9s						
CRPR	**Cabo Rojo, PR**	**0.90**	**97**	⇑*eP*	**Pn**	**05 15 59.7**	**+1.0**
CRPR	**Cabo Rojo, PR**	**0.90**	**97**	*eS*	**Sn**	**05 16 18.6**	**-0.9**
CRPR	**Cabo Rojo, PR**	**0.90**	**97**	⇑*ePg*	**Pn**	**05 15 58.9**	**+0.2**
CRPR				⇓*eSg*	**Sn**	**05 16 17.6**	**-2.0**
CRPR				IAML		05 16 21.3	
	comp=N,23nm,1.8s						
CRPR	**Cabo Rojo, PR**	**0.90**	**97**	*i* P	**Pn**	**05 15 59.7**	**+1.0**
CRPR				*eS*	**Sn**	**05 16 18.4**	**-1.1**
CRPR				IAML		05 16 21.6	
	comp=Z,26nm,1.6s						
LSP	**Las Mesas**	**0.92**	**86**		**Pn**	**05 15 59.9**	**+1.0**
LSP					**Sn**	**05 16 19.3**	**-0.6**
LSP	**Las Mesas**	**0.92**	**86**	⇓*eP*	**Pn**	**05 15 59.9**	**+1.0**
LSP	**Las Mesas**	**0.92**	**86**	*eS*	**Sn**	**05 16 19.3**	**-0.6**
AGPR	**Aguadilla, PR**	**0.96**	**69**		**Pn**	**05 15 59.9**	**+0.8**
AGPR					**Sn**	**05 16 20.1**	**-0.2**
AGPR	**Aguadilla, PR**	**0.96**	**69**	⇓*eP*	**Pn**	**05 15 59.9**	**+0.8**
AGPR	**Aguadilla, PR**	**0.96**	**69**	*eS*	**Sn**	**05 16 20.1**	**-0.2**
AGPR	**Aguadilla, PR**	**0.96**	**69**	⇑*ePg*	**Pn**	**05 16 00.8**	**+1.7**
AGPR				⇓*eSg*	**Sn**	**05 16 20.1**	**-0.2**
AGPR				IAML		05 16 22.3	
	comp=N,48nm,0.4s						
AGPR	**Aguadilla, PR**	**0.96**	**69**	*i* P	**Pn**	**05 16 00.0**	**+0.8**
AGPR				*eS*	**Sn**	**05 16 20.0**	**-0.3**
AGPR				IAML		05 16 22.7	
	comp=Z,38nm,1.6s						
MLPR	**Magueyes Islan**	**0.97**	**99**	⇓*eP*	**Pn**	**05 15 59.9**	**+0.7**
MLPR	**Magueyes Islan**	**0.97**	**99**	*eS*	**Sn**	**05 16 19.6**	**-0.9**
AOPR	**Arecibo Observ**	**1.25**	**79**		**Sn**	**05 16 23.6**	**-1.0**
AOPR	**Arecibo Observ**	**1.25**	**79**		**Pn**	**05 16 01.3**	**-0.2**
AOPR	**Arecibo Observ**	**1.25**	**79**	⇑*eP*	**Pn**	**05 16 02.3**	**+0.9**
AOPR	**Arecibo Observ**	**1.25**	**79**	*eS*	**Sn**	**05 16 23.6**	**-1.0**
AOPR	**Arecibo Observ**	**1.25**	**79**	⇑*ePg*	**Pn**	**05 16 02.4**	**+0.9**
AOPR				⇓*eSg*	**Sn**	**05 16 23.5**	**-1.0**
AOPR				IAML		05 16 27.5	
	comp=N,76nm,0.3s						
UUPR	**Utuado, UPR, P**	**1.27**	**84**		**Sn**	**05 16 24.5**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.27**	**84**	Pn	**Pn**	**05 16 02.0**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.27**	**84**	⇑*eP*	**Pn**	**05 16 02.6**	**+1.0**
UUPR	**Utuado, UPR, P**	**1.27**	**84**	*eS*	**Sn**	**05 16 24.5**	**-0.3**
MIDR	**Miches**	**1.28**	**312**	⇑*eP*	**Pn**	**05 16 02.2**	**+0.6**
MIDR	**Miches**	**1.28**	**312**	*eS*	**Sn**	**05 16 24.5**	**-0.5**
MIDR	**Miches**	**1.28**	**312**	⇓*ePg*	**Pn**	**05 16 02.4**	**+0.8**
MIDR				IAML		05 16 30.7	
	comp=N,11nm,0.2s						
OBIP	**Obispado Ponce**	**1.38**	**93**		**Pn**	**05 16 03.0**	**+0.5**
OBIP	**Obispado Ponce**	**1.38**	**93**		**Sn**	**05 16 27.1**	**+0.7**
OBIP	**Obispado Ponce**	**1.38**	**93**	⇑*eP*	**Pn**	**05 16 03.5**	**+0.9**
OBIP	**Obispado Ponce**	**1.38**	**93**	*eS*	**Sn**	**05 16 27.1**	**+0.7**
CELP	**Cerrillos**	**1.40**	**92**		**Pn**	**05 16 03.7**	**+1.0**
CELP					**Sn**	**05 16 26.9**	**+0.1**
CELP	**Cerrillos**	**1.40**	**92**	IAML		05 16 30.3	
	comp=N,13nm,0.2s						
CELP	**Cerrillos**	**1.40**	**92**	⇑*eP*	**Pn**	**05 16 03.7**	**+1.0**
CELP	**Cerrillos**	**1.40**	**92**	*eS*	**Sn**	**05 16 26.9**	**+0.1**
CELP	**Cerrillos**	**1.40**	**92**	⇑*ePg*	**Pn**	**05 16 03.6**	**+0.8**
CELP				⇓*eSg*	**Sn**	**05 16 25.8**	**-1.0**
CELP				IAML		05 16 30.3	
	comp=N,14nm,0.6s						
EMPR	**Esperanza - Ma**	**1.49**	**76**		**Sn**	**05 16 26.6**	**-1.7**
EMPR	**Esperanza - Ma**	**1.49**	**76**	Pn	**Pn**	**05 16 02.7**	**-0.8**
EMPR	**Esperanza - Ma**	**1.49**	**76**	⇑*eP*	**Pn**	**05 16 03.1**	**-0.2**
EMPR	**Esperanza - Ma**	**1.49**	**76**	*eS*	**Sn**	**05 16 26.6**	**-1.7**
SMDR	**Samana, DR**	**1.59**	**317**	⇑*eP*	**Pn**	**05 16 04.3**	**-0.2**
SMDR	**Samana, DR**	**1.59**	**317**	*eS*	**Sn**	**05 16 29.0**	**-1.0**
ECPR	**Experimental S**	**1.62**	**83**	⇓*eP*	**Pn**	**05 16 05.0**	**+0.2**
ECPR	**Experimental S**	**1.62**	**83**	*eS*	**Sn**	**05 16 28.8**	**-1.7**
SJG	**San Juan**	**1.81**	**90**	Pn	**Pn**	**05 16 07.5**	**+0.8**
SJG				IAML		05 16 34.6	
	comp=N,11nm,1.0s						
GCPR	**Guaynabo City**	**1.88**	**84**		**Pn**	**05 16 08.3**	**+0.9**
GCPR					**Sn**	**05 16 33.4**	**-1.9**
GCPR	**Guaynabo City**	**1.88**	**84**	IAML		05 16 37.0	
	comp=E,11nm,1.4s						
GCPR				IAML		05 17 32.1	
	comp=N,8.8nm,2.4s						
GCPR	**Guaynabo City**	**1.88**	**84**	⇑*eP*	**Pn**	**05 16 08.3**	**+0.9**
GCPR	**Guaynabo City**	**1.88**	**84**	*eS*	**Sn**	**05 16 33.4**	**-1.9**
PDPR	**Patillas Dam,**	**1.93**	**93**	Pn	**Pn**	**05 16 08.7**	**+0.7**
PDPR				IAML		05 16 38.5	
	comp=E,9.4nm,0.5s						
PDPR				IAML		05 16 39.3	
	comp=N,10nm,0.3s						
PDPR	**Patillas Dam,**	**1.93**	**93**	⇓*eP*	**Pn**	**05 16 08.8**	**+0.8**
PDPR	**Patillas Dam,**	**1.93**	**93**	*eS*	**Sn**	**05 16 36.0**	**-0.2**
HUMP	**Col San Antoni**	**2.09**	**89**	Pn	**Pn**	**05 16 10.0**	**+0.3**
SC01	**Santiago de lo**	**2.85**	**298**	Pn	**Pn**	**05 16 21.6**	**+3.1**
LOVI	**El Cajuil, Ovi**	**3.17**	**265**	*i* P	**Pn**	**05 16 23.3**	**+0.8**
LOVI				*eS*	**Sn**	**05 16 60.0**	**-2.1**
LOVI				IAML		05 17 06.0	
	comp=Z,51nm,0.9s						
LODU1	**El Espartillar**	**3.26**	**275**	*i* P	**Pn**	**05 16 25.1**	**+1.6**
LODU1				*eS*	**Sn**	**05 17 01.1**	**-2.9**
LODU1				IAML		05 17 10.9	
	comp=Z,33nm,2.8s						
LONE3	**El Aguacate, B**	**3.27**	**279**	*i* P	**Pn**	**05 16 24.6**	**+0.9**
LONE3				IAML		05 17 05.0	
	comp=Z,7.0nm,2.1s						

IDC ***13*** *05:35:29.8±1.2, 23°.30S×178°.22W, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=39.8km s-min=32.9km az=172.0*

ISC 13 05:35:35.2±1.0, 23°.2S±0°.3×178°.3W±0°.2, h35km, n8, σ0s80/8, mb4.0/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.69**	**259**	P	**P**	**05 43 37.4**	**+0.3**
	1.0nm,0.4s,baz=94,slow=7.2,SNR=14						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**44.01**	**265**	P	**P**	**05 43 40.1**	**+0.5**
	3.5nm,0.5s,baz=103,slow=8.2,SNR=36						
	3.5nm,0.5s						
QSPA	**South Pole Qui**	**66.88**	**180**	P	**P**	**05 46 24.5**	**+0.9**
	0.6nm,0.7s,baz=356,slow=3.3,SNR=1.6						
	0.6nm,0.7s						
MAW	**Mawson**	**78.94**	**200**	P	**P**	**05 47 33.5**	**-1.3**
	1.3nm,0.5s,baz=108,slow=13,SNR=9.5						
	1.3nm,0.5s						
TXAR	**Lajitas Array**	**88.74**	**57**	P	**P**	**05 48 25.9**	**+0.3**
	baz=251,slow=4.4,SNR=1.1						
HFS	**Hagfors**	**142.15**	**350**	PKP	**PKPdf**	**05 55 02.8**	**-0.4**
	1.6nm,0.5s,baz=29,slow=3.3,SNR=10						
AKASG	**Malin Array Be**	**145.21**	**329**	PKPbc	**PKPbc**	**05 55 08.3**	**-0.2**
	0.5nm,0.4s,baz=46,slow=4.2,SNR=2.3						
BRTR	**Keskin Array B**	**148.38**	**309**	PKPbc	**PKPbc**	**05 55 18.0**	**-0.2**
	0.6nm,0.6s,baz=83,slow=4.8,SNR=2.7						

DJA ***13*** *05:52:14.8±0.5, 3°.S±8°.×13°.9E±°, h64km±18km, M4.2/6, mb4.3/4, MLv4.1/6*
IDC ***13*** *05:52:14.5±2.5, 2°.72S×139°.32E, h73km±26km, mb3.6/8, mbtmp4.0/9, Error ellipse: s-maj=29.4km s-min=16.6km az=111.0*

ISC 13 05:52:13.0±0.7, 3°.00S±0°.07×139°.24E±0°.05, h46km, n16, σ2s30/20, mb3.9/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.01**	**66**	P	**Pn**	**05 52 32.3**	**+1.5**
GENI				S	**Sn**	**05 52 45.8**	**+1.8**
SMPI	**Sarmi**	**1.13**	**332**	P	**Pn**	**05 52 33.2**	**+0.7**
JAY	**Jayapura**	**1.54**	**72**	P	**Pn**	**05 52 38.7**	**+0.6**
	64nm,0.3s,baz=229,slow=10,SNR=114						
JAY				S	**Sn**	**05 52 56.1**	**-0.9**
	138nm,0.3s,baz=306,slow=19,SNR=9.7						
JAY	**Jayapura**	**1.54**	**72**	P	**Pn**	**05 52 38.9**	**+0.8**
SRPI	**Serui, Papua**	**3.20**	**291**	P	**Pn**	**05 53 02.3**	**+1.5**
BAKI	**Biak**	**3.61**	**300**	P	**Pn**	**05 53 07.7**	**+1.3**
FAKI	**Fak Fak**	**6.98**	**270**	P	**Pn**	**05 53 54.8**	**+2.0**
	57nm,1.5s						
WRA	**Warramunga Arr**	**17.50**	**195**	P	**Pn**	**05 56 15.8**	**+2.0**
	3.7nm,0.4s,baz=18,slow=12,SNR=44						
WRA				S	**Sn**	**05 59 23.1**	**-4.9**
	0.9nm,0.5s,baz=8.7,slow=23,SNR=4.5						
FITZ	**Fitzroy Crossi**	**20.07**	**221**	P	**P**	**05 56 44.8**	**+2.2**
	1.2nm,0.3s,baz=40,slow=9.9,SNR=11						
FITZ				S	**S**	**06 00 22.2**	**-3.6**
	3.1nm,0.8s,baz=326,slow=17,SNR=3.6						
	1.2nm,0.3s						
ASAR	**Alice Springs**	**21.18**	**194**	P	**P**	**05 56 56.9**	**+2.2**
	3.1nm,0.7s,baz=23,slow=9.9,SNR=41						
ASAR				S	**S**	**06 00 48.2**	**+0.3**
	0.5nm,0.8s,baz=17,slow=25,SNR=4.0						
	3.1nm,0.7s						
MKAR	**Makanchi Array**	**70.34**	**322**	P	**P**	**06 03 19.8**	**-2.2**
	0.9nm,0.5s,baz=106,slow=7.8,SNR=8.0						
	0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**72.45**	**330**	P	**P**	**06 03 31.0**	**-3.5**
	0.8nm,0.4s,baz=116,slow=6.7,SNR=1.9						
	0.8nm,0.4s						
VNDA	**Vanda**	**75.45**	**175**	P	**P**	**06 03 51.4**	**-0.3**
	0.7nm,0.6s,baz=324,slow=6.0,SNR=6.7						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**79.85**	**325**	P	**P**	**06 04 14.6**	**-2.1**
	1.4nm,0.4s,baz=108,slow=8.5,SNR=5.5						
	1.4nm,0.4s						
ILAR	**Eielson Array**	**85.88**	**24**	P	P	06 04 43.7	-4.0
	0.3nm,0.7s,baz=282,slow=3.6,SNR=5.3						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**86.95**	**180**	P	**P**	**06 04 54.3**	**+1.3**
	0.5nm,0.7s,baz=314,slow=1.5,SNR=5.3						
	0.5nm,0.7s						

ASRS ***13*** *06:00:51.0±1.1, 54°.20N×86°.38E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 13 06:00:56.4±2.6, 54°.15N×86°.25E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=19.2km s-min=11.6km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.86**	**257**	I	I	06 07 40.0	
	baz=75,slow=330,SNR=2.3						
ZALV	**Zalesovo Beam**	**0.86**	**257**	Pg	Pg	06 01 12.1	-0.9
	1.5nm,0.3s,baz=75,slow=16,SNR=6.3						
ZALV				Lg	Lg	06 01 26.0	
	3.7nm,0.3s,baz=78,slow=30,SNR=12						
ZALV				Rg	Rg	06 01 33.9	
	1.1nm,0.3s,baz=60,slow=30,SNR=5.1						
KURBB	**Kurchatov Arra**	**5.90**	**236**	Pn	Pn	06 02 25.3	+0.4
KURBB	0.1nm,0.3s,baz=52,slow=13,SNR=4.6			Sn	Sn	06 03 31.5	-1.6
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.78**	**200**	Pn	Pn	06 02 52.5	+1.6
	0.2nm,0.3s,baz=24,slow=12,SNR=4.8						
	0.3nm,0.3s						

SOME ***13*** *06:17:08.0, 44°.85N×81°.78E, h0km*
NNC ***13*** *06:17:16.1±7.1, 44°.45N×82°.03E, h0km, mb2.6, mpv2.2, Error ellipse: s-maj=94.6km s-min=12.2km az=121.0*

ISC 13 06:17:15.6±4.8, 44°.1N±0°.2×82°.5E±0°.3, h35km, n5, σ2s86/7, 2C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**2.35**	**251**	⇓Sn	**Sn**	**06 18 21.8**	**+2.3**
	4.8nm,0.4s						
SHLS	**Shalkode**	**2.44**	**247**	*eP*	Pn	06 17 48.3	-4.7
	6.4nm,0.3s						
SHLS				*eS*	**Sn**	**06 18 17.4**	**-4.2**
	34nm,1.6s						
MK31	**Makanchi Array**	**2.66**	**356**	⇑Pn	**Pn**	**06 17 57.1**	**+1.0**
	0.6nm,0.3s,baz=169,slow=13,SNR=6.6						
MK31				⇑Sn	**Sn**	**06 18 26.3**	**-0.8**
	3.7nm,0.6s,baz=172,slow=26,SNR=13						
MAKZ	**Makanchi**	**2.70**	**352**	⇓Sn	**Sn**	**06 18 26.8**	**-1.2**
	1.9nm,0.6s						
UZB	**Uzynbulak**	**2.73**	**250**	*eP*	**Pn**	**06 17 56.7**	**-0.5**
	1.0nm,0.3s						
UZB				*eS*	**Sn**	**06 18 31.5**	**+2.5**
	2.7nm,0.2s						

SNET ***13*** *06:49:19.2±3.3, 12°.08N×87°.07W, h83km, ML3.2*

CATAC 13 06:49:21.6±0.2, 12°.N±2°.×87°.7W±°, h57km±2km, M3.3/35, MLv3.3/35, Error ellipse: s-maj=6.3km s-min=2.3km az=35.4, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALEN	**Leon**	**0.28**	**32**		S	Sn	06 49 41.4	+3.2
ALEN	**Leon**	**0.28**	**32**		P	Pn	06 49 32.4	+1.1
CNGA	**AI SSO del Vol**	**0.41**	**49**		P	Pn	06 49 33.6	+1.1
CNGA					S	Sn	06 49 43.5	+3.2
CNGN	**Cerro Negro**	**0.42**	**49**		P	Pn	06 49 33.4	+0.8
COPN	**Copaltepe**	**0.42**	**96**		P	Pn	06 49 33.2	+0.7
PKGN	**Cerro Pekin**	**0.45**	**5**		P	Pn	06 49 34.1	+1.2
PKGN					S	Sn	06 49 44.1	+3.2
ILCN	**San Idelfonso**	**0.47**	**42**		P	Pn	06 49 33.9	+0.8
ILCN					S	Sn	06 49 44.5	+3.1
CRIN	**San Cristobal**	**0.48**	**357**		S	Sn	06 49 45.1	+3.5
CRIN	**San Cristobal**	**0.48**	**357**		P	Pn	06 49 34.5	+1.3
MOM2	**El Cardon**	**0.57**	**68**		P	Pn	06 49 34.9	+0.8
MOM2					S	Sn	06 49 46.1	+3.0
AMTN	**Mateare**	**0.58**	**89**		P	Pn	06 49 35.2	+1.0
AMTN	**Mateare**	**0.58**	**89**		S	Sn	06 49 46.5	+3.1
SAPS	**Ciudad Sandino**	**0.60**	**95**		S	Sn	06 49 46.5	+2.5
SAPS	**Ciudad Sandino**	**0.60**	**95**		P	Pn	06 49 35.3	+0.8
APQ3	**Volcan Apoyequ**	**0.64**	**85**		P	Pn	06 49 35.9	+0.9
APQ3					S	Sn	06 49 47.8	+3.2
APQ2	**Apoyeque**	**0.68**	**92**		P	Pn	06 49 36.1	+0.6
APQ2					S	Sn	06 49 48.1	+2.6
ABCN	**Banco Central**	**0.70**	**98**		P	Pn	06 49 36.5	+0.8
ABCN	**Banco Central**	**0.70**	**98**		S	Sn	06 49 48.6	+2.6
ALLN	**Telcor Managua**	**0.73**	**95**		P	Pn	06 49 36.8	+0.7
ALLN	**Telcor Managua**	**0.73**	**95**		S	Sn	06 49 48.8	+2.1
UNAN	**Cigeo UNAN**	**0.74**	**98**		P	Pn	06 49 36.7	+0.4
UNAN					S	Sn	06 49 49.1	+2.2
R4DEC	**Barrio San Lui**	**0.76**	**95**		P	Pn	06 49 37.0	+0.6
R4DEC	**Barrio San Lui**	**0.76**	**95**		S	Sn	06 49 49.4	+2.2
MGAN	**Managua**	**0.76**	**96**		P	Pn	06 49 36.8	+0.4
MGAN	**Managua**	**0.76**	**96**		S	Sn	06 49 49.5	+2.2
AESN	**El Sauce Leon**	**0.81**	**35**		P	Pn	06 49 37.3	+0.1
WILN	**Americas 2**	**0.82**	**94**		P	Pn	06 49 37.4	+0.2
WILN					S	Sn	06 49 50.3	+1.7
MAS3	**AI N del Volca**	**0.85**	**103**		P	Pn	06 49 38.0	+0.4
MAS3					S	Sn	06 49 51.0	+1.6
SABN	**Sabanita**	**0.88**	**107**		P	Pn	06 49 38.2	+0.2
CSGN	**Cosiguina Volc**	**0.92**	**325**		P	Pn	06 49 38.8	+0.3
CSGN					S	Sn	06 49 52.8	+1.8
NANN	**Nandasmo**	**0.92**	**108**		S	Sn	06 49 54.3	+3.2
NANN	**Nandasmo**	**0.92**	**108**		P	Pn	06 49 39.8	+1.3
NADN	**Granada**	**1.07**	**116**		P	Pn	06 49 40.6	0.0
NADN					S	Sn	06 49 55.4	+0.8
CHOHN	**Orocuina**	**1.26**	**354**		P	Pn	06 49 43.4	+0.3
MATN	**Matagalpa**	**1.28**	**57**		P	Pn	06 49 42.6	-0.8
MATN	**Matagalpa**	**1.28**	**57**		S	Sn	06 49 59.7	+0.1
CNCH	**Conchagua**	**1.31**	**323**	*eP*	P	Pn	06 49 43.6	-0.3
CNCH				*eS*	S	Sn	06 50 01.4	+0.9
CNCH	**Conchagua**	**1.31**	**323**		P	Pn	06 49 43.8	0.0
BOAB	**BOACO BROADBAN**	**1.34**	**80**		P	Pn	06 49 43.9	-0.3
BOAB	**BOACO BROADBAN**	**1.34**	**80**		S	Sn	06 50 01.3	+0.4
LCND	**La Caada**	**1.37**	**322**	*eP*	P	Pn	06 49 44.6	+0.1
LCND				*eS*	S	Sn	06 50 01.8	+0.1
LCND	**La Caada**	**1.37**	**322**		P	Pn	06 49 44.4	-0.1
MORN	**AI O del Volca**	**1.50**	**116**		P	Pn	06 49 47.3	+1.0
CONN	**Concepcion**	**1.51**	**115**		P	Pn	06 49 45.9	-0.5
CONN					S	Sn	06 50 06.0	+0.9
RCVN	**Varillal2**	**1.58**	**31**		P	Pn	06 49 47.8	+0.4
RCPN	**Sur Rio San Ju**	**1.58**	**35**		P	Pn	06 49 48.1	+0.6
BLLM	**Bellamira**	**1.70**	**316**	*eP*	P	Pn	06 49 50.3	+1.3
YUSH	**Yuscaran**	**1.73**	**6**	P	P	Pn	06 49 49.7	+0.2
PACA	**Pacayal**	**1.77**	**314**	*eP*	P	Pn	06 49 51.3	+1.2
PACA				*eS*	S	Sn	06 50 12.9	+1.3
PACA	**Pacayal**	**1.77**	**314**	P	P	Pn	06 49 50.9	+0.8
TGUH	**Tegucigalpa,Un**	**1.84**	**352**	P	P	Pn	06 49 51.3	+0.3
UESV	**Universidad de**	**2.22**	**309**	P	P	Pn	06 49 56.5	+0.3
UESV	**Universidad de**	**2.22**	**309**	S	S	Sn	06

CALM	**Calaveras Res.**	**0.97**	**333**			**Pg**	**06 50 40.4**	**0.0**
PHFM	**Heflinger Ranc**	**0.98**	**136**			**Pg**	**06 50 40.1**	**-0.3**
CTM	**Castle Mountai**	**0.98**	**131**			**Pb**	**06 50 40.9**	**+0.6**
RAMR	**Ramage Ranch**	**0.99**	**162**			**Pg**	**06 50 40.6**	**-0.2**
JSJM	**St Joseph**	**1.01**	**318**			**Pg**	**06 50 40.9**	**-0.3**
LCUV	**Le Cuvier**	**1.02**	**156**			**Pg**	**06 50 40.5**	**-0.7**
JBMM	**Black Mountain**	**1.03**	**315**			**Pg**	**06 50 40.9**	**-0.6**
MYLM	**Yosemite Lake**	**1.03**	**39**			**Pg**	**06 50 40.7**	**-0.9**
CSTL	**Corral Hollow**	**1.07**	**349**			**Pb**	**06 50 42.5**	**+0.7**
CSTL	**Corral Hollow**	**1.07**	**349**			**Pb**	**06 50 42.6**	**+0.9**
PCBM	**Cambria**	**1.07**	**172**			**Pg**	**06 50 41.6**	**-0.7**
JPSM		**1.08**	**305**			**Pg**	**06 50 41.6**	**-0.8**
LEGD	**La Grand CA**	**1.08**	**54**			**Pg**	**06 50 41.3**	**-1.1**
JFP	**Foothills Park**	**1.08**	**316**			**Pg**	**06 50 41.4**	**-1.1**
PKLM	**Kerr Lake**	**1.09**	**138**			**Pg**	**06 50 41.9**	**-0.7**
JSFB	**Stanford Teles**	**1.11**	**318**			**Pg**	**06 50 41.9**	**-1.1**
WENL	**Wente Vineyard**	**1.11**	**338**			**Pg**	**06 50 42.9**	**-0.2**
TCAS	**Cass Winery, P**	**1.12**	**150**			**Pg**	**06 50 42.6**	**-0.5**
TCHL	**Shandon**	**1.12**	**142**			**Pg**	**06 50 42.4**	**-0.8**
PMRM	**Maxey Ranch**	**1.14**	**134**			**Pg**	**06 50 42.8**	**-0.8**
JRSC	**Jasper Ridge**	**1.14**	**316**			**Pg**	**06 50 42.2**	**-1.4**
CVLM	**Vallecito**	**1.14**	**336**			**Pg**	**06 50 43.1**	**-0.5**
BGH	**Bear Gulch**	**1.16**	**311**			**Pg**	**06 50 42.8**	**-1.1**
CBZL	**Buffer Zone**	**1.17**	**341**			**Pg**	**06 50 43.7**	**-0.4**
CBZL	**Buffer Zone**	**1.17**	**341**			**Pb**	**06 50 44.0**	**+0.6**
PAGB	**Antelope Grade**	**1.17**	**136**			**Pg**	**06 50 42.9**	**-1.2**
CNIC	**Niles Canyon**	**1.17**	**331**			**Pg**	**06 50 43.2**	**-1.0**
THIS	**South End of C**	**1.19**	**136**			**Pg**	**06 50 43.9**	**-0.5**
MHDM	**Hidden Dam**	**1.20**	**63**			**Pg**	**06 50 43.3**	**-1.5**
PTAM	**Tassajara Cree**	**1.27**	**160**			**Pg**	**06 50 44.6**	**-1.3**
TSCN	**Private Proper**	**1.27**	**145**			**Pg**	**06 50 44.5**	**-1.5**
CBSNC	**Byron Hot Spri**	**1.27**	**346**			**Pg**	**06 50 45.1**	**-1.0**
FRI	**Friant**	**1.30**	**71**			**Pn**	**06 50 44.6**	**-0.4**
JCHM	**Cahill Ridge**	**1.30**	**316**			**Pn**	**06 50 44.4**	**-0.7**
CMOB	**Morgan Territo**	**1.30**	**340**			**Pn**	**06 50 45.2**	**+0.1**
JCPM	**Coyote Point**	**1.32**	**320**			**Pn**	**06 50 45.0**	**-0.4**
LSDC	**Los Osos Digit**	**1.32**	**166**			**Pn**	**06 50 45.7**	**+0.3**
CLCB	**Lake Chabot**	**1.33**	**331**			**Pn**	**06 50 45.4**	**-0.1**
EFD	**Emergency Oper**	**1.33**	**161**			**Pn**	**06 50 45.1**	**-0.4**
CSLM	**San Leandro Hi**	**1.34**	**329**			**Pn**	**06 50 45.7**	**+0.1**
SAC	**San Andreas**	**1.37**	**317**			**Pn**	**06 50 45.7**	**-0.3**
TRAY	**Twisselman Ran**	**1.37**	**138**			**Pn**	**06 50 45.8**	**-0.3**
PBPM	**Bitterwater Pu**	**1.38**	**136**			**Pn**	**06 50 46.1**	**-0.1**
BGC	**Bolinger Road**	**1.39**	**332**			**Pn**	**06 50 46.3**	**-0.1**
BUCR	**Buckhorn Ranch**	**1.39**	**38**			**Pn**	**06 50 46.9**	**+0.5**
BUCR					IAML		06 51 05.0	
	comp=E,957nm,0.8s							
BUCR					IAML		06 51 06.0	
	comp=N,1µm,0.8s							
DPD	**Davis Peak**	**1.40**	**164**			**Pn**	**06 50 46.2**	**-0.2**
KARE	**Kearney REC, C**	**1.40**	**89**			**Pn**	**06 50 46.1**	**-0.3**
CMCM	**Mills College**	**1.41**	**328**			**Pn**	**06 50 46.5**	**-0.1**
DCD	**Diablo Creek**	**1.41**	**166**			**Pn**	**06 50 46.3**	**-0.2**
JSBM	**San Bruno Moun**	**1.43**	**320**			**Pn**	**06 50 45.8**	**-1.0**
JMGM	**Milagra Ridge**	**1.44**	**317**			**Pn**	**06 50 46.4**	**-0.6**
BDM	**Black Diamond**	**1.46**	**340**			**Pn**	**06 50 47.2**	**0.0**
MMIM	**Miami Mountain**	**1.46**	**55**			**Pn**	**06 50 47.5**	**+0.1**
BKS	**Berkeley--Byer**	**1.51**	**329**			**Pn**	**06 50 47.7**	**-0.3**
VAK	**Adit at Lawren**	**1.52**	**328**			**Pn**	**06 50 48.2**	**+0.1**
VOG	**Valley Oaks Go**	**1.52**	**99**			**Pn**	**06 50 47.6**	**-0.5**
JPRM	**Presidio of Sa**	**1.56**	**321**			**Pn**	**06 50 47.7**	**-0.9**
CTAM	**Taylor**	**1.57**	**337**			**Pn**	**06 50 49.1**	**+0.4**
CMB	**Columbia Colle**	**1.60**	**25**			**Pn**	**06 50 49.8**	**+0.6**
CMB					IAML		06 51 13.4	
	comp=N,619nm,1.0s							
CMB					IAML		06 51 16.1	
	comp=E,771nm,0.9s							
CPIM	**Pinole Ridge**	**1.60**	**331**			**Pn**	**06 50 49.1**	**-0.1**
SMMC	**Simmler**	**1.62**	**141**			**Pn**	**06 50 49.1**	**-0.4**
HMR	**Hamilton Ranch**	**1.63**	**344**			**Pn**	**06 50 49.4**	**-0.2**
CPMM	**Point Molate**	**1.65**	**326**			**Pn**	**06 50 49.3**	**-0.6**
PINL	**Point Pinole R**	**1.68**	**328**			**Pn**	**06 50 50.3**	**0.0**
NLHM	**Lake Herman**	**1.69**	**335**			**Pn**	**06 50 50.9**	**+0.4**
KCC	**Kaiser Creek**	**1.71**	**64**			**Pn**	**06 50 51.6**	**+0.9**
JEPS	**Jepson Natural**	**1.73**	**345**			**Pn**	**06 50 51.9**	**+0.9**
FARB	**Farallon Islan**	**1.79**	**309**			**Pn**	**06 50 51.9**	**0.0**
CRGC	**Crocker Grade**	**1.82**	**137**			**Pn**	**06 50 52.5**	**+0.2**
SNT	**Sears Point**	**1.86**	**329**			**Pn**	**06 50 52.6**	**-0.2**
VES	**Vestal, Richgr**	**1.90**	**112**			**Pn**	**06 50 53.5**	**+0.2**
VES					IAML		06 51 21.8	
	comp=N,1µm,0.6s							
VES					IAML		06 51 25.8	
	comp=E,996nm,0.6s							
WELL	**Weller Preserv**	**1.90**	**12**			**Pn**	**06 50 53.8**	**+0.5**
WELL					IAML		06 51 27.9	
	comp=E,438nm,0.7s							
NOLM	**Olema**	**1.91**	**320**			**Pn**	**06 50 52.4**	**-1.0**
NADM	**Allendale**	**1.96**	**343**			**Pn**	**06 50 55.3**	**+1.2**
NPRM	**Point Reyes**	**2.00**	**315**			**Pn**	**06 50 54.4**	**-0.3**
CVS	**Carmenet Viney**	**2.01**	**332**			**Pn**	**06 50 54.5**	**-0.3**
MRDM	**Red Cones**	**2.02**	**59**			**Pn**	**06 50 56.5**	**+1.3**
NAPC	**Atlas Peak**	**2.02**	**337**			**Pn**	**06 50 54.9**	**-0.1**
RUSS	**Russell Ranch**	**2.02**	**346**			**Pn**	**06 50 55.7**	**+0.8**
RUSS					IAML		06 51 48.8	
	comp=E,457nm,0.8s							
RUSS					IAML		06 52 08.7	
	comp=N,425nm,1.6s							
MDPB	**Devils Postpil**	**2.02**	**58**			**Pn**	**06 50 57.0**	**+1.8**
MDPB					IAML		06 51 28.7	
	comp=N,889nm,0.8s							
MDPB					IAML		06 51 30.2	
	comp=E,855nm,0.8s							
MCCM	**Marconi Confer**	**2.03**	**321**			**Pn**	**06 50 53.8**	**-1.3**
MCCM					IAML		06 51 34.8	
	comp=E,319nm,0.8s							
SPG2	**Springville 2**	**2.03**	**100**			**Pn**	**06 50 54.8**	**-0.4**
MINS	**Minaret Summit**	**2.04**	**58**			**Pn**	**06 50 56.9**	**+1.3**
MMPM	**Mammoth Pass**	**2.04**	**59**			**Pn**	**06 50 57.3**	**+1.7**
PKM	**Mcpherson Peak**	**2.05**	**145**			**Pn**	**06 50 55.6**	**0.0**
OAKV	**Oakville Exper**	**2.06**	**334**			**Pn**	**06 50 55.5**	**-0.1**
MLIM	**Lincoln Peak**	**2.06**	**59**			**Pn**	**06 50 58.1**	**+2.1**
MDYM	**Dry Creek**	**2.08**	**58**			**Pn**	**06 50 57.8**	**+1.7**
MDCM	**Deadman Creek**	**2.09**	**57**			**Pn**	**06 50 57.6**	**+1.5**
MMLB	**Mammoth Lakes**	**2.10**	**59**			**Pn**	**06 50 58.3**	**+1.9**
FIGC	**Figueroa Mtn.**	**2.12**	**151**			**Pn**	**06 50 56.5**	**+0.1**
GATR	**Gnd/Air Tx Cnt**	**2.12**	**163**			**Pn**	**06 50 56.1**	**-0.2**
MLCM	**Laurel Creek C**	**2.12**	**60**			**Pb**	**06 50 59.3**	**-0.6**
NTYM	**Taylor**	**2.13**	**328**			**Pn**	**06 50 56.1**	**-0.3**
MEMM	**East Mammoth H**	**2.13**	**59**			**Pn**	**06 50 58.9**	**+2.1**
MGPM	**Gravel Pit**	**2.14**	**60**			**Pn**	**06 50 58.6**	**+1.8**
MCSM	**Casa Diablo Ho**	**2.15**	**60**			**Pb**	**06 50 59.7**	**-0.6**
MCBM	**Casa Benchmark**	**2.15**	**60**			**Pb**	**06 50 59.7**	**-0.6**
MCVM	**Convict Lake**	**2.17**	**62**			**Pb**	**06 51 00.0**	**-0.7**
MLAC	**Mammoth, Mammo**	**2.19**	**61**			**Pb**	**06 51 00.3**	**-0.6**
MDRNC	**Doe Ridge**	**2.19**	**61**			**Pn**	**06 50 59.7**	**+2.1**
BCW	**Bitter Crk WRg**	**2.21**	**137**			**Pn**	**06 50 58.5**	**+0.8**
NJQ	**Nojoqui County**	**2.22**	**157**			**Pn**	**06 50 57.8**	**0.0**
MLHM	**Little Hot Cre**	**2.23**	**60**			**Pb**	**06 51 01.2**	**-0.3**
MTUM	**Tungsten Hills**	**2.28**	**70**			**Pn**	**06 51 00.6**	**+1.9**
SYP	**Santa Ynez Pea**	**2.30**	**153**			**Pn**	**06 50 58.9**	**-0.1**
WASM	**Alta Sierra Ca**	**2.33**	**110**			**Pn**	**06 51 00.1**	**+0.7**
AFDM	**Forest Hills D**	**2.37**	**5**	Pn		**Pn**	**06 51 00.9**	**+1.0**
WAKR	**Walker**	**2.39**	**36**			**Pn**	**06 51 02.9**	**+2.1**
WAKR					IAML		06 51 39.3	
	comp=N,570nm,0.8s							
MFBM	**Five Bridges**	**2.41**	**69**			**Pn**	**06 51 03.0**	**+2.6**
ISA	**Isabella, Lake**	**2.42**	**111**			**Pn**	**06 51 01.4**	**+0.8**
ISA					IAML		06 51 36.5	
	comp=N,472nm,0.8s							
ISA					IAML		06 51 36.5	
	comp=E,333nm,1.0s							
ARVC	**Arvin**	**2.44**	**126**			**Pn**	**06 51 01.2**	**+0.5**
TIN	**Tinemaha, Big**	**2.46**	**78**			**Pn**	**06 51 03.4**	**+2.2**
FTR	**Fort Ross**	**2.46**	**322**			**Pn**	**06 51 00.6**	**-0.5**
TEJ	**El Tejon**	**2.47**	**122**			**Pn**	**06 51 01.9**	**+0.6**
MNRC	**McLaughlin Min**	**2.48**	**338**			**Pn**	**06 51 01.7**	**+0.4**
GDXM	**Geysers**	**2.54**	**331**			**Pn**	**06 51 01.9**	**-0.3**
CWC	**Cottonwood Cre**	**2.55**	**92**			**Pn**	**06 51 04.3**	**+1.8**
CWC					IAML		06 51 45.6	
	comp=E,258nm,0.8s							
CWC					IAML		06 51 45.9	
	comp=N,300nm,0.8s							
SUTB	**Sutter Butte**	**2.67**	**351**			**Pn**	**06 51 03.8**	**-0.2**
SUTB					IAML		06 51 55.9	
	comp=E,359nm,0.6s							
SUTB					IAML		06 52 01.4	
	comp=N,316nm,0.5s							
CGO	**Cerro Gordo**	**2.77**	**90**			**Pn**	**06 51 07.9**	**+2.3**
MFS	**McCloud Flat S**	**2.77**	**99**			**Pn**	**06 51 07.7**	**+2.2**
HOPS	**Hopland Field**	**2.81**	**329**			**Pn**	**06 51 05.6**	**-0.2**
SRTC	**Snort**	**2.96**	**106**			**Pn**	**06 51 11.5**	**+3.5**
ORV	**Oroville**	**2.97**	**356**			**Pn**	**06 51 08.8**	**+0.7**
ORV					IAML		06 52 06.6	
	comp=E,146nm,1.2s							
TPO	**Tropico Hills**	**2.98**	**124**			**Pn**	**06 51 10.0**	**+1.7**
TPO					IAML		06 51 59.1	
	comp=N,323nm,0.8s							
TPO					IAML		06 52 22.1	
	comp=E,347nm,1.0s							
CLC	**China Lake**	**3.05**	**104**			**Pn**	**06 51 10.4**	**+1.3**
CLC					IAML		06 52 04.6	
	comp=N,130nm,1.4s							
CLC					IAML		06 52 09.3	
	comp=E,154nm,1.2s							
MPMC	**Manual Prospec**	**3.08**	**99**			**Pn**	**06 51 10.9**	**+1.2**
LRMC	**Laurel Mtn Rad**	**3.09**	**110**			**Pn**	**06 51 10.3**	**+0.5**
LRMC					IAML		06 51 57.9	
	comp=N,176nm,0.8s							
WSHM	**Spangler Hills**	**3.19**	**107**			**Pn**	**06 51 11.7**	**+0.6**
WSHM					IAML		06 52 04.9	
	comp=N,168nm,0.9s							
WSHM					IAML		06 52 07.9	
	comp=N,172nm,0.7s							
GMN	**Gold Mountain**	**3.27**	**76**			**Pn**	**06 51 13.2**	**+0.8**
GMN					IAML		06 52 10.6	
	comp=E,157nm,1.0s							
GMN					IAML		06 52 11.3	
	comp=N,165nm,1.0s							
CCCA	**Chr Cany lake**	**3.31**	**107**			**Pn**	**06 51 13.4**	**+0.6**
BEKR	**Beckworth**	**3.35**	**12**			**Pn**	**06 51 15.3**	**+1.8**
BEKR					IAML		06 52 14.5	
	comp=E,171nm,1.1s							
PASC	**Pasadena Art C**	**3.47**	**133**			**Pn**	**06 51 16.2**	**+1.2**
MWC	**Mount Wilson**	**3.51**	**131**			**Pn**	**06 51 16.0**	**+0.4**
MWC					IAML		06 52 14.1	
	comp=E,115nm,0.9s							
MWC					IAML		06 52 21.2	
	comp=N,112nm,1.1s							
QSM	**Queen of Sheba**	**3.59**	**99**			**Pn**	**06 51 17.4**	**+0.8**
QSM					IAML		06 52 26.1	
	comp=N,166nm,0.9s							
QSM					IAML		06 52 35.2	
	comp=E,107nm,0.9s							
GWY	**Greenwater Val**	**3.71**	**95**			**Pn**	**06 51 19.6**	**+1.2**
GWY					IAML		06 52 33.1	
	comp=E,102nm,0.9s							
GWY					IAML		06 52 50.4	
	comp=N,88nm,1.5s							
O03E	**Paynes Creek**	**3.73**	**353**			**Pn**	**06 51 19.3**	**+0.7**
O03E					IAML		06 52 27.9	
	comp=N,87nm,1.0s							
O03E					IAML		06 52 38.7	
	comp=E,179nm,0.7s							
BFSC	**Mount Baldy Ra**	**3.75**	**128**			**Pn**	**06 51 19.2**	**+0.4**
BFSC					IAML		06 52 08.0	
	comp=N,72nm,0.8s							
BFSC					IAML		06 52 08.4	
	comp=E,83nm,1.4s							
GSC	**Goldstone, Bar**	**3.82**	**108**			**Pn**	**06 51 20.4**	**+0.6**
GSC					IAML		06 52 29.4	
	comp=N,108nm,1.2s							
GSC					IAML		06 52 32.3	
	comp=E,121nm,1.3s							
HATC	**Hat Creek Radi**	**4.23**	**358**			**Pn**	**06 51 28.0**	**+2.6**
HATC					IAML		06 52 59.4	
	comp=N,136nm,2.3s							
ELS	**Elsinore Mount**	**4.29**	**132**			**Pn**	**06 51 27.2**	**+1.0**
N02D	**Trinity Center**	**4.53**	**346**			**Pn**	**06 51 29.5**	**0.0**
DNR	**Dunn Ranch,Anz**	**4.83**	**127**			**Pn**	**06 51 34.9**	**+1.1**
PMD	**Palm Desert**	**4.95**	**125**			**Pn**	**06 51 36.0**	**+0.8**
PRN	**Pahroc Range**	**5.02**	**79**			**Pn**	**06 51 37.3**	**+0.9**
DANC	**Danby, Needles**	**5.16**	**110**			**Pn**	**06 51 38.5**	**+0.4**
V12A	**Nelson**	**5.24**	**98**			**Pn**	**06 51 41.1**	**+1.7**
V12A					IAML		06 53 29.6	
	comp=N,35nm,1.7s							
BAR	**Barrett**	**5.42**	**135**			**Pn**	**06 51 41.7**	**0.0**
BC3	**Big Chuckawall**	**5.57**	**120**			**Pn**	**06 51 44.0**	**+0.1**
CBX	**Cerro Bola**	**5.70**	**137**			**Pn**	**06 51 44.6**	**-1.0**
W13A	**Hualapai Mount**	**6.16**	**102**			**Pn**	**06 51 52.8**	**+0.7**

SNET ***13*** *07:01:16.6*±*1.3, 12°.74N*×*88°.87W, h18*km*, ML3.1*

CATAC 13 07:01:17.3±0.7**, 13°N**±3°×**8°9W**±°**, h30**km±5km**, M3.2**/19**, MLv3.2**/19**, Error ellipse: s-maj=6.9km s-min=2.7km az=30.2, confirmed, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PACA	**Pacayal**	**0.90**	**36**	S	Sb	07 01 46.8		**+0.8**
PACA	**Pacayal**	**0.90**	**36**	P	Pn	07 01 34.0		0.0
UESV	**Universidad de**	**0.90**	**5**	S	Sb	07 01 46.0		+0.1
UESV	**Universidad de**	**0.90**	**5**	P	Pn	07 01 33.7		-0.2
LFRS	**El Faro**	**0.90**	**347**	*e*P	Pn	07 01 33.1		-0.9
PANCS	**Alcalda de**	**0.92**	**340**	P	Pn	07 01 33.9		-0.4
PANCS	**Alcalda de**	**0.92**	**340**	S	Sn	07 01 45.8		-0.7
PQSS	**Presa 15 de Se**	**0.93**	**18**	S	Sb	07 01 46.9		+0.1
LOMA	**Loma Larga**	**0.95**	**341**	S	Sn	07 01 47.3		-0.1
LOMA	**Loma Larga**	**0.95**	**341**	P	Pn	07 01 34.6		-0.1
PAVA	**Las Pavas**	**0.97**	**356**	S	Sb	07 01 48.1		-0.1
PAVA	**Las Pavas**	**0.97**	**356**	P	Pn	07 01 35.0		0.0
CNRM	**Centro Naciona**	**0.99**	**43**	P	Pn	07 01 35.1		-0.1
CNRM	**Centro Naciona**	**0.99**	**43**	S	Sb	07 01 48.6		0.0
UDBS	**Universidad Do**	**1.01**	**344**	P	Pn	07 01 35.9		+0.3
UTEC	**Universidad Te**	**1.01**	**341**	S	Sn	07 01 49.0		+0.2
UEES	**Universidad Ev**	**1.04**	**339**	S	Sn	07 01 49.6		+0.1
UEES	**Universidad Ev**	**1.04**	**339**	P	Pn	07 01 36.9		-0.1
PMON	**Piamonte**	**1.06**	**335**	S	Sn	07 01 49.7		-0.4
PMON	**Piamonte**	**1.06**	**335**	P	Pn	07 01 36.1		-0.2
BOQS	**Boqueron**	**1.07**	**338**	*e*P	Pn	07 01 36.4		-0.1
JAYA	**Jayaque - finc**	**1.07**	**328**	*e*P	Pn	07 01 36.7		+0.2
JAYA				*e*S	Sn	07 01 49.7		-0.8
JAYA	**Jayaque - finc**	**1.07**	**328**	P	Pn	07 01 36.2		-0.3
JAYA	**Jayaque - finc**	**1.07**	**328**	S	Sn	07 01 50.1		-0.5
LCND	**La Caada**	**1.10**	**59**	*e*P	Pn	07 01 36.4		-0.3
LCND				*e*S	Sn	07 01 51.1		+0.2
LCND	**La Caada**	**1.10**	**59**	P	Pn	07 01 36.5		-0.2
CNCH	**Conchagua**	**1.13**	**62**	*e*P	Pn	07 01 37.2		-0.1
CNCH				*e*P	Pb	07 01 38.9		+0.5
CNCH				*e*S	Sb	07 01 53.5		+0.6
CNCH	**Conchagua**	**1.13**	**62**	P	Pn	07 01 37.0		-0.3
CNCH	**Conchagua**	**1.13**	**62**	S	Sn	07 01 52.1		+0.2
CEDA	**San Andres**	**1.18**	**334**	*e*S	Sn	07 01 52.5		-0.4
CEDA	**San Andres**	**1.18**	**334**	P	Pn	07 01 37.8		0.0
CEDA	**San Andres**	**1.18**	**334**	S	Sn	07 01 52.9		0.0
CSGN	**Cosiguina Volc**	**1.29**	**79**	P	Pn	07 01 39.2		-0.2
CSGN				S	Sn	07 01 56.3		+0.5
CEVE	**Cerro Verde**	**1.31**	**326**	*e*P	Pn	07 01 40.7		+0.8
CEVE				*e*S	Sb	07 01 59.4		+1.4
CEVE	**Cerro Verde**	**1.31**	**326**	S	Sn	07 01 56.3		-0.2
UNIC	**Universidad Ca**	**1.41**	**332**	P	Pn	07 01 41.2		+0.2
UNIC	**Universidad Ca**	**1.41**	**332**	S	Sn	07 01 59.2		+0.7
LLGN	**La Laguna**	**1.42**	**357**	P	Pn	07 01 41.4		+0.2
LLGN	**La Laguna**	**1.42**	**357**	S	Sb	07 02 00.8		-0.1
NUBE	**Las Nubes**	**1.46**	**322**	P	Pn	07 01 41.8		0.0
MTO3	**Montecristo**	**1.72**	**344**	P	Pn	07 01 45.5		+0.1
INTHN	**La Esperanza I**	**1.73**	**25**	P	Pn	07 01 46.2		+0.6
CHOHN	**Orocuina**	**1.81**	**66**	P	Pn	07 01 46.5		-0.1
CHOHN	**Orocuina**	**1.81**	**66**	S	Sn	07 02 09.5		+0.8
PKGN	**Cerro Pekin**	**1.84**	**92**	P	Pn	07 01 47.1		+0.2
PKGN				S	Sn	07 02 08.7		-0.5
SARH	**Santa Rosa de**	**2.03**	**3**	P	Pn	07 01 50.5		+1.0
TGUH	**Tegucigalpa,Un**	**2.03**	**50**	P	Pn	07 01 50.0		+0.4
CNGA	**Al SSO del Vol**	**2.12**	**96**	P	Pn	07 01 51.3		+0.5
CNGA				S	Sn	07 02 15.0		-1.2
CNGN	**Cerro Negro**	**2.12**	**96**	P	Pn	07 01 50.7		-0.2
CNGN	**Cerro Negro**	**2.12**	**96**	S	Sn	07 02 16.8		+0.5
YUSH	**Yuscaran**	**2.31**	**58**	P	Pn	07 01 53.6		+0.2
RCVN	**Varillal2**	**2.73**	**72**	P	Pn	07 01 59.6		+0.3
RCPN	**Sur Rio San Ju**	**2.81**	**74**	P	Pn	07 01 59.5		-0.8

TAP ***13*** *07:05:30.8, 23°.98N*×*122°.50E, h28*km*, ML4.4, C*

NEIC ***13*** *07:05:30.2*±*1.7, 23°.91N*±*0°.05*×*122°.57E*±*0°.04, h23*km±*6km, mb4.4/12, Mwr4.1/19, Error ellipse: s-maj=8.5km s-min=4.5km az=150.0, Moment Tensor Solution. Moment tensor: Scale 10*15*Nm; Mrr=0.73; Mθθ=-1.19; Mφφ=0.46; Mrθ=1.38; Mθφ=-0.09; Mφr=0.69; Fault plane solution: Ms=1.87000×10*15 *NP1:*φs*297.90000°,*δ*22.63000°, λ141.26000°. NP2:*φs*64.42000°,*δ*76.07000°,λ71.99000°. Principal axes: T 1.7210, Plg55.0000°, Azm312.0000°; N 0.2607, Plg17.0000°, Azm69.0000°; P -1.9817, Plg29.0000°, Azm169.0000°;*

NEIC ***13*** *07:05:30.4, 23°.91N*×*122°.58E, h25*km

NIED ***13*** *07:05:30.6, 23°.94N*×*122°.50E, h22*km*, MW4.2, Moment Tensor Solution. s2 Moment tensor: Scale 1015Nm; Mrr=0.69; Mθθ=-0.91; Mφφ=0.23; Mrθ=1.94; Mθφ=-0.12; Mφr=0.72; Fault plane solution: Ms2.23000×10*15 *NP1:*φs*285.00000°,*δ*12.00000°,λ124.00000°. NP2:*φs*70.00000°,*δ*80.00000°,λ83.00000°.*

JMA ***13*** *07:05:30.6*±*0.2, 24°.N*±*1°×122°.5E*±*0°.5, h22*km±*3km, MD4.3/14, MV4.0/14, NW OFF ISHIGAKIJIMA IS*

IDC ***13*** *07:05:32.2*±*2.9, 24°.14N*×*122°.60E, h42*km±*28km, mb3.9/19, mbtmp4.1/20, ML3.8/1, MS3.5/23, Error ellipse: s-maj=18.0km s-min=13.4km az=60.0*

ISC 13 07:05:28.7±1.0**, 23°.94N**±0°.02×**122°.56E**±0°.02**, h17**km±6km**, n237**, σ1§04/327**, mb4.3**/25**, MS3.5**/23**, 1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
EOS4	**EOS4**	**0.28**	**308**	P	Pn	**07**	**05 36.9**	**-0.8**
EOS4				*e*S	Sb	**07**	**05 41.2**	**+1.8**
EOS3	**EOS3**	**0.41**	**327**	*i* P	Pn	**07**	**05 39.3**	**-0.3**
EOS3				*e*S	Sn	**07**	**05 44.9**	**-1.9**
EOS2	**EOS2**	**0.56**	**328**	*i* P	Pn	**07**	**05 42.1**	**+0.4**
EOS2				*e*S	Sn	**07**	**05 49.0**	**-1.5**
JYNG	**Yonagunijimaku**	**0.61**	**35**	*i* P	Pn	**07**	**05 43.1**	**+0.4**
JYNG				S	Sn	**07**	**05 51.3**	**-0.8**
JYNG	**Yonagunijimaku**	**0.61**	**35**	A	A	07	05 43.1	
	comp=N,22nm,2.0s,comp=E,16nm,2.1s							
YOJ	**Yonaguni jima**	**0.66**	**39**		Pn	**07**	**05 43.8**	**+0.5**
YOJ				Sg	Sn	**07**	**05 52.5**	**-0.6**
YOJ	**Yonaguni jima**	**0.66**	**39**	P	Pn	**07**	**05 43.8**	**+0.5**
YOJ	**Yonaguni jima**	**0.66**	**39**	*i* P	Pn	**07**	**05 43.9**	**+0.7**
YOJ				S	Sn	**07**	**05 52.6**	**-0.6**
YOJ	**Yonaguni jima**	**0.66**	**39**	*i* P	Pn	**07**	**05 43.9**	**+0.7**
YOJ				S	Sn	**07**	**05 52.6**	**-0.6**
YOJ	**Yonaguni jima**	**0.66**	**39**	A	A	07	05 43.9	
	comp=N,16nm,2.0s,comp=E,13nm,0.9s							
EAHA	**Aohua**	**0.84**	**297**	P	Pn	**07**	**05 46.0**	**+0.2**
EWUT	**Wuta**	**0.87**	**305**	*i* P	Pn	**07**	**05 46.1**	**-0.1**
EWUT				*e*S	Sn	**07**	**05 57.9**	**-0.6**
HWA	**Hwalien**	**0.87**	**272**	*e*P	Pn	**07**	**05 46.2**	**0.0**
HWA				*e*S	Sn	**07**	**05 59.2**	**+0.7**
ETL	**Fush Village**	**0.88**	**284**	P	Pn	**07**	**05 46.5**	**+0.1**
ETL				*e*S	Sg	**07**	**05 58.3**	**+0.7**
TEYL	**Yanliau Villag**	**0.88**	**265**	*e*P	Pn	**07**	**05 46.4**	**0.0**
TEYL				*e*S	Sg	**07**	**05 58.5**	**+0.9**
ENA

JIJ	Ishigaki jima	1.50	74	P	Pg	07 05 57.0	-0.8	
JIJ				S	Sg	07 06 16.8	-0.5	
EDH	Donghe	1.51	230	eP	Pn	07 05 54.5	-0.4	
EDH				S	Sn	07 06 11.6	-2.5	
KSHI	Guanxi Townshi	1.51	304	eP	Pg	07 05 56.8	-1.0	
WHP	Taichung City	1.51	283	eP	Pb	07 05 56.4	0.0	
WHP				eS	Sn	07 06 15.2	+0.8	
SMLT	Sun Moon Lake	1.52	268	P	Pb	07 05 56.2	-0.4	
SMLT				S	Sn	07 06 14.7	+0.1	
ZUZH	Zhuzihu	1.52	323	eP	Pb	07 05 55.9	-0.7	
ZUZH				eS	Sg	07 06 16.2	-1.8	
TWS1	Kuangyinshan	1.55	318	eP	Pb	07 05 56.3	-0.7	
ANP	Anpu	1.56	323	eP	Pg	07 05 57.4	-1.3	
TYC	Yuchr	1.56	269	eP	Pn	07 05 56.4	+0.8	
LIOB	Emei	1.57	297	i P	Pg	07 05 58.1	-1.0	
LIOB				eS	Sb	07 06 17.3	+0.3	
NSTT	Nanjuang	1.58	296	i P	Pb	07 05 58.0	+0.5	
NSTT				eS	Sb	07 06 17.8	+0.6	
NTST	Danshui	1.58	320	eP	Pb	07 05 57.4	0.0	
WHYT	Xinyi Township	1.58	261	eP	Pb	07 05 57.5	-0.1	
TWY	Chenhua	1.59	327	eP	Pg	07 05 57.9	-1.4	
ELDTW	Lidau	1.60	242	eP	Pn	07 05 56.2	-0.2	
LDUT	Ludao	1.61	219	eP	Pn	07 05 56.0	-0.4	
LDUT				eS	Sn	07 06 14.5	-2.3	
NCUH	Zhongli	1.61	309	eP	Pb	07 05 57.9	-0.1	
NCUH				eS	Sb	07 06 19.2	+1.0	
ALS	Alishan	1.67	255	P	Pn	07 05 58.5	+1.1	
ALS				eS	Sn	07 06 18.1	-0.3	
SBCB	Hsinchu	1.67	301	eP	Pb	07 05 59.1	+0.1	
LONT	Longtian	1.67	232	eP	Pn	07 05 57.6	+0.4	
LONT				eS	Sn	07 06 17.4	-0.9	
TWQ1	Liyutan	1.68	284	eP	Pb	07 05 59.9	-0.4	
TWQ1				eS	Sb	07 06 20.8	+0.7	
WJS	Zhushan	1.68	266	eP	Pb	07 05 59.8	+0.5	
WJS				eS	Sb	07 06 21.8	+1.7	
HSN	Hsinchu	1.68	301	eP	Pn	07 05 58.0	+0.7	
HSN				eS	Sn	07 06 19.1	+0.6	
NSY	Sanyi	1.71	286	eP	Pg	07 06 00.7	-0.9	
NSY				eS	Sb	07 06 22.1	+1.2	
WNT	Mingjian	1.72	268	eP	Pb	07 05 59.9	+0.1	
NMLH	Miaoli	1.72	290	eP	Pb	07 05 59.9	+0.1	
NMLH				eS	Sb	07 06 21.3	+0.1	
JISG	Ishigakijimahi	1.72	68	P	Pg	07 05 59.8	-2.1	
JISG				S	Sg	07 06 21.9	-2.3	
TCU	Taichung	1.73	277	eP	Pb	07 06 00.3	+0.2	
TCU				eS	Sb	07 06 22.1	+0.5	
PCYT	Pengchaiyu	1.74	345	eP	Pb	07 05 59.4	-0.8	
TTN	Taitung	1.76	228	eS	Sn	07 06 19.8	-0.5	
CHN5	Tsauling	1.76	259	eP	Pb	07 06 00.2	-0.3	
TWGBT	Beinan	1.76	231	P	Pn	07 05 58.8	+0.3	
TWGBT	Beinan	1.76	231	eP	Pn	07 05 58.6	+0.2	
TWGBT				eS	Sn	07 06 18.6	-1.9	
TWG	Pinlang	1.77	231		Pn	07 05 58.4	-0.1	
TWG	Pinlang	1.77	231	eP	Pn	07 05 58.6	+0.1	
TWG				eS	Sn	07 06 18.9	-1.6	
WDJ	Dajia District	1.80	283	eP	Pb	07 06 01.4	+0.2	
WDJ				eS	Sb	07 06 23.6	+0.1	
STYH	Taoyuan	1.81	245	eP	Pn	07 06 00.3	+1.2	
STYH				eS	Sn	07 06 21.3	-0.3	
WCHH	Zhanghua	1.84	275	eP	Pb	07 06 01.9	+0.1	
WCHH				eS	Sb	07 06 24.6	+0.1	
WCH1	Changhua City	1.85	274	eP	Pb	07 06 02.0	+0.1	
WCH1				eS	Sb	07 06 25.3	+0.5	
WGK	Gukeng	1.85	262	eP	Pb	07 06 01.8	-0.3	
WGK				eS	Sb	07 06 26.8	+1.9	
WCKO	Fanlu	1.86	255	eP	Pb	07 06 01.8	-0.5	
WCKO				eS	Sb	07 06 27.4	-0.1	
WDL	Douliou City	1.86	263	eS	Sb	07 06 27.4	+2.1	
WDLH	Douliu	1.87	263	eP	Pb	07 06 02.0	-0.4	
WDLH				eS	Sb	07 06 26.2	+0.7	
TPUB	Ta-pu	1.88	250	Pn	Pn	07 06 01.1	+0.9	
TPUB	Ta-pu	1.88	250	P	Pb	07 06 01.9	-0.8	
TPUB				S	Sn	07 06 25.0	+1.5	
WTP	Ta-pu	1.92	249	eP	Pb	07 06 02.4	-0.9	
WTP				eS	Sn	07 06 26.1	+1.7	
CHN2	Minshiung	1.95	258	eP	Pb	07 06 03.5	-0.3	
CHN2				eS	Sb	07 06 28.0	+0.1	
ECL	Taimali	2.00	228	eP	Pn	07 06 01.4	-0.2	
ECL				eS	Sn	07 06 24.6	-1.6	
WTK	Tuku	2.00	263	eP	Pb	07 06 04.0	-0.7	
WTK				eS	Sb	07 06 29.5	+0.1	
CHY	Chiayi	2.01	258	eP	Pb	07 06 04.0	-0.8	
CHY				eS	Sn	07 06 28.6	+2.1	
TWK	Hsinying	2.02	251	eP	Pb	07 06 04.7	-0.3	
TWK				eS	Sb	07 06 29.6	-0.3	
JTJ	Tarama	2.07	70	eP	Pb	07 06 05.6	-0.3	
JTJ	Tarama	2.07	70	A	A	07 06 05.6		
	comp=N,6.0nm,2.8s,comp=E,6.0nm,1.7s							
LAY	Lan-yu	2.11	206	eP	Pn	07 06 02.9	-0.4	
LAY				eS	Sn	07 06 26.8	-2.4	
LYUB	Lan-yu	2.13	205	eP	Pn	07 06 02.5	-1.0	
LYUB				eS	Sn	07 06 25.9	-3.7	
SSD	Sandimen	2.14	236	eP	Pn	07 06 05.1	+1.5	
SSD				eS	Sn	07 06 32.1	+2.4	
WSF	Szhu	2.16	262	eP	Pb	07 06 06.8	-0.7	
WSF				eS	Sb	07 06 33.2	-0.7	
ICHU	Yijhu	2.17	255	eS	Sn	07 06 33.2	+2.7	
SCST	Cishan	2.17	241	eP	Pb	07 06 07.0	-0.6	
SCST				eS	Sb	07 06 34.5	+0.3	
WSL	Shuilin Townsh	2.18	259	eP	Pn	07 06 06.1	+1.9	
WSL				eS	Sn	07 06 32.2	+1.5	
CHN3	Shinhua	2.19	247	eS	Sb	07 06 35.9	+1.1	
EAST	Anshuo	2.21	226	eP	Pn	07 06 05.0	+0.3	
MASBT	Mashibuluo	2.21	234	P	Pn	07 06 06.2	+1.6	
MASBT				S	Sn	07 06 32.5	+0.9	
TAWH	Dawu Township	2.22	224	eP	Pn	07 06 05.1	+0.4	
SHHT	Tainan City	2.23	246	eP	Pb	07 06 08.3	-0.3	
SHHT				eS	Sb	07 06 35.7	-0.1	
CHN8	Yiju	2.23	255	eP	Pb	07 06 07.4	-1.2	
CHN8				eS	Sn	07 06 34.2	+2.1	
SSHA	Shanhua	2.23	249	eS	Sb	07 06 36.5	+0.5	
TWM1	Shoushan	2.26	241	eS	Sb	07 06 38.2	+1.4	
SCLT	Jiali	2.30	251	eS	Sn	07 06 36.6	+2.8	
SCZT	Fangliau	2.37	229	eP	Pn	07 06 08.6	+1.8	
SCZT				eS	Sn	07 06 38.6	+3.0	
TSCK	Chigu Township	2.41	251	eS	Sn	07 06 38.6	+2.3	
WSSB	Gushan	2.48	239	eS	Sb	07 06 42.3	-0.8	
SMST	Manzhou Townsh	2.49	220	eP	Pn	07 06 09.1	+0.6	
SMST				eS	Sn	07 06 38.1	-0.2	
TSEB	Hengchuen, Pin	2.55	217	eP	Pb	07 06 13.0	-1.0	
TSEB				eS	Sn	07 06 41.5	+1.7	
HEN	Hengchun	2.56	221	eS	Sn	07 06 40.8	+0.7	
TWKBT	Hengchun	2.56	219	eP	Pn	07 06 10.5	+1.0	
TWKBT				eS	Sn	07 06 40.4	+0.2	
TWK1	Hengchun	2.57	219	eP	Pn	07 06 11.0	+1.5	
TWK1				eS	Sn	07 06 40.3	0.0	
WDGT	Dungji	2.75	256	P	Pn	07 06 13.5	+1.6	
WDGT				eS	Sn	07 06 44.7	-0.1	
PHUB	P'eng-hu	2.77	262	P	Pn	07 06 13.6	+1.3	
PHUB				S	Sn	07 06 45.3	-0.1	
PNG	Penghu	2.78	263	eP	Pn	07 06 14.1	+1.7	
PNG				eS	Sn	07 06 46.2	+0.7	
VCHM	Qimei	2.96	256	eP	Pn	07 06 16.0	+1.0	
VCHM				S	Sn	07 06 50.2	0.0	
VWUC	VWUC	3.02	291	P	Pn	07 06 16.3	+0.6	
MATB	Ma-tsu	3.23	313	eP	Pn	07 06 19.4	+0.7	
MATB				eS	Sn	07 06 55.2	-1.6	
PTMZ	Houxiangcun	3.32	290	P	Pn	07 06 20.2	+0.4	
PTMZ				S	Sn	07 06 56.9	-2.0	
XPSS	Dashiqiu	3.67	325	eP	Pn	07 06 24.5	-0.1	
KNM	Kinmen	3.80	278	eP	Pn	07 06 28.7	+2.3	
KNM				eS	Sn	07 07 12.7	+2.0	
KNMB	Chin-men Tao	3.84	279		Pn	07 06 27.7	+0.6	
MHZQ	Yeshan	3.85	305	eP	Pn	07 06 27.2	0.0	
AXDP	Jialang	4.29	284	eP	Pn	07 06 33.8	+0.6	
AXDP				eS	Sn	07 07 20.3	-2.6	
ZPLA	Ao Xicun	4.40	271	eP	Pn	07 06 35.1	+0.4	
ZPLA				eS	Sn	07 07 23.4	-2.2	
DSXP	Dongshan	4.71	268	eP	Pn	07 06 39.2	+0.3	
DSXP				eS	Sn	07 07 31.4	-1.7	
SXFK	Yanhouchang	5.08	300	eP	Pn	07 06 44.0	-0.1	
JOW	Kunigami	5.91	60	Pn	Pn	07 06 56.4	+0.8	
JOW	Kunigami	5.91	60	P	Pn	07 06 55.8	+0.2	
	comp=E,5.3nm,0.3s,baz=160,slow=9.7,SNR=8.3							
JOW				S	Sn	07 08 01.5	-1.4	
	comp=E,7.3nm,0.5s,baz=100,slow=26,SNR=1.0 comp=E,11nm,0.3s							
KSAR	Wonju Array Be	14.21	18	Pn	P	07 08 53.3	-3.2	
KSRS	Korea Array	14.23	18	P	Pn	07 08 51.3	+1.9	
	comp=E,19nm,0.6s,baz=197,slow=11,SNR=59							

XAN	Xi'an	15.59	313	P	P	07 09 13.4	+1.5	
XAN				pmax	pmax			
	comp=E,11nm,0.7s							
BJT	Baijiatuau	16.91	343	P	P	07 09 25.9	-0.5	
DAV	Davao City (W)	17.03	170	LR	LR	07 15 51.2		
	comp=Z,93nm,20.9s,baz=314,slow=36							
MJAR	Matsushiro Arr	18.42	43	LR	LR	07 17 48.5		
	comp=Z,32nm,20.6s,baz=218,slow=40							
LZH	Lanzhou	20.18	311	eP	Pn	07 10 06.3	+1.7	
LZH				sP	pwP	07 10 16.8	+5.8	
LZH				pmax	pmax			
	comp=Z,17nm,1.0s							
LZH				LR	LR			
	comp=N,190nm,16.5s							
LZH				LR	LR			
	comp=E,210nm,16.5s							
LZH				LR	LR			
	comp=Z,270nm,15.1s							
LZDM	Lanzhou Array	20.22	311	P	P	07 10 03.2	0.0	
	comp=Z,0.9nm,0.3s,baz=123,slow=11,SNR=5.9 comp=Z,0.9nm,0.3s							
USRK	Ussuriysk Ar.	21.63	19	P	P	07 10 16.2	-1.8	
	comp=Z,3.0nm,0.8s,baz=205,slow=10,SNR=5.6 comp=Z,3.0nm,0.8s							
CMAR	Chiang Mai Arr	22.67	261	P	P	07 10 31.4	+2.0	
	comp=Z,2.0nm,0.3s,baz=55,slow=6.5,SNR=5.9							
CMAR				LR	LR	07 20 57.9		
	comp=Z,29nm,18.8s,baz=60,slow=41 comp=Z,2.0nm,0.3s							
GUMO	Guam	23.47	112	LR	LR	07 19 28.6		
	comp=Z,54nm,19.3s,baz=256,slow=36							
GTA	Gaotai	24.65	314	P	P	07 10 49.8	+1.2	
GTA				sP	pwP	07 11 03.6	+6.5	
GTA				pmax	pmax			
	comp=Z,9.0nm,0.9s							
GTA				LR	LR			
	comp=N,100nm,14.5s							
GTA				LR	LR			
	comp=E,130nm,15.6s							
GTA				LR	LR			
	comp=Z,190nm,14.9s							
ASAJ	Asahikawa	25.96	34	LR	LR	07 20 32.2		
	comp=Z,64nm,21.5s,baz=204,slow=35							
SONM	Songino Array	27.09	336		P	07 11 10.2	-0.4	
SONM	Songino Array	27.09	336	P	P	07 11 09.5	-1.1	
	comp=Z,1.2nm,0.6s,baz=153,slow=9.2,SNR=10							
SONM				LR	LR	07 23 05.6		
	comp=Z,171nm,19.8s,baz=114,slow=39 comp=Z,1.2nm,0.6s							
JAY	Jayapura	31.68	144	LR	LR	07 21 59.3		
	comp=Z,70nm,20.5s,baz=8.5,slow=31							
PETK	Petropavlovsk-	39.37	33	LR	LR	07 30 22.9		
	comp=Z,37nm,19.2s,baz=216,slow=38							
MK31	Makanchi Array	39.39	316	P	P	07 12 58.0	+0.5	
MKAR	Makanchi Array	39.39	316	P	P	07 12 57.5	+0.1	
MKAR	Makanchi Array	39.39	316	P	P	07 12 55.1	-2.4	
	comp=Z,1.9nm,0.5s,baz=103,slow=9.9,SNR=8.0							
MKAR				LR	LR	07 29 32.8		
	comp=Z,32nm,19.1s,baz=73,slow=37 comp=Z,1.9nm,0.5s							
MAKZ	Makanchi	39.59	315	P	P	07 12 59.4	+0.3	
MAKZ				IAmb	IAmb	07 12 59.8		
	comp=Z,5.3nm,0.6s							
MA2	Magadan	40.73	22	LR	LR	07 31 02.9		
	comp=Z,66nm,19.6s,baz=220,slow=38							
ZAA0	Zalesovo Array	41.13	327	P	P	07 13 10.8	-0.9	
ZAA0				IAmb	IAmb	07 13 11.3		
	comp=Z,3.9nm,0.7s							
ZALV	Zalesovo Beam	41.13	327		P	07 13 10.7	-1.1	
ZALV	Zalesovo Beam	41.13	327	P	P	07 13 10.8	-0.9	
	comp=Z,4.1nm,0.7s,baz=115,slow=7.9,SNR=11							
ZALV				LR	LR	07 30 58.8		
	comp=Z,55nm,19.6s,baz=124,slow=37 comp=Z,4.1nm,0.7s							
KDJ	Kajisay	41.60	307	P	P	07 13 16.1	+0.1	
KDJ				IAmb	IAmb	07 13 18.5		
	comp=Z,8.9nm,0.9s							
NRN	Naryn	42.34	306		P	07 13 23.1	+0.9	
KURBB	Kurchatov Arra	43.10	320	P	P	07 13 26.9	-1.0	
	comp=Z,0.8nm,0.2s,baz=107,slow=7.7,SNR=7.3 comp=Z,0.8nm,0.2s							
AAK	Ala-Archa	43.65	307	LR	LR	07 35 00.4		
	comp=Z,61nm,18.1s,baz=94,slow=41							
ARSB	Arslanbob	44.58	305		P	07 13 40.7	+0.6	
ARSB				IAmb	IAmb	07 13 41.9		
	comp=Z,3.9nm,0.6s							
WRA	Warramunga Arr	45.11	164	P	P	07 13 44.8	+0.6	
	comp=Z,2.3nm,0.6s,baz=346,slow=8.6,SNR=16 comp=Z,2.3nm,0.6s							
KK31	Karatay Array	46.62	307		P	07 13 56.5	+0.4	
KKAR	Karatay Array	46.62	307		P	07 13 55.8	-0.2	
TIXI	Tiksi	47.87	3	LR	LR	07 36 51.4		
	comp=Z,150nm,18.6s,baz=202,slow=39							
AS31	Alice Springs	48.59	166		P	07 14 11.7	+0.2	
AS31				IAmb	IAmb	07 14 15.4		
	comp=Z,1.6nm,0.5s							
ASAR	Alice Springs	48.59	166	P	P	07 14 12.0	+0.5	
ASAR	Alice Springs	48.59	166	P	P	07 14 13.3	+1.8	
	comp=Z,1.8nm,0.5s,baz=345,slow=7.9,SNR=22 comp=Z,1.8nm,0.5s							
BVAR	Borovoye Array	48.66	321	P	P	07 14 11.4	-0.3	
	comp=Z,2.5nm,0.5s,baz=107,slow=8.3,SNR=14							
BVAR				PcP	PcP	07 15 36.8	-0.1	
	comp=Z,1.8nm,0.7s,baz=86,slow=5.9,SNR=5.4 comp=Z,2.5nm,0.5s							
AB31	Akbulak array	54.51	314		P	07 14 55.8	+0.3	
AB31				IAmb	IAmb	07 14 57.0		
	comp=Z,3.1nm,0.6s							
ABKAR	Akbulak array	54.51	314		P	07 14 55.8	+0.4	
ARTI	Arti	56.15	323	LR	LR	07 40 39.3		
	comp=Z,34nm,20.0s,baz=51,slow=38							
STKA	Stephens Creek	58.42	161	P	P	07 15 25.5	+2.1	
	comp=Z,1.2nm,0.7s,baz=319,slow=6.1,SNR=3.2 comp=Z,1.2nm,0.7s							
GNI	Garni	65.97	305	LR	LR	07 49 17.1		
	comp=Z,13nm,18.1s,baz=70,slow=40							
ILAR	Eielson Array	68.85	27	P	P	07 16 30.4	-1.6	
	comp=Z,0.2nm,0.4s,baz=271,slow=4.9,SNR=9.5 comp=Z,0.2nm,0.4s							
SPITS	Spitsbergen Ar	69.98	348	LR	LR	07 51 40.6		
	comp=Z,36nm,18.3s,baz=105,slow=40							
ARCES	ARCESS Array B	70.23	338	P	P	07 16 39.8	-0.6	
	comp=Z,2.2nm,0.9s,baz=71,slow=4.5,SNR=3.7 comp=Z,2.2nm,0.9s							
FINES	FINESS Array B	72.28	330	P	P	07 16 53.2	+0.3	
	comp=Z,6.2nm,1.1s,baz=56,slow=5.0,SNR=16							
FINES				LR	LR	07 52 15.9		
	comp=Z,81nm,18.1s,baz=56,slow=39 comp=Z,6.2nm,1.1s							
AKASG	Malin Array Be	73.88	319	P	P	07 17 02.1	-0.5	
	comp=Z,0.5nm,0.4s,baz=70,slow=5.8,SNR=2.5 comp=Z,0.5nm,0.4s							
BRTR	Keskin Array B	74.33	307		P	07 17 05.7	+0.1	
BRTR	Keskin Array B	74.33	307	P	P	07 17 05.3	-0.3	
	comp=Z,1.7nm,0.6s,baz=94,slow=6.4,SNR=8.7 comp=Z,1.7nm,0.6s							
MMAI	Mount Meron Ar	75.11	300	LR	LR	07 55 22.1		
	comp=Z,20nm,18.2s,baz=212,slow=40							
EIL	Elat	76.59	297	LR	LR	07 54 18.3		
	comp=Z,29nm,18.5s,baz=9.5,slow=38							
MLR	Muntele Rosu	77.72	314	LR	LR	07 53 14.3		
	comp=Z,39nm,18.5s,baz=60,slow=37							
HFS	Hagfors	78.39	331	P	P	07 17 26.6	-1.5	
	comp=Z,2.4nm,0.8s,baz=95,slow=8.9,SNR=6.4							
HFS				LR	LR	07 54 53.1		
	comp=Z,53nm,19.6s,baz=35,slow=38 comp=Z,2.4nm,0.8s							
NB2	NORSAR Subarra	79.02	332	P	P	07 17 31.0	-0.6	
	comp=Z,0.5nm,0.5s,baz=55,slow=6.2							
NOA	NORSAR Array B	79.02	332	P	P	07 17 29.9	-1.7	
	comp=Z,1.5nm,0.8s,baz=57,slow=5.6,SNR=4.3							
NOA				LR	LR	07 56 00.7		
	comp=Z,39nm,18.1s,baz=280,slow=38 comp=Z,1.5nm,0.8s							
BORG	Borgarnes	87.28	345	LR	LR	08 01 53.9		
	comp=Z,33nm,18.0s,baz=190,slow=39							
B08A	Colville Reser	89.24	36	P	P	07 18 25.1	+1.2	
NVAR	Mina Array Bea	95.74	44	P	P	07 18 54.2	-0.1	
	comp=Z,0.3nm,0.6s,baz=294,slow=4.8,SNR=3.9 comp=Z,0.3nm,0.6s							

*IDC **13** 07:09:11.5±5.3, 4.7°70S×142.8°1E, h58km±44km, mb3.3/5, mbtmp3.7/7, ML3.5/2, Error ellipse: s-maj=51.2km s-min=17.8km az=88.0*

ISC 13 07:09:10.5±1.4, 4.7°S±0.1°×142.9°E±0.2, h50km, n7, σ0.97/8, mb3.6/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	3.11	315	P	P	Pn	07 09 58.2	+1.0
	3.2nm,0.3s,baz=158,slow=12,SNR=12							
JAY				S		Sn	07 10 32.0	-1.1
	19nm,0.4s,baz=290,slow=5.8,SNR=4.0 7.4nm,0.3s							
WRA	Warramunga Arr	17.26	208	P	P	Pn	07 13 07.6	-0.6
	0.3nm,0.3s,baz=27,slow=12,SNR=12 1.6nm,0.8s							
ASAR	Alice Springs	20.72	204	P	P		07 13 46.9	-0.1
	0.9nm,0.6s,baz=38,slow=12,SNR=15 0.9nm,0.6s							
FITZ	Fitzroy Crossi	21.48	230	P	P		07 13 55.7	+0.7
	4.7nm,1.0s,baz=28,slow=11,SNR=3.4 4.7nm,1.0s							
MKAR	Makanchi Array	73.95	321	P	P		07 20 39.6	-1.1
	0.4nm,0.7s,baz=132,slow=4.3,SNR=2.9 0.4nm,0.7s							
KURBB	Kurchatov Arra	77.80	324	P	P		07 21 03.1	+0.7
	0.1nm,0.3s,baz=99,slow=5.8,SNR=3.1 0.1nm,0.3s							
ILAR	Eielson Array	85.96	24	P	P		07 21 44.9	-0.2
	0.8nm,0.6s,baz=258,slow=4.7,SNR=16 0.8nm,0.6s							

*AEIC **13** 07:19:50.7±0.9, 54.47°N±0.05°×161.58°W±0.07, h29km±7km, Error ellipse: s-maj=7.0km s-min=5.5km az=179.0*

NEIC 13 07:19:51.2±0.9, 54.46°N±0.05°×161.59°W±0.05, h35km±2km, ML3.2/20, ML3.2(AEIC), Error ellipse: s-maj=10.0km s-min=3.1km az=332.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DOL	Dolgoi Island	0.71	347			Pn	07 20 03.5	-1.3
DOL						Sn	07 20 14.4	-0.1
DT1	Dutton Round H	0.77	329			Pn	07 20 04.2	-1.3
DT1						Sn	07 20 15.3	-0.5
HAG	Hague Volcano	0.88	348			Pn	07 20 07.1	-0.1
PS4A	Pavlof South-4	0.91	350			Pn	07 20 07.4	0.0
PS4A						Sn	07 20 21.0	+1.7
PS1A	Pavlof South-1	0.97	355			Pn	07 20 08.0	-0.4
PS1A						Sn	07 20 22.4	+1.5
SDPT	Sand Point	1.10	35			Pn	07 20 09.3	-0.8
SDPT						Sn	07 20 24.4	+0.4
SDPT	Sand Point	1.10	35	IAML			07 20 26.8	
	comp=N,680nm,0.4s							
FALS	False Pass	1.14	291			Pn	07 20 10.5	0.0
S12K	Black Hills	1.28	348			Pn	07 20 13.0	+0.5
S12K				IAML			07 20 32.5	
	comp=N,651nm,0.3s							
S12K				IAML			07 20 34.2	
	comp=E,763nm,0.3s							
ISNN	Isanotski Nort	1.33	287			Pn	07 20 13.8	+0.6
SSLS	Shishaldin Sou	1.43	281			Pn	07 20 14.8	+0.1
SSBA	Shishaldin	1.51	283			Pn	07 20 15.9	+0.2
AKSA	Akutan Strait	2.43	264			Pn	07 20 28.2	-0.1
AKUT	Akutan	2.47	264	Pn	Pn	Pn	07 20 28.8	-0.1
AKUT				IAML			07 21 38.6	
	comp=E,105nm,0.1s							
AKUT				IAML			07 21 42.0	
	comp=N,90nm,0.6s							
CHGN	Chignik	2.59	43	Pn	Pn		07 20 30.1	-0.3
CHGN				IAML			07 21 14.6	
	comp=E,95nm,0.4s							
UNV	Unalaska Valle	2.96	260	Pn	Pn		07 20 35.1	-0.4
PLK4	Peulik 4	4.33	41	Pn	Pn		07 20 55.5	+1.0
PLK4				IAML			07 22 14.3	
	comp=E,24nm,1.1s							
O14K	Tigyukauivet M	4.81	2	Pn	Pn		07 21 00.9	-0.1
O14K				IAML			07 22 08.2	
	comp=N,17nm,1.1s							
O14K				IAML			07 22 31.2	
	comp=E,15nm,1.0s							
O15K	Ungalikthiuk R	4.83	11	Pn	Pn		07 21 01.6	+0.2
O15K				IAML			07 22 03.6	
	comp=E,14nm,1.1s							
P16K	Nushagak River	5.00	22	Pn	Pn		07 21 03.1	-0.4
N14K	Kuskokwak Cree	5.48	359	Pn	Pn		07 21 09.8	-0.4
O16K	Kokwok River B	5.49	19	Pn	Pn		07 21 11.1	+0.7
N15K	Kwethluk River	5.79	7	Pn	Pn		07 21 14.5	+0.1
M14K	Bethel	6.32	358	Pn	Pn		07 21 21.9	+0.3
N17K	Nushagak Hills	6.53	19	Pn	Pn		07 21 24.6	0.0
M16K	Timber Creek	6.73	11	Pn	Pn		07 21 27.4	0.0
L14K	Kuka Creek	6.93	356	Pn	Pn		07 21 30.0	-0.1
M17K	Holitna River	7.31	16	Pn	Pn		07 21 34.7	-0.5
K13K	Kusilvak Mount	7.67	349	Pn	Pn		07 21 40.3	0.0
L18K	Granite Mounta	8.20	16	Pn	Pn		07 21 46.8	-0.7

IDC 13 07:39:51.4±3.9, 53.74°N×88.13°E, h0km, mbtmp2.6/2, ML2.5/2, Error ellipse: s-maj=37.2km s-min=19.8km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.97	277	I	I		07 53

WEL ***13*** *07:56:52.9±0.6,34°S±5°×17°9W±°, h12km, mB5.2/15, ML4.9/28, MLv4.7/23, Mw(mB)4.6/15, Error ellipse: s-maj=12.6km s-min=4.2km az=110.9, confirmed*
NEIC ***13*** *07:56:54.8±1.0,33.69S±0.06×179.2W±0.1, h35km±2km, mb4.4/7, Error ellipse: s-maj=22.7km s-min=4.8km az=116.0*
IDC ***13*** *07:56:59.1±6.5,34.04S×179.44W, h86km±57km, mb3.8/3, mbtmp4.2/4, ML4.2/1, MS3.4/1, Error ellipse: s-maj=52.3km s-min=33.3km az=177.0*

ISC 13 07:56:55.2±0.7, 33.77S±0.06×179.10W±0.10, h50km, n115, σ1§96/116, mb4.4/11, 4C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.33**	**208**	Pn	**Pn**	**07 57 57.7**	**-0.8**
MXZ	**Matakaoa Point**	**4.33**	**208**	P	**Pn**	**07 57 57.5**	**-1.0**
MXZ	**Matakaoa Point**	**4.33**	**208**	P	**Pn**	**07 57 58.0**	**-0.5**
WMGZ	**Waiomatatini S**	**4.51**	**206**	P	**Pn**	**07 58 01.1**	**+0.1**
GLKZ	**Green Lake**	**4.61**	**13**	P	**Pn**	**07 58 01.6**	**-0.8**
GLKZ				S	**Sn**	**07 58 53.7**	**-0.9**
PKGZ	**Pakihiroa**	**4.68**	**208**	P	**Pn**	**07 58 03.5**	**+0.1**
HAZ	**Te Kaha**	**4.71**	**212**	P	**Pn**	**07 58 04.1**	**+0.3**
PUZ	**Puketiti**	**4.79**	**206**	P	**Pn**	**07 58 04.1**	**-0.8**
PUZ				S	**Sn**	**07 58 59.3**	**+0.1**
RUGZ	**Raukumara Rang**	**4.93**	**211**	P	**Pn**	**07 58 07.3**	**+0.4**
GRZ	**Great Barrier**	**5.10**	**239**	P	**Pn**	**07 58 10.4**	**+1.3**
KUZ	**Kuaotunu**	**5.17**	**234**	P	**Pn**	**07 58 11.4**	**+1.4**
KUZ	**Kuaotunu**	**5.17**	**234**	P	**Pn**	**07 58 11.4**	**+1.4**
WHRZ	**Whale Island**	**5.17**	**217**	P	**Pn**	**07 58 13.1**	**+3.0**
CNGZ	**Carnagh Statio**	**5.18**	**204**	P	**Pn**	**07 58 09.7**	**-0.5**
TKGZ	**Te Karaka**	**5.27**	**207**	P	**Pn**	**07 58 10.5**	**-0.9**
TKGZ				S	**Sn**	**07 59 11.0**	**+0.2**
MWZ	**Matawai**	**5.31**	**210**	P	**Pn**	**07 58 11.2**	**-0.7**
OPRZ	**Ohinepanea**	**5.38**	**220**	P	**Pn**	**07 58 14.9**	**+1.9**
URZ	**Urewera**	**5.43**	**213**	P	**Pn**	**07 58 12.2**	**-1.3**
	8.0nm,0.3s,baz=44,slow=8.0,SNR=45						
URZ				S	**Sn**	**07 59 10.0**	**-4.7**
	38nm,0.3s,baz=248,slow=20,SNR=8.4						
	23nm,0.3s						
URZ	**Urewera**	**5.43**	**213**	P	**Pn**	**07 58 13.9**	**+0.4**
URZ	**Urewera**	**5.43**	**213**	P	**Pn**	**07 58 12.3**	**-1.3**
TGRZ	**Tauranga**	**5.46**	**222**	P	**Pn**	**07 58 16.3**	**+2.3**
RAGZ	**Rawiri**	**5.49**	**210**	P	**Pn**	**07 58 14.1**	**-0.5**
RAGZ				S	**Sn**	**07 59 17.2**	**+0.8**
RIGZ	**Rimuhau**	**5.54**	**206**	P	**Pn**	**07 58 13.8**	**-1.3**
KARZ	**Kaharoa**	**5.68**	**220**	P	**Pn**	**07 58 20.2**	**+3.2**
PRGZ	**Paritu Road**	**5.69**	**204**	P	**Pn**	**07 58 15.5**	**-1.7**
MKAZ	**Moumakai**	**5.74**	**233**	P	**Pn**	**07 58 20.8**	**+3.0**
MUGZ	**Murupara**	**5.76**	**214**	P	**Pn**	**07 58 17.7**	**-0.5**
MUGZ				S	**Sn**	**07 59 22.7**	**-0.3**
SNGZ	**Shannon Statio**	**5.76**	**209**	P	**Pn**	**07 58 18.4**	**+0.2**
RRRZ	**Republican Roa**	**5.78**	**217**	P	**Pn**	**07 58 21.1**	**+2.8**
RTZ	**Ruatahuna**	**5.78**	**212**		**Pn**	**07 58 17.8**	**-0.6**
RTZ	**Ruatahuna**	**5.78**	**212**	P	**Pn**	**07 58 19.9**	**+1.4**
RTZ				S	**Sn**	**07 59 21.9**	**-1.5**
WCZ	**Waipu Caves**	**5.80**	**246**	P	**Pn**	**07 58 20.3**	**+1.6**
KNZ	**Kokohu**	**5.85**	**205**	P	**Pn**	**07 58 17.2**	**-2.1**
MHGZ	**Mahia Peninsul**	**5.88**	**203**	P	**Pn**	**07 58 17.9**	**-1.9**
TOZ	**Tahuroa Road**	**5.90**	**226**		**Pn**	**07 58 20.1**	**+0.1**
TOZ	**Tahuroa Road**	**5.90**	**226**	P	**Pn**	**07 58 22.0**	**+1.9**
RAHZ	**Arahi**	**5.98**	**210**	P	**Pn**	**07 58 20.8**	**-0.4**
ALRZ	**Allen Road**	**6.03**	**216**	P	**Pn**	**07 58 22.5**	**+0.6**
MTHZ	**Maungataniwha**	**6.04**	**212**	P	**Pn**	**07 58 22.0**	**+0.1**
MTHZ				S	**Sn**	**07 59 29.3**	**-0.3**
WHHZ	**Waihua**	**6.06**	**208**	P	**Pn**	**07 58 23.4**	**+1.2**
OUZ	**Omahuta**	**6.20**	**254**	P	**Pn**	**07 58 24.9**	**+0.7**
OUZ	**Omahuta**	**6.20**	**254**	P	**Pn**	**07 58 24.8**	**+0.7**
MRHZ	**Matea Rd**	**6.21**	**214**	P	**Pn**	**07 58 23.7**	**-0.7**
NMHZ	**Naumai**	**6.25**	**211**	P	**Pn**	**07 58 24.9**	**0.0**
NMHZ				S	**Sn**	**07 59 35.4**	**+0.3**
ARHZ	**Aropaoanui**	**6.32**	**209**	P	**Pn**	**07 58 25.1**	**-0.6**
ARHZ				S	**Sn**	**07 59 36.4**	**-0.1**
BKZ	**Black Stump Fm**	**6.45**	**212**	P	**Pn**	**07 58 26.6**	**-1.0**
BKZ	**Black Stump Fm**	**6.45**	**212**	P	**Pn**	**07 58 27.1**	**-0.5**
MCHZ	**McNeill Hill**	**6.59**	**210**	P	**Pn**	**07 58 28.1**	**-1.4**
CKHZ	**Cape Kidnapper**	**6.63**	**206**	P	**Pn**	**07 58 29.0**	**-1.0**
KWHZ	**Kaweka Forest**	**6.69**	**211**	P	**Pn**	**07 58 30.2**	**-0.8**
TMVZ	**Te Maari**	**6.78**	**217**	P	**Pn**	**07 58 32.4**	**+0.2**
ETVZ	**East Tongariro**	**6.79**	**216**	P	**Pn**	**07 58 32.6**	**+0.2**
HIZ	**Hauiti**	**6.80**	**224**	P	**Pn**	**07 58 33.6**	**+1.2**
KAHZ	**Kahuranaki**	**6.82**	**207**	P	**Pn**	**07 58 29.8**	**-2.9**
KRHZ	**Kereru**	**6.89**	**211**	P	**Pn**	**07 58 32.3**	**-1.4**
MOVZ	**Moawhango**	**6.98**	**215**	P	**Pn**	**07 58 35.2**	**+0.3**
WNVZ	**Wahianoa**	**6.99**	**216**	P	**Pn**	**07 58 36.6**	**+1.5**
PXZ	**Pawanui**	**7.03**	**206**	P	**Pn**	**07 58 33.1**	**-2.5**
PNHZ	**Pukenui**	**7.19**	**210**	P	**Pn**	**07 58 35.6**	**-2.2**
WPHZ	**Waipukurau**	**7.22**	**208**	P	**Pn**	**07 58 36.7**	**-1.5**
PRHZ	**Porangahau**	**7.32**	**206**	P	**Pn**	**07 58 36.5**	**-3.0**
TSZ	**Takapari Road**	**7.41**	**211**	P	**Pn**	**07 58 39.3**	**-1.6**
WAZ	**Wanganui**	**7.62**	**217**	P	**Pn**	**07 58 43.7**	**0.0**
BFZ	**Birch Farm**	**7.83**	**207**	P	**Pn**	**07 58 44.8**	**-1.7**
BFZ	**Birch Farm**	**7.83**	**207**	P	**Pn**	**07 58 44.1**	**-2.4**
MRZ	**Mangatainoka R**	**8.08**	**210**	P	**Pn**	**07 58 46.8**	**-3.0**
HOWZ	**Holdsworth Sta**	**8.30**	**209**	P	**Pn**	**07 58 49.7**	**-3.3**
TMWZ	**Te Maipa**	**8.33**	**207**	P	**Pn**	**07 58 52.0**	**-1.4**
OGWZ	**Otaki Gorge**	**8.38**	**211**	P	**Pn**	**07 58 50.4**	**-3.6**
KIW	**Kapiti Island**	**8.53**	**212**	P	**Pn**	**07 58 52.3**	**-3.8**
PAWZ	**Paruwai Farm**	**8.75**	**208**	P	**Pn**	**07 58 55.9**	**-3.2**
MSWZ	**Moikau Station**	**8.85**	**209**	P	**Pn**	**07 58 57.5**	**-2.9**
TCW	**Tory Channel**	**9.10**	**213**	P	**Pn**	**07 58 59.0**	**-4.8**
TUWZ	**Tuamarina**	**9.42**	**214**	P	**Pn**	**07 59 04.0**	**-4.3**
CTZ	**Chatham Island**	**10.14**	**170**	Pn	**Pn**	**07 59 19.0**	**+1.0**
CTZ	**Chatham Island**	**10.14**	**170**	P	**Pn**	**07 59 21.3**	**+3.3**
THZ	**Tophouse**	**10.18**	**216**	P	**Pn**	**07 59 14.7**	**-4.0**
KHZ	**Kahutara**	**10.39**	**212**	P	**Pn**	**07 59 19.6**	**-1.9**
KHZ	**Kahutara**	**10.39**	**212**	P	**Pn**	**07 59 17.7**	**-3.8**
LTZ	**Lake Taylor**	**11.26**	**214**	P	Pn	07 59 28.6	-4.8
OKCZ	**Okains Bay**	**11.66**	**209**	P	Pn	07 59 33.9	-5.0
MQZ	**McQueen's Vall**	**11.82**	**211**	P	Pn	07 59 34.6	-6.4
ODZ	**Otahua Downs**	**13.75**	**212**	P	**Pn**	**08 00 03.5**	**-3.9**
DZM	**Mont Dzumac**	**17.27**	**309**	LR	LR	08 05 36.9	
	comp=Z,139nm,20.5s,baz=205,slow=30						
CTAO	**Charters Tower**	**33.59**	**285**	P	**P**	**08 03 29.7**	**-1.1**
CTAO				IAmb	IAmb	08 03 53.7	
	comp=Z,9.4nm,1.1s						
COEN	**Coen**	**39.44**	**291**	P	**P**	**08 04 20.6**	**-0.1**
AS31	**Alice Springs**	**42.11**	**271**	P	**P**	**08 04 42.2**	**-0.5**
AS31				IAmb	IAmb	08 04 44.8	
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**42.12**	**271**	P	**P**	**08 04 41.7**	**-1.0**
ASAR	**Alice Springs**	**42.12**	**271**	P	**P**	**08 04 40.5**	**-2.3**
	comp=Z,1.7nm,0.5s,baz=112,slow=7.5,SNR=28						
ASAR				PcP	**PcP**	**08 06 33.4**	**-3.2**
	comp=Z,0.4nm,0.6s,baz=106,slow=4.2,SNR=2.2						
	comp=Z,1.7nm,0.5s						
WRA	**Warramunga Arr**	**43.41**	**276**	P	**P**	**08 04 52.7**	**-0.6**
WRA	**Warramunga Arr**	**43.41**	**276**	P	**P**	**08 04 52.0**	**-1.2**
	comp=Z,2.2nm,0.5s,baz=117,slow=7.7,SNR=25						
WRA				PcP	**PcP**	**08 06 40.6**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=116,slow=3.1,SNR=2.0						
	comp=Z,2.2nm,0.5s						
WB0	**Warramunga Arr**	**43.45**	**277**	P	**P**	**08 04 52.0**	**-1.5**
WB0				IAmb	IAmb	08 04 54.3	
	comp=Z,9.5nm,1.1s						
CASY	**Casey**	**51.74**	**209**	P	**P**	**08 05 57.9**	**+0.7**
CASY				IAmb	IAmb	08 06 19.4	
	comp=Z,3.4nm,1.1s						
QSPA	**South Pole Qui**	**56.35**	**180**	P	**P**	**08 06 35.5**	**+4.6**
QSPA				IAmb	IAmb	08 06 55.2	
	comp=Z,6.1nm,1.1s						
SNAA	**Sanae**	**74.82**	**179**	P	**P**	**08 08 32.5**	**+2.7**
SNAA	**Sanae**	**74.82**	**179**	⇑P	**P**	**08 08 32.5**	**+2.7**
	comp=Z,30nm,0.6s						
VNA3	**Neumayer Olymp**	**75.01**	**176**	P	**P**	**08 08 33.8**	**+2.9**
VNA3	**Neumayer Olymp**	**75.01**	**176**	⇑P	**P**	**08 08 33.8**	**+2.9**
	comp=Z,4.4nm,0.6s						
VNA2	**Neumayer--Watz**	**75.43**	**177**	P	**P**	**08 08 35.7**	**+2.4**
	baz=165,slow=5.7						
VNA2	**Neumayer--Watz**	**75.43**	**177**	⇑P	**P**	**08 08 35.7**	**+2.4**
	comp=Z,5.7nm,0.6s,baz=165,slow=5.7						
VNA1	**Neumayer--Stat**	**75.67**	**177**	P	**P**	**08 08 36.4**	**+1.7**
VNA1	**Neumayer--Stat**	**75.67**	**177**	⇑P	**P**	**08 08 36.4**	**+1.7**
	comp=Z,2.8nm,0.6s						
H03S2	**Juan Fernandez**	**79.39**	**124**	T	T	09 37 16.6	
	baz=234,slow=74,SNR=13						
H03S1	**Juan Fernandez**	**79.40**	**124**	T	T	09 37 13.1	
	baz=234,slow=74,SNR=12						
H03S3	**Juan Fernandez**	**79.41**	**124**	T	T	09 37 14.9	
	baz=234,slow=74,SNR=14						
H03N3	**Juan Fernandez**	**79.60**	**123**	T	T	09 37 26.1	
	baz=238,slow=72,SNR=40						
H03N2	**Juan Fernandez**	**79.60**	**123**	T	T	09 37 21.9	
	baz=238,slow=72,SNR=30						
H03N1	**Juan Fernandez**	**79.61**	**123**	T	T	09 37 25.0	
	baz=238,slow=72,SNR=30						
NVAR	**Mina Array Bea**	**91.34**	**43**	P	**P**	**08 09 57.8**	**+2.1**
	comp=Z,0.6nm,0.9s,baz=253,slow=4.7,SNR=3.7						
	comp=Z,0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**122.69**	**312**	PKP	**PKPdf**	**08 15 42.9**	**-2.0**
	comp=Z,0.6nm,0.8s,baz=110,slow=1.5,SNR=4.4						
ARCES	**ARCESS Array B**	**141.66**	**346**	PKhKP	PKPpre	08 16 16.1	
	comp=Z,2.0nm,0.8s,baz=27,slow=2.0,SNR=3.5						
FINES	**FINESS Array B**	**147.94**	**337**	PKPbc	**PKPbc**	**08 16 33.7**	**-0.4**
	comp=Z,3.2nm,0.5s,baz=48,slow=3.4,SNR=21						
MMAI	**Mount Meron Ar**	**151.26**	**278**	PKPbc	**PKPbc**	**08 16 42.4**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=305,slow=2.9,SNR=4.0						
NOA	**NORSAR Array B**	**151.91**	**349**	PKPbc	**PKiKP**	**08 16 44.4**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=17,slow=4.0,SNR=3.7						
HFS	**Hagfors**	**152.32**	**346**	PKPbc	**PKPbc**	**08 16 43.6**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=105,slow=3.5,SNR=7.1						

IDC 13 08:02:53.9±1.3, 25.79N×104.63E, h0km, mb3.6/4, mbtmp3.5/5, Error ellipse: s-maj=53.3km s-min=22.4km az=61.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.00**	**217**	Pn	Pn	08 05 05.1	-0.2
	1.2nm,0.4s,baz=38,slow=18,SNR=8.5						
CMAR				Sn	Sn	08 06 43.1	-4.3
	0.7nm,0.3s,baz=40,slow=32,SNR=5.1						
MKAR	**Makanchi Array**	**27.46**	**326**	P	P	08 08 41.8	+0.1
	0.6nm,0.7s,baz=136,slow=10.0,SNR=5.6						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**31.87**	**328**	P	P	08 09 20.1	-0.5
	0.5nm,0.6s,baz=144,slow=8.4,SNR=5.9						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**53.85**	**145**	P	P	08 12 18.9	0.0
	0.4nm,0.6s,baz=332,slow=7.7,SNR=5.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**56.75**	**148**	P	P	08 12 40.0	+0.2
	0.7nm,1.0s,baz=334,slow=8.8,SNR=2.5						
	0.7nm,1.0s						

SJA ***13*** *08:05:35.7±0.6, 19.78S×69.56W, h99km±3km, ML3.7, MW3.8*
GUC ***13*** *08:05:39.2±0.7, 19.78S×69.72W, h73km±3km, ML3.6*

ISC 13 08:05:39.7±1.4, 19.79S±0.03×69.65W±0.05, h75km±7km, n32, σ1§57/54, 3C-7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB11	**IPOC Station P**	**0.03**	**340**	⇑*eP*	**Pn**	**08 05 50.3**	**-0.5**
PB11				*eS*	**Sn**	**08 05 58.7**	**-0.1**
PB11	**IPOC Station P**	**0.03**	**340**	*eP*	**Pn**	**08 05 50.2**	**-0.5**
PB11				*eS*	**Sn**	**08 06 01.4**	**+2.6**
PB11				IAML		08 06 01.4	
	comp=Z,2μm,0.1s						
GO01	**Chusmiza**	**0.44**	**75**	⇑*eP*	**Pn**	**08 05 52.6**	**-0.5**
GO01				*eS*	**Sn**	**08 06 03.2**	**+0.3**
GO01	**Chusmiza**	**0.44**	**75**	*eP*	**Pn**	**08 05 51.9**	**-1.1**
GO01				*eS*	**Sn**	**08 06 03.7**	**+0.8**
GO01				IAML		08 06 04.0	
	comp=Z,3μm,0.1s						
PB08	**IPOC Station P**	**0.58**	**127**	⇓*iP*	**Pn**	**08 05 54.2**	**0.0**
PB08				*eS*	**Sn**	**08 06 05.5**	**+0.6**
PB08				IAML		08 06 06.1	
	comp=E,7μm,0.1s						
PB08	**IPOC Station P**	**0.58**	**127**	*eP*	**Pn**	**08 05 54.1**	**-0.1**
PB08				*eS*	**Sn**	**08 06 05.8**	**+0.9**
PB08				IAML		08 06 06.3	
	comp=Z,3μm,0.1s						
PX03	**IPOC Station P**	**0.61**	**179**	*eP*	**Pn**	**08 05 53.0**	**-1.2**
PX03				*eS*	**Sn**	**08 06 04.8**	**-0.1**
PX03				IAML		08 06 05.6	
	comp=N,5μm,0.2s						
TA02	**Huaiquique**	**0.66**	**223**	*eP*	**Pn**	**08 05 54.2**	**-0.4**
TA02				*eS*	**Sn**	**08 06 05.2**	**-0.4**
TA02	**Huaiquique**	**0.66**	**223**	*eP*	**Pn**	**08 05 54.4**	**-0.2**
TA02				*eS*	**Sn**	**08 06 06.4**	**+0.8**
TA02				IAML		08 06 06.8	
	comp=Z,3μm,0.1s						
TA01	**Diego Aracena**	**0.92**	**213**	⇑*eP*	**Pn**	**08 05 56.9**	**-0.6**
TA01				*eS*	**Sn**	**08 06 10.4**	**-0.4**
TA01				IAML		08 06 14.0	
	comp=N,2μm,0.3s						
TA01	**Diego Aracena**	**0.92**	**213**	*eP*	**Pn**	**08 05 57.0**	**-0.5**
TA01				*eS*	**Sn**	**08 06 11.3**	**+0.5**
TA01				IAML		08 06 14.2	
	comp=Z,685nm,0.5s						
PX02	**IPOC Station P**	**0.97**	**327**	*eP*	**Pn**	**08 05 56.6**	**-1.6**
PX02				*eS*	**Sn**	**08 06 11.1**	**-0.9**
PATCX	**Punta Patache**	**1.13**	**205**	⇓*eP*	**Pn**	**08 05 59.7**	**-0.5**
PATCX				*eS*	**Sn**	**08 06 15.6**	**0.0**
PATCX				IAML		08 06 23.1	
	comp=E,1μm,0.6s						
PATCX	**Punta Patache**	**1.13**	**205**	*eP*	**Pn**	**08 05 59.7**	**-0.5**
PATCX				*eS*	**Sn**	**08 06 18.1**	**+2.5**
PATCX				IAML		08 06 20.4	
	comp=Z,1μm,0.4s						
PB01	**IPOC Station P**	**1.26**	**173**	⇓*eP*	**Pn**	**08 06 01.6**	**-0.2**
PB01				*eS*	**Sn**	**08 06 18.9**	**+0.5**
PB01				IAML		08 06 24.0	
	comp=E,2μm,0.3s						
PB01	**IPOC Station P**	**1.26**	**173**	*eP*	**Pn**	**08 06 00.9**	**-0.9**
PB01				*eS*	**Sn**	**08 06 19.1**	**+0.8**
PB01				IAML		08 06 23.5	
	comp=Z,1μm,0.2s						
PB16	**IPOC Station P**	**1.45**	**5**	⇓*iP*	**Pn**	**08 06 05.2**	**+0.4**
PB16				*eS*	**Sn**	**08 06 25.4**	**+1.9**
PB16				IAML		08 06 26.9	
	comp=E,666nm,0.5s						
PB16	**IPOC Station P**	**1.45**	**5**	*eP*	**Pn**	**08 06 05.1**	**+0.4**
PB16				IAML		08 06 31.8	
	comp=Z,428nm,0.4s						
PB02	**IPOC Station P**	**1.54**	**189**	⇓*eP*	**Pn**	**08 06 05.3**	**-0.2**
PB02				*eS*	**Sn**	**08 06 25.1**	**+0.2**
PB02				IAML		08 06 29.7	
	comp=E,2μm,0.3s						
PB02	**IPOC Station P**	**1.54**	**189**	*eP*	**Pn**	**08 06 04.7**	**-0.8**
PB02				*eS*	**Sn**	**08 06 27.4**	**+2.4**
PB02				IAML		08 06 33.2	
	comp=Z,2μm,0.3s						
PB09	**IPOC Station P**	**2.04**	**169**	⇓*eP*	**Pn**	**08 06 12.7**	**+0.6**
PB09				*eS*	**Sn**	**08 06 39.0**	**+2.3**
PB09				IAML		08 06 42.9	
	comp=E,489nm,0.5s						
PB09	**IPOC Station P**	**2.04**	**169**	*eP*	**Pn**	**08 06 11.8**	**-0.3**
PB09				*eS*	**Sn**	**08 06 35.0**	**-1.7**
PB09				IAML		08 06 48.3	
	comp=Z,370nm,0.4s						
PB18	**Visviri**	**2.19**	**4**	⇓*eP*	Pn	08 06 16.8	+2.3
PB18				*eS*	Sn	08 06 48.8	+7.8
PB18				IAML		08 06 53.1	
	comp=E,301nm,0.3s						
PB03	**IPOC Station P**	**2.25**	**183**	*eP*	**Pn**	**08 06 14.5**	**-0.5**
PB03				*eS*	**Sn**	**08 06 43.7**	**+1.7**
PB03				IAML		08 06 49.0	
	comp=E,588nm,0.5s						
PB06	**IPOC Station P**	**2.91**	**179**	*eP*	**Pn**	**08 06 23.2**	**-0.6**
PB06				*eS*	**Sn**	**08 06 59.6**	**+1.8**
PB06				IAML		08 07 06.6	
	comp=E,299nm,0.5s						
PB06	**IPOC Station P**	**2.91**	**179**	*eP*	**Pn**	**08 06 23.3**	**-0.6**
PB06				IAML		08 07 10.9	
	comp=Z,226nm,0.4s						
PB05	**IPOC Station P**	**3.09**	**190**	*eP*	**Pn**	**08 06 24.8**	**-1.6**
PB05				*eS*	**Sn**	**08 07 08.6**	**+6.2**
PB05				IAML		08 07 14.8	
	comp=E,210nm,0.6s						
PB05	**IPOC Station P**	**3.09**	**190**	*eP*	**Pn**	**08 06 25.0**	**-1.4**
PB05				*eS*	Sn	08 07 18.2	+16
PB05				IAML		08 07 25.1	
	comp=Z,101nm,0.3s						
AF01	**San Pedro de A**	**3.43**	**157**	*eP*	**Pn**	**08 06 26.5**	**-4.6**
AF01				*eS*	Sn	08 07 23.7	+13
AF01				IAML		08 07 56.3	
	comp=Z,234nm,0.7s						
LPAZ	**La Paz**	**3.77**	**23**	*eP*	Pn	08 06 38.5	+2.5
PB10	**IPOC Station P**	**3.80**	**193**	*eP*	**Pn**	**08 06 33.7**	**-2.2**
PB10				*eS*	Sn	08 07 35.2	+16
PB10				IAML		08 07 40.5	
	comp=Z,50nm,0.4s						
GO02	**Mina Guanaco**	**5.35**	**179**	*eP*	**Pn**	**08 06 55.7**	**-1.5**
GO02				IAML		08 08 48.1	
	comp=Z,114nm,0.8s						

CATAC ***13*** *08:27:06.9±0.5, 13°N±2°×90°0W±°, h28km±3km, M4.3/29, MLv4.3/29, Error ellipse: s-maj=4.9km s-min=2.6km az=28.5, confirmed*
SNET ***13*** *08:27:07.4±1.1, 13.26N×90.06W, h56km, ML4.0*
GCG ***13*** *08:27:08.3±1.2, 13.39N×90.16W, h34km±5km, MD4.2, ML4.2, MW3.5*

ISC 13 08:27:06.7±1.4, 13.19N±0.06×90.09W±0.03, h32km±11km, n70, σ1§07/82, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.77**	**23**	*eP*	**Pb**	**08 27 21.3**	**-0.6**
NUBE	**Las Nubes**	**0.77**	**23**	*i* P	**Pb**	**08 27 21.1**	**-0.7**
NUBE				*i* S	**Sb**	**08 27 31.4**	**-0.7**
NUBE	**Las Nubes**	**0.77**	**23**	P	**Pb**	**08 27 21.1**	**-0.7**
JAYA	**Jayaque - finc**	**0.78**	**53**	*eP*	**Pb**	**08 27 21.4**	**-0.4**
JAYA				*eS*	**Sn**	**08 27 33.6**	**+1.4**
JAYA	**Jayaque - finc**	**0.78**	**53**	*i* P	**Pb**	**08 27 21.5**	**-0.4**
JAYA				*i* S	**Sn**	**08 27 33.4**	**+1.2**
JAYA	**Jayaque - finc**	**0.78**	**53**	P	**Pb**	**08 27 21.5**	**-0.4**
JAYA	**Jayaque - finc**	**0.78**	**53**	S	**Sn**	**08 27 32.9**	**+0.7**
CEVE	**Cerro Verde**	**0.78**	**35**	*eP*	**Pb**	**08 27 21.8**	**-0.2**
CEVE				*eS*	**Sn**	**08 27 33.2**	**+0.9**
CEVE	**Cerro Verde**	**0.78**	**35**	P	**Pb**	**08 27 22.0**	**0.0**
CEVE	**Cerro Verde**	**0.78**	**35**	S	**Sn**	**08 27 32.7**	**+0.3**
RTR	**El Retiro**	**0.83**	**31**	*eP*	**Pb**	**08 27 22.3**	**-0.5**
LOAL	**Lomas de Alarc**	**0.86**	**20**	*eP*	**Pb**	**08 27 22.7**	**-0.5**
LOAL				*eS*	**Sb**	**08 27 34.0**	**-0.5**
LOAL	**Lomas de Alarc**	**0.86**	**20**	P	**Pb**	**08 27 22.7**	**-0.5**
CEDA	**San Andres**	**0.91**	**48**	*eP*	**Pb**	**08 27 23.3**	**-0.8**
CEDA				*eS*	**Sb**	**08 27 36.2**	**+0.3**
CEDA	**San Andres**	**0.91**	**48**	P	**Pb**	**08 27 23.6**	**-0.5**
PMON	**Piamonte**	**0.92**	**55**	P	**Pb**	**08 27 23.6**	**-0.6**
PMON	**Piamonte**	**0.92**	**55**	S	**Sn**	**08 27 35.8**	**+0.3**
UNIC	**Universidad Ca**	**0.95**	**34**	S	**Sn**	**08 27 36.4**	**+0.1**
UNIC	**Universidad Ca**	**0.95**	**34**	P	**Pb**	**08 27 23.9**	**-0.8**
BOQS	**Boqueron**	**0.96**	**55**	*eP*	**Pb**	**08 27 24.4**	**-0.6**
UEES	**Universidad Ev**	**0.98**	**58**	P	**Pb**	**08 27 24.5**	**-0.7**
UEES	**Universidad Ev**	**0.98**	**58**	S	**Sb**	**08 27 37.8**	**-0.1**
PANCS	**Alcalda de**	**0.98**	**65**	S	**Sn**	**08 27 37.2**	**+0.1**
PANCS	**Alcalda de**	**0.98**	**65**	P	**Pb**	**08 27 24.3**	**-1.0**
LOMA	**Loma Larga**	**1.00**	**63**	P	**Pb**	**08 27 24.7**	**-0.9**
LOMA	**Loma Larga**	**1.00**	**63**	S	**Sb**	**08 27 38.8**	**+0.1**
UTEC	**Universidad Te**	**1.00**	**59**	P	**Pb**	**08 27 24.9**	**-0.7**
UTEC	**Universidad Te**	**1.00**	**59**	S	**Sb**	**08 27 38.7**	**+0.1**
IGN	**Direccin Gen**	**1.04**	**60**	*eP*	**Pb**	**08 27 25.4**	**-0.8**
IGN	**Direccin Gen**	**1.04**	**60**	S	**Sb**	**08 27 39.4**	**-0.1**
IGN	**Direccin Gen**	**1.04**	**60**	P	**Pb**	**08 27 25.7**	**-0.5**
UDBS	**Universidad Do**	**1.05**	**60**	P	**Pb**	**08 27 25.7**	**-0.7**
UDBS	**Universidad Do**	**1.05**	**60**	S	**Sb**	**08 27 39.4**	**-0.5**
FG16	**Alotenango, Sa**	**1.15**	**339**	*i* P	**Pb**	**08 27 29.7**	**+1.4**
FG16				*i

s-min=7.3km az=85.0

*DJA **13** 08:28:18.4±0.3,15°N±2°×12°2E±°,h70km±5km,M5.1/43, mB5.6/30,mb5.2/43,MLv5.3/1,Mw(mB)5.1/30, MwMwp5.0/12,Mwp5.3/12*

*GCMT **13** 08:28:18.0±0.1,15°.03N±0°.01×122°.19E±0°.01,h52km±1km, MW5.3/139,Moment Tension Solution. s113,c169; s139,c249; Duration: 181 Moment tensor: Scale 10^{17} Nm; Mrr0.07±.02; Mθθ0.98±.02; Mφφ-1.05±.02; Mrθ-0.55±.02; Mrφ0.39±.01; Mθφ0.34±.02; Best double couple: Mo1.26500×10^{17} NP1:φ214.00000°,δ59.00000°, λ177.00000°. NP2:φ305.00000°,δ87.00000°,λ31.00000°. Principal axes: T 1.2600, Plg23.0000°, Azm174.0000°; N 0.0110, Plg59.0000°, Azm310.0000°; P -1.2690, Plg19.0000°, Azm76.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 08:28:16.5±0.3,14°.96N±0°.03×122°.36E±0°.04,h49km±2km, h50km:pP-P,n552,σ1s66/493,mb5.1/189,MS4.3/98, 38C-16D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.62**	**238**	P	**Pn**	**08 28 44.0**	**+1.4**
	30μm,0.5s,baz=61,slow=1.9,SNR=315						
TGY				S	**Sn**	**08 29 03.5**	**+1.1**
	190μm,0.9s,baz=132,slow=5.9,SNR=12						
TGY				LR	LR	08 29 33.9	
	comp=Z,20μm,19.4s,baz=88,slow=49						
SZP	**Santa**	**3.16**	**325**	P	**Pn**	**08 29 03.3**	**-0.4**
TWGBT	**Beinan**	**7.91**	**351**	P	**Pn**	**08 30 07.6**	**-1.3**
TWGBT	**Beinan**	**7.91**	**351**	S	**Sn**	**08 31 39.1**	**+2.0**
TWG	**Pinlang**	**7.91**	**351**		**Pn**	**08 30 07.3**	**-1.7**
YULB	**Yu-li**	**8.45**	**353**		**Pn**	**08 30 14.6**	**-1.7**
YULB	**Yu-li**	**8.45**	**353**	P	**Pn**	**08 30 16.7**	**+0.4**
DAV	**Davao City (W)**	**8.45**	**158**	LR	LR	08 34 03.9	
	comp=Z,4μm,19.9s,baz=354,slow=41						
TPUB	**Ta-pu**		**8.46 349**		**Pn**	**08 30 15.1**	**-1.3**
TPUB	**Ta-pu**		**8.46 349**	P	**Pn**	**08 30 15.5**	**-0.9**
SSLB	**Suanglung**		**8.88 352**		**Pn**	**08 30 21.0**	**-1.3**
SSLB	**Suanglung**		**8.88 352**	P	**Pn**	**08 30 21.5**	**-0.8**
NACB	**Ninganchiao**		**9.20 356**		**Pn**	**08 30 24.4**	**-2.1**
NACB	**Ninganchiao**		**9.20 356**	P	**Pn**	**08 30 25.0**	**-1.5**
YOJ	**Yonaguni jima**	**9.47**	**4**		**Pn**	**08 30 29.4**	**-0.9**
YOJ	**Yonaguni jima**	**9.47**	**4**	P	**Pn**	**08 30 29.8**	**-0.5**
YOJ	**Yonaguni jima**	**9.47**	**4**	P	**Pn**	**08 30 29.4**	**-0.9**
YHNB	**Yeheng**		**9.71 355**		**Pn**	**08 30 32.5**	**-1.1**
YHNB	**Yeheng**		**9.71 355**	P	**Pn**	**08 30 33.1**	**-0.5**
KNMB	**Chin-men Tao**	**10.17**	**339**	Pn	**Pn**	**08 30 37.1**	**-2.7**
MYLDM	**Lahad Datu**	**10.43**	**202**	Pn	**Pn**	**08 30 44.9**	**+1.4**
MYLDM	**Lahad Datu**	**10.43**	**202**	P	**Pn**	**08 30 43.4**	**-0.1**
QZH	**Quanzhou**	**10.54**	**341**	P	**Pn**	**08 30 43.4**	**-1.6**
QZH				S	**Sn**	**08 32 44.4**	**+2.7**
QZH				LR	LR		
	comp=N,980nm,14.8s						
QZH				LR	LR		
	comp=E,2μm,17.5s						
QZH				LR	LR		
	comp=Z,2μm,16.1s						
GZH	**Guangzhou**	**11.74**	**315**	P	**Pn**	**08 31 01.4**	**0.0**
GZH				S	**Sn**	**08 33 12.9**	**+1.9**
GZH				LR	LR		
	comp=N,3μm,15.4s						
GZH				LR	LR		
	comp=E,860nm,16.0s						
GZH				LR	LR		
	comp=Z,2μm,15.2s						
QIZ	**Qiongzhong**	**12.64**	**290**	P	**Pn**	**08 31 11.1**	**-2.5**
QIZ				S	**Sn**	**08 33 31.1**	**-1.8**
QIZ				pmax	pmax		
	comp=Z,100nm,2.6s						
QIZ				LR	LR		
	comp=N,3μm,18.8s						
QIZ				LR	LR		
	comp=E,870nm,16.8s						
QIZ				LR	LR		
	comp=Z,2μm,14.4s						
QIZ	**Qiongzhong**	**12.64**	**290**	P	**Pn**	**08 31 13.3**	**-0.3**
JOW	**Kunigami**	**13.04**	**24**		**Pn**	**08 31 17.4**	**-1.7**
JOW	**Kunigami**	**13.04**	**24**	P	**Pn**	**08 31 18.5**	**-0.6**
	24nm,0.2s,baz=145,slow=22,SNR=22						
JOW				S	Sn	08 33 30.8	-12
	35nm,0.5s,baz=138,slow=29,SNR=7.4						
JOW				LR	LR	08 35 37.1	
	comp=Z,778nm,21.2s,baz=178,slow=33						
TOLI2	**Tolitoli**	**13.85**	**187**		**Pn**	**08 31 32.6**	**+2.4**
TOLI2	**Tolitoli**	**13.85**	**187**	P	**Pn**	**08 31 31.4**	**+1.2**
KMSI	**Cibinong**	**14.38**	**173**	P	**P**	**08 31 43.5**	**+0.4**
MRSI	**Marisa**	**14.39**	**182**	P	**P**	**08 31 40.5**	**-2.8**
	3μm104nm,1.4s						
GULI	**GuiLin**	**15.23**	**314**	P	**Pn**	**08 31 48.0**	**-0.5**
GULI				pP	**P**	**08 31 53.8**	**+1.2**
GULI				S	**Sn**	**08 34 38.0**	**+1.8**
GULI				LR	LR		
	comp=N,2μm,12.5s						
GULI				LR	LR		
	comp=E,2μm,12.9s						
GULI				LR	LR		
	comp=Z,1μm,16.7s						
APSI	**Ampana**	**15.78**	**183**	P	**P**	**08 31 59.2**	**+0.5**
	3μm280nm,1.1s						
CNSH	**ChangSha**	**15.80**	**328**	P	**P**	**08 31 58.0**	**-0.8**
CNSH				pmax	pmax		
	comp=Z,21nm,0.8s						
LUWI	**Luwuk**	**15.90**	**178**	P	**P**	**08 31 58.6**	**-1.4**
LUWI	**Luwuk**	**15.90**	**178**	P	**P**	**08 32 01.5**	**+1.5**
	6μm403nm,1.6s						
SBUM	**Sibu**	**15.95**	**220**	P	**Pn**	**08 31 58.3**	**+0.5**
SSE	**Sheshan**	**16.10**	**356**	P	**Pn**	**08 31 58.3**	**-1.2**
SSE				S	**Sn**	**08 34 59.0**	**+2.0**
SSE				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SSE				pmax	pmax		
	comp=Z,150nm,5.0s						
SSE				LR	LR		
	comp=N,380nm,21.5s						
SSE				LR	LR		
	comp=E,410nm,21.6s						
WHN	**Wuhan**	**17.17**	**336**	P	**P**	**08 32 13.8**	**-0.1**
WHN				pP	**pP**	**08 32 22.6**	**-1.9**
WHN				pmax	pmax		
	comp=Z,270nm,1.3s						
WHN				pmax	pmax		
	comp=Z,1μm,3.2s						
WHN				LR	LR		
	comp=N,5μm,18.8s						
WHN				LR	LR		
	comp=E,2μm,11.9s						
WHN				LR	LR		
	comp=Z,5μm,24.7s						
SANI	**Sanana**	**17.28**	**168**	P	**Pn**	**08 32 09.7**	**-4.7**
NJ2	**Nanjing**	**17.31**	**350**	*e*P	**Pn**	**08 32 14.0**	**-0.7**
NJ2				pP	**pP**	**08 32 21.3**	**-4.8**
NJ2				S	**Sn**	**08 35 24.9**	**-1.6**
NJ2				pmax	pmax		
	comp=Z,45nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,480nm,4.7s						
NJ2				LR	LR		
	comp=N,900nm,22.3s						
NJ2				LR	LR		
	comp=E,940nm,20.4s						
NJ2				LR	LR		
	comp=Z,1μm,24.5s						
KSM	**Kuching**	**17.92**	**223**	P	**Pn**	**08 32 22.3**	**0.0**
KSM	**Kuching**	**17.92**	**223**	P	**P**	**08 32 22.8**	**+0.4**
SWI	**Sorong**	**18.02**	**150**	P	**Pn**	**08 32 25.7**	**+2.2**
	2μm2μm126nm,0.8s						
TTSI	**Tana Toraja**	**18.06**	**188**	P	**Pn**	**08 32 26.5**	**+2.5**
	74nm,0.8s						
STKI	**Sintang**	**18.29**	**217**	P	**Pn**	**08 32 29.9**	**+3.1**
	104nm,1.0s						
GYA	**Guiyang**	**18.59**	**310**	⇓P	**Pn**	**08 32 31.6**	**+1.1**
GYA				pP	pP	08 32 37.6	-3.1
GYA				S	**Sn**	**08 35 54.8**	**-2.8**
GYA				pmax	pmax		
	comp=Z,21nm,1.1s						
GYA				LR	LR		
	comp=N,900nm,13.8s						
GYA				LR	LR		
	comp=E,540nm,11.4s						
GYA				LR	LR		
	comp=Z,1μm,14.1s						
SLVN	**Son La**	**18.64**	**293**		**P**	**08 32 28.6**	**-1.7**
SLVN	**Son La**	**18.64**	**293**	P	**Pn**	**08 32 31.2**	**+0.1**
SPSI	**Sidrap Palu**	**18.98**	**188**	P	**Pn**	**08 32 35.2**	**+0.2**
ENH	**Enshi**	**19.30**	**324**	P	**P**	**08 32 35.6**	**-1.8**
ENH	**Enshi**	**19.30**	**324**	P	**Pn**	**08 32 39.0**	**+0.2**
MSAI	**Masohi**	**19.32**	**160**	P	**Pn**	**08 32 38.7**	**-0.4**
	3μm304nm,1.5s						
BNSI	**Bone**	**19.36**	**187**	P	**Pn**	**08 32 40.0**	**+0.3**
	2μm80nm,1.2s						
JNU	**Nakatsue**	**19.67**	**22**	P	**P**	**08 32 41.1**	**-0.3**
JNU	**Nakatsue**	**19.67**	**22**	P	**Pn**	**08 32 43.1**	**-0.1**
BBKI	**Banjar Baru**	**19.76**	**203**	P	**Pn**	**08 32 43.7**	**-0.7**
	163nm,1.0s						
KAPI	**Kappang**	**20.01**	**188**		**P**	**08 32 45.5**	**+0.3**
KAPI	**Kappang**	**20.01**	**188**	P	**P**	**08 32 45.0**	**-0.2**
	60nm,0.8s,baz=355,slow=6.8,SNR=20						
KAPI				LR	LR	08 40 39.6	
	comp=Z,1μm,21.9s,baz=1.5,slow=37						
KAPI	**Kappang**	**20.01**	**188**	P	**P**	**08 32 45.9**	**+0.6**
KAPI	**Kappang**	**20.01**	**188**	*i* P	**P**	**08 32 45.3**	**0.0**
KAPI				pmax	pmax		
	comp=Z,104nm,0.9s						
RKPI	**Ransiki, Papua**	**20.11**	**143**	P	Pn	08 32 49.2	+0.6
	comp=Z,331nm,1.1s						
BKSI	**Bulukumba**	**20.27**	**186**	P	Pn	08 32 50.5	+0.1
FAKI	**Fak Fak**	**20.29**	**150**	P	Pn	08 32 49.6	-1.0
FAKI				IAmb	IAmb	08 32 55.1	
	comp=Z,227nm,0.9s						
FAKI	**Fak Fak**	**20.29**	**150**	P	Pn	08 32 50.5	-0.1
FAKI	**Fak Fak**	**20.29**	**150**	P	Pn	08 32 50.7	+0.1
	comp=Z,2μmcomp=Z,264nm,0.9s						
KMI	**Kunming**	**21.00**	**302**	P	**P**	**08 32 57.8**	**+1.7**
KMI				sP	pwP	08 33 10.5	+1.0
KMI				sS	Sn	08 36 58.1	+2.4
KMI				SS	S	08 37 09.9	+22
KMI				pmax	pmax		
	comp=Z,20nm,1.4s						
KMI				pmax	pmax		
	comp=Z,150nm,5.2s						
KMI				LR	LR		
	comp=Z,1μm,12.0s						
KMI				LR	LR		
	comp=Z,790nm,12.9s						
KMI				LR	LR		
	comp=Z,560nm,14.5s						
BAKI	**Biak**	**21.04**	**139**	P	**P**	**08 33 00.4**	**+4.0**
	comp=Z,487nm,1.5s						
JMN	**Monobe**	**21.40**	**27**	P	**P**	**08 33 00.5**	**+0.4**
JMN				IAmb	IAmb	08 33 20.0	
	comp=Z,214nm,1.4s						
JMN	**Monobe**	**21.40**	**27**	P	**P**	**08 33 01.6**	**+1.4**
LYN	**LuoYang**	**21.45**	**337**	⇑P	**P**	**08 33 01.4**	**+0.8**
LYN				pmax	pmax		
	comp=Z,900nm,8.6s						
LYN				LR	LR		
	comp=Z,1μm,22.7s						
LYN				LR	LR		
	comp=Z,2μm,21.6s						
LYN				LR	LR		
	comp=Z,2μm,21.4s						
SRPI	**Serui, Papua**	**21.64**	**139**	P	**P**	**08 33 06.4**	**+3.5**
KMPI	**Kaimana, Papua**	**21.65**	**148**	P	**P**	**08 33 05.7**	**+2.8**
TIA	**Tai'an**	**21.68**	**348**	P	**P**	**08 33 02.6**	**-0.5**
TIA				sP	**pwP**	**08 33 17.8**	**+0.7**
TIA				PP	**PnPn**	**08 33 30.6**	**+5.0**
TIA				S	**S**	**08 36 57.1**	**-3.3**
TIA				pmax	pmax		
	comp=Z,37nm,2.0s						
TIA				pmax	pmax		
	comp=Z,300nm,4.1s						
TIA				LR	LR		
	comp=Z,930nm,20.4s						
TIA				LR	LR		
	comp=Z,660nm,20.9s						
TIA				LR	LR		
	comp=Z,1μm,23.7s						
TJN	**Taejon**	**21.79**	**11**	P	**P**	**08 33 04.5**	**+0.2**
TJN				IAmb	IAmb	08 33 08.1	
	comp=Z,270nm,1.1s						
TJN	**Taejon**	**21.79**	**11**	P	**P**	**08 33 05.8**	**+1.5**
TJN	**Taejon**	**21.79**	**11**	*i* P	**P**	**08 33 04.3**	**0.0**
TJN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GUMO	**Guam**	**21.86**	**91**		**P**	**08 33 07.4**	**+2.2**
GUMO	**Guam**	**21.86**	**91**	P	**P**	**08 33 04.5**	**-0.7**
	comp=Z,442nm,1.0s,baz=216,slow=5.1,SNR=7.6						
GUMO				LR	LR	08 39 52.0	
	comp=Z,752nm,21.4s,baz=247,slow=32						
GUMO	**Guam**	**21.86**	**91**	P	**P**	**08 33 07.9**	**+2.7**
GUMO	**Guam**	**21.86**	**91**	P	**P**	**08 33 07.4**	**+2.2**
GUMO				pmax	pmax		
	comp=Z,758nm,1.1s						
PZH	**PanZhiHua**	**22.41**	**304**	P	**P**	**08 33 08.3**	**-2.9**
PZH				sP	**pP**	**08 33 21.5**	**-0.6**
PZH				PP	**PnPn**	**08 33 37.9**	**+2.2**
PZH				S	**S**	**08 37 11.5**	**-2.8**
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,270nm,4.3s						
PZH				LR	LR		
	comp=Z,1μm,18.0s						
PZH				LR	LR		
	comp=Z,930nm,15.6s						
PZH				LR	LR		
	comp=Z,530nm,15.0s						
XAN	**Xi'an**	**22.55**	**330**	P	**P**	**08 33 11.5**	**-1.0**
XAN				pP	pP	08 33 22.6	-0.8
XAN				sP	pwP	08 33 27.5	+1.4
XAN				PP	**PnPn**	**08 33 43.3**	**+5.8**
XAN				pmax	pmax		
	comp=Z,59nm,1.4s						
XAN				pmax	pmax		
	comp=Z,560nm,4.5s						
XAN				LR	LR		
	comp=Z,1μm,14.4s						
XAN				LR	LR		
	comp=Z,1μm,13.1s						
XAN				LR	LR		
	comp=Z,1μm,15.6s						
CM31	**Chiang Mai Arr**	**22.69**	**282**	P	**P**	**08 33 13.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**22.69**	**282**	P	**P**	**08 33 13.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**22.69**	**282**	P	**P**	**08 33 12.5**	**-1.6**
	comp=Z,5.5nm,0.5s,baz=92,slow=7.1,SNR=50						
CMAR				LR	LR	08 42 17.3	
	comp=Z,666nm,18.9s,baz=100,slow=37						
	comp=Z,5.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**22.69**	**282**	*i* P	**P**	**08 33 13.5**	**-0.6**
CMAR				pmax	pmax		
	comp=Z,11nm,0.8s						
CHTO	**Chiang Mai**	**22.72**	**283**	P	**P**	**08 33 13.7**	**-0.7**
CHTO	**Chiang Mai**	**22.72**	**283**	P	**P**	**08 33 13.8**	**-0.7**
CHTO	**Chiang Mai**	**22.72**	**283**	P	**P**	**08 33 13.7**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,35nm,1.2s						
INCN	**Inchon**	**22.75**	**9**		**P**	**08 33 14.5**	**-0.1**
INCN				IAmb	IAmb	08 33 32.2	
	comp=Z,116nm,1.0s						
INCN	**Inchon**	**22.75**	**9**	P	**P**	**08 33 16.9**	**+2.3**
INCN	**Inchon**	**22.75**	**9**	P	**P**	**08 33 14.5**	**-0.1**
INCN				pmax	pmax		
	comp=Z,116nm,1.0s						
BTDF	**Bukit Timah Da**	**22.79**	**235**	P	**P**	**08 33 15.1**	**-0.1**
TPI	**Tanjungpandan**	**22.84**	**221**	P	**P**	**08 33 17.4**	**+1.7**
	comp=Z,2μmcomp=Z,126nm,1.0s						
KSAR	**Wonju Array Be**	**22.93**	**11**	P	**P**	**08 33 16.3**	**0.0**
KSAR	**Wonju Array Be**	**22.93**	**11**	P	**P**	**08 33 16.3**	**0.0**
KSRS	**Korea Array**	**22.94**	**11**	P	**P**	**08 33 16.4**	**-0.2**
	comp=Z,6.7nm,1.0s,baz=199,slow=12,SNR=14						
KSRS				S	**S**	**08 37 24.8**	**+1.8**
	comp=Z,2.3nm,0.8s,baz=193,slow=2.0,SNR=5.6						
	comp=Z,6.7nm,1.0s						
SURA	**Surathani**	**22.95**	**258**	P	**P**	**08 33 16.9**	**+0.1**
KS19	**Wonju Array Si**	**22.98**	**11**	P	**P**	**08 33 16.9**	**0.0**
CD2	**Chengdu**	**23.30**	**316**	P	**P**	**08 33 19.8**	**-0.4**
CD2				S	**S**	**08 37 28.8**	**-0.4**
CD2				pmax	pmax		
	comp=Z,60nm,1.0s						
CD2				pmax	pmax		
	comp=Z,330nm,4.4s						
CD2				LR	LR		
	comp=Z,3μm,12.7s						
CD2				LR	LR		
	comp=Z,3μm,12.1s						
CD2				LR	LR		
	comp=Z,1μm,15.2s						
SMPI	**Sarmi**	**23.36**	**135**	P	**P**	**08 33 22.2**	**+1.4**
	comp=Z,4μmcomp=Z,234nm,1.2s						
KMMI	**Kalianget**	**23.39**	**201**	P	**P**	**08 33 23.5**	**+2.4**
	comp=Z,3μmcomp=Z,139nm,1.3s						
KULM	**Kulim**	**23.41**	**248**	P	**P**	**08 33 20.6**	**-0.7**
KULM	**Kulim**	**23.41**	**248**	P	**P**	**08 33 20.8**	**-0.5**
IPM	**Ipoh**	**23.43**	**246**	P	**P**	**08 33 20.2**	**-1.4**
IPM	**Ipoh**	**23.43**	**246**	P	**P**	**08 33 20.2**	**-1.4**
MMRI	**Maumere**	**23.44**	**180**	P	**P**	**08 33 21.5**	**-0.1**
MMRI	**Maumere**	**23.44**	**180**	P	**P**	**08 33 21.3**	**-0.3**
	comp=Z,125nm,2.1s						
EDFI	**Ende, Flores**	**23.56**	**182**	P	**P**	**08 33 22.5**	**-0.4**
	comp=Z,2μmcomp=Z,105nm,0.8s						
DL2	**Dalian**	**23.86**	**359**	P	**P**	**08 33 24.0**	**-1.3**
DL2				S	**S**	**08 37 37.4**	**-0.6**
DL2				pmax	pmax		
	comp=Z,65nm,1.6s						
DL2				pmax	pmax		
	comp=Z,410nm,4.9s						
DL2				LR	LR		
	comp=Z,770nm,18.4s						
DL2				LR	LR		
	comp=Z,1μm,18.0s						
DL2				LR	LR		
	comp=Z,990nm,19.3s						
SRBI	**Singaraja**	**23.96**	**198**	P	**P**	**08 33 26.7**	**+0.3**
	comp=Z,95nm,1.6s						
ABJI	**Asem Bagus**	**24.00**	**200**	P	**P**	**08 33 28.1**	**+1.4**
	comp=Z,82nm,0.9s						
JHJ	**Hachijo jima 2**	**24.02**	**38**	LR	LR	08 41 18.3	
	comp=Z,772nm,21.3s,baz=272,slow=32						
PLAI	**Plampang**	**24.07**	**191**	P	**P**	**08 33 27.8**	**+0.4**
INU	**Inuyama**	**24.20**	**30**	P	**P**	**08 33 28.0**	**-0.5**
INU				IAmb	IAmb	08 33 47.5	
	comp=Z,67nm,1.1s						
INU	**Inuyama**	**24.20**	**30**	P	**P**	**08 33 29.4**	**+1.0**
TIY	**Taiyuan**	**24.31**	**341**	*e*P	**P**	**08 33 31.0**	**+1.4**
TIY				S	**S**	**08 37 47.3**	**+1.9**
TIY				pmax	pmax		
	comp=Z,20nm,0.6s						
TIY				LR	LR		
	comp=Z,660nm,19.6s						
TIY				LR	LR		
	comp=Z,560nm,14.5s						
TIY				LR	LR		
	comp=Z,530nm,17.5s						
TNCH	**TengChong**	**24.50**	**298**	P	**P**	**08 33 30.8**	**-0.8**
TNCH				pP	pP	08 33 38.3	-5.5
TNCH				sP	pwP	08 33 42.5	-3.3
TNCH				S	**S**	**08 37 45.8**	**-3.1**
TNCH				sS	sS	08 38 01.3	-8.6
TNCH				pmax	pmax		
	comp=Z,18nm,0.4s						
TNCH				pmax	pmax		
	comp=Z,100nm,3.7s						
TNCH				LR	LR		
	comp=Z,330nm,9.8s						
TNCH				LR	LR		
	comp=Z,540nm,10.7s						
TNCH				LR	LR		
	comp=Z,800nm,14.5s						
JGF	**Kuroka**	**24.57**	**30**	P	**P**	**08 33 31.3**	**-0.6**
JGF				IAmb	IAmb	08 33 50.6	
	comp=Z,76nm,1.2s						
JGF	**Kuroka**	**24.57**	**30**	P	**P**	**08 33 32.5**	**+0.7**
SOEI	**Soe**	**24.63**	**175**	P	**P**	**08 33 32.3**	**-0.3**
SOEI	**Soe**	**24.63**	**175**	P	**P**	**08 33 32.7**	**+0.1**
JAGI	**Jajag, Banyuwa**	**24.66**	**200**	P	**P**	**08 33 32.3**	**-0.5**
JAGI				IAmb	IAmb	08 33 35.7	
	comp=Z,140nm,1.1s						
JAGI	**Jajag, Banyuwa**	**24.66**	**200**	P	**P**	**08 33 33.0**	**+0.2**
GENI	**Genyem**	**24.80**	**133**	P	**P**	**08 33 35.8**	**+1.7**
BATI	**Baumata**	**25.04**	**177**	LR	LR	08 44 12.7	
	comp=Z,325nm,20.7s,baz=352,slow=38						
JAY	**Jayapura**	**25.13**	**132**	LR	LR	08 43 13.1	
	comp=Z,594nm,19.2s,baz=300,slow=36						
BJT	**Baijiatuau**	**25.55**	**349**	P	**P**	**08 33 41.1**	**+0.5**
BJI	**Beijing**	**25.57**	**349**	P	**P**	**08 33 42.4**	**+1.6**
BJI				S	**S**	**08 38 03.8**	**-1.4**
BJI				pmax	pmax		
	comp=Z,31nm,1.0s						
BJI				LR	LR		
	comp=Z,260nm,26.4s						
BJI				LR	LR		
	comp=Z,180nm,18.2s						
BJI				LR	LR		
	comp=Z,440nm,24.9s						
MAJO	**Matsushiro**	**25.73**	**30**	*i* P	**P**	**08 33 41.3**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,17nm,1.3s						
MJAR	**Matsushiro Arr**	**25.73**	**30**	P	**P**	**08 33 40.8**	**-1.6**
MJAR	**Matsushiro Arr**	**25.73**	**30**	P	**P**	**08 33 41.5**	**-0.9**
	comp=Z,4.4nm,0.9s,baz=215,slow=8.8,SNR=10						
MJAR				LR	LR	08 43 40.3	
	comp=Z,334nm,20.3s,baz=222,slow=36						
	comp=Z,4.4nm,0.9s						
MJAR	**Matsushiro Arr**	**25.73**	**30**	P	**P**	**08 33 40.8**	**-1.6**
MJAR				pmax	pmax		
	comp=Z,26nm,1.3s						
PSI	**Prapat**	**26.07**	**245**	LR	LR	08 43 48.2	
	comp=Z,669nm,20.4s,baz=76,slow=36						
PSI	**Prapat**	**26.07**	**245**	P	**P**	**08 33 45.0**	**-0.8**
PSI	**Prapat**	**26.07**	**245**	P	**P**	**08 33 44.8**	**-1.0**
PSI				pmax	pmax		
	comp=Z,96nm,0.8s						
LEM	**Lembang**	**26.12**	**215**	LR	LR	08 45 44.6	
	comp=Z,394nm,20.8s,baz=360,slow=40						
RPSI	**Rantau Prapat**	**26.12**	**244**	P	**P**	**08 33 44.8**	**-1.3**
RPSI				IAmb	IAmb	08 34 01.5	
	comp=Z,96nm,0.8s						
BBJI	**Bungbulang**	**26.62**	**214**	P	**P**	**08 33 51.1**	**+0.4**
LZDM	**Lanzhou Array**	**26.76**	**325**	P	**P**	**08 33 51.5**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=116,slow=13,SNR=1.5						
LZDM				LR	LR	08 45 15.8	
	comp=Z,376nm,21.4s,baz=195,slow=38						
	comp=Z,0.9nm,0.3s						
LZH	**Lanzhou**	**26.77**	**325**	*e*P	**P**	**08 33 57.8**	**+5.8**
LZH				pP	pP	08 34 04.8	+0.7
LZH				sP	pwP	08 34 07.8	+1.3
LZH				pmax	pmax		
	comp=Z,16nm,1.4s						
LZH				LR	LR		
	comp=Z,2μm,16.5s						
LZH				LR	LR		
	comp=Z,1μm,16.8s						
LZH				LR	LR		
	comp=Z,930nm,16.5s						
SNY	**Shenyang**	**26.79**	**2**	⇑P	P	08 34 01.8	+10
SNY				S	S	08 38 38.1	+14
HHC	**Hu-ho-hao-te**	**27.45**	**342**	*e*P	**P**	**08 33 59.4**	**+1.4**
HHC				sP	pP	08 34 11.1	+0.9
HHC				PP	PP	08 34 45.0	-16
HHC				S	**S**	**08 38 36.6**	**+1.4**
HHC				sS	sS	08 38 50.8	-5.6
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,81nm,4.6s						
HHC				LR	LR		
	comp=Z,470nm,16.7s						
HHC				LR	LR		
	comp=Z,1μm,16.5s						
HHC				LR	LR		
	comp=Z,710nm,17.1s						
BTO	**Baotou**	**27.72**	**340**	*e*P	**P**	**08 34 05.0**	**+4.6**
BTO				pmax	pmax		
	comp=Z,13nm,0.6s						
BTO				pmax	pmax		
	comp=Z,630nm,9.3s						
BTO				LR	LR		
	comp=Z,1μm,16.5s						
BTO				LR	LR		
	comp=Z,3μm,19.9s						
BTO				LR	LR		
	comp=Z,1μm,18.4s						
GSI	**Gunungsitoli**	**27.98**	**243**	P	**P**	**08 34 03.3**	**+0.5**
PSTR	**Posyet**	**28.54**	**13**	*i* P	**P**	**08 34 07.3**	**-0.1**
CN2	**Changchun**	**28.87**	**5**	P

comp=Z,740nm,18.0s
MTN Manton Dam 28.96 162 P **P** **08 34 10.1 -1.3**
comp=Z,26nm,1.2s
KDU Kakadu 29.24 159 P **P** **08 34 12.7 -1.1**
comp=Z,41nm,1.2s
KDU Kakadu 29.24 159 P **P** **08 34 12.8 -1.1**
XLT XiLinHaoTe 29.34 351 *e*P P 08 34 19.8 +5.1
XLT pP pwP 08 34 30.3 +1.2
XLT S **S** **08 39 05.3 +0.5**
XLT PcS **PcS** **08 41 06.1 +3.0**
XLT pmax pmax
comp=Z,10.0nm,1.1s
XLT pmax pmax
comp=Z,150nm,5.9s
XLT LR LR
comp=Z,550nm,17.6s
XLT LR LR
comp=Z,550nm,21.6s
BRDH Bariadhala 30.02 289 LR LR 08 47 58.7
comp=Z,570nm,18.8s,baz=140,slow=39
MDJ Mudanjiang 30.19 10 P **P** **08 34 23.1 +0.9**
MDJ pP pP 08 34 33.3 -1.1
MDJ sP sP 08 34 39.0 -1.0
MDJ S **S** **08 39 15.6 -2.4**
MDJ pmax pmax
comp=Z,24nm,1.4s
MDJ LR LR
comp=Z,460nm,23.2s
MDJ LR LR
comp=Z,360nm,21.6s
MDJ LR LR
comp=Z,1μm,24.6s
MDJ Mudanjiang 30.19 10 P **P** **08 34 23.0 +0.9**
USRK Ussuriysk Ar. 30.28 14 P **P** **08 34 23.4 +0.5**
comp=Z,6.6nm,0.8s,baz=204,slow=8.4,SNR=11
comp=Z,6.6nm,0.8s
BNX BinXian 30.98 7 ⇓P **P** **08 34 30.3 +1.3**
BNX pP **pP** **08 34 39.3 -2.0**
BNX sP **pwP** **08 34 43.0 -0.5**
BNX S **S** **08 39 32.8 +2.6**
BNX sS **sS** **08 39 46.6 -4.9**
BNX pmax pmax
comp=Z,22nm,1.0s
BNX pmax pmax
comp=Z,200nm,4.3s
BNX LR LR
comp=Z,350nm,23.9s
BNX LR LR
comp=Z,300nm,17.3s
BNX LR LR
comp=Z,580nm,16.8s
KNRA Kununurra 31.09 168 P **P** **08 34 30.0 -0.2**
comp=Z,29nm,2.0s
KNRA Kununurra 31.09 168 P **P** **08 34 30.3 0.0**
GTA Gaotai 31.38 325 *e*P **P** **08 34 35.4 +2.6**
GTA pP pP 08 34 43.9 -1.1
GTA sP pwP 08 34 48.3 +0.8
GTA S **S** **08 39 36.8 -0.1**
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA LR LR
comp=Z,1μm,21.4s
GTA LR LR
comp=Z,890nm,21.1s
GTA LR LR
comp=Z,820nm,20.0s
LSA Lhasa 32.25 302 P **P** **08 34 39.3 -1.7**
LSA pmax pmax
comp=Z,6.0nm,0.3s
LSA LR LR
comp=Z,590nm,20.6s
LSA LR LR
comp=Z,280nm,22.0s
GOMU GeErMu 32.43 316 P **P** **08 34 42.6 +0.2**
GOMU S **S** **08 39 53.3 -0.7**
GOMU pmax pmax
comp=Z,2.0nm,0.3s
GOMU LR LR
comp=Z,570nm,13.4s
GOMU LR LR
comp=Z,300nm,13.1s
GOMU LR LR
comp=Z,570nm,13.5s
FITZ Fitzroy Crossi 33.01 174 P **P** **08 34 46.2 -0.8**
comp=Z,14nm,1.8s
FITZ Fitzroy Crossi 33.01 174 P **P** **08 34 46.8 -0.3**
FITZ IAmb IAmb 08 34 47.8
comp=Z,66nm,2.0s
FITZ Fitzroy Crossi 33.01 174 S **S** **08 39 58.0 -4.3**
comp=Z,8.6nm,1.2s,baz=236,slow=19,SNR=6.3
FITZ Fitzroy Crossi 33.01 174 P **P** **08 34 46.4 -0.7**
ASAJ Asahikawa 33.79 27 LR LR 08 49 01.2
comp=Z,393nm,21.7s,baz=228,slow=37
ASAJ Asahikawa 33.79 27 P **P** **08 34 53.6 -0.1**
ASAJ pmax pmax
comp=Z,30nm,0.9s
JKA Kamikawa-asahi 33.79 27 P **P** **08 34 53.6 0.0**
JKA IAmb IAmb 08 35 34.7
comp=Z,30nm,0.9s
PMG Port Moresby 34.50 133 P **P** **08 35 00.4 +0.2**
PMG Port Moresby 34.50 133 P **P** **08 35 01.6 +1.4**
PMG Port Moresby 34.50 133 *ce*P **P** **08 35 00.2 0.0**
PMG pmax pmax
comp=Z,160nm,1.3s
ULN Ulaanbaatar 35.18 342 P **P** **08 35 05.5 -0.3**
ULN Ulaanbaatar 35.18 342 *ce*P **P** **08 35 06.2 +0.4**
ULN pmax pmax
comp=Z,23nm,0.9s
SONM Songino Array 35.35 341 P **P** **08 35 07.4 +0.1**
SONM Songino Array 35.35 341 P **P** **08 35 06.9 -0.4**
comp=Z,2.9nm,0.7s,baz=164,slow=9.6,SNR=13
SONM LR LR 08 50 42.2
comp=Z,488nm,21.1s,baz=154,slow=38
comp=Z,2.9nm,0.7s
SONM Songino Array 35.35 341 P **P** **08 35 07.4 +0.1**
SONM pmax pmax
comp=Z,12nm,0.9s
COEN Coen 35.35 143 P **P** **08 35 07.4 0.0**
comp=Z,89nm,0.9s
COEN Coen 35.35 143 P **P** **08 35 07.6 +0.1**
COEN IAmb IAmb 08 35 09.6
comp=Z,59nm,0.9s
COEN Coen 35.35 143 P **P** **08 35 07.5 0.0**
EVN Everest 35.38 297 P **P** **08 35 07.2 -1.2**
EVN IAmb IAmb 08 35 47.7
comp=Z,36nm,1.1s
HEH HeiHe 35.44 6 *e*P **P** **08 35 08.8 +0.9**
HEH sP **sP** **08 35 24.4 -1.4**
HEH S **S** **08 40 39.3 0.0**
HEH pmax pmax
comp=Z,12nm,1.7s
HEH LR LR
comp=Z,220nm,16.5s
HEH LR LR
comp=Z,460nm,18.3s
HEH LR LR
comp=Z,610nm,18.2s
MBWA Marble Bar 35.98 184 P **P** **08 35 11.4 -1.5**
comp=Z,42nm,1.4s
MBWA Marble Bar 35.98 184 P **P** **08 35 11.7 -1.1**
MBWA IAmb IAmb 08 35 13.1
comp=Z,35nm,0.9s
MBWA Marble Bar 35.98 184 P **P** **08 35 11.6 -1.2**
YSS Yuzhno-Sakhali 36.15 24 P **P** **08 35 15.9 +1.9**
YSS Yuzhno-Sakhali 36.15 24 *e*P **P** **08 35 13.3 -0.7**
YSS *e**SP **pwP** **08 35 27.9 -1.1**
YSS *e* 08 36 35.1
YSS *e*S **S** **08 40 48.7 -1.6**
YSS *e*SSS SSS 08 43 21.2
YSS 08 45 27.6
YSS pmax pmax
comp=Z,20nm,1.5s
YSS MLR MLR
comp=Z,400nm,15.0s
YSS MLR MLR
comp=N,200nm,14.0s
PSA00 Pilbara Seismi 36.39 184 P **P** **08 35 15.4 -0.8**
comp=Z,81nm,1.4s
PSA00 Pilbara Seismi 36.39 184 **P** **08 35 15.3 -0.8**
PSA00 IAmb IAmb 08 35 16.7
comp=Z,84nm,1.1s
PSA00 Pilbara Seismi 36.39 184 P **P** **08 35 15.2 -1.1**
PSA00 IAmb IAmb 08 35 16.7
comp=Z,64nm,1.2s
PSA00 Pilbara Seismi 36.39 184 P **P** **08 35 15.5 -0.8**
PSAB3 Pilbara Seismi 36.41 184 P **P** **08 35 15.4 -1.0**

comp=Z,83nm,1.5s
WRAB Tennant Creek 36.62 161 P **P** **08 35 17.4 -1.0**
WRAB IAmb IAmb 08 35 20.1
comp=Z,63nm,1.1s
WRAB Tennant Creek 36.62 161 *i* P **P** **08 35 17.9 -0.4**
WRAB pmax pmax
comp=Z,71nm,1.1s
WRA Warramunga Arr 36.63 161 P **P** **08 35 16.7 -1.7**
WRA Warramunga Arr 36.63 161 P **P** **08 35 17.2 -1.2**
comp=Z,28nm,0.8s,baz=338,slow=9.5,SNR=70
WRA S **S** **08 40 51.3 -6.8**
comp=Z,5.0nm,1.0s,baz=338,slow=15,SNR=5.4
WRA LR LR 08 53 38.9
comp=Z,114nm,18.2s,baz=331,slow=42
comp=Z,28nm,0.8s
WRA Warramunga Arr 36.63 161 *i* P **P** **08 35 17.2 -1.2**
WRA pmax pmax
comp=Z,30nm,0.8s
GRNR Gornyy 37.48 15 ⇑*i*P **P** **08 35 20.8 -4.5**
GRNR pmax pmax
comp=Z,4.0nm,0.9s
GIRL Giralia 38.21 192 P **P** **08 35 31.7 +0.1**
comp=Z,54nm,2.2s
ZAK Zakamensk 38.57 340 *e*P **P** **08 35 34.2 -0.4**
ZAK pmax pmax
comp=Z,16nm,1.7s
ZEA Zeya 38.88 5 *e*P **P** **08 35 37.1 +0.1**
ZEA *e*S **S** **08 41 28.9 -2.7**
ZEA pmax pmax
comp=Z,100nm,4.7s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,1.1s
ZEA smax smax
comp=E,100nm,10.2s
QIS Mount Isa 39.15 154 P **P** **08 35 39.5 -0.1**
comp=Z,87nm,1.6s
QIS Mount Isa 39.15 154 P **P** **08 35 39.4 -0.3**
MTSU Mount Surprise 39.37 146 P **P** **08 35 42.1 +0.6**
comp=Z,72nm,0.8s
MTSU Mount Surprise 39.37 146 P **P** **08 35 42.5 +1.0**
TYV Tymovskoe 39.38 20 *e*P **P** **08 35 40.6 -0.6**
TYV *e*S **S** **08 41 38.3 -0.9**
TYV pmax pmax
comp=Z,100nm,4.3s
TYV pmax pmax
comp=Z,9.0nm,1.4s
TYV smax smax
comp=N,100nm,5.6s
TYV smax smax
comp=E,200nm,5.6s
AS31 Alice Springs 40.01 163 **P** **08 35 46.7 -0.1**
ASAR Alice Springs 40.01 163 P **P** **08 35 46.3 -0.5**
ASAR Alice Springs 40.01 163 P **P** **08 35 46.4 -0.4**
comp=E,11nm,0.5s,baz=337,slow=8.3,SNR=96
ASAR S **S** **08 41 46.3 -3.0**
comp=E,2.2nm,0.9s,baz=339,slow=11,SNR=7.2
ASAR LR LR 08 53 57.4
comp=E,146nm,18.5s,baz=348,slow=38
comp=E,11nm,0.5s
ASAR Alice Springs 40.01 163 P **P** **08 35 46.3 -0.5**
WRKA Warakurna 40.17 172 P **P** **08 35 47.7 -0.4**
comp=Z,145nm,1.3s
WMQ Urumqi 41.20 321 *e*P **P** **08 35 59.1 +2.6**
WMQ pP pP 08 36 07.5 -1.7
WMQ LR LR
comp=Z,2μm,16.9s
WMQ LR LR
comp=Z,1μm,12.7s
WMQ LR LR
comp=Z,530nm,16.9s
MEEK Meekatharra 41.51 185 P **P** **08 35 57.7 -1.4**
comp=Z,175nm,1.3s
MEEK Meekatharra 41.51 185 P **P** **08 35 57.7 -1.4**
PALK Pallekele 41.52 264 LR LR 08 52 41.2
comp=Z,370nm,19.9s,baz=84,slow=35
TV1H Townsville Har 41.65 144 P **P** **08 36 01.9 +1.6**
CTAO Charters Tower 42.01 145 P **P** **08 36 04.5 +1.2**
CTAO IAmb IAmb 08 36 05.8
comp=Z,85nm,0.9s
CTAO Charters Tower 42.01 145 P **P** **08 36 04.5 +1.2**
CTAO Charters Tower 42.01 145 P **P** **08 36 04.5 +1.2**
CTAO pmax pmax
comp=Z,85nm,0.9s
CTAO Charters Tower 42.01 145 P **P** **08 36 04.4 +1.2**
HYB Hyderabad 42.07 280 *e*P **P** **08 36 03.2 -0.7**
HYB *es*P **sP** **08 36 22.1 -0.3**
HYB *e*S **S** **08 42 19.2 -1.0**
H11S3 WAKE ISLAND Hy 42.52 79 T T 09 21 29.7
baz=272,slow=74
H11S1 WAKE ISLAND Hy 42.53 79 T T 09 21 36.5
baz=272
H11S2 WAKE ISLAND Hy 42.54 79 T T 09 21 38.6
baz=272,slow=74
BOD Bodaibo 43.24 353 *e*P **pP** **08 36 28.3 +2.9**
BOD pmax pmax
comp=Z,39nm,1.7s
MORW Morawa 44.19 188 P **P** **08 36 19.4 -1.3**
comp=Z,110nm,1.1s
MORW Morawa 44.19 188 P **P** **08 36 19.5 -1.2**
MORW IAmb IAmb 08 36 20.9
comp=Z,93nm,0.9s
MORW Morawa 44.19 188 P **P** **08 36 19.5 -1.2**
HNR Honiara 44.45 121 LR LR 08 52 25.5
comp=Z,211nm,19.6s,baz=312,slow=33
ALEG Aligegeo Malai 44.71 119 P **P** **08 36 26.9 +1.7**
ZSN Zaisan 44.86 324 *e*P **P** **08 36 26.3 +0.3**
ZSN Zaisan 44.86 324 *e*P **P** **08 36 26.2 +0.3**
BLDU Ballidu 45.63 187 P **P** **08 36 30.7 -1.5**
comp=Z,69nm,1.3s
BLDU Ballidu 45.63 187 P **P** **08 36 30.8 -1.4**
MK31 Makanchi Array 46.01 322 *ce*P **P** **08 36 35.5 +0.5**
MKAR Makanchi Array 46.01 322 P **P** **08 36 35.2 +0.1**
MKAR Makanchi Array 46.01 322 P **P** **08 36 35.0 0.0**
comp=Z,3.6nm,0.8s,baz=120,slow=8.7,SNR=28
comp=Z,3.6nm,0.8s
MKAR Makanchi Array 46.01 322 P **P** **08 36 35.2 +0.1**
INKA Innaminka 46.04 157 P **P** **08 36 36.3 +0.9**
SHLS Shalkode 46.13 316 *e*P **P** **08 36 34.1 -2.1**
comp=Z,34nm,1.1s
SHLS Shalkode 46.13 316 *e*P **P** **08 36 34.1 -2.1**
SHLS pmax pmax
comp=Z,34nm,1.1s
MAKZ Makanchi 46.20 322 ⇑P P 08 36 47.0 +10
UZB Uzynbulak 46.42 316 *e*P **P** **08 36 38.6 +0.1**
comp=Z,32nm,1.2s
UZB Uzynbulak 46.42 316 *e*P **P** **08 36 38.6 +0.1**
UZB pmax pmax
comp=Z,32nm,1.2s
QLP Quilpie 46.45 153 P **P** **08 36 38.4 -0.3**
comp=Z,121nm,1.7s
QLP Quilpie 46.45 153 P **P** **08 36 39.2 +0.6**
SATY Saty 46.80 316 *e*P **P** **08 36 41.4 -0.1**
comp=Z,21nm,1.0s
SATY Saty 46.80 316 *e*P **P** **08 36 41.4 -0.1**
SATY pmax pmax
comp=Z,21nm,1.0s
MUN Mundaring 47.04 187 P **P** **08 36 42.2 -0.9**
comp=Z,71nm,1.2s
MUN Mundaring 47.04 187 P **P** **08 36 42.3 -0.9**
PEA0B Petropavlovsk- 47.16 28 P **P** **08 36 44.4 +0.5**
PEA0B IAmb IAmb 08 36 46.0
comp=Z,56nm,1.1s
PEA0B Petropavlovsk- 47.16 28 *ce*P **P** **08 36 45.6 +1.7**
PETK Petropavlovsk- 47.16 28 P **P** **08 36 44.5 +0.6**
comp=Z,13nm,0.8s,baz=211,slow=2.6,SNR=15
PETK LR LR 08 58 02.6
comp=Z,113nm,19.4s,baz=225,slow=38
comp=Z,13nm,0.8s
KSH Kashi 47.29 310 P **P** **08 36 48.6 +3.3**
KSH S **S** **08 43 40.1 +4.6**
KSH LR LR
comp=Z,480nm,18.6s
KSH LR LR
comp=Z,480nm,18.9s
KSH LR LR
comp=Z,530nm,16.0s
YAK Yakutsk 47.30 5 P **P** **08 36 45.1 +0.2**
YAK Yakutsk 47.30 5 LR LR 08 58 04.3
comp=Z,218nm,20.0s,baz=186,slow=38
YAK Yakutsk 47.30 5 *e*P **P** **08 36 45.0 +0.2**
YAK *e**PP **pP** **08 36 56.8 -0.7**
YAK *e* 08 38 35.6
YAK *e*S **S** **08 43 37.4 +2.8**
YAK *e**SS **sS** **08 43 53.2 -3.4**

YAK pmax pmax
comp=Z,20nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=Z,214nm,5.3s
YAK pmax pmax
comp=N,161nm,4.8s
YAK pmax pmax
comp=E,133nm,4.8s
YAK smax smax
comp=N,99nm,3.2s
YAK smax smax
comp=E,74nm,3.1s
PET Petropavlovsk 47.55 29 P **P** **08 36 46.8 -0.1**
PET Petropavlovsk 47.55 29 P **P** **08 36 48.0 +1.1**
PET Petropavlovsk 47.55 29 *e*P **P** **08 36 48.2 +1.3**
PET *e*S **S** **08 43 38.3 -0.1**
PET pmax pmax
comp=Z,48nm,1.5s
TDK Taldyqorghan 47.59 318 *e*P **P** **08 36 47.4 -0.1**
comp=Z,21nm,0.6s
TDK Taldyqorghan 47.59 318 *e*P **P** **08 36 47.3 -0.1**
TDK pmax pmax
comp=Z,21nm,0.6s
MDOK Medeo 47.76 315 *e*P **P** **08 36 48.7 -0.3**
MDOK Medeo 47.76 315 *e*P **P** **08 36 48.7 -0.3**
NWAO Narrogin (SRO) 47.87 186 P **P** **08 36 48.8 -0.8**
comp=Z,147nm,1.4s
NWAO Narrogin (SRO) 47.87 186 P **P** **08 36 48.8 -0.8**
NWAO Narrogin (SRO) 47.87 186 LR LR 08 58 34.3
comp=Z,140nm,21.3s,baz=274,slow=38
NWAO Narrogin (SRO) 47.87 186 P **P** **08 36 49.2 -0.4**
NWAO Narrogin (SRO) 47.87 186 P **P** **08 36 48.8 -0.8**
NWAO pmax pmax
comp=Z,89nm,0.9s
NWAO Narrogin (SRO) 47.87 186 P **P** **08 36 49.0 -0.6**
NIL Nilore 47.99 302 P **P** **08 36 48.8 -1.9**
NIL IAmb IAmb 08 37 11.9
comp=Z,36nm,0.8s
NIL Nilore 47.99 302 P **P** **08 36 48.8 -1.9**
NIL pmax pmax
comp=Z,36nm,0.8s
BOOM Boomskoye usch 48.28 314 P **P** **08 36 50.7 -2.3**
BOOM IAmb IAmb 08 37 05.0
comp=Z,29nm,1.0s
BOOM Boomskoye usch 48.28 314 P **P** **08 36 50.7 -2.3**
BOOM pmax pmax
comp=Z,29nm,1.0s
ZAA0 Zalesovo Array 48.71 331 P **P** **08 36 55.6 -0.3**
ZAA0 IAmb IAmb 08 37 13.0
comp=Z,68nm,1.2s
ZALV Zalesovo Beam 48.71 331 P **P** **08 36 55.6 -0.2**
ZALV Zalesovo Beam 48.71 331 P **P** **08 36 55.5 -0.4**
comp=Z,2.3nm,0.4s,baz=112,slow=6.6,SNR=17
ZALV LR LR 08 58 11.8
comp=Z,422nm,21.5s,baz=130,slow=37
comp=Z,2.3nm,0.4s
EIDS Eidsvold 48.89 145 P **P** **08 36 57.6 0.0**
comp=Z,55nm,1.4s
EIDS Eidsvold 48.89 145 P **P** **08 36 58.0 +0.4**
EIDS Eidsvold 48.89 145 P **P** **08 36 58.0 +0.4**
MA2 Magadan 49.20 19 P **P** **08 36 59.9 +0.4**
MA2 IAmb IAmb 08 37 23.7
comp=Z,27nm,0.9s
MA2 Magadan 49.20 19 P **P** **08 37 00.5 +1.0**
MA2 Magadan 49.20 19 *ce*P **P** **08 37 00.3 +0.8**
MA2 pmax pmax
comp=Z,44nm,1.7s
BBOO Buckleboo 49.27 165 P **P** **08 37 00.1 -0.4**
comp=Z,259nm,1.2s
BBOO Buckleboo 49.27 165 P **P** **08 37 00.2 -0.2**
BBOO Buckleboo 49.27 165 P **P** **08 37 00.0 -0.4**
AAK Ala-Archa 49.34 314 P **P** **08 36 59.2 -1.9**
AAK IAmb IAmb 08 37 27.6
comp=Z,20nm,1.0s
AAK Ala-Archa 49.34 314 LR LR 08 59 19.1
comp=Z,503nm,20.8s,baz=84,slow=38
AAK Ala-Archa 49.34 314 P **P** **08 36 59.2 -1.9**
AAK pmax pmax
comp=Z,20nm,1.0s
SGDS Sogindy 49.51 315 *e*P **P** **08 37 02.4 0.0**
RKGY Rocky Gully 49.56 186 P **P** **08 37 02.1 -0.5**
comp=Z,173nm,1.4s
WHYH Whyalla 49.89 163 P **P** **08 37 05.2 +0.1**
KURK Kurchatov 50.06 325 P **P** **08 37 06.6 +0.3**
KURK Kurchatov 50.06 325 P **P** **08 37 06.6 +0.3**
KURK pmax pmax
comp=Z,335nm,1.1s
KURBB Kurchatov Arra 50.07 325 P **P** **08 37 06.6 +0.3**
comp=Z,6.4nm,0.5s,baz=121,slow=8.0,SNR=36
KURBB LR LR 08 59 53.9
comp=Z,252nm,19.2s,baz=174,slow=38
comp=Z,6.4nm,0.5s
STKA Stephens Creek 50.09 159 P **P** **08 37 06.8 +0.1**
comp=Z,540nm,1.4s
STKA Stephens Creek 50.09 159 P **P** **08 37 07.0 +0.4**
STKA Stephens Creek 50.09 159 P **P** **08 37 06.8 +0.1**
comp=Z,70nm,0.8s,baz=334,slow=7.5,SNR=155
STKA LR LR 09 01 18.6
comp=Z,95nm,19.1s,baz=336,slow=40
STKA Stephens Creek 50.09 159 P **P** **08 37 06.8 +0.1**
STKA Stephens Creek 50.09 159 ⇑*i*P **P** **08 37 07.0 +0.4**
BTLS Baital 50.46 317 *e*P **P** **08 37 09.2 -0.2**
comp=Z,20nm,1.3s
BTLS Baital 50.46 317 *e*P **P** **08 37 09.1 -0.2**
BTLS pmax pmax
comp=Z,20nm,1.3s
HTT Hallett 50.65 162 P **P** **08 37 11.0 +0.1**
comp=Z,25nm,1.2s
HTT Hallett 50.65 162 P **P** **08 37 10.9 0.0**
TW1H Toowoomba 1 Ha 51.09 146 P **P** **08 37 16.1 +1.7**
CMSA Cobar Meteorol 51.37 154 P **P** **08 37 17.0 +0.7**
comp=Z,139nm,1.4s
CMSA Cobar Meteorol 51.37 154 P **P** **08 37 17.2 +0.9**
GAR Garm 51.39 308 P **P** **08 37 15.6 -1.0**
KBL Kabul 51.58 302 P **P** **08 37 17.0 -1.2**
KBL IAmb IAmb 08 37 36.0
comp=Z,37nm,1.0s
KBL Kabul 51.58 302 P **P** **08 37 17.0 -1.2**
KBL pmax pmax
comp=Z,37nm,1.0s
CHGR Chuyangaron 52.20 307 P **P** **08 37 22.5 -0.2**
CHGR Chuyangaron 52.20 307 P **P** **08 37 22.5 -0.2**
CHGR pmax pmax
comp=Z,74nm,1.0s
KKAR Karatay Array 52.27 313 P **P** **08 37 22.5 -0.5**
KKAR Karatay Array 52.27 313 P **P** **08 37 22.5 -0.5**
SIMJ Simiganj 52.32 307 P **P** **08 37 22.9 -0.6**
SIMJ IAmb IAmb 08 37 43.9
comp=Z,22nm,0.9s
SEY Seymchan 52.34 17 LR LR 08 58 28.5
comp=Z,209nm,21.6s,baz=212,slow=34
SEY Seymchan 52.34 17 *i* P **P** **08 37 24.2 +1.0**
SEY pmax pmax
comp=Z,20nm,1.3s
IUG Iuzhnay 52.35 312 *e*P **P** **08 37 23.7 -0.1**
IUG Iuzhnay 52.35 312 *e*P **P** **08 37 23.7 -0.1**
CHM Chimkent 52.70 312 *e*P **P** **08 37 26.3 0.0**
CHM Chimkent 52.70 312 *e*P **P** **08 37 26.2 0.0**
BRZS Berezniki 53.16 322 *e*P **P** **08 37 29.3 -0.2**
BRZS Berezniki 53.16 322 *e*P **P** **08 37 29.2 -0.2**
ARMA Armidale 53.20 148 P **P** **08 37 30.0 0.0**
comp=Z,47nm,1.4s
ARMA Armidale 53.20 148 P **P** **08 37 30.6 +0.6**
ARMA Armidale 53.20 148 P **P** **08 37 31.1 +1.1**
ARPS Mount Arapiles 54.63 161 P **P** **08 37 40.0 -0.3**
comp=Z,46nm,0.8s
YNG Young 54.90 154 P **P** **08 37 42.6 +0.3**
comp=Z,31nm,1.6s
MGCD Mangrove Creek 55.21 151 P **P** **08 37 43.8 -0.7**
comp=Z,36nm,1.1s
SHEM Shemya Is, Ala 55.42 35 LR LR 08 57 31.7
comp=Z,94nm,21.2s,baz=248,slow=32
SYDH Sydney Hard Ro 55.49 151 P **P** **08 37 48.1 +1.6**
BVAR Borovoye Array 55.66 325 P **P** **08 37 47.5 -0.1**
comp=Z,2.6nm,0.5s,baz=111,slow=6.0,SNR=13
BVAR LR LR 09 00 34.2
comp=Z,293nm,21.8s,baz=114,slow=35
comp=Z,2.6nm,0.5s
RIV Riverview 55.74 151 P **P** **08 37 48.9 +0.6**
comp=Z,89nm,1.1s
CAN Canberra 56.02 154 P **P** **08 37 50.7 +0.3**

comp=Z,79nm,1.3s
CAN Canberra 56.02 154 P **P** **08 37 50.9 +0.5**
CAN Canberra 56.02 154 P **P** **08 37 51.3 +0.9**
CAN Canberra 56.02 154 P **P** **08 37 50.9 +0.5**
CAN pmax pmax
comp=Z,183nm,1.5s
CAN Canberra 56.02 154 P **P** **08 37 51.0 +0.6**
CAN sP **sP** **08 38 10.2 +0.6**
BRAT Ballarat 56.03 159 P **P** **08 37 50.9 +0.6**
CNB Canberra Magne 56.18 153 P **P** **08 37 52.0 +0.5**
comp=Z,106nm,1.1s
CNB Canberra Magne 56.18 153 P **P** **08 37 52.4 +0.9**
TOO Toolangi 56.60 158 P **P** **08 37 55.0 +0.6**
comp=Z,48nm,1.1s
TOO Toolangi 56.60 158 P **P** **08 37 55.0 +0.6**
TOO IAmb IAmb 08 37 56.4
comp=Z,30nm,0.8s
TOO Toolangi 56.60 158 P **P** **08 37 55.0 +0.6**
TOO pmax pmax
comp=Z,30nm,0.8s
DZM Mont Dzumac 56.76 130 *e*P **P** **08 37 56.1 +0.2**
comp=Z,49nm,1.1s
DZM *e*S **S** **08 45 45.6 -0.1**
comp=Z,118nm,23.8s
DZM *e*LQ LQ 08 52 11.8
comp=Z,778nm,34.5s
DZM *e*LR LR 08 54 33.4
comp=Z,291nm,25.4s
TIXI Tiksi 56.81 2 P **P** **08 37 55.1 -0.2**
TIXI IAmb IAmb 08 38 14.1
comp=Z,28nm,0.8s
TIXI Tiksi 56.81 2 LR LR 09 05 27.9
comp=Z,502nm,18.1s,baz=200,slow=39
TIXI Tiksi 56.81 2*c**e*P **P** **08 37 54.8 -0.6**
TIXI pmax pmax
comp=Z,18nm,1.1s
BILL Bilibino 60.03 18*c**e*P **P** **08 38 18.2 +0.3**
BILL pmax pmax
comp=Z,24nm,1.3s
AB31 Akbulak array 60.85 318 P **P** **08 38 23.4 -0.5**
AB31 IAmb IAmb 08 38 50.1
comp=Z,15nm,0.9s
ABKAR Akbulak array 60.85 318 P **P** **08 38 23.2 -0.7**
SVE Sverdlovsk 62.22 327 *e*P **pP** **08 38 49.9 +3.6**
SVE pmax pmax
comp=Z,55nm,0.9s
AKTO Aktyubinsk 62.30 319 P **P** **08 38 33.1 -0.5**
comp=Z,1.1nm,0.4s,baz=115,slow=3.9,SNR=4.8
AKTO LR LR 09 05 31.7
comp=Z,350nm,20.9s,baz=110,slow=36
comp=Z,1.1nm,0.4s
ARTI Arti 63.32 326 **P** **08 38 39.4 -0.8**
ARTI Arti 63.32 326 P **P** **08 38 39.3 -1.0**
comp=Z,2.6nm,0.4s,baz=92,slow=9.5,SNR=4.1
ARTI LR LR 09 07 36.9
comp=Z,175nm,18.7s,baz=98,slow=37
comp=Z,2.6nm,0.4s
ARTI Arti 63.32 326*d* *i*P **P** **08 38 39.2 -1.0**
ARTI S **S** **08 47 08.9 +0.1**
ARTI SS **SS** **08 51 12.0 -3.7**
ARTI pmax pmax
comp=Z,5.0nm,1.2s
KIRV Kirov 68.47 327 P **P** **08 39 13.3 0.0**
comp=Z,5.5nm,0.3s,baz=346,slow=4.5,SNR=4.0
KIRV LR LR 09 10 10.5
comp=Z,229nm,19.8s,baz=102,slow=37
comp=Z,5.5nm,0.3s
KIRV Kirov 68.47 327*c**e*P **P** **08 39 13.0 -0.3**
AKT Akhty 68.79 309 *e*P **P** **08 39 13.8 -2.0**
AKT *e* 08 39 37.3
AKT MLR MLR
comp=Z,201nm,16.0s
MAK Makhachkala 68.92 311 *e*P **P** **08 39 16.9 +0.4**
MAK *e*S **S** **08 48 19.5 +2.1**
MAK pmax pmax
comp=Z,165nm,1.4s
BELG Belogornoye 68.98 321 P **P** **08 39 16.2 -0.4**
comp=Z,9.4nm,0.6s,baz=4.7,slow=9.0,SNR=1.6
comp=Z,9.4nm,0.6s
BELG Belogornoye 68.98 321 *i* P **P** **08 39 17.6 +1.0**
BELG pmax pmax
comp=Z,7.0nm,0.9s
GNI Garni 71.12 308 P **P** **08 39 31.6 +1.4**
comp=Z,4.6nm,0.4s,baz=69,slow=8.6,SNR=1.5
comp=Z,4.6nm,0.4s
GNI Garni 71.12 308 *i* P **P** **08 39 31.1 +0.9**
GNI pmax pmax
comp=Z,12nm,1.1s
GOF Gofitskoye 72.06 313*c**e*P pP 08 39 51.4 +1.9
KBZ Khabaz 72.25 312 LR LR 09 15 31.8
comp=Z,187nm,18.4s,baz=85,slow=39
KBZ Khabaz 72.25 312 *i* P **P** **08 39 37.1 +0.4**
KBZ pmax pmax
comp=Z,35nm,1.1s
RAYN Ar Rayn 72.33 290 P **P** **08 39 36.5 -1.2**
RAYN IAmb IAmb 08 39 57.0
comp=Z,32nm,1.1s
RAYN Ar Rayn 72.33 290 P **P** **08 39 36.5 -1.2**
RAYN pmax pmax
comp=Z,31nm,1.1s
KIV Kislovodsk 72.39 312 ⇓P pP 08 39 47.9 -3.7
KIV Kislovodsk 72.39 312 *e*P **P** **08 39 38.0 +0.3**
KIV *e* 08 39 55.5
KIV *e*S **S** **08 48 59.3 +1.4**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,120nm,18.0s
VRH Novokhopyorsk 72.64 319 *e*P **P** **08 39 37.3 -1.6**
VRH *e* 08 39 54.3
VRH pmax pmax
comp=Z,7.0nm,1.0s
LBZ Lake Benmore 73.35 146 P **P** **08 39 44.2 +1.1**
L19K White Mountain 73.53 29 P **P** **08 39 45.5 +1.5**
L19K IAmb IAmb 08 40 08.3
comp=Z,50nm,1.6s
KLMR Klimovskoe 73.58 330 *e*P **P** **08 39 41.4 -2.8**
KLMR *e* 08 39 57.8
KLMR *e* 08 42 25.0
KLMR pmax pmax
comp=Z,20nm,1.4s
KLMR MLR MLR
comp=Z,295nm,15.0s
URZ Urewera 73.68 138 LR LR 09 12 41.4
comp=Z,79nm,20.1s,baz=308,slow=36
BKZ Black Stump Fm 73.81 139 P **P** **08 39 47.2 +1.2**
BKZ IAmb IAmb 08 39 48.0
comp=Z,54nm,1.1s
BKZ Black Stump Fm 73.81 139 P **P** **08 39 47.1 +1.1**
J20K Nowinta River 73.83 27 P **P** **08 39 46.8 +1.1**
IMAR Indian Mountai 73.97 25 P **P** **08 39 47.9 +1.5**
VORD Divnogorie 74.19 319 *e*P **P** **08 39 48.1 +0.1**
VORD *e* 08 40 03.8
VORD pmax pmax
comp=Z,6.0nm,1.0s
VSR Storozhevoye 74.25 320 *e*P **P** **08 39 46.8 -1.5**
VSR *e* 08 40 03.9
VSR pmax pmax
comp=Z,5.0nm,1.0s
LPSR Galich'ya Gora 74.29 321 *e*P **P** **08 39 48.8 +0.2**
LPSR *e* 08 40 05.2
LPSR pmax pmax
comp=Z,9.0nm,0.8s
H21K Melozitna Rive 74.37 25 P **P** **08 39 50.5 +1.7**
H21K IAmb IAmb 08 40 12.6
comp=Z,46nm,1.2s
PPLA Purkeypile 74.75 28 P **P** **08 39 51.9 +0.7**
PPLA IAmb IAmb 08 40 20.3
comp=Z,74nm,1.5s
MOS Moscow 74.83 324 *e*P P 08 39 57.7 +6.1
MOS *e* 08 40 14.9
KDAK Kodiak Island 74.86 34 LR LR 09 12 39.2
comp=Z,122nm,20.5s,baz=247,slow=36
C23K Itkillik River 75.05 21 P **P** **08 39 52.3 -0.3**
C23K IAmb IAmb 08 40 16.0
comp=Z,42nm,1.2s
MLY Manley 75.26 26 **P** **08 39 54.8 +0.8**
MLY IAmb IAmb 08 40 17.5
comp=Z,32nm,1.1s
LVZ Lovozero 75.40 337 ⇑P pP 08 40 09.2 +0.8
OBN Obninsk 75.48 324 LR LR 09 14 01.1
comp=Z,222nm,20.2s,baz=136,slow=36
OBN Obninsk 75.48 324⇑ *e*P **P** **08 39 55.9 +0.6**
OBN *e**PP **PcP** **08 40 06.6 -1.6**
OBN *e* 08 40 08.7
OBN *SP **pwP** **08 40 10.0 -1.0**
OBN *S* **S** **08 49 30.0 -1.9**
OBN *i* 08 49 55.7
OBN PS **PnS** **08 50 26.0 +13**
OBN pmax pmax
comp=Z,10.0nm,0.6s
OBN MLR MLR
comp=Z,218nm,21.0s
NEA2 Nenana 76.01 26 P **P** **08 39 58.7 +0.5**
MCK McKinley 76.15 27 P **P** **08 39 59.7 +0.6**
MCK IAmb IAmb 08 40 22.2
comp=Z,69nm,1.0s
MCK McKinley 76.15 27 P **P** **08 39 59.7 +0.6**
MCK pmax pmax
comp=Z,69nm,1.0s
RND Reindeer 76.22 28 P **P** **08 39 59.7 +0.2**
RND IAmb IAmb 08 40 22.4
comp=Z,66nm,1.3s
RND Reindeer 76.22 28 P **P** **08 39 59.7 +0.2**
RND pmax pmax
comp=Z,66nm,1.3s
PMR Palmer 76.27 29 P **P** **08 40 00.5 +0.7**
COLA College 76.50 26 P **P** **08 40 02.1 +1.1**
COLA College 76.50 26 ⇑P pP 08 40 17.8 +3.3
ILAR Eielson Array 76.92 26 P **P** **08 40 02.8 -0.7**
comp=Z,0.5nm,0.6s,baz=259,slow=4.2,SNR=13
ILAR LR LR 09 14 03.2
comp=Z,80nm,21.3s,baz=262,slow=36
comp=Z,0.5nm,0.6s
BMAR Burnt Mountain 77.48 23 P **P** **08 40 07.8 +1.2**
SIM Simferopol' 78.36 314 *e*P **P** **08 40 11.1 -0.8**
SIM *e* 08 40 21.0
SIM *e*S **S** **08 50 03.0 -0.9**
SIM pmax pmax
comp=Z,10.0nm,0.7s
SIM MLR MLR
comp=Z,100nm,19.7s
ASF Jabal al Asfar 78.42 300 LR LR 09 19 33.2
comp=Z,123nm,19.6s,baz=122,slow=39
ARA0 ARCESS Array S 78.49 339 *e*P **P** **08 40 11.7 -0.3**
ARCES ARCESS Array B 78.49 339 P **P** **08 40 11.7 -0.4**
comp=Z,1.6nm,0.4s,baz=74,slow=6.7,SNR=18
ARCES LR LR 09 18 21.0
comp=Z,157nm,20.1s,baz=78,slow=38
comp=Z,1.6nm,0.4s
SPA0 Spitsbergen Ar 78.69 348 *e*P **P** **08 40 12.6 -0.5**
SPA0 IAmb IAmb 08 40 14.6
comp=Z,30nm,1.3s
SPITS Spitsbergen Ar 78.69 348 P **P** **08 40 12.6 -0.5**
comp=Z,3.7nm,0.5s,baz=70,slow=7.2,SNR=9.0
SPITS LR LR 09 19 04.8
comp=Z,257nm,20.5s,baz=56,slow=39
comp=Z,3.7nm,0.5s
KTK1 Kautokeino 79.39 339 *e*P **P** **08 40 18.0 +1.0**
KTK1 IAmb IAmb 08 40 19.2
comp=Z,46nm,1.9s
BCAR Beaver Creek A 79.43 27 P **P** **08 40 18.9 +1.5**
MMAI Mount Meron Ar 79.50 301 LR LR 09 18 11.8
comp=Z,80nm,21.6s,baz=75,slow=38
KIRS Kirsehir-Merke 79.53 308 ⇓P pP 08 40 32.8 +0.3
BRTR Keskin Array B 79.63 308 P **P** **08 40 18.7 -0.4**
comp=Z,0.3nm,0.4s,baz=119,slow=5.1,SNR=2.1
BRTR LR LR 09 18 50.5
comp=Z,2μm,21.9s,baz=306,slow=38
comp=Z,0.3nm,0.4s
FIA1 FINESS Array S 79.97 331 P **P** **08 40 19.5 -0.8**
FIA1 IAmb IAmb 08 40 38.4
comp=Z,86nm,1.2s
FINES FINESS Array B 79.97 331 P **P** **08 40 19.9 -0.4**
FINES FINESS Array B 79.97 331 P **P** **08 40 19.6 -0.6**
comp=Z,3.1nm,0.5s,baz=58,slow=4.8,SNR=28
FINES LR LR 09 17 43.8
comp=Z,161nm,21.4s,baz=79,slow=37
comp=Z,3.1nm,0.5s
JETT Jettan, Norway 80.22 340 *e*P **P** **08 40 21.7 +0.2**
JETT IAmb IAmb 08 40 25.2
comp=Z,17nm,0.9s
EIL Elat 80.54 298 LR LR 09 21 53.1
comp=Z,99nm,18.3s,baz=340,slow=40
AKASG Malin Array Be 80.54 320 P **P** **08 40 21.9 -1.7**
comp=Z,0.7nm,0.5s,baz=68,slow=4.9,SNR=4.5
AKASG LR LR 09 16 10.8
comp=Z,205nm,22.0s,baz=72,slow=36
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 80.54 320 *i* P **P** **08 40 24.5 +1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
MNK Minsk 80.54 324 *i* PPP PPP 08 45 30.9
MNK *i* P **pP** **08 40 37.9 +0.4**
comp=E,12nm,0.9s
MNK *i* P pP 08 40 37.9 +0.4
comp=N,20nm,0.7s
MNK *i* P pP 08 40 37.9 +0.4
comp=Z,19nm,0.8s,baz=78
MNK *i* SSS SSS 09 00 41.8
MNK *i* LQ LQ 09 11 07.2
MNK *i* LRM MLR 09 20 49.6
comp=E,546nm,18.8s
MNK Minsk 80.54 324 *i* P **pP** **08 40 37.8 +0.4**
MNK *i* 08 40 46.3
MNK *i* PS PnS 08 51 32.9 +16
MNK pmax pmax
comp=E,12nm,0.9s
MNK pmax pmax
comp=Z,19nm,0.8s
MNK pmax pmax
comp=N,20nm,0.7s
TRO Tromso 80.69 340 *e*P **P** **08 40 25.1 +1.1**
TRO IAmb IAmb 08 40 25.7
comp=Z,11nm,1.0s
EPYK Eagle Plains 80.74 24 P **P** **08 40 25.1 +0.7**
EPYK IAmb IAmb 08 40 47.2
comp=Z,31nm,1.1s
NACGM Naroch 81.07 324 *e*P **P** **08 40 26.1 -0.2**
INK Inuvik 81.35 21 LR LR 09 21 24.9
comp=Z,72nm,18.7s,baz=274,slow=39
CASY Casey 81.48 185 P **P** **08 40 27.5 -0.6**
CASY IAmb IAmb 08 40 28.4
comp=Z,28nm,1.4s
SAHE Sakarya_HENDEK 81.50 310 ⇑P pP 08 40 44.8 +1.8
G31M Satah River 81.51 23 P **P** **08 40 28.7 +0.4**
FURI Furi 81.69 277 LR LR 09 16 53.6
comp=Z,69nm,19.6s,baz=36,slow=36
TPGR Topolog 82.35 314 ⇑P pP 08 40 49.0 +1.6
CFR Carcaliu 82.47 315 ⇓P pP 08 40 49.5 +1.5
CFR Carcaliu 82.47 315 ⇓P pP 08 40 49.5 +1.5
STEI Steigen 82.53 339 *e*P **P** **08 40 33.2 -0.5**
STEI IAmb IAmb 08 40 34.3
comp=Z,21nm,0.8s
FAUS Fauske 82.72 338 *e*P **P** **08 40 34.6 -0.1**
FAUS IAmb IAmb 08 40 39.9
comp=Z,50nm,1.4s
LOF Lofoten 83.05 339 *e*P **P** **08 40 36.1 -0.3**
LOF IAmb IAmb 08 40 37.5
comp=Z,61nm,1.2s
TESR Tescani 83.16 316 ⇑P pP 08 40 52.4 +1.0
VRI Vrincioaia 83.27 316 ⇑P pP 08 40 52.5 +0.4
VRI Vrincioaia 83.27 316 ⇑P pP 08 40 52.5 +0.4
PLOR Plostina 83.32 316 ⇑P pP 08 40 53.9 +1.5
PLOR Plostina 83.32 316 ⇑P pP 08 40 53.9 +1.5
SUW Suwalki 83.33 324 *e*P P 08 40 46.6 +8.4
SKAG Skagway 83.38 30 P **P** **08 40 40.6 +2.3**
MOR8 Moi Rana 83.48 337 *e*P **P** **08 40 37.1 -1.6**
MOR8 IAmb IAmb 08 40 38.9
comp=Z,7.7nm,0.7s
RAUS Rausandaksla 83.53 337 *e*P **P** **08 40 38.5 -0.4**
RAUS IAmb IAmb 08 40 39.3
comp=Z,56nm,1.4s
NEHR Nehoiu 83.67 315 ⇑P pP 08 40 55.4 +1.3
BURAR Bucovina Array 83.82 318 **P** **08 40 40.5 -0.4**
BURAR Bucovina Array 83.82 318 ⇓P pP 08 40 56.6 +1.6
BURAR Bucovina Array 83.82 318 ⇓P pP 08 40 56.6 +1.6
KONS Konsvik 83.84 338 *e*P **P** **08 40 40.3 -0.2**
KONS IAmb IAmb 08 40 51.0
comp=Z,90nm,1.5s
MLR Muntele Rosu 83.89 315 P **P** **08 40 41.5 +0.1**
comp=Z,1.9nm,0.6s,baz=72,slow=6.4,SNR=1.5
MLR LR LR 09 23 17.4
comp=Z,158nm,18.8s,baz=54,slow=39
comp=Z,1.9nm,0.6s
MLR Muntele Rosu 83.89 315 ⇓P P 08 40 56.2 +15
MLR Muntele Rosu 83.89 315 ⇓P pP 08 40 56.2 +0.8
STOK Stokkvaagen 83.95 337 *e*P **P** **08 40 40.4 -0.7**
STOK IAmb IAmb 08 40 42.0
comp=Z,167nm,1.8s
LEIR Leirfjorden 84.00 337 *e*P **P** **08 40 40.4 -0.9**
LEIR IAmb IAmb 08 40 42.8
comp=Z,58nm,1.6s
RAR Rarotonga 84.42 114 LR LR 09 17 17.1
comp=Z,88nm,18.7s,baz=296,slow=35
ARR Arges 84.82 315 ⇑P pP 08 41 01.2 +1.2
KWP Kalwaria Pacla 84.86 320 *e*P pP 08 40 59.5 -0.7
TNR Turnu Rosu 84.98 316 ⇑P pP 08 41 02.5 +1.7
TNR Turnu Rosu 84.98 316 ⇑P pP 08 41 02.5 +1.7
PLVB Pleven 85.37 314 ⇑P pP 08 41 05.1 +2.3
LOT Lotnr 85.38 316 ⇓P pP 08 41 04.0 +1.1
MARR Marisel-Cluj 85.46 317 ⇑P pP 08 41 04.9 +1.6
KMBO Kilima Mbogo 85.56 268 LR LR 09 16 41.7
comp=Z,180nm,19.0s,baz=99,slow=34
STHS Stebnicka Huta 85.84 320 *e*P **pP** **08 41 06.3 +1.3**
STHS pmax pmax
comp=Z,10.0nm,0.9s
GZR Gura Zlata 86.06 316 ⇑P pP 08 41 07.5 +1.2
GZR Gura Zlata 86.06 316 ⇑P pP 08 41 07.5 +1.2
HFS Hagfors 86.14 332 P **P** **08 40 51.3 -0.9**
comp=Z,6.5nm,0.5s,baz=114,slow=3.7,SNR=19
HFS LR LR 09 22 45.6
comp=Z,339nm,19.4s,baz=66,slow=38
comp=Z,6.5nm,0.5s
DLBC Dease Lake 86.31 30 LR LR 09 19 14.2
comp=Z,625nm,21.2s,baz=277,slow=35
SURR Surduc 86.39 316 ⇓P pP 08 41 08.6 +0.8
NIE Niedzica 86.42 320 *e*P pP 08 41 08.4 +0.5
HERR Herculane 86.46 315 ⇓P pP 08 41 10.2 +2.1
OJC Ojcow 86.47 321 *e*P pP 08 41 06.8 -1.3
SIRR Siria 86.54 317 ⇑P pP 08 41 09.3 +0.7
NC405 NORSAR Array S 86.63 333 P **P** **08 40 54.2 -0.4**
NC602 NORSAR Array S 86.87 333 *e*P **P** **08 40 56.0 +0.2**
NB2 NORSAR Subarra 86.88 333 P **P** **08 40 53.5 -2.4**
comp=Z,14nm,0.8s,baz=65,slow=4.8
NB2 NORSAR Subarra 86.88 333 P **P** **08 40 53.5 -2.4**
comp=Z,14nm,0.8s,baz=65,slow=4.8
NOA NORSAR Array B 86.88 333 P **P** **08 40 55.2 -0.7**
comp=Z,4.2nm,0.8s,baz=66,slow=4.9,SNR=9.7
NOA LR LR 09 22 45.2
comp=Z,417nm,21.6s,baz=65,slow=38
comp=Z,4.2nm,0.8s
MDVR Moldovita 86.97 316 ⇑P pP 08 41 12.0 +1.3
PSZ Piszkesteto 87.16 319 ⇑P pP 08 41 13.6 +1.9
PSZ Piszkesteto 87.16 319 ⇑P pP 08 41 13.6 +1.9
BOVS Bovan 87.33 314 ⇑P pP 08 41 14.1 +1.7
DOMB Dombas 87.36 334 *e*P **P** **08 40 58.1 0.0**
DOMB IAmb IAmb 08 40 59.0
comp=Z,23nm,1.3s
IDI Anoyia 87.44 306 LR LR 09 26 50.9
comp=Z,73nm,18.4s,baz=92,slow=40
RES Resolute Bay 87.54 9 LR LR 09 24 29.4
comp=Z,107nm,18.9s,baz=304,slow=38
STEB Steborice 87.79 321 *e*P pP 08 41 18.5 +3.9
JMIC Jan Mayen 87.99 346 LR LR 09 23 52.0
comp=Z,120nm,21.1s,baz=99,slow=38
MORC Moravsky Berou 87.99 321 *e*pP pP 08 41 11.6 -4.0
MORC Moravsky Berou 87.99 321 ⇑P pP 08 41 18.1 +2.5
SMOL Smolenice 88.51 320 *e*P pP 08 41 18.7 +0.7
VRAC Vranov 88.73 321 LR LR 09 24 00.7
comp=Z,101nm,18.7s,baz=75,slow=38
VRAC Vranov 88.73 321 ⇓P pP 08 41 19.8 +0.8
VRAC Vranov 88.73 321 ⇓P pP 08 41 19.8 +0.8
KRUC Moravsky 88.95 321 *e*pP pP 08 41 17.2 -2.8
RONA Rosalia, Austr 89.51 320 *i* pP pP 08 41 17.6 -5.2
comp=Z,0.8nm,0.5s
CONA Conrad Observa 89.70 320 *i* PcP **PcP** **08 41 11.1 +0.2**
comp=Z,2.5nm,0.9s
BRG Berggiesshubel 89.71 323 Amp 08 41 30.6
comp=Z,4.8nm,0.8s
BRG *e*P **sP** **08 41 29.7 +0.8**
BBB Bella Bella 89.82 35 LR LR 09 17 42.9
comp=Z,34nm,19.6s,baz=244,slow=33
ZVC Zvikov 90.14 322 *e*P pP 08 41 29.6 +4.0
ARSA Arzberg 90.17 319 *i* pP pP 08 41 20.0 -5.8
comp=Z,0.3nm,0.5s
CKRC Cesky Krumlov 90.31 321 *e*P pP 08 41 31.0 +4.5
KHC Kasperske Hory 90.63 322 AMS AMS 09 20 30.0
comp=Z,200nm,18.8s
GERES GERESS Array B 90.67 321 P **P** **08 41 15.3 +1.2**
comp=Z,0.2nm,0.3s,baz=30,slow=6.4,SNR=1.2
GERES LR LR 09 24 09.3
comp=Z,149nm,22.0s,baz=84,slow=37
comp=Z,0.2nm,0.3s
SOKA Soboth 90.70 319 *i* pP pP 08 41 23.5 -4.9
comp=Z,2.7nm,0.8s
MOA Molln 90.72 320 *i* pP pP 08 41 26.0 -2.4
comp=Z,4.3nm,1.2s
YKA Yellowknife Ar 91.00 23 P **P** **08 41 16.3 +1.1**
comp=Z,1.1nm,0.8s,baz=317,slow=5.1,SNR=5.5
YKA LR LR 09 24 13.6
comp=Z,62nm,22.0s,baz=320,slow=37
comp=Z,1.1nm,0.8s
OBKA Obir 91.07 319 *i* pP pP 08 41 27.7 -2.4
comp=Z,2.7nm,1.1s
BIOA Bad Ischl, Aus 91.17 320 *i* pP pP 08 41 28.5 -2.0
comp=Z,2.5nm,0.8s
MYKA Terra Mystica 91.60 319 *e*pP pP 08 41 30.8 -1.8
comp=Z,1.0nm,0.6s
KBA Koelnbreinsper 91.60 320 *i* pP pP 08 41 26.1 -6.6
comp=Z,1.7nm,0.6s
SUMG Summit 91.74 354 P **P** **08 41 18.6 -0.4**
SUMG IAmb IAmb 08 41 39.4
comp=Z,24nm,1.2s
SUMG Summit 91.74 354 P **P** **08 41 18.6 -0.4**
SUMG pmax pmax
comp=Z,24nm,1.2s
GRF Grafenberg Arr 91.79 323 *e*P pP 08 41 32.8 -0.6
comp=Z,5.3nm,0.9s,baz=64,slow=4.3
LESA Schwarzleotal 91.88 320 *i* pP pP 08 41 31.7 -2.2
comp=Z,2.3nm,0.7s
ABTA Abfaltersbach 92.26 320 *i* pP pP 08 41 29.8 -5.9
comp=Z,5.1nm,1.3s
WTTA Wattenberg 92.58 320 *i* pP pP 08 41 33.3 -3.9
comp=Z,3.8nm,0.7s
WATA Walderalm 92.59 320 *e*pP pP 08 41 36.4 -0.9
comp=Z,2.2nm,0.7s
PPT Papeete 92.63 107 LR LR 09 14 03.2
comp=Z,58nm,21.2s,baz=312,slow=30
PPT2 Papeete2 92.63 107 *e*S **S** **08 52 23.4 -1.7**
comp=Z,138nm,27.2s
PPT2 Papeete2 92.63 107 *e*LR LR 09 11 02.0
comp=Z,318nm,25.2s
PPT2 *e*LR LR 09 11 10.1
comp=Z,204nm,26.2s
MAW Mawson 92.80 199 P **P** **08 41 22.2 -1.0**
comp=Z,7.3nm,1.2s,baz=79,slow=7.8,SNR=5.6
MAW LR LR 09 22 05.4
comp=Z,43nm,19.1s,baz=54,slow=35
comp=Z,7.3nm,1.2s
SQTA Sankt Quirin 92.87 320 *e*pP pP 08 41 32.0 -6.5
comp=Z,0.7nm,0.6s
MOTA Moosalm 92.88 321 *i* pP pP 08 41 38.1 -0.5
comp=Z,1.8nm,0.7s
RETA Reutte 93.03 321 *i* pP pP 08 41 35.1 -4.1
comp=Z,0.3nm,0.5s
FETA Feichten 93.25 320 *i* pP pP 08 41 35.8 -4.5
comp=Z,4.5nm,1.1s
DAVA Damuels 93.65 321 *i* pP pP 08 41 36.7 -5.4
comp=Z,0.1nm,0.2s
DAVOX Davos/Dischmat 93.88 320 LR LR 09 24 45.6
comp=Z,192nm,22.0s,baz=72,slow=36
TBI Tubuai 94.18 113 *e*S **S** **08 52 38.9 +0.5**
comp=Z,865nm,28.8s
TBI *e*SS **SS** **08 58 58.5 -1.9**
comp=Z,662nm,24.8s
TBI Tubuai 94.18 113 *e*LR LR 09 12 01.5
comp=Z,1μm,27.0s
VNDA Vanda 95.06 172 **P** **08 41 33.5 0.0**
VNDA Vanda 95.06 172 P **P** **08 41 33.5 0.0**
comp=Z,2.1nm,0.9s,baz=317,slow=5.6,SNR=7.6
comp=Z,2.1nm,0.9s
VNDA Vanda 95.06 172 P **P** **08 41 33.5 0.0**
VNDA pmax pmax
comp=Z,5.0nm,1.2s
BORG Borgarnes 95.88 345 LR LR 09 27 29.6
comp=Z,184nm,21.8s,baz=26,slow=37
YBH Yreka Blue Hor 97.75 43 LR LR 09 17 44.0
comp=Z,18nm,21.9s,baz=292,slow=30
LSZ Lusaka 97.76 256 LR LR 09 23 45.3
comp=Z,136nm,19.2s,baz=113,slow=34
NEW Newport 97.88 36 LR LR 09 19 19.8
comp=Z,65nm,21.0s,baz=316,slow=31
SFJD Kangerlussuaq 98.11 357 LR LR 09 29 14.8
comp=Z,67nm,19.6s,baz=4.0,slow=37
MATP Matopo 98.63 251 LR LR 09 21 34.7
comp=Z,168nm,21.1s,baz=71,slow=32

TAOE	**Nuku Hiva Isla**	**99.43**	**97**	*eS*	**S**	**08 53 22.2**	**-1.9**		
	comp=Z,43nm,29.5s								
TAOE				*eSS*	**SS**	**09 00 07.2**	**-7.9**		
	comp=Z,55nm,31.0s								
TAOE	**Nuku Hiva Isla**	**99.43**	**97**	*eLR*	LR	09 14 07.1			
	comp=Z,184nm,26.2s								
NVAR	**Mina Array Bea**	**102.31**	**44**	P	**Pdif**	**08 42 06.0**	**-1.3**		
	comp=Z,0.2nm,0.6s,baz=325,slow=3.2,SNR=2.3								
NVL	**N'lazarevskaya**	**110.75**	**199**	*i* PKIKP	**PKiKP**	**08 46 46.0**	**+2.7**		
NVL				*e*		08 47 23.0			
NVL				*e*PPP	PPP	08 49 43.2			
NVL				*e*		08 53 53.9			
NVL				*e*SS	SS	09 02 53.4	+6.6		
NVL				*e*SSS	SSS	09 07 00.9			
NVL				pmax	pmax				
	comp=Z,6.0nm,0.9s								
NVL				pmax	pmax				
	comp=N,67nm,12.8s								
NVL				MLR	MLR				
	comp=Z,134nm,20.0s								
TORD	**Torodi Ar. Bea**	**114.97**	**292**	PKP	PKPdf	08 46 50.8	-2.1		
	comp=Z,0.6nm,0.8s,baz=41,slow=2.6,SNR=3.8								
TXAR	**Lajitas Array**	**117.45**	**45**	PKP	**PKPdf**	**08 46 57.3**	**-0.3**		
	comp=Z,0.5nm,0.8s,baz=172,slow=1.8,SNR=6.6								
PLCA	**Paso Flores**	**151.97**	**159**	PKPbc	**PKPbc**	**08 48 06.7**	**+0.1**		
	comp=Z,3.5nm,0.8s,baz=190,slow=1.7,SNR=14								
PLCA	**Paso Flores**	**151.97**	**159**	*e*P	**PKPbc**	**08 48 03.7**	**-2.9**		
SDV	**Santo Domingo**	**153.03**	**29**	*e*P	**PKPbc**	**08 48 07.5**	**-2.4**		
OTAV	**Otavalo**	**154.48**	**56**	*e*P	**PKPbc**	**08 48 10.7**	**-2.7**		
BB19B	**Bebedouro**	**169.42**	**234**	*e*P	**PKPdf**	**08 48 23.0**	**+3.7**		
VILB	**Vilhena**	**176.81**	**52**	*e*P	**PKPdf**	**08 48 26.8**	**+4.4**		

ASRS ***13*** *08:44:39.0±0.8,54°.10N×86°.42E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 13 08:44:41.1±2.8, 54°.13N×86°.68E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=23.3km s-min=14.6km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.11**	**261**	I	I	08 51 10.0	
	baz=83,slow=330,SNR=0.4						
ZALV	**Zalesovo Beam**	**1.11**	**261**	Pg	Pg	08 45 00.9	-1.5
	1.1nm,0.3s,baz=80,slow=17,SNR=12						
ZALV				Lg	Lg	08 45 18.1	
	3.2nm,0.3s,baz=79,slow=31,SNR=13						
KURBB	**Kurchatov Arra**	**6.10**	**238**	Pn	Pn	08 46 13.0	+0.6
	0.1nm,0.3s,baz=54,slow=14,SNR=6.8						
KURBB				Lg	Lg	08 47 57.5	
	0.1nm,0.3s,baz=28,slow=25,SNR=2.3						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**7.86**	**203**	Pn	Pn	08 46 38.0	+1.3
	0.2nm,0.3s,baz=25,slow=14,SNR=6.9						
	0.3nm,0.4s						

IDC ***13*** *08:51:55.9±2.9,53°.44N×87°.72E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=26.8km s-min=16.6km az=61.0*

ASRS 13 08:51:55.0±1.2, 53°.57N×87°.74E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**284**	I	I	09 03 40.0	
	baz=101,slow=330,SNR=9.9						
ZALV	**Zalesovo Beam**	**1.77**	**283**	Pn	Pn	08 52 26.9	0.0
	1.3nm,0.3s,baz=106,slow=14,SNR=17						
ZALV				Lg	Lg	08 52 53.2	
	3.3nm,0.3s,baz=109,slow=25,SNR=9.9						
KURBB	**Kurchatov Arra**	**6.40**	**246**	Pn	Pn	08 53 31.3	+0.9
	0.1nm,0.3s,baz=62,slow=14,SNR=4.7						
KURBB				Lg	Lg	08 55 14.9	
	0.1nm,0.3s,baz=64,slow=32,SNR=8.7						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.63**	**209**	Pn	Pn	08 53 48.1	+0.7
	0.2nm,0.3s,baz=28,slow=13,SNR=5.5						
MKAR				Lg	Lg	08 55 51.3	
	0.1nm,0.3s,baz=30,slow=32,SNR=2.1						
	0.3nm,0.3s						

UPP ***13*** *09:00:33.7±0.2, 67°.42N×23°.32E, h0km, ML1.8, Suspected explosion*

IDC ***13*** *09:00:34.5±1.6, 67°.45N×23°.70E, h0km, mbtmp2.7/2, ML1.7/2, Error ellipse: s-maj=33.3km s-min=8.4km az=96.0*

HEL ***13*** *09:00:34.1±0.2, 67°.44N×23°.39E, h0km, ML1.6, Explosion*

ISC 13 09:00:32.4±0.8, 67°.46N±0°.02×23°.50E±0°.02, h0km, n32, σ0s98/49, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAJU	**Pajala**	**0.47**	**199**	P	**Pg**	**09 00 41.5**	**+0.2**
PAJU				S	**Sg**	**09 00 46.6**	**-0.7**
PAJU	**Pajala**	**0.47**	**199**	PG	**Pg**	**09 00 41.5**	**+0.2**
PAJU				SG	**Sg**	**09 00 47.5**	**+0.2**
MASU	**Masugnsbyn**	**0.58**	**270**	P	**Pg**	**09 00 43.5**	**0.0**
MASU				S	**Sg**	**09 00 50.9**	**0.0**
LANU	**Lannavaara**	**0.82**	**316**	P	**Pb**	**09 00 48.8**	**-0.7**
LANU	**Lannavaara**	**0.82**	**316**	PB	**Pb**	**09 00 48.8**	**-0.7**
LANU				SB	**Sb**	**09 01 01.4**	**+0.2**
HEF	**Hetta**	**0.95**	**4**	*e*P	**Pn**	**09 00 52.3**	**-0.7**
HEF	**Hetta**	**0.95**	**4**	PG	**Pn**	**09 00 52.3**	**-0.7**
HEF				SG	**Sg**	**09 01 02.4**	**-0.5**
HEF				MSG		09 01 03.9	
	comp=Z,5.9nm,0.2s						
ERTU	**Ertsjaerv**	**1.05**	**210**	P	**Pg**	**09 00 51.9**	**-0.6**
ERTU	**Ertsjaerv**	**1.05**	**210**	PG	**Pg**	**09 00 52.0**	**-0.4**
ERTU				SG	**Sg**	**09 01 04.6**	**-1.3**
KUA	**Kurravaara**	**1.30**	**294**	P	**Pg**	**09 00 57.1**	**-0.2**
TOF	**Tornio**	**1.43**	**166**	PG	**Pn**	**09 00 59.8**	**+0.3**
TOF				MSG		09 01 16.9	
	comp=Z,3.1nm,0.2s						
TOF				SG	**Sg**	**09 01 18.2**	**+0.1**
KOVU	**Salmi**	**1.48**	**303**	P	**Pg**	**09 01 00.6**	**-0.1**
RATU	**Laukkuluspa**	**1.54**	**285**	P	**Pn**	**09 01 01.1**	**0.0**
KTK1	**Kautokeino**	**1.56**	**357**	PN	**Pg**	**09 01 02.7**	**+0.4**
KTK1				SN	**Sg**	**09 01 25.1**	**+2.6**
KALU	**Kalix**	**1.61**	**182**	PG	**Pn**	**09 01 02.6**	**+0.6**
KALU				SN	**Sg**	**09 01 24.6**	**+0.5**
NIKU	**Nikkaluokta**	**1.75**	**285**	P	**Pb**	**09 01 04.8**	**-0.6**
KIF	**Kilpisjarvi**	**1.85**	**328**	*e*P	**Pg**	**09 01 07.6**	**-0.2**
KIF	**Kilpisjarvi**	**1.85**	**328**	PG	**Pg**	**09 01 07.9**	**+0.2**
KIF				MSG		09 01 29.8	
	comp=Z,5.7nm,0.2s						
KIF				SG	**Sg**	**09 01 33.1**	**+1.5**
SALU	**Saltoluokta**	**1.93**	**270**	P	**Pn**	**09 01 07.3**	**+0.9**
RANF	**Ranua**	**1.95**	**137**	PG	**Pg**	**09 01 09.6**	**-0.2**
RANF				SG	**Sg**	**09 01 35.8**	**+0.7**
RAJF	**Raja-Jooseppi**	**2.08**	**58**	PG	**Pb**	**09 01 11.3**	**+0.3**
ARA0	**ARCESS Array S**	**2.21**	**19**	PG	**Pb**	**09 01 12.8**	**-0.3**
ARA0				SG	**Sg**	**09 01 43.2**	**-0.1**
ARCES	**ARCESS Array B**	**2.21**	**19**	Pn	**Pb**	**09 01 12.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=198,slow=14,SNR=23						
ARCES				Lg	Lg	09 01 43.7	
	comp=Z,0.5nm,0.3s,baz=200,slow=29,SNR=15						
	comp=Z,0.5nm,0.2s						
VRF	**Varrio**	**2.36**	**80**	PG	**Pg**	**09 01 17.1**	**-0.4**
VRF				MSG		09 01 45.1	
	comp=Z,3.0nm,0.2s						
VRF				SG	**Sg**	**09 01 48.2**	**+0.2**
I37NO	**I37NO**	**2.44**	**314**	I	I	09 16 30.0	
	baz=129,slow=334,SNR=1.1						
KU2	**Taivalkoski**	**2.58**	**131**	PG	**Pb**	**09 01 20.7**	**+1.2**
	baz=318						
KU2				SG	**Sg**	**09 01 56.0**	**+0.8**
OLKF	**Oulanka, Finla**	**2.59**	**113**	PG	**Pb**	**09 01 19.8**	**+0.1**
OLKF				MSG		09 01 51.6	
	comp=Z,2.0nm,0.2s						
OLKF				SG	**Sg**	**09 01 55.6**	**0.0**
KEV	**Kevo**	**2.64**	**28**	PB	**Pb**	**09 01 19.0**	**-1.4**
MSF	**Maaselka**	**2.70**	**123**	PN	**Pb**	**09 01 19.8**	**-1.7**
MSF				SG	**Sg**	**09 01 58.1**	**-0.8**
KU6	**Riekki**	**2.92**	**117**	PB	**Pb**	**09 01 25.6**	**+0.4**
KU6				MSG		09 02 00.6	
	comp=Z,1.4nm,0.2s						
KU6				SG	**Sg**	**09 02 05.1**	**-0.9**
KU1	**Kurvinen**	**3.08**	**125**	PB	**Pb**	**09 01 25.5**	**-2.6**
FINES	**FINESS Array B**	**6.14**	**168**	Pn	**Pn**	**09 02 07.5**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=354,slow=12,SNR=2.0						
FINES				Sn	**Sn**	**09 03 14.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=351,slow=22,SNR=2.0						
	comp=Z,2.5nm,0.9s						

IDC ***13*** *09:09:27.4±8.2,25°.49S×179°.28E, h497km±102km, mb3.3/6, mbtmp4.2/7, Error ellipse: s-maj=71.9km s-min=24.1km az=4.0*

ISC 13 09:09:28.5±1.1, 25°.7S±0°.1×179°.3E±0°.2, h507km, n8, σ0s85/8, mb4.0/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.69**	**188**	P	**P**	**09 12 14.9**	**+0.8**
	2.8nm,0.3s,baz=267,slow=3.9,SNR=7.3						
URZ				S	**S**	**09 14 29.5**	**-1.1**
	6.6nm,0.6s,baz=183,slow=21,SNR=9.1						
STKA	**Stephens Creek**	**33.49**	**250**	P	**P**	**09 15 25.9**	**+0.6**
	2.2nm,0.4s,baz=96,slow=9.1,SNR=16						
	2.2nm,0.4s						
ASAR	**Alice Springs**	**41.13**	**263**	P	**P**	**09 16 27.8**	**-0.4**
	4.4nm,0.5s,baz=91,slow=7.8,SNR=78						
	4.4nm,0.5s						
WRA	**Warramunga Arr**	**41.67**	**268**	P	**P**	**09 16 31.4**	**-1.0**
	5.8nm,0.7s,baz=102,slow=8.4,SNR=43						
	5.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.07**	**267**	P	**P**	**09 17 36.4**	**-0.1**
	2.6nm,0.5s,baz=101,slow=7.3,SNR=12						
	2.6nm,0.5s						
NVAR	**Mina Array Bea**	**86.47**	**44**	P	**P**	**09 21 16.9**	**-0.4**
	0.3nm,0.6s,baz=224,slow=8.3,SNR=3.8						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**91.91**	**58**	P	**P**	**09 21 42.9**	**+0.2**
	0.2nm,0.6s,baz=256,slow=3.7,SNR=3.7						
	0.2nm,0.6s						
HFS	**Hagfors**	**144.13**	**348**	PKP	PKPbc	09 28 02.6	-2.5
	1.4nm,0.6s,baz=357,slow=3.1,SNR=4.8						

IDC ***13*** *09:15:26.1±0.8,55°.69S×27°.63W, h0km, mb4.1/5, mbtmp4.2/7, ML4.6/2, Error ellipse: s-maj=31.1km s-min=19.9km az=78.0*

NEIC ***13*** *09:15:39.6±2.0,56°.0S±0°.1×28°.0W±0°.2, h104km±4km, mb4.5/32, Error ellipse: s-maj=18.6km s-min=11.1km az=199.0*

ISC 13 09:15:40.7±0.5, 55°.94S±0°.09×28°.11W±0°.08, h121km, n60, σ1s08/55, mb4.3/16, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.09**	**286**		**Pn**	**09 16 55.4**	**+0.6**
HOPE				Sn	**Sn**	**09 17 49.5**	**-2.9**
VNA1	**Neumayer--Stat**	**17.09**	**157**	⇑P	**P**	**09 19 30.0**	**-1.6**
	comp=Z,6.8nm,0.6s						
VNA3	**Neumayer Olymp**	**17.27**	**160**	⇑P	**P**	**09 19 32.2**	**-1.4**
	comp=Z,14nm,1.1s						
VNA2	**Neumayer--Watz**	**17.49**	**157**	⇑P	**P**	**09 19 34.9**	**-1.1**
	comp=Z,8.9nm,0.5s,baz=317,slow=12						
SNAA	**Sanae**	**19.05**	**156**	⇑P	**P**	**09 19 52.0**	**-1.2**
	comp=Z,463nm,0.4s						
SNAA	**Sanae**	**19.05**	**156**	P	**P**	**09 19 52.1**	**-1.1**
SNAA				IAmb	IAmb	09 19 52.7	
	comp=Z,17nm,0.5s						
SNAA	**Sanae**	**19.05**	**156**	P	**P**	**09 19 52.0**	**-1.2**
	comp=Z,6.6nm,0.3s,baz=308,slow=10,SNR=115						
	comp=Z,17nm,0.4s						
PMSA	**Palmer Station**	**19.58**	**229**	P	**P**	**09 20 00.1**	**+1.3**
PMSA				IAmb	IAmb	09 20 10.4	
	comp=Z,46nm,1.3s						
PMSA	**Palmer Station**	**19.58**	**229**	P	**Pn**	**09 20 00.3**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=75,slow=6.6,SNR=4.5						
	comp=Z,7.1nm,0.7s						
TROLL	**Troll, Antarti**	**20.58**	**153**	⇑P	**P**	**09 20 08.2**	**-1.5**
	comp=Z,653nm,0.5s						
SMAI	**San Martin Ant**	**21.52**	**220**	P	**P**	**09 20 20.3**	**+0.7**
BELA	**Belgrano 2**	**22.15**	**184**	P	**P**	**09 20 25.3**	**-0.9**
MG02	**Cerro Sombrero**	**23.91**	**260**	P	**P**	**09 20 43.8**	**+0.8**
MG03	**Isla Dawson**	**24.17**	**257**	P	**P**	**09 20 47.5**	**+2.2**
MG04	**Isla Riesco**	**25.18**	**259**	P	**P**	**09 20 53.9**	**-0.6**
GO09	**Cerro Castillo**	**26.30**	**261**	P	**P**	**09 21 03.9**	**-0.8**
GO09				IAmb	IAmb	09 21 34.5	
	comp=Z,27nm,1.5s						
TRQA	**Tornquist**	**28.80**	**294**	P	**P**	**09 21 27.5**	**+0.4**
TRQA				IAmb	IAmb	09 21 45.6	
	comp=Z,17nm,1.5s						
PLTB	**Pedras Altas**	**30.04**	**313**	P	**P**	**09 21 37.2**	**-0.9**
PLCA	**Paso Flores**	**31.47**	**281**	P	**P**	**09 21 50.6**	**-0.1**
PLCA				IAmb	IAmb	09 22 33.8	
	comp=Z,8.6nm,1.4s						
ITAB	**Concordia**	**33.50**	**319**	P	**P**	**09 22 07.8**	**-0.6**
QSPA	**South Pole Qui**	**34.31**	**180**	P	**P**	**09 22 17.1**	**+1.8**
QSPA				IAmb	IAmb	09 22 18.4	
	comp=Z,2.9nm,0.7s						
QSPA	**South Pole Qui**	**34.31**	**180**	P	**P**	**09 22 17.0**	**+1.8**
	comp=Z,2.3nm,0.6s,baz=198,slow=2.3,SNR=28						
	comp=Z,2.3nm,0.6s						
VA01	**Torpederas**	**37.72**	**289**	P	**P**	**09 22 44.3**	**0.0**
CO02	**Combarbal**	**38.79**	**291**	P	**P**	**09 22 53.9**	**+0.3**
CO03	**El Pedregal**	**38.92**	**292**	P	**P**	**09 22 53.6**	**-1.0**
CO03				IAmb	IAmb	09 23 33.4	
	comp=Z,20nm,1.4s						
CO01	**Juntas del Tor**	**39.30**	**294**	P	**P**	**09 22 58.9**	**+1.0**
CO01				IAmb	IAmb	09 23 03.9	
	comp=Z,6.9nm,1.2s						
MAW	**Mawson**	**40.54**	**144**	P	**P**	**09 23 06.5**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=227,slow=9.0,SNR=9.1						
	comp=Z,1.7nm,0.6s						
AC02	**Maricunga**	**41.37**	**297**	P	**P**	**09 23 16.9**	**+1.7**
SBA	**Scott Base**	**46.15**	**184**	P	**P**	**09 23 52.3**	**0.0**
PB02	**IPOC Station P**	**46.37**	**301**	P	**P**	**09 23 56.1**	**+1.3**
PB02				IAmb	IAmb	09 23 56.3	
	comp=Z,24nm,1.4s						
PB01	**IPOC Station P**	**46.41**	**302**	P	**P**	**09 23 55.8**	**+0.7**
PB01				IAmb	IAmb	09 24 14.4	
	comp=Z,17nm,1.5s						
VNDA	**Vanda**	**46.66**	**183**	P	**P**	**09 23 56.9**	**+0.6**
VNDA	**Vanda**	**46.66**	**183**	P	**P**	**09 23 56.9**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=177,slow=6.5,SNR=6.5						
	comp=Z,0.9nm,0.6s						
PB11	**IPOC Station P**	**47.59**	**302**	P	**P**	**09 24 05.5**	**+1.2**
PB11				IAmb	IAmb	09 24 23.1	
	comp=Z,14nm,1.3s						
H10S2	**ASCENSION HYDR**	**48.05**	**18**	T	T	10 16 13.8	
	baz=31,slow=74,SNR=5.4						
H10S3	**ASCENSION HYDR**	**48.05**	**18**	T	T	10 16 05.8	
	baz=189,slow=74,SNR=4.6						
PB16	**IPOC Station P**	**48.75**	**303**	P	**P**	**09 24 14.8**	**+1.0**
PB16				IAmb	IAmb	09 24 58.5	
	comp=Z,7.9nm,1.5s						
H10N1	**ASCENSION HYDR**	**49.17**	**18**	T	T	10 17 23.3	
	baz=189,slow=75						
H10N3	**ASCENSION HYDR**	**49.17**	**18**	T	T	10 17 37.3	
	baz=189,slow=75						
H10N2	**ASCENSION HYDR**	**49.18**	**18**	T	T	10 17 27.4	
	baz=189,slow=75						
LPAZ	**La Paz**	**49.89**	**306**	P	**P**	**09 24 23.5**	**+1.0**
LPAZ				IAmb	IAmb	09 24 39.2	
	comp=Z,3.2nm,1.2s						
LPAZ	**La Paz**	**49.89**	**306**	P	**P**	**09 24 23.1**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=107,slow=2.9,SNR=8.5						
	comp=Z,1.1nm,0.3s						
CASY	**Casey**	**54.18**	**161**	P	**P**	**09 24 52.5**	**-0.4**
CASY				IAmb	IAmb	09 24 53.6	
	comp=Z,4.1nm,1.2s						
VOI	**Vohitsoka**	**63.72**	**91**	P	**P**	**09 25 59.4**	**-0.2**
VOI				IAmb	IAmb	09 26 33.4	
	comp=Z,17nm,1.3s						
AIS	**Amsterdam Isla**	**67.41**	**124**	P	**P**	**09 26 23.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**73.22**	**30**	P	**P**	**09 26 58.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**73.22**	**30**	P	**P**	**09 26 58.1**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=198,slow=5.6,SNR=9.5						
	comp=Z,0.9nm,0.5s						
NIUE	**Niue**	**98.61**	**216**	P	Pdif	09 29 07.5	+1.7
ASAR	**Alice Springs**	**99.25**	**163**	P	**Pdif**	**09 29 09.3**	**+0.6**
AS31	**Alice Springs**	**99.25**	**163**	P	**Pdif**	**09 29 08.5**	**-0.3**
AS31				IAmb	IAmb	09 29 40.0	
	comp=Z,1.2nm,1.2s						
RAYN	**Ar Rayn**	**100.51**	**64**	Pdif	**Pdif**	**09 29 11.7**	**-2.4**
KMSC	**Kings Mountain**	**101.40**	**318**	Pdif	**Pdif**	**09 29 18.1**	**+0.4**
M30M	**Minto, Yukon**	**144.71**	**311**	PKPbc	**PKPdf**	**09 35 02.3**	**+0.7**
M29M	**Somme Creek**	**145.37**	**310**	PKPdf	**PKPab**	**09 35 04.1**	**+0.7**
INK	**Inuvik**	**145.39**	**321**	PKPdf	**PKPbc**	**09 35 03.0**	**+0.2**
F30M	**Barrier River**	**146.00**	**319**	PKPdf	**PKPab**	**09 35 05.6**	**+0.1**
I29M	**Ogilvie Camp,**	**146.30**	**315**	PKPdf	**PKPdf**	**09 35 04.5**	**+0.3**
DAWY	**Dawson**	**146.33**	**312**	PKPdf	**PKPbc**	**09 35 05.4**	**-0.4**
ILAR	**Eielson Array**	**149.66**	**312**	PKPbc	**PKPbc**	**09 35 13.9**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=122,slow=1.6,SNR=16						
SONM	**Songino Array**	**151.24**	**87**	PKPbc	**PKPbc**	**09 35 18.0**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=189,slow=4.4,SNR=6.2						

IDC ***13*** *09:16:51.0±0.9,2°.46N×127°.01E, h0km, mb4.2/8, mbtmp4.3/8, Error ellipse: s-maj=44.1km s-min=16.4km az=69.0*

NEIC ***13*** *09:16:55.4±1.8,2°.69N±0°.06×127°.16E±0°.07, h35km±1km, mb4.7/22, Error ellipse: s-maj=12.7km s-min=10.4km az=261.0*

DJA ***13*** *09:16:58.6±2.0,2°.N±4°.×12°.7E±°, h25km±20km, M4.3/7, MLv4.3/7*

ISC 13 09:16:56.8±0.6, 2°.61N±0°.06×127°.13E±0°.08, h53km, n43, σ1s44/43, mb4.6/17, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.84**	**173**		**Pn**	**09 17 25.9**	**-0.2**
TNTI	**Ternate**	**1.84**	**173**	P	**Pn**	**09 17 26.5**	**+0.4**
SGSI	**Sangihe**	**1.92**	**304**	P	**Pn**	**09 17 28.5**	**+1.3**
DAV	**Davao City (W)**	**4.69**	**341**	Pn	**Pn**	**09 18 02.2**	**-3.0**
SANI	**Sanana**	**4.77**	**194**	P	**Pn**	**09 18 03.9**	**-2.3**
MRSI	**Marisa**	**5.60**	**248**	P	**Pn**	**09 18 17.6**	**0.0**
LUWI	**Luwuk**	**5.67**	**230**	Pn	**Pn**	**09 18 18.1**	**-0.4**
LUWI	**Luwuk**	**5.67**	**230**	P	**Pn**	**09 18 20.2**	**+1.6**
TOLI2	**Tolitoli**	**6.52**	**257**	Pn	**Pn**	**09 18 27.5**	**-2.7**
MYLDM	**Lahad Datu**	**8.98**	**287**	Pn	**Pn**	**09 19 02.2**	**-1.8**
KKM	**Kota Kinabalu**	**11.41**	**288**	Pn	**Pn**	**09 19 35.0**	**-2.3**
SBUM	**Sibu**	**14.90**	**270**	P	**P**	**09 20 28.7**	**-0.3**
KNRA	**Kununurra**	**18.24**	**175**	P	**P**	**09 21 05.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**20.63**	**184**	P	**P**	**09 21 31.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**20.63**	**184**	P	**P**	**09 21 31.4**	**-0.6**
	2.7nm,0.4s,baz=6.5,slow=8.0,SNR=17						
	2.7nm,0.4s						
TWG	**Pinlang**	**20.93**	**344**	P	**P**	**09 21 34.2**	**-1.0**
TWG				IAmb	IAmb	09 22 02.4	
	comp=Z,39nm,0.8s						
YULB	**Yu-li**	**21.42**	**345**	P	**P**	**09 21 38.6**	**-1.8**
YULB				IAmb	IAmb	09 22 07.7	
	comp=Z,25nm,0.9s						
TPUB	**Ta-pu**	**21.51**	**344**	P	**P**	**09 21 38.7**	**-2.8**
TPUB				IAmb	IAmb	09 21 57.8	
	comp=Z,81nm,1.4s						
YOJ	**Yonaguni jima**	**22.09**	**350**	P	**P**	**09 21 45.2**	**-2.4**
WB0	**Warramunga Arr**	**23.35**	**163**		**P**	**09 22 00.6**	**-0.2**
WB0				IAmb	IAmb	09 22 16.9	
	comp=Z,14nm,1.2s						
WRA	**Warramunga Arr**	**23.50**	**163**		**P**	**09 22 00.7**	**-1.5**
WRA	**Warramunga Arr**	**23.50**	**163**	P	**P**	**09 22 01.5**	**-0.7**
	comp=Z,2.9nm,0.5s,baz=341,slow=11,SNR=39						
	comp=Z,2.9nm,0.5s						
WR8	**Warramunga Arr**	**23.56**	**162**		**P**	**09 22 02.7**	**-0.1**
MBWA	**Marble Bar**	**24.71**	**197**	P	**P**	**09 22 14.1**	**+0.9**
MBWA				IAmb	IAmb	09 22 47.7	
	comp=Z,9.3nm,1.1s						
AS31	**Alice Springs**	**26.94**	**166**	P	**P**	**09 22 32.9**	**-0.5**
ASAR	**Alice Springs**	**26.94**	**166**	P	**P**	**09 22 33.0**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=344,slow=7.2,SNR=19						
	comp=Z,0.5nm,0.3s						
JMN	**Monobe**	**31.59**	**11**	P	**P**	**09 23 14.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**31.79**	**302**	P	**P**	**09 23 17.0**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=102,slow=9.1,SNR=11						
	comp=Z,2.2nm,0.6s						
FORT	**Forrest**	**33.22**	**179**	P	**P**	**09 23 29.2**	**+0.4**
FORT				IAmb	IAmb	09 23 50.7	
	comp=Z,13nm,1.4s						
HNR	**Honiara**	**34.82**	**111**	P	**P**	**09 23 42.3**	**-0.6**
MJAR	**Matsushiro Arr**	**35.28**	**16**	P	**P**	**09 23 49.4**	**+2.7**
	comp=Z,1.1nm,0.4s,baz=188,slow=7.4,SNR=4.0						
	comp=Z,1.1nm,0.4s						
BBOO	**Buckleboo**	**36.23**	**167**	P	**P**	**09 23 55.6**	**+0.8**
BBOO				IAmb	IAmb	09 24 11.9	
	comp=Z,9.2nm,1.1s						
STKA	**Stephens Creek**	**36.95**	**159**	P	**P**	**09 24 01.4**	**+0.4**
STKA				IAmb	IAmb	09 24 34.8	
	comp=Z,28nm,1.4s						
STKA	**Stephens Creek**	**36.95**	**159**	P	**P**	**09 24 01.1**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=340,slow=11,SNR=8.5						
	comp=Z,1.5nm,0.4s						
JTM	**Tenmabayashi**	**40.04**	**17**	P	**P**	**09 24 26.4**	**-0.3**
JTM				IAmb	IAmb	09 24 51.0	
	comp=Z,50nm,1.1s						
ARMA	**Armidale**	**40.32**	**146**	P	**P**	**09 24 29.0**	**-0.4**
ARMA				IAmb	IAmb	09 24 50.5	
	comp=Z,23nm,1.5s						
WAKE	**Wake Island**	**42.03**	**64**	P	**P**	**09 24 41.6**	**-1.9**
AKTO	**Aktyubinsk**	**74.78**	**322**	P	**P**	**09 28 33.6

TPIG				*e*S		**Sn**	**09 19 40.2**	**+0.6**
FTIG	**Fresnillo de T**	**3.89**	**306**	*e*P		**Pn**	**09 19 02.4**	**+2.0**
FTIG				*e*S		**Sn**	**09 19 44.6**	**-0.3**
TLIG	**Tlapa**	**4.07**	**298**	*e*P		**Pn**	**09 19 04.0**	**+1.1**
TLIG				*e*S		**Sn**	**09 19 47.6**	**-1.8**
CRIG	**Cruz Grande**	**4.29**	**285**	*e*P		**Pn**	**09 19 06.2**	**+0.4**
CRIG				*e*S		**Sn**	**09 19 48.8**	**-5.7**
SCIG	**Sabancuy**	**4.78**	**46**	*e*P		**Pn**	**09 19 11.3**	**-1.2**
SCIG				*e*S		**Sn**	**09 20 01.9**	**-4.7**
SCIG	**Sabancuy**	**4.78**	**46**	*i* P		**Pn**	**09 19 12.3**	**-0.3**

BJI ***13*** *09:18:20.4, 14˚.96N×122˚.19E, h26km, mB4.8/8, mb4.5/33, Ms4.1/10, Ms7 3.8/6*

DJA ***13*** *09:18:23.3±0.8, 15˚.N±2˚×12˚.3E±˚, h37km±8km, M5.3/12, mb5.3/12, mB6.1/3, Mw(mB)5.7/3*

NEIC ***13*** *09:18:23.1±1.4, 14˚.95N±0˚.06×122˚.1E±0˚.1, h39km±6km, mb4.6/88, Error ellipse: s-maj=15.3km s-min=9.3km az=89.0*

IDC ***13*** *09:18:24.9±2.7, 14˚.97N×122˚.38E, h60km±27km, mb3.9/15, mbtmp4.2/15, MS3.4/17, Error ellipse: s-maj=21.8km s-min=11.9km az=78.0*

ISC 13 09:18:22.3±0.4, 14˚.96N±0˚.04×122˚.20E±0˚.06, h35km, n208, σ1832/195, mb4.6/98, MS3.5/17, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.49**	**235**	P		**Pn**	09 18 51.4	+4.7
	11μm,0.3s,baz=68,slow=1.7,SNR=148						
TGY				S		**Sn**	**09 19 11.8**	**+6.9**
	52μm,0.7s,baz=345,slow=21,SNR=10						
TGY				LR	LR	09 19 41.1	
	comp=Z,967nm,19.0s,baz=86,slow=46						
TWGBT	**Beinan**	**7.89**	**352**	P		**Pn**	**09 20 18.6**	**+4.0**
TWG	**Pinlang**	**7.89**	**352**			**Pn**	**09 20 14.1**	**-0.6**
TWG				Sn		**Sn**	**09 21 42.5**	**-0.3**
TPUB	**Ta-pu**	**8.43**	**350**			**Pn**	**09 20 21.2**	**-0.8**
TPUB	**Ta-pu**	**8.43**	**350**	P		**Pn**	**09 20 23.0**	**+1.0**
YULB	**Yu-li**	**8.44**	**354**			**Pn**	**09 20 21.9**	**-0.1**
YULB	**Yu-li**	**8.44**	**354**	P		**Pn**	**09 20 24.2**	**+2.1**
DAV	**Davao City (W)**	**8.51**	**157**	Pn		**Pn**	**09 20 22.8**	**-0.3**
DAV	**Davao City (W)**	**8.51**	**157**	LR	LR	09 24 11.8	
	comp=Z,377nm,21.8s,baz=338,slow=41						
SSLB	**Suanglung**	**8.86**	**353**			**Pn**	**09 20 28.0**	**+0.1**
SSLB	**Suanglung**	**8.86**	**353**	P		**Pn**	**09 20 28.8**	**+0.9**
NACB	**Ninganchiao**	**9.19**	**357**			**Pn**	**09 20 31.7**	**-0.7**
YOJ	**Yonaguni jima**	**9.49**	**4**			**Pn**	**09 20 36.7**	**+0.3**
YHNB	**Yeheng**	**9.69**	**356**			**Pn**	**09 20 39.8**	**+0.4**
YHNB	**Yeheng**	**9.69**	**356**	P		**Pn**	**09 20 41.0**	**+1.6**
KNMB	**Chin-men Tao**	**10.12**	**340**	Pn		**Pn**	**09 20 44.4**	**-0.7**
MYLDM	**Lahad Datu**	**10.38**	**201**	Pn		**Pn**	**09 20 47.8**	**-0.9**
QZH	**Quanzhou**	**10.50**	**342**	P		**Pn**	**09 20 51.8**	**+1.5**
QIZ	**Qiongzhong**	**12.50**	**291**	P		**Pn**	**09 21 17.1**	**-0.6**
QIZ				S		**Sn**	**09 23 38.8**	**+3.0**
QIZ				LR	LR			
	comp=N,160nm,10.3s						
QIZ				LR	LR			
	comp=E,140nm,11.0s						
JOW	**Kunigami**	**13.10**	**25**	Pn		**Pn**	**09 21 26.3**	**+0.4**
JOW	**Kunigami**	**13.10**	**25**	LR	LR	09 25 42.0	
	comp=Z,92nm,20.5s,baz=106,slow=34						
SBUM	**Sibu**	**15.86**	**219**	Pn		**Pn**	**09 22 01.9**	**-1.1**
LUWI	**Luwuk**	**15.91**	**178**	Pn		**Pn**	**09 22 02.7**	**-0.9**
WHN	**Wuhan**	**17.11**	**336**	P		**P**	**09 22 23.6**	**+3.5**
NJ2	**Nanjing**	**17.29**	**350**	*e*P		**P**	**09 22 22.8**	**+0.7**
NJ2				pmax	pmax			
	comp=Z,25nm,0.9s						
ENH	**Enshi**	**19.21**	**325**	P		**P**	**09 22 41.5**	**-1.8**
KAPI	**Kappang**	**19.99**	**187**	LR	LR	09 30 48.0	
	comp=Z,101nm,20.6s,baz=14,slow=37						
FAKI	**Fak Fak**	**20.36**	**150**	P		**P**	**09 22 55.6**	**-0.3**
FAKI				IAmb	IAmb	09 23 10.9		
	comp=Z,44nm,1.0s						
LYN	**LuoYang**	**21.39**	**338**	⇑P		**P**	**09 23 08.8**	**+1.9**
LYN				pmax	pmax			
	comp=Z,120nm,0.8s						
TIA	**Tai'an**	**21.65**	**349**	P		**P**	**09 23 10.8**	**+1.1**
TIA				pmax	pmax			
	comp=Z,20nm,0.8s						
TJN	**Taejon**	**21.82**	**11**			**P**	**09 23 10.6**	**-0.9**
GUMO	**Guam**	**22.01**	**91**	LR	LR	09 30 27.5		
	comp=Z,79nm,20.2s,baz=256,slow=33						
PZH	**PanZhiHua**	**22.28**	**304**	P		**P**	**09 23 17.9**	**+1.2**
XAN	**Xi'an**	**22.48**	**330**	P		**P**	**09 23 19.6**	**+1.0**
XAN				pmax	pmax			
	comp=Z,24nm,0.8s						
CMAR	**Chiang Mai Arr**	**22.55**	**282**	P		**P**	**09 23 16.5**	**-3.0**
CMAR	**Chiang Mai Arr**	**22.55**	**282**	LR	LR	09 32 25.6		
	comp=Z,66nm,18.9s,baz=100,slow=37						
CHTO	**Chiang Mai**	**22.58**	**283**	P		**P**	**09 23 17.1**	**-2.8**
INCN	**Inchon**	**22.78**	**9**	P		**P**	**09 23 21.3**	**-0.5**
INCN				IAmb	IAmb	09 23 24.3		
	comp=Z,25nm,0.8s						
KSAR	**Wonju Array Be**	**22.96**	**12**	P		**P**	**09 23 23.0**	**-0.5**
KSRS	**Korea Array**	**22.98**	**12**	P		**P**	**09 23 22.8**	**-1.0**
	comp=Z,3.5nm,0.6s,baz=196,slow=10,SNR=18						
	comp=Z,3.5nm,0.6s						
KS19	**Wonju Array Si**	**23.01**	**12**	P		**P**	**09 23 23.1**	**-1.1**
KS19				IAmb	IAmb	09 23 48.2		
	comp=Z,21nm,1.2s						
CD2	**Chengdu**	**23.20**	**316**	P		**P**	**09 23 27.0**	**+0.8**
CD2				pmax	pmax			
	comp=Z,20nm,1.0s						
CD2				LR	LR			
	comp=Z,250nm,12.1s						
CD2				LR	LR			
	comp=Z,310nm,10.2s						
KULM	**Kulim**	**23.27**	**248**	P		**P**	**09 23 25.5**	**-1.4**
IPM	**Ipoh**	**23.30**	**246**	P		**P**	**09 23 25.7**	**-1.6**
IPM				IAmb	IAmb	09 23 43.5		
	comp=Z,13nm,0.8s						
HNS	**HongShan**	**23.32**	**345**	⇑P		**P**	**09 23 27.8**	**+0.6**
HNS				pmax	pmax			
	comp=Z,14nm,0.8s						
HNS				LR	LR			
	comp=Z,160nm,17.5s						
EDFI	**Ende, Flores**	**23.56**	**181**	P		**P**	**09 23 33.4**	**+3.6**
	comp=Z,24nm,0.6s						
TNCH	**TengChong**	**24.37**	**298**	P		**P**	**09 23 35.1**	**-2.4**
TNCH				S		**S**	**09 27 50.4**	**-4.6**
TNCH				pmax	pmax			
	comp=Z,130nm,4.2s						
TNCH				LR	LR			
	comp=Z,110nm,3.7s						
TNCH				LR	LR			
	comp=Z,160nm,5.4s						
TNCH				LR	LR			
	comp=Z,81nm,7.5s						
SAUI	**Saumlaki**	**24.51**	**158**	P		**P**	**09 23 38.5**	**0.0**
JGF	**Kuroka**	**24.64**	**31**	P		**P**	**09 23 39.6**	**0.0**
JGF				IAmb	IAmb	09 23 56.2		
	comp=Z,38nm,1.5s						
BJT	**Baijiatuan**	**25.52**	**349**	P		**P**	**09 23 47.1**	**-0.4**
PSI	**Prapat**	**25.94**	**244**	LR	LR	09 33 27.9		
	comp=Z,45nm,21.7s,baz=70,slow=34						
RPSI	**Rantau Prapat**	**25.99**	**244**	P		**P**	**09 23 49.8**	**-2.2**
RPSI				IAmb	IAmb	09 24 08.4		
	comp=Z,21nm,0.8s						
LZH	**Lanzhou**	**26.69**	**325**	*e*P		**P**	**09 24 00.0**	**+1.6**
LZH				sP	sP	09 24 15.4	+3.4	
LZH				pmax	pmax			
	comp=Z,13nm,1.0s						
HHC	**Hu-ho-hao-te**	**27.41**	**342**	*e*P		**P**	**09 24 06.3**	**+1.6**
HHC				pmax	pmax			
	comp=Z,5.0nm,0.5s						
HHC				pmax	pmax			
	comp=Z,85nm,4.1s						
BTO	**Baotou**	**27.68**	**340**	*e*P		**P**	**09 24 12.5**	**+5.4**
BTO				pmax	pmax			
	comp=Z,10.0nm,0.7s						
BTO				pmax	pmax			
	comp=Z,190nm,5.3s						
BTO				LR	LR			
	comp=Z,180nm,6.2s						
BTO				LR	LR			
	comp=Z,220nm,7.3s						
GSI	**Gunungsitoli**	**27.85**	**243**	P		**P**	**09 24 07.2**	**-1.5**
JMM	**Marumori**	**28.14**	**32**	P		**P**	**09 24 10.1**	**-1.0**
CN2	**Changchun**	**28.88**	**5**	P		**P**	**09 24 18.8**	**+1.2**
MTN	**Manton Dam**	**29.00**	**162**	P		**P**	**09 24 18.2**	**-0.8**
	comp=Z,13nm,2.1s						
MTN	**Manton Dam**	**29.00**	**162**	P		**P**	**09 24 18.2**	**-0.8**
MTN				IAmb	IAmb	09 24 32.3		
	comp=Z,32nm,1.4s						
KDU	**Kakadu**	**29.29**	**159**	P		**P**	**09 24 20.2**	**-1.3**
	comp=Z,14nm,1.6s						
BRDH	**Bariadhala**	**29.89**	**290**	LR	LR	09 37 26.8		
	comp=Z,104nm,18.8s,baz=136,slow=38						
MDJ	**Mudanjiang**	**30.22**	**11**	P		**P**	**09 24 31.5**	**+2.0**
MDJ				pmax	pmax			
	comp=Z,11nm,1.1s						
SHL	**Shillong**	**30.27**	**295**	P		**P**	**09 24 29.8**	**-0.6**
USRK	**Ussuriysk Ar.**	**30.32**	**14**	P		**P**	**09 24 30.4**	**+0.1**
	comp=Z,4.2nm,1.0s,baz=198,slow=8.9,SNR=4.7						
	comp=Z,4.2nm,1.0s						
BNX	**BinXian**	**31.00**	**7**	⇑P		**P**	**09 24 37.3**	**+1.0**
BNX				pmax	pmax			
	comp=Z,5.0nm,1.1s						
KNRA	**Kununurra**	**31.12**	**168**	P		**P**	**09 24 37.4**	**-0.2**
KNRA				IAmb	IAmb	09 25 01.0		
	comp=Z,16nm,1.1s						
GTA	**Gaotai**	**31.29**	**325**	*e*P		**P**	**09 24 42.3**	**+3.1**
GTA				pP	sP	09 24 51.8	-1.2	
GTA				pmax	pmax			
	comp=Z,2.0nm,0.8s						
GTA				LR	LR			
	comp=Z,130nm,17.8s						
GTA				LR	LR			
	comp=Z,110nm,18.5s						
GTA				LR	LR			
	comp=Z,110nm,17.8s						
FITZ	**Fitzroy Crossi**	**33.02**	**174**	P		**P**	**09 24 54.2**	**-0.2**
	comp=Z,2.9nm,1.7s						
FITZ	**Fitzroy Crossi**	**33.02**	**174**			**P**	**09 24 54.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**33.02**	**174**	P		**P**	**09 24 54.3**	**-0.2**
	comp=Z,4.8nm,0.6s,baz=8.0,slow=7.7,SNR=11						
	comp=Z,4.8nm,0.6s						
ASAJ	**Asahikawa**	**33.85**	**27**	P		**P**	**09 25 01.8**	**+0.4**
	comp=Z,4.0nm,0.8s,baz=210,slow=13,SNR=4.2						
	comp=Z,4.0nm,0.8s						
JKA	**Kamikawa-asahi**	**33.86**	**27**	P		**P**	**09 25 01.8**	**+0.4**
JKA				IAmb	IAmb	09 25 03.2		
	comp=Z,6.6nm,0.9s						
EVN	**Everest**	**35.25**	**297**			**P**	**09 25 11.2**	**-3.3**
EVN				IAmb	IAmb	09 25 17.3		
	comp=Z,20nm,1.5s						
SONM	**Songino Array**	**35.30**	**341**	LR	LR	09 41 47.6		
	comp=Z,83nm,18.2s,baz=174,slow=40						
COEN	**Coen**	**35.44**	**143**	P		**P**	**09 25 14.9**	**-0.5**
	comp=Z,26nm,0.7s						
COEN	**Coen**	**35.44**	**143**	P		**P**	**09 25 14.5**	**-0.8**
HEH	**HeiHe**	**35.46**	**6**	*e*P		**P**	**09 25 15.6**	**+0.4**
MBWA	**Marble Bar**	**35.97**	**184**	P		**P**	**09 25 19.4**	**-0.5**
	comp=Z,13nm,2.0s						
MBWA	**Marble Bar**	**35.97**	**184**	P		**P**	**09 25 18.5**	**-1.4**
MBWA				IAmb	IAmb	09 25 47.6		
	comp=Z,17nm,1.4s						
PSAD1	**Pilbara Seismi**	**36.26**	**184**	P		**P**	**09 25 21.8**	**-0.6**
	comp=Z,8.2nm,0.8s						
PSAC1	**Pilbara Seismi**	**36.34**	**184**	P		**P**	**09 25 23.2**	**+0.2**
	comp=Z,15nm,1.5s						
PSAB2	**Pilbara Seismi**	**36.36**	**184**	P		**P**	**09 25 22.5**	**-0.7**
PSAC2	**Pilbara Seismi**	**36.36**	**184**	P		**P**	**09 25 23.4**	**+0.2**
	comp=Z,11nm,1.5s						
PSAA2	**Pilbara Seismi**	**36.37**	**184**	P		**P**	**09 25 22.7**	**-0.6**
	comp=Z,10nm,0.9s						
PSAB1	**Pilbara Seismi**	**36.37**	**184**	P		**P**	**09 25 23.0**	**-0.3**
	comp=Z,15nm,2.5s						
PSA00	**Pilbara Seismi**	**36.38**	**184**	P		**P**	**09 25 22.7**	**-0.6**
PSA00	**Pilbara Seismi**	**36.38**	**184**	P		**P**	**09 25 22.2**	**-1.1**
PSAA1	**Pilbara Seismi**	**36.38**	**184**	P		**P**	**09 25 22.5**	**-0.8**
	comp=Z,16nm,0.8s						
PSAA3	**Pilbara Seismi**	**36.38**	**184**	P		**P**	**09 25 23.5**	**+0.1**
	comp=Z,16nm,2.8s						
PSAB3	**Pilbara Seismi**	**36.40**	**184**	P		**P**	**09 25 23.5**	**0.0**
	comp=Z,16nm,1.6s						
PSAC3	**Pilbara Seismi**	**36.43**	**184**	P		**P**	**09 25 23.7**	**0.0**
	comp=Z,20nm,1.3s						
PSAD3	**Pilbara Seismi**	**36.45**	**184**	P		**P**	**09 25 23.6**	**-0.3**
	comp=Z,18nm,2.6s						
WB0	**Warramunga Arr**	**36.53**	**160**			**P**	**09 25 23.5**	**-1.2**
WB0				IAmb	IAmb	09 25 27.2		
	comp=Z,7.0nm,0.9s						
WB9	**Warramunga Arr**	**36.55**	**161**	P		**P**	**09 25 23.5**	**-1.4**
WB8	**Warramunga Arr**	**36.57**	**161**	P		**P**	**09 25 23.7**	**-1.3**
WB7	**Warramunga Arr**	**36.59**	**161**	P		**P**	**09 25 23.9**	**-1.3**
WB6	**Warramunga Arr**	**36.60**	**161**	P		**P**	**09 25 24.0**	**-1.3**
WB5	**Warramunga Arr**	**36.62**	**161**	P		**P**	**09 25 24.1**	**-1.3**
WRAB	**Tennant Creek**	**36.67**	**161**	P		**P**	**09 25 24.5**	**-1.4**
WRAB				IAmb	IAmb	09 25 27.3		
	comp=Z,6.5nm,0.8s						
WRA	**Warramunga Arr**	**36.68**	**161**	P		**P**	**09 25 24.1**	**-1.9**
WRA	**Warramunga Arr**	**36.68**	**161**	P		**P**	**09 25 24.9**	**-1.1**
	comp=Z,2.4nm,0.4s,baz=343,slow=9.2,SNR=16						
	comp=Z,2.4nm,0.4s						
WR8	**Warramunga Arr**	**36.74**	**160**			**P**	**09 25 25.5**	**-1.0**
WR8				IAmb	IAmb	09 25 29.9		
	comp=Z,9.8nm,1.1s						
GIRL	**Giralia**	**38.17**	**192**	P		**P**	**09 25 39.0**	**+0.4**
	comp=Z,29nm,1.2s						
QIS	**Mount Isa**	**39.22**	**154**	P		**P**	**09 25 47.3**	**-0.1**
	comp=Z,14nm,0.7s						
MTSU	**Mount Surprise**	**39.45**	**146**	P		**P**	**09 25 50.0**	**+0.6**
	comp=Z,21nm,0.6s						
AS31	**Alice Springs**	**40.05**	**163**			**P**	**09 25 54.4**	**0.0**
ASAR	**Alice Springs**	**40.05**	**163**	P		**P**	**09 25 54.3**	**0.0**
ASAR	**Alice Springs**	**40.05**	**163**	P		**P**	**09 25 54.0**	**-0.3**
	comp=Z,3.3nm,0.4s,baz=336,slow=7.6,SNR=41						
	comp=Z,3.3nm,0.4s						
WRKA	**Warakurna**	**40.19**	**171**	P		**P**	**09 25 55.5**	**+0.1**
	comp=Z,27nm,0.7s						
PALK	**Pallekele**	**41.38**	**264**	LR	LR	09 42 54.4		
	comp=Z,53nm,19.9s,baz=71,slow=35						
MEEK	**Meekatharra**	**41.49**	**185**	P		**P**	**09 26 05.5**	**-0.7**
	comp=Z,23nm,0.8s						
CTAO	**Charters Tower**	**42.09**	**145**	P		**P**	**09 26 11.7**	**+0.5**
CTAO				IAmb	IAmb	09 26 13.3		
	comp=Z,10nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**42.67**	**79**	T		T	10 13 16.3	
	baz=274,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**42.68**	**79**	T		T	10 13 13.4	
	baz=274,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy**	**42.69**	**79**	T		T	10 13 10.2	
	baz=274,slow=75,SNR=23						
MORW	**Morawa**	**44.17**	**188**	P		**P**	**09 26 27.0**	**-0.8**
	comp=Z,17nm,1.3s						
MORW	**Morawa**	**44.17**	**188**			**P**	**09 26 27.2**	**-0.6**
MORW				IAmb	IAmb	09 26 28.1		
	comp=Z,12nm,0.8s						
BLDU	**Ballidu**	**45.62**	**187**	P		**P**	**09 26 38.2**	**-1.0**
	comp=Z,14nm,1.4s						
FORT	**Forrest**	**45.82**	**173**	P		**P**	**09 26 41.1**	**+0.2**
FORT				IAmb	IAmb	09 26 43.1		
	comp=Z,8.9nm,0.8s						
MK31	**Makanchi Array**	**45.92**	**322**	P		**P**	**09 26 40.3**	**-1.3**
MK31				IAmb	IAmb	09 27 00.8		
	comp=Z,6.9nm,0.9s						
MKAR	**Makanchi Array**	**45.92**	**322**	P		**P**	**09 26 40.7**	**-0.9**
MKAR	**Makanchi Array**	**45.92**	**322**	P		**P**	**09 26 42.7**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=110,slow=10,SNR=7.6						
	comp=Z,0.9nm,0.7s						
INKA	**Innaminka**	**46.09**	**157**			**P**	**09 26 43.2**	**+0.1**
INKA				IAmb	IAmb	09 27 07.3		
	comp=Z,6.4nm,0.9s						
MUN	**Mundaring**	**47.02**	**187**	P		**P**	**09 26 50.0**	**-0.3**
KDJ	**Kajisay**	**47.19**	**314**	P		**P**	**09 26 51.2**	**-0.7**
KDJ				IAmb	IAmb	09 27 09.2		
	comp=Z,5.2nm,0.7s						
PETK	**Petropavlovsk-**	**47.23**	**28**	P		**P**	**09 26 52.1**	**+0.4**
YAK	**Yakutsk**	**47.31**	**5**	LR	LR	09 47 29.1		
	comp=Z,27nm,20.3s,baz=282,slow=37						
NRN	**Naryn**	**47.77**	**313**	P		**P**	**09 26 55.9**	**-0.6**
NRN				IAmb	IAmb	09 27 13.8		
	comp=Z,7.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**47.85**	**186**	P		**P**	**09 26 56.4**	**-0.3**
	comp=Z,48nm,1.3s						
NWAO	**Narrogin (SRO)**	**47.85**	**186**	P		**P**	**09 26 56.8**	**+0.1**
ZALV	**Zalesovo Beam**	**48.64**	**331**	P		**P**	**09 27 02.7**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=104,slow=4.9,SNR=1.9						
ZALV				LR	LR	09 47 51.3		
	comp=Z,46nm,18.4s,baz=108,slow=36						
	comp=Z,1.1nm,0.6s						
EIDS	**Eidsvold**	**48.97**	**145**	P		**P**	**09 27 05.7**	**+0.1**
	comp=Z,6.5nm,1.0s						
AAK	**Ala-Archa**	**49.23**	**314**	P		**P**	**09 27 06.4**	**-1.1**
AAK				IAmb	IAmb	09 27 34.3		
	comp=Z,3.1nm,0.7s						
MA2	**Magadan**	**49.25**	**19**	LR	LR	09 47 51.5		
	comp=Z,34nm,21.5s,baz=248,slow=36						
BBOO	**Buckleboo**	**49.31**	**165**	P		**P**	**09 27 07.6**	**-0.4**
	comp=Z,42nm,0.9s						
BBOO	**Buckleboo**	**49.31**	**165**			**P**	**09 27 07.9**	**-0.1**
KURK	**Kurchatov**	**49.98**	**325**			**P**	**09 27 12.8**	**-0.1**
KURBB	**Kurchatov Arra**	**49.98**	**325**	P		**P**	**09 27 13.8**	**+0.8**
	comp=Z,3.5nm,0.7s,baz=121,slow=8.1,SNR=21						
	comp=Z,3.5nm,0.7s						
STKA	**Stephens Creek**	**50.14**	**158**	P		**P**	**09 27 14.1**	**-0.2**
STKA	**Stephens Creek**	**50.14**	**158**			**P**	**09 27 14.3**	**0.0**
STKA	**Stephens Creek**	**50.14**	**158**	P		**P**	**09 27 14.8**	**+0.5**
	comp=Z,12nm,0.6s,baz=329,slow=7.8,SNR=28						
	comp=Z,12nm,0.6s						
KAAM	**Kaadhehdhoo**	**50.68**	**258**	P		**P**	**09 27 17.1**	**-1.6**
HTT	**Hallett**	**50.69**	**162**	P		**P**	**09 27 18.7**	**+0.2**
	comp=Z,3.2nm,1.7s						
GAR	**Garm**	**51.27**	**308**	P		**P**	**09 27 22.0**	**-1.1**
CMSA	**Cobar Meteorol**	**51.43**	**154**	P		**P**	**09 27 24.9**	**+0.9**
	comp=Z,14nm,0.9s						
KBL	**Kabul**	**51.45**	**302**	P		**P**	**09 27 23.4**	**-1.2**
KBL				IAmb	IAmb	09 27 42.8		
	comp=Z,13nm,1.2s						
CHGR	**Chuyangaron**	**52.09**	**308**	P		**P**	**09 27 27.7**	**-1.4**
KK31	**Karatay Array**	**52.16**	**313**	P		**P**	**09 27 29.1**	**-0.4**
KK31				IAmb	IAmb	09 27 47.7		
	comp=Z,4.8nm,0.9s						
KKAR	**Karatay Array**	**52.16**	**313**	P		**P**	**09 27 28.7**	**-0.7**
SIMJ	**Simiganj**	**52.20**	**307**	P		**P**	**09 27 28.6**	**-1.4**
SIMJ				IAmb	IAmb	09 27 57.5		
	comp=Z,8.5nm,1.3s						
ARPS	**Mount Arapiles**	**54.68**	**161**	P		**P**	**09 27 47.7**	**-0.2**
	comp=Z,13nm,0.7s						
YNG	**Young**	**54.96**	**153**	P		**P**	**09 27 50.4**	**+0.4**
	comp=Z,4.7nm,1.8s						
BVAR	**Borovoye Array**	**55.58**	**325**	P		**P**	**09 27 55.8**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=107,slow=8.5,SNR=3.8						
BVAR				LR	LR	09 54 11.2		
	comp=Z,42nm,19.0s,baz=89,slow=39						
	comp=Z,0.7nm,0.4s						
CAN	**Canberra**	**56.09**	**154**	P		**P**	**09 27 58.6**	**+0.5**
	comp=Z,9.7nm,0.9s						
CAN	**Canberra**	**56.09**	**154**	P		**P**	**09 27 58.9**	**+0.8**
CNB	**Canberra Magne**	**56.24**	**153**	P		**P**	**09 27 59.8**	**+0.6**
	comp=Z,15nm,1.5s						
TOO	**Toolangi**	**56.65**	**158**	P		**P**	**09 28 02.7**	**+0.6**
	comp=Z,6.6nm,1.1s						
TOO	**Toolangi**	**56.65**	**158**	P		**P**	**09 28 02.8**	**+0.7**
TOO				IAmb	IAmb	09 28 04.3		
	comp=Z,4.8nm,0.8s						
TIXI	**Tiksi**	**56.81**	**3**	LR	LR	09 53 13.6		
	comp=Z,76nm,20.8s,baz=207,slow=37						
TAU	**Tasmania Unive**	**62.03**	**159**	P		**P**	**09 28 38.6**	**-0.5**
P08K	**Saint George I**	**65.68**	**34**	P		**P**	**09 29 04.1**	**+1.1**
J17K	**VABM Dome**	**71.69**	**28**	P		**P**	**09 29 41.8**	**+1.5**
J17K				IAmb	IAmb	09 30 03.3		
	comp=Z,9.3nm,1.0s						
K17K	**Iditarod**	**72.01**	**28**	P		**P**	**09 29 44.0**	**+1.7**
M17K	**Holitna River**	**72.38**	**30**	P		**P**	**09 29 45.3**	**+0.8**
M17K				IAmb	IAmb	09 30 06.2		
	comp=Z,13nm,1.1s						
L18K	**Granite Mounta**	**72.75**	**29**	P		**P**	**09 29 47.3**	**+0.6**
F20K	**Avaraart Lake**	**73.25**	**24**	P		**P**	**09 29 50.8**	**+1.3**
F20K				IAmb	IAmb	09 30 11.5		
	comp=Z,5.7nm,1.1s						
J20K	**Nowinta River**	**73.89**	**27**	P		**P**	**09 29 53.9**	**+0.5**
J20K				IAmb	IAmb	09 30 14.6		
	comp=Z,4.2nm,0.8s						
IMAR	**Indian Mountai**	**74.04**	**25**	P		**P**	**09 29 55.2**	**+0.9**
M20K	**Styx River**	**74.43**	**29**	P		**P**	**09 29 57.6**	**+0.9**
M20K				IAmb	IAmb	09 29 59.0		
	comp=Z,11nm,1.4s						
H21K	**Melozitna Rive**	**74.43**	**25**	P		**P**	**09 29 57.4**	**+0.8**
H21K				IAmb	IAmb	09 30 19.5		
	comp=Z,9.5nm,1.2s						
PPLA	**Purkeypile**	**74.82**	**28**	P		**P**	**09 29 59.7**	**+0.7**
PPLA				IAmb	IAmb	09 30 17.9		
	comp=Z,17nm,1.2s						
SUA	**Susitna One**	**75.59**	**30**	P		**P**	**09 30 03.5**	**0.0**
SLKM	**Skilak Lake**	**75.93**	**31**	P		**P**	**09 30 04.5**	**-0.8**
E24K	**Your Creek**	**75.99**	**23**	P		**P**	**09 30 05.9**	**+0.4**
F24K	**Squaw Lake**	**76.27**	**23**	P		**P**	**09 30 07.6**	**+0.5**
F24K				IAmb	IAmb	09 30 26.8		
	comp=Z,4.1nm,0.7s						
WRH	**Wood River Hil**	**76.51**	**26**	P		**P**	**09 30 09.0**	**+0.5**
CCB	**Clear Creek Bu**	**76.61**	**26**	P		**P**	**09 30 09.2**	**+0.2**
PWL	**Port

RCBR				Sn	**Sn**	**09 26 19.7**	**-3.7**
	1.2nm,0.3s,baz=343,slow=22,SNR=6.6						
RCBR				LR	LR	09 27 50.2	
	comp=Z,54nm,20.5s,baz=57,slow=32						
	3.3nm,0.3s						
BDFB	**Brasilia**	**27.06**	**237**	LR	LR	09 37 10.1	
	comp=Z,226nm,19.7s,baz=73,slow=35						
TORD	**Torodi Ar. Bea**	**29.84**	**60**	P	**P**	**09 27 22.3**	**-1.3**
	2.5nm,1.1s,baz=245,slow=7.4,SNR=5.0						
	2.5nm,1.1s						
MDT	**Midelt**	**38.96**	**27**	LR	LR	09 43 37.0	
	comp=Z,116nm,18.7s,baz=231,slow=35						
LPAZ	**La Paz**	**45.33**	**248**	P	**P**	**09 29 37.1**	**+1.8**
	0.7nm,0.7s,baz=86,slow=14,SNR=3.5						
	0.7nm,0.7s						
KEST	**Kesra**	**48.68**	**37**	LR	LR	09 51 05.9	
	comp=Z,107nm,19.7s,baz=295,slow=37						
VAE	**Valguarnera**	**52.93**	**39**	LR	LR	09 54 07.2	
	comp=Z,118nm,18.7s,baz=314,slow=38						
LBTB	**Lobatse**	**53.76**	**120**	LR	LR	09 49 53.6	
	comp=Z,49nm,20.6s,baz=350,slow=32						
BOSA	**Boshof**	**54.65**	**125**	LR	LR	09 49 37.7	
	comp=Z,41nm,20.4s,baz=344,slow=31						
DAVOX	**Davos/Dischmat**	**56.76**	**28**	LR	LR	09 55 24.9	
	comp=Z,41nm,18.4s,baz=265,slow=36						
EIL	**Elat**	**64.62**	**56**	LR	LR	10 01 01.1	
	comp=Z,30nm,18.8s,baz=349,slow=37						
NOA	**NORSAR Array B**	**68.12**	**18**	LR	LR	09 58 36.6	
	comp=Z,9.2nm,21.3s,baz=60,slow=33						
TXAR	**Lajitas Array**	**81.18**	**300**	P	**P**	**09 33 32.7**	**+0.2**
	0.5nm,0.9s,baz=109,slow=4.6,SNR=4.6						
	0.5nm,0.9s						
ARTI	**Arti**	**87.30**	**34**	LR	LR	10 13 13.1	
	comp=Z,23nm,19.4s,baz=156,slow=36						
ELK	**Elko**	**91.42**	**311**	LR	LR	10 11 31.4	
	comp=Z,30nm,22.0s,baz=38,slow=33						
AAK	**Ala-Archa**	**97.67**	**47**	LR	LR	10 24 18.2	
	comp=Z,16nm,18.3s,baz=332,slow=39						
ASAR	**Alice Springs**	**147.44**	**141**	PKPbc	**PKPbc**	**09 41 00.8**	**-0.2**
	0.3nm,0.6s,baz=210,slow=2.1,SNR=9.4						
WRA	**Warramunga Arr**	**150.36**	**137**	PKPbc	**PKiKP**	**09 41 09.1**	**-0.3**
	0.4nm,0.7s,baz=220,slow=2.6,SNR=2.3						

ASRS ***13*** *09:34:52.0±0.8, 53.61N×87.95E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC ***13*** *09:34:55.9±3.2, 53.55N×87.88E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=28.9km s-min=18.4km az=88.0*

ISC 13 09:34:57.8±3.9, 53.6N±0.1×87.7E±0.2, h0km, n4, σ0s88/6, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.74**	**284**	I	I	09 47 55.0	
	baz=98,slow=329,SNR=6.7						
ZALV	**Zalesovo Beam**	**1.74**	**284**	Pn	**Pn**	**09 35 28.9**	**-0.4**
	1.1nm,0.3s,baz=98,slow=15,SNR=12						
ZALV				Sn	**Sg**	**09 35 54.6**	**+0.9**
	4.3nm,0.3s,baz=104,slow=23,SNR=17						
KURBB	**Kurchatov Arra**	**6.35**	**246**	Pn	**Pn**	**09 36 32.8**	**+0.2**
	0.1nm,0.3s,baz=63,slow=13,SNR=4.5						
KURBB				Sn	**Sn**	**09 37 44.9**	**-0.9**
	baz=65,slow=25						
KURBB				Lg	Lg	09 38 21.8	
	baz=61,slow=32						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**7.59**	**209**	Pn	**Pn**	**09 36 50.1**	**+0.4**
	0.1nm,0.3s,baz=53,slow=15,SNR=2.6						
MKAR				Sn	**Sn**	**09 38 15.8**	**-0.6**
	0.1nm,0.3s,baz=27,slow=19,SNR=2.4						
MKAR				Lg	Lg	09 38 59.0	
	0.1nm,0.3s,baz=32,slow=30,SNR=9.2						
	0.2nm,0.5s						

OSPL ***13*** *09:37:34.5±2.4, 18.26N×73.70W, h0km±20km, ML2.5*
SSNC ***13*** *09:37:36.1±1.3, 18.48N×73.35W, h7km±14km, MD3.2, ML2.2, MW2.2*

ISC 13 09:37:33.6±2.6, 18.50N±0.10×73.47W±0.06, h2km±19km, n13, σ1s13/26, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**1.81**	**337**	*e*P	**Pn**	**09 38 06.3**	**+0.5**
MASC				*e*S	**Sn**	**09 38 28.4**	**-1.0**
MASC				IAML		09 38 39.0	
	comp=N,9.2nm,0.5s						
MASC				IAML		09 38 39.7	
	comp=E,15nm,0.3s						
MASC	**Masc**	**1.81**	**337**	*i* P	**Pn**	**09 38 06.7**	**+0.8**
MASC				*e*S	**Sn**	**09 38 29.4**	**0.0**
MASC				IAML		09 38 36.6	
	comp=Z,13nm,1.3s						
LOBH	**Bahia de las A**	**1.85**	**110**	*i* P	**Pn**	**09 38 07.1**	**+0.7**
LOBH				*e*S	**Sg**	**09 38 31.4**	**-1.9**
LOBH				IAML		09 38 41.4	
	comp=Z,89nm,1.5s						
LODU1	**El Espartillar**	**1.90**	**94**	*i* P	**Pb**	**09 38 09.7**	**+0.7**
LODU1				IAML		09 38 42.8	
	comp=Z,72nm,0.8s						
LONE3	**El Aguacate, B**	**1.91**	**87**	*i* P	**Pb**	**09 38 09.1**	**-0.2**
LONE3				*e*S	**Sg**	**09 38 37.0**	**+1.9**
LONE3				IAML		09 38 41.4	
	comp=Z,17nm,1.4s						
GTBY	**Guantanamo Bay**	**2.10**	**313**	*e*P	**Pn**	**09 38 10.1**	**+0.4**
GTBY				*e*S	**Sn**	**09 38 36.5**	**0.0**
GTBY				IAML		09 38 42.2	
	comp=Z,14nm,0.2s						
GTBY				IAML		09 38 43.0	
	comp=Z,14nm,0.3s						
GTBY	**Guantanamo Bay**	**2.10**	**313**	*i* P	**Pn**	**09 38 10.2**	**+0.4**
GTBY				*e*S	**Sn**	**09 38 36.7**	**+0.2**
GTBY				IAML		09 38 41.1	
	comp=Z,15nm,2.1s						
PODR	**Polo**	**2.11**	**99**	*i* P	**Pn**	**09 38 11.2**	**+1.1**
PODR				*e*S	**Sg**	**09 38 39.6**	**-1.8**
QMBU	**Quimbuelo**	**2.11**	**323**	*e*P	**Pn**	**09 38 09.5**	**-0.5**
QMBU				*e*S	**Sn**	**09 38 35.4**	**-1.4**
QMBU				IAML		09 38 47.9	
	comp=N,16nm,0.2s						
QMBU				IAML		09 38 47.9	
	comp=E,18nm,0.3s						
LOVI	**El Cajuil, Ovi**	**2.12**	**109**	*i* P	**Pn**	**09 38 11.0**	**+1.0**
LOVI				*e*S	**Sb**	**09 38 38.5**	**-1.0**
LOVI				IAML		09 38 45.3	
	comp=Z,62nm,0.6s						
SDDR	**Presa de Saban**	**2.12**	**77**	*i* P	**Pb**	**09 38 12.6**	**-0.3**
SDDR				*e*S	**Sg**	**09 38 42.5**	**+0.6**
SDDR				IAML		09 38 45.5	
	comp=Z,16nm,0.5s						
RCC	**Rio Carpintero**	**2.58**	**306**	*e*P	**Pn**	**09 38 16.5**	**+0.2**
RCC				*e*S	**Sn**	**09 38 46.2**	**-1.9**
RCC				IAML		09 38 55.2	
	comp=N,6.4nm,0.1s						
RCC				IAML		09 38 56.0	
	comp=E,12nm,0.2s						
MARVS	**Santiago de Cu**	**2.74**	**303**	*e*P	**Pn**	**09 38 20.2**	**+1.6**
MARVS				*e*S	**Sn**	**09 38 53.7**	**+1.5**
MARVS				*e*Sg	**Sb**	**09 38 57.3**	**0.0**
MARVS				IAML		09 39 00.8	
	comp=E,11nm,0.3s						
MARVS				IAML		09 39 01.1	
	comp=N,9.2nm,0.2s						

ASRS ***13*** *09:50:17.0±0.7, 54.27N×87.10E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC ***13*** *09:50:20.1±2.6, 54.17N×87.17E, h0km, mbtmp3.3/3, ML2.8/3, Error ellipse: s-maj=24.7km s-min=14.8km az=69.0*

ISC 13 09:50:22.7±4.3, 54.1N±0.2×86.8E±0.3, h0km, n7, σ0s85/7, 1C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.17**	**261**	I	I	09 59 40.0	
	baz=77,slow=327,SNR=14						
ZALV	**Zalesovo Beam**	**1.17**	**261**	Pg	**Pg**	**09 50 44.6**	**-0.6**
	2.8nm,0.3s,baz=76,slow=16,SNR=24						
ZALV				Lg	Lg	09 51 04.5	
	2.1nm,0.3s,baz=80,slow=22,SNR=8.8						
KURK	**Kurchatov**	**6.05**	**239**	⇓Pg	**Pn**	**09 51 54.0**	**+0.5**
	1.8nm,1.1s						
KURK				⇑Lg	Lg	09 52 28.0	
	3.8nm,0.9s						
KURBB	**Kurchatov Arra**	**6.16**	**238**	⇓Pg	**Pn**	**09 51 55.7**	**+0.9**
	4.7nm,0.6s,baz=57,slow=14						
KURBB				⇓Lg	Lg	09 52 29.3	
	15nm,0.7s,baz=297,slow=30						
KURBB	**Kurchatov Arra**	**6.16**	**238**	Pn	**Pn**	**09 51 55.9**	**+1.1**
	0.2nm,0.3s,baz=56,slow=14,SNR=18						
KURBB				Lg	Lg	09 53 41.6	
	baz=54,slow=31						
	2.7nm,0.5s						
MKAR	**Makanchi Array**	**7.89**	**203**	Pn	**Pn**	**09 52 18.8**	**+0.1**
	0.2nm,0.3s,baz=24,slow=14,SNR=5.8						
MKAR				Sn	**Sn**	**09 53 48.6**	**-0.1**
	0.2nm,0.3s,baz=27,slow=26,SNR=6.1						
MKAR				Lg	Lg	09 54 32.2	
	0.2nm,0.3s,baz=28,slow=30,SNR=6.1						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**9.81**	**270**	Pn	**Pn**	**09 52 45.4**	**+0.5**
	0.1nm,0.3s,baz=74,slow=15,SNR=4.8						
	1.0nm,0.5s						

ASRS 13 09:59:13.0±0.8, 53.66N×86.90E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

IDC ***13*** *09:59:45.3±3.0, 64.53N×31.13E, h0km, mbtmp3.1/3, ML2.0/3, Error ellipse: s-maj=48.6km s-min=11.0km az=108.0*
HEL ***13*** *09:59:45.4±0.2, 64.69N×30.67E, h0km, ML2.1, Suspected explosion*
KOLA ***13*** *09:59:46.4, 64.68N×30.58E, h0km, ML2.4, Error ellipse: s-maj=14.8km s-min=10.0km az=160.0, Kostomuksha, Karelia*
UPP ***13*** *09:59:51.7±5.4, 64.66N×29.74E, h9km±57km, ML1.7, Presumed earthquake*

ISC 13 09:59:44.8±0.8, 64.68N±0.02×30.53E±0.04, h0km, n49, σ1s88/71, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.53**	**210**	PG	**Pg**	**09 59 55.9**	**+1.0**
RMF				MSG		10 00 03.6	
	comp=Z,33nm,0.2s						
KU1	**Kurvinen**	**0.98**	**336**	PG	**Pg**	**10 00 03.3**	**-0.3**
KU6	**Riekki**	**1.38**	**349**	PG	**Pn**	**10 00 10.3**	**-1.0**
	baz=166						
KU6				MSG		10 00 27.1	
	comp=Z,12nm,0.2s						
KU6				SB	**Sg**	**10 00 28.0**	**-1.2**
MSF	**Maaselka**	**1.39**	**334**	PG	**Pn**	**10 00 10.5**	**-0.9**
	baz=148						
MSF				SG	**Sg**	**10 00 28.7**	**-0.7**
KU2	**Taivalkoski**	**1.42**	**318**	PG	**Pn**	**10 00 11.5**	**-0.4**
	baz=132						
OLKF	**Oulanka, Finla**	**1.72**	**345**	PG	**Pn**	**10 00 16.2**	**+0.3**
OLKF				MSG		10 00 37.0	
	comp=Z,14nm,0.2s						
OLKF				SN	**Sb**	**10 00 39.9**	**+0.5**
NIF	**Nilsia**	**1.76**	**224**	PG	**Pb**	**10 00 18.1**	**+0.2**
	baz=39						
NIF				MSG		10 00 39.3	
	comp=Z,13nm,0.2s						
NIF				SN	**Sg**	**10 00 43.6**	**+2.3**
JOF	**Joensuu**	**1.80**	**168**	*e*P	**Pb**	**10 00 17.6**	**-1.0**
JOF	**Joensuu**	**1.80**	**168**	PG	**Pn**	**10 00 17.2**	**+0.2**
	baz=355						
JOF				SN	**Sg**	**10 00 42.2**	**-0.3**
OUL	**Oulu**	**2.02**	**284**	PG	**Pb**	**10 00 22.4**	**+0.1**
	baz=99						
OUL				SG	**Sb**	**10 00 48.7**	**+0.8**
RANF	**Ranua**	**2.06**	**312**	PG	**Pb**	**10 00 22.4**	**-0.7**
	baz=128						
RANF				SG	**Sb**	**10 00 49.9**	**+0.6**
KVDA	**Kovda**	**2.25**	**25**	P	**Pn**	**10 00 23.5**	**+0.3**
KVDA				S	**Sn**	**10 00 52.1**	**+0.6**
OBF4	**Vikkela, Lumij**	**2.33**	**276**	PB	**Pb**	**10 00 26.8**	**-0.9**
	baz=90						
OBF4				MSG		10 00 56.1	
	comp=Z,11nm,0.2s						
OBF4				SG	**Sg**	**10 00 59.4**	**-0.2**
OUF	**Merijarvi**	**2.52**	**266**	PB	**Pb**	**10 00 29.3**	**-1.7**
	baz=79						
OUF				MSG		10 01 01.6	
	comp=Z,13nm,0.2s						
OUF				SG	**Sb**	**10 01 04.1**	**+1.6**
OBF0	**Syolatti, Pyha**	**2.72**	**269**	PB	**Pb**	**10 00 32.9**	**-1.3**
OBF0				MSG		10 01 07.3	
	comp=Z,8.8nm,0.2s						
OBF0				SG	**Sg**	**10 01 11.6**	**-0.4**
SUF	**Sumiainen**	**2.77**	**227**	PB	**Pb**	**10 00 33.4**	**-1.7**
SUF				MSG		10 01 08.3	
	comp=Z,3.7nm,0.2s						
TOF	**Tornio**	**2.95**	**301**	PN	**Pn**	**10 00 34.5**	**+1.6**
TOF				MSG		10 01 13.5	
	comp=Z,3.3nm,0.2s						
TOF				SB	**Sb**	**10 01 14.5**	**-0.3**
VRF	**Varrio**	**3.11**	**354**	PN	**Pn**	**10 00 35.7**	**+0.6**
	baz=173						
VRF				SB	**Sn**	**10 01 16.0**	**+3.2**
VRF				MSG		10 01 16.6	
	comp=Z,6.2nm,0.2s						
APA0	**Apatity Array**	**3.11**	**18**	P	**Pn**	**10 00 36.2**	**+1.1**
APA0				S	**Sn**	**10 01 13.4**	**+0.5**
APA	**Apatity**	**3.13**	**21**	P	**Pn**	**10 00 36.5**	**+1.1**
APA				S	**Sn**	**10 01 12.2**	**-1.2**
KAF	**Kangasniemi**	**3.20**	**218**	PB	**Pb**	**10 00 40.2**	**-2.2**
KALU	**Kalix**	**3.24**	**295**	PN	**Pn**	**10 00 39.3**	**+2.5**
KALU				SB	**Sb**	**10 01 21.8**	**-1.2**
RUF	**Ruokolahti**	**3.34**	**193**	PN	**Pn**	**10 00 40.0**	**+1.8**
	baz=12						
KEF	**Keuruu**	**3.58**	**228**	*e*P	**Pn**	**10 00 41.7**	**+0.3**
KEF	**Keuruu**	**3.58**	**228**	PB	**Pn**	**10 00 44.8**	**+3.3**
LVZ	**Lovozero**	**3.64**	**25**	S	**Sn**	**10 01 25.3**	**-0.7**
FINES	**FINESS Array B**	**3.82**	**214**	Pn	**Pn**	**10 00 46.4**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=36,slow=13,SNR=9.0						
FINES				Lg	Lg	10 01 44.2	
	comp=Z,1.3nm,0.3s,baz=36,slow=26,SNR=12						
	comp=Z,0.4nm,0.3s						
PAJU	**Pajala**	**3.85**	**311**	P	**Pn**	**10 00 46.4**	**+1.2**
PAJU				S	**Sn**	**10 01 33.8**	**+2.6**
PAJU	**Pajala**	**3.85**	**311**	PN	**Pn**	**10 00 46.9**	**+1.6**
PAJU				SG	**Sb**	**10 01 44.2**	**+3.5**
SJUU	**Sjulsmark**	**3.87**	**287**	P	**Pn**	**10 00 46.7**	**+1.3**
SJUU	**Sjulsmark**	**3.87**	**287**	*e*P	**Pn**	**10 00 47.5**	**+2.1**
RAJF	**Raja-Jooseppi**	**3.92**	**348**	PN	**Pn**	**10 00 46.6**	**+0.4**
RAJF				SN	**Sn**	**10 01 32.1**	**-0.7**
ERTU	**Ertsjaerv**	**3.94**	**302**	P	**Pn**	**10 00 48.2**	**+1.8**
ERTU	**Ertsjaerv**	**3.94**	**302**	PN	**Pn**	**10 00 48.3**	**+1.8**
ODEU	**Stanfors**	**4.24**	**271**	P	**Pn**	**10 00 51.0**	**+0.3**
HARU	**Harads**	**4.26**	**295**	P	**Pn**	**10 00 52.3**	**+1.5**
UMAU	**Umeaa**	**4.37**	**264**	P	**Pn**	**10 00 53.3**	**+1.0**
UMAU	**Umeaa**	**4.37**	**264**	PN	**Pn**	**10 00 53.9**	**+1.6**
VJF	**Virojoki**	**4.37**	**200**	SG	**Sg**	**10 02 02.2**	**-3.0**
MASU	**Masugnsbyn**	**4.46**	**313**	P	**Pn**	**10 00 56.4**	**+2.8**
MASU				S	**Sn**	**10 01 38.3**	**-7.8**
HEF	**Hetta**	**4.64**	**327**	PN	**Pn**	**10 00 57.5**	**+1.4**
HEF				SG	**Sb**	**10 02 07.0**	**+3.6**
DUNU	**Dundret**	**4.76**	**305**	P	**Pn**	**10 00 60.0**	**+2.2**
ARCES	**ARCESS Array B**	**5.26**	**340**	Pn	**Pn**	**10 01 04.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=154,slow=13,SNR=28						
ARCES				Sn	**Sn**	**10 02 01.6**	**-4.1**
	comp=Z,0.2nm,0.3s,baz=159,slow=24,SNR=1.8						
	comp=Z,0.4nm,0.2s						
ARCES	**ARCESS Array B**	**5.26**	**340**	P	**Pn**	**10 01 04.8**	**+0.3**
ARCES				S	**Sn**	**10 02 02.5**	**-3.3**
MEF	**Metsahovi**	**5.30**	**215**	*e*P	**Pn**	**10 01 04.9**	**-0.2**
RAF	**Rauma**	**5.43**	**232**	*e*P	**Pn**	**10 01 06.9**	**0.0**
I37NO	**I37NO**	**6.44**	**319**	I	I	10 44 27.8	
	baz=126,slow=321						
FAUS	**Fauske**	**6.77**	**300**	S	**Sn**	**10 02 42.5**	**-0.5**
HFS	**Hagfors**	**9.03**	**247**	Pn	**Pn**	**10 01 56.9**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=60,slow=13,SNR=2.1						
	comp=Z,3.9nm,0.9s						

ASRS ***13*** *10:00:12.0±1.1, 53.54N×87.67E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 13 10:00:15.4±3.4, 53.57N×87.76E, h0km, mbtmp3.2/2, ML2.7/2, Error ellipse: s-maj=33.1km s-min=18.1km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.79**	**283**	I	I	10 11 55.0	
	baz=99,slow=331,SNR=3.3						
ZALV	**Zalesovo Beam**	**1.79**	**283**	Pn	Pn	10 00 47.9	+0.3
	0.9nm,0.3s,baz=104,slow=12,SNR=10.0						
ZALV				Lg	Lg	10 01 11.5	
	2.5nm,0.3s,baz=111,slow=24,SNR=12						
KURBB	**Kurchatov Arra**	**6.41**	**246**	Pn	Pn	10 01 51.5	+0.6
	0.1nm,0.3s,baz=61,slow=14,SNR=4.0						
KURBB				Lg	Lg	10 03 39.8	
	0.1nm,0.3s,baz=63,slow=31,SNR=6.2						
	1.4nm,0.5s						
MKAR	**Makanchi Array**	**7.64**	**210**	Pn	Pn	10 02 09.1	+1.1
	0.2nm,0.3s,baz=25,slow=12,SNR=5.3						
	0.7nm,0.6s						

ASRS ***13*** *10:09:49.0±2.1, 53.73N×91.05E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC ***13*** *10:09:55.3±3.5, 53.70N×90.91E, h0km, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=33.0km s-min=25.4km az=27.0*

ISC 13 10:09:58.0±4.8, 53.6N±0.2×90.7E±0.3, h0km, n4, σ0s91/4, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.48**	**278**	I	I	10 34 30.0	
	baz=91,slow=343,SNR=5.1						
ZALV	**Zalesovo Beam**	**3.48**	**278**	Pn	**Pn**	**10 10 53.6**	**+0.3**
	0.5nm,0.3s,baz=96,slow=16,SNR=10						
ZALV				Lg	Lg	10 11 48.7	
	1.9nm,0.3s,baz=94,slow=28,SNR=13						
	1.6nm,0.6s						
KURBB	**Kurchatov Arra**	**8.04**	**253**	Pn	**Pn**	**10 11 55.2**	**-0.8**
	0.1nm,0.3s,baz=65,slow=15,SNR=6.0						
KURBB				Sn	**Sn**	**10 13 27.9**	**+0.3**
	0.1nm,0.3s,baz=63,slow=25,SNR=7.5						
KURBB				Lg	Lg	10 14 16.3	
	0.1nm,0.3s,baz=66,slow=32,SNR=2.5						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**8.68**	**222**	Pn	**Pn**	**10 12 04.9**	**+0.2**
	0.1nm,0.3s,baz=41,slow=14,SNR=4.8						
MKAR				Lg	Lg	10 14 37.3	
	0.1nm,0.3s,baz=29,slow=33,SNR=5.0						
	0.3nm,0.5s						

NEIC ***13*** *10:25:09.6±1.6, 60.30N±0.01×143.13W±0.02, h10km±1km, Error ellipse: s-maj=2.7km s-min=2.1km az=266.0*
AEIC ***13*** *10:25:09.5±2.0, 60.30N±0.01×143.15W±0.02, h3km±7km, ML3.3, ML3.5/187(NEIC), Error ellipse: s-maj=1.8km s-min=1.7km az=174.0*

ISC 13 10:25:09.9±0.8, 60.29N±0.02×143.13W±0.02, h13km±6km, n144, σ1s97/160, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRIN	**Grindle Hills**	**0.09**	**264**		**Pg**	**10 25 13.3**	**+0.4**
KHIT	**Khitrov Hills**	**0.16**	**340**		**Pg**	**10 25 16.1**	**+2.3**
SNH	**Sunshine Point**	**0.18**	**127**	Pg	**Pg**	**10 25 12.4**	**-1.7**
SNH				Sg	**Sg**	**10 25 16.5**	**-0.5**
SNH				IAML		10 25 18.4	
	comp=E,18μm,0.8s						
SNH				IAML		10 25 19.2	
	comp=N,13μm,0.6s						
BGLC	**Bering Glacier**	**0.19**	**204**		**Pg**	**10 25 12.7**	**-1.4**
BGLC					**Sg**	**10 25 16.8**	**-0.2**
WAX	**Waxell Ridge**	**0.21**	**41**		**Pg**	**10 25 14.0**	**-0.6**
WAX				Sg	**Sg**	**10 25 16.8**	**-1.1**
BERG	**Berg Lake**	**0.30**	**290**		**Pg**	**10 25 15.2**	**-0.9**
BERG				Sg	**Sb**	**10 25 21.2**	**-0.8**
BARK	**Barkley Ridge**	**0.34**	**70**		**Pg**	**10 25 16.5**	**-0.3**
BARK					**Sg**	**10 25 21.7**	**+0.2**
CYK	**Cape Yakataga**	**0.39**	**123**		**Pg**	**10 25 17.3**	**-0.3**
CYK					**Sb**	**10 25 23.8**	**-0.5**
SUCK	**Suckling Hills**	**0.39**	**236**		**Pb**	**10 25 18.8**	**+0.2**
SUCK				Sg	**Sb**	**10 25 26.7**	**+2.3**
SUCK				IAML		10 25 30.1	
	comp=N,6μm,0.8s						
NICHA	**Nichawak Mount**	**0.42**	**263**		**Pg**	**10 25 18.1**	**-0.1**
NICHA					**Sb**	**10 25 25.2**	**-0.1**
CRQM	**Cirque**	**0.47**	**360**		**Pg**	**10 25 18.4**	**-0.7**
CRQM				Sg	**Sb**	**10 25 25.9**	**-1.0**
TGL	**Tana Glacier**	**0.49**	**18**		**Pg**	**10 25 18.8**	**-0.8**
TGL				Sg	**Sb**	**10 25 26.7**	**-0.8**
ISLE	**Juniper Island**	**0.50**	**51**		**Pg**	**10 25 19.4**	**-0.4**
ISLE				Sg	**Sb**	**10 25 28.1**	**+0.2**
ISLE				IAML		10 25 30.8	
	comp=N,2μm,0.9s						
BAGL	**Bagley Icefiel**	**0.56**	**69**		**Pg**	**10 25 20.2**	**-0.5**
HMT	**Hamilton**	**0.56**	**275**		**Pg**	**10 25 20.8**	**-0.1**
MESA	**MESA**	**0.60**	**100**		**Pg**	**10 25 21.6**	**0.0**
MESA				Sg	**Sb**	**10 25 32.5**	**+1.7**
YAH	**Yahtse**	**0.69**	**83**		**Pg**	**10 25 22.9**	**-0.5**
YAH				Sg	**Sb**	**10 25 34.5**	**+1.1**
YAH				IAML		10 25 40.5	
	comp=N,2μm,0.7s						
KAIM	**Kayak Island**	**0.74**	**241**		**Pg**	**10 25 24.0**	**-0.2**
KAIM				IAML		10 25 39.6	
	comp=E,1μm,0.7s						
KIAG	**Kiagna River**	**0.74**	**31**		**Pg**	**10 25 23.5**	**-0.8**
RAGM	**Ragged Mountai**	**0.77**	**278**		**Pg**	**10 25 24.6**	**-0.2**
GRNC	**Granite Creek**	**0.81**	**56**		**Pg**	**10 25 24.8**	**-0.8**
GRNC				Sg	**Sb**	**10 25 36.6**	**-0.3**
BALM	**Baldy**	**0.84**	**27**		**Pg**	**10 25 25.3**	**-0.9**
RKAV	**Rock Avalanche**	**0.89**	**89**		**Pg**	**10 25 26.9**	**-0.2**
VRDI	**Verde Repeater**	**0.95**	**351**		**Pg**	**10 25 27.1**	**-1.2**
VRDI				Sg	**Sg**	**10 25 39.9**	**-0.8**
VRDI				IAML		10 25 49.5	
	comp=E,894nm,0.7s						
PTPK	**Patty Peak**	**0.96**	**20**		**Pg**	**10 25 27.6**	**-0.8**
BMRM	**Bremner River**	**0.99**	**314**		**Pg**	**10 25 27.6**	**-1.4**
BMRM				Sg	**Sb**	**10 25 41.9**	**0.0**
BMRM				IAML		10 25 43.4	
	comp=N,2μm,0.6s						
TABL	**Table Mountain**	**1.00**	**81**	Pg	**Pg**	**10 25 28.4**	**-0.8**
TABL				IAML		10 25 47.6	
	comp=N,1μm,0.7s						
TABL				IAML		10 25 49.3	
	comp

FID IAML 10 26 11.8
comp=E,344nm,0.9s
BCPM Bancas Point 1.78 99 Pn 10 25 40.2 -0.1
WACK Wrangell Chich 1.80 342 Pn 10 25 41.3 +0.6
KLU Klutina 1.82 313 Pn 10 25 41.0 +0.1
Q23K Middleton Isla 1.84 243 Pn **Pn 10 25 40.7 -0.3**
Q23K IAML 10 26 09.0
comp=E,543nm,1.6s
Q23K IAML 10 26 27.3
comp=N,592nm,1.7s
YUK2 White River 1.87 36 Pb 10 25 43.2 -0.7
YKU2 Yakutat 1.91 113 Pn **Pn 10 25 42.2 +0.2**
YKU2 Yakutat 1.91 113 P **Pn 10 25 42.0 0.0**
YUK8 Steele Glacier 1.93 57 Pn 10 25 44.0 +1.5
YUK3 Moose Creek 1.98 40 Pb 10 25 45.2 -0.6
PNL Peninsula 1.98 107 Pn 10 25 42.4 -0.6
PNL Peninsula 1.98 107 P **Pn 10 25 42.4 -0.6**
PNL Peninsula 1.98 107 S **Sn 10 26 09.8 +2.1**
M26K Nabesna, AK 2.12 2 Pn 10 25 46.1 +1.1
M26K IAML 10 26 18.5
comp=N,220nm,0.6s
M27K Edge Creek, AK 2.16 16 Pn 10 25 47.0 +1.4
M27K IAML 10 26 25.4
comp=E,249nm,1.6s
M27K IAML 10 26 25.8
comp=N,365nm,0.9s
O29M Mount Kennedy 2.27 88 Pn 10 25 48.1 +1.0
HARP HAARP 2.33 336 Pn 10 25 49.4 +1.6
M24K Tolsona, Glenn 2.34 322 Pn 10 25 49.3 +1.2
M24K IAML 10 26 31.2
comp=N,359nm,1.3s
BVCY Beaver Creek 2.40 26 Pn 10 25 51.0 +2.2
YUK6 Outpost Mounta 2.44 72 Pn 10 25 50.8 +1.3
SCM Sheep Creek Mo 2.56 309 Pn **Pn 10 25 51.2 +0.1**
SCM IAML 10 26 33.8
comp=E,243nm,0.8s
PWL Port Wells 2.63 285 Pn **Pn 10 25 51.5 -0.5**
PWL IAML 10 26 48.2
comp=N,137nm,1.2s
MENT Mentasta 2.67 354 Pn 10 25 52.4 -0.1
MENT IAML 10 26 37.4
comp=N,152nm,0.7s
MENT IAML 10 26 38.7
comp=E,183nm,0.8s
MENT Mentasta 2.67 354 P **Pn 10 25 55.0 +2.5**
L26K Log Cabin Wild 2.75 358 Pn 10 25 55.3 +1.7
L26K IAML 10 26 50.4
comp=E,118nm,0.5s
P29M Windy Craggy 2.79 101 Pn 10 25 54.6 +0.4
HYT Haines Junctio 2.83 77 Pn 10 25 54.7 -0.1
HYT IAML 10 26 41.0
comp=N,128nm,0.7s
HYT IAML 10 26 51.0
comp=E,110nm,1.6s
KNK Knik Glacier 2.84 296 Pn **Pn 10 25 55.5 +0.7**
KNK IAML 10 26 48.5
comp=E,178nm,0.6s
L27K Beaver Creek, 2.85 12 Pn 10 25 56.3 +1.3
BCAR Beaver Creek A 2.86 12 Pn 10 25 56.1 +1.0
PAX Paxson 2.91 338 Pn 10 25 56.2 +0.3
PAX IAML 10 26 44.7
comp=E,121nm,0.8s
M29M Somme Creek 3.12 44 Pn 10 25 59.9 +1.2
N30M Aishikik Lake 3.18 66 Pn 10 26 00.2 +0.7
GHO Glory Hole Cre 3.19 300 Pn 10 25 59.5 -0.1
GHO IAML 10 26 53.1
comp=E,168nm,1.1s
GHO IAML 10 26 53.5
comp=N,194nm,0.9s
PMR Palmer 3.20 297 Pn **Pn 10 25 59.5 -0.2**
PMR IAML 10 26 56.0
comp=N,84nm,0.8s
PMR IAML 10 26 56.2
comp=E,88nm,0.7s
PMR Palmer 3.20 297 P **Pn 10 26 01.8 +2.0**
O22K Cooper Landing 3.28 276 Pn **Pn 10 26 00.5 -0.3**
RC01 Rabbit Creek A 3.34 287 Pn 10 26 01.2 -0.5
RC01 IAML 10 27 09.0
comp=N,89nm,0.9s
DOT Dot Lake 3.40 353 Pn 10 26 02.4 -0.1
DHY Denali Highway 3.45 326 Pn 10 26 04.7 +1.4
DHY IAML 10 26 59.6
comp=N,85nm,1.7s
DHY IAML 10 27 04.5
comp=E,82nm,0.8s
O30N Mendenhall 3.51 79 Pn 10 26 04.8 +0.7
O30N IAML 10 27 03.6
comp=N,66nm,1.2s
RIDG Independent Ri 3.55 348 Pn 10 26 04.8 +0.1
RIDG IAML 10 27 10.9
comp=E,128nm,0.8s
RIDG IAML 10 27 19.2
comp=N,72nm,1.4s
L29M L29M 3.70 38 Pn **Pn 10 26 07.0 +0.4**
L29M IAML 10 27 01.1
comp=N,74nm,0.6s
L29M IAML 10 27 11.3
comp=E,70nm,0.6s
M22K Willow 3.70 296 Pn **Pn 10 26 08.0 +1.4**
SCRK Sand Creek 3.72 354 Pn 10 26 07.3 +0.3
K24K Donnelly Dome 3.74 342 Pn **Pn 10 26 08.1 +0.9**
K24K IAML 10 27 20.9
comp=N,99nm,1.0s
N31M Braeburn, Yuko 3.79 68 Pn 10 26 08.8 +0.9
N31M IAML 10 27 19.8
comp=N,114nm,1.1s
N31M IAML 10 27 32.2
comp=E,69nm,1.2s
M30M Minto, Yukon 3.81 50 Pn 10 26 09.7 +1.5
SUA Susitna One 3.90 291 Pn 10 26 09.8 +0.3
SUA IAML 10 27 15.2
comp=E,61nm,0.9s
SUA IAML 10 27 41.4
comp=N,66nm,2.2s
SKAG Skagway 4.02 99 Pn 10 26 11.6 +0.5
SKAG IAML 10 27 27.4
comp=N,41nm,1.2s
SKAG Skagway 4.02 99 P **Pn 10 26 11.5 +0.5**
CUT Chulitna 4.04 305 Pn **Pn 10 26 11.8 +0.6**
WHY Whitehorse 4.10 81 Pn 10 26 12.9 +0.7
RND Reindeer 4.14 322 Pn 10 26 14.0 +1.4
RND IAML 10 27 21.5
comp=E,73nm,0.9s
RND IAML 10 27 26.2
comp=N,73nm,1.3s
DAWY Dawson 4.17 23 Pn 10 26 14.8 +1.6
J26L Joseph Creek 4.23 357 Pn 10 26 14.9 +0.9
J26L IAML 10 27 26.0
comp=E,35nm,0.9s
S31K Pelican 4.25 120 Pn **Pn 10 26 15.9 +1.7**
S31K IAML 10 27 42.4
comp=N,61nm,1.1s
S31K IAML 10 27 45.0
comp=E,41nm,1.5s
MCK McKinley 4.40 324 Pn 10 26 17.4 +1.1
MCK IAML 10 27 33.4
comp=N,75nm,1.5s
MCK IAML 10 27 34.8
comp=E,64nm,1.4s
SKT Skwentna 4.41 296 Pn 10 26 16.2 -0.1
SKT IAML 10 27 26.6
comp=N,49nm,0.8s
SKT IAML 10 27 33.8
comp=E,45nm,1.2s
STLK Strandline Lak 4.42 290 Pn **Pn 10 26 18.9 +2.3**
K29M Barlow Dome 4.43 34 Pn 10 26 18.4 +1.6
J25K Salcha River, 4.46 348 Pn 10 26 18.4 +1.3
SPU Mount Spurr, 4.47 285 Pn **Pn 10 26 19.0 +1.8**
HDA Harding Lake 4.50 338 Pn 10 26 18.4 +0.9
HDA IAML 10 27 32.8
comp=N,42nm,0.9s
HDA IAML 10 27 39.4
comp=E,41nm,0.9s
BESE Bessie Mountai 4.56 108 Pn **Pn 10 26 18.8 +0.2**
BESE IAML 10 27 52.9
comp=E,66nm,1.4s
BESE IAML 10 28 01.9
comp=N,62nm,1.2s
EGAK Eagle 4.59 11 Pn 10 26 20.4 +1.5
EGAK IAML 10 27 49.8
comp=N,38nm,0.7s
EGAK IAML 10 27 50.6
comp=N,51nm,1.3s
M31M Drury Creek, Y 4.64 62 Pn 10 26 21.5 +2.0
M31M IAML 10 27 54.7
comp=E,27nm,0.8s
TRF Thorofare Moun 4.64 316 Pn 10 26 21.2 +1.6
TRF IAML 10 27 43.1
comp=N,52nm,1.0s
TRF IAML 10 27 54.0
comp=E,60nm,2.0s
J29N Klondike Camp 4.76 27 Pn 10 26 24.1 +2.9
WRH Wood River Hil 4.79 333 Pn 10 26 22.5 +1.0
WRH IAML 10 27 45.2
comp=N,44nm,0.9s
WRH IAML 10 27 50.9
comp=E,42nm,1.4s
P32M Atlin 4.79 94 Pn **Pn 10 26 23.2 +1.6**
P32M IAML 10 27 58.4
comp=E,23nm,1.0s
IL31 4.82 341 Pn 10 26 23.2 +1.3
ILAR Eielson Array 4.82 341 Pn 10 26 23.1 +1.1
CCB Clear Creek Bu 4.88 336 Pn 10 26 23.5 +0.8
CCB IAML 10 27 50.6
comp=E,23nm,1.5s
BWN Browne 4.89 325 Pn **Pn 10 26 24.1 +1.2**
JIS Juneau Island 4.92 110 P **Pn 10 26 23.2 -0.1**
KTH Kantishna Hill 4.92 315 Pn 10 26 24.1 +0.7
N32M Quiet Lake 5.01 76 Pn Pn 10 26 25.2 +0.6
PPLA Purkeypile 5.05 305 Pn **Pn 10 26 26.3 +1.0**
COLA College 5.09 337 Pn 10 26 26.2 +0.6
COLA IAML 10 27 55.1
comp=E,46nm,0.7s
COLA IAML 10 27 56.4
comp=E,39nm,0.6s
COLA College 5.09 337 P **Pn 10 26 26.4 +0.8**
M20K Styx River 5.11 293 Pn **Pn 10 26 27.6 +1.5**
M20K IAML 10 28 02.7
comp=N,25nm,1.8s
M20K IAML 10 28 09.8
comp=E,26nm,2.0s
NEA2 Nenana 5.12 330 Pn **Pn 10 26 25.4 -0.7**
NEA2 IAML 10 27 51.9
comp=E,27nm,2.3s
NEA2 IAML 10 27 55.3
comp=N,24nm,1.2s
P33M Teslin, Yukon 5.14 86 Pn 10 26 26.1 -0.4
P33M IAML 10 27 54.2
comp=E,24nm,0.9s
P33M IAML 10 28 04.3
comp=N,27nm,0.9s
SIT Sitka 5.21 125 Pn **Pn 10 26 26.1 -1.2**
SIT IAML 10 27 56.4
comp=N,25nm,2.2s
SIT IAML 10 28 08.6
comp=E,25nm,1.2s
SIT Sitka 5.21 125 P **Pn 10 26 26.1 -1.2**
POKR Poker Plat Res 5.23 340 Pn **Pn 10 26 27.8 +0.2**
POKR IAML 10 28 03.1
comp=N,26nm,1.0s
POKR IAML 10 28 11.4
comp=E,26nm,1.4s
J30M Hart River 5.33 33 Pn **Pn 10 26 30.6 +1.5**
J30M IAML 10 27 42.6
comp=E,33nm,0.8s
J30M IAML 10 27 47.0
comp=N,21nm,0.6s
PRP Porcupine Dome 5.36 349 Pn 10 26 29.9 +0.4
PRP IAML 10 28 02.2
comp=E,20nm,1.3s
PRP IAML 10 28 04.7
comp=N,21nm,0.7s
I27K Kandik River 5.38 7 Pn 10 26 31.2 +1.5
I28M Miner Creek 5.38 14 Pn 10 26 31.5 +1.7
I28M IAML 10 28 09.3
comp=N,18nm,1.1s
I28M IAML 10 28 11.2
comp=E,24nm,1.5s
I29M Ogilvie Camp, 5.55 21 Pn Pn 10 26 33.4 +1.4
N19K Bonanza Creek 5.63 280 Pn Pn 10 26 33.6 +0.5
I23K Minto, Yukon-K 5.65 332 Pn Pn 10 26 33.6 +0.2
Q32M Nakina River 5.67 99 Pn Pn 10 26 34.6 +0.7
I30M Mount Dempster 5.84 29 Pn Pn 10 26 36.8 +0.7
H24K Noodor Dome 5.97 341 Pn Pn 10 26 39.6 +1.8
L19K White Mountain 5.97 294 Pn Pn 10 26 39.4 +1.6
H27K Steamboat Moun 6.01 6 Pn Pn 10 26 38.4 +0.1
OHAK Old Harbor 6.11 244 P Pn 10 26 38.0 -1.7
MMPY Sheldon Lake, 6.15 63 Pn Pn 10 26 41.6 +1.3
R33M Jennings River 6.20 93 Pn Pn 10 26 40.2 -0.9
H29M Whitestone 6.33 18 Pn Pn 10 26 43.2 +0.6

*IDC **13** 10:34:54.9±0.8, 26°.28N×102°.12E, h0km, mb4.0/9, mbtmp4.0/10, ML3.6/1, MS3.0/3, Error ellipse: s-maj=33.2km s-min=14.8km az=73.0*
*NEIC **13** 10:34:55.7±0.9, 26°.1N±0°.1×102°.1E±0°.1, h10km±1km, mb4.7/19, Error ellipse: s-maj=17.6km s-min=16.3km az=16.0*
ISC 13 10:34:55.1±0.6, **26°.06N**±0°.07×**102°.05E**±0°.10, **h10**km, **n40,** σ1§**12**/37, **mb4.3**/20, **MS3.2**/3, **Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLVN	**Son La**	**5.01**	**160**	Pn	**Pn**	**10 36 12.0**	**+1.6**
CHTO	**Chiang Mai**	**7.76**	**202**	Pn	**Pn**	**10 36 50.1**	**+1.8**
CMAR	**Chiang Mai Arr**	**8.10**	**201**	Pn	**Pn**	**10 36 54.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**8.10**	**201**	Pn	Pn	10 36 58.9	+6.1
	0.2nm,0.3s,baz=15,slow=12,SNR=7.0						
CMAR				Pg	**Pg**	**10 37 27.8**	**-2.4**
	0.4nm,0.3s,baz=4.7,slow=16,SNR=13						
CMAR				Lg	Lg	10 39 16.6	
	0.6nm,0.3s,baz=22,slow=28,SNR=8.0						
CMAR				LR	LR	10 40 34.9	
	comp=Z,33nm,19.3s,baz=0.0,slow=41						
	0.6nm,0.3s						
SONM	**Songino Array**	**22.00**	**8**	P	**P**	**10 39 49.1**	**-0.4**
	1.2nm,0.8s,baz=194,slow=11,SNR=4.9						
	1.2nm,0.8s						
JOW	**Kunigami**	**23.48**	**82**	LR	LR	10 50 32.9	
	comp=Z,74nm,18.8s,baz=128,slow=40						
MKAR	**Makanchi Array**	**25.96**	**328**	P	**P**	**10 40 28.9**	**+1.1**
	3.1nm,0.8s,baz=138,slow=12,SNR=16						
	3.1nm,0.8s						
KDJ	**Kajisay**	**25.96**	**314**	P	**P**	**10 40 27.8**	**-0.2**
NIL	**Nilore**	**26.04**	**294**	P	**P**	**10 40 29.7**	**+1.1**
NIL				IAmb	IAmb	10 40 30.9	
	comp=Z,23nm,0.7s						
MAKZ	**Makanchi**	**26.12**	**328**	P	**P**	**10 40 28.7**	**-0.4**
MAKZ				IAmb	IAmb	10 40 48.6	
	comp=Z,2.7nm,0.5s						
JMZ	**Minamidaito 2**	**26.21**	**84**	P	**P**	**10 40 30.2**	**0.0**
KBL	**Kabul**	**29.62**	**295**	P	**P**	**10 41 01.5**	**+0.6**
KBL				IAmb	IAmb	10 41 26.5	
	comp=Z,2.3nm,0.7s						
KURBB	**Kurchatov Arra**	**30.43**	**330**	P	**P**	**10 41 08.3**	**+0.7**
	comp=Z,0.9nm,0.2s,baz=143,slow=8.9,SNR=4.5						
	comp=Z,0.9nm,0.2s						
ZALV	**Zalesovo Beam**	**30.65**	**340**	LR	LR	10 54 17.0	
	comp=Z,33nm,19.7s,baz=54,slow=38						
BVAR	**Borovoye Array**	**35.83**	**327**	P	**P**	**10 41 55.5**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=116,slow=13,SNR=4.8						
	comp=Z,1.0nm,0.6s						
AB31	**Akbulak array**	**39.88**	**317**	P	**P**	**10 42 28.8**	**-0.1**
ABKAR	**Akbulak array**	**39.88**	**317**	P	**P**	**10 42 28.7**	**-0.3**
WB0	**Warramunga Arr**	**55.34**	**142**	P	**P**	**10 44 30.1**	**+0.8**
WB0				IAmb	IAmb	10 44 58.2	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**55.45**	**142**	P	**P**	**10 44 29.9**	**-0.2**
WRA	**Warramunga Arr**	**55.45**	**142**	P	**P**	**10 44 32.2**	**+2.1**
	comp=Z,1.6nm,0.5s,baz=332,slow=8.3,SNR=13						
	comp=Z,1.6nm,0.5s						
WR8	**Warramunga Arr**	**55.55**	**142**	P	**P**	**10 44 32.2**	**+1.4**
WR8				IAmb	IAmb	10 44 59.9	
	comp=Z,7.7nm,1.4s						
BRTR	**Keskin Array B**	**57.76**	**302**	LR	LR	11 10 55.4	
	comp=Z,612nm,21.6s,baz=315,slow=37						
AS31	**Alice Springs**	**58.26**	**145**	P	**P**	**10 44 50.3**	**+0.2**
ASAR	**Alice Springs**	**58.26**	**145**	P	**P**	**10 44 50.4**	**+0.4**
ASAR	**Alice Springs**	**58.26**	**145**	P	**P**	**10 44 52.6**	**+2.6**
	comp=Z,1.3nm,0.7s,baz=330,slow=7.1,SNR=9.7						
	comp=Z,1.3nm,0.7s						
ROCAM	**Rodrigues Isla**	**59.03**	**223**	P	**P**	**10 44 55.6**	**+0.1**
WAKE	**Wake Island**	**59.48**	**82**	P	**P**	**10 44 56.9**	**-1.8**
FIA1	**FINESS Array S**	**60.79**	**328**	P	**P**	**10 45 07.3**	**+0.3**
FINES	**FINESS Array B**	**60.79**	**328**	P	**P**	**10 45 07.1**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=81,slow=6.0,SNR=8.9						
	comp=Z,1.8nm,0.6s						
HFS	**Hagfors**	**66.97**	**327**	P	**P**	**10 45 46.4**	**-1.3**
	comp=Z,2.1nm,0.7s,baz=72,slow=9.3,SNR=1.8						
	comp=Z,2.1nm,0.7s						
NC303	**NORSAR Array S**	**67.84**	**329**	P	**P**	**10 45 52.9**	**-0.3**
NC303				IAmb	IAmb	10 45 53.1	
	comp=Z,12nm,1.1s						
NB2	**NORSAR Subarra**	**67.95**	**328**	P	**P**	**10 45 53.1**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=76,slow=6.2						
NOA	**NORSAR Array B**	**67.95**	**328**	P	**P**	**10 45 53.1**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=76,slow=6.2,SNR=3.8						
	comp=Z,1.1nm,0.7s						
NC204	**NORSAR Array S**	**68.11**	**329**	P	**P**	**10 45 54.8**	**-0.2**
NC204				IAmb	IAmb	10 46 21.9	
	comp=Z,24nm,1.4s						
NBO00	**NORSAR Array S**	**68.16**	**328**	P	**P**	**10 45 55.1**	**-0.2**
NBO00				IAmb	IAmb	10 46 22.2	
	comp=Z,18nm,1.1s						
VOI	**Vohitsoka**	**71.70**	**233**	P	**P**	**10 46 18.0**	**+0.2**
VOI				IAmb	IAmb	10 46 28.2	
	comp=Z,16nm,1.3s						
D25K	**Kavik River**	**73.08**	**20**	P	**P**	**10 46 26.0**	**+0.8**
D25K				IAmb	IAmb	10 46 35.0	
	comp=Z,8.7nm,1.3s						
BMAR	**Burnt Mountain**	**74.61**	**22**	P	**P**	**10 46 33.4**	**-0.8**
IL31		**75.15**	**24**	P	**P**	**10 46 37.0**	**-0.2**
IL31				IAmb	IAmb	10 46 40.0	
	comp=Z,2.2nm,1.1s						
ILAR	**Eielson Array**	**75.15**	**24**	P	**P**	**10 46 35.6**	**-1.6**

*SJA **13** 11:08:12.9±0.7, 20°.80S×68°.93W, h112km±4km, ML3.5, MW3.5*
*GUC **13** 11:08:14.4±0.9, 20°.81S×68°.90W, h106km±4km, ML3.5*
ISC 13 11:08:14.8±1.4, **20°.83S**±0°.03×**68°.97W**±0°.05, **h105**km±10km, **n26,** σ0§**89**/43, **4C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.53**	**246**	⇑*i*P	**Pn**	**11 08 30.8**	**-0.6**
PB01				*e*S	**Sn**	**11 08 44.0**	**+0.1**
PB01					IAML	11 08 45.1	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**0.53**	**246**	*e*S	**Sn**	**11 08 44.7**	**+0.8**
PB01					IAML	11 08 47.1	
	comp=Z,1μm,0.2s						
PB08	**IPOC Station P**	**0.70**	**345**	⇑*i*P	**Pn**	**11 08 32.4**	**-0.7**
PB08				*e*S	**Sn**	**11 08 46.5**	**-0.4**
PB08					IAML	11 08 47.5	
	comp=E,2μm,0.1s						
PB08	**IPOC Station P**	**0.70**	**345**	*e*P	Pn	11 08 14.2	-19
PB08				*e*S	**Sn**	**11 08 46.7**	**-0.1**
PB08					IAML	11 08 49.1	
	comp=Z,822nm,0.2s						
PB02	**IPOC Station P**	**1.00**	**240**	⇑*i*P	**Pn**	**11 08 35.5**	**-0.2**
PB02				*e*S	**Sn**	**11 08 52.1**	**+0.7**
PB02					IAML	11 08 52.5	
	comp=N,2μm,0.3s						
PB02	**IPOC Station P**	**1.00**	**240**	*e*S	**Sn**	**11 08 52.4**	**+1.0**
PB02					IAML	11 08 53.4	
	comp=Z,2μm,0.4s						
PB09	**IPOC Station P**	**1.00**	**195**	*i* P	**Pn**	**11 08 35.9**	**+0.1**
PB09				*e*S	**Sn**	**11 08 52.4**	**+0.8**
PB09					IAML	11 08 56.2	
	comp=E,709nm,0.2s						
PB09	**IPOC Station P**	**1.00**	**195**	*e*P	**Pn**	**11 08 35.3**	**-0.4**
PB09				*e*S	**Sn**	**11 08 52.7**	**+1.2**
PB09					IAML	11 08 56.2	
	comp=Z,572nm,0.6s						
TA01	**Diego Aracena**	**1.17**	**283**	⇑*i*P	**Pn**	**11 08 36.8**	**-0.5**
TA01	**Diego Aracena**	**1.17**	**283**	*e*P	**Pn**	**11 08 36.9**	**-0.5**
TA01				*e*S	**Sn**	**11 08 55.4**	**+0.9**
TA01					IAML	11 08 58.4	
	comp=Z,273nm,0.8s						
GO01	**Chusmiza**	**1.17**	**349**	*e*P	**Pn**	**11 08 37.1**	**-0.9**
GO01				*e*S	**Sn**	**11 08 55.8**	**+0.4**
GO01	**Chusmiza**	**1.17**	**349**	*e*P	**Pn**	**11 08 37.4**	**-0.5**
GO01				*e*S	**Sn**	**11 08 55.7**	**+0.4**
GO01					IAML	11 08 57.5	
	comp=Z,804nm,0.5s						
TA02	**Huaiquique**	**1.22**	**297**	*e*P	**Pn**	**11 08 37.7**	**-0.3**
TA02				*e*S	**Sn**	**11 08 56.5**	**+0.9**
TA02					IAML	11 08 57.9	
	comp=Z,2μm,0.1s						
PB11	**IPOC Station P**	**1.24**	**328**	⇓*i*P	**Pn**	**11 08 37.6**	**-0.8**
PB11				*e*S	**Sn**	**11 08 55.5**	**-0.7**
PB11					IAML	11 08 57.4	
	comp=E,3μm,0.2s						
PB11	**IPOC Station P**	**1.24**	**328**	*e*P	**Pn**	**11 08 37.5**	**-0.8**
PB11				*e*S	**Sn**	**11 08 56.4**	**+0.1**
PB11					IAML	11 08 57.8	
	comp=Z,803nm,0.1s						
PB06	**IPOC Station P**	**1.96**	**197**	*e*P	**Pn**	**11 08 47.0**	**-0.1**
PB06				*e*S	**Sn**	**11 09 11.8**	**+0.1**
PB06					IAML	11 09 15.9	
	comp=E,429nm,0.3s						
PB06	**IPOC Station P**	**1.96**	**197**	*e*P	**Pn**	**11 08 47.2**	**+0.1**
PB06				*e*S	**Sn**	**11 09 12.4**	**+0.6**
PB06					IAML	11 09 18.6	
	comp=Z,313nm,0.1s						
PB05	**IPOC Station P**	**2.32**	**209**	*e*P	**Pn**	**11 08 51.7**	**-0.1**
PB05				*e*S	**Sn**	**11 09 18.3**	**-1.9**
PB05					IAML	11 09 32.3	
	comp=E,156nm,0.3s						
PB05	**IPOC Station P**	**2.32**	**209**	*e*P	**Pn**	**11 08 51.7**	**-0.1**
PB05				*e*S	**Sn**	**11 09 19.9**	**-0.3**
PB05					IAML	11 09 27.5	
	comp=Z,103nm,0.3s						
PB16	**IPOC Station P**	**2.53**	**348**	*e*P	**Pn**	**11 08 55.1**	**+0.1**
PB16					IAML	11 09 30.6	
	comp=N,80nm,0.3s						
PB16	**IPOC Station P**	**2.53**	**348**	*e*P	**Pn**	**11 08 54.8**	**-0.2**
PB16				*e*S	**Sn**	**11 09 27.0**	**+1.3**
PB10	**IPOC Station P**	**3.05**	**209**	*e*P	**Pn**	**11 09 00.4**	**-1.0**
PB10					IAML	11 09 55.0	
	comp=N,68nm,0.4s						
PB10	**IPOC Station P**	**3.05**	**209**	*e*P	**Pn**	**11 09 00.7**	**-0.7**
PB10				*e*S	Sn	11 09 26.7	-11
PB10					IAML	11 09 55.3	
	comp=Z,55nm,0.5s						
YJA	**Yavi**	**3.48**	**113**	*e*P	**Pn**	**11 09 08.5**	**+1.0**
YJA				*e*S	**Sn**	**11 09 45.0**	**-3.2**
HJA	**Humahuaca**	**4.06**	**126**	*e*P	**Pn**	**11 09 16.4**	**+1.2**
HJA				*e*S	Sn	11 10 09.8	+7.7
LPAZ	**La Paz**	**4.58**	**10**	*e*P	**Pn**	**11 09 23.1**	**+0.6**

*IDC **13** 11:30:58.0±5.2, 5°.83S×147°.45E, h61km±45km, mb3.7/3, mbtmp4.0/5, ML4.1/1, Error ellipse: s-maj=46.4km s-min=32.5km az=113.0*
ISC 13 11:30:59.6±1.3, **5°.9S**±0°.1×**147°.4E**±0°.4, **h77**km, **n6,** σ1§**25**/7, **mb3.9**/3, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.53**	**184**	P	**Pn**	**11 31 52.4**	**+0.3**
	14nm,0.3s,baz=9.2,slow=8.2,SNR=17						
PMG				S	**Sn**	**11 32 31.7**	**-1.1**
	33nm,0.3s,baz=15,slow=22,SNR=7.9						
WRA	**Warramunga Arr**	**18.89**	**221**	P	**P**	**11 35 14.3**	**+0.2**
	0.6nm,0.3s,baz=46,slow=11,SNR=37						
	3.9nm,0.7s						
ASAR	**Alice Springs**	**21.95**	**215**	P	**P**	**11 35 47.6**	**+0.5**
	2.1nm,0.4s,baz=46,slow=9.7,SNR=69						
	2.1nm,0.4s						
QSPA	**South Pole Qui**	**84.11**	**180**	P	**P**	**11 43 23.1**	**+1.2**
	1.1nm,0.7s,baz=7.1,slow=6.7,SNR=11						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**85.20**	**23**	P	**P**	**11 43 27.1**	**-0.1**
	0.6nm,0.8s,baz=256,slow=4.8,SNR=7.3						
	0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**145.43**	**285**	PKPbc	**PKPdf**	**11 50 28.0**	**-1.8**
	0.2nm,0.4s,baz=55,slow=4.9,SNR=2.2						

*NNC **13** 11:36:03.0±8.6, 36°.39N×70°.35E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=70.0km s-min=59.6km az=154.0*
*IDC **13** 11:36:04.1±5.3, 35°.91N×71°.13E, h111km±47km, mb3.5/7, mbtmp3.8/12, Error ellipse: s-maj=35.1km s-min=22.6km az=13.0*
*NEIC **13** 11:36:09.6±1.4, 36°.56N±0°.10×70°.79E±0°.08, h117km±7km, mb4.5/21, Error ellipse: s-maj=14.5km s-min=9.1km az=164.0*
ISC 13 11:36:08.1±0.7, **36°.46N**±0°.07×**70°.62E**±0°.07, **h100**km, **n57,** σ1§**90**/60, **mb4.3**/17, **4C, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHGR	**Chuyangaron**	**2.48**	**333**		**Pn**	**11 36 48.8**	**+1.8**
SIMJ	**Simiganj**	**2.54**	**330**		**Pn**	**11 36 49.9**	**+2.0**
GAR	**Garm**	**2.55**	**355**	Pn	**Pn**	**11 36 49.0**	**+1.1**
JMU	**Jammu**	**5.14**	**135**	*e*P	Pn	11 37 30.3	+7.6
JMU				*e*S	**Sn**	**11 38 22.9**	**+2.0**
JMU				IAML		11 38 28.7	
	comp=N,351nm,1.9s						
JMU				IAML		11 38 28.8	
	comp=E,247nm,1.8s						
ARSB	**Arslanbob**	**5.20**	**20**		**Pn**	**11 37 21.1**	**-2.5**
TSSA	**Tissa**	**5.82**	**127**	*e*P	Pn	11 37 40.5	+8.3
TSSA				*e*S	**Sn**	**11 38 40.9**	**+3.2**
TSSA				IAML		11 38 53.8	
	comp=N,343nm,2.5s						
THN	**Thein Dam**	**5.82**	**132**	*e*P	Pn	11 37 40.2	+8.3
THN				*e*S	**Sn**	**11 38 41.5**	**+4.1**
KK31	**Karatay Array**	**6.64**	**359**		**Pn**	**11 37 44.7**	**+1.7**
KK31	**Karatay Array**	**6.64**	**359**	⇑P	**Pn**	**11 37 44.7**	**+1.7**
	comp=N,2.7nm,0.3s,baz=188,slow=15,SNR=32						
KK31				S	**Sn**	**11 39 02.0**	**+4.9**
	comp=N,16nm,0.6s,baz=185,slow=18,SNR=13						
KKAR	**Karatay Array**	**6.64**	**359**		**Pn**	**11 37 44.6**	**+1.6**
AAK	**Ala-Archa**	**6.86**	**25**	⇑P	**Pn**	**11 37 45.9**	**-0.3**
	comp=N,2.5nm,0.6s						
AAK				⇑S	**Sn**	**11 39 07.8**	**+5.1**
	comp=N,5.8nm,0.9s						
AAK	**Ala-Archa**	**6.86**	**25**	P	**Pn**	**11 37 46.8**	**+0.6**
	comp=N,6.2nm,0.5s,baz=204,slow=12,SNR=7.8						
AAK				S	**Sn**	**11 39 07.6**	**+4.8**
	comp=N,3.5nm,0.6s,baz=84,slow=22,SNR=1.9						
BOOM	**Boomskoye usch**	**7.29**	**33**	Pn	**Pn**	**11 37 50.8**	**-1.3**
SMLA	**Simla**	**7.61**	**132**	*e*P	Pn	11 38 04.2	+7.8
SMLA				*e*S	**Sn**	**11 39 22.1**	**+1.0**
SMLA				IAML		11 39 44.7	
	comp=E,93nm,0.9s						
TARG	**Taragay, Kyrgy**	**7.68**	**45**	Pn	**Pn**	**11 37 56.9**	**-0.6**
KLP	**Kalpa**	**8.02**	**126**	*e*S	**Sn**	**11 39 30.8**	**-0.5**
KLP				IAML		11 40 00.1	
	comp=N,74nm,1.9s						
KLP				IAML		11 40 07.1	
	comp=E,75nm,1.9s						
MKAR	**Makanchi Array**	**13.51**	**37**	P	**Pn**	**11 39 13.2**	**-2.3**
	comp=E,0.1nm,0.4s,baz=206,slow=9.6,SNR=1.4						
AB31	**Akbulak array**	**14.97**	**332**		**Pn**	**11 39 34.9**	**+0.6**
AB31	**Akbulak array**	**14.97**	**332**	P	**Pn**	**11 39 34.8**	**+0.4**
	comp=E,2.2nm,0.5s,baz=157,slow=12,SNR=60						
AB31				⇑S	**Sn**	**11 42 18.1**	**-1.3**
	comp=E,1.0nm,0.5s,baz=158,slow=24,SNR=5.6						
ABKAR	**Akbulak array**	**14.97**	**332**		**Pn**	**11 39 34.6**	**+0.2**
WMQ	**Urumqi**	**14.97**	**55**	*e*P	**Pn**	**11 39 34.4**	**-0.1**
KURBB	**Kurchatov Arra**	**15.26**	**19**	P	**Pn**	**11 39 38.6**	**+0.7**
	comp=E,0.2nm,0.6s,baz=206,slow=10,SNR=3.4						
KURBB				S	**S**	**11 42 32.5**	**-3.8**
	comp=E,0.1nm,0.4s,baz=5.1,slow=24,SNR=2.1						
BVAR	**Borovoye Array**	**16.57**	**360**	P	**P**	**11 39 55.4**	**+0.4**
	comp=E,0.5nm,0.3s,baz=169,slow=10.0,SNR=2.8						
AKTO	**Aktyubinsk**	**16.66**	**331**	P	**P**	**11 39 58.5**	**+2.4**
	comp=E,5.5nm,0.7s,baz=149,slow=11,SNR=9.2						
ZAA0	**Zalesovo Array**	**20.08**	**25**	P	**P**	**11 40 30.7**	**-2.7**
ZALV	**Zalesovo Beam**	**20.08**	**25**	P	**P**	**11 40 32.2**	**-1.2**
ZALV	**Zalesovo Beam**	**20.08**	**25**	P	**P**	**11 40 31.8**	**-1.6**
	comp=E,1.0nm,0.3s,baz=208,slow=10,SNR=5.9						
	comp=E,1.0nm,0.3s						
GNI	**Garni**	**20.61**	**288**	P	**P**	**11 40 39.1**	**-0.4**
GNI				IAmb	IAmb	11 40 42.7	
	comp=Z,13nm,0.7s						
GNI	**Garni**	**20.61**	**288**	P	**P**	**11 40 41.8**	**+2.3**
	comp=Z,11nm,0.6s,baz=63,slow=8.4,SNR=3.7						
	comp=Z,11nm,0.6s						
ARTI	**Arti**	**21.58**	**341**	P	**P**	**11 40 47.5**	**-2.0**
KIV	**Kislovodsk**	**22.53**	**298**	P	**P**	**11 41 00.4**	**+0.7**
MARD	**Mardin**	**23.84**	**281**	P	**P**	**11 41 12.1**	**-0.1**
MARD				IAmb	IAmb	11 41 30.5	
	comp=Z,6.3nm,0.5s						
LZH	**Lanzhou**	**26.72**	**81**	*e*P	**P**	**11 41 38.8**	**+0.5**
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
PZH	**PanZhiHua**	**28.23**	**102**	P	**P**	**11 41 51.9**	**0.0**
HHC	**Hu-ho-hao-te**	**32.07**	**69**	*e*P	**P**	**11 42 25.1**	**-0.4**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,47nm,3.7s						
FIA1	**FINESS Array S**	**37.34**	**326**	P	**P**	**11 43 09.1**	**-1.4**
FINES	**FINESS Array B**	**37.34**	**326**	P	**P**	**11 43 08.8**	**-1.7**
FINES	**FINESS Array B**	**37.34**	**326**	P	**P**	**11 43 11.2**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=120,slow=11,SNR=5.2						
	comp=Z,0.9nm,0.5s						
NJ2	**Nanjing**	**39.79**	**82**	*e*P	**P**	**11 43 30.0**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GERES	**GERESS Array B**	**42.70**	**305**	P	**P**	**11 43 54.9**	**-0.2**
HFS	**Hagfors**	**42.91**	**322**	P	**P**	**11 43 56.9**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=99,slow=9.2,SNR=5.0						
	comp=Z,1.2nm,0.5s						
INTR	**Introdacqua**	**43.59**	**295**	P	**P**	**11 44 01.8**	**-0.6**
INTR				IAmb	IAmb	11 44 42.4	
	comp=Z,12nm,1.1s						
NC303	**NORSAR Array S**	**44.17**	**323**	P	**P**	**11 44 06.5**	**-0.1**
NC303				IAmb	IAmb	11 44 32.5	
	comp=Z,19nm,1.1s						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**11 44 07.4**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=98,slow=8.1,SNR=3.4						
	comp=Z,1.2nm,0.8s						
NC204	**NORSAR Array S**	**44.47**	**323**	P	**P**	**11 44 08.8**	**-0.3**
NC204				IAmb	IAmb	11 44 08.8	
	comp=Z,22nm,1.4s						
TORD	**Torodi Ar. Bea**	**65.41**	**268**	P	P	11 46 36.6	-3.9
	comp=Z,0.5nm,0.5s,baz=48,slow=6.8,SNR=3.8						
	comp=Z,0.5nm,0.5s						
F20K	**Avaraart Lake**	**70.97**	**17**	P	**P**	**11 47 13.2**	**-1.2**
TOLK	**Toolik Lake Re**	**71.04**	**14**	P	**P**	**11 47 14.2**	**-0.7**
TOLK				IAmb	IAmb	11 47 52.5	
	comp=Z,6.8nm,1.2s						
F21K	**Alatna River**	**71.36**	**17**	P	**P**	**11 47 14.7**	**-2.1**
F21K				IAmb	IAmb	11 47 40.5	
	comp=Z,6.4nm,1.1s						
C36M	**Paulatuk**	**73.95**	**5**	P	**P**	**11 47 30.9**	**-1.1**
C36M				IAmb	IAmb	11 48 01.7	
	comp=Z,16nm,1.1s						
H29M	**Whitestone**	**75.23**	**12**	P	**P**	**11 47 38.2**	**-1.3**
H29M				IAmb	IAmb	11 48 13.4	
	comp=Z,4.6nm,1.2s						
I28M	**Miner Creek**	**75.67**	**13**	P	**P**	**11 47 40.8**	**-1.3**
I30M	**Mount Dempster**	**76.48**	**11**	P	**P**	**11 47 45.4**	**-1.3**
I30M				IAmb	IAmb	11 48 10.2	
	comp=Z,4.8nm,1.4s						
M22K	**Willow**	**76.72**	**19**	P	**P**	**11 47 46.7**	**-1.2**
BCAR	**Beaver Creek A**	**77.48**	**14**	P	**P**	**11 47 51.1**	**-1.2**
WRA	**Warramunga Arr**	**82.23**	**122**	P	P	11 48 10.2	-8.3
	comp=Z,0.3nm,0.5s,baz=325,slow=5.0,SNR=6.1						
	comp=Z,0.3nm,0.5s						
Q32M	**Nakina River**	**83.04**	**12**	P	**P**	**11 48 21.7**	**-0.6**
Q32M				IAmb	IAmb	11 48 42.4	
	comp=Z,10nm,1.2s						

BER ***13*** *11:38:29.6±1.5, 59°57.N×22°.58E, h0km, ML1.7, Suspected explosion*
DNK ***13*** *11:38:30.9±0.9, 59°.91N×22°.30E, h0km, ML2.3(UPP), Suspected explosion*
UPP ***13*** *11:38:31.9±1.0, 59°.90N×22°.15E, h0km, ML2.3, Presumed earthquake*
IDC ***13*** *11:38:31.9±1.9, 59°.91N×22°.25E, h0km, mbtmp2.9/4, ML2.2/4, Error ellipse: s-maj=29.2km s-min=7.5km az=167.0*
HEL ***13*** *11:38:31.1±0.0, 59°.84N×22°.29E, h0km, ML2.0, Explosion*
EST ***13*** *11:38:31.4, 59°.86N×22°.30E, h0km, ML2.0(HEL), Explosion*

ISC 13 11:38:30.2±0.7, 59°.91N±0°.04×22°.28E±0°.02, h0km, n57, σ0s86/79, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVF	**Tvarminne**	**0.49**	**98**	*e*P	**Pg**	**11 38 39.6**	**-0.1**
TVF				*e*S	**Sg**	**11 38 45.7**	**-0.3**
MEF	**Metsahovi**	**1.10**	**73**	*e*P	**Pg**	**11 38 51.4**	**+0.1**
MEF	**Metsahovi**	**1.10**	**73**	*e*P	**Pg**	**11 38 51.2**	**-0.1**
MEF				*e*S	**Sg**	**11 39 05.4**	**-0.2**
RAF	**Rauma**	**1.14**	**347**	*e*P	**Pb**	**11 38 52.8**	**0.0**
RAF	**Rauma**	**1.14**	**347**	*e*P	**Pb**	**11 38 52.7**	**-0.1**
RAF				*e*S	**Sb**	**11 39 08.3**	**+0.2**
AAL	**Aland**	**1.18**	**284**	P	**Pg**	**11 38 52.6**	**-0.1**
AAL				S	**Sg**	**11 39 08.1**	**+0.2**
AAL	**Aland**	**1.18**	**284**	P	**Pg**	**11 38 52.6**	**-0.1**
AAL				S	**Sg**	**11 39 08.1**	**+0.2**
AAL	**Aland**	**1.18**	**284**	*e*P	**Pg**	**11 38 52.6**	**-0.1**
AAL				*e*S	**Sg**	**11 39 08.2**	**+0.2**
HEL5	**Espoo, Suvisaa**	**1.25**	**80**	*e*P	**Pg**	**11 38 53.9**	**-0.3**
HEL5				*e*S	**Sg**	**11 39 09.7**	**-0.7**
NUR	**Nurmijarvi**	**1.32**	**62**	*e*P	**Pg**	**11 38 55.4**	**-0.2**
NUR				*e*S	**Sb**	**11 39 12.8**	**-0.6**
HEL1	**Helsinki**	**1.33**	**77**	*e*P	**Pg**	**11 38 55.2**	**-0.5**
HEL1				*e*S	**Sg**	**11 39 12.4**	**-0.6**
NRTU	**Norrtaelje**	**1.86**	**264**	P	**Pn**	**11 39 03.9**	**+0.7**
NRTU				S	**Sb**	**11 39 29.1**	**+0.4**
NRTU	**Norrtaelje**	**1.86**	**264**	P	**Pn**	**11 39 03.9**	**+0.7**
NRTU				S	**Sb**	**11 39 29.1**	**+0.4**
PVF	**Pernaja**	**1.90**	**69**	*e*PN	**Pb**	**11 39 05.0**	**-0.6**
PVF				*e*S	**Sb**	**11 39 29.4**	**-0.4**
PVF				MSG		11 39 33.8	
	comp=Z,12nm,0.1s						
GRAU	**Graesoe**	**1.92**	**284**	P	**Pn**	**11 39 04.7**	**+0.6**
GRAU	**Graesoe**	**1.92**	**284**	P	**Pn**	**11 39 04.7**	**+0.6**
KPF	**Kankaanpaa**	**1.93**	**357**	*e*PB	**Pg**	**11 39 06.4**	**-0.7**
KPF				*e*SG	**Sg**	**11 39 32.4**	**+0.3**
KPF				MSG		11 39 35.8	
	comp=Z,10nm,0.1s						
ARBE	**Arbavere**	**1.94**	**103**	*e*P	**Pb**	**11 39 05.6**	**-0.7**
ARBE	**Arbavere**	**1.94**	**103**	*e*PG	**Pn**	**11 39 05.5**	**+1.2**
ARBE				*e*SG	**Sn**	**11 39 30.4**	**+1.0**
FORU	**Forsmark**	**2.10**	**285**	P	**Pb**	**11 39 08.1**	**-1.0**
FORU	**Forsmark**	**2.10**	**285**	P	**Pb**	**11 39 08.1**	**-1.0**
FLYU	**Flymyra**	**2.22**	**277**	P	**Pn**	**11 39 08.9**	**+0.8**
FLYU	**Flymyra**	**2.22**	**277**	P	**Pn**	**11 39 08.9**	**+0.8**
SLIT	**Slitere, Latvi**	**2.29**	**180**	*e*P	**Pn**	**11 39 10.4**	**+1.2**
SLIT	**Slitere, Latvi**	**2.29**	**180**	*e*PG	**Pn**	**11 39 10.3**	**+1.1**
SLIT				*e*SG	**Sn**	**11 39 38.2**	**+0.1**
NYNU	**Nynaeshamn**	**2.37**	**249**	P	**Pn**	**11 39 11.2**	**+1.0**
NYNU	**Nynaeshamn**	**2.37**	**249**	P	**Pn**	**11 39 11.2**	**+1.0**
FIA0	**FINESS Array S**	**2.42**	**49**	*e*PB	**Pb**	**11 39 13.8**	**-0.7**
FIA0				*e*SB	**Sb**	**11 39 45.2**	**+0.3**
FIA0				MSG		11 39 51.5	
	comp=Z,5.2nm,0.1s						
FINES	**FINESS Array B**	**2.42**	**49**	Pn	**Pb**	**11 39 13.3**	**-1.2**
	comp=Z,2.6nm,0.3s,baz=233,slow=14,SNR=81						
FINES				Sn	**Sb**	**11 39 45.6**	**+0.8**
	comp=Z,3.1nm,0.3s,baz=237,slow=25,SNR=32						
	comp=Z,5.0nm,0.3s						
FIBU	**Brunna**	**2.48**	**272**	P	**Pn**	**11 39 13.7**	**+1.9**
FIBU	**Brunna**	**2.48**	**272**	P	**Pn**	**11 39 13.7**	**+1.9**
KEF	**Keuruu**	**2.59**	**28**	*e*P	**Pb**	**11 39 17.1**	**-0.3**
KEF	**Keuruu**	**2.59**	**28**	*e*PB	**Pb**	**11 39 17.0**	**-0.4**
KEF				*e*SB	**Sb**	**11 39 50.3**	**+0.6**
KEF				MSG		11 40 01.0	
	comp=Z,3.3nm,0.1s						
OSTU	**Oestervaala**	**2.60**	**279**	P	**Pn**	**11 39 14.4**	**+1.0**
OSTU	**Oestervaala**	**2.60**	**279**	P	**Pn**	**11 39 14.4**	**+1.0**
IGGU	**Iggoen**	**2.65**	**293**	P	**Pn**	**11 39 15.4**	**+1.4**
IGGU	**Iggoen**	**2.65**	**293**	P	**Pn**	**11 39 15.4**	**+1.4**
ESKU	**Eskilstuna**	**3.07**	**260**	P	**Pn**	**11 39 21.3**	**+1.4**
ESKU	**Eskilstuna**	**3.07**	**260**	P	**Pn**	**11 39 21.3**	**+1.4**
VIKU	**Vikbolandet**	**3.20**	**246**	P	**Pn**	**11 39 22.2**	**+0.6**
VIKU	**Vikbolandet**	**3.20**	**246**	P	**Pn**	**11 39 22.2**	**+0.6**
FALU	**Falun**	**3.27**	**283**	P	**Pn**	**11 39 23.9**	**+1.3**
FALU	**Falun**	**3.27**	**283**	P	**Pn**	**11 39 23.9**	**+1.3**
HFS	**Hagfors**	**4.31**	**277**	Pn	**Pn**	**11 39 37.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=95,slow=11,SNR=11						
HFS				Sn	**Sn**	**11 40 27.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=103,slow=20,SNR=1.6						
HFS				Lg	Lg	11 40 44.2	
	comp=Z,0.6nm,0.3s,baz=76,slow=31,SNR=8.9						
	comp=Z,1.8nm,0.8s						
JOF	**Joensuu**	**5.28**	**51**	*e*P	**Pn**	**11 39 51.7**	**+1.4**
NC602	**NORSAR Array S**	**5.40**	**283**	*e*P	**Pn**	**11 39 52.5**	**+0.7**
NC602				*e*S	**Sn**	**11 40 54.2**	**-0.4**
NC602				IAML		11 41 01.2	
	comp=Z,1.6nm,0.6s						
NC303	**NORSAR Array S**	**5.54**	**288**	*e*P	**Pn**	**11 39 54.2**	**+0.4**
NC303				*e*S	**Sn**	**11 40 56.8**	**-1.3**
NC303				IAML		11 41 24.8	
	comp=Z,2.1nm,0.9s						
NB201	**NORSAR Array S**	**5.55**	**287**	*e*P	**Pn**	**11 39 54.3**	**+0.3**
NOA	**NORSAR Array B**	**5.59**	**286**	Pn	**Pn**	**11 39 54.5**	**0.0**
	baz=87,slow=13,SNR=4.1						
NOA				Sn	**Sn**	**11 40 58.1**	**-1.3**
	baz=280,slow=11,SNR=2.0						
NOA				Lg	Lg	11 41 26.0	
	baz=213,slow=17,SNR=1.6						
	comp=Z,0.2nm,0.4s						
SJUU	**Sjulsmark**	**5.62**	**357**	*e*P	**Pn**	**11 39 56.8**	**+1.9**
STRU	**Stroemstad**	**5.73**	**266**	*e*P	**Pn**	**11 39 57.8**	**+1.4**
STRU	**Stroemstad**	**5.73**	**266**	*e*P	**Pn**	**11 39 56.3**	**0.0**
NAO01	**NORSAR Array S**	**5.73**	**284**	*e*P	**Pn**	**11 39 56.6**	**+0.2**
NBO00	**NORSAR Array S**	**5.80**	**286**	*e*P	**Pn**	**11 39 56.6**	**-0.8**
NC204	**NORSAR Array S**	**5.84**	**288**	*e*P	**Pn**	**11 39 57.6**	**-0.3**
SALU	**Saltoluokta**	**7.68**	**349**	*e*P	**Pn**	**11 40 24.6**	**+1.5**
ARCES	**ARCESS Array B**	**9.76**	**7**	Pn	**Pn**	**11 40 51.1**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=9.7						
	comp=Z,1.3nm,0.7s						

ATH ***13*** *11:53:02.2, 40°.52N×25°.43E, h44km±3km, ML2.5/7, Manual Solution by K.Orfanogiannaki First location: 2019/09/13 11:53:25, This location: 2019/09/13 14:28:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
AFAD ***13*** *11:53:04.8, 40°.17N×25°.27E, h7km±3km, ML2.5*
BEO ***13*** *11:53:14.4±1.0, 40°.30N×24°.72E, h0km, ML2.4/4*

ISC 13 11:53:03.4, 40°.18N×25°.20E, h7km, ML2.6/13**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMTH	**Samothraki Isl**	**0.39**	**41**	P	Pg	11 53 10.1	-0.9
SMTH				S	Sg	11 53 14.4	-1.6
GADA	**Gvkgeada**	**0.54**	**89**	Pg	Pg	11 53 14.3	+0.5
GADA				Sg	Sb	11 53 22.4	-0.7
GOAD	**anakkale-G¶**	**0.55**	**92**	P	Pb	11 53 14.8	-0.5
GOAD				*i* IAML		11 53 22.0	
	comp=N,308nm,0.4s						
GOAD				*i* IAML		11 53 22.0	
	comp=E,394nm,0.5s						
GOAD				S	Sb	11 53 22.2	-1.1
THAS	**Thassos island**	**0.56**	**319**	P	Pg	11 53 13.5	-0.7
THAS				S	Sg	11 53 22.1	+0.5
BOZC	**Bozcaada**	**0.74**	**117**	Pg	Pb	11 53 18.4	-0.2
BOZC				Sg	Sb	11 53 28.9	0.0
BOZC	**Bozcaada**	**0.74**	**117**	P	Pb	11 53 18.3	-0.3
BOZC				S	Sg	11 53 27.9	+0.6
ECEA	**Canakkale, Ece**	**0.76**	**100**	P	Pb	11 53 18.8	-0.2
ECEA				S	Sb	11 53 29.6	+0.1
ECEA				*i* IAML		11 53 31.0	
	comp=E,434nm,0.4s						
ECEA				*i* IAML		11 53 42.0	
	comp=N,182nm,0.8s						
CAVK	**Edirne/Enez-Ca**	**0.90**	**55**	P	Pg	11 53 20.8	+0.1
CAVK				S	Sb	11 53 33.5	0.0
CAVK				*i* IAML		11 53 34.0	
	comp=E,351nm,0.5s						
CAVK				*i* IAML		11 53 36.0	
	comp=N,165nm,0.2s						
CNKL	**anakkale-Mer**	**0.92**	**97**	P	Pb	11 53 21.4	-0.2
CNKL				S	Sg	11 53 33.3	+0.3
CNKL				*i* IAML		11 53 38.0	
	comp=E,84nm,0.5s						
EZN	**Ezine**	**0.94**	**112**	Pg	Pb	11 53 21.7	-0.2
EZN				Sg	Sb	11 53 35.2	+0.7
OUR	**Ouranopolis**	**0.94**	**280**	Pg	Pb	11 53 21.9	-0.1
OUR				Sg	Sb	11 53 35.6	+0.9
OUR	**Ouranopolis**	**0.94**	**280**	P	Pg	11 53 21.4	-0.1
ALN	**Alexandroupoli**	**0.96**	**42**	Pg	Pg	11 53 22.0	+0.1
ALN				Sg	Sb	11 53 36.1	+0.7
ALN	**Alexandroupoli**	**0.96**	**42**	P	Pg	11 53 14.4	-7.5
KAVA	**Kavala**	**0.97**	**328**	P	Pg	11 53 18.4	-3.6
KOCA	**Canakkale, Ayv**	**0.99**	**133**	P	Pb	11 53 23.1	+0.2
KOCA				S	Sb	11 53 36.2	0.0
KOCA				*i* IAML		11 53 37.0	
	comp=N,166nm,0.3s						
KOCA				*i* IAML		11 53 43.0	
	comp=E,136nm,0.5s						
RDO	**Rodhopi**	**1.00**	**15**	Pg	Pg	11 53 22.2	-0.4
RDO	**Rodhopi**	**1.00**	**15**	P	Pg	11 53 14.9	-7.7
GELI	**Tayfur-Gelibol**	**1.00**	**77**	Pg	Pb	11 53 22.9	-0.1
GELI				Sg	Sn	11 53 37.4	-0.8
SIGR	**SIGRI**	**1.09**	**152**	Pn	Pb	11 53 24.7	+0.1
SIGR				Sn	Sn	11 53 40.2	-0.2
SIGR	**SIGRI**	**1.09**	**152**	P	Pb	11 53 24.8	+0.1
ERIK	**Erikli-Kesan**	**1.12**	**64**	Pn	Pg	11 53 24.9	+0.1
BAYC	**CANAKKALE_Bayr**	**1.13**	**113**	P	Pg	11 53 24.8	-0.2
BAYC				S	Sb	11 53 40.4	+0.4
BAYC				*i* IAML		11 53 42.0	
	comp=N,55nm,0.3s						
KESN	**Edirne-Kesan**	**1.30**	**60**	P	Pn	11 53 27.3	-1.0
KESN				S	Sg	11 53 44.5	-0.8
KESN				*i* IAML		11 53 46.0	
	comp=E,151nm,0.3s						
KESN				*i* IAML		11 53 47.0	
	comp=N,109nm,0.3s						
PLG	**Polygyros**	**1.35**	**279**	P	Pn	11 53 27.5	-1.2
KDZ	**Kurdzhali**	**1.45**	**4**	Pn	Pb	11 53 30.5	-0.2
SRS	**Serrai**	**1.54**	**308**	*e*Pg	Pg	11 53 33.7	+0.8
SRS				*e*Sg	Sg	11 53 52.8	0.0
YAYO	**Edremit-Balk**	**1.55**	**111**	Pn	Pn	11 53 31.8	+0.4
KRBG	**Karabiga-Canak**	**1.62**	**82**	Pn	Pn	11 53 32.9	+0.6
EDRB	**Edirne**	**2.03**	**35**	Pn	Pn	11 53 38.8	+0.7
VTS	**Vitosha**	**2.85**	**329**	*e*Pn	Pb	11 53 56.2	+1.6
VTS				*e*Sg	Sg	11 54 36.1	+1.2
ZAPS	**Zavoj**	**3.64**	**329**	*e*Pn	Pb	11 54 08.9	+0.9
ZAPS				*e*Sg	Sg	11 55 00.6	+0.4
BARS	**Barje**	**3.66**	**317**	*e*Pn	Pb	11 54 08.9	+0.5
BARS				*e*Sg	Sg	11 54 59.4	-1.5

JMA ***13*** *11:55:42.8±0.1, 24°.8N×0°.5×121°.9E±0°.3, h106km±1km, MV2.3/12, TAIWAN REGION*
TAP ***13*** *11:55:42.4, 24°.90N×121°.89E, h108km, ML2.9, B*

ISC 13 11:55:41.9±1.5, 24°.92N±0°.04×121°.88E±0°.03, h114km±7km, n92, σ0s69/161, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIPB	**Shuangxi**	**0.07**	**318**	P	**Pn**	**11 55 57.5**	**-0.2**
NTC	**Toucheng**	**0.08**	**215**	*e*P	**Pn**	**11 55 57.2**	**-0.4**
EGS		**0.09**	**146**	*e*P	**Pn**	**11 55 59.3**	**+1.7**
TWB1	**Santiao Chiao**	**0.14**	**48**	P	**Pn**	**11 55 57.5**	**-0.2**
TWB1				S	**Sn**	**11 56 08.5**	**-1.0**
SXI1	**Grass Mountain**	**0.18**	**359**	P	**Pn**	**11 55 57.3**	**-0.6**
SXI1				*e*S	**Sn**	**11 56 10.9**	**+1.0**
NWF	**Wu-fen Shan**	**0.18**	**330**	*e*P	**Pn**	**11 55 57.7**	**-0.2**
TNOU	**National Taiwa**	**0.25**	**338**	*e*P	**Pn**	**11 55 57.5**	**-0.5**
TNOU				*e*S	**Sn**	**11 56 10.8**	**+0.7**
TWE	**Neicheng**	**0.27**	**225**	*i* P	**Pn**	**11 55 58.4**	**+0.3**
TWE				*i* S	**Sn**	**11 56 10.6**	**+0.4**
TWA	**Mucha**	**0.28**	**283**	*i* P	**Pn**	**11 55 58.5**	**+0.4**
TWA				S	**Sn**	**11 56 09.7**	**-0.6**
FUSB	**Fushanzhiwuyua**	**0.31**	**239**	*i* P	**Pn**	**11 55 58.3**	**0.0**
FUSB				S	**Sn**	**11 56 10.1**	**-0.5**
TWC	**Suao**	**0.31**	**185**	*e*P	**Pn**	**11 55 58.3**	**+0.1**
TWC				*i* S	**Sn**	**11 56 09.8**	**-0.6**
NDS	**Dongshan**	**0.32**	**208**	P	**Pn**	**11 55 58.4**	**+0.8**
NDS				*e*S	**Sn**	**11 56 11.4**	**+0.9**
NHDH	**Xindian Distri**	**0.32**	**278**	P	**Pn**	**11 55 58.4**	**+0.2**
NHDH				S	**Sn**	**11 56 10.1**	**-0.4**
ESAO	**Su ao**	**0.34**	**185**	P	**Pn**	**11 55 58.6**	**+0.3**
ESAO				S	**Sn**	**11 56 10.0**	**-0.7**
NWLT	**Wulai**	**0.37**	**248**	P	**Pn**	**11 55 58.4**	**-0.2**
NWLT				S	**Sn**	**11 56 10.0**	**-1.0**
ZUZH	**Zhuzihu**	**0.39**	**309**	P	**Pn**	**11 55 58.5**	**-0.2**
ZUZH				S	**Sn**	**11 56 10.8**	**-0.4**
ENTT	**Nioudou**	**0.40**	**226**	*i* P	**Pn**	**11 55 59.0**	**+0.3**
ENTT				*e*S	**Sn**	**11 56 11.9**	**+0.6**
TWY	**Chenhua**	**0.44**	**325**	P	**Pn**	**11 55 58.9**	**0.0**
TWY				*e*S	**Sn**	**11 56 12.4**	**+0.8**
TWS1	**Kuangyinshan**	**0.46**	**294**	*i* P	**Pn**	**11 55 59.4**	**+0.5**
TWS1				S	**Sn**	**11 56 12.2**	**+0.5**
NTST	**Dansh

WJS				*e*S		**Sn**	**11 56 30.2**	**+0.4**
WHYT	**Xinyi Township**	**1.53**	**218**	P		**Pn**	**11 56 10.4**	**+0.9**
WHYT				*i* S		**Sn**	**11 56 31.1**	**+0.7**
YULB	**Yu-li**	**1.61**	**199**	*e*P		**Pn**	**11 56 09.4**	**-0.9**
YULB				*e*S		**Sn**	**11 56 29.7**	**-2.2**
TWF1	**Yuli**	**1.65**	**199**	*e*P		**Pn**	**11 56 10.2**	**-0.6**
ALS	**Alishan**	**1.71**	**215**	*e*P		**Pn**	**11 56 12.7**	**+0.9**
ALS				S		**Sn**	**11 56 35.1**	**+0.5**
CHN5	**Tsauling**	**1.71**	**220**	*e*P		**Pn**	**11 56 12.5**	**+0.9**
CHN5				S		**Sn**	**11 56 34.9**	**+0.7**
IRIF	**Iriomote-Funau**	**1.78**	**109**	P		**Pn**	**11 56 12.6**	**+0.3**
IRIF				*e*S		**Sn**	**11 56 35.1**	**-0.5**
FULB	**Fuli**	**1.79**	**197**	*e*P		**Pn**	**11 56 12.6**	**0.0**
FULB				*e*S		**Sn**	**11 56 36.4**	**+0.5**
EHD	**Haiduan**	**1.86**	**199**	*e*P		**Pn**	**11 56 12.8**	**-0.7**
WCKO	**Fanlu**	**1.88**	**219**	*e*P		**Pn**	**11 56 14.3**	**+0.8**
WCKO				*i* S		**Sn**	**11 56 38.2**	**+0.5**
CHY	**Chiayi**	**1.94**	**224**	*e*P		**Pn**	**11 56 14.7**	**+0.4**
CHY				*e*S		**Sn**	**11 56 38.7**	**-0.4**
HATJ	**Hateruma jima**	**1.95**	**116**	*e*S		**Sn**	**11 56 39.5**	**+0.2**
TPUB	**Ta-pu**	**1.97**	**216**	*e*P		**Pn**	**11 56 15.3**	**+0.5**
TPUB				*e*S		**Sn**	**11 56 40.0**	**+0.1**
STYH	**Taoyuan**	**2.01**	**210**	*e*P		**Pn**	**11 56 16.8**	**+1.6**
STYH				*e*S		**Sn**	**11 56 41.7**	**+1.1**
WTP	**Ta-pu**	**2.03**	**215**	*e*P		**Pn**	**11 56 16.0**	**+0.5**
WTP				*e*S		**Sn**	**11 56 40.3**	**-0.8**
WSL	**Shuilin Townsh**	**2.05**	**228**	*e*P		**Pn**	**11 56 16.1**	**+0.4**
WSL				*e*S		**Sn**	**11 56 41.4**	**-0.1**
JKRS	**Kuro-shima**	**2.06**	**109**	P		**Pn**	**11 56 16.0**	**+0.3**
JIJ	**Ishigaki jima**	**2.13**	**105**	P		**Pn**	**11 56 16.8**	**0.0**
VWUC	**VWUC**	**2.21**	**272**	P		**Pn**	**11 56 17.8**	**+0.2**
VWUC				*e*S		**Sn**	**11 56 43.8**	**-1.3**
TWG	**Pinlang**	**2.21**	**200**	*e*P		**Pn**	**11 56 18.5**	**+0.7**
TWGBT	**Beinan**	**2.21**	**199**	*e*P		**Pn**	**11 56 18.5**	**+0.6**
JISG	**Ishigakijimahi**	**2.24**	**98**	P		**Pn**	**11 56 18.7**	**+0.7**
PTMZ	**Houxiangcun**	**2.51**	**273**	P		**Pn**	**11 56 21.8**	**+0.3**
PTMZ				*e*S		**Sn**	**11 56 50.4**	**-1.5**
PHUB	**P'eng-hu**	**2.53**	**237**	P		**Pn**	**11 56 21.4**	**-0.5**
PHUB				S		**Sn**	**11 56 50.8**	**-1.7**
MASBT	**Mashibuluo**	**2.56**	**207**	*e*P		**Pn**	**11 56 23.3**	**+1.0**

IDC 13 11:58:09.0±1.4, 3°19S×139°51E, h0km, mb3.4/3, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=38.5km s-min=14.4km az=143.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.37**	**61**	Pg	Pg	11 58 35.1	-0.2
	22nm,0.3s,baz=218,slow=12,SNR=9.3						
JAY				Lg	Lg	11 58 52.6	
	28nm,0.3s,baz=125,slow=21,SNR=5.9						
WRA	**Warramunga Arr**	**17.39**	**196**	P	Pn	12 02 13.0	-0.4
	0.2nm,0.3s,baz=15,slow=13,SNR=2.7						
WRA				S	Sn	12 05 13.3	-14
	0.5nm,1.0s,baz=10,slow=23,SNR=2.4						
	0.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.10**	**222**	P	P	12 02 44.6	+0.1
	1.1nm,0.4s,baz=37,slow=12,SNR=2.4						
FITZ				S	S	12 06 22.9	-8.4
	1.9nm,1.0s,baz=39,slow=6.5,SNR=1.6						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**21.06**	**194**	P	P	12 02 54.7	-0.2
	0.9nm,0.9s,baz=25,slow=11,SNR=6.8						
	0.9nm,0.9s						
MKAR	**Makanchi Array**	**70.66**	**322**	P	P	12 09 26.7	0.0
	0.2nm,0.4s,baz=116,slow=5.3,SNR=2.3						
	0.2nm,0.4s						

*NEIC **13** 12:04:36.8±0.8, 35°.296N×0°.005×97°.66W±0°.01, h6km±1km, Error ellipse: s-maj=1.6km s-min=0.8km az=92.0*

NEIC 13 12:04:36.6±1.0, 35°.293N±0°.008×97°.65W±0°.01, h5km±1km, ML1.8/4, ML1.9/26, Error ellipse: s-maj=2.0km s-min=1.8km az=268.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	**0.20**	**53**		Pg	12 04 41.6	+1.0
OKCFA					Sg	12 04 44.5	+1.3
FNO	**Franklin**	**0.21**	**100**		Pg	12 04 41.3	+0.6
FNO					Sg	12 04 44.0	+0.6
OK052	**Battle Ridge R**	**0.98**	**44**	Pg	Pg	12 04 55.4	-0.1
WMOK	**Wichita Mounta**	**1.08**	**240**	Pg	Pg	12 04 56.1	-1.2
DEOK	**Depew**	**1.09**	**59**	Pg	Pg	12 04 56.8	-0.6
DEOK				IAML		12 05 13.7	
	comp=E,33nm,0.1s						
DEOK				IAML		12 05 14.9	
	comp=N,32nm,0.6s						
QUOK	**Quay**	**1.16**	**41**	Pg	Pg	12 04 58.1	-0.8
CROK	**Carrier**	**1.24**	**347**		Pg	12 04 59.3	-1.0
CROK				IAML		12 05 21.3	
	comp=E,39nm,0.3s						
CROK				IAML		12 05 25.8	
	comp=N,28nm,0.3s						
LOOK	**Love County**	**1.35**	**163**		Pn	12 05 00.5	-1.6
BLOK	**Blackwell**	**1.51**	**13**		Pn	12 05 04.5	+0.2
KAN14	**Manchester OK**	**1.68**	**351**		Pn	12 05 05.8	-0.8

*SNET **13** 12:12:48.0±1.5, 13°.16N×88°.83W, h78km, ML2.9*

CATAC 13 12:12:47.9±0.7, 13°N±5°×8°9W±°, h34km±6km, M3.1/11, MLv3.1/11, Error ellipse: s-maj=10.8km s-min=4.2km az=18.6, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UESV	**Universidad de**	**0.65**	**13**	S	Sb	12 13 11.7	+1.6
UESV	**Universidad de**	**0.65**	**13**	P	Pb	12 13 01.1	+0.1
LOMA	**Loma Larga**	**0.68**	**340**	P	Pb	12 13 01.8	+0.1
PAVA	**Las Pavas**	**0.71**	**360**	P	Pn	12 13 01.9	+0.2
PAVA	**Las Pavas**	**0.71**	**360**	S	Sb	12 13 13.1	+1.3
PQSS	**Presa 15 de Se**	**0.72**	**30**	P	Pb	12 13 02.1	-0.1
PQSS	**Presa 15 de Se**	**0.72**	**30**	S	Sb	12 13 13.3	+1.4
PACA	**Pacayal**	**0.76**	**52**	S	Sb	12 13 14.6	+1.5
PACA	**Pacayal**	**0.76**	**52**	P	Pb	12 13 03.0	+0.1
PMON	**Piamonte**	**0.80**	**333**	P	Pb	12 13 03.6	0.0
PMON	**Piamonte**	**0.80**	**333**	S	Sb	12 13 14.6	+0.4
BLLM	**Bellamira**	**0.81**	**57**	*e*P	Pn	12 13 03.1	+0.1
JAYA	**Jayaque - finc**	**0.82**	**323**	*e*S	Sb	12 13 16.5	+1.6
JAYA	**Jayaque - finc**	**0.82**	**323**	P	Pn	12 13 03.4	+0.1
CEVE	**Cerro Verde**	**1.06**	**321**	*e*P	Pn	12 13 06.8	+0.1
CEVE				*e*S	Sb	12 13 23.9	+2.1
CEVE	**Cerro Verde**	**1.06**	**321**	P	Pb	12 13 07.4	-0.7
LCND	**La Caada**	**1.06**	**73**	*e*P	Pn	12 13 06.7	+0.2
LCND				*e*S	Sb	12 13 20.8	+0.7
LCND	**La Caada**	**1.06**	**73**	P	Pn	12 13 06.6	+0.1
CNCH	**Conchagua**	**1.11**	**75**	*e*P	Pn	12 13 07.0	+0.1
CNCH				*e*S	Sb	12 13 22.8	-0.2
CNCH	**Conchagua**	**1.11**	**75**	P	Pn	12 13 06.8	-0.4
LLGN	**La Laguna**	**1.16**	**360**	P	Pn	12 13 08.2	+0.4
NUBE	**Las Nubes**	**1.22**	**318**	P	Pn	12 13 09.1	+0.3
NUBE	**Las Nubes**	**1.22**	**318**	S	Sn	12 13 24.4	+0.3
MTO3	**Montecristo**	**1.45**	**344**	P	Pn	12 13 11.9	-0.1
MTO3	**Montecristo**	**1.45**	**344**	S	Sn	12 13 30.1	0.0
SARH	**Santa Rosa de**	**1.78**	**5**	P	Pn	12 13 16.7	+0.3
CHOHN	**Orocuina**	**1.80**	**74**	P	Pn	12 13 15.9	-0.7
YUSH	**Yuscaran**	**2.25**	**65**	P	Pn	12 13 22.4	-0.5

*IDC **13** 12:31:17.2±1.8, 35°.96N×22°.10E, h94km±19km, mb3.6/7, mbtmp3.9/12, Error ellipse: s-maj=36.4km s-min=14.7km az=20.0*

*HLW **13** 12:31:17.5, 35°.96N×22°.16E, h81km±7km, Ml4.0*

*NEIC **13** 12:31:17.6±2.3, 36°.08N±0°.03×22°.13E±0°.07, h90km±8km, mb4.2/9, Error ellipse: s-maj=8.3km s-min=3.7km az=115.0*

*ATH **13** 12:31:19.5±0.4, 36°.16N×22°.25E, h88km±5km, ML3.6/20, Manual Solution by I.Dede First location: 2019/09/13 12:32:30, This location: 2019/09/13 12:49:00 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*

*THE **13** 12:31:19.8, 36°N±2°×2°2E±°, h105km±4km, M3.6/33, mb4.1/3, MLh3.6/33*

*GII **13** 12:31:25.7±0.0, 35°.766N±0°.002×23°.103E±0°.001, h100km, Mws4.0, confirmed*

ISC 13 12:31:16.8±0.7, 36°.08N±0°.04×22°.26E±0°.04, h102km±6km, n211, σ2.27/241, mb3.9/10, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTHA	**Kythira Island**	**0.68**	**74**	P	**Pn**	**12 31 36.4**	**+2.2**
KTHA				S	**Sn**	**12 31 49.5**	**+2.3**
KTHA	**Kythira Island**	**0.68**	**74**	P	**Pn**	**12 31 36.4**	**+2.2**
KTHA	**Kythira Island**	**0.68**	**74**	P	**Pn**	**12 31 36.5**	**+2.2**
VLI	**Veliai**	**0.84**	**40**	P	**Pn**	**12 31 38.1**	**+2.4**
VLI				S	**Sn**	**12 31 52.1**	**+2.1**
VLI	**Veliai**	**0.84**	**40**	P	**Pn**	**12 31 38.0**	**+2.3**
VLI				S	**Sn**	**12 31 50.9**	**+1.0**
ANKY	**Antikythira Is**	**0.87**	**103**	P	**Pn**	**12 31 38.8**	**+2.8**
ANKY				S	**Sn**	**12 31 53.5**	**+3.1**
ANKY	**Antikythira Is**	**0.87**	**103**	P	**Pn**	**12 31 38.7**	**+2.7**
ANKY				S	**Sn**	**12 31 53.1**	**+2.7**
ITM	**Ithomi**	**1.13**	**347**	Pn	**Pn**	**12 31 39.5**	**+0.6**
ITM				Sn	**Sn**	**12 31 52.3**	**-3.2**
ITM	**Ithomi**	**1.13**	**347**	P	**Pn**	**12 31 39.6**	**+0.8**
ITM				S	**Sn**	**12 31 55.3**	**-0.2**
VLX	**Vlachokerasia**	**1.30**	**4**	P	**Pn**	**12 31 42.4**	**+1.6**
MET6	**Megalochori,Me**	**1.75**	**30**	P	**Pn**	**12 31 47.8**	**+1.5**
MET6				S	**Sn**	**12 32 09.6**	**+0.9**
MET2	**Kameni Chora,**	**1.76**	**29**	P	**Pn**	**12 31 47.9**	**+1.5**
MET2				S	**Sn**	**12 32 10.2**	**+1.3**
MET5	**Makryloggos,Me**	**1.78**	**29**	P	**Pn**	**12 31 48.3**	**+1.6**
MET5				S	**Sn**	**12 32 11.1**	**+1.8**
MET4	**Agioi Theodoro**	**1.80**	**30**	P	**Pn**	**12 31 48.2**	**+1.4**
MET4				S	**Sn**	**12 32 09.3**	**-0.3**
MHLO	**Agia Marina, M**	**1.84**	**70**	P	**Pn**	**12 31 49.2**	**+1.9**
MHLO				S	**Sn**	**12 32 12.2**	**+1.6**
MHLO	**Agia Marina, M**	**1.84**	**70**	P	**Pn**	**12 31 49.2**	**+1.9**
MHLO				S	**Sn**	**12 32 12.2**	**+1.6**
GUR	**Goura**	**1.86**	**2**	P	**Pn**	**12 31 49.4**	**+1.7**
GUR				S	**Sn**	**12 32 11.7**	**+0.5**
GUR	**Goura**	**1.86**	**2**	P	**Pn**	**12 31 49.6**	**+1.8**
GUR				S	**Sn**	**12 32 11.2**	**-0.1**
DRO	**Drossia**	**1.92**	**347**	P	**Pn**	**12 31 49.7**	**+1.2**
DRO	**Drossia**	**1.92**	**347**	P	**Pn**	**12 31 49.7**	**+1.2**
DRO				S	**Sn**	**12 32 13.3**	**+0.7**
GVD	**Gavdhos**	**1.94**	**129**	*e*P	**Pn**	**12 31 51.6**	**+3.0**
GVD				*e*S	**Sn**	**12 32 15.7**	**+2.8**
GVD	**Gavdhos**	**1.94**	**129**	P	**Pn**	**12 31 51.2**	**+2.6**
PRNS	**Prines Rethymn**	**1.96**	**111**	P	**Pn**	**12 31 51.0**	**+2.1**
KLV	**Kalavryta, Ach**	**1.97**	**358**	P	**Pn**	**12 31 50.9**	**+1.8**
KLV	**Kalavryta, Ach**	**1.97**	**358**	P	**Pn**	**12 31 50.9**	**+1.8**
LOUT	**Loutraki**	**1.99**	**17**	P	**Pn**	**12 31 50.4**	**+1.0**
LOUT				S	**Sn**	**12 32 13.7**	**-0.5**
LTK	**Loutraki**	**2.02**	**16**	P	**Pn**	**12 31 51.0**	**+1.2**
LTK				S	**Sn**	**12 32 14.2**	**-0.7**
LTK	**Loutraki**	**2.02**	**16**	P	**Pn**	**12 31 51.0**	**+1.2**
RLS	**Riolos of Patr**	**2.08**	**343**	P	**Pn**	**12 31 51.9**	**+1.5**
RLS				S	**Sn**	**12 32 16.5**	**+0.4**
RLS	**Riolos of Patr**	**2.08**	**343**	P	**Pn**	**12 31 51.8**	**+1.4**
VLY	**Voula,Athens**	**2.16**	**34**	P	**Pn**	**12 31 52.6**	**+1.1**
VLY				S	**Sn**	**12 32 17.7**	**-0.3**
VLY	**Voula,Athens**	**2.16**	**34**	P	**Pn**	**12 31 52.3**	**+0.8**
ATH	**Athens Observa**	**2.23**	**31**	P	**Pn**	**12 31 53.8**	**+1.4**
ATH				S	**Sn**	**12 32 19.7**	**+0.2**
ATH	**Athens Observa**	**2.23**	**31**	P	**Pn**	**12 31 53.7**	**+1.4**
AXS	**Araxos**	**2.23**	**342**	P	**Pn**	**12 31 54.0**	**+1.6**
AXS				S	**Sn**	**12 32 20.2**	**+0.5**
AXS	**Araxos**	**2.23**	**342**	P	**Pn**	**12 31 53.7**	**+1.3**
MAGU	**Magoula**	**2.24**	**26**	P	**Pn**	**12 31 53.7**	**+1.2**
MAGU				S	**Sn**	**12 32 19.3**	**-0.5**
MAGU	**Magoula**	**2.24**	**26**	P	**Pn**	**12 31 53.7**	**+1.2**
ATHU	**Athens Univers**	**2.25**	**32**	P	**Pn**	**12 31 52.9**	**+0.2**
VILL	**Villia**	**2.25**	**22**	P	**Pn**	**12 31 53.6**	**+0.9**
VILL				S	**Sn**	**12 32 19.7**	**-0.5**
VIL2	**Platees**	**2.28**	**20**	P	**Pn**	**12 31 53.7**	**+0.6**
IDI	**Anoyia**	**2.28**	**109**	*e*P	**Pn**	**12 31 56.2**	**+3.0**
IDI	**Anoyia**	**2.28**	**109**	Pn	**Pn**	**12 31 54.7**	**+1.5**
IDI				Sn	**Sn**	**12 32 20.5**	**-0.6**
IDI	**Anoyia**	**2.28**	**109**	P	**Pn**	**12 31 56.1**	**+2.9**
IDI	**Anoyia**	**2.28**	**109**	P	**Pn**	**12 31 55.4**	**+2.2**
	12nm,0.3s,baz=239,slow=7.3,SNR=25						
IDI				S	**Sn**	**12 32 23.4**	**+2.4**
	38nm,0.3s,baz=276,slow=13,SNR=10						
IDI	**Anoyia**	**2.28**	**109**	P	**Pn**	**12 31 55.7**	**+2.5**
KALE	**Kalithea**	**2.31**	**358**	P	**Pn**	**12 31 54.6**	**+1.0**
KALE				S	**Sn**	**12 32 21.8**	**0.0**
KALE	**Kalithea**	**2.31**	**358**	P	**Pn**	**12 31 54.8**	**+1.3**
STFN	**Stefani**	**2.34**	**26**	P	**Pn**	**12 31 55.1**	**+1.2**
STFN				S	**Sn**	**12 32 21.8**	**-0.4**
SERG	**Sergoula**	**2.34**	**356**	P	**Pn**	**12 31 55.2**	**+1.3**
SERG				S	**Sn**	**12 32 22.6**	**+0.3**
PTL	**Penteli**	**2.35**	**33**	P	**Pn**	**12 31 55.5**	**+1.5**
PTL				S	**Sn**	**12 32 22.3**	**-0.2**
PTL	**Penteli**	**2.35**	**33**	P	**Pn**	**12 31 55.5**	**+1.5**
EFP	**Efpalio**	**2.36**	**353**	P	**Pn**	**12 31 55.7**	**+1.6**
EFP	**Efpalio**	**2.36**	**353**	P	**Pn**	**12 31 56.4**	**+2.2**
DION	**Dionisos Attik**	**2.41**	**33**	P	**Pn**	**12 31 56.1**	**+1.3**
DION				S	**Sn**	**12 32 23.6**	**-0.2**
DION	**Dionisos Attik**	**2.41**	**33**	P	**Pn**	**12 31 56.1**	**+1.3**
VLS	**Valsamata**	**2.48**	**328**	P	**Pn**	**12 31 55.8**	**+0.1**
SAP3	**Santorini-Thir**	**2.52**	**81**	P	**Pn**	**12 31 58.6**	**+2.4**
SAP3				S	**Sn**	**12 32 28.1**	**+1.6**
ANX	**Ano Chora**	**2.53**	**354**	P	**Pn**	**12 31 58.1**	**+1.6**
ANX				S	**Sn**	**12 32 28.3**	**+1.5**
ANX	**Ano Chora**	**2.53**	**354**	P	**Pn**	**12 31 58.0**	**+1.6**
SNT5	**Nea Kammeni, S**	**2.56**	**82**	P	**Pn**	**12 31 58.7**	**+2.0**
SNT5				S	**Sn**	**12 32 29.9**	**+2.5**
THR3	**Thira Island,**	**2.56**	**82**	P	**Pn**	**12 31 59.2**	**+2.4**
PVO	**Paravola**	**2.60**	**347**	P	**Pn**	**12 31 59.5**	**+2.2**
PVO	**Paravola**	**2.60**	**347**	P	**Pn**	**12 31 59.4**	**+2.1**
KARY	**Karystos**	**2.62**	**41**	P	**Pn**	**12 31 59.0**	**+1.4**
KARY				S	**Sn**	**12 32 28.9**	**+0.2**
KARY	**Karystos**	**2.62**	**41**	P	**Pn**	**12 31 58.9**	**+1.4**
THERA	**Ancient Thera,**	**2.62**	**83**	P	**Pn**	**12 31 59.7**	**+2.2**
THERA				S	**Sn**	**12 32 30.4**	**+1.6**
THERA	**Ancient Thera,**	**2.62**	**83**	P	**Pn**	**12 31 59.9**	**+2.4**
AST1	**Astakos**	**2.63**	**340**	P	**Pn**	**12 31 58.9**	**+1.3**
LKR	**Lokris**	**2.64**	**13**	P	**Pn**	**12 31 58.6**	**+0.8**
LKR				S	**Sn**	**12 32 28.2**	**-1.0**
LKR	**Lokris**	**2.64**	**13**	P	**Pn**	**12 31 58.4**	**+0.7**
ATAL	**Atalanti**	**2.68**	**13**	P	**Pn**	**12 31 59.3**	**+0.9**
ATAL	**Atalanti**	**2.68**	**13**	P	**Pn**	**12 31 59.3**	**+0.9**
FSK	**Fiskardo**	**2.74**	**331**	P	**Pn**	**12 31 59.5**	**+0.5**
APE	**Apeiranthos**	**2.82**	**68**	*e*P	**Pn**	**12 32 00.9**	**+0.7**
APE	**Apeiranthos**	**2.82**	**68**	P	**Pn**	**12 32 02.2**	**+2.1**
APE	**Apeiranthos**	**2.82**	**68**	P	**Pn**	**12 32 02.0**	**+1.9**
APE				S	**Sn**	**12 32 31.9**	**-1.6**
APE	**Apeiranthos**	**2.82**	**68**	P	**Pn**	**12 32 02.1**	**+1.9**
EVR	**Evrytania**	**2.86**	**353**	P	**Pn**	**12 32 03.1**	**+2.3**
EVR	**Evrytania**	**2.86**	**353**	P	**Pn**	**12 32 02.8**	**+2.0**
MAKR	**Makrakomi, Fth**	**2.93**	**358**	P	**Pn**	**12 32 03.5**	**+1.8**
MAKR				S	**Sn**	**12 32 37.3**	**+1.0**
KYMI	**Kymi, Euboea I**	**2.94**	**29**	P	**Pn**	**12 32 03.0**	**+1.2**
AMPL	**Ampelaki**	**2.96**	**344**	P	**Pn**	**12 32 03.2**	**+1.1**
NEO	**Neokhori**	**3.32**	**13**	P	**Pn**	**12 32 07.5**	**+0.7**
SKY	**Skiros Island**	**3.34**	**32**	P	**Pn**	**12 32 08.1**	**+1.0**
AOS	**Alonnisos**	**3.35**	**22**	P	**Pn**	**12 32 07.8**	**+0.6**
TETR	**Tetrakomo, Epi**	**3.35**	**347**	P	**Pn**	**12 32 08.7**	**+1.3**
ZKR	**Zakros**	**3.37**	**105**	*e*P	**Pn**	**12 32 10.2**	**+2.7**
THL	**Klokotos Trika**	**3.49**	**357**	P	**Pn**	**12 32 09.8**	**+0.7**
CHIOS	**Chios island**	**3.81**	**52**	P	**Pn**	**12 32 15.1**	**+1.6**
PAIG	**Paliouri**	**4.01**	**16**	P	**Pn**	**12 32 16.5**	**+0.5**
SMG	**Samos**	**4.02**	**65**	P	**Pn**	**12 32 18.3**	**+2.1**
KARP	**Karpathos**	**4.02**	**96**	Pn	**Pn**	**12 32 17.8**	**+1.5**
KARP	**Karpathos**	**4.02**	**96**	P	**Pn**	**12 32 18.6**	**+2.3**
LIT	**Litokhoron**	**4.02**	**3**	Pn	**Pn**	**12 32 16.5**	**+0.2**
LIT				Sn	**Sn**	**12 33 00.2**	**-2.2**
KEK	**Kerkira**	**4.12**	**333**	Pn	**Pn**	**12 32 20.1**	**+2.5**
SIGR	**SIGRI**	**4.24**	**41**	P	**Pn**	**12 32 20.4**	**+1.3**
KZN	**Kozani**	**4.24**	**355**	P	**Pn**	**12 32 20.0**	**+0.7**
DAT	**Datca**	**4.34**	**80**	*e*P	**Pn**	**12 32 21.8**	**+1.1**
PLG	**Polygyros**	**4.39**	**12**	P	**Pn**	**12 32 21.9**	**+0.6**
NEST	**Nestorio**	**4.43**	**348**	P	**Pn**	**12 32 23.0**	**+1.0**
LIA	**Limnos Island**	**4.46**	**30**	P	**Pn**	**12 32 23.2**	**+1.1**
OUR	**Ouranopolis**	**4.46**	**17**	P	**Pn**	**12 32 22.7**	**+0.5**
PRK	**Paraskevi**	**4.49**	**44**	P	**Pn**	**12 32 24.3**	**+1.7**
ARG	**Arkhangelos**	**4.75**	**87**	*e*P	**Pn**	**12 32 28.8**	**+2.7**
ARG	**Arkhangelos**	**4.75**	**87**	Pn	**Pn**	**12 32 29.1**	**+2.9**
ARG	**Arkhangelos**	**4.75**	**87**	P	**Pn**	**12 32 28.8**	**+2.7**
FNA	**Florina**	**4.75**	**352**		**Pn**	**12 32 26.3**	**+0.1**
SOH	**Sokhos**	**4.82**	**10**	P	**Pn**	**12 32 27.7**	**+0.6**
TURN	**Turunc**	**4.88**	**80**	*e*P	**Pn**	**12 32 30.5**	**+2.7**
THAS	**Thassos island**	**4.92**	**22**	P	**Pn**	**12 32 28.8**	**+0.4**
SLUM	**Salum**	**5.19**	**151**	P	**Pn**	**12 32 33.2**	**+1.0**
SLUM				S	**Sn**	**12 33 27.3**	**-3.5**
TIP	**Timpagrande**	**5.35**	**307**	Pn	**Pn**	**12 32 34.0**	**-0.3**
CEL	**Celeste**	**5.53**	**295**		**Pn**	**12 32 35.9**	**-0.8**
MANT	**Manisa**	**5.57**	**62**	Pn	**Pn**	**12 32 39.2**	**+1.7**
ALN	**Alexandroupoli**	**5.66**	**31**	Pn	**Pn**	**12 32 38.6**	**+0.2**
RDO	**Rodhopi**	**5.68**	**26**		**Pn**	**12 32 39.7**	**+1.0**
RDO	**Rodhopi**	**5.68**	**26**	P	**Pn**	**12 32 39.4**	**+0.8**
	25nm,0.9s						
CAME	**Cameli-Denizli**	**5.74**	**79**	*e*P	**Pn**	**12 32 43.1**	**+3.4**
APMY	**Acipayam-Deniz**	**5.83**	**74**	*e*P	**Pn**	**12 32 43.4**	**+2.6**
KSL	**Kastellorizon**	**5.93**	**87**	P	**Pn**	**12 32 44.5**	**+2.4**
RZN	**Rozhen**	**5.94**	**18**	P	**Pn**	**12 32 43.5**	**+1.2**
	13nm,0.8s						
AKAS	**Kas**	**5.95**	**86**	*e*P	**Pn**	**12 32 44.8**	**+2.3**
AKAS	**Kas**	**5.95**	**86**	Pn	**Pn**	**12 32 44.5**	**+2.0**
KDZ	**Kurdzhali**	**6.04**	**23**	P	**Pn**	**12 32 44.6**	**+0.9**
WDD	**Wied Dalam**	**6.28**	**270**	Pn	**Pn**	**12 32 45.2**	**-1.6**
CUC	**Castrocucco**	**6.41**	**310**	Pn	**Pn**	**12 32 48.3**	**-0.4**
RAFF	**Raffo Rosso**	**6.45**	**283**		**Pn**	**12 32 48.5**	**-0.6**
VAE	**Valguarnera**	**6.45**	**285**	P	**Pn**	**12 32 47.7**	**-1.5**
	10nm,0.3s,baz=121,slow=19,SNR=1.6						
VAE				S	**Sn**	**12 33 55.0**	**-6.4**
	24nm,0.3s,baz=257,slow=1.5,SNR=6.5						
PDG	**Podgorica**	**6.76**	**341**	Pn	**Pn**	**12 32 50.8**	**-2.5**
ACER	**Acerenza**	**6.83**	**315**	Pn	**Pn**	**12 32 51.0**	**-3.4**
SWA2		**7.33**	**158**	P	**Pn**	**12 33 00.9**	**-0.2**
SGRT	**San Giovanni R**	**7.61**	**320**	Pn	**Pn**	**12 33 02.0**	**-3.0**
CSS	**Mathiatis**	**9.10**	**94**	Pn	**Pn**	**12 33 24.1**	**-1.1**
CSS	**Mathiatis**	**9.10**	**94**	P	**Pn**	**12 33 25.1**	**-0.1**
CSS	**Mathiatis**	**9.10**	**94**	S	**Sn**	**12 34 58.2**	**-7.6**
BR131	**Keskin Array S**	**9.71**	**65**	Pn	**Pn**	**12 33 36.7**	**+3.1**
BRTR	**Keskin Array B**	**9.71**	**65**	Pn	**Pn**	**12 33 37.0**	**+3.5**
BRTR	**Keskin Array B**	**9.71**	**65**	P	**Pn**	**12 33 37.8**	**+4.2**
	2.8nm,0.7s,baz=252,slow=14,SNR=8.7						
RYAN	**Fayoum**	**9.71**	**134**	P	**Pn**	**12 33 35.2**	**+1.7**
NRCA	**Norcia**	**9.77**	**316**	Pn	**Pn**	**12 33 35.5**	**+1.2**
HFRF	**Wahat Farafira**	**10.28**	**148**	P	**Pn**	**12 33 42.5**	**+1.2**
HNTI	**Hanita**	**11.06**	**102**	P	**Pn**	**12 33 51.1**	**-0.7**
HNTI	**Hanita**	**11.06**	**102**	S	Sn	12 35 44.8	-8.8
OFRI	**`Ofer**	**11.07**	**104**	P	**Pn**	**12 33 51.1**	**-0.9**
OFRI	**`Ofer**	**11.07**	**104**	S	Sn	12 35 45.0	-8.8
MMI7	**Mount Meron ar**	**11.25**	**102**	P	**Pn**	**12 33 53.6**	**-0.9**
SLTI	**Sal'it**	**11.26**	**106**	P	**Pn**	**12 33 53.6**	**-0.9**
SLTI	**Sal'it**	**11.26**	**106**	S	Sn	12 35 49.5	-8.9
MMA0B	**Mount Meron ar**	**11.26**	**102**	P	**Pn**	**12 33 53.6**	**-1.0**
MMA0B	**Mount Meron ar**	**11.26**	**102**	S	**Sn**	**12 35 50.3**	**-8.3**
MMAI	**Mount Meron Ar**	**11.26**	**102**	P	**Pn**	**12 33 52.5**	**-2.1**
	1.1nm,0.2s,baz=283,slow=16,SNR=9.8

SGSI				S		Sg	12 41 15.5	+0.3
TNTI	**Ternate**	**6.11**	**157**			**Pn**	**12 41 14.7**	**-1.0**
TNTI	**Ternate**	**6.11**	**157**	P		**Pn**	**12 41 20.0**	**+4.3**
	0.3nm104nm,1.0s							
MYLDM	**Lahad Datu**	**6.61**	**259**	Pn		**Pn**	**12 41 22.7**	**0.0**
MRSI	**Marisa**	**6.68**	**208**	P		**Pb**	**12 41 38.3**	**-3.4**
	0.3nm1µm57nm,0.7s							
LUWI	**Luwuk**	**7.78**	**197**	Pn		**Pn**	**12 41 38.5**	**-0.1**
KAPI	**Kappang**	**12.55**	**205**	LR		LR	12 48 38.0	
	comp=Z,38nm,18.6s,baz=72,slow=43							
SBUM	**Sibu**	**13.37**	**253**	Pn		**Pn**	**12 42 55.4**	**+0.1**
JOW	**Kunigami**	**20.50**	**8**	LR		LR	12 51 17.0	
	comp=Z,81nm,21.9s,baz=144,slow=34							
KNRA	**Kununurra**	**22.30**	**170**			**P**	**12 44 44.7**	**+1.7**
KNRA					IAmb	IAmb	12 44 52.1	
	comp=Z,18nm,1.1s							
FITZ	**Fitzroy Crossi**	**24.40**	**179**			**P**	**12 45 05.5**	**+1.4**
COEN	**Coen**	**27.12**	**138**	P		**P**	**12 45 25.9**	**-3.0**
COEN					IAmb	IAmb	12 45 55.3	
	comp=Z,16nm,1.1s							
WB0	**Warramunga Arr**	**27.64**	**161**	P		**P**	**12 45 32.4**	**-1.0**
WB0					IAmb	IAmb	12 46 04.1	
	comp=Z,10nm,1.4s							
WRA	**Warramunga Arr**	**27.78**	**161**	P		**P**	**12 45 34.2**	**-0.5**
WRA	**Warramunga Arr**	**27.78**	**161**	P		**P**	**12 45 32.8**	**-1.9**
	comp=Z,2.8nm,1.1s,baz=333,slow=10,SNR=17							
WRA				PcP		**PcP**	**12 48 49.4**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=3.0,slow=5.7,SNR=1.9							
	comp=Z,2.8nm,1.1s							
WR8	**Warramunga Arr**	**27.85**	**161**	P		**P**	**12 45 33.9**	**-1.4**
WR8					IAmb	IAmb	12 46 06.8	
	comp=Z,7.7nm,1.2s							
MBWA	**Marble Bar**	**27.93**	**191**	P		**P**	**12 45 35.8**	**-0.1**
MBWA					IAmb	IAmb	12 45 44.5	
	comp=Z,17nm,1.4s							
CMAR	**Chiang Mai Arr**	**28.07**	**298**	LR		LR	12 56 44.9	
	comp=Z,28nm,21.9s,baz=110,slow=36							
PSA00	**Pilbara Seismi**	**28.31**	**190**	P		**P**	**12 45 39.8**	**+0.4**
RABL	**Rabaul**	**29.09**	**111**	P		**P**	**12 45 45.6**	**-0.8**
AS31	**Alice Springs**	**31.16**	**164**	P		**P**	**12 46 04.2**	**-0.5**
ASAR	**Alice Springs**	**31.16**	**164**	P		**P**	**12 46 04.0**	**-0.7**
ASAR	**Alice Springs**	**31.16**	**164**	P		**P**	**12 46 03.1**	**-1.6**
	comp=Z,1.2nm,0.5s,baz=340,slow=6.6,SNR=25							
ASAR				PcP		**PcP**	**12 48 57.3**	**-2.5**
	comp=Z,0.4nm,0.6s,baz=342,slow=3.5,SNR=3.1							
	comp=Z,1.2nm,0.5s							
LZDM	**Lanzhou Array**	**35.28**	**329**	P		**P**	**12 46 42.9**	**+2.0**
	comp=Z,0.8nm,0.3s,baz=120,slow=13,SNR=1.6							
	comp=Z,0.8nm,0.3s							
MORW	**Morawa**	**36.36**	**193**	P		**P**	**12 46 50.8**	**+1.0**
MORW					IAmb	IAmb	12 46 56.1	
	comp=Z,11nm,1.2s							
FORT	**Forrest**	**37.13**	**176**	P		**P**	**12 46 55.5**	**-0.8**
FORT					IAmb	IAmb	12 47 01.2	
	comp=Z,7.4nm,0.9s							
NWAO	**Narrogin (SRO)**	**39.85**	**190**	LR		LR	13 06 02.9	
	comp=Z,30nm,18.1s,baz=258,slow=40							
BBOO	**Buckleboo**	**40.43**	**166**	P		**P**	**12 47 23.8**	**-0.2**
BBOO					IAmb	IAmb	12 47 27.0	
	comp=Z,18nm,1.3s							
ASAJ	**Asahikawa**	**40.55**	**20**	LR		LR	13 01 59.2	
	comp=Z,34nm,21.7s,baz=186,slow=33							
STKA	**Stephens Creek**	**41.27**	**158**	P		**P**	**12 47 31.4**	**+0.5**
STKA					IAmb	IAmb	12 48 03.9	
	comp=Z,17nm,0.9s							
STKA	**Stephens Creek**	**41.27**	**158**	P		**P**	**12 47 28.8**	**-2.1**
	comp=Z,1.2nm,0.3s,baz=352,slow=9.8,SNR=6.3							
	comp=Z,1.2nm,0.3s							
DGAR	**Diego Garcia**	**54.22**	**256**	P		**P**	**12 49 13.1**	**+1.3**
MKAR	**Makanchi Array**	**54.37**	**325**	P		**P**	**12 49 13.3**	**+0.9**
MKAR	**Makanchi Array**	**54.37**	**325**	P		**P**	**12 49 12.5**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=111,slow=8.1,SNR=7.5							
	comp=Z,0.7nm,0.5s							
MA2	**Magadan**	**56.52**	**15**	LR		LR	13 14 25.7	
	comp=Z,12nm,19.6s,baz=156,slow=37							
AAK	**Ala-Archa**	**57.22**	**317**	LR		LR	13 15 08.6	
	comp=Z,24nm,20.1s,baz=119,slow=37							
KURBB	**Kurchatov Arra**	**58.55**	**327**	P		**P**	**12 49 41.4**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=128,slow=6.0,SNR=5.1							
	comp=Z,0.8nm,1.0s							
BVAR	**Borovoye Array**	**64.13**	**327**	P		**P**	**12 50 19.8**	**0.0**
	comp=Z,0.6nm,0.5s,baz=116,slow=6.6,SNR=2.5							
	comp=Z,0.6nm,0.5s							
TIXI	**Tiksi**	**65.17**	**1**	LR		LR	13 18 54.4	
	comp=Z,16nm,21.7s,baz=200,slow=36							
ROCAM	**Rodrigues Isla**	**65.99**	**245**	P		**P**	**12 50 33.7**	**+1.2**
CASY	**Casey**	**73.31**	**186**	P		**P**	**12 51 17.4**	**+0.7**
CASY					IAmb	IAmb	12 51 34.2	
	comp=Z,4.6nm,1.1s							
KDAK	**Kodiak Island**	**80.52**	**33**	LR		LR	13 21 27.2	
	comp=Z,29nm,21.9s,baz=213,slow=31							
FINES	**FINESS Array B**	**88.64**	**332**	P		**P**	**12 52 37.7**	**-0.9**
	comp=Z,2.7nm,0.9s,baz=143,slow=6.7,SNR=4.0							
	comp=Z,2.7nm,0.9s							
QSPA	**South Pole Qui**	**96.34**	**180**	P		**P**	**12 53 15.2**	**+1.0**

*IDC **13** 12:46:08.1±1.5,55˚.40N×157˚.84W,h0km,mb3.5/4, mbtmp3.5/7,ML3.7/3,Error ellipse: s-maj=31.8km s-min=16.3km az=151.0*

*AEIC **13** 12:46:12.6±1.1,55˚.33N±0˚.06×157˚.31W±0˚.06, h38km±10km,ML3.3,ML3.5/52(NEIC),Error ellipse: s-maj=8.1km s-min=4.9km az=169.0*

*NEIC **13** 12:46:12.1±1.0,55˚.32N±0˚.05×157˚.33W±0˚.06,h35km±2km, Error ellipse: s-maj=8.1km s-min=5.0km az=161.0*

ISC 13 12:46:11.5±1.5,55˚.39N±0˚.06×157˚.31W±0˚.04, h30km±13km,n97,σ1°28/100,mb3.7/4,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**1.05**	**65**			**Pn**		**12 46 30.8**	**+0.6**
CHIR						**Sb**		**12 46 44.5**	**0.0**
CHIR				IAML				12 46 52.0	
	comp=E,641nm,0.5s								
CHIR	**Chirikof Islan**	**1.05**	**65**	P		**Pn**		**12 46 30.5**	**+0.3**
CHGN	**Chignik**	**1.11**	**326**			**Pn**		**12 46 31.0**	**0.0**
CHGN						**Sn**		**12 46 45.2**	**0.0**
CHGN				IAML				12 46 46.5	
	comp=N,1µm,0.3s								
VNSG	**Veniaminof 6**	**1.25**	**307**			**Pn**		**12 46 33.5**	**+0.5**
VNSG						**Sn**		**12 46 49.6**	**+0.8**
VNHG	**Veniaminof 1**	**1.34**	**309**			**Pn**		**12 46 35.2**	**+1.0**
VNHG						**Sn**		**12 46 52.0**	**+0.9**
CHNA	**Chernabura Isl**	**1.42**	**248**	P		**Pb**		**12 46 36.9**	**-0.5**
CNBA	**Chernabura Isl**	**1.43**	**248**			**Pn**		**12 46 36.4**	**+1.1**
CNBA						**Sn**		**12 46 51.4**	**-1.7**
ANPB	**Aniakchak Plen**	**1.52**	**339**			**Pn**		**12 46 37.6**	**+0.9**
ANPK	**Aniakchak Peak**	**1.53**	**343**			**Pn**		**12 46 37.6**	**+0.7**
VNFG	**Fog Glacier, M**	**1.56**	**306**			**Pn**		**12 46 37.4**	**+0.2**
SDPT	**Sand Point**	**1.81**	**270**			**Pn**		**12 46 40.3**	**-0.3**
SDPT						**Sn**		**12 47 01.8**	**-0.7**
SDPT				IAML				12 47 14.3	
	comp=N,338nm,0.8s								
SDPT				IAML				12 47 22.4	
	comp=E,325nm,0.5s								
SDPT	**Sand Point**	**1.81**	**270**	P		**Pn**		**12 46 40.6**	**0.0**
SII	**Sitkinak Islan**	**2.11**	**55**			**Pn**		**12 46 45.5**	**+0.7**
SII				IAML				12 47 36.2	
	comp=N,338nm,0.6s								
SII				IAML				12 47 41.0	
	comp=E,287nm,0.7s								
SII	**Sitkinak Islan**	**2.11**	**55**	P		**Pn**		**12 46 45.5**	**+0.7**
R16K	**Pilot Point**	**2.19**	**356**			**Pn**		**12 46 46.0**	**+0.2**
R16K				IAML				12 47 23.9	
	comp=E,353nm,0.9s								
R16K				IAML				12 47 30.2	
	comp=N,393nm,1.1s								
PLK4	**Peulik 4**	**2.31**	**13**			**Pn**		**12 46 49.1**	**+1.5**
PLK4				IAML				12 47 30.5	
	comp=N,352nm,0.7s								
PLK3	**Peulik 3**	**2.38**	**14**			**Pn**		**12 46 50.2**	**+1.7**
PLK2	**Peulik 2**	**2.45**	**12**			**Pn**		**12 46 51.2**	**+1.8**
PLK1	**Peulik 1**	**2.45**	**9**			**Pn**		**12 46 50.7**	**+1.3**
PS1A	**Pavlof South-1**	**2.53**	**273**			**Pn**		**12 46 50.9**	**+0.4**
DOL	**Dolgoi Island**	**2.62**	**267**			**Pn**		**12 46 51.0**	**-0.7**
PLK5	**Peulik 5**	**2.63**	**5**			**Pn**		**12 46 53.1**	**+1.2**
R18K	**Karluk**	**2.70**	**35**			**Pn**		**12 46 53.8**	**+0.9**
R18K				IAML				12 47 47.6	
	comp=N,256nm,0.6s								
R18K				IAML				12 47 49.1	
	comp=E,195nm,0.5s								
S12K	**Black Hills**	**2.72**	**279**	Pn		**Pn**		**12 46 54.1**	**+1.0**
S12K				IAML				12 47 33.6	
	comp=E,214nm,0.4s								

DT1	**Dutton Round H**	**2.86**	**266**			**Pn**	**12 46 55.0**	**0.0**
OHAK	**Old Harbor**	**2.90**	**49**			**Pn**	**12 46 56.1**	**+0.5**
OHAK				IAML			12 47 53.5	
	comp=N,104nm,0.8s							
OHAK	**Old Harbor**	**2.90**	**49**	P		**Pn**	**12 46 55.7**	**+0.1**
CNTC	**Contact Creek**	**2.99**	**15**			**Pn**	**12 46 57.9**	**+0.9**
ANCK	**Angle Creek**	**2.99**	**19**			**Pn**	**12 46 57.8**	**+0.9**
MGLS	**Mageik Landsli**	**3.00**	**22**			**Pn**	**12 46 57.9**	**+0.9**
ACHA	**Angle Creek He**	**3.04**	**20**			**Pn**	**12 46 58.5**	**+1.0**
KABU	**Katmai Buttres**	**3.10**	**20**			**Pn**	**12 46 59.3**	**+0.9**
Q16K	**King Salmon**	**3.32**	**6**			**Pn**	**12 47 02.4**	**+1.1**
KAHC	**Katmai Hardscr**	**3.50**	**20**			**Pn**	**12 47 04.7**	**+0.7**
FALS	**False Pass**	**3.55**	**264**	Pn		**Pn**	**12 47 04.0**	**+0.4**
FALS	**False Pass**	**3.55**	**264**	P		**Pn**	**12 47 06.0**	**+1.5**
KDAK	**Kodiak Island**	**3.55**	**45**			**Pn**	**12 47 04.7**	**+0.2**
KDAK	**Kodiak Island**	**3.55**	**45**	IAML			12 48 15.8	
	comp=N,70nm,0.7s							
KDAK				IAML			12 48 20.5	
	comp=N,53nm,0.9s							
KDAK	**Kodiak Island**	**3.55**	**45**	Pn		**Pn**	**12 47 04.1**	**-0.4**
	comp=N,2.1nm,0.3s,baz=214,slow=6.0,SNR=56							
KDAK				Pg			12 47 15.2	
	comp=N,8.3nm,0.3s,baz=257,slow=5.9,SNR=11							
KDAK				Lg		Lg	12 48 07.2	
	comp=N,2.1nm,0.3s,baz=32,slow=21,SNR=4.5							
	comp=N,4.9nm,0.3s							
P16K	**Nushagak River**	**3.67**	**354**			**Pn**	**12 47 07.2**	**+1.0**
P17K	**Kvichak River**	**3.85**	**7**			**Pn**	**12 47 09.3**	**+0.7**
O15K	**Ungalikthiuk R**	**4.04**	**341**			**Pn**	**12 47 11.9**	**+0.6**
O15K				IAML			12 48 02.5	
	comp=E,42nm,0.7s							
Q19K	**Cape Douglas,**	**4.07**	**28**	Pn		**Pn**	**12 47 12.9**	**+1.1**
P18K	**Big Mountain,**	**4.17**	**15**			**Pn**	**12 47 13.7**	**+0.6**
SYI	**Shuyak Island**	**4.20**	**38**			**Pn**	**12 47 13.9**	**+0.4**
SYI				IAML			12 48 33.0	
	comp=E,42nm,1.1s							
O16K	**Kokwok River B**	**4.24**	**355**			**Pn**	**12 47 14.6**	**+0.6**
O17K	**Koliganek Bris**	**4.40**	**1**			**Pn**	**12 47 17.0**	**+0.8**
O14K	**Tigyukauivet M**	**4.43**	**333**			**Pn**	**12 47 17.1**	**+0.5**
O14K				IAML			12 48 36.2	
	comp=N,32nm,0.8s							
O14K				IAML			12 48 37.7	
	comp=E,31nm,1.0s							
N15K	**Kwethluk River**	**5.02**	**344**			**Pn**	**12 47 25.9**	**+1.2**
N15K				IAML			12 49 02.4	
	comp=E,37nm,0.8s							
N15K				IAML			12 49 23.4	
	comp=N,28nm,0.9s							
O19K	**Port Alsworth**	**5.08**	**17**	Pn		**Pn**	**12 47 26.1**	**+0.6**
O19K				IAML			12 49 00.1	
	comp=N,29nm,0.5s							
N14K	**Kuskokwak Cree**	**5.12**	**334**	Pn		**Pn**	**12 47 27.1**	**+1.1**
N14K				IAML			12 49 21.1	
	comp=E,38nm,1.1s							
ILSW	**Iliamna Southw**	**5.12**	**24**	Pn		**Pn**	**12 47 27.6**	**+1.4**
ILSW				IAML			12 48 37.8	
	comp=E,17nm,1.1s							
N17K	**Nushagak Hills**	**5.16**	**1**	Pn		**Pn**	**12 47 27.4**	**+0.8**
N16K	**Nishlik Lake**	**5.16**	**352**			**Pn**	**12 47 27.9**	**+1.2**
CNPM	**China Poot**	**5.29**	**36**	Pn		**Pn**	**12 47 28.9**	**+0.5**
CNPM				IAML			12 48 51.4	
	comp=E,21nm,1.0s							
CNPM				IAML			12 48 51.8	
	comp=N,21nm,0.7s							
N18K	**Kilae Creek**	**5.36**	**7**			**Pn**	**12 47 30.4**	**+0.9**
RED	**Redoubt Volcan**	**5.60**	**24**	Pn		**Pn**	**12 47 34.5**	**+1.8**
M15K	**Kasigluk River**	**5.62**	**343**			**Pn**	**12 47 34.0**	**+1.1**
N19K	**Bonanza Creek**	**5.64**	**14**	Pn		**Pn**	**12 47 35.0**	**+1.7**
M16K	**Timber Creek**	**5.72**	**352**			**Pn**	**12 47 35.5**	**+1.2**
M14K	**Betel**	**5.92**	**337**			**Pn**	**12 47 38.1**	**+1.1**
M13K	**Dall Lake**	**5.98**	**330**			**Pn**	**12 47 39.8**	**+2.0**
M17K	**Holitna River**	**6.03**	**359**	Pn		**Pn**	**12 47 39.4**	**+0.8**
M18K	**Stony River**	**6.17**	**7**			**Pn**	**12 47 41.7**	**+1.2**
SEW	**Seward**	**6.33**	**38**	Pn		**Pn**	**12 47 43.5**	**+0.9**
SLKM	**Skilak Lake**	**6.37**	**33**	Pn		**Pn**	**12 47 43.9**	**+0.7**
L16K	**Owhat River**	**6.45**	**351**	Pn		**Pn**	**12 47 46.1**	**+1.8**
O22K	**Cooper Landing**	**6.51**	**35**	Pn		**Pn**	**12 47 44.9**	**-0.2**
L14K	**Kuka Creek**	**6.61**	**337**			**Pn**	**12 47 46.9**	**+0.4**
STLK	**Strandline Lak**	**6.77**	**23**	Pn		**Pn**	**12 47 48.4**	**-0.4**
L17K	**Donlin**	**6.79**	**356**			**Pn**	**12 47 49.7**	**+0.8**
L18K	**Granite Mounta**	**6.86**	**2**	Pn		**Pn**	**12 47 50.7**	**+0.7**
M20K	**Styx River**	**6.87**	**17**	Pn		**Pn**	**12 47 52.0**	**+1.8**
M11K	**Mekoryuk**	**6.90**	**320**	Pn		**Pn**	**12 47 51.4**	**+1.0**
L19K	**White Mountain**	**6.94**	**10**			**Pn**	**12 47 52.5**	**+1.5**
SUA	**Susitna One**	**7.00**	**27**	Pn		**Pn**	**12 47 52.5**	**+0.6**
K15K	**Wolf Creek Mou**	**7.27**	**344**	Pn		**Pn**	**12 47 57.3**	**+1.8**
K17K	**Iditarod**	**7.37**	**356**			**Pn**	**12 47 57.9**	**+1.0**
K13K	**Russian Mount**	**7.60**	**333**	Pn		**Pn**	**12 48 01.3**	**+1.2**
HIN	**Hinchinbrook I**	**7.64**	**44**	Pn		**Pn**	**12 48 02.0**	**+1.4**
FID	**Port Fidalgo**	**7.86**	**42**	Pn		**Pn**	**12 48 03.7**	**+0.1**
EYAK	**Cordova Ski Ar**	**8.03**	**45**	Pn		**Pn**	**12 48 06.9**	**+1.0**
EYAK	**Cordova Ski Ar**	**8.03**	**45**	P		**Pn**	**12 48 06.8**	**+0.9**
J14K	**Nanvaranak Lak**	**8.05**	**339**	Pn		**Pn**	**12 48 07.4**	**+1.1**
J17K	**VABM Dome**	**8.09**	**354**	Pn		**Pn**	**12 48 08.4**	**+1.6**
J16K	**Anvik River**	**8.10**	**349**			**Pn**	**12 48 08.7**	**+1.7**
KLU	**Klutina**	**8.54**	**40**			**Pn**	**12 48 13.0**	**-0.1**
ILAR	**Eielson Array**	**10.74**	**25**	Pn		**Pn**	**12 48 40.0**	**-3.0**
	comp=N,0.2nm,0.3s,baz=219,slow=14,SNR=6.1							
ILAR				Sn		**Sn**	**12 50 35.8**	**-6.3**
	baz=197,slow=21,SNR=1.5							
	comp=N,0.2nm,0.3s							
SKAG	**Skagway**	**12.50**	**62**	P		**Pn**	**12 49 07.8**	**+0.7**
INK	**Inuvik**	**16.97**	**31**	P		**Pn**	**12 50 06.9**	**+0.6**
	comp=N,0.8nm,0.3s,baz=227,slow=12,SNR=13							
	comp=N,1.5nm,0.4s							
PETK	**Petropavlovsk-**	**26.04**	**284**	P		**P**	**12 51 39.7**	**-2.1**
	comp=N,2.1nm,0.7s,baz=61,slow=8.8,SNR=9.8							
	comp=N,2.1nm,0.7s							
H11S1	**WAKE ISLAND Hy**	**45.80**	**231**	T		T	13 43 01.5	
	baz=28							
H11S2	**WAKE ISLAND Hy**	**45.81**	**231**	T		T	13 43 00.6	
	baz=28							
H11S3	**WAKE ISLAND Hy**	**45.81**	**231**	T		T	13 43 01.2	
	baz=28							
TXAR	**Lajitas Array**	**45.92**	**102**	P		**P**	**12 54 34.8**	**+3.4**
	comp=N,0.1nm,0.6s,baz=315,slow=7.5,SNR=4.3							
	comp=N,0.1nm,0.6s							
KURBB	**Kurchatov Arra**	**64.60**	**324**	P		**P**	**12 56 45.6**	**0.0**
	comp=N,0.2nm,0.4s,baz=26,slow=5.5,SNR=3.4							
	comp=N,0.2nm,0.4s							
MKAR	**Makanchi Array**	**66.53**	**320**	P		**P**	**12 56 58.4**	**+0.2**
	comp=N,0.3nm,0.2s,baz=29,slow=6.5,SNR=2.5							
	comp=N,0.3nm,0.2s							

*IDC **13** 12:57:24.2±6.7,7˚.25S×112˚.38E,h372km±83km,mb2.9/5, mbtmp3.6/6,Error ellipse: s-maj=155.8km s-min=17.3km az=49.0*

ISC 13 12:57:22.2±3.6,7°S±1°×11°2E±°,h350km,n6,σ0°67/7, mb3.2/5,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.84**	**131**	P		**P**		**13 00 56.2**	**-0.6**
	1.2nm,0.9s,baz=294,slow=10.0,SNR=1.3								
FITZ				S		**S**		**13 03 54.8**	**0.0**
	1.4nm,0.7s,baz=201,slow=22,SNR=6.5								
WRA	**Warramunga Arr**	**24.77**	**123**	P		**P**		**13 02 14.2**	**+0.6**
	0.3nm,0.6s,baz=300,slow=12,SNR=4.6								
	0.3nm,0.6s								
ASAR	**Alice Springs**	**26.34**	**131**	P		**P**		**13 02 28.2**	**+0.6**
	0.3nm,0.7s,baz=302,slow=9.3,SNR=2.1								
	0.3nm,0.7s								
CMAR	**Chiang Mai Arr**	**28.79**	**333**	P		**P**		**13 02 49.7**	**+0.5**
	0.9nm,0.7s,baz=167,slow=8.3,SNR=8.5								
	0.9nm,0.7s								
MKAR	**Makanchi Array**	**60.10**	**337**	P		**P**		**13 06 53.4**	**-0.2**
	0.6nm,0.3s,baz=153,slow=7.0,SNR=11								
	0.6nm,0.3s								
ZALV	**Zalesovo Beam**	**65.26**	**342**	P		**P**		**13 07 26.4**	**-0.7**
	1.0nm,0.4s,baz=142,slow=6.2,SNR=4.3								
	1.0nm,0.4s								

*IDC **13** 13:10:43.0±3.2,36˚.11N×8˚.81W,h0km,mb3.4/1, mbtmp3.8/2,ML4.7/2,Error ellipse: s-maj=73.8km s-min=35.8km az=94.0*

*MDD **13** 13:10:47.2±0.4,36˚.14N×8˚.56W,h1km±2km,mb_Lg4.2/58, Error ellipse: s-maj=3.3km s-min=2.2km az=65.0*

*LDG **13** 13:10:49.0±0.4,36˚.27N×8˚.63W,h5km,Ml4.1/5,Error ellipse: s-maj=7.7km s-min=4.8km az=38.0*

*SFS **13** 13:10:49.9,36˚.12N×8˚.62W,h49km,mb4.6/6,ML4.3/20, ML4.6/30,MLv4.2/30*

*IGIL **13** 13:10:50.8,36˚.23N×8˚.50W,h14km,ML3.8*

*INMG **13** 13:10:50.7±1.7,36˚.12N×8˚.59W,h31km,ML3.8,Error ellipse: s-maj=4.4km s-min=2.6km az=64.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Cabo S.Vicente*

ISC 13 13:10:49.8±1.1,36°21N±0°.05×8°52W±0°.04,h67km±10km, n128,σ1°45/225,7C-9D,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLAGO	**Lagos**	**0.89**	**351**	*eP*		**Pn**		**13 11 06.7**	**-0.1**
PLAGO				*eS*		**Sn**		**13 11 19.4**	**-0.1**
PLAGO				*i* IAML				13 11 19.9	
PLAGO				*i* IAML				13 11 20.1	
PLAGO				*i* IAML				13 11 20.7	
PSVI	**Cabo S. Vicent**	**0.90**	**335**	*ePⓊ*		**Pn**		**13 11 06.3**	**-0.6**
PSVI				*eS*		**Sn**		**13 11 18.5**	**-1.1**
PSVI				*i* IAML				13 11 19.0	
PSVI				*i* IAML				13 11 19.3	
PSVI				*i* IAML				13 11 20.9	
PPOR	**Portimao**	**0.92**	**359**	*eS*		**Sn**		**13 11 20.1**	**+0.1**
PFARO	**Faro**	**0.94**	**30**	*eP*		**Pn**		**13 11 08.4**	**+0.9**
PFARO				*eS*		**Sn**		**13 11 21.4**	**+0.9**
PFARO				*i* IAML				13 11 21.9	
PFARO				*i* IAML				13 11 25.8	
PFARO				*i* IAML				13 11 27.3	
PFVI	**Vila Bisbo**	**0.95**	**345**	Sn		**Sn**		**13 11 20.2**	**-0.6**
PFVI				*iP*		**Pn**		**13 11 07.4**	**-0.2**
PFVI	**Vila Bisbo**	**0.95**	**345**	*iPⓊ*		**Pn**		**13 11 07.4**	**-0.2**
PFVI				*eS*		**Sn**		**13 11 20.2**	**-0.6**
PFVI				*i* IAML				13 11 20.6	
PFVI				*i* IAML				13 11 21.4	
PFVI				*i* IAML				13 11 24.9	
MORF	**Marmelete**	**1.10**	**354**	*eP*		**Pn**		**13 11 09.5**	**0.0**
MORF				*eS*		**Sn**		**13 11 23.5**	**-0.6**
MORF				IAML				13 11 24.1	
	comp=N,2µm,0.2s								
MORF	**Marmelete**	**1.10**	**354**	*iPⓊ*		**Pn**		**13 11 09.5**	**0.0**
MORF				*eS*		**Sn**		**13 11 23.6**	**-0.6**
MORF				*i* IAML				13 11 24.6	
MORF				*i* IAML				13 11 25.2	
MORF				*i* IAML				13 11 25.9	
PALJ	**Aljezur**	**1.13**	**349**	*eS*		**Sn**		**13 11 24.7**	**0.0**
PALJ				*i* IAML				13 11 24.8	
PALJ				*i* IAML				13 11 25.6	
PBDV	**Barranco-do-Ve**	**1.13**	**24**	Sn		**Sn**		**13 11 25.2**	**+0.3**
PBDV				Pn		**Pn**		**13 11 10.5**	**+0.6**
PBDV	**Barranco-do-Ve**	**1.13**	**24**	*iP⇑*		**Pn**		**13 11 10.5**	**+0.6**
PBDV				*eS*		**Sn**		**13 11 25.6**	**+0.7**
PBDV				*i* IAML				13 11 31.9	
PBDV				*i* IAML				13 11 33.9	
PBDV				*i* IAML				13 11 34.6	
PTAV	**Tavira**	**1.15**	**37**	*eS*		**Sn**		**13 11 25.4**	**+0.3**
PTEO	**Sao Teotonio**	**1.34**	**353**	*iPⓊ*		**Pn**		**13 11 12.9**	**+0.3**
PTEO				*eS*		**Sn**		**13 11 29.9**	**+0.2**
PTEO				*i* IAML				13 11 30.4	
PTEO				*i* IAML				13 11 30.6	
PTEO				*i* IAML				13 11 30.6	
PVAQ	**Vaqueiros**	**1.35**	**28**	*eP⇑*		**Pn**		**13 11 13.3**	**+0.6**
PVAQ				*eS*		**Sn**		**13 11 30.2**	**+0.2**
PVAQ				*i* IAML				13 11 31.1	
PVAQ				*i* IAML				13 11 36.9	
PVAQ				*i* IAML				13 11 39.9	
PCVE	**Castro Verde**	**1.47**	**15**	Sn		**Sn**		**13 11 33.3**	**+0.5**
PCVE				Pn		**Pn**		**13 11 15.3**	**+0.9**
PCVE	**Castro Verde**	**1.47**	**15**	*eP⇑*		**Pn**		**13 11 15.3**	**+0.9**
PCVE				*iS*		**Sn**		**13 11 33.3**	**+0.5**
PCVE				*i* I

PESTR					*i* IAML				13 12 18.3	
PMAFR	**Mafra**	**2.81**	**348**		Pn		**Pn**		**13 11 33.3**	**+0.9**
PMAFR					Sn		**Sn**		**13 12 05.2**	**+0.1**
PMAFR	**Mafra**	**2.81**	**348**		*e*P		**Pn**		**13 11 33.3**	**+0.9**
PMAFR					*e*S		**Sn**		**13 12 05.2**	**+0.1**
PMAFR					*i* IAML				13 12 07.4	
PMAFR					*i* IAML				13 12 07.5	
PMAFR					*i* IAML				13 12 08.3	
EBAD	**Badajoz**	**2.81**	**25**		Pn		**Pn**		**13 11 32.9**	**+0.5**
EBAD					Sn		**Sn**		**13 12 05.6**	**+0.5**
EBAD	**Badajoz**	**2.81**	**25**		Pn		**Pn**		**13 11 33.1**	**+0.7**
EBAD					Sn		**Sn**		**13 12 06.1**	**+1.0**
EBAD					*i* IVmb_Lg				13 12 07.4	
PMTG	**Montargil**	**2.86**	**5**⇓		*e*P		**Pn**		**13 11 33.8**	**+0.6**
PMTG					*e*S		**Sn**		**13 12 05.7**	**-0.7**
PMTG					*i* IAML				13 12 08.4	
PMTG					*i* IAML				13 12 08.9	
PMTG					*i* IAML				13 12 09.2	
AVE	**Averroes**	**3.04**	**162**		Pn		**Pn**		**13 11 33.6**	**-2.0**
ECAB	**El Cabril**	**3.10**	**52**		Pn		**Pn**		**13 11 36.7**	**+0.3**
ECAB					Sn		**Sn**		**13 12 12.3**	**0.0**
ECAB	**El Cabril**	**3.10**	**52**		Pn		**Pn**		**13 11 36.6**	**+0.3**
ECAB					Sn		**Sn**		**13 12 12.8**	**+0.6**
ECAB					*i* IVmb_Lg				13 12 13.1	
PCDRA	**Caldas da Rain**	**3.23**	**351**		*e*S		Sn		13 11 33.4	-42
PCDRA					*i* IAML				13 11 34.2	
PCDRA					*i* IAML				13 11 35.3	
PCDRA					*i* IAML				13 11 35.6	
PSBE	**So Bento**	**3.31**	**356**⇑		*e*P		**Pn**		**13 11 40.2**	**+1.0**
PSBE					*e*S		**Sn**		**13 12 17.3**	**0.0**
PSBE					*i* IAML				13 12 18.1	
PSBE					*i* IAML				13 12 19.5	
PSBE					*i* IAML				13 12 19.8	
PMRV	**Marv??o**	**3.33**	**15**⇑		*e*P		**Pn**		**13 11 40.4**	**+0.9**
PMRV					*e*S		**Sn**		**13 12 16.9**	**-1.0**
PMRV					*i* IAML				13 12 19.2	
PMRV					*i* IAML				13 12 19.6	
PMRV					*i* IAML				13 12 20.3	
EMAL	**Malaga-Limoner**	**3.34**	**79**		Pn		**Pn**		**13 11 40.5**	**+0.9**
EMAL					Sn		**Sn**		**13 12 17.1**	**-1.0**
PSARD	**Sardoal**	**3.40**	**5**⇓		*e*P		**Pn**		**13 11 41.3**	**+0.9**
PSARD					*e*S		**Sn**		**13 12 19.2**	**-0.3**
PSARD					*i* IAML				13 12 20.5	
PSARD					*i* IAML				13 12 20.9	
PSARD					*i* IAML				13 12 22.1	
EGOR	**Sierra Gorda,**	**3.66**	**74**		Pn		**Pn**		**13 11 44.9**	**+0.8**
EGOR					Sn		**Sn**		**13 12 26.0**	**-0.1**
EGOR	**Sierra Gorda,**	**3.66**	**74**		Pn		**Pn**		**13 11 44.9**	**+0.8**
EGOR					Sn		**Sn**		**13 12 27.3**	**+1.3**
EGOR					*i* IVmb_Lg				13 12 30.7	
EADA	**Adamuz**	**3.70**	**57**		Pn		**Pn**		**13 11 45.4**	**+0.8**
EADA					Sn		**Sn**		**13 12 26.3**	**-0.8**
EADA	**Adamuz**	**3.70**	**57**		Pn		**Pn**		**13 11 45.4**	**+0.8**
EADA					Sn		**Sn**		**13 12 26.9**	**-0.1**
EADA					*i* IVmb_Lg				13 12 28.2	
PCBR	**Castelo Branco**	**3.71**	**12**		*e*P		**Pn**		**13 11 45.8**	**+1.1**
PCBR					*e*S		**Sn**		**13 12 26.8**	**-0.5**
PCBR					*i* IAML				13 12 27.3	
PCBR					*i* IAML				13 12 28.2	
PCBR					*i* IAML				13 12 28.3	
PCAS	**Casmilo, Conde**	**3.84**	**0**⇓		*e*P		**Pn**		**13 11 47.4**	**+1.0**
PCAS					*e*S		**Sn**		**13 12 29.4**	**-0.8**
PCAS					*i* IAML				13 12 31.5	
PCAS					*i* IAML				13 12 31.7	
PCAS					*i* IAML				13 12 33.1	
COI	**Coimbra**	**3.99**	**1**		*e*P		**Pn**		**13 11 49.2**	**+0.7**
COI					*e*S		**Sn**		**13 12 33.0**	**-1.0**
COI					*i* IAML				13 12 34.7	
COI					*i* IAML				13 12 34.8	
COI					*i* IAML				13 12 36.6	
ELGU	**Los Guajares,**	**3.99**	**79**		Pn		**Pn**		**13 11 49.2**	**+0.6**
ELGU					Sn		**Sn**		**13 12 34.6**	**+0.4**
ELGU	**Los Guajares,**	**3.99**	**79**		Pn		**Pn**		**13 11 49.3**	**+0.6**
ELGU					Sn		**Sn**		**13 12 35.7**	**+1.5**
ELGU					*i* IVmb_Lg				13 12 41.0	
EQTA	**Presa de Quent**	**4.20**	**75**		Pn		**Pn**		**13 11 52.6**	**+1.2**
EQTA					Sn		**Sn**		**13 12 38.0**	**-1.3**
EQUE	**Quentar**	**4.20**	**75**		Pn		**Pn**		**13 11 52.6**	**+1.2**
EQUE					Sn		**Sn**		**13 12 39.7**	**+0.4**
EQUE					*i* IVmb_Lg				13 12 40.9	
MTE	**Manteigas**	**4.25**	**10**⇑		*e*P		**Pn**		**13 11 53.0**	**+0.9**
MTE					*e*S		**Sn**		**13 12 39.2**	**-1.3**
MTE					*i* IAML				13 12 41.7	
MTE					*i* IAML				13 12 41.7	
MTE					*i* IAML				13 12 41.7	
EPLA	**Plasencia**	**4.30**	**26**		Pn		**Pn**		**13 11 53.3**	**+0.5**
EPLA					Sn		**Sn**		**13 12 41.5**	**-0.2**
EPLA					*i* IVmb_Lg				13 15 07.7	
E0803	**Jimena (Jaen)**	**4.35**	**67**		Pn		**Pn**		**13 11 54.0**	**+0.5**
E0803					Sn		**Sn**		**13 12 43.9**	**+1.0**
E0802	**Ubeda,Jaen**	**4.49**	**65**		Pn		**Pn**		**13 11 55.7**	**+0.3**
E0802					Sn		**Sn**		**13 12 45.0**	**-1.4**
PVIS	**Viseu**	**4.53**	**6**		*e*P		**Pn**		**13 11 56.8**	**+0.9**
PVIS					*e*S		**Sn**		**13 12 46.0**	**-1.2**
PSIM	**Granatula de C**	**4.59**	**54**		Pn		**Pn**		**13 11 57.6**	**+0.8**
PSIM					Sn		**Sn**		**13 12 49.3**	**+0.4**
WMELI	**Melilla**	**4.61**	**100**		Sn		**Sn**		**13 12 45.5**	**-3.8**
EQES	**Quesada**	**4.64**	**68**		Pn		**Pn**		**13 11 57.9**	**+0.4**
EQES					Sn		**Sn**		**13 12 50.3**	**+0.2**
MDT	**Midelt**	**4.68**	**135**		Pn		**Pn**		**13 11 56.0**	**-2.0**
	comp=N,98nm,0.3s,baz=318,slow=11,SNR=315									
MDT					Sn		**Sn**		**13 12 44.6**	**-6.5**
	comp=N,28nm,0.3s,baz=206,slow=23,SNR=12									
PAB	**San Pablo**	**4.69**	**43**		Pn		**Pn**		**13 11 59.0**	**+0.9**
PAB					Sn		**Sn**		**13 12 49.2**	**-2.0**
PAB					*i* IVmb_Lg				13 12 51.9	
PTO	**Porto**	**4.92**	**359**		*e*P		**Pn**		**13 12 03.0**	**+1.8**
PTO					*e*S		**Sn**		**13 12 55.5**	**-1.3**
PTO					*i* IAML				13 12 58.2	
PTO					*i* IAML				13 12 58.5	
PTO					*i* IAML				13 12 58.5	
ESDC	**Sonseca Array**	**4.99**	**45**		Pn		**Pn**		**13 12 02.9**	**+0.7**
ESDC					Sn		**Sn**		**13 12 57.2**	**-1.5**
ESDC					*i* IVmb_Lg				13 12 58.7	
ESDC	**Sonseca Array**	**4.99**	**45**		Pn		**Pn**		**13 12 02.8**	**+0.5**
	comp=N,6.1nm,0.3s,baz=229,slow=13,SNR=214									
ESDC					Sn		**Sn**		**13 12 54.8**	**-3.8**
	comp=N,8.8nm,0.3s,baz=232,slow=18,SNR=23									
	comp=N,21nm,0.4s									
ESBB	**Sonseca Array**	**4.99**	**45**		Pn		**Pn**		**13 12 03.3**	**+1.0**
ESBB					Sn		**Sn**		**13 12 55.3**	**-3.3**
MVO	**Moncorvo**	**5.08**	**13**		*e*P		**Pn**		**13 12 04.2**	**+0.8**
MVO					*e*S		**Sn**		**13 12 58.6**	**-2.3**
MVO					*i* IAML				13 12 59.9	
MVO					*i* IAML				13 13 01.5	
MVO					*i* IAML				13 13 01.6	
PVRL	**Vila Real**	**5.10**	**7**		*e*P		**Pn**		**13 12 04.6**	**+0.9**
PVRL					*e*S		**Sn**		**13 12 59.5**	**-1.7**
PVRL					*i* IAML				13 13 02.2	
PVRL					*i* IAML				13 13 04.1	
PVRL					*i* IAML				13 13 04.5	
POLO	**Lamas de Olo**	**5.19**	**6**		*e*P		**Pn**		**13 12 06.0**	**+1.1**
POLO					*e*S		**Sn**		**13 13 01.0**	**-2.5**
POLO					*i* IAML				13 13 04.2	
POLO					*i* IAML				13 13 04.7	
POLO					*i* IAML				13 13 04.7	
TIO	**Tiouine**	**5.37**	**168**		Pn		**Pn**		**13 12 04.9**	**-2.7**
PCAB	**Cabril**	**5.50**	**4**		*e*P		**Pn**		**13 12 10.1**	**+0.9**
PCAB					*e*S		**Sn**		**13 13 08.9**	**-2.3**
PCAB					*i* IAML				13 13 12.5	
PCAB					*i* IAML				13 13 13.1	
PCAB					*i* IAML				13 13 13.9	
GUD	**Guadarrama**	**5.59**	**36**		Pn		**Pn**		**13 12 11.6**	**+1.0**
GUD					Sn		**Sn**		**13 13 12.5**	**-1.1**
GUD					*i* IVmb_Lg				13 13 13.5	
TLOR	**Lorca, Murcia**	**5.66**	**73**		Sn		**Sn**		**13 13 12.7**	**-1.2**
ELOB	**Lobios**	**5.66**	**3**		Pn		**Pn**		**13 12 12.0**	**+0.5**
ELOB					Sn		**Sn**		**13 13 13.6**	**-1.5**
ELOB					*i* IVmb_Lg				13 13 16.3	
PGAV	**Gavieira, Arco**	**5.75**	**2**		*e*P		**Pn**		**13 12 13.3**	**+0.7**
PGAV					*e*S		**Sn**		**13 13 15.1**	**-2.2**
PGAV					*i* IAML				13 13 16.8	
PGAV					*i* IAML				13 13 17.5	
PGAV					*i* IAML				13 13 19.8	
PBRG	**Braganca**	**5.75**	**13**		*e*P		**Pn**		**13 12 13.4**	**+0.7**
PBRG					*e*S		**Sn**		**13 13 14.7**	**-2.6**
PBRG					*i* IAML				13 13 16.6	
PBRG					*i* IAML				13 13 17.8	
PBRG					*i* IAML				13 13 18.3	
ECAL	**Calabor**	**5.89**	**13**		Pn		**Pn**		**13 12 15.8**	**+1.3**
ECAL					Sn		**Sn**		**13 13 18.5**	**-2.1**
ECAL	**Calabor**	**5.89**	**13**		Pn		**Pn**		**13 12 15.6**	**+1.1**
ECAL					*i* IVmb_Lg				13 13 20.5	
ECAL					Sn		**Sn**		**13 13 20.8**	**+0.2**
EMUR	**La Murta**	**6.04**	**72**		Pn		**Pn**		**13 12 17.1**	**+0.4**
EMUR					Sn		**Sn**		**13 13 21.2**	**-3.3**
EMUR	**La Murta**	**6.04**	**72**		Pn		**Pn**		**13 12 16.9**	**+0.3**
EMUR					Sn		**Sn**		**13 13 22.0**	**-2.5**
EMUR					*i* IVmb_Lg				13 13 23.4	
CART	**Cartagena**	**6.18**	**75**		Pn		**Pn**		**13 12 18.0**	**-0.4**
CART					Sn		**Sn**		**13 13 23.6**	**-4.0**
EAGO	**Agolada(Pontev**	**6.59**	**3**		Pn		**Pn**		**13 12 24.8**	**+0.7**
EAGO					Sn		**Sn**		**13 13 36.2**	**-1.6**
EAGO					*i* IVmb_Lg				13 13 38.8	
EMAZ	**Mazaricos**	**6.74**	**357**		Pn		**Pn**		**13 12 26.4**	**+0.3**
EMAZ					Sn		**Sn**		**13 13 39.1**	**-2.3**
EMAZ					*i* IVmb_Lg				13 13 40.7	
AFON	**Font Roja**	**6.80**	**67**		Pn		**Pn**		**13 12 27.0**	**-0.1**
AFON					Sn		**Sn**		**13 13 41.3**	**-1.8**
ETOR	**Torete**	**6.84**	**46**		Pn		**Pn**		**13 12 28.9**	**+1.3**
ETOR					Sn		**Sn**		**13 13 43.8**	**-0.2**
ETOR					*i* IVmb_Lg				13 13 44.7	
ECHE	**Chera**	**6.86**	**58**		Pn		**Pn**		**13 12 28.3**	**+0.6**
ECHE	**Chera**	**6.86**	**58**		Pn		**Pn**		**13 12 28.1**	**+0.3**
EBEN2	**Beniarda presa**	**7.07**	**67**		Pn		**Pn**		**13 12 30.3**	**-0.3**
EBEN2					Sn		**Sn**		**13 13 47.2**	**-2.3**
EBEN2					*i* IVmb_Lg				13 14 11.7	
PMPST	**Porto Santo, M**	**7.16**	**246**		*e*P		Pn		13 12 27.8	-4.1
PMPST					*e*S		Sn		13 13 38.0	-14
PMPST					*i* IAML				13 13 42.5	
PMPST					*i* IAML				13 13 44.0	
PMPST					*i* IAML				13 13 47.7	
PMPS	**Porto Santo**	**7.17**	**246**		*e*P		Pn		13 12 28.2	-3.8
PMPS					*i* IAML				13 13 46.2	
EPON	**Pontenova**	**7.18**	**8**		Pn		**Pn**		**13 12 33.5**	**+1.3**
EPON					Sn		**Sn**		**13 13 51.0**	**-1.3**
EPON					*i* IVmb_Lg				13 13 56.0	
E0901	**Celadas (Terue**	**7.20**	**51**		Pn		**Pn**		**13 12 34.8**	**+2.3**
E0901					Sn		**Sn**		**13 13 53.7**	**+0.8**
E0901					*i* IVmb_Lg				13 13 57.1	
EARI	**Arriondas**	**7.53**	**19**		Pn		**Pn**		**13 12 38.8**	**+1.9**
EARI					Sn		**Sn**		**13 13 58.4**	**-2.3**
EARI					*i* IVmb_Lg				13 15 02.1	
EMOS	**Mosqueruela**	**7.56**	**54**		Pn		**Pn**		**13 12 38.9**	**+1.4**
EMOS					Sn		**Sn**		**13 13 59.7**	**-2.1**
EMOS					*i* IVmb_Lg				13 15 20.4	
PMAR	**Madeira**	**7.76**	**246**		*e*P		Pn		13 12 36.5	-3.8
PMAR					*e*S		Sn		13 13 55.6	-11
PMAR					*i* IAML				13 13 58.5	
PMAR					*i* IAML				13 14 06.0	
PMAR					*i* IAML				13 14 07.5	
PMOZ	**Porto Moniz, M**	**7.92**	**247**		Pn		Pn		13 12 39.9	-2.5
PMOZ	**Porto Moniz, M**	**7.92**	**247**		*i* IAML				13 14 11.0	
PMOZ					*i* IAML				13 14 14.5	
PMOZ					*i* IAML				13 14 14.9	
ELAN	**Lanestosa**	**8.03**	**28**		Pn		**Pn**		**13 12 44.6**	**+0.9**
ELAN					Sn		**Sn**		**13 14 09.2**	**-3.8**
ELAN					*i* IVmb_Lg				13 18 40.4	
ESAC	**San Caprasio**	**8.34**	**46**		Pn		**Pn**		**13 12 49.7**	**+1.7**
ESAC					Sn		**Sn**		**13 14 20.9**	**+0.3**
ESAC					*i* IVmb_Lg				13 14 37.7	
EORO	**Oroz-Betelu**	**8.69**	**38**		Pn		**Pn**		**13 12 54.5**	**+1.8**
EORO					Sn		**Sn**		**13 14 28.1**	**-1.1**
EALK	**Alkurruntz**	**8.84**	**35**		Pn		**Pn**		**13 12 55.9**	**+1.0**
EALK					Sn		**Sn**		**13 14 29.0**	**-3.9**
EALK					*i* IVmb_Lg				13 14 31.4	
SJPF	**Ste Jean**	**8.89**	**37**		*e*Pn		**Pn**		**13 12 56.5**	**+1.0**
SJPF					*e*Sn		**Sn**		**13 14 30.0**	**-4.1**
	comp=N,23nm,0.5s									
ETSF	**Etsaut**	**9.07**	**40**		*e*Pn		**Pn**		**13 12 59.1**	**+1.1**
ETSF					*e*Sn		**Sn**		**13 14 34.1**	**-4.5**
	comp=N,38nm,0.5s									
EPOB	**Poblet**	**9.08**	**53**		Pn		**Pn**		**13 12 59.2**	**+1.0**
EPOB					Sn		**Sn**		**13 14 34.5**	**-4.3**
EPF	**Esparros**	**9.64**	**42**		*e*Pn		**Pn**		**13 13 07.8**	**+2.0**
EPF					*e*Sn		**Sn**		**13 14 48.0**	**-4.5**
	comp=N,15nm,0.3s									
MTLF	**Montolieu**	**10.90**	**46**		*e*Pn		**Pn**		**13 13 22.4**	**-0.5**
MTLF					*e*Sn		**Sn**		**13 15 19.6**	**-3.5**
	comp=N,3.4nm,0.5s									
CAF	**Calviac**	**11.84**	**39**		*e*Pn		**Pn**		**13 13 36.1**	**+0.3**
LASF	**Ste Croix**	**12.29**	**47**		*e*Pn		**Pn**		**13 13 41.5**	**-0.4**
QUIF	**Quistinic**	**12.35**	**17**		*e*Pn		**Pn**		**13 13 42.5**	**-0.1**
SGMF	**Saint Gilles**	**12.81**	**18**		*e*Pn		**Pn**		**13 13 49.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**24.73**	**156**		P		**P**		**13 16 06.5**	**+1.4**
	comp=N,0.5nm,0.6s,baz=339,slow=11,SNR=3.8									
	comp=N,0.5nm,0.6s									
ASAR	**Alice Springs**	**145.33**	**79**		PKPbc		**PKPbc**		**13 30 22.7**	**+2.4**
	comp=N,0.4nm,0.6s,baz=308,slow=3.0,SNR=8.3									

IDC ***13*** *13:27:26.9±1.0, 27.°82N×144.°08E, h0km, mb3.8/12, mbtmp3.8/14, ML3.5/2, MS2.6/1, Error ellipse: s-maj=32.0km s-min=21.0km az=72.0*
NEIC ***13*** *13:27:29.1±1.2, 28.°07N±0.°08×143.°7E±0.°1, h10km±1km, mb4.2/10, Error ellipse: s-maj=19.2km s-min=6.1km az=131.0*
JMA ***13*** *13:27:31.8±0.3, 28.°9N×142.°4E±.°, h78km, MV4.2/18, NEAR CHICHIJIMA ISLAND*

ISC 13 13:27:28.4±0.8, 27.°94N±0.°09×143.°79E±0.°10, h10km, n52, σ1§48/50, mb4.0/16, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.65**	**240**	P	**Pb**	**13 27 58.7**	**-0.2**
CBIJ				*e*S	**Sb**	**13 28 19.6**	**-0.2**
JCJ	**Chichijima**	**1.65**	**240**	Pn	**Pb**	**13 27 58.9**	**0.0**
JCJ				Sn	**Sn**	**13 28 19.3**	**+0.6**
JHH2	**Haha-jima-NKT2**	**1.94**	**228**	*e*S	**Sn**	**13 28 25.7**	**0.0**
BSO1	**Boso 1**	**7.11**	**341**	*e*P	**Pn**	**13 29 12.8**	**+0.9**
JOD2	**Odawara 2**	**8.32**	**332**	*e*P	**Pn**	**13 29 30.2**	**+1.1**
JYT	**Yasato**	**8.80**	**341**	Pn	**Pn**	**13 29 34.6**	**-1.1**
JNY	**Yasuok**	**8.95**	**327**	*e*P	**Pn**	**13 29 41.0**	**+3.2**
JRY	**Ryogami san**	**9.05**	**334**	*e*P	**Pn**	**13 29 40.6**	**+1.4**
JHO	**Hitachi**	**9.06**	**343**	*e*P	**Pn**	**13 29 38.9**	**-0.3**
INU	**Inuyama**	**9.37**	**324**	Pn	**Pn**	**13 29 41.1**	**-2.3**
JGF	**Kuroka**	**9.39**	**326**	Pn	**Pn**	**13 29 42.4**	**-1.4**
MJAR	**Matsushiro Arr**	**9.79**	**333**	Pn	**Pn**	**13 29 50.2**	**+1.0**
	0.4nm,0.3s,baz=159,slow=11,SNR=12						
	2.8nm,0.4s						
MAJO	**Matsushiro**	**9.79**	**333**	Pn	**Pn**	**13 29 47.1**	**-2.1**
MJB9	**Matsu-Tunnel**	**9.79**	**333**	Pn	**Pn**	**13 29 47.3**	**-2.0**
JMM	**Marumori**	**10.21**	**347**	Pn	**Pn**	**13 29 54.2**	**-0.8**
JSD	**Sado**	**11.08**	**337**	Pn	**Pn**	**13 30 05.1**	**-1.8**
JTM	**Tenmabayashi**	**13.01**	**351**	Pn	**Pn**	**13 30 32.9**	**-0.3**
ERM	**Erimo**	**14.05**	**358**	Pn	**Pn**	**13 30 46.2**	**-1.2**
JKA	**Kamikawa-asahi**	**16.17**	**357**	Pn	**Pn**	**13 31 13.8**	**-1.8**
ASAJ	**Asahikawa**	**16.17**	**357**	Pn	**Pn**	**13 31 14.4**	**-1.3**
	0.5nm,0.3s,baz=231,slow=9.0,SNR=7.5						
KSRS	**Korea Array**	**16.36**	**309**	Pn	**P**	**13 31 21.4**	**+0.4**
	0.1nm,0.3s,baz=122,slow=10,SNR=7.0						
	0.6nm,0.7s						
SSLB	**Suanglung**	**20.95**	**264**	P	**P**	**13 32 12.7**	**+1.1**
SSLB				IAmb	IAmb	13 32 17.2	
	comp=Z,16nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**22.64**	**106**	T	T	13 55 38.5	
	baz=297,slow=74						
H11N1	**WAKE ISLAND Hy**	**22.64**	**106**	T	T	13 55 39.4	
	baz=297						
H11N3	**WAKE ISLAND Hy**	**22.66**	**106**	T	T	13 55 40.5	
	baz=297,slow=74						
HIA	**Hailar**	**28.18**	**326**	P	**P**	**13 33 17.6**	**-3.4**
HIA				IAmb	IAmb	13 33 22.4	
	comp=Z,6.0nm,0.9s						
SONM	**Songino Array**	**35.11**	**315**	P	**P**	**13 34 21.4**	**-0.6**
SONM				IAmb	IAmb	13 34 26.1	
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**35.11**	**315**	P	**P**	**13 34 25.5**	**+3.4**
	comp=Z,0.8nm,0.4s,baz=125,slow=9.0,SNR=6.9						
	comp=Z,0.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**42.09**	**267**	LR	LR	13 53 45.8	
	comp=Z,7.3nm,18.1s,baz=90,slow=37						
WRA	**Warramunga Arr**	**48.47**	**192**	P	**P**	**13 36 09.9**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=14,slow=8.5,SNR=5.1						
	comp=Z,0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**49.79**	**318**	P	**P**	**13 36 19.6**	**-1.5**
ZALV	**Zalesovo Beam**	**49.79**	**318**	P	**P**	**13 36 22.9**	**+1.8**
	comp=Z,0.5nm,0.4s,baz=79,slow=9.0,SNR=2.0						
	comp=Z,0.5nm,0.4s						
LHMI	**Lhok Sumawe**	**49.84**	**252**	P	**P**	**13 36 20.7**	**-1.3**
MK31	**Makanchi Array**	**51.04**	**309**	P	**P**	**13 36 29.6**	**-1.1**
MKAR	**Makanchi Array**	**51.04**	**309**	P	**P**	**13 36 29.7**	**-1.0**
MKAR	**Makanchi Array**	**51.04**	**309**	P	**P**	**13 36 33.4**	**+2.6**
	comp=Z,0.4nm,0.4s,baz=87,slow=10,SNR=6.9						
	comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**52.19**	**191**	P	**P**	**13 36 39.5**	**+0.1**
	comp=Z,0.1nm,0.6s,baz=12,slow=7.8,SNR=1.4						
	comp=Z,0.1nm,0.6s						
KURK	**Kurchatov**	**53.41**	**314**	P	**P**	**13 36 48.4**	**+0.2**
KURK				IAmb	IAmb	13 36 51.3	
	comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**53.47**	**314**	P	**P**	**13 36 50.1**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=89,slow=7.5,SNR=11						
	comp=Z,0.9nm,0.5s						
WRH	**Wood River Hil**	**55.74**	**29**	P	**P**	**13 37 04.6**	**-0.4**
ILAR	**Eielson Array**	**56.29**	**29**	P	**P**	**13 37 07.4**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=263,slow=6.6,SNR=2.6						
	comp=Z,0.3nm,0.8s						
BMAR	**Burnt Mountain**	**57.48**	**26**	P	**P**	**13 37 17.2**	**-0.2**
BVAR	**Borovoye Array**	**58.39**	**317**	P	**P**	**13 37 26.2**	**+2.3**
	comp=Z,0.7nm,0.5s,baz=113,slow=5.6,SNR=5.2						
	comp=Z,0.7nm,0.5s						
KK31	**Karatay Array**	**59.74**	**306**	P	**P**	**13 37 33.1**	**-0.4**
KK31				IAmb	IAmb	13 37 37.5	
	comp=Z,4.3nm,1.4s						
KKAR	**Karatay Array**	**59.74**	**306**	P	**P**	**13 37 33.2**	**-0.3**
AB31	**Akbulak array**	**65.52**	**314**	P	**P**	**13 38 11.5**	**-0.4**
AB31				IAmb	IAmb	13 38 21.0	
	comp=Z,2.8nm,1.4s						
ABKAR	**Akbulak array**	**65.52**	**314**	P	**P**	**13 38 11.5**	**-0.4**
ARCES	**ARCESS Array B**	**73.21**	**341**	P	**P**	**13 39 00.8**	**+1.7**
	comp=Z,2.2nm,0.8s,baz=60,slow=5.3,SNR=3.8						
	comp=Z,2.2nm,0.8s						
FINES	**FINESS Array B**	**77.81**	**334**	P	**P**	**13 39 26.7**	**+1.1**
	comp=Z,3.9nm,0.9s,baz=65,slow=4.7,SNR=11						
	comp=Z,3.9nm,0.9s						
NVAR	**Mina Array Bea**	**78.88**	**52**	P	**P**	**13 39 33.3**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=306,slow=6.7,SNR=2.4						
	comp=Z,0.2nm,0.6s						
NOA	**NORSAR Array B**	**83.34**	**339**	P	**P**	**13 39 56.4**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=72,slow=4.2,SNR=1.4						
	comp=Z,0.9nm,0.7s						
QSPA	**South Pole Qui**	**117.71**	**180**	PKPdf	**PKiKP**	**13 46 14.8**	**+0.7**

IDC ***13*** *13:30:59.6±2.1, 59.°82N×22.°32E, h0km, mbtmp3.1/4, ML2.0/4, Error ellipse: s-maj=30.7km s-min=8.1km az=165.0*
DNK ***13*** *13:30:59.5±0.5, 59.°85N×22.°23E, h0km, ML2.0(UPP), Suspected explosion*
EST ***13*** *13:30:59.2, 59.°83N×22.°30E, h0km, ML1.5(HEL), Explosion*
HEL ***13*** *13:30:59.2±0.0, 59.°82N×22.°30E, h0km, ML1.5, Explosion*
UPP ***13*** *13:31:00.0±1.2, 59.°84N×22.°14E, h0km, ML2.0, Presumed earthquake*

**ISC 13 13:30:58.2±0.8, 59.°84N±0.°03×22.°30E±0.°02, h0km, n44, σ0§80

MOS ***13*** *14:12:28.2±1.1,43.˙65N×28.˙77W,h10km,mb5.1/52, MS4.4/9,Error ellipse: s-maj=8.4km s-min=5.3km az=48.1*

NEIC ***13*** *14:12:29.4±1.3,43.˙67N±0.˙08×28.˙8W±0.˙1,h10km±1km, mb5.1/427,Mww5.3/46,Error ellipse: s-maj=14.2km s-min=13.3km az=312.0*

IGIL ***13*** *14:12:30.0,43.˙60N×28.˙88W,h10km,Mb4.9*

NEIC ***13*** *14:12:30.2,43.˙69N×28.˙77W,h20km*

NEIC ***13*** *14:12:30.2,43.˙69N×29.˙18W,h20km,Moment Tensor Solution. Duration:2s2 Moment tensor: Scale 1017Nm; Mrr-1.07; Mθθ0.38; Mφφ0.69; Mrθ-0.28; Mθφ0.50; Mrφ0.26; Fault plane solution: M0 1.13000×10 17 NP1:φ52.95000°, δ46.34000°,λ-65.45000°. NP2:φ199.46000°,δ48.85000°, λ-113.53000°. Principal axes: T 1.0558, Plg1.0000°, Azm306.0000°; N 0.1352, Plg17.0000°, Azm215.0000°; P -1.1909, Plg72.0000°, Azm40.0000°;*

GCMT ***13*** *14:12:32.4±0.1,43.˙72N±0.˙01×28.˙80W±0.˙01,h12km, MW5.2/153,Moment Tensor Solution. s93,c151; s153,c287; Duration: 1s0 Moment tensor: Scale 1017 Nm; Mrr-0.87±.01; Mθθ0.23±.01; Mφφ0.63±.01; Mrθ0.17±.03; Mθφ0.48±.01; Mrφ0.00±.03; Best double couple: M0 0.93400×10 17 NP1:φ24.00000°, δ43.00000°, λ-104.00000°. NP2:φ223.00000°,δ49.00000°, λ-77.00000°. Principal axes: T 0.9660, Plg3.0000°, Azm304.0000°; N -0.0630, Plg10.0000°, Azm35.0000°; P -0.9030, Plg80.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***13*** *14:12:39.4,43.˙89N×28.˙02W,h33km,mb4.7*

ISC 13 14:12:30.4±0.3, 43.˙67N±0.˙05×28.˙91W±0.˙04, h14km, n813, σ1§53/597, mb5.0/302, MS4.4/98, 26C-25D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSA	**Rosais**	**4.97**	**174**	*e*Pn	**Pn**	**14 13 42.6**	**-2.0**
PCED	**Cedros**	**5.04**	**178**	*e*Pn	**Pn**	**14 13 45.1**	**-0.5**
PAGU	**Agualva, Azore**	**5.07**	**165**	*e*Pn	**Pn**	**14 13 44.7**	**-1.3**
PMAN	**Manadas**	**5.07**	**173**	*e*Pn	**Pn**	**14 13 44.8**	**-1.2**
CALA	**Caldeira**	**5.09**	**178**	*e*Pn	**Pn**	**14 13 46.0**	**-0.2**
PSCM	**Serra do Cume**	**5.15**	**164**	*e*Pn	**Pn**	**14 13 46.1**	**-1.0**
PPNO	**Prainha do Nor**	**5.22**	**174**	*e*Pn	**Pn**	**14 13 46.6**	**-1.4**
PID	**Ribeirinha**	**5.26**	**173**	*e*Pn	**Pn**	**14 13 46.9**	**-1.7**
PSET	**Sete Cidades**	**6.33**	**156**	*e*Pn	**Pn**	**14 14 01.7**	**-1.5**
CMLA	**Cha da Macela**	**6.44**	**155**		**Pn**	**14 14 03.2**	**-1.6**
CMLA	**Cha da Macela**	**6.44**	**155**	*e*Pn	**Pn**	**14 14 03.1**	**-1.6**
CMLA	**Cha da Macela**	**6.44**	**155**	P	**Pn**	**14 14 03.2**	**-1.6**
PGRON	**Lagoa das Cont**	**6.48**	**154**	*e*Pn	**Pn**	**14 14 03.8**	**-1.5**
BART	**Pico Bartolome**	**6.54**	**153**	*e*Pn	**Pn**	**14 14 04.4**	**-1.8**
PMOZ	**Porto Moniz, M**	**14.20**	**136**		**Pn**	**14 15 50.6**	**-0.5**
PMOZ	**Porto Moniz, M**	**14.20**	**136**	*e*P	**Pn**	**14 15 52.0**	**+0.9**
PMOZ				*e*LR	LR	14 18 56.3	
PMOZ				IAMs_20	IAMs_20	14 19 59.1	
	comp=Z,2μm,22.0s						
PMAR	**Madeira**	**14.42**	**135**	*e*P	**Pn**	**14 15 54.3**	**+0.1**
PMPS	**Porto Santo**	**14.46**	**133**	*e*P	**Pn**	**14 15 55.1**	**+0.5**
VAL	**Valentia**	**14.99**	**50**	P	**Pn**	**14 16 04.0**	**+2.4**
PGAV	**Gavieira, Arco**	**15.24**	**89**	*e*P	**Pn**	**14 16 04.5**	**-0.8**
PGAV				IAmb	IAmb	14 16 13.7	
	comp=Z,143nm,1.3s						
PGAV				*e*LR	LR	14 19 36.4	
PGAV				IAMs_20	IAMs_20	14 20 49.1	
	comp=Z,2μm,20.0s						
PMAFR	**Mafra**	**15.48**	**101**	*e*P	**Pn**	**14 16 06.0**	**-2.2**
PMAFR				IAmb	IAmb	14 16 39.9	
	comp=Z,198nm,1.6s						
PCAB	**Cabril**	**15.48**	**90**	*e*P	**P**	**14 16 13.7**	**+1.0**
PCAB				IAmb	IAmb	14 16 20.2	
	comp=Z,170nm,2.0s						
PCAS	**Casmilo, Conde**	**15.63**	**96**	*e*P	**Pn**	**14 16 09.8**	**-0.3**
PCAS				IAmb	IAmb	14 16 21.0	
	comp=Z,169nm,1.8s						
COI	**Coimbra**	**15.64**	**96**		**Pn**	**14 16 06.5**	**-3.7**
COI	**Coimbra**	**15.64**	**96**	*e*P	**Pn**	**14 16 10.8**	**+0.5**
COI				IAmb	IAmb	14 16 17.1	
	comp=Z,130nm,1.4s						
COI	**Coimbra**	**15.64**	**96**	P	**Pn**	**14 16 06.6**	**-3.7**
COI				pmax	pmax		
	comp=Z,30nm,0.9s						
LIS	**Lisbon**	**15.67**	**102**	P	**Pn**	**14 16 09.6**	**-1.0**
PARRA	**Arraiolos**	**15.71**	**101**	*e*P	**P**	**14 16 19.5**	**+4.3**
PARRA				IAmb	IAmb	14 16 26.0	
	comp=Z,109nm,1.3s						
POLO	**Lamas de Olo**	**15.74**	**91**	*e*P	**Pn**	**14 16 12.3**	**+0.7**
POLO				IAmb	IAmb	14 16 24.0	
	comp=Z,49nm,1.7s						
PVRL	**Vila Real**	**15.82**	**91**	*e*P	**P**	**14 16 18.1**	**+1.7**
PVRL				IAmb	IAmb	14 16 18.8	
	comp=Z,68nm,1.3s						
PVIS	**Viseu**	**15.85**	**94**	*e*P	**P**	**14 16 15.8**	**-1.0**
PSARD	**Sardoal**	**16.03**	**98**	*e*P	**Pn**	**14 16 13.4**	**-1.9**
PSARD				IAmb	IAmb	14 16 21.0	
	comp=Z,96nm,1.5s						
PMTG	**Montargil**	**16.19**	**99**	*e*P	**Pn**	**14 16 18.3**	**+1.0**
PMTG				IAmb	IAmb	14 16 23.5	
	comp=Z,170nm,1.3s						
MTE	**Manteigas**	**16.20**	**94**		**Pn**	**14 16 14.0**	**-3.6**
MTE	**Manteigas**	**16.20**	**94**	*e*P	**Pn**	**14 16 16.8**	**-0.8**
MTE				IAmb	IAmb	14 16 27.5	
	comp=Z,124nm,1.5s						
MTE				*e*LR	LR	14 19 31.6	
MTE				IAMs_20	IAMs_20	14 21 26.1	
	comp=Z,1μm,18.0s						
MVO	**Moncorvo**	**16.35**	**91**	*e*P	**Pn**	**14 16 19.0**	**-0.4**
MVO				IAmb	IAmb	14 16 30.2	
	comp=Z,119nm,1.7s						
MVO				*e*LR	LR	14 19 37.4	
MVO				IAMs_20	IAMs_20	14 21 09.6	
	comp=Z,1μm,20.0s						
PBRG	**Braganca**	**16.39**	**89**	*e*P	**P**	**14 16 21.2**	**-1.6**
PBRG				IAmb	IAmb	14 16 30.1	
	comp=Z,94nm,2.0s						
PCBR	**Castelo Branco**	**16.44**	**96**	*e*P	**Pn**	**14 16 16.0**	**-4.5**
PCBR				IAmb	IAmb	14 16 29.8	
	comp=Z,125nm,1.9s						
PTEO	**Sao Teotonio**	**16.49**	**105**	*e*P	**Pn**	**14 16 20.0**	**-1.2**
PTEO				IAmb	IAmb	14 16 35.6	
	comp=Z,127nm,1.6s						
EVO	**Evora**	**16.56**	**101**	*e*P	**P**	**14 16 25.7**	**+1.1**
EVO				IAmb	IAmb	14 16 46.2	
	comp=Z,89nm,1.2s						
PFVI	**Vila Bisbo**	**16.62**	**106**		**Pn**	**14 16 18.4**	**-4.4**
PFVI	**Vila Bisbo**	**16.62**	**106**	*e*P	**P**	**14 16 27.3**	**+2.1**
PFVI				IAmb	IAmb	14 16 28.1	
	comp=Z,202nm,1.3s						
PMRV	**Marv??o**	**16.65**	**97**	*e*P	**Pn**	**14 16 23.8**	**+0.6**
PMRV				IAmb	IAmb	14 16 36.7	
	comp=Z,84nm,1.8s						
PMRV				*e*LR	LR	14 19 43.5	
PMRV				IAMs_20	IAMs_20	14 21 40.4	
	comp=Z,2μm,20.0s						
MORF	**Marmelete**	**16.66**	**106**	*e*P	**Pn**	**14 16 23.2**	**-0.2**
MORF				IAmb	IAmb	14 16 28.3	
	comp=Z,76nm,1.1s						
MORF	**Marmelete**	**16.66**	**106**		**Pn**	**14 16 20.3**	**-3.1**
MORF	**Marmelete**	**16.66**	**106**	*e*P	**Pn**	**14 16 24.3**	**+0.9**
MORF				IAmb	IAmb	14 16 36.2	
	comp=Z,188nm,1.7s						
MORF	**Marmelete**	**16.66**	**106**	*e*P	**Pn**	**14 16 23.2**	**-0.2**
MESJ	**Messejana**	**16.71**	**103**	*e*P	**Pn**	**14 16 23.6**	**-0.4**
MESJ				IAmb	IAmb	14 16 29.6	
	comp=Z,251nm,1.7s						
MESJ				*e*S	**Sn**	**14 19 29.8**	**+0.5**
MESJ	**Messejana**	**16.71**	**103**		**Pn**	**14 16 20.9**	**-3.0**
MESJ				IAmb	IAmb	14 16 29.2	
	comp=Z,151nm,1.4s						
MESJ	**Messejana**	**16.71**	**103**	*e*P	**Pn**	**14 16 21.9**	**-2.1**
MESJ				IAmb	IAmb	14 16 29.9	
	comp=Z,158nm,1.5s						
MESJ	**Messejana**	**16.71**	**103**	*e*P	**Pn**	**14 16 23.6**	**-0.4**
MESJ				*e*S	**Sn**	**14 19 29.8**	**+0.5**
PESTR	**Estremoz**	**16.72**	**99**		**Pn**	**14 16 21.0**	**-3.2**
PESTR	**Estremoz**	**16.72**	**99**	*e*P	**Pn**	**14 16 23.2**	**-0.9**
PESTR				IAmb	IAmb	14 16 32.4	
	comp=Z,67nm,1.9s						
PBEJ	**Beja**	**16.88**	**102**	*e*P	**Pn**	**14 16 24.4**	**-1.7**
PBEJ				IAmb	IAmb	14 16 34.9	
	comp=Z,154nm,1.9s						
PCVE	**Castro Verde**	**16.93**	**104**	*e*P	**Pn**	**14 16 26.8**	**0.0**
PCVE				IAmb	IAmb	14 16 35.7	
	comp=Z,109nm,1.7s						
IWEX	**Carrickbyrne,**	**17.12**	**52**	P	**P**	**14 16 33.7**	**+3.0**
PBDV	**Barranco-do-Ve**	**17.19**	**105**	*e*P	**P**	**14 16 31.3**	**-0.4**
PBDV				IAmb	IAmb	14 16 35.5	
	comp=Z,127nm,1.5s						
PVAQ	**Vaqueiros**	**17.27**	**104**		**Pn**	**14 16 26.4**	**-4.6**
PVAQ	**Vaqueiros**	**17.27**	**104**	*e*P	**P**	**14 16 32.2**	**-0.2**
PVAQ				IAmb	IAmb	14 16 39.6	
	comp=Z,104nm,1.7s						
PVAQ				*e*LR	LR	14 20 28.3	
PVAQ				IAMs_20	IAMs_20	14 22 00.1	
	comp=Z,2μm,20.0s						
PBAR	**Barrancos**	**17.40**	**101**	*e*P	**Pn**	**14 16 32.4**	**-0.2**
PBAR				IAmb	IAmb	14 16 43.7	
	comp=Z,93nm,1.6s						
DSB	**Dublin**	**17.68**	**49**	P	**P**	**14 16 40.2**	**+3.3**
IDGL	**Inch Island, C**	**17.93**	**43**	P	**P**	**14 16 42.5**	**+2.9**
ILTH	**Belurgan, Co L**	**18.03**	**47**	P	**P**	**14 16 44.3**	**+3.6**
PAB	**San Pablo**	**18.80**	**94**		**P**	**14 16 45.1**	**-4.3**
PAB	**San Pablo**	**18.80**	**94**	P	**P**	**14 16 45.1**	**-4.3**
PAB				pmax	pmax		
	comp=Z,110nm,2.0s						
ESBB	**Sonseca Array**	**19.04**	**94**	P	**P**	**14 16 49.3**	**-2.7**
ESDC	**Sonseca Array**	**19.04**	**94**	P	**P**	**14 16 49.3**	**-2.6**
ESDC	**Sonseca Array**	**19.04**	**94**	P	**Pn**	**14 16 52.2**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=287,slow=8.2,SNR=17						
ESDC				LR	LR	14 22 28.6	
	comp=Z,1μm,21.2s,baz=283,slow=32						
	comp=Z,21nm,1.2s						
ESK	**Eskdalemuir**	**20.23**	**46**		**P**	**14 17 01.5**	**-3.3**
ESK	**Eskdalemuir**	**20.23**	**46**	P	**P**	**14 17 01.5**	**-3.3**
ESK				pmax	pmax		
	comp=Z,57nm,1.2s						
EKA	**Eskdalemuir Ar**	**20.26**	**46**	P	**P**	**14 17 05.5**	**+0.4**
	comp=Z,13nm,1.0s,baz=237,slow=8.9,SNR=14						
	comp=Z,13nm,1.0s						
BORG	**Borgarnes**	**21.55**	**9**	LR	LR	14 23 31.3	
	comp=Z,790nm,18.5s,baz=191,slow=31						
MD01	**Midelt array s**	**21.74**	**112**		**P**	**14 17 18.5**	**-2.9**
MD31	**MD31**	**21.74**	**112**	P	**P**	**14 17 20.0**	**-1.4**
MDT	**Midelt**	**21.88**	**112**	P	**P**	**14 17 23.6**	**+0.7**
	comp=Z,3.4nm,0.4s,baz=312,slow=13,SNR=13						
MDT				LR	LR	14 24 13.0	
	comp=Z,796nm,20.1s,baz=314,slow=32						
	comp=Z,3.4nm,0.4s						
EBR	**Ebro Roquetas**	**21.90**	**87**	P	**P**	**14 17 21.8**	**-1.1**
EBR	**Ebro Roquetas**	**21.90**	**87**	P	**P**	**14 17 21.8**	**-1.1**
CEST	**Esterri de Car**	**21.99**	**82**		**P**	**14 17 21.0**	**-3.1**
CEST				IAmb	IAmb	14 17 36.9	
	comp=Z,159nm,1.5s						
CORI	**Orista**	**22.71**	**84**		**P**	**14 17 29.1**	**-2.5**
CORI				IAmb	IAmb	14 17 42.6	
	comp=Z,152nm,1.7s						
DOU	**Dourbes**	**23.64**	**62**	*d*P	**P**	**14 17 40.7**	**-0.3**
	comp=Z,8.9nm,1.5s						
BMRD	**Maredsous**	**23.77**	**62**	*d*P	**P**	**14 17 42.1**	**-0.1**
SSB	**Saint Sauveur**	**23.83**	**74**		**P**	**14 17 41.2**	**-1.7**
SSB	**Saint Sauveur**	**23.83**	**74**	P	**P**	**14 17 41.2**	**-1.7**
SSB				pmax	pmax		
	comp=Z,37nm,1.3s						
BGES	**Gesves**	**23.97**	**62**	*d*P	**P**	**14 17 44.1**	**-0.1**
	comp=Z,12nm,0.9s						
RCHB	**Rochefort**	**24.05**	**62**	*d*P	**P**	**14 17 44.0**	**-0.9**
BCLA	**Clavier**	**24.11**	**62**	*d*P	**P**	**14 17 45.5**	**0.0**
BSTI	**Sart Tilman**	**24.29**	**61**	*d*P	**P**	**14 17 47.5**	**+0.4**
BHOU	**Houyegnez**	**24.56**	**62**	*d*P	**P**	**14 17 50.2**	**+0.6**
	comp=Z,11nm,1.1s						
MEM	**Membach**	**24.57**	**61**	*d*P	**P**	**14 17 49.7**	**+0.1**
	comp=Z,13nm,1.1s						
WLF	**Walferdange**	**24.64**	**64**	P	**P**	**14 17 48.7**	**-1.6**
WLF				IAmb	IAmb	14 17 55.8	
	comp=Z,100nm,1.9s						
WLF	**Walferdange**	**24.64**	**64**	*d*P	**P**	**14 17 51.3**	**+1.0**
	comp=Z,13nm,1.1s						
WLF	**Walferdange**	**24.64**	**64**	P	**P**	**14 17 48.7**	**-1.6**
WLF				pmax	pmax		
	comp=Z,100nm,1.9s						
BTNL	**Ternell**	**24.65**	**61**	*d*P	**P**	**14 17 50.0**	**-0.4**
ECH	**Echery**	**25.34**	**67**		**P**	**14 17 54.5**	**-2.1**
ECH	**Echery**	**25.34**	**67**	P	**P**	**14 17 54.5**	**-2.1**
ECH				pmax	pmax		
	comp=Z,26nm,1.0s						
BNI	**Bardonecchia**	**25.36**	**74**		**P**	**14 17 53.8**	**-3.2**
BNI				IAmb	IAmb	14 18 15.2	
	comp=Z,60nm,1.3s						
BNI	**Bardonecchia**	**25.36**	**74**	P	**P**	**14 17 53.8**	**-3.2**
BNI				pmax	pmax		
	comp=Z,60nm,1.3s						
LMN	**Caledonia Moun**	**25.45**	**288**		**P**	**14 17 56.3**	**-1.3**
LMN				IAmb	IAmb	14 18 02.2	
	comp=Z,32nm,1.1s						
SENIN	**Lac Senin/Sane**	**25.60**	**71**	P	**P**	**14 17 56.2**	**-3.0**
SENIN				IAmb	IAmb	14 18 11.1	
	comp=Z,62nm,1.4s						
BFO	**Black Forest**	**26.11**	**67**	P	**P**	**14 18 01.0**	**-2.7**
BFO	**Black Forest**	**26.11**	**67**	P	**P**	**14 18 01.0**	**-2.7**
BFO				pmax	pmax		
	comp=Z,29nm,1.4s						
BATG	**Bathurst New B**	**26.13**	**291**		**P**	**14 18 02.6**	**-1.2**
BATG				IAmb	IAmb	14 18 09.7	
	comp=Z,48nm,1.2s						
SFJD	**Kangerlussuaq**	**26.14**	**341**	LR	LR	14 26 09.7	
	comp=Z,1μm,19.9s,baz=146,slow=31						
SCHQ	**Schefferville**	**26.82**	**308**	P	**P**	**14 18 10.2**	**+0.2**
SCHQ	**Schefferville**	**26.82**	**308**	P	**P**	**14 18 12.0**	**+2.0**
	comp=Z,202nm,1.0s,baz=91,slow=9.8,SNR=5.7						
SCHQ				LR	LR	14 26 52.1	
	comp=Z,14μm,21.4s,baz=95,slow=32						
TUE	**Stuetta**	**26.99**	**71**	P	**P**	**14 18 08.9**	**-2.9**
DAVA	**Daunels**	**27.25**	**69**	*i* P	**P**	**14 18 14.8**	**+0.7**
	comp=Z,7.2nm,0.6s						
DAVOX	**Davos/Dischmat**	**27.31**	**70**	LR	LR	14 27 53.6	
	comp=Z,466nm,19.4s,baz=260,slow=34						
EMMW	**East Machias**	**27.49**	**286**	P	**P**	**14 18 16.4**	**+0.4**
MSSA	**Maissana**	**27.49**	**75**	P	**P**	**14 18 13.3**	**-2.8**
RETA	**Reutte**	**27.82**	**68**	*i* pP	**P**	**14 18 19.8**	**+0.7**
	comp=Z,4.2nm,0.8s						
FETA	**Feichten**	**27.85**	**69**	*e*pP	**P**	**14 18 20.8**	**+1.3**
	comp=Z,9.3nm,1.2s						
GRF	**Grafenberg Arr**	**27.93**	**63**	*e*P	**P**	**14 18 20.1**	**+0.1**
	comp=Z,19nm,1.3s,baz=273,slow=8.3						
MOTA	**Moosalm**	**28.07**	**68**	*i* pP	**P**	**14 18 22.2**	**+0.8**
	comp=Z,16nm,1.2s						
SQTA	**Sankt Quirin**	**28.15**	**69**	*i* pP	**P**	**14 18 23.2**	**+1.1**
	comp=Z,14nm,1.1s						
D62A	**Allapoint, All**	**28.18**	**291**	P	**P**	**14 18 21.7**	**-0.5**
D62A				IAmb	IAmb	14 18 32.8	
	comp=Z,70nm,1.8s						
WATA	**Walderalm**	**28.39**	**68**	*i* pP	**P**	**14 18 25.2**	**+1.0**
	comp=Z,11nm,1.4s						
WTTA	**Wattenberg**	**28.43**	**68**	*i* pP	**P**	**14 18 25.7**	**+1.0**
	comp=Z,13nm,1.1s						
ZCCA	**Zocca**	**28.50**	**75**	P	**P**	**14 18 24.0**	**-1.2**
CTI	**Castel Tesino**	**28.63**	**71**	P	**P**	**14 18 25.0**	**-1.4**
CTI				IAmb	IAmb	14 18 27.9	
	comp=Z,38nm,1.6s						
CTI	**Castel Tesino**	**28.63**	**71**	P	**P**	**14 18 25.0**	**-1.4**
CTI				pmax	pmax		
	comp=Z,38nm,1.6s						
CLL	**Collm**	**29.00**	**60**	*e*P	**P**	**14 18 29.0**	**-0.5**
CLL				*e*S	**S**	**14 23 24.0**	**+4.0**
ABTA	**Abfaltersbach**	**29.11**	**69**	*e*pP	**P**	**14 18 31.5**	**+0.9**
	comp=Z,7.6nm,1.0s						
LESA	**Schwarzleotal**	**29.11**	**68**	*i* pP	**P**	**14 18 31.2**	**+0.6**
	comp=Z,9.8nm,1.6s						
JMIC	**Jan Mayen**	**29.19**	**14**	LR	LR	14 27 12.8	
	comp=Z,659nm,20.9s,baz=234,slow=30						
NOA	**NORSAR Array B**	**29.41**	**40**	P	**P**	**14 18 32.7**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=254,slow=9.6,SNR=3.0						
NOA				LR	LR	14 29 33.0	
	comp=Z,309nm,18.2s,baz=250,slow=35						
	comp=Z,1.2nm,0.9s						
KHC	**Kasperske Hory**	**29.51**	**64**	*e*P	**P**	**14 18 34.6**	**+0.6**
KHC				*e*S	**S**	**14 23 30.7**	**+2.6**
KHC				MLR	MLR		
	comp=Z,600nm,15.0s						
KHC	**Kasperske Hory**	**29.51**	**64**	*e*P	**P**	**14 18 34.6**	**+0.6**
KHC				*e*S	**S**	**14 23 30.7**	**+2.6**
KHC				AMS	AMS	14 28 40.0	
	comp=Z,600nm,15.0s						
BRG	**Berggiesshubel**	**29.61**	**61**	*e*P	**P**	**14 18 37.6**	**+2.7**
BRG				Amp		14 18 43.1	
	comp=Z,3.7nm,1.0s						
BRG				PP	**PnPn**	**14 19 33.1**	**+3.5**
BRG				Amp		14 19 34.1	
	comp=Z,4.7nm,1.1s						
BRG	**Berggiesshubel**	**29.61**	**61**	S	**S**	**14 23 38.0**	**+8.4**
KBA	**Koelnbreinsper**	**29.61**	**68**	*i* pP	**P**	**14 18 35.5**	**+0.3**
	comp=Z,22nm,0.8s						
GERES	**GERESS Array B**	**29.62**	**65**	P	**P**	**14 18 33.6**	**-1.5**
GERES	**GERESS Array B**	**29.62**	**65**	P	**P**	**14 18 35.2**	**+0.1**
	comp=Z,4.2nm,1.1s,baz=270,slow=6.0,SNR=15						
GERES				LR	LR	14 28 55.0	
	comp=Z,505nm,19.8s,baz=267,slow=33						
	comp=Z,4.2nm,1.1s						
BIOA	**Bad Ischl, Aus**	**29.72**	**67**	*e*pP	**P**	**14 18 36.4**	**+0.5**
	comp=Z,21nm,1.3s,SNR=6.4						
RICC	**Richard**	**29.73**	**61**	AMS	AMS	14 29 40.0	
	comp=Z,700nm,14.8s						
ZVC	**Zvikov**	**29.88**	**64**	*e*P	**P**	**14 18 38.0**	**+0.7**
ZVC				AMS	AMS	14 30 50.0	
	comp=Z,700nm,14.3s						
MYKA	**Terra Mystica**	**29.89**	**69**	*i* P	**P**	**14 18 37.1**	**-0.4**
	comp=Z,11nm,1.3s						
PRA	**Prague**	**29.98**	**62**	AMS	AMS	14 30 10.0	
	comp=Z,900nm,13.9s						
CKRC	**Cesky Krumlov**	**30.02**	**65**	*e*S	**S**	**14 23 37.6**	**+1.5**
CKRC				AMS	AMS	14 28 50.0	
	comp=Z,500nm,14.6s						
PRU	**Pruhonice**	**30.05**	**62**	AMS	AMS	14 30 00.0	
	comp=Z,700nm,15.0s						
MOA	**Molln**	**30.12**	**67**	*i* P	**P**	**14 18 39.0**	**-0.5**
	comp=Z,10nm,1.3s						
FRB	**Frobisher Bay**	**30.14**	**326**	LR	LR	14 27 32.1	
	comp=Z,1μm,21.4s,baz=99,slow=30						
KEST	**Kesra**	**30.27**	**92**	IAmb	IAmb	14 18 48.6	
	comp=Z,26nm,1.1s						
KEST	**Kesra**	**30.27**	**92**	P	**P**	**14 18 40.9**	**-0.1**
	comp=Z,6.0nm,0.8s,baz=328,slow=4.0,SNR=5.5						
KEST				LR	LR	14 30 01.5	
	comp=Z,775nm,21.3s,baz=282,slow=35						
	comp=Z,6.0nm,0.8s						
HFS	**Hagfors**	**30.34**	**42**	LR	LR	14 29 17.8	
	comp=Z,481nm,20.8s,baz=258,slow=33						
OBKA	**Obir**	**30.53**	**69**	*e*pP	**P**	**14 18 43.5**	**+0.3**
	comp=Z,15nm,0.8s,SNR=5.9						
BBTS	**Babate**	**30.79**	**156**	LR	LR	14 28 27.2	
	comp=Z,1μm,20.5s,baz=331,slow=31						
SOKA	**Soboth**	**30.82**	**69**	*e*P	**P**	**14 18 45.2**	**-0.6**
	comp=Z,6.4nm,1.0s						
UPC	**Upice**	**30.95**	**61**	AMS	AMS	14 33 10.0	
	comp=Z,700nm,14.3s						
CHVC	**Chvalec**	**30.97**	**61**	AMS	AMS	14 30 30.0	
	comp=Z,600nm,12.0s						
ARSA	**Arzberg**	**31.05**	**68**	P	**P**	**14 18 46.6**	**-1.1**
ARSA	**Arzberg**	**31.05**	**68**	*e*P	**P**	**14 18 47.7**	**0.0**
	comp=Z,9.1nm,0.7s,SNR=6.5						
OSTC	**Ostas**	**31.07**	**61**	AMS	AMS	14 29 50.0	
	comp=Z,800nm,14.8s						
DPC	**Dobruska-Polom**	**31.16**	**62**	AMS	AMS	14 31 30.0	
	comp=Z,700nm,12.1s						
CONA	**Conrad Observa**	**31.17**	**66**	*i* P	**P**	**14 18 47.0**	**-1.8**
	comp=Z,13nm,1.1s						
KRUC	**Moravsky**	**31.35**	**64**	*e*P	**P**	**14 18 50.8**	**+0.5**
VRAC	**Vranov**	**31.45**	**63**	P	**P**	**14 18 51.1**	**0.0**
	comp=Z,2.9nm,0.5s,baz=268,slow=9.9,SNR=6.0						
VRAC				LR	LR	14 31 13.3	
	comp=Z,330nm,18.1s,baz=268,slow=36						
	comp=Z,2.9nm,0.5s						
VRAC	**Vranov**	**31.45**	**63**	*e*P	**P**	**14 18 51.6**	**+0.4**
KRLC	**Kraliky**	**31.48**	**62**	AMS	AMS	14 31 20.0	
	comp=Z,700nm,13.5s						
RONA	**Rosalia, Austr**	**31.49**	**67**	*i* P	**P**	**14 18 51.9**	**+0.3**
	comp=Z,17nm,1.4s						
MORC	**Moravsky Berou**	**32.01**	**62**	*e*P	**P**	**14 18 56.6**	**+0.5**
MORC	**Moravsky Berou**	**32.01**	**62**	⇓P	**P**	**14 18 55.3**	**-0.8**
MORC	**Moravsky Berou**	**32.01**	**62**	⇓P	**P**	**14 18 55.3**	**-0.8**
SMOL	**Smolenice**	**32.11**	**65**	*e*P	**P**	**14 18 57.9**	**+0.9**
OKC	**Ostrava-Krasne**	**32.39**	**62**	AMS	AMS	14 31 50.0	
	comp=Z,700nm,15.4s						
VAE	**Valguarnera**	**33.19**	**86**	LR	LR	14 30 58.0	
	comp=Z,2μm,20.0s,baz=321,slow=34						
MORH	**Mrgy. Hungar**	**33.36**	**69**	⇑P	P	14 18 54.2	-14
STHS	**Stebnicka Huta**	**34.44**	**62**	*e*P	**P**	**14 19 17.8**	**+0.5**
N58A	**Sunbury**	**35.11**	**282**	P	**P**	**14 19 24.0**	**+0.9**
N58A				IAmb	IAmb	14 19 31.3	
	comp=Z,38nm,1.2s						
TAM	**Tamanrasset**	**35.18**	**115**	IAmb	IAmb	14 19 32.3	
	comp=Z,11nm,0.5s						
M57A	**Sunshine Farm,**	**35.23**	**283**	IAmb	IAmb	14 19 29.4	
	comp=Z,37nm,1.2s						
SIRR	**Siria**	**35.38**	**68**	⇓P	**P**	**14 19 23.5**	**-2.0**
BZS	**Buzias**	**35.52**	**69**	⇑P	**P**	**14

SPITS LR LR 14 32 01.6
comp=Z,282nm,18.3s,baz=226,slow=30
comp=Z,32nm,1.2s
V58A Windy Hill, Pi 38.90 276 P **P** **14 19 53.8 -1.6**
BLA Blacksburg 39.20 279 P **P** **14 19 57.6 -0.4**
BLA IAmb IAmb 14 20 14.5
comp=Z,22nm,0.7s
BLA Blacksburg 39.20 279 P **P** **14 19 57.6 -0.4**
BLA pmax pmax
comp=Z,22nm,0.7s
KIEV Kiev 39.22 59 P **P** **14 19 56.6 -1.3**
KIEV Kiev 39.22 59 P **P** **14 19 56.6 -1.3**
KIEV pmax pmax
comp=Z,13nm,1.2s
AKASG Malin Array Be 39.23 59 P **P** **14 19 57.2 -0.8**
comp=Z,1.9nm,0.6s,baz=279,slow=8.5,SNR=16
AKASG LR LR 14 36 26.0
comp=Z,424nm,18.1s,baz=272,slow=37
comp=Z,1.9nm,0.6s
AKASG Malin Array Be 39.23 59*ce*P **P** **14 19 57.5 -0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 39.23 59 *i* P **P** **14 19 57.1 -0.9**
AKBB pmax pmax
comp=Z,31nm,2.2s
ELND Elena 39.26 71 ⇑P **P** **14 19 58.9 +0.5**
H05S1 Guadeloupe/Mar 39.91 233 T T 15 02 11.3
APA Apatity 40.11 32⇓*e*P **P** **14 20 03.6 -1.5**
APA *e* 14 21 34.6
APA pmax pmax
comp=Z,8.0nm,1.1s
TORD Torodi Ar. Bea 40.19 130 P **P** **14 20 05.1 -1.2**
TORD Torodi Ar. Bea 40.19 130 P **P** **14 20 06.3 0.0**
comp=Z,8.0nm,1.0s,baz=330,slow=8.4,SNR=21
TORD LR LR 14 35 21.5
comp=Z,1µm,20.1s,baz=326,slow=34
comp=Z,8.0nm,1.0s
SJG San Juan 40.36 243 LR LR 14 32 44.5
comp=Z,189nm,20.9s,baz=40,slow=30
Q51A Peebles 40.51 283 IAmb IAmb 14 20 17.2
comp=Z,30nm,1.1s
IDI Anoyia 41.73 83 LR LR 14 36 40.6
comp=Z,155nm,21.1s,baz=282,slow=35
BLKN Baker Lake 42.06 323 P **P** **14 20 20.5 -0.7**
BLKN IAmb IAmb 14 20 27.8
comp=Z,32nm,1.2s
RES Resolute Bay 42.11 339 LR LR 14 35 20.4
comp=Z,178nm,19.0s,baz=142,slow=33
DBIC Dimbokro 42.48 143 P **P** **14 20 23.2 -1.8**
DBIC IAmb IAmb 14 20 29.3
comp=Z,65nm,1.5s
DBIC Dimbokro 42.48 143 P **P** **14 20 26.1 +1.1**
comp=Z,6.6nm,0.8s,baz=338,slow=8.2,SNR=6.5
DBIC LR LR 14 36 38.4
comp=Z,795nm,19.8s,baz=354,slow=34
comp=Z,6.6nm,0.8s
OBN Obninsk 42.59 51 LR LR 14 37 53.7
comp=Z,621nm,19.2s,baz=223,slow=36
OBN Obninsk 42.59 51*c* P **P** **14 20 26.1 +0.5**
OBN *e* 14 20 32.6
OBN *e* 14 22 00.3
OBN 14 22 23.0
OBN *i* S **S** **14 26 51.0 +3.4**
OBN *i* SSS SSS 14 30 37.4
OBN pmax pmax
comp=Z,96nm,2.5s
OBN MLR MLR
comp=Z,617nm,17.0s
CPCT Cooper Cave 42.95 279 P **P** **14 20 29.1 +0.2**
MOS Moscow 43.04 49 *e*P **P** **14 20 26.9 -2.3**
MOS *e* 14 22 05.2
MOS *e*S **S** **14 26 51.3 -2.9**
MOS pmax pmax
comp=Z,39nm,0.6s
SDDR Presa de Saban 43.14 249 P **P** **14 20 29.8 -0.8**
SDDR IAmb IAmb 14 20 38.8
comp=Z,53nm,1.6s
MDP Montagnes des 43.74 215 LR LR 14 34 11.5
comp=Z,185nm,19.0s,baz=56,slow=30
OLIL Olney 43.99 285 IAmb IAmb 14 20 41.8
comp=Z,36nm,1.1s
T47A Sharon Grove 44.07 282 P **P** **14 20 39.1 +1.2**
T47A IAmb IAmb 14 20 42.7
comp=Z,21nm,1.0s
152A Waverly Hall 44.47 275 IAmb IAmb 14 20 46.1
comp=Z,17nm,0.9s
Q44A Meyer Farm, Va 44.56 285 IAmb IAmb 14 20 46.4
comp=Z,22nm,0.9s
LPSR Galich'ya Gora 44.58 54 *e*P **P** **14 20 39.5 -2.2**
LPSR pmax pmax
comp=Z,80nm,1.6s
P43A Skaggs, Pawnee 44.58 287 IAmb IAmb 14 21 00.3
comp=Z,37nm,1.3s
L40A Anamosa 44.73 290 IAmb IAmb 14 20 48.0
comp=Z,42nm,1.2s
ULM Lac du Bonnet 44.77 303 LR LR 14 37 48.9
comp=Z,1µm,20.7s,baz=92,slow=34
WVT Waverly 44.99 281 P **P** **14 20 45.1 -0.1**
WVT Waverly 44.99 281 P **P** **14 20 45.1 -0.1**
WVT pmax pmax
comp=Z,13nm,1.1s
VORR Voronezh 45.03 55 *e*P **P** **14 20 43.7 -1.5**
VORR pmax pmax
comp=Z,30nm,1.2s
N41A Harden Midland 45.05 289 IAmb IAmb 14 20 50.9
comp=Z,27nm,1.1s
VSR Storozhevoye 45.14 55 *e*P **P** **14 20 43.3 -2.9**
VSR pmax pmax
comp=Z,30nm,1.6s
VORD Divnogorie 45.30 56 *e*P **P** **14 20 45.8 -1.6**
VORD pmax pmax
comp=Z,20nm,1.4s
I37A Lemond, Waseca 45.42 294 IAmb IAmb 14 20 54.0
comp=Z,26nm,1.1s
AGMN Agassiz Nation 45.42 300 IAmb IAmb 14 20 55.4
comp=Z,29nm,1.5s
PCRV Puerto La Cruz 45.52 234 LR LR 14 37 14.6
comp=Z,160nm,20.6s,slow=33
PLAL Pickwick Lake 45.72 280 IAmb IAmb 14 20 59.3
comp=Z,38nm,1.6s
BR131 Keskin Array S 45.90 72 P **P** **14 20 50.8 -1.7**
BR131 Keskin Array S 45.90 72 *i* P **P** **14 20 53.0 +0.5**
BRTR Keskin Array B 45.90 72 P **P** **14 20 51.0 -1.5**
BRTR Keskin Array B 45.90 72 P **P** **14 20 53.0 +0.5**
comp=Z,5.4nm,0.9s,baz=282,slow=6.2,SNR=15
comp=Z,5.4nm,0.9s
BRTR Keskin Array B 45.90 72*ce*P **P** **14 20 53.4 +0.9**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
FVM French Village 45.96 285 IAmb IAmb 14 21 00.8
comp=Z,16nm,0.9s
ANN Anapa 46.33 64 *e*P **P** **14 20 51.4 -4.2**
ANN *e*S **S** **14 27 38.7 -3.5**
ANN pmax pmax
comp=Z,18nm,0.7s
ANN MLR MLR
comp=Z,339nm,15.0s
P40A Paris 46.39 288 IAmb IAmb 14 21 08.9
comp=Z,26nm,1.3s
CCM Cathedral Cave 46.50 285 P **P** **14 20 57.0 -0.1**
CCM Cathedral Cave 46.50 285 P **P** **14 20 57.0 -0.1**
CCM pmax pmax
comp=Z,29nm,1.1s
PBMO Poplar Bluff 46.52 283 IAmb IAmb 14 21 04.2
comp=Z,26nm,1.1s
VRH Novokhopyorsk 46.67 55 *e*P **P** **14 20 57.9 -0.3**
VRH pmax pmax
comp=Z,40nm,1.9s
FFC Flin Flon 46.91 311 P **P** **14 21 01.1 +1.0**
FFC IAmb IAmb 14 21 05.0
comp=Z,13nm,1.0s
FFC Flin Flon 46.91 311 P **P** **14 21 01.1 +1.0**
FFC pmax pmax
comp=Z,13nm,1.0s
R40A Maddies Statio 47.10 286 IAmb IAmb 14 21 13.8
comp=Z,22nm,1.0s
ECSD EROS Data Cent 47.66 295 IAmb IAmb 14 21 21.7
comp=Z,15nm,1.0s
BNN Bunyan 47.82 72 P **P** **14 21 06.8 -0.7**
BNN IAmb IAmb 14 21 09.7
comp=Z,27nm,1.2s
ERBR Yeremizino-Bor 47.94 62 *e*P P 14 21 03.1 -5.1
ERBR *e*S **S** **14 28 06.4 +1.2**
ERBR pmax pmax
comp=Z,21nm,0.6s
ERBR MLR MLR
comp=Z,352nm,15.0s
SOC Sochi 48.33 65 *e*P **P** **14 21 09.5 -1.7**
SOC *e* 14 23 04.0
SOC *e*PPP PPP 14 23 51.6
SOC *e*S **S** **14 28 09.8 -0.9**
SOC *e*SSS SSS 14 32 53.8
SOC MLR MLR
comp=Z,153nm,16.0s
KIRV Kirov 48.47 43 LR LR 14 39 58.3
comp=Z,288nm,21.8s,baz=292,slow=34
KIRV Kirov 48.47 43*ce*P **P** **14 21 12.1 +0.1**
WHAR Wooly Hollow 48.57 283 IAmb IAmb 14 21 16.9
comp=Z,20nm,1.1s
BELG Belogornoye 49.66 51 LR LR 14 41 56.0
comp=Z,448nm,19.8s,baz=280,slow=36
BELG Belogornoye 49.66 51 *i* P **P** **14 21 22.2 +0.9**
BELG pmax pmax
comp=Z,9.0nm,1.5s
RCBR Riachuelo 49.67 189 LR LR 14 37 44.2
comp=Z,110nm,20.0s,baz=32,slow=30
RCBR Riachuelo 49.67 189 *e*P **P** **14 21 23.9 +2.1**
BOAV Boa Vista 49.76 223 P **P** **14 21 22.2 -0.2**
BOAV IAmb IAmb 14 21 24.6
comp=Z,26nm,1.3s
BOAV Boa Vista 49.76 223 *e*P **P** **14 21 23.3 +0.8**
MIAR Mount Ida 49.85 283 IAmb IAmb 14 21 27.2
comp=Z,28nm,1.0s
RLO Rose Lookout 50.05 285 IAmb IAmb 14 21 28.3
comp=Z,24nm,1.3s
KIV Kislovodsk 50.11 63 *e*P **P** **14 21 23.1 -1.9**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,185nm,16.0s
SDV Santo Domingo 50.15 239 P **P** **14 21 25.9 +0.2**
SDV IAmb IAmb 14 21 33.6
comp=Z,24nm,1.4s
SDV Santo Domingo 50.15 239 LR LR 14 38 25.7
comp=Z,139nm,21.8s,baz=56,slow=31
SDV Santo Domingo 50.15 239 *e*P **P** **14 21 27.4 +1.7**
KBZ Khabaz 50.34 63 P **P** **14 21 27.1 +0.5**
comp=Z,2.4nm,0.6s,baz=282,slow=8.1,SNR=4.3
KBZ LR LR 14 44 21.2
comp=Z,197nm,18.7s,baz=310,slow=38
comp=Z,2.4nm,0.6s
KBZ Khabaz 50.34 63*ce*P **P** **14 21 27.6 +1.0**
MMAI Mount Meron Ar 50.40 79 LR LR 14 43 27.3
comp=Z,103nm,21.8s,baz=293,slow=37
DGMT Dagmar 50.48 303 IAmb IAmb 14 21 34.3
comp=Z,33nm,1.2s
YKA Yellowknife Ar 50.60 323 P **P** **14 21 28.7 +0.4**
comp=Z,2.0nm,0.8s,baz=63,slow=7.5,SNR=4.1
YKA LR LR 14 40 00.9
comp=Z,502nm,21.0s,baz=82,slow=33
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 50.60 323 *i* P **P** **14 21 31.3 +3.0**
YKA pmax pmax
comp=Z,2.0nm,0.8s
T35A Sooner Cattle 50.72 287 IAmb IAmb 14 21 33.4
comp=Z,17nm,0.9s
TUL3 Leonard 50.72 285 IAmb IAmb 14 21 34.4
comp=Z,15nm,0.7s
A36M Sachs Harbour 51.02 337 P **P** **14 21 29.9 -1.4**
baz=68
OK051 E0350 and S346 51.15 287 IAmb IAmb 14 21 39.3
comp=Z,18nm,1.0s
QUOK Quay 51.23 286 IAmb IAmb 14 21 37.1
comp=Z,29nm,0.9s
DEOK Depew 51.25 286 IAmb IAmb 14 21 38.5
comp=Z,21nm,1.1s
OK048 Pawnee Station 51.27 286 IAmb IAmb 14 21 39.0
comp=Z,27nm,1.0s
OK052 Battle Ridge R 51.38 286 IAmb IAmb 14 21 38.7
comp=Z,38nm,1.1s
C36M Paulatuk 51.67 333 P **P** **14 21 35.5 -0.7**
baz=67
KAN14 Manchester OK 51.70 288 IAmb IAmb 14 21 41.4
comp=Z,30nm,1.1s
EIL Elat 51.90 83 LR LR 14 44 19.1
comp=Z,68nm,20.4s,baz=344,slow=37
ASF Jabal al Asfar 51.92 79 LR LR 14 44 12.6
comp=Z,78nm,20.7s,baz=319,slow=37
OK029 Liberty Lake 51.94 286 IAmb IAmb 14 21 42.6
comp=Z,25nm,1.0s
CROK Carrier 51.95 287 IAmb IAmb 14 21 42.7
comp=Z,19nm,1.0s
LAO LASA Array 52.49 302 IAmb IAmb 14 21 56.1
comp=Z,26nm,1.1s
LOOK Love County 52.69 284 IAmb IAmb 14 21 48.8
comp=Z,37nm,1.3s
X34A Smith Ranch, M 52.83 285 IAmb IAmb 14 23 32.8
comp=Z,18nm,0.9s
PRPB Parauapebas 53.10 206 *e*P **P** **14 21 48.4 +0.9**
ELIS Ellis County 53.16 287 P **P** **14 21 48.1 +0.2**
ELIS IAmb IAmb 14 21 50.9
comp=Z,20nm,1.2s
GNI Garni 53.24 67 LR LR 14 45 36.1
comp=Z,137nm,21.2s,baz=306,slow=37
ITTB Itaituba 53.59 214 *e*P **P** **14 21 51.5 +0.5**
MAK Makhachkala 53.68 62 *e*P P 14 21 46.1 -5.3
MAK *e*S **S** **14 29 17.7 -7.0**
MAK *e*SS **SS** **14 33 03.0 -1.9**
MAK pmax pmax
comp=Z,188nm,1.2s
MAK MLR MLR
comp=Z,488nm,16.0s
WTFS Witchita Falls 53.71 284 IAmb IAmb 14 21 55.7
comp=Z,22nm,1.0s
ARTI Arti 53.78 44 P **P** **14 21 51.1 -0.9**
ARTI Arti 53.78 44 LR LR 14 43 57.0
comp=Z,279nm,19.4s,baz=302,slow=35
ARTI Arti 53.78 44*d* *i*P **P** **14 21 52.5 +0.5**
ARTI 14 23 50.2
ARTI S **S** **14 29 27.0 +1.2**
ARTI SS **SKiKP** **14 33 03.9 -1.4**
ARTI pmax pmax
comp=Z,49nm,1.4s
HKT Hockley 53.94 279 *i* P **P** **14 21 55.3 +1.8**
HKT pmax pmax
comp=Z,19nm,1.2s
RUSC La Rusia 53.99 239 P **P** **14 21 53.1 -1.5**
WRGLY Wrigley 54.02 326 P **P** **14 21 53.6 -0.1**
WRGLY Wrigley 54.02 326 P **P** **14 21 53.4 -0.3**
baz=63
PLPT Palo Pinto 54.12 283 IAmb IAmb 14 21 58.8
comp=Z,14nm,1.0s
K22A Casper 54.59 298 IAmb IAmb 14 22 07.5
comp=Z,31nm,1.3s
MACA Manacapuru-AM 54.67 220 *e*P **P** **14 22 00.6 +1.6**
SVE Sverdlovsk 54.69 42 *e*P **P** **14 21 59.0 +0.3**
SVE pmax pmax
comp=Z,31nm,1.4s
SMTB Santa Maria do 54.97 203 *e*P **P** **14 22 02.6 +1.5**
RLMT Red Lodge 55.11 302 IAmb IAmb 14 22 09.1
comp=Z,15nm,1.2s
APMT Aspermont 55.11 285 IAmb IAmb 14 22 03.6
comp=Z,18nm,1.2s
ABTX Abilene, Hawle 55.16 284 IAmb IAmb 14 22 05.4
comp=Z,13nm,0.9s
INK Inuvik 55.20 334 P **P** **14 22 01.8 -0.3**
INK IAmb IAmb 14 22 05.0
comp=Z,21nm,1.1s
INK Inuvik 55.20 334 LR LR 14 43 29.1
comp=Z,280nm,18.1s,baz=57,slow=34
INK Inuvik 55.20 334 P **P** **14 22 01.8 -0.3**
INK pmax pmax
comp=Z,21nm,1.2s
INK Inuvik 55.20 334 P **P** **14 22 01.5 -0.6**
baz=59,SNR=5.3
RTBA Rita Blanca 55.26 290 IAmb IAmb 14 22 05.4
comp=Z,25nm,1.3s
ISCO Idaho Springs 55.44 294 IAmb IAmb 14 22 17.2
comp=Z,32nm,1.9s
ROSC El Rosal 55.58 239 LR LR 14 41 58.4
comp=Z,177nm,21.4s,baz=44,slow=32
YNE Yellowstone No 55.62 302 IAmb IAmb 14 22 11.9
comp=Z,16nm,1.1s
F31M Tsiigehtchic 55.72 333 P **P** **14 22 05.1 -0.8**
baz=58,SNR=10
KOTAN Kotaneelee Air 55.73 323 P **P** **14 22 04.8 -1.2**
baz=61
SN07 Snyder 07 55.78 285 IAmb IAmb 14 22 08.4
comp=Z,26nm,1.5s
NPGB Novo Progresso 55.88 212 *e*P **P** **14 22 08.7 +1.1**
T25A Trinidad 56.02 291 IAmb IAmb 14 22 15.4
comp=Z,18nm,1.1s
G31M Satah River 56.18 333 P **P** **14 22 08.2 -0.9**
baz=57,SNR=8.1
POST Post 56.22 285 IAmb IAmb 14 22 16.5
comp=Z,16nm,1.2s
F30M Barrier River 56.29 334 P **P** **14 22 09.0 -1.0**
baz=56,SNR=11
AKTO Aktyubinsk 56.37 50 LR LR 14 46 32.9
comp=Z,334nm,18.5s,baz=284,slow=36
YFT Old Faithful 56.41 302 P **P** **14 22 11.1 -0.5**
YFT IAmb IAmb 14 22 29.6
comp=Z,25nm,1.4s
PDAR Pinedale Array 56.47 299 P **P** **14 22 11.7 -0.2**
PDAR Pinedale Array 56.47 299 P **P** **14 22 12.7 +0.8**
comp=Z,6.2nm,1.0s,baz=60,slow=7.2,SNR=23
PDAR LR LR 14 45 37.1
comp=Z,477nm,19.0s,baz=60,slow=35
comp=Z,6.2nm,1.0s
JCT Junction City 56.47 282 IAmb IAmb 14 22 16.4
comp=Z,21nm,1.2s
E29M Blow River 56.52 335 IAmb IAmb 14 22 14.9
comp=Z,24nm,1.2s
E29M Blow River 56.52 335 P **P** **14 22 10.7 -0.9**
baz=55,SNR=7.3
G30M tAoh Zraii Nji 56.79 333 IAmb IAmb 14 22 17.6
comp=Z,28nm,1.3s
G30M tAoh Zraii Nji 56.79 333 P **P** **14 22 12.5 -1.1**
baz=56
TGTN Hyland Airport 56.81 326 P **P** **14 22 12.5 -1.3**
baz=59
H31M Peel River 56.81 332 IAmb IAmb 14 22 32.8
comp=Z,41nm,1.8s
H31M Peel River 56.81 332 P **P** **14 22 12.5 -1.2**
baz=56
SNOW Snow King Moun 56.86 301 IAmb IAmb 14 22 19.0
comp=Z,33nm,1.2s
E28M Babbage River 56.88 336 IAmb IAmb 14 22 17.5
comp=Z,23nm,1.2s
E28M Babbage River 56.88 336 P **P** **14 22 13.2 -1.0**
baz=54,SNR=7.1
TOAD Toad River Com 56.89 322 P **P** **14 22 13.5 -0.9**
baz=59,SNR=8.5
TEFE Tefe 56.90 224 *e*P **P** **14 22 16.3 +1.3**
D27M Malcolm River 56.92 337 IAmb IAmb 14 22 18.3
comp=Z,25nm,1.1s
D27M Malcolm River 56.92 337 P **P** **14 22 13.2 -1.3**
baz=53,SNR=8.6
TPAW Teton Pass 56.97 301 IAmb IAmb 14 22 19.6
comp=Z,17nm,1.2s
O20A White River Ci 56.99 296 IAmb IAmb 14 22 21.9
comp=Z,19nm,1.4s
DLMT Dillon 57.02 303 IAmb IAmb 14 22 20.2
comp=Z,18nm,1.1s
OZNA Ozona 57.16 283 P **P** **14 22 16.3 -0.5**
OZNA IAmb IAmb 14 22 23.7
comp=Z,26nm,1.3s
EPYK Eagle Plains 57.30 333 P **P** **14 22 16.4 -0.8**
baz=55,SNR=9.2
G29M Pine Creek 57.41 334 P **P** **14 22 17.2 -0.8**
baz=54,SNR=10.0
833A Chaparral WMA, 57.42 280 IAmb IAmb 14 22 22.6
comp=Z,23nm,1.0s
MMPY Sheldon Lake, 57.42 328 P **P** **14 22 17.2 -1.0**
baz=57
AHID Auburn Hatcher 57.44 300 IAmb IAmb 14 22 27.9
comp=Z,30nm,1.6s
C27K Jago River 57.45 338 IAmb IAmb 14 22 21.9
comp=Z,21nm,1.1s
C27K Jago River 57.45 338 P **P** **14 22 16.5 -1.7**
baz=51,SNR=6.9
F28M Old Crow 57.57 335 IAmb IAmb 14 22 22.3
comp=Z,23nm,1.1s
F28M Old Crow 57.57 335 P **P** **14 22 17.5 -1.6**
baz=53
C26K Camden Bay 57.59 338 P **P** **14 22 17.7 -1.5**
baz=50
HBVL Hebbronville 57.64 278 P **P** **14 22 20.0 -0.1**
DRIO Del Rio 57.66 281 IAmb IAmb 14 22 24.8
comp=Z,17nm,1.0s
SDBA SAO DESIDERIO 57.69 199 *e*P **P** **14 22 21.8 +1.3**
E27K Coleen River 57.75 336 IAmb IAmb 14 22 23.9
comp=Z,32nm,1.2s
E27K Coleen River 57.75 336 P **P** **14 22 19.0 -1.3**
baz=52,SNR=8.9
I30M Mount Dempster 57.84 332 IAmb IAmb 14 22 24.7
comp=Z,24nm,1.4s
I30M Mount Dempster 57.84 332 P **P** **14 22 19.3 -1.8**
baz=55,SNR=6.2
H29M Whitestone 57.93 333 P **P** **14 22 20.5 -1.1**
baz=54,SNR=9.6
AB31 Akbulak array 58.04 51 **P** **14 22 22.0 -0.6**
AB31 IAmb IAmb 14 22 24.8
comp=Z,29nm,1.5s
ABKAR Akbulak array 58.04 51 P **P** **14 22 22.0 -0.6**
NEW Newport 58.19 308 IAmb IAmb 14 22 28.2
comp=Z,15nm,0.9s
NEW Newport 58.19 308 P **P** **14 22 24.1 +0.3**
comp=Z,11nm,0.9s,baz=57,slow=5.8,SNR=9.3
NEW LR LR 14 45 37.6
comp=Z,829nm,19.5s,baz=64,slow=34
comp=Z,11nm,0.9s
PV22 Blue Mesa, Par 58.20 295 IAmb IAmb 14 22 37.4
comp=Z,28nm,1.5s
J30M Hart River 58.20 331 P **P** **14 22 22.9 -0.8**
baz=54,SNR=7.2
PV21 Cone Mtn., Par 58.31 295 IAmb IAmb 14 22 38.2
comp=Z,32nm,1.4s
PV12 Saucer Basin, 58.33 295 IAmb IAmb 14 22 38.5
comp=Z,12nm,1.0s
HWUT Hardware Ranch 58.35 299 IAmb IAmb 14 22 29.0
comp=Z,18nm,1.1s
PV04 Paradox Valley 58.35 295 IAmb IAmb 14 22 31.5
comp=Z,28nm,1.3s
D25K Kavik River 58.37 338 P **P** **14 22 23.6 -1.1**
baz=49
PV16 Nyswonger Mesa 58.41 295 IAmb IAmb 14 22 39.7
comp=Z,18nm,1.4s
BSUT Blindstream Ca 58.41 298 IAmb IAmb 14 22 29.9
comp=Z,18nm,1.2s
SAND Sanderson 58.42 283 P **P** **14 22 25.8 +0.2**
I29M Ogilvie Camp, 58.42 332 P **P** **14 22 24.4 -0.7**
baz=53,SNR=22
PV14 Lion Creek, Pa 58.44 295 IAmb IAmb 14 22 28.5
comp=Z,21nm,1.3s
TCUT Toone Canyon 58.51 299 IAmb IAmb 14 22 31.1
comp=Z,13nm,1.1s
JTS Las Juntas de 58.60 253 LR LR 14 43 04.3
comp=Z,369nm,21.9s,baz=40,slow=31
ANMO Albuquerque 58.60 290 P **P** **14 22 27.1 +0.1**
ANMO Albuquerque 58.60 290 P **P** **14 22 27.5 +0.5**
comp=Z,3.6nm,0.9s,baz=63,slow=4.5,SNR=5.4
ANMO LR LR 14 46 46.6
comp=Z,1µm,22.0s,baz=152,slow=35
comp=Z,3.6nm,0.9s
ANMO Albuquerque 58.60 290*ce*P **P** **14 22 28.3 +1.2**
ANMO pmax pmax
comp=Z,7.0nm,1.1s
G27K Doyon Strip 58.62 335 IAmb IAmb 14 22 30.1
comp=Z,23nm,1.1s
G27K Doyon Strip 58.62 335 P **P** **14 22 25.9 -0.5**
baz=52,SNR=20
C24K Franklin Bluff 58.72 339 P **P** **14 22 26.2 -0.8**
baz=47
F26K Sheenjek River 58.81 336 IAmb IAmb 14 22 31.8
comp=Z,13nm,1.2s
F26K Sheenjek River 58.81 336 P **P** **14 22 26.6 -1.2**
baz=50
M31M Drury Creek, Y 58.87 328 IAmb IAmb 14 22 33.2
comp=Z,19nm,1.4s
M31M Drury Creek, Y 58.87 328 P **P** **14 22 27.0 -1.3**
baz=55
MTO3 Montecristo 58.88 260 IAmb IAmb 14 22 33.9
comp=Z,26nm,1.4s
I28M Miner Creek 58.91 333 IAmb IAmb 14 22 32.2
comp=Z,27nm,1.2s
I28M Miner Creek 58.91 333 P **P** **14 22 28.0 -0.6**
baz=52,SNR=12
J29N Klondike Camp 58.93 331 P **P** **14 22 27.9 -0.9**
baz=53
H27K Steamboat Moun 58.94 334 IAmb IAmb 14 22 32.4
comp=Z,30nm,1.5s
H27K Steamboat Moun 58.94 334 P **P** **14 22 27.5 -1.2**
baz=51,SNR=7.3
E25K Arctic Village 58.94 337 IAmb IAmb 14 22 32.6
comp=Z,27nm,1.2s
E25K Arctic Village 58.94 337 P **P** **14 22 27.9 -0.8**
baz=49,SNR=8.4
N32M Quiet Lake 58.96 327 IAmb IAmb 14 22 35.0
comp=Z,16nm,0.9s
N32M Quiet Lake 58.96 327 P **P** **14 22 28.5 -0.5**

baz=55
P17A **Butcher Ranch,** 58.97 297 IAmb IAmb 14 22 34.8
comp=Z,37nm,1.7s
HVU **Hansel Valley** 59.02 300 IAmb IAmb 14 22 33.5
comp=Z,18nm,1.2s
K29M **Barlow Dome** 59.05 331 IAmb IAmb 14 22 33.8
comp=Z,15nm,1.1s
K29M **Barlow Dome** 59.05 331 P P 14 22 28.7 -0.9
baz=53,SNR=7.5
R33M **Jennings River** 59.09 324 P P 14 22 28.7 -1.2
baz=56
BMAR **Burnt Mountain** 59.11 336 P P 14 22 29.2 -0.7
C23K **Itkillik River** 59.12 340 P P 14 22 28.8 -1.1
baz=46
D24K **Happy Valley** 59.14 339 IAmb IAmb 14 22 33.9
comp=Z,17nm,0.9s
D24K **Happy Valley** 59.14 339 P P 14 22 29.8 -0.2
baz=47,SNR=5.5
G26K **Porcupine Rive** 59.18 335 P P 14 22 29.8 -0.5
baz=50,SNR=5.9
PLID **Pearl Lake** 59.22 305 IAmb IAmb 14 22 35.0
comp=Z,12nm,1.2s
DLBC **Dease Lake** 59.23 323 LR LR 14 45 40.9
comp=Z,4µm,19.7s,baz=32,slow=34
DLBC **Dease Lake** 59.23 323 P P 14 22 30.2 -0.7
baz=56
F25K **Christian Rive** 59.31 337 P P 14 22 29.4 -1.8
baz=49
I27K **Kandik River** 59.36 334 P P 14 22 30.3 -1.3
baz=51,SNR=8.7
P33M **Teslin, Yukon** 59.39 326 P P 14 22 30.8 -1.2
baz=55
Y22D **IRIS PASSCAL I** 59.41 289 P P 14 22 32.2 -0.4
baz=55
A21K **Barrow** 59.44 343 P P 14 22 30.6 -1.4
baz=42
B22K **Teshekpuk Lake** 59.44 341 P P 14 22 31.0 -1.1
baz=44
Y22A **Socorro** 59.52 289 IAmb IAmb 14 22 38.3
comp=Z,19nm,1.1s
M30M **Minto, Yukon** 59.55 329 P P 14 22 31.8 -1.2
baz=53,SNR=7.4
Q16A **Castle Valley** 59.55 296 IAmb IAmb 14 22 37.7
comp=Z,19nm,1.4s
CLDB **Colider** 59.55 211 eP P 14 22 34.4 +1.0
DAWY **Dawson** 59.58 331 IAmb IAmb 14 22 37.2
comp=Z,27nm,1.3s
DAWY **Dawson** 59.58 331 P P 14 22 32.8 -0.4
baz=52,SNR=7.6
BGU **Big Grassy Mou** 59.64 299 P P 14 22 34.5 +0.4
BGU IAmb IAmb 14 22 38.0
comp=Z,17nm,1.2s
TOLK **Toolik Lake Re** 59.69 339 P P 14 22 33.5 -0.4
baz=46
L29M **L29M** 59.72 330 P P 14 22 33.5 -0.6
baz=52,SNR=7.4
EGAK **Eagle** 59.73 333 IAmb IAmb 14 22 38.5
comp=Z,22nm,1.4s
EGAK **Eagle** 59.73 333 P P 14 22 33.4 -0.8
baz=51
D23K **Nanushuk River** 59.75 339 IAmb IAmb 14 22 39.1
comp=Z,16nm,1.0s
D23K **Nanushuk River** 59.75 339 P P 14 22 33.5 -0.8
baz=45,SNR=5.5
E24K **Your Creek** 59.78 338 IAmb IAmb 14 22 38.5
comp=Z,19nm,1.1s
E24K **Your Creek** 59.78 338 P P 14 22 33.6 -0.9
baz=47,SNR=7.6
HMU **Henry Mountain** 59.81 295 IAmb IAmb 14 22 37.8
comp=Z,23nm,1.7s
N31M **Braeburn, Yuko** 59.82 328 P P 14 22 34.0 -0.9
baz=53
TXAR **Lajitas Array** 59.87 283 P P 14 22 35.4 -0.4
TXAR **Lajitas Array** 59.87 283 P P 14 22 36.4 +0.6
comp=Z,12nm,1.0s,baz=73,slow=5.5,SNR=33
TXAR LR LR 14 48 31.1
comp=Z,297nm,18.8s,baz=48,slow=36
comp=Z,12nm,1.0s
TX31 **Lajitas Ar. Si** 59.87 283 IAmb IAmb 14 22 39.8
comp=Z,17nm,1.1s
Q32M **Nakina River** 59.89 324 P P 14 22 34.4 -1.2
baz=54
VHRN **Van Horn** 59.95 285 IAmb IAmb 14 22 41.1
comp=Z,15nm,1.0s
WHY **Whitehorse** 59.96 327 P P 14 22 34.6 -1.4
baz=54
G25K **Bearman Lake** 59.99 336 P P 14 22 35.0 -0.9
baz=48
F24K **Squaw Lake** 60.00 337 P P 14 22 34.5 -1.5
baz=47
I26K **Coal Creek Min** 60.05 334 P P 14 22 34.9 -1.4
baz=50,SNR=8.4
E23K **Chandalar** 60.10 338 P P 14 22 35.2 -1.5
baz=46
P32M **Atlin** 60.12 325 P P 14 22 34.9 -2.1
baz=54
T35M **Bob Quinn** 60.15 322 P P 14 22 35.5 -1.7
baz=55
H25L **Birch Creek** 60.24 335 P P 14 22 36.1 -1.5
baz=48,SNR=5.8
M29M **Somme Creek** 60.25 330 IAmb IAmb 14 22 43.6
comp=Z,21nm,1.6s
M29M **Somme Creek** 60.25 330 P P 14 22 36.4 -1.5
baz=52
B21K **Ikpikpuk River** 60.25 341 P P 14 22 36.2 -1.4
baz=43
D22K **Ayikyak River** 60.32 340 P P 14 22 36.7 -1.5
baz=44
N30M **Aishikik Lake** 60.34 328 P P 14 22 37.4 -1.1
baz=52
O30N **Mendenhall** 60.37 327 P P 14 22 37.4 -1.3
baz=53
G24K **Hadweenzic Riv** 60.44 336 P P 14 22 37.9 -1.1
baz=47,SNR=7.1
K27K **Chicken** 60.52 332 P P 14 22 38.4 -1.2
baz=50
B20K **Meade River** 60.55 342 P P 14 22 38.3 -1.3
baz=41
TCRU **Three Creeks R** 60.55 297 IAmb IAmb 14 22 45.3
comp=Z,22nm,1.2s
PDRB **Porto dos Gac** 60.58 212 eP P 14 22 41.4 +0.8
E22K **Anaktuvuk Pass** 60.63 339 IAmb IAmb 14 22 44.2
comp=Z,27nm,1.4s
E22K **Anaktuvuk Pass** 60.63 339 P P 14 22 38.8 -1.5
baz=44
C21K **Knifeblade Rid** 60.64 341 P P 14 22 38.7 -1.6
baz=42
PRP **Porcupine Dome** 60.66 335 P P 14 22 41.0 +0.4
PRP IAmb IAmb 14 22 44.9
comp=Z,22nm,1.3s
PRP **Porcupine Dome** 60.66 335 P P 14 22 39.4 -1.2
baz=48,SNR=7.7
MTPU **Mount Pierson** 60.70 296 IAmb IAmb 14 22 51.0
comp=Z,22nm,1.5s
J26L **Joseph Creek** 60.70 333 IAmb IAmb 14 22 44.8
comp=Z,20nm,1.4s
J26L **Joseph Creek** 60.70 333 P P 14 22 39.1 -1.9
baz=49,SNR=5.2
LTY **Liberty** 60.75 309 IAmb IAmb 14 22 44.4
comp=Z,13nm,1.1s
COLD **Coldfoot** 60.85 338 IAmb IAmb 14 22 45.9
comp=Z,18nm,1.1s
COLD **Coldfoot** 60.85 338 P P 14 22 40.5 -1.2
baz=45,SNR=5.3
SKAG **Skagway** 60.86 326 P P 14 22 40.8 -1.2
baz=53
121A **Cookes Peak, D** 60.88 288 P P 14 22 42.5 -0.3
121A IAmb IAmb 14 22 48.3
comp=Z,18nm,0.9s
HYT **Haines Junctio** 60.89 328 P P 14 22 40.9 -1.4
baz=52
E21K **Killik River** 60.97 340 P P 14 22 41.3 -1.3
baz=43
YUK4 **Talbot Arm** 61.00 329 P P 14 22 41.3 -1.8
baz=51
L27K **Beaver Creek,** 61.06 331 P P 14 22 41.6 -1.7
baz=50
CMIG **Matias Romero** 61.08 266 LR LR 14 46 04.9
comp=Z,169nm,21.9s,baz=52,slow=33
P30M **Million Dollar** 61.11 327 P P 14 22 42.0 -1.8
baz=52
PKCU **Pink Cliffs** 61.12 295 IAmb IAmb 14 22 48.6
comp=Z,17nm,1.2s
BVCY **Beaver Creek** 61.13 330 P P 14 22 42.6 -1.2
baz=50
ELK **Elko** 61.14 300 IAmb IAmb 14 22 51.0
comp=Z,13nm,1.1s
ELK **Elko** 61.14 300 P P 14 22 45.4 +0.9
comp=Z,6.7nm,0.9s,baz=43,slow=5.0,SNR=23
ELK LR LR 14 48 18.6
comp=Z,451nm,19.0s,baz=58,slow=35
comp=Z,6.7nm,0.9s
YUK6 **Outpost Mounta** 61.15 328 P P 14 22 42.3 -1.9
baz=51
H24K **Noodor Dome** 61.15 336 IAmb IAmb 14 22 48.1
comp=Z,14nm,1.2s
H24K **Noodor Dome** 61.15 336 P P 14 22 42.6 -1.3
baz=46
G23K **Bananza Creek** 61.16 337 P P 14 22 42.4 -1.6
baz=45
F22K **John River** 61.18 338 P P 14 22 42.7 -1.4
baz=44
SCRK **Sand Creek** 61.19 333 IAmb IAmb 14 22 49.3
comp=Z,16nm,1.3s
SCRK **Sand Creek** 61.19 333 P P 14 22 42.9 -1.4
baz=48
J25K **Salcha River,** 61.21 334 IAmb IAmb 14 22 49.1
comp=Z,23nm,1.4s
J25K **Salcha River,** 61.21 334 P P 14 22 43.1 -1.3
baz=48,SNR=6.9
R32K **Eaglecrest** 61.24 325 P P 14 22 43.4 -1.2
baz=53
PLBC **Pleasant Camp** 61.28 326 P P 14 22 43.0 -1.8
baz=52
YUK3 **Moose Creek** 61.40 330 P P 14 22 43.9 -2.0
baz=50
D20K **Etivluk River** 61.41 341 P P 14 22 44.3 -1.3
baz=41
WRAK **Wrangell Islan** 61.42 322 P P 14 22 43.7 -2.0
baz=53
G22K **Bettles** 61.43 338 P P 14 22 44.3 -1.3
baz=44
DOT **Dot Lake** 61.43 333 IAmb IAmb 14 22 50.8
comp=Z,26nm,1.4s
YUK8 **Steele Glacier** 61.46 329 P P 14 22 44.4 -1.9
baz=50
BVAR **Borovoye Array** 61.47 43 P P 14 22 46.9 +0.6
comp=Z,9.7nm,0.8s,baz=328,slow=5.3,SNR=21
BVAR LR LR 14 48 38.6
comp=Z,284nm,18.1s,baz=301,slow=35
comp=Z,9.7nm,0.8s
PSUT **Pine Spring** 61.51 297 IAmb IAmb 14 23 10.8
comp=Z,9.8nm,1.0s
POKR **Poker Plat Res** 61.52 335 P P 14 22 44.7 -1.7
baz=46
M27K **Edge Creek, AK** 61.53 331 P P 14 22 46.8 +0.1
M27K **Edge Creek, AK** 61.53 331 P P 14 22 45.0 -1.7
baz=49
SZCU **Shurtz Canyon** 61.54 296 IAmb IAmb 14 22 53.6
comp=Z,16nm,1.1s
SPR3 **Spring Creek 3** 61.55 298 IAmb IAmb 14 22 50.6
comp=Z,15nm,1.4s
BDFB **Brasilia** 61.56 201 P P 14 22 48.2 +1.0
comp=Z,4.7nm,0.6s,baz=62,slow=5.0,SNR=6.1
BDFB LR LR 14 44 50.9
comp=Z,393nm,21.5s,baz=11,slow=32
comp=Z,4.7nm,0.6s
ILAR **Eielson Array** 61.59 335 P P 14 22 46.0 -0.8
ILAR **Eielson Array** 61.59 335 P P 14 22 46.8 0.0
comp=Z,2.1nm,1.1s,baz=44,slow=4.4,SNR=11
ILAR LR LR 14 47 20.6
comp=Z,332nm,18.5s,baz=66,slow=34
comp=Z,2.1nm,1.1s
WUAZ **Wupatki** 61.60 293 IAmb IAmb 14 22 50.7
comp=Z,23nm,1.4s
L26K **Log Cabin Wild** 61.61 332 P P 14 22 45.4 -1.6
baz=48
O29M **Mount Kennedy** 61.63 328 P P 14 22 45.2 -2.1
baz=51
RIDG **Independent Ri** 61.63 333 P P 14 22 45.6 -1.6
baz=48
E20K **Nigu River** 61.65 340 P P 14 22 45.4 -1.9
baz=41
H23K **Yukon River** 61.65 336 IAmb IAmb 14 22 51.7
comp=Z,19nm,1.2s
H23K **Yukon River** 61.65 336 P P 14 22 45.9 -1.4
baz=45
KNB **Kanab** 61.70 295 IAmb IAmb 14 22 49.9
comp=Z,19nm,1.5s
OTAV **Otavalo** 61.73 240 eP P 14 22 49.9 +1.0
P29M **Windy Craggy** 61.73 327 P P 14 22 46.7 -1.2
baz=51
V35K **Ketchikan** 61.74 321 P P 14 22 46.6 -1.4
baz=53
F21K **Alatna River** 61.74 339 IAmb IAmb 14 22 52.6
comp=Z,25nm,1.3s
F21K **Alatna River** 61.74 339 P P 14 22 46.4 -1.4
baz=43,SNR=5.9
CCUT **Cedar City** 61.75 296 IAmb IAmb 14 22 53.1
comp=Z,15nm,1.1s
MENT **Mentasta** 61.79 332 P P 14 22 48.3 0.0
MENT IAmb IAmb 14 22 53.2
comp=Z,31nm,1.6s
C19K **Lookout Ridge** 61.79 342 P P 14 22 46.7 -1.4
baz=38
COLA **College** 61.81 335 i P P 14 22 50.0 +1.7
COLA pmax pmax
comp=Z,4.0nm,1.1s
COLA **College** 61.81 335 P P 14 22 47.3 -1.0
baz=46
HDA **Harding Lake** 61.85 334 IAmb IAmb 14 22 52.3
comp=Z,22nm,1.3s
HDA **Harding Lake** 61.85 334 P P 14 22 47.4 -1.2
baz=46
K24K **Donnelly Dome** 61.90 333 P P 14 22 47.5 -1.5
baz=47
M26K **Nabesna, AK** 61.90 331 P P 14 22 47.7 -1.4
baz=48
BBB **Bella Bella** 61.91 316 LR LR 14 47 12.4
comp=Z,232nm,20.1s,baz=56,slow=34
D19K **Kuna River** 61.93 341 IAmb IAmb 14 22 52.9
comp=Z,18nm,1.1s
D19K **Kuna River** 61.93 341 P P 14 22 47.9 -1.2
baz=39
O28M **Mount Upton** 61.95 329 P P 14 22 47.8 -1.8
baz=50
U33K **Whale Pass** 61.95 322 P P 14 22 48.1 -1.2
baz=53
CCB **Clear Creek Bu** 61.96 335 IAmb IAmb 14 22 52.9
comp=Z,31nm,1.6s
B18K **Kokolik River** 62.07 343 P P 14 22 48.6 -1.4
baz=37
I23K **Minto, Yukon-K** 62.08 336 P P 14 22 48.7 -1.4
baz=45,SNR=5.6
H22K **Ishtalitna Cre** 62.13 337 P P 14 22 49.3 -1.1
baz=44
S31K **Pelican** 62.16 325 P P 14 22 49.3 -1.4
baz=51
WRH **Wood River Hil** 62.17 335 IAmb IAmb 14 22 55.2
comp=Z,15nm,1.2s
CTG **Chitna Glacier** 62.25 329 P P 14 22 50.3 -1.2
baz=49
G21K **Allakaket** 62.27 338 IAmb IAmb 14 22 55.0
comp=Z,8.7nm,1.0s
G21K **Allakket** 62.27 338 P P 14 22 49.9 -1.5
baz=42
WVOR **Wild Horse Val** 62.28 303 P P 14 22 51.8 -0.2
WVOR **Wild Horse Val** 62.28 303 P P 14 22 51.8 -0.2
WVOR pmax pmax
comp=Z,23nm,1.2s
SIT **Sitka** 62.34 324 P P 14 22 50.7 -1.2
baz=52
CRAG **Craig** 62.34 321 P P 14 22 50.5 -1.5
baz=52
PNL **Peninsula** 62.35 328 P P 14 22 50.4 -1.6
baz=50
PAX **Paxson** 62.36 333 P P 14 22 50.6 -1.5
baz=47
NEA2 **Nenana** 62.38 335 IAmb IAmb 14 22 55.8
comp=Z,22nm,1.2s
NEA2 **Nenana** 62.38 335 P P 14 22 50.7 -1.4
baz=45
PINM **Pinnacle** 62.41 328 P P 14 22 50.7 -1.8
baz=50
F20K **Avaraart Lake** 62.45 339 IAmb IAmb 14 22 56.7
comp=Z,21nm,1.2s
F20K **Avaraart Lake** 62.45 339 P P 14 22 50.8 -1.8
baz=41,SNR=5.1
C18K **Utukok River** 62.51 342 P P 14 22 51.2 -1.8
baz=37
E19K **Redstone River** 62.52 340 P P 14 22 51.4 -1.6
baz=40
MLY **Manley** 62.57 336 P P 14 22 51.9 -1.6
baz=44
ARAG **Araguaiana, MT** 62.70 205 eP P 14 22 56.1 +1.3
H21K **Melozitna Rive** 62.71 337 IAmb IAmb 14 22 58.4
comp=Z,15nm,1.2s
H21K **Melozitna Rive** 62.71 337 P P 14 22 52.8 -1.5
baz=42
IMAR **Indian Mountai** 62.73 338 P P 14 22 54.3 -0.2
PINE **Pine Mountain** 62.88 306 IAmb IAmb 14 23 01.2
comp=Z,25nm,1.3s
DHY **Denali Highway** 62.92 333 P P 14 22 54.3 -1.6
baz=46
PRN **Pahroc Range** 62.92 297 IAmb IAmb 14 22 59.3
comp=Z,26nm,1.5s
MCK **McKinley** 62.95 334 P P 14 22 54.3 -1.7
baz=45
N25K **Chitina, Valde** 62.99 331 P P 14 22 55.2 -1.2
baz=47
MESA **MESA** 62.99 329 P P 14 22 54.9 -1.6
baz=48
CRQE **Cirque** 63.03 330 P P 14 22 54.7 -2.0
baz=48
C17K **DeLong Mountai** 63.09 343 P P 14 22 55.3 -1.5
baz=36
F19K **Shaleruckik Mo** 63.14 340 IAmb IAmb 14 23 00.8
comp=Z,15nm,1.1s
F19K **Shaleruckik Mo** 63.14 340 P P 14 22 55.6 -1.5
baz=39
VILB **Vilhena** 63.18 215 IAmb IAmb 14 23 00.4
comp=Z,17nm,0.9s
VILB **Vilhena** 63.18 215 eP P 14 22 59.3 +1.3
BPAW **Bear Paw Mtn.** 63.32 335 P P 14 22 56.5 -1.9
baz=43
E18K **Tukpahlearik C** 63.36 341 P P 14 22 56.6 -2.0
baz=37
H20K **Anotleneega Mo** 63.41 338 P P 14 22 56.7 -2.3
baz=41
WAT1 **Susitna Watana** 63.48 334 P P 14 22 57.7 -1.8
baz=45
TRF **Thorofare Moun** 63.58 335 P P 14 22 58.9 -1.4
baz=44
Y14A **Wickenburg** 63.61 293 IAmb IAmb 14 23 05.8
comp=Z,12nm,1.3s
D17K **Noatak River** 63.70 342 P P 14 22 58.8 -2.1
baz=35
KTH **Kantishna Hill** 63.70 335 P P 14 23 01.3 +0.3
C16K **Lisburne Hills** 63.71 343 P P 14 22 58.5 -2.4
baz=34
SCM **Sheep Creek Mo** 63.78 332 P P 14 22 59.9 -1.6
baz=45
V12A **Nelson** 63.78 295 IAmb IAmb 14 23 04.8
comp=Z,18nm,1.5s
F18K **Selawik** 63.79 340 P P 14 23 00.3 -1.1
baz=38
H19K **Roundabout Mou** 63.81 338 IAmb IAmb 14 23 05.6
comp=Z,17nm,1.1s
H19K **Roundabout Mou** 63.81 338 P P 14 23 00.1 -1.4
baz=40
I20K **Naaghedeneel** 63.82 337 P P 14 23 01.3 -0.3
I20K **Naaghedeneel** 63.82 337 P P 14 22 59.9 -1.8
baz=41,SNR=5.4
TIXI **Tiksi** 63.90 8 LR LR 14 48 34.1
comp=Z,63nm,18.6s,baz=12,slow=34
E17K **Hotham Inlet** 63.92 341 P P 14 23 00.9 -1.4
baz=36
M23K **Glacier View** 63.94 332 P P 14 23 01.3 -1.2
baz=45
TPNV **Topopah Spring** 63.97 297 IAmb IAmb 14 23 25.4
comp=Z,22nm,1.8s
KAIM **Kayak Island** 64.08 330 P P 14 23 02.1 -1.4
baz=47
G18K **Tagagawik** 64.09 339 IAmb IAmb 14 23 07.6
comp=Z,19nm,1.3s
G18K **Tagagawik** 64.09 339 P P 14 23 02.0 -1.5
baz=38
EYAK **Cordova Ski Ar** 64.13 331 P P 14 23 02.3 -1.5
baz=46
SALV **Santo Antonio** 64.16 209 eP P 14 23 05.1 +0.7
J20K **Nowinta River** 64.20 337 P P 14 23 03.0 -1.1
baz=41
NV11 **Mina Array Sit** 64.31 299 IAmb IAmb 14 23 11.2
comp=Z,11nm,1.1s
PAHR **Pah Rah Range** 64.33 301 IAmb IAmb 14 23 12.1
comp=Z,17nm,1.2s
NVAR **Mina Array Bea** 64.41 299 P P 14 23 05.8 -0.5
NVAR **Mina Array Bea** 64.41 299 P P 14 23 06.4 +0.1
comp=Z,2.1nm,0.9s,baz=71,slow=3.9,SNR=11
NVAR LR LR 14 50 32.3
comp=Z,473nm,20.4s,baz=69,slow=36
comp=Z,2.1nm,0.9s
BRZS **Berezniki** 64.44 45 eP P 14 23 06.5 +0.4
BRZS **Berezniki** 64.44 45 eP P 14 23 06.4 +0.4
KNK **Knik Glacier** 64.46 332 P P 14 23 04.9 -1.0
baz=44
GCSA **Galena City Sc** 64.53 338 P P 14 23 04.3 -2.0
baz=39
PMR **Palmer** 64.55 333 P P 14 23 05.2 -1.3
baz=44
PPLA **Purkeypile** 64.58 335 P P 14 23 05.2 -1.6
baz=42
H18K **Honhosa River** 64.61 339 P P 14 23 07.3 +0.5
H18K **Honhosa River** 64.61 339 P P 14 23 05.2 -1.6
baz=38
LHV **Little Huntoon** 64.64 299 IAmb IAmb 14 23 11.8
comp=Z,16nm,1.1s
214A **Organ Pipe Nat** 64.66 291 IAmb IAmb 14 23 10.8
comp=Z,24nm,1.5s
GWY **Greenwater Val** 64.69 297 IAmb IAmb 14 23 10.9
comp=Z,18nm,1.5s
CZSB **Cruzeiro do Su** 64.71 229 eP P 14 23 08.1 -0.1
BLYC **Blythe** 64.74 293 IAmb IAmb 14 23 11.2
comp=Z,22nm,1.4s
J19K **Poorman** 64.76 337 P P 14 23 06.2 -1.6
baz=40
M22K **Willow** 64.76 333 P P 14 23 05.8 -2.1
baz=43
K20K **Telida** 64.80 336 P P 14 23 06.2 -2.0
baz=41
PWL **Port Wells** 64.81 332 P P 14 23 06.8 -1.5
baz=44
DSP **Deep Springs** 64.82 298 IAmb IAmb 14 23 10.5
comp=Z,22nm,1.7s
BEKR **Beckworth** 64.83 302 IAmb IAmb 14 23 13.9
comp=Z,14nm,1.0s
IRM **Iron Mountain** 64.91 294 IAmb IAmb 14 23 14.1
comp=Z,14nm,1.3s
G17K **Kiwalik Mounta** 64.91 340 P P 14 23 08.2 -0.6
baz=37
QSM **Queen of Sheba** 64.95 297 IAmb IAmb 14 23 14.4
comp=Z,18nm,1.3s
PTLB **Pontes e Lacer** 65.01 212 P P 14 23 09.9 -0.1
PTLB **Pontes e Lacer** 65.01 212 eP P 14 23 11.4 +1.4
SKT **Skwentna** 65.05 334 P P 14 23 08.4 -1.4
baz=42
RC01 **Rabbit Creek A** 65.12 333 P P 14 23 08.6 -1.7
baz=43
Q23K **Middleton Isla** 65.13 330 P P 14 23 08.9 -1.4
baz=45
YBH **Yreka Blue Hor** 65.14 305 LR LR 14 50 11.7
comp=Z,45nm,20.5s,baz=62,slow=35
H17K **Granite Mounta** 65.18 339 P P 14 23 09.2 -1.4
baz=37
SUA **Susitna One** 65.18 333 P P 14 23 09.5 -1.3
baz=43
MPMC **Manual Prospec** 65.30 297 IAmb IAmb 14 23 15.0
comp=Z,27nm,1.5s
L20K **Farewell, AK** 65.41 335 P P 14 23 10.9 -1.2
baz=41
G16K **Koyuk River** 65.42 340 P P 14 23 10.6 -1.5
baz=35
CWC **Cottonwood Cre** 65.45 298 IAmb IAmb 14 23 18.8
comp=Z,15nm,1.6s
J18K **Innoko River** 65.48 337 P P 14 23 11.1 -1.4
baz=39
CLC **China Lake** 65.52 297 IAmb IAmb 14 23 16.2
comp=Z,16nm,1.5s
BELC **Belle Mtn. Jos** 65.56 294 IAmb IAmb 14 23 27.4
comp=Z,18nm,1.4s
WSHM **Spangler Hills** 65.58 297 IAmb IAmb 14 23 16.5
comp=Z,34nm,2.0s
M20K **Styx River** 65.63 335 P P 14 23 11.9 -1.7
baz=41
F15K **North Star Dit** 65.70 342 P P 14 23 12.7 -1.2
baz=34
LRMC **Laurel Mtn Rad** 65.78 297 IAmb IAmb 14 23 17.0
comp=Z,16nm,1.6s
WELL **Weller Preserv** 65.92 301 P P 14 23 15.8 0.0
CMB **Columbia Colle** 65.95 300 IAmb IAmb 14 23 22.4
comp=Z,13nm,1.2s
PMD **Palm Desert** 66.03 294 IAmb IAmb 14 23 19.5
comp=Z,12nm,1.3s
PFO **Pinyon Flats O** 66.11 294 P P 14 23 17.0 -0.2

PFO IAmb IAmb 14 23 20.2
comp=Z,23nm,1.6s
PFO Pinyon Flats O 66.11 294 P **P 14 23 18.7 +1.5**
comp=Z,2.4nm,0.7s,baz=59,slow=5.2,SNR=8.0
PFO LR LR 14 52 14.7
comp=Z,695nm,18.2s,baz=64,slow=36
comp=Z,2.4nm,0.7s
PFO Pinyon Flats O 66.11 294 *i* P **P 14 23 18.2 +1.0**
PFO pmax pmax
comp=Z,39nm,2.5s
G15K Niukluk 66.15 341 P **P 14 23 15.5 -1.3**
baz=34
SIV San Ignacio 66.27 214 P **P 14 23 18.6 +0.4**
comp=Z,3.7nm,1.0s,baz=19,slow=6.9,SNR=14
SIV LR LR 14 48 21.2
comp=Z,115nm,21.7s,baz=42,slow=32
comp=Z,3.7nm,1.0s
F14K Arctic Creek 66.28 342 P **P 14 23 16.5 -1.1**
baz=32
BORC Borrego Spring 66.29 294 IAmb IAmb 14 23 21.2
comp=Z,11nm,1.2s
L18K Granite Mounta 66.44 336 P **P 14 23 17.7 -1.0**
baz=39
BRSE Bradley Lake S 66.45 332 P **P 14 23 17.5 -1.4**
baz=42
K17K Iditarod 66.52 337 P **P 14 23 17.5 -1.7**
baz=38
TNA Tin City 66.56 343 P **P 14 23 17.9 -1.5**
baz=31
J16K Anvik River 66.69 338 P **P 14 23 19.0 -1.3**
baz=36
ELS Elsinore Mount 66.72 295 IAmb IAmb 14 23 27.2
comp=Z,14nm,1.4s
M18K Stony River 66.75 335 P **P 14 23 19.5 -1.2**
baz=39
O20K Slope Mountain 66.83 333 P **P 14 23 19.6 -1.7**
baz=41
KURK Kurchatov 66.91 41 P **P 14 23 21.3 -0.6**
KURK IAmb IAmb 14 23 25.2
comp=Z,14nm,0.8s
KURK Kurchatov 66.91 41 *i* P **P 14 23 21.9 0.0**
KURK pmax pmax
comp=Z,6.0nm,0.9s
KURBB Kurchatov Arra 66.93 41 P **P 14 23 22.2 +0.2**
comp=Z,9.9nm,0.8s,baz=314,slow=6.7,SNR=49
KURBB LR LR 14 52 31.3
comp=Z,200nm,18.3s,baz=171,slow=36
comp=Z,9.9nm,0.8s
VTX Valle De La Tr 67.01 292 IAmb IAmb 14 23 28.1
comp=Z,19nm,1.2s
BRLS Boroldav 67.24 52⇓ *i* P **P 14 23 25.1 +0.9**
comp=Z,12nm,1.6s
BRLS Boroldav 67.24 52*d i* P **P 14 23 25.0 +0.9**
BRLS pmax pmax
comp=Z,12nm,1.6s
BBGB Big Mountain B 67.26 299 P **P 14 23 24.0 -0.5**
ATAH Atahualpa 67.49 235 LR LR 14 50 33.9
comp=Z,179nm,21.9s,baz=20,slow=34
ZAA0 Zalesovo Array 67.52 36 P **P 14 23 24.8 -0.9**
ZALV Zalesovo Beam 67.52 36 P **P 14 23 24.8 -0.9**
ZALV Zalesovo Beam 67.52 36 P **P 14 23 26.1 +0.4**
comp=Z,3.5nm,0.9s,baz=299,slow=9.5,SNR=12
ZALV LR LR 14 52 30.6
comp=Z,208nm,21.1s,baz=304,slow=36
comp=Z,3.5nm,0.9s
CHM Chimkent 67.55 53 *eP* **P 14 23 26.6 +0.4**
CHM Chimkent 67.55 53 *eP* **P 14 23 26.5 +0.4**
KKAR Karatay Array 67.57 51 P **P 14 23 25.3 -1.0**
KKAR Karatay Array 67.57 51 P **P 14 23 25.3 -1.0**
FURI Furi 67.72 99 LR LR 14 55 13.5
comp=Z,180nm,18.6s,baz=316,slow=38
LPIG La Paz 67.75 283 LR LR 14 53 30.2
comp=Z,308nm,18.3s,baz=55,slow=36
IUG Iuzhnay 67.90 52⇓ *i* P **P 14 23 28.9 +0.4**
comp=Z,28nm,1.6s
IUG Iuzhnay 67.90 52*d i* P **P 14 23 28.9 +0.4**
IUG pmax pmax
comp=Z,28nm,1.6s
DZA Taraz 68.17 51 *eP* **P 14 23 30.7 +0.6**
DZA Taraz 68.17 51 *eP* **P 14 23 30.7 +0.6**
BTLS Baital 68.29 48⇓ *i* P **P 14 23 31.4 +0.7**
comp=Z,12nm,1.6s
BTLS Baital 68.29 48*d i* P **P 14 23 31.4 +0.7**
BTLS pmax pmax
comp=Z,12nm,1.6s
KDAK Kodiak Island 68.56 331 LR LR 14 51 14.5
comp=Z,338nm,19.2s,baz=40,slow=34
MBAR Mbarara 68.94 112*ceP* **P 14 23 36.6 +1.3**
MBAR pmax pmax
comp=Z,16nm,1.7s
LODK Lodwar 69.19 106 P **P 14 23 36.1 -0.7**
LODK IAmb IAmb 14 23 39.7
comp=Z,28nm,1.8s
SIMJ Simiganj 69.53 56 P **P 14 23 38.7 0.0**
LPAZ La Paz 69.63 220 P **P 14 23 40.5 +0.5**
comp=Z,11nm,1.2s,baz=20,slow=7.8,SNR=17
LPAZ LR LR 14 51 44.0
comp=Z,78nm,21.6s,baz=11,slow=34
comp=Z,11nm,1.2s
LPAZ La Paz 69.63 220 *eP* **P 14 23 41.7 +1.7**
SGDS Sogindy 69.64 49 *eP* **P 14 23 39.9 +0.6**
comp=Z,13nm,1.8s
N14K Kuskokwak Cree 69.74 337 P **P 14 23 37.6 -1.9**
baz=34
AAK Ala-Archa 70.11 50 LR LR 14 56 05.1
comp=Z,323nm,18.6s,baz=316,slow=37
AAK Ala-Archa 70.11 50*ceP* **P 14 23 43.5 +1.2**
AAK pmax pmax
comp=Z,21nm,1.6s
ARSB Arslanbob 70.12 52 IAmb IAmb 14 23 53.0
comp=Z,17nm,1.2s
MURT Porto Murtinho 70.15 208 *eP* **P 14 23 44.1 +1.8**
NNA Nana 70.51 230 LR LR 14 52 26.4
comp=Z,51nm,19.3s,baz=2.5,slow=34
TDK Taldyqorghan 70.63 46 *eP* **P 14 23 45.9 +0.6**
comp=Z,6.2nm,0.6s
TDK Taldyqorghan 70.63 46 *eP* **P 14 23 45.8 +0.6**
TDK pmax pmax
comp=Z,6.0nm,0.6s
AAA Alma-Ata 71.05 48 *eP* **P 14 23 48.5 +0.6**
comp=Z,9.6nm,0.6s
AAA Alma-Ata 71.05 48 *eP* **P 14 23 48.5 +0.6**
AAA pmax pmax
comp=Z,10.0nm,0.6s
MDOK Medeo 71.15 48 *eP* **P 14 23 49.1 +0.5**
MDOK Medeo 71.15 48 *eP* **P 14 23 49.1 +0.5**
TNSS Tian-Shan 71.18 48 *eP* **P 14 23 49.2 +0.1**
TNSS Tian-Shan 71.18 48 *eP* **P 14 23 49.2 +0.1**
MK31 Makanchi Array 71.36 43*ceP* **P 14 23 50.1 +0.5**
MKAR Makanchi Array 71.36 43 P **P 14 23 48.9 -0.7**
MKAR Makanchi Array 71.36 43 P **P 14 23 49.8 +0.2**
comp=Z,4.9nm,0.9s,baz=328,slow=4.3,SNR=34
comp=Z,4.9nm,0.9s
MKAR Makanchi Array 71.36 43 *i* P **P 14 23 49.7 +0.1**
MKAR pmax pmax
comp=Z,5.0nm,0.9s
NRN Naryn 71.75 50 IAmb IAmb 14 23 55.5
comp=Z,36nm,1.6s
KDJ Kajisay 71.92 49 IAmb IAmb 14 23 55.9
comp=Z,40nm,2.0s
SATY Saty 71.95 47 *eP* **P 14 23 53.9 +0.5**
comp=Z,19nm,1.7s
SATY Saty 71.95 47 *eP* **P 14 23 53.9 +0.5**
SATY pmax pmax
comp=Z,19nm,1.7s
PB16 IPOC Station P 72.05 221 P **P 14 23 53.5 -1.2**
ZSN Zaisan 72.13 41 *eP* **P 14 23 54.9 +0.6**
comp=Z,20nm,1.7s
ZSN Zaisan 72.13 41 *eP* **P 14 23 54.9 +0.6**
ZSN pmax pmax
comp=Z,20nm,1.7s
UZB Uzynbulak 72.22 47 *eP* **P 14 23 55.3 +0.2**
UZB Uzynbulak 72.22 47 *eP* **P 14 23 55.2 +0.2**
SHLS Shalkode 72.45 47 *eP* **P 14 23 58.3 +1.9**
comp=Z,28nm,1.7s
SHLS Shalkode 72.45 47 *eP* **P 14 23 58.2 +1.9**
SHLS pmax pmax
comp=Z,28nm,1.7s
KSH Kashi 73.03 51 P **P 14 24 01.5 +1.6**
KSH sP pwP 14 24 08.5 +1.2
KSH S **S 14 33 26.0 -0.6**
KSH pmax pmax
comp=Z,21nm,1.4s
KSH pmax pmax
comp=Z,140nm,2.8s
KSH LR LR
comp=Z,300nm,20.6s
KSH LR LR
comp=Z,230nm,17.2s
KSH LR LR
comp=Z,300nm,19.1s
GO01 Chusmiza 73.06 220 IAmb IAmb 14 24 02.0
comp=Z,27nm,1.2s
YAK Yakutsk 73.24 10 *eP* **P 14 23 59.7 -0.8**
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.3s
PB11 IPOC Station P 73.35 220 P **P 14 24 00.9 -1.0**
SEY Seymchan 73.74 359 *i* P **P 14 24 04.4 +1.0**
SEY pmax pmax
comp=Z,41nm,3.7s
KMBO Kilima Mbogo 73.76 108 LR LR 14 57 43.8
comp=Z,381nm,18.6s,baz=279,slow=37
KMBO Kilima Mbogo 73.76 108 *i* P **P 14 24 05.8 +1.2**
KMBO pmax pmax
comp=Z,2.0nm,0.4s
BOD Bodaibo 74.25 20 *eP* **P 14 24 05.9 -0.6**
BOD pmax pmax
comp=Z,62nm,1.5s
CPUP Villa Florida 74.39 206 P **P 14 24 07.9 +0.3**
comp=Z,1.8nm,1.1s,baz=108,slow=3.2,SNR=4.4
CPUP LR LR 14 54 50.3
comp=Z,27nm,19.7s,baz=240,slow=34
comp=Z,1.8nm,1.1s
NIL Nilore 75.41 57 P **P 14 24 12.8 -0.9**
NIL IAmb IAmb 14 24 15.5
comp=Z,26nm,1.4s
NIL Nilore 75.41 57 P **P 14 24 12.8 -0.9**
NIL pmax pmax
comp=Z,26nm,1.4s
TSUM Tsumeb 75.69 135 LR LR 14 55 17.8
comp=Z,716nm,19.9s,baz=326,slow=34
WMQ Urumqi 76.14 42 *eP* **P 14 24 19.4 +1.6**
WMQ pmax pmax
comp=Z,22nm,1.5s
WMQ LR LR
comp=Z,630nm,18.3s
WMQ LR LR
comp=Z,370nm,20.5s
WMQ LR LR
comp=Z,170nm,17.3s
CPSB Cacapava Do Su 77.07 202 *eP* **P 14 24 24.4 +1.6**
MA2 Magadan 77.11 0*ceP* **P 14 24 25.3 +2.4**
MA2 pmax pmax
comp=Z,34nm,2.5s
ZAK Zakamensk 77.49 29 *eP* **P 14 24 25.6 +0.3**
ZAK pmax pmax
comp=Z,12nm,1.7s
QNGWA Qangwa 77.85 132 **P 14 24 26.4 -1.2**
QNGWA IAmb IAmb 14 24 28.8
comp=Z,30nm,1.6s
PLTB Pedras Altas 78.40 201 *eP* **P 14 24 33.4 +3.1**
LSZ Lusaka 78.45 124 LR LR 14 58 34.3
comp=Z,908nm,20.5s,baz=321,slow=35
PSAL Palomas, Salto 78.90 205 *eP* **P 14 24 34.2 +1.2**
SONM Songino Array 80.74 29 P **P 14 24 43.0 -0.2**
SONM Songino Array 80.74 29 P **P 14 24 43.0 -0.2**
comp=Z,5.4nm,0.9s,baz=326,slow=6.3,SNR=19
SONM LR LR 15 00 56.0
comp=Z,105nm,19.5s,baz=340,slow=36
comp=Z,5.4nm,0.9s
SONM Songino Array 80.74 29 P **P 14 24 43.0 -0.2**
ULN Ulaanbaatar 80.94 28*ceP* **P 14 24 45.0 +0.7**
ULN pmax pmax
comp=Z,24nm,1.7s
KGCAE Kacgae 81.12 133 P **P 14 24 44.9 -0.4**
LCO Las Campanas 81.84 216 P **P 14 24 48.3 -0.9**
LCO Las Campanas 81.84 216 P **P 14 24 48.3 -0.9**
LCO pmax pmax
comp=Z,47nm,1.2s
SHEM Shemya Is, Ala 81.95 346 LR LR 14 59 25.5
comp=Z,119nm,21.9s,baz=89,slow=34
MATP Matopo 82.66 127 LR LR 15 00 44.7
comp=Z,394nm,20.9s,baz=330,slow=35
CFA Coronel Fontan 83.10 213 P **P 14 24 56.2 +0.7**
comp=Z,6.9nm,1.0s,baz=52,slow=3.1,SNR=11
comp=Z,6.9nm,1.0s
PEA0B Petropavlovsk- 83.43 356*ceP* **P 14 24 59.3 +2.3**
PETK Petropavlovsk- 83.43 356 **P 14 24 55.8 -1.2**
PETK Petropavlovsk- 83.43 356 P **P 14 24 57.2 +0.1**
comp=Z,11nm,1.2s,baz=341,slow=3.1,SNR=6.2
PETK LR LR 15 02 31.4
comp=Z,113nm,20.1s,baz=8.1,slow=36
comp=Z,11nm,1.2s
PET Petropavlovsk 83.46 355 *eP* **P 14 24 57.5 +0.4**
PET *eS* **S 14 35 17.7 -0.2**
PET MLR MLR
comp=Z,200nm,17.0s
PET MLR MLR
comp=Z,300nm,16.0s
HEH HeiHe 84.20 15 *eP* **P 14 25 02.4 +1.4**
HEH pmax pmax
comp=Z,12nm,1.7s
LBTB Lobatse 84.67 132 LR LR 15 03 13.0
comp=Z,359nm,18.0s,baz=318,slow=36
GTA Gaotai 85.21 37 *eP* **P 14 25 06.8 +0.3**
GTA sP pwP 14 25 14.1 +0.1
GTA pmax pmax
comp=Z,17nm,1.7s
GTA LR LR
comp=Z,170nm,20.7s
GTA LR LR
comp=Z,160nm,21.8s
GTA LR LR
comp=Z,270nm,19.3s
GOMU GeErMu 85.48 42 P **P 14 25 06.0 -2.2**
GOMU pP PcP 14 25 09.5 -1.7
GOMU sP sP 14 25 13.0 -0.3
GOMU S **SKSac 14 35 31.1 -2.3**
GOMU SS **SS 14 41 18.1 +4.5**
GOMU pmax pmax
comp=Z,1.0nm,0.6s
GOMU LR LR
comp=Z,230nm,16.8s
GOMU LR LR
comp=Z,130nm,16.6s
GOMU LR LR
comp=Z,240nm,16.9s
BOSA Boshof 87.39 134 LR LR 15 02 49.7
comp=Z,548nm,19.6s,baz=332,slow=35
HHC Hu-ho-hao-te 88.64 29 *eP* **P 14 25 21.0 -2.1**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,75nm,3.9s
HHC LR LR
comp=Z,130nm,13.5s
HHC LR LR
comp=Z,160nm,13.9s
HHC LR LR
comp=Z,160nm,14.1s
LZH Lanzhou 89.74 36 *eP* **P 14 25 25.8 -2.7**
LZH sP pwP 14 25 36.3 +0.4
LZH pmax pmax
comp=Z,15nm,1.1s
LZDM Lanzhou Array 89.79 37 LR LR 15 07 47.0
comp=Z,105nm,18.9s,baz=320,slow=37
PLCA Paso Flores 92.02 210 P **P 14 25 39.6 +1.2**
comp=Z,1.7nm,0.8s,baz=12,slow=4.8,SNR=5.0
PLCA LR LR 15 05 27.1
comp=Z,116nm,20.4s,baz=46,slow=34
comp=Z,1.7nm,0.8s
PLCA Paso Flores 92.02 210 *eP* **P 14 25 40.0 +1.5**
OPO Ambohidratompo 93.01 113 LR LR 15 09 08.4
comp=Z,123nm,18.4s,baz=150,slow=37
BRDH Bariadhala 94.41 53 LR LR 15 12 53.2
comp=Z,174nm,18.3s,baz=321,slow=38
LYN LuoYang 94.56 31⇓ P **P 14 25 52.0 +1.5**
LYN pmax pmax
comp=Z,23nm,0.9s
PZH PanZhiHua 96.79 43 P **P 14 26 00.1 -0.9**
PALK Pallekele 98.92 71 LR LR 15 12 47.7
comp=Z,22nm,19.6s,baz=318,slow=37
NJ2 Nanjing 99.08 27 *eP* **Pdif 14 26 10.1 -0.9**
NJ2 pmax pmax
comp=Z,7.0nm,1.3s
QIZ Qiongzhong 107.04 41 Pdif **Pdif 14 26 45.1 -1.6**
QIZ S **Sdif 14 38 46.1 -2.5**
QIZ SS **SS 14 46 18.9 +0.7**
QIZ LR LR
comp=Z,150nm,13.7s
QIZ LR LR
comp=Z,130nm,14.7s
QIZ LR LR
comp=Z,150nm,16.5s
TAOE Nuku Hiva Isla 111.41 278 *e*S Sdif 14 38 46.6 -39
comp=Z,88nm,28.3s
TAOE *e*SS **SS 14 47 15.9 -2.9**
comp=Z,125nm,27.4s
TAOE Nuku Hiva Isla 111.41 278 *e*LR LR 15 04 14.8
comp=Z,354nm,23.2s
SYO Syowa Base 123.10 156⇑ *e*Pdiff **Pdif 14 27 56.0 -0.6**
PPT2 Papeete2 124.03 278 *e*SS SS 14 50 02.7 -0.2
comp=Z,152nm,28.8s
PPT2 Papeete2 124.03 278 *e*LR LR 15 09 55.1
comp=Z,220nm,36.2s
PPT2 *e*LR LR 15 09 57.4
comp=Z,312nm,29.8s
TBI Tubuai 127.60 273 *e*SS SS 14 50 44.0 -3.5
comp=Z,1μm,30.5s
TBI Tubuai 127.60 273 *e*LR LR 15 11 36.4
comp=Z,1μm,28.2s
MAW Mawson 130.11 150 PKP **PKiKP 14 31 39.2 -0.1**
comp=Z,1.6nm,0.9s,baz=30,slow=7.4,SNR=3.5
QSPA South Pole Qui 133.55 180 **PKiKP 14 31 47.5 +1.1**
QSPA South Pole Qui 133.55 180 PKP **PKiKP 14 31 46.4 0.0**
comp=Z,8.4nm,1.2s,baz=226,slow=0.8,SNR=8.9
MBWA Marble Bar 145.62 59 **PKPdf 14 32 08.3 -0.1**
VNDA Vanda 145.76 184 PKPbc **PKPab 14 32 08.7 +0.8**
comp=Z,5.3nm,0.9s,baz=190,slow=3.3,SNR=28
PSA00 Pilbara Seismi 146.00 60 **PKPdf 14 32 08.8 -0.2**
FITZ Fitzroy Crossi 146.68 48 PKPbc **PKPbc 14 32 11.8 0.0**
comp=Z,6.7nm,1.0s,baz=272,slow=2.5,SNR=5.3
CASY Casey 148.47 150 **PKPdf 14 32 12.7 +1.0**
WB0 Warramunga Arr 152.36 36 **PKPbc 14 32 25.9 -0.2**
WRA Warramunga Arr 152.50 36 PKPbc **PKPbc 14 32 25.7 -0.7**
comp=Z,3.8nm,1.0s,baz=333,slow=2.6,SNR=12
DZM Mont Dzumac 154.97 325 *e*LR LR 15 24 11.3
comp=Z,216nm,23.7s
ASAR Alice Springs 155.54 41 PKPbc PKPdf 14 32 31.7 +8.0
comp=Z,1.1nm,1.1s,baz=68,slow=0.9,SNR=5.8

*IDC **13** 14:18:21.2±1.4, 1.41N×126.11E, h0km, mb4.0/4, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=105.8km s-min=19.5km az=68.0*
*DJA **13** 14:18:25.8±0.8, 2.7N±2.2×12.7E±.7, h11km±6km, M3.8/10, MLv3.8/10*
ISC 13 14:18:27.5±0.9,**1.60N**±0.06×**126.70E**±0.07,**h47km,n11,**
σ1s43/15,mb4.0/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.06**	**141**	P	**Pn**	**14 18 46.2**	**+0.3**
TNTI				S	**Sn**	**14 19 02.1**	**+2.6**
LBMI	**Labuha**	**2.36**	**160**	P	**Pn**	**14 19 03.9**	**+0.1**
SGSI	**Sangihe**	**2.38**	**331**	P	**Pn**	**14 19 04.3**	**+0.2**
SGSI				S	**Sn**	**14 19 34.0**	**+1.9**
KMSI	**Cibinong**	**2.90**	**250**	P	**Pn**	**14 19 12.2**	**+1.0**
LUWI	**Luwuk**	**4.72**	**236**	P	**Pn**	**14 19 36.4**	**+0.2**
LUWI				S	**Sn**	**14 20 30.9**	**+1.2**
MRSI	**Marisa**	**4.88**	**257**	P	**Pn**	**14 19 38.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**19.60**	**183**	P	**P**	**14 22 49.3**	**-2.6**
	0.2nm,0.3s,baz=15,slow=12,SNR=7.2						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**22.68**	**161**	P	**P**	**14 23 24.0**	**-1.2**
	4.0nm,0.6s,baz=338,slow=11,SNR=43						
	4.0nm,0.6s						
ASAR	**Alice Springs**	**26.07**	**165**	P	**P**	**14 23 56.8**	**0.0**
	2.5nm,0.7s,baz=352,slow=16,SNR=30						
ASAR				PcP	**PcP**	**14 27 25.0**	**+1.1**
	0.2nm,0.6s,baz=339,slow=2.1,SNR=2.0						
	2.5nm,0.7s						
MKAR	**Makanchi Array**	**59.29**	**326**	P	**P**	**14 28 24.1**	**-0.4**
	0.7nm,0.5s,baz=124,slow=7.9,SNR=6.9						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**63.51**	**328**	P	**P**	**14 28 51.5**	**-1.4**
	0.5nm,0.3s,baz=121,slow=7.3,SNR=5.2						
	0.5nm,0.3s						

WEL 13 14:23:32.7±0.8,**30.3S**±10.1×**17.9E**±2.9,**h286**km±27km,
M4.0/7,mB4.3/7,ML4.8/11,MLv4.5/6,Mw(mB)3.4/7,Error ellipse: s-maj=39.5km s-min=5.3km az=107.0, confirmed,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.71**	**64**	P	Pn	14 24 24.0	-0.6
GLKZ				S	S	14 25 06.4	+0.4
WMGZ	**Waiomatatini S**	**7.36**	**185**	P	Pn	14 25 17.9	-0.2
WMGZ				S	S	14 26 44.6	+1.2
HAZ	**Te Kaha**	**7.37**	**189**	P	Pn	14 25 17.9	-0.4
HAZ				S	S	14 26 44.4	+0.9
EPAZ	**Eden Park BICE**	**7.42**	**209**	P	Pn	14 25 18.5	-0.3
PKGZ	**Pakihiroa**	**7.44**	**187**	P	Pn	14 25 19.2	+0.1
PKGZ				S	S	14 26 45.0	-0.2
RUGZ	**Raukumara Rang**	**7.59**	**190**	P	Pn	14 25 22.2	+1.1
PUZ	**Puketiti**	**7.62**	**186**	P	Pn	14 25 22.6	+1.1
PUZ				S	S	14 26 47.9	-1.4
TWGZ	**Tauwhareparae**	**7.76**	**188**	P	Pn	14 25 24.9	+1.8
TWGZ				S	S	14 26 55.8	+3.3
URZ	**Urewera**	**7.97**	**192**	P	Pn	14 25 25.4	-0.3
URZ				S	S	14 26 57.8	+0.7
MWZ	**Matawai**	**7.97**	**190**	P	Pn	14 25 25.8	+0.1
MWZ				S	S	14 26 56.7	-0.6
RAGZ	**Rawiri**	**8.15**	**190**	P	Pn	14 25 27.4	-0.5
RAGZ				S	S	14 27 04.1	+2.8
MUGZ	**Murupara**	**8.25**	**194**	P	Pn	14 25 29.0	-0.1
RIGZ	**Rimuhau**	**8.30**	**188**	P	Pn	14 25 29.6	-0.3
RIGZ				S	S	14 27 04.9	+0.1
RTZ	**Ruatahuna**	**8.34**	**193**	P	Pn	14 25 29.5	-0.8
SNGZ	**Shannon Statio**	**8.44**	**190**	P	Pn	14 25 31.1	-0.4
SNGZ				S	S	14 27 08.9	+1.1
PRGZ	**Paritu Road**	**8.50**	**187**	P	Pn	14 25 32.3	0.0
PRGZ				S	S	14 27 08.4	-0.9
MTHZ	**Maungataniwha**	**8.59**	**193**	P	Pn	14 25 34.8	+1.3
MTHZ				S	S	14 27 11.2	-0.2
RAHZ	**Arahi**	**8.61**	**192**	P	Pn	14 25 34.0	+0.3
NMHZ	**Naumai**	**8.84**	**193**	P	Pn	14 25 36.7	+0.2
ARHZ	**Aropaoanui**	**8.96**	**191**	P	Pn	14 25 38.0	+0.1
ARHZ				S	S	14 27 17.9	-1.9
BKZ	**Black Stump Fm**	**8.97**	**194**	P	Pn	14 25 37.7	-0.4
BKZ				S	S	14 27 18.8	-1.1
NGZ	**Ngauruhoe**	**9.19**	**198**	P	Pn	14 25 41.1	+0.2
KWHZ	**Kaweka Forest**	**9.23**	**194**	P	Pn	14 25 40.3	-1.0
KWHZ				S	S	14 27 26.3	+0.4
KAHZ	**Kahuranaki**	**9.50**	**191**	P	Pn	14 25 44.3	-0.4

*MOS **13** 15:12:16.8±1.3, 41.98N×49.63E, h9km, mb3.9/1, Error ellipse: s-maj=10.1km s-min=6.1km az=6.9*
*TIF **13** 15:12:23.2, 42.05N×48.99E, h31km±3km*
*DRS **13** 15:12:24.9, 41.99N×49.08E, h39km*
ISC 13 15:12:18.2±1.5,**41.86N**±0.06×**49.67E**±0.08,**h35km,n45,**
σ1s77/64,1C-2D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRN	**Derbent**	**1.01**	**280**	*e*PG	**Pn**	**15 12 37.9**	**+2.0**
DRN				*e*S	**Sn**	**15 12 48.9**	**0.0**
DRN				pmax	pmax		
	comp=Z,308nm,0.2s						
DRN	**Derbent**	**1.01**	**280**	*e*Pg	**Pn**	**15 12 37.9**	**+2.0**
	comp=Z,308nm,0.2s						
DRN				*e*Sg	**Sn**	**15 12 49.0**	**0.0**
	comp=Z,2μm,0.3s						
KSMR	**Kasumkent**	**1.18**	**258**	*e*PG	**Pn**	**15 12 41.2**	**+2.9**
KSMR				*e*S	**Sn**	**15 12 55.0**	**+1.8**
KSMR				pmax	pmax		
	comp=Z,150nm,0.1s						
AKT	**Akhty**	**1.50**	**256**	*e*PG	**Pn**	**15 12 44.6**	**+1.9**
AKT				pmax	pmax		
	comp=Z,170nm,0.2s						
AKT	**Akhty**	**1.50**	**256**	*e*Pg	**Pn**	**15 12 44.7**	**+1.9**
	comp=Z,170nm,0.2s						
AKT				*e*Sg	**Sn**	**15 13 00.7**	**-0.4**
	comp=Z,795nm,0.4s						
URKR	**Urkarakh**	**1.55**	**282**	*e*PG	**Pn**	**15 12 44.6**	**+1.2**
URKR				pmax	pmax		
	comp=Z,107nm,0.6s						
URKR	**Urkarakh**	**1.55**	**282**	*e*Pg	**Pn**	**15 12 44.6**	**+1.2**
	comp=Z,107nm,0.6s						
URKR				*e*Sg	**Sn**	**15 13 00.4**	**-2.0**
	comp=Z,587nm,0.2s						
SGKR	**Sergokala**	**1.61**	**293**	*e*PG	**Pn**	**15 12 45.3**	**+1.2**

SGKR				pmax	pmax				
	comp=Z,43nm,0.3s								
SGKR	**Sergokala**	**1.61**	**293**	*e*Pg	**Pn**	**15 12 45.4**	**+1.2**		
	comp=Z,43nm,0.3s								
SGKR				*e*Sg	**Sn**	**15 13 01.7**	**-2.0**		
	comp=Z,354nm,0.4s								
KMKR	**Kumukh**	**1.94**	**279**	*e*PN	**Pn**	**15 12 50.9**	**+2.1**		
KMKR				pmax	pmax				
	comp=Z,45nm,0.4s								
KMKR	**Kumukh**	**1.94**	**279**	*e*Pg	**Pn**	**15 12 50.9**	**+2.1**		
KMKR				*e*Sg	**Sn**	**15 13 11.9**	**-0.1**		
	comp=Z,443nm,0.6s								
MAK	**Makhachkala**	**1.94**	**305**	*e*PN	**Pn**	**15 12 50.7**	**+2.0**		
MAK				pmax	pmax				
	comp=Z,170nm,0.3s								
MAK	**Makhachkala**	**1.94**	**305**	*e*Pg	**Pn**	**15 12 50.8**	**+2.0**		
	comp=Z,170nm,0.3s								
MAK				*e*Sg	**Sn**	**15 13 11.6**	**-0.3**		
	comp=Z,435nm,0.3s								
SEKA	**Sheki**	**1.97**	**252**	PN	**Pn**	**15 12 50.9**	**+1.8**		
KANR	**Karaman**	**2.09**	**310**	*e*Pg	**Pn**	**15 12 52.6**	**+1.8**		
	comp=Z,337nm,0.5s								
KANR				*e*Sg	**Sn**	**15 13 14.9**	**-0.6**		
	comp=Z,276nm,0.5s								
ARKR	**Arakani**	**2.12**	**291**	*e*PN	Pn	15 12 53.8	+2.6		
ARKR				pmax	pmax				
	comp=Z,12nm,0.2s								
ARKR	**Arakani**	**2.12**	**291**	*e*Pg	Pn	15 12 53.8	+2.6		
	comp=Z,12nm,0.2s								
ARKR				*e*Sg	**Sn**	**15 13 16.8**	**+0.5**		
	comp=Z,142nm,0.2s								
BUJR	**Buynaksk**	**2.13**	**298**	*e*PN	**Pn**	**15 12 53.3**	**+2.0**		
BUJR				pmax	pmax				
	comp=Z,44nm,0.3s								
MNGR	**Mingechevir, A**	**2.23**	**242**	PN	**Pn**	**15 12 54.7**	**+2.1**		
KRNR	**Karanay**	**2.27**	**296**	*e*PN	**Pn**	**15 12 55.3**	**+2.1**		
KRNR				*e*S	**Sn**	**15 13 19.6**	**-0.4**		
KRNR				pmax	pmax				
	comp=Z,15nm,0.6s								
UNCR	**Uncukul**	**2.30**	**293**	*e*PN	**Pn**	**15 12 55.8**	**+2.2**		
UNCR				*e*S	**Sn**	**15 13 21.1**	**+0.4**		
UNCR				pmax	pmax				
	comp=Z,18nm,0.5s								
UNCR	**Uncukul**	**2.30**	**293**	*e*Pg	**Pn**	**15 12 55.8**	**+2.2**		
	comp=Z,18nm,0.5s								
UNCR				*e*Sg	**Sn**	**15 13 21.2**	**+0.4**		
	comp=Z,165nm,0.6s								
HNZR	**Khunzah**	**2.30**	**289**	*e*PN	**Pn**	**15 12 55.9**	**+2.1**		
HNZR				*e*S	**Sn**	**15 13 21.0**	**0.0**		
HNZR				pmax	pmax				
	comp=Z,16nm,0.3s								
XNZR	**Khunzakh**	**2.31**	**288**	*e*Pg	**Pn**	**15 12 55.9**	**+2.1**		
	comp=Z,16nm,0.3s								
XNZR				*e*Sg	**Sn**	**15 13 21.0**	**-0.1**		
	comp=Z,153nm,0.4s								
TLTR	**Tlyarata**	**2.48**	**277**	*e*PN	**Pn**	**15 12 57.7**	**+1.4**		
TLTR				pmax	pmax				
	comp=Z,2.0nm,0.6s								
TLTR	**Tlyarata**	**2.48**	**277**	*e*Pg	**Pn**	**15 12 57.7**	**+1.4**		
	comp=Z,2.0nm,0.6s								
TLTR				*e*Sg	**Sn**	**15 13 24.7**	**-0.8**		
	comp=Z,76nm,0.4s								
VSHL	**Vashlovani**	**2.54**	**257**	P	**Pn**	**15 12 58.8**	**+2.0**		
VSHL				S	**Sn**	**15 13 24.6**	**-1.9**		
DLMR	**Dylym**	**2.56**	**299**	*e*PN	**Pn**	**15 12 57.9**	**+0.8**		
DLMR				pmax	pmax				
	comp=Z,4.0nm,0.2s								
DLMR	**Dylym**	**2.56**	**299**	*e*Pg	**Pn**	**15 12 57.9**	**+0.8**		
	comp=Z,4.0nm,0.2s								
DLMR				*e*Sg	**Sn**	**15 13 25.2**	**-1.8**		
	comp=Z,612nm,0.5s								
BTLR	**Botlikh**	**2.68**	**289**	*i* PN	**Pn**	**15 13 01.2**	**+2.3**		
BTLR	**Botlikh**	**2.68**	**289**	*e*Pg	**Pn**	**15 13 00.1**	**+1.2**		
	comp=Z,13nm,0.4s								
BTLR				*e*Sg	**Sn**	**15 13 29.3**	**-0.9**		
	comp=Z,104nm,0.5s								
GANJ	**Ganja**	**2.80**	**245**	PN	**Pn**	**15 13 01.2**	**+0.7**		
LKRN	**Lenkeran, Azer**	**3.22**	**193**	PN	Pn	15 13 13.1	+6.9		
DGRG	**David-gareji**	**3.25**	**264**	P	**Pn**	**15 13 08.1**	**+1.4**		
DGRG				S	**Sn**	**15 13 41.4**	**-2.7**		
DGRG	**David-gareji**	**3.25**	**264**	PN	**Pn**	**15 13 08.1**	**+1.4**		
SHTL	**Shatili**	**3.45**	**285**	P	**Pn**	**15 13 10.0**	**+0.5**		
SHTL				S	**Sn**	**15 13 45.7**	**-3.4**		
SHTL	**Shatili**	**3.45**	**285**	PN	**Pn**	**15 13 10.0**	**+0.5**		
TRLG	**Trialeti**	**4.18**	**267**	P	**Pn**	**15 13 19.9**	**+0.3**		
TRLG				S	**Sn**	**15 14 01.2**	**-6.1**		
TRLG	**Trialeti**	**4.18**	**267**	PN	**Pn**	**15 13 19.9**	**+0.3**		
KIV	**Kislovodsk**	**5.54**	**295**	*e*P	**Pn**	**15 13 40.4**	**+2.2**		
KIV				*e*S	**Sn**	**15 14 40.2**	**-0.5**		
KIV				pmax	pmax				
	comp=Z,7.0nm,1.0s								
ANN	**Anapa**	**9.39**	**292**	*e*P	Pn	15 14 35.1	+4.2		
ANN				pmax	pmax				
	comp=Z,21nm,1.0s								
AB31	**Akbulak array**	**10.32**	**41**	P	Pn	15 14 47.5	+3.9		
	comp=Z,0.2nm,0.3s,baz=226,slow=13,SNR=21								
AB31				⇑S	**Sn**	**15 16 36.9**	**-1.0**		
	comp=Z,0.6nm,0.3s,baz=225,slow=23,SNR=4.4								
AB31	**Akbulak array**	**10.32**	**41**	P	Pn	15 14 47.5	+3.9		
AB31				S	**Sn**	**15 16 36.9**	**-1.0**		
AKTO	**Aktyubinsk**	**10.34**	**31**	⇓P	Pn	15 14 46.3	+2.4		
	comp=Z,1.1nm,0.6s								
AKTO				⇓S	**Sn**	**15 16 37.7**	**-0.7**		
	comp=Z,2.5nm,0.6s								
AKTO	**Aktyubinsk**	**10.34**	**31**	P	Pn	15 14 46.3	+2.4		
AKTO				S	**Sn**	**15 16 37.4**	**-1.1**		

SEA ***13*** *15:31:55.7±1.2, 45.°62N×0.°04×125.°48W×0.°10, h5km×2km, Error ellipse: s-maj=11.5km s-min=7.0km az=268.0*

NEIC 13 15:31:51.5±1.1, 45.°634N×0.°009×125.°31W×0.°05, h10km×1km, ML2.8/86, ML3.1/11(SEA), Error ellipse: s-maj=6.3km s-min=2.9km az=260.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
B022	**Seaside**	**1.01**	**71**		Pn	15 32 11.4	-0.3
B022					Sg	15 32 24.2	0.0
MEGW	**Megler CREST B**	**1.18**	**57**		Pg	15 32 14.1	0.0
MEGW					Sb	15 32 28.6	-0.7
F03A	**Seaside**	**1.26**	**76**		Sb	15 32 31.2	-0.3
F03A	**Seaside**	**1.26**	**76**		Pn	15 32 14.9	-0.2
F03A					Sb	15 32 30.7	-0.8
RADR	**Rader Ridge**	**1.31**	**53**		Sb	15 32 32.1	-1.1
RADR	**Rader Ridge**	**1.31**	**53**		Pn	15 32 16.0	+0.1
RADR				IAML		15 32 33.2	
	comp=N,130nm,1.1s						
RADR				IAML		15 32 33.2	
	comp=E,118nm,1.4s						
G03D	**McMinnville, O**	**1.50**	**106**		Pn	15 32 18.7	+0.3
E03A	**Lebam**	**1.52**	**52**		Pn	15 32 18.7	+0.1
E03A	**Lebam**	**1.52**	**52**		Sn	15 32 36.5	-1.9
B023	**Clatskanie**	**1.63**	**72**		Pn	15 32 20.1	0.0
B023					Sn	15 32 39.3	-1.8
F04D	**Rainier, OR**	**1.67**	**74**		Pn	15 32 19.9	-0.8
F04D				Sn	Sn	15 32 40.9	-1.3
MPOR	**Mary's Peak**	**1.68**	**132**		Pn	15 32 21.3	+0.3
COR	**Corvallis**	**1.77**	**126**		Pn	15 32 22.6	+0.6
COR					Sn	15 32 44.1	-0.5
COR				IAML		15 32 45.2	
	comp=E,113nm,0.5s						
WISH	**Wishkah**	**1.83**	**35**		Pn	15 32 22.5	-0.3
WISH				IAML		15 32 40.9	
	comp=N,88nm,3.3s						
WISH				IAML		15 32 49.2	
	comp=E,88nm,1.1s						
I02E	**Swisshome, OR**	**1.85**	**145**	Pn	Pn	15 32 23.2	+0.1
I02E				IAML		15 32 45.4	
	comp=E,125nm,0.3s						
NLWA	**Neilton Lookou**	**2.02**	**29**		Pn	15 32 25.5	-0.1
NLWA				IAML		15 32 48.7	
	comp=E,70nm,0.4s						
NLWA				IAML		15 32 49.4	
	comp=E,91nm,0.5s						
G04A	**Mulino**	**2.04**	**101**		Pn	15 32 26.8	+1.0
G04A				IAML		15 32 56.3	
	comp=E,61nm,1.9s						
G04A				IAML		15 33 01.9	
	comp=N,51nm,0.5s						
H04D	**Lebanon**	**2.13**	**120**		Pn	15 32 27.7	+0.6
H04D				IAML		15 32 56.0	
	comp=N,48nm,0.4s						
H04D				IAML		15 33 01.1	
	comp=E,58nm,0.6s						
BUCK	**Buck Mountain**	**2.19**	**130**		Pn	15 32 28.0	0.0
BUCK				IAML		15 33 08.1	
	comp=N,43nm,3.2s						
I03D	**Drain, OR**	**2.39**	**143**		Pn	15 32 30.5	-0.1
I03D				IAML		15 32 59.4	
	comp=N,37nm,0.6s						
I03D				IAML		15 32 59.6	
	comp=E,66nm,0.5s						
H04A	**Detroit Lake**	**2.41**	**112**		Pn	15 32 31.6	+0.7
H04A				IAML		15 33 02.2	
	comp=N,45nm,0.4s						
H04A				IAML		15 33 03.2	
	comp=E,43nm,0.4s						
GNW	**Green Mountain**	**2.58**	**41**		Pn	15 32 33.7	+0.5
HOOD	**Mount Hood Mea**	**2.59**	**96**	Pn	Pn	15 32 33.5	0.0
HOOD				IAML		15 33 07.0	
	comp=E,32nm,0.5s						
HOOD				IAML		15 33 08.5	
	comp=N,46nm,0.5s						
LON	**Longmire**	**2.67**	**64**		Pn	15 32 34.2	-0.4
LON				IAML		15 33 08.1	
	comp=N,29nm,0.4s						
B04A	**Port Angeles**	**2.72**	**26**		Pn	15 32 34.6	-0.6
D05A	**Enumclaw**	**2.77**	**55**	Pn	Pn	15 32 35.7	-0.2
D05A				IAML		15 33 12.3	
	comp=N,30nm,0.5s						
D05A				IAML		15 33 12.9	
	comp=E,35nm,1.0s						
G05A	**Wamic**	**2.84**	**97**		Pn	15 32 36.7	-0.1
G05A				IAML		15 33 26.9	
	comp=N,33nm,3.7s						
G05A				IAML		15 33 53.1	
	comp=E,27nm,4.8s						
PGC	**Sidney**	**3.27**	**22**		Pn	15 32 42.2	-0.5
CLRS	**Cowichan Lake**	**3.29**	**14**	Pn	Pn	15 32 42.7	-0.3
CLRS				IAML		15 34 08.4	
	comp=N,19nm,2.8s						
CLRS				IAML		15 34 18.3	
	comp=E,27nm,2.9s						
J04A	**Umpqua Nationa**	**3.31**	**135**		Pn	15 32 43.0	-0.6
G06A	**Carlson Farm,**	**3.31**	**95**		Pn	15 32 43.7	+0.3
OZB	**Mount Ozzard**	**3.33**	**358**	Pn	Pn	15 32 43.1	-0.5
BBOR	**Butler Butte**	**3.33**	**145**		Pn	15 32 44.4	+0.7
KBO	**Bosley Butte**	**3.51**	**167**	Pn	Pn	15 32 46.0	-0.2
A04D	**Lummi Island**	**3.56**	**29**	Pn	Pn	15 32 44.8	-1.9
LTY	**Liberty**	**3.59**	**61**		Pn	15 32 45.7	-1.6
PINE	**Pine Mountain**	**3.62**	**119**		Pn	15 32 46.8	-0.9
PINE				IAML		15 34 09.9	
	comp=N,13nm,4.7s						
J05D	**Fort Rock, OR**	**3.74**	**127**		Pn	15 32 49.3	-0.1
J05D				IAML		15 34 48.7	
	comp=E,19nm,4.4s						
J05D				IAML		15 34 58.6	
	comp=N,18nm,4.5s						
KSXB	**Camp Six Broad**	**3.94**	**164**	Pn	Pn	15 32 49.4	-2.7
KSXB				IAML		15 33 47.6	
	comp=E,20nm,4.5s						
KSXB				IAML		15 34 24.9	
	comp=N,18nm,2.5s						
WAH2	**Wahluke Slope**	**4.14**	**72**	Pn	Pn	15 32 55.3	+0.5
WAH2				IAML		15 33 51.3	
	comp=E,14nm,0.4s						
WAH2				IAML		15 34 20.5	
	comp=N,14nm,0.6s						
YBH	**Yreka Blue Hor**	**4.33**	**153**	Pn	Pn	15 32 55.2	-2.2
G08A	**Pilot Rock**	**4.48**	**92**		Pn	15 32 57.6	-1.9
D08A	**Wollman Farm,**	**4.65**	**70**		Pn	15 33 00.6	-1.0
D08A				IAML		15 34 14.2	
	comp=N,8.1nm,3.8s						
D08A				IAML		15 34 36.5	
	comp=E,6.4nm,3.9s						
LLLB	**Lillooet**	**5.48**	**23**	Pn	Pn	15 33 14.4	+1.2
BMO	**Blue Mountains**	**5.71**	**95**	Pn	Pn	15 33 16.9	+0.6
NEW	**Newport**	**6.19**	**62**	Pn	Pn	15 33 23.0	+0.1
PLID	**Pearl Lake**	**6.58**	**91**	Pn	Pn	15 33 29.6	+1.1

GCG ***13*** *15:32:58.1±1.4, 15.°68N×95.°12W, h50km±68km, MD5.3, ML5.0*

NEIC ***13*** *15:32:58.9±2.7, 15.°82N±0.°08×95.°01W±0.°04, h32km±6km, mb4.7/162, Error ellipse: s-maj=12.2km s-min=5.4km az=196.0*

MEX ***13*** *15:32:59.9±0.5, 15.°66N×95.°06W, h23km±17km, MD4.9*

CATAC ***13*** *15:33:01.7±0.3, 16.°1N±3.°×9.°5W±.°, h56km±13km, M5.0/7, mb5.3/7, mB5.4/6, MLv4.9/4, Mw(mB)4.9/6, MwMwp4.7/2, Mwp5.0/2, Error ellipse: s-maj=6.7km s-min=3.2km az=27.1, confirmed*

IDC ***13*** *15:33:05.5±1.4, 16.°08N×94.°72W, h67km±10km, mb3.8/14, mbtmp4.1/16, MS3.6/29, Error ellipse: s-maj=21.9km s-min=12.2km az=49.0*

ISC 13 15:32:58.4±1.8, 15.°69N±0.°04×95.°06W±0.°03, h32km±13km, n353, σ2s56/398, mb4.6/55, MS3.6/27, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.01**	**275**		Pn	**15 33 15.7**	**-0.7**
HUIG					Sn	**15 33 28.1**	**-1.5**
HUIG	**Huatulco**	**1.01**	**275**	*e*P	Pn	**15 33 15.7**	**-0.7**
HUIG				*i* S	Sn	**15 33 28.1**	**-1.5**
HUIG	**Huatulco**	**1.01**	**275**	*i* P	Pn	**15 33 15.6**	**-0.7**
HUIG				*i* S	Sn	**15 33 28.1**	**-1.5**
HUIG				IAML		15 33 37.3	
	comp=N,10μm,0.6s						
CMIG	**Matias Romero**	**1.40**	**7**		Pn	**15 33 21.9**	**+0.1**
CMIG					Sn	**15 33 38.3**	**-0.9**
CMIG	**Matias Romero**	**1.40**	**7**	P	Pn	**15 33 22.1**	**+0.4**
	comp=N,3μm,0.3s,baz=176,slow=11,SNR=7541						
CMIG				S	Sn	**15 33 38.6**	**-0.6**
	comp=N,11μm,0.3s,baz=213,slow=12,SNR=36						
CMIG	**Matias Romero**	**1.40**	**7**	*i* P	Pn	**15 33 21.9**	**+0.1**
CMIG				*e*S	Sn	**15 33 38.3**	**-0.9**
PCIG		**1.77**	**89**		Pn	**15 33 26.6**	**-0.2**
PCIG					Sn	**15 33 46.8**	**-1.4**
PCIG		**1.77**	**89**	*e*P	Pn	**15 33 26.6**	**-0.2**
PCIG				*e*S	Sn	**15 33 46.8**	**-1.4**
PEIG	**Puerto Escondi**	**2.03**	**279**		Pn	**15 33 30.1**	**-0.4**
PEIG					Sn	**15 33 52.0**	**-2.8**
PEIG	**Puerto Escondi**	**2.03**	**279**	*e*P	Pn	**15 33 30.1**	**-0.4**
PEIG				*e*S	Sn	**15 33 52.0**	**-2.8**
OXLC	**Oaxaca**	**2.09**	**311**		Pn	**15 33 31.3**	**-0.1**
OXLC					Sn	**15 33 55.9**	**-0.5**
OXLC	**Oaxaca**	**2.09**	**311**	*e*P	Pn	**15 33 31.3**	**-0.1**
OXLC				*i* S	Sn	**15 33 55.9**	**-0.5**
OXBJ	**Oaxaca**	**2.11**	**311**		Pn	**15 33 32.3**	**+0.7**
OXBJ					Sn	**15 33 57.3**	**+0.5**
OXBJ	**Oaxaca**	**2.11**	**311**	*e*P	Pn	**15 33 32.3**	**+0.7**
OXBJ				*e*S	Sn	**15 33 57.3**	**+0.5**
OXIG	**Oaxaca**	**2.12**	**311**		Pn	**15 33 33.5**	**+1.7**
OXIG					Sn	**15 33 57.5**	**+0.4**
VHO	**Vista Hermosa**	**2.12**	**311**	*e*P	Pn	**15 33 33.5**	**+1.7**
VHO				*e*S	Sn	**15 33 57.5**	**+0.5**
NEUV	**Arroyo Zacate**	**2.13**	**341**		Pn	**15 33 32.6**	**+0.7**
NEUV					Sn	**15 33 57.6**	**+0.4**
NEUV	**Arroyo Zacate**	**2.13**	**341**	*e*P	Pn	**15 33 32.6**	**+0.7**
NEUV				*e*S	Sn	**15 33 57.6**	**+0.4**
TGIG		**2.15**	**60**		Pn	**15 33 34.0**	**+1.9**
TGIG					Sn	**15 33 58.2**	**+0.4**
TGIG		**2.15**	**60**	*e*P	Pn	**15 33 34.0**	**+1.9**
TGIG				*e*S	Sn	**15 33 58.2**	**+0.4**
TGIG		**2.15**	**60**	*i* P	Pn	**15 33 32.7**	**+0.6**
TGIG				*i* S	Sn	**15 33 59.4**	**+1.6**
TGIG				IAML		15 34 00.8	
	comp=N,17μm,0.5s						
TGBT	**Tuxtla Gutierr**	**2.18**	**60**		Pn	**15 33 34.3**	**+1.9**
TGBT					Sn	**15 33 59.7**	**+1.4**
TGBT	**Tuxtla Gutierr**	**2.18**	**60**	*e*P	Pn	**15 33 34.3**	**+1.9**
TGBT				*e*S	Sn	**15 33 59.7**	**+1.4**
MIHL	**Minatitlan**	**2.34**	**12**		Pn	**15 33 34.9**	**+0.3**
MIHL					Sn	**15 34 04.3**	**+2.0**
MIHL	**Minatitlan**	**2.34**	**12**	*e*P	Pn	**15 33 34.9**	**+0.3**
MIHL				*e*S	Sn	**15 34 04.3**	**+2.0**
TUIG	**Tuzandepetl**	**2.41**	**15**	*e*P	Pn	**15 33 35.8**	**+0.1**
TUIG				*e*S	Sn	**15 34 03.2**	**-0.8**
YOIG	**Yosondua**	**2.66**	**296**		Pn	**15 33 40.7**	**+1.4**
YOIG					Sn	**15 34 08.7**	**-1.8**
YOIG	**Yosondua**	**2.66**	**296**	*e*P	Pn	**15 33 40.7**	**+1.4**
YOIG				*e*S	Sn	**15 34 08.7**	**-1.8**
PATR	**El Naranjo**	**2.78**	**101**		Pn	**15 33 40.7**	**-0.2**
PATR					Sn	**15 34 11.4**	**-2.2**
PATR	**El Naranjo**	**2.78**	**101**	*e*P	Pn	**15 33 40.7**	**-0.2**
PATR				*e*S	Sn	**15 34 11.4**	**-2.2**
THIG		**2.81**	**106**		Pn	**15 33 39.1**	**-2.0**
THIG					Sn	**15 34 10.8**	**-3.0**
THIG		**2.81**	**106**	*e*P	Pn	**15 33 39.1**	**-2.0**
THIG				*e*S	Sn	**15 34 10.8**	**-3.0**
THIG		**2.81**	**106**	*e*P	Pn	**15 33 41.1**	**0.0**
THIG				*i* S	Sn	**15 34 12.9**	**-0.9**
THIG				IAML		15 34 44.5	
	comp=E,3μm,0.8s						
PAVE	**Pavencul**	**2.82**	**100**		Pn	**15 33 41.9**	**+0.4**
PAVE					Sn	**15 34 12.1**	**-2.5**
PAVE	**Pavencul**	**2.82**	**100**	*e*P	Pn	**15 33 41.9**	**+0.4**
PAVE				*i* S	Sn	**15 34 12.1**	**-2.5**
PMUV	**Sontecomapan**	**2.84**	**359**		Pn	**15 33 40.8**	**-0.8**
PMUV					Sn	**15 34 10.0**	**-4.8**
PMUV	**Sontecomapan**	**2.84**	**359**	*e*P	Pn	**15 33 40.8**	**-0.8**
PMUV				*e*S	Sn	**15 34 10.0**	**-4.8**
CCIG	**Comitan**	**2.87**	**78**		Pn	**15 33 43.0**	**+0.9**
CCIG				Sn	Sn	**15 34 15.2**	**-0.5**
CCIG	**Comitan**	**2.87**	**78**	*e*P	Pn	**15 33 43.2**	**+1.1**
CCIG				*e*S	Sn	**15 34 15.5**	**-0.2**
CCIG	**Comitan**	**2.87**	**78**	*i* P	Pn	**15 33 43.2**	**+1.1**
CCIG				IAML		15 34 30.0	
	comp=N,4μm,0.4s						
CCIG	**Comitan**	**2.87**	**78**	P	Pn	**15 33 43.2**	**+1.1**
CHUJ	**Union Juarez**	**2.91**	**101**	*e*P	Pn	**15 33 42.9**	**+0.2**
CHUJ				*e*S	Sn	**15 34 14.7**	**-1.9**
SMCA	**Catarina**	**3.00**	**106**	*i* P	Pn	**15 33 43.7**	**0.0**
TXIG	**Tlaxiaco**	**3.03**	**301**		Pn	**15 33 46.5**	**+2.1**
TXIG					Sn	**15 34 18.8**	**-0.9**
TXIG	**Tlaxiaco**	**3.03**	**301**	*e*P	Pn	**15 33 46.5**	**+2.1**
TXIG				*e*S	Sn	**15 34 18.8**	**-0.9**
PNIG	**Pinotepa**	**3.03**	**284**		Pn	**15 33 44.5**	**+0.2**
PNIG					Sn	**15 34 15.4**	**-4.1**
PNIG	**Pinotepa**	**3.03**	**284**	*i* P	Pn	**15 33 44.5**	**+0.2**
PNIG				*i* S	Sn	**15 34 15.4**	**-4.1**
VHSA	**Villahermosa**	**3.05**	**41**		Sn	**15 34 15.0**	**-4.9**
VHSA	**Villahermosa**	**3.05**	**41**	*e*S	Sn	**15 34 15.0**	**-4.9**
TOIG	**Toxpalan**	**3.07**	**322**		Pn	**15 33 47.8**	**+3.0**
TOIG					Sn	**15 34 23.5**	**+3.1**
TOIG	**Toxpalan**	**3.07**	**322**	*e*P	Pn	**15 33 47.8**	**+3.0**
TOIG				*e*S	Sn	**15 34 23.5**	**+3.1**
HLIG	**Huajuapan de L**	**3.38**	**309**		Pn	**15 33 51.9**	**+2.7**
HLIG					Sn	**15 34 28.3**	**-0.1**
HLIG	**Huajuapan de L**	**3.38**	**309**	*e*P	Pn	**15 33 51.9**	**+2.7**
HLIG				*e*S	Sn	**15 34 28.3**	**-0.1**
TPIG	**Tehuac#an**	**3.50**	**321**		Pn	**15 33 55.0**	**+4.3**
TPIG					Sn	**15 34 34.0**	**+2.9**
TPIG	**Tehuac#an**	**3.50**	**321**	*e*P	Pn	**15 33 55.0**	**+4.3**
TPIG				*e*S	Sn	**15 34 34.0**	**+2.9**
QUEO	**Labor Ovalle**	**3.52**	**103**	*e*P	Pn	**15 33 52.5**	**+1.4**
QUEO				IAML		15 35 14.7	
	comp=N,4μm,0.7s						
SOKI	**Kika Raxquin**	**3.63**	**103**	*i* P	Pn	**15 33 55.0**	**+2.2**
SOKI				IAML		15 35 04.6	
	comp=N,3μm,1.1s						
FTIG	**Fresnillo de T**	**3.68**	**307**		Pn	**15 33 55.9**	**+2.7**
FTIG					Sn	**15 34 35.2**	**-0.4**
FTIG	**Fresnillo de T**	**3.68**	**307**	*e*P	Pn	**15 33 55.9**	**+2.7**
FTIG				*e*S	Sn	**15 34 35.2**	**-0.4**
QUIS	**Sacapulas**	**3.84**	**95**	*i* P	Pn	**15 33 58.1**	**+2.6**
QUIS				IAML		15 35 04.2	
	comp=E,3μm,0.5s						
TLIG	**Tlapa**	**3.84**	**299**		Pn	**15 33 58.0**	**+2.5**
TLIG				Sn	Sn	**15 34 38.0**	**-1.7**
TLIG	**Tlapa**	**3.84**	**299**	*e*P	Pn	**15 33 57.9**	**+2.5**
TLIG				*i* S	Sn	**15 34 38.0**	**-1.7**
TLIG	**Tlapa**	**3.84**	**299**	S	Sn	**15 34 37.5**	**-2.2**
TLIG	**Tlapa**	**3.84**	**299**	P	Pn	**15 33 58.0**	**+2.5**
HMTT	**Tlapaneco**	**3.96**	**302**		Pn	**15 33 58.4**	**+1.4**
HMTT					Sn	**15 34 39.6**	**-2.8**
HMTT	**Tlapaneco**	**3.96**	**302**	*e*P	Pn	**15 33 58.4**	**+1.4**
HMTT				*e*S	Sn	**15 34 39.6**	**-2.8**
JAUV	**Jalcomulco**	**4.02**	**336**		Pn	**15 33 57.2**	**-0.6**
JAUV					Sn	**15 34 48.9**	**+5.1**
JAUV	**Jalcomulco**	**4.02**	**336**	*e*P	Pn	**15 33 57.2**	**-0.6**
JAUV				*e*S	Sn	**15 34 48.9**	**+5.1**
CRIG	**Cruz Grande**	**4.05**	**285**		Pn	**15 33 58.8**	**+0.6**
CRIG					Sn	**15 34 39.3**	**-5.2**
CRIG	**Cruz Grande**	**4.05**	**285**	*e*P	Pn	**15 33 58.8**	**+0.6**
CRIG				*e*S	Sn	**15 34 39.3**	**-5.2**
LVIG	**Laguna Verde**	**4.22**	**342**	*e*P	Pn	**15 33 58.8**	**-1.6**
LVIG				*e*S	Sn	**15 34 46.2**	**-2.5**
FG8	**Yepocapa, Chim**	**4.57**	**108**	*i* P	Pn	**15 34 01.4**	**-4.1**
DAIG	**Los Arroyos**	**4.60**	**287**		Pn	**15 34 06.7**	**+0.9**
DAIG	**Los Arroyos**	**4.60**	**287**	*i* P	Pn	**15 34 06.7**	**+0.9**
FG16	**Alotenango, Sa**	**4.62**	**107**	*i* P	Pn	**15 34 02.0**	**-4.2**
PPCL	**Tochimilco**	**4.67**	**314**	*e*P	Pn	**15 34 10.7**	**+3.7**
PPCL				*e*S	Sn	**15 34 59.1**	**-1.2**
PPPT	**Popocatepetl**	**4.72**	**314**	*e*P	Pn	**15 34 11.5**	**+3.6**
PPPT				*e*S	Sn	**15 34 59.9**	**-2.3**
PPSX	**Xalitzintla**	**4.72**	**316**	*e*P	Pb	**15 34 14.7**	**-5.9**
PPSX				*e*S	Sn	**15 35 02.4**

VTVM	**Tizayuca**	**5.39**	**319**	*eP*		**Pn**	15 34 22.4	**+5.5**
VTVM				*eS*		**Sn**	**15 35 18.5**	**+0.6**
AOVM	**Tlapan**	**5.41**	**312**			**Pn**	**15 34 21.1**	**+3.8**
AOVM						**Sn**	**15 35 17.9**	**-0.8**
AOVM	**Tlapan**	**5.41**	**312**	*eP*		**Pn**	**15 34 21.1**	**+3.8**
AOVM				*eS*		**Sn**	**15 35 17.9**	**-0.8**
NUBE	**Las Nubes**	**5.41**	**109**	*eP*		**Pn**	**15 34 18.7**	**+1.8**
NUBE	**Las Nubes**	**5.41**	**109**	P		**Pn**	**15 34 20.0**	**+3.0**
MHVM	**Bosque de Chap**	**5.42**	**314**			Pn	15 34 22.2	+4.9
MHVM						**Sn**	**15 35 20.2**	**+1.5**
MHVM	**Bosque de Chap**	**5.42**	**314**	*eP*		Pn	15 34 22.2	+4.9
MHVM				*eS*		**Sn**	**15 35 20.2**	**+1.5**
CJVM	**Cuajimalpa**	**5.44**	**313**			Pn	15 34 22.8	+5.2
CJVM						**Sn**	**15 35 20.1**	**+0.9**
CJVM	**Cuajimalpa**	**5.44**	**313**	*eP*		Pn	15 34 22.8	+5.2
CJVM				*eS*		**Sn**	**15 35 20.1**	**+0.9**
INVM	**La Marquesa**	**5.46**	**312**			**Pn**	**15 34 21.8**	**+3.8**
INVM						**Sn**	**15 35 18.3**	**-1.7**
INVM	**La Marquesa**	**5.46**	**312**	*eP*		**Pn**	**15 34 21.8**	**+3.8**
INVM				*eS*		**Sn**	**15 35 18.3**	**-1.7**
APVM	**Azcapotzalco**	**5.47**	**314**			**Sn**	**15 35 21.6**	**+1.6**
APVM	**Azcapotzalco**	**5.47**	**314**	*eS*		**Sn**	**15 35 21.6**	**+1.6**
PTVM	**Pico Tres Padr**	**5.48**	**316**			**Sn**	**15 35 27.6**	**+7.5**
PTVM	**Pico Tres Padr**	**5.48**	**316**	*e*		**Pb**	**15 34 34.0**	**+0.5**
PTVM				*eS*		**Sn**	**15 35 27.6**	**+7.5**
ZUVM	**ZUMPANGO**	**5.62**	**318**			Pn	15 34 25.5	+5.5
ZUVM						**Sn**	**15 35 24.7**	**+1.0**
ZUVM	**ZUMPANGO**	**5.62**	**318**	*eP*		Pn	15 34 25.5	+5.5
ZUVM				*eS*		**Sn**	**15 35 24.7**	**+1.0**
MTO3	**Montecristo**	**5.65**	**102**			**Pn**	**15 34 21.3**	**+0.9**
MTO3	**Montecristo**	**5.65**	**102**	*i* P		**Pn**	**15 34 22.6**	**+2.1**
MTO3	**Montecristo**	**5.65**	**102**	S		**Sn**	**15 35 27.1**	**+2.7**
MTO3	**Montecristo**	**5.65**	**102**	P		**Pn**	**15 34 25.0**	**+4.6**
TOVM	**TOLUCA**	**5.67**	**310**			**Pn**	**15 34 24.6**	**+3.8**
TOVM	**TOLUCA**	**5.67**	**310**	*eP*		**Pn**	**15 34 24.6**	**+3.8**
TOVM				*eS*		**Sn**	**15 35 23.1**	**-2.0**
ARIG	**Puente Sto Nin**	**5.68**	**298**			**Pn**	**15 34 23.9**	**+3.2**
ARIG	**Puente Sto Nin**	**5.68**	**298**	*eP*		**Pn**	**15 34 23.9**	**+3.2**
ARIG				*eS*		**Sn**	**15 35 21.2**	**-3.6**
JAYA	**Jayaque - finc**	**5.79**	**110**	*i* P		**Pn**	**15 34 24.4**	**+2.1**
JAYA	**Jayaque - finc**	**5.79**	**110**	S		**Sn**	**15 35 30.8**	**+3.0**
JAYA	**Jayaque - finc**	**5.79**	**110**	P		**Pn**	**15 34 26.6**	**+4.3**
PMON	**Piamonte**	**5.89**	**109**	P		Pn	15 34 29.3	+5.6
PAVA	**Las Pavas**	**6.24**	**108**	P		**Pn**	**15 34 32.8**	**+4.4**
ACIG	**Acambay**	**6.27**	**314**			Pn	15 34 35.6	+6.8
ACIG						**Sn**	**15 35 46.5**	**+7.0**
ACIG	**Acambay**	**6.27**	**314**	*eP*		Pn	15 34 35.6	+6.8
ACIG				*eS*		**Sn**	**15 35 46.5**	**+7.0**
ZIIG	**Zihuatanejo**	**6.43**	**288**			**Pn**	**15 34 33.1**	**+2.2**
ZIIG						**Sn**	**15 35 43.0**	**-0.3**
ZIIG	**Zihuatanejo**	**6.43**	**288**	*eP*		**Pn**	**15 34 33.1**	**+2.2**
ZIIG				*eS*		**Sn**	**15 35 43.0**	**-0.3**
CTUV	**Llano Grande**	**6.55**	**332**			**Pn**	**15 34 32.8**	**+0.3**
CTUV						**Sn**	**15 35 49.1**	**+3.0**
CTUV	**Llano Grande**	**6.55**	**332**	*eP*		**Pn**	**15 34 32.8**	**+0.3**
CTUV				*eS*		**Sn**	**15 35 49.1**	**+3.0**
MOIG	**Morelia**	**7.06**	**305**			**Pn**	**15 34 40.8**	**+1.0**
MOIG	**Morelia**	**7.06**	**305**	*eP*		**Pn**	**15 34 39.9**	**+0.1**
MOIG				*eS*		**Sn**	**15 35 54.6**	**-4.6**
MOIG	**Morelia**	**7.06**	**305**	P		**Pn**	**15 34 44.1**	**+4.3**
MOIG	**Morelia**	**7.06**	**305**	S		**Sn**	**15 35 57.5**	**-1.7**
JRQG	**Juriquilla Cam**	**7.15**	**315**	Pn		**Pn**	**15 34 42.8**	**+1.9**
MYIG	**Merida**	**7.28**	**43**	*eP*		**Pn**	**15 34 40.6**	**-1.9**
MYIG				*eS*		**Sn**	**15 36 00.3**	**-3.8**
MYIG	**Merida**	**7.28**	**43**	P		**Pn**	**15 34 46.0**	**+3.5**
MYIG	**Merida**	**7.28**	**43**	S		**Sn**	**15 35 58.8**	**-5.3**
TGUH	**Tegucigalpa,Un**	**7.70**	**101**			**Pn**	**15 34 17.8**	**-0.7**
TGUH	**Tegucigalpa,Un**	**7.70**	**101**	P		**Pn**	**15 34 50.7**	**+2.2**
RPIG	**Rio Verde**	**7.73**	**324**			**Pn**	**15 34 52.2**	**+3.4**
RPIG	**Rio Verde**	**7.73**	**324**	*eP*		**Pn**	**15 34 52.2**	**+3.4**
RPIG				*eS*		**Sn**	**15 36 14.3**	**-1.1**
TEIG	**Tepich**	**7.87**	**54**			**Pn**	**15 34 48.8**	**-1.9**
TEIG	**Tepich**	**7.87**	**54**	P		**Pn**	**15 34 49.9**	**-0.9**
	baz=125,slow=24,SNR=29							
TEIG				S		**Sn**	**15 36 12.9**	**-5.9**
	baz=131,slow=24,SNR=14							
GTIG	**Gomez Farias**	**8.30**	**333**			**Pn**	**15 34 59.2**	**+2.6**
GTIG	**Gomez Farias**	**8.30**	**333**	*eP*		**Pn**	**15 34 59.2**	**+2.6**
GTIG				*eS*		Sn	15 36 41.0	+12
CRIN	**San Cristobal**	**8.31**	**110**	Pn		**Pn**	**15 34 59.2**	**+2.3**
MMIG	**Aquila**	**8.34**	**289**			**Pn**	**15 34 59.7**	**+2.6**
MMIG	**Aquila**	**8.34**	**289**	*eP*		**Pn**	**15 34 59.7**	**+2.6**
MMIG				*eS*		**Sn**	**15 36 36.6**	**+6.4**
HERN	**Volcan Telica**	**8.55**	**110**			**Pn**	**15 35 00.2**	**+0.1**
CNGN	**Cerro Negro**	**8.71**	**110**			**Pn**	**15 35 01.5**	**-0.8**
MNGA	**Volcan de Coli**	**8.99**	**296**	*eP*		Pn	15 35 11.3	+5.1
MNGA				*eS*		**Sn**	**15 36 52.9**	**+6.3**
INCO	**Volcan de Coli**	**9.00**	**296**	*eP*		Pn	15 35 11.3	+4.8
INCO				*eS*		**Sn**	**15 36 51.2**	**+4.2**
SOMAC	**Volcano de Col**	**9.02**	**296**	*eP*		**Pn**	**15 35 11.5**	**+4.7**
SOMAC				*eS*		**Sn**	**15 36 53.0**	**+5.5**
CDAR	**Ciudad de Arme**	**9.14**	**292**	*eP*		**Pn**	**15 35 11.9**	**+3.8**
CDAR				*eS*		**Sn**	**15 36 54.1**	**+4.2**
CEGR	**Campo Tres**	**9.16**	**295**	*eP*		**Pn**	**15 35 13.2**	**+4.6**
CEGR				*eS*		**Sn**	**15 36 53.5**	**+2.8**
BOAB	**BOACO BROADBAN**	**9.66**	**108**			**Pn**	**15 35 16.3**	**+1.0**
ZAIG	**Zacatecas**	**9.99**	**316**			**Pn**	**15 35 19.8**	**-0.2**
ZAIG	**Zacatecas**	**9.99**	**316**	*eP*		**Pn**	**15 35 21.9**	**+1.9**
ZAIG	**Zacatecas**	**9.99**	**316**	P		**Pn**	**15 35 24.1**	**+4.0**
LNIG	**Linares**	**10.05**	**336**	*eP*		**Pn**	**15 35 21.5**	**+0.9**
LNIG				*eS*		**Sn**	**15 37 16.4**	**+4.1**
SIUN	**Universidad Ur**	**10.14**	**100**			**Pn**	**15 35 22.8**	**+0.9**
CJM	**Chamela**	**10.25**	**293**	*eP*		**Pn**	**15 35 27.1**	**+3.8**
CJM				*eS*		**Sn**	**15 37 17.9**	**+0.7**
ACON	**Acoyapa**	**10.29**	**110**	Pn		**Pn**	**15 35 24.8**	**+0.9**
JTS	**Las Juntas de**	**11.21**	**117**			**Pn**	**15 35 38.5**	**+2.0**
JTS	**Las Juntas de**	**11.21**	**117**	P		**Pn**	**15 35 41.3**	**+4.7**
	comp=E,51nm,1.2s,baz=322,slow=6.0,SNR=9.2							
SOCE	**Pocosol**	**11.46**	**116**	Pn		**Pn**	**15 35 42.5**	**+2.6**
833A	**Chaparral WMA,**	**13.20**	**343**			**Pn**	**15 36 04.2**	**+0.6**
SOR	**Soroa**	**13.39**	**56**	Pn		**Pn**	**15 36 04.5**	**-1.8**
PRVC	**Isla de Provid**	**13.46**	**98**	Pn		**Pn**	**15 36 07.8**	**+0.6**
PIRO	**Carate, Puerto**	**13.55**	**121**	Pn		**Pn**	**15 36 10.2**	**+1.6**
RGM0	**Gandoca**	**13.57**	**115**	Pn		**Pn**	**15 36 10.3**	**+1.5**
EF04	**Eagle Ford 04**	**13.69**	**350**			**Pn**	**15 36 09.5**	**-0.9**
BRU2	**Volcan**	**13.89**	**118**	Pn		**Pn**	**15 36 14.1**	**+0.8**
MLDN	**Muldoon**	**14.15**	**353**			**Pn**	**15 36 15.2**	**-1.4**
HNDO	**Hondo**	**14.31**	**345**			**Pn**	**15 36 17.4**	**-1.5**
DRIO	**Del Rio**	**14.60**	**340**			**Pn**	**15 36 22.5**	**-0.2**
HPIG		**14.92**	**320**	Pn		**Pn**	**15 36 25.8**	**-1.5**
HNVL	**Huntsville, TX**	**15.00**	**359**			**Pn**	**15 36 26.8**	**-1.4**
441A	**DeRidder**	**15.09**	**6**	Pn		**Pn**	**15 36 28.2**	**-1.1**
435B	**Jarrell**	**15.20**	**352**			**Pn**	**15 36 29.9**	**-0.9**
JCT	**Junction City**	**15.35**	**344**			**Pn**	**15 36 31.3**	**-1.5**
SAND	**Sanderson**	**15.61**	**337**			**Pn**	**15 36 34.8**	**-1.4**
TX31	**Lajitas Ar. Si**	**15.73**	**331**			**Pn**	**15 36 37.3**	**-0.5**
TXAR	**Lajitas Array**	**15.73**	**331**			**Pn**	**15 36 36.5**	**-1.2**
TXAR	**Lajitas Array**	**15.73**	**331**	P		**P**	**15 36 40.3**	**-1.1**
	comp=E,2.1nm,0.6s,baz=147,slow=12,SNR=29							
TXAR				S		**Sn**	**15 39 26.4**	**-4.7**
	comp=E,0.8nm,0.6s,baz=118,slow=33,SNR=2.4							
TXAR				LR		LR	15 42 39.2	
	comp=E,63nm,20.4s,baz=138,slow=37							
BRDY	**Brady**	**15.94**	**348**			**Pn**	**15 36 39.0**	**-1.4**
BRDY				IAmb		IAmb	15 36 53.9	
	comp=Z,61nm,0.9s							
NATX	**Nacogdoches**	**16.00**	**1**			**Pn**	**15 36 41.6**	**+0.4**
NATX				IAmb		IAmb	15 36 55.8	
	comp=Z,35nm,0.7s							
OZNA	**Ozona**	**16.15**	**341**			**Pn**	**15 36 42.8**	**-0.3**
237A	**Washetta, Mont**	**16.25**	**358**			**Pn**	**15 36 42.3**	**-2.1**
237A				IAmb		IAmb	15 37 02.7	
	comp=Z,48nm,0.8s							
WHTX	**Lake Whitney,**	**16.38**	**353**			**Pn**	**15 36 46.3**	**+0.4**
LPIG	**La Paz**	**16.59**	**303**	LR		LR	15 42 41.5	
	comp=Z,245nm,18.7s,baz=127,slow=34							
ALPN	**Alpine**	**16.60**	**333**			**Pn**	**15 36 48.4**	**-0.6**
FW13	**Cleburne**	**16.73**	**353**	P		**Pn**	**15 36 50.0**	**-0.4**
TREL	**Terrell**	**16.99**	**357**			**Pn**	**15 36 51.8**	**-1.9**
TREL				IAmb		IAmb	15 37 13.4	
	comp=Z,66nm,0.9s							
SGCY	**Sterling City**	**17.07**	**342**			**Pn**	**15 36 54.9**	**+0.1**
MNHN	**Monahans**	**17.09**	**337**			**Pn**	**15 36 54.4**	**-0.7**
MNHN				IAmb		IAmb	15 37 23.6	
	comp=Z,29nm,0.8s							
PLPT	**Palo Pinto**	**17.30**	**351**			**Pn**	**15 36 56.6**	**-1.0**
PLPT				IAmb		IAmb	15 37 15.9	
	comp=Z,60nm,0.8s							
FW06	**Azle**	**17.36**	**353**	P		**Pn**	**15 36 56.8**	**-1.4**
FW06				IAmb		IAmb	15 37 20.4	
	comp=Z,76nm,0.8s							

ABTX	**Abilene, Hawle**	**17.37**	**347**		P	**Pn**	**15 36 57.1**	**-1.3**
ABTX					IAmb	IAmb	15 37 05.1	
	comp=Z,70nm,0.8s							
Z38A	**Mt. Pleasant**	**17.49**	**0**			**Pn**	**15 36 59.3**	**-0.6**
Z38A					IAmb	IAmb	15 37 11.3	
	comp=Z,72nm,0.7s							
PECS	**Pecos**	**17.56**	**334**		P	**Pn**	**15 36 59.3**	**-1.5**
VHRN	**Van Horn**	**17.56**	**331**			**Pn**	**15 36 59.4**	**-1.5**
Z41A	**Richland Creek**	**17.61**	**6**		P	**Pn**	**15 36 59.4**	**-2.0**
Z41A					IAmb	IAmb	15 37 13.9	
	comp=Z,139nm,1.3s							
Z35A	**Perchaven, San**	**17.68**	**354**		P	**Pn**	**15 37 00.0**	**-2.2**
Z35A					IAmb	IAmb	15 37 19.1	
	comp=Z,60nm,0.7s							
ODSA	**Odessa**	**17.72**	**339**			**Pn**	**15 36 60.0**	**-2.9**
ODSA					IAmb	IAmb	15 37 09.2	
	comp=Z,93nm,1.4s							
SN07	**Snyder 07**	**18.11**	**344**		P	**Pn**	**15 37 05.4**	**-2.3**
SN07					IAmb	IAmb	15 37 32.8	
	comp=Z,32nm,0.8s							
APMT	**Aspermont**	**18.15**	**346**		IAmb	IAmb	15 37 25.7	
	comp=Z,41nm,0.7s							
CHIV	**Chivirico**	**18.25**	**74**		P	**P**	**15 37 05.1**	**-4.2**
CHIV					IAmb	IAmb	15 37 29.0	
	comp=Z,35nm,1.2s							
POST	**Post**	**18.26**	**342**			**P**	**15 37 03.9**	**-5.5**
POST					IAmb	IAmb	15 37 14.5	
	comp=Z,33nm,0.8s							
CLN7	**Carlsbad 7**	**18.45**	**336**		P	**P**	**15 37 08.0**	**-3.6**
DKNS	**Dickens**	**18.67**	**345**		P	**P**	**15 37 09.4**	**-4.5**
DKNS					IAmb	IAmb	15 37 18.7	
	comp=Z,48nm,0.8s							
MIAR	**Mount Ida**	**18.82**	**4**		IAmb	IAmb	15 37 43.5	
	comp=Z,41nm,1.1s							
X40A	**Basin Creek Fa**	**18.82**	**6**		P	**P**	**15 37 09.1**	**-6.4**
TIGA	**Tifton**	**18.85**	**32**		P	**P**	**15 37 11.0**	**-4.8**
TIGA					IAmb	IAmb	15 37 25.7	
	comp=Z,46nm,1.3s							
UALR	**University of**	**19.16**	**7**		P	**P**	**15 37 14.0**	**-5.2**
UALR					IAmb	IAmb	15 37 36.0	
	comp=Z,30nm,0.7s							
WMOK	**Wichita Mounta**	**19.26**	**351**		IAmb	IAmb	15 37 49.1	
	comp=Z,36nm,1.1s							
152A	**Waverly Hall**	**19.34**	**27**		P	**P**	**15 37 17.2**	**-3.9**
MSTX	**Muleshoe**	**19.49**	**340**		IAmb	IAmb	15 37 29.5	
	comp=Z,41nm,0.8s							
FNO	**Franklin**	**19.60**	**354**		P	**P**	**15 37 21.7**	**-2.3**
FNO					IAmb	IAmb	15 37 58.6	
	comp=Z,45nm,0.6s							
WHAR	**Wooly Hollow**	**19.68**	**7**		P	**P**	**15 37 20.5**	**-4.4**
WHAR					IAmb	IAmb	15 37 35.0	
	comp=Z,26nm,1.0s							
SMWD	**Samnorwood**	**19.89**	**347**		IAmb	IAmb	15 37 49.4	
	comp=Z,48nm,0.7s							
X48A	**Hartselle**	**20.03**	**20**			**P**	**15 37 25.4**	**-3.2**
TUL3	**Leonard**	**20.15**	**358**			**P**	**15 37 25.7**	**-4.2**
TUL3					IAmb	IAmb	15 37 55.4	
	comp=Z,35nm,0.7s							
FCAR	**Ozark Folk Cen**	**20.29**	**7**			**P**	**15 37 28.5**	**-2.9**
FCAR					IAmb	IAmb	15 37 45.5	
	comp=Z,29nm,0.8s							
319A	**Douglas**	**20.31**	**323**		IAmb	IAmb	15 37 52.9	
	comp=Z,34nm,1.1s							
121A	**Cookes Peak, D**	**20.37**	**328**		IAmb	IAmb	15 38 11.3	
	comp=Z,27nm,1.1s							
RLO	**Rose Lookout**	**20.39**	**0**		IAmb	IAmb	15 37 56.5	
	comp=Z,24nm,1.0s							
GOGA	**Godfrey**	**20.52**	**29**		P	**P**	**15 37 32.6**	**-1.4**
HHAR	**Hobbs**	**20.53**	**3**		P	**P**	**15 37 32.1**	**-2.0**
HHAR					IAmb	IAmb	15 37 57.3	
	comp=Z,19nm,0.7s							
LCAR	**Lake Charles**	**20.59**	**9**		IAmb	IAmb	15 37 53.8	
	comp=Z,37nm,1.3s							
Y52A	**Lilburn**	**20.64**	**27**			**P**	**15 37 33.1**	**-2.2**
Y52A					IAmb	IAmb	15 37 55.5	
	comp=Z,18nm,0.7s							
ELIS	**Ellis County**	**20.66**	**350**		IAmb	IAmb	15 37 41.5	
	comp=Z,58nm,1.0s							
U38A	**Gravette**	**20.68**	**2**		IAmb	IAmb	15 37 48.3	
	comp=Z,42nm,1.0s							
CBOC	**Ciudad Bolivar**	**21.08**	**116**		P	**P**	**15 37 43.5**	**+3.0**
	comp=Z,25nm,1.3s							
NOKA	**Waynoka**	**21.14**	**351**		IAmb	IAmb	15 37 48.1	
	comp=Z,36nm,0.7s							
T35A	**Sonner Cattle**	**21.18**	**357**			**P**	**15 37 40.2**	**-1.0**
SBM	**South Baldy**	**21.24**	**331**		P	**P**	**15 37 42.6**	**+0.4**
W50A	**Signal Mountai**	**21.30**	**22**		P	**P**	**15 37 40.5**	**-2.0**
W50A					IAmb	IAmb	15 38 02.1	
	comp=Z,24nm,1.2s							
PBMO	**Poplar Bluff**	**21.40**	**10**		IAmb	IAmb	15 38 08.6	
	comp=Z,19nm,0.8s							
MGMO	**Mountain Grove**	**21.52**	**6**		IAmb	IAmb	15 38 01.2	
	comp=Z,29nm,1.1s							
ANMO	**Albuquerque**	**21.73**	**334**			**P**	**15 37 47.4**	**0.0**
ANMO	**Albuquerque**	**21.73**	**334**		P	**P**	**15 37 49.7**	**+2.4**
	comp=Z,3.5nm,0.6s,baz=232,slow=12,SNR=8.0							
	comp=Z,3.5nm,0.6s							
YOTC	**Yotoco, Valle**	**21.77**	**120**		P	**P**	**15 37 49.8**	**+2.0**
	comp=Z,11nm,1.2s							
TUC	**Tucson**	**21.87**	**322**		P	**P**	**15 37 47.8**	**-0.8**
GUY2C	**Guyana, Caldas**	**21.96**	**116**		P	**P**	**15 37 52.1**	**+1.9**
	comp=Z,490nmcomp=Z,51nm,0.6s							
BBAC	**Balboa, Cauca**	**22.20**	**126**		P	**P**	**15 37 55.7**	**+3.2**
	comp=Z,14nm,0.9s							
NORC	**Norcasia**	**22.22**	**115**		P	**P**	**15 37 52.7**	**+0.1**
	comp=Z,20nm,0.8s							
TKL	**Tuckaleechee C**	**22.30**	**25**		P	**P**	**15 37 53.0**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=200,slow=7.9,SNR=4.0							
TKL					LR	LR	15 49 18.0	
	comp=Z,108nm,18.7s,baz=220,slow=45							
	comp=Z,2.3nm,0.7s							
U49A	**Red Boiling Sp**	**22.32**	**20**		P	**P**	**15 37 51.3**	**-2.1**
T47A	**Sharon Grove**	**22.36**	**17**		P	**P**	**15 37 51.0**	**-2.8**
T47A					IAmb	IAmb	15 38 29.8	
	comp=Z,20nm,0.8s							
CCM	**Cathedral Cave**	**22.53**	**8**			**P**	**15 37 52.9**	**-2.8**
CCM					IAmb	IAmb	15 38 18.1	
	comp=Z,18nm,0.9s							
R40A	**Maddies Statio**	**22.65**	**6**		IAmb	IAmb	15 38 19.5	
	comp=Z,32nm,1.1s							
ORTC	**Ortega, Tolima**	**22.73**	**119**		P	**P**	**15 38 00.9**	**+2.9**
	comp=Z,437nmcomp=Z,27nm,1.1s							
R32A	**Long Quarter,**	**22.87**	**353**		IAmb	IAmb	15 38 38.0	
	comp=Z,36nm,0.9s							
T25A	**Trinidad**	**22.92**	**341**		IAmb	IAmb	15 38 03.9	
	comp=Z,23nm,0.9s							
ROSC	**El Rosal**	**23.05**	**116**		P	**P**	**15 38 01.8**	**+0.1**
ROSC					IAmb	IAmb	15 38 09.1	
	comp=Z,33nm,0.9s							
ROSC	**El Rosal**	**23.05**	**116**		P	**P**	**15 38 05.6**	**+4.0**
	comp=Z,33nm,0.9s,baz=320,slow=7.9,SNR=8.2							
	comp=Z,33nm,0.9s							
PRAC	**Prado**	**23.14**	**119**		P	**P**	**15 38 02.4**	**+0.2**
	comp=Z,23nm,1.0s							
CBKS	**Cedar Bluff**	**23.40**	**351**		IAmb	IAmb	15 38 37.4	
	comp=Z,32nm,0.8s							
RUSC	**La Rusia**	**23.65**	**112**			**P**	**15 38 07.3**	**-0.4**
RUSC					IAmb	IAmb	15 38 15.1	
	comp=Z,21nm,1.0s							
RUSC	**La Rusia**	**23.65**	**112**		P	**P**	**15 38 08.8**	**+1.1**
Q44A	**Meyer Farm, Va**	**23.73**	**12**		P	**P**	**15 38 05.5**	**-2.2**
Q44A					IAmb	IAmb	15 38 33.7	
	comp=Z,37nm,1.0s							
P40A	**Paris**	**23.90**	**6**		IAmb	IAmb	15 38 27.9	
	comp=Z,20nm,1.0s							
MVCO	**Mesa Verde**	**24.53**	**333**		IAmb	IAmb	15 39 03.1	
	comp=Z,15nm,0.9s							
WUAZ	**Wupatki**	**24.56**	**327**		IAmb	IAmb	15 38 26.1	
	comp=Z,14nm,0.9s							
SDV	**Santo Domingo**	**24.79**	**103**		LR	LR	15 49 07.5	
	comp=Z,123nm,19.5s,baz=254,slow=39							
PV13	**Radium Mtn., P**	**25.46**	**334**		IAmb	IAmb	15 38 37.0	
	comp=Z,14nm,0.8s							
PV05	**Paradox Valley**	**25.51**	**334**		IAmb	IAmb	15 38 37.4	
	comp=Z,13nm,0.7s							
PV03	**Paradox Valley**	**25.55**	**334**		IAmb	IAmb	15 38 39.1	
	comp=Z,18nm,1.1s							
PV18	**Skein Mesa, Pa**	**25.57**	**334**		IAmb	IAmb	15 38 38.0	
	comp=Z,24nm,0.8s							
PV12	**Saucer Basin,**	**25.59**	**334**		P	**P**	**15 38 24.7**	**-0.3**
PV07	**Paradox Valley**	**25.63**	**335**		IAmb	IAmb	15 38 40.8	
	comp=Z,15nm,1.0s							
PV16	**Nyswonger Mesa**	**25.63**	**334**		IAmb	IAmb	15 38 38.6	
	comp=Z,31nm,1.3s							
PV19	**Morning Glory**	**25.66**	**334**		IAmb	IAmb	15 38 38.7	
	comp=Z,25nm,1.0s							

BC3	**Big Chuckawall**	**25.67**	**318**			**P**	**15 38 25.8**	**+0.2**
PV20	**West Nyswonger**	**25.68**	**334**	IAmb		IAmb	15 38 39.6	
	comp=Z,42nm,1.3s							
PV04	**Paradox Valley**	**25.70**	**334**	IAmb		IAmb	15 38 38.9	
	comp=Z,21nm,0.8s							
PV22	**Blue Mesa, Par**	**25.77**	**335**	IAmb		IAmb	15 38 40.7	
	comp=Z,11nm,0.9s							
PV23	**Carpenter Ridg**	**25.79**	**334**	IAmb		IAmb	15 38 40.2	
	comp=Z,27nm,0.9s							
HMU	**Henry Mountain**	**26.13**	**331**	IAmb		IAmb	15 39 02.7	
	comp=Z,16nm,1.1s							
DANC	**Danby, Needles**	**26.26**	**320**			**P**	**15 38 30.1**	**-0.7**
PFO	**Pinyon Flats O**	**26.30**	**317**	LR		LR	15 49 42.1	
	comp=Z,225nm,19.0s,baz=130,slow=38							
ECSD	**EROS Data Cent**	**27.98**	**358**	IAmb		IAmb	15 39 26.8	
	comp=Z,16nm,0.8s							
MPMC	**Manual Prospec**	**28.49**	**320**	P		**P**	**15 38 50.2**	**-0.8**
PDAR	**Pinedale Array**	**29.71**	**338**	LR		LR	15 53 55.9	
	comp=Z,87nm,18.8s,baz=149,slow=42							
PCRV	**Puerto La Cruz**	**30.13**	**97**	LR		LR	15 53 26.2	
	comp=Z,76nm,19.8s,slow=41							
NVAR	**Mina Array Bea**	**30.52**	**322**	P		**P**	**15 39 08.9**	**-0.1**
NVAR	**Mina Array Bea**	**30.52**	**322**	P		**P**	**15 39 12.0**	**+2.9**
	comp=Z,1.2nm,0.7s,baz=137,slow=9.2,SNR=8.6							
NVAR					LR	LR	15 53 19.8	
	comp=Z,261nm,18.7s,baz=135,slow=40							
	comp=Z,1.2nm,0.7s							
SADO	**Sadowa**	**31.96**	**22**	LR		LR	15 54 42.1	
	comp=Z,697nm,18.4s,baz=322,slow=41							
PLID	**Pearl Lake**	**34.21**	**333**	IAmb		IAmb	15 40 06.0	
	comp=Z,10.0nm,1.2s							
ULM	**Lac du Bonnet**	**34.48**	**359**	P		**P**	**15 39 42.1**	**-1.2**
	comp=Z,3.6nm,0.5s,baz=170,slow=6.1,SNR=7.1							
ULM					LR	LR	15 56 17.7	
	comp=Z,51nm,20.0s,baz=154,slow=41							
	comp=Z,3.6nm,0.5s							
YBH	**Yreka Blue Hor**	**35.23**	**323**	LR		LR	15 56 00.5	
	comp=Z,19nm,18.3s,baz=127,slow=39							
F10A	**Beach Ranch, E**	**35.44**	**333**	IAmb		IAmb	15 40 36.7	
	comp=Z,9.1nm,0.9s							
HOOD	**Mount Hood Mea**	**37.05**	**328**	P		**P**	**15 40 04.2**	**-1.4**
HOOD				IAmb		IAmb	15 40 31.8	
	comp=Z,14nm,1.0s							
NEW	**Newport**	**37.21**	**335**	LR		LR	15 58 02.4	
	comp=Z,90nm,18.1s,baz

BRG				Sg	Sg	15 34 55.1	+1.2		
BRG				Amp		15 34 56.5			
	comp=Z,26nm,0.5s								
STEB	**Steborice**	**1.83**	**149**	*e*PG	**Pg**	**15 34 37.2**	**-0.1**		
STEB				*e*SG	**Sg**	**15 35 00.8**	**-0.2**		
PRU	**Pruhonice**	**1.89**	**217**	*e*SG	**Sn**	**15 35 00.1**	**0.0**		
	comp=Z,19nm,0.5s								
MORC	**Moravsky Berou**	**1.91**	**155**	*e*PN	**Pn**	**15 34 36.1**	**+0.1**		
MORC				*e*SG	**Sn**	**15 35 00.0**	**-0.7**		
VRAC	**Vranov**	**2.21**	**175**	Pn	**Pn**	**15 34 41.0**	**+0.8**		
	comp=Z,1.1nm,0.3s,baz=355,slow=15,SNR=4.6								
VRAC				Lg	Lg	15 35 10.7			
	comp=Z,1.3nm,0.3s,baz=94,slow=21,SNR=7.7								
	comp=Z,2.6nm,0.4s								
VRAC	**Vranov**	**2.21**	**175**	*e*PN	**Pn**	**15 34 41.0**	**+0.8**		
VRAC				*e*SG	**Sb**	**15 35 10.2**	**-0.7**		
KRUC	**Moravsky**	**2.45**	**178**	*e*PN	**Pn**	**15 34 45.1**	**+1.7**		
KRUC				*e*SG	**Sb**	**15 35 19.3**	**+1.5**		
OJC	**Ojcow**	**2.57**	**119**	*e*Pg	**Pg**	**15 34 53.9**	**+2.5**		
OJC				*e*Sg	**Sg**	**15 35 26.5**	**+1.9**		
KHC	**Kasperske Hory**	**2.95**	**217**	*e*PN	**Pn**	**15 34 51.0**	**+0.7**		
KHC				*e*PG	**Pb**	**15 34 55.6**	**0.0**		
KHC				*e*SN	**Sn**	**15 35 25.4**	**-1.0**		
KHC				*e*SG	**Sb**	**15 35 33.6**	**+1.4**		
	comp=Z,6.9nm,0.5s								
GERES	**GERESS Array B**	**3.14**	**213**	Pn	**Pn**	**15 34 53.0**	**0.0**		
	baz=36,slow=16,SNR=1.9								
GERES				Pg	**Pb**	**15 34 59.1**	**+0.1**		
	comp=Z,0.1nm,0.3s,baz=33,slow=16,SNR=8.3								
GERES				Lg	Lg	15 35 39.7			
	comp=Z,0.3nm,0.3s,baz=35,slow=26,SNR=6.0								
CONA	**Conrad Observa**	**3.59**	**185**	*i* Pn	**Pn**	**15 35 00.0**	**+0.8**		
	comp=Z,0.1nm,0.1s								
CONA				*e*Sg	**Sg**	**15 35 56.3**	**-1.3**		
	comp=Z,4.8nm,0.3s								
ARSA	**Arzberg**	**4.29**	**187**	*e*SG	**Sg**	**15 36 20.5**	**+0.5**		
	comp=Z,3.0nm,0.5s								
HFS	**Hagfors**	**8.77**	**351**	Pn	**Pn**	**15 36 09.5**	**-0.6**		
	comp=Z,0.1nm,0.3s,baz=165,slow=18,SNR=2.9								
	comp=Z,6.3nm,1.0s								
FINES	**FINESS Array B**	**11.32**	**25**	Pn	**Pn**	**15 36 44.2**	**-0.8**		
	comp=Z,0.1nm,0.3s,baz=206,slow=16,SNR=1.6								
	comp=Z,3.0nm,1.0s								
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn	**P**	**15 38 17.8**	**-2.9**		
	baz=192,slow=13,SNR=1.3								
	comp=Z,1.0nm,0.7s								

TAP ***13*** *15:36:05.2,23.75N×120.62E,h22km,ML3.6,B*
JMA ***13*** *15:36:05.4±0.2,23.8N±0.3×120.6E±0.7,h13km±2km, MV3.3/11,TAIWAN REGION*
ISC 13 15:36:05.7±0.8,23.77N±0.01×120.59E±0.01,h25km±3km, n138,σ0.72/247,33C-22D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WDL	**Douliou City**	**0.07**	**221**	⇑*i*P		**Pb**	**15 36 09.7**	**-0.5**
WDL				*e*S		**Sb**	**15 36 13.3**	**+0.2**
WGK	**Gukeng**	**0.09**	**197**	⇑*i*P		**Pb**	**15 36 09.8**	**-0.5**
WGK				*i* S		**Sb**	**15 36 13.3**	**0.0**
WDLH	**Douliu**	**0.09**	**210**	⇑*i*P		**Pb**	**15 36 09.9**	**-0.5**
WDLH				S		**Sb**	**15 36 13.8**	**+0.4**
WJS	**Zhushan**	**0.14**	**68**	⇓*i*P		**Pb**	**15 36 10.2**	**-0.6**
WJS				*e*S		**Sb**	**15 36 13.5**	**-0.5**
WNT	**Mingjian**	**0.14**	**39**	⇑*i*P		**Pb**	**15 36 10.2**	**-0.5**
WNT				S		**Sb**	**15 36 14.0**	**-0.1**
CHN5	**Tsauling**	**0.19**	**155**	⇑*i*P		**Pb**	**15 36 10.4**	**-0.9**
CHN5				*e*S		**Sb**	**15 36 13.9**	**-1.3**
WTK	**Tuku**	**0.20**	**246**	⇓P		**Pb**	**15 36 11.1**	**-0.3**
WTK				*e*S		**Sb**	**15 36 16.1**	**+0.9**
WHYT	**Xinyi Township**	**0.25**	**107**	⇓P		**Pb**	**15 36 11.3**	**-0.8**
WHYT				*e*S		**Sb**	**15 36 15.5**	**-0.9**
CHN2	**Minshiung**	**0.26**	**204**	⇑*i*P		**Pb**	**15 36 11.9**	**-0.3**
CHN2				S		**Sb**	**15 36 17.0**	**+0.5**
TYC	**Yuchr**	**0.28**	**61**	⇓*i*P		**Pb**	**15 36 12.1**	**-0.4**
TYC				S		**Sb**	**15 36 17.0**	**0.0**
WTCT	**Ta-ch'eng**	**0.30**	**289**	⇓*i*P		**Pb**	**15 36 12.4**	**-0.3**
WTCT				*e*S		**Sb**	**15 36 18.2**	**+0.7**
WCH1	**Changhua City**	**0.30**	**353**	*e*P		**Pb**	**15 36 12.9**	**+0.1**
WCH1				*e*S		**Sb**	**15 36 18.7**	**+1.1**
SMLT	**Sun Moon Lake**	**0.31**	**68**	⇓*i*P		**Pb**	**15 36 12.6**	**-0.3**
SMLT				*e*S		**Sb**	**15 36 17.8**	**-0.1**
CHY	**Chiayi**	**0.31**	**209**	⇑*i*P		**Pb**	**15 36 12.6**	**-0.3**
CHY				S		**Sb**	**15 36 18.4**	**+0.6**
WCHH	**Zhanghua**	**0.31**	**355**	⇑*i*P		**Pb**	**15 36 13.0**	**+0.1**
WCHH				*e*S		**Sb**	**15 36 19.0**	**+1.2**
ALS	**Alishan**	**0.33**	**142**	⇑*i*P		**Pb**	**15 36 12.8**	**-0.6**
ALS				*e*S		**Sb**	**15 36 17.9**	**-0.6**
WCKO	**Fanlu**	**0.33**	**178**	⇑*i*P		**Pb**	**15 36 12.6**	**-0.6**
WCKO				*e*S		**Sb**	**15 36 17.6**	**-0.7**
SSLB	**Suanglung**	**0.33**	**87**	⇓*i*P		**Pb**	**15 36 12.5**	**-0.8**
SSLB				*e*S		**Sb**	**15 36 17.6**	**-0.9**
WSF	**Szhu**	**0.36**	**249**	⇓*i*P		**Pb**	**15 36 13.2**	**-0.4**
WSF				*e*S		**Sb**	**15 36 19.6**	**+0.5**
TCU	**Taichung**	**0.39**	**12**	⇑*i*P		**Pb**	**15 36 14.2**	**+0.1**
TCU				*e*S		**Sb**	**15 36 20.8**	**+1.0**
WCS	**Beigang Elemen**	**0.41**	**46**	*e*P		**Pb**	**15 36 14.0**	**-0.5**
WCS				*e*S		**Sb**	**15 36 20.3**	**-0.2**
WSL	**Shuilin Townsh**	**0.41**	**234**	*e*P		**Pb**	**15 36 14.2**	**-0.3**
WSL				*e*S		**Sb**	**15 36 21.4**	**+0.9**
TPUB	**Ta-pu**	**0.47**	**175**	⇑*i*P		**Pb**	**15 36 14.7**	**-0.7**
TPUB				*e*S		**Sb**	**15 36 21.6**	**-0.4**
ICHU	**Yijhu**	**0.50**	**215**	P		**Pb**	**15 36 15.6**	**-0.3**
ICHU				S		**Sb**	**15 36 23.9**	**+1.2**
TWK	**Hsinying**	**0.51**	**191**	⇑*i*P		**Pb**	**15 36 15.6**	**-0.6**
TWK				*e*S		**Sb**	**15 36 23.4**	**+0.2**
WTP	**Ta-pu**	**0.52**	**178**	⇑*i*P		**Pb**	**15 36 15.7**	**-0.7**
WTP				*e*S		**Sb**	**15 36 23.2**	**-0.3**
WUSB	**Renai**	**0.53**	**65**	⇓*i*P		**Pb**	**15 36 15.9**	**-0.7**
WUSB				S		**Sb**	**15 36 23.1**	**-0.9**
CHN8	**Yiju**	**0.55**	**220**	⇑*i*P		**Pb**	**15 36 16.2**	**-0.5**
CHN8				*e*S		**Sb**	**15 36 24.9**	**+0.7**
SNST	**Tainan City**	**0.55**	**189**	*e*P		**Pb**	**15 36 16.1**	**-0.8**
SNST				*e*S		**Sb**	**15 36 24.3**	**-0.1**
OWD	**Renai**	**0.57**	**71**	⇓P		**Pb**	**15 36 16.7**	**-0.5**
OWD				*e*S		**Sb**	**15 36 24.1**	**-0.9**
WDJ	**Dajia District**	**0.58**	**5**	⇑*i*P		**Pb**	**15 36 17.7**	**+0.4**
WDJ				*e*S		**Sn**	**15 36 27.0**	**-0.1**
TWQ1	**Liyutan**	**0.60**	**16**	⇑*i*P		**Pb**	**15 36 17.9**	**+0.3**
TWQ1				*e*S		**Sn**	**15 36 27.0**	**-0.6**
WHP	**Taichung City**	**0.60**	**33**	⇑*i*P		**Pb**	**15 36 17.6**	**-0.2**
WHP				*e*S		**Sb**	**15 36 26.7**	**+0.8**
STYH	**Taoyuan**	**0.62**	**164**	⇑P		**Pb**	**15 36 17.1**	**-0.8**
STYH				*e*S		**Sb**	**15 36 25.5**	**-0.8**
NSY	**Sanyi**	**0.66**	**14**	⇑*i*P		**Pn**	**15 36 19.9**	**+0.3**
NSY				*e*S		**Sn**	**15 36 29.9**	**+0.6**
SSHA	**Shanhua**	**0.69**	**204**	*e*P		**Pb**	**15 36 18.8**	**-0.3**
SSHA				*e*S		**Sn**	**15 36 29.8**	**+0.1**
SCLT	**Jiali**	**0.69**	**212**	⇑*i*P		**Pb**	**15 36 18.8**	**-0.4**
SCLT				*e*S		**Sn**	**15 36 30.0**	**+0.1**
ELDTW	**Lidau**	**0.70**	**146**	⇑*i*P		**Pb**	**15 36 18.7**	**-0.7**
ELDTW				*e*S		**Sb**	**15 36 27.9**	**-0.7**
TDCB	**Techi**	**0.71**	**47**	*e*P		**Pb**	**15 36 19.1**	**-0.4**
TDCB				*e*S		**Sb**	**15 36 27.9**	**-1.0**
CHN3	**Shinhua**	**0.72**	**197**	⇑*i*P		**Pb**	**15 36 19.7**	**0.0**
CHN3				*e*S		**Sn**	**15 36 31.1**	**+0.5**
EHY	**Hungye**	**0.72**	**111**	⇓P		**Pb**	**15 36 19.0**	**-0.6**
EHY				*e*S		**Sn**	**15 36 29.9**	**-0.8**
TWT	**Tachien**	**0.72**	**48**	*e*P		**Pb**	**15 36 19.2**	**-0.6**
TWT				*e*S		**Sb**	**15 36 27.9**	**-1.4**
WHF	**Hehuan Shan**	**0.72**	**59**	⇓*i*P		**Pb**	**15 36 19.7**	**-0.3**
WHF				*e*S		**Sb**	**15 36 29.9**	**+0.2**
WARBT	**Fenglin Townsh**	**0.73**	**94**	⇓*i*P		**Pb**	**15 36 19.2**	**-0.6**
WARBT				*e*S		**Sb**	**15 36 28.9**	**-0.6**
EHYH	**Wanrong**	**0.74**	**111**	*e*P		**Pb**	**15 36 19.4**	**-0.7**
EHYH				*e*S		**Sn**	**15 36 30.4**	**-0.8**
YULB	**Yu-li**	**0.75**	**120**	⇓P		**Pb**	**15 36 19.3**	**-0.8**
YULB				*e*S		**Sb**	**15 36 28.8**	**-1.2**
FUSS	**Fushou**	**0.77**	**51**	*e*P		**Pb**	**15 36 20.1**	**-0.5**
FUSS				*e*S		**Sb**	**15 36 30.7**	**+0.1**
TWF1	**Yuli**	**0.77**	**122**	⇓*i*P		**Pb**	**15 36 19.9**	**-0.6**
TWF1				*e*S		**Sb**	**15 36 29.3**	**-1.3**
TSCK	**Chigu Township**	**0.77**	**217**	⇑*i*P		**Pb**	**15 36 19.0**	**-0.7**
TSCK				*e*S		**Sb**	**15 36 31.0**	**+0.3**
EGFH	**Guangfu**	**0.77**	**97**	*e*P		**Pb**	**15 36 20.0**	**-0.6**
EGFH				*e*S		**Sb**	**15 36 30.6**	**0.0**
ESL	**Shilin**	**0.77**	**87**	⇓*i*P		**Pb**	**15 36 20.2**	**-0.4**
ESL				*e*S		**Sb**	**15 36 30.2**	**-0.5**
SHHT	**Tainan City**	**0.78**	**197**	*e*P		**Pb**	**15 36 20.7**	**+0.1**
SHHT				*e*S		**Sn**	**15 36 33.1**	**+1.2**
NMLH	**Miaoli**	**0.79**	**13**	⇑*i*P		**Pb**	**15 36 20.9**	**+0.2**
EYUL	**Yuli**	**0.79**	**122**	*e*P		**Pb**	**15 36 20.4**	**-0.5**
EYUL				*e*S		**Sb**	**15 36 31.5**	**+0.4**
LXIB	**Xiulin Townshi**	**0.80**	**71**	⇓P		**Pb**	**15 36 20.4**	**-0.7**
LXIB				*e*S		**Sb**	**15 36 31.0**	**-0.4**
TAI1	**Yung-k'ang**	**0.80**	**205**	*e*P		**Pb**	**15 36 21.0**	**0.0**
TAI1				*e*S		**Sn**	**15 36 33.5**	**+1.1**
HGSD	**Ruisui**	**0.81**	**110**	*e*P		**Pb**	**15 36 21.1**	**-0.1**
EHD	**Haiduan**	**0.84**	**137**	*e*P		**Pb**	**15 36 20.8**	**-0.9**
EHD				*e*S		**Sb**	**15 36 31.8**	**-0.7**
ETM	**Tongmen**	**0.85**	**77**	*e*P		**Pb**	**15 36 21.2**	**-0.7**
ETM				*e*S		**Sb**	**15 36 32.6**	**-0.2**
FULB	**Fuli**	**0.86**	**131**	⇑P		**Pn**	**15 36 22.2**	**0.0**
FULB				*e*S		**Sn**	**15 36 34.1**	**0.0**
SCST	**Cishan**	**0.88**	**186**	*e*P		**Pb**	**15 36 22.2**	**-0.2**
SCST				*e*S		**Sn**	**15 36 35.7**	**+1.1**
ECS	**Chishang**	**0.89**	**139**	*e*P		**Pb**	**15 36 22.4**	**-0.1**
ECS				*e*S		**Sn**	**15 36 34.2**	**-0.4**
SHUL	**Shoufeng**	**0.89**	**89**	*e*P		**Pb**	**15 36 22.5**	**-0.1**
SHUL				*e*S		**Sn**	**15 36 34.7**	**-0.1**
ETLH	**Xiulin Townshi**	**0.93**	**62**	⇓P		**Pb**	**15 36 22.6**	**-0.6**
ETLH				*e*S		**Sn**	**15 36 35.4**	**-0.3**
TEYL	**Yanliau Villag**	**0.93**	**84**	*e*P		**Pb**	**15 36 23.0**	**-0.2**
TEYL				*e*S		**Sn**	**15 36 35.7**	**0.0**
CHKH	**Chenggong**	**0.94**	**128**	*e*P		**Pn**	**15 36 23.6**	**+0.3**
CHKH				*e*S		**Sn**	**15 36 37.3**	**+1.4**
NSTT	**Nanjuang**	**0.94**	**24**	⇑*i*P		**Pb**	**15 36 22.9**	**-0.4**
NSTT				*e*S		**Sb**	**15 36 35.7**	**+0.4**
HWA	**Hwalien**	**0.95**	**77**	*e*P		**Pb**	**15 36 23.5**	**-0.1**
HWA				*e*S		**Sn**	**15 36 36.5**	**+0.2**
TWM1	**Shoushan**	**0.95**	**189**	*e*P		**Pn**	**15 36 24.1**	**+0.6**
LIOB	**Emei**	**0.95**	**24**	⇑P		**Pb**	**15 36 23.3**	**-0.4**
LIOB				*e*S		**Sb**	**15 36 36.1**	**+0.3**
PHUB	**P'eng-hu**	**0.97**	**255**	⇓P		**Pb**	**15 36 22.6**	**-1.2**
PHUB				*e*S		**Sb**	**15 36 35.0**	**-1.2**
PNG	**Penghu**	**0.97**	**258**	⇓P		**Pb**	**15 36 22.7**	**-1.2**
PNG				*e*S		**Sb**	**15 36 35.7**	**-0.6**
TWD	**Chiawan**	**0.97**	**71**	*e*P		**Pb**	**15 36 23.3**	**-0.6**
TWD				*e*S		**Sb**	**15 36 36.1**	**-0.2**
CHKT	**Chengkung**	**0.98**	**133**	*e*P		**Pn**	**15 36 24.4**	**+0.6**
CHKT				*e*S		**Sn**	**15 36 38.0**	**+1.2**
NNSB	**Datong**	**0.98**	**48**	*e*P		**Pb**	**15 36 23.4**	**-0.7**
NNSB				*e*S		**Sb**	**15 36 35.9**	**-0.7**
NNS	**Nan Shan**	**0.98**	**47**	*e*P		**Pb**	**15 36 23.6**	**-0.5**
NNS				*e*S		**Sb**	**15 36 36.2**	**-0.5**
NFF	**Wufeng Townshi**	**0.98**	**29**	*e*P		**Pb**	**15 36 23.8**	**-0.4**
NFF				*e*S		**Sb**	**15 36 36.8**	**0.0**
LONT	**Longtian**	**0.99**	**150**	*e*P		**Pb**	**15 36 23.7**	**-0.5**
LONT				*e*S		**Sb**	**15 36 36.9**	**0.0**
WDGT	**Dungji**	**0.99**	**239**	*e*P		**Pn**	**15 36 23.4**	**-0.7**
WDGT				*e*S		**Sb**	**15 36 36.4**	**-0.6**
NACB	**Ninganchiao**	**1.00**	**66**	⇓P		**Pn**	**15 36 23.6**	**-0.6**
NACB				*e*S		**Sb**	**15 36 36.4**	**-0.9**
SSD	**Sandimen**	**1.02**	**178**	*e*P		**Pn**	**15 36 23.9**	**-0.6**
SSD				*e*S		**Sn**	**15 36 38.4**	**+0.5**
ETL	**Fush Village**	**1.02**	**67**	*e*P		**Pn**	**15 36 24.1**	**-0.4**
ETL				*e*S		**Sn**	**15 36 38.0**	**-0.1**
EDH	**Donghe**	**1.03**	**140**	*e*P		**Pb**	**15 36 24.9**	**0.0**
EDH				*e*S		**Sn**	**15 36 38.7**	**+0.5**
SNJT	**Kaohsiung City**	**1.04**	**193**	*e*P		**Pb**	**15 36 25.1**	**+0.1**
SNJT				*e*S		**Sn**	**15 36 40.5**	**+2.1**
SGLT	**Jiouru**	**1.04**	**185**	*e*P		**Pb**	**15 36 25.5**	**+0.3**
SGLT				*e*S		**Sn**	**15 36 41.2**	**+2.7**
TWG	**Pinlang**	**1.04**	**155**	*e*P		**Pn**	**15 36 24.5**	**-0.3**
TWG				*e*S		**Sn**	**15 36 38.6**	**+0.1**
TWGBT	**Beinan**	**1.05**	**154**	*e*P		**Pn**	**15 36 24.4**	**-0.4**
TWGBT				*e*S		**Sb**	**15 36 38.5**	**0.0**
SBCB	**Hsinchu**	**1.08**	**19**	⇓P		**Pb**	**15 36 25.3**	**0.0**
SBCB				*e*S		**Sn**	**15 36 40.3**	**+0.8**
HSN	**Hsinchu**	**1.08**	**19**	*e*P		**Pb**	**15 36 25.7**	**-0.1**
HSN				*e*S		**Sn**	**15 36 41.8**	**+2.2**
TTN	**Taitung**	**1.13**	**153**	*e*P		**Pb**	**15 36 27.2**	**+0.6**
KSHI	**Guanxi Townshi**	**1.14**	**28**	*e*P		**Pn**	**15 36 26.2**	**+0.1**
KSHI				*e*S		**Sn**	**15 36 41.6**	**+0.7**
NSK	**Sanguang**	**1.14**	**38**	⇑*i*P		**Pn**	**15 36 26.1**	**-0.1**
NSK				*e*S		**Sb**	**15 36 41.0**	**-0.3**
LATG	**Datong**	**1.15**	**48**	*e*P		**Pn**	**15 36 26.1**	**-0.2**
LATG				*e*S		**Sb**	**15 36 40.8**	**-0.7**
YHNB	**Yeheng**	**1.15**	**39**	⇑*i*P		**Pn**	**15 36 26.2**	**-0.1**
YHNB				*e*S		**Sb**	**15 36 40.6**	**-0.9**
MASBT	**Mashibuluo**	**1.15**	**178**	⇑*i*P		**Pn**	**15 36 25.9**	**-0.4**
MASBT				*e*S		**Sb**	**15 36 41.6**	**+0.1**
WSSB	**Gushan**	**1.16**	**195**	*e*P		**Pn**	**15 36 26.8**	**+0.3**
EAHA	**Aohua**	**1.19**	**62**	*e*P		**Pn**	**15 36 27.1**	**+0.3**
EAHA				*e*S		**Sn**	**15 36 42.4**	**+0.2**
VCHM	**Qimei**	**1.20**	**243**	*e*P		**Pn**	**15 36 26.4**	**-0.5**
VCHM				*e*S		**Sn**	**15 36 42.3**	**-0.2**
ECL	**Taimali**	**1.21**	**164**	*e*P		**Pn**	**15 36 27.1**	**-0.1**
ECL				*e*S		**Sb**	**15 36 43.4**	**+0.1**
ENA	**Nanau**	**1.24**	**58**	*e*P		**Pb**	**15 36 28.1**	**-0.3**
ENA				*e*S		**Sb**	**15 36 43.8**	**-0.3**
ENTT	**Nioudou**	**1.24**	**46**	*e*P		**Pn**	**15 36 27.9**	**+0.4**
EWUT	**Wuta**	**1.28**	**58**	*e*P		**Pb**	**15 36 28.7**	**-0.4**
EWUT				*e*S		**Sb**	**15 36 45.0**	**-0.1**
NWLT	**Wulai**	**1.30**	**40**	*e*P		**Pn**	**15 36 28.5**	**+0.1**
NWLT				*e*S		**Sn**	**15 36 45.3**	**+0.2**
NCUH	**Zhongli**	**1.31**	**24**	*e*P		**Pn**	**15 36 28.2**	**-0.3**
NDS	**Dongshan**	**1.34**	**50**	*e*P		**Pb**	**15 36 29.8**	**-0.4**
NDS				*e*S		**Sb**	**15 36 47.1**	**+0.1**
FUSB	**Fushanzhiwuyua**	**1.34**	**43**	⇑P		**Pn**	**15 36 29.1**	**+0.2**
FUSB				*e*S		**Sn**	**15 36 46.0**	**-0.1**
LDUT	**Ludao**	**1.36**	**143**	*e*S		**Sn**	**15 36 46.4**	**+0.1**
TWE	**Neicheng**	**1.37**	**46**	⇑P		**Sb**	**15 36 30.1**	**-0.6**
TWE				*e*S		**Sb**	**15 36 47.9**	**+0.3**
SCZT	**Fangliau**	**1.39**	**179**	*e*P		**Pn**	**15 36 29.3**	**-0.2**
SCZT				*e*S		**Sb**	**15 36 48.3**	**-0.1**
EAST	**Anshuo**	**1.40**	**170**	*e*P		**Pn**	**15 36 29.5**	**-0.2**
TWC	**Suao**	**1.42**	**54**	*e*P		**Pb**	**15 36 31.2**	**-0.3**
TWC				*e*S		**Sb**	**15 36 49.2**	**0.0**
WLCH	**Liuqiu**	**1.43**	**188**	*e*P		**Pn**	**15 36 29.8**	**-0.3**
TAWH	**Dawu Township**	**1.45**	**169**	*e*P		**Pn**	**15 36 30.5**	**+0.2**
TWA	**Mucha**	**1.51**	**37**	*e*P		**Pn**	**15 36 31.3**	**+0.1**
VWUC	**VWUC**	**1.60**	**320**	*e*P		**Pn**	**15 36 31.5**	**-0.9**
VWUC				*e*S		**Sn**	**15 36 50.3**	**-2.0**
EOS4	**EOS4**	**1.62**	**77**	*e*P		**Pn**	**15 36 33.2**	**+0.9**
ZUZH	**Zhuzihu**	**1.64**	**32**	*e*P		**Pn**	**15 36 32.6**	**-0.4**
ZUZH				*e*S		**Sn**	**15 36 52.9**	**-0.4**
TIPB	**Shuangxi**	**1.64**	**43**	*e*P		**Pn**	**15 36 33.5**	**+0.4**
ANP	**Anpu**	**1.65**	**31**	*e*P		**Pn**	**15 36 32.9**	**-0.2**
TWY	**Chenhua**	**1.76**	**31**	*e*P		**Pn**	**15 36 34.6**	**0.0**
TWY				*e*S		**Sn**	**15 36 56.1**	**-0.1**
HEN	**Hengchun**	**1.76**	**176**	*e*P		**Pn**	**15 36 34.5**	**-0.5**
SXI1	**Grass Mountain**	**1.77**	**41**	*e*P		**Pn**	**15 36 34.8**	**0.0**
TWB1	**Santiao Chiao**	**1.77**	**46**	*e*P		**Pn**	**15 36 35.4**	**+0.6**
TWB1				*e*S		**Sn**	**15 36 57.7**	**+1.1**
TWKBT	**Hengchun**	**1.83**	**174**	*e*P		**Pn**	**15 36 35.5**	**-0.2**
KNM	**Kinmen**	**2.07**	**289**	*e*P		**Pn**	**15 36 39.5**	**+0.6**
KNMB	**Chin-men Tao**	**2.13**	**289**	*e*P		**Pn**	**15 36 38.5**	**-1.1**
JYNG	**Yonagunijimaku**	**2.26**	**72**	*e*S		**Sn**	**15 37 10.2**	**+1.7**
MATB	**Ma-tsu**	**2.44**	**346**	*e*P		**Pn**	**15 36 42.9**	**-1.2**
ZPLA	**Ao Xicun**	**2.60**	**274**	*e*P		**Pn**	**15 36 45.4**	**-0.8**
AXDP	**Jialang**	**2.64**	**296**	*e*P		**Pn**	**15 36 46.0**	**-0.7**
MHZQ	**Yeshan**	**2.72**	**329**	*e*P		**Pn**	**15 36 47.1**	**-0.7**
DSXP	**Dongshan**	**2.90**	**269**	*e*P		**Pn**	**15 36 49.6**	**-0.7**
IRIF	**Iriomote-Funau**	**2.93**	**78**	*e*P		**Pn**	**15 36 52.1**	**+1.5**
IRIF				*e*S		**Sn**	**15 37 27.1**	**+2.1**
JKRS	**Kuro-shima**	**3.16**	**81**	S		**Sn**	**15 37 34.0**	**+3.1**
XPSS	**Dashiqiu**	**3.17**	**354**	*e*P		**Pn**	**15 36 52.9**	**-1.1**
JIJ	**Ishigaki jima**	**3.30**	**79**	*e*P		**Pn**	**15 36 57.2**	**+1.3**
JIJ				S		**Sn**	**15 37 36.0**	**+1.7**
JISG	**Ishigakijimahi**	**3.50**	**76**	*e*P		**Pn**	**15 37 00.1**	**+1.6**
JISG				S		**Sn**	**15 37 40.6**	**+1.5**
SXFK	**Yanhouchang**	**3.74**	**315**	*e*P		**Pn**	**15 37 00.9**	**-1.0**

IDC ***13*** *15:51:05.4±1.7,36.80N×140.01E,h131km±12km,mb3.3/5, mbtmp3.7/7,Error ellipse: s-maj=25.3km s-min=12.3km az=65.0*
JMA ***13*** *15:51:06.5±0.1,36.8N±0.4×139.9E±0.6,h128km±1km, MV3.1/39,NORTHERN TOCHIGI PREF*
ISC 13 15:51:05.7±0.9,36.86N±0.05×139.91E±0.06,h133km±7km, n28,σ1.23/35,mb3.5/5,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JSB	**Shiboa**	**0.11**	**5**	P		**Pn**	**15 51 24.4**	**+0.6**
JSB				S		**Sn**	**15 51 37.8**	**+0.2**
JKT	**Katashina**	**0.54**	**260**	P		**Pn**	**15 51 25.8**	**+0.3**
JAG	**Ashikaga**	**0.57**	**220**	*i* P		**Pn**	**15 51 25.5**	**-0.1**
JAG				S		**Sn**	**15 51 39.9**	**-0.6**
JFY	**Yanaizu**	**0.57**	**343**	P		**Pn**	**15 51 26.1**	**+0.5**
JFY				S		**Sn**	**15 51 40.6**	**0.0**
JUON	**Uonuma**	**0.77**	**297**	*i* P		**Pn**	**15 51 27.4**	**+0.5**
JUON				S		**Sn**	**15 51 42.9**	**-0.1**
JOTO	**OTAMA OYAMA**	**0.78**	**26**	*i* P		**Pn**	**15 51 28.1**	**+1.1**
JOTO				S		**Sn**	**15 51 43.9**	**+0.7**
JFK	**Kawauchi**	**0.92**	**56**	*i* P		**Pn**	**15 51 28.8**	**+0.6**
JFK				S		**Sn**	**15 51 45.2**	**-0.1**
JNS	**Sasagawa**	**1.07**	**334**	*i* P		**Pn**	**15 51 30.0**	**+0.5**
JRY	**Ryogami san**	**1.17**	**224**	*i* P		**Pn**	**15 51 30.8**	**+0.3**
JRY				S		**Sn**	**15 51 48.7**	**-0.8**
MJAR	**Matsushiro Arr**	**1.40**	**257**	P		**Pn**	**15 51 32.9**	**-0.1**
	17nm,0.4s,baz=68,slow=8.8,SNR=68							
MJAR				S		**Sn**	**15 51 54.0**	**+0.3**
	7.2nm,0.6s,baz=55,slow=16,SNR=7.5							
MAT	**Matsushiro**	**1.40**	**257**	*i* P		**Pn**	**15 51 33.3**	**+0.3**
MAT				S		**Sn**	**15 51 53.9**	**+0.2**
JAW	**Awa shima**	**1.68**	**342**	P		**Pn**	**15 51 36.8**	**+0.8**
JOD2	**Odawara 2**	**1.73**	**203**	P		**Pn**	**15 51 36.2**	**-0.4**
JYN	**Shimob**	**1.75**	**219**	P		**Pn**	**15 51 37.2**	**+0.2**
JYN				S		**Sn**	**15 52 00.3**	**-0.5**
JSD	**Sado**	**1.76**	**312**	*i* P		**Pn**	**15 51 37.2**	**+0.3**
JSD				S		**Sn**	**15 52 00.5**	**-0.4**
JHJ	**Hachijo jima 2**	**3.73**	**182**	P		**Pn**	**15 52 02

λ-23.00000°. Principal axes: T 5.7970, Plg9.0000°, Azm169.0000°; N 0.0180, Plg65.0000°, Azm280.0000°; P -5.8110, Plg23.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 13 16:27:18.7±0.3,**14.89N**±0.02,**61.53W**±0.03,**h164**km±2km, **h165**km:**pP-P,n793,**σ1**906**/764,**mb4.8**/237,**36C-25D, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVN	**Savane Anatole**	**0.35**	**98**		**Pn**	**16 27 41.8**	**+0.6**
SVN				Sn	**Sn**	**16 27 58.5**	**+0.2**
SVN	**Savane Anatole**	**0.35**	**98**	*eP*	**Pn**	**16 27 42.0**	**+0.8**
SVN				*eS*	**Sn**	**16 27 59.5**	**+1.1**
FDF	**Fort de France**	**0.40**	**113**		**Pn**	**16 27 42.0**	**+0.6**
FDF	**Fort de France**	**0.40**	**113**	P	**Pn**	**16 27 42.0**	**+0.6**
FDF	**Fort de France**	**0.40**	**113**	P	**Pn**	**16 27 42.3**	**+0.9**
FDF				S	**Sn**	**16 27 59.2**	**+0.5**
MDN	**Morne-Daniel**	**0.45**	**17**	*i* P	**Pn**	**16 27 42.3**	**+0.8**
MDN				*eS*	**Sn**	**16 28 00.2**	**+1.2**
DLPL	**La Plaine**	**0.52**	**32**	*eP*	**Pn**	**16 27 42.4**	**+0.6**
DLPL				*eS*	**Sn**	**16 27 59.8**	**+0.2**
DSLB	**Salisbury**	**0.55**	**11**	*eP*	**Pn**	**16 27 42.4**	**+0.4**
DSLB				*eS*	**Sn**	**16 28 00.8**	**+0.8**
BIM	**Bigot**	**0.58**	**130**		**Pn**	**16 27 42.5**	**+0.3**
BIM	**Bigot**	**0.58**	**130**	*eP*	**Pn**	**16 27 42.3**	**+0.1**
BIM				*eS*	**Sn**	**16 28 00.4**	**+0.3**
ILAM	**Ilet Lapin Mar**	**0.65**	**100**		**Pn**	**16 27 42.1**	**-0.3**
ILAM				Sn	**Sn**	**16 28 00.4**	**-0.2**
ILAM	**Ilet Lapin Mar**	**0.65**	**100**	*eP*	**Pn**	**16 27 42.5**	**+0.1**
ILAM				*eS*	**Sn**	**16 28 00.0**	**-0.5**
DWS	**Wesley**	**0.70**	**17**	*eP*	**Pn**	**16 27 43.0**	**+0.2**
DWS				*eS*	**Sn**	**16 28 01.9**	**+0.5**
MPOM	**Morne Pois Mar**	**0.79**	**124**		**Pn**	**16 27 43.5**	**+0.2**
MPOM				Sn	**Sn**	**16 28 02.0**	**-0.2**
H05S1	**Guadeloupe/Mar**	**0.81**	**125**	T	T	16 28 05.4	
TBG	**Guadaloupe-3**	**0.96**	**353**⇑	*iP*	**Pn**	**16 27 45.1**	**+0.6**
SLBI	**Saint Lucia, B**	**1.02**	**148**	*eP*	**Pn**	**16 27 45.1**	**+0.1**
SLBI				*eS*	**Sn**	**16 28 05.3**	**+0.1**
MAGL	**Barre de l'ile**	**1.08**	**13**		**Pn**	**16 27 44.9**	**-0.6**
MMLZ	**Guadeloupe Bro**	**1.15**	**353**⇑	*iP*	**Pn**	**16 27 47.1**	**+1.0**
MMLZ				*eS*	**Sn**	**16 28 08.2**	**+0.8**
CBE	**Ff, Capester**	**1.17**	**356**		**Pn**	**16 27 46.8**	**+0.4**
CBE	**Ff, Capester**	**1.17**	**356**	P	**Pn**	**16 27 46.9**	**+0.5**
CBE				S	**Sn**	**16 28 07.6**	**-0.1**
ATGZ	**Broadband at L**	**1.21**	**351**	*iP*	**Pn**	**16 27 47.7**	**+1.1**
DHSZ	**Broadband at M**	**1.39**	**351**⇑	*iP*	**Pn**	**16 27 49.5**	**+1.2**
DHSZ				*eS*	**Sn**	**16 28 12.8**	**+1.6**
GDHS	**Morne Mazeau,**	**1.39**	**351**		**Pn**	**16 27 49.0**	**+0.6**
DSDZ	**La Diserade, G**	**1.48**	**17**	*i* P	**Pn**	**16 27 48.8**	**-0.4**
DSDZ				*eS*	**Sn**	**16 28 10.9**	**-1.9**
GDSD	**La Dsirade Is**	**1.48**	**17**		**Pn**	**16 27 48.3**	**-1.0**
ABD	**La Joyeuse, An**	**1.57**	**1**		**Pn**	**16 27 50.2**	**+0.1**
SVB	**Belmont**	**1.63**	**170**	*eP*	**Pn**	**16 27 51.5**	**+0.7**
SVB				*eS*	**Sn**	**16 28 16.0**	**+0.5**
MLYT	**Lee's Yard**	**1.93**	**341**	*eP*	**Pn**	**16 27 54.5**	**+0.6**
MLYT				*eS*	**Sn**	**16 28 21.8**	**+0.6**
MBWH		**1.95**	**341**	*eP*	**Pn**	**16 27 54.6**	**+0.5**
MBWH				*eS*	**Sn**	**16 28 22.0**	**+0.3**
MBFL	**Flemmings, Mon**	**1.96**	**340**	*eP*	**Pn**	**16 27 54.6**	**+0.3**
MBFL				*eS*	**Sn**	**16 28 23.4**	**+1.5**
GCMP	**Grenada, Carri**	**2.39**	**178**⇑	*iP*	**Pn**	**16 27 59.9**	**+0.6**
GCMP				*eS*	**Sn**	**16 28 31.0**	**+0.3**
GRSS	**Sisters**	**2.58**	**182**	*eP*	**Pn**	**16 28 02.4**	**+0.9**
GRSS				*eS*	**Sn**	**16 28 35.1**	**+0.3**
BBGH	**Gun Hill**	**2.58**	**132**		**Pn**	**16 28 02.4**	**+0.8**
BBGH	**Gun Hill**	**2.58**	**132**	*eP*	**Pn**	**16 28 02.0**	**+0.4**
BBGH				*eS*	**Sn**	**16 28 32.6**	**-2.3**
BBGH	**Gun Hill**	**2.58**	**132**	P	**Pn**	**16 28 02.0**	**+0.4**
BBGH	**Gun Hill**	**2.58**	**132**	P	**Pn**	**16 28 02.2**	**+0.6**
BBGH				S	**Sn**	**16 28 35.2**	**+0.4**
SKOC	**St. Kitts, UWI**	**2.65**	**334**	*eP*	**Pn**	**16 28 01.9**	**-0.5**
SKOC				*eS*	**Sn**	**16 28 37.8**	**+1.5**
SKI	**Saint Kitts**	**2.69**	**335**	*eP*	**Pn**	**16 28 03.6**	**+0.8**
SKI				*eS*	**Sn**	**16 28 38.3**	**+1.1**
GRW	**Mount Saint Ca**	**2.72**	**183**	*eP*	**Pn**	**16 28 04.8**	**+1.4**
GRW				*eS*	**Sn**	**16 28 39.1**	**+1.2**
GRGR	**Grenville**	**2.75**	**183**		**Pn**	**16 28 04.3**	**+0.7**
GRGR	**Grenville**	**2.75**	**183**	*eP*	**Pn**	**16 28 04.2**	**+0.7**
GRGR				*eS*	**Sn**	**16 28 38.5**	**+0.1**
GRGR	**Grenville**	**2.75**	**183**	P	**Pn**	**16 28 04.2**	**+0.7**
GRGR				S	**Sn**	**16 28 39.4**	**+1.0**
GRGR	**Grenville**	**2.75**	**183**	P	**Pn**	**16 28 04.3**	**+0.7**
GRGR				S	**Sn**	**16 28 39.8**	**+1.4**
ANWB	**Willy Bob**	**2.77**	**355**		**Pn**	**16 28 03.0**	**-0.9**
ANWB	**Willy Bob**	**2.77**	**355**⇑	*iP*	**Pn**	**16 28 02.8**	**-1.0**
ANWB				*eS*	**Sn**	**16 28 37.4**	**-1.5**
ANWB	**Willy Bob**	**2.77**	**355**	P	**Pn**	**16 28 03.0**	**-0.9**
ANWB	**Willy Bob**	**2.77**	**355**	P	**Pn**	**16 28 02.9**	**-0.9**
ANWB				S	**Sn**	**16 28 35.7**	**-3.3**
GRFF	**Grenada Fort F**	**2.83**	**184**	*eP*	**Pn**	**16 28 05.1**	**+0.4**
GRFF				*eS*	**Sn**	**16 28 41.4**	**+1.1**
SEUS	**St. Eustatius**	**2.94**	**332**		**Pn**	**16 28 06.6**	**+0.7**
SEUS	**St. Eustatius**	**2.94**	**332**	P	**Pn**	**16 28 06.3**	**+0.4**
SABA	**Saba**	**3.17**	**329**		**Pn**	**16 28 09.5**	**+0.7**
SABA	**Saba**	**3.17**	**329**	P	**Pn**	**16 28 09.1**	**+0.3**
SABA	**Saba**	**3.17**	**329**	S	**Sn**	**16 28 47.8**	**-0.1**
DMDM	**Guralp CMG5TDE**	**4.17**	**180**	*eP*	**Pn**	**16 28 22.9**	**+1.3**
DMDM				*eS*	**Sn**	**16 29 10.1**	**-0.6**
PSKH	**Kent House, Po**	**4.19**	**180**	*eP*	**Pn**	**16 28 23.5**	**+1.5**
PSKH				*eS*	**Sn**	**16 29 09.6**	**+1.5**
PSWS	**West Secondary**	**4.21**	**180**	*eP*	**Pn**	**16 28 23.5**	**+1.5**
PSWS				*eS*	**Sn**	**16 29 10.6**	**-0.9**
TRN	**Trinidad (W)**	**4.22**	**178**	*eP*	**Pn**	**16 28 22.4**	**+0.2**
TRN				*eS*	**Sn**	**16 29 09.6**	**-2.3**
TBH	**Brigand Hill**	**4.40**	**174**	*eP*	**Pn**	**16 28 26.2**	**+1.5**
TPP	**Pointe-a-Pierr**	**4.55**	**179**	*eP*	**Pn**	**16 28 28.6**	**+2.1**
TPP				*eS*	**Sn**	**16 29 19.7**	**+0.2**
IGPR	**InterUniversit**	**5.35**	**305**	S	**Sn**	**16 29 37.4**	**-0.9**
IGPR	**InterUniversit**	**5.35**	**305**	P	**Pn**	**16 28 37.9**	**+0.9**
SJG	**San Juan**	**5.47**	**306**		**Pn**	**16 28 39.4**	**+0.9**
SJG	**San Juan**	**5.47**	**306**	P	**Pn**	**16 28 39.8**	**+1.3**
	228nm,0.6s,baz=120,slow=12,SNR=30						
SJG				S	**Sn**	**16 29 41.6**	**+0.6**
	60nm,0.4s,baz=227,slow=15,SNR=6.2						
SJG	**San Juan**	**5.47**	**306**	P	**Pn**	**16 28 39.4**	**+0.9**
SJG	**San Juan**	**5.47**	**306**	*eP*	**Pn**	**16 28 41.6**	**+3.1**
SJG	**San Juan**	**5.47**	**306**	P	**Pn**	**16 28 38.8**	**+0.2**
SJG				S	**Sn**	**16 29 40.7**	**-0.3**
SJG	**San Juan**	**5.47**	**306**	P	**Pn**	**16 28 39.5**	**+1.0**
	959nm2μm174nm,0.6s						
SJG				S	**Sn**	**16 29 40.5**	**-0.6**
	959nm2μm174nm,0.6s						
PCRV	**Puerto La Cruz**	**5.58**	**213**	P	**Pn**	**16 28 40.4**	**+0.2**
	130nm,0.7s,baz=25,slow=3.0,SNR=37						
PCRV				S	**Sn**	**16 29 42.9**	**-1.0**
	69nm,0.7s,baz=18,slow=20,SNR=3.8						
PCRV	**Puerto La Cruz**	**5.58**	**213**	*eP*	**Pn**	**16 28 41.3**	**+1.1**
PCRV				*eS*	**Sn**	**16 29 43.8**	**-0.2**
UUPR	**Utuado, UPR, P**	**6.00**	**305**		**Pn**	**16 28 46.9**	**+1.4**
AOPR	**Arecibo Observ**	**6.07**	**305**	*eP*	**Pn**	**16 28 48.1**	**+1.5**
AGPR	**Aguadilla, PR**	**6.42**	**304**	P	**Pn**	**16 28 52.1**	**+0.9**
AGPR	**Aguadilla, PR**	**6.42**	**304**	S	**Sn**	**16 30 04.3**	**+0.5**
BAUV	**El Baul**	**8.69**	**228**		**Pn**	**16 29 21.4**	**+0.1**
BAUV	**El Baul**	**8.69**	**228**	*eP*	**Pn**	**16 29 22.9**	**+1.7**
BANI	**BANI**	**9.15**	**294**		**Pn**	**16 29 28.2**	**+0.8**
SC01	**Santiago de lo**	**9.88**	**298**		**Pn**	**16 29 36.4**	**-0.6**
SC01	**Santiago de lo**	**9.88**	**298**	P	**Pn**	**16 29 38.2**	**+1.3**
SC01	**Santiago de lo**	**9.88**	**298**	S	**Sn**	**16 31 27.0**	**+0.3**
SDDR	**Presa de Saban**	**10.19**	**295**		**Pn**	**16 29 41.4**	**+0.4**
SDDR	**Presa de Saban**	**10.19**	**295**	*eP*	**Pn**	**16 29 43.1**	**+2.1**
SDDR	**Presa de Saban**	**10.19**	**295**	*eP*	**Pn**	**16 29 42.3**	**+1.3**
SDDR				x		16 31 41.1	
SDDR	**Presa de Saban**	**10.19**	**295**	P	**Pn**	**16 29 41.7**	**+0.7**
SDDR	**Presa de Saban**	**10.19**	**295**	P	**Pn**	**16 29 42.9**	**+1.9**
	3μm162nm,0.6s						
SDDR				S	**S**	**16 31 36.4**	**+1.3**
	3μm162nm,0.6s						
URI	**Uribia**	**10.66**	**254**	P	**Pn**	**16 29 47.0**	**-0.3**
URI				S	**S**	**16 31 46.7**	**+0.1**
URIC	**Uribia, Colomb**	**10.67**	**254**	P	**Pn**	**16 29 46.0**	**-1.3**
	3μm240nm,1.2s						
SDV	**Santo Domingo**	**10.72**	**237**		**Pn**	**16 29 48.0**	**-0.3**
SDV	**Santo Domingo**	**10.72**	**237**	P	**Pn**	**16 29 46.9**	**-1.3**
	6.0nm,0.4s,baz=15,slow=10,SNR=7.7						
SDV				S	**Sn**	**16 31 46.7**	**-0.6**
	14nm,0.5s,baz=203,slow=6.6,SNR=3.2						
SDV				LR	LR	16 34 36.2	
	comp=Z,233nm,19.2s,baz=56,slow=41						
SDV	**Santo Domingo**	**10.72**	**237**	*eP*	**Pn**	**16 29 45.0**	**-3.3**
SDV	**Santo Domingo**	**10.72**	**237**		**Pn**	**16 29 53.6**	**-2.9**
	927nm104nm,1.0s						
PAPH	**Port-au-Prince**	**10.93**	**291**	P	**Pn**	**16 29 51.6**	**+0.8**
LGNH	**Logne**	**11.21**	**290**	P	**Pn**	**16 29 55.1**	**+0.8**
GRTK	**Grand Turk**	**11.25**	**307**	*eP*	**Pn**	**16 29 50.8**	**-4.1**
CRJC	**Cerrejon, Guaj**	**11.71**	**252**	P	**Pn**	**16 29 58.9**	**-2.2**
	696nm55nm,0.8s						
BOAV	**Boa Vista**	**12.46**	**175**		**Pn**	**16 30 06.9**	**-3.7**
BOAV	**Boa Vista**	**12.46**	**175**	*eP*	**Pn**	**16 30 07.5**	**-3.0**
BOAV	**Boa Vista**	**12.46**	**175**	P	**Pn**	**16 30 07.4**	**-3.2**
	2μm145nm,0.8s						
MDP	**Montagnes des**	**13.08**	**137**	P	**Pn**	**16 30 16.6**	**-1.9**
	104nm,0.4s,baz=320,slow=17,SNR=129						
MASC	**Masc**	**13.20**	**295**	*eP*	**Pn**	**16 30 18.2**	**-1.8**
MASC	**Masc**	**13.20**	**295**	P	**Pn**	**16 30 20.8**	**+0.8**
PAMC	**Pamplona, Colo**	**13.28**	**237**	P	**P**	**16 30 26.4**	**+1.0**
OCAC	**Ocana**	**13.30**	**242**	P	**Pn**	**16 30 21.2**	**-0.3**
	6μm258nm,0.5s						
ARGC	**Ariguani, Magd**	**13.39**	**250**	P	**Pn**	**16 30 22.7**	**+0.2**
	1μm97nm,0.9s						
QMBU	**Quimbuelo**	**13.72**	**295**	*eP*	**Pn**	**16 30 23.8**	**-2.8**
QMBU	**Quimbuelo**	**13.72**	**295**	P	**Pn**	**16 30 25.0**	**-1.6**
GTBY	**Guantanamo Bay**	**13.89**	**293**	*eP*	**Pn**	**16 30 24.7**	**-4.1**
GTBY	**Guantanamo Bay**	**13.89**	**293**	P	**Pn**	**16 30 24.4**	**-4.4**
	34nm,0.8s						
NMDO	**Nuevo Mundo**	**14.00**	**296**		**Pn**	**16 30 29.2**	**-0.8**
NMDO	**Nuevo Mundo**	**14.00**	**296**	*eP*	**Pn**	**16 30 29.1**	**-0.9**
BARC	**Barichara**	**14.10**	**235**	P	**Pn**	**16 30 32.5**	**+0.8**
SJCC	**San Jacinto, C**	**14.22**	**251**	P	**Pn**	**16 30 32.9**	**-0.1**
SJCC				S	**Sn**	**16 33 10.7**	**-0.6**
SJCC	**San Jacinto, C**	**14.22**	**251**	P	**Pn**	**16 30 30.2**	**-2.8**
	794nm82nm,0.7s						
RCC	**Rio Carpintero**	**14.44**	**293**	*eP*	**Pn**	**16 30 35.0**	**-0.6**
RUSC	**La Rusia**	**14.45**	**233**		**Pn**	**16 30 36.8**	**+0.6**
RUSC	**La Rusia**	**14.45**	**233**	P	**Pn**	**16 30 36.0**	**-0.3**
RUSC				S	**Sn**	**16 33 18.0**	**+0.7**
RUSC	**La Rusia**	**14.45**	**233**	P	**Pn**	**16 30 36.9**	**+0.6**
	2μm133nm,0.9s						
MARVS	**Santiago de Cu**	**14.62**	**292**	*eP*	Pn	16 30 31.0	-6.8
ZARC	**Zaragoza, Cauc**	**14.99**	**242**	P	**Pn**	**16 30 42.2**	**-0.4**
	2μm69nm,0.8s						
HLGC	**Holguin**	**15.06**	**295**	*eP*	**Pn**	**16 30 39.6**	**-3.6**
PTBC	**PUERTO BERRIO,**	**15.16**	**238**	P	**Pn**	**16 30 43.4**	**-1.3**
	565nm68nm,0.8s						
SPBC	**San Pablo de B**	**15.37**	**235**	P	**P**	**16 30 48.4**	**+0.1**
	77nm,0.8s						
UREC	**San Jose de Ur**	**15.45**	**244**	P	**Pn**	**16 30 45.5**	**-2.7**
	1μm84nm,0.6s						
SGC2	**Sao Gabriel da**	**15.89**	**200**	P	**P**	**16 30 54.0**	**+0.1**
	299nm,1.1s						
NORC	**Norcasia**	**16.06**	**236**	P	**Pn**	**16 30 55.6**	**-0.1**
	808nm78nm,0.6s						
ROSC	**El Rosal**	**16.07**	**233**	P	**P**	**16 30 58.1**	**+1.8**
ROSC	**El Rosal**	**16.07**	**233**	P	**Pn**	**16 30 55.8**	**-0.3**
	35nm,0.7s,baz=52,slow=12,SNR=19						
ROSC				S	**Sn**	**16 33 55.8**	**-0.1**
	8.0nm,0.4s,baz=292,slow=22,SNR=1.0						
ROSC	**El Rosal**	**16.07**	**233**	P	**P**	**16 30 58.5**	**+2.2**
	2μm234nm,0.7s						
VILC	**Villavicencio,**	**16.07**	**229**	P	**P**	**16 30 56.7**	**+0.7**
	1μm171nm,0.7s						
HELC	**Santa Helena**	**16.24**	**239**	P	**Pn**	**16 30 58.1**	**-0.1**
	568nm37nm,0.6s						
APAC	**Apartado, Choc**	**16.30**	**246**	P	**Pn**	**16 31 00.3**	**+1.8**
	1μm140nm,0.7s						
DBBC	**Dabeiba**	**16.39**	**243**	P	**P**	**16 30 59.2**	**-0.3**
GUVC	**San Jose del G**	**16.44**	**223**	P	**Pn**	**16 31 01.6**	**+1.3**
	38μm455nm,0.6s						
GUY2C	**Guyana, Caldas**	**16.66**	**236**	P	**P**	**16 31 02.4**	**-0.5**
	1μm168nm,0.9s						
CAPC	**Capurgana**	**16.68**	**250**	P	**Pn**	**16 31 03.5**	**+0.3**
	54nm,0.8s						
CBOC	**Ciudad Bolivar**	**16.82**	**239**	P	**Pn**	**16 31 04.8**	**-0.2**
	1μm38nm,1.0s						
ANIL	**Santa Ana**	**17.13**	**234**	P	**P**	**16 31 08.3**	**+0.4**
	3μm145nm,0.6s						
URMC	**La Uribe, Meta**	**17.16**	**229**	P	**P**	**16 31 07.9**	**-0.1**
	1μm120nm,0.9s						
PRAC	**Prado**	**17.22**	**231**	P	**P**	**16 31 08.2**	**-0.4**
	2μm211nm,1.2s						
ORTC	**Ortega, Tolima**	**17.37**	**232**	P	**P**	**16 31 10.1**	**-0.1**
	1μm148nm,0.8s						
MACC	**Macarena, Meta**	**17.56**	**225**	P	**P**	**16 31 10.8**	**-1.5**
	4μm417nm,0.7s						
BBSR	**BB Station**	**17.64**	**351**	P	**P**	**16 31 12.5**	**-0.4**
MACA	**Manacapuru-AM**	**17.96**	**177**	P	**Pn**	**16 31 17.6**	**-0.7**
MACA	**Manacapuru-AM**	**17.96**	**177**	*eP*	**Pn**	**16 31 17.9**	**-0.4**
YOTC	**Yotoco, Valle**	**18.18**	**235**	P	**P**	**16 31 17.9**	**-1.3**
	461nm44nm,0.8s						
MAL2	**Monte Alegre,**	**18.31**	**156**	P	**P**	**16 31 19.9**	**-0.6**
BETC	**Betania**	**18.32**	**230**	P	**P**	**16 31 19.6**	**-1.0**
TEFE	**Tefe**	**18.54**	**190**	*eP*	**P**	**16 31 23.9**	**+1.0**
JAMC	**Jamundi, Valle**	**18.91**	**234**	P	**P**	**16 31 26.0**	**-1.2**
	720nm62nm,0.7s						
FLOC	**Florencia**	**19.22**	**228**	P	**P**	**16 31 30.4**	**0.0**
FLOC	**Florencia**	**19.22**	**228**	P	**P**	**16 31 28.8**	**-1.6**
	831nm80nm,1.3s						
POPC	**Popayan, Colom**	**19.34**	**232**	P	**P**	**16 31 30.8**	**-1.1**
	38nm,1.1s						
PTLC	**Puerto Leguiza**	**19.65**	**223**	P	**Pn**	**16 31 37.9**	**-0.3**
	2μm160nm,1.0s						
ITTB	**Itaituba**	**19.98**	**163**	*eP*	**P**	**16 31 39.6**	**+1.1**
BBAC	**Balboa, Cauca**	**20.11**	**232**	P	**P**	**16 31 39.2**	**-0.9**
	704nm38nm,0.8s						
TBTG	**Tabatinga, AM**	**20.69**	**204**	*eP*	**P**	**16 31 45.7**	**-0.5**
TMAB	**Tom-Au,PA,Br**	**21.70**	**141**	*eP*	**P**	**16 31 58.7**	**+1.8**
OTAV	**Otavalo**	**22.18**	**230**	P	**P**	**16 32 01.8**	**-0.4**
OTAV	**Otavalo**	**22.18**	**230**	P	**P**	**16 32 01.8**	**-0.4**
OTAV				pmax	pmax		
	comp=Z,95nm,1.3s						
OTAV	**Otavalo**	**22.18**	**230**	*eP*	**P**	**16 32 02.1**	**-0.1**
OTAV	**Otavalo**	**22.18**	**230**	P	**P**	**16 32 00.9**	**-1.3**
	comp=Z,865nmcomp=Z,31nm,1.4s						
ESPN	**Las Esperanzas**	**22.30**	**266**	IAmb	IAmb	16 32 06.5	
	comp=Z,27nm,0.7s						
SIUN	**Universidad Ur**	**22.55**	**270**	P	**P**	**16 32 06.6**	**+1.3**
SIUN				IAmb	IAmb	16 32 07.3	
	comp=Z,9.3nm,1.2s						
NPGB	**Novo Progresso**	**22.64**	**164**	*eP*	**P**	**16 32 06.7**	**+0.6**
ACON	**Acoyapa**	**23.18**	**266**	P	**P**	**16 32 11.7**	**+0.7**
ACON				IAmb	IAmb	16 32 48.0	
	comp=Z,28nm,1.0s						
BOAB	**BOACO BROADBAN**	**23.58**	**267**	P	**P**	**16 32 15.7**	**+1.1**
PRPB	**Parauapebas**	**23.93**	**150**	*eP*	**P**	**16 32 18.9**	**+1.0**
COHC	**Cochancay**	**24.61**	**227**	P	**P**	**16 32 24.0**	**0.0**
ROSB	**Rosrio**	**24.69**	**134**	*eP*	**P**	**16 32 26.1**	**+1.4**
CZSB	**Cruzeiro do Su**	**25.06**	**207**	*eP*	**P**	**16 32 26.8**	**-1.2**
BIRD	**Birdtown, Kers**	**26.03**	**322**	IAmb	IAmb	16 33 14.6	
	comp=Z,29nm,1.2s						
V58A	**Windy Hill, Pi**	**26.10**	**326**	P	**P**	**16 32 34.5**	**-2.8**
V58A				IAmb	IAmb	16 33 15.9	
	comp=Z,29nm,1.0s						
W57A	**Gilead**	**26.12**	**324**	P	**P**	**16 32 35.5**	**-2.0**
W57A				IAmb	IAmb	16 33 24.9	
	comp=Z,17nm,0.6s						
CLDB	**Colider**	**26.22**	**167**	*eP*	**P**	**16 32 39.4**	**+0.8**
MCRA	**Macar, Loja**	**26.45**	**225**	P	**P**	**16 32 39.6**	**-1.1**
PDRB	**Porto dos Gac**	**26.76**	**170**	*eP*	**P**	**16 32 44.3**	**+1.0**
KMSC	**Kings Mountain**	**26.89**	**322**	P	**P**	**16 32 44.7**	**+0.4**
PAULI	**Pauline**	**26.96**	**321**	P	**P**	**16 32 41.8**	**-3.2**
PAULI				IAmb	IAmb	16 33 31.1	
	comp=Z,40nm,1.1s						
T57A	**Hurt**	**27.09**	**328**	P	**P**	**16 32 45.4**	**-0.7**
SMTB	**Santa Maria do**	**27.35**	**149**	*eP*	**P**	**16 32 49.7**	**+1.1**
VILB	**Vilhena**	**27.70**	**177**		**P**	**16 32 51.3**	**-0.4**
VILB	**Vilhena**	**27.70**	**177**	*eP*	**P**	**16 32 53.3**	**+1.6**
V53A	**Saluda**	**28.14**	**321**		**P**	**16 32 56.1**	**+0.6**
SNDB	**Serra Nova Dou**	**28.55**	**159**	*eP*	**P**	**16 33 00.1**	**+0.8**
CPCT	**Cooper Cave**	**29.06**	**319**	IAmb	IAmb	16 33 59.7	
	comp=Z,17nm,0.9s						
LRAL	**Lakeview Retre**	**29.33**	**312**		**P**	**16 33 06.8**	**+0.7**
LRAL				IAmb	IAmb	16 33 48.5	
	comp=Z,32nm,1.6s						
W50A	**Signal Mountai**	**29.41**	**318**		**P**	**16 33 07.4**	**+0.6**
W50A				IAmb	IAmb	16 33 08.4	
	comp=Z,14nm,0.6s						
S51A	**Beattyville**	**29.93**	**323**	IAmb	IAmb	16 34 13.6	
	comp=Z,14nm,0.6s						
BINY	**Binghamton**	**29.94**	**338**	IAmb	IAmb	16 34 02.3	
	comp=Z,24nm,1.1s						
X48A	**Hartselle**	**30.13**	**315**	IAmb	IAmb	16 33 14.7	
	comp=Z,16nm,0.6s						
PTLB	**Pontes e Lacer**	**30.24**	**175**		**P**	**16 33 14.4**	**+0.2**
PTLB				IAmb	IAmb	16 33 16.2	
	comp=Z,29nm,1.0s						
PTLB	**Pontes e Lacer**	**30.24**	**175**	*eP*	**P**	**16 33 14.8**	**+0.7**
T50A	**Nancy**	**30.26**	**321**		**P**	**16 33 14.5**	**+0.3**
T50A				IAmb	IAmb	16 33 53.0	
	comp=Z,18nm,1.2s						
SIV	**San Ignacio**	**30.69**	**179**	LR	LR	16 45 47.1	
	comp=Z,234nm,18.7s,baz=316,slow=36						
PLAL	**Pickwick Lake**	**31.13**	**315**		**P**	**16 33 22.4**	**+0.5**
SALV	**Santo Antonio**	**31.14**	**169**	*eP*	**P**	**16 33 23.3**	**+1.3**
G62A	**West of Eustis**	**31.18**	**348**		**P**	**16 33 24.1**	**+1.9**
G62A				IAmb	IAmb	16 33 24.5	
	comp=Z,12nm,0.6s						
WVT	**Waverly**	**31.61**	**317**		**P**	**16 33 25.9**	**-0.1**
WVT				IAmb	IAmb	16 33 27.4	
	comp=Z,13nm,0.6s						
WVT	**Waverly**	**31.61**	**317**	P	**P**	**16 33 26.0**	**-0.1**
WVT				pmax	pmax		
	comp=Z,13nm,0.6s						
WVT	**Waverly**	**31.61**	**317**	P	**P**	**16 33 26.6**	**+0.6**
WVT				pP	**pP**	**16 34 01.0**	**+1.0**
T47A	**Sharon Grove**	**31.65**	**319**	IAmb	IAmb	16 33 28.5	
	comp=Z,14nm,0.5s						
LPAZ	**La Paz**	**31.66**	**192**	P	**P**	**16 33 26.4**	**-1.0**
	comp=Z,4.6nm,0.8s,baz=5.7,slow=9.4,SNR=12						
	comp=Z,4.6nm,0.8s						
LPAZ	**La Paz**	**31.66**	**192**	*eP*	**P**	**16 33 26.8**	**-0.5**
LPAZ	**La Paz**	**31.66**	**192**	P	**P**	**16 33 26.7**	**-0.6**
SDBA	**SAO DESIDERIO**	**31.73**	**148**	*eP*	**P**	**16 33 25.9**	**-1.5**
ARAG	**Araguaiana, MT**	**31.88**	**162**	*eP*	**P**	**16 33 30.1**	**+1.5**
O49A	**Covington**	**32.12**	**326**	IAmb	IAmb	16 33 33.0	
	comp=Z,38nm,1.4s						
P48A	**Milroy**	**32.22**	**324**	IAmb	IAmb	16 34 42.7	
	comp=Z,18nm,1.0s						
D62A	**Allapoint, All**	**32.70**	**350**	IAmb	IAmb	16 33 37.0	
	comp=Z,8.5nm,0.6s						
PP1B	**Ponte de Pedra**	**32.95**	**168**	*eP*	**P**	**16 33 39.3**	**+1.4**
BDFB	**Brasilia**	**33.15**	**156**		**P**	**16 33 41.1**	**+1.4**
BDFB				IAmb	IAmb	16 33 42.2	
	comp=Z,19nm,0.9s						
BDFB	**Brasilia**	**33.15**	**156**	P	**P**	**16 33 39.6**	**-0.2**
	comp=Z,13nm,0.8s,baz=343,slow=7.6,SNR=12						
BDFB				LR	LR	16 47 42.3	
	comp=Z,134nm,20.3s,baz=334,slow=37						
	comp=Z,13nm,0.8s						
BDFB	**Brasilia**	**33.15**	**156**

comp=Z,70nm,1.7s
GO04 Tololo Observa 45.68 191 IAmb IAmb 16 35 22.7
comp=Z,25nm,0.9s
CPSB Cacapava Do Su 45.70 170 *e*P **P** **16 35 22.7 -0.6**
PSAL Palomas, Salto 45.86 175 *e*P **P** **16 35 24.1 -0.4**
CO03 El Pedregal 46.31 191 IAmb IAmb 16 35 27.5
comp=Z,35nm,0.8s
LPIG La Paz 46.69 289 LR LR 16 56 52.7
comp=Z,40nm,18.2s,baz=60,slow=38
PLTB Pedras Altas 47.01 171 IAmb IAmb 16 37 01.5
comp=Z,43nm,1.9s
PLTB Pedras Altas 47.01 171 *e*P **P** **16 35 34.0 +0.5**
PV02 Paradox Valley 47.57 308 IAmb IAmb 16 36 38.2
comp=Z,24nm,1.4s
X18A Snowflake 47.63 303 IAmb IAmb 16 36 22.5
comp=Z,22nm,1.0s
PV12 Saucer Basin, 47.65 309 IAmb IAmb 16 36 45.2
comp=Z,25nm,1.4s
PV18 Skein Mesa, Pa 47.71 308 IAmb IAmb 16 36 45.4
comp=Z,20nm,1.2s
DGMT Dagmar 48.41 323 IAmb IAmb 16 35 45.5
comp=Z,18nm,0.6s
MT08 Bocatoma Ro 48.74 189 IAmb IAmb 16 36 49.2
comp=Z,46nm,1.8s
WUAZ Wupatki 48.98 304 IAmb IAmb 16 36 32.8
comp=Z,16nm,0.9s
MT13 San Alfonso 49.08 190 IAmb IAmb 16 36 47.9
comp=Z,30nm,1.0s
BO04 La Punta 49.37 190 IAmb IAmb 16 35 51.5
comp=Z,17nm,0.7s
PDAR Pinedale Array 49.54 314 P **P** **16 35 52.4 -0.8**
PDAR Pinedale Array 49.54 314 P **P** **16 35 53.1 0.0**
comp=Z,5.7nm,0.5s,baz=120,slow=9.7,SNR=26
PDAR pP **pwP** **16 36 30.9 -1.4**
comp=Z,11nm,1.2s,baz=115,slow=8.8,SNR=2.3
PDAR LR LR 16 57 32.4
comp=Z,26nm,20.6s,baz=100,slow=37
comp=Z,5.7nm,0.5s
BO01 Tunca 49.85 190 IAmb IAmb 16 35 54.9
comp=Z,37nm,1.4s
RLMT Red Lodge 50.16 317 IAmb IAmb 16 36 42.7
comp=Z,24nm,1.4s
FFC Flin Flon 50.59 331 P **P** **16 35 59.0 -1.5**
FFC Flin Flon 50.59 331 P **P** **16 35 59.0 -1.5**
FFC pmax pmax
comp=Z,7.0nm,0.9s
YHB Horse Butte 51.31 316 IAmb IAmb 16 36 53.0
comp=Z,24nm,1.0s
YHL Hebgen Lake 51.34 316 IAmb IAmb 16 36 52.9
comp=Z,25nm,1.0s
PFVI Vila Bisbo 51.56 54 *e*P **P** **16 36 08.7 +0.6**
PTEO Sao Teotonio 51.72 54 *e*P **P** **16 36 09.2 0.0**
PTEO *i* IAmb IAmb 16 36 09.8
comp=Z,65nm,1.2s
MORF Marmelete 51.73 54 *e*P **P** **16 36 10.3 +1.0**
MORF IAmb IAmb 16 36 11.9
comp=Z,39nm,1.0s
MORF Marmelete 51.73 54 *e*P **P** **16 36 11.2 +1.8**
MORF Marmelete 51.73 54 *e*P **P** **16 36 10.3 +1.0**
PARRA Arraiolos 51.73 52 *e*P P 16 36 16.5 +7.2
PARRA *i* IAmb IAmb 16 36 17.2
comp=Z,41nm,1.4s
H10N3 ASCENSION HYDR 51.80 113 T T 17 31 49.0
baz=295,slow=75,SNR=120
H10N2 ASCENSION HYDR 51.81 113 T T 17 31 48.2
baz=295,slow=75,SNR=94
H10N1 ASCENSION HYDR 51.83 113 T T 17 31 51.3
baz=295,slow=75,SNR=98
PCVE Castro Verde 52.27 54 *e*P **P** **16 36 14.8 +1.5**
PBDV Barranco-do-Ve 52.28 54 *e*P **P** **16 36 15.7 +2.3**
PMTG Montargil 52.41 52 *e*P **P** **16 36 15.4 +1.2**
PMTG *i* IAmb IAmb 16 36 16.4
comp=Z,48nm,1.2s
PCAS Casmilo, Conde 52.41 51 *e*P **P** **16 36 15.8 +1.5**
PCAS *i* IAmb IAmb 16 36 16.5
comp=Z,44nm,1.2s
PBEJ Beja 52.48 53 *e*P **P** **16 36 16.4 +1.6**
PBEJ *i* IAmb IAmb 16 36 18.1
comp=Z,41nm,1.7s
PVAQ Vaqueiros 52.48 54 *e*P **P** **16 36 16.6 +1.7**
COI Coimbra 52.51 51 *e*P **P** **16 36 15.6 +0.6**
COI *i* IAmb IAmb 16 36 17.3
comp=Z,69nm,1.4s
DY2G Dye2 52.53 8 *i* P **P** **16 36 15.4 +0.4**
DY2G IAmb IAmb 16 36 16.2
comp=Z,35nm,0.6s
SFJD Kangerlussuaq 52.56 5 *i* P **P** **16 36 15.4 +0.5**
PSARD Sardoal 52.56 51 *e*P **P** **16 36 16.7 +1.2**
PSARD *i* IAmb IAmb 16 36 17.4
comp=Z,31nm,1.3s
TRQA Tornquist 52.67 180 P **P** **16 36 15.4 -0.7**
TRQA IAmb IAmb 16 36 17.5
comp=Z,13nm,0.8s
TRQA Tornquist 52.67 180 P **P** **16 36 15.4 -0.7**
TRQA pmax pmax
comp=Z,13nm,0.8s
PFO Pinyon Flats O 52.82 301 LR LR 17 01 36.7
comp=Z,31nm,21.2s,baz=216,slow=39
PESTR Estremoz 52.85 52 *e*P **P** **16 36 19.1 +1.6**
PESTR *i* IAmb IAmb 16 36 20.8
comp=Z,49nm,1.4s
PVIS Viseu 53.01 50 *e*P **P** **16 36 20.1 +1.3**
PGAV Gavieira, Arco 53.02 48 *e*P **P** **16 36 20.4 +1.5**
PGAV *i* IAmb IAmb 16 36 20.9
comp=Z,59nm,1.4s
PMRV Marv??o 53.11 52 *e*P **P** **16 36 20.7 +1.2**
PMRV *i* IAmb IAmb 16 36 21.6
comp=Z,32nm,1.3s
PCBR Castelo Branco 53.13 51 *e*P **P** **16 36 21.0 +1.4**
PCBR *i* IAmb IAmb 16 36 22.4
comp=Z,38nm,1.6s
PCAB Cabril 53.14 49 *e*P **P** **16 36 20.9 +1.2**
PBAR Barrancos 53.15 53 *e*P **P** **16 36 21.5 +1.8**
MTE Manteigas 53.20 50 P **P** **16 36 21.0 +0.8**
MTE IAmb IAmb 16 36 22.1
comp=Z,19nm,1.0s
MTE Manteigas 53.20 50 *e*P **P** **16 36 21.5 +1.4**
MTE *i* IAmb IAmb 16 36 22.2
comp=Z,31nm,1.3s
POLO Lamas de Olo 53.23 49 *e*P **P** **16 36 21.6 +1.2**
PVRL Vila Real 53.27 49 *e*P **P** **16 36 22.2 +1.6**
MVO Moncorvo 53.75 50 *i* IAmb IAmb 16 36 26.3
comp=Z,38nm,1.4s
MVO *e*P **P** **16 36 26.4 +2.3**
MD01 Midelt array s 54.28 60 P **P** **16 36 29.0 +0.8**
MDT Midelt 54.40 60 LR LR 16 57 12.7
comp=Z,22nm,19.7s,baz=282,slow=33
GDH Godhavn 54.56 3 *i* P **P** **16 36 29.5 +0.1**
GDH IAmb IAmb 16 36 31.4
comp=Z,8.6nm,0.7s
NVAR Mina Array Bea 54.96 307 P **P** **16 36 33.6 +0.5**
comp=Z,2.1nm,0.8s,baz=94,slow=7.4,SNR=11
NVAR pP **pwP** **16 37 12.3 -0.7**
comp=Z,3.7nm,0.9s,baz=107,slow=6.7,SNR=6.2
NVAR LR LR 17 01 06.8
comp=Z,32nm,21.4s,baz=94,slow=37
comp=Z,2.1nm,0.8s
PAB San Pablo 55.45 52 P **P** **16 36 37.7 +1.2**
PAB IAmb IAmb 16 36 38.8
comp=Z,17nm,1.1s
PAB San Pablo 55.45 52 P **P** **16 36 37.7 +1.2**
PAB pmax pmax
comp=Z,17nm,1.2s
PAB San Pablo 55.45 52 P **P** **16 36 37.7 +1.2**
ESDC Sonseca Array 55.76 52 P **P** **16 36 39.6 +0.9**
comp=Z,12nm,0.9s,baz=262,slow=7.6,SNR=48
comp=Z,12nm,0.9s
ESBB Sonseca Array 55.77 52 IAmb IAmb 16 36 41.1
comp=Z,20nm,1.0s
PLCA Paso Flores 55.97 188 IAmb IAmb 16 36 40.3
comp=Z,17nm,1.1s
PLCA Paso Flores 55.97 188 P **P** **16 36 39.2 -0.8**
comp=Z,9.0nm,0.8s,baz=13,slow=7.7,SNR=13
comp=Z,9.0nm,0.8s
PLCA Paso Flores 55.97 188 *e*P **P** **16 36 38.5 -1.4**
PLCA Paso Flores 55.97 188 P **P** **16 36 39.6 -0.3**
PLCA ScP **ScP** **16 41 20.6 +0.5**
DBIC Dimbokro 56.14 92 P **P** **16 36 42.2 +0.5**
DBIC Dimbokro 56.14 92 P **P** **16 36 41.5 -0.2**
comp=Z,15nm,0.6s,baz=305,slow=9.7,SNR=16
DBIC LR LR 16 57 23.1
comp=Z,34nm,21.0s,baz=286,slow=32
comp=Z,15nm,0.6s
DBIC Dimbokro 56.14 92 P **P** **16 36 42.2 +0.5**
DBIC pmax pmax
comp=Z,27nm,0.9s
DBIC Dimbokro 56.14 92 P **P** **16 36 41.7 +0.1**
NEW Newport 56.29 318 IAmb IAmb 16 36 42.6
comp=Z,6.1nm,0.7s
NEW Newport 56.29 318 LR LR 17 01 44.1
comp=Z,41nm,20.3s,baz=110,slow=37
LNOR Lincton Mounta 56.42 315 IAmb IAmb 16 38 38.9
comp=Z,24nm,1.8s
K05A Summer Lake 57.61 311 IAmb IAmb 16 37 38.0
comp=Z,15nm,1.1s
LL01 San Ignacio de 57.86 190 IAmb IAmb 16 36 52.8
comp=Z,18nm,0.9s
LL02 Futaleuf 58.57 189 IAmb IAmb 16 36 58.0
comp=Z,11nm,1.1s
SUMG Summit 59.24 8 P **P** **16 37 02.1 -0.7**
SUMG Summit 59.24 8 P **P** **16 37 02.1 -0.7**
SUMG pmax pmax
comp=Z,27nm,0.7s
SUMG Summit 59.24 8 *i* P **P** **16 37 03.0 +0.2**
SUMG IAmb IAmb 16 37 04.7
comp=Z,29nm,0.8s
KULLO Kullorsuaq 59.73 1 *i* P **P** **16 37 05.8 +0.1**
KULLO IAmb IAmb 16 37 08.0
comp=Z,17nm,0.8s
EKA Eskdalemuir Ar 60.05 34 P **P** **16 37 08.2 +0.1**
comp=Z,3.0nm,0.4s,baz=261,slow=6.1,SNR=37
comp=Z,3.0nm,0.4s
YKA Yellowknife Ar 60.27 335 P **P** **16 37 08.8 -0.7**
comp=Z,5.1nm,0.7s,baz=104,slow=7.1,SNR=15
comp=Z,5.1nm,0.7s
SCO Scoresbysund 60.60 14 *i* P **P** **16 37 13.1 +1.5**
SCO IAmb IAmb 16 37 16.1
comp=Z,34nm,1.2s
ACRG Accra 60.88 92 P **P** **16 37 14.7 +0.2**
COYC Coyhaique 60.93 188 P **P** **16 37 13.7 -0.4**
COYC IAmb IAmb 16 37 14.3
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 61.18 83 P **P** **16 37 15.5 -1.0**
comp=Z,17nm,0.8s,baz=300,slow=5.4,SNR=69
comp=Z,17nm,0.8s
CLF Chambon-Foret 61.58 43 P **P** **16 37 18.8 +0.3**
CLF Chambon-Foret 61.58 43 P **P** **16 37 19.9 +1.3**
RES Resolute Bay 62.56 351 LR LR 17 05 03.2
comp=Z,46nm,19.3s,baz=12,slow=36
AY03 Cochrane 62.65 188 P **P** **16 37 25.9 +0.3**
AY03 IAmb IAmb 16 37 27.2
comp=Z,13nm,0.8s
SSB Saint Sauveur 62.76 47 P **P** **16 37 27.2 +0.6**
SSB IAmb IAmb 16 37 29.0
comp=Z,12nm,0.8s
SSB Saint Sauveur 62.76 47 P **P** **16 37 27.2 +0.6**
SSB pmax pmax
comp=Z,13nm,0.8s
NEEM North Greenlan 62.79 3 *i* P **P** **16 37 26.8 +0.2**
NEEM IAmb IAmb 16 37 28.2
comp=Z,13nm,0.7s
DOU Dourbes 63.42 41 *d*P **P** **16 37 31.1 +0.3**
comp=Z,11nm,0.8s
BMRD Maredsous 63.56 41 *d*P **P** **16 37 32.0 +0.3**
comp=Z,16nm,0.9s
KOTAN Kotaneelee Air 63.62 330 P **P** **16 37 32.8 +0.9**
baz=107
DBG Daneborg 63.68 12 *i* P **P** **16 37 33.3 +1.2**
DBG IAmb IAmb 16 37 34.1
comp=Z,20nm,0.8s
BGES Gesves 63.78 41 *d*P **P** **16 37 33.9 +0.8**
comp=Z,11nm,1.1s
RCHB Rochefort 63.84 41 *d*P **P** **16 37 33.8 +0.3**
comp=Z,20nm,0.8s
RCHB *d*PcP **PcP** **16 38 08.6 +0.8**
BCLA Clavier 63.92 41 *d*P **P** **16 37 34.5 +0.4**
BBB Bella Bella 64.04 321 LR LR 17 05 16.6
comp=Z,28nm,21.9s,baz=170,slow=36
BSTI Sart Tilman 64.11 41 *d*P **P** **16 37 35.9 +0.6**
BNI Bardonecchia 64.24 47 P **P** **16 37 38.0 +1.6**
BNI IAmb IAmb 16 37 39.2
comp=Z,25nm,1.3s
BNI Bardonecchia 64.24 47 P **P** **16 37 38.1 +1.6**
BNI pmax pmax
comp=Z,25nm,1.3s
WRGLY Wrigley 64.30 334 P **P** **16 37 36.4 +0.1**
baz=109
BHOU Houvegnez 64.36 41 *d*P **P** **16 37 37.8 +0.9**
comp=Z,20nm,0.0s
WLF Walferdange 64.36 42 *d*P **P** **16 37 37.1 +0.1**
comp=Z,20nm,0.9s
WLF Walferdange 64.36 42 *e*P **P** **16 37 37.7 +0.7**
comp=Z,26nm,0.9s,baz=266,slow=6.4
MEM Membach 64.39 41 *d*P **P** **16 37 36.6 -0.5**
comp=Z,13nm,1.0s
BTNL Tellin 64.47 41 *d*P **P** **16 37 38.4 +0.8**
comp=Z,7.5nm,1.2s
SENIN Lac Senin/Sane 64.78 46 IAmb IAmb 16 37 42.1
comp=Z,12nm,0.9s
ECH Echery 64.86 43 P **P** **16 37 40.7 +0.5**
BUG Bochum--Univer 65.29 40 *e*P **P** **16 37 43.7 +0.8**
comp=Z,21nm,0.9s,baz=266,slow=6.4
KMY Karmoy 65.47 31 *e*P **P** **16 37 44.0 +0.1**
BFO Black Forest 65.65 43 P **P** **16 37 44.5 -0.8**
BFO IAmb IAmb 16 37 46.4
comp=Z,15nm,1.3s
BFO Black Forest 65.65 43 P **P** **16 37 44.5 -0.8**
BFO pmax pmax
comp=Z,15nm,1.3s
BFO Black Forest 65.65 43 *e*P **P** **16 37 45.0 -0.3**
comp=Z,11nm,1.2s,baz=266,slow=6.4
SUE Sulen 65.65 29 *e*P **P** **16 37 46.1 +1.1**
IBBN Ibbenburen 65.70 39 *e*P **P** **16 37 46.4 +0.9**
comp=Z,40nm,0.8s,baz=266,slow=6.4
TNS Taunus Mts 65.90 41 *e*P **P** **16 37 47.0 +0.1**
comp=Z,27nm,0.9s,baz=266,slow=6.4
KASTN Kahler Asten 65.98 40 *e*P **P** **16 37 47.2 -0.2**
comp=Z,14nm,1.0s,baz=266,slow=6.4
TGTN Hyland Airport 65.98 331 P **P** **16 37 48.2 +1.0**
baz=104,SNR=13
KEST Kesra 66.03 57 P **P** **16 37 48.9 +0.8**
comp=Z,24nm,0.8s,baz=273,slow=4.7,SNR=26
comp=Z,24nm,0.8s
BLS5 Blasjo 66.12 31 *e*P **P** **16 37 49.1 +1.0**
DLBC Dease Lake 66.20 328 LR LR 17 06 32.5
comp=Z,550nm,20.7s,baz=84,slow=36
DLBC Dease Lake 66.20 328 P **P** **16 37 49.3 +0.6**
baz=101
TUE Stuetta 66.20 46 IAmb IAmb 16 37 51.1
comp=Z,13nm,0.9s
MSSA Maissana 66.22 48 IAmb IAmb 16 37 50.8
comp=Z,9.1nm,0.8s
STU Stuttgart 66.26 43 *e*P **P** **16 37 49.3 +0.2**
comp=Z,56nm,0.7s,baz=266,slow=6.4
SNART Snartemo 66.30 32 *e*P **P** **16 37 49.9 +0.6**
SNART Snartemo 66.30 32 *i* P **P** **16 37 49.7 +0.5**
DAVA Damuels 66.61 45 *i* P **P** **16 37 52.4 +0.7**
comp=Z,34nm,0.7s,SNR=12
S34M Telegraph Cree 66.68 327 P **P** **16 37 52.4 +0.7**
baz=99
UBR Ueberruh 66.79 44 *e*P **P** **16 37 52.9 +0.2**
comp=Z,9.9nm,1.0s,baz=266,slow=6.4
FUORN Ofenpass-Fuorn 66.84 45 IAmb IAmb 16 37 55.2
comp=Z,21nm,0.9s
R33M Jennings River 66.85 329 P **P** **16 37 53.7 +0.8**
baz=100
UBBA Unterbreizbach 66.94 41 *e*P **P** **16 37 53.7 +0.4**
comp=Z,14nm,1.3s,baz=266,slow=6.4
AKN Aaknes 66.95 28 *e*P **P** **16 37 53.6 +0.3**
GTTG Gottingen 66.98 40 *e*P **P** **16 37 54.5 +0.9**
comp=Z,33nm,1.2s,baz=266,slow=6.4
FETA Feichten 67.18 45 *e*P **P** **16 37 55.8 +0.6**
comp=Z,34nm,0.7s,SNR=23
RETA Reutte 67.22 44 *i* P **P** **16 37 56.2 +0.8**
comp=Z,8.6nm,0.6s
CLZ Clausthal 67.25 40 *e*P **P** **16 37 56.0 +0.5**
comp=Z,21nm,0.9s,baz=266,slow=6.4
ZCCA Zocca 67.27 48 IAmb IAmb 16 37 59.0
comp=Z,24nm,1.2s
SKAR Skarslia 67.27 30 *e*P **P** **16 37 56.4 +1.0**
Q32M Nakina River 67.44 328 P **P** **16 37 57.7 +1.0**
baz=99
OSSC Osservatorio P 67.45 49 IAmb IAmb 16 37 57.5
comp=Z,8.3nm,0.7s
MOTA Moosalm 67.45 45 *i* P **P** **16 37 57.1 +0.2**
comp=Z,14nm,0.8s,SNR=7.6
ASSE Asse, Remlinge 67.46 39 *e*P **P** **16 37 57.2 +0.6**
comp=Z,36nm,1.1s,baz=266,slow=6.4
U33K Whale Pass 67.51 325 P **P** **16 37 57.0 +0.1**
baz=97
SQTA Sankt Quirin 67.52 45 *i* P **P** **16 37 57.7 +0.4**
comp=Z,22nm,0.6s,SNR=13
MMPY Sheldon Lake, 67.59 332 P **P** **16 37 58.1 +0.7**
baz=101
GRF Grafenberg Arr 67.64 42 *e*P **P** **16 37 58.2 +0.2**
comp=Z,29nm,1.3s,baz=266,slow=6.4
ALE Alert 67.66 360 P **P** **16 37 57.0 -0.4**
ALE sP **sP** **16 38 52.5 -1.4**
WATA Walderalm 67.77 45 *i* P **P** **16 37 59.2 +0.3**
comp=Z,3.7nm,0.5s
CTI Castel Tesino 67.78 46 IAmb IAmb 16 37 60.0
comp=Z,14nm,0.7s
WTTA Wattenberg 67.81 45 *i* P **P** **16 37 59.4 +0.2**
comp=Z,8.0nm,0.6s
FLTG Flechtingen 67.83 39 *e*P **P** **16 37 59.2 +0.2**
comp=Z,12nm,0.7s,baz=266,slow=6.4
P33M Teslin, Yukon 67.91 329 P **P** **16 37 59.9 +0.5**
baz=99
GORT1 Trebel 67.92 39 *e*P **P** **16 38 00.1 +0.7**
comp=Z,17nm,1.1s,baz=266,slow=6.4
MOX Moxa 67.95 41 *e*P **P** **16 38 00.0 +0.2**
comp=Z,6.5nm,0.8s,baz=266,slow=6.4
NEUB Neuenburg 68.08 41 *e*P **P** **16 38 01.3 +0.7**
comp=Z,15nm,0.7s,baz=266,slow=6.4
N32M Quiet Lake 68.18 330 P **P** **16 38 01.5 +0.4**
baz=99
MANZ Manzenberg 68.23 42 *e*P **P** **16 38 02.1 +0.5**
comp=Z,6.8nm,1.0s,baz=266,slow=6.4
P32M Atlin 68.26 329 P **P** **16 38 03.0 +1.3**
baz=98
ROTZ Rotzenmuhle 68.28 42 *e*P **P** **16 38 02.3 +0.4**
comp=Z,4.4nm,1.3s,baz=266,slow=6.4
PLN Plauen 68.29 41 *e*P **P** **16 38 02.2 +0.3**
comp=Z,3.2nm,0.6s,baz=266,slow=6.4
MURB Monte Urbino 68.38 49 IAmb IAmb 16 38 03.0
comp=Z,20nm,0.8s
ABTA Abfaltersbach 68.39 45 *i* P **P** **16 38 02.8 +0.1**
comp=Z,20nm,0.9s,SNR=8.9
CESX Cesi 68.43 50 IAmb IAmb 16 38 04.5
comp=Z,30nm,1.2s
TANN Tannenbergstha 68.48 41 *e*P **P** **16 38 03.5 +0.3**
comp=Z,11nm,0.9s,baz=266,slow=6.4
LESA Schwarzleotal 68.52 45 *i* P **P** **16 38 03.8 +0.3**
comp=Z,8.0nm,0.5s,SNR=9.4
NBO00 NORSAR Array S 68.52 30 P **P** **16 38 02.8 -0.4**
STAL STALIGIAL 68.52 46 IAmb IAmb 16 38 04.4
comp=Z,24nm,1.4s
RJOB Jochberg 68.61 44 *e*P **P** **16 38 04.0 0.0**
comp=Z,11nm,1.3s,baz=266,slow=6.4
WET Wettzell 68.70 43 *e*P **P** **16 38 04.7 +0.1**
comp=Z,14nm,1.0s,baz=266,slow=6.4
NB2 NORSAR Subarra 68.73 30 P **P** **16 38 05.7 +1.2**
comp=Z,6.0nm,0.7s,baz=260,slow=6.5
NB2 NORSAR Subarra 68.73 30 P **P** **16 38 05.7 +1.2**
comp=Z,6.0nm,0.7s,baz=260,slow=6.5
NOA NORSAR Array B 68.73 30 P **P** **16 38 05.5 +0.9**
comp=Z,13nm,0.8s,baz=262,slow=6.3,SNR=24
NOA LR LR 17 04 32.4
comp=Z,16nm,20.1s,baz=265,slow=32
comp=Z,13nm,0.8s
NC602 NORSAR Array S 68.85 30 *e*P **P** **16 38 06.3 +1.1**
CLL Collm 68.86 40 IAmb IAmb 16 38 06.9
comp=Z,29nm,1.1s
CLL Collm 68.86 40⇑ *i*P **P** **16 38 06.4 +1.0**
CLL pmax pmax
comp=Z,30nm,1.1s
CLL Collm 68.86 40 *e*P **P** **16 38 05.9 +0.4**
comp=Z,29nm,1.1s,baz=266,slow=6.4
CLL Collm 68.86 40⇑ *i*P **P** **16 38 06.4 +1.0**
comp=Z,30nm,1.1s
CLL *e*S **S** **16 46 52.0 -4.1**
M31M Drury Creek, Y 68.95 331 P **P** **16 38 06.5 +0.7**
baz=98,SNR=6.9
KBA Koelnbreinsper 68.97 45 *i* P **P** **16 38 06.6 +0.1**
comp=Z,27nm,0.8s
NC405 NORSAR Array S 68.99 30 P **P** **16 38 06.9 +0.8**
FABU Falkenberg 69.06 34 *i* P **P** **16 38 06.8 +0.3**
SABO M.te Sabotino 69.14 46 IAmb IAmb 16 38 09.0
comp=Z,19nm,0.8s
BORU Boraas 69.14 34 *i* P **P** **16 38 07.5 +0.4**
BJUU Bjuv 69.15 35 *i* P **P** **16 38 08.0 +0.9**
KHC Kasperske Hory 69.16 43 *i* P **P** **16 38 07.4 0.0**
KHC pmax pmax
comp=Z,19nm,1.6s
KHC Kasperske Hory 69.16 43 *e*P **P** **16 38 07.9 +0.5**
MYKA Terra Mystica 69.17 45 *i* P **P** **16 38 07.7 +0.2**
comp=Z,16nm,0.8s,SNR=10.0
BIOA Bad Ischl, Aus 69.18 44 *i* P **P** **16 38 07.6 +0.1**
comp=Z,12nm,1.0s,SNR=6.6
GEC2 GERESS Array S 69.23 43 IAmb IAmb 16 38 09.1
comp=Z,12nm,0.8s
GEC2 GERESS Array S 69.23 43 *e*P **P** **16 38 08.2 +0.2**
comp=Z,25nm,1.3s,baz=266,slow=6.4
GERES GERESS Array B 69.23 43 P **P** **16 38 07.4 -0.5**
GERES GERESS Array B 69.23 43 P **P** **16 38 08.2 +0.2**
comp=Z,4.7nm,0.6s,baz=268,slow=5.2,SNR=40
comp=Z,4.7nm,0.6s
CADS Cadrg 69.24 46 *i* P **P** **16 38 08.2 +0.3**
S31K Pelican 69.39 327 P **P** **16 38 09.9 +1.4**
baz=95
RUE Ruedersdorf 69.39 39 *e*P **P** **16 38 09.6 +1.0**
comp=Z,34nm,1.2s,baz=266,slow=6.4
BRG Berggiesshubel 69.44 41 *e*P **P** **16 38 11.6 +2.7**
comp=Z,16nm,1.0s,baz=266,slow=6.4
BRG Berggiesshubel 69.44 41 *i* P **P** **16 38 11.9 +2.9**
BRG Amp 16 38 12.7
comp=Z,16nm,1.0s
H31M Peel River 69.49 335 P **P** **16 38 09.6 +0.6**
baz=100
N31M Braeburn, Yuko 69.51 330 P **P** **16 38 10.0 +0.7**
baz=97
RICC Richard 69.53 41 *e*P **P** **16 38 10.9 +1.4**
ZVC Zvikov 69.57 42 *e*P **P** **16 38 10.7 +0.9**
O30N Mendenhall 69.58 330 P **P** **16 38 10.3 +0.5**
baz=96
MOA Molln 69.60 44 *i* P **P** **16 38 10.3 +0.2**
comp=Z,6.5nm,0.5s,SNR=5.7
CRNS Crni Vrh 69.60 46 *i* P **P** **16 38 10.5 +0.3**
INK Inuvik 69.62 338 LR LR 17 07 40.7
comp=Z,37nm,21.5s,baz=76,slow=35
INK Inuvik 69.62 338 P **P** **16 38 09.6 -0.2**
baz=101
CKRC Cesky Krumlov 69.64 43 *e*P **P** **16 38 10.2 -0.1**
CKRC Cesky Krumlov 69.64 43 *e*P **P** **16 38 10.2 -0.1**
G31M Satah River 69.65 336 P **P** **16 38 09.7 -0.2**
baz=100
DEL Delary 69.65 35 *i* P **P** **16 38 11.0 +0.8**
OBKA Obir 69.80 46 *i* P **P** **16 38 11.5 0.0**
comp=Z,19nm,0.9s,SNR=10
PRU Pruhonice 69.80 42 *e*P **P** **16 38 12.5 +1.3**
PRU Pruhonice 69.80 42 *e*P **P** **16 38 12.5 +1.3**
MAYO Mayo, Yukon 69.82 333 P **P** **16 38 12.1 +1.0**
baz=97
HFS Hagfors 69.85 31 P **P** **16 38 11.8 +0.5**
comp=Z,3.6nm,0.5s,baz=255,slow=2.9,SNR=23
comp=Z,3.6nm,0.5s
P30M Million Dollar 69.95 329 P **P** **16 38 12.6 +0.6**
baz=95
M30M Minto, Yukon 70.11 332 P **P** **16 38 13.8 +0.9**
baz=96
SOKA Soboth 70.13 45 *i* P **P** **16 38 13.2 -0.3**
comp=Z,6.0nm,0.7s,SNR=5.8
N30M Aishikik Lake 70.14 330 P **P** **16 38 13.7 +0.5**
baz=95
J30M Hart River 70.14 334 P **P** **16 38 14.1 +1.0**
baz=97
I30M Mount Dempster 70.24 334 IAmb IAmb 16 38 43.8
comp=Z,24nm,1.9s
I30M Mount Dempster 70.24 334 P **P** **16 38 13.8 +0.1**
baz=98
STOK Stokkvaagen 70.27 24 *e*P **P** **16 38 13.9 +0.2**
LEIR Leirfjorden 70.28 25 *e*P **P** **16 38 14.4 +0.6**
HYT Haines Junctio 70.28 330 P **P** **16 38 14.8 +0.6**
baz=95
F30M Barrier River 70.34 337 P **P** **16 38 13.7 -0.5**
baz=99
TREC Trest 70.41 43 *e*P **P** **16 38 15.5 +0.5**
TREC Trest 70.41 43 *e*P **P** **16 38 15.5 +0.5**
CRES Cresnjevec Ost 70.44 46 *i* P **P** **16 38 15.6 +0.4**
ARSA Arzberg 70.46 45 IAmb IAmb 16 38 16.4
comp=Z,16nm,1.0s
ARSA Arzberg 70.46 45 *e*P **P** **16 38 15.3 -0.1**
comp=Z,16nm,1.0s,SNR=6.9
K29M Barlow Dome 70.57 333 IAmb IAmb 16 38 18.0
comp=Z,10nm,0.7s
K29M Barlow Dome 70.57 333 P **P** **16 38 16.3 +0.5**
baz=96,SNR=8.6
CONA Conrad Observa 70.67 44 *i* P **P** **16 38 16.6 -0.1**
comp=Z,20nm,1.3s,SNR=7.2
UPC Upice 70.75 41 *e*P **P** **16 38 17.9 +0.9**

UPC Upice 70.75 41 eP P 16 38 17.9 +0.9
L29M L29M 70.77 332 P P 16 38 17.8 +0.9
baz=95,SNR=5.5
CHVC Chvalec 70.78 41 eP P 16 38 17.8 +0.6
CHVC Chvalec 70.78 41 eP P 16 38 17.8 +0.6
M29M Somme Creek 70.87 331 P P 16 38 18.0 +0.3
baz=95
KSP Ksiaz 70.92 41 eP P 16 38 18.8 +0.7
DPC Dobruska-Polom 70.95 41 eP P 16 38 18.8 +0.5
DPC Dobruska-Polom 70.95 41 eP P 16 38 18.8 +0.5
RONA Rosalia, Austr 70.97 44 i P P 16 38 18.9 +0.5
comp=Z,6.6nm,0.7s,SNR=5.5
KRUC Moravsky 71.01 43 eP P 16 38 18.9 +0.3
I29M Ogilvie Camp, 71.06 334 P P 16 38 18.4 -0.2
baz=96
G29M Pine Creek 71.11 336 P P 16 38 18.9 0.0
baz=96
VRAC Vranov 71.14 43 eP P 16 38 19.7 +0.3
VRAC Vranov 71.14 43 P P 16 38 20.5 +1.1
H29M Whitestone 71.17 335 P P 16 38 19.1 -0.1
baz=96
E29M Blow River 71.24 338 P P 16 38 19.5 -0.1
baz=97
KRLC Kraliky 71.25 42 eP P 16 38 20.9 +0.8
KRLC Kraliky 71.25 42 eP P 16 38 20.9 +0.8
FAUS Fauske 71.29 23 eP P 16 38 20.5 +0.6
EDA Edea 71.34 91 P P 16 38 22.0 +0.8
EDA IAmb IAmb 16 38 23.4
comp=Z,22nm,0.9s
DAWY Dawson 71.41 333 IAmb IAmb 16 38 22.3
comp=Z,10nm,0.6s
DAWY Dawson 71.41 333 P P 16 38 21.6 +0.8
baz=94,SNR=8.4
ZST Bratislava 71.50 44 eP P 16 38 22.7 +1.2
ZST pmax pmax
comp=Z,6.0nm,1.2s
SMOL Smolenice 71.71 43 eP P 16 38 23.8 +1.0
SMOL pmax pmax
comp=Z,8.0nm,0.9s
MORC Moravsky Berou 71.74 42 IAmb IAmb 16 38 24.9
comp=Z,16nm,1.0s
MORC Moravsky Berou 71.74 42 eP P 16 38 23.6 +0.6
MORC Moravsky Berou 71.74 42 ⇑P P 16 38 24.1 +1.1
MORC Moravsky Berou 71.74 42 ⇑P P 16 38 24.1 +1.1
I28M Miner Creek 71.75 334 P P 16 38 22.8 -0.1
I28M Miner Creek 71.75 334 P P 16 38 23.5 +0.6
baz=94
JAVC Velka Javorina 71.86 43 eP P 16 38 25.1 +1.4
E28M Babbage River 71.86 338 P P 16 38 22.7 -0.7
baz=96
STEB Steborice 71.89 42 eP P 16 38 25.1 +1.3
MAUC Maruska 71.94 43 eP P 16 38 25.8 +1.6
BVCY Beaver Creek 71.98 331 P P 16 38 25.4 +1.2
baz=92
CTG Chitna Glacier 72.16 330 P P 16 38 25.9 +0.5
baz=92
EGAK Eagle 72.22 334 P P 16 38 26.6 +1.1
baz=93,SNR=7.2
SRO Srobarova 72.33 44 eP P 16 38 27.0 +0.5
SRO pmax pmax
comp=Z,18nm,1.0s
BCAR Beaver Creek A 72.43 332 P P 16 38 27.1 +0.2
D27M Malcolm River 72.43 338 P P 16 38 26.7 -0.1
baz=94
L27K Beaver Creek, 72.45 332 P P 16 38 27.5 +0.5
baz=92
H27K Steamboat Moun 72.45 335 P P 16 38 26.6 -0.3
baz=93
M27K Edge Creek, AK 72.45 331 P P 16 38 28.0 +0.8
baz=92
I27K Kandik River 72.45 335 P P 16 38 26.7 -0.3
baz=93,SNR=6.7
G27K Doyon Strip 72.53 336 P P 16 38 27.0 -0.4
baz=93
E27K Coleen River 72.59 337 P P 16 38 27.2 -0.5
baz=94
K27K Chicken 72.59 333 P P 16 38 28.6 +0.8
baz=92
MORH Mrgy, Hungar 72.64 46 ⇑P P 16 38 29.3 +0.9
TRO Tromso 72.82 21 eP P 16 38 30.1 +1.2
M26K Nabesna, AK 72.97 331 P P 16 38 31.1 +1.0
baz=90
MCARA McCarthy VSAT 72.98 330 IAmb IAmb 16 38 32.1
comp=Z,17nm,0.9s
MCARA McCarthy VSAT 72.98 330 P P 16 38 31.2 +1.1
baz=90
LANS Liptovska Anna 73.03 43 eP P 16 38 32.9 +2.3
LANS pmax pmax
comp=Z,8.0nm,1.2s
SPITS Spitsbergen Ar 73.04 12 P P 16 38 30.5 +0.3
comp=Z,5.2nm,0.7s,baz=262,slow=6.8,SNR=5.5
comp=Z,5.2nm,0.7s
I26K Coal Creek Min 73.09 334 P P 16 38 30.8 +0.2
baz=91
L26K Log Cabin Wild 73.14 332 IAmb IAmb 16 38 32.6
comp=Z,11nm,0.8s
L26K Log Cabin Wild 73.14 332 P P 16 38 32.0 +1.0
baz=90,SNR=8.4
OJC Ojcow 73.18 42 eP P 16 38 32.7 +1.2
J26L Joseph Creek 73.25 333 P P 16 38 32.1 +0.4
baz=91
MENT Mentasta 73.31 332 IAmb IAmb 16 38 33.7
comp=Z,12nm,0.6s
PDG Podgorica 73.36 50 IAmb IAmb 16 38 34.9
comp=Z,29nm,1.0s
PDG Podgorica 73.36 50 ⇓P P 16 38 34.2 +1.5
C27K Jago River 73.42 339 P P 16 38 32.8 +0.2
baz=92
DOT Dot Lake 73.46 333 IAmb IAmb 16 39 51.0
comp=Z,26nm,1.6s
F26K Sheenjek River 73.53 337 P P 16 38 33.7 +0.5
baz=91
NIE Niedzica 73.55 42 eP P 16 38 35.4 +1.7
N25K Chitina, Valde 73.73 330 P P 16 38 35.0 +0.4
baz=89
BMRM Bremner River 73.75 330 P P 16 38 35.2 +0.6
baz=89
J25K Salcha River, 74.03 334 P P 16 38 36.2 -0.1
baz=89
E25K Arctic Village 74.07 337 P P 16 38 36.4 0.0
baz=90
PRP Porcupine Dome 74.08 334 P P 16 38 36.3 -0.3
baz=89,SNR=6.3
F25K Christian Rive 74.11 337 P P 16 38 37.0 +0.4
baz=90
PAX Paxson 74.11 332 P P 16 38 37.1 +0.3
baz=88
STHS Stebnicka Huta 74.17 42 eP P 16 38 38.3 +1.0
STHS pmax pmax
comp=Z,11nm,0.9s
H25L Birch Creek 74.19 335 P P 16 38 37.6 +0.6
baz=89
K24K Donnelly Dome 74.23 333 P P 16 38 37.4 0.0
baz=88
KTK1 Kautokeino 74.33 22 eP P 16 38 39.0 +1.2
D25K Kavik River 74.36 338 IAmb IAmb 16 38 38.9
comp=Z,9.9nm,0.6s
D25K Kavik River 74.36 338 P P 16 38 38.4 +0.4
baz=90
KLU Klutina 74.37 330 IAmb IAmb 16 38 39.2
comp=Z,11nm,0.8s
KLU Klutina 74.37 330 P P 16 38 38.8 +0.5
baz=88
IL31 74.68 334 IAmb IAmb 16 39 57.8
comp=Z,24nm,1.8s
ILAR Eielson Array 74.68 334 P P 16 38 39.5 -0.4
comp=Z,2.3nm,0.5s,baz=86,slow=4.8,SNR=34
ILAR pP pP 16 39 19.4 +0.4
comp=Z,1.2nm,0.9s,baz=95,slow=3.7,SNR=2.0
comp=Z,2.3nm,0.5s
HDA Harding Lake 74.72 333 P P 16 38 40.3 +0.2
baz=88
SIRR Siria 74.72 46 ⇓P P 16 38 40.8 +0.2
BZS Buzias 74.76 46 ⇑P P 16 38 42.0 +1.3
BZS Buzias 74.76 46 P P 16 38 41.7 +1.0
G24K Hadweenzic Riv 74.84 336 P P 16 38 40.9 +0.1
baz=88
KOLS Kolonicke sedl 74.88 43 eP P 16 38 43.0 +1.6
KOLS pmax pmax
comp=Z,6.0nm,1.1s
POKR Poker Plat Res 74.89 334 IAmb IAmb 16 39 40.9
comp=Z,24nm,1.6s
POKR Poker Plat Res 74.89 334 P P 16 38 41.0 -0.1
baz=87
MDVR Moldovita 74.91 47 ⇑P P 16 38 42.7 +1.0
F24K Squaw Lake 74.97 337 P P 16 38 42.0 +0.4
baz=88
GLI Glacier Island 74.97 330 P P 16 38 41.5 -0.2
baz=86
DHY Denali Highway 74.97 332 P P 16 38 42.3 +0.4
baz=87
BOVS Bovan 75.03 48 ⇓P P 16 38 43.3 +1.0
H24K Noodor Dome 75.04 335 IAmb IAmb 16 39 42.0
comp=Z,20nm,1.5s
H24K Noodor Dome 75.04 335 P P 16 38 42.2 +0.2
baz=87
COLA College 75.08 334 i P P 16 38 43.4 +1.2
COLA pmax pmax
comp=Z,5.0nm,1.0s
SURR Surduc 75.10 46 ⇓P P 16 38 42.6 -0.1
KWP Kalwaria Pacla 75.10 42 eP P 16 38 44.5 +1.8
ARCES ARCESS Array B 75.13 21 P P 16 38 43.1 +0.7
ARCES IAmb IAmb 16 38 44.0
comp=Z,22nm,0.8s
ARCES ARCESS Array B 75.13 21 P P 16 38 42.9 +0.5
comp=Z,16nm,0.8s,baz=275,slow=6.0,SNR=23
comp=Z,16nm,0.8s
ARCES ARCESS Array B 75.13 21 P P 16 38 43.1 +0.7
ARCES pmax pmax
comp=Z,22nm,0.9s
E24K Your Creek 75.17 337 P P 16 38 43.4 +0.7
baz=87
M23K Glacier View 75.22 331 P P 16 38 43.4 +0.4
baz=86
PABE Paberze 75.33 36 P P 16 38 44.5 +0.8
DRGR 75.39 45 ⇓P P 16 38 45.1 +0.7
DRGR 75.39 45 ⇓P P 16 38 45.1 +0.7
WAT1 Susitna Watana 75.53 332 P P 16 38 45.4 +0.6
baz=86
TOLK Toolik Lake Re 75.54 338 P P 16 38 44.3 -0.5
baz=86
GZR Gura Zlata 75.59 46 ⇑P P 16 38 47.0 +1.4
GZR Gura Zlata 75.59 46 ⇑P P 16 38 47.0 +1.4
E23K Chandalar 75.59 337 P P 16 38 45.7 +0.5
baz=86
RND Reindeer 75.62 332 IAmb IAmb 16 38 47.3
comp=Z,47nm,1.9s
NEA2 Nenana 75.62 334 IAmb IAmb 16 38 45.7
comp=Z,13nm,0.7s
NEA2 Nenana 75.62 334 P P 16 38 45.2 -0.1
baz=86,SNR=10
MCK McKinley 75.63 333 P P 16 38 45.3 -0.1
baz=86
MARR Marisel-Cluj 75.68 45 ⇑P P 16 38 46.4 +0.2
I23K Minto, Yukon-K 75.70 334 IAmb IAmb 16 39 37.5
comp=Z,46nm,2.0s
I23K Minto, Yukon-K 75.70 334 P P 16 38 45.6 -0.1
baz=86,SNR=5.1
C23K Itkillik River 75.82 339 P P 16 38 46.6 +0.3
baz=86
G23K Bananza Creek 75.85 336 P P 16 38 46.8 +0.2
baz=85
COLD Coldfoot 75.88 336 P P 16 38 47.0 +0.3
baz=85
FINES FINESS Array B 75.91 30 P P 16 38 47.2 +0.3
comp=Z,5.4nm,0.5s,baz=271,slow=4.1,SNR=32
FINES LR LR 17 08 13.9
comp=Z,21nm,20.2s,baz=48,slow=32
comp=Z,5.4nm,0.5s
D23K Nanushuk River 75.92 338 P P 16 38 47.5 +0.6
baz=85
SEW Seward 76.20 329 P P 16 38 49.4 +0.8
baz=84
TRF Thorofare Moun 76.26 332 IAmb IAmb 16 38 50.4
comp=Z,21nm,0.6s
TRF Thorofare Moun 76.26 332 P P 16 38 49.4 +0.3
baz=84,SNR=12
LOT Lotru 76.28 46 ⇑P P 16 38 49.1 -0.5
O22K Cooper Landing 76.29 329 P P 16 38 49.3 +0.2
baz=84
MLY Manley 76.30 334 P P 16 38 48.7 -0.5
MLY Manley 76.30 334 P P 16 38 49.3 +0.1
baz=84
E22K Anaktuvuk Pass 76.41 337 P P 16 38 50.0 +0.3
baz=84
H22K Ishtalitna Cre 76.47 335 P P 16 38 50.3 +0.2
baz=84
ARCR ARCALIA 76.47 45 ⇑P P 16 38 51.4 +0.9
BPAW Bear Paw Mtn. 76.50 333 P P 16 38 50.8 +0.5
baz=84
KTH Kantishna Hill 76.53 333 IAmb IAmb 16 39 37.0
comp=Z,15nm,1.0s
VSU Vasula 76.55 33 ceP P 16 38 50.2 -0.4
VSU pmax pmax
comp=Z,47nm,1.3s
D22K Ayikyak River 76.65 338 P P 16 38 51.5 +0.5
baz=84
I21K Tanana 76.80 334 P P 16 38 51.1 -0.8
baz=83
ARR Arges 76.89 46 ⇑P P 16 38 53.0 +0.1
BURAR Bucovina Array 76.99 44 P P 16 38 54.0 +0.6
BURAR Bucovina Array 76.99 44 ⇑P P 16 38 54.5 +1.0
BURAR Bucovina Array 76.99 44 ⇑P P 16 38 54.5 +1.0
SKT Skwentna 76.99 331 P P 16 38 52.8 -0.2
baz=83
H21K Meloziina Rive 77.09 335 P P 16 38 53.4 -0.2
baz=83
CHUM Lake Minchumin 77.11 333 P P 16 38 53.4 -0.3
baz=83
F21K Alatna River 77.15 336 P P 16 38 53.8 0.0
baz=82
PPLA Purkeypile 77.18 332 P P 16 38 54.2 0.0
baz=82
G21K Allakaket 77.25 336 P P 16 38 55.1 +0.6
baz=82
DOPR Dopca 77.33 46 ⇑P P 16 38 55.1 -0.3
C21K Knifeblade Rid 77.36 339 P P 16 38 55.7 +0.7
baz=82
MNK Minsk 77.69 37 i P P 16 38 57.1 0.0
MNK i 16 39 06.4
MNK i *PP pP 16 39 38.6 +1.6
MNK i 16 41 54.2
MNK i PPP PPP 16 43 42.5
MNK i S S 16 48 35.0 -0.4
MNK i PS PnS 16 49 17.8 -21
MNK i SSS SSS 16 57 04.2
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK pmax pmax
comp=Z,28nm,0.7s
MNK pmax pmax
comp=E,15nm,0.7s
TURR Turia 77.75 45 ⇓P P 16 38 58.0 +0.4
M20K Styx River 77.75 331 P P 16 38 56.5 -0.9
baz=82
MLR Muntele Rosu 77.79 46 ⇓P P 16 38 58.6 +0.6
MLR Muntele Rosu 77.79 46 ⇓P P 16 38 58.6 +0.6
J20K Nowinta River 77.86 333 P P 16 38 57.8 -0.1
baz=81
COVR Voineasa-Covas 77.92 46 ⇑P P 16 38 59.9 +1.3
K20K Telida 77.96 333 P P 16 38 58.8 +0.3
baz=81
H20K Anotleneega Mo 77.96 335 P P 16 38 59.2 +0.8
baz=81
ONER Baraj Valea Uz 77.97 45 ⇑P P 16 39 00.1 +1.3
E20K Nigu River 78.01 338 P P 16 38 59.3 +0.6
baz=80
L20K Farewell, AK 78.01 332 P P 16 38 58.7 -0.1
baz=81
B20K Meade River 78.04 340 P P 16 38 59.2 +0.5
baz=80
F20K Avaraart Lake 78.04 336 P P 16 38 59.3 +0.6
baz=80
D20K Etivluk River 78.08 338 P P 16 38 59.9 +0.9
baz=80
TESR Tescani 78.12 45 ⇓P P 16 39 00.3 +0.7
ELND Elena 78.14 49 ⇓P P 16 39 01.6 +1.8
P19K Oil Pt 78.15 329 P P 16 39 00.0 +0.5
baz=81
PLOR Plostina 78.22 46 ⇑P P 16 39 00.1 -0.2
PLOR Plostina 78.22 46 ⇑P P 16 39 00.1 -0.2
L19K White Mountain 78.51 331 P P 16 39 01.8 +0.3
baz=80
J19K Poorman 78.53 333 P P 16 39 01.6 0.0
baz=80
E19K Redstone River 78.55 337 P P 16 39 01.6 +0.1
baz=79
N19K Bonanza Creek 78.57 330 P P 16 39 01.8 -0.2
baz=80
OHAK Old Harbor 78.57 326 P P 16 39 01.8 -0.1
baz=80
LOZB Loznitsa 78.59 48 ⇓P P 16 39 03.8 +1.5
O19K Port Alsworth 78.60 329 P P 16 39 02.1 +0.2
baz=80
H19K Roundabout Mou 78.60 335 P P 16 39 02.0 +0.2
baz=79
D19K Kuna River 78.67 338 P P 16 39 02.7 +0.5
baz=78
F19K Shaleruckik Mo 78.88 336 P P 16 39 03.6 +0.3
baz=78
SORM Soroca 78.99 43 ⇑P P 16 39 04.4 +0.1
SORM Soroca 78.99 43 ⇑P P 16 39 04.4 +0.1
M18K Stony River 79.09 331 P P 16 39 05.0 +0.4
baz=79
KIEV Kiev 79.10 40 P P 16 39 05.2 +0.4
KIEV IAmb IAmb 16 39 06.2
comp=Z,17nm,1.2s
KIEV Kiev 79.10 40 ⇑P P 16 39 03.0 -1.8
KIEV Kiev 79.10 40 ⇑P P 16 39 03.0 -1.8
AKASG Malin Array Be 79.11 40 P P 16 39 05.0 +0.1
comp=Z,2.7nm,0.4s,baz=266,slow=4.9,SNR=21
comp=Z,2.7nm,0.4s
AKASG Malin Array Be 79.11 40 ceP P 16 39 05.3 +0.4
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 79.11 40 IAmb IAmb 16 39 06.2
comp=Z,17nm,1.2s
AKBB Malin Array Si 79.11 40 d iP P 16 39 05.2 +0.3
AKBB pmax pmax
comp=Z,11nm,1.0s
P18K Big Mountain, 79.19 329 P P 16 39 05.6 +0.3
baz=79
Q18K Katmai Hardscr 79.22 328 P P 16 39 05.9 +0.3
baz=79
N18K Kilae Creek 79.27 330 P P 16 39 05.8 +0.1
baz=79
L18K Granite Mounta 79.35 332 P P 16 39 05.7 -0.3
baz=78
G18K Tagagawik 79.42 336 P P 16 39 06.2 -0.1
baz=77
PMSA Palmer Station 79.44 181 LR LR 17 16 21.3
comp=Z,50nm,18.5s,baz=2.5,slow=37
H18K Honhosa River 79.46 335 P P 16 39 07.1 +0.4
baz=78
C18K Utukok River 79.73 338 P P 16 39 08.8 +0.8
baz=76
B18K Kokolik River 79.77 339 P P 16 39 08.8 +0.7
baz=75
E18K Tukpahlearik C 79.82 337 P P 16 39 09.1 +0.6
baz=76
P17K Kvichak River 79.84 329 P P 16 39 09.3 +0.6
baz=78
K17K Iditarod 79.97 332 P P 16 39 09.8 +0.4
baz=77
L17K Donlin 80.10 332 P P 16 39 10.4 +0.3
baz=77
CHIR Chirikof Islan 80.10 325 P P 16 39 10.5 +0.3
baz=78
J17K VABM Dome 80.16 333 P P 16 39 10.7 +0.3
baz=77
F17K Baldwin Pennin 80.31 336 P P 16 39 11.4 +0.3
baz=75
G17K Kiwalik Mounta 80.32 335 P P 16 39 12.1 +0.9
baz=76
E17K Hotham Inlet 80.37 337 P P 16 39 11.8 +0.4
baz=75
O16K Kokwok River B 80.58 329 P P 16 39 12.6 -0.1
baz=77
M16K Timber Creek 80.67 331 P P 16 39 13.6 +0.5
baz=76
D17K Noatak River 80.67 338 P P 16 39 13.4 +0.4
baz=74
N16K Nishlik Lake 80.71 330 P P 16 39 13.7 +0.3
baz=76
L16K Owhat River 80.74 331 P P 16 39 14.6 +1.1
baz=76
G16K Koyuk River 81.03 335 P P 16 39 15.4 +0.5
baz=74
H16K Elim 81.19 335 P P 16 39 16.6 +0.8
baz=74
C16K Lisburne Hills 81.31 339 P P 16 39 17.3 +1.0
baz=72
M15K Kasigluk River 81.57 331 P P 16 39 19.0 +1.2
baz=75
L15K Ungalak Mounta 81.68 332 P P 16 39 18.9 +0.5
baz=74
G15K Niukluk 81.83 335 P P 16 39 19.9 +0.8
baz=72
F15K North Star Dit 81.85 336 P P 16 39 20.6 +1.3
baz=72
S14K Fog Glacier 82.14 326 P P 16 39 21.7 +0.6
baz=75
J14K Nanvaranak Lak 82.30 333 P P 16 39 22.6 +1.0
baz=73
L14K Kuka Creek 82.32 331 P P 16 39 22.5 +0.7
baz=73
KLMR Klimovskoe 82.42 29 eP P 16 39 18.7 -3.6
KLMR pmax pmax
comp=Z,34nm,1.1s
OBN Obninsk 82.48 35 d iP P 16 39 23.5 +0.8
OBN e*PP pP 16 40 06.5 +3.1
OBN i *SP sP 16 40 19.2 -1.6
OBN eS S 16 49 21.3 -4.1
OBN e 16 50 39.5
OBN SS SS 16 54 53.0 +3.3
OBN pmax pmax
comp=Z,48nm,1.0s
SMAI San Martin Ant 82.89 182 P P 16 39 25.2 +0.9
SMAI IAmb IAmb 16 39 26.5
comp=Z,22nm,1.2s
MOS Moscow 82.90 34 eP P 16 39 23.2 -1.7
MOS e*PP pP 16 40 03.5 -2.0
MOS eS S 16 49 26.7 -2.9
MOS pmax pmax
comp=Z,32nm,0.7s
M13K Dall Lake 82.91 331 P P 16 39 26.3 +1.5
baz=72
K13K Kusilvak Mount 83.04 332 P P 16 39 26.4 +0.9
baz=72
TNA Tin City 83.18 336 P P 16 39 27.7 +1.6
baz=69
ANTO Ankara 83.86 51 P P 16 39 31.3 +1.1
ANTO Ankara 83.86 51 ⇑P P 16 39 31.4 +1.1
ANTO Ankara 83.86 51 ⇑P P 16 39 31.4 +1.1
BR131 Keskin Array S 84.53 50 IAmb IAmb 16 39 35.1
comp=Z,16nm,0.8s
BR131 Keskin Array S 84.53 50 ⇑i P P 16 39 34.2 +0.5
BRTR Keskin Array B 84.53 50 P P 16 39 34.0 +0.3
BRTR Keskin Array B 84.53 50 P P 16 39 34.1 +0.5
comp=Z,11nm,0.8s,baz=263,slow=4.2,SNR=41
comp=Z,11nm,0.8s
LPSR Galich'ya Gora 84.53 37 eP P 16 39 32.0 -1.2
LPSR pmax pmax
comp=Z,50nm,1.0s
VORR Voronezh 84.97 38 eP P 16 39 33.5 -1.9
VORR pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 85.08 38 eP P 16 39 34.5 -1.5
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 85.24 39 eP P 16 39 35.9 -0.9
VORD pmax pmax
comp=Z,10.0nm,0.9s
BNN Bunyan 86.41 51 IAmb IAmb 16 39 44.8
comp=Z,22nm,1.0s
VRH Novokhopyorsk 86.61 38 eP P 16 39 42.8 -0.7
VRH pmax pmax
comp=Z,10.0nm,1.0s
MMAI Mount Meron Ar 87.68 57 P P 16 39 49.8 +0.6
comp=Z,8.7nm,0.8s,baz=329,slow=2.9,SNR=9.0
comp=Z,8.7nm,0.8s
SOC Sochi 87.80 46 eP P 16 39 48.8 -0.6
SOC e 16 43 17.3
SOC ePPP PPP 16 45 13.5
SOC eS SKSac 16 50 01.1 -1.2
SOC eSS SS 16 56 11.4 +3.1
SOC eSSS SSS 16 59 48.4
KIRV Kirov 87.91 29 P P 16 39 49.6 +0.1
comp=Z,6.8nm,0.5s,baz=3.6,slow=1.3,SNR=4.3
comp=Z,6.8nm,0.5s
VSLR Vesyoloye 88.05 46 i P P 16 39 51.8 +1.2
VSLR pmax pmax
comp=Z,21nm,0.9s
GRTLG Ghanzi 88.78 112 IAmb IAmb 16 39 56.1
comp=Z,16nm,1.1s
BELG Belogornoye 89.58 35 P P 16 39 57.5 0.0
comp=Z,22nm,0.9s,baz=252,slow=1.9,SNR=13
comp=Z,22nm,0.9s
BELG Belogornoye 89.58 35 i P P 16 39 57.3 -0.2

BELG				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KIV	**Kislovodsk**	**89.70**	**44**	*eP*		**P**	**16 39 59.8**	**+1.3**
KIV				pmax		pmax		
	comp=Z,18nm,1.1s							
SHA1	**Shidzhatmaz**	**89.76**	**45**	⇑*iP*		**P**	**16 40 00.1**	**+1.2**
KBZ	**Khabaz**	**89.93**	**45**	P		**P**	**16 40 00.8**	**+1.5**
	comp=Z,6.5nm,0.9s,baz=276,slow=2.9,SNR=11							
	comp=Z,6.5nm,0.9s							
KBZ	**Khabaz**	**89.93**	**45**	*ceP*		**P**	**16 40 00.5**	**+1.1**
KBZ				pmax		pmax		
	comp=Z,6.0nm,0.9s							
KGCAE	**Kacgae**	**90.08**	**114**	P		**P**	**16 40 02.0**	**+1.4**
BILL	**Bilibino**	**90.44**	**344**	*iP*		**P**	**16 40 01.5**	**+0.2**
BILL				pmax		pmax		
	comp=Z,6.0nm,1.3s							
NCK	**Nalchik**	**90.48**	**45**	*iP*		**P**	**16 40 03.4**	**+1.4**
NCK				pmax		pmax		
	comp=Z,13nm,1.0s							
ARTI	**Arti**	**93.20**	**29**	P		**P**	**16 40 14.6**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=278,slow=7.1,SNR=3.7							
	comp=Z,1.8nm,0.5s							
TIXI	**Tiksi**	**93.38**	**357**	LR		LR	17 24 07.0	
	comp=Z,17nm,19.4s,baz=10,slow=36							
AKT	**Akhty**	**94.08**	**45**	*eP*		**P**	**16 40 18.6**	**-0.2**
AKT				pmax		pmax		
	comp=Z,17nm,2.0s							
SNAA	**Sanae**	**94.78**	**164**	P		**P**	**16 40 21.7**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=283,slow=5.9,SNR=1.5							
SNAA				pP		**pP**	**16 41 02.8**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=284,slow=4.2,SNR=1.7							
SNAA				LR		LR	17 21 24.3	
	comp=Z,19nm,21.7s,baz=265,slow=34							
	comp=Z,0.3nm,0.5s							
AKTO	**Aktyubinsk**	**96.23**	**34**	P		**P**	**16 40 28.7**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=305,slow=5.3,SNR=8.4							
	comp=Z,2.7nm,0.7s							
FURI	**Furi**	**97.47**	**79**	LR		LR	17 21 51.6	
	comp=Z,40nm,20.8s,baz=289,slow=34							
HHC	**Hu-ho-hao-te**	**124.17**	**6**	*eP*		**PKPdf**	**16 45 56.6**	**-1.7**
KSRS	**Korea Array**	**127.18**	**351**	PKP		**PKPdf**	**16 46 03.4**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=33,slow=3.5,SNR=6.8							
XAN	**Xi'an**	**130.50**	**10**	P		**PKPdf**	**16 46 10.8**	**+0.4**
XAN				pmax		pmax		
	comp=Z,9.0nm,1.0s							
NJ2	**Nanjing**	**133.32**	**360**	*eP*		**PKPdf**	**16 46 15.3**	**-0.4**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.8s							
PZH	**PanZhiHua**	**135.75**	**22**	P		**PKPdf**	**16 46 19.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**141.68**	**31**	PKhKP		PKPpre	16 46 25.6	
	comp=Z,1.7nm,0.9s,baz=310,slow=4.0,SNR=10.0							
CMAR				SKPbc		**SKPbc**	**16 49 52.2**	**-1.4**
	comp=Z,1.2nm,1.0s,baz=310,slow=3.9,SNR=4.3							
ASAR	**Alice Springs**	**163.03**	**237**	PKP		**PKPdf**	**16 47 01.6**	**-0.6**
	comp=Z,0.7nm,1.0s,baz=108,slow=1.9,SNR=4.8							
ASAR				PKPab		**PKPab**	**16 47 51.8**	**-1.0**
	comp=Z,1.5nm,1.0s,baz=112,slow=3.6,SNR=8.5							
ASAR				pPKPab		**pPKPab**	**16 48 32.5**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=104,slow=3.5,SNR=1.2							
WRA	**Warramunga Arr**	**164.05**	**249**	PKP		**PKPdf**	**16 47 02.2**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=103,slow=0.6,SNR=2.8							
WRA				pPKP		**pPKPdf**	**16 47 46.3**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=104,slow=4.2,SNR=3.9							
WRA				PKPab		**PKPab**	**16 47 57.7**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=105,slow=4.3,SNR=7.4							

*NNC **13** 16:28:42.9±0.8, 42°.64N×79°.66E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=5.4km s-min=3.0km az=129.0*
*SOME **13** 16:28:42.1, 42°.63N×79°.57E, h5km*
*KRNET **13** 16:28:42.8±0.1, 42°.40N×79°.62E, h15km, mb3.4*
ISC 13 16:28:42.8±1.3, 42°.57N±0'.04×79°.59E±0'.05, h10km, n46, σ2s26/75, 22C-17D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.59**	**351**	*eP*	**Pb**	**16 28 54.9**	**-0.4**
SHLS	204nm,0.1s			*eS*	**Sb**	**16 29 03.5**	**-0.4**
	637nm,0.4s						
UZB	**Uzynbulak**	**0.71**	**324**	*eP*	**Pg**	**16 28 53.3**	**-3.3**
UZB	39nm,0.2s			*eS*	**Sg**	**16 29 00.6**	**-5.3**
	24nm,0.2s						
PDGK	**Podgornoye**	**0.76**	**354**	⇑P	**Pg**	**16 28 56.3**	**-1.2**
PDGK	48nm,0.4s			⇓S	**Sg**	**16 29 06.8**	**-0.6**
	144nm,0.3s						
PRZ	**Przheval'sk**	**0.89**	**265**	⇑*iP*	**Pb**	**16 29 00.4**	**0.0**
PRZ				⇑*iS*	**Sb**	**16 29 13.0**	**+0.7**
SATY	**Saty**	**1.00**	**300**	P	**Pb**	**16 29 02.2**	**-0.1**
SATY	17nm,0.3s			S	**Sn**	**16 29 16.6**	**-0.6**
	268nm,0.1s						
KPKS	**Kokpek**	**1.11**	**324**	P	**Pb**	**16 29 03.6**	**-0.6**
KPKS	0.5nm,0.5s			S	**Sb**	**16 29 18.9**	**0.0**
	119nm,0.5s						
KURS	**Kuram**	**1.39**	**312**	P	**Pg**	**16 29 09.3**	**-0.1**
KURS	12nm,0.3s			S	**Sg**	**16 29 29.0**	**+1.5**
	110nm,0.4s						
TARG	**Taragay, Kyrgy**	**1.57**	**238**	⇑*iP*	**Pn**	**16 29 11.2**	**0.0**
TARG				⇑*iS*	**Sn**	**16 29 32.1**	**+0.3**
KDJ	**Kajisay**	**1.84**	**257**	⇑*iP*	**Pb**	**16 29 16.6**	**-0.1**
KDJ				⇑*iS*	**Sb**	**16 29 41.5**	**+1.7**
TNSS	**Tian-Shan**	**2.00**	**284**	Pg	**Pb**	**16 29 19.9**	**+0.4**
TNSS	5.7nm,0.2s			Lg	Lg	16 29 47.3	
	3.5nm,0.2s						
TNSS	**Tian-Shan**	**2.00**	**284**	*eP*	**Pb**	**16 29 19.9**	**+0.4**
TNSS	5.7nm,0.2s			*eS*	**Sg**	**16 29 47.3**	**+0.2**
	3.5nm,0.2s						
KNDC	**Almaty**	**2.03**	**289**	⇓Pg	**Pg**	**16 29 20.8**	**-1.0**
KNDC	30nm,0.3s			⇑Lg	Lg	16 29 52.2	
	66nm,0.3s						
AAA	**Alma-Ata**	**2.07**	**289**	Pg	**Pb**	**16 29 21.2**	**+0.8**
AAA	63nm,0.4s			Lg	Lg	16 29 50.1	
AAA	**Alma-Ata**	**2.07**	**289**	*eP*	**Pb**	**16 29 21.2**	**+0.8**
AAA	63nm,0.4s			*eS*	**Sg**	**16 29 50.1**	**+0.9**
ARXS	**Arharly**	**2.08**	**322**	Pg	**Pb**	**16 29 20.5**	**-0.2**
ARXS	20nm,0.5s			Lg	Lg	16 29 47.5	
	139nm,0.5s						
ARXS	**Arharly**	**2.08**	**322**	*eP*	**Pb**	**16 29 20.5**	**-0.2**
ARXS				*eS*	**Sb**	**16 29 47.5**	**+0.7**
CHKK	**Chushkaly**	**2.29**	**305**	Pg	**Pg**	**16 29 25.3**	**-1.5**
CHKK	16nm,0.3s			Lg	Lg	16 29 55.4	
	131nm,0.2s						
CHKK	**Chushkaly**	**2.29**	**305**	*eP*	**Pg**	**16 29 25.3**	**-1.5**
CHKK	16nm,0.3s			*eS*	**Sg**	**16 29 55.4**	**-1.1**
	131nm,0.2s						
MTBS	**Maitube**	**2.39**	**285**	Pg	**Pb**	**16 29 26.6**	**+0.6**
MTBS	55nm,0.3s			Lg	Lg	16 29 59.1	
	96nm,0.4s						
MTBS	**Maitube**	**2.39**	**285**	*eP*	**Pb**	**16 29 26.6**	**+0.6**
MTBS	55nm,0.3s			*eS*	**Sg**	**16 29 59.1**	**-0.5**
	96nm,0.4s						
KTBS	**Karatobe**	**2.42**	**299**	Pg	**Pb**	**16 29 25.3**	**-1.1**
KTBS	15nm,0.3s			Lg	Lg	16 29 57.6	
	53nm,0.3s						
ULHL	**Ulahol**	**2.50**	**264**	⇓*iP*	**Pb**	**16 29 26.9**	**-1.1**
ULHL				⇓*iS*	**Sb**	**16 29 59.2**	**+0.3**
TDK	**Taldyqorghan**	**2.58**	**341**	Pg	**Pb**	**16 29 28.5**	**-0.6**
TDK	55nm,0.4s			Lg	Lg	16 30 01.3	
	97nm,0.5s						
TDK	**Taldyqorghan**	**2.58**	**341**	*eP*	**Pb**	**16 29 28.5**	**-0.6**
TDK	55nm,0.4s			*eS*	**Sb**	**16 30 01.3**	**+0.5**
	97nm,0.5s						
KST	**Kastek**	**2.71**	**281**	Pg	**Pb**	**16 29 32.6**	**+1.1**
KST	35nm,0.5s			Lg	Lg	16 30 08.6	
	95nm,0.5s						
KST	**Kastek**	**2.71**	**281**	*eP*	**Pb**	**16 29 32.5**	**+1.1**
KST	35nm,0.5s			*eS*	**Sg**	**16 30 08.6**	**-1.3**
KAPS	**Kapalarasan**	**2.72**	**357**	Pg	**Pb**	**16 29 30.3**	**-1.3**
KAPS	53nm,0.2s			Lg	Lg	16 30 04.2	
	368nm,0.2s						
KUU	**Kurty**	**2.72**	**300**	Pg	**Pb**	**16 29 32.4**	**+0.8**
KUU	3.7nm,0.0s			Lg	Lg	16 30 07.7	
	86nm,0.5s						
KUU	**Kurty**	**2.72**	**300**	*eP*	**Pb**	**16 29 32.4**	**+0.8**
KUU	3.7nm,0.0s			*eS*	**Sg**	**16 30 07.7**	**-2.5**
	86nm,0.5s						
NRN	**Naryn**	**2.91**	**248**	⇑*iP*	**Pb**	**16 29 32.4**	**-2.6**
NRN				⇑*iS*	**Sb**	**16 30 08.4**	**-2.3**
TKM2	**Tokmak 2**	**2.96**	**278**	⇓*iP*	**Pb**	**16 29 33.9**	**-1.9**
TKM2				⇓*iS*	**Sb**	**16 30 11.3**	**-0.9**
JNKS	**Jany-Kuch**	**3.31**	**244**	⇓*iP*	**Pn**	**16 29 37.3**	**+2.4**
JNKS				⇓*iS*	**Sn**	**16 30 17.1**	**+2.7**
KBK	**Karagaybulak**	**3.43**	**273**	⇓*iP*	**Pb**	**16 29 40.2**	**-3.5**
KBK				⇓*iS*	**Sb**	**16 30 22.3**	**-3.2**
CHMS	**Chumysh**	**3.59**	**278**	⇓*iP*	**Pb**	**16 29 42.5**	**-3.9**
CHMS				⇓*iS*	**Sb**	**16 30 26.1**	**-3.9**
AAK	**Ala-Archa**	**3.76**	**273**	⇑Pn	**Pn**	**16 29 44.1**	**+3.1**
AAK	0.2nm,0.3s			⇓Pg	**Pg**	**16 29 55.0**	**+0.1**
	1.3nm,0.5s						
AAK				⇑Lg	Lg	16 30 42.4	
	8.0nm,0.6s						
AAK	**Ala-Archa**	**3.76**	**273**	⇓*iP*	**Pn**	**16 29 44.8**	**+3.8**
AAK				⇓*iS*	**Sn**	**16 30 30.0**	**+4.5**
UCH	**Uchtor**	**3.78**	**266**	⇓*eP*	**Pn**	**16 29 45.0**	**+3.5**
UCH				⇑*iS*	**Sn**	**16 30 30.2**	**+4.0**
USP	**Ospenovka**	**3.80**	**282**	⇑*iP*	**Pb**	**16 29 45.7**	**-4.3**
USP				⇑*iS*	**Sb**	**16 30 31.5**	**-4.7**
EKS2	**Erkin-Say**	**4.29**	**273**	⇑*eP*	**Pn**	**16 29 52.0**	**+3.7**
EKS2				⇑*iS*	**Sn**	**16 30 42.6**	**+4.1**
MAKZ	**Makanchi**	**4.56**	**21**	Pn	**Pn**	**16 29 53.9**	**+2.0**
MAKZ	1.5nm,0.2s			Sn	**Sn**	**16 30 47.1**	**+2.1**
	3.0nm,0.5s						
MAKZ				Lg	Lg	16 31 04.1	
	2.9nm,0.4s						
MK31	**Makanchi Array**	**4.64**	**24**	Pn	**Pn**	**16 29 54.9**	**+1.9**
	0.8nm,0.2s,baz=203,slow=14,SNR=114						
MK31				⇓Sn	**Sn**	**16 30 47.8**	**+1.0**
	3.1nm,0.4s,baz=205,slow=25,SNR=4.9						
MK31				⇑Lg	Lg	16 31 05.8	
	3.7nm,0.4s						
MRKS	**Merke**	**4.70**	**274**	Pg	**Pb**	**16 30 08.3**	**+3.0**
MRKS	5.0nm,0.5s			Lg	Lg	16 31 09.2	
	15nm,0.4s						
MRKS	**Merke**	**4.70**	**274**	*eP*	**Pb**	**16 30 08.3**	**+3.0**
MRKS	5.0nm,0.5s			*eS*	**Sg**	**16 31 09.2**	**-4.4**
	15nm,0.4s						
KK31	**Karatay Array**	**6.70**	**278**	⇑Pg	**Pg**	**16 30 46.8**	**-4.2**
	0.6nm,0.4s,baz=88,slow=16,SNR=7.8						
KK31				⇑Lg	Lg	16 32 17.6	
	2.8nm,0.5s,baz=99,slow=27,SNR=5.4						
KURBB	**Kurchatov Arra**	**8.09**	**355**	⇑Lg	Lg	16 32 56.4	
	19nm,0.9s						
KURK	**Kurchatov**	**8.17**	**356**	⇓Lg	Lg	16 33 02.1	
	3.1nm,0.6s						

*NOU **13** 16:43:19.5, 23°.89S×179°.43W, h437km, mb4.3/13, South of Fiji Islands*
*IDC **13** 16:43:24.3±9.3, 23°.81S×179°.89E, h516km±77km, mb3.2/8, mbtmp4.1/9, Error ellipse: s-maj=89.6km s-min=18.2km az=44.0*
ISC 13 16:43:23.1±1.4, 23°.9S±0'.1×179°.9W±0'.2, h500km, n27, σ1s34/26, mb3.7/10, 4C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.62**	**162**	P	P	16 44 47.9	-7.8
NIUE	**Niue**	**10.46**	**65**	P	P	16 45 37.6	-7.8
PINNC	**Pines Island,**	**11.70**	**274**	P	**P**	**16 46 00.0**	**+1.4**
URZ	**Urewera**	**14.54**	**189**	P	**P**	**16 46 29.4**	**+1.2**
	4.7nm,0.3s,baz=268,slow=3.1,SNR=19						
URZ				S	**S**	**16 49 00.3**	**-0.7**
	5.6nm,0.6s,baz=50,slow=22,SNR=8.8						
URZ	**Urewera**	**14.54**	**189**	P	**P**	**16 46 27.3**	**-1.0**
URZ	**Urewera**	**14.54**	**189**	S	**S**	**16 49 02.4**	**+1.4**
BKZ	**Black Stump Fm**	**15.52**	**191**	P	**P**	**16 46 38.1**	**-0.6**
BFZ	**Birch Farm**	**17.04**	**190**	P	**P**	**16 46 53.5**	**-0.8**
SNZO	**South Karori**	**17.94**	**193**	P	**P**	**16 47 02.9**	**+0.2**
QRZ	**Quartz Range**	**18.03**	**199**	P	**P**	**16 47 04.5**	**+0.9**
KHZ	**Kahutara**	**19.25**	**195**	P	**P**	**16 47 15.0**	**+0.3**
RPZ	**Rata Peaks**	**21.11**	**198**	P	**P**	**16 47 31.4**	**-0.3**
	4.1nm,0.5s,baz=190,slow=3.5,SNR=6.1						
	4.1nm,0.5s						
RPZ	**Rata Peaks**	**21.11**	**198**	P	**P**	**16 47 33.5**	**+1.8**
JCZ	**Jackson Bay**	**22.16**	**202**	P	**P**	**16 47 42.4**	**+1.2**
STKA	**Stephens Creek**	**34.80**	**248**	P	**P**	**16 49 30.8**	**-0.7**
	1.0nm,0.4s,baz=97,slow=7.9,SNR=4.0						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**42.12**	**261**	P	**P**	**16 50 29.7**	**-1.4**
	0.6nm,0.4s,baz=93,slow=7.2,SNR=27						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**42.49**	**266**	P	**P**	**16 50 32.3**	**-1.8**
	0.6nm,0.4s,baz=104,slow=8.4,SNR=22						
	0.6nm,0.4s						
VNDA	**Vanda**	**54.38**	**185**	P	**P**	**16 52 03.0**	**+1.1**
	1.1nm,0.9s,baz=354,slow=7.7,SNR=7.6						
	1.1nm,0.9s						
QSPA	**South Pole Qui**	**66.18**	**180**	P	**P**	**16 53 21.7**	**+1.3**
	4.0nm,0.6s,baz=323,slow=0.4,SNR=33						
	4.0nm,0.6s						
MAW	**Mawson**	**77.78**	**200**	P	**P**	**16 54 27.5**	**-0.3**
	2.2nm,0.6s,baz=120,slow=6.3,SNR=14						
	2.2nm,0.6s						
TROLL	**Troll, Antarti**	**84.33**	**181**	⇑P	**P**	**16 55 00.8**	**-1.0**
	comp=Z,175nm,0.3s						
SNAA	**Sanae**	**84.66**	**179**	⇑P	**P**	**16 55 01.6**	**-1.7**
	comp=Z,19nm,0.4s						
SNAA	**Sanae**	**84.66**	**179**	P	**P**	**16 55 01.7**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=203,slow=7.7,SNR=22						
	comp=Z,0.8nm,0.5s						
VNA3	**Neumayer Olymp**	**84.87**	**177**	⇑P	**P**	**16 55 03.0**	**-1.3**
	comp=Z,1.2nm,0.4s						
VNA2	**Neumayer--Watz**	**85.29**	**178**	⇑P	**P**	**16 55 04.8**	**-1.5**
	comp=Z,1.7nm,0.6s,baz=178,slow=3.9						
MMAI	**Mount Meron Ar**	**147.78**	**294**	PKPbc	**PKPdf**	**17 02 10.7**	**+2.6**
	comp=Z,1.0nm,0.5s,baz=90,slow=4.3,SNR=1.8						
TORD	**Torodi Ar. Bea**	**169.20**	**188**	PKPab	**PKPab**	**17 03 47.2**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=158,slow=2.8,SNR=3.3						

IDC 13 16:48:12.1±2.0, 9°.17S×125°.69E, h0km, mb3.5/1, mbtmp3.3/5, ML3.0/4, Error ellipse: s-maj=44.6km s-min=28.7km az=68.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.24**	**243**	Pn	Pn	16 48 51.0	+0.4
	2.3nm,0.3s,baz=293,slow=16,SNR=2.1						
BATI				Sn	Sn	16 49 12.7	-6.3
	3.4nm,0.3s,baz=109,slow=23,SNR=2.1						
	13nm,0.6s						
FITZ	**Fitzroy Crossi**	**8.87**	**180**	Pn	Pn	16 50 21.1	-0.6
	0.4nm,0.3s,baz=0.2,slow=12,SNR=22						
FITZ				Sn	Sn	16 51 52.1	-10
	0.2nm,0.3s,baz=150,slow=19,SNR=2.4						
	2.0nm,0.5s						
WRA	**Warramunga Arr**	**13.59**	**143**	Pn	Pn	16 51 26.7	+0.4
	baz=321,slow=14,SNR=1.5						
WRA				Sn	Sn	16 53 51.3	-6.8
	0.1nm,0.3s,baz=318,slow=24,SNR=1.3						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**16.42**	**152**	Pn	Pn	16 52 04.4	+0.3
	0.1nm,0.3s,baz=324,slow=12,SNR=7.1						
ASAR				Sn	Sn	16 55 04.3	-2.8
	baz=310,slow=22,SNR=1.4						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**67.80**	**329**	P	P	16 59 11.9	-0.1
	0.3nm,0.6s,baz=134,slow=6.2,SNR=3.9						
	0.3nm,0.6s						

IDC 13 16:52:35.5±2.3, 6°.92S×129°.15E, h0km, mb3.3/1, mbtmp3.3/4, ML3.2/3, MS2.8/1, Error ellipse: s-maj=83.2km s-min=30.9km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.63**	**197**	Pn	Pn	16 55 22.9	0.0
	0.1nm,0.3s,baz=24,slow=12,SNR=1.0						
FITZ				Sn	Sn	16 57 19.4	-14
	0.2nm,0.3s,baz=90,slow=20,SNR=1.1						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**13.89**	**159**	Pn	Pn	16 55 53.5	-0.4
	0.1nm,0.3s,baz=338,slow=13,SNR=1.6						
WRA				Sn	Sn	16 58 12.5	-17
	0.1nm,0.3s,baz=331,slow=22,SNR=1.6						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**17.27**	**165**	Pn	Pn	16 56 38.6	+0.3
	0.1nm,0.3s,baz=339,slow=10.0,SNR=7.4						
ASAR				Sn	Sn	16 59 35.7	-15
	baz=350,slow=24,SNR=2.0						
	0.2nm,0.4s						
TGY	**Tagaytay City**	**22.41**	**339**	LR	LR	17 08 08.4	
	comp=Z,21nm,19.2s,baz=194,slow=42						
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	17 03 34.7	0.0
	0.2nm,0.5s,baz=110,slow=5.6,SNR=2.0						
	0.2nm,0.5s						

*SJA **13** 17:06:49.8±0.9, 29°.85S×71°.69W, h65km, ML3.4, MW3.6*
*GUC **13** 17:06:52.1±0.7, 29°.61S×71°.39W, h51km±3km, ML3.1*
ISC 13 17:06:51.1±1.5, 29°.58S±0'.03×71°.65W±0'.06, h29km±11km, n23, σ1s60/44, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.49**	**133**	⇑*eP*	**Pb**	**17 07 02.3**	**+0.9**
CO05				*eS*	**Sb**	**17 07 09.3**	**+0.9**
CO05				IAML		17 07 10.1	
	comp=E,5µm,0.3s						
GO04	**Tololo Observa**	**0.95**	**129**	*eP*	**Pn**	**17 07 07.4**	**-1.3**
GO04				*eS*	**Sb**	**17 07 18.4**	**-3.0**
LCO	**Las Campanas**	**1.00**	**56**	⇓*eP*	**Pn**	**17 07 08.7**	**-0.9**
LCO				*eS*	**Sb**	**17 07 20.7**	**-2.4**
CO06	**Fray Jorge**	**1.09**	**179**	*eP*	**Pn**	**17 07 11.1**	**+0.6**
CO06				*eS*	**Sn**	**17 07 25.2**	**+0.5**
CO06				IAML		17 07 25.9	
	comp=E,397nm,0.2s						
CO01	**Juntas del Tor**	**1.41**	**107**	⇓*eP*	**Pn**	**17 07 14.1**	**-1.0**
CO01				*eS*	**Sn**	**17 07 29.7**	**-3.2**
AC04	**Llanos de Chal**	**1.46**	**20**	*eP*	**Pn**	**17 07 16.2**	**+0.7**
AC04				*eS*	**Sn**	**17 07 33.6**	**-0.2**
AC04				IAML		17 07 36.4	
	comp=N,214nm,0.1s						
CO03	**El Pedregal**	**1.51**	**147**	⇓*eP*	**Pn**	**17 07 15.6**	**-0.7**
CO03				*eS*	**Sn**	**17 07 32.8**	**-2.2**
CO03				IAML		17 07 33.6	
	comp=N,397nm,0.2s						
CO02	**Combarbal**	**1.71**	**161**	⇑*eP*	**Pn**	**17 07 19.1**	**-0.1**
CO02				*eS*	**Sn**	**17 07 39.5**	**-0.7**
CO02				IAML		17 07 41.2	
	comp=E,618nm,0.2s						
GO03	**Copiapo**	**2.34**	**33**	*eP*	**Pn**	**17 07 27.3**	**-0.5**
GO03				*eS*	**Sn**	**17 07 54.9**	**-0.6**
GO03				IAML		17 08 14.2	
	comp=E,80nm,0.5s						
AC06	**Mina Casimiro**	**2.49**	**28**	*eP*	**Pn**	**17 07 29.1**	**-0.6**
AC06				*eS*	**Sn**	**17 07 58.8**	**-0.5**
CO04	**Los Peladeros**	**2.52**	**167**	*eP*	**Pn**	**17 07 31.2**	**+0.7**
CO04				*eS*	**Sn**	**17 08 00.6**	**+0.1**
CO04				IAML		17 08 01.8	
	comp=N,139nm,0.3s						
AGUA	**GUANDACOL**	**2.76**	**89**	*eP*	**Pn**	**17 07 35.3**	**+1.8**
AGUA				*eS*	**Sn**	**17 08 07.9**	**+2.0**
AGUA				IAML		17 08 27.0	
	comp=Z,51nm,1.2s						
VCA	**Vinchina**	**3.13**	**75**	⇑*eP*	**Pn**	**17 07 39.8**	**+1.1**
VCA				*eS*	**Sn**	**17 08 18.2**	**+3.0**
VCA	**Vinchina**	**3.13**	**75**	*eP*	**Pn**	**17 07 40.6**	**+2.0**
VCA				*eS*	**Sn**	**17 08 18.3**	**+3.1**
VCA				IAML		17 08 35.9	
	comp=Z,93nm,0.8s						
VA03	**San Esteban**	**3.31**	**164**	*eP*	**Pn**	**17 07 42.7**	**+1.5**
VA03				*eS*	**Sn**	**17 08 19.2**	**-0.4**
VA03				IAML		17 08 23.8	
	comp=E,66nm,0.1s						
ROCH	**El Roble**	**3.43**	**171**	*eP*	**Pn**	**17 07 43.6**	**+0.8**
ROCH				*eS*	**Sn**	**17 08 22.7**	**+0.1**
ROCH				IAML		17 08 41.7	
	comp=N,53nm,0.4s						
AC02	**Maricunga**	**3.52**	**40**	*eP*	**Pn**	**17 07 44.4**	**0.0**
AC02				*eS*	**Sn**	**17 08 24.9**	**-0.5**
AC02				IAML		17 08 36.3	
	comp=E,26nm,0.4s						
AC01	**Pan de Azucar**	**3.54**	**15**	*eP*	**Pn**	**17 07 43.3**	**-1.0**
AVFE	**Valle Fertil**	**3.79**	**108**	*eP*	**Pn**	**17 07 47.9**	**+0.2**
AVFE				*eS*	**Sn**	**17 08 30.5**	**-1.0**
ACLC	**CERRO LA CRUZ**	**4.10**	**89**	*eP*	**Pn**	**17 07 52.6**	**+0.5**
ACLC				*eS*	**Sn**	**17 08 39.2**	**0.0**
AANI	**Anillaco**	**4.19**	**81**	*eP*	**Pn**	**17 07 54.1**	**+0.8**
AANI				IAML		17 09 02.8	
	comp=Z,114nm,0.1s						
APLL	**PUNTA DE LOS L**	**4.52**	**102**	*eP*		**17 07 57.4**	**-0.3**
APLL				*eS*	**Sn**	**17 08 47.5**	**-1.9**
CYA	**Choya**	**5.25**	**79**	*eP*	**Pn**	**17 08 07.6**	**-0.1**
CYA				*eS*	**Sn**	**17 09 12.0**	**+4.7**
CYA				IAML		17 09 47.5	
	comp=Z,11nm,2.3s						

*VAO **13** 17:29:56.0±0.2, 12°.76S×45°.61W, h0km, mbR3.6*
*OSUNB **13** 17:29:57.3±0.2, 12°.74S×45°.60W, h0km, mR3.5/15, Error ellipse: s-maj=1.8km s-min=1.8km az=0.0*
ISC 13 17:29:57.6±0.8, 12°.75S±0'.04×45°.58W±0'.04, h10km, n40, σ1s19/69, Brazil

| Code | Station Name | Δ° | AZ° | Phase ID | | Time |

RIB01	**Linhares ES**	**8.21**	**143**	*e*P	**Pn**	**17 31 58.3**	**+1.4**
RIB01				*e*S	**Sn**	**17 33 30.8**	**+1.0**
BSCB	**Bom Sucesso**	**8.24**	**175**	P	**Pn**	**17 32 00.8**	**+3.5**
BSCB	**Bom Sucesso**	**8.24**	**175**	*e*P	**Pn**	**17 31 56.8**	**-0.5**
ITRB	**Iturama**	**8.29**	**213**	*e*P	**Pn**	**17 31 57.3**	**-0.7**
ITRB				*e*S	**Sn**	**17 33 33.1**	**+1.2**
BB19B	**Bebedouro**	**8.73**	**198**	*e*P	**Pn**	**17 32 04.1**	**0.0**
BB19B				*e*S	**Sn**	**17 33 43.7**	**+1.0**
NBAN	**Anadia - AL**	**9.63**	**72**	P	**Pn**	**17 32 17.3**	**+0.9**
NBAN	**Anadia - AL**	**9.63**	**72**	*e*P	**Pn**	**17 32 16.0**	**-0.4**
NBAN				*e*S	**Sn**	**17 34 05.6**	**+0.8**
VAS01	**Vassouras-RJ**	**9.69**	**168**	*e*P	**Pn**	**17 32 16.6**	**-0.6**
VAS01				*e*S	**Sn**	**17 34 04.0**	**-2.3**
DUB01	**Friburgo-RJ**	**9.77**	**162**	P	**Pn**	**17 32 19.1**	**+0.8**
DUB01	**Friburgo-RJ**	**9.77**	**162**	*e*P	**Pn**	**17 32 17.5**	**-0.8**
DUB01				*e*S	**Sn**	**17 34 09.1**	**+0.9**
CAM01	**Campos-RJ**	**9.77**	**158**	P	**Pn**	**17 32 20.6**	**+2.4**
CAM01	**Campos-RJ**	**9.77**	**158**	*e*P	**Pn**	**17 32 17.8**	**-0.5**
CAM01				*e*S	**Sn**	**17 34 09.0**	**+0.9**

*IDC **13** 17:34:55.9±1.1,42°.56N×111°.12W,h0km,mbtmp3.0/3, ML2.9/3,Error ellipse: s-maj=27.1km s-min=5.5km az=160.0*

*NEIC **13** 17:34:55.7±1.2,42°.517N±0°.003×111°.16W±0°.02, h4km±5km, ML3.3/88,ML3.4/20(UUSS),Error ellipse: s-maj=2.1km s-min=0.4km az=91.0*

*UUSS **13** 17:34:56.5±1.2,42°.52N±0°.01×111°.152W±0°.009, h6km±5km,Error ellipse: s-maj=2.0km s-min=0.7km az=166.0*

ISC 13 17:34:55.4±1.0,**42°.52N**±0°.02×**111°.16W**±0°.03,**h9**km±9km, **n124,**σ1$f9**61**/132,**Eastern Idaho**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AHID	**Auburn Hatcher**	**0.25**	**10**			**Pg**	**17 35 01.2**	**+0.5**
AHID				Sg		**Sg**	**17 35 04.2**	**+0.1**
AHID				IAML			17 35 06.0	
	9µm,0.3s							
AHID				IAML			17 35 09.1	
	5µm,0.7s							
L17A	**Cokeville**	**0.47**	**153**			**Pg**	**17 35 05.5**	**+0.9**
L17A						**Sb**	**17 35 12.4**	**-0.6**
BMUT	**Black Mountain**	**0.56**	**186**			**Pg**	**17 35 07.0**	**+0.6**
BEI	**Bear River Ran**	**0.61**	**229**			**Pb**	**17 35 08.1**	**-0.3**
HDU	**Hyde Park**	**0.84**	**213**			**Pb**	**17 35 12.5**	**+0.2**
HWUT	**Hardware Ranch**	**0.96**	**199**			**Pg**	**17 35 13.8**	**-0.1**
HWUT				Sg		**Sg**	**17 35 25.9**	**-0.5**
HWUT				IAML			17 35 33.3	
	789nm,0.7s							
HWUT				IAML			17 35 37.1	
	585nm,0.7s							
TPAW	**Teton Pass**	**0.98**	**9**			**Pb**	**17 35 15.1**	**+0.3**
TPAW				Sg		**Sb**	**17 35 28.6**	**+0.6**
TPAW				IAML			17 35 34.7	
	641nm,0.5s							
TPAW				IAML			17 35 34.9	
	935nm,0.8s							
SNOW	**Snow King Moun**	**0.99**	**17**			**Pb**	**17 35 15.3**	**+0.4**
SNOW				Sg		**Sb**	**17 35 28.3**	**+0.1**
SNOW				IAML			17 35 31.8	
	870nm,0.6s							
SNOW				IAML			17 35 31.9	
	898nm,0.5s							
PTU	**Portage**	**1.05**	**236**			**Pb**	**17 35 16.1**	**+0.2**
NPI	**North Pocatell**	**1.07**	**250**			**Pg**	**17 35 16.4**	**+0.3**
MCU	**Monte Cristo P**	**1.09**	**194**			**Pb**	**17 35 16.9**	**+0.4**
LOHW	**Long Hollow**	**1.17**	**20**	Pg		**Pb**	**17 35 17.8**	**-0.2**
LOHW				Sg		**Sb**	**17 35 33.4**	**+0.1**
LOHW				IAML			17 35 37.3	
	721nm,0.5s							
BW06	**Boulder Array**	**1.21**	**78**			**Pb**	**17 35 18.5**	**-0.1**
BW06				Sg		**Sb**	**17 35 34.3**	**-0.1**
PD31	**Pinedale Array**	**1.21**	**78**			**Pb**	**17 35 18.3**	**-0.3**
PD31				Sg		**Sg**	**17 35 34.6**	**+0.3**
PDAR	**Pinedale Array**	**1.21**	**78**			**Pb**	**17 35 18.5**	**-0.1**
PDAR	**Pinedale Array**	**1.21**	**78**	Pg		**Pb**	**17 35 18.6**	**+0.1**
	40nm,0.3s,baz=256,slow=16,SNR=299							
PDAR				Lg		Lg	17 35 33.8	
	38nm,0.3s,baz=251,slow=18,SNR=5.9							
LTU	**Little Mountai**	**1.23**	**222**			**Pg**	**17 35 19.5**	**+0.5**
HVU	**Hansel Valley**	**1.41**	**239**			**Pn**	**17 35 21.8**	**+0.4**
HVU				Sg		**Sg**	**17 35 41.0**	**+0.2**
TCUT	**Toone Canyon**	**1.41**	**188**			**Pg**	**17 35 22.8**	**+0.3**
YPP	**Pitchstone Pla**	**1.77**	**8**			**Pb**	**17 35 28.0**	**-0.3**
YPP				IAML			17 35 55.8	
	comp=E,224nm,0.8s							
YPP				IAML			17 35 57.8	
	comp=N,222nm,1.3s							
CTU	**Camp Tracy**	**1.88**	**194**			**Pb**	**17 35 29.6**	**-0.4**
JLU	**Jordanelle**	**1.93**	**187**			**Pb**	**17 35 30.8**	**-0.1**
JLU				IAML			17 36 02.0	
	comp=N,386nm,0.8s							
JLU				IAML			17 36 04.8	
	comp=E,345nm,1.1s							
YFT	**Old Faithful**	**1.95**	**7**			**Pb**	**17 35 31.2**	**0.0**
BSUT	**Blindstream Ca**	**2.00**	**171**			**Pn**	**17 35 31.0**	**+1.2**
BSUT				IAML			17 36 01.3	
	comp=N,271nm,0.3s							
BGU	**Big Grassy Mou**	**2.12**	**222**			**Pn**	**17 35 32.5**	**+1.3**
BGU				IAML			17 36 02.8	
	comp=N,179nm,0.6s							
BGU				IAML			17 36 05.3	
	comp=E,234nm,0.5s							
LKWY	**Lake**	**2.12**	**15**			**Pn**	**17 35 32.7**	**+1.4**
YMR	**Madison River**	**2.15**	**4**			**Pn**	**17 35 32.7**	**+1.0**
YMR				IAML			17 36 06.9	
	comp=E,181nm,0.8s							
YMR				IAML			17 36 08.4	
	comp=N,286nm,0.8s							
YNR	**Norris Junctio**	**2.23**	**9**			**Pn**	**17 35 34.4**	**+1.6**
YHB	**Horse Butte**	**2.23**	**359**			**Pb**	**17 35 34.7**	**-1.4**
YHB				IAML			17 36 12.3	
	comp=E,151nm,1.1s							
YHB				IAML			17 36 15.3	
	comp=N,139nm,0.7s							
YNM	**Yellowstone No**	**2.23**	**8**			**Pn**	**17 35 33.9**	**+1.0**
YNM				IAML			17 36 58.4	
	comp=E,192nm,0.6s							
YHH	**Holmes Hill**	**2.28**	**6**			**Pb**	**17 35 35.6**	**-1.4**
QLMT	**Earthquake Lak**	**2.32**	**355**			**Pb**	**17 35 36.0**	**-1.6**
YHL	**Hebgen Lake**	**2.33**	**360**			**Pb**	**17 35 36.3**	**-1.5**
YHL				IAML			17 36 14.5	
	comp=N,131nm,1.0s							
YHL				IAML			17 36 16.0	
	comp=E,134nm,1.2s							
YMP	**Mirror Lake Pl**	**2.34**	**18**			**Pb**	**17 35 36.7**	**-1.2**
MPU	**Maple Canyon**	**2.52**	**188**			**Pn**	**17 35 38.7**	**+1.9**
HLID	**Hailey**	**2.60**	**295**			**Pn**	**17 35 39.9**	**+2.0**
HLID				IAML			17 36 18.1	
	comp=E,116nm,0.7s							
HLID				IAML			17 36 22.7	
	comp=E,151nm,0.9s							
MCMT	**McKenzie Canyo**	**2.62**	**333**			**Pn**	**17 35 40.4**	**+2.3**
YNE	**Yellowstone No**	**2.62**	**18**	Pn		**Pn**	**17 35 40.5**	**+2.3**
RLMT	**Red Lodge**	**2.94**	**27**			**Pn**	**17 35 45.1**	**+2.6**
RLMT				IAML			17 36 30.8	
	comp=E,79nm,0.9s							
P18A	**Preston Nutter**	**2.97**	**166**			**Pn**	**17 35 44.8**	**+1.8**
P18A				IAML			17 36 23.2	
	comp=N,132nm,0.8s							
P18A				IAML			17 36 37.0	
	comp=E,105nm,0.5s							
DLMT	**Dillon**	**3.03**	**340**			**Pn**	**17 35 46.4**	**+2.7**
DLMT				IAML			17 36 32.7	
	comp=E,59nm,1.2s							
DLMT				IAML			17 36 36.9	
	comp=E,97nm,1.4s							
P17A	**Butcher Ranch,**	**3.06**	**174**			**Pn**	**17 35 45.4**	**+1.3**
P17A				IAML			17 36 32.1	
	comp=N,140nm,0.6s							
P17A				IAML			17 36 42.4	
	comp=E,106nm,1.0s							
BOZ	**Bozeman (W)**	**3.10**	**354**			**Pn**	**17 35 45.8**	**+1.2**
TMUT	**Trail Mountain**	**3.22**	**181**			**Pn**	**17 35 48.8**	**+2.3**
TMUT				IAML			17 36 51.6	
	comp=N,102nm,0.8s							
TMUT				IAML			17 36 51.8	
	comp=E,125nm,1.1s							
O20A	**White River Ci**	**3.24**	**136**			**Pn**	**17 35 49.0**	**+2.4**
K22A	**Casper**	**3.42**	**86**			**Pn**	**17 35 52.1**	**+2.9**
LRM	**Limekiln Ridge**	**3.43**	**345**			**Pn**	**17 35 51.5**	**+2.2**
SRU	**San Rafael Swe**	**3.44**	**172**			**Pn**	**17 35 51.0**	**+1.7**
GCMT	**Greycliff**	**3.44**	**18**			**Pn**	**17 35 52.1**	**+2.7**
ELK	**Elko**	**3.53**	**241**			**Pn**	**17 35 52.4**	**+1.6**
ELK	**Elko**	**3.53**	**241**	Pn		**Pn**	**17 35 53.7**	**+2.9**
	comp=E,1.5nm,0.3s,baz=64,slow=13,SNR=19							
ELK				Lg		Lg	17 36 48.3	
	comp=E,3.6nm,0.3s,baz=136,slow=14,SNR=7.7							
	comp=E,2.4nm,0.3s							
HAYD	**Hayden**	**3.54**	**123**			**Pn**	**17 35 51.9**	**+1.1**
MFID	**Camas Ranch**	**3.54**	**286**			**Pn**	**17 35 53.5**	**+2.8**
Q16A	**Castle Valley**	**3.60**	**180**			**Pn**	**17 35 52.8**	**+1.3**
Q16A				IAML			17 36 57.3	
	comp=E,50nm,0.6s							
Q16A				IAML			17 36 59.8	
	comp=N,60nm,1.1s							
TCRU	**Three Creeks R**	**4.03**	**195**			**Pn**	**17 35 58.9**	**+1.4**
BPMT	**Black Pine Rid**	**4.25**	**338**			**Pn**	**17 36 02.2**	**+1.7**
SPR3	**Spring Creek 3**	**4.26**	**215**			**Pn**	**17 36 03.9**	**+3.1**
PV21	**Cone Mtn., Par**	**4.29**	**156**			**Pn**	**17 36 02.5**	**+1.4**
PLID	**Pearl Lake**	**4.34**	**308**			**Pn**	**17 36 05.1**	**+3.2**
PLID				IAML			17 37 20.4	
	comp=N,23nm,0.8s							
PLID				IAML			17 37 24.8	
	comp=N,24nm,1.1s							
PV22	**Blue Mesa, Par**	**4.37**	**155**			**Pn**	**17 36 03.9**	**+1.8**
PV23	**Carpenter Ridg**	**4.38**	**157**			**Pn**	**17 36 04.9**	**+2.6**
PV10	**Paradox Valley**	**4.44**	**158**			**Pn**	**17 36 05.1**	**+1.9**
PV14	**Lion Creek, Pa**	**4.45**	**158**			**Pn**	**17 36 05.8**	**+2.5**
PV04	**Paradox Valley**	**4.46**	**157**			**Pn**	**17 36 05.4**	**+2.0**
PSUT	**Pine Spring**	**4.48**	**208**			**Pn**	**17 36 04.7**	**+1.1**
PV20	**West Nyswonger**	**4.49**	**157**			**Pn**	**17 36 05.2**	**+1.3**
PV07	**Paradox Valley**	**4.50**	**154**			**Pn**	**17 36 04.7**	**+0.7**
PV19	**Morning Glory**	**4.52**	**158**			**Pn**	**17 36 04.3**	**+0.1**
LYMT	**Lyon Mountain**	**4.52**	**350**			**Pn**	**17 36 06.0**	**+1.7**
PV16	**Nyswonger Mesa**	**4.54**	**157**			**Pn**	**17 36 06.2**	**+1.8**
MTPU	**Mount Pierson**	**4.54**	**190**			**Pn**	**17 36 05.3**	**+0.7**
PV17	**East Wray Mesa**	**4.55**	**158**			**Pn**	**17 36 05.9**	**+1.2**
PV11	**David Mesa, Pa**	**4.56**	**157**			**Pn**	**17 36 04.9**	**+0.1**
PV12	**Saucer Basin,**	**4.58**	**156**			**Pn**	**17 36 06.7**	**+1.9**
HMU	**Henry Mountain**	**4.58**	**176**			**Pn**	**17 36 06.5**	**+1.4**
PV18	**Skein Mesa, Pa**	**4.60**	**157**			**Pn**	**17 36 06.5**	**+1.2**
PV03	**Paradox Valley**	**4.61**	**157**			**Pn**	**17 36 06.6**	**+1.2**
PV15	**Paradox Valley**	**4.64**	**153**			**Pn**	**17 36 06.9**	**+0.9**
PV02	**Paradox Valley**	**4.69**	**156**			**Pn**	**17 36 07.9**	**+1.4**
PV05	**Paradox Valley**	**4.71**	**160**			**Pn**	**17 36 07.4**	**+0.6**
PV13	**Radium Mtn., P**	**4.71**	**157**			**Pn**	**17 36 08.2**	**+1.4**
OVMT	**Ovando**	**4.73**	**345**			**Pn**	**17 36 08.5**	**+1.4**
MSO	**Missoula**	**4.75**	**336**			**Pn**	**17 36 09.5**	**+2.3**
MSO				IAML			17 37 32.5	
	comp=N,37nm,0.8s							
MSO				IAML			17 37 36.5	
	comp=N,24nm,1.3s							
PV01	**Paradox Valley**	**4.80**	**155**			**Pn**	**17 36 08.6**	**+0.4**
ISCO	**Idaho Springs**	**4.99**	**121**			**Pn**	**17 36 11.3**	**+0.6**
ISCO				IAML			17 37 44.3	
	comp=N,24nm,1.1s							
BMO	**Blue Mountains**	**5.03**	**300**			**Pn**	**17 36 13.1**	**+1.9**
BMO				IAML			17 37 41.0	
	comp=N,14nm,1.5s							
BMO				IAML			17 37 47.1	
	comp=N,30nm,1.8s							
SZCU	**Shurtz Canyon**	**5.13**	**197**	Pn		**Pn**	**17 36 14.3**	**+1.6**
PKCU	**Pink Cliffs**	**5.14**	**190**			**Pn**	**17 36 14.2**	**+1.3**
CCUT	**Cedar City**	**5.24**	**200**			**Pn**	**17 36 14.1**	**-0.1**
R11B	**Troy Canyon, C**	**5.36**	**221**			**Pn**	**17 36 16.9**	**+1.1**
J08A	**Circle Bar Ran**	**5.44**	**281**			**Pn**	**17 36 17.8**	**+1.1**
RSSD	**Black Hills**	**5.44**	**70**			**Pn**	**17 36 17.7**	**+0.9**
WVOR	**Wild Horse Val**	**5.53**	**272**			**Pn**	**17 36 18.2**	**+0.2**
F10A	**Beach Ranch, E**	**5.56**	**310**			**Pn**	**17 36 19.9**	**+1.5**
KNB	**Kanab**	**5.64**	**194**			**Pn**	**17 36 19.1**	**-0.6**
MVCO	**Mesa Verde**	**5.68**	**158**	Pn		**Pn**	**17 36 20.2**	**0.0**
LCMT	**Little Creek M**	**5.73**	**197**			**Pn**	**17 36 20.3**	**-0.5**
LNOR	**Lincton Mounta**	**6.12**	**306**	Pn		**Pn**	**17 36 25.9**	**-0.1**
G08A	**Pilot Rock**	**6.28**	**299**			**Pn**	**17 36 28.2**	**-0.1**
E09A	**Wood Farm, Sta**	**6.39**	**311**			**Pn**	**17 36 30.9**	**+1.2**
TPH	**Tonopah**	**6.42**	**228**			**Pn**	**17 36 29.3**	**-1.0**
SDCO	**Great Sand Dun**	**6.44**	**136**			**Pn**	**17 36 31.5**	**+0.8**
NV11	**Mina Array Sit**	**6.71**	**235**	Pn		**Pn**	**17 36 31.9**	**-2.4**
SHPR	**Sheep Range**	**6.75**	**209**	Pn		**Pn**	**17 36 31.9**	**-3.0**
TPNV	**Topopah Spring**	**6.80**	**217**	Pn		**Pn**	**17 36 33.8**	**-1.8**
NVAR	**Mina Array Bea**	**6.81**	**236**			**Pn**	**17 36 34.2**	**-1.5**
NVAR	**Mina Array Bea**	**6.81**	**236**	Pn		**Pn**	**17 36 39.0**	**+3.3**
	comp=N,0.2nm,0.3s,baz=66,slow=10.0,SNR=8.3							
NVAR				Sn		**Sn**	**17 37 57.9**	**+4.5**
	comp=N,0.4nm,0.3s,baz=63,slow=35,SNR=1.0							
NVAR				Lg		Lg	17 38 30.8	
	comp=N,0.8nm,0.3s,baz=89,slow=23,SNR=4.7							
	comp=N,0.3nm,0.5s							
PAHR	**Pah Rah Range**	**6.82**	**248**	Pn		**Pn**	**17 36 32.4**	**-3.3**
RYN	**Ryan**	**6.82**	**238**			**Pn**	**17 36 33.0**	**-2.8**
E08A	**Alder Farm, El**	**6.91**	**308**	Pn		**Pn**	**17 36 35.5**	**-1.2**
WUAZ	**Wupatki**	**6.99**	**161**			**Pn**	**17 36 35.9**	**-2.9**
OGNE	**Ogallala**	**7.00**	**100**			**Pn**	**17 36 35.4**	**-2.8**
GMN	**Gold Mountain**	**7.01**	**224**	Pn		**Pn**	**17 36 36.9**	**-1.6**
LHV	**Little Huntoon**	**7.04**	**235**	Pn		**Pn**	**17 36 37.2**	**-1.4**
WCT	**Wildcat Mounta**	**7.10**	**218**	Pn		**Pn**	**17 36 38.3**	**-1.3**
NEW	**Newport**	**7.12**	**326**	Pn		**Pn**	**17 36 39.1**	**-0.6**
NEW	**Newport**	**7.12**	**326**	Lg		Lg	17 38 38.9	
	comp=N,0.6nm,0.3s,baz=66,slow=20,SNR=8.1							
HAWA	**Hanford**	**7.13**	**306**	Pn		**Pn**	**17 36 39.5**	**-0.4**
D08A	**Wollman Farm,**	**7.15**	**312**	Pn		**Pn**	**17 36 39.1**	**-1.0**
K05A	**Summer Lake**	**7.18**	**275**			**Pn**	**17 36 39.0**	**-1.8**
PINE	**Pine Mountain**	**7.27**	**283**			**Pn**	**17 36 40.2**	**-1.7**
V12A	**Nelson**	**7.36**	**204**			**Pn**	**17 36 41.2**	**-2.0**
ANMO	**Albuquerque**	**8.40**	**153**	Lg		Lg	17 39 16.7	
	comp=N,0.3nm,0.3s,baz=359,slow=12,SNR=2.9							
TXAR	**Lajitas Array**	**14.48**	**153**	Pn		**P**	**17 38 24.8**	**-2.6**
	baz=334,slow=16,SNR=1.3							
	comp=N,0.7nm,1.1s							

NOU 13 17:35:18.9,16°.74S×167°.25E,h0km,MLv4.4/16,**Vanuatu Islands,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.29**	**358**	P	Pg	17 35 42.2	-1.4
DVP	**Devils Point**	**1.33**	**138**	P	Pg	17 35 43.2	-1.2
KOUNC	**Koumac, New Ca**	**4.72**	**216**	P	Pn	17 36 31.0	-0.4
DZM	**Mont Dzumac**	**5.36**	**188**	P	Pn	17 36 39.2	-1.1
OUENC	**Ouen Island, N**	**5.66**	**184**	P	Pn	17 36 44.2	-0.1
PINNC	**Pines Island,**	**5.84**	**178**	P	Pn	17 36 46.8	-0.1
LUES	**Luesalemba Tem**	**6.18**	**348**	P	Pn	17 36 52.3	+0.8
NGOA	**Tingoa Renbel**	**8.67**	**306**	P	Pn	17 37 25.5	-0.2
TATA	**Tatamba Isabel**	**11.03**	**318**	P	Pn	17 37 59.2	+1.1

*PRU **13** 17:40:40.7,46°.18N×16°.74E,h1km*

*RHSSO **13** 17:40:41.7±0.3,46°.10N×16°.68E,h7km±2km,ML2.8/9*

*LJU **13** 17:40:41.2,46°.11N×16°.62E,h16km,ML2.6*

*VIE **13** 17:40:41.7±0.5,46°.19N×16°.58E,h14km±1km,mb2.1/12, ml2.7/13,Error ellipse: s-maj=3.0km s-min=2.1km az=117.0 23 km SE of Varazdin*

*BEO **13** 17:40:42.1±0.4,46°.17N×16°.69E,h24km±3km,ML2.7/11*

ISC 13 17:40:40.9±0.9,**46°.14N**±0°.02×**16°.67E**±0°.02,**h9**km±7km, **n91,**σ1$f9**19**/155,**11C-11D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KALN	**Kalnik**	**0.15**	**266**	*e*Pg		**Pg**	**17 40 44.3**	**0.0**
KALN				Sg		**Sg**	**17 40 46.5**	**-0.1**
BEHE	**Becsehely**	**0.34**	**12**	*i*Pg		**Pb**	**17 40 49.0**	**-0.1**
BEHE				*e*Sg		**Sb**	**17 40 54.9**	**+0.4**
LOBO	**Lobor**	**0.42**	**272**	*e*Pg		**Pg**	**17 40 48.9**	**-0.3**
LOBO				Sg		**Sg**	**17 40 54.4**	**-0.3**
KOGS	**Kog**	**0.42**	**316**	⇓*i*Pg		**Pb**	**17 40 50.1**	**-0.5**
KOGS				*i* Sg		**Sb**	**17 40 56.1**	**-0.9**
KOGS				IAML			17 40 57.7	
	comp=Z,448nm,0.2s							
MOSL	**Moslavina**	**0.53**	**174**	⇓*i*Pg		**Pg**	**17 40 51.0**	**-0.3**
MOSL				*e*Sg		**Sg**	**17 40 57.9**	**-0.3**
MOSL	**Moslavina**	**0.53**	**174**	*e*Pg		**Pg**	**17 40 51.2**	**0.0**
MOSL				Sg		**Sg**	**17 40 57.9**	**-0.3**
PTJ	**Puntijarka**	**0.55**	**245**	*e*Pg		**Pg**	**17 40 51.6**	**+0.1**
PTJ				Sg		**Sg**	**17 40 58.4**	**-0.3**
ZAG	**Zagreb**	**0.57**	**237**	*e*Pg		**Pg**	**17 40 52.4**	**+0.4**
ZAG				Sg		**Sg**	**17 40 59.9**	**+0.4**
GOLS	**Golise**	**0.74**	**260**	*e*Pg		**Pg**	**17 40 55.2**	**0.0**
GOLS				IAML			17 41 11.4	
	comp=Z,246nm,0.2s							
DOBS	**Dobrina**	**0.84**	**271**	⇓*i*Pg		**Pg**	**17 40 56.9**	**-0.2**
DOBS				IAML			17 41 12.9	
	comp=Z,118nm,0.2s							
GROS	**Grobnik**	**0.87**	**292**	⇓*i*Pg		**Pg**	**17 40 57.6**	**-0.1**
GROS				*e*Sg		**Sb**	**17 41 10.4**	**+0.4**
GROS				IAML			17 41 11.8	
	comp=Z,29nm,0.1s							
OZLJ	**Ozalj**	**0.99**	**238**	⇑*i*Pg		**Pg**	**17 40 59.8**	**-0.2**
OZLJ				*e*Sg		**Sg**	**17 41 12.4**	**-0.5**
OZLJ	**Ozalj**	**0.99**	**238**	*e*Pg		**Pg**	**17 41 00.1**	**+0.1**
OZLJ				Sg		**Sg**	**17 41 12.8**	**-0.1**
BOJS	**Bojanci**	**1.18**	**238**	*e*Pg		**Pb**	**17 41 02.8**	**-0.7**
BOJS				*e*Sg		**Sn**	**17 41 21.3**	**+1.6**
SOKA	**Soboth**	**1.26**	**296**	*e*Pg		**Pn**	**17 41 03.7**	**-1.0**
	comp=Z,3.9nm,0.2s,SNR=28							
SOKA				*e*Sg		**Sb**	**17 41 20.9**	**-0.2**
	comp=Z,37nm,0.3s							
ARSA	**Arzberg**	**1.36**	**325**	*e*Pg		**Pn**	**17 41 05.9**	**-0.2**
	comp=Z,3.2nm,0.1s,SNR=16							
ARSA				*e*Sg		**Sb**	**17 41 23.7**	**-0.4**
	comp=Z,44nm,0.2s							
ARSA	**Arzberg**	**1.36**	**325**	*e*Pg		**Pn**	**17 41 05.9**	**-0.2**
ARSA				*e*Sg		**Sg**	**17 41 24.9**	**+0.1**
MORH	**Mrgy, Hungar**	**1.37**	**86**	*e*Pg		**Pn**	**17 41 05.8**	**-0.4**
MORH				*e*Sg		**Sn**	**17 41 24.7**	**+0.3**
MORH	**Mrgy, Hungar**	**1.37**	**86**	⇑P		**Pg**	**17 41 07.2**	**0.0**
MORH				⇑S		**Sg**	**17 41 27.2**	**+2.2**
BLY	**Banja Luka**	**1.44**	**165**	⇑*i*Pg		**Pn**	**17 41 07.3**	**+0.2**
BLY				*e*Sg		**Sn**	**17 41 26.3**	**+0.2**
BLY	**Banja Luka**	**1.44**	**165**	⇑P		**Pn**	**17 41 07.6**	**+0.5**
BLY				⇓S		**Sg**	**17 41 27.3**	**+0.1**
BLY	**Banja Luka**	**1.44**	**165**	*e*Pg		**Pb**	**17 41 07.7**	**-0.2**
BLY				*e*Sg		**Sg**	**17 41 27.2**	**0.0**
PLIT	**Plitvice**	**1.46**	**211**	*e*Pn		**Pn**	**17 41 07.0**	**-0.5**
PLIT				Sg		**Sn**	**17 41 26.8**	**0.0**
LJU	**Ljubljana**	**1.50**	**267**	*e*Pg		**Pb**	**17 41 08.8**	**-0.1**
LJU				*e*Sg		**Sg**	**17 41 29.9**	**+0.8**
OBKA	**Obir**	**1.52**	**285**	*e*Pn		**Pn**	**17 41 07.5**	**-0.8**
	comp=Z,1.3nm,0.1s,SNR=8.2							
OBKA				*e*Sg		**Sg**	**17 41 29.4**	**-0.3**
	comp=Z,60nm,0.4s							
RONA	**Rosalia, Austr**	**1.58**	**351**	*i* Pn		**Pn**	**17 41 08.9**	**-0.2**
	comp=Z,2.7nm,0.1s,SNR=19							
RONA				*e*Sn		**Sn**	**17 41 29.0**	**-0.6**
	comp=Z,19nm,0.3s							
CEY	**Cerknica**	**1.62**	**256**	*e*Pg		**Pg**	**17 41 12.4**	**+0.4**
CEY				*e*Sg		**Sg**	**17 41 34.2**	**+1.2**
UDBI	**Udbina**	**1.74**	**202**	*e*Pn		**Pn**	**17 41 11.2**	**-0.1**
UDBI						**Sn**	**17 41 34.6**	**-0.3**
RIY	**Rijeka**	**1.74**	**243**	*e*Pn		**Pb**	**17 41 12.4**	**-0.5**
RIY						**Sb**	**17 41 34.5**	**-0.3**
RIY	**Rijeka**	**1.74**	**243**	*e*Pn		**Pn**	**17 41 10.3**	**-0.9**
RIY				*e*Sn		**Sn**	**17 41 32.0**	**-1.5**
CONA	**Conrad Observa**	**1.87**	**343**	*e*Pn		**Pn**	**17 41 12.8**	**-0.4**
	comp=Z,5.0nm,0.4s,SNR=9.5							
CONA				*e*Sn		**Sn**	**17 41 36.0**	**-1.0**
	comp=Z,10.0nm,0.3s							
RABC	**Rab**	**1.93**	**224**	*e*Pn		**Pn**	**17 41 13.8**	**+0.1**
RABC				Sn		**Sn**	**17 41 38.2**	**+0.2**
SKDS	**Skadanscina**	**1.95**	**253**	*e*Pn		**Pn**	**17 41 13.5**	**-0.7**
SKDS				*e*Sg		**Sg**	**17 41 46.3**	**+2.7**
NVLJ	**Novalja**	**2.03**	**219**	*e*Pn		**Pn**	**17 41 15.3**	**+0.2**
NVLJ				Sn		**Sn**	**17 41 40.0**	**-0.6**
KIJV	**Kijevo**	**2.15

comp=Z,1.8nm,0.6s
BRG Berggiesshubel 5.07 340 Sg **Sg** 17 43 27.7 **+4.1**
BRG Amp 17 43 36.6
comp=Z,3.9nm,0.6s
ZAPS Zavoj 5.12 122 *e*Pn **Pn** 17 41 58.0 **+0.2**
CLL Collm 5.71 336 *e*Pn **Pn** 17 42 06.0 **+0.2**
CLL *i* x x 17 43 19.4
CLL *e*Sg **Sg** 17 43 51.0 **+6.8**
comp=Z,6.0nm,0.5s

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*NEIC **13** 17:42:04.8±2.4, 7°.66S±0°.08×128°.00E±0°.02, h150km±15km, mb4.4/5, Error ellipse: s-maj=11.8km s-min=2.9km az=189.0*
*IDC **13** 17:42:05.2±3.9, 7°.61S×127°.88E, h152km±41km, mb3.2/2, mbtmp4.0/6, Error ellipse: s-maj=37.7km s-min=22.4km az=55.0*
ISC 13 17:42:03.9±0.8, 7.75S±0°.06×127.94E±0°.05, h142km, n23, σ1§90/32, mb4.0/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.33**	**94**	Pn	**Pn**	**17 42 53.6**	**-1.6**
SAUI				Sn	**Sn**	**17 43 38.2**	**+3.3**
SOEI	**Soe**	**4.14**	**241**	Pn	**Pn**	**17 43 07.2**	**+1.3**
SOEI				Sn	**Sn**	**17 43 56.6**	**+2.4**
BATI	**Baumata**	**4.88**	**240**	P	**Pn**	**17 43 18.0**	**+2.4**
	41nm,0.4s,baz=106,slow=1.6,SNR=7.8						
BATI				S	**Sn**	**17 44 14.7**	**+3.1**
	69nm,0.4s,baz=173,slow=22,SNR=14						
MMRI	**Maumere**	**5.72**	**261**	Pn	**Pn**	**17 43 26.6**	**-0.1**
MMRI				Sn	**Sn**	**17 44 31.8**	**+0.3**
MTN	**Manton Dam**	**5.96**	**148**		**Pn**	**17 43 33.8**	**+3.8**
MTN				Sn	**Sn**	**17 44 38.3**	**+1.1**
FAKI	**Fak Fak**	**6.43**	**42**	Pn	**Pn**	**17 43 36.1**	**-0.3**
KNRA	**Kununurra**	**7.92**	**174**		**Pn**	**17 43 56.5**	**+0.2**
KNRA				Sn	**Sn**	**17 45 23.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**10.53**	**192**	Pn	**Pn**	**17 44 30.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**10.53**	**192**	P	**Pn**	**17 44 32.4**	**+1.3**
	1.6nm,0.4s,baz=5.7,slow=12,SNR=14						
FITZ				S	**Sn**	**17 46 25.1**	**-2.4**
	4.5nm,0.3s,baz=273,slow=22,SNR=11						
WRA	**Warramunga Arr**	**13.61**	**154**		**Pn**	**17 45 11.6**	**+0.3**
WRA	**Warramunga Arr**	**13.61**	**154**	P	**Pn**	**17 45 12.4**	**+1.1**
	4.8nm,0.7s,baz=324,slow=14,SNR=53						
WRA				S	**Sn**	**17 47 38.1**	**-3.8**
	9.5nm,0.8s,baz=324,slow=24,SNR=14						
WB2	**Warramunga Arr**	**13.62**	**154**	Pn	**Pn**	**17 45 11.8**	**+0.4**
WR8	**Warramunga Arr**	**13.70**	**153**		**Pn**	**17 45 13.5**	**+1.2**
COEN	**Coen**	**16.18**	**114**	P	**P**	**17 45 43.9**	**+0.1**
AS31	**Alice Springs**	**16.83**	**161**	P	**Pn**	**17 45 53.4**	**+2.2**
AS31				IAmb	IAmb	17 45 57.8	
	comp=Z,3.8nm,0.4s						
ASAR	**Alice Springs**	**16.83**	**161**		**Pn**	**17 45 53.1**	**+1.9**
ASAR	**Alice Springs**	**16.83**	**161**	P	**Pn**	**17 45 53.8**	**+2.6**
	comp=Z,5.1nm,0.6s,baz=333,slow=11,SNR=87						
ASAR				S	**S**	**17 48 56.5**	**-2.4**
	comp=Z,1.4nm,0.4s,baz=319,slow=22,SNR=8.7						
INKA	**Innaminka**	**23.29**	**150**	P	**P**	**17 46 58.9**	**-0.1**
BBOO	**Buckleboo**	**26.05**	**164**	P	**P**	**17 47 24.1**	**+0.1**
BBOO				IAmb	IAmb	17 47 40.2	
	comp=Z,19nm,1.4s						
STKA	**Stephens Creek**	**27.17**	**154**	P	**P**	**17 47 35.0**	**+0.9**
STKA				IAmb	IAmb	17 47 51.8	
	comp=Z,12nm,1.1s						
KSRS	**Korea Array**	**44.97**	**360**	P	**P**	**17 50 04.3**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=172,slow=9.6,SNR=6.4						
	comp=Z,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**72.10**	**329**	P	**P**	**17 53 10.8**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=132,slow=4.1,SNR=4.3						
	comp=Z,0.3nm,0.5s						
LPAZ	**La Paz**	**151.30**	**146**	PKPbc	**PKiKP**	**18 01 43.9**	**+0.9**
	comp=Z,2.2nm,0.4s,baz=304,slow=4.1,SNR=4.8						

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*NEIC **13** 17:53:06.7±2.2, 20°.75S±0°.1×173°.73W±0°.08, h10km±1km, mb4.1/11, Error ellipse: s-maj=20.0km s-min=12.7km az=168.0*
*IDC **13** 17:53:07.3±0.9, 21°.47S×173°.91W, h0km, mb3.8/8, mbtmp3.8/8, MS3.9/1, Error ellipse: s-maj=38.0km s-min=23.0km az=145.0*
ISC 13 17:53:05.7±0.7, 20.74S±0°.10×173.72W±0°.09, h10km, n25, σ1§12/24, mb4.0/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.93**	**66**	Pn	**Pn**	**17 54 08.1**	**+1.9**
NIUE				Sn	**Sn**	**17 54 51.1**	**-1.3**
AFI	**Afiamalu**	**7.04**	**16**	Pn	**Pn**	**17 54 48.6**	**-0.4**
AFI				Sn	**Sn**	**17 56 09.0**	**-0.2**
RAR	**Rarotonga**	**13.04**	**95**	Pn	Pn	17 56 06.7	-4.3
DZM	**Mont Dzumac**	**18.52**	**262**	LR	LR	18 03 13.4	
	comp=Z,338nm,18.3s,baz=14,slow=33						
ARMA	**Armidale**	**32.60**	**246**	P	**P**	**17 59 37.5**	**-0.2**
CTAO	**Charters Tower**	**37.45**	**264**	P	**P**	**18 00 20.6**	**+1.0**
CTAO				IAmb	IAmb	18 00 43.1	
	comp=Z,7.0nm,1.1s						
STKA	**Stephens Creek**	**41.31**	**245**	P	**P**	**18 00 51.7**	**+0.1**
STKA	**Stephens Creek**	**41.31**	**245**	P	**P**	**18 00 50.8**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=102,slow=13,SNR=4.3						
	comp=Z,1.1nm,0.5s						
INKA	**Innaminka**	**41.92**	**251**	P	**P**	**18 00 57.7**	**+1.0**
INKA				IAmb	IAmb	18 01 00.2	
	comp=Z,4.0nm,1.3s						
BBOO	**Buckleboo**	**46.04**	**244**	P	**P**	**18 01 28.8**	**-0.9**
AS31	**Alice Springs**	**48.36**	**256**	P	**P**	**18 01 48.1**	**+0.1**
AS31				IAmb	IAmb	18 01 50.7	
	comp=Z,2.0nm,1.2s						
ASAR	**Alice Springs**	**48.36**	**256**	P	**P**	**18 01 47.5**	**-0.6**
ASAR	**Alice Springs**	**48.36**	**256**	P	**P**	**18 01 48.6**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=101,slow=7.3,SNR=43						
	comp=Z,1.6nm,0.8s						
WR8	**Warramunga Arr**	**48.38**	**261**	P	**P**	**18 01 47.9**	**-0.3**
WR8				PcP	**PcP**	**18 03 16.0**	**+1.2**
WRA	**Warramunga Arr**	**48.53**	**261**	P	**P**	**18 01 48.8**	**-0.5**
WRA				PcP	**PcP**	**18 03 13.7**	**-1.6**
WRA	**Warramunga Arr**	**48.53**	**261**	P	**P**	**18 01 50.2**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=100,slow=5.7,SNR=34						
	comp=Z,1.6nm,0.6s						
KNRA	**Kununurra**	**54.64**	**265**	P	**P**	**18 02 36.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**56.96**	**261**	P	**P**	**18 02 52.9**	**+1.1**
FITZ				IAmb	IAmb	18 02 59.7	
	comp=Z,1.9nm,1.4s						
VNDA	**Vanda**	**58.06**	**186**	P	**P**	**18 02 59.8**	**+1.3**
VNDA	**Vanda**	**58.06**	**186**	P	**P**	**18 02 56.4**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=23,slow=9.9,SNR=2.1						
	comp=Z,0.2nm,0.3s						
QSPA	**South Pole Qui**	**69.33**	**180**	P	**P**	**18 04 12.1**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=24,slow=5.0,SNR=2.4						
	comp=Z,1.0nm,0.9s						
NVAR	**Mina Array Bea**	**78.50**	**41**	P	P	18 05 14.4	+7.0
	comp=Z,0.3nm,0.6s,baz=254,slow=5.6,SNR=2.1						
	comp=Z,0.3nm,0.6s						
TXAR	**Lajitas Array**	**83.84**	**56**	P	P	18 05 42.1	+6.1
	comp=Z,0.1nm,0.3s,baz=276,slow=5.0,SNR=1.6						
	comp=Z,0.1nm,0.3s						
INK	**Inuvik**	**93.50**	**14**	P	P	18 06 28.0	+7.0
	comp=Z,1.1nm,0.7s,baz=169,slow=5.2,SNR=4.8						
	comp=Z,1.1nm,0.7s						
EKA	**Eskdalemuir Ar**	**144.74**	**9**	PKPbc	**PKiKP**	**18 12 45.7**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=80,slow=4.8,SNR=2.5						

NOU 13 18:08:54.6, 11°.43S×163°.50E, h36km, MLv4.4/10, Solomon Islands, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HURO	**Huro Makira**	**1.84**	**301**	P	Pn	18 09 22.2	-1.4
NGOA	**Tingoa Renbel**	**3.37**	**268**	P	Pn	18 09 44.3	-0.4
HNR	**Honiara**	**4.02**	**299**	P	Pn	18 09 54.1	+0.4
SAVO	**Savo Central**	**4.28**	**302**	P	Pn	18 09 58.8	+1.6
SAVO	**Savo Central**	**4.28**	**302**	S	Sn	18 10 47.4	+1.5
TATA	**Tatamba Isabel**	**4.73**	**309**	P	Pn	18 10 04.0	+0.5
TATA	**Tatamba Isabel**	**4.73**	**309**	S	Sn	18 10 57.1	0.0
SANVU	**Saraoutou**	**5.38**	**138**	P	Pn	18 10 12.2	-0.1
DZM	**Mont Dzumac**	**10.95**	**165**	P	Pn	18 11 29.4	+0.5

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*NIED **13** 18:24:52.8, 36°.68N×141°.38E, h49km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr=0.15; Mθθ0.07; Mφφ0.08; Mrθ0.38; Mθφ-0.38; Mφr1.06; Fault plane solution: M0 1.17000×10^15^ NP1: φ=288.00000°, δ17.00000°, λ-175.00000°. NP2: φ=193.00000°, δ89.00000°, λ-73.00000°.*
*JMA **13** 18:24:52.8±0.2, 36°.7N±0°.5×14°.1E±°, h49km±2km, MV3.6/35, E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
*IDC **13** 18:24:55.5±2.2, 36°.78N×141°.43E, h63km±19km, mb3.3/8, mbtmp3.6/12, MS3.2/11, Error ellipse: s-maj=18.9km s-min=14.0km az=119.0*
ISC 13 18:24:51.4±2.9, 36°.68N±0°.05×141°.53E±0°.08, h27km±20km, n38, σ1§51/30, mb3.5/8, MS3.2/9, 11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.72**	**306**	⇓*i*P	**Pn**	**18 25 05.4**	**-0.5**
JHO	**Hitachi**	**0.77**	**265**	⇓*i*P	**Pn**	**18 25 05.7**	**-0.9**
JHO				⇓S	**Sb**	**18 25 15.3**	**-1.2**
JHYU	**Hitachinakayam**	**0.83**	**246**	⇓*i*P	**Pn**	**18 25 06.9**	**-0.4**
JHYU				⇓S	**Sn**	**18 25 16.7**	**-1.9**
JFK	**Kawauchi**	**0.86**	**323**	⇓*i*P	**Pn**	**18 25 07.5**	**-0.3**
JFK				⇓S	**Sn**	**18 25 18.7**	**-0.8**
JFFD	**Fukushimafurud**	**0.88**	**298**	⇓*i*P	**Pn**	**18 25 07.4**	**-0.6**
JFFD				⇓S	**Sn**	**18 25 18.4**	**-1.4**
JOTO	**OTAMA OYAMA**	**1.30**	**313**	*i* P	**Pn**	**18 25 14.8**	**+1.0**
JOTO				*e*S	**Sn**	**18 25 31.8**	**+1.6**
JMM	**Marumori**	**1.32**	**334**	⇓*i*P	**Pn**	**18 25 14.2**	**+0.1**
JMM				⇓S	**Sn**	**18 25 30.5**	**-0.2**
JFY	**Yanaizu**	**1.63**	**297**	P	**Pn**	**18 25 19.7**	**+1.4**
JAG	**Ashikaga**	**1.69**	**262**	P	**Pn**	**18 25 19.3**	**+0.2**
MJAR	**Matsushiro Arr**	**2.67**	**268**	P	**Pn**	**18 25 33.8**	**+1.1**
	18nm,0.4s,baz=88,slow=15,SNR=100						
MJAR				S	**Sn**	**18 26 05.9**	**+1.7**
	24nm,0.6s,baz=76,slow=16,SNR=11						
MJAR				LR	LR	18 26 56.9	
	comp=Z,506nm,19.1s,baz=114,slow=47						
JHJ	**Hachijo jima 2**	**3.83**	**202**	P	**Pn**	**18 25 53.1**	**+4.5**
	93nm,0.3s,baz=91,slow=18,SNR=1.5						
JHJ				S	**Sn**	**18 26 31.8**	**-1.0**
	77nm,0.3s,baz=261,slow=23,SNR=6.2						
ASAJ	**Asahikawa**	**7.47**	**6**	P	**Pn**	**18 26 40.5**	**+1.9**
	1.8nm,0.3s,baz=227,slow=12,SNR=14						
ASAJ				S	**Sn**	**18 28 02.5**	**+0.1**
	7.6nm,0.5s,baz=274,slow=28,SNR=4.5						
USRK	**Ussuriysk Ar.**	**10.45**	**319**	P	Pn	18 27 25.9	+6.6
	4.4nm,0.8s,baz=132,slow=13,SNR=6.3						
KSRS	**Korea Array**	**10.90**	**278**	P	**Pn**	**18 27 28.1**	**+2.5**
	0.7nm,0.9s,baz=94,slow=14,SNR=11						
PETK	**Petropavlovsk-**	**19.95**	**29**	LR	LR	18 36 43.5	
	comp=Z,24nm,19.6s,baz=229,slow=36						
MA2	**Magadan**	**23.68**	**12**	LR	LR	18 40 23.7	
	comp=Z,22nm,19.5s,baz=226,slow=39						
YAK	**Yakutsk**	**26.43**	**347**	LR	LR	18 41 38.8	
	comp=Z,23nm,19.7s,baz=291,slow=38						
SEY	**Seymchan**	**27.12**	**11**	LR	LR	18 41 26.3	
	comp=Z,29nm,18.6s,baz=158,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.89**	**120**	T	T	18 59 59.9	
	baz=313,slow=75,SNR=58						
H11N1	**WAKE ISLAND Hy**	**27.90**	**120**	T	T	19 00 00.5	
	baz=313,slow=75,SNR=73						
H11N3	**WAKE ISLAND Hy**	**27.91**	**120**	T	T	19 00 01.2	
	baz=313,slow=75,SNR=52						
SONM	**Songino Array**	**28.06**	**304**	P	**P**	**18 30 40.6**	**0.0**
	0.6nm,0.6s,baz=112,slow=9.8,SNR=5.8						
	0.6nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**28.59**	**122**	T	T	19 00 52.1	
	baz=315,slow=76,SNR=47						
H11S3	**WAKE ISLAND Hy**	**28.59**	**123**	T	T	19 00 48.7	
	baz=315,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**28.61**	**123**	T	T	19 00 47.4	
	baz=315,slow=76,SNR=19						
JAY	**Jayapura**	**39.00**	**181**	LR	LR	18 46 27.1	
	comp=Z,52nm,18.4s,baz=9.5,slow=33						
CMAR	**Chiang Mai Arr**	**41.50**	**256**	LR	LR	18 52 12.0	
	comp=Z,38nm,18.0s,baz=205,slow=40						
ZALV	**Zalesovo Beam**	**42.22**	**313**	P	**P**	**18 32 40.5**	**-1.3**
	0.4nm,0.4s,baz=103,slow=8.6,SNR=5.9						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**44.38**	**302**	P	**P**	**18 32 58.0**	**-1.5**
	0.5nm,0.8s,baz=97,slow=8.7,SNR=3.9						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**46.29**	**308**	P	**P**	**18 33 12.5**	**-1.9**
	0.5nm,0.3s,baz=84,slow=8.1,SNR=8.7						
	0.5nm,0.3s						
ILAR	**Eielson Array**	**49.74**	**32**	P	**P**	**18 33 41.6**	**+0.6**
	0.3nm,0.6s,baz=277,slow=6.4,SNR=2.8						
	0.3nm,0.6s						
AAK	**Ala-Archa**	**50.74**	**299**	LR	LR	18 56 35.8	
	comp=Z,78nm,19.0s,baz=86,slow=38						
WRA	**Warramunga Arr**	**56.73**	**188**	P	**P**	**18 34 32.5**	**-0.3**
	0.9nm,0.9s,baz=6.0,slow=7.3,SNR=7.6						
	0.9nm,0.9s						
ARTI	**Arti**	**56.79**	**319**	LR	LR	18 59 05.4	
	comp=Z,20nm,21.4s,baz=150,slow=36						
ASAR	**Alice Springs**	**60.45**	**188**	P	**P**	**18 34 59.8**	**+1.0**
	0.6nm,0.9s,baz=21,slow=8.0,SNR=3.2						
	0.6nm,0.9s						
KIRV	**Kirov**	**60.58**	**323**	LR	LR	19 01 18.8	
	comp=Z,19nm,19.6s,baz=160,slow=36						
NOA	**NORSAR Array B**	**74.55**	**337**	LR	LR	19 12 36.7	
	comp=Z,14nm,19.2s,baz=5.0,slow=38						
AKASG	**Malin Array Be**	**74.63**	**322**	P	**P**	**18 36 27.8**	**-0.3**
	0.2nm,0.4s,baz=49,slow=6.1,SNR=1.8						
	0.2nm,0.4s						

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*IDC **13** 18:32:17.4±0.8, 35°.95N×69°.05E, h0km, mb3.8/18, mbtmp3.9/23, ML3.9/5, MS3.2/12, Error ellipse: s-maj=15.5km s-min=12.8km az=174.0*
*NNC **13** 18:32:23.3±3.8, 36°.49N×68°.61E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=31.5km s-min=24.3km az=4.0*
*NEIC **13** 18:32:24.7±2.7, 36°.16N±0°.04×68°.87E±0°.08, h49km±10km, mb4.3/9, Error ellipse: s-maj=9.6km s-min=5.8km az=75.0*
ISC 13 18:32:23.0±0.5, 36°.18N±0°.05×68°.92E±0°.05, h35km, n82, σ2§14/86, mb3.8/21, MS3.2/8, 6C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**1.64**	**177**		**Pn**	**18 32 51.4**	**+1.9**
KBL				Sn	**Sn**	**18 33 10.5**	**+1.1**
SIMJ	**Simiganj**	**2.48**	**2**		**Pn**	**18 33 03.4**	**+2.4**
CHGR	**Chuyangaron**	**2.48**	**4**		**Pn**	**18 33 03.4**	**+2.4**
CHGR				Sn	**Sn**	**18 33 30.6**	**+0.4**
GAR	**Garm**	**3.03**	**21**		**Pn**	**18 33 11.3**	**+2.7**
NIL	**Nilore**	**4.36**	**124**		**Pn**	**18 33 30.2**	**+3.5**
SRNI	**Srinagar**	**5.28**	**111**	*e*P	Pn	18 33 47.6	+8.2
SRNI				*e*S	**Sn**	**18 34 43.2**	**+4.3**
SRNI				IAML		18 35 11.2	
	comp=E,1μm,1.3s						
SRNI				IAML		18 35 12.3	
	comp=N,1μm,0.6s						
HRA	**Herat**	**5.75**	**254**	Pn	**Pn**	**18 33 45.8**	**-0.2**
JMU	**Jammu**	**6.02**	**123**	*e*P	Pn	18 33 56.8	+7.2
JMU				*e*S	**Sn**	**18 34 58.6**	**+1.3**
JMU				IAML		18 35 12.4	
	comp=N,172nm,1.1s						
JMU				IAML		18 35 30.9	
	comp=E,279nm,0.8s						
ARSB	**Arslanbob**	**6.04**	**30**		**Pn**	**18 33 51.8**	**+1.8**
KSH	**Kashi**	**6.50**	**57**	Pn	**Pn**	**18 33 54.3**	**-1.9**
KSH				Sn	**Sn**	**18 35 03.3**	**-5.9**
KSH				smax	smax		
	comp=N,120nm,0.7s						
KSH				smax	smax		
	comp=E,88nm,0.8s						
TSSA	**Tissa**	**6.83**	**117**	*e*P	Pn	18 34 09.6	+8.7
TSSA				*e*S	**Sn**	**18 35 20.5**	**+2.9**
TSSA				IAML		18 35 22.0	
	comp=E,132nm,0.2s						
TSSA				IAML		18 35 22.1	
	comp=N,138nm,0.5s						
KK31	**Karatay Array**	**7.03**	**10**		**Pn**	**18 34 05.1**	**+1.7**
KK31	**Karatay Array**	**7.03**	**10**	P	**Pn**	**18 34 05.1**	**+1.7**
	comp=N,2.5nm,0.2s,baz=200,slow=14,SNR=169						
KK31				⇑S	**Sn**	**18 35 22.9**	**+0.9**
	comp=N,11nm,0.4s,baz=193,slow=22,SNR=3.9						
KKAR	**Karatay Array**	**7.03**	**10**		**Pn**	**18 34 05.1**	**+1.7**
DHRM	**DHARAMSHALA**	**7.26**	**121**	*e*P	Pn	18 34 14.5	+7.7
DHRM				*e*S	**Sn**	**18 35 29.6**	**+1.6**
DHRM				IAML		18 35 31.9	
	comp=N,114nm,0.2s						
DHRM				IAML		18 35 32.8	
	comp=E,90nm,0.3s						
UCH	**Uchtor**	**7.44**	**34**	P	**Pn**	**18 34 11.5**	**+2.1**
	SNR=107						
EKS2	**Erkin-Say**	**7.49**	**29**	P	**Pn**	**18 34 12.0**	**+2.2**
	SNR=26						
NRN	**Naryn**	**7.62**	**44**		**Pn**	**18 34 12.2**	**+0.4**
AAK	**Ala-Archa**	**7.76**	**32**	P	**Pn**	**18 34 15.9**	**+2.4**
	SNR=36						
AAK	**Ala-Archa**	**7.76**	**32**		**Pn**	**18 34 15.3**	**+1.8**
AAK	**Ala-Archa**	**7.76**	**32**	⇓P	**Pn**	**18 34 15.5**	**+1.9**
	comp=E,16nm,0.6s						
AAK				⇑S	**Sn**	**18 35 45.0**	**+4.7**
	comp=E,23nm,0.9s						
AAK	**Ala-Archa**	**7.76**	**32**	Pn	**Pn**	**18 34 15.1**	**+1.6**
	comp=E,10nm,0.3s,baz=210,slow=8.4,SNR=44						
AAK				Sn	**Sn**	**18 35 44.2**	**+4.0**
	comp=E,1.7nm,0.3s,baz=332,slow=23,SNR=6.6						
AAK				Lg	Lg	18 36 30.2	
	baz=328,slow=12						
AAK				LR	LR	18 37 47.0	
	comp=E,174nm,18.7s,baz=218,slow=42						
	comp=E,27nm,0.4s						
BHK	**Bhakra**	**7.84**	**125**	*e*P	Pn	18 34 27.6	+13
BHK				*e*S	Sn	18 35 51.7	+10
FRU1	**Bishkek**	**7.96**	**32**		**Pn**	**18 34 18.3**	**+2.1**
KBK	**Karagaybulak**	**7.97**	**34**	P	**Pn**	**18 34 19.1**	**+2.6**
	SNR=27						
CHMS	**Chumysh**	**8.16**	**32**	P	**Pn**	**18 34 21.2**	**+2.2**
	SNR=30						
USP	**Ospenovka**	**8.28**	**30**	P	**Pn**	**18 34 22.0**	**+1.4**
	SNR=14						
ULHL	**Ulahol**	**8.30**	**41**	P	**Pn**	**18 34 23.0**	**+1.9**
	SNR=21						
TKM2	**Tokmak 2**	**8.48**	**35**	P	**Pn**	**18 34 25.1**	**+1.6**
	SNR=65						
SMLA	**Simla**	**8.52**	**124**	*e*P	Pn	18 34 31.6	+7.8
SMLA				*e*S	**Sn**	**18 35 58.9**	**+0.2**
KDJ	**Kajisay**	**8.74**	**45**		**Pn**	**18 34 27.7**	**+0.7**
TARG	**Taragay, Kyrgy**	**8.86**	**49**		**Pn**	**18 34 29.5**	**+0.6**
PRZ	**Przheval'sk**	**9.67**	**46**		**Pn**	**18 34 41.2**	**+1.5**
PDGK	**Podgornoye**	**10.82**	**45**	⇓P	**Pn**	**18 34 57.0**	**+1.5**
	comp=E,7.0nm,0.6s						
MAKZ	**Makanchi**	**14.42**	**39**	Pn	**Pn**	**18 35 42.6**	**-1.9**
MKAR	**Makanchi Array**	**14.57**	**39**		**Pn**	**18 35 44.8**	**-1.7**
MKAR	**Makanchi Array**	**14.57**	**39**	Pn	**Pn**	**18 35 45.2**	**-1.3**
	comp=E,0.4nm,0.3s,baz=226,slow=14,SNR=18						
MKAR				LR	LR	18 42 01.0	
	comp=E,80nm,19.7s,baz=204,slow=40						
	comp=E,1.5nm,0.5s						
AB31	**Akbulak array**	**14.63**	**336**		**Pn**	**18 35 44.6**	**-2.7**
AB31	**Akbulak array**	**14.63**	**336**	⇑P	**Pn**	**18 35 45.5**	**-1.8**
	comp=E,0.8nm,0.3s,baz=153,slow=12,SNR=52						
AB31				⇑S	**Sn**	**18 38 25.0**	**-3.0**
	comp=E,2.2nm,0.5s,baz=155,slow=23,SNR=5.7						
ABKAR	**Akbulak array**	**14.63**	**336**		**Pn**	**18 35 44.7**	**-2.5**
KURBB	**Kurchatov Arra**	**16.02**	**23**	Pn	**Pn**	**18 36 02.8**	**-2.6**
	comp=E,0.1nm,0.3s,baz=213,slow=12,SNR=7.0						
	comp=E,0.9nm,0.4s						
KURK	**Kurchatov**	**16.13**	**23**		**Pn**	**18 36 03.2**	**-3.7**
WMQ	**Urumqi**	**16.26**	**56**	*e*P	**Pn**	**18 36 10.0**	**+1.3**
WMQ				S	**Sn**	**18 39 05.6**	**-2.4**
WMQ				LR	LR		
	comp=N,200nm,4.1s						
WMQ				LR	LR		
	comp=Z,250nm,21.9s						
AKTO	**Aktyubinsk**	**16.29**	**334**	⇑P	**P**	**18 36 11.6**	**0.0**
	comp=Z,4.7nm,0.9s						
AKTO				⇑S	**Sn**	**18 39 02.7**	**-5.7**
	comp=Z,5.4nm,1.4s						
AKTO	**Aktyubinsk**	**16.29**	**334**	Pn	**Pn**	**18 36 08.2**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=106,slow=7.4,SNR=9.4						
	comp=Z,0.7nm,0.3s						
BVAR	**Borovoye Array**	**16.88**	**3**	P	**Pn**	**18 36 15.0**	**-1.4**
	comp=Z,3.3nm,0.5s,baz=173,slow=16,SNR=7.9						
BVAR				LR	LR	18 43 30.9	
	comp=Z,58nm,18.1s,baz=201,slow=39						
EVN	**Everest**	**17.22**	**113**		**Pn**	**18 36 17.9**	**-3.6**
EVN				IAmb	IAmb	18 36 32.7	
	comp=Z,14nm,0.8s						
GNI	**Garni**	**19.41**	**289**	P	**P**	**18 36 46.4**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=90,slow=20,SNR=2.0						
GNI				LR	LR	18 46 38.7	
	comp=Z,33nm,20.2s,baz=99,slow=44						
	comp=Z,9.3nm,0.8s						
LSA	**Lhasa**	**19.72**	**103**		**P**	**18 36 48.2**	**-1.9**
LSA				IAmb	IAmb	18 37 09.4	
	comp=Z,5.4nm,0.7s						
ZAA0	**Zalesovo Array**	**20.93**	**27**		**P**	**18 37 01.8**	**-0.7**
ZAA0				IAmb	IAmb	18 37 04.0	
	comp=Z,15nm,0.7s						
ZALV	**Zalesovo Beam**	**20.93**	**27**		**P**	**18 37 02.0**	**-0.5**
ZALV	**Zalesovo Beam**	**20.93**	**27**	P	**P**	**18 37 02.4**	**-0.1**
	comp=Z,14nm,0.6s,baz=221,slow=10,SNR=83						
ZALV				LR	LR	18 45 59.9	
	comp=Z,63nm,21.4s,baz=131,slow=39						
	comp=

TOLI2	**Tolitoli**	**59.27**	**114**	P	**P**	**18 42 20.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**64.03**	**268**	P	**P**	**18 42 52.9**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=46,slow=6.3,SNR=6.6						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**75.53**	**15**	P	**P**	**18 44 04.4**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=3.1,slow=6.6,SNR=2.8						
	comp=Z,0.3nm,0.7s						
WRA	**Warramunga Arr**	**83.26**	**121**	P	**P**	**18 44 44.9**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=316,slow=5.2,SNR=24						
	comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**85.46**	**124**	P	**P**	**18 44 56.0**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=312,slow=4.8,SNR=5.3						
	comp=Z,0.5nm,0.7s						

IDC ***13*** *18:36:33.0±1.4, 19°.33S×177°.97W, h0km, mb4.2/2, mbtmp4.2/3, ML4.4/1, Error ellipse: s-maj=52.5km s-min=34.0km az=136.0*

ISC 13 18:36:35.9±1.3, 19°.3S±0°.2×177°.7W±0°.3, h35km, n9, σ1§05/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.41**	**192**	P	**Pn**	**18 41 00.2**	**-0.1**
	1.1nm,0.3s,baz=22,slow=13,SNR=7.9						
	4.9nm,0.5s						
WRA	**Warramunga Arr**	**45.07**	**261**	P	**P**	**18 44 49.1**	**+0.3**
	1.0nm,0.3s,baz=93,slow=7.7,SNR=10						
	1.0nm,0.3s						
ASAR	**Alice Springs**	**45.09**	**256**	P	**P**	**18 44 48.9**	**-0.1**
	1.2nm,0.4s,baz=92,slow=8.3,SNR=83						
	1.2nm,0.4s						
BVAR	**Borovoye Array**	**118.37**	**320**	PKP	**PKiKP**	**18 55 19.9**	**+0.3**
	0.6nm,0.5s,baz=132,slow=2.2,SNR=3.5						
ARCES	**ARCESS Array B**	**127.82**	**350**	PKP	**PKiKP**	**18 55 39.4**	**+1.7**
	3.6nm,1.1s,baz=90,slow=3.6,SNR=6.8						
FINES	**FINESS Array B**	**134.73**	**344**	PKP	**PKiKP**	**18 55 53.0**	**+1.1**
	1.7nm,0.9s,baz=116,slow=3.2,SNR=3.5						
AKASG	**Malin Array Be**	**142.12**	**332**	PKP	**PKiKP**	**18 56 06.3**	**-1.0**
	0.7nm,0.3s,baz=51,slow=3.0,SNR=8.8						
EKA	**Eskdalemuir Ar**	**143.81**	**5**	PKP	**PKiKP**	**18 56 10.2**	**-0.4**
	1.0nm,0.6s,baz=327,slow=2.9,SNR=4.4						
GERES	**GERESS Array B**	**149.15**	**345**	PKPbc	**PKPab**	**18 56 24.0**	**-1.1**
	0.3nm,0.4s,baz=22,slow=4.3,SNR=4.4						

CATAC ***13*** *18:52:52.4±0.7, 13°.N±.3°×9°.0W±°, h10km±3km, M3.4/10, MLv3.4/10, Error ellipse: s-maj=7.0km s-min=5.9km az=21.4, confirmed*

SNET ***13*** *18:52:53.0±0.8, 13°.09N×90°.05W, h24km±4km, ML2.9*

GCG ***13*** *18:52:53.2±0.7, 13°.16N×90°.14W, h20km±4km, MD3.9, ML3.3*

ISC 13 18:52:56.0±2.4, 13°.18N±0°.09×89°.94W±0°.07, h23km±15km, n33, σ1§24/40, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAYA	**Jayaque - finc**	**0.67**	**45**	*eP*	**Pb**	**18 53 08.5**	**-0.7**
JAYA				*eS*	**Sb**	**18 53 19.8**	**+1.6**
JAYA				IAML		18 53 21.5	
	comp=Z,821nm,0.2s						
JAYA	**Jayaque - finc**	**0.67**	**45**	*i P*	**Pb**	**18 53 08.5**	**-0.7**
JAYA				*i S*	**Sb**	**18 53 20.0**	**+1.9**
JAYA	**Jayaque - finc**	**0.67**	**45**	P	**Pb**	**18 53 08.4**	**-0.8**
CEVE	**Cerro Verde**	**0.71**	**25**	*eP*	**Pb**	**18 53 09.1**	**-0.8**
CEVE				*eS*	**Sn**	**18 53 21.6**	**+0.3**
CEVE				IAML		18 53 25.7	
	comp=Z,639nm,0.3s						
CEVE	**Cerro Verde**	**0.71**	**25**	P	**Pb**	**18 53 08.7**	**-1.2**
NUBE	**Las Nubes**	**0.73**	**12**	*eP*	**Pb**	**18 53 08.8**	**-1.4**
NUBE				*eS*	**Sb**	**18 53 20.8**	**+0.8**
NUBE				IAML		18 53 21.8	
	comp=Z,143nm,0.5s						
NUBE	**Las Nubes**	**0.73**	**12**	*i P*	**Pb**	**18 53 09.0**	**-1.2**
NUBE				*i S*	**Sb**	**18 53 20.6**	**+0.6**
NUBE	**Las Nubes**	**0.73**	**12**	P	**Pb**	**18 53 08.8**	**-1.4**
SNJE	**San Jose**	**0.76**	**25**	*eP*	**Pb**	**18 53 09.6**	**-1.1**
RTR	**El Retiro**	**0.77**	**22**	*eP*	**Pb**	**18 53 10.0**	**-0.8**
PMON	**Piamonte**	**0.81**	**49**	P	**Pb**	**18 53 10.5**	**-0.9**
PMON	**Piamonte**	**0.81**	**49**	S	**Sb**	**18 53 23.4**	**+1.4**
CEDA	**San Andres**	**0.81**	**40**	S	**Sb**	**18 53 23.6**	**+1.4**
CEDA	**San Andres**	**0.81**	**40**	P	**Pb**	**18 53 11.4**	**-0.2**
LOAL	**Lomas de Alarc**	**0.83**	**11**	P	**Pb**	**18 53 10.8**	**-0.9**
LOAL	**Lomas de Alarc**	**0.83**	**11**	S	**Sn**	**18 53 23.8**	**0.0**
BOQS	**Boqueron**	**0.85**	**49**	*eP*	**Pb**	**18 53 11.6**	**-0.6**
PANCS	**Alcalda de**	**0.85**	**60**	S	**Sb**	**18 53 24.3**	**+1.0**
LOMA	**Loma Larga**	**0.88**	**58**	S	**Sb**	**18 53 25.2**	**+1.1**
LOMA	**Loma Larga**	**0.88**	**58**	P	**Pb**	**18 53 11.4**	**-1.3**
LFRS	**El Faro**	**0.96**	**63**	*eP*	**Pb**	**18 53 12.7**	**-1.4**
LFRS				IAML		18 53 28.9	
	comp=Z,157nm,0.4s						
FG16	**Alotenango, Sa**	**1.22**	**333**	*i P*	**Pb**	**18 53 19.3**	**+0.8**
FG16				IAML		18 53 46.8	
	comp=N,868nm,0.2s						
MTO3	**Montecristo**	**1.34**	**25**	*eP*	**Pn**	**18 53 18.5**	**-0.9**
MTO3				*eS*	**Sb**	**18 53 38.6**	**+1.3**
MTO3	**Montecristo**	**1.34**	**25**	*i P*	**Pn**	**18 53 18.5**	**-0.9**
MTO3				*i S*	**Sb**	**18 53 39.1**	**+1.8**
MTO3	**Montecristo**	**1.34**	**25**	P	**Pn**	**18 53 18.5**	**-0.9**
LLGN	**La Laguna**	**1.38**	**45**	P	**Pn**	**18 53 18.6**	**-1.3**
LLGN	**La Laguna**	**1.38**	**45**	S	**Sb**	**18 53 39.2**	**+0.9**
PACA	**Pacayal**	**1.60**	**79**	S	**Sn**	**18 53 43.2**	**+0.3**
PACA	**Pacayal**	**1.60**	**79**	P	**Pn**	**18 53 21.2**	**-1.8**
CNCH	**Conchagua**	**2.05**	**87**	P	**Pn**	**18 53 28.8**	**-0.4**
CNCH	**Conchagua**	**2.05**	**87**	S	**Sn**	**18 53 56.3**	**+2.1**
CSGN	**Cosiguina Volc**	**2.33**	**95**	S	**Sn**	**18 54 03.0**	**+2.1**
CHOHN	**Orocuina**	**2.72**	**83**	P	**Pn**	**18 53 37.0**	**-1.4**

IDC ***13*** *18:59:07.1±1.6, 19°.76S×177°.06W, h0km, mb4.2/4, mbtmp4.2/5, ML4.0/1, Error ellipse: s-maj=49.3km s-min=35.5km az=133.0*

ISC 13 18:59:09.1±1.6, 19°.7S±0°.2×176°.7W±0°.3, h35km, n9, σ1§02/11, mb4.2/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.29**	**195**	P	**Pn**	**19 03 31.5**	**-0.6**
	0.5nm,0.3s,baz=38,slow=13,SNR=1.7						
	3.7nm,0.6s						
PMG	**Port Moresby**	**36.42**	**281**	P	**P**	**19 06 09.6**	**-1.0**
	14nm,1.0s,baz=16,slow=10,SNR=3.3						
	14nm,1.0s						
STKA	**Stephens Creek**	**39.28**	**243**	P	**P**	**19 06 34.6**	**-0.1**
	3.3nm,0.7s,baz=88,slow=6.6,SNR=6.4						
	3.3nm,0.7s						
ASAR	**Alice Springs**	**45.95**	**256**	P	**P**	**19 07 29.9**	**+1.0**
	1.9nm,0.7s,baz=103,slow=7.6,SNR=30						
ASAR				PcP	**PcP**	**19 09 06.0**	**+0.5**
	0.4nm,0.7s,baz=99,slow=3.4,SNR=4.7						
	1.9nm,0.7s						
WRA	**Warramunga Arr**	**45.98**	**261**	P	**P**	**19 07 29.5**	**+0.3**
	1.0nm,0.8s,baz=98,slow=7.5,SNR=15						
WRA				PcP	**PcP**	**19 09 07.8**	**+2.2**
	0.3nm,1.0s,baz=75,slow=3.3,SNR=1.5						
	1.0nm,0.8s						
AKASG	**Malin Array Be**	**142.90**	**333**	PKP	**PKiKP**	**19 18 41.1**	**-0.8**
	2.8nm,0.5s,baz=44,slow=4.2,SNR=17						
BRTR	**Keskin Array B**	**147.21**	**314**	PKPbc	**PKiKP**	**19 18 50.9**	**-0.5**
	1.0nm,0.7s,baz=114,slow=2.9,SNR=4.8						
MMAI	**Mount Meron Ar**	**148.50**	**301**	PKPbc	**PKiKP**	**19 18 54.1**	**-0.1**
	0.9nm,0.5s,baz=72,slow=3.9,SNR=5.3						
GERES	**GERESS Array B**	**149.74**	**346**	PKPbc	**PKPab**	**19 19 00.8**	**+0.2**
	0.1nm,0.3s,baz=67,slow=3.8,SNR=2.6						

LDG ***13*** *19:05:04.4±0.1, 45°.03N×5°.77E, h5km, Md2.0/3, Ml1.3/1, Error ellipse: s-maj=1.5km s-min=1.5km az=155.0*

STR 13 19:05:05.0±0.3, 45°.N±2°×°±°, h5km, MLv1.1/6, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORIF	**Oris-en-Rattie**	**0.14**	**146**	*eP*	Pg	19 05 07.6	-0.3
ORIF				*eS*	Sg	19 05 09.9	+0.1
ORIF	**Oris-en-Rattie**	**0.14**	**146**	Pg	Pg	19 05 07.7	-0.2
ORIF				Sg	Sg	19 05 10.0	+0.2
GRN	**Grenoble**	**0.21**	**356**	Pg	Pg	19 05 08.8	-0.2
GRN				Sg	Sg	19 05 12.2	+0.4
OGSM	**Saint Maurice**	**0.57**	**355**	Pg	Pg	19 05 15.9	-0.1
RRL	**Rocca Remolon**	**0.73**	**99**	Pg	Pg	19 05 19.3	+0.2
RRL				Sg	Sg	19 05 29.2	+0.6
MBDF	**Montbardon**	**0.78**	**113**	*eP*	Pg	19 05 18.1	-1.8
MBDF				*eS*	Sg	19 05 28.5	-1.5
	3.3nm,0.4s						
CREF	**Crivoux**	**0.78**	**128**	Pg	Pg	19 05 20.0	0.0
CREF				Sg	Sg	19 05 30.3	+0.2
VIVF	**Saint-Julien-l**	**0.80**	**257**	*eP*	Pg	19 05 19.4	-0.9
VIVF				*eS*	Sg	19 05 30.9	+0.3
	1.6nm,0.2s						
LPG	**La Plagne**	**0.83**	**56**	*eP*	Pg	19 05 21.0	0.0
LPG				*eS*	Sg	19 05 31.5	-0.3
OGMY	**Moye**	**0.85**	**6**	Pg	Pb	19 05 21.9	-0.3
OGMY				Sg	Sb	19 05 33.3	-0.6
SSB	**Saint Sauveur**	**0.90**	**286**	Pg	Pg	19 05 22.3	+0.1
SSB				Sg	Sg	19 05 33.3	-0.6
JAUF	**Jausiers**	**0.93**	**131**	Pg	Pg	19 05 22.3	-0.4
JAUF				Sg	Sg	19 05 35.4	+0.6
OG35	**Corcelles**	**1.02**	**352**	Pg	Pg	19 05 24.2	-0.3
OG35				Sg	Sb	19 05 38.5	-0.3
COLF	**Collangettes**	**1.54**	**289**	Pn	Pn	19 05 33.0	-0.1
COLF				Sn	Sn	19 05 52.4	-1.2
CABF	**La Chapelle**	**1.59**	**8**	*eP*	Pn	19 05 34.2	+0.3
CABF				*eS*	Sn	19 05 54.9	0.0
	0.6nm,0.3s						
LASF	**Ste Croix**	**1.67**	**236**	*eP*	Pn	19 05 35.1	+0.2

NOU 13 19:07:04.6, 11°.52S×165°.27E, h0km, mb4.7/8, Santa Cruz Islands, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUES	**Luesalemba Tem**	**1.06**	**37**	P	Pg	19 07 25.2	+0.2
LUES	**Luesalemba Tem**	**1.06**	**37**	S	Sg	19 07 38.9	+0.1
HURO	**Huro Makira**	**3.47**	**287**	P	Pn	19 07 58.9	-1.0
NGOA	**Tingoa Renbel**	**5.10**	**269**	P	Pn	19 08 22.0	-0.4
ALEG	**Aligegeo Malai**	**5.28**	**301**	P	Pn	19 08 24.7	-0.1
HNR	**Honiara**	**5.63**	**291**	P	Pn	19 08 29.8	+0.2
SAVO	**Savo Central**	**5.86**	**293**	P	Pn	19 08 33.8	+0.9
TATA	**Tatamba Isabel**	**6.22**	**300**	P	Pn	19 08 37.2	-0.5

IDC 13 19:17:36.2±3.2, 11°.48S×166°.17E, h0km, mb3.9/3, mbtmp3.9/4, ML3.1/1, MS3.1/2, Error ellipse: s-maj=67.9km s-min=36.1km az=82.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.45**	**288**	LR	LR	19 21 55.0	
	comp=Z,97nm,21.6s,baz=284,slow=40						
DZM	**Mont Dzumac**	**10.53**	**179**	Pn	Pn	19 20 09.3	+0.7
	0.2nm,0.3s,baz=348,slow=17,SNR=1.5						
DZM				Sn	Sn	19 22 08.6	+1.2
	0.1nm,0.3s,baz=179,slow=14,SNR=1.8						
	4.7nm,0.8s						
PMG	**Port Moresby**	**18.80**	**275**	LR	LR	19 28 42.1	
	comp=Z,86nm,18.9s,baz=130,slow=35						
WRA	**Warramunga Arr**	**31.72**	**251**	P	P	19 24 02.8	+0.8
	1.1nm,1.0s,baz=85,slow=9.1,SNR=4.8						
	1.1nm,1.0s						
ASAR	**Alice Springs**	**32.97**	**244**	P	P	19 24 12.3	-0.7
	1.0nm,0.7s,baz=72,slow=8.8,SNR=14						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**94.12**	**317**	P	P	19 30 56.5	-0.3
	0.6nm,0.7s,baz=91,slow=5.6,SNR=5.2						
	0.6nm,0.7s						

SJA ***13*** *19:23:13.1±0.8, 21°.18S×67°.54W, h205km, ML4.0, MW4.0*

IDC ***13*** *19:23:13.2±1.3, 21°.10S×67°.20W, h169km±12km, mb3.8/13, mbtmp4.2/21, MS3.0/1, Error ellipse: s-maj=14.5km s-min=9.1km az=70.0*

VAO ***13*** *19:23:13.8±0.5, 21°.12S×67°.55W, h207km, mb4.2*

NEIC ***13*** *19:23:13.6±1.8, 21°.22S±0°.07×67°.5W±0°.1, h201km±12km, mb4.3/8, Error ellipse: s-maj=15.0km s-min=9.4km az=90.0*

SCB ***13*** *19:23:15.0±1.3, 21°.15S×67°.50W, h170km±13km, ML4.3/3, MW3.8, Error ellipse: s-maj=5.4km s-min=3.0km az=0.0*

ISC 13 19:23:13.1±0.6, 21°.19S±0°.04×67°.45W±0°.04, h179km±6km, n146, σ1§57/165, mb4.1/14, §D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.69**	**92**	Pg	**Pn**	**19 23 49.8**	**+2.4**
MOCB				Sg	**Sn**	**19 24 15.9**	**+2.0**
MOCB				IAML		19 24 17.4	
	3µm,0.7s						
PB09	**IPOC Station P**	**1.77**	**250**		**Pn**	**19 23 50.0**	**+2.1**
PB09	**IPOC Station P**	**1.77**	**250**	Pg	**Pn**	**19 23 50.2**	**+2.3**
AF05	**San Pedro de A**	**1.88**	**201**		**Pn**	**19 23 50.8**	**+1.6**
PB08	**IPOC Station P**	**1.91**	**303**		**Pn**	**19 23 51.3**	**+1.7**
PB08	**IPOC Station P**	**1.91**	**303**	*eP*	**Pn**	**19 23 51.5**	**+2.0**
PB08				*eS*	**Sn**	**19 24 19.7**	**+2.0**
PB08				IAML		19 24 21.4	
	comp=Z,411nm,1.0s						
PB01	**IPOC Station P**	**1.91**	**274**		**Pn**	**19 23 50.4**	**+1.1**
PB01				Sn	**Sn**	**19 24 17.5**	**+0.2**
PB01	**IPOC Station P**	**1.91**	**274**	*eP*	**Pn**	**19 23 50.4**	**+1.1**
PB01				*eS*	**Sn**	**19 24 19.4**	**+2.2**
PB01				IAML		19 24 22.2	
	comp=Z,652nm,0.1s						
PB01	**IPOC Station P**	**1.91**	**274**	Pg	**Pn**	**19 23 50.4**	**+1.1**
GO01	**Chusmiza**	**2.23**	**312**		**Pn**	**19 23 54.6**	**+1.4**
GO01	**Chusmiza**	**2.23**	**312**	Pg	**Pn**	**19 23 54.0**	**+0.8**
PB02	**IPOC Station P**	**2.29**	**266**		**Pn**	**19 23 54.4**	**+1.0**
PB02				Sn	**Sn**	**19 24 24.6**	**-0.2**
PB02	**IPOC Station P**	**2.29**	**266**	*eP*	**Pn**	**19 23 54.6**	**+1.2**
PB02				*eS*	**Sn**	**19 24 25.7**	**+1.0**
PB02				IAML		19 24 26.2	
	comp=Z,1µm,0.1s						
PB02	**IPOC Station P**	**2.29**	**266**	Pg	**Pn**	**19 23 54.6**	**+1.2**
PB02				Sg	**Sn**	**19 24 24.5**	**-0.2**
PB02				IAML		19 24 25.9	
	comp=Z,762nm,0.6s						
HMBC	**Humberstone**	**2.46**	**291**		**Pn**	**19 23 55.8**	**+0.4**
HMBC				Sn	**Sn**	**19 24 26.2**	**-2.0**
HMBC	**Humberstone**	**2.46**	**291**	*eP*	**Pn**	**19 23 56.1**	**+0.7**
HMBC				*eS*	**Sn**	**19 24 28.6**	**+0.4**
HMBC				IAML		19 24 30.5	
	comp=Z,1µm,0.5s						
PB06	**IPOC Station P**	**2.48**	**232**		**Pn**	**19 23 57.1**	**+1.4**
PB06	**IPOC Station P**	**2.48**	**232**	Pg	**Pn**	**19 23 58.4**	**+2.7**
PB11	**IPOC Station P**	**2.51**	**304**		**Pn**	**19 23 57.0**	**+0.9**
PB11	**IPOC Station P**	**2.51**	**304**	*eP*	**Pn**	**19 23 55.3**	**-0.8**
PB11				*eS*	**Sn**	**19 24 29.6**	**+0.2**
PB11				IAML		19 24 32.9	
	comp=Z,735nm,0.1s						
PB11	**IPOC Station P**	**2.51**	**304**	Pg	**Pn**	**19 23 57.3**	**+1.2**
PB11				Sg	**Sn**	**19 24 29.3**	**-0.1**
PB11				IAML		19 24 32.1	
	comp=Z,1µm,0.6s						
PATCX	**Punta Patache**	**2.55**	**278**		**Pn**	**19 23 57.0**	**+0.5**
PATCX	**Punta Patache**	**2.55**	**278**	*eP*	**Pn**	**19 23 57.5**	**+1.0**
PATCX				*eS*	**Sn**	**19 24 30.3**	**+0.1**
PATCX				IAML		19 24 31.8	
	comp=Z,525nm,0.6s						
TA01	**Diego Aracena**	**2.63**	**283**		**Pn**	**19 23 57.6**	**+0.3**
SOEO	**Opoqueri**	**2.65**	**351**	Pg	**Pn**	**19 24 00.0**	**+2.0**
HJA	**Humahuaca**	**2.76**	**137**	*eP*	**Pn**	**19 24 02.5**	**+3.2**
HJA				IAML		19 24 41.1	
	comp=Z,233nm,0.4s						
PB05	**IPOC Station P**	**3.04**	**237**		**Pn**	**19 24 03.0**	**+0.6**
PB05	**IPOC Station P**	**3.04**	**237**	*eP*	**Pn**	**19 24 03.9**	**+1.5**
PB05				*eS*	**Sn**	**19 24 40.6**	**-0.2**
PB05				IAML		19 24 42.5	
	comp=Z,254nm,0.6s						
PB05	**IPOC Station P**	**3.04**	**237**	Pg	**Pn**	**19 24 03.9**	**+1.5**
SOET	**ToroToro**	**3.43**	**27**	Pg	**Pn**	**19 24 08.5**	**+1.1**
PB16	**IPOC Station P**	**3.44**	**325**		**Pn**	**19 24 09.1**	**+1.4**
PB16	**IPOC Station P**	**3.44**	**325**	*eP*	**Pn**	**19 24 09.5**	**+1.7**
PB16				IAML		19 24 53.6	
	comp=Z,109nm,0.6s						
PB16	**IPOC Station P**	**3.44**	**325**	Pg	**Pn**	**19 24 09.5**	**+1.7**
AOEA	**Aiquile**	**3.65**	**35**	Pg	**Pn**	**19 24 11.3**	**+1.1**
PB10	**IPOC Station P**	**3.69**	**231**		**Pn**	**19 24 11.0**	**+0.7**
PB10	**IPOC Station P**	**3.69**	**231**	*eP*	**Pn**	**19 24 11.2**	**+0.9**
PB10				*eS*	**Sn**	**19 24 53.6**	**-1.3**
PB10				IAML		19 24 56.4	
	comp=Z,143nm,0.9s						
SLA	**San Lorenzo**	**3.95**	**153**	*eP*	**Pn**	**19 24 16.7**	**+3.0**
SLA				*eS*	Sn	19 25 20.5	+19
PB18	**Visviri**	**4.06**	**332**		**Pn**	**19 24 17.7**	**+2.1**
BBOJ	**La Paz, Jacaqu**	**4.25**	**350**	Pg	**Pn**	**19 24 20.2**	**+2.2**
SOEJ	**Jacaque**	**4.25**	**350**	Pg	**Pn**	**19 24 19.5**	**+1.5**
PB14	**IPOC Station P**	**4.37**	**218**		**Pn**	**19 24 20.0**	**+0.8**
BBOE	**La Paz, Chanca**	**4.38**	**353**	Pg	**Pn**	**19 24 21.5**	**+1.8**
GO02	**Mina Guanaco**	**4.42**	**206**		**Pn**	**19 24 20.9**	**+1.1**
LPAZ	**La Paz**	**4.92**	**352**		**Pn**	**19 24 28.1**	**+1.4**
LPAZ	**La Paz**	**4.92**	**352**	P	**Pn**	**19 24 27.4**	**+0.8**
	comp=Z,56nm,0.5s,baz=165,slow=7.6,SNR=178						
LPAZ				S	**Sn**	**19 25 23.4**	**-0.9**
	comp=Z,15nm,0.6s,baz=241,slow=14,SNR=1.3						
LPAZ	**La Paz**	**4.92**	**352**	Pg	**Pn**	**19 24 28.0**	**+1.4**
LPAZ	**La Paz**	**4.92**	**352**	*eP*	**Pn**	**19 24 28.2**	**+1.5**
BBOB	**La Paz, Bander**	**5.06**	**353**	Pg	**Pn**	**19 24 29.9**	**+1.4**
FSA	**Cafayete**	**5.08**	**165**	*eP*	**Pn**	**19 24 32.2**	**+3.9**
FSA				*eS*	Sn	19 25 12.9	-14
AC01	**Pan de Azucar**	**5.72**	**210**		**Pn**	**19 24 36.1**	**-0.3**
AC02	**Maricunga**	**5.83**	**195**		**Pn**	**19 24 39.3**	**+1.0**
AC06	**Mina Casimiro**	**6.69**	**203**		**Pn**	**19 24 48.1**	**-1.1**
GO03	**Copiapo**	**6.86**	**201**		**Pn**	**19 24 50.4**	**-1.1**
AC04	**Llanos de Chal**	**7.72**	**205**		**Pn**	**19 25 00.3**	**-2.5**
SIV	**San Ignacio**	**7.96**	**51**	P	**Pn**	**19 25 04.0**	**-2.0**
	comp=Z,26nm,0.5s,baz=233,slow=9.1,SNR=119						
SIV				S	Sn	19 26 28.8	-6.5
	comp=Z,12nm,0.6s,baz=292,slow=19,SNR=8.6						
LCO	**Las Campanas**	**8.32**	**200**		**Pn**	**19 25 08.7**	**-2.2**
CO01	**Juntas del Tor**	**9.07**	**195**		**Pn**	**19 25 20.2**	**-0.5**
MURT	**Porto Murtinho**	**9.18**	**95**	*eP*	**Pn**	**19 25 22.2**	**+0.3**
GO04	**Tololo Observa**	**9.44**	**198**		**Pn**	**19 25 23.2**	**-2.4**
PTLB	**Pontes e Lacer**	**9.74**	**55**		**Pn**	**19 25 28.4**	**-1.0**
PTLB	**Pontes e Lacer**	**9.74**	**55**	*eP*	**Pn**	**19 25 27.6**	**-1.7**
BDQN	**Bodoquena, MS**	**10.04**	**88**	*eP*	**Pn**	**19 25 35.0**	**+1.8**
CO03	**El Pedregal**	**10.04**	**196**		**Pn**	**19 25 31.1**	**-2.2**
CO06	**Fray Jorge**	**10.17**	**201**	Pn	**Pn**	**19 25 31.2**	**-3.6**
CFA	**Coronel Fontan**	**10.40**	**184**	P	**Pn**	**19 25 37.7**	**-0.2**
	comp=Z,4.7nm,0.5s,baz=9.3,slow=12,SNR=14						
CFA				S	**Sn**	**19 27 28.9**	**-4.6**
	comp=Z,1.1nm,0.5s,baz=170,slow=20,SNR=1.8						
CO02	**Combarbal**	**10.47**	**197**		**Pn**	**19 25 36.2**	**-2.7**
CPUP	**Villa Florida**	**10.59**	**121**	Pn	**Pn**	**19 25 41.0**	**+0.7**
CPUP	**Villa Florida**	**10.59**	**121**	P	**Pn**	**19 25 38.8**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=143,slow=11,SNR=8.5						
CPUP				S	**Sn**	**19 27 33.9**	**-4.1**
	comp=Z,1.3nm,0.8s,baz=156,slow=14,SNR=3.0						
CPUP	**Villa Florida**	**10.59**	**121**	*eP*	**Pn**	**19 25 41.3**	**+1.0**
VILB	**Vilhena**	**10.73**	**41**		**Pn**	**19 25 41.6**	**-0.7**
VILB	**Vilhena**	**10.73**	**41**	*eP*	**Pn**	**19 25 41.4**	**-0.9**
AQDB	**Aquidauana**	**11.01**	**88**	*eP*	**Pn**	**19 25 47.6**	**+1.7**
SJPY	**San Joaquin**	**11.11**	**112**	*eP*	**Pn**	**19 25 48.7**	**+1.6**
VA03	**San Esteban**	**11.85**	**193**	P	**Pn**	**19 25 56.8**	**+0.1**
PEL	**Peldehue**	**12.25**	**193**	P	**Pn**	**19 26 00.7**	**-1.1**
MT08	**Bocatoma Ro**	**12.42**	**190**		**Pn**	**19 26 04.6**	**+0.4**
MT02	**Curacav**	**12.46**	**194**	P	**Pn**	**19 26 01.8**	**-2.6**
MT03	**Universidad Ad**	**12.55**	**192**		**Pn**	**19 26 05.8**	**+0.1**
NNA	**Nana**	**12.83**	**314**	P	**Pn**	**19 26 09.2**	**-0.1**
	comp=Z,6.8nm,0.3s,baz=215,slow=15,SNR=1.4						
LMEL	**Las Melosas**	**12.84**	**190**	P	**Pn**	**19 26 09.4**	**-0.1**
MT09	**Talagante**	**12.92**	**193**	P	**Pn**	**19 26 09.1**	**-1.4**
BO04	**La Punta**	**13.05**	**192**	P	**Pn**	**19 26 11.5**	**-0.5**
TRCB	**Terra Rica**	**13.84**	**99**	P	**P**	**19 26 24.4**	**-0.1**
TRCB	**Terra Rica**	**13.84**	**99**	*eP*	**Pn**	**19 26 22.9**	**+0.9**
BO02	**Sierra Bellavi**	**13.87**	**192**	P	**Pn**	**19 26 21.8**	**-0.5**
PDRB	**Porto dos Gac**	**14.01**	**49**	*eP*	**Pn**	**19 26 22.5**	**-1.6**
PTGB	**Pitanga**	**14.60**	**107**	*eP*	**Pn**	**19 26 32.9**	**+1.4**
CLDB	**Colider**	**15.18**	**49**	*eP*	**Pn**	**19 26 38.0**	**-0.6**
ITAB	**Concordia**	**15.21**	**116**	P	**Pn**	**19 26 39.0**	**+0.1**
ITAB				IAmb	IAmb	19 26 39.7	
	comp=Z,22nm,1.3s						
ITAB	**Concordia**	**15.21**	**116**	*eP*	**Pn**	**19 26 39.5**

comp=Z,2.6nm,0.6s,baz=280,slow=2.3,SNR=11
MKAR Makanchi Array 144.58 37 PKP **PKiKP 19 42 28.7 -3.3**
comp=Z,6.4nm,0.7s,baz=325,slow=3.1,SNR=60
USRK Ussuriysk Ar. 151.96 329 PKPbc **PKiKP 19 42 48.3 +1.1**
comp=Z,2.1nm,0.6s,baz=260,slow=5.1,SNR=4.9
MJAR Matsushiro Arr 152.93 310 PKPbc **PKiKP 19 42 51.0 +1.4**
comp=Z,1.1nm,0.6s,baz=59,slow=1.2,SNR=3.1
SONM Songino Array 152.96 9 PKP **PKPdf 19 42 42.7 +0.8**
comp=Z,1.6nm,0.8s,baz=32,slow=1.6,SNR=3.9
SONM PKPbc **PKiKP 19 42 50.2 +0.8**
comp=Z,1.1nm,0.6s,baz=278,slow=2.1,SNR=6.0
SONM PKPab **PKPab 19 43 02.5 +1.4**
comp=Z,0.8nm,0.7s,baz=321,slow=3.4,SNR=4.5

NIED ***13*** *19:23:42.1, 37.37N×141.10E, h28km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=1.27; Mθθ1.64; Mϕϕ=0.37; Mrθ0.56; Mθϕ=0.94; Mϕr1.11; Fault plane solution: M₀2.15000×10¹⁴ NP1: ϕs143.00000°, δs55.00000°, λ=40.00000°. NP2: ϕs259.00000°, δs59.00000°, λ=137.00000°.*
JMA 13 19:23:42.1±0.1, 37.4N±0.2×141.1E±0.5, h28km, MV3.7/40, 2D,E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.18**	**270**	⇓*i*P		Pb	19 23 47.7	-0.2
JFK				⇓S		Sb	19 23 51.5	-0.3
ONAJ	**Iwakimizuishiy**	**0.36**	**223**	*i*P		Pb	19 23 49.9	-0.3
ONAJ				S		Sb	19 23 55.4	-0.4
JMST	**Minamisoumatoc**	**0.40**	**334**	*i*P		Pb	19 23 50.4	-0.4
JMST				S		Sb	19 23 56.5	-0.2
JFFD	**Fukushimafurud**	**0.51**	**238**	*i*P		Pb	19 23 52.3	-0.3
JFFD				S		Sb	19 23 59.3	-0.5
JMM	**Marumori**	**0.56**	**334**	*i*P		Pb	19 23 52.9	-0.5
JMM				S		Sb	19 24 00.8	-0.2
JOTO	**OTAMA OYAMA**	**0.64**	**288**	*i*P		Pb	19 23 54.9	+0.1
JOTO				S		Sb	19 24 03.6	+0.1
JHO	**Hitachi**	**0.87**	**210**	*i*P		Pn	19 23 56.7	-1.7
JOU	**Okura**	**1.06**	**341**	*i*P		Pn	19 24 01.3	+0.2
JOU				S		Sb	19 24 15.6	+0.3
JIO	**Ouri**	**1.10**	**10**	*i*P		Pn	19 24 01.0	-0.7
JFY	**Yanaizu**	**1.11**	**273**	*i*P		Pn	19 24 02.2	+0.3
JFY				S		Sb	19 24 17.3	+0.4
JYS	**Shirataka**	**1.19**	**316**	*i*P		Pb	19 24 03.4	-0.5
JYS				S		Sb	19 24 19.3	+0.4

MOS ***13*** *19:41:44.4±1.0, 50.46N×87.39E, h8km, mb3.9/1, Error ellipse: s-maj=8.2km s-min=5.2km az=83.7*
ASRS ***13*** *19:41:44.0±0.2, 51.1×8.7E, h5km, MLv4.2/16, Error ellipse: s-maj=2.9km s-min=2.1km az=75.2, confirmed*
NEIC ***13*** *19:41:46.3±1.9, 50.68N±0.06×87.1E±0.2, h10km±1km, mb4.0/14, Error ellipse: s-maj=18.8km s-min=9.9km az=101.0*
NNC ***13*** *19:41:47.5±1.3, 50.62N×87.14E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=12.8km s-min=6.3km az=99.0*
IDC ***13*** *19:41:47.4±1.0, 50.59N×87.12E, h0km, mb3.7/6, mbtmp3.9/14, ML3.6/8, MS3.0/6, Error ellipse: s-maj=10.9km s-min=10.2km az=32.0*
SOME ***13*** *19:41:51.4, 50.20N×87.73E, h15km*
ISC 13 19:41:44.4±1.1, 50.53N±0.02×87.39E±0.02, h1km±8km, n108, σ2.22/141, mb3.7/7, MS3.0/3, 17C-14D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CHBI	**Chibit, Altay**	**0.23**	**162**	⇓Pg		**Pg**	**19 41 49.2**	**+0.5**
CHBI				Sg		**Sg**	**19 41 52.3**	**+0.7**
CHBI	**Chibit, Altay**	**0.23**	**162**	PG		**Pg**	**19 41 49.2**	**+0.5**
CHBI							19 41 52.3	
AKAR	**Aktash**	**0.25**	**145**	⇓Pg		**Pg**	**19 41 49.6**	**+0.3**
AKAR				Sg		**Sg**	**19 41 53.1**	**+0.6**
AKAR	**Aktash**	**0.25**	**145**	PG		**Pg**	**19 41 49.5**	**+0.3**
AKAR							19 41 53.1	
ULGR	**Ulagan, Altay**	**0.37**	**75**	⇑Pg		**Pg**	**19 41 51.8**	**+0.2**
ULGR				Sg		**Sg**	**19 41 56.5**	**0.0**
ULGR	**Ulagan, Altay**	**0.37**	**75**	PG		**Pg**	**19 41 51.7**	**+0.2**
CUR	**Chagan-Uzun**	**0.75**	**125**	⇑Pg		**Pg**	**19 41 58.5**	**-0.3**
CUR				Sg		**Sb**	**19 42 08.6**	**-2.5**
CUR	**Chagan-Uzun**	**0.75**	**125**	PG		**Pg**	**19 41 58.4**	**-0.3**
CUR							19 42 08.6	
TUNR	**Tungur**	**0.78**	**242**	PG		**Pg**	**19 42 00.1**	**+0.9**
TUNR							19 42 10.5	
DGZ	**Jazzator, Alta**	**0.83**	**178**	⇓Pg		**Pg**	**19 42 00.4**	**+0.1**
DGZ				Sg		**Sg**	**19 42 11.1**	**+0.1**
DGZ	**Jazzator, Alta**	**0.83**	**178**	PG		**Pg**	**19 42 00.3**	**+0.1**
DGZ							19 42 11.1	
ELDR	**Elanda**	**1.07**	**310**	⇑Pg		**Pg**	**19 42 05.0**	**0.0**
ELDR				Sg		**Sg**	**19 42 19.4**	**+0.4**
ELDR	**Elanda**	**1.07**	**310**	PG		**Pg**	**19 42 05.0**	**0.0**
ELDR							19 42 18.7	
YALR	**Yailyu, Altay**	**1.25**	**6**	⇓Pg		**Pn**	**19 42 07.8**	**-1.3**
YALR				Sg		**Sb**	**19 42 22.9**	**-2.6**
YALR	**Yailyu, Altay**	**1.25**	**6**	PG		**Pn**	**19 42 07.7**	**-1.3**
ARTR	**Artybash**	**1.27**	**357**	Pg		**Pn**	**19 42 08.2**	**-1.2**
ARTR				Sg		**Sb**	**19 42 25.4**	**-0.7**
ARTR	**Artybash**	**1.27**	**357**	PG		**Pn**	**19 42 08.1**	**-1.2**
ARTR							19 42 25.4	
UKR	**Ust'-Kan**	**1.71**	**285**	Pg		**Pn**	**19 42 17.1**	**+1.5**
UKR				Sg		**Sb**	**19 42 41.7**	**+2.9**
UKR	**Ust'-Kan**	**1.71**	**285**	PN		**Pn**	**19 42 17.0**	**+1.5**
UKR							19 42 41.7	
TEL	**Teeli**	**1.85**	**73**	Pg		**Pn**	**19 42 17.6**	**+0.2**
TEL				Sg		**Sg**	**19 42 44.0**	**+0.3**
TEL	**Teeli**	**1.85**	**73**	PN		**Pn**	**19 42 17.5**	**+0.2**
TEL							19 42 44.0	
ELT	**Eltsovka**	**2.83**	**346**	⇓Pg		**Pn**	**19 42 33.0**	**+2.3**
ELT				Sg		**Sb**	**19 43 11.9**	**+1.1**
ELT	**Eltsovka**	**2.83**	**346**	PN		**Pn**	**19 42 33.0**	**+2.3**
ELT							19 43 11.8	
LUZB	**Luzhba, Kemero**	**3.27**	**16**	Pn		**Pn**	**19 42 39.4**	**+2.6**
LUZB				Sg		**Sg**	**19 43 30.9**	**+1.5**
LUZB	**Luzhba, Kemero**	**3.27**	**16**	PN		**Pn**	**19 42 39.4**	**+2.6**
LUZB							19 43 30.9	
VEH	**Verkhnyaya Baz**	**3.27**	**32**	Pn		**Pn**	**19 42 40.0**	**+3.0**
VEH				Pg		Pg	19 42 44.6	-2.5
VEH				Sg		**Sb**	**19 43 25.6**	**+1.8**
VEH	**Verkhnyaya Baz**	**3.27**	**32**	PN		**Pn**	**19 42 40.0**	**+3.0**
VEH							19 42 44.6	
VEH							19 43 25.5	
DJO	**Djoy, Khakassi**	**3.28**	**45**	Pn		**Pn**	**19 42 39.7**	**+2.6**
DJO				Pg		Pg	19 42 45.2	-2.0
DJO				Sg		**Sg**	**19 43 27.0**	**-2.8**
DJO	**Djoy, Khakassi**	**3.28**	**45**	PN		**Pn**	**19 42 39.6**	**+2.6**
DJO							19 42 45.2	
DJO							19 43 26.9	
CERR	**Cheremushki**	**3.42**	**46**	Pn		**Pn**	**19 42 41.4**	**+2.5**
CERR				Pg		Pg	19 42 49.6	-0.3
CERR				Sg		**Sb**	**19 43 29.8**	**+2.0**
CERR	**Cheremushki**	**3.42**	**46**	PN		**Pn**	**19 42 41.3**	**+2.5**
CERR							19 42 49.6	
CERR							19 43 29.7	
ZSN	**Zaisan**	**3.50**	**209**	*e*P		**Pn**	**19 42 43.9**	**+3.8**
	33nm,0.5s							
ZSN				*e*S		**Sb**	**19 43 28.2**	**-2.0**
	532nm,0.9s							
ERU	**Erunakovo, Kuz**	**3.62**	**360**	Pn		**Pn**	**19 42 44.5**	**+2.9**
ERU				Pg		Pg	19 42 51.6	-2.1
ERU				Sg		**Sg**	**19 43 40.3**	**-0.2**
ERU	**Erunakovo, Kuz**	**3.62**	**360**	PN		**Pn**	**19 42 44.5**	**+2.9**
ERU							19 42 51.6	
ERU							19 43 40.3	
ZAA0	**Zalesovo Array**	**3.77**	**336**			**Pn**	**19 42 45.0**	**+1.3**
ZAA0				Sn		**Sn**	**19 43 24.3**	**-4.4**
ZAA0	**Zalesovo Array**	**3.77**	**336**	⇑Pn		**Pn**	**19 42 44.5**	**+0.8**
	2.6nm,0.5s							
ZAA0				⇑Lg		Lg	19 43 40.6	
	40nm,0.5s							
ZALV	**Zalesovo Beam**	**3.77**	**336**			**Pn**	**19 42 45.0**	**+1.3**
ZALV	**Zalesovo Beam**	**3.77**	**336**	Pn		**Pn**	**19 42 45.2**	**+1.5**
	12nm,0.3s,baz=156,slow=14,SNR=180							
ZALV				Sn		**Sn**	**19 43 31.9**	**+3.2**
	19nm,0.3s,baz=167,slow=25,SNR=3.5							
ZALV				Lg		Lg	19 43 42.8	
	46nm,0.3s,baz=154,slow=28,SNR=3.8							
	37nm,0.3s							
ZALV	**Zalesovo Beam**	**3.77**	**336**	PN		**Pn**	**19 42 45.0**	**+1.3**
SEM	**Semipalatinsk**	**4.56**	**271**	*e*P		**Pb**	**19 43 03.3**	**-2.1**
	62nm,0.6s							
SEM				*e*S		**Sb**	**19 44 01.6**	**+0.6**
	437nm,0.5s							
NVS	**Novosibirsk**	**5.00**	**331**	Sg		**Sg**	**19 44 22.5**	**-2.5**
MK31	**Makanchi Array**	**5.04**	**224**	⇑Pn		**Pn**	**19 43 05.1**	**+4.0**
	32nm,0.6s,baz=44,slow=12,SNR=411							
MK31				⇑Sn		**Sn**	**19 44 03.7**	**+3.7**
	71nm,0.5s,baz=60,slow=24,SNR=7.5							
MK31				⇑Lg		Lg	19 44 23.2	
	260nm,0.8s,baz=49,slow=28,SNR=7.2							
MKAR	**Makanchi Array**	**5.04**	**224**			**Pn**	**19 43 05.0**	**+3.9**
MKAR				Sn		**Sn**	**19 44 03.1**	**+3.1**
MKAR	**Makanchi Array**	**5.04**	**224**	Pn		**Pn**	**19 43 05.4**	**+4.3**
	13nm,0.3s,baz=38,slow=12,SNR=265							
MKAR				Sn		**Sn**	**19 44 02.8**	**+2.8**
	41nm,0.3s,baz=58,slow=24,SNR=19							
MKAR				Lg		Lg	19 44 22.1	
	36nm,0.3s,baz=48,slow=31,SNR=14							
	36nm,0.5s							
MKAR	**Makanchi Array**	**5.04**	**224**	PN		**Pn**	**19 43 05.0**	**+3.9**
MKAR							19 44 03.1	
MAKZ	**Makanchi**	**5.17**	**226**	Pn		**Pn**	**19 43 07.4**	**+4.4**
MAKZ	**Makanchi**	**5.17**	**226**	Pn		**Pn**	**19 43 06.6**	**+3.7**
	34nm,0.5s							
MAKZ				Sn		**Sn**	**19 44 05.7**	**+2.5**
	275nm,0.9s							
MAKZ				⇓Lg		Lg	19 44 27.8	
	151nm,0.6s							
MAKZ	**Makanchi**	**5.17**	**226**	PN		**Pn**	**19 43 07.4**	**+4.4**
KURK	**Kurchatov**	**5.59**	**275**			**Pn**	**19 43 10.3**	**+1.7**
KURK				Sn		**Sn**	**19 44 13.0**	**-0.4**
KURK	**Kurchatov**	**5.59**	**275**	⇑Pn		**Pn**	**19 43 10.3**	**+1.7**
	7.0nm,0.5s							
KURK				⇓Lg		Lg	19 44 40.3	
	102nm,0.9s							
KURK	**Kurchatov**	**5.59**	**275**	PN		**Pn**	**19 43 10.1**	**+1.5**
KURK							19 44 14.3	
KURBB	**Kurchatov Arra**	**5.65**	**274**	⇑Pn		**Pn**	**19 43 11.1**	**+1.7**
	48nm,0.5s							
KURBB				⇑Sn		**Sn**	**19 44 16.1**	**+1.1**
	140nm,0.7s							
KURBB				⇑Lg		Lg	19 44 41.1	
	665nm,0.8s							
KURBB	**Kurchatov Arra**	**5.65**	**274**	Pn		**Pn**	**19 43 10.1**	**+0.7**
	2.4nm,0.3s,baz=87,slow=14,SNR=158							
KURBB				Sn		**Sn**	**19 44 14.3**	**-0.6**
	2.0nm,0.3s,baz=82,slow=28,SNR=6.8							
KURBB				Lg		Lg	19 44 41.2	
	5.5nm,0.3s,baz=90,slow=32,SNR=9.8							
KURBB				LR		LR	19 45 27.8	
	comp=Z,75nm,19.8s,baz=158,slow=40							
	32nm,0.5s							
KURBB	**Kurchatov Arra**	**5.65**	**274**	PN		**Pn**	**19 43 11.1**	**+1.7**
KURBB				S		**Sn**	**19 44 16.6**	**+1.7**
WMQ	**Urumqi**	**6.71**	**178**	Pn		Pn	19 43 30.4	+6.2
WMQ				Sg		**Sn**	**19 44 32.8**	**-8.5**
WMQ				smax		smax		
	comp=N,130nm,0.9s							
WMQ				smax		smax		
	comp=E,92nm,0.9s							
PDGK	**Podgornoye**	**9.00**	**220**	⇓Pn		**Pn**	**19 43 57.3**	**+1.7**
	comp=E,9.0nm,0.5s							
PDGK				⇓Sn		**Sn**	**19 45 38.2**	**+0.5**
	comp=E,46nm,0.7s							
PDGK				⇓Lg		Lg	19 46 28.8	
	comp=E,55nm,0.8s							
PDGK	**Podgornoye**	**9.00**	**220**	P		**Pn**	**19 43 57.3**	**+1.7**
PDGK				S		**Sn**	**19 45 38.2**	**+0.5**
ZAK	**Zakamensk**	**10.14**	**85**	*e*P		Pn	19 44 04.2	-6.9
ZAK				pmax		pmax		
	comp=Z,14nm,1.4s							
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.7s							
PRZ	**Przheval'sk**	**10.15**	**221**	Pn		**Pn**	**19 44 11.3**	**-0.1**
PRZ				Sn		**Sn**	**19 46 05.4**	**-0.6**
PRZ	**Przheval'sk**	**10.15**	**221**	P		**Pn**	**19 44 11.3**	**-0.1**
PRZ							19 46 05.4	
BVA0	**Borovoye Array**	**10.83**	**290**	⇑Pn		**Pn**	**19 44 19.2**	**-1.3**
	comp=Z,3.1nm,0.6s,baz=89,slow=15,SNR=28							
BVA0				⇓Sn		**Sn**	**19 46 21.1**	**-1.1**
	comp=Z,13nm,0.6s,baz=104,slow=24,SNR=9.2							
BVA0				⇓Lg		Lg	19 47 27.6	
	comp=Z,40nm,0.9s							
BVA0	**Borovoye Array**	**10.83**	**290**	P		**Pn**	**19 44 19.2**	**-1.3**
BVA0				S		**Sn**	**19 46 21.1**	**-1.1**
BVAR	**Borovoye Array**	**10.83**	**290**	Pn		**Pn**	**19 44 20.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=97,slow=14,SNR=39							
BVAR				Sn		**Sn**	**19 46 17.0**	**-5.2**
	comp=Z,0.5nm,0.3s,baz=101,slow=24,SNR=13							
BVAR				Lg		Lg	19 47 27.1	
	baz=54,slow=26							
BVAR				LR		LR	19 48 53.1	
	comp=Z,47nm,18.8s,baz=93,slow=40							
	comp=Z,4.8nm,0.5s							
KDJ	**Kajisay**	**10.96**	**224**			**Pn**	**19 44 22.2**	**-0.3**
KDJ	**Kajisay**	**10.96**	**224**	P		**Pn**	**19 44 22.2**	**-0.3**
TARG	**Taragay, Kyrgy**	**11.02**	**221**			**Pn**	**19 44 27.0**	**+3.4**
TARG	**Taragay, Kyrgy**	**11.02**	**221**	P		**Pn**	**19 44 27.0**	**+3.4**
BOOM	**Boomskoye usch**	**11.26**	**229**	Pn		Pn	19 44 19.0	-7.5
BOOM	**Boomskoye usch**	**11.26**	**229**	P		Pn	19 44 19.0	-7.5
AAK	**Ala-Archa**	**11.86**	**233**	⇑Pn		**Pn**	**19 44 37.6**	**+2.8**
	comp=Z,1.5nm,0.6s							
AAK				⇑Sn		**Sn**	**19 46 52.9**	**+5.0**
	comp=Z,3.5nm,0.6s							
AAK				⇓Lg		Lg	19 47 59.5	
	comp=Z,22nm,0.9s							
AAK	**Ala-Archa**	**11.86**	**233**	Pn		**Pn**	**19 44 35.9**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=56,slow=21,SNR=1.3							
AAK				Sn		**Sn**	**19 46 45.9**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=292,slow=19,SNR=2.0							
AAK				Lg		Lg	19 47 58.9	
	comp=Z,0.6nm,0.3s,baz=308,slow=19,SNR=5.7							
	comp=Z,0.9nm,0.3s							
NRN	**Naryn**	**12.05**	**225**			**Pn**	**19 44 36.1**	**-1.4**
NRN	**Naryn**	**12.05**	**225**	P		**Pn**	**19 44 36.1**	**-1.4**
SONM	**Songino Array**	**12.72**	**95**	Pn		Pn	19 44 53.5	+7.1
	comp=Z,0.1nm,0.3s,baz=296,slow=17,SNR=1.9							
SONM				Sn		Sn	19 47 17.9	+9.2
	comp=Z,0.1nm,0.3s,baz=262,slow=22,SNR=2.3							
SONM				Lg		Lg	19 48 31.7	
	comp=Z,0.2nm,0.3s,baz=280,slow=30,SNR=8.5							
SONM				LR		LR	19 49 57.2	
	comp=Z,69nm,19.1s,baz=346,slow=38							
	comp=Z,0.2nm,0.4s							
KK31	**Karatay Array**	**13.72**	**244**			**Pn**	**19 44 57.6**	**-2.4**
KK31	**Karatay Array**	**13.72**	**244**	⇑Pn		**Pn**	**19 45 01.5**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=45,slow=14,SNR=11							
KK31				⇑Sn		**Sn**	**19 47 34.9**	**+1.8**
	comp=Z,2.1nm,0.6s,baz=49,slow=21,SNR=3.5							
KK31				⇓Lg		Lg	19 49 00.2	
	comp=Z,13nm,0.7s,baz=51,slow=33,SNR=5.7							
KK31	**Karatay Array**	**13.72**	**244**	P		**Pn**	**19 44 57.6**	**-2.4**
KKAR	**Karatay Array**	**13.72**	**244**			**Pn**	**19 44 57.5**	**-2.5**
KKAR	**Karatay Array**	**13.72**	**244**	P		**Pn**	**19 44 57.5**	**-2.5**
GTA	**Gaotai**	**14.15**	**137**	*e*P		**Pn**	**19 45 06.4**	**+0.4**
GTA				pP		P	19 45 14.4	+0.5
GTA				pmax		pmax		
	comp=Z,2.0nm,1.2s							
GTA				smax		smax		
	comp=N,18nm,1.4s							
GTA				smax		smax		
	comp=E,16nm,1.4s							
GTA				LR		LR		
	comp=N,290nm,11.6s							
GTA				LR		LR		
	comp=E,440nm,12.0s							
GTA				LR		LR		
	comp=Z,160nm,11.6s							
GAR	**Garm**	**16.68**	**233**			**Pn**	**19 45 39.3**	**-0.2**
GAR				IAmb		IAmb	19 45 51.1	
	comp=Z,21nm,1.1s							
CHGR	**Chuyangaron**	**17.54**	**234**			**Pn**	**19 45 49.3**	**-0.9**
CHGR				IAmb		IAmb	19 46 00.9	
	comp=Z,13nm,1.3s							
CHGR	**Chuyangaron**	**17.54**	**234**	P		**Pn**	**19 45 49.3**	**-0.9**
CHGR				pmax		pmax		
	comp=Z,13nm,1.3s							
SIMJ	**Simiganj**	**17.61**	**235**			**Pn**	**19 45 50.9**	**-0.2**
AB31	**Akbulak array**	**17.70**	**277**			**Pn**	**19 45 49.6**	**-2.4**
ABKAR	**Akbulak array**	**17.70**	**277**			**Pn**	**19 45 49.8**	**-2.2**
ARTI	**Arti**	**18.15**	**300**	P		**Pn**	**19 45 54.8**	**-2.7**
ARTI				IAmb		IAmb	19 46 31.4	
	comp=Z,6.4nm,0.4s							
ARTI	**Arti**	**18.15**	**300**	P		**P**	**19 45 58.9**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=120,slow=5.2,SNR=5.0							
ARTI				S		**Sn**	**19 49 15.0**	**-5.5**
	comp=Z,3.4nm,0.5s,baz=91,slow=21,SNR=6.0							
	comp=Z,1.6nm,0.4s							
ARTI	**Arti**	**18.15**	**300**	P		**Pn**	**19 45 58.2**	**+0.6**
ARTI				S		**Sn**	**19 49 20.4**	**-0.1**
AKTO	**Aktyubinsk**	**18.64**	**281**	P		**P**	**19 46 04.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=89,slow=6.9,SNR=7.4							
AKTO				S		**Sn**	**19 49 30.1**	**-2.4**
	comp=Z,0.5nm,0.4s,baz=123,slow=4.3,SNR=1.0							
	comp=Z,2.7nm,0.7s							
NIL	**Nilore**	**19.81**	**217**	P		**P**	**19 46 17.0**	**+0.8**
NIL				IAmb		IAmb	19 46 21.5	
	comp=Z,7.8nm,0.9s							
NIL	**Nilore**	**19.81**	**217**	P		**P**	**19 46 17.0**	**+0.8**
NIL				pmax		pmax		
	comp=Z,8.0nm,1.0s							
GNI	**Garni**	**31.32**	**267**	LR		LR	20 02 25.7	
	comp=Z,18nm,20.4s,baz=151,slow=40							
CM31	**Chiang Mai Arr**	**33.30**	**160**	P		**P**	**19 48 25.3**	**+1.7**
FINES	**FINESS Array B**	**34.68**	**312**	P		**P**	**19 48 37.1**	**+2.0**
	comp=Z,3.1nm,0.9s,baz=71,slow=8.3,SNR=4.1							
	comp=Z,3.1nm,0.9s							
AKASG	**Malin Array Be**	**36.08**	**293**	P		**P**	**19 48 48.1**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=64,slow=9.0,SNR=2.8							
AKASG				LR		LR	20 04 20.9	
	comp=Z,25nm,19.6s,baz=30,slow=38							
	comp=Z,0.4nm,0.4s							
BRTR	**Keskin Array B**	**38.64**	**275**	P		**P**	**19 49 07.5**	**-1.8**
BRTR	**Keskin Array B**	**38.64**	**275**	P		**P**	**19 49 09.6**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=68,slow=5.0,SNR=4.9							
	comp=Z,0.7nm,0.7s							
JOW	**Kunigami**	**39.03**	**112**	LR		LR	20 08 07.4	
	comp=Z,50nm,18.4s,baz=46,slow=40							
BUR08	**Bucovina Ar. S**	**39.78**	**291**	P		**P**	**19 49 16.8**	**-2.0**
BUR08				IAmb		IAmb	19 49 25.1	
	comp=Z,1.9nm,0.8s							
BURAR	**Bucovina Array**	**39.79**	**291**	P		**P**	**19 49 16.6**	**-2.2**
NC602	**NORSAR Array S**	**41.66**	**314**	P		**P**	**19 49 33.0**	**-1.0**
TOLK	**Toolik Lake Re**	**53.92**	**22**	P		**P**	**19 51 09.1**	**0.0**
E23K	**Chandalar**	**54.35**	**23**	P		**P**	**19 51 11.2**	**-1.0**
E29M	**Blow River**	**56.72**	**18**	P		**P**	**19 51 29.1**	**0.0**
ESDC	**Sonseca Array**	**61.45**	**299**	P		**P**	**19 52 03.7**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=45,slow=9.0,SNR=4.1							
	comp=Z,0.5nm,0.8s							
WRA	**Warramunga Arr**	**81.44**	**136**	P		**P**	**19 54 05.3**	**+2.3**
	comp=Z,0.4nm,0.7s,baz=341,slow=6.0,SNR=2.7							
	comp=Z,0.4nm,0.7s							
ASAR	**Alice Springs**	**84.52**	**138**	P		P	19 54 23.5	+4.5
	comp=Z,0.5nm,0.9s,baz=332,slow=4.9,SNR=4.2							
	comp=Z,0.5nm,0.9s							

NNC ***13*** *20:09:22.8±5.3, 41.24N×83.31E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=41.0km s-min=31.3km az=172.0*
SOME 13 20:09:18.8, 41.22N×83.60E, h10km, 5C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SHLS	**Shalkode**	**3.63**	**304**	*e*P		Pb	20 10 20.4	-2.8
	5.8nm,0.3s							
SHLS				*e*S		Sb	20 11 05.4	-2.0
	68nm,0.5s							
PDGK	**Podgornoye**	**3.71**	**306**	⇑Pn		Pn	20 10 17.6	+1.4
	1.0nm,0.5s							
PDGK				⇑Pg		Pg	20 10 29.9	0.0
	5.4nm,0.8s							
PDGK				⇑Sn		Sn	20 11 02.5	+2.4
	12nm,0.6s							
PDGK				⇑Lg		Lg	20 11 13.3	
	24nm,0.5s							
UZB	**Uzynbulak**	**3.91**	**301**	*e*P		Pb	20 10 29.3	+1.3
	2.4nm,0.1s							
UZB				*e*S		Sg	20 11 20.6	-3.8
	43nm,0.5s							
ARXS	**Arharly**	**5.20**	**307**	*e*P		Pb	20 10 52.8	+2.9
ARXS				*e*S		Sg	20 12 01.2	-4.5
MK31	**Makanchi Array**	**5.66**	**351**	Pg		Pg	20 11 05.3	-1.8
	1.1nm,0.6s,baz=172,slow=16,SNR=7.9							
MK31				⇑Lg		Lg	20 12 19.1	
	6.0nm,0.7s							
MAKZ	**Makanchi**	**5.71**	**349**	Pg		Pg	20 11 06.7	-1.5
	2.7nm,1.0s							
MAKZ				Lg		Lg	20 12 22.2	
	4.1nm,0.8s							

NAO ***13*** *20:17:05.3±0.8, 79.76N×4.35E, h10km, ML3.6*
BER ***13*** *20:17:07.9±2.1, 79.56N×3.52E, h27km±40km, mb(Pn)3.9, ML2.0(DNK), Confirmed Earthquake*
DNK ***13*** *20:17:07.2±3.5, 79.45N×3.80E, h29km±39km, ML2.0*
KOLA ***13*** *20:17:07.7, 79.98N×6.89E, h0km, ML2.8, Error ellipse: s-maj=90.4km s-min

	comp=Z,5.1nm,0.4s							
DBG	**Daneborg**	**7.56**	**238**	*e*P		**Pn**	**20 18 52.9**	**-0.5**
DBG				*e*S		Sn	20 20 08.6	-10
DBG				IAML			20 20 15.3	
	comp=Z,5.1nm,0.4s							
NEEM	**North Greenlan**	**10.77**	**287**	*e*P		Pn	20 19 34.9	-2.7
NEEM				*e*S		Sn	20 21 27.5	-10
NEEM				IAML			20 21 31.4	
	comp=Z,2.7nm,0.2s							
NEEM	**North Greenlan**	**10.77**	**287**	*e*P		Pn	20 19 34.9	-2.7
NEEM				*e*S		Sn	20 21 27.5	-10
NEEM				IAML			20 21 31.4	
	comp=Z,2.7nm,0.2s							
ARA0	**ARCESS Array S**	**11.52**	**140**	Pn		**Pn**	**20 19 48.9**	**+1.2**
	baz=340,slow=12							
ARA0				Sn		Sn	20 21 47.4	-8.4
	baz=342,slow=28							
SUMG	**Summit**	**12.02**	**257**	*e*P		Pn	20 19 52.8	-2.0
SUMG				*e*S		Sn	20 21 54.3	-14
SUMG				IAML			20 22 06.0	
	comp=Z,1.2nm,0.3s							
SUMG	**Summit**	**12.02**	**257**	*e*P		Pn	20 19 52.8	-2.0
SUMG				*e*S		Sn	20 21 54.3	-14
SUMG				IAML			20 22 06.0	
	comp=Z,1.2nm,0.3s							

IDC ***13*** *20:30:59.6±2.8, 4.78S×131.28E, h0km, mb3.4/1, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=125.1km s-min=30.2km az=77.0*

ISC 13 20:31:04.8±0.9, **4.94S**±0.07×**131.19E**±0.09, **h61km, n10,** σ**4s09/13, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.34**	**288**	S	**Sn**	**20 31 43.2**	**-1.2**
FAKI	**Fak Fak**	**2.27**	**28**	P	**Pn**	**20 31 36.4**	**-3.6**
DRS	**Darwin Rock St**	**7.45**	**182**	P	**Pn**	**20 32 55.3**	**+4.4**
KDU	**Kakadu**	**7.80**	**171**	P	**Pn**	**20 32 59.1**	**+3.4**
MTN	**Manton Dam**	**7.85**	**180**	P	**Pn**	**20 33 00.6**	**+4.2**
FITZ	**Fitzroy Crossi**	**14.15**	**202**	Pn	**Pn**	**20 34 23.2**	**+0.9**
	0.1nm,0.3s,baz=24,slow=13,SNR=6.5						
FITZ				Sn	**Sn**	**20 36 52.9**	**-5.0**
	0.1nm,0.3s,baz=0.0,slow=20,SNR=1.3						
	1.2nm,0.8s						
COEN	**Coen**	**14.83**	**128**	P	**Pn**	**20 34 31.9**	**+0.8**
WRA	**Warramunga Arr**	**15.22**	**169**	Pn	**Pn**	**20 34 35.9**	**-0.3**
	0.3nm,0.3s,baz=352,slow=13,SNR=18						
WRA				Sn	**Sn**	**20 37 18.0**	**-5.9**
	0.3nm,0.3s,baz=353,slow=23,SNR=5.3						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**18.80**	**172**	P	**Pn**	**20 35 23.6**	**+3.0**
	0.4nm,0.3s,baz=351,slow=10,SNR=36						
ASAR				S	**S**	**20 38 45.0**	**-5.1**
	0.3nm,0.9s,baz=346,slow=26,SNR=2.0						
	1.4nm,0.5s						
MKAR	**Makanchi Array**	**67.18**	**326**	P	**P**	**20 41 55.0**	**+2.5**
	0.3nm,0.8s,baz=115,slow=6.5,SNR=2.1						
	0.3nm,0.8s						

IDC ***13*** *20:47:32.7±1.3, 12.27N×144.21E, h0km, mb3.8/8, mbtmp3.8/8, MS3.5/2, Error ellipse: s-maj=53.8km s-min=21.3km az=89.0*

ISC 13 20:47:36.9±1.3, **12.3N**±0.2×**144.2E**±0.4, **h27km, n17,** σ**0s72/9, mb3.7/8, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.49**	**28**	LR	LR	20 48 39.7	
	comp=Z,83nm,18.9s,baz=314,slow=46						
H11S3	**WAKE ISLAND Hy**	**22.58**	**71**	T	T	21 16 18.4	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**22.59**	**71**	T	T	21 16 19.1	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**22.59**	**71**	T	T	21 16 12.7	
	baz=253						
H11N1	**WAKE ISLAND Hy**	**23.06**	**68**	T	T	21 16 46.4	
	baz=255,slow=75,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**23.07**	**68**	T	T	21 16 46.9	
	baz=255,slow=75,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**23.08**	**68**	T	T	21 16 48.4	
	baz=255,slow=75,SNR=4.2						
MJAR	**Matsushiro Arr**	**24.76**	**349**	LR	LR	21 00 40.9	
	comp=Z,23nm,19.4s,baz=160,slow=32						
WRA	**Warramunga Arr**	**33.43**	**197**	P	**P**	**20 54 12.8**	**-0.8**
	0.6nm,0.7s,baz=20,slow=9.5,SNR=7.4						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**37.09**	**196**	P	**P**	**20 54 45.9**	**+0.7**
	0.3nm,0.6s,baz=18,slow=9.5,SNR=5.9						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**61.97**	**317**	P	**P**	**20 57 53.9**	**-0.7**
	0.3nm,0.6s,baz=103,slow=7.5,SNR=2.7						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**62.30**	**325**	P	**P**	**20 57 56.3**	**-0.4**
	0.2nm,0.3s,baz=116,slow=7.5,SNR=2.1						
ZALV				PcP	**PcP**	**20 58 36.5**	**+0.3**
	0.8nm,0.3s,baz=129,slow=3.9,SNR=7.4						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**65.19**	**320**	P	**P**	**20 58 16.3**	**+0.5**
	1.2nm,0.6s,baz=103,slow=6.7,SNR=12						
	1.2nm,0.6s						
ILAR	**Eielson Array**	**70.06**	**25**	P	**P**	**20 58 46.1**	**-0.1**
	0.4nm,0.7s,baz=238,slow=6.4,SNR=4.6						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**70.54**	**322**	P	**P**	**20 58 50.3**	**+0.9**
	2.9nm,0.5s,baz=104,slow=7.7,SNR=23						
	2.9nm,0.5s						
ELK	**Elko**	**89.97**	**48**	LR	LR	21 32 29.6	
	comp=Z,137nm,21.1s,baz=274,slow=30						
FINES	**FINESS Array B**	**92.07**	**335**	P	**P**	**21 00 43.2**	**-0.2**
	1.3nm,0.7s,baz=67,slow=6.7,SNR=7.0						
	1.3nm,0.7s						

NEIC ***13*** *20:58:12.9±2.2, 37.32N±0.01×114.67W±0.01, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.5km az=322.0*

REN 13 20:58:14.1±1.9, **37.30N**±0.01×**114.65W**±0.01, **h0km±2km, ML2.8/4, ML2.6**/122(NEIC), **Error ellipse: s-maj=2.1km s-min=1.6km az=163.0, Southern Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRN	**Pahroc Range**	**0.34**	**288**		Pg	20 58 21.4	+0.9
PRN					Sg	20 58 24.8	-0.2
PRN				IAML		20 58 28.0	
	comp=N,1μm,0.3s						
SHPR	**Sheep Range**	**0.89**	**208**		Pg	20 58 30.2	-0.9
SHPR				IAML		20 58 46.9	
	comp=E,98nm,0.4s						
SHPR				IAML		20 58 47.1	
	comp=N,113nm,0.4s						
SHPR	**Sheep Range**	**0.89**	**208**		Sg	20 58 43.6	+0.8
S11A	**Rachel**	**0.94**	**292**		Pg	20 58 31.4	-0.7
S11A					Sg	20 58 44.2	-0.1
CCUT	**Cedar City**	**1.05**	**76**		Pg	20 58 34.6	+0.4
CCUT					Sb	20 58 48.9	-0.8
LCMT	**Little Creek M**	**1.16**	**104**		Pg	20 58 36.1	-0.1
LCMT				IAML		20 58 52.0	
	comp=N,154nm,0.2s						
LCMT				IAML		20 58 55.3	
	comp=E,134nm,0.2s						
MCY	**Mercury**	**1.23**	**239**		Pb	20 58 38.0	-0.3
SZCU	**Shurtz Canyon**	**1.27**	**76**		Pg	20 58 38.3	-0.2
SZCU				IAML		20 58 59.8	
	comp=N,79nm,0.2s						
SZCU				IAML		20 59 02.0	
	comp=E,86nm,0.2s						
R11B	**Troy Canyon, C**	**1.28**	**325**		Pg	20 58 37.8	-0.9
R11B				IAML		20 58 57.3	
	comp=E,73nm,0.3s						
TPNV	**Topopah Spring**	**1.33**	**255**		Pg	20 58 38.9	-0.7
TPNV				IAML		20 58 59.8	
	comp=E,118nm,0.6s						
TPNV				IAML		20 59 00.2	
	comp=E,100nm,0.4s						
NSP	**Numbskull Pass**	**1.38**	**246**		Pg	20 58 39.5	-1.0
PSUT	**Pine Spring**	**1.38**	**27**		Pg	20 58 39.7	-0.8
PSUT				IAML		20 59 00.4	
	comp=N,90nm,0.6s						
PSUT				IAML		20 59 00.7	
	comp=E,95nm,0.4s						
KNB	**Kanab**	**1.48**	**100**		Pn	20 58 41.6	-0.6
KNB				IAML		20 59 04.8	
	comp=E,48nm,0.6s						
KNB				IAML		20 59 07.4	
	comp=N,53nm,0.8s						
AMDNV	**Amargosa**	**1.56**	**238**		Pn	20 58 42.9	-0.1
V12A	**Nelson**	**1.58**	**186**		Pn	20 58 42.8	-0.6
V12A				IAML		20 59 07.0	
	comp=E,65nm,0.5s						
V12A				IAML		20 59 07.4	
	comp=N,63nm,0.5s						
WCT	**Wildcat Mounta**	**1.66**	**253**		Pn	20 58 43.8	-0.8
SPR3	**Spring Creek 3**	**1.71**	**8**		Pn	20 58 44.4	-1.1
SPR3				IAML		20 59 08.0	
	comp=N,63nm,0.3s						
SPR3				IAML		20 59 09.0	
	comp=E,68nm,0.3s						
PKCU	**Pink Cliffs**	**1.86**	**85**		Pn	20 58 46.6	-1.0
PKCU				IAML		20 59 16.4	
	comp=N,78nm,0.7s						
PKCU				IAML		20 59 16.8	
	comp=E,77nm,0.4s						
SHOC	**Shoshone, Teco**	**1.92**	**224**		Pn	20 58 46.1	-1.9
SHOC				IAML		20 59 17.9	
	comp=N,80nm,0.5s						
SGV	**South Grapevin**	**1.93**	**261**		Pn	20 58 47.6	-0.8
MTPC	**Mountain Pass**	**1.95**	**202**		Pn	20 58 47.6	-1.1
MTPC				IAML		20 59 20.3	
	comp=E,31nm,0.3s						
FURC	**Furnace Creek,**	**1.96**	**246**	Pn	Pn	20 58 47.9	-0.6
FURC				IAML		20 59 21.6	
	comp=N,68nm,0.6s						
GWY	**Greenwater Val**	**1.97**	**236**		Pn	20 58 47.4	-1.5
GWY				IAML		20 59 33.4	
	comp=E,24nm,0.8s						
GMN	**Gold Mountain**	**2.08**	**271**		Pn	20 58 48.6	-1.9
GMN				IAML		20 59 25.1	
	comp=N,26nm,0.6s						
MTPU	**Mount Pierson**	**2.09**	**68**		Pn	20 58 48.7	-1.9
TCRU	**Three Creeks R**	**2.17**	**52**	Pn	Pn	20 58 50.1	-1.6
TPH	**Tonopah**	**2.19**	**292**		Pn	20 58 50.6	-1.3
TPH				IAML		20 59 24.8	
	comp=E,39nm,0.4s						
TPH				IAML		20 59 24.9	
	comp=N,34nm,0.4s						
QSM	**Queen of Sheba**	**2.23**	**234**		Pn	20 58 51.1	-1.2
W13A	**Hualapai Mount**	**2.28**	**164**		Pn	20 58 52.0	-1.1
MSU	**Marysvale**	**2.30**	**57**	Pn	Pn	20 58 52.4	-1.1
Q09A	**Carvers**	**2.52**	**308**	Pn	Pn	20 58 55.2	-1.2
Q09A				IAML		21 00 08.9	
	comp=E,40nm,0.8s						
MPMC	**Manual Prospec**	**2.60**	**242**		Pn	20 58 56.5	-1.1
GSC	**Goldstone, Bar**	**2.65**	**222**		Pn	20 58 58.1	0.0
GSC				IAML		20 59 40.4	
	comp=E,20nm,0.4s						
GSC				IAML		20 59 43.6	
	comp=N,16nm,0.9s						
DSP	**Deep Springs**	**2.65**	**273**		Pn	20 58 57.3	-0.7
CLC	**China Lake**	**2.80**	**239**	Pn	Pn	20 58 57.7	-2.5
CCCA	**Chr Cany lake**	**2.82**	**232**		Pn	20 58 58.4	-2.0
WSHM	**Spangler Hills**	**2.85**	**234**	Pn	Pn	20 58 58.8	-2.2
NV11	**Mina Array Sit**	**3.00**	**293**		Pn	20 59 01.9	-1.1
LRMC	**Laurel Mtn Rad**	**3.05**	**234**	Pn	Pn	20 59 01.8	-1.9
LRMC				IAML		20 59 53.9	
	comp=E,9.1nm,0.5s						
LRMC				IAML		20 59 57.2	
	comp=N,9.9nm,0.2s						
NVAR	**Mina Array Bea**	**3.11**	**292**		Pn	20 59 03.2	-1.4
NV08	**Mina Array Sit**	**3.11**	**292**		Pn	20 59 03.4	-1.1
NV09	**Mina Array Sit**	**3.13**	**292**		Pn	20 59 04.0	-0.8
IRM	**Iron Mountain**	**3.16**	**188**		Pn	20 59 03.0	-2.1
IRM				IAML		20 59 57.3	
	comp=N,11nm,0.5s						
IRM				IAML		20 59 57.5	
	comp=E,14nm,0.8s						
HMU	**Henry Mountain**	**3.16**	**77**		Pn	20 59 02.7	-2.7
HMU				IAML		21 00 03.4	
	comp=N,24nm,0.6s						
WUAZ	**Wupatki**	**3.18**	**123**		Pn	20 59 04.5	-1.1
LHV	**Little Huntoon**	**3.20**	**288**		Pn	20 59 05.1	-0.5
LHV	**Little Huntoon**	**3.20**	**288**	IAML		21 00 01.9	
	comp=N,20nm,0.6s						
LHV				IAML		21 00 02.5	
	comp=E,13nm,0.5s						
RYN	**Ryan**	**3.34**	**295**		Pn	20 59 06.6	-1.1
RYN	**Ryan**	**3.34**	**295**	IAML		21 00 01.3	
	comp=N,11nm,0.4s						
RYN				IAML		21 00 04.6	
	comp=E,14nm,0.5s						
TMUT	**Trail Mountain**	**3.36**	**53**		Pn	20 59 05.0	-3.1
TMUT				IAML		21 00 18.6	
	comp=E,7.1nm,2.0s						
BELC	**Belle Mtn. Jos**	**3.47**	**199**		Pn	20 59 07.7	-1.8
BELC				IAML		21 00 07.8	
	comp=E,12nm,0.4s						
BELC				IAML		21 00 09.4	
	comp=N,13nm,0.5s						
ELK	**Elko**	**3.47**	**353**		Pn	20 59 08.0	-1.6
BC3	**Big Chuckawall**	**3.70**	**191**		Pn	20 59 10.8	-1.7
BC3				IAML		21 00 12.6	
	comp=E,7.0nm,2.3s						
BC3				IAML		21 00 18.0	
	comp=N,11nm,1.4s						
BGU	**Big Grassy Mou**	**3.83**	**19**		Pn	20 59 13.7	-0.8
BGU				IAML		21 00 29.6	
	comp=E,6.5nm,1.4s						
X16A	**Lo Mia Camp, P**	**3.88**	**137**		Pn	20 59 12.2	-2.9
X16A				IAML		21 00 24.0	
	comp=E,4.8nm,1.5s						
PV19	**Morning Glory**	**4.60**	**76**		Pn	20 59 23.5	-1.5
PV23	**Carpenter Ridg**	**4.60**	**74**		Pn	20 59 22.2	-3.0
PV13	**Radium Mtn., P**	**4.70**	**78**		Pn	20 59 23.5	-2.9
X18A	**Snowflake**	**4.71**	**125**		Pn	20 59 23.3	-3.2
PV02	**Paradox Valley**	**4.77**	**77**		Pn	20 59 24.9	-2.6

NEIC ***13*** *21:08:48.9±1.4, 52.4N±0.2×172.0E±0.1, h10km±2km, mb4.2/14, Error ellipse: s-maj=37.6km s-min=10.0km az=170.0*

IDC ***13*** *21:08:51.1±6.2, 53.20N×171.74E, h0km, mb3.9/8, mbtmp3.8/9, ML2.6/1, Error ellipse: s-maj=147.1km s-min=25.1km az=164.0*

ISC 13 21:08:50.7±2.0, **52.4N**±0.4×**171.99E**±0.06, **h28km, n36,** σ**0s90/33, mb4.1/12, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.34**	**73**	Pn	**Pn**	**21 09 13.9**	**+0.3**
SHEM				Sn	**Sn**	**21 09 30.8**	**+0.3**
SMY	**Shemya**	**1.34**	**73**		**Pn**	**21 09 14.0**	**+0.4**
SMY				Sn	**Sb**	**21 09 31.3**	**-0.7**
PEA0B	**Petropavlovsk-**	**8.71**	**281**	Pn	**Pn**	**21 10 54.8**	**+0.1**
PETK	**Petropavlovsk-**	**8.71**	**281**	Pn	**Pn**	**21 10 54.7**	**0.0**
PETK	**Petropavlovsk-**	**8.71**	**281**	Pn	**Pn**	**21 10 56.1**	**+1.4**
	0.3nm,0.3s,baz=84,slow=15,SNR=8.0						
PETK				Sn	**Sn**	**21 12 31.6**	**-0.3**
	0.6nm,0.3s,baz=85,slow=24,SNR=5.4						
	1.3nm,0.5s						
K15K	**Wolf Creek Mou**	**17.29**	**45**		**P**	**21 12 52.6**	**+1.6**
J16K	**Anvik River**	**18.08**	**42**		**P**	**21 13 02.3**	**+2.6**
J16K				IAmb	IAmb	21 13 06.3	
	comp=Z,15nm,1.5s						
P18K	**Big Mountain,**	**19.54**	**56**	P	**P**	**21 13 16.3**	**+0.5**
P18K				IAmb	IAmb	21 13 18.4	
	comp=Z,15nm,1.3s						
J18K	**Innoko River**	**19.77**	**44**		**Pn**	**21 13 20.1**	**+0.2**
G18K	**Tagagawik**	**20.01**	**36**	P	**P**	**21 13 20.0**	**-0.8**
OHAK	**Old Harbor**	**20.46**	**62**	P	**P**	**21 13 24.9**	**-0.7**
OHAK				IAmb	IAmb	21 13 26.0	
	comp=Z,22nm,1.3s						
P19K	**Oil Pt**	**20.58**	**55**	P	**P**	**21 13 27.4**	**+0.4**
KDAK	**Kodiak Island**	**20.83**	**61**	P	**P**	**21 13 28.4**	**-1.4**
KDAK				IAmb	IAmb	21 13 33.8	
	comp=Z,23nm,1.5s						
SYI	**Shuyak Island**	**20.95**	**59**	P	**P**	**21 13 30.9**	**-0.1**
IMAR	**Indian Mountai**	**21.87**	**38**	P	**P**	**21 13 41.9**	**+1.1**
TRF	**Thorofare Moun**	**22.55**	**46**	P	**P**	**21 13 48.9**	**+0.5**
TRF				IAmb	IAmb	21 14 13.8	
	comp=Z,11nm,1.5s						
D23K	**Nanushuk River**	**24.14**	**32**	P	**P**	**21 14 04.2**	**+0.3**
D23K				IAmb	IAmb	21 14 18.5	
	comp=Z,8.3nm,1.1s						
ILAR	**Eielson Array**	**24.28**	**43**	P	**P**	**21 14 05.2**	**0.0**
	comp=Z,1.0nm,0.7s,baz=248,slow=8.9,SNR=7.5						
	comp=Z,1.0nm,0.7s						
KLU	**Klutina**	**24.31**	**51**	P	**P**	**21 14 05.6**	**0.0**
KLU				IAmb	IAmb	21 14 16.7	
	comp=Z,7.3nm,1.1s						
GLB	**Gilahina Butte**	**25.32**	**52**	P	**P**	**21 14 14.8**	**0.0**
BMAR	**Burnt Mountain**	**25.78**	**38**	P	**P**	**21 14 20.0**	**+1.2**
H11N2	**WAKE ISLAND Hy**	**32.79**	**189**	T	T	21 50 54.3	
	baz=5.7,slow=76,SNR=63						
H11N3	**WAKE ISLAND Hy**	**32.80**	**189**	T	T	21 50 55.2	
	baz=5.7,slow=76,SNR=59						
H11N1	**WAKE ISLAND Hy**	**32.81**	**189**	T	T	21 50 55.7	
	baz=5.7,slow=76,SNR=63						
H11S1	**WAKE ISLAND Hy**	**34.02**	**189**	T	T	21 52 24.4	
	baz=5.7,slow=76,SNR=59						
H11S3	**WAKE ISLAND Hy**	**34.04**	**189**	T	T	21 52 25.5	
	baz=5.7,slow=76,SNR=44						
H11S2	**WAKE ISLAND Hy**	**34.04**	**189**	T	T	21 52 29.7	
	baz=5.7,slow=76,SNR=36						
SONM	**Songino Array**	**41.03**	**291**	P	**P**	**21 16 32.4**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=70,slow=8.4,SNR=2.5						
	comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**54.83**	**303**	P	**P**	**21 18 17.2**	**-0.8**
	comp=Z,0.5nm,1.0s,baz=48,slow=7.6,SNR=1.2						
	comp=Z,0.5nm,1.0s						
ARCES	**ARCESS Array B**	**55.99**	**346**	P	**P**	**21 18 24.7**	**-1.2**
	comp=Z,4.8nm,1.1s,baz=46,slow=7.2,SNR=1.4						
	comp=Z,4.8nm,1.1s						
BVAR	**Borovoye Array**	**56.30**	**315**	P	**P**	**21 18 28.0**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=47,slow=6.4,SNR=4.2						
	comp=Z,0.8nm,0.4s						
FINES	**FINESS Array B**	**63.35**	**342**	P	**P**	**21 19 16.3**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=8.6,slow=6.6,SNR=4.3						
	comp=Z,0.7nm,0.5s						
AB31	**Akbulak array**	**63.53**	**317**	P	**P**	**21 19 18.1**	**0.0**
AB31				IAmb	IAmb	21 19 18.4	
	comp=Z,1.7nm,0.9s						
ABKAR	**Akbulak array**	**63.53**	**317**	P	**P**	**21 19 17.9**	**-0.2**
NOA	**NORSAR Array B**	**65.92**	**350**	P	**P**	**21 19 32.8**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=11,slow=6.3,SNR=3.8						
	comp=Z,0.5nm,0.5s						
HFS	**Hagfors**	**66.52**	**348**	P	**P**	**21 19 36.1**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=27,slow=5.0,SNR=7.5						
	comp=Z,1.3nm,0.6s						

AEIC ***13*** *21:20:48.0±1.7, 55.7N±0.1×149.24W±0.07, h8km±8km, Error ellipse: s-maj=16.0km s-min=5.8km az=172.0*

NEIC 13 21:20:43.3±1.7, **55.7N**±0.1×**149.3W**±0.1, **h10km±8km, ML3.5**/46, **ML3.4**(AEIC), **Error ellipse: s-maj=15.2km s-min=9.3km az=170.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.72**	**306**		Pn	21 21 26.6	-0.5
OHAK	**Old Harbor**	**2.72**	**306**		Sn	21 21 56.9	-3.1
KDAK	**Kodiak Island**	**2.79**	**320**		Pn	21 21 28.0	-0.1
KDAK	**Kodiak Island**	**2.79**	**320**		Sn	21 21 59.8	-2.0
SII	**Sitkinak Islan**	**2.90**	**290**		Pn	21 21 29.5	0.0
SII					Sn	21 22 02.0	-2.4
SII	**Sitkinak Islan**	**2.90**	**290**	IAML		21 22 05.5	
	comp=N,158nm,1.1s						
SII				IAML		21 22 08.3	
	comp=E,159nm,0.5s						
SYI	**Shuyak Island**	**3.40**	**331**		Pn	21 21 36.2	-0.1
SYI					Sn	21 22 15.1	-1.6
CNPM	**China Poot**	**4.00**	**345**		Pn	21 21 44.1	-0.5
CNPM					Sn	21 22 29.6	-2.0
KAPH	**Katmai Pasha**	**4.03**	**319**		Pn	21 21 46.3	+1.2
Q19K	**Cape Douglas,**	**4.03**	**326**		Pn	21 21 45.9	+0.8
Q19K				IAML		21 22 40.5	
	comp=N,77nm,1.1s						
KAHG	**Katmai Hook Gl**	**4.04**	**316**		Pn	21 21 46.5	+1.3
KAKN	**Katmai Knife C**	**4.12**	**312**		Pn	21 21 47.1	+0.7
BRSE	**Bradley Lake S**	**4.15**	**349**		Pn	21 21 46.0	-0.6
ACHA	**Angle Creek He**	**4.18**	**310**		Pn	21 21 47.9	+0.7
BRLK	**Bradley Lake**	**4.18**	**349**	Pn	Pn	21 21 46.4	-0.8
BRLK				IAML		21 22 34.6	
	comp=E,42nm,0.2s						
BRLK				IAML		21 22 39.6	
	comp=N,34nm,1.1s						
KJL	**Kejulik**	**4.21**	**307**		Pn	21 21 48.3	+0.8
ANCK	**Angle Creek**	**4.25**	**309**		Pn	21 21 49.2	+1.1
AGU	**Augustine-Summ**	**4.32**	**330**		Pn	21 21 49.9	+0.8
PLK4	**Peulik 4**	**4.38**	**299**		Pn	21 21 50.9	+0.9
PLK4				IAML		21 22 43.9	
	comp=N,33nm,1.0s						
PLK4				IAML		21 22 57.1	
	comp=E,38nm,0.9s						
P19K	**Oil Pt**	**4.52**	**333**	Pn	Pn	21 21 51.8	0.0
P19K				IAML		21 22 50.5	
	comp=N,50nm,0.8s						
P19K				IAML		21 22 50.7	
	comp=E,53nm,0.5s						
ILSW	**Iliamna Southw**	**4.79**	**336**	Pn	Pn	21 21 53.0	-2.5
ILSW				IAML		21 22 41.9	
	comp=E,26nm,0.4s						
ILSW				IAML		21 22 42.5	
	comp=N,35nm,0.9s						
O22K	**Cooper Landing**	**4.82**	**357**		Pn	21 21 55.3	-0.6
SLKM	**Skilak Lake**	**4.87**	**354**		Pn	21 21 56.2	-0.3
P18K	**Big Mountain,**	**4.92**	**322**		Pn	21 21 56.9	-0.4
HIN	**Hinchinbrook I**	**4.95**	**16**		Pn	21 21 57.3	-0.3
KAIM	**Kayak Island**	**4.98**	**29**	Pn	Pn	21 21 56.8	-1.2
KAIM				IAML		21 23 01.2	
	comp=N,37nm,1.2s						
KAIM				IAML		21 25 09.3	
	comp=E,35nm,1.2s						
RED	**Redoubt Volcan**	**5.10**	**340**		Pn	21 21 58.5	-1.4
RED				IAML		21 22 59.2	
	comp=E,21nm,1.0s						
CHGN	**Chignik**	**5.18**	**281**	Pn	Pn	21 21 59.5	-1.3
PWL	**Port Wells**	**5.21**	**5**	Pn	Pn	21 22 01.0	-0.3
PWL				IAML		21 22 58.4	
	comp=E,19nm,0.3s						
PWL				IAML		21 23 05.4	
	comp=N,20nm,0.4s						
EYAK	**Cordova Ski Ar**	**5.22**	**19**		Pn	21 22 01.2	-0.1
EYAK				IAML		21 23 02.8	
	comp=E,23nm,0.9s						
EYAK				IAML		21 23 06.3	
	comp=N,24nm,0.8s						
SUCK	**Suckling Hills**	**5.28**	**31**	Pn	Pn	21 22 01.9	-0.3
SUCK				IAML		21 24 48.3	
	comp=E,31nm,1.1s						
SUCK				IAML		21 25 08.7	
	comp=N,32nm,1.1s						
**

LOGN	Logan Glacier	6.74	37	Pn		Pn	21 22 21.1	-1.3	
CUT	Chulitna	6.76	356			Pn	21 22 21.7	-0.8	
O28M	Mount Upton	6.99	39			Pn	21 22 25.4	-0.5	
L19K	White Mountain	7.13	338	Pn		Pn	21 22 26.4	-1.2	
M17K	Holitna River	7.15	327	Pn		Pn	21 22 28.0	+0.1	
N15K	Kwethluk River	7.31	312			Pn	21 22 31.2	+1.1	
O29M	Mount Kennedy	7.32	46			Pn	21 22 30.8	+0.5	
P29M	Windy Craggy	7.33	53			Pn	21 22 30.3	-0.1	
PPLA	Purkeypile	7.39	349	Pn		Pn	21 22 32.9	+1.6	
M16K	Timber Creek	7.39	320	Pn		Pn	21 22 32.3	+1.1	
O14K	Tigyukauivet M	7.40	304	Pn		Pn	21 22 31.6	+0.4	
M26K	Nabesna, AK	7.47	23	Pn		Pn	21 22 32.1	-0.1	
DHY	Denali Highway	7.48	7	Pn		Pn	21 22 33.4	+0.9	
S31K	Pelican	7.50	67	Pn		Pn	21 22 30.0	-2.6	
L18K	Granite Mounta	7.60	333	Pn		Pn	21 22 33.4	-0.6	
M27K	Edge Creek, AK	7.69	27	Pn		Pn	21 22 35.9	+0.4	
RND	Reindeer	7.75	1	Pn		Pn	21 22 36.1	0.0	
YUK6	Outpost Mounta	7.78	43			Pn	21 22 37.9	+1.2	
TRF	Thorofare Moun	7.81	357	Pn		Pn	21 22 38.5	+1.5	
N14K	Kuskokwak Cree	7.88	308	Pn		Pn	21 22 38.8	+0.9	
KTH	Kantishna Hill	7.94	355	Pn		Pn	21 22 39.8	+1.0	
L16K	Owhat River	8.05	323	Pn		Pn	21 22 40.4	+0.3	
K20K	Telida	8.08	344	Pn		Pn	21 22 40.5	-0.1	
L27K	Beaver Creek,	8.31	24	Pn		Pn	21 22 44.1	+0.3	
BCAR	Beaver Creek A	8.32	24	Pn		Pn	21 22 44.0	0.0	
DOT	Dot Lake	8.41	16	Pn		Pn	21 22 44.0	-1.1	
M14K	Bethel	8.41	312	Pn		Pn	21 22 45.8	+0.8	
K17K	Iditarod	8.44	330	Pn		Pn	21 22 44.6	-0.8	
BPAW	Bear Paw Mtn.	8.49	355	Pn		Pn	21 22 46.8	+0.5	
N30M	Aishikik Lake	8.59	43	Pn		Pn	21 22 47.6	0.0	
M29M	Somme Creek	8.75	35			Pn	21 22 50.9	+0.9	
HDA	Harding Lake	8.83	7	Pn		Pn	21 22 51.0	+0.1	
WRH	Wood River Hil	8.84	3	Pn		Pn	21 22 50.2	-0.7	
J20K	Nowinta River	8.87	346	Pn		Pn	21 22 51.9	+0.6	
J19K	Poorman	8.93	342	Pn		Pn	21 22 51.8	-0.4	
L14K	Kuka Creek	9.02	314	Pn		Pn	21 22 54.6	+1.2	
N31M	Braeburn, Yuko	9.12	45	Pn		Pn	21 22 54.6	-0.2	
K15K	Wolf Creek Mou	9.16	321	Pn		Pn	21 22 55.9	+0.6	
P32M	Atlin	9.20	58	Pn		Pn	21 22 55.5	-0.4	
J26L	Joseph Creek	9.29	15	Pn		Pn	21 22 57.1	0.0	
L29M	L29M	9.35	33			Pn	21 22 58.7	+0.7	
M30M	Minto, Yukon	9.41	38	Pn		Pn	21 22 58.8	0.0	
MLY	Manley	9.41	356	Pn		Pn	21 22 58.5	-0.3	
Q32M	Nakina River	9.75	63	Pn		Pn	21 23 04.5	+0.9	
P33M	Teslin, Yukon	9.83	56	Pn		Pn	21 23 04.6	-0.1	
M31M	Drury Creek, Y	10.06	43	Pn		Pn	21 23 08.7	+0.9	
K29M	Barlow Dome	10.08	31	Pn		Pn	21 23 09.0	+0.9	
K13K	Kusilvak Mount	10.14	314	Pn		Pn	21 23 10.3	+1.6	
R33M	Jennings River	10.50	62	Pn		Pn	21 23 13.2	-0.6	
IMAR	Indian Mountai	10.56	350	Pn		Pn	21 23 13.7	-0.8	
I28M	Miner Creek	10.80	21	Pn		Pn	21 23 17.4	-0.4	
J30M	Hart River	10.97	30	Pn		Pn	21 23 20.2	-0.1	
I29M	Ogilvie Camp,	11.08	24	Pn		Pn	21 23 22.1	+0.4	

GCG 13 21:34:59.3±0.3, 14°25N×91°20W, h82km±2km, MD3.8, ML3.8, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ESSG	**Sabana Grande**	**0.39**	**69**	*i*	P	Pn	21 35 12.6	+0.2
ESSG				*i*	S	Sn	21 35 22.8	+0.6
ESSG					IAML		21 35 23.0	
	comp=E,1μm,0.1s							
SOKI	**Kika Raxquin**	**0.60**	**341**	*e*	P	Pn	21 35 15.8	+1.2
SOKI				*i*	S	Sn	21 35 28.4	+2.5
SOKI					IAML		21 35 32.4	
	comp=E,610nm,0.4s							
FG8	**Yepocapa, Chim**	**0.62**	**89**	*i*	P	Pn	21 35 12.5	-2.0
FG8				*i*	S	Sn	21 35 22.8	-3.0
FG16	**Alotenango, Sa**	**0.67**	**88**	*i*	P	Pn	21 35 13.2	-1.8
FG16				*i*	S	Sn	21 35 24.1	-2.7
FG16					IAML		21 35 26.1	
	comp=N,9μm,0.2s							
MTO3	**Montecristo**	**1.79**	**85**	*e*	P	Pn	21 35 29.4	+0.7
JAYA	**Jayaque - finc**	**1.80**	**109**	*i*	P	Pn	21 35 28.8	0.0

IDC 13 22:44:30.3±2.0, 2°30N×126°54E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=199.9km s-min=21.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.39**	**161**	P		P	22 49 40.1	-0.9
	1.0nm,0.6s,baz=340,slow=11,SNR=7.4 1.0nm,0.6s							
ASAR	**Alice Springs**	**26.78**	**165**	P		P	22 50 13.2	+1.0
	0.2nm,0.3s,baz=345,slow=11,SNR=5.1 0.2nm,0.3s							
MKAR	**Makanchi Array**	**58.62**	**326**	P		P	22 54 29.4	+0.1
	0.2nm,0.3s,baz=118,slow=7.3,SNR=6.9 0.2nm,0.3s							
KURBB	**Kurchatov Array**	**62.84**	**328**	P		P	22 54 57.6	-0.3
	0.5nm,0.3s,baz=127,slow=6.1,SNR=5.3 0.5nm,0.3s							

*IDC **13** 22:53:29.5±0.4, 15°.20S×173°.32W, h0km, mb5.0/28, mbtmp5.0/28, MS4.9/55, Error ellipse: s-maj=15.5km s-min=11.7km az=136.0*

*MOS **13** 22:53:30.4±0.8, 15°.07S×173°.10W, h10km, mb5.3/51, MS5.2/43, Error ellipse: s-maj=10.2km s-min=7.4km az=58.9*

*BJI **13** 22:53:30.1, 14°.95S×173°.09W, h6km, mB5.6/29, mb4.9/38, Ms5.2/47, Ms7 5.0/48*

*NEIC **13** 22:53:31.3±1.5, 15°.35S±0°.08×173°.17W±0°.07, h10km±1km, mb5.4/719, Ms_20 5.3/924, Mwc5.7/11(GCMT), Error ellipse: s-maj=14.2km s-min=10.5km az=217.0*

*BGR **13** 22:53:32.8, 15°.77S×171°.57W, h33km, Ms5.4*

*NOU **13** 22:53:34.1, 15°.25S×172°.66W, h70km, mb5.2/41, Samoa Islands Region*

*GCMT **13** 22:53:36.3±0.1, 15°.23S±0°.01×172°.92W±0°.01, h12km, MW5.7/143, Moment Tensor Solution. s57,c74; s143,c231; Duration: 1s7 Moment tensor: Scale 10^17 Nm; Mrr0.05±.02; Mθθ-0.11±.02; Mϕϕ0.06±.02; Mrθ-4.65±.05; Mrϕ-0.31±.02; Mθϕ0.05±.05; Best double couple: M≈4.66100×10^17 NP1:ϕ≈8.00000°, δ4.00000°, λ7.00000°. NP2:ϕ≈271.00000°, δ90.00000°, λ94.00000°. Principal axes: T 4.6350, Plg45.0000°, Azm184.0000°; N 0.0530, Plg4.0000°, Azm91.0000°; P -4.6880, Plg44.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **13** 22:53:37, 15°.34S×172°.96W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.24; Mθθ-0.11; Mϕϕ-0.13; Mrθ-4.12; Mϕϕ-0.16; Mϕr0.26; Fault plane solution: M≈4.13000×10^17 NP1:ϕ≈31.00000°, δ2.00000°, λ27.00000°. NP2:ϕ≈273.00000°, δ89.00000°, λ92.00000°. Principal axes: T 4.2092, Plg46.0000°, Azm186.0000°; N -0.1502, Plg2.0000°, Azm93.0000°; P -4.0590, Plg44.0000°, Azm1.0000°;*

ISC 13 22:53:33.3±0.2, 15°48S±0°.04×173°14W±0°.04, h29km, h29km:pP-P, n1552, s1522/1202, mb5.3/433, MS5.3/535, 65C-32D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**4.72**	**140**	P		**Pn**	**22 54 42.7**	**+0.1**
NIUE	**Niue**	**4.72**	**140**			**Pn**	**22 54 42.6**	**+0.1**
NIUE						**Sn**	**22 55 34.0**	**-2.4**
NIUE	**Niue**	**4.72**	**140**	P		**Pn**	**22 54 42.2**	**-0.4**
NIUE	**Niue**	**4.72**	**140**	P		**Pn**	**22 54 41.9**	**-0.6**
NIUE				S		**Sn**	**22 55 32.9**	**-3.4**
FUTU	**Fugatoga**	**4.95**	**283**			**Pn**	**22 54 44.7**	**-1.1**
FUTU	**Fugatoga**	**4.95**	**283**	P		Pb	22 54 53.6	-5.7
TAVE	**Taveuni**	**6.62**	**258**	P		Pn	22 55 14.7	+6.1
MSVF	**Nonsavu**	**8.74**	**254**	Pn		**Pn**	**22 55 42.0**	**+4.2**
MSVF	**Nonsavu**	**8.74**	**254**	P		Pn	22 55 46.3	+8.4
MSVF	**Nonsavu**	**8.74**	**254**	P		**Pn**	**22 55 42.0**	**+4.2**
YSA	**Yasawairara**	**9.00**	**261**	P		Pn	22 55 46.8	+5.4
FUNA	**Funafuti**	**10.19**	**312**	Pn		**Pn**	**22 55 54.7**	**-3.0**
RAR	**Rarotonga**	**13.91**	**116**			**Pn**	**22 56 47.0**	**-1.6**
RAR	**Rarotonga**	**13.91**	**116**	Pn		**Pn**	**22 56 47.5**	**-1.1**
	5.6nm,0.3s,baz=250,slow=8.0,SNR=14							
RAR					Sn	Sn	22 59 11.4	-11
	2.3nm,0.3s,baz=150,slow=21,SNR=1.2							
RAR					LR	LR	23 00 53.2	
	comp=Z,5μm,19.4s,baz=316,slow=31							
RAR	**Rarotonga**	**13.91**	**116**	P		**Pn**	**22 56 47.0**	**-1.6**
GLKZ	**Green Lake**	**14.41**	**197**	P		**Pn**	**22 56 53.4**	**-2.0**
GLKZ				S		**Sn**	**22 59 32.0**	**-2.2**
SANVU	**Saraoutou**	**18.95**	**267**	P		**P**	**22 57 52.2**	**0.0**
PINNC	**Pines Island,**	**19.66**	**246**			**P**	**22 58 00.5**	**+0.4**
PINNC					IAmb	IAmb	22 58 14.4	
	comp=Z,236nm,0.7s							
PINNC	**Pines Island,**	**19.66**	**246**	P		**Pn**	**22 58 01.3**	**-0.3**
OUENC	**Ouen Island, N**	**20.14**	**247**	P		Pn	22 58 08.4	+1.2
DZM	**Mont Dzumac**	**20.40**	**248**	*e*P		**P**	**22 58 07.7**	**-0.5**
	comp=Z,400nm,1.4s							
DZM				*e*S		**S**	**23 01 48.5**	**-7.0**
	comp=Z,977nm,26.9s							
DZM				*e*LR		LR	23 02 54.8	
	comp=Z,8μm,25.9s							
DZM	**Mont Dzumac**	**20.40**	**248**			**P**	**22 58 08.0**	**-0.2**
DZM					IAmb	IAmb	22 58 25.2	
	comp=Z,209nm,1.4s							
DZM	**Mont Dzumac**	**20.40**	**248**	P		**P**	**22 58 07.6**	**-0.5**
	comp=Z,35nm,1.0s,baz=105,slow=23,SNR=19							
DZM					LR	LR	23 04 44.3	
	comp=Z,5μm,21.7s,baz=79,slow=33 comp=Z,35nm,1.0s							
DZM	**Mont Dzumac**	**20.40**	**248**	P		Pn	22 58 10.0	-0.4
TARA	**Tarawa**	**21.67**	**319**	P		**P**	**22 58 20.1**	**-1.7**
TARA					IAmb	IAmb	22 58 23.7	
	comp=Z,203nm,1.1s							
NFK	**Norfolk Island**	**22.07**	**229**	P		**P**	**22 58 26.3**	**+0.3**
	comp=Z,123nm,0.7s							
PPT	**Papeete**	**22.69**	**99**	P		**P**	**22 58 34.8**	**+2.0**
	comp=Z,24nm,0.3s,baz=296,slow=1.5,SNR=6.2							
PPT					LR	LR	23 04 52.1	
	comp=Z,2μm,21.1s,baz=272,slow=30 comp=Z,24nm,0.3s							
PPT2	**Papeete2**	**22.69**	**99**	*e*PKIKP		**P**	**22 58 31.6**	**-1.2**
	comp=Z,484nm,27.8s							
PPT2				*e*S		**S**	**23 02 35.0**	**-4.6**
	comp=Z,7μm,28.8s							
PPT2				*e*LR		LR	23 03 54.9	
	comp=Z,3μm,23.8s							
PPT2				*e*LR		LR	23 04 00.4	
	comp=Z,3μm,23.0s							
PPTF	**Pamatai, Papee**	**22.70**	**99**	P		**P**	**22 58 33.3**	**+0.4**
PPTF					IAmb	IAmb	22 58 35.6	
	comp=Z,205nm,1.5s							
OUZ	**Omahuta**	**22.98**	**209**		IAMs_20	IAMs_20	23 06 42.1	
	comp=Z,9μm,18.0s							
OUZ	**Omahuta**	**22.98**	**209**	P		**P**	**22 58 36.8**	**+1.2**
MXZ	**Matakaoa Point**	**23.27**	**197**	P		**P**	**22 58 39.5**	**+1.0**
MXZ					IAmb	IAmb	22 58 43.4	
	comp=Z,89nm,1.2s							
MXZ	**Matakaoa Point**	**23.27**	**197**	P		**P**	**22 58 38.9**	**+0.4**
MXZ	**Matakaoa Point**	**23.27**	**197**	P		**P**	**22 58 40.6**	**+2.1**
XMAS	**Kiritimati**	**23.33**	**43**			**P**	**22 58 38.0**	**-1.2**
XMAS					IAmb	IAmb	22 59 16.9	
	comp=Z,115nm,1.2s							
KUZ	**Kuaotunu**	**23.39**	**203**	P		**P**	**22 58 42.3**	**+2.6**
KUZ	**Kuaotunu**	**23.39**	**203**	P		**P**	**22 58 42.7**	**+3.0**
WMGZ	**Waiomatatini S**	**23.48**	**197**	P		**P**	**22 58 44.0**	**+3.5**
HAZ	**Te Kaha**	**23.60**	**198**	P		**P**	**22 58 43.6**	**+1.9**
ABAZ	**Army Bay**	**23.61**	**205**	P		**P**	**22 58 45.4**	**+3.5**
PKGZ	**Pakihiroa**	**23.62**	**198**	P		**P**	**22 58 44.5**	**+2.6**
TBI	**Tubuai**	**23.65**	**113**	*e*P		**P**	**22 58 41.2**	**-1.1**
	comp=Z,2μm,28.2s							
TBI				*e*S		**S**	**23 02 55.7**	**+0.4**
	comp=Z,19μm,28.8s							
TBI				*e*LR		LR	23 04 22.3	
	comp=Z,28μm,24.5s							
TBI				*e*LR		LR	23 04 24.3	
	comp=Z,8μm,26.0s							
WIAZ	**Waiheke Island**	**23.66**	**204**	P		**P**	**22 58 44.6**	**+2.3**
MBAZ	**Mutatupu North**	**23.73**	**204**	P		**P**	**22 58 46.1**	**+3.2**
RUGZ	**Raukumara Rang**	**23.83**	**198**	P		**P**	**22 58 46.1**	**+2.0**
MKAZ	**Moumakai**	**23.92**	**204**	P		**P**	**22 58 47.4**	**+2.7**
WTAZ	**Waiatarua**	**24.00**	**205**	P		**P**	**22 58 48.5**	**+3.0**
AWAZ	**Awhitu Peninsu**	**24.09**	**204**	P		**P**	**22 58 49.6**	**+3.2**
MWZ	**Matawai**	**24.21**	**198**	P		**P**	**22 58 49.5**	**+2.0**
URZ	**Urewera**	**24.27**	**199**	LR		LR	23 07 09.4	
	comp=Z,7μm,20.5s,baz=27,slow=34							
URZ	**Urewera**	**24.27**	**199**	P		**P**	**22 58 47.7**	**-0.3**
TOZ	**Tahuroa Road**	**24.34**	**202**			**P**	**22 58 49.5**	**+0.8**
TOZ					IAmb	IAmb	22 58 54.6	
	comp=Z,91nm,1.0s							
TOZ					IAMs_20	IAMs_20	23 06 49.3	
	comp=Z,10μm,22.0s							
RTZ	**Ruatahuna**	**24.64**	**199**			**P**	**22 58 51.4**	**-0.1**
RTZ					IAmb	IAmb	22 59 06.0	
	comp=Z,70nm,1.0s							
HIZ	**Hauiti**	**25.27**	**202**	P		**P**	**22 58 57.8**	**+0.7**
HIZ					IAMs_20	IAMs_20	23 07 19.8	
	comp=Z,8μm,22.0s							
HIZ	**Hauiti**	**25.27**	**202**	P		**P**	**22 58 59.4**	**+2.3**
BKZ	**Black Stump Fm**	**25.29**	**199**			**P**	**22 58 55.5**	**-1.8**
BKZ	**Black Stump Fm**	**25.29**	**199**	P		**P**	**22 58 57.8**	**+0.4**
BFZ	**Birch Farm**	**26.76**	**198**	P		**P**	**22 59 11.2**	**+0.7**
BFZ					IAmb	IAmb	22 59 12.5	
	comp=Z,86nm,0.9s							
BFZ					IAMs_20	IAMs_20	23 08 42.3	
	comp=Z,7μm,21.0s							
BFZ	**Birch Farm**	**26.76**	**198**	P		**P**	**22 59 11.4**	**+0.9**
HNR	**Honiara**	**26.94**	**280**	LR		LR	23 07 54.3	
	comp=Z,3μm,21.1s,baz=129,slow=32							
MRZ	**Mangatainoka R**	**26.94**	**199**			**P**	**22 59 11.8**	**-0.4**
MRZ					IAmb	IAmb	22 59 15.1	
	comp=Z,48nm,1.0s							
MSWZ	**Moikau Station**	**27.73**	**199**	P		**P**	**22 59 19.3**	**0.0**
SNZO	**South Karori**	**27.81**	**200**		IAMs_20	IAMs_20	23 10 22.2	
	comp=Z,6μm,19.0s							
SNZO	**South Karori**	**27.81**	**200**	P		**P**	**22 59 20.2**	**+0.2**
BHW	**Baring Head**	**27.85**	**200**	P		**P**	**22 59 20.2**	**-0.1**
BHW					IAmb	IAmb	22 59 24.1	
	comp=Z,68nm,1.4s							
TCW	**Tory Channel**	**27.87**	**201**	P		**P**	**22 59 20.8**	**+0.3**
PLWZ	**Palliser**	**27.87**	**199**	P		**P**	**22 59 20.3**	**-0.3**
QRZ	**Quartz Range**	**28.16**	**203**			**P**	**22 59 24.1**	**+0.9**
QRZ					IAmb	IAmb	22 59 26.3	
	comp=Z,48nm,0.6s							
QRZ	**Quartz Range**	**28.16**	**203**	P		**P**	**22 59 24.6**	**+1.5**
TUWZ	**Tuamarina**	**28.18**	**201**	P		**P**	**22 59 23.1**	**-0.1**
TKNZ	**Takaka Hill**	**28.18**	**203**	P		**P**	**22 59 24.1**	**+0.8**
NNZ	**Nelson**	**28.19**	**202**	P		**P**	**22 59 22.6**	**-0.7**
NNZ					IAmb	IAmb	22 59 59.3	
	comp=Z,68nm,1.1s							
NNZ					IAMs_20	IAMs_20	23 11 32.0	
	comp=Z,5μm,18.0s							
CMWZ	**Cape Campbell**	**28.37**	**200**	P		**P**	**22 59 25.9**	**+1.0**
BSWZ	**Blackbirch Sta**	**28.45**	**201**	P		**P**	**22 59 26.5**	**+0.8**
THZ	**Tophouse**	**28.84**	**202**			**P**	**22 59 29.5**	**+0.3**
THZ					IAMs_20	IAMs_20	23 09 43.2	
	comp=Z,7μm,22.0s							
KHZ	**Kahutara**	**29.19**	**200**			**P**	**22 59 32.0**	**-0.2**
KHZ					IAmb	IAmb	22 59 39.6	
	comp=Z,34nm,0.8s							
KHZ	**Kahutara**	**29.19**	**200**	P		**P**	**22 59 32.0**	**-0.2**
DSZ	**Denniston Nort**	**29.23**	**203**	P		**P**	**22 59 32.7**	**+0.1**
DSZ					IAMs_20	IAMs_20	23 11 08.6	
	comp=Z,7μm,18.0s							
GVZ	**Greta Valley S**	**29.85**	**201**	P		**P**	**22 59 39.0**	**+0.8**
GVZ					IAmb	IAmb	23 00 12.2	
	comp=Z,54nm,0.8s							
LTZ	**Lake Taylor**	**29.95**	**202**			**P**	**22 59 38.1**	**-1.0**
LTZ					IAmb	IAmb	22 59 44.0	
	comp=Z,103nm,1.3s							
LTZ					IAMs_20	IAMs_20	23 10 28.8	
	comp=Z,8μm,22.0s							
AMCZ	**Amberley**	**30.17**	**201**	P		**P**	**22 59 40.9**	**0.0**
INZ	**Inchbonnie**	**30.21**	**203**	P		**P**	**22 59 41.1**	**-0.1**
INZ					IAMs_20	IAMs_20	23 11 50.5	
	comp=Z,7μm,18.0s							
OXZ	**Oxford**	**30.51**	**202**	P		**P**	**22 59 43.7**	**-0.3**
OXZ					IAMs_20	IAMs_20	23 10 55.6	
	comp=Z,6μm,22.0s							
MQZ	**McQueen's Vall**	**30.63**	**200**	P		**P**	**22 59 44.8**	**-0.2**
MQZ					IAmb	IAmb	23 00 18.8	
	comp=Z,70nm,1.3s							
RPZ	**Rata Peaks**	**31.20**	**202**	P		**P**	**22 59 50.5**	**+0.4**
RPZ					IAMs_20	IAMs_20	23 11 58.9	
	comp=Z,5μm,20.0s							
RPZ	**Rata Peaks**	**31.20**	**202**	LR		LR	23 12 20.2	
	comp=Z,6μm,18.4s,baz=49,slow=36							
RPZ	**Rata Peaks**	**31.20**	**202**	P		**P**	**22 59 50.7**	**+0.6**
FOZ	**Fox Glacier**	**31.52**	**204**	P		**P**	**22 59 52.5**	**-0.3**
FOZ					IAmb	IAmb	22 59 56.3	
	comp=Z,46nm,0.7s							
LBZ	**Lake Benmore**	**32.10**	**203**	P		**P**	**22 59 57.5**	**-0.5**
LBZ					IAmb	IAmb	23 00 32.4	
	comp=Z,41nm,1.3s							
LBZ					IAMs_20	IAMs_20	23 13 16.7	
	comp=Z,6μm,18.0s							
JOHN	**Johnston Islan**	**32.20**	**7**		IAMs_20	IAMs_20	23 09 21.9	
	comp=Z,6μm,22.0s							
JCZ	**Jackson Bay**	**32.38**	**205**	P		**P**	**22 59 59.8**	**-0.7**
ODZ	**Otahua Downs**	**32.50**	**202**	P		**P**	**23 00 02.3**	**+0.8**
ODZ					IAmb	IAmb	23 00 30.7	
	comp=Z,67nm,1.4s							
ODZ					IAMs_20	IAMs_20	23 13 34.2	
	comp=Z,5μm,18.0s							
ODZ	**Otahua Downs**	**32.50**	**202**	P		**P**	**23 00 02.2**	**+0.8**
TAOE	**Nuku Hiva Isla**	**32.89**	**82**	*e*S		**S**	**23 05 27.9**	**+6.4**
	comp=Z,132nm,26.3s							
TAOE				*e*LR		LR	23 08 38.8	
	comp=Z,2μm,22.7s							
WKZ	**Wanaka**	**32.92**	**204**	P		**P**	**23 00 04.5**	**-0.6**
WKZ					IAMs_20	IAMs_20	23 15 49.3	
	comp=Z,4μm,20.0s							
MLZ	**Mavora Lakes**	**33.72**	**204**			**P**	**23 00 11.0**	**-1.1**
MLZ					IAmb	IAmb	23 00 13.4	
	comp=Z,63nm,0.9s							
DCZ	**Deep Cove**	**34.19**	**205**			**P**	**23 00 17.0**	**+0.9**
DCZ					IAmb	IAmb	23 00 19.0	
	comp=Z,68nm,1.2s							
WHZ	**Wether Hill Ro**	**34.22**	**204**	P		**P**	**23 00 17.1**	**+0.7**
WHZ					IAMs_20	IAMs_20	23 16 28.8	
	comp=Z,4μm,18.0s							
SYZ	**Scrubby Hill**	**34.32**	**202**	P		**P**	**23 00 18.6**	**+1.4**
EIDS	**Eidsvold**	**34.85**	**248**	P		**P**	**23 00 21.2**	**-0.9**
	comp=Z,11nm,0.8s							
EIDS	**Eidsvold**	**34.85**	**248**	P		**P**	**23 00 21.2**	**-0.9**
ARMA	**Armidale**	**35.52**	**239**	P		**P**	**23 00 27.1**	**-0.8**
	comp=Z,22nm,1.1s							
ARMA	**Armidale**	**35.52**	**239**			**P**	**23 00 26.4**	**-1.6**
ARMA	**Armidale**	**35.52**	**239**	P		**P**	**23 00 27.4**	**-0.6**
RKT	**Rikitea**	**36.74**	**108**	*e*LR		LR	23 10 30.1	
CTAO	**Charters Tower**	**38.87**	**257**	P		**P**	**23 00 54.3**	**-2.1**
CTAO	**Charters Tower**	**38.87**	**257**	P		**P**	**23 00 54.3**	**-2.1**
CTAO					pmax	pmax		
	comp=Z,7.0nm,0.7s							
CTAO					MLR	MLR		
	comp=Z,1μm,19.0s							
CNB	**Canberra Magne**	**38.90**	**232**	P		**P**	**23 00 55.9**	**-0.7**
	comp=Z,70nm,1.4s							
CNB	**Canberra Magne**	**38.90**	**232**	P		**P**	**23 00 56.2**	**-0.4**
H11S2	**WAKE ISLAND Hy**	**39.16**	**329**	T		T	23 42 26.7	
	baz=149,slow=76,SNR=29							
H11S3	**WAKE ISLAND Hy**	**39.17**	**329**	T		T	23 42 23.7	
	baz=149,slow=76,SNR=8.2							
H11S1	**WAKE ISLAND Hy**	**39.17**	**329**	T		T	23 42 04.5	
	baz=149,slow=76,SNR=7.2							
CAN	**Canberra**	**39.18**	**233**	P		**P**	**23 00 58.1**	**-0.8**
	comp=Z,61nm,1.4s							
CAN	**Canberra**	**39.18**	**233**	P		**P**	**23 00 58.5**	**-0.4**
CAN	**Canberra**	**39.18**	**233**	P		**P**	**23 00 58.6**	**-0.4**
CAN	**Canberra**	**39.18**	**233**	P		**P**	**23 00 58.5**	**-0.4**
CAN					pmax	pmax		
	comp=Z,46nm,1.0s							
CAN					MLR	MLR		
	comp=Z,2μm,21.0s							
PMG	**Port Moresby**	**39.19**	**274**	LR		LR	23 14 48.2	
	comp=Z,1μm,20.8s,baz=82,slow=33							
KEKH	**Kekaha**	**39.49**	**20**		IAMs_20	IAMs_20	23 12 41.2	
	comp=Z,4μm,21.0s							
KIP	**Kipapa**	**39.56**	**22**			**P**	**23 01 01.2**	**-0.8**
KIP	**Kipapa**	**39.56**	**22**	*ce*P		**P**	**23 01 01.4**	**-0.6**
KIP					pmax	pmax		
	comp=Z,100nm,1.1s							
HLK	**Haleakala**	**39.65**	**25**	P		**P**	**23 01 01.7**	**-1.4**
WAKE	**Wake Island**	**39.85**	**329**	P		**P**	**23 01 03.3**	**-1.2**
WAKE					IAmb	IAmb	23 01 03.5	
	comp=Z,118nm,0.8s							
H11N3	**WAKE ISLAND Hy**	**40.10**	**330**	T		T	23 43 32.1	
	baz=149,slow=76,SNR=9.1							
H11N1	**WAKE ISLAND Hy**	**40.10**	**330**	T		T	23 43 34.1	
	baz=149,slow=76,SNR=11							
H11N2	**WAKE ISLAND Hy**	**40.12**	**330**	T		T	23 43 35.0	
	baz=149,slow=76,SNR=8.1							
CMSA	**Cobar Meteorol**	**40.73**	**239**	P		**P**	**23 01

comp=Z,706nm,18.0s,baz=96,slow=36
FITZ Fitzroy Crossi 58.44 258 P P 23 03 26.7 -0.2
RPN Rapa Nui 60.03 113 LR LR 23 22 42.5
comp=Z,765nm,21.1s,baz=272,slow=29
SOEI Soe 61.17 267 P P **23 03 45.1 -0.9**
BATI Baumata 61.66 267 LR LR 23 28 57.8
comp=Z,764nm,21.7s,baz=124,slow=35
VNDA Vanda 63.33 186 P 23 04 01.6 +2.4
VNDA Vanda 63.33 186 P P **23 04 02.5 +3.2**
comp=Z,40nm,1.1s,baz=7.5,slow=6.8,SNR=105
VNDA LR LR 23 25 26.7
comp=Z,523nm,21.8s,baz=14,slow=30
comp=Z,40nm,1.1s
PSAC2 Pilbara Seismi 63.37 253 P P **23 03 59.1 -1.4**
comp=Z,17nm,1.5s
PSA00 Pilbara Seismi 63.42 253 P P **23 03 59.4 -1.4**
comp=Z,19nm,0.7s
PSA00 Pilbara Seismi 63.42 253 P P **23 03 59.1 -1.7**
PSA00 Pilbara Seismi 63.42 253 P P **23 03 58.8 -2.0**
PSA00 IAmb IAmb 23 04 04.4
comp=Z,5.5nm,0.9s
PSA00 Pilbara Seismi 63.42 253 P P **23 03 59.9 -0.9**
PSAC1 Pilbara Seismi 63.46 253 P P **23 03 59.8 -1.3**
comp=Z,17nm,0.9s
MBWA Marble Bar 63.58 254 P P **23 04 00.8 -1.0**
comp=Z,16nm,1.2s
MBWA Marble Bar 63.58 254 P P **23 04 01.2 -0.6**
MBWA IAmb IAmb 23 04 20.0
comp=Z,26nm,1.4s
EDFI Ende, Flores 63.87 268 P P **23 04 03.3 -0.7**
comp=Z,29nm,0.7s
MEEK Meekatharra 64.02 248 P P **23 04 03.8 -0.9**
comp=Z,16nm,1.3s
MEEK Meekatharra 64.02 248 P P **23 04 03.8 -0.9**
DAV Davao City (W) 64.69 286 LR LR 23 30 43.2
comp=Z,621nm,19.0s,baz=96,slow=35
LUWI Luwuk 64.78 276 P P **23 04 08.0 -1.8**
LUWI IAmb IAmb 23 04 49.5
comp=Z,36nm,1.0s
NWAO Narrogin (SRO) 64.80 241 P P **23 04 09.1 -0.5**
NWAO IAmb IAmb 23 04 34.1
comp=Z,30nm,1.2s
NWAO Narrogin (SRO) 64.80 241 LR LR 23 30 00.2
comp=Z,1μm,21.1s,baz=89,slow=34
NWAO Narrogin (SRO) 64.80 241 P P **23 04 09.9 +0.2**
NWAO Narrogin (SRO) 64.80 241 P P **23 04 09.1 -0.5**
NWAO pmax pmax
comp=Z,30nm,1.3s
BLDU Ballidu 65.38 243 P P **23 04 13.0 -0.5**
MUN Mundaring 65.72 242 P P **23 04 15.2 -0.4**
comp=Z,26nm,0.9s
MUN Mundaring 65.72 242 P P **23 04 15.4 -0.2**
MORW Morawa 66.08 245 P P **23 04 17.5 -0.5**
comp=Z,15nm,1.1s
MORW Morawa 66.08 245 P P **23 04 17.2 -0.8**
KAPI Kappang 66.63 271 LR LR 23 32 02.8
comp=Z,215nm,21.6s,baz=102,slow=35
KIWB Kanaga Island 67.13 357 IAMs_20 IAMs_20 23 26 55.7
comp=Z,2μm,21.0s
ATKA Atka Island 67.40 359 P 23 04 23.7 -2.0
JMM Marumori 68.44 322 P P **23 04 32.3 -0.4**
SHEM Shemya Is, Ala 68.81 352 LR LR 23 27 45.9
comp=Z,3μm,21.9s,baz=134,slow=30
MJAR Matsushiro Arr 69.16 320 P P **23 04 36.3 -0.9**
MJAR Matsushiro Arr 69.16 320 P P **23 04 35.9 -1.3**
comp=Z,7.0nm,1.0s,baz=158,slow=6.3,SNR=10
MJAR LR LR 23 29 21.1
comp=Z,2μm,21.7s,baz=104,slow=31
comp=Z,7.0nm,1.0s
MJAR Matsushiro Arr 69.16 320 P P **23 04 36.3 -0.9**
MJAR pmax pmax
comp=Z,13nm,1.3s
MAJO Matsushiro 69.16 320 P P **23 04 36.6 -0.6**
MAJO Matsushiro 69.16 320 IAMs_20 IAMs_20 23 28 25.4
comp=Z,2μm,22.0s
MAJO Matsushiro 69.16 320 *i* P P **23 04 36.7 -0.5**
MAJO pmax pmax
comp=Z,36nm,1.6s
MJB9 Matsu-Tunnel 69.16 320 P P **23 04 36.6 -0.6**
MJB9 IAmb IAmb 23 04 37.5
comp=Z,22nm,1.2s
MJB9 IAMs_20 IAMs_20 23 28 15.4
comp=Z,2μm,22.0s
UNV Unalaska Valle 69.27 4 P P **23 04 36.6 -0.8**
baz=187
ERM Erimo 69.96 327 IAMs_20 IAMs_20 23 30 32.3
comp=Z,2μm,20.0s
H06S1 SOCORRO T 70.02 63 T T 00 21 22.6
SNR=6.5
CASY Casey 70.44 205 P 23 04 45.4 +0.8
CASY IAmb IAmb 23 04 47.0
comp=Z,61nm,1.2s
KBKI Kotabaru 70.52 272 P P 23 04 54.9 +8.8
FALS False Pass 70.54 6 P P **23 04 44.4 -0.8**
baz=190
JOW Kunigami 70.73 306 IAMs_20 IAMs_20 23 29 35.7
comp=Z,1μm,21.0s
FARB Farallon Islan 70.81 40 P P **23 04 44.6 -2.7**
FARB IAmb IAmb 23 05 00.4
comp=Z,41nm,1.1s
FARB IAMs_20 IAMs_20 23 28 55.4
comp=Z,2μm,21.0s
HULI Fort Hunter Li 70.92 42 P P **23 04 44.3 -3.7**
HULI IAmb IAmb 23 05 21.2
comp=Z,34nm,1.1s
HULI IAMs_20 IAMs_20 23 28 29.3
comp=Z,2μm,20.0s
RAMR Ramage Ranch 70.93 43 IAMs_20 IAMs_20 23 28 48.6
comp=Z,2μm,20.0s
CHNA Chernabura Isl 70.97 8 P P **23 04 47.1 -0.7**
baz=194
SCZ Santa Cruz 71.15 42 P P **23 04 50.1 +0.7**
SCZ IAmb IAmb 23 05 17.6
comp=Z,27nm,1.4s
SCZ IAMs_20 IAMs_20 23 28 37.5
comp=Z,2μm,20.0s
MCCM Marconi Confer 71.16 40 P P **23 04 50.1 +0.7**
MCCM IAMs_20 IAMs_20 23 29 15.7
comp=Z,2μm,20.0s
SKR Severo-Kuril's 71.18 340 *e*P P 23 04 56.2 +7.0
SKR *e* 23 07 25.8
SKR pmax pmax
comp=Z,1μm,4.4s
SKR MLR MLR
comp=Z,1μm,18.0s
SAO San Andreas Ge 71.22 42 P P **23 04 49.7 -0.1**
SAO IAMs_20 IAMs_20 23 28 18.4
comp=Z,2μm,20.0s
SAO San Andreas Ge 71.22 42 P P **23 04 49.7 -0.1**
SAO pmax pmax
comp=Z,24nm,1.4s
SAO MLR MLR
comp=Z,2μm,20.0s
PMPB Monarch Peak 71.31 43 P P **23 04 50.8 +0.3**
PMPB IAmb IAmb 23 04 58.4
comp=Z,41nm,1.4s
PMPB IAMs_20 IAMs_20 23 28 40.9
comp=Z,2μm,20.0s
SDPT Sand Point 71.36 8 P P **23 04 50.6 +0.4**
SDPT IAMs_20 IAMs_20 23 28 55.5
comp=Z,2μm,21.0s
SDPT Sand Point 71.36 8 P P **23 04 49.5 -0.7**
baz=193
BBGB Big Mountain B 71.37 42 P P **23 04 52.0 +1.1**
BBGB IAmb IAmb 23 04 59.2
comp=Z,72nm,1.4s
BBGB IAMs_20 IAMs_20 23 28 23.4
comp=Z,2μm,21.0s
TGY Tagaytay City 71.49 291 LR LR 23 31 05.8
comp=Z,1μm,21.6s,baz=123,slow=32
S12K Black Hills 71.52 7 P P **23 04 50.0 -1.2**
baz=191
CVS Carmenet Viney 71.55 40 IAMs_20 IAMs_20 23 29 07.9
comp=Z,2μm,20.0s
HOPS Hopland Field 71.57 39 IAMs_20 IAMs_20 23 28 19.5
comp=Z,2μm,21.0s
GDXM Geysers 71.63 39 IAMs_20 IAMs_20 23 28 52.0
comp=Z,2μm,21.0s
ASAJ Asahikawa 71.73 328 LR LR 23 33 26.4
comp=Z,388nm,20.0s,baz=152,slow=34
MTOS Mt Oso, Westle 71.74 41 P P **23 04 52.9 0.0**
MTOS IAmb IAmb 23 05 00.7
comp=Z,36nm,1.4s
OSI Osito Audit: C 71.77 45 IAMs_20 IAMs_20 23 29 35.2
comp=Z,2μm,20.0s
KMPM Mount Pierce 71.85 37 P P **23 04 54.4 +0.8**
KMPM IAmb IAmb 23 05 00.1
comp=Z,40nm,1.2s
KMPM IAMs_20 IAMs_20 23 29 26.8
comp=Z,2μm,20.0s
P08K Saint George I 71.86 2 P P **23 04 54.8 +1.7**
MNRC McLaughlin Min 71.89 39 P P **23 04 53.4 -0.5**
MNRC IAmb IAmb 23 05 24.7
comp=Z,46nm,1.4s
MNRC IAMs_20 IAMs_20 23 30 54.8
comp=Z,2μm,19.0s
PASC Pasadena Art C 71.89 46 P P **23 04 53.9 0.0**
PASC IAMs_20 IAMs_20 23 29 19.4
comp=Z,2μm,20.0s
CPE Camp Elliot 71.95 47 P P **23 04 54.6 +0.4**
CPE IAMs_20 IAMs_20 23 28 48.9
comp=Z,2μm,20.0s
CBX Cerro Bola 71.95 48 P P **23 04 54.4 -0.1**
CBX IAmb IAmb 23 05 09.5
comp=Z,30nm,1.4s
CBX IAMs_20 IAMs_20 23 28 35.1
comp=Z,2μm,21.0s
KMRM Mail Ridge 71.97 38 P P **23 04 54.1 -0.3**
KMRM IAmb IAmb 23 05 02.2
comp=Z,50nm,1.1s
MWC Mount Wilson 72.01 46 P P **23 04 53.9 -1.0**
MWC IAMs_20 IAMs_20 23 29 02.5
comp=Z,2μm,20.0s
MWC Mount Wilson 72.01 46 P P **23 04 53.9 -1.0**
MWC pmax pmax
comp=Z,22nm,1.2s
MWC MLR MLR
comp=Z,2μm,20.0s
JNU Nakatsue 72.03 313 P P **23 04 53.8 -1.0**
JNU IAmb IAmb 23 05 04.3
comp=Z,31nm,1.1s
RUSS Russell Ranch 72.03 40 P P **23 04 55.0 +0.3**
RUSS IAmb IAmb 23 05 27.1
comp=Z,28nm,0.8s
VTX Valle De La Tr 72.10 49 P P **23 04 55.2 -0.1**
VTX IAmb IAmb 23 05 13.2
comp=Z,16nm,0.7s
VTX IAMs_20 IAMs_20 23 28 23.2
comp=Z,2μm,21.0s
DPP Dos Picos Cty 72.12 47 P P **23 04 54.7 -0.6**
DPP IAMs_20 IAMs_20 23 29 04.6
comp=Z,2μm,20.0s
ELS Elsinore Mount 72.13 46 P P **23 04 55.5 0.0**
ELS IAMs_20 IAMs_20 23 29 04.8
comp=Z,2μm,20.0s
BAR Barrett 72.14 48 P P **23 04 56.2 +0.8**
BAR IAMs_20 IAMs_20 23 28 55.1
comp=Z,2μm,20.0s
JCC Jacoby Creek, 72.16 37 IAMs_20 IAMs_20 23 30 15.0
comp=Z,2μm,20.0s
VES Vestal, Richgr 72.23 44 P P **23 04 55.6 -0.3**
VES IAmb IAmb 23 05 02.4
comp=Z,33nm,1.1s
VES IAMs_20 IAMs_20 23 28 18.1
comp=Z,2μm,22.0s
TPO Tropico Hills 72.26 45 P P **23 04 56.2 0.0**
TPO IAMs_20 IAMs_20 23 29 00.1
comp=Z,2μm,20.0s
BFSC Mount Baldy Ra 72.30 46 P P **23 04 55.2 -1.3**
BFSC IAMs_20 IAMs_20 23 29 51.1
comp=Z,2μm,20.0s
ESJX Sierra Juarez 72.30 49 P P **23 04 56.8 +0.1**
ESJX IAMs_20 IAMs_20 23 28 06.5
comp=Z,2μm,22.0s
KHMM Horse Mountain 72.37 37 IAMs_20 IAMs_20 23 29 13.5
comp=Z,2μm,20.0s
KRPM Rodgers 72.38 37 IAMs_20 IAMs_20 23 31 01.8
comp=Z,2μm,20.0s
S14K Fog Glacier 72.39 8 P P **23 04 54.8 -1.7**
baz=194
SPIA Saint Paul Isl 72.42 2 P P **23 04 54.5 -1.9**
baz=183
PET Petropavlovsk 72.42 343 *e*P P **23 04 58.0 +1.4**
PET *e*S S **23 14 20.2 +1.8**
PET *e*PS PnS **23 15 00.2 +8.5**
PET pmax pmax
comp=Z,200nm,12.1s
PET MLR MLR
comp=Z,1μm,15.0s
PET MLR MLR
comp=Z,700nm,15.0s
O02D Mt. Diablo Mer 72.48 38 P P **23 04 57.6 +0.2**
O02D IAmb IAmb 23 05 05.5
comp=Z,35nm,1.5s
SUTB Sutter Butte 72.50 39 P P **23 04 57.1 -0.4**
ISA Isabella, Lake 72.53 44 P P **23 04 57.6 -0.2**
ISA Isabella, Lake 72.53 44 P P **23 04 57.6 -0.2**
ISA pmax pmax
comp=Z,20nm,1.4s
ISA MLR MLR
comp=Z,2μm,21.0s
CHIR Chirikof Islan 72.54 10 P P **23 04 55.4 -1.9**
baz=198
CHGN Chignik 72.56 9 P P **23 04 57.2 -0.2**
CHGN IAMs_20 IAMs_20 23 29 51.4
comp=Z,2μm,21.0s
BUCR Buckhorn Ranch 72.59 42 P P **23 04 57.3 -0.9**
BUCR IAMs_20 IAMs_20 23 28 16.8
comp=Z,1μm,22.0s
SFX San Felipe 72.61 50 IAMs_20 IAMs_20 23 30 08.5
comp=Z,1μm,20.0s
BORC Borrego Spring 72.64 47 P P **23 04 57.1 -1.2**
BORC IAMs_20 IAMs_20 23 29 49.2
comp=Z,2μm,20.0s
DNR Dunn Ranch,Anz 72.65 47 P P **23 04 58.7 +0.1**
DNR IAmb IAmb 23 05 39.1
comp=Z,37nm,1.4s
DNR IAMs_20 IAMs_20 23 29 20.4
comp=Z,2μm,21.0s
CMB Columbia Colle 72.66 41 P P **23 04 58.1 -0.4**
CMB IAMs_20 IAMs_20 23 29 34.4
comp=Z,1μm,20.0s
CMB Columbia Colle 72.66 41 P P **23 04 58.1 -0.4**
CMB pmax pmax
comp=Z,21nm,1.4s
CMB MLR MLR
comp=Z,1μm,20.0s
YUH Yuha Desert 72.66 48 P P **23 04 58.0 -0.5**
YUH IAMs_20 IAMs_20 23 29 20.9
comp=Z,2μm,20.0s
KRMB Red Mountain 72.68 37 IAMs_20 IAMs_20 23 31 11.8
comp=Z,2μm,20.0s
WELL Weller Preserv 72.68 41 P P **23 04 58.4 -0.2**
WELL IAMs_20 IAMs_20 23 29 34.1
comp=Z,2μm,20.0s
PEA0B Petropavlovsk- 72.78 342 P **23 04 58.2 -0.6**
PEA0B Petropavlovsk- 72.78 342 *ce*P P **23 04 57.6 -1.2**
PETK Petropavlovsk- 72.78 342 P P **23 04 57.5 -1.3**
comp=Z,14nm,1.0s,baz=116,slow=6.8,SNR=10
PETK LR LR 23 32 30.5
comp=Z,688nm,20.9s,baz=165,slow=32
comp=Z,14nm,1.0s
PFO Pinyon Flats O 72.79 47 P P **23 05 00.0 +0.5**
PFO Pinyon Flats O 72.79 47 IAMs_20 IAMs_20 23 29 34.3
comp=Z,2μm,20.0s
PFO Pinyon Flats O 72.79 47 P P **23 05 00.8 +1.4**
comp=Z,3.6nm,0.9s,baz=277,slow=5.8,SNR=5.4
PFO LR LR 23 29 46.0
comp=Z,2μm,20.2s,baz=272,slow=30
comp=Z,3.6nm,0.9s
PFO Pinyon Flats O 72.79 47 *i* P P **23 05 00.0 +0.5**
PFO pmax pmax
comp=Z,34nm,2.0s
AFDM Forest Hills D 72.83 40 P P **23 04 59.0 -0.5**
AFDM IAMs_20 IAMs_20 23 29 38.0
comp=Z,2μm,20.0s
LPIG La Paz 72.87 58 LR LR 23 28 33.1
comp=Z,841nm,21.6s,baz=241,slow=29
PMD Palm Desert 72.87 47 P P **23 05 00.1 +0.3**
PMD IAMs_20 IAMs_20 23 29 36.3
comp=Z,2μm,20.0s
ORV Oroville 72.88 39 P P **23 04 59.5 -0.2**
ORV Oroville 72.88 39 P P **23 04 59.5 -0.2**
ORV pmax pmax
comp=Z,13nm,1.3s
ORV MLR MLR
comp=Z,1μm,22.0s
KSXB Camp Six Broad 72.90 36 P P **23 05 00.2 +0.3**
KSXB IAmb IAmb 23 05 34.3
comp=Z,40nm,1.4s
KSXB IAMs_20 IAMs_20 23 28 59.5
comp=Z,2μm,21.0s
KBO Bosley Butte 72.95 36 IAMs_20 IAMs_20 23 29 31.8
comp=Z,2μm,20.0s
SALN Salton City 72.95 47 IAMs_20 IAMs_20 23 29 29.5
comp=Z,2μm,20.0s
LRMC Laurel Mtn Rad 72.97 45 P P **23 05 00.6 +0.1**
LRMC IAMs_20 IAMs_20 23 29 02.7
comp=Z,2μm,21.0s
SLBS Sierra La Lagu 72.98 59 P P **23 04 59.8 -0.9**
SLBS IAmb IAmb 23 05 20.2
comp=Z,30nm,1.4s
CPBX Cerro Prieto 72.98 48 IAMs_20 IAMs_20 23 28 43.5
comp=Z,1μm,20.0s
N02D Trinity Center 73.03 38 P P **23 05 00.8 +0.2**
N02D IAMs_20 IAMs_20 23 30 18.1
comp=Z,2μm,20.0s
O03E Paynes Creek 73.15 39 P P **23 05 01.5 +0.1**
O03E IAmb IAmb 23 05 11.3
comp=Z,40nm,1.4s
O03E IAMs_20 IAMs_20 23 29 52.2
comp=Z,2μm,20.0s
WSHM Spangler Hills 73.16 45 P P **23 05 01.6 +0.1**
WSHM IAMs_20 IAMs_20 23 29 47.9
comp=Z,2μm,20.0s
CCCA Chr Cany lake 73.20 45 P P **23 05 01.5 -0.3**
CCCA IAmb IAmb 23 05 21.1
comp=Z,31nm,1.3s
CCCA IAMs_20 IAMs_20 23 29 41.1
comp=Z,2μm,21.0s
CLC China Lake 73.21 44 P P **23 05 01.9 +0.1**
CLC China Lake 73.21 44 P P **23 05 01.9 +0.1**
CLC pmax pmax
comp=Z,13nm,1.3s
CLC MLR MLR
comp=Z,2μm,20.0s
M02C Callahan 73.21 37 P P **23 05 01.6 -0.1**
M02C IAmb IAmb 23 05 09.9
comp=Z,38nm,1.4s
M02C IAMs_20 IAMs_20 23 28 59.8
comp=Z,2μm,22.0s
CWC Cottonwood Cre 73.23 44 P P **23 05 02.1 0.0**
L02F Cave Junction 73.26 36 P P **23 05 01.6 -0.3**
L02F IAmb IAmb 23 05 08.5
comp=Z,32nm,1.5s
L02F IAMs_20 IAMs_20 23 29 22.1
comp=Z,2μm,22.0s
BELC Belle Mtn. Jos 73.32 47 P P **23 05 01.9 -0.7**
BELC IAMs_20 IAMs_20 23 30 11.3
comp=Z,2μm,20.0s
MPMC Manual Prospec 73.42 44 P P **23 05 02.7 -0.5**
GSC Goldstone, Bar 73.46 45 P P **23 05 02.7 -0.7**
GSC IAMs_20 IAMs_20 23 30 48.0
comp=Z,2μm,20.0s
GSC Goldstone, Bar 73.46 45 P P **23 05 02.7 -0.7**
GSC pmax pmax
comp=Z,19nm,1.3s
GSC MLR MLR
comp=Z,2μm,20.0s
TIN Tinemaha, Big 73.48 43 P P **23 05 04.2 +0.7**
TIN IAmb IAmb 23 05 20.6
comp=Z,22nm,0.9s
TIN Tinemaha, Big 73.48 43 P P **23 05 04.2 +0.7**
TIN pmax pmax
comp=Z,22nm,0.9s
TIN MLR MLR
comp=Z,3μm,22.0s
SII Sitkinak Islan 73.50 11 P P **23 05 01.4 -1.6**
baz=199
YBH Yreka Blue Hor 73.51 37 P P **23 05 02.7 -0.8**
YBH Yreka Blue Hor 73.51 37 P P **23 05 03.6 +0.1**
comp=Z,0.8nm,0.9s,baz=221,slow=5.0,SNR=7.9
YBH LR LR 23 29 30.9
comp=Z,133nm,21.9s,baz=270,slow=30
BC3 Big Chuckawall 73.52 47 P P **23 05 03.8 0.0**
BC3 IAMs_20 IAMs_20 23 30 27.7
comp=Z,2μm,20.0s
WAKR Walker 73.54 41 P P **23 05 03.5 -0.3**
GLA Glamis 73.66 48 P P **23 05 05.1 +0.6**
GLA IAMs_20 IAMs_20 23 29 52.3
comp=Z,1μm,20.0s
GLA Glamis 73.66 48 P P **23 05 05.1 +0.6**
GLA pmax pmax
comp=Z,10.0nm,0.8s
GLA MLR MLR
comp=Z,1μm,20.0s
YSS Yuzhno-Sakhali 73.67 330 P P **23 05 04.1 -0.1**
YSS IAmb IAmb 23 05 05.4
comp=Z,68nm,1.5s
YSS IAMs_20 IAMs_20 23 30 55.3
comp=Z,1μm,21.0s
YSS Yuzhno-Sakhali 73.67 330 *e*P P **23 05 03.9 -0.3**
YSS *e* 23 05 18.9
YSS *e* 23 07 44.0
YSS *e*S **SKiKP 23 14 31.9 -0.3**
YSS *e* 23 15 12.8
YSS *e*SS **SS 23 19 19.1 +2.1**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS pmax pmax
comp=Z,300nm,5.3s
YSS MLR MLR
comp=Z,400nm,19.0s
HATC Hat Creek Radi 73.67 38 P P **23 05 04.6 +0.1**
HATC IAmb IAmb 23 05 22.5
comp=Z,41nm,1.3s
HATC IAMs_20 IAMs_20 23 30 19.1
comp=Z,2μm,20.0s
J01E Myrtle Point 73.73 35 P P **23 05 04.9 +0.3**
J01E IAmb IAmb 23 05 42.9
comp=Z,38nm,0.8s
BEKR Beckworth 73.77 40 P P **23 05 04.6 -0.6**
QSM Queen of Sheba 73.78 45 P P **23 05 04.5 -0.7**
QSM IAmb IAmb 23 05 12.4
comp=Z,29nm,1.3s
DSP Deep Springs 73.83 43 P P **23 05 05.6 +0.2**
PIX Pinacate 73.90 50 P P **23 05 05.2 -0.7**
PIX IAMs_20 IAMs_20 23 29 40.8
comp=Z,1μm,21.0s
R16K Pilot Point 73.91 9 P P **23 05 03.3 -2.0**
baz=196
LHV Little Huntoon 73.99 42 P P **23 05 05.6 -0.6**
IRM Iron Mountain 74.01 47 P P **23 05 06.5 0.0**
IRM IAMs_20 IAMs_20 23 30 12.5
comp=Z,2μm,20.0s
GWY Greenwater Val 74.04 45 P P **23 05 06.5 -0.3**
FURC Furnace Creek, 74.06 44 P P **23 05 06.2 -0.4**
DANC Danby, Needles 74.09 46 P P **23 05 07.4 +0.4**
DANC IAmb IAmb 23 05 14.4
comp=Z,27nm,0.9s
DANC IAMs_20 IAMs_20 23 30 06.7
comp=Z,2μm,20.0s
SHOC Shoshone, Teco 74.15 45 P P **23 05 06.8 -0.5**
SHOC IAMs_20 IAMs_20 23 30 51.2
comp=Z,2μm,20.0s
R17L Mt. Peulik Vol 74.15 9 P P **23 05 05.1 -1.7**
baz=197
PLK4 Peulik 4 74.16 9 P P **23 05 06.0 -0.9**
PLK4 IAmb IAmb 23 05 11.5
comp=Z,44nm,1.1s
RYN Ryan 74.19 42 P P **23 05 07.7 0.0**
NVAR Mina Array Bea 74.22 42 P P **23 05 07.5 -0.3**
NVAR Mina Array Bea 74.22 42 P P **23 05 08.0 +0.1**
comp=Z,4.7nm,0.9s,baz=226,slow=8.7,SNR=17
NVAR LR LR 23 30 40.1
comp=Z,2μm,20.8s,baz=252,slow=30
comp=Z,4.7nm,0.9s
BBOR Butler Butte 74.26 36 P P **23 05 08.0 +0.1**
BBOR IAmb IAmb 23 05 38.5
comp=Z,36nm,1.4s
GMN Gold Mountain 74.26 43 P P **23 05 07.4 -0.8**
PAHR Pah Rah Range 74.28 40 P P **23 05 08.0 -0.1**
113A Mohawk Valley, 74.28 49 P P **23 05 08.1 0.0**
113A IAMs_20 IAMs_20 23 29 50.8
comp=Z,1μm,21.0s
OHAK Old Harbor 74.29 11 P P **23 05 07.0 -0.6**
OHAK IAmb IAmb 23 05 33.6
comp=Z,57nm,1.5s
OHAK IAMs_20 IAMs_20 23 30 42.1
comp=Z,2μm,21.0s
OHAK Old Harbor 74.29 11 P P **23 05 05.7 -1.8**
baz=200
NV11 Mina Array Sit 74.31 42 P P **23 05 08.5 +0.1**
I02E Swisshome, OR 74.39 35 IAMs_20 IAMs_20 23 29 31.9
comp=Z,2μm,21.0s
I03D Drain, OR 74.40 35 P P **23 05 09.0 +0.5**
I03D IAMs_20 IAMs_20 23 29 35.1
comp=Z,1μm,21.0s

WCT Wildcat Mounta 74.40 44 P **P** **23 05 08.1 -0.8**
R18K Karluk 74.41 10 P **P** **23 05 06.2 -2.0**
baz=199
MTPC Mountain Pass 74.42 46 P **P** **23 05 09.0 0.0**
MTPC IAMs_20 IAMs_20 23 31 37.4
comp=Z,2μm,20.0s
QSPA South Pole Qui 74.57 180 P **P** **23 05 12.6 +3.2**
QSPA South Pole Qui 74.57 180 IAMs_20 IAMs_20 23 39 55.4
comp=Z,2μm,18.0s
QSPA South Pole Qui 74.57 180 P **P** **23 05 13.6 +4.2**
comp=Z,56nm,1.0s,baz=47,slow=1.9,SNR=91
QSPA LR LR 23 34 26.8
comp=Z,300nm,20.2s,baz=44,slow=33
comp=Z,56nm,1.0s
214A Organ Pipe Nat 74.57 50 P **P** **23 05 10.3 +0.5**
HSIG 74.58 53 P **P** **23 05 09.3 -0.6**
K04D Chiloquin, OR 74.62 37 P **P** **23 05 10.3 +0.2**
K04D IAmb IAmb 23 05 41.5
comp=Z,46nm,1.4s
K04D IAMs_20 IAMs_20 23 30 28.1
comp=Z,1μm,20.0s
NEE2 Needles Airpor 74.69 47 P **P** **23 05 11.0 +0.6**
NEE2 IAMs_20 IAMs_20 23 30 43.7
comp=Z,1μm,20.0s
TPH Tonopah 74.72 43 P **P** **23 05 10.7 -0.1**
TPH IAmb IAmb 23 05 21.1
comp=Z,40nm,1.5s
TPH Tonopah 74.72 43 P **P** **23 05 10.7 -0.1**
TPH pmax pmax
comp=Z,40nm,1.5s
TPNV Topopah Spring 74.74 44 P **P** **23 05 10.3 -0.6**
TPNV Topopah Spring 74.74 44 P **P** **23 05 10.3 -0.6**
TPNV pmax pmax
comp=Z,21nm,1.2s
TPNV MLR MLR
comp=Z,2μm,21.0s
J04A Umpqua Nationa 74.81 36 P **P** **23 05 11.3 +0.1**
J04A IAmb IAmb 23 05 16.7
comp=Z,47nm,1.0s
J04A IAMs_20 IAMs_20 23 30 41.9
comp=Z,1μm,21.0s
Q17K Contact Creek 74.83 9 P **P** **23 05 09.3 -1.6**
baz=197
NACB Ninganchiao 74.90 301 P **P** **23 05 11.4 -0.4**
NACB IAmb IAmb 23 05 36.2
comp=Z,44nm,1.4s
BUCK Buck Mountain 74.92 35 P **P** **23 05 11.4 -0.2**
BUCK IAmb IAmb 23 05 14.0
comp=Z,76nm,1.4s
BUCK IAMs_20 IAMs_20 23 30 43.9
comp=Z,2μm,21.0s
KDAK Kodiak Island 74.95 11 **P** **23 05 10.8 -0.6**
KDAK Kodiak Island 74.95 11 P **P** **23 05 10.5 -0.8**
comp=Z,44nm,1.2s,baz=207,slow=5.5,SNR=7.3
KDAK LR LR 23 30 52.7
comp=Z,2μm,21.9s,baz=214,slow=30
comp=Z,44nm,1.2s
KDAK Kodiak Island 74.95 11 *i* P **P** **23 05 10.6 -0.7**
KDAK pmax pmax
comp=Z,120nm,1.5s
KDAK Kodiak Island 74.95 11 P **P** **23 05 09.9 -1.4**
baz=200
COR Corvallis 75.00 34 IAMs_20 IAMs_20 23 30 32.9
comp=Z,2μm,21.0s
V12A Nelson 75.04 46 **P** **23 05 12.7 +0.2**
O14K Tigyukauivet M 75.09 6 IAMs_20 IAMs_20 23 32 57.5
comp=Z,2μm,20.0s
O14K Tigyukauivet M 75.09 6 P **P** **23 05 10.3 -1.9**
baz=192
O15K Ungalikthiuk R 75.18 7 P **P** **23 05 11.2 -1.4**
baz=193
K05A Summer Lake 75.18 37 P **P** **23 05 13.8 +0.4**
K05A IAmb IAmb 23 05 28.6
comp=Z,54nm,1.2s
K05A IAMs_20 IAMs_20 23 31 38.0
comp=Z,2μm,20.0s
SHPR Sheep Range 75.24 45 **P** **23 05 13.6 -0.2**
P16K Nushagak River 75.27 8 P **P** **23 05 14.1 +1.0**
P16K IAMs_20 IAMs_20 23 32 28.9
comp=Z,2μm,20.0s
P16K Nushagak River 75.27 8 P **P** **23 05 11.6 -1.5**
baz=195
H04D Lebanon 75.27 35 P **P** **23 05 14.0 +0.4**
H04D IAmb IAmb 23 05 21.9
comp=Z,72nm,1.5s
H04D IAMs_20 IAMs_20 23 31 24.1
comp=Z,1μm,20.0s
TATO Taipei 75.32 301 P **P** **23 05 14.5 +0.3**
J05D Fort Rock, OR 75.33 36 **P** **23 05 14.1 -0.1**
J05D IAmb IAmb 23 05 44.8
comp=Z,61nm,1.4s
J05D IAMs_20 IAMs_20 23 32 47.9
comp=Z,2μm,20.0s
Q18K Katmai Hardscr 75.34 10 P **P** **23 05 11.9 -1.8**
baz=198
W13A Hualapai Mount 75.38 47 P **P** **23 05 15.1 +0.4**
W13A IAMs_20 IAMs_20 23 31 06.7
comp=Z,2μm,20.0s
Y14A Wickenburg 75.42 48 **P** **23 05 14.8 +0.1**
Y14A IAMs_20 IAMs_20 23 30 45.9
comp=Z,1μm,20.0s
G03D McMinnville, O 75.42 34 P **P** **23 05 14.0 -0.4**
G03D IAmb IAmb 23 05 45.9
comp=Z,63nm,1.3s
S11A Rachel 75.45 44 P **P** **23 05 15.1 +0.2**
S11A IAmb IAmb 23 05 23.6
comp=Z,44nm,1.5s
P17K Kvichak River 75.64 9 P **P** **23 05 13.6 -1.8**
baz=197
H04A Detroit Lake 75.67 35 **P** **23 05 15.2 -0.7**
H04A IAmb IAmb 23 05 17.5
comp=Z,31nm,1.2s
H04A IAMs_20 IAMs_20 23 31 37.8
comp=Z,1μm,20.0s
N14K Kuskokwak Cree 75.71 6 IAMs_20 IAMs_20 23 32 26.8
comp=Z,2μm,20.0s
N14K Kuskokwak Cree 75.71 6 P **P** **23 05 13.8 -1.8**
baz=191
Q20K Shuyak Island 75.76 11 P **P** **23 05 14.8 -1.2**
baz=201
SYI Shuyak Island 75.76 11 **P** **23 05 14.7 -1.2**
SYI IAMs_20 IAMs_20 23 31 08.3
comp=Z,2μm,21.0s
PRN Pahroc Range 75.79 44 P **P** **23 05 17.8 +0.9**
PRN IAmb IAmb 23 05 24.7
comp=Z,33nm,1.5s
O16K Kokwok River B 75.80 8 P **P** **23 05 14.4 -1.8**
O16K IAmb IAmb 23 05 15.5
comp=Z,80nm,1.5s
O16K IAMs_20 IAMs_20 23 32 16.3
comp=Z,2μm,20.0s
O16K Kokwok River B 75.80 8 P **P** **23 05 14.0 -2.2**
baz=195
M11K Mekoryuk 75.80 4 P **P** **23 05 14.0 -2.2**
baz=187
PINE Pine Mountain 75.81 36 **P** **23 05 17.0 0.0**
PINE IAmb IAmb 23 05 26.7
comp=Z,68nm,1.3s
PINE IAMs_20 IAMs_20 23 32 07.6
comp=Z,1μm,20.0s
Q19K Cape Douglas, 75.84 10 P **P** **23 05 15.5 -1.0**
Q19K Cape Douglas, 75.84 10 P **P** **23 05 14.9 -1.6**
baz=199
G04A Mulino 75.85 34 IAMs_20 IAMs_20 23 32 30.4
comp=Z,1μm,20.0s
I05D Terrebonne, OR 75.93 36 P **P** **23 05 17.8 +0.4**
I05D IAmb IAmb 23 05 26.9
comp=Z,65nm,1.3s
I05D IAMs_20 IAMs_20 23 31 57.6
comp=Z,1μm,20.0s
RADR Rader Ridge 75.93 33 IAMs_20 IAMs_20 23 30 13.5
comp=Z,1μm,20.0s
R11B Troy Canyon, C 75.94 43 **P** **23 05 17.8 0.0**
P18K Big Mountain, 76.02 9 P **P** **23 05 15.8 -1.7**
P18K IAMs_20 IAMs_20 23 31 06.8
comp=Z,2μm,22.0s
P18K Big Mountain, 76.02 9 P **P** **23 05 15.7 -1.9**
baz=198
M13K Dall Lake 76.04 5 IAMs_20 IAMs_20 23 31 45.5
comp=Z,2μm,21.0s
M13K Dall Lake 76.04 5 P **P** **23 05 15.7 -1.8**
baz=190
O17K Koliganek Bris 76.11 8 P **P** **23 05 16.4 -1.5**
baz=196
N15K Kwethluk River 76.11 7 P **P** **23 05 16.6 -1.5**
baz=193

F04D Rainier, OR 76.12 33 P **P** **23 05 19.0 +0.6**
F04D IAmb IAmb 23 05 20.0
comp=Z,69nm,1.4s
E03A Lebam 76.14 33 **P** **23 05 18.1 -0.3**
E03A IAmb IAmb 23 05 45.5
comp=Z,67nm,1.4s
E03A IAMs_20 IAMs_20 23 29 56.9
comp=Z,1μm,21.0s
TUC Tucson 76.25 51 P **P** **23 05 19.8 +0.3**
TUC Tucson 76.25 51 IAMs_20 IAMs_20 23 30 29.0
comp=Z,1μm,21.0s
TUC Tucson 76.25 51 P **P** **23 05 19.8 +0.3**
TUC pmax pmax
comp=Z,20nm,1.3s
TUC MLR MLR
comp=Z,1μm,21.0s
WVOR Wild Horse Val 76.34 38 P **P** **23 05 19.6 -0.3**
WVOR IAmb IAmb 23 05 27.3
comp=Z,37nm,1.5s
WVOR Wild Horse Val 76.34 38 P **P** **23 05 19.6 -0.3**
WVOR pmax pmax
comp=Z,37nm,1.5s
WVOR MLR MLR
comp=Z,2μm,20.0s
HOOD Mount Hood Mea 76.37 35 P **P** **23 05 20.0 0.0**
HOOD IAmb IAmb 23 05 27.3
comp=Z,40nm,1.2s
HOOD IAMs_20 IAMs_20 23 31 39.3
comp=Z,2μm,21.0s
KSRS Korea Array 76.39 315 P **P** **23 05 20.4 +0.4**
comp=Z,1.4nm,0.8s,baz=124,slow=6.7,SNR=7.7
KSAR Wonju Array Be 76.41 315 **P** **23 05 19.6 -0.6**
KSAR Wonju Array Be 76.41 315 P **P** **23 05 19.6 -0.6**
KS19 Wonju Array Si 76.45 315 P **P** **23 05 22.7 +2.3**
KS19 IAmb IAmb 23 05 41.0
comp=Z,28nm,1.2s
M14K Bethel 76.49 6 **P** **23 05 19.8 -0.3**
M14K IAMs_20 IAMs_20 23 33 12.3
comp=Z,2μm,21.0s
M14K Bethel 76.49 6 P **P** **23 05 19.4 -0.7**
baz=191
G05A Wamic 76.50 35 **P** **23 05 20.2 -0.4**
G05A IAmb IAmb 23 05 33.3
comp=Z,54nm,1.4s
G05A IAMs_20 IAMs_20 23 32 24.8
comp=Z,2μm,20.0s
TYV Tymovskoe 76.53 333 *e*P **P** **23 05 20.0 -0.6**
TYV *e*S **S** **23 15 04.5 0.0**
TYV pmax pmax
comp=Z,15nm,1.4s
TYV pmax pmax
comp=Z,100nm,3.7s
TYV smax smax
comp=N,200nm,3.4s
TYV smax smax
comp=E,200nm,3.4s
TYV smax smax
comp=N,15nm,1.9s
TYV smax smax
comp=E,9.0nm,1.9s
NLWA Neilton Lookou 76.53 32 IAMs_20 IAMs_20 23 30 55.4
comp=Z,1μm,20.0s
M15K Kasigluk River 76.56 6 P **P** **23 05 19.6 -1.0**
baz=192,SNR=7.7
N16K Nishlik Lake 76.57 7 P **P** **23 05 19.2 -1.4**
baz=194
P19K Oil Pt 76.59 10 P **P** **23 05 20.0 -0.7**
P19K Oil Pt 76.59 10 P **P** **23 05 19.5 -1.3**
baz=200
X16A Lo Mia Camp, P 76.78 48 **P** **23 05 22.7 +0.1**
X16A IAMs_20 IAMs_20 23 31 38.0
comp=Z,1μm,20.0s
DIB Dawson Inlet, 76.81 24 P **P** **23 05 22.3 +0.2**
DIB IAmb IAmb 23 05 23.3
comp=Z,40nm,1.2s
LCMT Little Creek M 76.81 45 P **P** **23 05 22.6 -0.1**
LCMT IAmb IAmb 23 05 32.7
comp=Z,31nm,1.5s
N17K Nushagak Hills 76.82 8 P **P** **23 05 21.5 -0.5**
N17K IAmb IAmb 23 05 22.7
comp=Z,37nm,1.4s
N17K IAMs_20 IAMs_20 23 31 21.4
comp=Z,2μm,22.0s
N17K Nushagak Hills 76.82 8 P **P** **23 05 20.3 -1.7**
baz=196
CNPM China Poot 76.83 11 **P** **23 05 20.8 -1.3**
CNPM IAmb IAmb 23 05 23.6
comp=Z,50nm,1.2s
G06A Carlson Farm, 76.88 35 **P** **23 05 22.3 -0.4**
G06A IAMs_20 IAMs_20 23 33 25.7
comp=Z,1μm,20.0s
HOM Homer 76.88 11 P **P** **23 05 21.3 -1.0**
baz=201
ILSW Iliamna Southw 76.92 10 P **P** **23 05 21.2 -1.5**
O19K Port Alsworth 76.92 10 **P** **23 05 20.8 -1.8**
O19K IAMs_20 IAMs_20 23 33 00.8
comp=Z,2μm,20.0s
319A Douglas 76.94 52 **P** **23 05 23.1 -0.4**
319A IAmb IAmb 23 05 41.8
comp=Z,21nm,1.0s
J08A Circle Bar Ran 76.98 38 **P** **23 05 23.1 -0.4**
J08A IAmb IAmb 23 05 25.5
comp=Z,33nm,1.3s
J08A IAMs_20 IAMs_20 23 32 48.5
comp=Z,2μm,21.0s
CCUT Cedar City 77.01 45 **P** **23 05 24.1 +0.2**
L14K Kuka Creek 77.01 5 P **P** **23 05 22.7 -0.3**
L14K Kuka Creek 77.01 5 P **P** **23 05 22.5 -0.5**
baz=190,SNR=11
M16K Timber Creek 77.08 7 P **P** **23 05 22.9 -0.5**
M16K Timber Creek 77.08 7 P **P** **23 05 23.1 -0.3**
baz=194,SNR=5.9
O20K Slope Mountain 77.10 10 P **P** **23 05 22.5 -1.2**
baz=200
KNB Kanab 77.11 46 P **P** **23 05 24.8 +0.4**
KNB IAmb IAmb 23 05 57.4
comp=Z,29nm,1.3s
KNB Kanab 77.11 46 P **P** **23 05 24.8 +0.4**
KNB pmax pmax
comp=Z,29nm,1.3s
BRLK Bradley Lake 77.12 11 P **P** **23 05 23.2 -0.5**
SPR3 Spring Creek 3 77.12 43 **P** **23 05 24.3 -0.3**
BRSE Bradley Lake S 77.13 11 P **P** **23 05 22.7 -1.1**
baz=202
N18K Kilae Creek 77.15 9 P **P** **23 05 22.8 -1.1**
N18K IAmb IAmb 23 05 23.8
comp=Z,36nm,1.4s
N18K IAMs_20 IAMs_20 23 31 54.0
comp=Z,2μm,22.0s
N18K Kilae Creek 77.15 9 P **P** **23 05 22.4 -1.5**
baz=197
B04A Port Angeles 77.16 32 P **P** **23 05 24.2 0.0**
B04A IAmb IAmb 23 05 25.8
comp=Z,39nm,1.4s
GNW Green Mountain 77.18 32 P **P** **23 05 24.7 +0.4**
LON Longmire 77.19 33 P **P** **23 05 23.7 -0.8**
LON Longmire 77.19 33 P **P** **23 05 23.7 -0.8**
LON pmax pmax
comp=Z,18nm,1.2s
LON MLR MLR
comp=Z,700nm,19.0s
PSUT Pine Spring 77.19 44 **P** **23 05 25.0 +0.1**
SZCU Shurtz Canyon 77.22 45 P **P** **23 05 25.2 +0.1**
INCN Inchon 77.28 315 P **P** **23 05 25.9 +0.8**
INCN IAmb IAmb 23 05 34.6
comp=Z,35nm,1.1s
INCN Inchon 77.28 315 P **P** **23 05 25.9 +0.8**
INCN pmax pmax
comp=Z,35nm,1.2s
INCN MLR MLR
comp=Z,600nm,20.0s
WUAZ Wupatki 77.37 47 P **P** **23 05 25.7 -0.2**
WUAZ IAmb IAmb 23 05 43.6
comp=Z,28nm,1.4s
WUAZ IAMs_20 IAMs_20 23 32 19.4
comp=Z,1μm,20.0s
D05A Enumclaw 77.38 33 P **P** **23 05 25.7 +0.2**
RED Redoubt Volcan 77.39 10 **P** **23 05 23.9 -1.5**
KSM Kuching 77.44 275 P **P** **23 05 27.0 +0.4**
KSM IAmb IAmb 23 06 03.8
comp=Z,22nm,1.1s
K13K Kusilvak Mount 77.44 4 P **P** **23 05 24.8 -0.6**
K13K IAmb IAmb 23 05 26.7
comp=Z,60nm,1.4s
K13K IAMs_20 IAMs_20 23 34 04.7
comp=Z,1μm,20.0s

K13K Kusilvak Mount 77.44 4 P **P** **23 05 25.0 -0.4**
baz=188,SNR=5.6
L15K Ungalak Mounta 77.45 6 P **P** **23 05 24.6 -0.9**
baz=192,SNR=12
ELK Elko 77.47 41 **P** **23 05 26.6 +0.1**
ELK IAMs_20 IAMs_20 23 32 07.9
comp=Z,1μm,21.0s
ELK Elko 77.47 41 P **P** **23 05 26.7 +0.2**
comp=Z,4.4nm,1.1s,baz=225,slow=6.0,SNR=12
ELK LR LR 23 32 59.9
comp=Z,1μm,20.2s,baz=229,slow=31
comp=Z,4.4nm,1.1s
ELK Elko 77.47 41 P **P** **23 05 26.6 +0.1**
ELK pmax pmax
comp=Z,22nm,1.5s
ELK MLR MLR
comp=Z,1μm,21.0s
N19K Bonanza Creek 77.49 9 P **P** **23 05 24.4 -1.5**
N19K IAMs_20 IAMs_20 23 32 48.0
comp=Z,2μm,21.0s
N19K Bonanza Creek 77.49 9 P **P** **23 05 24.2 -1.7**
baz=198,SNR=10
CBB Campbell River 77.57 29 **P** **23 05 26.8 +0.3**
CBB IAmb IAmb 23 05 28.3
comp=Z,53nm,1.2s
PGC Sidney 77.57 31 P **P** **23 05 25.8 -0.7**
PGC IAmb IAmb 23 05 28.1
comp=Z,22nm,0.9s
USRK Ussuriysk Ar. 77.59 323 P **P** **23 05 26.6 -0.1**
comp=Z,7.2nm,1.1s,baz=96,slow=3.8,SNR=9.1
comp=Z,7.2nm,1.1s
DUN6 Lazy B Ranch 77.63 51 P **P** **23 05 28.0 +0.7**
M17K Holitna River 77.63 8 P **P** **23 05 26.3 -0.2**
M17K IAmb IAmb 23 05 27.7
comp=Z,75nm,1.4s
M17K Holitna River 77.63 8 P **P** **23 05 26.1 -0.4**
baz=196
PKCU Pink Cliffs 77.67 45 **P** **23 05 29.1 +1.3**
PKCU IAmb IAmb 23 05 42.2
comp=Z,70nm,1.3s
F07A Phinny Hill Vi 77.67 35 P **P** **23 05 27.1 0.0**
F07A IAmb IAmb 23 05 28.3
comp=Z,26nm,1.3s
F07A IAMs_20 IAMs_20 23 33 40.8
comp=Z,1μm,20.0s
KNMB Chin-men Tao 77.69 300 P **P** **23 05 28.6 +0.9**
L16K Owhat River 77.69 7 P **P** **23 05 26.6 -0.2**
L16K IAMs_20 IAMs_20 23 32 55.3
comp=Z,2μm,21.0s
L16K Owhat River 77.69 7 P **P** **23 05 25.7 -1.1**
baz=194
SEW Seward 77.71 12 IAMs_20 IAMs_20 23 32 03.9
comp=Z,2μm,21.0s
SEW Seward 77.71 12 P **P** **23 05 25.7 -1.2**
baz=203
Q23K Middleton Isla 77.76 14 P **P** **23 05 26.0 -1.2**
baz=206
BBB Bella Bella 77.84 26 LR LR 23 33 20.1
comp=Z,1μm,19.9s,baz=238,slow=31
G08A Pilot Rock 77.85 36 **P** **23 05 27.9 -0.4**
G08A IAmb IAmb 23 05 30.2
comp=Z,30nm,1.1s
G08A IAMs_20 IAMs_20 23 31 58.5
comp=Z,1μm,21.0s
HPIG 77.86 58 P **P** **23 05 28.9 0.0**
HPIG IAmb IAmb 23 05 47.0
comp=Z,28nm,1.4s
LEM Lembang 77.87 266 LR LR 23 40 20.4
comp=Z,408nm,20.8s,baz=154,slow=36
LEM Lembang 77.87 266 P P 23 05 39.3 +10
MXC Moxie City 77.89 34 P **P** **23 05 28.7 +0.3**
MXC IAMs_20 IAMs_20 23 31 22.5
comp=Z,1μm,22.0s
X18A Snowflake 77.91 49 P **P** **23 05 29.3 +0.4**
SLKM Skilak Lake 77.94 11 P **P** **23 05 26.8 -1.5**
SLKM IAMs_20 IAMs_20 23 33 38.8
comp=Z,2μm,20.0s
M18K Stony River 77.94 8 P **P** **23 05 27.2 -1.0**
baz=197,SNR=6.5
A04D Lummi Island 77.99 31 **P** **23 05 29.1 +0.3**
O22K Cooper Landing 78.01 12 P **P** **23 05 28.6 -0.1**
O22K IAMs_20 IAMs_20 23 32 36.6
comp=Z,2μm,21.0s
O22K Cooper Landing 78.01 12 P **P** **23 05 27.6 -1.0**
baz=203
K15K Wolf Creek Mou 78.05 6 P **P** **23 05 28.9 +0.1**
K15K IAMs_20 IAMs_20 23 36 36.8
comp=Z,1μm,20.0s
K15K Wolf Creek Mou 78.05 6 P **P** **23 05 28.9 +0.1**
baz=192,SNR=22
MTPU Mount Pierson 78.06 45 P **P** **23 05 30.4 +0.5**
MTPU IAmb IAmb 23 05 49.4
comp=Z,40nm,1.5s
LTY Liberty 78.12 34 P **P** **23 05 28.6 -1.1**
E07A Sunnyside 78.12 34 P **P** **23 05 29.4 -0.2**
E07A IAmb IAmb 23 05 30.9
comp=Z,38nm,1.2s
E07A IAMs_20 IAMs_20 23 33 13.6
comp=Z,1μm,20.0s
TCRU Three Creeks R 78.17 44 P **P** **23 05 31.2 +0.7**
HAWA Hanford 78.20 35 **P** **23 05 30.1 +0.1**
HAWA IAmb IAmb 23 05 31.2
comp=Z,47nm,1.4s
HAWA IAMs_20 IAMs_20 23 33 17.6
comp=Z,1μm,20.0s
SSE Sheshan 78.20 307 P **P** **23 05 29.5 -0.9**
SSE S **S** **23 15 26.0 +2.6**
SSE pmax pmax
comp=Z,6.0nm,0.7s
SSE pmax pmax
comp=Z,160nm,3.6s
SSE LR LR
comp=Z,210nm,23.3s
SSE LR LR
comp=Z,250nm,23.5s
SPCR Spurr Chakacha 78.22 10 P **P** **23 05 28.2 -1.7**
baz=201
SPU Mount Spurr 78.23 10 P **P** **23 05 28.0 -2.0**
SPU IAmb IAmb 23 05 29.2
comp=Z,31nm,1.4s
SPU IAMs_20 IAMs_20 23 32 28.4
comp=Z,2μm,22.0s
L17K Donlin 78.24 7 P **P** **23 05 30.2 +0.4**
baz=195,SNR=9.8
YPT Yellepit 78.30 35 P **P** **23 05 29.9 -0.8**
YPT IAMs_20 IAMs_20 23 34 38.4
comp=Z,1μm,20.0s
CRAG Craig 78.32 22 IAMs_20 IAMs_20 23 32 42.0
comp=Z,2μm,20.0s
CRAG Craig 78.32 22 P **P** **23 05 28.6 -1.9**
baz=219
J14K Nanvaranak Lak 78.33 4 IAMs_20 IAMs_20 23 35 59.9
comp=Z,1μm,20.0s
J14K Nanvaranak Lak 78.33 4 P **P** **23 05 28.8 -1.5**
baz=189
W18A Petrified Fore 78.35 48 P **P** **23 05 32.3 +0.9**
W18A IAMs_20 IAMs_20 23 32 05.5
comp=Z,1μm,21.0s
WAH2 Wahluke Slope 78.40 34 P **P** **23 05 31.4 +0.2**
WAH2 IAmb IAmb 23 05 32.2
comp=Z,32nm,1.3s
WAH2 IAMs_20 IAMs_20 23 31 59.9
comp=Z,1μm,22.0s
E08A Dider Farm, El 78.52 35 P **P** **23 05 31.8 0.0**
E08A IAmb IAmb 23 05 33.0
comp=Z,39nm,1.4s
E08A IAMs_20 IAMs_20 23 32 56.0
comp=Z,1μm,21.0s
L18K Granite Mounta 78.52 8 P **P** **23 05 31.0 -0.5**
L18K IAMs_20 IAMs_20 23 33 41.3
comp=Z,2μm,21.0s
L18K Granite Mounta 78.52 8 P **P** **23 05 31.2 -0.2**
baz=196,SNR=22
BMO Blue Mountains 78.54 37 **P** **23 05 31.6 -0.5**
BMO IAMs_20 IAMs_20 23 33 26.7
comp=Z,1μm,20.0s
BMO Blue Mountains 78.54 37 P **P** **23 05 31.6 -0.5**
BMO pmax pmax
comp=Z,21nm,1.2s
BMO MLR MLR
comp=Z,1μm,20.0s
RC01 Rabbit Creek A 78.57 11 **P** **23 05 30.9 -0.8**
RC01 IAmb IAmb 23 05 31.9
comp=Z,76nm,1.4s
RC01 IAMs_20 IAMs_20 23 34 09.4
comp=Z,2μm,21.0s

RC01	Rabbit Creek A	78.57	11	P	P	23 05 30.3	-1.4	
	baz=203							
STLK	Strandline Lak	78.57	10	P	P	23 05 29.8	-2.0	
STLK	comp=Z,41nm,1.3s			IAmb	IAmb	23 05 31.0		
STLK	comp=Z,1µm,22.0s			IAMs_20	IAMs_20	23 32 51.2		
LNOR	Lincton Mounta	78.58	36	P	P	23 05 31.7	-0.5	
LNOR	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	23 34 21.6		
MFID	Camas Ranch	78.59	39		P	23 05 31.5	-1.0	
MFID	comp=Z,1µm,21.0s			IAMs_20	IAMs_20	23 33 06.2		
HIN	Hinchinbrook I	78.59	13	P	P	23 05 31.4	-0.6	
121A	Cookes Peak, D	78.60	52		P	23 05 32.6	-0.2	
121A	comp=Z,1µm,21.0s			IAMs_20	IAMs_20	23 32 05.4		
PWL	Port Wells	78.63	12	P	P	23 05 31.3	-0.8	
PWL	comp=Z,61nm,1.3s			IAmb	IAmb	23 05 32.0		
PWL	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	23 34 03.1		
PWL	Port Wells	78.63	12	P	P	23 05 30.6	-1.6	
KAIM	baz=204 Kayak Island	78.65	14	P	P	23 05 32.8	+0.6	
KAIM	Kayak Island	78.65	14	P	P	23 05 30.6	-1.7	
M20K	baz=208 Styx River	78.71	10	P	P	23 05 30.9	-1.7	
SUA	baz=200 Susitna One	78.73	11	P	P	23 05 30.7	-2.0	
SUA	comp=Z,37nm,1.2s			IAmb	IAmb	23 05 33.6		
SUA	Susitna One	78.73	11	P	P	23 05 31.0	-1.8	
L19K	baz=202 White Mountain	78.74	9	P	P	23 05 31.9	-0.8	
L19K	comp=Z,33nm,1.5s			IAmb	IAmb	23 05 43.3		
L19K	comp=Z,1µm,22.0s			IAMs_20	IAMs_20	23 32 42.0		
L19K	White Mountain	78.74	9	P	P	23 05 31.6	-1.1	
V35K	baz=198 Ketchikan	78.76	23	P	P	23 05 33.3	+0.4	
V35K	comp=Z,41nm,1.4s			IAmb	IAmb	23 06 17.3		
V35K	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	23 32 35.8		
V35K	Ketchikan	78.76	23	P	P	23 05 31.6	-1.3	
K17K	baz=221 Iditarod	78.80	7	P	P	23 05 32.9	-0.1	
K17K	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	23 34 10.7		
K17K	Iditarod	78.80	7	P	P	23 05 32.5	-0.5	
SIT	baz=195,SNR=8.6 Sitka	78.81	20	IAMs_20	IAMs_20	23 30 58.9		
SIT	comp=Z,2µm,22.0s Sitka	78.81	20	P	P	23 05 32.3	-0.8	
U33K	baz=217 Whale Pass	78.82	22	IAMs_20	IAMs_20	23 33 06.3		
U33K	comp=Z,1µm,20.0s Whale Pass	78.82	22	P	P	23 05 31.8	-1.4	
ZAIG	baz=219 Zacatecas	78.82	63	P	P	23 05 34.2	-0.2	
ZAIG	comp=Z,1µm,18.0s			IAMs_20	IAMs_20	23 37 48.9		
MOIG	Morelia	78.89	66	IAMs_20	IAMs_20	23 32 15.8		
EYAK	comp=Z,1µm,20.0s Cordova Ski Ar	78.90	13	P	P	23 05 33.6	+0.1	
EYAK	comp=Z,54nm,1.5s			IAmb	IAmb	23 05 41.3		
EYAK	Cordova Ski Ar	78.90	13	P	P	23 05 32.3	-1.3	
GLI	baz=207 Glacier Island	78.90	13	P	P	23 05 32.5	-1.1	
GLI	comp=Z,54nm,1.1s			IAmb	IAmb	23 05 40.4		
GLI	Glacier Island	78.90	13	P	P	23 05 31.9	-1.7	
FID	baz=206 Port Fidalgo	78.92	13	P	P	23 05 32.5	-1.2	
FID	comp=Z,50nm,1.3s			IAmb	IAmb	23 05 33.4		
D08A	Wollman Farm,	78.94	34		P	23 05 34.2	+0.1	
D08A	comp=Z,38nm,1.3s			IAmb	IAmb	23 05 35.3		
D08A	comp=Z,1µm,22.0s			IAMs_20	IAMs_20	23 32 04.1		
BGU	Big Grassy Mou	78.99	42		P	23 05 35.5	+0.8	
HMU	Henry Mountain	79.00	46		P	23 05 35.2	+0.2	
HMU	comp=Z,42nm,1.5s			IAmb	IAmb	23 06 08.2		
RAGM	Ragged Mountai	79.00	14	P	P	23 05 33.9	-0.3	
RAGM	comp=Z,52nm,1.2s			IAmb	IAmb	23 05 35.2		
GAMB	Gambell	79.01	1	IAMs_20	IAMs_20	23 34 38.7		
GAMB	comp=Z,1µm,21.0s Gambell	79.01	1	P	P	23 05 32.7	-1.3	
E09A	baz=181 Wood Farm, Sta	79.04	35		P	23 05 34.9	+0.2	
E09A	comp=Z,1µm,19.0s			IAMs_20	IAMs_20	23 35 27.8		
SKT	Skwentna	79.07	10	IAmb	IAmb	23 05 33.6		
SKT	comp=Z,45nm,1.3s Skwentna	79.07	10	P	P	23 05 32.0	-2.6	
BGLC	baz=201 Bering Glacier	79.10	15	P	P	23 05 32.9	-1.7	
M22K	baz=209 Willow	79.11	11	P	P	23 05 33.4	-1.2	
KNK	baz=203 Knik Glacier	79.11	12	IAmb	IAmb	23 05 34.9		
KNK	comp=Z,84nm,1.5s			IAMs_20	IAMs_20	23 32 45.8		
KNK	comp=Z,2µm,22.0s Knik Glacier	79.11	12	P	P	23 05 33.3	-1.5	
J16K	baz=204 Anvik River	79.11	6	IAMs_20	IAMs_20	23 35 02.9		
J16K	comp=Z,1µm,20.0s Anvik River	79.11	6	P	P	23 05 34.6	-0.1	
PMR	baz=192,SNR=22 Palmer	79.14	11	IAMs_20	IAMs_20	23 34 25.5		
PMR	comp=Z,1µm,20.0s Palmer	79.14	11	P	P	23 05 33.3	-1.6	
L20K	baz=204 Farewell, AK	79.16	9	P	P	23 05 33.3	-1.8	
Q16A	baz=199,SNR=11 Castle Valley	79.19	45	P	P	23 05 36.6	+0.7	
F10A	Beach Ranch, E	79.23	36	IAMs_20	IAMs_20	23 32 31.1		
BERG	comp=Z,1µm,22.0s Berg Lake	79.23	14	P	P	23 05 35.5	0.0	
MDJ	Mudanjiang	79.23	322	P	P	23 05 35.7	-0.1	
MDJ	comp=Z,2µm,22.0s			IAMs_20	IAMs_20	23 33 37.9		
EPT	El Paso	79.24	53	P	P	23 05 37.1	+0.8	
EPT	comp=Z,34nm,1.4s			IAmb	IAmb	23 05 54.4		
S31K	Pelican	79.25	19	P	P	23 05 34.6	-0.9	
WRAK	baz=216 Wrangell Islan	79.33	22	P	P	23 05 35.3	-0.7	
WRAK	Wrangell Islan	79.33	22	IAMs_20	IAMs_20	23 33 31.8		
WRAK	comp=Z,2µm,20.0s Wrangell Islan	79.33	22	P	P	23 05 34.9	-1.1	
GRNR	baz=220 Gornyy	79.33	330	eP	P	23 05 36.1	-0.1	
GHO	Glory Hole Cre	79.35	11	IAmb	IAmb	23 05 36.1		
TMUT	comp=Z,78nm,1.3s Trail Mountain	79.35	44	IAmb	IAmb	23 05 46.4		
J17K	comp=Z,84nm,1.5s VABM Dome	79.38	6	IAMs_20	IAMs_20	23 34 38.9		
J17K	comp=Z,2µm,21.0s VABM Dome	79.38	6	P	P	23 05 35.8	-0.3	
DIV	baz=194,SNR=13 Divide	79.41	13	IAmb	IAmb	23 05 36.5		
PLID	comp=Z,75nm,1.2s Pearl Lake	79.43	37	IAMs_20	IAMs_20	23 33 46.4		
MPU	comp=Z,2µm,20.0s Maple Canyon	79.43	43	P	P	23 05 37.3	0.0	
MESA	MESA	79.48	15	P	P	23 05 36.3	-0.7	
HLID	baz=210 Hailey	79.53	39	IAMs_20	IAMs_20	23 33 36.1		
BMRM	comp=Z,1µm,21.0s Bremner River	79.53	14	P	P	23 05 35.1	-2.0	
HVU	baz=208 Hansel Valley	79.60	41	P	P	23 05 38.4	+0.4	
HVU	Hansel Valley	79.60	41	P	P	23 05 38.4	+0.4	
HVU	comp=Z,19nm,1.1s			pmax	pmax			
M23K	Glacier View	79.60	12	P	P	23 05 35.7	-1.7	
LLLB	baz=205 Lillooet	79.63	30	IAmb	IAmb	23 05 44.8		
	comp=Z,40nm,1.4s							

CUT	Chulitna	79.69	11	P	P	23 05 36.0	-1.8	
YAH	baz=202 Yahtse	79.69	15	IAmb	IAmb	23 05 38.9		
CRQE	comp=Z,83nm,1.3s Cirque	79.69	14	P	P	23 05 36.8	-1.3	
I17K	baz=209 Unalakleet	79.69	6	IAmb	IAmb	23 05 39.5		
I17K	comp=Z,97nm,1.4s			IAMs_20	IAMs_20	23 33 26.1		
I17K	comp=Z,1µm,22.0s Unalakleet	79.69	6	P	P	23 05 37.5	-0.3	
SBM	baz=192 South Baldy	79.69	50	P	P	23 05 39.4	+0.4	
CTU	Camp Tracy	79.70	43		P	23 05 38.9	+0.2	
KLU	Klutina	79.71	13	IAmb	IAmb	23 05 45.3		
KLU	comp=Z,42nm,1.2s Klutina	79.71	13	P	P	23 05 36.5	-1.5	
J18K	baz=207 Innoko River	79.72	7	IAMs_20	IAMs_20	23 35 08.9		
J18K	comp=Z,2µm,20.0s Innoko River	79.72	7	P	P	23 05 37.6	-0.4	
SCM	baz=196,SNR=23 Sheep Creek Mo	79.72	12	IAmb	IAmb	23 05 44.8		
SCM	comp=Z,52nm,1.2s			IAMs_20	IAMs_20	23 32 52.9		
SCM	comp=Z,2µm,22.0s Sheep Creek Mo	79.72	12	P	P	23 05 37.2	-1.0	
PNL	baz=205 Peninsula	79.72	17	P	P	23 05 36.7	-1.4	
SRU	baz=213 San Rafael Swe	79.72	45	P	P	23 05 39.0	+0.2	
SRU	San Rafael Swe	79.72	45	P	P	23 05 39.0	+0.2	
SRU	comp=Z,24nm,1.2s			pmax	pmax			
ISLE	Juniper Island	79.75	15	IAmb	IAmb	23 05 39.3		
P17A	comp=Z,75nm,1.3s Butcher Ranch,	79.76	44	P	P	23 05 39.7	+0.7	
P17A	comp=Z,57nm,1.5s			IAmb	IAmb	23 05 46.9		
TGL	Tana Glacier	79.76	15	P	P	23 05 37.9	-0.5	
PPLA	Purkeypile	79.82	10	P	P	23 05 38.1	-0.7	
Y22A	baz=200 Socorro	79.84	51		P	23 05 40.1	+0.5	
Y22A	comp=Z,1µm,21.0s			IAMs_20	IAMs_20	23 33 06.1		
JLU	Jordanelle	79.85	43	P	P	23 05 40.1	+0.5	
PCA	Pinnacle	79.85	16	P	P	23 05 38.3	-0.6	
PCA	comp=Z,66nm,1.4s			IAmb	IAmb	23 05 40.8		
PINM	Pinnacle	79.85	16	P	P	23 05 37.6	-1.2	
Y22D	baz=212 IRIS PASSCAL I	79.93	50	P	P	23 05 40.3	+0.3	
Y22D	comp=Z,30nm,0.5s			IAmb	IAmb	23 05 46.0		
Y22D	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	23 33 30.9		
Y22D	IRIS PASSCAL I	79.93	50	P	P	23 05 38.0	-2.0	
LENM	baz=244 Lemitar	79.93	50	P	P	23 05 39.3	-0.7	
K20K	Telida	79.97	9	IAmb	IAmb	23 05 40.6		
K20K	comp=Z,68nm,1.3s			IAMs_20	IAMs_20	23 33 42.6		
K20K	comp=Z,1µm,22.0s Telida	79.97	9	P	P	23 05 38.3	-1.1	
GRNC	baz=199,SNR=17 Granite Creek	80.01	15	P	P	23 05 39.3	-0.6	
GRNC	comp=Z,65nm,1.2s			IAmb	IAmb	23 05 40.3		
ANM	Nome	80.01	3	IAMs_20	IAMs_20	23 36 17.5		
ANM	comp=Z,1µm,20.0s Nome	80.01	3	P	P	23 05 39.1	-0.5	
CRNM	baz=188 Carthage	80.02	51	P	P	23 05 41.5	+0.9	
VRDI	Verde Repeater	80.03	14	IAmb	IAmb	23 05 40.2		
VRDI	comp=Z,97nm,1.4s			IAMs_20	IAMs_20	23 34 10.1		
R32K	comp=Z,2µm,20.0s Eaglecrest	80.04	20	P	P	23 05 39.0	-0.9	
N25K	baz=218 Chitina, Valde	80.10	13	IAmb	IAmb	23 05 40.5		
N25K	comp=Z,78nm,1.4s Chitina, Valde	80.10	13	P	P	23 05 38.6	-1.6	
GLB	baz=208 Gilahina Butte	80.13	14	IAmb	IAmb	23 05 40.5		
GLB	comp=Z,88nm,1.4s			IAMs_20	IAMs_20	23 33 23.0		
TCUT	comp=Z,2µm,21.0s Toone Canyon	80.14	42	P	P	23 05 41.0	-0.2	
TCUT	comp=Z,66nm,1.1s			IAmb	IAmb	23 05 43.4		
P29M	Windy Craggy	80.16	17	IAmb	IAmb	23 05 41.4		
P29M	comp=Z,37nm,1.1s Windy Craggy	80.16	17	P	P	23 05 39.2	-1.3	
BESE	baz=214,SNR=6.6 Bessie Mountai	80.18	19		P	23 05 39.6	-1.0	
BESE	comp=Z,48nm,1.4s			IAmb	IAmb	23 05 47.8		
BESE	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	23 33 49.3		
PV05	Paradox Valley	80.20	46	IAmb	IAmb	23 05 50.9		
PV05	comp=Z,59nm,1.4s			IAMs_20	IAMs_20	23 33 35.7		
M24K	comp=Z,2µm,21.0s Tolsona, Glenn	80.20	12	P	P	23 05 40.0	-0.7	
MVCO	baz=206 Mesa Verde	80.21	47	P	P	23 05 41.9	+0.3	
MVCO	comp=Z,2µm,22.0s			IAMs_20	IAMs_20	23 32 46.8		
MCARA	McCarthy VSAT	80.26	14	IAmb	IAmb	23 05 41.3		
MCARA	comp=Z,61nm,1.3s			IAMs_20	IAMs_20	23 32 53.4		
MCARA	comp=Z,2µm,22.0s McCarthy VSAT	80.26	14	P	P	23 05 40.1	-0.9	
BSUT	baz=209 Blindstream Ca	80.27	43		P	23 05 42.2	+0.2	
LOGN	Logan Glacier	80.28	15	IAmb	IAmb	23 05 42.2		
H16K	comp=Z,50nm,1.2s Elim	80.30	5	P	P	23 05 40.6	-0.5	
CTG	baz=191 Chitna Glacier	80.31	15	P	P	23 05 40.8	-0.6	
MA2	baz=211 Magadan	80.31	342	LR	LR	23 36 24.0		
CTGM	comp=Z,719nm,20.7s,baz=134,slow=32 Chitina Glacie	80.31	15	IAmb	IAmb	23 05 42.4		
WAT6	comp=Z,42nm,1.2s Susitna Watana	80.32	12	P	P	23 05 39.7	-1.8	
J19K	baz=205 Poorman	80.37	8	IAmb	IAmb	23 05 42.8		
J19K	comp=Z,65nm,1.4s			IAMs_20	IAMs_20	23 34 05.1		
J19K	comp=Z,2µm,21.0s Poorman	80.37	8	P	P	23 05 40.8	-0.7	
PV10	baz=197,SNR=15 Paradox Valley	80.38	46	P	P	23 05 42.6	+0.1	
PV10	comp=Z,40nm,1.1s			IAmb	IAmb	23 05 44.0		
PV19	Morning Glory	80.39	46	P	P	23 05 42.6	+0.1	
PV19	comp=Z,44nm,1.1s			IAmb	IAmb	23 05 44.2		
WAT1	Susitna Watana	80.39	11	P	P	23 05 40.2	-1.5	
PV17	baz=204 East Wray Mesa	80.39	46	P	P	23 05 43.0	+0.5	
PV17	comp=Z,45nm,1.4s			IAmb	IAmb	23 06 00.8		
PV17	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	23 34 36.5		
PV14	Lion Creek, Pa	80.39	46	P	P	23 05 42.9	+0.4	
PV14	comp=Z,35nm,1.3s			IAmb	IAmb	23 05 51.3		
NJ2	Nanjing	80.41	307	eP	P	23 05 43.0	+0.6	
NJ2				S	S	23 15 51.6	+4.7	
NJ2	comp=Z,8.0nm,0.9s			pmax	pmax			
NJ2	comp=Z,390nm,4.7s			pmax	pmax			
NJ2	comp=Z,350nm,21.8s			LR	LR			
NJ2	comp=Z,450nm,19.9s			LR	LR			
NJ2	comp=Z,1µm,22.7s			LR	LR			
PV18	Skein Mesa, Pa	80.41	46		P	23 05 42.6	0.0	
PV18	comp=Z,52nm,1.2s			IAmb	IAmb	23 05 59.1		
PV20	West Nyswonger	80.42	46		P	23 05 43.3	+0.7	
PV20	comp=Z,44nm,1.1s			IAmb	IAmb	23 05 44.3		

PLBC	Pleasant Camp	80.42	18	P	P	23 05 41.1	-0.7	
PV13	baz=216 Radium Mtn., P	80.43	46	IAmb	IAmb	23 05 51.6		
PV16	comp=Z,44nm,1.4s Nyswonger Mesa	80.44	46	IAmb	IAmb	23 05 59.4		
PV16	comp=Z,41nm,1.4s			IAMs_20	IAMs_20	23 33 55.7		
PV23	comp=Z,1µm,20.0s Carpenter Ridg	80.44	46	P	P	23 05 43.2	+0.3	
PV23	comp=Z,56nm,1.2s			IAmb	IAmb	23 05 59.4		
O28M	Mount Upton	80.44	16	P	P	23 05 41.5	-0.8	
O28M	comp=Z,37nm,1.2s			IAmb	IAmb	23 05 42.8		
O28M	Mount Upton	80.44	16	P	P	23 05 41.0	-1.3	
TX31	baz=212,SNR=7.2 Lajitas Ar. Si	80.45	56	P	P	23 05 43.3	+0.4	
TX31	comp=Z,49nm,1.4s			IAmb	IAmb	23 05 52.4		
TXAR	Lajitas Array	80.45	56		P	23 05 43.5	+0.7	
TXAR	Lajitas Array	80.45	56	P	P	23 05 44.1	+1.2	
TXAR	comp=Z,10.0nm,1.1s,baz=224,slow=5.2,SNR=33			LR	LR	23 35 22.8		
TXAR	comp=Z,583nm,19.2s,baz=252,slow=31 comp=Z,10.0nm,1.1s							
TXAR	Lajitas Array	80.45	56	P	P	23 05 43.5	+0.7	
PV03	Paradox Valley	80.46	46	IAmb	IAmb	23 05 51.6		
PV03	comp=Z,48nm,1.5s			IAMs_20	IAMs_20	23 33 15.2		
PV11	comp=Z,2µm,21.0s David Mesa, Pa	80.46	46	P	P	23 05 43.4	+0.6	
PV11	comp=Z,33nm,1.1s			IAmb	IAmb	23 05 59.5		
O29M	Mount Kennedy	80.48	17	IAmb	IAmb	23 05 43.2		
O29M	comp=Z,57nm,1.3s Mount Kennedy	80.48	17	P	P	23 05 41.6	-0.7	
PV04	baz=214,SNR=9.0 Paradox Valley	80.48	46	P	P	23 05 43.3	+0.3	
T35M	Bob Quinn	80.51	22	P	P	23 05 42.8	+0.4	
T35M	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	23 34 01.1		
T35M	Bob Quinn	80.51	22	P	P	23 05 41.5	-1.0	
PV02	baz=222 Paradox Valley	80.51	46	P	P	23 05 43.7	+0.5	
PV02	comp=Z,84nm,1.4s			IAmb	IAmb	23 05 52.0		
PV21	Cone Mtn., Par	80.52	46	P	P	23 05 43.9	+0.7	
PV21	comp=Z,30nm,1.1s			IAmb	IAmb	23 05 52.2		
PV12	Saucer Basin,	80.52	46	P	P	23 05 43.5	+0.3	
PV12	comp=Z,55nm,1.1s			IAmb	IAmb	23 05 59.9		
G15K	Niukluk	80.52	4	P	P	23 05 41.9	-0.3	
UNM	baz=189,SNR=12 Universidad Na	80.55	67	IAMs_20	IAMs_20	23 32 23.0		
PV01	comp=Z,1µm,21.0s Paradox Valley	80.59	46	P	P	23 05 42.8	-0.9	
PV01	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	23 35 20.9		
NEW	Newport	80.63	34	IAMs_20	IAMs_20	23 33 27.9		
NEW	comp=Z,1µm,21.0s Newport	80.63	34	P	P	23 05 42.9	-0.4	
NEW	comp=Z,7.7nm,1.1s,baz=207,slow=7.8,SNR=5.6			LR	LR	23 33 39.0		
PV22	comp=Z,1µm,21.8s,baz=224,slow=30 comp=Z,7.7nm,1.1s Blue Mesa, Par	80.63	46	IAmb	IAmb	23 06 02.2		
KTH	comp=Z,45nm,1.5s Kantishna Hill	80.64	10	IAmb	IAmb	23 05 43.2		
TRF	comp=Z,98nm,1.5s Thorofare Moun	80.65	10	IAmb	IAmb	23 05 54.5		
TRF	comp=Z,50nm,1.0s Thorofare Moun	80.65	10	P	P	23 05 41.8	-1.4	
ANMO	baz=202 Albuquerque	80.66	50		P	23 05 44.4	+0.4	
ANMO	Albuquerque	80.66	50	IAMs_20	IAMs_20	23 34 03.8		
ANMO	comp=Z,1µm,20.0s Albuquerque	80.66	50	P	P	23 05 44.5	+0.5	
ANMO	comp=Z,12nm,1.0s,baz=297,slow=6.4,SNR=15			LR	LR	23 33 55.8		
ANMO	comp=Z,1µm,21.2s,baz=324,slow=30 comp=Z,12nm,1.0s Albuquerque	80.66	50	ceP	P	23 05 45.0	+1.0	
HARP	comp=Z,15nm,1.3s HAARP	80.68	13	pmax P	pmax P	23 05 42.4	-0.8	
PV07	baz=207 Paradox Valley	80.68	46	P	P	23 05 44.5	+0.4	
CHUM	Lake Minchumin	80.73	9	P	P	23 05 41.6	-1.8	
SKAG	baz=200 Skagway	80.73	18	IAmb	IAmb	23 05 44.9		
SKAG	comp=Z,54nm,1.4s Skagway	80.73	18	P	P	23 05 42.8	-0.7	
J20K	baz=217 Nowinta River	80.74	8	IAMs_20	IAMs_20	23 34 05.9		
J20K	comp=Z,1µm,22.0s Nowinta River	80.74	8	P	P	23 05 42.7	-0.7	
PV15	baz=199,SNR=38 Paradox Valley	80.75	46	P	P	23 05 44.6	+0.1	
PV15	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	23 35 25.1		
P30M	Million Dollar	80.79	17	P	P	23 05 43.1	-0.8	
H17K	baz=215 Granite Mounta	80.80	6	IAmb	IAmb	23 05 52.0		
H17K	comp=Z,54nm,1.4s			IAMs_20	IAMs_20	23 37 26.4		
H17K	comp=Z,1µm,20.0s Granite Mounta	80.80	6	P	P	23 05 42.9	-0.8	
DHY	baz=193,SNR=7.2 Denali Highway	80.84	12	IAmb	IAmb	23 05 44.3		
DHY	comp=Z,70nm,1.5s Denali Highway	80.84	12	P	P	23 05 42.2	-2.0	
F14K	baz=205 Arctic Creek	80.87	3	P	P	23 05 43.6	-0.6	
TNA	baz=187 Tin City	80.89	2	P	P	23 05 43.4	-0.8	
S34M	baz=185 Telegraph Cree	80.90	21	IAmb	IAmb	23 05 46.2		
S34M	comp=Z,32nm,1.1s			IAMs_20	IAMs_20	23 35 39.3		
S34M	comp=Z,1µm,20.0s Telegraph Cree	80.90	21	P	P	23 05 43.7	-0.8	
GCSA	baz=221 Galena City Sc	80.94	7	P	P	23 05 44.2	-0.2	
YUK8	baz=196 Steele Glacier	80.99	16	P	P	23 05 44.7	-0.5	
G16K	baz=212 Koyuk River	81.04	5	IAmb	IAmb	23 05 46.2		
G16K	comp=Z,55nm,1.4s			IAMs_20	IAMs_20	23 37 44.6		
G16K	comp=Z,1µm,20.0s Koyuk River	81.04	5	P	P	23 05 44.8	-0.2	
YUK6	baz=190,SNR=5.8 Outpost Mounta	81.07	16	P	P	23 05 44.8	-0.8	
PAX	baz=214 Paxson	81.12	12	IAmb	IAmb	23 05 46.2		
PAX	comp=Z,52nm,1.4s Paxson	81.12	12	P	P	23 05 44.2	-1.5	
BPAW	baz=207 Bear Paw Mtn.	81.14	10	IAmb	IAmb	23 05 44.7		
BPAW	comp=Z,36nm,1.4s			IAMs_20	IAMs_20	23 34 11.5		
BPAW	comp=Z,1µm,22.0s Bear Paw Mtn.	81.14	10	P	P	23 05 43.4	-2.3	
BNX	baz=202 BinXian	81.14	322	⇑P	P	23 05 45.9	-0.2	
BNX				S	S	23 15 54.9	+0.9	
BNX	comp=Z,13nm,1.0s			pmax	pmax			
BNX	comp=Z,390nm,5.1s			pmax	pmax			
BNX	comp=Z,740nm,20.5s			LR	LR			
BNX	comp=Z,1µm,20.9s			LR	LR			
BNX	comp=Z,2µm,22.2s			LR	LR			
MCK	McKinley	81.15	11	P	P	23 05 44.3	-1.4	
M26K	baz=204 Nabesna, AK	81.16	14	P	P	23 05 45.2	-0.7	
H18K	baz=209,SNR=25 Honhosa River	81.16	6	IAmb	IAmb	23 05 47.1		
H18K	comp=Z,45nm,1.3s			IAMs_20	IAMs_20	23 35 45.1		
H18K	comp=Z,2µm,20.0s Honhosa River	81.16	6	P	P	23 05 45.1	-0.6	
AHID	baz=194,SNR=6.2 Auburn Hatcher	81.17	41	IAmb	IAmb	23 05 55.1		

	comp=Z,29nm,1.2s								
F15K	**North Star Dit**	**81.19**	**4**	IAmb	IAmb	23 05 47.4			
	comp=Z,47nm,1.4s								
F15K				IAMs_20	IAMs_20	23 37 13.5			
	comp=Z,1µm,21.0s								
F15K	**North Star Dit**	**81.19**	**4**	P	**P**	**23 05 45.3**	**-0.6**		
	baz=188								
HYT	**Haines Junctio**	**81.21**	**17**	IAmb	IAmb	23 05 47.2			
	comp=Z,64nm,1.3s								
HYT	**Haines Junctio**	**81.21**	**17**	P	**P**	**23 05 45.6**	**-0.7**		
	baz=215								
YUK3	**Moose Creek**	**81.23**	**15**	P	**P**	**23 05 45.2**	**-1.2**		
	baz=212								
G17K	**Kiwalik Mounta**	**81.28**	**5**	P	**P**	**23 05 45.9**	**-0.5**		
	baz=192,SNR=8.7								
I20K	**Naaghedeneel**	**81.28**	**8**	IAmb	IAmb	23 05 48.4			
	comp=Z,40nm,1.0s								
I20K				IAMs_20	IAMs_20	23 34 22.3			
	comp=Z,2µm,22.0s								
I20K	**Naaghedeneel**	**81.28**	**8**	P	**P**	**23 05 46.0**	**-0.3**		
	baz=198								
CN2	**Changchun**	**81.30**	**320**	P	**P**	**23 05 47.1**	**+0.2**		
CN2				sP	PcP	23 05 54.1	+1.1		
CN2				PP	**PP**	**23 08 55.9**	**+2.8**		
CN2				S	**S**	**23 15 56.3**	**+0.6**		
CN2				SS	**SS**	**23 21 15.8**	**+3.5**		
CN2				pmax	pmax				
	comp=Z,10.0nm,1.0s								
CN2				LR	LR				
	comp=Z,320nm,23.0s								
CN2				LR	LR				
	comp=Z,750nm,23.0s								
CN2				LR	LR				
	comp=Z,1µm,25.0s								
Q32M	**Nakina River**	**81.31**	**20**	IAMs_20	IAMs_20	23 33 44.5			
	comp=Z,1µm,21.0s								
Q32M	**Nakina River**	**81.31**	**20**	P	**P**	**23 05 46.2**	**-0.7**		
	baz=220								
YUK4	**Talbot Arm**	**81.33**	**16**	P	**P**	**23 05 46.7**	**-0.2**		
	baz=214								
P32M	**Atlin**	**81.34**	**19**	P	**P**	**23 05 45.7**	**-1.2**		
	baz=218								
M27K	**Edge Creek, AK**	**81.38**	**14**	IAMs_20	IAMs_20	23 35 25.1			
	comp=Z,2µm,20.0s								
M27K	**Edge Creek, AK**	**81.38**	**14**	P	**P**	**23 05 46.5**	**-0.7**		
	baz=210,SNR=40								
DL2	**Dalian**	**81.41**	**314**	P	**P**	**23 05 46.6**	**-1.0**		
DL2				S	**S**	**23 15 58.3**	**+1.3**		
DL2				pmax	pmax				
	comp=Z,34nm,1.3s								
DL2				pmax	pmax				
	comp=Z,590nm,4.1s								
DL2				LR	LR				
	comp=Z,500nm,18.8s								
DL2				LR	LR				
	comp=Z,670nm,19.0s								
DL2				LR	LR				
	comp=Z,990nm,19.6s								
MENT	**Mentasta**	**81.47**	**13**	IAmb	IAmb	23 05 48.1			
	comp=Z,68nm,1.4s								
O30N	**Mendenhall**	**81.57**	**17**	IAmb	IAmb	23 05 49.0			
	comp=Z,56nm,1.2s								
O30N	**Mendenhall**	**81.57**	**17**	P	**P**	**23 05 47.1**	**-0.9**		
	baz=216								
DLMT	**Dillon**	**81.59**	**38**	IAmb	IAmb	23 05 50.1			
	comp=Z,31nm,1.1s								
DLMT				IAMs_20	IAMs_20	23 35 55.7			
	comp=Z,2µm,20.0s								
MSO	**Missoula**	**81.59**	**37**	IAmb	IAmb	23 05 49.7			
	comp=Z,37nm,1.2s								
MSO				IAMs_20	IAMs_20	23 34 30.6			
	comp=Z,2µm,21.0s								
L26K	**Log Cabin Wild**	**81.63**	**13**	IAmb	IAmb	23 05 49.0			
	comp=Z,53nm,1.4s								
L26K	**Log Cabin Wild**	**81.63**	**13**	P	**P**	**23 05 47.5**	**-0.7**		
	baz=209								
TPAW	**Teton Pass**	**81.63**	**41**	IAmb	IAmb	23 05 50.6			
	comp=Z,26nm,1.1s								
S22A	**4UR Ranch, Cre**	**81.64**	**47**	IAMs_20	IAMs_20	23 34 06.5			
	comp=Z,2µm,21.0s								
BVCY	**Beaver Creek**	**81.67**	**15**	P	**P**	**23 05 47.9**	**-0.6**		
	baz=211								
DLBC	**Dease Lake**	**81.68**	**21**	P	**P**	**23 05 48.8**	**+0.1**		
	comp=Z,47nm,0.9s,baz=200,slow=3.7,SNR=7.4								
DLBC				LR	LR	23 35 56.8			
	comp=Z,10µm,19.5s,baz=208,slow=31								
	comp=Z,47nm,0.9s								
DLBC	**Dease Lake**	**81.68**	**21**	P	**P**	**23 05 48.1**	**-0.6**		
	baz=222								
H19K	**Roundabout Mou**	**81.74**	**7**	IAmb	IAmb	23 05 49.9			
	comp=Z,66nm,1.3s								
H19K	**Roundabout Mou**	**81.74**	**7**	P	**P**	**23 05 48.5**	**-0.2**		
	baz=196,SNR=17								
SNOW	**Snow King Moun**	**81.74**	**41**	IAmb	IAmb	23 05 59.5			
	comp=Z,43nm,1.3s								
HTMS	**Hat Mesa**	**81.74**	**53**	P	**P**	**23 05 50.3**	**+0.6**		
O20A	**White River Ci**	**81.76**	**45**		**P**	**23 05 50.9**	**+1.2**		
CPRX	**Cap Rock**	**81.79**	**53**	P	**P**	**23 05 50.8**	**+0.9**		
K24K	**Donnelly Dome**	**81.81**	**12**	P	**P**	**23 05 48.5**	**-0.7**		
	baz=207								
WHY	**Whitehorse**	**81.83**	**18**	P	**P**	**23 05 49.0**	**-0.5**		
	baz=217								
N30M	**Aishikik Lake**	**81.85**	**17**	IAmb	IAmb	23 05 50.2			
	comp=Z,38nm,1.4s								
N30M	**Aishikik Lake**	**81.85**	**17**	P	**P**	**23 05 48.7**	**-0.8**		
	baz=215,SNR=6.5								
G18K	**Tagagawik**	**81.86**	**6**	IAmb	IAmb	23 05 50.0			
	comp=Z,51nm,1.3s								
G18K				IAMs_20	IAMs_20	23 37 29.3			
	comp=Z,2µm,20.0s								
G18K	**Tagagawik**	**81.86**	**6**	P	**P**	**23 05 48.3**	**-1.1**		
	baz=194								
H20K	**Anotleneega Mo**	**81.90**	**8**	P	**P**	**23 05 49.2**	**-0.4**		
	baz=198,SNR=12								
JTMT	**Jette**	**81.90**	**36**	P	**P**	**23 05 50.3**	**+0.1**		
NEA2	**Nenana**	**81.92**	**10**	IAmb	IAmb	23 05 50.9			
	comp=Z,26nm,1.1s								
NEA2	**Nenana**	**81.92**	**10**	P	**P**	**23 05 47.9**	**-1.8**		
	baz=203								
RIDG	**Independent Ri**	**81.94**	**12**	P	**P**	**23 05 48.5**	**-1.4**		
	baz=208								
I21K	**Tanana**	**82.00**	**9**	IAmb	IAmb	23 05 50.4			
	comp=Z,55nm,1.4s								
I21K				IAMs_20	IAMs_20	23 35 50.1			
	comp=Z,1µm,21.0s								
I21K	**Tanana**	**82.00**	**9**	P	**P**	**23 05 49.0**	**-1.1**		
	baz=201,SNR=5.7								
L27K	**Beaver Creek,**	**82.00**	**14**	P	**P**	**23 05 49.2**	**-1.1**		
	baz=210								
BCAR	**Beaver Creek A**	**82.02**	**14**		**P**	**23 05 49.0**	**-1.3**		
MLY	**Manley**	**82.05**	**9**	IAmb	IAmb	23 05 50.1			
	comp=Z,53nm,1.2s								
MLY	**Manley**	**82.05**	**9**	P	**P**	**23 05 48.7**	**-1.8**		
	baz=202								
R33M	**Jennings River**	**82.08**	**20**	IAmb	IAmb	23 05 51.8			
	comp=Z,32nm,1.4s								
R33M				IAMs_20	IAMs_20	23 34 50.8			
	comp=Z,1µm,19.0s								
R33M	**Jennings River**	**82.08**	**20**	P	**P**	**23 05 49.5**	**-1.3**		
	baz=221,SNR=9.9								
P33M	**Teslin, Yukon**	**82.11**	**19**	IAMs_20	IAMs_20	23 35 30.3			
	comp=Z,2µm,20.0s								
P33M	**Teslin, Yukon**	**82.11**	**19**	P	**P**	**23 05 49.7**	**-1.2**		
	baz=219								
YPP	**Pitchstone Pla**	**82.12**	**40**	P	**P**	**23 05 52.5**	**+0.8**		
YHB	**Horse Butte**	**82.12**	**39**	P	**P**	**23 05 52.3**	**+0.8**		
YHB				IAmb	IAmb	23 05 53.6			
	comp=Z,40nm,1.1s								
HDA	**Harding Lake**	**82.13**	**11**	IAmb	IAmb	23 05 50.9			
	comp=Z,65nm,1.2s								
HDA				IAMs_20	IAMs_20	23 34 36.6			
	comp=Z,1µm,21.0s								
HDA	**Harding Lake**	**82.13**	**11**	P	**P**	**23 05 49.4**	**-1.5**		
	baz=206								
BW06	**Boulder Array**	**82.16**	**42**	IAMs_20	IAMs_20	23 36 09.8			
	comp=Z,2µm,20.0s								
PDAR	**Pinedale Array**	**82.16**	**42**	P	**P**	**23 05 51.1**	**-0.7**		
PDAR	**Pinedale Array**	**82.16**	**42**	P	**P**	**23 05 51.8**	**0.0**		
	comp=Z,6.8nm,0.9s,baz=225,slow=3.1,SNR=33								
PDAR				LR	LR	23 36 41.0			
	comp=Z,1µm,19.5s,baz=228,slow=32								
	comp=Z,6.8nm,0.9s								
F17K	**Baldwin Pennin**	**82.16**	**5**	P	**P**	**23 05 50.9**	**0.0**		
F17K				IAMs_20	IAMs_20	23 37 59.0			
	comp=Z,1µm,20.0s								
F17K	**Baldwin Pennin**	**82.16**	**5**	P	**P**	**23 05 50.4**	**-0.5**		
	baz=192								
YHL	**Hebgen Lake**	**82.18**	**39**		**P**	**23 05 52.1**	**+0.1**		

YFT	**Old Faithful**	**82.19**	**40**	P	**P**	**23 05 52.6**	**+0.6**		
YFT				IAmb	IAmb	23 06 10.9			
	comp=Z,37nm,1.3s								
YMR	**Madison River**	**82.22**	**40**	P	**P**	**23 05 52.5**	**+0.4**		
YMR				IAmb	IAmb	23 05 54.3			
	comp=Z,40nm,1.1s								
N31M	**Braeburn, Yuko**	**82.24**	**17**	IAmb	IAmb	23 05 53.0			
	comp=Z,55nm,1.1s								
N31M	**Braeburn, Yuko**	**82.24**	**17**	P	**P**	**23 05 50.8**	**-0.7**		
	baz=216								
G19K	**Purcell Mounta**	**82.26**	**7**	IAmb	IAmb	23 05 59.7			
	comp=Z,31nm,1.1s								
G19K	**Purcell Mounta**	**82.26**	**7**	P	**P**	**23 05 51.3**	**-0.2**		
	baz=196,SNR=9.1								
BOZ	**Bozeman (W)**	**82.30**	**39**	IAmb	IAmb	23 05 53.8			
	comp=Z,34nm,1.3s								
BOZ				IAMs_20	IAMs_20	23 35 48.3			
	comp=Z,2µm,20.0s								
M29M	**Somme Creek**	**82.30**	**15**	IAmb	IAmb	23 05 52.5			
	comp=Z,45nm,1.3s								
M29M	**Somme Creek**	**82.30**	**15**	P	**P**	**23 05 50.7**	**-1.2**		
	baz=214,SNR=15								
SCRK	**Sand Creek**	**82.33**	**13**	IAmb	IAmb	23 05 52.5			
	comp=Z,52nm,1.3s								
SCRK	**Sand Creek**	**82.33**	**13**	P	**P**	**23 05 51.0**	**-1.1**		
	baz=208								
H21K	**Melozitna Rive**	**82.33**	**8**	IAmb	IAmb	23 05 52.8			
	comp=Z,71nm,1.4s								
H21K				IAMs_20	IAMs_20	23 35 07.0			
	comp=Z,2µm,22.0s								
H21K	**Melozitna Rive**	**82.33**	**8**	P	**P**	**23 05 50.3**	**-1.6**		
	baz=200,SNR=5.4								
YHH	**Holmes Hill**	**82.35**	**40**		**P**	**23 05 52.9**	**0.0**		
I23K	**Minto, Yukon-K**	**82.38**	**10**	P	**P**	**23 05 50.5**	**-1.6**		
	baz=203								
COLA	**College**	**82.39**	**11**	P	**P**	**23 05 51.3**	**-0.8**		
COLA	**College**	**82.39**	**11**	*i* P	**P**	**23 05 50.7**	**-1.4**		
COLA				pmax	pmax				
	comp=Z,118nm,1.3s								
COLA	**College**	**82.39**	**11**	P	**P**	**23 05 50.7**	**-1.4**		
	baz=205								
YNM	**Yellowstone No**	**82.41**	**40**	P	**P**	**23 05 54.1**	**+1.0**		
YNM				IAmb	IAmb	23 06 01.7			
	comp=Z,31nm,0.8s								
YNR	**Norris Junctio**	**82.42**	**40**	P	**P**	**23 05 54.2**	**+1.0**		
YNR				IAmb	IAmb	23 06 04.5			
	comp=Z,44nm,1.2s								
ODSA	**Odessa**	**82.44**	**54**		**P**	**23 05 53.0**	**-0.3**		
ODSA				IAmb	IAmb	23 05 56.3			
	comp=Z,24nm,1.0s								
F18K	**Selawik**	**82.45**	**5**	P	**P**	**23 05 51.4**	**-1.0**		
	baz=193								
ILAR	**Eielson Array**	**82.47**	**11**		**P**	**23 05 51.5**	**-1.1**		
ILAR	**Eielson Array**	**82.47**	**11**	P	**P**	**23 05 51.0**	**-1.6**		
	comp=Z,30nm,1.2s,baz=213,slow=5.7,SNR=59								
ILAR				LR	LR	23 35 44.7			
	comp=Z,926nm,21.8s,baz=200,slow=31								
	comp=Z,30nm,1.2s								
ILAR	**Eielson Array**	**82.47**	**11**	P	**P**	**23 05 51.5**	**-1.1**		
IMAR	**Indian Mountai**	**82.51**	**8**	P	**P**	**23 05 52.1**	**-0.7**		
LKWY	**Lake**	**82.52**	**40**	P	**P**	**23 05 53.4**	**-0.3**		
LKWY				IAmb	IAmb	23 05 57.1			
	comp=Z,43nm,1.1s								
LKWY				IAMs_20	IAMs_20	23 37 29.4			
	comp=Z,985nm,19.0s								
LKWY	**Lake**	**82.52**	**40**	P	**P**	**23 05 53.4**	**-0.3**		
LKWY				pmax	pmax				
	comp=Z,43nm,1.1s								
LKWY				MLR	MLR				
	comp=Z,1µm,19.0s								
HAYD	**Hayden**	**82.60**	**45**		**P**	**23 05 54.5**	**+0.3**		
J25K	**Salcha River,**	**82.62**	**12**	IAMs_20	IAMs_20	23 40 07.6			
	comp=Z,1µm,19.0s								
J25K	**Salcha River,**	**82.62**	**12**	P	**P**	**23 05 52.4**	**-1.1**		
	baz=207,SNR=37								
SEY	**Seymchan**	**82.66**	**345**	LR	LR	23 37 34.2			
	comp=Z,1µm,20.9s,baz=158,slow=32								
SEY	**Seymchan**	**82.66**	**345**	*i* P	**P**	**23 05 52.2**	**-1.4**		
SEY				pmax	pmax				
	comp=Z,53nm,1.5s								
E17K	**Hotham Inlet**	**82.74**	**4**	P	**P**	**23 05 53.4**	**-0.6**		
	baz=191								
YMP	**Mirror Lake Pl**	**82.76**	**40**	P	**P**	**23 05 55.1**	**+0.1**		
H22K	**Ishtalitna Cre**	**82.76**	**9**	P	**P**	**23 05 53.0**	**-1.1**		
	baz=201,SNR=16								
N32M	**Quiet Lake**	**82.76**	**18**	P	**P**	**23 05 53.2**	**-1.1**		
	baz=219								
K27K	**Chicken**	**82.79**	**13**	P	**P**	**23 05 53.7**	**-0.6**		
	baz=210								
M30M	**Minto, Yukon**	**82.85**	**16**	IAmb	IAmb	23 05 55.1			
	comp=Z,36nm,1.2s								
M30M	**Minto, Yukon**	**82.85**	**16**	P	**P**	**23 05 53.4**	**-1.3**		
	baz=215								
F19K	**Shaleruckik Mo**	**82.86**	**6**	IAmb	IAmb	23 06 02.5			
	comp=Z,24nm,0.9s								
F19K				IAMs_20	IAMs_20	23 38 48.9			
	comp=Z,2µm,20.0s								
F19K	**Shaleruckik Mo**	**82.86**	**6**	P	**P**	**23 05 53.8**	**-0.7**		
	baz=195								
J26L	**Joseph Creek**	**82.88**	**12**	P	**P**	**23 05 54.1**	**-0.8**		
	baz=209,SNR=48								
DRIO	**Del Rio**	**82.93**	**57**		**P**	**23 05 55.9**	**0.0**		
DRIO				IAmb	IAmb	23 05 57.5			
	comp=Z,32nm,1.1s								
L29M	**L29M**	**82.94**	**15**	P	**P**	**23 05 54.5**	**-0.7**		
	baz=214,SNR=36								
H23K	**Yukon River**	**82.98**	**10**	IAmb	IAmb	23 05 55.1			
	comp=Z,23nm,1.3s								
H23K				IAMs_20	IAMs_20	23 35 19.0			
	comp=Z,2µm,22.0s								
H23K	**Yukon River**	**82.98**	**10**	P	**P**	**23 05 54.1**	**-1.2**		
	baz=203								
YNE	**Yellowstone No**	**82.98**	**40**	P	**P**	**23 05 56.8**	**+0.8**		
YNE				IAmb	IAmb	23 06 00.4			
	comp=Z,26nm,0.9s								
MSTX	**Muleshoe**	**83.01**	**52**	IAmb	IAmb	23 05 58.0			
	comp=Z,48nm,1.2s								
G21K	**Allakaket**	**83.05**	**8**	IAMs_20	IAMs_20	23 35 48.9			
	comp=Z,1µm,21.0s								
G21K	**Allakaket**	**83.05**	**8**	P	**P**	**23 05 54.2**	**-1.4**		
	baz=199,SNR=17								
OZNA	**Ozona**	**83.09**	**55**	IAmb	IAmb	23 06 14.9			
	comp=Z,29nm,1.4s								
T25A	**Trinidad**	**83.10**	**49**	IAmb	IAmb	23 06 13.1			
	comp=Z,30nm,1.3s								
QIZ	**Qiongzhong**	**83.16**	**292**	P	**P**	**23 05 57.3**	**+0.1**		
QIZ				PP	**PP**	**23 09 09.1**	**+0.2**		
QIZ				S	**S**	**23 16 18.1**	**+2.3**		
QIZ				SS	**SS**	**23 21 40.6**	**-0.3**		
QIZ				pmax	pmax				
	comp=Z,8.0nm,1.2s								
QIZ				pmax	pmax				
	comp=Z,150nm,7.9s								
QIZ				LR	LR				
	comp=Z,130nm,17.9s								
QIZ				LR	LR				
	comp=Z,380nm,19.2s								
QIZ				LR	LR				
	comp=Z,740nm,27.5s								
E18K	**Tukpahlearik C**	**83.17**	**5**	IAMs_20	IAMs_20	23 41 13.1			
	comp=Z,1µm,19.0s								
E18K	**Tukpahlearik C**	**83.17**	**5**	P	**P**	**23 05 55.2**	**-1.0**		
	baz=192,SNR=12								
M31M	**Drury Creek, Y**	**83.21**	**17**	P	**P**	**23 05 55.5**	**-1.0**		
	baz=217								
H24K	**Noodor Dome**	**83.27**	**10**	P	**P**	**23 05 55.3**	**-1.5**		
	baz=204,SNR=6.7								
D17K	**Noatak River**	**83.27**	**4**	P	**P**	**23 05 55.9**	**-0.7**		
	baz=190								
F20K	**Avaraart Lake**	**83.29**	**7**	P	**P**	**23 05 55.9**	**-0.9**		
	baz=197								
WTLY	**Watson Lake, Y**	**83.35**	**21**	P	**P**	**23 05 57.1**	**-0.2**		
WTLY				IAmb	IAmb	23 05 58.0			
	comp=Z,26nm,1.1s								
WTLY				IAMs_20	IAMs_20	23 35 00.2			
	comp=Z,1µm,21.0s								
WTLY	**Watson Lake, Y**	**83.35**	**21**	P	**P**	**23 05 56.0**	**-1.3**		
	baz=223								
PRP	**Porcupine Dome**	**83.40**	**11**	IAMs_20	IAMs_20	23 40 51.3			
	comp=Z,1µm,19.0s								
PRP	**Porcupine Dome**	**83.40**	**11**	P	**P**	**23 05 56.6**	**-1.0**		
	baz=207								
ISCO	**Idaho Springs**	**83.41**	**46**		**P**	**23 05 58.5**	**+0.1**		
ISCO				IAMs_20	IAMs_20	23 36 57.3			
	comp=Z,1µm,20.0s								
ISCO	**Idaho Springs**	**83.41**	**46**	P	**P**	**23 05 58.5**	**+0.1**		
ISCO				pmax	pmax				

	comp=Z,14nm,1.1s								
ISCO				MLR	MLR				
	comp=Z,1µm,20.0s								
DAWY	**Dawson**	**83.43**	**14**	P	**P**	**23 05 57.1**	**-0.6**		
	baz=213								
TIA	**Tai'an**	**83.44**	**310**	P	**P**	**23 06 00.3**	**+2.0**		
TIA				S	**S**	**23 16 19.8**	**+1.7**		
TIA				pmax	pmax				
	comp=Z,13nm,1.3s								
TIA				pmax	pmax				
	comp=Z,370nm,4.7s								
TIA				LR	LR				
	comp=Z,320nm,17.5s								
TIA				LR	LR				
	comp=Z,580nm,17.9s								
TIA				LR	LR				
	comp=Z,970nm,22.2s								
SGCY	**Sterling City**	**83.47**	**55**	IAmb	IAmb	23 06 16.6			
	comp=Z,17nm,1.0s								
RLMT	**Red Lodge**	**83.49**	**40**	IAmb	IAmb	23 06 00.9			
	comp=Z,36nm,1.1s								
E19K	**Redstone River**	**83.52**	**6**	IAMs_20	IAMs_20	23 36 28.2			
	comp=Z,2µm,21.0s								
E19K	**Redstone River**	**83.52**	**6**	P	**P**	**23 05 57.6**	**-0.5**		
	baz=195,SNR=19								
833A	**Chaparral WMA,**	**83.53**	**58**	IAmb	IAmb	23 06 01.5			
	comp=Z,24nm,0.9s								
HEH	**HeiHe**	**83.61**	**326**	*e* P	**P**	**23 05 58.0**	**-0.8**		
HEH				sP	**pP**	**23 06 06.8**	**-0.7**		
HEH				S	**S**	**23 16 18.3**	**-0.7**		
HEH				pmax	pmax				
	comp=Z,12nm,1.5s								
HEH				pmax	pmax				
	comp=Z,430nm,5.3s								
HEH				LR	LR				
	comp=Z,400nm,19.0s								
HEH				LR	LR				
	comp=Z,360nm,17.6s								
HEH				LR	LR				
	comp=Z,450nm,16.9s								
POST	**Post**	**83.63**	**53**		**P**	**23 05 59.1**	**-0.3**		
POST				IAmb	IAmb	23 06 00.7			
	comp=Z,29nm,1.0s								
RDOG	**Red Dog Mine**	**83.63**	**4**	P	**P**	**23 05 58.6**	**+0.1**		
RDOG				IAmb	IAmb	23 06 07.0			
	comp=Z,52nm,1.3s								
RDOG				IAMs_20	IAMs_20	23 42 27.1			
	comp=Z,1µm,19.0s								
RDOG	**Red Dog Mine**	**83.63**	**4**	P	**P**	**23 05 58.1**	**-0.4**		
	baz=190								
EGAK	**Eagle**	**83.64**	**13**	IAmb	IAmb	23 05 59.3			
	comp=Z,54nm,1.3s								
EGAK	**Eagle**	**83.64**	**13**	P	**P**	**23 05 57.9**	**-0.7**		
	baz=211								
CMIG	**Matias Romero**	**83.67**	**70**	LR	LR	23 34 52.4			
	comp=Z,460nm,20.6s,baz=206,slow=30								
I26K	**Coal Creek Min**	**83.67**	**12**	IAMs_20	IAMs_20	23 36 10.4			
	comp=Z,2µm,21.0s								
I26K	**Coal Creek Min**	**83.67**	**12**	P	**P**	**23 05 58.2**	**-0.6**		
	baz=209								
HBVL	**Hebbronville**	**83.68**	**60**		**P**	**23 05 60.0**	**+0.3**		
HBVL				IAmb	IAmb	23 06 02.4			
	comp=Z,34nm,1.1s								
K29M	**Barlow Dome**	**83.70**	**15**	IAmb	IAmb	23 06 00.2			
	comp=Z,46nm,1.2s								
K29M	**Barlow Dome**	**83.70**	**15**	P	**P**	**23 05 58.0**	**-1.1**		
	baz=214,SNR=18								
G22K	**Bettles**	**83.70**	**8**	P	**P**	**23 05 58.6**	**-0.3**		
	baz=201								
C16K	**Lisburne Hills**	**83.71**	**3**	P	**P**	**23 05 58.8**	**-0.1**		
C16K				IAMs_20	IAMs_20	23 37 21.2			
	comp=Z,1µm,20.0s								
C16K	**Lisburne Hills**	**83.71**	**3**	P	**P**	**23 05 58.0**	**-1.0**		
	baz=188								
F21K	**Alatna River**	**83.72**	**8**	IAmb	IAmb	23 06 00.6			
	comp=Z,39nm,1.3s								
F21K				IAMs_20	IAMs_20	23 36 32.7			
	comp=Z,1µm,21.0s								
F21K	**Alatna River**	**83.72**	**8**	P	**P**	**23 05 57.8**	**-1.3**		
	baz=199,SNR=11								
G23K	**Bananza Creek**	**83.72**	**9**	P	**P**	**23 05 58.5**	**-0.6**		
	baz=202,SNR=23								
LIRD	**Liard River Hi**	**83.79**	**22**	P	**P**	**23 05 59.0**	**-0.5**		
	baz=225								
BELA	**Belgrano 2**	**83.89**	**172**	IAmb	IAmb	23 06 02.1			
	comp=Z,51nm,1.4s								
MAYO	**Mayo, Yukon**	**83.92**	**16**	P	**P**	**23 06 00.0**	**-0.1**		
MAYO	**Mayo, Yukon**	**83.92**	**16**	P	**P**	**23 05 59.8**	**-0.3**		
	baz=216								
JCT	**Junction City**	**83.98**	**56**	IAmb	IAmb	23 06 03.1			
	comp=Z,16nm,0.9s								
PMSA	**Palmer Station**	**84.01**	**156**	P	**P**	**23 06 02.6**	**+1.9**		
PMSA				IAmb	IAmb	23 06 30.7			
	comp=Z,18nm,1.2s								
H25L	**Birch Creek**	**84.02**	**11**	P	**P**	**23 05 59.0**	**-1.5**		
	baz=206								
C17K	**DeLong Mountai**	**84.03**	**4**	P	**P**	**23 06 00.5**	**-0.1**		
	baz=190								
RTBA	**Rita Blanca**	**84.03**	**50**	IAmb	IAmb	23 06 02.3			
	comp=Z,23nm,1.0s								
J29N	**Klondike Camp**	**84.04**	**14**	IAMs_20	IAMs_20	23 35 03.7			
	comp=Z,2µm,22.0s								
J29N	**Klondike Camp**	**84.04**	**14**	P	**P**	**23 06 00.6**	**-0.2**		
	baz=214								
HNDO	**Hondo**	**84.06**	**57**	IAmb	IAmb	23 06 04.5			
	comp=Z,38nm,1.0s								
K22A	**Casper**	**84.07**	**43**	I

comp=Z,42nm,1.2s
F24K Squaw Lake 84.80 9 P P 23 06 04.1 -0.4
baz=204,SNR=13
H27K Steamboat Moun 84.81 12 IAms_20 IAms_20 23 36 56.7
comp=Z,2µm,21.0s
H27K Steamboat Moun 84.81 12 P P 23 06 04.3 -0.3
baz=210,SNR=30
E21K Killik River 84.82 7 P P 23 06 03.8 -0.9
baz=199
ABTX Abilene, Hawle 84.90 54 IAms_20 IAms_20 23 37 26.6
comp=Z,1µm,20.0s
C19K Lookout Ridge 84.91 5 IAms_20 IAms_20 23 38 01.0
comp=Z,2µm,21.0s
C19K Lookout Ridge 84.91 5 P P 23 06 04.5 -0.5
baz=193,SNR=6.5
BRDY Brady 84.92 56 IAmb IAmb 23 06 09.3
comp=Z,23nm,1.1s
H03S2 Juan Fernandez 84.95 124 T T 00 40 43.0
baz=251,slow=75,SNR=17
H03S1 Juan Fernandez 84.97 124 T T 00 40 44.0
baz=251,slow=75,SNR=16
H03S3 Juan Fernandez 84.97 124 T T 00 40 43.9
baz=251,slow=75,SNR=14
B18K Kokolik River 85.00 4 P P 23 06 05.1 -0.3
baz=191
G26K Porcupine Rive 85.00 11 IAMs_20 IAMs_20 23 40 17.6
comp=Z,944nm,20.0s
G26K Porcupine Rive 85.00 11 P P 23 06 05.5 0.0
baz=208,SNR=34
735A Kenedy 85.02 58 P P 23 06 07.2 +0.7
735A IAmb IAmb 23 06 09.7
comp=Z,31nm,0.8s
E23K Chandalar 85.04 9 IAmb IAmb 23 06 14.1
comp=Z,41nm,1.1s
E23K Chandalar 85.04 9 P P 23 06 05.4 -0.4
baz=203
KOTAN Kotaneelee Air 85.04 22 P P 23 06 05.2 -0.7
baz=227
H03N2 Juan Fernandez 85.05 123 T T 00 40 40.6
baz=252,slow=74,SNR=3.2
H03N3 Juan Fernandez 85.06 123 T T 00 40 33.9
baz=252,slow=74,SNR=3.1
H03N1 Juan Fernandez 85.07 123 T T 00 40 37.2
baz=252
VA04 Juan Fernndez 85.08 123 P P 23 06 08.7 +1.9
I30M Mount Dempster 85.12 15 P P 23 06 05.7 -0.7
baz=215,SNR=34
EF04 Eagle Ford 04 85.16 58 P P 23 06 07.9 +0.7
KSCO Kaye Shedlock' 85.16 47 P P 23 06 07.0 -0.1
KSCO IAmb IAmb 23 06 08.6
comp=Z,55nm,1.5s
E24K Your Creek 85.22 9 IAMs_20 IAMs_20 23 37 35.7
comp=Z,1µm,21.0s
E24K Your Creek 85.22 9 P P 23 06 06.4 -0.2
baz=204
F25K Christian Rive 85.24 10 IAmb IAmb 23 06 08.3
comp=Z,52nm,1.4s
F25K Christian Rive 85.24 10 P P 23 06 06.8 0.0
baz=207,SNR=14
BMAR Burnt Mountain 85.28 11 P 23 06 06.9 -0.1
G27K Doyon Strip 85.29 12 IAmb IAmb 23 06 08.1
comp=Z,35nm,1.3s
G27K IAMs_20 IAMs_20 23 37 53.1
comp=Z,2µm,20.0s
G27K Doyon Strip 85.29 12 P P 23 06 06.8 -0.2
baz=210,SNR=14
SMWD Samnorwood 85.37 52 P 23 06 08.2 0.0
SMWD IAmb IAmb 23 06 17.6
comp=Z,25nm,1.3s
D22K Ayikyak River 85.39 7 IAMs_20 IAMs_20 23 37 16.8
comp=Z,1µm,21.0s
D22K Ayikyak River 85.39 7 P P 23 06 07.3 -0.2
baz=200
C21K Knifebladе Rid 85.42 6 P P 23 06 07.5 0.0
baz=198,SNR=9.5
H29M Whitestone 85.48 13 P P 23 06 07.3 -0.7
baz=214,SNR=28
TOLK Toolik Lake Re 85.58 8 IAMs_20 IAMs_20 23 41 28.8
comp=Z,1µm,20.0s
TOLK Toolik Lake Re 85.58 8 P P 23 06 08.1 -0.3
baz=203
F26K Sheenjek River 85.59 11 P P 23 06 08.5 0.0
baz=208
ZEA Zeya 85.61 329 *e*P **P 23 06 12.2 +3.3**
ZEA *e*S **SKSac 23 16 34.8 +2.8**
ZEA pmax pmax
comp=Z,10.0nm,1.6s
ZEA pmax pmax
comp=Z,100nm,6.0s
ZEA smax smax
comp=E,300nm,14.6s
HNS HongShan 85.70 311 ⇓P **P 23 06 10.8 +1.1**
HNS S **SKSac 23 16 33.8 +0.5**
HNS pmax pmax
comp=E,21nm,1.4s
HNS LR LR
comp=E,270nm,19.1s
HNS LR LR
comp=E,300nm,21.6s
HNS LR LR
comp=E,670nm,21.6s
E25K Arctic Village 85.73 10 P P 23 06 09.1 -0.1
baz=207
D23K Nanushuk River 85.73 8 P P 23 06 09.2 +0.1
baz=202
435B Jarrell 85.88 57 P P 23 06 10.8 +0.1
435B IAmb IAmb 23 06 12.7
comp=Z,40nm,1.0s
A19K Wainwright 85.88 4 P P 23 06 09.0 -0.8
baz=192
B21K Ikpikpuk River 85.88 6 P P 23 06 09.6 -0.2
B21K IAmb IAmb 23 06 09.9
comp=Z,20nm,1.1s
B21K Ikpikpuk River 85.88 6 P P 23 06 09.0 -0.8
baz=198
CCIG Comitan 85.94 72 P P 23 06 10.6 -0.9
CCIG IAmb IAmb 23 06 14.0
comp=Z,52nm,1.5s
MLDN Muldoon 85.95 58 P P 23 06 11.4 +0.3
MLDN IAmb IAmb 23 06 12.9
comp=Z,40nm,1.0s
EPYK Eagle Plains 85.98 14 IAMs_20 IAMs_20 23 36 26.5
comp=Z,2µm,22.0s
EPYK Eagle Plains 85.98 14 P P 23 06 09.9 -0.6
baz=215
B20K Meade River 86.00 5 IAMs_20 IAMs_20 23 38 35.2
comp=Z,2µm,20.0s
B20K Meade River 86.00 5 P P 23 06 09.9 -0.4
baz=195
H31M Peel River 86.09 15 IAmb IAmb 23 06 29.7
comp=Z,62nm,1.4s
H31M Peel River 86.09 15 P P 23 06 09.7 -1.3
baz=217
MG01 Puerto William 86.12 146 P P 23 06 13.0 +1.5
MG01 IAmb IAmb 23 06 25.3
comp=Z,54nm,1.2s
G29M Pine Creek 86.14 13 IAmb IAmb 23 06 19.0
comp=Z,38nm,1.1s
G29M Pine Creek 86.14 13 P P 23 06 10.3 -0.9
baz=214,SNR=11
D24K Happy Valley 86.16 8 IAmb IAmb 23 06 19.7
comp=Z,58nm,1.3s
D24K Happy Valley 86.16 8 P P 23 06 10.9 -0.4
baz=204
WTFS Witchita Falls 86.24 54 IAmb IAmb 23 06 13.9
comp=Z,48nm,1.2s
LYN LuoYang 86.30 307 ⇑P P 23 06 21.1 +8.4
LYN LuoYang 86.30 307 SKS **SKSac 23 16 39.3 +2.1**
LYN LuoYang 86.30 307 S **S 23 16 53.8 +7.3**
LYN LuoYang 86.30 307 sS sS 23 17 01.8 +0.9
GO07 Milladeo Hill, 86.31 134 P P 23 06 13.9 +1.2
F28M Old Crow 86.34 12 IAmb IAmb 23 06 13.0
comp=Z,53nm,1.4s
F28M Old Crow 86.34 12 P P 23 06 11.7 -0.5
baz=212
RSSD Black Hills 86.35 42 P 23 06 12.3 -0.7
RSSD IAmb IAmb 23 06 13.7
comp=Z,32nm,1.2s
RSSD Black Hills 86.35 42 P P 23 06 12.3 -0.7
RSSD pmax pmax
comp=Z,32nm,1.2s
RSSD MLR MLR
comp=Z,700nm,20.0s
ELIS Ellis County 86.36 51 P P 23 06 13.7 +0.6
ELIS IAmb IAmb 23 06 34.4
comp=Z,31nm,1.2s
OGNE Ogallala 86.37 46 IAMs_20 IAMs_20 23 36 41.7
comp=Z,1µm,22.0s
WHTX Lake Whitney, 86.40 56 IAMs_20 IAMs_20 23 37 43.4
comp=Z,1µm,20.0s
E27K Coleen River 86.49 11 IAmb IAmb 23 06 14.3
comp=Z,49nm,1.2s
E27K IAMs_20 IAMs_20 23 42 55.9
comp=Z,1µm,19.0s
E27K Coleen River 86.49 11 P P 23 06 12.7 -0.3
baz=210
FW13 Cleburne 86.55 55 P P 23 06 13.6 -0.4
C23K Itkillik River 86.55 8 P P 23 06 12.7 -0.5
baz=202,SNR=6.1
G30M tAoh Zraii Nji 86.60 14 IAMs_20 IAMs_20 23 37 17.9
comp=Z,2µm,22.0s
G30M tAoh Zraii Nji 86.60 14 P P 23 06 12.7 -0.8
baz=216
COYC Coyhaique 86.63 136 P 23 06 15.5 +1.3
COYC IAmb IAmb 23 06 17.8
comp=Z,20nm,1.2s
D25K Kavik River 86.68 9 P P 23 06 13.2 -0.7
D25K IAmb IAmb 23 06 21.5
comp=Z,31nm,1.4s
D25K Kavik River 86.68 9 P P 23 06 13.0 -0.8
baz=206
B22K Teshekpuk Lake 86.69 7 P P 23 06 13.6 -0.2
baz=199
C24K Franklin Bluff 86.70 8 IAMs_20 IAMs_20 23 40 29.9
comp=Z,898nm,19.0s
C24K Franklin Bluff 86.70 8 P P 23 06 13.4 -0.5
baz=204
CSTR Hydro, Custer 86.75 52 P P 23 06 15.3 +0.3
LL05 Los Muermos 86.97 132 P P 23 06 17.8 +1.8
G31M Satah River 87.01 14 P P 23 06 14.2 -1.2
baz=217
HKT Hockley 87.01 58 P P 23 06 17.6 +1.4
HKT IAmb IAmb 23 06 17.9
comp=Z,36nm,1.3s
HKT Hockley 87.01 58 *i*P **P 23 06 17.0 +0.8**
HKT pmax pmax
comp=Z,35nm,1.4s
OK038 West end E0370 87.02 51 P P 23 06 16.6 +0.4
OK038 IAmb IAmb 23 06 18.4
comp=Z,24nm,1.1s
OK038 IAMs_20 IAMs_20 23 36 57.3
comp=Z,1µm,22.0s
X34A Smith Ranch, M 87.03 53 P P 23 06 16.8 +0.5
Z35A Perchaven, San 87.03 54 IAMs_20 IAMs_20 23 38 32.9
comp=Z,1µm,20.0s
CBKS Cedar Bluff 87.16 49 P P 23 06 17.0 +0.1
CBKS IAmb IAmb 23 06 47.1
comp=Z,21nm,0.7s
CBKS Cedar Bluff 87.16 49 P P 23 06 17.0 +0.1
CBKS pmax pmax
comp=Z,21nm,0.7s
CBKS MLR MLR
comp=Z,700nm,20.0s
A22K Sinclair Lake 87.16 6 P P 23 06 16.3 +0.2
baz=198
ENH Enshi 87.17 302 P P 23 06 17.2 0.0
ENH IAmb IAmb 23 06 36.8
comp=Z,18nm,1.1s
IPM Ipoh 87.17 275 P P 23 06 16.0 -1.5
IPM IAmb IAmb 23 06 21.5
comp=Z,12nm,0.9s
F30M Barrier River 87.21 13 IAmb IAmb 23 06 17.1
comp=Z,43nm,1.5s
F30M IAMs_20 IAMs_20 23 37 58.7
comp=Z,1µm,21.0s
F30M Barrier River 87.21 13 P P 23 06 15.8 -0.6
baz=216
E28M Babbage River 87.25 12 IAmb IAmb 23 06 17.5
comp=Z,33nm,1.4s
E28M IAMs_20 IAMs_20 23 41 02.1
comp=Z,1µm,20.0s
E28M Babbage River 87.25 12 P P 23 06 16.5 -0.1
baz=212,SNR=7.4
LOOK Love County 87.32 54 P P 23 06 17.1 -0.6
LOOK IAmb IAmb 23 06 20.2
comp=Z,17nm,0.7s
XLT XiLinHaoTe 87.35 317 *e*P **P 23 06 20.8 +3.1**
XLT pP pP 23 06 26.1 -0.5
XLT SKS **SKSac 23 16 41.4 -2.1**
XLT SS **SS 23 22 38.1 -3.7**
XLT pmax pmax
comp=Z,7.0nm,0.7s
XLT pmax pmax
comp=Z,320nm,5.4s
XLT LR LR
comp=Z,360nm,17.2s
XLT LR LR
comp=Z,460nm,20.5s
WRGLY Wrigley 87.36 20 P P 23 06 16.7 -0.5
WRGLY IAmb IAmb 23 06 17.9
comp=Z,35nm,1.2s
WRGLY IAMs_20 IAMs_20 23 37 45.2
comp=Z,1µm,21.0s
WRGLY Wrigley 87.36 20 P P 23 06 16.5 -0.7
baz=227
C27K Jago River 87.38 10 IAmb IAmb 23 06 25.6
comp=Z,18nm,1.1s
C27K Jago River 87.38 10 P P 23 06 16.7 -0.5
baz=208
ESPZ Base Esperanza 87.39 156 P P 23 06 18.8 +1.3
E29M Blow River 87.40 12 IAmb IAmb 23 06 24.9
comp=Z,30nm,1.4s
HIA Hailar 87.41 323 P P 23 06 18.4 +0.6
HIA IAmb IAmb 23 06 28.2
comp=Z,16nm,1.2s
HIA Hailar 87.41 323 IAMs_20 IAMs_20 23 39 05.5
comp=Z,2µm,22.0s
HIA Hailar 87.41 323 P P 23 06 18.4 +0.6
HIA pmax pmax
comp=Z,16nm,1.2s
HIA MLR MLR
comp=Z,2µm,22.0s
LL01 San Ignacio de 87.42 133 P P 23 06 20.0 +1.9
LL01 IAMs_20 IAMs_20 23 35 34.2
comp=Z,963nm,20.0s
C26K Camden Bay 87.44 9 P P 23 06 17.6 +0.2
baz=207
D27M Malcolm River 87.52 11 IAMs_20 IAMs_20 23 37 58.7
comp=Z,2µm,22.0s
D27M Malcolm River 87.52 11 P P 23 06 17.5 -0.4
baz=211
F31M Tsiigehtchic 87.54 14 P P 23 06 17.3 -0.7
baz=218
LL02 Futaleuf 87.55 134 P 23 06 19.6 +0.8
LL02 IAmb IAmb 23 06 22.0
comp=Z,34nm,1.4s
LL02 IAMs_20 IAMs_20 23 36 00.7
comp=Z,2µm,20.0s
HNVL Huntsville, TX 87.58 57 P P 23 06 19.9 +0.9
FNO Franklin 87.59 53 P P 23 06 19.4 +0.4
FNO IAmb IAmb 23 06 21.7
comp=Z,26nm,0.9s
CROK Carrier 87.60 51 P P 23 06 19.7 +0.7
CROK IAmb IAmb 23 06 28.2
comp=Z,32nm,1.3s
OKCSW OKLAHOMA CITY 87.62 52 P P 23 06 19.2 +0.1
TREL Terrell 87.74 55 P P 23 06 20.3 +0.5
OK029 Liberty Lake 87.74 52 IAMs_20 IAMs_20 23 46 33.6
comp=Z,806nm,18.0s
KULM Kulim 87.75 276 P P 23 06 20.7 +0.5
KULM IAmb IAmb 23 06 34.2
comp=Z,23nm,1.4s
R32A Long Quarter, 87.76 49 P 23 06 18.9 -0.9
R32A IAmb IAmb 23 06 20.9
comp=Z,24nm,0.8s
R32A IAMs_20 IAMs_20 23 38 41.7
comp=Z,1µm,20.0s
MAW Mawson 87.80 199 P P 23 06 21.1 +1.7
comp=Z,20nm,0.8s,baz=136,slow=6.0,SNR=47
comp=Z,20nm,0.8s
LL03 Petrohue 87.82 132 P P 23 06 21.4 +1.3
LL03 IAmb IAmb 23 07 04.7
comp=Z,19nm,0.8s
LL03 IAMs_20 IAMs_20 23 35 42.8
comp=Z,1µm,21.0s
MTO3 Montecristo 87.96 75 P P 23 06 21.9 +0.4
MTO3 IAmb IAmb 23 06 23.4
comp=Z,26nm,1.1s
D28M Stokes Point 88.02 12 P P 23 06 19.8 -0.4
baz=213
ESQI Esquipulas 88.02 74 P P 23 06 22.7 +1.2
INK Inuvik 88.28 14 IAmb IAmb 23 06 21.8
comp=Z,40nm,1.4s
INK Inuvik 88.28 14 P P 23 06 20.8 -0.7
comp=Z,18nm,1.1s,baz=222,slow=7.2,SNR=11
INK LR LR 23 38 43.4
comp=Z,1µm,21.8s,baz=220,slow=31
comp=Z,18nm,1.1s
INK Inuvik 88.28 14 P P 23 06 20.7 -0.8
baz=218
GYA Guiyang 88.30 298 ⇑P **P 23 06 24.6 +1.9**
GYA pP pwP 23 06 34.0 +0.4
GYA SKS **SKSac 23 16 50.8 +0.8**
GYA S **ScS 23 17 10.8 -1.4**
GYA SS **SS 23 22 52.8 -3.7**
GYA pmax pmax
comp=Z,12nm,1.7s
GYA LR LR
comp=Z,410nm,22.4s
OK052 Battle Ridge R 88.31 52 P P 23 06 23.5 +1.1
LR05 Currie 88.40 131 P 23 06 24.2 +1.4
NATX Nacogdoches 88.56 57 P P 23 06 24.1 +0.4
BI05 Punta Hualpn 88.62 128 IAMs_20 IAMs_20 23 36 42.2
comp=Z,1µm,20.0s
K30B Basset 88.71 45 IAMs_20 IAMs_20 23 38 10.6
comp=Z,1µm,22.0s
Z38A Mt. Pleasant 88.79 55 P P 23 06 25.6 +0.8
Z38A IAmb IAmb 23 06 40.9
comp=Z,14nm,0.7s
Z38A IAMs_20 IAMs_20 23 39 38.6
comp=Z,1µm,20.0s
T35A Sooner Cattle 88.85 51 IAmb IAmb 23 06 26.2
comp=Z,18nm,1.1s
T35A IAMs_20 IAMs_20 23 39 05.8
comp=Z,1µm,20.0s
XAN Xi'an 88.88 306 P P 23 06 25.1 -0.1
XAN sP pP 23 06 32.0 -2.0
XAN SKS **SKSac 23 16 51.3 -1.7**
XAN S **ScS 23 17 14.5 -2.0**
XAN pmax pmax
comp=Z,17nm,1.3s
XAN pmax pmax
comp=Z,260nm,4.5s
XAN LR LR
comp=Z,580nm,20.6s
XAN LR LR
comp=Z,550nm,22.2s
XAN LR LR
comp=Z,850nm,22.7s
TUL3 Leonard 89.05 52 P 23 06 25.6 -0.3
TUL3 IAmb IAmb 23 06 27.9
comp=Z,24nm,1.3s
BGNE Belgrade 89.25 47 IAMs_20 IAMs_20 23 40 52.0
comp=Z,1µm,20.0s
HHC Hu-ho-hao-te 89.26 313 *e*P **P 23 06 27.3 +0.4**
HHC sP pP 23 06 35.9 +0.1
HHC PP **PP 23 09 59.8 +1.8**
HHC SKS **SKSac 23 16 55.4 +0.3**
HHC S **SKKSac 23 17 10.4 +3.2**
HHC sS ScS 23 17 22.1 +2.6
HHC SS **SS 23 23 11.0 +1.1**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,54nm,4.4s
HHC LR LR
comp=Z,81nm,14.7s
HHC LR LR
comp=Z,330nm,14.9s
HHC LR LR
comp=Z,430nm,14.9s
PLCA Paso Flores 89.28 132 P 23 06 28.9 +1.8
PLCA IAmb IAmb 23 06 32.9
comp=Z,20nm,1.5s
PLCA Paso Flores 89.28 132 P P 23 06 29.1 +2.0
comp=Z,6.9nm,1.1s,baz=250,slow=3.8,SNR=6.8
PLCA LR LR 23 37 43.3
comp=Z,970nm,21.0s,baz=246,slow=30
comp=Z,6.9nm,1.1s
PLCA Paso Flores 89.28 132 P P 23 06 28.9 +1.8
PLCA pmax pmax
comp=Z,20nm,1.5s
YAK Yakutsk 89.28 337 LR LR 23 39 43.8
comp=Z,587nm,21.6s,baz=124,slow=31
YAK Yakutsk 89.28 337 *ce*P **P 23 06 26.1 -0.2**
YAK pmax pmax
comp=Z,26nm,1.7s
441A DeRidder 89.43 58 P P 23 06 28.6 +0.8
E28A Huff 89.51 41 P P 23 06 28.7 +0.9
E28A IAmb IAmb 23 06 30.1
comp=Z,33nm,1.5s
E28A IAMs_20 IAMs_20 23 41 51.4
comp=Z,1µm,19.0s
KSU1 Kansas State U 89.53 49 IAMs_20 IAMs_20 23 39 26.8
comp=Z,1µm,21.0s
GSI Gunungsitoli 89.65 271 P P 23 06 29.7 +0.5
RLO Rose Lookout 89.72 52 IAmb IAmb 23 06 31.0
comp=Z,18nm,1.2s
TGUH Tegucigalpa,Un 89.81 75 P P 23 06 29.5 -0.6
TGUH IAmb IAmb 23 06 32.0
comp=Z,22nm,1.0s
SUSD Miller 89.82 44 P P 23 06 27.5 -1.8
SUSD IAmb IAmb 23 06 29.5
comp=Z,16nm,1.1s
HERN Volcan Telica 89.83 77 P P 23 06 30.1 +0.1
HERN IAmb IAmb 23 06 43.5
comp=Z,120nm,0.8s
HERN IAMs_20 IAMs_20 23 42 11.5
comp=Z,712nm,20.0s
YKA Yellowknife Ar 90.07 23 P P 23 06 29.5 -0.5
YKA Yellowknife Ar 90.07 23 P P 23 06 29.6 -0.3
comp=Z,11nm,1.1s,baz=245,slow=4.1,SNR=20
YKA LR LR 23 40 12.6
comp=Z,2µm,20.5s,baz=234,slow=31
comp=Z,11nm,1.1s
BI02 San Fabin de 90.11 128 IAMs_20 IAMs_20 23 37 39.5
comp=Z,1µm,20.0s
YKAW3 Yellowknife Wh 90.11 23 IAmb IAmb 23 06 30.9
comp=Z,28nm,1.4s
YKAW1 Yellowknife Wh 90.11 23 IAmb IAmb 23 06 31.0
comp=Z,25nm,1.2s
WLAR White Oak Lake 90.41 55 P 23 06 32.3 0.0
WLAR IAmb IAmb 23 06 33.8
comp=Z,41nm,1.1s
WLAR IAMs_20 IAMs_20 23 41 09.5
comp=Z,1µm,20.0s
Z41A Richland Creek 90.53 56 IAmb IAmb 23 06 33.2
comp=Z,28nm,0.9s
Z41A IAMs_20 IAMs_20 23 40 43.5
comp=Z,1µm,20.0s
TEIG Tepich 90.58 69 P 23 06 33.5 +0.1
TEIG IAmb IAmb 23 06 35.6
comp=Z,38nm,1.1s
MDND Maddock 90.69 40 IAmb IAmb 23 06 34.1
comp=Z,40nm,1.2s
L34A Svendsen Farm, 90.69 47 IAMs_20 IAMs_20 23 40 19.1
comp=Z,1µm,20.0s
N35A Tabor 90.83 48 IAMs_20 IAMs_20 23 40 35.0
comp=Z,1µm,21.0s
BOAB BOACO BROADBAN 90.88 77 IAMs_20 IAMs_20 23 40 53.6
comp=Z,1µm,18.0s
X40A Basin Creek Fa 90.88 55 P P 23 06 34.9 +0.4
JTS Las Juntas de 90.98 80 P P 23 06 36.2 +0.8
JTS Las Juntas de 90.98 80 ⇑*i*P **P 23 06 36.0 +0.6**
JTS pmax pmax
comp=Z,37nm,1.1s
BO01 Tunca 91.00 126 P P 23 06 36.1 +0.9
BO01 IAMs_20 IAMs_20 23 36 52.4
comp=Z,1µm,22.0s
VA01 Torpederas 91.01 125 IAMs_20 IAMs_20 23 38 11.9
comp=Z,1µm,18.0s
MT01 Popeta 91.05 125 P P 23 06 37.1 +1.7
MT01 IAMs_20 IAMs_20 23 36 41.6
comp=Z,1µm,22.0s
BO02 Sierra Bellavi 91.10 126 P 23 06 36.6 +0.8
BO02 IAMs_20 IAMs_20 23 37 08.1
comp=Z,1µm,21.0s
KMI Kunming 91.28 296 P P 23 06 37.8 +0.9
KMI S **S 23 17 34.9 +0.6**
KMI pmax pmax
comp=Z,5.0nm,2.0s
KMI pmax pmax
comp=Z,130nm,6.6s
KMI LR LR
comp=Z,160nm,18.9s
KMI LR LR
comp=Z,320nm,23.2s
KMI LR LR
comp=Z,380nm,24.3s
MT09 Talagante 91.28 125 P P 23 06 37.8 +1.1

MT09 IAMs_20 IAMs_20 23 36 59.8
comp=Z,1µm,22.0s
MT02 Curacav 91.34 125 P **P** **23 06 37.8 +1.0**
MT02 IAmb IAmb 23 06 46.8
comp=Z,26nm,1.4s
MT02 IAMs_20 IAMs_20 23 37 31.3
comp=Z,1µm,20.0s
UALR University of 91.36 54 P **P** **23 06 36.7 0.0**
UALR IAmb IAmb 23 06 38.5
comp=Z,27nm,1.1s
VA06 Catapilco 91.44 124 P **P** **23 06 38.1 +0.9**
VA06 IAMs_20 IAMs_20 23 37 22.1
comp=Z,1µm,20.0s
545A Edgard 91.44 59 IAMs_20 IAMs_20 23 56 06.1
comp=Z,1µm,18.0s
143A Socs Landing, 91.48 57 P **P** **23 06 38.1 +0.9**
BO04 La Punta 91.51 126 P **P** **23 06 38.9 +1.2**
BO04 IAmb IAmb 23 06 45.1
comp=Z,32nm,1.5s
BO04 IAMs_20 IAMs_20 23 37 19.8
comp=Z,1µm,21.0s
CCAR Cane Creek 91.55 55 P **P** **23 06 38.0 +0.4**
CCAR IAMs_20 IAMs_20 23 41 25.5
comp=Z,1µm,20.0s
WHAR Wooly Hollow 91.56 54 **P** **23 06 37.9 +0.3**
WHAR IAmb IAmb 23 06 39.3
comp=Z,15nm,1.0s
WHAR IAMs_20 IAMs_20 23 41 47.6
comp=Z,1µm,20.0s
MT05 Renca 91.61 125 P **P** **23 06 40.4 +2.3**
PEL Peldehue 91.73 125 IAMs_20 IAMs_20 23 37 44.0
comp=Z,1µm,20.0s
LCR2 La Lucha 2 91.73 80 P **P** **23 06 39.2 0.0**
LCR2 IAmb IAmb 23 06 42.7
comp=Z,36nm,1.3s
MT03 Universidad Ad 91.75 125 P **P** **23 06 40.0 +1.2**
MT03 IAmb IAmb 23 06 50.4
comp=Z,36nm,1.4s
MT03 IAMs_20 IAMs_20 23 37 25.3
comp=Z,842nm,20.0s
MT16 CCHEN 91.76 125 P **P** **23 06 40.0 +1.2**
MT16 IAMs_20 IAMs_20 23 37 14.6
comp=Z,948nm,21.0s
MT13 San Alfonso 91.84 126 P **P** **23 06 40.6 +1.4**
MT13 IAmb IAmb 23 06 43.2
comp=Z,35nm,1.2s
MT13 IAMs_20 IAMs_20 23 37 18.7
comp=Z,1µm,22.0s
FCAR Ozark Folk Cen 91.86 53 IAmb IAmb 23 06 40.3
comp=Z,17nm,1.2s
FCAR IAMs_20 IAMs_20 23 40 58.8
comp=Z,960nm,21.0s
LMEL Las Melosas 91.87 126 P **P** **23 06 40.6 +1.1**
LMEL IAmb IAmb 23 06 43.5
comp=Z,25nm,1.4s
LMEL IAMs_20 IAMs_20 23 37 31.4
comp=Z,1µm,21.0s
P38A Dawn 91.96 49 P **P** **23 06 38.1 -1.3**
P38A IAmb IAmb 23 06 46.1
comp=Z,11nm,1.1s
P38A IAMs_20 IAMs_20 23 41 01.9
comp=Z,1µm,21.0s
VA03 San Esteban 91.97 125 IAMs_20 IAMs_20 23 36 28.0
comp=Z,1µm,22.0s
FFC Flin Flon 92.03 33 **P** **23 06 38.6 -0.7**
FFC IAmb IAmb 23 06 39.6
comp=Z,17nm,1.2s
FFC Flin Flon 92.03 33 IAMs_20 IAMs_20 23 41 35.5
comp=Z,842nm,20.0s
FFC Flin Flon 92.03 33 P **P** **23 06 38.6 -0.7**
FFC pmax pmax
comp=Z,17nm,1.3s
FFC MLR MLR
comp=Z,800nm,20.0s
VBMS Vicksburg 92.05 57 P **P** **23 06 40.0 0.0**
SIUN Universidad Ur 92.05 76 IAmb IAmb 23 06 42.6
comp=Z,14nm,1.1s
SIUN IAMs_20 IAMs_20 23 39 11.4
comp=Z,189nm,21.0s
CD2 Chengdu 92.06 301 P **P** **23 06 41.3 +1.2**
CD2 SKS **SKSac** **23 17 11.0 -0.6**
CD2 S **S** **23 17 41.8 +1.1**
CD2 pmax pmax
comp=Z,10.0nm,1.6s
CD2 LR LR
comp=Z,710nm,20.9s
CD2 LR LR
comp=Z,500nm,17.8s
CD2 LR LR
comp=Z,600nm,21.6s
F33A 5 Mile Ranch, 92.08 43 IAmb IAmb 23 06 40.4
comp=Z,17nm,1.1s
MGMO Mountain Grove 92.14 52 IAmb IAmb 23 06 41.5
comp=Z,26nm,1.1s
MT08 Bocatoma Ro 92.16 125 IAmb IAmb 23 06 45.1
comp=Z,26nm,1.1s
MT08 IAMs_20 IAMs_20 23 37 40.9
comp=Z,1µm,20.0s
CO05 La Serena 92.36 122 IAMs_20 IAMs_20 23 38 46.4
comp=Z,1µm,20.0s
R40A Maddies Statio 92.48 51 IAmb IAmb 23 06 42.6
comp=Z,28nm,1.1s
R40A IAMs_20 IAMs_20 23 41 55.9
comp=Z,846nm,20.0s
PZH PanZhiHua 92.53 297 P **P** **23 06 43.3 +0.8**
PZH SKS **SKSac** **23 17 14.3 -0.2**
PZH S **ScS** **23 17 50.1 +2.7**
PZH pmax pmax
comp=Z,80nm,4.6s
PZH LR LR
comp=Z,300nm,20.6s
PZH LR LR
comp=Z,450nm,21.7s
PZH LR LR
comp=Z,550nm,21.9s
N38A Joes South For 92.54 48 IAMs_20 IAMs_20 23 42 48.2
comp=Z,913nm,20.0s
SYO Syowa Base 92.57 191 ⇑*i*P **P** **23 06 42.4 +0.7**
SYO Syowa Base 92.57 191 ⇓*ep*P **P** **23 06 45.6 +3.9**
GO04 Tololo Observa 92.63 122 P **P** **23 06 43.5 +0.4**
GO04 IAMs_20 IAMs_20 23 39 14.7
comp=Z,889nm,21.0s
ATAH Atahualpa 92.67 98 LR LR 23 40 34.5
comp=Z,920nm,18.7s,baz=257,slow=30
LCAR Lake Charles 92.67 53 IAmb IAmb 23 06 43.8
comp=Z,22nm,1.2s
LCAR IAMs_20 IAMs_20 23 41 22.1
comp=Z,1µm,21.0s
TROLL Troll, Antarti 92.68 179 ⇑P **P** **23 06 44.2 +1.8**
comp=Z,573nm,0.9s
BRU2 Volcan 92.74 82 P **P** **23 06 44.1 +0.4**
VNA3 Neumayer Olymp 92.76 175 ⇑P **P** **23 06 43.9 +1.3**
comp=Z,10nm,0.7s
NNA Nana 92.80 103 LR LR 23 39 42.8
comp=Z,138nm,21.8s,baz=244,slow=30
SNAA Sanae 92.82 177 ⇑P **P** **23 06 43.8 +0.9**
comp=Z,211nm,1.0s
SNAA Sanae 92.82 177 IAMs_20 IAMs_20 23 42 35.2
comp=Z,1µm,22.0s
SNAA Sanae 92.82 177 P **P** **23 06 44.9 +2.0**
comp=Z,16nm,1.1s,baz=201,slow=4.6,SNR=25
SNAA LR LR 23 42 58.2
comp=Z,901nm,21.8s,baz=221,slow=32
comp=Z,16nm,1.1s
SNAA Sanae 92.82 177 *ce*P **P** **23 06 44.7 +1.8**
SNAA pmax pmax
comp=Z,60nm,1.7s
CMAR Chiang Mai Arr 92.87 288 P **P** **23 06 46.2 +2.1**
CMAR Chiang Mai Arr 92.87 288 P **P** **23 06 44.9 +0.9**
comp=Z,0.7nm,0.3s,baz=86,slow=2.6,SNR=9.9
CMAR LR LR 23 42 40.0
comp=Z,308nm,21.6s,baz=95,slow=32
comp=Z,0.7nm,0.3s
SCIA State Center 92.90 47 P **P** **23 06 43.6 0.0**
SCIA IAmb IAmb 23 06 44.7
comp=Z,22nm,1.1s
SCIA IAMs_20 IAMs_20 23 41 38.7
comp=Z,1µm,21.0s
HBAR Harrisburg 92.91 54 P **P** **23 06 43.7 -0.1**
HBAR IAMs_20 IAMs_20 23 44 02.4
comp=Z,963nm,20.0s
A36M Sachs Harbour 92.92 13 P **P** **23 06 42.0 -1.0**
A36M Sachs Harbour 92.92 13 P **P** **23 06 42.3 -0.7**
baz=226
P40A Paris 93.02 50 IAmb IAmb 23 06 44.7
comp=Z,17nm,1.1s
P40A IAMs_20 IAMs_20 23 41 25.1
comp=Z,1µm,21.0s
LCO Las Campanas 93.10 121 P **P** **23 06 46.4 +1.1**
LCO Las Campanas 93.10 121 IAMs_20 IAMs_20 23 38 06.1
comp=Z,1µm,22.0s
LCO Las Campanas 93.10 121 P **P** **23 06 46.4 +1.1**
LCO pmax pmax
comp=Z,39nm,1.2s
LCO MLR MLR
comp=Z,2µm,22.0s
CCM Cathedral Cave 93.18 52 **P** **23 06 44.4 -0.7**
CCM IAmb IAmb 23 06 45.2
comp=Z,17nm,1.1s
CCM Cathedral Cave 93.18 52 P **P** **23 06 44.4 -0.7**
CCM pmax pmax
comp=Z,17nm,1.2s
CCM MLR MLR
comp=Z,700nm,20.0s
AGMN Agassiz Nation 93.19 41 IAmb IAmb 23 06 44.6
comp=Z,25nm,1.4s
VNA2 Neumayer--Watz 93.26 175 ⇑P **P** **23 06 46.5 +1.6**
comp=Z,14nm,0.9s,baz=175,slow=2.7
CO01 Juntas del Tor 93.27 122 IAMs_20 IAMs_20 23 39 06.7
comp=Z,1µm,21.0s
Y45A Yeager Farm, C 93.30 56 P **P** **23 06 46.0 +0.3**
Y45A IAMs_20 IAMs_20 23 42 20.1
comp=Z,1µm,20.0s
I37A Lemond, Waseca 93.42 45 **P** **23 06 46.3 +0.3**
I37A IAmb IAmb 23 06 47.4
comp=Z,23nm,1.1s
I37A IAMs_20 IAMs_20 23 41 06.4
comp=Z,1µm,22.0s
PBMO Poplar Bluff 93.43 53 IAmb IAmb 23 06 46.5
comp=Z,18nm,1.2s
BILN Bilwi Airport 93.45 76 IAMs_20 IAMs_20 23 43 25.5
comp=Z,168nm,19.0s
VNA1 Neumayer--Stat 93.45 175 ⇑P **P** **23 06 48.6 +2.8**
comp=Z,45nm,1.2s
LZH Lanzhou 93.47 306 *e*P **P** **23 06 47.4 +0.8**
LZH sP pP 23 06 53.5 -2.0
LZH SKS **SKSac** **23 17 19.8 +0.4**
LZH sS pS 23 18 00.9 -3.6
LZH SS **SS** **23 24 08.9 -2.0**
LZH pmax pmax
comp=Z,11nm,1.4s
LZH pmax pmax
comp=Z,75nm,4.1s
LZH LR LR
comp=Z,300nm,17.5s
LZH LR LR
comp=Z,270nm,18.3s
LZH LR LR
comp=Z,580nm,19.6s
GNAR Gosnell 93.52 54 P **P** **23 06 46.4 -0.2**
GNAR IAMs_20 IAMs_20 23 42 07.7
comp=Z,929nm,20.0s
LZDM Lanzhou Array 93.55 306 P **P** **23 06 46.7 -0.5**
comp=Z,0.6nm,0.3s,baz=93,slow=8.7,SNR=4.4
comp=Z,0.6nm,0.3s
OXF Oxford 93.59 55 P **P** **23 06 46.8 -0.2**
OXF IAMs_20 IAMs_20 23 43 25.7
comp=Z,979nm,20.0s
OXF Oxford 93.59 55 P **P** **23 06 46.8 -0.2**
OXF pmax pmax
comp=Z,48nm,1.1s
OXF MLR MLR
comp=Z,1µm,20.0s
PEBM Pemiscott Bayo 93.68 54 IAMs_20 IAMs_20 23 42 02.0
comp=Z,973nm,20.0s
FVM French Village 93.78 52 **P** **23 06 46.9 -0.9**
FVM IAmb IAmb 23 06 48.7
comp=Z,18nm,1.1s
FVM French Village 93.78 52 P **P** **23 06 46.9 -0.9**
FVM pmax pmax
comp=Z,18nm,1.1s
FVM MLR MLR
comp=Z,700nm,20.0s
ULM Lac du Bonnet 93.83 39 P **P** **23 06 46.6 -1.1**
comp=Z,3.3nm,0.5s,baz=235,slow=2.3,SNR=5.5
ULM LR LR 23 43 58.2
comp=Z,2µm,19.4s,baz=252,slow=32
comp=Z,3.3nm,0.5s
ULM Lac du Bonnet 93.83 39 *i*P **P** **23 06 45.5 -2.3**
PVMO Portageville 93.89 53 IAMs_20 IAMs_20 23 43 08.5
comp=Z,1µm,20.0s
AC06 Mina Casimiro 93.94 120 P **P** **23 06 50.3 +1.4**
AC06 IAmb IAmb 23 06 53.5
comp=Z,35nm,1.4s
AC06 IAMs_20 IAMs_20 23 38 48.4
comp=Z,1µm,20.0s
LNXT Lenox 93.97 54 IAMs_20 IAMs_20 23 42 10.5
comp=Z,942nm,20.0s
HALT Halls 94.03 54 IAMs_20 IAMs_20 23 42 24.3
comp=Z,865nm,21.0s
CGM3 Cape Girardeau 94.17 53 IAmb IAmb 23 06 50.3
comp=Z,18nm,1.0s
GLAT Glass 94.17 54 **P** **23 06 50.3 +0.6**
GLAT IAMs_20 IAMs_20 23 42 57.9
comp=Z,923nm,20.0s
SPMN Marine on St. 94.20 44 **P** **23 06 49.5 -0.1**
SPMN IAmb IAmb 23 06 51.4
comp=Z,24nm,1.2s
CFA Coronel Fontan 94.21 124 LR LR 23 39 33.2
comp=Z,524nm,21.1s,baz=231,slow=29
HICK Hickman 94.29 53 P **P** **23 06 51.1 +0.9**
HICK IAMs_20 IAMs_20 23 43 21.1
comp=Z,940nm,20.0s
L40A Anamosa 94.36 48 IAMs_20 IAMs_20 23 42 43.5
comp=Z,1µm,20.0s
UTMT University of 94.52 54 P **P** **23 06 52.0 +0.8**
UTMT IAMs_20 IAMs_20 23 42 48.3
comp=Z,1µm,20.0s
OTAV Otavalo 94.59 91 P **P** **23 06 52.3 -0.4**
OTAV Otavalo 94.59 91 P **P** **23 06 52.3 -0.4**
OTAV pmax pmax
comp=Z,6.0nm,1.3s
OTAV MLR MLR
comp=Z,300nm,19.0s
S44A Carbondale 94.59 52 **P** **23 06 51.2 -0.3**
S44A IAmb IAmb 23 06 52.0
comp=Z,8.2nm,0.8s
BRAL Brewton 94.60 59 P **P** **23 06 52.5 +0.8**
SIUC Southern Illin 94.62 52 P **P** **23 06 50.9 -0.8**
SIUC IAmb IAmb 23 06 52.7
comp=Z,15nm,0.9s
SIUC IAMs_20 IAMs_20 23 45 22.8
comp=Z,806nm,20.0s
ULN Ulaanbaatar 94.65 318 P **P** **23 06 52.9 +1.1**
ULN Ulaanbaatar 94.65 318 *i*P **P** **23 06 51.6 -0.2**
ULN pmax pmax
comp=Z,5.0nm,1.3s
PLAL Pickwick Lake 94.78 55 **P** **23 06 51.8 -0.7**
P43A Skaggs, Pawnee 94.92 50 IAMs_20 IAMs_20 23 42 43.5
comp=Z,1µm,21.0s
SONM Songino Array 95.06 318 P **P** **23 06 52.8 -0.8**
comp=Z,0.8nm,0.8s,baz=104,slow=4.3,SNR=5.0
SONM LR LR 23 44 48.7
comp=Z,482nm,21.8s,baz=94,slow=32
Q44A Meyer Farm, Va 95.10 51 IAMs_20 IAMs_20 23 42 07.2
comp=Z,985nm,21.0s
AC02 Maricunga 95.14 119 P **P** **23 06 55.2 +0.2**
AC02 IAMs_20 IAMs_20 23 39 55.3
comp=Z,1µm,20.0s
TIXI Tiksi 95.14 344 IAMs_20 IAMs_20 23 46 38.6
comp=Z,790nm,20.0s
TIXI Tiksi 95.14 344 LR LR 23 46 04.0
comp=Z,1µm,20.8s,baz=130,slow=33
WVT Waverly 95.27 54 P **P** **23 06 54.3 -0.4**
WVT IAmb IAmb 23 06 55.0
comp=Z,15nm,1.1s
WVT Waverly 95.27 54 IAMs_20 IAMs_20 23 43 01.1
comp=Z,943nm,20.0s
WVT Waverly 95.27 54 P **P** **23 06 54.3 -0.4**
WVT pmax pmax
comp=Z,15nm,1.1s
I40A Norwalk 95.31 46 IAmb IAmb 23 06 55.4
comp=Z,24nm,1.1s
I40A IAMs_20 IAMs_20 23 44 02.3
comp=Z,1µm,20.0s
X48A Hartselle 95.46 56 P **P** **23 06 55.6 0.0**
X48A IAmb IAmb 23 07 08.8
comp=Z,9.6nm,1.1s
X48A IAMs_20 IAMs_20 23 43 55.1
comp=Z,887nm,20.0s
L42A Oliver, Polo 95.46 48 IAmb IAmb 23 06 55.5
comp=Z,20nm,0.9s
Y49A Blount Mountai 95.81 57 IAMs_20 IAMs_20 23 44 00.6
comp=Z,943nm,20.0s
EYMN Ely 95.86 42 IAMs_20 IAMs_20 23 44 25.6
comp=Z,830nm,20.0s
USIN University of 95.87 52 IAMs_20 IAMs_20 23 43 12.9
comp=Z,884nm,22.0s
V48A Smith Brothers 95.96 55 IAMs_20 IAMs_20 23 45 08.4
comp=Z,857nm,19.0s
PB06 IPOC Station P 96.15 115 P **P** **23 06 59.7 +0.4**
PB06 IAmb IAmb 23 07 20.7
comp=Z,22nm,1.4s
TRQA Tornquist 96.43 132 IAMs_20 IAMs_20 23 40 39.9
comp=Z,903nm,21.0s
SWET Sewanee 96.53 55 P **P** **23 07 00.2 -0.3**
SWET IAmb IAmb 23 07 00.8
comp=Z,11nm,1.0s
SWET IAMs_20 IAMs_20 23 44 48.9
comp=Z,751nm,20.0s
K43A Burlington 96.60 48 IAMs_20 IAMs_20 23 43 20.6
comp=Z,1µm,21.0s
P46A Rosedale 96.64 51 IAMs_20 IAMs_20 23 43 16.2
comp=Z,1µm,21.0s
SFIN Lafayette 96.91 50 IAMs_20 IAMs_20 23 44 15.3
comp=Z,1µm,20.0s
U49A Red Boiling Sp 96.97 54 P **P** **23 07 02.1 -0.3**
U49A IAmb IAmb 23 07 02.9
comp=Z,19nm,1.1s
U49A IAMs_20 IAMs_20 23 45 31.3
comp=Z,915nm,19.0s
WCI Wyandotte Cave 96.99 52 IAMs_20 IAMs_20 23 45 26.6
comp=Z,929nm,20.0s
W50A Signal Mountai 97.02 56 P Pdif 23 07 03.0 +0.1
W50A IAmb IAmb 23 07 03.3
comp=Z,20nm,1.2s
W50A IAMs_20 IAMs_20 23 45 13.8
comp=Z,827nm,20.0s
BLO Bloomington 97.04 51 P Pdif 23 07 04.2 +1.4
BLO IAmb IAmb 23 07 46.7
comp=Z,14nm,1.2s
BLO Bloomington 97.04 51 P Pdif 23 07 04.2 +1.4
BLO pmax pmax
comp=Z,14nm,1.3s
BLO MLR MLR
comp=Z,600nm,18.0s
PB11 IPOC Station P 97.05 113 P Pdif 23 07 04.4 +0.9
X51A Calhoun 97.23 56 IAMs_20 IAMs_20 23 43 49.5
comp=Z,902nm,21.0s
GTA Gaotai 97.42 309 *e*P Pdif 23 07 06.0 +1.4
GTA SKS **SKSac** **23 17 38.8 -1.4**
GTA S **S** **23 18 24.6 -2.7**
GTA pmax pmax
comp=Z,3.0nm,1.6s
GTA LR LR
comp=Z,230nm,21.1s
GTA LR LR
comp=Z,680nm,21.1s
GTA LR LR
comp=Z,980nm,21.1s
H43A Windswept, Lux 97.44 46 IAMs_20 IAMs_20 23 46 32.9
comp=Z,932nm,19.0s
CAMR Camarica 97.51 68 IAMs_20 IAMs_20 23 42 51.8
comp=Z,1µm,19.0s
CPCT Cooper Cave 97.71 55 IAMs_20 IAMs_20 23 46 34.0
comp=Z,794nm,20.0s
Y52A Lilburn 97.71 57 IAMs_20 IAMs_20 23 45 21.2
comp=Z,891nm,21.0s
T50A Nancy 97.82 54 IAMs_20 IAMs_20 23 44 49.9
comp=Z,745nm,20.0s
R49A Shelbyville 97.86 53 IAMs_20 IAMs_20 23 44 54.7
comp=Z,943nm,20.0s
P48A Milroy 97.94 51 IAMs_20 IAMs_20 23 44 09.7
comp=Z,828nm,22.0s
W52A Murphy 98.10 56 IAMs_20 IAMs_20 23 44 57.4
comp=Z,780nm,21.0s
TKL Tuckaleechee C 98.35 55 LR LR 23 47 04.0
comp=Z,707nm,19.1s,baz=284,slow=33
R50A Paris 98.51 53 IAMs_20 IAMs_20 23 45 24.8
comp=Z,792nm,20.0s
TZTN Tazewell 98.72 55 IAMs_20 IAMs_20 23 45 47.8
comp=Z,941nm,20.0s
BG3 Lake Jocassee 98.88 56 IAMs_20 IAMs_20 23 45 12.9
comp=Z,853nm,21.0s
O49A Covington 98.92 51 IAMs_20 IAMs_20 23 45 06.6
comp=Z,1µm,22.0s
S51A Beattyville 98.93 53 IAMs_20 IAMs_20 23 45 07.1
comp=Z,907nm,21.0s
V53A Saluda 99.12 56 IAMs_20 IAMs_20 23 47 55.3
comp=Z,734nm,20.0s
J47A Sumner 99.23 48 IAMs_20 IAMs_20 23 45 00.4
comp=Z,993nm,21.0s
HODGE Hodges 99.25 57 IAMs_20 IAMs_20 23 44 55.0
comp=Z,804nm,22.0s
LPAZ La Paz 99.55 110 LR LR 23 45 06.2
comp=Z,246nm,18.8s,baz=245,slow=31
GLMI Grayling 99.71 46 IAMs_20 IAMs_20 23 48 01.0
comp=Z,906nm,19.0s
PAULI Pauline 99.74 57 IAMs_20 IAMs_20 23 46 09.7
comp=Z,927nm,21.0s
ACSO Alum Creek Sta 99.94 51 IAMs_20 IAMs_20 23 45 37.7
comp=Z,1µm,22.0s
U54A Nelsons Funny 100.08 55 IAMs_20 IAMs_20 23 48 04.7
comp=Z,786nm,20.0s
KMSC Kings Mountain 100.19 56 IAMs_20 IAMs_20 23 46 13.7
comp=Z,917nm,22.0s
Q52A Bidwell 100.23 52 IAMs_20 IAMs_20 23 46 58.3
comp=Z,735nm,20.0s
V55A Taylorsville 100.43 56 IAMs_20 IAMs_20 23 45 40.9
comp=Z,757nm,21.0s
P52A Corning 100.46 52 IAMs_20 IAMs_20 23 45 46.5
comp=Z,1µm,22.0s
S54A Dingess, Beckl 100.73 54 IAMs_20 IAMs_20 23 45 41.9
comp=Z,833nm,22.0s
O52A Adamsville 100.78 51 IAMs_20 IAMs_20 23 46 16.1
comp=Z,1µm,22.0s
BIRD Birdtown, Kers 100.79 57 IAMs_20 IAMs_20 23 47 12.7
comp=Z,767nm,21.0s
P53A Whipple 101.00 52 IAMs_20 IAMs_20 23 45 29.7
comp=Z,1µm,22.0s
U56A King 101.18 55 IAMs_20 IAMs_20 23 46 46.9
comp=Z,912nm,21.0s
W57A Gilead 101.27 57 IAMs_20 IAMs_20 23 47 07.3
comp=Z,815nm,21.0s
O53A New Philadelph 101.27 51 IAMs_20 IAMs_20 23 46 41.9
comp=Z,1µm,21.0s
BLA Blacksburg 101.32 54 IAMs_20 IAMs_20 23 48 54.4
comp=Z,845nm,20.0s
CHIV Chivirico 101.32 72 IAMs_20 IAMs_20 23 41 35.0
comp=Z,134nm,21.0s
Q54A Coxs Mills 101.33 53 IAMs_20 IAMs_20 23 47 53.5
comp=Z,798nm,20.0s
N53A Lisbon 101.66 51 IAMs_20 IAMs_20 23 47 43.0
comp=Z,920nm,20.0s
R55A Marlinton 101.75 53 IAMs_20 IAMs_20 23 46 55.7
comp=Z,1µm,21.0s
O54A Avella 101.89 51 IAMs_20 IAMs_20 23 47 12.3
comp=Z,1µm,20.0s
V58A Windy Hill, Pi 102.09 56 IAMs_20 IAMs_20 23 48 59.0
comp=Z,696nm,20.0s
T57A Hurt 102.19 55 IAMs_20 IAMs_20 23 49 12.7
comp=Z,899nm,20.0s
MCWV Mont Chateau 102.20 52 IAMs_20 IAMs_20 23 46 39.6
comp=Z,1µm,22.0s
Y60A Bolivia 102.50 58 IAMs_20 IAMs_20 23 50 20.0
comp=Z,866nm,20.0s
W59A Clinton 102.52 57 IAMs_20 IAMs_20 23 48 05.4
comp=Z,819nm,21.0s
S57A Dark Hollow, R 102.56 54 IAMs_20 IAMs_20 23 48 18.3
comp=Z,724nm,20.0s
Q56A Snyder Ridge, 102.60 53 IAMs_20 IAMs_20 23 48 51.2
comp=Z,684nm,20.0s
NMDO Nuevo Mundo 102.76 72 IAMs_20 IAMs_20 23 47 37.1
comp=Z,397nm,20.0s
R58B Mineral 103.44 54 IAMs_20 IAMs_20 23 47 48.4
comp=Z,889nm,22.0s
BUKO Buck Lake 103.45 46 IAMs_20 IAMs_20 23 49 28.1
comp=Z,1µm,20.0s
MEDO Medina 103.79 49 IAMs_20 IAMs_20 23 47 13.3
comp=Z,990nm,22.0s
SSPA Standing Stone 103.84 51 IAMs_20 IAMs_20 23 49 24.9
comp=Z,1µm,21.0s
CBN Corbin Frederi 103.87 54 IAMs_20 IAMs_20 23 48 10.8
comp=Z,900nm,21.0s
MMNY Mt. Morris Dam 104.13 49 IAMs_20 IAMs_20 23 49 37.3
comp=Z,929nm,20.0s
J55A Hilton 104.27 49 IAMs_20 IAMs_20 23 47 45.9
comp=Z,1µm,22.0s
N58A Sunbury 104.75 51 IAMs_20 IAMs_20 23 48 19.0
comp=Z,1µm,21.0s
MVL Millersville 104.91 52 IAMs_20 IAMs_20 23 48 46.4
comp=Z,1µm,21.0s

K57A Scipio Center 105.14 49 IAMs_20 IAMs_20 23 50 47.2
comp=Z,1μm,20.0s
BINY Binghamton 105.47 50 IAMs_20 IAMs_20 23 49 19.8
comp=Z,941nm,20.0s
WUPA West Chester U 105.47 52 IAMs_20 IAMs_20 23 49 23.2
comp=Z,700nm,21.0s
P61A Hammonton 106.06 53 IAMs_20 IAMs_20 23 51 13.8
comp=Z,907nm,20.0s
L59A Walton 106.16 50 IAMs_20 IAMs_20 23 50 01.2
comp=Z,1μm,20.0s
SC01 Santiago de lo 106.46 74 IAMs_20 IAMs_20 23 49 02.2
comp=Z,649nm,19.0s
J59A Piesco 106.69 49 IAMs_20 IAMs_20 23 49 29.0
comp=Z,1μm,22.0s
LONY Lake Ozonia 106.74 48 IAMs_20 IAMs_20 23 50 52.3
comp=Z,1μm,20.0s
BAUV El Baul 106.81 85 IAMs_20 IAMs_20 23 58 57.1
comp=Z,657nm,18.0s
PAL Palisades 106.88 51 IAMs_20 IAMs_20 23 51 15.4
comp=Z,1μm,20.0s
WMQ Urumqi 107.10 312 Pdif **Pdif 23 07 48.9 +1.4**
WMQ LR LR
comp=Z,330nm,24.7s
TRY Troy 107.23 50 IAMs_20 IAMs_20 23 51 12.4
comp=Z,1μm,20.0s
WSPT Westport, CT 107.33 51 IAMs_20 IAMs_20 23 49 38.2
comp=Z,965nm,21.0s
L61B Northampton 107.93 50 IAMs_20 IAMs_20 23 51 14.0
comp=Z,1μm,20.0s
J61A Chester 108.10 49 IAMs_20 IAMs_20 23 50 01.3
comp=Z,1μm,22.0s
UCCT U. Connecticut 108.22 51 IAMs_20 IAMs_20 23 50 45.6
comp=Z,993nm,21.0s
M63A Gales Ferry 108.32 51 IAMs_20 IAMs_20 23 50 50.4
comp=Z,1μm,21.0s
L64A Middleborough 109.26 51 IAMs_20 IAMs_20 23 51 46.2
comp=Z,1μm,20.0s
M65A Busby, Falmout 109.38 51 P **PKiKP 23 11 59.4 -1.6**
baz=266
ZAA0 Zalesovo Array 109.44 322 IAMs_20 IAMs_20 23 54 53.0
comp=Z,727nm,21.0s
ZALV Zalesovo Beam 109.44 322 PKiKP **PKiKP 23 12 00.1 -0.6**
comp=Z,0.6nm,0.5s,baz=147,slow=2.8,SNR=3.6
G62A West of Eustis 109.66 47 IAMs_20 IAMs_20 23 54 22.3
comp=Z,850nm,19.0s
PKME Peaks-Kenny Pk 110.53 47 IAMs_20 IAMs_20 23 52 34.5
comp=Z,765nm,22.0s
MK31 Makanchi Array 111.06 315*c* iPKiKP **PKiKP 23 12 04.1 0.0**
MKAR Makanchi Array 111.06 315 PKiKP **PKiKP 23 12 03.2 -0.9**
comp=Z,0.7nm,0.6s,baz=106,slow=1.2,SNR=7.0
F64A Sherman 111.20 46 IAMs_20 IAMs_20 23 51 53.2
comp=Z,838nm,22.0s
HYB Hyderabad 111.59 283 *e*PKiKP **PKiKP 23 12 06.0 0.0**
HYB *e*PP **PP 23 12 47.0 -0.8**
HYB *e*SKSdf **SKSdf 23 19 18.3 +1.8**
G65A Princeton 111.75 47 IAMs_20 IAMs_20 23 53 43.8
comp=Z,896nm,21.0s
KURK Kurchatov 113.36 319 IAMs_20 IAMs_20 00 00 22.1
comp=Z,627nm,20.0s
KURK Kurchatov 113.36 319 *i* PKiKP **PKiKP 23 12 07.7 -0.6**
KURBB Kurchatov Arra 113.42 319 PKiKP **PKiKP 23 12 07.7 -0.7**
comp=Z,1.6nm,0.9s,baz=90,slow=1.7,SNR=14
KSH Kashi 115.72 307 PKP **PKiKP 23 12 14.3 +0.9**
BVAR Borovoye Array 118.09 322 PKP **PKPdf 23 12 17.0 -0.3**
comp=Z,1.6nm,0.7s,baz=90,slow=3.0,SNR=11
SIMJ Simiganj 121.17 306 **PKiKP 23 12 23.9 -0.1**
KBL Kabul 121.40 301 **PKiKP 23 12 25.0 +0.3**
KBL Kabul 121.40 301 PKiKP **PKiKP 23 12 25.0 +0.3**
SVE Sverdlovsk 122.32 328 *e*PKiKP **PKPdf 23 12 24.8 -0.5**
SVE pmax pmax
comp=Z,13nm,1.5s
ARTI Arti 123.64 328 **PKPdf 23 12 27.6 -0.3**
ARTI IAMs_20 IAMs_20 00 02 58.7
comp=Z,879nm,20.0s
ARTI Arti 123.64 328 *i* PKiKP **PKiKP 23 12 28.3 +0.2**
ARTI 23 14 07.6
ARTI 23 19 39.9
ARTI SS SS 23 30 51.0 -4.9
ARCES ARCESS Array B 124.72 352 PKP **PKiKP 23 12 30.1 +0.2**
comp=Z,3.2nm,0.7s,baz=350,slow=2.0,SNR=9.2
APA Apatity 125.16 348 ⇓*i* PKiKP PKPdf 23 12 18.9 -12
APA *e* 23 14 21.1
APA pmax pmax
comp=Z,7.0nm,1.1s
APA MLR MLR
comp=Z,2μm,28.4s
ABKAR Akbulak array 125.43 320 **PKPdf 23 12 31.3 -0.3**
VOI Vohitsoka 126.03 227 IAMs_20 IAMs_20 23 58 08.7
comp=Z,572nm,20.0s
KIRV Kirov 126.72 334*c* iPKiKP **PKiKP 23 12 34.0 -0.1**
ABPO Ambohimpanom 127.53 231 IAMs_20 IAMs_20 00 02 05.6
comp=Z,689nm,19.0s
KLMR Klimovskoe 128.95 340 *e*PKiKP **PKPdf 23 12 38.1 +0.2**
KLMR pmax pmax
comp=Z,38nm,1.8s
KLMR MLR MLR
comp=Z,911nm,19.0s
FINES FINESS Array B 132.07 348 PKP **PKiKP 23 12 44.6 -0.3**
comp=Z,3.9nm,0.9s,baz=49,slow=2.1,SNR=6.0
RCBR Riachuelo 132.66 113 IAMs_20 IAMs_20 00 03 13.6
comp=Z,604nm,22.0s
BOSA Boshof 132.69 202 PKP **PKiKP 23 12 49.0 +1.6**
comp=Z,3.9nm,1.0s,baz=169,slow=7.7,SNR=3.3
BOSA Boshof 132.69 202 PKiKP **PKiKP 23 12 49.0 +1.6**
MOS Moscow 133.41 337 *e*PKiKP **PKPdf 23 12 43.4 -3.1**
OBN Obninsk 134.28 337⇓*e*PKiKP **PKPdf 23 12 47.4 -0.7**
OBN *i* 23 12 50.3
OBN *e* 23 12 54.8
OBN *i* 23 19 53.3
OBN *i* SS SS 23 33 06.5 -0.2
OBN pmax pmax
comp=Z,20nm,1.4s
OBN pmax pmax
comp=Z,21nm,1.3s
OBN MLR MLR
comp=Z,752nm,20.0s
HFS Hagfors 135.13 355 PKP **PKPdf 23 12 50.0 +0.4**
comp=Z,2.2nm,0.8s,baz=343,slow=3.0,SNR=4.3
HFS Hagfors 135.13 355 PKiKP **PKPdf 23 12 50.0 +0.4**
MAK Makhachkala 135.81 317 *e*P **Pdif 23 09 48.7 -6.4**
MAK *e* 23 20 03.0
MAK *e*SS SS 23 33 20.6 -5.8
MAK pmax pmax
comp=Z,45nm,0.4s
PHPEN Phepeng 136.41 201 **PKPdf 23 12 51.1 -2.1**
MNK Minsk 137.76 342 *i* PKiKP **PKiKP 23 12 59.0 +2.4**
comp=E,14nm,0.8s
MNK *i* PKiKP **PKiKP 23 12 59.0 +2.4**
comp=N,8.0nm,0.9s
MNK *i* PKiKP **PKiKP 23 12 59.0 +2.4**
comp=Z,8.0nm,0.8s,baz=31
MNK *i* PP PP 23 15 03.6 -38
MNK *i* SKP 23 16 31.5
MNK *i* PKS **PKSdf 23 16 32.8 +2.2**
MNK *i* PPP PPP 23 18 43.8
MNK *i* SKS SKSdf 23 20 26.2 +23
MNK *i* SP **SKKPbc 23 25 08.6 -7.7**
MNK *i* SS SS 23 34 13.0 +25
MNK *i* LRM MLR 00 15 52.9
comp=E,730nm,18.5s
MNK Minsk 137.76 342 *i* PKiKP **PKiKP 23 12 59.0 +2.4**
MNK *i* PPP PPP 23 18 43.8
MNK *i* SS SS 23 34 13.0 +25
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=Z,8.0nm,0.8s
MNK pmax pmax
comp=E,14nm,0.8s
KIV Kislovodsk 138.42 320 IAMs_20 IAMs_20 00 18 57.0
comp=Z,623nm,21.0s
KIV Kislovodsk 138.42 320 *i* PKiKP **PKPdf 23 12 57.2 +0.9**
KIV *e* 23 15 44.9
KIV *e*SS SS 23 33 57.9 +0.6
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,589nm,24.0s
GNI Garni 138.90 314 IAMs_20 IAMs_20 00 17 17.8
comp=Z,517nm,21.0s
AKASG Malin Array Be 140.50 338 **PKPdf 23 12 59.8 0.0**
AKASG Malin Array Be 140.50 338 PKhKP PKPpre 23 12 53.8
comp=Z,0.9nm,0.5s,baz=37,slow=4.1,SNR=4.7
AKASG Malin Array Be 140.50 338 PKiKP **PKPdf 23 12 59.8 0.0**
ANN Anapa 141.01 325 *i* PKiKP PKiKP 23 13 15.9 +12
ANN pmax pmax
comp=Z,304nm,4.7s
RAYN Ar Rayn 142.79 289 **PKPdf 23 13 04.8 0.0**
RAYN Ar Rayn 142.79 289 IAMs_20 IAMs_20 00 21 00.4
comp=Z,433nm,21.0s
RAYN Ar Rayn 142.79 289 ⇑PKiKP **PKPdf 23 13 03.3 -1.5**
LSZ Lusaka 142.88 216 **PKPdf 23 13 03.1 -2.2**
LSZ Lusaka 142.88 216 PKiKP **PKPdf 23 13 03.1 -2.2**
KWP Kalwaria Pacla 143.57 343 *e*PKP **PKPdf 23 13 04.2 -1.1**
OJC Ojcow 143.79 346 *e*PKP PKPbc 23 13 04.4 +1.1
KSP Ksiaz 143.91 350 *e*PKP **PKPdf 23 13 05.0 -0.9**
CLL Collm 143.92 353 IAMs_20 IAMs_20 00 20 10.5
comp=Z,623nm,21.0s
CLL Collm 143.92 353 *i* PKiKP **PKiKP 23 13 10.9 +1.6**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL MLR MLR
comp=Z,500nm,25.7s
TSUM Tsumeb 143.96 197 **PKPdf 23 13 06.6 -0.5**
CHVC Chvalec 144.20 350 AMS AMS 00 15 20.0
comp=Z,1μm,19.8s
OSTC Ostas 144.20 350 AMS AMS 00 15 20.0
comp=Z,1μm,18.3s
BRG Berggiesshubel 144.23 352 *e*PKP **PKiKP 23 13 12.8 +2.8**
BRG Amp 23 13 14.2
comp=Z,3.5nm,1.0s
UPC Upice 144.28 350 AMS AMS 00 15 20.0
comp=Z,1μm,20.2s
KOLS Kolonicke sedl 144.32 343 *e*PKiKP **PKPdf 23 13 07.6 +0.9**
DPC Dobruska-Polom 144.38 350 *e*PKiKP PKPbc 23 13 05.5 +0.3
DPC MLR MLR
comp=Z,1μm,23.7s
DPC Dobruska-Polom 144.38 350 *e*PKP PKPbc 23 13 05.5 +0.3
DPC AMS AMS 00 15 40.0
comp=Z,1μm,23.7s
NIE Niedzica 144.41 345 *e*PKP **PKPdf 23 13 06.2 -0.7**
KIBK Kibwezi 144.43 243 **PKPdf 23 13 07.6 -0.4**
KIBK IAMs_20 IAMs_20 00 20 08.1
comp=Z,360nm,18.0s
PVCC Panska Ves 144.48 352 AMS AMS 00 15 20.0
comp=Z,900nm,20.4s
STEB Steborice 144.50 348 *e*PKP PKPbc 23 13 05.5 0.0
OKC Ostrava-Krasne 144.52 347 AMS AMS 00 11 50.0
comp=Z,900nm,18.2s
BURAR Bucovina Array 144.53 338 **PKPdf 23 13 06.4 -0.8**
BURAR Bucovina Array 144.53 338 ⇑P PKPbc 23 13 06.2 +0.4
BURAR Bucovina Array 144.53 338 ⇑PKiKP PKPbc 23 13 06.2 +0.4
KRLC Kraliky 144.56 349 AMS AMS 00 13 20.0
comp=Z,1μm,21.5s
MORC Moravsky Berou 144.70 348 *e*PKP **PKPdf 23 13 06.7 -0.6**
MORC Moravsky Berou 144.70 348 ⇓P PKPbc 23 13 06.6 +0.4
MORC Moravsky Berou 144.70 348 ⇓PKiKP PKPbc 23 13 06.6 +0.4
UCC Uccle 144.71 3 *d*PKPdf **PKPab 23 13 05.3 -0.7**
MOX Moxa 144.71 355 *e*PKPbc **PKPab 23 13 05.9 -0.1**
baz=4.8,slow=3.1
ATD Ata Tunnel 144.81 268 IAMs_20 IAMs_20 00 14 12.7
comp=Z,405nm,19.0s
PLN Plauen 144.82 354 *e*PKPbc **PKPab 23 13 05.9 -0.5**
baz=4.8,slow=3.1
TANN Tannenbergstha 144.86 354 *e*PKPbc PKPbc 23 13 06.7 0.0
baz=4.8,slow=3.1
LANS Liptovska Anna 144.87 346 *e*PKiKP **PKPdf 23 13 07.6 0.0**
TESR Tescani 144.92 336 ⇑P **PKPab 23 13 05.0 -1.9**
MEM Membach 144.95 1 *d*PKPdf **PKPab 23 13 05.9 -0.9**
PRA Prague 144.95 351 AMS AMS 00 15 40.0
comp=Z,1μm,22.9s
BSTI Sart Tilman 144.97 1 *d*PKP **PKPab 23 13 06.4 -0.6**
BTNL Ternell 144.97 1 *d*PKPdf **PKPab 23 13 06.8 -0.2**
GHRR 144.98 335 ⇑P **PKPab 23 13 06.6 -0.5**
PRU Pruhonice 145.01 351 *e*PKiKP **PKPdf 23 13 09.3 +1.5**
PRU MLR MLR
comp=Z,900nm,18.8s
PRU Pruhonice 145.01 351 *e*PKP **PKPdf 23 13 09.3 +1.5**
PRU AMS AMS 00 16 00.0
comp=Z,900nm,18.8s
MAUC Maruska 145.03 347 *e*PKP **PKPdf 23 13 07.8 -0.1**
BMR Baia Mare 145.06 340 ⇑P **PKPdf 23 13 08.3 +0.3**
BMR Baia Mare 145.06 340 ⇑PKiKP **PKPdf 23 13 08.3 +0.3**
BGES Gesves 145.15 2 *d*PKPdf **PKPbc 23 13 06.7 -0.8**
ONER Baraj Valea Uz 145.16 336 ⇑P **PKPdf 23 13 08.8 +0.6**
BHOU Houvegnez 145.21 1 *d*PKPdf **PKPbc 23 13 07.6 -0.1**
BMRD Maredsous 145.22 2 *d*PKPdf **PKPbc 23 13 07.1 -0.7**
KECS Kecovo 145.23 344 *e*PKiKP **PKPdf 23 13 09.5 +1.3**
ARCR ARCALIA 145.28 339 ⇑P **PKPdf 23 13 08.9 +0.6**
MANZ Manzenberg 145.32 354 *e*PKPbc **PKPbc 23 13 07.6 -0.6**
baz=4.8,slow=3.1
TNS Taunus Mts 145.32 358 *e*PKPbc **PKPbc 23 13 07.4 -0.8**
baz=4.8,slow=3.1
VRAC Vranov 145.33 349 *e*PKP **PKPdf 23 13 08.7 +0.3**
VRAC Vranov 145.33 349 ⇑P **PKPdf 23 13 08.5 +0.1**
VRAC Vranov 145.33 349 ⇑PKiKP **PKPdf 23 13 08.5 +0.1**
CFR Carcaliu 145.38 333 ⇑P **PKPbc 23 13 07.5 -0.9**
CFR Carcaliu 145.38 333 ⇑PKP2 **PKPbc 23 13 07.5 -0.9**
RCHB Rochefort 145.38 2 *d*PKP **PKPbc 23 13 07.6 -0.7**
VRI Vrincioaia 145.42 335 ⇑P **PKPab 23 13 08.8 0.0**
VRI Vrincioaia 145.42 335 ⇑PKiKP **PKPab 23 13 08.8 0.0**
DOU Dourbes 145.42 3 *d*PKP **PKPbc 23 13 07.7 -0.7**
PLOR Plostina 145.46 335 ⇑P **PKPab 23 13 09.0 0.0**
PLOR Plostina 145.46 335 ⇑PKiKP **PKPab 23 13 09.0 0.0**
TPGR Topolog 145.50 333 ⇑P **PKPab 23 13 09.6 +0.4**
ROTZ Rotzenmuhle 145.52 354 *e*PKPbc **PKPdf 23 13 08.5 -0.2**
baz=4.8,slow=3.1
TREC Trest 145.54 350 *e*PKiKP **PKPab 23 13 09.0 -0.1**
TREC MLR MLR
comp=Z,1μm,21.5s
TREC Trest 145.54 350 *e*PKP **PKPab 23 13 09.0 -0.1**
TREC AMS AMS 00 15 10.0
comp=Z,1μm,21.5s
TURR Turia 145.54 336 ⇑P **PKPdf 23 13 08.7 -0.2**
JAVC Velka Javorina 145.54 347 *e*PKP **PKPab 23 13 09.6 +0.4**
OZUR 145.60 336 ⇓P **PKPab 23 13 09.3 -0.2**
ZVC Zvikov 145.60 352 *e*PKP **PKPab 23 13 09.2 -0.1**
ZVC AMS AMS 00 16 20.0
comp=Z,1μm,20.2s
KRUC Moravsky 145.60 349 *e*PKP **PKPdf 23 13 08.3 -0.6**
COVR Voineasa-Covas 145.64 336 ⇑P **PKPab 23 13 09.5 -0.2**
GRA1 Grafenberg Arr 145.69 355 IAMs_20 IAMs_20 00 17 39.4
comp=Z,660nm,20.0s
GRF Grafenberg Arr 145.69 355 *e*PKPbc **PKPdf 23 13 08.7 -0.3**
baz=4.8,slow=3.1
GRF *e*L L 00 17 50.2
comp=Z,621nm,20.2s
GRFO Grafenberg 145.69 355 **PKPab 23 13 09.4 -0.2**
GRFO IAMs_20 IAMs_20 00 17 29.4
comp=Z,659nm,20.0s
GRFO Grafenberg 145.69 355 PKiKP **PKPab 23 13 09.4 -0.2**
GRFO MLR MLR
comp=Z,700nm,20.0s
GRFO Grafenberg 145.69 355 *e*L L 00 17 49.6
comp=Z,623nm,20.3s
KMBO Kilima Mbogo 145.72 244 PKPbc **PKPab 23 13 11.9 +0.7**
comp=Z,8.1nm,0.6s,baz=134,slow=4.7,SNR=23
TIRR Tirgusor 145.82 332 IAMs_20 IAMs_20 00 21 22.4
comp=Z,552nm,20.0s
TIRR Tirgusor 145.82 332 ⇑P **PKPdf 23 13 03.2 -6.1**
TIRR Tirgusor 145.82 332 ⇑PKHKP PKPpre 23 13 03.2
HARR Harsova 145.85 333 ⇓P **PKPab 23 13 10.4 0.0**
HARR Harsova 145.85 333 ⇓PKiKP **PKPab 23 13 10.4 0.0**
DOPR Dopca 145.86 337 ⇑P **PKPab 23 13 11.0 +0.5**
WLF Walferdange 145.90 1 *d*PKPdf **PKPbc 23 13 09.8 -0.2**
WLF Walferdange 145.90 1 *e*PKPbc **PKPbc 23 13 09.6 -0.3**
baz=4.8,slow=3.1
PSZ Piszkesteto 145.90 344 ⇓P **PKPdf 23 13 09.1 -0.4**
PSZ Piszkesteto 145.90 344 ⇓PKiKP **PKPdf 23 13 09.1 -0.4**
TLBR Topalu 145.91 333 ⇑P **PKPbc 23 13 09.8 -0.4**
NEHR Nehoiu 145.95 335 ⇓P **PKPab 23 13 11.3 +0.5**
KHC Kasperske Hory 145.99 352 *e*PKiKP **PKPbc 23 13 10.4 +0.1**
KHC MLR MLR
comp=Z,800nm,21.7s
KHC Kasperske Hory 145.99 352 *e*PKP **PKPbc 23 13 10.4 +0.1**
KHC *ex* x 23 13 20.1
KHC AMS AMS 00 16 10.0
comp=Z,800nm,21.7s
MLR Muntele Rosu 146.04 336 ⇑P **PKPdf 23 13 10.1 +0.2**
MLR Muntele Rosu 146.04 336 ⇑PKP2 **PKPdf 23 13 10.1 +0.2**
MARR Marisel-Cluj 146.06 340 ⇑P **PKPdf 23 13 09.1 -0.7**
WET Wettzell 146.06 353 *e*PKPbc **PKPbc 23 13 10.1 -0.4**
baz=4.8,slow=3.1
DRGR 146.09 340 ⇑P **PKPdf 23 13 10.2 +0.3**
DRGR 146.09 340 ⇑PKP2 **PKPdf 23 13 10.2 +0.3**
ISR Istrita 146.10 335 ⇑P **PKPbc 23 13 10.7 -0.1**
ISR Istrita 146.10 335 ⇑PKP2 **PKPbc 23 13 10.7 -0.1**
CKRC Cesky Krumlov 146.19 351 *e*PKP2 **PKPbc 23 13 10.4 -0.5**
CKRC MLR MLR
comp=Z,1μm,22.2s
CKRC Cesky Krumlov 146.19 351 *e*PKP **PKPbc 23 13 10.4 -0.5**
CKRC AMS AMS 00 16 40.0
comp=Z,1μm,22.2s
GEC2 GERESS Array S 146.25 352 *e*PKPbc **PKPbc 23 13 10.6 -0.5**
baz=4.8,slow=3.1
GERES GERESS Array B 146.25 352 **PKPdf 23 13 10.2 +0.1**
GERES GERESS Array B 146.25 352 PKPbc **PKPbc 23 13 10.9 -0.3**
comp=Z,3.9nm,0.8s,baz=20,slow=4.3,SNR=30
GERES GERESS Array B 146.25 352 PKP2 **PKPdf 23 13 10.2 +0.1**
BRTR Keskin Array B 146.37 321 **PKPdf 23 13 09.6 -1.1**
BRTR Keskin Array B 146.37 321 PKPbc **PKPbc 23 13 12.1 +0.1**
comp=Z,22nm,0.9s,baz=63,slow=3.2,SNR=52
BRTR Keskin Array B 146.37 321 PKiKP **PKPdf 23 13 09.6 -1.1**
SRO Srobarova 146.39 346 *e*PKP2 **PKiKP 23 13 17.5 +3.0**
KIRS Kirsehir-Merke 146.56 320 ⇑P **PKPdf 23 13 11.3 +0.4**
SULR 146.58 335 ⇓P **PKPdf 23 13 10.9 +0.2**
ARR Arges 146.65 337 ⇑P **PKPbc 23 13 11.7 -0.8**
STU Stuttgart 146.74 357 *e*PKPbc **PKPbc 23 13 11.9 -0.6**
baz=4.8,slow=3.1
ANTO Ankara 146.79 322 ⇓P **PKPab 23 13 13.6 -0.7**
ANTO Ankara 146.79 322 ⇓PKP2 **PKPab 23 13 13.6 -0.7**
CONA Conrad Observa 146.79 349 *i* PKP **PKPdf 23 13 10.2 -0.9**
comp=Z,82nm,1.7s,SNR=23
DEV Deva 146.83 339 ⇓P **PKPbc 23 13 13.1 +0.3**
DEV Deva 146.83 339 ⇓PKP2 **PKPbc 23 13 13.1 +0.3**
SIRR Siria 146.89 341 ⇑P **PKPdf 23 13 11.7 +0.5**
LOT Lotru 146.90 338 ⇑P **PKPdf 23 13 11.0 -0.3**
RONA Rosalia, Austr 146.93 348 *i* PKP **PKPdf 23 13 12.0 +0.8**
comp=Z,29nm,1.4s,SNR=11
MOA Molln 147.14 351 *e*PKP **PKPbc 23 13 13.3 -0.3**
comp=Z,19nm,0.9s,SNR=11
FUR Furstenfeldbru 147.20 355 *e*PKPbc **PKPbc 23 13 14.0 +0.1**
baz=4.8,slow=3.1
SURR Surduc 147.20 340 ⇑P **PKPbc 23 13 13.0 -0.8**
BFO Black Forest 147.22 358 **PKPbc 23 13 13.3 -0.6**
BFO Black Forest 147.22 358 PKP2 **PKPbc 23 13 13.3 -0.6**
BFO MLR MLR
comp=Z,800nm,21.0s
BFO Black Forest 147.22 358 *e*PKPbc **PKPbc 23 13 13.0 -0.9**
baz=4.8,slow=3.1
GZR Gura Zlata 147.30 339 ⇓P **PKPdf 23 13 11.0 -0.9**
GZR Gura Zlata 147.30 339 ⇓PKiKP **PKPdf 23 13 11.0 -0.9**
RAZG Razgrad 147.37 333 ⇑P **PKPdf 23 13 12.4 +0.4**
BIOA Bad Ischl, Aus 147.39 351 *e*PKP **PKPbc 23 13 13.6 -0.8**
comp=Z,47nm,1.8s,SNR=8.2
RJOB Jochberg 147.46 353 *e*PKPbc **PKPbc 23 13 14.5 -0.1**
baz=4.8,slow=3.1
BZS Buzias 147.49 341 ⇓P **PKPdf 23 13 12.3 +0.2**
BZS Buzias 147.49 341 ⇓PKiKP **PKPdf 23 13 12.3 +0.2**
ARSA Arzberg 147.51 349 *i* PKP **PKPdf 23 13 12.6 +0.4**
comp=Z,21nm,1.3s
UBR Ueberruh 147.77 356 *e*PKPbc **PKPbc 23 13 15.1 -0.4**
baz=4.8,slow=3.1
LESA Schwarzleotal 147.78 353 *e*PKP **PKPdf 23 13 13.0 +0.3**
comp=Z,33nm,1.5s,SNR=12
MORH Mrgy, Hungar 147.80 345 ⇑P **PKPdf 23 13 12.9 +0.3**
BANR Banloc 147.85 341 ⇑P **PKiKP 23 13 16.8 -0.8**
HERR Herculane 147.87 339 ⇑P **PKPbc 23 13 15.4 -0.4**
RETA Reutte 147.92 355 *e*PKP **PKPdf 23 13 13.6 +0.7**
comp=Z,26nm,1.2s,SNR=9.9
WATA Walderalm 147.99 354 *e*PKP **PKPdf 23 13 13.7 +0.6**
comp=Z,37nm,1.3s,SNR=15
MOTA Moosalm 148.03 355 *i* PKP **PKPdf 23 13 13.6 +0.4**
comp=Z,60nm,1.4s,SNR=14
KBA Koelnbreinsper 148.03 352 *e*PKP **PKPdf 23 13 14.7 +1.5**
comp=Z,24nm,1.2s
WTTA Wattenberg 148.06 354 *e*PKP **PKPdf 23 13 13.6 +0.3**
comp=Z,33nm,1.0s,SNR=12
KOGS Kog 148.14 348 *e*PKPdf **PKPbc 23 13 15.2 -1.1**
KOGS *i* PKPbc **PKiKP 23 13 17.9 -0.3**
KOGS *e* 23 13 25.6
SQTA Sankt Quirin 148.14 354 *e*PKP **PKPdf 23 13 13.8 +0.4**
comp=Z,28nm,1.2s,SNR=11
SOKA Soboth 148.15 349 *e*PKP **PKPbc 23 13 15.4 -1.2**
comp=Z,29nm,1.3s,SNR=14
ELND Elena 148.16 333 ⇑P **PKPdf 23 13 10.3 -3.0**
PERS Pernice 148.18 349 *e*PKPdf **PKPbc 23 13 15.5 -1.1**
PERS *i* PKPbc **PKiKP 23 13 18.0 -0.4**
DAVA Damuels 148.18 356 *e*PKP **PKPdf 23 13 13.9 +0.4**
comp=Z,71nm,2.0s,SNR=12
MDVR Moldovita 148.20 340 ⇑P **PKPbc 23 13 17.0 +0.3**
FURI Furi 148.24 262 IAMs_20 IAMs_20 00 15 13.7
comp=Z,466nm,22.0s
FETA Feichten 148.38 355 *e*PKP **PKPdf 23 13 14.4 +0.6**
comp=Z,24nm,1.3s,SNR=9.3
OBKA Obir 148.40 350 *i* PKP **PKPbc 23 13 16.0 -1.2**
comp=Z,14nm,0.9s
MYKA Terra Mystica 148.43 351 *e*PKP **PKPdf 23 13 13.7 -0.1**
comp=Z,21nm,0.9s
ABTA Abfaltersbach 148.47 353 *e*PKP **PKPdf 23 13 13.7 -0.1**
comp=Z,28nm,1.4s
CADS Cadrg 148.80 351 *e*PKPbc **PKiKP 23 13 18.9 -0.7**
MMAI Mount Meron Ar 148.81 309 PKPbc **PKiKP 23 13 19.6 -0.5**
comp=Z,7.4nm,0.7s,baz=57,slow=3.1,SNR=11
FUORN Ofenpass-Fuorn 148.82 355 IAMs_20 IAMs_20 00 17 25.2
comp=Z,517nm,20.0s
BOVS Bovan 149.21 339 ⇑P **PKPbc 23 13 19.5 +0.2**
CSS Mathiatis 149.33 314 IAMs_20 IAMs_20 00 22 08.9
comp=Z,448nm,22.0s
GHAJ Ghor Haditha 149.43 306 IAMs_20 IAMs_20 00 23 12.6
comp=Z,465nm,21.0s
ISP Isparta 149.46 321 IAMs_20 IAMs_20 00 28 45.0
comp=Z,424nm,21.0s
BLY Banja Luka 149.54 345 ⇓P **PKPbc 23 13 18.8 -1.3**
EZN Ezine 150.37 329 ⇑P **PKPbc 23 13 21.8 -0.4**
EZN Ezine 150.37 329 ⇑PKiKP **PKPbc 23 13 21.8 -0.4**
BNI Bardonecchia 150.52 0 **PKiKP 23 13 23.6 +0.3**
BNI Bardonecchia 150.52 0 PKiKP **PKiKP 23 13 23.6 +0.3**
PGAV Gavieira, Arco 150.55 23 *e*LR LR 00 04 08.1
PGAV *i* IAMs_20 IAMs_20 00 14 43.1
comp=Z,1μm,20.0s
SKO Skopje 150.75 337 *i* P **PKPbc 23 13 23.2 +0.2**
PCAB Cabril 150.87 23 *e*PKPab **PKPab 23 13 30.6 0.0**
VAY Valandovo 150.87 335 *i* P **PKPbc 23 13 22.9 -0.4**
PDG Podgorica 151.10 341 ⇑P **PKPbc 23 13 23.2 -0.6**
POLO Lamas de Olo 151.24 23 *e*PKPbc **PKPbc 23 13 24.1 -0.3**
PBRG Braganca 151.25 21 *e*PKPbc **PKPbc 23 13 24.0 -0.3**
PVRL Vila Real 151.36 23 *e*PKPab **PKPab 23 13 32.8 +0.1**
MBAR Mbarara 151.50 238*c* iPKiKP **PKiKP 23 13 27.0 +0.7**
MBAR pmax pmax
comp=Z,32nm,1.7s
MVO Moncorvo 151.71 22 *e*PKPdf **PKPdf 23 13 20.2 +1.1**
MVO *e*PKPbc **PKiKP 23 13 25.7 -0.1**
MVO *e*PKPab **pPKPbc 23 13 35.1 +0.6**
MVO *e*LR LR 00 04 32.8
MVO *i* IAMs_20 IAMs_20 00 13 36.7
comp=Z,756nm,22.0s
OHR Ohrid 151.74 337 *i* P **PKPbc 23 13 24.3 -1.1**
PVIS Viseu 151.77 24 *e*PKPab **PKPab 23 13 33.9 -0.5**
MTE Manteigas 152.18 24 *e*LR LR 00 04 46.2
MTE *i* IAMs_20 IAMs_20 00 15 21.1
comp=Z,957nm,20.0s
PMOZ Porto Moniz, M 152.18 47 *e*LR LR 00 05 29.0
PMOZ *i* IAMs_20 IAMs_20 00 14 00.9
comp=Z,520nm,20.0s
PSARD Sardoal 152.60 26 *e*PKPbc **PKPbc 23 13 26.2 -1.2**
INTR Introdacqua 152.87 348 PKPdf **PKPdf 23 13 21.0 +0.2**
PARRA Arraiolos 152.87 28 *e*PKPbc **PKiKP 23 13 32.0 +3.8**
PARRA *e*PKPab **sPKPbc 23 13 40.5 +0.3**
PMTG Montargil 153.02 27 *e*PKPdf **PKPdf 23 13 23.1 +2.1**
PMTG *e*PKPbc **pPKPdf 23 13 29.9 -0.2**
PMRV Marv??o 153.07 25 *e*PKPbc **PKiKP 23 13 29.5 +0.9**
PMRV *e*LR LR 00 04 34.4
PMRV *i* IAMs_20 IAMs_20 00 17 06.7
comp=Z,727nm,20.0s
PESTR Estremoz 153.46 26 *e*PKPab **PKPab 23 13 41.1 -0.4**
EVO Evora 153.56 27 *e*PKPbc **PKiKP 23 13 29.6 0.0**
EVO *e*PKPab **sPKPbc 23 13 41.6 -0.1**
ESDC Sonseca Array 154.10 19 PKPbc **PKiKP 23 13 31.3 +0.5**
comp=Z,2.3nm,1.1s,baz=335,slow=3.8,SNR=5.5
ESDC PKPab **PKPab 23 13 44.7 +0.5**
comp=Z,11nm,1.2s,baz=324,slow=4.3,SNR=15
PVAQ Vaqueiros 154.62 28 PKPdf **PKPdf 23 13 23.7 +0.4**
PVAQ **PKPab 23 13 47.0 +0.5**
PVAQ Vaqueiros 154.62 28 *e*PKPab **PKPab 23 13 46.6 +0.2**
PVAQ *e*LR LR 00 05 18.4
PVAQ *i* IAMs_20 IAMs_20 00 19 29.5
comp=Z,588nm,20.0s
PBDV Barranco-do-Ve 154.66 28 *e*PKPab **PKPab 23 13 45.7 -0.9**
WDD Wied Dalam 158.59 343 IAMs_20 IAMs_20 00 25 40.5
comp=Z,444nm,20.0s
MD01 Midelt array s 159.73 29 **PKPab 23 14 09.1 +0.4**
DBIC Dimbokro 165.56 126 PKP **PKPdf 23 13 35.5 -0.7**
comp=Z,10nm,1.1s,baz=74,slow=2.9,SNR=3.1

DBIC PKPab **PKPab** **23 14 35.8 +1.1**
comp=Z,8.3nm,1.1s,baz=220,slow=7.3,SNR=4.1
TORD **Torodi Ar. Bea** **174.49 114** **PKPdf** **23 13 39.6 -1.7**
TORD PKPab **PKPab** **23 15 14.6 +0.2**
TORD **Torodi Ar. Bea** **174.49 114** PKP **PKPdf** **23 13 39.7 -1.6**
comp=Z,5.7nm,1.2s,baz=270,slow=1.4,SNR=14
TORD PKPab **PKPab** **23 15 14.1 -0.2**
comp=Z,1.0nm,0.9s,baz=242,slow=4.2,SNR=8.1
TORD PP **PP** **23 19 04.4 -2.2**
comp=Z,1.8nm,1.1s,baz=242,slow=3.2,SNR=4.7

*ISK **13** 22:53:52.4, 42˚.69N × 41˚.71E, h5km, ML2.6/5*
*AFAD **13** 22:53:54.6, 42˚.59N × 41˚.58E, h27km ± 2km, ML2.4*
*MOS **13** 22:53:55.4, 42˚.71N × 41˚.93E, h7km, MPVA3.2*
*NORS **13** 22:53:56.0, 42˚.72N × 41˚.95E, h2km, MPVA3.0*
ISC 13 22:53:54.8 ± 1.1, 42˚.68N ± 0˚.03 × 41˚.91E ± 0˚.03, h16 km ± 11 km, n27, σ 0s 74/49, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.65**	**341**	*e*Pg		**Pg**	**22 54 07.2**	**-0.6**
DOMR				*e*Sg		**Sg**	**22 54 16.8**	**+0.6**
ARXR	**Arkhyz**	**1.00**	**332**	*e*Pg		**Pg**	**22 54 15.0**	**+0.8**
ARXR				*e*Sg		**Sn**	**22 54 28.1**	**0.0**
SHA1	**Shidzhatmaz**	**1.19**	**27**	*e*Pg		**Pg**	**22 54 17.0**	**-0.8**
SHA1				*e*Sg		**Sg**	**22 54 34.1**	**+0.6**
DIGR	**Digorskoe uzhe**	**1.25**	**79**	*e*Pg		**Pg**	**22 54 19.4**	**+0.5**
DIGR				*e*Sg		**Sg**	**22 54 35.0**	**-0.3**
BCA	**Borcka**	**1.25**	**190**	Pn		**Pn**	**22 54 17.1**	**-0.5**
BCA				Sn		**Sb**	**22 54 35.3**	**+1.4**
KBZ	**Khabaz**	**1.27**	**34**	*e*Pg		**Pg**	**22 54 18.6**	**-0.8**
KBZ				*e*Sg		**Sg**	**22 54 35.8**	**-0.2**
EPOS	**Posof**	**1.32**	**152**	P		**Pb**	**22 54 19.0**	**-0.3**
EPOS				S		**Sg**	**22 54 37.1**	**-0.5**
EPOS				*i* IAML			22 54 39.0	
	comp=N,55nm,0.5s							
EPOS				*i* IAML			22 54 40.0	
	comp=E,76nm,0.4s							
DBOC	**Borcka**	**1.34**	**188**	P		**Pn**	**22 54 18.4**	**-0.5**
DBOC				S		**Sn**	**22 54 36.0**	**-0.5**
DBOC				*i* IAML			22 54 38.0	
	comp=E,67nm,0.4s							
KIV	**Kislovodsk**	**1.40**	**24**	*e*Pg		**Pg**	**22 54 20.9**	**-0.8**
KIV				*e*Sg		**Sg**	**22 54 39.8**	**-0.1**
KIV0	**Kislovodsk Arr**	**1.40**	**24**	*e*Pg		**Pg**	**22 54 21.1**	**-0.7**
KIV0				*e*Sg		**Sg**	**22 54 40.3**	**+0.3**
BEYR	**Belyy Ugol+**	**1.49**	**26**	*e*Pg		**Pg**	**22 54 22.7**	**-0.8**
BEYR				*e*Sg		**Sg**	**22 54 43.2**	**+0.4**
LSNR	**Lesken**	**1.53**	**66**	*i* Pg		**Pg**	**22 54 23.9**	**-0.4**
LSNR				*e*Sg		**Sg**	**22 54 44.1**	**0.0**
GRYR	**Gornoye**	**1.55**	**338**	*e*Pg		**Pg**	**22 54 24.0**	**-0.8**
GRYR				*e*Sg		**Sg**	**22 54 45.9**	**+0.9**
RPOR	**Krasnaya Polya**	**1.57**	**311**	*e*Pg		**Pg**	**22 54 24.0**	**+0.4**
RPOR				*e*Sg		**Sg**	**22 54 46.6**	**+1.0**
AHAN	**Ardahan-Merkez**	**1.61**	**160**	P		**Pb**	**22 54 24.0**	**-0.2**
AHAN				S		**Sg**	**22 54 46.9**	**+0.3**
AHAN				*i* IAML			22 54 47.0	
	comp=E,68nm,0.6s							
KORR	**Kora**	**1.64**	**75**	*e*Pg		**Pg**	**22 54 26.1**	**-0.2**
KORR				*e*Sg		**Sg**	**22 54 48.8**	**+1.2**
DBAD	**Bademkaya**	**1.67**	**186**	P		Pg	22 54 42.5	+16
DBAD				S		Sg	22 55 01.8	+13
AKH	**Akhalkalaki**	**1.73**	**137**	Pn		**Pb**	**22 54 26.2**	**-0.1**
LACR	**Lac**	**1.77**	**84**	*e*Pg		**Pg**	**22 54 28.2**	**-0.5**
LACR				*e*Sg		**Sg**	**22 54 52.1**	**+0.4**
DDEM	**Demirkent**	**1.79**	**184**	P		**Pn**	**22 54 25.1**	**0.0**
DDEM				S		**Sn**	**22 54 48.6**	**+1.1**
DDEM				*i* IAML			22 54 53.0	
	comp=E,64nm,0.3s							
CHOM	**Cayeli-Rize**	**1.80**	**209**	Pn		**Pn**	**22 54 24.8**	**-0.3**
CHOM				Sn		**Sn**	**22 54 48.5**	**+0.9**
ARNR	**Ardon**	**1.81**	**73**	*e*Pg		**Pg**	**22 54 29.5**	**-0.1**
ARNR				*e*Sg		**Sg**	**22 54 54.8**	**+1.5**
GUZR	**Guzeripl'**	**1.85**	**316**	*e*Pg		**Pb**	**22 54 28.2**	**-0.1**
GUZR				*e*Sg		**Sg**	**22 54 53.9**	**-0.6**
GOLE	**Ardahan-G¶le**	**1.91**	**164**	P		**Pb**	**22 54 28.8**	**-0.6**
GOLE				S		**Sb**	**22 54 53.1**	**0.0**
GOLE				*i* IAML			22 54 57.0	
	comp=E,18nm,0.8s							
SENK	**Senkaya-Erzuru**	**2.14**	**171**	Pn		**Pn**	**22 54 31.6**	**+1.6**
IZDR	**Rize**	**2.14**	**208**	P		**Pn**	**22 54 28.8**	**-1.1**
IZDR				S		**Sn**	**22 54 54.6**	**-1.6**
BAYT	**Aydıntepe-Bayb**	**2.64**	**211**	Pn		**Pn**	**22 54 36.7**	**-0.2**

*IDC **13** 22:56:29.6 ± 0.7, 0˚.04N × 24˚.84W, h0km, mb4.1/12, mbtmp4.1/12, MS3.8/17, Error ellipse: s-maj=26.5km s-min=19.3km az=127.0*
ISC 13 22:56:32.6 ± 0.7, 0˚.0N ± 0˚.2 × 24˚.9W ± 0˚.2, h18 km, n49, σ 0s 81/29, mb4.3/24, MS3.9/16, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**12.46**	**242**	LR		LR	23 03 07.1	
	comp=Z,190nm,20.2s,baz=70,slow=32							
H10N3	**ASCENSION HYDR12.94**	**127**		T		T	23 12 49.6	
	baz=306,slow=74,SNR=179							
H10N2	**ASCENSION HYDR12.94**	**127**		T		T	23 12 48.0	
	baz=306,slow=74,SNR=293							
H10N1	**ASCENSION HYDR12.96**	**127**		T		T	23 12 50.6	
	baz=306,slow=74,SNR=429							
H10S3	**ASCENSION HYDR13.50**	**132**		T		T	23 13 30.0	
	baz=309,slow=74,SNR=137							
H10S2	**ASCENSION HYDR13.52**	**131**		T		T	23 13 33.9	
	baz=271,slow=74,SNR=72							
BBTS	**Babate**	**16.72**	**29**	LR		LR	23 05 35.3	
	comp=Z,267nm,18.7s,baz=277,slow=33							
DBIC	**Dimbokro**	**21.02**	**71**	LR		LR	23 07 35.6	
	comp=Z,225nm,21.3s,baz=264,slow=32							
BDFB	**Brasilia**	**27.66**	**235**	LR		LR	23 12 23.5	
	comp=Z,341nm,19.7s,baz=86,slow=34							
TORD	**Torodi Ar. Bea**	**29.37**	**63**	P		**P**	**23 02 34.8**	**-0.2**
	1.1nm,0.9s,baz=245,slow=8.3,SNR=5.6							
TORD				PcP		**PcP**	**23 05 41.2**	**0.0**
	0.6nm,0.7s,baz=323,slow=3.9,SNR=3.9							
TORD				LR		LR	23 13 10.1	
	comp=Z,394nm,20.0s,baz=277,slow=34							
	1.1nm,0.9s							
MDT	**Midelt**	**37.80**	**28**	LR		LR	23 17 49.2	
	comp=Z,141nm,19.7s,baz=250,slow=34							
SIV	**San Ignacio**	**39.11**	**244**	LR		LR	23 19 35.4	
	comp=Z,190nm,18.7s,baz=86,slow=35							
CPUP	**Villa Florida**	**40.80**	**228**	LR		LR	23 19 34.2	
	comp=Z,37nm,21.8s,baz=247,slow=34							
PCRV	**Puerto La Cruz**	**40.84**	**286**	LR		LR	23 21 13.6	
	comp=Z,38nm,18.8s,slow=36							
ESDC	**Sonseca Array**	**43.85**	**23**	P		**P**	**23 04 38.3**	**+0.3**
	2.5nm,1.1s,baz=217,slow=9.9,SNR=7.4							
	2.5nm,1.1s							
SJG	**San Juan**	**44.39**	**296**	LR		LR	23 18 38.1	
	comp=Z,31nm,20.5s,baz=160,slow=30							
LPAZ	**La Paz**	**45.64**	**247**	P		**P**	**23 04 53.1**	**-0.1**
	1.8nm,0.8s,baz=100,slow=4.8,SNR=5.8							
LPAZ				LR		LR	23 23 46.7	
	comp=Z,364nm,18.0s,baz=64,slow=36							
	1.8nm,0.8s							
SDV	**Santo Domingo**	**46.43**	**282**	LR		LR	23 23 26.4	
	comp=Z,87nm,21.1s,baz=32,slow=35							
KEST	**Kesra**	**47.70**	**38**	LR		LR	23 26 01.3	
	comp=Z,350nm,19.6s,baz=25,slow=37							
BOSA	**Boshof**	**55.68**	**125**	P		**P**	**23 06 07.8**	**-0.6**
	1.4nm,0.5s,baz=309,slow=6.5,SNR=6.4							
	1.4nm,0.5s							
DAVA	**Damuels**	**55.97**	**28**	*e*P		**P**	**23 06 10.7**	**+0.6**
	5.5nm,0.8s							
FETA	**Feichten**	**56.18**	**29**	*e*P		**P**	**23 06 12.0**	**+0.3**
	5.8nm,1.0s							
RETA	**Reutte**	**56.53**	**28**	*e*P		**P**	**23 06 14.3**	**+0.3**
	6.8nm,1.6s							
SQTA	**Sankt Quirin**	**56.55**	**29**	*i* P		**P**	**23 06 14.4**	**+0.2**
	6.0nm,1.0s							
WATA	**Walderalm**	**56.81**	**29**	*i* P		**P**	**23 06 17.4**	**+1.3**
	2.1nm,0.6s							
ABTA	**Abfaltersbach**	**56.86**	**30**	*i* P		**P**	**23 06 17.8**	**+1.5**
	4.1nm,1.2s							
LESA	**Schwarzleotal**	**57.41**	**29**	*e*P		**P**	**23 06 20.8**	**+0.5**
	4.2nm,1.2s							
KBA	**Koelnbreinsper**	**57.51**	**30**	*e*P		**P**	**23 06 22.0**	**+1.0**
	3.0nm,1.1s							
BIOA	**Bad Ischl, Aus**	**58.07**	**30**	*i* P		**P**	**23 06 25.6**	**+0.8**
	1.7nm,0.7s							
SOKA	**Soboth**	**58.10**	**31**	*e*P		**P**	**23 06 26.2**	**+1.2**
	5.5nm,1.3s							
MOA	**Molln**	**58.49**	**30**	*i* P		**P**	**23 06 27.6**	**-0.1**
	4.4nm,1.3s							
GERES	**GERESS Array B**	**58.89**	**29**	P		**P**	**23 06 30.5**	**-0.1**
	0.7nm,0.8s,baz=220,slow=3.1,SNR=6.6							
	0.7nm,0.8s							
CONA	**Conrad Observa**	**59.34**	**31**	*i* P		**P**	**23 06 34.5**	**+0.7**
	5.4nm,1.5s							
RONA	**Rosalia, Austr**	**59.42**	**31**	*i* P		**P**	**23 06 35.2**	**+1.0**
	5.2nm,1.2s							
KMBO	**Kilima Mbogo**	**62.11**	**91**	LR		LR	23 31 08.1	
	comp=Z,101nm,19.1s,baz=276,slow=34							
FURI	**Furi**	**63.87**	**80**	LR		LR	23 33 14.7	
	comp=Z,22nm,18.5s,baz=330,slow=34							
EIL	**Elat**	**64.04**	**57**	LR		LR	23 36 18.4	
	comp=Z,175nm,18.2s,baz=318,slow=37							
MMAI	**Mount Meron Ar**	**65.36**	**53**	LR		LR	23 39 13.2	
	comp=Z,47nm,18.1s,baz=292,slow=39							
BRTR	**Keskin Array B**	**66.22**	**46**	P		**P**	**23 07 18.6**	**-1.2**
	1.7nm,0.7s,baz=231,slow=6.1,SNR=12							
	1.7nm,0.7s							
NOA	**NORSAR Array B**	**66.82**	**18**	P		**P**	**23 07 22.5**	**-0.6**
	1.4nm,0.9s,baz=214,slow=6.7,SNR=3.6							
	1.4nm,0.9s							
AKASG	**Malin Array Be**	**68.09**	**34**	P		**P**	**23 07 31.3**	**+0.1**
	3.4nm,0.6s,baz=243,slow=6.3,SNR=12							
	3.4nm,0.6s							
KBZ	**Khabaz**	**74.06**	**44**	P		**P**	**23 08 08.5**	**+0.9**
	1.5nm,0.8s,baz=268,slow=5.9,SNR=4.6							
	1.5nm,0.8s							
TXAR	**Lajitas Array**	**80.24**	**300**	P		**P**	**23 08 42.4**	**-0.4**
	1.1nm,0.9s,baz=128,slow=6.8,SNR=4.0							
	1.1nm,0.9s							
PDAR	**Pinedale Array**	**86.10**	**313**	P		**P**	**23 09 12.8**	**-0.2**
	0.3nm,0.4s,baz=96,slow=5.4,SNR=2.4							
	0.3nm,0.4s							
QSPA	**South Pole Qui**	**90.08**	**180**	P		**P**	**23 09 33.0**	**+1.6**
	3.6nm,0.8s,baz=210,slow=2.2,SNR=4.6							
	3.6nm,0.8s							
KURBB	**Kurchatov Arra**	**98.47**	**39**	LR		LR	23 58 33.7	
	comp=Z,557nm,19.6s,baz=44,slow=38							
STKA	**Stephens Creek**	**145.81**	**159**	PKPbc		**PKPab**	**23 16 11.1**	**-0.7**
	1.3nm,0.6s,baz=165,slow=2.6,SNR=4.5							
ASAR	**Alice Springs**	**148.72**	**140**	PKPbc		**PKPbc**	**23 16 19.4**	**-0.4**
	2.4nm,0.8s,baz=213,slow=1.9,SNR=22							
WRA	**Warramunga Arr**	**151.58**	**135**	PKPbc		**PKPbc**	**23 16 25.9**	**-0.9**
	1.9nm,0.8s,baz=248,slow=1.9,SNR=10							

*IDC **13** 22:56:34.2 ± 6.2, 54˚.49N × 153˚.90W, h0km, mb3.8/4, mbtmp3.7/6, ML3.4/2, Error ellipse: s-maj=134.6km s-min=29.1km az=132.0*
*NEIC **13** 22:56:51.7 ± 1.6, 56˚.15N ± 0˚.04 × 155˚.23W ± 0˚.06, h35km ± 2km, Error ellipse: s-maj=8.3km s-min=3.1km az=317.0*
*AEIC **13** 22:56:52.0 ± 1.4, 56˚.10N ± 0˚.07 × 155˚.20W ± 0˚.08, h50km ± 7km, ML3.3, ML3.5/34(NEIC), Error ellipse: s-maj=10.0km s-min=5.7km az=164.0*
ISC 13 22:56:51.9 ± 1.0, 56˚.13N ± 0˚.06 × 155˚.19W ± 0˚.05, h45 km ± 11 km, n86, σ 1s 07/92, mb3.7/4, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**0.39**	**219**			**Pn**	**22 57 01.1**	**-0.5**
CHIR				Sn		**Sn**	**22 57 07.9**	**-0.4**
CHIR	**Chirikof Islan**	**0.39**	**219**	P		**Pn**	**22 57 01.2**	**-0.4**
CHIR	**Chirikof Islan**	**0.39**	**219**	S		**Sn**	**22 57 08.6**	**+0.2**
SII	**Sitkinak Islan**	**0.70**	**52**			**Pn**	**22 57 05.6**	**+0.1**
SII				Sn		**Sn**	**22 57 16.1**	**+0.7**
SII	**Sitkinak Islan**	**0.70**	**52**	P		**Pn**	**22 57 05.2**	**-0.3**
SII	**Sitkinak Islan**	**0.70**	**52**	S		**Sn**	**22 57 16.3**	**+0.9**
OHAK	**Old Harbor**	**1.52**	**43**			**Pn**	**22 57 16.5**	**-0.1**
OHAK	**Old Harbor**	**1.52**	**43**	P		**Pn**	**22 57 16.2**	**-0.3**
PLK4	**Peulik 4**	**1.64**	**337**			**Pn**	**22 57 17.8**	**-0.5**
PLK4						**Sn**	**22 57 38.1**	**-0.1**
PLK4	**Peulik 4**	**1.64**	**337**	IAML			22 57 39.4	
	comp=N,870nm,0.6s							
PLK3	**Peulik 3**	**1.67**	**340**			**Pn**	**22 57 17.7**	**-1.0**
PLK3						**Sn**	**22 57 38.9**	**-0.1**
PLK2	**Peulik 2**	**1.75**	**340**			**Pn**	**22 57 19.3**	**-0.5**
PLK2						**Sn**	**22 57 41.2**	**+0.3**
CHGN	**Chignik**	**1.81**	**277**			**Pn**	**22 57 19.5**	**-1.0**
CHGN				Sn		**Sn**	**22 57 42.6**	**+0.3**
CHGN				IAML			22 57 49.9	
	comp=E,617nm,0.6s							
CHGN				IAML			22 57 52.4	
	comp=N,672nm,0.5s							
PLBL	**Peulik Blue Cr**	**1.81**	**331**			**Pn**	**22 57 20.6**	**0.0**
PLBL						**Sn**	**22 57 43.6**	**+1.3**
PLK1	**Peulik 1**	**1.85**	**336**			**Pn**	**22 57 21.3**	**+0.2**
CAHL	**Cahill**	**1.93**	**358**			**Pn**	**22 57 21.8**	**-0.4**
R16K	**Pilot Point**	**1.95**	**319**	Pn		**Pn**	**22 57 22.6**	**+0.1**
R16K				IAML			22 57 59.4	
	comp=E,467nm,0.9s							
R16K				IAML			22 57 59.7	
	comp=N,616nm,0.8s							
ACHA	**Angle Creek He**	**2.09**	**358**			**Pn**	**22 57 23.2**	**-1.2**
PLK5	**Peulik 5**	**2.09**	**334**			**Pn**	**22 57 23.6**	**-0.7**
KABU	**Katmai Buttres**	**2.15**	**359**			**Pn**	**22 57 25.6**	**+0.3**
CNTC	**Contact Creek**	**2.17**	**350**			**Pn**	**22 57 24.4**	**-1.2**
KAKN	**Katmai Knife C**	**2.17**	**2**			**Pn**	**22 57 21.3**	**-4.3**
KDAK	**Kodiak Island**	**2.19**	**40**			**Pn**	**22 57 24.7**	**-1.0**
KDAK	**Kodiak Island**	**2.19**	**40**	Pn		**Pn**	**22 57 24.4**	**-1.3**
	comp=N,5.9nm,0.3s,baz=216,slow=8.9,SNR=201							
KDAK				Sn		Sn	22 58 03.4	+12
	comp=N,16nm,0.3s,baz=278,slow=14,SNR=5.8							
	comp=N,16nm,0.3s							
CHNA	**Chernabura Isl**	**2.82**	**244**	P		**Pn**	**22 57 33.5**	**-0.9**
CNBA	**Chernabura Isl**	**2.83**	**244**	Pn		**Pn**	**22 57 33.2**	**-1.3**
CNBA				IAML			22 58 32.3	
	comp=N,110nm,0.6s							
CNBA				IAML			22 58 41.7	
	comp=E,100nm,1.1s							
SYI	**Shuyak Island**	**2.91**	**30**			**Pn**	**22 57 35.3**	**-0.4**
SYI				IAML			22 58 24.7	
	comp=N,142nm,0.7s							
SYI				IAML			22 58 34.1	
	comp=E,94nm,0.7s							
Q19K	**Cape Douglas,**	**2.93**	**16**			**Pn**	**22 57 36.2**	**+0.2**
SDPT	**Sand Point**	**3.09**	**258**	Pn		**Pn**	**22 57 37.7**	**-0.4**
SDPT				IAML			22 58 31.9	
	comp=E,161nm,1.1s							
SDPT				IAML			22 58 33.0	
	comp=N,238nm,0.9s							
SDPT	**Sand Point**	**3.09**	**258**	P		**Pn**	**22 57 38.0**	**-0.1**
P16K	**Nushagak River**	**3.28**	**334**	Pn		**Pn**	**22 57 41.6**	**+1.0**
P16K				IAML			22 58 56.0	
	comp=E,188nm,1.0s							
CNPM	**China Poot**	**4.01**	**30**			**Pn**	**22 57 50.5**	**-0.2**
CNPM				IAML			22 59 03.0	
	comp=E,58nm,0.8s							
CNPM				IAML			22 59 16.2	
	comp=N,42nm,0.7s							
ILSW	**Iliamna Southw**	**4.01**	**15**			**Pn**	**22 57 50.4**	**-0.5**
ILSW				IAML			22 59 05.2	
	comp=E,36nm,0.7s							
BRLK	**Bradley Lake**	**4.30**	**30**	Pn		**Pn**	**22 57 53.6**	**-1.2**
BRLK				IAML			22 59 10.3	
	comp=E,46nm,0.4s							
BRLK				IAML			22 59 14.8	
	comp=N,34nm,1.1s							
RED	**Redoubt Volcan**	**4.49**	**15**	Pn		**Pn**	**22 57 57.0**	**-0.3**
SEW	**Seward**	**5.01**	**35**	Pn		**Pn**	**22 58 03.0**	**-1.4**
SEW				IAML			22 59 02.3	
	comp=E,27nm,0.8s							
SPU	**Mount Spurr**	**5.33**	**17**	Pn		**Pn**	**22 58 08.8**	**0.0**
STLK	**Strandline Lak**	**5.66**	**17**			**Pn**	**22 58 12.7**	**-0.7**
RC01	**Rabbit Creek A**	**5.73**	**28**	Pn		**Pn**	**22 58 13.3**	**-1.0**
SUA	**Susitna One**	**5.83**	**21**			**Pn**	**22 58 15.6**	**-0.1**
M14K	**Bethel**	**5.84**	**325**			**Pn**	**22 58 15.3**	**-0.4**
PWL	**Port Wells**	**5.95**	**34**			**Pn**	**22 58 15.7**	**-1.6**
L16K	**Owhat River**	**6.02**	**340**	Pn		**Pn**	**22 58 17.8**	**-0.5**
KNK	**Knik Glacier**	**6.35**	**31**	Pn		**Pn**	**22 58 21.7**	**-1.1**
FID	**Port Fidalgo**	**6.51**	**41**	Pn		**Pn**	**22 58 23.1**	**-1.8**
EYAK	**Cordova Ski Ar**	**6.65**	**44**	Pn		**Pn**	**22 58 25.7**	**-1.2**
EYAK	**Cordova Ski Ar**	**6.65**	**44**	P		**Pn**	**22 58 25.4**	**-1.5**
PPLA	**Purkeypile**	**6.96**	**11**	Pn		**Pn**	**22 58 31.7**	**+0.4**
SCM	**Sheep Creek Mo**	**7.01**	**32**			**Pn**	**22 58 31.0**	**-0.9**
DIV	**Divide**	**7.02**	**41**	Pn		**Pn**	**22 58 31.3**	**-0.7**
HMT	**Hamilton**	**7.14**	**49**	Pn		**Pn**	**22 58 32.7**	**-1.0**
KLU	**Klutina**	**7.21**	**38**			**Pn**	**22 58 33.9**	**-0.8**
BMRM	**Bremner River**	**7.36**	**44**	Pn		**Pn**	**22 58 35.1**	**-1.5**
SNH	**Sunshine Point**	**7.69**	**53**	Pn		**Pn**	**22 58 41.0**	**-0.2**
TRF	**Thorofare Moun**	**7.75**	**17**	Pn		**Pn**	**22 58 41.1**	**-1.0**
KTH	**Kantishna Hill**	**7.75**	**14**	Pn		**Pn**	**22 58 41.4**	**-0.6**
N25K	**Chitina, Valde**	**7.76**	**41**	Pn		**Pn**	**22 58 41.5**	**-0.7**
WAX	**Waxell Ridge**	**7.81**	**51**	Pn		**Pn**	**22 58 42.1**	**-0.7**
GLB	**Gilahina Butte**	**7.95**	**43**	Pn		**Pn**	**22 58 43.5**	**-1.2**
VRDI	**Verde Repeater**	**7.96**	**45**	Pn		**Pn**	**22 58 43.6**	**-1.5**
RND	**Reindeer**	**7.96**	**21**	Pn		**Pn**	**22 58 43.5**	**-1.5**
DHY	**Denali Highway**	**8.01**	**26**	Pn		**Pn**	**22 58 44.5**	**-1.2**
BPAW	**Bear Paw Mtn.**	**8.27**	**13**	Pn		**Pn**	**22 58 48.6**	**-0.4**
GRNC	**Granite Creek**	**8.42**	**51**	Pn		**Pn**	**22 58 50.0**	**-1.3**
PAX	**Paxson**	**8.44**	**32**	Pn		**Pn**	**22 58 51.5**	**0.0**
CTGM	**Chitina Glacie**	**8.71**	**50**	Pn		**Pn**	**22 58 54.8**	**-0.4**
LOGN	**Logan Glacier**	**8.79**	**52**	Pn		**Pn**	**22 58 55.8**	**-0.5**
K24K	**Donnelly Dome**	**9.02**	**28**	Pn		**Pn**	**22 59 00.1**	**+0.8**
BCPM	**Bancas Point**	**9.09**	**59**	Pn		**Pn**	**22 59 00.1**	**-0.2**
PNL	**Peninsula**	**9.12**	**61**	P		**Pn**	**22 59 00.0**	**-0.8**
RIDG	**Independent Ri**	**9.22**	**30**	Pn		**Pn**	**22 59 02.1**	**0.0**
HDA	**Harding Lake**	**9.25**	**23**	Pn		**Pn**	**22 59 02.1**	**-0.4**
CCB	**Clear Creek Bu**	**9.29**	**20**	Pn		**Pn**	**22 59 00.4**	**-2.5**
DOT	**Dot Lake**	**9.37**	**32**	Pn		**Pn**	**22 59 03.6**	**-0.6**
I23K	**Minto, Yukon-K**	**9.48**	**15**	Pn		**Pn**	**22 59 03.4**	**-2.3**
IL31		**9.58**	**22**	Pn		**Pn**	**22 59 04.2**	**-2.7**
ILAR	**Eielson Array**	**9.58**	**22**	Pn		**Pn**	**22 59 05.7**	**-1.3**
ILAR	**Eielson Array**	**9.58**	**22**	Pn		**Pn**	**22 59 06.8**	**-0.2**
	comp=E,0.2nm,0.3s,baz=201,slow=13,SNR=3.0							
	comp=E,0.3nm,0.3s							
SCRK	**Sand Creek**	**9.64**	**31**	Pn		**Pn**	**22 59 06.8**	**-1.2**
BCAR	**Beaver Creek A**	**9.71**	**39**	Pn		**Pn**	**22 59 08.9**	**+0.2**
EGAK	**Eagle**	**11.07**	**33**	Pn		**Pn**	**22 59 27.3**	**0.0**
SMY	**Shemya**	**18.11**	**272**	P		**Pn**	**23 01 02.3**	**+2.5**
PETK	**Petropavlovsk-**	**27.03**	**284**	P		**P**	**23 02 28.6**	**-0.9**
	comp=E,0.9nm,0.4s,baz=69,slow=12,SNR=5.0							
	comp=E,0.9nm,0.4s							
KURBB	**Kurchatov Arra**	**64.68**	**325**	P		**P**	**23 07 24.8**	**+0.1**
	comp=E,0.5nm,0.8s,baz=28,slow=6.4,SNR=2.6							
	comp=E,0.5nm,0.8s							
BVAR	**Borovoye Array**	**64.94**	**332**	P		**P**	**23 07 26.4**	**+0.1**
	comp=E,1.3nm,0.6s,baz=38,slow=7.3,SNR=7.8							
	comp=E,1.3nm,0.6s							
MKAR	**Makanchi Array**	**66.72**	**321**	P		**P**	**23 07 37.6**	**-0.4**
	comp=E,0.4nm,0.7s,baz=24,slow=8.2,SNR=4.0							
	comp=E,0.4nm,0.7s							

IDC 13 23:42:48.5 ± 2.7, 26˚.00N × 142˚.17E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=116.6km s-min=28.0km az=77.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H11N2	**WAKE ISLAND Hy**	**23.60**	**100**	T		T	00 11 36.9	
	baz=291,slow=74,SNR=11							
H11N1	**WAKE ISLAND Hy**	**23.60**	**100**	T		T	00 11 36.8	
	baz=291,slow=74,SNR=10							
H11N3	**WAKE ISLAND Hy**	**23.62**	**100**	T		T	00 11 38.6	
	baz=291,slow=74,SNR=10							
H11S3	**WAKE ISLAND Hy**	**23.86**	**103**	T		T	00 11 54.6	
	baz=295,slow=74,SNR=11							
H11S1	**WAKE ISLAND Hy**	**23.87**	**103**	T		T	00 11 55.1	
	baz=295,slow=74,SNR=6.2							
H11S2	**WAKE ISLAND Hy**	**23.88**	**103**	T		T	00 11 55.1	
	baz=295,slow=74,SNR=7.7							
WRA	**Warramunga Arr**	**46.30**	**190**	P		P	23 51 16.0	-0.1
	1.0nm,0.5s,baz=10,slow=8.6,SNR=9.2							
	1.0nm,0.5s							
MKAR	**Makanchi Array**	**51.16**	**310**	P		P	23 51 53.7

	baz=311,slow=76,SNR=31							
H11S2	**WAKE ISLAND Hy**	**28.51**	**119**	T	T	00 49 26.9		
	baz=311,slow=76,SNR=22							
ZALV	**Zalesovo Beam**	**42.72**	**314**	P	**P**	**00 21 00.6**	**-0.2**	
	comp=E,0.4nm,0.4s,baz=112,slow=11,SNR=4.1							
	comp=E,0.4nm,0.4s							
MKAR	**Makanchi Array**	**44.56**	**304**	P	**P**	**00 21 15.8**	**+0.1**	
	comp=E,2.7nm,0.7s,baz=86,slow=12,SNR=18							
	comp=E,2.7nm,0.7s							
KURBB	**Kurchatov Arra**	**46.65**	**309**	P	**P**	**00 21 31.9**	**-0.2**	
	comp=E,1.7nm,0.5s,baz=88,slow=7.8,SNR=15							
	comp=E,1.7nm,0.5s							
HNR	**Honiara**	**47.92**	**154**	LR	LR	00 41 06.8		
	comp=E,51nm,19.8s,baz=0.0,slow=35							
BVAR	**Borovoye Array**	**51.36**	**313**	P	**P**	**00 22 10.9**	**+2.9**	
	comp=E,1.2nm,0.4s,baz=81,slow=8.5,SNR=12							
ILAR	**Eielson Array**	**51.57**	**31**	P	**P**	**00 22 09.9**	**+0.5**	
	comp=E,1.2nm,0.7s,baz=275,slow=7.4,SNR=13							
	comp=E,1.2nm,0.7s							
WRA	**Warramunga Arr**	**55.01**	**187**	P	**P**	**00 22 34.0**	**-1.0**	
	comp=E,0.8nm,0.6s,baz=7.6,slow=7.5,SNR=9.1							
	comp=E,0.8nm,0.6s							
ASAR	**Alice Springs**	**58.73**	**187**	P	**P**	**00 23 00.6**	**-0.8**	
	comp=E,0.5nm,0.8s,baz=17,slow=13,SNR=6.8							
	comp=E,0.5nm,0.8s							
NVAR	**Mina Array Bea**	**76.78**	**52**	P	**P**	**00 24 56.1**	**+1.1**	
	comp=E,1.1nm,0.8s,baz=278,slow=5.8,SNR=6.6							
	comp=E,1.1nm,0.8s							
SFJD	**Kangerlussuaq**	**77.92**	**4**	LR	LR	01 03 53.2		
	comp=E,65nm,18.6s,baz=110,slow=39							
FRB	**Frobisher Bay**	**78.87**	**13**	LR	LR	01 03 55.2		
	comp=E,102nm,19.5s,baz=106,slow=38							
PDAR	**Pinedale Array**	**79.59**	**45**	P	**P**	**00 25 10.9**	**+0.5**	
	comp=E,0.5nm,0.5s,baz=207,slow=0.3,SNR=4.6							
	comp=E,0.5nm,0.5s							
H03N2	**Juan Fernandez**	**147.52**	**99**	T	T	03 17 45.9		
	baz=289,slow=74							
H03N3	**Juan Fernandez**	**147.53**	**99**	T	T	03 17 44.5		
	baz=289,slow=74							
H03N1	**Juan Fernandez**	**147.53**	**99**	T	T	03 17 58.3		
	baz=289							
LPAZ	**La Paz**	**148.32**	**61**	PKPbc	**PKPbc**	**00 32 49.0**	**-1.0**	
	comp=E,1.4nm,0.6s,baz=0.0,slow=3.0,SNR=4.8							

NNC ***14*** *00:21:41.4±13.0, 38.˚19N×72.˚03E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=104.1km s-min=74.9km az=174.0*
IDC ***14*** *00:21:48.6±18.0, 38.˚39N×72.˚69E, h144km±128km, mb3.6/4, mbtmp3.7/8, ML2.8/3, Error ellipse: s-maj=176.7km s-min=75.4km az=178.0*

ISC 14 00:21:47.7±2.2, 38.˚3N±0.˚2×72.˚5E±0.1, h150km±n13, σ1§71/14, mb4.0/4, 1C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**4.28**	**335**	Pg	**Pn**	**00 22 51.1**	**-0.6**
	37nm,0.1s						
IUG				Lg	Lg	00 23 39.9	
	140nm,0.4s						
AAK	**Ala-Archa**	**4.61**	**19**	⇓Pn	**Pn**	**00 22 55.3**	**-0.7**
	1.1nm,0.4s						
AAK				⇓Sn	**Sn**	**00 23 52.5**	**+3.3**
	18nm,0.8s						
CHMS	**Chumysh**	**5.01**	**19**	P	Pn	00 22 54.7	-6.5
	145nm,0.2s						
KK31	**Karatay Array**	**5.03**	**343**	Pn	**Pn**	**00 22 58.8**	**-2.6**
	10nm,0.3s,baz=161,slow=16,SNR=94						
KK31				⇑Sn	**Sn**	**00 23 58.9**	**-0.2**
	19nm,0.3s,baz=172,slow=24						
KST	**Kastek**	**5.43**	**28**	Pg	**Pn**	**00 23 05.3**	**-1.6**
	2.0nm,0.3s						
KST				Lg	Lg	00 24 05.5	
	8.5nm,0.6s						
MKAR	**Makanchi Array**	**11.15**	**37**	P	**Pn**	**00 24 21.3**	**-1.5**
	baz=215,slow=12,SNR=1.3						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**13.06**	**17**	P	**Pn**	**00 24 47.4**	**+0.1**
	0.3nm,0.3s,baz=206,slow=12,SNR=0.8						
BVAR	**Borovoye Array**	**14.81**	**355**	P	**Pn**	**00 25 08.8**	**-0.6**
	0.1nm,0.3s,baz=167,slow=13,SNR=7.0						
	0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**17.80**	**24**	P	**P**	**00 25 44.1**	**-0.4**
	0.2nm,0.3s,baz=219,slow=12,SNR=4.2						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**36.69**	**324**	P	**P**	**00 28 41.3**	**+1.7**
	1.9nm,0.7s,baz=106,slow=8.4,SNR=8.1						
	1.9nm,0.7s						
ARCES	**ARCESS Array B**	**39.96**	**336**	P	**P**	**00 29 08.2**	**+1.3**
	5.1nm,1.0s,baz=113,slow=8.5,SNR=2.3						
	5.1nm,1.0s						
HFS	**Hagfors**	**42.41**	**321**	P	**P**	**00 29 28.5**	**+1.5**
	4.3nm,1.0s,baz=84,slow=13,SNR=1.8						
	4.3nm,1.0s						
NOA	**NORSAR Array B**	**43.68**	**322**	P	**P**	**00 29 38.4**	**+1.2**
	0.2nm,0.4s,baz=92,slow=7.8,SNR=1.5						
	0.2nm,0.4s						

CATAC 14 00:25:35.6±0.3, 12.˚N±1.˚×8.˚5W±.˚, h3km±1km, M2.5/10, MLv2.5/10, Error ellipse: s-maj=3.3km s-min=2.7km az=147.0, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACON	**Acoyapa**	**0.19**	**44**	P	Pg	00 25 39.7	+0.4
ACON				S	Sg	00 25 43.0	+1.3
CONN	**Concepcion**	**0.41**	**230**	P	Pg	00 25 44.0	+0.4
CONN				S	Sg	00 25 49.9	+1.1
MORN	**Al O del Volca**	**0.44**	**230**	P	Pg	00 25 44.4	+0.4
MORN				S	Sg	00 25 50.7	+0.9
JAPN	**Al SSO del Vol**	**0.47**	**230**	P	Pg	00 25 44.5	-0.3
JAPN				S	Sg	00 25 50.9	0.0
BOAB	**BOACO BROADBAN**	**0.71**	**330**	P	Pg	00 25 49.4	+0.2
BOAB	**BOACO BROADBAN**	**0.71**	**330**	S	Sg	00 25 59.0	+0.7
NANN	**Nandasmo**	**0.81**	**278**	P	Pb	00 25 51.7	-0.6
NANN	**Nandasmo**	**0.81**	**278**	S	Sg	00 26 02.4	+0.9
R4DEC	**Barrio San Lui**	**0.97**	**289**	S	Sg	00 26 07.3	+0.4
ESPN	**Las Esperanzas**	**1.05**	**70**	S	Sg	00 26 09.2	-0.1
ESPN	**Las Esperanzas**	**1.05**	**70**	P	Pg	00 25 55.7	0.0
MATN	**Matagalpa**	**1.25**	**331**	P	Pg	00 25 58.0	-1.6
MATN	**Matagalpa**	**1.25**	**331**	S	Sg	00 26 14.2	-1.5
RCPN	**Sur Rio San Ju**	**1.85**	**336**	P	Pn	00 26 08.6	+0.2
RCPN	**Sur Rio San Ju**	**1.85**	**336**	S	Sn	00 26 33.0	+0.6
SIUN	**Universidad Ur**	**1.94**	**15**	P	Pn	00 26 10.3	+0.8
SIUN				S	Sn	00 26 35.2	+0.8

IDC ***14*** *00:30:09.1±2.2, 33.˚78S×178.˚51W, h0km, mb4.1/2, mbtmp4.1/3, ML3.8/1, MS3.9/1, Error ellipse: s-maj=61.4km s-min=34.7km az=128.0*
WEL ***14*** *00:30:11.6±1.2, 34.˚S±14.˚×17.˚8W±1.˚6, h12km, M4.0/8, mB4.5/5, ML4.3/11, MLv4.2/8, Mw(mB)3.7/5, Error ellipse: s-maj=25.9km s-min=8.3km az=131.0, confirmed*

ISC 14 00:30:10.0±1.4, 33.˚7S±0.˚1×178.˚4W±0.˚2, h10km, n20, σ1§41/33, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.70**	**214**	P	**Pn**	**00 31 19.8**	**-1.1**
MXZ				S	**Sn**	**00 32 16.6**	**+1.1**
WMGZ	**Waiomatatini S**	**4.86**	**212**	P	**Pn**	**00 31 25.3**	**+2.1**
WMGZ				S	**Sn**	**00 32 21.9**	**+2.4**
PKGZ	**Pakihiroa**	**5.05**	**214**	P	**Pn**	**00 31 25.5**	**-0.3**
PKGZ				S	**Sn**	**00 32 25.0**	**+0.9**
HAZ	**Te Kaha**	**5.11**	**217**	P	**Pn**	**00 31 27.5**	**+1.0**
HAZ				S	**Sn**	**00 32 26.6**	**+1.1**
PUZ	**Puketiti**	**5.14**	**211**	P	**Pn**	**00 31 25.3**	**-1.7**
PUZ				S	**Sn**	**00 32 26.6**	**+0.2**
RUGZ	**Raukumara Rang**	**5.32**	**216**	P	**Pn**	**00 31 29.5**	**-0.1**
RUGZ				S	**Sn**	**00 32 33.0**	**+2.0**
MWZ	**Matawai**	**5.69**	**215**	P	**Pn**	**00 31 31.9**	**-2.6**
MWZ				S	**Sn**	**00 32 39.2**	**-0.7**
URZ	**Urewera**	**5.83**	**218**	Pn	**Pn**	**00 31 35.6**	**-0.9**
	2.8nm,0.3s,baz=50,slow=2.2,SNR=20						
URZ				Sn	**Sn**	**00 32 41.0**	**-2.4**
	4.5nm,0.3s,baz=259,slow=7.8,SNR=13						
	14nm,0.6s						
URZ	**Urewera**	**5.83**	**218**	P	**Pn**	**00 31 36.6**	**+0.1**
URZ				S	**Sn**	**00 32 40.1**	**-3.3**
RIGZ	**Rimuhau**	**5.88**	**211**	P	**Pn**	**00 31 37.6**	**+0.3**
RIGZ				S	**Sn**	**00 32 43.9**	**-0.8**
SNGZ	**Shannon Statio**	**6.13**	**213**	P	**Pn**	**00 31 42.0**	**+1.4**
SNGZ				S	**Sn**	**00 32 51.1**	**+0.3**
MHGZ	**Mahia Peninsul**	**6.20**	**208**	P	**Pn**	**00 31 42.8**	**+1.2**
RAHZ	**Arahi**	**6.36**	**214**	P	**Pn**	**00 31 45.0**	**+1.2**
RAHZ				S	**Sn**	**00 32 55.9**	**-0.6**
MTHZ	**Maungataniwha**	**6.42**	**216**	P	**Pn**	**00 31 46.1**	**+1.4**
MTHZ				S	**Sn**	**00 32 56.2**	**-1.9**
CTZ	**Chatham Island**	**10.11**	**173**	P	**Pn**	**00 32 34.4**	**-0.6**
CTZ				S	Sn	00 34 16.3	-12
ASAR	**Alice Springs**	**42.72**	**271**	P	**P**	**00 38 07.2**	**-0.2**
	1.5nm,0.6s,baz=112,slow=7.6,SNR=18						
ASAR				PcP	**PcP**	**00 39 59.0**	**-0.1**
	0.4nm,0.7s,baz=127,slow=3.7,SNR=4.8						
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**44.01**	**276**	P	**P**	**00 38 17.5**	**-0.3**
	2.2nm,0.7s,baz=117,slow=7.4,SNR=12						
	2.2nm,0.7s						
NWAO	**Narrogin (SRO)**	**53.00**	**252**	LR	LR	01 00 05.9	
	comp=Z,100nm,18.5s,baz=232,slow=34						
FINES	**FINESS Array B**	**148.11**	**338**	PKPbc	**PKPbc**	**00 49 55.3**	**+0.2**
	4.9nm,1.0s,baz=41,slow=4.4,SNR=5.8						
MMAI	**Mount Meron Ar**	**151.85**	**278**	PKPbc	**PKPbc**	**00 50 05.8**	**+0.6**
	1.4nm,0.6s,baz=72,slow=4.7,SNR=4.8						

CNRM ***14*** *00:33:54.0, 37.˚17N×8.˚52W, h20km, ML1.5*
INMG ***14*** *00:33:54.7±1.4, 37.˚32N×8.˚56W, h11km±2km, ML2.0, Error ellipse: s-maj=2.2km s-min=1.8km az=118.0, #DIST_RANGE: LOCAL #IPMA_REGION: N Monchique*
SFS ***14*** *00:33:54.3, 37.˚33N×8.˚55W, h0km, ML2.3/8, ML2.1/11, MLv2.0/11*
MDD ***14*** *00:33:54.4±0.4, 37.˚34N×8.˚51W, h5km±3km, mb_Lg2.5/10, Error ellipse: s-maj=3.3km s-min=2.5km az=161.0*
IGIL ***14*** *00:33:54.9, 37.˚31N×8.˚56W, h10km, ML1.9*

ISC 14 00:33:53.5±0.8, 37.˚33N±0.˚02×8.˚55W±0.˚02, h17km±5km, n52, σ1§04/96, 5C-1D, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORF	**Marmelete**	**0.08**	**250**	*e*P	**Pg**	**00 33 56.9**	**-0.1**
MORF				*e*S	**Sg**	**00 33 58.8**	**-0.5**
MORF				IAML		00 33 59.3	
	comp=N,910nm,0.2s						
MORF	**Marmelete**	**0.08**	**250**	⇑*i*Pg	**Pg**	**00 33 56.9**	**-0.1**
MORF				*e*Sg	**Sg**	**00 33 58.8**	**-0.5**
MORF				*i* IAML		00 33 59.1	
MORF				*i* IAML		00 33 59.3	
MORF				*i* IAML		00 33 59.3	
PTEO	**Sao Teotonio**	**0.25**	**327**	⇓*i*Pg	**Pb**	**00 34 00.3**	**+0.7**
PTEO				*e*Sg	**Sb**	**00 34 03.5**	**-0.2**
PTEO				*i* IAML		00 34 04.4	
PTEO				*i* IAML		00 34 04.6	
PTEO				*i* IAML		00 34 06.8	
PFVI	**Vila Bisbo**	**0.30**	**227**	Pg	**Pg**	**00 33 59.9**	**0.0**
PFVI				Sg	**Sg**	**00 34 03.6**	**-0.7**
PFVI	**Vila Bisbo**	**0.30**	**227**	⇑*i*Pg	**Pg**	**00 33 59.9**	**0.0**
PFVI				*e*Sg	**Sg**	**00 34 03.9**	**-0.4**
PFVI				*i* IAML		00 34 04.7	
PFVI				*i* IAML		00 34 04.8	
PFVI				*i* IAML		00 34 05.2	
PFVI	**Vila Bisbo**	**0.30**	**227**	P	**Pg**	**00 33 59.4**	**-0.6**
PFVI	**Vila Bisbo**	**0.30**	**227**	S	**Sg**	**00 34 04.1**	**-0.2**
PBDV	**Barranco-do-Ve**	**0.51**	**100**	Pg	**Pb**	**00 34 04.0**	**0.0**
PBDV				Sg	**Sg**	**00 34 10.2**	**-0.2**
PBDV	**Barranco-do-Ve**	**0.51**	**100**	⇑*e*Pg	**Pb**	**00 34 04.0**	**0.0**
PBDV				*e*Sg	**Sb**	**00 34 10.9**	**0.0**
PBDV				*i* IAML		00 34 12.3	
PBDV				*i* IAML		00 34 12.5	
PBDV				*i* IAML		00 34 13.1	
PCVE	**Castro Verde**	**0.51**	**54**	Pg	**Pb**	**00 34 04.6**	**+0.7**
PCVE				Sg	**Sg**	**00 34 10.7**	**+0.1**
PCVE	**Castro Verde**	**0.51**	**54**	⇑*e*Pg	**Pb**	**00 34 04.6**	**+0.7**
PCVE				*e*Sg	**Sb**	**00 34 11.6**	**+0.6**
PCVE				*i* IAML		00 34 15.7	
PCVE				*i* IAML		00 34 15.8	
PCVE				*i* IAML		00 34 15.9	
MESJ	**Messejana**	**0.57**	**28**	*e*P	**Pb**	**00 34 05.9**	**+0.8**
MESJ				*e*S	**Sb**	**00 34 13.5**	**+0.6**
MESJ				IAML		00 34 16.0	
	comp=N,38nm,0.1s						
MESJ	**Messejana**	**0.57**	**28**	*e*Pg	**Pb**	**00 34 05.9**	**+0.8**
MESJ				*e*Sg	**Sb**	**00 34 13.5**	**+0.6**
MESJ				*i* IAML		00 34 16.1	
MESJ				*i* IAML		00 34 17.0	
MESJ				*i* IAML		00 34 17.2	
PVAQ	**Vaqueiros**	**0.67**	**84**	⇑*e*Pg	**Pb**	**00 34 07.0**	**+0.3**
PVAQ				*e*Sg	**Sg**	**00 34 15.7**	**+0.1**
PVAQ				*i* IAML		00 34 18.6	
PVAQ				*i* IAML		00 34 19.3	
PVAQ				*i* IAML		00 34 19.6	
PVAQ	**Vaqueiros**	**0.67**	**84**	P	**Pb**	**00 34 06.9**	**+0.2**
PVAQ	**Vaqueiros**	**0.67**	**84**	S	**Sb**	**00 34 17.0**	**+1.3**
EGRO	**El Granado**	**0.88**	**76**	Pg	**Pb**	**00 34 10.8**	**+0.6**
EGRO				Sg	**Sg**	**00 34 21.0**	**-1.1**
EGRO	**El Granado**	**0.88**	**76**	Pg	**Pb**	**00 34 10.8**	**+0.6**
EGRO				Sg	**Sb**	**00 34 22.5**	**+0.9**
EGRO				*i* IVmb_Lg		00 34 25.6	
PBEJ	**Beja**	**0.88**	**38**	*e*P	**Pn**	**00 34 11.6**	**+0.4**
PBEJ				*e*S	**Sb**	**00 34 23.2**	**+1.3**
PBEJ				*i* IAML		00 34 25.3	
PBEJ				*i* IAML		00 34 25.4	
PBEJ				*i* IAML		00 34 25.4	
EVO	**Evora**	**1.27**	**20**	Pg	**Pg**	**00 34 18.2**	**+0.1**
EVO				Sg	**Sb**	**00 34 33.0**	**0.0**
EVO	**Evora**	**1.27**	**20**	*e*S	**Sn**	**00 34 34.9**	**+1.7**
EVO				*i* IAML		00 34 35.1	
EVO				*i* IAML		00 34 37.2	
EVO				*i* IAML		00 34 38.2	
PBAR	**Barrancos**	**1.47**	**55**	Pn	**Pn**	**00 34 19.3**	**+0.2**
PBAR				Sn	**Sg**	**00 34 40.1**	**-0.7**
PBAR	**Barrancos**	**1.47**	**55**	*e*Pn	**Pn**	**00 34 19.5**	**+0.4**
PBAR				*e*Pg	**Pg**	**00 34 21.6**	**-0.2**
PBAR				*e*Sg	**Sg**	**00 34 40.2**	**-0.7**
PBAR				*i* IAML		00 34 41.3	
PBAR				*i* IAML		00 34 42.5	
PBAR				*i* IAML		00 34 42.8	
PARRA	**Arraiolos**	**1.53**	**346**	*e*Pn	**Pn**	**00 34 20.6**	**+0.5**
PARRA				*e*Sg	**Sg**	**00 34 42.6**	**-0.3**
PARRA				*i* IAML		00 34 43.2	
PARRA				*i* IAML		00 34 43.9	
PARRA				*i* IAML		00 34 44.9	
EMIN	**Mina Concepcio**	**1.56**	**73**	Pn	**Pb**	**00 34 22.1**	**+0.3**
EMIN				Sn	**Sg**	**00 34 42.9**	**-0.8**
EMIN	**Mina Concepcio**	**1.56**	**73**	Pg	**Pb**	**00 34 22.6**	**+0.7**
EMIN				Sg	**Sb**	**00 34 42.5**	**+1.2**
EMIN				*i* IVmb_Lg		00 34 45.1	
PESTR	**Estremoz**	**1.71**	**26**	Sn	**Sb**	**00 34 47.0**	**+1.3**
PESTR	**Estremoz**	**1.71**	**26**	*e*Sg	**Sg**	**00 34 48.0**	**-0.7**
PESTR				*i* IAML		00 34 48.7	
PESTR				*i* IAML		00 34 49.8	
PESTR				*i* IAML		00 34 51.4	
PESTR	**Estremoz**	**1.71**	**26**	P	**Pg**	**00 34 26.2**	**-0.2**
PESTR	**Estremoz**	**1.71**	**26**	S	**Sb**	**00 34 47.3**	**+1.6**
PMAFR	**Mafra**	**1.72**	**341**	*e*Sg	**Sg**	**00 34 49.2**	**+0.3**
PMAFR				*i* IAML		00 34 51.2	
PMAFR				*i* IAML		00 34 51.4	
PMAFR				*i* IAML		00 34 54.6	
PMTG	**Montargil**	**1.75**	**8**	*e*Pn	**Pn**	**00 34 24.0**	**+0.9**
PMTG				*e*Sn	**Sn**	**00 34 44.5**	**-0.5**
PMTG				*e*Sg	**Sg**	**00 34 49.3**	**-0.7**
PMTG				*i* IAML		00 34 50.7	
PMTG				*i* IAML		00 34 52.4	
PMTG				*i* IAML		00 34 53.7	
EBAD	**Badajoz**	**1.87**	**40**	Pn	**Pn**	**00 34 24.7**	**+0.1**
EBAD				Sn	**Sb**	**00 34 51.8**	**+1.5**
EBAD	**Badajoz**	**1.87**	**40**	Pn	**Pn**	**00 34 24.8**	**+0.1**
EBAD				Pg	**Pb**	**00 34 26.7**	**-0.5**
EBAD				Sn	**Sn**	**00 34 47.3**	**-0.6**
EBAD				Sg	**Sg**	**00 34 53.3**	**-0.5**
EBAD				*i* IVmb_Lg		00 34 55.9	
PSBE	**So Bento**	**2.19**	**355**	*e*Sg	**Sg**	**00 35 03.0**	**-0.8**
PSBE				*i* IAML		00 35 05.4	
ESPR	**Espera**	**2.21**	**101**	Sn	**Sn**	**00 34 57.7**	**+1.5**
ESPR				Pn	**Pn**	**00 34 30.8**	**+1.5**
ESPR	**Espera**	**2.21**	**101**	Pg	**Pn**	**00 34 31.3**	**+2.0**
ESPR				Sn	**Sn**	**00 34 58.1**	**+1.9**
ESPR				Sg	**Sg**	**00 35 03.4**	**-1.1**
ESPR				*i* IVmb_Lg		00 35 08.9	
PMRV	**Marv??o**	**2.28**	**23**	*e*Pn	**Pn**	**00 34 30.9**	**+0.5**
PMRV				*e*Pg	**Pg**	**00 34 37.0**	**-0.3**
PMRV				*e*Sg	**Sg**	**00 35 05.0**	**-1.9**
PMRV				*i* IAML		00 35 07.2	
PMRV				*i* IAML		00 35 08.5	
PMRV				*i* IAML		00 35 08.9	
PSARD	**Sardoal**	**2.28**	**8**	*e*Pn	**Pn**	**00 34 31.3**	**+0.9**
PSARD				*e*Sg	**Sg**	**00 35 05.8**	**-1.3**
PSARD				*i* IAML		00 35 07.6	
PSARD				*i* IAML		00 35 07.7	
PSARD				*i* IAML		00 35 09.6	
ECAB	**El Cabril**	**2.59**	**72**	Pn	**Pn**	**00 34 35.2**	**+0.5**
ECAB				Sn	**Sn**	**00 35 06.0**	**+0.2**
ECAB	**El Cabril**	**2.59**	**72**	Pn	**Pn**	**00 34 35.3**	**+0.6**
ECAB				Sn	**Sn**	**00 35 06.5**	**+0.6**
ECAB				Sg	**Sg**	**00 35 14.4**	**-2.5**
ECAB				*i* IVmb_Lg		00 35 19.7	
PCBR	**Castelo Branco**	**2.64**	**18**	*e*Sg	**Sg**	**00 35 16.0**	**-2.5**
PCBR				*i* IAML		00 35 16.6	
PCBR				*i* IAML		00 35 20.0	
PCBR				*i* IAML		00 35 20.5	
PCAS	**Casmilo, Conde**	**2.72**	**1**	*e*Sn	**Sn**	**00 35 08.5**	**-0.3**
PCAS				*i* IAML		00 35 21.8	
PCAS				*i* IAML		00 35 23.7	
PCAS				*i* IAML		00 35 26.7	
MTE	**Manteigas**	**3.16**	**14**	*e*Sn	**Sn**	**00 35 19.7**	**-0.2**
MTE				*e*Sg	**Sg**	**00 35 32.1**	**-3.0**
MTE				*i* IAML		00 35 35.5	
MTE				*i* IAML		00 35 36.4	
MTE				*i* IAML		00 35 36.6	
EADA	**Adamuz**	**3.26**	**74**	Pn	**Pn**	**00 34 44.3**	**+0.4**
EADA				Sn	**Sn**	**00 35 21.9**	**-0.3**
EADA				Sg	**Sg**	**00 35 36.3**	**-1.9**
EADA				*i* IVmb_Lg		00 35 39.9	
EPLA	**Plasencia**	**3.34**	**35**	Pn	**Pn**	**00 34 46.0**	**+1.0**
EPLA				Sn	**Sn**	**00 35 23.7**	**-0.7**
EPLA				Sg	**Sg**	**00 35 39.6**	**-1.4**
EPLA				*i* IVmb_Lg		00 35 48.1	
PVIS	**Viseu**	**3.42**	**8**	*e*Sn	**Sn**	**00 35 25.1**	**-1.0**
PAB	**San Pablo**	**3.97**	**55**	Pn	**Pn**	**00 34 54.2**	**+0.5**
PAB				Sn	**Sn**	**00 35 38.1**	**-1.8**
PAB				Sg	**Sg**	**00 36 00.8**	**-0.3**
PAB				*i* IVmb_Lg		00 36 02.4	
MVO	**Moncorvo**	**4.00**	**17**	*e*Sn	**Sn**	**00 35 38.5**	**-2.2**
MVO				*i* IAML		00 36 07.3	
MVO				*i* IAML		00 36 07.6	
MVO				*i* IAML		00 36 08.5	
EQES	**Quesada**	**4.38**	**82**	P	**Pn**	**00 34 59.7**	**+0.4**
EQES				*i* IVmb_Lg		00 35 58.1	
MD31	**MD31**	**5.43**	**144**	P	**Pn**	**00 35 12.8**	**-1.0**
MD31	**MD31**	**5.43**	**144**	S	**Sn**	**00 36 12.9**	**-3.1**

RSNC 14 00:48:01.1±0.0, 7.˚N±3.˚×7.˚3W±.˚, h171km±4km, M1.9, ML1.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.63**	**192**	P	Pn	00 48 25.1	-0.7
BARC				S	Sn	00 48 42.0	-2.8
BRJC	**Barrancabermej**	**0.73**	**251**	P	Pn	00 48 25.0	-1.0
BRJC				S	Sn	00 48 43.6	-1.6
OCAC	**Ocana**	**1.06**	**345**	P	Pn	00 48 27.4	-1.2
OCAC				S	Sn	00 48 50.1	+0.3
RUSC	**La Rusia**	**1.31**	**181**	P	Pn	00 48 31.9	+0.8
RUSC				S	Sn	00 48 53.6	-0.6
PTBC	**PUERTO BERRIO,**	**1.55**	**245**	P	Pn	00 48 33.1	+0.3
PTBC				S	Sn	00 48 56.2	-1.1
SPBC	**San Pablo de B**	**1.85**	**213**	P	Pn	00 48 35.5	-0.6
SPBC				S	Sn	00 49 02.8	-0.3
CVER	**Cruz Verde, Cu**	**2.86**	**201**	P	Pn	00 48 45.1	-3.0
CVER				S	Sn	00 49 24.9	+0.3
GUY2C	**Guyana, Caldas**	**3.03**	**230**	S	Sn	00 49 26.6	-1.7

IDC ***14*** *01:47:52.8±2.6, 43.˚35N×146.˚97E, h0km, mb3.7/8, mbtmp3.7/9, ML2.7/2, MS3.4/1, Error ellipse: s-maj=71.9km s-min=21.1km az=177.0*
SKHL ***14*** *01:47:56.3±0.7, 43.˚00N×147.˚10E, h55km±5km, mb4.5/4*
JMA ***14*** *01:47:56.5±0.4, 43.˚N±2.˚×14.˚7E±.˚, h34km, MV3.4/22, E OFF HOKKAIDO*
MOS ***14*** *01:47:57.2±1.4, 43.˚26N×146.˚98E, h54km, mb4.5/1, Error ellipse: s-maj=17.4km s-min=12.2km az=120.1*

ISC 14 01:47:59.2±1.4, 43.˚21N±0.˚08×146.˚94E±0.˚06, h55km±11km, n40, σ1§29/46, mb3.6/8, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.67**	**353**	*e*P	**Pn**	**01 48 15.5**	**+2.7**
SHO				AMB	AMB	01 48 16.3	
	150nm,0.2s						
SHO				*e*S	**Sn**	**01 48 24.3**	**+1.7**
SHO				A	A	01 48 26.6	
	3μm,0.3s						
SHO				A	A	01 48 26.6	
	2μm,0.3s						
NEM2	**Nemuro 2**	**0.89**	**281**	*e*P	**Pn**	**01 48 14.7**	**-0.8**
NEM2				*e*S	**Sn**	**01 48 27.7**	**+0

JKA	**Kamikawa-asahi**	**3.28**	**288**	*e*P	**Pn**	**01 48 46.2**	**-1.8**
ASAJ	**Asahikawa**	**3.28**	**288**	Pn	**Pn**	**01 48 46.2**	**-1.9**
	comp=N,0.8nm,0.3s,baz=104,slow=8.3,SNR=1.8						
ASAJ				Sn	**Sn**	**01 49 24.4**	**-1.4**
	comp=N,2.5nm,0.3s,baz=65,slow=19,SNR=4.0						
PETK	**Petropavlovsk-comp=N,0.1nm,0.3s,baz=215,slow=9.4,SNR=1.7**	**12.22**	**32**	Pn	**Pn**	**01 50 47.5**	**-2.8**
	comp=N,3.4nm,1.1s						
SONM	**Songino Array**	**28.54**	**294**	P	**P**	**01 53 49.5**	**-0.1**
	comp=N,0.5nm,0.6s,baz=96,slow=8.9,SNR=1.7						
H11N2	comp=N,0.5nm,0.6s **WAKE ISLAND Hy**	**28.79**	**138**	T	T	02 24 42.2	
	baz=329,slow=75,SNR=39						
H11N1	**WAKE ISLAND Hy**	**28.80**	**138**	T	T	02 24 45.1	
	baz=329,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**28.81**	**138**	T	T	02 24 44.3	
	baz=329,slow=75,SNR=36						
H11S1	**WAKE ISLAND Hy**	**29.75**	**140**	T	T	02 25 59.8	
	baz=330,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**29.75**	**140**	T	T	02 25 51.1	
	baz=330,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**29.76**	**140**	T	T	02 25 52.1	
	baz=330,slow=76,SNR=30						
ILAR	**Eielson Array**	**42.02**	**36**	P	**P**	**01 55 43.5**	**-1.2**
	comp=N,0.2nm,0.5s,baz=275,slow=10,SNR=2.5						
	comp=N,0.2nm,0.5s						
MKAR	**Makanchi Array**	**44.70**	**298**	P	**P**	**01 56 07.1**	**+0.5**
	comp=N,0.9nm,0.7s,baz=77,slow=9.7,SNR=6.8						
	comp=N,0.9nm,0.7s						
JAY	**Jayapura**	**45.86**	**189**	LR	LR	02 13 48.1	
	comp=N,41nm,19.0s,baz=332,slow=34						
FINES	**FINESS Array B**	**65.29**	**333**	P	**P**	**01 58 35.4**	**+0.7**
	comp=N,1.8nm,0.7s,baz=39,slow=7.3,SNR=7.8						
	comp=N,1.8nm,0.7s						
NVAR	**Mina Array Bea**	**68.00**	**58**	P	**P**	**01 58 53.5**	**+0.8**
	comp=N,0.2nm,0.4s,baz=310,slow=5.8,SNR=2.5						
	comp=N,0.2nm,0.4s						
NOA	**NORSAR Array B**	**70.06**	**339**	P	**P**	**01 59 05.3**	**+0.5**
	comp=N,0.7nm,0.7s,baz=32,slow=6.6,SNR=5.4						
	comp=N,0.7nm,0.7s						
HFS	**Hagfors**	**70.13**	**337**	P	**P**	**01 59 05.9**	**+0.6**
	comp=N,1.2nm,0.5s,baz=57,slow=5.5,SNR=10						
	comp=N,1.2nm,0.5s						
TXAR	**Lajitas Array**	**83.08**	**56**	P	**P**	**02 00 20.3**	**+1.2**
	comp=N,0.3nm,0.7s,baz=323,slow=6.1,SNR=3.8						
	comp=N,0.3nm,0.7s						

*TAP **14** 01:52:51.1,24.65N×122.40E,h26km±1km, ML2.8, B*
*JMA **14** 01:52:51.1±0.1,25.1°N±1.1°×122.4°E±0.4, h28km±3km, MV2.2/9, NW OFF ISHIGAKIJIMA IS*
ISC 14 01:52:50.9±1.0, 24.65N±0.03°×122.40E±0.02, h24km±9km, n50, σ0.42/86, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EOS2	**EOS2**	**0.28**	**214**	*i* P		**Pb**	**01 52 57.4**	**-0.1**
EOS2				*i* S		**Sb**	**01 53 02.6**	**+0.7**
EOS3	**EOS3**	**0.37**	**192**	*i* P		**Pb**	**01 52 59.0**	**+0.1**
EOS3				*i* S		**Sb**	**01 53 04.8**	**+0.6**
EGS		**0.47**	**294**	P		**Pb**	**01 52 59.8**	**-0.7**
EGS				S		**Sb**	**01 53 07.0**	**-0.1**
TWC	**Suao**	**0.51**	**265**	P		**Pb**	**01 53 00.0**	**-1.1**
TWC				*e*S		**Sb**	**01 53 07.7**	**-0.4**
ESAO	**Su ao**	**0.51**	**262**	*e*P		**Pb**	**01 53 00.5**	**-0.8**
ESAO				*e*S		**Sb**	**01 53 08.4**	**0.0**
TWB1	**Santiao Chiao**	**0.52**	**313**	*e*P		**Pb**	**01 53 00.7**	**-0.7**
TWB1				*e*S		**Sb**	**01 53 09.0**	**+0.5**
EOS4	**EOS4**	**0.53**	**188**	*e*P		**Pb**	**01 53 01.9**	**+0.5**
EOS4				*e*S		**Sb**	**01 53 09.0**	**+0.4**
JYNG	**Yonagunijimaku**	**0.53**	**112**	*e*P		**Pb**	**01 53 01.3**	**-0.4**
JYNG				*e*S		**Sb**	**01 53 08.5**	**-0.4**
YOJ	**Yonaguni jima**	**0.59**	**109**	P		**Pb**	**01 53 02.3**	**-0.3**
YOJ				*e*S		**Sb**	**01 53 11.3**	**+0.9**
YOJ	**Yonaguni jima**	**0.59**	**109**	*e*P		**Pb**	**01 53 02.3**	**-0.3**
YOJ				*e*S		**Sb**	**01 53 09.9**	**-0.6**
ILA	**Ilan**	**0.60**	**281**	*e*S		**Sb**	**01 53 11.5**	**+0.5**
TIPB	**Shuangxi**	**0.61**	**301**	*e*P		**Pb**	**01 53 02.7**	**-0.3**
TIPB				*e*S		**Sb**	**01 53 10.8**	**-0.5**
NDS	**Dongshan**	**0.62**	**268**	*e*P		**Pb**	**01 53 02.7**	**-0.5**
NDS				*e*S		**Sb**	**01 53 11.7**	**+0.1**
ENA	**Nanau**	**0.64**	**250**	*e*P		**Pb**	**01 53 02.7**	**-0.8**
ENA				*e*S		**Sb**	**01 53 11.6**	**-0.5**
SXI1	**Grass Mountain**	**0.65**	**313**	P		**Pb**	**01 53 04.0**	**+0.3**
SXI1				*e*S		**Sb**	**01 53 13.2**	**+0.8**
TWE	**Neicheng**	**0.67**	**276**	*e*P		**Pb**	**01 53 03.3**	**-0.7**
TWE				*e*S		**Sb**	**01 53 12.7**	**-0.2**
EAHA	**Aohua**	**0.68**	**242**	*e*P		**Pb**	**01 53 03.8**	**-0.4**
EAHA				*e*S		**Sb**	**01 53 13.5**	**+0.3**
WFSB	**Wu-fen Shan**	**0.70**	**307**	*e*P		**Pb**	**01 53 04.6**	**+0.1**
WFSB				*e*S		**Sn**	**01 53 14.9**	**-0.6**
FUSB	**Fushanzhiwuyua**	**0.75**	**278**	*e*P		**Pb**	**01 53 05.5**	**+0.2**
FUSB				*e*S		**Sb**	**01 53 15.8**	**+0.6**
TNOU	**National Taiwa**	**0.76**	**311**	*e*P		**Pb**	**01 53 05.5**	**+0.1**
TNOU				*e*S		**Sb**	**01 53 16.0**	**+0.7**
ENTT	**Nioudou**	**0.76**	**269**	*e*P		**Pb**	**01 53 05.3**	**-0.2**
ENTT				*e*S		**Sb**	**01 53 15.8**	**+0.4**
LATG	**Datong**	**0.81**	**262**	*e*P		**Pb**	**01 53 06.0**	**-0.3**
LATG				*e*S		**Sb**	**01 53 16.9**	**0.0**
TWA	**Mucha**	**0.81**	**294**	*e*S		**Sb**	**01 53 17.6**	**+0.6**
NWLT	**Wulai**	**0.83**	**279**	*e*P		**Pb**	**01 53 07.0**	**-0.1**
NWLT				*e*S		**Sb**	**01 53 17.7**	**+0.3**
NHDH	**Xindian Distri**	**0.85**	**291**	*e*S		**Sb**	**01 53 19.1**	**-0.2**
NACB	**Ninganchiao**	**0.88**	**237**	*e*P		**Pb**	**01 53 07.2**	**-0.3**
NACB				*e*S		**Sb**	**01 53 18.6**	**-0.1**
TATO	**Taipei**	**0.89**	**291**	*e*P		**Pb**	**01 53 07.8**	**+0.1**
TATO				*e*S		**Sb**	**01 53 18.9**	**-0.3**
TAP	**Taipei**	**0.90**	**296**	*e*S		**Sn**	**01 53 20.2**	**-0.1**
ZUZH	**Zhuzihu**	**0.93**	**303**	*e*S		**Sn**	**01 53 21.1**	**0.0**
TWD	**Chiawan**	**0.93**	**232**	*e*P		**Pn**	**01 53 08.2**	**-0.2**
TWD				*e*S		**Sb**	**01 53 20.6**	**+0.3**
YHNB	**Yeheng**	**0.93**	**271**	*e*P		**Pn**	**01 53 08.5**	**-0.1**
YHNB				*e*S		**Sb**	**01 53 20.7**	**+0.2**
ETLH	**Xiulin Townshi**	**0.95**	**242**	*e*P		**Pb**	**01 53 08.9**	**+0.1**
ETLH				*e*S		**Sb**	**01 53 21.2**	**+0.3**
NSK	**Sanguang**	**0.95**	**272**	*e*P		**Pb**	**01 53 09.0**	**+0.2**
NSK				*e*S		**Sb**	**01 53 20.9**	**-0.1**
NNSB	**Datong**	**0.95**	**257**	*e*P		**Pn**	**01 53 08.5**	**-0.4**
NNSB				*e*S		**Sb**	**01 53 21.4**	**+0.3**
TWY	**Chenhua**	**0.96**	**311**	*e*S		**Sn**	**01 53 21.8**	**0.0**
NNS	**Nan Shan**	**0.96**	**258**	*e*P		**Pn**	**01 53 09.0**	**0.0**
NNS				*e*S		**Sb**	**01 53 21.5**	**+0.2**
NTST	**Danshui**	**1.00**	**301**	*e*P		**Pb**	**01 53 10.1**	**+0.4**
NTST				*e*S		**Sn**	**01 53 22.8**	**-0.1**
PCYT	**Pengchaiyu**	**1.02**	**343**	*e*P		**Pb**	**01 53 10.1**	**+0.2**
LXIB	**Xiulin Townshi**	**1.10**	**235**	*e*P		**Pn**	**01 53 11.2**	**+0.2**
LXIB				*e*S		**Sb**	**01 53 25.8**	**+0.5**
KSHI	**Guanxi Townshi**	**1.12**	**277**	*e*P		**Pn**	**01 53 11.4**	**+0.3**
KSHI				*e*S		**Sb**	**01 53 26.6**	**+0.7**
SHUL	**Shoufeng**	**1.15**	**222**	*e*P		**Pb**	**01 53 12.3**	**+0.1**
WHF	**Hehuan Shan**	**1.15**	**244**	*e*P		**Pb**	**01 53 12.3**	**-0.1**
NFF	**Wufeng Townshi**	**1.17**	**269**	*e*P		**Pb**	**01 53 12.8**	**+0.3**
NFF				*e*S		**Sb**	**01 53 27.4**	**+0.2**
IRIF	**Iriomote-Funau**	**1.25**	**104**	*e*P		**Pn**	**01 53 12.3**	**-0.6**
WARBT	**Fenglin Townsh**	**1.31**	**225**	*e*P		**Pn**	**01 53 13.6**	**-0.2**
WARBT				*e*S		**Sn**	**01 53 30.6**	**+0.1**
OWD	**Renai**	**1.32**	**238**	*e*P		**Pn**	**01 53 14.1**	**+0.2**
WUSB	**Renai**	**1.34**	**241**	*e*P		**Pb**	**01 53 15.2**	**-0.3**
WUSB				*e*S		**Sn**	**01 53 31.1**	**-0.4**
WHP	**Taichung City**	**1.38**	**255**	*e*P		**Pn**	**01 53 15.4**	**+0.6**
JKRS	**Kuro-shima**	**1.52**	**105**	*e*S		**Sn**	**01 53 36.0**	**+0.3**
JJJ	**Ishigaki jima**	**1.61**	**100**	*e*P		**Pn**	**01 53 18.0**	**+0.1**

*ISN **14** 01:55:19.0±1.9, 34.23N×45.64E, h10km, ML2.7*
TEH 14 01:55:19.5, 34.21N×45.64E, h10km±127km, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GLG1	**Gilan-e-Gharb**	**0.25**	**113**	Pg		Pg	01 55 25.0	+0.4
KGS1	**Ghasr-e-Shirin**	**0.29**	**353**	Pg		Pg	01 55 25.5	0.0
KGS1				Sg		Sg	01 55 30.7	+1.2
ILBA	**Ilam Banvizeh**	**0.76**	**141**	Pg		Pg	01 55 34.0	-0.1
IGHG	**Ghaleghazi**	**0.78**	**81**	Pg		Pg	01 55 34.8	+0.2
IDHR	**Dehrash**	**0.79**	**52**	Pg		Pg	01 55 33.9	-0.8
KCHF	**Cheshme Sefid,**	**1.17**	**87**	Pg		Pn	01 55 42.8	+0.8
BHD	**Baghdad** baz=47	**1.41**	**228**	*e*Pg		Pn	01 55 43.0	-2.2
BHD				*e*Sg		Sb	01 56 04.0	+0.2
BHD				AML		AML	01 57 24.5	
	comp=E,137nm,0.6s							
SNQR	**Sonqor, Kerman**	**1.77**	**68**	Pg		Pg	01 55 53.3	-0.1

*SJA **14** 02:09:10.2±0.7, 19.15S×69.15W, h145km±4km, ML3.9, MW3.9*
*NEIC **14** 02:09:12.1±1.5, 19.19S±0.04°×69.18W±0.1°, h134km±2km, mb4.4/9, Mwr4.1(GUC), Error ellipse: s-maj=13.0km s-min=6.1km az=87.0*
*GUC **14** 02:09:13.1±0.9, 19.16S×69.18W, h128km±4km, ML3.9*
*VAO **14** 02:09:14.6±1.4, 19.07S×68.88W, h144km±7km, mb4.4*
*IDC **14** 02:09:15.3±1.7, 19.08S×68.64W, h149km±16km, mb3.5/6, mbtmp4.0/10, Error ellipse: s-maj=21.5km s-min=17.9km az=110.0*
ISC 14 02:09:11.7±0.6, 19.16S±0.03°×69.07W±0.06, h130km±6km, n96, σ1.40/118, mb3.9/7, 4C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GO01	**Chusmiza**	**0.52**	**193**			**Pn**	**02 09 32.1**	**+0.7**
GO01				Sn		**Sn**	**02 09 47.4**	**+1.1**
GO01	**Chusmiza**	**0.52**	**193**	*e*P		**Pn**	**02 09 32.1**	**+0.7**
GO01				*e*S		**Sn**	**02 09 47.1**	**+0.8**
GO01				IAML			02 09 48.8	
	comp=E,7μm,0.1s							
GO01	**Chusmiza**	**0.52**	**193**	*e*P		**Pn**	**02 09 32.1**	**+0.7**
GO01				IAML			02 09 50.2	
	comp=Z,1μm,0.8s							
PB11	**IPOC Station P**	**0.81**	**223**			**Pn**	**02 09 33.3**	**+0.2**
PB11				Sn		**Sn**	**02 09 49.1**	**-0.1**
PB11	**IPOC Station P**	**0.81**	**223**	*e*P		**Pn**	**02 09 33.3**	**+0.2**
PB11				*e*S		**Sn**	**02 09 49.2**	**-0.1**
PB11				IAML			02 09 50.6	
	comp=E,5μm,0.2s							
PB11	**IPOC Station P**	**0.81**	**223**	*e*P		**Pn**	**02 09 32.6**	**-0.4**
PB11				*e*S		**Sn**	**02 09 50.5**	**+1.2**
PB11				IAML			02 09 53.8	
	comp=Z,1μm,0.2s							
PB16	**IPOC Station P**	**0.92**	**333**			**Pn**	**02 09 35.1**	**+0.6**
PB16				Sn		**Sn**	**02 09 52.2**	**+0.5**
PB16	**IPOC Station P**	**0.92**	**333**	*e*P		**Pn**	**02 09 35.1**	**+0.6**
PB16				*e*S		**Sn**	**02 09 52.3**	**+0.5**
PB16				IAML			02 09 54.5	
	comp=E,2μm,0.6s							
PB16	**IPOC Station P**	**0.92**	**333**	*e*P		**Pn**	**02 09 34.5**	**0.0**
PB16				*e*S		**Pn**	**02 09 35.2**	**+0.7**
PB16				*e*S		**Sn**	**02 09 53.1**	**+1.4**
PB16				IAML			02 09 54.3	
	comp=Z,1μm,0.7s							
PB08	**IPOC Station P**	**0.97**	**184**			**Pn**	**02 09 35.8**	**+1.0**
PB08				Sn		**Sn**	**02 09 53.2**	**+1.0**
PB08	**IPOC Station P**	**0.97**	**184**	*e*P		**Pn**	**02 09 35.8**	**+1.0**
PB08				*e*S		**Sn**	**02 09 53.4**	**+1.2**
PB08				IAML			02 09 54.9	
	comp=N,2μm,0.2s							
PB08	**IPOC Station P**	**0.97**	**184**	*e*P		**Pn**	**02 09 35.2**	**+0.4**
PB08				*e*S		**Sn**	**02 09 54.2**	**+1.9**
PB08				IAML			02 09 56.0	
	comp=Z,1μm,0.2s							
HMBC	**Humberstone**	**1.35**	**215**			**Pn**	**02 09 38.1**	**-0.1**
HMBC	**Humberstone**	**1.35**	**215**	*e*P		**Pn**	**02 09 38.1**	**-0.1**
HMBC				*e*S		**Sn**	**02 09 57.8**	**-0.6**
HMBC				IAML			02 09 58.9	
	comp=E,2μm,0.3s							
HMBC	**Humberstone**	**1.35**	**215**	*e*P		**Pn**	**02 09 37.6**	**-0.6**
HMBC				*e*S		**Sn**	**02 09 59.0**	**+0.5**
HMBC				IAML			02 10 00.1	
	comp=Z,1μm,0.2s							
TA02	**Huaiquique**	**1.48**	**222**	*e*P		**Pn**	**02 09 39.6**	**0.0**
TA02				*e*S		**Sn**	**02 09 59.5**	**-1.3**
TA02	**Huaiquique**	**1.48**	**222**	*e*P		**Pn**	**02 09 39.8**	**+0.2**
TA02				*e*S		**Sn**	**02 10 00.9**	**+0.1**
TA02				IAML			02 10 02.7	
	comp=Z,2μm,0.1s							
PB18	**Visviri**	**1.61**	**346**			**Pn**	**02 09 43.7**	**+2.1**
TA01	**Diego Aracena**	**1.74**	**217**			**Pn**	**02 09 42.2**	**-0.3**
TA01	**Diego Aracena**	**1.74**	**217**	*e*P		**Pn**	**02 09 42.2**	**-0.3**
TA01				*e*S		**Sn**	**02 10 04.4**	**-1.7**
TA01				IAML			02 10 06.2	
	comp=E,1μm,0.3s							
TA01	**Diego Aracena**	**1.74**	**217**	*e*P		**Pn**	**02 09 42.4**	**-0.1**
TA01				*e*S		**Sn**	**02 10 06.3**	**+0.2**
PB01	**IPOC Station P**	**1.91**	**192**			**Pn**	**02 09 45.2**	**+0.6**
PB01	**IPOC Station P**	**1.91**	**192**	*e*P		**Pn**	**02 09 45.2**	**+0.6**
PB01				*e*S		**Sn**	**02 10 09.8**	**-0.1**
PB01				IAML			02 10 11.6	
	comp=N,1μm,0.3s							
PB01	**IPOC Station P**	**1.91**	**192**	*e*P		**Pn**	**02 09 45.3**	**+0.6**
PB01				*e*S		**Sn**	**02 10 10.3**	**+0.4**
PB01				IAML			02 10 12.2	
	comp=Z,658nm,0.2s							
PATCX	**Punta Patache**	**1.94**	**211**			**Pn**	**02 09 45.1**	**+0.2**
PATCX	**Punta Patache**	**1.94**	**211**	*e*P		**Pn**	**02 09 45.1**	**+0.2**
PATCX				*e*S		**Sn**	**02 10 08.9**	**-1.5**
PATCX				IAML			02 10 10.5	
	comp=E,640nm,0.2s							
PATCX	**Punta Patache**	**1.94**	**211**	*e*P		**Pn**	**02 09 45.1**	**+0.2**
PATCX				*e*S		**Sn**	**02 10 10.2**	**-0.2**
PATCX				IAML			02 10 10.9	
	comp=Z,401nm,0.3s							
PB02	**IPOC Station P**	**2.28**	**200**			**Pn**	**02 09 50.1**	**+0.9**
PB02	**IPOC Station P**	**2.28**	**200**	*e*P		**Pn**	**02 09 49.5**	**+0.3**
PB02				*e*S		**Sn**	**02 10 17.2**	**-0.7**
PB02				IAML			02 10 23.7	
	comp=E,932nm,0.2s							
PB02	**IPOC Station P**	**2.28**	**200**	*e*P		**Pn**	**02 09 49.7**	**+0.5**
PB02				*e*S		**Sn**	**02 10 18.0**	**0.0**
PB02				IAML			02 10 23.4	
	comp=Z,911nm,0.2s							
PB09	**IPOC Station P**	**2.62**	**183**			**Pn**	**02 09 55.0**	**+1.4**
PB09	**IPOC Station P**	**2.62**	**183**	*e*P		**Pn**	**02 09 54.9**	**+1.2**
PB09				IAML			02 10 35.8	
	comp=E,271nm,0.3s							
PB09	**IPOC Station P**	**2.62**	**183**	*e*P		**Pn**	**02 09 54.8**	**+1.2**
PB09				*e*S		**Sn**	**02 10 27.0**	**+1.1**
PB09				IAML			02 10 31.0	
	comp=Z,324nm,0.2s							
LPAZ	**La Paz**	**3.00**	**18**	P		**Pn**	**02 10 00.8**	**+1.9**
	comp=Z,48nm,0.5s,baz=198,slow=6.1,SNR=320							
LPAZ				S		**Sn**	**02 10 36.7**	**+1.5**
	comp=Z,46nm,0.8s,baz=220,slow=16,SNR=11							
LPAZ	**La Paz**	**3.00**	**18**	*e*P		**Pn**	**02 10 01.0**	**+2.1**
LPAZ				*e*S		**Sn**	**02 10 38.2**	**+3.1**
LPAZ	**La Paz**	**3.00**	**18**	*e*P		**Pn**	**02 09 59.4**	**+0.6**
LPAZ				*e*S		**Sn**	**02 10 36.5**	**+1.4**
PB06	**IPOC Station P**	**3.56**	**187**			**Pn**	**02 10 06.2**	**+0.5**
PB06	**IPOC Station P**	**3.56**	**187**	*e*P		**Pn**	**02 10 06.3**	**+0.5**
PB06				*e*S		Sn	02 10 34.5	-13
PB06				IAML			02 10 52.8	
	comp=Z,201nm,0.2s							
PB05	**IPOC Station P**	**3.82**	**196**			**Pn**	**02 10 09.1**	**0.0**
PB05	**IPOC Station P**	**3.82**	**196**	*e*P		**Pn**	**02 10 08.8**	**-0.3**
PB05				*e*S		**Sn**	**02 10 51.7**	**-1.9**
PB05				IAML			02 10 54.2	
	comp=Z,106nm,0.3s							
PB10	**IPOC Station P**	**4.54**	**197**	*e*P		**Pn**	**02 10 17.6**	**-1.0**
PB10				*e*S		**Sn**	**02 11 08.5**	**-2.2**
PB10				IAML			02 11 10.7	
	comp=Z,73nm,0.4s							
PB14	**IPOC Station P**	**5.57**	**193**			**Pn**	**02 10 31.7**	**-1.0**
GO02	**Mina Guanaco**	**5.99**	**184**			**Pn**	**02 10 38.2**	**-0.1**
AC02	**Maricunga**	**7.64**	**180**			**Pn**	**02 10 59.9**	**-0.7**
SIV	**San Ignacio**	**8.26**	**69**	P		**Pn**	**02 11 06.6**	**-2.1**
	comp=Z,6.1nm,0.6s,baz=258,slow=9.2,SNR=44							
SIV				S		**Sn**	**02 12 32.7**	**-7.7**
	comp=Z,1.7nm,0.7s,baz=320,slow=18,SNR=1.6							
PTLB	**Pontes e Lacer**	**10.18**	**70**			**Pn**	**02 11 32.5**	**-2.0**
PTLB	**Pontes e Lacer**	**10.18**	**70**	*e*P		**Pn**	**02 11 32.2**	**-2.3**
VILB	**Vilhena**	**10.53**	**55**			**Pn**	**02 11 37.0**	**-2.2**
VILB	**Vilhena**	**10.53**	**55**	*e*P		**Pn**	**02 11 37.4**	**-1.8**
GO04	**Tololo Observa**	**11.07**	**188**	Pn		**Pn**	**02 11 42.6**	**-3.9**
SALV	**Santo Antonio**	**13.17**	**78**	*e*P		**Pn**	**02 12 12.9**	**-0.9**
PDRB	**Porto dos Gac**	**14.07**	**60**	*e*P		**Pn**	**02 12 26.2**	**+0.8**
RPRD	**Ribas do Rio P**	**14.53**	**98**	*e*P		**Pn**	**02 12 32.3**	**+1.1**
ATAH	**Atahualpa**	**15.00**	**322**	P		**P**	**02 12 42.5**	**+2.7**
	comp=Z,1.3nm,0.3s,baz=238,slow=20,SNR=5.9							
CLDB	**Colider**	**15.24**	**59**	*e*P		**P**	**02 12 41.1**	**-0.9**
TRCB	**Terra Rica**	**15.77**	**106**	*e*P		**Pn**	**02 12 47.2**	**+0.4**
TEFE	**Tefe**	**16.15**	**16**	*e*P		**Pn**	**02 12 51.6**	**+0.2**
PTGB	**Pitanga**	**16.71**	**112**	*e*P		**P**	**02 12 59.6**	**+1.2**
H03N1	**Juan Fernandez** baz=34,slow=74	**16.72**	**210**	T		T	02 30 22.7	
H03N2	**Juan Fernandez** baz=34	**16.73**	**210**	T		T	02 31 14.3	
H03N3	**Juan Fernandez**	**16.73**	**210**	T		T	02 30 33.4	
ITAB	**Concordia**	**17.51**	**120**	*e*P		**Pn**	**02 13 07.9**	**+0.1**
MACA	**Manacapuru-AM**	**17.90**	**28**	P		**P**	**02 13 10.2**	**-1.2**
MACA				IAmb		IAmb	02 13 13.5	
	comp=Z,20nm,0.7s							
MACA	**Manacapuru-AM**	**17.90**	**28**	*e*P		**P**	**02 13 10.5**	**-0.9**
NPGB	**Novo Progresso**	**17.97**	**50**	*e*P		**Pn**	**02 13 12.8**	**-0.6**
SNDB	**Serra Nova Dou**	**18.55**	**70**	*e*P		**P**	**02 13 18.2**	**-0.3**
BB19B	**Bebedouro**	**19.39**	**99**	*e*P		**P**	**02 13 27.9**	**+0.2**
ITTB	**Itaituba**	**19.64**	**43**	*e*P		**P**	**02 13 29.2**	**-1.2**
IPMB	**Ipameri, GO**	**19.81**	**90**	*e*P		**P**	**02 13 32.0**	**-0.2**
BDFB	**Brasilia**	**20.40**	**83**	P		**P**	**02 13 40.1**	**+1.5**
BDFB				IAmb		IAmb	02 13 41.8	
	comp=Z,5.9nm,0.6s							
BDFB	**Brasilia**	**20.40**	**83**	P		**P**	**02 13 38.0**	**-0.6**
	comp=Z,5.1nm,0.5s,baz=259,slow=10,SNR=14							
PMNB	**Patos De Minas**	**21.43**	**92**	*e*P		**P**	**02 13 48.4**	**-1.3**
PLCA	**Paso Flores**	**21.54**	**183**	P		**P**	**02 13 53.6**	**+3.1**
	comp=Z,4.7nm,0.8s,baz=10.0,slow=16,SNR=6.0							
	comp=Z,4.7nm,0.8s							
MAL2	**Monte Alegre,**	**22.43**	**42**	P		**P**	**02 13 58.3**	**-1.6**
MAL2				IAmb		IAmb	02 14 00.6	
	comp=Z,18nm,0.8s							
BOAV	**Boa Vista**	**23.02**	**22**	P		**P**	**02 14 05.1**	**-0.4**
SMTB	**Santa Maria do**	**23.20**	**67**	*e*P		**P**	**02 14 07.8**	**+0.5**
JANB	**Januaria**	**24.01**	**84**	*e*P		**P**	**02 14 14.6**	**-0.1**
SDBA	**SAO DESIDERIO**	**24.19**	**77**	*e*P		**P**	**02 14 15.9**	**-0.4**
RUSC	**La Rusia**	**25.21**	**351**	P		**P**	**02 14 26.6**	**+0.5**
RUSC				IAmb		IAmb	02 14 30.6	
	comp=Z,13nm,1.5s							
NBAN	**Anadia - AL**	**33.08**	**78**	*e*P		**P**	**02 15 34.8**	**-0.6**
RCBR	**Riachuelo**	**34.91**	**72**	P		**P**	**02 15 51.5**	**+0.3**
250A	**Grady**	**53.45**	**342**	P		**P**	**02 18 16.0**	**-2.4**
SNAA	**Sanae**	**64.53**	**161**	P		**P**	**02 19 35.0**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=225,slow=13,SNR=1.0							
	comp=Z,0.2nm,0.6s							
DBIC	**Dimbokro**	**68.24**	**74**	P		**P**	**02 19 58.0**	**-0.8**
DBIC				IAmb		IAmb	02 19 59.1	
	comp=Z,7.2nm,0.8s							
DBIC	**Dimbokro**	**68.24**	**74**	P		**P**	**02 19 58.4**	**-0.5**
	comp=Z,5.8nm,0.8s,baz=264,slow=5.4,SNR=9.2							
	comp=Z,5.8nm,0.8s							
QSPA	**South Pole Qui**	**71.02**	**180**	P		**P**	**02 20 18.0**	**+2.7**
	comp=Z,0.7nm,0.7s,baz=90,slow=4.0,SNR=2.0							
	comp=Z,0.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**76.73**	**71**	P		**P**	**02 20 48.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**76.73**	**71**	P		**P**	**02 20 47.2**	**-2.0**
	comp=Z,0.6nm,0.4s,baz=252,slow=5.0,SNR=11							
	comp=Z,0.6nm,0.4s							
ESDC	**Sonseca Array**	**84.29**	**45**	P		**P**	**02 21 28.8**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=214,slow=6.5,SNR=4.1							
	comp=Z,0.5nm,0.9s							
H11S2	**WAKE ISLAND Hy**	**27.40**	**279**	T		T	04 47 39.7	
	baz=100,slow=74,SNR=13							
H11S1	**WAKE ISLAND Hy**	**27.

	comp=E,94nm,0.3s						
UZB	**Uzynbulak**	**3.27**	**254**	*eP*		**Pb**	**02 34 06.9 +0.8**
	comp=E,45nm,0.4s						
UZB				*eS*		**Sb**	**02 34 47.5 +1.4**
	comp=E,94nm,0.3s						
KPKS	**Kokpek**	**3.42**	**260**	Pg		**Pb**	**02 34 09.6 +1.0**
	comp=E,0.6nm,0.2s						
KPKS				Lg		Lg	02 34 52.4
	comp=E,233nm,0.7s						
ZSN	**Zaisan**	**3.47**	**18**	Pg		**Pb**	**02 34 11.2 +1.7**
	comp=E,45nm,0.2s						
ZSN				Lg		Lg	02 34 55.3
	comp=E,316nm,0.6s						
ZSN	**Zaisan**	**3.47**	**18**	*eP*		**Pb**	**02 34 11.2 +1.7**
	comp=E,45nm,0.2s						
ZSN				*eS*		**Sg**	**02 34 55.3 -4.1**
	comp=E,316nm,0.6s						
TDK	**Taldyqorghan**	**3.60**	**285**	*eP*		**Pb**	**02 34 12.5 +0.8**
	comp=E,113nm,0.4s						
TDK				*eS*		**Sb**	**02 34 57.0 +1.5**
	comp=E,611nm,0.7s						
SATY	**Saty**	**3.73**	**255**	Pg		**Pb**	**02 34 15.2 +1.3**
	comp=E,46nm,0.4s						
SATY				Lg		Lg	02 35 01.7
	comp=E,212nm,0.3s						
KURS	**Kuram**	**3.78**	**262**	Pg		**Pb**	**02 34 15.9 +1.2**
	comp=E,38nm,0.6s						
KURS				Lg		Lg	02 35 03.4
	comp=E,118nm,0.6s						
ARXS	**Arharly**	**3.94**	**273**	*eP*		**Pb**	**02 34 19.2 +1.6**
ARXS				*eS*		**Sb**	**02 35 09.1 +3.7**
CHKK	**Chushkaly**	**4.57**	**268**	Pg		**Pb**	**02 34 31.1 +2.9**
	comp=E,33nm,0.4s						
CHKK				Lg		Lg	02 35 29.4
	comp=E,150nm,0.4s						
CHKK	**Chushkaly**	**4.57**	**268**	*eP*		**Pb**	**02 34 31.1 +2.9**
	comp=E,33nm,0.4s						
CHKK				*eS*		**Sg**	**02 35 29.4 -5.3**
	comp=E,150nm,0.4s						
MDOK	**Medeo**	**4.65**	**260**	Pg		**Pb**	**02 34 32.3 +2.7**
	comp=E,21nm,0.5s						
MDOK				Lg		Lg	02 35 31.2
	comp=E,94nm,0.5s						
KNDC	**Almaty**	**4.70**	**261**	⇓Pg		**Pg**	**02 34 34.2 -3.7**
	comp=E,40nm,0.5s						
KNDC				⇑Lg		Lg	02 35 37.1
	comp=E,180nm,0.6s						
AAA	**Alma-Ata**	**4.73**	**261**	Pg		**Pb**	**02 34 34.3 +3.3**
	comp=E,63nm,0.1s						
AAA				Lg		Lg	02 35 35.2
	comp=E,6.3nm,0.2s						
AAA	**Alma-Ata**	**4.73**	**261**	*eP*		**Pb**	**02 34 34.3 +3.3**
	comp=E,63nm,0.1s						
AAA				*eS*		**Sg**	**02 35 35.2 -4.6**
	comp=E,6.3nm,0.2s						
TNSS	**Tian-Shan**	**4.75**	**259**	Pg		**Pb**	**02 34 34.2 +2.6**
	comp=E,4.2nm,0.4s						
TNSS				Lg		Lg	02 35 34.6
	comp=E,14nm,0.6s						
TNSS	**Tian-Shan**	**4.75**	**259**	*eP*		**Pb**	**02 34 34.1 +2.6**
	comp=E,4.2nm,0.4s						
TNSS				*eS*		**Sb**	**02 35 34.6 +5.6**
	comp=E,14nm,0.6s						
KTBS	**Karatobe**	**4.81**	**267**	Pg		**Pb**	**02 34 34.9 +2.6**
	comp=E,20nm,0.5s						
KTBS				Lg		Lg	02 35 35.9
	comp=E,84nm,0.7s						
KUU	**Kurty**	**5.03**	**269**	Pg		**Pb**	**02 34 39.2 +3.1**
	comp=E,27nm,0.3s						
KUU				Lg		Lg	02 35 43.3
	comp=E,169nm,0.6s						
KUU	**Kurty**	**5.03**	**269**	*eP*		**Pb**	**02 34 39.2 +3.1**
	comp=E,27nm,0.3s						
KUU				*eS*		**Sg**	**02 35 43.3 -6.2**
	comp=E,169nm,0.6s						
MTBS	**Maitube**	**5.10**	**261**	Pg		**Pb**	**02 34 40.6 +3.4**
	comp=E,14nm,0.5s						
MTBS				Lg		Lg	02 35 45.6
	comp=E,91nm,0.4s						
MTBS	**Maitube**	**5.10**	**261**	*eP*		**Pb**	**02 34 40.6 +3.4**
	comp=E,14nm,0.5s						
MTBS				*eS*		**Sg**	**02 35 45.6 -6.0**
	comp=E,91nm,0.4s						
KST	**Kastek**	**5.45**	**261**	Pg		**Pg**	**02 34 50.0 -2.3**
	comp=E,30nm,0.7s						
KST	**Kastek**	**5.45**	**261**	*eP*		**Pg**	**02 34 50.0 -2.3**
	comp=E,30nm,0.7s						
KST				*eS*		**Sg**	**02 36 02.0 -0.9**
	comp=E,69nm,0.7s						
KRBS	**Karabastau**	**5.53**	**268**	Pg		**Pg**	**02 34 51.2 -2.6**
	comp=E,13nm,0.3s						
SEM	**Semipalatinsk**	**6.59**	**343**	Pg		**Pg**	**02 35 11.5 -2.7**
	comp=E,5.0nm,0.2s						
SEM				Lg		Lg	02 36 38.5
	comp=E,30nm,0.2s						
SEM	**Semipalatinsk**	**6.59**	**343**	*eP*		**Pg**	**02 35 11.5 -2.7**
	comp=E,5.0nm,0.2s						
SEM				*eS*		**Sg**	**02 36 38.5 -1.0**
	comp=E,30nm,0.2s						
AAK	**Ala-Archa**	**6.60**	**260**	⇑Pg		Pb	02 35 08.1 +5.2
	comp=E,3.9nm,0.6s						
AAK				⇑Lg		Lg	02 36 37.8
	comp=E,10nm,0.6s						
BTLS	**Baital**	**6.67**	**281**	Pg		**Pg**	**02 35 12.5 -3.2**
	comp=E,5.0nm,0.2s						
BTLS	**Baital**	**6.67**	**281**	*eP*		**Pg**	**02 35 12.5 -3.2**
	comp=E,5.0nm,0.2s						
BTLS				*eS*		**Sg**	**02 36 40.5 -1.6**
	comp=E,5.2nm,0.7s						
KURBB	**Kurchatov Arra**	**7.24**	**335**	⇑Pn		**Pn**	**02 34 53.8 +0.1**
	comp=E,2.3nm,0.5s						
KURBB				⇑Sn		**Sn**	**02 36 17.7 +1.8**
	comp=E,19nm,0.7s						
KURBB				⇓Lg		Lg	02 36 55.7
	comp=E,41nm,0.6s						
KURK	**Kurchatov**	**7.29**	**336**	⇑Pn		**Pn**	**02 34 56.1 +1.6**
	comp=E,0.7nm,0.6s						
KURK				⇑Sn		**Sn**	**02 36 18.5 +1.3**
	comp=E,5.1nm,0.7s						
KURK				⇑Lg		Lg	02 36 57.0
	comp=E,9.1nm,0.6s						
MRKS	**Merke**	**7.47**	**263**	Pg		**Pg**	**02 35 27.2 -3.8**
	comp=E,6.4nm,0.5s						
MRKS	**Merke**	**7.47**	**263**	*eP*		**Pg**	**02 35 27.2 -3.8**
	comp=E,6.4nm,0.5s						
MRKS				*eS*		**Sg**	**02 37 05.4 -2.3**
	comp=E,11nm,0.6s						
BRZS	**Berezniki**	**9.30**	**313**	*eP*		Pn	02 36 01.1 +39
	comp=E,0.7nm,0.3s						
BRZS				*eS*		Sn	02 38 04.2 +58
	comp=E,20nm,1.0s						
KK31	**Karatay Array**	**9.34**	**268**	Pn		**Pn**	**02 35 24.2 +1.6**
	comp=E,1.1nm,0.5s,baz=74,slow=14,SNR=4.6						
KK31				⇑Lg		Lg	02 38 04.3
	comp=E,7.0nm,0.7s,baz=74,slow=29						
BRLS	**Boroldaу**	**9.84**	**268**	Pg		Pn	02 36 14.7 +45
	comp=E,1.3nm,0.5s						
BRLS	**Boroldaу**	**9.84**	**268**	*eP*		Pn	02 36 14.7 +45
	comp=E,1.3nm,0.5s						
BRLS				*eS*			02 38 27.0
	comp=E,7.8nm,0.8s						
ZAA0	**Zalesovo Array**	**9.85**	**5**	P		**Pn**	**02 35 30.8 +1.2**
IUG	**luzhnay**	**9.91**	**263**	Pg		Pn	02 36 12.8 +42
	comp=E,16nm,0.4s						
GTA	**Gaotai**	**13.19**	**105**	*eP*		P	02 36 33.8 +8.3
GTA				pmax		pmax	
	comp=Z,3.0nm,0.9s						
BTO	**Baotou**	**20.02**	**91**	*eP*		**P**	**02 37 40.1 -0.7**
BTO				S		**S**	**02 41 25.3 -0.5**
BTO				pmax		pmax	
	comp=Z,19nm,0.5s						
BTO				pmax		pmax	
	comp=Z,150nm,4.9s						
BTO				LR		LR	
	comp=N,220nm,4.6s						
BTO				LR		LR	
	comp=E,190nm,5.4s						

NIED ***14*** *02:35:47.8,39°.02N×144°.49E,h53km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.94; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$2.06; $M_{r\theta}$-0.40; $M_{\theta\phi}$-0.44; $M_{\phi r}$1.50; Fault plane solution: M_o2.57000×10^{14} NP1: ϕ_s352.00000°,δ27.00000°,λ-85.00000°. NP2: ϕ_s166.00000°,δ64.00000°,λ-93.00000°.*

JMA 14 02:35:47.8±0.2,**39°.0N**±1°.0×**14°.4E**±°,**h53**km,**MV3.6**/33,

FAR E OFF NORTH HONSHU,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.14**	**286**	*eP*	Pn	02 36 22.1	+1.1
MIYJ				*eS*	Sn	02 36 47.5	+1.1
OFUJ	**Ofunato**	**2.19**	**272**	P	Pn	02 36 22.8	+1.0
OFUJ				*eS*	Sn	02 36 48.3	+0.6
JTH	**Tanohata**	**2.23**	**295**	*eP*	Pn	02 36 23.2	+1.0
JTH				*eS*	Sn	02 36 49.5	+1.0
JOM	**Ohasama**	**2.52**	**281**	P	Pn	02 36 27.8	+1.6
JOM				*eS*	Sn	02 36 57.2	+1.5
JMK	**Ichinoseki**	**2.55**	**269**	*eP*	Pn	02 36 27.2	+0.6
JMK				*eS*	Sn	02 36 57.0	+0.7
JANG	**Nango**	**2.66**	**301**	*eP*	Pn	02 36 28.7	+0.6
JYK	**Kaneyama**	**3.22**	**269**	*eP*	Pn	02 36 37.5	+1.7
JYK				*eS*	Sn	02 37 15.5	+2.6
JNBK	**Urakawa-nobuka**	**3.51**	**339**	*eP*	Pn	02 36 41.7	+1.9
JOT	**Ohata**	**3.54**	**313**	*eP*	Pn	02 36 41.6	+1.5
JOTO	**OTAMA OYAMA**	**3.58**	**247**	*eP*	Pn	02 36 41.6	+0.8
JOTO				*eS*	Sn	02 37 21.8	0.0
JCH	**Churui**	**3.69**	**347**	*eP*	Pn	02 36 42.7	+0.5
JCH				*eS*	Sn	02 37 24.7	+0.3
JAK	**Akkeshi**	**3.98**	**2**	*eS*	Sn	02 37 28.5	-2.9
NEM2	**Nemuro 2**	**4.44**	**12**	*eP*	Pn	02 36 51.4	-1.1
JOSM	**Okushiri--Mats**	**4.89**	**310**	*eP*	Pn	02 37 02.0	+3.4
JTKR	**Abashiri--Toko**	**4.97**	**355**	*eP*	Pn	02 37 00.3	+0.6
JTKR				*eS*	Sn	02 37 55.6	-0.1
JRY	**Ryogami san**	**5.36**	**238**	*eP*	Pn	02 37 05.1	0.0
JRY				*eS*	Sn	02 38 02.9	-2.6

IDC ***14*** *02:42:12.1±0.7,2°.88N×127°.80E,h0km,mb4.0/12, mbtmp4.0/12,MS3.4/1,Error ellipse: s-maj=46.8km s-min=13.8km az=75.0*
NEIC ***14*** *02:42:21.2±2.4,2°.77N±0°.10×127°.5E±0°.1,h61km±9km, mb4.5/14,Error ellipse: s-maj=17.9km s-min=12.0km az=59.0*

ISC 14 02:42:19.1±0.6,**2°.84N**±0°.07×**127°.7E**±0°.1,**h49**km,**n34,** σ1§**08**/33,**mb4.4**/18,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.08**	**189**		**Pn**	**02 42 52.9**	**+1.2**
TOLI2	**Tolitoli**	**7.12**	**256**		**Pn**	**02 44 00.5**	**-0.3**
FAKI	**Fak Fak**	**7.31**	**141**	Pn	Pn	02 44 07.7	+4.2
MYLDM	**Lahad Datu**	**9.46**	**284**	Pn	**Pn**	**02 44 34.5**	**+1.6**
KNRA	**Kununurra**	**18.43**	**177**		**Pn**	**02 46 31.8**	**+0.6**
KNRA				IAmb	IAmb	02 47 02.8	
	comp=Z,30nm,1.4s						
FITZ	**Fitzroy Crossi**	**20.91**	**185**	P	**P**	**02 46 55.9**	**-1.7**
FITZ	**Fitzroy Crossi**	**20.91**	**185**	P	**P**	**02 46 56.8**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=14,slow=7.0,SNR=5.6						
	comp=Z,1.0nm,0.3s						
YULB	**Yu-li**	**21.35**	**344**	P	**P**	**02 47 01.9**	**-0.5**
YULB				IAmb	IAmb	02 47 02.0	
	comp=Z,18nm,1.0s						
TPUB	**Ta-pu**	**21.46**	**342**	P	**P**	**02 47 02.4**	**-1.1**
TPUB				IAmb	IAmb	02 47 22.2	
	comp=Z,50nm,1.4s						
PMG	**Port Moresby**	**22.90**	**122**	LR	LR	02 56 35.2	
	comp=Z,90nm,20.8s,baz=161,slow=38						
WB0	**Warramunga Arr**	**23.41**	**164**	P	**P**	**02 47 23.2**	**-0.8**
WB0				IAmb	IAmb	02 47 34.5	
	comp=Z,9.5nm,0.8s						
WRA	**Warramunga Arr**	**23.57**	**164**	P	**P**	**02 47 24.4**	**-1.1**
	comp=Z,3.5nm,0.5s,baz=345,slow=10,SNR=17						
	comp=Z,3.5nm,0.5s						
WR8	**Warramunga Arr**	**23.62**	**164**	P	**P**	**02 47 25.3**	**-0.7**
MBWA	**Marble Bar**	**25.10**	**198**	P	**P**	**02 47 38.9**	**-0.5**
MBWA				IAmb	IAmb	02 47 39.6	
	comp=Z,24nm,1.4s						
PSA00	**Pilbara Seismi**	**25.45**	**197**	P	**P**	**02 47 41.5**	**-1.2**
ASAR	**Alice Springs**	**27.03**	**167**	P	**P**	**02 47 56.4**	**-0.6**
ASAR	**Alice Springs**	**27.03**	**167**	P	**P**	**02 47 56.8**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=347,slow=11,SNR=11						
ASAR				PcP	**PcP**	**02 51 17.4**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=0.7,slow=2.5,SNR=2.8						
	comp=Z,0.5nm,0.3s						
KSRS	**Korea Array**	**34.45**	**0**	P	**P**	**02 49 01.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=180,slow=10,SNR=4.5						
	comp=Z,0.4nm,0.5s						
BBOO	**Buckleboo**	**36.33**	**168**	P	**P**	**02 49 17.8**	**-0.7**
STKA	**Stephens Creek**	**36.97**	**160**	P	**P**	**02 49 23.4**	**-0.4**
STKA	**Stephens Creek**	**36.97**	**160**	P	**P**	**02 49 23.4**	**-0.5**
	comp=Z,4.5nm,0.4s,baz=339,slow=8.7,SNR=15						
	comp=Z,4.5nm,0.4s						
SONM	**Songino Array**	**48.44**	**341**	P	**P**	**02 50 57.6**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=156,slow=7.3,SNR=1.8						
	comp=Z,0.6nm,0.7s						
PETK	**Petropavlovsk-**	**55.89**	**21**	P	**P**	**02 51 51.5**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=262,slow=7.1,SNR=1.6						
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**58.83**	**325**	P	**P**	**02 52 13.4**	**+0.7**
	comp=Z,2.1nm,0.4s,baz=116,slow=8.0,SNR=32						
	comp=Z,2.1nm,0.4s						
ZALV	**Zalesovo Beam**	**61.81**	**333**	P	**P**	**02 52 31.0**	**-2.0**
	comp=Z,0.5nm,0.4s,baz=148,slow=6.3,SNR=2.5						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**63.00**	**327**	P	**P**	**02 52 40.7**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=128,slow=6.1,SNR=18						
	comp=Z,2.1nm,0.5s						
KURK	**Kurchatov**	**63.00**	**327**	P	**P**	**02 52 41.2**	**+0.3**
KURK				IAmb	IAmb	02 52 58.1	
	comp=Z,2.8nm,0.8s						
KKAR	**Karatay Array**	**64.53**	**317**	P	**P**	**02 52 50.7**	**-0.5**
BVAR	**Borovoye Array**	**68.58**	**327**	P	**P**	**02 53 16.8**	**0.0**
	comp=Z,0.8nm,0.4s,baz=116,slow=6.6,SNR=3.1						
	comp=Z,0.8nm,0.4s						
ABKAR	**Akbulak array**	**73.44**	**321**	P	**P**	**02 53 45.8**	**-0.6**
K17K	**Iditarod**	**80.18**	**27**	P	**P**	**02 54 26.6**	**+2.5**
K17K				IAmb	IAmb	02 54 34.0	
	comp=Z,10nm,1.2s						
L18K	**Granite Mounta**	**80.81**	**27**	P	**P**	**02 54 29.4**	**+1.9**
L18K				IAmb	IAmb	02 54 49.8	
	comp=Z,9.0nm,1.4s						
D19K	**Kuna River**	**81.60**	**21**	P	**P**	**02 54 33.0**	**+1.4**
ILAR	**Eielson Array**	**85.49**	**25**	P	**P**	**02 54 49.9**	**-1.6**
	comp=Z,0.4nm,0.9s,baz=257,slow=6.2,SNR=2.2						
	comp=Z,0.4nm,0.9s						

SJA ***14*** *02:45:43.0±0.7,33°.90S×72°.15W,h22km±2km,ML3.6, MW3.9*
GUC ***14*** *02:45:45.8±0.8,33°.89S×72°.09W,h24km±89km,ML3.7*

ISC 14 02:45:44.4±1.3,**33°.89S**±0°.02×**72°.17W**±0°.04,**h19**km±3km, **n55,** σ0§**94**/92,**8C-7D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.63**	**164**	⇓*eP*	**Pg**	**02 45 57.2**	**+0.2**
BO03				*eS*	**Sg**	**02 46 06.1**	**+0.7**
BO03				IAML		02 46 08.7	
	comp=E,5μm,0.3s						
MT01	**Popeta**	**0.77**	**89**	⇓*eP*	**Pb**	**02 45 58.9**	**-0.2**
MT01				*eS*	**Sb**	**02 46 08.7**	**-0.4**
MT01				IAML		02 46 10.2	
	comp=E,7μm,0.3s						
MT01	**Popeta**	**0.77**	**89**	*eP*	**Pb**	**02 45 58.5**	**-0.6**
MT01				*eS*	**Sb**	**02 46 08.9**	**-0.2**
MT01				IAML		02 46 09.2	
	comp=Z,8μm,0.5s						
VA01	**Torpederas**	**0.97**	**27**	*eP*	**Pb**	**02 46 02.4**	**-0.1**
VA01				*eS*	**Sb**	**02 46 14.7**	**-0.2**
VA01				IAML		02 46 19.5	
	comp=E,2μm,0.2s						
VA01	**Torpederas**	**0.97**	**27**	*eP*	**Pb**	**02 46 01.9**	**-0.6**
VA01				IAML		02 46 20.1	
	comp=Z,759nm,0.5s						
MT09	**Talagante**	**0.99**	**84**	⇓*eP*	**Pb**	**02 46 02.3**	**-0.7**
MT09				*eS*	**Sb**	**02 46 15.1**	**-0.7**
MT09				IAML		02 46 17.0	
	comp=N,5μm,0.3s						
BO01	**Tunca**	**1.03**	**120**	⇓*eP*	**Pb**	**02 46 02.6**	**-1.0**
BO01				*eS*	**Sb**	**02 46 15.6**	**-1.2**
BO01				IAML		02 46 24.1	
	comp=N,969nm,0.7s						
BO01	**Tunca**	**1.03**	**120**	*eP*	**Pb**	**02 46 02.0**	**-1.7**
BO01				IAML		02 46 23.5	
	comp=Z,987nm,0.6s						
MT02	**Curacav**	**1.06**	**54**	⇓*eP*	**Pb**	**02 46 03.5**	**-0.8**
MT02				*eS*	**Sb**	**02 46 16.8**	**-1.0**
MT02				IAML		02 46 20.4	
	comp=N,2μm,0.1s						
MT02	**Curacav**	**1.06**	**54**	*eP*	**Pb**	**02 46 03.5**	**-0.8**
MT02				*eS*	**Sb**	**02 46 16.9**	**-0.8**
MT02				IAML		02 46 25.3	
	comp=Z,1μm,0.3s						
GO05	**Hualane**	**1.14**	**170**	⇑*eP*	**Pn**	**02 46 05.2**	**-0.1**
GO05				*eS*	**Sb**	**02 46 20.4**	**+0.4**
GO05				IAML		02 46 24.3	
	comp=E,2μm,0.4s						
GO05	**Hualane**	**1.14**	**170**	*eP*	**Pn**	**02 46 04.6**	**-0.7**
GO05				IAML		02 46 24.6	
	comp=Z,620nm,0.5s						
MT05	**Renca**	**1.29**	**68**	⇑*eP*	**Pn**	**02 46 07.4**	**-0.1**
MT05				*eS*	**Sb**	**02 46 24.0**	**-0.4**
MT05				IAML		02 46 35.1	
	comp=E,2μm,0.3s						
MT05	**Renca**	**1.29**	**68**	*eP*	**Pn**	**02 46 06.8**	**-0.7**
MT05				IAML		02 46 32.1	
	comp=Z,952nm,0.3s						
BO04	**La Punta**	**1.30**	**95**	*eP*	**Pn**	**02 46 07.3**	**-0.3**
BO04				*eS*	**Sn**	**02 46 23.3**	**-1.2**
BO04				IAML		02 46 26.5	
	comp=E,2μm,0.3s						
ROC1	**El Roble**	**1.33**	**47**	*eP*	**Pn**	**02 46 07.9**	**-0.2**
ROC1				*eS*	**Sb**	**02 46 26.1**	**+0.6**
ROCH	**El Roble**	**1.33**	**47**	⇑*eP*	**Pn**	**02 46 08.3**	**+0.1**
ROCH				*eS*	**Sn**	**02 46 25.3**	**-0.2**
ROCH				IAML		02 46 29.3	
	comp=N,3μm,0.4s						
MT12	**Pirque**	**1.36**	**84**	IAML		02 46 32.0	
	comp=E,3μm,0.6s						
MT15	**Las Vizcachas**	**1.42**	**79**	⇓*eP*	**Pn**	**02 46 09.1**	**-0.1**
MT15				*eS*	**Sn**	**02 46 26.6**	**-0.7**
MT15				IAML		02 46 34.1	
	comp=E,4μm,0.2s						
MT03	**Universidad Ad**	**1.44**	**75**	⇓*eP*	**Pn**	**02 46 09.7**	**+0.1**
MT03				*eS*	**Sn**	**02 46 27.4**	**-0.6**
MT03				IAML		02 46 32.0	
	comp=N,4μm,0.3s						
MT03	**Universidad Ad**	**1.44**	**75**	*eP*	**Pn**	**02 46 09.8**	**+0.2**
MT03				*eS*	**Sg**	**02 46 31.0**	**0.0**
MT03				IAML		02 46 33.1	
	comp=Z,1μm,0.2s						
PEL	**Peldehue**	**1.45**	**60**	*eP*	**Pn**	**02 46 09.8**	**+0.2**
PEL				*eS*	**Sn**	**02 46 27.7**	**-0.4**
PEL	**Peldehue**	**1.45**	**60**	*eP*	**Pn**	**02 46 10.0**	**+0.4**
PEL				*eS*	**Sg**	**02 46 30.2**	**-1.0**
PEL				IAML		02 46 40.0	
	comp=Z,842nm,0.6s						
MT14	**Cerro Cal¡n**	**1.45**	**71**	*i* P	**Pn**	**02 46 10.0**	**+0.4**
MT14				*i* S	**Sn**	**02 46 28.4**	**+0.2**
MT14				IAML		02 46 36.0	
	comp=E,2μm,0.3s						
MT16	**CCHEN**	**1.45**	**72**	⇑*eP*	**Pn**	**02 46 09.9**	**+0.3**
MT16				*eS*	**Sn**	**02 46 28.0**	**-0.2**
MT16				IAML		02 46 35.1	
	comp=N,917nm,0.5s						
BO02	**Sierra Bellavi**	**1.46**	**129**	*eP*	**Pn**	**02 46 09.6**	**-0.2**
BO02				*eS*	**Sn**	**02 46 28.8**	**+0.3**
BO02				IAML		02 46 35.5	
	comp=N,5μm,0.3s						
BO02	**Sierra Bellavi**	**1.46**	**129**	*eP*	**Pn**	**02 46 09.8**	**0.0**
BO02				IAML		02 46 34.1	
	comp=Z,2μm,0.1s						
MT10	**Hacienda Santa**	**1.49**	**66**	*i* P	**Pn**	**02 46 11.0**	**+0.6**
MT10				*i* S	**Sn**	**02 46 29.4**	**0.0**
MT10				IAML		02 46 33.2	
	comp=N,3μm,0.2s						
VA06	**Catapilco**	**1.51**	**29**	*eP*	**Pn**	**02 46 10.8**	**+0.3**
VA06				*eS*	**Sn**	**02 46 28.7**	**-0.9**
VA06				IAML		02 46 35.6	
	comp=E,4μm,0.4s						
MT13	**San Alfonso**	**1.57**	**85**	*eP*	**Pn**	**02 46 11.7**	**+0.3**
MT13				*eS*	**Sn**	**02 46 31.3**	**-0.1**
MT13				IAML		02 46 36.2	
	comp=E,3μm,0.3s						
MT13	**San Alfonso**	**1.57**	**85**	*eP*	**Pn**	**02 46 11.7**	**+0.3**
MT13				*eS*	**Sb**	**02 46 32.5**	**-0.1**
MT13				IAML		02 46 37.1	
	comp=Z,1μm,0.4s						
LMEL	**Las Melosas**	**1.64**	**89**	⇑*eP*	**Pn**	**02 46 12.8**	**+0.5**
LMEL				*eS*	**Sn**	**02 46 33.4**	**+0.4**
LMEL				IAML		02 46 39.5	
	comp=N,2μm,0.2s						
LMEL	**Las Melosas**	**1.64**	**89**	*eP*	**Pn**	**02 46 13.1**	**+0.7**
LMEL				*eS*	**Sb**	**02 46 35.8**	**+1.4**
LMEL				IAML		02 46 37.0	
	comp=Z,1μm,0.8s						
FCH	**Farellones**	**1.67**	**71**	⇑*eP*	**Pn**	**02 46 13.4**	**+0.5**
FCH				*eS*	**Sb**	**02 46 34.8**	**-0.6**
FCH				IAML		02 46 35.8	
	comp=E,2μm,0.3s						
VA03	**San Esteban**	**1.76**	**51**	⇑*eP*	**Pn**	**02 46 14.5**	**+0.5**
VA03				*eS*	**Sn**	**02 46 35.9**	**0.0**
VA03				IAML		02 46 44.1	
	comp=E,3μm,0.3s						
VA03	**San Esteban**	**1.76**	**51**	*eP*	**Pn**	**02 46 14.8**	**+0.8**
VA03				*eS*	**Sn**	**02 46 34.5**	**-1.4**
VA03				IAML		02 46 43.5	
	comp=Z,2μm,0.7s						
MT04	**Ro Olivares**	**1.76**	**75**	*eP*	**Pn**	**02 46 14.5**	**+0.4**
MT04				*eS*	**Sn**	**02 46 36.8**	**+0.7**
MT04				IAML		02 46 38.8	
	comp=N,855nm,0.2s						
MT04	**Ro Olivares**	**1.76**	**75**	*eP*	**Pn**	**02 46 14.6**	**+0.5**
MT04				*eS*	**Sb**	**02 46 37.7**	**-0.4**
MT04				IAML		02 46 41.5	
	comp=Z,463nm,0.3s						
MT08	**Bocatoma Ro**	**1.85**	**77**	⇑*eP*	**Pn**	**02 46 16.1**	**+0.8**
MT08				*eS*	**Sn**	**02 46 39.0**	**+0.7**
MT08				IAML		02 46 48.5	
	comp=N,653nm,0.3s						
MT08	**Bocatoma Ro**	**1.85**	**77**	*eP*	**Pn**	**02 46 16.2**	**+0.8**
MT08				*eS

$M_{\theta\theta}$-0.01±.08; $M_{\phi\phi}$ 1.25±.09; $M_{r\theta}$ 1.26±.32; $M_{\theta\phi}$-0.04±.05; $M_{\theta r}$-0.66±.25; Best double couple: M_{s1}.82500×10^16 NP1:ϕ_s195.00000°,δ32.00000°,λ-42.00000°. NP2: ϕ_s322.00000°,δ69.00000°,λ-115.00000°. Principal axes: T 1.5290, Plg21.0000°, Azm70.0000°; N 0.5860, Plg23.0000°, Azm331.0000°; P -2.1210, Plg58.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 14 02:48:49.6±0.4,**54.57N**±0.08×**35.18W**±0.06,**h10**km,**n116,** σ1§**16**/90,**mb4.5**/62,**MS3.8**/11,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NRS	**Narsarsuaq**	**8.56**	**325**	Pn		**Pn**	**02 50 52.6**	**-0.9**
SUMG	**Summit**	**18.13**	**357**			**P**	**02 53 03.2**	**+1.2**
SUMG				IAmb		IAmb	02 53 10.7	
	comp=Z,42nm,1.5s							
SCHQ	**Schefferville**	**18.22**	**284**			**Pn**	**02 53 01.5**	**-0.9**
SCHQ	**Schefferville**	**18.22**	**284**	P		**Pn**	**02 53 01.2**	**-1.1**
	comp=Z,3.5nm,0.3s,baz=104,slow=9.3,SNR=6.9							
EKA	**Eskdalemuir Ar**	**18.32**	**74**	P		**Pn**	**02 53 03.4**	**-0.2**
	baz=274,slow=9.1							
	comp=Z,3.3nm,1.0s							
JMIC	**Jan Mayen**	**20.18**	**25**	LR		LR	02 59 01.1	
	comp=Z,269nm,21.2s,baz=226,slow=30							
BATG	**Bathurst New B**	**20.66**	**262**	P		**P**	**02 53 28.2**	**-1.1**
BATG				IAmb		IAmb	02 53 33.7	
	comp=Z,15nm,0.7s							
LMN	**Caledonia Moun**	**20.74**	**257**	P		**P**	**02 53 28.4**	**-1.7**
PGAV	**Gavieira, Arco**	**21.74**	**114**	*e*LR		LR	02 58 52.4	
PGAV				*i* IAMs_20		IAMs_20	03 00 06.2	
	comp=Z,252nm,20.0s							
GGN	**Saint George**	**22.33**	**258**	P		**P**	**02 53 45.6**	**-1.6**
GGN				IAmb		IAmb	02 53 55.1	
	comp=Z,14nm,1.0s							
D62A	**Allapoint, All**	**22.50**	**265**			**P**	**02 53 47.7**	**-1.3**
D62A				IAmb		IAmb	02 53 56.0	
	comp=Z,12nm,1.0s							
PBRG	**Braganca**	**22.67**	**113**	*e*P		**P**	**02 53 52.9**	**+2.0**
PBRG				*i* IAmb		IAmb	02 53 56.1	
	comp=Z,40nm,1.6s							
G65A	**Princeton**	**22.69**	**259**	P		**P**	**02 53 49.0**	**-2.1**
G65A				IAmb		IAmb	02 53 54.4	
	comp=Z,21nm,1.1s							
PVIS	**Viseu**	**22.83**	**116**	*e*P		**P**	**02 53 54.4**	**+1.7**
MVO	**Moncorvo**	**22.97**	**114**	*e*LR		LR	02 59 26.1	
MVO				*i* IAMs_20		IAMs_20	03 01 55.6	
	comp=Z,253nm,18.0s							
E62A	**Clayton Lake**	**23.02**	**264**	P		**P**	**02 53 54.1**	**-0.4**
MTE	**Manteigas**	**23.24**	**116**	*e*LR		LR	02 59 28.0	
MTE				*i* IAMs_20		IAMs_20	03 01 51.6	
	comp=Z,238nm,20.0s							
PSARD	**Sardoal**	**23.52**	**118**	*e*P		**P**	**02 54 00.5**	**+0.9**
PSARD				*i* IAmb		IAmb	02 54 10.9	
	comp=Z,46nm,1.6s							
PKME	**Peaks-Kenny Pk**	**23.64**	**261**	P		**P**	**02 54 04.3**	**+3.5**
PCBR	**Castelo Branco**	**23.69**	**117**	*e*P		**P**	**02 54 01.9**	**+0.6**
PCBR				*i* IAmb		IAmb	02 54 07.8	
	comp=Z,70nm,1.8s							
PMRV	**Marv??o**	**24.04**	**118**	*e*P		**P**	**02 54 06.8**	**+2.2**
PMRV				*i* IAmb		IAmb	02 54 10.9	
	comp=Z,30nm,1.6s							
PMRV				*e*LR		LR	03 00 09.7	
PMRV				*i* IAMs_20		IAMs_20	03 01 24.1	
	comp=Z,247nm,20.0s							
PESTR	**Estremoz**	**24.36**	**119**	*e*P		**P**	**02 54 09.2**	**+1.6**
PESTR				*i* IAmb		IAmb	02 54 15.4	
	comp=Z,28nm,1.6s							
MESJ	**Messejana**	**24.83**	**121**	*e*P		**P**	**02 54 12.7**	**+0.9**
NOA	**NORSAR Array B**	**25.09**	**56**	LR		LR	03 03 44.0	
	comp=Z,222nm,18.2s,baz=275,slow=36							
H62A	**Milan**	**25.12**	**261**	P		**P**	**02 54 15.1**	**+0.6**
H62A				IAmb		IAmb	02 54 29.4	
	comp=Z,22nm,1.4s							
PMOZ	**Porto Moniz, M**	**25.18**	**142**	*e*LR		LR	03 00 39.3	
PMOZ				*i* IAMs_20		IAMs_20	03 02 39.2	
	comp=Z,148nm,18.0s							
PVAQ	**Vaqueiros**	**25.42**	**121**	*e*LR		LR	03 00 43.2	
PVAQ				*i* IAMs_20		IAMs_20	03 03 25.6	
	comp=Z,258nm,20.0s							
PBDV	**Barranco-do-Ve**	**25.44**	**122**	*e*P		**P**	**02 54 19.7**	**+2.3**
PBDV				*i* IAmb		IAmb	02 54 24.3	
	comp=Z,59nm,1.6s							
ILON	**Igloolik, Nuna**	**25.60**	**323**	P		**P**	**02 54 19.1**	**+0.6**
ILON				IAmb		IAmb	02 54 30.6	
	comp=Z,18nm,1.1s							
ESDC	**Sonseca Array**	**25.67**	**113**	P		**P**	**02 54 19.0**	**-0.5**
	comp=Z,3.7nm,1.1s,baz=316,slow=8.5,SNR=11							
ESDC				LR		LR	03 03 14.6	
	comp=Z,266nm,18.6s,baz=314,slow=34							
	comp=Z,3.7nm,1.1s							
HFS	**Hagfors**	**26.43**	**58**	LR		LR	03 03 33.9	
	comp=Z,314nm,20.0s,baz=293,slow=34							
CLL	**Collm**	**28.77**	**76**	*i* P		**P**	**02 54 48.9**	**+1.8**
	comp=Z,14nm,1.7s							
CLL				*e*PPPP			02 55 57.0	
SADO	**Sadowa**	**29.64**	**269**	LR		LR	03 05 53.9	
	comp=Z,5μm,19.1s,baz=18,slow=34							
GERES	**GERESS Array B**	**30.31**	**80**	P		**P**	**02 55 00.3**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=311,slow=6.4,SNR=4.0							
GERES				LR		LR	03 07 13.1	
	comp=Z,227nm,18.3s,baz=290,slow=37							
	comp=Z,0.4nm,0.7s							
MD01	**Midelt array s**	**30.49**	**123**			**P**	**02 55 02.3**	**-0.4**
MD31	**MD31**	**30.49**	**123**	P		**P**	**02 55 03.8**	**+1.2**
MD31				IAmb		IAmb	02 55 06.9	
	comp=Z,9.5nm,1.2s							
ARCES	**ARCESS Array B**	**30.54**	**37**	P		**P**	**02 55 01.8**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=259,slow=9.1,SNR=1.4							
ARCES				LR		LR	03 05 47.9	
	comp=Z,168nm,18.8s,baz=265,slow=33							
	comp=Z,1.9nm,0.8s							
BLKN	**Baker Lake**	**31.20**	**313**	P		**P**	**02 55 07.4**	**-1.0**
BLKN				IAmb		IAmb	02 55 21.1	
	comp=Z,12nm,1.3s							
FCC	**Fort Churchill**	**31.73**	**302**	P		**P**	**02 55 13.4**	**+0.2**
VRAC	**Vranov**	**31.73**	**78**	LR		LR	03 08 01.3	
	comp=Z,202nm,18.2s,baz=310,slow=36							
FINES	**FINESS Array B**	**32.06**	**53**	P		**P**	**02 55 15.0**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=286,slow=11,SNR=1.9							
FINES				LR		LR	03 06 38.2	
	comp=Z,184nm,21.9s,baz=270,slow=33							
	comp=Z,2.2nm,0.8s							
PABE	**Paberze**	**33.02**	**64**			**P**	**02 55 24.9**	**+0.4**
KEST	**Kesra**	**35.86**	**103**	P		**P**	**02 55 49.6**	**+0.2**
	comp=Z,5.6nm,1.0s,baz=341,slow=3.4,SNR=3.9							
KEST				LR		LR	03 09 46.7	
	comp=Z,156nm,18.9s,baz=350,slow=35							
	comp=Z,5.6nm,1.0s							
ULM	**Lac du Bonnet**	**36.27**	**289**	P		**P**	**02 55 54.6**	**+2.0**
	comp=Z,2.4nm,0.8s,baz=51,slow=6.5,SNR=3.5							
	comp=Z,2.4nm,0.8s							
FFC	**Flin Flon**	**37.32**	**298**	P		**P**	**02 56 02.7**	**+1.1**
BURAR	**Bucovina Array**	**37.51**	**75**	P		**P**	**02 56 03.5**	**0.0**
AKASG	**Malin Array Be**	**38.06**	**68**	P		**P**	**02 56 07.1**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=303,slow=8.4,SNR=11							
	comp=Z,0.8nm,0.5s							
ECSD	**EROS Data Cent**	**40.37**	**281**	P		**P**	**02 56 27.1**	**-0.2**
LCAR	**Lake Charles**	**42.23**	**268**			**P**	**02 56 42.0**	**-0.6**
Z47A	**Carrollton**	**42.47**	**262**	P		**P**	**02 56 44.2**	**-0.5**
WHAR	**Wooly Hollow**	**43.43**	**268**	P		**P**	**02 56 53.4**	**+1.0**
WHAR				IAmb		IAmb	02 56 54.0	
	comp=Z,7.3nm,0.9s							
KIRV	**Kirov**	**43.84**	**49**	LR		LR	03 13 40.1	
	comp=Z,123nm,19.4s,baz=304,slow=34							
TAM	**Tamanrasset**	**43.90**	**120**			**P**	**02 56 57.1**	**+0.6**
TAM				IAmb		IAmb	02 56 59.4	
	comp=Z,7.0nm,1.0s							
X40A	**Basin Creek Fa**	**44.31**	**267**	P		**P**	**02 57 00.2**	**+0.8**
X40A				IAmb		IAmb	02 57 03.9	
	comp=Z,5.4nm,0.7s							
MIAR	**Mount Ida**	**44.70**	**268**	P		**P**	**02 57 04.0**	**+1.4**
MIAR				IAmb		IAmb	02 57 05.2	
	comp=Z,12nm,1.2s							
F30M	**Barrier River**	**44.78**	**328**	P		**P**	**02 57 02.1**	**-0.7**
C27K	**Jago River**	**45.84**	**332**	P		**P**	**02 57 11.6**	**+0.4**
C27K				IAmb		IAmb	02 57 18.6	
	comp=Z,12nm,1.4s							
G29M	**Pine Creek**	**45.89**	**328**	P		**P**	**02 57 11.3**	**-0.4**
G29M				IAmb		IAmb	02 57 35.0	
	comp=Z,9.5nm,1.4s							
E27K	**Coleen River**	**46.17**	**330**	P		**P**	**02 57 13.7**	**-0.2**
E27K				IAmb		IAmb	02 57 20.2	
	comp=Z,8.2nm,1.2s							
H29M	**Whitestone**	**46.43**	**327**	P		**P**	**02 57 16.8**	**+0.9**
H29M				IAmb		IAmb	02 57 49.7	
	comp=Z,9.9nm,1.4s							
BRTR	**Keskin Array B**	**47.17**	**79**			**P**	**02 57 22.6**	**+0.4**
BRTR	**Keskin Array B**	**47.17**	**79**	P		**P**	**02 57 22.8**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=304,slow=6.0,SNR=7.7							
	comp=Z,1.6nm,0.7s							
I28M	**Miner Creek**	**47.42**	**327**	P		**P**	**02 57 24.1**	**+0.3**
WMOK	**Wichita Mounta**	**47.60**	**273**	IAmb		IAmb	02 57 27.8	
	comp=Z,7.7nm,1.4s							
BPMT	**Black Pine Rid**	**48.01**	**294**	P		**P**	**02 57 29.9**	**+1.2**
ISCO	**Idaho Springs**	**48.05**	**283**			**P**	**02 57 29.7**	**+0.5**
ISCO				IAmb		IAmb	02 57 44.6	
	comp=Z,7.2nm,1.4s							
PDAR	**Pinedale Array**	**48.28**	**288**	P		**P**	**02 57 31.2**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=37,slow=6.8,SNR=7.1							
	comp=Z,1.0nm,0.6s							
BNN	**Bunyan**	**49.02**	**78**			**P**	**02 57 37.6**	**+1.1**
ARTI	**Arti**	**49.04**	**47**			**P**	**02 57 36.1**	**-0.2**
KBZ	**Khabaz**	**49.67**	**69**	P		**P**	**02 57 41.3**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=308,slow=6.3,SNR=4.4							
	comp=Z,1.0nm,0.7s							
ILAR	**Eielson Array**	**50.05**	**329**	P		**P**	**02 57 44.9**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=44,slow=5.8,SNR=9.9							
	comp=Z,0.9nm,0.9s							
C19K	**Lookout Ridge**	**50.15**	**337**	P		**P**	**02 57 45.5**	**+0.9**
BRDY	**Brady**	**50.21**	**270**			**P**	**02 57 45.5**	**0.0**
TORD	**Torodi Ar. Bea**	**50.39**	**131**	P		**P**	**02 57 45.1**	**-1.8**
	comp=Z,3.4nm,1.1s,baz=335,slow=8.4,SNR=8.7							
	comp=Z,3.4nm,1.1s							
E19K	**Redstone River**	**50.88**	**335**	P		**P**	**02 57 50.1**	**+0.1**
E19K				IAmb		IAmb	02 58 20.8	
	comp=Z,12nm,1.4s							
PV03	**Paradox Valley**	**50.94**	**283**	IAmb		IAmb	02 57 53.5	
	comp=Z,4.7nm,1.1s							
PV20	**West Nyswonger**	**50.95**	**284**			**P**	**02 57 53.4**	**+2.2**
PV20				IAmb		IAmb	02 57 53.7	
	comp=Z,6.6nm,1.0s							
PV10	**Paradox Valley**	**50.96**	**284**	IAmb		IAmb	02 58 00.3	
	comp=Z,6.6nm,0.9s							
PV19	**Morning Glory**	**50.98**	**283**	IAmb		IAmb	02 57 53.9	
	comp=Z,12nm,1.3s							
PV18	**Skein Mesa, Pa**	**50.98**	**283**	IAmb		IAmb	02 57 53.9	
	comp=Z,7.4nm,0.8s							
PV13	**Radium Mtn., P**	**50.99**	**283**	IAmb		IAmb	02 57 54.0	
	comp=Z,5.4nm,1.1s							
IMAR	**Indian Mountai**	**51.12**	**332**	P		**P**	**02 57 52.3**	**+0.4**
PV05	**Paradox Valley**	**51.20**	**283**	IAmb		IAmb	02 58 00.6	
	comp=Z,5.6nm,1.1s							
JCT	**Junction City**	**51.27**	**269**	IAmb		IAmb	02 57 58.1	
	comp=Z,12nm,1.3s							
HMU	**Henry Mountain**	**52.23**	**284**	IAmb		IAmb	02 58 09.0	
	comp=Z,3.7nm,0.8s							
SAND	**Sanderson**	**53.00**	**271**	IAmb		IAmb	02 58 11.3	
	comp=Z,5.5nm,0.9s							
DBIC	**Dimbokro**	**53.62**	**141**	P		**P**	**02 58 09.2**	**-1.7**
	comp=Z,1.7nm,0.5s,baz=17,slow=5.4,SNR=5.4							
	comp=Z,1.7nm,0.5s							
TXAR	**Lajitas Array**	**54.36**	**272**	P		**P**	**02 58 16.7**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=50,slow=6.9,SNR=6.7							
	comp=Z,0.4nm,0.6s							
ABKAR	**Akbulak array**	**54.54**	**53**			**P**	**02 58 17.6**	**+0.2**
TPH	**Tonopah**	**55.75**	**289**	IAmb		IAmb	02 58 35.6	
	comp=Z,7.9nm,1.5s							
NVAR	**Mina Array Bea**	**56.09**	**290**	P		**P**	**02 58 29.7**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=39,slow=10.0,SNR=1.2							
	comp=Z,0.2nm,0.5s							
BVAR	**Borovoye Array**	**56.39**	**44**	P		**P**	**02 58 29.7**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=308,slow=7.2,SNR=7.6							
	comp=Z,2.0nm,0.6s							
ROSC	**El Rosal**	**58.79**	**227**	P		**P**	**02 58 49.8**	**+1.4**
ROSC	**El Rosal**	**58.79**	**227**	P		**P**	**02 58 49.9**	**+1.4**
	comp=Z,8.2nm,0.5s,baz=34,slow=8.3,SNR=5.7							
	comp=Z,8.2nm,0.5s							
ZALV	**Zalesovo Beam**	**61.08**	**36**	P		**P**	**02 59 03.0**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=300,slow=6.1,SNR=1.7							
	comp=Z,0.7nm,0.5s							
KURK	**Kurchatov**	**61.44**	**41**	P		**P**	**02 59 05.3**	**-0.4**
KURBB	**Kurchatov Arra**	**61.47**	**42**	P		**P**	**02 59 05.0**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=326,slow=7.1,SNR=21							
	comp=Z,2.4nm,0.7s							
MKAR	**Makanchi Array**	**66.04**	**42**			**P**	**02 59 34.9**	**-1.2**
MKAR	**Makanchi Array**	**66.04**	**42**	P		**P**	**02 59 35.5**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=339,slow=6.1,SNR=15							
	comp=Z,2.2nm,0.7s							
GAR	**Garm**	**67.15**	**55**			**P**	**02 59 44.0**	**+0.5**
TARG	**Taragay, Kyrgy**	**68.35**	**48**	IAmb		IAmb	02 59 57.5	
	comp=Z,4.3nm,0.9s							
KSH	**Kashi**	**69.35**	**50**	P		**P**	**03 00 00.3**	**+3.0**
KSH				pmax		pmax		
	comp=Z,5.0nm,1.7s							
SONM	**Songino Array**	**72.94**	**26**	P		**P**	**03 00 18.6**	**-0.3**
SONM				IAmb		IAmb	03 00 23.8	
	comp=Z,8.8nm,1.4s							
SONM	**Songino Array**	**72.94**	**26**	P		**P**	**03 00 18.7**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=322,slow=4.3,SNR=7.3							
	comp=Z,1.5nm,0.7s							
LPAZ	**La Paz**	**75.95**	**213**	P		**P**	**03 00 36.8**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=17,slow=10,SNR=4.3							
	comp=Z,1.4nm,0.9s							
GTA	**Gaotai**	**78.75**	**34**	P		**P**	**03 00 52.4**	**+0.2**
GTA				pmax		pmax		
	comp=Z,6.0nm,1.2s							
HHC	**Hu-ho-hao-te**	**80.78**	**25**	*e*P		**P**	**03 01 02.1**	**-1.1**
HHC				pmax		pmax		
	comp=Z,10.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,50nm,5.4s							
NJ2	**Nanjing**	**90.87**	**22**	*e*P		**P**	**03 01 52.3**	**-0.9**
NJ2				pmax		pmax		
	comp=Z,11nm,0.6s							
PZH	**PanZhiHua**	**91.16**	**38**	P		**P**	**03 01 54.6**	**-0.2**
TAOE	**Nuku Hiva Isla**	**105.84**	**277**	*e*LR		LR	03 37 47.2	
	comp=Z,76nm,23.3s							
PPT2	**Papeete2**	**118.27**	**280**	*e*LR		LR	03 43 33.0	
	comp=Z,93nm,24.2s							
PPT2				*e*LR		LR	03 43 38.8	
	comp=Z,54nm,22.8s							
SNAA	**Sanae**	**127.99**	**168**	PKP		**PKPdf**	**03 07 52.0**	**-2.0**
	comp=Z,0.7nm,1.0s,baz=275,slow=4.8,SNR=6.2							
DZM	**Mont Dzumac**	**143.69**	**325**	*e*LR		LR	03 55 14.6	
	comp=Z,374nm,23.6s							
QSPA	**South Pole Qui**	**144.46**	**180**	PKP		**PKPab**	**03 08 23.0**	**0.0**
	comp=Z,2.4nm,0.8s,baz=195,slow=1.3,SNR=6.9							
WRA	**Warramunga Arr**	**144.52**	**17**	PKP		**PKPab**	**03 08 23.3**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=350,slow=3.1,SNR=1.9							
ASAR	**Alice Springs**	**148.08**	**19**	PKPbc		**PKPdf**	**03 08 33.5**	**+1.5**
	comp=Z,2.9nm,0.5s,baz=350,slow=2.4,SNR=44							

*FUNV **14** 02:49:32.9, 10.84N×62.09W, h18km, MW3.2*
*TRN **14** 02:49:35.4, 10.87N×61.46W, h78km, MD2.5, North of Trinidad.*

ISC 14 02:49:32.2±1.4,**10.73N**±0.07×**62.09W**±0.05,**h35**km,**n8,** σ2§**19**/11,**Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.68**	**97**	*e*P		**Pn**	**02 49 47.6**	**+2.3**
TRN				*e*S		**Sn**	**02 49 55.6**	**+0.9**
TPR	**Prospect**	**1.36**	**70**	*e*P		**Pn**	**02 49 51.1**	**-3.7**
GRGR	**Grenville**	**1.46**	**17**	*e*P		**Pn**	**02 49 57.0**	**+1.0**
GRGR				*e*S		**Sn**	**02 50 14.0**	**+0.1**
GRSS	**Sisters**	**1.63**	**17**	*e*P		**Pn**	**02 49 59.7**	**+1.4**
GCMP	**Grenada, Carri**	**1.86**	**20**	*e*P		**Pn**	**02 50 02.9**	**+1.3**
GCMP				*e*S		**Sn**	**02 50 22.5**	**-1.4**
PCRV	**Puerto La Cruz**	**2.57**	**258**	*e*P		**Pn**	**02 50 12.6**	**+1.3**
CACV	**CAICARA DEL OR**	**5.41**	**235**	*e*P		Pn	02 50 46.2	-4.1
CACV				*e*S		Sn	02 51 41.8	-10
BAUV	**El Baul**	**6.13**	**254**	*e*P		**Pn**	**02 51 01.2**	**+0.9**
BAUV				*e*S		**Sn**	**02 52 06.1**	**-3.1**

*IDC **14** 02:49:56.7±0.9, 54.29N×35.82W, h0km, mb3.9/13, mbtmp4.0/15, ML3.5/2, MS3.7/3, Error ellipse: s-maj=29.2km s-min=17.1km az=7.0*

ISC 14 02:49:57.9±0.8,**54.3N**±0.2×**35.8W**±0.1,**h10**km,**n19,** σ0§**97**/16,**mb4.1**/12,**MS3.6**/3,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SCHQ	**Schefferville**	**17.93**	**284**	P		**P**	**02 54 08.2**	**+0.5**
	1.1nm,0.3s,baz=63,slow=18,SNR=4.2							
	26nm,1.1s							
EKA	**Eskdalemuir Ar**	**18.75**	**74**	P		**P**	**02 54 15.1**	**-1.6**
	baz=287,slow=9.6							
	8.8nm,1.1s							
ESDC	**Sonseca Array**	**25.91**	**111**	P		**P**	**02 55 30.4**	**+0.5**
	2.1nm,0.9s,baz=310,slow=8.7,SNR=5.5							
	2.1nm,0.9s							
MDT	**Midelt**	**30.77**	**122**	LR		LR	03 06 20.4	
	comp=Z,133nm,18.3s,baz=346,slow=32							
AKASG	**Malin Array Be**	**38.50**	**68**	P		**P**	**02 57 18.6**	**-1.3**
	0.5nm,0.5s,baz=302,slow=8.7,SNR=4.3							
	0.5nm,0.5s							
BRTR	**Keskin Array B**	**47.59**	**78**	P		**P**	**02 58 34.6**	**+0.9**
	1.9nm,0.8s,baz=295,slow=4.8,SNR=6.5							
	1.9nm,0.8s							
PDAR	**Pinedale Array**	**48.02**	**288**	P		**P**	**02 58 38.1**	**+1.0**
	0.2nm,0.4s,baz=47,slow=7.7,SNR=2.4							
	0.2nm,0.4s							
ILAR	**Eielson Array**	**50.09**	**329**	P		**P**	**02 58 51.7**	**-0.7**
	0.2nm,0.6s,baz=46,slow=7.6,SNR=4.2							
	0.2nm,0.6s							
KBZ	**Khabaz**	**50.11**	**68**	P		**P**	**02 58 53.6**	**+0.8**
	1.9nm,0.8s,baz=312,slow=3.9,SNR=3.9							
	1.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**50.50**	**130**	P		**P**	**02 58 56.3**	**+0.3**
	2.2nm,0.9s,baz=340,slow=8.6,SNR=7.4							
	2.2nm,0.9s							
MMAI	**Mount Meron Ar**	**53.27**	**83**	LR		LR	03 22 34.1	
	comp=Z,56nm,19.5s,baz=301,slow=37							
TXAR	**Lajitas Array**	**54.00**	**271**	P		**P**	**02 59 20.6**	**-1.6**
	0.4nm,0.6s,baz=43,slow=6.0,SNR=4.3							
	0.4nm,0.6s							
BVAR	**Borovoye Array**	**56.84**	**44**	P		**P**	**02 59 42.2**	**0.0**
	1.6nm,0.6s,baz=335,slow=6.4,SNR=5.2							
	1.6nm,0.6s							
ZALV	**Zalesovo Beam**	**61.51**	**35**	P		**P**	**03 00 15.2**	**+0.8**
	0.8nm,0.7s,baz=108,slow=28,SNR=1.9							
	0.8nm,0.7s							
KURBB	**Kurchatov Arra**	**61.92**	**41**	P		**P**	**03 00 17.5**	**+0.2**
	2.1nm,0.7s,baz=324,slow=7.3,SNR=13							
	2.1nm,0.7s							
MKAR	**Makanchi Array**	**66.49**	**41**	P		**P**	**03 00 47.8**	**+0.5**
	1.4nm,0.7s,baz=334,slow=6.6,SNR=7.6							
	1.4nm,0.7s							
SONM	**Songino Array**	**73.34**	**26**	P		**P**	**03 01 30.7**	**+1.1**
	1.3nm,0.7s,baz=334,slow=8.6,SNR=4.5							
	1.3nm,0.7s							
MATP	**Matopo**	**92.45**	**122**	LR		LR	03 43 42.5	
	comp=Z,41nm,18.3s,baz=351,slow=35							
ASAR	**Alice Springs**	**148.45**	**18**	PKPbc		**PKiKP**	**03 09 46.0**	**-0.1**
	2.4nm,0.6s,baz=345,slow=2.5,SNR=11							

*MOS **14** 02:54:36.4±1.2, 35.51N×140.27E, h65km, mb4.6/10, Error ellipse: s-maj=13.8km s-min=7.6km az=115.2*
*NIED **14** 02:54:38.3, 35.65N×140.17E, h62km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; M_{rr}1.92; $M_{\theta\theta}$0.44; $M_{\phi\phi}$-2.35; $M_{r\theta}$0.96; $M_{\theta\phi}$-0.89; $M_{\theta r}$0.53; Fault plane solution: M_o2.57000×10^15 NP1: ϕ_s172.00000°,δ41.00000°,λ52.00000°. NP2:ϕ_s38.00000°, δ59.00000°,λ118.00000°.*
*JMA **14** 02:54:38.3±0.2, 35.7N±0.6×140.2E±0.7, h62km±1km, MD4.1/34, MW4.3/34, CENTRAL CHIBA PREF*
JMA Felt II J1 at CENTRAL CHIBA PREF .
*NEIC **14** 02:54:38.4±2.2, 35.59N±0.06×140.24E±0.09, h55km±7km, mb4.6/29, Error ellipse: s-maj=10.3km s-min=7.8km az=106.0*
*IDC **14** 02:54:39.5±1.2, 35.50N×140.18E, h74km±11km, mb3.8/20, mbtmp4.1/24, MS3.0/5, Error ellipse: s-maj=16.2km s-min=6.9km az=69.0*

ISC 14 02:54:38.7±0.6,**35.56N**±0.04×**140.21E**±0.04,**h67**km±5km, **n149,** σ1§**40**/140,**mb4.4**/39,**10C-10D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.21**	**67**	*e*P		**Pn**	**02 54 48.4**	**-0.5**
JSMT	**Sammumatsuo**	**0.21**	**67**	A		A	02 54 48.4	
	comp=N,35nm,2.7s,comp=E,30nm,1.8s							
TOK	**Tokyo**	**0.39**	**289**	*e*P		**Pn**	**02 54 49.3**	**-0.8**
TOK	**Tokyo**	**0.39**	**289**	A		A	02 54 49.3	
	comp=N,65nm,1.

USRK	**Ussuriysk Ar.**	**10.69**	**326**	P		**Pn**	**02 57 10.4**	**+1.6**
	comp=E,3.2nm,0.8s,baz=133,slow=13,SNR=4.2							
BNX	**BinXian**	**14.05**	**320**	⇓P		**Pn**	**02 57 54.4**	**+0.1**
BNX				pmax	pmax			
	comp=Z,10.0nm,1.2s							
ZEA	**Zeya**	**20.32**	**337**	*e*P		**P**	**02 59 09.1**	**0.0**
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
PEA0B	**Petropavlovsk**	**21.45**	**30**	*ce*P		**P**	**02 59 23.7**	**+2.5**
PETK	**Petropavlovsk-**	**21.45**	**30**	LR	LR		03 07 58.3	
	comp=Z,20nm,21.6s,baz=209,slow=37							
ULN	**Ulaanbaatar**	**27.42**	**307**	*i* P		**P**	**03 00 18.1**	**0.0**
ULN				pmax	pmax			
	comp=Z,10.0nm,1.3s							
SONM	**Songino Array**	**27.84**	**307**	LR	LR		03 11 47.2	
	comp=Z,61nm,19.1s,baz=88,slow=37							
H11N2	**WAKE ISLAND Hy**	**28.29**	**117**	T	T		03 30 15.3	
	baz=308,slow=75,SNR=55							
H11N1	**WAKE ISLAND Hy**	**28.30**	**117**	T	T		03 30 31.7	
	baz=308,slow=75,SNR=48							
H11N3	**WAKE ISLAND Hy**	**28.31**	**117**	T	T		03 30 30.8	
	baz=308,slow=75,SNR=40							
H11S1	**WAKE ISLAND Hy**	**28.94**	**119**	T	T		03 30 33.7	
	baz=312,slow=75,SNR=24							
H11S3	**WAKE ISLAND Hy**	**28.94**	**119**	T	T		03 30 30.7	
	baz=312,slow=75,SNR=15							
H11S2	**WAKE ISLAND Hy**	**28.95**	**119**	T	T		03 30 36.0	
	baz=312,slow=75,SNR=25							
CMAR	**Chiang Mai Ar**	**40.19**	**256**	LR	LR		03 19 13.6	
	comp=Z,20nm,19.9s,baz=180,slow=37							
ZAA0	**Zalesovo Array**	**42.21**	**314**	P		**P**	**03 02 24.4**	**-0.3**
ZALV	**Zalesovo Beam**	**42.21**	**314**	P		**P**	**03 02 24.9**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=85,slow=6.3,SNR=10							
ZALV				PcP		**PcP**	**03 04 17.6**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=146,slow=2.2,SNR=5.4							
	comp=Z,2.6nm,0.7s							
MK31	**Makanchi Array**	**44.09**	**303**	*ce*P		**P**	**03 02 40.6**	**+0.5**
MKAR	**Makanchi Array**	**44.09**	**303**	P		**P**	**03 02 39.7**	**-0.4**
MKAR	**Makanchi Array**	**44.09**	**303**	P		**P**	**03 02 40.4**	**+0.2**
	comp=Z,4.6nm,0.9s,baz=90,slow=9.9,SNR=22							
MKAR				PcP		**PcP**	**03 04 24.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=72,slow=4.7,SNR=2.5							
	comp=Z,4.6nm,0.9s							
O16K	**Kokwok River B**	**45.96**	**39**	P		**P**	**03 02 56.0**	**+1.3**
KURK	**Kurchatov**	**46.09**	**309**	P		**P**	**03 02 56.0**	**+0.2**
KURK							03 04 30.7	
K17K	**Iditarod**	**46.12**	**34**	P		**P**	**03 02 57.3**	**+1.4**
K17K				IAmb	IAmb		03 03 22.8	
	comp=Z,9.5nm,1.1s							
KURBB	**Kurchatov Arra**	**46.16**	**309**	P		**P**	**03 02 56.0**	**-0.3**
	comp=Z,3.7nm,0.6s,baz=85,slow=7.8,SNR=41							
KURBB				PcP		**PcP**	**03 04 30.7**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=88,slow=3.8,SNR=4.1							
	comp=Z,3.7nm,0.6s							
G18K	**Tagagawik**	**46.41**	**30**	P		**P**	**03 02 59.7**	**+1.6**
E19K	**Redstone River**	**47.23**	**28**	P		**P**	**03 03 05.5**	**+1.0**
E19K				IAmb	IAmb		03 03 06.6	
	comp=Z,4.6nm,0.9s							
J19K	**Poorman**	**47.44**	**33**	P		**P**	**03 03 07.8**	**+1.6**
J19K				IAmb	IAmb		03 03 17.4	
	comp=Z,10nm,1.4s							
K20K	**Telida**	**48.09**	**34**	P		**P**	**03 03 12.5**	**+1.2**
K20K				IAmb	IAmb		03 03 15.8	
	comp=Z,11nm,1.4s							
KDAK	**Kodiak Island**	**48.84**	**41**	P		**P**	**03 03 17.6**	**+0.5**
KDAK				IAmb	IAmb		03 03 52.4	
	comp=Z,17nm,1.2s							
KDAK	**Kodiak Island**	**48.84**	**41**	P		**P**	**03 03 17.6**	**+0.5**
KDAK				pmax	pmax			
	comp=Z,17nm,1.3s							
BVAR	**Borovoye Array**	**50.85**	**313**	P		**P**	**03 03 34.0**	**+1.6**
	comp=Z,0.9nm,0.4s,baz=99,slow=7.7,SNR=4.3							
BVAR				PcP		**PcP**	**03 04 48.2**	**0.0**
	comp=Z,1.0nm,0.5s,baz=85,slow=4.8,SNR=2.6							
	comp=Z,0.9nm,0.4s							
ILAR	**Eielson Array**	**51.26**	**32**	P		**P**	**03 03 35.6**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=274,slow=6.2,SNR=19							
	comp=Z,1.5nm,0.8s							
KNRA	**Kununurra**	**52.10**	**194**	P		**P**	**03 03 42.0**	**0.0**
DOT	**Dot Lake**	**52.57**	**33**	P		**P**	**03 03 46.6**	**+1.5**
K27K	**Chicken**	**53.40**	**32**	P		**P**	**03 03 49.7**	**-1.4**
K27K				IAmb	IAmb		03 03 53.9	
	comp=Z,9.4nm,1.4s							
I28M	**Miner Creek**	**54.12**	**31**	P		**P**	**03 03 58.0**	**+1.5**
FITZ	**Fitzroy Crossi**	**55.12**	**197**	P		**P**	**03 04 04.3**	**+0.2**
M29M	**Somme Creek**	**55.27**	**34**	P		**P**	**03 04 06.8**	**+1.9**
M29M				IAmb	IAmb		03 04 28.8	
	comp=Z,6.6nm,1.4s							
WB0	**Warramunga Arr**	**55.30**	**187**	P		**P**	**03 04 04.5**	**-0.9**
WB0				IAmb	IAmb		03 04 06.1	
	comp=Z,4.9nm,0.8s							
CHGR	**Chuyangaron**	**55.43**	**296**	P		**P**	**03 04 06.9**	**+0.5**
CHGR				IAmb	IAmb		03 04 13.7	
	comp=Z,12nm,1.1s							
CHGR	**Chuyangaron**	**55.43**	**296**	P		**P**	**03 04 06.9**	**+0.5**
CHGR				pmax	pmax			
	comp=Z,12nm,1.1s							
WR8	**Warramunga Arr**	**55.48**	**187**	P		**P**	**03 04 06.1**	**-0.5**
WR8				IAmb	IAmb		03 04 26.0	
	comp=Z,10nm,1.2s							
WRA	**Warramunga Arr**	**55.48**	**187**	P		**P**	**03 04 05.6**	**-1.1**
WRA	**Warramunga Arr**	**55.48**	**187**	P		**P**	**03 04 06.1**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=1.7,slow=7.5,SNR=28							
	comp=Z,2.0nm,0.6s							
WRA	**Warramunga Arr**	**55.48**	**187**	*ce*P		**P**	**03 04 06.0**	**-0.7**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
I30M	**Mount Dempster**	**55.63**	**30**	P		**P**	**03 04 08.3**	**+0.8**
I30M				IAmb	IAmb		03 04 09.9	
	comp=Z,5.1nm,0.9s							
ARTI	**Arti**	**56.93**	**319**	P		**P**	**03 04 16.7**	**0.0**
ARTI	**Arti**	**56.93**	**319**	*c i*P		P	03 04 11.2	-5.5
ARTI				*PP		pP	03 04 27.4	-6.7
ARTI				S		**S**	**03 11 58.7**	**-6.7**
ARTI				pmax	pmax			
	comp=Z,6.0nm,0.8s							
AB31	**Akbulak array**	**58.15**	**311**	P		**P**	**03 04 25.2**	**-0.2**
AB31				IAmb	IAmb		03 04 26.4	
	comp=Z,3.4nm,0.8s							
ABKAR	**Akbulak array**	**58.15**	**311**	P		**P**	**03 04 25.3**	**-0.1**
MMPY	**Sheldon Lake,**	**58.46**	**33**	P		**P**	**03 04 29.3**	**+1.9**
MMPY				IAmb	IAmb		03 04 31.0	
	comp=Z,6.2nm,1.3s							
ASAR	**Alice Springs**	**59.21**	**187**	P		**P**	**03 04 32.5**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=19,slow=12,SNR=12							
	comp=Z,0.7nm,0.6s							
MBWA	**Marble Bar**	**59.66**	**202**	P		**P**	**03 04 35.4**	**-0.6**
PSA00	**Pilbara Seismi**	**60.01**	**202**	P		**P**	**03 04 37.7**	**-0.7**
PSA00				IAmb	IAmb		03 04 38.9	
	comp=Z,4.2nm,0.8s							
KIRV	**Kirov**	**60.84**	**323**	*ce*P		**P**	**03 04 44.4**	**+0.7**
ARCES	**ARCESS Array B**	**65.03**	**339**	P		**P**	**03 05 11.3**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=52,slow=7.3,SNR=6.7							
	comp=Z,3.5nm,0.8s							
YKA	**Yellowknife Ar**	**65.57**	**29**	P		**P**	**03 05 14.0**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=288,slow=12,SNR=4.2							
	comp=Z,0.9nm,0.8s							
YKA	**Yellowknife Ar**	**65.57**	**29**	P		**P**	**03 05 14.0**	**-0.9**
OBN	**Obninsk**	**68.69**	**323**	*e*P		**P**	**03 05 33.0**	**-1.8**
OBN				*e**PP		**pP**	**03 05 52.2**	**-0.5**
OBN				*e*			03 05 58.0	
OBN				*e**SP		**sP**	**03 06 00.7**	**+0.6**
OBN				*e*			03 08 08.1	
OBN				*e*PPP		PPP	03 09 47.3	
OBN				pmax	pmax			
	comp=Z,6.0nm,0.6s							
OBN				MLR	MLR			
	comp=Z,36nm,16.0s							
FIA1	**FINESS Array S**	**69.66**	**332**	P		**P**	**03 05 41.0**	**+0.3**
FINES	**FINESS Array B**	**69.66**	**332**	P		**P**	**03 05 40.8**	**+0.1**
FINES	**FINESS Array B**	**69.66**	**332**	P		**P**	**03 05 40.6**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=47,slow=6.0,SNR=9.8							
	comp=Z,3.0nm,0.8s							
FINES	**FINESS Array B**	**69.66**	**332**	*ce*P		**P**	**03 05 40.9**	**+0.2**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KBZ	**Khabaz**	**71.12**	**311**	P		**P**	**03 05 50.5**	**+0.5**
	comp=Z,4.8nm,0.9s,baz=341,slow=0.7,SNR=8.2							
	comp=Z,4.8nm,0.9s							
KBZ	**Khabaz**	**71.12**	**311**	*ce*P		**P**	**03 05 51.3**	**+1.4**
KIV	**Kislovodsk**	**71.13**	**311**	*e*P		**P**	**03 05 48.0**	**-2.1**
KIV				pmax	pmax			
	comp=Z,10.0nm,1.1s							
AKASG	**Malin Array Be**	**74.86**	**322**	P		**P**	**03 06 11.2**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=49,slow=5.9,SNR=17							
	comp=Z,1.1nm,0.3s							
AKASG	**Malin Array Be**	**74.86**	**322**	*ce*P		**P**	**03 06 11.5**	**-0.4**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
HFS	**Hagfors**	**75.02**	**335**	P		**P**	**03 06 12.7**	**0.0**
	comp=Z,1.2nm,0.6s,baz=55,slow=7.5,SNR=7.6							
	comp=Z,1.2nm,0.6s							
NC204	**NORSAR Array S**	**75.13**	**337**	P		**P**	**03 06 13.3**	**0.0**
NB2	**NORSAR Subarra**	**75.16**	**337**	P		**P**	**03 06 13.5**	**0.0**
	comp=Z,0.3nm,0.3s,baz=35,slow=6.2							
NOA	**NORSAR Array B**	**75.16**	**337**	P		**P**	**03 06 13.3**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=51,slow=4.5,SNR=3.2							
NOA				LR	LR		03 43 39.2	
	comp=Z,10nm,18.3s,baz=30,slow=39							
	comp=Z,0.6nm,0.5s							
NVAR	**Mina Array Bea**	**76.65**	**52**	P		**P**	**03 06 24.1**	**+1.4**
	comp=Z,1.9nm,1.0s,baz=284,slow=5.7,SNR=6.2							
	comp=Z,1.9nm,1.0s							
BURAR	**Bucovina Array**	**78.86**	**321**	P		**P**	**03 06 34.8**	**+0.2**
BRTR	**Keskin Array B**	**79.09**	**311**	P		**P**	**03 06 37.4**	**+1.3**
BRTR	**Keskin Array B**	**79.09**	**311**	P		**P**	**03 06 36.5**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=100,slow=6.0,SNR=5.1							
	comp=Z,0.9nm,0.7s							
BRTR	**Keskin Array B**	**79.09**	**311**	*ce*P		**P**	**03 06 37.0**	**+0.9**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
PDAR	**Pinedale Array**	**79.39**	**45**	P		**P**	**03 06 38.2**	**+0.4**
PDAR	**Pinedale Array**	**79.39**	**45**	P		**P**	**03 06 38.4**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=263,slow=2.5,SNR=9.1							
	comp=Z,0.9nm,0.7s							
HMU	**Henry Mountain**	**81.72**	**49**	P		**P**	**03 06 51.5**	**+1.2**
HMU				IAmb	IAmb		03 06 52.5	
	comp=Z,3.5nm,0.7s							
CLL	**Collm**	**81.88**	**330**	*i* P		**P**	**03 06 50.4**	**-0.2**
CLL	**Collm**	**81.88**	**330**	*i* P		**P**	**03 06 50.4**	**-0.2**
PV10	**Paradox Valley**	**82.48**	**48**	P		**P**	**03 06 55.8**	**+1.5**
GERES	**GERESS Array B**	**83.44**	**328**	P		**P**	**03 06 58.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=12,slow=6.8,SNR=3.9							
	comp=Z,0.2nm,0.3s							
EKA	**Eskdalemuir Ar**	**84.19**	**340**	P		**P**	**03 07 02.7**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=29,slow=5.2,SNR=5.3							
	comp=Z,0.2nm,0.3s							
ANMO	**Albuquerque**	**86.28**	**49**	*ce*P		**P**	**03 07 16.3**	**+2.8**
ANMO				pmax	pmax			
	comp=Z,3.0nm,1.3s							
TXAR	**Lajitas Array**	**91.79**	**52**	P		**P**	**03 07 40.1**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=314,slow=4.3,SNR=5.1							
	comp=Z,0.7nm,0.9s							
TORD	**Torodi Ar. Bea**	**117.66**	**313**	PKP		**PKPdf**	**03 13 17.3**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=351,slow=4.8,SNR=4.3							
QSPA	**South Pole Qui**	**125.31**	**180**	PKP		**PKiKP**	**03 13 32.0**	**+0.8**
	comp=Z,1.6nm,0.9s,baz=285,slow=2.7,SNR=4.1							
LPAZ	**La Paz**	**148.27**	**60**	PKPbc		**PKPbc**	**03 14 18.5**	**+0.1**
	comp=Z,1.4nm,1.0s,baz=310,slow=10.0,SNR=4.0							

*IDC **14** 02:55:22.2±0.8, 54.°62N×35.°18W, h0km, mb3.9/14, mbtmp3.9/15, ML3.5/2, Error ellipse: s-maj=26.9km s-min=15.2km az=10.0*
*NEIC **14** 02:55:24.9±1.8, 54.°6N±0.°2×35.°2W±0.°2, h10km±2km, mb4.4/16, Error ellipse: s-maj=33.0km s-min=16.7km az=181.0*
ISC 14 02:55:24.1±0.6, 54.°6N±0.°2×35.°16W±0.°07, h10km, n39, σ0s95/38, mb4.3/21, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.22**	**284**			**Pn**	**02 59 36.8**	**-0.1**
SCHQ	**Schefferville**	**18.22**	**284**	P		**Pn**	**02 59 36.4**	**-0.5**
	1.7nm,0.3s,baz=104,slow=8.0,SNR=5.5							
EKA	**Eskdalemuir Ar**	**18.30**	**75**	P		**P**	**02 59 38.7**	**+0.7**
	baz=285,slow=11							
	3.0nm,0.9s							
BATG	**Bathurst New B**	**20.68**	**262**	P		**P**	**03 00 03.3**	**-0.7**
D62A	**Allapoint, All**	**22.51**	**264**	P		**P**	**03 00 23.3**	**-0.4**
F64A	**Sherman**	**22.77**	**261**	P		**P**	**03 00 25.3**	**-1.2**
F64A				IAmb	IAmb		03 00 41.9	
	comp=Z,24nm,1.5s							
ESDC	**Sonseca Array**	**25.68**	**113**	P		**P**	**03 00 53.7**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=312,slow=9.4,SNR=10							
	comp=Z,1.9nm,0.8s							
CLL	**Collm**	**28.75**	**76**	*e*P		**P**	**03 01 21.0**	**-0.5**
GERES	**GERESS Array B**	**30.29**	**80**	P		**P**	**03 01 35.3**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=328,slow=7.0,SNR=4.2							
	comp=Z,0.5nm,0.8s							
MD01	**Midelt array s**	**30.50**	**123**	P		**P**	**03 01 37.7**	**+0.4**
MD31	**MD31**	**30.50**	**123**	P		**P**	**03 01 38.4**	**+1.1**
MD31				IAmb	IAmb		03 01 38.5	
	comp=Z,5.0nm,0.9s							
FCC	**Fort Churchill**	**31.72**	**302**	P		**P**	**03 01 48.5**	**+0.9**
KEST	**Kesra**	**35.86**	**103**	P		**P**	**03 02 24.2**	**+0.3**
	comp=Z,4.3nm,0.9s,baz=354,slow=2.5,SNR=3.9							
	comp=Z,4.3nm,0.9s							
BURAR	**Bucovina Array**	**37.49**	**75**	P		**P**	**03 02 39.3**	**+1.6**
AKASG	**Malin Array Be**	**38.03**	**69**	P		**P**	**03 02 41.2**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=302,slow=8.6,SNR=5.6							
	comp=Z,0.6nm,0.6s							
LCAR	**Lake Charles**	**42.24**	**268**	P		**P**	**03 03 16.9**	**-0.3**
LCAR				IAmb	IAmb		03 03 18.6	
	comp=Z,5.4nm,0.9s							
WHAR	**Wooly Hollow**	**43.44**	**268**	P		**P**	**03 03 28.1**	**+1.2**
WHAR				IAmb	IAmb		03 03 32.6	
	comp=Z,11nm,1.3s							
X40A	**Basin Creek Fa**	**44.32**	**267**	P		**P**	**03 03 34.6**	**+0.6**
MIAR	**Mount Ida**	**44.71**	**268**	P		**P**	**03 03 38.3**	**+1.1**
MIAR				IAmb	IAmb		03 03 39.3	
	comp=Z,5.4nm,0.9s							
H29M	**Whitestone**	**46.40**	**327**	P		**P**	**03 03 50.8**	**+0.6**
H29M				IAmb	IAmb		03 04 33.2	
	comp=Z,5.4nm,1.1s							
J30M	**Hart River**	**46.76**	**324**	P		**P**	**03 03 55.0**	**+1.8**
J30M				IAmb	IAmb		03 03 56.0	
	comp=Z,2.8nm,0.9s							
BRTR	**Keskin Array B**	**47.16**	**79**	P		**P**	**03 03 58.1**	**+1.6**
BRTR	**Keskin Array B**	**47.16**	**79**	P		**P**	**03 03 57.4**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=310,slow=5.6,SNR=8.6							
	comp=Z,2.0nm,0.8s							
PDAR	**Pinedale Array**	**48.28**	**288**	P		**P**	**03 04 04.7**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=58,slow=9.1,SNR=4.8							
	comp=Z,0.9nm,0.8s							
KBZ	**Khabaz**	**49.65**	**69**	P		**P**	**03 04 14.7**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=319,slow=9.3,SNR=3.7							
	comp=Z,0.5nm,0.4s							
ILAR	**Eielson Array**	**50.02**	**329**	P		**P**	**03 04 16.4**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=53,slow=6.7,SNR=4.7							
	comp=Z,0.3nm,0.6s							
BRDY	**Brady**	**50.22**	**270**	P		**P**	**03 04 19.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**50.41**	**131**	P		**P**	**03 04 20.1**	**-1.5**
	comp=Z,1.7nm,0.9s,baz=332,slow=8.3,SNR=9.0							
	comp=Z,1.7nm,0.9s							
PV18	**Skein Mesa, Pa**	**50.98**	**283**				**03 04 26.7**	**+0.7**
SAND	**Sanderson**	**53.01**	**271**	P		**P**	**03 04 41.3**	**+0.3**
SAND				IAmb	IAmb		03 04 42.6	
	comp=Z,4.6nm,1.0s							
TXAR	**Lajitas Array**	**54.37**	**272**	P		**P**	**03 04 52.7**	**+1.7**
TXAR	**Lajitas Array**	**54.37**	**272**	P		**P**	**03 04 51.8**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=65,slow=6.5,SNR=6.8							
	comp=Z,0.5nm,0.8s							
BVAR	**Borovoye Array**	**56.36**	**44**	P		**P**	**03 05 04.8**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=286,slow=7.3,SNR=5.0							
	comp=Z,1.5nm,0.6s							
KURBB	**Kurchatov Arra**	**61.44**	**42**	P		**P**	**03 05 40.2**	**0.0**
	comp=Z,2.1nm,0.7s,baz=323,slow=7.3,SNR=14							
	comp=Z,2.1nm,0.7s							
MKAR	**Makanchi Array**	**66.00**	**42**	P		**P**	**03 06 10.6**	**+0.1**
MKAR	**Makanchi Array**	**66.00**	**42**	P		**P**	**03 06 10.4**	**0.0**
	comp=Z,1.4nm,0.7s,baz=332,slow=5.6,SNR=9.2							
	comp=Z,1.4nm,0.7s							
SONM	**Songino Array**	**72.90**	**26**	P		**P**	**03 06 51.9**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=335,slow=6.5,SNR=5.9							
	comp=Z,1.1nm,0.7s							
QSPA	**South Pole Qui**	**144.50**	**180**	PKP		PKPbc	03 14 57.9	0.0
	comp=Z,0.9nm,0.7s,baz=200,slow=4.0,SNR=4.3							
ASAR	**Alice Springs**	**148.03**	**19**	PKPbc		**PKPbc**	**03 15 08.6**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=349,slow=2.1,SNR=25							

*IDC **14** 03:11:38.4±0.5, 13.°86N×145.°14E, h115km±4km, mb3.8/20, mbtmp4.3/21, Error ellipse: s-maj=18.0km s-min=12.1km az=79.0*
*NEIC **14** 03:11:39.7±1.9, 13.°76N±0.°07×145.°1E±0.°1, h124km±4km, mb4.5/44, Error ellipse: s-maj=18.3km s-min=8.6km az=113.0*
ISC 14 03:11:39.3±0.5, 13.°77N±0.°07×145.°1E±0.°1, h125km, n94, σ0s85/93, mb4.4/41, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GUMO	**Guam**	**0.29**	**231**			**Pn**	**03 11 57.1**	**+0.2**
GUMO					Sn	**Sn**	**03 12 09.8**	**-0.2**
GUMO	**Guam**	**0.29**	**231**	P		**Pn**	**03 11 57.2**	**+0.3**
	4μm,0.2s,baz=330,slow=20,SNR=110							
GUMO				S		**Sn**	**03 12 09.1**	**-0.9**
	6μm,0.3s,baz=55,slow=17,SNR=12							
MANU	**Manus Island**	**15.87**	**172**			**Pn**	**03 15 15.4**	**-0.5**
MANU					IAmb	IAmb	03 15 30.0	
	comp=Z,55nm,1.4s							
JHJ	**Hachijo jima 2**	**19.86**	**347**	P		**P**	**03 16 00.2**	**-0.4**
	comp=Z,265nm,1.0s,baz=84,slow=20,SNR=1.8							
JOW	**Kunigami**	**20.41**	**312**	P		Pn	03 16 08.9	-1.0
JOW	**Kunigami**	**20.41**	**312**	P		**P**	**03 16 06.6**	**0.0**
	comp=Z,24nm,0.5s,baz=122,slow=17,SNR=5.3							
	comp=Z,24nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**21.26**	**74**	T		T	03 38 27.7	
	baz=261,slow=75,SNR=4.9							
H11S1	**WAKE ISLAND Hy**	**21.27**	**74**	T		T	03 38 28.1	
	baz=261,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**	**21.27**	**74**	T		T	03 38 29.4	
	baz=261,slow=75,SNR=3.6							
H11N1	**WAKE ISLAND Hy**	**21.68**	**71**	T		T	03 39 37.0	
	baz=258,slow=75							
H11N2	**WAKE ISLAND Hy**	**21.69**	**71**	T		T	03 39 23.7	
	baz=258,slow=75							
H11N3	**WAKE ISLAND Hy**	**21.70**	**71**	T		T	03 39 54.4	
	baz=258,slow=75							
MJAR	**Matsushiro Ar**	**23.50**	**346**	P		**P**	**03 16 36.5**	**-1.5**
	comp=Z,2.7nm,0.8s,baz=170,slow=10,SNR=4.5							
	comp=Z,2.7nm,0.8s							
YULB	**Yu-li**	**24.47**	**296**	P		**P**	**03 16 47.1**	**+0.2**
YULB					IAmb	IAmb	03 16 47.5	
	comp=Z,25nm,1.3s							
KSRS	**Korea Array**	**28.12**	**330**	P		**P**	**03 17 18.7**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=150,slow=9.1,SNR=5.0							
KSRS				PcP		**PcP**	**03 20 32.1**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=173,slow=1.8,SNR=5.4							
	comp=Z,1.1nm,0.8s							
WB0	**Warramunga Arr**	**34.95**	**198**	P		**P**	**03 18 18.8**	**-0.7**
WB0					IAmb	IAmb	03 18 52.9	
	comp=Z,11nm,1.4s							
WR8	**Warramunga Arr**	**35.10**	**198**	P		**P**	**03 18 20.3**	**-0.5**
WR8					IAmb	IAmb	03 18 21.9	
	comp=Z,7.6nm,1.1s							
WRA	**Warramunga Arr**	**35.13**	**198**	P		**P**	**03 18 20.9**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=19,slow=9.2,SNR=11							
WRA				PcP		**PcP**	**03 20 50.7**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=14,slow=3.3,SNR=8.1							
	comp=Z,2.8nm,0.8s							
FITZ	**Fitzroy Crossi**	**37.03**	**212**	P		**P**	**03 18 36.9**	**-0.4**
AS31	**Alice Springs**	**38.78**	**197**	P		**P**	**03 18 51.5**	**-0.5**
ASAR	**Alice Springs**	**38.78**	**197**	P		**P**	**03 18 51.5**	**-0.5**
ASAR	**Alice Springs**	**38.78**	**197**	P		**P**	**03 18 51.9**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=16,slow=6.1,SNR=4.4							
ASAR				PcP		**PcP**	**03 21 02.0**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=45,slow=2.5,SNR=9.2							
	comp=Z,0.9nm,0.8s							
PSA00	**Pilbara Seismi**	**42.99**	**216**	P		**P**	**03 19 26.6**	**+0.1**
PSA00					IAmb	IAmb	03 19 35.4	
	comp=Z,8.8nm,1.1s							
LZH	**Lanzhou**	**43.08**	**309**	*e*P		**P**	**03 19 28.0**	**+0.7**
LZH				pmax	pmax			
	comp=Z,18nm,1.3s							
LZDM	**Lanzhou Array**	**43.15**	**308**	P		**P**	**03 19 28.6**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=126,slow=12,SNR=4.1							
	comp=Z,1.4nm,0.3s							
ARMA	**Armidale**	**44.38**	**172**	P		**P**	**03 19 38.3**	**+0.8**
ARMA					IAmb	IAmb	03 19 59.4	
	comp=Z,14nm,1.4s							
CMAR	**Chiang Mai Arr**	**44.50**	**282**	P		**P**	**03 19 39.9**	**+1.2**
	comp=Z,1.3nm,0.3s,baz=77,slow=5.6,SNR=4.4							
CMAR				PcP		**PcP**	**03 21 21.6**	**+1.6**
	comp=Z,3.1nm,

	comp=Z,5.3nm,0.7s							
BEKR	**Beckworth**	**84.73**	**50**	P		**P**	**03 24 00.8**	**+0.8**
NEW	**Newport**	**84.94**	**42**	P		**P**	**03 24 01.2**	**+0.6**
NEW				IAmb		IAmb	03 24 02.0	
	comp=Z,3.6nm,0.6s							
NEW	**Newport**	**84.94**	**42**	P		**P**	**03 24 01.4**	**+0.8**
	comp=Z,3.4nm,0.6s,baz=314,slow=5.3,SNR=8.8							
	comp=Z,3.4nm,0.6s							
BMO	**Blue Mountains**	**85.70**	**45**	P		**P**	**03 24 05.5**	**+1.0**
PLID	**Pearl Lake**	**86.53**	**45**	P		**P**	**03 24 08.9**	**+0.1**
PLID				IAmb		IAmb	03 24 10.1	
	comp=Z,2.9nm,0.8s							
NVAR	**Mina Array Bea**	**86.63**	**51**	P		**P**	**03 24 10.1**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=283,slow=7.3,SNR=53							
	comp=Z,0.5nm,0.3s							
ARCES	**ARCESS Array B**	**86.98**	**342**	P		**P**	**03 24 09.6**	**-0.6**
	comp=Z,5.1nm,0.9s,baz=76,slow=5.8,SNR=6.9							
	comp=Z,5.1nm,0.9s							
HLID	**Hailey**	**88.06**	**46**	P		**P**	**03 24 17.1**	**+1.1**
LRM	**Limekiln Ridge**	**88.70**	**43**	P		**P**	**03 24 20.9**	**+1.7**
FIA1	**FINESS Array S**	**91.09**	**335**	P		**P**	**03 24 27.6**	**-2.0**
FINES	**FINESS Array B**	**91.09**	**335**	P		**P**	**03 24 27.7**	**-1.9**
FINES	**FINESS Array B**	**91.09**	**335**	P		**P**	**03 24 27.5**	**-2.1**
	comp=Z,2.6nm,0.8s,baz=59,slow=4.3,SNR=16							
	comp=Z,2.6nm,0.8s							
PDAR	**Pinedale Array**	**91.68**	**45**	P		**P**	**03 24 31.5**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=284,slow=5.3,SNR=2.5							
	comp=Z,0.2nm,0.4s							
SNAA	**Sanae**	**119.01**	**191**	PKP		**PKPdf**	**03 30 12.5**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=231,slow=6.5,SNR=8.2							
MREMI	**Moremi**	**120.47**	**252**	PKPdf		**PKiKP**	**03 30 17.4**	**+0.4**
LBTB	**Lobatse**	**122.25**	**249**	PKPdf		**PKiKP**	**03 30 21.1**	**+0.5**
BOSA	**Boshof**	**122.53**	**245**	PKP		**PKPdf**	**03 30 20.7**	**-0.1**
	comp=Z,3.9nm,1.1s,baz=342,slow=3.2,SNR=1.8							
KDWAN	**Kaudwane**	**123.07**	**251**	PKPdf		**PKiKP**	**03 30 22.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**134.94**	**305**	PKPdf		**PKiKP**	**03 30 46.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**134.94**	**305**	PKP		**PKPdf**	**03 30 44.7**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=35,slow=3.1,SNR=14							
DBIC	**Dimbokro**	**143.91**	**302**	PKPdf		PKPab	03 30 58.7	+0.3
DBIC	**Dimbokro**	**143.91**	**302**	PKP		PKPab	03 30 58.6	+0.2
	comp=Z,8.5nm,0.5s,baz=74,slow=3.4,SNR=38							
LPAZ	**La Paz**	**147.83**	**99**	PKP		**PKPdf**	**03 31 07.2**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=187,slow=8.1,SNR=1.9							
LPAZ				PKPbc		**PKPbc**	**03 31 12.5**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=290,slow=1.6,SNR=8.2							
BOAV	**Boa Vista**	**149.94**	**60**	PKPbc		**PKiKP**	**03 31 16.8**	**-0.1**

*CNRM **14** 03:18:12.8, 37.20N×8.48W, h21km, ML1.9*
*MDD **14** 03:18:12.4±0.4, 37.43N×8.56W, h3km±3km, mb_Lg2.6/11, Error ellipse: s-maj=3.2km s-min=2.6km az=142.0*
*SFS **14** 03:18:13.1, 37.32N×8.54W, h8km, ML2.4/8, ML2.2/11, MLv2.1/11*
*IGIL **14** 03:18:13.5, 37.34N×8.55W, h11km, ML2.2*
*INMG **14** 03:18:13.2±1.4, 37.35N×8.55W, h11km±2km, ML2.1, Error ellipse: s-maj=2.3km s-min=1.7km az=127.0, #DIST_RANGE: LOCAL #IPMA_REGION: NE Monchique*

ISC 14 03:18:12.0±0.9, 37.34N±0.02×8.54W±0.02, h18km±2km, n54, σ1°14/102, 4C-3D, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MORF	**Marmelete**	**0.10**	**246**	*e*P		**Pg**	**03 18 15.7**	**-0.1**
MORF				*e*S		**Sg**	**03 18 17.9**	**-0.4**
MORF				IAML			03 18 18.6	
	comp=N,1μm,0.1s							
MORF	**Marmelete**	**0.10**	**246**	*i*Pg		**Pg**	**03 18 15.7**	**-0.1**
MORF				*e*Sg		**Sg**	**03 18 18.0**	**-0.2**
MORF				*i* IAML			03 18 18.3	
MORF				*i* IAML			03 18 18.7	
MORF				*i* IAML			03 18 19.1	
PTEO	**Sao Teotonio**	**0.25**	**325**	*i*Pg		**Pb**	**03 18 18.2**	**+0.4**
PTEO				*e*Sg		**Sb**	**03 18 21.7**	**+0.1**
PTEO				*i* IAML			03 18 22.1	
PTEO				*i* IAML			03 18 22.2	
PTEO				*i* IAML			03 18 22.2	
PFVI	**Vila Bisbo**	**0.31**	**227**	Pg		**Pg**	**03 18 18.7**	**0.0**
PFVI				Sg		**Sg**	**03 18 22.8**	**-0.4**
PFVI	**Vila Bisbo**	**0.31**	**227**	*e*Pg		**Pg**	**03 18 18.7**	**0.0**
PFVI				*e*Sg		**Sg**	**03 18 22.9**	**-0.4**
PFVI				*i* IAML			03 18 24.0	
PFVI				*i* IAML			03 18 24.1	
PFVI				*i* IAML			03 18 24.2	
PFVI	**Vila Bisbo**	**0.31**	**227**	P		**Pg**	**03 18 18.7**	**0.0**
PFVI	**Vila Bisbo**	**0.31**	**227**	S		**Sb**	**03 18 23.7**	**+0.1**
PCVE	**Castro Verde**	**0.49**	**54**	Pg		**Pb**	**03 18 22.6**	**+0.5**
PCVE				Sg		**Sg**	**03 18 28.8**	**+0.1**
PCVE	**Castro Verde**	**0.49**	**54**	*i*Pg		**Pb**	**03 18 22.6**	**+0.5**
PCVE				*e*Sg		**Sg**	**03 18 29.1**	**+0.4**
PCVE				*i* IAML			03 18 29.3	
PCVE				*i* IAML			03 18 29.6	
PCVE				*i* IAML			03 18 31.2	
PBDV	**Barranco-do-Ve**	**0.50**	**101**	Pg		**Pb**	**03 18 22.5**	**+0.2**
PBDV				Sg		**Sb**	**03 18 29.3**	**+0.1**
PBDV	**Barranco-do-Ve**	**0.50**	**101**	*e*Pg		**Pb**	**03 18 22.5**	**+0.2**
PBDV				*e*Sg		**Sb**	**03 18 29.3**	**+0.1**
PBDV				*i* IAML			03 18 31.5	
PBDV				*i* IAML			03 18 31.6	
PBDV				*i* IAML			03 18 31.8	
MESJ	**Messejana**	**0.56**	**27**	*e*P		**Pb**	**03 18 23.7**	**+0.5**
MESJ				*e*S		**Sb**	**03 18 31.2**	**+0.4**
MESJ				IAML			03 18 34.2	
	comp=N,89nm,0.1s							
MESJ	**Messejana**	**0.56**	**27**	*e*Pg		**Pb**	**03 18 23.7**	**+0.5**
MESJ				*e*Sg		**Sb**	**03 18 31.7**	**+0.9**
MESJ				*i* IAML			03 18 34.3	
MESJ				*i* IAML			03 18 34.3	
MESJ				*i* IAML			03 18 34.4	
PVAQ	**Vaqueiros**	**0.66**	**84**	*i*Pg		**Pb**	**03 18 25.4**	**+0.4**
PVAQ				*e*Sg		**Sg**	**03 18 34.6**	**+0.7**
PVAQ				*i* IAML			03 18 36.7	
PVAQ				*i* IAML			03 18 36.9	
PVAQ				*i* IAML			03 18 37.5	
PVAQ	**Vaqueiros**	**0.66**	**84**	P		**Pb**	**03 18 25.0**	**+0.1**
PVAQ	**Vaqueiros**	**0.66**	**84**	S		**Sg**	**03 18 34.4**	**+0.5**
EGRO	**El Granado**	**0.86**	**77**	Pg		**Pb**	**03 18 29.0**	**+0.5**
EGRO				Sg		**Sb**	**03 18 40.1**	**+0.4**
EGRO	**El Granado**	**0.86**	**77**	Pg		**Pb**	**03 18 29.0**	**+0.5**
EGRO				Sg		**Sb**	**03 18 40.1**	**+0.4**
EGRO				*i* IVmb_Lg			03 18 42.7	
PBEJ	**Beja**	**0.87**	**38**	*e*P		**Pb**	**03 18 29.2**	**+0.7**
PBEJ				*e*S		**Sb**	**03 18 40.2**	**+0.4**
PBEJ				*i* IAML			03 18 41.9	
PBEJ				*i* IAML			03 18 42.3	
PBEJ				*i* IAML			03 18 42.8	
EVO	**Evora**	**1.26**	**19**	Pn		**Pb**	**03 18 35.7**	**+0.5**
EVO				Sn		**Sn**	**03 18 51.6**	**+0.5**
EVO	**Evora**	**1.26**	**19**	*e*P		**Pn**	**03 18 35.4**	**+0.7**
EVO				*e*S		**Sb**	**03 18 52.0**	**+0.9**
EVO				*i* IAML			03 18 53.5	
EVO				*i* IAML			03 18 54.6	
EVO				*i* IAML			03 18 55.1	
PBAR	**Barrancos**	**1.45**	**55**	Pn		**Pn**	**03 18 37.9**	**+0.6**
PBAR				Sn		**Sn**	**03 18 56.7**	**+0.8**
PBAR	**Barrancos**	**1.45**	**55**	*e*Pn		**Pn**	**03 18 37.9**	**+0.6**
PBAR				*e*Pg		**Pb**	**03 18 39.6**	**+1.1**
PBAR				*e*Sg		**Sg**	**03 18 58.6**	**-0.4**
PBAR				*i* IAML			03 19 01.6	
PBAR				*i* IAML			03 19 01.8	
PBAR				*i* IAML			03 19 03.6	
PARRA	**Arraiolos**	**1.52**	**345**	*e*Pn		**Pn**	**03 18 38.2**	**-0.1**
PARRA				*e*Pg		**Pb**	**03 18 40.6**	**+1.0**
PARRA				*e*Sg		**Sb**	**03 18 59.4**	**+0.7**
PARRA				*i* IAML			03 19 01.7	
PARRA				*i* IAML			03 19 02.5	
PARRA				*i* IAML			03 19 02.8	
EMIN	**Mina Concepcio**	**1.55**	**74**	Pn		**Pb**	**03 18 40.8**	**+0.8**
EMIN				Sn		**Sb**	**03 18 59.6**	**+0.3**
EMIN	**Mina Concepcio**	**1.55**	**74**	Pg		**Pb**	**03 18 40.7**	**+0.6**
EMIN				Sg		**Sb**	**03 19 00.4**	**+1.1**
EMIN				*i* IVmb_Lg			03 19 03.3	
PESTR	**Estremoz**	**1.70**	**26**	Sn		**Sb**	**03 19 05.0**	**+1.3**
PESTR	**Estremoz**	**1.70**	**26**	*e*Pg		**Pg**	**03 18 44.6**	**-0.1**
PESTR				*e*Sg		**Sb**	**03 19 05.4**	**+1.7**
PESTR				*i* IAML			03 19 07.2	
PESTR				*i* IAML			03 19 08.5	
PESTR				*i* IAML			03 19 08.7	
PESTR	**Estremoz**	**1.70**	**26**	P		**Pg**	**03 18 44.6**	**-0.1**
PESTR	**Estremoz**	**1.70**	**26**	S		**Sb**	**03 19 04.7**	**+1.0**
PMAFR	**Mafra**	**1.71**	**340**	*e*Sg		**Sb**	**03 19 05.4**	**+1.3**
PMAFR				*i* IAML			03 19 07.4	
PMAFR				*i* IAML			03 19 13.8	
PMAFR				*i* IAML			03 19 14.5	
PMTG	**Montargil**	**1.74**	**8**	*e*Pn		**Pn**	**03 18 41.8**	**+0.4**
PMTG				*e*Pg		**Pb**	**03 18 44.7**	**+1.3**
PMTG				*e*Sg		**Sb**	**03 19 05.9**	**+1.0**
PMTG				*i* IAML			03 19 08.0	
PMTG				*i* IAML			03 19 08.3	
PMTG				*i* IAML			03 19 08.4	
EBAD	**Badajoz**	**1.86**	**40**	Pn		**Pn**	**03 18 42.6**	**-0.3**
EBAD				Sn		**Sb**	**03 19 09.0**	**+0.7**
EBAD	**Badajoz**	**1.86**	**40**	Pn		**Pn**	**03 18 42.6**	**-0.3**
EBAD				Pg		**Pb**	**03 18 46.0**	**+0.7**
EBAD				Sn		**Sn**	**03 19 05.8**	**-0.1**
EBAD				Sg		**Sb**	**03 19 10.2**	**+2.0**
EBAD				*i* IVmb_Lg			03 19 13.5	
ESPR	**Espera**	**2.20**	**102**	Pn		**Pn**	**03 18 48.5**	**+0.9**
ESPR	**Espera**	**2.20**	**102**	Pn		**Pn**	**03 18 48.5**	**+0.9**
ESPR				Pg		**Pg**	**03 18 53.7**	**-0.6**
ESPR				Sg		**Sg**	**03 19 24.6**	**+1.8**
ESPR				*i* IVmb_Lg			03 19 29.6	
PMRV	**Marv??o**	**2.27**	**23**	*e*Pn		**Pn**	**03 18 48.5**	**-0.1**
PMRV				*e*Pg		**Pb**	**03 18 54.6**	**+2.2**
PMRV				*e*Sn		**Sn**	**03 19 14.8**	**-1.3**
PMRV				*e*Sg		**Sb**	**03 19 22.7**	**+2.5**
PMRV				*i* IAML			03 19 24.6	
PMRV				*i* IAML			03 19 25.0	
PMRV				*i* IAML			03 19 27.9	
PSARD	**Sardoal**	**2.27**	**7**	*e*Pn		**Pn**	**03 18 49.0**	**+0.3**
PSARD				*e*Sg		**Sb**	**03 19 22.8**	**+2.5**
PSARD				*i* IAML			03 19 23.6	
PSARD				*i* IAML			03 19 26.4	
PSARD				*i* IAML			03 19 26.5	
ECAB	**El Cabril**	**2.58**	**73**	Pn		**Pn**	**03 18 53.2**	**+0.3**
ECAB				Sn		**Sn**	**03 19 23.3**	**-0.5**
ECAB	**El Cabril**	**2.58**	**73**	Pn		**Pn**	**03 18 53.2**	**+0.3**
ECAB				Sn		**Sn**	**03 19 23.4**	**-0.5**
ECAB				Sg		**Sg**	**03 19 32.8**	**-2.3**
ECAB				*i* IVmb_Lg			03 19 36.9	
PCBR	**Castelo Branco**	**2.63**	**18**	*e*Pn		**Pn**	**03 18 53.8**	**+0.3**
PCBR				*e*Sn		**Sn**	**03 19 24.2**	**-0.7**
PCBR				*i* IAML			03 19 33.6	
PCBR				*i* IAML			03 19 35.8	
PCBR				*i* IAML			03 19 38.4	
PCAS	**Casmilo, Conde**	**2.71**	**1**	*e*Sg		**Sg**	**03 19 37.6**	**-1.4**
PCAS				*i* IAML			03 19 41.4	
PCAS				*i* IAML			03 19 42.8	
PCAS				*i* IAML			03 19 42.8	
MTE	**Manteigas**	**3.15**	**14**	*e*Pn		**Pn**	**03 19 00.8**	**0.0**
MTE				*e*Sn		**Sn**	**03 19 37.2**	**-0.7**
MTE				*i* IAML			03 19 52.9	
MTE				*i* IAML			03 19 55.6	
MTE				*i* IAML			03 19 55.7	
EADA	**Adamuz**	**3.25**	**74**	Pn		**Pn**	**03 19 02.5**	**+0.4**
EADA				Sn		**Sn**	**03 19 39.5**	**-0.8**
EADA				*i* IVmb_Lg			03 19 50.9	
EADA				Sg		**Sg**	**03 19 54.4**	**-2.0**
EPLA	**Plasencia**	**3.33**	**35**	Pn		**Pn**	**03 19 02.9**	**-0.3**
EPLA				Sn		**Sn**	**03 19 40.3**	**-2.0**
EPLA				*i* IVmb_Lg			03 19 56.3	
PVIS	**Viseu**	**3.41**	**8**	*e*Sn		**Sn**	**03 19 42.6**	**-1.6**
PAB	**San Pablo**	**3.96**	**55**	Pn		**Pn**	**03 19 11.8**	**-0.1**
PAB				Sn		**Sn**	**03 19 56.2**	**-1.7**
PAB				*i* IVmb_Lg			03 20 15.3	
PAB				Sg		**Sg**	**03 20 15.9**	**-3.3**
MVO	**Moncorvo**	**3.99**	**17**	*e*Sn		**Sn**	**03 19 57.0**	**-1.7**
MVO				*i* IAML			03 20 19.3	
MVO				*i* IAML			03 20 20.3	
MVO				*i* IAML			03 20 20.5	
POLO	**Lamas de Olo**	**4.07**	**8**	*e*Sn		**Sn**	**03 19 59.5**	**-1.0**
EQES	**Quesada**	**4.37**	**82**	Pn		**Pn**	**03 19 18.1**	**+0.5**
EQES				Sn		**Sn**	**03 20 08.1**	**+0.1**
EQES				*i* IVmb_Lg			03 20 20.9	
ELOB	**Lobios**	**4.53**	**5**	Sn		**Sn**	**03 20 08.1**	**-3.9**
ELOB				*i* IVmb_Lg			03 20 36.8	
PBRG	**Braganca**	**4.67**	**17**	*e*Sn		**Sn**	**03 20 12.6**	**-2.7**
MD31	**MD31**	**5.44**	**144**	P		**Pn**	**03 19 32.7**	**+0.5**
MD31	**MD31**	**5.44**	**144**	S		**Sn**	**03 20 30.7**	**-3.7**

IDC 14 03:23:11.1±9.2, 18.94S×179.54W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=407.1km s-min=40.6km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.40**	**261**	P		P	03 31 14.4	-1.4
	0.2nm,0.3s,baz=97,slow=6.8,SNR=4.7							
	0.2nm,0.3s							
ASAR	**Alice Springs**	**43.49**	**255**	P		P	03 31 17.2	+0.7
	1.5nm,0.5s,baz=92,slow=7.5,SNR=31							
	1.5nm,0.5s							
ILAR	**Eielson Array**	**87.13**	**13**	P		P	03 35 58.5	+0.1
	0.7nm,1.1s,baz=202,slow=6.8,SNR=3.4							
	0.7nm,1.1s							

*SJA **14** 03:26:53.2±0.7, 33.87S×72.19W, h25km±2km, ML3.3, MW3.6*
*GUC **14** 03:26:55.9±0.8, 33.90S×72.11W, h38km±4km, ML3.2*

ISC 14 03:26:55.0±1.3, 33.90S±0.03×72.13W±0.05, h19km±3km, n43, σ1°04/68, 8D, Gulf coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BO03	**Pichilemu**	**0.61**	**167**	*i*P		**Pg**	**03 27 07.5**	**+0.3**
BO03				*e*S		**Sg**	**03 27 16.2**	**+0.8**
BO03				IAML			03 27 18.7	
	comp=E,3μm,0.3s							
MT01	**Popeta**	**0.73**	**88**	*i*P		**Pb**	**03 27 09.0**	**-0.1**
MT01				*e*S		**Sb**	**03 27 18.6**	**-0.1**
MT01				IAML			03 27 19.3	
	comp=N,3μm,0.3s							
MT01	**Popeta**	**0.73**	**88**	*e*P		**Pb**	**03 27 08.3**	**-0.8**
MT01				IAML			03 27 19.9	
	comp=Z,2μm,0.5s							
MT09	**Talagante**	**0.96**	**83**	*i*P		**Pb**	**03 27 12.5**	**-0.6**
MT09				*e*S		**Sb**	**03 27 24.5**	**-0.9**
MT09				IAML			03 27 28.1	
	comp=N,2μm,0.2s							
VA01	**Torpederas**	**0.96**	**25**	*e*P		**Pb**	**03 27 12.1**	**-0.9**
VA01				IAML			03 27 30.3	
	comp=Z,375nm,0.2s							
BO01	**Tunca**	**1.00**	**120**	*i*P		**Pb**	**03 27 12.8**	**-0.9**
BO01				IAML			03 27 34.4	
	comp=N,558nm,0.7s							
BO01	**Tunca**	**1.00**	**120**	*e*P		**Pb**	**03 27 12.2**	**-1.4**
BO01				*e*S		Sb	03 27 12.8	-14
BO01				IAML			03 27 33.9	
	comp=Z,396nm,0.5s							
MT02	**Curacav**	**1.05**	**53**	*i*P		**Pb**	**03 27 13.6**	**-0.8**
MT02				*e*S		**Sb**	**03 27 26.7**	**-1.1**
MT02				IAML			03 27 30.6	
	comp=N,754nm,0.3s							
MT02	**Curacav**	**1.05**	**53**	*e*P		**Pb**	**03 27 13.7**	**-0.8**
MT02				*e*S		**Sb**	**03 27 27.1**	**-0.7**
MT02				IAML			03 27 30.3	
	comp=Z,566nm,0.2s							
GO05	**Hualane**	**1.12**	**171**	*e*P		**Pn**	**03 27 15.5**	**-0.1**
GO05				*e*S		**Sb**	**03 27 28.3**	**-1.7**
GO05				IAML			03 27 34.7	
	comp=E,792nm,0.3s							
GO05	**Hualane**	**1.12**	**171**	*e*P		**Pn**	**03 27 15.6**	**-0.1**
GO05				*e*S		**Sg**	**03 27 31.4**	**-0.1**
GO05				IAML			03 27 32.0	
	comp=Z,366nm,0.7s							
MT05	**Renca**	**1.27**	**67**	*e*P		**Pn**	**03 27 17.7**	**0.0**
MT05				*e*S		**Sn**	**03 27 33.3**	**-0.9**
MT05				IAML			03 27 45.2	
	comp=E,723nm,0.4s							
MT05	**Renca**	**1.27**	**67**	*e*P		**Pn**	**03 27 17.8**	**+0.1**
MT05				IAML			03 27 42.1	
	comp=Z,334nm,0.3s							
BO04	**La Punta**	**1.27**	**95**	*i*P		**Pn**	**03 27 17.5**	**-0.2**
BO04				*e*S		**Sn**	**03 27 33.4**	**-0.8**
BO04				IAML			03 27 40.2	
	comp=N,548nm,0.3s							
ROC1	**El Roble**	**1.31**	**46**	*e*P		Pn	03 27 13.0	-5.4
ROC1				*e*S		**Sb**	**03 27 36.2**	**+0.6**
MT12	**Pirque**	**1.33**	**83**	*e*P		**Pn**	**03 27 18.2**	**-0.3**
MT12				IAML			03 27 37.4	
	comp=N,1μm,0.6s							
MT15	**Las Vizcachas**	**1.39**	**78**	*i*P		**Pn**	**03 27 19.2**	**-0.2**
MT15				IAML			03 27 44.2	
	comp=E,1μm,0.3s							
MT03	**Universidad Ad**	**1.41**	**74**	*e*P		**Pn**	**03 27 19.9**	**+0.2**
MT03				*e*S		**Sb**	**03 27 39.1**	**+0.8**
MT03				IAML			03 27 48.0	
	comp=Z,452nm,0.2s							
MT14	**Cerro Cal¡n**	**1.42**	**70**	*e*P		**Pn**	**03 27 20.1**	**+0.3**
MT14				*e*S		**Sn**	**03 27 38.1**	**+0.1**
MT14				IAML			03 27 46.2	
	comp=E,676nm,0.5s							
PEL	**Peldehue**	**1.42**	**58**	*e*P		**Pn**	**03 27 20.2**	**+0.4**
PEL				*e*S		**Sg**	**03 27 40.2**	**-0.8**
PEL				IAML			03 27 45.5	
	comp=Z,336nm,0.3s							
BO02	**Sierra Bellavi**	**1.43**	**129**	*i*P		**Pn**	**03 27 20.0**	**+0.1**
BO02				*e*S		**Sb**	**03 27 39.5**	**+0.6**
BO02	**Sierra Bellavi**	**1.43**	**129**	*e*P		**Pn**	**03 27 20.1**	**+0.1**
BO02				*e*S		**Sg**	**03 27 42.4**	**+1.1**
BO02				IAML			03 27 46.8	
	comp=Z,1μm,0.1s							
MT10	**Hacienda Santa**	**1.47**	**65**	*e*P		**Pn**	**03 27 21.0**	**+0.4**
MT10				*e*S		**Sb**	**03 27 40.0**	**-0.2**
MT10				IAML			03 27 47.8	
	comp=N,1μm,0.3s							
MT13	**San Alfonso**	**1.54**	**85**	*e*P		**Pn**	**03 27 21.9**	**+0.4**
MT13				*e*S		**Sb**	**03 27 42.9**	**+0.7**
MT13				IAML			03 27 46.3	
	comp=Z,491nm,0.6s							
LMEL	**Las Melosas**	**1.60**	**89**	*e*P		**Pn**	**03 27 23.1**	**+0.7**
LMEL				*e*S		**Sb**	**03 27 45.0**	**+1.0**
LMEL				IAML			03 27 50.1	
	comp=Z,420nm,0.9s							
MT04	**Ro Olivares**	**1.73**	**74**	*e*P		**Pn**	**03 27 24.8**	**+0.5**
MT04				IAML			03 27 52.1	
	comp=Z,173nm,0.7s							
VA03	**San Esteban**	**1.74**	**50**	*e*P		**Pn**	**03 27 24.3**	**+0.1**
VA03				*e*S		**Sn**	**03 27 44.5**	**-1.4**
VA03				IAML			03 27 51.3	
	comp=Z,389nm,0.7s							
MT08	**Bocatoma Ro**	**1.82**	**76**	*e*P		**Pn**	**03 27 26.4**	**+0.9**
MT08				*e*S		**Sb**	**03 27 52.2**	**+2.0**
MT08				IAML			03 27 53.9	
	comp=Z,161nm,0.3s							
CO04	**Los Peladeros**	**2.09**	**28**	*e*P		**Pn**	**03 27 28.4**	**-0.8**
CO04				*e*S		**Sn**	**03 27 54.9**	**0.0**
CO04				IAML			03 28 04.4	
	comp=N,494nm,0.7s							
BI02	**San Fabin de**	**2.85**	**166**	*e*P		**Pn**	**03 27 40.3**	**+0.9**
BI02				IAML			03 28 29.6	
	comp=Z,91nm,0.8s							
CO02	**Combarbal**	**2.85**	**20**	*e*P		**Pn**	**03 27 39.5**	**0.0**
CO02				*e*S		**Sn**	**03 28 13.7**	**+0.2**
CO02				IAML			03 28 27.4	
	comp=Z,132nm,0.4s							
AAGR	**Agrelo**	**2.88**	**75**	*e*P		**Pb**	**03 27 46.3**	**+0.6**
AAGR				IAML			03 28 41.8	
	comp=Z,36nm,0.7s							
ARCO	**CERRO ARCO**	**2.88**	**69**	*e*P		**Pb**	**03 27 45.4**	**-0.4**
ARCO				IAML			03 28 34.6	
	comp=Z,52nm,1.0s							
EDS3	**Malargue**	**2.92**	**130**	*e*P		**Pn**	**03 27 41.6**	**+1.1**
AVIZ	**Vizcacheras**	**3.04**	**83**	*e*P		**Pn**	**03 27 43.9**	**+1.8**
AVIZ				*e*S		**Sg**	**03 28 30.4**	**-2.4**
ASAL	**Salagasta**	**3.06**	**66**	*e*P		**Pn**	**03 27 43.5**	**+1.2**
ASAL				*e*S		**Sg**	**03 28 31.0**	**-2.1**
RFA	**San Rafael**	**3.15**	**107**	*e*P		**Pn**	**03 27 41.8**	**-1.9**
RFA				IAML			03 28 38.1	
	comp=Z,37nm,1.1s							
RTLS	**Leoncito**	**3.17**	**50**	*e*P		**Pn**	**03 27 47.0**	**+2.8**
RTLS				IAML			03 28 40.5	
	comp=Z,231nm,0.6s							
CO03	**El Pedregal**	**3.29**	**22**	*e*P		**Pn**	**03 27 46.0**	**+0.5**
CO03				*e*S		**Sn**	**03 28 25.0**	**+0.9**
CO03				IAML			03 28 43.8	
	comp=Z,85nm,0.4s							
GO04	**Tololo Observa**	**3.88**	**17**	*e*P		**Pn**	**03 27 53.5**	**-0.3**
GO04				*e*S		**Sb**	**03 28 50.2**	**+0.5**
GO04				IAML			03 28 59.2	
	comp=Z,138nm,0.6s							
CO01	**Juntas del Tor**	**4.28**	**24**	*e*S		**Sn**	**03 28 49.1**	**+0.4**
CO01				IAML			03 29 10.6	
	comp=Z,33nm,0.5s							
AVFE	**Valle Fertil**	**5.11**	**52**	*e*S		**Sn**	**03 29 12.1**	**+3.1**
AGUA	**GUANDACOL**	**5.38**	**36**	*e*P		**Pn**	**03 28 15.7**	**+1.4**
AGUA				IAML			03 29 45.9	
	comp=Z,25nm,0.8s							

**RSNC 14 03:35:14.7±0.0

FAKI Fak Fak 2.51 183 Pn Pn 03 42 47.5 +0.6
FAKI Fak Fak 2.51 183 P Pn 03 42 48.2 +1.4
FAKI Fak Fak 2.51 183 P Pn 03 42 47.5 +0.6
KMPI Kaimana, Papua 3.50 158 P Pn 03 43 01.2 +0.8
BAKI Biak 3.79 102 P Pn 03 43 04.3 -0.1
SRPI Serui, Papua 4.11 111 P Pn 03 43 09.5 +0.7
MSAI Masohi 4.54 230 P Pn 03 43 17.0 +2.2
BNDI Bandanaira 4.80 211 P Pn 03 43 19.5 +1.2
BNDI Bandanaira 4.80 211 P Pn 03 43 18.8 +0.5
TNTI Ternate 5.17 283 Pn Pn 03 43 20.9 -2.4
AAI Ambon 5.33 232 P Pn 03 43 26.1 +0.6
NLAI Namlea 6.00 242 P Pn 03 43 35.6 +0.8
2.0nm4µm3µm139nm,0.5s
SANI Sanana 6.62 256 P Pn 03 43 46.3 +3.0
SANI Sanana 6.62 256 S Sn 03 45 03.0 +5.4
SANI Sanana 6.62 256 P Pn 03 43 43.0 -0.3
0.4nm75nm,0.6s
KMSI Cibinong 8.47 277 P Pn 03 44 09.9 +1.1
LUWI Luwuk 9.65 266 Pn 03 44 23.9 -1.0
LUWI Luwuk 9.65 266 P Pn 03 44 25.0 +0.1
3µm258nm,1.2s
DAV Davao City (W) 10.06 318 LR LR 03 47 15.1
comp=Z,473nm,21.6s,baz=160,slow=31
MRSI Marisa 10.49 275 P Pn 03 44 38.5 +2.0
1µm64nm,0.7s
APSI Ampana 10.76 267 P Pn 03 44 39.9 -0.3
3µm270nm,1.5s
BBSI Bau Bau 11.04 243 P Pn 03 44 44.6 +0.6
145nm,1.0s
TOLI2 Tolitoli 11.71 277 Pn 03 44 54.0 +0.8
DRS Darwin Rock St 12.05 187 P Pn 03 44 56.4 -1.4
KDU Kakadu 12.21 180 P Pn 03 44 58.6 -1.4
KDU Kakadu 12.21 180 S Sn 03 47 14.1 -1.0
SOEI Soe 12.33 221 Pn 03 45 01.1 -0.6
SOEI Soe 12.33 221 P Pn 03 45 04.1 +2.4
95nm,0.9s
MTN Manton Dam 12.43 186 Pn 03 45 00.7 -2.3
MTN Manton Dam 12.43 186 P Pn 03 45 02.3 -0.7
PCI Palu 12.57 268 P Pn 03 45 05.7 +0.7
TTSI Tana Toraja 12.85 258 P Pn 03 45 08.8 +0.1
1µm59nm,1.1s
BNSI Bone 12.91 252 P Pn 03 45 09.9 +0.4
42nm,1.2s
BATI Baumata 13.06 221 Pn Pn 03 45 11.7 0.0
20nm,0.3s,baz=320,slow=2.9,SNR=6.2
BATI Sn Sn 03 47 37.3 +1.4
7.5nm,0.3s,baz=141,slow=16,SNR=1.3
BATI LR LR 03 50 38.6
comp=Z,1µm,19.4s,baz=68,slow=40
55nm,0.4s
BATI Baumata 13.06 221 P Pn 03 45 12.6 +1.0
100nm,1.4s
SPSI Sidrap Palu 13.11 254 P Pn 03 45 13.7 +1.4
65nm,1.0s
KAPI Kappang 13.44 250 Pn 03 45 14.2 -2.5
KAPI Kappang 13.44 250 Pn Pn 03 45 16.8 +0.1
2.6nm,0.3s,baz=105,slow=6.2,SNR=12
KAPI LR LR 03 50 47.0
comp=Z,327nm,19.1s,baz=74,slow=39
7.7nm,0.4s
KAPI Kappang 13.44 250 *i* P Pn 03 45 14.6 -2.2
EDFI Ende, Flores 13.52 232 P Pn 03 45 18.7 +0.8
47nm,1.4s
MYLDM Lahad Datu 14.95 292 Pn 03 45 35.1 -2.2
SMKI Samarinda 15.19 270 P Pn 03 45 40.0 -0.6
KNRA Kununurra 15.61 193 Pn 03 45 41.7 -4.2
KNRA IAmb IAmb 03 45 46.6
comp=Z,64nm,0.5s
WBSI Waikabubak, Su 15.87 234 P Pn 03 45 49.8 +0.4
comp=Z,2µmcomp=Z,78nm,1.4s
PLAI Plampang 16.80 240 P P 03 46 04.0 +0.9
PLAI Plampang 16.80 240 P Pn 03 46 02.1 +0.9
comp=Z,1µmcomp=Z,63nm,1.0s
PMG Port Moresby 17.20 122 P P 03 46 08.1 +0.6
PMG Port Moresby 17.20 122 Pn P 03 46 06.4 -1.1
comp=Z,18nm,0.9s,baz=300,slow=8.6,SNR=5.0
PMG LR LR 03 54 31.9
comp=Z,405nm,18.4s,baz=314,slow=44
PMG Port Moresby 17.20 122 *i* P P 03 46 07.5 0.0
PMG pmax pmax
comp=Z,54nm,1.2s
TWSI Taliwang, Sumb 17.54 241 P P 03 46 12.2 +1.0
comp=Z,2µmcomp=Z,52nm,1.2s
BBKI Banjar Baru 17.81 260 P P 03 46 16.3 +2.0
comp=Z,120nm,1.0s
TGY Tagaytay City 18.34 322 LR LR 03 54 41.6
comp=Z,151nm,20.5s,baz=150,slow=41
SRBI Singaraja 18.75 246 P P 03 46 26.1 +1.4
comp=Z,3µmcomp=Z,99nm,1.3s
FITZ Fitzroy Crossi 18.81 200 P P 03 46 21.1 -4.1
FITZ Fitzroy Crossi 18.81 200 P P 03 46 22.4 -2.8
comp=Z,1.4nm,0.3s,baz=35,slow=9.0,SNR=26
FITZ S Sn 03 49 41.8 -14
comp=Z,18nm,0.7s,baz=23,slow=15,SNR=4.7
FITZ LR LR 03 53 50.9
comp=Z,503nm,20.5s,baz=26,slow=38
comp=Z,20nm,0.8s
WRAB Tennant Creek 19.51 174 *i* P P 03 46 32.9 0.0
WRAB pmax pmax
comp=Z,49nm,1.1s
WRA Warramunga Arr 19.52 175 P 03 46 31.7 -1.3
WRA Warramunga Arr 19.52 175 P P 03 46 32.6 -0.4
comp=Z,6.3nm,0.3s,baz=351,slow=11,SNR=94
WRA S S 03 49 58.3 -14
comp=Z,18nm,0.8s,baz=353,slow=23,SNR=8.6
WRA LR LR 03 54 15.1
comp=Z,501nm,18.6s,baz=330,slow=38
comp=Z,14nm,0.4s
WRA Warramunga Arr 19.52 175 *i* P P 03 46 30.7 -2.3
WRA pmax pmax
comp=Z,16nm,0.4s
KMMI Kalianget 19.54 250 P Pn 03 46 35.7 +1.0
comp=Z,143nm,1.4s
ABJI Asem Bagus 19.54 247 P Pn 03 46 36.0 +1.2
comp=Z,3µmcomp=Z,253nm,1.2s
WR8 Warramunga Arr 19.55 174 P P 03 46 33.0 -0.3
JAGI Jajag, Banyuwa 19.87 246 P 03 46 37.1 +0.2
JAGI IAmb IAmb 03 46 40.2
comp=Z,122nm,1.1s
JAGI Jajag, Banyuwa 19.87 246 P P 03 46 37.4 +0.5
comp=Z,2µmcomp=Z,110nm,1.1s
JAGI pP Pn 03 46 43.1 +4.4
comp=Z,2µmcomp=Z,110nm,1.1s
BLJI Banyuglugur 20.12 248 P P 03 46 41.4 +1.8
comp=Z,63nm,1.1s
SBUM Sibu 20.37 278 Pn 03 46 44.2 -0.4
GMJI Gumukmas 20.45 247 P P 03 46 43.5 +0.4
comp=Z,2µmcomp=Z,100nm,1.1s
GMJI pP Pn 03 46 48.6 +3.2
comp=Z,2µmcomp=Z,100nm,1.1s
STKI Sintang 20.93 271 P P 03 46 50.0 +1.6
comp=Z,122nm,1.1s
QIS Mount Isa 21.24 161 P P 03 46 51.1 -0.6
NGJI Ngawi 22.00 251 P P 03 47 02.0 +2.1
comp=Z,102nm,1.3s
KSM Kuching 22.17 275 P P 03 47 02.1 +0.4
KSM IAmb IAmb 03 47 05.0
comp=Z,64nm,1.0s
PCJI Pacitan 22.52 249 P P 03 47 06.8 +1.3
SMRI Semarang 22.88 253 P P 03 47 11.2 +1.9
SMRI IAmb IAmb 03 47 16.9
comp=Z,96nm,1.1s
SMRI Semarang 22.88 253 P P 03 47 11.0 +1.7
comp=Z,103nm,1.8s
UGM Wanagama 23.05 251 P P 03 47 12.1 +1.1
comp=Z,131nm,1.6s
AS31 Alice Springs 23.18 176 P P 03 47 12.2 -0.1
AS31 IAmb IAmb 03 47 14.5
comp=Z,23nm,0.5s
ASAR Alice Springs 23.18 176 P P 03 47 12.2 -0.1
comp=Z,56nm,0.8s,baz=356,slow=10,SNR=161
ASAR PcP PcP 03 50 59.3 -0.8
comp=Z,0.6nm,0.4s,baz=0.0,slow=2.0,SNR=1.7
ASAR S S 03 51 23.1 +1.2
comp=Z,13nm,0.9s,baz=359,slow=26,SNR=8.7
comp=Z,56nm,0.8s
CTA Charters Tower 23.81 146 LR LR 03 58 28.4
comp=Z,21nm,20.2s,baz=292,slow=41
CTAO Charters Tower 23.81 146 P 03 47 18.2 -0.2
CTAO Charters Tower 23.81 146 P P 03 47 18.2 -0.2
CTAO pmax pmax
comp=Z,28nm,1.2s
MBWA Marble Bar 24.06 210 P 03 47 20.9 +0.1
PSA00 Pilbara Seismi 24.35 209 P 03 47 24.1 +0.7
PSA00 IAmb IAmb 03 47 26.6
comp=Z,59nm,1.1s
PSA00 Pilbara Seismi 24.35 209 P P 03 47 23.3 -0.1
PSA00 IAmb IAmb 03 47 26.5
comp=Z,57nm,1.2s
PSA00 Pilbara Seismi 24.35 209 P P 03 47 24.5 +1.1
KPJI Karang Pucung 24.40 253 P P 03 47 24.7 +0.8
comp=Z,120nm,1.4s
TPI Tanjungpandan 24.85 264 P P 03 47 29.0 +1.0
comp=Z,60nm,1.5s
LEM Lembang 25.53 255 LR LR 03 58 58.0
comp=Z,258nm,18.4s,baz=96,slow=40
LEM Lembang 25.53 255 P P 03 47 35.2 +0.8
comp=Z,39nm,0.8s
BBJI Bungbulang 25.66 254 P P 03 47 35.3 -0.1
CNJI Cibinong 26.12 254 P P 03 47 38.4 -1.1
comp=Z,45nm,1.2s
JOW Kunigami 27.36 352 LR LR 03 56 17.7
comp=Z,171nm,21.7s,baz=347,slow=31
MDSI Maura Dua 28.48 261 P P 03 48 01.1 +0.4
comp=Z,33nm,1.1s
LHSI Lahat 29.05 263 P P 03 48 07.0 +1.2
comp=Z,42nm,0.9s
QIZ Qiongzhong 29.38 312 P P 03 48 07.6 -1.0
QIZ sP pP 03 48 13.9 -4.0
QIZ S S 03 53 03.0 +2.6
QIZ pmax pmax
comp=Z,11nm,1.2s
QIZ LR LR
comp=Z,160nm,15.8s
QIZ LR LR
comp=Z,260nm,13.1s
QIZ LR LR
comp=Z,240nm,12.9s
KSI Kapahiang 29.96 263 P P 03 48 14.1 +0.2
MASI Maura Aman, Be 30.27 264 P P 03 48 17.6 +1.0
FORT Forrest 30.50 187 IAmb IAmb 03 48 21.6
comp=Z,17nm,0.7s
PPI Padang Panjang 32.00 270 P P 03 48 32.2 +0.3
comp=Z,27nm,1.1s
KULM Kulim 32.21 281 P P 03 48 33.5 -0.2
BBOO Buckleboo 32.43 174 IAmb IAmb 03 48 42.9
comp=Z,18nm,1.1s
STKA Stephens Creek 32.50 165 P P 03 48 35.1 -0.9
STKA Stephens Creek 32.50 165 P P 03 48 35.5 -0.5
comp=Z,9.2nm,0.7s,baz=342,slow=8.1,SNR=17
STKA LR LR 04 03 00.9
comp=Z,486nm,21.0s,baz=344,slow=39
comp=Z,9.2nm,0.7s
MNSI Mandailing Nat 32.84 272 P P 03 48 40.0 +0.8
JHJ Hachijo jima 2 34.05 11 LR LR 03 59 30.7
comp=Z,363nm,21.4s,baz=124,slow=31
NJ2 Nanjing 34.72 340 *e*P P 03 48 57.8 +2.5
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
KCSI Kotacane, Aceh 34.83 277 P P 03 48 55.7 -0.8
comp=Z,23nm,1.5s
GSI Gunungsitoli 34.86 273 P P 03 48 56.4 -0.4
comp=Z,36nm,1.3s
ARMA Armidale 35.01 150 P P 03 48 57.6 -0.4
ARMA IAmb IAmb 03 49 09.6
comp=Z,34nm,1.4s
WHN Wuhan 35.23 332 P P 03 49 04.3 +4.5
NWAO Narrogin (SRO) 35.37 202 LR LR 04 05 20.3
comp=Z,267nm,18.5s,baz=321,slow=40
LHMI Lhok Sumawe 35.84 279 P P 03 49 05.8 +0.5
MLSI Meulaboh, Aceh 36.26 278 P P 03 49 08.8 -0.1
MJAR Matsushiro Arr 37.14 8 P P 03 49 16.1 +0.1
comp=Z,1.1nm,0.8s,baz=177,slow=9.7,SNR=2.2
MJAR LR LR 04 01 34.6
comp=Z,255nm,21.2s,baz=189,slow=32
comp=Z,1.1nm,0.8s
CMAR Chiang Mai Arr 37.84 301 P P 03 49 22.1 -0.1
CMAR Chiang Mai Arr 37.84 301 P P 03 49 21.4 -0.8
comp=Z,1.4nm,0.3s,baz=125,slow=7.0,SNR=23
comp=Z,1.4nm,0.3s
CMAR Chiang Mai Arr 37.84 301 *i* P P 03 49 23.0 +0.8
CMAR pmax pmax
comp=Z,2.0nm,0.3s
KSRS Korea Array 37.89 354 P P 03 49 21.2 -1.0
comp=Z,0.2nm,0.3s,baz=184,slow=4.1,SNR=1.6
KSRS LR LR 04 06 02.6
comp=Z,45µm,18.5s,baz=175,slow=38
CHTO Chiang Mai 37.99 302 P P 03 49 23.6 +0.1
CHTO Chiang Mai 37.99 302 P P 03 49 23.6 +0.1
CHTO pmax pmax
comp=Z,14nm,1.2s
KMI Kunming 38.30 314 P P 03 49 26.8 +0.6
KMI S S 03 55 22.5 +3.8
KMI pmax pmax
comp=Z,13nm,1.1s
KMI LR LR
comp=Z,240nm,18.1s
KMI LR LR
comp=Z,190nm,14.6s
KMI LR LR
comp=Z,210nm,16.0s
H11N1 WAKE ISLAND Hy 39.27 57 T T 04 31 13.8
baz=246,slow=75
H11N2 WAKE ISLAND Hy 39.28 57 T T 04 31 15.9
baz=246,slow=75
H11N3 WAKE ISLAND Hy 39.29 57 T T 04 31 20.6
baz=246,slow=75
LYN LuoYang 39.46 334 *e*P P 03 49 42.4 +6.9
LYN pP pwP 03 49 47.1 +1.9
LYN pmax pmax
comp=Z,27nm,1.2s
DZM Mont Dzumac 39.54 125 *e*SS SS 03 58 31.3 -1.6
comp=Z,143nm,22.4s
DZM *e*LR LR 04 00 24.3
comp=Z,374nm,23.6s
DZM Mont Dzumac 39.54 125 LR LR 04 05 42.0
comp=Z,236nm,21.0s,baz=334,slow=36
PZH PanZhiHua 39.84 315 P P 03 49 41.3 +2.3
XAN Xi'an 40.73 330 P P 03 49 44.9 -1.2
XAN pP pP 03 49 53.9 -1.8
XAN S S 03 55 52.0 -2.6
XAN pmax pmax
comp=Z,10.0nm,0.9s
XAN pmax pmax
comp=Z,160nm,3.8s
XAN LR LR
comp=Z,230nm,13.7s
XAN LR LR
comp=Z,140nm,17.2s
XAN LR LR
comp=Z,250nm,18.0s
HNS HongShan 41.01 338 ⇓P P 03 49 48.8 +0.5
HNS S S 03 56 00.1 +1.5
HNS pmax pmax
comp=Z,11nm,1.3s
CD2 Chengdu 41.34 321 P P 03 49 50.8 -0.4
CD2 pmax pmax
comp=Z,20nm,0.4s
BJI Beijing 42.88 342 P P 03 50 04.6 +1.0
BJI pmax pmax
comp=Z,4.0nm,1.0s
USRK Ussuriysk Ar. 44.40 360 P P 03 50 15.4 -0.3
comp=Z,1.9nm,0.8s,baz=198,slow=12,SNR=4.5
comp=Z,1.9nm,0.8s
CN2 Changchun 44.44 353 P P 03 50 16.8 +0.7
CN2 S S 03 56 51.0 +2.2
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,200nm,16.0s
LZDM Lanzhou Array 44.96 327 P P 03 50 21.0 +0.3
comp=Z,0.7nm,0.3s,baz=88,slow=10,SNR=1.5
comp=Z,0.7nm,0.3s
LZH Lanzhou 44.97 327 *e*P P 03 50 30.3 +10
LZH pP pwP 03 50 33.3 +3.0
LZH sP sP 03 50 36.3 +1.7
LZH pmax pmax
comp=Z,24nm,1.0s
HHC Hu-ho-hao-te 45.21 338 *e*P P 03 50 23.8 +1.4
HHC S S 03 57 02.8 +2.5
HHC sS sS 03 57 11.6 -2.7
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,120nm,4.9s
HHC LR LR
comp=Z,120nm,10.3s
HHC LR LR
comp=Z,120nm,10.0s
HHC LR LR
comp=Z,130nm,12.2s
ASAJ Asahikawa 45.24 10 LR LR 04 08 29.7
comp=Z,104nm,20.5s,baz=156,slow=35
BTO Baotou 45.61 336 *e*P P 03 50 27.9 +2.3
BTO S S 03 57 13.8 +7.7
BTO SS SS 04 00 27.9 -2.7
BTO pmax pmax
comp=Z,17nm,0.8s
BTO pmax pmax
comp=Z,190nm,6.8s
BTO LR LR
comp=Z,290nm,10.8s
BTO LR LR
comp=Z,370nm,15.9s
BTO LR LR
comp=Z,120nm,8.2s
XLT XiLinHaoTe 46.45 344 *e*P P 03 50 32.8 +0.7
XLT sP pwP 03 50 43.4 +1.5
XLT S S 03 57 20.9 +2.9
XLT pmax pmax
comp=Z,6.0nm,1.0s
SHL Shillong 46.87 306 P P 03 50 34.8 -1.0
SHL Shillong 46.87 306 P P 03 50 34.8 -1.0
YSS Yuzhno-Sakhali 48.02 10 *e*P P 03 50 44.1 0.0
YSS *e*S S 03 57 38.6 -1.4
YSS pmax pmax
comp=Z,20nm,1.1s
LSA Lhasa 49.40 311 P P 03 50 53.6 -2.1
HEH HeiHe 50.64 356 *e*P P 03 51 09.4 +5.3
EVN Everest 51.98 307 P P 03 51 13.9 -1.5
ULN Ulaanbaatar 52.88 339 P P 03 51 22.2 +1.1
ULN IAmb IAmb 03 51 34.4
comp=Z,38nm,1.6s
ULN Ulaanbaatar 52.88 339 *i* P P 03 51 21.8 +0.7
ULN pmax pmax
comp=Z,27nm,1.6s
SONM Songino Array 53.10 338 P P 03 51 23.0 +0.3
SONM Songino Array 53.10 338 P P 03 51 22.9 +0.3
comp=Z,1.7nm,0.6s,baz=166,slow=7.7,SNR=12
SONM PcP PcP 03 52 29.1 -1.7
comp=Z,0.4nm,0.4s,baz=132,slow=2.1,SNR=1.1
SONM LR LR 04 13 39.3
comp=Z,57nm,21.5s,baz=138,slow=36
comp=Z,1.7nm,0.6s
TUWZ Tuamarina 55.44 143 P P 03 51 40.0 +0.3
URZ Urewera 55.69 138 LR LR 04 15 24.9
comp=Z,161nm,20.3s,baz=306,slow=36
HYB Hyderabad 55.86 291 *e*P P 03 51 42.9 -0.3
ZAK Zakamensk 56.36 338 *e*P P 03 51 47.0 +0.8
ZAK pmax pmax
comp=Z,9.0nm,1.8s
PETK Petropavlovsk- 57.34 18 P P 03 51 53.2 +0.1
comp=Z,3.4nm,1.0s,baz=218,slow=7.6,SNR=2.4
comp=Z,3.4nm,1.0s
WMQ Urumqi 59.35 324 *e*P P 03 52 09.3 +1.9
MA2 Magadan 61.50 11 LR LR 04 17 50.5
comp=Z,40nm,20.1s,baz=172,slow=35
YAK Yakutsk 62.30 359 LR LR 04 20 32.5
comp=Z,36nm,18.9s,baz=169,slow=37
YAK Yakutsk 62.30 359 *e*P P 03 52 27.1 +0.2
YAK *e*PP sP 03 52 38.0 -3.1
YAK *e* 03 53 06.5
YAK *e* 03 54 41.9
YAK *e*PPP PPP 03 56 11.3
YAK *e*S S 04 00 51.1 +0.4
YAK *e*SS sS 04 01 11.2 +3.3
YAK *e*SS SS 04 04 52.6 -1.9
YAK pmax pmax
comp=Z,19nm,1.0s
YAK pmax pmax
comp=N,11nm,1.6s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,282nm,5.3s
YAK pmax pmax
comp=N,178nm,4.8s
YAK pmax pmax
comp=E,135nm,3.8s
YAK smax smax
comp=E,111nm,4.5s
YAK smax smax
comp=N,148nm,3.5s
ZSN Zaisan 63.05 326 *e*P P 03 52 32.3 -0.1
ZSN Zaisan 63.05 326 *e*P P 03 52 32.2 -0.1
SHEM Shemya Is, Ala 63.34 27 LR LR 04 15 46.2
comp=N,53nm,19.2s,baz=96,slow=32
SHLS Shalkode 64.13 320 *e*P P 03 52 37.5 -2.1
comp=N,9.3nm,1.1s
SHLS Shalkode 64.13 320 *e*P P 03 52 37.5 -2.1
SHLS pmax pmax
comp=Z,9.0nm,1.1s
MK31 Makanchi Array 64.17 324 *ce*P P 03 52 40.1 +0.4
MKAR Makanchi Array 64.17 324 P P 03 52 40.0 +0.3
comp=Z,4.9nm,0.6s,baz=113,slow=8.1,SNR=50
MKAR LR LR 04 23 21.1
comp=Z,66nm,18.9s,baz=116,slow=39
comp=Z,4.9nm,0.6s
UZB Uzynbulak 64.41 319 *e*P P 03 52 41.1 -0.5
comp=Z,8.3nm,1.1s
UZB Uzynbulak 64.41 319 *e*P P 03 52 41.0 -0.5
UZB pmax pmax
comp=Z,8.0nm,1.1s
TARG Taragay, Kyrgy 64.59 318 IAmb IAmb 03 52 54.5
comp=Z,18nm,1.1s
SATY Saty 64.77 319 *e*P P 03 52 43.5 -0.4
comp=Z,10nm,0.9s
SATY Saty 64.77 319 *e*P P 03 52 43.4 -0.4
SATY pmax pmax
comp=Z,10.0nm,0.9s
NIL Nilore 64.91 308 P P 03 52 44.3 -0.5
NIL Nilore 64.91 308 P P 03 52 44.3 -0.5
NIL pmax pmax
comp=Z,36nm,1.4s
SEY Seymchan 64.92 10 LR LR 04 18 38.0
comp=Z,59nm,20.2s,baz=172,slow=34
SEY Seymchan 64.92 10 *i* P P 03 52 44.4 +0.2
SEY pmax pmax
comp=Z,8.0nm,0.9s
KSH Kashi 64.95 315 P P 03 52 46.9 +1.8
KSH sP pP 03 52 55.0 +0.1
KSH pmax pmax
comp=Z,24nm,1.2s
KSH pmax pmax
comp=Z,130nm,3.9s
TDK Taldyqorghan 65.65 321 *e*P P 03 52 49.2 -0.3
TDK Taldyqorghan 65.65 321 *e*P P 03 52 49.1 -0.3
NRN Naryn 65.69 317 IAmb IAmb 03 52 51.5
comp=Z,16nm,1.2s
MDOK Medeo 65.71 319 *e*P P 03 52 49.7 -0.3
MDOK Medeo 65.71 319 *e*P P 03 52 49.6 -0.3
TNSS Tian-Shan 65.72 319 *e*P P 03 52 49.7 -0.7
TNSS Tian-Shan 65.72 319 *e*P P 03 52 49.6 -0.7
AAA Alma-Ata 65.82 319 *e*P P 03 52 50.2 -0.4
AAA Alma-Ata 65.82 319 *e*P P 03 52 50.2 -0.4
CHKK Chushkaly 66.05 319 *e*P P 03 52 51.4 -0.6
CHKK Chushkaly 66.05 319 *e*P P 03 52 51.3 -0.6
ZAA0 Zalesovo Array 66.85 332 IAmb IAmb 03 52 57.3
comp=Z,16nm,1.3s
ZALV Zalesovo Beam 66.85 332 P P 03 52 56.2 -0.6
ZALV Zalesovo Beam 66.85 332 P P 03 52 56.4 -0.4
comp=Z,6.6nm,1.0s,baz=114,slow=6.8,SNR=16
comp=Z,6.6nm,1.0s
AAK Ala-Archa 67.20 317 P P 03 52 59.5 -0.1
AAK IAmb IAmb 03 53 01.5
comp=Z,15nm,1.4s
AAK Ala-Archa 67.20 317 LR LR 04 25 07.4
comp=Z,40nm,20.3s,baz=102,slow=38
AAK Ala-Archa 67.20 317 *ce*P P 03 53 00.7 +1.1
AAK pmax pmax
comp=Z,7.0nm,1.2s
CASY Casey 67.56 189 P P 03 53 00.7 -0.4
CASY IAmb IAmb 03 53 02.8
comp=Z,19nm,1.3s
KURK Kurchatov 68.26 326 P P 03 53 06.0 +0.1
KURK Kurchatov 68.26 326 P P 03 53 05.9 +0.1
KURBB Kurchatov Arra 68.27 326 P P 03 53 05.9 +0.1
comp=Z,5.4nm,0.6s,baz=124,slow=5.7,SNR=59
comp=Z,5.4nm,0.6s
BTLS Baital 68.46 320 *e*P P 03 53 07.1 -0.2
comp=Z,6.7nm,1.0s
BTLS Baital 68.46 320 *e*P P 03 53 07.0 -0.2
BTLS pmax pmax
comp=Z,7.0nm,1.0s

KBL	**Kabul**	**68.51**	**308**	P	**P**	**03 53 07.1**	**-0.9**
KBL	**Kabul**	**68.51**	**308**	P	**P**	**03 53 07.1**	**-0.9**
KBL				pmax	pmax		
	comp=Z,43nm,1.5s						
GAR	**Garm**	**68.87**	**312**	P	**P**	**03 53 10.1**	**+0.1**
DZA	**Taraz**	**69.46**	**317**	*e*P	**P**	**03 53 13.1**	**-0.4**
DZA	**Taraz**	**69.46**	**317**	*e*P	**P**	**03 53 13.1**	**-0.4**
CHGR	**Chuyangaron**	**69.62**	**312**	P	**P**	**03 53 14.1**	**-0.6**
CHGR				IAmb	IAmb	03 53 15.1	
	comp=Z,19nm,1.0s						
CHGR	**Chuyangaron**	**69.62**	**312**	P	**P**	**03 53 14.1**	**-0.6**
CHGR				pmax	pmax		
	comp=Z,19nm,1.0s						
SIMJ	**Simiganj**	**69.73**	**312**	P	**P**	**03 53 15.1**	**-0.3**
SIMJ				IAmb	IAmb	03 53 16.6	
	comp=Z,23nm,1.4s						
KK31	**Karatay Array**	**70.10**	**317**	IAmb	IAmb	03 53 18.8	
	comp=Z,31nm,1.4s						
KKAR	**Karatay Array**	**70.10**	**317**	P	**P**	**03 53 17.2**	**-0.2**
KKAR	**Karatay Array**	**70.10**	**317**	P	**P**	**03 53 17.2**	**-0.2**
IUG	**luzhnay**	**70.10**	**316**	*e*P	**P**	**03 53 17.3**	**-0.3**
	comp=Z,10.0nm,0.9s						
IUG	**luzhnay**	**70.10**	**316**	*e*P	**P**	**03 53 17.2**	**-0.3**
IUG				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CHM	**Chimkent**	**70.46**	**316**	*e*P	**P**	**03 53 19.4**	**-0.3**
CHM	**Chimkent**	**70.46**	**316**	*e*P	**P**	**03 53 19.3**	**-0.3**
BRLS	**Borolday**	**70.54**	**316**	*e*P	**P**	**03 53 19.6**	**-0.5**
	comp=Z,6.6nm,1.3s						
BRLS	**Borolday**	**70.54**	**316**	*e*P	**P**	**03 53 19.6**	**-0.5**
BRLS				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BRZS	**Berezniki**	**71.32**	**324**	*e*P	**P**	**03 53 24.6**	**-0.1**
BRZS	**Berezniki**	**71.32**	**324**	*e*P	**P**	**03 53 24.6**	**-0.1**
TIXI	**Tiksi**	**71.96**	**359**	LR	LR	04 23 08.9	
	comp=Z,46nm,21.7s,baz=200,slow=34						
BVAR	**Borovoye Array**	**73.86**	**326**	P	**P**	**03 53 39.8**	**+0.1**
	comp=Z,13nm,0.9s,baz=110,slow=7.1,SNR=31						
	comp=Z,13nm,0.9s						
PPT	**Papeete**	**78.46**	**108**	P	**P**	**03 54 06.3**	**-0.3**
	comp=Z,16nm,0.7s,baz=263,slow=17,SNR=2.0						
PPT				LR	LR	04 27 21.0	
	comp=Z,22nm,19.0s,baz=286,slow=35						
	comp=Z,16nm,0.7s						
PPT2	**Papeete2**	**78.46**	**108**	*e*LR	LR	04 18 25.4	
	comp=Z,123nm,27.2s						
VNDA	**Vanda**	**78.69**	**174**	P	**P**	**03 54 07.1**	**+0.4**
VNDA	**Vanda**	**78.69**	**174**	P	**P**	**03 54 06.9**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=314,slow=5.3,SNR=13						
VNDA				LR	LR	04 29 37.5	
	comp=Z,166nm,18.3s,baz=348,slow=36						
	comp=Z,3.0nm,0.9s						
AB31	**Akbulak array**	**78.91**	**320**	P	**P**	**03 54 08.1**	**-0.3**
AB31				IAmb	IAmb	03 54 09.2	
	comp=Z,22nm,1.3s						
ABKAR	**Akbulak array**	**78.91**	**320**	P	**P**	**03 54 08.0**	**-0.4**
SBA	**Scott Base**	**79.54**	**173**	P	**P**	**03 54 11.7**	**+0.3**
SBA				IAmb	IAmb	03 54 33.7	
	comp=Z,23nm,1.5s						
SBA	**Scott Base**	**79.54**	**173**	P	**P**	**03 54 11.7**	**+0.3**
SBA				pmax	pmax		
	comp=Z,23nm,1.5s						
SVE	**Sverdlovsk**	**80.42**	**328**	*e*P	**P**	**03 54 16.6**	**+0.1**
SVE				pmax	pmax		
	comp=Z,26nm,1.4s						
ARTI	**Arti**	**81.52**	**327**	P	**P**	**03 54 21.1**	**-1.2**
ARTI				IAmb	IAmb	03 54 22.1	
	comp=Z,13nm,0.6s						
ARTI	**Arti**	**81.52**	**327**	*c i*P	**P**	**03 54 21.8**	**-0.5**
ARTI						03 57 24.8	
ARTI				S	**S**	**04 04 35.5**	**+3.7**
ARTI				SS	**SS**	**04 09 49.4**	**+0.5**
ARTI				pmax	pmax		
	comp=Z,25nm,1.4s						
MAW	**Mawson**	**81.93**	**201**	P	**P**	**03 54 24.3**	**0.0**
	comp=Z,9.1nm,1.1s,baz=61,slow=5.1,SNR=11						
MAW				LR	LR	04 27 41.7	
	comp=Z,52nm,21.7s,baz=44,slow=33						
	comp=Z,9.1nm,1.1s						
KDAK	**Kodiak Island**	**82.37**	**31**	LR	LR	04 30 00.0	
	comp=Z,71nm,18.5s,baz=242,slow=35						
E19K	**Redstone River**	**82.92**	**21**	P	**P**	**03 54 30.2**	**+0.7**
E19K				IAmb	IAmb	03 54 35.0	
	comp=Z,12nm,1.1s						
D19K	**Kuna River**	**82.94**	**20**	P	**P**	**03 54 30.1**	**+0.5**
I21K	**Tanana**	**84.34**	**24**	IAmb	IAmb	03 54 45.4	
	comp=Z,13nm,1.4s						
MLY	**Manley**	**84.82**	**25**	P	**P**	**03 54 39.9**	**+0.6**
RND	**Reindeer**	**85.31**	**26**	IAmb	IAmb	03 54 55.1	
	comp=Z,13nm,1.1s						
COLA	**College**	**86.00**	**25**	*i* P	**P**	**03 54 44.6**	**-0.4**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
ILAR	**Eielson Array**	**86.39**	**25**	LR	LR	04 28 31.0	
	comp=Z,47nm,19.7s,baz=252,slow=32						
KIRV	**Kirov**	**86.67**	**329**	LR	LR	04 36 00.4	
	comp=Z,48nm,21.2s,baz=91,slow=37						
RAYN	**Ar Rayn**	**87.31**	**293**	P	**P**	**03 54 51.4**	**-1.1**
RAYN				IAmb	IAmb	03 54 53.2	
	comp=Z,18nm,1.6s						
RAYN	**Ar Rayn**	**87.31**	**293**	P	**P**	**03 54 51.4**	**-1.1**
RAYN				pmax	pmax		
	comp=Z,18nm,1.6s						
TAOE	**Nuku Hiva Isla**	**87.42**	**99**	*e*S	**S**	**04 05 36.8**	**+4.3**
	comp=Z,37nm,23.8s						
TAOE				*e*SS	**SS**	**04 11 21.3**	**+3.2**
	comp=Z,39nm,23.5s						
TAOE	**Nuku Hiva Isla**	**87.42**	**99**	*e*LR	LR	04 22 33.3	
	comp=Z,98nm,22.2s						
QSPA	**South Pole Qui**	**89.54**	**180**	P	**P**	**03 55 04.1**	**+1.9**
QSPA				IAmb	IAmb	03 55 12.5	
	comp=Z,17nm,1.1s						
QSPA	**South Pole Qui**	**89.54**	**180**	P	**P**	**03 55 03.7**	**+1.5**
	comp=Z,9.9nm,1.0s,baz=20,slow=7.3,SNR=16						
QSPA				LR	LR	04 35 47.2	
	comp=Z,190nm,19.9s,baz=3.0,slow=36						
	comp=Z,9.9nm,1.0s						
KBZ	**Khabaz**	**89.91**	**314**	LR	LR	04 40 10.6	
	comp=Z,29nm,18.6s,baz=8.5,slow=39						
SYO	**Syowa Base**	**90.65**	**201**	↓*e*SP	P	03 55 13.8	+6.7
DLBC	**Dease Lake**	**94.31**	**32**	LR	LR	04 33 20.5	
	comp=Z,532nm,20.1s,baz=260,slow=33						
SPITS	**Spitsbergen Ar**	**95.58**	**349**	LR	LR	04 40 35.0	
	comp=Z,27nm,21.5s,baz=52,slow=37						
ARCES	**ARCESS Array B**	**96.23**	**340**	P	**P**	**03 55 31.1**	**-1.8**
	comp=Z,2.4nm,0.8s,baz=76,slow=4.9,SNR=8.6						
ARCES				LR	LR	04 44 36.2	
	comp=Z,30nm,19.2s,baz=77,slow=39						
	comp=Z,2.4nm,0.8s						
FINES	**FINESS Array B**	**98.11**	**332**	P	**P**	**03 55 39.3**	**-2.1**
	comp=Z,1.3nm,0.8s,baz=75,slow=1.6,SNR=4.7						
FINES				LR	LR	04 46 05.5	
	comp=Z,28nm,18.2s,baz=64,slow=39						
	comp=Z,1.3nm,0.8s						
FINES	**FINESS Array B**	**98.11**	**332**	*i* P	**P**	**03 55 38.9**	**-2.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**98.64**	**321**	LR	LR	04 44 44.6	
	comp=Z,12nm,18.4s,baz=61,slow=38						
TXAR	**Lajitas Array**	**119.39**	**56**	PKP	**PKPdf**	**04 00 54.5**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=340,slow=1.8,SNR=32						
TORD	**Torodi Ar. Bea**	**129.56**	**287**	PKP	**PKPdf**	**04 01 13.9**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=140,slow=2.7,SNR=3.4						
PLCA	**Paso Flores**	**134.05**	**156**	PKP	**PKiKP**	**04 01 23.9**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=337,slow=7.7,SNR=3.1						
PB06	**IPOC Station P**	**148.62**	**138**		**PKiKP**	**04 01 54.3**	**-0.2**
PB09	**IPOC Station P**	**149.46**	**138**		**PKiKP**	**04 01 56.6**	**+0.3**
CPUP	**Villa Florida**	**151.82**	**161**		**PKiKP**	**04 02 00.7**	**-0.1**
CPUP	**Villa Florida**	**151.82**	**161**	PKPbc	**PKPbc**	**04 01 59.6**	**-0.8**
	comp=Z,1.5nm,1.0s,baz=274,slow=4.1,SNR=7.0						
LPAZ	**La Paz**	**153.82**	**130**	PKPab	**PKPab**	**04 02 20.9**	**+2.1**
LPAZ	**La Paz**	**153.82**	**130**	PKP	**PKPdf**	**04 01 58.1**	**+0.1**
	comp=Z,3.8nm,1.2s,baz=200,slow=0.6,SNR=5.6						
LPAZ				PKPab	**PKPab**	**04 02 18.9**	**+0.1**
	comp=Z,4.0nm,0.7s,baz=210,slow=4.7,SNR=11						

MDD ***14*** *03:49:04.9±1.6,36.3°N×11.5°6W,h14km±29km, Mb3.6/2, M_mb2.9/2, Error ellipse: s-maj=30.6km s-min=11.8km az=73.0*

INMG ***14*** *03:49:06.7±0.9,36.3°0N×11.4°8W,h14km, ML1.6, Error ellipse: s-maj=8.5km s-min=4.3km az=105.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Gorringe*

IGIL ***14*** *03:49:06.8,36.2°9N×11.4°9W,h17km, ML1.8*

ISC 14 03:49:04.2±4.2,36.3N±0.1×11.5W±0.2,h10km,n17,σ1s93/23,2C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.27**	**68**	*e*P	**Pn**	**03 49 42.1**	**+0.4**
PFVI				*e*S	**Sn**	**03 50 08.5**	**-1.3**
PFVI				*i* IAML		03 50 09.0	
PFVI				*i* IAML		03 50 09.2	
PFVI				*i* IAML		03 50 10.2	
MORF	**Marmelete**	**2.46**	**65**	*e*P	**Pn**	**03 49 45.0**	**+0.5**
MORF				*e*S	**Sn**	**03 50 13.1**	**-1.6**
MORF				IAML		03 50 14.5	
	comp=N,4.5nm,0.1s						
MORF	**Marmelete**	**2.46**	**65**	*e*P	**Pn**	**03 49 45.1**	**+0.6**
MORF				*e*S	**Sn**	**03 50 13.7**	**-1.0**
MORF				*i* IAML		03 50 14.4	
MORF				*i* IAML		03 50 15.9	
MORF				*i* IAML		03 50 18.9	
PTEO	**Sao Teotonio**	**2.52**	**60**	*e*S	**Sn**	**03 50 14.9**	**-0.9**
PTEO				*i* IAML		03 50 16.3	
PTEO				*i* IAML		03 50 23.3	
MESJ	**Messejana**	**3.01**	**59**	*e*S	**Sn**	**03 50 26.9**	**-1.2**
PCVE	**Castro Verde**	**3.04**	**63**	*e*S	**Sn**	**03 50 27.5**	**-1.4**
PCVE				*i* IAML		03 50 30.2	
PCVE				*i* IAML		03 50 30.7	
PCVE				*i* IAML		03 50 30.8	
PARRA	**Arraiolos**	**3.15**	**37**	*e*S	**Sb**	**03 50 43.0**	**+4.2**
PARRA				*i* IAML		03 50 44.3	
PARRA				*i* IAML		03 50 46.3	
PARRA				*i* IAML		03 50 48.3	
PMAFR	**Mafra**	**3.16**	**33**	*e*S	**Sn**	**03 50 30.0**	**-1.6**
PVAQ	**Vaqueiros**	**3.20**	**69**	*e*P	**Pn**	**03 49 55.3**	**+0.8**
PVAQ				*e*S	**Sn**	**03 50 30.9**	**-1.8**
PVAQ				*i* IAML		03 50 34.4	
PVAQ				*i* IAML		03 50 35.1	
PVAQ				*i* IAML		03 50 35.8	
EGRO	**El Granado**	**3.42**	**68**	Pn	**Pn**	**03 49 57.3**	**-0.2**
EGRO				⇑*i*IVmb_VC		03 50 03.1	
	comp=N,85nm,SNR=1.0						
EGRO				Sn	**Sn**	**03 50 36.4**	**-1.6**
PMTG	**Montargil**	**3.77**	**42**	*e*S	**Sn**	**03 50 44.4**	**-2.3**
PMTG				*i* IAML		03 50 46.5	
PBAR	**Barrancos**	**3.99**	**61**	*e*S	**Sn**	**03 50 50.1**	**-2.1**
PBAR				*i* IAML		03 50 52.1	
PBAR				*i* IAML		03 50 52.8	
EMIN	**Mina Concepcio**	**4.10**	**68**	Sn	**Sn**	**03 50 53.8**	**-1.2**
PSARD	**Sardoal**	**4.19**	**37**	*e*S	**Sn**	**03 50 54.9**	**-2.4**
EBAD	**Badajoz**	**4.30**	**54**	Pn	**Pn**	**03 50 09.9**	**+0.3**
EBAD				⇑*i*IVmb_VC		03 50 17.5	
	comp=N,83nm,SNR=1.4						
EBAD				Sn	**Sn**	**03 50 56.7**	**-3.1**
PMRV	**Marv??o**	**4.48**	**45**	*e*S	**Sn**	**03 51 01.0**	**-3.3**
PMRV				*i* IAML		03 51 03.0	
PMRV				*i* IAML		03 51 04.7	
ESPR	**Espera**	**4.55**	**81**	Sn	**Sn**	**03 51 04.8**	**-1.2**

NEIC ***14*** *03:57:17.5±0.6,40.89N±0.09°×142.0°E±0.1,h63km±7km, mb4.4/6, Error ellipse: s-maj=16.1km s-min=6.7km az=140.0*

JMA ***14*** *03:57:17.2±0.1,41.0°N±0.3°×142.0°E±1.0,h58km±1km, MV3.7/39, E OFF AOMORI PREF*

JMA Felt II J1 at E OFF AOMORI PREF .

NIED ***14*** *03:57:17.2, 40.98N×142.01E,h58km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mr=4.53; Mθθ=2.85; Mφφ=1.68; Mrθ=-0.95; Mrφ=-2.70; Mθφ=5.14; Fault plane solution: M₀6.89000×10¹⁴ NP1: φs252.00000°,δ35.00000°,λ140.00000°. NP2: φs16.00000°,δ69.00000°,λ62.00000°.*

IDC ***14*** *03:57:19.4±2.1,41.02N×142.10E,h80km±15km,mb3.6/10, mbtmp3.8/14 Error ellipse: s-maj=27.3km s-min=14.2km az=114.0*

ISC 14 03:57:17.5±0.9,40.96N±0.04°×141.96E±0.05,h60km±7km, n51,σ0s93/53,mb4.0/14,13D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JARK	**Aomorirokkasho**	**0.45**	**276**	↓*i*P	**Pn**	**03 57 28.9**	**0.0**
JARK				↓*e*S	**Sn**	**03 57 37.1**	**-0.1**
JAHD	**Aomorihigashid**	**0.56**	**303**	↓*i*P	**Pn**	**03 57 30.0**	**-0.1**
JAHD				↓*e*S	**Sn**	**03 57 39.5**	**+0.2**
JANG	**Nango**	**0.68**	**210**	↓*i*P	**Pn**	**03 57 31.3**	**-0.1**
JANG				↓*e*S	**Sn**	**03 57 41.4**	**-0.3**
JTM	**Tenmabayashi**	**0.70**	**256**	P	**Pn**	**03 57 31.8**	**+0.2**
JTM	**Tenmabayashi**	**0.70**	**256**	↓*i*P	**Pn**	**03 57 31.9**	**+0.2**
JTM				↓S	**Sn**	**03 57 42.3**	**+0.2**
JOT	**Ohata**	**0.81**	**302**	↓*i*P	**Pn**	**03 57 32.8**	**-0.2**
JOT				↓S	**Sn**	**03 57 44.7**	**+0.3**
JKB	**Kayabe**	**1.16**	**323**	↓*i*P	**Pn**	**03 57 37.5**	**-0.1**
JKB				↓*e*S	**Sn**	**03 57 52.7**	**+0.1**
JAH	**Hinai**	**1.27**	**233**	P	**Pn**	**03 57 39.7**	**+0.6**
JAH				*e*S	**Sn**	**03 57 56.7**	**+1.6**
JSR	**Shiriuchi**	**1.29**	**297**	*e*P	**Pn**	**03 57 39.9**	**+0.5**
ERM	**Erimo**	**1.39**	**40**		**Pn**	**03 57 41.4**	**+0.8**
JEM	**Erimo**	**1.39**	**40**	*e*P	**Pn**	**03 57 41.0**	**+0.4**
JEM				*e*S	**Sn**	**03 57 58.3**	**+0.3**
JNBK	**Urakawa-nobuka**	**1.45**	**24**	*e*P	**Pn**	**03 57 41.9**	**+0.4**
JIW	**Iwasaki**	**1.53**	**257**	P	**Pn**	**03 57 43.0**	**+0.5**
JOM	**Ohasama**	**1.57**	**199**	P	**Pn**	**03 57 43.5**	**+0.4**
JOM				*e*S	**Sn**	**03 58 03.6**	**+1.2**
JOMM	**Oshimamatsumae**	**1.57**	**292**	*e*P	**Pn**	**03 57 43.2**	**0.0**
JNB	**Noboribetsu**	**1.66**	**336**	P	**Pn**	**03 57 43.5**	**-0.7**
JNB				*e*S	**Sn**	**03 58 04.2**	**-0.3**
JYM2	**Yakumo 2**	**1.66**	**315**	↓*e*P	**Pn**	**03 57 44.5**	**+0.2**
JIAM	**Iburiatsuma**	**1.66**	**359**	*e*P	**Pn**	**03 57 45.1**	**+0.8**
ASAJ	**Asahikawa**	**3.19**	**8**	P	**Pn**	**03 58 06.0**	**+0.9**
	7.5nm,0.4s,baz=204,slow=19,SNR=15						
ASAJ				S	**Sn**	**03 58 42.6**	**+0.7**
	22nm,0.6s,baz=128,slow=32,SNR=3.6						
JKA	**Kamikawa-asahi**	**3.19**	**8**		**Pn**	**03 58 06.0**	**+0.8**
JMM	**Marumori**	**3.22**	**197**		**Pn**	**03 58 04.6**	**-0.9**
MJAR	**Matsushiro Arr**	**5.30**	**215**	P	**Pn**	**03 58 37.2**	**+3.1**
	1.7nm,0.5s,baz=24,slow=13,SNR=9.2						
USRK	**Usuriysk Ar.**	**8.04**	**297**	P	**Pn**	**03 59 15.5**	**+4.0**
	5.4nm,0.7s,baz=105,slow=14,SNR=6.3						
KSRS	**Korea Array**	**11.44**	**257**	P	Pn	04 00 03.5	+5.6
	0.5nm,0.4s,baz=57,slow=14,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**30.00**	**127**	T	T	04 34 29.6	
	baz=322,slow=75						
H11N1	**WAKE ISLAND Hy**	**30.01**	**127**	T	T	04 34 32.6	
	baz=322,slow=75						
H11N3	**WAKE ISLAND Hy**	**30.02**	**127**	T	T	04 34 27.9	
	baz=322,slow=75						
H11S1	**WAKE ISLAND Hy**	**30.83**	**129**	T	T	04 35 58.8	
	baz=322,slow=76,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**30.83**	**129**	T	T	04 36 00.5	
	baz=322,slow=76,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**30.84**	**129**	T	T	04 35 55.2	
	baz=322,slow=76,SNR=3.8						
ZALV	**Zalesovo Beam**	**39.68**	**309**	P	**P**	**04 04 43.6**	**+0.2**
	0.9nm,0.6s,baz=91,slow=8.6,SNR=4.4						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**42.50**	**299**	P	**P**	**04 05 06.6**	**-0.1**
MKAR	**Makanchi Array**	**42.50**	**299**	P	**P**	**04 05 06.7**	**0.0**
	0.5nm,0.5s,baz=82,slow=9.9,SNR=5.8						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**44.01**	**305**	P	**P**	**04 05 18.4**	**-0.3**
	1.6nm,0.7s,baz=80,slow=8.9,SNR=9.8						
KURBB				PcP	**PcP**	**04 07 03.0**	**-0.3**
	0.4nm,0.5s,baz=92,slow=3.9,SNR=3.1						
	1.6nm,0.7s						
TOLK	**Toolik Lake Re**	**44.81**	**29**	P	**P**	**04 05 25.1**	**+0.2**
TOLK				IAmb	IAmb	04 05 27.6	
	comp=Z,2.9nm,0.8s						
H23K	**Yukon River**	**44.81**	**33**	P	**P**	**04 05 26.1**	**+1.0**
ILAR	**Eielson Array**	**45.98**	**34**	P	**P**	**04 05 34.5**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=274,slow=7.3,SNR=4.2						
	comp=Z,0.3nm,0.7s						
BVAR	**Borovoye Array**	**48.31**	**310**	P	**P**	**04 05 52.6**	**0.0**
	comp=Z,1.1nm,0.4s,baz=57,slow=11,SNR=4.4						
	comp=Z,1.1nm,0.4s						
I30M	**Mount Dempster**	**50.32**	**33**	P	**P**	**04 06 08.1**	**+0.2**
I30M				IAmb	IAmb	04 06 34.5	
	comp=Z,6.3nm,1.2s						
AB31	**Akbulak array**	**55.79**	**308**	P	**P**	**04 06 48.1**	**0.0**
AB31				IAmb	IAmb	04 06 48.8	
	comp=Z,2.0nm,0.6s						
ABKAR	**Akbulak array**	**55.79**	**308**	P	**P**	**04 06 48.2**	**+0.1**
WR8	**Warramunga Arr**	**61.00**	**188**	P	**P**	**04 07 22.9**	**-1.8**
WR8				IAmb	IAmb	04 07 50.5	
	comp=Z,3.9nm,1.0s						
WRA	**Warramunga Arr**	**61.00**	**188**	P	**P**	**04 07 23.8**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=5.5,slow=6.6,SNR=1.9						
	comp=Z,0.3nm,0.5s						
FIA1	**FINESS Array S**	**65.55**	**332**	P	**P**	**04 07 54.1**	**-0.2**
FINES	**FINESS Array B**	**65.55**	**332**	P	**P**	**04 07 54.2**	**-0.1**
	comp=Z,4.1nm,0.7s,baz=49,slow=6.9,SNR=18						
	comp=Z,4.1nm,0.7s						
HFS	**Hagfors**	**70.69**	**335**	P	**P**	**04 08 26.1**	**-0.4**
	comp=Z,3.1nm,1.0s,baz=33,slow=8.6,SNR=5.1						
	comp=Z,3.1nm,1.0s						
NOA	**NORSAR Array B**	**70.74**	**337**	P	**P**	**04 08 26.6**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=37,slow=6.2,SNR=3.7						
	comp=Z,1.1nm,0.7s						
AKASG	**Malin Array Be**	**71.47**	**322**	P	**P**	**04 08 30.8**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=45,slow=6.1,SNR=5.8						
	comp=Z,0.7nm,0.5s						
H03N2	**Juan Fernandez**	**146.81**	**90**	T	T	07 01 51.4	
	baz=300,slow=76,SNR=8.8						
H03N3	**Juan Fernandez**	**146.83**	**90**	T	T	07 01 52.7	
	baz=300,slow=76,SNR=9.5						
H03N1	**Juan Fernandez**	**146.83**	**90**	T	T	07 01 46.0	
	baz=300,slow=76,SNR=8.7						

ATH 14 03:57:42.1,38.91N×21.75E,h11km±1km,ML1.6/6, Manual Solution by A.Papageorgiou First location: 2019/09/14 03:58:43, This location: 2019/09/14 04:45:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.05**	**87**	P	Pg	03 57 44.6	+0.3
EVR				S	Sg	03 57 46.4	+0.5
MAKR	**Makrakomi, Fth**	**0.32**	**72**	P	Pg	03 57 49.0	+0.5
MAKR				S	Sb	03 57 54.3	-0.7
PVO	**Paravola**	**0.34**	**210**	P	Pg	03 57 49.2	+0.2
PVO				S	Sg	03 57 53.8	+0.3
ANX	**Ano Chora**	**0.35**	**157**	P	Pg	03 57 49.2	+0.2
ANX				S	Sb	03 57 54.9	-1.0
EFP	**Efpalio**	**0.50**	**166**	P	Pg	03 57 52.1	+0.2
EFP				S	Sb	03 58 00.0	-0.2
SERG	**Sergoula**	**0.56**	**154**	P	Pg	03 57 52.7	-0.2
SERG				S	Sg	03 58 00.9	+0.7
TETR	**Tetrakomo, Epi**	**0.57**	**320**	P	Pg	03 57 53.4	+0.3
TETR				S	Sg	03 58 01.1	+0.5
KALE	**Kalithea**	**0.61**	**149**	P	Pg	03 57 53.5	-0.4
KALE				S	Sb	03 58 02.9	-0.4
THL	**Klokotos Trika**	**0.68**	**18**	P	Pg	03 57 55.4	+0.1
THL				S	Sg	03 58 04.5	+0.3
AXAR	**Agios Charalam**	**0.73**	**101**	P	Pg	03 57 55.3	-0.9
AXAR				S	Sg	03 58 05.9	+0.2
LKD2	**Lefkada island**	**0.86**	**262**	P	Pn	03 57 60.0	-0.2
TYRN	**Tyrnavos**	**0.88**	**25**	P	Pg	03 57 58.9	-0.2
TYRN				S	Sb	03 58 11.6	+0.4
RLS	**Riolos of Patr**	**0.88**	**195**	P	Pb	03 57 59.3	-0.1
EVGI	**Lefkada island**	**0.90**	**251**	P	Pn	03 58 00.9	+0.1
KLV	**Kalavryta, Ach**	**0.93**	**160**	P	Pg	03 57 59.6	-0.3
KLV				S	Sb	03 58 12.9	+0.4

PRU ***14*** *03:58:06.9, 40.96N×20.44E,h10km*

PDG ***14*** *03:58:08.8±0.3, 41.27N×20.24E, h6km, MD3.6/5, ML3.6/10, Error ellipse: s-maj=0.9km s-min=1.7km az=0.0*

SKO ***14*** *03:58:10.3, 41.39N×20.25E,h15km, ML3.4*

THE ***14*** *03:58:10.8, 41°N±2°×20°E±°, h3km±4km, MJ3.2/9, MLh3.2/9*

TIR ***14*** *03:58:10.3, 41.43N×20.35E,h18km±3km, Ml3.5/5*

BEO ***14*** *03:58:14.1±0.5, 41.59N×20.41E, h17km±2km, ML3.2/19*

IDC ***14*** *03:58:16.7±3.6, 42.13N×20.09E, h0km, mbtmp3.6/6, ML3.0/6, Error ellipse: s-maj=43.3km s-min=14.3km az=7.0*

ISC 14 03:58:11.6±0.8,41.41N±0.02×20.30E±0.02,h22km±6km, n127,σ1s73/189,33C-10D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.33**	**260**	Pg	**Pb**	**03 58 16.9**	**-2.0**
TIR	**Tirane**	**0.33**	**260**	*i* Pg	**Pb**	**03 58 16.9**	**-2.0**
TIR				*i* Sg	**Sb**	**03 58 24.1**	**+0.3**
OHR	**Ohrid**	**0.48**	**128**	⇑*i*Pg	**Pb**	**03 58 20.7**	**-0.7**
OHR				*i* Sg	**Sb**	**03 58 28.9**	**+0.9**
OHR				*e*Lg	Lg	03 58 29.6	
	comp=E,2μm,0.6s						
OHR				*e*Lg	Lg	03 58 30.0	
	comp=N,2μm,0.5s						
PUK	**Puka**	**0.70**	**334**	Pg	**Pb**	**03 58 24.0**	**-1.2**
PUK				Sg	**Sb**	**03 58 35.2**	**+0.6**
PUK				AML	AML	03 58 39.4	
	comp=N,11nm,0

BOSS Bosilegrad 1.96 55 ePn Pn 03 58 44.1 +0.6
KNT Kendrikon 1.97 96 *i* Pn Pn 03 58 44.9 +1.2
BRY Bratogost 1.99 319 ⇑*i*Pn Pb 03 58 45.4 -1.7
BRY *i* Sn Sb 03 59 13.8 +2.3
UPM Unac-Piva 2.07 330 ⇑*i*Pn Pn 03 58 46.3 +1.1
UPM *i* Sn Sb 03 59 16.2 +2.2
KKB Krupnik 2.16 77 *e*P Pn 03 58 47.4 +1.1
KKB S Sb 03 59 19.6 +3.1
KKB Krupnik 2.16 77 *i* Pn Pn 03 58 47.4 +1.1
IVAS Ivanjica 2.17 357 *e*Pn Pn 03 58 47.4 +0.9
IVAS *e*Sn Sn 03 59 10.3 -2.4
KLINJ Klinje 2.17 325 ⇑*i*Pn Pb 03 58 48.3 -2.0
GOCS Kraljevo Serbi 2.19 11 *e*Pn Pn 03 58 47.6 +0.8
GOCS *e*Sn Sn 03 59 10.8 -2.5
TRAN Tran 2.26 50 *e*P Pn 03 58 49.0 +1.4
RUDO Rudo 2.31 343 ⇑*i*Pn Pn 03 58 50.0 +1.6
BOVS Bovan 2.46 25 ⇑S Sn 03 59 20.2 +0.5
BOVS Bovan 2.46 25 *e*Pn Pn 03 58 51.3 +1.0
BOVS *e*Sg Sb 03 59 24.5 -0.4
BOVS Bovan 2.46 25 ⇑P Pn 03 58 51.4 +1.1
GRUS Gruza 2.50 7 *e*Pn Pn 03 58 51.7 +0.8
VTS Vitosha 2.50 60 P Pn 03 58 52.1 +1.1
ZAPS Zavoj 2.54 42 *e*Pn Pn 03 58 53.4 +1.8
ZAPS *e*Sg Sb 03 59 29.5 +2.1
BBLS Lazi&#263i 2.54 345 *e*Pn Pn 03 58 53.6 +2.0
BBLS *e*Sn Sn 03 59 21.8 -0.1
MMB Musomishta 2.59 86 *e*P Pn 03 58 53.5 +1.2
MMB Musomishta 2.59 86 *i* Pn Pn 03 58 53.5 +1.2
DIVS Divibare 2.70 355 *e*Pn Pn 03 58 55.7 +2.0
DIVS *e*Sn Sn 03 59 24.7 -1.1
ZAGS Zajecar 2.79 30 *e*Pn Pn 03 58 55.8 +0.8
ZAGS *e*Sn Sn 03 59 25.3 -2.7
TRUS Trudelj 2.82 2 *e*Pn Pn 03 58 56.5 +1.2
TRUS *e*Sn Sn 03 59 27.4 -1.1
MATE Matera 2.82 256 ⇑P Pn 03 58 55.4 0.0
BORS2 Bor- Borsko je 2.96 25 *e*Pn Pn 03 58 56.6 -0.7
KUBS Kucevo 3.17 18 *e*Pn Pn 03 58 59.8 -0.3
KUBS *e*Sn Sn 03 59 35.7 -1.5
TEKS Tekeris 3.19 350 *e*Pn Pn 03 59 02.4 +2.0
MPEP Malo Peshtene 3.21 51 *e*P Pb 03 59 04.1 -3.7
AVAS Avala Beograd 3.29 3 *e*Pn Pn 03 59 02.5 +0.7
RZN Rozhen 3.34 84 *e*P Pn 03 59 04.7 +2.0
PLD Plovdiv 3.41 76 *e*P Pn 03 59 04.7 +1.3
PUNG Punghina 3.46 33 ⇓P Pn 03 59 04.8 +0.7
MDVR Moldovita 3.53 17 ⇑P Pn 03 59 04.5 -0.6
PLVB Pleven 3.76 57 ⇑P Pn 03 59 10.6 +2.4
FRGS Fruska Gora 3.77 355 *e*Pn Pn 03 59 08.2 -0.1
VRSS Vrsac 3.79 11 *e*Pn Pn 03 59 09.2 +0.6
VRSS *e*Sn Sn 03 59 48.8 -3.7
KDZ Kurdzhali 3.79 85 *e*P Pn 03 59 10.1 +1.5
HERR Herculane 3.80 23 ⇑P Pn 03 59 09.8 +1.0
KIJV Kijevo 3.87 313 ⇑*i*Pn Pn 03 59 10.8 +1.0
BLY Banja Luka 4.04 327 ⇑*i*Pn Pn 03 59 14.5 +2.4
BLY Banja Luka 4.04 327 ⇑P Pn 03 59 10.1 -2.0
BLY Banja Luka 4.04 327 *e*Pn Pn 03 59 14.1 +2.0
BLY *e*Sn Sn 04 00 01.7 +2.9
BZS Buzias 4.32 12 ⇑P Pn 03 59 15.5 -0.3
GZR Gura Zlata 4.37 24 ⇑P Pn 03 59 17.5 +0.7
SURR Surduc 4.54 16 ⇑P Pn 03 59 18.1 -0.8
LOT Lotru 4.76 31 ⇓P Pn 03 59 22.7 +0.6
MOSL Moslavina 4.93 330 ⇑*i*Pn Pn 03 59 24.2 -0.1
MORH Mrgy, Hungar 4.95 347 ⇑*i*Pn Pn 03 59 26.2 +1.6
MORH Mrgy, Hungar 4.95 347 ⇑P Pn 03 59 22.7 -1.9
SIRR Siria 4.96 11 ⇓P Pn 03 59 24.9 +0.2
ARR Arges 5.06 37 ⇓P Pn 03 59 27.3 +1.1
OZLJ Ozalj 5.48 322 ⇑*i*Pn Pn 03 59 32.5 +0.7
BOJS Bojanci 5.50 320 *i* Pn Pn 03 59 30.3 +1.1
BOJS *e*Sn Sn 04 00 33.9 -0.8
CRES Cresnjevec Ost 5.64 323 *i* Pn Pn 03 59 35.0 +0.9
MARR Marisel-Cluj 5.64 20 ⇑P Pn 03 59 33.7 -0.5
DRGR 5.66 17 ⇑P Pn 03 59 34.0 -0.3
MLR Muntele Rosu 5.79 43 Pn Pn 03 59 40.0 +3.8
comp=N,0.7nm,0.3s,baz=228,slow=11,SNR=11
MLR Sn Sn 04 00 44.2 +2.2
comp=N,0.3nm,0.3s,baz=280,slow=16,SNR=2.0
comp=N,2.4nm,0.5s
MLR Muntele Rosu 5.79 43 ⇑P Pn 03 59 37.7 +1.4
DOPR Dopca 5.86 37 ⇑P Pn 03 59 38.4 +1.3
BRJN Brijuni 5.93 308 ⇑*i*Pn Pn 03 59 37.7 -0.3
CEY Cerknica 6.08 317 *i* Pn Pn 03 59 40.9 +0.8
JAVS Javornik 6.37 317 *i* Pn Pn 03 59 44.5 +0.3
PLOR Plostina 6.40 44 ⇓P Pn 03 59 46.1 +1.6
VRI Vrincioaia 6.45 44 ⇓P Pn 03 59 46.6 +1.4
SOKA Soboth 6.49 326 *i* Pn Pn 03 59 47.0 +1.1
comp=N,4.2nm,0.4s,SNR=14
SOKA *i* Sn Sn 04 00 58.4 -0.8
comp=N,1.4nm,0.5s
PSZ Piszkesteto 6.52 358 ⇑P Pn 03 59 44.3 -1.9
OBKA Obir 6.57 323 *i* Pn Pn 03 59 47.9 +0.9
comp=N,3.4nm,0.4s,SNR=5.8
OBKA *e*Sn Sn 04 01 00.8 -0.5
comp=N,9.2nm,0.5s
ARSA Arzberg 6.77 331 *i* Pn Pn 03 59 50.7 +1.1
comp=N,1.4nm,0.4s
ARSA *i* Sn Sn 04 01 05.1 -0.9
comp=N,1.6nm,0.4s
RONA Rosalia, Austr 6.91 337 *e*Sn Sn 04 01 09.3 -0.2
comp=N,1.0nm,0.3s
MYKA Terra Mystica 7.09 320 *i* Pn Pn 03 59 54.7 +0.7
comp=N,2.2nm,0.4s
MYKA *e*Sn Sn 04 01 13.2 -0.8
comp=N,2.6nm,0.4s
BURAR Bucovina Array 7.13 28 ⇑P Pn 03 59 54.8 +0.2
CONA Conrad Observa 7.25 336 *e*Pn Pn 03 59 58.5 +2.3
comp=N,0.5nm,0.3s
CONA *i* Sn Sn 04 01 18.2 +0.5
comp=N,1.4nm,0.5s
KBA Koelnbreinsper 7.55 321 *i* Pn Pn 04 00 01.8 +1.4
comp=N,2.5nm,0.4s,SNR=5.4
KBA *i* Sn Sn 04 01 23.6 -1.9
comp=N,4.2nm,0.9s
ABTA Abfaltersbach 7.74 316 *i* Pn Pn 04 00 03.8 +0.8
comp=N,1.8nm,0.2s
ABTA *i* Sn Sn 04 01 28.9 -1.0
comp=N,3.3nm,0.4s
MOA Molln 7.75 328 *i* Pn Pn 04 00 05.2 +2.2
comp=N,1.6nm,0.3s
MOA *e*Sn Sn 04 01 30.6 +0.7
comp=N,3.5nm,0.5s
BIOA Bad Ischl, Aus 7.88 325 *e*Pn Pn 04 00 06.5 +1.7
comp=N,3.3nm,0.4s
LESA Schwarzleotal 8.12 320 *i* Pn Pn 04 00 09.2 +1.1
comp=N,3.2nm,0.4s,SNR=7.1
LESA *i* Sn Sn 04 01 38.7 -0.5
comp=N,1.9nm,0.4s
WTTA Wattenberg 8.53 316 *i* Pn Pn 04 00 15.6 +1.8
comp=N,2.1nm,0.2s,SNR=5.0
WTTA *i* Sn Sn 04 01 46.9 -2.6
comp=N,3.6nm,0.4s
WATA Walderalm 8.61 316 *i* Pn Pn 04 00 17.1 +2.2
comp=N,7.5nm,0.5s,SNR=5.3
WATA *i* Sn Sn 04 01 50.8 -0.6
comp=N,1.8nm,0.3s
SQTA Sankt Quirin 8.73 315 *i* Pn Pn 04 00 17.8 +1.3
comp=N,1.2nm,0.2s
SQTA *i* Sn Sn 04 01 53.4 -0.9
comp=N,4.3nm,0.5s
GERES GERESS Array B 8.78 330 Pn Pn 04 00 17.8 +0.6
baz=144,slow=14,SNR=5.4
GERES Sn Sn 04 01 45.8 -10
baz=145,slow=23,SNR=2.1
comp=N,0.5nm,0.5s
MOTA Moosalm 8.86 315 *i* Pn Pn 04 00 20.0 +1.6
comp=N,2.4nm,0.3s,SNR=5.8
MOTA *i* Sn Sn 04 01 56.7 -0.9
comp=N,4.1nm,0.4s
FETA Feichten 8.87 312 *i* Pn Pn 04 00 19.0 +0.5
comp=N,1.2nm,0.4s
KHC Kasperske Hory 9.06 331 *e*PN Pn 04 00 22.8 +1.8
KHC *e*SN Sn 04 02 05.3 +3.1
RETA Reutte 9.13 315 *i* Pn Pn 04 00 23.4 +1.3
comp=N,1.3nm,0.4s
RETA *i* Sn Sn 04 02 03.3 -0.8
comp=N,5.5nm,0.5s
DAVOX Davos/Dischmat 9.22 309 Pn Pn 04 00 23.9 +0.6
comp=N,0.9nm,0.3s,baz=112,slow=20,SNR=11
DAVOX Sn Sn 04 02 01.6 -4.8
comp=N,0.2nm,0.3s,baz=153,slow=20,SNR=1.4
comp=N,2.2nm,0.4s
DAVA Damuels 9.50 312 *i* Pn Pn 04 00 24.8 -2.3
comp=N,0.7nm,0.2s
DAVA *i* Sn Sn 04 02 10.1 -3.1
comp=N,2.5nm,0.4s
HFS Hagfors 19.19 350 P Pn 04 02 33.7 -0.9
comp=N,0.2nm,0.3s,baz=163,slow=12,SNR=4.3
comp=N,7.0nm,1.1s
FINES FINESS Array B 20.37 8 P P 04 02 46.3 0.0
comp=N,0.2nm,0.3s,baz=190,slow=9.6,SNR=6.1
comp=N,2.5nm,0.8s
NOA NORSAR Array B 20.43 347 P P 04 02 45.4 -1.7
baz=158,slow=10,SNR=2.3
comp=N,0.5nm,0.7s

*IDC **14** 04:06:21.4±0.6,6°.81N×72°.99W,h156km±6km,mb3.6/9, mbtmp4.2/13,Error ellipse: s-maj=12.7km s-min=6.9km az=132.0*
*NEIC **14** 04:06:22.1±1.3,6°.76N±0°.07×72°.99W±0°.08,h154km±8km, mb4.2/58,Error ellipse: s-maj=12.2km s-min=9.4km az=101.0*
*RSNC **14** 04:06:22.5±0.0,7°N±1°×7°3W±°,h151km±2km,M4.2, mB5.2,mb4.6,ML3.9,Mw(mB)4.6*

ISC 14 04:06:21.2±0.6,6°.87N±0°.03×73°.10W±0°.04,h155km±5km, n130,σ1§48/164,mb4.2/35,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**197**	P	**Pn**	**Pn**	**04 06 43.1**	**+0.5**
BARC				P	**Pn**	**Pn**	**04 06 43.1**	**+0.5**
BARC				S	**Sn**	**Sn**	**04 06 58.4**	**-0.5**
PAMC	**Pamplona, Colo**	**0.62**	**40**	P	**Pn**	**Pn**	**04 06 46.0**	**+1.7**
PAMC				S	**Sn**	**Sn**	**04 07 03.2**	**+1.3**
BRJC	**Barrancabermej**	**0.65**	**280**	P	**Pn**	**Pn**	**04 06 44.8**	**+0.9**
BRJC				S	**Sn**	**Sn**	**04 07 01.9**	**+0.7**
RUSC	**La Rusia**	**0.97**	**179**		**Pn**	**Pn**	**04 06 47.0**	**+0.3**
RUSC	**La Rusia**	**0.97**	**179**	P	**Pn**	**Pn**	**04 06 47.0**	**+0.3**
RUSC				S	**Sn**	**Sn**	**04 07 05.7**	**-0.5**
OCAC	**Ocana**	**1.38**	**351**	P	**Pn**	**Pn**	**04 06 51.2**	**+1.1**
OCAC				S	**Sn**	**Sn**	**04 07 13.2**	**+0.9**
PTBC	**PUERTO BERRIO,**	**1.39**	**257**	P	**Pn**	**Pn**	**04 06 49.6**	**-0.4**
PTBC				S	**Sn**	**Sn**	**04 07 11.0**	**-1.0**
SPBC	**San Pablo de B**	**1.54**	**219**	P	**Pn**	**Pn**	**04 06 51.8**	**+0.1**
SPBC				S	**Sn**	**Sn**	**04 07 13.9**	**-1.2**
NORC	**Norcasia**	**2.18**	**234**	P	**Pn**	**Pn**	**04 06 58.9**	**+0.1**
NORC				S	**Sn**	**Sn**	**04 07 26.8**	**-1.0**
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**Pn**	**04 07 02.8**	**+1.6**
	723nm,0.4s,baz=75,slow=19,SNR=464							
ROSC				S		**Sn**	**04 07 32.3**	**+0.4**
	2um,0.4s,baz=114,slow=20,SNR=13							
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**Pn**	**04 07 02.6**	**+1.4**
ROSC				S	**Sn**	**Sn**	**04 07 31.7**	**-0.2**
HELC	**Santa Helena**	**2.50**	**255**	P	**Pn**	**Pn**	**04 07 03.4**	**+0.4**
HELC				S	**Sn**	**Sn**	**04 07 32.8**	**-2.4**
CVER	**Cruz Verde, Cu**	**2.52**	**203**	P	**Pn**	**Pn**	**04 07 04.5**	**+1.2**
CVER				S	**Sn**	**Sn**	**04 07 36.1**	**+0.3**
UREC	**San Jos de Ur**	**2.57**	**290**	P	**Pn**	**Pn**	**04 07 03.3**	**-0.1**
UREC				S	**Sn**	**Sn**	**04 07 33.4**	**-2.6**
GUY2C	**Guyana, Caldas**	**2.78**	**234**	P	**Pn**	**Pn**	**04 07 06.9**	**+0.4**
GUY2C				S	**Sn**	**Sn**	**04 07 40.2**	**-1.2**
VILC	**Villavicencio,**	**2.80**	**192**	P	**Pn**	**Pn**	**04 07 06.3**	**-0.1**
VILC				S	**Sn**	**Sn**	**04 07 40.1**	**-1.3**
RECRC	**Villamaria, Ca**	**2.93**	**230**	P	**Pn**	**Pn**	**04 07 10.9**	**+2.4**
RECRC				S	**Sn**	**Sn**	**04 07 47.7**	**+2.8**
NIZA	**Niza - Manizal**	**2.96**	**233**	P	**Pn**	**Pn**	**04 07 10.3**	**+1.7**
NIZA				S	**Sn**	**Sn**	**04 07 46.5**	**+1.3**
CBOC	**Ciudad Bolivar**	**3.06**	**251**	P	**Pn**	**Pn**	**04 07 10.4**	**+0.7**
CBOC				S	**Sn**	**Sn**	**04 07 46.3**	**-0.9**
DBBC	**Dabeiba**	**3.09**	**273**	P	**Pn**	**Pn**	**04 07 10.3**	**+0.3**
DBBC				S	**Sn**	**Sn**	**04 07 45.4**	**-2.4**
SDV	**Santo Domingo**	**3.16**	**50**		**Pn**	**Pn**	**04 07 12.6**	**+1.5**
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**Pn**	**04 07 11.8**	**+0.8**
	239nm,0.3s,baz=235,slow=11,SNR=89							
SDV				S		**Sn**	**04 07 49.4**	**-0.2**
	472nm,0.4s,baz=270,slow=20,SNR=30							
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**Pn**	**04 07 12.5**	**+1.5**
SDV				S	**Sn**	**Sn**	**04 07 49.4**	**-0.2**
ARGC	**Ariguani, Magd**	**3.18**	**339**	P	**Pn**	**Pn**	**04 07 12.9**	**+1.8**
ARGC				S	**Sn**	**Sn**	**04 07 48.7**	**-1.1**
ANIL	**Santa Ana**	**3.29**	**224**	P	**Pn**	**Pn**	**04 07 13.7**	**+1.0**
ANIL				S	**Sn**	**Sn**	**04 07 53.1**	**+0.5**
PRAC	**Prado**	**3.60**	**210**	P	**Pn**	**Pn**	**04 07 16.2**	**-0.3**
PRAC				S	**Sn**	**Sn**	**04 07 58.5**	**-0.9**
APAC	**Apartado, Choc**	**3.60**	**287**	P	**Pn**	**Pn**	**04 07 16.9**	**+0.5**
APAC				S	**Sn**	**Sn**	**04 07 58.6**	**-0.7**
ORTC	**Ortega, Tolima**	**3.63**	**216**	P	**Pn**	**Pn**	**04 07 17.3**	**+0.4**
ORTC				S	**Sn**	**Sn**	**04 08 00.6**	**+0.5**
SJCC	**San Jacinto, C**	**3.65**	**326**	P	**Pn**	**Pn**	**04 07 16.7**	**-0.4**
SJCC				S	**Sn**	**Sn**	**04 07 57.9**	**-2.7**
URMC	**La Uribe, Meta**	**3.81**	**200**	P	**Pn**	**Pn**	**04 07 20.1**	**+0.8**
URMC				S	**Sn**	**Sn**	**04 08 03.9**	**-0.5**
CRJC	**Cerrejon, Guaj**	**4.13**	**3**	P	**Pn**	**Pn**	**04 07 23.2**	**-0.2**
CRJC				S	**Sn**	**Sn**	**04 08 10.2**	**-1.7**
YOTC	**Yotoco, Valle**	**4.32**	**229**	P	**Pn**	**Pn**	**04 07 25.7**	**-0.2**
YOTC				S	**Sn**	**Sn**	**04 09 16.6**	**+0.4**
SOLC	**Bahia Solano**	**4.33**	**262**	P	**Pn**	**Pn**	**04 07 26.8**	**+0.9**
SOLC				S	**Sn**	**Sn**	**04 08 14.6**	**-1.6**
SMRC	**Santa Marta, M**	**4.41**	**345**		**Pn**	**Pn**	**04 07 27.5**	**+0.5**
SMRC	**Santa Marta, M**	**4.41**	**345**	P	**Pn**	**Pn**	**04 07 27.9**	**+0.9**
SMRC				S	**Sn**	**Sn**	**04 08 16.1**	**-2.2**
CAPC	**Capurgana**	**4.57**	**293**	P	**Pn**	**Pn**	**04 07 27.0**	**-2.0**
CAPC				S	**Sn**	**Sn**	**04 08 15.8**	**-6.1**
PTAC	**Punta Ardita,**	**4.68**	**274**	P	**Pn**	**Pn**	**04 07 29.8**	**-0.7**
PTAC				S	**Sn**	**Sn**	**04 08 22.6**	**-2.0**
MACC	**Macarena, Meta**	**4.75**	**189**	P	**Pn**	**Pn**	**04 07 29.8**	**-1.6**
MACC				S	**Sn**	**Sn**	**04 08 22.5**	**-3.8**
BETC	**Betania**	**4.77**	**209**	P	**Pn**	**Pn**	**04 07 30.6**	**-1.1**
BETC				S	**Sn**	**Sn**	**04 08 25.3**	**-1.4**
URIC	**Uribia, Colomb**	**4.93**	**13**	P	**Pn**	**Pn**	**04 07 32.5**	**-1.3**
URIC				S	**Sn**	**Sn**	**04 08 28.9**	**-1.6**
JAMC	**Jamundi, Valle**	**5.08**	**225**	P	**Pn**	**Pn**	**04 07 36.0**	**0.0**
	2um39nm,0.4s							
JAMC				S		**Sn**	**04 08 33.3**	**-1.1**
	2um39nm,0.4s							
GARC	**Garzon, Huila**	**5.22**	**207**	P	**Pn**	**Pn**	**04 07 36.7**	**-1.2**
GARC				S	**Sn**	**Sn**	**04 08 33.1**	**-4.8**
BAUV	**El Baul**	**5.42**	**67**		**Pn**	**Pn**	**04 07 39.3**	**-0.9**
POPC	**Popayan, Colom**	**5.58**	**220**	P	**Pn**	**Pn**	**04 07 42.2**	**-0.5**
	606nm45nm,0.8s							
FLOC	**Florencia**	**5.83**	**206**		**Pn**	**Pn**	**04 07 45.2**	**-0.6**
FLOC	**Florencia**	**5.83**	**206**	P	**Pn**	**Pn**	**04 07 45.0**	**-0.8**
	3um93nm,0.6s							
BBAC	**Balboa, Cauca**	**6.34**	**221**	P	**Pn**	**Pn**	**04 07 53.6**	**+0.8**
CRUC	**La Cruz**	**6.51**	**216**	P	**Pn**	**Pn**	**04 07 57.2**	**+2.0**
BCIP	**Isla Barro Col**	**7.05**	**289**	Pn	**Pn**	**Pn**	**04 08 00.8**	**-1.2**
OTAV	**Otavalo**	**8.48**	**219**		**Pn**	**Pn**	**04 08 20.2**	**-1.2**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	**Pn**	**Pn**	**04 08 27.6**	**-0.3**
	7.5nm,0.3s,baz=226,slow=4.0,SNR=26							
PCRV				S		**Sn**	**04 10 05.3**	**-2.6**
	9.4nm,0.6s,baz=288,slow=20,SNR=1.5							
LCR2	**La Lucha 2**	**11.16**	**286**	Pn	**Pn**	**Pn**	**04 08 58.5**	**+1.7**
MTDJ	**Mount Denham**	**12.09**	**339**		**Pn**	**Pn**	**04 09 11.8**	**+3.1**
MTDJ	**Mount Denham**	**12.09**	**339**	*e*P	**P**	**P**	**04 09 12.3**	**-2.7**
MTDJ				*e*S	Sn	Sn	04 11 14.0	-8.6
CELP	**Cerrillos**	**12.83**	**29**	Pn	**Pn**	**Pn**	**04 09 16.9**	**-1.2**
PDPR	**Patillas Dam,**	**13.06**	**31**	Pn	**Pn**	**Pn**	**04 09 21.2**	**+0.1**
SJG	**San Juan**	**13.07**	**31**	P	**Pn**	**Pn**	**04 09 19.5**	**-1.7**
	6.6nm,0.5s,baz=202,slow=19,SNR=7.2							
GTBY	**Guantanamo Bay**	**13.13**	**352**	*e*P	**P**	**P**	**04 09 26.3**	**-0.1**
MASC	**Masc**	**13.28**	**355**	*e*P	**P**	**P**	**04 09 26.4**	**-1.6**
RCC	**Rio Carpintero**	**13.29**	**349**	*e*P	**P**	**P**	**04 09 28.0**	**-0.1**
BOAV	**Boa Vista**	**13.30**	**109**		**Pn**	**Pn**	**04 09 22.8**	**-1.3**
MARVS	**Santiago de Cu**	**13.34**	**349**	*e*P	**P**	**P**	**04 09 28.5**	**-0.2**
QMBU	**Quimbuelo**	**13.36**	**353**	*e*P	**P**	**P**	**04 09 28.9**	**0.0**
CHIV	**Chivirico**	**13.43**	**346**	*e*P	**P**	**P**	**04 09 29.8**	**+0.1**
LMGC	**Las Mercedes**	**13.66**	**344**	*e*P	**P**	**P**	**04 09 31.2**	**-1.0**
NMDO	**Nuevo Mundo**	**13.74**	**353**	P	**P**	**P**	**04 09 33.9**	**+0.8**
NMDO	**Nuevo Mundo**	**13.74**	**353**	*e*P	**P**	**P**	**04 09 34.4**	**+1.3**
PINC	**Pinares de May**	**13.79**	**349**	*e*P	**P**	**P**	**04 09 34.5**	**+0.8**
MOAC	**Moa**	**13.83**	**353**	*e*P	**P**	**P**	**04 09 35.0**	**+0.9**
FDF	**Fort de France**	**14.10**	**55**	Pn	**Pn**	**Pn**	**04 09 34.1**	**-0.2**
HLGC	**Holguin**	**14.23**	**349**	*e*P	**P**	**P**	**04 09 42.1**	**+3.5**
CZSB	**Cruzeiro do Su**	**14.50**	**178**		**Pn**	**Pn**	**04 09 38.8**	**-0.5**
ATAH	**Atahualpa**	**14.88**	**201**	P	**Pn**	**Pn**	**04 09 41.8**	**-2.6**
	4.6nm,0.6s,baz=31,slow=19,SNR=4.6							
MGV	**Manicaragua**	**16.55**	**337**	*e*P	Pn		04 10 13.8	+9.4
MTO3	**Montecristo**	**17.64**	**296**	P	**Pn**	**Pn**	**04 10 17.8**	**0.0**
MTO3				IAmb	IAmb		04 10 21.5	
	comp=Z,8.7nm,0.7s							
TEIG	**Tepich**	**19.83**	**314**	P	**Pn**	**Pn**	**04 10 42.3**	**-1.0**
TEIG	**Tepich**	**19.83**	**314**	P	**Pn**	**Pn**	**04 10 42.3**	**-1.0**
	baz=127,slow=20,SNR=1.6							
VILB	**Vilhena**	**23.49**	**147**		**P**	**P**	**04 11 17.3**	**0.0**
LPAZ	**La Paz**	**23.52**	**168**	P	**P**	**P**	**04 11 17.4**	**-0.7**
LPAZ	**La Paz**	**23.52**	**168**	P	**P**	**P**	**04 11 17.8**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=347,slow=7.7,SNR=8.2							
	comp=Z,1.2nm,0.4s							
PB16	**IPOC Station P**	**25.29**	**172**	P	**P**		**04 11 31.8**	**-2.4**
PB16				IAmb	IAmb		04 12 07.1	
	comp=Z,5.4nm,1.1s							
PB11	**IPOC Station P**	**26.67**	**173**	P	**P**		**04 11 45.0**	**-1.1**
PB11				IAmb	IAmb		04 12 22.7	
	comp=Z,11nm,1.2s							
PB01	**IPOC Station P**	**27.96**	**173**	P	**P**		**04 11 55.7**	**-1.8**
PB01				IAmb	IAmb		04 12 22.0	
	comp=Z,5.8nm,1.3s							
Y49A	**Blount Mountai**	**29.55**	**337**	P	**P**		**04 12 13.7**	**+2.3**
T57A	**Hurt**	**30.52**	**350**	P	**P**		**04 12 23.1**	**+3.3**
WHAR	**Wooly Hollow**	**33.34**	**331**	P	**P**		**04 12 46.0**	**+1.5**
BDFB	**Brasilia**	**33.43**	**132**	P	**P**		**04 12 45.8**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=326,slow=11,SNR=5.7							
	comp=Z,1.3nm,0.4s							
PBMO	**Poplar Bluff**	**33.72**	**334**	P	**P**		**04 12 49.5**	**+1.7**
PBMO				IAmb	IAmb		04 12 50.4	
	comp=Z,5.3nm,0.7s							
FCAR	**Ozark Folk Cen**	**33.74**	**332**	P	**P**		**04 12 49.2**	**+1.1**
FCAR				IAmb	IAmb		04 12 49.6	
	comp=Z,3.9nm,0.6s							
CGM3	**Cape Girardeau**	**33.84**	**336**	P	**P**		**04 12 50.3**	**+1.5**
CGM3				IAmb	IAmb		04 12 51.3	
	comp=Z,4.1nm,0.6s							
SIUC	**Southern Illin**	**34.02**	**337**	P	**P**		**04 12 51.9**	**+1.5**
SIUC				IAmb	IAmb		04 12 53.2	
	comp=Z,6.2nm,0.7s							
BRDY	**Brady**	**34.30**	**318**	P	**P**		**04 12 53.0**	**0.0**
FVM	**French Village**	**34.74**	**336**	P	**P**		**04 12 58.2**	**+1.7**
FVM				IAmb	IAmb		04 12 58.8	
	comp=Z,4.3nm,0.7s							
CCM	**Cathedral Cave**	**35.14**	**335**		**P**		**04 13 01.5**	**+1.5**
SFIN	**Lafayette**	**35.65**	**342**	P	**P**		**04 13 06.0**	**+1.7**
SAND	**Sanderson**	**35.66**	**314**	P	**P**		**04 13 05.8**	**+1.2**
SAND				IAmb	IAmb		04 13 07.9	
	comp=Z,4.4nm,1.2s							
R40A	**Maddies Statio**	**35.78**	**334**	P	**P**		**04 13 06.1**	**+0.6**
R40A				IAmb	IAmb		04 13 07.3	
	comp=Z,3.8nm,0.6s							
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**		**04 13 13.1**	**+1.7**
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**		**04 13 12.6**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=121,slow=7.5,SNR=34							
TXAR				PcP	**PcP**		**04 15 33.8**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=124,slow=2.7,SNR=5.7							
	comp=Z,1.9nm,0.6s							
MNHN	**Monahans**	**36.90**	**315**		**P**		**04 13 16.1**	**+0.9**
MNHN				IAmb	IAmb		04 13 16.4	
	comp=Z,3.2nm,0.4s							
POST	**Post**	**37.07**	**319**		**P**		**04 13 17.8**	**+1.2**
POST				IAmb	IAmb		04 13 18.6	
	comp=Z,4.8nm,0.8s							
P38A	**Dawn**	**37.44**	**334**	IAmb	IAmb		04 13 21.5	
	comp=Z,7.0nm,0.9s							
SMWD	**Samnorwood**	**37.59**	**322**		**P**		**04 13 22.0**	**+1.1**
VHRN	**Van Horn**	**38.18**	**313**	P	**P**		**04 13 27.4**	**+1.3**
G65A	**Princeton**	**38.49**	**6**	P	**P**		**04 13 29.3**	**+1.0**
LMN	**Caledonia Moun**	**39.50**	**9**	P	**P**		**04 13 38.3**	**+1.7**
PV02	**Paradox Valley**	**44.86**	**319**	IAmb	IAmb		04 14 23.4	
	comp=Z,6.8nm,0.7s							
PV13	**Radium Mtn., P**	**44.88**	**319**	IAmb	IAmb		04 14 23.4	
	comp=Z,4.5nm,0.7s							
PV12	**Saucer Basin,**	**44.96**	**319**	IAmb	IAmb		04 14 24.2	
	comp=Z,5.6nm,0.7s							
PV18	**Skein Mesa, Pa**	**44.99**	**319**	P	**P**		**04 14 22.9**	**+1.5**
PV18				IAmb	IAmb		04 14 26.0	
	comp=Z,4.2nm,0.8s							
WUAZ	**Wupatki**	**45.20**	**315**	IAmb	IAmb		04 14 27.1	
	comp=Z,6.7nm,1.0s							
HMU	**Henry Mountain**	**46.02**	**318**	IAmb	IAmb		04 14 35.2	
	comp=Z,5.0nm,1.0s							
ULM	**Lac du Bonnet**	**47.25**	**340**	P	**P**		**04 14 39.0**	**+0.4**
	comp=Z,3.1nm,0.5s,baz=143,slow=10,SNR=6.1							
	comp=Z,3.1nm,0.5s							
TCRU	**Three Creeks R**	**47.52**	**318**	IAmb	IAmb		04 14 47.6	
	comp=Z,4.6nm,0.7s							
V12A	**Nelson**	**47.80**	**313**	IAmb	IAmb		04 14 45.8	
	comp=Z,3.0nm,0.7s			

BC3P	**Paso Ancho**	**1.51**	**120**	*eP*	**Pn**	**04 16 30.7**	**-1.5**
BC3P				*eS*	**Sn**	**04 16 51.8**	**+0.9**
LNBQ3	**Los Naranjos,**	**1.67**	**118**	*eP*	**Pn**	**04 16 35.0**	**+0.7**
LNBQ3				*eS*	**Sn**	**04 16 56.0**	**+1.3**
PTAR3	**Potrerillos Ar**	**1.67**	**122**	*eP*	**Pn**	**04 16 34.7**	**+0.4**
BQSF3	**Alto Boquete,**	**1.70**	**119**	*eP*	**Pn**	**04 16 35.3**	**+0.6**
BQSF3				*eS*	**Sb**	**04 16 58.0**	**-0.6**
PTPM	**Petroterminale**	**1.72**	**143**	*i P*	**Pb**	**04 16 36.4**	**-1.6**
PTPM				*i S*	**Sb**	**04 16 59.8**	**+0.7**
PSOM3	**Paja de Sombre**	**1.82**	**119**	*eP*	**Pn**	**04 16 36.2**	**-0.1**
DVD	**David**	**1.85**	**128**	*eP*	**Pn**	**04 16 37.1**	**+0.4**
CHGR2	**Aguacate**	**1.88**	**110**	*eP*	**Pn**	**04 16 37.0**	**-0.1**
CHGR2				*i S*	**Sn**	**04 17 00.7**	**+1.0**
LOCO3	**Loma Colorada,**	**1.89**	**128**	*eP*	**Pb**	**04 16 38.9**	**-2.0**
LOCO3				*eS*	**Sn**	**04 17 01.5**	**+1.4**
LOMA3	**Las Lomas, Chi**	**1.90**	**127**	*eP*	**Pn**	**04 16 37.0**	**-0.4**
PEDE3	**Pedregal, Chir**	**1.91**	**129**	*eP*	**Pn**	**04 16 38.1**	**+0.6**
PEDE3				*i S*	**Sn**	**04 17 02.4**	**+1.9**
GMAL	**Guarumal, Vera**	**3.22**	**124**	*eP*	**Pn**	**04 16 55.0**	**-0.6**

WEL ***14*** *04:19:05.4±0.6,45°S±4°×16°8E±°, h48km±7km, M3.9/22, ML4.0/9, MLv3.9/22, Error ellipse: s-maj=7.6km s-min=4.5km az=113.2, confirmed*
NOU ***14*** *04:19:05.7,45.005S×167.79E, h64km, MLv4.1/12, South Island, New Zealand*

ISC 14 04:19:04.5±1.7,44°99S±0°04×167°67E±0°07, h76km±10km, n68, σ0°87/75, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.36**	**30**	P	**Pn**	**04 19 16.7**	**0.0**
MSZ				S	**Sn**	**04 19 26.5**	**+0.9**
TAFS	**Te Anau Fire S**	**0.43**	**175**	P	**Pn**	**04 19 17.1**	**-0.1**
TAFS				S	**Sn**	**04 19 26.1**	**-0.5**
MLZ	**Mavora Lakes**	**0.49**	**140**	P	**Pn**	**04 19 17.4**	**-0.4**
MLZ				S	**Sn**	**04 19 27.2**	**-0.4**
GLNY	**Glenorchy**	**0.54**	**77**	P	**Pn**	**04 19 18.3**	**+0.1**
DCZ	**Deep Cove**	**0.60**	**217**	P	**Pn**	**04 19 17.7**	**-1.0**
QTPS	**Queenstown Pol**	**0.71**	**94**	P	**Pn**	**04 19 20.2**	**+0.4**
MOSS	**Mossburn Schoo**	**0.79**	**150**	P	**Pn**	**04 19 21.1**	**+0.3**
MOSS				S	**Sn**	**04 19 33.4**	**+0.5**
WHZ	**Wether Hill Ro**	**0.93**	**168**	P	**Pn**	**04 19 22.3**	**-0.1**
WHZ				S	**Sn**	**04 19 35.0**	**-0.7**
WKZ	**Wanaka**	**0.97**	**81**	P	**Pn**	**04 19 24.0**	**+1.0**
RLNS	**Resolution Isl**	**0.98**	**224**	P	**Pn**	**04 19 22.1**	**-1.1**
RRKS	**Rarakau**	**1.17**	**187**	P	**Pn**	**04 19 25.6**	**+0.3**
EAZ	**Earnscleugh**	**1.19**	**102**	P	**Pn**	**04 19 26.5**	**+0.9**
EAZ				S	**Sn**	**04 19 41.6**	**+0.2**
JCZ	**Jackson Bay**	**1.22**	**42**	P	**Pn**	**04 19 26.5**	**+0.5**
JCZ	**Jackson Bay**	**1.22**	**42**	P	**Pn**	**04 19 26.5**	**+0.5**
NSBS	**Neils Beach**	**1.22**	**36**	P	**Pn**	**04 19 26.2**	**+0.2**
ORPS	**Orepuki**	**1.30**	**177**	P	**Pn**	**04 19 27.1**	**+0.1**
MECS	**Makarora Emerg**	**1.35**	**56**	P	**Pn**	**04 19 28.6**	**+1.0**
PYZ	**Puysegur Point**	**1.37**	**210**	P	**Pn**	**04 19 29.0**	**+1.1**
PYZ	**Puysegur Point**	**1.37**	**210**	P	**Pn**	**04 19 28.6**	**+0.7**
HDWS	**Haast DOC Work**	**1.48**	**42**	P	**Pn**	**04 19 29.9**	**+0.6**
TUZ	**Tuapeka**	**1.69**	**126**	P	**Pn**	**04 19 32.6**	**+0.6**
TUZ				S	**Sn**	**04 19 51.9**	**-1.0**
APZ	**The Paps**	**1.86**	**173**	P	**Pn**	**04 19 34.3**	**-0.1**
SYZ	**Scrubby Hill**	**1.86**	**147**	P	**Pn**	**04 19 34.8**	**+0.5**
SYZ	**Scrubby Hill**	**1.86**	**147**	S	**Sn**	**04 19 57.0**	**0.0**
SYZ	**Scrubby Hill**	**1.86**	**147**	P	**Pn**	**04 19 34.9**	**+0.5**
TWAS	**Twizel Area Sc**	**1.88**	**68**	P	**Pn**	**04 19 34.8**	**+0.1**
LBZ	**Lake Benmore**	**1.89**	**72**	P	**Pn**	**04 19 34.7**	**-0.1**
BDCS	**Balclutha Dist**	**1.91**	**132**	P	**Pn**	**04 19 36.0**	**+0.9**
ODZ	**Otahua Downs**	**2.11**	**93**	P	**Pn**	**04 19 37.6**	**-0.1**
ODZ	**Otahua Downs**	**2.11**	**93**	S	**Sn**	**04 20 02.7**	**-0.4**
ODZ	**Otahua Downs**	**2.11**	**93**	P	**Pn**	**04 19 37.8**	**+0.1**
FOZ	**Fox Glacier**	**2.12**	**47**	P	**Pn**	**04 19 37.6**	**-0.2**
HHSZ	**Highcliff Hill**	**2.25**	**115**	P	**Pn**	**04 19 40.4**	**+0.8**
TMZ	**Timaru**	**2.46**	**77**	P	**Pn**	**04 19 41.8**	**-0.6**
ARCZ	**Arundel**	**2.72**	**69**	P	**Pn**	**04 19 44.9**	**-1.0**
RPZ	**Rata Peaks**	**2.74**	**64**	P	**Pn**	**04 19 45.4**	**-0.8**
RPZ	**Rata Peaks**	**2.74**	**64**	S	**Sn**	**04 20 17.6**	**-0.8**
RPZ	**Rata Peaks**	**2.74**	**64**	P	**Pn**	**04 19 45.4**	**-0.8**
WVZ	**Waitaha Valley**	**2.92**	**50**	P	**Pn**	**04 19 48.5**	**-0.2**
MHCZ	**Mount Hutt**	**3.16**	**64**	P	**Pn**	**04 19 50.5**	**-1.4**
WACZ	**Wakanui South**	**3.16**	**72**	P	**Pn**	**04 19 50.9**	**-1.0**
RACZ	**Rakaia**	**3.45**	**70**	P	**Pn**	**04 19 55.6**	**-0.2**
INZ	**Inchbonnie**	**3.55**	**52**	P	**Pn**	**04 19 56.8**	**-0.3**
OXZ	**Oxford**	**3.56**	**64**	P	**Pn**	**04 19 55.4**	**-1.9**
MQZ	**McQueen's Vall**	**3.80**	**72**	P	**Pn**	**04 19 59.3**	**-1.3**
AKCZ	**Akaroa Harbour**	**3.92**	**75**	P	**Pn**	**04 20 01.3**	**-0.9**
LTZ	**Lake Taylor**	**3.99**	**70**	P	**Pn**	**04 20 01.5**	**-1.8**
AMCZ	**Amberley**	**4.02**	**65**	P	**Pn**	**04 20 02.3**	**-1.3**
OKCZ	**Okains Bay**	**4.07**	**74**	P	**Pn**	**04 20 03.9**	**-0.3**
GVZ	**Greta Valley S**	**4.37**	**64**	P	**Pn**	**04 20 06.7**	**-1.6**
DSZ	**Denniston Nort**	**4.43**	**44**	P	**Pn**	**04 20 09.3**	**+0.1**
KHZ	**Kahutara**	**4.97**	**61**	P	**Pn**	**04 20 16.8**	**+0.3**
THZ	**Tophouse**	**5.00**	**52**	P	**Pn**	**04 20 15.6**	**-1.4**
MRNZ	**Matariki Terra**	**5.17**	**48**	P	**Pn**	**04 20 19.5**	**+0.2**
QRZ	**Quartz Range**	**5.48**	**42**	P	**Pn**	**04 20 23.2**	**-0.3**
QRZ	**Quartz Range**	**5.48**	**42**	P	**Pn**	**04 20 23.5**	**0.0**
TKNZ	**Takaka Hill**	**5.54**	**46**	P	**Pn**	**04 20 25.1**	**+0.7**
BSWZ	**Blackbirch Sta**	**5.58**	**56**	P	**Pn**	**04 20 27.4**	**+2.5**
NNZ	**Nelson**	**5.63**	**50**	P	**Pn**	**04 20 26.8**	**+1.3**
TUWZ	**Tuamarina**	**5.80**	**54**	P	**Pn**	**04 20 28.8**	**+0.9**
TCW	**Tory Channel**	**6.13**	**54**	P	**Pn**	**04 20 34.0**	**+1.6**
DUWZ	**D'Urville Isla**	**6.21**	**50**	P	**Pn**	**04 20 34.5**	**+0.9**
MSWZ	**Moikau Station**	**6.59**	**60**	P	**Pn**	**04 20 38.3**	**-0.3**
CAW	**Cannon Point**	**6.66**	**57**	P	**Pn**	**04 20 38.6**	**-1.0**
KIW	**Kapiti Island**	**6.73**	**55**	P	**Pn**	**04 20 39.4**	**-1.1**
OGWZ	**Otaki Gorge**	**6.91**	**55**	P	**Pn**	**04 20 42.9**	**-0.1**
KHEZ	**Kahui Hut**	**7.39**	**42**	P	**Pn**	**04 20 50.8**	**+1.2**
HIZ	**Hauiti**	**8.41**	**42**	P	**Pn**	**04 21 04.7**	**+1.2**

IDC ***14*** *04:20:52.8±0.8,37°04S×16°88W, h0km, mb4.0/9, mbtmp4.0/9, MS3.7/23, Error ellipse: s-maj=28.0km s-min=18.0km az=104.0*

ISC 14 04:20:53.5±0.7,37°05S±0°1×16°92W±0°08, h10km, n42, σ2°22/14, mb4.0/9, MS3.9/23, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09W1	**TRISTAN DA CUN**	**3.67**	**93**	Pn	**Pn**	**04 21 48.3**	**-1.9**
H09W1				Sn	**Sn**	**04 22 34.4**	**+0.8**
H09W1				T	T	04 25 51.8	
	SNR=23						
H09N1	**TRISTAN DA CUN**	**3.69**	**92**	Pn	**Pn**	**04 21 46.4**	**-4.0**
H09N1				Sn	**Sn**	**04 22 33.5**	**-0.4**
H09N1				T	T	04 25 55.0	
	SNR=5.5						
H10S2	**ASCENSION HYDR**	**28.00**	**5**	T	T	04 56 36.5	
	baz=184,slow=74,SNR=134						
H10S3	**ASCENSION HYDR**	**28.00**	**5**	T	T	04 56 36.9	
	baz=36,slow=74,SNR=111						
H10N1	**ASCENSION HYDR**	**29.11**	**5**	T	T	04 57 59.3	
	baz=185						
H10N3	**ASCENSION HYDR**	**29.11**	**5**	T	T	04 58 01.1	
	baz=185,slow=74						
H10N2	**ASCENSION HYDR**	**29.13**	**5**	T	T	04 58 02.0	
	baz=185,slow=74						
BDFB	**Brasilia**	**34.81**	**299**	LR	LR	04 39 33.0	
	comp=Z,236nm,19.5s,baz=103,slow=32						
TSUM	**Tsumeb**	**34.98**	**69**	LR	LR	04 39 30.3	
	comp=Z,41nm,21.8s,baz=170,slow=32						
SNAA	**Sanae**	**35.49**	**172**	P	**P**	**04 27 50.2**	**+0.2**
	0.7nm,0.8s,baz=309,slow=15,SNR=3.6						
	0.7nm,0.8s						
RCBR	**Riachuelo**	**35.55**	**326**	LR	LR	04 38 58.2	
	comp=Z,41nm,21.1s,baz=87,slow=30						
CPUP	**Villa Florida**	**35.77**	**276**	LR	LR	04 40 17.7	
	comp=Z,43nm,19.3s,baz=350,slow=32						
BOSA	**Boshof**	**36.19**	**89**	LR	LR	04 39 43.9	
	comp=Z,171nm,20.6s,baz=216,slow=31						
LBTB	**Lobatse**	**38.06**	**84**	LR	LR	04 41 17.1	
	comp=Z,180nm,18.8s,baz=187,slow=32						
PLCA	**Paso Flores**	**41.38**	**248**	P	**P**	**04 28 40.1**	**+0.2**
	1.2nm,0.8s,baz=101,slow=10,SNR=3.0						
PLCA				LR	LR	04 45 11.5	
	comp=Z,76nm,18.3s,baz=133,slow=35						
	1.2nm,0.8s						
MATP	**Matopo**	**42.70**	**80**	LR	LR	04 44 26.4	
	comp=Z,181nm,18.2s,baz=210,slow=33						
SIV	**San Ignacio**	**44.23**	**286**	LR	LR	04 45 08.6	
	comp=Z,142nm,21.9s,baz=118,slow=33						
DBIC	**Dimbokro**	**44.89**	**17**	P	**P**	**04 29 08.0**	**-0.3**
	2.4nm,0.7s,baz=225,slow=4.3,SNR=1.6						
DBIC				LR	LR	04 43 31.6	
	comp=Z,37nm,19.1s,baz=167,slow=30						
	2.4nm,0.7s						
LSZ	**Lusaka**	**45.40**	**74**	LR	LR	04 45 57.3	
	comp=Z,232nm,18.7s,baz=196,slow=33						
LPAZ	**La Paz**	**49.56**	**280**	P	**P**	**04 29 41.6**	**-4.0**
	0.9nm,0.8s,baz=127,slow=5.8,SNR=4.1						
LPAZ				LR	LR	04 50 40.2	
	comp=Z,71nm,19.1s,baz=116,slow=36						
H04S2	**CROZET ISLANDS**	**50.62**	**124**	T	T	05 24 33.8	
	baz=256,slow=75,SNR=11						
H04S3	**CROZET ISLANDS**	**50.62**	**124**	T	T	05 24 35.2	
	baz=256,slow=75,SNR=9.7						
H04S1	**CROZET ISLANDS**	**50.64**	**124**	T	T	05 24 33.1	
	baz=256,slow=75,SNR=9.4						
MAW	**Mawson**	**52.56**	**152**	P	**P**	**04 30 08.4**	**+1.7**
	1.5nm,0.8s,baz=269,slow=16,SNR=2.7						
MAW				LR	LR	04 47 47.2	
	comp=Z,53nm,21.9s,baz=286,slow=31						
	1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**52.87**	**23**	P	**P**	**04 30 10.4**	**+0.9**
	2.7nm,1.0s,baz=200,slow=5.6,SNR=11						
	2.7nm,1.0s						
QSPA	**South Pole Qui**	**53.25**	**180**	P	**P**	**04 30 13.6**	**+1.6**
	4.6nm,0.8s,baz=214,slow=6.4,SNR=16						
	4.6nm,0.8s						
ATAH	**Atahualpa**	**63.04**	**282**	LR	LR	04 58 35.0	
	comp=Z,81nm,21.5s,baz=169,slow=36						
PCRV	**Puerto La Cruz**	**64.85**	**306**	LR	LR	04 58 17.9	
	comp=Z,95nm,18.5s,slow=35						
VNDA	**Vanda**	**65.74**	**180**	P	**P**	**04 31 36.8**	**-1.1**
	1.0nm,0.9s,baz=192,slow=6.5,SNR=4.4						
	1.0nm,0.9s						
ROSC	**El Rosal**	**67.69**	**295**	LR	LR	05 00 42.2	
	comp=Z,182nm,18.6s,baz=170,slow=35						
MDT	**Midelt**	**70.40**	**11**	LR	LR	04 59 14.7	
	comp=Z,42nm,21.1s,baz=44,slow=33						
KEST	**Kesra**	**76.37**	**22**	LR	LR	05 03 30.4	
	comp=Z,78nm,19.5s,baz=284,slow=34						
ESDC	**Sonseca Array**	**77.23**	**10**	P	**P**	**04 32 49.0**	**+1.4**
	1.3nm,0.9s,baz=198,slow=1.6,SNR=5.4						
	1.3nm,0.9s						
EIL	**Elat**	**82.24**	**44**	LR	LR	05 08 27.0	
	comp=Z,72nm,18.1s,baz=184,slow=35						
MMAI	**Mount Meron Ar**	**85.06**	**42**	LR	LR	05 10 56.2	
	comp=Z,43nm,18.1s,baz=199,slow=35						
ASF	**Jabal al Asfar**	**85.23**	**43**	LR	LR	05 10 02.2	
	comp=Z,54nm,18.8s,baz=242,slow=35						
BRTR	**Keskin Array B**	**89.39**	**37**	P	**P**	**04 33 53.1**	**+2.8**
	0.7nm,0.9s,baz=222,slow=1.9,SNR=3.8						
	0.7nm,0.9s						
VRAC	**Vranov**	**90.93**	**21**	LR	LR	05 11 51.9	
	comp=Z,27nm,21.2s,baz=108,slow=34						
H01W2	**Cape Leeuwin H**	**95.21**	**142**	T	T	06 20 42.8	
	baz=218,slow=75,SNR=30						
H01W3	**Cape Leeuwin H**	**95.22**	**142**	T	T	06 20 44.6	
	baz=218,slow=75,SNR=28						
H01W1	**Cape Leeuwin H**	**95.23**	**142**	T	T	06 20 53.7	
	baz=218,slow=75,SNR=27						
GNI	**Garni**	**95.37**	**43**	LR	LR	05 17 05.2	
	comp=Z,22nm,18.9s,baz=226,slow=35						

AEIC ***14*** *04:24:08.4±0.8,53°52N±0°08×165°25W±0°10, h58km±10km, Error ellipse: s-maj=12.6km s-min=8.0km az=162.0*

NEIC 14 04:24:08.6±0.6,53°41N±0°07×165°28W±0°08, h35km±2km, ML2.9/10, ML2.5(AEIC)**, Error ellipse: s-maj=11.6km s-min=8.4km az=176.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.76**	**341**		Pn	04 24 22.4	-0.5
AKSA					Sn	04 24 32.4	-0.8
AHB	**Akutan Harbor**	**0.77**	**336**		Pn	04 24 22.9	-0.1
AHB					Sn	04 24 33.7	+0.3
AKUT	**Akutan**	**0.78**	**338**		Pn	04 24 22.9	-0.2
AKUT					Sn	04 24 33.5	0.0
AKBBA	**Akutan Broad B**	**0.79**	**331**		Pn	04 24 23.1	-0.1
AKBBA					Sn	04 24 33.9	+0.2
ZRO	**Akutan Zero**	**0.80**	**329**		Pn	04 24 23.1	-0.2
ZRO					Sn	04 24 34.4	+0.4
AKV	**Akutan Volcano**	**0.82**	**331**		Pn	04 24 22.9	-0.8
AKV					Sn	04 24 34.8	+0.1
UNV	**Unalaska Valle**	**0.85**	**301**		Pn	04 24 24.1	+0.1
UNV				IAML		04 24 36.1	
	comp=E,196nm,0.4s						
UNV				IAML		04 24 36.1	
	comp=N,375nm,0.4s						
AKLV	**Akutan Long Va**	**0.85**	**332**		Pn	04 24 23.8	-0.3
AKRB	**Akutan Reef Bi**	**0.86**	**327**		Pn	04 24 24.1	-0.1
AKRB					Sn	04 24 36.1	+0.6
LVA	**Lava Point**	**0.87**	**330**	Pn	Pn	04 24 24.5	+0.1
LVA				IAML		04 24 38.8	
	comp=E,193nm,0.8s						
LVA				IAML		04 24 45.4	
	comp=N,360nm,1.1s						
MNAT	**Makushin Natee**	**0.96**	**300**		Pn	04 24 25.9	+0.3
MREP	**Makushin Rep't**	**0.96**	**295**		Pn	04 24 26.0	+0.4
MSW	**Makushin Switc**	**1.02**	**300**		Sn	04 24 40.8	+1.2
WEBT	**Westdahl Beart**	**1.22**	**15**		Pn	04 24 29.1	-0.1
FALS	**False Pass**	**1.81**	**36**	Pn	Pn	04 24 38.2	+0.9
SDPT	**Sand Point**	**3.41**	**53**	Pn	Pn	04 24 59.5	+0.3
SDPT				IAML		04 26 33.1	
	comp=E,33nm,1.1s						
SDPT				IAML		04 27 13.2	
	comp=N,35nm,1.2s						

IDC ***14*** *04:29:03.6±1.0,23°92N×123°28E, h0km, mb3.7/7, mbtmp3.6/8, ML2.9/1, MS3.1/4, Error ellipse: s-maj=40.5km s-min=22.0km az=72.0*
JMA ***14*** *04:29:07.9±0.2,23°8N±0°9×123°4E±0°5, h28km±2km, MV3.5/10, NEAR ISHIGAKIJIMA ISLAND*

ISC 14 04:29:08.0±1.2,23°86N±0°06×123°40E±0°03, h30km±8km, n30, σ0°81/33, mb3.6/7, MS3.2/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.42**	**62**	P	**Pb**	**04 29 17.1**	**-0.2**
HATJ				*eS*	**Sb**	**04 29 23.7**	**+0.2**
IRIF	**Iriomote-Funau**	**0.56**	**33**	P	**Pb**	**04 29 19.2**	**-0.3**
IRIF				*eS*	**Sb**	**04 29 27.1**	**-0.2**
JKRS	**Kuro-shima**	**0.67**	**56**	P	**Pb**	**04 29 21.5**	**+0.2**
JKRS				*eS*	**Sn**	**04 29 31.5**	**+0.5**
YOJ	**Yonaguni jima**	**0.69**	**329**	P	**Pb**	**04 29 21.4**	**-0.3**
YOJ	**Yonaguni jima**	**0.69**	**329**	S	**Sb**	**04 29 31.2**	**+0.2**
YOJ	**Yonaguni jima**	**0.69**	**329**	P	**Pb**	**04 29 21.4**	**-0.3**
YOJ				*eS*	**Sb**	**04 29 31.0**	**0.0**
JYNG	**Yonagunijimaku**	**0.72**	**325**	P	**Pb**	**04 29 21.7**	**-0.4**
JYNG				S	**Sb**	**04 29 31.6**	**0.0**
JIJ	**Ishigaki jima**	**0.84**	**54**	*i P*	**Pn**	**04 29 23.8**	**-0.1**
JIJ				S	**Sb**	**04 29 35.4**	**+0.2**
JISG	**Ishigakijimahi**	**1.10**	**49**	*i P*	**Pn**	**04 29 22.6**	**+0.2**
JISG				*eS*	**Sn**	**04 29 41.7**	**+0.1**
JTJ	**Tarama**	**1.42**	**57**	*eP*	**Pn**	**04 29 32.6**	**+0.8**
NACB	**Ninganchiao**	**1.68**	**281**	P	**Pn**	**04 29 35.5**	**+0.2**
YULB	**Yu-li**	**1.98**	**257**	P	**Pn**	**04 29 39.4**	**-0.1**
YULB	**Yu-li**	**1.98**	**257**	S	**Sn**	**04 30 03.2**	**-0.2**
YHNB	**Yeheng**	**2.01**	**294**	P	**Pn**	**04 29 41.5**	**+1.5**
TATO	**Taipei**	**2.06**	**303**	P	**Pn**	**04 29 42.0**	**+1.4**
SSLB	**Suanglung**	**2.24**	**269**	P	**Pn**	**04 29 44.5**	**+1.4**
TWGBT	**Beinan**	**2.37**	**244**	P	**Pn**	**04 29 44.5**	**-0.4**
TPUB	**Ta-pu**	**2.60**	**258**	P	**Pn**	**04 29 49.5**	**+1.4**
KSRS	**Korea Array**	**14.09**	**15**	Pn	**Pn**	**04 32 25.7**	**+0.1**
	0.1nm,0.3s,baz=194,slow=12,SNR=2.3						
	0.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**23.42**	**261**	LR	LR	04 42 58.0	
	comp=Z,13nm,18.1s,baz=110,slow=36						
SONM	**Songino Array**	**27.48**	**335**	LR	LR	04 46 33.8	
	comp=Z,48nm,19.9s,baz=331,slow=38						
PETK	**Petropavlovsk-**	**39.02**	**33**	P	**P**	**04 36 31.5**	**-0.3**
	1.2nm,0.4s,baz=234,slow=9.8,SNR=4.1						
	1.2nm,0.4s						
MKAR	**Makanchi Array**	**39.98**	**315**	P	**P**	**04 36 37.4**	**-2.5**
	0.4nm,0.6s,baz=108,slow=10,SNR=3.7						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**41.62**	**326**	P	**P**	**04 36 52.3**	**-0.9**
	0.6nm,0.4s,baz=116,slow=9.8,SNR=2.7						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**44.83**	**165**	P	**P**	**04 37 20.0**	**+0.5**
	0.5nm,0.7s,baz=345,slow=7.8,SNR=2.3						
	0.5nm,0.7s						
TIXI	**Tiksi**	**47.92**	**2**	LR	LR	04 59 39.5	
	comp=Z,33nm,18.7s,baz=355,slow=38						
ASAR	**Alice Springs**	**48.33**	**167**	P	**P**	**04 37 47.6**	**+0.6**
	0.3nm,0.6s,baz=350,slow=15,SNR=5.2						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**74.99**	**307**	P	**P**	**04 40 47.8**	**+1.0**
	1.0nm,0.7s,baz=80,slow=3.5,SNR=5.5						
	1.0nm,0.7s						
HFS	**Hagfors**	**78.83**	**331**	LR	LR	05 22 14.8	
	comp=Z,20nm,18.3s,baz=26,slow=40						
GERES	**GERESS Array B**	**84.37**	**321**	P	**P**	**04 41 37.4**	**-0.1**
	0.2nm,0.4s,baz=64,slow=5.1,SNR=2.0						
	0.2nm,0.4s						

TAP 14 05:00:21.7,24°38N×121°91E, h17km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.14**	**297**	*i P*	Pg	05 00 25.7	+0.1
EWUT				*i S*	Sg	05 00 28.4	+0.1
ENA	**Nanau**	**0.16**	**286**	*i P*	Pg	05 00 26.0	0.0
ENA				*i S*	Sb	05 00 29.1	-0.2
EAHA	**Aohua**	**0.17**	**251**	*i P*	Pg	05 00 25.7	-0.3
EAHA				*eS*	Sg	05 00 29.0	+0.1
TWC	**Suao**	**0.23**	**346**	*eP*	Pg	05 00 27.2	+0.2
TWC				*eS*	Sb	05 00 31.2	-0.1
EOS2	**EOS2**	**0.30**	**83**	*eP*	Pb	05 00 28.3	-0.2
NACB	**Ninganchiao**	**0.35**	**234**	P	Pg	05 00 28.7	-0.4
NACB				*i S*	Sg	05 00 34.4	+0.3
EOS3	**EOS3**	**0.38**	**104**	*eP*	Pg	05 00 29.6	0.0
EOS3				*eS*	Sb	05 00 36.0	+0.5
NNSB	**Datong**	**0.48**	**275**	P	Pg	05 00 31.6	+0.2
NNSB				S	Sb	05 00 38.5	-0.2
NNSB	**Datong**	**0.48**	**275**	*eP*	Pb	05 00 31.7	-0.1
NNSB				*eS*	Sb	05 00 38.5	-0.2
NNS	**Nan Shan**	**0.49**	**277**	*eS*	Sg	05 00 38.0	-0.4
NSK	**Sanguang**	**0.58**	**300**	*eP*	Pg	05 00 32.6	-0.7

TAP 14 05:00:24.8,24°66N×121°72E, h10km, ML1.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDS	**Dongshan**	**0.02**	**198**	*i P*	Pg	05 00 26.9	+0.4
NDS				*eS*	Sg	05 00 28.0	+0.2
TWE	**Neicheng**	**0.08**	**321**	*i P*	Pg	05 00 27.5	+0.4
TWE				*i S*	Sg	05 00 29.1	+0.3
TWC	**Suao**	**0.12**	**112**	*i P*	Pg	05 00 28.1	+0.4
TWC				S	Sg	05 00 30.7	+1.0
ESAO	**Su ao**	**0.14**	**126**	*i P*	Pg	05 00 28.1	+0.2
ESAO				S	Sg	05 00 29.9	0.0
FUSB	**Fushanzhiwuyua**	**0.16**	**310**	*i P*	Pg	05 00 29.0	+0.7
FUSB				*eS*	Sg	05 00 31.5	+0.7
LATG	**Datong**	**0.22**	**236**	*eP*	Pg	05 00 29.8	+0.5
LATG				S	Sg	05 00 33.2	+0.9
NWLT	**Wulai**	**0.23**	**301**	*eP*	Pg	05 00 30.3	+0.7
YHNB	**Yeheng**	**0.32**	**273**	*eP*	Pg	05 00 31.7	+0.5
TIPB	**Shuangxi**	**0.33**	**16**	*eP*	Pg	05 00 30.7	-0.6
TIPB				*eS*	Sg	05 00 36.1	+0.4
NSK	**Sanguang**	**0.33**	**273**	*eP*	Pg	05 00 32.0	+0.6
NSK				*eS*	Sg	05 00 36.1	+0.2

RSNC ***14*** *05:15:09.3±1.8,32°S±23°×67°8W±1°6, h0km, M5.2, mB5.7, mb5.1, Mw(mB)5.2*
VAO ***14*** *05:15:27.2±0.6,31°44S×68°70W, h77km±5km, mb5.0*
MOS ***14*** *05:15:29.3±1.1,31°36S×68°55W, h106km, mb5.3/17, Error ellipse: s-maj=13.5km s-min=7.3km az=95.0*
NEIC ***14*** *05:15:30.7±1.7,31°40S±0°05×68°6W±0°1, h103km±4km, mb5.3/69, Mww5.0/40, Mwr5.1(GUC), Error ellipse: s-maj=12.6km s-min=7.4km az=87.0*
CATAC ***14*** *05:15:30.5±1.1,31°S±4°×7°3W±°, h52km±12km, M5.5/4, mb5.7/4, mB5.7/4, MLv5.5/4, Mw(mB)5.3/4, Error ellipse: s-maj=18.7km s-min=7.2km az=81.0, confirmed*
IDC

CO01 eS Sn 05 16 29.1 +1.7
CO01 IAML 05 16 30.0
comp=Z,6µm,0.5s
APLL PUNTA DE LOS L 2.04 62 eP Pn 05 16 05.4 +1.0
CO02 Combarbal 2.06 274 Pn 05 16 05.1 +0.3
CO02 Combarbal 2.06 274⇑ eP Pn 05 16 05.2 +0.3
CO02 eS Sn 05 16 30.4 -0.4
CO02 Combarbal 2.06 274 eP Pn 05 16 05.1 +0.3
CO02 eS Sn 05 16 31.2 +0.4
AVIZ Vizcacheras 2.09 178 eP Pn 05 16 05.8 +0.7
CO04 Los Peladeros 2.13 251⇑ eP Pn 05 16 05.7 -0.1
CO04 eS Sn 05 16 32.2 -0.3
CO04 IAML 05 16 33.6
comp=E,38µm,0.2s
VA03 San Esteban 2.15 230 Pn 05 16 06.5 +0.5
VA03 San Esteban 2.15 230⇑ *i*P Pn 05 16 06.7 +0.7
VA03 eS Sn 05 16 33.8 +1.0
VA03 IAML 05 16 35.3
comp=E,20µm,0.3s
VA03 San Esteban 2.15 230 eP Pn 05 16 06.7 +0.7
VA03 eS Sn 05 16 35.3 +2.5
VA03 IAML 05 16 38.7
comp=Z,8µm,0.3s
GO04 Tololo Observa 2.24 302 Pn 05 16 07.3 +0.1
GO04 Tololo Observa 2.24 302⇑ eP Pn 05 16 07.4 +0.2
GO04 eS Sn 05 16 35.0 0.0
GO04 Tololo Observa 2.24 302 eP Pn 05 16 07.4 +0.2
GO04 eS Sn 05 16 36.5 +1.4
GO04 IAML 05 16 39.4
comp=Z,16µm,0.6s
MT08 Bocatoma Ro 2.38 210 Pn 05 16 10.0 +1.0
MT08 Bocatoma Ro 2.38 210⇑ eP Pn 05 16 10.2 +1.1
MT08 eS Sn 05 16 40.8 +2.5
MT08 IAML 05 16 43.3
comp=N,15µm,0.4s
MT08 Bocatoma Ro 2.38 210 eP Pn 05 16 09.6 +0.6
MT08 eS Sn 05 16 41.9 +3.6
MT08 IAML 05 16 43.1
comp=Z,5µm,0.3s
MT04 Ro Olivares 2.40 212⇑ *i*P Pn 05 16 10.4 +1.2
MT04 Ro Olivares 2.40 212 eP Pn 05 16 09.8 +0.5
MT04 eS Sn 05 16 43.7 +5.0
MT04 IAML 05 16 45.6
comp=Z,3µm,1.4s
FCH Farellones 2.41 216⇑ eP Pn 05 16 10.7 +1.2
FCH IAML 05 16 45.6
comp=N,5µm,0.4s
ACLC CERRO LA CRUZ 2.42 37 eP Pn 05 16 10.4 +0.9
ACLC eS Sn 05 16 41.3 +2.3
ACLC IAML 05 16 42.3
comp=Z,7µm,0.9s
PEL Peldehue 2.49 225 Pn 05 16 09.5 -0.8
PEL Peldehue 2.49 225 P Pn 05 16 09.5 -0.8
PEL Peldehue 2.49 225⇑ eP Pn 05 16 10.2 -0.1
PEL Peldehue 2.49 225 eP Pn 05 16 10.4 +0.2
PEL eS Sn 05 16 42.5 +2.0
PEL IAML 05 16 47.9
comp=Z,3µm,0.3s
PEL Peldehue 2.49 225 P Pn 05 16 10.9 +0.7
PEL S Sn 05 16 42.9 +2.3
MT10 Hacienda Santa 2.50 220⇑ eP Pn 05 16 11.3 +0.9
MT10 eS Sn 05 16 42.0 +1.2
MT10 IAML 05 16 44.9
comp=N,17µm,0.4s
VA06 Catapilco 2.57 242 Pn 05 16 10.1 -1.1
VA06 Catapilco 2.57 242⇑ eP Pn 05 16 10.2 -1.1
VA06 IAML 05 16 47.8
comp=E,17µm,0.3s
MT14 Cerro Cal¡n 2.59 219⇑ eP Pn 05 16 12.3 +0.7
MT14 eS Sn 05 16 43.8 +0.9
MT14 IAML 05 16 49.6
comp=N,9µm,0.5s
ROC1 El Roble 2.59 232 eP Pn 05 16 11.2 -0.5
ROC1 eS Sn 05 16 43.7 +0.5
MT16 CCHEN 2.61 218 Pn 05 16 12.4 +0.6
MT03 Universidad Ad 2.65 217 Pn 05 16 12.7 +0.3
MT03 Universidad Ad 2.65 217⇑ eP Pn 05 16 13.1 +0.7
MT03 IAML 05 16 48.9
comp=E,15µm,0.2s
MT03 Universidad Ad 2.65 217 eP Pn 05 16 13.2 +0.7
MT03 eS Sn 05 16 46.2 +1.8
MT03 IAML 05 16 48.5
comp=Z,6µm,0.6s
VCA Vinchina 2.66 8⇑ *i*P Pn 05 16 13.8 +1.3
VCA eS Sn 05 16 45.7 +1.1
VCA Vinchina 2.66 8 eP Pn 05 16 13.7 +1.1
VCA eS Sn 05 16 46.9 +2.2
VCA IAML 05 16 49.1
comp=Z,5µm,0.6s
MRA San Martin 2.66 114 eP Pn 05 16 13.5 +0.9
MRA eP 05 16 13.7
MRA eS Sn 05 16 40.7 -3.9
MRA IAML 05 16 45.6
comp=Z,12µm,0.5s
CO06 Fray Jorge 2.70 284 Pn 05 16 11.5 -1.4
CO06 Fray Jorge 2.70 284⇑ eP Pn 05 16 11.5 -1.4
CO06 IAML 05 16 55.1
comp=E,8µm,0.2s
CO05 La Serena 2.70 302 Pn 05 16 12.6 -0.4
CO05 La Serena 2.70 302⇑ eP Pn 05 16 12.1 -0.8
CO05 IAML 05 16 44.0
comp=E,14µm,0.3s
MT05 Renca 2.70 221 Pn 05 16 13.3 +0.3
MT05 Renca 2.70 221⇑ eP Pn 05 16 13.3 +0.3
MT05 Renca 2.70 221 eP Pn 05 16 13.3 +0.3
MT05 IAML 05 16 48.4
comp=Z,4µm,0.6s
MT15 Las Vizcachas 2.73 216 eP Pn 05 16 14.1 +0.6
MT15 IAML 05 16 55.0
comp=N,14µm,0.3s
MT13 San Alfonso 2.75 211 Pn 05 16 14.5 +0.7
MT13 San Alfonso 2.75 211 eP Pn 05 16 14.6 +0.8
MT13 eS Sn 05 16 50.5 +3.8
MT13 IAML 05 16 55.8
comp=Z,3µm,0.6s
LMEL Las Melosas 2.81 208 Pn 05 16 15.4 +0.8
LMEL Las Melosas 2.81 208⇑ eP Pn 05 16 15.3 +0.8
LMEL Las Melosas 2.81 208 eP Pn 05 16 15.3 +0.8
LMEL eS Sn 05 16 54.1 +6.0
LMEL IAML 05 16 58.8
comp=Z,2µm,0.8s
MT02 Curacav 2.85 228 Pn 05 16 14.0 -0.9
MT02 Curacav 2.85 228 eP Pn 05 16 14.1 -0.9
MT02 eS Sn 05 16 49.5 +0.6
MT02 IAML 05 16 58.7
comp=Z,2µm,0.7s
AANI Anillaco 2.94 30 eP Pn 05 16 17.1 +0.8
AANI eS Sn 05 16 52.5 +1.2
LCO Las Campanas 2.98 322 Pn 05 16 16.6 -0.3
LCO Las Campanas 2.98 322 P Pn 05 16 16.6 -0.3
LCO Las Campanas 2.98 322⇑ eP Pn 05 16 17.0 +0.1
LCO eS Sn 05 16 52.2 -0.2
LCO Las Campanas 2.98 322 eP Pn 05 16 17.0 +0.1
LCO eS Sn 05 16 55.3 +3.0
LCO IAML 05 16 59.0
comp=Z,5µm,0.5s
LCO Las Campanas 2.98 322 P Pn 05 16 17.1 +0.1
VA01 Torpederas 3.06 237 Pn 05 16 15.8 -1.8
VA01 Torpederas 3.06 237⇑ eP Pn 05 16 16.0 -1.6
VA01 Torpederas 3.06 237 eP Pn 05 16 16.2 -1.4
VA01 eS Sn 05 16 46.6 -7.0
VA01 IAML 05 16 57.7
comp=Z,3µm,0.5s
BO04 La Punta 3.10 213 Pn 05 16 18.5 +0.2
BO04 La Punta 3.10 213⇑ eP Pn 05 16 18.6 +0.3
MT09 Talagante 3.12 220 Pn 05 16 18.6 0.0
MT09 Talagante 3.12 220⇑ *i*P Pn 05 16 18.1 -0.6
MT01 Popeta 3.33 221 Pn 05 16 19.8 -1.5
MT01 Popeta 3.33 221⇑ *i*P Pn 05 16 20.0 -1.4
MT01 Popeta 3.33 221 eP Pn 05 16 19.9 -1.4
MT01 eS Sn 05 16 58.9 -1.5
MT01 IAML 05 17 03.4
comp=Z,2µm,0.2s
RFA San Rafael 3.38 178 eP Pn 05 16 21.8 -0.2
RFA eS Sn 05 17 00.1 -1.5
RFA IAML 05 17 01.4
comp=Z,8µm,0.7s
TCA Tanti 3.43 90 eP Pn 05 16 23.3 +0.7
TCA eS Sn 05 17 00.8 -1.9
TCA IAML 05 17 20.3
comp=Z,8µm,0.7s
BO01 Tunca 3.66 214 Pn 05 16 24.5 -1.1
BO01 Tunca 3.66 214⇑ eP Pn 05 16 24.4 -1.3
BO01 Tunca 3.66 214 eP Pn 05 16 24.3 -1.3
BO01 eS Sn 05 17 07.1 -0.9
BO01 IAML 05 17 14.2
comp=Z,1µm,0.3s
CYA Choya 3.81 40 eP Pn 05 16 27.4 -0.3
CYA eS Sn 05 17 10.9 -0.8
CYA IAML 05 17 15.2
comp=Z,1µm,0.7s
AC04 Llanos de Chal 3.83 325 Pn 05 16 27.5 -0.4
AC04 Llanos de Chal 3.83 325⇑ eP Pn 05 16 27.0 -0.9
AC04 Llanos de Chal 3.83 325 eP Pn 05 16 27.1 -0.8
AC04 IAML 05 17 42.5
comp=Z,2µm,1.3s
BO02 Sierra Bellavi 3.86 208 Pn 05 16 28.1 -0.2
BO02 Sierra Bellavi 3.86 208⇑ eP Pn 05 16 28.2 -0.2
BO02 Sierra Bellavi 3.86 208 eP Pn 05 16 28.3 -0.2
BO02 IAML 05 17 18.6
comp=Z,2µm,0.2s
GO03 Copiapo 4.03 339 Pn 05 16 30.9 +0.2
GO03 Copiapo 4.03 339 eP Pn 05 16 30.8 +0.1
GO03 eS Sn 05 17 18.3 +1.1
GO03 IAML 05 17 55.4
comp=Z,1µm,0.7s
PIL Pilar 4.04 95 eP Pn 05 16 31.4 +0.6
PIL eS Sn 05 17 17.3 +0.1
BO03 Pichilemu 4.20 221 eP Pn 05 16 29.8 -3.1
AC06 Mina Casimiro 4.29 339 Pn 05 16 33.6 -0.6
AC06 Mina Casimiro 4.29 339⇑ eP Pn 05 16 33.6 -0.6
EDS3 Malargue 4.43 188 eP Pn 05 16 35.8 -0.3
EDS3 eS Sn 05 17 25.3 -1.5
AC02 Maricunga 4.55 354 Pn 05 16 39.4 +1.2
AC02 Maricunga 4.55 354 eP Pn 05 16 39.4 +1.2
AC02 eS Sn 05 17 31.0 +0.6
AC02 IAML 05 17 34.0
comp=Z,594nm,0.6s
AC01 Pan de Azucar 5.50 341 Pn 05 16 49.9 -0.6
AC01 Pan de Azucar 5.50 341 P Pn 05 16 50.1 -0.3
AC01 S Sn 05 17 53.0 +0.5
BI02 San Fabin de 5.72 202 Pn 05 16 52.0 -1.4
GO02 Mina Guanaco 6.26 352 Pn 05 17 00.2 -0.8
PB14 IPOC Station P 6.92 346 Pn 05 17 07.3 -2.6
PB10 IPOC Station P 8.03 347 Pn 05 17 21.4 -3.3
AF01 San Pedro de A 8.40 3 Pn 05 17 29.4 -0.7
PB06 IPOC Station P 8.68 354 Pn 05 17 31.4 -2.3
LR03 Panguipulli 8.78 199 Pn 05 17 31.7 -3.1
H03N1 Juan Fernandez 8.96 254 P Pn 05 17 36.2 -0.7
baz=258,slow=72,SNR=144
H03N3 Juan Fernandez 8.97 254 P Pn 05 17 36.1 -1.1
baz=258,slow=72,SNR=105
H03N2 Juan Fernandez 8.97 254 P Pn 05 17 36.3 -0.9
H03S3 Juan Fernandez 9.03 252 P Pn 05 17 36.3 -1.7
baz=50,slow=16,SNR=7.2
H03S1 Juan Fernandez 9.03 251 P Pn 05 17 36.0 -1.9
baz=50,slow=16,SNR=7.0
H03S2 Juan Fernandez 9.05 252 P Pn 05 17 36.2 -2.0
baz=50,slow=16,SNR=11
PSAL Palomas, Salto 9.42 91 eP Pn 05 17 42.0 -1.5
PLCA Paso Flores 9.46 189 P Pn 05 17 42.2 -1.9
comp=Z,7.4nm,0.3s,baz=7.1,slow=15,SNR=30
PLCA Paso Flores 9.46 189 eP Pn 05 17 40.2 -3.9
PB09 IPOC Station P 9.56 356 Pn 05 17 43.3 -2.4
PB02 IPOC Station P 10.09 353 Pn 05 17 49.0 -3.7
PATCX Punta Patache 10.61 352 Pn 05 17 54.5 -5.3
CPUP Villa Florida 11.09 66 Pn 05 18 03.6 -2.5
CPUP Villa Florida 11.09 66 P Pn 05 18 03.7 -2.4
comp=Z,7.1nm,0.9s,baz=229,slow=9.3,SNR=45
CPUP S Sn 05 20 09.5 +1.4
comp=Z,13nm,0.6s,baz=172,slow=7.1,SNR=3.3
CPUP LR LR 05 22 52.2
comp=Z,77nm,19.7s,baz=94,slow=40
CPUP Villa Florida 11.09 66 eP Pn 05 18 04.0 -2.1
PB08 IPOC Station P 11.20 357 Pn 05 18 03.9 -4.1
LL01 San Ignacio de 11.39 194 Pn 05 18 05.8 -4.2
PB11 IPOC Station P 11.61 355 Pn 05 18 07.7 -5.6
GO01 Chusmiza 11.68 357 Pn 05 18 10.3 -4.1
SJPY San Joaquin 12.72 63 eP Pn 05 18 24.0 -3.7
PLTB Pedras Altas 12.80 96 eP Pn 05 18 25.4 -3.3
CPSB Cacapava Do Su 13.06 90 eP Pn 05 18 29.1 -3.0
MURT Porto Murtinho 13.79 48 eP Pn 05 18 39.6 -2.1
AMBA Amambai (Brazi 14.74 58 eP Pn 05 18 54.2 +0.4
ITAB Concordia 14.95 78 eP Pn 05 18 55.8 -0.6
LPAZ La Paz 15.03 2 P Pn 05 18 57.5 -0.6
comp=Z,19nm,0.8s,baz=186,slow=9.3,SNR=66
LPAZ S Sn 05 21 47.8 +3.3
comp=Z,2.5nm,0.8s,baz=103,slow=18,SNR=0.8
LPAZ La Paz 15.03 2 eP Pn 05 18 56.9 -1.2
LPAZ La Paz 15.03 2 P Pn 05 18 56.5 -1.6
comp=Z,724nmcomp=Z,52nm,1.4s
BDQN Bodoquena, MS 15.22 47 eP Pn 05 18 58.8 -1.1
CNLB Canela 15.46 87 eP Pn 05 19 02.4 -0.5
AQDB Aquidauana 15.88 50 Pn 05 19 07.7 -0.3
AQDB Aquidauana 15.88 50 eP Pn 05 19 06.9 -1.1
PTGB Pitanga 16.03 70 eP Pn 05 19 10.2 +0.2
TRCB Terra Rica 16.58 63 eP Pn 05 19 16.9 +0.2
SIV San Ignacio 16.79 26 P Pn 05 19 16.8 -2.5
comp=Z,30nm,0.7s,baz=206,slow=12,SNR=74
SIV S Sn 05 22 25.8 -0.3
comp=Z,2.9nm,0.8s,baz=200,slow=15,SNR=1.3
RPRD Ribas do Rio P 17.23 54 eP P 05 19 24.2 -0.2
PTLB Pontes e Lacer 18.07 31 eP P 05 19 32.5 +1.0
PP1B Ponte de Pedra 18.53 45 eP P 05 19 38.6 -0.1
FRTB Fartura 18.69 69 eP P 05 19 41.3 +0.8
C2SB Chapadao do Su 18.99 52 eP Pn 05 19 44.8 -0.8
SALV Santo Antonio 19.39 40 eP Pn 05 19 49.3 -1.1
VILB Vilhena 19.91 25 P P 05 19 53.9 +0.2
VILB Vilhena 19.91 25 eP P 05 19 54.1 +0.4
GO09 Cerro Castillo 20.06 187 P P 05 19 55.2 +0.2
ITRB Iturama 20.12 59 eP P 05 19 56.6 +0.6
PET01 Itanhaem-SP 20.12 75 eP P 05 19 56.6 +0.7
SPB Sao Paulo 20.30 73 P P 05 19 58.4 +0.5
SPB Sao Paulo 20.30 73 eP P 05 19 59.0 +1.1
MG05 Puerto Natales 20.48 187 P P 05 19 59.8 +0.2
BB19B Bebedouro 20.70 65 eP P 05 20 02.1 -0.2
NNA Nana 20.75 337 P P 05 20 03.0 +0.3
comp=Z,9.6nm,0.6s,baz=168,slow=9.3,SNR=4.7
NNA S S 05 23 48.6 +0.4
comp=Z,3.5nm,0.4s,baz=170,slow=12,SNR=1.8
comp=Z,9.6nm,0.6s
NNA Nana 20.75 337 *i* P P 05 20 03.8 +1.1
NNA Nana 20.75 337 P P 05 20 02.5 -0.2
comp=Z,28nm,1.3s
RCLB Rio Claro- Sao 20.78 70 eP P 05 20 03.3 +0.3
VAO Valinhos 20.95 72 P P 05 20 05.3 +0.4
VAO Valinhos 20.95 72 eP P 05 20 05.7 +0.7
MG04 Isla Riesco 21.57 185 P P 05 20 11.5 +0.4
EFI East Falkland 21.71 162 P P 05 20 12.1 -0.6
EFI East Falkland 21.71 162*ce*P P 05 20 12.4 -0.3
EFI pmax pmax
comp=Z,149nm,1.7s
GO10 Punta Arenas 21.83 184 P P 05 20 14.1 0.0
ARAG Araguaiana, MT 21.87 48 eP P 05 20 14.1 -0.6
PARB Paraibuna 21.90 74 eP P 05 20 14.9 -0.1
SLP01 Ubatuba-SP 22.29 75 eP P 05 20 19.1 -0.1
MG03 Isla Dawson 22.50 183 P P 05 20 21.6 +0.8
PDRB Porto dos Gac 22.53 32 eP P 05 20 21.6 +0.2
IPMB Ipameri, GO 22.78 59 eP P 05 20 23.8 -0.2
MAN01 Angra dos Reis 23.47 75 eP P 05 20 30.8 +0.3
CLDB Colider 23.60 33 eP P 05 20 30.9 -0.8
BSCB Bom Sucesso 23.70 70 eP P 05 20 33.1 +0.4
PMNB Patos De Minas 23.76 63 eP P 05 20 33.1 -0.1
CZSB Cruzeiro do Su 23.84 350 P P 05 20 33.9 +0.1
CZSB Cruzeiro do Su 23.84 350 eP P 05 20 33.1 -0.7
CZSB Cruzeiro do Su 23.84 350 P P 05 20 32.9 -0.9
comp=Z,1µmcomp=Z,80nm,0.8s
VAS01 Vassouras-RJ 24.17 74 eP P 05 20 37.8 +1.1
BDFB Brasilia 24.46 55 P P 05 20 39.3 -0.3
BDFB Brasilia 24.46 55 P P 05 20 38.7 -0.9
comp=Z,18nm,0.7s,baz=230,slow=9.3,SNR=22
BDFB LR LR 05 31 36.8
comp=Z,402nm,18.6s,baz=171,slow=40
comp=Z,18nm,0.7s
BDFB Brasilia 24.46 55 P P 05 20 39.3 -0.3
SNDB Serra Nova Dou 25.07 43 eP P 05 20 45.1 +0.2
DUB01 Friburgo-RJ 25.14 75 eP P 05 20 46.5 +0.8
CAM01 Campos-RJ 25.85 75 eP P 05 20 52.3 +0.4
DIAM Diamantina, MG 26.03 66 eP P 05 20 54.3 +0.5
NPGB Novo Progresso 27.20 30 eP P 05 21 03.8 -0.3
JANB Januaria 27.51 59 eP P 05 21 07.3 +0.3
SJMB Sao Joao De Ma 27.78 69 eP P 05 21 10.0 +0.8
SDBA SAO DESIDERIO 28.87 54 eP P 05 21 19.1 0.0
MCRA Macar, Loja 28.91 336 P P 05 21 16.4 -3.0
comp=Z,6.3nm,1.1s
MACA Manacapuru-AM 29.05 16 *e*P P 05 21 20.4 -0.1
ITTB Itaituba 29.47 27 eP P 05 21 24.1 -0.2
GUA01 Guaratinga, BA 30.04 67 eP P 05 21 29.5 +0.2
COHC Cochancay 30.47 339 P P 05 21 34.5 +1.5
PRPB Parauapebas 30.64 39 eP P 05 21 35.3 +0.6
CMC01 Camacan, BA 30.97 66 eP P 05 21 37.7 +0.2
SGC2 Sao Gabriel da 31.10 3 P P 05 21 37.1 -1.5
comp=Z,46nm,0.7s
PIAT Ana Tenorio 31.57 341 P P 05 21 44.9 +1.6
comp=Z,369nmcomp=Z,16nm,1.2s
PTLC Puerto Leguiza 31.93 348 P P 05 21 43.3 -2.6
comp=Z,2µmcomp=Z,91nm,1.0s
MAL2 Monte Alegre, 32.23 28 P P 05 21 48.8 +0.2
MAL2 IAmb IAmb 05 21 50.7
comp=Z,56nm,0.9s
OTAV Otavalo 32.80 342 P P 05 21 54.9 +0.8
OTAV Otavalo 32.80 342 P P 05 21 54.9 +0.8
OTAV pmax pmax
comp=Z,11nm,1.1s
OTAV Otavalo 32.80 342 eP P 05 21 53.0 -1.1
OTAV Otavalo 32.80 342 P P 05 21 54.3 +0.2
comp=Z,8.9nm,1.4s
ESPZ Base Esperanza 32.88 170 P P 05 21 54.5 +0.9
ESPZ IAmb IAmb 05 21 59.6
comp=Z,72nm,1.3s
FLOC Florencia 33.46 347 P P 05 21 59.0 -0.3
FLOC IAmb IAmb 05 22 08.7
comp=Z,44nm,1.2s
FLOC Florencia 33.46 347 P P 05 22 00.8 +1.5
FLOC Florencia 33.46 347 P P 05 21 59.6 +0.3
comp=Z,32nm,1.5s
PMSA Palmer Station 33.54 176 eP P 05 21 58.3 -1.1
MACC Macarena, Meta 33.71 351 P P 05 21 59.6 -1.9
comp=Z,6.3nm,1.1s
BBAC Balboa, Cauca 34.22 345 P P 05 22 07.1 +1.0
comp=Z,37nm,0.9s
BOAV Boa Vista 34.46 14 P P 05 22 07.4 -0.6
BOAV IAmb IAmb 05 22 09.0
comp=Z,27nm,0.8s
BOAV Boa Vista 34.46 14 *e*P P 05 22 08.0 0.0
BOAV Boa Vista 34.46 14 P P 05 22 07.3 -0.6
comp=Z,40nm,0.9s
POPC Popayan, Colom 34.60 346 P P 05 22 11.3 +1.9
comp=Z,279nmcomp=Z,24nm,1.2s
TMAB Tom-Au,PA,Br 34.75 38 *e*P P 05 22 11.9 +1.4
JAMC Jamundi, Valle 35.25 346 P P 05 22 15.6 +0.6
comp=Z,20nm,0.9s
PRAC Prado 35.41 349 P P 05 22 17.4 +1.3
comp=Z,17nm,2.0s
ORTC Ortega, Tolima 35.66 349 P P 05 22 19.3 +1.0
comp=Z,651nmcomp=Z,49nm,1.0s
YOTC Yotoco, Valle 35.93 347 P P 05 22 20.6 -0.1
comp=Z,16nm,0.8s
ROSC El Rosal 36.43 350 P P 05 22 25.6 +0.3
comp=Z,8.4nm,0.5s,baz=165,slow=20,SNR=5.7
comp=Z,8.4nm,0.5s
NBAN Anadia - AL 36.96 61 *e*P P 05 22 29.0 -0.4
SPBC San Pablo de B 37.19 351 P P 05 22 30.1 -1.3
comp=Z,14nm,1.6s
NORC Norcasia 37.22 350 P P 05 22 31.9 +0.3
comp=Z,19nm,1.0s
RUSC La Rusia 37.31 353 P P 05 22 32.9 +0.1
RUSC La Rusia 37.31 353 P P 05 22 33.6 +0.8
RUSC La Rusia 37.31 353 P P 05 22 33.3 +0.5
comp=Z,1µmcomp=Z,135nm,0.7s
CBOC Ciudad Bolivar 37.70 348 P P 05 22 37.2 +1.4
comp=Z,19nm,1.9s
HELC Santa Helena 37.94 349 P P 05 22 38.3 +0.3
HELC Santa Helena 37.94 349 P P 05 22 37.2 -0.8
comp=Z,992nmcomp=Z,147nm,0.8s
BARC Barichara 38.01 353 P P 05 22 36.3 -2.1
PTBC PUERTO BERRIO, 38.12 351 P P 05 22 36.9 -2.2
comp=Z,19nm,1.0s
DBBC Dabeiba 38.87 348 P P 05 22 46.5 +1.1
MPGF Montagnes des 39.35 26 P P 05 22 49.3 -0.1
MPGF pP **pP** 05 23 15.1 +0.1
MPGF sP **sP** 05 23 25.1 -2.9
MPGF PcP **PcP** 05 24 56.3 +0.6
RCBR Riachuelo 39.80 57 LR LR 05 40 02.0
comp=Z,41nm,20.4s,baz=242,slow=37
RCBR Riachuelo 39.80 57 *e*P P 05 22 54.9 +1.7
SDV Santo Domingo 40.09 357 *e*P P 05 22 55.3 -0.3
SDV Santo Domingo 40.09 357 P P 05 22 55.1 -0.5
comp=Z,34nm,0.9s
BAUV El Baul 40.10 1 P P 05 22 54.7 -0.8
BAUV IAmb IAmb 05 22 56.0
comp=Z,76nm,0.9s
PCRV Puerto La Cruz 41.49 6 LR LR 05 41 47.0
comp=Z,81nm,21.0s,slow=38
SJCC San Jacinto, C 41.52 350 P P 05 23 06.2 -1.1
comp=Z,1µmcomp=Z,121nm,1.0s
BRU2 Volcan 42.16 339 P P 05 23 12.0 -0.6
BRU2 IAmb IAmb 05 23 15.9
comp=Z,66nm,1.4s
GRGR Grenville 43.77 10 P P 05 23 24.9 -0.5
GRGR Grenville 43.77 10 P P 05 23 23.9 -1.5
comp=Z,2µmcomp=Z,228nm,0.9s
JTS Las Juntas de 44.30 337 *i* P P 05 23 31.5 +1.9
JTS pmax pmax
comp=Z,45nm,1.6s
ESPN Las Esperanzas 45.87 338 P P 05 23 42.7 +0.7
FDF Fort de France 46.40 10 P P 05 23 45.2 -0.9
FDF Fort de France 46.40 10 P P 05 23 45.3 -0.9
FDF pmax pmax
comp=Z,126nm,0.9s
FDF Fort de France 46.40 10 P P 05 23 45.3 -0.9
FDF sP **sP** 05 24 26.0 +0.6
ILAM Ilet Lapin Mar 46.49 10 P P 05 23 46.0 -0.8
BOAB BOACO BROADBAN 46.55 337 P P 05 23 46.7 -0.7
SIUN Universidad Ur 47.45 338 P P 05 23 54.9 +0.5
SIUN IAmb IAmb 05 23 55.9
comp=Z,9.7nm,0.9s
TGUH Tegucigalpa,Un 48.60 336 P P 05 24 03.6 +0.2
BELA Belgrano 2 48.97 171 P P 05 24 05.8 +0.5
CRPR Cabo Rojo, PR 49.12 2 P P 05 24 06.2 -0.8
OBIP Obispado Ponce 49.18 3 P P 05 24 06.5 -1.0
PDPR Patillas Dam, 49.18 3 P P 05 24 06.2 -1.3
PDPR S P 05 24 07.4
comp=Z,38nm,0.8s
CELP Cerrillos 49.21 3 P P 05 24 06.8 -1.0
SJG San Juan 49.26 3 P P 05 24 07.3 -0.9
SJG IAmb IAmb 05 24 08.1
comp=Z,64nm,1.0s
SJG San Juan 49.26 3 P P 05 24 07.3 -0.9
SJG pmax pmax
comp=Z,64nm,1.0s
SJG San Juan 49.26 3 P P 05 24 05.0 -3.2
SJG San Juan 49.26 3 P P 05 24 07.1 -1.1
HUMP Col San Antoni 49.31 3 P P 05 24 08.7 +0.2
GCPR Guaynabo City 49.46 3 P P 05 24 08.9 -0.7
MTO3 Montecristo 49.69 333 P P 05 24 12.1 +0.4
MTO3 IAmb IAmb 05 24 13.9
comp=Z,20nm,0.8s
ESQI Esquipulas 49.83 333 P P 05 24 13.4 +0.7
ESQI IAmb IAmb 05 24 15.2
comp=Z,54nm,0.9s
MTDJ Mount Denham 50.06 349 P P 05 24 14.8 +0.5
MTDJ IAmb IAmb 05 24 15.7
comp=Z,43nm,1.0s
VNA3 Neumayer Olymp 50.72 159 ⇓P P 05 24 19.6 +0.9
comp=Z,27nm,0.7s
VNA1 Neumayer--Stat 50.98 158 ⇓P P 05 24 21.9 +1.4
comp=Z,25nm,1.2s
VNA2 Neumayer--Watz 51.33 158 ⇓P P 05 24 24.0 +0.8
comp=Z,24nm,0.6s,baz=286,slow=7.2
GTBY Guantanamo Bay 51.40 352 P P 05 24 24.0 -0.2
GTBY IAmb IAmb 05 24 24.8
comp=Z,32nm,0.9s
PETF Flores 52.18 334 P P 05 24 30.6 +0.5
PETF IAmb IAmb 05 24 32.0
comp=Z,54nm,0.9s
SNAA Sanae 52.94 159 ⇓P P 05 24 35.9 +0.7
comp=Z,596nm,1.2s
SNAA Sanae 52.94 159 P P 05 24 35.5 +0.3
SNAA IAmb IAmb 05 24 37.2
comp=Z,42nm,1.1s
SNAA Sanae 52.94 159 P P 05 24 35.6 +0.3
comp=Z,27nm,0.9s,baz=281,slow=6.2,SNR=124
SNAA pP **pP** 05 25 02.0 0.0
comp=Z,15nm,0.8s,baz=278,slow=9.5,SNR=4.5
SNAA LR LR 05 45 51.9
comp=Z,26nm,19.9s,baz=232,slow=34
comp=Z,27nm,0.9s
SNAA Sanae 52.94 159*ce*P P 05 24 36.2 +1.0

SNAA pmax pmax
comp=Z,67nm,1.7s
CMIG Matias Romero 54.40 329 P P 05 24 47.7 +1.3
comp=Z,14nm,0.9s,baz=162,slow=3.2,SNR=11
CMIG pP pP 05 25 14.7 +0.9
comp=Z,7.9nm,1.0s,baz=90,slow=16,SNR=3.2
comp=Z,14nm,0.9s
TROLL Troll, Antarti 54.66 159 ⇓P **P 05 24 48.6 +0.9**
comp=Z,1µm,0.8s
TEIG Tepich 54.68 337 P P 05 24 48.2 0.0
TEIG Tepich 54.68 337 P P 05 24 48.5 +0.2
CAMR Camarioca 55.50 346 P P 05 24 54.7 +0.6
CAMR IAmb IAmb 05 26 14.0
comp=Z,253nm,1.4s
SOR Soroa 55.61 344 P P 05 24 54.7 -0.3
SOR IAmb IAmb 05 24 56.0
comp=Z,31nm,0.7s
SOR Soroa 55.61 344 P P 05 24 54.7 -0.3
SOR pmax pmax
comp=Z,31nm,0.7s
NVL N'lazarevskaya 57.59 157 *e*P P 05 24 52.8 -16
NVL *e*SSS SSS 05 39 08.9
NVL pmax pmax
comp=Z,12nm,0.7s
QSPA South Pole Qui 58.85 180 P P 05 25 19.5 +2.0
comp=Z,36nm,1.0s,baz=153,slow=5.2,SNR=73
QSPA pP pP 05 25 46.4 +1.4
comp=Z,22nm,0.8s,baz=155,slow=5.8,SNR=6.2
QSPA S S 05 33 17.6 +3.5
comp=Z,2.7nm,1.1s,baz=120,slow=20,SNR=7.8
comp=Z,36nm,1.0s
QSPA South Pole Qui 58.85 180 P P 05 25 20.7 +3.2
QSPA pP pP 05 25 46.2 +1.3
QSPA sP sP 05 26 00.0 +2.6
BBSR BB Station 63.52 4 P P 05 25 49.1 +0.1
BBSR IAmb IAmb 05 25 50.4
comp=Z,32nm,0.8s
352A Blakely 64.41 345 P P 05 25 54.7 -0.1
352A IAmb IAmb 05 25 55.8
comp=Z,52nm,0.8s
HBVL Hebbronville 64.82 330 P P 05 25 59.1 +1.4
HBVL IAmb IAmb 05 26 00.4
comp=Z,42nm,0.8s
KVTX Kingsville 64.92 331 P P 05 25 59.6 +1.3
346A Big Creek Wild 65.48 340 P P 05 26 02.6 +0.7
346A IAmb IAmb 05 26 03.6
comp=Z,42nm,0.8s
Y57A Sumter 65.99 349 P P 05 26 05.1 +0.1
Y57A IAmb IAmb 05 26 06.3
comp=Z,26nm,0.7s
441A DeRidder 66.05 337 P P 05 26 06.7 +1.2
833A Chaparral WMA, 66.22 330 P P 05 26 07.2 +0.5
HKT Hockley 66.26 334 ⇓*i*P P 05 26 07.9 +1.1
HKT pmax pmax
comp=Z,40nm,1.4s
X58A Rowland 66.36 350 P P 05 26 07.8 +0.4
X58A IAmb IAmb 05 26 08.8
comp=Z,46nm,0.7s
Y49A Blount Mountai 67.03 344 P P 05 26 10.9 -0.8
VNDA Vanda 67.21 190 P P 05 26 11.9 -0.5
comp=Z,5.6nm,0.9s,baz=145,slow=6.9,SNR=25
comp=Z,5.6nm,0.9s
VNDA Vanda 67.21 190 P P 05 26 13.8 +1.4
SYO Syowa Base 67.22 158‖ *e*P P 05 26 12.9 +0.4
SYO Syowa Base 67.22 158‖ *e*pP pP 05 26 36.4 -4.1
HNDO Hondo 67.23 331 P P 05 26 13.4 +0.3
KMSC Kings Mountain 67.25 349 P P 05 26 12.7 -0.4
FPAL Fort Paine 67.50 345 P P 05 26 14.2 -0.6
X48A Hartselle 67.75 344 P P 05 26 16.4 +0.2
X48A IAmb IAmb 05 26 17.5
comp=Z,60nm,1.0s
BBTS Babate 67.76 56 LR LR 05 54 17.8
comp=Z,56nm,21.4s,baz=336,slow=34
LPIG La Paz 68.09 319 P P 05 26 18.5 0.0
comp=Z,12nm,0.3s,baz=157,slow=5.3,SNR=2.0
comp=Z,12nm,0.3s
TKL Tuckaleechee C 68.19 347 P P 05 26 18.6 -0.4
comp=Z,12nm,0.7s,baz=165,slow=7.1,SNR=19
comp=Z,12nm,0.7s
OXF Oxford 68.41 342 P P 05 26 20.0 -0.3
OXF IAmb IAmb 05 26 21.2
comp=Z,59nm,0.9s
OXF Oxford 68.41 342 P P 05 26 20.0 -0.3
OXF pmax pmax
comp=Z,59nm,1.0s
TXAR Lajitas Array 68.98 327 P P 05 26 25.1 +1.0
comp=Z,10nm,0.7s,baz=143,slow=6.2,SNR=129
comp=Z,10nm,0.7s
BLA Blacksburg 69.13 350 P P 05 26 25.0 +0.2
BLA Blacksburg 69.13 350 P P 05 26 25.0 +0.2
BLA pmax pmax
comp=Z,13nm,0.9s
OZNA Ozona 69.22 330 P P 05 26 25.7 +0.1
OZNA IAmb IAmb 05 26 27.3
comp=Z,59nm,0.8s
WVT Waverly 69.54 343 P P 05 26 27.4 +0.1
WVT Waverly 69.54 343 P P 05 26 27.4 +0.1
WVT pmax pmax
comp=Z,78nm,0.8s
WVT Waverly 69.54 343 P P 05 26 26.9 -0.3
WVT pP pP 05 26 53.9 -1.9
MIAR Mount Ida 69.67 338 P P 05 26 28.6 +0.5
MIAR IAmb IAmb 05 26 29.9
comp=Z,47nm,1.2s
MIAR Mount Ida 69.67 338 P P 05 26 28.6 +0.5
MIAR pmax pmax
comp=Z,47nm,1.3s
TAOE Nuku Hiva Isla 69.71 272 *e*LR LR 05 47 43.1
comp=Z,118nm,31.0s
WHAR Wooly Hollow 69.96 340 P P 05 26 30.4 +0.5
WHAR IAmb IAmb 05 26 31.4
comp=Z,52nm,1.3s
S51A Beattyville 70.08 347 P P 05 26 30.4 -0.2
LCAR Lake Charles 70.36 341 P P 05 26 32.2 0.0
TBI Tubuai 70.79 254 *e*LR LR 05 48 11.3
comp=Z,1µm,36.0s
WCI Wyandotte Cave 71.19 345 P P 05 26 36.4 -1.0
DBIC Dimbokro 71.58 70 P P 05 26 40.9 +0.7
comp=Z,28nm,0.8s,baz=245,slow=8.2,SNR=22
DBIC pP pP 05 27 08.4 -0.2
comp=Z,20nm,0.8s,baz=239,slow=5.9,SNR=6.5
DBIC LR LR 05 55 32.2
comp=Z,40nm,21.3s,baz=202,slow=34
comp=Z,28nm,0.8s
DBIC Dimbokro 71.58 70 P P 05 26 40.9 +0.7
DBIC pP pP 05 27 08.3 -0.3
PPT2 Papeete2 73.52 259 *e*LR LR 05 49 25.7
comp=Z,94nm,27.0s
PPT2 *e*LR LR 05 49 30.3
comp=Z,253nm,27.0s
PPT2 *e*LR LR 05 49 30.3
comp=Z,117nm,36.5s
PPT Papeete 73.53 259 P P 05 26 53.3 +1.5
comp=Z,79nm,1.1s,baz=169,slow=5.2,SNR=4.4
comp=Z,79nm,1.1s
MAW Mawson 74.84 163 P P 05 26 59.0 +0.5
comp=Z,6.8nm,1.1s
MAW Mawson 74.84 163 P P 05 26 59.3 +0.8
comp=Z,20nm,0.8s,baz=220,slow=7.7,SNR=65
MAW pP pP 05 27 27.8 +0.7
comp=Z,8.7nm,0.8s,baz=220,slow=5.8,SNR=2.8
comp=Z,20nm,0.8s
ANMO Albuquerque 74.97 329 P P 05 27 01.2 +1.3
comp=Z,12nm,0.6s,baz=225,slow=5.7,SNR=44
ANMO pP pP 05 27 30.2 +1.2
comp=Z,6.2nm,0.9s,baz=207,slow=2.3,SNR=2.6
comp=Z,12nm,0.6s
ANMO Albuquerque 74.97 329*ce*P P 05 27 01.3 +1.3
ANMO pmax pmax
comp=Z,44nm,1.5s
GGN Saint George 76.15 1 P P 05 27 07.3 +1.2
GGN IAmb IAmb 05 27 08.4
comp=Z,38nm,0.7s
G65A Princeton 76.22 1 P P 05 27 07.8 +1.3
G65A IAmb IAmb 05 27 08.9
comp=Z,39nm,1.0s
SADO Sadowa 76.39 352 P P 05 27 07.2 -0.3
comp=Z,217nm,0.7s,baz=179,slow=7.7,SNR=16
TSUM Tsumeb 77.11 105 P P 05 27 13.3 +0.8
TSUM Tsumeb 77.11 105 LR LR 05 57 15.7
comp=Z,57nm,20.6s,baz=181,slow=32
BOSA Boshof 78.68 117 P P 05 27 21.1 +0.1
comp=Z,29nm,0.8s,baz=242,slow=5.8,SNR=42
BOSA pP pP 05 27 49.8 -0.1
comp=Z,20nm,0.9s,baz=241,slow=5.6,SNR=6.2
comp=Z,29nm,0.8s

PFO Pinyon Flats O 78.85 321 P P 05 27 23.2 +1.6
comp=Z,14nm,0.9s,baz=123,slow=5.4,SNR=20
PFO pP pP 05 27 51.0 +0.2
comp=Z,5.4nm,1.0s,baz=114,slow=10.0,SNR=2.7
PFO LR LR 05 57 13.7
comp=Z,58nm,19.7s,baz=182,slow=32
comp=Z,14nm,0.9s
PFO Pinyon Flats O 78.85 321 ⇑*i*P P 05 27 23.1 +1.5
PFO pmax pmax
comp=Z,41nm,1.1s
GRTLG Ghanzi 79.04 108 *i* P P 05 27 23.8 +0.7
KGCAE Kacgae 79.11 110 *i* P P 05 27 24.1 +0.7
SKOMA Sekoma 79.67 112 *i* P P 05 27 27.0 +0.5
MAKGR Makgori 79.71 114 *i* P P 05 27 26.8 +0.2
TORD Torodi Ar. Bea 80.57 68 P P 05 27 30.5 -0.7
TORD IAmb IAmb 05 27 32.8
comp=Z,38nm,0.8s
TORD Torodi Ar. Bea 80.57 68 P P 05 27 30.3 -0.9
comp=Z,41nm,0.8s,baz=241,slow=3.3,SNR=165
TORD pP pP 05 28 00.5 +0.4
comp=Z,7.7nm,0.7s,baz=267,slow=5.6,SNR=4.1
comp=Z,41nm,0.8s
LBTB Lobatse 80.73 114 P P 05 27 31.9 -0.2
LBTB IAmb IAmb 05 27 33.5
comp=Z,25nm,0.7s
LBTB Lobatse 80.73 114 LR LR 05 58 27.1
comp=Z,54nm,18.1s,baz=214,slow=32
LBTB Lobatse 80.73 114 P P 05 27 31.9 -0.2
LBTB pmax pmax
comp=Z,25nm,0.7s
KDWAN Kaudwane 80.81 112 *i* P P 05 27 33.4 +0.8
LPHEP Lephephe 81.77 112 *i* P P 05 27 38.5 +0.8
PHDHD Phuduhudu 82.31 109 P P 05 27 41.2 +0.7
PHDHD IAmb IAmb 05 27 42.2
comp=Z,20nm,0.7s
CASY Casey 82.65 180 P P 05 27 41.5 +0.2
PDAR Pinedale Array 82.81 331 P P 05 27 42.7 0.0
comp=Z,6.5nm,0.7s,baz=149,slow=2.5,SNR=61
PDAR pP pP 05 28 12.0 0.0
comp=Z,2.3nm,0.8s,baz=161,slow=3.9,SNR=3.5
PDAR LR LR 06 02 40.6
comp=Z,20nm,20.3s,baz=154,slow=34
comp=Z,6.5nm,0.7s
MREMI Moremi 83.43 112 *i* P P 05 27 47.6 +1.3
NVAR Mina Array Bea 83.47 323 P P 05 27 46.7 +0.6
comp=Z,9.8nm,0.8s,baz=137,slow=3.9,SNR=85
NVAR pP pP 05 28 15.9 +0.3
comp=Z,2.8nm,0.8s,baz=147,slow=3.4,SNR=3.8
NVAR LR LR 06 00 10.0
comp=Z,26nm,20.6s,baz=145,slow=32
comp=Z,9.8nm,0.8s
ELK Elko 83.73 326 P P 05 27 48.0 +0.7
comp=Z,12nm,0.8s,baz=137,slow=3.5,SNR=59
comp=Z,12nm,0.8s
KSANE Kasane 84.03 107 *i* P P 05 27 50.7 +1.3
BROLN Tlhalogang 84.10 111 *i* P P 05 27 50.4 +0.7
ULM Lac du Bonnet 84.79 343 P P 05 27 51.7 -0.5
comp=Z,26nm,0.8s,baz=158,slow=5.0,SNR=34
ULM pP pP 05 28 22.0 +0.4
comp=Z,9.6nm,0.8s,baz=157,slow=6.1,SNR=4.4
comp=Z,26nm,0.8s
MATP Matopo 85.38 111 LR LR 06 01 11.0
comp=Z,59nm,19.8s,baz=50,slow=32
SCHQ Schefferville 85.87 1 P P 05 27 56.6 -0.9
comp=Z,313nm,1.1s,baz=174,slow=6.9,SNR=22
URZ Urewera 87.56 226 LR LR 06 00 31.9
comp=Z,70nm,18.4s,baz=324,slow=31
MD31 MD31 87.86 49 P P 05 28 08.7 +1.0
BMO Blue Mountains 87.86 328 P P 05 28 07.8 +0.3
BMO IAmb IAmb 05 28 09.2
comp=Z,42nm,1.9s
BMO Blue Mountains 87.86 328 P P 05 28 07.8 +0.3
BMO pmax pmax
comp=Z,43nm,1.9s
BBOR Butler Butte 89.00 323 P P 05 28 13.0 0.0
TAM Tamanrasset 89.07 63 P P 05 28 13.7 -0.1
TAM IAmb IAmb 05 28 15.5
comp=Z,18nm,1.0s
TAM Tamanrasset 89.07 63 P P 05 28 13.7 -0.1
TAM pmax pmax
comp=Z,18nm,1.0s
RAO Raoul Island 89.73 236 LR LR 05 59 55.5
comp=Z,127nm,20.4s,baz=85,slow=30
NEW Newport 90.40 330 LR LR 06 07 16.0
comp=Z,25nm,18.9s,baz=128,slow=34
ESDC Sonseca Array 92.68 44 P P 05 28 29.6 -0.5
comp=Z,1.6nm,0.9s,baz=241,slow=3.9,SNR=7.0
comp=Z,1.6nm,0.9s
YKA Yellowknife Ar 100.55 340 P Pdif 05 29 04.7 -0.3
comp=Z,2.6nm,0.9s,baz=136,slow=3.9,SNR=11
YKA pP pP 05 29 35.4 +0.6
comp=Z,1.8nm,1.0s,baz=143,slow=4.1,SNR=4.0
EKA Eskdalemuir Ar 102.84 32 P Pdif 05 29 15.3 0.0
comp=Z,1.6nm,0.9s,baz=224,slow=3.9,SNR=2.7
DLBC Dease Lake 103.03 332 Pdiff Pdif 05 29 17.3 +1.1
comp=Z,22nm,0.8s,baz=145,slow=18,SNR=4.7
GERES GERESS Array B 108.26 44 PKiKP **PKiKP 05 33 46.1 +0.6**
comp=Z,0.4nm,0.7s,baz=210,slow=0.8,SNR=4.4
ILAR Eielson Array 113.19 333 PKiKP **PKiKP 05 33 54.0 -0.2**
comp=Z,0.8nm,0.7s,baz=140,slow=2.2,SNR=7.2
ILAR Eielson Array 113.19 333 *i* PKiKP **PKiKP 05 33 54.0 -0.2**
BRTR Keskin Array B 118.02 59 PKP **PKPdf 05 34 03.8 -0.7**
comp=Z,1.5nm,0.7s,baz=240,slow=4.1,SNR=7.5
AKASG Malin Array Be 118.29 46 PKP **PKPdf 05 34 03.6 -0.8**
comp=Z,2.2nm,0.7s,baz=259,slow=3.5,SNR=7.6
MNK Minsk 118.51 41 *i* PKiKP **PKiKP 05 34 06.1 +1.3**
MNK *i* 05 34 33.4
MNK *i* 05 35 24.7
MNK *i* PPP PPP 05 37 54.8
MNK *i* SS SS 05 51 43.2 +11
MNK *i* SSS SSS 05 55 51.7
MNK pmax pmax
comp=N,2.0nm,0.7s
MNK pmax pmax
comp=Z,8.0nm,0.6s
FINES FINESS Array B 119.21 33 PKP **PKPdf 05 34 05.9 0.0**
comp=Z,2.6nm,1.0s,baz=256,slow=0.6,SNR=8.1
ARCES ARCESS Array B 120.44 24 PKP **PKPdf 05 34 08.0 -0.1**
comp=Z,3.2nm,0.9s,baz=249,slow=3.8,SNR=5.8
ARCES PKKPab **PKKPab 05 44 14.2 +0.3**
comp=Z,4.1nm,0.9s,baz=96,slow=3.6,SNR=4.1
ARCES ARCESS Array B 120.44 24 PKiKP **PKPdf 05 34 08.0 -0.1**
ASAR Alice Springs 121.17 204 PKP **PKPdf 05 34 10.0 -1.1**
comp=Z,2.0nm,0.6s,baz=150,slow=1.8,SNR=23
ASAR pPKP **pPKPdf 05 34 40.4 -1.4**
comp=Z,2.5nm,0.7s,baz=143,slow=1.9,SNR=9.0
ASAR PKKPbc **PKKPbc 05 44 12.5 -0.4**
comp=Z,1.6nm,0.8s,baz=330,slow=3.8,SNR=12
OBN Obninsk 123.55 42 *i* PKiKP **PKiKP 05 34 14.7 +0.1**
OBN *e* 05 34 43.0
OBN *e* 05 35 55.2
OBN *e*PPP PPP 05 38 36.5
OBN pmax pmax
comp=Z,7.0nm,0.4s
WRA Warramunga Arr 124.42 206 PKP **PKPdf 05 34 16.7 -0.6**
comp=Z,4.7nm,0.7s,baz=156,slow=1.7,SNR=48
WRA pPKP **pPKPdf 05 34 46.5 -1.6**
comp=Z,5.9nm,0.7s,baz=156,slow=1.7,SNR=12
WRA PKKPbc **PKKPbc 05 43 58.7 -1.6**
comp=Z,1.4nm,0.8s,baz=336,slow=4.0,SNR=6.9
KLMR Klimovskoe 125.60 35 *e*PKiKP **PKPdf 05 34 13.3 -4.8**
KLMR *e* 05 34 46.8
KLMR pmax pmax
comp=Z,39nm,1.8s
KIV Kislovodsk 125.64 56 *e*PKiKP **PKiKP 05 34 20.2 +0.9**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 125.74 56 PKP **PKiKP 05 34 19.5 +0.2**
comp=Z,1.0nm,0.5s,baz=230,slow=7.9,SNR=4.6
KBZ Khabaz 125.74 56*c* *i*PKP **PKiKP 05 34 20.6 +1.2**
BILL Bilibino 131.70 336*c* *i*PKiKP **PKiKP 05 34 31.7 +1.1**
BILL pmax pmax
comp=Z,32nm,2.5s
ARTI Arti 135.79 40 *i* PKiKP **PKiKP 05 34 38.8 -0.4**
ARTI 05 37 14.4
EDFI Ende, Flores 138.90 196 PKP **PKPdf 05 34 43.8 -1.0**
EDFI PKP **PKiKP 05 34 46.6 -0.5**
SEY Seymchan 139.12 333 *i* PKiKP **PKPdf 05 34 41.8 -1.7**
SEY pmax pmax
comp=Z,19nm,1.1s
PETK Petropavlovsk- 140.32 317 PKhKP PKPpre 05 34 38.7
comp=Z,5.1nm,1.0s,baz=84,slow=4.5,SNR=4.8
PETK PKP **PKPdf 05 34 47.1 +1.1**
comp=Z,4.2nm,0.8s,baz=101,slow=5.3,SNR=6.8
MA2 Magadan 141.49 329*c* *i*PKiKP **PKiKP 05 34 52.1 +1.3**
MA2 pmax pmax
comp=Z,43nm,1.7s
BVAR Borovoye Array 143.40 42 PKP PKPbc 05 34 50.0 +0.9
comp=Z,1.4nm,0.4s,baz=292,slow=3.9,SNR=6.8
BVAR Borovoye Array 143.40 42 PKIKP PKPbc 05 34 50.0 +0.9
MDSI Maura Dua 143.68 168 PKP PKPbc 05 34 51.0 0.0
MASI Maura Aman, Be 144.58 164 PKP **PKPdf 05 34 55.2 +0.3**
MASI PKP PKPbc 05 34 55.7 +1.9
YAK Yakutsk 147.12 344 *e*PKP2 **PKPbc 05 34 59.4 -0.5**
YAK *e* 05 38 28.1
YAK pmax pmax
comp=Z,141nm,1.0s
YAK pmax pmax
comp=N,20nm,1.4s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=Z,199nm,3.5s
YAK pmax pmax
comp=N,152nm,3.2s
YAK pmax pmax
comp=E,138nm,3.4s
HYB Hyderabad 147.16 107 *e*PKPbc **PKPbc 05 35 01.1 -0.3**
BKNI Bangkinang 147.59 160 PKP **PKiKP 05 35 04.1 -0.7**
EKS2 Erkin-Say 148.17 59 P **PKiKP 05 35 04.7 -0.6**
SNR=20
USP Ospenovka 148.59 57 P **PKiKP 05 35 05.4 -0.6**
SNR=11
AAK Ala-Archa 148.69 59 P **PKiKP 05 35 06.3 -0.1**
SNR=12
UCH Uchtor 148.77 59 P **PKiKP 05 35 06.6 -0.3**
SNR=46
CHMS Chumysh 148.82 58 P **PKiKP 05 35 06.1 -0.4**
SNR=5.5
KURBB Kurchatov Arra 148.99 42 PKP **PKPdf 05 35 01.1 +0.1**
comp=E,8.5nm,0.4s,baz=298,slow=3.0,SNR=34
KURBB PKPbc **PKPbc 05 35 05.6 +0.4**
comp=E,8.7nm,0.4s,baz=299,slow=3.3,SNR=31
KURBB pPKPbc **pPKPdf 05 35 33.4 +1.4**
comp=E,3.4nm,0.7s,baz=296,slow=3.1,SNR=2.9
KURK Kurchatov 149.00 42 PKiKP **PKPdf 05 35 01.1 0.0**
KURK 05 35 05.6
KURK 05 35 33.4
KBK Karagaybulak 149.02 58 P **PKiKP 05 35 07.0 -0.1**
SNR=9.0
PSI Prapat 149.23 155 PKP **PKPdf 05 35 02.4 -0.4**
comp=E,8.7nm,0.7s,baz=214,slow=3.4,SNR=2.6
PSI PKPbc **PKPbc 05 35 06.1 -1.0**
comp=E,8.7nm,0.7s,baz=158,slow=5.4,SNR=6.3
PSI pPKPbc **pPKPbc 05 35 36.3 -1.4**
comp=E,5.6nm,0.5s,baz=217,slow=11,SNR=3.0
TKM2 Tokmak 2 149.45 58 P **PKPbc 05 35 07.1 +0.1**
SNR=37
KCSI Kotacane, Aceh 149.46 152 PKP **PKPdf 05 35 03.0 0.0**
KCSI PKP **PKPbc 05 35 07.5 -0.1**
ULHL Ulahol 150.03 59 P **PKiKP 05 35 09.5 +0.2**
SNR=18
KSH Kashi 150.17 64 PKPbc **PKPdf 05 35 04.3 +0.8**
KSH LR LR
comp=N,410nm,15.3s
KSH LR LR
comp=E,550nm,17.4s
KSH LR LR
comp=Z,660nm,22.6s
ZALV Zalesovo Beam 150.47 32 PKPbc **PKPbc 05 35 08.6 -0.1**
comp=Z,31nm,0.5s,baz=308,slow=3.2,SNR=6.5
ZALV pPKPbc **pPKPbc 05 35 37.6 -1.8**
comp=Z,22nm,0.8s,baz=310,slow=3.1,SNR=7.3
YSS Yuzhno-Sakhali 151.38 312 *e*PKiKP **PKPbc 05 35 10.0 -1.1**
YSS *e* 05 38 48.1
YSS pmax pmax
comp=Z,60nm,0.7s
MK31 Makanchi Array 152.86 47*c* *i*PKiKP **PKiKP 05 35 14.8 +0.1**
MKAR Makanchi Array 152.86 47 PKP **PKPdf 05 35 06.4 -0.8**
comp=Z,1.2nm,0.8s,baz=294,slow=2.4,SNR=7.4
MKAR PKPbc **PKPbc 05 35 14.2 -0.3**
comp=Z,15nm,0.8s,baz=296,slow=2.0,SNR=61
MKAR PKPab **PKPab 05 35 26.1 +0.1**
comp=Z,17nm,0.8s,baz=298,slow=4.2,SNR=26
MKAR pPKPbc **pPKPbc 05 35 44.6 -0.5**
comp=Z,3.7nm,0.7s,baz=310,slow=1.7,SNR=2.9
MKAR pPKPab **pPKPab 05 35 55.0 -0.8**
comp=Z,3.7nm,0.7s,baz=270,slow=2.4,SNR=4.4
MJAR Matsushiro Arr 157.21 290 PKPab **PKPab 05 35 44.4 -0.6**
comp=Z,5.8nm,0.7s,baz=94,slow=2.9,SNR=14
WMQ Urumqi 157.57 50 *e*PKP **PKPdf 05 35 10.3 -3.4**
WMQ LR LR
comp=N,370nm,23.5s
WMQ LR LR
comp=E,350nm,19.5s
WMQ LR LR
comp=Z,220nm,17.5s
HEH HeiHe 157.67 332 *e*P **PKPab 05 35 46.5 +0.1**
HEH pmax pmax
comp=Z,21nm,1.3s
USRK Ussuriysk Ar. 159.37 314 PKP **PKPdf 05 35 16.0 +0.3**
comp=Z,3.4nm,0.8s,baz=62,slow=6.7,SNR=3.7
USRK PKPab **PKPab 05 35 54.2 +0.3**
comp=Z,7.0nm,0.8s,baz=66,slow=4.9,SNR=6.6
CMAR Chiang Mai Arr 162.90 136 PKP **PKPdf 05 35 20.0 -0.3**
comp=Z,1.5nm,0.3s,baz=224,slow=1.7,SNR=13
CMAR PKPab **PKPab 05 36 09.2 -0.7**
comp=Z,1.8nm,0.3s,baz=224,slow=3.9,SNR=6.4
SONM Songino Array 163.13 12 PKP **PKPdf 05 35 18.6 -1.2**
comp=Z,0.5nm,0.4s,baz=355,slow=3.6,SNR=3.6
SONM PKPab **PKPab 05 36 10.8 +0.4**
comp=Z,5.9nm,0.7s,baz=327,slow=4.0,SNR=15
SONM pPKPab **pPKPab 05 36 40.0 -0.1**
comp=Z,3.1nm,0.8s,baz=323,slow=2.2,SNR=3.7
KSRS Korea Array 165.08 298 PKP **PKPdf 05 35 21.3 -0.4**
comp=Z,1.4nm,0.7s,baz=98,slow=0.7,SNR=8.8
KSRS pPKP **pPKPdf 05 35 53.0 +0.4**
comp=Z,1.3nm,0.9s,baz=90,slow=2.4,SNR=3.2
KSRS PKPab **PKPab 05 36 19.2 0.0**
comp=Z,1.4nm,0.9s,baz=82,slow=3.9,SNR=4.7
GTA Gaotai 167.62 47 PKP **PKPdf 05 35 24.5 +0.7**
GTA PKPab **PKPab 05 36 31.1 +0.6**
GTA LR LR
comp=N,480nm,20.4s
GTA LR LR
comp=E,370nm,21.5s
GTA LR LR
comp=Z,490nm,20.4s
PZH PanZhiHua 170.25 117 PKP **PKPdf 05 35 25.6 -0.3**
HHC Hu-ho-hao-te 170.55 359 *e*P **PKPdf 05 35 27.3 +1.7**
HHC LR LR
comp=N,280nm,21.0s
HHC LR LR
comp=E,360nm,20.8s
HHC LR LR
comp=Z,380nm,20.0s
BTO Baotou 170.73 7 *e*PKPbc **PKPdf 05 35 26.3 +0.6**
BTO PKPab **PKPab 05 36 40.0 -4.0**
BTO pmax pmax
comp=Z,13nm,0.5s
BTO pmax pmax
comp=Z,180nm,5.2s
BTO LR LR
comp=N,580nm,16.9s
BTO LR LR
comp=E,530nm,16.5s
BTO LR LR
comp=Z,740nm,15.1s
LZDM Lanzhou Array 172.12 53 PKP **PKPdf 05 35 25.9 -0.9**
comp=Z,1.0nm,0.3s,baz=285,slow=12,SNR=1.5
LZDM PKPab **PKPab 05 36 49.3 -1.5**
comp=Z,1.0nm,0.3s,baz=308,slow=4.7,SNR=3.6
TIA Tai'an 173.22 317 P **PKPdf 05 35 26.6 -0.2**
TIA pmax pmax
comp=Z,21nm,0.9s
HNS HongShan 173.40 336 ⇑PKP **PKPdf 05 35 27.9 +1.1**
NJ2 Nanjing 173.61 278 *e*P **PKPdf 05 35 27.8 +0.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s

ISN 14 05:19:04.2±1.4,33.09N×46.02E,h16km±16km,ML2.6
TEH 14 05:19:04.0,33.05N×46.09E,h10km±96km,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.58**	**10**	Pg	Pg	05 19 15.0	-0.2
GLG1	**Gilan-e-Gharb**	**1.07**	**352**	Pg	Pb	05 19 24.7	+0.1
RAFI	**Al-Rafai**	**1.33**	**179**	*e*Pg	Pb	05 19 29.0	0.0
	baz=357						
RAFI				*e*Sg	Sg	05 19 48.0	+1.3
BHD	**Baghdad**	**1.45**	**279**	*e*Pn	Pn	05 19 30.0	-0.3

BHD				*e*Sn	Sg	05 19 51.0	+0.2	
IDHR	**Dehrash**	**1.66**	**8**	Pg	Pb	05 19 35.1	+0.3	
IDHR				Sg	Sg	05 20 00.0	+2.6	
SNQR	**Sonqor, Kerman**	**2.21**	**35**	Pn	Pb	05 19 43.1	-1.1	

GCG 14 05:30:33.0±0.3, 14°51N×90°72W, h1km±26km, MD3.3, ML2.5, MW2.3, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.16**	**222**	*i* P	Pg	05 30 37.0	+0.9
ESSG				*e*S	Sg	05 30 40.1	+1.8
FG8	**Yepocapa, Chim**	**0.29**	**148**	*i* P	Pg	05 30 38.5	-0.1
FG8				*i* S	Sg	05 30 42.8	+0.5
FG16	**Alotenango, Sa**	**0.31**	**139**	*i* P	Pg	05 30 36.9	-2.1
FG16				*i* S	Sg	05 30 39.9	-3.1
FG16				IAML		05 30 40.2	
	comp=E,3μm,0.2s						

*CATAC **14** 05:30:53.3±1.2, 13°N±8°×8°9W±°, h31km±7km, M2.7/6, MLv2.7/6, Error ellipse: s-maj=17.3km s-min=6.6km az=18.7, confirmed*

SNET 14 05:30:53.7±0.8, 13°05N×89°46W, h34km±11km, ML2.4, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.60**	**1**	*e*P	Pn	05 31 05.9	0.0
JAYA				*e*S	Sb	05 31 15.4	+0.8
JAYA				IAML		05 31 17.9	
	comp=Z,166nm,0.1s						
JAYA	**Jayaque - finc**	**0.60**	**1**	S	Sb	05 31 16.0	+1.4
JAYA	**Jayaque - finc**	**0.60**	**1**	P	Pb	05 31 06.0	-0.1
LOMA	**Loma Larga**	**0.65**	**25**	*e*P	Pn	05 31 06.6	-0.1
LOMA				*e*S	Sb	05 31 17.1	+1.1
LOMA	**Loma Larga**	**0.65**	**25**	P	Pn	05 31 06.7	0.0
PMON	**Piamonte**	**0.67**	**12**	*e*P	Pn	05 31 06.8	0.0
PMON				*e*S	Sb	05 31 17.6	+1.1
PMON	**Piamonte**	**0.67**	**12**	P	Pn	05 31 07.0	+0.2
BOQS	**Boqueron**	**0.70**	**14**	*e*P	Pn	05 31 07.5	+0.1
PIC2	**El Picacho**	**0.72**	**16**	*e*P	Pn	05 31 07.8	+0.2
CEVE	**Cerro Verde**	**0.79**	**348**	*e*P	Pn	05 31 08.8	+0.1
CEVE				*e*S	Sb	05 31 21.0	+1.1
CEVE				IAML		05 31 22.7	
	comp=Z,106nm,0.3s						
CEVE	**Cerro Verde**	**0.79**	**348**	P	Pb	05 31 09.1	-0.2
CEVE	**Cerro Verde**	**0.79**	**348**	S	Sb	05 31 19.8	0.0
SNJE	**San Jose**	**0.83**	**350**	*e*P	Pn	05 31 09.2	+0.1
PAVA	**Las Pavas**	**0.83**	**38**	*e*P	Pn	05 31 09.1	0.0
RTR	**El Retiro**	**0.86**	**348**	*e*P	Pb	05 31 10.1	-0.3
NUBE	**Las Nubes**	**0.90**	**340**	*e*P	Pn	05 31 10.0	-0.1
NUBE				*e*S	Sn	05 31 22.3	+0.2
NUBE	**Las Nubes**	**0.90**	**340**	P	Pn	05 31 10.0	-0.1
PACA	**Pacayal**	**1.18**	**69**	*e*P	Pn	05 31 14.0	+0.1
PACA	**Pacayal**	**1.18**	**69**	S	Sb	05 31 30.0	-0.8
PACA	**Pacayal**	**1.18**	**69**	P	Pn	05 31 14.4	+0.5
MTO3	**Montecristo**	**1.34**	**4**	P	Pn	05 31 16.4	+0.2
ESQI	**Esquipulas**	**1.50**	**4**	*e*P	Pn	05 31 19.0	+0.6
LCND	**La Caada**	**1.55**	**80**	*e*P	Pn	05 31 19.3	+0.5
LCND				*e*S	Sn	05 31 38.4	+0.6
LCND				IAML		05 31 40.4	
	comp=Z,49nm,0.3s						
CNCH	**Conchagua**	**1.60**	**82**	*e*P	Pn	05 31 20.1	+0.4
CNCH	**Conchagua**	**1.60**	**82**	S	Sn	05 31 39.9	+0.7

*DNK **14** 05:33:18.5±1.4, 51°35N×15°45E, h45km±22km, ML1.9*
*IPEC **14** 05:33:19.7±0.2, 51°61N×16°12E, h1km, ML2.3/7, Error ellipse: s-maj=2.7km s-min=1.3km az=71.0*
*VIE **14** 05:33:20.4±0.7, 51°55N×15°96E, h0km, mb2.4/4, ml2.7/4, Error ellipse: s-maj=8.0km s-min=3.8km az=57.0 89 km NW of Wroclaw Suspected Mining induced.*
*PRU **14** 05:33:23.1, 51°48N×15°99E, h0km*

ISC 14 05:33:17.9±0.8, 51°69N±0°03×16°06E±0°03, h0km, n28, σ1s24/56, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.86**	**170**	*e*Pg	**Pg**	**05 33 34.9**	**+0.5**
KSP				*e*Sg	**Sg**	**05 33 45.3**	**-0.2**
CHVC	**Chvalec**	**1.10**	**180**	*e*PG	**Pg**	**05 33 39.4**	**+0.4**
CHVC				*e*SG	**Sg**	**05 33 52.0**	**-1.3**
	53nm,0.5s						
OSTC	**Ostas**	**1.14**	**175**	*e*PG	**Pb**	**05 33 40.8**	**+0.3**
OSTC				*e*SG	**Sg**	**05 33 52.8**	**-1.7**
	52nm,0.3s						
UPC	**Upice**	**1.18**	**181**	*e*PG	**Pg**	**05 33 40.4**	**-0.2**
UPC				*e*SG	**Sg**	**05 33 53.7**	**-2.2**
	65nm,0.5s						
DPC	**Dobruska-Polom**	**1.35**	**173**	*e*PG	**Pg**	**05 33 43.7**	**-0.1**
DPC				*e*SG	**Sg**	**05 34 00.4**	**-0.9**
	32nm,0.4s						
PVCC	**Panska Ves**	**1.49**	**219**	*e*PG	**Pb**	**05 33 46.6**	**+0.1**
PVCC				*e*SG	**Sb**	**05 34 05.9**	**-0.1**
	106nm,0.3s						
PIVO	**Bartosovice** baz=350	**1.54**	**168**	*e*Pg	**Pn**	**05 33 46.6**	**0.0**
PIVO				*e*Sg	**Sg**	**05 34 05.2**	**-2.0**
	40nm,0.2s,baz=350						
BRG	**Berggiesshubel**	**1.56**	**239**	Pg	**Pg**	**05 33 49.8**	**+2.0**
BRG				Sg	**Sg**	**05 34 09.7**	**+1.8**
BRG				Amp		05 34 12.2	
	comp=Z,64nm,0.5s						
KRLC	**Kraliky**	**1.68**	**164**	*e*PG	**Pn**	**05 33 49.0**	**+0.4**
KRLC				*e*SG	**Sn**	**05 34 09.2**	**-1.6**
	comp=Z,54nm,0.3s						
RYBC	**Ceska Rybna** baz=1.1	**1.88**	**180**	*e*Pn	**Pn**	**05 33 51.7**	**+0.4**
RYBC				*e*Sg	**Sn**	**05 34 16.2**	**+0.4**
	comp=Z,27nm,0.2s,baz=1.1						
CLL	**Collm**	**1.95**	**260**	*i* Pn	**Pn**	**05 33 52.1**	**-0.1**
CLL				*i* Pg	**Pg**	**05 33 54.9**	**-0.3**
CLL				*i* x	x	05 33 58.9	
CLL				*e*Sg	**Sg**	**05 34 21.0**	**+0.6**
	comp=Z,14nm,0.6s						
PRU	**Pruhonice**	**1.96**	**210**	*e*PN	**Pn**	**05 33 52.1**	**-0.2**
PRU				*e*PG	**Pb**	**05 33 54.2**	**-0.2**
PRU				*e*SG	**Sb**	**05 34 18.8**	**-0.5**
	comp=Z,25nm,0.5s						
STEB	**Steborice**	**2.07**	**148**	*e*PG	**Pb**	**05 33 56.8**	**+0.5**
STEB				*e*SG	**Sg**	**05 34 24.2**	**-0.1**
	comp=Z,71nm,0.7s						
MORC	**Moravsky Berou** baz=334	**2.14**	**153**	*e*Pn	**Pn**	**05 33 55.2**	**+0.4**
MORC				*e*Sg	**Sb**	**05 34 23.9**	**-0.6**
	comp=Z,23nm,0.4s,baz=334						
VRAC	**Vranov** baz=353	**2.41**	**172**	*e*Pn	**Pn**	**05 33 59.1**	**+0.5**
VRAC				*e*Sg	**Sb**	**05 34 32.5**	**+0.2**
	comp=Z,12nm,0.3s,baz=353						
VRAC	**Vranov**	**2.41**	**172**	*e*PN	**Pn**	**05 33 59.2**	**+0.6**
VRAC				*e*SG	**Sb**	**05 34 32.6**	**+0.2**
KRUC	**Moravsky** baz=356	**2.64**	**175**	*e*Pn	**Pn**	**05 34 02.2**	**+0.5**
KRUC				*e*Sg	**Sb**	**05 34 39.8**	**+0.8**
	comp=Z,11nm,0.4s,baz=356						
OJC	**Ojcow**	**2.79**	**120**	*e*Pg	**Pg**	**05 34 12.6**	**+1.3**
OJC				*e*Sg	**Sg**	**05 34 49.1**	**+1.7**
KHC	**Kasperske Hory**	**3.01**	**213**	*e*PN	**Pn**	**05 34 06.9**	**0.0**
KHC				*e*PG	**Pb**	**05 34 13.8**	**+1.4**
KHC				*e*SG	**Sb**	**05 34 51.5**	**+1.8**
	comp=Z,13nm,0.6s						
JAVC	**Velka Javorina** baz=341	**3.02**	**159**	*e*Pn	**Pn**	**05 34 07.3**	**+0.3**
JAVC				*e*Sg	**Sb**	**05 34 51.4**	**+1.5**
	comp=Z,14nm,1.0s,baz=341						
CKRC	**Cesky Krumlov**	**3.08**	**202**	*e*SG	**Sb**	**05 34 53.0**	**+1.2**
BSD	**Bornholm Skovb** baz=178,slow=11	**3.50**	**349**	*e*	**Pn**	**05 34 11.3**	**-2.2**
BSD				*i* P	Pb	05 34 14.8	-5.8
BSD				*i* S	**Sn**	**05 34 56.1**	**+0.6**
BSD				IAML		05 34 57.4	
	comp=Z,0.8nm,0.1s						
CONA	**Conrad Observa** comp=Z,0.5nm,0.1s	**3.77**	**182**	*i* Pn	**Pn**	**05 34 18.5**	**+1.2**
CONA				*e*Sg	**Sg**	**05 35 15.9**	**-3.0**
	comp=Z,7.1nm,0.3s						
RONA	**Rosalia, Austr** comp=Z,6.1nm,0.4s	**4.00**	**178**	*e*Sg	**Sg**	**05 35 24.3**	**-1.9**
MOA	**Molln** comp=Z,1.4nm,0.2s	**4.01**	**197**	*i* Pn	**Pn**	**05 34 21.1**	**+0.4**
MOA				*e*Sg	**Sg**	**05 35 24.3**	**-2.5**
	comp=Z,7.0nm,0.4s						
LUNU	**Lund**	**4.24**	**340**	*i* P	**Pn**	**05 34 24.5**	**+0.8**
LUNU				*i* S	**Sn**	**05 35 12.1**	**-1.9**
ARSA	**Arzberg** comp=Z,7.1nm,0.5s	**4.46**	**185**	*e*Sg	**Sg**	**05 35 39.5**	**-1.5**
DEL	**Delary**	**4.96**	**346**	*i* P	**Pn**	**05 34 34.0**	**+0.4**
DEL				*i* S	**Sn**	**05 35 28.8**	**-2.7**
DEL				IAML		05 35 37.8	
	comp=Z,0.6nm,0.4s						

*IDC **14** 05:42:47.4±2.3, 17°58S×178°87W, h490km±25km, mb3.7/17, mbtmp4.5/18, Error ellipse: s-maj=15.9km s-min=12.3km az=99.0*
*NOU **14** 05:42:50.2, 17°79S×178°62W, h535km, mb4.5/33, Fiji Islands Region*
*NEIC **14** 05:42:52.1±1.2, 17°6S±0°1×179°0W±0°2, h540km±9km, mb4.3/28, Error ellipse: s-maj=23.0km s-min=16.1km az=125.0*

ISC 14 05:42:51.3±0.4, 17°62S±0°08×178°92W±0°09, h539km, n368, σ0s66/369, mb4.1/31, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.89**	**267**	P	**P**	**05 44 06.1**	**+1.2**
MSVF	**Nonsavu**	**2.89**	**267**	P	**P**	**05 44 06.0**	**+1.2**
FUTU	**Fugatoga**	**3.38**	**13**		**P**	**05 44 06.8**	**-1.2**
FUTU	**Fugatoga**	**3.38**	**13**	P	**P**	**05 44 07.0**	**-1.1**
OUENC	**Ouen Island, N**	**14.20**	**248**	P	**P**	**05 45 52.4**	**-0.3**
DZM	**Mont Dzumac**	**14.46**	**250**	P	**P**	**05 45 54.7**	**-0.8**
DZM	**Mont Dzumac** 5.4nm,0.5s,baz=128,slow=14,SNR=14	**14.46**	**250**	P	**P**	**05 45 53.3**	**-2.2**
DZM	**Mont Dzumac**	**14.46**	**250**	P	**P**	**05 45 54.8**	**-0.7**
KUZ	**Kuaotunu**	**19.63**	**193**	P	**P**	**05 46 42.5**	**-1.9**
URZ	**Urewera** 6.2nm,0.3s,baz=38,slow=17,SNR=12	**20.85**	**189**	P	**P**	**05 46 52.6**	**-2.8**
	6.2nm,0.3s						
URZ	**Urewera**	**20.85**	**189**	P	**P**	**05 46 52.7**	**-2.8**
BKZ	**Black Stump Fm**	**21.84**	**190**	P	**P**	**05 47 01.3**	**-3.1**
BFZ	**Birch Farm**	**23.36**	**189**	P	**P**	**05 47 15.6**	**-2.3**
KHZ	**Kahutara**	**25.54**	**193**	P	**P**	**05 47 35.6**	**-1.6**
JCZ	**Jackson Bay**	**28.34**	**199**	P	**P**	**05 48 00.7**	**-1.2**
ODZ	**Otahua Downs**	**28.70**	**196**	P	**P**	**05 48 02.9**	**-2.0**
ARMA	**Armidale**	**29.66**	**239**	P	**P**	**05 48 14.4**	**+0.8**
MLZ	**Mavora Lakes**	**29.71**	**199**	P	**P**	**05 48 13.6**	**-0.1**
NTLH	**Newcastle Hard**	**30.48**	**234**	P	**P**	**05 48 20.8**	**+0.3**
PYZ	**Puysegur Point**	**30.87**	**200**	P	**P**	**05 48 21.7**	**-2.0**
CTAO	**Charters Tower**	**33.01**	**260**	P	**P**	**05 48 42.5**	**+0.2**
CTAO				IAmb	IAmb	05 48 43.2	
	comp=Z,8.0nm,0.8s						
CTAO	**Charters Tower**	**33.01**	**260**	P	**P**	**05 48 42.2**	**-0.1**
CNB	**Canberra Magne**	**33.22**	**232**	P	**P**	**05 48 44.7**	**+0.8**
CAN	**Canberra**	**33.49**	**232**	P	**P**	**05 48 46.0**	**-0.2**
CAN	**Canberra**	**33.49**	**232**	P	**P**	**05 48 46.5**	**+0.3**
CMSA	**Cobar Meteorol**	**34.87**	**240**	P	**P**	**05 48 58.3**	**+0.6**
QLP	**Quilpie**	**35.18**	**249**	P	**P**	**05 49 00.6**	**+0.2**
GLAD	**Gladstone**	**36.72**	**224**	P	**P**	**05 49 13.1**	**+0.3**
TOO	**Toolangi**	**36.97**	**230**		**P**	**05 49 15.4**	**+0.3**
TOO				IAmb	IAmb	05 49 16.7	
	comp=Z,8.1nm,0.8s						
BRAT	**Ballarat**	**38.12**	**231**	P	**P**	**05 49 26.2**	**+1.9**
TAU	**Tasmania Unive**	**38.13**	**221**	P	**P**	**05 49 25.2**	**+0.8**
STKA	**Stephens Creek**	**38.34**	**241**		**P**	**05 49 26.8**	**+0.5**
STKA	**Stephens Creek** comp=Z,12nm,0.4s,baz=86,slow=8.7,SNR=25	**38.34**	**241**	P	**P**	**05 49 27.1**	**+0.8**
	comp=Z,12nm,0.4s						
STKA	**Stephens Creek**	**38.34**	**241**	P	**P**	**05 49 27.1**	**+0.8**
HTT	**Hallett**	**40.87**	**239**	P	**P**	**05 49 47.2**	**+0.5**
BBOO	**Buckleboo**	**43.12**	**241**		**P**	**05 50 04.3**	**0.0**
BBOO				IAmb	IAmb	05 50 05.4	
	comp=Z,21nm,0.9s						
BBOO	**Buckleboo**	**43.12**	**241**	P	**P**	**05 50 04.8**	**+0.5**
WRA	**Warramunga Arr**	**44.20**	**259**		**P**	**05 50 12.3**	**-0.7**
WRA	**Warramunga Arr** comp=Z,2.8nm,0.6s,baz=95,slow=7.8,SNR=50	**44.20**	**259**	P	**P**	**05 50 12.1**	**-0.9**
	comp=Z,2.8nm,0.6s						
AS31	**Alice Springs**	**44.40**	**254**		**P**	**05 50 14.1**	**-0.3**
ASAR	**Alice Springs**	**44.40**	**254**		**P**	**05 50 14.0**	**-0.4**
ASAR	**Alice Springs** comp=Z,38nm,0.5s,baz=93,slow=7.5,SNR=828	**44.40**	**254**	P	**P**	**05 50 14.4**	**0.0**
ASAR				ScP	**ScP**	**05 54 50.9**	**+3.4**
	comp=Z,0.6nm,0.6s,baz=89,slow=4.0,SNR=5.4						
ASAR				S	**S**	**05 56 09.1**	**-1.0**
	comp=Z,2.4nm,0.9s,baz=86,slow=16,SNR=13						
	comp=Z,38nm,0.5s						
KDU	**Kakadu**	**47.07**	**269**	P	**P**	**05 50 35.1**	**+0.3**
KNRA	**Kununurra**	**50.03**	**264**	P	**P**	**05 50 56.8**	**0.0**
KNRA				IAmb	IAmb	05 50 58.0	
	comp=Z,8.2nm,0.8s						
PSA00	**Pilbara Seismi**	**57.51**	**255**	P	**P**	**05 51 48.9**	**-0.7**
PSA00				IAmb	IAmb	05 52 04.9	
	comp=Z,12nm,1.4s						
MBWA	**Marble Bar**	**57.67**	**256**	P	**P**	**05 51 50.9**	**+0.2**
MEEK	**Meekatharra**	**58.08**	**249**	P	**P**	**05 51 52.8**	**-0.7**
BLDU	**Ballidu**	**59.46**	**244**	P	**P**	**05 52 02.9**	**+0.2**
MORW	**Morawa**	**60.15**	**246**	P	**P**	**05 52 07.3**	**0.0**
SBA	**Scott Base**	**60.67**	**183**	P	**P**	**05 52 11.6**	**+1.7**
VNDA	**Vanda**	**60.69**	**185**	P	**P**	**05 52 10.8**	**+0.9**
VNDA	**Vanda** comp=Z,1.0nm,0.8s,baz=30,slow=8.7,SNR=6.6	**60.69**	**185**	P	**P**	**05 52 10.2**	**+0.3**
	comp=Z,1.0nm,0.8s						
CASY	**Casey**	**66.19**	**205**	P	**P**	**05 52 45.0**	**-0.3**
JGF	**Kuroka**	**67.21**	**322**	P	**P**	**05 52 52.3**	**+0.1**
JGF				IAmb	IAmb	05 52 53.0	
	comp=Z,24nm,1.3s						
MJAR	**Matsushiro Arr**	**67.39**	**324**	P	**P**	**05 52 53.2**	**0.0**
MJAR	**Matsushiro Arr** comp=Z,4.7nm,0.7s,baz=154,slow=6.7,SNR=12	**67.39**	**324**	P	**P**	**05 52 52.8**	**-0.4**
	comp=Z,4.7nm,0.7s						
MJB9	**Matsu-Tunnel**	**67.39**	**324**	P	**P**	**05 52 53.1**	**-0.1**
MJB9				IAmb	IAmb	05 53 23.4	
	comp=Z,4.9nm,0.8s						
ATKA	**Atka Island**	**69.65**	**3**	P	**P**	**05 53 05.8**	**-0.6**
SSLB	**Suanglung**	**71.67**	**303**	P	**P**	**05 53 18.7**	**-0.3**
SSLB				IAmb	IAmb	05 54 01.0	
	comp=Z,13nm,1.0s						
UNV	**Unalaska Valle**	**71.97**	**8**	P	**P**	**05 53 19.0**	**-1.1**
UNV	**Unalaska Valle** baz=192	**71.97**	**8**	P	**P**	**05 53 20.4**	**+0.4**
QSPA	**South Pole Qui** comp=Z,4.5nm,0.8s,baz=44,slow=2.5,SNR=30	**72.43**	**180**	P	**P**	**05 53 24.7**	**+1.8**
	comp=Z,4.5nm,0.8s						
PEA0B	**Petropavlovsk-**	**73.28**	**346**	P	**P**	**05 53 28.0**	**+0.3**
PEA0B				IAmb	IAmb	05 53 48.4	
	comp=Z,27nm,1.2s						
PETK	**Petropavlovsk-**	**73.28**	**346**	P	**P**	**05 53 28.0**	**+0.3**
PETK	**Petropavlovsk-** comp=Z,9.2nm,0.9s,baz=159,slow=5.4,SNR=8.1	**73.28**	**346**	P	**P**	**05 53 27.6**	**-0.1**
	comp=Z,9.2nm,0.9s						
FALS	**False Pass** baz=195	**73.39**	**9**	P	**P**	**05 53 29.1**	**+0.9**
CHNA	**Chernabura Isl** baz=199	**74.02**	**11**	P	**P**	**05 53 32.3**	**+0.5**
KSRS	**Korea Array** comp=Z,0.8nm,0.7s,baz=131,slow=5.4,SNR=3.2	**74.16**	**319**	P	**P**	**05 53 34.1**	**+1.1**
	comp=Z,0.8nm,0.7s						
SDPT	**Sand Point** baz=198	**74.35**	**11**	P	**P**	**05 53 34.2**	**+0.6**
P08K	**Saint George I** baz=189	**74.35**	**5**	P	**P**	**05 53 34.2**	**+0.6**
S12K	**Black Hills** baz=197	**74.42**	**10**	P	**P**	**05 53 34.7**	**+0.6**
SPIA	**Saint Paul Isl** baz=189	**74.86**	**5**	P	**P**	**05 53 37.3**	**+0.9**
S14K	**Fog Glacier** baz=199	**75.41**	**11**	P	**P**	**05 53 40.2**	**+0.5**
CHGN	**Chignik** baz=200	**75.64**	**12**	P	**P**	**05 53 41.6**	**+0.8**
CHIR	**Chirikof Islan** baz=203	**75.76**	**13**	P	**P**	**05 53 42.6**	**+1.1**
USRK	**Usuriysk Ar.** comp=Z,3.8nm,0.8s,baz=129,slow=11,SNR=4.0	**76.10**	**326**	P	**P**	**05 53 44.1**	**+0.4**
	comp=Z,3.8nm,0.8s						
SCZ	**Santa Cruz**	**76.49**	**44**	P	**P**	**05 53 46.1**	**0.0**
SCZ				IAmb	IAmb	05 53 47.7	
	comp=Z,6.8nm,0.9s						
SII	**Sitkinak Islan**	**76.76**	**14**	P	**P**	**05 53 47.0**	**-0.1**
SII	**Sitkinak Islan** baz=204	**76.76**	**14**	P	**P**	**05 53 47.6**	**+0.5**
R16K	**Pilot Point** baz=201	**76.98**	**12**	P	**P**	**05 53 48.9**	**+0.7**
R17L	**Mt. Peulik Vol** baz=202	**77.28**	**12**	P	**P**	**05 53 50.4**	**+0.5**
CBX	**Cerro Bola**	**77.54**	**50**	P	**P**	**05 53 52.9**	**+0.9**
CBX				IAmb	IAmb	05 54 02.7	
	comp=Z,15nm,1.2s						
OHAK	**Old Harbor**	**77.57**	**14**	P	**P**	**05 53 51.7**	**+0.4**
OHAK	**Old Harbor** baz=205	**77.57**	**14**	P	**P**	**05 53 51.8**	**+0.4**
R18K	**Karluk** baz=204	**77.62**	**13**	P	**P**	**05 53 52.1**	**+0.5**
VES	**Vestal, Richgr**	**77.65**	**46**	P	**P**	**05 53 52.9**	**+0.6**
VES				IAmb	IAmb	05 53 53.6	
	comp=Z,9.4nm,0.9s						
O14K	**Tigyukauivet M** baz=197	**77.95**	**9**	P	**P**	**05 53 53.5**	**+0.2**
Q17K	**Contact Creek** baz=202	**77.97**	**12**	P	**P**	**05 53 53.7**	**+0.1**
O15K	**Ungalikthiuk R** baz=199	**78.10**	**10**	P	**P**	**05 53 54.7**	**+0.5**
Q16K	**King Salmon** baz=202	**78.20**	**12**	P	**P**	**05 53 54.4**	**-0.3**
KDAK	**Kodiak Island** baz=206	**78.24**	**14**	P	**P**	**05 53 54.8**	**-0.2**
P16K	**Nushagak River** baz=200	**78.28**	**11**	P	**P**	**05 53 55.6**	**+0.4**
M11K	**Mekoryuk** baz=192	**78.41**	**6**	P	**P**	**05 53 56.3**	**+0.5**
Q18K	**Katmai Hardscr** baz=203	**78.50**	**12**	P	**P**	**05 53 56.7**	**+0.2**
N14K	**Kuskokwak Cree** baz=197	**78.53**	**9**	P	**P**	**05 53 56.5**	**0.0**
WSHM	**Spangler Hills**	**78.62**	**47**	P	**P**	**05 53 58.6**	**+0.9**
CLC	**China Lake**	**78.66**	**47**	P	**P**	**05 53 58.4**	**+0.5**
P17K	**Kvichak River** baz=202	**78.72**	**12**	P	**P**	**05 53 57.1**	**-0.4**
M13K	**Dall Lake** baz=195	**78.77**	**8**	P	**P**	**05 53 57.9**	**+0.1**
O16K	**Kokwok River B** baz=200	**78.79**	**11**	P	**P**	**05 53 57.5**	**-0.4**
BEKR	**Beckworth**	**79.00**	**42**		**P**	**05 54 00.1**	**+0.4**
BEKR				IAmb	IAmb	05 54 00.9	
	comp=Z,3.7nm,0.5s						
N15K	**Kwethluk River** baz=198	**79.00**	**9**	P	**P**	**05 53 58.7**	**-0.3**
Q20K	**Shuyak Island** baz=206	**79.03**	**14**	P	**P**	**05 53 59.2**	**+0.1**
Q19K	**Cape Douglas,** baz=204	**79.05**	**13**	P	**P**	**05 53 59.3**	**0.0**
O17K	**Koliganek Bris** baz=201	**79.14**	**11**	P	**P**	**05 53 59.7**	**0.0**
P18K	**Big Mountain,** baz=203	**79.14**	**12**	P	**P**	**05 53 59.8**	**0.0**
DSP	**Deep Springs**	**79.22**	**45**		**P**	**05 54 01.8**	**+1.2**
DSP				IAmb	IAmb	05 54 02.7	
	comp=Z,7.9nm,1.1s						
M14K	**Bethel** baz=196	**79.29**	**8**	P	**P**	**05 54 00.8**	**+0.4**
M15K	**Kasigluk River** baz=198	**79.42**	**9**	P	**P**	**05 54 01.6**	**+0.4**
N16K	**Nishlik Lake** baz=200	**79.51**	**10**	P	**P**	**05 54 02.1**	**+0.4**
NVAR	**Mina Array Bea** comp=Z,3.3nm,0.7s,baz=242,slow=4.7,SNR=38	**79.56**	**44**	P	**P**	**05 54 03.3**	**+0.6**
	comp=Z,3.3nm,0.7s						
L14K	**Kuka Creek** baz=196	**79.76**	**8**	P	**P**	**05 54 03.9**	**+0.9**
P19K	**Oil Pt** baz=205	**79.79**	**13**	P	**P**	**05 54 03.5**	**+0.3**
N17K	**Nushagak Hills** baz=201	**79.83**	**11**	P	**P**	**05 54 03.8**	**+0.4**
M16K	**Timber Creek** baz=199	**80.00**	**10**	P	**P**	**05 54 04.8**	**+0.6**
O19K	**Port Alsworth** baz=204	**80.06**	**12**	P	**P**	**05 54 04.4**	**-0.1**
K13K	**Kusilvak Mount** baz=194	**80.09**	**7**	P	**P**	**05 54 04.5**	**-0.2**
HOM	**Homer** baz=206	**80.15**	**14**	P	**P**	**05 54 04.9**	**-0.2**
N18K	**Kilae Creek** baz=202	**80.21**	**11**	P	**P**	**05 54 05.4**	**0.0**
L15K	**Ungalak Mounta** baz=197	**80.24**	**8**	P	**P**	**05 54 05.6**	**+0.1**
O20K	**Slope Mountain** baz=205	**80.31**	**13**	P	**P**	**05 54 05.7**	**-0.3**
BRSE	**Bradley Lake S** baz=207	**80.43**	**14**	P	**P**	**05 54 06.3**	**-0.2**
L16K	**Newhat River** baz=199	**80.57**	**9**	P	**P**	**05 54 07.3**	**+0.1**
N19K	**Bonanza Creek** baz=204	**80.60**	**12**	P	**P**	**05 54 07.9**	**+0.4**
M17K	**Holitna River** baz=201	**80.61**	**10**	P	**P**	**05 54 08.2**	**+0.8**
K15K	**Wolf Creek Mou** baz=197,SNR=5.7	**80.83**	**8**	P	**P**	**05 54 09.6**	**+1.1**
M18K	**Stony River** baz=202	**80.97**	**11**	P	**P**	**05 54 10.0**	**+0.7**
J14K	**Nanvaranak Lak** baz=195	**81.01**	**7**	P	**P**	**05 54 10.5**	**+1.0**
SEW	**Seward** baz=208	**81.05**	**14**	P	**P**	**05 54 10.5**	**+0.8**
L17K	**Donlin** baz=200	**81.15**	**10**	P	**P**	**05 54 11.1**	**+0.9**
GAMB	**Gambell** baz=187	**81.33**	**3**	P	**P**	**05 54 11.9**	**+0.9**
N20K	**Mount Spurr** baz=206	**81.42**	**13**	P	**P**	**05 54 12.6**	**+1.0**
SPCR	**Spurr Chakacha** baz=206	**81.42**	**13**	P	**P**	**05 54 12.6**	**+0.9**
L18K	**Granite Mounta** baz=201	**81.50**	**10**	P	**P**	**05 54 12.9**	**+0.9**
K17K	**Iditarod** baz=200	**81.70**	**9**	P	**P**	**05 54 14.0**	**+1.0**
L19K	**White Mountain** baz=203	**81.79**	**11**	P	**P**	**05 54 14.5**	**+1.0**
M20K	**Styx River** baz=205	**81.85**	**12**	P	**P**	**05 54 14.5**	**+0.6**
RC01	**Rabbit Creek A** baz=208	**81.86**	**14**	P	**P**	**05 54 14.6**	**+0.8**
J16K	**Anvik River** baz=198	**81.91**	**8**	P	**P**	**05 54 14.6**	**+0.6**
SUA	**Susitna One** baz=207,SNR=6.8	**81.97**	**13**	P	**P**	**05 54 14.4**	**-0.1**
PWL	**Port Wells** baz=209	**81.98**	**15**	P	**P**	**05 54 14.3**	**-0.2**
J17K	**VABM Dome** baz=199	**82.23**	**9**	P	**P**	**05 54 16.2**	**+0.5**
L20K	**Farewell, AK** baz=204	**82.25**	**11**	P	**P**	**05 54 16.2**	**+0.4**
GLI	**Glacier Island** baz=210	**82.30**	**15**	P	**P**	**05 54 16.0**	**-

	baz=194							
S31K	**Pelican**	83.16	21	P		P	05 54 20.4	0.0
	baz=221							
CRQE	**Cirque**	83.25	17	P		P	05 54 20.9	-0.1
	baz=214							
J19K	**Poorman**	83.33	10	P		P	05 54 21.5	+0.3
	baz=202							
TNA	**Tin City**	83.35	5	P		P	05 54 20.9	-0.3
	baz=191							
F14K	**Arctic Creek**	83.39	5	P		P	05 54 21.7	+0.2
	baz=192							
WRAK	**Wrangell Islan**	83.45	24	P		P	05 54 21.3	-0.6
	baz=224							
PNL	**Peninsula**	83.45	19	P		P	05 54 21.3	-0.6
	baz=218							
PINM	**Pinnacle**	83.53	18	P		P	05 54 22.3	-0.1
	baz=217							
N25K	**Chitina, Valde**	83.56	16	P		P	05 54 22.3	-0.2
	baz=213							
H17K	**Granite Mounta**	83.58	8	P		P	05 54 22.5	+0.1
	baz=198							
M24K	**Tolsona, Glenn**	83.59	15	P		P	05 54 22.8	+0.2
	baz=211							
WAT6	**Susitna Watana**	83.63	14	P		P	05 54 22.9	0.0
	baz=210,SNR=5.7							
WAT1	**Susitna Watana**	83.66	14	P		P	05 54 22.9	0.0
	baz=209							
G16K	**Koyuk River**	83.71	7	P		P	05 54 23.3	+0.3
	baz=196							
J20K	**Nowinta River**	83.76	11	P		P	05 54 23.5	+0.2
	baz=204							
F15K	**North Star Dit**	83.78	6	P		P	05 54 23.7	+0.3
	baz=194							
MCARA	**McCarthy VSAT**	83.79	16	P		P	05 54 23.6	0.0
	baz=214							
CHUM	**Lake Minchumin**	83.82	12	P		P	05 54 23.6	-0.1
	baz=206,SNR=5.6							
GCSA	**Galena City Sc**	83.83	9	P		P	05 54 23.4	-0.2
	baz=201							
TRF	**Thorofare Moun**	83.84	13	P		P	05 54 23.6	-0.4
	baz=207,SNR=12							
CTG	**Chitna Glacier**	83.91	17	P		P	05 54 24.1	-0.2
	baz=216							
P29M	**Windy Craggy**	83.94	20	P		P	05 54 24.2	-0.2
	baz=219							
MAW	**Mawson**	83.96	200	P		P	05 54 25.0	+0.6
	comp=Z,1.3nm,0.7s,baz=174,slow=10,SNR=2.7							
	comp=Z,1.3nm,0.7s							
H18K	**Honhosa River**	84.00	9	P		P	05 54 24.3	-0.2
	baz=200							
G17K	**Kiwalik Mounta**	84.02	8	P		P	05 54 24.7	+0.1
	baz=198							
HARP	**HAARP**	84.09	15	P		P	05 54 25.2	+0.2
	baz=212							
O28M	**Mount Upton**	84.09	18	P		P	05 54 25.0	-0.4
	baz=217							
DHY	**Denali Highway**	84.14	14	P		P	05 54 25.2	-0.3
	baz=210							
O29M	**Mount Kennedy**	84.20	19	P		P	05 54 25.4	-0.4
	baz=218							
PLBC	**Pleasant Camp**	84.25	20	P		P	05 54 26.1	+0.2
	baz=220							
I20K	**Naagheneneel**	84.27	10	P		P	05 54 26.3	+0.5
	baz=203							
BPAW	**Bear Paw Mtn.**	84.28	12	P		P	05 54 26.1	+0.2
	baz=207							
MCK	**McKinley**	84.37	13	P		P	05 54 26.2	-0.2
	baz=209,SNR=5.1							
PAX	**Paxson**	84.50	15	P		P	05 54 26.8	-0.3
	baz=212							
P30M	**Million Dollar**	84.57	20	P		P	05 54 27.6	+0.1
	baz=220							
SKAG	**Skagway**	84.60	21	P		P	05 54 27.9	+0.4
	baz=221							
YUK8	**Steele Glacier**	84.62	18	P		P	05 54 28.0	0.0
	baz=217							
H19K	**Roundabout Mou**	84.63	9	P		P	05 54 28.1	+0.6
	baz=202							
M26K	**Nabesna, AK**	84.64	16	P		P	05 54 27.8	0.0
	baz=214,SNR=5.9							
G18K	**Tagagawik**	84.66	8	P		P	05 54 28.2	+0.5
	baz=199							
T35M	**Bob Quinn**	84.66	24	P		P	05 54 28.1	+0.1
	baz=226							
YUK6	**Outpost Mounta**	84.77	19	P		P	05 54 28.5	-0.1
	baz=218							
YUK3	**Moose Creek**	84.82	17	P		P	05 54 29.0	+0.1
	baz=217							
H20K	**Anotleneega Mo**	84.84	10	P		P	05 54 29.0	+0.4
	baz=203							
F17K	**Baldwin Pennin**	84.85	7	P		P	05 54 28.9	+0.3
	baz=197							
M27K	**Edge Creek, AK**	84.90	16	P		P	05 54 29.4	+0.2
	baz=215							
HYT	**Haines Junctio**	84.94	19	P		P	05 54 29.7	+0.3
	baz=219							
S34M	**Telegraph Cree**	84.98	23	P		P	05 54 29.3	-0.2
	baz=225							
YUK4	**Talbot Arm**	85.00	18	P		P	05 54 30.3	+0.5
	baz=218							
I21K	**Tanana**	85.06	11	P		P	05 54 30.2	+0.5
	baz=206							
L26K	**Log Cabin Wild**	85.07	15	P		P	05 54 30.1	+0.3
	baz=214							
NEA2	**Nenana**	85.10	12	P		P	05 54 30.1	+0.2
	baz=208							
G19K	**Purcell Mounta**	85.11	9	P		P	05 54 30.0	+0.1
	baz=201							
K24K	**Donnelly Dome**	85.14	14	P		P	05 54 30.6	+0.5
	baz=212,SNR=8.0							
MLY	**Manley**	85.16	12	P		P	05 54 30.1	-0.1
	baz=207							
F18K	**Selawik**	85.20	8	P		P	05 54 30.4	+0.1
	baz=198							
BVCY	**Beaver Creek**	85.22	17	P		P	05 54 30.7	+0.1
	baz=216							
P32M	**Atlin**	85.25	21	P		P	05 54 31.3	+0.5
	baz=223							
RIDG	**Independent Ri**	85.30	14	P		P	05 54 31.4	+0.5
	baz=212							
Q32M	**Nakina River**	85.30	22	P		P	05 54 31.2	-0.1
	baz=224							
H21K	**Melozitna Rive**	85.35	11	P		P	05 54 31.3	+0.2
	baz=205							
O30N	**Mendenhall**	85.35	20	P		P	05 54 31.2	0.0
	baz=221							
HDA	**Harding Lake**	85.39	13	P		P	05 54 31.6	+0.3
	baz=210,SNR=7.7							
E17K	**Hotham Inlet**	85.40	7	P		P	05 54 31.1	-0.1
	baz=196							
L27K	**Beaver Creek,**	85.49	16	P		P	05 54 31.9	0.0
	baz=215							
I23K	**Minto, Yukon-K**	85.53	12	P		P	05 54 32.1	+0.2
	baz=208							
COLA	**College**	85.60	13	P		P	05 54 32.1	-0.2
	baz=210							
WHY	**Whitehorse**	85.65	20	P		P	05 54 32.6	-0.2
	baz=222							
F19K	**Shaleruckik Mo**	85.67	8	P		P	05 54 32.7	+0.1
	baz=200							
SCRK	**Sand Creek**	85.71	15	P		P	05 54 33.2	+0.2
	baz=213							
ILAR	**Eielson Array**	85.72	13	P		P	05 54 32.0	-0.9
	comp=Z,1.9nm,0.4s,baz=212,slow=4.9,SNR=44							
	comp=Z,1.9nm,0.4s							
DLBC	**Dease Lake**	85.76	23	P		P	05 54 33.3	0.0
	baz=226							
H22K	**Ishtalitna Cre**	85.81	11	P		P	05 54 33.5	+0.2
	baz=206							
D17K	**Noatak River**	85.87	6	P		P	05 54 33.8	+0.3
	baz=195							
E18K	**Tukpahlearik C**	85.87	7	P		P	05 54 33.5	0.0
	baz=198							
POKR	**Poker Plat Res**	85.90	13	P		P	05 54 33.4	-0.4
	baz=210							
J25K	**Salcha River,**	85.92	14	P		P	05 54 34.0	+0.1
	baz=212,SNR=6.0							
M29M	**Somme Creek**	85.92	18	P		P	05 54 34.1	+0.1
	baz=218							
N31M	**Braeburn, Yuko**	85.99	19	P		P	05 54 34.6	+0.3
	baz=221							
G21K	**Allakaket**	86.01	10	P		P	05 54 34.2	0.0
	baz=204							
P33M	**Teslin, Yukon**	86.02	21	P		P	05 54 34.6	+0.1
	baz=224							
R33M	**Jennings River**	86.08	22	P		P	05 54 35.0	+0.1
	baz=225							
H23K	**Yukon River**	86.10	12	P		P	05 54 35.1	+0.4
	baz=208							
F20K	**Avaraart Lake**	86.16	9	P		P	05 54 35.1	+0.2
	baz=202							
C16K	**Lisburne Hills**	86.22	5	P		P	05 54 35.4	+0.3
	baz=193							
K27K	**Chicken**	86.22	15	P		P	05 54 35.4	+0.1
	baz=215							
J26L	**Joseph Creek**	86.25	15	P		P	05 54 35.5	0.0
	baz=214,SNR=8.9							
TXAR	**Lajitas Array**	86.26	58	P		P	05 54 38.0	+1.6
	comp=Z,2.8nm,0.7s,baz=248,slow=5.0,SNR=43							
	comp=Z,2.8nm,0.7s							
E19K	**Redstone River**	86.33	8	P		P	05 54 35.9	+0.2
	baz=201							
H24K	**Noodor Dome**	86.44	12	P		P	05 54 36.8	+0.5
	baz=210							
M30M	**Minto, Yukon**	86.51	18	P		P	05 54 37.0	+0.3
	baz=220,SNR=5.6							
L29M	**L29M**	86.54	17	P		P	05 54 37.1	+0.2
	baz=219,SNR=5.7							
C17K	**DeLong Mountai**	86.61	6	P		P	05 54 37.6	+0.5
	baz=195							
N32M	**Quiet Lake**	86.61	20	P		P	05 54 37.5	+0.2
	baz=223							
PRP	**Porcupine Dome**	86.66	13	P		P	05 54 37.5	0.0
	baz=212							
F21K	**Alatna River**	86.66	10	P		P	05 54 37.5	+0.2
	baz=204							
G22K	**Bettles**	86.72	10	P		P	05 54 37.7	+0.1
	baz=206							
HHC	**Hu-ho-hao-te**	86.72	315	*e*P		P	05 54 39.1	+0.8
HHC				pmax		pmax		
	comp=Z,13nm,0.6s							
HHC				pmax		pmax		
	comp=Z,94nm,3.9s							
G23K	**Bananza Creek**	86.80	11	P		P	05 54 37.9	-0.1
	baz=208							
DAWY	**Dawson**	86.95	16	P		P	05 54 38.6	-0.1
	baz=218							
M31M	**Drury Creek, Y**	86.97	19	P		P	05 54 38.7	-0.1
	baz=222							
C18K	**Utukok River**	86.98	6	P		P	05 54 38.6	-0.2
	baz=197							
I26K	**Coal Creek Min**	87.02	14	P		P	05 54 38.9	-0.1
	baz=214							
EGAK	**Eagle**	87.07	15	P		P	05 54 38.8	-0.4
	baz=216							
F22K	**John River**	87.14	10	P		P	05 54 39.0	-0.5
	baz=206							
D19K	**Kuna River**	87.19	8	P		P	05 54 39.6	-0.2
	baz=200							
E20K	**Nigu River**	87.22	8	P		P	05 54 39.7	-0.3
	baz=202							
COLD	**Coldfoot**	87.22	11	P		P	05 54 39.7	-0.3
	baz=207							
H25L	**Birch Creek**	87.24	13	P		P	05 54 40.0	0.0
	baz=212							
G24K	**Hadweenzic Riv**	87.27	12	P		P	05 54 40.3	+0.1
	baz=210							
K29M	**Barlow Dome**	87.29	17	P		P	05 54 40.3	-0.1
	baz=219							
PDAR	**Pinedale Array**	87.48	44	P		P	05 54 42.1	0.0
	comp=Z,2.1nm,0.5s,baz=243,slow=4.2,SNR=36							
	comp=Z,2.1nm,0.5s							
D20K	**Etivluk River**	87.59	8	P		P	05 54 42.0	+0.4
	baz=201							
C19K	**Lookout Ridge**	87.59	7	P		P	05 54 42.3	+0.6
	baz=198							
G25K	**Bearman Lake**	87.61	12	P		P	05 54 42.3	+0.6
	baz=211							
I27K	**Kandik River**	87.63	15	P		P	05 54 42.2	+0.3
	baz=215							
E21K	**Killik River**	87.71	9	P		P	05 54 42.5	+0.3
	baz=204							
E22K	**Anaktuvuk Pass**	87.76	10	P		P	05 54 42.6	+0.1
	baz=206							
F24K	**Squaw Lake**	87.91	11	P		P	05 54 43.4	+0.2
	baz=210							
TOAD	**Toad River Com**	87.91	25	P		P	05 54 43.7	+0.4
	baz=230							
I28M	**Miner Creek**	87.92	15	P		P	05 54 43.4	+0.1
	baz=217							
E23K	**Chandalar**	88.07	11	P		P	05 54 44.5	+0.5
	baz=208							
H27K	**Steamboat Moun**	88.16	14	P		P	05 54 45.0	+0.5
	baz=215							
J30M	**Hart River**	88.18	17	P		P	05 54 45.0	+0.4
	baz=220							
C21K	**Knifeblade Rid**	88.25	8	P		P	05 54 45.4	+0.7
	baz=203							
G26K	**Porcupine Rive**	88.25	13	P		P	05 54 45.2	+0.5
	baz=213							
I29M	**Ogilvie Camp,**	88.26	16	P		P	05 54 45.4	+0.5
	baz=218							
MMPY	**Sheldon Lake,**	88.27	20	P		P	05 54 45.6	+0.6
	baz=225,SNR=5.2							
E24K	**Your Creek**	88.28	11	P		P	05 54 45.4	+0.5
	baz=209							
D22K	**Ayikyak River**	88.30	9	P		P	05 54 45.4	+0.4
	baz=205							
F25K	**Christian Rive**	88.41	12	P		P	05 54 46.1	+0.5
	baz=212							
A19K	**Wainwright**	88.49	6	P		P	05 54 46.5	+0.8
	baz=197							
TGTN	**Hyland Airport**	88.53	22	P		P	05 54 46.6	+0.4
	baz=228							
PZH	**PanZhiHua**	88.59	298	P		P	05 54 48.3	+0.9
TOLK	**Toolik Lake Re**	88.59	10	P		P	05 54 46.7	+0.3
	baz=208							
G27K	**Doyon Strip**	88.61	14	P		P	05 54 46.9	+0.5
	baz=215							
I30M	**Mount Dempster**	88.67	17	P		P	05 54 47.1	+0.2
	baz=220							
D23K	**Nanushuk River**	88.70	10	P		P	05 54 47.1	+0.3
	baz=207							
B21K	**Ikpikpuk River**	88.70	8	P		P	05 54 47.1	+0.3
	baz=203							
B20K	**Meade River**	88.73	7	P		P	05 54 47.1	+0.2
	baz=201							
F26K	**Sheenjek River**	88.80	13	P		P	05 54 47.8	+0.4
	baz=213							
E25K	**Arctic Village**	88.88	12	P		P	05 54 48.2	+0.6
	baz=212							
H29M	**Whitestone**	88.92	15	P		P	05 54 48.3	+0.4
	baz=218							
D24K	**Happy Valley**	89.17	10	P		P	05 54 49.3	+0.3
	baz=209							
KOTAN	**Kotaneelee Air**	89.19	24	P		P	05 54 49.2	0.0
	baz=231							
EPYK	**Eagle Plains**	89.46	16	P		P	05 54 50.5	0.0
	baz=220							
C23K	**Itkillik River**	89.49	9	P		P	05 54 50.5	+0.1
	baz=207							
B22K	**Teshekpuk Lake**	89.53	8	P		P	05 54 51.1	+0.5
	baz=204							
G29M	**Pine Creek**	89.55	15	P		P	05 54 51.0	+0.2
	baz=219							
H31M	**Peel River**	89.67	17	P		P	05 54 51.4	0.0
	baz=222							
F28M	**Old Crow**	89.67	14	P		P	05 54 51.1	-0.2
	baz=217							
C24K	**Franklin Bluff**	89.69	10	P		P	05 54 51.0	-0.3
	baz=209							
E27K	**Coleen River**	89.75	13	P		P	05 54 52.0	+0.3
	baz=215							
D25K	**Kavik River**	89.75	11	P		P	05 54 51.8	+0.1
	baz=211							
G30M	**tAoh Zraii Nji**	90.06	15	P		P	05 54 53.3	+0.1
	baz=220							
G31M	**Satah River**	90.52	16	P		P	05 54 55.3	+0.1
	baz=222							
C26K	**Camden Bay**	90.53	11	P		P	05 54 55.3	0.0
	baz=212							
E28M	**Babbage River**	90.54	13	P		P	05 54 55.3	0.0
	baz=217							
F30M	**Barrier River**	90.65	15	P		P	05 54 55.8	-0.1
	baz=221							
E29M	**Blow River**	90.74	14	P		P	05 54 56.1	-0.1
	baz=219							
SNAA	**Sanae**	90.89	179	P		P	05 54 56.6	-0.6
	comp=Z,0.4nm,0.5s,baz=190,slow=13,SNR=9.5							
	comp=Z,0.4nm,0.5s							
WRGLY	**Wrigley**	91.34	22	P		P	05 54 58.9	-0.2
	baz=232							
INK	**Inuvik**	91.74	15	P		P	05 55 00.4	-0.4
	baz=223							
YKA	**Yellowknife Ar**	94.28	25	P		P	05 55 12.0	-0.6
	comp=Z,0.7nm,0.7s,baz=247,slow=4.6,SNR=4.4							
	comp=Z,0.7nm,0.7s							
BVAR	**Borovoye Array**	116.31	321	PKP		PKiKP	06 00 33.1	-0.3
	comp=Z,1.4nm,0.3s,baz=98,slow=2.3,SNR=5.0							
ARCES	**ARCESS Array B**	125.95	350	PKP		PKiKP	06 00 51.0	-1.0
	comp=Z,1.5nm,0.7s,baz=30,slow=1.6,SNR=8.1							
FINES	**FINESS Array B**	132.78	344	PKP		PKPdf	06 01 04.5	-0.2
	comp=Z,4.4nm,0.9s,baz=20,slow=4.4,SNR=3.6							
AKASG	**Malin Array Be**	140.08	332	PKP		PKiKP	06 01 20.3	-0.8
	comp=Z,0.5nm,0.4s,baz=50,slow=2.7,SNR=4.1							
EKA	**Eskdalemuir Ar**	142.22	4	PKiKP		PKPpre	06 01 17.3	
	comp=Z,1.0nm,0.7s,baz=356,slow=2.2,SNR=4.4							
ASF	**Jabal al Asfar**	144.61	301	PKP		PKPab	06 01 28.0	0.0
	comp=Z,4.1nm,0.9s,baz=129,slow=6.5,SNR=4.8							
OSTC	**Ostas**	144.98	343	*e*PKP		PKPab	06 01 28.6	-0.1
CHVC	**Chvalec**	144.99	343	*e*PKP		PKPab	06 01 28.8	+0.1
STEB	**Steborice**	145.07	341	*e*PKP		PKPab	06 01 28.9	-0.1
DPC	**Dobruska-Polom**	145.13	343	*e*PKP		PKPab	06 01 29.4	+0.1
KRLC	**Kraliky**	145.25	342	*e*PKP		PKPab	06 01 29.5	-0.3
MLR	**Muntele Rosu**	145.33	329	PKPbc		PKPab	06 01 29.7	-0.7
	comp=Z,1.7nm,0.5s,baz=331,slow=10,SNR=4.4							
MAUC	**Maruska**	145.56	341	*e*PKP		PKPab	06 01 30.8	-0.2
MMAI	**Mount Meron Ar**	145.58	303	PKPbc		PKPab	06 01 31.0	-0.7
	comp=Z,2.5nm,0.5s,baz=72,slow=2.3,SNR=7.7							
PRU	**Pruhonice**	145.94	344	*e*PKP		PKPab	06 01 31.4	-1.0
VRAC	**Vranov**	145.99	342	PKPbc		PKPab	06 01 31.8	-0.8
	comp=Z,1.6nm,0.5s,baz=34,slow=11,SNR=1.9							
ZVC	**Zvikov**	146.53	344	*e*PKP		PKiKP	06 01 33.3	-1.1
KHC	**Kasperske Hory**	146.97	345	*e*PKP		PKiKP	06 01 34.2	-1.2
GRF	**Grafenberg Arr**	146.98	348	*e*PKP		PKiKP	06 01 34.1	-1.3
	baz=18,slow=1.8							
CKRC	**Cesky Krumlov**	147.07	344	*e*PKP		PKiKP	06 01 34.6	-1.0
GERES	**GERESS Array B**	147.21	345	PKPbc		PKiKP	06 01 34.5	-1.5
	comp=Z,2.7nm,0.6s,baz=24,slow=3.5,SNR=15							
CONA	**Conrad Observa**	147.44	341	*i* PKiKP		PKiKP	06 01 35.6	-0.8
	comp=Z,5.1nm,0.8s							
RONA	**Rosalia, Austr**	147.51	341	*i* PKP		PKPbc	06 01 34.9	-0.1
	comp=Z,4.6nm,0.7s							
MOA	**Molln**	147.97	343	*i* PKP		PKPbc	06 01 35.9	-0.2
	comp=Z,3.7nm,1.0s							
BIOA	**Bad Ischl, Aus**	148.29	344	*i* PKP		PKiKP	06 01 36.8	-1.3
	comp=Z,3.4nm,0.5s							
LESA	**Schwarzleotal**	148.78	345	*i* PKP		PKiKP	06 01 38.6	-0.7
	comp=Z,3.1nm,0.4s							
SOKA	**Soboth**	148.81	341	*i* PKP		PKiKP	06 01 38.2	-1.1
	comp=Z,3.5nm,0.9s							
KBA	**Koelnbreinsper**	148.93	344	*i* PKP		PKPbc	06 01 38.4	-0.4
	comp=Z,2.8nm,0.4s							
WATA	**Walderalm**	149.13	346	*i* PKP		PKiKP	06 01 39.2	-0.8
	comp=Z,3.8nm,0.5s							
RETA	**Reutte**	149.17	347	*i* PKP		PKiKP	06 01 39.4	-0.6
	comp=Z,2.0nm,0.4s							
WTTA	**Wattenberg**	149.19	346	*i* PKiKP		PKiKP	06 01 39.8	-0.5
	comp=Z,4.7nm,0.4s							
MOTA	**Moosalm**	149.23	347	*i* PKP		PKiKP	06 01 39.5	-0.8
	comp=Z,1.6nm,0.4s							
MYKA	**Terra Mystica**	149.26	343	*i* PKP		PKPbc	06 01 39.0	-0.3
	comp=Z,3.5nm,0.5s							
SQTA	**Sankt Quirin**	149.32	346	*i* PKP		PKiKP	06 01 39.9	-0.5
	comp=Z,3.5nm,0.4s							
ABTA	**Abfaltersbach**	149.45	344	*i* PKP		PKiKP	06 01 39.6	-1.1
	comp=Z,5.3nm,0.6s							
DAVA	**Damuels**	149.54	348	*i* PKiKP		PKiKP	06 01 40.8	-0.1
	comp=Z,7.1nm,1.0s							
FETA	**Feichten**	149.62	347	*i* PKiKP		PKiKP	06 01 40.7	-0.4
	comp=Z,4.4nm,1.1s							
DAVOX	**Davos/Dischmat**	150.02	348	PKPbc		PKiKP	06 01 41.8	-0.2
	comp=Z,7.2nm,0.3s,baz=0.0,slow=1.0,SNR=14							
ESDC	**Sonseca Array**	157.59	10	PKPab		PKPab	06 02 21.5	-0.3
	comp=Z,0.9nm,0.8s,baz=345,slow=4.7,SNR=4.3							

ISK ***14*** *06:00:29.3, 40.˚73N×32.˚97E, h5km, ML4.9/37*
IDC ***14*** *06:00:29.7±0.4, 40.˚73N×32.˚97E, h0km, mb4.3/24, mbtmp4.3/38, ML3.9/12, Error ellipse: s-maj=8.5km s-min=5.9km az=57.0*
BJI ***14*** *06:00:29.0, 40.˚70N×33.˚00E, h5km, mB4.8/6, mb4.4/17, Ms4.8/8, Ms7 4.6/8*
MOS ***14*** *06:00:29.4±0.9, 40.˚73N×32.˚97E, h10km, mb4.6/14, Error ellipse: s-maj=4.8km s-min=3.2km az=100.2*
AFAD ***14*** *06:00:30.9, 40.˚73N×32.˚97E, h8km, MW4.7*
MCSM ***14*** *06:00:31.4±0.2, 41˚N±2˚×3˚3E±˚, h10km, mb4.8, mB5.2, MLv4.9, Mw(mB)4.5*
NEIC ***14*** *06:00:31.7±1.4, 40.˚72N±0.˚03×32.˚98E±0.˚04, h10km±1km, mb4.4/25, Error ellipse: s-maj=6.1km s-min=4.6km az=147.0*
MED_RC ***14*** *06:00:31.0±0.5, 40.˚74N×32.˚94E, h10km, MW4.9/37, Moment Tensor Solution. Mantle waves: s37,c54; Duration: 1s2 Moment tensor: Scale 1016Nm; Mrr-0.46±.12; Mθθ-0.62±.12; Mφφ1.08±.10; Mrθ0.26±.27; Mrφ-2.25±.06; Mθr-0.90±.32; Best double couple: M◎2.55000×1016 NP1:ϕ◎99.00000°, δ72.00000°, λ177.00000°. NP2:ϕ◎190.00000°, δ87.00000°, λ18.00000°. Principal axes: T 2.8700, Plg15.0000°, Azm56.0000°; N -0.6400, Plg72.0000°, Azm200.0000°; P -2.2300, Plg10.0000°, Azm323.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
CFUSG ***14*** *06:00:33.2, 40.˚95N×32.˚77E, h20km, mb4.0/9, MD3.4/8, North Turkey Magtype MSH 4.0 from 9 stations*
NAO ***14*** *06:00:33.4, 39.˚57N×29.˚00E, h10km, MB4.5*

ISC 14 06:00:31.0±0.7, 40.˚73N±0.˚01×33.˚00E±0.˚01, h6km±4km, n462, σ1§19/530, mb4.4/44, MS4.7/4, 51C-36D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
DERS	**Karabk-Eskip**	0.36	290	P	Pg	06 00 37.9	-0.2
ELDT	**Eldivan**	0.40	126	P	Pg	06 00 38.8	0.0
ELDT				S	Sg	06 00 44.0	-0.1
ELDT				*i* IAML		06 00 45.0	
	comp=N,6μm,1.0s						
ELDT				*i* IAML		06 00 47.0	
	comp=E,6μm,0.4s						
CMDR	**Camlidere-ANKA**	0.46	240	P	Pg	06 00 39.3	-0.5
SAFT	**Safranbolu**	0.56	335	Pg	Pg	06 00 41.2	-0.6
SAFT				Sg	Sg	06 00 49.5	+0.3
KBUK	**KARABUK-Merkez**	0.58	331	P	Pg	06 00 41.7	-0.5
KBUK				S	Sg	06 00 49.4	-0.4
KBUK				*i* IAML		06 00 52.0	
	comp=N,7μm,0.4s						
PELI	**Kastamonı-Ara**	0.62	22	P	Pg	06 00 42.8	-0.2
PELI				S	Sg	06 00 49.9	-1.1
PELI				*i* IAML		06 00 51.0	
	comp=E,10μm,1.0s						
ILGA	**Ilgaz**	0.63	59		Pg	06 00 42.3	-0.9
ILGA	**Ilgaz**	0.63	59	P	Pg	06 00 42.3

YUVA Yuva-Kibriscik 1.05 252 Pg Pg 06 00 50.0 -1.2
SEYI Kastamonu-Seyd 1.07 31 P Pg 06 00 50.8 -0.7
SEYI S Sg 06 01 04.1 -1.2
SEYI *i* IAML 06 01 09.0
comp=E,1µm,0.4s
BTIN Bartın 1.07 328 P Pg 06 00 50.1 -1.4
BTIN S Sb 06 01 06.3 +0.1
BTIN *i* IAML 06 01 09.0
comp=N,1µm,1.0s
BTIN *i* IAML 06 01 10.0
comp=E,3µm,0.8s
SUNG orum-Sungurl 1.09 119 P Pg 06 00 51.4 -0.5
SUNG S Sg 06 01 06.2 +0.1
SUNG *i* IAML 06 01 11.0
comp=N,2µm,1.4s
SUNG *i* IAML 06 01 11.0
comp=E,1µm,0.8s
BR106 Keskin Array S 1.10 154 Pg Pg 06 00 51.3 -0.7
BR106 Sg Sg 06 01 06.6 +0.3
BR105 Keskin Array S 1.11 155 Pg Pg 06 00 51.6 -0.7
BR131 Keskin Array S 1.11 154 Pg 06 00 51.4 -0.8
BR131 Sg Sn 06 01 08.6 -0.3
BR131 Keskin Array S 1.11 154 *i* P Pg 06 00 51.5 -0.8
BRTR Keskin Array B 1.11 154 Pg Pg 06 00 51.5 -0.8
1µm,0.3s,baz=332,slow=15,SNR=2546
BRTR Lg Lg 06 01 07.9
1µm,0.3s,baz=320,slow=25,SNR=21
BRTR Keskin Array B 1.11 154 *i* P Pg 06 00 51.5 -0.8
BRTR pmax pmax
comp=Z,3µm,0.3s
BR104 Keskin Array S 1.13 154 Pg Pg 06 00 52.0 -0.6
BR104 Sg Sb 06 01 08.1 +0.1
KURC Kurucasile-Bar 1.14 350 Pn Pg 06 00 52.3 -0.4
KURC Sn Sn 06 01 09.0 -0.3
CIDE Kastamonu/Cide 1.16 358 P Pg 06 00 52.3 -0.8
CIDE S Sn 06 01 09.7 -0.1
CIDE *i* IAML 06 01 11.0
comp=Z,3µm,0.3s
CIDE *i* IAML 06 01 11.0
comp=Z,3µm,0.3s
CIDE Kastamonu/Cide 1.16 358 ⇑P Pn 06 00 53.5 -0.1
KESK Krkkale-Ke 1.18 158 P Pg 06 00 52.4 -1.2
KESK S Sg 06 01 08.7 -0.1
KESK *i* IAML 06 01 12.0
comp=Z,9µm,0.4s
KESK *i* IAML 06 01 12.0
comp=Z,1µm,0.8s
BBAL Bala 1.19 175 P Pg 06 00 52.7 -1.0
BBAL S Sg 06 01 09.2 +0.2
BBAL *i* IAML 06 01 11.0
comp=Z,4µm,0.5s
BBAL *i* IAML 06 01 13.0
comp=Z,8µm,0.5s
KAGI orum-Kargı 1.19 69 P Pg 06 00 52.0 -1.9
KAGI S Sg 06 01 07.1 -2.3
KAGI *i* IAML 06 01 13.0
comp=Z,1µm,1.1s
KAGI *i* IAML 06 01 14.0
comp=Z,2µm,0.6s
POLA Polatl-ANKAR 1.21 212 Pn Pg 06 00 53.5 -0.6
POLA Sn Sn 06 01 11.1 -0.1
AFSR Afar-Bala (An 1.28 177 Pn Pn 06 00 55.1 -0.3
AFSR Sn Sn 06 01 13.5 +0.5
MDUB Mudurnu 1.40 260 Pn Pn 06 00 56.4 -0.6
MDUB Sn Sn 06 01 16.7 +0.9
MDUB Mudurnu 1.40 260 Pn 06 00 56.0 -1.0
MDUB Sn Sn 06 01 16.3 +0.5
AYAZ Ayas K¶y, M 1.41 91 P Pn 06 00 56.8 -0.6
AYAZ S Sb 06 01 15.2 -0.9
AYAZ *i* IAML 06 01 18.0
comp=Z,8µm,0.6s
AKPI Kirsehir/Akpin 1.44 148 P Pn 06 00 57.4 -0.3
BZK Bozkurt 1.45 31 Pn Pn 06 00 57.7 +0.1
BZK Sn Sg 06 01 18.8 +1.4
BZK Bozkurt 1.45 31 Pn 06 00 57.0 -0.6
BZK Sn Sg 06 01 18.2 +0.8
BZK Bozkurt 1.45 31 ⇓P Pb 06 00 58.2 0.0
KAMT Kaman 1.46 158 Pn Pn 06 00 57.6 -0.4
BOYA Sinop/Boyabat- 1.50 57 P Pn 06 00 57.6 -0.9
BOYA S Sn 06 01 17.7 -0.8
BOYA *i* IAML 06 01 21.0
comp=Z,5µm,1.2s
BOYA *i* IAML 06 01 24.0
comp=Z,1µm,1.1s
CDAG Cicekdag 1.52 136 P Pn 06 00 58.9 +0.1
BTAS Taskesti 1.53 265 P Pn 06 00 58.4 -0.5
BTAS S Sn 06 01 18.3 -0.8
BTAS *i* IAML 06 01 23.0
comp=Z,1µm,1.0s
KKUL Konya-Kulu 1.55 182 P Pn 06 00 59.2 0.0
KKUL S Sg 06 01 20.8 -0.1
KKUL *i* IAML 06 01 25.0
comp=Z,8µm,0.3s
COAL Corum-Alaca 1.59 107 P Pb 06 01 00.4 -0.4
COAL S Sn 06 01 20.2 -0.4
COAL *i* IAML 06 01 24.0
comp=Z,1µm,0.9s
SAHE Sakarya_HENDEK 1.63 275 P Pn 06 00 58.8 -1.5
SAHE S Sg 06 01 25.4 +2.0
SAHE *i* IAML 06 01 31.0
comp=Z,8µm,1.1s
SAHE Sakarya_HENDEK 1.63 275 ⇓P Pn 06 01 00.8 +0.5
YOZG Bozok Univ. Me 1.67 124 P Pn 06 01 01.1 +0.3
YOZG S Sn 06 01 22.8 +0.1
YOZG *i* IAML 06 01 29.0
comp=Z,5µm,0.7s
SUSU Bolu-G¶lynk- 1.69 257 P Pn 06 01 00.8 -0.2
SUSU S Sg 06 01 25.1 -0.1
SUSU *i* IAML 06 01 37.0
comp=Z,6µm,1.2s
KIRS Kirsehir-Merke 1.74 156 P Pn 06 01 01.6 -0.2
KIRS S Sb 06 01 25.3 -0.2
KIRS *i* IAML 06 01 31.0
comp=Z,3µm,0.8s
KIRS *i* IAML 06 01 32.0
comp=Z,4µm,1.0s
KIRS Kirsehir-Merke 1.74 156 ⇓P Pn 06 01 02.3 +0.5
GULT Gulveren 1.91 262 Pn Pn 06 01 04.2 0.0
MCUR KIREHR 1.96 143 P Pn 06 01 04.8 +0.1
MCUR S Sb 06 01 30.9 -0.8
MCUR *i* IAML 06 01 35.0
comp=Z,2µm,0.4s
MCUR *i* IAML 06 01 39.0
comp=Z,3µm,0.9s
CTIK Konya-Celtik 1.99 212 P Pn 06 01 04.6 -0.6
CIFT Cifteler, Eski 2.02 228 Pn Pn 06 01 06.2 +0.6
SINP Sinop 2.02 51 Pn Pn 06 01 05.9 +0.4
CKRK Yozgat, Cekere 2.02 108 P Pb 06 01 07.3 -0.8
CKRK S Sn 06 01 31.7 +0.5
CKRK *i* IAML 06 01 39.0
comp=Z,6µm,1.0s
CKRK *i* IAML 06 01 39.0
comp=Z,5µm,0.8s
KAYN Sakarya, Kayna 2.03 278 P Pn 06 01 05.4 -0.3
SAUV Serdivan-Sakar 2.03 271 Pn Pn 06 01 05.6 -0.1
CBEY Konya-Cihanbey 2.04 185 P Pg 06 01 09.7 -0.3
SGAZ Eskisehir, Sey 2.04 235 P Pn 06 01 05.2 -0.7
SGAZ S Sg 06 01 37.3 +0.7
SGAZ *i* IAML 06 01 40.0
comp=Z,2µm,0.5s
GEYV SAKARYA_Geyve 2.07 264 P Pn 06 01 05.8 -0.4
YOZ Yozgat 2.08 121 Pn Pn 06 01 07.5 +0.9
KOZK Kozakli-Nevseh 2.09 136 Pn Pn 06 01 07.9 +1.3
GPA Golpazari 2.10 259 Pn Pn 06 01 06.9 +0.3
SINO SINOP_Merkez 2.10 51 P Pn 06 01 07.3 +0.6
SNOP Sinop 2.10 51 Pn Pn 06 01 06.6 -0.1
YARM Yarimca-Ladik(2.15 84 Pn Pn 06 01 08.1 +0.6
AKSY AKSARAY - Alti 2.16 164 P Pn 06 01 07.3 -0.2
AKSY S Sn 06 01 31.7 -2.8
AKSY *i* IAML 06 01 45.0
comp=Z,3µm,0.5s
SIRC Yozgat 2.16 129 P Pn 06 01 08.1 +0.5
SIRC S Sn 06 01 35.0 +0.4
SIRC *i* IAML 06 01 42.0
comp=Z,2µm,0.9s
SIRC *i* IAML 06 01 45.0
comp=Z,2µm,0.9s
KAND Kocaeli-Kandir 2.16 281 P Pn 06 01 08.1 +0.7
KAND S Sn 06 01 31.7 -2.7
KAND *i* IAML 06 01 42.0
comp=Z,4µm,1.0s
KAND *i* IAML 06 01 47.0
comp=Z,4µm,1.1s

AMSY Amasya-Merkez 2.16 91 P Pn 06 01 07.3 -0.3
KIZO Buyukkizoglu-L 2.23 85 Pn Pn 06 01 09.9 +1.3
KDHN Kadinhani 2.31 197 P Pn 06 01 08.1 -1.5
HACI Hacifakili, Ak 2.33 115 P Pn 06 01 10.6 +0.7
HACI S Sb 06 01 40.7 -1.7
HACI *i* IAML 06 01 57.0
comp=Z,3µm,1.3s
HISA Bilecik-Osmane 2.36 265 P Pn 06 01 09.7 -0.5
HISA S Sb 06 01 43.1 -0.1
HISA *i* IAML 06 01 58.0
comp=Z,4µm,1.0s
HISA *i* IAML 06 01 58.0
comp=Z,4µm,0.7s
BYAT Afyon-Bayat 2.36 222 P Pn 06 01 10.0 -0.3
AVNS Nevsehir-Avano 2.39 143 P Pn 06 01 11.3 +0.6
AVNS S Sb 06 01 44.0 -0.2
AVNS *i* IAML 06 01 50.0
comp=Z,8µm,0.7s
UCKU Afyonkarahisar 2.42 211 P Pn 06 01 10.7 -0.4
BLVD Bolvadin-AFYON 2.42 218 Pn Pn 06 01 11.1 -0.1
ALIN Konya, Altinte 2.43 182 P Pn 06 01 10.7 -0.6
BILE Bilecik/Merkez 2.45 258 P Pn 06 01 10.8 -0.7
SEMS Kocaeli-K¶rfe 2.48 274 P Pn 06 01 10.5 -1.3
SAMS Samsun-Alacam 2.49 74 P Pn 06 01 12.0 -0.1
ADVT Abdulvahap 2.50 264 Pn Pn 06 01 11.9 -0.2
OSMT Osmaniye 2.51 268 Pn Pn 06 01 12.8 +0.4
HRT Hereke 2.53 273 Pn Pn 06 01 12.8 +0.2
KURO Afyon-Bolvadin 2.55 219 P Pn 06 01 12.6 -0.3
LADK Ladik-KONYA 2.57 191 Pn Pn 06 01 13.6 +0.4
SILT Sile 2.58 281 Pn Pn 06 01 13.5 +0.3
BSIR Belisirma, Guz 2.65 157 P Pn 06 01 14.1 -0.2
ANDZ Kutahya, Merke 2.67 244 P Pn 06 01 13.6 -1.0
TOKA Tokat 2.68 98 Pn 06 01 14.9 +0.2
TOKA Tokat 2.68 98 P Pn 06 01 15.1 +0.4
DOMA Ktahya-Doman 2.70 251 P Pn 06 01 13.7 -1.2
TOKT Tokat 2.73 97 Pn Pn 06 01 16.3 +0.9
YLV Yalova 2.76 268 Pn Pn 06 01 15.6 -0.2
BNN Bunyan 2.88 130 Pn 06 01 17.8 +0.3
TVSB Tavsanli 3.00 246 Pn Pn 06 01 19.2 +0.1
KAVV Kandilli-Istan 3.00 278 Pn Pn 06 01 19.4 +0.3
ISK Istanbul-Kandi 3.00 278 Pn Pn 06 01 19.5 +0.4
KLIS Kilyos 3.04 281 Pn Pn 06 01 20.0 +0.5
ARMT Armutlu 3.15 268 Pn Pn 06 01 21.2 +0.1
MDNY Mudanya-Bursa 3.15 265 Pn Pn 06 01 21.8 +0.7
ORLT Orhaneli 3.21 259 Pn Pn 06 01 22.1 +0.2
BGKT Bogazkoy 3.23 279 Pn Pn 06 01 22.9 +0.7
CTKS Kestanelik-??a 3.44 280 Pn Pn 06 01 25.1 +0.1
ISP Isparta 3.48 214 Pn 06 01 25.6 -0.1
ISP Isparta 3.48 214*c* *i* P Pn 06 01 25.9 +0.2
CTYL Yalikoy Yolu 3.64 283 ⇑P Pn 06 01 29.3 +1.6
BAND Balkesir-Ban 3.75 266 ⇓P Pn 06 01 28.7 -0.7
SEV Sevastopol' 3.85 7 *e*P Pn 06 01 31.6 +1.0
SEV *e*S Sn 06 02 15.5 -0.7
SEV Sevastopol' 3.85 7 *e*P Pn 06 01 31.6 +1.0
SEV Pm 06 01 41.3
comp=Z,59nm,0.4s
SEV *e*S Sn 06 02 15.5 -0.7
SEV Sm 06 02 23.9
comp=N,59nm,0.3s
SEV Sm 06 02 23.9
comp=E,80nm,0.4s
YAL Yalta 3.85 12 *e*P Pn 06 01 31.5 +0.8
YAL *e*S Sn 06 02 15.2 -1.1
YAL Yalta 3.85 12 *e*P Pn 06 01 31.5 +0.8
YAL Pm 06 01 40.0
comp=Z,116nm,0.5s
YAL *e*S Sn 06 02 15.2 -1.1
YAL Sm 06 02 17.8
comp=N,531nm,0.7s
YAL Sm 06 02 17.8
comp=E,206nm,0.4s
ALU Alushta 4.09 14 *e*P Pn 06 01 34.6 +0.7
ALU *e*S Sn 06 02 21.4 -0.6
ALU Alushta 4.09 14 *e*P Pn 06 01 34.6 +0.7
ALU Pm 06 01 38.4
comp=Z,72nm,0.3s
ALU *e*S Sn 06 02 21.4 -0.6
ALU Sm 06 02 30.5
comp=N,180nm,0.6s
ALU Sm 06 02 30.5
comp=E,14nm,0.3s
MANT Manisa 4.09 238 Pn 06 01 33.9 -0.3
PHSR Pinarhisar 4.23 284 ⇓P Pn 06 01 37.4 +1.5
SIM Simferopol' 4.30 11 *e*P Pn 06 01 38.1 +1.2
SIM *e*S Sn 06 02 25.8 -1.5
SIM pmax pmax
comp=Z,257nm,0.7s
SIM smax smax
comp=E,484nm,0.9s
SIM smax smax
comp=N,818nm,0.8s
SIM Simferopol' 4.30 11 *e*P Pn 06 01 38.3 +1.4
SIM Pm 06 01 46.1
comp=Z,240nm,0.5s
SIM *e*S Sn 06 02 27.5 +0.2
SIM Sm 06 02 30.0
comp=N,1µm,0.9s
SIM Sm 06 02 30.0
comp=E,357nm,0.9s
KALB Balgarevo 4.34 310 ⇑P Pn 06 01 38.5 +1.2
SUDU Sudak 4.41 19 *e*P Pn 06 01 38.3 -0.1
SUDU *e*S Sn 06 02 29.0 -1.1
SUDU Sudak 4.41 19 *e*P Pn 06 01 38.3 -0.1
SUDU Pm 06 01 48.4
comp=Z,171nm,0.4s
SUDU *e*S Sn 06 02 29.0 -1.1
SUDU Sm 06 02 36.2
comp=N,640nm,0.7s
SUDU Sm 06 02 36.3
comp=E,328nm,0.7s
MANR Mangalia 4.50 315 ⇑P Pn 06 01 38.4 -1.2
FEO Feodosiya 4.64 21 *e*P Pn 06 01 43.5 +2.0
FEO *e*S Sn 06 02 37.0 +1.4
FEO Feodosiya 4.64 21 *e*P Pn 06 01 43.5 +2.0
FEO Pm 06 01 47.3
comp=Z,88nm,0.3s
FEO *e*S Sn 06 02 37.0 +1.4
FEO Sm 06 02 45.6
comp=N,162nm,0.4s
FEO Sm 06 02 45.6
comp=E,43nm,0.3s
PSN Preselentsi 4.64 310 P Pn 06 01 41.2 -0.3
DNZ2 Donuzlav2 4.65 2 *e*P Pn 06 01 43.3 +1.7
DNZ2 Pm 06 01 49.4
comp=Z,591nm,0.6s
DNZ2 *e*S Sn 06 02 34.5 -1.4
DNZ2 Sm 06 02 38.6
comp=N,410nm,0.8s
DNZ2 Sm 06 02 38.6
comp=E,958nm,0.8s
ELL Elmali 4.65 212 Pn Pn 06 01 42.3 +0.5
ELL Elmali 4.65 212 P Pn 06 01 42.3 +0.5
EFOR EFORIE 4.66 317 ⇑P Pn 06 01 42.2 +0.5
TARU Tarkhankut 4.66 356 *e*P Pn 06 01 42.6 +0.8
TARU Pm 06 01 49.8
comp=Z,375nm,0.9s
TARU *e*S Sn 06 02 34.3 -1.9
TARU Sm 06 02 38.0
comp=N,372nm,0.7s
TARU Sm 06 02 38.0
comp=E,267nm,0.7s
PRD Provadia 4.83 302 *e*P Pn 06 01 46.0 +1.9
MFTR Murfatlar 4.83 317 ⇓P Pn 06 01 43.3 -0.9
GAZ Gaziantep 4.83 136 Pn 06 01 45.2 +0.9
NEF NEVSHA 4.96 303 *e*P Pn 06 01 47.1 +1.1
TIRR Tirgusor 5.04 319 Pn 06 01 46.0 -0.9
TIRR Tirgusor 5.04 319 ⇑P Pn 06 01 46.9 -0.1
TIRR Tirgusor 5.04 319 P Pn 06 01 46.8 -0.1
JURR Jurilovca 5.05 324 ⇓P Pn 06 01 46.3 -0.9
ICOR Ion Corvin 5.13 313 ⇑P Pn 06 01 48.9 +0.7
JMB Yambol 5.16 292 *e*P Pn 06 01 51.3 +2.6
EZN Ezine 5.18 262 P Pn 06 01 49.5 +0.5
EZN S Pg 06 02 08.4 -1.8
EZN Ezine 5.18 262 ⇑P Pn 06 01 49.8 +0.8
EZN Ezine 5.18 262 P Pn 06 01 49.2 +0.2
CAVK Edirne/Enez-Ca 5.19 272 ⇓P Pn 06 01 51.0 +1.8
AKAS Kas 5.22 212 Pn 06 01 49.7 +0.1
ANN Anapa 5.22 37 *e*P Pn 06 01 48.3 -1.2
ANN *e*S Sn 06 02 48.8 -1.1
ANN pmax pmax
comp=Z,64nm,0.7s
ANN MLR MLR
comp=E,3µm,12.0s

ANN MLR MLR
comp=N,2µm,14.0s
ANN MLR MLR
comp=Z,2µm,12.0s
KERU Kerch 5.24 28 *e*P Pn 06 01 54.3 +4.6
KERU Kerch 5.24 28 *e*P Pn 06 01 54.3 +4.6
KERU Pm 06 01 59.1
comp=Z,70nm,0.3s
ALN Alexandroupoli 5.28 274 Pn 06 01 50.8 +0.5
ALN Alexandroupoli 5.28 274 P Pn 06 01 54.6 +4.3
ALN S Pg 06 02 14.4 +2.4
ALN Alexandroupoli 5.28 274 P Pn 06 01 50.8 +0.5
TPGR Topolog 5.33 322 ⇓P Pn 06 01 51.4 +0.4
PRK Paraskevi 5.37 256 P Pn 06 01 52.2 +0.6
PRK S Pg 06 02 13.2 -0.7
TLCR 5.41 327 ⇑P Pn 06 01 52.5 +0.4
TLCR 5.41 327 P Pn 06 01 52.5 +0.4
GADA Gvkgeada 5.44 267 P Pn 06 01 52.7 +0.1
HARR Harsova 5.44 318 ⇓P Pn 06 01 52.1 -0.5
HARR Harsova 5.44 318 P Pn 06 01 52.0 -0.5
LOZB Loznitsa 5.45 301 ⇑P Pn 06 01 53.6 +0.9
RDO Rodhopi 5.67 277 Pn Pn 06 01 54.9 -0.8
SMTH Samothraki Isl 5.69 270 P Pn 06 01 54.9 -1.1
SMTH S Pg 06 02 16.8 -3.2
SIGR SIGRI 5.69 257 P Pn 06 01 55.8 -0.2
SIGR S Pg 06 02 17.0 -3.0
CFR Carcaliu 5.70 323 ⇓P Pn 06 01 56.6 +0.4
CFR Carcaliu 5.70 323 P Pn 06 01 56.5 +0.4
DIM Dimitrovgrad 5.74 286 *e*P Pn 06 01 57.2 +0.6
SOC Sochi 5.75 58 *e*P Pn 06 01 55.6 -1.2
SOC *e* 06 03 03.9
SOC pmax pmax
comp=Z,46nm,1.0s
SOC MLR MLR
comp=Z,685nm,14.0s
ELND Elena 5.76 295 ⇑P Pn 06 01 56.9 0.0
CSS Mathiatis 5.76 177 Pn Pn 06 01 57.9 +0.9
SZH Strazhitsa 5.81 298 *e*P Pn 06 01 56.6 -1.1
KDZ Kurdzhali 5.85 281 P Pn 06 01 57.2 -1.0
VSLR Vesyoloye 5.90 60 *i* P Pn 06 01 58.7 -0.2
ARG Arkhangelos 5.91 222 Pn 06 01 59.7 +0.8
ARG Arkhangelos 5.91 222 P Pn 06 01 59.7 +0.8
GIUM Giurgiulesti 5.91 325 ⇑P Pn 06 01 59.0 +0.1
NEGRR Negrea 6.09 324 ⇑P Pn 06 02 02.5 +1.0
NE56 Odesa 6.14 346 Pn Pn 06 02 02.0 -0.1
RZN Rozhen 6.30 282 P Pn 06 02 04.0 -0.6
GRER 6.41 319 ⇑P Pn 06 02 06.3 +0.5
ISR Istrita 6.46 315 ⇑P Pn 06 02 07.4 +0.7
ISR Istrita 6.46 315 P Pn 06 02 07.3 +0.7
ISR Istrita 6.46 315 Pn Pn 06 02 07.3 +0.7
comp=Z,1.4nmcomp=Z,4µmcomp=Z,352nm,0.8s
ODBI Odobesti 6.64 321 Pn Pn 06 02 09.5 +0.4
comp=Z,0.5nmcomp=Z,1µmcomp=Z,127nm,0.9s
BISRR Bisoca 6.66 318 ⇑P Pn 06 02 10.0 +0.6
BISRR Bisoca 6.66 318 Pn Pn 06 02 10.0 +0.6
comp=Z,2.3nmcomp=Z,5µmcomp=Z,400nm,0.8s
BEIL Beino 6.67 157 *e*P Pn 06 02 11.3 +1.8
PANC Panciu 6.68 322 ⇑P Pn 06 02 10.0 +0.5
GHRR 6.71 324 ⇓P Pn 06 02 10.4 +0.5
GHRR 6.71 324 Pn Pn 06 02 10.5 +0.6
BIR Birlad 6.78 327 ⇑P Pn 06 02 11.1 +0.2
BIR Birlad 6.78 327 P Pn 06 02 11.0 +0.2
PLVB Pleven 6.78 296 ⇑P Pn 06 02 11.8 +0.9
NEHR Nehoiu 6.79 316 ⇑P Pn 06 02 12.0 +0.9
VRI Vrincioaia 6.88 320 ⇓P Pn 06 02 12.1 -0.2
VRI Vrincioaia 6.88 320 P Pn 06 02 12.1 -0.2
VRI Vrincioaia 6.88 320 Pn Pn 06 02 12.6 +0.3
comp=Z,0.5nmcomp=Z,1µmcomp=Z,120nm,1.0s
MILM Milestii Mici 6.89 335 *e*P Pn 06 02 11.0 -1.4
comp=Z,200nm,1.3s
MILM *i* S Sn 06 03 29.0 -2.1
MILM *e*L L 06 09 07.0
MILM LRM MLR 06 09 24.0
comp=Z,2µm,17.0s
MILM Milestii Mici 6.89 335 *e*P Pn 06 02 11.0 -1.4
MILM *i* S Sn 06 03 29.0 -2.1
MILM pmax pmax
comp=Z,200nm,1.3s
PLOR5 Plostina Array 6.89 320 Pn Pn 06 02 12.3 -0.2
comp=Z,0.5nmcomp=Z,129nm,1.0s
PLOR Plostina 6.90 320 ⇓P Pn 06 02 12.9 +0.2
PLOR Plostina 6.90 320 P Pn 06 02 12.8 +0.2
KARP Karpathos 6.92 224 Pn Pn 06 02 12.8 -0.2
KARP Karpathos 6.92 224 Pn Pn 06 02 12.1 -0.8
comp=Z,0.8nmcomp=Z,131nm,1.1s
MARD Mardin 6.95 117 Pn Pn 06 02 13.2 -0.3
KIS Kishinev 6.96 336 *e*P Pn 06 02 14.0 +0.6
KIS *e*S Sn 06 03 31.0 -1.8
KIS *e*L L 06 09 03.0
KIS LgM 06 09 17.0
comp=Z,1µm,12.0s
KIS LRM MLR 06 09 35.0
comp=Z,650nm,13.5s
KIS Kishinev 6.96 336 *e*P Pn 06 02 14.0 +0.6
KIS *e*S Sn 06 03 31.0 -1.8
VASR Vaslui 7.01 329 ⇑P Pn 06 02 14.4 +0.3
FKH Fakeheh 7.01 156 *e*P Pn 06 02 16.8 +2.5
MLR Muntele Rosu 7.02 315 Pn Pn 06 02 14.0 -0.4
MLR Muntele Rosu 7.02 315 Pn Pn 06 02 14.2 -0.2
comp=Z,0.8nm,0.3s,baz=135,slow=8.6,SNR=13
MLR Sn Sn 06 03 31.3 -3.2
baz=126,slow=18
comp=Z,12nm,0.7s
MLR Muntele Rosu 7.02 315 ⇑P Pn 06 02 15.0 +0.6
MLR Muntele Rosu 7.02 315 P Pn 06 02 15.0 +0.6
MLR Muntele Rosu 7.02 315 Pn Pn 06 02 14.9 +0.5
comp=Z,0.4nmcomp=Z,1µmcomp=Z,99nm,0.7s
HUMR Humele 7.03 305 ⇑P Pn 06 02 15.4 +1.1
COVR Voineasa-Covas 7.12 318 ⇓P Pn 06 02 16.2 +0.5
TURR Turia 7.36 319 ⇓P Pn 06 02 19.2 +0.3
MPEP Malo Peshtene 7.38 294 *e*P Pn 06 02 20.9 +1.8
ONER Baraj Valea Uz 7.38 322 ⇑P Pn 06 02 20.3 +1.1
TESR Tescani 7.39 324 ⇑P Pn 06 02 19.7 +0.4
TESR Tescani 7.39 324 Pn Pn 06 02 19.5 +0.2
comp=Z,0.4nmcomp=Z,2µmcomp=Z,67nm,0.6s
ERBR Yeremizino-Bor 7.40 45 *e*P Pn 06 02 19.3 -0.1
ERBR *e*S Sn 06 03 42.5 -1.1
ERBR pmax pmax
comp=Z,123nm,1.0s
QRWL Qaraoun 7.48 163 *e*P Pn 06 02 22.4 +1.7
OZUR 7.51 318 ⇓P Pn 06 02 20.8 -0.1
BOSR Bodos 7.56 317 ⇑P Pn 06 02 21.4 -0.2
RCY Rachaya 7.56 162 *e*P Pn 06 02 23.7 +1.8
DOPR Dopca 7.63 316 ⇓P Pn 06 02 22.6 0.0
ARR Arges 7.68 310 ⇓P Pn 06 02 24.5 +1.2
SHBL Chebaa 7.68 163 *e*P Pn 06 02 25.5 +2.0
VALD Valchedram 7.69 296 *e*P Pn 06 02 31.1 +7.7
SHA1 Shidzhatmaz 7.77 64 *i* P Pn 06 02 24.3 -0.5
KIV Kislovodsk 7.87 63 Pn Pn 06 02 26.4 +0.4
KIV Kislovodsk 7.87 63 ⇓P Pn 06 02 27.1 +1.1
KIV Kislovodsk 7.87 63 *e*P Pn 06 02 26.3 +0.4
KIV *e*S Sn 06 03 56.4 +1.1
KIV pmax pmax
comp=Z,29nm,1.1s
KIV MLR MLR
comp=Z,523nm,12.0s
KVAR Kislovodsk Arr 7.87 63 Pn Pn 06 02 27.3 +1.3
baz=270,slow=20
comp=Z,3.3nm,0.4s
VAY Valandovo 7.91 278 *i* Pn Pn 06 02 28.1 +1.7
MMAI Mount Meron Ar 7.93 165 Pn Pn 06 02 28.4 +1.5
comp=Z,2.3nm,0.3s,baz=353,slow=10,SNR=22
MMAI Sn Sn 06 03 53.8 -3.2
baz=347,slow=16
comp=Z,19nm,0.8s
KBZ Khabaz 7.93 65 Pn Pn 06 02 27.4 +0.7
comp=Z,0.3nm,0.3s,baz=252,slow=13,SNR=5.4
KBZ Sn Sn 06 03 58.3 +1.5
comp=Z,0.2nm,0.3s,baz=238,slow=13,SNR=1.4
comp=Z,3.9nm,0.7s
KBZ Khabaz 7.93 65 *ce*P Pn 06 02 26.7 0.0
LIT Litokhoron 8.04 269 Pn Pn 06 02 28.0 -0.3
LIT Litokhoron 8.04 269 P Pn 06 02 28.0 -0.3
SORM Soroca 8.12 337 ⇑P Pn 06 02 27.8 -1.5
SORM Soroca 8.12 337 P Pn 06 02 27.9 -1.4
LOT Lotru 8.24 308 ⇓P Pn 06 02 31.7 +0.7
MDB Medias 8.28 314 ⇑P Pn 06 02 32.1 +0.6
MDB Medias 8.28 314 P Pn 06 02 32.1 +0.6
NCK Nalchik 8.35 67 *i* P Pn 06 02 33.0 +0.5
IDI Anoyia 8.39 232 Pn Pn 06 02 34.1 +0.9
IDI Anoyia 8.39 232 Pn Pn 06 02 34.4 +1.3
comp=Z,35nm,0.9s,baz=40,slow=18,SNR=9.1
GOF Gofitskoye 8.55 56 *ce*P Pn 06 02 52.2 +17

DJES Djerdap 8.66 300 ⇓P **Pn 06 02 37.9 +1.2**
GZR Gura Zlata 8.81 305 ⇑P **Pn 06 02 39.1 +0.2**
GZR Gura Zlata 8.81 305 P **Pn 06 02 39.1 +0.2**
HERR Herculane 8.82 302 ⇓P **Pn 06 02 39.8 +0.9**
BURAR Bucovina Array 8.87 324 Pn **Pn 06 02 39.1 -0.5**
BURAR Bucovina Array 8.87 324 ⇑P **Pn 06 02 39.5 -0.2**
BURAR Bucovina Array 8.87 324 P **Pn 06 02 39.4 -0.2**
BOVS Bovan 8.87 293 ⇑P **Pn 06 02 40.8 +1.1**
BUR08 Bucovina Ar. S 8.90 324 Pn **Pn 06 02 39.1 -1.0**
ARCR ARCALIA 8.90 318 ⇑P **Pn 06 02 40.6 +0.5**
GNI Garni 8.97 90 *i* P Pn 06 02 47.9 +6.7
comp=Z,0.8nm,0.3s,baz=233,slow=20,SNR=10
GNI Garni 8.97 90 *i* P **Pn 06 02 42.9 +1.7**
DEV Deva 8.98 308 ⇓P **Pn 06 02 42.4 +1.3**
DEV Deva 8.98 308 P **Pn 06 02 42.4 +1.3**
CJR Cluj-Napoca 9.06 314 ⇑P **Pn 06 02 42.7 +0.5**
CJR Cluj-Napoca 9.06 314 P **Pn 06 02 42.7 +0.5**
ASF Jabal al Asfar 9.10 159 Pn **Pn 06 02 41.2 -1.6**
comp=Z,0.6nm,0.3s,baz=358,slow=0.8,SNR=6.6
comp=Z,7.3nm,0.8s
MDVR Moldovita 9.24 300 ⇑P **Pn 06 02 44.6 -0.1**
MARR Marisel-Cluj 9.30 313 ⇓P **Pn 06 02 45.1 -0.5**
SURR Surduc 9.39 306 ⇑P **Pn 06 02 47.9 +1.2**
KSV Kosov 9.46 326 Pn **Pn 06 02 45.8 -1.9**
DRGR 9.60 313 ⇓P **Pn 06 02 50.3 +0.7**
DRGR 9.60 313 P **Pn 06 02 50.3 +0.7**
BZS Buzias 9.64 304 ⇑P **Pn 06 02 49.8 -0.4**
BZS Buzias 9.64 304 P **Pn 06 02 49.7 -0.4**
MESR Meseseni 9.68 315 ⇑P **Pn 06 02 51.2 +0.6**
BMR Baia Mare 9.73 319 ⇑P **Pn 06 02 50.6 -0.8**
BMR Baia Mare 9.73 319 P **Pn 06 02 50.6 -0.8**
LUBAR Lubar, Ukraine 9.90 340 Pn **Pn 06 02 51.5 -2.2**
SIRR Siria 9.92 308 ⇑P **Pn 06 02 53.9 -0.2**
STNU Starunia 10.01 326 Pn **Pn 06 02 53.1 -2.1**
KIEV Kiev 10.31 346 ⇑P **Pn 06 02 56.5 -2.9**
KIEV Kiev 10.31 346 P **Pn 06 02 56.4 -2.9**
AKASG Malin Array Be 10.32 346 Pn **Pn 06 02 56.4 -3.0**
comp=Z,2.8nm,0.3s,baz=162,slow=13,SNR=12
AKASG Sn **Sn 06 04 49.3 -6.0**
comp=Z,5.1nm,0.3s,baz=154,slow=25,SNR=5.5
comp=Z,7.0nm,0.6s
AKBB Malin Array Si 10.32 346 *i* P **Pn 06 02 56.0 -3.4**
MUKU Mukachevo 10.66 320 Pn **Pn 06 03 03.8 -0.3**
HOLU Holmets 10.86 319 Pn **Pn 06 03 06.4 -0.4**
SHIU Shidnytsya 10.89 324 Pn **Pn 06 03 07.4 +0.1**
MAK Makhachkala 11.05 74*c i* P Pn 06 03 04.3 -5.2
MAK pmax pmax
comp=Z,41nm,0.5s
MAK MLR MLR
comp=Z,930nm,9.0s
VORD Divnogorie 11.14 21 *eP* **Pn 06 03 14.4 +3.8**
VORD pmax pmax
comp=Z,10.0nm,1.0s
AKT Akhty 11.14 81 *eP* **Pn 06 03 12.0 +1.1**
AKT pmax pmax
comp=Z,10.0nm,0.9s
AKT MLR MLR
comp=Z,539nm,11.0s
EIL Elat 11.15 171 Pn **Pn 06 03 11.3 +0.5**
comp=Z,0.1nm,0.3s,baz=341,slow=14,SNR=4.3
comp=Z,7.8nm,1.0s
KOLS Kolonicke sedl 11.19 321 *eP* **Pn 06 03 14.1 +2.8**
VSR Storozhevoye 11.33 20 *eP* **Pn 06 03 15.6 +2.4**
VSR pmax pmax
comp=Z,9.0nm,0.8s
KWP Kalwaria Pacla 11.48 324 *eP* **Pn 06 03 13.8 -1.6**
VORR Voronezh 11.76 19 *eP* **Pn 06 03 22.4 +3.3**
VORR pmax pmax
comp=Z,20nm,1.0s
MORH Mrgy, Hungar 11.78 303 ⇑P **Pn 06 03 20.5 +1.1**
PSZ Piszkesteto 11.81 312 Pn **Pn 06 03 19.9 0.0**
PSZ Piszkesteto 11.81 312 P **Pn 06 03 20.0 0.0**
STHS Stebnicka Huta 12.01 320 *eP* **Pn 06 03 20.9 -1.7**
VRH Novokhopyorsk 12.10 27 *eP* **Pn 06 03 24.7 +1.0**
VRH pmax pmax
comp=Z,30nm,1.0s
NIE Niedzica 12.48 318 *eP* **Pn 06 03 28.3 -0.7**
NIE Niedzica 12.48 318 Pn **Pn 06 03 28.3 -0.7**
comp=Z,15nm,1.6s
LPSR Galich'ya Gora 12.55 17 *eP* **Pn 06 03 26.4 -3.5**
LPSR pmax pmax
comp=Z,40nm,0.9s
OJC Ojcow 13.24 320 *eP* **Pn 06 03 36.9 -2.5**
RONA Rosalia, Austr 13.85 306 *ePn* **Pn 06 03 51.0 +3.3**
comp=Z,13nm,1.4s
OKC Ostrava-Krasne 13.85 316 AMS AMS 06 14 30.0
comp=Z,1μm,12.8s
ARSA Arzberg 14.16 303 *i* Pn **Pn 06 03 55.3 +3.3**
comp=Z,14nm,1.0s
MNK Minsk 14.20 348 *i* P **Pn 06 03 52.5 +0.1**
comp=E,21nm,1.0s
MNK *i* P **Pn 06 03 52.5 +0.1**
comp=N,44nm,1.2s
MNK *i* P **Pn 06 03 52.5 +0.1**
comp=Z,49nm,0.9s,baz=163
MNK *i* PP **PnPn 06 04 01.6 +1.3**
MNK *i* PPP PPP 06 04 08.5
MNK *i* S **Sn 06 06 30.5 +0.3**
MNK *i* SS S 06 07 01.0 +10
MNK *i* LR LR 06 09 05.8
MNK Minsk 14.20 348 *i* P **Pn 06 03 52.5 +0.1**
MNK *i* S **Sn 06 06 30.5 +0.3**
MNK pmax pmax
comp=E,21nm,1.0s
MNK pmax pmax
comp=N,44nm,1.2s
MNK pmax pmax
comp=Z,49nm,0.9s
MNK MLR MLR
comp=E,704nm,17.0s
MNK MLR MLR
comp=Z,654nm,17.0s
CONA Conrad Observa 14.21 306 *ePn* **Pn 06 03 54.9 +2.2**
comp=Z,12nm,1.3s
SOKA Soboth 14.28 301 *ePn* **Pn 06 03 55.2 +1.5**
comp=Z,8.1nm,1.0s
VRAC Vranov 14.41 312 Pn **Pn 06 03 55.3 0.0**
comp=Z,0.4nm,0.3s,baz=127,slow=10,SNR=2.1
comp=Z,1.5nm,0.4s
OBKA Obir 14.55 300 *ePn* **Pn 06 03 58.4 +1.1**
comp=Z,8.9nm,1.3s
OBN Obninsk 14.59 8 Pn **Pn 06 03 58.3 +0.5**
baz=174,slow=18
OBN Obninsk 14.59 8 *eP* **Pn 06 03 56.8 -1.0**
OBN pmax pmax
comp=Z,30nm,1.0s
OBN MLR MLR
comp=Z,275nm,5.0s
KRLC Kraliky 14.71 315 AMS AMS 06 13 20.0
comp=Z,1μm,13.7s
NACGM Naroch 14.78 346 *eP* **Pn 06 04 01.6 +1.3**
comp=Z,42nm,0.9s,baz=161
SUW Suwalki 14.84 337 *eP* Pn 06 03 54.9 -6.3
TREC Trest 15.03 311 AMS AMS 06 14 00.0
comp=Z,2μm,16.2s
SABO M.te Sabotino 15.05 297 Pn **Pn 06 04 03.6 -0.4**
SABO IAmb IAmb 06 04 14.7
comp=Z,20nm,1.0s
DPC Dobruska-Polom 15.11 315 *eP* P 06 04 17.5 +7.3
DPC MLR MLR
comp=Z,2μm,12.9s
DPC Dobruska-Polom 15.11 315 *eP* P 06 04 17.5 +7.3
DPC AMS AMS 06 13 30.0
comp=Z,2μm,12.9s
MOA Molln 15.17 304 *i* Pn **Pn 06 04 03.5 -2.1**
comp=Z,13nm,1.4s
MYKA Terra Mystica 15.18 299 *ePn* **Pn 06 04 06.3 +0.4**
comp=Z,6.8nm,1.0s
OSTC Ostas 15.28 316 AMS AMS 06 14 40.0
comp=Z,2μm,11.9s
MOS Moscow 15.33 10 *eP* **Pn 06 04 07.1 -0.6**
MOS pmax pmax
comp=Z,58nm,1.0s
MOS MLR MLR
comp=Z,1μm,15.0s
UPC Upice 15.36 315 AMS AMS 06 14 20.0
comp=Z,2μm,13.9s
BELG Belogornoye 15.37 36 Pn **Pn 06 04 06.3 -1.9**
comp=Z,2.3nm,0.3s,baz=193,slow=8.0,SNR=17
comp=Z,46nm,0.8s
BELG Belogornoye 15.37 36 *i* P **Pn 06 04 07.1 -1.1**
BELG pmax pmax
comp=Z,13nm,1.1s
CHVC Chvalec 15.38 316 AMS AMS 06 14 10.0
comp=Z,2μm,14.7s

KSP Ksiaz 15.40 317 *eP* **P 06 04 17.6 +4.3**
KBA Koelnbreinsper 15.51 301 *ePn* **Pn 06 04 10.4 +0.2**
comp=Z,12nm,1.0s
CKRC Cesky Krumlov 15.52 308 AMS AMS 06 13 30.0
comp=Z,1μm,18.1s
ZVC Zvikov 15.85 310 AMS AMS 06 13 50.0
comp=Z,2μm,13.4s
GEC2 GERESS Array S 15.89 307 **Pn 06 04 13.0 -2.2**
GERES GERESS Array B 15.89 307 Pn **Pn 06 04 15.0 -0.2**
comp=Z,17nm,0.9s,baz=119,slow=12,SNR=9.0
PRU Pruhonice 15.90 312 AMS AMS 06 14 40.0
comp=Z,2μm,13.7s
PABE Paberze 15.95 341 Pn **Pn 06 04 13.8 -1.9**
PRA Prague 16.00 312 AMS AMS 06 14 30.0
comp=Z,2μm,14.1s
LESA Schwarzleotal 16.04 301 *ePn* **Pn 06 04 17.7 +0.6**
comp=Z,6.0nm,1.0s
KHC Kasperske Hory 16.08 308 *i* P **Pn 06 04 17.3 -0.3**
KHC pmax pmax
comp=Z,5.0nm,1.4s
KHC Kasperske Hory 16.08 308 *eP* **P 06 04 21.6 +0.6**
KHC *eS* Sn 06 07 03.5 -13
KHC AMS AMS 06 15 00.0
comp=Z,1μm,15.2s
PVCC Panska Ves 16.15 314 AMS AMS 06 13 30.0
comp=Z,1μm,14.8s
OSSC Osservatorio P 16.37 287 **Pn 06 04 19.7 -1.6**
CTI Castel Tesino 16.39 296 **Pn 06 04 20.6 -0.9**
CTI Castel Tesino 16.39 296 P **Pn 06 04 20.7 -0.9**
CTI pmax pmax
comp=Z,13nm,1.0s
RICC Richard 16.42 313 AMS AMS 06 15 00.0
comp=Z,1μm,15.8s
GKP Gorka Klasztor 16.47 325 *eP* **Pn 06 04 16.8 -5.7**
BRG Berggiesshubel 16.67 314 *eP* **P 06 04 29.9 +2.4**
BRG Amp 06 04 31.7
comp=Z,7.9nm,1.2s
WTTA Wattenberg 16.68 300 *ePn* **P 06 04 27.7 0.0**
comp=Z,13nm,0.9s
WATA Walderalm 16.73 300 *ePn* **Pn 06 04 27.2 +1.2**
comp=Z,18nm,1.1s
SQTA Sankt Quirin 16.95 300 *ePn* **P 06 04 30.8 +0.1**
comp=Z,22nm,1.4s
MOTA Moosalm 17.05 300 *ePn* **P 06 04 32.7 +0.9**
comp=Z,8.3nm,1.1s
FETA Feichten 17.22 299 *ePn* **P 06 04 34.3 +0.6**
comp=Z,11nm,0.7s
RETA Reutte 17.31 300 *ePn* **Pn 06 04 33.5 +0.3**
comp=Z,11nm,1.5s
CLL Collm 17.40 314 *i* P **P 06 04 35.2 -0.3**
CLL pmax pmax
comp=Z,13nm,1.5s
CLL Collm 17.40 314 *i* P **P 06 04 35.2 -0.3**
comp=Z,13nm,1.5s
CLL *i* sP **sP 06 04 39.1 +0.4**
comp=Z,34nm,1.7s
CLL LmH 06 11 00.0
comp=N,1μm,18.2s
CLL LmH 06 11 00.0
comp=E,1μm,20.3s
DAVOX Davos/Dischmat 17.73 298 P **Pn 06 04 36.9 -1.7**
comp=E,0.3nm,0.3s,baz=111,slow=15,SNR=5.6
comp=E,1.8nm,0.6s
DAVA Damuels 17.84 299 *ePn* **P 06 04 41.6 +1.0**
comp=E,32nm,1.1s
TUE Stuetta 18.04 296 P **Pn 06 04 41.9 -0.4**
VSU Vasula 18.20 349*ceP* **P 06 04 45.0 +0.8**
VSU pmax pmax
comp=Z,139nm,1.7s
BFO Black Forest 19.11 302 P **P 06 04 53.6 -0.7**
BFO IAmb IAmb 06 05 03.1
comp=Z,31nm,1.3s
BFO Black Forest 19.11 302 P **P 06 04 53.6 -0.7**
BFO pmax pmax
comp=Z,31nm,1.3s
KEST Kesra 19.22 263 P **Pn 06 04 56.4 -0.3**
comp=Z,0.4nm,0.3s,baz=68,slow=10,SNR=15
comp=Z,15nm,0.8s
SENIN Lac Senin/Sane 19.42 295 P **P 06 04 58.0 0.0**
SENIN IAmb IAmb 06 05 02.0
comp=Z,13nm,0.8s
BNI Bardonecchia 19.73 291 P **P 06 05 01.0 -0.3**
BNI IAmb IAmb 06 05 17.9
comp=Z,51nm,1.4s
BNI Bardonecchia 19.73 291 P **P 06 05 01.0 -0.3**
BNI pmax pmax
comp=Z,51nm,1.4s
ECH Echery 19.84 301 P **P 06 05 02.4 0.0**
ECH IAmb IAmb 06 05 10.5
comp=Z,29nm,1.1s
ECH Echery 19.84 301 P **P 06 05 02.4 0.0**
ECH pmax pmax
comp=Z,29nm,1.1s
AKTO Aktyubinsk 19.94 52 P **P 06 05 03.9 +0.5**
comp=Z,2.2nm,0.3s,baz=254,slow=9.3,SNR=123
comp=Z,67nm,0.8s
RAYN Ar Rayn 20.12 145 P **P 06 05 05.6 0.0**
RAYN IAmb IAmb 06 05 13.4
comp=Z,17nm,1.2s
RAYN Ar Rayn 20.12 145 P **P 06 05 05.6 0.0**
RAYN pmax pmax
comp=Z,17nm,1.2s
KLMR Klimovskoe 20.55 9 *eP* **P 06 05 09.5 -0.4**
KLMR pmax pmax
comp=Z,54nm,1.4s
KIRV Kirov 20.69 25 P **P 06 05 11.6 +0.1**
comp=Z,13nm,0.6s,baz=243,slow=6.8,SNR=5.6
comp=Z,13nm,0.6s
KIRV Kirov 20.69 25*ceP* **P 06 05 12.4 +0.9**
AB31 Akbulak array 20.79 57 P **P 06 05 12.9 +0.2**
AB31 IAmb IAmb 06 05 54.7
comp=Z,23nm,1.4s
AB31 Akbulak array 20.79 57 *i* P **P 06 05 13.6 +0.9**
ABKAR Akbulak array 20.79 57 P **P 06 05 12.9 +0.2**
WLF Walferdange 20.83 304 *dP* **P 06 05 13.6 +0.5**
BTNL Ternell 21.11 307 *dP* **P 06 05 16.3 +0.2**
comp=Z,7.7nm,1.2s
BHOU Houvegnez 21.11 306 *dP* **P 06 05 16.8 +0.7**
comp=Z,15nm,1.2s
FIA1 FINESS Array S 21.17 351 P **P 06 05 16.8 +0.1**
FINES FINESS Array B 21.17 351 P **P 06 05 17.2 +0.6**
comp=Z,4.3nm,0.6s,baz=164,slow=12,SNR=21
comp=Z,4.3nm,0.6s
FINES FINESS Array B 21.17 351 *i* P **P 06 05 19.7 +3.1**
FINES pmax pmax
comp=Z,10.0nm,0.7s
MEM Membach 21.18 307 *dP* **P 06 05 19.8 +2.9**
comp=Z,9.1nm,1.3s
SSB Saint Sauveur 21.25 292 P **P 06 05 16.7 -1.0**
SSB Saint Sauveur 21.25 292 P **P 06 05 16.7 -1.0**
SSB pmax pmax
comp=Z,16nm,1.3s
RCHB Rochefort 21.54 305 *dP* **P 06 05 21.3 +0.6**
BCLA Clavier 21.56 306 *dP* **P 06 05 22.4 +1.5**
comp=Z,7.8nm,1.3s
BGES Gesves 21.69 306 *dP* **P 06 05 22.4 +0.1**
comp=Z,10nm,1.4s
BGES *d*PP **PnPn 06 05 42.2 -0.7**
BMRD Maredsous 21.86 305 *dP* **P 06 05 26.6 +2.4**
comp=Z,7.3nm,1.0s
DOU Dourbes 21.92 305 *dP* **P 06 05 26.1 +1.3**
comp=Z,5.2nm,1.2s
ARTI Arti 22.78 38 P **P 06 05 33.0 -0.9**
ARTI Arti 22.78 38 P **P 06 05 33.6 -0.3**
comp=Z,15nm,0.7s,baz=240,slow=8.5,SNR=13
comp=Z,15nm,0.7s
ARTI Arti 22.78 38*c i* P **P 06 05 32.9 -1.0**
ARTI 06 05 56.1
ARTI S **S 06 09 42.8 -0.3**
ARTI SS **SnSn 06 10 13.1 0.0**
ARTI pmax pmax
comp=Z,40nm,1.2s
HFS Hagfors 22.83 335 P **P 06 05 33.9 -0.6**
comp=Z,16nm,0.8s,baz=136,slow=11,SNR=12
comp=Z,16nm,0.8s
KONO Kongsberg 23.92 330*ceP* **P 06 05 46.9 +1.5**
KONO pmax pmax
comp=Z,72nm,1.7s
SVE Sverdlovsk 24.07 39 *eP* **P 06 05 47.2 +0.4**
SVE *eS* **S 06 10 03.7 -0.7**
SVE pmax pmax
comp=Z,35nm,1.0s
NB2 NORSAR Subarra 24.32 334 P **P 06 05 48.3 -0.9**
comp=Z,23nm,1.4s,baz=145,slow=10
NOA NORSAR Array B 24.32 334 P **P 06 05 49.2 0.0**
comp=Z,5.3nm,1.0s,baz=140,slow=9.8,SNR=6.3
comp=Z,5.3nm,1.0s
SIMJ Simiganj 27.67 82 P **P 06 06 19.4 -0.3**
SIMJ IAmb IAmb 06 06 28.6
comp=Z,11nm,1.4s
CHGR Chuyangaron 27.78 82 P **P 06 06 20.2 -0.5**
CHGR IAmb IAmb 06 06 57.7
comp=Z,12nm,0.8s
CHGR Chuyangaron 27.78 82 P **P 06 06 20.2 -0.5**
CHGR pmax pmax
comp=Z,12nm,0.8s
KK31 Karatay Array 27.87 73 P **P 06 06 21.1 -0.2**
KK31 IAmb IAmb 06 06 46.8
comp=Z,8.8nm,1.1s
KK31 Karatay Array 27.87 73 P **P 06 06 21.1 -0.2**
KK31 pmax pmax
comp=Z,9.0nm,1.1s
KKAR Karatay Array 27.87 73 P **P 06 06 20.9 -0.4**
KKAR Karatay Array 27.87 73 P **P 06 06 20.9 -0.4**
EKA Eskdalemuir Ar 27.87 314 P **P 06 06 21.1 -0.1**
comp=Z,1.7nm,0.6s,baz=109,slow=9.8,SNR=9.9
comp=Z,1.7nm,0.6s
BVAR Borovoye Array 28.03 51 P **P 06 06 23.9 +1.2**
comp=Z,2.3nm,0.8s,baz=252,slow=7.4,SNR=5.3
comp=Z,2.3nm,0.8s
ESDC Sonseca Array 28.12 280 P **P 06 06 21.9 -1.7**
comp=Z,1.1nm,0.8s,baz=80,slow=8.1,SNR=6.1
comp=Z,1.1nm,0.8s
GAR Garm 28.56 81 P **P 06 06 28.1 +0.4**
ARCES ARCESS Array B 29.14 355 P **P 06 06 31.6 -0.7**
comp=Z,3.0nm,0.6s,baz=170,slow=11,SNR=10
comp=Z,3.0nm,0.6s
KURBB Kurchatov Arra 32.85 57 P **P 06 07 04.3 -0.9**
comp=Z,6.0nm,0.7s,baz=277,slow=9.3,SNR=33
comp=Z,6.0nm,0.7s
KURK Kurchatov 32.90 57 P **P 06 07 05.7 0.0**
KURK IAmb IAmb 06 07 07.2
comp=Z,6.9nm,0.8s
KURK Kurchatov 32.90 57 P **P 06 07 05.7 0.0**
KURK pmax pmax
comp=Z,7.0nm,0.9s
MK31 Makanchi Array 35.63 63*ceP* **P 06 07 30.4 +1.0**
MKAR Makanchi Array 35.63 63 P **P 06 07 29.2 -0.3**
MKAR Makanchi Array 35.63 63 P **P 06 07 29.1 -0.4**
comp=Z,5.3nm,0.9s,baz=281,slow=7.4,SNR=31
comp=Z,5.3nm,0.9s
MKAR Makanchi Array 35.63 63 *i* P **P 06 07 30.3 +0.9**
MKAR pmax pmax
comp=Z,5.0nm,0.9s
ZAA0 Zalesovo Array 36.69 51 P **P 06 07 38.3 0.0**
ZAA0 IAmb IAmb 06 07 39.5
comp=Z,6.9nm,0.8s
ZALV Zalesovo Beam 36.69 51 P **P 06 07 37.7 -0.6**
ZALV Zalesovo Beam 36.69 51 P **P 06 07 38.5 +0.2**
comp=Z,5.5nm,0.7s,baz=267,slow=7.5,SNR=25
comp=Z,5.5nm,0.7s
SPITS Spitsbergen Ar 38.18 355 P **P 06 07 50.7 0.0**
comp=Z,9.1nm,0.9s,baz=157,slow=15,SNR=2.1
comp=Z,9.1nm,0.9s
TORD Torodi Ar. Bea 38.79 234 P **P 06 07 56.0 -0.5**
TORD Torodi Ar. Bea 38.79 234 P **P 06 07 54.9 -1.6**
comp=Z,6.0nm,0.9s,baz=34,slow=10,SNR=18
TORD PcP **PcP 06 10 06.6 -1.3**
comp=Z,0.6nm,0.8s,baz=24,slow=2.7,SNR=2.1
comp=Z,6.0nm,0.9s
WMQ Urumqi 39.97 67 *eP* **P 06 08 08.8 +2.6**
WMQ LR LR
comp=Z,630nm,18.7s
WMQ LR LR
comp=Z,890nm,20.7s
WMQ LR LR
comp=Z,760nm,17.7s
CMLA Cha da Macela 44.70 286 *i* P **P 06 08 44.0 -0.7**
ZAK Zakamensk 48.44 54 *eP* **P 06 09 13.5 -0.5**
ZAK pmax pmax
comp=Z,7.0nm,1.5s
GTA Gaotai 50.00 68 *eP* **P 06 09 26.4 +0.2**
GTA pP sP 06 09 33.4 +4.0
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA LR LR
comp=Z,470nm,20.0s
GTA LR LR
comp=Z,350nm,20.4s
GTA LR LR
comp=Z,490nm,20.0s
SONM Songino Array 51.20 56 P **P 06 09 35.7 +0.6**
SONM IAmb IAmb 06 09 36.9
comp=Z,3.2nm,0.9s
SONM Songino Array 51.20 56 P **P 06 09 36.2 +1.1**
comp=Z,2.6nm,0.7s,baz=292,slow=7.8,SNR=9.5
comp=Z,2.6nm,0.7s
SONM Songino Array 51.20 56 P **P 06 09 35.7 +0.6**
SONM pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 51.60 56*ceP* **P 06 09 39.4 +1.3**
ULN pmax pmax
comp=Z,12nm,1.7s
LZH Lanzhou 54.33 70 *eP* P 06 10 06.8 +8.4
LZH pP sP 06 10 12.6 +11
LZH pmax pmax
comp=Z,32nm,1.5s
LZH LR LR
comp=N,580nm,18.2s
LZH LR LR
comp=E,380nm,19.6s
LZH LR LR
comp=Z,620nm,20.0s
BTO Baotou 56.54 63 *eP* **P 06 10 13.5 -0.7**
BTO S **S 06 18 05.8 -0.4**
BTO pmax pmax
comp=Z,12nm,0.5s
BTO pmax pmax
comp=Z,240nm,5.8s
BTO LR LR
comp=Z,510nm,19.1s
BTO LR LR
comp=Z,480nm,17.3s
BTO LR LR
comp=Z,840nm,22.6s
HHC Hu-ho-hao-te 57.47 62 *eP* **P 06 10 18.1 -2.7**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,49nm,3.7s
PZH PanZhiHua 57.63 81 P **P 06 10 23.1 +1.0**
XAN Xi'an 58.96 70 P **P 06 10 30.6 -0.7**
XAN pmax pmax
comp=Z,10.0nm,1.0s
CMAR Chiang Mai Arr 60.09 91 P **P 06 10 38.9 -0.3**
comp=Z,2.4nm,0.3s,baz=305,slow=6.1,SNR=7.4
comp=Z,2.4nm,0.3s
HEH HeiHe 62.56 46 *eP* **P 06 10 56.5 +1.0**
USRK Ussuriysk Ar. 68.52 50 P **P 06 11 34.2 +0.1**
comp=Z,5.1nm,0.9s,baz=313,slow=3.0,SNR=4.5
comp=Z,5.1nm,0.9s
BOSA Boshof 69.36 187 P **P 06 11 39.8 +0.4**
comp=Z,2.9nm,0.5s,baz=4.5,slow=7.4,SNR=8.2
comp=Z,2.9nm,0.5s
KSAR Wonju Array Be 70.00 58 P **P 06 11 42.6 -0.8**
KSAR Wonju Array Be 70.00 58 P **P 06 11 42.6 -0.8**
KSRS Korea Array 70.02 58 P **P 06 11 42.7 -0.8**
comp=Z,5.1nm,1.0s,baz=300,slow=5.5,SNR=12
comp=Z,5.1nm,1.0s
E29M Blow River 70.99 356 P **P 06 11 49.8 +0.9**
YKA Yellowknife Ar 73.88 345 P **P 06 12 06.7 +0.5**
comp=Z,3.0nm,0.8s,baz=27,slow=6.0,SNR=13
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 73.88 345 *i* P **P 06 12 09.3 +3.1**
YKA pmax pmax
comp=Z,3.0nm,0.8s
ILAR Eielson Array 74.84 360 P **P 06 12 11.1 -0.7**
comp=Z,0.3nm,0.6s,baz=352,slow=8.8,SNR=6.4
comp=Z,0.3nm,0.6s
MJAR Matsushiro Arr 77.01 53 P **P 06 12 25.4 +0.7**
comp=Z,2.6nm,1.0s,baz=304,slow=2.8,SNR=4.9
comp=Z,2.6nm,1.0s
ULM Lac du Bonnet 78.92 329 P **P 06 12 34.6 -0.4**
comp=Z,3.6nm,0.9s,baz=44,slow=9.9,SNR=3.7
comp=Z,3.6nm,0.9s
PDAR Pinedale Array 90.27 333 P **P 06 13 34.1 +1.2**
comp=Z,0.4nm,0.9s,baz=26,slow=3.2,SNR=2.4
comp=Z,0.4nm,0.9s

*NAO **14** 06:02:55.8, 39°.13N×34°.01E, h10km, MB5.1*
*IDC **14** 06:03:10.8±0.4, 40°.74N×33°.02E, h0km, mb4.4/27, mbtmp4.4/42, ML4.1/11, MS4.3/46, Error ellipse:*

s-maj=7.2km s-min=6.2km az=73.0
BJI ***14*** *06:03:10.5, 40˚.19N×32˚.54E, h36km, mB5.1/6, mb4.6/26, Ms4.8/20, Ms7 4.5/19*
AFAD ***14*** *06:03:11.5, 40˚.72N×32˚.95E, h6km±1km, MW4.8*
MOS ***14*** *06:03:11.0±1.0, 40˚.74N×32˚.99E, h10km, mb4.9/14, Error ellipse: s-maj=6.2km s-min=3.9km az=88.1*
MED_RC ***14*** *06:03:11.0±0.4, 40˚.71N×32˚.92E, h10km, MW4.9/31, Moment Tensor Solution. Mantle waves: s31,c45; Duration: 1s1 Moment tensor: Scale 10^16Nm; Mrr=0.35±.14; Mθθ=1.40±.14; Mϕϕ 1.75±.11; Mrθ=1.27±.34; Mθϕ=2.32±.09; Mϕr 1.01±.41; Best double couple: M=3.19000×10^16 NP1:ϕs19.00000°, δ62.00000°, λ3.00000°. NP2:ϕs288.00000°, δ87.00000°, λ152.00000°. Principal axes: T 3.5600, Plg21.0000°, Azm240.0000°; N -0.7300, Plg62.0000°, Azm102.0000°; P -2.8300, Plg17.0000°, Azm337.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
ISK ***14*** *06:03:11.2, 40˚.75N×32˚.97E, h6km, ML5.1/15*
GII ***14*** *06:03:12.6±0.0, 40˚.73N×32˚.97E, h5km, confirmed*
NEIC ***14*** *06:03:13.5±1.8, 40˚.69N±0˚.03×33˚.03E±0˚.03, h10km±1km, mb4.7/26, Error ellipse: s-maj=4.9km s-min=3.9km az=228.0*
MCSM ***14*** *06:03:13.6±0.4, 41˚.2˚×3˚.3E±˚, h8km±4km, mb4.8, mB5.0, MLv5.1, Mw(mB)4.2*
GCMT ***14*** *06:03:14.5±0.2, 40˚.75N±0˚.01×32˚.94E±0˚.01, h19km±1km, MW5.0/119, Moment Tensor Solution. s40,c50; s119,c188; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.81±.14; Mθθ=1.88±.12; Mϕϕ 2.69±.12; Mrθ=0.66±.23; Mθϕ=3.05±.09; Mϕr=0.54±.21; Best double couple: M=3.89300×10^16 NP1:ϕs199.00000°, δ78.00000°, λ1.00000°. NP2:ϕs109.00000°, δ89.00000°, λ168.00000°. Principal axes: T 4.3330, Plg9.0000°, Azm63.0000°; N -0.8800, Plg78.0000°, Azm286.0000°; P -3.4530, Plg8.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
CFUSG ***14*** *06:03:14.4, 40˚.94N×32˚.92E, h12km, mb4.4/9, MD3.7/7, North Turkey Magtype MSH 4.1 from 7 stations*

ISC 14 06:03:11.8±0.7, 40˚.75N±0˚.01×32˚.99E±0˚.01, h3km±4km, n655, σ1§42/694, mb4.6/48, MS4.4/44, 9C-16D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DERS	**Karabk-Eskip**	**0.35**	**287**	P	**Pg**	**06 03 18.3**	**-0.3**
DERS				S	**Sg**	**06 03 23.8**	**+0.6**
DERS				*i* IAML		06 03 26.0	
	comp=E,9μm,0.5s						
ELDT	**Eldivan**	**0.42**	**128**	P	**Pg**	**06 03 19.9**	**0.0**
ELDT				S	**Sg**	**06 03 25.6**	**+0.2**
ELDT				*i* IAML		06 03 27.0	
	comp=E,14μm,0.5s						
CMDR	**Camlidere-ANKA**	**0.47**	**237**	P	**Pg**	**06 03 20.1**	**-0.7**
SAFT	**Safranbolu**	**0.54**	**335**	Pg	**Pg**	**06 03 22.0**	**-0.2**
SAFT				Sg	**Sg**	**06 03 29.9**	**+0.6**
KBUK	**KARABUK-Merkez**	**0.56**	**331**	P	**Pg**	**06 03 22.0**	**-0.6**
KBUK				S	**Sg**	**06 03 30.2**	**+0.3**
KBUK				*i* IAML		06 03 31.0	
	comp=N,3μm,0.3s						
KBUK				*i* IAML		06 03 31.0	
	comp=E,4μm,0.3s						
PELI	**Kastamonı-Ara**	**0.60**	**24**	P	**Pg**	**06 03 23.1**	**-0.3**
PELI				S	**Sg**	**06 03 30.1**	**-1.1**
PELI				*i* IAML		06 03 37.0	
	comp=E,2μm,0.9s						
ILGA	**Ilgaz**	**0.63**	**61**	Pg	**Pg**	**06 03 23.2**	**-0.7**
ILGA				Sg	**Sb**	**06 03 34.2**	**-0.7**
ILGA	**Ilgaz**	**0.63**	**61**	P	**Pg**	**06 03 22.0**	**-1.9**
YENC	**ankr-Yen**	**0.65**	**96**	P	**Pg**	**06 03 23.9**	**-0.4**
YENC				S	**Sg**	**06 03 33.4**	**+0.6**
YENC				*i* IAML		06 03 39.0	
	comp=N,10μm,1.0s						
BCAM	**Yenicaga**	**0.71**	**276**	P	**Pg**	**06 03 24.3**	**-1.1**
BCAM				S	**Sg**	**06 03 33.1**	**-1.4**
BCAM				*i* IAML		06 03 43.0	
	comp=N,1μm,0.3s						
GOKD	**Ankara-Kalecik**	**0.77**	**151**	P	**Pg**	**06 03 25.5**	**-1.0**
TOS	**Tosya**	**0.83**	**69**	Pg	**Pg**	**06 03 27.1**	**-0.7**
TOS				Sg	**Sb**	**06 03 39.9**	**-0.8**
KMON	**Kastamonu**	**0.87**	**44**	Pg	**Pg**	**06 03 28.3**	**-0.1**
KMON				Sg	**Sb**	**06 03 41.2**	**-0.4**
DEVR	**Zonguldak/Devr**	**0.87**	**297**	P	**Pg**	**06 03 27.9**	**-0.5**
DEVR				S	**Sg**	**06 03 38.6**	**-1.1**
DEVR				*i* IAML		06 03 43.0	
	comp=N,1μm,0.6s						
ANTO	**Ankara**	**0.89**	**190**	Pg	**Pg**	**06 03 28.6**	**-0.3**
ANTO				Sg	**Sb**	**06 03 41.5**	**-0.7**
ANTO	**Ankara**	**0.89**	**190**		**Pg**	**06 03 28.5**	**-0.3**
ANTO	**Ankara**	**0.89**	**190**	P	**Pg**	**06 03 28.5**	**-0.3**
ANTO	**Ankara**	**0.89**	**190**	Pg	**Pg**	**06 03 28.9**	**0.0**
ANTO				Sg	**Sb**	**06 03 41.6**	**-0.7**
KIBS	**BOLU**	**0.93**	**250**	P	**Pg**	**06 03 27.2**	**-2.4**
KIBS				S	**Sg**	**06 03 40.8**	**-0.8**
KIBS				*i* IAML		06 03 48.0	
	comp=E,4μm,0.7s						
BOLU	**Bolu-Merkez-Mu**	**1.00**	**272**	P	**Pg**	**06 03 29.8**	**-1.2**
BOLU				*i* IAML		06 03 49.0	
	comp=N,3μm,0.9s						
DELI	**KIRIKKALE**	**1.03**	**136**	P	**Pg**	**06 03 30.5**	**-1.0**
DELI				S	**Sg**	**06 03 44.2**	**-0.8**
DELI				*i* IAML		06 03 48.0	
	comp=N,2μm,0.7s						
DELI				*i* IAML		06 03 48.0	
	comp=E,2μm,0.8s						
BTIN	**Bartın**	**1.05**	**328**	P	**Pg**	**06 03 29.2**	**-2.7**
BTIN				S	**Sg**	**06 03 45.7**	**+0.1**
BTIN				*i* IAML		06 03 50.0	
	comp=N,2μm,1.0s						
SEYI	**Kastamonu-Seyd**	**1.05**	**32**	P	**Pg**	**06 03 29.9**	**-2.1**
SEYI				S	**Sg**	**06 03 44.2**	**-1.4**
YUVA	**Yuva-Kibriscik**	**1.06**	**251**	Pg	**Pg**	**06 03 31.2**	**-0.8**
YUVA				Sg	**Sb**	**06 03 46.7**	**-0.4**
SUNG	**orum-Sungurl**	**1.11**	**120**	P	**Pg**	**06 03 31.8**	**-1.3**
SUNG				S	**Sg**	**06 03 47.5**	**+0.1**
SUNG				*i* IAML		06 03 51.0	
	comp=N,3μm,1.0s						
KURC	**Kurucasile-Bar**	**1.11**	**350**	Pn	**Pg**	**06 03 32.7**	**-0.4**
KURC				Sn	**Sb**	**06 03 49.0**	**+0.4**
BR106	**Keskin Array S**	**1.12**	**154**	Pg	**Pg**	**06 03 32.6**	**-0.7**
BR106				Sg	**Sb**	**06 03 49.1**	**+0.1**
CIDE	**Kastamonu/Cide**	**1.13**	**358**	P	**Pg**	**06 03 32.0**	**-1.5**
CIDE				S	**Sg**	**06 03 47.8**	**-0.5**
BR105	**Keskin Array S**	**1.14**	**155**	Pg	**Pg**	**06 03 32.7**	**-0.9**
BR131	**Keskin Array S**	**1.14**	**154**	Pn	**Pg**	**06 03 32.2**	**-1.4**
BR131				Sn	**Sb**	**06 03 49.6**	**+0.2**
BR131	**Keskin Array S**	**1.14**	**154**	*d* iP	**Pg**	**06 03 32.3**	**-1.3**
BRTR	**Keskin Array B**	**1.14**	**154**	Pn	**Pg**	**06 03 32.6**	**-1.0**
BRTR	**Keskin Array B**	**1.14**	**154**	Pg	**Pg**	**06 03 32.5**	**-1.1**
	4μm,0.3s,baz=336,slow=14,SNR=209						
BRTR				Lg	Lg	06 03 49.8	
	4μm,0.3s,baz=80,slow=1.2,SNR=16						
BR104	**Keskin Array S**	**1.15**	**154**	Pg	**Pg**	**06 03 33.2**	**-0.7**
KAGI	**orum-Kargı**	**1.19**	**70**	P	**Pg**	**06 03 31.3**	**-3.3**
KESK	**Krkkale-Ke**	**1.20**	**158**	P	**Pg**	**06 03 33.9**	**-0.9**
KESK				S	**Sg**	**06 03 48.3**	**-2.0**
KESK				*i* IAML		06 03 51.0	
	comp=N,1μm,0.4s						
KESK				*i* IAML		06 03 53.0	
	comp=E,2μm,0.6s						
BBAL	**Bala**	**1.21**	**175**	P	**Pg**	**06 03 34.2**	**-0.7**
POLA	**Polatl-ANKAR**	**1.22**	**211**	Pn	**Pg**	**06 03 34.2**	**-1.0**
POLA				Sn	**Sn**	**06 03 52.9**	**-0.1**
AFSR	**Afar-Bala (An**	**1.30**	**177**	Pn	**Pg**	**06 03 36.3**	**-0.4**
AFSR				Sn	**Sn**	**06 03 54.9**	**-0.1**
MDUB	**Mudurnu**	**1.39**	**259**	Pn	**Pn**	**06 03 37.3**	**-1.0**
MDUB	**Mudurnu**	**1.39**	**259**		**Pn**	**06 03 37.2**	**-1.1**
MDUB				Sn	**Sn**	**06 03 58.1**	**+0.9**
AYAZ	**Ayas K¶y, M**	**1.42**	**92**	P	**Pn**	**06 03 37.2**	**-1.5**
AYAZ				S	**Sg**	**06 03 57.3**	**-0.1**
AYAZ				*i* IAML		06 04 04.0	
	comp=E,3μm,1.1s						
BZK	**Bozkurt**	**1.43**	**32**	Pn	**Pn**	**06 03 38.5**	**-0.2**
BZK				Sn	**Sn**	**06 03 59.2**	**+1.2**
BZK	**Bozkurt**	**1.43**	**32**	Pn	**Pn**	**06 03 38.5**	**-0.2**
BZK				Sn	**Sn**	**06 03 59.4**	**+1.3**
AKPI	**Kirsehir/Akpin**	**1.46**	**148**	P	**Pn**	**06 03 36.6**	**-2.6**
KAMT	**Kaman**	**1.48**	**158**	Pn	**Pn**	**06 03 38.9**	**-0.6**
BOYA	**Sinop/Boyabat-**	**1.50**	**58**	P	**Pn**	**06 03 38.0**	**-1.7**
BTAS	**Taskesti**	**1.53**	**264**	P	**Pn**	**06 03 38.8**	**-1.2**
BTAS				S	**Sn**	**06 04 00.4**	**-0.1**
BTAS				*i* IAML		06 04 03.0	
	comp=N,2μm,1.0s						
BTAS				*i* IAML		06 04 07.0	
	comp=E,2μm,0.9s						
CDAG	**Cicekdag**	**1.54**	**136**	P	**Pn**	**06 03 39.5**	**-0.9**
CDAG				S	**Sn**	**06 04 00.0**	**-0.9**
CDAG				*i* IAML		06 04 05.0	
	comp=N,1μm,0.4s						
CDAG				*i* IAML		06 04 08.0	
	comp=E,2μm,0.6s						
KKUL	**Konya-Kulu**	**1.58**	**182**	P	**Pn**	**06 03 40.2**	**-0.6**
KKUL				S	**Sg**	**06 04 03.3**	**+0.8**
KKUL				*i* IAML		06 04 06.0	
	comp=E,1μm,0.7s						
KKUL				*i* IAML		06 04 08.0	
	comp=N,1μm,1.2s						
COAL	**Corum-Alaca**	**1.60**	**107**	P	**Pn**	**06 03 40.2**	**-0.9**
COAL				S	**Sn**	**06 04 01.0**	**-1.3**
COAL				*i* IAML		06 04 06.0	
	comp=E,1μm,1.3s						
COAL				*i* IAML		06 04 07.0	
	comp=N,1μm,1.9s						
SAHE	**Sakarya_HENDEK**	**1.63**	**274**	P	**Pn**	**06 03 40.7**	**-0.7**
YOZG	**Bozok Univ. Me**	**1.69**	**124**	P	**Pn**	**06 03 41.8**	**-0.5**
YOZG				*i* IAML		06 04 07.0	
	comp=N,8μm,0.6s						
YOZG				*i* IAML		06 04 11.0	
	comp=E,8μm,0.5s						
SUSU	**Bolu-G¶ynk-**	**1.69**	**257**	P	**Pn**	**06 03 40.7**	**-1.6**
SUSU				S	**Sg**	**06 04 05.8**	**-0.2**
SUSU				*i* IAML		06 04 18.0	
	comp=E,6μm,0.8s						
KIRS	**Kirsehir-Merke**	**1.76**	**156**	P	**Pn**	**06 03 43.6**	**+0.2**
GULT	**Gulveren**	**1.91**	**261**	Pn	**Pn**	**06 03 45.0**	**-0.4**
MCUR	**KIREHR**	**1.98**	**143**	P	**Pn**	**06 03 45.6**	**-0.7**
MCUR				S	**Sn**	**06 04 11.8**	**+0.2**
MCUR				*i* IAML		06 04 21.0	
	comp=E,5μm,0.8s						
CTIK	**Konya-Celtik**	**2.01**	**212**	P	**Pn**	**06 03 47.8**	**+1.1**
SINP	**Sinop**	**2.01**	**51**	Pn	**Pn**	**06 03 46.9**	**+0.3**
KAYN	**Sakarya, Kayna**	**2.02**	**277**	P	**Pn**	**06 03 46.4**	**-0.4**
SAUV	**Serdivan-Sakar**	**2.02**	**271**	Pn	**Pn**	**06 03 46.6**	**-0.3**
CIFT	**Cifteler, Eski**	**2.03**	**228**	Pn	**Pn**	**06 03 46.6**	**-0.4**
CKIRK	**Yozgat, Cekere**	**2.03**	**109**	P	**Pb**	**06 03 48.2**	**-1.2**
SGAZ	**Eskisehir, Sey**	**2.05**	**234**	P	**Pn**	**06 03 44.8**	**+0.5**
CBEY	**Konya-Cihanbey**	**2.06**	**185**	P	**Pn**	**06 03 47.9**	**+0.4**
GEYV	**SAKARYA_Geyve**	**2.07**	**264**	P	**Pn**	**06 03 47.5**	**0.0**
SINO	**SINOP_Merkez**	**2.09**	**52**	P	**Pn**	**06 03 48.1**	**+0.3**
GPA	**Golpazari**	**2.10**	**258**	Pn	**Pn**	**06 03 47.1**	**-0.8**
SNOP	**Sinop**	**2.10**	**52**	Pn	**Pn**	**06 03 48.2**	**+0.4**
YOZ	**Yozgat**	**2.10**	**121**	Pn	**Pn**	**06 03 48.5**	**+0.5**
KOZK	**Kozakli-Nevseh**	**2.11**	**136**	Pn	**Pn**	**06 03 48.6**	**+0.5**
KAND	**Kocaeli-Kandir**	**2.15**	**280**	P	**Pn**	**06 03 48.5**	**-0.1**
YARM	**Yarimca-Ladik(**	**2.16**	**84**	Pn	**Pn**	**06 03 49.1**	**+0.3**
AMSY	**Amasya-Merkez**	**2.17**	**92**	P	**Pb**	**06 03 50.3**	**-1.4**
SIRC	**Yozgat**	**2.17**	**130**	P	**Pn**	**06 03 47.1**	**-2.0**
SIRC				S	**Sn**	**06 04 16.4**	**-0.2**
SIRC				*i* IAML		06 04 23.0	
	comp=N,5μm,0.5s						
AKSY	**AKSARAY - Alti**	**2.18**	**164**	P	**Pn**	**06 03 47.1**	**-2.0**
AKSY				S	**Sb**	**06 04 18.0**	**-1.3**
KIZO	**Buyukkizoglu-L**	**2.24**	**85**	Pn	**Pn**	**06 03 50.2**	**+0.3**
KDHN	**Kadinhani**	**2.32**	**197**	P	**Pn**	**06 03 50.8**	**-0.2**
HACI	**Hacifakili, Ak**	**2.34**	**116**	P	**Pn**	**06 03 52.8**	**+1.4**
HISA	**Bilecik-Osmane**	**2.35**	**264**	P	**Pn**	**06 03 50.5**	**-0.9**
BYAT	**Afyon-Bayat**	**2.37**	**221**	P	**Pn**	**06 03 51.1**	**-0.6**
AVNS	**Nevsehir-Avano**	**2.41**	**143**	P	**Pn**	**06 03 51.1**	**-1.1**
UCKU	**Afyonkarahisar**	**2.43**	**210**	P	**Pn**	**06 03 51.1**	**-1.4**
BILE	**Bilecik/Merkez**	**2.45**	**257**	P	**Pn**	**06 03 52.8**	**0.0**
SEMS	**Kocaeli-K¶rfe**	**2.47**	**274**	P	**Pn**	**06 03 52.8**	**-0.3**
SAMS	**Samsun-Alacam**	**2.49**	**75**	P	**Pn**	**06 03 54.4**	**+1.1**
ADVT	**Abdulvahap**	**2.50**	**264**	Pn	**Pn**	**06 03 52.9**	**-0.5**
OSMT	**Osmaniye**	**2.51**	**268**	Pn	**Pn**	**06 03 53.2**	**-0.4**
HRT	**Hereke**	**2.52**	**273**	Pn	**Pn**	**06 03 53.6**	**-0.2**
KURO	**Afyon-Bolvadin**	**2.56**	**219**	P	**Pn**	**06 03 52.8**	**-1.6**
SILT	**Sile**	**2.57**	**280**	Pn	**Pn**	**06 03 54.5**	**+0.2**
BSIR	**Belisirma, Guz**	**2.57**	**157**	P	**Pn**	**06 03 56.0**	**+0.1**
ANDZ	**Kutahya, Merke**	**2.67**	**243**	P	**Pn**	**06 03 56.0**	**+0.1**
TOKA	**Tokat**	**2.69**	**98**	Pn	**Pn**	**06 03 56.5**	**+0.5**
TOKA	**Tokat**	**2.69**	**98**	P	**Pn**	**06 03 56.2**	**+0.1**
DOMA	**Ktahya-Doman**	**2.70**	**250**	P	**Pn**	**06 03 54.4**	**-1.8**
GUNE	**Kayseri**	**2.74**	**131**	P	**Pn**	**06 03 57.6**	**+0.8**
YLV	**Yalova**	**2.76**	**267**	Pn	**Pn**	**06 03 56.1**	**-0.9**
YVAC	**Isparta, Yalva**	**2.82**	**209**	P	**Pn**	**06 03 56.1**	**-1.8**
DOGA	**KÖNYA_Doganhis**	**2.83**	**202**	P	**Pn**	**06 03 56.7**	**-1.4**
KURT	**Yalova, Merkez**	**2.88**	**268**	P	**Pn**	**06 03 57.6**	**-1.0**
BNN	**Bunyan**	**2.90**	**130**	Pn	**Pn**	**06 03 59.5**	**+0.5**
ULDT	**Uludag**	**3.00**	**260**	P	**Pn**	**06 03 59.5**	**-1.0**
ISP	**Isparta**	**3.49**	**214**		**Pn**	**06 04 06.6**	**-0.6**
ISP	**Isparta**	**3.49**	**214**	*c* iP	**Pn**	**06 04 06.5**	**-0.6**
ISP				pmax	pmax		
	comp=Z,735nm,1.3s						
SEV	**Sevastopol'**	**3.83**	**7**	*e*P	**Pn**	**06 04 13.2**	**+1.6**
SEV	**Sevastopol'**	**3.83**	**7**	*e*P	**Pn**	**06 04 13.2**	**+1.6**
SEV				Pm		06 04 21.9	
	comp=Z,60nm,0.4s						
YAL	**Yalta**	**3.83**	**13**	*e*P	**Pn**	**06 04 12.6**	**+0.9**
YAL				*e*S	**Sn**	**06 04 55.5**	**-1.8**
YAL	**Yalta**	**3.83**	**13**	*e*P	**Pn**	**06 04 12.6**	**+0.9**
YAL				Pm		06 04 19.1	
	comp=Z,389nm,0.6s						
YAL				*e*S	**Sn**	**06 04 55.5**	**-1.8**
YAL				Sm		06 04 58.6	
	comp=N,127nm,0.5s						
YAL				Sm		06 04 58.7	
	comp=E,610nm,0.8s						
ALU	**Alushta**	**4.07**	**14**	*e*P	**Pn**	**06 04 15.4**	**+0.5**
ALU				*e*S	**Sn**	**06 05 02.6**	**-0.4**
ALU	**Alushta**	**4.07**	**14**	*e*P	**Pn**	**06 04 15.4**	**+0.5**
ALU				Pm		06 04 22.2	
	comp=Z,286nm,0.7s						
ALU				*e*S	**Sn**	**06 05 02.6**	**-0.4**
ALU				Sm		06 05 10.7	
	comp=N,55nm,0.3s						
ALU				Sm		06 05 10.7	
	comp=E,232nm,0.8s						
MANT	**Manisa**	**4.10**	**238**	Pn	**Pn**	**06 04 15.2**	**-0.3**
SIM	**Simferopol'**	**4.28**	**11**	*e*P	**Pn**	**06 04 18.6**	**+0.7**
SIM				*e*S	**Sn**	**06 05 09.9**	**+1.6**
SIM				pmax	pmax		
	comp=Z,474nm,1.0s						
SIM				smax	smax		
	comp=E,815nm,0.9s						
SIM				smax	smax		
	comp=N,1μm,0.9s						
SIM	**Simferopol'**	**4.28**	**11**	*e*P	**Pn**	**06 04 20.1**	**+2.2**
SIM				Pm		06 04 29.7	
	comp=Z,484nm,0.7s						
SIM				*e*S	**Sn**	**06 05 08.8**	**+0.5**
SIM				Sm		06 05 16.0	
	comp=N,952nm,0.8s						
SIM				Sm		06 05 16.0	
	comp=E,1μm,1.0s						
SUDU	**Sudak**	**4.39**	**19**	*e*P	**Pn**	**06 04 18.9**	**-0.5**
SUDU				*e*S	**Sn**	**06 05 08.1**	**-3.0**
SUDU	**Sudak**	**4.39**	**19**	*e*P	**Pn**	**06 04 18.9**	**-0.5**
SUDU				Pm		06 04 25.4	
	comp=Z,586nm,0.6s						
SUDU				*e*S	**Sn**	**06 05 08.1**	**-3.0**
SUDU				Sm		06 05 16.8	
	comp=E,274nm,0.7s						
SUDU				Sm		06 05 16.9	
	comp=N,1μm,0.8s						
FEO	**Feodosiya**	**4.62**	**22**	*e*P	**Pn**	**06 04 22.1**	**-0.4**
FEO	**Feodosiya**	**4.62**	**22**	*e*P	**Pn**	**06 04 22.1**	**-0.4**
FEO				Pm		06 04 26.0	
	comp=Z,241nm,0.5s						
DNZ2	**Donuzlav2**	**4.63**	**2**	*e*P	**Pn**	**06 04 23.7**	**+1.1**
DNZ2				Pm		06 04 29.9	
	comp=Z,2μm,0.7s						
DNZ2				*e*S	**Sn**	**06 05 14.9**	**-1.9**
DNZ2				Sm		06 05 23.4	
	comp=E,1μm,0.9s						
DNZ2				Sm		06 05 23.5	
	comp=N,482nm,0.6s						
TARU	**Tarkhankut**	**4.64**	**356**	*e*P	**Pn**	**06 04 23.8**	**+1.0**
TARU				Pm		06 04 31.4	
	comp=Z,439nm,0.7s						
TARU				*e*S	**Sn**	**06 05 16.9**	**-0.2**
TARU				Sm		06 05 25.4	
	comp=E,740nm,0.9s						
TARU				Sm		06 05 25.7	
	comp=N,371nm,1.3s						
ELL	**Elmali**	**4.66**	**212**	Pn	**Pn**	**06 04 23.7**	**+0.4**
ELL	**Elmali**	**4.66**	**212**	P	**Pn**	**06 04 23.7**	**+0.4**
TIRR	**Tirgusor**	**5.02**	**319**	Pn	**Pn**	**06 04 28.1**	**+0.1**
TIRR	**Tirgusor**	**5.02**	**319**	P	**Pn**	**06 04 28.1**	**+0.1**
TIRR	**Tirgusor**	**5.02**	**319**	Pn	**Pn**	**06 04 30.0**	**+2.0**
	comp=N,1.2nmcomp=N,203nm,0.8s						
EZN	**Ezine**	**5.18**	**262**	P	**Pn**	**06 04 29.7**	**-0.6**
ANN	**Anapa**	**5.20**	**37**	*e*P	**Pn**	**06 04 30.2**	**-0.3**
ANN				*e*S	**Sn**	**06 05 32.2**	**+1.2**
ANN				pmax	pmax		
	comp=Z,92nm,0.7s						
ANN				MLR	MLR		
	comp=Z,2μm,14.0s						
KERU	**Kerch**	**5.22**	**28**	*e*P	**Pn**	**06 04 33.9**	**+3.2**
KERU	**Kerch**	**5.22**	**28**	*e*P	**Pn**	**06 04 33.9**	**+3.2**
KERU				Pm		06 04 42.9	
	comp=Z,381nm,0.6s						
KERU				*e*S	**Sn**	**06 05 34.7**	**+3.3**
KERU				Sm		06 05 36.8	
	comp=N,295nm,1.0s						
KERU				Sm		06 05 37.0	
	comp=E,413nm,1.1s						
AKAS	**Kas**	**5.23**	**212**		**Pn**	**06 04 31.8**	**+0.7**
ALN	**Alexandroupoli**	**5.27**	**274**	Pn	**Pn**	**06 04 30.2**	**-1.3**
ALN	**Alexandroupoli**	**5.27**	**274**	P	**Pn**	**06 04 30.2**	**-1.3**
GADA	**Gvkgeada**	**5.44**	**266**	P	**Pn**	**06 04 32.6**	**-1.2**
RDO	**Rodhopi**	**5.66**	**276**	Pn	**Pn**	**06 04 35.9**	**-0.9**
SMTH	**Samothraki Isl**	**5.69**	**270**	P	**Pn**	**06 04 35.7**	**-1.5**
SOC	**Sochi**	**5.74**	**58**	*e*P	**Pn**	**06 04 34.0**	**-4.0**
SOC				*e*		06 05 40.6	
SOC				pmax	pmax		
	comp=Z,93nm,1.1s						
SOC				MLR	MLR		
	comp=Z,1μm,14.0s						
CSS	**Mathiatis**	**5.78**	**177**	Pn	**Pn**	**06 04 38.1**	**-0.5**
VSLR	**Vesyoloye**	**5.90**	**60**	*e*P	**Pn**	**06 04 41.0**	**+0.9**
ARG	**Arkhangelos**	**5.92**	**222**		**Pn**	**06 04 40.7**	**+0.3**
ARG	**Arkhangelos**	**5.92**	**222**	P	**Pn**	**06 04 40.7**	**+0.3**
LIA	**Limnos Island**	**6.03**	**264**	P	**Pn**	**06 04 39.4**	**-2.4**
LIA				S	**Pb**	**06 04 55.0**	**-2.5**
THAS	**Thassos island**	**6.29**	**271**	P	**Pn**	**06 04 43.9**	**-1.5**
THAS				S	**Pb**	**06 05 03.1**	**+1.1**
KAVA	**Kavala**	**6.43**	**275**	P	**Pn**	**06 04 48.2**	**+0.7**
ISR	**Istrita**	**6.44**	**315**	Pn	**Pn**	**06 04 51.5**	**+3.9**
	comp=Z,2.2nmcomp=Z,489nm,0.7s						
ODBI	**Odobesti**	**6.62**	**321**	Pn	**Pn**	**06 04 51.9**	**+1.8**
	comp=Z,0.6nmcomp=Z,2μmcomp=Z,141nm,0.7s						
GHRR		**6.69**	**324**	Pn	**Pn**	**06 04 52.0**	**+1.1**
OUR	**Ouranopolis**	**6.88**	**269**	P	**Pn**	**06 04 52.0**	**-1.5**
APE	**Apeiranthos**	**6.88**	**240**	*e*P	**Pn**	**06 04 53.3**	**-0.3**
KARP	**Karpathos**	**6.93**	**223**		**Pn**	**06 04 54.2**	**-0.1**
KARP	**Karpathos**	**6.93**	**223**	Pn	**Pn**	**06 04 54.8**	**+0.5**
	comp=Z,0.9nmcomp=Z,202nm,0.8s						
MLR	**Muntele Rosu**	**7.00**	**315**	Pn	**Pn**	**06 04 56.9**	**+1.6**
	comp=Z,3.8nm,0.3s,baz=61,slow=10,SNR=6.9						
MLR				Sn	**Sn**	**06 06 13.4**	**-2.2**
	comp=Z,4.1nm,0.3s,baz=154,slow=10.0,SNR=1.4						
MLR				LR	LR	06 08 23.1	
	comp=Z,2μm,18.2s,baz=138,slow=44						
	comp=Z,20nm,0.8s						
PAIG	**Paliouri**	**7.16**	**266**	P	**Pn**	**06 04 55.7**	**-1.7**
AOS	**Alonnisos**	**7.17**	**260**	P	**Pn**	**06 04 56.8**	**-0.9**
AOS	**Alonnisos**	**7.17**	**260**	P	**Pn**	**06 04 57.3**	**-0.3**
AOS				S	**Pg**	**06 05 26.0**	**-3.2**
KYMI	**Kymi, Euboea I**	**7.17**	**256**	P	**Pn**	**06 04 57.2**	**-0.4**
KYMI				S	Pb	06 05 07.7	-9.3
KYMI	**Kymi, Euboea I**	**7.17**	**256**	S	**Pg**	**06 05 28.3**	**-1.0**
PLG	**Polygyros**	**7.28**	**270**	P	**Pn**	**06 04 57.8**	**-1.3**
TESR	**Tescani**	**7.37**	**324**	Pn	**Pn**	**06 05 02.8**	**+2.5**
	comp=Z,0.7nmcomp=Z,133nm,1.1s						
ERBR	**Yeremizino-Bor**	**7.38**	**45**	*e*P	**Pn**	**06 04 59.8**	**-0.7**
ERBR				*e*S	**Sn**	**06 06 24.2**	**-0.6**
ERBR				pmax	pmax		
	comp=Z,225nm,0.9s						
ERBR				MLR	MLR		
	comp=Z,2μm,15.0s						
NEO	**Neokhori**	**7.63**	**262**	P	**Pn**	**06 05 02.6**	**-1.3**
NEO	**Neokhori**	**7.63**	**262**	P	**Pn**	**06 05 02.7**	**-1.3**
SHA1	**Shidzhatmaz**	**7.77**	**64**	*e*P	**Pn**

comp=Z,2µm,11.0s
KOLS Kolonicke sedl 11.16 321 *e*P **Pn 06 05 54.1 +1.8**
EIL Elat 11.17 171 Pn **Pn 06 05 53.4 +1.0**
comp=Z,0.4nm,0.3s,baz=349,slow=14,SNR=4.5
EIL LR LR 06 11 01.2
comp=Z,1µm,18.1s,baz=348,slow=42
comp=Z,7.8nm,0.7s
EIL Elat 11.17 171 P **Pn 06 05 53.0 +0.6**
KWP Kalwaria Pacla 11.46 324 Pn **Pn 06 05 58.8 +2.5**
comp=Z,131nm,1.4s
RNPP8 Varash 11.69 337 Pn **Pn 06 06 01.1 +1.7**
STHS Stebnicka Huta 11.99 320 *e*P **Pn 06 06 03.4 -0.2**
NIE Niedzica 12.46 318 *e*P **Pn 06 06 08.6 -1.5**
CUC Castrocucco 13.12 272 Pn 06 06 20.4 +1.3
OJC Ojcow 13.22 320 *e*P **Pn 06 06 15.7 -4.7**
CEL Celeste 13.44 265 Pn 06 06 23.1 -0.3
CEL Celeste 13.44 265 Pn **Pn 06 06 24.7 +1.3**
comp=Z,553nmcomp=Z,43nm,1.2s
RONA Rosalia, Austr 13.83 306 *i* Pn **Pn 06 06 32.5 +3.8**
comp=Z,26nm,1.2s
ARSA Arzberg 14.14 303 Pn 06 06 35.0 +2.0
ARSA Arzberg 14.14 303 *i* Pn **Pn 06 06 36.9 +3.9**
comp=Z,35nm,1.2s
MNK Minsk 14.18 348 *i* P **Pn 06 06 33.3 -0.2**
MNK comp=E,64nm,1.3s
i P **Pn 06 06 33.3 -0.2**
MNK comp=N,46nm,0.9s
i P **Pn 06 06 33.3 -0.2**
MNK comp=Z,50nm,0.6s,baz=164
i PP **P 06 06 40.2 -0.9**
MNK *i* PPP PPP 06 06 49.2
MNK *i* S **Sn 06 09 11.3 +0.1**
MNK *i* SS **SnSn 06 09 25.3 +1.8**
MNK *i* LR LR 06 11 04.6
MNK *i* LRM MLR 06 12 40.4
MNK comp=Z,654nm,16.6s
i LRM MLR 06 12 52.0
MNK comp=N,622nm,16.5s
i LRM MLR 06 12 53.4
MNK comp=E,443nm,14.9s
MNK Minsk 14.18 348 *i* P **Pn 06 06 33.2 -0.2**
MNK *i* S **Sn 06 09 11.3 +0.1**
MNK pmax pmax
MNK comp=Z,50nm,0.6s
pmax pmax
MNK comp=N,46nm,0.9s
pmax pmax
MNK comp=E,64nm,1.3s
MLR MLR
MNK comp=Z,654nm,17.0s
MLR MLR
MNK comp=N,622nm,17.0s
MLR MLR
MNK comp=E,443nm,15.0s
CONA Conrad Observa 14.19 306 *e*Pn **P 06 06 38.1 -3.2**
comp=E,11nm,1.1s
SOKA Soboth 14.27 301 *i* Pn **P 06 06 39.4 -2.8**
comp=E,11nm,1.4s
VRAC Vranov 14.39 312 Pn **Pn 06 06 34.5 -1.8**
VRAC comp=E,0.3nm,0.3s,baz=128,slow=17,SNR=1.5
LR LR 06 12 56.1
comp=E,1µm,18.3s,baz=126,slow=41
comp=E,1.2nm,0.3s
OBKA Obir 14.53 299 *e*Pn **Pn 06 06 39.5 +1.1**
comp=E,6.0nm,1.1s
OBN Obninsk 14.57 8 Pn Pn 06 06 33.5 -5.2
OBN comp=E,1.7nm,0.3s,baz=238,slow=13,SNR=1.1
Sn Sn 06 09 09.6 -11
OBN comp=E,6.7nm,0.3s,baz=105,slow=20,SNR=1.3
LR LR 06 12 33.0
comp=E,316nm,20.5s,baz=135,slow=39
comp=E,17nm,0.4s
OBN Obninsk 14.57 8 *e*P **Pn 06 06 40.7 +2.0**
OBN pmax pmax
comp=Z,20nm,0.4s
OBN MLR MLR
comp=Z,377nm,6.0s
OBN Obninsk 14.57 8 Pn **Pn 06 06 41.1 +2.4**
comp=Z,66nm,1.2s
NACGM Naroch 14.76 346 *e*P **Pn 06 06 38.4 -2.8**
comp=Z,51nm,0.9s,baz=161
AQU L'Aquila 14.76 283 Pn **Pn 06 06 43.5 +2.0**
comp=Z,29nm,1.4s
VAE Valguarnera 14.79 263 Pn **Pn 06 06 41.4 -0.5**
comp=Z,3.9nm,0.4s,baz=37,slow=15,SNR=1.2
VAE LR LR 06 12 57.0
comp=Z,2µm,18.0s,baz=96,slow=40
SUW Suwalki 14.82 337 *e*P Pn 06 06 35.9 -6.2
NRCA Norcia 14.97 285 Pn 06 06 46.1 +1.7
FDMO Fiordimonte 15.00 285 Pn 06 06 45.2 +0.5
FDMO IAmb IAmb 06 06 56.8
comp=Z,29nm,1.2s
SABO M.te Sabotino 15.03 297 Pn 06 06 46.4 +1.3
SABO IAmb IAmb 06 07 07.5
comp=Z,40nm,1.3s
MOA Molln 15.15 304 *e*Pn **P 06 06 51.2 -0.8**
comp=Z,11nm,1.2s
MYKA Terra Mystica 15.17 299 *i* P **P 06 06 53.3 +1.1**
comp=Z,20nm,1.2s
MOS Moscow 15.31 10 *e*P **Pn 06 06 49.8 +1.1**
MOS *e*S **Sn 06 09 42.6 +4.0**
MOS pmax pmax
comp=Z,135nm,1.2s
MOS MLR MLR
comp=Z,2µm,15.0s
BELG Belogornoye 15.36 36 Pn **Pn 06 06 48.4 -0.9**
comp=Z,1.6nm,0.3s,baz=210,slow=20,SNR=6.0
BELG Sn **Sn 06 09 38.9 -0.9**
comp=Z,4.0nm,0.3s,baz=307,slow=20,SNR=14
comp=Z,62nm,1.0s
BELG Belogornoye 15.36 36*d i*P **Pn 06 06 49.5 +0.2**
BELG pmax pmax
comp=Z,24nm,1.0s
KSP Ksiaz 15.38 317 *e*P **P 06 06 53.2 -1.3**
KBA Koelnbreinsper 15.49 301 *i* Pn **P 06 06 57.9 +2.0**
comp=Z,23nm,1.2s
BIOA Bad Ischl, Aus 15.49 303 *e*Pn **P 06 06 54.4 -1.4**
comp=Z,14nm,1.2s
STAL STALIGIAL 15.70 297 P 06 06 56.1 -2.0
GERES GERESS Array B 15.88 307 Pn **Pn 06 06 57.7 +1.4**
comp=Z,4.5nm,1.0s,baz=127,slow=12,SNR=10
ABTA Abfaltersbach 15.95 299 *e*Pn **Pn 06 06 56.5 -0.7**
comp=Z,16nm,1.1s
LESA Schwarzleotal 16.03 301 *e*Pn **P 06 07 02.1 +0.3**
comp=Z,11nm,0.8s
KHC Kasperske Hory 16.07 308‖ *e*P **Pn 06 06 58.6 -0.1**
KHC pmax pmax
comp=Z,19nm,1.5s
OSSC Osservatorio P 16.36 287 P 06 07 04.3 -1.1
OSSC IAmb IAmb 06 07 11.5
comp=Z,77nm,1.5s
GKP Gorka Klasztor 16.45 325 *e*P **Pn 06 06 58.1 -5.4**
ZCCA Zocca 16.61 290 P 06 07 07.3 -0.9
ZCCA IAmb IAmb 06 07 44.0
comp=Z,98nm,1.4s
BRG Berggiesshubel 16.65 314 *e*P **P 06 07 15.0 +6.4**
BRG Amp 06 07 16.6
comp=Z,19nm,1.4s
WTTA Wattenberg 16.66 300 *e*Pn **P 06 07 10.1 +1.2**
comp=Z,19nm,1.1s
WATA Walderalm 16.72 300 *i* Pn **P 06 07 09.8 +0.3**
comp=Z,21nm,1.3s
SQTA Sankt Quirin 16.93 300 *i* Pn **P 06 07 13.4 +1.5**
comp=Z,47nm,1.5s
MOTA Moosalm 17.03 300 *e*Pn **P 06 07 12.6 -0.4**
comp=Z,36nm,1.8s
FETA Feichten 17.20 299 *e*Pn **P 06 07 15.8 +1.0**
comp=Z,21nm,1.2s
RETA Reutte 17.29 300 *e*Pn **P 06 07 16.0 +0.2**
comp=Z,30nm,1.5s
CLL Collm 17.38 314 *e*P **Pn 06 07 15.0 -0.3**
CLL Collm 17.38 314 *e*P **Pn 06 07 15.0 -0.3**
CLL *i* sP **sP 06 07 20.4 +2.1**
comp=Z,26nm,1.3s
CLL LmH 06 14 00.0
comp=N,2µm,19.3s
CLL LmH 06 14 00.0
comp=E,2µm,21.3s
CLL LmH 11 56 00.0
comp=N,200nm,20.1s
CLL LmH 11 56 00.0
comp=E,200nm,18.9s
CLL LmV 11 58 00.0
comp=Z,200nm,18.0s
MSSA Maissana 17.65 289 P 06 07 20.1 +0.3
MSSA IAmb IAmb 06 07 26.2
comp=Z,90nm,1.2s

GRA1 Grafenberg Arr 17.70 308 P 06 07 20.8 +0.6
GRA1 IAmb IAmb 06 07 29.1
comp=Z,60nm,1.3s
GRF Grafenberg Arr 17.70 308 P **P 06 07 20.8 +0.6**
GRF pmax pmax
comp=Z,61nm,1.3s
GRF Grafenberg Arr 17.70 308 *e*P **Pn 06 07 19.7 +0.5**
comp=Z,15nm,1.2s,baz=112,slow=14
GRFO Grafenberg 17.70 308 P **P 06 07 21.3 +1.1**
GRFO Grafenberg 17.70 308 P **P 06 07 21.3 +1.1**
GRFO pmax pmax
comp=Z,53nm,1.2s
DAVOX Davos/Dischmat 17.72 298 P **Pn 06 07 20.1 +0.4**
comp=Z,0.2nm,0.3s,baz=114,slow=9.6,SNR=6.8
DAVOX LR LR 06 14 55.8
comp=Z,1µm,19.5s,baz=106,slow=40
comp=Z,8.3nm,0.9s
DAVA Damuels 17.83 299 *e*Pn **P 06 07 23.0 +1.2**
comp=Z,53nm,1.1s
TUE Stuetta 18.02 296 P 06 07 24.8 +0.8
VSL Villasalto 18.10 274 Pn 06 07 24.0 -0.2
VSL IAmb IAmb 06 07 30.2
comp=Z,99nm,1.4s
BFO Black Forest 19.09 302 P **Pn 06 07 37.5 +1.2**
BFO Black Forest 19.09 302 P **Pn 06 07 37.5 +1.2**
BFO pmax pmax
comp=Z,45nm,1.4s
KEST Kesra 19.22 263 P **Pn 06 07 37.9 0.0**
KEST Kesra 19.22 263 P **P 06 07 36.5 -0.5**
comp=Z,0.7nm,0.3s,baz=64,slow=8.6,SNR=13
KEST S **S 06 11 15.4 0.0**
comp=Z,0.7nm,0.4s,baz=25,slow=19,SNR=0.9
KEST LR LR 06 16 40.6
comp=Z,990nm,18.6s,baz=43,slow=42
comp=Z,21nm,0.8s
SENIN Lac Senin/Sane 19.41 295 P **Pn 06 07 40.4 +0.1**
SENIN IAmb IAmb 06 07 42.9
comp=Z,23nm,0.8s
CBOGS Bougous 19.57 266 P Pn 06 07 51.4 +9.3
BNI Bardonecchia 19.71 291 P **Pn 06 07 43.7 -0.2**
BNI Bardonecchia 19.71 291 P **Pn 06 07 43.7 -0.2**
BNI pmax pmax
comp=Z,74nm,1.2s
ECH Echery 19.82 301 P **Pn 06 07 44.7 -0.4**
ECH IAmb IAmb 06 07 50.6
comp=Z,40nm,1.0s
ECH Echery 19.82 301 P **Pn 06 07 44.7 -0.4**
ECH pmax pmax
comp=Z,40nm,1.0s
AKTO Aktyubinsk 19.93 53 P **P 06 07 45.0 +0.4**
comp=Z,2.2nm,0.3s,baz=255,slow=14,SNR=20
AKTO S **S 06 11 27.2 -2.1**
comp=Z,1.9nm,0.7s,baz=232,slow=13,SNR=1.3
AKTO LR LR 06 16 17.8
comp=Z,644nm,21.4s,baz=262,slow=40
comp=Z,52nm,0.8s
CMAH Djebel Manchou 20.36 267 P Pn 06 07 58.1 +6.6
KLMR Klimovskoe 20.53 9 *e*P **P 06 07 49.1 -2.0**
KLMR pmax pmax
KLMR comp=Z,127nm,1.5s
MLR MLR
KLMR comp=Z,831nm,14.0s
KIRV Kirov 20.68 25 P **P 06 07 52.4 -0.2**
comp=Z,23nm,0.8s,baz=225,slow=13,SNR=3.8
KIRV S Sn 06 11 46.9 -1.4
KIRV comp=Z,6.6nm,0.5s,baz=276,slow=19,SNR=1.6
LR LR 06 16 20.7
comp=Z,719nm,18.6s,baz=221,slow=38
comp=Z,23nm,0.8s
KIRV Kirov 20.68 25‖ *e*P Pn 06 07 55.1 +0.2
ABKAR Akbulak array 20.78 57 P **P 06 07 54.4 +0.4**
WLF Walferdange 20.82 304 *d*P Pn 06 07 56.7 0.0
CSGS Sigus 21.06 266 P **P 06 08 01.8 +4.7**
BTNL Ternell 21.09 307 *d*P **P 06 08 01.4 +4.1**
comp=Z,9.2nm,1.3s
BHOU Houvegnez 21.09 306 *d*P **P 06 07 58.3 +1.0**
comp=Z,20nm,1.1s
CNGR Negrine 21.10 261 P **P 06 08 01.7 +4.3**
FIA1 FINESS Array S 21.15 351 P **P 06 07 59.9 +2.2**
FINES FINESS Array B 21.15 351 P **P 06 07 59.3 +1.6**
FINES FINESS Array B 21.15 351 P **P 06 07 56.7 -1.0**
comp=Z,10nm,0.8s,baz=174,slow=8.9,SNR=6.7
comp=Z,10nm,0.8s
FINES FINESS Array B 21.15 351 P **P 06 07 59.3 +1.6**
CASM Ain Smara 21.18 266 P **P 06 08 01.6 +3.2**
CTEI Djebel Teioual 21.32 266 P **P 06 08 03.6 +3.7**
COAT Oued Athmania 21.35 266 P **P 06 08 04.2 +4.0**
CTGD Timgad 21.41 264 P **P 06 08 05.1 +4.1**
RCHB Rochefort 21.52 305 *d*P **P 06 08 02.1 +0.2**
comp=Z,13nm,1.2s
BCLA Clavier 21.55 306 *d*P **P 06 08 04.2 +2.1**
comp=Z,13nm,1.2s
DFRA Djebel Bou Aff 21.55 268 P P 06 08 12.3 +10
BGES Geyes 21.67 306 *d*P **P 06 08 05.6 +2.2**
comp=Z,14nm,1.0s
BMRD Maredsous 21.84 305 *d*P **P 06 08 06.5 +1.2**
comp=Z,11nm,1.2s
DOU Dourbes 21.90 305 *d*P **P 06 08 05.4 -0.5**
comp=Z,9.2nm,1.2s
ARTI Arti 22.77 38 P **P 06 08 16.6 +1.4**
ARTI Arti 22.77 38 P **P 06 08 14.1 -1.1**
comp=Z,49nm,1.0s,baz=239,slow=6.8,SNR=8.5
comp=Z,49nm,1.0s
ARTI Arti 22.77 38*c i*P **P 06 08 13.9 -1.2**
ARTI 06 08 37.0
ARTI S **S 06 12 23.3 -1.3**
ARTI pmax pmax
comp=Z,83nm,1.1s
HFS Hagfors 22.81 335 P **P 06 08 14.1 -1.5**
comp=Z,11nm,0.6s,baz=141,slow=9.3,SNR=11
HFS LR LR 06 17 57.4
comp=Z,966nm,20.4s,baz=144,slow=39
comp=Z,11nm,0.6s
ABSD Ould Sidi Bra 23.22 266 P **P 06 08 25.9 +5.8**
HOMB Homborsund 23.45 327 *e*P **P 06 08 25.9 +3.7**
OSL Oslo 23.68 332 *e*P **P 06 08 27.5 +3.1**
KONO Kongsberg 23.90 330 P **P 06 08 26.9 +0.3**
KONO Kongsberg 23.90 330 *e*P **P 06 08 27.3 +0.8**
KONO Kongsberg 23.90 330‖ *e*P **P 06 08 26.6 +0.1**
KONO pmax pmax
comp=Z,83nm,1.2s
NC602 NORSAR Array S 23.97 334 P **P 06 08 27.6 +0.4**
NC602 IAmb IAmb 06 08 46.8
comp=Z,31nm,1.1s
NC602 NORSAR Array S 23.97 334 *e*P **P 06 08 28.4 +1.2**
SVE Sverdlovsk 24.06 39 *e*P **P 06 08 30.9 +2.8**
SVE pmax pmax
comp=Z,70nm,1.3s
NB2 NORSAR Subarra 24.30 334 P **P 06 08 28.9 -1.4**
comp=Z,52nm,1.4s,baz=137,slow=9.3
NB2 NORSAR Subarra 24.30 334 P **P 06 08 28.9 -1.4**
comp=Z,52nm,1.4s,baz=137,slow=9.3
NOA NORSAR Array B 24.30 334 P **P 06 08 28.7 -1.7**
comp=Z,9.3nm,1.2s,baz=139,slow=9.6,SNR=7.6
NOA LR LR 06 19 59.9
comp=Z,959nm,18.5s,baz=145,slow=42
comp=Z,9.3nm,1.2s
EZEK Zmalet El Emir 24.87 266 P **P 06 08 40.5 +4.7**
ODD1 Odda 25.23 328 *e*P **P 06 08 42.6 +3.9**
EASA Ain Sidi Ali 25.73 265 P **P 06 08 49.0 +5.4**
DOMB Dombas 25.74 334 *e*P **P 06 08 47.0 +3.7**
BER Bergen 26.03 328 *e*P **P 06 08 47.3 +1.4**
ASK Askoy 26.14 328 *e*P **P 06 08 50.5 +3.6**
AKN Aaknes 26.54 333 *e*P **P 06 08 54.8 +4.2**
MOL Molde 26.62 334 *e*P **P 06 08 55.5 +4.3**
EKA Eskdalemuir Ar 27.85 314 P **P 06 09 00.4 -2.0**
comp=Z,1.6nm,0.6s,baz=105,slow=9.3,SNR=6.1
comp=Z,1.6nm,0.6s
KK31 Karatay Array 27.86 73 P **P 06 09 03.5 +0.8**
KK31 IAmb IAmb 06 09 27.6
comp=Z,12nm,0.9s
KK31 Karatay Array 27.86 73 P **P 06 09 03.5 +0.8**
KK31 pmax pmax
comp=Z,12nm,1.0s
KKAR Karatay Array 27.86 73 P **P 06 09 03.6 +0.9**
KKAR Karatay Array 27.86 73 P **P 06 09 03.6 +0.9**
BVAR Borovoye Array 28.02 51 P **P 06 09 03.4 -0.6**
comp=Z,1.0nm,0.6s,baz=248,slow=7.6,SNR=1.2
BVAR LR LR 06 20 53.6
comp=Z,783nm,22.0s,baz=257,slow=38
comp=Z,1.0nm,0.6s
ESDC Sonseca Array 28.11 280 P **P 06 09 03.1 -1.9**
comp=Z,2.4nm,1.0s,baz=78,slow=8.5,SNR=5.1
ESDC LR LR 06 20 32.6
comp=Z,387nm,19.9s,baz=79,slow=37
comp=Z,2.4nm,1.0s

GAR Garm 28.56 81 P **P 06 09 09.5 +0.4**
ARCES ARCESS Array B 29.12 355 P **P 06 09 13.2 -0.3**
comp=Z,4.3nm,0.7s,baz=169,slow=8.3,SNR=9.0
ARCES LR LR 06 21 48.1
comp=Z,689nm,20.1s,baz=179,slow=38
comp=Z,4.3nm,0.7s
MDT Midelt 30.95 267 LR LR 06 21 15.4
comp=Z,255nm,19.4s,baz=72,slow=35
FURI Furi 32.12 169 LR LR 06 22 22.5
comp=Z,484nm,20.4s,baz=350,slow=36
KURBB Kurchatov Arra 32.84 57 P **P 06 09 46.0 -0.5**
comp=Z,7.6nm,0.7s,baz=278,slow=9.3,SNR=14
KURBB LR LR 06 26 19.3
comp=Z,358nm,18.9s,baz=234,slow=42
comp=Z,7.6nm,0.7s
KURK Kurchatov 32.90 57 P **P 06 09 46.7 -0.3**
KURK IAmb IAmb 06 09 55.2
comp=Z,12nm,1.0s
KURK Kurchatov 32.90 57*c e*P **P 06 09 46.9 -0.1**
KURK pmax pmax
comp=Z,5.0nm,1.0s
MK31 Makanchi Array 35.62 63*d i*P **P 06 10 11.0 +0.2**
MKAR Makanchi Array 35.62 63 P **P 06 10 11.0 +0.2**
MKAR Makanchi Array 35.62 63 P **P 06 10 09.8 -1.0**
comp=Z,8.0nm,1.0s,baz=272,slow=9.3,SNR=11
MKAR LR LR 06 28 34.0
comp=Z,452nm,18.9s,baz=260,slow=43
comp=Z,8.0nm,1.0s
MKAR Makanchi Array 35.62 63 *i* P **P 06 10 11.1 +0.3**
MKAR pmax pmax
comp=Z,8.0nm,1.0s
ZALV Zalesovo Beam 36.68 51 P **P 06 10 18.3 -1.3**
comp=Z,5.3nm,0.8s,baz=262,slow=8.4,SNR=9.2
ZALV S **S 06 16 05.3 +1.9**
comp=Z,0.7nm,0.4s,baz=268,slow=14,SNR=1.5
ZALV LR LR 06 28 39.5
comp=Z,597nm,19.6s,baz=264,slow=42
comp=Z,5.3nm,0.8s
ZALV Zalesovo Beam 36.68 51 *i* P **P 06 10 22.5 +2.9**
ZALV pmax pmax
comp=Z,7.0nm,0.8s
JMIC Jan Mayen 36.79 339 LR LR 06 25 31.7
comp=Z,342nm,21.2s,baz=138,slow=36
SPITS Spitsbergen Ar 38.15 355 P **P 06 10 31.6 -0.3**
comp=Z,14nm,0.8s,baz=162,slow=20,SNR=4.2
SPITS LR LR 06 27 24.9
comp=Z,435nm,20.6s,baz=162,slow=38
comp=Z,14nm,0.8s
TORD Torodi Ar. Bea 38.80 234 P **P 06 10 35.7 -2.2**
TORD Torodi Ar. Bea 38.80 234 P **P 06 10 35.5 -2.4**
comp=Z,5.2nm,0.7s,baz=35,slow=9.7,SNR=18
TORD PP **PP 06 12 07.1 +0.4**
comp=Z,4.1nm,1.0s,baz=32,slow=11,SNR=3.6
TORD PcP **PcP 06 12 49.7 +0.3**
comp=Z,0.6nm,0.7s,baz=46,slow=4.2,SNR=1.1
comp=Z,5.2nm,0.7s
WMQ Urumqi 39.97 67 *e*P **P 06 10 50.6 +3.0**
WMQ LR LR
comp=Z,780nm,13.7s
WMQ LR LR
comp=Z,850nm,16.3s
WMQ LR LR
comp=Z,820nm,21.3s
DBIC Dimbokro 47.86 235 P **P 06 11 49.5 -1.6**
comp=Z,4.3nm,0.9s,baz=60,slow=8.1,SNR=2.1
comp=Z,4.3nm,0.9s
ZAK Zakamensk 48.43 54 *e*P **P 06 11 56.2 +0.9**
ZAK pmax pmax
comp=Z,12nm,1.6s
GTA Gaotai 50.00 68 *e*P **P 06 12 06.5 -1.0**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA LR LR
comp=Z,480nm,20.0s
GTA LR LR
comp=Z,360nm,20.4s
GTA LR LR
comp=Z,490nm,21.4s
BBTS Babate 50.14 254 LR LR 06 36 31.1
comp=Z,358nm,18.2s,baz=358,slow=40
SFJD Kangerlussuaq 50.87 330 LR LR 06 35 43.5
comp=Z,300nm,18.1s,baz=90,slow=38
SONM Songino Array 51.19 56 P **P 06 12 16.6 +0.1**
comp=Z,3.7nm,0.8s,baz=293,slow=7.5,SNR=8.3
SONM LR LR 06 36 59.1
comp=Z,579nm,19.3s,baz=289,slow=40
comp=Z,3.7nm,0.8s
ULN Ulaanbaatar 51.60 56 P **P 06 12 19.6 +0.1**
ULN IAmb IAmb 06 12 23.4
comp=Z,17nm,1.2s
ULN Ulaanbaatar 51.60 56‖ *e*P **P 06 12 19.7 +0.2**
ULN pmax pmax
comp=Z,17nm,1.2s
BRDH Bariadhala 52.10 92 LR LR 06 37 01.1
comp=Z,431nm,18.0s,baz=329,slow=39
LZDM Lanzhou Array 54.28 71 P **P 06 12 38.0 -1.6**
comp=Z,0.6nm,0.3s,baz=300,slow=6.0,SNR=1.2
LZDM LR LR 06 39 00.4
comp=Z,479nm,21.2s,baz=0.0,slow=40
comp=Z,0.6nm,0.3s
LSZ Lusaka 55.91 186 LR LR 06 37 21.0
comp=Z,320nm,20.4s,baz=18,slow=37
BTO Baotou 56.54 63 *e*P P 06 12 45.4 -10
BTO S S 06 20 31.3 -17
BTO pmax pmax
comp=Z,19nm,0.5s
BTO pmax pmax
comp=Z,130nm,5.3s
BTO LR LR
comp=N,560nm,24.2s
BTO LR LR
comp=E,480nm,10.9s
BTO LR LR
comp=Z,850nm,22.8s
HHC Hu-ho-hao-te 57.46 62 *e*P **P 06 13 01.0 -1.2**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,110nm,3.8s
HHC LR LR
comp=Z,220nm,14.1s
HHC LR LR
comp=Z,320nm,14.6s
HHC LR LR
comp=Z,320nm,15.7s
PZH PanZhiHua 57.63 81 P **P 06 13 04.4 +0.8**
YAK Yakutsk 57.88 34 LR LR 06 42 27.0
comp=Z,383nm,18.0s,baz=289,slow=41
XAN Xi'an 58.96 70 P **P 06 13 16.3 +3.7**
XAN pmax pmax
comp=Z,10.0nm,1.3s
XAN pmax pmax
comp=Z,83nm,4.6s
XAN LR LR
comp=Z,340nm,16.5s
XAN LR LR
comp=Z,590nm,16.5s
XAN LR LR
comp=Z,690nm,16.8s
FRB Frobisher Bay 59.02 329 LR LR 06 39 29.1
comp=Z,205nm,18.5s,baz=84,slow=37
RES Resolute Bay 59.81 346 LR LR 06 40 09.0
comp=Z,192nm,20.1s,baz=39,slow=37
CMAR Chiang Mai Arr 60.10 91 P **P 06 13 20.6 0.0**
comp=Z,1.6nm,0.6s,baz=306,slow=6.0,SNR=6.5
comp=Z,1.6nm,0.6s
CMAR Chiang Mai Arr 60.10 91 *i* P **P 06 13 22.5 +1.9**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
MATP Matopo 61.00 185 LR LR 06 42 38.2
comp=Z,249nm,18.1s,baz=25,slow=39
TSUM Tsumeb 61.34 197 LR LR 06 41 39.8
comp=Z,310nm,20.6s,baz=342,slow=38
HEH HeiHe 62.55 46 *e*P **P 06 13 38.3 +1.5**
HEH LR LR
comp=Z,250nm,12.3s
HEH LR LR
comp=Z,470nm,12.3s
HEH LR LR
comp=Z,700nm,14.3s
SCHQ Schefferville 62.91 320 LR LR 06 41 26.7
comp=Z,3µm,19.0s,baz=59,slow=36
CN2 Changchun 64.86 53 P **P 06 13 52.6 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
LBTB Lobatse 65.79 187 LR LR 06 43 27.8
comp=Z,280nm,19.6s,baz=12,slow=37
SEY Seymchan 65.94 26 LR LR 06 45 05.0

comp=Z,221nm,18.3s,baz=324,slow=38
SEY Seymchan 65.94 26 *e*P P 06 14 06.4 +7.6
SEY pmax pmax
comp=Z,12nm,1.4s
BILL Bilibino 66.01 17‖ *e*P **P 06 13 58.8 -0.4**
BILL pmax pmax
comp=Z,11nm,1.4s
A36M Sachs Harbour 66.52 353 P **P 06 14 02.0 -0.3**
baz=18
NJ2 Nanjing 67.05 67 *e*P **P 06 14 05.6 -0.8**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
MA2 Magadan 67.70 29 LR LR 06 46 41.0
comp=Z,240nm,18.6s,baz=306,slow=39
QIZ Qiongzhong 68.02 83 P **P 06 14 10.4 -2.3**
QIZ S **S 06 23 16.1 +3.1**
QIZ LR LR
comp=Z,190nm,16.5s
QIZ LR LR
comp=Z,170nm,15.1s
A22K Sinclair Lake 68.41 3 P **P 06 14 13.9 -0.4**
baz=354
USRK Ussuriysk Ar. 68.51 50 P **P 06 14 13.9 -1.6**
comp=Z,3.1nm,0.7s,baz=316,slow=6.0,SNR=5.1
comp=Z,3.1nm,0.7s
B22K Teshekpuk Lake 69.13 2 P **P 06 14 19.2 +0.4**
baz=355
B20K Meade River 69.31 4 P **P 06 14 20.2 +0.3**
baz=352
BOSA Boshof 69.38 187 P **P 06 14 20.6 -0.4**
comp=Z,6.0nm,0.8s,baz=2.6,slow=5.3,SNR=10
BOSA LR LR 06 47 25.6
comp=Z,243nm,18.8s,baz=12,slow=38
comp=Z,6.0nm,0.8s
C26K Camden Bay 69.64 359 P **P 06 14 22.6 +0.6**
baz=1.7
B18K Kokolik River 69.66 6 P **P 06 14 22.9 +0.8**
baz=348
C23K Itkillik River 69.70 1 P **P 06 14 23.1 +0.7**
baz=357
B21K Ikpikpuk River 69.80 3 P **P 06 14 23.2 +0.1**
baz=354
C27K Jago River 69.92 359 P **P 06 14 24.0 +0.2**
baz=2.6
KSAR Wonju Array Be 70.00 58 P **P 06 14 24.6 -0.2**
KSAR Wonju Array Be 70.00 58 P **P 06 14 24.6 -0.2**
KSRS Korea Array 70.02 58 P **P 06 14 23.4 -1.4**
comp=Z,4.0nm,0.8s,baz=304,slow=5.2,SNR=10
comp=Z,4.0nm,0.8s
PSI Prapat 70.06 104 LR LR 06 48 56.1
comp=Z,103nm,18.0s,baz=296,slow=39
D28M Stokes Point 70.07 357 P **P 06 14 24.8 +0.2**
baz=6.7
D27M Malcolm River 70.24 358 P **P 06 14 25.9 +0.1**
baz=4.8
D25K Kavik River 70.25 360 P **P 06 14 26.2 +0.4**
baz=0.5
C21K Knifeblade Rid 70.26 3 P **P 06 14 25.8 0.0**
baz=354
D24K Happy Valley 70.41 1 P **P 06 14 27.3 +0.6**
baz=358
C18K Utukok River 70.41 5 P **P 06 14 26.9 0.0**
baz=349
C17K DeLong Mountai 70.43 6 P **P 06 14 27.1 +0.2**
baz=347
C16K Lisburne Hills 70.43 7 P **P 06 14 26.2 -0.7**
baz=345
D23K Nanushuk River 70.57 1 P **P 06 14 28.4 +0.7**
baz=357
D22K Ayikyak River 70.61 2 P **P 06 14 28.5 +0.5**
baz=355
D20K Etivluk River 70.62 4 P **P 06 14 28.6 +0.5**
baz=352
D19K Kuna River 70.76 4 P **P 06 14 28.8 -0.2**
baz=351
INK Inuvik 70.80 355 LR LR 06 49 25.3
comp=Z,128nm,19.5s,baz=26,slow=39
INK Inuvik 70.80 355 P **P 06 14 29.7 +0.6**
baz=11
E28M Babbage River 70.83 357 P **P 06 14 29.5 +0.2**
baz=6.0
TOLK Toolik Lake Re 70.92 1 P **P 06 14 30.2 +0.3**
baz=358
E29M Blow River 70.97 356 P **P 06 14 29.6 -0.6**
baz=7.3
E21K Killik River 71.01 3 P **P 06 14 30.3 -0.2**
baz=354
E20K Nigu River 71.10 4 P **P 06 14 31.0 0.0**
baz=353
D17K Noatak River 71.19 6 P **P 06 14 30.8 -0.7**
baz=347
E27K Coleen River 71.31 358 P **P 06 14 32.8 +0.5**
baz=4.3
E22K Anaktuvuk Pass 71.38 2 P **P 06 14 33.1 +0.4**
baz=356
E25K Arctic Village 71.45 359 P **P 06 14 32.8 -0.3**
baz=1.1,SNR=6.8
E24K Your Creek 71.50 1 P **P 06 14 32.9 -0.6**
baz=359
E23K Chandalar 71.50 1 P **P 06 14 34.3 +0.8**
baz=358,SNR=6.5
F30M Barrier River 71.63 355 P **P 06 14 34.3 +0.1**
baz=8.9
E18K Tukpahlearik C 71.66 5 P **P 06 14 34.1 -0.3**
baz=349
F31M Tsiigehtchic 71.67 355 P **P 06 14 34.4 0.0**
baz=11
F28M Old Crow 71.83 357 P **P 06 14 35.4 -0.1**
baz=5.7
E19K Redstone River 71.84 4 P **P 06 14 35.5 0.0**
baz=352
F26K Sheenjek River 71.86 359 P **P 06 14 36.3 +0.7**
baz=2.3
E17K Hotham Inlet 71.90 6 P **P 06 14 36.2 +0.4**
baz=348
F25K Christian Rive 71.98 359 P **P 06 14 37.0 +0.7**
baz=1.1
F22K John River 72.00 2 P **P 06 14 36.9 +0.5**
baz=356
F24K Squaw Lake 72.06 0 P **P 06 14 37.3 +0.5**
baz=359,SNR=5.2
F21K Alatna River 72.24 3 P **P 06 14 38.2 +0.2**
baz=355
G30M tAoh Zraii Nji 72.28 356 P **P 06 14 38.2 0.0**
baz=8.6
COLD Coldfoot 72.33 1 P **P 06 14 37.4 -1.0**
baz=357
F20K Avaraart Lake 72.33 4 P **P 06 14 37.5 -0.8**
baz=353
F19K Shaleruckik Mo 72.43 4 P **P 06 14 38.8 -0.1**
baz=351
G29M Pine Creek 72.45 356 P **P 06 14 39.4 +0.3**
baz=7.1
F18K Selawik 72.54 5 P **P 06 14 39.5 -0.1**
baz=350
F17K Baldwin Pennin 72.58 6 P **P 06 14 39.9 +0.1**
baz=349
G26K Porcupine Rive 72.60 359 P **P 06 14 40.3 +0.3**
baz=2.5
G22K Bettles 72.61 2 P **P 06 14 39.8 -0.3**
baz=356
G27K Doyon Strip 72.69 358 P **P 06 14 40.5 -0.1**
baz=4.2
TNA Tin City 72.78 9 P **P 06 14 40.6 -0.5**
baz=344
G25K Bearman Lake 72.81 360 P **P 06 14 41.2 0.0**
baz=0.7
G23K Bananza Creek 72.85 1 P **P 06 14 41.3 -0.2**
baz=358
G24K Hadweenzic Riv 72.88 0 P **P 06 14 40.8 -0.9**
baz=360
EPYK Eagle Plains 72.92 356 P **P 06 14 41.1 -0.9**
baz=8.1
G21K Allakaket 72.95 3 P **P 06 14 42.4 +0.3**
baz=355,SNR=6.4
F15K North Star Dit 73.00 8 P **P 06 14 41.8 -0.5**
baz=346
F14K Arctic Creek 73.05 8 P **P 06 14 42.3 -0.4**
baz=345
G19K Purcell Mounta 73.16 4 P **P 06 14 42.9 -0.4**
baz=352,SNR=5.5
H29M Whitestone 73.16 356 P **P 06 14 42.7 -0.6**
baz=6.8
H27K Steamboat Moun 73.27 358 P **P 06 14 44.0 0.0**
baz=4.3
G18K Tagagawik 73.31 5 P **P 06 14 43.8 -0.4**
baz=351
H25L Birch Creek 73.31 359 P **P 06 14 42.9 -1.3**
baz=0.9
H31M Peel River 73.33 355 P **P 06 14 42.9 -1.5**
baz=10.0
G16K Koyuk River 73.52 7 P **P 06 14 43.7 -1.8**
baz=348
G17K Kiwalik Mounta 73.55 6 P **P 06 14 44.3 -1.3**
baz=349
H22K Ishtalitna Cre 73.64 2 P **P 06 14 45.4 -0.8**
baz=356
H23K Yukon River 73.74 1 P **P 06 14 46.2 -0.6**
baz=358
H24K Noodor Dome 73.75 0 P **P 06 14 46.5 -0.4**
baz=359
G15K Niukluk 73.75 7 P **P 06 14 46.2 -0.6**
baz=347
H19K Roundabout Mou 73.80 4 P **P 06 14 46.1 -1.0**
baz=352
H21K Melozitna Rive 73.83 2 P **P 06 14 46.9 -0.4**
baz=355,SNR=7.3
YKA Yellowknife Ar 73.86 345 P **P 06 14 47.5 0.0**
comp=Z,5.8nm,1.0s,baz=26,slow=5.8,SNR=11
comp=Z,5.8nm,1.0s
YKA Yellowknife Ar 73.86 345 *i* P **P 06 14 50.0 +2.5**
YKA pmax pmax
comp=Z,6.0nm,0.9s
I27K Kandik River 73.90 358 P **P 06 14 46.5 -1.3**
baz=4.2
H20K Anotleneega Mo 73.92 3 P **P 06 14 48.2 +0.3**
baz=354
I28M Miner Creek 74.00 357 P **P 06 14 47.7 -0.7**
baz=5.6
I29M Ogilvie Camp, 74.01 356 P **P 06 14 48.3 -0.1**
baz=6.8,SNR=7.1
ANM Nome 74.03 8 P **P 06 14 47.7 -0.8**
baz=346
I30M Mount Dempster 74.04 355 P **P 06 14 47.9 -0.8**
baz=8.3,SNR=8.9
H18K Honhosa River 74.06 5 P **P 06 14 47.8 -0.9**
baz=351
PRP Porcupine Dome 74.06 359 P **P 06 14 49.0 +0.2**
baz=1.1
H17K Granite Mounta 74.17 6 P **P 06 14 48.3 -1.0**
baz=350
I26K Coal Creek Min 74.24 358 P **P 06 14 49.6 -0.1**
baz=3.0
H16K Elim 74.27 7 P **P 06 14 49.1 -0.8**
baz=348
I21K Tanana 74.34 2 P **P 06 14 49.7 -0.5**
baz=356
I23K Minto, Yukon-K 74.42 1 P **P 06 14 50.1 -0.6**
baz=358
POKR Poker Plat Res 74.47 0 P **P 06 14 50.3 -0.8**
baz=360
MLY Manley 74.52 2 P **P 06 14 50.1 -1.3**
baz=357
GCSA Galena City Sc 74.56 4 P **P 06 14 50.8 -0.7**
baz=352
I20K Naaghedeneel 74.63 3 P **P 06 14 51.0 -1.0**
baz=354
WRGLY Wrigley 74.67 349 P **P 06 14 51.0 -1.2**
baz=18
J30M Hart River 74.68 355 P **P 06 14 51.3 -1.2**
baz=4.4,SNR=6.3
EGAK Eagle 74.71 357 P **P 06 14 52.0 -0.4**
baz=4.6
COLA College 74.72 0‖ *e*P **P 06 14 52.8 +0.4**
COLA pmax pmax
comp=Z,14nm,1.1s
COLA College 74.72 0 P **P 06 14 52.1 -0.3**
baz=359
ILAR Eielson Array 74.82 360 P **P 06 14 53.2 +0.1**
comp=Z,0.4nm,0.8s,baz=6.9,slow=5.5,SNR=9.2
comp=Z,0.4nm,0.8s
J29N Klondike Camp 74.91 356 P **P 06 14 52.4 -1.3**
baz=6.9
J25K Salcha River, 74.97 359 P **P 06 14 52.8 -1.2**
baz=1.3
NEA2 Nenana 74.99 1 P **P 06 14 53.4 -0.7**
baz=358
J26L Joseph Creek 75.06 358 P **P 06 14 53.8 -0.8**
baz=2.7,SNR=5.8
WRH Wood River Hil 75.12 0 P **P 06 14 55.6 +0.8**
WRH IAmb IAmb 06 15 00.6
comp=Z,10nm,1.0s
I17K Unalakleet 75.14 6 P **P 06 14 54.5 -0.4**
baz=349
HDA Harding Lake 75.18 360 P **P 06 14 54.5 -0.7**
baz=0.0,SNR=6.3
J20K Nowinta River 75.26 3 P **P 06 14 55.3 -0.3**
baz=354
DAWY Dawson 75.35 357 P **P 06 14 56.1 -0.2**
baz=6.0,SNR=6.3
J19K Poorman 75.38 4 P **P 06 14 56.1 -0.2**
baz=353
BPAW Bear Paw Mtn. 75.45 2 P **P 06 14 57.2 +0.4**
baz=357
K29M Barlow Dome 75.48 356 P **P 06 14 55.9 -1.2**
baz=7.4
K27K Chicken 75.49 358 P **P 06 14 56.2 -0.8**
baz=3.8
SCRK Sand Creek 75.59 359 P **P 06 14 56.6 -1.1**
baz=2.3
MAYO Mayo, Yukon 75.62 355 P **P 06 14 57.9 +0.1**
baz=8.7
CHUM Lake Minchumin 75.63 2 P **P 06 14 57.3 -0.4**
baz=356
J16K Anvik River 75.75 6 P **P 06 14 58.1 -0.3**
baz=349
J17K VABM Dome 75.75 6 P **P 06 14 57.7 -0.8**
baz=351
K24K Donnelly Dome 75.79 359 P **P 06 14 57.2 -1.5**
baz=0.9,SNR=6.1
RIDG Independent Ri 75.84 359 P **P 06 14 58.1 -1.0**
baz=1.7,SNR=6.7
J18K Innoko River 75.84 4 P **P 06 14 58.2 -0.8**
baz=352
MCK McKinley 75.85 1 P **P 06 14 58.6 -0.5**
baz=358
J14K Nanvaranak Lak 76.00 8 P **P 06 14 58.8 -1.0**
baz=347
K20K Telida 76.09 3 P **P 06 15 00.5 +0.1**
baz=354
TRF Thorofare Moun 76.11 2 P **P 06 15 00.3 -0.5**
baz=357
MMPY Sheldon Lake, 76.20 353 P **P 06 15 01.3 +0.2**
baz=12
L29M L29M 76.25 356 P **P 06 15 01.7 +0.4**
baz=6.9
L27K Beaver Creek, 76.45 358 P **P 06 15 03.0 +0.5**
baz=4.0
K17K Iditarod 76.48 5 P **P 06 15 02.7 +0.1**
baz=351
DHY Denali Highway 76.52 0 P **P 06 15 03.1 0.0**
baz=360
L26K Log Cabin Wild 76.53 358 P **P 06 15 02.7 -0.3**
baz=2.8
PPLA Parkwpile 76.62 2 P **P 06 15 03.6 0.0**
baz=356
PAX Paxson 76.62 359 P **P 06 15 03.4 -0.1**
baz=1.2
K15K Wolf Creek Mou 76.64 7 P **P 06 15 03.3 -0.2**
baz=349
K13K Kusilvak Mount 76.68 8 P **P 06 15 03.6 -0.1**
baz=346
M30M Minto, Yukon 76.70 355 P **P 06 15 03.2 -0.7**
baz=7.9
WAT1 Susitna Watana 76.76 1 P **P 06 15 04.4 +0.2**
baz=359
M31M Drury Creek, Y 76.89 354 P **P 06 15 05.8 +0.8**
baz=9.8
M29M Somme Creek 76.93 356 P **P 06 15 05.9 +0.6**
baz=6.6,SNR=8.3
TGTN Hyland Airport 76.94 351 P **P 06 15 05.9 +0.6**
baz=14
L20K Farewell, AK 76.97 3 P **P 06 15 06.3 +0.8**
baz=355
MJAR Matsushiro Arr 77.00 53 P **P 06 15 06.5 +0.5**
comp=Z,1.2nm,0.3s,baz=327,slow=8.7,SNR=4.4
comp=Z,1.2nm,0.3s
WAT6 Susitna Watana 77.02 0 P **P 06 15 06.0 +0.1**
baz=359,SNR=5.8
L17K Donlin 77.06 5 P **P 06 15 06.2 +0.3**
baz=351
BVCY Beaver Creek 77.07 357 P **P 06 15 06.4 +0.4**
baz=4.8
L18K Granite Mounta 77.08 5 P **P 06 15 05.2 -0.8**
baz=352
M26K Nabesna, AK 77.15 358 P **P 06 15 06.9 +0.5**
baz=3.1,SNR=5.2
M27K Edge Creek, AK 77.16 358 P **P 06 15 06.8 +0.1**
baz=4.0
CUT Chulitna 77.16 2 P **P 06 15 05.9 -0.6**
baz=357
HARP HAARP 77.19 359 P **P 06 15 06.6 0.0**
baz=1.4
L19K White Mountain 77.22 4 P **P 06 15 06.7 -0.2**
baz=354
L15K Ungalak Mounta 77.25 7 P **P 06 15 05.8 -1.1**
baz=349
L16K Owhat River 77.39 6 P **P 06 15 06.8 -0.9**
baz=350
L14K Kuka Creek 77.47 8 P **P 06 15 06.9 -1.2**
baz=348
M24K Tolsona, Glenn 77.49 360 P **P 06 15 07.3 -1.1**
baz=0.6
SKT Skwentna 77.56 2 P **P 06 15 08.4 -0.3**
baz=356
M20K Styx River 77.60 3 P **P 06 15 07.9 -1.2**
baz=355
YUK3 Moose Creek 77.69 357 P **P 06 15 09.3 -0.4**
baz=5.1
N31M Braeburn, Yuko 77.71 355 P **P 06 15 09.6 0.0**
baz=8.7
KOTAN Kotaneelee Air 77.72 348 P **P 06 15 08.9 -0.7**
baz=18
SCM Sheep Creek Mo 77.77 0 P **P 06 15 09.4 -0.6**
baz=360
M23K Glacier View 77.81 0 P **P 06 15 10.7 +0.6**
baz=359
N32M Quiet Lake 77.82 353 P **P 06 15 10.5 +0.3**
baz=11
N30M Aishikik Lake 77.83 355 P **P 06 15 10.1 -0.2**
baz=7.7
M17K Holitna River 77.85 5 P **P 06 15 09.6 -0.7**
baz=352
M18K Stony River 77.86 4 P **P 06 15 10.6 +0.2**
baz=353
N25K Chitina, Valde 77.98 359 P **P 06 15 10.3 -0.8**
baz=1.9
M11K Mekoryuk 78.00 10 P **P 06 15 10.9 -0.2**
baz=345
PMR Palmer 78.00 1 P **P 06 15 10.3 -0.8**
baz=358
YUK4 Talbot Arm 78.03 356 P **P 06 15 11.4 -0.3**
baz=6.5
SUA Susitna One 78.09 2 P **P 06 15 11.5 -0.3**
baz=357
KLU Klutina 78.11 359 P **P 06 15 12.2 +0.3**
baz=0.8
M16K Timber Creek 78.11 6 P **P 06 15 11.3 -0.5**
baz=351
M14K Bethel 78.12 7 P **P 06 15 11.7 -0.1**
baz=348
YUK8 Steele Glacier 78.15 356 P **P 06 15 12.3 0.0**
baz=5.6
MCARA McCarthy VSAT 78.17 358 P **P 06 15 12.2 +0.1**
baz=3.1
KNK Knik Glacier 78.18 1 P **P 06 15 12.6 +0.4**
baz=359
M15K Kasigluk River 78.29 7 P **P 06 15 13.2 +0.4**
baz=349
M13K Dall Lake 78.30 8 P **P 06 15 13.7 +0.9**
baz=347
N20K Mount Spurr 78.32 3 P **P 06 15 13.8 +0.8**
baz=356
SPCR Spurr Chakacha 78.32 3 P **P 06 15 13.8 +0.8**
baz=356
WTLY Watson Lake, Y 78.38 351 P **P 06 15 14.5 +1.2**
baz=14
YUK6 Outpost Mounta 78.42 356 P **P 06 15 13.9 +0.1**
baz=6.7
O30N Mendenhall 78.44 355 P **P 06 15 14.1 +0.4**
baz=8.4
WHY Whitehorse 78.46 354 P **P 06 15 13.9 0.0**
baz=9.3
HYT Haines Junctio 78.48 355 P **P 06 15 13.9 -0.1**
baz=7.3,SNR=5.2
RC01 Rabbit Creek A 78.49 1 P **P 06 15 13.7 -0.2**
baz=358
CTG Chitna Glacier 78.53 357 P **P 06 15 13.4 -0.9**
baz=4.4
N19K Bonanza Creek 78.61 4 P **P 06 15 14.3 -0.4**
baz=354
BMRM Bremner River 78.62 359 P **P 06 15 13.9 -0.8**
baz=1.8
N18K Kilae Creek 78.67 4 P **P 06 15 15.3 +0.4**
baz=353
N16K Nishlik Lake 78.67 6 P **P 06 15 14.6 -0.3**
baz=351
O28M Mount Upton 78.68 357 P **P 06 15 14.2 -1.1**
baz=5.2
LIRD Liard River Hi 78.71 349 P **P 06 15 15.8 +0.6**
baz=16
P33M Teslin, Yukon 78.72 353 P **P 06 15 16.2 +0.9**
baz=11
GLI Glacier Island 78.73 0 P **P 06 15 15.5 +0.3**
baz=360
N17K Nushagak Hills 78.73 5 P **P 06 15 15.6 +0.4**
baz=352
PWL Port Wells 78.74 1 P **P 06 15 14.9 -0.4**
baz=359
CRQE Cirque 78.80 358 P **P 06 15 15.4 -0.3**
baz=3.0
N15K Kwethluk River 78.86 7 P **P 06 15 14.5 -1.4**
baz=350
ULM Lac du Bonnet 78.90 329 P **P 06 15 16.9 +0.6**
comp=Z,4.3nm,0.9s,baz=51,slow=6.5,SNR=4.0
comp=Z,4.3nm,0.9s
N14K Kuskokwak Cree 78.96 7 P **P 06 15 14.9 -1.5**
baz=349
EYAK Cordova Ski Ar 79.05 359 P **P 06 15 15.9 -1.0**
baz=0.9
O29M Mount Kennedy 79.07 356 P **P 06 15 16.0 -1.2**
baz=6.5
TOAD Toad River Com 79.12 349 P **P 06 15 16.9 -0.5**
baz=17,SNR=6.5
P30M Million Dollar 79.15 355 P **P 06 15 17.2 -0.4**
baz=7.7
O19K Port Alsworth 79.23 4 P **P 06 15 17.1 -0.8**
baz=354
R33M Jennings River 79.33 352 P **P 06 15 17.7 -1.0**
baz=12,SNR=6.8
PINM Pinnacle 79.36 357 P **P 06 15 17.8 -0.9**
baz=5.2
P32M Atlin 79.42 353 P **P 06 15 18.7 -0.3**
baz=10
O20K Slope Mountain 79.42 3 P **P 06 15 18.3 -0.8**
baz=356
SEW Seward 79.48 1 P **P 06 15 18.0 -1.3**
baz=358
O17K Koliganek Bris 79.49 5 P **P 06 15 18.6 -0.7**
baz=352
O16K Kokwok River B 79.60 6 P **P 06 15 19.2 -0.7**
baz=351
O14K Tigyukauivet M 79.66 7 P **P 06 15 19.4 -0.8**
baz=349
KAIM Kayak Island 79.66 359 P **P 06 15 19.6 -0.7**
baz=2.0
SKAG Skagway 79.68 354 P **P 06 15 20.6 +0.2**
baz=9.0
P29M Windy Craggy 79.69 355 P **P 06 15 20.0 -0.6**
baz=7.1
PNL Peninsula 79.74 356 P **P 06 15 20.8 0.0**
baz=5.8
PLBC Pleasant Camp 79.77 354 P **P 06 15 20.4 -0.5**
baz=8.2
BRSE Bradley Lake S 79.82 2 P **P 06 15 20.4 -0.8**
baz=357
P19K Oil Pt 79.83 3 P **P 06 15 20.8 -0.5**
baz=355
O15K Ungalikthiuk R 79.87 7 P **P 06 15 19.9 -1.6**
baz=350
HOM Homer 79.88 2 P **P 06 15 18.3 -3.2**
baz=356
Q32M Nakina River 79.90 352 P **P 06 15 19.8 -2.1**
baz=11
P17K Kvichak River 80.11 5 P **P 06 15 21.8 -0.9**
baz=353
DLBC Dease Lake 80.17 351 LR LR 06 56 14.5
comp=Z,2µm,18.1s,baz=356,slow=40
DLBC Dease Lake 80.17 351 P **P 06 15 22.5 -0.7**
baz=13
Q19K Cape Douglas, 80.53 3 P **P 06 15 23.2 -1.8**
baz=355
Q18K Katmai Hardscr 80.74 4 P **P 06 15 24.1 -2.2**
baz=354
S34M Telegraph Cree 80.81 351 P **P 06 15 25.0 -1.5**
baz=12

Q20K	**Shuyak Island**	**80.90**	**3**	P		**P**	**06 15 26.0**	**-1.0**
	baz=356							
Q17K	**Contact Creek**	**81.07**	**5**	P		**P**	**06 15 26.4**	**-1.7**
	baz=353							
S31K	**Pelican**	**81.24**	**354**	P		**P**	**06 15 27.1**	**-1.7**
	baz=8.2							
T35M	**Bob Quinn**	**81.61**	**351**	P		**P**	**06 15 28.3**	**-2.6**
	baz=13							
R17L	**Mt. Peulik Vol**	**81.67**	**5**	P		**P**	**06 15 29.0**	**-2.2**
	baz=353							
KDAK	**Kodiak Island**	**81.72**	**3**	P		**P**	**06 15 29.8**	**-1.6**
	baz=356							
R18K	**Karluk**	**81.85**	**4**	P		**P**	**06 15 30.1**	**-1.9**
	baz=354							
WRAK	**Wrangell Islan**	**82.41**	**352**	P		**P**	**06 15 32.8**	**-2.2**
	baz=11							
S14K	**Fog Glacier**	**82.75**	**7**	P		**P**	**06 15 35.1**	**-1.8**
	baz=350							
CHGN	**Chignik**	**82.84**	**6**	P		**P**	**06 15 35.3**	**-1.9**
	baz=351							
SII	**Sitkinak Islan**	**82.87**	**4**	P		**P**	**06 15 34.9**	**-2.5**
	baz=354							
S12K	**Black Hills**	**83.07**	**9**	P		**P**	**06 15 36.2**	**-2.3**
	baz=348							
MDP	**Montagnes des**	**83.39**	**271**	LR		LR	06 52 17.4	
	comp=Z,100nm,18.1s,baz=40,slow=35							
V35K	**Ketchikan**	**83.40**	**351**	P		**P**	**06 15 38.0**	**-2.1**
	baz=12							
CRAG	**Craig**	**83.42**	**352**	P		**P**	**06 15 37.1**	**-3.1**
	baz=10							
CHIR	**Chirikof Islan**	**83.52**	**5**	P		**P**	**06 15 38.6**	**-2.2**
	baz=353							
SDPT	**Sand Point**	**83.59**	**8**	P		**P**	**06 15 37.9**	**-3.2**
	baz=350							
FALS	**False Pass**	**83.74**	**9**	P		**P**	**06 15 38.1**	**-3.7**
	baz=348							
CHNA	**Chernabura Isl**	**84.19**	**7**	P		**P**	**06 15 40.1**	**-4.1**
	baz=350							
UNV	**Unalaska Valle**	**84.30**	**11**	P		**P**	**06 15 40.8**	**-4.0**
	baz=345							
BBB	**Bella Bella**	**86.00**	**348**	LR		LR	06 55 19.3	
	comp=Z,185nm,20.9s,baz=62,slow=36							
NEW	**Newport**	**87.50**	**341**	LR		LR	06 57 32.5	
	comp=Z,206nm,18.6s,baz=21,slow=37							
PDAR	**Pinedale Array**	**90.24**	**333**	P		**P**	**06 16 15.2**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=34,slow=3.9,SNR=2.8							
	comp=Z,0.3nm,0.7s							
ANMO	**Albuquerque**	**95.94**	**328**	LR		LR	07 02 34.1	
	comp=Z,267nm,19.3s,baz=134,slow=37							
TXAR	**Lajitas Array**	**99.53**	**323**	P		**Pdif**	**06 16 56.0**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=37,slow=6.4,SNR=2.5							
	comp=Z,0.3nm,0.9s							

NEIC ***14*** *06:06:05.1±0.9, 17°.9N±0°.3×68°.50W±0°.07, h97km±16km, ML3.0/20, Md3.3/21(RSPR), Error ellipse: s-maj=47.5km s-min=6.6km az=188.0*
RSPR ***14*** *06:06:05.2, 18°.14N×68°.50W, h106km±2km, MD3.2/21*
OSPL ***14*** *06:06:05.5±1.8, 17°.76N×68°.50W, h12km±12km, ML2.9*
SDD ***14*** *06:06:07.7±2.5, 18°.04N×68°.50W, h74km±24km, MD3.5, ML3.2, MW3.3*

ISC 14 06:06:05.4±1.3, **18°.12N**±0°.07×**68°.50W**±0°.03, **h94**km±9km, **n95**, σ1**°29**/118, **13C-14D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HIDR	**Higuey Centro**	**0.51**	**336**	⇓*e*P	**Pn**	**06 06 20.2**	**-0.4**
HIDR	**Higuey Centro**	**0.51**	**336**	*e*S	**Sn**	**06 06 31.1**	**-0.8**
HIDR	**Higuey Centro**	**0.51**	**336**	*e*Pg	**Pn**	**06 06 20.2**	**-0.4**
HIDR				⇑*e*Sg	**Sn**	**06 06 31.2**	**-0.8**
HIDR				IAML		06 06 33.2	
	comp=N,1μm,0.2s						
MIDR	**Miches**	**1.00**	**329**	⇓*e*P	**Pn**	**06 06 24.7**	**-0.7**
MIDR	**Miches**	**1.00**	**329**	*e*S	**Sn**	**06 06 38.8**	**-1.6**
IDE	**Isla Desecheo**	**1.01**	**75**		**Pn**	**06 06 25.7**	**+0.2**
IDE					**Sn**	**06 06 41.8**	**+1.2**
IDE	**Isla Desecheo**	**1.01**	**75**	⇑*e*P	**Pn**	**06 06 25.7**	**+0.2**
IDE	**Isla Desecheo**	**1.01**	**75**	*e*S	**Sn**	**06 06 41.8**	**+1.2**
HATOM	**Hato Mayor del**	**1.07**	**309**	*e*Pg	**Pn**	**06 06 25.5**	**-0.6**
HATOM				*e*Pg	**Pn**	**06 06 25.5**	**-0.6**
HATOM				⇓*e*Sg	**Sn**	**06 06 40.6**	**-1.2**
HATOM				IAML		06 06 41.0	
	comp=N,294nm,0.2s						
PRSN	**Puerto Rico Se**	**1.29**	**86**		**Sn**	**06 06 48.0**	**+1.5**
PRSN	**Puerto Rico Se**	**1.29**	**86**	Pn	**Pn**	**06 06 29.1**	**+0.3**
PRSN	**Puerto Rico Se**	**1.29**	**86**	⇓*e*P	**Pn**	**06 06 30.0**	**+1.3**
PRSN	**Puerto Rico Se**	**1.29**	**86**	*e*S	**Sn**	**06 06 48.0**	**+1.5**
PRSN	**Puerto Rico Se**	**1.29**	**86**	*e*Pg	**Pn**	**06 06 30.1**	**+1.3**
PRSN				IAML		06 06 53.2	
	comp=N,366nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.33**	**95**		**Pn**	**06 06 29.2**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.33**	**95**		**Sn**	**06 06 46.4**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.33**	**95**	⇓*e*P	**Pn**	**06 06 29.2**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.33**	**95**	*e*S	**Sn**	**06 06 47.9**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.33**	**95**	*e*Pg	**Pn**	**06 06 29.2**	**+0.1**
CRPR				*e*Sg	**Sn**	**06 06 45.5**	**-1.7**
CRPR				IAML		06 06 55.5	
	comp=N,78nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.33**	**95**	*i* P	**Pn**	**06 06 29.3**	**+0.1**
CRPR				*e*S	**Sn**	**06 06 45.9**	**-1.3**
CRPR				IAML		06 06 57.6	
	comp=Z,71nm,0.3s						
SMDR	**Samana, DR**	**1.33**	**331**	⇓*e*P	**Pn**	**06 06 29.0**	**-0.3**
SMDR	**Samana, DR**	**1.33**	**331**	*e*S	**Sn**	**06 06 47.7**	**+0.4**
SMDR	**Samana, DR**	**1.33**	**331**	*e*Pg	**Pn**	**06 06 29.0**	**-0.3**
SMDR				IAML		06 06 52.9	
	comp=N,208nm,0.9s						
LSP	**Las Mesas**	**1.35**	**87**		**Pn**	**06 06 29.4**	**0.0**
LSP					**Sn**	**06 06 48.2**	**+0.6**
LSP	**Las Mesas**	**1.35**	**87**	⇑*e*P	**Pn**	**06 06 29.4**	**0.0**
LSP	**Las Mesas**	**1.35**	**87**	*e*S	**Sn**	**06 06 48.2**	**+0.6**
AGPR	**Aguadilla, PR**	**1.36**	**75**		**Pn**	**06 06 30.5**	**+0.9**
AGPR					**Sn**	**06 06 49.9**	**+1.9**
AGPR	**Aguadilla, PR**	**1.36**	**75**	⇓*e*P	**Pn**	**06 06 30.5**	**+0.9**
AGPR	**Aguadilla, PR**	**1.36**	**75**	*e*S	**Sn**	**06 06 49.9**	**+1.9**
AGPR	**Aguadilla, PR**	**1.36**	**75**	*e*Pg	**Pn**	**06 06 30.4**	**+0.8**
AGPR				*e*Sg	**Sn**	**06 06 47.3**	**-0.7**
AGPR				IAML		06 06 51.0	
	comp=N,246nm,0.2s						
AGPR	**Aguadilla, PR**	**1.36**	**75**	*i* P	**Pn**	**06 06 30.5**	**+0.8**
AGPR				*e*S	**Sn**	**06 06 48.0**	**0.0**
AGPR				IAML		06 06 50.6	
	comp=Z,146nm,0.2s						
SDD	**Santo Domingo**	**1.38**	**284**		**Pn**	**06 06 30.0**	**+0.1**
SDD				IAML		06 06 52.7	
	comp=N,118nm,0.3s						
SDD	**Santo Domingo**	**1.38**	**284**		**Sn**	**06 06 49.6**	**+1.3**
SDD	**Santo Domingo**	**1.38**	**284**	⇑*e*P	**Pn**	**06 06 30.6**	**+0.8**
SDD	**Santo Domingo**	**1.38**	**284**	*e*S	**Sn**	**06 06 49.6**	**+1.3**
SDD	**Santo Domingo**	**1.38**	**284**	*i* P	**Pn**	**06 06 30.6**	**+0.8**
MLPR	**Magueyes Islan**	**1.40**	**96**	⇓*e*P	**Pn**	**06 06 29.9**	**0.0**
MLPR	**Magueyes Islan**	**1.40**	**96**	*e*S	**Sn**	**06 06 49.5**	**+0.9**
MLPR	**Magueyes Islan**	**1.40**	**96**	⇓*e*Pg	**Pn**	**06 06 29.9**	**0.0**
MLPR				⇑*e*Sg	**Sn**	**06 06 48.9**	**+0.3**
MLPR				IAML		06 06 56.2	
	comp=N,26nm,0.2s						
AOPR	**Arecibo Observ**	**1.68**	**82**		**Pn**	**06 06 33.6**	**0.0**
AOPR					**Sn**	**06 06 55.9**	**+0.9**
AOPR	**Arecibo Observ**	**1.68**	**82**	⇓*e*P	**Pn**	**06 06 33.6**	**0.0**
AOPR	**Arecibo Observ**	**1.68**	**82**	*e*S	**Sn**	**06 06 55.9**	**+0.9**
AOPR	**Arecibo Observ**	**1.68**	**82**	*e*Pg	**Pn**	**06 06 33.8**	**+0.2**
AOPR				⇑*e*Sg	**Sn**	**06 06 55.0**	**0.0**
AOPR				IAML		06 07 00.3	
	comp=N,472nm,0.3s						
UUPR	**Utuado, UPR, P**	**1.70**	**85**		**Pn**	**06 06 33.9**	**+0.1**
UUPR					**Sn**	**06 06 56.4**	**+0.9**
UUPR	**Utuado, UPR, P**	**1.70**	**85**	⇑*e*P	**Pn**	**06 06 33.9**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.70**	**85**	*e*S	**Sn**	**06 06 56.4**	**+0.9**
NADR	**Nagua**	**1.78**	**314**	*e*Pg	**Pn**	**06 06 35.4**	**+0.6**
NADR				*e*Sg	**Sn**	**06 06 58.2**	**+1.0**
NADR				IAML		06 07 03.4	
	comp=N,1μm,0.3s						
NAG1	**Nagua**	**1.78**	**314**	*e*Pg	**Pn**	**06 06 35.5**	**+0.6**
OBIP	**Obispado Ponce**	**1.81**	**92**		**Pn**	**06 06 35.4**	**+0.2**
OBIP					**Sn**	**06 06 58.0**	**+0.1**
OBIP	**Obispado Ponce**	**1.81**	**92**	⇓*e*P	**Pn**	**06 06 35.4**	**+0.2**
OBIP	**Obispado Ponce**	**1.81**	**92**	*e*S	**Sn**	**06 06 58.0**	**+0.1**
CELP	**Cerrillos**	**1.83**	**91**		**Pn**	**06 06 35.0**	**-0.6**
CELP				IAML		06 07 04.2	
	comp=E,97nm,0.5s						
CELP				IAML		06 07 05.5	
	comp=N,111nm,0.3s						
CELP	**Cerrillos**	**1.83**	**91**		**Sn**	**06 06 58.8**	**+0.3**
CELP	**Cerrillos**	**1.83**	**91**	⇑*e*P	**Pn**	**06 06 35.3**	**-0.2**
CELP	**Cerrillos**	**1.83**	**91**	*e*S	**Sn**	**06 06 58.8**	**+0.3**
CELP	**Cerrillos**	**1.83**	**91**	*e*Pg	**Pn**	**06 06 35.1**	**-0.4**
CELP				*e*Sg	**Sn**	**06 06 56.6**	**-1.9**
CELP				IAML		06 07 04.3	
	comp=N,108nm,0.2s						
EMPR	**Esperanza - Ma**	**1.91**	**79**		**Pn**	**06 06 37.0**	**+0.6**
EMPR					**Sn**	**06 07 01.4**	**+1.2**
EMPR	**Esperanza - Ma**	**1.91**	**79**	⇑*e*P	**Pn**	**06 06 37.0**	**+0.6**
EMPR	**Esperanza - Ma**	**1.91**	**79**	*e*S	**Sn**	**06 07 01.4**	**+1.2**
SFDR	**San Fco. de Ma**	**2.02**	**305**	*e*Pg	**Pn**	**06 06 39.9**	**+2.0**
SFDR				IAML		06 07 10.2	
	comp=N,400nm,0.3s						
ECPR	**Experimental S**	**2.04**	**84**	⇑*e*P	**Pn**	**06 06 38.4**	**+0.2**
ECPR	**Experimental S**	**2.04**	**84**	*e*S	**Sn**	**06 07 03.6**	**+0.2**
SJG	**San Juan**	**2.24**	**90**		**Pn**	**06 06 40.7**	**-0.1**
SJG				IAML		06 07 11.6	
	comp=N,104nm,0.3s						
SJG				IAML		06 07 13.4	
	comp=N,86nm,0.4s						
SJG	**San Juan**	**2.24**	**90**	⇓*e*P	**Pn**	**06 06 41.4**	**+0.7**
SJG	**San Juan**	**2.24**	**90**	*e*S	**Sn**	**06 07 08.8**	**+0.8**
SJG	**San Juan**	**2.24**	**90**	*e*Pg	**Pn**	**06 06 41.5**	**+0.7**
SJG	**San Juan**	**2.24**	**90**	*i* P	**Pn**	**06 06 41.0**	**+0.2**
SJG				*e*S	**Sn**	**06 07 07.2**	**-0.8**
SJG				IAML		06 07 12.9	
	comp=Z,41nm,0.5s						
IGPR	**InterUniversit**	**2.28**	**93**		**Pn**	**06 06 41.0**	**-0.5**
IGPR					**Sn**	**06 07 08.3**	**-0.7**
IGPR	**InterUniversit**	**2.28**	**93**	⇑*e*P	**Pn**	**06 06 41.0**	**-0.5**
IGPR	**InterUniversit**	**2.28**	**93**	*e*S	**Sn**	**06 07 08.3**	**-0.7**
GCPR	**Guaynabo City**	**2.31**	**85**		**Pn**	**06 06 41.0**	**-0.7**
GCPR					**Sn**	**06 07 09.6**	**+0.1**
GCPR	**Guaynabo City**	**2.31**	**85**	IAML		06 07 11.3	
	comp=E,53nm,0.3s						
GCPR				IAML		06 07 14.1	
	comp=N,48nm,0.4s						
GCPR	**Guaynabo City**	**2.31**	**85**	⇓*e*P	**Pn**	**06 06 41.0**	**-0.7**
GCPR	**Guaynabo City**	**2.31**	**85**	*e*S	**Sn**	**06 07 09.6**	**+0.1**
PDPR	**Patillas Dam,**	**2.36**	**92**	Pn	**Pn**	**06 06 41.5**	**-0.9**
PDPR				IAML		06 07 15.2	
	comp=E,55nm,0.2s						
PDPR				IAML		06 07 16.1	
	comp=N,51nm,0.1s						
PDPR	**Patillas Dam,**	**2.36**	**92**	⇑*e*P	**Pn**	**06 06 42.0**	**-0.4**
PDPR	**Patillas Dam,**	**2.36**	**92**	*e*S	**Sn**	**06 07 11.2**	**+0.3**
SC01	**Santiago de lo**	**2.48**	**302**		**Pn**	**06 06 44.1**	**+0.1**
SC01	**Santiago de lo**	**2.48**	**302**	⇑*e*P	**Pn**	**06 06 45.6**	**+1.6**
SC01	**Santiago de lo**	**2.48**	**302**	*e*S	**Sn**	**06 07 17.6**	**+3.9**
SC01	**Santiago de lo**	**2.48**	**302**	*e*Pg	**Pn**	**06 06 45.8**	**+1.7**
SC01				IAML		06 07 20.8	
	comp=N,150nm,0.5s						
SC01	**Santiago de lo**	**2.48**	**302**	*i* P	**Pn**	**06 06 45.5**	**+1.4**
SC01				*e*S	**Sn**	**06 07 17.8**	**+4.1**
SC01				IAML		06 07 24.9	
	comp=Z,72nm,0.5s						
HUMP	**Col San Antoni**	**2.52**	**89**	Pn	**Pn**	**06 06 44.4**	**-0.1**
LOVI	**El Cajuil, Ovi**	**2.75**	**264**	*i* P	**Pn**	**06 06 47.9**	**+0.3**
LOVI				*e*S	**Sn**	**06 07 17.9**	**-2.2**
LOVI				IAML		06 07 22.5	
	comp=Z,74nm,0.4s						
SDDR	**Presa de Saban**	**2.78**	**288**		**Pn**	**06 06 50.3**	**+2.2**
SDDR				IAML		06 07 35.1	
	comp=Z,56nm,0.6s						
SDDR	**Presa de Saban**	**2.78**	**288**	*e*P	**Pn**	**06 06 50.6**	**+2.6**
SDDR	**Presa de Saban**	**2.78**	**288**	⇓*e*Pg	**Pn**	**06 06 51.0**	**+3.0**
SDDR				IAML		06 07 29.6	
	comp=N,58nm,0.7s						
SDDR	**Presa de Saban**	**2.78**	**288**	*i* P	**Pn**	**06 06 51.0**	**+3.0**
SDDR				*e*S	**Sn**	**06 07 24.2**	**+3.3**
SDDR				IAML		06 07 28.6	
	comp=Z,33nm,0.2s						
LODU1	**El Espartillar**	**2.83**	**275**	*i* P	**Pn**	**06 06 50.2**	**+1.4**
LODU1				IAML		06 07 39.4	
	comp=Z,54nm,0.5s						
LONE3	**El Aguacate, B**	**2.85**	**280**	*i* P	**Pn**	**06 06 50.0**	**+0.9**
REDR	**Restauracion**	**2.93**	**291**	*e*Pg	Pn	06 06 55.1	+5.0
REDR				IAML		06 07 37.2	
	comp=N,85nm,0.2s						
LOBH	**Bahia de las A**	**3.00**	**266**	*i* P	**Pn**	**06 06 50.6**	**-0.3**
LOBH				*e*S	**Sn**	**06 07 24.8**	**-1.3**
LOBH				IAML		06 07 33.2	
	comp=Z,53nm,0.7s						
GRTK	**Grand Turk**	**4.18**	**324**	*e*P	**Pn**	**06 07 03.7**	**-3.3**
GRTK				IVmB_BB		06 07 05.0	
	comp=Z,178nm,0.2s						
MASC	**Masc**	**5.79**	**292**	*e*P	**Pn**	**06 07 25.2**	**-3.6**
MASC				*e*S	**Sn**	**06 08 30.0**	**-3.8**
QMBU	**Quimbuelo**	**6.31**	**290**	*e*P	Pn	06 07 29.4	-6.5

PRE ***14*** *06:13:41.1±0.6, 26°.03S×27°.04E, h5km, ML2.6*
BGSI ***14*** *06:13:53.4±2.4, 26°.18S×27°.14E, h25km±231km, ML2.7*

ISC 14 06:13:41.8±0.9, **26°.10S**±0°.05×**27°.09E**±0°.04, **h10**km, **n16,** σ1**°77**/29, **South Africa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HRAO	**HartRAO**	**0.58**	**69**	*e*P	**Pb**	**06 13 52.9**	**-1.2**
HRAO				*e*S	**Sb**	**06 14 00.8**	**-1.6**
HRAO				IAML		06 14 01.6	
	comp=Z,514nm,0.3s						
MAKGR	**Makgori**	**2.08**	**277**	*i* P	Pg	06 14 27.6	+5.9
MAKGR				*i* S	**Sg**	**06 14 49.5**	**+0.8**
MAKGR				IAML		06 15 08.2	
	comp=N,245nm,0.4s						
LPHEP	**Lephephe**	**2.94**	**337**	*i* P	**Pg**	**06 14 38.9**	**+0.7**
LPHEP				IAML		06 15 32.9	
	comp=E,59nm,0.8s						
BOSA	**Boshof**	**2.99**	**213**	*e*P	**Pn**	**06 14 31.1**	**+1.8**
BOSA				*e*S	**Sn**	**06 15 07.1**	**+1.8**
BOSA				IAML		06 15 22.3	
	comp=Z,20nm,0.2s						
SKOMA	**Sekoma**	**3.26**	**298**	*i* P	**Pg**	**06 14 41.9**	**-2.4**
SKOMA				*i* S	**Sb**	**06 15 20.3**	**+0.6**
SKOMA				IAML		06 15 43.2	
	comp=E,23nm,0.5s						
KDWAN	**Kaudwane**	**3.49**	**320**	*i* P	**Pb**	**06 14 45.2**	**+1.5**
KDWAN				IAML		06 15 49.1	
	comp=N,40nm,0.4s						
KSTD	**Kokstad**	**4.91**	**157**	*e*P	**Pn**	**06 14 57.8**	**+2.0**
KSTD				*e*S	**Sn**	**06 15 53.8**	**+1.1**
KSTD				IAML		06 16 03.4	
	comp=Z,9.0nm,0.3s						
ALKP	**Alkanpan, Nort**	**5.74**	**227**	*e*P	**Pn**	**06 15 08.1**	**+1.0**
ALKP				*e*S	**Sn**	**06 16 11.6**	**-1.7**
ALKP				IAML		06 16 48.8	
	comp=Z,14nm,0.4s						
BFON	**Badsfontein, M**	**6.41**	**207**	*e*P	**Pn**	**06 15 17.6**	**+1.2**
BFON				*e*S	**Sn**	**06 16 28.9**	**-0.9**
BFON				IAML		06 17 06.9	
	comp=Z,7.4nm,0.5s						
GRAF	**Camdeboo Natio**	**6.56**	**200**	*e*P	**Pn**	**06 15 19.9**	**+1.4**
GRAF				*e*S	**Sn**	**06 16 32.4**	**-1.0**
GRAF				IAML		06 17 07.5	
	comp=Z,5.6nm,0.8s						
BRAK	**Brakfontein**	**6.75**	**212**	*e*P	**Pn**	**06 15 22.8**	**+1.8**
BRAK				*e*S	**Sn**	**06 16 37.1**	**-0.9**
BRAK				IAML		06 17 13.8	
	comp=Z,8.0nm,0.6s						
ARMS	**Ukamas**	**6.83**	**252**	*e*P	**Pn**	**06 15 22.9**	**+0.7**
ARMS				*e*S	**Sn**	**06 16 37.2**	**-2.8**
GRHM	**Grahamstown, E**	**7.18**	**185**	*e*P	**Pn**	**06 15 28.7**	**+1.8**
GRHM				*e*S	**Sn**	**06 16 47.3**	**-1.3**
GRHM				IAML		06 17 38.8	
	comp=Z,3.2nm,0.7s						
GRAN	**Grantham**	**7.53**	**214**	*e*P	**Pn**	**06 15 33.2**	**+1.5**
GRAN				*e*S	**Sn**	**06 16 55.2**	**-1.9**
GRAN				IAML		06 17 47.5	
	comp=Z,5.3nm,0.6s						
FRAZ	**Fraserburg**	**7.64**	**219**	*e*P	**Pn**	**06 15 35.2**	**+1.9**
FRAZ				*e*S	**Sn**	**06 16 57.2**	**-2.9**
FRAZ				IAML		06 17 43.3	
	comp=Z,4.7nm,0.6s						
CVNA	**Calvinia**	**8.37**	**228**	*e*P	**Pn**	**06 15 45.2**	**+1.9**
CVNA				*e*S	**Sn**	**06 17 14.9**	**-3.1**
CVNA				IAML		06 18 15.4	
	comp=Z,6.2nm,0.8s						

SJA ***14*** *06:14:31.2±1.6, 32°.84S×70°.40W, h107km±6km, ML4.0, MW4.0*
GUC ***14*** *06:14:31.6±0.8, 32°.84S×70°.38W, h98km±3km, ML4.5*

NEIC ***14*** *06:14:32.4±1.0, 32°.85S±0°.05×70°.41W±0°.06, h99km±6km, mb4.6/16, ML4.4(GUC), Error ellipse: s-maj=7.8km s-min=6.7km az=85.0*
IDC ***14*** *06:14:32.9±2.1, 32°.85S×70°.31W, h100km±18km, mb3.7/7, mbtmp3.9/12, Error ellipse: s-maj=23.6km s-min=14.3km az=98.0*

ISC 14 06:14:32.6±0.6, **32°.86S**±0°.02×**70°.38W**±0°.03, **h106**km±4km, **n144,** σ1**°43**/168, **mb4.5**/13, **12C-8D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA03	**San Esteban**	**0.17**	**304**		**Pn**	**06 14 46.5**	**-1.1**
VA03	**San Esteban**	**0.17**	**304**	⇑*i*P	**Pn**	**06 14 46.4**	**-1.2**
VA03				*e*S	**Sn**	**06 14 57.5**	**-1.4**
VA03				IAML		06 14 58.2	
	comp=E,64μm,0.2s						
VA03	**San Esteban**	**0.17**	**304**	*e*P	Pn	06 14 40.7	-6.9
VA03				*e*P		06 14 46.3	
VA03				*e*S	**Sn**	**06 14 57.9**	**-1.0**
PEL	**Peldehue**	**0.38**	**222**		**Pn**	**06 14 47.4**	**-1.1**
PEL	**Peldehue**	**0.38**	**222**	*e*P	**Pn**	**06 14 47.3**	**-1.1**
PEL				*e*S	**Sn**	**06 14 58.9**	**-1.4**
PEL				IAML		06 14 60.0	
	comp=E,26μm,0.4s						
PEL	**Peldehue**	**0.38**	**222**	*e*P	Pn	06 14 42.0	-6.4
PEL				IAML		06 14 59.5	
	comp=Z,11μm,0.3s						
MT10	**Hacienda Santa**	**0.43**	**198**	⇓*e*P	**Pn**	**06 14 48.2**	**-0.6**
MT10				*e*S	**Sn**	**06 15 00.4**	**-0.6**
MT10				IAML		06 15 03.5	
	comp=N,28μm,0.3s						
ROCH	**El Roble**	**0.54**	**258**	⇑*e*P	**Pn**	**06 14 48.8**	**-0.8**
ROCH				*e*S	**Sn**	**06 15 01.4**	**-1.0**
ROCH				IAML		06 15 02.5	
	comp=N,38μm,0.6s						
ROC1	**El Roble**	**0.55**	**258**	*e*P	Pn	06 14 43.3	-6.4
MT14	**Cerro Cal¡n**	**0.55**	**194**	⇓*i*P	**Pn**	**06 14 48.9**	**-0.6**
MT14				*e*S	**Sn**	**06 15 01.6**	**-0.6**
MT14				IAML		06 15 03.1	
	comp=E,19μm,0.3s						
MT16	**CCHEN**	**0.58**	**192**		**Pn**	**06 14 48.7**	**-1.0**
MT04	**Ro Olivares**	**0.58**	**159**	⇓*e*P	**Pn**	**06 14 49.1**	**-0.8**
MT04				*e*S	**Sn**	**06 15 02.4**	**-0.5**
MT04	**Ro Olivares**	**0.58**	**159**	*e*P	**Pn**	**06 14 49.1**	**-0.8**
MT04				*e*S	**Sn**	**06 15 06.9**	**+4.0**
MT04				IAML		06 15 09.3	
	comp=Z,2μm,0.2s						
MT05	**Renca**	**0.61**	**209**		**Pn**	**06 14 49.1**	**-0.8**
MT05	**Renca**	**0.61**	**209**	⇓*e*P	**Pn**	**06 14 49.5**	**-0.4**
MT05				*e*S	**Sn**	**06 15 02.7**	**-0.2**
MT05	**Renca**	**0.61**	**209**	*e*P	**Pn**	**06 14 49.5**	**-0.4**
MT05				*e*S	**Sn**	**06 15 03.0**	**0.0**
MT05				IAML		06 15 03.5	
	comp=Z,6μm,0.2s						
MT03	**Universidad Ad**	**0.64**	**190**		**Pn**	**06 14 49.5**	**-0.8**
MT03	**Universidad Ad**	**0.64**	**190**	*e*P	**Pn**	**06 14 49.6**	**-0.6**
MT03				*e*S	**Sn**	**06 15 03.6**	**+0.1**
MT03				IAML		06 15 05.0	
	comp=Z,10μm,0.2s						
MT08	**Bocatoma Ro**	**0.66**	**152**		**Pn**	**06 14 49.7**	**-0.8**
MT08	**Bocatoma Ro**	**0.66**	**152**	⇓*e*P	**Pn**	**06 14 50.1**	**-0.4**
MT08				*e*S	**Sn**	**06 15 03.7**	**-0.3**
MT08	**Bocatoma Ro**	**0.66**	**152**	*e*P	**Pn**	**06 14 50.2**	**-0.3**
MT08				*e*S	Sn	06 15 13.7	+10
MT15	**Las Vizcachas**	**0.74**	**188**	⇓*e*P	**Pn**	**06 14 50.5**	**-0.5**
MT15				*e*S	**Sn**	**06 15 04.4**	**-0.5**
MT15				IAML		06 15 05.5	
	comp=N,13μm,0.3s						
MT02	**Curacav**	**0.75**	**238**		**Pn**	**06 14 49.9**	**-1.1**
MT02	**Curacav**	**0.75**	**238**	*e*P	**Pn**	**06 14 49.5**	**-1.5**
MT02				*e*S	**Sn**	**06 15 03.9**	**-1.0**
MT02				IAML		06 15 08.4	
	comp=Z,2μm,0.2s						
VA06	**Catapilco**	**0.83**	**291**		**Pn**	**06 14 50.5**	**-1.2**
VA06	**Catapilco**	**0.83**	**291**	⇑*i*P	**Pn**	**06 14 50.8**	**-0.9**
MT13	**San Alfonso**	**0.88**	**175**		**Pn**	**06 14 51.8**	**-0.7**
MT13	**San Alfonso**	**0.88**	**175**	⇓*e*P	**Pn**	**06 14 52.2**	**-0.2**
MT13				*e*S	**Sn**	**06 15 07.4**	**0.0**

RFA	**San Rafael**	**2.48**	**141**	*eP*		Pn	06 15 05.6	-6.1
RFA				*eP*			06 15 11.0	
RFA				*eS*		**Sn**	**06 15 35.8**	**-6.0**
GO05	**Hualane**	**2.50**	**211**	*eP*		**Pn**	**06 15 09.7**	**-2.2**
GO05				*eS*		**Sn**	**06 15 34.0**	**-8.1**
GO05				IAML			06 15 50.6	
	comp=Z,254nm,0.7s							
ACCO	**Cerro Coronel**	**2.53**	**27**	*eP*		**Pn**	**06 15 12.4**	**-0.2**
ACCO				*eS*		**Sn**	**06 15 43.9**	**+0.7**
GO04	**Tololo Observa**	**2.70**	**352**			**Pn**	**06 15 13.6**	**-1.3**
GO04	**Tololo Observa**	**2.70**	**352**	*eP*		**Pn**	**06 15 13.9**	**-0.9**
GO04				*eS*		Sn	06 15 36.0	-11
ACAN	**Cantantal**	**2.76**	**79**	*eP*		**Pn**	**06 15 13.8**	**-1.5**
AROD	**Rodeo**	**2.79**	**16**	*eS*		**Sn**	**06 15 51.2**	**+1.7**
CO01	**Juntas del Tor**	**2.88**	**5**			**Pn**	**06 15 17.9**	**+0.7**
CO01	**Juntas del Tor**	**2.88**	**5**	*eP*		**Pn**	**06 15 17.7**	**+0.5**
CO01				*eS*		**Sn**	**06 15 51.7**	**+0.2**
CO01				IAML			06 15 54.1	
	comp=Z,235nm,0.1s							
ACDV	**Cuesta del Vie**	**2.89**	**22**	*eP*		**Pn**	**06 15 17.7**	**+0.5**
ACDV				*eS*		**Sn**	**06 15 52.6**	**+1.0**
ACDV				IAML			06 15 57.9	
	comp=Z,212nm,0.4s							
EDS3	**Malargue**	**3.01**	**165**	*eP*		Pn	06 15 13.8	-5.0
EDS3				*eS*		**Sn**	**06 15 54.8**	**+0.4**
CO05	**La Serena**	**3.02**	**346**			**Pn**	**06 15 17.4**	**-1.4**
AVFE	**Valle Fertil**	**3.32**	**49**	*eP*		**Pn**	**06 15 21.6**	**-1.2**
AVFE				*eS*		**Sn**	**06 15 59.8**	**-1.8**
AVFE				IAML			06 16 16.2	
	comp=Z,153nm,0.6s							
ACHE	**Chepes**	**3.58**	**63**	*eP*		**Pn**	**06 15 25.3**	**-1.1**
ACHE				*eS*		**Sn**	**06 16 06.0**	**-2.0**
AGUA	**GUANDACOL**	**3.73**	**26**	*eP*		**Pn**	**06 15 28.2**	**-0.2**
AGUA				IAML			06 16 25.4	
	comp=Z,246nm,0.5s							
LCO	**Las Campanas**	**3.85**	**356**			**Pn**	**06 15 28.9**	**-1.2**
LCO	**Las Campanas**	**3.85**	**356**	*eP*		**Pn**	**06 15 28.9**	**-1.2**
LCO				*eS*		**Sn**	**06 16 11.9**	**-2.6**
LCO				IAML			06 16 15.0	
	comp=Z,850nm,0.3s							
BI02	**San Fabin de**	**3.86**	**191**			**Pn**	**06 15 29.3**	**-0.7**
BI02	**San Fabin de**	**3.86**	**191**	*eP*		**Pn**	**06 15 28.9**	**-1.2**
BI02				IAML			06 16 17.0	
	comp=Z,114nm,0.6s							
MRA	**San Martin**	**3.96**	**85**	*eP*		**Pn**	**06 15 29.7**	**-1.7**
MRA				*eS*		Sn	06 15 55.8	-21
MRA				IAML			06 16 16.4	
	comp=Z,360nm,0.8s							
APLL	**PUNTA DE LOS L**	**4.10**	**54**	*eP*		**Pn**	**06 15 31.4**	**-2.0**
ACLC	**CERRO LA CRUZ**	**4.51**	**42**	*eP*		**Pn**	**06 15 37.2**	**-1.8**
ACLC				*eS*		Sn	06 16 42.8	+12
ACLC				IAML			06 16 52.1	
	comp=Z,88nm,0.4s							
BI05	**Punta Hualpn**	**4.51**	**210**			**Pn**	**06 15 36.5**	**-2.2**
BI05	**Punta Hualpn**	**4.51**	**210**	*eP*		**Pn**	**06 15 36.0**	**-2.7**
BI05				IAML			06 16 28.9	
	comp=Z,86nm,0.1s							
VCA	**Vinchina**	**4.52**	**25**	*eP*		**Pn**	**06 15 38.1**	**-0.9**
VCA				*eS*		**Sn**	**06 16 28.5**	**-2.1**
VCA				IAML			06 16 33.6	
	comp=Z,210nm,0.6s							
AC04	**Llanos de Chal**	**4.68**	**352**			**Pn**	**06 15 39.6**	**-1.5**
AC04	**Llanos de Chal**	**4.68**	**352**	*eP*		**Pn**	**06 15 39.6**	**-1.5**
AC04				*eS*		**Sn**	**06 16 33.2**	**-1.1**
AC04				IAML			06 16 39.0	
	comp=Z,160nm,0.4s							
TCA	**Tanti**	**5.14**	**74**	*eP*		**Pn**	**06 15 45.2**	**-2.1**
TCA				*eS*		**Sn**	**06 16 40.7**	**-4.8**
TCA				*eS*			06 16 46.3	
TCA				IAML			06 17 16.9	
	comp=Z,80nm,0.6s							
GO03	**Copiapo**	**5.25**	**1**			**Pn**	**06 15 47.2**	**-1.6**
GO03	**Copiapo**	**5.25**	**1**	*eP*		**Pn**	**06 15 47.9**	**-1.0**
GO03				*eS*		**Sn**	**06 16 46.0**	**-2.2**
GO03				IAML			06 17 11.3	
	comp=Z,83nm,0.6s							
AC06	**Mina Casimiro**	**5.49**	**0**			**Pn**	**06 15 49.9**	**-2.1**
AC02	**Maricunga**	**6.10**	**11**			**Pn**	**06 15 59.0**	**-1.8**
AC01	**Pan de Azucar**	**6.69**	**358**			**Pn**	**06 16 04.3**	**-4.0**
LR03	**Panguipulli**	**6.94**	**193**			**Pn**	**06 16 09.0**	**-2.6**
H03N1	**Juan Fernandez**	**7.18**	**263**	T		T	06 23 11.1	
	baz=86,slow=74,SNR=200							
H03N3	**Juan Fernandez**	**7.19**	**263**	T		T	06 23 10.6	
	baz=86,slow=74,SNR=249							
H03N2	**Juan Fernandez**	**7.20**	**263**	T		T	06 23 08.5	
	baz=86,slow=74,SNR=233							
H03S1	**Juan Fernandez**	**7.20**	**260**	T		T	06 22 43.9	
	baz=84,slow=75,SNR=69							
H03S3	**Juan Fernandez**	**7.20**	**260**	T		T	06 22 45.2	
	baz=84,slow=75,SNR=74							
H03S2	**Juan Fernandez**	**7.22**	**260**	T		T	06 22 42.6	
	baz=84,slow=75,SNR=70							
PLCA	**Paso Flores**	**7.86**	**181**			**Pn**	**06 16 22.4**	**-1.8**
PLCA	**Paso Flores**	**7.86**	**181**	P		**Pn**	**06 16 22.9**	**-1.2**
	comp=Z,1.9nm,0.4s,baz=358,slow=16,SNR=34							
TRQA	**Tornquist**	**8.59**	**129**			**Pn**	**06 16 32.7**	**-1.4**
CPUP	**Villa Florida**	**13.08**	**64**	Pn		**Pn**	**06 17 34.2**	**-0.2**
CPUP	**Villa Florida**	**13.08**	**64**	P		**Pn**	**06 17 34.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=156,slow=3.7,SNR=3.4							
LPAZ	**La Paz**	**16.63**	**8**	P		**Pn**	**06 18 18.7**	**-1.2**
LPAZ	**La Paz**	**16.63**	**8**	P		**Pn**	**06 18 19.4**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=186,slow=6.4,SNR=9.7							
SIV	**San Ignacio**	**18.80**	**29**	P		**P**	**06 18 42.6**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=197,slow=6.9,SNR=12							
GO10	**Punta Arenas**	**20.29**	**181**	P		**P**	**06 19 01.0**	**+1.3**
EFI	**East Falkland**	**20.84**	**158**	P		**P**	**06 19 04.5**	**-1.0**
MG03	**Isla Dawson**	**20.98**	**180**	P		**P**	**06 19 08.3**	**+1.3**
MG03				IAmb		IAmb	06 19 14.8	
	comp=Z,68nm,1.4s							
VILB	**Vilhena**	**21.90**	**28**	P		**P**	**06 19 17.0**	**-0.1**
CZSB	**Cruzeiro do Su**	**25.10**	**355**	P		**P**	**06 19 47.8**	**+0.3**
CZSB				IAmb		IAmb	06 19 51.1	
	comp=Z,9.4nm,0.8s							
RUSC	**La Rusia**	**38.62**	**356**	P		**P**	**06 21 47.0**	**+0.9**
RUSC				IAmb		IAmb	06 21 48.2	
	comp=Z,6.5nm,0.7s							
BAUV	**El Baul**	**41.63**	**3**	P		**P**	**06 22 08.8**	**-1.5**
BAUV				IAmb		IAmb	06 22 26.0	
	comp=Z,8.2nm,1.1s							
VNA3	**Neumayer Olymp**	**49.90**	**158**	⇑P		**P**	**06 23 15.7**	**+0.9**
	comp=Z,6.8nm,0.7s							
VNA2	**Neumayer--Watz**	**50.53**	**158**	⇑P		**P**	**06 23 20.3**	**+0.8**
	comp=Z,5.4nm,0.5s,baz=294,slow=6.3							
SNAA	**Sanae**	**52.12**	**158**	⇑P		**P**	**06 23 32.2**	**+0.7**
	comp=Z,96nm,0.6s							
SNAA	**Sanae**	**52.12**	**158**	P		**P**	**06 23 31.9**	**+0.4**
SNAA				IAmb		IAmb	06 23 33.1	
	comp=Z,5.3nm,0.8s							
SNAA	**Sanae**	**52.12**	**158**	P		**P**	**06 23 32.1**	**+0.7**
	comp=Z,3.7nm,0.7s,baz=274,slow=9.0,SNR=47							
	comp=Z,3.7nm,0.7s							
TROLL	**Troll, Antarti**	**53.83**	**158**	⇑P		**P**	**06 23 44.9**	**+0.8**
	comp=Z,305nm,0.6s							
TEIG	**Tepich**	**55.49**	**340**	P		**P**	**06 23 56.9**	**+0.4**
SOR	**Soroa**	**56.64**	**346**	P		**P**	**06 24 04.3**	**-0.3**
QSPA	**South Pole Qui**	**57.37**	**180**	P		**P**	**06 24 11.8**	**+2.3**
	comp=Z,0.7nm,0.5s,baz=167,slow=2.1,SNR=6.0							
	comp=Z,0.7nm,0.5s							
Z47A	**Carrollton**	**67.79**	**344**	P		**P**	**06 25 19.1**	**+0.3**
Z47A				IAmb		IAmb	06 25 49.1	
	comp=Z,13nm,1.1s							
TXAR	**Lajitas Array**	**69.44**	**329**	P		**P**	**06 25 30.7**	**+1.4**
	comp=Z,1.0nm,0.5s,baz=149,slow=6.8,SNR=31							
TXAR				PcP		**pP**	**06 25 54.8**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=152,slow=4.8,SNR=2.0							
	comp=Z,1.0nm,0.5s							
TX31	**Lajitas Ar. Si**	**69.44**	**329**	P		**P**	**06 25 29.6**	**+0.3**
APMT	**Aspermont**	**71.55**	**334**	P		**P**	**06 25 42.7**	**+0.7**
APMT				IAmb		IAmb	06 25 43.3	
	comp=Z,4.1nm,0.5s							
DBIC	**Dimbokro**	**73.50**	**71**	P		**P**	**06 25 53.8**	**-0.2**
DBIC				IAmb		IAmb	06 26 22.3	
	comp=Z,16nm,1.4s							
DBIC	**Dimbokro**	**73.50**	**71**	P		**P**	**06 25 54.8**	**+0.9**
	comp=Z,5.8nm,1.1s,baz=225,slow=2.9,SNR=1.8							
	comp=Z,5.8nm,1.1s							
TORD	**Torodi Ar. Bea**	**82.52**	**69**	P		**P**	**06 26 43.7**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=251,slow=9.0,SNR=5.0							
	comp=Z,0.3nm,0.6s							
PDAR	**Pinedale Array**	**83.39**	**332**	P		**P**	**06 26 48.8**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=141,slow=7.0,SNR=4.5							
	comp=Z,0.5nm,0.6s							
NVAR	**Mina Array Bea**	**83.76**	**324**	P		**P**	**06 26 51.1**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=137,slow=2.9,SNR=10							
	comp=Z,1.4nm,0.8s							

WRA	**Warramunga Arr**	**122.42**	**208**	PKP		**PKPdf**	**06 33 15.8**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=153,slow=1.6,SNR=1.7							
H11S2	**WAKE ISLAND Hyl**	**27.17**	**269**	T		T	08 53 01.1	
	baz=118,slow=74,SNR=19							
H11S1	**WAKE ISLAND Hyl**	**27.19**	**269**	T		T	08 53 01.8	
	baz=118,slow=74,SNR=17							
H11S3	**WAKE ISLAND Hyl**	**27.19**	**269**	T		T	08 53 02.4	
	baz=118,slow=74,SNR=10							
H11N3	**WAKE ISLAND Hyl**	**27.56**	**271**	T		T	08 53 29.3	
	baz=117							
H11N1	**WAKE ISLAND Hyl**	**27.57**	**271**	T		T	08 53 30.6	
	baz=117							
H11N2	**WAKE ISLAND Hyl**	**27.58**	**271**	T		T	08 53 29.9	
	baz=117,SNR=5.4							
BVAR	**Borovoye Array**	**145.50**	**42**	PKPbc		**PKPbc**	**06 33 58.3**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=286,slow=2.6,SNR=5.7							
KURBB	**Kurchatov Arra**	**151.09**	**43**	PKPbc		**PKPbc**	**06 34 13.3**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=307,slow=2.8,SNR=2.2							
ZALV	**Zalesovo Beam**	**152.52**	**33**	PKPbc		**PKPbc**	**06 34 16.1**	**+0.3**
	comp=Z,2.5nm,0.4s,baz=310,slow=3.7,SNR=9.9							

ASRS 14 06:27:32.4±0.7, 46°N±3°×8°9E±°, h9km, MLh3.3/4, Error ellipse: s-maj=10.6km s-min=6.5km az=70.1, confirmed, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGZ	**Jazzator, Alta**	**3.43**	**343**	Pn	Pn	06 28 26.1	-0.1
DGZ				Sg	Sg	06 29 26.3	+3.7
CUR	**Chagan-Uzun**	**3.70**	**354**	Sg	Sg	06 29 35.8	+4.8
AKAR	**Aktash**	**4.00**	**347**	Pn	Pn	06 28 33.5	-0.4
AKAR				Sg	Sg	06 29 45.8	+5.2
CHBI	**Chibit, Altay**	**4.01**	**346**	Pn	Pn	06 28 34.6	+0.6
CHBI				Sg	Sg	06 29 43.7	+2.7
ULGR	**Ulagan, Altay**	**4.25**	**351**	Pn	Pn	06 28 37.8	+0.4
ULGR				Sg	Sg	06 29 53.3	+4.5
TEL	**Teeli**	**4.67**	**10**	Sg	Sg	06 30 05.6	+3.5
ELDR	**Elanda**	**5.16**	**339**	Sg	Sg	06 30 21.9	+4.1
UKR	**Ust'-Kan**	**5.30**	**330**	Pg	Pg	06 29 14.0	+0.2
UKR				Sg	Sg	06 30 27.6	+5.2
YALR	**Yailyu, Altay**	**5.42**	**351**	Pg	Pg	06 29 14.5	-1.6
YALR				Sg	Sg	06 30 32.1	+5.9
ARTR	**Artybash**	**5.49**	**349**	Pg	Pg	06 29 16.8	-0.6
ARTR				Sg	Sg	06 30 32.9	+4.5
KZLR	**Kyzyl**	**6.39**	**32**	Pg	Pg	06 29 35.1	+0.5

*IDC **14** 06:31:51.0±1.3, 33°.77S×72°.29W, h0km, mb3.4/4, mbtmp3.4/7, ML3.5/3, Error ellipse: s-maj=42.5km s-min=21.4km az=91.0*
*SJA **14** 06:31:53.5±0.6, 33°.88S×72°.13W, h23km±2km, ML3.6, MW4.0*
*GUC **14** 06:31:55.3±0.8, 33°.88S×72°.11W, h36km±4km, ML3.6*
ISC 14 06:31:52.3±1.5, 33°.91S±0°.03×72°.24W±0°.05, h7km±9km, **n66,** σ1°.75/83, **2C-6D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.63**	**159**	*i* P	**Pn**	**06 32 07.4**	**-0.3**
BO03				*eS*	**Sn**	**06 32 16.2**	**-1.7**
MT01	**Popeta**	**0.82**	**87**	⇓*i* P	**Pn**	**06 32 08.9**	**-1.4**
MT01				*eS*	**Sb**	**06 32 18.8**	**-1.4**
MT01				IAML		06 32 20.5	
	comp=E,4μm,0.4s						
MT01	**Popeta**	**0.82**	**87**	*eP*	**Pb**	**06 32 08.1**	**-0.9**
MT01				IAML		06 32 19.4	
	comp=Z,5μm,0.4s						
VA01	**Torpederas**	**1.01**	**29**	*i* P	**Pb**	**06 32 12.3**	**+0.2**
VA01				*eS*	**Sb**	**06 32 25.3**	**-0.3**
VA01	**Torpederas**	**1.01**	**29**	*eP*	**Pb**	**06 32 11.8**	**-0.3**
VA01				*eS*	**Sb**	**06 32 25.6**	**0.0**
MT09	**Talagante**	**1.05**	**83**	⇓*i* P	**Pg**	**06 32 12.4**	**0.0**
MT09				*eS*	**Sb**	**06 32 25.1**	**-1.8**
MT09				IAML		06 32 27.1	
	comp=E,4μm,0.3s						
BO01	**Tunca**	**1.07**	**117**	⇓*i* P	**Pn**	**06 32 12.7**	**-1.0**
BO01	**Tunca**	**1.07**	**117**	*eP*	**Pn**	**06 32 12.7**	**-1.0**
BO01				IAML		06 32 32.9	
	comp=Z,580nm,0.6s						
MT02	**Curacav**	**1.12**	**55**	⇓*i* P	**Pb**	**06 32 13.5**	**-0.6**
MT02				*eS*	**Sb**	**06 32 26.7**	**-2.2**
MT02	**Curacav**	**1.12**	**55**	*eP*	**Pb**	**06 32 12.7**	**-1.3**
MT02				*eS*	**Sb**	**06 32 27.2**	**-1.7**
MT02				IAML		06 32 32.6	
	comp=Z,1μm,0.8s						
GO05	**Hualane**	**1.13**	**167**	⇑*i* P	**Pg**	**06 32 15.3**	**+1.4**
GO05				*eS*	**Sn**	**06 32 30.1**	**-0.2**
GO05				IAML		06 32 34.4	
	comp=E,1μm,0.7s						
GO05	**Hualane**	**1.13**	**167**	*eP*	**Pg**	**06 32 15.4**	**+1.4**
GO05				*eS*	**Sn**	**06 32 31.5**	**+1.2**
GO05				IAML		06 32 31.9	
	comp=Z,685nm,1.1s						
MT05	**Renca**	**1.35**	**68**	*eP*	**Pb**	**06 32 17.3**	**-0.7**
MT05				IAML		06 32 43.6	
	comp=E,3μm,0.3s						
MT05	**Renca**	**1.35**	**68**	*eP*	Pn	06 32 11.8	-5.8
MT05				*eP*	**Pb**	**06 32 17.4**	**-0.6**
MT05				*eS*	**Sg**	**06 32 40.1**	**+4.3**
MT05				IAML		06 32 45.8	
	comp=Z,546nm,0.5s						
BO04	**La Punta**	**1.36**	**94**	*i* P	**Pb**	**06 32 17.4**	**-0.6**
BO04				IAML		06 32 36.6	
	comp=E,1μm,0.5s						
ROC1	**El Roble**	**1.38**	**48**	*eP*	Pn	06 32 12.4	-5.9
ROCH	**El Roble**	**1.39**	**48**	*eP*	**Pn**	**06 32 17.8**	**-0.5**
ROCH				IAML		06 32 39.4	
	comp=N,5μm,0.3s						
MT15	**Las Vizcachas**	**1.48**	**78**	*eP*	**Pb**	**06 32 18.9**	**-1.1**
MT15				IAML		06 32 41.3	
	comp=N,2μm,0.2s						
BO02	**Sierra Bellavi**	**1.49**	**127**	⇓*i* P	**Pg**	**06 32 19.8**	**-1.1**
BO02	**Sierra Bellavi**	**1.49**	**127**	*eP*	**Pg**	**06 32 19.9**	**-1.1**
BO02				*eS*	**Sg**	**06 32 43.9**	**+3.6**
BO02				IAML		06 32 44.4	
	comp=Z,1μm,0.8s						
MT03	**Universidad Ad**	**1.50**	**74**	*i* P	**Pb**	**06 32 19.5**	**-1.0**
MT03				IAML		06 32 45.4	
	comp=E,2μm,0.4s						
MT03	**Universidad Ad**	**1.50**	**74**	*eS*	Sn	06 32 19.7	-20
MT03				*eP*	Sn	06 32 19.7	-20
MT03				*eS*	**Sb**	**06 32 39.0**	**-0.8**
MT03				IAML		06 32 40.0	
	comp=Z,944nm,0.4s						
PEL	**Peldehue**	**1.50**	**60**	*eP*	**Pb**	**06 32 19.8**	**-0.8**
PEL	**Peldehue**	**1.50**	**60**	*eP*	**Pb**	**06 32 20.1**	**-0.5**
PEL				*eS*	**Sb**	**06 32 39.1**	**-0.8**
PEL				IAML		06 32 50.1	
	comp=Z,1μm,0.4s						
MT16	**CCHEN**	**1.51**	**72**	*eP*	**Pb**	**06 32 19.6**	**-1.0**
MT16				IAML		06 32 45.2	
	comp=N,824nm,0.5s						
MT14	**Cerro Cal¡n**	**1.51**	**71**	*eP*	**Pb**	**06 32 19.8**	**-0.9**
MT14				IAML		06 32 51.8	
	comp=E,1μm,0.4s						
VA06	**Catapilco**	**1.56**	**31**	*eP*	**Pn**	**06 32 19.9**	**-0.5**
MT13	**San Alfonso**	**1.63**	**85**	*eP*	**Pb**	**06 32 21.6**	**-1.2**
MT13				IAML		06 32 47.0	
	comp=E,4μm,0.3s						
MT13	**San Alfonso**	**1.63**	**85**	*eP*	**Pb**	**06 32 21.8**	**-1.1**
MT13				*eS*	**Sb**	**06 32 42.6**	**-1.1**
MT13				IAML		06 32 45.9	
	comp=Z,1μm,0.3s						
LMEL	**Las Melosas**	**1.69**	**89**	*eP*	**Pb**	**06 32 22.6**	**-1.3**
LMEL				IAML		06 32 48.9	
	comp=N,1μm,0.4s						
LMEL	**Las Melosas**	**1.69**	**89**	*eP*	**Pb**	**06 32 23.0**	**-0.8**
LMEL				*eS*	**Sb**	**06 32 44.4**	**-1.0**
LMEL				IAML		06 32 56.1	
	comp=Z,851nm,0.9s						
FCH	**Farellones**	**1.73**	**71**	*i* P	**Pb**	**06 32 23.2**	**-1.3**
FCH				IAML		06 32 47.8	
	comp=E,1μm,0.4s						
VA03	**San Esteban**	**1.82**	**52**	⇑*i* P	**Pn**	**06 32 24.4**	**+0.4**
VA03	**San Esteban**	**1.82**	**52**	*eP*	**Pb**	**06 32 24.6**	**-1.3**
VA03				*eS*	**Sb**	**06 32 48.9**	**0.0**
VA03				IAML		06 32 53.8	
	comp=Z,1μm,0.3s						
MT04	**Ro Olivares**	**1.82**	**75**	*eP*	**Pb**	**06 32 24.6**	**-1.5**
MT04				IAML		06 32 51.8	
	comp=E,779nm,0.4s						
MT04	**Ro Olivares**	**1.82**	**75**	*eP*	**Pb**	**06 32 24.6**	**-1.5**
MT04				*eS*	**Sb**	**06 32 47.7**	**-1.6**
MT04				IAML		06 32 53.3	
	comp=Z,375nm,0.6s						
MT08	**Bocatoma Ro**	**1.91**	**77**	*eP*	**Pb**	**06 32 25.9**	**-1.6**
MT08				IAML		06 32 58.5	
	comp=N,432nm,0.5s						
MT08	**Bocatoma Ro**	**1.91**	**77**	*eP*	**Pb**	**06 32 26.6**	**-0.9**
MT08				*eS*	**Sg**	**06 32 52.5**	**-1.2**
MT08				IAML		06 32 53.6	
	comp=Z,281nm,0.7s						
CO04	**Los Peladeros**	**2.14**	**30**	IAML		06 33 03.8	
	comp=N,1μm,0.3s						
BI02	**San Fabin de**	**2.86**	**164**	*eP*	**Pb**	**06 32 40.2**	**-3.5**
BI02				IAML		06 33 25.7	
	comp=Z,206nm,0.8s						
CO02	**Combarbal**	**2.89**	**22**	*eP*	**Pn**	**06 32 39.0**	**+0.1**
CO02				*eS*	**Sn**	**06 33 13.2**	**-0.8**
CO02				IAML		06 33 32.7	
	comp=Z,438nm,0.6s						
ARCO	**CERRO ARCO**	**2.96**	**70**	*eP*	**Pb**	**06 32 44.8**	**-0.8**
ARCO				*eS*	**Sg**	**06 33 28.4**	**+0.9**
ARCO				IAML		06 33 31.7	
	comp=Z,148nm,0.8s						
AAGR	**Agrelo**	**2.96**	**75**	*eP*	**Pb**	**06 32 43.5**	**-2.0**
AAGR				IAML		06 33 35.0	
	comp=Z,131nm,0.9s						
EDS3	**Malargue**	**2.98**	**129**	*eP*	**Pn**	**06 32 40.6**	**+0.4**
AVIZ	**Vizcacheras**	**3.13**	**83**	*eP*	**Pn**	**06 32 44.2**	**+2.1**
ASAL	**Salagasta**	**3.14**	**66**	*eP*	**Pn**	**06 32 43.1**	**+0.9**
ASAL				*eS*	**Sb**	**06 33 25.6**	**-1.4**
RFA	**San Rafael**	**3.24**	**106**	*eP*	**Pn**	**06 32 41.5**	**-2.1**
RFA				*eS*	Sn	06 33 11.9	-11
RFA				IAML		06 33 39.5	
	comp=Z,88nm,1.2s						
RTLS	**Leoncito**	**3.25**	**50**	*eP*	**Pb**	**06 32 46.7**	**-3.7**
RTLS				*eS*	**Sn**	**06 33 21.2**	**-1.8**
RTLS				IAML		06 33 42.1	
	comp=Z,541nm,0.8s						
CO03	**El Pedregal**	**3.33**	**24**	*eP*	**Pn**	**06 32 45.4**	**+0.5**
CO03				*eS*	**Sb**	**06 33 31.5**	**-1.0**
CO03				IAML		06 33 42.5	
	comp=Z,241nm,0.8s						
CFA	**Coronel Fontan**	**4.08**	**57**	Pn	**Pn**	**06 32 56.3**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=239,slow=15,SNR=22						
CFA				Sn	**Sn**	**06 33 54.0**	**0.0**
	comp=Z,5.2nm,0.3s,baz=85,slow=20,SNR=3.7						
	comp=Z,5.1nm,0.4s						
CFA	**Coronel Fontan**	**4.08**	**57**	*eP*	**Pn**	**06 32 56.7**	**+1.6**
CFA				*eS*	**Sb**	**06 33 53.8**	**-0.2**
ACDV	**Cuesta del Vie**	**4.57**	**36**	*eP*	**Pn**	**06 33 04.8**	**+2.7**
ACDV				IAML		06 34 18.8	
	comp=Z,41nm,1.0s						
H03S1	**Juan Fernandez**	**5.55**	**269**	T		T	06 39 07.4
	baz=91,slow=75,SNR=822						
H03S3	**Juan Fernandez**	**5.55**	**269**	T		T	06 39 14.5
	baz=91,slow=75,SNR=576						
H03S2	**Juan Fernandez**	**5.56**	**269**	T		T	06 39 10.2
	baz=91,slow=75,SNR=969						
H03N1	**Juan Fernandez**	**5.58**	**273**	T		T	06 39 24.4
	baz=98,slow=74,SNR=12						
H03N3	**Juan Fernandez**	**5.59**	**273**	T		T	06 39 15.1
	baz=98,slow=74,SNR=18						
H03N2	**Juan Fernandez**	**5.60**	**273**	T		T	06 39 24.3
	baz=98,slow=74,SNR=16						
PLCA	**Paso Flores**	**6.94**	**169**	Pn		**Pn**	**06 33 36.4**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=340,slow=14,SNR=17							
PLCA				Sn		**Sn**	**06 34 58.6**	**+4.8**
	baz=292,slow=20							
	comp=Z,1.2nm,0.4s							
CPUP	**Villa Florida**	**14.94**	**64**	Sn		**Sn**	**06 38 16.5**	**+6.8**
	baz=19,slow=8.6,SNR=3.2							
LPAZ	**La Paz**	**17.93**	**13**	P		**Pn**	**06 35 59.9**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=198,slow=10,SNR=4.9							
	comp=Z,0.4nm,0.5s							
SIV	**San Ignacio**	**20.48**	**32**	P		**P**	**06 36 29.8**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=181,slow=11,SNR=3.5							
	comp=Z,0.4nm,0.5s							
SNAA	**Sanae**	**51.73**	**158**	P		**P**	**06 41 01.3**	**+1.4**
	comp=Z,1.6nm,1.0s,baz=277,slow=8.2,SNR=5.2							
	comp=Z,

H03N3	**Juan Fernandez** baz=241,slow=72,SNR=5.7	**79.72**	**123**	T	T	08 58 21.3		
H03N2	**Juan Fernandez** baz=241,slow=72,SNR=5.3	**79.72**	**123**	T	T	08 58 18.8		
H03N1	**Juan Fernandez** baz=241,slow=72,SNR=11	**79.74**	**123**	T	T	08 58 19.4		
FINES	**FINESS Array B** 3.7nm,1.0s,baz=46,slow=4.0,SNR=4.1	**147.21**	**338**	PKPbc	PKPbc	07 36 55.7		-1.1

JMA ***14*** *07:20:40.4±0.2,23°.8N±0°.8×123°.4E±0°.5, h25km±2km, MV2.9/10, NEAR ISHIGAKIJIMA ISLAND*

ISC 14 07:20:40.3±1.6, 23°.85N±0°.08×123°.37E±0°.03, h20km±10km, n14, σ0s67/19, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.45**	**62**	*eP*	**Pb**	**07 20 49.6**	**+0.1**
HATJ				*eS*	**Sb**	**07 20 56.4**	**+0.6**
IRIF	**Iriomote-Funau**	**0.58**	**34**	*eP*	**Pg**	**07 20 51.9**	**-0.1**
IRIF				*eS*	**Sg**	**07 21 00.3**	**+0.4**
YOJ	**Yonaguni jima**	**0.69**	**332**	P	**Pg**	**07 20 54.1**	**0.0**
YOJ	**Yonaguni jima**	**0.69**	**332**	*eP*	**Pg**	**07 20 54.0**	**0.0**
YOJ				*eS*	**Sg**	**07 21 03.3**	**-0.1**
JKRS	**Kuro-shima**	**0.70**	**56**	*eP*	**Pg**	**07 20 54.1**	**0.0**
JKRS				*eS*	**Sg**	**07 21 03.8**	**+0.3**
JYNG	**Yonagunijimaku**	**0.71**	**327**	*eS*	**Sb**	**07 21 03.3**	**-0.2**
JIJ	**Ishigaki jima**	**0.87**	**54**	*eP*	**Pb**	**07 20 56.6**	**-0.2**
JIJ				S	**Sb**	**07 21 07.9**	**-0.1**
JISG	**Ishigakijimahi**	**1.13**	**49**	*eP*	**Pn**	**07 21 00.2**	**-0.8**
JTJ	**Tarama**	**1.45**	**57**	*eP*	**Pb**	**07 21 06.1**	**-0.5**
NACB	**Ninganchiao**	**1.66**	**282**	P	**Pn**	**07 21 08.7**	**+0.4**
YULB	**Yu-li**	**1.96**	**257**	P	**Pn**	**07 21 12.0**	**-0.4**
YHNB	**Yeheng**	**2.00**	**295**	P	**Pn**	**07 21 14.2**	**+1.2**
SSLB	**Suanglung**	**2.21**	**269**	P	**Pb**	**07 21 18.6**	**-1.1**
TPUB	**Ta-pu**	**2.58**	**258**	P	**Pn**	**07 21 22.4**	**+1.4**

IDC 14 07:22:09.6±1.8, 1°.76N×124°.77E, h0km, mb3.7/3, mbtmp3.7/4, ML3.4/1, MS3.0/2, Error ellipse: s-maj=126.3km s-min=23.8km az=66.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=9.6,slow=9.1,SNR=2.2 1.5nm,0.7s	**19.75**	**178**	P	P	07 26 41.2	0.0
GUMO	**Guam** comp=Z,30nm,18.6s,baz=246,slow=34	**23.10**	**58**	LR	LR	07 35 24.8	
WRA	**Warramunga Arr** 2.1nm,0.5s,baz=335,slow=10,SNR=19 2.1nm,0.5s	**23.52**	**157**	P	P	07 27 21.6	0.0
ASAR	**Alice Springs** 0.5nm,0.4s,baz=345,slow=7.5,SNR=12 0.5nm,0.4s	**26.79**	**161**	P	P	07 27 51.5	0.0
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=124,slow=7.8,SNR=6.3 0.3nm,0.4s	**58.09**	**327**	P	P	07 32 04.8	-0.1
SHEM	**Shemya Is, Ala** comp=Z,13nm,18.1s,baz=120,slow=40	**65.15**	**31**	LR	LR	08 06 02.8	

JMA ***14*** *07:31:39.9±0.1,23°.9N±0°.5×123°.4E±0°.2, h23km±1km, MV2.7/9, NEAR ISHIGAKIJIMA ISLAND*

ISC 14 07:31:39.5±3.5, 23°.83N±0°.07×123°.39E±0°.03, h20km±28km, n17, σ0s47/24, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.45**	**59**	*eP*	**Pb**	**07 31 48.8**	**+0.1**
HATJ				*eS*	**Sb**	**07 31 55.3**	**+0.3**
IRIF	**Iriomote-Funau**	**0.60**	**32**	*eP*	**Pb**	**07 31 51.1**	**-0.2**
IRIF				*eS*	**Sb**	**07 31 59.1**	**-0.2**
JKRS	**Kuro-shima**	**0.70**	**54**	*eP*	**Pb**	**07 31 53.3**	**+0.2**
JKRS				*eS*	**Sb**	**07 32 02.7**	**+0.4**
YOJ	**Yonaguni jima**	**0.72**	**332**	P	**Pb**	**07 31 53.3**	**-0.1**
YOJ	**Yonaguni jima**	**0.72**	**332**	S	**Sb**	**07 32 03.0**	**+0.2**
YOJ	**Yonaguni jima**	**0.72**	**332**	*eP*	**Pb**	**07 31 53.2**	**-0.1**
YOJ				*eS*	**Sb**	**07 32 02.6**	**-0.2**
JYNG	**Yonagunijimaku**	**0.74**	**327**	*eP*	**Pb**	**07 31 53.5**	**-0.3**
JYNG				*eS*	**Sb**	**07 32 03.0**	**-0.4**
JIJ	**Ishigaki jima**	**0.88**	**52**	*eP*	**Pb**	**07 31 55.8**	**-0.2**
JIJ				*eS*	**Sb**	**07 32 07.2**	**-0.1**
JISG	**Ishigakijimahi**	**1.14**	**48**	*eP*	**Pn**	**07 31 59.8**	**-0.4**
JISG				*eS*	**Sb**	**07 32 14.4**	**-0.4**
JTJ	**Tarama**	**1.45**	**56**	*eS*	**Sn**	**07 32 23.2**	**+0.2**
NACB	**Ninganchiao**	**1.67**	**282**	P	**Pn**	**07 32 07.6**	**-0.1**
YULB	**Yu-li**	**1.96**	**258**	P	**Pn**	**07 32 11.3**	**-0.4**
YULB	**Yu-li**	**1.96**	**258**	S	**Sn**	**07 32 35.1**	**-0.6**
YHNB	**Yeheng**	**2.02**	**295**	P	**Pn**	**07 32 13.5**	**+1.0**
SSLB	**Suanglung**	**2.23**	**270**	P	**Pn**	**07 32 16.0**	**+0.7**
TWGBT	**Beinan**	**2.34**	**245**	P	**Pn**	**07 32 16.5**	**-0.4**
TPUB	**Ta-pu**	**2.58**	**259**	P	**Pn**	**07 32 21.3**	**+1.1**

ISN ***14*** *07:50:39.1±2.3,34°.44N×45°.71E, h12km±15km, ML2.8*
TEH ***14*** *07:50:40.5,34°.45N×45°.72E, h10km±150km*

ISC 14 07:50:40.6±1.3, 34°.45N±0°.07×45°.70E±0°.05, h10km±12km, n8, σ0s75/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.11**	**300**	Pg	**Pg**	**07 50 43.7**	**+0.4**
GLG1	**Gilan-e-Gharb**	**0.38**	**153**	Pg	**Pg**	**07 50 48.0**	**-0.2**
IDHR	**Dehrash**	**0.62**	**66**	Pg	**Pg**	**07 50 52.3**	**-0.3**
IGHG	**Ghaleghazi**	**0.73**	**99**	Pg	**Pg**	**07 50 54.5**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.12**	**99**	Pg	**Pn**	**07 51 02.7**	**+0.2**
BHD	**Baghdad** baz=43	**1.61**	**223**	*e*Pg	**Pn**	**07 51 08.0**	**-1.0**
BHD				*e*Sg	**Sg**	**07 51 32.0**	**-0.4**
IBZA	**Bozab**	**1.79**	**89**	Pg	**Pg**	**07 51 14.4**	**-0.4**
RAFI	**Al-Rafai**	**2.74**	**173**	*e*Pn	**Pn**	**07 51 25.0**	**+0.4**
RAFI				*e*Sn	**Sn**	**07 51 59.0**	**+1.2**

IDC ***14*** *07:54:59.3±19.0,51°.51N×179°.33W, h0km, mb3.2/4, mbtmp3.2/4, Error ellipse: s-maj=377.5km s-min=77.2km az=85.0*
NEIC ***14*** *07:55:00.8±1.7,51°.22N±0°.03×178°.75W±0°.04, h10km±1km, mb3.7/13, ML3.6/12, ML3.0(AEIC), Error ellipse: s-maj=5.7km s-min=3.7km az=354.0*
AEIC ***14*** *07:55:03.4±2.3,51°.41N±0°.03×178°.73W±0°.02, h12km±2km, Error ellipse: s-maj=4.6km s-min=1.6km az=183.0*

ISC 14 07:55:00.5±1.5, 51°.26N±0°.06×178°.77W±0°.03, h7km±10km, n59, σ1s02/66, mb3.5/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAKI	**Gareloi-Kavalg**	**0.30**	**355**		**Pg**	**07 55 07.6**	**+1.2**
GAKI					**Sg**	**07 55 11.1**	**+0.8**
GALAA	**Gareloi Lava P**	**0.51**	**360**		**Pn**	**07 55 15.7**	**+1.5**
GASW	**Gareloi Southw**	**0.53**	**354**		**Pb**	**07 55 11.8**	**-0.3**
GASW					**Sb**	**07 55 18.3**	**-1.6**
GAEA	**Gareloi East**	**0.53**	**2**		**Pb**	**07 55 11.9**	**-0.2**
GAEA					**Sb**	**07 55 18.4**	**-1.5**
GANE	**Gareloi Northe**	**0.56**	**360**		**Pb**	**07 55 12.3**	**-0.4**
GANE					**Sb**	**07 55 18.7**	**-2.3**
GANO	**Gareloi North**	**0.56**	**358**		**Pb**	**07 55 12.3**	**-0.4**
GANO					**Sb**	**07 55 20.0**	**-1.0**
TASE	**Tanaga Southea**	**0.74**	**38**		**Pb**	**07 55 15.4**	**-0.3**
TASE					**Sb**	**07 55 24.6**	**-1.5**
TAFL	**Tanaga Flats**	**0.74**	**47**		**Pb**	**07 55 15.5**	**-0.3**
TAFL					**Sb**	**07 55 24.6**	**-1.5**
TANO	**Tanaga North**	**0.77**	**31**		**Pb**	**07 55 16.2**	**-0.1**
TAFP	**Tanaga Falls P**	**0.81**	**37**		**Pb**	**07 55 16.5**	**-0.5**
TAPA	**Tanaga Point A**	**0.82**	**47**		**Pb**	**07 55 16.7**	**-0.4**
TAPA					**Sb**	**07 55 26.9**	**-1.5**
KIMD	**Kanaga Island**	**1.08**	**62**		**Pb**	**07 55 21.4**	**-0.2**
KIWB	**Kanaga Island**	**1.17**	**59**	Pn	**Pb**	**07 55 22.7**	**-0.4**
KIWB	comp=N,876nm,0.5s			IAML		07 55 42.2	
KIWB	**Kanaga Island**	**1.17**	**59**		**Sb**	**07 55 37.8**	**-0.7**
KIKV	**Kanaga Island**	**1.18**	**57**		**Pb**	**07 55 22.9**	**-0.3**
KIKV					**Sg**	**07 55 37.4**	**-1.0**
CEPE	**Semis' Perret**	**1.21**	**306**		**Pn**	**07 55 24.5**	**+0.6**
AMKA	**Amchitka**	**1.22**	**276**	Pn	**Pn**	**07 55 24.7**	**+0.8**
AMKA				Sn	**Sn**	**07 55 40.7**	**+0.1**
KINC	**Kanaga Island**	**1.23**	**56**		**Pb**	**07 55 23.7**	**-0.3**
KIRH	**Kanaga Island**	**1.23**	**58**		**Pb**	**07 55 24.0**	**0.0**
ADK	**Adak**	**1.45**	**63**		**Pn**	**07 55 27.2**	**+0.1**
ADK	comp=N,1μm,0.4s			IAML		07 55 46.4	
ADK	comp=N,2μm,0.3s			IAML		07 55 48.2	
ADAG	**Mount Adagdak**	**1.53**	**61**		**Pg**	**07 55 29.3**	**-0.6**
ETKA	**Kagalaska Isla**	**1.60**	**67**		**Pn**	**07 55 29.9**	**+0.7**
LSPA	**Little Sitkin**	**1.80**	**294**		**Pg**	**07 55 34.0**	**-1.0**
LSPA					**Sg**	**07 55 58.6**	**+0.4**
GSSP	**Great Sitkin S**	**1.82**	**62**		**Pn**	**07 55 32.7**	**+0.4**
GSSP					**Sb**	**07 55 56.3**	**-0.9**
GSTD	**Great Sitkin T**	**1.82**	**63**		**Pb**	**07 55 33.4**	**-0.8**
GSTD					**Sb**	**07 55 56.7**	**-0.6**
GSMY	**Great Sitkin M**	**1.86**	**64**		**Pn**	**07 55 34.0**	**+1.1**
GSTR	**Great Sitkin T**	**1.89**	**63**		**Pn**	**07 55 33.5**	**+0.4**
GSTR	**Great Sitkin T**	**1.89**	**63**		**Sb**	**07 55 58.4**	**-0.6**
ATKA	**Atka Island**	**3.00**	**70**		**Pn**	**07 55 49.6**	**+1.2**
ATKA	comp=N,170nm,0.8s			IAML		07 56 36.7	
ATKA	**Atka Island**	**3.00**	**70**		**Sn**	**07 56 25.9**	**+1.3**
SHEM	**Shemya Is, Ala**	**4.65**	**291**	Pn	**Pn**	**07 56 12.4**	**+1.3**
SHEM	comp=E,38nm,1.1s			IAML		07 58 09.7	
SMY	**Shemya**	**4.65**	**291**	Pn	**Pn**	**07 56 12.5**	**+1.5**
SMY	comp=N,65nm,1.1s			IAML		07 58 29.0	
P16K	**Nushagak River**	**14.16**	**49**	Pn	**Pn**	**07 58 20.6**	**-0.6**
L16K	**Owhat River**	**14.87**	**38**	Pn	**Pn**	**07 58 30.7**	**-0.3**
N17K	**Nushagak Hills**	**15.19**	**44**	Pn	**Pn**	**07 58 33.6**	**-1.6**
N17K	comp=Z,7.7nm,1.1s			IAmb	IAmb	07 58 53.9	
KDAK	**Kodiak Island**	**16.48**	**56**	Pn	**Pn**	**07 58 50.7**	**-1.2**
KDAK	comp=Z,5.5nm,1.0s			IAmb	IAmb	07 59 13.5	
G21K	**Allakaket**	**19.87**	**30**	P	**Pn**	**07 59 32.9**	**-0.6**
G21K	comp=Z,2.2nm,0.9s			IAmb	IAmb	07 59 42.0	
RND	**Reindeer**	**19.98**	**41**	P	**P**	**07 59 33.4**	**+0.1**
SCM	**Sheep Creek Mo**	**20.09**	**46**	P	**P**	**07 59 33.2**	**-1.3**
SCM	comp=Z,7.8nm,1.2s			IAmb	IAmb	07 59 48.0	
FID	**Port Fidalgo**	**20.20**	**49**	P	**P**	**07 59 35.2**	**-0.3**
DHY	**Denali Highway**	**20.48**	**43**	P	**P**	**07 59 38.7**	**0.0**
DHY	comp=Z,2.8nm,0.8s			IAmb	IAmb	07 59 44.6	
ILAR	**Eielson Array** comp=Z,0.3nm,0.9s,baz=250,slow=10,SNR=1.8 comp=Z,0.3nm,0.8s	**21.33**	**38**	P	**P**	**07 59 47.7**	**0.0**
RIDG	**Independent Ri**	**21.78**	**42**	P	**P**	**07 59 51.9**	**-0.7**
RIDG	comp=Z,1.6nm,0.9s			IAmb	IAmb	08 00 04.8	
TGL	**Tana Glacier**	**21.95**	**50**	P	**P**	**07 59 54.2**	**-0.4**
L27K	**Beaver Creek,**	**22.89**	**45**	P	**P**	**08 00 04.4**	**0.0**
H11N2	**WAKE ISLAND Hy** baz=16,slow=76,SNR=48	**33.43**	**205**	T	T	08 37 14.3	
H11N3	**WAKE ISLAND Hy** baz=16,slow=76,SNR=47	**33.44**	**205**	T	T	08 37 15.0	
H11N1	**WAKE ISLAND Hy** baz=16,slow=76,SNR=44	**33.45**	**205**	T	T	08 37 15.9	
MJAR	**Matsushiro Arr**	**33.78**	**261**	P	**P**	**08 01 42.4**	**-0.5**
MJAR	comp=Z,1.5nm,1.2s			IAmb	IAmb	08 01 43.4	
MAJO	**Matsushiro**	**33.78**	**261**	P	**P**	**08 01 41.8**	**-1.1**
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.5s,baz=311,slow=6.3,SNR=2.3 comp=Z,0.2nm,0.5s	**43.55**	**83**	P	**P**	**08 03 07.9**	**+2.9**
PDAR	**Pinedale Array** comp=Z,0.6nm,0.6s,baz=327,slow=2.8,SNR=6.1 comp=Z,0.6nm,0.6s	**46.33**	**72**	P	**P**	**08 03 28.6**	**+1.5**
TX31	**Lajitas Ar. Si**	**58.65**	**81**	P	**P**	**08 04 59.2**	**+0.7**
TXAR	**Lajitas Array**	**58.65**	**81**	P	**P**	**08 04 59.6**	**+1.1**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.7s,baz=303,slow=6.7,SNR=5.4 comp=Z,0.3nm,0.7s	**58.65**	**81**	P	**P**	**08 05 00.2**	**+1.7**
WRA	**Warramunga Arr**	**81.94**	**224**	P	**P**	**08 07 19.2**	**-1.6**
H03N2	**Juan Fernandez** baz=313	**121.09**	**106**	T	T	10 26 38.3	
H03N1	**Juan Fernandez** baz=313	**121.11**	**106**	T	T	10 26 38.8	
H03N3	**Juan Fernandez** baz=313	**121.11**	**106**	T	T	10 26 42.4	

NNC 14 08:04:50.6±6.7, 41°.78N×88°.91E, h0km, mb4.0, mpv3.7, 3C-1D, Error ellipse: s-maj=53.3km s-min=48.7km az=90.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan** 5.7nm,0.3s	**6.36**	**334**	Pg	Pb	08 06 44.6	+2.5
ZSN	12nm,1.3s			Lg	Lg	08 07 41.5	
MK31	**Makanchi Array** 0.8nm,0.5s,baz=131,slow=14,SNR=9.6	**6.90**	**319**	⇑P	Pn	08 06 33.7	+0.6
MK31	9.3nm,0.7s,baz=127,slow=26			⇑S	Sn	08 07 54.0	+1.7
MAKZ	**Makanchi** 2.1nm,0.8s	**7.07**	**318**	P	Pn	08 06 35.3	0.0
MAKZ	15nm,1.2s			S	Sn	08 07 57.8	+1.4
SHLS	**Shalkode** 10nm,0.3s	**7.12**	**284**	Pg	Pb	08 07 01.0	+5.8
SHLS	30nm,0.8s			Lg	Lg	08 08 09.6	
PDGK	**Podgornoye** 2.1nm,0.6s	**7.13**	**286**	⇑P	Pn	08 06 36.1	-0.2
PDGK	6.9nm,0.7s			⇓S	Sn	08 07 58.1	+0.1
UZB	**Uzynbulak** 2.9nm,0.4s	**7.44**	**284**	Pg	Pg	08 07 14.0	+0.9
UZB	6.3nm,1.0s			Lg	Lg	08 08 32.0	
KPKS	**Kokpek** 0.5nm,0.3s	**7.73**	**286**	Pg	Pg	08 07 17.9	-0.8
KPKS	9.6nm,0.6s			Lg	Lg	08 08 38.6	
ARXS	**Arharly** 2.8nm,0.9s	**8.48**	**290**	Pg	Pg	08 07 28.8	-4.2
ARXS	8.1nm,1.0s			Lg	Lg	08 08 57.6	

IDC 14 08:13:39.0±2.0, 3°.56N×128°.05E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=170.9km s-min=25.7km az=68.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 1.2nm,0.6s,baz=343,slow=9.4,SNR=17 1.2nm,0.6s	**24.16**	**165**	P	P	08 18 56.0	-1.0
ASAR	**Alice Springs** 0.3nm,0.5s,baz=345,slow=11,SNR=7.3 0.3nm,0.5s	**27.65**	**168**	P	P	08 19 29.1	+0.3
STKA	**Stephens Creek** 1.6nm,0.5s,baz=338,slow=8.0,SNR=4.6 1.6nm,0.5s	**37.52**	**161**	P	P	08 20 54.3	-0.5
KURBB	**Kurchatov Arra** 0.5nm,0.8s,baz=126,slow=6.4,SNR=2.4 0.5nm,0.8s	**62.60**	**327**	P	P	08 24 06.1	+1.1

SOME ***14*** *08:24:03.8, 44°.70N×82°.00E, h15km*

NNC 14 08:24:06.5±0.8, 44°.85N×81°.61E, h0km, mb3.3, mpv3.1, 1C-2D, Error ellipse: s-maj=14.0km s-min=5.0km az=118.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKZ	**Makanchi** 2.4nm,0.3s	**1.98**	**7**	Pn	Pn	08 24 41.4	+0.1
MAKZ	4.0nm,0.3s			Lg	Lg	08 25 09.4	
MK31	**Makanchi Array** 3.2nm,0.3s,baz=196,slow=13,SNR=83	**2.00**	**14**	Pn	Pn	08 24 41.7	+0.1
MK31	8.4nm,0.4s,baz=193,slow=23			⇓Lg	Lg	08 25 09.2	
PDGK	**Podgornoye** 4.0nm,0.5s	**2.15**	**226**	⇓Pn	Pn	08 24 44.0	+0.3
PDGK	9.5nm,0.6s			⇑Lg	Lg	08 25 13.9	
SHLS	**Shalkode** 14nm,0.2s	**2.29**	**223**	*e*P	Pn	08 24 43.5	-2.1
SHLS	22nm,0.4s			*e*S	Sn	08 25 12.0	-2.7

SOME 14 08:24:51.3, 43°.92N×76°.58E, h15km, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUU	**Kurty** 86nm,0.1s	**0.18**	**262**	*e*P	Pg	08 24 55.4	-0.2
KUU	223nm,0.2s			*e*S	Sg	08 24 58.6	+0.1
CHKK	**Chushkaly** 4.6nm,0.1s	**0.30**	**102**	*e*P	Pg	08 24 57.4	-0.2
CHKK	60nm,0.2s			*e*S	Sg	08 25 02.0	+0.1
MTBS	**Maitube** 18nm,0.1s	**0.80**	**188**	*e*P	Pg	08 25 05.7	-1.1
MTBS	38nm,0.2s			*e*S	Sg	08 25 16.1	-1.1
TNSS	**Tian-Shan** 1.4nm,0.2s	**0.92**	**163**	*e*P	Pg	08 25 08.1	-1.1
TNSS	2.0nm,0.2s			*e*S	Sg	08 25 20.2	-1.0
ARXS	**Arharly** 3.4nm,0.1s	**0.94**	**71**	P	Pb	08 25 08.8	-0.7
ARXS	19nm,0.2s			S	Sb	08 25 21.3	-0.4
ARXS	**Arharly**	**0.94**	**71**	*e*P	Pb	08 25 08.8	-0.7
ARXS				*e*S	Sb	08 25 21.4	-0.4
KST	**Kastek** 4.2nm,0.1s	**0.98**	**208**	*e*P	Pb	08 25 08.9	-1.3
KST	9.7nm,0.1s			*e*S	Sb	08 25 21.5	-1.4
KURS	**Kuram** 4.6nm,0.3s	**1.23**	**110**	P	Pn	08 25 13.5	-0.5
KURS	7.4nm,0.3s			S	Sb	08 25 29.6	-0.3
SATY	**Saty** 6.7nm,0.1s	**1.58**	**122**	P	Pn	08 25 19.5	+0.6
SATY	101nm,0.1s			S	Sb	08 25 39.8	-0.3
KPKS	**Kokpek** 0.5nm,0.2s	**1.59**	**106**	P	Pb	08 25 19.7	-0.7
KPKS	14nm,0.3s			S	Sb	08 25 40.1	-0.3
UZB	**Uzynbulak** 3.3nm,0.4s	**1.93**	**113**	P	Pb	08 25 25.4	-0.9
UZB	6.9nm,0.3s			S	Sb	08 25 49.9	-0.4
UZB	**Uzynbulak** 3.3nm,0.4s	**1.93**	**113**	*e*P	Pb	08 25 25.4	-0.9
UZB	6.9nm,0.3s			*e*S	Sb	08 25 49.9	-0.4
BTLS	**Baital** 1.0nm,0.2s	**2.14**	**303**	*e*P	Pb	08 25 29.8	+0.1
BTLS	1.4nm,0.2s			*e*S	Sb	08 25 57.6	+1.6
SHLS	**Shalkode** 3.1nm,0.2s	**2.23**	**109**	Pg	Pg	08 25 36.4	+2.4
SHLS	8.1nm,0.3s			Lg	Lg	08 26 08.5	
SHLS	**Shalkode** 3.1nm,0.2s	**2.23**	**109**	*e*P	Pg	08 25 36.4	+2.4
SHLS	8.1nm,0.3s			*e*S	Sg	08 26 08.5	+5.6

JMA ***14*** *08:26:40.1±0.2,24°.0N±0°.7×122°.9E±0°.7, h38km, MV3.2/12, NW OFF ISHIGAKIJIMA IS*

ISC 14 08:26:37.0±0.9, 23°.92N±0°.05×122°.88E±0°.03, h13km, n18, σ0s55/21, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.53**	**6**	P	**Pn**	**08 26 49.7**	**-0.6**
JYNG				*e*S	**Sb**	**08 26 56.5**	**+0.7**
YOJ	**Yonaguni jima**	**0.55**	**12**	P	**Pn**	**08 26 50.1**	**-0.5**
YOJ	**Yonaguni jima**	**0.55**	**12**	P	**Pn**	**08 26 50.1**	**-0.5**
YOJ				S	**Sb**	**08 26 56.9**	**+0.5**
HATJ	**Hateruma jima**	**0.85**	**81**	P	**Pn**	**08 26 54.9**	**+0.2**
HATJ				*e*S	**Sn**	**08 27 06.8**	**-0.3**
IRIF	**Iriomote-Funau**	**0.88**	**62**	P	**Pn**	**08 26 54.8**	**-0.2**
JKRS	**Kuro-shima**	**1.08**	**73**	*e*P	**Pg**	**08 26 58.4**	**+0.6**
NACB	**Ninganchiao**	**1.21**	**282**	P	**Pg**	**08 27 00.8**	**+0.6**
JIJ	**Ishigaki jima**	**1.23**	**69**	P	**Pg**	**08 27 00.7**	**0.0**
JISG	**Ishigakijimahi**	**1.46**	**63**	*e*P	**Pb**	**08 27 03.9**	**-0.2**
YULB	**Yu-li**	**1.55**	**250**	P	**Pb**	**08 27 05.3**	**-0.2**
YULB	**Yu-li**	**1.55**	**250**	S	**Sg**	**08 27 25.8**	**-1.0**
YHNB	**Yeheng**	**1.56**	**299**	P	**Pb**	**08 27 06.9**	**-0.2**
TATO	**Taipei**	**1.65**	**310**	P	**Pg**	**08 27 09.5**	**+0.8**
TATO	**Taipei**	**1.65**	**310**	S	**Sg**	**08 27 30.7**	**+0.6**
SSLB	**Suanglung**	**1.77**	**266**	P	**Pb**	**08 27 08.7**	**-0.7**
TWGBT	**Beinan**	**1.99**	**237**	P	**Pn**	**08 27 10.8**	**+0.4**
TPUB	**Ta-pu**	**2.16**	**254**	P	**Pb**	**08 27 15.6**	**-0.4**
TPUB	**Ta-pu**	**2.16**	**254**	S	**Sb**	**08 27 43.1**	**+0.5**

IDC ***14*** *08:39:57.0±0.9, 21°.75S×69°.05E, h0km, mb3.8/8, mbtmp3.8/8, MS3.3/7, Error ellipse: s-maj=29.3km s-min=25.9km az=59.0*

ISC 14 08:39:58.6±0.9, 21°.7S±0°.2×69°.1E±0°.2, h10km, n23, σ0s69/8, mb3.9/7, MS3.3/7, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H** baz=194,slow=76,SNR=58	**14.40**	**14**	T	T	08 58 03.4	
H08S2	**Diego Garcia H** baz=194,slow=76,SNR=67	**14.40**	**14**	T	T	08 58 03.7	
H08S3	**Diego Garcia H** baz=194,slow=76,SNR=103	**14.42**	**14**	T	T	08 58 05.3	
H04N2	**CROZET ISLANDS** baz=36,slow=75,SNR=117	**28.13**	**206**	T	T	09 15 09.5	
H04N1	**CROZET ISLANDS** baz=36,slow=75,SNR=134	**28.14**	**206**	T	T	09 15 10.3	
H04N3	**CROZET ISLANDS** baz=36,slow=75,SNR=119	**28.15**	**206**	T	T	09 15 09.0	
PALK	**Pallekele** comp=Z,58nm,18.6s,baz=196,slow=31	**31.02**	**23**	LR	LR	08 56 04.0	
LBTB	**Lobatse** comp=Z,37nm,18.6s,baz=151,slow=33	**39.90**	**257**	LR	LR	09 01 40.7	
BOSA	**Boshof** comp=Z,42nm,18.0s,baz=16,slow=31	**40.05**	**251**	LR	LR	09 00 43.5	
H01W2	**Cape Leeuwin H** baz=286	**41.47**	**118**	T	T	09 32 01.5	
H01W3	**Cape Leeuwin H** baz=286	**41.47**	**118**	T	T	09 32 11.8	
H01W1	**Cape Leeuwin H** baz=286	**41.48**	**118**	T	T	09 32 04.1	
BRDH	**Bariadhala** comp=Z,37nm,18.4s,baz=180,slow=37	**49.33**	**28**	LR	LR	09 10 06.0	
FITZ	**Fitzroy Crossi** 2.9nm,0.8s,baz=233,slow=5.1,SNR=2.9 2.9nm,0.8s	**53.08**	**97**	P	**P**	**08 49 15.6**	**-1.0**
ASAR	**Alice Springs** 0.7nm,0.7s,baz=259,slow=6.5,SNR=11 0.7nm,0.7s	**59.38**	**105**	P	**P**	**08 50 01.8**	**+0.1**
WRA	**Warramunga Arr** 1.1nm,0.9s,baz=255,slow=6.7,SNR=5.9 1.1nm,0.9s	**60.62**	**101**	P	**P**	**08 50 10.3**	**+0.2**
SNAA	**Sanae** 0.7nm,0.9s,baz=80,slow=11,SNR=2.4 0.7nm,0.9s	**63.85**	**200**	P	**P**	**08 50 30.4**	**-0.6**
QSPA	**South Pole Qui** 1.7nm,1.0s,baz=287,slow=4.9,SNR=3.6 1.7nm,1.0s	**68.37**	**180**	P	**P**	**08 51 01.0**	**+0.8**
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=193,slow=4.9,SNR=5.5	**69.25**	**10**	P	**P**	**08 51

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.33**	**21**	**Pn**	**Pn**	**08 44 18.9**	**+0.3**
	52nm,0.3s,baz=166,slow=8.3,SNR=12						
GUMO				Sn	**Sb**	**08 44 37.1**	**0.0**
	180nm,0.3s,baz=163,slow=19,SNR=7.1						
H11S3	**WAKE ISLAND Hy**	**22.34**	**71**	T	T	09 12 12.7	
	baz=253,slow=74,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**22.36**	**71**	T	T	09 12 03.4	
	baz=253,slow=74,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**22.36**	**71**	T	T	09 12 08.2	
	baz=253,slow=74,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**22.83**	**68**	T	T	09 12 38.0	
	baz=255,slow=75,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**22.84**	**68**	T	T	09 12 43.0	
	baz=255,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**22.84**	**68**	T	T	09 12 42.5	
	baz=255,slow=75,SNR=6.5						
MJAR	**Matsushiro Arr**	**24.73**	**348**	LR	LR	08 59 06.5	
	comp=Z,22nm,18.4s,baz=154,slow=37						
WRA	**Warramunga Arr**	**33.57**	**197**	P	**P**	**08 50 33.4**	**-0.2**
	1.6nm,0.7s,baz=21,slow=9.9,SNR=16						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**37.22**	**196**	P	**P**	**08 51 05.3**	**+0.3**
	0.6nm,0.6s,baz=20,slow=10,SNR=15						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**62.06**	**317**	P	**P**	**08 54 14.6**	**+0.7**
	0.3nm,0.5s,baz=97,slow=7.3,SNR=2.4						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**65.27**	**320**	P	**P**	**08 54 34.4**	**-0.6**
	0.6nm,0.5s,baz=106,slow=6.8,SNR=5.4						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**69.89**	**25**	P	**P**	**08 55 03.2**	**-0.7**
	0.2nm,0.6s,baz=266,slow=2.8,SNR=4.1						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**70.61**	**322**	P	**P**	**08 55 08.3**	**-0.2**
	0.7nm,0.5s,baz=78,slow=14,SNR=3.8						
	0.7nm,0.5s						
NVAR	**Mina Array Bea**	**88.07**	**51**	P	**P**	**08 56 45.0**	**+0.7**
	0.3nm,0.6s,baz=305,slow=5.2,SNR=3.9						
	0.3nm,0.6s						
PDAR	**Pinedale Array**	**93.18**	**45**	P	**P**	**08 57 07.5**	**-0.5**
	0.2nm,0.6s,baz=338,slow=1.6,SNR=2.0						
	0.2nm,0.6s						

*JMA **14** 09:25:57.5±0.1,37.°N±1.°×13.°5E±.°, h383km, MV2.9/44, NW OFF HOKURIKU DISTRICT*
*IDC **14** 09:25:58.5±1.1,37.°10N×135.°37E, h380km±16km, mb2.6/4, mbtmp3.5/8, Error ellipse: s-maj=24.7km s-min=16.8km az=62.0*
ISC 14 09:25:58.3±0.9, 37.°08N±0.°10×135.°37E±0.°08, h400km, n18, σ2.°18/20, mb2.8/4, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	**1.45**	**58**	**eP**	**Pn**	**09 26 50.0**	**-1.2**
JWT	**Wachi**	**1.80**	**179**	**eP**	**Pn**	**09 26 50.2**	**-2.9**
JYTA	**Yamagatataniai**	**1.85**	**143**	**eP**	**Pn**	**09 26 50.8**	**-2.6**
JOI	**OKI**	**1.88**	**246**	**eP**	**Pn**	**09 26 50.3**	**-3.3**
JNG	**Nsakai**	**2.29**	**106**	**eP**	**Pn**	**09 26 55.1**	**-1.2**
MAT	**Matsushiro**	**2.34**	**103**	**eP**	**Pn**	**09 26 55.3**	**-1.2**
MJAR	**Matsushiro Arr**	**2.34**	**103**	P	**Pn**	**09 26 55.4**	**-1.2**
	15nm,0.7s,baz=280,slow=9.6,SNR=48						
JSD	**Sado**	**2.48**	**67**	**eP**	**Pn**	**09 26 56.8**	**-0.7**
JMM	**Marumori**	**4.38**	**78**	**eP**	**Pn**	**09 27 14.1**	**+0.1**
JFK	**Kawauchi**	**4.40**	**85**	**eP**	**Pn**	**09 27 13.6**	**-0.6**
JFK				**eS**	**S**	**09 28 12.7**	**-3.2**
JMK	**Ichinoseki**	**4.98**	**66**	**eP**	**Pn**	**09 27 20.3**	**+0.3**
KSRS	**Korea Array**	**5.95**	**276**	P	**Pn**	**09 27 28.9**	**-1.4**
	0.7nm,0.5s,baz=92,slow=12,SNR=5.1						
USRK	**Ussuriysk Ar.**	**7.56**	**341**	P	**P**	**09 27 49.1**	**+0.6**
	3.8nm,0.5s,baz=157,slow=10,SNR=8.2						
ASAJ	**Asahikawa**	**8.91**	**36**	P	**P**	**09 28 04.8**	**+1.1**
	6.5nm,0.4s,baz=220,slow=9.7,SNR=19						
ASAJ				S	**S**	**09 29 42.3**	**-4.2**
	5.9nm,0.9s,baz=233,slow=20,SNR=1.9						
MKAR	**Makanchi Array**	**39.98**	**301**	P	**P**	**09 32 57.1**	**+1.2**
	0.2nm,0.5s,baz=74,slow=8.7,SNR=2.2						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**42.14**	**307**	P	**P**	**09 33 14.9**	**+1.6**
	0.2nm,0.5s,baz=74,slow=6.8,SNR=2.3						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**56.73**	**181**	P	**P**	**09 35 03.6**	**+1.4**
	0.3nm,0.4s,baz=358,slow=7.5,SNR=14						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**60.44**	**182**	P	**P**	**09 35 30.6**	**+3.2**
	0.3nm,0.7s,baz=14,slow=12,SNR=5.5						
	0.3nm,0.7s						

*IDC **14** 09:28:35.4±0.8,29.°24N×142.°04E, h0km, mb3.8/14, mbtmp3.7/17, ML3.1/3, MS3.2/5, Error ellipse: s-maj=23.7km s-min=18.3km az=65.0*
ISC 14 09:28:40.0±0.8, 29.°3N±0.°1×142.°0E±0.°1, h30km, n23, σ0.°80/18, mb3.8/14, MS3.2/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.92**	**337**	Pn	**Pn**	**09 30 32.1**	**-1.1**
	0.2nm,0.3s,baz=157,slow=13,SNR=7.0						
MJAR				Sn	**Sn**	**09 32 02.4**	**+0.7**
	baz=140,slow=14,SNR=1.7						
	4.5nm,0.7s						
JOW	**Kunigami**	**12.40**	**262**	LR	LR	09 35 39.1	
	comp=Z,126nm,21.9s,baz=329,slow=34						
KSRS	**Korea Array**	**14.32**	**308**	Pn	**Pn**	**09 32 01.1**	**+0.4**
	0.1nm,0.3s,baz=117,slow=13,SNR=6.4						
	0.8nm,1.0s						
USRK	**Ussuriysk Ar.**	**16.91**	**334**	Pn	**Pn**	**09 32 32.8**	**-1.5**
	0.2nm,0.3s,baz=152,slow=9.7,SNR=2.7						
	1.1nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**24.91**	**110**	T	T	09 59 41.9	
	baz=292						
H11S1	**WAKE ISLAND Hy**	**24.92**	**110**	T	T	09 59 54.0	
	baz=292						
H11S2	**WAKE ISLAND Hy**	**24.93**	**110**	T	T	09 59 35.9	
	baz=292						
SONM	**Songino Array**	**33.08**	**314**	P	**P**	**09 35 13.4**	**+0.2**
	0.3nm,0.4s,baz=140,slow=7.5,SNR=1.9						
	0.3nm,0.4s						
SHEM	**Shemya Is, Ala**	**33.22**	**36**	LR	LR	09 46 14.2	
	comp=Z,30nm,20.9s,baz=131,slow=32						
CMAR	**Chiang Mai Arr**	**40.66**	**265**	P	**P**	**09 36 17.9**	**+0.2**
	0.5nm,0.3s,baz=60,slow=8.5,SNR=1.0						
CMAR				LR	LR	09 53 35.5	
	comp=Z,33nm,20.1s,baz=90,slow=37						
	0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**47.77**	**318**	P	**P**	**09 37 14.1**	**-0.2**
	1.0nm,0.3s,baz=91,slow=8.6,SNR=5.1						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**49.01**	**308**	P	**P**	**09 37 23.3**	**-0.6**
	0.7nm,0.7s,baz=97,slow=7.6,SNR=5.5						
MKAR				LR	LR	09 58 48.4	
	comp=Z,30nm,18.4s,baz=77,slow=37						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**49.50**	**190**	P	**P**	**09 37 27.6**	**-0.3**
	0.5nm,0.7s,baz=10,slow=8.3,SNR=8.0						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**51.44**	**313**	P	**P**	**09 37 42.2**	**0.0**
	2.5nm,0.9s,baz=89,slow=7.0,SNR=15						
	2.5nm,0.9s						
ASAR	**Alice Springs**	**53.22**	**189**	P	**P**	**09 37 54.2**	**-1.5**
	0.1nm,0.4s,baz=8.7,slow=6.6,SNR=4.1						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**55.87**	**29**	P	**P**	**09 38 14.1**	**-0.4**
	0.3nm,0.8s,baz=268,slow=7.6,SNR=2.1						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**56.36**	**316**	P	**P**	**09 38 18.8**	**+0.6**
	2.8nm,0.8s,baz=73,slow=9.8,SNR=9.0						
	2.8nm,0.8s						
KBZ	**Khabaz**	**76.43**	**313**	P	**P**	**09 40 27.5**	**+0.7**
	2.0nm,0.7s,baz=119,slow=4.5,SNR=5.4						
	2.0nm,0.7s						
JMIC	**Jan Mayen**	**77.85**	**351**	LR	LR	10 16 14.7	
	comp=Z,17nm,19.8s,baz=43,slow=37						
NVAR	**Mina Array Bea**	**79.27**	**52**	P	**P**	**09 40 43.6**	**+0.7**
	0.5nm,0.7s,baz=286,slow=4.3,SNR=5.5						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**82.75**	**45**	P	**P**	**09 41 01.7**	**+0.3**
	0.3nm,0.8s,baz=331,slow=7.9,SNR=2.0						
	0.3nm,0.8s						
BRTR	**Keskin Array B**	**84.43**	**313**	P	**P**	**09 41 10.4**	**+0.5**
	0.7nm,0.5s,baz=51,slow=3.8,SNR=3.8						
	0.7nm,0.5s						
TXAR	**Lajitas Array**	**94.40**	**53**	P	**P**	**09 41 58.4**	**+1.0**
	0.3nm,0.8s,baz=316,slow=3.5,SNR=3.9						
	0.3nm,0.8s						

*HEL **14** 09:29:42.4±0.3, 67.°89N×20.°16E, h0km, ML1.3, Suspected explosion*
UPP 14 09:29:42.2±0.1, 67.°86N×20.°20E, h0km, ML2.3, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**28**	P	Pg	09 29 44.3	0.0
KUA				S	Sg	09 29 46.4	+0.7
KUA	**Kurravaara**	**0.11**	**28**	P	Pg	09 29 44.4	+0.1
KUA				S	Sg	09 29 46.4	+0.6
RATU	**Laukkuluspa**	**0.23**	**262**	P	Pg	09 29 46.6	0.0
RATU	**Laukkuluspa**	**0.23**	**262**	P	Pg	09 29 46.7	+0.1
KOVU	**Salmi**	**0.37**	**358**	P	Pg	09 29 49.5	+0.2
KOVU	**Salmi**	**0.37**	**358**	P	Pg	09 29 49.5	+0.3
NIKU	**Nikkaluokta**	**0.44**	**272**	P	Pg	09 29 50.6	0.0
NIKU	**Nikkaluokta**	**0.44**	**272**	P	Pg	09 29 50.6	0.0
LANU	**Lannavaara**	**0.70**	**74**	P	Pg	09 29 55.6	0.0
LANU	**Lannavaara**	**0.70**	**74**	PB	Pg	09 29 55.8	+0.2
	baz=260						
LANU				SG	Sg	09 30 05.0	+0.2
SALU	**Saltoluokta**	**0.81**	**234**	P	Pg	09 29 57.6	0.0
KIF	**Kilpisjarvi**	**1.17**	**11**	PN	Pn	09 30 06.2	+0.4
KIF				MSG		09 30 18.4	
	comp=Z,2.9nm,0.2s						
KIF				SN	Sb	09 30 21.4	+0.4
PAJU	**Pajala**	**1.40**	**125**	PG	Pn	09 30 08.0	-1.0
	baz=305						
PAJU				SG	Sg	09 30 26.9	-0.2
HEF	**Hetta**	**1.41**	**65**	PG	Pn	09 30 07.9	-1.2
HEF				SG	Sg	09 30 23.7	-3.7
HEF				MSG		09 30 24.9	
	comp=Z,1.4nm,0.2s						
ERTU	**Ertsjaerv**	**1.52**	**148**	PG	Pn	09 30 10.8	+0.2
ERTU				SN	Sn	09 30 31.8	+0.7
KTK1	**Kautokeino**	**1.61**	**43**	PN	Pg	09 30 13.5	+0.4
TRO	**Tromso**	**1.84**	**346**	SN	Sg	09 30 41.2	-0.1
KALU	**Kalix**	**2.36**	**147**	PB	Pn	09 30 23.6	+1.5
KALU				SB	Sb	09 30 54.7	-0.5
TOF	**Tornio**	**2.41**	**136**	PB	Pn	09 30 24.4	+1.5
TOF				MSG		09 30 54.7	
	comp=Z,1.3nm,0.2s						
TOF				SG	Sb	09 30 56.6	-0.1
ARA0	**ARCESS Array S**	**2.57**	**47**	SG	Sb	09 31 01.3	+0.2
RAJF	**Raja-Jooseppi**	**3.10**	**75**	SG	Sb	09 31 17.5	+1.2
KEV	**Kevo**	**3.12**	**49**	SB	Sn	09 31 12.6	+2.1
RANF	**Ranua**	**3.19**	**122**	SG	Sb	09 31 21.2	+2.3
OUL	**Oulu**	**3.60**	**138**	SG	Sb	09 31 33.3	+2.5
OBF8	**Ulkokalla**	**3.78**	**158**	SB	Sb	09 31 34.0	-1.9
KU1	**Kurvinen**	**4.37**	**117**	PB	Pb	09 30 56.9	-2.9

*NEIC **14** 09:48:39.5±1.7, 33.°555N±0.°009×118.°17W±0.°01, h10km±2km, Error ellipse: s-maj=3.0km s-min=1.6km az=330.0*
PAS 14 09:48:39.7±1.5, 33.°546N±0.°009×118.°17W±0.°01, h12km±5km, Mwr3.5/4, ML3.6/124(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=221.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIAC	**Catalina I. Ai**	**0.25**	**235**		Pb	09 48 48.6	+2.5
RPV	**Rancho Palos V**	**0.28**	**315**		Pg	09 48 45.1	-0.3
RPV					Sg	09 48 49.1	-0.1
SANC	**Santa Ana**	**0.29**	**56**		Pg	09 48 45.8	+0.3
SANC					Sb	09 48 51.0	-0.5
BREC	**Barre Substati**	**0.30**	**31**		Pg	09 48 46.4	+0.5
BREC					Sb	09 48 51.7	-0.4
FULC	**Fullerton**	**0.39**	**33**		Pg	09 48 47.7	+0.4
WTT2	**Watts, South G**	**0.41**	**350**		Pg	09 48 47.9	+0.1
BHPC	**Baldwin Hills**	**0.47**	**340**		Pg	09 48 48.6	-0.3
BHPC					Sb	09 48 56.4	-0.5
RHC	**Rose Hills Cem**	**0.47**	**16**		Pg	09 48 49.0	+0.1
USC	**University of**	**0.48**	**349**		Pg	09 48 49.4	+0.3
USC					Sb	09 48 56.9	-0.3
GVRC	**Garvey Reservo**	**0.50**	**5**		Pg	09 48 49.8	+0.2
BVH	**Beverly Hills**	**0.56**	**341**		Pn	09 49 00.0	+6.5
GR2C	**Griffith Obs.**	**0.58**	**349**		Pg	09 48 50.8	-0.2
GR2C					Sb	09 48 59.7	-0.4
CACC	**Caltech Cellar**	**0.59**	**4**		Pg	09 48 50.9	-0.3
GSA	**Caltech--GSA**	**0.59**	**3**		Pg	09 48 51.1	-0.1
CBCC	**Caltech Broad**	**0.59**	**4**		Sb	09 48 59.8	-0.6
CRNC	**Corona**	**0.61**	**57**		Pg	09 48 50.8	-0.7
DJJ	**Donna J Jenkin**	**0.61**	**337**		Pg	09 48 50.8	-0.7
DJJ					Sg	09 48 59.9	+0.3
DJJ	**Donna J Jenkin**	**0.61**	**337**		Pg	09 48 50.9	-0.6
DJJ					Sg	09 48 59.9	+0.3
CHNC	**Chino**	**0.61**	**42**		Pg	09 48 51.0	-0.5
CHNC					Sg	09 49 00.1	+0.4
PSRC	**Puddingstone R**	**0.62**	**29**		Pg	09 48 51.3	-0.6
PSRC					Sg	09 49 00.5	+0.4
PASC	**Pasadena Art C**	**0.62**	**359**		Pg	09 48 50.7	-1.1
PASC				IAML		09 49 01.1	
	comp=N,2μm,0.5s						
PASC				IAML		09 49 01.2	
	comp=E,2μm,0.4s						
PASC	**Pasadena Art C**	**0.62**	**359**		Sg	09 49 00.1	0.0
ELS	**Elsinore Mount**	**0.63**	**81**		Pg	09 48 51.1	-0.9
ELS	**Elsinore Mount**	**0.63**	**81**		Sg	09 48 59.4	-0.9
SCI2	**San Clemente I**	**0.65**	**209**		Pg	09 48 52.5	+0.2
SCI2					Sb	09 49 03.2	+1.2
HLLC	**North Hollywoo**	**0.65**	**346**		Sb	09 49 01.6	-0.3
MWC	**Mount Wilson**	**0.68**	**8**		Pg	09 48 52.2	-0.8
MWC				IAML		09 49 03.5	
	comp=N,2μm,0.4s						
MWC				IAML		09 49 04.4	
	comp=E,2μm,0.3s						
MWC	**Mount Wilson**	**0.68**	**8**		Sg	09 49 02.3	+0.3
MLSC	**Mira Loma**	**0.68**	**48**		Pg	09 48 52.2	-0.8
MLSC					Sg	09 49 02.1	+0.1
DECC	**Green Verdugo**	**0.72**	**349**		Pg	09 48 52.4	-1.3
DECC					Sg	09 49 04.0	-0.1
SBI	**Santa Barbara**	**0.72**	**265**		Pg	09 48 53.3	-0.3
SBI					Sg	09 49 03.3	+0.2
SSK	**Sunset Peak**	**0.77**	**31**		Pg	09 48 53.9	-0.8
AGOC	**Agoura**	**0.78**	**321**		Pg	09 48 54.0	-0.7
AGOC					Sg	09 49 04.4	-0.6
CHFC	**Chilao Flat St**	**0.79**	**9**		Pg	09 48 53.8	-1.3
CHFC					Sg	09 49 05.2	-0.4
RVR	**Riverside**	**0.80**	**56**		Pg	09 48 54.1	-1.0
RVR					Sg	09 49 04.8	-0.8
BLCC	**Black Canyon**	**0.81**	**329**		Pg	09 48 54.6	-0.7
BLCC					Sg	09 49 06.2	+0.2
BFSC	**Mount Baldy Ra**	**0.81**	**32**		Pg	09 48 54.5	-0.9
BFSC					Sg	09 49 05.5	-0.5
MURC	**Murrieta**	**0.82**	**86**		Pg	09 48 54.3	-1.2
MURC					Sg	09 49 05.7	-0.5
RSBC	**Riverside Bore**	**0.82**	**59**		Pg	09 48 54.7	-0.9
RSBC					Sb	09 49 07.5	+0.5
RSBC	**Riverside Bore**	**0.82**	**59**		Pg	09 48 54.6	-1.0
RSBC					Sb	09 49 07.0	0.0
FON	**Fontana**	**0.82**	**48**		Pg	09 48 54.9	-0.7
FON					Sg	09 49 06.1	-0.3
OAT	**Oat Mountain**	**0.88**	**335**		Pg	09 48 56.3	-0.4
OAT					Sb	09 49 08.5	-0.2
GORC	**Green Oak Ranc**	**0.88**	**116**		Pg	09 48 55.7	-1.0
GORC					Sg	09 49 07.4	-0.8
CLTC	**Calectric**	**0.90**	**52**		Pg	09 48 55.5	-1.5
CLTC					Sg	09 49 08.5	-0.2
PEC	**Perris**	**0.91**	**67**		Pg	09 48 56.0	-1.3
PEC					Sg	09 49 08.2	-1.0
JNH	**Juniper Hills**	**0.92**	**11**		Pg	09 48 55.9	-1.6
JNH					Sg	09 49 08.9	-0.6
BACC	**Bachelor Mtn.**	**0.95**	**86**		Pg	09 48 56.6	-1.4
HOLC	**Holcomb Ridge**	**0.95**	**17**		Pg	09 48 56.5	-1.6
PDE	**Pardee, Santa**	**0.96**	**339**		Pb	09 48 58.3	0.0
DGR	**Domenigoni Val**	**0.98**	**84**		Pg	09 48 56.8	-1.7
HLNC	**Highland**	**0.98**	**54**		Pg	09 48 58.1	-0.5
CJV	**Casa Juvan**	**0.98**	**1**		Pg	09 48 57.2	-1.4
LRRC	**Littlerock Res**	**0.98**	**7**		Pg	09 48 57.2	-1.4
HMTC	**Hemet**	**0.99**	**80**		Pg	09 48 57.2	-1.6
CFT	**Crafton Hills**	**1.01**	**61**		Pg	09 48 58.6	-0.6
BBSC	**Beaumont Base**	**1.06**	**69**		Pb	09 48 59.5	-0.5
LEOC	**Leona Valley**	**1.09**	**354**		Pb	09 48 59.4	-1.1
CPE	**Camp Elliot**	**1.11**	**126**		Pb	09 48 59.3	-1.5
CPE				IAML		09 49 16.3	
	comp=N,2μm,0.2s						
CPE				IAML		09 49 16.6	
	comp=E,2μm,0.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLM	**Palomar**	**1.11**	**100**		Pb	09 48 59.4	-1.6
STCC	**Santa Clara**	**1.13**	**312**		Pg	09 49 01.6	+0.1
ALPC	**Antelope**	**1.14**	**355**		Pb	09 49 00.8	-0.6
OSI	**Osito Audit: C**	**1.16**	**337**		Pb	09 49 00.9	-0.8
OSI				IAML		09 49 19.4	
	comp=E,1μm,0.5s						
OSI				IAML		09 49 25.6	
	comp=N,994nm,0.6s						
DPP	**Dos Picos Cty**	**1.17**	**118**		Pb	09 49 00.1	-1.8
DPP				IAML		09 49 17.5	
	comp=N,831nm,0.3s						
DPP				IAML		09 49 17.6	
	comp=E,924nm,0.3s						
ADO	**Adelanto Recei**	**1.17**	**31**		Pb	09 49 01.1	-0.9
SBB	**Saddle Back Bu**	**1.18**	**14**		Pb	09 49 00.4	-1.6
BTPC	**Burnt Peak**	**1.18**	**344**		Pb	09 49 01.5	-0.7
CRY	**Cary Ranch**	**1.20**	**89**		Pn	09 49 00.9	-1.5
VTV	**Victorville**	**1.23**	**34**		Pn	09 49 01.9	-0.9
BZNA	**Buzz No.'s Pla**	**1.26**	**92**		Pn	09 49 02.3	-1.0
BBRC	**Big Bear Solar**	**1.26**	**55**		Pn	09 49 02.1	-1.3
DNR	**Dunn Ranch,Anz**	**1.29**	**89**		Pn	09 49 03.0	-0.7
EML	**El Monte Cty P**	**1.29**	**120**		Pn	09 49 01.6	-1.9
SNDA	**J Saunders Pla**	**1.30**	**89**		Pn	09 49 03.0	-0.9
SDRC	**San Diego Road**	**1.31**	**128**		Pn	09 49 02.5	-1.4
FRD	**Ford Ranch, An**	**1.31**	**92**		Pn	09 49 03.0	-1.0
MATG	**Mataguay Scout**	**1.32**	**105**		Pn	09 49 02.8	-1.4
TPO	**Tropico Hills**	**1.33**	**358**		Pn	09 49 04.1	-0.1
TPO				IAML		09 49 23.2	
	comp=E,1μm,0.7s						
EDW2	**Edwards Air Fo**	**1.34**	**6**		Pn	09 49 04.1	-0.2
SIL	**Silver Peak**	**1.37**	**54**		Pn	09 49 04.6	-0.3
DEVC	**Devers**	**1.38**	**73**		Pn	09 49 05.0	+0.2
TJX	**Tijuana**	**1.40**	**137**		Pn	09 49 04.6	-0.4
TJX				IAML		09 49 34.4	
	comp=E,2μm,0.6s						
HYS	**Haystack Butte**	**1.41**	**21**		Pn	09 49 05.0	-0.3
THC	**Tehachapi Micr**	**1.42**	**343**		Pn	09 49 05.0	-0.6
PFO	**Pinyon Flats O**	**1.43**	**87**		Pn	09 49 05.1	-0.5
PFO				IAML		09 49 26.7	
	comp=E,660nm,0.7s						
BORC	**Borrego Spring**	**1.49**	**100**		Pn	09 49 05.9	-0.5
BORC				IAML		09 49 27.6	
	comp=N,901nm,0.9s						
BORC				IAML		09 49 28.3	
	comp=E,912nm,0.7s						
DUZA	**Dulzura**	**1.50**	**128**		Pn	09 49 04.9	-1.6
PMD	**Palm Desert**	**1.50**	**86**		Pn	09 49 06.4	0.0
PMD				IAML		09 49 27.8	
	comp=N,1μm,0.8s						
PMD				IAML		09 49 27.8	
	comp=E,585nm,0.7s						
BAR	**Barrett**	**1.53**	**124**		Pn	09 49 05.3	-1.6
BAR				IAML		09 49 27.6	
	comp=E,807nm,0.3s						
BAR				IAML		09 49 30.1	
	comp=N,621nm,0.3s						
TJR	**Tejon Ranch**	**1.55**	**342**		Pn	09 49 06.5	-0.7
CBX	**Cerro Bola**	**1.77**	**134**		Pn	09 49 09.7	-0.5
SALN	**Salton City**	**1.85**	**98**		Pb	09 49 12.4	-1.0
BELC	**Belle Mtn. Jos**	**1.87**	**75**		Pb	09 49 12.9	-1.0
LRMC	**Laurel Mtn Rad**	**1.97**	**12**		Pn	09 49 12.8	-0.3
LRMC				IAML		09 49 44.4	
	comp=N,651nm,0.6s						
LRMC				IAML		09 49 44.6	
	comp=E,609nm,0.4s						
CCCA	**Chr Cany lake**	**2.08**	**18**		Pn	09 49 14.6	+0.1
CCCA				IAML		09 49 59.8	
	comp=N,691nm,0.7s						
GSC	**Goldstone, Bar**	**2.08**	**32**		Pn	09 49 14.9	+0.3
GSC				IAML		09 49 46.4	
	comp=N,612nm,0.6s						
YUH	**Yuha Desert**	**2.09**	**115**		Pn	09 49 13.9	-0.7
YUH				IAML		09 49 44.2	
	comp=N,343nm,0.6s						
WSHM	**Spangler Hills**	**2.12**	**15**		Pn	09 49 14.5	-0.6
WSHM				IAML		09 49 49.0	
	comp=N,259nm,0.5s						
WSHM				IAML		09 49 49.5	
	comp=N,305nm,0.3s						
ISA	**Isabella, Lake**	**2.13**	**353**		Pn	09 49 14.9	-0.2
CLC	**China Lake**	**2.31**	**12**		Pn	09 49 17.5	-0.2
CLC				IAML		09 49 55.7	
	comp=E,168nm,0.6s						
VES	**Vestal, Richgr**	**2.41**	**342**		Pn	09 49 18.5	-0.5
VES				IAML		09 50 00.3	
	comp=E,313nm,0.7s						
VES				IAML		09 50 01.2	
	comp=N,286nm,0.8s						
ESJX	**Sierra Juarez**	**2.42**	**129**		Pn	09 49 19.2	-0.1
MPMC	**Manual Prospec**	**2.57**	**12**		Pn	09 49 21.4	+0.1
MPMC				IAML		09 50 03.9	
	comp=E,249nm,0.5s						
MPMC				IAML		09 50 05.8	
	comp=N,252nm,0.7s						
IRM	**Iron M

H08S2	**Diego Garcia H**	**14.28**	**14**	T	T	10 09 19.4		
	baz=194,slow=76,SNR=69							
H08S3	**Diego Garcia H**	**14.30**	**14**	T	T	10 09 20.8		
	baz=194,slow=76,SNR=109							
H04N2	**CROZET ISLANDS**	**28.23**	**206**	T	T	10 26 34.5		
	baz=37,slow=75,SNR=126							
H04N1	**CROZET ISLANDS**	**28.24**	**206**	T	T	10 26 35.3		
	baz=37,slow=75,SNR=112							
H04N3	**CROZET ISLANDS**	**28.25**	**206**	T	T	10 26 28.3		
	baz=37,slow=75,SNR=112							
PALK	**Pallekele**	**30.91**	**23**	LR	LR	10 06 12.1		
	comp=Z,86nm,21.8s,baz=220,slow=29							
PSI	**Prapat**	**38.00**	**54**	LR	LR	10 09 48.4		
	comp=Z,80nm,20.3s,baz=180,slow=29							
LSZ	**Lusaka**	**39.16**	**272**	LR	LR	10 12 45.5		
	comp=Z,46nm,19.0s,baz=170,slow=33							
LBTB	**Lobatse**	**39.90**	**256**	LR	LR	10 11 54.0		
	comp=Z,53nm,18.2s,baz=98,slow=31							
BOSA	**Boshof**	**40.07**	**251**	LR	LR	10 13 25.0		
	comp=Z,64nm,18.4s,baz=36,slow=33							
H01W2	**Cape Leeuwin H**	**41.55**	**119**	T	T	10 43 22.9		
	baz=274							
H01W3	**Cape Leeuwin H**	**41.55**	**119**	T	T	10 43 17.2		
	baz=274							
H01W1	**Cape Leeuwin H**	**41.57**	**119**	T	T	10 43 22.5		
	baz=274							
MAW	**Mawson**	**46.15**	**183**	P	**P**	**09 59 38.7**	**-0.3**	
	2.0nm,1.0s,baz=36,slow=7.2,SNR=6.7							
MAW				LR	LR	10 14 20.3		
	comp=Z,46nm,19.6s,baz=63,slow=30							
	2.0nm,1.0s							
BRDH	**Bariadhala**	**49.23**	**28**	LR	LR	10 18 11.3		
	comp=Z,46nm,21.1s,baz=274,slow=33							
CMAR	**Chiang Mai Arr**	**49.43**	**39**	P	**P**	**10 00 04.1**	**-1.0**	
	0.5nm,0.2s,baz=246,slow=9.5,SNR=4.1							
CMAR				LR	LR	10 17 52.6		
	comp=Z,22nm,20.2s,baz=200,slow=32							
	0.5nm,0.2s							
KAPI	**Kappang**	**51.78**	**79**	LR	LR	10 20 15.2		
	comp=Z,24nm,18.5s,baz=277,slow=34							
FITZ	**Fitzroy Crossi**	**53.12**	**97**	P	**P**	**10 00 33.8**	**+0.8**	
	2.7nm,0.7s,baz=247,slow=9.0,SNR=5.6							
FITZ				LR	LR	10 21 01.2		
	comp=Z,85nm,18.7s,baz=178,slow=34							
	2.7nm,0.7s							
ASAR	**Alice Springs**	**59.44**	**105**	P	**P**	**10 01 18.0**	**-0.1**	
	1.5nm,0.8s,baz=260,slow=6.4,SNR=16							
ASAR				PcP	**PcP**	**10 02 05.4**	**-0.5**	
	0.5nm,1.0s,baz=254,slow=3.4,SNR=2.2							
ASAR				LR	LR	10 23 52.2		
	comp=Z,96nm,18.1s,baz=320,slow=33							
	1.5nm,0.8s							
WRA	**Warramunga Arr**	**60.67**	**101**	P	**P**	**10 01 26.6**	**0.0**	
	1.6nm,0.7s,baz=256,slow=6.3,SNR=11							
WRA				PcP	**PcP**	**10 02 10.3**	**-0.5**	
	0.5nm,0.8s,baz=254,slow=2.6,SNR=2.5							
	1.6nm,0.7s							
SNAA	**Sanae**	**63.96**	**200**	P	**P**	**10 01 47.4**	**-0.4**	
	1.2nm,1.0s,baz=86,slow=4.1,SNR=3.7							
	1.2nm,1.0s							
AAK	**Ala-Archa**	**64.12**	**4**	LR	LR	10 27 35.5		
	comp=Z,24nm,18.4s,baz=190,slow=34							
QSPA	**South Pole Qui**	**68.50**	**180**	P	**P**	**10 02 17.9**	**+0.8**	
	2.6nm,1.1s,baz=333,slow=4.5,SNR=7.5							
	2.6nm,1.1s							
MKAR	**Makanchi Array**	**69.13**	**10**	P	**P**	**10 02 21.6**	**+0.5**	
	1.1nm,0.6s,baz=200,slow=6.0,SNR=9.4							
MKAR				LR	LR	10 31 00.3		
	comp=Z,17nm,18.7s,baz=108,slow=34							
	1.1nm,0.6s							
BRTR	**Keskin Array B**	**69.39**	**332**	P	**P**	**10 02 23.6**	**+0.6**	
	0.8nm,0.7s,baz=184,slow=5.9,SNR=4.6							
	0.8nm,0.7s							
KURBB	**Kurchatov Arra**	**72.40**	**6**	P	**P**	**10 02 41.5**	**+0.7**	
	0.5nm,0.2s,baz=202,slow=6.2,SNR=5.8							
	0.5nm,0.2s							
BVAR	**Borovoye Array**	**74.33**	**1**	P	**P**	**10 02 52.0**	**-0.1**	
	0.7nm,0.5s,baz=201,slow=6.8,SNR=2.7							
	0.7nm,0.5s							
TORD	**Torodi Ar. Bea**	**74.54**	**291**	P	**P**	**10 02 53.8**	**-0.4**	
	0.6nm,0.7s,baz=93,slow=5.4,SNR=4.2							
	0.6nm,0.7s							
ZALV	**Zalesovo Beam**	**76.47**	**10**	P	**P**	**10 03 04.5**	**+0.1**	
	1.0nm,0.7s,baz=191,slow=6.0,SNR=4.6							
	1.0nm,0.7s							

IDC 14 10:29:55.6±16.0, 21°22S×69°52E, h0km, mb3.6/3, mbtmp3.6/3, MS3.4/6, Error ellipse: s-maj=531.5km s-min=43.9km az=54.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**21.16**	**273**	LR	LR	10 41 03.1	
	comp=Z,23nm,19.9s,baz=48,slow=32						
H04N2	**CROZET ISLANDS**	**28.79**	**206**	T	T	11 06 27.9	
	baz=37,slow=74,SNR=228						
H04N1	**CROZET ISLANDS**	**28.79**	**206**	T	T	11 06 27.5	
	baz=37,slow=74,SNR=282						
H04N3	**CROZET ISLANDS**	**28.80**	**206**	T	T	11 06 26.2	
	baz=37,slow=74,SNR=231						
LSZ	**Lusaka**	**39.61**	**271**	LR	LR	10 52 29.4	
	comp=Z,69nm,19.3s,baz=224,slow=34						
LBTB	**Lobatse**	**40.44**	**256**	LR	LR	10 51 47.9	
	comp=Z,105nm,19.1s,baz=96,slow=32						
BOSA	**Boshof**	**40.63**	**250**	LR	LR	10 51 30.6	
	comp=Z,78nm,20.6s,baz=34,slow=32						
ASAR	**Alice Springs**	**59.11**	**106**	P	P	10 39 58.2	-0.1
	0.6nm,0.7s,baz=258,slow=6.5,SNR=11						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**60.30**	**101**	P	P	10 40 06.7	0.0
	0.8nm,0.7s,baz=261,slow=6.5,SNR=6.4						
	0.8nm,0.7s						
SNAA	**Sanae**	**64.48**	**200**	LR	LR	11 01 50.9	
	comp=Z,30nm,21.4s,baz=64,slow=30						
MKAR	**Makanchi Array**	**68.67**	**9**	P	P	10 41 00.7	0.0
	0.2nm,0.5s,baz=183,slow=5.2,SNR=2.4						
	0.2nm,0.5s						
MJAR	**Matsushiro Arr**	**86.58**	**49**	LR	LR	11 20 26.2	
	comp=Z,29nm,20.8s,baz=209,slow=35						

IDC 14 10:35:08.1±0.6, 11°.94N×121°.68E, h0km, mb4.0/17, mbtmp4.0/18, ML4.5/1, MS3.6/28, Error ellipse: s-maj=27.7km s-min=13.1km az=69.0
NEIC 14 10:35:12.8±1.2, 12°.03N±0°.06×121°.82E±0°.09, h29km±5km, mb4.4/32, Error ellipse: s-maj=13.8km s-min=7.2km az=60.0
ISC 14 10:35:12.0±0.5, 12°.01N±0°.06×121°.79E±0°.09, h24km, n87, σ1°69/68, mb4.3/37, MS3.7/31, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.24**	**338**	Pn	**Pn**	**10 35 48.2**	**+0.5**
	116nm,0.3s,baz=172,slow=6.2,SNR=25						
TGY				Sn	**Sn**	**10 36 11.7**	**-3.0**
	315nm,0.3s,baz=115,slow=19,SNR=6.2						
	2μm,0.8s						
DAV	**Davao City (W)**	**6.17**	**142**	LR	LR	10 39 35.0	
	comp=Z,1μm,20.5s,baz=330,slow=43						
MYLDM	**Lahad Datu**	**7.53**	**206**		**Pn**	**10 37 02.2**	**+1.9**
KKM	**Kota Kinabalu**	**8.09**	**223**	Pn	**Pn**	**10 37 10.0**	**+1.8**
QIZ	**Qiongzhong**	**13.46**	**303**	Pn	**Pn**	**10 38 19.9**	**-1.8**
QIZ	**Qiongzhong**	**13.46**	**303**	P	**Pn**	**10 38 19.8**	**-1.8**
QIZ				S	**Sn**	**10 40 53.5**	**+2.9**
QIZ				pmax	pmax		
	comp=Z,10.0nm,0.6s						
QIZ				LR	LR		
	comp=N,250nm,13.8s						
QIZ				LR	LR		
	comp=E,300nm,17.4s						
QIZ				LR	LR		
	comp=Z,460nm,16.5s						
JOW	**Kunigami**	**15.96**	**22**	LR	LR	10 44 29.7	
	comp=Z,95nm,20.7s,baz=113,slow=35						
KAPI	**Kappang**	**17.03**	**187**	LR	LR	10 45 26.4	
	comp=Z,102nm,21.1s,baz=11,slow=36						
SLVN	**Son La**	**19.46**	**301**	P	**P**	**10 39 38.0**	**+0.7**
KULM	**Kulim**	**21.93**	**254**	P	**P**	**10 40 04.4**	**+0.5**
KMI	**Kunming**	**22.24**	**309**	P	**P**	**10 40 12.4**	**+5.0**
KMI				pmax	pmax		
	comp=Z,20nm,1.0s						
KMI				LR	LR		
	comp=N,180nm,17.1s						
KMI				LR	LR		
	comp=E,240nm,15.2s						
KMI				LR	LR		
	comp=Z,290nm,18.8s						

GUMO	**Guam**	**22.56**	**83**	LR	LR	10 47 30.2		
	comp=Z,86nm,21.2s,baz=280,slow=33							
CM31	**Chiang Mai Arr**	**22.95**	**289**	P	**P**	**10 40 14.6**	**-0.1**	
CM31				IAmb	IAmb	10 40 15.6		
	comp=Z,9.2nm,0.9s							
CMAR	**Chiang Mai Arr**	**22.95**	**289**	P	**P**	**10 40 14.4**	**-0.3**	
CMAR	**Chiang Mai Arr**	**22.95**	**289**	P	**P**	**10 40 13.6**	**-1.2**	
	comp=Z,3.2nm,0.9s,baz=103,slow=7.9,SNR=20							
	comp=Z,3.2nm,0.9s							
CHTO	**Chiang Mai**	**23.03**	**290**	P	**P**	**10 40 15.0**	**-0.6**	
PZH	**PanZhiHua**	**23.74**	**310**	P	**P**	**10 40 23.5**	**+0.8**	
PSI	**Prapat**	**24.43**	**250**	LR	LR	10 52 14.0		
	comp=Z,120nm,19.0s,baz=94,slow=42							
TIA	**Tai'an**	**24.46**	**351**	P	**P**	**10 40 36.3**	**+7.1**	
TIA				pmax	pmax			
	comp=Z,11nm,0.9s							
RPSI	**Rantau Prapat**	**24.47**	**250**	P	**P**	**10 40 28.3**	**-1.2**	
RPSI				IAmb	IAmb	10 40 44.3		
	comp=Z,9.9nm,1.1s							
XAN	**Xi'an**	**24.87**	**334**	P	**P**	**10 40 27.8**	**-5.2**	
XAN				pmax	pmax			
	comp=Z,8.0nm,0.7s							
XAN				LR	LR			
	comp=N,330nm,16.7s							
XAN				LR	LR			
	comp=E,330nm,16.5s							
XAN				LR	LR			
	comp=Z,330nm,16.3s							
KSRS	**Korea Array**	**25.93**	**11**	P	**P**	**10 40 43.4**	**+1.0**	
	comp=Z,6.6nm,0.7s,baz=199,slow=9.9,SNR=5.2							
	comp=Z,0.6nm,0.7s							
LZH	**Lanzhou**	**28.93**	**329**	*e*P	**P**	**10 41 08.3**	**-1.3**	
LZH				sP	sP	10 41 22.0	+2.4	
LZH				pmax	pmax			
	comp=Z,23nm,0.7s							
LZH				LR	LR			
	comp=N,290nm,17.5s							
LZH				LR	LR			
	comp=E,250nm,16.5s							
LZH				LR	LR			
	comp=Z,280nm,13.3s							
HHC	**Hu-ho-hao-te**	**30.10**	**344**	*e*P	**P**	**10 41 20.6**	**+0.7**	
HHC				pmax	pmax			
	comp=Z,9.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,86nm,6.9s							
HHC				LR	LR			
	comp=N,160nm,14.8s							
HHC				LR	LR			
	comp=E,99nm,14.9s							
HHC				LR	LR			
	comp=Z,150nm,15.9s							
FITZ	**Fitzroy Crossi**	**30.16**	**173**	P	**P**	**10 41 20.1**	**-0.3**	
SHL	**Shillong**	**31.27**	**300**		**P**	**10 41 28.9**	**-1.5**	
MBWA	**Marble Bar**	**33.02**	**184**	P	**P**	**10 41 44.3**	**-1.3**	
MBWA				IAmb	IAmb	10 42 07.0		
	comp=Z,6.9nm,0.9s							
USRK	**Ussuriysk Ar.**	**33.26**	**13**	P	**P**	**10 41 46.1**	**-1.3**	
	comp=Z,2.5nm,0.7s,baz=189,slow=5.5,SNR=6.6							
	comp=Z,2.5nm,0.7s							
PSA00	**Pilbara Seismi**	**33.43**	**183**	P	**P**	**10 41 48.7**	**-0.4**	
GTA	**Gaotai**	**33.53**	**328**	*e*P	**P**	**10 41 52.5**	**+2.5**	
GTA				sP	sP	10 42 02.9	+2.9	
GTA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
GTA				LR	LR			
	comp=N,170nm,17.8s							
GTA				LR	LR			
	comp=E,180nm,17.5s							
GTA				LR	LR			
	comp=Z,290nm,18.2s							
WB0	**Warramunga Arr**	**33.93**	**158**	P	**P**	**10 41 52.9**	**-0.6**	
WB0				IAmb	IAmb	10 41 57.2		
	comp=Z,5.4nm,0.8s							
BNX	**BinXian**	**33.95**	**7**	⇓P	**P**	**10 41 52.4**	**-1.1**	
BNX				pmax	pmax			
	comp=Z,5.0nm,1.2s							
WRAB	**Tennant Creek**	**34.06**	**159**	P	**P**	**10 41 53.7**	**-1.0**	
WRAB				IAmb	IAmb	10 42 00.7		
	comp=Z,6.8nm,0.8s							
WRA	**Warramunga Arr**	**34.07**	**159**	P	**P**	**10 41 53.3**	**-1.4**	
WRA	**Warramunga Arr**	**34.07**	**159**	P	**P**	**10 41 53.7**	**-1.1**	
	comp=Z,4.2nm,0.8s,baz=340,slow=9.4,SNR=16							
WRA				LR	LR	10 57 22.0		
	comp=Z,61nm,21.3s,baz=328,slow=39							
	comp=Z,4.2nm,0.8s							
WB2	**Warramunga Arr**	**34.07**	**159**	P	**P**	**10 41 53.8**	**-1.0**	
WR8	**Warramunga Arr**	**34.14**	**158**		**P**	**10 41 54.9**	**-0.5**	
WR8				IAmb	IAmb	10 41 59.8		
	comp=Z,5.8nm,1.0s							
EVN	**Everest**	**36.33**	**301**	P	**P**	**10 42 14.2**	**-0.8**	
EVN				IAmb	IAmb	10 42 28.6		
	comp=Z,8.3nm,0.9s							
ASAJ	**Asahikawa**	**36.66**	**25**	LR	LR	10 57 46.9		
	comp=Z,56nm,20.8s,baz=191,slow=37							
AS31	**Alice Springs**	**37.38**	**162**		**P**	**10 42 22.4**	**-0.8**	
AS31				IAmb	IAmb	10 42 29.4		
	comp=Z,1.8nm,0.5s							
ASAR	**Alice Springs**	**37.38**	**162**		**P**	**10 42 22.8**	**-0.4**	
ASAR	**Alice Springs**	**37.38**	**162**	P	**P**	**10 42 23.1**	**-0.1**	
	comp=Z,4.3nm,0.7s,baz=344,slow=7.3,SNR=41							
ASAR				LR	LR	10 59 27.4		
	comp=Z,58nm,19.2s,baz=280,slow=39							
	comp=Z,4.3nm,0.7s							
SONM	**Songino Array**	**37.97**	**343**	P	**P**	**10 42 27.0**	**-1.0**	
SONM	**Songino Array**	**37.97**	**343**	P	**P**	**10 42 27.3**	**-0.8**	
	comp=Z,0.4nm,0.4s,baz=171,slow=10,SNR=5.2							
SONM				LR	LR	10 59 58.3		
	comp=Z,105nm,18.9s,baz=164,slow=39							
	comp=Z,0.4nm,0.4s							
HEH	**HeiHe**	**38.41**	**6**	*e*P	P	10 42 38.3	+6.8	
FORT	**Forrest**	**42.97**	**172**	P	**P**	**10 43 08.4**	**-0.9**	
FORT				IAmb	IAmb	10 43 14.1		
	comp=Z,9.8nm,0.8s							
WMQ	**Urumqi**	**43.19**	**324**	*e*P	**P**	**10 43 12.8**	**+1.6**	
WMQ				LR	LR			
	comp=Z,200nm,21.5s							
HNR	**Honiara**	**43.50**	**118**	LR	LR	11 02 39.4		
	comp=Z,69nm,18.9s,baz=217,slow=38							
INKA	**Innaminka**			**43.58**	**155**		**P**	**10 43 13.8**	**-0.5**
NWAO	**Nanogin (SRO)**			**44.90**	**185**		**P**	**10 43 24.3**	**-0.5**
BBOO	**Buckleboo**			**46.61**	**163**		**P**	**10 43 37.8**	**-0.5**
STKA	**Stephens Creek**			**47.58**	**157**	P	**P**	**10 43 45.2**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=348,slow=9.3,SNR=6.7							
STKA				LR	LR	11 07 28.9		
	comp=Z,66nm,18.4s,baz=217,slow=41							
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**			**48.02**	**324**		**P**	**10 43 48.3**	**-1.0**
MKAR	**Makanchi Array**			**48.02**	**324**	P	**P**	**10 43 48.1**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=103,slow=9.1,SNR=9.7							
	comp=Z,0.8nm,0.8s							
MAKZ	**Makanchi**			**48.20**	**324**	P	**P**	**10 43 49.1**	**-1.6**
MAKZ						IAmb	IAmb	10 44 04.8	
	comp=Z,3.0nm,0.8s							
PETK	**Petropavlovsk-**			**50.01**	**27**	P	**P**	**10 44 04.3**	**0.0**
	comp=Z,3.4nm,1.0s,baz=212,slow=7.4,SNR=2.7							
PETK						LR	LR	11 05 52.0	
	comp=Z,34nm,20.1s,baz=196,slow=37							
	comp=Z,3.4nm,1.0s							
YAK	**Yakutsk**			**50.27**	**5**	LR	LR	11 06 54.7	
	comp=Z,48nm,19.4s,baz=188,slow=38							
AAK	**Ala-Archa**			**51.01**	**316**	LR	LR	11 07 18.1	
	comp=Z,96nm,21.8s,baz=116,slow=38							
ZALV	**Zalesovo Beam**			**51.04**	**333**	P	**P**	**10 44 12.0**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=122,slow=7.5,SNR=5.8							
ZALV						LR	LR	11 06 59.4	
	comp=Z,42nm,18.2s,baz=145,slow=37							
	comp=Z,1.2nm,0.5s							
MA2	**Magadan**			**52.15**	**18**	LR	LR	11 09 51.1	
	comp=Z,34nm,18.1s,baz=235,slow=40							
KURBB	**Kurchatov Arra**			**52.18**	**326**	P	**P**	**10 44 20.8**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=127,slow=7.6,SNR=12							
	comp=Z,1.5nm,0.7s							
KURK	**Kurchatov**			**52.18**	**327**		**P**	**10 44 19.7**	**-1.0**
KBL	**Kabul**			**52.73**	**304**	P	**P**	**10 44 24.5**	**-0.9**
GAR	**Garm**			**52.81**	**310**	P	**P**	**10 44 24.6**	**-1.2**
KK31	**Karatay Array**			**53.91**	**315**	P	**P**	**10 44 35.2**	**+1.5**
KK31						IAmb	IAmb	10 44 50.2	
	comp=Z,3.3nm,0.9s							
KKAR	**Karatay Array**			**53.91**	**315**	P	**P**	**10 44 33.8**	**+0.1**
BVAR	**Borovoye Array**			**57.76**	**326**	P	**P**	**10 45 00.2**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=108,slow=9.7,SNR=4.9							
	comp=Z,0.7nm,0.4s							
TIXI	**Tiksi**			**59.76**	**3**	LR	LR	11 12 13.9	
	comp=Z,63nm,20.5s,baz=204,slow=37							
AB31	**Akbulak array**			**62.70**	**319**	P	**P**	**10 45 35.7**	**+0.8**
AB31						IAmb	IAmb	10 45 41.7	
	comp=Z,1.9nm,0.8s							
AKTO	**Aktyubinsk**			**64.19**	**320**	LR	LR	11 15 35.0	
	comp=Z,116nm,18.5s,baz=22,slow=38							
ARTI	**Arti**			**65.45**	**327**	LR	LR	11 16 10.2	
	comp=Z,53nm,19.4s,baz=212,slow=38							
KIRV	**Kirov**			**70.65**	**328**	LR	LR	11 19 13.9	
	comp=Z,61nm,19.4s,baz=81,slow=37							
BELG	**Belogorsk**			**70.92**	**321**	LR	LR	11 20 58.9	
	comp=Z,319nm,18.8s,baz=96,slow=39							
GNI	**Garni**			**72.49**	**308**	LR	LR	11 23 30.1	
	comp=Z,37nm,18.5s,baz=128,slow=40							
RAYN	**Ar Rayn**			**72.85**	**291**		**P**	**10 46 39.4**	**-0.1**
RAYN						IAmb	IAmb	10 46 49.0	
	comp=Z,6.1nm,1.1s							
CASY	**Casey**			**78.52**	**185**	P	**P**	**10 47 12.1**	**+1.3**
ILAR	**Eielson Array**			**79.80**	**26**	P	**P**	**10 47 20.2**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=262,slow=5.3,SNR=7.5							
	comp=Z,0.6nm,0.7s							
BRTR	**Keskin Array B**			**81.03**	**309**	P	**P**	**10 47 25.7**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=107,slow=9.8,SNR=2.5							
	comp=Z,0.5nm,0.6s							
ARCES	**ARCESS Array B**			**81.03**	**339**	LR	LR	11 26 18.4	
	comp=Z,34nm,18.0s,baz=98,slow=38							
SPITS	**Spitsbergen Ar**			**81.45**	**348**	LR	LR	11 29 54.4	
	comp=Z,54nm,18.0s,baz=74,slow=40							
FINES	**FINESS Array B**			**82.27**	**331**	P	**P**	**10 47 31.7**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=90,slow=5.6,SNR=3.4							
FINES						LR	LR	11 27 16.3	
	comp=Z,46nm,18.9s,baz=183,slow=38							
	comp=Z,3.4nm,0.9s							
NOA	**NORSAR Array B**			**89.24**	**333**	P	**P**	**10 48 05.7**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=63,slow=5.0,SNR=1.5							
NOA						LR	LR	11 31 02.7	
	comp=Z,27nm,18.6s,baz=95,slow=38							
	comp=Z,0.4nm,0.6s							
RES	**Resolute Bay**			**90.53**	**9**	LR	LR	11 32 20.4	
	comp=Z,26nm,19.4s,baz=12,slow=38							
VNDA	**Vanda**			**92.23**	**172**	P	**P**	**10 48 19.5**	**+0.2**
VNDA						IAmb	IAmb	10 48 30.3	
	comp=Z,1.5nm,0.8s							
VNDA	**Vanda**			**92.23**	**172**	P	**P**	**10 48 19.1**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=288,slow=5.9,SNR=5.1							
	comp=Z,0.8nm,0.7s							
BORG	**Borgarnes**			**98.56**	**345**	LR	LR	11 38 51.4	
	comp=Z,16nm,18.7s,baz=350,slow=39							
TXAR	**Lajitas Array**			**119.90**	**46**	PKP	**PKPdf**	**10 54 01.6**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=312,slow=1.8,SNR=3.7							

ISK 14 10:39:39.7, 40°.72N×32°.97E, h3km, ML3.1/21
CFUSG 14 10:39:40.9, 40°.89N×32°.24E, h26km, mb2.5/2, MD3.0/2, North Turkey Magtype MSH 2.7 from 2 stations
AFAD 14 10:39:40.5, 40°.76N×33°.00E, h7km±1km, MW3.5
ISC 14 10:39:40.4±1.1, 40°.74N±0°.02×32°.97E±0°.02, h6km±10km, n45, σ0°62/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DERS	**Karabk-Eskip**	**0.33**	**289**	P	**Pb**	**10 39 48.1**	**-0.7**
DERS				S	**Sb**	**10 39 53.2**	**-1.2**
DERS				*i* IAML		10 39 59.0	
	comp=E,4μm,0.6s						
ELDT	**Eldivan**	**0.43**	**126**	P	**Pg**	**10 39 48.9**	**+0.1**
CMDR	**Camlidere-ANKA**	**0.45**	**236**	P	**Pg**	**10 39 49.0**	**-0.1**
SAFT	**Safranbolu**	**0.54**	**337**	Pg	**Pg**	**10 39 51.4**	**+0.6**
SAFT				Sg	**Sb**	**10 39 59.6**	**-0.7**
KBUK	**KARABUK-Merkez**	**0.56**	**332**	P	**Pb**	**10 39 51.9**	**-0.7**
KBUK				S	**Sb**	**10 39 59.6**	**-1.1**
KBUK				*i* IAML		10 40 00.0	
	comp=N,2μm,0.2s						
KBUK				*i* IAML		10 40 00.0	
	comp=E,1μm,0.1s						
PELI	**Kastamonı-Ara**	**0.61**	**25**	P	**Pg**	**10 39 52.4**	**+0.2**
PELI				S	**Sg**	**10 40 00.7**	**+0.4**
PELI				*i* IAML		10 40 01.0	
	comp=N,848nm,0.2s						
PELI				*i* IAML		10 40 01.0	
	comp=E,985nm,0.2s						
ILGA	**Ilgaz**	**0.65**	**61**	P	**Pg**	**10 39 52.3**	**-0.5**
YENC	**ankr-Yen**	**0.67**	**95**	P	**Pb**	**10 39 54.0**	**-0.5**
YENC				*i* IAML		10 40 00.0	
	comp=N,242nm,0.9s						
YENC				S	**Sg**	**10 40 02.3**	**+0.3**
YENC				*i* IAML		10 40 05.0	
	comp=E,836nm,0.1s						
BCAM	**Yenicaga**	**0.69**	**276**	P	**Pg**	**10 39 53.9**	**+0.2**
GOKD	**Ankara-Kalecik**	**0.78**	**150**	P	**Pg**	**10 39 55.5**	**+0.2**
DEVR	**Zonguldak/Devr**	**0.85**	**298**	P	**Pg**	**10 39 57.0**	**+0.3**
TOS	**Tosya**	**0.85**	**70**	Pg	**Pg**	**10 39 56.7**	**-0.1**
KMON	**Kastamonu**	**0.88**	**44**	Pg	**Pg**	**10 39 57.4**	**+0.1**
KMON				Sg	**Sb**	**10 40 10.7**	**+0.5**
KIBS	**BOLU**	**0.91**	**249**	P	**Pg**	**10 39 57.6**	**-0.2**
BOLU	**Bolu-Merkez-Mu**	**0.98**	**272**	P	**Pn**	**10 40 01.6**	**+0.9**
YUVA	**Yuva-Kibriscik**	**1.04**	**251**	Pg	**Pg**	**10 40 00.1**	**-0.2**
BTIN	**Bartın**	**1.04**	**329**	P	**Pn**	**10 40 01.8**	**+0.3**
DELI	**KIRIKKALE**	**1.04**	**135**	P	**Pg**	**10 40 00.0**	**-0.4**
DELI				S	**Sg**	**10 40 13.8**	**-0.1**
DELI			

	5.6nm,0.4s								
AAK	**Ala-Archa**	**5.03**	**23**	⇓P		Pn	10 42 22.7	-0.4	
	0.6nm,0.4s								
AAK				⇑S		Sn	10 43 22.2	+0.2	
	3.0nm,1.0s								
KK31	**Karatay Array**	**5.17**	**349**	⇑P		Pn	10 42 26.1	+1.2	
	1.1nm,0.3s,baz=188,slow=14,SNR=14								
KK31				S		Sn	10 43 27.1	+1.8	
	1.3nm,0.7s,baz=184,slow=24,SNR=16								
BRLS	**Borolday**	**5.22**	**344**	Pg		Pn	10 42 24.5	-1.2	
	5.3nm,0.1s								
BRLS				Lg		Lg	10 43 25.3		
	14nm,0.4s								
AB31	**Akbulak array**	**14.12**	**326**	⇓P		Pn	10 44 26.4	-1.1	
	0.4nm,0.6s,baz=134,slow=12,SNR=4.2								

*IDC **14** 10:46:18.8±1.5,23°.33S×66°.63E, h0km, mb3.8/6, mbtmp3.8/6, MS3.2/4, Error ellipse: s-maj=54.3km s-min=29.1km az=72.0*

ISC 14 10:46:20.4±1.6, 23°.3S±0°.2×66°.7E±0°.4, h10km, n16, σ0s49/6, mb3.9/6, MS3.3/3, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**18.78**	**281**	LR	LR	10 55 13.0	
	comp=Z,46nm,18.9s,baz=85,slow=28						
H04N2	**CROZET ISLANDS**	**25.75**	**204**	T	T	11 17 22.1	
	baz=37,slow=74,SNR=46						
H04N1	**CROZET ISLANDS**	**25.76**	**204**	T	T	11 17 18.3	
	baz=37,slow=74,SNR=44						
H04N3	**CROZET ISLANDS**	**25.77**	**204**	T	T	11 17 21.9	
	baz=37,slow=74,SNR=47						
LBTB	**Lobatse**	**37.39**	**259**	LR	LR	11 07 55.4	
	comp=Z,50nm,18.0s,baz=98,slow=35						
BOSA	**Boshof**	**37.45**	**253**	LR	LR	11 07 28.0	
	comp=Z,44nm,18.8s,baz=106,slow=34						
H01W2	**Cape Leeuwin H**	**42.70**	**117**	T	T	11 38 49.9	
	baz=269						
H01W3	**Cape Leeuwin H**	**42.70**	**117**	T	T	11 38 35.8	
	baz=269						
H01W1	**Cape Leeuwin H**	**42.72**	**117**	T	T	11 38 37.3	
	baz=269						
CMAR	**Chiang Mai Arr**	**52.15**	**40**	LR	LR	11 12 50.3	
	comp=Z,17nm,21.8s,baz=215,slow=30						
ASAR	**Alice Springs**	**61.12**	**105**	P	**P**	**10 56 35.5**	**+0.2**
	0.6nm,0.7s,baz=258,slow=6.5,SNR=7.6						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**62.50**	**101**	P	**P**	**10 56 44.5**	**-0.1**
	1.1nm,0.9s,baz=254,slow=6.7,SNR=5.2						
	1.1nm,0.9s						
QSPA	**South Pole Qui**	**66.79**	**180**	P	**P**	**10 57 12.1**	**0.0**
	0.8nm,0.9s,baz=270,slow=5.1,SNR=2.5						
	0.8nm,0.9s						
MKAR	**Makanchi Array**	**71.22**	**11**	P	**P**	**10 57 39.4**	**-0.1**
	0.7nm,0.7s,baz=195,slow=6.2,SNR=5.4						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**74.37**	**8**	P	**P**	**10 57 58.7**	**+0.6**
	0.2nm,0.3s,baz=200,slow=6.8,SNR=1.2						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**78.55**	**11**	P	**P**	**10 58 21.2**	**-0.5**
	0.5nm,0.4s,baz=190,slow=7.2,SNR=1.5						
	0.5nm,0.4s						

*IDC **14** 11:01:17.7±3.3,4°.67S×130°.59E, h47km±34km, mb3.8/11, mbtmp4.1/15, ML4.0/4, Error ellipse: s-maj=33.6km s-min=16.6km az=78.0*

*NEIC **14** 11:01:21.2±0.8,4°.69S±0°.07×130°.31E±0°.05, h73km±8km, mb4.3/18, Error ellipse: s-maj=10.9km s-min=7.2km az=199.0*

*DJA **14** 11:01:23.6±0.5,5°.5S±5°×13°.0E±°, h56km±8km, M4.5/12, mb4.4/3, MLv4.5/12*

ISC 14 11:01:22.4±0.5, 4°.80S±0°.05×130°.42E±0°.05, h100km, n67, σ2s08/74, mb4.1/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.58**	**298**	P	**Pn**	**11 01 36.8**	**-2.1**
BNDI	**Bandanaira**	**0.58**	**298**	P	**Sn**	**11 01 47.9**	**-3.2**
BNDI	**Bandanaira**	**0.58**	**298**	P	**Pn**	**11 01 36.7**	**-2.1**
BNDI				S	**Sn**	**11 01 47.2**	**-3.9**
MSAI	**Masohi**	**2.07**	**314**	P	**Pn**	**11 01 53.8**	**-2.2**
MSAI				S	**Sn**	**11 02 17.0**	**-4.6**
AAI	**Ambon**	**2.48**	**296**	P	**Pn**	**11 02 00.0**	**-1.2**
AAI				S	**Sn**	**11 02 27.9**	**-3.2**
FAKI	**Fak Fak**	**2.61**	**44**		**Pn**	**11 02 00.9**	**-2.1**
FAKI	**Fak Fak**	**2.61**	**44**	P	**Pn**	**11 02 00.9**	**-2.1**
FAKI	**Fak Fak**	**2.61**	**44**	S	**Sn**	**11 02 30.0**	**-4.3**
FAKI	**Fak Fak**	**2.61**	**44**	P	**Pn**	**11 02 01.0**	**-2.1**
FAKI				S	**Sn**	**11 02 29.6**	**-4.7**
SAUI	**Saumlaki**	**3.28**	**165**	Pn	**Pn**	**11 02 12.0**	**+0.1**
KMPI	**Kaimana, Papua**	**3.47**	**71**	P	**Pn**	**11 02 13.1**	**-1.3**
NLAI	**Namlea**	**3.66**	**295**	P	**Pn**	**11 02 16.3**	**-0.7**
SWI	**Sorong**	**4.00**	**12**	P	**Pn**	**11 02 18.7**	**-2.9**
RKPI	**Ransiki, Papua**	**4.98**	**49**	P	**Pn**	**11 02 33.2**	**-1.6**
SANI	**Sanana**	**5.20**	**302**	P	**Pn**	**11 02 38.7**	**+0.8**
SANI	**Sanana**	**5.20**	**302**	P	**Pn**	**11 02 37.1**	**-0.8**
	0.2nm41nm,1.2s						
BAKI	**Biak**	**6.72**	**58**	P	**Pn**	**11 02 57.5**	**-1.0**
	0.4nm47nm,0.5s						
DRS	**Darwin Rock St**	**7.60**	**176**	P	**Pn**	**11 03 09.9**	**-0.5**
MTN	**Manton Dam**	**8.02**	**175**		**Pn**	**11 03 16.3**	**+0.1**
MTN	**Manton Dam**	**8.02**	**175**	P	**Pn**	**11 03 16.1**	**-0.1**
KDU	**Kakadu**	**8.09**	**166**	P	**Pn**	**11 03 15.4**	**-1.8**
BATI	**Baumata**	**8.58**	**231**	P	**Pn**	**11 03 22.0**	**-1.9**
	5.6nm,0.3s,baz=54,slow=5.3,SNR=4.0						
	16nm,0.4s						
KNRA	**Kununurra**	**10.93**	**188**		**Pn**	**11 03 54.1**	**-1.7**
PLAI	**Plampang**	**13.17**	**252**	P	**P**	**11 04 29.9**	**-2.0**
FITZ	**Fitzroy Crossi**	**14.02**	**199**	Pn	**Pn**	**11 04 36.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**14.02**	**199**	P	**Pn**	**11 04 35.0**	**-1.6**
	0.2nm,0.3s,baz=34,slow=11,SNR=11						
FITZ				S	**Sn**	**11 07 07.8**	**-3.3**
	1.3nm,0.3s,baz=226,slow=13,SNR=2.3						
	1.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**14.02**	**199**	P	**Pn**	**11 04 36.5**	**-0.1**
COEN	**Coen**	**15.52**	**127**	Pn	**Pn**	**11 04 54.5**	**-1.3**
COEN				IAmb	IAmb	11 05 08.1	
	comp=Z,24nm,1.3s						
COEN	**Coen**	**15.52**	**127**	P	**Pn**	**11 04 53.9**	**-1.9**
WRA	**Warramunga Arr**	**15.53**	**166**	P	**Pn**	**11 04 53.9**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=352,slow=13,SNR=35						
WRA				S	**Sn**	**11 07 39.8**	**-7.8**
	comp=Z,1.5nm,0.5s,baz=350,slow=22,SNR=5.9						
	comp=Z,1.2nm,0.4s						
WB2	**Warramunga Arr**	**15.53**	**166**	Pn	**Pn**	**11 04 54.4**	**-1.5**
QIS	**Mount Isa**	**18.03**	**151**	P	**Pn**	**11 05 28.0**	**+1.4**
AS31	**Alice Springs**	**19.05**	**170**	P	**Pn**	**11 05 38.6**	**-0.1**
ASAR	**Alice Springs**	**19.05**	**170**	P	**Pn**	**11 05 38.8**	**0.0**
ASAR	**Alice Springs**	**19.05**	**170**	P	**Pn**	**11 05 38.3**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=352,slow=10,SNR=46						
ASAR				S	**S**	**11 09 04.8**	**-3.2**
	comp=Z,0.9nm,0.6s,baz=2.2,slow=24,SNR=4.2						
	comp=Z,3.0nm,0.4s						
FORT	**Forrest**	**25.94**	**185**	P	**P**	**11 06 47.1**	**+1.7**
FORT				IAmb	IAmb	11 07 29.7	
	comp=Z,8.5nm,1.1s						
STKA	**Stephens Creek**	**28.90**	**160**	P	**P**	**11 07 13.6**	**+1.6**
STKA				IAmb	IAmb	11 07 44.6	
	comp=Z,15nm,0.9s						
STKA	**Stephens Creek**	**28.90**	**160**	P	**P**	**11 07 13.3**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=336,slow=11,SNR=3.7						
	comp=Z,0.9nm,0.8s						
JMN	**Monobe**	**38.46**	**5**	P	**P**	**11 08 35.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**38.69**	**308**	P	**P**	**11 08 38.7**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=127,slow=8.5,SNR=5.6						
	comp=Z,0.6nm,0.5s						
JGF	**Kuroka**	**40.71**	**9**	P	**P**	**11 08 53.1**	**-0.2**
MAJO	**Matsushiro**	**41.77**	**9**	P	**P**	**11 09 01.9**	**0.0**
MAJO				IAmb	IAmb	11 09 03.0	
	comp=Z,7.2nm,1.2s						
MJAR	**Matsushiro Arr**	**41.77**	**9**	P	**P**	**11 09 01.7**	**-0.3**
MJAR				IAmb	IAmb	11 09 25.6	
	comp=Z,3.2nm,1.4s						
MJAR	**Matsushiro Arr**	**41.77**	**9**	P	**P**	**11 09 01.2**	**-0.8**
	comp=Z,2.5nm,0.6s,baz=186,slow=9.3,SNR=10						
	comp=Z,2.5nm,0.6s						
MJB9	**Matsu-Tunnel**	**41.77**	**9**	P	**P**	**11 09 01.0**	**-1.0**
MJB9				IAmb	IAmb	11 09 02.7	
	comp=Z,13nm,1.2s						
KSRS	**Korea Array**	**42.10**	**357**	P	**P**	**11 09 03.7**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=174,slow=8.6,SNR=7.4						
	comp=Z,0.9nm,0.5s						
USRK	**Ussuriysk Ar.**	**48.80**	**2**	P	**P**	**11 09 56.9**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=179,slow=7.1,SNR=6.5						
	comp=Z,2.3nm,0.5s						
TUWZ	**Tuamarina**	**53.26**	**140**	P	**P**	**11 10 33.1**	**+2.2**
SONM	**Songino Array**	**56.51**	**341**	P	**P**	**11 10 54.5**	**+0.2**
SONM	**Songino Array**	**56.51**	**341**	P	**P**	**11 10 55.6**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=158,slow=5.9,SNR=6.2						
	comp=Z,1.2nm,0.6s						
MK31	**Makanchi Array**	**66.64**	**326**	P	**P**	**11 12 03.8**	**+1.5**
MK31				IAmb	IAmb	11 12 04.3	
	comp=Z,1.8nm,0.8s						
MKAR	**Makanchi Array**	**66.64**	**326**	P	**P**	**11 12 03.7**	**+1.4**
MKAR	**Makanchi Array**	**66.64**	**326**	P	**P**	**11 12 03.5**	**+1.2**
	comp=Z,1.7nm,0.4s,baz=119,slow=8.2,SNR=24						
	comp=Z,1.7nm,0.4s						
MAKZ	**Makanchi**	**66.82**	**326**	P	**P**	**11 12 04.9**	**+1.4**
MAKZ				IAmb	IAmb	11 12 06.3	
	comp=Z,3.3nm,1.1s						
ZALV	**Zalesovo Beam**	**69.81**	**333**	P	**P**	**11 12 22.7**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=110,slow=6.1,SNR=6.2						
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**70.87**	**328**	P	**P**	**11 12 29.6**	**+1.1**
	comp=Z,3.1nm,0.7s,baz=129,slow=5.5,SNR=27						
	comp=Z,3.1nm,0.7s						
TIXI	**Tiksi**	**76.31**	**359**	P	**P**	**11 12 59.8**	**-0.1**
BVAR	**Borovoye Array**	**76.44**	**327**	P	**P**	**11 13 01.8**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=120,slow=5.7,SNR=5.3						
	comp=Z,1.4nm,0.7s						
MAW	**Mawson**	**77.14**	**201**	P	**P**	**11 13 06.8**	**+2.1**
	comp=Z,1.3nm,1.0s,baz=112,slow=22,SNR=1.6						
	comp=Z,1.3nm,1.0s						
AB31	**Akbulak array**	**81.06**	**321**	P	**P**	**11 13 27.3**	**+0.9**
ABKAR	**Akbulak array**	**81.06**	**321**	P	**P**	**11 13 27.3**	**+0.9**
QSPA	**South Pole Qui**	**85.16**	**180**	P	**P**	**11 13 50.0**	**+2.6**
QSPA				IAmb	IAmb	11 14 03.5	
	comp=Z,2.4nm,1.2s						
L18K	**Granite Mounta**	**86.34**	**27**	P	**P**	**11 13 55.6**	**+2.5**
L18K				IAmb	IAmb	11 14 12.5	
	comp=Z,8.9nm,1.5s						
N19K	**Bonanza Creek**	**86.95**	**28**	P	**P**	**11 13 57.4**	**+1.2**
BMAR	**Burnt Mountain**	**92.47**	**23**	P	**P**	**11 14 23.2**	**+1.3**
TXAR	**Lajitas Array**	**123.43**	**58**	PKP	**PKiKP**	**11 20 10.1**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=283,slow=1.4,SNR=1.4						
TORD	**Torodi Ar. Bea**	**128.76**	**283**	PKP	**PKiKP**	**11 20 20.4**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=86,slow=2.0,SNR=3.0						

NNC 14 11:02:48.5±3.9, 37°.97N×71°.88E, h0km, mb4.1, mpv3.9, 3D, Error ellipse: s-maj=30.9km s-min=23.7km az=163.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRKS	**Merke**	**4.88**	**12**	Pg	Pn	11 04 03.3	+0.2
	9.4nm,0.3s						
MRKS				Lg	Lg	11 05 00.8	
	32nm,0.5s						
AAK	**Ala-Archa**	**5.07**	**22**	⇓P	Pn	11 04 05.3	-0.5
	2.1nm,0.5s						
AAK				⇓S	Sn	11 05 05.9	+0.7
	4.9nm,0.6s						
KK31	**Karatay Array**	**5.23**	**349**	P	Pn	11 04 09.0	+1.0
	10nm,0.5s,baz=172,slow=12,SNR=68						
KK31				⇓S	Sn	11 05 10.2	+1.3
	12nm,0.5s,baz=171,slow=24						
BRLS	**Borolday**	**5.29**	**344**	Pg	Pn	11 04 06.4	-2.3
	15nm,0.3s						
BRLS				Lg	Lg	11 05 06.5	
	37nm,0.6s						
AB31	**Akbulak array**	**14.19**	**326**	P	Pn	11 06 09.9	-0.7
	1.1nm,0.7s,baz=142,slow=12,SNR=12						

*HEL **14** 11:10:33.7±0.2, 67°.58N×30°.39E, h0km, ML1.5, Explosion*

KOLA 14 11:10:34.9, 67°.57N×30°.53E, h0km, ML1.8, Error ellipse: s-maj=4.8km s-min=2.4km az=30.0, Kovdor City, Mines, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**0.40**	**298**	PG	Pg	11 10 40.1	-2.4
VRF				SG	Sg	11 10 43.1	-4.5
APA0	**Apatity Array**	**0.94**	**86**	P	Pg	11 10 51.0	-1.9
APA0				S	Sg	11 11 04.3	-0.8
APA	**Apatity**	**1.10**	**88**	S	Sg	11 11 09.3	-0.9
RAJF	**Raja-Jooseppi**	**1.24**	**319**	PG	Pg	11 10 55.3	-3.3
RAJF				SN	Sg	11 11 15.0	+0.5
KVDA	**Kovda**	**1.27**	**133**	P	Pg	11 10 57.0	-2.1
KVDA				S	Sg	11 11 14.0	-1.5
OLKF	**Oulanka, Finla**	**1.33**	**200**	PN	Pg	11 10 58.5	-1.7
OLKF				MSG		11 11 13.6	
	comp=Z,4.0nm,0.2s						
OLKF				SN	Sg	11 11 17.6	+0.2
KU6	**Riekki**	**1.57**	**190**	PG	Pn	11 11 02.1	-1.8
KU6				MSG		11 11 20.6	
	comp=Z,2.7nm,0.2s						
KU6				SG	Sn	11 11 21.8	-3.0
LVZ	**Lovozero**	**1.60**	**76**	S	Sn	11 11 23.8	-2.1
LVZ	**Lovozero**	**1.60**	**76**	PG	Pn	11 11 03.4	-1.1
LVZ				SN	Sn	11 11 24.4	-1.5
MSF	**Maaselka**	**1.76**	**200**	PG	Pn	11 11 05.3	-1.3
	baz=19						
KU1	**Kurvinen**	**2.05**	**191**	PG	Pn	11 11 10.3	-0.1
KU2	**Taivalkoski**	**2.08**	**207**	PG	Pn	11 11 11.2	+0.3
	baz=26						
RANF	**Ranua**	**2.15**	**225**	PG	Pn	11 11 11.2	-0.7
	baz=44						
RANF				SG	Sn	11 11 39.1	-0.1
TERR	**Teriberka**	**2.36**	**44**	S	Sn	11 11 43.9	-0.5
KEV	**Kevo**	**2.55**	**331**	PG	Pn	11 11 17.3	-0.1
KEV				SG	Sn	11 11 50.4	+1.4
VADS	**Vadso**	**2.60**	**351**	P	Pn	11 11 18.9	+0.8
VADS				S	Sn	11 11 48.6	-1.8
ARA0	**ARCESS Array S**	**2.71**	**319**	PB	Pn	11 11 19.1	-0.4
ARA0				SG	Sb	11 11 55.8	-2.0
ARCES	**ARCESS Array B**	**2.71**	**319**	P	Pn	11 11 19.7	+0.1
ARCES				S	Sn	11 11 51.7	-1.3
HEF	**Hetta**	**2.72**	**291**	MSG		11 11 52.2	
	comp=Z,2.6nm,0.2s						
HEF				SG	Sn	11 11 54.4	+1.0
TOF	**Tornio**	**2.87**	**242**	MSG		11 11 56.9	
	comp=Z,1.4nm,0.2s						
TOF				SG	Sb	11 12 00.9	-1.6
PAJU	**Pajala**	**2.93**	**263**	SG	Sn	11 12 00.6	+2.2
KTK1	**Kautokeino**	**3.08**	**302**	PG	Pb	11 11 27.9	-2.4
LANU	**Lannavaara**	**3.28**	**282**	PB	Pn	11 11 27.6	+0.2
ERTU	**Ertsjaerv**	**3.42**	**257**	PN	Pn	11 11 29.1	-0.3

*IDC **14** 11:14:40.0±11.0, 23°.45S×179°.95W, h448km±141km, mb3.0/5, mbtmp3.9/6, Error ellipse: s-maj=83.4km s-min=29.8km az=6.0*

ISC 14 11:14:44.2±1.4, 23°.7S±0°.1×179°.9W±0°.2, h500km, n6, σ0s78/7, mb3.5/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.72**	**189**	P	**P**	**11 17 51.1**	**-0.2**
	7.4nm,0.5s,baz=280,slow=2.3,SNR=11						
URZ				S	**S**	**11 20 25.6**	**0.0**
	11nm,1.0s,baz=191,slow=22,SNR=1.7						
STKA	**Stephens Creek**	**34.86**	**248**	P	**P**	**11 20 53.8**	**+0.8**
	0.3nm,0.3s,baz=37,slow=16,SNR=1.3						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**42.13**	**260**	P	**P**	**11 21 52.0**	**-0.3**
	1.1nm,0.7s,baz=98,slow=9.0,SNR=20						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**42.49**	**266**	P	**P**	**11 21 53.9**	**-1.2**
	1.3nm,0.5s,baz=103,slow=7.9,SNR=57						
	1.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**50.91**	**265**	P	**P**	**11 22 58.6**	**-0.3**
	2.1nm,0.9s,baz=99,slow=5.2,SNR=7.5						
	2.1nm,0.9s						
TXAR	**Lajitas Array**	**90.27**	**58**	P	**P**	**11 26 51.6**	**+0.1**
	0.2nm,0.6s,baz=237,slow=4.7,SNR=3.8						
	0.2nm,0.6s						

*ISU **14** 11:20:25, 41°.79N×70°.96E, h18km*
*SOME **14** 11:20:26.2, 40°.88N×70°.13E, h20km*
*NNC **14** 11:20:28.6±1.9, 40°.95N×70°.15E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=15.1km s-min=10.3km az=49.0, Suspected Mining explosion.*

ISC 14 11:20:27.5±2.1, 41°.04N±0°.08×69°.9E±0°.1, h0km, n11, σ0s81/16, 2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGS	**TashGRES**	**0.47**	**325**	S	Sb	11 21 00.7	+14
CHMG	**Chimgan**	**0.52**	**10**	P	**Pg**	**11 20 38.1**	**+0.6**
CHMG				S	**Sb**	**11 20 48.3**	**+0.4**
CHRV	**Charvak**	**0.61**	**5**	P	**Pg**	**11 20 39.4**	**+0.2**
CHRV				S	**Sb**	**11 20 49.9**	**-0.3**
IUG	**Iuzhnay**	**1.12**	**6**	P	**Pn**	**11 20 50.9**	**+0.4**
	41nm,0.1s						
IUG				S	**Sn**	**11 21 08.3**	**+1.6**
	129nm,0.3s						
CHMI	**Chimion**	**1.46**	**121**	P	**Pn**	**11 20 55.0**	**-0.2**
CHMI				S	**Sb**	**11 21 15.5**	**+0.7**
FRG	**Fergana**	**1.59**	**114**	S	**Sn**	**11 21 18.8**	**+0.6**
BRLS	**Borolday**	**1.99**	**359**	Pg	**Pn**	**11 21 01.9**	**-0.6**
	14nm,0.2s						
BRLS				Lg	Lg	11 21 27.6	
	22nm,0.5s						
BRLS	**Borolday**	**1.99**	**359**	*e*P	**Pn**	**11 21 01.9**	**-0.6**
	14nm,0.2s						
BRLS				*e*S	**Sn**	**11 21 27.6**	**-0.6**
	22nm,0.5s						
KK31	**Karatay Array**	**2.12**	**13**	⇓Pn	**Pb**	**11 21 06.7**	**-0.1**
	4.8nm,0.4s,baz=190,slow=16,SNR=38						
KK31				⇓Lg	Lg	11 21 36.7	
	8.4nm,0.5s,baz=190,slow=22						
MRKS	**Merke**	**3.02**	**54**	Pg	**Pb**	**11 21 21.1**	**-1.2**
	4.1nm,0.3s						
MRKS				Lg	Lg	11 22 00.3	
	10nm,0.4s						
MRKS	**Merke**	**3.02**	**54**	*e*P	**Pb**	**11 21 21.1**	**-1.2**
	4.1nm,0.3s						
MRKS				*e*S	**Sb**	**11 22 00.3**	**+0.5**
	10nm,0.4s						

*NEIC **14** 11:32:07.6±1.6, 68°.84N±0°.02×146°.20W±0°.05, h10km±1km, Error ellipse: s-maj=4.1km s-min=3.0km az=227.0*

AEIC 14 11:32:06.5±2.5, 68°.84N±0°.02×146°.27W±0°.05, h18km±5km, ML2.5, ML2.7/48(NEIC), Error ellipse: s-maj=3.9km s-min=1.3km az=222.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
D25K	**Kavik River**	**0.48**	**355**	Pg	Pb	11 32 17.1	+0.5
D25K	**Kavik River**	**0.48**	**355**		Sb	11 32 23.7	+0.4
E25K	**Arctic Village**	**0.77**	**160**	Pg	Pg	11 32 21.9	+0.4
E25K	**Arctic Village**	**0.77**	**160**		Sg	11 32 32.1	+0.4
E24K	**Your Creek**	**1.12**	**228**		Pg	11 32 28.0	-0.2
E24K				IAML		11 33 03.8	
	comp=E,132nm,0.6s						
C27K	**Jago River**	**1.21**	**48**		Pg	11 32 29.8	0.0
C27K					Sg	11 32 45.2	-0.3
TOLK	**Toolik Lake Re**	**1.22**	**262**		Pg	11 32 30.5	+0.4
C24K	**Franklin Bluff**	**1.24**	**317**		Pg	11 32 32.1	+1.8
C24K				IAML		11 33 11.2	
	comp=E,218nm,0.7s						
F25K	**Christian Rive**	**1.28**	**169**		Pg	11 32 31.4	+0.3
F26K	**Sheenjek River**	**1.40**	**145**		Pg	11 32 33.5	+0.1
F24K	**Squaw Lake**	**1.46**	**205**	Pn	Pb	11 32 33.6	+0.5
F24K				IAML		11 33 15.7	
	comp=N,93nm,0.5s						
F24K				IAML		11 33 20.8	
	comp=E,98nm,0.7s						
BMAR	**Burnt Mountain**	**1.55**	**155**		Pb	11 32 35.3	+0.6
C23K	**Itkillik River**	**1.84**	**305**	Pn	Pb	11 32 40.0	+0.5
E27K	**Coleen River**	**1.84**	**109**	Pn	Pb	11 32 39.5	-0.1
E27K				IAML		11 33 25.1	
	comp=N,85nm,0.7s						
E27K				IAML		11 33 26.0	
	comp=E,55nm,0.8s						
D27M	**Malcolm River**	**1.95**	**76**		Pb	11 32 42.7	+1.2
D27M				IAML		11 33 32.5	
	comp=E,54nm,0.9s						
G26K	**Porcupine Rive**	**2.12**	**153**	Pn	Pb	11 32 43.6	-0.7
G26K				IAML		11 33 36.5	
	comp=E,68nm,1.2s						
G26K				IAML		11 33 41.2	
	comp=N,74nm,0.7s						
E22K	**Anaktuvuk Pass**	**2.16**	**253**	Pn	Pb	11 32 45.0	-0.2
E22K				IAML		11 33 36.5	
	comp=E,47nm,0.9s						
E22K				IAML		11 33 40.0	
	comp=N,75nm,0.8s						
D22K	**Ayikyak River**	**2.33**	**274**	Pn	Pb	11 32 47.8	-0.1
E28M	**Babbage River**	**2.47**	**92**	Pn	Pn	11 32 46.6	+0.8
E28M				IAML		11 33 49.9	
	comp=E,36nm,0.8s						
E28M				IAML		11 33 54.9	
	comp=N,34nm,0.8s						
B22K	**Teshekpuk Lake**	**2.92**	**304**	Pn	Pn	11 32 50.9	-1.1
H24K	**Noodor Dome**	**3.08**	**192**	Pn	Pn	11 32 56.2	+2.0
H24K				IAML		11 34 11.1	
	comp=N,23nm,0.8s						
H24K				IAML		11 34 12.4	
	comp=E,20nm,0.8s						
H23K	**Yukon River**	**3.29**	**204**	Pn	Pn	11 32 57.4	+0.4
G29M	**Pine Creek**	**3.67**	**118**	Pn	Pn	11 33 01.0	-1.4
F30M	**Barrier River**	**4.09**	**103**	Pn	Pn	11 33 06.5	-1.6
F30M				IAML		11 34 23.5	
	comp=E,10.0nm,1.1s						
F30M				IAML		11 34 52.7	
	comp=N,15nm,1.2s						
CCB	**Clear Creek Bu**	**4.26**	**189**	Pn	Pn	11 33 10.2	-0.2
CCB				IAML		11 34 44.5	
	comp=E,7.9nm,0.7s			

E23K				IAML			11 33 17.1			
	comp=N,102nm,0.7s									
E23K				IAML			11 33 18.7			
	comp=E,85nm,0.7s									
BMAR	**Burnt Mountain**	**1.51**	**155**	Pn	Pg		11 32 55.3	+0.5		
D23K	**Nanushuk River**	**1.61**	**278**		Sg		11 33 19.5	+1.8		
D23K	**Nanushuk River**	**1.61**	**278**	Pn	Pg		11 32 57.4	+0.6		
D23K				IAML			11 33 23.7			
	comp=N,126nm,0.8s									
D27M	**Malcolm River**	**1.95**	**74**		Pb		11 33 01.8	0.0		
G26K	**Porcupine Rive**	**2.08**	**152**		Pb		11 33 03.3	-0.5		
COLD	**Coldfoot**	**2.17**	**225**		Pb		11 33 04.5	-0.9		
COLD	**Coldfoot**	**2.17**	**225**	IAML			11 33 39.8			
	comp=N,42nm,0.8s									
COLD				IAML			11 33 43.3			
	comp=E,47nm,0.7s									
D22K	**Ayikyak River**	**2.34**	**275**		Pb		11 33 07.7	-0.6		
E29M	**Blow River**	**3.09**	**94**		Pn		11 33 17.4	+2.3		
E29M				IAML			11 34 09.3			
	comp=E,31nm,0.7s									
E29M				IAML			11 34 12.6			
	comp=N,31nm,1.0s									
C21K	**Knifeblade Rid**	**3.10**	**281**		Pn		11 33 17.4	+2.2		
F21K	**Alatna River**	**3.15**	**243**		Pn		11 33 18.8	+3.0		
F21K				IAML			11 34 10.2			
	comp=E,33nm,0.7s									
F21K				IAML			11 34 14.2			
	comp=N,23nm,0.8s									
H23K	**Yukon River**	**3.25**	**205**		Pn		11 33 19.4	+2.1		
H23K				IAML			11 34 19.0			
	comp=N,18nm,0.8s									
H23K				IAML			11 34 20.6			
	comp=E,30nm,0.9s									
PRP	**Porcupine Dome**	**3.31**	**175**		Pn		11 33 19.7	+1.6		
PRP				IAML			11 34 12.7			
	comp=E,23nm,0.8s									
PRP				IAML			11 34 14.8			
	comp=N,16nm,0.7s									
G29M	**Pine Creek**	**3.64**	**117**	Pn	Pn		11 33 25.0	+2.3		
G29M				IAML			11 34 32.5			
	comp=N,22nm,1.0s									
I26K	**Coal Creek Min**	**3.71**	**159**		Pn		11 33 25.3	+1.8		
I26K				IAML			11 34 31.4			
	comp=E,20nm,1.0s									
H29M	**Whitestone**	**3.98**	**127**		Pn		11 33 29.3	+2.1		
H29M				IAML			11 34 44.2			
	comp=N,16nm,0.9s									
COLA	**College**	**3.99**	**190**		Pn		11 33 29.4	+2.1		
B20K	**Meade River**	**4.04**	**293**	Pn	Pn		11 33 30.6	+2.5		
B20K				IAML			11 34 53.1			
	comp=E,14nm,0.9s									
I28M	**Miner Creek**	**4.17**	**141**		Pn		11 33 32.2	+2.3		
I28M				IAML			11 34 44.6			
	comp=N,9.8nm,1.0s									
MLY	**Manley**	**4.17**	**207**		Pn		11 33 32.0	+2.0		
MLY				IAML			11 34 43.3			
	comp=E,7.6nm,0.8s									
J25K	**Salcha River,**	**4.22**	**175**	IAML			11 34 41.7			
	comp=E,13nm,0.8s									
J25K				IAML			11 34 42.1			
	comp=N,6.9nm,0.8s									
NEA2	**Nenana**	**4.37**	**196**	Pn	Pn		11 33 34.4	+1.8		
EPYK	**Eagle Plains**	**4.39**	**119**	Pn	Pn		11 33 34.7	+1.9		
WRH	**Wood River Hil**	**4.41**	**190**	IAML			11 34 57.4			
	comp=E,8.2nm,0.7s									
HDA	**Harding Lake**	**4.42**	**184**	IAML			11 34 51.7			
	comp=E,8.8nm,0.9s									
HDA				IAML			11 34 51.8			
	comp=N,11nm,1.0s									
J26L	**Joseph Creek**	**4.44**	**165**	IAML			11 34 54.2			
J26L	comp=E,8.8nm,0.9s									
	comp=N,5.9nm,1.0s			IAML			11 35 10.2			
EGAK	**Eagle**	**4.51**	**151**	IAML			11 34 35.7			
	comp=N,7.8nm,0.6s									
EGAK				IAML			11 35 00.8			
	comp=N,6.6nm,1.0s									
I29M	**Ogilvie Camp,**	**4.64**	**134**	Pn	Pn		11 33 37.8	+1.4		
I29M				IAML			11 34 38.6			
	comp=N,9.1nm,0.5s									
F19K	**Shaleruckik Mo**	**4.79**	**251**		Pn		11 33 41.8	+3.4		
F19K				IAML			11 35 01.2			
	comp=N,7.8nm,1.1s									
BWN	**Browne**	**4.82**	**197**	Pn	Pn		11 33 40.5	+1.7		
C19K	**Lookout Ridge**	**4.82**	**280**	Pn	Pn		11 33 40.5	+1.6		
G31M	**Satah River**	**4.91**	**107**	Pn	Pn		11 33 42.3	+2.4		
G31M				IAML			11 34 39.5			
	comp=E,7.0nm,1.4s									
G31M				IAML			11 34 39.5			
	comp=N,8.2nm,1.0s									
SCRK	**Sand Creek**	**4.92**	**168**		Pn		11 33 42.6	+2.3		
SCRK				IAML			11 35 13.1			
	comp=E,8.4nm,1.0s									
K27K	**Chicken**	**5.07**	**159**	Pn	Pn		11 33 44.4	+2.2		
K27K				IAML			11 35 20.8			
	comp=E,3.8nm,1.4s									
BPAW	**Bear Paw Mtn.**	**5.08**	**204**	Pn	Pn		11 33 44.6	+2.1		
BPAW				IAML			11 35 24.6			
	comp=N,3.9nm,1.3s									
BPAW				IAML			11 35 24.9			
	comp=E,6.6nm,1.3s									
DOT	**Dot Lake**	**5.25**	**169**		Pn		11 33 46.8	+2.1		
DOT				IAML			11 35 23.2			
	comp=E,6.9nm,1.0s									
DAWY	**Dawson**	**5.49**	**147**	Pn	Pn		11 33 50.3	+2.3		
KTH	**Kantishna Hill**	**5.59**	**202**		Pn		11 33 51.6	+2.1		
TRF	**Thorofare Moun**	**5.61**	**199**	Pn	Pn		11 33 51.8	+1.9		
PPLA	**Purkeypile**	**6.40**	**205**	Pn	Pn		11 34 02.8	+2.1		
L29M	**L29M**	**6.60**	**146**	Pn	Pn		11 34 05.5	+2.3		
M27K	**Edge Creek, AK**	**6.71**	**162**	Pn	Pn		11 34 06.9	+2.0		
SCM	**Sheep Creek Mo**	**7.01**	**184**	Pn	Pn		11 34 10.3	+1.5		
M29M	**Somme Creek**	**7.14**	**150**	Pn	Pn		11 34 12.8	+2.1		
HYT	**Haines Junctio**	**8.82**	**151**	Pn	Pn		11 34 36.3	+2.6		

*IDC **14** 11:32:42.1±1.1, 11°.39S×163°.14E, h0km, mb3.8/8, mbtmp3.8/9, ML4.3/1, MS3.4/5, Error ellipse: s-maj=31.1km s-min=24.6km az=128.0*

*NOU **14** 11:32:43.2, 11°.04S×163°.24E, h11km, MLv4.8/14, Solomon Islands*

ISC 14 11:32:43.4±0.7, 11°.18S±0°.09×163°.20E±0°.06, h10km, n31, σ1§48/23, mb3.7/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
HURO	**Huro Makira**	**1.46**	**299**	P		**Pn**	**11 33 07.4**		**-2.4**
HURO	**Huro Makira**	**1.46**	**299**	S		**Sn**	**11 33 27.9**		**-1.1**
LUES	**Luesalemba Tem**	**2.72**	**79**	P		**Pn**	**11 33 25.7**		**-1.4**
LUES	**Luesalemba Tem**	**2.72**	**79**	S		**Sn**	**11 33 58.6**		**-1.5**
NGOA	**Tingoa Renbel**	**3.10**	**263**	P		**Pn**	**11 33 31.1**		**-1.3**
ALEG	**Aligegeo Malai**	**3.45**	**314**	P		**Pn**	**11 33 36.1**		**-1.1**
ALEG	**Aligegeo Malai**	**3.45**	**314**	S		**Sn**	**11 34 17.1**		**-1.0**
HNR	**Honiara**	**3.64**	**298**	Pn		**Pn**	**11 33 40.6**		**+0.8**
	25nm,0.3s,baz=184,slow=3.1,SNR=18								
HNR						Sn	**11 34 25.9**		**+3.0**
	54nm,0.3s,baz=162,slow=22,SNR=2.4								
HNR				LR		LR	11 35 15.9		
	comp=Z,449nm,20.3s,baz=49,slow=42 193nm,0.6s								
HNR	**Honiara**	**3.64**	**298**	P		**Pn**	**11 33 40.9**		**+1.1**
SAVO	**Savo Central**	**3.90**	**301**	P		**Pn**	**11 33 44.2**		**+0.8**
TATA	**Tatamba Isabel**	**4.35**	**309**	P		**Pn**	**11 33 48.7**		**-0.9**
TATA	**Tatamba Isabel**	**4.35**	**309**	S		**Sn**	**11 34 39.4**		**-0.9**
SANVU	**Saraoutou**	**5.76**	**138**	P		**Pn**	**11 34 10.0**		**+1.0**
DVP	**Devils Point**	**8.10**	**144**	P		**Pn**	**11 34 42.5**		**+1.3**
DZM	**Mont Dzumac**	**11.27**	**164**	LR		LR	11 39 21.3		
	comp=Z,93nm,18.0s,baz=38,slow=36								
PMG	**Port Moresby**	**15.88**	**275**	LR		LR	11 42 17.4		
	comp=Z,139nm,19.1s,baz=74,slow=36								
STKA	**Stephens Creek**	**28.67**	**221**	P		**P**	**11 38 38.6**		**-1.9**
	2.1nm,0.8s,baz=5.6,slow=5.6,SNR=4.5 2.1nm,0.8s								
WRA	**Warramunga Arr**	**29.09**	**249**	P		**P**	**11 38 43.4**		**-1.1**
	0.5nm,0.8s,baz=78,slow=9.1,SNR=8.8 0.5nm,0.8s								
H11S2	**WAKE ISLAND Hy**	**29.68**	**7**	T		T	12 09 44.0		
	baz=188,slow=76,SNR=41								
H11S3	**WAKE ISLAND Hy**	**29.69**	**7**	T		T	12 09 42.2		
	baz=188,slow=76,SNR=26								
H11S1	**WAKE ISLAND Hy**	**29.70**	**7**	T		T	12 09 43.5		
	baz=188,slow=76,SNR=22								
ASAR	**Alice Springs**	**30.51**	**242**	P		**P**	**11 38 55.3**		**-1.7**
	0.4nm,0.5s,baz=60,slow=9.8,SNR=6.1								
ASAR						LR	11 50 10.7		
	comp=Z,115nm,18.8s,baz=49,slow=34								
	0.4nm,0.5s								
H11N1	**WAKE ISLAND Hy**	**30.91**	**7**	T		T	12 11 14.4		
	baz=188,slow=76,SNR=11								
H11N3	**WAKE ISLAND Hy**	**30.92**	**7**	T		T	12 11 13.1		
	baz=188,slow=76,SNR=15								
H11N2	**WAKE ISLAND Hy**	**30.93**	**7**	T		T	12 11 17.4		
	baz=188,slow=76,SNR=13								
BATI	**Baumata**		**38.84**	**268**	LR	LR	11 57 06.2		
	comp=Z,67nm,18.6s,baz=158,slow=38								
SONM	**Songino Array**		**77.31**	**325**	P	**P**	**11 44 40.1**		**+1.7**
	0.3nm,0.4s,baz=116,slow=3.4,SNR=3.8 0.3nm,0.4s								
MAW	**Mawson**		**83.65**	**202**	P	**P**	**11 45 12.0**		**0.0**
	0.5nm,0.5s,baz=58,slow=16,SNR=6.4 0.5nm,0.5s								
ILAR	**Eielson Array**		**84.45**	**19**	P	**P**	**11 45 16.5**		**+0.5**
	0.2nm,0.6s,baz=232,slow=4.6,SNR=1.8 0.2nm,0.6s								
NVAR	**Mina Array Bea**		**88.03**	**50**	P	**P**	**11 45 35.5**		**+1.0**
	0.2nm,0.5s,baz=260,slow=5.1,SNR=2.4 0.2nm,0.5s								
KURBB	**Kurchatov Arra**		**95.19**	**320**	P	**P**	**11 46 08.2**		**+1.1**
	0.2nm,0.5s,baz=113,slow=7.2,SNR=5.2 0.2nm,0.5s								

NNC 14 11:35:17.2±6.8, 36°.72N×70°.76E, h0km, mb4.3, mpv4.2, 2C-1D, Error ellipse: s-maj=59.2km s-min=48.0km az=138.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
IUG	**Iuzhnay**	**5.45**	**354**	Pg		Pn	11 36 42.7		+2.9
	9.8nm,0.2s								
IUG				Lg		Lg	11 37 47.9		
	82nm,0.2s								
MRKS	**Merke**	**6.31**	**17**	Pg		Pn	11 36 51.4		-0.2
	11nm,0.5s								
MRKS				Lg		Lg	11 38 03.8		
	8.3nm,0.4s								
KK31	**Karatay Array**	**6.38**	**358**	P		Pn	11 36 53.2		+0.8
	8.4nm,0.2s,baz=176,slow=12,SNR=149								
KK31				⇑S		Sn	11 38 06.4		+0.4
	5.0nm,0.3s,baz=173,slow=22								
AAK	**Ala-Archa**	**6.58**	**25**	⇓P		Pn	11 36 54.5		-0.8
	7.3nm,1.2s								
AAK				⇑S		Sn	11 38 13.2		+2.1
	1.0nm,0.5s								
AB31	**Akbulak array**	**14.80**	**331**	P		Pn	11 38 47.3		-0.3
	0.2nm,0.3s,baz=168,slow=11,SNR=13								

*ISK **14** 11:45:59.5, 40°.75N×32°.97E, h5km, ML4.5/36*

*MOS **14** 11:46:00.7±1.0, 40°.72N×33°.05E, h10km, mb4.4/7, Error ellipse: s-maj=6.6km s-min=3.9km az=95.2*

*CFUSG **14** 11:46:00.8, 40°.80N×32°.90E, h11km, mb3.8/7, MD3.7/3, North Turkey Magtype MSH 3.5 from 4 stations*

*AFAD **14** 11:46:01.3, 40°.73N×32°.96E, h8km, MW4.3*

*IDC **14** 11:46:01.3±0.5, 40°.77N×33°.16E, h0km, mb3.9/15, mbtmp4.0/26, ML3.7/10, MS3.5/34, Error ellipse: s-maj=10.3km s-min=6.8km az=68.0*

*MED_RC **14** 11:46:01.0±0.3, 40°.75N×32°.97E, h10km, MW4.4/17, Moment Tensor Solution. Mantle waves: s17, c20; Duration: 1§0 Moment tensor: Scale 10^15 Nm; Mrr-1.24±.33; Mθθ-0.50±.40; Mϕϕ 1.75±.26; Mrθ-1.92±.77; Mθϕ-4.04±.24; Mϕr-0.11±.68; Best double couple: M◎4.71000×10^15 NP1◊ϕ5.00000°, δ63.00000°, λ-13.00000°. NP2◊ϕ101.00000°, δ78.00000°, λ-152.00000°. Principal axes: T 5.0100, Plg10.0000°, Azm231.0000°; N -0.6000, Plg60.0000°, Azm123.0000°; P -4.4100, Plg28.0000°, Azm326.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*NEIC **14** 11:46:01.3±1.8, 40°.70N±0°.03×33°.02E±0°.05, h10km±1km, mb4.3/12 Error ellipse: s-maj=7.0km s-min=5.3km az=248.0*

*MCSM **14** 11:46:02.1±0.2, 41°.N±2°.×3°.3E±°, h10km, mb4.5, MLv4.5*

ISC 14 11:46:01.1±1.0, 40.74N±0°.02×33.02E±0°.02, h6km±6km, n327, σ1§71/323, mb4.0/20, MS3.6/24, 41C-18D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
DERS	**Karabk-Eskip**	**0.37**	**288**	P		**Pg**	**11 46 08.2**		**-0.2**
ELDT	**Eldivan**	**0.40**	**128**	P		**Pg**	**11 46 09.2**		**+0.3**
ELDT				S		**Sg**	**11 46 15.2**		**+1.1**
ELDT				*i*	IAML		11 46 19.0		
	comp=E,2µm,0.5s								
CMDR	**Camlidere-ANKA**	**0.48**	**240**	P		**Pg**	**11 46 09.6**		**-0.7**
SAFT	**Safranbolu**	**0.56**	**334**	Pg		**Pg**	**11 46 10.8**		**-1.2**
SAFT				Sg		**Sg**	**11 46 19.2**		**-0.1**
KBUK	**KARABUK-Merkez**	**0.58**	**330**	P		**Pg**	**11 46 11.7**		**-0.6**
KBUK				S		**Sg**	**11 46 19.7**		**-0.2**
KBUK				*i*	IAML		11 46 20.0		
	comp=N,4µm,0.5s								
PELI	**Kastamonı-Ara**	**0.61**	**22**	P		**Pg**	**11 46 12.8**		**0.0**
ILGA	**Ilgaz**	**0.62**	**59**			**Pg**	**11 46 12.5**		**-0.6**
ILGA	**Ilgaz**	**0.62**	**59**	P		**Pg**	**11 46 12.4**		**-0.6**
YENC	**ankr-Yen**	**0.63**	**95**	P		**Pg**	**11 46 14.0**		**+0.7**
BCAM	**Yenicaga**	**0.73**	**277**	P		**Pg**	**11 46 14.2**		**-0.9**
BCAM				S		**Sg**	**11 46 24.2**		**-0.4**
BCAM				*i*	IAML		11 46 29.0		
	comp=E,3µm,0.5s								
GOKD	**Ankara-Kalecik**	**0.75**	**152**	P		**Pg**	**11 46 15.4**		**-0.1**
TOS	**Tosya**	**0.82**	**68**	Pg		**Pg**	**11 46 16.9**		**0.0**
KMON	**Kastamonu**	**0.86**	**42**	Pg		**Pg**	**11 46 17.3**		**-0.4**
ANTO	**Ankara**	**0.88**	**191**	Pg		**Pg**	**11 46 17.7**		**-0.4**
ANTO				Sg		**Sb**	**11 46 31.5**		**+0.6**
ANTO	**Ankara**	**0.88**	**191**			**Pg**	**11 46 17.6**		**-0.5**
ANTO	**Ankara**	**0.88**	**191**	⇓P		**Pg**	**11 46 18.3**		**+0.2**
ANTO	**Ankara**	**0.88**	**191**	P		**Pg**	**11 46 18.3**		**+0.2**
ANTO	**Ankara**	**0.88**	**191**	Pg		**Pg**	**11 46 17.2**		**-0.9**
DEVR	**Zonguldak/Devr**	**0.89**	**297**	P		**Pg**	**11 46 16.9**		**-1.3**
KIBS	**BOLU**	**0.94**	**251**	P		**Pg**	**11 46 17.8**		**-1.4**
DELI	**KIRIKKALE**	**1.01**	**137**	P		**Pg**	**11 46 19.7**		**-0.8**
DELI				S		**Sg**	**11 46 31.9**		**-1.7**
DELI				*i*	IAML		11 46 34.0		
	comp=N,6µm,0.4s								
DELI				*i*	IAML		11 46 38.0		
	comp=E,4µm,0.5s								
BOLU	**Bolu-Merkez-Mu**	**1.02**	**273**	P		**Pg**	**11 46 19.3**		**-1.3**
BOLU				S		**Sn**	**11 46 37.1**		**+0.4**
SEYI	**Kastamonu-Seyd**	**1.05**	**31**	P		**Pg**	**11 46 20.9**		**-0.4**
BTIN	**Bartın**	**1.07**	**328**	P		**Pg**	**11 46 20.5**		**-1.1**
YUVA	**Yuva-Kibriscik**	**1.07**	**252**	Pg		**Pg**	**11 46 20.6**		**-1.0**
SUNG	**orum-Sungurl**	**1.09**	**120**	P		**Pg**	**11 46 21.6**		**-0.3**
BR106	**Keskin Array S**	**1.10**	**155**	Pg		**Pg**	**11 46 21.3**		**-1.0**
BR106				Sg		**Sg**	**11 46 35.6**		**-1.0**
BR105	**Keskin Array S**	**1.12**	**155**	Pg		**Pg**	**11 46 21.8**		**-0.8**
BR131	**Keskin Array S**	**1.12**	**154**			**Pg**	**11 46 22.0**		**-0.6**
BR131	**Keskin Array S**	**1.12**	**154**	*d*	iP	**Pg**	**11 46 21.9**		**-0.6**
BRTR	**Keskin Array B**	**1.12**	**155**			**Pg**	**11 46 21.9**		**-0.7**
BRTR	**Keskin Array B**	**1.12**	**155**	Pg		**Pg**	**11 46 22.4**		**-0.1**
	550nm,0.3s,baz=333,slow=14,SNR=1194								
BRTR				Lg		Lg	11 46 40.3		
	323nm,0.3s,baz=327,slow=21,SNR=17								
BRTR	**Keskin Array B**	**1.12**	**155**	*i*	P	**Pg**	**11 46 22.0**		**-0.6**
BRTR				pmax		pmax			
	comp=Z,1µm,0.4s								
KURC	**Kurucasile-Bar**	**1.13**	**350**	Pn		**Pb**	**11 46 21.9**		**-1.1**
KURC				Sn		**Sg**	**11 46 38.4**		**+1.0**
BR104	**Keskin Array S**	**1.13**	**155**	Pg		**Pg**	**11 46 22.1**		**-0.8**
CIDE	**Kastamonu/Cide**	**1.15**	**357**	P		**Pb**	**11 46 22.6**		**-0.7**
CIDE				S		**Sb**	**11 46 36.0**		**-2.4**
CIDE				*i*	IAML		11 46 41.0		
	comp=Z,6µm,0.3s								
KAGI	**orum-Kargı**	**1.18**	**70**	P		**Pb**	**11 46 22.2**		**-1.7**
KESK	**Krkkale-Ke**	**1.18**	**158**	P		**Pg**	**11 46 23.0**		**-0.8**
KESK				S		**Sg**	**11 46 39.3**		**+0.1**
KESK				*i*	IAML		11 46 42.0		
	comp=Z,3µm,0.5s								
BBAL	**Bala**	**1.20**	**176**	P		**Pg**	**11 46 23.4**		**-0.6**
POLA	**Polatl-ANKAR**	**1.22**	**212**	Pn		**Pb**	**11 46 23.8**		**-0.9**
AFSR	**Afar-Bala (An**	**1.29**	**178**	Pn		**Pn**	**11 46 25.5**		**-0.2**
AYAZ	**Ayas K¶y, M**	**1.40**	**92**	P		**Pn**	**11 46 27.0**		**-0.3**
AYAZ				S		**Sn**	**11 46 46.9**		**+0.7**
AYAZ				*i*	IAML		11 46 52.0		
	comp=Z,4µm,0.9s								
AYAZ				*i*	IAML		11 46 53.0		
	comp=Z,8µm,0.9s								
MDUB	**Mudurnu**	**1.41**	**260**	Pn		**Pn**	**11 46 26.8**		**-0.6**
MDUB	**Mudurnu**	**1.41**	**260**			**Pn**	**11 46 26.7**		**-0.7**
BZK	**Bozkurt**	**1.43**	**31**	Pn		**Pn**	**11 46 27.9**		**+0.3**
BZK	**Bozkurt**	**1.43**	**31**			**Pn**	**11 46 27.6**		**0.0**
BZK					Sn	**Sn**	**11 46 45.8**		**-0.9**
BZK	**Bozkurt**	**1.43**	**31**	⇑P		**Pn**	**11 46 28.2**		**+0.6**
AKPI	**Kirsehir/Akpin**	**1.44**	**148**	P		**Pn**	**11 46 27.4**		**-0.5**
KAMT	**Kaman**	**1.47**	**158**	Pn		**Pn**	**11 46 28.3**		**+0.1**
BOYA	**Sinop/Boyabat-**	**1.49**	**57**	P		**Pn**	**11 46 27.5**		**-0.9**
CDAG	**Cicekdag**	**1.52**	**136**	P		**Pn**	**11 46 29.1**		**+0.1**
BTAS	**Taskesti**	**1.54**	**264**	P		**Pn**	**11 46 28.1**		**-1.0**
KKUL	**Konya-Kulu**	**1.56**	**183**	P		**Pn**	**11 46 29.7**		**+0.2**
COAL	**Corum-Alaca**	**1.58**	**107**	P		**Pn**	**11 46 29.9**		**+0.2**
SAHE	**Sakarya_HENDEK**	**1.65**	**275**	P		**Pn**	**11 46 30.4**		**-0.2**
YOZG	**Bozok Univ. Me**	**1.66**	**124**	P		**Pn**	**11 46 31.5**		**+0.5**
SUSU	**Bolu-G¶lynk-**	**1.70**	**257**	P		**Pn**	**11 46 31.1**		**-0.3**
KIRS	**Kirsehir-Merke**	**1.75**	**156**	P		**Pn**	**11 46 31.6**		**-0.4**
KIRS	**Kirsehir-Merke**	**1.75**	**156**	⇑P		**Pn**	**11 46 32.3**		**+0.3**
GULT	**Gulveren**	**1.93**	**262**	Pn		**Pn**	**11 46 34.5**		**0.0**
MCUR	**KIREHR**	**1.96**	**143**	P		**Pn**	**11 46 35.2**		**+0.3**
SINP	**Sinop**	**2.00**	**51**	Pn		**Pn**	**11 46 36.3**		**+0.9**
CTIK	**Konya-Celtik**	**2.01**	**212**	P		**Pn**	**11 46 34.8**		**-0.8**
CKRK	**Yozgat, Cekere**	**2.01**	**108**	P		**Pn**	**11 46 36.1**		**+0.5**
CIFT	**Cifteler, Eski**	**2.03**	**228**	Pn		**Pn**	**11 46 36.2**		**+0.2**
SAUV	**Serdivan-Sakar**	**2.04**	**271**	Pn		**Pn**	**11 46 36.2**		**+0.2**
CBEY	**Konya-Cihanbey**	**2.05**	**185**	P		**Pn**	**11 46 36.5**		**+0.3**
SGAZ	**Eskisehir, Sey**	**2.06**	**235**	P		**Pn**	**11 46 35.4**		**-0.9**
YOZ	**Yozgat**	**2.08**	**121**	Pn		**Pn**	**11 46 37.6**		**+1.0**
SINO	**SINOP_Merkez**	**2.08**	**51**	P		**Pn**	**11 46 35.0**		**-1.6**
GEYV	**SAKARYA_Geyve**	**2.09**	**264**	P		**Pn**	**11 46 35.4**		**-1.2**
KOZK	**Kozakli-Nevseh**	**2.09**	**136**	Pn		**Pn**	**11 46 37.4**		**+0.7**
SNOP	**Sinop**	**2.09**	**51**	Pn		**Pn**	**11 46 37.4**		**+0.8**
GPA	**Golpazari**	**2.11**	**259**	Pn		**Pn**	**11 46 36.6**		**-0.4**
YARM	**Yarimca-Ladik(**	**2.14**	**84**	Pn		**Pn**	**11 46 38.2**		**+0.8**
SIRC	**Yozgat**	**2.15**	**130**	P		**Pn**	**11 46 37.9**		**+0.2**
AKSY	**AKSARAY - Alti**	**2.16**	**164**	P		**Pn**	**11 46 37.6**		**-0.2**
KAND	**Kocaeli-Kandir**	**2.17**	**280**	P		**Pn**	**11 46 35.4**		**-2.3**
KIZO	**Buyukkizoglu-L**	**2.22**	**85**	Pn		**Pn**	**11 46 39.7**		**+1.2**
KDHN	**Kadinhani**	**2.32**	**198**	P		**Pn**	**11 46 39.9**		**0.0**
HACI	**Hacifakili, Ak**	**2.32**	**116**	P		**Pn**	**11 46 41.9**		**+2.0**
HISA	**Bilecik-Osmane**	**2.37**	**264**	P		**Pn**	**11 46 38.6**		**-2.0**
BYAT	**Afyon-Bayat**	**2.38**	**222**	P		**Pn**	**11 46 40.6**		**0.0**
AVNS	**Nevsehir-Avano**	**2.39**	**143**	P		**Pn**	**11 46 41.7**		**+0.8**
UCKU	**Afyonkarahisar**	**2.43**	**211**	P		**Pn**	**11 46 40.4**		**-1.0**
ALIN	**Konya, Altinte**	**2.44**	**183**	P		**Pn**	**11 46 40.5**		**-1.0**
BILE	**Bilecik/Merkez**	**2.46**	**258**	P		**Pn**	**11 46 41.2**		**-0.7**
SAMS	**Samsun-Alacam**	**2.48**	**74**	P		**Pn**	**11 46 42.0**		**0.0**
SEMS	**Kocaeli-K¶rfe**	**2.49**	**274**	P		**Pn**	**11 46 40.2**		**-2.0**
ADVT	**Abdulvahap**	**2.51**	**264**	Pn		**Pn**	**11 46 42.6**		**+0.1**
HRT	**Hereke**	**2.54**	**273**	Pn		**Pn**	**11 46 42.9**		**0.0**
LADK	**Ladik-KONYA**	**2.58**	**191**	Pn		**Pn**	**11 46 44.5**		**+1.0**
SILT	**Sile**	**2.59**	**280**	Pn		**Pn**	**11 46 43.9**		**+0.4**
SILT	**Sile**	**2.59**	**280**	⇑P		**Pb**	**11 46 46.2**		**-1.7**
TOKA	**Tokat**	**2.67**	**98**			**Pn**	**11 46 44.9**		**+0.2**
TOKT	**Tokat**	**2.72**	**98**	Pn		**Pn**	**11 46 46.6**		**+1.2**
YLV	**Yalova**	**2.78**	**268**	Pn		**Pn**	**11 46 45.5**		**+0.3**
BNN	**Bunyan**	**2.88**	**130**	Pn		**Pn**	**11 46 49.1**		**+1.4**
BNN	**Bunyan**	**2.88**	**130**			**Pn**	**11 46 48.0**		**+0.3**
TVSB	**Tavsanli**	**3.01**	**246**	Pn		**Pn**	**11 46 49.7**		**+0.2**
KAVV	**Kandilli-Istan**	**3.02**	**278**	Pn		**Pn**	**11 46 49.5**		**+0.1**
ISK	**Istanb

	comp=Z,50nm,0.8s								
SOC					MLR	MLR			
	comp=Z,283nm,13.0s								
VSLR	**Vesyoloye**	**5.89**	**60**	*eP*		**Pn**	**11 47 32.2**	**+3.4**
ARG	**Arkhangelos**	**5.92**	**222**			**Pn**	**11 47 28.8**	**-0.5**
ARG	**Arkhangelos**	**5.92**	**222**	P		**Pn**	**11 47 28.8**	**-0.5**
NE56	**Odesa**	**6.13**	**346**	Pn		**Pn**	**11 47 34.3**	**+2.1**
ISR	**Istrita**	**6.46**	**315**	⇑P		**Pn**	**11 47 39.8**	**+3.0**
ISR	**Istrita**	**6.46**	**315**	P		**Pn**	**11 47 39.7**	**+3.0**
ISR	**Istrita**	**6.46**	**315**	Pn		**Pn**	**11 47 39.6**	**+2.8**
	comp=Z,0.4nmcomp=Z,93nm,1.0s								
ODBI	**Odobesti**	**6.64**	**321**	⇑P		**Pn**	**11 47 42.7**	**+3.5**
BISRR	**Bisoca**	**6.66**	**318**	Pn		**Pn**	**11 47 41.6**	**+2.1**
	comp=Z,0.8nmcomp=Z,207nm,0.9s								
GHRR		**6.71**	**324**	⇑P		**Pn**	**11 47 43.4**	**+3.3**
GHRR		**6.71**	**324**	Pn		**Pn**	**11 47 42.9**	**+2.8**
PLVB	**Pleven**	**6.79**	**296**	⇑P		**Pn**	**11 47 44.1**	**+2.9**
NEHR	**Nehoiu**	**6.79**	**316**	⇓P		**Pn**	**11 47 43.9**	**+2.6**
VRI	**Vrincioaia**	**6.88**	**320**	⇑P		**Pn**	**11 47 44.9**	**+2.5**
VRI	**Vrincioaia**	**6.88**	**320**	P		**Pn**	**11 47 44.9**	**+2.5**
VRI	**Vrincioaia**	**6.88**	**320**	Pn		**Pn**	**11 47 45.0**	**+2.5**
	comp=Z,0.2nmcomp=Z,34nm,0.8s								
MILM	**Milestii Mici**	**6.89**	**335**	⇓P		**Pn**	**11 47 45.2**	**+2.7**
MILM	**Milestii Mici**	**6.89**	**335**	*eP*		Pn	11 47 32.0	-11
MILM	**Milestii Mici**	**6.89**	**335**	P		**Pn**	**11 47 45.2**	**+2.7**
PLOR5	**Plostina Array**	**6.89**	**320**	Pn		**Pn**	**11 47 45.5**	**+2.8**
	comp=Z,0.2nmcomp=Z,49nm,0.8s								
PLOR	**Plostina**	**6.91**	**320**	⇑P		**Pn**	**11 47 45.6**	**+2.7**
PLOR	**Plostina**	**6.91**	**320**	P		**Pn**	**11 47 45.5**	**+2.7**
KARP	**Karpathos**	**6.94**	**224**	Pn		**Pn**	**11 47 44.6**	**+1.3**
	comp=Z,0.6nmcomp=Z,104nm,2.0s								
MARD	**Mardin**	**6.94**	**117**	Pn		**Pn**	**11 47 43.3**	**-0.2**
MLR	**Muntele Rosu**	**7.02**	**315**	Pn		**Pn**	**11 47 43.9**	**-0.7**
MLR	**Muntele Rosu**	**7.02**	**315**	Pn		**Pn**	**11 47 47.2**	**+2.6**
	comp=Z,0.6nm,0.3s,baz=273,slow=9.5,SNR=7.7								
MLR					Sn	**Sn**	**11 49 10.0**	**+5.2**
	comp=Z,0.6nm,0.3s,baz=223,slow=12,SNR=2.2								
MLR					LR	LR	11 51 03.6		
	comp=Z,335nm,20.0s,baz=124,slow=43								
	comp=Z,4.5nm,0.6s								
MLR	**Muntele Rosu**	**7.02**	**315**	⇑P		**Pn**	**11 47 47.8**	**+3.2**
MLR	**Muntele Rosu**	**7.02**	**315**	P		**Pn**	**11 47 47.8**	**+3.2**
MLR	**Muntele Rosu**	**7.02**	**315**	Pn		**Pn**	**11 47 46.8**	**+2.2**
	comp=Z,0.1nmcomp=Z,26nm,0.6s								
COVR	**Voineasa-Covas**	**7.12**	**316**	⇑P		**Pn**	**11 47 49.0**	**+3.2**
MTUR	**Matau**	**7.36**	**310**	⇑P		**Pn**	**11 47 52.6**	**+3.5**
MTUR	**Matau**	**7.36**	**310**	P		**Pn**	**11 47 52.6**	**+3.5**
TURR	**Turia**	**7.36**	**319**	⇓P		**Pn**	**11 47 52.4**	**+3.2**
ONER	**Baraj Valea Uz**	**7.38**	**322**	⇑P		**Pn**	**11 47 52.1**	**+2.8**
ERBR	**Yeremizino-Bor**	**7.38**	**45**	*eP*		Pn	11 47 54.8	+5.5
ERBR				*eS*		Sn	11 49 23.2	+10
ERBR					pmax	pmax			
	comp=Z,128nm,0.9s								
TESR	**Tescani**	**7.39**	**323**	⇑P		**Pn**	**11 47 51.4**	**+1.9**
TESR	**Tescani**	**7.39**	**323**	Pn		**Pn**	**11 47 51.3**	**+1.9**
	comp=Z,0.2nmcomp=Z,31nm,1.1s								
OZUR		**7.51**	**318**	⇑P		**Pn**	**11 47 54.2**	**+3.1**
BAL3X	**Bal3x, Balta**	**7.60**	**342**	Pn		**Pn**	**11 47 54.3**	**+2.0**
DOPR	**Dopca**	**7.63**	**316**	⇑P		**Pn**	**11 47 55.4**	**+2.7**
ARR	**Arges**	**7.69**	**310**	⇑P		**Pn**	**11 47 56.4**	**+2.8**
KIV	**Kislovodsk**	**7.85**	**63**	*eP*		Pn	11 47 45.2	-11
KIV					pmax	pmax			
	comp=Z,5.0nm,1.0s								
KIV					MLR	MLR			
	comp=Z,122nm,11.0s								
KBZ	**Khabaz**	**7.92**	**65**	Pn		**Pn**	**11 47 57.5**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=308,slow=7.1,SNR=7.2								
KBZ					LR	LR	11 52 06.0		
	comp=Z,412nm,20.1s,baz=258,slow=47								
	comp=Z,0.9nm,0.3s								
KBZ	**Khabaz**	**7.92**	**65**	⇑*eP*		**Pn**	**11 48 00.0**	**+3.3**
MMAI	**Mount Meron Ar**	**7.94**	**165**	Pn		**Pn**	**11 47 58.7**	**+1.6**
	comp=Z,1.4nm,0.3s,baz=350,slow=14,SNR=9.1								
MMAI					LR	LR	11 51 46.7		
	comp=Z,351nm,18.4s,baz=4.0,slow=44								
	comp=Z,3.9nm,0.6s								
LOT	**Lotru**	**8.24**	**308**	⇑P		**Pn**	**11 48 04.2**	**+2.9**
NCK	**Nalchik**	**8.33**	**67**	⇓*eP*		**Pn**	**11 48 04.7**	**+2.3**
NCK					pmax	pmax			
	comp=Z,5.0nm,0.6s								
IDI	**Anoyia**	**8.41**	**232**	Pn		**Pn**	**11 48 05.1**	**+1.6**
	comp=Z,16nm,0.7s,baz=49,slow=12,SNR=9.3								
GZR	**Gura Zlata**	**8.82**	**305**	⇓P		**Pn**	**11 48 11.7**	**+2.5**
GZR	**Gura Zlata**	**8.82**	**305**	P		**Pn**	**11 48 11.6**	**+2.5**
BURAR	**Bucovina Array**	**8.87**	**323**			**Pn**	**11 48 09.6**	**-0.2**
BOVS	**Bovan**	**8.88**	**293**	⇑P		**Pn**	**11 48 12.6**	**+2.7**
BUR08	**Bucovina Ar. S**	**8.90**	**324**			**Pn**	**11 48 09.8**	**-0.4**
ARCR	**ARCALIA**	**8.90**	**318**	⇑P		**Pn**	**11 48 13.5**	**+3.2**
GNI	**Garni**	**8.96**	**90**	Pn		**Pn**	**11 48 10.3**	**-0.9**
GNI	**Garni**	**8.96**	**90**	Pn		**Pn**	**11 48 11.0**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=321,slow=5.4,SNR=3.9								
GNI					LR	LR	11 52 11.3		
	comp=Z,207nm,21.0s,baz=297,slow=42								
	comp=Z,5.4nm,0.4s								
DEV	**Deva**	**8.99**	**308**	⇑P		**Pn**	**11 48 14.8**	**+3.4**
DEV	**Deva**	**8.99**	**308**	P		**Pn**	**11 48 14.7**	**+3.4**
ASF	**Jabal al Asfar**	**9.10**	**159**	Pn		**Pn**	**11 48 15.1**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=180,slow=0.9,SNR=3.2								
ASF					LR	LR	11 52 16.3		
	comp=Z,203nm,18.3s,baz=18,slow=41								
	comp=Z,1.9nm,0.5s								
KMPD	**K-Podol'skiy**	**9.11**	**331**	Pn		**Pn**	**11 48 15.1**	**+2.1**
MDVR	**Moldovita**	**9.24**	**300**	⇑P		**Pn**	**11 48 16.6**	**+1.6**
MARR	**Marisel-Cluj**	**9.30**	**313**	⇑P		**Pn**	**11 48 18.6**	**+2.8**
KSV	**Kosov**	**9.46**	**326**	Pn		**Pn**	**11 48 19.5**	**+1.6**
DRGR		**9.60**	**313**	⇑P		**Pn**	**11 48 21.9**	**+2.0**
DRGR		**9.60**	**313**	P		**Pn**	**11 48 21.8**	**+2.0**
BZS	**Buzias**	**9.65**	**304**	⇓P		**Pn**	**11 48 23.5**	**+3.1**
BZS	**Buzias**	**9.65**	**304**	P		**Pn**	**11 48 23.5**	**+3.1**
HORU	**Horodok**	**9.67**	**333**	Pn		**Pn**	**11 48 22.8**	**+2.0**
LUBAR	**Lubar, Ukraine**	**9.90**	**340**	Pn		**Pn**	**11 48 25.8**	**+2.0**
SIRR	**Siria**	**9.93**	**308**	⇑P		**Pn**	**11 48 27.6**	**+3.3**
STNU	**Starunia**	**10.01**	**326**	Pn		**Pn**	**11 48 27.3**	**+2.0**
AK05	**Malin Array Si**	**10.24**	**346**	Pn		**Pn**	**11 48 29.7**	**+1.3**
AK08	**Malin Array Si**	**10.24**	**346**	Pn		**Pn**	**11 48 29.8**	**+1.3**
AK13	**Malin Array Si**	**10.26**	**346**	Pn		**Pn**	**11 48 30.3**	**+1.6**
MEZ	**Mezhgor'ye**	**10.30**	**322**	Pn		**Pn**	**11 48 30.6**	**+1.2**
KIEV	**Kiev**	**10.31**	**346**			Pn	11 48 25.1	-4.3
KIEV	**Kiev**	**10.31**	**346**	P		Pn	11 48 25.1	-4.3
KIEV	**Kiev**	**10.31**	**346**	Pn		**Pn**	**11 48 29.6**	**+0.2**
	comp=Z,114nm,1.0s								
AKASG	**Malin Array Be**	**10.31**	**346**	Pn		**Pn**	**11 48 27.3**	**-2.1**
AKASG	**Malin Array Be**	**10.31**	**346**	Pn		**Pn**	**11 48 27.7**	**-1.7**
	comp=Z,1.9nm,0.3s,baz=160,slow=13,SNR=13								
	comp=Z,12nm,0.7s								
AKBB	**Malin Array Si**	**10.31**	**346**	Pn		Pn	11 48 25.2	-4.2
AKBB	**Malin Array Si**	**10.31**	**346**	⇓*iP*		**Pn**	**11 48 30.7**	**+1.2**
AKBB	**Malin Array Si**	**10.31**	**346**	Pn		**Pn**	**11 48 31.0**	**+1.5**
MI29	**MI29, Kamyanyy**	**10.33**	**341**	Pn		**Pn**	**11 48 33.8**	**+4.0**
	comp=Z,295nm,1.1s								
MORS	**Morshin**	**10.59**	**325**	Pn		**Pn**	**11 48 35.0**	**+1.7**
MUKU	**Mukachevo**	**10.66**	**320**	Pn		**Pn**	**11 48 36.4**	**+2.2**
MI28	**Mi28,Pidlybu**	**10.85**	**342**	Pn		**Pn**	**11 48 37.5**	**+0.6**
HOLU	**Holmets**	**10.86**	**319**	Pn		**Pn**	**11 48 39.0**	**+2.1**
MAK	**Makhachkala**	**11.04**	**74**	*eP*		**Pn**	**11 48 36.3**	**-3.1**
MAK				*eS*		**Sn**	**11 50 39.4**	**-3.7**
MAK					pmax	pmax			
	comp=Z,109nm,0.9s								
MAK					MLR	MLR			
	comp=Z,255nm,12.0s								
AKT	**Akhty**	**11.13**	**81**	*eP*		**Pn**	**11 48 38.9**	**-1.9**
EIL	**Elat**	**11.15**	**171**	LR		LR	11 53 41.3		
	comp=Z,202nm,21.1s,baz=345,slow=41								
KOLS	**Kolonicke sedl**	**11.19**	**321**	*eP*		Pn	11 48 52.5	+11
RNPP5	**Staryi Chortor**	**11.60**	**337**	Pn		**Pn**	**11 48 48.9**	**+1.8**
MORH	**Mrgy, Hungar**	**11.78**	**302**	Pn		**Pn**	**11 48 51.5**	**+1.9**
	comp=Z,2.5nm,0.8s								
STHS	**Stebnicka Huta**	**12.01**	**320**	*eP*		Pn	11 49 00.5	+7.7
MNK	**Minsk**	**14.20**	**348**	*iP*		**Pn**	**11 49 22.9**	**+0.3**
MNK									
	comp=E,28nm,0.8s								
MNK				*iP*		**Pn**	**11 49 22.9**	**+0.3**
	comp=N,14nm,0.7s								
MNK				*iP*		**Pn**	**11 49 22.9**	**+0.3**
	comp=Z,24nm,0.7s,baz=164								
MNK				*iPP*		**P**	**11 49 29.8**	**-0.3**
MNK				*iPPP*		PPP	11 49 38.0		
MNK				*iS*		**Sn**	**11 52 00.9**	**+0.7**
MNK				*iSS*		**S**	**11 52 16.3**	**-5.0**
MNK				*iLR*		LR	11 55 12.9		
MNK				*iLRM*		MLR	11 56 16.1		
	comp=E,232nm,25.5s								
MNK				*iLRM*		MLR	11 56 16.1		
	comp=N,252nm,15.4s								
MNK	**Minsk**	**14.20**	**348**	*iP*		**Pn**	**11 49 22.8**	**+0.3**
MNK				*iS*		**Sn**	**11 52 00.9**	**+0.7**
MNK					pmax	pmax			
	comp=N,14nm,0.7s								
MNK					pmax	pmax			
	comp=E,28nm,0.8s								
MNK					pmax	pmax			
	comp=Z,24nm,0.7s								
MNK					MLR	MLR			
	comp=N,252nm,15.0s								
MNK					MLR	MLR			
	comp=E,232nm,25.0s								
MNK					MLR	MLR			
	comp=Z,106nm,16.0s								
VRAC	**Vranov**	**14.41**	**312**	LR		LR	11 56 58.6		
	comp=Z,134nm,18.2s,baz=127,slow=45								
OBN	**Obninsk**	**14.58**	**8**	*eP*		**Pn**	**11 49 28.3**	**+0.6**
OBN					pmax	pmax			
	comp=Z,5.0nm,0.6s								
NACGM	**Naroch**	**14.77**	**346**	*eP*		Pn	11 49 25.2	-5.2
	comp=Z,10.0nm,0.6s,baz=161								
VAE	**Valguarnera**	**14.80**	**263**	LR		LR	11 54 57.5		
	comp=Z,183nm,18.7s,baz=82,slow=36								
MOS	**Moscow**	**15.32**	**10**	*eP*		**Pn**	**11 49 37.0**	**-0.7**
MOS				*eS*		**Sn**	**11 52 25.0**	**-2.5**
MOS					pmax	pmax			
	comp=Z,33nm,0.7s								
BELG	**Belogornoye**	**15.36**	**36**	Pn		**Pn**	**11 49 38.2**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=5.3,slow=2.4,SNR=4.1								
	comp=Z,12nm,0.7s								
BELG	**Belogornoye**	**15.36**	**36**	⇓*iP*		**Pn**	**11 49 38.6**	**+0.4**
BELG					pmax	pmax			
	comp=Z,2.0nm,0.8s								
GERES	**GERESS Array B**	**15.90**	**307**	Pn		**Pn**	**11 49 46.7**	**+1.3**
	baz=107,slow=16,SNR=2.3								
GERES					LR	LR	11 57 06.5		
	comp=Z,150nm,18.3s,baz=120,slow=42								
	comp=Z,0.4nm,0.7s								
KHC	**Kasperske Hory**	**16.09**	**308**	⇑*iP*		**Pn**	**11 49 49.7**	**+1.9**
KHC					pmax	pmax			
	comp=Z,2.0nm,1.4s								
DAVOX	**Davos/Dischmat**	**17.74**	**298**	LR		LR	11 57 54.4		
	comp=Z,169nm,18.1s,baz=82,slow=40								
KEST	**Kesra**	**19.23**	**263**	P		**Pn**	**11 50 28.7**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=144,slow=0.9,SNR=6.9								
	comp=Z,8.2nm,0.8s								
SENIN	**Lac Senin/Sane**	**19.43**	**295**	P		**P**	**11 50 27.4**	**-0.8**
BNI	**Bardonecchia**	**19.74**	**291**	P		**P**	**11 50 30.4**	**-1.2**
BNI					IAmb	IAmb	11 50 37.9		
	comp=Z,13nm,1.1s								
BNI	**Bardonecchia**	**19.74**	**291**	P		**P**	**11 50 30.4**	**-1.2**
BNI					pmax	pmax			
	comp=Z,13nm,1.2s								
ECH	**Echery**	**19.84**	**301**	P		**P**	**11 50 32.5**	**-0.1**
ECH					IAmb	IAmb	11 50 51.6		
	comp=Z,9.4nm,1.1s								
ECH	**Echery**	**19.84**	**301**	P		**P**	**11 50 32.5**	**-0.1**
ECH					pmax	pmax			
	comp=Z,9.0nm,1.1s								
AKTO	**Aktyubinsk**	**19.92**	**52**	P		**P**	**11 50 34.5**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=254,slow=8.8,SNR=55								
AKTO					LR	LR	11 59 35.3		
	comp=Z,72nm,21.4s,baz=9.0,slow=41								
	comp=Z,18nm,0.8s								
KLMR	**Klimovskoe**	**20.54**	**9**	*eP*		**P**	**11 50 39.6**	**-0.4**
KLMR					pmax	pmax			
	comp=Z,26nm,1.3s								
KIRV	**Kirov**	**20.68**	**25**	⇓*iP*		Pn	11 50 44.3	+0.5
ABKAR	**Akbulak array**	**20.77**	**57**	P		**P**	**11 50 43.6**	**+0.9**
FINES	**FINESS Array B**	**21.16**	**351**	P		**P**	**11 50 45.1**	**-1.6**
FINES	**FINESS Array B**	**21.16**	**351**	P		**P**	**11 50 48.3**	**+1.6**
	comp=Z,4.5nm,0.9s,baz=147,slow=8.4,SNR=6.9								
	comp=Z,4.5nm,0.9s								
FINES	**FINESS Array B**	**21.16**	**351**	*iP*		**P**	**11 50 49.0**	**+2.3**
FINES					pmax	pmax			
	comp=Z,5.0nm,0.9s								
ARTI	**Arti**	**22.76**	**38**	P		**P**	**11 51 04.0**	**0.0**
ARTI	**Arti**	**22.76**	**38**	LR		LR	12 02 22.5		
	comp=Z,86nm,19.3s,baz=228,slow=43								
ARTI	**Arti**	**22.76**	**38**	*dP*		**P**	**11 51 03.6**	**-0.3**
ARTI					S	**S**	**11 55 11.8**	**-1.2**
ARTI					pmax	pmax			
	comp=Z,23nm,1.2s								
HFS	**Hagfors**	**22.83**	**335**	P		**P**	**11 51 05.6**	**+1.0**
	comp=Z,5.4nm,0.8s,baz=161,slow=14,SNR=4.3								
	comp=Z,5.4nm,0.8s								
SVE	**Svend'lovsk**	**24.06**	**39**	*eP*		**P**	**11 51 17.5**	**+0.7**
NOA	**NORSAR Array B**	**24.32**	**334**	P		**P**	**11 51 20.7**	**+1.4**
	comp=Z,1.2nm,0.9s,baz=134,slow=8.7,SNR=3.5								
	comp=Z,1.2nm,0.9s								
EKA	**Eskdalemuir Ar**	**27.87**	**314**	P		**P**	**11 51 53.4**	**+2.0**
	comp=Z,1.0nm,0.6s,baz=111,slow=11,SNR=1.9								
	comp=Z,1.0nm,0.6s								
BVAR	**Borovoye Array**	**28.01**	**51**	P		**P**	**11 51 53.9**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=264,slow=10.0,SNR=1.6								
BVAR					LR	LR	12 06 45.4		
	comp=Z,97nm,18.0s,baz=251,slow=45								
	comp=Z,0.3nm,0.4s								
ESDC	**Sonseca Array**	**28.13**	**280**	P		**P**	**11 51 55.0**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=79,slow=9.6,SNR=2.0								
ESDC					LR	LR	12 04 42.9		
	comp=Z,40nm,18.0s,baz=100,slow=40								
	comp=Z,0.4nm,0.8s								
GAR	**Garm**	**28.55**	**81**	P		**P**	**11 51 57.1**	**-0.6**
GAR					IAmb	IAmb	11 52 01.2		
	comp=Z,8.3nm,0.7s								
ARCES	**ARCESS Array B**	**29.13**	**355**	P		**P**	**11 52 03.4**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=182,slow=6.7,SNR=8.5								
ARCES					LR	LR	12 04 25.9		
	comp=Z,105nm,18.6s,baz=226,slow=38								
	comp=Z,1.5nm,0.6s								
MDT	**Midelt**	**30.97**	**267**	LR		LR	12 04 47.9		
	comp=Z,42nm,19.0s,baz=30,slow=36								
KURBB	**Kurchatov Arra**	**32.83**	**57**	P		**P**	**11 52 36.1**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=277,slow=9.1,SNR=15								
	comp=Z,2.5nm,0.8s								
KURK	**Kurchatov**	**32.89**	**57**	P		**P**	**11 52 35.1**	**-0.6**
KURK					IAmb	IAmb	11 52 39.8		
	comp=Z,5.0nm,1.1s								
KURK	**Kurchatov**	**32.89**	**57**	⇓*iP*		**P**	**11 52 37.1**	**+1.4**
KURK					pmax	pmax			
	comp=Z,2.0nm,1.0s								
MK31	**Makanchi Array**	**35.61**	**63**	⇑*iP*		**P**	**11 53 01.0**	**+1.6**
MKAR	**Makanchi Array**	**35.61**	**63**			**P**	**11 52 57.7**	**-1.8**
MKAR	**Makanchi Array**	**35.61**	**63**	P		**P**	**11 53 00.5**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=282,slow=6.1,SNR=10								
MKAR					LR	LR	12 11 25.3		
	comp=Z,80nm,18.1s,baz=312,slow=43								
	comp=Z,1.6nm,0.8s								
MKAR	**Makanchi Array**	**35.61**	**63**	P		**P**	**11 52 57.7**	**-1.8**
ZALV	**Zalesovo Beam**	**36.67**	**51**	P		**P**	**11 53 08.8**	**+0.5**
ZALV	**Zalesovo Beam**	**36.67**	**51**	P		**P**	**11 53 08.9**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=260,slow=8.4,SNR=7.8								
	comp=Z,1.1nm,0.4s								
ZALV	**Zalesovo Beam**	**36.67**	**51**	*iP*		**P**	**11 53 11.5**	**+3.2**
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.5s								
TORD	**Torodi Ar. Bea**	**38.81**	**234**	P		P	11 53 21.8	-5.0
TORD	**Torodi Ar. Bea**	**38.81**	**234**	P		**P**	**11 53 28.2**	**+1.4**
	comp=Z,1.2nm,0.6s,baz=43,slow=8.7,SNR=6.9								
	comp=Z,1.2nm,0.6s								
KMBO	**Kilima Mbogo**	**41.84**	**174**	LR		LR	12 11 52.0		
	comp=Z,94nm,19.4s,baz=97,slow=37								
KMBO	**Kilima Mbogo**	**41.84**	**174**	*iP*		**P**	**11 53 50.2**	**-2.0**
KMBO					pmax	pmax			
	comp=Z,2.0nm,0.4s								
EVN	**Everest**	**45.56**	**89**	P		**P**	**11 54 20.5**	**-2.1**
EVN					IAmb	IAmb	11 54 25.8		
	comp=Z,3.4nm,0.9s								
DBIC	**Dimbokro**	**47.87**	**235**	LR		LR	12 17 47.1		
	comp=Z,43nm,18.5s,baz=94,slow=40								
SONM	**Songino Array**	**51.19**	**56**	P		**P**	**11 55 06.4**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=299,slow=5.9,SNR=3.7								
SONM					LR	LR	12 19 47.1		
	comp=Z,89nm,18.7s,baz=278,slow=40								
	comp=Z,0.8nm,0.7s								
ULN	**Ulaanbaatar**	**51.59**	**56**	⇑*iP*		**P**	**11 55 09.4**	**+1.2**
ULN					pmax	pmax			
	comp=Z,20nm,3.9s								
PALK	**Pallekele**	**53.90**	**115**	LR		LR	12 19 50.9		
	comp=Z,46nm,18.8s,baz=311,slow=38								
LZDM	**Lanzhou Array**	**54.27**	**71**	LR		LR	12 22 11.4		
	comp=Z,60nm,19.7s,baz=305,slow=40								
LSZ	**Lusaka**	**55.91**	**186**	LR		LR	12 20 07.2		
	comp=Z,39nm,18.3s,baz=218,slow=37								
HHC	**Hu-ho-hao-te**	**57.45**	**62**	*eP*		**P**	**11 55 49.3**	**-1.5**
HHC					pmax	pmax			
	comp=Z,10.0nm,0.5s								
HHC					pmax	pmax			
	comp=Z,61nm,4.0s								
PZH	**PanZhiHua**	**57.62**	**81**	P		**P**	**11 55 52.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**60.08**	**91**	P		**P**	**11 56 10.6**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=310,slow=9.0,SNR=2.4								
CMAR					LR	LR	12 26 00.8		
	comp=Z,19nm,20.6s,baz=290,slow=40								
	comp=Z,0.3nm,0.3s								
LBTB	**Lobatse**	**65.78**	**187**	LR		LR	12 29 24.0		
	comp=Z,47nm,18.4s,baz=2.0,slow=40								
MA2	**Magadan**	**67.70**	**29**	LR		LR	12 29 37.0		
	comp=Z,41nm,19.4s,baz=352,slow=39								
BOSA	**Boshof**	**69.37**	**187**	P		**P**	**11 57 11.9**	**+2.3**
	comp=Z,5.4nm,0.8s,baz=5.3,slow=5.2,SNR=10								
	comp=Z,5.4nm,0.8s								
BOSA	**Boshof**	**69.37**	**187**	P		**P**	**11 57 12.0**	**+2.3**
C23K	**Itkillik River**	**69.71**	**1**	P		**P**	**11 57 10.7**	**-0.5**
KSRS	**Korea Array**	**70.01**	**58**	P		**P**	**11 57 14.2**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=312,slow=5.3,SNR=6.0								
	comp=Z,2.0nm,0.8s								
PSI	**Prapat**	**70.04**	**104**	LR		LR	12 30 33.2		
	comp=Z,57nm,18.2s,baz=234,slow=38								
IMAR	**Indian Mountai**	**73.48**	**3**	P		**P**	**11 57 33.9**	**-0.1**
YKA	**Yellowknife Ar**	**73.87**	**345**	LR		LR	12 30 45.5		
	comp=Z,30nm,19.2s,baz=307,slow=36								
ASAJ	**Asahikawa**	**74.48**	**45**	LR		LR	12 35 21.2		
	comp=Z,50nm,19.7s,baz=0.0,slow=40								
SADO	**Sadowa**	**75.40**	**317**	LR		LR	12 31 21.1		
	comp=Z,328nm,18.1s,baz=143,slow=36								
MJAR	**Matsushiro Arr**	**77.00**	**53**	LR		LR	12 36 11.5		
	comp=Z,36nm,18.3s,baz=214,slow=39								
SVN	**Savane Anatole**	**83.58**	**284**	P		**P**	**11 58 28.4**	**-2.1**
TKL	**Tuckaleechee C**	**84.36**	**313**	LR		LR	12 36 25.4		
	comp=Z,24nm,18.6s,baz=106,slow=36								
BBB	**Bella Bella**	**86.01**	**348**	LR		LR	12 38 55.8		
	comp=Z,34nm,18.2s,baz=14,slow=37								
NEW	**Newport**	**87.52**	**341**	LR		LR	12 37 54.5		
	comp=Z,36nm,18.2s,baz=342,slow=36								
CTU	**Camp Tracy**	**92.85**	**334**	P		**P**	**11 59 13.5**	**-1.4**
CTU					IAmb	IAmb	11 59 18.3		
	comp=Z,2.3nm,1.1s								

DJA ***14*** *11:54:21.3±2.5, 4°S±29°×14°2E±3°7, h10km, M3.6/3, MLv3.6/3*
IDC ***14*** *11:54:22.8±1.4, 4.00°S×140.61°E, h0km, mb3.7/4, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=43.0km s-min=9.9km az=106.0*
NEIC ***14*** *11:54:24.1±1.6, 3.94°S±0.10°×140.36°E±0.09, h35km±2km, mb4.2/14, Error ellipse: s-maj=18

FSK				S		Sb	12 03 05.3	-0.3
DRO	Drossia	0.83	75	P		Pg	12 02 56.4	-0.2
DRO				S		Sb	12 03 09.5	+0.8
DRO	Drossia	0.83	75	P		Pg	12 02 56.5	-0.1
DRO				S		Sg	12 03 07.5	0.0
EVGI	Lefkada island	0.88	358	P		Pg	12 02 56.8	-0.7
EVGI				S		Sb	12 03 09.9	-0.2
LKD2	Lefkada island	1.05	359	P		Pg	12 02 59.9	-0.9
PVO	Paravola	1.10	37	P		Pg	12 03 01.2	-0.5
PVO				S		Sn	12 03 17.6	+0.1
PVO	Paravola	1.10	37	P		Pg	12 03 01.2	-0.5
ITM	Ithomi	1.13	119	P		Pg	12 03 01.7	-0.7
ITM				S		Sn	12 03 18.8	+0.5
ITM	Ithomi	1.13	119	P		Pg	12 03 01.6	-0.7
ITM				S		Sg	12 03 16.7	-0.2
EFP	Efpalio	1.18	54	P		Pg	12 03 02.4	-0.8
EFP				S		Sb	12 03 19.1	+0.6
KLV	Kalavryta, Ach	1.19	75	P		Pg	12 03 03.2	-0.4
KLV	Kalavryta, Ach	1.19	75	P		Pg	12 03 03.0	-0.5
ANX	Ano Chora	1.29	48	P		Pn	12 03 04.5	-0.4
GUR	Goura	1.32	81	P		Pn	12 03 05.4	0.0

IDC 14 12:04:05.2±29.0, 18°24S×177°30W, h516km±254km, mb3.3/4, mbtmp4.2/4, Error ellipse: s-maj=254.9km s-min=43.1km az=39.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.53	193	P	P	12 08 07.6	-0.1
	14nm,1.0s,baz=111,slow=18,SNR=1.9 14nm,1.0s						
STKA	Stephens Creek	39.40	242	P	P	12 10 50.7	+0.4
	1.0nm,0.4s,baz=74,slow=8.6,SNR=3.9 1.0nm,0.4s						
WRA	Warramunga Arr	45.61	260	P	P	12 11 38.8	-0.5
	1.3nm,0.4s,baz=98,slow=6.9,SNR=50 1.3nm,0.4s						
ASAR	Alice Springs	45.72	254	P	P	12 11 40.0	-0.1
	2.8nm,0.7s,baz=91,slow=7.5,SNR=69						
ASAR				PcP	PcP	12 13 07.2	-0.2
	0.8nm,1.1s,baz=87,slow=3.1,SNR=2.3 2.8nm,0.7s						

*NOU **14** 12:08:25.3, 35°.67S×178°.38E, h356km, MLv4.0/7, Off E. Coast of N. Island, N.Z.*
*WEL **14** 12:08:43.0±1.1, 36°.5S±6°×17°.8E±°, h230km±10km, M3.0/12, ML3.0/8, MLv3.0/12, Error ellipse: s-maj=11.3km s-min=7.2km az=111.4, confirmed*
ISC 14 12:08:38.8±3.2, 36°.4S±0°.1×177°.7E±0°.1, h261km±17km, n62, σ1§18/76, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.26	159	P	Pn	12 09 16.9	+0.5
MXZ	Matakaoa Point	1.26	159	P	Pn	12 09 17.0	+0.6
MXZ				S	S	12 09 44.7	-1.5
HAZ	Te Kaha	1.37	179	P	Pn	12 09 17.7	+0.5
HAZ				S	S	12 09 45.3	-2.2
PKGZ	Pakihiroa	1.50	170	P	Pn	12 09 19.3	+1.2
WMGZ	Waiomatatini S	1.53	160	P	Pn	12 09 19.4	+1.1
WMGZ				S	S	12 09 48.8	-0.8
RUGZ	Raukumara Rang	1.58	182	P	Pn	12 09 19.3	+0.5
KUZ	Kuaotunu	1.67	257	P	Pn	12 09 19.6	+0.3
KUZ	Kuaotunu	1.67	257	P	Pn	12 09 19.6	+0.3
PUZ	Puketiti	1.73	166	P	Pn	12 09 20.9	+1.0
URZ	Urewera	1.94	195	P	Pn	12 09 22.5	+1.0
URZ	Urewera	1.94	195	P	Pn	12 09 22.3	+0.8
URZ				S	S	12 09 54.4	-1.0
MWZ	Matawai	1.95	185	P	Pn	12 09 22.8	+1.1
MWZ				S	S	12 09 55.0	-0.8
TKGZ	Te Karaka	2.05	178	P	Pn	12 09 23.8	+1.3
TKGZ				S	S	12 09 56.9	-0.4
RAGZ	Rawiri	2.12	187	P	Pn	12 09 25.2	+1.9
CNGZ	Carnagh Statio	2.13	170	P	Pn	12 09 25.1	+1.9
MUGZ	Murupara	2.23	200	P	Pn	12 09 25.3	+1.2
TOZ	Tahuroa Road	2.24	232	P	Pn	12 09 26.2	+1.9
RIGZ	Rimuhau	2.32	180	P	Pn	12 09 26.4	+1.4
SNGZ	Shannon Statio	2.42	187	P	Pn	12 09 27.2	+1.3
ALRZ	Allen Road	2.44	207	P	Pn	12 09 27.8	+1.6
PRGZ	Paritu Road	2.54	178	P	Pn	12 09 29.2	+2.1
MTHZ	Maungataniwha	2.57	196	P	Pn	12 09 28.7	+1.2
RAHZ	Arahi	2.58	191	P	Pn	12 09 29.0	+1.4
KNZ	Kokohu	2.63	181	P	Pn	12 09 29.2	+1.1
MRHZ	Matea Rd	2.66	203	P	Pn	12 09 29.5	+1.0
WHHZ	Waihua	2.72	188	P	Pn	12 09 30.4	+1.4
MHGZ	Mahia Peninsul	2.77	177	P	Pn	12 09 30.9	+1.4
WCZ	Waipu Caves	2.78	278	P	Pn	12 09 30.1	+0.4
NMHZ	Naumai	2.81	195	P	Pn	12 09 31.5	+1.5
ARHZ	Aropaoanui	2.94	191	P	Pn	12 09 32.6	+1.4
BKZ	Black Stump Fm	2.95	199	P	Pn	12 09 32.2	+0.8
BKZ	Black Stump Fm	2.95	199	P	Pn	12 09 32.1	+0.7
HIZ	Hauiti	3.13	226	P	Pn	12 09 35.9	+2.7
HIZ	Hauiti	3.13	226	P	Pn	12 09 36.0	+2.7
MCHZ	McNeill Hill	3.17	195	P	Pn	12 09 35.0	+1.4
MCHZ				S	S	12 10 17.7	+0.5
NTVZ	North Tongarir	3.17	211	P	Pn	12 09 35.2	+1.4
KWHZ	Kaweka Forest	3.21	199	P	Pn	12 09 35.0	+0.8
KWHZ				S	S	12 10 17.3	-0.9
WTVZ	West Tongariro	3.22	211	P	Pn	12 09 35.4	+1.0
NNVZ	North Ngauruho	3.22	211	P	Pn	12 09 34.8	+0.4
OTVZ	Oturere	3.23	210	P	Pn	12 09 34.6	+0.1
WHVZ	Whangaehu Hut	3.36	210	P	Pn	12 09 36.9	+0.9
WNVZ	Wahianoa	3.39	209	P	Pn	12 09 37.3	+0.9
WNVZ				S	S	12 10 21.2	-0.8
KRHZ	Kereru	3.43	198	P	Pn	12 09 37.2	+0.6
KRHZ				S	S	12 10 21.0	-1.5
KAHZ	Kahuranaki	3.47	191	P	Pn	12 09 38.3	+1.2
KAHZ				S	S	12 10 24.9	+1.5
PWZ	Pawanui	3.71	191	P	Pn	12 09 40.3	+0.7
PWZ				S	S	12 10 26.6	-1.4
PXZ	Pawanui	3.71	191	P	Pn	12 09 40.3	+0.7
PXZ				S	S	12 10 26.4	-1.7
PNHZ	Pukenui	3.73	199	P	Pn	12 09 40.2	+0.3
PNHZ				S	S	12 10 27.5	-1.1
WPHZ	Waipukurau	3.81	195	P	Pn	12 09 41.6	+0.7
TSZ	Takapari Road	3.93	200	P	Pn	12 09 42.5	+0.3
PRHZ	Porangahau	3.97	192	P	Pn	12 09 43.9	+1.2
WAZ	Wanganui	4.01	212	P	Pn	12 09 44.2	+1.1
DVHZ	Dannevirke	4.10	197	P	Pn	12 09 44.3	+0.1
ANWZ	Angora Road	4.19	193	P	Pn	12 09 46.0	+0.8
PRWZ	Pori Road	4.39	198	P	Pn	12 09 48.1	+0.6
BFZ	Birch Farm	4.45	195	P	Pn	12 09 48.4	+0.2
BFZ	Birch Farm	4.45	195	P	Pn	12 09 48.4	+0.2
MRZ	Mangatainoka R	4.59	201	P	Pn	12 09 49.7	-0.3
TIWZ	Tintock	4.62	198	P	Pn	12 09 50.4	+0.1
HOWZ	Holdsworth Sta	4.83	200	P	Pn	12 09 52.3	-0.5
OGWZ	Otaki Gorge	4.86	204	P	Pn	12 09 52.8	-0.4
SNZO	South Karori	5.46	205	P	Pn	12 09 59.5	-0.9
NNZ	Nelson	5.91	214	P	Pn	12 10 06.7	+0.8

*UUSS **14** 12:13:49.3±1.1, 42°.59N±0°.02×111°.46W±0°.03, h-1km±1km, Error ellipse: s-maj=3.4km s-min=1.9km az=119.0*
NEIC 14 12:13:49.0±1.0, 42°.58N±0°.02×111°.43W±0°.03, h5km±1km, ML3.1/65, ML3.2/20(UUSS), Error ellipse: s-maj=3.9km s-min=2.7km az=309.0, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHID	Auburn Hatcher	0.30	53		Pg	12 13 55.6	+0.5
GRRI	Grays Lake	0.35	1		Pg	12 13 56.7	+0.8
BEI	Bear River Ran	0.53	209		Pg	12 13 59.9	+0.6
L17A	Cokeville	0.64	139		Pg	12 14 01.9	+0.6
BMUT	Black Mountain	0.64	167		Pg	12 14 01.7	+0.3
MLI	Malad Range	0.76	223		Pg	12 14 03.7	+0.2
HDU	Hyde Park	0.82	198		Pg	12 14 05.2	+0.5
NPI	North Pocatell	0.92	242		Pg	12 14 06.5	-0.1
PTU	Portage	0.93	226		Pg	12 14 07.0	+0.1
TPAW	Teton Pass	0.97	21		Pg	12 14 07.7	0.0
TPAW				IAML		12 14 24.2	
	347nm,0.5s						
TPAW				IAML		12 14 26.4	
	678nm,0.4s						
HWUT	Hardware Ranch	0.98	186		Pg	12 14 07.2	-0.7
SNOW	Snow King Moun	1.01	29		Pg	12 14 08.5	+0.1
SNOW				IAML		12 14 26.9	
	361nm,0.5s						
MCU	Monte Cristo P	1.12	183		Pb	12 14 10.9	-0.2
LTU	Little Mountai	1.16	212		Pg	12 14 11.4	+0.1
LOHW	Long Hollow	1.19	30		Pg	12 14 11.1	-0.8
LOHW				IAML		12 14 31.3	
	252nm,0.7s						
LOHW				IAML		12 14 31.5	
	260nm,0.5s						
HVU	Hansel Valley	1.28	232		Pg	12 14 12.6	-0.9
BW06	Boulder Array	1.40	82		Pn	12 14 13.7	-1.7
PD31	Pinedale Array	1.40	82		Pn	12 14 13.6	-1.8
PDAR	Pinedale Array	1.40	82		Pn	12 14 14.2	-1.2
EPU	East Promontor	1.40	212		Pn	12 14 15.0	-0.3
TCUT	Toone Canyon	1.47	179		Pn	12 14 15.1	-1.3
FPU	Francis Peak	1.58	191		Pb	12 14 18.8	-0.2
MCID	Moose Creek	1.62	6		Pn	12 14 18.7	+0.3
YPP	Pitchstone Pla	1.75	15		Pn	12 14 18.8	-1.5
YPP				IAML		12 14 51.3	
	comp=E,132nm,0.7s						
CTU	Camp Tracy	1.91	187		Pn	12 14 21.7	-0.6
CTU				IAML		12 14 53.8	
	comp=N,163nm,0.6s						
CTU				IAML		12 14 55.8	
	comp=E,250nm,0.4s						
HTU	Hoyt Peak	1.91	175		Pb	12 14 24.0	-0.6
YFT	Old Faithful	1.92	13		Pn	12 14 21.3	-1.3
JLU	Jordanelle	1.98	180		Pn	12 14 22.2	-1.2
JLU				IAML		12 14 55.8	
	comp=N,330nm,0.6s						
JLU				IAML		12 14 56.0	
	comp=E,282nm,0.5s						
BGU	Big Grassy Mou	2.04	216		Pn	12 14 23.6	-0.6
BGU				IAML		12 15 01.4	
	comp=E,87nm,0.4s						
BSUT	Blindstream Ca	2.11	166		Pn	12 14 25.1	-0.2
BSUT				IAML		12 14 56.4	
	comp=E,221nm,0.6s						
BSUT				IAML		12 14 57.4	
	comp=N,289nm,0.6s						
YMR	Madison River	2.11	9		Pn	12 14 23.8	-1.4
YMR				IAML		12 14 59.7	
	comp=N,167nm,0.6s						
YMR				IAML		12 15 02.1	
	comp=E,161nm,0.7s						
YHH	Holmes Hill	2.24	11		Pn	12 14 25.4	-1.7
YHL	Hebgen Lake	2.27	4		Pn	12 14 25.6	-1.9
YHL				IAML		12 15 03.6	
	comp=N,68nm,0.7s						
YHL				IAML		12 15 03.7	
	comp=E,62nm,0.8s						
HLID	Hailey	2.39	295		Pn	12 14 29.0	0.0
HLID				IAML		12 15 04.8	
	comp=E,65nm,0.5s						
HLID				IAML		12 15 07.0	
	comp=E,70nm,0.3s						
MPU	Maple Canyon	2.57	183		Pn	12 14 31.4	-0.1
YNE	Yellowstone No	2.63	23		Pn	12 14 33.8	+1.4
DLMT	Dillon	2.90	344		Pn	12 14 35.0	-1.0
DLMT				IAML		12 15 26.0	
	comp=E,37nm,1.4s						
DLMT				IAML		12 15 26.5	
	comp=E,37nm,1.2s						
P17A	Butcher Ranch,	3.15	170	IAML		12 15 28.6	
	comp=E,114nm,1.0s						
P17A				IAML		12 15 28.9	
	comp=N,124nm,0.8s						
TMUT	Trail Mountain	3.29	177	IAML		12 15 34.5	
	comp=E,65nm,1.0s						
TMUT				IAML		12 15 39.9	
	comp=N,75nm,0.6s						
MFID	Camas Ranch	3.33	286		Pn	12 14 40.8	-1.1
MFID				IAML		12 15 39.8	
	comp=N,44nm,1.0s						
MFID				IAML		12 15 42.9	
	comp=N,37nm,0.9s						
ELK	Elko	3.39	238		Pn	12 14 42.0	-0.8
O20A	White River Ci	3.43	134		Pn	12 14 40.9	-2.4
SRU	San Rafael Swe	3.54	168	IAML		12 15 38.9	
	comp=N,94nm,0.5s						
K22A	Casper	3.62	87		Pn	12 14 43.5	-2.5
Q16A	Castle Valley	3.67	177	IAML		12 15 45.5	
	comp=E,30nm,0.7s						
Q16A				IAML		12 15 46.3	
	comp=N,36nm,0.9s						
BPMT	Black Pine Rid	4.11	340	Pn	Pn	12 14 51.7	-1.1
PV22	Blue Mesa, Par	4.52	153		Pn	12 14 56.4	-1.9
PV14	Lion Creek, Pa	4.59	156		Pn	12 14 58.1	-1.2
PV20	West Nyswonger	4.64	155		Pn	12 14 57.9	-2.0
PV15	Paradox Valley	4.80	151		Pn	12 15 03.1	+0.9
BMO	Blue Mountains	4.82	300		Pn	12 15 01.8	-0.6
PV13	Radium Mtn., P	4.85	155		Pn	12 15 02.5	-0.4
ISCO	Idaho Springs	5.20	120	Pn	Pn	12 15 05.2	-2.5
ISCO				IAML		12 16 34.1	
	comp=N,12nm,0.9s						
ISCO				IAML		12 16 39.3	
	comp=N,13nm,0.7s						
R11B	Troy Canyon, C	5.28	218	Pn	Pn	12 15 07.8	-1.0
RSSD	Black Hills	5.61	72	Pn	Pn	12 15 10.1	-3.2
MVCO	Mesa Verde	5.82	156		Pn	12 15 14.5	-1.7

*MOS **14** 12:22:43.5±1.4, 33°.94S×73°.24W, h10km, mb5.1/12, Error ellipse: s-maj=16.7km s-min=9.1km az=88.6*
*SJA **14** 12:22:43.3±0.7, 33°.97S×73°.42W, h38km±9km, ML4.0, MW4.4*
*IDC **14** 12:22:43.3±0.5, 34°.00S×73°.38W, h0km, mb4.4/11, mbtmp4.4/14, ML4.3/4, MS3.7/14, Error ellipse: s-maj=19.0km s-min=14.7km az=82.0*
*NEIC **14** 12:22:44.1±1.6, 33°.97S±0°.05×73°.35W±0°.07, h10km±1km, mb4.9/175, ML4.1(GUC), Error ellipse: s-maj=10.0km s-min=7.9km az=267.0*
*VAO **14** 12:22:45.5±0.5, 34°.10S×73°.30W, h10km, mb4.4*
*GUC **14** 12:22:46.4±0.7, 33°.95S×73°.11W, h20km±2km, ML4.1*
*GCMT **14** 12:22:48.1±0.4, 34°.03S±0°.04×73°.55W±0°.04, h22km±1km, MW4.8/63, Moment Tensor Solution. s21,c23; s63,c81; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.61±.19; Mθθ=1.00±.11; Mφφ=1.62±.13; Mrθ=-0.00±.20; Mθφ=0.76±.06; Mφr=0.18±.18; Best double couple: M=2.37600×10^16 NP1:θ=36.00000°, δ=43.00000°, λ=-87.00000°. NP2: φ=212.00000°, δ=47.00000°, λ=-93.00000°. Principal axes: T 2.1340, Plg2.0000°, Azm304.0000°; N 0.4900, Plg2.0000°, Azm214.0000°; P -2.6180, Plg87.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 14 12:22:43.3±0.7, 33°.99S±0°.03×73°.36W±0°.04, h4km±4km, n272, σ1§68/241, mb4.9/93, MS3.6/14, 29C-9D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	Pichilemu	1.26	114	⇑iP	Pg	12 23 06.6	-0.9
BO03				i S	Sg	12 23 20.6	-3.2
GO05	Hualane	1.56	131	⇑iP	Pn	12 23 11.2	-0.6
GO05				i S	Sn	12 23 29.6	-2.8
GO05				IAML		12 23 31.0	
	comp=N,4μm,0.2s						
GO05	Hualane	1.56	131	eP	Pn	12 23 11.1	-0.6
GO05				IAML		12 23 31.6	
	comp=Z,2μm,0.9s						
VA01	Torpederas	1.73	56		Pn	12 23 12.7	-1.3
VA01	Torpederas	1.73	56	i P	Pn	12 23 12.6	-1.3
VA01				i S	Sn	12 23 32.6	-3.8
VA01				IAML		12 23 34.1	
	comp=N,2μm,0.5s						
VA01	Torpederas	1.73	56	eP	Pn	12 23 12.8	-1.3
VA01				eS	Sn	12 23 33.4	-3.0
VA01				IAML		12 23 34.1	
	comp=Z,1μm,0.3s						
MT01	Popeta	1.76	86		Pn	12 23 13.2	-1.3
MT01	Popeta	1.76	86	⇑iP	Pn	12 23 13.2	-1.3
MT01				i S	Sn	12 23 33.0	-4.2
MT01	Popeta	1.76	86	eP	Pn	12 23 13.1	-1.4
MT01				eS	Sn	12 23 34.9	-2.4
MT01				IAML		12 23 36.4	
	comp=Z,747nm,0.3s						
BO01	Tunca	1.93	103		Pn	12 23 15.8	-1.0
BO01	Tunca	1.93	103	⇑iP	Pn	12 23 15.8	-1.0
BO01				i S	Sn	12 23 38.1	-3.3
BO01	Tunca	1.93	103	eP	Pn	12 23 16.0	-0.8
BO01				eS	Sn	12 23 40.3	-1.2
BO01				IAML		12 23 44.3	
	comp=Z,418nm,0.2s						
MT09	Talagante	1.98	84		Pn	12 23 16.5	-1.2
MT09	Talagante	1.98	84	⇑iP	Pn	12 23 16.5	-1.2
MT09				i S	Sn	12 23 39.8	-3.3
MT09				IAML		12 23 42.1	
	comp=N,3μm,0.4s						
MT02	Curacav	1.99	69		Pn	12 23 16.6	-1.1
MT02	Curacav	1.99	69	⇑iP	Pn	12 23 16.6	-1.1
MT02				i S	Sn	12 23 39.7	-3.4
MT02	Curacav	1.99	69	eP	Pn	12 23 16.6	-1.1
MT02				IAML		12 23 48.5	
	comp=Z,404nm,0.5s						
ROC1	El Roble	2.20	63	eP	Pn	12 23 15.1	-5.7
ROC1				eS	Sn	12 23 46.8	-1.9
ROCH	El Roble	2.21	63	iP	Pb	12 23 20.1	-3.8
ROCH				⇑iP	Pn	12 23 20.0	-0.9
ROCH				i S	Sn	12 23 46.4	-2.4
ROCH				i S	Sn	12 23 46.4	-2.4
ROCH				IAML		12 23 50.3	
	comp=N,2μm,0.3s						
VA06	Catapilco	2.24	51		Pn	12 23 19.8	-1.3
VA06	Catapilco	2.24	51	⇓iP	Pn	12 23 19.8	-1.3
VA06				i S	Sn	12 23 45.6	-3.5
MT05	Renca	2.27	75		Pn	12 23 21.4	-0.1
MT05	Renca	2.27	75	⇑iP	Pn	12 23 21.1	-0.4
MT05				i S	Sn	12 23 47.8	-2.2
MT05				IAML		12 23 52.5	
	comp=E,2μm,0.4s						
MT05	Renca	2.27	75	eP	Pn	12 23 21.9	+0.3
MT05				eS	Sn	12 23 43.6	-6.3
MT05				IAML		12 23 57.1	
	comp=Z,632nm,0.5s						
BO02	Sierra Bellavi	2.27	111		Pn	12 23 21.9	+0.3
BO02	Sierra Bellavi	2.27	111	⇑iP	Pn	12 23 22.0	+0.3
BO02				i S	Sn	12 23 48.8	-1.4
BO02				IAML		12 23 52.7	
	comp=E,3μm,0.2s						
BO02	Sierra Bellavi	2.27	111	eP	Pn	12 23 22.0	+0.3
BO02				eS	Sn	12 23 51.3	+1.1
BO02				IAML		12 23 51.8	
	comp=Z,1μm,0.3s						
BO04	La Punta	2.28	91		Pn	12 23 21.4	-0.3
BO04	La Punta	2.28	91	⇑iP	Pn	12 23 21.5	-0.3
BO04				i S	Sn	12 23 48.2	-2.1
BO04				IAML		12 23 49.8	
	comp=N,1μm,0.3s						
PEL	Peldehue	2.39	70		Pn	12 23 23.1	-0.1
PEL	Peldehue	2.39	70	P	Pn	12 23 23.1	-0.1
PEL	Peldehue	2.39	70	iP	Pn	12 23 22.7	-0.5
PEL				i S	Sn	12 23 51.0	-1.9
PEL				IAML		12 23 54.5	
	comp=N,2μm,0.7s						
PEL	Peldehue	2.39	70	eP	Pn	12 23 23.7	+0.5
PEL				eS	Sn	12 23 52.6	-0.3
PEL				IAML		12 24 01.1	
	comp=Z,704nm,0.4s						
MT15	Las Vizcachas	2.41	81	iP	Pn	12 23 23.0	-0.5
MT15				i S	Sn	12 23 50.7	-2.7
MT03	Universidad Ad	2.42	79		Pn	12 23 23.3	-0.5
MT03	Universidad Ad	2.42	79	⇑iP	Pn	12 23 23.3	-0.5
MT03				i S	Sn	12 23 51.7	-2.2
MT03				IAML		12 23 54.6	
	comp=E,2μm,0.3s						
MT03	Universidad Ad	2.42	79	eP	Pn	12 23 23.6	-0.2
MT03				eS	Sn	12 23 52.8	-1.1
MT03				IAML		12 23 56.1	
	comp=Z,1μm,0.4s						
MT14	Cerro Calฺn	2.43	77	⇑iP	Pn	12 23 23.5	-0.3
MT14				i S	Sn	12 23 51.9	-2.0
MT14				IAML		12 23 54.5	
	comp=E,2μm,0.4s						
MT16	CCHEN	2.43	77		Pn	12 23 23.1	-0.7
MT16	CCHEN	2.43	77	⇑iP	Pn	12 23 23.3	-0.5
MT16				i S	Sn	12 23 51.8	-2.2
MT10	Hacienda Santa	2.46	74	⇑iP	Pn	12 23 24.4	+0.1
MT10				i S	Sn	12 23 53.6	-1.2
MT13	San Alfonso	2.57	85		Pn	12 23 25.4	-0.3
MT13	San Alfonso	2.57	85	⇑iP	Pn	12 23 25.6	-0.2
MT13				i S	Sn	12 23 55.2	-2.3
MT13	San Alfonso	2.57	85	eP	Pn	12 23 25.5	-0.2
MT13				eS	Sn	12 23 56.5	-1.0
MT13				IAML		12 23 58.7	
	comp=Z,829nm,0.5s						
LMEL	Las Melosas	2.63	88		Pn	12 23 26.3	-0.3
LMEL	Las Melosas	2.63	88	⇑iP	Pn	12 23 26.6	0.0
LMEL				i S	Sn	12 23 57.2	-1.8
LMEL				IAML		12 23 59.4	
	comp=N,1μm,0.2s						
LMEL	Las Melosas	2.63	88	eP	Pn	12 23 26.7	+0.1
LMEL				eS	Sn	12 23 58.3	-0.7
LMEL				IAML		12 24 01.5	
	comp=Z,521nm,0.3s						
FCH	Farellones	2.64	76	⇑iP	Pn	12 23 26.7	-0.2
FCH				i S	Sn	12 23 57.8	-1.9
FCH				IAML		12 23 59.3	
	comp=N,2μm,0.3s						
VA03	San Esteban	2.65	63	⇑iP	Pn	12 23 26.5	-0.3
VA03				i S	Sn	12 23 57.1	-2.4
VA03				IAML		12 23 59.1	
	comp=E,2μm,0.3s						
VA03	San Esteban	2.65	63	eP	Pn	12 23 26.5	-0.3
VA03				eS	Sn	12 23 59.2	-0.3
VA03				IAML		12 24 01.5	
	comp=Z,1μm,0.3s						
MT04	Ro Olivares	2.75	79	⇑iP	Pn	12 23 28.1	-0.3
MT04				i S	Sn	12 24 00.2	-1.9
MT04	Ro Olivares	2.75	79	eP	Pn	12 23 28.2	-0.1
MT04				eS	Sn	12 24 01.3	-0.8
MT04				IAML		12 24 03.3	
	comp=Z,479nm,0.5s						
BI05	Punta Hualpn	2.75	177		Pn	12 23 26.8	-1.4
BI05	Punta Hualpn	2.75	177	⇑iP	Pn	12 23 26.8	-1.4
BI05				i S	Sn	12 23 56.4	-5.5
BI05	Punta Hualpn	2.75	177	eP	Pn	12 23 26.3	-1.9
BI05				IAML		12 24 13.0	
	comp=Z,341nm,0.8s						
CO04	Los Peladeros	2.79	46	⇓iP	Pn	12 23 27.7	-1.2
CO04				i S	Sn	12 23 59.9	-3.3
CO04				IAML		12 24 01.6	
	comp=E,1μm,0.5s						
MT08	Bocatoma Ro	2.84	80		Pn	12 23 29.2	-0.3
MT08	Bocatoma Ro	2.84	80	iP	Pn	12 23 29.4	-0.2
MT08	Bocatoma Ro	2.84	80	eP	Pn	12 23 29.6	+0.1
MT08				eP	Pb	12 23 30.4	-4.3
MT08				eS	Sn	12 24 03.7	-0.6
MT08				IAML		12 24 07.8	
	comp=Z,331nm,0.3s						
BI02	San Fabin de	3.16	148		Pn	12 23 34.3	+0.4
BI02	San Fabin de	3.16	148	⇑iP

baz=50,slow=77
H03S3 Juan Fernandez 4.62 271 Pn Pn 12 23 52.8 -0.8
baz=50,slow=77
H03S2 Juan Fernandez 4.63 270 Pn Pn 12 23 51.7 -2.1
baz=50,slow=77
H03N1 Juan Fernandez 4.66 275 Pn Pn 12 23 53.2 -1.0
baz=119,slow=19
H03N1 T T 12 28 38.5
baz=89,slow=73,SNR=4.2
H03N3 Juan Fernandez 4.67 275 Pn Pn 12 23 54.3 0.0
baz=119,slow=19
H03N3 T T 12 28 37.9
baz=89,slow=73,SNR=5.1
H03N2 Juan Fernandez 4.68 275 Pn Pn 12 23 54.3 -0.1
baz=119,slow=19
H03N2 T T 12 28 40.8
baz=89,slow=73,SNR=4.2
CO01 Juntas del Tor 4.87 36 Pn 12 23 57.4 -0.2
CO01 Juntas del Tor 4.87 36 ⇓*i*P Pn 12 23 57.4 -0.2
CO01 *i*S Sn 12 24 52.1 -2.4
CO01 Juntas del Tor 4.87 36 *e*P Pn 12 23 57.3 -0.2
CO01 *e*S Sn 12 24 53.0 -1.5
CO01 IAML 12 24 58.5
comp=Z,137nm,0.6s
CFA Coronel Fontan 4.92 62 Pn Pn 12 23 59.7 +1.6
comp=Z,11nm,0.3s,baz=246,slow=12,SNR=56
CFA Sn Sn 12 24 54.9 -0.7
comp=Z,7.7nm,0.3s,baz=144,slow=23,SNR=8.3
comp=Z,19nm,0.3s
CFA Coronel Fontan 4.92 62 *e*P Pn 12 23 59.5 +1.5
CFA *e*S Sn 12 24 56.9 +1.4
ACCO Cerro Coronel 4.97 48 *e*P Pn 12 23 55.7 -3.3
ACCO *e*S Sn 12 25 00.7 +3.6
LCO Las Campanas 5.46 25 Pn 12 24 04.0 -1.7
LCO Las Campanas 5.46 25 P Pn 12 24 04.0 -1.7
AC04 Llanos de Chal 6.09 19 Pn 12 24 11.6 -2.5
LR05 Currie 6.32 171 Pn 12 24 17.8 +0.6
PLCA Paso Flores 7.09 162 Pn 12 24 28.7 +0.9
PLCA Paso Flores 7.09 162 Pn Pn 12 24 29.1 +1.3
comp=Z,4.0nm,0.3s,baz=328,slow=12,SNR=143
PLCA Sn Sn 12 25 51.4 +2.5
comp=Z,0.5nm,0.3s,baz=257,slow=11,SNR=1.0
comp=Z,17nm,0.4s
PLCA Paso Flores 7.09 162 *e*P Pn 12 24 28.9 +1.1
LL02 Futaleuf 9.26 173 Pn 12 24 57.0 -0.5
PSAL Palomas, Salto 13.60 82 *e*P Pn 12 25 57.2 +0.2
CPUP Villa Florida 15.81 65 Pn Pn 12 26 26.9 +0.1
comp=Z,0.1nm,0.3s,baz=235,slow=19,SNR=1.8
LPAZ La Paz 18.25 16 Pn 12 26 57.1 -1.0
LPAZ La Paz 18.25 16 P P 12 26 59.2 +0.8
comp=Z,0.4nm,0.3s,baz=176,slow=9.2,SNR=23
comp=Z,7.5nm,0.7s
LPAZ La Paz 18.25 16 P Pn 12 26 57.1 -1.0
LPAZ pmax pmax
comp=Z,12nm,1.0s
LPAZ La Paz 18.25 16 *e*P P 12 26 59.9 +1.6
MURT Porto Murtinho 18.54 53 *e*P Pn 12 27 02.7 +1.7
ITAB Concordia 19.45 75 *e*P Pn 12 27 12.7 +0.6
PTGB Pitanga 20.70 69 *e*P Pn 12 27 26.5 -0.4
EFI East Falkland 20.86 153 ⇓*i*P P 12 27 25.3 -0.6
EFI pmax pmax
comp=Z,175nm,1.9s
SIV San Ignacio 21.07 35 P P 12 27 29.5 +1.0
comp=Z,7.6nm,0.9s,baz=214,slow=10,SNR=18
SIV LR LR 12 35 39.6
comp=Z,153nm,20.7s,baz=233,slow=37
comp=Z,7.6nm,0.9s
PTLB Pontes e Lacer 22.49 38 P 12 27 43.2 -0.6
PTLB Pontes e Lacer 22.49 38 *e*P P 12 27 44.8 +1.0
SALV Santo Antonio 24.04 46 *e*P P 12 28 01.0 +1.6
VILB Vilhena 24.12 33 P 12 27 59.5 -0.8
VILB IAmb IAmb 12 28 11.6
comp=Z,41nm,1.1s
VILB Vilhena 24.12 33 *e*P P 12 28 01.9 +1.5
PDRB Porto dos Gac 26.96 38 *e*P P 12 28 27.0 +0.9
ATAH Atahualpa 27.13 349 LR LR 12 37 07.2
comp=Z,126nm,20.0s,baz=184,slow=32
CLDB Colider 28.07 39 *e*P P 12 28 39.2 +3.2
BDFB Brasilia 29.25 58 LR LR 12 41 44.9
comp=Z,161nm,19.4s,baz=81,slow=39
SNDB Serra Nova Dou 29.75 48 *e*P P 12 28 53.5 +2.5
PMSA Palmer Station 31.33 172 P P 12 29 03.0 -1.3
PMSA IAmb IAmb 12 29 10.0
comp=Z,19nm,1.1s
PMSA Palmer Station 31.33 172 LR LR 12 41 29.6
comp=Z,155nm,18.1s,baz=347,slow=36
PMSA Palmer Station 31.33 172 *e*P P 12 29 03.0 -1.3
RPN Rapa Nui 31.61 273 LR LR 12 37 57.0
comp=Z,397nm,19.0s,baz=120,slow=29
COHC Cochancay 31.84 349 P 12 29 08.6 -0.7
OTAV Otavalo 34.38 351 P P 12 29 31.5 -0.6
OTAV IAmb IAmb 12 29 36.7
comp=Z,19nm,1.4s
OTAV Otavalo 34.38 351 P P 12 29 31.5 -0.6
OTAV pmax pmax
comp=Z,19nm,1.5s
OTAV Otavalo 34.38 351 *e*P P 12 29 35.0 +2.9
ROSC El Rosal 38.63 358 P P 12 30 10.2 +1.9
comp=Z,11nm,0.4s,baz=348,slow=18,SNR=3.9
ROSC LR LR 12 45 53.8
comp=Z,127nm,19.0s,baz=238,slow=36
comp=Z,11nm,0.4s
SDV Santo Domingo 42.72 4 P P 12 30 41.9 +0.1
SDV Santo Domingo 42.72 4 LR LR 12 49 16.0
comp=Z,78nm,18.2s,baz=246,slow=37
SDV Santo Domingo 42.72 4 *e*P P 12 30 43.1 +1.3
RCBR Riachuelo 44.58 60 LR LR 12 51 51.5
comp=Z,36nm,18.4s,baz=228,slow=39
PCRV Puerto La Cruz 44.70 12 LR LR 12 49 08.3
comp=Z,70nm,19.8s,slow=36
JTS Las Juntas de 45.40 344 LR LR 12 45 41.2
comp=Z,49nm,19.0s,baz=168,slow=30
JTS Las Juntas de 45.40 344 ⇑*i*P P 12 31 04.3 +1.2
JTS pmax pmax
comp=Z,37nm,2.3s
BELA Belgrano 2 47.08 170 P 12 31 15.9 +0.3
BELA IAmb IAmb 12 31 18.5
comp=Z,5.8nm,0.6s
VNA3 Neumayer Olymp 49.78 158 ⇑P P 12 31 38.2 +1.6
comp=Z,8.1nm,0.8s
VNA2 Neumayer--Watz 50.44 157 ⇑P P 12 31 43.2 +1.6
comp=Z,9.0nm,0.7s,baz=313,slow=11
SNAA Sanae 52.01 158 ⇑P P 12 31 54.8 +1.3
comp=Z,170nm,0.8s
SNAA Sanae 52.01 158 P 12 31 53.8 +0.4
SNAA IAmb IAmb 12 31 57.7
comp=Z,16nm,1.1s
SNAA Sanae 52.01 158 P P 12 31 54.4 +1.1
comp=Z,10nm,1.0s,baz=266,slow=9.0,SNR=29
comp=Z,10nm,1.0s
SNAA Sanae 52.01 158 ⇑*i*P P 12 31 54.7 +1.3
SNAA pmax pmax
comp=Z,15nm,1.0s
TROLL Troll, Antarti 53.71 158 ⇑P P 12 32 07.4 +1.4
comp=Z,288nm,0.8s
CMIG Matias Romero 54.79 335 LR LR 12 49 50.5
comp=Z,50nm,21.4s,baz=180,slow=30
TEIG Tepich 55.76 343 P P 12 32 20.3 -0.9
QSPA South Pole Qui 56.24 180 P P 12 32 26.5 +2.0
comp=Z,3.8nm,0.9s,baz=128,slow=3.4,SNR=9.2
comp=Z,3.8nm,0.9s
NVL N'lazarevskaya 56.76 157 *e*P P 12 32 37.9 +10
NVL pmax pmax
comp=Z,11nm,0.8s
SOR Soroa 57.21 349 P P 12 32 30.7 -0.9
SOR Soroa 57.21 349 P P 12 32 30.7 -0.9
SOR pmax pmax
comp=Z,95nm,1.5s
H06S1 SOCORRO T 63.50 320 T T 13 41 42.5
TAOE Nuku Hiva Isla 65.88 276 *e*S S 12 42 16.6 -2.0
comp=Z,42nm,23.1s
TAOE Nuku Hiva Isla 65.88 276 *e*LR LR 12 53 15.8
comp=Z,84nm,24.8s
TBI Tubuai 66.25 257 *e*LR LR 12 53 22.6
comp=Z,1µm,40.0s
SYO Syowa Base 66.27 159 ⇑*e*pP P 12 33 33.2 +1.1
HPIG 67.90 329 IAmb IAmb 12 33 46.2
comp=Z,11nm,1.1s
PPT2 Papeete2 69.15 262 *e*S S 12 43 00.7 +2.8
comp=Z,55nm,24.2s
PPT2 Papeete2 69.15 262 *e*LR LR 12 54 41.8
comp=Z,187nm,30.8s
SAND Sanderson 69.17 333 IAmb IAmb 12 33 53.6
comp=Z,16nm,1.1s
TXAR Lajitas Array 69.20 332 P 12 33 52.3 +1.1
TXAR Lajitas Array 69.20 332 P P 12 33 52.1 +0.9
comp=Z,2.9nm,0.7s,baz=150,slow=9.0,SNR=41
TXAR LR LR 12 59 14.6
comp=Z,70nm,19.2s,baz=195,slow=32
comp=Z,2.9nm,0.7s
TX31 Lajitas Ar. Si 69.20 332 P 12 33 52.1 +0.9
TX31 IAmb IAmb 12 33 53.8
comp=Z,6.4nm,0.9s
BRDY Brady 69.29 337 IAmb IAmb 12 33 53.7
comp=Z,9.2nm,1.0s
OZNA Ozona 69.68 335 IAmb IAmb 12 33 56.4
comp=Z,12nm,0.9s
W50A Signal Mountai 69.74 350 IAmb IAmb 12 33 56.2
comp=Z,18nm,1.1s
SWET Sewanee 69.85 349 IAmb IAmb 12 33 56.9
comp=Z,19nm,1.1s
ALPN Alpine 70.12 332 IAmb IAmb 12 33 59.5
comp=Z,18nm,1.6s
PLPT Palo Pinto 70.48 338 IAmb IAmb 12 34 01.1
comp=Z,13nm,1.0s
SGCY Sterling City 70.58 335 IAmb IAmb 12 34 02.0
comp=Z,8.3nm,0.9s
MNHN Monahans 70.65 334 IAmb IAmb 12 34 02.3
comp=Z,10nm,1.0s
CLTN Cedars of Leba 70.77 349 IAmb IAmb 12 34 02.4
comp=Z,14nm,1.1s
WVT Waverly 71.06 348 P 12 34 02.4 +0.1
WVT Waverly 71.06 348 P P 12 34 02.4 +0.1
WVT pmax pmax
comp=Z,37nm,1.0s
WTFS Witchita Falls 71.41 338 IAmb IAmb 12 34 06.6
comp=Z,16nm,1.0s
APMT Aspermont 71.53 337 IAmb IAmb 12 34 07.5
comp=Z,18nm,1.0s
SN07 Snyder 07 71.58 336 IAmb IAmb 12 34 07.4
comp=Z,9.0nm,0.9s
LCAR Lake Charles 71.66 345 IAmb IAmb 12 34 08.0
comp=Z,16nm,0.9s
FCAR Ozark Folk Cen 71.70 344 IAmb IAmb 12 34 07.8
comp=Z,11nm,1.1s
DKNS Dickens 72.11 336 IAmb IAmb 12 34 10.7
comp=Z,9.2nm,1.0s
PBMO Poplar Bluff 72.19 346 IAmb IAmb 12 34 10.7
comp=Z,16nm,1.2s
WMOK Wichita Mounta 72.40 338 IAmb IAmb 12 34 12.2
comp=Z,8.6nm,1.1s
HHAR Hobbs 72.51 343 IAmb IAmb 12 34 12.8
comp=Z,7.7nm,1.0s
CGM3 Cape Girardeau 72.53 346 IAmb IAmb 12 34 12.8
comp=Z,9.2nm,1.0s
TUL3 Leonard 72.64 341 IAmb IAmb 12 34 13.4
comp=Z,22nm,1.2s
S44A Carbondale 72.84 347 IAmb IAmb 12 34 14.4
comp=Z,13nm,1.0s
SIUC Southern Illin 72.85 347 IAmb IAmb 12 34 23.3
comp=Z,18nm,1.2s
MGMO Mountain Grove 72.94 344 IAmb IAmb 12 34 15.4
comp=Z,23nm,1.3s
MSTX Muleshoe 73.03 335 IAmb IAmb 12 34 16.8
comp=Z,13nm,0.9s
SMWD Samnorwood 73.20 337 IAmb IAmb 12 34 17.4
comp=Z,19nm,1.0s
Q51A Peebles 73.24 352 IAmb IAmb 12 34 16.8
comp=Z,17nm,1.2s
319A Douglas 73.31 328 IAmb IAmb 12 34 19.4
comp=Z,16nm,1.2s
MAW Mawson 73.49 164 P P 12 34 16.5 0.0
comp=Z,4.1nm,1.1s,baz=181,slow=10,SNR=5.6
comp=Z,4.1nm,1.1s
CCM Cathedral Cave 73.59 345 P 12 34 17.9 +0.6
CCM Cathedral Cave 73.59 345 P P 12 34 17.9 +0.6
CCM pmax pmax
comp=Z,27nm,1.1s
121A Cokes Peak, 73.68 330 IAmb IAmb 12 34 21.6
comp=Z,12nm,1.1s
T35A Sooner Cattle 73.78 341 IAmb IAmb 12 34 20.7
comp=Z,21nm,1.1s
P48A Milroy 73.94 350 IAmb IAmb 12 34 20.3
comp=Z,26nm,1.2s
R40A Maddies Statio 74.03 345 IAmb IAmb 12 34 21.7
comp=Z,16nm,1.1s
ANMO Albuquerque 75.26 332 LR LR 13 02 52.0
comp=Z,128nm,19.1s,baz=290,slow=32
ANMO Albuquerque 75.26 332 ⇓*i*P P 12 34 28.3 +0.9
ANMO pmax pmax
comp=Z,10.0nm,1.3s
DBIC Dimbokro 76.22 72 P P 12 34 33.4 +0.2
comp=Z,1.3nm,0.4s,baz=262,slow=8.5,SNR=4.1
comp=Z,1.3nm,0.4s
Y14A Wickenburg 77.14 327 P P 12 34 37.4 -0.6
WUAZ Wupatki 77.75 329 IAmb IAmb 12 34 45.0
comp=Z,12nm,1.2s
MVCO Mesa Verde 78.03 332 IAmb IAmb 12 34 46.1
comp=Z,9.6nm,1.1s
BC3 Big Chuckawall 78.04 325 IAmb IAmb 12 34 46.5
comp=Z,8.3nm,1.0s
BORC Borrego Spring 78.19 324 P P 12 34 44.2 +0.4
PFO Pinyon Flats O 78.49 324 P P 12 34 44.7 -0.9
PFO IAmb IAmb 12 34 49.3
comp=Z,11nm,1.1s
PFO Pinyon Flats O 78.49 324 LR LR 13 03 01.6
comp=Z,58nm,18.2s,baz=186,slow=31
PFO Pinyon Flats O 78.49 324 ⇓*i*P P 12 34 47.0 +1.4
PFO pmax pmax
comp=Z,7.0nm,0.8s
PV13 Radium Mtn., P 78.99 332 IAmb IAmb 12 34 51.2
comp=Z,9.7nm,1.1s
PV02 Paradox Valley 79.00 332 IAmb IAmb 12 35 00.1
comp=Z,14nm,1.1s
PV18 Skein Mesa, Pa 79.10 332 IAmb IAmb 12 35 00.4
comp=Z,14nm,1.2s
PV19 Morning Glory 79.18 332 IAmb IAmb 12 34 52.1
comp=Z,12nm,1.1s
PV20 West Nyswonger 79.20 332 IAmb IAmb 12 34 52.2
comp=Z,10nm,1.1s
PV10 Paradox Valley 79.26 332 IAmb IAmb 12 34 52.2
comp=Z,14nm,1.0s
PV23 Carpenter Ridg 79.31 332 IAmb IAmb 12 34 53.0
comp=Z,9.5nm,1.0s
HMU Henry Mountain 79.56 331 IAmb IAmb 12 34 55.0
comp=Z,30nm,1.6s
KNB Kanab 79.64 329 IAmb IAmb 12 34 55.5
comp=Z,16nm,1.1s
ECSD EROS Data Cent 80.22 343 IAmb IAmb 12 34 56.5
comp=Z,17nm,1.2s
CCUT Cedar City 80.32 329 IAmb IAmb 12 34 59.5
comp=Z,10nm,1.1s
O20A White River Ci 80.49 334 IAmb IAmb 12 34 58.7
comp=Z,13nm,1.4s
P18A Preston Nutter 80.81 332 IAmb IAmb 12 35 01.3
comp=Z,14nm,1.1s
TPNV Topopah Spring 81.11 327 IAmb IAmb 12 35 02.7
comp=Z,19nm,1.6s
BSUT Blindstream Ca 81.79 332 IAmb IAmb 12 35 06.5
comp=Z,8.4nm,1.1s
SPR3 Spring Creek 3 81.95 329 IAmb IAmb 12 35 07.2
comp=Z,12nm,1.2s
RSSD Black Hills 82.61 338 P 12 35 07.9 +0.3
RSSD Black Hills 82.61 338 P P 12 35 07.9 +0.3
RSSD pmax pmax
comp=Z,6.0nm,1.1s
HWUT Hardware Ranch 83.02 332 IAmb IAmb 12 35 12.2
comp=Z,8.7nm,0.9s
BGU Big Grassy Mou 83.03 331 IAmb IAmb 12 35 12.4
comp=Z,14nm,1.6s
LHV Little Huntoon 83.21 326 P P 12 35 08.1 -2.4
LHV IAmb IAmb 12 35 14.2
comp=Z,10nm,1.2s
NVAR Mina Array Bea 83.26 326 P P 12 35 12.2 +1.1
comp=Z,1.8nm,1.0s,baz=144,slow=5.1,SNR=11
comp=Z,1.8nm,1.0s
PDAR Pinedale Array 83.27 334 P P 12 35 11.4 +0.4
PDAR Pinedale Array 83.27 334 P P 12 35 12.1 +1.0
comp=Z,1.6nm,0.9s,baz=151,slow=4.6,SNR=12
comp=Z,1.6nm,0.9s
KDWAN Kaudwane 83.51 114 P P 12 35 13.1 +0.3
HVU Hansel Valley 83.65 331 IAmb IAmb 12 35 15.2
comp=Z,6.7nm,0.9s
ELK Elko 83.79 329 IAmb IAmb 12 35 16.4
comp=Z,8.3nm,1.1s
WAKR Walker 83.85 325 IAmb IAmb 12 35 17.8
comp=Z,9.5nm,1.3s
TPAW Teton Pass 84.41 334 IAmb IAmb 12 35 27.4
comp=Z,15nm,1.5s
RLMT Red Lodge 85.22 335 IAmb IAmb 12 35 23.1
comp=Z,9.3nm,1.2s
TORD Torodi Ar. Bea 85.24 71 P 12 35 22.0 +0.5
TORD IAmb IAmb 12 35 25.7
comp=Z,13nm,1.6s
TORD Torodi Ar. Bea 85.24 71 P P 12 35 21.9 +0.5
comp=Z,3.4nm,1.0s,baz=292,slow=3.3,SNR=9.9
comp=Z,3.4nm,1.0s
BEKR Beckworth 85.37 326 IAmb IAmb 12 35 24.9
comp=Z,8.9nm,1.4s
YHL Hebgen Lake 85.66 334 IAmb IAmb 12 35 26.4
comp=Z,19nm,1.7s
HLID Hailey 85.80 331 IAmb IAmb 12 35 26.9
comp=Z,7.9nm,1.2s
ULM Lac du Bonnet 86.21 346 P P 12 35 25.7 +0.3
comp=Z,5.2nm,1.0s,baz=168,slow=7.2,SNR=5.2
comp=Z,5.2nm,1.0s
ULM Lac du Bonnet 86.21 346 ⇑*i*P P 12 35 25.4 0.0
MFID Camas Ranch 86.25 330 IAmb IAmb 12 35 28.6
comp=Z,10.0nm,1.4s
O03E Paynes Creek 86.39 325 IAmb IAmb 12 35 29.3
comp=Z,11nm,1.2s
DLMT Dillon 86.62 333 IAmb IAmb 12 35 30.6
comp=Z,14nm,1.4s
WVOR Wild Horse Val 86.64 328 IAmb IAmb 12 35 35.1
comp=Z,13nm,1.6s
PLID Pearl Lake 87.70 331 IAmb IAmb 12 35 35.7
comp=Z,8.8nm,1.1s
PINE Pine Mountain 88.74 328 IAmb IAmb 12 35 41.3
comp=Z,13nm,1.1s
DZM Mont Dzumac 100.36 235 *e*LR LR 13 09 08.6
comp=Z,74nm,20.6s
ASAR Alice Springs 117.07 208 PKP PKPdf 12 41 29.8 -0.2
comp=Z,0.3nm,0.8s,baz=174,slow=0.9,SNR=5.0
WRA Warramunga Arr 120.22 210 PKP PKPdf 12 41 35.9 -0.3
comp=Z,1.1nm,0.9s,baz=152,slow=1.8,SNR=6.5
AKASG Malin Array Be 123.00 48 PKP PKPdf 12 41 40.1 -0.3
comp=Z,0.3nm,0.4s,baz=269,slow=2.3,SNR=4.0
AKASG Malin Array Be 123.00 48 *e*PKIKP PKPdf 12 41 39.8 -0.5
H11S2 WAKE ISLAND Hyl 24.67 270 T T 14 58 11.8
baz=111
H11S1 WAKE ISLAND Hyl 24.69 270 T T 14 58 14.6
baz=111
H11S3 WAKE ISLAND Hyl 24.69 270 T T 14 58 17.9
baz=111
OBN Obninsk 128.18 43 *e*PKIKP PKPdf 12 41 49.6 -0.5
OBN *e* 12 43 51.8
OBN *e*PPP PPP 12 46 36.4
OBN pmax pmax
comp=Z,5.0nm,0.8s
KLMR Klimovskoe 130.04 36 *e*PKIKP PKPdf 12 41 51.0 -2.5
KLMR pmax pmax
comp=Z,29nm,1.4s
KIV Kislovodsk 130.42 58 *e*PKIKP PKiKP 12 41 57.0 +1.2
KIV pmax pmax
comp=Z,5.0nm,1.0s
ARTI Arti 140.37 41 *i* PKIKP PKiKP 12 42 15.1 -0.3
ARTI 12 45 10.5
ARTI SS SS 13 03 35.6 -0.6
BVAR Borovoye Array 148.02 42 PKPbc PKPbc 12 42 28.3 -1.1
comp=Z,2.1nm,0.3s,baz=306,slow=5.0,SNR=11
YAK Yakutsk 148.35 339 *e*PKP2 PKPbc 12 42 30.6 +0.6
YAK pmax pmax
comp=Z,15nm,1.3s
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.4s
KURBB Kurchatov Arra 153.61 42 PKP PKPdf 12 42 34.8 -0.2
comp=E,0.7nm,0.3s,baz=316,slow=2.6,SNR=1.4
KURBB PKPbc **PKiKP 12 42 44.2 +1.4**
comp=E,2.7nm,0.2s,baz=300,slow=2.9,SNR=6.6
KURK Kurchatov 153.62 42 PKIKP PKPdf 12 42 34.8 -0.2
ZALV Zalesovo Beam 154.79 31 PKP PKPdf 12 42 36.5 -0.1
comp=E,0.7nm,0.6s,baz=270,slow=3.0,SNR=6.6
ZALV PKPbc **sPKPbc 12 42 46.1 +1.1**
comp=E,1.4nm,0.7s,baz=298,slow=3.2,SNR=7.4
MKAR Makanchi Array 157.58 48 PKP PKPdf 12 42 40.6 +0.1
comp=E,0.2nm,0.4s,baz=249,slow=4.0,SNR=2.6
MKAR PKPab **sPKPab 12 43 13.9 +1.5**
comp=E,0.4nm,0.6s,baz=258,slow=3.6,SNR=4.2
WMQ Urumqi 162.32 51 *e*PKP PKPdf 12 42 45.5 -0.5
CMAR Chiang Mai Arr 163.07 154 PKP PKPdf 12 42 48.0 +0.6
comp=E,0.4nm,0.4s,baz=162,slow=0.6,SNR=5.6
NJ2 Nanjing 169.57 263 *e*P PKPdf 12 42 50.5 -1.6
PZH PanZhiHua 171.42 149 PKP PKPdf 12 42 52.5 -1.0
HHC Hu-ho-hao-te 172.12 332 *e*P PKPdf 12 42 48.9 -4.4
GTA Gaotai 172.30 43 *e*PKP PKPdf 12 42 55.3 +1.8
GTA PKPab **sPKPab 12 44 18.8 +1.4**

*IDC **14** 12:32:45.0±1.1,34.57S×16.80W,h0km,mb3.9/4, mbtmp3.9/4,Error ellipse: s-maj=41.5km s-min=29.4km az=89.0*
ISC 14 12:32:46.2±1.0,34.6S±0.2×16.8W±0.2,h10km,n16, σ0.9s79/6,mb4.0/3,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H09N1	**TRISTAN DA CUN**	**4.43**	**126**	T	T	12 38 33.5	
	SNR=8.8						
H09W1	**TRISTAN DA CUN**	**4.43**	**126**	T	T	12 38 32.1	
H10S2	**ASCENSION HYDR**	**25.54**	**5**	T	T	13 05 10.4	
	baz=184,slow=74,SNR=53						
H10S3	**ASCENSION HYDR**	**25.55**	**5**	T	T	13 05 10.8	
	baz=36,slow=74,SNR=30						
H10N1	**ASCENSION HYDR**	**26.66**	**5**	T	T	13 06 34.8	
	baz=181,slow=76						
H10N3	**ASCENSION HYDR**	**26.66**	**5**	T	T	13 06 34.8	
	baz=181,slow=76						
H10N2	**ASCENSION HYDR**	**26.67**	**5**	T	T	13 06 36.4	
	baz=181,slow=76						
LPAZ	**La Paz**	**49.26**	**278**	P	**P**	**12 41 36.0**	**0.0**
	1.2nm,1.0s,baz=113,slow=7.8,SNR=3.8						
	1.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**50.58**	**24**	P	**P**	**12 41 45.4**	**+0.3**
	1.5nm,0.9s,baz=199,slow=6.8,SNR=6.2						
	1.5nm,0.9s						
MAW	**Mawson**	**54.68**	**152**	P	**P**	**12 42 14.3**	**-0.6**
	1.6nm,0.9s,baz=278,slow=10,SNR=3.3						
	1.6nm,0.9s						
QSPA	**South Pole Qui**	**55.70**	**180**	P	**P**	**12 42 23.2**	**+0.7**
	3.4nm,1.0s,baz=208,slow=4.8,SNR=7.2						
	3.4nm,1.0s						
H01W2	**Cape Leeuwin H**	**97.06**	**141**	T	T	14 35 04.2	
	baz=220,slow=75,SNR=8.6						
H01W3	**Cape Leeuwin H**	**97.08**	**141**	T	T	14 35 05.3	
	baz=220,slow=75,SNR=8.3						
H01W1	**Cape Leeuwin H**	**97.08**	**141**	T	T	14 35 05.4	
	baz=220,slow=75,SNR=8.1						
ILAR	**Eielson Array**	**137.55**	**331**	PKP	**PKiKP**	**12 52 10.4**	**-0.9**
	0.6nm,0.9s,baz=90,slow=0.9,SNR=5.4						
KSRS	**Korea Array**	**151.41**	**74**	PKPbc	**PKiKP**	**12 52 41.0**	**+0.4**
	0.7nm,0.8s,baz=263,slow=3.3,SNR=2.5						

*IDC **14** 12:45:21.2±1.2,37.11S×16.86W,h0km,mb4.0/7, mbtmp4.0/7,Error ellipse: s-maj=57.4km s-min=21.1km az=100.0*
*NEIC **14** 12:45:21.7±1.2,37.1S±0.1×17.10W±0.08,h10km±1km, mb4.3/14,Error ellipse: s-maj=20.0km s-min=10.4km az=184.0*
ISC 14 12:45:21.4±0.6,37.05S±0.09×17.2W±0.1,h10km,n40, σ0.97/26,mb4.2/14,4C,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H09W1	**TRISTAN DA CUN**	**3.88**	**92**	T	T	12 50 22.2	
	SNR=16						
H09N1	**TRISTAN DA CUN**	**3.90**	**92**	T	T	12 50 21.4	
	SNR=7.6						
H10S2	**ASCENSION HYDR**	**28.05**	**5**	T	T	13 20 53.0	
	baz=184						
H10S3	**ASCENSION HYDR**	**28.06**	**5**	T	T	13 20 57.6	
	baz=36						
ASCN	**Ascension**	**29.09**	**6**	P	**P**	**12 51 21.4**	**-0.9**
H10N1	**ASCENSION HYDR**	**29.17**	**6**	T	T	13 22 14.3	
	baz=192						
H10N3	**ASCENSION HYDR**	**29.17**	**5**	T	T	13 22 14.7	
	baz=192						
H10N2	**ASCENSION HYDR**	**29.19**	**5**	T	T	13 22 15.1	
	baz=192						
VNA2	**Neumayer--Watz**	**34.34**	**174**	⇑P	**P**	**12 52 07.4**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=346,slow=13						
VNA3	**Neumayer Olymp**	**34.49**	**176**	⇑P	**P**	**12 52 09.1**	**-0.1**
	comp=Z,4.5nm,0.7s						
SNAA	**Sanae**	**35.48**	**172**	⇑P	**P**	**12 52 16.4**	**-1.4**
	comp=Z,22nm,0.8s						
SNAA	**Sanae**	**35.48**	**172**	P	**P**	**12 52 18.0**	**+0.1**
SNAA	**Sanae**	**35.48**	**172**	P	**P**	**12 52 16.7**	**-1.1**
	comp=Z,1.5nm,1.0s,baz=333,slow=9.5,SNR=3.9						

	comp=Z,1.5nm,1.0s								
BOSA	**Boshof**	**36.40**	**89**	P		**P**	**12 52 25.6**	**-0.7**	
	comp=Z,2.5nm,0.9s,baz=239,slow=11,SNR=2.1								
	comp=Z,2.5nm,0.9s								
TROLL	**Troll, Antarti**	**36.46**	**170**	⇑P		**P**	**12 52 26.7**	**+0.4**	
	comp=Z,123nm,0.7s								
GRTLG	**Ghanzi**	**36.71**	**76**	P		**P**	**12 52 27.3**	**-1.6**	
GRTLG				IAmb		IAmb	12 52 40.7		
	comp=Z,6.6nm,1.1s								
SMAI	**San Martin Ant**	**41.48**	**206**	P		**P**	**12 53 07.2**	**-1.0**	
BELA	**Belgrano 2**	**41.61**	**185**	P		**P**	**12 53 08.7**	**-0.5**	
BELA				IAmb		IAmb	12 53 10.5		
	comp=Z,2.6nm,0.6s								
PTLB	**Pontes e Lacer**	**42.89**	**289**	P		**P**	**12 53 20.6**	**+0.4**	
PTLB				IAmb		IAmb	12 53 40.7		
	comp=Z,3.7nm,1.2s								
GO01	**Chusmiza**	**48.33**	**276**	P		**P**	**12 54 03.8**	**-0.1**	
GO01				IAmb		IAmb	12 54 05.5		
	comp=Z,5.9nm,0.8s								
PB16	**IPOC Station P**	**49.30**	**277**	P		**P**	**12 54 11.6**	**+0.1**	
PB16				IAmb		IAmb	12 54 25.3		
	comp=Z,2.8nm,1.0s								
H04S2	**CROZET ISLANDS**	**50.77**	**124**	T		T	13 49 22.8		
	baz=256								
H04S3	**CROZET ISLANDS**	**50.78**	**124**	T		T	13 49 21.4		
	baz=256								
H04S1	**CROZET ISLANDS**	**50.79**	**124**	T		T	13 49 22.5		
	baz=256								
TORD	**Torodi Ar. Bea**	**52.99**	**23**	P		**P**	**12 54 38.2**	**-0.2**	
TORD	**Torodi Ar. Bea**	**52.99**	**23**	P		**P**	**12 54 38.7**	**+0.3**	
	comp=Z,1.2nm,0.8s,baz=180,slow=7.2,SNR=5.7								
	comp=Z,1.2nm,0.8s								
QSPA	**South Pole Qui**	**53.21**	**180**	P		**P**	**12 54 40.3**	**+0.7**	
QSPA				IAmb		IAmb	12 54 43.0		
	comp=Z,5.7nm,0.8s								
QSPA	**South Pole Qui**	**53.21**	**180**	P		**P**	**12 54 41.5**	**+1.8**	
	comp=Z,4.5nm,0.8s,baz=222,slow=2.9,SNR=28								
	comp=Z,4.5nm,0.8s								
CZSB	**Cruzeiro do Su**	**58.06**	**286**	P		**P**	**12 55 14.9**	**-0.1**	
VNDA	**Vanda**	**65.70**	**180**	P		**P**	**12 56 06.1**	**+0.6**	
VNDA				IAmb		IAmb	12 56 17.7		
	comp=Z,1.5nm,0.8s								
VNDA	**Vanda**	**65.70**	**180**	P		**P**	**12 56 06.3**	**+0.8**	
	comp=Z,1.0nm,0.9s,baz=189,slow=6.5,SNR=4.3								
	comp=Z,1.0nm,0.9s								
RUSC	**La Rusia**	**67.35**	**297**	P		**P**	**12 56 15.9**	**-1.7**	
SDV	**Santo Domingo**	**67.74**	**301**	P		**P**	**12 56 19.5**	**-0.1**	
SDV				IAmb		IAmb	12 56 32.4		
	comp=Z,4.7nm,1.1s								
MD01	**Midelt array s**	**70.52**	**11**	P		**P**	**12 56 37.1**	**+0.7**	
ESDC	**Sonseca Array**	**77.31**	**10**	P		**P**	**12 57 17.6**	**+1.7**	
	comp=Z,1.2nm,1.0s,baz=187,slow=6.1,SNR=5.6								
	comp=Z,1.2nm,1.0s								
BRTR	**Keskin Array B**	**89.55**	**37**	P		**P**	**12 58 20.3**	**+1.3**	
	comp=Z,0.8nm,0.8s,baz=222,slow=1.9,SNR=2.7								
	comp=Z,0.8nm,0.8s								
H01W2	**Cape Leeuwin H**	**95.31**	**142**	T		T	14 45 34.8		
	baz=218								
H01W3	**Cape Leeuwin H**	**95.33**	**142**	T		T	14 45 26.3		
	baz=218								
H01W1	**Cape Leeuwin H**	**95.33**	**142**	T		T	14 45 39.8		
	baz=218								
ILAR	**Eielson Array**	**139.55**	**329**	PKhKP		PKPpre	13 04 46.4		
	comp=Z,0.5nm,0.9s,baz=76,slow=3.8,SNR=4.5								

IDC ***14*** *12:46:34.6±0.9, 37˚.07S×17˚.22W, h0km, mb4.0/9, mbtmp4.0/9, Error ellipse: s-maj=28.1km s-min=21.1km az=82.0*

ISC 14 12:46:36.2±0.9, 37˚.1S±0˚.1×17˚.3W±0˚.2, h10km, n12, σ0§89/11, mb4.1/9, 2C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**34.45**	**176**	⇑P	**P**	**12 53 23.7**	**0.0**
	comp=Z,4.7nm,0.8s						
BDFB	**Brasilia**	**34.62**	**300**	P	**P**	**12 53 25.9**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=86,slow=5.9,SNR=1.4						
	comp=Z,1.0nm,0.3s						
SNAA	**Sanae**	**35.45**	**172**	P	P	12 53 28.3	-4.1
SNAA	**Sanae**	**35.45**	**172**	P	**P**	**12 53 31.5**	**-0.8**
	comp=Z,1.6nm,1.1s,baz=284,slow=10,SNR=3.1						
	comp=Z,1.6nm,1.1s						
CPUP	**Villa Florida**	**35.51**	**276**	P	**P**	**12 53 31.7**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=353,slow=6.7,SNR=3.1						
	comp=Z,0.3nm,0.4s						
TROLL	**Troll, Antarti**	**36.43**	**170**	⇑P	**P**	**12 53 40.2**	**-0.7**
	comp=Z,222nm,0.9s						
PLCA	**Paso Flores**	**41.11**	**248**	P	**P**	**12 54 21.6**	**+1.3**
	comp=Z,3.8nm,0.9s,baz=113,slow=7.5,SNR=5.4						
	comp=Z,3.8nm,0.9s						
LPAZ	**La Paz**	**49.31**	**281**	P	**P**	**12 55 26.8**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=171,slow=3.6,SNR=2.2						
	comp=Z,0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**53.05**	**23**	P	**P**	**12 55 54.2**	**+0.6**
	comp=Z,1.6nm,1.0s,baz=198,slow=7.1,SNR=3.9						
	comp=Z,1.6nm,1.0s						
QSPA	**South Pole Qui**	**53.17**	**180**	P	**P**	**12 55 54.8**	**+0.7**
	comp=Z,12nm,0.9s,baz=218,slow=4.7,SNR=12						
	comp=Z,12nm,0.9s						
VNDA	**Vanda**	**65.66**	**180**	P	**P**	**12 57 19.8**	**-0.3**
	comp=Z,1.9nm,1.1s,baz=134,slow=2.1,SNR=5.8						
	comp=Z,1.9nm,1.1s						
ESDC	**Sonseca Array**	**77.36**	**10**	P	**P**	**12 58 30.6**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=188,slow=4.7,SNR=6.6						
	comp=Z,1.6nm,0.9s						

IDC ***14*** *12:47:11.5±0.5, 37˚.21S×17˚.09W, h0km, mb4.4/17, mbtmp4.4/17, Error ellipse: s-maj=17.4km s-min=15.3km az=106.0*

MOS ***14*** *12:47:13.8±1.1, 37˚.42S×17˚.36W, h10km, mb5.1/14, Error ellipse: s-maj=21.5km s-min=14.1km az=57.9*

NEIC ***14*** *12:47:14.5±1.7, 37˚.3S±0˚.1×17˚.2W±0˚.1, h10km±1km, mb5.2/88, Error ellipse: s-maj=19.6km s-min=17.6km az=150.0*

GCMT ***14*** *12:47:17.5±0.1, 37˚.26S±0˚.01×17˚.21W±0˚.01, h12km, MW5.3/151, Moment Tensor Solution. s88,c127; s151,c272; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr=1.04±.01; Mθθ0.01±.01; Mϕϕ1.03±.01; Mrθ0.01±.04; Mθϕ-0.09±.01; Mϕr-0.06±.04; Best double couple: M0=1.04000×10^17 NP1:ϕ§=175.00000°, δ43.00000°, λ-90.00000°. NP2:ϕ§=355.00000°, δ47.00000°, λ-90.00000°. Principal axes: T 1.0390, Plg2.0000°, Azm85.0000°; N -0.0010, Plg0.0000°, Azm355.0000°; P -1.0420, Plg88.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 12:47:14.0±0.3, 37˚.37S±0˚.07×17˚.21W±0˚.07, h10km, n277, σ1§51/233, mb5.1/112, MS4.9/5, 9C-18D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09W1	**TRISTAN DA CUN**	**3.90**	**87**	T	T	12 52 20.3	
	SNR=12						
H09N1	**TRISTAN DA CUN**	**3.92**	**87**	T	T	12 52 21.5	
	SNR=7.9						
DUB01	**Friburgo-RJ**	**26.53**	**298**	*e*P	**P**	**12 52 53.0**	**+1.0**
H10S2	**ASCENSION HYDR**	**28.38**	**5**	T	T	13 22 43.6	
	baz=184,slow=74,SNR=27						
H10S3	**ASCENSION HYDR**	**28.39**	**5**	T	T	13 22 47.6	
	baz=36,slow=74,SNR=295						
GUA01	**Guaratinga, BA**	**28.75**	**310**	*e*P	**P**	**12 53 12.6**	**+0.8**
H10N1	**ASCENSION HYDR**	**29.50**	**5**	T	T	13 24 03.8	
	baz=191,slow=80,SNR=20						
H10N3	**ASCENSION HYDR**	**29.50**	**5**	T	T	13 24 15.9	
	baz=191,slow=80,SNR=25						
H10N2	**ASCENSION HYDR**	**29.52**	**5**	T	T	13 24 15.3	
	baz=191,slow=80,SNR=24						
PLTB	**Pedras Altas**	**30.36**	**270**	*e*P	**P**	**12 53 27.8**	**+1.7**
BB19B	**Bebedouro**	**31.61**	**292**	*e*P	**P**	**12 53 37.7**	**+0.5**
PMNB	**Patos De Minas**	**31.73**	**298**	*e*P	**P**	**12 53 39.5**	**+1.3**
NBAN	**Anadia - AL**	**32.52**	**323**	*e*P	**P**	**12 53 46.2**	**+1.1**
WIN	**Windhoek**	**32.97**	**73**	P	**P**	**12 53 48.8**	**-0.5**
WIN	**Windhoek**	**32.97**	**73**	P	**P**	**12 53 48.8**	**-0.5**
WIN				pmax	pmax		
	comp=Z,23nm,1.3s						
IPMB	**Ipameri, GO**	**33.35**	**297**	*e*P	**P**	**12 53 53.9**	**+1.4**
VNA1	**Neumayer--Stat**	**33.68**	**175**	⇑P	**P**	**12 53 53.9**	**-0.7**
	comp=Z,6.2nm,1.1s						
PSAL	**Palomas, Salto**	**33.80**	**269**	*e*P	**P**	**12 53 58.6**	**+2.4**
VNA2	**Neumayer--Watz**	**34.01**	**174**	⇑P	**P**	**12 53 54.1**	**-3.5**
	comp=Z,4.5nm,0.6s,baz=347,slow=13						

VNA3	**Neumayer Olymp**	**34.16**	**176**	⇑P		**P**	**12 53 57.1**	**-1.8**	
	comp=Z,9.1nm,0.9s								
BDFB	**Brasilia**	**34.80**	**300**	P		**P**	**12 54 03.9**	**-1.2**	
	comp=Z,2.2nm,0.4s,baz=119,slow=13,SNR=4.1								
	comp=Z,2.2nm,0.4s								
SNAA	**Sanae**	**35.16**	**172**	⇑P		**P**	**12 54 09.6**	**+2.0**	
	comp=Z,78nm,1.1s								
SNAA	**Sanae**	**35.16**	**172**			**P**	**12 54 08.3**	**+0.7**	
SNAA	**Sanae**	**35.16**	**172**	P		**P**	**12 54 08.9**	**+1.3**	
	comp=Z,2.8nm,1.1s,baz=345,slow=8.2,SNR=7.0								
	comp=Z,2.8nm,1.1s								
SNAA	**Sanae**	**35.16**	**172**	*de*P		**P**	**12 54 09.2**	**+1.6**	
SNAA				pmax		pmax			
	comp=Z,18nm,1.5s								
TRQA	**Tornquist**	**35.17**	**255**	P		**P**	**12 54 08.7**	**+0.7**	
TRQA				IAmb		IAmb	12 54 11.5		
	comp=Z,22nm,1.0s								
TRQA	**Tornquist**	**35.17**	**255**	P		**P**	**12 54 08.7**	**+0.7**	
TRQA				pmax		pmax			
	comp=Z,22nm,1.0s								
SJPY	**San Joaquin**	**35.25**	**279**	*e*P		**P**	**12 54 09.6**	**+0.7**	
TSUM	**Tsumeb**	**35.32**	**69**			**P**	**12 54 09.7**	**0.0**	
TSUM				IAmb		IAmb	12 54 27.4		
	comp=Z,41nm,1.6s								
ESPZ	**Base Esperanza**	**35.38**	**210**	P		**P**	**12 54 09.5**	**0.0**	
ESPZ				IAmb		IAmb	12 54 21.4		
	comp=Z,28nm,1.2s								
AMBA	**Amambai (Brazi**	**35.45**	**283**	*e*P		**P**	**12 54 11.2**	**+0.6**	
CPUP	**Villa Florida**	**35.58**	**276**			**P**	**12 54 11.6**	**0.0**	
CPUP	**Villa Florida**	**35.58**	**276**	P		**P**	**12 54 10.4**	**-1.2**	
	comp=Z,1.2nm,0.9s,baz=340,slow=6.9,SNR=6.6								
	comp=Z,1.2nm,0.9s								
CPUP	**Villa Florida**	**35.58**	**276**	P		**P**	**12 54 11.6**	**0.0**	
CPUP				pmax		pmax			
	comp=Z,6.0nm,1.6s								
TROLL	**Troll, Antarti**	**36.14**	**170**	⇑P		**P**	**12 54 15.3**	**-0.9**	
	comp=Z,435nm,0.9s								
C2SB	**Chapadao do Su**	**36.22**	**291**	*e*P		**P**	**12 54 18.5**	**+1.4**	
BOSA	**Boshof**	**36.42**	**89**			**P**	**12 54 17.2**	**-1.7**	
BOSA				IAmb		IAmb	12 54 35.3		
	comp=Z,48nm,1.4s								
BOSA	**Boshof**	**36.42**	**89**	P		**P**	**12 54 16.5**	**-2.5**	
	comp=Z,4.2nm,1.0s,baz=285,slow=10,SNR=5.8								
	comp=Z,4.2nm,1.0s								
BOSA	**Boshof**	**36.42**	**89**	P		**P**	**12 54 17.2**	**-1.7**	
BOSA				pmax		pmax			
	comp=Z,48nm,1.5s								
GRTLG	**Ghanzi**	**36.80**	**75**	P		**P**	**12 54 22.1**	**-0.3**	
GRTLG				IAmb		IAmb	12 54 39.3		
	comp=Z,89nm,1.9s								
AQDB	**Aquidauana**	**37.36**	**286**			**P**	**12 54 26.3**	**-0.6**	
AQDB	**Aquidauana**	**37.36**	**286**	*e*P		**P**	**12 54 28.0**	**+1.1**	
ARAG	**Araguaiana, MT**	**37.43**	**296**	*e*P		**P**	**12 54 28.8**	**+1.3**	
QNGWA	**Qangwa**	**37.83**	**73**			**P**	**12 54 31.1**	**+0.1**	
QNGWA				IAmb		IAmb	12 54 50.1		
	comp=Z,66nm,1.6s								
MURT	**Porto Murtinho**	**38.18**	**283**	*e*P		**P**	**12 54 33.8**	**0.0**	
BDQN	**Bodoquena, MS**	**38.19**	**285**	*e*P		**P**	**12 54 36.1**	**+2.3**	
LBTB	**Lobatse**	**38.33**	**84**	P		**P**	**12 54 35.8**	**+0.7**	
LBTB	**Lobatse**	**38.33**	**84**	P		**P**	**12 54 35.8**	**+0.7**	
LBTB				pmax		pmax			
	comp=Z,31nm,1.6s								
KDWAN	**Kaudwane**	**38.41**	**81**	P		**P**	**12 54 35.9**	**+0.1**	
PP1B	**Ponte de Pedra**	**38.46**	**290**	*e*P		**P**	**12 54 37.5**	**+1.3**	
XAUDM	**Khaudum**	**38.54**	**72**			**P**	**12 54 36.8**	**-0.2**	
PMSA	**Palmer Station**	**38.77**	**210**	P		**P**	**12 54 38.4**	**+0.1**	
PMSA	**Palmer Station**	**38.77**	**210**	*e*P		**P**	**12 54 42.6**	**+4.3**	
LPHEP	**Lephephe**	**39.36**	**82**			**P**	**12 54 43.8**	**0.0**	
SMTB	**Santa Maria do**	**39.50**	**308**	*e*P		**P**	**12 54 44.3**	**-0.6**	
SNDB	**Serra Nova Dou**	**39.63**	**301**	*e*P		**P**	**12 54 45.7**	**-0.3**	
KHWEE	**KHWEE**	**39.77**	**79**	P		**P**	**12 54 47.9**	**+0.6**	
PHDHD	**Phuduhudu**	**40.03**	**76**	P		**P**	**12 54 49.7**	**+0.3**	
SALV	**Santo Antonio**	**40.13**	**292**	*e*P		**P**	**12 54 52.5**	**+2.3**	
MREMI	**Moremi**	**41.02**	**82**			**P**	**12 54 56.2**	**-1.4**	
PLCA	**Paso Flores**	**41.03**	**248**			**P**	**12 54 58.1**	**+0.6**	
PLCA				IAmb		IAmb	12 55 07.3		
	comp=Z,36nm,1.1s								
PLCA	**Paso Flores**	**41.03**	**248**	P		**P**	**12 54 58.1**	**+0.6**	
	comp=Z,8.8nm,0.9s,baz=111,slow=8.3,SNR=9.1								
	comp=Z,8.8nm,0.9s								
PLCA	**Paso Flores**	**41.03**	**248**	P		**P**	**12 54 58.1**	**+0.6**	
PLCA				pmax		pmax			
	comp=Z,36nm,1.2s								
PLCA	**Paso Flores**	**41.03**	**248**	*e*P		**P**	**12 55 01.1**	**+3.6**	
SMAI	**San Martin Ant**	**41.18**	**206**	P		**P**	**12 54 58.4**	**+0.2**	
SMAI				IAmb		IAmb	12 55 09.3		
	comp=Z,89nm,1.7s								
BELA	**Belgrano 2**	**41.28**	**186**			**P**	**12 54 59.3**	**+0.3**	
BELA				IAmb		IAmb	12 55 04.4		
	comp=Z,62nm,1.8s								
LL02	**Futaleuf**	**41.46**	**244**			**P**	**12 55 00.3**	**-0.6**	
KSANE	**Kasane**	**41.89**	**74**			**P**	**12 55 04.0**	**-0.8**	
LL01	**San Ignacio de**	**42.03**	**245**	P		**P**	**12 55 05.6**	**0.0**	
LL01				IAmb		IAmb	12 55 09.4		
	comp=Z,53nm,1.4s								
LR05	**Currie**	**42.23**	**249**			**P**	**12 55 07.2**	**0.0**	
MT08	**Bocatoma Ro**	**42.76**	**259**			**P**	**12 55 10.9**	**-1.0**	
MT08				IAmb		IAmb	12 55 20.8		
	comp=Z,81nm,1.8s								
LMEL	**Las Melosas**	**42.77**	**258**	P		**P**	**12 55 11.0**	**-0.8**	
MT13	**San Alfonso**	**42.87**	**258**	P		**P**	**12 55 11.6**	**-1.1**	
BO02	**Sierra Bellavi**	**42.89**	**257**	P		**P**	**12 55 11.8**	**-1.0**	
PRPB	**Parauapebas**	**42.96**	**308**	*e*P		**P**	**12 55 13.8**	**+0.4**	
PTLB	**Pontes e Lacer**	**42.98**	**289**			**P**	**12 55 13.0**	**-0.5**	
PTLB				IAmb		IAmb	12 55 17.4		
	comp=Z,50nm,1.5s								
PTLB	**Pontes e Lacer**	**42.98**	**289**	*e*P		**P**	**12 55 14.3**	**+0.8**	
MT03	**Universidad Ad**	**43.13**	**259**	IAmb		IAmb	12 55 18.8		
	comp=Z,73nm,1.2s								
MT09	**Talagante**	**43.40**	**258**	IAmb		IAmb	12 55 20.4		
	comp=Z,68nm,1.4s								
VA03	**San Esteban**	**43.43**	**260**	IAmb		IAmb	12 55 29.6		
	comp=Z,87nm,1.6s								
CLDB	**Colider**	**43.54**	**297**	*e*P		**P**	**12 55 17.6**	**-0.5**	
MT01	**Popeta**	**43.58**	**258**	IAmb		IAmb	12 55 21.6		
	comp=Z,41nm,1.1s								
PDRB	**Porto dos Gac**	**43.70**	**296**	*e*P		**P**	**12 55 19.3**	**-0.1**	
MT02	**Curacav**	**43.70**	**259**	IAmb		IAmb	12 55 30.2		
	comp=Z,39nm,1.2s								
SYO	**Syowa Base**	**43.86**	**154**	‖*e*pP		pP	12 55 21.6	-0.5	
SYO	**Syowa Base**	**43.86**	**154**	‖*e*sP		sP	12 55 23.9	+1.0	
CO01	**Juntas del Tor**	**44.15**	**263**	IAmb		IAmb	12 55 28.6		
	comp=Z,54nm,1.6s								
DBIC	**Dimbokro**	**45.31**	**17**	P		**P**	**12 55 31.2**	**-0.9**	
	comp=Z,7.0nm,0.9s,baz=184,slow=8.2,SNR=3.5								
	comp=Z,7.0nm,0.9s								
VILB	**Vilhena**	**45.36**	**291**			**P**	**12 55 33.1**	**+0.5**	
VILB				IAmb		IAmb	12 55 36.4		
	comp=Z,52nm,1.3s								
VILB	**Vilhena**	**45.36**	**291**	*e*P		**P**	**12 55 33.6**	**+0.9**	
NPGB	**Novo Progresso**	**45.94**	**301**	*e*P		**P**	**12 55 39.0**	**+1.8**	
AC01	**Pan de Azucar**	**46.22**	**268**	IAmb		IAmb	12 55 42.5		
	comp=Z,36nm,1.1s								
ITTB	**Itaituba**	**48.15**	**304**	*e*P		**P**	**12 55 55.9**	**+1.4**	
HMBC	**Humberstone**	**48.58**	**275**	IAmb		IAmb	12 56 00.4		
	comp=Z,29nm,1.1s								
PB11	**IPOC Station P**	**48.67**	**276**	IAmb		IAmb	12 56 34.0		
	comp=Z,25nm,0.9s								
PB16	**IPOC Station P**	**49.33**	**278**	IAmb		IAmb	12 56 16.1		
	comp=Z,31nm,1.3s								
LPAZ	**La Paz**	**49.40**	**281**	IAmb		IAmb	12 56 16.1		
	comp=Z,26nm,1.5s								
LPAZ	**La Paz**	**49.40**	**281**	P		**P**	**12 56 03.3**	**-1.5**	
	comp=Z,4.0nm,1.0s,baz=138,slow=4.9,SNR=10								
	comp=Z,4.0nm,1.0s								
LPAZ	**La Paz**	**49.40**	**281**	*e*P		**P**	**12 56 04.5**	**-0.3**	
LPAZ				pmax		pmax			
	comp=Z,4.0nm,1.0s								
LPAZ	**La Paz**	**49.40**	**281**	*e*P		**P**	**12 56 03.5**	**-1.3**	
H04S2	**CROZET ISLANDS**	**50.60**	**124**	T		T	13 51 15.2		
	baz=256,slow=76,SNR=24								
H04S3	**CROZET ISLANDS**	**50.60**	**124**	T		T	13 51 13.7		
	baz=256,slow=76,SNR=12								
H04S1	**CROZET ISLANDS**	**50.62**	**124**	T		T	13 51 10.2		
	baz=256,slow=76,SNR=20								
MAW	**Mawson**	**52.34**	**152**	P		**P**	**12 56 23.9**	**-1.6**	
	comp=Z,3.1nm,1.0s,baz=277,slow=11,SNR=4.6								
	comp=Z,3.1nm,1.0s								
QSPA	**South Pole Qui**	**52.88**	**180**	P		**P**	**12 56 30.9**	**+1.1**	
QSPA				IAmb		IAmb	12 56 41.8		
	comp=Z,58nm,1.4s								
QSPA	**South Pole Qui**	**52.88**	**180**	P		**P**	**12 56 30.2**	**+0.4**	
	comp=Z,25nm,1.0s,baz=270,slow=4.7,SNR=10								
	comp=Z,25nm,1.0s								
TORD	**Torodi Ar. Bea**	**53.30**	**23**	P		**P**	**12 56 32.5**	**-0.7**	

TORD	**Torodi Ar. Bea**	**53.30**	**23**	P		**P**	**12 56 31.3**	**-2.0**	
	comp=Z,4.2nm,1.0s,baz=207,slow=3.1,SNR=12								
	comp=Z,4.2nm,1.0s								
TEFE	**Tefe**	**54.92**	**296**	*e*P		**P**	**12 56 45.5**	**+0.3**	
BOAV	**Boa Vista**	**56.36**	**305**			**P**	**12 56 55.2**	**-0.3**	
BOAV				IAmb		IAmb	12 56 58.5		
	comp=Z,25nm,1.6s								
BOAV	**Boa Vista**	**56.36**	**305**	*e*P		**P**	**12 56 55.9**	**+0.4**	
MBAR	**Mbarara**	**57.32**	**62**	*c* i P		**P**	**12 57 06.1**	**+3.5**	
MBAR				pmax		pmax			
	comp=Z,29nm,1.6s								
CZSB	**Cruzeiro do Su**	**58.13**	**286**	P		**P**	**12 57 06.6**	**-1.5**	
CZSB				IAmb		IAmb	12 57 09.7		
	comp=Z,32nm,1.0s								
CZSB	**Cruzeiro do Su**	**58.13**	**286**	*e*P		**P**	**12 57 08.7**	**+0.6**	
TBTG	**Tabatinga, AM**	**58.31**	**291**	*e*P		**P**	**12 57 09.2**	**-0.1**	
KIBK	**Kibwezi**	**61.43**	**69**	P		**P**	**12 57 30.2**	**-0.7**	
KIBK				IAmb		IAmb	12 57 36.5		
	comp=Z,49nm,2.0s								
TAM	**Tamanrasset**	**63.56**	**23**			**P**	**12 57 43.6**	**-1.3**	
TAM	**Tamanrasset**	**63.56**	**23**	P		**P**	**12 57 43.6**	**-1.3**	
TAM				pmax		pmax			
	comp=Z,132nm,0.2s								
SBA	**Scott Base**	**65.02**	**181**			**P**	**12 57 55.1**	**+1.5**	
SBA	**Scott Base**	**65.02**	**181**	P		**P**	**12 57 55.1**	**+1.5**	
SBA				pmax		pmax			
	comp=Z,121nm,2.0s								
VNDA	**Vanda**	**65.38**	**180**			**P**	**12 57 57.1**	**+1.1**	
VNDA	**Vanda**	**65.38**	**180**	P		**P**	**12 57 57.0**	**+1.1**	
	comp=Z,7.6nm,1.2s,baz=193,slow=6.1,SNR=9.9								
	comp=Z,7.6nm,1.2s								
VNDA	**Vanda**	**65.38**	**180**	P		**P**	**12 57 57.1**	**+1.1**	
VNDA				pmax		pmax			
	comp=Z,43nm,1.6s								
BAUV	**El Baul**	**66.19**	**303**	P		**P**	**12 58 00.6**	**-1.5**	
FLOC	**Florencia**	**66.41**	**292**	P		**P**	**12 58 02.5**	**-1.2**	
FLOC				IAmb		IAmb	12 58 10.4		
	comp=Z,25nm,1.1s								
RUSC	**La Rusia**	**67.48**	**297**	P		**P**	**12 58 09.0**	**-1.9**	
OTAV	**Otavalo**	**67.62**	**289**	*e*P		**P**	**12 58 14.5**	**+2.7**	
ROSC	**El Rosal**	**67.64**	**295**	P		**P**	**12 58 11.9**	**0.0**	
	comp=Z,7.5nm,0.4s,baz=82,slow=20,SNR=3.6								
	comp=Z,7.5nm,0.4s								
SDV	**Santo Domingo**	**67.90**	**301**	*e*P		**P**	**12 58 13.4**	**+0.2**	
CASY	**Casey**	**69.18**	**160**			**P**	**12 58 21.2**	**+1.0**	
CASY				IAmb		IAmb	12 58 31.0		
	comp=Z,21nm,1.3s								
MD31	**MD31**	**70.84**	**11**	IAmb		IAmb	12 58 36.0		
	comp=Z,28nm,1.4s								
MD01	**Midelt array s**	**70.84**	**11**	P		**P**	**12 58 28.4**	**-2.6**	
PFVI	**Vila Bisbo**	**74.54**	**7**	*e*P		**P**	12 58 57.6	+5.0	
MORF	**Marmelete**	**74.73**	**7**	*e*P		**P**	**12 58 55.7**	**+1.9**	
MORF				*i* IAmb		IAmb	12 58 57.9		
	comp=Z,52nm,1.9s								
PBDV	**Barranco-do-Ve**	**74.74**	**8**	*e*P		**P**	**12 58 54.8**	**+1.0**	
PBDV				*i* IAmb		IAmb	12 59 01.2		
	comp=Z,65nm,1.8s								
PBDV				*e*PP		**PP**	**13 01 41.4**	**-0.1**	
PVAQ	**Vaqueiros**	**74.92**	**8**	IAmb		IAmb	12 58 56.9		
	comp=Z,37nm,1.1s								
PVAQ	**Vaqueiros**	**74.92**	**8**	*e*P		**P**	**12 58 56.3**	**+1.5**	
PVAQ				*i* IAmb		IAmb	12 58 57.0		
	comp=Z,38nm,1.4s								
PCVE	**Castro Verde**	**75.11**

LESA	Schwarzleotal	88.55	20	*i* P		P	13 00 08.3	+1.7	
	comp=Z,2.1nm,0.6s								
BIOA	Bad Ischl, Aus	89.06	20	*i* P		P	13 00 10.3	+1.4	
	comp=Z,8.5nm,1.4s								
WLF	Walferdange	89.09	15	*d*P		P	13 00 10.4	+1.5	
	comp=Z,10.0nm,1.3s								
ARSA	Arzberg	89.19	22	*i* PcP		PcP	13 00 12.6	+1.6	
	comp=Z,9.6nm,1.4s								
DOU	Dourbes	89.20	14	*d*P		P	13 00 09.8	+0.5	
	comp=Z,7.2nm,1.5s								
MORH	Mrgy, Hungar	89.23	24	P		P	13 00 10.6	+1.0	
	comp=Z,6.3nm,1.7s								
MOA	Molln	89.38	21	*i* P		P	13 00 12.5	+2.2	
	comp=Z,14nm,1.6s								
RCHB	Rochefort	89.38	14	*d*P		P	13 00 11.8	+1.6	
	comp=Z,6.8nm,1.2s								
BMRD	Maredsous	89.43	14	*d*P		P	13 00 11.5	+1.1	
	comp=Z,12nm,1.4s								
BGES	Gesves	89.57	14	*d*P		P	13 00 12.7	+1.6	
	comp=Z,9.9nm,1.2s								
BCLA	Clavier	89.64	14	*d*P		P	13 00 13.5	+2.0	
	comp=Z,11nm,1.3s								
BCLA				*d*x		x	13 00 26.6		
BHOU	Houvegnez	89.72	15	*d*P		P	13 00 12.5	+0.7	
	comp=Z,10nm,1.3s								
BR105	Keskin Array S	89.80	37	P		P	13 00 13.1	+0.4	
	comp=Z,3.2nm,1.3s								
BR106	Keskin Array S	89.81	37	P		P	13 00 13.4	+0.6	
	comp=Z,69nmcomp=Z,4.6nm,1.7s								
BR131	Keskin Array S	89.82	37‖	*e*P		P	13 00 13.9	+1.1	
BRTR	Keskin Array B	89.82	37			P	13 00 13.0	+0.2	
BRTR	Keskin Array B	89.82	37	P		P	13 00 10.4	-2.4	
	comp=Z,2.0nm,1.0s,baz=242,slow=2.4,SNR=6.6								
	comp=Z,2.0nm,1.0s								
BRTR	Keskin Array B	89.82	37	*e*P		P	13 00 12.9	+0.2	
BRTR				pmax	pmax				
	comp=Z,2.0nm,1.0s								
RONA	Rosalia, Austr	89.83	22	*e*P		P	13 00 14.2	+1.7	
	comp=Z,20nm,1.5s								
CONA	Conrad Observa	89.90	22	*i* P		P	13 00 14.4	+1.5	
	comp=Z,20nm,1.6s								
MEM	Membach	89.96	15	*d*P		P	13 00 13.5	+0.5	
GERES	GERESS Array B	90.13	20	P		P	13 00 11.2	-2.8	
	comp=Z,0.2nm,0.3s,baz=210,slow=4.5,SNR=8.1								
	comp=Z,0.2nm,0.3s								
GERES	GERESS Array B	90.13	20	*e*P		P	13 00 16.0	+2.1	
GERES				pmax	pmax				
	comp=Z,1.0nm,0.8s								
GRF	Grafenberg Arr	90.27	18	*e*P		P	13 00 14.7	+0.3	
	comp=Z,46nm,1.5s,baz=202,slow=4.9								
KHC	Kasperske Hory	90.36	20‖	*e*P		P	13 00 16.5	+1.6	
KHC				pmax	pmax				
	comp=Z,21nm,1.5s								
KHC	Kasperske Hory	90.36	20	*e*P		P	13 00 16.6	+1.6	
KHC				AMS	AMS		13 36 50.0		
	comp=Z,600nm,19.0s								
KHC	Kasperske Hory	90.36	20	P		P	13 00 15.6	+0.7	
	comp=Z,12nm,1.7s								
SRO	Srobarova	90.54	23	*e*P		P	13 00 17.5	+1.8	
TREC	Trest	91.03	21	AMS		AMS	13 37 20.0		
	comp=Z,600nm,19.6s								
KRUC	Moravsky	91.08	21	*e*P		P	13 00 19.2	+1.0	
PSZ	Piszkesteto	91.14	24	IAmb		IAmb	13 00 33.1		
	comp=Z,24nm,1.5s								
MLR	Muntele Rosu	91.19	29	P		P	13 00 19.6	+0.6	
	comp=Z,23nm,1.7s								
JAVC	Velka Javorina	91.27	22	*e*P		P	13 00 21.7	+2.5	
VRAC	Vranov	91.36	21	*e*P		P	13 00 21.0	+1.5	
PRU	Pruhonice	91.40	20	AMS		AMS	13 38 00.0		
	comp=Z,600nm,17.0s								
VRI	Vrincioaia	91.81	29	P		P	13 00 22.5	+0.8	
	comp=Z,18nm,1.7s								
BRG	Berggiesshubel	92.04	19	*e*P		P	13 00 26.2	+3.6	
BRG				Amp			13 00 28.5		
	comp=Z,6.9nm,1.2s								
MORC	Moravsky Berou	92.05	22	IAmb		IAmb	13 00 28.4		
	comp=Z,18nm,1.4s								
MORC	Moravsky Berou	92.05	22	*e*P		P	13 00 24.7	+1.9	
LANS	Liptovska Anna	92.08	23	*e*P		P	13 00 25.5	+2.6	
CLL	Collm	92.20	18	*i* P		P	13 00 24.9	+1.6	
CLL				*e*S		S	13 11 25.0	-0.7	
CLL				pmax	pmax				
	comp=Z,25nm,1.4s								
CLL	Collm	92.20	18	P		P	13 00 24.5	+1.2	
	comp=Z,12nm,1.5s								
CLL	Collm	92.20	18	*i* P		P	13 00 24.9	+1.6	
	comp=Z,25nm,1.4s								
CLL				*e*S		S	13 11 25.0	-0.7	
CLL				*e*PS		PS	13 12 42.0	+4.4	
CLL				*e*SS		SS	13 17 37.0	+0.4	
CLL				Lm		MLR	13 40 00.0		
	comp=N,200nm,20.3s								
CLL				Lm		MLR	13 40 00.0		
	comp=E,100nm,18.3s								
CLL				Lm		MLR	13 40 00.0		
	comp=Z,200nm,19.2s								
DPC	Dobruska-Polom	92.22	21	P		P	13 00 24.1	+0.6	
	comp=Z,6.7nm,0.7s								
UPC	Upice	92.27	20	AMS		AMS	13 37 40.0		
	comp=Z,800nm,20.2s								
HOLU	Holmets	92.49	25	P		P	13 00 25.7	+1.0	
KSP	Ksiaz	92.65	21	P		P	13 00 26.1	+0.6	
	comp=Z,6.7nm,1.9s								
H01W2	Cape Leeuwin H	95.06	142	T		T	14 47 22.6		
	baz=218,slow=75,SNR=592								
H01W3	Cape Leeuwin H	95.08	142	T		T	14 47 29.8		
	baz=218,slow=75,SNR=783								
H01W1	Cape Leeuwin H	95.08	142	T		T	14 47 26.4		
	baz=218,slow=75,SNR=749								
LUBAR	Lubar, Ukraine	95.56	27	P		P	13 00 39.7	+0.9	
GNI	Garni	95.80	43‖	*e*P		P	13 00 42.5	+2.1	
GNI				pmax	pmax				
	comp=Z,16nm,0.7s								
RNPP9	Sopachiv	96.14	25	P		P	13 00 42.8	+1.4	
AKASG	Malin Array Be	96.74	28	P		P	13 00 42.5	-1.6	
	comp=Z,0.1nm,0.3s,baz=226,slow=5.0,SNR=7.0								
	comp=Z,0.1nm,0.3s								
AKASG	Malin Array Be	96.74	28	*i* P		P	13 00 47.9	+3.7	
KIV	Kislovodsk	97.44	39	*e*P		Pdif	13 00 50.2	+2.5	
KIV				pmax	pmax				
	comp=Z,4.0nm,1.0s								
KIV				MLR	MLR				
	comp=Z,244nm,20.0s								
MAK	Makhachkala	99.24	42	*d* iP		Pdif	13 00 52.3	-3.3	
MAK				pmax	pmax				
	comp=Z,286nm,1.5s								
MAK				MLR	MLR				
	comp=Z,347nm,17.0s								
OBN	Obninsk	102.96	28	*e*P		Pdif	13 01 13.4	+1.6	
OBN				pmax	pmax				
	comp=Z,4.0nm,0.7s								
TBI	Tubuai	104.72	225	*e*SS		SS	13 20 31.1	-0.4	
	comp=Z,1μm,26.5s								
TBI	Tubuai	104.72	225	*e*LQ		LQ	13 31 14.3		
	comp=Z,1μm,40.0s								
TBI				*e*LR		LR	13 35 40.3		
	comp=Z,3μm,33.5s								
TBI				*e*LR		LR	13 35 41.0		
	comp=Z,881nm,35.2s								
PPT2	Papeete2	109.30	228	*e*SS		SS	13 21 34.7	+0.6	
	comp=Z,267nm,26.2s								
PPT2	Papeete2	109.30	228	*e*LQ		LQ	13 33 13.9		
	comp=Z,168nm,20.8s								
PPT2				*e*LR		LR	13 37 48.7		
	comp=Z,1μm,32.2s								
PPT2				*e*LR		LR	13 37 52.3		
	comp=Z,714nm,32.2s								
TAOE	Nuku Hiva Isla	109.61	242	*e*S			13 13 34.5		
	comp=Z,92nm,25.7s								
TAOE				*e*SS		SS	13 21 31.9	-7.1	
	comp=Z,157nm,28.0s								
TAOE	Nuku Hiva Isla	109.61	242	*e*LR		LR	13 38 05.1		
	comp=Z,526nm,27.3s								
DZM	Mont Dzumac	120.78	184	*e*LR		LR	13 43 08.2		
	comp=Z,262nm,21.8s								
KURBB	Kurchatov Arra	121.11	48	PKP		PKPdf	13 06 04.0	-2.3	
	comp=Z,0.6nm,0.3s,baz=250,slow=2.6,SNR=4.5								
KURK	Kurchatov	121.20	48	∩ iPKiKP		PKPdf	13 06 06.3	-0.2	
MKAR	Makanchi Array	121.97	53	PKP		PKPdf	13 06 04.9	-3.3	
	comp=Z,0.4nm,0.8s,baz=200,slow=3.8,SNR=3.8								
MKAR	Makanchi Array	121.97	53	*e*PKiKP		PKiKP	13 06 10.1	+1.7	
WMQ	Urumqi	124.42	58	*e*PKP		PKiKP	13 06 13.8	+0.4	
WMQ				LR		LR			
	comp=Z,570nm,15.3s								
WMQ				LR		LR			
	comp=Z,450nm,17.3s								
WMQ				LR		LR			
	comp=Z,310nm,23.9s								
YKA	Yellowknife Ar	125.66	325	PKP		PKPdf	13 06 14.3	-0.4	
	comp=Z,0.9nm,0.8s,baz=73,slow=2.1,SNR=3.8								
ZALV	Zalesovo Beam	125.85	45	PKP		PKPdf	13 06 13.2	-2.1	
	comp=Z,0.3nm,0.4s,baz=207,slow=2.9,SNR=2.0								
TOLI2	Tolitoli	127.12	123			PKPdf	13 06 17.1	-2.0	
PZH	PanZhiHua	127.86	83	PKP		PKPdf	13 06 20.6	+0.4	
PMG	Port Moresby	131.21	159‖	*e*PKiKP		PKPdf	13 06 27.2	+0.3	
CD2	Chengdu	131.39	79	PKP		PKPdf	13 06 26.5	-0.2	
H27K	Steamboat Moun	137.28	330			PKPdf	13 06 37.6	+0.9	
SONM	Songino Array	138.05	57	PKP		PKPdf	13 06 37.9	-0.8	
	comp=Z,3.0nm,1.2s,baz=249,slow=1.4,SNR=6.3								
SONM	Songino Array	138.05	57	*e*PKiKP		PKPdf	13 06 39.4	+0.7	
SONM				pmax	pmax				
	comp=Z,3.0nm,1.2s								
ILAR	Eielson Array	139.83	329			PKPdf	13 06 40.7	-0.6	
ILAR	Eielson Array	139.83	329	PKhKP		PKPpre	13 06 29.6		
	comp=Z,0.2nm,0.7s,baz=2.0,slow=1.3,SNR=1.7								
ILAR				PKP		PKPdf	13 06 40.1	-1.2	
	comp=Z,1.9nm,1.0s,baz=360,slow=2.5,SNR=7.6								
ILAR	Eielson Array	139.83	329	PKiKP		PKPdf	13 06 40.7	-0.6	
H24K	Noodor Dome	139.87	331			PKPdf	13 06 42.2	+0.8	
COLA	College	140.19	330‖	*e*PKiKP		PKPdf	13 06 41.8	-0.1	
HHC	Hu-ho-hao-te	140.56	69	*e*PKP		PKPdf	13 06 40.3	-3.2	
F21K	Alatna River	141.34	334			PKiKP	13 06 45.6	-1.2	
TRF	Thorofare Moun	141.68	328			PKPdf	13 06 45.9	+1.0	
IMAR	Indian Mountai	142.01	333			PKPdf	13 06 45.8	+0.5	
H19K	Roundabout Mou	143.21	333			PKPdf	13 06 48.9	+1.6	
NJ2	Nanjing	143.74	85	*e*PKP		PKPdf	13 06 48.9	-0.4	
XLT	XiLinHaoTe	144.34	65	*e*PKP		PKPbc	13 06 49.3	+0.8	
YAK	Yakutsk	147.96	29	*e*PKiKP		PKPdf	13 06 57.1	+1.6	
YAK				pmax	pmax				
	comp=Z,16nm,1.2s								
YAK				pmax	pmax				
	comp=N,4.0nm,1.4s								
YAK				pmax	pmax				
	comp=E,7.0nm,1.4s								
BILL	Bilibino	149.22	357‖	*e*PKiKP		PKPdf	13 06 58.7	+1.3	
CN2	Changchun	151.10	65	PKPbc		PKPbc	13 07 04.3	-2.7	
CN2				LR	LR				
	comp=E,400nm,16.0s								
CN2				LR	LR				
	comp=E,600nm,17.0s								
HEH	HeiHe	151.69	52	PKPbc		PKPdf	13 07 03.4	+1.6	
KSRS	Korea Array	152.39	79	PKPbc		PKPbc	13 07 09.4	-0.7	
	comp=E,1.7nm,0.8s,baz=251,slow=3.7,SNR=5.6								
BNX	BinXian	152.41	61	‖P		PKiKP	13 07 10.6	+0.4	
BNX				pmax	pmax				
	comp=Z,10.0nm,2.0s								
SEY	Seymchan	153.63	11	*e*PKiKP		PKPbc	13 07 10.7	-1.3	
SEY				pmax	pmax				
	comp=Z,16nm,1.6s								

*ISK **14** 12:57:02.9, 38.24N×44.38E, h12km, ML2.8/5*
*AZER **14** 12:57:04.5, 38.54N×44.28E, h10km, ml2.8*
*AFAD **14** 12:57:05.6, 38.53N×44.21E, h7km±2km, ML2.8*
*ISN **14** 12:57:06.2±3.6, 38.52N×44.31E, h9km, ML2.8*
*TEH **14** 12:57:07.4, 38.64N×44.36E, h9km*
ISC 14 12:57:05.7±1.1, **38.52N**±0.02×**44.26E**±0.02, **h6**km±10km, **n32**,σ1§**30**/**47**, **Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	Van, Ozalp-Mer	0.25	304	P	Pg	12 57 10.7	-0.1
TVAN	Van	0.67	271	P	Pg	12 57 17.7	-0.9
VMUR	Van-Muradiye	0.71	311	P	Pg	12 57 19.1	-0.4
VMUR				S	Sg	12 57 28.7	-0.1
GEVA	Gevas	0.97	258	P	Pg	12 57 23.2	-1.1
GEVA				S	Sg	12 57 37.7	+0.9
GEVA				*i* IAML		12 57 41.0	
	comp=N,338nm,0.5s						
GEVA				*i* IAML		12 57 44.0	
	comp=E,249nm,0.6s						
AKDM	Akdamar-Van	1.02	260	Pn	Pg	12 57 24.5	-0.9
AKDM				Sn	Sb	12 57 40.3	+0.6
HAKT	HAKKARI	1.05	205	P	Pg	12 57 26.2	+0.2
HAKT				S	Sn	12 57 43.2	+0.9
HAKT				*i* IAML		12 57 48.0	
	comp=N,183nm,0.4s						
HAKT	HAKKARI	1.05	205	P	Pg	12 57 26.3	+0.4
HAKT				S	Sn	12 57 44.0	+1.7
ISHB	Shabestar	1.09	102	Pg	Pn	12 57 26.6	-1.1
IMRD	Marand	1.15	80	Pg	Pn	12 57 28.2	-0.3
NAX	Nakhchivan	1.17	56	P	Pn	12 57 28.6	0.0
NAX				S	Sn	12 57 45.0	+0.2
ADCV	BITLIS_Adilcev	1.24	284	P	Pn	12 57 28.8	-0.9
HYR	Heyderabad	1.28	21	P	Pg	12 57 31.1	+0.8
HYR				S	Sn	12 57 50.9	+3.2
SBZ	Shahbuz	1.34	49	P	Pg	12 57 30.8	-0.6
SBZ				S	Sn	12 57 49.9	+0.8
IGDI	IGDIR	1.35	354	P	Pn	12 57 30.4	-0.8
IGDI	IGDIR	1.35	354	P	Pn	12 57 30.9	-0.3
IGDI				S	Sg	12 57 51.4	+2.1
ORD	Ordubad	1.42	73	P	Pg	12 57 34.4	+1.5
ORD				S	Sg	12 57 53.7	+2.4
DORK	Agr/Tutak/Do	1.44	307	P	Pn	12 57 31.3	-1.2
DORK				S	Sg	12 57 52.4	+0.3
AGRB	Hanur-Agry	1.44	317	Pn	Pb	12 57 33.2	+0.1
TASB	TASBURUN-IGDIR	1.46	359	Pn	Pg	12 57 33.8	0.0
PERV	Siirt/Pervari-	1.47	248	P	Pg	12 57 35.8	+1.9
ITBZ	Tabriz	1.51	100	Pg	Pg	12 57 34.0	-0.7
KOTA	Agri, Merkez-K	1.52	328	P	Pn	12 57 33.7	+0.1
IAZR	Azarshahr	1.60	121	Pg	Pg	12 57 37.5	+1.2
GNI	Garni	1.67	13	Pn	Pb	12 57 36.5	-0.5
GNI	Garni	1.67	13	Pg	Pb	12 57 35.9	-1.0
GURO	Guroymak-BITLI	1.75	272	Pn	Pn	12 57 35.6	-1.1
SRTM	Siirt_Merkez	1.91	255	P	Pb	12 57 40.2	-0.9
SRTM				S	Sb	12 58 05.5	+0.2
SRTM				*i* IAML		12 58 12.0	
	comp=N,114nm,0.6s						
SRTM				*i* IAML		12 58 12.0	
	comp=E,122nm,0.5s						
EATA	Eleskirt	1.92	315	P	Pb	12 57 40.5	-0.8
IHRS	Heris	2.19	94	Pn	Pb	12 57 45.5	-0.4
MSL	Mosul	2.31	204	*e*Pg	Pn	12 57 45.0	+0.8
	baz=23						
MSL				*e*Sg	Sg	12 58 20.0	+0.2
GDB	GEDABAY	2.48	27	P	Pb	12 57 51.2	+0.4
GDB				S	Sg	12 58 26.3	+0.8
YRD	Yardimli	3.14	82	P	Pb	12 57 59.3	-2.8
YRD				S	Sb	12 58 36.5	-4.2

*AZER **14** 12:59:37.9, 41.99N×46.19E, h35km, ml2.5*
*MOS **14** 12:59:39.4, 42.09N×46.25E, h21km, MPVA3.3*
*DRS **14** 12:59:40.1, 42.08N×46.24E, h6km*
*NORS **14** 12:59:40.3, 42.14N×46.26E, h9km, MPVA3.2*
ISC 14 12:59:40.1±1.1, **42.04N**±0.02×**46.21E**±0.03, **h18**km±3km, **n19**,σ0§**73**/**37**, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLTR	Tlyarata	0.13	57	*e*Pg	Pg	12 59 44.5	+0.2
TLTR				*e*Sg	Sg	12 59 47.9	+0.8
ZKTA	Zakatala	0.50	142	P	Pg	12 59 50.0	-0.2
ZKTA				S	Sb	12 59 58.1	+0.8
XNZR	Khunzakh	0.62	36	*e*Pg	Pg	12 59 52.9	+0.4
XNZR				*e*Sg	Sb	13 00 01.7	+0.7
BTLR	Botlikh	0.63	1	*e*Pg	Pg	12 59 52.3	-0.2
BTLR				*e*Sg	Sg	13 00 01.5	+0.5
KMKR	Kumukh	0.67	82	*e*Pg	Pg	12 59 53.4	0.0
KMKR				*e*Sg	Sb	13 00 03.2	+1.0
UNCR	Uncukul	0.80	32	*e*Pg	Pb	12 59 54.8	-0.8
UNCR				*e*Sg	Sb	13 00 06.5	+0.4
ARKR	Arakani	0.81	46	*e*Pg	Pb	12 59 55.4	-0.2
ARKR				*e*Sg	Sg	13 00 07.4	+0.7
DVE	Vedeno	0.92	356	*e*Pg	Pb	12 59 57.7	+0.1
DVE				*e*Sg	Sg	13 00 10.6	+0.4
KRNR	Karanay	0.94	33	*e*Pg	Pb	12 59 57.8	-0.2
KRNR				*e*Sg	Sg	13 00 10.9	0.0
BUJR	Buynaksk	1.03	40	*e*Pg	Pb	12 59 58.9	-0.5
BUJR				*e*Sg	Sb	13 00 13.3	+0.7
DLMR	Dylym	1.08	17	*e*Pg	Pb	12 59 59.4	-0.8
DLMR				*e*Sg	Sb	13 00 14.4	+0.4
SEKA	Sheki	1.11	138	P	Pb	13 00 00.2	-0.6
SEKA				S	Sb	13 00 15.6	+0.7
QZX	Qazax, Azerbai	1.16	213	P	Pn	13 00 00.4	-1.1
QZX				S	Sb	13 00 16.5	+0.1
AKT	Akhty	1.27	116	*e*Pg	Pn	13 00 02.2	-0.7
AKT				*e*Sg	Sb	13 00 19.5	+0.1
GDB	GEDABAY	1.36	195	P	Pn	13 00 03.0	-1.3
GDB				S	Sn	13 00 21.4	-0.5
GANJ	Ganja	1.39	177	P	Pn	13 00 04.0	-0.6
GANJ				S	Sn	13 00 22.7	+0.1
LACR	Lac	1.62	300	*e*Pg	Pb	13 00 10.4	+0.8
LACR				*e*Sg	Sg	13 00 32.9	+0.4
XNQ	Khinaliq	1.69	120	P	Pb	13 00 11.0	+0.3
XNQ				S	Sb	13 00 32.5	+0.9
AGDM	Agdam	2.04	160	S	Sb	13 00 44.0	+2.2

*TAP **14** 13:05:23.8, 24.42N×121.96E, h30km, ML3.8, B*
*JMA **14** 13:05:23.1±0.1, 24.3N±0.6×122.0E±0.4, h48km±2km, MV3.2/15, TAIWAN REGION*
ISC 14 13:05:23.3±0.9, **24.37N**±0.02×**122.08E**±0.01, **h31**km±5km, **n140**,σ1§**12**/**238**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	EOS2	0.14	68	*i* P	Pn	13 05 29.9	+0.6
EOS2				*i* S	Sb	13 05 35.5	+2.7
EOS3	EOS3	0.23	110	*i* P	Pn	13 05 30.9	+0.5
EOS3				S	Sb	13 05 37.0	+2.9
EWUT	Wuta	0.29	286	*i* P	Pb	13 05 29.5	-1.2
ESAO	Su ao	0.30	314	*i* P	Pb	13 05 29.8	-1.1
ESAO				*i* S	Sb	13 05 34.1	-1.9
EAHA	Aohua	0.32	264	*i* P	Pb	13 05 30.3	-0.8
EAHA				S	Sb	13 05 35.9	-0.4
EHP	Heping Village	0.32	260	P	Pb	13 05 30.7	-0.4
ENA	Nanau	0.32	281	*i* P	Pb	13 05 30.0	-1.1
ENA				*i* S	Sb	13 05 34.7	-1.7
EOS4	EOS4	0.32	139	*i* P	Pn	13 05 31.8	+0.3
EOS4				*e*S	Sn	13 05 38.6	+1.6
TWC	Suao	0.32	319	*i* P	Pb	13 05 30.2	-0.9
TWC				*i* S	Sb	13 05 34.8	-1.8
NDS	Dongshan	0.43	309	*i* P	Pb	13 05 31.9	-0.8
NDS				*i* S	Sb	13 05 37.7	-1.4
ETL	Fush Village	0.47	244	*i* P	Pb	13 05 33.0	-0.3
ETL				*e*S	Sb	13 05 40.9	+0.7
NACB	Ninganchiao	0.48	247	P	Pb	13 05 33.2	-0.4
NACB	Ninganchiao	0.48	247	*i* P	Pb	13 05 32.9	-0.6
NACB				S	Sb	13 05 40.9	+0.3
EGS		0.50	344	*e*P	Pb	13 05 33.7	-0.1
EGS				*i* S	Sb	13 05 40.7	-0.2
ILA	Ilan	0.50	323	*e*P	Pb	13 05 33.2	-0.6
ILA				S	Sb	13 05 40.3	-0.7
TWE	Neicheng	0.52	313	*i* P	Pb	13 05 33.3	-0.8
TWE				*e*S	Sb	13 05 39.7	-1.8
TWD	Chiawan	0.53	238	*i* P	Pb	13 05 33.6	-0.6
TWD				S	Sn	13 05 42.5	-0.1
LATG	Datong	0.54	289	*i* P	Pb	13 05 33.6	-0.9
LATG				*i* S	Sb	13 05 41.1	-1.0
ENTT	Nioudou	0.55	300	*i* P	Pb	13 05 33.7	-0.9
ENTT				*i* S	Sb	13 05 41.3	-0.9
ETLH	Xiulin Townshi	0.57	254	*i* P	Pb	13 05 34.4	-0.6
ETLH				*i* S	Sb	13 05 43.5	+0.5
HWA	Hwalien	0.58	229	*i* P	Pn	13 05 35.4	-0.1
HWA				S	Sn	13 05 45.9	+2.0
FUSB	Fushanzhiwuyua	0.60	311	*i* P	Pb	13 05 34.6	-0.8
FUSB				*i* S	Sb	13 05 42.6	-1.2
NNSB	Datong	0.64	276	P	Pb	13 05 35.5	-0.7
NNSB				*i* S	Sb	13 05 44.3	-0.7
TWB1	Santiao Chiao	0.65	352	*i* P	Pb	13 05 35.7	-0.5
TWB1				*i* S	Sb	13 05 44.0	-0.1
TIPB	Shuangxi	0.65	339	*i* P	Pb	13 05 35.9	-0.4
TIPB				S	Sb	13 05 44.6	-0.5
NNS	Nan Shan	0.65	277	*i* P	Pb	13 05 35.7	-0.7
NNS				*i* S	Sb	13 05 44.7	-0.6
TEYL	Yanliau Villag	0.67	222	*i* P	Pn	13 05 36.5	-0.1
NWLT	Wulai	0.67	308	P	Pb	13 05 35.7	-0.9
ETM	Tongmen	0.67	234	*i* P	Pb	13 05 35.9	-0.6
ETM				S	Sb	13 05 46.0	+0.4
YHNB	Yeheng	0.71	295	P	Pb	13 05 36.9	-0.5
YHNB	Yeheng	0.71	295	S	Sb	13 05 46.7	-0.2
YHNB	Yeheng	0.71	295	*i* P	Pb	13 05 36.6	-0.8
YHNB				S	Sb	13 05 46.0	-0.9
NSK	Sanguang	0.73	295	*i* P	Pb	13 05 36.7	-0.9
NSK				S	Sb	13 05 45.8	-1.6
SHUL	Shoufeng	0.75	220	*e*P	Pn	13 05 38.0	+0.3
SXI1	Grass Mountain	0.75	345	P	Pb	13 05 37.5	-0.5
SXI1				S	Sb	13 05 47.7	-0.3
NWF	Wu-fen Shan	0.76	339	P	Pb	13 05 37.9	-0.2
NWF				S	Sb	13 05 48.5	+0.4
WFSB	Wu-fen Shan	0.76	339	*e*P	Pb	13 05 37.9	-0.2
WFSB				*e*S	Sb	13 05 48.5	+0.5
TWA	Mucha	0.76	323	*e*P	Pb	13 05 38.0	-0.1
FUSS	Fushou	0.78	262	*i* P	Pb	13 05 38.0	-0.5
FUSS				S	Sb	13 05 49.0	+0.1
WHF	Hehuan Shan	0.78	254	*i* P	Pb	13 05 37.8	-0.9
WHF			

TCU	**Taichung**	**1.30 261**	*e*P	**Pn**	**13 05 46.5**	**+1.1**
TCU			*e*S	**Sb**	**13 06 04.4**	**+0.9**
WHYT	**Xinyi Township**	**1.31 240**	*e*P	**Pb**	**13 05 46.6**	**-0.7**
WDJ	**Dajia District**	**1.32 270**	*e*P	**Pb**	**13 05 47.1**	**-0.4**
WDJ			*e*S	**Sn**	**13 06 03.7**	**+1.6**
WJS	**Zhushan**	**1.35 247**	*e*P	**Pb**	**13 05 48.1**	**+0.1**
WJS			*e*S	**Sb**	**13 06 07.1**	**+2.1**
FULB	**Fuli**	**1.37 212**	*e*P	**Pn**	**13 05 46.0**	**-0.4**
FULB			*e*S	**Sb**	**13 06 07.8**	**+2.4**
WNT	**Mingjian**	**1.37 250**	*e*P	**Pb**	**13 05 48.6**	**+0.3**
WNT			*e*S	**Sb**	**13 06 07.4**	**+2.0**
WCHH	**Zhanghua**	**1.42 259**	*e*P	**Pn**	**13 05 47.9**	**+0.9**
WCHH			*e*S	**Sb**	**13 06 08.2**	**+1.2**
ALS	**Alishan**	**1.45 234**	P	**Pb**	**13 05 48.9**	**-0.9**
ALS			*e*S	**Sb**	**13 06 08.5**	**+0.5**
EHD	**Haiduan**	**1.45 214**	*e*P	**Pn**	**13 05 47.1**	**-0.4**
ECS	**Chishang**	**1.49 212**	*e*P	**Pn**	**13 05 48.0**	**0.0**
CHN5	**Tsauling**	**1.50 240**	P	**Pb**	**13 05 49.9**	**-0.6**
CHN5			*e*S	**Sb**	**13 06 11.2**	**+2.0**
IRIF	**Iriomote-Funau**	**1.50 91**	P	**Pb**	**13 05 48.9**	**-1.6**
IRIF			*e*S	**Sb**	**13 06 08.4**	**-0.8**
ELDTW	**Lidau**	**1.52 220**	*e*P	**Pn**	**13 05 48.5**	**0.0**
WGK	**Gukeng**	**1.55 244**	*e*P	**Pb**	**13 05 51.0**	**-0.3**
WGK			*e*S	**Sb**	**13 06 12.2**	**+1.6**
EDH	**Donghe**	**1.56 207**	*e*S	**Sn**	**13 06 07.8**	**-0.3**
WDLH	**Douliu**	**1.57 245**	*e*P	**Pb**	**13 05 51.0**	**-0.6**
WDLH			*e*S	**Sb**	**13 06 11.8**	**+0.8**
WCKO	**Fanlu**	**1.64 236**	*i* P	**Pb**	**13 05 52.1**	**-0.8**
WCKO			S	**Sb**	**13 06 14.9**	**+1.8**
STYH	**Taoyuan**	**1.69 226**	*e*P	**Pn**	**13 05 51.8**	**+1.1**
STYH			*e*S	**Sb**	**13 06 15.4**	**+0.8**
WTK	**Tuku**	**1.69 247**	*e*P	**Pb**	**13 05 52.7**	**-1.0**
WTK			S	**Sb**	**13 06 15.0**	**+0.4**
LONT	**Longtian**	**1.69 211**	*e*P	**Pn**	**13 05 51.0**	**+0.2**
TPUB	**Ta-pu**	**1.70 232**	P	**Pb**	**13 05 53.3**	**-0.7**
TPUB	**Ta-pu**	**1.70 232**	*e*P	**Pb**	**13 05 52.8**	**-1.2**
TPUB			*e*S	**Sb**	**13 06 15.9**	**+0.8**
WTCT	**Ta-ch'eng**	**1.72 254**	S	**Sb**	**13 06 15.4**	**-0.1**
CHY	**Chiayi**	**1.75 241**	*e*P	**Pb**	**13 05 53.9**	**-0.8**
CHY			S	**Sb**	**13 06 17.0**	**+0.7**
WTP	**Ta-pu**	**1.75 231**	P	**Pn**	**13 05 53.2**	**+1.6**
WTP			S	**Sb**	**13 06 15.8**	**-0.5**
JKRS	**Kuro-shima**	**1.76 94**	P	**Pb**	**13 05 53.4**	**-1.5**
JKRS			S	**Sb**	**13 06 15.4**	**-1.3**
LDUT	**Ludao**	**1.78 199**	*e*P	**Pn**	**13 05 49.5**	**-2.4**
LDUT			*e*S	**Sn**	**13 06 10.6**	**-2.9**
TWGBT	**Beinan**	**1.79 211**	*e*P	**Pn**	**13 05 51.3**	**-0.8**
TWG	**Pinlang**	**1.80 211**	*e*P	**Pn**	**13 05 52.0**	**-0.2**
TWG			*e*S	**Sn**	**13 06 14.5**	**+0.5**
TWK	**Hsinying**	**1.82 234**	*e*P	**Pn**	**13 05 54.2**	**+1.6**
TWK			*e*S	**Sb**	**13 06 18.7**	**+0.1**
SNST	**Tainan City**	**1.85 232**	*e*P	**Pb**	**13 05 55.2**	**-1.2**
SNST			S	**Sb**	**13 06 19.6**	**+0.4**
WSF	**Szhu**	**1.85 247**	S	**Sb**	**13 06 18.7**	**-0.6**
JIJ	**Ishigaki jima**	**1.88 90**	P	**Pn**	**13 05 54.3**	**+1.0**
JIJ			S	**Sn**	**13 06 16.9**	**+1.0**
WSL	**Shuilin Townsh**	**1.89 244**	*e*P	**Pn**	**13 05 55.5**	**+1.9**
WSL			*e*S	**Sb**	**13 06 20.0**	**-0.5**
CHN8	**Yiju**	**1.99 240**	*e*S	**Sb**	**13 06 23.1**	**-0.2**
JISG	**Ishigakijimahi**	**2.04 83**	P	**Pn**	**13 05 56.9**	**+1.4**
JISG			*e*S	**Sb**	**13 06 21.5**	**-3.2**
SCST	**Cishan**	**2.07 225**	*e*P	**Pb**	**13 05 58.8**	**-1.4**
SSD	**Sandimen**	**2.09 220**	*e*P	**Pn**	**13 05 58.0**	**+1.7**
SSD			*e*S	**Sb**	**13 06 26.4**	**+0.2**
SCLT	**Jiali**	**2.10 236**	*e*S	**Sb**	**13 06 25.3**	**-1.1**
TWM1	**Shoushan**	**2.16 225**	*e*P	**Pb**	**13 06 01.5**	**-0.3**
MASBT	**Mashibuluo**	**2.19 218**	*e*P	**Pn**	**13 05 58.9**	**+1.2**
MASBT			*e*S	**Sb**	**13 06 26.3**	**+2.5**
TSCK	**Chigu Township**	**2.20 237**	*e*P	**Pn**	**13 05 59.5**	**+1.9**
TSCK			*e*S	**Sb**	**13 06 27.1**	**-2.1**
EAST	**Anshuo**	**2.28 210**	*e*P	**Pn**	**13 06 00.7**	**+1.8**
SCZT	**Fangliau**	**2.40 214**	*e*P	**Pb**	**13 06 03.0**	**-2.7**
SCZT			*e*S	**Sb**	**13 06 32.4**	**-2.6**
JTJ	**Tarama**	**2.40 83**	P	**Pb**	**13 06 02.6**	**-3.3**
JTJ			*e*S	**Sb**	**13 06 31.4**	**-3.6**
PNG	**Penghu**	**2.45 252**	*e*P	**Pn**	**13 06 01.6**	**+0.6**
PNG			*e*S	**Sn**	**13 06 30.0**	**0.0**
PHUB	**P'eng-hu**	**2.45 250**	*e*P	**Pn**	**13 06 01.7**	**+0.5**
PHUB			*e*S	**Sn**	**13 06 30.1**	**+0.1**
VWUC	**VWUC**	**2.48 285**	*e*P	**Pn**	**13 06 01.3**	**-0.3**
VWUC			*e*S	**Sn**	**13 06 29.6**	**-1.1**
WDGT	**Dungji**	**2.48 244**	*e*P	**Pn**	**13 06 02.6**	**+1.1**
WDGT			*e*S	**Sn**	**13 06 33.0**	**+2.2**
MATB	**Ma-tsu**	**2.63 313**	*e*P	**Pn**	**13 06 03.1**	**-0.5**
VCHM	**Qimei**	**2.69 245**	*e*P	**Pn**	**13 06 05.1**	**+0.7**
VCHM			*e*S	**Sn**	**13 06 36.6**	**+0.6**
PTMZ	**Houxiangcun**	**2.78 285**	*e*P	**Pn**	**13 06 05.7**	**0.0**
PTMZ			*e*S	**Sn**	**13 06 37.1**	**-1.1**
JIRB	**Irabujima**	**2.85 80**	*e*P	**Pn**	**13 06 08.5**	**+1.9**
JIRB			*e*S	**Sn**	**13 06 42.7**	**+2.8**
JIKM	**Ikemajima**	**2.93 78**	*e*P	**Pn**	**13 06 09.8**	**+2.1**
JIKM			S	**Sn**	**13 06 44.5**	**+2.6**
XPSS	**Dashiqiu**	**3.07 327**	*e*P	**Pn**	**13 06 09.5**	**-0.2**
KNMB	**Chin-men Tao**	**3.37 272**	*e*P	**Pn**	**13 06 13.5**	**-0.3**
AXDP	**Jialang**	**3.78 279**	*e*P	**Pn**	**13 06 19.5**	**0.0**
AXDP			*e*S	**Sn**	**13 07 02.0**	**-0.9**
SXFK	**Yanhouchang**	**4.50 298**	*e*P	**Pn**	**13 06 29.5**	**+0.1**

*ISK **14** 13:06:32.6, 41˚.04N×43˚.84E, h5km, ML2.6/7*
*TIF **14** 13:06:32.3, 41˚.10N×43˚.93E, h6km*
*MOS **14** 13:06:33.0±1.7, 41˚.03N×43˚.85E, h11km, mb3.7/1, Error ellipse: s-maj=9.2km s-min=5.0km az=75.9*
*AFAD **14** 13:06:33.7, 41˚.10N×43˚.83E, h7km±4km, ML2.7*
*AZER **14** 13:06:34.0, 40˚.87N×44˚.25E, h3km, ml2.7*
*DRS **14** 13:06:34.2, 40˚.99N×43˚.79E, h10km*

ISC 14 13:06:31.6±1.0, **41˚.07N**±0˚.02×**43˚.89E**±0˚.01, **h9**km±9km, **n72**, σ0**98**/124, **4C-3D, Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BGD	**Bogdanovka**	**0.30**	**312**	P	**Pb**	**13 06 39.7**	**+0.3**
BGD				S	**Sb**	**13 06 44.6**	**+0.1**
BGD	**Bogdanovka**	**0.30**	**312**	PG	**Pb**	**13 06 39.7**	**+0.3**
BGD				S	**Sb**	**13 06 44.6**	**+0.1**
EAK	**Akyaka**	**0.44**	**210**	P	**Pb**	**13 06 42.2**	**+0.5**
AKH	**Akhalkalaki**	**0.46**	**319**	P	**Pb**	**13 06 42.1**	**0.0**
AKH				S	**Sb**	**13 06 48.6**	**-0.4**
AKH	**Akhalkalaki**	**0.46**	**319**	Pg	**Pb**	**13 06 42.0**	**0.0**
AKH				Sg	**Sb**	**13 06 48.6**	**-0.4**
AKH	**Akhalkalaki**	**0.46**	**319**	PG	**Pb**	**13 06 42.1**	**0.0**
AKH				S	**Sb**	**13 06 48.6**	**-0.4**
KZRT	**Kazreti**	**0.50**	**50**	P	**Pg**	**13 06 40.2**	**-1.1**
KZRT				S	**Sg**	**13 06 46.7**	**-1.2**
KZRT	**Kazreti**	**0.50**	**50**	PG	**Pg**	**13 06 40.2**	**-1.1**
TRLG	**Trialeti**	**0.50**	**18**	P	**Pg**	**13 06 42.3**	**-0.4**
TRLG				S	**Sg**	**13 06 49.0**	**+1.0**
TRLG	**Trialeti**	**0.50**	**18**	PG	**Pb**	**13 06 42.3**	**-0.4**
TRLG				S	**Sg**	**13 06 49.0**	**+1.0**
DIGO	**Kars**	**0.76**	**211**	P	**Pb**	**13 06 47.4**	**+0.2**
DIGO				S	**Sb**	**13 06 57.6**	**-0.2**
DIGO				*i* IAML		13 07 05.0	
	comp=N,482nm,0.7s						
BOZK	**Kars-Merkez-Bo**	**0.84**	**236**	P	**Pn**	**13 06 49.7**	**-0.2**
BOZK				S	**Sn**	**13 07 01.1**	**-1.5**
BTNK	**Botanikuri**	**0.92**	**48**	PG	**Pb**	**13 06 49.7**	**-0.1**
TBLG	**Delisi**	**0.92**	**43**	P	**Pg**	**13 06 49.6**	**+0.3**
TBLG				S	**Sb**	**13 07 02.1**	**-0.1**
TBLG	**Delisi**	**0.92**	**43**	PG	**Pg**	**13 06 49.6**	**+0.3**
TBLG				S	**Sb**	**13 07 02.1**	**-0.1**
AHAN	**Ardahan-Merkez**	**0.96**	**276**	P	**Pn**	**13 06 51.5**	**0.0**
AHAN				S	**Sn**	**13 07 05.6**	**0.0**
AHAN				*i* IAML		13 07 06.0	
	comp=E,610nm,0.5s						
EPOS	**Posof**	**0.98**	**297**	P	**Pn**	**13 06 51.8**	**0.0**
EPOS				S	**Sb**	**13 07 04.4**	**+0.3**
EPOS				*i* IAML		13 07 07.0	
	comp=E,152nm,0.4s						
GOLE	**Ardahan-G¶le**	**1.01**	**257**	P	**Pn**	**13 06 53.0**	**+0.7**
GOLE				S	**Sn**	**13 07 07.1**	**+0.5**
GOLE				*i* IAML		13 07 08.0	
	comp=E,164nm,0.2s						
TASB	**TASBURUN-IGDIR**	**1.11**	**166**	Pn	**Pn**	**13 06 54.2**	**+0.7**
TASB				Sn	**Sn**	**13 07 09.2**	**+0.2**
QZX	**Qazax, Azerbai**	**1.12**	**90**	P	**Pn**	**13 06 53.4**	**-0.2**
QZX				S	**Sn**	**13 07 08.8**	**-0.3**
GNI	**Garni**	**1.12**	**145**	Pn	**Pn**	**13 06 54.3**	**+0.6**
GNI				Sn	**Sn**	**13 07 10.9**	**+1.6**
GNI	**Garni**	**1.12**	**145**	*c* PG	**Pn**	**13 06 54.3**	**+0.6**
GNI				*e*S	**Sn**	**13 07 10.4**	**+1.1**
GNI				pmax	pmax		
	comp=Z,128nm,0.7s						
DGRG	**David-gareji**	**1.18**	**70**	P	**Pn**	**13 06 55.0**	**+0.6**
DGRG	**David-gareji**	**1.18**	**70**	PG	**Pn**	**13 06 55.0**	**+0.6**
IGDI	**IGDIR**	**1.21**	**173**	P	**Pn**	**13 06 55.5**	**+0.7**
IGDI				S	**Sn**	**13 07 11.4**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.27**	**247**	Pn	**Pg**	**13 06 56.3**	**+0.2**
SENK				Sn	**Sn**	**13 07 14.3**	**+1.1**
GHRG	**Ghorjomi**	**1.35**	**300**	P	**Pg**	**13 06 58.4**	**+0.9**
GHRG				S	**Sn**	**13 07 16.4**	**+1.5**
KOTA	**Agri, Merkez-K**	**1.37**	**203**	P	**Pg**	**13 07 00.4**	**+2.5**
TKB	**Tkibuli**	**1.45**	**333**	P	**Pg**	**13 07 00.1**	**+0.6**
TKB				S	**Sg**	**13 07 19.4**	**+1.1**
TKB	**Tkibuli**	**1.45**	**333**	PG	**Pg**	**13 07 00.1**	**+0.6**
TKB				S	**Sg**	**13 07 19.4**	**+1.1**
GDB	**GEDABAY**	**1.45**	**103**	P	**Pb**	**13 06 58.7**	**-0.3**
GDB				S	**Sn**	**13 07 17.5**	**0.0**
HYR	**Heyderabad**	**1.53**	**151**	P	**Pg**	**13 07 01.5**	**+0.5**
HYR				S	**Sg**	**13 07 21.9**	**+1.0**
GARIG	**Gari**	**1.57**	**348**	P	**Pg**	**13 07 02.1**	**+0.3**
GARIG				S	**Sg**	**13 07 23.6**	**+1.5**
EATA	**Eleskirt**	**1.61**	**222**	P	**Pg**	**13 07 03.8**	**+1.3**
DDEM	**Demirkent**	**1.63**	**265**	P	**Pg**	**13 07 03.7**	**+0.7**
AGRB	**Hanur-Agry**	**1.64**	**205**	Pn	**Pg**	**13 07 02.3**	**-0.8**
DBAD	**Bademkaya**	**1.66**	**269**	P	**Sg**	**13 07 23.4**	**-1.8**
DBOC	**Borcka**	**1.70**	**280**	P	**Pg**	**13 07 04.0**	**-0.3**
DBOC				S	**Sg**	**13 07 25.9**	**-0.5**
DBOC				*i* IAML		13 07 27.0	
	comp=Z,75nm,0.4s						
BCA	**Borcka**	**1.75**	**283**	Pn	**Pb**	**13 07 04.2**	**+0.2**
BCA				Sn	**Sg**	**13 07 26.9**	**-1.1**
LACR	**Lac**	**1.79**	**10**	*i* PN	**Pg**	**13 07 06.1**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.85**	**353**	*e*PN	**Pg**	**13 07 08.3**	**+1.2**
SHTL	**Shatili**	**1.85**	**30**	P	**Pb**	**13 07 06.4**	**+0.7**
SHTL				S	**Sg**	**13 07 31.3**	**+0.3**
SHTL	**Shatili**	**1.85**	**30**	PN	**Pb**	**13 07 06.4**	**+0.7**
GANJ	**Ganja**	**1.89**	**102**	P	**Pg**	**13 07 07.3**	**-0.5**
GANJ				S	**Sb**	**13 07 30.4**	**+0.4**
KOPR	**Koprukoy-ERZUR**	**1.89**	**236**	Pn	**Pb**	**13 07 05.4**	**-1.0**
VSHL	**Vashlovani**	**1.90**	**84**	P	**Pg**	**13 07 07.8**	**-0.2**
KORR	**Kora**	**2.02**	**4**	*e*PN	**Pg**	**13 07 10.9**	**+0.5**
KORR				*e*S	**Sg**	**13 07 38.0**	**+1.4**
SBZ	**Shahbuz**	**2.10**	**142**	P	**Pb**	**13 07 10.2**	**+0.3**
SBZ				S	**Sb**	**13 07 36.6**	**+0.5**
KMGR	**Komgaron**	**2.12**	**20**	PN	**Pg**	**13 07 12.5**	**+0.3**
KMGR				S	**Sg**	**13 07 41.2**	**+1.5**
TLTR	**Tlyarata**	**2.12**	**60**	*e*PN	**Pb**	**13 07 11.2**	**+0.9**
TLTR				*e*S	**Sg**	**13 07 39.5**	**-0.2**
TLTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TLTR	**Tlyarata**	**2.12**	**60**	*e*Pg	**Pb**	**13 07 11.3**	**+0.9**
	comp=Z,1.0nm,0.4s						
TLTR				*e*Sg	**Sg**	**13 07 39.5**	**-0.2**
	comp=E,71nm,0.4s						
ZKTA	**Zakatala**	**2.13**	**74**	P	**Pb**	**13 07 10.1**	**-0.4**
ZKTA				S	**Sg**	**13 07 40.2**	**0.0**
BTLR	**Botlikh**	**2.36**	**47**	*e*PN	**Pb**	**13 07 15.4**	**+1.0**
NCK	**Nalchik**	**2.44**	**355**	*e*PN	**Pb**	**13 07 15.6**	**-0.1**
NCK				*e*S	**Sg**	**13 07 49.6**	**-0.4**
NCK				pmax	pmax		
	comp=Z,78nm,0.2s						
NCK				smax	smax		
	comp=Z,74nm,0.4s						
SEKA	**Sheki**	**2.50**	**86**	P	**Pb**	**13 07 16.8**	**+0.1**
SEKA				S	**Sg**	**13 07 50.6**	**-1.3**
XNZR	**Khunzakh**	**2.57**	**54**	*e*Pn	**Pb**	**13 07 18.2**	**+0.2**
	comp=Z,9.0nm,0.5s						
XNZR				*e*Sn	**Sb**	**13 07 51.9**	**+2.2**
	comp=Z,19nm,0.4s						
HNZR	**Khunzah**	**2.58**	**54**	*e*Pn	**Pb**	**13 07 18.2**	**-0.1**
HNZR				*e*S	**Sb**	**13 07 51.9**	**+1.7**
HNZR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KMKR	**Kumukh**	**2.63**	**65**	*e*Pn	**Pb**	**13 07 18.2**	**-0.9**
KMKR				*e*S	**Sb**	**13 07 52.4**	**+0.9**
KMKR				pmax	pmax		
	comp=Z,20nm,0.4s						
ORD	**Ordubad**	**2.68**	**142**	P	**Pb**	**13 07 21.0**	**+1.2**
ORD				S	**Sb**	**13 07 51.3**	**-1.5**
UNCR	**Uncukul**	**2.72**	**52**	*e*PN	**Pb**	**13 07 19.8**	**-0.7**
UNCR				*e*S	**Sb**	**13 07 55.2**	**+1.2**
UNCR				pmax	pmax		
	comp=Z,9.0nm,0.4s						
KBZ	**Khabaz**	**2.76**	**345**	*i* PN	**Pb**	**13 07 19.1**	**-2.1**
ARKR	**Arakani**	**2.78**	**55**	*e*PN	**Pb**	**13 07 20.4**	**-1.1**
ARKR				*e*S	**Sb**	**13 07 56.0**	**+0.3**
ARKR				pmax	pmax		
	comp=Z,13nm,0.3s						
ARKR	**Arakani**	**2.78**	**55**	*e*Pn	**Pb**	**13 07 20.5**	**-1.1**
	comp=Z,13nm,0.3s						
ARKR				*e*Sn	**Sb**	**13 07 56.1**	**+0.3**
	comp=Z,19nm,0.6s						
KRNR	**Karanay**	**2.85**	**51**	*e*PN	**Pb**	**13 07 22.0**	**-0.8**
KRNR				*e*S	**Sb**	**13 07 58.1**	**+0.2**
KRNR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KRNR	**Karanay**	**2.85**	**51**	*e*Pn	**Pb**	**13 07 22.0**	**-0.8**
	comp=Z,5.0nm,0.3s						
KRNR				*e*Sn	**Sb**	**13 07 58.1**	**+0.2**
	comp=Z,13nm,0.6s						
AKT	**Akhty**	**2.92**	**81**	*i* PN	**Pb**	**13 07 22.9**	**-1.1**
AKT				*e*		13 07 29.6	
AKT				*e*		13 07 31.1	
AKT				*e*S	**Sb**	**13 08 00.9**	**+1.1**
AKT				*e*		13 08 09.7	
AKT				pmax	pmax		
	comp=Z,14nm,0.3s						
AKT				smax	smax		
	comp=E,39nm,0.4s						
AKT				smax	smax		
	comp=E,35nm,0.6s						
AKT				smax	smax		
	comp=N,32nm,0.4s						
AKT	**Akhty**	**2.92**	**81**	*e*Pn	**Pb**	**13 07 22.3**	**-1.7**
	comp=N,12nm,0.4s						
AKT				*e*Sn	**Sb**	**13 07 59.3**	**-0.6**
	comp=N,30nm,0.4s						
QBL	**Gabala**	**2.99**	**91**	P	**Pb**	**13 07 24.9**	**-0.1**
QBL				S	**Sb**	**13 08 04.4**	**+2.7**
KIV	**Kislovodsk**	**3.02**	**343**	*i* PN	**Pn**	**13 07 21.2**	**+1.4**
XNQ	**Khinaliq**	**3.21**	**87**	P	**Pb**	**13 07 26.6**	**-2.3**
XNQ				S	**Sn**	**13 08 03.8**	**+2.8**
PQL	**Pirkuli**	**3.57**	**93**	P	**Pb**	**13 07 34.0**	**-1.1**
OBN	**Obninsk**	**14.87**	**343**	*e*P	**P**	**13 10 05.1**	**-2.6**
OBN				pmax	pmax		
	comp=Z,24nm,0.4s						

*IDC **14** 13:08:52.5±1.5, 30˚.33S×178˚.40W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=36.8km s-min=19.3km az=122.0*

ISC 14 13:08:52.7±4.1, **30˚.7S**±0˚.1×**177˚.6W**±0˚.6, **h50**km, **n6**, σ1**78/7**, **mb4.0/4**, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.45**	**348**	Pn	**Pn**	**13 09 15.8**	**-0.8**
	50nm,0.3s,baz=89,slow=21,SNR=1.9						
RAO				Sn	**Sn**	**13 09 33.8**	**-0.7**
	144nm,0.3s,baz=78,slow=19,SNR=5.9						
URZ	**Urewera**	**8.75**	**209**	Pn	**Pn**	**13 10 57.0**	**+0.5**
	baz=127,slow=19						
URZ				Sn	**Sn**	**13 12 31.0**	**-2.6**
	0.7nm,0.3s,baz=142,slow=23,SNR=2.1						
STKA	**Stephens Creek**	**34.78**	**257**	P	**P**	**13 15 40.6**	**+2.0**
	2.6nm,0.7s,baz=103,slow=12,SNR=8.3						
	2.6nm,0.7s						
ASAR	**Alice Springs**	**43.47**	**267**	P	**P**	**13 16 51.5**	**+0.3**
	1.0nm,1.1s,baz=104,slow=7.5,SNR=8.0						
	1.0nm,1.1s						
WRA	**Warramunga Arr**	**44.48**	**272**	P	**P**	**13 16 59.1**	**-0.2**
	0.7nm,0.4s,baz=111,slow=8.1,SNR=23						
	0.7nm,0.4s						
QSPA	**South Pole Qui**	**59.44**	**180**	P	P	13 18 59.1	+9.0
	1.3nm,0.8s,baz=107,slow=2.0,SNR=5.4						
	1.3nm,0.8s						

*SDD **14** 13:21:55.6±2.2, 19˚.63N×70˚.42W, h15km±26km, MD2.5, ML2.4, MW2.8*
*OSPL **14** 13:21:57.6±1.7, 19˚.52N×70˚.31W, h6km±7km, ML2.4*

ISC 14 13:21:55.7±1.4, **19˚.53N**±0˚.04×**70˚.35W**±0˚.03, **h7**km±11km, **n15**, σ1**91**/26, **6C-4D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SC01	**Santiago de lo**	**0.37**	**255**	*i* P	**Pb**	**13 22 04.8**	**+0.1**
SC01				*e*S	**Sb**	**13 22 11.4**	**+0.7**
NADR	**Nagua**	**0.49**	**110**	*e*Pg	**Pg**	**13 22 05.7**	**+0.5**
NADR				*e*Sg	**Sb**	**13 22 15.4**	**+1.3**
ADBR				IAML		13 22 18.8	
	comp=N,606nm,0.3s						
ABDR	**Alto Bandera**	**0.76**	**201**	*e*Pg	**Pg**	**13 22 10.1**	**-0.3**
ABDR				*e*Sg	**Sg**	**13 22 21.4**	**+1.1**
ABDR				IAML		13 22 22.1	
	comp=N,129nm,0.2s						
LOPP1	**Punta Rusia, P**	**0.87**	**292**	*i* P	**Pb**	**13 22 13.4**	**+0.4**
LOPP1				*e*S	**Sn**	**13 22 25.8**	**-1.3**
LOPP1				IAML		13 22 31.8	
	comp=Z,132nm,0.9s						
SDDR	**Presa de Saban**	**1.04**	**239**	*e*Pg	**Pg**	**13 22 15.2**	**-0.5**
SDDR				*e*Sg	**Sg**	**13 22 26.5**	**-2.8**
SDDR	**Presa de Saban**	**1.04**	**239**	*i* P	**Pg**	**13 22 15.2**	**-0.5**
SDDR				*e*S	**Sg**	**13 22 30.3**	**+1.0**
SDDR				IAML		13 22 31.2	
	comp=Z,28nm,0.6s						
SMDR	**Samana, DR**	**1.12**	**102**	*i* S	**Sb**	**13 22 32.9**	**+0.9**
SMDR				IAML		13 22 37.9	
	comp=N,88nm,0.2s						
BANI	**BANI**	**1.13**	**181**	*e*Pg	**Pb**	**13 22 17.4**	**-0.2**
BANI				*e*Sg	**Sb**	**13 22 33.5**	**+1.0**
BANI				IAML		13 22 36.2	
	comp=N,78nm,0.1s						
SDD	**Santo Domingo**	**1.14**	**159**	*e*S	**Sb**	**13 22 32.5**	**-0.3**
HATOM	**Hato Mayor del**	**1.17**	**129**	*e*Pg	**Pn**	**13 22 17.1**	**-1.4**
HATOM				*e*Sg	**Sb**	**13 22 34.0**	**+0.3**
HATOM				IAML		13 22 34.5	
	comp=N,52nm,0.2s						
MIDR	**Miches**	**1.34**	**114**	*e*Pg	**Pn**	**13 22 20.2**	**-0.6**
MIDR				*e*Sg	**Sb**	**13 22 38.4**	**0.0**
MIDR				IAML		13 22 41.9	
	comp=N,30nm,0.4s						
LONE3	**El Aguacate, B**	**1.40**	**229**	*i* P	**Pn**	**13 22 21.7**	**0.0**
LONE3				*e*S	**Sn**	**13 22 40.5**	**0.0**
LONE3				IAML		13 22 42.7	
	comp=Z,30nm,0.3s						
LODU1	**El Espartillar**	**1.58**	**223**	*i* P	**Pn**	**13 22 25.6**	**+1.5**
LODU1				IAML		13 22 58.4	
	comp=Z,44nm,1.5s						
LOBH	**Bahia de las A**	**2.06**	**217**	*i* P	**Pn**	**13 22 31.4**	**+0.7**
LOBH				IAML		13 23 14.2	
	comp=Z,48nm,2.9s						
GRTK	**Grand Turk**	**2.11**	**340**	*i* P	**Pn**	**13 22 31.7**	**+0.4**
GRTK				*e*S	**Sn**	**13 22 57.5**	**-0.3**
GRTK				IAML		13 23 03.8	
	comp=Z,49nm,1.3s						

*BJI **14** 13:25:51.5, 54˚.00N×166˚.29W, h64km, mB5.2/16, mb4.8/57, Ms5.0/48, Ms7 4.7/46*
*MOS **14** 13:25:53.1±0.9, 54˚.04N×165˚.96W, h73km, mb5.4/54, MS4.6/7, Error ellipse: s-maj=8.0km s-min=4.9km az=95.9*
*IDC **14** 13:25:54.4±0.5, 54˚.02N×166˚.03W, h71km±3km, mb4.6/38, mbtmp4.9/41, MS4.3/75, Error ellipse: s-maj=10.3km s-min=6.9km az=170.0*
*AEIC **14** 13:25:54.5±2.8, 53˚.85N±0˚.08×165˚.86W±0˚.09, h70km±3km, Error ellipse: s-maj=11.5km s-min=7.4km az=189.0*
*NEIC **14** 13:25:54.5±2.5, 53˚.99N±0˚.08×165˚.83W±0˚.05, h67km±1km, mb5.6/729, ML5.5/17, Mwb5.4/59, Mww5.4/74, ML4.9(AEIC), Error ellipse: s-maj=13.2km s-min=5.0km az=165.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.21; $M_{\theta\theta}$-1.25; $M_{\phi\phi}$0.03; $M_{r\theta}$-0.76; $M_{r\phi}$-0.17; $M_{\theta\phi}$-0.09; Fault plane solution: $M_0$1.46000×10^{17} NP1:ϕ_s82.51000°, δ29.12000°, λ89.68000°. NP2:ϕ_s262.88000°, δ60.88000°, λ90.18000°. Principal axes: T 1.4309, Plg74.0000°, Azm173.0000°; N 0.0545, Plg0.0000°, Azm83.0000°; P -1.4854, Plg16.0000°, Azm353.0000°;*
*NEIC **14** 13:25:55.3, 53˚.99N×165˚.92W, h80km*
*GCMT **14** 13:25:55.5±0.1, 53˚.87N±0˚.01×165˚.85W±0˚.01, h82km, MW5.4/155, Moment Tensor Solution. s145,c243; s155,c302; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}1

SDPT	**Sand Point**	3.46	64	P		Pn	13 26 47.2	+1.0	
	baz=249,SNR=208								
SDPT				S		Sn	13 27 26.1	+0.1	
	baz=249								
CNBA	**Chernabura Isl**	3.81	74			Pn	13 26 50.6	-0.1	
CNBA				IAML			13 27 53.1		
	comp=E,19µm,1.0s								
CNBA				IAML			13 27 53.5		
	comp=N,20µm,0.9s								
CHNA	**Chernabura Isl**	3.81	74	P		Pn	13 26 51.3	+0.6	
CHNA	**Chernabura Isl**	3.81	74	P		Pn	13 26 50.8	0.0	
	baz=260,SNR=27								
SPIA	**Saint Paul Isl**	4.08	325			Pn	13 26 56.1	+1.7	
SPIA				IAML			13 28 21.5		
	comp=E,3µm,1.1s								
SPIA	**Saint Paul Isl**	4.08	325	P		Pn	13 26 56.5	+2.1	
SPIA	**Saint Paul Isl**	4.08	325	P		Pn	13 26 56.1	+1.7	
	baz=141,SNR=17								
S14K	**Fog Glacier**	4.35	55	P		Pn	13 27 00.5	+2.3	
	baz=240,SNR=169								
CHGN	**Chignik**	4.92	58			Pn	13 27 07.3	+1.5	
CHGN	**Chignik**	4.92	58	P		Pn	13 27 07.8	+2.0	
	baz=245,SNR=73								
ATKA	**Atka Island**	5.29	254			Pn	13 27 12.8	+2.0	
ATKA	**Atka Island**	5.29	254	P		Pn	13 27 12.9	+2.0	
O14K	**Tigyukauivet M**	5.92	24			Pn	13 27 20.6	+1.1	
O14K	**Tigyukauivet M**	5.92	24	P		Pn	13 27 21.1	+1.6	
	baz=208,SNR=59								
R16K	**Pilot Point**	5.95	49			Pn	13 27 20.2	+0.3	
R16K	**Pilot Point**	5.95	49	P		Pn	13 27 21.4	+1.4	
	baz=236,SNR=5.9								
CHIR	**Chirikof Islan**	6.24	68			Pn	13 27 23.0	-0.9	
CHIR	**Chirikof Islan**	6.24	68	P		Pn	13 27 23.9	0.0	
CHIR	**Chirikof Islan**	6.24	68	P		Pn	13 27 23.8	-0.1	
	baz=257,SNR=9.8								
O15K	**Ungalikthiuk R**	6.24	30			Pn	13 27 25.3	+1.4	
O15K	**Ungalikthiuk R**	6.24	30	P		Pn	13 27 25.9	+1.9	
	baz=216,SNR=96								
GSTR	**Great Sitkin T**	6.39	257			Pn	13 27 27.9	+1.8	
N14K	**Kuskokwak Cree**	6.44	19			Pn	13 27 28.5	+2.0	
N14K	**Kuskokwak Cree**	6.44	19	P		Pn	13 27 28.9	+2.3	
	baz=203,SNR=102								
M11K	**Mekoryuk**	6.47	359			Pn	13 27 29.2	+2.2	
M11K	**Mekoryuk**	6.47	359	P		Pn	13 27 29.4	+2.4	
	baz=179,SNR=58								
R17L	**Mt. Peulik Vol**	6.54	52	P		Pn	13 27 30.4	+2.4	
	baz=240,SNR=249								
PLK4	**Peulik 4**	6.54	52			Pn	13 27 29.9	+1.8	
M13K	**Dall Lake**	6.65	11			Pn	13 27 31.5	+2.1	
M13K	**Dall Lake**	6.65	11	P		Pn	13 27 31.6	+2.2	
	baz=194,SNR=100								
P16K	**Nushagak River**	6.73	37			Pn	13 27 32.2	+1.6	
P16K	**Nushagak River**	6.73	37	P		Pn	13 27 32.9	+2.2	
	baz=224,SNR=92								
ADK	**Adak**	6.83	257			Pn	13 27 33.8	+1.8	
ADK	**Adak**	6.83	257	P		Pn	13 27 33.9	+1.9	
ADK	**Adak**	6.83	257	P		Pn	13 27 33.8	+1.8	
Q16K	**King Salmon**	7.01	44	P		Pn	13 27 36.8	+2.4	
	baz=232,SNR=252								
N15K	**Kwethluk River**	7.01	25			Pn	13 27 36.2	+1.8	
N15K	**Kwethluk River**	7.01	25	P		Pn	13 27 36.6	+2.2	
	baz=210,SNR=489								
N15K				S		Sn	13 28 53.0	+0.4	
	baz=210								
Q17K	**Contact Creek**	7.09	48	P		Pn	13 27 37.7	+2.1	
	baz=237								
KIWB	**Kanaga Island**	7.11	258			Pn	13 27 37.0	+1.1	
O16K	**Kokwok River B**	7.12	34	P		Pn	13 27 37.9	+2.0	
	baz=221,SNR=273								
M14K	**Bethel**	7.17	16			Pn	13 27 37.7	+1.2	
M14K	**Bethel**	7.17	16	P		Pn	13 27 38.6	+2.1	
	baz=199,SNR=270								
SII	**Sitkinak Islan**	7.20	64			Pn	13 27 37.2	+0.1	
SII	**Sitkinak Islan**	7.20	64	P		Pn	13 27 37.0	-0.1	
SII	**Sitkinak Islan**	7.20	64	P		Pn	13 27 36.9	-0.2	
	baz=254,SNR=26								
ACHA	**Angle Creek He**	7.31	50			Pn	13 27 39.5	+0.9	
M15K	**Kasigluk River**	7.35	21	P		Pn	13 27 40.8	+1.8	
	baz=205,SNR=287								
M15K				S		Sn	13 29 00.9	+0.3	
	baz=205								
R18K	**Karluk**	7.42	56	P		Pn	13 27 40.9	+0.8	
	baz=246								
P17K	**Kvichak River**	7.43	41	P		Pn	13 27 41.6	+1.5	
	baz=229,SNR=273								
O17K	**Koliganek Bris**	7.59	36	P		Pn	13 27 44.3	+2.0	
	baz=224,SNR=202								
N16K	**Nishlik Lake**	7.62	28	P		Pn	13 27 45.5	+2.8	
	baz=214,SNR=448								
N16K				S		Sn	13 29 07.6	+0.3	
	baz=214								
L14K	**Kuka Creek**	7.63	12			Pn	13 27 44.1	+1.3	
L14K	**Kuka Creek**	7.63	12	P		Pn	13 27 44.7	+1.8	
	baz=195,SNR=206								
Q18K	**Katmai Hardscr**	7.69	48	P		Pn	13 27 45.8	+2.1	
	baz=237,SNR=214								
OHAK	**Old Harbor**	7.88	60			Pn	13 27 45.3	-0.9	
OHAK	**Old Harbor**	7.88	60	P		Pn	13 27 46.1	-0.1	
OHAK	**Old Harbor**	7.88	60	P		Pn	13 27 45.8	-0.5	
	baz=251,SNR=34								
P18K	**Big Mountain,**	8.03	43			Pn	13 27 50.5	+2.1	
P18K	**Big Mountain,**	8.03	43	P		Pn	13 27 50.7	+2.3	
	baz=232,SNR=309								
M16K	**Timber Creek**	8.03	25			Pn	13 27 49.7	+1.3	
M16K	**Timber Creek**	8.03	25	P		Pn	13 27 50.5	+2.1	
	baz=211,SNR=228								
K13K	**Kusilvak Mount**	8.05	4			Pn	13 27 50.5	+1.9	
K13K	**Kusilvak Mount**	8.05	4	P		Pn	13 27 50.7	+2.0	
	baz=186,SNR=131								
L15K	**Ungalak Mounta**	8.12	15	P		Pn	13 27 51.4	+1.9	
	baz=199,SNR=148								
N17K	**Nushagak Hills**	8.13	32			Pn	13 27 51.0	+1.4	
N17K	**Nushagak Hills**	8.13	32	P		Pn	13 27 51.9	+2.2	
	baz=220,SNR=185								
KDAK	**Kodiak Island**	8.43	57	P		Pn	13 27 53.0	-0.7	
	comp=E,153nm,0.4s,baz=211,slow=3.8,SNR=653								
KDAK				S		Sn	13 29 19.7	-7.5	
	comp=E,228nm,0.7s,baz=190,slow=3.3,SNR=3.9								
KDAK	**Kodiak Island**	8.43	57	P		Pn	13 27 53.3	-0.5	
	baz=249								
Q19K	**Cape Douglas,**	8.44	49	P		Pn	13 27 55.6	+1.7	
	baz=239,SNR=82								
L16K	**Owhat River**	8.52	21	P		Pn	13 27 57.1	+2.1	
	baz=207,SNR=110								
N18K	**Kilae Creek**	8.66	35			Pn	13 27 58.1	+1.2	
N18K	**Kilae Creek**	8.66	35	P		Pn	13 27 58.7	+1.7	
	baz=223,SNR=52								
K15K	**Wolf Creek Mou**	8.70	14			Pn	13 27 59.3	+1.8	
K15K	**Wolf Creek Mou**	8.70	14	P		Pn	13 27 59.9	+2.5	
	baz=198,SNR=544								
M17K	**Holitna River**	8.75	28	P		Pn	13 28 00.2	+2.0	
	baz=215,SNR=118								
Q20K	**Shuyak Island**	8.86	53	P		Pn	13 28 00.2	+0.6	
	baz=244,SNR=172								
O19K	**Port Ailsworth**	8.90	40	P		Pn	13 28 00.9	+0.8	
	baz=230,SNR=72								
J14K	**Nanvaranak Lak**	8.93	7	P		Pn	13 28 02.6	+2.0	
	baz=189								
P19K	**Oil Pt**	9.01	45	P		Pn	13 28 01.8	+0.1	
	baz=236,SNR=58								
L17K	**Donlin**	9.16	23	P		Pn	13 28 05.5	+1.8	
	baz=210,SNR=224								
N19K	**Bonanza Creek**	9.25	37			Pn	13 28 06.6	+1.6	
N19K	**Bonanza Creek**	9.25	37	P		Pn	13 28 07.7	+2.7	
	baz=227,SNR=250								
M18K	**Stony River**	9.29	31	P		Pn	13 28 07.4	+1.9	
	baz=220,SNR=248								
O20K	**Slope Mountain**	9.50	44	P		Pn	13 28 10.1	+1.7	
	baz=236,SNR=177								
L18K	**Granite Mounta**	9.63	27	P		Pn	13 28 11.7	+1.6	
	baz=215,SNR=72								
K17K	**Iditarod**	9.67	21	P		Pn	13 28 12.3	+1.7	
	baz=208,SNR=55								
HOM	**Homer**	9.70	48	P		Pn	13 28 12.0	+1.0	
	baz=240,SNR=43								
J16K	**Anvik River**	9.78	14	P		Pn	13 28 13.9	+1.8	
	baz=199,SNR=72								
CNPM	**China Poot**	9.81	49			Pn	13 28 12.5	-0.1	
L19K	**White Mountain**	10.12	31			Pn	13 28 18.1	+1.3	
L19K	**White Mountain**	10.12	31	P		Pn	13 28 18.6	+1.7	
	baz=220,SNR=339								
J17K	**VABM Dome**	10.13	18			Pn	13 28 18.8	+1.8	
J17K	**VABM Dome**	10.13	18	P		Pn	13 28 19.0	+2.1	
	baz=204,SNR=396								
BRSE	**Bradley Lake S**	10.13	49	P		Pn	13 28 17.0	-0.1	
	baz=242,SNR=69								
GAMB	**Gambell**	10.31	346			Pn	13 28 22.1	+2.8	
GAMB	**Gambell**	10.31	346	P		Pn	13 28 21.6	+2.2	
	baz=161,SNR=10.0								
I17K	**Unalakleet**	10.34	13	P		Pn	13 28 21.9	+2.2	
	baz=198,SNR=13								
N20K	**Mount Spurr**	10.34	40	P		Pn	13 28 22.4	+2.6	
	baz=232								
SPCR	**Spurr Chakacha**	10.34	40	P		Pn	13 28 22.6	+2.8	
	baz=232,SNR=35								
M20K	**Styx River**	10.46	35	P		Pn	13 28 24.6	+3.1	
	baz=226,SNR=202								
CAPN	**Captain Cook N**	10.49	43	P		Pn	13 28 25.9	+4.0	
	baz=236								
L20K	**Farewell, AK**	10.64	32	P		Pn	13 28 26.5	+2.5	
	baz=222,SNR=130								
ANM	**Nome**	10.67	1			Pn	13 28 26.5	+2.2	
ANM	**Nome**	10.67	1	P		Pn	13 28 26.5	+2.2	
ANM	**Nome**	10.67	1	P		Pn	13 28 26.8	+2.5	
	baz=182,SNR=15								
J18K	**Innoko River**	10.68	23	P		Pn	13 28 26.3	+1.9	
	baz=211,SNR=184								
SEW	**Seward**	10.88	49	P		Pn	13 28 26.6	-0.5	
	baz=243,SNR=122								
H16K	**Elim**	10.90	8	P		Pn	13 28 29.6	+2.2	
	baz=192,SNR=25								
O22K	**Cooper Landing**	10.94	47	P		Pn	13 28 27.9	0.0	
	baz=241,SNR=208								
SUA	**Susitna One**	11.06	41	P		Pn	13 28 29.9	+0.2	
	baz=234,SNR=80								
SKT	**Skwentna**	11.09	38	P		Pn	13 28 31.9	+1.9	
	baz=230,SNR=98								
G15K	**Niukluk**	11.14	4	P		Pn	13 28 33.7	+3.0	
	baz=186,SNR=31								
RC01	**Rabbit Creek A**	11.25	44			Pn	13 28 31.9	-0.3	
RC01	**Rabbit Creek A**	11.25	44	P		Pn	13 28 32.0	-0.2	
	baz=238,SNR=38								
K20K	**Telida**	11.26	28	P		Pn	13 28 34.4	+2.0	
	baz=219,SNR=254								
J19K	**Poorman**	11.38	24	P		Pn	13 28 36.0	+2.0	
	baz=213,SNR=173								
H17K	**Granite Mounta**	11.45	13	P		Pn	13 28 37.3	+2.5	
	baz=198,SNR=44								
M22K	**Willow**	11.47	41	P		Pn	13 28 35.9	+0.7	
	baz=234,SNR=13								
PPLA	**Purkeypile**	11.48	33	P		Pn	13 28 38.7	+3.2	
	baz=225,SNR=107								
F14K	**Arctic Creek**	11.58	359	P		Pn	13 28 40.1	+3.4	
	baz=179,SNR=26								
G16K	**Koyuk River**	11.64	7	P		Pn	13 28 40.1	+2.8	
	baz=191,SNR=102								
TNA	**Tin City**	11.71	356			Pn	13 28 41.2	+2.8	
TNA	**Tin City**	11.71	356	P		Pn	13 28 41.7	+3.3	
	baz=174,SNR=15								
PWL	**Port Wells**	11.72	47	P		Pn	13 28 37.5	-1.2	
	baz=242,SNR=132								
GCSA	**Galena City Sc**	11.77	19	P		Pn	13 28 41.1	+1.9	
	baz=207,SNR=173								
PMR	**Palmer**	11.77	43	P		Pn	13 28 39.2	0.0	
PMR	**Palmer**	11.77	43	P		Pn	13 28 39.3	0.0	
	baz=237,SNR=24								
CUT	**Chulitna**	11.81	38	P		Pn	13 28 41.5	+1.7	
	baz=231,SNR=71								
F15K	**North Star Dit**	11.83	3	P		Pn	13 28 43.5	+3.4	
	baz=184,SNR=18								
H18K	**Honhosa River**	11.88	16	P		Pn	13 28 43.1	+2.4	
	baz=202								
G17K	**Kiwalik Mounta**	11.90	11	P		Pn	13 28 43.7	+2.7	
	baz=195,SNR=36								
J20K	**Nowinta River**	11.90	26	P		Pn	13 28 43.0	+2.1	
	baz=216,SNR=299								
KNK	**Knik Glacier**	11.95	44	P		Pn	13 28 40.3	-1.4	
	baz=239,SNR=48								
SHEM	**Shemya Is, Ala**	12.01	272	P		Pn	13 28 42.0	-0.5	
	comp=E,49nm,0.8s,baz=261,slow=22,SNR=2.2								
SHEM				LR		LR	13 32 58.5		
	comp=E,1µm,21.1s,baz=82,slow=36								
SMY	**Shemya**	12.01	272	Pn		Pn	13 28 42.0	-0.5	
SMY	**Shemya**	12.01	272	P		Pn	13 28 42.0	-0.5	
Q23K	**Middleton Isla**	12.06	55			Pn	13 28 41.5	-1.7	
Q23K	**Middleton Isla**	12.06	55	P		Pn	13 28 41.8	-1.4	
	baz=252,SNR=20								
CHUM	**Lake Minchumin**	12.17	30	P		Pn	13 28 46.5	+1.9	
	baz=221,SNR=107								
GLI	**Glacier Island**	12.27	48	P		Pn	13 28 44.0	-2.1	
	baz=244,SNR=34								
I20K	**Nadeneneel**	12.33	23	P		Pn	13 28 49.1	+2.3	
	baz=214,SNR=98								
M23K	**Glacier View**	12.44	43	P		Pn	13 28 47.5	-1.0	
	baz=239,SNR=49								
TRF	**Thorofare Moun**	12.49	34	P		Pn	13 28 52.1	+2.9	
	baz=228,SNR=83								
G18K	**Tagagawik**	12.53	14	P		Pn	13 28 52.7	+3.1	
	baz=200,SNR=130								
H19K	**Roundabout Mou**	12.55	18	P		Pn	13 28 51.9	+2.0	
	baz=207,SNR=156								
SCM	**Sheep Creek Mo**	12.63	44	P		Pn	13 28 50.0	-0.9	
	baz=240,SNR=199								
WAT1	**Susitna Watana**	12.70	39	P		Pn	13 28 51.6	-0.4	
	baz=234								
BPAW	**Bear Paw Mtn.**	12.73	31	P		Pn	13 28 54.3	+2.0	
	baz=224,SNR=119								
EYAK	**Cordova Ski Ar**	12.74	51			Pn	13 28 50.4	-1.9	
EYAK	**Cordova Ski Ar**	12.74	51	P		Pn	13 28 50.6	-1.8	
EYAK	**Cordova Ski Ar**	12.74	51	S		Sn	13 31 10.9	-1.2	
EYAK	**Cordova Ski Ar**	12.74	51	P		Pn	13 28 50.6	-1.8	
	baz=238,SNR=95								
F17K	**Baldwin Pennin**	12.76	9	P		Pn	13 28 54.7	+2.1	
	baz=193,SNR=18								
H20K	**Anotleneega Mo**	12.83	21	P		Pn	13 28 55.7	+2.0	
	baz=211,SNR=99								
WAT6	**Susitna Watana**	12.86	40	P		Pn	13 28 53.6	-0.6	
	baz=236,SNR=89								
G19K	**Purcell Mounta**	13.00	16	P		Pn	13 28 57.9	+2.0	
	baz=204,SNR=40								
KLU	**Klutina**	13.05	47	P		Pn	13 28 55.0	-1.7	
	baz=244,SNR=237								
F18K	**Selawik**	13.07	11	P		Pn	13 28 59.7	+2.9	
	baz=197,SNR=31								
MCK	**McKinley**	13.13	35	P		Pn	13 29 00.2	+2.6	
	baz=230,SNR=40								
KAIM	**Kayak Island**	13.15	54	P		Pn	13 28 57.2	-0.6	
	baz=252,SNR=28								
M24K	**Tolsona, Glenn**	13.24	44	P		Pn	13 28 58.0	-1.0	
	baz=241,SNR=185								
I21K	**Tanana**	13.26	26	P		Pn	13 29 02.0	+2.6	
	baz=218								
DHY	**Denali Highway**	13.28	39	P		Pn	13 28 59.4	-0.4	
	baz=235,SNR=57								
E17K	**Hotham Inlet**	13.34	7	P		Pn	13 29 02.8	+2.4	
	baz=191,SNR=26								
BMRM	**Bremner River**	13.42	50			Pn	13 28 59.8	-1.6	
BMRM	**Bremner River**	13.42	50	P		Pn	13 28 59.9	-1.6	
	baz=248,SNR=182								
H21K	**Melozitna Rive**	13.44	24	P		Pn	13 29 03.7	+2.0	
	baz=215,SNR=141								
MLY	**Manley**	13.49	28	P		Pn	13 29 04.6	+2.2	
	baz=222,SNR=202								
IMAR	**Indian Mountai**	13.50	22			Pn	13 29 02.6	+0.1	
F19K	**Shaleruckik Mo**	13.54	14	P		Pn	13 29 05.2	+2.3	
	baz=201,SNR=91								
NEA2	**Nenana**	13.67	32	P		Pn	13 29 04.2	-0.6	
	baz=227,SNR=97								
N25K	**Chitina, Valde**	13.68	47	P		Pn	13 29 03.6	-1.3	
	baz=246,SNR=128								
BGLC	**Bering Glacier**	13.75	54	P		Pn	13 29 05.8	0.0	
	baz=253								
E18K	**Tukpahlearik C**	13.78	9	P		Pn	13 29 08.6	+2.5	
	baz=193,SNR=31								
HARP	**HAARP**	13.79	44	P		Pn	13 29 05.7	-0.7	
	baz=242,SNR=35								
D17K	**Noatak River**	13.88	5	P		Pn	13 29 08.5	+1.1	
	baz=187,SNR=8.9								
PAX	**Paxson**	13.95	41			Pn	13 29 07.0	-1.5	
PAX	**Paxson**	13.95	41	P		Pn	13 29 07.1	-1.5	
PAX	**Paxson**	13.95	41	P		Pn	13 29 08.4	-0.2	
	baz=239,SNR=110								
I23K	**Minto, Yukon-K**	13.97	30	P		Pn	13 29 09.8	+1.1	
	baz=224,SNR=154								
H22K	**Ishtalitna Cre**	13.98	25	P		Pn	13 29 11.5	+2.7	
	baz=218,SNR=341								
G21K	**Allakaket**	14.00	21	P		Pn	13 29 10.7	+1.7	
	baz=212								
CRQE	**Cirque**	14.04	52	P		Pn	13 29 08.3	-1.3	
	baz=251,SNR=106								
F20K	**Avaraart Lake**	14.05	17	P		P	13 29 12.5	-2.5	
	baz=206,SNR=183								
CCB	**Clear Creek Bu**	14.11	33			Pn	13 29 08.9	-1.5	
E19K	**Redstone River**	14.20	14	P		Pn	13 29 13.9	+2.4	
	baz=202								
HDA	**Harding Lake**	14.24	35	P		Pn	13 29 12.2	0.0	
	baz=232,SNR=28								
COLA	**College**	14.24	33			Pn	13 29 11.1	-1.0	
COLA	**College**	14.24	33	P		Pn	13 29 12.7	+0.5	
COLA	**College**	14.24	33	d/P		Pn	13 29 11.0	-1.2	
COLA	**College**	14.24	33	P		Pn	13 29 11.5	-0.7	
	baz=228								
RDOG	**Red Dog Mine**	14.24	5	P		Pn	13 29 13.4	+1.2	
	baz=187,SNR=6.7								
MCARA	**McCarthy VSAT**	14.28	49	P		Pn	13 29 11.5	-1.3	
	baz=249,SNR=113								
K24K	**Donnelly Dome**	14.29	38	P		Pn	13 29 13.6	+0.8	
	baz=236,SNR=72								
ISLE	**Juniper Island**	14.34	53			Pn	13 29 12.8	-0.8	
C16K	**Lisburne Hills**	14.40	1	P		P	13 29 17.2	-1.6	
	baz=182,SNR=5.6								
MESA	**MESA**	14.41	55	P		Pn	13 29 14.1	-0.5	
	baz=255,SNR=42								
H23K	**Yukon River**	14.42	28	P		Pn	13 29 16.5	+2.1	
	baz=222								
ILAR	**Eielson Array**	14.49	34	P		Pn	13 29 14.0	-1.4	
	comp=E,5.7nm,0.6s,baz=228,slow=12,SNR=65								
ILAR				S		Sn	13 31 45.2	-9.4	
	comp=E,2.8nm,0.9s,baz=218,slow=19,SNR=0.6								
ILAR				LR		LR	13 35 24.0		
	comp=E,3µm,19.1s,baz=220,slow=39								
ILAR				ScP		ScP	13 37 52.0	+1.0	
	comp=E,1.7nm,0.8s,baz=306,slow=2.8,SNR=5.4								
ILAR				ScS		ScS	13 41 26.6	-1.6	
	comp=E,0.4nm,0.9s,baz=229,slow=19,SNR=4.1								
POKR	**Poker Plat Res**	14.54	32	P		Pn	13 29 15.2	-0.8	
	baz=228,SNR=12								
RIDG	**Independent Ri**	14.60	39	P		Pn	13 29 17.5	+0.6	
	baz=238,SNR=60								
F21K	**Alatna River**	14.62	19	P		P	13 29 19.7	-1.6	
	baz=210,SNR=86								
MENT	**Mentasta**	14.63	43			Pn	13 29 16.6	-0.7	
MENT	**Mentasta**	14.63	43	P		Pn	13 29 17.5	+0.2	
C17K	**DeLong Mountai**	14.65	4	P		P	13 29 19.7	-2.1	
	baz=186,SNR=19								
M26K	**Nabesna, AK**	14.70	46	P		Pn	13 29 16.9	-1.2	
	baz=245,SNR=189								
G22K	**Bettles**	14.78	23	P		P	13 29 21.5	-1.6	
	baz=215								
L26K	**Log Cabin Wild**	14.83	43	P		Pn	13 29 19.7	-0.1	
	baz=243,SNR=144								
TABL	**Table Mountain**	14.86	54			Pn	13 29 19.9	-0.6	
H24K	**Noodor Dome**	14.90	30	P		Pn	13 29 20.6	-0.1	
	baz=226,SNR=182								
J25K	**Salcha River,**	14.91	36	P		Pn	13 29 18.9	-2.0	
	baz=234,SNR=70								
CTG	**Chitna Glacier**	14.92	52	P		Pn	13 29 20.3	-0.8	
	baz=253,SNR=141								
C18K	**Utukok River**	14.93	7	P		P	13 29 23.6	-1.3	
	baz=191,SNR=38								
G23K	**Bananza Creek**	14.97	25	P		P	13 29 23.8	-1.5	
	baz=219,SNR=156								
SCRK	**Sand Creek**	15.05	39	P		Pn	13 29 23.0	+0.3	
	baz=238,SNR=193								
D19K	**Kuna River**	15.07	11	P		P	13 29 25.3	-1.1	
	baz=198								
E20K	**Nigu River**	15.09	14	P		P	13 29 25.9	-0.7	
	baz=203								
F22K	**John River**	15.12	20	P		P	13 29 26.3	-0.7	
	baz=213,SNR=28								
M27K	**Edge Creek, AK**	15.15	47	P		Pn	13 29 23.5	-0.6	
	baz=247,SNR=151								
PINM	**Pinnacle**	15.21	56	P		Pn	13 29 24.9	+0.1	
	baz=258,SNR=59								
COLD	**Coldfoot**	15.33	23	P		P	13 29 28.5	-0.7	
	baz=217,SNR=101								
O28M	**Mount Upton**	15.40	53	P		Pn	13 29 27.4	0.0	
	baz=255,SNR=193								
PRP	**Porcupine Dome**	15.41	33	P		Pn	13 29 25.3	-2.0	
	baz=231,SNR=20								
D20K	**Etivluk River**	15.46	13	P		P	13 29 30.4	-0.3	
	baz=201								
L27K	**Beaver Creek,**	15.46	44	P		Pn	13 29 26.5	-1.4	
	baz=245,SNR=51								
J26L	**Joseph Creek**	15.49	38	P		Pn	13 29 25.4	-2.8	
	baz=238,SNR=81								
C19K	**Lookout Ridge**	15.51	9	P		Pn	13 29 29.5	+1.0	
	baz=194,SNR=15								
PNL	**Peninsula**	15.55	58	P		Pn	13 29 30.0	+1.0	
PNL	**Peninsula**	15.55	58	P		Pn	13 29 28.6

E25K	**Arctic Village**	**17.17**	**26**	P		**P**		**13 29 49.7**	**+0.1**
	baz=224,SNR=139									
D24K	**Happy Valley**	**17.19**	**21**	P		**P**		**13 29 51.1**	**+1.3**
	baz=216									
F26K	**Sheenjek River**	**17.26**	**29**	P		**P**		**13 29 51.5**	**+0.9**
	baz=228,SNR=111									
I28M	**Miner Creek**	**17.30**	**38**	P		**Pn**		**13 29 49.3**	**-1.5**
	baz=241,SNR=96									
R31K	**City Hall, Gus**	**17.30**	**63**	P		**P**		**13 29 52.7**	**+1.6**
	baz=268,SNR=21									
O30N	**Mendenhall**	**17.37**	**55**	P		**Pn**		**13 29 51.6**	**0.0**
	baz=260,SNR=189									
B22K	**Teshekpuk Lake**	**17.40**	**14**	P		**P**		**13 29 53.0**	**+0.9**
	baz=205,SNR=41									
C23K	**Itkillik River**	**17.41**	**18**	P		**P**		**13 29 54.0**	**+1.8**
	baz=212,SNR=45									
G27K	**Doyon Strip**	**17.45**	**33**	P		**Pn**		**13 29 51.1**	**-1.4**
	baz=234,SNR=40									
M30M	**Minto, Yukon**	**17.45**	**49**	P		**P**		**13 29 52.8**	**0.0**
	baz=254,SNR=102									
J29N	**Klondike Camp**	**17.50**	**42**	P		**P**		**13 29 53.4**	**0.0**
	baz=246,SNR=26									
SIT	**Sitka**	**17.53**	**67**	P		**P**		**13 29 55.6**	**+2.0**
SIT	**Sitka**	**17.53**	**67**	S		**S**		**13 33 11.4**	**+0.5**
SIT	**Sitka**	**17.53**	**67**	P		**P**		**13 29 54.7**	**+1.1**
	baz=273,SNR=13									
K29M	**Barlow Dome**	**17.55**	**44**	P		**Pn**		**13 29 53.7**	**-0.2**
	baz=249,SNR=154									
SKAG	**Skagway**	**17.58**	**59**	P		**Pn**		**13 29 55.1**	**+1.0**
SKAG	**Skagway**	**17.58**	**59**	P		**Pn**		**13 29 56.6**	**+2.5**
SKAG	**Skagway**	**17.58**	**59**	S		**Sn**		**13 33 10.3**	**+1.2**
SKAG	**Skagway**	**17.58**	**59**	P		**Pn**		**13 29 54.8**	**+0.7**
	baz=265,SNR=144									
N31M	**Braeburn, Yuko**	**17.65**	**53**	P		**Pn**		**13 29 55.8**	**+0.8**
	baz=258,SNR=286									
C24K	**Franklin Bluff**	**17.68**	**20**	P		**Pn**		**13 29 56.6**	**+1.3**
	baz=215									
A22K	**Sinclair Lake**	**17.81**	**12**	P		**Pn**		**13 29 57.4**	**+0.6**
	baz=202									
I29M	**Ogilvie Camp,**	**17.86**	**39**	P		**Pn**		**13 29 57.4**	**-0.2**
	baz=244,SNR=86									
D25K	**Kavik River**	**17.86**	**23**	P		**Pn**		**13 29 58.3**	**+0.7**
	baz=220,SNR=74									
WHY	**Whitehorse**	**17.94**	**56**	IAmb		IAmb		13 30 02.7		
	comp=Z,678nm,1.2s									
WHY	**Whitehorse**	**17.94**	**56**	P		**Pn**		**13 29 60.0**	**+1.4**
	baz=262,SNR=124									
R32K	**Eaglecrest**	**17.94**	**63**	P		**Pn**		**13 30 01.1**	**+2.5**
	baz=270,SNR=30									
JIS	**Juneau Island**	**18.01**	**63**	P		**Pn**		**13 30 01.5**	**+2.1**
JIS	**Juneau Island**	**18.01**	**63**	S		**S**		**13 33 20.3**	**+0.1**
MAYO	**Mayo, Yukon**	**18.15**	**46**	P		**P**		**13 30 00.5**	**+0.1**
	baz=252									
H29M	**Whitestone**	**18.24**	**37**	P		**P**		**13 30 00.9**	**-0.5**
H29M	**Whitestone**	**18.24**	**37**	P		**P**		**13 30 00.7**	**-0.7**
	baz=241,SNR=147									
J30M	**Hart River**	**18.30**	**43**	P		**P**		**13 30 02.3**	**+0.1**
	baz=248,SNR=143									
E27K	**Coleen River**	**18.31**	**29**	P		**P**		**13 30 02.3**	**+0.2**
	baz=231,SNR=41									
P32M	**Atlin**	**18.41**	**59**	IAmb		IAmb		13 30 08.3		
	comp=Z,253nm,0.8s									
P32M	**Atlin**	**18.41**	**59**	P		**Pn**		**13 30 05.7**	**+1.4**
	baz=266,SNR=111									
M31M	**Drury Creek, Y**	**18.45**	**51**	IAmb		IAmb		13 30 08.8		
	comp=Z,268nm,0.8s									
M31M	**Drury Creek, Y**	**18.45**	**51**	P		**Pn**		**13 30 05.4**	**+0.8**
	baz=258,SNR=338									
F28M	**Old Crow**	**18.48**	**32**	P		**P**		**13 30 04.0**	**0.0**
	baz=235,SNR=58									
I30M	**Mount Dempster**	**18.54**	**41**	P		**P**		**13 30 04.0**	**-0.7**
I30M	**Mount Dempster**	**18.54**	**41**	P		**P**		**13 30 03.8**	**-0.9**
	baz=247,SNR=130									
C26K	**Camden Bay**	**18.65**	**23**	P		**P**		**13 30 05.7**	**-0.1**
	baz=222,SNR=30									
G29M	**Pine Creek**	**18.70**	**35**	IAmb		IAmb		13 30 09.9		
	comp=Z,216nm,0.8s									
G29M	**Pine Creek**	**18.70**	**35**	P		**P**		**13 30 06.3**	**-0.2**
	baz=240,SNR=138									
C27K	**Jago River**	**18.72**	**24**	P		**Pn**		**13 30 07.6**	**-0.3**
	baz=224,SNR=93									
U33K	**Whale Pass**	**18.83**	**70**	IAmb		IAmb		13 30 13.0		
	comp=Z,411nm,1.4s									
U33K	**Whale Pass**	**18.83**	**70**	P		**Pn**		**13 30 10.0**	**+0.8**
	baz=277,SNR=29									
T33K	**Petersburg**	**18.85**	**68**	P		**Pn**		**13 30 09.8**	**+0.4**
	baz=275,SNR=17									
N32M	**Quiet Lake**	**18.88**	**54**	P		**Pn**		**13 30 11.0**	**+1.2**
	baz=262									
EPYK	**Eagle Plains**	**18.90**	**37**	P		**P**		**13 30 07.7**	**-0.9**
EPYK				IAmb		IAmb		13 30 10.7		
	comp=Z,206nm,0.8s									
EPYK	**Eagle Plains**	**18.90**	**37**	P		**P**		**13 30 08.3**	**-0.3**
	baz=243,SNR=168									
P33M	**Teslin, Yukon**	**18.91**	**57**	IAmb		IAmb		13 30 13.5		
	comp=Z,220nm,0.8s									
P33M	**Teslin, Yukon**	**18.91**	**57**	P		**Pn**		**13 30 10.7**	**+0.5**
	baz=266,SNR=167									
CRAG	**Craig**	**18.92**	**72**	P		**Pn**		**13 30 11.9**	**+1.7**
CRAG	**Craig**	**18.92**	**72**	P		**Pn**		**13 30 10.5**	**+0.2**
	baz=279,SNR=20									
Q32M	**Nakina River**	**19.13**	**61**	IAmb		IAmb		13 30 17.8		
	comp=Z,218nm,0.8s									
Q32M	**Nakina River**	**19.13**	**61**	P		**Pn**		**13 30 14.0**	**+1.1**
	baz=270,SNR=93									
D27M	**Malcolm River**	**19.17**	**27**	P		**P**		**13 30 12.3**	**+0.8**
	baz=230,SNR=35									
E28M	**Babbage River**	**19.17**	**30**	P		**P**		**13 30 11.7**	**+0.2**
	baz=233,SNR=47									
WRAK	**Wrangell Islan**	**19.22**	**69**	IAmb		IAmb		13 30 20.8		
	comp=Z,226nm,0.8s									
WRAK	**Wrangell Islan**	**19.22**	**69**	P		**Pn**		**13 30 14.6**	**+0.8**
	baz=277,SNR=54									
BILL	**Bilibino**	**19.28**	**328**	P		**P**		**13 30 12.9**	**+0.2**
BILL	**Bilibino**	**19.28**	**328**	*d*	*i*	**Pn**		**13 30 14.9**	**+0.5**
BILL					pmax	pmax				
	comp=Z,78nm,1.5s									
G30M	**tAoh Zraii Nji**	**19.36**	**36**	IAmb		IAmb		13 30 14.9		
	comp=Z,233nm,0.9s									
G30M	**tAoh Zraii Nji**	**19.36**	**36**	P		**P**		**13 30 12.8**	**-0.8**
	baz=242,SNR=132									
E29M	**Blow River**	**19.54**	**31**	P		**P**		**13 30 15.2**	**-0.3**
	baz=236,SNR=61									
H31M	**Peel River**	**19.54**	**40**	IAmb		IAmb		13 30 19.0		
	comp=Z,252nm,0.9s									
H31M	**Peel River**	**19.54**	**40**	P		**P**		**13 30 14.5**	**-1.1**
	baz=248,SNR=140									
S34M	**Telegraph Cree**	**19.75**	**64**	IAmb		IAmb		13 30 25.6		
	comp=Z,437nm,1.3s									
S34M	**Telegraph Cree**	**19.75**	**64**	P		**Pn**		**13 30 19.9**	**-0.1**
	baz=274,SNR=109									
V35K	**Ketchikan**	**19.79**	**72**	IAmb		IAmb		13 30 27.1		
	comp=Z,271nm,1.1s									
V35K	**Ketchikan**	**19.79**	**72**	P		**Pn**		**13 30 20.6**	**+0.1**
	baz=280,SNR=50									
R33M	**Jennings River**	**19.80**	**60**	P		**Pn**		**13 30 21.6**	**+0.8**
	baz=270,SNR=162									
F30M	**Barrier River**	**19.81**	**35**	P		**P**		**13 30 17.3**	**-1.1**
F30M				IAmb		IAmb		13 30 20.6		
	comp=Z,245nm,0.8s									
F30M	**Barrier River**	**19.81**	**35**	P		**P**		**13 30 18.2**	**-0.3**
	baz=241,SNR=134									
D28M	**Stokes Point**	**19.84**	**29**	P		**P**		**13 30 18.5**	**-0.1**
	baz=233									
MMPY	**Sheldon Lake,**	**19.95**	**50**	P		**Pn**		**13 30 21.9**	**-0.6**
	baz=260,SNR=408									
G31M	**Satah River**	**20.02**	**37**	P		**P**		**13 30 19.1**	**-1.6**
G31M	**Satah River**	**20.02**	**37**	P		**P**		**13 30 18.9**	**-1.8**
	baz=245,SNR=70									
MOBC	**Moresby Island**	**20.08**	**78**	P		**P**		**13 30 20.7**	**-0.8**
DLBC	**Dease Lake**	**20.31**	**63**	P		Pn		13 30 26.0	-0.6
	comp=Z,537nm,0.9s,baz=244,slow=11,SNR=30									
DLBC				S		**S**		**13 34 08.3**	**+1.2**
	comp=Z,62nm,0.9s,baz=242,slow=17,SNR=1.2									
DLBC	**Dease Lake**	**20.31**	**63**	P		Pn		13 30 25.9	-0.7
	baz=273,SNR=74									
T35M	**Bob Quinn**	**20.31**	**67**	IAmb		IAmb		13 30 32.4		
	comp=Z,275nm,1.3s									
T35M	**Bob Quinn**	**20.31**	**67**	P		Pn		13 30 25.9	-0.7	
	baz=277,SNR=60									
F31M	**Tsiigehtchic**	**20.43**	**36**	P		**P**		**13 30 23.6**	**-1.6**
F31M	**Tsiigehtchic**	**20.43**	**36**	P		**P**		**13 30 23.2**	**-1.9**
	baz=245,SNR=24									
U35K	**Hyder**	**20.58**	**70**	P		Pn		13 30 28.4	-1.3	
	baz=280,SNR=6.3									
HG4B	**Hotspring**	**20.78**	**80**	P		**P**		**13 30 29.7**	**+0.6**
INK	**Inuvik**	**20.89**	**34**	P		**P**		**13 30 28.7**	**-1.3**
INK						IAmb	IAmb	13 30 35.0		
	comp=Z,181nm,0.8s									
INK	**Inuvik**	**20.89**	**34**	P		**P**		**13 30 29.1**	**-0.9**
	comp=Z,105nm,0.8s,baz=232,slow=11,SNR=156									
INK						S		**S**		**13 34 11.3**	**-6.9**
	comp=Z,25nm,1.0s,baz=352,slow=23,SNR=3.8									
INK						ScP		**ScP**		**13 38 05.0**	**+0.7**
	comp=Z,23nm,1.0s,baz=266,slow=3.2,SNR=12									
INK						LR	LR		13 39 26.1		
	comp=Z,2μm,18.2s,baz=232,slow=39									
INK						ScS		**ScS**		**13 41 47.1**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=21,slow=32,SNR=9.5									
	comp=Z,105nm,0.8s									
INK	**Inuvik**	**20.89**	**34**	P		**P**		**13 30 29.0**	**-1.1**
	baz=243,SNR=135									
WTLY	**Watson Lake, Y**	**20.91**	**58**	P		Pn		13 30 32.5	-1.2	
	baz=270,SNR=94									
PET	**Petropavlovsk**	**20.98**	**282**	P		**P**		**13 30 31.8**	**+0.6**
PET	**Petropavlovsk**	**20.98**	**282**	*e*	*i*	Pn		13 30 32.9	-1.6	
PET					pmax	pmax				
	comp=Z,92nm,1.5s									
TGTN	**Hyland Airport**	**21.22**	**54**	P		**P**		**13 30 35.2**	**+1.4**
	baz=266,SNR=184									
PEA0B	**Petropavlovsk-**	**21.50**	**283**	P		**P**		**13 30 36.6**	**-0.2**
PEA0B					IAmb	IAmb		13 30 56.5		
	comp=Z,431nm,1.6s									
PEA0B	**Petropavlovsk-**	**21.50**	**283**	*e*	*i*	**P**		**13 30 37.5**	**+0.7**
PETK	**Petropavlovsk-**	**21.50**	**283**	P		**P**		**13 30 37.0**	**+0.2**
	comp=Z,11nm,0.6s,baz=77,slow=15,SNR=22									
PETK					PcP		**PcP**		**13 34 35.8**	**-0.5**
	comp=Z,9.6nm,0.9s,baz=110,slow=4.0,SNR=4.2									
PETK					ScP		**ScP**		**13 38 07.3**	**+1.2**
	comp=Z,12nm,1.0s,baz=68,slow=8.2,SNR=9.9									
PETK					LR	LR		13 38 33.0		
	comp=Z,1μm,20.5s,baz=96,slow=35									
	comp=Z,11nm,0.6s									
LIRD	**Liard River Hi**	**22.29**	**60**	P		**P**		**13 30 46.5**	**+1.4**
	baz=274,SNR=35									
BBB	**Bella Bella**	**22.61**	**79**	P		**P**		**13 30 49.8**	**+1.2**
	comp=Z,11nm,0.8s,baz=283,slow=9.8,SNR=3.8									
BBB					LR	LR		13 37 52.0		
	comp=Z,558nm,21.1s,baz=288,slow=32									
	comp=Z,11nm,0.8s									
TOAD	**Toad River Com**	**22.78**	**61**	P		**P**		**13 30 51.5**	**+1.2**
	baz=276,SNR=74									
SEY	**Seymchan**	**23.21**	**309**	LR		LR		13 41 43.2		
	comp=Z,421nm,18.0s,baz=110,slow=41									
SEY	**Seymchan**	**23.21**	**309**	*i*	*i*	**P**		**13 30 55.8**	**+1.3**
SEY					pmax	pmax				
	comp=Z,73nm,1.7s									
SKR	**Severo-Kuril's**	**23.25**	**278**	*e*	*i*	**P**		**13 30 48.0**	**-7.0**
SKR				*e*				13 31 08.3		
SKR				*e*	PPP	PPP		13 31 35.7		
SKR				*e*	S	**S**		**13 34 50.9**	**-10**
SKR				*e*	SS	SnSn		13 36 09.4	+27	
SKR					pmax	pmax				
	comp=Z,100nm,2.4s									
SKR					MLR	MLR				
	comp=Z,500nm,13.0s									
KOTAN	**Kotaneelee Air**	**23.28**	**58**	P		**P**		**13 30 55.4**	**+0.2**
	baz=273,SNR=65									
WRGLY	**Wrigley**	**23.57**	**50**	IAmb		IAmb		13 31 08.3		
	comp=Z,160nm,0.9s									
WRGLY	**Wrigley**	**23.57**	**50**	P		**P**		**13 30 59.6**	**+1.8**
	baz=267,SNR=6.4									
MA2	**Magadan**	**24.06**	**301**	P		**P**		**13 31 03.2**	**+1.0**
MA2					IAmb	IAmb		13 31 24.6		
	comp=Z,396nm,1.7s									
MA2	**Magadan**	**24.06**	**301**	LR		LR		13 39 52.6		
	comp=Z,430nm,20.5s,baz=98,slow=35									
MA2	**Magadan**	**24.06**	**301**	P		**P**		**13 31 03.2**	**+1.0**
MA2					pmax	pmax				
	comp=Z,396nm,1.7s									
CBB	**Campbell River**	**25.03**	**82**	P		**P**		**13 31 11.3**	**+0.2**
A36M	**Sachs Harbour**	**25.05**	**29**	P		**P**		**13 31 10.6**	**-0.4**
A36M					IAmb	IAmb		13 31 15.3		
	comp=Z,197nm,0.8s									
A36M	**Sachs Harbour**	**25.05**	**29**	P		**P**		**13 31 11.9**	**+0.8**
	baz=246,SNR=12									
LLLB	**Lillooet**	**26.82**	**79**	P		**P**		**13 31 28.4**	**+1.0**
B04A	**Port Angeles**	**27.01**	**85**	P		**P**		**13 31 30.0**	**+1.0**
NLWA	**Neilton Lookou**	**27.12**	**87**	P		**P**		**13 31 30.0**	**0.0**
YKA	**Yellowknife Ar**	**27.64**	**51**			**PcP**		**13 34 50.7**	**+1.1**
YKA	**Yellowknife Ar**	**27.64**	**51**	P		**P**		**13 31 34.8**	**+0.3**
	comp=Z,18nm,0.7s,baz=360,slow=4.8,SNR=102									
YKA					PcP		**PcP**		**13 34 50.2**	**+0.7**
	comp=Z,8.4nm,0.8s,baz=300,slow=2.4,SNR=6.1									
YKA					ScP		**ScP**		**13 38 24.1**	**+1.1**
	comp=Z,9.9nm,1.0s,baz=285,slow=2.7,SNR=14									
YKA					LR	LR		13 43 56.4		
	comp=Z,2μm,19.5s,baz=272,slow=39									
	comp=Z,18nm,0.7s									
YKA	**Yellowknife Ar**	**27.64**	**51**	*i*	P	**P**		**13 31 36.2**	**+1.7**
YKA					pmax	pmax				
	comp=Z,5.0nm,0.3s									
GNW	**Green Mountain**	**27.65**	**86**			**PcP**		**13 34 52.3**	**+2.4**
F03A	**Seaside**	**28.05**	**89**	IAmb		IAmb		13 31 43.1		
	comp=Z,135nm,1.2s									
D05A	**Enumclaw**	**28.33**	**86**	IAmb		IAmb		13 31 45.8		
	comp=Z,160nm,1.5s									
COR	**Corvallis**	**28.94**	**91**	P		**P**		**13 31 47.7**	**+1.5**
COR					IAmb	IAmb		13 31 50.6		
	comp=Z,135nm,1.4s									
COR	**Corvallis**	**28.94**	**91**	P		**P**		**13 31 47.7**	**+1.5**
COR					pmax	pmax				
	comp=Z,135nm,1.4s									
KEBM	**Edson Butte**	**29.32**	**95**	P		**P**		**13 31 50.2**	**+0.4**
KEBM					IAmb	IAmb		13 31 53.9		
	comp=Z,147nm,1.1s									
I03D	**Drain, OR**	**29.42**	**93**			**PcP**		**13 34 56.7**	**+2.3**
HOOD	**Mount Hood Mea**	**29.51**	**89**	IAmb		IAmb		13 31 55.7		
	comp=Z,128nm,1.5s									
MXC	**Moxie City**	**29.64**	**85**	P		**P**		**13 31 52.9**	**+0.4**
WAH2	**Wahluke Slope**	**29.98**	**85**	P		**P**		**13 31 56.1**	**+0.8**
L02F	**Cave Junction**	**30.23**	**96**	P		**P**		**13 31 59.1**	**+1.5**
J04A	**Umpqua Nationa**	**30.42**	**92**	P		**P**		**13 32 00.5**	**+1.0**
J04A					IAmb	IAmb		13 32 03.7		
	comp=Z,122nm,1.2s									
J04A						**PcP**		**13 34 59.3**	**+2.1**
NEW	**Newport**	**30.65**	**80**	P		**P**		**13 32 03.1**	**+1.7**
	comp=Z,30nm,0.8s,baz=296,slow=6.4,SNR=26									
NEW					ScP		**ScP**		**13 38 33.5**	**+0.6**
	comp=Z,6.1nm,0.9s,baz=291,slow=2.6,SNR=5.6									
NEW					LR	LR		13 42 30.8		
	comp=Z,392nm,21.6s,baz=298,slow=32									
	comp=Z,30nm,0.8s									
J05D	**Fort Rock, OR**	**30.91**	**92**	IAmb		IAmb		13 32 08.2		
	comp=Z,115nm,1.2s									
KHMM	**Horse Mountain**	**30.91**	**98**	P		**P**		**13 32 05.0**	**+1.2**
KHMM					IAmb	IAmb		13 32 08.4		
	comp=Z,158nm,1.0s									
TYV	**Tymovskoe**	**30.97**	**286**	*e*	P	**P**		**13 32 04.5**	**+0.5**
TYV				*e*				13 37 02.9		
TYV					pmax	pmax				
	comp=Z,14nm,1.7s									
TYV					pmax	pmax				
	comp=Z,200nm,3.6s									
YBH	**Yreka Blue Hor**	**30.97**	**95**	LR		LR		13 42 45.9		
	comp=Z,14nm,18.0s,baz=330,slow=33									
G08A	**Pilot Rock**	**31.12**	**87**	P		**P**		**13 32 06.4**	**+0.8**
O02D	**Mt. Diablo Mer**	**31.91**	**98**	P		**P**		**13 32 13.8**	**+1.3**
O02D					IAmb	IAmb		13 32 17.0		
	comp=Z,76nm,0.9s									
O03E	**Paynes Creek**	**32.41**	**97**	IAmb		IAmb		13 32 21.9		
	comp=Z,139nm,1.2s									
J08A	**Circle Bar Ran**	**32.50**	**89**	P		**P**		**13 32 19.1**	**+1.4**
J08A						**PcP**		**13 35 04.9**	**+2.1**
TIXI	**Tiksi**	**32.50**	**328**	LR		LR		13 47 17.5		
	comp=Z,888nm,18.1s,baz=104,slow=40									
YSS	**Yuzhno-Sakhali**	**32.80**	**279**	*e*	P	**P**		**13 32 21.4**	**+1.3**
YSS				*e*				13 33 34.1		
YSS				*e*	S	**S**		**13 37 32.4**	**+1.1**
YSS				*e*	SS	**SS**		**13 40 06.7**	**+12**
YSS					pmax	pmax				
	comp=Z,10.0nm,0.9s									
YSS					smax	smax				
	comp=N,200nm,4.5s									
YSS					smax	smax				
	comp=E,100nm,5.0s									
YSS					MLR	MLR				
	comp=N,500nm,14.0s									
YSS					MLR	MLR				
	comp=Z,400nm,14.0s									
YSS					MLR	MLR				
	comp=E,400nm,16.0s									
WVOR	**Wild Horse Val**	**32.95**	**91**	IAmb		IAmb		13 32 25.4		
	comp=Z,75nm,1.1s									
KIP	**Kipapa**	**33.01**	**166**	P		**P**		**13 32 23.9**	**+1.8**
KIP	**Kipapa**	**33.01**	**166**	P		**P**		**13 32 24.6**	**+2.4**
KIP	**Kipapa**	**33.01**	**166**	*d*	*i*	**P**		**13 32 24.7**	**+2.5**
KIP					pmax	pmax				
	comp=Z,240nm,1.0s									
KIP	**Kipapa**	**33.01**	**166**	P		**P**		**13 32 24.1**	**+1.9**
KIP					sP	**sP**		**13 32 48.5**	**-0.3**
HON	**Honolulu**	**33.11**	**166**	P		**P**		**13 32 24.1**	**+1.1**
HON	**Honolulu**	**33.11**	**166**	P		**P**		**13 32 24.1**	**+1.1**
HON					pmax	pmax				
	comp=Z,360nm,1.0s									
FARB	**Farallon Islan**	**33.43**	**101**	P		**P**		**13 32 26.9**	**+1.2**
YAK	**Yakutsk**	**33.73**	**310**	P		**P**		**13 32 28.1**	**0.0**
YAK					IAmb	IAmb		13 32 47.7		
	comp=Z,54nm,0.8s									
YAK	**Yakutsk**	**33.73**	**310**	LR		LR		13 47 39.6		
	comp=Z,459nm,18.8s,baz=76,slow=39									
YAK	**Yakutsk**	**33.73**	**310**	*e*	P	**P**		**13 32 27.1**	**-1.0**
YAK				*e*	PP	**pP**		**13 32 46.7**	**+0.6**
YAK				*e*				13 35 05.1		
YAK				*e*	S	**S**		**13 37 44.4**	**-1.1**
YAK				*e*	SS	**SnSn**		**13 40 00.0**	**+3.1**
YAK				*e*				13 42 41.3		
YAK					pmax	pmax				
	comp=Z,31nm,1.1s									
YAK					pmax	pmax				
	comp=N,4.0nm,1.4s									
YAK					pmax	pmax				
	comp=E,13nm,1.4s									
YAK					pmax	pmax				
	comp=Z,747nm,3.8s									
YAK					pmax	pmax				
	comp=N,311nm,3.5s									
YAK					pmax	pmax				
	comp=E,476nm,3.5s									
YAK					smax	smax				
	comp=E,507nm,4.1s									
YAK					smax	smax				
	comp=N,316nm,3.3s									
KHLH	**Kahului Airpor**	**33.77**	**164**	P		**P**		**13 32 29.0**	**+0.3**
AFDM	**Forest Hills D**	**33.77**	**98**	IAmb		IAmb		13 32 50.5		
	comp=Z,158nm,1.8s									
AFDM						**PcP**		**13 35 08.0**	**+1.8**
RES	**Resolute Bay**	**34.05**	**27**	P		**P**		**13 32 29.6**	**-1.1**
RES	**Resolute Bay**	**34.05**	**27**	LR		LR		13 48 19.6		
	comp=Z,990nm,19.2s,baz=263,slow=40									
RES	**Resolute Bay**	**34.05**	**27**	P		**P**		**13 32 29.6**	**-1.1**
RES					pmax	pmax				
	comp=Z,46nm,1.2s									
PAHR	**Pah Rah Range**	**34.21**	**95**	IAmb		IAmb		13 32 37.2		
	comp=Z,88nm,1.0s									
WELL	**Weller Preserv**	**34.26**	**98**	IAmb		IAmb		13 32 55.2		
	comp=Z,102nm,1.4s									
ASAJ	**Asahikawa**	**34.45**	**275**	LR		LR		13 45 48.4		
	comp=Z,325nm,21.3s,baz=71,slow=35									
MTOS	**Mt Oso, Westle**	**34.53**	**100**	P		**P**		**13 32 36.1**	**+0.8**
MTOS					IAmb	IAmb		13 32 57.5		
	comp=Z,190nm,1.8s									
HLID	**Hailey**	**34.78**	**86**	IAmb		IAmb		13 32 40.8		
	comp=Z,63nm,1.3s									
DLMT	**Dillon**	**34.82**	**82**	IAmb		IAmb		13 32 41.4		
	comp=Z,86nm,1.4s									
WAKR	**Walker**	**34.97**	**97**	P		**P**		**13 32 40.8**	**+1.5**
SAO	**San Andreas Ge**	**34.97**	**101**	IAmb		IAmb		13 33 00.8		
	comp=Z,72nm,1.2s									
POHA	**Pohakuloa**	**35.03**	**163**	P		**P**		**13 32 40.7**	**+0.7**
POHA	**Pohakuloa**	**35.03**	**163**	P		**P**		**13 32 42.0**	**+2.0**
BOZ	**Bozeman (W)**	**35.25**	**81**	P		**P**		**13 32 42.0**	**+0.4**
BOZ					IAmb	IAmb		13 32 45.1		
	comp=Z,106nm,1.5s									
BOZ	**Bozeman (W)**	**35.25**	**81**	P		**P**		**13 32 42.0**	**+0.4**
BOZ					pmax	pmax				
	comp=Z,106nm,1.5s									
BBGB	**Big Mountain B**	**35.33**	**101**	P		**P**		**13 32 43.1**	**+0.8**
RYN	**Ryan**	**35.42**	**96**	IAmb		IAmb		13 32 46.9		
	comp=Z,98nm,1.3s									
PUH	**Pauahi**

comp=Z,83nm,20.3s,baz=137,slow=36
comp=Z,27nm,0.9s
TPO Tropico Hills 38.15 100 IAmb IAmb 13 33 28.1
comp=Z,190nm,1.6s
GWY Greenwater Val 38.16 97 IAmb IAmb 13 33 10.5
comp=Z,107nm,1.2s
QSM Queen of Sheba 38.19 98 IAmb IAmb 13 33 10.7
comp=Z,62nm,1.0s
CCCA Chr Cany lake 38.20 99 P **P** **13 33 08.2 +1.6**
PSUT Pine Spring 38.24 92 IAmb IAmb 13 33 10.2
comp=Z,86nm,1.2s
PRN Pahroc Range 38.28 94 **ScP** **13 39 02.4 +1.9**
JLU Jordanelle 38.33 88 IAmb IAmb 13 33 10.7
comp=Z,69nm,1.3s
ALE Alert 38.63 12 P **P** **13 33 10.1 +0.5**
PASC Pasadena Art C 38.68 101 IAmb IAmb 13 33 31.4
comp=Z,50nm,0.9s
GSC Goldstone, Bar 38.69 98 P **P** **13 33 12.4 +1.7**
GSC Goldstone, Bar 38.69 98 P **P** **13 33 12.4 +1.7**
GSC pmax pmax
comp=Z,316nm,1.8s
MWC Mount Wilson 38.72 101 IAmb IAmb 13 33 32.9
comp=Z,164nm,1.3s
BSUT Blindstream Ca 38.78 87 IAmb IAmb 13 33 14.9
comp=Z,130nm,1.4s
BFSC Mount Baldy Ra 38.94 100 IAmb IAmb 13 33 34.0
comp=Z,82nm,1.0s
TCRU Three Creeks R 39.02 91 P **P** **13 33 14.3 +0.6**
TCRU IAmb IAmb 13 33 20.7
comp=Z,109nm,1.4s
CCUT Cedar City 39.18 93 IAmb IAmb 13 33 18.4
comp=Z,160nm,1.6s
MTPC Mountain Pass 39.29 97 IAmb IAmb 13 33 19.4
comp=Z,77nm,1.3s
TMUT Trail Mountain 39.30 89 IAmb IAmb 13 33 19.4
comp=Z,133nm,1.1s
SZCU Shurtz Canyon 39.31 93 P **P** **13 33 17.1 +1.0**
SZCU IAmb IAmb 13 33 19.1
comp=Z,65nm,1.2s
V12A Nelson 39.54 96 IAmb IAmb 13 33 21.6
comp=Z,148nm,1.3s
MTPU Mount Pierson 39.55 91 IAmb IAmb 13 33 21.9
comp=Z,104nm,1.3s
LCMT Little Creek M 39.61 93 IAmb IAmb 13 33 22.0
comp=Z,111nm,1.2s
HEH HeiHe 39.77 293 *eP* **P** **13 33 18.0 -1.4**
HEH PcP **PcP** **13 35 24.1 0.0**
HEH ScP **ScP** **13 39 05.8 0.0**
HEH pmax pmax
comp=Z,8.0nm,0.8s
HEH LR LR
comp=Z,1µm,15.2s
HEH LR LR
comp=Z,750nm,14.8s
HEH LR LR
comp=Z,760nm,17.0s
KNB Kanab 39.86 93 P **P** **13 33 21.7 +1.2**
KNB IAmb IAmb 13 33 24.1
comp=Z,114nm,1.4s
KNB Kanab 39.86 93 P **P** **13 33 21.7 +1.2**
KNB pmax pmax
comp=Z,114nm,1.4s
PKCU Pink Cliffs 39.87 92 IAmb IAmb 13 33 24.5
comp=Z,143nm,1.2s
K22A Casper 39.96 81 IAmb IAmb 13 33 24.1
comp=Z,156nm,1.3s
H11N2 WAKE ISLAND Hy 39.99 222 T T 14 15 17.6
baz=25,slow=76,SNR=80
H11N3 WAKE ISLAND Hy 40.00 222 T T 14 15 30.3
baz=25,slow=76,SNR=91
H11N1 WAKE ISLAND Hy 40.01 222 T T 14 15 45.7
baz=25,slow=76,SNR=2027
DNR Dunn Ranch,Anz 40.02 100 IAmb IAmb 13 33 43.0
comp=Z,105nm,0.8s
BELC Belle Mtn. Jos 40.08 99 IAmb IAmb 13 33 42.9
comp=Z,54nm,1.0s
PFO Pinyon Flats O 40.08 100 P **P** **13 33 23.0 +0.6**
PFO IAmb IAmb 13 33 43.1
comp=Z,66nm,1.1s
PFO Pinyon Flats O 40.08 100 LR LR 13 46 15.9
comp=Z,402nm,21.2s,baz=312,slow=30
PFO Pinyon Flats O 40.08 100*c i* P **P** **13 33 23.8 +1.4**
PFO pmax pmax
comp=Z,100nm,1.5s
PFO Pinyon Flats O 40.08 100 P **P** **13 33 23.8 +1.4**
PFO pP **pP** **13 33 41.7 +0.7**
CPE Camp Elliot 40.23 101 IAmb IAmb 13 33 44.9
comp=Z,192nm,1.0s
DPP Dos Picos Cty 40.24 101 IAmb IAmb 13 33 44.9
comp=Z,109nm,1.0s
NEE2 Needles Airpor 40.34 97 IAmb IAmb 13 33 28.3
comp=Z,185nm,1.4s
IRM Iron Mountain 40.46 98 IAmb IAmb 13 33 29.6
comp=Z,231nm,1.5s
RSSD Black Hills 40.52 78 P **P** **13 33 26.0 0.0**
RSSD Black Hills 40.52 78 P **P** **13 33 26.0 0.0**
RSSD pmax pmax
comp=Z,63nm,1.3s
RSSD Black Hills 40.52 78 P **P** **13 33 26.6 +0.6**
RSSD PcP **PcP** **13 35 27.1 +0.1**
TJX Tijuana 40.53 102 P **P** **13 33 26.6 +0.6**
W13A Hualapai Mount 40.54 96 IAmb IAmb 13 33 29.5
comp=Z,106nm,1.2s
USRK Ussuriysk Ar. 40.60 282 P **P** **13 33 26.0 -0.3**
comp=Z,1.3nm,0.7s,baz=77,slow=6.2,SNR=2.2
USRK PcP **PcP** **13 35 28.1 +1.2**
comp=Z,5.9nm,0.7s,baz=66,slow=3.6,SNR=10.0
USRK ScP **ScP** **13 39 09.2 +0.1**
comp=Z,2.0nm,0.5s,baz=24,slow=2.0,SNR=5.0
BAR Barrett 40.63 101 IAmb IAmb 13 33 48.1
comp=Z,93nm,1.1s
JSD Sado 40.79 270 P **P** **13 33 28.0 0.0**
HAYD Hayden 40.85 84 IAmb IAmb 13 33 31.3
comp=Z,79nm,1.1s
E28A Huff 40.99 73 P **P** **13 33 30.2 +0.6**
PV21 Cone Mtn., Par 41.10 88 IAmb IAmb 13 33 33.3
comp=Z,80nm,1.2s
BLYC Blythe 41.11 98 IAmb IAmb 13 33 34.9
comp=Z,186nm,1.4s
PV23 Carpenter Ridg 41.15 88 IAmb IAmb 13 33 33.8
comp=Z,149nm,1.1s
H11S1 WAKE ISLAND Hy 41.17 222 T T 14 17 11.3
baz=25,slow=76,SNR=7133
H11S2 WAKE ISLAND Hy 41.19 222 T T 14 17 12.4
baz=25,slow=76,SNR=4985
H11S3 WAKE ISLAND Hy 41.19 222 T T 14 17 12.5
baz=25,slow=76,SNR=5509
PV14 Lion Creek, Pa 41.20 88 IAmb IAmb 13 33 34.9
comp=Z,93nm,1.3s
PV22 Blue Mesa, Par 41.23 88 IAmb IAmb 13 33 34.3
comp=Z,102nm,1.2s
PV20 West Nyswonger 41.25 88 P **P** **13 33 32.5 +0.4**
PV20 IAmb IAmb 13 33 34.4
comp=Z,145nm,1.1s
PV04 Paradox Valley 41.26 88 IAmb IAmb 13 33 34.6
comp=Z,100nm,1.1s
PV17 East Wray Mesa 41.30 88 IAmb IAmb 13 33 34.8
comp=Z,192nm,1.1s
PV16 Nyswonger Mesa 41.30 88 IAmb IAmb 13 33 34.9
comp=Z,88nm,1.1s
PV11 David Mesa, Pa 41.34 88 IAmb IAmb 13 33 35.2
comp=Z,185nm,1.2s
PV05 Paradox Valley 41.35 89 IAmb IAmb 13 33 35.5
comp=Z,170nm,1.2s
PV07 Paradox Valley 41.38 88 P **P** **13 33 33.6 +0.5**
PV07 IAmb IAmb 13 33 35.5
comp=Z,86nm,1.0s
PV03 Paradox Valley 41.38 88 IAmb IAmb 13 33 35.4
comp=Z,114nm,1.1s
GLA Glamis 41.44 99 IAmb IAmb 13 33 54.4
comp=Z,150nm,1.3s
ESJX Sierra Juarez 41.54 101 IAmb IAmb 13 33 55.8
comp=Z,81nm,1.0s
PV15 Paradox Valley 41.54 88 IAmb IAmb 13 33 36.8
comp=Z,114nm,1.0s
ULM Lac du Bonnet 41.59 65 P **P** **13 33 34.8 +0.4**
comp=Z,18nm,0.6s,baz=301,slow=7.8,SNR=24
ULM PcP **PcP** **13 35 29.1 -0.9**
comp=Z,27nm,1.2s,baz=300,slow=4.2,SNR=2.2
ULM ScP **ScP** **13 39 13.2 +0.2**
comp=Z,5.2nm,0.8s,baz=228,slow=2.7,SNR=3.8
ULM LR LR 13 51 29.3
comp=Z,399nm,20.5s,baz=345,slow=37
comp=Z,18nm,0.6s
ULM Lac du Bonnet 41.59 65*d i* P **P** **13 33 35.4 +1.0**
CPBX Cerro Prieto 41.61 100 P **P** **13 33 36.0 +1.2**
CPBX IAmb IAmb 13 33 56.0
comp=Z,189nm,1.3s
PV01 Paradox Valley 41.62 88 IAmb IAmb 13 33 37.6
comp=Z,129nm,1.1s
MDJ Mudanjiang 41.73 284 P **P** **13 33 36.5 +0.9**
MDJ pmax pmax
comp=Z,15nm,1.4s
WUAZ Wupatki 41.73 93 IAmb IAmb 13 33 39.3
comp=Z,142nm,1.1s
MJAR Matsushiro Arr 41.82 269 P **P** **13 33 37.1 +0.6**
MJAR Matsushiro Arr 41.82 269 P **P** **13 33 36.0 -0.5**
comp=Z,4.1nm,0.9s,baz=46,slow=6.3,SNR=13
MJAR PcP **PcP** **13 35 32.1 +1.0**
comp=Z,12nm,1.1s,baz=22,slow=0.5,SNR=7.8
MJAR ScP **ScP** **13 39 14.0 -0.2**
comp=Z,7.6nm,1.0s,baz=38,slow=2.8,SNR=13
comp=Z,4.1nm,0.9s
MJAR Matsushiro Arr 41.82 269 P **P** **13 33 37.1 +0.6**
MJAR pmax pmax
comp=Z,8.0nm,1.2s
MAJO Matsushiro 41.82 269 P **P** **13 33 36.5 0.0**
MAJO Matsushiro 41.82 269 P **P** **13 33 37.2 +0.7**
MAJO Matsushiro 41.82 269*d i* P **P** **13 33 37.0 +0.5**
MAJO pmax pmax
comp=Z,20nm,0.9s
Y14A Wickenburg 41.87 97 IAmb IAmb 13 33 40.1
comp=Z,75nm,1.2s
MSHR Mys Shultsa 42.06 281⇑ *eP* **P** **13 33 38.9 +0.6**
MSHR pmax pmax
comp=Z,17nm,1.1s
VTX Valle De La Tr 42.08 102 IAmb IAmb 13 34 00.1
comp=Z,140nm,1.6s
PSTR Posyet 42.22 281⇓ *eP* **P** **13 33 41.4 +1.8**
113A Mohawk Valley, 42.26 98 P **P** **13 33 40.8 +0.7**
113A IAmb IAmb 13 34 00.8
comp=Z,112nm,1.4s
MVCO Mesa Verde 42.28 89 IAmb IAmb 13 33 42.9
comp=Z,98nm,1.2s
BNX BinXian 42.30 287 ⇓P **P** **13 33 38.8 -1.5**
BNX pmax pmax
comp=Z,7.0nm,1.9s
X16A Lo Mia Camp, P 42.46 95 IAmb IAmb 13 33 45.6
comp=Z,103nm,1.1s
BOD Bodaibo 42.63 309 *eP* **P** **13 33 41.7 -1.1**
BOD pmax pmax
comp=Z,47nm,1.6s
AGMN Agassiz Nation 42.69 68 P **P** **13 33 42.7 -0.7**
NEEM North Greenlan 42.90 17 *i* P **P** **13 33 45.3 +0.2**
NEEM IAmb IAmb 13 33 48.2
comp=Z,104nm,0.8s
S22A 4UR Ranch, Cre 42.91 87 IAmb IAmb 13 33 49.8
comp=Z,100nm,1.2s
W18A Petrified Fore 42.98 92 IAmb IAmb 13 33 50.0
comp=Z,240nm,1.5s
EPLO Experimental L 43.06 65 IAmb IAmb 13 33 50.7
comp=Z,48nm,0.5s
SUSD Miller 43.24 74 IAmb IAmb 13 34 08.3
comp=Z,101nm,1.0s
X18A Snowflake 43.26 93 IAmb IAmb 13 33 51.9
comp=Z,168nm,1.2s
PIX Pinacate 43.31 99 IAmb IAmb 13 34 09.5
comp=Z,127nm,1.4s
214A Organ Pipe Nat 43.40 98 P **P** **13 33 50.1 +0.8**
214A IAmb IAmb 13 34 10.4
comp=Z,137nm,1.3s
KULLO Kullorsuaq 43.42 22 *i* P **P** **13 33 50.5 +1.6**
OGNE Ogallala 43.64 80 IAmb IAmb 13 33 53.8
comp=Z,122nm,1.1s
SDCO Great Sand Dun 43.69 86 IAmb IAmb 13 33 54.8
comp=Z,97nm,1.2s
K30B Basel 43.95 77 IAmb IAmb 13 34 16.7
comp=Z,96nm,1.0s
TUC Tucson 44.34 96 P **P** **13 33 58.2 +1.3**
TUC IAmb IAmb 13 34 00.2
comp=Z,127nm,1.2s
TUC Tucson 44.34 96 P **P** **13 33 58.2 +1.3**
TUC pmax pmax
comp=Z,127nm,1.3s
TUC Tucson 44.34 96 P **P** **13 33 58.7 +1.7**
TUC pP **pP** **13 34 17.3 +1.6**
CN2 Changchun 44.59 286 P **P** **13 33 56.1 -2.6**
CN2 S **S** **13 40 24.3 -4.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,600nm,17.0s
UPNV Upernavik 44.74 23 *i* P **P** **13 34 00.2 +0.6**
ANMO Albuquerque 45.03 90 P **P** **13 34 03.0 +0.4**
ANMO IAmb IAmb 13 34 06.0
comp=Z,80nm,1.3s
ANMO PcP **PcP** **13 35 43.0 +0.8**
ANMO Albuquerque 45.03 90 LR LR 13 50 26.6
comp=Z,416nm,21.9s,baz=286,slow=33
ANMO Albuquerque 45.03 90*c i* P **P** **13 34 03.6 +1.0**
ANMO pmax pmax
comp=Z,74nm,1.3s
ANMO Albuquerque 45.03 90 P **P** **13 34 03.4 +0.8**
ANMO PcP **PcP** **13 35 42.1 -0.1**
EYMN Ely 45.27 66 IAmb IAmb 13 34 08.7
comp=Z,53nm,0.7s
Y22D IRIS PASSCAL I 45.37 91 P **P** **13 34 06.0 +0.9**
baz=315
BGNE Belgrade 45.60 77 IAmb IAmb 13 34 11.3
comp=Z,93nm,0.7s
319A Douglas 45.89 96 P **P** **13 34 10.4 +1.1**
319A IAmb IAmb 13 34 30.4
comp=Z,144nm,1.4s
121A Cookes Peak, D 45.94 93 IAmb IAmb 13 34 13.0
comp=Z,145nm,1.1s
TBO Thunder Bay 45.97 64 IAmb IAmb 13 34 13.4
comp=Z,33nm,0.6s
E38A The Farm, Brul 46.05 67 IAmb IAmb 13 34 14.3
comp=Z,77nm,0.6s
RTBA Rita Blanca 46.21 86 IAmb IAmb 13 34 13.9
comp=Z,121nm,1.1s
SPMN Marine on St. 46.22 70 IAmb IAmb 13 34 16.7
comp=Z,35nm,0.4s
JCJ Chichijima 46.32 256 P **P** **13 34 13.6 +1.1**
FRB Frobisher Bay 46.48 37 LR LR 13 54 44.3
comp=Z,881nm,18.9s,baz=297,slow=37
HSIG 46.65 100 P **P** **13 34 15.4 +0.3**
HSIG IAmb IAmb 13 34 35.9
comp=Z,62nm,1.0s
SRIG Santa Rosalia 47.17 102 IAmb IAmb 13 34 39.9
comp=Z,72nm,1.0s
KSRS Korea Array 47.27 278 P **P** **13 34 20.3 +0.5**
comp=Z,10nm,0.9s,baz=54,slow=6.9,SNR=35
KSRS PcP **PcP** **13 35 51.1 +1.4**
comp=Z,5.6nm,0.8s,baz=61,slow=3.5,SNR=6.6
KSRS ScP **ScP** **13 39 37.2 +0.7**
comp=Z,2.7nm,0.8s,baz=64,slow=3.3,SNR=6.9
comp=Z,10nm,0.9s
KSAR Wonju Array Be 47.30 278 P **P** **13 34 19.2 -0.9**
KSAR Wonju Array Be 47.30 278 P **P** **13 34 19.2 -0.9**
KBS Kingsbay 47.39 1⇓ *eP* **P** **13 34 21.5 +1.2**
KBS pmax pmax
comp=Z,121nm,2.5s
G40A Rib Lake 47.62 68 P **P** **13 34 22.1 -0.4**
G40A PcP **PcP** **13 35 50.8 -0.1**
MSTX Muleshoe 47.89 88 IAmb IAmb 13 34 27.8
comp=Z,150nm,1.2s
DAG Danmarks Havn 47.92 10 *i* P **P** **13 34 24.0 -0.3**
DAG IAML 13 34 26.2
comp=Z,35nm,0.9s
SPITS Spitsbergen Ar 48.15 359 P **P** **13 34 26.7 +0.6**
comp=Z,3.7nm,0.4s,baz=46,slow=6.0,SNR=20
comp=Z,3.7nm,0.4s
I40A Norwalk 48.27 70 IAmb IAmb 13 34 32.1
comp=Z,45nm,0.8s
TJN Taejon 48.33 277 IAmb IAmb 13 34 30.2
comp=Z,90nm,0.8s
TJN Taejon 48.33 277 P **P** **13 34 28.8 +0.8**
TJN Taejon 48.33 277⇓ *iP* **P** **13 34 29.1 +1.1**
CLN7 Carlsbad 7 48.38 90 P **P** **13 34 28.3 -0.3**
KAN08 Anthony NE Sta 48.47 81 IAmb IAmb 13 34 30.4
comp=Z,65nm,1.3s
OK038 West end E0370 48.53 82 IAmb IAmb 13 34 31.4
comp=Z,114nm,1.0s
SUMG Summit 48.66 19 P **P** **13 34 30.7 +0.2**
SUMG Summit 48.66 19 P **P** **13 34 30.7 +0.2**
SUMG pmax pmax
comp=Z,116nm,0.8s
SUMG Summit 48.66 19 *i* P **P** **13 34 31.0 +0.5**
SUMG IAmb IAmb 13 34 34.1
comp=Z,114nm,0.6s
N38A Joes South For 48.81 74 IAmb IAmb 13 35 04.2
comp=Z,48nm,1.0s
CROK Carrier 48.95 82 IAmb IAmb 13 34 34.3
comp=Z,123nm,1.2s
PECS Pecos 49.09 91 IAmb IAmb 13 34 36.9
comp=Z,62nm,1.3s
L40A Anamosa 49.12 72 IAmb IAmb 13 34 38.0
comp=Z,26nm,0.7s
DKNS Dickens 49.20 87 IAmb IAmb 13 34 36.7
comp=Z,97nm,1.0s
I42A Draeger Farm, 49.21 69 IAmb IAmb 13 34 38.9
comp=Z,55nm,0.6s
P38A Dawn 49.42 76 IAmb IAmb 13 35 59.2
comp=Z,51nm,1.0s
OK051 E0350 and S346 49.62 81 P **P** **13 34 37.7 -0.2**
XLT XiLinHaoTe 49.76 292 *eP* **P** **13 34 39.0 +0.1**
XLT pP pP 13 34 57.5 -0.6
XLT sP sP 13 35 03.4 -3.5
XLT PcP **PcP** **13 35 59.5 +0.7**
XLT ScP **ScP** **13 39 48.0 +0.9**
XLT S **S** **13 41 33.9 -8.3**
XLT ScS **ScS** **13 44 22.3 -0.4**
XLT pmax pmax
comp=Z,5.0nm,0.8s
XLT LR LR
comp=Z,43nm,14.1s
XLT LR LR
comp=Z,410nm,15.1s
XLT LR LR
comp=Z,520nm,17.6s
MNHN Monahans 49.77 90 IAmb IAmb 13 34 41.1
comp=Z,104nm,1.3s
APMT Aspermont 49.91 87 P **P** **13 34 40.5 +0.3**
QUOK Quay 49.93 81 IAmb IAmb 13 34 41.5
comp=Z,84nm,1.0s
ALPN Alpine 49.95 92 IAmb IAmb 13 34 42.9
comp=Z,72nm,1.2s
DBG Daneborg 49.98 12 *i* P **P** **13 34 39.6 -0.5**
DBG IAmb IAmb 13 34 41.8
comp=Z,36nm,0.9s
SFJD Kangerlussuaq 50.04 28 P **P** **13 34 41.6 +1.0**
SFJD IAmb IAmb 13 34 44.2
comp=Z,123nm,1.6s
SFJD Kangerlussuaq 50.04 28 LR LR 13 57 34.4
comp=Z,236nm,18.4s,baz=314,slow=38
SFJD Kangerlussuaq 50.04 28 P **P** **13 34 41.6 +1.0**
SFJD pmax pmax
comp=Z,123nm,1.7s
E46A Sault Ste Mari 50.09 63 P **P** **13 34 41.6 +0.3**
E46A IAmb IAmb 13 34 45.5
comp=Z,51nm,0.6s
E46A PcP **PcP** **13 35 59.7 -0.1**
N41A Harden Midland 50.22 73 IAmb IAmb 13 35 14.2
comp=Z,52nm,1.0s
P40A Paris 50.33 75 P **P** **13 34 42.4 -0.8**
WTFS Witchita Falls 50.58 85 IAmb IAmb 13 34 46.9
comp=Z,88nm,1.1s
TUL3 Leonard 50.65 81 IAmb IAmb 13 34 46.9
comp=Z,101nm,1.3s
TXAR Lajitas Array 50.69 93 P **P** **13 34 47.1 +0.9**
TXAR Lajitas Array 50.69 93 P **P** **13 34 47.5 +1.3**
comp=Z,21nm,0.4s,baz=296,slow=5.5,SNR=582
TXAR PcP **PcP** **13 36 03.7 +1.2**
comp=Z,9.9nm,0.9s,baz=317,slow=3.1,SNR=1.2
TXAR ScP **ScP** **13 39 51.8 +0.4**
comp=Z,1.7nm,1.0s,baz=341,slow=4.1,SNR=5.1
comp=Z,21nm,0.4s
LPIG La Paz 50.75 103 LR LR 13 51 27.3
comp=Z,341nm,21.9s,baz=26,slow=30
RLO Rose Lookout 50.92 80 IAmb IAmb 13 34 48.7
comp=Z,52nm,0.9s
OZNA Ozona 51.04 89 IAmb IAmb 13 34 50.0
comp=Z,53nm,0.9s
U38A Gravette 51.10 79 IAmb IAmb 13 34 49.7
comp=Z,50nm,1.0s
SAND Sanderson 51.15 91 IAmb IAmb 13 34 51.7
comp=Z,160nm,1.7s
HDIL Hopedale 51.20 72 IAmb IAmb 13 34 53.5
comp=Z,56nm,0.8s
SLBS Sierra La Lagu 51.28 103 P **P** **13 34 51.2 +0.6**
HPIG 51.29 97 IAmb IAmb 13 34 53.5
comp=Z,64nm,1.2s
M44A Midewin, Midew 51.34 70 IAmb IAmb 13 34 54.9
comp=Z,31nm,0.6s
HHAR Hobbs 51.47 79 IAmb IAmb 13 34 52.2
comp=Z,55nm,1.3s
P43A Skaggs, Pawnee 51.70 73 IAmb IAmb 13 35 47.0
comp=Z,35nm,0.8s
CCM Cathedral Cave 51.80 76 P **P** **13 34 52.6 -1.7**
CCM PcP **PcP** **13 36 05.3 -1.0**
CCM Cathedral Cave 51.80 76 P **P** **13 34 52.6 -1.7**
CCM pmax pmax
comp=Z,40nm,1.1s
CCM Cathedral Cave 51.80 76 PcP **PcP** **13 36 05.3 -1.0**
L46A Eue Claire 51.89 69 IAmb IAmb 13 34 59.2
comp=Z,62nm,0.7s
ULN Ulaanbaatar 51.92 301 P **P** **13 34 54.5 -0.6**
ULN Ulaanbaatar 51.92 301*c i* P **P** **13 34 54.9 -0.3**
ULN pmax pmax
comp=Z,20nm,0.9s
SLM Saint Louis 51.98 74 IAmb IAmb 13 35 48.2
comp=Z,46nm,0.8s
ZAK Zakamensk 52.11 306 *eP* **P** **13 34 55.0 -1.5**
ZAK pmax pmax
comp=Z,18nm,1.7s
SONM Songino Array 52.27 302 P **P** **13 34 57.4 -0.3**
SONM PcP **PcP** **13 36 07.2 -0.9**
SONM Songino Array 52.27 302 P **P** **13 34 57.6 -0.1**
comp=Z,10nm,1.0s,baz=47,slow=8.0,SNR=34
SONM PcP **PcP** **13 36 08.6 +0.6**
comp=Z,14nm,0.9s,baz=100,slow=1.0,SNR=11
SONM ScP **ScP** **13 39 58.0 +0.1**
comp=Z,4.1nm,0.7s,baz=71,slow=2.5,SNR=7.1
SONM LR LR 13 59 26.1
comp=Z,200nm,18.6s,baz=40,slow=39
comp=Z,10nm,1.0s
FVM French Village 52.31 75 IAmb IAmb 13 34 58.7
comp=Z,120nm,1.6s
MOY Mondy 52.33 308 *eP* **P** **13 34 58.8 +0.6**
MOY pmax pmax
comp=Z,21nm,2.5s
DRIO Del Rio 52.43 90 IAmb IAmb 13 35 00.2
comp=Z,86nm,1.1s
VLDQ Val d'Or 52.47 58 IAmb IAmb 13 34 58.9
comp=Z,69nm,1.2s
SFIN Lafayette 52.55 71 IAmb IAmb 13 35 04.5
comp=Z,51nm,0.6s
SCHQ Schefferville 52.86 46 P **P** **13 35 01.7 -0.2**
SCHQ Schefferville 52.86 46 P **P** **13 35 02.3 +0.4**
comp=Z,491nm,0.9s,baz=314,slow=7.9,SNR=37
SCHQ LR LR 13 58 36.4
comp=Z,5µm,19.1s,baz=314,slow=37
MIAR Mount Ida 52.89 80 IAmb IAmb 13 35 03.8
comp=Z,78nm,1.1s
Z38A Mt. Pleasant 52.98 83 IAmb IAmb 13 35 04.7
comp=Z,107nm,1.3s
N47A Urbana 52.99 69 IAmb IAmb 13 35 06.9
comp=Z,49nm,0.8s
WHAR Wooly Hollow 53.12 79 IAmb IAmb 13 35 04.5
comp=Z,63nm,1.6s
OLIL Olney 53.12 73 IAmb IAmb 13 35 08.8
comp=Z,32nm,0.7s
HNDO Hondo 53.14 89 P **P** **13 35 03.9 -0.4**
SIUC Southern Illin 53.19 75 IAmb IAmb 13 35 24.6
comp=Z,35nm,0.9s
BUKO Buck Lake 53.27 61 IAmb IAmb 13 35 07.3
comp=Z,104nm,1.3s
237A Washeta, Mont 53.40 84 IAmb IAmb 13 35 08.0
comp=Z,88nm,1.1s
UALR University of 53.45 79 P **P** **13 35 05.5 -1.0**
BLO Bloomington 53.70 71 IAmb IAmb 13 35 39.1
comp=Z,112nm,1.8s
O48B Farmland 53.72 70 IAmb IAmb 13 35 11.9
comp=Z,44nm,0.8s
N49A Columbus Grove 53.80 68 IAmb IAmb 13 35 12.6
comp=Z,32nm,0.6s
SADO Sadowa 53.86 62 IAmb IAmb 13 35 12.8
comp=Z,34nm,0.6s
SADO Sadowa 53.86 62 LR LR 13 59 28.9
comp=Z,3µm,18.4s,baz=307,slow=37
USIN University of 53.90 73 IAmb IAmb 13 35 13.8
comp=Z,81nm,1.1s
P48A Milroy 54.12 70 P **P** **13 35 10.3 -1.0**
P48A IAmb IAmb 13 35 14.7
comp=Z,34nm,0.6s

HHC Hu-ho-hao-te 54.28 292 *e*P **P** **13 35 12.4 -0.2**
HHC S **S** **13 42 40.3 -4.0**
HHC sS sS 13 43 12.8 -3.0
HHC ScS **ScS** **13 44 50.5 -3.8**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,150nm,6.1s
HHC LR LR
comp=Z,390nm,18.6s
HHC LR LR
comp=Z,380nm,18.0s
HHC LR LR
comp=Z,470nm,20.0s
JMIC Jan Mayen 54.34 9 LR LR 13 57 48.7
comp=Z,486nm,21.9s,baz=6.5,slow=35
TIA Tai'an 54.39 284 P **P** **13 35 12.3 -1.0**
TIA S **S** **13 42 43.5 -2.2**
TIA pmax pmax
comp=Z,6.0nm,1.1s
TIA LR LR
comp=Z,490nm,15.0s
TIA LR LR
comp=Z,480nm,19.6s
TIA LR LR
comp=Z,770nm,20.6s
ANGG Ammassalik, Gr 54.44 24 IAmb IAmb 13 35 15.4
comp=Z,51nm,0.8s
H06N1 SOCORRO T-PHAS 54.49 108 T T 14 34 41.4
SNR=1.8
WCI Wyandotte Cave 54.49 72 P **P** **13 35 13.4 -0.6**
WCI IAmb IAmb 13 36 18.2
comp=Z,41nm,1.0s
WCI Wyandotte Cave 54.49 72 P **P** **13 35 13.4 -0.6**
WCI pmax pmax
comp=Z,41nm,1.0s
H06E1 SOCORRO T-PHAS 54.59 108 T T 14 34 43.2
N51A Ashland 54.79 67 IAmb IAmb 13 35 19.7
comp=Z,41nm,0.6s
DELO Deloro Mine 54.83 61 IAmb IAmb 13 35 18.8
comp=Z,75nm,1.1s
HKT Hockley 54.87 86 P **P** **13 35 17.4 +0.6**
HKT Hockley 54.87 86 *c i*P **P** **13 35 17.8 +1.0**
HKT pmax pmax
comp=Z,242nm,1.4s
HKT Hockley 54.87 86 P **P** **13 35 17.2 +0.5**
T47A Sharon Grove 54.90 74 IAmb IAmb 13 35 17.9
comp=Z,41nm,1.0s
HNS HongShan 54.93 287 ⇑P **P** **13 35 17.4 +0.2**
HNS S **S** **13 42 53.4 +0.6**
HNS pmax pmax
comp=Z,18nm,0.9s
HNS LR LR
comp=Z,550nm,17.5s
HNS LR LR
comp=Z,430nm,17.1s
HNS LR LR
comp=Z,850nm,19.1s
IVI Ivigtut 55.09 32 IAmb IAmb 13 35 22.1
comp=Z,45nm,0.6s
WVT Waverly 55.09 75 P **P** **13 35 17.7 -0.7**
WVT IAmb IAmb 13 35 39.7
comp=Z,44nm,1.1s
WVT Waverly 55.09 75 P **P** **13 35 17.7 -0.7**
WVT pmax pmax
comp=Z,44nm,1.1s
WVT Waverly 55.09 75 P **P** **13 35 18.3 -0.1**
TRQ Mont Tremblant 55.20 58 IAmb IAmb 13 35 20.8
comp=Z,77nm,1.2s
TARA Tarawa 55.23 206 P **P** **13 35 20.7 +1.2**
BTO Baotou 55.29 293 *e*P **P** **13 35 19.8 -0.1**
BTO S **S** **13 42 57.3 -0.5**
BTO pmax pmax
comp=Z,15nm,0.7s
BTO pmax pmax
comp=Z,480nm,6.6s
BTO LR LR
comp=Z,1μm,17.4s
BTO LR LR
comp=Z,1μm,15.7s
BTO LR LR
comp=Z,1μm,19.0s
HBVL Hebbronville 55.32 91 IAmb IAmb 13 35 22.6
comp=Z,54nm,0.9s
MEDO Medina 55.33 63 IAmb IAmb 13 35 26.2
comp=Z,52nm,0.9s
PECO Prince Edward 55.55 61 P **P** **13 35 21.7 +0.1**
PECO IAmb IAmb 13 35 24.1
comp=Z,97nm,1.3s
Q51A Peebles 55.58 69 IAmb IAmb 13 35 26.0
comp=Z,37nm,0.6s
J55A Hilton 55.59 62 IAmb IAmb 13 35 26.1
comp=Z,47nm,0.7s
LDAQ Lac Daran 55.61 54 IAmb IAmb 13 35 41.5
comp=Z,116nm,1.8s
O52A Adamsville 55.64 68 IAmb IAmb 13 35 26.0
comp=Z,34nm,0.7s
GUMO Guam 55.68 243 LR LR 13 55 09.9
comp=Z,123nm,21.7s,baz=83,slow=32
WBO Williamsburg 55.69 59 IAmb IAmb 13 35 23.7
comp=Z,63nm,1.1s
N53A Lisbon 55.70 66 P **P** **13 35 22.4 -0.4**
PLAL Pickwick Lake 55.77 76 IAmb IAmb 13 35 24.1
comp=Z,74nm,1.5s
PAOC Oil Creek Stat 55.83 65 IAmb IAmb 13 35 27.1
comp=Z,27nm,0.6s
O53A New Philadelph 55.89 67 IAmb IAmb 13 35 27.6
comp=Z,28nm,0.7s
MMNY Mt. Morris Dam 55.92 63 IAmb IAmb 13 36 29.1
comp=Z,60nm,1.3s
U49A Red Boiling Sp 55.99 73 IAmb IAmb 13 36 24.2
comp=Z,40nm,1.0s
PAMR Moraine State 56.01 66 IAmb IAmb 13 35 28.6
comp=Z,32nm,0.7s
T50A Nancy 56.16 72 IAmb IAmb 13 35 26.9
comp=Z,66nm,1.5s
MNTQ Montreal, Queb 56.17 58 IAmb IAmb 13 35 27.1
comp=Z,47nm,1.1s
Q52A Bidwell 56.22 69 IAmb IAmb 13 35 26.9
comp=Z,105nm,1.9s
ZAIG Zacatecas 56.28 97 P **P** **13 35 27.5 +0.1**
ZAIG IAmb IAmb 13 35 48.9
comp=Z,144nm,1.6s
P53A Whipple 56.33 68 IAmb IAmb 13 35 30.9
comp=Z,28nm,0.6s
NJ2 Nanjing 56.37 280 *e*P **P** **13 35 27.8 +0.3**
NJ2 pmax pmax
comp=Z,11nm,0.6s
ICQ Pointe Anglais 56.38 51 IAmb IAmb 13 35 47.4
comp=Z,74nm,0.8s
O54A Avella 56.39 67 IAmb IAmb 13 35 31.4
comp=Z,50nm,0.6s
J57A Williamstown 56.44 61 IAmb IAmb 13 35 30.2
comp=Z,58nm,1.0s
ARCES ARCESS Array B 56.56 355 P **P** **13 35 28.3 -0.1**
comp=Z,5.9nm,0.7s,baz=4.1,slow=7.0,SNR=34
ARCES PcP **PcP** **13 36 24.6 +0.6**
comp=Z,4.6nm,0.6s,baz=19,slow=5.7,SNR=2.1
ARCES ScP **ScP** **13 40 15.8 -0.3**
comp=Z,8.0nm,1.1s,baz=19,slow=5.7,SNR=2.3
ARCES LR LR 14 01 30.7
comp=Z,278nm,19.4s,baz=353,slow=38
comp=Z,5.9nm,0.7s
K57A Scipio Center 56.65 62 IAmb IAmb 13 35 31.7
comp=Z,46nm,1.1s
FRNY Flat Rock 56.66 58 IAmb IAmb 13 35 30.6
comp=Z,50nm,1.3s
X48A Hartselle 56.74 76 IAmb IAmb 13 35 30.4
comp=Z,61nm,1.5s
NCB Newcomb 56.95 59 IAmb IAmb 13 35 33.8
comp=Z,48nm,1.1s
Q54A Coxs Mills 56.99 68 IAmb IAmb 13 35 36.2
comp=Z,30nm,0.8s
MCWV Mont Chateau 57.05 67 IAmb IAmb 13 35 36.3
comp=Z,46nm,0.7s
Z47A Carrollton 57.05 78 IAmb IAmb 13 35 33.0
comp=Z,63nm,0.9s
J59A Piesco 57.17 60 IAmb IAmb 13 35 37.8
comp=Z,27nm,0.7s
W50A Signal Mountai 57.19 74 IAmb IAmb 13 35 34.0
comp=Z,40nm,1.2s
D62A Allapoint, All 57.29 54 IAmb IAmb 13 35 35.2
comp=Z,48nm,1.1s
BINY Binghamton 57.30 62 IAmb IAmb 13 35 35.9
comp=Z,118nm,1.5s
E62A Clayton Lake 57.39 54 IAmb IAmb 13 35 35.6
comp=Z,49nm,1.2s

SSPA Standing Stone 57.41 65 P **P** **13 35 34.7 -0.1**
SSPA IAmb IAmb 13 35 38.9
comp=Z,45nm,0.6s
SSPA Standing Stone 57.41 65 P **P** **13 35 34.4 -0.4**
SSPA pP **pP** **13 35 53.1 -1.3**
SSPA PcP **PcP** **13 36 28.8 +1.0**
VT1 Waterbury 57.44 58 IAmb IAmb 13 35 36.8
comp=Z,82nm,1.3s
LVZ Lovozero 57.53 351⇓ *e*P **P** **13 35 35.0 -0.3**
LVZ pmax pmax
comp=Z,312nm,3.8s
Y49A Blount Mountai 57.53 76 IAmb IAmb 13 35 36.0
comp=Z,48nm,1.4s
S54A Dingess, Beckl 57.57 69 IAmb IAmb 13 35 40.2
comp=Z,25nm,0.7s
ZALV Zalesovo Beam 57.65 319 P **P** **13 35 36.5 +0.2**
comp=Z,0.7nm,0.3s,baz=40,slow=4.8,SNR=4.7
ZALV ScP **ScP** **13 40 21.9 +0.7**
comp=Z,1.6nm,0.6s,baz=42,slow=4.7,SNR=4.1
ZALV LR LR 14 03 05.5
comp=Z,469nm,21.4s,baz=28,slow=39
comp=Z,0.7nm,0.3s
ACCN Adirondack Com 57.65 60 IAmb IAmb 13 35 38.1
comp=Z,122nm,1.5s
TKL Tuckaleechee C 57.73 73 IAmb IAmb 13 36 53.8
comp=Z,72nm,1.8s
TKL Tuckaleechee C 57.73 73 LR LR 14 00 29.0
comp=Z,290nm,21.0s,baz=320,slow=36
R55A Marlinton 57.88 68 IAmb IAmb 13 35 45.9
comp=Z,108nm,1.9s
N58A Sunbury 57.89 64 IAmb IAmb 13 35 39.6
comp=Z,82nm,1.6s
G62A West of Eustis 57.91 56 IAmb IAmb 13 35 39.6
comp=Z,74nm,1.1s
LBNH Lisbon 57.92 58 IAmb IAmb 13 35 39.7
comp=Z,39nm,1.1s
APA Apatity 57.96 351⇓ *e*P **P** **13 35 36.0 -2.2**
APA *e* 13 36 26.4
APA *e* 13 37 45.7
APA pmax pmax
comp=Z,10.0nm,1.2s
APA MLR MLR
comp=Z,3μm,4.8s
H62A Milan 58.06 57 IAmb IAmb 13 35 43.6
comp=Z,41nm,0.7s
TRY Troy 58.12 60 IAmb IAmb 13 35 42.7
comp=Z,46nm,1.1s
P57A Homestead Farm 58.16 66 IAmb IAmb 13 35 43.9
comp=Z,28nm,0.7s
U54A Nelsons Funny 58.21 71 IAmb IAmb 13 35 41.8
comp=Z,77nm,1.7s
J61A Chester 58.25 59 IAmb IAmb 13 35 42.3
comp=Z,67nm,1.3s
PKME Peaks-Kenny Pk 58.48 55 IAmb IAmb 13 35 43.4
comp=Z,40nm,1.1s
BLA Blacksburg 58.49 69 IAmb IAmb 13 35 46.9
comp=Z,33nm,0.8s
F64A Sherman 58.50 54 IAmb IAmb 13 35 43.4
comp=Z,32nm,0.9s
BORG Borgarnes 58.55 17 LR LR 14 02 45.7
comp=Z,337nm,20.5s,baz=347,slow=38
BATG Bathurst New B 58.55 52 IAmb IAmb 13 36 03.0
comp=Z,38nm,0.7s
MVL Millersville 58.68 64 IAmb IAmb 13 35 47.7
comp=Z,29nm,0.7s
BG3 Lake Jocassee 58.69 73 IAmb IAmb 13 36 35.5
comp=Z,33nm,1.0s
I63A Otisfield 58.73 57 IAmb IAmb 13 35 45.5
comp=Z,62nm,1.1s
WVL Waterville 58.81 56 IAmb IAmb 13 35 45.5
comp=Z,40nm,1.2s
S57A Dark Hollow, R 58.90 68 IAmb IAmb 13 35 46.7
comp=Z,107nm,1.8s
K62A Royalston 58.90 59 IAmb IAmb 13 35 47.5
comp=Z,86nm,1.2s
250A Grady 58.98 77 P **P** **13 35 45.0 -0.8**
HRV Adam Dziewonsk 59.36 59 P **P** **13 35 48.5 +0.2**
HRV IAmb IAmb 13 35 50.6
comp=Z,56nm,1.2s
HRV Adam Dziewonsk 59.36 59 P **P** **13 35 48.5 +0.2**
HRV pmax pmax
comp=Z,55nm,1.2s
G65A Princeton 59.36 54 IAmb IAmb 13 35 49.4
comp=Z,34nm,1.1s
CPNY Central Park 59.37 62 IAmb IAmb 13 35 50.2
comp=Z,124nm,1.6s
PAULI Pauline 59.44 72 IAmb IAmb 13 35 51.1
comp=Z,68nm,1.7s
KMSC Kings Mountain 59.48 71 IAmb IAmb 13 35 50.0
comp=Z,43nm,1.2s
EMMW East Machias 59.78 55 IAmb IAmb 13 35 52.2
comp=Z,33nm,1.0s
JSC Jenkinsville 60.15 72 IAmb IAmb 13 35 54.6
comp=Z,57nm,1.5s
LMN Caledonia Moun 60.19 52 IAmb IAmb 13 35 55.3
comp=Z,83nm,1.1s
T59A Double "B" Far 60.23 67 IAmb IAmb 13 35 58.9
comp=Z,23nm,0.6s
V58A Windy Hill, Pi 60.24 69 P **P** **13 35 54.2 -0.3**
V58A IAmb IAmb 13 35 55.6
comp=Z,51nm,1.1s
XAN Xi'an 60.61 288 P **P** **13 35 56.6 -0.5**
XAN PcP **PcP** **13 36 40.5 -0.2**
XAN ScP **ScP** **13 40 35.3 +0.5**
XAN S **S** **13 44 04.8 -2.4**
XAN sS sS 13 44 38.0 -2.3
XAN pmax pmax
comp=Z,20nm,1.5s
XAN pmax pmax
comp=Z,300nm,3.8s
XAN LR LR
comp=Z,830nm,18.4s
XAN LR LR
comp=Z,680nm,16.1s
XAN LR LR
comp=Z,990nm,23.5s
SSLB Suanglung 61.27 271 P **P** **13 36 01.3 -0.3**
SSLB IAmb IAmb 13 36 04.6
comp=Z,24nm,0.7s
SSLB Suanglung 61.27 271 P **P** **13 36 02.3 +0.6**
GTA Gaotai 61.59 299 P **P** **13 36 02.9 -0.8**
GTA pP pP 13 36 23.1 -0.3
GTA S **S** **13 44 17.3 -2.4**
GTA sS sS 13 44 51.1 -1.7
GTA pmax pmax
comp=Z,20nm,1.2s
GTA LR LR
comp=Z,400nm,18.5s
GTA LR LR
comp=Z,560nm,18.5s
GTA LR LR
comp=Z,750nm,20.7s
LZH Lanzhou 61.91 293 *e*P **P** **13 36 05.9 -0.1**
LZH pP pP 13 36 26.8 +1.0
LZH pmax pmax
comp=Z,20nm,1.1s
LZH LR LR
comp=Z,490nm,17.5s
LZH LR LR
comp=Z,540nm,18.6s
LZH LR LR
comp=Z,400nm,19.6s
LZDM Lanzhou Array 62.09 293 P **P** **13 36 06.8 -0.6**
comp=Z,2.4nm,0.4s,baz=42,slow=2.4,SNR=3.7
LZDM PcP **PcP** **13 36 47.1 +0.1**
comp=Z,3.0nm,0.4s,baz=282,slow=2.9,SNR=3.7
comp=Z,2.4nm,0.4s
KURK Kurchatov 62.56 320 P **P** **13 36 09.2 -0.7**
KURK Kurchatov 62.56 320⇑ *e*P **P** **13 36 09.2 -0.7**
KURK pmax pmax
comp=Z,3.0nm,1.2s
KURK Kurchatov 62.56 320 P **P** **13 36 09.9 0.0**
KURK pP **pP** **13 36 29.7 +0.1**
KURK sP **sP** **13 36 37.2 -0.9**
ZSN Zaisan 62.60 314 *e*P **P** **13 36 10.2 -0.1**
comp=Z,38nm,1.9s
ZSN Zaisan 62.60 314 *e*P **P** **13 36 10.1 -0.1**
ZSN pmax pmax
comp=Z,38nm,1.9s
KURBB Kurchatov Array 62.67 320 P **P** **13 36 10.6 0.0**
comp=Z,2.0nm,0.8s,baz=50,slow=7.1,SNR=24
KURBB pP **pP** **13 36 28.9 -1.4**
comp=Z,7.8nm,0.9s,baz=43,slow=7.0,SNR=13
KURBB LR LR 14 03 37.4
comp=Z,558nm,21.8s,baz=342,slow=36
KURBB PKPPKP **P'P'df** **14 05 14.1 -2.4**
comp=Z,0.3nm,0.2s,baz=224,slow=3.1,SNR=6.7
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 63.61 326 P **P** **13 36 16.6 -0.1**
comp=Z,2.6nm,0.6s,baz=54,slow=6.3,SNR=12
BVAR pP **pP** **13 36 35.6 -1.1**
comp=Z,13nm,0.8s,baz=46,slow=6.4,SNR=13
BVAR ScP 13 40 47.7
comp=Z,2.7nm,0.7s,baz=44,slow=4.4,SNR=3.6
BVAR PKPPKP **P'P'df** **14 05 12.5 -2.5**
comp=Z,2.0nm,0.8s,baz=294,slow=1.5,SNR=6.2
BVAR LR LR 14 06 15.4
comp=Z,402nm,21.3s,baz=9.7,slow=38
comp=Z,2.6nm,0.6s
KLMR Klimovskoe 63.78 346 *e*P **P** **13 36 16.1 -1.7**
KLMR *e**PP **pP** **13 36 35.5 -2.1**
KLMR pmax pmax
comp=Z,18nm,1.7s
WMQ Urumqi 64.17 310 *e*P **P** **13 36 23.8 +3.1**
WMQ LR LR
comp=Z,430nm,16.7s
WMQ LR LR
comp=Z,500nm,18.5s
WMQ LR LR
comp=Z,350nm,18.5s
MK31 Makanchi Array 64.21 315 *c e*P **P** **13 36 21.1 +0.2**
MKAR Makanchi Array 64.21 315 P **P** **13 36 19.8 -1.1**
MKAR Makanchi Array 64.21 315 P **P** **13 36 20.2 -0.6**
comp=Z,1.0nm,0.3s,baz=48,slow=6.9,SNR=18
MKAR ScP 13 40 50.7
comp=Z,1.4nm,0.7s,baz=46,slow=4.0,SNR=3.9
MKAR PKPPKP **P'P'df** **14 05 11.2 -2.7**
comp=Z,1.1nm,1.0s,baz=236,slow=1.3,SNR=4.0
comp=Z,1.0nm,0.3s
ARTI Arti 64.23 334 P **P** **13 36 19.8 -1.0**
ARTI Arti 64.23 334 LR LR 14 07 12.3
comp=Z,507nm,19.9s,baz=15,slow=39
ARTI Arti 64.23 334 *c i*P **P** **13 36 21.3 +0.5**
ARTI *PP **pP** **13 36 41.3 +0.6**
ARTI *e* 13 38 40.0
ARTI S **S** **13 44 53.5 +1.7**
ARTI SS **SS** **13 49 03.5 +2.2**
ARTI pmax pmax
comp=Z,7.0nm,1.1s
KIRV Kirov 64.26 340 LR LR 14 07 32.5
comp=Z,625nm,20.9s,baz=23,slow=39
KIRV Kirov 64.26 340⇓ *i*P **P** **13 36 19.5 -1.4**
MAKZ Makanchi 64.33 315 P **P** **13 36 21.6 -0.1**
MAKZ Makanchi 64.33 315 P **P** **13 36 20.9 -0.8**
FINES FINESS Array B 64.58 354 P **P** **13 36 22.5 -0.5**
comp=Z,7.3nm,0.6s,baz=9.8,slow=6.3,SNR=18
FINES PKPPKP **P'P'df** **14 05 10.1 -3.4**
comp=Z,3.4nm,1.0s,baz=100,slow=20,SNR=4.9
FINES LR LR 14 07 49.3
comp=Z,234nm,18.2s,baz=22,slow=39
comp=Z,7.3nm,0.6s
NC303 NORSAR Array S 65.17 1 IAmb IAmb 13 36 45.4
comp=Z,118nm,1.9s
CMIG Matias Romero 65.20 95 LR LR 14 01 32.7
comp=Z,239nm,21.0s,baz=310,slow=33
NC405 NORSAR Array S 65.29 1 IAmb IAmb 13 36 29.3
comp=Z,97nm,1.4s
NB201 NORSAR Array S 65.34 1 IAmb IAmb 13 37 31.9
comp=Z,61nm,1.3s
NB2 NORSAR Subarra 65.35 2 P **P** **13 36 27.9 -0.2**
comp=Z,61nm,1.4s,baz=0.8,slow=6.2
NB2 NORSAR Subarra 65.35 2 P **P** **13 36 27.9 -0.2**
comp=Z,61nm,1.4s,baz=0.8,slow=6.2
NOA NORSAR Array B 65.35 2 P **P** **13 36 27.8 -0.3**
comp=Z,7.1nm,0.8s,baz=360,slow=6.3,SNR=14
NOA pP **pP** **13 36 46.4 -1.7**
comp=Z,7.0nm,0.9s,baz=360,slow=6.5,SNR=5.6
NOA PKPPKP **P'P'df** **14 05 07.8 -4.5**
comp=Z,1.8nm,0.9s,baz=154,slow=3.1,SNR=3.3
NOA LR LR 14 05 54.7
comp=Z,189nm,20.0s,baz=0.0,slow=37
comp=Z,7.1nm,0.8s
BRZS Berezniki 65.36 323 *e*P **P** **13 36 28.4 +0.1**
BRZS Berezniki 65.36 323 *e*P **P** **13 36 28.3 +0.1**
TAOE Nuku Hiva Isla 66.24 152 *e*LR LR 13 56 33.3
comp=Z,μm,27.6s
TAOE Nuku Hiva Isla 66.24 152 P **P** **13 36 34.1 -0.2**
TAOE IAmb IAmb 13 36 35.6
comp=Z,76nm,0.8s
HFS Hagfors 66.28 0 P **P** **13 36 33.3 -0.7**
comp=Z,10nm,0.4s,baz=29,slow=3.4,SNR=79
HFS LR LR 14 05 24.5
comp=Z,250nm,21.0s,baz=0.5,slow=36
comp=Z,10nm,0.4s
SZP Santa 66.38 268 P **P** **13 36 36.5 +1.3**
GOMU GeErMu 66.60 300 P **P** **13 36 35.8 -1.1**
GOMU S **S** **13 45 22.6 +0.4**
GOMU pmax pmax
comp=Z,7.0nm,1.0s
GOMU LR LR
comp=Z,120nm,15.4s
GOMU LR LR
comp=Z,310nm,15.9s
GOMU LR LR
comp=Z,270nm,15.4s
TEIG Tepich 66.67 87 P **P** **13 36 36.7 -0.3**
TEIG Tepich 66.67 87 P **P** **13 36 36.3 -0.7**
comp=Z,346nm,1.1s
TEIG Tepich 66.67 87 P **P** **13 36 37.3 +0.3**
KONO Kongsberg 66.71 2 P **P** **13 36 36.9 +0.1**
KONO IAmb IAmb 13 36 38.8
comp=Z,114nm,1.6s
KONO Kongsberg 66.71 2⇑ *e*P **P** **13 36 36.8 +0.1**
KONO pmax pmax
comp=Z,81nm,1.6s
CCIG Comitan 67.46 93 IAmb IAmb 13 36 44.8
comp=Z,172nm,1.7s
VSU Vasula 67.50 353⇓ *i*P **P** **13 36 42.1 +0.4**
VSU pmax pmax
comp=Z,85nm,2.1s
GYA Guiyang 67.59 284 ⇓P **P** **13 36 43.6 +0.6**
GYA pP pP 13 37 01.8 -1.3
GYA S **S** **13 45 30.6 -3.2**
GYA sS pS 13 45 59.9 +2.7
GYA pmax pmax
comp=Z,33nm,1.3s
GYA LR LR
comp=Z,340nm,16.3s
GYA LR LR
comp=Z,550nm,18.6s
GYA LR LR
comp=Z,560nm,22.0s
SOR Soroa 67.79 82 IAmb IAmb 13 36 45.6
comp=Z,93nm,1.2s
MANU Manus Island 67.88 232 IAmb IAmb 13 36 46.2
comp=Z,40nm,0.8s
PETF Flores 68.30 91 IAmb IAmb 13 36 49.2
comp=Z,73nm,1.1s
SHLS Shalkode 68.33 314 *e*P **P** **13 36 46.2 -1.2**
SHLS Shalkode 68.33 314 *e*P **P** **13 36 46.1 -1.2**
TATA Tatamba Isabel 68.49 217 P **P** **13 36 49.6 +1.1**
UZB Uzynbulak 68.52 315 *e*P **P** **13 36 48.3 -0.4**
UZB Uzynbulak 68.52 315 *e*P **P** **13 36 48.2 -0.4**
ALEG Aligegeo Malai 68.52 216 P **P** **13 36 49.8 +1.2**
CAMR Camarioca 68.54 80 IAmb IAmb 13 36 50.6
comp=Z,252nm,1.1s
BORU Boraas 68.79 1 *i*P **P** **13 36 48.4 -1.4**
SATY Saty 68.85 315 *e*P **P** **13 36 50.6 -0.1**
SATY Saty 68.85 315 *e*P **P** **13 36 50.5 -0.1**
MOS Moscow 69.00 346 *e*P **P** **13 36 48.6 -2.5**
MOS *e* 13 37 07.2
MOS MLR MLR
comp=Z,700nm,21.0s
ONAU Onsala 69.02 1 *i*P **P** **13 36 51.5 +0.3**
SAVO Savo Central 69.20 217 P **P** **13 36 53.5 +0.7**
MDOK Medeo 69.33 316 *e*P **P** **13 36 53.3 -0.4**
MDOK Medeo 69.33 316 *e*P **P** **13 36 53.2 -0.4**
AAA Alma-Ata 69.35 316 *e*P **P** **13 36 53.5 -0.2**
AAA Alma-Ata 69.35 316 *e*P **P** **13 36 53.4 -0.2**
HNR Honiara 69.41 216 LR LR 14 03 10.0
comp=Z,84nm,20.5s,baz=46,slow=32
OBN Obninsk 69.75 346 LR LR 14 09 48.3
comp=Z,429nm,21.6s,baz=299,slow=38
OBN Obninsk 69.75 346 *e*P **P** **13 36 57.0 +1.3**
OBN *e**PP **pP** **13 37 15.6 -0.4**
OBN *e**SP **sP** **13 37 26.7 +2.1**
OBN *e*S **S** **13 45 58.5 +0.3**
OBN pmax pmax
comp=Z,165nm,4.5s
OBN MLR MLR
comp=Z,410nm,19.0s
DEL Delary 69.96 0 *i*P **P** **13 36 56.0 -1.1**
SGDS Sogindy 70.07 318 *e*P **P** **13 36 58.0 0.0**

CAIB Caibarien 70.08 79 *e*P **P** **13 36 58.6 +0.3**
MGV Manicaragua 70.08 80 *e*P **P** **13 36 59.2 +0.9**
ABKAR Akbulak array 70.16 330 P **P** **13 36 58.0 -0.4**
EKA Eskdalemuir Ar 70.18 10 P **P** **13 36 58.5 +0.1**
comp=Z,9.5nm,0.6s,baz=358,slow=4.4,SNR=28
EKA pP **pP** **13 37 17.8 -0.8**
comp=Z,7.0nm,0.8s,baz=340,slow=4.4,SNR=3.7
EKA PKPPKP **P'P'df** **14 04 57.7 -6.3**
comp=Z,1.9nm,0.8s,baz=131,slow=2.0,SNR=4.2
comp=Z,9.5nm,0.6s
EKA Eskdalemuir Ar 70.18 10 P **P** **13 36 58.7 +0.3**
EKA pmax pmax
comp=Z,80nm,1.7s
PZH PanZhiHua 70.35 288 P **P** **13 37 00.5 +0.4**
PZH S **S** **13 46 04.8 -1.6**
PZH pmax pmax
comp=Z,20nm,1.7s
PZH pmax pmax
comp=Z,110nm,4.9s
PZH LR LR
comp=Z,260nm,21.4s
PZH LR LR
comp=Z,330nm,19.2s
PZH LR LR
comp=Z,350nm,20.2s
BELG Belogornoye 70.42 339 LR LR 14 09 11.5
comp=Z,501nm,21.2s,baz=93,slow=37
BELG Belogornoye 70.42 339‖ *e*P **P** **13 37 02.3 +2.4**
BELG pmax pmax
comp=Z,4.0nm,1.1s
PABE Paberze 70.62 354 IAmb IAmb 13 37 21.1
comp=Z,173nm,1.7s
LUNU Lund 70.80 0 *e*P **P** **13 37 02.7 +0.6**
AAK Ala-Archa 70.81 317 P **P** **13 37 02.9 +0.2**
AAK Ala-Archa 70.81 317 LR LR 14 10 08.9
comp=Z,505nm,21.6s,baz=23,slow=38
AAK Ala-Archa 70.81 317‖ *e*P **P** **13 37 02.9 +0.2**
AAK pmax pmax
comp=Z,12nm,1.5s
KMI Kunming 70.86 286 ⇑P **P** **13 37 03.3 0.0**
KMI S **S** **13 46 10.8 -1.8**
KMI pmax pmax
comp=Z,16nm,1.6s
KMI LR LR
comp=Z,440nm,17.9s
KMI LR LR
comp=Z,250nm,22.1s
KMI LR LR
comp=Z,390nm,20.9s
DGTI Dogotuki 71.02 195 P **P** **13 37 05.2 +1.3**
MNK Minsk 71.33 352 *i* P **P** **13 37 05.6 +0.2**
MNK *i* *PP **pP** **13 37 25.8 0.0**
MNK *i* 13 39 46.1
MNK *i* PPP PPP 13 41 27.8
MNK *i* S **S** **13 46 17.7 +1.0**
MNK *i* *SS **sS** **13 46 49.9 -1.2**
MNK *i* SS **SS** **13 50 48.2 -2.7**
MNK pmax pmax
comp=Z,16nm,1.0s
MNK pmax pmax
comp=E,22nm,1.1s
MNK pmax pmax
comp=N,20nm,0.8s
MNK MLR MLR
comp=N,381nm,18.0s
MNK MLR MLR
comp=E,575nm,25.0s
MNK MLR MLR
comp=Z,233nm,17.0s
QIZ Qiongzhong 71.49 277 P **P** **13 37 07.4 +0.5**
QIZ S **S** **13 46 21.6 +2.1**
QIZ SS **SS** **13 50 58.4 +3.1**
QIZ pmax pmax
comp=Z,27nm,1.0s
QIZ LR LR
comp=Z,180nm,16.5s
QIZ LR LR
comp=Z,270nm,15.1s
QIZ LR LR
comp=Z,300nm,15.1s
QIZ Qiongzhong 71.49 277 P **P** **13 37 08.2 +1.3**
QIZ Qiongzhong 71.49 277 P **P** **13 37 07.8 +0.9**
JAY Jayapura 71.50 238 P **P** **13 37 07.9 +0.9**
comp=Z,39nm,0.9s,baz=356,slow=6.6,SNR=7.3
comp=Z,39nm,0.9s
JAY Jayapura 71.50 238 P **P** **13 37 08.8 +1.8**
comp=Z,49nm,1.0s
DAV Davao City (W) 71.72 257 LR LR 14 04 08.2
comp=Z,293nm,21.8s,baz=26,slow=32
GENI Genyem 71.84 238 P **P** **13 37 11.0 +2.0**
GENI Genyem 71.84 238 P **P** **13 37 11.0 +2.0**
KKAR Karatay Array 71.97 320 P **P** **13 37 08.9 -0.6**
KKAR Karatay Array 71.97 320 P **P** **13 37 08.9 -0.6**
SMPI Sarmi 72.06 240 P **P** **13 37 12.0 +1.7**
comp=Z,97nm,1.5s
SUW Suwalki 72.16 354 *e*P **P** **13 37 10.0 -0.3**
SUW *e*PcP **pP** **13 37 29.8 -0.9**
PPT Papeete 72.58 164 LR LR 14 01 23.4
comp=Z,742nm,20.9s,baz=319,slow=29
PPT2 Papeete2 72.60 164 *e*S **S** **13 46 32.2 +0.2**
comp=Z,715nm,26.8s
PPT2 *e*SS **SS** **13 51 07.4 -5.7**
comp=Z,321nm,40.2s
PPT2 *e*LQ LQ 13 56 31.0
comp=Z,228nm,22.8s
PPT2 *e*LR LR 13 59 18.5
comp=Z,2µm,28.8s
PPT2 *e*LR LR 13 59 24.9
comp=Z,3µm,30.0s
MSVF Nonsavu 72.69 196 P **P** **13 37 14.7 +0.7**
MSVF Nonsavu 72.69 196 ⇓*i* P **P** **13 37 15.2 +1.3**
MSVF pmax pmax
comp=Z,31nm,1.0s
BAKI Biak 72.73 243 P **P** **13 37 16.1 +1.8**
comp=Z,92nm,1.2s
KSH Kashi 72.81 314 P **P** **13 37 18.4 +3.7**
KSH pP pP 13 37 36.8 +1.8
KSH pmax pmax
comp=Z,13nm,1.3s
IUG Iuzhnay 72.97 320 *e*P **P** **13 37 15.4 -0.2**
comp=Z,51nm,1.7s
IUG Iuzhnay 72.97 320 *e*P **P** **13 37 15.4 -0.2**
IUG pmax pmax
comp=Z,51nm,1.7s
CHM Chimkent 72.98 320 *e*P **P** **13 37 15.6 0.0**
CHM Chimkent 72.98 320 *e*P **P** **13 37 15.5 0.0**
SLVN Son La 73.15 283 P **P** **13 37 17.6 +0.8**
SRPI Serui, Papua 73.24 242 P **P** **13 37 19.5 +2.2**
HLGC Holguin 73.31 77 *e*P **P** **13 37 17.6 -0.1**
TNCH TengChong 73.31 290 P **P** **13 37 18.1 +0.2**
TNCH pP pP 13 37 36.8 -1.4
TNCH S **S** **13 46 37.3 -3.2**
TNCH pmax pmax
comp=Z,25nm,0.8s
TNCH pmax pmax
comp=Z,140nm,3.8s
TNCH LR LR
comp=Z,400nm,15.4s
TNCH LR LR
comp=Z,350nm,17.1s
TNCH LR LR
comp=Z,570nm,19.1s
LMGC Las Mercedes 73.41 79 *e*P **P** **13 37 18.1 -0.1**
GORT1 Trebel 73.42 2 *e*P **P** **13 37 18.6 +0.8**
comp=Z,61nm,1.6s,baz=358,slow=5.8
LSA Lhasa 73.60 298 pP 13 37 39.7 -0.6
LSA Lhasa 73.60 298 P **P** **13 37 18.6 -1.3**
LSA S **SKiKP** **13 46 34.3 -7.8**
LSA pmax pmax
comp=Z,24nm,0.9s
LSA LR LR
comp=Z,420nm,22.0s
LSA LR LR
comp=Z,640nm,22.0s
RETH Rethem/Aller, 73.63 3 *e*P **P** **13 37 19.7 +0.7**
comp=Z,22nm,1.3s,baz=358,slow=5.8
RETH *e*pP **pP** **13 37 38.1 -1.3**
PINC Pinares de May 73.78 78 *e*P **P** **13 37 20.2 -0.2**
CHIV Chivirico 73.82 78 IAmb IAmb 13 37 22.5
comp=Z,156nm,1.1s
CHIV Chivirico 73.82 78 *e*P **P** **13 37 21.6 +0.9**
SIUN Universidad Ur 73.83 89 IAmb IAmb 13 37 23.0
comp=Z,84nm,1.1s
RUE Ruedersdorf 73.96 0 *e*P **P** **13 37 20.9 -0.1**
comp=Z,62nm,1.6s,baz=358,slow=5.8
IBBN Ibbenburen 74.00 4 *e*P **P** **13 37 22.1 +0.9**
comp=Z,65nm,1.4s,baz=358,slow=5.8
IBBN *e*pP **pP** **13 37 40.1 -1.6**
RKPI Ransiki, Papua 74.02 244 P **P** **13 37 23.5 +1.6**
comp=Z,69nm,1.0s
FLTG Flechtingen 74.08 2 *e*P **P** **13 37 21.9 +0.2**
comp=Z,26nm,1.3s,baz=358,slow=5.8
FLTG *e*pP **pP** **13 37 40.5 -1.6**
MARVS Santiago de Cu 74.09 78 *e*P **P** **13 37 22.5 +0.2**
NMDO Nuevo Mundo 74.19 77 IAmb IAmb 13 37 24.7
comp=Z,105nm,1.1s
NMDO Nuevo Mundo 74.19 77 *e*P **P** **13 37 23.6 +0.8**
RCC Rio Carpintero 74.22 78 *e*P **P** **13 37 23.8 +0.8**
ASSE Asse, Remlinge 74.27 2 *e*P **P** **13 37 23.5 +0.8**
comp=Z,180nm,2.3s,baz=358,slow=5.8
ASSE *e*pP **pP** **13 37 41.8 -1.4**
PMG Port Moresby 74.48 228 P **P** **13 37 24.7 +0.2**
PMG IAmb IAmb 13 37 26.3
comp=Z,108nm,0.9s
PMG Port Moresby 74.48 228 P **P** **13 37 24.9 +0.4**
comp=Z,90nm,0.9s,baz=36,slow=2.8,SNR=13
PMG LR LR 14 04 19.6
comp=Z,280nm,21.9s,baz=54,slow=31
comp=Z,90nm,0.9s
PMG Port Moresby 74.48 228 P **P** **13 37 25.6 +1.1**
PMG Port Moresby 74.48 228 *de*P **P** **13 37 24.2 -0.3**
PMG pmax pmax
comp=Z,116nm,0.9s
MTDJ Mount Denham 74.54 80 IAmb IAmb 13 37 26.9
comp=Z,106nm,1.1s
MTDJ Mount Denham 74.54 80 *e*P **P** **13 37 25.3 +0.3**
CLZ Clausthal 74.55 2 *e*P **P** **13 37 25.6 +1.0**
comp=Z,84nm,1.7s,baz=358,slow=5.8
CLZ *e*pP **pP** **13 37 43.5 -1.5**
RNPP9 Sopachiv 74.56 352 P **P** **13 37 24.5 0.0**
QMBU Quimbuelo 74.57 77 *e*P **P** **13 37 25.3 +0.3**
GTBY Guantanamo Bay 74.61 77 IAmb IAmb 13 37 27.0
comp=Z,139nm,1.3s
GTBY Guantanamo Bay 74.61 77 *e*P **P** **13 37 24.6 -0.7**
RNPP8 Varash 74.64 352 P **P** **13 37 25.4 +0.4**
GTTG Gottingen 74.84 3 *e*P **P** **13 37 27.1 +0.9**
comp=Z,31nm,1.0s,baz=358,slow=5.8
GTTG *e*pP **pP** **13 37 45.4 -1.2**
BUG Bochum--Univer 74.84 4 *e*P **P** **13 37 26.6 +0.5**
comp=Z,78nm,1.6s,baz=358,slow=5.8
BUG *e*pP **pP** **13 37 44.9 -1.7**
MI28 Mi28,Pidlybu 74.89 351 P **P** **13 37 26.4 0.0**
MASC Masc 74.92 77 *e*P **P** **13 37 27.7 +0.6**
AK03 Malin Array Si 74.94 350 P **P** **13 37 25.8 -0.9**
AK04 Malin Array Si 74.95 350 P **P** **13 37 25.9 -0.9**
AKASG Malin Array Be 74.97 350 P **P** **13 37 25.8 -1.1**
comp=Z,4.1nm,0.4s,baz=12,slow=5.7,SNR=24
AKASG LR LR 14 15 17.1
comp=Z,296nm,19.7s,baz=30,slow=40
comp=Z,4.1nm,0.4s
AKBB Malin Array Si 74.97 350‖ *e*P **P** **13 37 25.8 -1.1**
AKBB pmax pmax
comp=Z,34nm,1.5s
AKBB Malin Array Si 74.97 350 P **P** **13 37 26.0 -0.9**
ACON Acoyapa 74.97 90 P P 13 37 20.8 -6.6
comp=Z,40nm,1.5s
KIEV Kiev 74.98 350 P **P** **13 37 25.6 -1.3**
KIEV IAmb IAmb 13 37 46.3
comp=Z,88nm,1.8s
KIEV Kiev 74.98 350 ⇓P **P** **13 37 25.7 -1.2**
KIEV Kiev 74.98 350 P **P** **13 37 25.7 -1.2**
KIEV Kiev 74.98 350 P **P** **13 37 25.9 -1.0**
comp=Z,101nm,1.2s
RAR Rarotonga 75.02 174 LR LR 14 02 56.9
comp=Z,265nm,19.6s,baz=314,slow=30
SWI Sorong 75.05 247 P **P** **13 37 28.9 +1.1**
comp=Z,1µmcomp=Z,124nm,1.2s
CLL Collm 75.13 1 ⇓*i* P **P** **13 37 27.9 +0.1**
CLL *i* *PP **pP** **13 37 46.5 -1.8**
CLL *e*S **S** **13 47 01.0 +1.3**
CLL *e**SS **sS** **13 47 36.0 +1.6**
CLL pmax pmax
comp=Z,42nm,1.6s
CLL Collm 75.13 1 *e*P **P** **13 37 28.1 +0.3**
comp=Z,47nm,1.7s,baz=358,slow=5.8
CLL *e*pP **pP** **13 37 46.5 -1.8**
KASTN Kahler Asten 75.13 4 *e*P **P** **13 37 28.6 +0.7**
comp=Z,19nm,1.3s,baz=358,slow=5.8
KASTN *e*pP **pP** **13 37 46.8 -1.6**
NEUB Neuenburg 75.21 2 *e*P **P** **13 37 29.0 +0.7**
comp=Z,59nm,1.4s,baz=358,slow=5.8
NEUB *e*pP **pP** **13 37 47.3 -1.5**
ESPN Las Esperanzas 75.31 89 P **P** **13 37 29.3 -0.1**
comp=Z,1µmcomp=Z,97nm,1.4s
UCC Uccle 75.32 6 *d*P **P** **13 37 29.7 +0.8**
UCC *d*pP **pP** **13 37 48.0 -1.5**
GAR Garm 75.56 318 IAmb IAmb 13 38 33.8
comp=Z,58nm,1.2s
BRG Berggiesshubel 75.57 0 *e*P **P** **13 37 32.7 +2.3**
BRG Amp 13 37 33.8
comp=Z,15nm,1.2s
BRG pP **pP** **13 37 51.8 +1.0**
BRG Amp 13 37 52.7
comp=Z,17nm,1.3s
KSP Ksiaz 75.58 359 *e*P **P** **13 37 30.0 -0.4**
KSP *e*PcP **pP** **13 37 50.0 -1.0**
KSP Ksiaz 75.58 359 P **P** **13 37 30.7 +0.3**
comp=Z,18nm,1.8s
BSTI Sart Tilman 75.61 6 *d*P **P** **13 37 30.8 +0.2**
BSTI *d*pP **pP** **13 37 50.7 -0.4**
MEM Membach 75.61 5 *d*P **P** **13 37 29.6 -1.0**
comp=Z,15nm,1.0s
MEM *d*pP **pP** **13 37 49.8 -1.3**
BTNL Ternell 75.64 5 *d*P **P** **13 37 31.2 +0.4**
comp=Z,12nm,1.2s
BTNL *d*pP **pP** **13 37 49.9 -1.4**
BCLA Clavier 75.76 6 *d*P **P** **13 37 31.7 +0.2**
comp=Z,9.3nm,1.4s
MOX Moxa 75.78 2 *e*P **P** **13 37 31.9 +0.4**
comp=Z,22nm,1.2s,baz=358,slow=5.8
MOX *e*pP **pP** **13 37 50.6 -1.5**
BGES Gesves 75.78 6 *d*P **P** **13 37 30.9 -0.7**
BGES *d*pP **pP** **13 37 51.0 -1.1**
CHVC Chvalec 75.84 359 *e*P **P** **13 37 33.7 +1.7**
CHVC Chvalec 75.84 359 *e*P **P** **13 37 33.7 +1.7**
BMRD Maredsous 75.84 6 *d*P **P** **13 37 31.7 -0.2**
comp=Z,12nm,1.0s
BMRD *d*pP **pP** **13 37 51.3 -1.2**
PLN Plauen 75.94 1 *e*P **P** **13 37 32.8 +0.3**
comp=Z,9.7nm,1.5s,baz=358,slow=5.8
PLN *e*pP **pP** **13 37 51.4 -1.6**
RCHB Rochefort 76.02 6 *d*P **P** **13 37 33.0 +0.1**
comp=Z,14nm,1.1s
RCHB *d*pP **pP** **13 37 52.2 -1.3**
TANN Tannenbergstha 76.02 1 *e*P **P** **13 37 33.6 +0.6**
comp=Z,24nm,1.5s,baz=358,slow=5.8
TANN *e*pP **pP** **13 37 51.8 -1.7**
DOU Dourbes 76.04 6 *d*P **P** **13 37 31.8 -1.2**
comp=Z,29nm,1.9s
DPC Dobruska-Polom 76.07 359 *e*P **P** **13 37 33.3 0.0**
DPC *e* 13 37 53.4
DPC Dobruska-Polom 76.07 359 *e*P **P** **13 37 33.3 0.0**
DPC *e*pP **pP** **13 37 53.4 -0.5**
DPC Dobruska-Polom 76.07 359 P **P** **13 37 33.6 +0.3**
comp=Z,23nm,1.5s
OJC Ojcow 76.11 356 *e*P **P** **13 37 34.1 +0.6**
OJC *e*PcP **pP** **13 37 51.6 -2.4**
OJC Ojcow 76.11 356 P **P** **13 37 33.9 +0.4**
comp=Z,24nm,1.6s
TNS Taunus Mts 76.11 4 *e*P **P** **13 37 34.3 +0.7**
comp=Z,37nm,1.5s,baz=358,slow=5.8
TNS *e*pP **pP** **13 37 52.4 -1.7**
FAKI Fak Fak 76.23 245 IAmb IAmb 13 37 36.7
comp=Z,88nm,1.1s
FAKI Fak Fak 76.23 245 P **P** **13 37 36.0 +1.4**
comp=Z,94nm,1.3s
JTS Las Juntas de 76.44 91 LR LR 14 11 28.5
comp=Z,73nm,21.6s,baz=312,slow=36
JTS Las Juntas de 76.44 91 *i* P **P** **13 37 34.9 -0.9**
JTS pmax pmax
comp=Z,19nm,1.3s
MANZ Manzenberg 76.44 1 *e*P **P** **13 37 36.1 +0.7**
comp=Z,7.9nm,1.7s,baz=358,slow=5.8
MANZ *e*pP **pP** **13 37 53.9 -2.0**
PRU Pruhonice 76.45 360 AMS AMS 14 07 00.0
comp=Z,400nm,25.2s
STEB Steborice 76.46 358 *e*P **P** **13 37 35.8 +0.3**
STEB *ex* x 13 37 54.6
SHL Shillong 76.51 295 P **P** **13 37 35.1 -1.3**
SHL Shillong 76.51 295 P **P** **13 37 35.1 -1.3**
KWP Kalwaria Pacla 76.56 354 *e*P **P** **13 37 36.3 +0.4**
KWP *e*PcP **pP** **13 37 53.9 -2.7**
KWP Kalwaria Pacla 76.56 354 P **P** **13 37 36.4 +0.4**
comp=Z,89nm,1.2s
WLF Walferdange 76.56 5 *d*P **P** **13 37 36.7 +0.7**
WLF *d*pP **pP** **13 37 55.8 -0.7**
WLF *d*sP **sP** **13 38 03.9 -1.1**
WLF Walferdange 76.56 5 *e*P **P** **13 37 37.1 +1.1**
comp=Z,29nm,1.2s,baz=358,slow=5.8
WLF *e*pP **pP** **13 37 54.8 -1.8**
MORC Moravsky Berou 76.62 358 *e*P **P** **13 37 36.3 -0.1**
MORC Moravsky Berou 76.62 358 ⇓P **P** **13 37 36.6 +0.1**
MORC Moravsky Berou 76.62 358 P **P** **13 37 36.5 +0.1**
ROTZ Rotzenmuhle 76.66 1 *e*P **P** **13 37 37.6 +1.0**
comp=Z,5.1nm,1.3s,baz=358,slow=5.8
ROTZ *e*pP **pP** **13 37 55.4 -1.7**
GRF Grafenberg Arr 76.72 2 *e*P **P** **13 37 38.1 +1.2**
comp=Z,44nm,1.3s,baz=358,slow=5.8
GRF *e*pP **pP** **13 37 56.2 -1.3**
GRFO Grafenberg 76.72 2 P **P** **13 37 37.2 +0.3**
GRFO **pP** **13 37 59.0 +1.5**
GRFO Grafenberg 76.72 2 P **P** **13 37 37.2 +0.3**
GRFO *PP **pP** **13 37 59.0 +1.5**
GRFO pmax pmax
comp=Z,49nm,1.4s
STHS Stebnicka Huta 76.85 355 *e*P **P** **13 37 37.9 +0.2**
STHS *e* 13 37 56.9
STHS pmax pmax
comp=Z,23nm,1.1s
NIE Niedzica 76.89 356 *e*P **P** **13 37 38.0 +0.1**
NIE *e*PcP **pP** **13 37 55.7 -2.8**
NIE Niedzica 76.89 356 P **P** **13 37 38.3 +0.4**
comp=Z,10nm,1.2s
LBMI Labuha 76.94 250 P **P** **13 37 39.4 +0.8**
ZVC Zvikov 77.00 360 *e*P **P** **13 37 39.2 +0.7**
VRAC Vranov 77.11 358 LR LR 14 12 14.7
comp=Z,266nm,20.8s,baz=2.5,slow=36
VRAC Vranov 77.11 358 *e*P **P** **13 37 39.4 +0.3**
LANS Liptovska Anna 77.19 356 *e*P **P** **13 37 40.9 +1.3**
LANS *e* 13 38 00.1
LANS pmax pmax
comp=Z,17nm,1.1s
KOLS Kolonicke sedl 77.28 354 *e*P **P** **13 37 40.4 +0.3**
KOLS *e* 13 38 00.9
KOLS pmax pmax
comp=Z,15nm,1.0s
WET Wettzell 77.29 1 *e*P **P** **13 37 41.2 +1.0**
comp=Z,19nm,1.4s,baz=358,slow=5.8
KHC Kasperske Hory 77.31 0 ⇑*i* P **P** **13 37 40.7 +0.4**
KHC pmax pmax
comp=Z,36nm,1.5s
KHC Kasperske Hory 77.31 0 *e*P **P** **13 37 40.9 +0.6**
KHC *e*pP **pP** **13 38 00.5 -0.4**
KHC AMS AMS 14 07 10.0
comp=Z,300nm,16.1s
KHC Kasperske Hory 77.31 0 P **P** **13 37 40.6 +0.3**
comp=Z,19nm,1.5s
MYLDM Lahad Datu 77.35 261 IAmb IAmb 13 37 44.2
comp=Z,100nm,1.0s
MYLDM Lahad Datu 77.35 261 P **P** **13 37 42.9 +2.0**
KRUC Moravsky 77.36 358 *e*P **P** **13 37 40.6 +0.1**
JAVC Velka Javorina 77.54 358 *e*P **P** **13 37 42.9 +1.3**
SDDR Presa de Saban 77.55 75 IAmb IAmb 13 37 44.0
comp=Z,72nm,1.0s
SDDR Presa de Saban 77.55 75 *e*P **P** **13 37 42.4 +0.4**
STU Stuttgart 77.59 3 *e*P **P** **13 37 42.5 +0.7**
comp=Z,152nm,1.8s,baz=358,slow=5.8
STU *e*pP **pP** **13 38 01.0 -1.3**
SORM Soroca 77.59 350 ⇑P **P** **13 37 41.6 -0.2**
SORM Soroca 77.59 350 P **P** **13 37 41.6 -0.2**
GEC2 GERESS Array S 77.60 0 *e*P **P** **13 37 42.0 +0.1**
comp=Z,15nm,1.3s,baz=358,slow=5.8
GEC2 *e*pP **pP** **13 38 01.0 -1.6**
GERES GERESS Array B 77.60 0 P **P** **13 37 41.3 -0.6**
comp=Z,2.2nm,0.5s,baz=5.3,slow=5.8,SNR=19
comp=Z,2.2nm,0.5s
CKRC Cesky Krumlov 77.62 360 *e*P **P** **13 37 42.3 +0.3**
CKRC Cesky Krumlov 77.62 360 *e*P **P** **13 37 42.3 +0.3**
HOLU Holmets 77.67 354 P **P** **13 37 42.7 +0.5**
MUKU Mukachevo 77.73 354 P **P** **13 37 43.1 +0.6**
NSLU Nyzhne Selyshc 77.87 353 P **P** **13 37 44.4 +1.1**
NSLU pP **pP** **13 38 03.9 0.0**
SMOL Smolenice 77.89 358 *e*P **P** **13 37 44.3 +0.8**
SMOL *e* 13 38 04.0
SMOL pmax pmax
comp=Z,15nm,1.3s
KMSI Cibinong 77.92 254 P **P** **13 37 45.4 +1.3**
CLF Chambon-Foret 77.92 8 IAmb IAmb 13 37 46.3
comp=Z,181nm,1.6s
CHTO Chiang Mai 77.98 285 P **P** **13 37 43.9 -0.5**
CHTO Chiang Mai 77.98 285 P **P** **13 37 44.6 +0.2**
CHTO Chiang Mai 77.98 285 P **P** **13 37 43.9 -0.5**
CHTO pmax pmax
comp=Z,19nm,1.2s
BFO Black Forest 78.00 4 P **P** **13 37 44.2 +0.1**
BFO Black Forest 78.00 4 P **P** **13 37 44.2 +0.1**
BFO pmax pmax
comp=Z,47nm,1.8s
BFO Black Forest 78.00 4 *e*P **P** **13 37 44.8 +0.7**
comp=Z,19nm,1.3s,baz=358,slow=5.8
KKM Kota Kinabalu 78.00 264 IAmb IAmb 13 37 46.8
comp=Z,96nm,1.0s
KKM Kota Kinabalu 78.00 264 P **P** **13 37 46.0 +1.3**
ERBR Yeremizino-Bor 78.21 341 *e*P **P** **13 37 46.0 +0.7**
ERBR pmax pmax
comp=Z,23nm,0.8s
ERBR MLR MLR
comp=Z,681nm,22.0s
FUR Furstenfeldbru 78.25 2 *e*P **P** **13 37 46.5 +1.0**
comp=Z,44nm,1.3s,baz=358,slow=5.8
CMAR Chiang Mai Arr 78.26 285 P **P** **13 37 45.9 0.0**
CMAR Chiang Mai Arr 78.26 285 P **P** **13 37 46.0 0.0**
comp=Z,21nm,1.1s,baz=18,slow=5.3,SNR=73
CMAR LR LR 14 16 05.5
comp=Z,124nm,19.1s,baz=55,slow=38
comp=Z,21nm,1.1s
CMAR Chiang Mai Arr 78.26 285 *i* P **P** **13 37 46.0 0.0**
CMAR pmax pmax
comp=Z,22nm,1.1s
TBI Tubuai 78.26 165 *e*S **S** **13 47 38.3 +4.1**
comp=Z,2µm,31.0s
TBI Tubuai 78.26 165 *e*LR LR 14 02 09.5
comp=Z,9µm,29.2s
TBI *e*LR LR 14 02 13.7
comp=Z,2µm,26.8s
GOF Gofitskoye 78.34 339 *ce*P **P** **13 37 47.0 +1.0**
BURAR Bucovina Array 78.39 352 P **P** **13 37 45.9 -0.5**
BURAR Bucovina Array 78.39 352 ⇑P **P** **13 37 46.0 -0.4**
BURAR Bucovina Array 78.39 352 P **P** **13 37 46.0 -0.4**
PSZ Piszkesteto 78.41 356 ⇑P **P** **13 37 47.0 +0.6**
PSZ Piszkesteto 78.41 356 P **P** **13 37 47.0 +0.6**
CONA Conrad Observa 78.50 359 *i* P **P** **13 37 47.8 +0.8**
comp=Z,20nm,1.0s,SNR=12
CONA *e*pP **pP** **13 38 07.1 -0.6**
comp=Z,21nm,1.2s
MOA Molln 78.59 360 *e*P **P** **13 37 47.6 +0.2**
comp=Z,3.8nm,0.7s
MOA *e*pP **pP** **13 38 06.7 -1.3**
comp=Z,12nm,1.9s
RJOB Jochberg 78.70 1 *e*P **P** **13 37 49.0 +0.9**
comp=Z,9.8nm,0.8s,baz=358,slow=5.8
UBR Ueberruh 78.71 3 *e*P **P** **13 37 48.9 +0.9**
comp=Z,61nm,1.8s,baz=358,slow=5.8
RONA Rosalia, Austr 78.73 358 *i* P **P** **13 37 49.1 +1.0**
comp=Z,21nm,1.4s,SNR=7.0
RONA *e*pP **pP** **13 38 07.7 -1.1**
comp=Z,11nm,1.3s
BIOA Bad Ischl, Aus 78.75 0 *i* P **P** **13 37 48.7 +0.4**
comp=Z,24nm,1.6s,SNR=6.9
BIOA *e*pP **pP** **13 38 08.2 -0.7**
comp=Z,12nm,1.2s
BNDI Bandanaira 78.84 246 P **P** **13 37 50.4 +1.3**
comp=Z,179nm,2.0s
RETA Reutte 78.92 2 *i* P **P** **13 37 49.6 +0.4**
comp=Z,16nm,1.2s,SNR=8.5
RETA *e*pP **pP** **13 38 08.9 -1.0**
comp=Z,8.2nm,1.0s
NIL Nilore 78.93 313 P **P** **13 37 49.7 +0.2**
NIL Nilore 78.93 313 P **P** **13 37 49.7 +0.2**
NIL pmax pmax
comp=Z,35nm,1.2s
SANI Sanana 78.94 251 P **P** **13 37 49.8 +0.1**
SANI Sanana 78.94 251 P **P** **13 37 49.8 +0.1**
comp=Z,1µmcomp=Z,103nm,1.0s
ARCR ARCALIA 78.98 353 ⇑P **P** **13 37 50.0 +0.5**
LESA Schwarzleotal 79.01 1 *i* P **P** **13 37 50.2 +0.4**

comp=Z,22nm,1.4s,SNR=8.6
LESA ep P pP 13 38 09.9 -0.5
comp=Z,8.1nm,0.9s
MOTA Moosalm 79.07 2 *i* P P 13 37 50.6 +0.5
comp=Z,34nm,1.4s,SNR=14
MOTA ep P pP 13 38 09.7 -1.1
comp=Z,36nm,1.5s
AAI Ambon 79.07 248 P P 13 37 50.4 0.0
WATA Walderalm 79.09 2 *i* P P 13 37 50.7 +0.4
comp=Z,29nm,1.4s,SNR=11
WATA ep P pP 13 38 09.9 -1.0
comp=Z,15nm,0.8s
DAVA Damuels 79.09 3 *e*P P 13 37 50.1 -0.2
comp=Z,10nm,1.0s
DAVA ep P pP 13 38 09.5 -1.5
comp=Z,10nm,1.6s
WTTA Wattenberg 79.16 2 *i* P P 13 37 51.4 +0.7
comp=Z,22nm,1.3s,SNR=11
WTTA ep P pP 13 38 09.6 -1.7
comp=Z,10nm,0.7s
MRSI Marisa 79.17 256 P P 13 37 51.0 +0.1
comp=Z,1µmcomp=Z,87nm,1.4s
ARSA Arzberg 79.19 359 *i* P P 13 37 51.6 +1.0
comp=Z,18nm,1.1s,SNR=9.0
ARSA ep P pP 13 38 10.5 -0.8
comp=Z,19nm,1.4s
SQTA Sankt Quirin 79.19 2 *i* P P 13 37 51.5 +0.7
comp=Z,32nm,1.1s,SNR=14
SQTA ep P pP 13 38 10.5 -0.9
comp=Z,16nm,0.9s
TOLI2 Tolitoli 79.32 257 IAmb IAmb 13 37 52.8
comp=Z,109nm,1.5s
MAK Makhachkala 79.32 336 *c i* P P 13 37 49.3 -2.1
MAK *e**PP pP 13 38 11.3 -0.6
MAK *e**SP sP 13 38 21.0 +0.7
MAK *e* 13 40 50.6
MAK *e*PPP PPP 13 42 38.1
MAK *e*S S 13 47 42.9 -2.5
MAK *e**SS sS 13 48 21.3 +1.0
MAK *e*SS SS 13 52 52.2 -0.1
MAK *e*SSS SSS 13 56 18.4
MAK pmax pmax
comp=Z,317nm,1.4s
DZM Mont Dzumac 79.36 206 *e*LR LR 14 02 27.0
comp=Z,2µm,34.4s
DZM Mont Dzumac 79.36 206 P P 13 37 52.4 +0.6
comp=Z,11nm,0.8s,baz=22,slow=11,SNR=6.4
comp=Z,11nm,0.8s
KBA Koelnbreinsper 79.36 1 *i* P P 13 37 52.8 +1.0
comp=Z,45nm,1.1s,SNR=22
KBA ep P pP 13 38 11.7 -0.8
comp=Z,33nm,1.0s
FETA Feichten 79.38 2 *i* P P 13 37 52.6 +0.7
comp=Z,27nm,1.1s,SNR=17
FETA ep P pP 13 38 11.2 -1.4
comp=Z,14nm,1.0s
DRGR 79.39 354 ⇑P P 13 37 51.8 -0.1
DRGR 79.39 354 P P 13 37 51.7 -0.1
KIV Kislovodsk 79.47 339 *e*P P 13 37 52.9 +0.6
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,318nm,19.0s
KIV Kislovodsk 79.47 339 P P 13 37 52.8 +0.5
comp=Z,300nmcomp=Z,9.9nm,0.7s
MARR Marisel-Cluj 79.47 354 ⇑P P 13 37 52.8 +0.5
ONER Baraj Valea Uz 79.56 351 ⇓P P 13 37 53.0 +0.3
DAVOX Davos/Dischmat 79.60 3 LR LR 14 14 52.2
comp=Z,121nm,19.6s,baz=1.0,slow=37
KBZ Khabaz 79.64 339 P P 13 37 53.8 +0.7
comp=Z,4.6nm,0.9s,baz=54,slow=3.9,SNR=8.4
KBZ LR LR 14 16 30.3
comp=Z,422nm,21.5s,baz=14,slow=38
comp=Z,4.6nm,0.9s
KBZ Khabaz 79.64 339 *de*P P 13 37 53.0 -0.1
KBZ pmax pmax
comp=Z,10.0nm,1.0s
ANN Anapa 79.64 343 *e*P P 13 37 51.4 -1.7
ANN pmax pmax
comp=Z,74nm,1.3s
ABTA Abfaltersbach 79.69 1 *i* P P 13 37 53.8 +0.3
comp=Z,24nm,1.2s,SNR=9.4
ABTA ep P pP 13 38 12.7 -1.5
comp=Z,25nm,1.1s
NCK Nalchik 79.71 339 ⇓*i* P P 13 37 55.1 +1.5
NCK pmax pmax
comp=Z,17nm,0.3s
GHRR 79.74 351 P P 13 37 54.0 +0.4
SOKA Soboth 79.76 359 *i* P P 13 37 54.5 +0.6
comp=Z,39nm,1.2s,SNR=27
SOKA ep P pP 13 38 13.3 -1.2
comp=Z,34nm,1.1s
PERS Pernice 79.81 359 *e*P P 13 37 54.7 +0.6
MYKA Terra Mystica 79.81 0 *e*P P 13 37 54.4 +0.3
comp=Z,20nm,1.7s
MYKA ep P pP 13 38 13.4 -1.4
comp=Z,7.4nm,0.8s
OZUR 79.85 352 ⇓P P 13 37 54.0 -0.3
TUE Stuetta 79.89 3 P P 13 37 54.8 +0.1
comp=Z,52nm,1.6s
LUWI Luwuk 79.93 254 P P 13 37 54.2 -0.8
LUWI Luwuk 79.93 254 P P 13 37 54.9 -0.2
LUWI Luwuk 79.93 254 P P 13 37 54.8 -0.3
OBKA Obir 79.94 360 *i* P P 13 37 55.4 +0.6
comp=Z,29nm,0.9s,SNR=15
OBKA ep P pP 13 38 14.4 -1.1
comp=Z,25nm,0.7s
GROS Grobnik 79.98 359 *i* P P 13 37 55.4 +0.3
VRI Vrincioaia 80.00 351 ⇓P P 13 37 55.2 +0.1
VRI Vrincioaia 80.00 351 P P 13 37 55.1 +0.1
DOPR Dopca 80.01 352 ⇑P P 13 37 55.2 +0.1
PLOR Plostina 80.02 351 ⇓P P 13 37 54.6 -0.6
PLOR Plostina 80.02 351 P P 13 37 54.6 -0.6
SIM Simferopol' 80.02 346 *e*P P 13 38 01.3 +6.1
SIM eS S 13 47 56.1 +3.4
SIM pmax pmax
comp=Z,60nm,20.8s
SIM smax smax
comp=E,188nm,23.6s
SIM MLR MLR
comp=Z,458nm,20.3s
COVR Voineasa-Covas 80.06 351 ⇑P P 13 37 55.8 +0.3
MORH Mrgy, Hungar 80.15 357 ⇑P P 13 37 55.2 -0.7
MORH Mrgy, Hungar 80.15 357 P P 13 37 56.0 +0.2
comp=Z,6.5nm,1.5s
MORH pP pP 13 38 15.3 -1.2
comp=Z,6.5nm,1.5s
ROBS Robic 80.20 0 *i* P P 13 37 55.8 -0.3
CADS Cadrg 80.22 0 *i* P P 13 37 55.8 -0.5
COEN Coen 80.29 230 P P 13 37 57.4 +0.6
comp=Z,71nm,1.2s
COEN Coen 80.29 230 IAmb IAmb 13 37 58.5
comp=Z,52nm,0.9s
COEN Coen 80.29 230 P P 13 37 57.5 +0.6
BCIP Isla Barro Col 80.35 88 pP 13 38 17.5 -0.6
BCIP Isla Barro Col 80.35 88 P P 13 37 57.4 0.0
comp=Z,74nm,1.4s
MLR Muntele Rosu 80.44 352 LR LR 14 15 40.5
comp=Z,357nm,20.9s,baz=31,slow=37
MLR Muntele Rosu 80.44 352 ⇓P P 13 37 57.7 +0.1
MLR Muntele Rosu 80.44 352 P P 13 37 57.6 +0.1
SURR Surduc 80.45 354 ⇑P P 13 37 57.5 0.0
APSI Ampana 80.46 255 P P 13 37 58.9 +1.0
comp=Z,89nm,1.1s
CFR Carcaliu 80.54 350 ⇓P P 13 37 57.2 -0.8
CFR Carcaliu 80.54 350 P P 13 37 57.1 -0.8
BZS Buzias 80.62 355 ⇑P P 13 37 58.0 -0.4
BZS Buzias 80.62 355 P P 13 37 58.0 -0.4
AOPR Arecibo Observ 80.62 72 IAmb IAmb 13 38 02.9
comp=Z,53nm,1.1s
AKT Akhty 80.66 335 *e*P P 13 37 58.7 -0.1
AKT pmax pmax
comp=Z,29nm,1.5s
AKT MLR MLR
comp=Z,785nm,23.0s
ARR Arges 80.67 352 ⇑P P 13 37 59.5 +0.8
CRPR Cabo Rojo, PR 80.70 72 IAmb IAmb 13 38 02.1
comp=Z,211nm,1.7s
GZR Gura Zlata 80.77 354 ⇑P P 13 37 59.9 +0.5
GZR Gura Zlata 80.77 354 P P 13 37 59.8 +0.5
CELP Cerrillos 80.94 72 P P 13 38 00.4 -0.1
CELP IAmb IAmb 13 38 02.6
comp=Z,81nm,1.1s
OBIP Obispado Ponce 80.95 72 IAmb IAmb 13 38 02.7
comp=Z,143nm,1.1s
GCPR Guaynabo City 81.03 71 IAmb IAmb 13 38 02.8
comp=Z,74nm,0.9s
TEOL Teolo 81.06 2 IAmb IAmb 13 38 02.2
comp=Z,69nm,0.9s
SJG San Juan 81.15 72 P P 13 38 01.3 -0.3
SJG IAmb IAmb 13 38 03.8
comp=Z,109nm,1.2s
SJG San Juan 81.15 72 LR LR 14 14 31.7
comp=Z,120nm,22.0s,baz=348,slow=36
SJG San Juan 81.15 72 P P 13 38 01.3 -0.3
SJG pmax pmax
comp=Z,109nm,1.2s
SJG San Juan 81.15 72 P P 13 38 02.7 +1.1
comp=Z,37nm,1.3s
RKT Rikitea 81.25 151 *e*S S 13 48 03.4 -2.3
comp=Z,2µm,34.5s
RKT Rikitea 81.25 151 *e*LR LR 14 03 29.7
PDPR Patillas Dam, 81.30 72 IAmb IAmb 13 38 04.3
comp=Z,71nm,1.2s
HERR Herculane 81.31 354 ⇓P P 13 38 01.9 -0.1
MDVR Moldovita 81.45 355 ⇑P P 13 38 02.4 -0.4
PCI Palu 81.50 257 P P 13 38 03.3 -0.1
SMRC Santa Marta, M 82.07 82 IAmb IAmb 13 38 08.0
comp=Z,66nm,1.2s
CAPC Capurgana 82.24 86 P P 13 38 05.7 -1.7
comp=Z,1µmcomp=Z,116nm,1.2s
SJCC San Jacinto, C 82.52 84 P P 13 38 07.7 -1.2
comp=Z,745nmcomp=Z,53nm,1.4s
PGAV Gavieira, Arco 82.57 17 *e*P P 13 38 10.2 +1.3
PGAV *i* IAmb IAmb 13 38 32.8
comp=Z,58nm,1.6s
PGAV *e*LR LR 14 06 02.3
PGAV *i* IAMs_20 IAMs_20 14 14 56.8
comp=Z,320nm,20.0s
BOVS Bovan 82.59 354 ⇑P P 13 38 09.0 +0.2
GNI Garni 82.65 337 LR LR 14 21 46.7
comp=Z,192nm,18.1s,baz=38,slow=41
PCAB Cabril 82.86 17 *e*P P 13 38 11.1 +0.9
PCAB *i* IAmb IAmb 13 38 33.1
comp=Z,56nm,1.6s
CRJC Cerrejon, Guaj 82.97 81 P P 13 38 08.5 -2.8
comp=Z,48nm,1.4s
PBRG Braganca 82.97 16 *e*P P 13 38 11.6 +0.7
PBRG *i* IAmb IAmb 13 38 34.5
comp=Z,43nm,1.8s
CEST Esterri de Car 83.22 10 IAmb IAmb 13 38 34.6
comp=Z,91nm,1.9s
POLO Lamas de Olo 83.22 16 *e*P P 13 38 13.0 +0.8
POLO *i* IAmb IAmb 13 38 15.8
comp=Z,19nm,1.6s
SBUM Sibu 83.23 265 P P 13 38 13.8 +1.3
TTSI Tana Toraja 83.25 255 P P 13 38 12.7 +0.2
comp=Z,894nmcomp=Z,74nm,1.0s
APAC Apartado, Choc 83.29 86 P P 13 38 13.3 +0.5
comp=Z,2µmcomp=Z,133nm,1.3s
PVRL Vila Real 83.33 16 *e*P P 13 38 13.6 +0.8
PVRL *i* IAmb IAmb 13 38 36.5
comp=Z,83nm,1.7s
TV1H Townsville Har 83.43 224 P P 13 38 14.6 +1.4
MTSU Mount Surprise 83.47 227 P P 13 38 14.2 +0.7
comp=Z,61nm,0.9s
MTSU Mount Surprise 83.47 227 P P 13 38 14.7 +1.2
RAO Raoul Island 83.49 191 LR LR 14 09 35.7
comp=Z,224nm,19.4s,baz=120,slow=31
MVO Moncorvo 83.55 16 *e*P P 13 38 14.6 +0.7
MVO *i* IAmb IAmb 13 38 36.6
comp=Z,50nm,1.9s
MVO *e*LR LR 14 06 08.8
MVO *i* IAMs_20 IAMs_20 14 17 15.8
comp=Z,294nm,18.0s
NRCA Norcia 83.61 1 IAmb IAmb 13 38 17.0
comp=Z,81nm,1.7s
PVIS Viseu 83.85 17 *e*P P 13 38 16.2 +0.9
PDG Podgorica 83.91 356 ⇓P P 13 38 15.8 +0.3
UREC San Jos de Ur 84.02 85 P P 13 38 17.0 +0.4
comp=Z,831nmcomp=Z,33nm,1.2s
SPSI Sidrap Palu 84.03 255 P P 13 38 16.5 0.0
comp=Z,31nm,1.2s
BNSI Bone 84.19 254 P P 13 38 18.2 +0.9
comp=Z,843nmcomp=Z,50nm,1.2s
DBBC Dabeiba 84.21 86 P P 13 38 18.1 +0.5
MTE Manteigas 84.21 16 IAmb IAmb 13 38 40.1
comp=Z,115nm,2.0s
MTE Manteigas 84.21 16 *e*P P 13 38 18.4 +1.2
MTE *i* IAmb IAmb 13 38 40.9
comp=Z,54nm,1.7s
MTE *e*S S 13 48 39.2 +3.2
MTE *e*LR LR 14 07 01.8
MTE *i* IAMs_20 IAMs_20 14 15 56.2
comp=Z,312nm,20.0s
KDU Kakadu 84.35 240 P P 13 38 18.5 +0.5
comp=Z,64nm,1.6s
KDU Kakadu 84.35 240 P P 13 38 19.0 +0.9
PCAS Casmilo, Conde 84.39 17 *e*P P 13 38 19.1 +1.0
PCAS *i* IAmb IAmb 13 38 41.6
comp=Z,64nm,1.7s
CTA Charters Tower 84.39 224 P P 13 38 19.0 +0.9
CTAO Charters Tower 84.39 224 P P 13 38 18.4 +0.2
CTAO IAmb IAmb 13 38 19.9
comp=Z,50nm,1.1s
CTAO Charters Tower 84.39 224 P P 13 38 19.0 +0.9
CTAO Charters Tower 84.39 224 P P 13 38 18.4 +0.2
CTAO pmax pmax
comp=Z,51nm,1.1s
PCBR Castelo Branco 84.77 17 *e*P P 13 38 20.9 +0.9
PCBR *i* IAmb IAmb 13 38 42.1
comp=Z,35nm,1.8s
VAY Valandovo 84.84 354 *i* P P 13 38 20.9 +0.6
PSARD Sardoal 84.89 17 *e*P P 13 38 21.7 +1.1
PSARD *i* IAmb IAmb 13 38 43.0
comp=Z,56nm,1.6s
KAPI Kappang 84.89 254 P P 13 38 21.3 +0.5
KAPI IAmb IAmb 13 38 23.0
comp=Z,94nm,1.3s
KAPI Kappang 84.89 254 LR LR 14 12 14.0
comp=Z,58nm,21.2s,baz=44,slow=33
KAPI Kappang 84.89 254 P P 13 38 22.1 +1.2
KAPI Kappang 84.89 254 P P 13 38 21.3 +0.5
KAPI pmax pmax
comp=Z,94nm,1.3s
BKSI Bulukumba 84.93 254 P P 13 38 21.2 +0.1
comp=Z,874nmcomp=Z,87nm,1.1s
OCAC Ocana 84.93 83 P P 13 38 20.9 -0.4
comp=Z,1µmcomp=Z,128nm,1.6s
KSM Kuching 85.14 266 P P 13 38 23.3 +1.1
OHR Ohrid 85.16 355 *i* P P 13 38 22.7 +0.7
MTN Manton Dam 85.17 241 P P 13 38 22.9 +0.7
comp=Z,94nm,1.5s
MTN Manton Dam 85.17 241 IAmb IAmb 13 38 23.8
comp=Z,78nm,0.9s
MTN Manton Dam 85.17 241 P P 13 38 22.7 +0.5
PMRV Marv??o 85.19 17 *e*LR LR 14 06 39.6
PMRV *i* IAMs_20 IAMs_20 14 15 09.1
comp=Z,230nm,22.0s
ANTO Ankara 85.19 346 P P 13 38 22.1 0.0
ANTO Ankara 85.19 346 ⇑P P 13 38 22.5 +0.3
ANTO Ankara 85.19 346 P P 13 38 22.5 +0.3
ANTO Ankara 85.19 346 P P 13 38 22.2 0.0
comp=Z,15nm,1.0s
BR106 Keskin Array S 85.20 345 P P 13 38 22.6 +0.3
comp=Z,123nmcomp=Z,15nm,1.0s
BR131 Keskin Array S 85.21 345 *d i* P P 13 38 22.9 +0.6
BRTR Keskin Array B 85.21 345 P P 13 38 22.4 0.0
comp=Z,9.5nm,0.9s,baz=43,slow=2.4,SNR=40
BRTR PKKPbc **PKKPbc** 13 56 26.3 +1.2
comp=Z,0.9nm,0.8s,baz=163,slow=5.6,SNR=3.7
BRTR PKPPKP **P'P'df** 14 04 33.9 -3.2
comp=Z,1.7nm,0.9s,baz=184,slow=5.0,SNR=4.3
BRTR LR LR 14 19 39.1
comp=Z,418nm,21.8s,baz=315,slow=38
comp=Z,9.5nm,0.9s
BRTR Keskin Array B 85.21 345 *i* P P 13 38 23.0 +0.6
BRTR pmax pmax
comp=Z,10.0nm,0.9s
BR105 Keskin Array S 85.22 345 P P 13 38 22.7 +0.3
comp=Z,152nmcomp=Z,19nm,1.2s
BR104 Keskin Array S 85.22 345 P P 13 38 22.7 +0.3
comp=Z,125nmcomp=Z,18nm,0.9s
BR104 pP pP 13 38 42.8 -0.6
comp=Z,125nmcomp=Z,18nm,0.9s
SURA Surathani 85.28 279 P P 13 38 24.4 +1.5
PMTG Montargil 85.39 17 *e*P P 13 38 24.3 +1.2
PMTG *i* IAmb IAmb 13 38 24.9
comp=Z,17nm,1.4s
ESBB Sonseca Array 85.48 14 pP 13 38 44.1 -0.4
ESDC Sonseca Array 85.48 14 P P 13 38 22.9 -0.7
ESDC Sonseca Array 85.48 14 P P 13 38 23.2 -0.4
comp=Z,12nm,1.3s,baz=343,slow=4.3,SNR=20
ESDC pP pP 13 38 43.3 -1.2
comp=Z,2.6nm,0.8s,baz=344,slow=4.8,SNR=3.7
ESDC PKKPbc **PKKPbc** 13 56 25.3 +1.0
comp=Z,0.5nm,0.8s,baz=198,slow=2.3,SNR=4.8
ESDC PKPPKP **P'P'df** 14 04 33.2 -3.3
comp=Z,0.8nm,0.9s,baz=157,slow=7.0,SNR=4.3
ESDC LR LR 14 19 08.4
comp=Z,193nm,18.5s,baz=324,slow=37
comp=Z,12nm,1.3s
PARRA Arraiolos 85.49 18 *e*P P 13 38 25.3 +1.6
PARRA *i* IAmb IAmb 13 38 47.5
comp=Z,19nm,1.8s
STKI Sintang 85.58 264 P P 13 38 25.2 +0.8
comp=Z,85nm,1.3s
PTBC PUERTO BERRIO, 85.62 85 P P 13 38 21.7 -2.9
comp=Z,470nmcomp=Z,45nm,1.1s
ACER Acerenza 85.64 359 IAmb IAmb 13 38 25.9
comp=Z,40nm,0.9s
PESTR Estremoz 85.70 17 *e*P P 13 38 28.2 +3.5
PESTR *i* IAmb IAmb 13 38 47.7
comp=Z,32nm,1.8s
KIRS Kirsehir-Merke 85.74 345 ⇑P P 13 38 25.8 +0.9
SDV Santo Domingo 85.99 81 P P 13 38 26.2 -0.4
SDV IAmb IAmb 13 38 28.2
comp=Z,43nm,1.2s
SDV Santo Domingo 85.99 81 LR LR 14 18 23.4
comp=Z,71nm,21.7s,baz=308,slow=37
SDV Santo Domingo 85.99 81 *e*P P 13 38 26.9 +0.3
SDV Santo Domingo 85.99 81 P P 13 38 25.3 -1.3
comp=Z,36nm,1.4s
PAMC Pamplona, Colo 86.02 83 P P 13 38 27.6 +0.5
GUY2C Guyana, Caldas 86.14 86 P P 13 38 27.7 0.0
comp=Z,629nmcomp=Z,53nm,1.3s
SOEI Soe 86.25 248 IAmb IAmb 13 38 32.8
comp=Z,61nm,1.0s
SOEI Soe 86.25 248 P P 13 38 28.1 +0.4
SOEI Soe 86.25 248 P P 13 38 28.3 +0.6
comp=Z,68nm,1.4s
BARC Barichara 86.33 84 P P 13 38 26.9 -1.5
PBAR Barrancos 86.47 17 *e*P P 13 38 28.7 +0.2
YOTC Yotoco, Valle 86.56 88 P P 13 38 29.4 +0.1
comp=Z,652nmcomp=Z,49nm,1.5s
FDF Fort de France 86.67 70 IAmb IAmb 13 38 36.6
comp=Z,62nm,1.0s
EDFI Ende, Flores 86.85 251 P P 13 38 28.5 -2.2
comp=Z,33nm,1.1s
RUSC La Rusia 86.95 84 P P 13 38 30.3 -1.4
comp=Z,2µmcomp=Z,123nm,1.5s
BATI Baumata 86.96 248 LR LR 14 18 29.6
comp=Z,68nm,18.0s,baz=83,slow=36
BATI Baumata 86.96 248 P P 13 38 31.5 +0.4
JAMC Jamundi, Valle 86.98 89 P P 13 38 31.2 -0.3
comp=Z,2µmcomp=Z,64nm,1.5s
MORF Marmelete 87.03 18 *e*P P 13 38 32.2 +1.0
ROSC El Rosal 87.06 86 P P 13 38 32.5 +0.4
comp=Z,15nm,0.8s,baz=74,slow=8.0,SNR=6.6
comp=Z,15nm,0.8s
PVAQ Vaqueiros 87.10 17 *e*S S 13 49 06.9 +2.7
PVAQ *e*LR LR 14 07 56.3
PVAQ *i* IAMs_20 IAMs_20 14 14 44.4
comp=Z,312nm,22.0s
TIP Timpagrande 87.23 358 P P 13 38 32.5 +0.3
comp=Z,19nm,1.2s
ORTC Ortega, Tolima 87.26 87 P P 13 38 32.2 -0.5
comp=Z,734nmcomp=Z,67nm,1.2s
EIDS Eidsvold 87.27 218 P P 13 38 32.9 +0.7
comp=Z,29nm,1.7s
EIDS Eidsvold 87.27 218 P P 13 38 33.5 +1.2
BAUV El Baul 87.45 78 P P 13 38 33.5 0.0
POPC Popayan, Colom 87.52 89 P P 13 38 31.7 -2.4
comp=Z,445nmcomp=Z,30nm,1.5s
PRAC Prado 87.63 87 P P 13 38 33.6 -0.8
comp=Z,46nm,1.7s
QIS Mount Isa 87.68 230 P P 13 38 33.8 -0.6
comp=Z,47nm,1.9s
QIS Mount Isa 87.68 230 P P 13 38 34.6 +0.2
KULM Kulim 87.79 276 IAmb IAmb 13 38 37.0
comp=Z,38nm,0.9s
KULM Kulim 87.79 276 P P 13 38 35.9 +0.8
IPM Ipoh 88.22 275 IAmb IAmb 13 38 38.5
comp=Z,31nm,0.9s
IPM Ipoh 88.22 275 P P 13 38 37.5 +0.3
OTAV Otavalo 88.31 92 P P 13 38 38.7 +0.6
OTAV Otavalo 88.31 92 P P 13 38 38.7 +0.6
OTAV pmax pmax
comp=Z,21nm,1.0s
OTAV Otavalo 88.31 92 *e*P P 13 38 39.3 +1.2
OTAV Otavalo 88.31 92 P P 13 38 37.5 -0.7
comp=Z,570nmcomp=Z,31nm,1.2s
PCRV Puerto La Cruz 88.41 75 LR LR 14 17 21.4
comp=Z,145nm,21.7s,slow=35
FLOC Florencia 88.89 89 P P 13 38 41.4 +1.0
comp=Z,1µmcomp=Z,92nm,1.4s
VAE Valguarnera 88.96 360 LR LR 14 22 38.2
comp=Z,122nm,18.1s,baz=350,slow=38
WB0 Warramunga Arr 89.43 234 IAmb IAmb 13 38 43.9
comp=Z,61nm,1.4s
MACC Macarena, Meta 89.50 87 P P 13 38 42.5 -0.7
comp=Z,593nmcomp=Z,51nm,1.4s
WR8 Warramunga Arr 89.54 234 IAmb IAmb 13 38 44.3
comp=Z,20nm,0.8s
WRAB Tennant Creek 89.59 234 P P 13 38 42.7 -0.6
WRAB IAmb IAmb 13 38 44.7
comp=Z,37nm,1.1s
WRAB Tennant Creek 89.59 234 *i* P P 13 38 43.1 -0.3
WRAB pmax pmax
comp=Z,43nm,1.1s
WRA Warramunga Arr 89.61 234 P P 13 38 42.2 -1.3
WRA Warramunga Arr 89.61 234 P P 13 38 43.3 -0.2
comp=Z,21nm,1.0s,baz=40,slow=5.4,SNR=86
WRA pP pP 13 39 02.6 -1.9
comp=Z,3.8nm,0.9s,baz=38,slow=6.6,SNR=2.3
WRA PP PP 13 42 18.4 +1.9
comp=Z,3.5nm,1.1s,baz=33,slow=8.5,SNR=5.9
WRA PKiKP **PKiKP** 13 43 40.5 +0.1
comp=Z,0.6nm,0.9s,baz=15,slow=2.0,SNR=4.8
WRA LR LR 14 24 43.0
comp=Z,37nm,18.1s,baz=352,slow=39
comp=Z,21nm,1.0s
WRA Warramunga Arr 89.61 234 *i* P P 13 38 43.2 -0.2
WRA pmax pmax
comp=Z,23nm,1.0s
CSS Mathiatis 89.92 344 P P 13 38 44.8 -0.1
comp=Z,22nm,1.4s
COHC Cochancay 90.00 94 P P 13 38 44.9 -0.6
comp=Z,465nmcomp=Z,24nm,1.6s
PTLC Puerto Leguiza 90.52 89 P P 13 38 49.6 +1.6
comp=Z,1µmcomp=Z,48nm,1.3s
KEST Kesra 90.61 4 P P 13 38 49.5 +1.3
comp=Z,1.8nm,0.6s,baz=105,slow=9.6,SNR=2.0
comp=Z,1.8nm,0.6s
IDI Anoyia 90.65 351 LR LR 14 22 20.8
comp=Z,201nm,21.6s,baz=304,slow=37
PSI Prapat 90.80 276 LR LR 14 24 21.4
comp=Z,81nm,18.1s,baz=14,slow=39
PSI Prapat 90.80 276 P P 13 38 49.8 +0.4
RPSI Rantau Prapat 90.89 276 IAmb IAmb 13 38 50.5
comp=Z,26nm,0.9s
QLP Quilpie 91.00 223 P P 13 38 50.8 +1.1
comp=Z,71nm,1.4s
QLP Quilpie 91.00 223 P P 13 38 51.5 +1.7
MCRA Macar, Loja 91.12 96 P P 13 38 49.6 -1.1
MMAI Mount Meron Ar 91.46 342 P P 13 38 52.3 +0.1
comp=Z,4.5nm,0.7s,baz=352,slow=4.6,SNR=6.4
comp=Z,4.5nm,0.7s
ARMA Armidale 91.68 216 P P 13 38 55.4 +2.4
comp=Z,54nm,1.6s
ARMA Armidale 91.68 216 P P 13 38 55.3 +2.4
MD01 Midelt array s 92.03 16 P P 13 38 54.2 -0.7
MDT Midelt 92.11 16 LR LR 14 20 44.0
comp=Z,114nm,22.0s,baz=358,slow=36
FITZ Fitzroy Crossi 92.43 242 P P 13 38 57.2 +0.7
comp=Z,7.6nm,2.0s
FITZ Fitzroy Crossi 92.43 242 LR LR 14 17 07.8
comp=Z,89nm,20.4s,baz=26,slow=33
FITZ Fitzroy Crossi 92.43 242 P P 13 38 57.0 +0.5
TOZ Tahuroa Road 92.69 195 IAmb IAmb 13 38 59.0
comp=Z,26nm,0.9s
URZ Urewera 92.98 193 LR LR 14 14 02.8
comp=Z,177nm,20.2s,baz=24,slow=31
ASAR Alice Springs 93.00 233 P P 13 38 58.7 -0.4
ASAR Alice Springs 93.00 233 P P 13 38 59.3 +0.2
comp=Z,7.8nm,0.8s,baz=33,slow=4.3,SNR=81
ASAR PP PP 13 42 41.6 -1.7
comp=Z,1.6nm,1.0s,baz=24,slow=9.4,SNR=2.9
ASAR PKiKP **PKiKP** 13 43 46.0 -0.1

comp=Z,0.6nm,0.8s,baz=49,slow=1.4,SNR=4.6
ASAR PKKPbc **PKKPbc** **13 56 07.5 +0.7**
comp=Z,0.5nm,0.6s,baz=198,slow=2.2,SNR=8.8
ASAR LR LR 14 15 40.2
comp=Z,234nm,22.0s,baz=16,slow=32
comp=Z,7.8nm,0.8s
LEM Lembang 93.39 263 LR LR 14 17 25.7
comp=Z,87nm,19.6s,baz=32,slow=33
INKA Innaminka 93.47 225 IAmb IAmb 13 39 03.7
comp=Z,14nm,0.9s
RPN Rapa Nui 94.33 132 LR LR 14 12 02.4
comp=Z,116nm,18.3s,baz=328,slow=29
EIL Elat 94.80 342 LR LR 14 28 31.1
comp=Z,65nm,19.1s,baz=345,slow=40
CMSA Cobar Meteorol 94.85 220 P **P** **13 39 08.3 +0.9**
CMSA Cobar Meteorol 94.85 220 P **P** **13 39 08.6 +1.2**
STKA Stephens Creek 96.75 223 P **P** **13 39 16.8 +0.8**
comp=Z,56nm,1.4s
STKA Stephens Creek 96.75 223 P **P** **13 39 15.6 -0.5**
comp=Z,5.4nm,0.8s,baz=2.9,slow=5.3,SNR=13
STKA LR LR 14 19 58.8
comp=Z,155nm,21.1s,baz=25,slow=34
comp=Z,5.4nm,0.8s
STKA Stephens Creek 96.75 223 P **P** **13 39 17.0 +1.0**
BOAV Boa Vista 97.08 76 *eP* Pdif 13 39 18.4 +0.3
PALK Pallekele 97.55 293 LR LR 14 29 26.5
comp=Z,90nm,19.8s,baz=152,slow=39
CZSB Cruzeiro do Su 98.08 92 *eP* Pdif 13 39 23.4 +0.9
RAYN Ar Rayn 98.23 331 P Pdif 13 39 23.6 +0.4
RPZ Rata Peaks 99.25 197 LR LR 14 19 45.6
comp=Z,221nm,19.6s,baz=127,slow=32
MDP Montagnes des 99.29 68 LR LR 14 26 56.3
comp=Z,93nm,20.0s,baz=292,slow=37
ITTB Itaituba 105.33 76 *eP* **Pdif** **13 39 55.7 +0.9**
TORD Torodi Ar. Bea 112.36 13 PKiKP **PKiKP** **13 44 21.4 -0.2**
comp=Z,0.5nm,0.6s,baz=350,slow=2.4,SNR=5.8
TORD PKKPbc **PKKPbc** **13 55 08.7 -0.6**
comp=Z,3.4nm,0.7s,baz=147,slow=2.8,SNR=21
SNDB Serra Nova Dou 114.03 77 *eP* **Pdif** **13 40 32.9 -0.6**
H03N2 Juan Fernandez 114.60 113 T T 15 49 19.3
baz=322,slow=78,SNR=1293
H03N1 Juan Fernandez 114.61 113 T T 15 49 21.8
baz=322,slow=78,SNR=1328
H03N3 Juan Fernandez 114.62 113 T T 15 49 23.9
baz=322,slow=78,SNR=1430
DBIC Dimbokro 117.55 21 PKP **PKPdf** **13 44 31.4 -0.2**
comp=Z,2.5nm,0.6s,baz=152,slow=18,SNR=2.1
CPUP Villa Florida 121.66 92 PKP **PKPdf** **13 44 39.0 0.0**
comp=Z,0.7nm,0.8s,baz=202,slow=4.8,SNR=5.0
KMBO Kilima Mbogo 124.01 332 PKP **PKPdf** **13 44 44.0 -0.3**
comp=Z,2.9nm,0.6s,baz=226,slow=18,SNR=5.2
KMBO SKP 13 48 13.2
comp=Z,3.7nm,0.2s,baz=94,slow=12,SNR=6.7
KMBO Kilima Mbogo 124.01 332 PKiKP **PKPdf** **13 44 44.0 -0.3**
PLCA Paso Flores 124.48 113 PKP **PKPdf** **13 44 44.0 -0.1**
comp=Z,8.7nm,1.0s,baz=264,slow=2.7,SNR=14
PLCA Paso Flores 124.48 113 PKiKP **PKPdf** **13 44 44.0 -0.1**
PLTB Pedras Altas 127.86 94 **PKPdf** **13 44 50.1 -0.6**
SBA Scott Base 132.60 188 **PKPdf** **13 44 58.7 +0.4**
SBA Scott Base 132.60 188 PKiKP **PKPdf** **13 44 58.7 +0.4**
VNDA Vanda 132.71 189 PKP **PKPdf** **13 44 58.0 -0.6**
comp=Z,2.2nm,0.9s,baz=336,slow=3.5,SNR=9.0
VNDA SKPbc **SKPbc** **13 48 19.1 +0.5**
comp=Z,1.4nm,0.7s,baz=337,slow=5.9,SNR=6.2
VNDA Vanda 132.71 189 PKiKP **PKPdf** **13 44 58.0 -0.6**
CASY Casey 135.28 215 **PKPdf** **13 45 02.4 -1.2**
OPO Ambohidratompo 136.48 311 PKP **PKPdf** **13 45 07.7 +0.1**
comp=Z,2.9nm,0.9s,baz=94,slow=12,SNR=2.2
OPO SKPbc **SKPbc** **13 48 32.7 -0.2**
comp=Z,6.3nm,1.1s,baz=48,slow=6.5,SNR=4.7
LSZ Lusaka 139.88 339 PKhKP PKPpre 13 45 05.9
comp=Z,4.3nm,0.3s,baz=184,slow=23,SNR=1.8
LSZ SKPbc **SKPbc** **13 48 43.0 +0.4**
comp=Z,1.6nm,0.3s,baz=99,slow=2.5,SNR=5.8
PMSA Palmer Station 141.33 138 PKPpre 13 45 09.0
QSPA South Pole Qui 143.70 180 PKPbc 13 45 17.9 +1.1
QSPA South Pole Qui 143.70 180 PKP **PKPdf** **13 45 18.5 -0.5**
comp=Z,24nm,0.8s,baz=237,slow=0.6,SNR=181
QSPA SKPbc **SKiKP** **13 48 51.3 -0.1**
comp=Z,4.8nm,1.0s,baz=256,slow=4.5,SNR=4.4
GMARE Gumare 144.97 347 *i* P **PKPdf** **13 45 24.2 +1.5**
TSUM Tsumeb 145.23 354 **PKPbc** **13 45 21.8 -1.3**
TSUM Tsumeb 145.23 354 PKPbc **PKPbc** **13 45 22.9 -0.1**
comp=Z,26nm,0.8s,baz=0.8,slow=5.9,SNR=38
TSUM SKPbc **SKiKP** **13 48 56.5 +0.3**
comp=Z,12nm,1.1s,baz=37,slow=2.7,SNR=4.5
KHWEE KHWEE 146.92 340 *i* P **PKPbc** **13 45 28.6 +0.5**
KHWEE KHWEE 146.92 340 **PKPdf** **13 45 26.6 +0.6**
MREMI Moremi 147.09 337 *i* P **PKPbc** **13 45 28.7 +0.2**
LPHEP Lephephe 148.21 339 *i* P **PKPbc** **13 45 32.2 +0.7**
KDWAN Kaudwane 148.47 341 *i* P **PKPbc** **13 45 32.6 +0.5**
KDWAN Kaudwane 148.47 341 **PKPdf** **13 45 26.8 -1.8**
KDWAN **PKPbc** **13 45 32.9 +0.7**
SKOMA Sekoma 149.71 342 *i* P **PKPbc** **13 45 35.7 +0.4**
LBTB Lobatse 149.87 339 PKPbc **PKiKP** **13 45 36.4 -0.1**
comp=Z,41nm,0.9s,baz=0.3,slow=2.1,SNR=33
MAW Mawson 153.40 220 PKP **PKPdf** **13 45 35.0 +0.5**
comp=Z,2.8nm,0.9s,baz=228,slow=2.8,SNR=6.0
MAW PKPbc **PKiKP** **13 45 42.7 +0.4**
comp=Z,21nm,0.9s,baz=130,slow=3.1,SNR=41
MAW PKPab **pPKPdf** **13 45 56.0 -0.4**
comp=Z,32nm,0.8s,baz=94,slow=5.5,SNR=22
BOSA Boshof 153.41 338 **PKPdf** **13 45 35.3 -0.7**
BOSA Boshof 153.41 338 PKP **PKPdf** **13 45 36.7 +0.6**
comp=Z,1.9nm,0.4s,baz=126,slow=2.5,SNR=4.0
BOSA PKPbc **PKPbc** **13 45 43.6 -0.1**
comp=Z,12nm,0.8s,baz=89,slow=2.8,SNR=8.7
BOSA PKPab **PKPab** **13 45 56.2 +0.1**
comp=Z,4.5nm,0.6s,baz=34,slow=2.1,SNR=4.0
VNA3 Neumayer Olymp 159.74 158 ⇑PKPab **PKPab** **13 46 21.1 -1.0**
comp=Z,17nm,0.8s
VNA3 ⇑PKPdf **PKPdf** **13 45 40.1 -2.6**
comp=Z,6.9nm,0.8s
VNA2 Neumayer--Watz 160.48 159 ⇑PKPab **PKPab** **13 46 24.8 -0.5**
comp=Z,26nm,0.7s,baz=243,slow=2.3
VNA2 ⇑PKPdf **PKPdf** **13 45 41.4 -2.1**
comp=Z,7.0nm,0.9s,baz=160,slow=9.6
VNA1 Neumayer--Stat 160.49 158 ⇑PKPab **PKPab** **13 46 24.6 -0.8**
comp=Z,22nm,1.1s
VNA1 ⇑PKPdf **PKPdf** **13 45 42.0 -1.5**
comp=Z,7.2nm,1.2s
SNAA Sanae 160.73 164 ⇑PKPab **PKPab** **13 46 25.4 -1.1**
comp=Z,124nm,0.6s
SNAA ⇑PKPdf **PKPdf** **13 45 41.7 -2.2**
comp=Z,49nm,1.0s
SNAA Sanae 160.73 164 PKP **PKPdf** **13 45 42.3 -1.5**
comp=Z,1.9nm,0.9s,baz=216,slow=1.5,SNR=7.1
SNAA PKPab **PKPab** **13 46 25.9 -0.6**
comp=Z,7.1nm,0.9s,baz=204,slow=9.7,SNR=14
TROLL Troll, Antarti 161.18 169 ⇑PKPab **PKPab** **13 46 28.2 -0.3**
comp=Z,666nm,1.1s
TROLL ⇑PKPdf **PKPdf** **13 45 44.0 -0.5**
comp=Z,154nm,0.9s

IDC 14 13:28:00.8±2.2, 6°26S×154°83E, h0km, mb3.8/4, mbtmp3.8/4, MS4.1/1, Error ellipse: s-maj=92.3km s-min=27.8km az=126.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.11**	**234**	P	P	13 33 18.5	0.0
	2.8nm,0.8s,baz=60,slow=9.8,SNR=11						
	2.8nm,0.8s						
ASAR	**Alice Springs**	**26.55**	**227**	P	P	13 33 41.0	+0.5
	0.7nm,0.7s,baz=60,slow=8.6,SNR=10						
	0.7nm,0.7s						
BATI	**Baumata**	**31.09**	**261**	LR	LR	13 48 47.6	
	comp=Z,363nm,20.7s,baz=209,slow=40						
MKAR	**Makanchi Array**	**82.74**	**319**	P	P	13 40 26.6	-0.1
	0.9nm,0.9s,baz=109,slow=5.1,SNR=1.4						
	0.9nm,0.9s						
ILAR	**Eielson Array**	**82.75**	**22**	P	P	13 40 26.0	-0.3
	1.0nm,1.0s,baz=221,slow=3.5,SNR=4.5						
	1.0nm,1.0s						

*AEIC **14** 13:33:15.9±0.3, 53°.9N±0°.1×165°.9W±0°.1, h69km±6km, Error ellipse: s-maj=18.5km s-min=5.3km az=146.0*
NEIC 14 13:33:16.4±0.4, 53°.9N±0°.2×165°.9W±0°.2, h68km±10km, ML2.6/10, ML2.0(AEIC), Error ellipse: s-maj=31.2km s-min=6.0km az=156.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKBBA	**Akutan Broad B**	**0.22**	**350**		Pn	13 33 26.9	-0.1
AKBBA					Sn	13 33 34.9	+0.3
ZRO	**Akutan Zero**	**0.22**	**343**		Pn	13 33 26.9	0.0
ZRO					Sn	13 33 35.2	+0.5
AKMO	**Akutan Morgan**	**0.22**	**338**		Pn	13 33 27.0	0.0
AKMO					Sn	13 33 35.3	+0.6
AHB	**Akutan Harbor**	**0.23**	**8**		Pn	13 33 26.9	-0.2
AHB					Sn	13 33 35.4	+0.6
AKV	**Akutan Volcano**	**0.25**	**347**		Pn	13 33 27.1	-0.1
AKV					Sn	13 33 35.6	+0.5
AKUT	**Akutan**	**0.26**	**13**		Pn	13 33 27.0	-0.1
AKUT					Sn	13 33 35.5	+0.6
AKUT	**Akutan**	**0.26**	**13**	IAML		13 33 35.8	
	comp=N,163nm,1.2s						
AKUT				IAML		13 33 35.8	
	comp=E,388nm,0.1s						
AKSA	**Akutan Strait**	**0.27**	**22**		Pn	13 33 27.0	-0.2
AKSA					Sn	13 33 35.4	+0.3
AKLV	**Akutan Long Va**	**0.28**	**350**		Pn	13 33 27.2	-0.1
LVA	**Lava Point**	**0.29**	**341**		Pn	13 33 27.5	+0.1
LVA	**Lava Point**	**0.29**	**341**	IAML		13 33 37.7	
	comp=E,101nm,1.1s						
LVA				IAML		13 33 52.7	
	comp=N,181nm,1.2s						
UNV	**Unalaska Valle**	**0.38**	**264**		Pn	13 33 27.8	-0.2
UNV					Sn	13 33 36.7	+0.3
MREP	**Makushin Rep't**	**0.53**	**262**		Pn	13 33 29.4	0.0
MGOD	**Makushin Gods**	**0.60**	**262**		Pn	13 33 30.1	-0.1
WEBT	**Westdahl Beart**	**0.96**	**42**		Pn	13 33 34.2	-0.2
FALS	**False Pass**	**1.73**	**55**		Pn	13 33 44.5	+0.1
FALS	**False Pass**	**1.73**	**55**	IAML		13 34 48.6	
	comp=E,104nm,1.0s						
SDPT	**Sand Point**	**3.46**	**63**	Pn	Pn	13 34 07.8	0.0
SDPT				IAML		13 35 13.6	
	comp=E,24nm,1.1s						

*SJA **14** 13:34:22.7±0.5, 36°.26S×73°.61W, h13km, ML3.7, MW3.5*
*GUC **14** 13:34:30.6±0.6, 36°.41S×72°.92W, h29km±2km, ML3.9*
ISC 14 13:34:29.7±1.4, 36°.36S±0°.03×73°.06W±0°.07, h20km±5km, n44, σ2s25/68, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI05	**Punta Hualpn**	**0.40**	**196**	⇑*i* P	**Pb**	**13 34 38.9**	**+0.8**
BI05				*i* S	**Sb**	**13 34 44.7**	**+0.9**
BI05				IAML		13 34 45.4	
	comp=E,16μm,0.4s						
BI05	**Punta Hualpn**	**0.40**	**196**	*e*P	**Pb**	**13 34 38.1**	**0.0**
BI02	**San Fabin de**	**1.47**	**102**	⇓*i*P	**Pn**	**13 34 53.5**	**-1.6**
BI02				*i* S	**Sn**	**13 35 10.6**	**-3.2**
BI02				IAML		13 35 14.4	
	comp=N,3μm,0.5s						
BI02	**San Fabin de**	**1.47**	**102**	*e*P	**Pn**	**13 34 52.9**	**-2.2**
BI02				IAML		13 35 24.1	
	comp=Z,295nm,0.7s						
GO05	**Hualane**	**1.63**	**35**	*i* P	**Pn**	**13 34 55.9**	**-1.4**
GO05				*i* S	**Sn**	**13 35 18.0**	**+0.3**
GO05	**Hualane**	**1.63**	**35**	*e*P	**Pn**	**13 34 56.2**	**-1.1**
GO05				*e*S	**Sb**	**13 35 20.8**	**+1.5**
GO05				IAML		13 35 22.6	
	comp=Z,624nm,0.5s						
BO03	**Pichilemu**	**2.06**	**26**	⇑*i*P	**Pn**	**13 35 01.8**	**-1.5**
BO03				*i* S	**Sn**	**13 35 28.9**	**+0.6**
BI04	**Isla Mocha**	**2.15**	**198**	*e*S	**Sb**	**13 35 33.0**	**-1.3**
BI04				IAML		13 35 44.4	
	comp=E,610nm,0.5s						
BO02	**Sierra Bellavi**	**2.42**	**51**	*i* P	**Pn**	**13 35 07.2**	**-1.1**
BO02				IAML		13 35 46.1	
	comp=N,1μm,0.3s						
BO02	**Sierra Bellavi**	**2.42**	**51**	*e*P	**Pn**	**13 35 07.8**	**-0.5**
BO02				*e*S	**Sn**	**13 35 37.4**	**0.0**
BO02				IAML		13 35 45.6	
	comp=Z,492nm,0.2s						
BO01	**Tunca**	**2.54**	**40**	*i* P	**Pn**	**13 35 09.1**	**-0.7**
BO01				*i* S	**Sn**	**13 35 39.9**	**-0.2**
BO01	**Tunca**	**2.54**	**40**	*e*P	**Pn**	**13 35 09.3**	**-0.5**
BO01				IAML		13 36 01.4	
	comp=Z,159nm,0.6s						
MT01	**Popeta**	**2.90**	**31**	*e*P	**Pn**	**13 35 13.6**	**-1.1**
MT01				*e*S	**Sb**	**13 35 52.8**	**-2.9**
MT01				IAML		13 36 03.4	
	comp=Z,155nm,0.6s						
EDS3	**Malargue**	**3.02**	**80**	*e*P	Pn	13 35 07.9	-8.7
MT09	**Talagante**	**3.08**	**34**	*i* P	**Pn**	**13 35 16.4**	**-1.0**
MT09				*e*S	**Sn**	**13 35 54.7**	**+0.9**
MT09				IAML		13 36 11.4	
	comp=N,498nm,0.7s						
BO04	**La Punta**	**3.10**	**41**	*e*P	**Pn**	**13 35 16.7**	**-0.9**
BO04				*e*S	**Sn**	**13 35 54.6**	**+0.6**
BO04				IAML		13 36 11.3	
	comp=E,207nm,0.4s						
LR03	**Panguipulli**	**3.31**	**170**	*e*P	**Pn**	**13 35 22.6**	**+2.1**
LR03				*e*S	**Sb**	**13 36 02.6**	**-5.1**
LR03				IAML		13 36 13.6	
	comp=Z,270nm,0.3s						
LMEL	**Las Melosas**	**3.43**	**44**	*i* P	**Pn**	**13 35 22.5**	**+0.4**
LMEL				*e*S	**Sn**	**13 36 02.5**	**+0.2**
LMEL				IAML		13 36 19.4	
	comp=N,227nm,0.5s						
LMEL	**Las Melosas**	**3.43**	**44**	*e*P	**Pn**	**13 35 22.6**	**+0.4**
LMEL				*e*S	**Sb**	**13 36 06.6**	**-4.6**
LMEL				IAML		13 36 21.1	
	comp=Z,174nm,0.8s						
GO06	**Curarrehue**	**3.45**	**159**	*e*P	**Pn**	**13 35 23.0**	**+0.5**
GO06				*e*P	Pb	13 35 23.4	-6.8
GO06				*e*S	**Sb**	**13 36 07.5**	**-4.3**
MT13	**San Alfonso**	**3.46**	**42**	*e*P	**Pn**	**13 35 22.9**	**+0.4**
MT13				*e*S	**Sn**	**13 36 03.1**	**+0.1**
MT13				IAML		13 36 21.1	
	comp=E,163nm,0.3s						
MT13	**San Alfonso**	**3.46**	**42**	*e*P	**Pn**	**13 35 22.2**	**-0.4**
MT13				*e*S	**Sb**	**13 36 09.0**	**-3.0**
MT13				IAML		13 36 23.0	
	comp=Z,141nm,1.4s						
MT15	**Las Vizcachas**	**3.46**	**38**	*e*P	**Pn**	**13 35 22.0**	**-0.5**
MT15				IAML		13 36 18.6	
	comp=N,396nm,0.4s						
MT02	**Curacav**	**3.47**	**28**	*e*P	**Pn**	**13 35 21.1**	**-1.6**
MT02				*e*S	**Sb**	**13 36 15.6**	**+3.3**
MT02				IAML		13 36 20.9	
	comp=Z,70nm,0.8s						
MT05	**Renca**	**3.52**	**33**	*e*P	**Pn**	**13 35 22.3**	**-1.1**
MT05	**Renca**	**3.52**	**33**	*e*P	**Pn**	**13 35 23.0**	**-0.3**
MT05				*e*S	**Sn**	**13 36 08.0**	**+3.6**
MT05				IAML		13 36 26.4	
	comp=Z,126nm,0.9s						
VA01	**Torpederas**	**3.52**	**20**	*e*P	Pn	13 35 12.7	-11
MT03	**Universidad Ad**	**3.54**	**37**	*e*P	**Pn**	**13 35 23.1**	**-0.6**
MT03				IAML		13 36 23.1	
	comp=N,293nm,0.4s						
MT03	**Universidad Ad**	**3.54**	**37**	*e*P	**Pn**	**13 35 23.4**	**-0.3**
MT03				*e*S	**Sb**	**13 36 10.1**	**-4.3**
MT03				IAML		13 36 37.1	
	comp=Z,209nm,0.7s						
MT16	**CCHEN**	**3.59**	**36**	*e*P	**Pn**	**13 35 25.1**	**+0.7**
MT16				*i* S	**Sn**	**13 36 05.9**	**-0.2**
MT16				IAML		13 36 23.8	
	comp=N,151nm,0.7s						
MT14	**Cerro Cal¡n**	**3.61**	**36**	*e*P	**Pn**	**13 35 23.9**	**-0.7**
MT10	**Hacienda Santa**	**3.71**	**35**	*e*P	**Pn**	**13 35 25.3**	**-0.7**
PEL	**Peldehue**	**3.75**	**32**	*e*P	**Pn**	**13 35 25.8**	**-0.7**
ROCH	**El Roble**	**3.78**	**27**	*e*P	**Pn**	**13 35 26.3**	**-0.7**
MT04	**Ro Olivares**	**3.80**	**40**	*e*P	**Pn**	**13 35 27.1**	**-0.2**
MT04	**Ro Olivares**	**3.80**	**40**	*e*P	**Pn**	**13 35 27.5**	**+0.2**
MT04				*e*S	**Sn**	**13 36 16.0**	**+4.4**
MT04				IAML		13 36 26.6	
	comp=Z,105nm,0.8s						
MT08	**Bocatoma Ro**	**3.83**	**42**	*e*P	**Pn**	**13 35 28.1**	**+0.3**
MT08	**Bocatoma Ro**	**3.83**	**42**	*e*P	**Pn**	**13 35 28.4**	**+0.6**
MT08				*e*S	**Sb**	**13 36 17.3**	**-5.6**
MT08				IAML		13 36 36.4	
	comp=Z,59nm,0.3s						
RFA	**San Rafael**	**4.06**	**68**	*e*P	**Pn**	**13 35 32.7**	**+1.9**
RFA				*e*S	**Sb**	**13 36 35.6**	**+6.2**
VA03	**San Esteban**	**4.14**	**31**	*e*P	**Pn**	**13 35 31.3**	**-0.6**
VA03				*e*S	**Sb**	**13 36 36.9**	**+5.2**
VA03				IAML		13 36 53.3	
	comp=Z,88nm,0.7s						
AAGR	**Agrelo**	**4.77**	**48**	*e*P	**Pn**	**13 35 42.2**	**+1.6**
PLCA	**Paso Flores**	**4.79**	**157**	*e*P	**Pn**	**13 35 41.7**	**+0.9**
PLCA				*e*S	**Sb**	**13 36 53.1**	**+3.0**
ASAL	**Salagasta**	**5.13**	**44**	*e*P	**Pn**	**13 35 46.7**	**+1.2**
CO02	**Combarbal**	**5.42**	**19**	*e*P	**Pn**	**13 35 48.1**	**-1.5**
CO02				*e*S	**Sn**	**13 36 47.6**	**-3.8**
CO02				IAML		13 37 23.2	
	comp=Z,39nm,1.4s						

*AEIC **14** 13:40:21.8±0.5, 54°.0N±0°.3×166°.0W±0°.3, h71km±7km, Error ellipse: s-maj=48.7km s-min=4.6km az=147.0*
NEIC 14 13:40:20.5±1.1, 53°.8N±0°.3×165°.8W±0°.3, h79km±17km, ML2.8/8, ML2.0(AEIC), Error ellipse: s-maj=50.3km s-min=3.5km az=148.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKBBA	**Akutan Broad B**	**0.28**	**344**		Pn	13 40 32.7	+0.1
AKBBA					Sn	13 40 40.9	-0.6
ZRO	**Akutan Zero**	**0.28**	**338**		Pn	13 40 32.6	0.0
ZRO					Sn	13 40 41.0	-0.5
AKMO	**Akutan Morgan**	**0.29**	**335**		Pn	13 40 32.8	+0.2
AKMO					Sn	13 40 41.1	-0.4
AKUT	**Akutan**	**0.30**	**4**		Pn	13 40 32.7	+0.1
AKUT	**Akutan**	**0.30**	**4**	IAML		13 40 41.5	
	comp=E,394nm,0.3s						
AKUT				IAML		13 40 41.6	
	comp=N,233nm,0.5s						
AKV	**Akutan Volcano**	**0.31**	**342**		Pn	13 40 32.8	0.0
AKV					Sn	13 40 41.5	-0.4
AKSA	**Akutan Strait**	**0.31**	**12**		Pn	13 40 32.8	0.0
AKSA					Sn	13 40 41.1	-0.7
AKLV	**Akutan Long Va**	**0.34**	**345**		Pn	13 40 33.0	0.0
LVA	**Lava Point**	**0.35**	**338**	Pn	Pn	13 40 32.9	-0.2
UNV	**Unalaska Valle**	**0.41**	**272**		Pn	13 40 34.0	+0.5
UNV					Sn	13 40 42.3	-0.7
MREP	**Makushin Rep't**	**0.56**	**268**		Pn	13 40 34.8	0.0
MSW	**Makushin Switc**	**0.58**	**278**		Pn	13 40 34.9	-0.1
MGOD	**Makushin Gods**	**0.64**	**267**		Pn	13 40 35.7	+0.2
WEBT	**Westdahl Beart**	**0.98**	**39**		Pn	13 40 40.2	+1.0
WEBT					Sn	13 40 54.9	+1.6
SSBA	**Shishaldin**	**1.36**	**46**		Pn	13 40 44.9	+0.9
FALS	**False Pass**	**1.73**	**53**		Pn	13 40 50.3	+1.5
FALS	**False Pass**	**1.73**	**53**	IAML		13 41 12.2	
	comp=E,126nm,1.1s						
SDPT	**Sand Point**	**3.45**	**62**	Pn	Pn	13 41 10.7	-1.2
SDPT				IAML		13 43 19.6	
	comp=N,20nm,1.1s						

*NEIC **14** 13:53:48.5±1.2, 35°.13N±0°.01×95°.35W±0°.02, h9km±6km, Error ellipse: s-maj=2.6km s-min=1.7km az=69.0*
NEIC 14 13:53:48.8±0.8, 35°.13N±0°.02×95°.36W±0°.03, h7km±2km, mb_Lg2.3/5, ML2.5/12, ML2.1/7, Error ellipse: s-maj=4.2km s-min=3.0km az=126.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUL3	**Leonard**	**0.86**	**336**		Pg	13 54 05.0	-0.3
TUL3					Sb	13 54 17.9	+0.1
RLO	**Rose Lookout**	**1.07**	**15**		Pg	13 54 09.2	-0.2
RLO					Sg	13 54 23.1	-0.2
RLO				IAML		13 54 26.2	
	comp=N,122nm,0.2s						
DEOK	**Depew**	**1.17**	**308**		Pg	13 54 10.8	-0.5
DEOK					Sg	13 54 26.2	-0.3
DEOK				IAML		13 54 29.0	
	comp=E,74nm,0.1s						
OK052	**Battle Ridge R**	**1.46**	**307**		Pn	13 54 15.6	0.0
OK052					Sg	13 54 35.5	-0.3
QUOK	**Quay**	**1.51**	**314**		Pn	13 54 16.5	+0.2
QUOK					Sb	13 54 36.9	+0.2
U38A	**Gravette**	**1.53**	**31**		Pn	13 54 17.0	+0.4
U38A					Sb	13 54 37.2	+0.1
MIAR	**Mount Ida**	**1.58**	**111**		Pb	13 54 17.8	-0.5
HHAR	**Hobbs**	**1.63**	**45**		Pb	13 54 18.7	-0.6
HHAR					Sb	13 54 40.5	+0.4
FNO	**Franklin**	**1.68**	**275**		Pn	13 54 19.3	+0.7
FNO					Sb	13 54 41.9	+0.5
OKCSW	**OKLAHOMA CITY**	**1.72**	**280**		Pn	13 54 19.7	+0.5
OKCSW					Sb	13 54 43.4	+0.7
OK051	**E0350 and S346**	**1.82**	**319**	Pn	Pn	13 54 19.5	-1.1
T35A	**Sooner Cattle**	**2.02**	**333**		Pn	13 54 22.2	-1.0
X34A	**Smith Ranch, M**	**2.10**	**256**		Pn	13 54 23.1	-1.3
X40A	**Basin Creek Fa**	**2.17**	**106**	Pg	Pg	13 54 29.7	-0.7
BLOK	**Blackwell**	**2.22**	**318**	Pn	Pn	13 54 25.4	-0.6
UALR	**University of**	**2.50**	**97**	IAmb_Lg		13 55 08.7	
	comp=Z,8.4nm,0.8s						
FCAR	**Ozark Folk Cen**	**2.75**	**73**	Pn	Pn	13 54 32.9	-0.4
WMOK	**Wichita Mounta**	**2.84**	**263**	Pn	Pn	13 54 33.7	-0.8
R40A	**Maddies Statio**	**4.02**	**37**	IAmb_Lg		13 55 59.3	
	comp=Z,5.7nm,0.9s						

*DJA **14** 14:11:28.6±0.3, 8°.5S×11°.6E±°, h175km±3km, M4.0/22, mB4.4/1, mb4.0/7, MLv3.9/22, Mw(mB)3.5/1*
*IDC **14** 14:11:28.6±2.0, 8°.06S×116°.00E, h181km±16km, mb3.4/13, mbtmp4.0/16, Error ellipse: s-maj=22.0km s-min=10.0km az=60.0*
ISC 14 14:11:29.8±0.6, 8°.20S±0°.06×116°.03E±0°.05, h200km, n46, σ2s43/54, mb3.6/13, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRBI	**Singaraja**	**0.81**	**278**	P	**Pn**	**14 11 55.1**	**-3.2**
SRBI				S	**Sn**	**14 12 15.3**	**-5.1**
DNP	**Denpasar**	**0.94**	**239**	P	**Pn**	**14 11 55.3**	**-3.8**
TWSI	**Taliwang, Sumb**	**1.00**	**123**	P	**Pn**	**14 11 56.7**	**-2.8**
TWSI				S	**Sn**	**14 12 17.3**	**-5.3**
ABJI	**Asem Bagus**	**1.82**	**282**	P	**Pn**	**14 12 04.6**	**-1.9**
PLAI	**Plampang**	**1.84**	**110**	P	**Pn**	**14 12 05.3**	**-1.4**
PLAI	**Plampang**	**1.84**	**110**	P	**Pn**	**14 12 05.3**	**-1.4**
PLAI				S	**Sn**	**14 12 32.3**	**-3.0**
JAGI	**Jajag, Banyuwa**	**1.88**	**262**	P	**Pn**	**14 12 02.8**	**-4.2**
KMMI	**Kalianget**	**2.34**	**299**	P	**Pn**	**14 12 09.9**	**-2.0**
BLJI	**Banyuglugur**	**2.45**	**280**	P	**Pn**	**14 12 10.9**	**-2.2**
GMJI	**Gumukmas**	**2.56**	**268**	P	**Pn**	**14 12 10.5**	**-3.8**
WBSI	**Waikabubak, Su**	**3.52**	**114**	P	**Pn**	**14 12 24.2**	**-2.7**
GRJI	**Gresik**	**3.74**	**290**	P

STKA	**Stephens Creek**	**33.47**	**138**	P		**P**		**14 17 51.6**	**+1.5**
	1.1nm,0.4s,baz=322,slow=13,SNR=4.0								
	1.1nm,0.4s								
LZDM	**Lanzhou Array**	**45.42**	**346**	P		**P**		**14 19 27.9**	**-1.2**
	3.5nm,0.5s,baz=158,slow=4.7,SNR=2.0								
	3.5nm,0.5s								
KSRS	**Korea Array**	**46.76**	**13**	P		**P**		**14 19 39.6**	**+0.7**
	2.5nm,0.8s,baz=194,slow=7.8,SNR=11								
	2.5nm,0.8s								
MJAR	**Matsushiro Arr**	**49.14**	**24**	P		**P**		**14 19 57.2**	**-0.1**
	1.3nm,0.7s,baz=178,slow=11,SNR=5.6								
	1.3nm,0.7s								
SONM	**Songino Array**	**56.43**	**352**	P		**P**		**14 20 51.1**	**+0.5**
	1.3nm,0.7s,baz=166,slow=6.7,SNR=5.2								
	1.3nm,0.7s								
MKAR	**Makanchi Array**	**62.44**	**335**	P		**P**		**14 21 31.1**	**-0.6**
	0.4nm,0.4s,baz=152,slow=5.7,SNR=8.1								
	0.4nm,0.4s								
KURBB	**Kurchatov Arra**	**66.98**	**335**	P		**P**		**14 21 60.0**	**-0.8**
	0.3nm,0.5s,baz=120,slow=4.4,SNR=1.5								
	0.3nm,0.5s								
ZALV	**Zalesovo Beam**	**67.28**	**341**	P		**P**		**14 22 01.9**	**-0.7**
	0.6nm,0.5s,baz=123,slow=10,SNR=2.3								
	0.6nm,0.5s								
BVAR	**Borovoye Array**	**72.23**	**333**	P		**P**		**14 22 32.6**	**-0.3**
	0.2nm,0.3s,baz=128,slow=4.0,SNR=1.7								
	0.2nm,0.3s								
QSPA	**South Pole Qui**	**81.80**	**180**	P		**P**		**14 23 28.9**	**+2.7**
	0.6nm,0.6s,baz=240,slow=6.2,SNR=2.0								
	0.6nm,0.6s								
SNAA	**Sanae**	**90.97**	**196**	P		**P**		**14 24 12.9**	**+2.1**
	0.4nm,0.5s,baz=200,slow=6.8,SNR=11								
	0.4nm,0.5s								

*HEL **14** 14:14:20.9±0.4, 67.80N×19.99E, h0km, ML1.4, Suspected explosion*
*UPP **14** 14:14:21.4±0.1, 67.83N×20.04E, h0km, ML2.6, Confirmed Induced event*
ISC 14 14:14:21.5±0.8**, 67.81N**±0.03×**20.11E**±0.03**, h0**km**, n24,** σ1§**47**/38**, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.17**	**31**	P	**Pg**	**14 14 24.9**	**+0.2**
KUA				S	**Sg**	**14 14 27.0**	**+0.2**
RATU	**Laukkuluspa**	**0.20**	**274**	P	**Pg**	**14 14 24.7**	**-0.5**
NIKU	**Nikkaluokta**	**0.41**	**278**	P	**Pg**	**14 14 28.6**	**-0.7**
KOVU	**Salmi**	**0.41**	**3**	P	**Pg**	**14 14 29.4**	**0.0**
KOVU				S	**Sg**	**14 14 35.3**	**+0.6**
SALU	**Saltoluokta**	**0.75**	**235**	P	**Pb**	**14 14 36.5**	**-0.9**
LANU	**Lannavaara**	**0.75**	**71**	P	**Pg**	**14 14 35.3**	**-0.6**
LANU	**Lannavaara**	**0.75**	**71**	PG	**Pg**	**14 14 35.2**	**-0.6**
LANU				SG	**Sg**	**14 14 45.3**	**-0.3**
KIF	**Kilpisjarvi**	**1.23**	**12**	*eP*	**Pn**	**14 14 45.9**	**+0.1**
KIF	**Kilpisjarvi**	**1.23**	**12**	PN	**Pb**	**14 14 45.3**	**-0.2**
KIF				MSG		14 14 59.5	
	comp=Z,3.6nm,0.2s						
KIF				SN	**Sb**	**14 15 01.2**	**-0.6**
PAJU	**Pajala**	**1.41**	**123**	P	**Pn**	**14 14 47.3**	**-1.0**
PAJU	**Pajala**	**1.41**	**123**	PG	**Pn**	**14 14 45.7**	**-2.6**
	baz=303						
PAJU				SG	**Sg**	**14 15 05.4**	**-1.1**
HEF	**Hetta**	**1.46**	**64**	*eP*	**Pn**	**14 14 47.9**	**-1.2**
HEF	**Hetta**	**1.46**	**64**	PG	**Pn**	**14 14 47.8**	**-1.3**
HEF				MSG		14 15 06.0	
	comp=Z,2.0nm,0.2s						
HEF				SG	**Sg**	**14 15 07.1**	**-1.2**
ERTU	**Ertsjaerv**	**1.50**	**146**	PG	**Pn**	**14 14 48.5**	**-1.1**
ERTU				SN	**Sg**	**14 15 10.0**	**+0.4**
KTK1	**Kautokeino**	**1.67**	**42**	PN	**Pn**	**14 14 52.1**	**+0.1**
KTK1				SN	**Sg**	**14 15 15.9**	**+0.8**
KALU	**Kalix**	**2.34**	**145**	PB	**Pn**	**14 15 02.7**	**+1.5**
KALU				SG	**Sb**	**14 15 34.6**	**+0.7**
TOF	**Tornio**	**2.40**	**134**	PG	**Pn**	**14 15 03.7**	**+1.7**
TOF				MSG		14 15 32.9	
	comp=Z,1.5nm,0.2s						
TOF				SG	**Sb**	**14 15 36.4**	**+0.8**
RNF	**Rovaniemi**	**2.60**	**115**	PB	**Pn**	**14 15 06.7**	**+2.1**
RNF				SB	**Sb**	**14 15 39.9**	**-1.3**
ARA0	**ARCESS Array S**	**2.62**	**46**	PG	**Pn**	**14 15 07.1**	**+2.1**
	baz=232						
ARA0				SB	**Sn**	**14 15 39.9**	**+2.3**
RAJF	**Raja-Jooseppi**	**3.14**	**74**	PN	**Pn**	**14 15 12.6**	**+0.5**
RAJF				SB	**Sb**	**14 15 55.5**	**-1.4**
KEV	**Kevo**	**3.18**	**49**	PB	**Pn**	**14 15 15.8**	**-2.9**
KEV				SN	**Sn**	**14 15 51.9**	**+0.8**
RANF	**Ranua**	**3.19**	**121**	SG	**Sb**	**14 15 59.2**	**+0.9**
MSF	**Maaselka**	**4.01**	**114**	SN	**Sn**	**14 16 13.0**	**+1.3**
KU6	**Riekki**	**4.25**	**110**	SG	**Sb**	**14 16 33.3**	**+4.6**

*IDC **14** 14:28:26.2±0.7, 2.92N×128.45E, h0km, mb3.9/12, mbtmp3.9/12, Error ellipse: s-maj=44.5km s-min=14.3km az=73.0*
*DJA **14** 14:28:28.5±0.7, 3.N×3.×12.9E±.°, h10km, M4.1/6, MLv4.1/6*
ISC 14 14:28:31.4±0.8**, 2.98N**±0.09×**128.6E**±0.2**, h35**km**, n21,** σ0§**79**/17**, mb3.9**/12**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.49**	**208**	P	**Pn**	**14 29 10.9**	**+1.4**
SGSI	**Sangihe**	**3.10**	**283**	P	**Pn**	**14 29 17.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**21.14**	**188**	P	**P**	**14 33 12.2**	**-1.3**
	1.3nm,0.8s,baz=8.7,slow=13,SNR=1.2						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**23.48**	**166**	P	**P**	**14 33 38.4**	**+0.4**
	3.6nm,0.6s,baz=345,slow=10,SNR=43						
WRA				PcP	**PcP**	**14 37 23.7**	**+0.2**
	0.3nm,1.0s,baz=90,slow=4.8,SNR=1.5						
	3.6nm,0.6s						
ASAR	**Alice Springs**	**26.99**	**169**	P	**P**	**14 34 09.7**	**-0.4**
	0.7nm,0.8s,baz=345,slow=13,SNR=11						
ASAR				PcP	**PcP**	**14 37 31.4**	**-0.1**
	1.1nm,0.6s,baz=348,slow=2.2,SNR=16						
	0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.82**	**300**	P	**P**	**14 35 01.9**	**0.0**
	0.5nm,0.7s,baz=111,slow=7.5,SNR=4.4						
	0.5nm,0.7s						
KSRS	**Korea Array**	**34.32**	**359**	P	**P**	**14 35 15.8**	**+1.2**
	0.6nm,0.7s,baz=182,slow=8.9,SNR=4.0						
	0.6nm,0.7s						
MJAR	**Matsushiro Arr**	**34.57**	**14**	P	**P**	**14 35 17.4**	**+0.5**
	1.9nm,1.0s,baz=192,slow=10,SNR=2.6						
	1.9nm,1.0s						
STKA	**Stephens Creek**	**36.81**	**161**	P	**P**	**14 35 34.6**	**-1.5**
	1.3nm,0.4s,baz=328,slow=9.3,SNR=5.1						
	1.3nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**40.39**	**65**	T	T	15 19 22.2	
	baz=252,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**40.40**	**65**	T	T	15 19 23.5	
	baz=252,slow=75,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**40.40**	**65**	T	T	15 19 23.2	
	baz=252,slow=75,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**40.95**	**63**	T	T	15 20 03.0	
	baz=251,slow=75						
H11N2	**WAKE ISLAND Hy**	**40.96**	**63**	T	T	15 20 04.6	
	baz=251						
H11N3	**WAKE ISLAND Hy**	**40.97**	**63**	T	T	15 20 04.3	
	baz=251,slow=75						
MKAR	**Makanchi Array**	**59.21**	**325**	P	**P**	**14 38 28.9**	**-0.2**
	0.9nm,0.5s,baz=112,slow=8.0,SNR=9.6						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**63.35**	**327**	P	**P**	**14 38 56.5**	**-0.5**
	1.5nm,0.2s,baz=128,slow=6.5,SNR=4.9						
	1.5nm,0.2s						
BVAR	**Borovoye Array**	**68.94**	**327**	P	**P**	**14 39 33.2**	**+0.3**
	0.4nm,0.5s,baz=99,slow=8.9,SNR=2.3						
	0.4nm,0.5s						
VNDA	**Vanda**	**82.46**	**173**	P	**P**	**14 40 49.7**	**0.0**
	0.9nm,0.9s,baz=326,slow=6.6,SNR=5.8						
	0.9nm,0.9s						
QSPA	**South Pole Qui**	**92.89**	**180**	P	**P**	**14 41 41.0**	**+0.5**
	1.3nm,0.8s,baz=163,slow=1.4,SNR=10						
	1.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**124.88**	**288**	PKP	**PKPdf**	**14 47 28.9**	**+0.2**
	0.4nm,0.7s,baz=42,slow=2.3,SNR=2.4						

*ISK **14** 14:31:43.3, 36.32N×36.38E, h8km, ML2.6/7*
*GRAL **14** 14:31:44.2±0.3, 36.07N×37.72E, h10km±810km, MD3.6*
*AFAD **14** 14:31:44.1, 36.37N×36.44E, h6km±2km, ML2.9*
ISC 14 14:31:42.8±0.9**, 36.28N**±0.02×**36.36E**±0.03**, h16**km±6km**,**
n30, σ0§**90**/44**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAHT	**Tahtakopru-Hat**	**0.17**	**304**	Pg	**Pg**	**14 31 46.9**	**-0.2**
TAHT				Sg	**Sg**	**14 31 49.9**	**0.0**
RHAN	**Hatay/Reyhanl**	**0.20**	**96**	P	**Pg**	**14 31 48.0**	**+0.5**
RHAN				S	**Sg**	**14 31 51.0**	**+0.3**
HASA	**Hatay-Hassa-Ha**	**0.48**	**12**	P	**Pg**	**14 31 51.8**	**-0.6**
HASA				*i* IAML		14 31 57.0	
	comp=N,750nm,0.4s						
HASA				S	**Sg**	**14 31 57.4**	**-1.6**
KUZU	**Kuzuini**	**0.76**	**49**	P	**Pg**	**14 31 56.8**	**-0.8**
KUZU				S	**Sg**	**14 32 07.1**	**-0.5**
KUZU				*i* IAML		14 32 09.0	
	comp=E,798nm,0.2s						
YURE	**YUREGIR**	**0.80**	**313**	P	**Pn**	**14 32 00.1**	**+0.6**
CEYT	**Ceyhan**	**0.88**	**326**	Pg	**Pb**	**14 32 00.4**	**+0.8**
KAMA	**Osmaniye**	**0.94**	**15**	P	**Pg**	**14 32 00.1**	**-0.9**
KAMA				S	**Sg**	**14 32 10.9**	**-2.5**
GAZ	**Gaziantep**	**1.12**	**37**	Pn	**Pn**	**14 32 04.7**	**+0.8**
GAZ				Sn	**Sn**	**14 32 19.8**	**+0.7**
KHMN	**Narli-Kahraman**	**1.28**	**30**	Pn	**Pb**	**14 32 07.4**	**+0.8**
ANDN	**Andirin**	**1.30**	**360**	P	**Pn**	**14 32 06.8**	**+0.4**
NZIP	**Nizip/Gaziante**	**1.30**	**54**	P	**Pn**	**14 32 06.6**	**+0.2**
NZIP				S	**Sb**	**14 32 22.5**	**-1.0**
NZIP				*i* IAML		14 32 26.0	
	comp=E,220nm,0.3s						
DED	**Mersin**	**1.43**	**299**	P	**Pb**	**14 32 09.2**	**+0.2**
KARA	**Karaisali**	**1.43**	**313**	Pn	**Pg**	**14 32 10.0**	**-0.4**
GZT	**Gaziantep**	**1.45**	**42**	P	**Pb**	**14 32 10.5**	**+1.1**
GZT				S	**Sn**	**14 32 27.9**	**+0.8**
GZT				*i* IAML		14 32 30.0	
	comp=N,174nm,0.2s						
GZT				*i* IAML		14 32 30.0	
	comp=E,262nm,0.5s						
MERS	**Mersin**	**1.59**	**292**	Pn	**Pb**	**14 32 12.4**	**+0.6**
GULE	**Gulek**	**1.62**	**309**	P	**Pb**	**14 32 12.9**	**+0.6**
BEIL	**Beino**	**1.74**	**185**	*eP*	**Pg**	**14 32 16.6**	**+0.4**
CMRD	**Camardi-Nigde**	**1.76**	**322**	Pn	**Pb**	**14 32 14.5**	**-0.3**
KIZK	**Mersin**	**1.80**	**277**	P	**Pb**	**14 32 15.2**	**-0.1**
KIZK				S	**Sn**	**14 32 35.9**	**+0.3**
AKCA	**Adyaman/G¶l**	**1.85**	**35**	P	**Pg**	**14 32 17.9**	**-0.4**
AKCA				S	**Sb**	**14 32 40.2**	**+1.0**
AKCA				*i* IAML		14 32 42.0	
	comp=N,134nm,0.3s						
AKCA				*i* IAML		14 32 43.0	
	comp=E,165nm,0.3s						
SURC	**SANLIURFA_SURC**	**1.91**	**71**	P	**Pb**	**14 32 17.4**	**+0.1**
SURC				S	**Sb**	**14 32 41.5**	**+0.6**
SURC				*i* IAML		14 32 43.0	
	comp=N,260nm,0.2s						
SURC				*i* IAML		14 32 43.0	
	comp=E,248nm,0.2s						
HWQ	**Hawqa**	**2.02**	**190**	*eP*	**Pg**	**14 32 21.1**	**-0.6**
AZEY	**Adyaman-Merk**	**2.15**	**44**	P	**Pg**	**14 32 23.3**	**-0.7**
AZEY				S	**Sb**	**14 32 48.4**	**+0.6**
AZEY				*i* IAML		14 32 53.0	
	comp=E,67nm,0.3s						
AKCD	**Akcadag**	**2.37**	**31**	P	**Pb**	**14 32 24.8**	**-0.3**
HANM	**anlurfa/Hi**	**2.40**	**57**	P	**Pb**	**14 32 26.1**	**+0.5**
BHL	**Bhannes**	**2.44**	**194**	*eP*	**Pb**	**14 32 27.1**	**+0.8**
ZAHL	**Zahle**	**2.45**	**189**	*eP*	**Pb**	**14 32 26.3**	**-0.2**
DQRL	**Deir Qamar**	**2.65**	**194**	*eP*	**Pb**	**14 32 29.9**	**+0.1**
DQRL				*eS*	**Sb**	**14 33 03.9**	**+1.7**
QRWL	**Qaraoun**	**2.78**	**192**	*eP*	**Pb**	**14 32 31.0**	**-1.2**
RCY	**Rachaya**	**2.81**	**189**	*eP*	**Pb**	**14 32 30.8**	**-1.8**
RCY				*eS*	**Sb**	**14 33 05.2**	**-1.7**

*JMA **14** 14:39:28.7±0.2, 23.8N×0.8×123.4E±0.4, h28km±1km, MV3.1/10, NEAR ISHIGAKIJIMA ISLAND*
ISC 14 14:39:24.1±1.7**, 23.66N**±0.07×**123.37E**±0.04**, h8**km±15km**,**
n17, σ0§**60**/24**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.56**	**46**	P	**Pn**	**14 39 37.8**	**-0.6**
HATJ				S	**Sb**	**14 39 44.2**	**-0.2**
IRIF	**Iriomote-Funau**	**0.75**	**26**	P	**Pn**	**14 39 40.1**	**+0.7**
JKRS	**Kuro-shima**	**0.82**	**46**	P	**Pn**	**14 39 41.7**	**-0.3**
JKRS				S	**Sb**	**14 39 51.6**	**-0.3**
YOJ	**Yonaguni jima**	**0.86**	**338**	P	**Pb**	**14 39 42.3**	**+0.9**
YOJ	**Yonaguni jima**	**0.86**	**338**	P	**Pb**	**14 39 42.2**	**+0.9**
YOJ				S	**Sg**	**14 39 51.9**	**0.0**
JYNG	**Yonagunijimaku**	**0.88**	**334**	P	**Pb**	**14 39 42.6**	**+1.0**
JYNG				S	**Sg**	**14 39 51.4**	**-1.0**
JIJ	**Ishigaki jima**	**1.00**	**45**	P	**Pn**	**14 39 44.6**	**+0.2**
JIJ				S	**Sg**	**14 39 56.5**	**+0.2**
JISG	**Ishigakijimahi**	**1.26**	**43**	*eP*	**Pg**	**14 39 48.5**	**0.0**
JISG				S	**Sb**	**14 40 04.2**	**-0.4**
JTJ	**Tarama**	**1.56**	**51**	*eP*	**Pg**	**14 39 54.2**	**0.0**
JTJ				S	**Sb**	**14 40 12.8**	**-0.4**
NACB	**Ninganchiao**	**1.70**	**288**	P	**Pb**	**14 39 56.3**	**+0.7**
YULB	**Yu-li**	**1.92**	**262**	P	**Pb**	**14 40 00.1**	**+0.8**
YULB	**Yu-li**	**1.92**	**262**	S	**Sb**	**14 40 23.8**	**+0.4**
YHNB	**Yeheng**	**2.08**	**299**	P	**Pb**	**14 40 02.3**	**+0.2**
TATO	**Taipei**	**2.15**	**308**	P	**Pb**	**14 40 03.1**	**-0.3**
SSLB	**Suanglung**	**2.21**	**274**	P	**Pb**	**14 40 04.2**	**-0.2**
TWGBT	**Beinan**	**2.26**	**249**	P	**Pb**	**14 40 05.3**	**0.0**
TPUB	**Ta-pu**	**2.54**	**262**	P	**Pb**	**14 40 10.7**	**+0.8**

*SJA **14** 14:40:50.4±0.7, 34.01S×73.46W, h37km, ML4.1, MW4.1*
*NEIC **14** 14:40:52.8±1.4, 33.97S±0.02×73.28W±0.09, h10km±1km, mb4.6/46, ML4.0(GUC), Error ellipse: s-maj=13.2km s-min=2.9km az=284.0*
*GUC **14** 14:40:54.6±0.8, 33.97S×73.10W, h17km±2km, ML4.0*
*IDC **14** 14:40:56.5±5.1, 34.00S×73.27W, h33km±37km, mb3.9/9, mbtmp4.1/13, ML4.3/4, MS3.4/10, Error ellipse: s-maj=27.2km s-min=16.3km az=91.0*
*VAO **14** 14:40:56.8±0.7, 34.04S×72.28W, h10km, mb4.3*
ISC 14 14:40:51.4±1.6**, 33.99S**±0.03×**73.34W**±0.04**, h5**km±9km**,**
n160, σ1§**58**/193**, mb4.6**/31**, MS3.7**/9**, 4C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BO03	**Pichilemu**	**1.25**	**114**	*eP*	**Pn**	**14 41 14.6**	**-0.8**
BO03				*i* S	**Sb**	**14 41 29.8**	**-2.1**
GO05	**Hualane**	**1.55**	**131**	*eP*	**Pn**	**14 41 19.0**	**-0.6**
GO05				*i* S	**Sn**	**14 41 37.2**	**-2.9**
GO05				IAML		14 41 39.5	
	comp=E,3µm,0.4s						
GO05	**Hualane**	**1.55**	**131**	*eP*	**Pn**	**14 41 19.2**	**-0.4**
GO05				*eS*	**Sn**	**14 41 38.4**	**-1.7**
GO05				IAML		14 41 39.7	
	comp=Z,2µm,0.4s						
VA01	**Torpederas**	**1.71**	**56**		**Pn**	**14 41 20.7**	**-1.1**
VA01				Sn	**Sn**	**14 41 41.7**	**-2.4**
VA01	**Torpederas**	**1.71**	**56**	*eP*	**Pn**	**14 41 20.6**	**-1.3**
VA01				*eS*	**Sn**	**14 41 41.9**	**-2.2**
VA01				IAML		14 41 42.5	
	comp=Z,867nm,0.3s						
MT01	**Popeta**	**1.75**	**86**		**Pn**	**14 41 21.1**	**-1.1**
MT01	**Popeta**	**1.75**	**86**	*eP*	**Pn**	**14 41 21.2**	**-1.1**
MT01				*i* S	**Sn**	**14 41 41.8**	**-3.1**
MT01				IAML		14 41 44.9	
	comp=N,2µm,0.4s						
MT01	**Popeta**	**1.75**	**86**	*eP*	**Pn**	**14 41 21.2**	**-1.0**
MT01				*eS*	**Sn**	**14 41 43.0**	**-1.9**
MT01				IAML		14 41 46.5	
	comp=Z,771nm,0.3s						
BO01	**Tunca**	**1.92**	**103**		**Pn**	**14 41 24.1**	**-0.6**
BO01	**Tunca**	**1.92**	**103**	*eP*	**Pn**	**14 41 23.9**	**-0.7**
BO01				*i* S	**Sn**	**14 41 46.0**	**-3.1**
BO01	**Tunca**	**1.92**	**103**	*eP*	**Pn**	**14 41 23.5**	**-1.1**
BO01				*eS*	**Sn**	**14 41 48.4**	**-0.7**
MT09	**Talagante**	**1.97**	**84**		**Pn**	**14 41 24.6**	**-0.9**
MT09	**Talagante**	**1.97**	**84**	*eP*	**Pn**	**14 41 24.6**	**-0.9**
MT09				*i* S	**Sn**	**14 41 47.9**	**-2.8**
MT09				IAML		14 41 50.5	
	comp=N,3µm,0.3s						
MT02	**Curacav**	**1.98**	**69**		**Pn**	**14 41 25.0**	**-0.5**
MT02				Sn	**Sn**	**14 41 48.5**	**-2.2**
MT02	**Curacav**	**1.98**	**69**	*eP*	**Pn**	**14 41 24.6**	**-0.9**
MT02				*i* S	**Sn**	**14 41 47.8**	**-2.9**
MT02				IAML		14 41 50.3	
	comp=E,1µm,0.3s						
MT02	**Curacav**	**1.98**	**69**	*eP*	**Pn**	**14 41 24.6**	**-0.9**
MT02				*eS*	**Sn**	**14 41 48.7**	**-2.0**
MT02				IAML		14 41 51.7	
	comp=Z,902nm,0.3s						
ROC1	**El Roble**	**2.19**	**63**	*eP*	**Pn**	**14 41 28.5**	**-0.1**
ROC1				*eS*	**Sn**	**14 41 55.5**	**-0.8**
ROCH	**El Roble**	**2.20**	**63**	*eP*	**Pn**	**14 41 28.3**	**-0.4**
ROCH				*eP*	**Pn**	**14 41 28.4**	**-0.4**
ROCH				*i* S	**Sn**	**14 41 54.5**	**-1.9**
ROCH				*i* S	**Sb**	**14 41 54.9**	**-4.5**
ROCH				IAML		14 41 57.6	
	comp=N,2µm,0.2s						
VA06	**Catapilco**	**2.23**	**51**		**Pn**	**14 41 27.9**	**-1.1**
VA06	**Catapilco**	**2.23**	**51**	*eP*	**Pn**	**14 41 27.8**	**-1.1**
VA06				*i* S	**Sn**	**14 41 52.2**	**-4.6**
MT05	**Renca**	**2.25**	**75**		**Pn**	**14 41 29.4**	**+0.1**
MT05	**Renca**	**2.25**	**75**	*eP*	**Pn**	**14 41 29.3**	**0.0**
MT05				*i* S	**Sn**	**14 41 55.4**	**-2.2**
MT05				IAML		14 42 00.4	
	comp=E,2µm,0.3s						
MT05	**Renca**	**2.25**	**75**	*eP*	**Pn**	**14 41 29.9**	**+0.6**
MT05				*eS*	**Sb**	**14 41 59.7**	**-1.1**
MT05				IAML		14 42 01.7	
	comp=Z,487nm,0.3s						
BO02	**Sierra Bellavi**	**2.27**	**111**		**Pn**	**14 41 30.1**	**+0.6**
BO02	**Sierra Bellavi**	**2.27**	**111**	*eP*	**Pn**	**14 41 30.2**	**+0.7**
BO02				*i* S	**Sn**	**14 41 56.2**	**-1.6**
BO02				IAML		14 42 00.5	
	comp=E,3µm,0.3s						
BO02	**Sierra Bellavi**	**2.27**	**111**	*eP*	**Pn**	**14 41 30.3**	**+0.7**
BO02				*eS*	**Sb**	**14 41 59.0**	**-2.2**
BO02				IAML		14 42 00.4	
	comp=Z,2µm,0.2s						
BO04	**La Punta**	**2.27**	**91**		**Pn**	**14 41 29.5**	**-0.1**
BO04	**La Punta**	**2.27**	**91**	*eP*	**Pn**	**14 41 29.6**	**0.0**
BO04				*i* S	**Sn**	**14 41 56.0**	**-2.0**
BO04				IAML		14 41 59.6	
	comp=E,1µm,0.6s						
PEL	**Peldehue**	**2.38**	**70**		**Pn**	**14 41 31.3**	**+0.3**
PEL	**Peldehue**	**2.38**	**70**	*eP*	**Pn**	**14 41 31.6**	**+0.6**
PEL				*i* S	**Sn**	**14 41 59.7**	**-0.8**
PEL				IAML		14 42 03.0	
	comp=N,2µm,0.4s						
PEL	**Peldehue**	**2.38**	**70**	*eP*	**Pn**	**14 41 31.8**	**+0.8**
PEL				*eS*	**Sn**	**14 42 01.0**	**+0.5**
PEL				IAML		14 42 04.5	
	comp=Z,771nm,0.2s						
MT03	**Universidad Ad**	**2.41**	**79**		**Pn**	**14 41 31.8**	**+0.2**
MT03	**Universidad Ad**	**2.41**	**79**	*eP*	**Pn**	**14 41 31.5**	**-0.1**
MT03				*i* S	**Sn**	**14 42 00.5**	**-1.0**
MT03				IAML		14 42 04.6	
	comp=N,3µm,0.2s						
MT03	**Universidad Ad**	**2.41**	**79**	*eP*	**Pn**	**14 41 31.9**	**+0.3**
MT03				*eS*	**Sn**	**14 42 01.1**	**-0.4**
MT03				IAML		14 42 04.3	
	comp=Z,1µm,0.3s						
MT14	**Cerro Cal¡n**	**2.42**	**77**	*eP*	**Pn**	**14 41 31.9**	**+0.4**
MT14				*i* S	**Sn**	**14 42 00.5**	**-1.1**
MT14				IAML		14 42 06.6	
	comp=E,2µm,0.7s						
MT16	**CCHEN**	**2.42**	**77**		**Pn**	**14 41 31.6**	**0.0**
MT16	**CCHEN**	**2.42**	**77**	*eP*	**Pn**	**14 41 31.6**	**0.0**
MT16				*i* S	**Sn**	**14 42 00.6**	**-1.0**
MT16				IAML		14 42 03.4	
	comp=E,770nm,0.5s						
MT10	**Hacienda Santa**	**2.45**	**74**	*eP*	**Pn**	**14 41 32.8**	**+0.7**
MT10				*i* S	**Sn**	**14 42 02.1**	**-0.3**
MT13	**San Alfonso**	**2.56**	**85**		**Pn**	**14 41 33.4**	**+0.2**
MT13	**San Alfonso**	**2.56**	**85**	*eP*	**Pn**	**14 41 33.7**	**+0.2**
MT13				*i* S	**Sn**	**14 42 03.9**	**-1.2**
MT13				IAML		14 42 05.7	
	comp=E,2µm,0.3s						
MT13	**San Alfonso**	**2.56**	**85**	*eP*	**Pn**	**14 41 33.8**	**+0.3**
MT13				*eS*	**Sn**	**14 42 04.9**	**-0.2**
MT13				IAML		14 42 05.8	
	comp=Z,761nm,0.4s						
LMEL	**Las Melosas**	**2.62**	**88**		**Pn**	**14 41 34.5**	**+0.1**
LMEL	**Las Melosas**	**2.62**	**88**	*eP*	**Pn**	**14 41 34.7**	**+0.3**
LMEL				*i* S	**Sn**	**14 42 05.5**	**-1.1**
LMEL				IAML		14 42 12.6	
	comp=N,1µm,0.4s						
LMEL	**Las Melosas**	**2.62**	**88**	*eP*	**Pn**	**14 41 34.4**	**0.0**
LMEL				*eS*	**Sn**	**14 42 06.4**	**-0.2**
LMEL				IAML		14 42 09.5	
	comp=Z,533nm,0.4s						
FCH	**Farellones**	**2.63**	**76**	*eP*	**Pn**	**14 41 35.0**	**+0.2**
FCH				*i* S	**Sn**	**14 42 06.8**	**-0.5**
FCH				IAML		14 42 07.6	
	comp=N,2µm,0.2s						
VA03	**San Esteban**	**2.64**	**63**		**Pn**	**14 41 34.8**	**+0.1**
VA03	**San Esteban**	**2.64**	**63**	*eP*	**Pn**	**14 41 34.8**	**+0.1**
VA03				*i* S	**Sn**	**14 42 06.0**	**-1.1**
VA03	**San Esteban**	**2.64**	**63

CO01	**Juntas del Tor**	**4.86**	**35**			**Pn**	**14 42 05.7**	**+0.3**
CO01	**Juntas del Tor**	**4.86**	**35**	*eP*		**Pn**	**14 42 00.8**	**-4.6**
CO01				*eS*		**Sn**	**14 43 01.2**	**-0.9**
CO01				IAML			14 43 03.7	
	comp=Z,161nm,0.3s							
CFA	**Coronel Fontan**	**4.91**	**62**	Pn		**Pn**	**14 42 07.8**	**+1.9**
	comp=Z,6.9nm,0.3s,baz=231,slow=10,SNR=104							
CFA				Sn		**Sn**	**14 43 03.7**	**+0.5**
	comp=Z,7.6nm,0.3s,baz=126,slow=22,SNR=9.4							
	comp=Z,14nm,0.3s							
CFA	**Coronel Fontan**	**4.91**	**62**	*eP*		**Pn**	**14 42 07.1**	**+1.2**
ACCO	**Cerro Coronel**	**4.96**	**48**	*eS*		**Sn**	**14 43 09.2**	**+4.4**
ACDV	**Cuesta del Vie**	**5.23**	**44**	*eP*		**Pn**	**14 42 12.7**	**+2.3**
LCO	**Las Campanas**	**5.45**	**25**			**Pn**	**14 42 12.1**	**-1.4**
AC04	**Llanos de Chal**	**6.09**	**19**			**Pn**	**14 42 20.2**	**-1.8**
LR05	**Currie**	**6.32**	**171**			**Pn**	**14 42 25.5**	**+0.3**
PLCA	**Paso Flores**	**7.09**	**163**			**Pn**	**14 42 36.8**	**+1.0**
PLCA	**Paso Flores**	**7.09**	**163**	Pn		**Pn**	**14 42 37.1**	**+1.4**
	comp=Z,4.4nm,0.3s,baz=327,slow=11,SNR=125							
PLCA				Sn		**Sn**	**14 43 53.4**	**-3.4**
	baz=331,slow=15							
	comp=Z,15nm,0.5s							
PLCA	**Paso Flores**	**7.09**	**163**	*eP*		**Pn**	**14 42 37.2**	**+1.4**
AC02	**Maricunga**	**8.01**	**28**			**Pn**	**14 42 47.4**	**-1.4**
LL01	**San Ignacio de**	**8.41**	**175**			**Pn**	**14 42 53.8**	**+0.1**
CPUP	**Villa Florida**	**15.80**	**65**	Pn		**Pn**	**14 44 35.7**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=95,slow=9.0,SNR=3.4							
CPUP				LR		LR	14 51 12.2	
	comp=Z,18nm,18.4s,baz=152,slow=39							
	comp=Z,0.3nm,0.4s							
PB16	**IPOC Station P**	**15.96**	**13**			**Pn**	**14 44 34.6**	**-2.6**
LPAZ	**La Paz**	**18.24**	**16**			**P**	**14 45 06.7**	**+0.5**
LPAZ	**La Paz**	**18.24**	**16**	P		**P**	**14 45 08.5**	**+2.3**
	comp=Z,0.5nm,0.3s,baz=181,slow=8.3,SNR=17							
	comp=Z,5.0nm,0.8s							
LPAZ	**La Paz**	**18.24**	**16**	*eP*		**P**	**14 45 08.0**	**+1.8**
MURT	**Porto Murtinho**	**18.53**	**53**	*eP*		**P**	**14 45 04.8**	**-3.9**
SIV	**San Ignacio**	**21.06**	**35**	P		**P**	**14 45 36.7**	**+0.4**
	comp=Z,5.8nm,0.8s,baz=204,slow=8.0,SNR=17							
SIV				LR		LR	14 54 07.7	
	comp=Z,94nm,18.9s,baz=56,slow=38							
	comp=Z,5.8nm,0.8s							
PTLB	**Pontes e Lacer**	**22.48**	**38**			**P**	**14 45 51.4**	**-0.2**
PTLB				IAmb		IAmb	14 46 03.4	
	comp=Z,17nm,1.4s							
PP1B	**Ponte de Pedra**	**23.23**	**50**	*eP*		**P**	**14 45 58.1**	**-1.5**
VILB	**Vilhena**	**24.12**	**33**	P		**P**	**14 46 07.5**	**-0.7**
VILB				IAmb		IAmb	14 46 18.9	
	comp=Z,28nm,1.1s							
VILB	**Vilhena**	**24.12**	**33**	*eP*		**P**	**14 46 09.2**	**+1.1**
PDRB	**Porto dos Gac**	**26.95**	**38**	*eP*		**P**	**14 46 35.0**	**+1.2**
ATAH	**Atahualpa**	**27.13**	**349**	LR		LR	14 56 16.9	
	comp=Z,23nm,18.7s,baz=201,slow=34							
CLDB	**Colider**	**28.06**	**39**	*eP*		**P**	**14 46 44.3**	**+0.5**
PMSA	**Palmer Station**	**31.33**	**172**	LR		LR	14 59 52.7	
	comp=Z,77nm,20.6s,baz=322,slow=36							
PMSA	**Palmer Station**	**31.33**	**172**	*eP*		**P**	**14 47 15.3**	**+3.1**
RPN	**Rapa Nui**	**31.62**	**273**	LR		LR	14 56 05.5	
	comp=Z,144nm,18.9s,baz=80,slow=29							
COHC	**Cochancay**	**31.84**	**349**			**P**	**14 47 18.8**	**+1.6**
SMAI	**San Martin Ant**	**34.37**	**176**	P		**P**	**14 47 38.5**	**-0.4**
RUSC	**La Rusia**	**39.67**	**0**			**P**	**14 48 25.7**	**+0.8**
RUSC				IAmb		IAmb	14 48 28.1	
	comp=Z,15nm,0.8s							
MDP	**Montagnes des**	**43.53**	**31**	LR		LR	15 09 02.5	
	comp=Z,31nm,20.4s,baz=136,slow=39							
VNA3	**Neumayer Olymp**	**49.78**	**158**	⇑P		**P**	**14 49 46.1**	**+1.6**
	comp=Z,2.3nm,0.8s							
VNA2	**Neumayer--Watz**	**50.44**	**157**	⇑P		**P**	**14 49 50.9**	**+1.4**
	comp=Z,3.0nm,0.6s,baz=277,slow=8.0							
SNAA	**Sanae**	**52.00**	**158**	⇑P		**P**	**14 50 02.7**	**+1.5**
	comp=Z,38nm,0.4s							
SNAA	**Sanae**	**52.00**	**158**			**P**	**14 50 01.5**	**+0.2**
SNAA				IAmb		IAmb	14 50 06.0	
	comp=Z,6.9nm,1.2s							
SNAA	**Sanae**	**52.00**	**158**	P		**P**	**14 50 02.5**	**+1.2**
	comp=Z,3.4nm,0.8s,baz=258,slow=6.3,SNR=51							
	comp=Z,3.4nm,0.8s							
TROLL	**Troll, Antarti**	**53.71**	**158**	⇑P		**P**	**14 50 15.1**	**+1.2**
	comp=Z,95nm,0.8s							
QSPA	**South Pole Qui**	**56.24**	**180**	P		**P**	**14 50 34.2**	**+1.8**
	comp=Z,1.4nm,1.0s,baz=145,slow=0.5,SNR=5.1							
	comp=Z,1.4nm,1.0s							
SYO	**Syowa Base**	**66.27**	**159**	*eP*		**P**	**14 51 36.2**	**-3.8**
SAND	**Sanderson**	**69.17**	**333**	IAmb		IAmb	14 52 01.6	
	comp=Z,4.5nm,0.9s							
TXAR	**Lajitas Array**	**69.20**	**332**			**P**	**14 51 59.8**	**+0.7**
TXAR	**Lajitas Array**	**69.20**	**332**	P		**P**	**14 52 00.8**	**+1.7**
	comp=Z,1.6nm,0.5s,baz=158,slow=8.9,SNR=29							
TXAR				LR		LR	15 17 33.5	
	comp=Z,40nm,18.0s,baz=292,slow=32							
	comp=Z,1.6nm,0.5s							
TX31	**Lajitas Ar. Si**	**69.21**	**332**	IAmb		IAmb	14 52 01.8	
	comp=Z,5.4nm,1.1s							
BRDY	**Brady**	**69.29**	**337**	IAmb		IAmb	14 52 01.7	
	comp=Z,4.3nm,0.9s							
V48A	**Smith Brothers**	**70.50**	**348**	P		**P**	**14 52 07.2**	**+0.4**
ABTX	**Abilene, Hawle**	**70.73**	**337**	IAmb		IAmb	14 52 10.6	
	comp=Z,7.6nm,0.8s							
WVT	**Waverly**	**71.06**	**348**	P		**P**	**14 52 11.0**	**+0.8**
APMT	**Aspermont**	**71.53**	**337**	IAmb		IAmb	14 52 15.5	
	comp=Z,6.5nm,0.7s							
SN07	**Snyder 07**	**71.58**	**336**	IAmb		IAmb	14 52 15.3	
	comp=Z,4.9nm,0.9s							
LCAR	**Lake Charles**	**71.66**	**345**			**P**	**14 52 13.0**	**-0.8**
MSTX	**Muleshoe**	**73.03**	**335**	IAmb		IAmb	14 52 24.3	
	comp=Z,5.9nm,0.9s							
MAW	**Mawson**	**73.49**	**164**	P		**P**	**14 52 24.4**	**-0.1**
	comp=Z,2.9nm,1.1s,baz=60,slow=20,SNR=2.6							
	comp=Z,2.9nm,1.1s							
CCM	**Cathedral Cave**	**73.59**	**345**			**P**	**14 52 26.1**	**+0.8**
ANMO	**Albuquerque**	**75.26**	**332**	LR		LR	15 21 01.3	
	comp=Z,75nm,19.6s,baz=192,slow=32							
DBIC	**Dimbokro**	**76.21**	**72**	P		**P**	**14 52 41.4**	**+0.4**
	comp=Z,2.5nm,0.5s,baz=224,slow=3.8,SNR=4.9							
	comp=Z,2.5nm,0.5s							
T25A	**Trinidad**	**76.46**	**335**	IAmb		IAmb	14 52 45.4	
	comp=Z,8.2nm,1.0s							
X16A	**Lo Mia Camp, P**	**76.85**	**328**	IAmb		IAmb	14 52 47.8	
	comp=Z,4.6nm,1.1s							
PFO	**Pinyon Flats O**	**78.49**	**324**	LR		LR	15 19 01.9	
	comp=Z,34nm,18.1s,baz=182,slow=29							
PV13	**Radium Mtn., P**	**78.99**	**332**	IAmb		IAmb	14 52 59.1	
	comp=Z,6.0nm,1.1s							
PV02	**Paradox Valley**	**79.00**	**332**	IAmb		IAmb	14 52 59.3	
	comp=Z,7.8nm,1.1s							
CCUT	**Cedar City**	**80.33**	**329**			**P**	**14 53 06.3**	**+2.7**
CCUT				IAmb		IAmb	14 53 07.4	
	comp=Z,4.8nm,1.0s							
P18A	**Preston Nutter**	**80.81**	**332**	P		**P**	**14 53 06.4**	**+0.1**
P18A				IAmb		IAmb	14 53 17.7	
	comp=Z,7.8nm,1.2s							
PRN	**Pahroc Range**	**80.95**	**328**	IAmb		IAmb	14 53 10.6	
	comp=Z,7.9nm,1.1s							
BSUT	**Blindstream Ca**	**81.80**	**332**	IAmb		IAmb	14 53 14.0	
	comp=Z,5.0nm,1.2s							
SPR3	**Spring Creek 3**	**81.95**	**329**	IAmb		IAmb	14 53 15.2	
	comp=Z,5.1nm,1.2s							
R11B	**Troy Canyon, C**	**81.96**	**328**	P		**P**	**14 53 14.3**	**+2.1**
NVAR	**Mina Array Bea**	**83.26**	**326**	P		**P**	**14 53 19.5**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=152,slow=7.4,SNR=4.3							
	comp=Z,0.7nm,0.7s							
PDAR	**Pinedale Array**	**83.27**	**334**	P		**P**	**14 53 19.7**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=180,slow=4.4,SNR=6.1							
	comp=Z,1.1nm,0.9s							
HVU	**Hansel Valley**	**83.65**	**331**	IAmb		IAmb	14 53 23.2	
	comp=Z,3.8nm,0.8s							
ELK	**Elko**	**83.79**	**329**	P		**P**	**14 53 21.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**85.23**	**71**	P		**P**	**14 53 29.7**	**+0.4**
TORD	**Torodi Ar. Bea**	**85.23**	**71**	P		**P**	**14 53 29.6**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=256,slow=5.0,SNR=7.0							
	comp=Z,0.7nm,0.4s							
J08A	**Circle Bar Ran**	**87.31**	**329**	IAmb		IAmb	14 53 42.2	
	comp=Z,5.9nm,0.9s							
K05A	**Summer Lake**	**87.88**	**327**	P		**P**	**14 53 42.8**	**+1.0**
NEW	**Newport**	**90.75**	**332**	LR		LR	15 31 01.4	
	comp=Z,49nm,18.1s,baz=150,slow=33							
ASAR	**Alice Springs**	**117.08**	**208**	PKP		**PKPdf**	**14 59 37.4**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=118,slow=1.6,SNR=2.2							
WRA	**Warramunga Arr**	**120.23**	**210**	PKP		**PKPdf**	**14 59 43.8**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=157,slow=1.8,SNR=13							
BRTR	**Keskin Array B**	**122.78**	**61**	PKP		**PKiKP**	**14 59 48.8**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=254,slow=2.6,SNR=2.2							
BVAR	**Borovoye Array**	**148.01**	**42**	PKPbc		**PKiKP**	**15 00 38.8**	**-0.4**
	comp=Z,3.5nm,0.4s,baz=315,slow=1.7,SNR=17							
KURBB	**Kurchatov Arra**	**153.60**	**42**	PKP		**PKPdf**	**15 00 42.6**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=305,slow=3.1,SNR=4.1							
KURBB				PKPbc		**pPKPbc**	**15 00 51.6**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=306,slow=2.9,SNR=14							
ZALV	**Zalesovo Beam**	**154.79**	**31**	PKP		**PKPdf**	**15 00 44.6**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=242,slow=3.1,SNR=2.1							
ZALV				PKPbc		**PKiKP**	**15 00 53.1**	**0.0**
	comp=Z,1.5nm,0.7s,baz=248,slow=1.6,SNR=7.3							
MKAR	**Makanchi Array**	**157.57**	**48**	PKP		**PKPdf**	**15 00 48.7**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=304,slow=0.5,SNR=3.1							
MKAR				PKPab		**PKPab**	**15 01 19.5**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=321,slow=3.7,SNR=2.3							

*IDC **14** 14:41:26.2±6.5, 1°.31N×123°.66E, h317km±65km, mb3.1/5, mbtmp3.8/6, Error ellipse: s-maj=93.1km s-min=20.5km az=61.0*

ISC 14 14:41:24.2±1.4, **1°.4N**±0°.3×**123°.8E**±0°.6, **h300**km, **n6, σ0.873/7, mb3.4**/5, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.45**	**175**	P	**P**	**14 45 29.5**	**0.0**
	4.4nm,0.3s,baz=6.0,slow=10.0,SNR=62						
WRA	**Warramunga Arr**	**23.58**	**155**	P	**P**	**14 46 09.5**	**+0.7**
	1.7nm,0.5s,baz=335,slow=9.8,SNR=41						
	1.7nm,0.5s						
ASAR	**Alice Springs**	**26.77**	**159**	P	**P**	**14 46 38.4**	**+1.0**
	0.2nm,0.4s,baz=334,slow=8.6,SNR=8.6						
ASAR				PcP	**PcP**	**14 49 51.5**	**-0.6**
	0.2nm,0.4s,baz=341,slow=2.6,SNR=5.0						
	0.2nm,0.4s						
STKA	**Stephens Creek**	**37.14**	**154**	P	**P**	**14 48 06.5**	**-0.5**
	0.9nm,0.4s,baz=339,slow=8.6,SNR=3.8						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**57.87**	**327**	P	**P**	**14 50 45.5**	**+0.2**
	0.3nm,0.4s,baz=129,slow=8.0,SNR=6.6						
	0.3nm,0.4s						
VNDA	**Vanda**	**81.50**	**172**	P	**P**	**14 53 07.8**	**-0.1**
	0.6nm,0.9s,baz=324,slow=6.4,SNR=2.4						
	0.6nm,0.9s						

*IDC **14** 14:55:57.4±0.6, 2°.88N×128°.10E, h0km, mb4.0/14, mbtmp4.0/14, Error ellipse: s-maj=39.0km s-min=13.2km az=78.0*
*NEIC **14** 14:56:12.3±1.4, 2°.9N±0°.1×128°.4E±0°.1, h116km±12km, mb4.2/9, Error ellipse: s-maj=18.5km s-min=14.9km az=70.0*
*DJA **14** 14:56:14.3±0.5, 3°.N±4°.×12°.8E±°, h108km±5km, M4.5/14, mB4.9/5, mb4.8/6, MLv4.6/14, Mw(mB)4.2/5*

ISC 14 14:56:10.2±0.6, **3°.00N**±0°.06×**128°.36E**±0°.08, **h100**km, **n51, σ1.941/47, mb4.0**/18, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.42**	**204**		**Pn**	**14 56 50.6**	**+2.2**
TNTI				Sn	**Sn**	**14 57 19.4**	**+1.9**
TNTI	**Ternate**	**2.42**	**204**	P	**Pn**	**14 56 50.5**	**+2.2**
SGSI	**Sangihe**	**2.91**	**284**	P	**Pn**	**14 56 56.3**	**+1.5**
SGSI				S	**Sn**	**14 57 29.1**	**0.0**
LBMI	**Labuha**	**3.71**	**193**	P	**Pn**	**14 57 07.7**	**+2.2**
SWI	**Sorong**	**4.80**	**143**	P	Pn	14 57 25.3	+5.0
KMSI	**Cibinong**	**5.00**	**241**	P	**Pn**	**14 57 23.5**	**+0.6**
SANI	**Sanana**	**5.54**	**205**	P	**Pn**	**14 57 30.1**	**-0.2**
LUWI	**Luwuk**	**6.88**	**234**		**Pn**	**14 57 47.7**	**-0.8**
LUWI	**Luwuk**	**6.88**	**234**	P	**Pn**	**14 57 48.6**	**+0.1**
	2µm82nm,0.6s						
MRSI	**Marisa**	**6.89**	**249**	P	**Pn**	**14 57 49.3**	**+0.7**
FAKI	**Fak Fak**	**7.04**	**146**	Pn	**Pn**	**14 57 50.6**	**-0.1**
RKPI	**Ransiki, Papua**	**7.34**	**128**	P	**Pn**	**14 57 57.3**	**+2.6**
APSI	**Ampana**	**7.75**	**240**	P	**Pn**	**14 58 00.2**	**-0.2**
	0.4nm88nm,0.7s						
TOLI2	**Tolitoli**	**7.80**	**256**		**Pn**	**14 58 00.6**	**-0.5**
MYLDM	**Lahad Datu**	**10.07**	**283**	Pn	**Pn**	**14 58 35.8**	**+3.8**
TTSI	**Tana Toraja**	**10.44**	**235**	P	**Pn**	**14 58 35.5**	**-1.4**
SPSI	**Sidrap Palu**	**11.03**	**231**	P	**Pn**	**14 58 44.8**	**-0.1**
BNSI	**Bone**	**11.05**	**228**	P	**Pn**	**14 58 44.9**	**-0.3**
KKM	**Kota Kinabalu**	**12.48**	**284**	Pn	**Pn**	**14 59 07.7**	**+3.2**
KNRA	**Kununurra**	**18.56**	**179**		**P**	**15 00 19.6**	**+0.3**
KNRA				IAmb	IAmb	15 00 20.1	
	comp=Z,15nm,1.0s						
WB0	**Warramunga Arr**	**23.38**	**166**	P	**P**	**15 01 09.1**	**-1.1**
WB0				IAmb	IAmb	15 01 14.7	
	comp=Z,6.5nm,0.8s						
WRAB	**Tennant Creek**	**23.53**	**166**	P	**P**	**15 01 10.2**	**-1.4**
WRAB				IAmb	IAmb	15 01 15.7	
	comp=Z,5.8nm,0.8s						
WRA	**Warramunga Arr**	**23.54**	**166**	P	**P**	**15 01 09.8**	**-1.8**
WRA	**Warramunga Arr**	**23.54**	**166**	P	**P**	**15 01 10.3**	**-1.3**
	comp=Z,3.4nm,0.5s,baz=344,slow=10,SNR=76						
	comp=Z,3.4nm,0.5s						
WR8	**Warramunga Arr**	**23.59**	**165**	P	**P**	**15 01 11.1**	**-1.0**
WR8				IAmb	IAmb	15 01 11.9	
	comp=Z,4.5nm,0.7s						
AS31	**Alice Springs**	**27.04**	**169**	P	**P**	**15 01 42.1**	**-1.2**
ASAR	**Alice Springs**	**27.04**	**169**	P	**P**	**15 01 42.9**	**-0.4**
ASAR	**Alice Springs**	**27.04**	**169**	P	**P**	**15 01 42.4**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=350,slow=7.3,SNR=21						
ASAR				PcP	**PcP**	**15 05 01.4**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=352,slow=2.6,SNR=5.9						
	comp=Z,0.9nm,0.7s						
KSRS	**Korea Array**	**34.30**	**359**	P	**P**	**15 02 47.4**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=174,slow=10,SNR=4.6						
	comp=Z,0.7nm,0.7s						
MJAR	**Matsushiro Arr**	**34.60**	**14**	P	**P**	**15 02 49.0**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=186,slow=9.4,SNR=7.7						
	comp=Z,1.7nm,0.8s						
STKA	**Stephens Creek**	**36.89**	**161**	P	**P**	**15 03 08.8**	**-0.4**
STKA	**Stephens Creek**	**36.89**	**161**	P	**P**	**15 03 06.7**	**-2.5**
	comp=Z,3.7nm,0.3s,baz=337,slow=9.4,SNR=13						
	comp=Z,3.7nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**40.55**	**65**	T	T	15 47 30.1	
	baz=255,slow=75,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**40.56**	**65**	T	T	15 47 26.2	
	baz=252,slow=75,SNR=6.5						
H11S1	**WAKE ISLAND Hy**	**40.56**	**65**	T	T	15 47 25.7	
	baz=252,slow=75,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**41.11**	**63**	T	T	15 48 04.3	
	baz=250,slow=75,SNR=9.6						
H11N2	**WAKE ISLAND Hy**	**41.12**	**63**	T	T	15 48 06.3	
	baz=250,slow=75,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**41.13**	**63**	T	T	15 48 06.0	
	baz=250,slow=75,SNR=6.5						
EVN	**Everest**	**46.74**	**306**	P	**P**	**15 04 30.6**	**+0.3**
EVN				IAmb	IAmb	15 04 31.6	
	comp=Z,5.7nm,0.6s						
SONM	**Songino Array**	**48.52**	**340**	P	**P**	**15 04 42.7**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=147,slow=8.9,SNR=4.2						
	comp=Z,1.0nm,0.7s						
PEA0B	**Petropavlovsk-**	**55.51**	**21**	P	**P**	**15 05 35.0**	**+0.2**
PETK	**Petropavlovsk-**	**55.51**	**21**	P	**P**	**15 05 35.5**	**+0.8**
PETK	**Petropavlovsk-**	**55.51**	**21**	P	**P**	**15 05 35.9**	**+1.1**
	comp=Z,4.8nm,0.9s,baz=174,slow=5.8,SNR=8.1						
	comp=Z,4.8nm,0.9s						
MKAR	**Makanchi Array**	**59.09**	**325**	P	**P**	**15 05 59.1**	**-1.0**
MKAR	**Makanchi Array**	**59.09**	**325**	P	**P**	**15 05 59.8**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=123,slow=8.0,SNR=14						
	comp=Z,1.3nm,0.7s						
ZALV	**Zalesovo Beam**	**61.98**	**333**	P	**P**	**15 06 17.9**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=116,slow=6.8,SNR=3.5						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**63.24**	**327**	P	**P**	**15 06 27.4**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=124,slow=6.0,SNR=19						
	comp=Z,1.8nm,0.8s						
BVAR	**Borovoye Array**	**68.82**	**327**	P	**P**	**15 07 03.0**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=125,slow=7.6,SNR=1.5						
	comp=Z,0.9nm,0.5s						
VNDA	**Vanda**	**82.50**	**173**	P	**P**	**15 08 20.2**	**-1.0**
	comp=Z,1.4nm,1.0s,baz=328,slow=6.0,SNR=5.3						
	comp=Z,1.4nm,1.0s						
MAW	**Mawson**	**83.64**	**201**	P	**P**	**15 08 26.2**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=61,slow=6.5,SNR=1.8						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**85.06**	**25**	P	**P**	**15 08 35.8**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=264,slow=6.2,SNR=2.3						
	comp=Z,0.2nm,0.6s						

*IDC **14** 14:56:47.5±2.6, 8°.31S×114°.60E, h126km±22km, mb3.4/7, mbtmp3.8/8, Error ellipse: s-maj=35.7km s-min=16.6km az=59.0*
*DJA **14** 14:56:47.9±0.2, 9°.S±5°.×11°.4E±°, h94km±4km, M4.2/23, mB4.8/4, mb4.4/7, MLv4.2/23, Mw(mB)4.0/4*

ISC 14 14:56:46.3±0.7, **8°.62S**±0°.08×**114°.27E**±0°.04, **h121**km±5km, **n34, σ2.910/44, mb3.6**/7, **Bali region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**0.19**	**321**	P	**Pn**	**14 57 02.2**	**-0.8**
JAGI				S	**Sn**	**14 57 13.3**	**-2.3**
ABJI	**Asem Bagus**	**0.82**	**357**	P	**Pn**	**14 57 07.2**	**+0.5**
GMJI	**Gumukmas**	**0.89**	**293**	P	**Pn**	**14 57 06.8**	**-0.5**
GMJI				S	**Sn**	**14 57 21.5**	**-1.7**
DNP	**Denpasar**	**0.93**	**94**	P	**Pn**	**14 57 09.1**	**+1.4**
DNP				S	**Sn**	**14 57 26.2**	**+2.4**
SRBI	**Singaraja**	**1.07**	**60**	P	**Pn**	**14 57 09.8**	**+0.7**
SRBI				S	**Sn**	**14 57 26.4**	**+0.1**
BLJI	**Banyuglugur**	**1.10**	**322**	P	**Pn**	**14 57 09.4**	**0.0**
BLJI				S	**Sn**	**14 57 25.9**	**-1.0**
KMMI	**Kalianget**	**1.59**	**349**	P	**Pn**	**14 57 16.3**	**+1.4**
GRJI	**Gresik**	**2.46**	**314**	P	**Pn**	**14 57 26.4**	**+0.8**
TWSI	**Taliwang, Sumb**	**2.58**	**93**	P	**Pn**	**14 57 28.0**	**+0.8**
TWSI				S	**Sn**	**14 57 59.8**	**+1.2**
PCJI	**Pacitan**	**3.09**	**278**	P	**Pn**	**14 57 33.1**	**-0.7**
PCJI				S	**Sn**	**14 58 10.3**	**-0.2**
BWJI	**Bawean**	**3.18**	**330**	P	**Pn**	**14 57 35.2**	**+0.1**
WOJI	**Wonogiri, Jawa**	**3.41**	**283**	P	**Pn**	**14 57 39.6**	**+1.6**
PLAI	**Plampang**	**3.47**	**94**	P	**Pn**	**14 57 40.4**	**+1.6**
PLAI				S	**Sn**	**14 58 21.1**	**+1.7**
UGM	**Wanagama**	**3.78**	**280**	P	**Pn**	**14 57 43.0**	**0.0**
UGM				S	**Sn**	**14 58 28.2**	**+1.4**
WBSI	**Waikabubak, Su**	**5.16**	**102**	P	**Pn**	**14 58 02.8**	**+1.4**
	0.3nm966nm43nm,0.8s						
KPJI	**Karang Pucung**	**5.44**	**283**	P	**Pn**	**14 58 07.6**	**+2.3**
	0.2nm28nm,0.5s						
KPJI				S	**Sn**	**14 59 09.3**	**+2.5**
	0.2nm28nm,0.5s						
WSI	**Waingapu**	**6.04**	**100**	P	**Pn**	**14 58 15.2**	**+1.9**
	73nm,0.6s						
BSSI	**Bau Bau, Buton**	**6.64**	**69**	P	**Pn**	**14 58 23.6**	**+2.2**
	43nm,1.6s						
BKSI	**Bulukumba**	**6.67**	**61**	P	**Pn**	**14 58 23.9**	**+2.1**
	0.1nm485nm17nm,0.7s						
CNJI	**Cibinong**	**7.19**	**280**	P	**Pn**	**14 58 30.2**	**+1.3**
EDFI	**Ende, Flores**	**7.33**	**92**	P	Pn	14 58 25.4	-5.5
CGJI	**Cibinong**	**8.73**	**283**	P	**Pn**	**14 58 51.1**	**+1.3**
FITZ	**Fitzroy Crossi**	**14.52**	**132**	P	**Pn**	**15 00 05.5**	**-0.6**
	2.0nm,0.3s,baz=312,slow=11,SNR=24						
FITZ				S	Sn	15 02 35.9	-11
	5.5nm,0.7s,baz=148,slow=15,SNR=7.4						
WRA	**Warramunga Arr**	**22.44**	**122**	P	**P**	**15 01 35.4**	**-0.1**
	0.5nm,0.3s,baz=296,slow=10.0,SNR=7.4						
WRA				S	**S**	**15 05 24.3**	**-9.1**
	0.5nm,0.8s,baz=291,slow=24,SNR=2.5						
WRA				ScP	**ScP**	**15 08 51.6**	**-0.8**
	0.5nm,0.9s,baz=330,slow=2.0,SNR=2.5						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**24.02**	**131**	P	**P**	**15 01 50.8**	**+0.6**
	1.8nm,0.4s,baz=309,slow=10,SNR=19						
ASAR				PcP	**PcP**	**15 05 29.6**	**+0.5**
	0.2n

SABU				S	Sg	15 03 41.3	+1.5	
BDRM	**Kayabasi**	**1.98**	**351**	P	Pn	15 03 11.6	+1.2	
BDRM				S	Sb	15 03 37.7	+0.1	
MULA	**Mugla, Merkez-**	**2.18**	**10**	P	Pb	15 03 17.6	+1.0	
MULA				S	Sg	15 03 45.9	-1.5	
CAME	**Cameli-Denizli**	**2.19**	**33**	Pn	Pn	15 03 14.5	+1.1	
KNIK	**Mula-Seydike**	**2.24**	**39**	P	Pn	15 03 15.9	+1.9	
THERA	**Ancient Thera,**	**2.29**	**304**	P	Pn	15 03 15.1	+0.4	
THERA	**Ancient Thera,**	**2.29**	**304**	P	Pn	15 03 16.1	+1.4	
CAEL	**Denizli, Camel**	**2.35**	**31**	P	Pn	15 03 17.6	+2.0	
ELL	**Elmali**	**2.35**	**45**	Pn	Pn	15 03 16.8	+1.2	
DNZT	**Denizli-Tavas-**	**2.37**	**24**	P	Pn	15 03 17.6	+1.7	
DNZT				S	Sb	15 03 48.1	-1.0	
DDIM	**Aydin, Didim**	**2.39**	**349**	P	Pg	15 03 22.9	-0.1	
IDI	**Anoyia**	**2.41**	**275**	Pn	Pn	15 03 18.3	+1.9	
IDI	**Anoyia**	**2.41**	**275**	P	Pn	15 03 16.6	+0.2	
IDI	**Anoyia**	**2.41**	**275**	Pn	Pb	15 03 19.1	-1.4	
	7.2nm,0.3s,baz=134,slow=6.9,SNR=29							
IDI				Sn	Sn	15 03 46.6	+0.8	
	12nm,0.3s,baz=4.6,slow=18,SNR=3.7							
IDI	**Anoyia**	**2.41**	**275**	P	Pn	15 03 18.5	+2.1	
TAVA	**DENIZLI_Tavas**	**2.51**	**20**	P	Pn	15 03 18.7	+0.9	
TAVA				S	Sb	15 03 53.9	+0.9	
GOLH	**Golhisar**	**2.55**	**33**	P	Pn	15 03 19.8	+1.5	
AYDN	**Tasoluk**	**2.55**	**1**	P	Pn	15 03 18.4	+0.2	
GCAM	**G?zelcami?**	**2.63**	**350**	Pn	Pn	15 03 21.9	+2.6	
APMY	**Acipayam-Deniz**	**2.64**	**26**	Pn	Pn	15 03 21.3	+1.7	
DNIZ	**Denizli-Tavas-**	**2.70**	**21**	P	Pn	15 03 20.9	+0.6	
SMG	**Samos**	**2.71**	**343**	P	Pn	15 03 21.3	+0.8	
SMG	**Samos**	**2.71**	**343**	P	Pn	15 03 22.2	+1.7	
ESEN	**Aydn-Nazilli**	**2.72**	**9**	P	Pn	15 03 22.2	+1.7	
AYDB	**Zeytinkoy-Aydi**	**2.83**	**1**	Pn	Pn	15 03 24.4	+2.1	
NAZL	**Nazilli-Aydin**	**2.88**	**7**	Pn	Pn	15 03 25.1	+2.4	
INCE	**Denizli-Bozkur**	**2.95**	**28**	P	Pn	15 03 25.7	+1.8	
DGB	**zmir**	**3.03**	**346**	P	Pn	15 03 24.7	-0.1	
GVD	**Gavdhos**	**3.08**	**266**	Pn	Pn	15 03 27.9	+2.3	
KIRA	**zmir-Kiraz**	**3.12**	**8**	P	Pn	15 03 27.1	+1.0	
ODEM	**Odemis-Izmir**	**3.17**	**4**	Pn	Pn	15 03 29.4	+2.6	
BLCB	**Balcova**	**3.33**	**349**	Pn	Pn	15 03 31.7	+2.7	
URLA	**Izmir**	**3.39**	**343**	Pn	Pn	15 03 32.8	+2.9	
KNDR	**Palaiochora Ch**	**3.39**	**273**	Pn	Pn	15 03 33.2	+3.4	
AKMS	**Akamas**	**3.70**	**90**	P	Pn	15 03 33.8	-0.3	
AKMS				S	Sn	15 04 18.6	+1.1	
AKMS				AML	AML	15 04 28.8		
	0.2nm,0.8s							
AKMS				AML	AML	15 04 28.8		
	0.3nm,0.6s							
GAZI	**Gazipasa**	**3.82**	**72**	Pn	Pn	15 03 37.1	+1.3	
NATA	**Nata**	**3.91**	**93**	P	Pn	15 03 37.4	+0.5	
NATA				AML	AML	15 04 29.2		
	0.7nm,0.5s							
NATA				AML	AML	15 04 32.7		
	0.6nm,0.6s							
ALFC	**Alefka**	**3.91**	**88**	P	Pn	15 03 37.6	+0.6	
ALFC				S	Sn	15 04 24.6	+1.8	
ALFC				AML	AML	15 04 27.6		
	0.4nm,0.7s							
ALFC				AML	AML	15 04 44.0		
	0.3nm,0.8s							
SEYD	**Seydisehir-KON**	**3.97**	**54**	Pn	Pn	15 03 39.7	+1.8	
TROD	**Troodos**	**4.14**	**91**	P	Pn	15 03 40.6	+0.3	
TROD				S	Sn	15 04 30.6	+2.0	
TROD				AML	AML	15 04 41.7		
	0.2nm,0.9s							
TROD				AML	AML	15 04 45.4		
	0.2nm,0.5s							
SLUM	**Salum**	**4.22**	**212**	P	Pn	15 03 41.2	0.0	
XYLS	**Xyliatos**	**4.29**	**90**	P	Pn	15 03 42.9	+0.8	
XYLS				S	Sn	15 04 34.0	+2.0	
XYLS				AML	AML	15 04 40.1		
	0.1nm,0.3s							
XYLS				AML	AML	15 04 48.9		
	0.2nm,0.6s							
TEKE	**Tekeli-Mersin**	**4.43**	**75**	Pn	Pn	15 03 45.4	+1.3	
ASGA	**Asgata**	**4.46**	**93**	P	Pn	15 03 45.4	+0.8	
ASGA				S	Sn	15 04 38.3	+1.9	
ASGA				AML	AML	15 04 47.9		
	0.3nm,0.5s							
ASGA				AML	AML	15 04 56.7		
	0.2nm,1.0s							
CSS	**Mathiatis**	**4.52**	**90**	Pn	Pn	15 03 46.6	+1.3	
CSS	**Mathiatis**	**4.52**	**90**	P	Pn	15 03 47.0	+1.7	
CSS				AML	AML	15 04 50.9		
	0.1nm,0.6s							
CSS				AML	AML	15 04 53.3		
	0.1nm,0.8s							
BERE	**Bereket-Mersin**	**4.56**	**73**	Pn	Pn	15 03 47.6	+1.6	
MVOU	**Mavrovouni**	**4.76**	**89**	P	Pn	15 03 49.7	+1.1	
MVOU				AML	AML	15 04 55.7		
	0.1nm,0.7s							
MVOU				AML	AML	15 05 02.0		
	0.1nm,0.6s							
SWA2		**6.18**	**200**	⇑P	Pn	15 04 10.9	+2.7	
BRTR	**Keskin Array B**	**6.53**	**43**	Pn	Pn	15 04 14.4	+1.4	
	0.3nm,0.3s,baz=217,slow=12,SNR=5.9							
BRTR				Sn	Sn	15 05 25.0	-2.4	
	baz=198,slow=9.1							
	0.8nm,0.7s							
MMAI	**Mount Meron Ar**	**6.62**	**106**	Pn	Pn	15 04 14.4	+0.1	
	1.6nm,0.3s,baz=310,slow=12,SNR=10.0							
MMAI				Sn	Sn	15 05 27.7	-2.1	
	3.0nm,0.3s,baz=308,slow=24,SNR=7.1							
	1.5nm,0.4s							
EIL	**Elat**	**8.10**	**130**	Pn	Pn	15 04 35.0	+0.5	
	1.2nm,0.3s,baz=320,slow=10,SNR=8.7							
EIL				Sn	Sn	15 06 01.8	-4.2	
	1.0nm,0.3s,baz=349,slow=13,SNR=3.9							
	4.0nm,0.5s							
ASF	**Jabal al Asfar**	**8.11**	**109**	Pn	Pn	15 04 34.5	-0.2	
	0.4nm,0.3s,baz=299,slow=11,SNR=3.6							
ASF				Sn	Sn	15 06 07.7	+1.3	
	0.2nm,0.3s,baz=242,slow=16,SNR=1.3							
	1.3nm,0.4s							
HBST	**Basata**	**8.29**	**133**	P	Pn	15 04 38.4	+1.2	
HKAT	**Jabal Katrina**	**8.40**	**140**	P	Pn	15 04 39.9	+1.0	
HDHB	**Dhahab**	**8.59**	**136**	P	Pn	15 04 44.6	+3.4	
MLR	**Muntele Rosu**	**10.47**	**353**	Pn	Pn	15 05 04.3	-2.7	
	0.2nm,0.3s,baz=177,slow=13,SNR=1.4							
	0.8nm,0.4s							
VAE	**Valguarnera**	**11.08**	**286**	Sn	Sn	15 07 15.3	-3.9	
	3.5nm,0.3s,baz=36,slow=17,SNR=3.0							
KBZ	**Khabaz**	**14.47**	**49**	Pn	P	15 06 06.3	-2.0	
	0.2nm,0.3s,baz=238,slow=14,SNR=2.0							
	0.5nm,0.4s							
KEST	**Kesra**	**15.09**	**278**	Pn	Pn	15 06 10.1	0.0	
	0.2nm,0.3s,baz=358,slow=3.2,SNR=4.9							
	2.0nm,0.7s							
KBA	**Koelnbreinsper**	**16.16**	**322**	*i* Pn	P	15 06 28.3	+1.0	
	1.1nm,0.5s							
GERES	**GERESS Array B**	**17.24**	**327**	P	Pn	15 06 36.7	-1.0	
	baz=122,slow=13,SNR=4.6							
	0.2nm,0.3s							
FETA	**Feichten**	**17.50**	**318**	*i* Pn	P	15 06 44.2	+2.1	
	2.7nm,0.7s							
KHC	**Kasperske Hory**	**17.51**	**327**	*e*P	P	15 06 44.9	+2.8	
ESDC	**Sonseca Array**	**25.59**	**290**	P	P	15 08 05.3	-0.8	
	0.4nm,0.5s,baz=84,slow=10,SNR=7.1							
	0.4nm,0.5s							
FINES	**FINESS Array B**	**26.38**	**358**	P	P	15 08 11.6	-1.2	
	4.2nm,0.9s,baz=182,slow=10,SNR=2.1							
	4.2nm,0.9s							
HFS	**Hagfors**	**26.67**	**344**	P	P	15 08 13.9	-1.7	
	3.1nm,0.9s,baz=155,slow=11,SNR=1.5							
	3.1nm,0.9s							
NOA	**NORSAR Array B**	**28.05**	**343**	P	P	15 08 26.2	-1.8	
	0.3nm,0.6s,baz=155,slow=8.3,SNR=1.3							
NOA				LR	LR	15 21 25.4		
	comp=Z,35nm,18.0s,baz=345,slow=40							
	0.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**32.17**	**234**	P	P	15 09 05.8	+0.9	
	1.8nm,0.6s,baz=35,slow=10,SNR=11							
	1.8nm,0.6s							
KURBB	**Kurchatov Arra**	**39.46**	**51**	P	P	15 10 08.5	+1.6	
	0.2nm,0.4s,baz=275,slow=8.7,SNR=6.1							
	0.2nm,0.4s							
DBIC	**Dimbokro**	**41.28**	**234**	P	P	15 10 23.1	+0.7	
	1.5nm,0.6s,baz=90,slow=6.1,SNR=1.6							
	1.5nm,0.6s							
MKAR	**Makanchi Array**	**41.98**	**57**	P	P	15 10 28.9	+1.1	
	0.5nm,0.8s,baz=271,slow=9.2,SNR=4.4							
MKAR				LR	LR	15 30 14.5		
	comp=Z,24nm,18.2s,baz=301,slow=40							
	0.5nm,0.8s							

IDC 14 15:07:35.6±3.2, 9.12S×111.80E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=178.1km s-min=28.8km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.29**	**119**	P	P	15 12 53.6	-1.4
	0.3nm,0.9s,baz=300,slow=8.8,SNR=1.6						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**25.61**	**127**	P	P	15 13 07.0	+0.1
	0.1nm,0.5s,baz=298,slow=9.0,SNR=4.9						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**61.57**	**337**	P	P	15 17 55.5	+0.8
	0.2nm,0.4s,baz=141,slow=7.4,SNR=4.4						
	0.2nm,0.4s						

ISK 14 15:33:39.2, 38.67N×44.82E, h19km, ML4.6/14
NSSP 14 15:33:39.9, 38.82N×44.25E, h10km, Ms4.5
AZER 14 15:33:41.9, 38.88N×44.27E, h10km, ml4.6
MOS 14 15:33:42.5±1.6, 38.82N×44.27E, h10km, mb4.7/13, Error ellipse: s-maj=6.1km s-min=3.8km az=92.6
TIF 14 15:33:42.5, 38.95N×44.29E, h8km±2km
AFAD 14 15:33:42.0, 38.98N×44.35E, h12km±3km, MW4.5
THR 14 15:33:43.3±0.0, 39.03N×44.28E, h10km±5km, ML4.6
IDC 14 15:33:43.6±0.6, 39.02N×44.29E, h0km, mb4.1/18, mbtmp4.1/31, ML4.0/10, MS3.6/25, Error ellipse: s-maj=10.7km s-min=7.7km az=134.0
TEH 14 15:33:43.2, 38.95N×44.30E, h6km±39km
ISN 14 15:33:43.2±0.9, 38.97N×43.85E, h10km±148km, ML4.4
NEIC 14 15:33:44.7±1.4, 39.00N±0.06×44.27E±0.07, h10km±1km, mb4.4/38, Error ellipse: s-maj=11.1km s-min=8.8km az=150.0
MCSM 14 15:33:45.3±0.5, 39°N±3°×4°4E±°, h10km±3km, mb4.3, mB4.1, MLv4.8, Mw(mB)3.1

ISC 14 15:33:43.6±0.7, 38.93N±0.02×44.31E±0.01, h2km±4km, n380, σ1°63/421, mb4.4/59, MS3.4/18, 22C-18D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OZAP	**Van, Ozalp-Mer**	**0.37**	**223**	P	Pg	15 33 50.8	+0.2
OZAP				S	Sg	15 33 56.8	+1.4
VMUR	**Van-Muradiye**	**0.58**	**276**	P	Pg	15 33 54.0	-0.7
VMUR				S	Sg	15 34 03.2	+0.9
DYDN	**Diyadin**	**0.78**	**322**	P	Pg	15 33 57.3	-1.3
DYDN				S	Sg	15 34 07.0	-1.8
TVAN	**Van**	**0.81**	**241**	P	Pg	15 33 59.0	-0.2
TVAN				S	Sg	15 34 09.3	-0.4
TVAN	**Van**	**0.81**	**241**	Pg	Pg	15 33 59.0	-0.2
HYR	**Heyderabad**	**0.89**	**28**	P	Pg	15 33 59.8	-1.0
HYR				S	Sg	15 34 12.9	+0.6
HYR	**Heyderabad**	**0.89**	**28**	Pg	Pg	15 33 59.7	-1.0
NAX	**Nakhchivan**	**0.95**	**75**	P	Pg	15 34 01.3	-0.5
NAX				S	Sb	15 34 16.0	+0.1
NAX	**Nakhchivan**	**0.95**	**75**	PG	Pg	15 34 01.3	-0.5
TASB	**TASBURUN-IGDIR**	**1.06**	**357**	Pn	Pg	15 34 03.3	-0.5
TASB				Sn	Sn	15 34 22.6	+1.9
SBZ	**Shahbuz**	**1.07**	**64**	P	Pg	15 34 03.2	-0.9
SBZ				S	Sn	15 34 21.2	0.0
IMRD	**Marand**	**1.11**	**101**	Pg	Pg	15 34 03.9	-0.9
IMRD				Sg	Sb	15 34 20.6	+0.2
VAYK	**Vayk**	**1.15**	**48**	*i* P	Pg	15 34 04.5	-1.2
VAYK				*i* S	Sb	15 34 21.4	-0.3
GEVA	**Gevas**	**1.16**	**238**		Pg	15 34 04.8	-1.0
GEVA	**Gevas**	**1.16**	**238**	P	Pg	15 34 05.3	-0.5
GEVA				S	Sb	15 34 21.7	-0.2
GEVA	**Gevas**	**1.16**	**238**	Pg	Pg	15 34 04.8	-1.0
AKDM	**Akdamar-Van**	**1.20**	**241**	Pn	Pg	15 34 05.7	-0.9
AKDM				Sn	Sn	15 34 24.8	+0.3
AKDM	**Akdamar-Van**	**1.20**	**241**	Pg	Pg	15 34 05.6	-1.0
AGRB	**Hanur-Agry**	**1.21**	**303**	Pn	Pg	15 34 06.1	-0.7
KOTA	**Agri, Merkez-K**	**1.22**	**316**	P	Pg	15 34 05.3	-1.8
KOTA				S	Sg	15 34 20.0	-2.9
METS	**Metsamor**	**1.23**	**352**	*e*P	Pg	15 34 05.9	-1.3
METS				*e*S	Sn	15 34 24.9	-0.2
VNNZ	**Vanand**	**1.23**	**342**	*e*P	Pg	15 34 06.6	-0.6
VNNZ				*e*S	Sn	15 34 26.4	+1.3
ADCV	**BITLIS_Adilcev**	**1.25**	**265**	P	Pg	15 34 06.8	-0.7
ADCV				S	Sg	15 34 23.7	+0.1
ADCV	**BITLIS_Adilcev**	**1.25**	**265**	Pg	Pg	15 34 06.7	-0.7
GNI	**Garni**	**1.26**	**15**	Pn	Pg	15 34 05.5	-2.3
GNI				Sn	Sb	15 34 24.7	-0.2
GNI	**Garni**	**1.26**	**15**	Pn	Pg	15 34 06.5	-1.3
GNI	**Garni**	**1.26**	**15**	Pg	Pg	15 34 06.8	-1.0
	304nm,0.3s,baz=243,slow=2.3,SNR=247						
GNI				Lg	Lg	15 34 24.1	
	965nm,0.3s,baz=8.2,slow=19,SNR=11						
GNI				LR	LR	15 34 48.0	
	comp=Z,2μm,20.1s,baz=279,slow=54						
GNI	**Garni**	**1.26**	**15**	Pg	Pg	15 34 06.5	-1.3
GNI	**Garni**	**1.26**	**15**	⇑*i*P	Pg	15 34 06.6	-1.3
GNI				⇑*i*S	Sb	15 34 24.8	-0.2
GNI	**Garni**	**1.26**	**15**	*c i*PG	Pg	15 34 06.5	-1.3
GNI				*i* S	Sn	15 34 25.5	-0.6
GNI				pmax	pmax		
	comp=Z,3μm,1.1s						
GNI				smax	smax		
	comp=Z,13nm,0.7s						
GNI	**Garni**	**1.26**	**15**	Pg	Pn	15 34 08.2	-0.2
GNI				Sg	Sn	15 34 25.4	-0.6
DORK	**Agr/Tutak/Do**	**1.28**	**292**	P	Pg	15 34 06.4	-1.7
DORK				S	Sg	15 34 19.8	-4.9
ORD	**Ordubad**	**1.31**	**89**	P	Pg	15 34 07.5	-1.2
ORD				S	Sn	15 34 26.9	-0.1
MLAZ	**Malazgirt-MUS**	**1.39**	**279**	Pn	Pb	15 34 10.5	+0.2
MLAZ				Sn	Sn	15 34 33.3	+4.2
KAPZ	**Kaputan**	**1.42**	**12**	*e*P	Pn	15 34 09.3	-1.2
KAPZ				*e*S	Sn	15 34 31.0	+1.1
HAKT	**HAKKARI**	**1.45**	**199**	P	Pn	15 34 10.2	-0.8
HAKT				S	Sg	15 34 28.0	-2.2
HAKT	**HAKKARI**	**1.45**	**199**	P	Pn	15 34 09.5	-1.5
HAKT				S	Sn	15 34 32.4	+1.7
HAKT	**HAKKARI**	**1.45**	**199**	Pg	Pn	15 34 10.1	-0.8
AYRK	**Ayrk**	**1.65**	**43**	*e*P	Pn	15 34 12.6	-1.1
AYRK				*e*S	Sg	15 34 36.9	+0.4
DIGO	**Kars**	**1.65**	**334**	P	Pb	15 34 14.2	-0.6
GRS	**Goris**	**1.67**	**69**	⇑*i*S	Sn	15 34 38.0	+2.0
EATA	**Eleskirt**	**1.69**	**304**	P	Pn	15 34 14.0	-0.4
EATA				S	Sn	15 34 35.7	-1.1
PERV	**Siirt/Pervari-**	**1.70**	**235**	P	Pb	15 34 15.3	-0.3
PERV				S	Sg	15 34 38.5	+0.2
EGVZ	**Egvard**	**1.76**	**80**	*e*P	Pn	15 34 14.4	-0.7
EGVZ				*e*S	Sg	15 34 40.0	-0.1
CUKT	**Cukurca**	**1.77**	**199**	Pn	Pn	15 34 08.8	-6.5
CUKT				Sn	Sn	15 34 30.6	-7.8
CUKT	**Cukurca**	**1.77**	**199**	P	Pn	15 34 06.3	-9.0
CUKT				S	Sn	15 34 28.0	-10
BLIS	**Bitlis-Merkez**	**1.79**	**254**	P	Pn	15 34 15.6	-0.1
BLIS				S	Sn	15 34 36.9	-2.2
BLIS	**Bitlis-Merkez**	**1.79**	**254**	Pg	Pn	15 34 15.5	-0.1
IAZR	**Azarshahr**	**1.81**	**133**	Pn	Pn	15 34 16.5	+0.5
GURO	**Guroymak-BITLI**	**1.82**	**259**	Pn	Pn	15 34 15.9	-0.1
GURO				Sn	Sg	15 34 42.1	-0.1
GURO	**Guroymak-BITLI**	**1.82**	**259**		Pn	15 34 15.9	-0.1
GURO	**Guroymak-BITLI**	**1.82**	**259**	Pn	Pn	15 34 15.9	-0.1
EAK	**Akyaka**	**1.84**	**343**	P	Pb	15 34 17.9	-0.1
EAK				S	Sn	15 34 40.2	0.0
KMOZ	**Kamo**	**1.91**	**352**	*e*P	Pn	15 34 17.4	+0.1
KMOZ				*e*S	Sg	15 34 45.3	+0.3
BOZK	**Kars-Merkez-Bo**	**1.95**	**329**	P	Pn	15 34 18.6	+0.7
SIRN	**Sirnak**	**2.07**	**227**	P	Pb	15 34 21.0	-0.9
LSVT	**Lusahovit**	**2.10**	**18**	*e*P	Pn	15 34 20.5	+0.7
LSVT				*e*S	Sg	15 34 50.4	-0.6
SRTM	**Siirt_Merkez**	**2.10**	**244**	P	Pn	15 34 20.7	+1.0
SRTM				S	Sb	15 34 48.1	-0.8
GDB	**GEDABAY**	**2.11**	**31**	P	Pn	15 34 20.9	+1.0
GDB				S	Sg	15 34 50.7	-0.5
SRTK	**Saratovka**	**2.13**	**0**	*e*P	Pn	15 34 21.2	+0.8
SRTK				*e*S	Sg	15 34 51.6	-0.6
HOMI	**Horasan**	**2.17**	**302**	P	Pn	15 34 21.6	+0.7
KOPR	**Koprukoy-ERZUR**	**2.18**	**300**	Pn	Pb	15 34 22.7	-1.1
KOPR				Sn	Sg	15 34 53.7	+0.1
MUSM	**Mu-Merkez**	**2.20**	**266**	P	Pn	15 34 21.5	+0.3
MUSM				S	Sn	15 34 47.7	-1.3
IHRS	**Heris**	**2.22**	**105**	Pn	Pn	15 34 22.8	+1.2
SENK	**Senkaya-Erzuru**	**2.23**	**318**	Pn	Pb	15 34 23.1	-1.5
QZX	**Qazax, Azerbai**	**2.28**	**21**	P	Pn	15 34 23.4	+1.3
QZX				S	Sg	15 34 58.2	+1.5

GANJ	**Ganja**	**2.31**	**41**	P	Pn	15 34 23.9	+1.2	
GANJ				S	Sg	15 34 56.4	-1.4	
GANJ	**Ganja**	**2.31**	**41**	PN	Pn	15 34 23.8	+1.2	
GOLE	**Ardahan-G¶le**	**2.32**	**326**	P	Pn	15 34 23.5	+0.6	
QRD	**Qoradiz**	**2.40**	**76**	P	Pn	15 34 25.4	+1.6	
QRD				S	Sg	15 35 00.1	-0.5	
BGD	**Bogdanovka**	**2.40**	**347**	P	Pb	15 34 27.7	+0.1	
BGD	**Bogdanovka**	**2.40**	**347**	PN	Pb	15 34 27.7	+0.1	
MAHB	**Mahabad**	**2.42**	**153**	Pn	Pn	15 34 26.0	+1.7	
KZRT	**Kazreti**	**2.46**	**1**	P	Pn	15 34 23.7	-1.0	
KZRT				S	Sg	15 35 01.3	-1.2	
KZRT	**Kazreti**	**2.46**	**1**	PN	Pn	15 34 23.7	-1.0	
KZRT				S	Sg	15 35 01.3	-1.2	
AGDM	**Agdam**	**2.46**	**61**	P	Pb	15 34 26.8	-1.8	
AGDM				S	Sg	15 35 04.5	+1.9	
ERZM	**Erzurum**	**2.48**	**294**	P	Pn	15 34 26.0	+0.8	
EJDE	**Erzurum, Palan**	**2.50**	**292**	P	Pb	15 34 28.4	-1.0	
AKH	**Akhalkalaki**	**2.56**	**346**	P	Pn	15 34 26.9	+0.8	
AKH	**Akhalkalaki**	**2.56**	**346**	Pn	Pn	15 34 26.1	-0.1	
AKH	**Akhalkalaki**	**2.56**	**346**	PN	Pn	15 34 27.0	+0.8	
SVAN	**Silvan-Diyarba**	**2.56**	**253**	Pn	Pn	15 34 25.7	-0.4	
SVAN	**Silvan-Diyarba**	**2.56**	**253**	P	Pn	15 34 25.0	-1.1	
SLHN	**Bingol, Solhan**	**2.56**	**272**	P	Pb	15 34 30.5	+0.2	
AHAN	**Ardahan-Merkez**	**2.58**	**330**	P	Pb	15 34 31.5	+0.8	
BRDA	**Brd**	**2.58**	**58**	P	Pb	15 34 29.1	-1.5	
BRDA				S	Sg	15 35 07.9	+1.4	
BTMN	**Batman**	**2.60**	**248**	P	Pn	15 34 27.8	+1.1	
ETEKE	**Tekederesi - E**	**2.61**	**290**	P	Pn	15 34 28.4	+1.5	
BLQ	**Beylaqan**	**2.64**	**72**	P	Pn	15 34 29.0	+1.9	
BLQ				S	Sg	15 35 06.9	-1.5	
DGRG	**David-gareji**	**2.65**	**18**	P	Pb	15 34 29.3	-2.4	
DGRG	**David-gareji**	**2.65**	**18**	PN	Pb	15 34 29.3	-2.4	
ECAT	**Cat-ERZURUM**	**2.68**	**286**	P	Pn	15 34 27.2	-0.6	
MSL	**Mosul**	**2.70**	**201**	*e*Pn	Pn	15 34 29.0	+1.1	
MSL				*e*Sn	Sn	15 35 03.0	+1.9	
MIDY	**Mardin/Midyat-**	**2.75**	**237**	P	Pn	15 34 29.7	+0.9	
DDEM	**Demirkent**	**2.78**	**316**	P	Pn	15 34 29.6	+0.4	
GRMI	**Germi**	**2.80**	**91**	Pn	Pn	15 34 30.3	+0.9	
GRMI	**Germi**	**2.80**	**91**	*e*Pn	Pn	15 34 31.0	+1.6	
GRMI				IAML		15 35 21.4		
	comp=Z,3.1nm,1.0s							
EMRE	**Erzurum,Aziziy**	**2.81**	**294**	P	Pb	15 34 34.3	-0.2	
TBLG	**Delisi**	**2.82**	**6**	P	Pn	15 34 30.5	+0.9	
TBLG	**Delisi**	**2.82**	**6**	PN	Pn	15 34 30.5	+0.9	
MNGR	**Mingechevir, A**	**2.82**	**48**	P	Pn	15 34 30.9	+1.3	
MNGR				S	Sg	15 35 12.1	-2.0	
MNGR	**Mingechevir, A**	**2.82**	**48**	PN	Pn	15 34 30.9	+1.3	
IHSH	**Hashtrud**	**2.83**	**124**	Pn	Pn	15 34 31.5	+1.4	
DBAD	**Bademkaya**	**2.90**	**317**	P	Pg	15 34 50.9	+12	
YEDI	**Yedisu-Bingol**	**2.97**	**281**	Pn	Pn	15 34 33.5	+1.6	
YRD	**Yardimli**	**3.06**	**89**	P	Pn	15 34 34.9	+1.8	
YRD				S	Sb	15 35 16.4	-0.3	
KOPT	**Kop Dagi**	**3.15**	**291**		Pb	15 34 41.1	+0.8	
KOPT	**Kop Dagi**	**3.15**	**291**	P	Pb	15 34 40.8	+0.5	
LRK	**Lerik**	**3.16**	**94**	P	Pn	15 34 37.1	+2.7	
LRK				S	Sg	15 35 22.5	-2.6	
SEKA	**Sheki**	**3.18**	**43**	P	Pn	15 34 36.4	+1.8	
SEKA				S	Sg	15 35 24.4	-1.2	
SEKA	**Sheki**	**3.18**	**43**	PN	Pn	15 34 36.4	+1.8	
GLBA	**Clilabad**	**3.19**	**83**	P	Pn	15 34 36.5	+1.8	
GLBA				S	Sb	15 35 20.6	+0.4	
MARD	**Mardin**	**3.22**	**241**		Pn	15 34 35.4	+0.2	
ZKTA	**Zakatala**	**3.23**	**32**	P	Pb	15 34 41.6	-0.1	
ZKTA				S	Sg	15 35 26.8	-0.6	
BCA	**Borcka**	**3.25**	**322**	Pn	Pn	15 34 37.7	+2.1	
SAAT	**Saatly**	**3.32**	**72**	P	Pb	15 34 40.3	-2.8	
SAAT

ERBR MLR MLR
comp=N,758nm,12.0s
GTMR Gotvand 7.53 147 *e*Pn **Pn 15 35 38.0 +3.6**
GTMR IAML 15 36 56.5
comp=Z,0.1nm,1.0s
ANN Anapa 7.79 321 *e*P **Pn 15 35 41.9 +4.0**
ANN pmax pmax
comp=Z,29nm,0.8s
ANN MLR MLR
comp=E,327nm,12.0s
ANN MLR MLR
comp=Z,511nm,12.0s
ANN MLR MLR
comp=N,875nm,13.0s
IGLO Ghaloghah 7.92 105 Pn **Pn 15 35 42.2 +2.3**
KRSH Karshahi 8.01 126 Pn **Pn 15 35 42.6 +1.5**
BR104 Keskin Array S 8.31 279 Pn **Pn 15 35 44.6 -0.5**
comp=N,5.3nm,0.7s
BR131 Keskin Array S 8.31 279 **Pn 15 35 44.5 -0.7**
BR131 Keskin Array S 8.31 279*d* *i*P Pn 15 35 50.5 +5.3
BRTR Keskin Array B 8.31 279 **Pn 15 35 47.3 +2.1**
BRTR Keskin Array B 8.31 279 Pn **Pn 15 35 49.9 +4.7**
comp=N,0.3nm,0.3s,baz=103,slow=14,SNR=28
comp=N,4.2nm,0.7s
BRTR Keskin Array B 8.31 279 *i* P Pn 15 35 50.5 +5.3
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BR106 Keskin Array S 8.33 279 Pn **Pn 15 35 44.8 -0.6**
comp=Z,53nmcomp=Z,6.2nm,0.7s
ASF Jabal al Asfar 9.05 224 Pn **Pn 15 35 55.4 +0.1**
comp=Z,0.4nm,0.3s,baz=80,slow=6.1,SNR=5.7
ASF Lg Lg 15 38 24.8
comp=Z,0.4nm,0.3s,baz=49,slow=20,SNR=1.7
ASF LR LR 15 39 54.0
comp=Z,262nm,19.6s,baz=85,slow=41
comp=Z,5.0nm,0.8s
MMAI Mount Meron Ar 9.32 233 Pn **Pn 15 36 01.4 +2.4**
comp=Z,2.0nm,0.3s,baz=69,slow=14,SNR=11
MMAI Lg Lg 15 38 37.2
comp=Z,0.4nm,0.3s,baz=64,slow=23,SNR=2.5
MMAI LR LR 15 40 05.7
comp=Z,551nm,18.1s,baz=62,slow=41
comp=Z,1.6nm,0.4s
MRVT Maraveh tapeh 9.35 94 *e*Pn **Pn 15 35 59.8 +0.5**
YZKH Yazd 10.60 125 *e*Pn **Pn 15 36 20.0 +3.5**
SBZV Sabzevar 10.84 99 *e*Pn **Pn 15 36 23.6 +3.7**
EIL Elat 12.04 223 Pn **Pn 15 36 39.1 +2.9**
comp=Z,0.3nm,0.3s,baz=27,slow=14,SNR=8.5
EIL Lg Lg 15 40 09.5
comp=Z,0.1nm,0.3s,baz=219,slow=22,SNR=3.0
EIL LR LR 15 41 26.4
comp=Z,298nm,20.5s,baz=8.5,slow=38
comp=Z,8.7nm,1.1s
NE56 Odesa 12.52 313 Pn **Pn 15 36 42.2 -0.4**
VORD Divnogorie 12.55 345 *e*P **Pn 15 36 43.1 +0.2**
VORD pmax pmax
comp=Z,40nm,1.0s
VSR Storozhevoye 12.81 345 *e*P **Pn 15 36 44.9 -1.6**
VSR pmax pmax
comp=Z,20nm,1.0s
VORR Voronezh 13.23 346 *e*P **Pn 15 36 50.8 -1.5**
VORR pmax pmax
comp=Z,30nm,1.0s
BELG Belogornoye 13.66 9 Pn **Pn 15 36 55.9 -2.2**
comp=Z,0.4nm,0.3s,baz=112,slow=11,SNR=2.4
comp=Z,16nm,0.8s
LPSR Galich'ya Gora 14.18 346 *e*P **Pn 15 37 02.5 -2.7**
LPSR pmax pmax
comp=Z,50nm,0.9s
GHRR 14.35 305 Pn **Pn 15 37 07.1 -0.5**
PLOR Plostina 14.76 304 ⇑P **P 15 37 20.9 +1.5**
PLOR Plostina 14.76 304 ⇑P **P 15 37 20.9 +1.5**
AKTO Aktyubinsk 15.05 36 Pn **Pn 15 37 16.1 -1.0**
comp=Z,0.5nm,0.3s,baz=225,slow=9.3,SNR=14
AKTO LR LR 15 44 23.9
comp=Z,216nm,20.8s,baz=246,slow=43
comp=Z,6.0nm,0.8s
MLR Muntele Rosu 15.09 302 **Pn 15 37 16.5 -1.3**
MLR IAmb IAmb 15 37 42.0
comp=Z,14nm,1.0s
MLR Muntele Rosu 15.09 302 Pn **Pn 15 37 17.8 0.0**
comp=Z,0.2nm,0.3s,baz=105,slow=16,SNR=6.0
comp=Z,1.6nm,0.7s
MLR Muntele Rosu 15.09 302 ⇑P **P 15 37 23.7 +0.4**
MLR Muntele Rosu 15.09 302 ⇑P **P 15 37 23.7 +0.4**
MLR Muntele Rosu 15.09 302 P **Pn 15 37 17.3 -0.5**
comp=Z,15nm,1.5s
ONER Baraj Valea Uz 15.11 305 ⇓P **P 15 37 24.7 +1.4**
ABKAR Akbulak array 15.22 42 **Pn 15 37 17.8 -1.7**
RAYN Ar Rayn 15.39 176 Pn **Pn 15 37 17.4 -4.4**
RAYN Ar Rayn 15.39 176 ⇑P **Pn 15 37 18.1 -3.7**
DOPR Dopca 15.62 303 ⇓P **P 15 37 31.5 +2.5**
AK07 Malin Array Si 15.78 322 P **Pn 15 37 26.4 -0.3**
AK09 Malin Array Si 15.79 323 P **Pn 15 37 26.5 -0.3**
AK10 Malin Array Si 15.79 323 P **Pn 15 37 26.6 -0.3**
AK08 Malin Array Si 15.81 323 P **Pn 15 37 26.3 -0.8**
AKASG Malin Array Be 15.87 323 Pn **Pn 15 37 26.6 -1.3**
comp=Z,0.6nm,0.3s,baz=131,slow=11,SNR=30
AKASG LR LR 15 44 27.2
comp=Z,265nm,19.3s,baz=126,slow=41
comp=Z,7.6nm,1.0s
AKBB Malin Array Si 15.87 323 P **Pn 15 37 27.2 -0.7**
KIEV Kiev 15.88 323 **Pn 15 37 23.3 -0.7**
KIEV IAmb IAmb 15 37 32.4
comp=Z,25nm,0.9s
KIEV Kiev 15.88 323 ⇓P **Pn 15 37 26.7 -1.2**
KIEV Kiev 15.88 323 ⇓P **Pn 15 37 26.7 -1.2**
KIEV Kiev 15.88 323 P **Pn 15 37 27.2 -0.7**
comp=Z,119nm,1.1s
AK03 Malin Array Si 15.89 323 P **Pn 15 37 27.7 -0.4**
AK16 Malin Array Si 15.91 322 P **Pn 15 37 27.8 -0.6**
IDI Anoyia 15.91 263 LR LR 15 43 47.0
comp=Z,179nm,19.2s,baz=226,slow=38
KMPD K-Podol'skiy 16.06 313 P **P 15 37 29.3 -4.6**
KMPD P **Pn 15 37 28.6 -1.8**
LUBAR Lubar, Ukraine 16.10 318 P **Pn 15 37 30.0 -0.9**
MI29 MI29, Kamyanyy 16.36 320 P **Pn 15 37 33.5 -0.7**
comp=Z,211nm,1.2s
BURAR Bucovina Array 16.36 308 **Pn 15 37 33.7 -0.6**
BUR08 Bucovina Ar. S 16.39 308 **Pn 15 37 33.9 -0.7**
BUR08 IAmb IAmb 15 37 42.7
comp=Z,39nm,1.4s
MI30 MI30,Zelenitsa 16.40 321 P **Pn 15 37 33.8 -0.9**
comp=Z,53nm,1.2s
ZHSF Zahedan 16.46 119 *e*Pn **P 15 37 40.8 +2.2**
MI28 Mi28,Pidlybu 16.77 321 P **Pn 15 38 38.5 -0.9**
OBN Obninsk 17.01 345 Pn **Pn 15 37 41.1 -1.3**
OBN Obninsk 17.01 345 Pn **Pn 15 37 41.1 -1.3**
comp=Z,2.6nm,0.3s,baz=106,slow=16,SNR=8.3
comp=Z,19nm,0.6s
OBN Obninsk 17.01 345 *e*P **Pn 15 37 41.6 -0.8**
OBN *e*S **Sn 15 40 52.8 +1.0**
OBN pmax pmax
comp=Z,89nm,1.7s
OBN MLR MLR
comp=Z,275nm,14.0s
OBN Obninsk 17.01 345 P **Pn 15 37 41.5 -0.8**
comp=Z,34nm,1.2s
UOSS Minazif 17.19 141 P **P 15 37 46.0 -0.5**
UOSS IAmb IAmb 15 38 04.8
comp=Z,25nm,1.1s
GZR Gura Zlata 17.20 299 ⇑P **P 15 37 47.0 +0.4**
GZR Gura Zlata 17.20 299 ⇑P **P 15 37 47.0 +0.4**
STNU Starunia 17.27 311 P **Pn 15 37 45.2 -0.6**
MARR Marisel-Cluj 17.34 303 ⇓P **P 15 37 49.9 +1.8**
MOS Moscow 17.40 347 *e*P **Pn 15 37 45.5 -1.8**
MOS pmax pmax
comp=Z,58nm,1.0s
DRGR 17.64 303 ⇑P **P 15 37 52.7 +1.2**
DRGR 17.64 303 ⇑P **P 15 37 52.7 +1.2**
MDVR Moldovita 17.80 296 ⇓P **P 15 37 54.8 +1.6**
RNPP5 Staryi Chortor 17.84 320 P **Pn 15 37 52.0 -0.8**
RNPP8 Varash 17.92 320 P **Pn 15 37 53.8 0.0**
RNPP9 Sopachiv 17.95 320 P **Pn 15 37 54.1 0.0**
BRIU Brid 18.00 308 P **Pn 15 37 54.4 -0.4**
BZS Buzias 18.05 299 ⇓P **P 15 37 57.5 +1.6**
BZS Buzias 18.05 299 ⇓P **P 15 37 57.5 +1.6**
LVV L'vov 18.07 314 P **Pn 15 37 54.9 -0.7**
BERU Beregovo 18.19 308 P **P 15 37 57.3 -0.1**
HOLU Holmets 18.47 308 P **P 15 37 59.8 -0.7**
KOLS Kolonicke sedl 18.70 309 *e*P **Pn 15 38 05.4 +2.1**
SIMJ Simiganj 19.24 83 P **P 15 38 08.2 -1.0**
CHGR Chuyangaron 19.36 83 P **P 15 38 10.6 +0.2**
CHGR IAmb IAmb 15 38 16.0
comp=Z,22nm,0.9s
CHGR Chuyangaron 19.36 83 P **P 15 38 10.6 +0.2**
CHGR pmax pmax
comp=Z,22nm,0.9s
ARTI Arti 19.80 24 P **P 15 38 14.5 -0.5**
ARTI Arti 19.80 24 P **P 15 38 14.7 -0.3**
comp=Z,0.6nm,0.3s,baz=228,slow=5.8,SNR=17
ARTI LR LR 15 47 58.5
comp=Z,174nm,20.4s,baz=222,slow=43
comp=Z,20nm,0.9s
ARTI Arti 19.80 24*d* *i*P **P 15 38 14.6 -0.5**
ARTI S **S 15 41 54.2 -4.4**
ARTI pmax pmax
comp=Z,33nm,1.0s
PSZ Piszkesteto 19.82 305 **P 15 38 15.7 +0.3**
PSZ Piszkesteto 19.82 305 ⇓P **P 15 38 15.6 +0.3**
PSZ Piszkesteto 19.82 305 ⇓P **P 15 38 15.6 +0.3**
WSAR Wadi Sarin 19.83 138 P **Pn 15 38 16.6 -0.5**
comp=Z,0.1nm,1.0s,baz=331,slow=24,SNR=6.4
NACGM Naroch 19.88 329 *e*P **Pn 15 38 17.3 -0.1**
comp=Z,11nm,0.8s,baz=136
KIRV Kirov 19.95 8 P **P 15 38 16.1 -0.4**
comp=Z,11nm,0.4s,baz=189,slow=19,SNR=6.9
KIRV LR LR 15 46 28.2
comp=Z,132nm,19.5s,baz=198,slow=38
KIRV Kirov 19.95 8⇓ *i*P **P 15 38 17.0 +0.5**
NIE Niedzica 20.08 309 *e*P Pn 15 38 19.7 -0.2
NIE Niedzica 20.08 309 P **P 15 38 18.3 +0.1**
comp=Z,7.8nm,1.7s
KK31 Karatay Array 20.17 70 P Pn 15 38 20.2 -0.9
KK31 Karatay Array 20.17 70 P Pn 15 38 20.2 -0.8
KK31 pmax pmax
comp=Z,12nm,0.9s
KKAR Karatay Array 20.17 70 P **P 15 38 19.3 +0.1**
KKAR Karatay Array 20.17 70 P **P 15 38 19.3 +0.1**
MORH Mrgy, Hungar 20.20 299 ⇑P Pn 15 38 20.9 -0.4
MORH Mrgy, Hungar 20.20 299 P **P 15 38 19.4 0.0**
comp=Z,11nm,0.9s
GAR Garm 20.20 82 P **P 15 38 18.8 -0.9**
KBL Kabul 20.28 95 P **P 15 38 18.2 -2.4**
KBL Kabul 20.28 95 P **P 15 38 18.2 -2.4**
KBL pmax pmax
comp=Z,7.0nm,0.7s
LANS Liptovska Anna 20.49 308 *e*P Pn 15 38 24.3 -0.4
TRKS Terek-Say 20.62 74 P Pn 15 38 28.3 +1.9
OJC Ojcow 20.69 311 *e*P **P 15 38 24.7 -0.1**
OJC Ojcow 20.69 311 **P 15 38 23.6 -1.2**
OJC Ojcow 20.69 311 P **P 15 38 23.6 -1.2**
OJC Ojcow 20.69 311 P **P 15 38 25.2 +0.4**
SUW Suwalki 20.84 323 *e*P **P 15 38 25.7 -0.6**
SUW Suwalki 20.84 323 P **P 15 38 25.5 -0.8**
SUW Suwalki 20.84 323 P **P 15 38 25.5 -0.8**
SVE Sverdlovsk 20.89 26 *e*P **P 15 38 27.7 +0.9**
SVE pmax pmax
comp=Z,62nm,1.1s
PABE Paberze 21.45 327 P **P 15 38 32.1 -0.8**
JAVC Velka Javorina 21.51 306 *e*P **P 15 38 34.5 +0.8**
MAUC Maruska 21.57 308 *e*P **P 15 38 35.4 +1.1**
ACER Acerenza 21.82 284 P **P 15 38 36.6 -0.5**
MORC Moravsky Berou 21.89 308 *e*P **P 15 38 37.8 +0.1**
ARSB Arslanbob 22.01 75 IAmb IAmb 15 38 53.5
comp=Z,23nm,1.1s
RONA Rosalia, Austr 22.09 302 *e*P **P 15 38 40.6 +0.7**
comp=Z,14nm,1.5s,SNR=5.2
KLMR Klimovskoe 22.15 354 *e*P **P 15 38 40.8 +0.5**
KLMR *e* 15 39 02.2
KLMR pmax pmax
comp=Z,89nm,1.6s
VRAC Vranov 22.32 307 LR LR 15 49 59.6
comp=Z,132nm,18.6s,baz=118,slow=44
VRAC Vranov 22.32 307 *e*P **P 15 38 43.2 +0.9**
KRUC Moravsky 22.38 306 *e*P **P 15 38 42.4 -0.5**
CONA Conrad Observa 22.43 303 *i* P **P 15 38 43.5 -0.1**
comp=Z,7.9nm,1.2s
ARSA Arzberg 22.51 301 *i* P **P 15 38 44.8 +0.4**
comp=Z,5.2nm,1.0s
VSU Vasula 22.60 336⇓ *e*P **P 15 38 49.9 +4.8**
VSU pmax pmax
comp=Z,40nm,1.0s
SOKA Soboth 22.74 299 *i* P **P 15 38 47.1 +0.2**
comp=Z,6.0nm,1.1s
BVAR Borovoye Array 22.79 43 P **P 15 38 48.3 +1.0**
comp=Z,2.3nm,0.5s,baz=239,slow=8.4,SNR=17
BVAR LR LR 15 48 45.4
comp=Z,116nm,19.8s,baz=239,slow=40
comp=Z,2.3nm,0.5s
DPC Dobruska-Polom 22.82 309 *e*P **P 15 38 47.8 +0.2**
DPC Dobruska-Polom 22.82 309 *e*P **P 15 38 47.8 +0.2**
DPC Dobruska-Polom 22.82 309 P **P 15 38 46.8 -0.8**
comp=Z,7.1nm,1.2s
KSP Ksiaz 23.00 310 *e*P **P 15 38 49.2 -0.3**
KSP Ksiaz 23.00 310 P **P 15 38 48.8 -0.7**
comp=Z,10nm,2.0s
OBKA Obir 23.05 299 *i* P **P 15 38 50.5 +0.4**
comp=Z,3.3nm,0.7s
AAK Ala-Archa 23.09 71 P **P 15 38 49.9 -0.8**
AAK Ala-Archa 23.09 71 P **P 15 38 52.5 +1.9**
comp=Z,4.0nm,0.9s,baz=268,slow=11,SNR=3.6
AAK LR LR 15 49 19.6
comp=Z,126nm,20.4s,baz=283,slow=41
comp=Z,4.0nm,0.9s
AAK Ala-Archa 23.09 71⇓ *e*P **P 15 38 54.5 +3.8**
AAK pmax pmax
comp=Z,23nm,1.7s
MOA Molln 23.46 302 *e*pP pP 15 38 55.1 -0.6
comp=Z,7.2nm,0.9s
SABO M.te Sabotino 23.63 297 P **P 15 38 55.4 -0.5**
SABO IAmb IAmb 15 38 58.7
comp=Z,12nm,0.7s
CKRC Cesky Krumlov 23.64 305 *e*P **P 15 38 56.3 +0.3**
CKRC Cesky Krumlov 23.64 305 *e*P **P 15 38 56.3 +0.3**
MYKA Tera Mystica 23.68 299 *i* P **P 15 38 56.8 +0.3**
comp=Z,5.0nm,0.9s
PRU Pruhonice 23.80 307 *e*P **P 15 38 51.6 -5.9**
PRU Pruhonice 23.80 307 *e*P **P 15 38 51.6 -5.9**
NRCA Norcia 23.84 289 P **P 15 38 57.7 -0.3**
NRCA IAmb IAmb 15 39 16.4
comp=Z,18nm,1.3s
BIOA Bad Ischl, Aus 23.85 302 *e*P **P 15 38 58.5 +0.4**
comp=Z,5.4nm,0.7s
ZVC Zvikov 23.87 306 *e*P **P 15 38 58.4 +0.2**
KBA Koelnbreinsper 23.95 300 *e*pP **P 15 38 59.8 +0.6**
comp=Z,15nm,1.1s,SNR=7.3
GEC2 GERESS Array S 24.04 304 IAmb IAmb 15 39 02.0
comp=Z,11nm,0.9s
GERES GERESS Array B 24.04 304 P **P 15 38 59.7 -0.2**
comp=Z,4.3nm,0.7s,baz=99,slow=8.2,SNR=37
comp=Z,4.3nm,0.7s
KHC Kasperske Hory 24.18 305⇑ *i*P **P 15 39 01.5 +0.3**
KHC pmax pmax
comp=Z,23nm,1.8s
KHC Kasperske Hory 24.18 305 *e*P **P 15 39 01.1 -0.1**
KHC Kasperske Hory 24.18 305 P **P 15 39 00.8 -0.4**
comp=Z,13nm,1.5s
NRN Naryn 24.27 74 IAmb IAmb 15 39 08.5
comp=Z,8.9nm,0.9s
LESA Schwarzleotal 24.45 301 *e*pP pP 15 39 04.7 -0.5
comp=Z,25nm,1.5s,SNR=7.6
KSH Kashi 24.47 79 P **P 15 39 03.6 -0.4**
KSH pmax pmax
comp=Z,5.0nm,0.5s
CTI Castel Tesino 24.99 297 IAmb IAmb 15 39 20.2
comp=Z,7.1nm,1.0s
KDJ Kajisay 25.10 72 IAmb IAmb 15 39 28.9
comp=Z,10nm,1.0s
CLL Collm 25.12 310 *e*P **P 15 39 08.0 -1.6**
CLL *i* 15 39 13.2
CLL *e*S **S 15 43 39.0 +4.2**
CLL Collm 25.12 310 *e*P **P 15 39 08.0 -1.6**
CLL *i* sP **sP 15 39 13.2 +1.6**
CLL *ex* x 15 39 28.0
CLL *e*PPP PPP 15 39 50.0
CLL *e*S **S 15 43 39.0 +4.2**
WTTA Wattenberg 25.13 300 *e*P **P 15 39 10.9 +0.9**
comp=Z,11nm,0.8s,SNR=7.8
WATA Walderalm 25.18 300 *e*P **P 15 39 11.3 +0.9**
comp=Z,23nm,1.4s,SNR=7.7
FINES FINESS Array B 25.21 339 P **P 15 39 09.5 -0.7**
FINES LR LR 15 49 48.5
comp=Z,10nm,0.8s,baz=146,slow=9.6,SNR=15
comp=Z,95nm,18.8s,baz=142,slow=38
comp=Z,10nm,0.8s
FINES FINESS Array B 25.21 339 *i* P **P 15 39 09.8 -0.4**
FINES pmax pmax
comp=Z,10.0nm,0.8s
SQTA Sankt Quirin 25.41 300 *i* P **P 15 39 12.0 -0.4**
comp=Z,17nm,0.7s,SNR=11
MOTA Moosalm 25.50 300 *e*P **P 15 39 14.4 +1.2**
comp=Z,27nm,0.8s,SNR=12
FETA Feichten 25.71 299 *i* P **P 15 39 15.0 -0.2**
comp=Z,8.6nm,0.7s,SNR=8.3
RETA Reutte 25.75 300 *i* P **P 15 39 16.5 +1.1**
comp=Z,7.7nm,0.7s,SNR=7.8
GRF Grafenberg Arr 25.81 305 *e*P **P 15 39 16.7 +0.8**
comp=Z,17nm,1.1s,baz=102,slow=10
GRFO Grafenberg 25.81 305 P **P 15 39 14.2 -1.7**
GRFO IAmb IAmb 15 39 19.9
comp=Z,14nm,1.0s
GRFO Grafenberg 25.81 305 P **P 15 39 14.2 -1.7**
GRFO pmax pmax
comp=Z,14nm,1.0s
DAVA Damuels 26.32 300 *e*pP pP 15 39 21.4 -0.8
comp=Z,6.7nm,0.8s
TUE Stuetta 26.61 298 P **P 15 39 22.1 -1.4**
TUE Stuetta 26.61 298 P **P 15 39 22.9 -0.5**
comp=Z,32nm,1.5s
KURBB Kurchatov Arra 26.71 53 P **P 15 39 24.8 +0.8**
comp=Z,2.5nm,0.6s,baz=264,slow=9.1,SNR=23
KURBB LR LR 15 51 23.0
comp=Z,94nm,19.6s,baz=190,slow=40
comp=Z,2.5nm,0.6s
KURK Kurchatov 26.79 53 P **P 15 39 24.3 -0.4**
KURK IAmb IAmb 15 39 32.8
comp=Z,5.6nm,0.9s
KURK Kurchatov 26.79 53⇑ *i*P **P 15 39 25.4 +0.7**
KURK pmax pmax
comp=Z,4.0nm,1.0s
KEST Kesra 27.89 274 P **P 15 39 35.2 +0.4**
comp=Z,3.3nm,0.8s,baz=357,slow=10,SNR=4.5
KEST LR LR 15 52 28.5
comp=Z,167nm,19.6s,baz=268,slow=40
comp=Z,3.3nm,0.8s
HFS Hagfors 28.63 328 P **P 15 39 40.5 -0.5**
comp=Z,4.7nm,0.8s,baz=140,slow=9.4,SNR=6.6
HFS LR LR 15 51 36.3
comp=Z,97nm,18.9s,baz=122,slow=38
comp=Z,4.7nm,0.8s
MK31 Makanchi Array 28.70 62⇑ *e*P **P 15 39 42.5 +0.6**
MKAR Makanchi Array 28.70 62 P **P 15 39 42.7 +0.8**
comp=Z,1.0nm,0.9s,baz=259,slow=9.1,SNR=6.8
MKAR LR LR 15 53 03.4
comp=Z,97nm,18.0s,baz=264,slow=40
comp=Z,1.0nm,0.9s
NOA NORSAR Array B 30.15 328 P **P 15 39 53.4 -1.2**
comp=Z,0.6nm,0.7s,baz=122,slow=8.4,SNR=2.1
NOA LR LR 15 53 10.2
comp=Z,106nm,19.4s,baz=125,slow=39
comp=Z,0.6nm,0.7s
FURI Furi 30.33 191 LR LR 15 51 20.4
comp=Z,134nm,18.3s,baz=7.0,slow=35
ZALV Zalesovo Beam 31.20 48 P **P 15 40 03.9 -0.1**
comp=Z,0.6nm,0.5s,baz=278,slow=10.0,SNR=1.9
ZALV LR LR 15 55 08.3
comp=Z,102nm,18.7s,baz=248,slow=41
comp=Z,0.6nm,0.5s
ARCES ARCESS Array B 32.28 348 P **P 15 40 11.3 -1.9**
comp=Z,2.0nm,0.8s,baz=167,slow=7.8,SNR=6.2
comp=Z,2.0nm,0.8s
WMQ Urumqi 32.64 67 *e*P **P 15 40 18.3 +1.6**
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ LR LR
comp=Z,60nm,18.9s
EKA Eskdalemuir Ar 35.43 313 P **P 15 40 40.1 -0.7**
comp=Z,5.0nm,0.7s,baz=102,slow=8.6,SNR=10
comp=Z,5.0nm,0.7s
EVN Everest 36.82 94 IAmb IAmb 15 40 59.2
comp=Z,11nm,1.3s
ESDC Sonseca Array 37.01 287 P **P 15 40 53.4 -1.1**
comp=Z,1.4nm,0.6s,baz=66,slow=8.5,SNR=25
ESDC LR LR 15 57 35.3
comp=Z,32nm,18.2s,baz=103,slow=39
comp=Z,1.4nm,0.6s
MTE Manteigas 39.48 289 IAmb IAmb 15 41 54.3
comp=Z,14nm,1.2s
SONM Songino Array 44.89 58 LR LR 16 03 59.9
comp=Z,74nm,18.5s,baz=5.0,slow=40
ULN Ulaanbaatar 45.31 57 P **P 15 42 02.9 +0.1**
ULN IAmb IAmb 15 42 06.7
comp=Z,8.6nm,1.1s
ULN Ulaanbaatar 45.31 57⇓ *i*P **P 15 42 04.4 +1.5**
ULN pmax pmax
comp=Z,9.0nm,1.1s
TORD Torodi Ar. Bea 45.53 248 P **P 15 42 03.5 -1.3**
comp=Z,1.8nm,1.2s,baz=43,slow=11,SNR=5.8
comp=Z,1.8nm,1.2s
PZH PanZhiHua 49.15 87 P **P 15 42 33.8 +0.8**
HHC Hu-ho-hao-te 50.47 65 *e*P **P 15 42 42.0 -0.8**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,100nm,4.5s
CHTO Chiang Mai 51.08 97 P **P 15 42 45.6 -2.0**
CHTO IAmb IAmb 15 42 49.7
comp=Z,3.5nm,0.8s
CHTO Chiang Mai 51.08 97 P **P 15 42 45.6 -2.0**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
XAN Xi'an 51.21 74 P **P 15 42 49.0 +0.5**
XAN pmax pmax
comp=Z,18nm,0.9s
SUMG Summit 51.22 337 P **P 15 42 48.1 -0.3**
SUMG Summit 51.22 337 P **P 15 42 48.1 -0.3**
SUMG pmax pmax
comp=Z,12nm,1.2s
CMAR Chiang Mai Arr 51.28 97 P **P 15 42 48.7 -0.5**
CMAR Chiang Mai Arr 51.28 97 P **P 15 42 49.2 +0.1**
comp=Z,2.7nm,0.8s,baz=300,slow=7.6,SNR=15
CMAR LR LR 16 07 18.7
comp=Z,34nm,18.1s,baz=300,slow=39
comp=Z,2.7nm,0.8s
SLVN Son La 53.53 91 P **P 15 43 05.2 -0.6**
YAK Yakutsk 54.44 35 LR LR 16 11 31.8
comp=Z,65nm,18.5s,baz=290,slow=42
YAK Yakutsk 54.44 35⇓ *e*P **P 15 43 15.5 +3.7**
YAK pmax pmax
comp=Z,47nm,2.7s
DBIC Dimbokro 54.64 247 P **P 15 43 14.6 +0.7**
comp=Z,2.6nm,0.8s,baz=53,slow=5.1,SNR=1.5
comp=Z,2.6nm,0.8s
LSZ Lusaka 55.99 199 LR LR 16 06 36.5
comp=Z,46nm,20.9s,baz=338,slow=35
HEH HeiHe 57.32 49 *e*P **P 15 43 33.3 +0.6**
HEH pmax pmax
comp=Z,7.0nm,1.1s
KSRS Korea Array 63.38 62 P **P 15 44 14.0 -0.3**
comp=Z,1.0nm,0.8s,baz=284,slow=6.8,SNR=5.0
comp=Z,1.0nm,0.8s
BOSA Boshof 69.51 198 P **P 15 44 53.3 -0.3**
comp=Z,2.2nm,0.8s,baz=66,slow=4.5,SNR=3.8
comp=Z,2.2nm,0.8s
MJAR Matsushiro Arr 70.83 58 LR LR 16 18 29.7
comp=Z,68nm,18.1s,baz=298,slow=38

IDC ***14*** *15:51:36.1±2.1,33°.88N×37°.64W,h0km,mb3.6/8, mbtmp3.6/8,MS3.6/9, Error ellipse: s-maj=62.2km s-min=28.9km az=17.0*

ISC 14 15:51:38.1±1.7,33°.8N±0°.4×37°.6W±0°.2,h13km,n22, σ0ᵗ68/8,mb3.7/7,MS3.5/9,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBTS	**Babate**			**27.01 130**	LR	LR	16 06 32.6
	comp=Z,93nm,19.0s,baz=268,slow=33						
MDT	**Midelt**			**27.56 83**	LR	LR	16 06 10.9
	comp=Z,52nm,18.7s,baz=278,slow=32						
SCHQ	**Schefferville**			**29.25 325**	LR	LR	16 08 41.7
	comp=Z,797nm,20.1s,baz=116,slow=35						
MDP	**Montagnes des**			**31.81 209**	LR	LR	16 07 23.3
	comp=Z,29nm,20.4s,baz=326,slow=30						
SADO	**Sadowa**			**33.59 301**	LR	LR	16 10 08.3
	comp=Z,571nm,21.0s,baz=191,slow=33						
TKL	**Tuckaleechee C**			**37.68 286**	LR	LR	16 11 42.3
	comp=Z,67nm,19.0s,baz=60,slow=32						
GERES	**GERESS Array B**			**40.58 52**	P	**P**	**15 59 17.8 +0.5**
	0.7nm,0.7s,baz=274,slow=7.5,SNR=5.0						
	0.7nm,0.7s						
DBIC	**Dimbokro**			**40.62 124**	LR	LR	16 14 08.9
	comp=Z,76nm,20.5s,baz=353,slow=33						
TORD	**Torodi Ar. Bea**			**41.20 110**	P	**P**	**15 59 22.5 -0.2**
	0.3nm,0.7s,baz=313,slow=7.3,SNR=3.3						
	0.3nm,0.7s						
ULM	**Lac du Bonnet**			**45.07 310**	LR	LR	16 18 40.7

comp=Z,70nm,18.6s,baz=74,slow=36
H10N2 ASCENSION HYDR 46.90 148 T T 16 50 02.5
baz=333,slow=76
H10N3 ASCENSION HYDR 46.90 148 T T 16 50 02.8
baz=333,slow=76
H10N1 ASCENSION HYDR 46.92 148 T T 16 50 04.6
baz=333,slow=76
H10S3 ASCENSION HYDR 47.82 149 T T 16 51 15.4
baz=333,slow=74,SNR=54
H10S2 ASCENSION HYDR 47.84 149 T T 16 51 16.8
baz=247,slow=74,SNR=42
JTS Las Juntas de 49.17 253 LR LR 16 21 16.0
comp=Z,12nm,18.1s,baz=55,slow=36
PDAR Pinedale Array 55.58 302 P **P 16 01 14.4 +0.7**
0.2nm,0.4s,baz=57,slow=7.6,SNR=2.2
0.2nm,0.4s
BRTR Keskin Array B 56.03 62 P **P 16 01 17.2 +0.5**
0.9nm,0.9s,baz=282,slow=7.2,SNR=4.0
0.9nm,0.9s
ILAR Eielson Array 67.47 334 P **P 16 02 32.5 -0.8**
0.2nm,0.6s,baz=58,slow=7.2,SNR=2.0
0.2nm,0.6s
KURBB Kurchatov Arra 78.85 36 P **P 16 03 40.2 -0.5**
1.4nm,0.7s,baz=311,slow=5.9,SNR=14
1.4nm,0.7s
ZALV Zalesovo Beam 79.46 30 P **P 16 03 43.6 -0.4**
0.5nm,0.6s,baz=296,slow=4.6,SNR=1.9
0.5nm,0.6s
MKAR Makanchi Array 83.26 37 P **P 16 04 04.0 -0.4**
0.8nm,0.9s,baz=323,slow=3.8,SNR=4.1
0.8nm,0.9s

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*IDC **14** 15:51:43.9±1.1,22°.89N×124°.28E,h0km,mb3.5/5, mbtmp3.5/8, ML3.1/3, Error ellipse: s-maj=33.5km s-min=21.3km az=75.0*

*JMA **14** 15:51:46.4±0.4,23°.N±2°×12°.4E±°, h68km, MV3.2/17, FAR S OFF ISHIGAKIJIMA*

ISC 14 15:51:46.3±2.1,22°.9N±0'.1×124°.29E±0'.06, h49km±30km, n29,σ1°23/33, mb3.3/5, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.27**	**339**	*e*S	**Sn**	**15 52 22.4**	**-1.2**
JKRS	**Kuro-shima**	**1.40**	**349**	P	**Pn**	**15 52 09.8**	**+0.4**
JKRS				S	**Sn**	**15 52 26.5**	**-0.1**
JIJ	**Ishigaki jima**	**1.50**	**355**	P	**Pn**	**15 52 10.7**	**-0.2**
JIJ				*e*S	**Sn**	**15 52 27.8**	**-1.5**
IRIF	**Iriomote-Funau**	**1.56**	**341**	P	**Pn**	**15 52 12.2**	**+0.6**
IRIF				*e*S	**Sn**	**15 52 30.1**	**-0.4**
JISG	**Ishigakijimahi**	**1.72**	**1**	P	**Pn**	**15 52 13.6**	**-0.2**
JISG				S	**Sn**	**15 52 33.6**	**-1.0**
JTJ	**Tarama**	**1.81**	**12**	P	**Pn**	**15 52 15.2**	**+0.2**
JTJ				*e*S	**Sn**	**15 52 37.3**	**+0.4**
YOJ	**Yonaguni jima**	**1.98**	**324**	P	**Pn**	**15 52 18.8**	**+1.4**
YOJ	**Yonaguni jima**	**1.98**	**324**	*e*S	**Sn**	**15 52 40.4**	**-0.6**
JYNG	**Yonagunijimaku**	**2.01**	**322**	*e*P	**Pn**	**15 52 17.2**	**-0.5**
JYNG				*e*S	**Sn**	**15 52 41.2**	**-0.5**
JMJ2	**Miyako jima3**	**2.10**	**27**	P	**Pn**	**15 52 19.5**	**+0.5**
JMJ2				*e*S	**Sn**	**15 52 44.0**	**+0.1**
JIRB	**Irabujima**	**2.12**	**22**	P	**Pn**	**15 52 19.1**	**-0.2**
JOGS	**Gusukube**	**2.15**	**28**	P	**Pn**	**15 52 20.3**	**+0.7**
JOGS				S	**Sn**	**15 52 45.9**	**+0.8**
JMJ	**Miyako jima 2**	**2.15**	**25**	P	**Pn**	**15 52 19.5**	**-0.2**
JIKM	**Ikemajima**	**2.23**	**23**	*e*P	**Pn**	**15 52 21.4**	**+0.5**
NACB	**Ninganchiao**	**2.80**	**298**	P	**Pn**	**15 52 28.8**	**+0.2**
YULB	**Yu-li**	**2.81**	**281**	P	**Pn**	**15 52 28.0**	**-0.7**
TWGBT	**Beinan**	**2.96**	**270**	P	**Pn**	**15 52 30.2**	**-0.7**
SSLB	**Suanglung**	**3.21**	**287**	P	**Pn**	**15 52 34.4**	**+0.2**
YHNB	**Yeheng**	**3.22**	**305**	P	**Pn**	**15 52 35.7**	**+1.2**
TPUB	**Ta-pu**	**3.40**	**278**	P	**Pn**	**15 52 38.0**	**+1.1**
JOW	**Kunigami**	**5.36**	**42**	Pn	**Pn**	**15 53 03.5**	**-0.3**
	3.5nm,0.3s,baz=141,slow=21,SNR=8.8						
JOW				Sn	**Sn**	**15 54 01.3**	**-2.9**
	baz=144,slow=19 11nm,0.4s						
JOW	**Kunigami**	**5.36**	**42**	P	**Pn**	**15 53 03.7**	**0.0**
KSRS	**Korea Array**	**14.88**	**11**	Pn	**P**	**15 55 16.2**	**-2.1**
	0.1nm,0.3s,baz=187,slow=12,SNR=2.2 0.6nm,0.7s						
MJAR	**Matsushiro Arr**	**18.19**	**38**	P	**Pn**	**15 55 59.4**	**+4.1**
	baz=230,slow=8.6,SNR=9.2 2.3nm,0.9s						
MKAR	**Makanchi Array**	**41.27**	**316**	P	P	15 59 31.0	+4.2
	1.1nm,0.7s,baz=111,slow=9.3,SNR=11 1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**42.91**	**327**	P	P	15 59 43.1	+3.1
	0.8nm,0.7s,baz=104,slow=6.1,SNR=4.0 0.8nm,0.7s						
WRA	**Warramunga Arr**	**43.66**	**166**	P	P	15 59 50.3	+3.9
	0.4nm,0.9s,baz=344,slow=8.6,SNR=2.3 0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**44.96**	**320**	P	P	16 00 00.3	+3.9
	0.3nm,0.6s,baz=108,slow=8.4,SNR=2.4 0.3nm,0.6s						
ASAR	**Alice Springs**	**47.18**	**168**	P	P	16 00 19.0	+4.8
	0.2nm,0.7s,baz=345,slow=8.5,SNR=4.0 0.2nm,0.7s						

IDC 14 15:57:44.7±1.5,21°.36N×144°.87E,h0km,mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=57.3km s-min=26.9km az=87.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11N1	**WAKE ISLAND Hy**	**20.68**	**91**	T	T	16 23 19.4	
	baz=280						
H11N2	**WAKE ISLAND Hy**	**20.69**	**91**	T	T	16 23 26.0	
	baz=280						
H11N3	**WAKE ISLAND Hy**	**20.70**	**91**	T	T	16 23 27.4	
	baz=280						
H11S3	**WAKE ISLAND Hy**	**20.70**	**94**	T	T	16 23 15.4	
	baz=286						
H11S1	**WAKE ISLAND Hy**	**20.71**	**94**	T	T	16 23 20.3	
	baz=286						
H11S2	**WAKE ISLAND Hy**	**20.72**	**94**	T	T	16 23 15.8	
	baz=286						
WRA	**Warramunga Arr**	**42.33**	**195**	P	P	16 05 40.0	-0.6
	0.2nm,0.4s,baz=16,slow=8.2,SNR=1.9 0.2nm,0.4s						
ASAR	**Alice Springs**	**46.02**	**194**	P	P	16 06 10.3	+0.2
	0.7nm,1.1s,baz=15,slow=7.1,SNR=4.5 0.7nm,1.1s						
MKAR	**Makanchi Array**	**56.08**	**313**	P	P	16 07 25.9	+0.2
	0.1nm,0.3s,baz=84,slow=8.9,SNR=1.3 0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**58.84**	**317**	P	P	16 07 44.7	-0.3
	0.3nm,0.6s,baz=91,slow=7.5,SNR=4.6 0.3nm,0.6s						
YKA	**Yellowknife Ar**	**76.01**	**28**	P	P	16 09 33.7	+0.2
	0.3nm,0.4s,baz=282,slow=7.4,SNR=2.7 0.3nm,0.4s						

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*BJI **14** 16:21:20.5, 1°.61S×128°.97E, h10km, mB6.0/89, mb5.5/95, Ms5.8/99, Ms7 5.5/99*

*MOS **14** 16:21:26.7±0.9, 0°.92S×128°.50E, h10km, mb5.9/66, MS5.4/38, Error ellipse: s-maj=7.1km s-min=4.3km az=114.3*

*NEIC **14** 16:21:27.6±1.7, 0°.98S±0°.06×128°.54E±0°.06, h4km±2km, mb5.8/377, Ms_20 5.6/947, Mwb5.8/47, Mww5.8/29, Error ellipse: s-maj=9.4km s-min=7.3km az=225.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}5.58; $M_{\theta\theta}$-4.49; $M_{\phi\phi}$-1.09; $M_{r\theta}$1.57; $M_{r\phi}$3.76; $M_{\theta\phi}$3.42; Fault plane solution: $M_0$7.38000×10^{17} NP1: ϕ_s329.80000°, δ54.81000°, λ127.72000°. NP2: ϕ_s96.49000°, δ49.72000°, λ49.05000°. Principal axes: T 7.7590, Plg60.0000°, Azm299.0000°; N -0.8191, Plg30.0000°, Azm126.0000°; P -6.9399, Plg3.0000°, Azm34.0000°;*

*IDC **14** 16:21:27.2±0.3, 0°.91S×128°.45E, h0km, mb5.6/37, mbtmp5.6/40, ML4.8/3, MS5.3/48 Error ellipse: s-maj=13.9km s-min=9.5km az=70.0*

*NEIC **14** 16:21:28.5, 0°.97S×128°.58E, h12km*

*NEIC **14** 16:21:28.5, 0°.97S×128°.58E, h12km, Moment Tensor Solution. Duration: 4s0 Moment tensor: Scale 10^{17}Nm; M_{rr}4.88; $M_{\theta\theta}$-2.53; $M_{\phi\phi}$-2.36; $M_{r\theta}$0.90; $M_{\theta\phi}$4.12; $M_{r\phi}$-1.24; Fault plane solution: $M_0$6.10000×10^{17} NP1: ϕ_s309.78000°, δ37.77000°, λ83.18000°. NP2: ϕ_s138.38000°, δ52.55000°, λ95.26000°. Principal axes: T 5.0999, Plg81.0000°, Azm74.0000°; N 1.6554, Plg4.0000°, Azm315.0000°; P -6.7553, Plg7.0000°, Azm225.0000°;*

*NEIC **14** 16:21:28.5, 0°.97S×128°.55E, h10km*

*IPGP **14** 16:21:29.0, 0°.97S×128°.55E, h9km, Mw5.9, Fault plane solution: NP1:ϕ_s105.00000°, δ50.00000°, λ46.00000°. NP2:ϕ_s342.00000°, δ57.00000°, λ130.00000°.*

*DJA **14** 16:21:31.2±0.2, 1°.S±1°×12°.9E±°, h28km±2km, M6.0/155, mb6.0/155, mB6.4/133, MLv6.2/25, Mw(mB)6.1/133, MwMwp5.8/114, Mwp5.9/114*

*GCMT **14** 16:21:31.6±0.1, 0°.94S×128°.57E, h12km, MW5.9/169, Moment Tensor Solution. s153,c317; s169,c503; Duration: 2s1 Moment tensor: Scale 10^{17}Nm; M_{rr}4.90±.04; $M_{\theta\theta}$-3.25±.04; $M_{\phi\phi}$-1.64±.04; $M_{r\theta}$0.45±.12; $M_{\theta\phi}$5.79±.04; $M_{r\phi}$3.00±.12; Best double couple: $M_0$7.71400×10^{17} NP1:ϕ_s99.00000°, δ49.00000°, λ40.00000°. NP2:ϕ_s341.00000°, δ61.00000°, λ131.00000°. Principal axes: T 6.9310, Plg54.0000°, Azm303.0000°; N 1.5760, Plg35.0000°, Azm138.0000°; P -8.4970, Plg7.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 14 16:21:28.9±0.3, 1°.00S±0°.02×128°.52E±0°.03, h15km±1km, h15km:pP-P, n2037,σ1°89/1850, mb5.8/360, MS5.6/555, 134C-44D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.11**	**327**		**Pn**	**16 22 03.8**	**+0.2**
TNTI	**Ternate**	**2.11**	**327**	P	**Pb**	**16 22 05.6**	**-1.2**
TNTI	**Ternate**	**2.11**	**327**	P	**Pn**	**16 22 03.6**	**0.0**
TNTI	**Ternate**	**2.11**	**327**	⇑P	**Pn**	**16 22 03.3**	**-0.4**
MSAI	**Masohi**	**2.37**	**170**	P	**Pb**	**16 22 09.6**	**-1.7**
NLAI	**Namlea**	**2.64**	**213**	P	**Pn**	**16 22 12.4**	**+1.4**
AAI	**Ambon**	**2.69**	**187**	P	**Pn**	**16 22 14.0**	**+2.3**
SWI	**Sorong**	**2.74**	**87**	P	**Pn**	**16 22 11.0**	**-1.3**
SANI	**Sanana**	**2.74**	**248**	S	**Sn**	**16 22 45.1**	**-0.2**
SANI				P	**Pn**	**16 22 11.9**	**-0.5**
SANI	**Sanana**	**2.74**	**248**	P	**Pn**	**16 22 13.2**	**+0.8**
SANI	**Sanana**	**2.74**	**248**	S	**Sb**	**16 22 48.8**	**-2.3**
SANI	**Sanana**	**2.74**	**248**	P	**Pn**	**16 22 12.4**	**0.0**
SANI	**Sanana**	**2.74**	**248**	⇑P	**Pn**	**16 22 12.4**	**0.0**
BNDI	**Bandanaira**	**3.76**	**159**	P	**Pn**	**16 22 29.6**	**+3.2**
BNDI	**Bandanaira**	**3.76**	**159**	P	**Pn**	**16 22 28.4**	**+2.0**
BNDI	**Bandanaira**	**3.76**	**159**	⇑P	**Pn**	**16 22 27.8**	**+1.4**
FAKI	**Fak Fak**	**4.18**	**117**		**Pn**	**16 22 31.3**	**-1.0**
FAKI	**Fak Fak**	**4.18**	**117**	P	**Pn**	**16 22 31.9**	**-0.3**
FAKI	**Fak Fak**	**4.18**	**117**	S	**Sn**	**16 23 24.5**	**+3.6**
FAKI	**Fak Fak**	**4.18**	**117**	P	**Pn**	**16 22 31.6**	**-0.6**
FAKI	**Fak Fak**	**4.18**	**117**	⇑P	**Pn**	**16 22 31.4**	**-0.8**
KMSI	**Cibinong**	**4.80**	**289**	P	**Pn**	**16 22 41.6**	**+0.8**
SGSI	**Sangihe**	**5.53**	**327**	P	**Pn**	**16 22 51.6**	**+0.8**
	14nm34μm2μm,0.8s						
RKPI	**Ransiki, Papua**	**5.67**	**95**	P	**Pn**	**16 22 51.7**	**-1.0**
	21nm50μm29μm3μm,0.9s						
LUWI	**Luwuk**	**5.75**	**270**	S	**Sn**	**16 23 56.8**	**-2.8**
LUWI				P	**Pn**	**16 22 49.4**	**-4.4**
LUWI	**Luwuk**	**5.75**	**270**		**Pn**	**16 22 54.2**	**+0.4**
LUWI	**Luwuk**	**5.75**	**270**	P	**Pn**	**16 22 54.9**	**+1.1**
LUWI	**Luwuk**	**5.75**	**270**	P	**Pn**	**16 22 54.4**	**+0.6**
LUWI	**Luwuk**	**5.75**	**270**	⇑P	**Pn**	**16 22 54.4**	**+0.6**
KMPI	**Kaimana, Papua**	**5.81**	**117**	P	**Pn**	**16 22 53.7**	**-0.9**
KDI	**Kendari**	**6.59**	**243**	P	**Pn**	**16 23 08.2**	**+2.9**
MRSI	**Marisa**	**6.75**	**283**	P	**Pn**	**16 23 06.9**	**-0.6**
	6.9nm45μm21μm2μm,0.9s						
APSI	**Ampana**	**6.88**	**271**	P	**Pn**	**16 23 10.7**	**+1.5**
BBSI	**Bau Bau**	**7.43**	**233**	P	**Pn**	**16 23 21.5**	**+4.6**
SAUI	**Saumlaki**	**7.47**	**158**		**Pn**	**16 23 17.3**	**-0.1**
SAUI	**Saumlaki**	**7.47**	**158**	P	**Pn**	**16 23 19.4**	**+2.0**
SAUI	**Saumlaki**	**7.47**	**158**	P	**Pn**	**16 23 18.5**	**+1.1**
	11nm21μm2μm,0.8s						
SAUI	**Saumlaki**	**7.47**	**158**	⇑P	**Pn**	**16 23 19.4**	**+2.0**
BAKI	**Biak**	**7.58**	**92**	P	**Pn**	**16 23 19.9**	**+0.9**
	3.6nm38μm554nm,1.1s						
SRPI	**Serui, Papua**	**7.76**	**96**	P	**Pn**	**16 23 23.1**	**+1.7**
	250nm,0.8s						
TOLI2	**Tolitoli**	**8.02**	**285**		**Pn**	**16 23 25.2**	**+0.3**
TOLI2	**Tolitoli**	**8.02**	**285**	P	**Pn**	**16 23 26.8**	**+1.8**
TOLI2	**Tolitoli**	**8.02**	**285**	S	**Sn**	**16 24 59.0**	**+3.5**
DAV	**Davao City (W)**	**8.54**	**340**		**Pn**	**16 23 32.0**	**-0.1**
DAV	**Davao City (W)**	**8.54**	**340**	Pn	**Pn**	**16 23 32.7**	**+0.6**
	28nm,0.3s,baz=182,slow=6.9,SNR=4.6 138nm,0.7s						
DAV	**Davao City (W)**	**8.54**	**340**	P	**Pn**	**16 23 33.0**	**+0.9**
DAV	**Davao City (W)**	**8.54**	**340**	P	**Pn**	**16 23 32.0**	**-0.1**
PCI	**Palu**	**8.69**	**271**	P	**Pn**	**16 23 35.2**	**+1.0**
MPSI	**Mapaga**	**8.73**	**279**	P	**Pn**	**16 23 36.4**	**+1.7**
TTSI	**Tana Toraja**	**8.93**	**257**	P	**Pn**	**16 23 39.1**	**+1.6**
	49μm24μm2μm,0.9s						
BNSI	**Bone**	**9.06**	**248**	P	**Pn**	**16 23 41.6**	**+2.3**
SPSI	**Sidrap Palu**	**9.23**	**251**	P	**Pn**	**16 23 44.0**	**+2.4**
BKSI	**Bulukumba**	**9.42**	**243**	P	**Pn**	**16 23 47.6**	**+3.4**
BSSI	**Bau Bau, Buton**	**9.51**	**237**	P	**Pn**	**16 23 49.5**	**+4.1**
KAPI	**Kappang**	**9.62**	**245**		**Pn**	**16 23 51.0**	**+4.0**
KAPI	**Kappang**	**9.62**	**245**	Pn	**Pn**	**16 23 49.8**	**+2.8**
	70nm,0.3s,baz=60,slow=8.7,SNR=247						
KAPI				Sn	**Sn**	**16 25 37.3**	**+2.3**
	10nm,0.3s,baz=23,slow=23,SNR=1.4						
KAPI				LR	LR	16 27 24.4	
	comp=Z,54μm,21.3s,baz=76,slow=37						
KAPI	**Kappang**	**9.62**	**245**	P	**Pn**	**16 23 51.4**	**+4.4**
KAPI				P	**Pn**	**16 23 51.4**	**+4.4**
KAPI				P	**Pn**	**16 23 51.4**	**+4.4**
KAPI				S	**Sn**	**16 25 41.4**	**+6.5**
KAPI				S	**Sn**	**16 25 41.4**	**+6.5**
KAPI				S	**Sn**	**16 25 41.4**	**+6.5**
KAPI	**Kappang**	**9.62**	**245**	P	**Pn**	**16 23 49.8**	**+2.8**
KAPI	**Kappang**	**9.62**	**245**	S	**Sn**	**16 25 39.7**	**+4.7**
KAPI	**Kappang**	**9.62**	**245**	*e*P	**Pn**	**16 23 50.5**	**+3.5**
KAPI	**Kappang**	**9.62**	**245**	⇑P	**Pn**	**16 23 50.6**	**+3.5**
SOEI	**Soe**	**9.68**	**206**	P	**Pn**	**16 23 47.0**	**-0.8**
SOEI				S	**Sn**	**16 25 41.0**	**+4.6**
SOEI	**Soe**	**9.68**	**206**		**Pn**	**16 23 52.0**	**+4.2**
SOEI	**Soe**	**9.68**	**206**	P	**Pn**	**16 23 49.8**	**+2.0**
SOEI	**Soe**	**9.68**	**206**	P	**Pn**	**16 23 52.3**	**+4.5**
	24μm919nm,1.4s						
SOEI	**Soe**	**9.68**	**206**	⇓P	**Pn**	16 23 53.0	+5.2
MMRI	**Maumere**	**9.84**	**219**		**Pn**	**16 23 53.9**	**+4.0**
MMRI	**Maumere**	**9.84**	**219**	P	**Pn**	**16 23 53.4**	**+3.5**
MMRI	**Maumere**	**9.84**	**219**	P	**Pn**	**16 23 53.5**	**+3.5**
	57μm16μm876nm,1.4s						
MMRI	**Maumere**	**9.84**	**219**	⇓P	**Pn**	**16 23 54.0**	**+4.1**
SMPI	**Sarmi**	**10.23**	**96**	P	**Pn**	**16 23 56.0**	**+0.7**
	28μm354nm,1.0s						
EDFI	**Ende, Flores**	**10.28**	**221**	P	**Pn**	**16 24 00.2**	**+4.2**
	57μm11μm594nm,1.3s						
BATI	**Baumata**	**10.35**	**208**	Pn	**Pn**	**16 24 01.3**	**+4.4**
	20nm,0.3s,baz=47,slow=1.0,SNR=28						
BATI				LR	LR	16 28 07.2	
	comp=Z,46μm,20.9s,baz=32,slow=38						
BATI	**Baumata**	**10.35**	**208**	P	**Pn**	**16 24 01.2**	**+4.3**
	57μm10μm534nm,1.0s						
SMKI	**Samarinda**	**11.33**	**273**	P	**Pn**	**16 24 12.7**	**+2.3**
	26μm17μm1μm,1.0s						
DRS	**Darwin Rock St**	**11.60**	**168**	P	**Pn**	**16 24 15.5**	**+1.4**
BKB	**Balikpapan**	**11.63**	**269**		**Pn**	**16 24 16.4**	**+1.9**
BKB	**Balikpapan**	**11.63**	**269**	P	**Pn**	**16 24 16.4**	**+1.9**
BKB	**Balikpapan**	**11.63**	**269**	P	**Pn**	**16 24 16.1**	**+1.6**
BKB	**Balikpapan**	**11.63**	**269**	⇑P	**Pn**	**16 24 16.5**	**+1.9**
GENI	**Genyem**	**11.74**	**98**	P	**Pn**	**16 24 17.7**	**+1.6**
GENI	**Genyem**	**11.74**	**98**	P	**Pn**	**16 24 16.6**	**+0.5**
	25μm15μm953nm,1.9s						
GENI	**Genyem**	**11.74**	**98**	⇓P	**Pn**	**16 24 16.5**	**+0.4**
MYLDM	**Lahad Datu**	**11.74**	**302**		**Pn**	**16 24 18.4**	**+2.0**
MYLDM	**Lahad Datu**	**11.74**	**302**	P	**Pn**	**16 24 18.9**	**+2.8**
MYLDM	**Lahad Datu**	**11.74**	**302**	⇑P	**Pn**	**16 24 17.9**	**+1.9**
WSI	**Waingapu**	**11.88**	**223**	P	**Pn**	**16 24 22.3**	**+4.4**
	48μm1μm,1.2s						
MTN	**Manton Dam**	**12.05**	**168**	P	**Pn**	**16 24 20.1**	**-0.1**
	comp=Z,0.0nmcomp=Z,359nm,0.9s						
MTN	**Manton Dam**	**12.05**	**168**		**Pn**	**16 24 19.6**	**-0.6**
MTN	**Manton Dam**	**12.05**	**168**	P	**Pn**	**16 24 20.2**	**0.0**
MTN	**Manton Dam**	**12.05**	**168**	⇓P	**Pn**	**16 24 18.8**	**-1.4**
BASI	**Baing, Sumba**	**12.10**	**220**	P	**Pn**	**16 24 24.1**	**+3.2**
	comp=Z,18μmcomp=Z,911nm,1.0s						
KDU	**Kakadu**	**12.25**	**162**	P	**Pn**	**16 24 20.2**	**-2.8**
KDU	**Kakadu**	**12.25**	**162**	P	**Pn**	**16 24 22.9**	**-0.1**
KDU	**Kakadu**	**12.25**	**162**	⇑P	**Pn**	**16 24 19.8**	**-3.2**
JAY	**Jayapura**	**12.27**	**97**	Pn	**Pn**	**16 24 24.3**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=267,slow=12,SNR=16 comp=Z,87nm,0.9s						
JAY	**Jayapura**	**12.27**	**97**	P	**Pn**	**16 24 22.7**	**-0.6**
	comp=Z,16μmcomp=Z,217nm,1.0s						
WBSI	**Waikabubak, Su**	**12.50**	**226**	P	**Pn**	**16 24 29.8**	**+3.4**
	comp=Z,38μmcomp=Z,17μmcomp=Z,1μm,0.9s						
KBKI	**Kotabaru**	**12.56**	**259**	P	**Pn**	**16 24 29.7**	**+2.5**
PLAI	**Plampang**	**13.23**	**234**	P	**Pn**	**16 24 39.3**	**+2.9**
PLAI	**Plampang**	**13.23**	**234**	P	**Pn**	**16 24 40.8**	**+4.4**
	comp=Z,41μmcomp=Z,1μm,0.8s						
BBKI	**Banjar Baru**	**13.89**	**260**	P	**Pn**	**16 24 48.6**	**+3.2**
	comp=Z,23μmcomp=Z,18μmcomp=Z,970nm,1.8s						
TWSI	**Taliwang, Sumb**	**13.91**	**236**	P	**Pn**	**16 24 49.1**	**+3.4**
	comp=Z,36μmcomp=Z,15μmcomp=Z,1μm,1.0s						
MMPI	**Merauke**	**13.95**	**122**	P	**Pn**	**16 24 47.9**	**+1.7**
	comp=Z,9μmcomp=Z,624nm,0.8s						
KKM	**Kota Kinabalu**	**14.14**	**300**		**Pn**	**16 24 47.8**	**-1.1**
KKM	**Kota Kinabalu**	**14.14**	**300**	P	**Pn**	**16 24 50.2**	**+1.3**
KKM	**Kota Kinabalu**	**14.14**	**300**	⇑P	**Pn**	**16 24 48.4**	**-0.6**
KNRA	**Kununurra**	**14.59**	**179**	P	**Pn**	**16 24 52.7**	**-2.2**
KNRA	**Kununurra**	**14.59**	**179**		**Pn**	**16 24 53.0**	**-2.0**
SRBI	**Singaraja**	**15.01**	**242**	P	**Pn**	**16 25 03.5**	**+2.8**
DNP	**Denpasar**	**15.29**	**240**	P	**P**	**16 25 07.4**	**-1.8**
	comp=Z,2μm,1.4s						
KMMI	**Kalianget**	**15.71**	**247**	P	**Pn**	**16 25 11.9**	**+2.0**
	comp=Z,30μmcomp=Z,15μmcomp=Z,957nm,1.1s						
ABJI	**Asem Bagus**	**15.76**	**244**	P	**P**	**16 25 14.0**	**-0.4**
	comp=Z,20μmcomp=Z,1μm,1.4s						
JAGI	**Jajag, Banyuwa**	**16.12**	**242**	P	**Pn**	**16 25 15.7**	**+0.5**
JAGI	**Jajag, Banyuwa**	**16.12**	**242**	P	**Pn**	**16 25 16.9**	**+1.7**
JAGI	**Jajag, Banyuwa**	**16.12**	**242**	P	**P**	**16 25 18.3**	**-0.1**
JAGI	**Jajag, Banyuwa**	**16.12**	**242**	⇑P	**P**	**16 25 17.9**	**-0.6**
BLJI	**Banyuglugur**	**16.32**	**245**	P	**P**	**16 25 20.8**	**+0.2**
	comp=Z,34μmcomp=Z,14μmcomp=Z,1μm,0.9s						
BWJI	**Bawean**	**16.55**	**253**	P	**P**	**16 25 23.5**	**+0.3**
	comp=Z,24μmcomp=Z,21μmcomp=Z,2μm,1.1s						
SBUM	**Sibu**	**16.66**	**282**		**Pn**	**16 25 20.2**	**-1.8**
SBUM	**Sibu**	**16.66**	**282**	P	**Pn**	**16 25 22.2**	**+0.2**
SBUM	**Sibu**	**16.66**	**282**	⇑P	**Pn**	**16 25 21.1**	**-0.9**
GMJI	**Gumukmas**	**16.67**	**244**	P	**P**	**16 25 25.1**	**+0.6**
	comp=Z,23μmcomp=Z,1μm,1.1s						
TGY	**Tagaytay City**	**16.78**	**334**	Pn	**Pn**	**16 25 24.3**	**+0.7**
	comp=Z,6.7nm,0.3s,baz=309,slow=15,SNR=3.4						
TGY				LR	LR	16 32 35.4	
	comp=Z,13μm,18.6s,baz=145,slow=40 comp=Z,255nm,0.9s						
GRJI	**Gresik**	**17.05**	**249**	P	**P**	**16 25 30.8**	**+2.1**
STKI	**Sintang**	**17.08**	**273**	P	**Pn**	**16 25 28.1**	**+0.7**
	comp=Z,20μmcomp=Z,11μmcomp=Z,412nm,1.3s						
FITZ	**Fitzroy Crossi**	**17.23**	**189**		**Pn**	**16 25 26.7**	**-2.5**
FITZ	**Fitzroy Crossi**	**17.23**	**189**	P	**Pn**	**16 25 27.1**	**-2.0**
	comp=Z,44nm,0.6s,baz=22,slow=9.0,SNR=64						
FITZ				S	**Sn**	**16 28 36.7**	**-3.9**
	comp=Z,95nm,1.2s,baz=257,slow=18,SNR=3.4						
FITZ				LR	LR	16 32 35.1	
	comp=Z,7μm,19.5s,baz=12,slow=39						
FITZ	**Fitzroy Crossi**	**17.23**	**189**	P	**P**	**16 25 31.3**	**+0.7**
TBJI	**Tambak Boyo**	**17.61**	**250**	P	**P**	**16 25 36.4**	**+1.5**
	comp=Z,23μmcomp=Z,1μm,1.4s						
NGJI	**Ngawi**	**18.15**	**249**	P	**P**	**16 25 43.6**	**+2.7**
	comp=Z,28μmcomp=Z,544nm,0.9s						
KSM	**Kuching**	**18.38**	**278**	P	**P**	**16 25 43.0**	**-0.4**
KSM				IAmb	IAmb	16 25 51.2	
	comp=Z,984nm,1.2s						
KSM	**Kuching**	**18.38**	**278**	P	**Pn**	**16 25 45.1**	**+1.6**
KSM	**Kuching**	**18.38**	**278**	⇑P	**P**	**16 25 43.2**	**-0.3**
PCJI	**Pacitan**	**18.70**	**247**	P	**Pn**	**16 25 48.5**	**+1.2**
WOJI	**Wonogiri, Jawa**	**18.81**	**248**	P	**Pn**	**16 25 49.5**	**+0.9**
	comp=Z,31μmcomp=Z,17μmcomp=Z,1μm,1.1s						
MANU	**Manus Island**	**18.86**	**93**	P	**P**	**16 25 46.9**	**-1.9**
SMRI	**Semarang**	**19.01**	**251**		**Pn**	**16 25 51.6**	**+0.6**
SMRI				IAmb	IAmb	16 26 00.1	
	comp=Z,774nm,0.9s						
SMRI	**Semarang**	**19.01**	**251**	P	**Pn**	**16 25 53.0**	**+1.9**
SMRI	**Semarang**	**19.01**	**251**	P	**Pn**	**16 25 52.8**	**+1.7**
	comp=Z,28μmcomp=Z,1μm,1.2s						

ASAR Alice Springs 23.13 167 P P 16 26 33.9 -0.8
ASAR Alice Springs 23.13 167 P P 16 26 34.2 -0.5
comp=Z,466nm,0.9s,baz=350,slow=11,SNR=505
ASAR PcP PcP 16 30 24.4 +0.9
comp=Z,19nm,0.9s,baz=347,slow=3.5,SNR=3.9
ASAR S S 16 30 44.1 -1.7
comp=Z,52nm,0.9s,baz=347,slow=22,SNR=7.1
ASAR P3KPbc 16 59 58.6
comp=Z,1.2nm,0.9s,baz=175,slow=4.4,SNR=7.1
comp=Z,466nm,0.9s
CGJI Cibinong 23.45 256 P P 16 26 36.9 -1.1
comp=Z,13µmcomp=Z,9µmcomp=Z,445nm,1.4s
BLSI Bandar Lampung 23.64 259 P P 16 26 42.0 +2.1
comp=Z,15µmcomp=Z,11µmcomp=Z,433nm,1.2s
DLV Lat 23.70 303 P P 16 26 41.2 +0.6
DLV Lat 23.70 303 P P 16 26 41.5 +0.9
DLV Lat 23.70 303 ⇑P P 16 26 41.1 +0.5
PMBI Palembang 23.81 265 P P 16 26 42.5 +1.0
PMBI Palembang 23.81 265 P P 16 26 45.2 +3.6
PMBI Palembang 23.81 265 P P 16 26 45.0 +3.4
comp=Z,16µmcomp=Z,1µm,1.2s
RABL Rabaul 23.82 98 P P 16 26 40.2 -1.5
RABL IAmb IAmb 16 26 49.3
comp=Z,424nm,1.2s
KLI Kotabumi 23.94 260 P P 16 26 44.1 +1.3
comp=Z,21µmcomp=Z,21µmcomp=Z,2µm,1.1s
DSRI Dabo 23.95 271 P P 16 26 43.6 +0.7
comp=Z,14µmcomp=Z,10µmcomp=Z,325nm,1.2s
TPRI Tanjung Pinang 24.07 274 P P 16 26 45.1 +1.1
comp=Z,15µmcomp=Z,20µmcomp=Z,771nm,1.5s
KASI Kota Agung 24.40 259 P P 16 26 47.6 +0.6
comp=Z,11µmcomp=Z,7µmcomp=Z,666nm,1.1s
MDSI Maura Dua 24.56 261 P P 16 26 49.4 +0.9
comp=Z,19µmcomp=Z,14µmcomp=Z,972nm,1.1s
XMI Christmas Isla 24.56 247 P P 16 26 50.5 +2.0
LWLI Liwa 24.75 260 P P 16 26 52.2 +1.9
comp=Z,18µmcomp=Z,16µmcomp=Z,1µm,1.0s
TWGBT Beinan 24.76 343 P P 16 26 51.5 +1.4
TWG Pinlang 24.76 343 P P 16 26 49.0 -1.2
TWG IAmb IAmb 16 26 51.4
comp=Z,186nm,0.9s
BTDF Bukit Timah Da 24.86 275 P P 16 26 53.4 +2.2
LHSI Lahat 25.13 263 P P 16 26 55.2 +1.5
comp=Z,19µmcomp=Z,11µmcomp=Z,561nm,1.1s
YULB Yu-li 25.24 344 P P 16 26 51.9 -2.7
YULB IAmb IAmb 16 27 05.1
comp=Z,159nm,0.9s
YULB Yu-li 25.24 344 P P 16 26 56.5 +2.0
TPUB Ta-pu 25.35 343 P P 16 26 57.2 +1.7
TV1H Townsville Har 25.49 137 P P 16 26 58.6 +1.8
GIRL Giralia 25.61 212 IAmb IAmb 16 27 03.4
comp=Z,187nm,1.1s
CTA Charters Tower 25.70 139 LR LR 16 39 02.6
comp=Z,167nm,20.9s,baz=326,slow=41
CTAO Charters Tower 25.70 139 P P 16 26 58.1 -0.7
CTAO IAmb IAmb 16 27 22.3
comp=Z,155nm,1.1s
CTAO Charters Tower 25.70 139 P P 16 27 01.2 +2.4
CTAO Charters Tower 25.70 139 P P 16 26 58.1 -0.7
CTAO pmax pmax
comp=Z,155nm,1.1s
CTAO Charters Tower 25.70 139 ⇑P P 16 26 59.9 +1.1
SSLB Suanglung 25.71 344 P P 16 27 00.6 +1.8
MNAI Manna 25.75 262 P P 16 26 59.3 0.0
MNAI Manna 25.75 262 P P 16 27 01.1 +1.8
MNAI Manna 25.75 262 P P 16 26 59.6 +0.3
comp=Z,17µmcomp=Z,1µm,1.2s
MNAI Manna 25.75 262 ⇑P P 16 27 00.3 +1.0
YOJ Yonaguni jima 25.87 348 P P 16 26 59.4 -0.8
YOJ Yonaguni jima 25.87 348 P P 16 27 02.8 +2.6
YOJ Yonaguni jima 25.87 348 P P 16 26 59.4 -0.8
YOJ pmax pmax
comp=Z,434nm,1.0s
YOJ Yonaguni jima 25.87 348 ⇑P P 16 27 01.1 +0.9
NACB Ninganchiao 25.91 345 P P 16 26 59.6 -0.9
NACB Ninganchiao 25.91 345 P P 16 27 02.1 +1.5
KSI Kapahiang 26.04 264 P P 16 27 03.1 +1.1
comp=Z,15µmcomp=Z,770nm,1.1s
MASI Maura Aman, Be 26.35 265 P P 16 27 06.3 +1.5
YHNB Yeheng 26.44 345 IAmb IAmb 16 27 09.5
comp=Z,248nm,0.8s
YHNB Yeheng 26.44 345 P P 16 27 06.9 +1.4
TATO Taipei 26.71 346 P P 16 27 05.7 -2.0
TATO Taipei 26.71 346 P P 16 27 08.2 +0.5
TATO Taipei 26.71 346 P P 16 27 09.0 +1.3
HKPS Hong Kong Po S 27.06 330 P P 16 27 10.1 -0.8
HKPS IAmb IAmb 16 27 46.9
comp=Z,192nm,1.2s
HKPS Hong Kong Po S 27.06 330 P P 16 27 12.7 +1.7
HKC Hong Kong Obse 27.06 330 ⇑P P 16 27 12.0 +1.0
QIZ Qiongzhong 27.07 318 P P 16 27 11.8 +0.7
QIZ pP pP 16 27 14.8 -0.9
QIZ S S 16 31 50.3 +1.5
QIZ pmax pmax
comp=Z,110nm,1.8s
QIZ pmax pmax
comp=Z,4µm,6.5s
QIZ LR LR
comp=Z,7µm,13.7s
QIZ LR LR
comp=Z,9µm,16.5s
QIZ LR LR
comp=Z,6µm,17.9s
QIZ Qiongzhong 27.07 318 P P 16 27 12.3 +1.2
KRJI Kerinci 27.07 267 P P 16 27 13.3 +1.9
KNMB Chin-men Tao 27.16 339 P P 16 27 10.8 -0.9
KNMB IAmb IAmb 16 27 21.1
comp=Z,219nm,0.8s
MEEK Meekatharra 27.21 200 P P 16 27 12.6 +0.2
BKNI Bangkinang 27.52 273 P P 16 27 14.5 -0.7
BKNI S S 16 31 56.9 +0.9
BKNI Bangkinang 27.52 273 P P 16 27 15.7 +0.5
BKNI Bangkinang 27.52 273 P P 16 27 17.3 +2.1
BKNI Bangkinang 27.52 273 P P 16 27 16.2 +1.0
comp=Z,10µmcomp=Z,7µmcomp=Z,264nm,1.5s
QZH Quanzhou 27.53 340 ⇑*iP* P 16 27 15.8 +0.7
QZH S S 16 31 56.9 +1.1
QZH pmax pmax
comp=Z,250nm,0.9s
QZH pmax pmax
comp=Z,5µm,10.6s
QZH LR LR
comp=Z,9µm,21.3s
QZH LR LR
comp=Z,6µm,23.4s
QZH LR LR
comp=Z,13µm,24.4s
JOW Kunigami 27.67 360 IAmb IAmb 16 27 19.4
comp=Z,163nm,0.9s
JOW IAMs_20 IAMs_20 16 35 43.4
comp=Z,18µm,22.0s
JOW Kunigami 27.67 360 P P 16 27 17.3 +0.9
comp=Z,135nm,0.8s,baz=175,slow=9.7,SNR=14
JOW LR LR 16 36 17.2
comp=Z,14µm,21.1s,baz=177,slow=32
comp=Z,135nm,0.8s
JOW Kunigami 27.67 360 P P 16 27 18.4 +2.0
JOW Kunigami 27.67 360 ⇑P P 16 27 17.9 +1.5
UBPT Khong Chiam 27.95 306 P P 16 27 17.5 -1.5
UBPT Khong Chiam 27.95 306 ⇑P P 16 27 23.0 +4.0
IPM Ipoh 28.01 281 P P 16 27 20.8 +1.1
IPM Ipoh 28.01 281 ⇑P P 16 27 20.5 +0.8
PDSI Padang 28.06 270 P P 16 27 20.5 +0.4
comp=Z,8µmcomp=Z,5µmcomp=Z,317nm,1.1s
PPI Padang Panjang 28.13 271 P P 16 27 21.1 +0.4
comp=Z,10µmcomp=Z,5µmcomp=Z,214nm,1.6s
GZH Guangzhou 28.14 329 P P 16 27 24.3 +3.7
GZH pP sP 16 27 27.8 +0.8
GZH S S 16 32 17.9 +12
GZH pmax pmax
comp=Z,320nm,1.4s
GZH pmax pmax
comp=Z,3µm,3.5s
GZH LR LR
comp=Z,9µm,18.1s
GZH LR LR
comp=Z,9µm,17.8s
GZH LR LR
comp=Z,10µm,25.2s
KULM Kulim 28.53 283 P P 16 27 24.0 -0.3
KULM Kulim 28.53 283 P P 16 27 25.3 +1.0
KULM Kulim 28.53 283 ⇑P P 16 27 24.8 +0.5
PPSI Pulau Pagai 28.55 266 P P 16 27 24.8 +0.3
comp=Z,6µmcomp=Z,400nm,1.3s

MNSI Mandailing Nat 29.00 273 P P 16 27 28.8 +0.4
comp=Z,6µmcomp=Z,3µmcomp=Z,126nm,0.8s
INKA Innaminka 29.06 157 P P 16 27 28.1 -0.6
SISI Saibi 29.43 269 P P 16 27 32.0 -0.3
comp=Z,5µmcomp=Z,133nm,1.4s
QLP Quilpie 29.59 151 P P 16 27 34.7 +1.2
QLP Quilpie 29.59 151 ⇑P P 16 27 34.3 +0.8
FORT Forrest 29.62 181 P P 16 27 32.1 -1.6
PSI Prapat 29.83 277 P P 16 27 36.6 +0.6
PBSI Pulau Batu 30.26 272 P P 16 27 40.9 +1.3
comp=Z,270nm,1.2s
TSI Tuntungan 30.28 279 P P 16 27 40.0 +0.2
comp=Z,7µmcomp=Z,466nm,1.1s
MORW Morawa 30.35 202 P P 16 27 39.0 -1.2
MORW Morawa 30.35 202 P P 16 27 42.9 +2.7
MORW Morawa 30.35 202 ⇓P P 16 27 40.0 -0.2
SURA Surathani 30.50 290 P P 16 27 43.3 +1.5
GSI Gunungsitoli 31.03 274 P P 16 27 45.0 -1.5
GSI Gunungsitoli 31.03 274 P P 16 27 46.5 0.0
GSI Gunungsitoli 31.03 274 P P 16 27 45.5 -0.9
comp=Z,4µmcomp=Z,229nm,1.1s
GSI Gunungsitoli 31.03 274 ⇑P P 16 27 45.6 -0.9
KCSI Kotacane, Aceh 31.06 278 P P 16 27 46.1 -0.7
comp=Z,3µmcomp=Z,213nm,1.0s
GULI GuiLin 31.50 327 P P 16 27 50.3 -0.1
GULI pmax pmax
comp=Z,55nm,1.5s
GULI LR LR
comp=Z,7µm,17.3s
GULI LR LR
comp=Z,8µm,17.9s
GULI LR LR
comp=Z,8µm,24.4s
BLDU Ballidu 31.52 200 P P 16 27 52.9 +2.4
GD1S Gladstone Soft 31.58 138 P P 16 27 54.5 +3.4
TATA Tatamba Isabel 32.01 104 P P 16 27 57.7 +2.7
LHMI Lhok Sumawe 32.14 281 P P 16 27 57.7 +1.5
LHMI Lhok Sumawe 32.14 281 P P 16 27 57.4 +1.2
comp=Z,8µmcomp=Z,6µmcomp=Z,316nm,0.9s
SAVO Savo Central 32.17 106 P P 16 27 58.8 +2.3
HNR Honiara 32.37 106 P P 16 27 55.5 -2.7
HNR Honiara 32.37 106 P P 16 27 59.0 +0.8
HNR Honiara 32.37 106 P P 16 27 55.5 -2.7
HNR pmax pmax
comp=Z,624nm,1.1s
HNR Honiara 32.37 106 ⇓P P 16 27 57.7 -0.5
SNSI Sinabang, Aceh 32.37 276 P P 16 27 58.3 +0.1
comp=Z,7µmcomp=Z,382nm,1.2s
BBOO Buckleboo 32.43 168 IAmb IAmb 16 28 04.5
comp=Z,109nm,0.9s
BBOO Buckleboo 32.43 168 P P 16 28 00.3 +1.8
MLSI Meulaboh, Aceh 32.52 279 P P 16 27 59.5 -0.1
EIDS Eidsvold 32.57 140 P P 16 27 59.8 -0.1
EIDS IAmb IAmb 16 28 05.4
comp=Z,121nm,1.1s
EIDS Eidsvold 32.57 140 P P 16 28 00.9 +1.0
EIDS Eidsvold 32.57 140 ⇑P P 16 28 00.2 +0.3
CNSH ChangSha 32.65 334 P P 16 28 01.3 +0.9
CNSH S S 16 33 21.3 +5.2
CNSH pmax pmax
comp=Z,72nm,1.5s
CNSH LR LR
comp=Z,6µm,20.6s
CNSH LR LR
comp=Z,8µm,21.3s
CNSH LR LR
comp=Z,6µm,21.4s
SSE Sheshan 32.67 348 P P 16 28 01.6 +1.0
SSE S S 16 33 15.8 -0.6
SSE pmax pmax
comp=Z,69nm,0.9s
SSE pmax pmax
comp=Z,950nm,6.3s
SSE LR LR
comp=Z,3µm,16.7s
SSE LR LR
comp=Z,670nm,16.9s
SLVN Son La 32.74 314 IAmb IAmb 16 28 17.4
comp=Z,141nm,1.1s
SLVN Son La 32.74 314 P P 16 28 02.9 +1.5
MUN Mundaring 32.94 199 P P 16 28 05.2 +2.3
ALEG Aligegeo Malai 32.94 105 P P 16 28 04.6 +1.4
WHYH Whyalla 32.98 166 P P 16 28 05.0 +1.7
STKA Stephens Creek 33.10 159 P P 16 28 04.6 +0.2
STKA Stephens Creek 33.10 159 P P 16 28 05.3 +0.8
comp=Z,62nm,0.9s,baz=332,slow=9.1,SNR=66
comp=Z,62nm,0.9s
STKA Stephens Creek 33.10 159 P P 16 28 05.2 +0.8
NWAO Narrogin (SRO) 33.49 197 P P 16 28 08.1 +0.3
NWAO IAmb IAmb 16 28 12.9
comp=Z,68nm,0.8s
NWAO Narrogin (SRO) 33.49 197 P P 16 28 09.7 +2.0
NWAO Narrogin (SRO) 33.49 197 P P 16 28 08.7 +0.9
NWAO Narrogin (SRO) 33.49 197 P P 16 28 09.3 +1.5
NWAO Narrogin (SRO) 33.49 197 P P 16 28 08.1 +0.3
NWAO pmax pmax
comp=Z,68nm,0.8s
HTT Hallett 33.71 164 P P 16 28 12.3 +2.6
HTT Hallett 33.71 164 ⇑P P 16 28 10.8 +1.0
JNU Nakatsue 34.01 4 IAmb IAmb 16 28 14.9
comp=Z,126nm,1.1s
JNU Nakatsue 34.01 4 P P 16 28 13.8 +1.5
JNU Nakatsue 34.01 4 ⇑P P 16 28 12.6 +0.2
NJ2 Nanjing 34.12 345 ⇑P P 16 28 14.3 +1.0
NJ2 pP sP 16 28 19.4 +0.1
NJ2 PcP PcP 16 30 51.8 +1.3
NJ2 S S 16 33 37.4 -1.5
NJ2 pmax pmax
comp=Z,50nm,1.4s
NJ2 pmax pmax
comp=Z,2µm,6.9s
NJ2 LR LR
comp=Z,5µm,12.8s
NJ2 LR LR
comp=Z,4µm,15.6s
NJ2 LR LR
comp=Z,4µm,14.7s
WHN Wuhan 34.15 338 ⇑P P 16 28 15.0 +1.5
WHN sP sP 16 28 21.3 +1.8
WHN PP PnPn 16 29 26.9 -0.6
WHN S S 16 33 38.8 -0.5
WHN pmax pmax
comp=Z,630nm,1.0s
WHN pmax pmax
comp=Z,8µm,8.2s
WHN LR LR
comp=Z,7µm,14.2s
WHN LR LR
comp=Z,11µm,15.1s
WHN LR LR
comp=Z,18µm,18.3s
CMSA Cobar Meteorol 34.44 154 P P 16 28 17.3 +1.2
GYA Guiyang 34.49 324 ⇑P P 16 28 18.0 +1.3
GYA PP PnPn 16 29 31.8 -0.2
GYA PcP PcP 16 30 53.6 +1.7
GYA S S 16 33 43.8 -1.3
GYA SS SnSn 16 36 03.9 +7.5
GYA pmax pmax
comp=Z,110nm,1.2s
GYA pmax pmax
comp=Z,3µm,9.0s
GYA LR LR
comp=Z,5µm,16.4s
GYA LR LR
comp=Z,5µm,16.9s
GYA LR LR
comp=Z,5µm,21.7s
TW1H Toowoomba 1 Ha 34.67 142 P P 16 28 20.1 +1.9
JMN Monobe 34.91 8 P P 16 28 20.9 +0.8
JMN IAmb IAmb 16 28 24.9
comp=Z,173nm,1.0s
JMN IAMs_20 IAMs_20 16 39 40.8
comp=Z,9µm,21.0s
JMN Monobe 34.91 8 P P 16 28 21.9 +1.8
JMN Monobe 34.91 8 ⇑P P 16 28 21.1 +0.9
CM31 Chiang Mai Arr 34.93 305 IAmb IAmb 16 28 39.4
comp=Z,216nm,1.2s
CM31 Chiang Mai Arr 34.93 305 P P 16 28 21.6 +1.1
SNR=45
CMAR Chiang Mai Arr 34.93 305 P P 16 28 20.4 0.0
CMAR Chiang Mai Arr 34.93 305 P P 16 28 21.1 +0.7
comp=Z,32nm,0.8s,baz=141,slow=8.0,SNR=116
CMAR PcP PcP 16 30 54.9 +1.8
comp=Z,21nm,0.9s,baz=168,slow=2.0,SNR=11
CMAR S S 16 33 50.2 -1.5
comp=Z,0.2nm,0.4s,baz=201,slow=12,SNR=0.7
comp=Z,32nm,0.8s
CMAR Chiang Mai Arr 34.93 305 *ce* P P 16 28 21.6 +1.2
CMAR pmax pmax
comp=Z,36nm,0.8s
GHSS Government Hou 35.03 165 P P 16 28 23.4 +2.3
CHTO Chiang Mai 35.11 306 P P 16 28 22.3 +0.3
CHTO IAmb IAmb 16 28 40.8
comp=Z,184nm,1.1s
CHTO Chiang Mai 35.11 306 P P 16 28 22.7 +0.7
CHTO P P 16 28 22.7 +0.7
CHTO P P 16 28 22.7 +0.7
CHTO Chiang Mai 35.11 306 P P 16 28 23.9 +1.9
CHTO Chiang Mai 35.11 306 P P 16 28 22.3 +0.3
CHTO pmax pmax
comp=Z,184nm,1.1s
CHTO MLR MLR
comp=Z,4µm,18.0s
CHTO Chiang Mai 35.11 306 ⇓P P 16 28 22.6 +0.7
JTU Tsushima 35.35 1 P P 16 28 25.0 +1.2
JTU Tsushima 35.35 1 ⇑P P 16 28 24.4 +0.6
JHJ2 Mitsune 35.56 16 IAMs_20 IAMs_20 16 40 37.9
comp=Z,12µm,20.0s
ENH Enshi 36.00 331 P P 16 28 28.8 -0.8
ENH Enshi 36.00 331 P P 16 28 31.2 +1.6
KMI Kunming 36.02 318 ⇑P P 16 28 31.9 +1.9
KMI sP sP 16 28 44.6 +8.1
KMI S S 16 34 09.8 +1.0
KMI PcS PcS 16 34 42.6 -1.8
KMI pmax pmax
comp=Z,160nm,1.7s
KMI pmax pmax
comp=Z,3µm,8.4s
KMI LR LR
comp=Z,1µm,16.2s
KMI LR LR
comp=Z,5µm,21.9s
KMI LR LR
comp=Z,6µm,16.3s
ARMA Armidale 36.57 145 IAmb IAmb 16 28 41.4
comp=Z,249nm,1.1s
ARMA Armidale 36.57 145 P P 16 28 36.7 +2.2
ARMA Armidale 36.57 145 ⇑P P 16 28 36.1 +1.6
JSG Sagara 36.62 13 IAMs_20 IAMs_20 16 42 28.2
comp=Z,9µm,19.0s
INU Inuyama 37.02 12 P P 16 28 38.3 +0.1
INU IAMs_20 IAMs_20 16 43 37.6
comp=Z,8µm,19.0s
INU Inuyama 37.02 12 P P 16 28 39.3 +1.2
INU Inuyama 37.02 12 ⇑P P 16 28 38.2 +0.1
TJN Taejon 37.20 358 P P 16 28 41.4 +1.8
TJN Taejon 37.20 358 ⇓*iP* P 16 28 40.5 +0.9
TJN pmax pmax
comp=Z,3.0nm,0.9s
JGF Kuroka 37.33 12 P P 16 28 40.6 -0.3
JGF IAmb IAmb 16 28 43.5
comp=Z,202nm,1.1s
JGF Kuroka 37.33 12 P P 16 28 42.3 +1.4
JGF Kuroka 37.33 12 ⇑P P 16 28 40.8 -0.1
PZH PanZhiHua 37.61 319 P P 16 28 44.3 +0.8
PZH pP pP 16 28 48.4 +0.3
PZH PP PnPn 16 30 10.5 +0.1
PZH S S 16 34 34.5 +1.6
PZH SS SnSn 16 37 13.8 +1.9
PZH pmax pmax
comp=Z,110nm,1.1s
PZH pmax pmax
comp=Z,2µm,8.4s
PZH LR LR
comp=Z,4µm,18.6s
PZH LR LR
comp=Z,3µm,19.0s
PZH LR LR
comp=Z,3µm,20.9s
PBA Port Blair 37.71 291 P P 16 28 42.1 -2.1
PBA IAmb IAmb 16 29 03.7
comp=Z,251nm,1.1s
MGBR Mount Gambier 38.20 164 P P 16 28 47.4 -0.6
MGBR IAmb IAmb 16 28 55.0
comp=Z,213nm,1.2s
KSAR Wonju Array Be 38.25 359 P P 16 28 48.3 -0.2
KSAR Wonju Array Be 38.25 359 P P 16 28 48.3 -0.2
KSRS Korea Array 38.27 359 P P 16 28 48.9 +0.3
comp=Z,25nm,0.7s,baz=176,slow=9.5,SNR=116
KSRS PcP PcP 16 31 04.1 +1.4
comp=Z,22nm,1.0s,baz=185,slow=3.7,SNR=9.6
KSRS LR LR 16 43 41.9
comp=Z,3879µm,22.0s,baz=180,slow=35
comp=Z,25nm,0.7s
INCN Inchon 38.33 358 P P 16 28 48.4 -0.8
INCN Inchon 38.33 358 IAMs_20 IAMs_20 16 43 10.3
comp=Z,10µm,20.0s
INCN Inchon 38.33 358 P P 16 28 51.1 +1.9
INCN Inchon 38.33 358 P P 16 28 48.4 -0.8
INCN pmax pmax
comp=Z,69nm,1.3s
INCN MLR MLR
comp=Z,10µm,20.0s
LUES Luesalemba Tem 38.37 106 P P 16 28 52.3 +2.5
MAJO Matsushiro 38.42 13 IAMs_20 IAMs_20 16 42 31.5
comp=Z,10µm,21.0s
MAJO Matsushiro 38.42 13 P P 16 28 49.9 -0.1
MAJO Matsushiro 38.42 13 *c* *iP* P 16 28 49.2 -0.8
MAJO pmax pmax
comp=Z,370nm,0.9s
MAJO Matsushiro 38.42 13 ⇑P P 16 28 49.2 -0.8
MJAR Matsushiro Arr 38.42 13 P P 16 28 49.0 -1.0
MJAR IAmb IAmb 16 28 52.8
comp=Z,229nm,1.0s
MJAR Matsushiro Arr 38.42 13 P P 16 28 48.8 -1.2
comp=Z,207nm,0.9s,baz=180,slow=9.5,SNR=177
MJAR PcP PcP 16 31 04.5 +1.2
comp=Z,21nm,0.9s,baz=153,slow=2.9,SNR=6.3
comp=Z,207nm,0.9s
MGCD Mangrove Creek 38.43 149 P P 16 28 54.1 +4.0
LYN LuoYang 38.44 338 ⇑*iP* P 16 28 50.8 +0.7
LYN sP sP 16 28 56.8 +0.6
LYN PP PnPn 16 30 24.9 +4.8
LYN S S 16 34 47.5 +2.6
LYN pmax pmax
comp=Z,140nm,1.0s
LYN pmax pmax
comp=Z,4µm,6.1s
LYN LR LR
comp=Z,5µm,29.5s
LYN LR LR
comp=Z,10µm,28.9s
LYN LR LR
comp=Z,7µm,26.1s
TIA Tai'an 38.51 345 P P 16 28 50.3 -0.5
TIA sP sP 16 28 56.3 -0.5
TIA PP PnPn 16 30 25.8 +4.8
TIA S S 16 34 45.0 -1.0
TIA SS SnSn 16 37 32.8 -0.5
TIA ScS ScS 16 39 02.6 +1.1
TIA pmax pmax
comp=Z,48nm,1.8s
TIA pmax pmax
comp=Z,2µm,7.6s
TIA LR LR
comp=Z,4µm,16.5s
TIA LR LR
comp=Z,3µm,14.7s
TIA LR LR
comp=Z,4µm,21.6s
SYDH Sydney Hard Ro 38.68 150 P P 16 28 54.3 +2.1
TNCH TengChong 38.90 314 ⇑P P 16 28 55.5 +1.1
TNCH PP PnPn 16 30 25.3 -0.7
TNCH PcP PcP 16 31 05.3 0.0
TNCH S S 16 34 55.8 +3.2
TNCH pmax pmax
comp=Z,280nm,1.7s
TNCH pmax pmax
comp=Z,3µm,7.4s
TNCH LR LR
comp=Z,2µm,15.5s
TNCH LR LR
comp=Z,2µm,16.0s
TNCH LR LR
comp=Z,3µm,18.8s
HJU Haeju 38.94 356 P P 16 28 54.8 +0.6
HJU S S 16 34 53.7 +1.5
HJU AmB
comp=Z,2µm,4.8s
HJU AMS AMS

comp=Z,4µm,15.0s
RIV Riverview 38.94 149 P **P** **16 28 57.1 +2.7**
BRAT Ballarat 39.05 160 P **P** **16 28 57.7 +2.5**
CAN Canberra 39.11 153 IAMs_20 IAMs_20 16 47 49.7
comp=Z,7µm,18.0s
CAN Canberra 39.11 153 P **P** **16 28 57.9 +2.0**
CAN Canberra 39.11 153 ⇑P **P** **16 28 57.5 +1.6**
CNB Canberra Magne 39.27 153 P **P** **16 28 59.4 +2.2**
XAN Xi'an 39.42 334 ⇑P **P** **16 28 58.4 -0.1**
XAN sP sP 16 29 04.1 -0.9
XAN S **S** **16 35 01.0 +1.1**
XAN pmax pmax
comp=Z,450nm,0.8s
XAN pmax pmax
comp=Z,4µm,5.0s
XAN LR LR
comp=Z,7µm,17.0s
XAN LR LR
comp=Z,5µm,22.0s
XAN LR LR
comp=Z,6µm,20.0s
CD2 Chengdu 39.51 326 P **P** **16 28 59.6 +0.3**
CD2 sP sP 16 29 05.8 0.0
CD2 S **S** **16 35 03.8 +2.5**
CD2 SS **SnSn** **16 37 57.3 -0.3**
CD2 pmax pmax
comp=Z,250nm,0.8s
CD2 pmax pmax
comp=Z,4µm,5.7s
CD2 LR LR
comp=Z,13µm,19.0s
CD2 LR LR
comp=Z,10µm,16.7s
CD2 LR LR
comp=Z,7µm,20.8s
TOO Toolangi 39.61 159 ⇑P **P** **16 29 02.1 +2.1**
JSD Sado 39.87 12 P **P** **16 29 02.3 +0.2**
JSD Sado 39.87 12 ⇑P **P** **16 29 01.4 -0.7**
PYAG Pyongyang 39.94 357 P **P** **16 29 03.5 +0.9**
PYAG S **S** **16 35 09.0 +1.7**
PYAG AmB
comp=Z,3µm,6.2s
PYAG AMS AMS
comp=Z,7µm,19.4s
DL2 Dalian 40.21 352 P **P** **16 29 04.3 -0.6**
DL2 sP **sP** **16 29 17.8 +6.8**
DL2 S **S** **16 35 09.3 -2.1**
DL2 pmax pmax
comp=Z,78nm,1.1s
DL2 pmax pmax
comp=Z,2µm,7.1s
DL2 LR LR
comp=Z,4µm,14.8s
DL2 LR LR
comp=Z,6µm,13.7s
DL2 LR LR
comp=Z,7µm,17.4s
HNS HongShan 40.29 343 ⇑P **P** **16 29 05.6 0.0**
HNS pmax pmax
comp=Z,70nm,1.2s
HNS pmax pmax
comp=Z,2µm,6.7s
HNS LR LR
comp=Z,4µm,20.7s
HNS LR LR
comp=Z,5µm,19.1s
HNS LR LR
comp=Z,5µm,18.3s
JMM Marumori 40.30 15 P **P** **16 29 05.2 -0.5**
JMM Marumori 40.30 15 P **P** **16 29 07.2 +1.6**
JMM Marumori 40.30 15 ⇑P **P** **16 29 06.0 +0.4**
HHU Hamhung 40.74 359 P **P** **16 29 10.0 +0.7**
HHU S **S** **16 35 21.0 +1.8**
HHU AmB
comp=Z,999nm,3.4s
HHU AMS AMS
comp=Z,5µm,17.3s
SANVU Saraoutou 40.77 113 P **P** **16 29 10.0 +0.1**
SANVU IAmb IAmb 16 29 19.5
comp=Z,268nm,0.9s
SANVU Saraoutou 40.77 113 P **P** **16 29 12.2 +2.4**
SANVU Saraoutou 40.77 113 ⇑P **P** **16 29 12.3 +2.4**
TIY Taiyuan 41.29 341 *e*P **P** **16 29 14.3 +0.3**
TIY PP **PnPn** **16 30 54.8 +0.8**
TIY S **S** **16 35 26.8 -1.0**
TIY SS **SS** **16 38 32.9 +1.3**
TIY pmax pmax
comp=Z,66nm,0.8s
TIY pmax pmax
comp=Z,2µm,7.4s
TIY LR LR
comp=Z,3µm,18.2s
TIY LR LR
comp=Z,4µm,19.4s
TIY LR LR
comp=Z,5µm,19.6s
IMP Imphal 42.20 310 *e*P **P** **16 29 18.3 -3.3**
IMP IAmb IAmb 16 29 23.9
comp=Z,134nm,0.8s
BJT Baijiatuau 42.36 346 P **P** **16 29 24.2 +1.7**
DVP Devils Point 42.37 115 P **P** **16 29 24.7 +1.8**
BJI Beijing 42.38 346 P **P** **16 29 22.3 -0.3**
BJI PP **PP** **16 31 00.9 -0.1**
BJI S **S** **16 35 42.8 -0.7**
BJI SS **SS** **16 38 49.1 -3.6**
BJI pmax pmax
comp=Z,34nm,0.9s
BJI pmax pmax
comp=Z,890nm,6.7s
BJI LR LR
comp=Z,1µm,17.1s
BJI LR LR
comp=Z,1µm,15.2s
BJI LR LR
comp=Z,2µm,17.4s
DZM Mont Dzumac 42.43 122 *e*P **P** **16 29 22.3 -1.2**
comp=Z,206nm,1.1s
DZM Mont Dzumac 42.43 122 *e*PP **PP** **16 31 03.7 +1.7**
comp=Z,270nm,27.8s
DZM *e*S **S** **16 35 46.7 +1.6**
DZM comp=Z,2µm,29.9s *e*SS **SS** **16 38 57.2 +2.7**
DZM comp=Z,4µm,26.8s *e*LR LR 16 41 01.6
comp=Z,6µm,26.2s
DZM Mont Dzumac 42.43 122 P **P** **16 29 22.9 -0.6**
DZM Mont Dzumac 42.43 122 P **P** **16 29 25.9 +2.4**
DZM Mont Dzumac 42.43 122 ⇑P **P** **16 29 24.4 +0.9**
WAKE Wake Island 42.50 60 P **P** **16 29 23.7 -0.4**
WAKE Wake Island 42.50 60 P **P** **16 29 25.9 +1.9**
KOHI KOHIMA 42.56 311 *e*P **P** **16 29 21.2 -3.4**
KOHI IAmb IAmb 16 29 37.3
comp=Z,163nm,0.8s
AZL Aizawl 42.62 308 *e*P **P** **16 29 21.8 -3.3**
AZL IAmb IAmb 16 29 29.4
comp=Z,251nm,0.9s
SNY Shenyang 42.86 355 ⇑P **P** **16 29 26.4 -0.2**
SNY S **S** **16 35 50.8 +0.2**
SNY SS **SS** **16 39 03.4 +1.1**
SNY pmax pmax
comp=Z,61nm,1.0s
SNY pmax pmax
comp=Z,2µm,7.1s
SNY LR LR
comp=Z,3µm,17.1s
SNY LR LR
comp=Z,4µm,17.5s
SNY LR LR
comp=Z,4µm,23.7s
OUENC Ouen Island, N 42.91 123 P **P** **16 29 30.4 +3.1**
JORH JORHAT 43.02 312 *e*P **P** **16 29 25.0 -3.1**
JORH IAmb IAmb 16 29 30.9
comp=Z,375nm,1.0s
SILR SILCHAR 43.06 309 *e*P **P** **16 29 25.4 -3.0**
SILR IAmb IAmb 16 29 47.3
comp=Z,274nm,0.9s
JTM Tenmabayashi 43.13 14 P **P** **16 29 29.1 +0.3**
JTM IAmb IAmb 16 29 31.7
comp=Z,288nm,1.0s
JTM IAMs_20 IAMs_20 16 46 28.1
comp=Z,7µm,20.0s
JTM Tenmabayashi 43.13 14 P **P** **16 29 30.9 +2.1**
JTM Tenmabayashi 43.13 14 ⇑P **P** **16 29 29.6 +0.9**
LZDM Lanzhou Array 43.44 330 P **P** **16 29 32.1 +0.4**
comp=Z,147nm,1.0s,baz=168,slow=9.1,SNR=35
LZDM PcP **PcP** **16 31 21.1 +1.0**
comp=Z,59nm,0.9s,baz=153,slow=4.6,SNR=4.5
LZDM LR LR 16 51 00.0
comp=Z,4µm,18.0s,baz=115,slow=41
comp=Z,147nm,1.0s
MSHR Mys Shultsa 43.45 3*c i*P **P** **16 29 32.3 +1.0**
MSHR pmax pmax
comp=Z,64nm,1.0s
LZH Lanzhou 43.47 331 ⇑P **P** **16 29 33.0 +1.2**
LZH pP sP 16 29 38.8 +0.5
LZH PP **PP** **16 31 14.8 +1.7**
LZH S **S** **16 35 58.6 -1.5**
LZH pmax pmax
comp=Z,330nm,1.3s
LZH pmax pmax
comp=Z,3µm,4.3s
LZH LR LR
comp=Z,5µm,14.3s
LZH LR LR
comp=Z,4µm,15.9s
LZH LR LR
comp=Z,6µm,16.2s
PINNC Pines Island, 43.50 122 P **P** **16 29 32.2 +0.1**
PINNC Pines Island, 43.50 122 P **P** **16 29 34.3 +2.3**
PSTR Posyet 43.50 2⇓*i*P **P** **16 29 33.0 +1.3**
GLAD Gladstone 43.54 158 P **P** **16 29 34.1 +2.0**
CORO Coronation Par 43.64 160 P **P** **16 29 35.3 +2.4**
ZIRO ZIRO 43.76 313 *e*P **P** **16 29 30.9 -3.4**
INH Isangel 43.94 117 P **P** **16 29 38.5 +2.9**
VLA Vladivostok 44.02 4⇓*i*P **P** **16 29 36.6 +0.7**
VLA pmax pmax
comp=Z,111nm,1.1s
VLA MLR MLR
comp=Z,3µm,16.0s
TEZP TEZPUR 44.03 311 *e*P **P** **16 29 33.1 -3.2**
TEZP IAmb IAmb 16 29 44.2
comp=Z,144nm,1.0s
SHL Shillong 44.18 309 P **P** **16 29 37.3 -0.4**
SHL Shillong 44.18 309 P **P** **16 29 38.3 +0.6**
SNR=65
SHL Shillong 44.18 309 *e*P **P** **16 29 34.1 -3.6**
SHL IAmb IAmb 16 29 40.5
comp=Z,270nm,0.9s
SHL Shillong 44.18 309 P **P** **16 29 37.3 -0.4**
HHC Hu-ho-hao-te 44.42 342 *e*P **P** **16 29 39.8 +0.5**
HHC sP sP 16 29 46.1 +0.7
HHC PP **PP** **16 31 22.1 -1.0**
HHC S **S** **16 36 13.3 -0.4**
HHC ScS **ScS** **16 39 36.3 -1.1**
HHC pmax pmax
comp=Z,49nm,1.0s
HHC pmax pmax
comp=Z,2µm,6.1s
HHC LR LR
comp=Z,2µm,18.5s
HHC LR LR
comp=Z,4µm,18.5s
HHC LR LR
comp=Z,6µm,18.1s
TARA Tarawa 44.46 87 P **P** **16 29 38.9 -1.0**
TARA IAmb IAmb 16 29 53.5
comp=Z,215nm,1.4s
MOO Moorlands 44.53 160 P **P** **16 29 43.6 +3.5**
GUWA GUWAHATI 44.65 310 *e*P **P** **16 29 38.4 -2.9**
GUWA IAmb IAmb 16 30 03.6
comp=Z,50nm,0.7s
CN2 Changchun 44.69 357 P **P** **16 29 40.4 -0.8**
CN2 PcP **PcP** **16 31 23.8 +0.1**
CN2 PP **PP** **16 31 25.3 -0.5**
CN2 S **S** **16 36 16.8 -0.5**
CN2 pmax pmax
comp=Z,20nm,0.5s
CN2 pmax pmax
comp=Z,2µm,8.0s
CN2 LR LR
comp=Z,4µm,19.0s
CN2 LR LR
comp=Z,3µm,19.0s
CN2 LR LR
comp=Z,5µm,19.0s
BTO Baotou 44.71 340 *e*P **P** **16 29 42.3 +0.7**
BTO PP **PP** **16 31 25.9 -0.3**
BTO S **S** **16 36 19.9 +1.9**
BTO SS **SS** **16 39 33.4 -5.4**
BTO pmax pmax
comp=Z,48nm,0.7s
BTO pmax pmax
comp=Z,5µm,7.8s
BTO LR LR
comp=Z,8µm,21.8s
BTO LR LR
comp=Z,9µm,19.0s
BTO LR LR
comp=Z,12µm,23.5s
ERM Erimo 44.82 15 IAMs_20 IAMs_20 16 48 25.7
comp=Z,7µm,20.0s
TAU Tasmania Unive 44.99 160 P **P** **16 29 43.5 -0.2**
TAU IAmb IAmb 16 29 50.3
comp=Z,136nm,1.1s
TAU Tasmania Unive 44.99 160 IAMs_20 IAMs_20 16 50 53.7
comp=Z,7µm,18.0s
TAU Tasmania Unive 44.99 160 P **P** **16 29 46.5 +2.8**
TAU Tasmania Unive 44.99 160 P **P** **16 29 43.5 -0.2**
TAU pmax pmax
comp=Z,136nm,1.1s
TAU MLR MLR
comp=Z,7µm,18.0s
TAU Tasmania Unive 44.99 160 ⇑P **P** **16 29 47.1 +3.4**
USRK Ussuriysk Ar. 45.11 4 P **P** **16 29 45.1 +0.5**
comp=Z,76nm,0.8s,baz=188,slow=7.1,SNR=134
comp=Z,76nm,0.8s
MDJ Mudanjiang 45.43 1 P **P** **16 29 47.2 0.0**
MDJ IAmb IAmb 16 29 50.5
comp=Z,100nm,1.1s
MDJ IAMs_20 IAMs_20 16 46 18.1
comp=Z,7µm,21.0s
MDJ Mudanjiang 45.43 1 P **P** **16 29 47.3 +0.2**
MDJ PP **PP** **16 31 31.5 -2.1**
MDJ S **S** **16 36 27.4 -0.5**
MDJ pmax pmax
comp=Z,49nm,1.4s
MDJ pmax pmax
comp=Z,3µm,7.7s
MDJ LR LR
comp=Z,4µm,20.8s
MDJ LR LR
comp=Z,3µm,15.4s
MDJ LR LR
comp=Z,7µm,19.8s
MDJ Mudanjiang 45.43 1 P **P** **16 29 49.0 +1.9**
CAL Calcutta 45.61 303 *e*P **P** **16 29 45.9 -3.0**
XLT XiLinHaoTe 46.07 348 *e*P **P** **16 29 52.1 -0.2**
XLT PP **PP** **16 31 38.0 -2.5**
XLT S **S** **16 36 33.8 -3.6**
XLT SS **SS** **16 40 03.0 +0.3**
XLT pmax pmax
comp=Z,130nm,0.9s
XLT pmax pmax
comp=Z,2µm,7.5s
XLT LR LR
comp=Z,350nm,16.8s
XLT LR LR
comp=Z,3µm,15.8s
XLT LR LR
comp=Z,4µm,18.5s
TEY Ternei 46.40 8⇓*e*P **P** **16 29 56.3 +1.6**
TEY pmax pmax
comp=N,80nm,0.7s
TEY pmax pmax
comp=Z,130nm,0.7s
BNX BinXian 46.55 359 ⇓P **P** **16 29 56.0 0.0**
BNX S **S** **16 36 43.3 -0.8**
BNX pmax pmax
comp=Z,36nm,1.6s
BNX pmax pmax
comp=Z,2µm,7.6s
BNX LR LR
comp=Z,7µm,21.5s
BNX LR LR
comp=Z,3µm,13.1s
BNX LR LR
comp=Z,11µm,21.5s
ASAJ Asahikawa 46.65 14 P **P** **16 29 57.4 +0.7**
comp=Z,79nm,1.0s,baz=227,slow=11,SNR=25
ASAJ LR LR 16 47 46.2
comp=Z,9µm,21.7s,baz=214,slow=34
comp=Z,79nm,1.0s
JKA Kamikawa-asahi 46.65 14 IAmb IAmb 16 29 59.8
comp=Z,101nm,1.0s
JKA IAMs_20 IAMs_20 16 47 46.1
comp=Z,8µm,21.0s
BWNR Bhubaneshwar 46.88 299 *e*P **P** **16 29 56.5 -2.5**
LSA Lhasa 46.94 314 P **P** **16 29 59.3 -0.6**
LSA pmax pmax
comp=Z,160nm,0.8s
LSA LR LR
comp=Z,2µm,22.0s
LSA LR LR
comp=Z,2µm,37.1s
LSA Lhasa 46.94 314 *i* P **P** **16 30 01.2 +1.3**
SNR=48
SHBG Sahibganj 47.34 306 *e*P **P** **16 29 59.7 -2.7**
GTA Gaotai 48.06 330 P **P** **16 30 09.3 +1.3**
GTA pP sP 16 30 13.9 -0.6
GTA PP **PP** **16 31 59.3 -1.0**
GTA S **S** **16 37 09.0 +3.0**
GTA SS **SS** **16 40 42.3 +7.0**
GTA pmax pmax
comp=Z,98nm,1.2s
GTA pmax pmax
comp=Z,2µm,5.6s
GTA LR LR
comp=Z,3µm,18.5s
GTA LR LR
comp=Z,3µm,18.2s
GTA LR LR
comp=Z,4µm,19.3s
BOK Bokaro 48.18 304 *e*P **P** **16 30 06.5 -2.6**
BOK IAmb IAmb 16 30 17.4
comp=Z,125nm,1.2s
HALK Hakmana 48.28 279 ⇑P **P** **16 30 09.8 -0.2**
KNTI KHUNTI 48.38 302 *e*P **P** **16 30 08.9 -1.8**
KNTI IAmb IAmb 16 30 18.7
comp=Z,154nm,1.3s
PALK Pallekele 48.41 281 P **P** **16 30 10.9 -0.2**
PALK IAmb IAmb 16 30 14.6
comp=Z,170nm,1.3s
PALK Pallekele 48.41 281 LR LR 16 54 02.2
comp=Z,2µm,18.4s,baz=104,slow=40
PALK Pallekele 48.41 281 P **P** **16 30 11.0 0.0**
PALK Pallekele 48.41 281*c i*P **P** **16 30 11.0 0.0**
PALK pmax pmax
comp=Z,185nm,1.3s
PALK MLR MLR
comp=Z,3µm,17.0s
GOMU GeErMu 48.50 323 P **P** **16 30 12.8 +1.0**
GOMU pP pP 16 30 15.8 -0.7
GOMU sP sP 16 30 20.6 +2.3
GOMU PP **PP** **16 32 06.6 +1.9**
GOMU S **S** **16 37 17.3 +4.3**
GOMU SS **SS** **16 40 44.3 +1.2**
GOMU pmax pmax
comp=Z,38nm,1.6s
GOMU LR LR
comp=Z,2µm,15.5s
GOMU LR LR
comp=Z,3µm,15.3s
GOMU LR LR
comp=Z,3µm,15.5s
MALK Mahakanadarawa 48.73 282 P **P** **16 30 12.6 -0.9**
MALK S **S** **16 37 13.1 -2.9**
MALK Mahakanadarawa 48.73 282 ⇑P **P** **16 30 13.4 0.0**
KUR Kuril'sk 49.13 18*c i*P **P** **16 30 15.6 -0.3**
KUR *e*S **S** **16 37 18.4 -2.2**
KUR pmax pmax
comp=Z,3µm,8.0s
KUR MLR MLR
comp=Z,2µm,17.0s
GAYA Gaya 49.14 305 *e*P **P** **16 30 13.4 -3.1**
JHSG JHARSUGUGA 49.18 300 *e*P **P** **16 30 13.4 -3.3**
YSS Yuzhno-Sakhali 49.36 13 P **P** **16 30 17.6 0.0**
YSS IAmb IAmb 16 30 20.1
comp=Z,81nm,0.9s
YSS IAMs_20 IAMs_20 16 48 56.2
comp=Z,7µm,22.0s
YSS Yuzhno-Sakhali 49.36 13 P **P** **16 30 19.5 +1.8**
YSS Yuzhno-Sakhali 49.36 13 *e*P **P** **16 30 18.6 +0.9**
YSS *e* 16 31 41.6
YSS *e* 16 32 13.2
YSS *e*S **S** **16 37 25.6 +1.7**
YSS *e* 16 40 09.5
YSS pmax pmax
comp=Z,90nm,0.9s
YSS pmax pmax
comp=Z,2µm,7.6s
YSS smax smax
comp=N,2µm,9.9s
YSS smax smax
comp=E,1µm,8.7s
YSS MLR MLR
comp=N,1µm,17.0s
YSS MLR MLR
comp=Z,2µm,17.0s
YSS MLR MLR
comp=E,2µm,18.0s
YSS Yuzhno-Sakhali 49.36 13 ⇑P **P** **16 30 18.1 +0.4**
MDRS Chennai 49.87 288 *e*P **P** **16 30 19.3 -2.8**
VJD Vijayawada 50.33 292 *e*P **P** **16 30 23.4 -2.1**
VJD IAmb IAmb 16 30 38.1
comp=Z,239nm,1.3s
HIA Hailar 50.64 353 P **P** **16 30 27.2 -0.2**
HIA Hailar 50.64 353 IAMs_20 IAMs_20 16 51 45.3
comp=Z,5µm,18.0s
HIA Hailar 50.64 353 P **P** **16 30 29.2 +1.8**
HIA Hailar 50.64 353 P **P** **16 30 27.2 -0.2**
HIA pmax pmax
comp=Z,52nm,1.0s
HIA MLR MLR
comp=Z,6µm,18.0s
BLSP Bilaspur 50.73 300 *e*P **P** **16 30 25.3 -3.3**
BLSP IAmb IAmb 16 30 35.9
comp=Z,224nm,1.2s
YSA Yasawairara 50.73 111 P **P** **16 30 30.6 +1.9**
FUNA Funafuti 51.00 100 P **P** **16 30 31.1 +0.3**
FUNA Funafuti 51.00 100 P **P** **16 30 32.8 +2.1**
HEH HeiHe 51.06 359 *e*P **P** **16 30 30.1 -0.5**
HEH PcP **PcP** **16 31 47.6 +1.3**
HEH S **S** **16 37 44.5 -3.0**
HEH pmax pmax
comp=Z,110nm,1.1s
HEH pmax pmax
comp=Z,3µm,6.8s
HEH LR LR
comp=Z,4µm,20.4s
HEH LR LR
comp=Z,5µm,19.6s
HEH LR LR
comp=Z,10µm,22.7s
MSVF Nonsavu 51.41 112 P **P** **16 30 35.1 +1.3**
MSVF Nonsavu 51.41 112 P **P** **16 30 37.4 +3.6**
MSVF Nonsavu 51.41 112 P **P** **16 30 35.1 +1.3**
MSVF pmax pmax
comp=Z,294nm,1.3s
MSVF Nonsavu 51.41 112 ⇑P **P** **16 30 36.4 +2.6**
SALM Salem 51.55 286 *e*P **P** **16 30 31.8 -3.0**
SALM IAML 16 30 37.0
comp=Z,73nm,2.9s
KOD Kodaikanal 52.01 284 *e*P **P** **16 30 35.1 -3.5**
KOD IAmb IAmb 16 30 44.0
comp=Z,116nm,1.1s
GRNR Gornyy 52.01 6⇑*i*P **P** **16 30 38.9 +1.2**
GRNR pmax pmax
comp=N,30nm,1.2s
GRNR pmax pmax
comp=Z,60nm,1.1s
GRNR MLR MLR
comp=E,990nm,16.0s
GRNR MLR MLR
comp=N,2µm,21.0s
GRNR MLR MLR
comp=Z,3µm,17.0s
ULN Ulaanbaatar 52.14 342 P **P** **16 30 38.7 -0.2**
ULN IAmb IAmb 16 30 41.3
comp=Z,107nm,0.9s
ULN Ulaanbaatar 52.14 342 P **P** **16 30 39.7 +0.8**
ULN P **P** **16 30 39.7 +0.8**
ULN Ulaanbaatar 52.14 342⇑*i*P **P** **16 30 39.2 +0.3**
ULN pmax pmax
comp=Z,139nm,1.0s
ULN MLR MLR
comp=Z,3µm,17.0s

ULN Ulaanbaatar 52.14 342 ⇑P **P 16 30 39.2 +0.3**
ALBI Allahabad 52.19 303 *e*P **P 16 30 36.3 -3.1**
ALBI IAmb IAmb 16 30 46.6
comp=Z,149nm,1.1s
HRYA Harraiya (Bast 52.22 306 *e*P **P 16 30 36.3 -3.3**
TRD Trivandrum 52.25 281 *e*P **P 16 30 36.6 -3.5**
SONM Songino Array 52.32 341 P **P 16 30 40.0 -0.2**
SONM Songino Array 52.32 341 P **P 16 30 40.6 +0.4**
comp=Z,40nm,0.8s,baz=153,slow=8.7,SNR=83
SONM PcP **PcP 16 31 52.3 +1.0**
comp=Z,46nm,0.9s,baz=165,slow=3.8,SNR=8.3
SONM LR LR 16 53 23.7
comp=Z,4μm,20.0s,baz=156,slow=37
SONM PKPPKP **P'P'df 17 01 12.6 +1.2**
comp=Z,1.3nm,1.0s,baz=284,slow=1.2,SNR=4.4
comp=Z,40nm,0.8s
HYB Hyderabad 52.50 293 *e*P **P 16 30 41.5 -0.4**
HYB IVmB_BB 16 30 42.4
comp=Z,3μm,3.9s
HYB *e*pP **pP 16 30 43.1 -3.5**
HYB *e*PcP **PcP 16 31 52.0 -0.5**
HYB *e*PP **PP 16 32 40.9 -0.1**
HYB *e*PcS **PcS 16 35 50.4 -0.8**
HYB *e*S **S 16 38 09.6 +1.2**
DGTI Dogotuki 52.68 110 P **P 16 30 45.4 +2.2**
TYV Tymovskoe 53.05 11 *e*P **P 16 30 46.9 +1.5**
TYV *e*S **S 16 38 17.6 +2.8**
TYV pmax pmax
comp=Z,49nm,1.1s
TYV pmax pmax
comp=Z,1μm,5.5s
TYV smax smax
comp=N,1μm,8.4s
TYV smax smax
comp=E,1μm,8.4s
TAVE Taveuni 53.09 110 P **P 16 30 48.2 +1.9**
BRCI Bahraich 53.27 306 *e*P **P 16 30 45.1 -2.3**
LKN LUCKNOW 53.52 305 *e*P **P 16 30 45.9 -3.4**
OUZ Omahuta 53.98 134 IAMs_20 IAMs_20 16 56 07.2
comp=Z,4μm,19.0s
OUZ Omahuta 53.98 134 P **P 16 30 55.0 +2.5**
OUZ Omahuta 53.98 134 ⇓P **P 16 30 56.9 +4.4**
CIT Chita 54.32 349 *e*P **P 16 30 54.8 +0.1**
CIT *e* 16 31 02.8
CIT *e* 16 31 53.2
CIT *e* 16 38 41.8
CIT pmax pmax
comp=Z,330nm,3.0s
FUTU Fugatoga 54.36 107 P **P 16 30 54.9 -0.7**
FUTU Fugatoga 54.36 107 P **P 16 30 57.8 +2.3**
LKBA Tubou, Lakemba 54.43 112 P **P 16 30 58.1 +2.1**
ZEA Zeya 54.56 359 *e*P **P 16 30 57.0 +0.7**
ZEA *e*S **S 16 38 39.5 +4.4**
ZEA *e* 16 40 48.5
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,50nm,0.9s
ZEA pmax pmax
comp=Z,900nm,4.7s
ZEA smax smax
comp=Z,600nm,14.0s
AKL Akola 54.79 296 *e*P **P 16 30 55.5 -3.2**
WCZ Waipu Caves 54.86 135 P **P 16 31 01.1 +2.2**
JHNI Jhansi 54.99 302 *e*P **P 16 30 56.1 -3.9**
JHNI IAmb IAmb 16 31 05.9
comp=Z,101nm,1.0s
LGTI Lohaghat 55.12 307 *e*P **P 16 30 58.4 -2.4**
LGTI IAmb IAmb 16 31 09.3
comp=Z,72nm,0.9s
PTH Pithoragarh 55.18 308 *e*P **P 16 30 58.5 -3.0**
PTH IAmb IAmb 16 31 10.3
comp=Z,171nm,1.4s
NRDN NARMADA NAGAR 55.26 299 *e*P **P 16 30 59.8 -2.2**
NRDN IAmb IAmb 16 31 13.3
comp=Z,220nm,1.0s
ZAK Zakamensk 55.55 341 *e*P **P 16 31 03.2 -0.5**
ZAK pmax pmax
comp=Z,52nm,1.6s
MSZ Milford Sound 55.71 147 P **P 16 31 06.5 +1.7**
HMDM Hanimaadhoo 55.76 279 P **P 16 31 04.6 -1.1**
HMDM Hanimaadhoo 55.76 279 P **P 16 31 06.4 +0.6**
HMDM Hanimaadhoo 55.76 279 ⇓P **P 16 31 06.9 +1.1**
DCZ Deep Cove 55.81 148 IAmb IAmb 16 31 16.8
comp=Z,92nm,1.1s
DCZ IAMs_20 IAMs_20 16 55 05.4
comp=Z,5μm,20.0s
JCZ Jackson Bay 55.81 146 P **P 16 31 08.3 +2.6**
JCZ Jackson Bay 55.81 146 P **P 16 31 07.6 +1.9**
PYZ Puysegur Point 56.02 149 P **P 16 31 08.2 +1.2**
PYZ IAmb IAmb 16 31 26.5
comp=Z,110nm,1.2s
PYZ Puysegur Point 56.02 149 P **P 16 31 09.6 +2.5**
FOZ Fox Glacier 56.06 145 P **P 16 31 08.6 +1.3**
FOZ IAmb IAmb 16 31 16.6
comp=Z,123nm,1.0s
FOZ IAMs_20 IAMs_20 16 57 15.2
comp=Z,4μm,19.0s
TKRD Thakurdwara 56.11 307 *e*P **P 16 31 04.2 -3.8**
JOSI Joshimath 56.12 308 *e*P **P 16 31 04.5 -3.9**
AGRA Agra 56.12 304 *e*P **P 16 31 03.7 -4.4**
QRZ Quartz Range 56.15 141 P **P 16 31 09.1 +1.0**
QRZ IAmb IAmb 16 31 14.9
comp=Z,171nm,1.2s
QRZ IAMs_20 IAMs_20 16 58 24.4
comp=Z,6μm,20.0s
QRZ Quartz Range 56.15 141 P **P 16 31 09.9 +1.8**
DSZ Denniston Nort 56.21 142 IAMs_20 IAMs_20 16 58 01.9
comp=Z,5μm,20.0s
KUZ Kuaotunu 56.22 135 P **P 16 31 11.3 +2.7**
DGAR Diego Garcia 56.24 262 P **P 16 31 09.6 +0.4**
DGAR Diego Garcia 56.24 262 P **P 16 31 10.4 +1.2**
DGAR Diego Garcia 56.24 262 ⇓*i*P **P 16 31 11.5 +2.3**
DGAR pmax pmax
comp=Z,468nm,1.2s
MLZ Mavora Lakes 56.26 147 IAMs_20 IAMs_20 16 57 12.4
comp=Z,5μm,19.0s
MLZ Mavora Lakes 56.26 147 P **P 16 31 11.2 +2.4**
WKZ Wanaka 56.41 146 IAmb IAmb 16 31 57.4
comp=Z,119nm,1.3s
WKZ IAMs_20 IAMs_20 16 58 37.3
comp=Z,4μm,20.0s
WKZ Wanaka 56.41 146 P **P 16 31 14.6 +4.7**
GOA Goa 56.47 289 *e*P **P 16 31 07.5 -3.3**
GOA IAmb IAmb 16 31 14.0
comp=Z,350nm,1.4s
WHZ Wether Hill Ro 56.51 148 P **P 16 31 10.0 -0.5**
WHZ IAmb IAmb 16 31 16.6
comp=Z,93nm,1.1s
WHZ IAMs_20 IAMs_20 16 55 25.9
comp=Z,6μm,21.0s
WHZ Wether Hill Ro 56.51 148 P **P 16 31 11.2 +0.6**
KAD Karad 56.52 291 *e*P **P 16 31 08.0 -3.1**
KAD IAmb IAmb 16 31 17.3
comp=Z,180nm,1.4s
TOZ Tahuroa Road 56.53 136 P **P 16 31 10.2 -0.7**
TOZ IAmb IAmb 16 31 18.6
comp=Z,92nm,1.0s
INZ Inchbonnie 56.55 143 P **P 16 31 09.6 -1.3**
INZ IAMs_20 IAMs_20 16 59 08.9
comp=Z,5μm,19.0s
INZ Inchbonnie 56.55 143 P **P 16 31 13.7 +2.8**
UGON Onchagaon 56.55 305 *e*P **P 16 31 07.9 -3.3**
MRNZ Matariki Terra 56.61 141 P **P 16 31 14.9 +3.6**
SKR Severo-Kuril's 56.61 21 *e*P **P 16 31 12.0 +0.9**
SKR *e*S **S 16 38 59.4 -3.1**
SKR pmax pmax
comp=Z,95nm,1.1s
SKR pmax pmax
comp=Z,1μm,8.8s
SKR MLR MLR
comp=Z,2μm,18.0s
LBZ Lake Benmore 56.79 145 P **P 16 31 11.1 -1.5**
LBZ IAmb IAmb 16 31 18.5
comp=Z,138nm,1.2s
LBZ IAMs_20 IAMs_20 16 56 00.5
comp=Z,5μm,20.0s
LBZ Lake Benmore 56.79 145 P **P 16 31 13.8 +1.1**
ASOR Ausora 56.83 306 *e*P **P 16 31 09.9 -3.2**
IRK Irkutsk 56.85 342 *e*P **P 16 31 12.8 0.0**
IRK pmax pmax
comp=Z,209nm,2.8s
RPZ Rata Peaks 56.89 144 IAMs_20 IAMs_20 16 59 11.1
comp=Z,6μm,18.0s
RPZ Rata Peaks 56.89 144 LR LR 16 55 54.6
comp=Z,5μm,21.0s,baz=309,slow=36
THZ Tophouse 56.90 141 IAMs_20 IAMs_20 16 57 26.3
comp=Z,5μm,19.0s
THZ Tophouse 56.90 141 P P 16 31 18.6 +5.1
NNZ Nelson 56.90 141 IAMs_20 IAMs_20 16 57 35.3
comp=Z,6μm,20.0s
PWAL Palwal 56.96 305 *e*P **P 16 31 10.8 -3.3**
LTZ Lake Taylor 57.08 143 IAmb IAmb 16 31 26.0
comp=Z,90nm,1.1s
LTZ IAMs_20 IAMs_20 16 57 33.0
comp=Z,6μm,19.0s
MHCZ Mount Hutt 57.09 144 P **P 16 31 18.7 +3.9**
POO Poona 57.11 293 *e*P **P 16 31 12.1 -3.2**
POO IAmb IAmb 16 31 21.5
comp=Z,201nm,1.1s
APZ The Paps 57.14 149 P **P 16 31 16.4 +1.3**
JMIU JAMIA UNIVERSI 57.15 305 *e*P **P 16 31 12.2 -3.2**
LDR Lodi Road 57.22 305 *e*P **P 16 31 12.7 -3.2**
OXZ Oxford 57.25 143 IAMs_20 IAMs_20 16 59 39.5
comp=Z,5μm,20.0s
OXZ Oxford 57.25 143 P P 16 31 20.7 +4.9
AYAN Aya Nagar 57.25 305 *e*P **P 16 31 13.1 -3.0**
NDI New Delhi 57.25 305 *e*P **P 16 31 12.9 -3.2**
TMZ Timaru 57.26 145 P **P 16 31 18.0 +2.1**
NPLP NPLP New Delhi 57.28 305 *e*P **P 16 31 13.2 -3.2**
TUWZ Tuamarina 57.37 141 P **P 16 31 16.4 -0.4**
TUWZ Tuamarina 57.37 141 P **P 16 31 17.7 +1.0**
NRLA Narela 57.39 305 *e*P **P 16 31 14.2 -3.0**
MOY Mondy 57.41 340 *e*P **P 16 31 17.2 +0.2**
MOY pmax pmax
comp=Z,262nm,1.9s
ODZ Otahua Downs 57.45 146 IAMs_20 IAMs_20 16 59 11.9
comp=Z,5μm,20.0s
ODZ Otahua Downs 57.45 146 P P 16 31 22.2 +4.9
ODZ Otahua Downs 57.45 146 ⇓P P 16 31 23.3 +6.0
TCW Tory Channel 57.47 140 P **P 16 31 18.4 +0.9**
TCW Tory Channel 57.47 140 P **P 16 31 18.6 +1.2**
BHGR Bahadurgarh 57.48 305 *e*P **P 16 31 14.4 -3.3**
BSWZ Blackbirch Sta 57.48 141 P P 16 31 22.5 +4.9
KLP Kalpa 57.55 309 *e*P **P 16 31 15.1 -3.4**
GNR GANAUR 57.58 306 *e*P **P 16 31 15.3 -3.2**
WMQ Urumqi 57.61 326 ⇑P **P 16 31 18.9 +0.4**
WMQ pP sP 16 31 24.5 -0.6
WMQ PcP **PcP 16 32 05.5 -6.2**
WMQ PP **PP 16 33 27.0 +0.6**
WMQ S **S 16 39 17.1 +0.8**
WMQ pmax pmax
comp=Z,100nm,1.7s
WMQ pmax pmax
comp=Z,2μm,3.7s
WMQ LR LR
comp=Z,5μm,17.9s
WMQ LR LR
comp=Z,3μm,19.3s
WMQ LR LR
comp=Z,2μm,20.7s
GVZ Greta Valley S 57.65 142 IAMs_20 IAMs_20 17 00 03.0
comp=Z,5μm,19.0s
GVZ Greta Valley S 57.65 142 P **P 16 31 23.4 +4.7**
KHZ Kahutara 57.65 142 IAmb IAmb 16 31 24.4
comp=Z,84nm,1.0s
KHZ Kahutara 57.65 142 P **P 16 31 18.7 0.0**
KUDL Kundal 57.65 305 *e*P **P 16 31 15.9 -3.0**
JHJR Jhajjar 57.69 305 *e*P **P 16 31 15.6 -3.6**
SNZO South Karori 57.80 140 P **P 16 31 18.7 -1.0**
SNZO South Karori 57.80 140 IAMs_20 IAMs_20 16 59 28.0
comp=Z,6μm,19.0s
SNZO South Karori 57.80 140 P **P 16 31 21.9 +2.2**
MQZ McQueen's Vall 57.83 143 IAMs_20 IAMs_20 16 59 59.0
comp=Z,4μm,20.0s
MQZ McQueen's Vall 57.83 143 P P 16 31 25.3 +5.4
URZ Urewera 57.90 136 LR LR 16 57 52.1
comp=Z,4μm,19.3s,baz=307,slow=38
URZ Urewera 57.90 136 P **P 16 31 20.9 +0.3**
URZ Urewera 57.90 136 ⇓P **P 16 31 21.2 +0.7**
BKZ Black Stump Fm 57.91 137 IAmb IAmb 16 31 33.3
comp=Z,98nm,0.9s
BKZ Black Stump Fm 57.91 137 P **P 16 31 23.2 +2.6**
BHW Baring Head 57.95 140 IAMs_20 IAMs_20 16 59 43.2
comp=Z,4μm,19.0s
RTZ Ruatahuna 57.98 136 IAMs_20 IAMs_20 16 57 26.8
comp=Z,4μm,21.0s
TSZ Takapari Road 57.98 138 P **P 16 31 22.9 +1.8**
MRZ Mangatainoka R 58.03 139 IAmb IAmb 16 31 26.8
comp=Z,118nm,1.2s
MRZ IAMs_20 IAMs_20 16 56 52.2
comp=Z,6μm,20.0s
MRZ Mangatainoka R 58.03 139 P **P 16 31 21.3 -0.1**
RTK Rohtak 58.04 305 *e*P **P 16 31 18.4 -3.2**
MWZ Matawai 58.23 136 P **P 16 31 24.1 +1.2**
SMLA Simla 58.23 308 *e*P **P 16 31 20.2 -2.7**
CGRH CHANDIGARH 58.38 307 *e*P **P 16 31 20.9 -3.2**
MXZ Matakaoa Point 58.43 135 IAMs_20 IAMs_20 16 56 24.7
comp=Z,5μm,20.0s
BFZ Birch Farm 58.48 139 IAMs_20 IAMs_20 17 01 02.1
comp=Z,5μm,18.0s
BFZ Birch Farm 58.48 139 P **P 16 31 21.1 -3.5**
PUZ Puketiti 58.62 135 P **P 16 31 26.7 +1.1**
BHK Bhakra 58.93 308 *e*P P 16 31 23.0 -4.9
PEA0B Petropavlovsk- 59.17 20 ⇑*i*P **P 16 31 30.2 +1.1**
PETK Petropavlovsk- 59.17 20 P **P 16 31 28.8 -0.3**
PETK Petropavlovsk- 59.17 20 P **P 16 31 29.5 +0.4**
comp=Z,100nm,0.9s,baz=205,slow=6.6,SNR=67
comp=Z,100nm,0.9s
DHRM DHARAMSHALA 59.35 309 *e*P **P 16 31 27.4 -3.6**
PET Petropavlovsk 59.43 21 P **P 16 31 30.2 -0.7**
PET Petropavlovsk 59.43 21 P **P 16 31 32.7 +1.8**
PET Petropavlovsk 59.43 21 *e*P **P 16 31 30.5 -0.4**
PET *e*S **S 16 39 38.8 -0.6**
PET *e*SS **SS 16 43 38.1 +3.4**
PET pmax pmax
comp=Z,1μm,8.8s
PET pmax pmax
comp=Z,210nm,1.1s
PET pmax pmax
comp=Z,1μm,7.8s
PET MLR MLR
comp=Z,1μm,15.0s
PET Petropavlovsk 59.43 21 P **P 16 31 31.5 +0.6**
comp=Z,2μmcomp=Z,190nm,1.1s
ALCI Alchi Leh 59.48 311 *e*P **P 16 31 28.4 -3.7**
TLWR Talawar 59.51 308 *e*P **P 16 31 28.4 -3.5**
TSSA Tissa 59.70 309 *e*P **P 16 31 29.8 -3.6**
BOD Bodaibo 59.78 351 *e*P **P 16 31 32.9 -0.3**
BOD pmax pmax
comp=Z,120nm,1.5s
BKNR BIKANER 60.28 303 *e*P **P 16 31 34.6 -2.6**
JMU Jammu 60.62 309 *e*P **P 16 31 36.7 -2.8**
SRNI Srinagar 61.20 310 *e*P **P 16 31 40.0 -3.3**
ZSN Zaisan 61.43 328 ⇑*i*P **P 16 31 44.8 0.0**
comp=Z,86nm,1.9s
ZSN *e*S **S 16 40 06.6 +1.2**
ZSN Zaisan 61.43 328*c i*P **P 16 31 44.7 0.0**
ZSN *e*S **S 16 40 06.6 +1.2**
ZSN pmax pmax
comp=Z,85nm,1.9s
JASL Jaisalmer 61.95 301 *e*P **P 16 31 45.1 -3.5**
SHLS Shalkode 62.12 321 ⇑*i*P **P 16 31 47.8 -1.8**
comp=Z,33nm,0.8s
SHLS *e*S **S 16 40 12.2 -2.4**
SHLS Shalkode 62.12 321*c i*P **P 16 31 47.8 -1.8**
SHLS *e*S **S 16 40 12.1 -2.4**
SHLS pmax pmax
comp=Z,33nm,0.8s
NIL Nilore 62.25 309 P **P 16 31 49.7 -0.9**
NIL Nilore 62.25 309 P **P 16 31 49.7 -0.9**
NIL pmax pmax
comp=Z,258nm,1.7s
UZB Uzunbulak 62.39 321 ⇑*i*P **P 16 31 51.3 -0.1**
comp=Z,28nm,0.8s
UZB Uzunbulak 62.39 321*c i*P **P 16 31 51.3 -0.1**
UZB pmax pmax
comp=Z,28nm,0.8s
MK31 Makanchi Array 62.45 326*c i*P **P 16 31 51.3 -0.3**
MKAR Makanchi Array 62.45 326 P **P 16 31 51.1 -0.5**
comp=Z,122nm,0.9s,baz=119,slow=8.3,SNR=284
MKAR S **S 16 40 16.8 -1.5**
comp=Z,0.7nm,0.9s,baz=158,slow=10,SNR=1.7
MKAR LR LR 17 00 10.4
comp=Z,2μm,21.4s,baz=106,slow=37
comp=Z,122nm,0.9s
KSH Kashi 62.66 316 P **P 16 31 53.9 +0.6**
KSH sP sP 16 32 01.8 +1.9
KSH S **S 16 40 19.8 -1.6**
KSH pmax pmax
comp=Z,63nm,0.9s
KSH pmax pmax
comp=Z,2μm,8.3s
KSH LR LR
comp=Z,2μm,20.7s
KSH LR LR
comp=Z,1μm,24.0s
KSH LR LR
comp=Z,2μm,23.5s
SATY Saty 62.73 321 *e*P **P 16 31 53.6 -0.1**
comp=Z,44nm,1.0s
SATY *e*S **S 16 40 23.0 +0.7**
SATY Saty 62.73 321 *e*P **P 16 31 53.6 -0.1**
SATY *e*S **S 16 40 22.9 +0.7**
SATY pmax pmax
comp=Z,44nm,1.0s
KPKS Kokpek 62.77 321 *e*P **P 16 31 53.8 -0.1**
KPKS *e*S **S 16 40 23.3 +0.7**
KPKS Kokpek 62.77 321 *e*P **P 16 31 53.7 -0.1**
KPKS *e*S **S 16 40 23.2 +0.7**
MA2 Magadan 62.87 13 P **P 16 31 54.0 0.0**
MA2 Magadan 62.87 13 LR LR 16 56 49.9
comp=Z,2μm,21.7s,baz=204,slow=34
MA2 Magadan 62.87 13 P **P 16 31 56.1 +2.0**
MA2 Magadan 62.87 13 ⇑*i*P **P 16 31 55.4 +1.3**
MA2 pmax pmax
comp=Z,211nm,1.1s
MA2 MLR MLR
comp=Z,2μm,18.0s
YAK Yakutsk 62.87 1 P **P 16 31 53.8 -0.2**
YAK Yakutsk 62.87 1 IAMs_20 IAMs_20 16 56 20.6
comp=Z,4μm,22.0s
YAK Yakutsk 62.87 1 LR LR 16 55 54.6
comp=Z,3μm,21.9s,baz=178,slow=33
YAK Yakutsk 62.87 1 *e*P **P 16 31 54.9 +0.9**
YAK *e**PP **pP 16 31 58.2 -0.4**
YAK *e* 16 32 35.2
YAK *e* 16 34 12.3
YAK *e*S **S 16 40 25.0 +2.1**
YAK *e**SS **sS 16 40 35.5 +5.0**
YAK *e*SS **SS 16 44 24.7 -3.6**
YAK pmax pmax
comp=Z,439nm,0.9s
YAK pmax pmax
comp=N,75nm,1.3s
YAK pmax pmax
comp=E,28nm,1.0s
YAK pmax pmax
comp=Z,566nm,4.3s
YAK pmax pmax
comp=N,738nm,4.0s
YAK pmax pmax
comp=E,387nm,4.1s
YAK smax smax
comp=N,1μm,6.7s
YAK smax smax
comp=E,2μm,4.0s
YAK MLR MLR
comp=Z,3μm,23.0s
YAK MLR MLR
comp=N,2μm,22.0s
YAK MLR MLR
comp=E,2μm,23.0s
NRN Naryn 63.51 318 IAmb IAmb 16 32 01.9
comp=Z,50nm,1.0s
JOHN Johnston Islan 63.54 71 IAMs_20 IAMs_20 16 56 59.7
comp=Z,5μm,20.0s
MDOK Medeo 63.65 320 *e*P **P 16 31 59.7 -0.2**
MDOK *e*S **S 16 40 34.3 +0.6**
MDOK LR LR 17 02 24.5
MDOK Medeo 63.65 320 *e*P **P 16 31 59.6 -0.2**
MDOK *e*S **S 16 40 34.3 +0.6**
TNSS Tian-Shan 63.65 320 *e*P **P 16 31 59.6 -0.6**
TNSS Tian-Shan 63.65 320 *e*P **P 16 31 59.5 -0.6**
ARXS Arharly 63.68 322 *e*P **P 16 31 59.5 -0.4**
TDK Taldyqorghan 63.73 323 ⇑*i*P **P 16 32 00.2 +0.1**
comp=Z,1μm,18.0s
TDK LR LR 17 02 32.5
TDK Taldyqorghan 63.73 323*c i*P **P 16 32 00.2 +0.1**
ULHL Ulahol 63.73 319 P **P 16 32 01.4 +0.9**
SNR=7.9
AAA Alma-Ata 63.76 320 *e*P **P 16 32 00.4 0.0**
comp=Z,65nm,1.2s
AAA LR LR 17 02 37.3
AAA Alma-Ata 63.76 320 *e*P **P 16 32 00.4 0.0**
AAA pmax pmax
comp=Z,65nm,1.2s
KUU Kurty 64.45 321 *e*P **P 16 32 04.9 -0.1**
comp=Z,767nm,14.4s
KUU LR LR 17 02 38.9
comp=Z,800nm,14.4s
KUU Kurty 64.45 321 *e*P **P 16 32 04.8 -0.1**
KUU MLR MLR
comp=Z,801nm,14.0s
TKM2 Tokmak 2 64.47 319 P **P 16 32 05.1 -0.2**
SNR=127
KBK Karagaybulak 64.77 319 P **P 16 32 08.3 +1.1**
SNR=16
UCH Uchtor 64.86 318 P **P 16 32 08.6 +0.4**
SNR=129
CHMS Chumysh 65.06 319 P **P 16 32 09.4 +0.5**
SNR=16
AAK Ala-Archa 65.06 319 P **P 16 32 09.4 +0.3**
SNR=17
AAK Ala-Archa 65.06 319 P **P 16 32 08.8 -0.3**
AAK IAmb IAmb 16 32 15.9
comp=Z,89nm,1.2s
AAK Ala-Archa 65.06 319 P **P 16 32 08.8 -0.3**
comp=Z,32nm,1.0s,baz=119,slow=5.6,SNR=36
AAK LR LR 17 00 14.3
comp=Z,2μm,20.8s,baz=98,slow=36
comp=Z,32nm,1.0s
AAK Ala-Archa 65.06 319 *i* P **P 16 32 08.5 -0.6**
SNR=18
AAK Ala-Archa 65.06 319 ⇑*i*P **P 16 32 09.4 +0.3**
AAK pmax pmax
comp=Z,87nm,1.2s
SGDS Sogindy 65.34 320 ⇑*i*P **P 16 32 10.6 -0.2**
USP Ospenovka 65.34 319 P **P 16 32 10.4 -0.3**
SNR=162
EKS2 Erkin-Say 65.54 319 P **P 16 32 12.1 -0.1**
SNR=100
ZALV Zalesovo Beam 65.59 333 P **P 16 32 10.4 -1.6**
ZALV Zalesovo Beam 65.59 333 P **P 16 32 11.0 -1.0**
comp=Z,69nm,0.9s,baz=117,slow=5.5,SNR=98
ZALV S **S 16 40 52.5 -4.4**
comp=Z,0.4nm,0.4s,baz=106,slow=11,SNR=1.4
ZALV LR LR 17 03 11.6
comp=Z,2μm,20.2s,baz=134,slow=38
comp=Z,69nm,0.9s
SHEM Shemya Is, Ala 65.68 28 LR LR 16 53 50.0
comp=Z,2μm,21.8s,baz=223,slow=30
KBU Kabul Universi 65.75 309 P **P 16 32 11.3 -2.5**
KBU S **S 16 41 01.7 +1.6**
KBL Kabul 65.83 309 P **P 16 32 13.0 -1.3**
KBL IAmb IAmb 16 32 21.7
comp=Z,77nm,1.1s
KBL Kabul 65.83 309 P **P 16 32 14.5 +0.2**
SNR=39
KBL P **P 16 32 14.5 +0.2**
SNR=39
KBL Kabul 65.83 309 P **P 16 32 13.0 -1.3**
KBL pmax pmax
comp=Z,77nm,1.1s
SEY Seymchan 66.24 12 LR LR 16 58 37.8
comp=Z,2μm,21.6s,baz=208,slow=34
SEY Seymchan 66.24 12 ⇑*i*P **P 16 32 17.7 +1.6**
SEY pmax pmax
comp=Z,154nm,1.1s
SEY MLR MLR
comp=Z,1μm,19.0s
CASY Casey 66.39 188 P **P 16 32 17.1 +0.1**
CASY IAmb IAmb 16 32 24.2
comp=Z,51nm,0.9s
CASY Casey 66.39 188 IAMs_20 IAMs_20 17 03 53.9
comp=Z,3μm,20.0s
BTLS Baital 66.44 321 *e*P **P 16 32 17.5 -0.3**
BTLS Baital 66.44 321 *e*P **P 16 32 17.4 -0.3**
KURBB Kurchatov Arra 66.67 328 P **P 16 32 18.7 -0.3**
comp=Z,169nm,0.9s,baz=125,slow=5.9,SNR=307
KURBB PP **PP 16 34 44.1 -1.8**
comp=Z,16nm,1.0s,baz=128,slow=8.6,SNR=4.2
KURBB S **S 16 41 06.9 -3.3**
comp=Z,0.4nm,0.3s,baz=120,slow=9.1,SNR=1.9

KURBB PKPPKP **P'P'df** **17 00 49.8 +0.1**
comp=Z,0.8nm,0.3s,baz=285,slow=3.9,SNR=5.5
KURBB LR LR 17 03 38.5
comp=Z,1µm,21.8s,baz=140,slow=38
comp=Z,169nm,0.9s
KURK Kurchatov 66.67 328 P **P** **16 32 18.3 -0.8**
KURK Kurchatov 66.67 328 P **P** **16 32 19.1 +0.1**
KURK P **P** **16 32 19.1 +0.1**
KURK Kurchatov 66.67 328 *c iP* **P** **16 32 18.6 -0.5**
KURK pmax pmax
comp=Z,129nm,0.9s
KURK MLR MLR
comp=Z,594nm,22.0s
DZA Taraz 67.27 318 *eP* **P** **16 32 23.1 -0.1**
comp=Z,42nm,0.8s
DZA Taraz 67.27 318 *eP* **P** **16 32 23.0 -0.1**
DZA pmax pmax
comp=Z,42nm,0.8s
SIMJ Simiganj 67.27 313 P **P** **16 32 22.3 -1.1**
SIMJ IAmb IAmb 16 32 26.4
comp=Z,116nm,1.2s
IUG luzhnay 67.85 317⇑ *iP* **P** **16 32 26.8 -0.2**
IUG *eS* **S** **16 41 25.8 +0.8**
IUG luzhnay 67.85 317 *c iP* **P** **16 32 26.7 -0.2**
IUG *eS* **S** **16 41 25.8 +0.8**
KK31 Karatay Array 67.91 318 IAmb IAmb 16 32 29.7
comp=Z,88nm,0.9s
KKAR Karatay Array 67.91 318 P **P** **16 32 26.1 -1.0**
KKAR Karatay Array 67.91 318 P **P** **16 32 26.1 -1.0**
CHM Chimkent 68.21 317 *eP* **P** **16 32 29.0 0.0**
comp=Z,48nm,0.8s
CHM LR LR 17 05 25.2
comp=Z,672nm,17.7s
CHM Chimkent 68.21 317 *eP* **P** **16 32 29.0 0.0**
CHM pmax pmax
comp=Z,48nm,0.8s
BRLS Borolday 68.33 318⇑ *iP* **P** **16 32 29.6 -0.3**
comp=Z,71nm,1.3s
BRLS Borolday 68.33 318 *c iP* **P** **16 32 29.5 -0.3**
BRLS pmax pmax
comp=Z,71nm,1.3s
BRZS Berezniki 69.56 325⇑ *iP* **P** **16 32 37.2 -0.2**
BRZS Berezniki 69.56 325 *c iP* **P** **16 32 37.1 -0.2**
ADK Adak 69.90 33 P **P** **16 32 41.1 +1.9**
JLN Jalan Bani Buh 71.10 294 P **P** **16 32 47.4 +0.1**
SNR=9.0
ATKA Atka Island 71.40 33 P **P** **16 32 48.8 +0.4**
WSAR Wadi Sarin 71.98 295 P **P** **16 32 52.0 -0.6**
comp=Z,0.3nm,1.1s,baz=124,slow=24,SNR=14
WSAR LR LR 17 05 29.1
comp=Z,6.8nm,21.8s,baz=122,slow=37
WSAR Wadi Sarin 71.98 295 P **P** **16 32 52.4 -0.1**
SNR=16
BVAR Borovoye Array 72.24 327 P **P** **16 32 53.0 -0.4**
comp=Z,83nm,0.9s
BVAR S **S** **16 42 13.4 -2.4**
BVAR LR LR 17 06 24.4
comp=Z,1µm,21.1s,baz=106,slow=37
comp=Z,83nm,0.9s
MHTO MHTO 72.25 292 P **P** **16 32 53.6 -0.6**
SNR=27
JMDO Jabal Madar 72.33 294 P **P** **16 32 54.3 -0.4**
SNR=25
SMDO Samad 72.48 294 P **P** **16 32 55.7 +0.1**
SNR=13
BIDO Bidbid 72.48 295 P **P** **16 32 55.7 +0.2**
SNR=28
DQM DQM 72.50 291 P **P** **16 32 55.9 +0.2**
SNR=9.4
TIXI Tiksi 72.53 0 P **P** **16 32 54.5 -0.3**
TIXI IAmb IAmb 16 32 58.3
comp=Z,143nm,1.4s
TIXI Tiksi 72.53 0 LR LR 17 04 44.7
comp=Z,5µm,21.9s,baz=194,slow=36
TIXI Tiksi 72.53 0 *c iP* **P** **16 32 54.4 -0.4**
TIXI pmax pmax
comp=Z,203nm,1.8s
RAR Rarotonga 72.59 112 LR LR 17 06 15.6
comp=Z,796nm,19.2s,baz=282,slow=37
MSEY Mahe Island 73.02 265 P **P** **16 32 58.9 -0.1**
HOQ Hoqain 73.23 295 P **P** **16 33 00.0 0.0**
SNR=27
KEKH Kekaha 73.50 67 IAMs_20 IAMs_20 17 00 15.6
comp=Z,4µm,21.0s
BILL Bilibino 73.66 14 IAMs_20 IAMs_20 17 06 23.2
comp=Z,3µm,20.0s
BILL Bilibino 73.66 14⇓ *iP* **P** **16 33 02.3 +0.7**
BILL pmax pmax
comp=Z,38nm,1.4s
BILL MLR MLR
comp=Z,2µm,18.0s
ARQ Araqi 73.91 295 P **P** **16 33 03.4 -0.6**
SNR=26
SOHO SOHO 74.02 295 P **P** **16 33 04.7 +0.1**
SOHO SOHO 74.02 295 *i P* **P** **16 33 03.7 -0.9**
SNR=20
SHAO Shalim 74.07 289 P **P** **16 33 05.2 +0.2**
XMAS Kiritimati 74.08 88 IAMs_20 IAMs_20 17 06 21.4
comp=Z,3µm,21.0s
XMAS Kiritimati 74.08 88 P **P** **16 33 07.5 +2.4**
MDH Madha 74.40 296 P **P** **16 33 05.8 -1.0**
UOSS Minazif 74.43 296 P **P** **16 33 06.1 -0.9**
UOSS Minazif 74.43 296 *i P* **P** **16 33 05.8 -1.2**
SNR=13
HATD Hatta, Dubai 74.48 296 P **P** **16 33 07.5 +0.2**
SNR=17
HATD Hatta, Dubai 74.48 296 *i P* **P** **16 33 06.8 -0.5**
SNR=19
BANOM Banah 74.49 297 P **P** **16 33 07.5 +0.1**
BANOM Banah 74.49 297 *i P* **P** **16 33 06.8 -0.6**
SNR=9.8
ASHO Ashiyiah 74.53 296 P **P** **16 33 07.7 +0.1**
SNR=26
ASHO Ashiyiah 74.53 296 *i P* **P** **16 33 07.0 -0.6**
SNR=17
MSFE Esma-Masafi 74.53 297 *i P* **P** **16 33 07.1 -0.6**
SNR=16
MASF Masafi 74.53 297 P **P** **16 33 08.0 +0.4**
SNR=20
SHME Shamm 74.65 297 P **P** **16 33 08.5 +0.3**
SNR=15
SHME Shamm 74.65 297 *i P* **P** **16 33 07.6 -0.7**
SNR=20
ALNE Al Ain 74.71 295 P **P** **16 33 08.9 +0.2**
SNR=50
ALNE Al Ain 74.71 295 *i P* **P** **16 33 08.0 -0.7**
SNR=26
NAZ Nazwa, Dubai 74.92 296 P **P** **16 33 10.0 +0.2**
SNR=19
NAZ Nazwa, Dubai 74.92 296 *i P* **P** **16 33 08.9 -0.9**
SNR=19
FAQ Al Faqa, Dubai 74.95 296 P **P** **16 33 10.0 0.0**
SNR=17
FAQ Al Faqa, Dubai 74.95 296 *i P* **P** **16 33 09.0 -1.1**
SNR=13
KIP Kipapa 75.00 68 P **P** **16 33 12.9 +2.6**
KIP Kipapa 75.00 68 P **P** **16 33 12.2 +1.9**
KIP Kipapa 75.00 68⇓ *iP* **P** **16 33 11.0 +0.7**
KIP pmax pmax
comp=Z,89nm,1.3s
KIP MLR MLR
comp=Z,1µm,17.0s
UMQ Umm Al-Quwin 75.00 297 P **P** **16 33 12.7 +2.5**
SNR=7.8
UMQ Umm Al-Quwin 75.00 297 *i P* **P** **16 33 10.4 +0.1**
SNR=8.1
ASUD Al Ashush, Dub 75.17 296 P **P** **16 33 11.6 +0.3**
SNR=22
ASUD Al Ashush, Dub 75.17 296 *i P* **P** **16 33 11.1 -0.1**
SNR=18
RBK Rabkut 75.36 288 P **P** **16 33 12.5 -0.1**
AJN Ajban 75.47 296 P **P** **16 33 13.1 +0.1**
SNR=11
AJN Ajban 75.47 296 *i P* **P** **16 33 12.2 -0.8**
SNR=12
DOK Doka 75.55 289 *i P* **P** **16 33 12.6 -0.9**
SNR=5.4
SPIA Saint Paul Isl 75.67 30 P **P** **16 33 15.2 +1.8**
baz=245
P08K Saint George I 75.77 30 IAMs_20 IAMs_20 17 00 19.5
comp=Z,3µm,22.0s
P08K Saint George I 75.77 30 P **P** **16 33 15.6 +1.6**
baz=245
WHFO Wadi Hawf 75.82 289 P **P** **16 33 13.8 -1.3**
ABTO Aybut 76.21 288 P **P** **16 33 17.0 -0.5**
UNV Unalaska Valle 76.31 34 IAmb IAmb 16 33 39.5
comp=Z,88nm,1.2s
UNV Unalaska Valle 76.31 34 P **P** **16 33 18.1 +1.0**
baz=249
HLK Haleakala 76.56 69 IAMs_20 IAMs_20 17 00 29.7
comp=Z,4µm,20.0s
MZR Muzera 76.64 294 P **P** **16 33 19.8 0.0**
SNR=15
MZR Muzera 76.64 294 *i P* **P** **16 33 19.0 -0.8**
SNR=10
LVA Lava Point 76.68 33 IAMs_20 IAMs_20 17 00 22.6
comp=Z,3µm,22.0s
AKUT Akutan 76.82 33 IAMs_20 IAMs_20 17 06 10.2
comp=Z,3µm,21.0s
AKUT Akutan 76.82 33 P **P** **16 33 22.7 +2.7**
AB31 Akbulak array 76.93 321 IAmb IAmb 16 33 23.1
comp=Z,63nm,0.9s
ABKAR Akbulak array 76.93 321 P **P** **16 33 19.1 -1.7**
HPAH Hawaii Prepara 76.99 69 IAMs_20 IAMs_20 17 01 05.3
comp=Z,4µm,21.0s
MWH Mokuaweoweo 77.03 70 IAMs_20 IAMs_20 17 00 59.4
comp=Z,4µm,20.0s
POHA Pohakuloa 77.12 70 P **P** **16 33 22.1 -0.7**
POHA IAmb IAmb 16 33 26.0
comp=Z,120nm,1.1s
POHA Pohakuloa 77.12 70 P **P** **16 33 24.4 +1.6**
AIN Ainahou 77.15 70 P **P** **16 33 22.2 -0.6**
HLP Hilina Pali 77.28 70 IAMs_20 IAMs_20 17 01 29.1
comp=Z,4µm,21.0s
UWE Uwekahuna 77.31 70 P **P** **16 33 24.1 +0.4**
UWE IAMs_20 IAMs_20 17 01 27.8
comp=Z,4µm,22.0s
BYL Byron's Ledge 77.34 70 IAMs_20 IAMs_20 17 01 17.6
comp=Z,3µm,20.0s
HATHI Halema'uma'u T 77.34 70 IAMs_20 IAMs_20 17 01 40.6
comp=Z,4µm,21.0s
PUH Pauahi 77.38 70 IAMs_20 IAMs_20 17 01 30.6
comp=Z,4µm,22.0s
KNHH Kane Nui o Ham 77.42 70 P **P** **16 33 24.6 +0.3**
JRN Qarnain Island 77.45 296 P **P** **16 33 24.0 -0.2**
SNR=6.5
STCH Steam Cracks 77.47 70 P **P** **16 33 23.1 -1.4**
JOKA Jonika Flow 77.58 70 IAMs_20 IAMs_20 17 01 23.0
comp=Z,4µm,22.0s
GAMB Gambell 77.99 23 IAmb IAmb 16 33 29.7
comp=Z,54nm,1.0s
GAMB Gambell 77.99 23 P **P** **16 33 27.7 +1.3**
baz=242
GAMB S **S** **16 43 21.0 +1.8**
baz=242
FALS False Pass 78.35 33 IAmb IAmb 16 33 31.6
comp=Z,146nm,1.1s
FALS IAMs_20 IAMs_20 17 03 18.8
comp=Z,3µm,22.0s
FALS False Pass 78.35 33 P **P** **16 33 31.1 +2.5**
FALS False Pass 78.35 33 P **P** **16 33 28.2 -0.4**
baz=251
AKTO Aktyubinsk 78.46 322 P **P** **16 33 28.8 -0.5**
comp=Z,85nm,0.9s,baz=108,slow=6.2,SNR=109
AKTO LR LR 17 13 24.3
comp=Z,2µm,18.1s,baz=104,slow=40
comp=Z,85nm,0.9s
VNDA Vanda 78.54 173 P **P** **16 33 29.5 +0.2**
VNDA IAmb IAmb 16 33 36.1
comp=Z,72nm,1.1s
VNDA Vanda 78.54 173 P **P** **16 33 29.9 +0.7**
comp=Z,43nm,0.8s,baz=314,slow=6.3,SNR=110
VNDA PP **PP** **16 36 27.9 +1.1**
comp=Z,11nm,1.0s,baz=314,slow=11,SNR=3.0
VNDA PKKP **PKKPdf** **16 52 13.3 -3.4**
comp=Z,3.9nm,0.7s,baz=45,slow=2.9,SNR=5.1
VNDA LR LR 17 10 02.8
comp=Z,1µm,18.1s,baz=340,slow=37
comp=Z,43nm,0.8s
VNDA Vanda 78.54 173 P **P** **16 33 30.0 +0.7**
SBV Sambava 78.68 257 P **P** **16 33 32.1 +0.8**
M11K Mekoryuk 78.89 27 P **P** **16 33 33.0 +1.6**
baz=248
TRNA Turayna 78.90 295 P **P** **16 33 32.1 -0.2**
SVE Sverdlovsk 78.91 329 *d iP* **P** **16 33 31.3 -0.3**
SVE *e* 16 36 29.5
SVE *eS* **S** **16 43 30.0 +0.6**
SVE pmax pmax
comp=Z,175nm,1.2s
SVE pmax pmax
comp=Z,924nm,11.1s
SVE MLR MLR
comp=Z,2µm,19.0s
SMRA Abu-Samra 79.25 295 P **P** **16 33 34.0 -0.2**
SNR=7.4
S12K Black Hills 79.36 33 P **P** **16 33 34.6 +0.5**
baz=252
SBA Scott Base 79.44 172 P **P** **16 33 34.7 +0.6**
SBA IAmb IAmb 16 33 42.3
comp=Z,97nm,1.1s
SBA Scott Base 79.44 172 P **P** **16 33 34.7 +0.6**
SBA pmax pmax
comp=Z,97nm,1.2s
SBA MLR MLR
comp=Z,2µm,21.0s
ARTI Arti 79.95 328 P **P** **16 33 35.8 -1.5**
ARTI IAmb IAmb 16 33 38.2
comp=Z,79nm,0.7s
ARTI Arti 79.95 328 P **P** **16 33 36.8 -0.5**
comp=Z,62nm,0.8s,baz=176,slow=3.3,SNR=8.4
ARTI LR LR 17 10 46.4
comp=Z,1µm,21.2s,baz=104,slow=37
comp=Z,62nm,0.8s
ARTI Arti 79.95 328 *c iP* **P** **16 33 36.3 -1.0**
ARTI 16 36 36.8
ARTI S **S** **16 43 42.1 +1.6**
ARTI SS **SS** **16 48 45.4 -4.9**
ARTI pmax pmax
comp=Z,75nm,0.8s
MAW Mawson 79.98 201 P **P** **16 33 38.2 +1.0**
comp=Z,58nm,1.1s,baz=66,slow=6.4,SNR=35
MAW PKKPbc **PKKPbc** **16 52 22.7 -2.8**
comp=Z,1.5nm,0.7s,baz=213,slow=3.6,SNR=4.4
comp=Z,58nm,1.1s
SDPT Sand Point 80.11 33 IAmb IAmb 16 34 25.6
comp=Z,210nm,1.2s
SDPT Sand Point 80.11 33 P **P** **16 33 40.8 +2.6**
SDPT Sand Point 80.11 33 P **P** **16 33 38.8 +0.6**
baz=254
SDPT S **S** **16 43 41.2 -1.1**
baz=254
K13K Kusilvak Mount 80.16 26 P **P** **16 33 40.1 +1.8**
baz=249,SNR=26
K13K S **S** **16 43 45.3 +2.8**
baz=249
M13K Dall Lake 80.22 28 IAmb IAmb 16 33 42.4
comp=Z,84nm,1.0s
M13K Dall Lake 80.22 28 P **P** **16 33 40.4 +1.8**
baz=250,SNR=5.6
TNA Tin City 80.24 22 P **P** **16 33 40.1 +1.5**
baz=245
TNA S **S** **16 43 45.5 +2.3**
baz=245
CNBA Chernabura Isl 80.46 34 IAmb IAmb 16 33 47.0
comp=Z,82nm,1.0s
CHNA Chernabura Isl 80.46 34 P **P** **16 33 42.4 +2.3**
CHNA Chernabura Isl 80.46 34 P **P** **16 33 41.0 +1.0**
baz=254
CHNA S **S** **16 43 47.3 +1.4**
baz=254
F14K Arctic Creek 80.81 23 P **P** **16 33 43.4 +1.7**
baz=247
F14K S **S** **16 43 51.8 +2.6**
baz=247
ANM Nome 80.83 24 P **P** **16 33 43.5 +1.6**
baz=248
ANM S **S** **16 43 51.2 +1.7**
baz=248
L14K Kuka Creek 80.84 27 IAmb IAmb 16 33 45.5
comp=Z,81nm,0.9s
L14K Kuka Creek 80.84 27 P **P** **16 33 43.5 +1.6**
baz=251
L14K S **S** **16 43 49.7 0.0**
baz=251
O14K Tigyukauivet M 80.85 29 P **P** **16 33 43.2 +1.1**
baz=252
O14K S **S** **16 43 50.2 +0.4**
baz=252
N14K Kuskokwak Cree 80.85 29 IAmb IAmb 16 33 45.2
comp=Z,76nm,0.9s
N14K Kuskokwak Cree 80.85 29 P **P** **16 33 43.4 +1.4**
baz=252,SNR=8.0
N14K S **S** **16 43 50.7 +1.0**
baz=252
S14K Fog Glacier 80.87 32 P **P** **16 33 43.7 +1.3**
baz=254
J14K Nanvaranak Lak 80.93 26 P **P** **16 33 44.1 +1.7**
baz=250
J14K S **S** **16 43 53.0 +2.4**
baz=250
M14K Bethel 80.98 28 IAmb IAmb 16 33 46.1
comp=Z,86nm,1.0s
M14K Bethel 80.98 28 P **P** **16 33 44.4 +1.6**
baz=251,SNR=14
M14K S **S** **16 43 53.5 +2.4**
baz=251
ABPO Ambohimpanom 81.45 251 P **P** **16 33 46.1 -0.2**
ABPO IAmb IAmb 16 33 53.0
comp=Z,188nm,1.8s
ABPO Ambohimpanom 81.45 251 P **P** **16 33 46.1 -0.2**
ABPO pmax pmax
comp=Z,188nm,1.8s
ABPO MLR MLR
comp=Z,1µm,20.0s
CHGN Chignik 81.49 33 IAMs_20 IAMs_20 17 03 25.8
comp=Z,3µm,22.0s
CHGN Chignik 81.49 33 P **P** **16 33 45.8 +0.3**
baz=255
L15K Ungalak Mounta 81.49 27 P **P** **16 33 46.7 +1.3**
baz=252,SNR=20
L15K S **S** **16 43 57.7 +1.3**
baz=252
G15K Niukluk 81.52 23 P **P** **16 33 46.9 +1.3**
baz=249,SNR=9.0
G15K S **S** **16 43 59.4 +2.7**
baz=249
O15K Ungalikthiuk R 81.53 30 IAMs_20 IAMs_20 17 02 14.8
comp=Z,2µm,22.0s
O15K Ungalikthiuk R 81.53 30 P **P** **16 33 47.2 +1.5**
baz=254,SNR=5.5
O15K S **S** **16 43 58.4 +1.4**
baz=254
F15K North Star Dit 81.55 23 IAmb IAmb 16 33 58.9
comp=Z,188nm,1.7s
F15K North Star Dit 81.55 23 P **P** **16 33 47.4 +1.7**
baz=248,SNR=8.0
F15K S **S** **16 43 58.5 +1.6**
baz=248
M15K Kasigluk River 81.56 28 P **P** **16 33 47.1 +1.3**
baz=253,SNR=10
M15K S **S** **16 43 58.8 +1.6**
baz=253
K15K Wolf Creek Mou 81.67 26 IAmb IAmb 16 33 50.6
comp=Z,90nm,0.8s
K15K IAMs_20 IAMs_20 17 09 33.2
comp=Z,2µm,20.0s
K15K Wolf Creek Mou 81.67 26 P **P** **16 33 48.0 +1.7**
baz=252,SNR=35
K15K S **S** **16 44 01.4 +3.2**
baz=252
N15K Kwethluk River 81.69 29 P **P** **16 33 48.1 +1.6**
baz=253,SNR=14
N15K S **S** **16 44 00.2 +1.7**
baz=253
FOMA Nahampoana Res 81.91 245 P **P** **16 33 47.9 -0.6**
FOMA IAmb IAmb 16 33 56.5
comp=Z,69nm,1.0s
VOI Vohitsoka 81.95 248 P **P** **16 33 48.6 -0.3**
VOI IAmb IAmb 16 33 54.3
comp=Z,86nm,1.1s
VOI Vohitsoka 81.95 248 P **P** **16 33 49.5 +0.6**
SNR=8.1
PAE Paea 81.97 108 *eP* **P** **16 33 47.2 -1.7**
comp=Z,25nm,1.0s
PAE Paea 81.97 108 *eLR* LR 16 59 22.9
comp=Z,410nm,26.1s
PPT Papeete 81.97 107 P **P** **16 33 50.6 +1.7**
comp=Z,54nm,0.9s,baz=300,slow=8.9,SNR=6.9
PPT LR LR 17 09 52.9
comp=Z,595nm,19.0s,baz=272,slow=35
comp=Z,54nm,0.9s
PPT2 Papeete2 81.98 108 *eP* **P** **16 33 49.1 +0.1**
comp=Z,69nm,1.0s
PPT2 Papeete2 81.98 108 *eS* **S** **16 43 57.5 -5.8**
comp=Z,571nm,24.8s
PPT2 *eSS* **SS** **16 49 15.8 -6.6**
comp=Z,635nm,23.5s
PPT2 *eLQ* LQ 16 56 00.8
comp=Z,5µm,32.5s
PPT2 *eLR* LR 16 59 21.3
comp=Z,4µm,32.2s
PPT2 *eLR* LR 16 59 24.4
comp=Z,2µm,32.8s
PPTF Pamatai, Papee 81.99 108 P **P** **16 33 51.1 +2.0**
H16K Elim 82.12 24 P **P** **16 33 50.1 +1.4**
baz=251,SNR=9.8
H16K S **S** **16 44 04.8 +2.0**
baz=251
TIAR Tiarei 82.19 107 *eP* **P** **16 33 48.8 -1.3**
comp=Z,183nm,1.2s
TIAR Tiarei 82.19 107 *eLR* LR 16 59 29.1
comp=Z,4µm,26.1s
R16K Pilot Point 82.25 32 P **P** **16 33 50.9 +1.4**
baz=256
C16K Lisburne Hills 82.27 20 P **P** **16 33 50.9 +1.5**
baz=247,SNR=6.4
C16K S **S** **16 44 06.9 +2.7**
baz=247
TBI Tubuai 82.27 113 *eP* P 16 33 45.1 -5.3
comp=Z,342nm,1.3s
TBI Tubuai 82.27 113 *eS* **S** **16 44 03.1 -2.9**
comp=Z,2µm,29.5s
TBI *eSS* **SS** **16 49 24.6 -1.8**
comp=Z,5µm,29.5s
TBI *eLQ* LQ 16 56 05.6
comp=Z,24µm,51.8s
TBI *eLR* LR 16 59 27.0
comp=Z,2µm,29.2s
TBI *eLR* LR 16 59 32.7
comp=Z,11µm,25.5s
TVO Taravao 82.29 108 *eP* **P** **16 33 48.9 -1.8**
comp=Z,57nm,1.5s
TVO Taravao 82.29 108 *eLR* LR 16 59 41.0
comp=Z,892nm,27.2s
G16K Koyuk River 82.33 23 IAmb IAmb 16 33 54.1
comp=Z,86nm,0.9s
G16K Koyuk River 82.33 23 P **P** **16 33 51.3 +1.5**
baz=250,SNR=36
G16K S **S** **16 44 07.4 +2.5**
baz=250
J16K Anvik River 82.38 26 IAmb IAmb 16 33 55.8
comp=Z,91nm,1.1s
J16K Anvik River 82.38 26 P **P** **16 33 51.9 +1.8**
baz=252,SNR=26
J16K S **S** **16 44 08.9 +3.4**
baz=252
N16K Nishlik Lake 82.41 28 P **P** **16 33 52.2 +1.9**
baz=254,SNR=28
N16K S **S** **16 44 08.8 +2.8**
baz=254
P16K Nushagak River 82.41 30 IAMs_20 IAMs_20 17 08 33.9
comp=Z,2µm,21.0s
P16K Nushagak River 82.41 30 P **P** **16 33 51.7 +1.5**
baz=255,SNR=11
P16K S **S** **16 44 09.3 +3.4**
baz=255
L16K Owhat River 82.42 27 IAmb IAmb 16 33 53.6
comp=Z,71nm,0.9s
L16K Owhat River 82.42 27 P **P** **16 33 51.8 +1.5**
baz=254,SNR=29
L16K S **S** **16 44 07.9 +1.9**
baz=254
M16K Timber Creek 82.46 28 IAmb IAmb 16 33 54.0
comp=Z,75nm,0.8s
M16K Timber Creek 82.46 28 P **P** **16 33 52.3 +1.7**
baz=254,SNR=31
M16K S **S** **16 44 09.9 +3.4**
baz=254
O16K Kokwok River B 82.50 29 IAmb IAmb 16 33 55.0
comp=Z,56nm,0.9s
O16K IAMs_20 IAMs_20 17 04 08.3
comp=Z,3µm,22.0s
O16K Kokwok River B 82.50 29 P **P** **16 33 52.1 +1.3**
baz=255,SNR=20
O16K S **S** **16 44 09.3 +2.4**
baz=255
I17K Unalakleet 82.52 25 P **P** **16 33 52.9 +2.0**
baz=252,SNR=6.3
I17K S **S** **16 44 10.5 +3.5**
baz=252
D17K Noatak River 82.85 21 P **P** **16 33 54.3 +1.9**
baz=250,SNR=63

D17K S **SKSac** **16 44 13.4 +0.2**
baz=250
CHIR **Chirikof Islan** **82.90 33** P **P** **16 33 54.4 +1.5**
baz=258
R17L **Mt. Peulik Vol** **82.90 32** P **P** **16 33 53.5 +0.5**
baz=257,SNR=10
R17L S **S** **16 44 11.6 +0.5**
baz=257
PLK4 **Peulik 4** **82.90 32** IAmb IAmb 16 33 59.9
comp=Z,92nm,1.0s
PLK4 IAMs_20 IAMs_20 17 04 27.1
comp=Z,3µm,22.0s
Q16K **King Salmon** **82.99 31** P **P** **16 33 53.7 +0.4**
baz=256
RDOG **Red Dog Mine** **83.03 21** IAMs_20 IAMs_20 17 09 24.2
comp=Z,2µm,22.0s
RDOG **Red Dog Mine** **83.03 21** P **P** **16 33 55.3 +1.9**
baz=250,SNR=12
RDOG S **S** **16 44 14.4 +2.3**
baz=250
O17K **Koliganek Bris** **83.03 29** P **P** **16 33 55.1 +1.6**
baz=256,SNR=22
O17K S **S** **16 44 14.3 +2.0**
baz=256
G17K **Kiwalik Mounta** **83.04 23** P **P** **16 33 55.4 +1.9**
baz=252,SNR=59
G17K S **S** **16 44 14.6 +2.4**
baz=252
J17K **VABM Dome** **83.07 26** P **P** **16 33 55.7 +2.0**
baz=254,SNR=43
J17K S **SKSac** **16 44 15.8 +0.9**
baz=254
L17K **Donlin** **83.07 27** P **P** **16 33 55.7 +2.0**
baz=255,SNR=22
L17K S **SKSac** **16 44 16.3 +1.3**
baz=255
C17K **DeLong Mountai** **83.09 20** P **P** **16 33 55.7 +2.0**
baz=249,SNR=27
E17K **Hotham Inlet** **83.09 22** P **P** **16 33 55.5 +1.8**
baz=251,SNR=42
E17K S **SKSac** **16 44 16.5 +1.5**
baz=251
F17K **Baldwin Pennin** **83.10 22** P **P** **16 33 55.7 +1.9**
baz=251,SNR=29
F17K S **SKSac** **16 44 16.5 +1.5**
baz=251
H17K **Granite Mounta** **83.16 24** P **P** **16 33 56.2 +2.1**
baz=253,SNR=49
H17K S **SKSac** **16 44 16.3 +0.8**
baz=253
N17K **Nushagak Hills** **83.17 29** IAmb IAmb 16 33 58.1
comp=Z,53nm,1.1s
N17K IAMs_20 IAMs_20 17 04 30.2
comp=Z,3µm,22.0s
N17K **Nushagak Hills** **83.17 29** P **P** **16 33 56.0 +1.7**
baz=256,SNR=8.5
N17K S **SKSac** **16 44 16.9 +1.1**
baz=256
P17K **Kvichak River** **83.22 30** P **P** **16 33 55.5 +1.0**
baz=256,SNR=6.8
P17K S **S** **16 44 16.6 +2.4**
baz=256
K17K **Iditarod** **83.22 26** IAMs_20 IAMs_20 17 10 12.4
comp=Z,2µm,20.0s
K17K **Iditarod** **83.22 26** P **P** **16 33 56.6 +2.1**
baz=254,SNR=62
K17K S **SKSac** **16 44 17.9 +1.9**
baz=254
M17K **Holitna River** **83.27 28** IAmb IAmb 16 33 58.9
comp=Z,112nm,1.3s
M17K **Holitna River** **83.27 28** P **P** **16 33 56.8 +2.0**
baz=255,SNR=15
M17K S **SKSac** **16 44 17.6 +1.2**
baz=255
Q17K **Contact Creek** **83.29 31** P **P** **16 33 55.0 -0.1**
baz=257
PMOR **Pomariorio Ree** **83.54 105** *e*P **P** **16 33 57.2 +0.1**
comp=Z,219nm,1.3s
PMOR **Pomariorio Ree** **83.54 105** *e*LR LR 17 00 12.0
comp=Z,5µm,24.8s
ACHA **Angle Creek He** **83.57 31** IAmb IAmb 16 34 01.1
comp=Z,40nm,0.9s
E18K **Tukpahlearik C** **83.65 22** P **P** **16 33 58.4 +1.8**
baz=252,SNR=105
E18K S **SKSac** **16 44 20.6 +2.0**
baz=252
AKT **Akhty** **83.76 312** *e*P **P** **16 33 57.3 -0.6**
AKT *e* 16 33 59.2
AKT *i* 16 37 08.6
AKT *e*S **S** **16 44 17.3 -3.4**
AKT pmax pmax
comp=Z,23nm,0.9s
AKT MLR MLR
comp=Z,2µm,31.0s
F18K **Selawik** **83.76 22** P **P** **16 33 58.5 +1.3**
baz=253,SNR=17
F18K S **SKSac** **16 44 22.4 +3.1**
baz=253
VAH **Vaihoa** **83.80 105** *e*P **P** **16 33 56.9 -1.5**
comp=Z,17nm,1.1s
VAH **Vaihoa** **83.80 105** *e*LR LR 17 00 10.5
comp=Z,41µm,30.0s
L18K **Granite Mounta** **83.82 27** IAMs_20 IAMs_20 17 11 36.2
comp=Z,2µm,20.0s
L18K **Granite Mounta** **83.82 27** P **P** **16 33 59.5 +1.9**
baz=256,SNR=68
L18K S **S** **16 44 23.7 +3.5**
baz=256
Q18K **Katmai Hardscr** **83.83 31** P **P** **16 33 57.8 0.0**
baz=258,SNR=10
Q18K S **SKSac** **16 44 20.7 +0.3**
baz=258
C18K **Utukok River** **83.83 20** P **P** **16 33 59.2 +1.6**
baz=251,SNR=17
C18K S **S** **16 44 22.0 +1.8**
baz=251
N18K **Kilae Creek** **83.83 29** IAmb IAmb 16 34 01.4
comp=Z,100nm,1.3s
N18K **Kilae Creek** **83.83 29** P **P** **16 33 59.4 +1.7**
baz=257,SNR=15
N18K S **S** **16 44 23.5 +3.0**
baz=257
SII **Sitkinak Islan** **83.84 33** IAMs_20 IAMs_20 17 10 30.9
comp=Z,2µm,22.0s
SII **Sitkinak Islan** **83.84 33** P **P** **16 34 00.6 +2.8**
SII **Sitkinak Islan** **83.84 33** P **P** **16 33 59.2 +1.3**
baz=259,SNR=5.1
H18K **Honhosa River** **83.86 24** P **P** **16 33 59.1 +1.4**
baz=254,SNR=34
H18K S **S** **16 44 22.4 +1.9**
baz=254
B18K **Kokolik River** **83.86 20** P **P** **16 33 59.6 +2.0**
baz=250,SNR=11
B18K S **S** **16 44 22.7 +2.3**
baz=250
P18K **Big Mountain,** **83.87 30** IAMs_20 IAMs_20 17 05 00.6
comp=Z,3µm,22.0s
P18K **Big Mountain,** **83.87 30** P **P** **16 33 58.4 +0.4**
baz=258
P18K S **SKSac** **16 44 20.7 +0.2**
baz=258
R18K **Karluk** **83.89 32** P **P** **16 33 58.6 +0.6**
baz=258
R18K S **SKSac** **16 44 22.0 +1.6**
baz=258
G18K **Tagagawik** **83.94 23** IAmb IAmb 16 34 01.1
comp=Z,66nm,0.9s
G18K IAMs_20 IAMs_20 17 09 56.4
comp=Z,2µm,22.0s
G18K **Tagagawik** **83.94 23** P **P** **16 33 59.4 +1.2**
baz=254,SNR=51
G18K S **S** **16 44 24.4 +3.0**
baz=254
RAYN **Ar Rayn** **83.99 294** P **P** **16 33 58.6 -0.8**
RAYN IAmb IAmb 16 34 04.9
comp=Z,41nm,0.9s
RAYN **Ar Rayn** **83.99 294** *i* P **P** **16 33 58.9 -0.5**
SNR=55
RAYN **Ar Rayn** **83.99 294** P **P** **16 33 58.9 -0.5**
M18K **Stony River** **84.05 28** P **P** **16 34 00.6 +1.8**
baz=257,SNR=77
M18K S **S** **16 44 25.1 +2.6**
baz=257
MAK **Makhachkala** **84.10 313** *d* i P P 16 33 53.0 -6.4
MAK *e* 16 37 10.0
MAK *e*PPP PPP 16 39 07.5
MAK *e*S S 16 44 12.1 -12
MAK *e*SS **SS** **16 49 47.4 -5.2**
MAK *e*SSS SSS 16 53 17.5
MAK pmax pmax
comp=Z,280nm,1.4s
MAK MLR MLR
comp=Z,1µm,20.0s
J18K **Innoko River** **84.11 26** IAmb IAmb 16 34 02.1
comp=Z,84nm,0.9s
J18K IAMs_20 IAMs_20 17 10 20.9
comp=Z,2µm,21.0s
J18K **Innoko River** **84.11 26** P **P** **16 34 00.4 +1.3**
baz=256,SNR=49
J18K S **S** **16 44 25.2 +2.0**
baz=256
GCSA **Galena City Sc** **84.36 25** P **P** **16 34 01.8 +1.6**
baz=256,SNR=24
GCSA S **S** **16 44 27.2 +1.8**
baz=256
A19K **Wainwright** **84.38 19** P **P** **16 34 02.4 +2.2**
baz=251
A19K S **S** **16 44 27.3 +1.9**
baz=251
OHAK **Old Harbor** **84.44 32** P **P** **16 34 03.0 +2.2**
OHAK **Old Harbor** **84.44 32** P **P** **16 34 02.0 +1.2**
baz=260,SNR=8.7
OHAK S **S** **16 44 27.1 +0.5**
baz=260
O19K **Port Alsworth** **84.49 29** IAmb IAmb 16 34 03.7
comp=Z,59nm,1.1s
O19K **Port Alsworth** **84.49 29** P **P** **16 34 01.9 +0.9**
baz=258,SNR=7.7
O19K S **S** **16 44 28.4 +1.4**
baz=258
C19K **Lookout Ridge** **84.53 20** P **P** **16 34 03.1 +2.0**
baz=253,SNR=12
C19K S **S** **16 44 28.8 +1.6**
baz=253
N19K **Bonanza Creek** **84.54 29** P **P** **16 34 03.1 +1.7**
baz=258,SNR=92
N19K S **S** **16 44 28.8 +1.2**
baz=258
F19K **Shaleruckik Mo** **84.54 22** P **P** **16 34 02.5 +1.4**
baz=254,SNR=15
F19K S **S** **16 44 28.4 +1.1**
baz=254
Q19K **Cape Douglas,** **84.58 31** P **P** **16 34 01.8 +0.2**
baz=259
G19K **Purcell Mounta** **84.63 23** P **P** **16 34 03.1 +1.5**
baz=255,SNR=82
G19K S **S** **16 44 30.1 +1.9**
baz=255
L19K **White Mountain** **84.65 27** P **P** **16 34 03.5 +1.7**
baz=258,SNR=53
L19K S **S** **16 44 31.7 +3.1**
baz=258
J19K **Poorman** **84.71 25** IAmb IAmb 16 34 05.5
comp=Z,81nm,1.1s
J19K **Poorman** **84.71 25** P **P** **16 34 03.6 +1.5**
baz=257,SNR=50
J19K S **S** **16 44 32.3 +3.2**
baz=257
H19K **Roundabout Mou** **84.73 24** IAmb IAmb 16 34 05.7
comp=Z,61nm,0.9s
H19K **Roundabout Mou** **84.73 24** P **P** **16 34 03.6 +1.6**
baz=256,SNR=35
H19K S **S** **16 44 32.4 +3.2**
baz=256
D19K **Kuna River** **84.87 21** IAmb IAmb 16 34 16.4
comp=Z,37nm,0.8s
D19K **Kuna River** **84.87 21** P **P** **16 34 04.1 +1.3**
baz=254,SNR=14
D19K S **S** **16 44 32.6 +2.0**
baz=254
E19K **Redstone River** **84.91 22** P **P** **16 34 04.5 +1.4**
baz=255,SNR=27
E19K S **S** **16 44 33.3 +2.3**
baz=255
KDAK **Kodiak Island** **84.92 32** P **P** **16 34 03.7 +0.5**
KDAK **Kodiak Island** **84.92 32** IAMs_20 IAMs_20 17 05 49.4
comp=Z,3µm,22.0s
KDAK **Kodiak Island** **84.92 32** LR LR 17 06 24.2
comp=Z,2µm,21.9s,baz=238,slow=32
KDAK **Kodiak Island** **84.92 32** P **P** **16 34 03.7 +0.5**
KDAK pmax pmax
comp=Z,292nm,1.8s
KDAK MLR MLR
comp=Z,3µm,22.0s
KDAK **Kodiak Island** **84.92 32** P **P** **16 34 04.2 +1.0**
baz=260
KDAK S **S** **16 44 33.3 +2.0**
baz=260
P19K **Oil Pt** **84.92 30** IAmb IAmb 16 34 15.5
comp=Z,43nm,1.0s
P19K **Oil Pt** **84.92 30** P **P** **16 34 03.7 +0.4**
baz=259
ILSW **Iliamna Southw** **85.03 30** IAMs_20 IAMs_20 17 05 49.2
comp=Z,3µm,22.0s
L20K **Farewell, AK** **85.16 27** P **P** **16 34 06.0 +1.6**
baz=258,SNR=51
L20K S **S** **16 44 38.3 +4.7**
baz=258
Q20K **Shuyak Island** **85.16 31** P **P** **16 34 05.6 +1.2**
baz=260
SYI **Shuyak Island** **85.16 31** IAmb IAmb 16 34 12.3
comp=Z,88nm,1.1s
KIRV **Kirov** **85.17 329** LR LR 17 15 24.3
comp=Z,2µm,21.2s,baz=98,slow=38
KIRV **Kirov** **85.17 329** *ce*P **P** **16 34 04.3 -0.1**
BELG **Belogornoye** **85.23 323** P **P** **16 34 04.3 -0.6**
comp=Z,332nm,1.0s,baz=96,slow=1.5,SNR=33
comp=Z,332nm,1.0s
BELG **Belogornoye** **85.23 323** *ce*P **P** **16 34 04.2 -0.6**
BELG pmax pmax
comp=Z,70nm,1.0s
K20K **Telida** **85.25 26** IAmb IAmb 16 34 08.4
comp=Z,71nm,1.1s
K20K IAMs_20 IAMs_20 17 11 44.0
comp=Z,2µm,20.0s
K20K **Telida** **85.25 26** P **P** **16 34 06.4 +1.6**
baz=258,SNR=33
K20K S **S** **16 44 38.5 +4.0**
baz=258
O20K **Slope Mountain** **85.30 30** P **P** **16 34 05.2 0.0**
baz=260
H20K **Anotleneega Mo** **85.36 24** P **P** **16 34 06.3 +1.0**
baz=257,SNR=8.3
H20K S **S** **16 44 38.8 +3.3**
baz=257
I20K **Naaghedeneel** **85.37 25** IAmb IAmb 16 35 40.5
comp=Z,119nm,1.4s
I20K **Naaghedeneel** **85.37 25** P **P** **16 34 06.8 +1.5**
baz=258,SNR=11
I20K S **S** **16 44 38.9 +3.4**
baz=258
F20K **Avaraart Lake** **85.38 22** P **P** **16 34 06.8 +1.4**
baz=256,SNR=25
F20K S **S** **16 44 38.7 +3.1**
baz=256
J20K **Nowinta River** **85.38 25** IAmb IAmb 16 34 08.9
comp=Z,196nm,2.0s
J20K IAMs_20 IAMs_20 17 11 22.4
comp=Z,2µm,20.0s
J20K **Nowinta River** **85.38 25** P **P** **16 34 06.9 +1.5**
baz=258,SNR=14
J20K S **S** **16 44 39.2 +3.5**
baz=258
M20K **Styx River** **85.39 28** IAmb IAmb 16 34 09.0
comp=Z,88nm,0.9s
M20K **Styx River** **85.39 28** P **P** **16 34 07.0 +1.4**
baz=259,SNR=40
M20K S **S** **16 44 38.2 +2.1**
baz=259
D20K **Etivluk River** **85.46 21** IAmb IAmb 16 34 08.6
comp=Z,68nm,0.9s
D20K **Etivluk River** **85.46 21** P **P** **16 34 07.0 +1.2**
baz=256,SNR=34
D20K S **S** **16 44 38.3 +1.9**
baz=256
E20K **Nigu River** **85.50 21** P **P** **16 34 07.3 +1.3**
baz=256,SNR=67
E20K S **S** **16 44 39.0 +2.1**
baz=256
B20K **Meade River** **85.60 19** IAmb IAmb 16 34 10.1
comp=Z,50nm,0.8s
B20K **Meade River** **85.60 19** P **P** **16 34 07.7 +1.3**
baz=255,SNR=14
B20K S **S** **16 44 39.8 +2.2**
baz=255
SPCR **Spurr Chakacha** **85.70 28** P **P** **16 34 07.5 +0.3**
baz=260,SNR=6.4
HOM **Homer** **85.72 30** P **P** **16 34 07.6 +0.5**
baz=261
GNI **Garni** **85.88 310** P **P** **16 34 08.1 -0.6**
GNI IAmb IAmb 16 35 00.3
comp=Z,144nm,1.8s
GNI **Garni** **85.88 310** P **P** **16 34 09.0 +0.4**
comp=Z,2.0nm,0.3s,baz=189,slow=1.9,SNR=9.8
comp=Z,2.0nm,0.3s
GNI **Garni** **85.88 310** P **P** **16 34 08.9 +0.2**
GNI **Garni** **85.88 310** *ce*P **P** **16 34 08.9 +0.2**
GNI pmax pmax
comp=Z,90nm,2.8s
GNI **Garni** **85.88 310** P **P** **16 34 08.9 +0.2**
comp=Z,2µmcomp=Z,32nm,1.4s
CNPM **China Poot** **85.90 30** IAMs_20 IAMs_20 17 11 14.3
comp=Z,2µm,22.0s
IMAR **Indian Mountai** **85.92 24** P **P** **16 34 08.1 +0.1**
ATD **Arta Tunnel** **85.96 282** IAmb IAmb 16 34 18.5
comp=Z,64nm,1.2s
ATD **Arta Tunnel** **85.96 282** LR LR 17 12 06.1
comp=Z,20nm,18.6s,baz=90,slow=35
ATD **Arta Tunnel** **85.96 282** P **P** **16 34 11.7 +2.2**
SNR=7.4
PPLA **Purkeypile** **86.00 27** P **P** **16 34 09.5 +0.8**
baz=260,SNR=9.3
PPLA S **S** **16 44 42.2 +0.1**
baz=260
BRLK **Bradley Lake** **86.11 30** IAMs_20 IAMs_20 17 06 29.6
comp=Z,2µm,22.0s
CHUM **Lake Minchumin** **86.12 26** P **P** **16 34 10.2 +1.2**
baz=260,SNR=8.9
CHUM S **S** **16 44 44.1 +1.2**
baz=260
G21K **Allakaket** **86.12 23** IAMs_20 IAMs_20 17 11 12.9
comp=Z,2µm,22.0s
G21K **Allakaket** **86.12 23** P **P** **16 34 09.8 +0.7**
baz=258,SNR=17
G21K S **S** **16 44 44.9 +1.9**
baz=258
CAPN **Captain Cook N** **86.13 29** P **P** **16 34 10.3 +1.1**
baz=261
SKT **Skwentna** **86.15 28** P **P** **16 34 09.2 -0.2**
baz=261,SNR=27
SKT S **S** **16 44 41.9 -1.5**
baz=261
BRSE **Bradley Lake S** **86.18 30** P **P** **16 34 09.9 +0.3**
baz=261,SNR=22
BRSE S **S** **16 44 43.1 -0.7**
baz=261
C21K **Knifeblade Rid** **86.20 20** P **P** **16 34 10.8 +1.3**
baz=257,SNR=9.4
C21K S **S** **16 44 44.8 +1.1**
baz=257
H21K **Melozitna Rive** **86.24 24** P **P** **16 34 10.6 +0.9**
baz=259,SNR=13
H21K S **S** **16 44 46.7 +2.6**
baz=259
F21K **Alatna River** **86.27 22** P **P** **16 34 10.7 +0.8**
baz=258,SNR=16
F21K S **S** **16 44 45.4 +0.9**
baz=258
E21K **Killik River** **86.34 21** IAmb IAmb 16 34 12.7
comp=Z,49nm,0.8s
E21K **Killik River** **86.34 21** P **P** **16 34 11.0 +0.8**
baz=258,SNR=41
E21K S **S** **16 44 44.4 -0.6**
baz=258
B21K **Ikpikpuk River** **86.37 20** IAmb IAmb 16 34 13.0
comp=Z,55nm,0.8s
B21K **Ikpikpuk River** **86.37 20** P **P** **16 34 11.3 +1.1**
baz=257,SNR=20
B21K S **S** **16 44 46.3 +1.2**
baz=257
SUA **Susitna One** **86.44 28** IAmb IAmb 16 34 14.2
comp=Z,79nm,1.0s
SUA **Susitna One** **86.44 28** P **P** **16 34 10.9 0.0**
baz=261,SNR=16
SUA S **S** **16 44 44.4 -2.1**
baz=261
I21K **Tanana** **86.49 25** P **P** **16 34 11.8 +0.9**
baz=260
I21K S **S** **16 44 47.2 +0.7**
baz=260
A22K **Sinclair Lake** **86.56 19** P **P** **16 34 12.3 +1.2**
baz=257
A22K S **S** **16 44 47.0 +0.1**
baz=257
KTH **Kantishna Hill** **86.67 26** IAMs_20 IAMs_20 17 13 15.7
comp=Z,2µm,19.0s
BPAW **Bear Paw Mtn.** **86.73 26** IAMs_20 IAMs_20 17 11 31.1
comp=Z,2µm,20.0s
BPAW **Bear Paw Mtn.** **86.73 26** P **P** **16 34 12.6 +0.4**
baz=261,SNR=24
BPAW S **S** **16 44 48.4 -0.7**
baz=261
M22K **Willow** **86.78 28** P **P** **16 34 12.0 -0.4**
baz=262,SNR=22
M22K S **S** **16 44 47.0 -2.3**
baz=262
O22K **Cooper Landing** **86.79 29** IAMs_20 IAMs_20 17 07 40.8
comp=Z,2µm,21.0s
O22K **Cooper Landing** **86.79 29** P **P** **16 34 12.6 +0.2**
baz=262,SNR=6.9
O22K S **S** **16 44 48.6 -1.0**
baz=262
CUT **Chulitna** **86.80 27** IAmb IAmb 16 34 15.1
comp=Z,58nm,1.0s
CUT **Chulitna** **86.80 27** P **P** **16 34 12.4 0.0**
baz=262,SNR=6.9
CUT S **S** **16 44 48.4 -1.2**
baz=262
F22K **John River** **86.82 22** P **P** **16 34 13.7 +1.2**
baz=260,SNR=11
F22K S **S** **16 44 49.6 -0.2**
baz=260
H22K **Ishtalitna Cre** **86.86 24** P **P** **16 34 13.7 +1.0**
baz=260,SNR=15
H22K S **S** **16 44 50.7 +0.6**
baz=260
RC01 **Rabbit Creek A** **86.87 29** IAmb IAmb 16 34 16.4
comp=Z,54nm,1.0s
RC01 IAMs_20 IAMs_20 17 11 20.8
comp=Z,2µm,22.0s
RC01 **Rabbit Creek A** **86.87 29** P **P** **16 34 13.0 +0.2**
baz=262,SNR=13
RC01 S **S** **16 44 49.2 -1.1**
baz=262
SEW **Seward** **86.88 30** IAMs_20 IAMs_20 17 06 57.1
comp=Z,3µm,22.0s
SEW **Seward** **86.88 30** P **P** **16 34 13.3 +0.5**
baz=263,SNR=21
SEW S **S** **16 44 49.5 -0.8**
baz=263
D22K **Ayikyak River** **86.89 21** P **P** **16 34 14.1 +1.2**
baz=259,SNR=6.4
D22K S **S** **16 44 50.6 +0.3**
baz=259
B22K **Teshekpuk Lake** **86.92 19** IAmb IAmb 16 34 16.4
comp=Z,52nm,0.9s
B22K **Teshekpuk Lake** **86.92 19** P **P** **16 34 12.8 0.0**
baz=258,SNR=5.3
B22K S **S** **16 44 50.3 -0.2**
baz=258
TRF **Thorofare Moun** **86.94 26** P **P** **16 34 13.2 -0.2**
baz=262,SNR=16
TRF S **S** **16 44 48.9 -2.5**
baz=262
G22K **Bettles** **86.98 23** P **P** **16 34 13.8 +0.6**
baz=260
G22K S **S** **16 44 50.3 -0.9**
baz=260
MLY **Manley** **86.98 25** P **P** **16 34 13.8 +0.4**
baz=261,SNR=26
MLY S **S** **16 44 50.1 -1.4**
baz=261
GEVA **Gevas** **87.05 308** IAmb IAmb 16 34 16.7
comp=Z,53nm,1.0s
E22K **Anaktuvuk Pass** **87.07 22** IAmb IAmb 16 34 17.0
comp=Z,69nm,0.8s
E22K **Anaktuvuk Pass** **87.07 22** P **P** **16 34 14.5 +0.8**
baz=260,SNR=73
E22K S **S** **16 44 52.3 +0.1**
baz=260
PMR **Palmer** **87.22 28** P **P** **16 34 15.7 +1.2**
PMR **Palmer** **87.22 28** P **P** **16 34 14.7 +0.2**
baz=263,SNR=7.3
PMR S **S** **16 44 53.0 -0.7**

baz=263
BWN Browne 87.40 26 IAmb IAmb 16 34 18.4
comp=Z,64nm,0.9s
GOF Gofitskoye 87.50 315 *ce*P **P** **16 34 16.8 +0.5**
KBZ Khabaz 87.52 314 P **P** **16 34 15.7 -0.6**
comp=Z,9.0nm,1.0s,baz=88,slow=5.7,SNR=22
KBZ LR LR 17 18 00.2
comp=Z,665nm,18.9s,baz=74,slow=39
comp=Z,9.0nm,1.0s
KBZ Khabaz 87.52 314 *c i*P **P** **16 34 16.0 -0.3**
KBZ pmax pmax
comp=Z,57nm,1.9s
PWL Port Wells 87.52 29 IAmb IAmb 16 34 20.2
comp=Z,44nm,1.0s
PWL IAMs_20 IAMs_20 17 06 44.0
comp=Z,3µm,22.0s
PWL Port Wells 87.52 29 P **P** **16 34 16.5 +0.4**
baz=264,SNR=22
PWL S **S** **16 44 55.7 -1.0**
baz=264
KNK Knik Glacier 87.52 29 IAmb IAmb 16 34 26.1
comp=Z,66nm,1.0s
KNK Knik Glacier 87.52 29 P **P** **16 34 16.6 +0.6**
baz=263,SNR=20
KNK S **S** **16 44 56.0 -0.7**
baz=263
G23K Bananza Creek 87.52 23 IAmb IAmb 16 34 19.7
comp=Z,59nm,0.9s
G23K Bananza Creek 87.52 23 P **P** **16 34 16.9 +0.9**
baz=262,SNR=55
G23K S **S** **16 44 59.0 +2.4**
baz=262
COLD Coldfoot 87.53 23 P **P** **16 34 16.9 +1.0**
baz=262,SNR=46
COLD S **S** **16 44 59.6 +3.0**
baz=262
RND Reindeer 87.58 27 IAmb IAmb 16 34 18.4
comp=Z,66nm,0.8s
I23K Minto, Yukon-K 87.58 25 IAmb IAmb 16 34 19.1
comp=Z,49nm,1.0s
I23K IAMs_20 IAMs_20 17 15 10.4
comp=Z,2µm,21.0s
I23K Minto, Yukon-K 87.58 25 P **P** **16 34 16.6 +0.4**
baz=262,SNR=34
MCK McKinley 87.58 26 IAmb IAmb 16 34 19.1
comp=Z,44nm,0.9s
MCK McKinley 87.58 26 P **P** **16 34 16.0 -0.2**
baz=263,SNR=29
H23K Yukon River 87.59 24 IAmb IAmb 16 34 19.3
comp=Z,41nm,0.8s
H23K Yukon River 87.59 24 P **P** **16 34 17.1 +0.9**
baz=262,SNR=40
H23K S **S** **16 44 59.9 +2.6**
baz=262
D23K Nanushuk River 87.62 21 IAmb IAmb 16 34 19.9
comp=Z,64nm,0.8s
D23K Nanushuk River 87.62 21 P **P** **16 34 17.6 +1.3**
baz=261,SNR=40
D23K S **S** **16 45 01.0 +3.7**
baz=261
NEA2 Nenana 87.63 25 IAMs_20 IAMs_20 17 13 09.9
comp=Z,2µm,20.0s
NEA2 Nenana 87.63 25 P **P** **16 34 16.2 -0.3**
baz=263,SNR=10
NEA2 S **S** **16 44 56.5 -1.1**
baz=263
WAT1 Susitna Watana 87.64 27 P **P** **16 34 16.3 -0.3**
baz=263
WAT1 S **S** **16 44 57.6 -0.3**
baz=263
KIV Kislovodsk 87.68 314 P **P** **16 34 17.0 -0.3**
KIV Kislovodsk 87.68 314 ⇓P **P** **16 34 18.2 +0.9**
KIV Kislovodsk 87.68 314 *i*P **P** **16 34 16.2 -1.1**
SNR=18
KIV Kislovodsk 87.68 314 *e*P **P** **16 34 16.3 -1.0**
KIV *e* 16 37 40.5
KIV *e* 16 44 43.6
KIV *e*SS SS 16 50 45.0 -0.5
KIV pmax pmax
comp=Z,20nm,1.1s
KIV Kislovodsk 87.68 314 P **P** **16 34 17.3 0.0**
comp=Z,1µmcomp=Z,23nm,1.9s
C23K Itkillik River 87.78 20 P **P** **16 34 17.5 +0.4**
baz=261,SNR=36
C23K S **S** **16 44 60.0 +1.2**
baz=261
GURO Guroymak-BITLI 87.87 308 IAmb IAmb 16 34 27.3
comp=Z,83nm,1.1s
E23K Chandalar 87.87 22 IAmb IAmb 16 34 20.5
comp=Z,68nm,0.9s
E23K Chandalar 87.87 22 P **P** **16 34 18.5 +0.8**
baz=262,SNR=75
E23K S **S** **16 45 00.7 +0.7**
baz=262
M23K Glacier View 87.91 28 P **P** **16 34 18.5 +0.6**
baz=264,SNR=33
M23K S **S** **16 45 02.4 +2.0**
baz=264
TOLK Toolik Lake Re 87.97 21 IAmb IAmb 16 34 20.7
comp=Z,48nm,0.8s
TOLK Toolik Lake Re 87.97 21 P **P** **16 34 18.9 +0.8**
baz=262,SNR=37
TOLK S **S** **16 45 02.7 +1.9**
baz=262
WAT6 Susitna Watana 87.98 27 P **P** **16 34 18.6 +0.1**
baz=264,SNR=23
WAT6 S **S** **16 45 01.5 +0.1**
baz=264
WRH Wood River Hil 88.03 26 IAMs_20 IAMs_20 17 12 52.5
comp=Z,2µm,20.0s
SCM Sheep Creek Mo 88.10 28 IAmb IAmb 16 34 26.1
comp=Z,70nm,1.1s
SCM Sheep Creek Mo 88.10 28 P **P** **16 34 19.2 +0.4**
baz=264,SNR=17
SCM S **S** **16 45 03.0 +0.7**
baz=264
GLI Glacier Island 88.12 29 IAmb IAmb 16 34 28.8
comp=Z,29nm,0.8s
GLI IAMs_20 IAMs_20 17 07 40.0
comp=Z,3µm,22.0s
GLI Glacier Island 88.12 29 P **P** **16 34 19.1 +0.3**
baz=265,SNR=10
GLI S **S** **16 45 03.4 +1.0**
baz=265
CCB Clear Creek Bu 88.18 25 IAMs_20 IAMs_20 17 13 06.3
comp=Z,2µm,20.0s
COLA College 88.18 25 P **P** **16 34 18.5 -0.6**
COLA College 88.18 25 IAMs_20 IAMs_20 17 13 26.3
comp=Z,2µm,20.0s
COLA College 88.18 25 P **P** **16 34 20.8 +1.8**
COLA College 88.18 25 P **P** **16 34 19.0 0.0**
COLA College 88.18 25 P **P** **16 34 18.4 -0.6**
baz=264
DHY Denali Highway 88.20 27 P **P** **16 34 19.7 +0.3**
baz=264,SNR=16
DHY S **S** **16 45 03.3 -0.2**
baz=264
H24K Noodor Dome 88.28 24 IAmb IAmb 16 34 22.6
comp=Z,46nm,0.9s
H24K Noodor Dome 88.28 24 P **P** **16 34 20.0 +0.4**
baz=264,SNR=58
H24K S **S** **16 45 02.8 -1.0**
baz=264
E24K Your Creek 88.29 22 IAMs_20 IAMs_20 17 15 13.3
comp=Z,2µm,21.0s
E24K Your Creek 88.29 22 P **P** **16 34 19.8 +0.2**
baz=263,SNR=18
E24K S **S** **16 45 05.0 +1.0**
baz=263
D24K Happy Valley 88.30 21 IAMs_20 IAMs_20 17 16 50.5
comp=Z,2µm,19.0s
D24K Happy Valley 88.30 21 P **P** **16 34 20.5 +0.9**
baz=263
D24K S **S** **16 45 03.5 -0.3**
baz=263
Q23K Middleton Isla 88.36 31 P **P** **16 34 21.0 +1.0**
baz=265
HIN Hinchinbrook I 88.37 30 IAmb IAmb 16 34 23.7
comp=Z,36nm,0.9s
HIN IAMs_20 IAMs_20 17 12 53.6
comp=Z,3µm,21.0s
POKR Poker Plat Res 88.38 25 IAMs_20 IAMs_20 17 13 32.8
comp=Z,2µm,21.0s
POKR Poker Plat Res 88.38 25 P **P** **16 34 19.5 -0.6**
baz=264
POKR S **S** **16 45 04.1 -0.7**
baz=264
FID Port Fidalgo 88.41 29 IAmb IAmb 16 34 23.7
comp=Z,32nm,0.9s
FID IAMs_20 IAMs_20 17 08 19.1
comp=Z,3µm,22.0s
C24K Franklin Bluff 88.42 20 P **P** **16 34 20.4 +0.3**
baz=263
C24K S **S** **16 45 05.8 +1.0**
baz=263
F24K Squaw Lake 88.46 22 IAmb IAmb 16 34 23.8
comp=Z,32nm,0.8s
F24K Squaw Lake 88.46 22 P **P** **16 34 21.3 +0.9**
baz=264,SNR=40
F24K S **S** **16 45 06.7 +1.3**
baz=264
HDA Harding Lake 88.52 26 IAmb IAmb 16 34 22.3
comp=Z,38nm,0.9s
HDA IAMs_20 IAMs_20 17 13 16.5
comp=Z,2µm,21.0s
HDA Harding Lake 88.52 26 P **P** **16 34 19.8 -0.9**
baz=265,SNR=35
G24K Hadweenzic Riv 88.53 23 IAmb IAmb 16 34 23.4
comp=Z,41nm,0.9s
G24K Hadweenzic Riv 88.53 23 P **P** **16 34 21.6 +0.9**
baz=264,SNR=39
G24K S **S** **16 45 10.1 +4.0**
baz=264
ILAR Eielson Array 88.58 25 P **P** **16 34 18.9 -2.1**
ILAR Eielson Array 88.58 25 P **P** **16 34 19.7 -1.3**
comp=Z,12nm,0.8s,baz=274,slow=4.2,SNR=65
ILAR PP **PP** **16 37 47.6 -1.6**
comp=Z,4.6nm,1.1s,baz=264,slow=7.2,SNR=4.6
ILAR PKKPbc **PKKPdf** **16 52 00.1 +0.4**
comp=Z,1.0nm,0.9s,baz=339,slow=0.9,SNR=6.0
ILAR LR LR 17 14 18.3
comp=Z,1µm,19.1s,baz=245,slow=36
comp=Z,12nm,0.8s
M24K Tolsona, Glenn 88.67 28 IAmb IAmb 16 34 24.2
comp=Z,53nm,0.9s
M24K IAMs_20 IAMs_20 17 13 47.4
comp=Z,2µm,21.0s
M24K Tolsona, Glenn 88.67 28 P **P** **16 34 22.2 +0.7**
baz=265,SNR=14
M24K S **S** **16 45 10.0 +2.3**
baz=265
SYO Syowa Base 88.69 201 ⇑*i*P **P** **16 34 22.0 +0.6**
SYO Syowa Base 88.69 201 ⇑*i*PcP **PcP** **16 34 23.8 +0.9**
SYO Syowa Base 88.69 201 ⇑*i*pP pP 16 34 24.6 -1.6
SYO Syowa Base 88.69 201 ⇓*i*sP sP 16 34 25.6 -2.3
KLU Klutina 88.74 29 P **P** **16 34 22.4 +0.5**
baz=266,SNR=15
KLU S **S** **16 45 07.8 -0.6**
baz=266
EYAK Cordova Ski Ar 88.75 30 IAMs_20 IAMs_20 17 13 15.7
comp=Z,3µm,20.0s
EYAK Cordova Ski Ar 88.75 30 P **P** **16 34 23.9 +2.1**
EYAK Cordova Ski Ar 88.75 30 P **P** **16 34 22.3 +0.5**
baz=266
EYAK S **S** **16 45 09.4 +1.1**
baz=266
VRH Novokhopyorsk 88.76 321 *e*P **P** **16 34 19.8 -2.3**
VRH pmax pmax
comp=Z,40nm,1.1s
DIV Divide 88.78 29 IAmb IAmb 16 34 26.2
comp=Z,72nm,0.9s
DIV IAMs_20 IAMs_20 17 08 24.5
comp=Z,3µm,22.0s
QSPA South Pole Qui 88.94 180 P **P** **16 34 24.6 +1.8**
comp=Z,79nm,0.9s,baz=308,slow=1.4,SNR=200
QSPA LR LR 17 16 12.7
comp=Z,2µm,18.1s,baz=354,slow=37
comp=Z,79nm,0.9s
K24K Donnelly Dome 88.98 26 IAmb IAmb 16 34 27.1
comp=Z,46nm,0.9s
K24K IAMs_20 IAMs_20 17 14 49.6
comp=Z,2µm,20.0s
K24K Donnelly Dome 88.98 26 P **P** **16 34 22.8 -0.1**
baz=266,SNR=21
K24K S **S** **16 45 08.9 -1.6**
baz=266
PAX Paxson 89.06 27 IAMs_20 IAMs_20 17 14 04.7
comp=Z,2µm,21.0s
PAX Paxson 89.06 27 P **P** **16 34 23.7 +0.3**
baz=266,SNR=24
PAX S **S** **16 45 11.1 -0.3**
baz=266
G25K Bearman Lake 89.08 23 P **P** **16 34 24.3 +1.1**
baz=265,SNR=20
G25K S **S** **16 45 13.5 +2.3**
baz=265
KOPT Kop Dagi 89.12 310 IAmb IAmb 16 34 36.1
comp=Z,81nm,1.1s
H25L Birch Creek 89.15 24 P **P** **16 34 24.7 +1.1**
baz=266,SNR=50
H25L S **S** **16 45 12.3 +0.4**
baz=266
HARP HAARP 89.17 28 P **P** **16 34 24.5 +0.7**
baz=266
HARP S **S** **16 45 12.8 +0.6**
baz=266
D25K Kavik River 89.19 21 P **P** **16 34 24.1 +0.3**
baz=265
D25K S **S** **16 45 13.0 +0.7**
baz=265
PRP Porcupine Dome 89.22 25 P **P** **16 34 23.4 -0.7**
baz=266,SNR=12
PRP S **S** **16 45 12.6 -0.3**
baz=266
J25K Salcha River, 89.22 25 P **P** **16 34 23.3 -0.8**
baz=266,SNR=13
J25K S **S** **16 45 11.8 -1.0**
baz=266
RAGM Ragged Mountai 89.27 30 IAmb IAmb 16 34 35.8
comp=Z,55nm,1.3s
RAGM IAMs_20 IAMs_20 17 13 43.5
comp=Z,2µm,21.0s
F25K Christian Rive 89.32 22 IAMs_20 IAMs_20 17 13 27.4
comp=Z,2µm,22.0s
F25K Christian Rive 89.32 22 P **P** **16 34 25.5 +1.0**
baz=266,SNR=20
F25K S **S** **16 45 15.6 +2.0**
baz=266
ERBR Yeremizino-Bor 89.34 316 *e*P **P** **16 34 25.8 +0.9**
ERBR *e**PP **pP** **16 34 29.2 -0.4**
ERBR *e* 16 44 56.1
ERBR pmax pmax
comp=Z,45nm,0.9s
BMRM Bremner River 89.34 29 IAmb IAmb 16 34 28.6
comp=Z,53nm,0.9s
BMRM Bremner River 89.34 29 P **P** **16 34 25.5 +0.8**
baz=267,SNR=16
BMRM S **S** **16 45 15.4 +1.4**
baz=267
KAIM Kayak Island 89.38 30 IAMs_20 IAMs_20 17 15 28.2
comp=Z,2µm,19.0s
KAIM Kayak Island 89.38 30 P **P** **16 34 25.6 +0.8**
baz=267
N25K Chitina, Valde 89.38 29 IAMs_20 IAMs_20 17 08 57.2
comp=Z,2µm,22.0s
N25K Chitina, Valde 89.38 29 P **P** **16 34 25.7 +0.8**
baz=267,SNR=13
N25K S **S** **16 45 14.1 -0.3**
baz=267
E25K Arctic Village 89.39 22 IAMs_20 IAMs_20 17 15 35.2
comp=Z,2µm,22.0s
E25K Arctic Village 89.39 22 P **P** **16 34 25.8 +1.0**
baz=266,SNR=28
RIDG Independent Ri 89.39 26 IAMs_20 IAMs_20 17 15 01.5
comp=Z,2µm,20.0s
RIDG Independent Ri 89.39 26 P **P** **16 34 24.9 0.0**
baz=266,SNR=24
RIDG S **S** **16 45 14.9 +0.5**
baz=266
FYU Fort Yukon 89.41 24 IAmb IAmb 16 34 28.6
comp=Z,56nm,0.8s
HMT Hamilton 89.48 30 IAMs_20 IAMs_20 17 08 59.8
comp=Z,3µm,21.0s
SUCK Suckling Hills 89.70 30 IAMs_20 IAMs_20 17 08 27.9
comp=Z,2µm,20.0s
BMAR Burnt Mountain 89.72 23 P **P** **16 34 26.9 +0.6**
DOT Dot Lake 89.73 26 IAMs_20 IAMs_20 17 14 08.5
comp=Z,2µm,20.0s
C26K Camden Bay 89.75 20 P **P** **16 34 27.5 +1.2**
baz=266
C26K S **S** **16 45 20.1 +2.8**
baz=266
GLB Gilahina Butte 89.75 29 IAmb IAmb 16 34 30.7
comp=Z,42nm,1.0s
BERG Berg Lake 89.76 30 IAmb IAmb 16 34 30.3
comp=Z,57nm,1.1s
BERG IAMs_20 IAMs_20 17 08 34.3
comp=Z,3µm,22.0s
SCRK Sand Creek 89.78 26 P **P** **16 34 26.9 +0.1**
baz=267,SNR=15
SCRK S **S** **16 45 18.3 +0.1**
baz=267
SOC Sochi 89.82 313 *e*P P 16 34 19.0 -8.2
SOC *e*PPP PPP 16 39 54.3
SOC *e*S **SKSac** **16 44 47.5 -10**
SOC eSS **SS** **16 51 19.2 +2.9**
SOC *e*SSS SSS 16 54 46.8
MENT Mentasta 89.86 27 P **P** **16 34 29.1 +2.0**
F26K Sheenjek River 89.90 22 P **P** **16 34 28.3 +1.2**
baz=267,SNR=10
F26K S **S** **16 45 23.4 +4.4**
baz=267
VRDI Verde Repeater 89.91 29 IAMs_20 IAMs_20 17 08 57.3
comp=Z,3µm,22.0s
BGLC Bering Glacier 89.95 30 P **P** **16 34 28.6 +1.1**
baz=268
J26L Joseph Creek 89.99 26 IAmb IAmb 16 34 29.7
comp=Z,45nm,0.8s
J26L IAMs_20 IAMs_20 17 14 01.2
comp=Z,2µm,20.0s
J26L Joseph Creek 89.99 26 P **P** **16 34 28.0 +0.3**
baz=268,SNR=60
J26L S **S** **16 45 20.8 +0.7**
baz=268
FURI Furi 90.00 279 LR LR 17 16 32.8
comp=Z,718nm,18.6s,baz=96,slow=37
G26K Porcupine Rive 90.00 23 P **P** **16 34 28.8 +1.2**
baz=267,SNR=22
L26K Log Cabin Wild 90.03 27 P **P** **16 34 28.9 +1.1**
baz=268,SNR=10
L26K S **S** **16 45 22.0 +1.6**
baz=268
CRQM Cirque 90.05 29 IAmb IAmb 16 34 32.4
comp=Z,59nm,1.0s
CRQM IAMs_20 IAMs_20 17 13 58.5
comp=Z,2µm,21.0s
CRQE Cirque 90.07 29 P **P** **16 34 29.2 +1.0**
baz=268,SNR=16
CRQE S **S** **16 45 23.4 +2.4**
baz=268
MCARA McCarthy VSAT 90.12 29 IAmb IAmb 16 34 41.7
comp=Z,43nm,1.0s
MCARA IAMs_20 IAMs_20 17 09 05.0
comp=Z,3µm,22.0s
MCARA McCarthy VSAT 90.12 29 P **P** **16 34 29.5 +1.2**
baz=268,SNR=14
MCARA S **S** **16 45 23.2 +2.0**
baz=268
C27K Jago River 90.15 20 IAmb IAmb 16 34 31.0
comp=Z,42nm,0.8s
C27K Jago River 90.15 20 P **P** **16 34 29.2 +1.0**
baz=268,SNR=32
C27K S **S** **16 45 20.5 -0.6**
baz=268
M26K Nabesna, AK 90.17 28 P **P** **16 34 29.4 +0.8**
baz=268
M26K S **S** **16 45 23.1 +1.4**
baz=268
WAX Waxell Ridge 90.18 30 IAmb IAmb 16 34 36.1
comp=Z,36nm,0.9s
WAX IAMs_20 IAMs_20 17 08 57.4
comp=Z,2µm,22.0s
I26K Coal Creek Min 90.20 25 P **P** **16 34 28.6 +0.1**
baz=268
I26K S **S** **16 45 22.0 +0.3**
baz=268
TGL Tana Glacier 90.20 29 IAmb IAmb 16 34 33.0
comp=Z,47nm,1.0s
TGL IAMs_20 IAMs_20 17 09 14.0
comp=Z,3µm,22.0s
VORD Divnogorie 90.28 321 *e*P **P** **16 34 26.3 -2.9**
VORD pmax pmax
comp=Z,20nm,0.9s
VORR Voronezh 90.35 321 *e*P **P** **16 34 27.8 -1.7**
VORR pmax pmax
comp=Z,30nm,0.9s
VSR Storozhevoye 90.37 321 *e*P **P** **16 34 26.5 -3.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 90.38 331 *e*P **P** **16 34 25.2 -4.2**
KLMR *e* 16 37 58.3
KLMR S **SKSac** **16 44 54.8 -5.3**
KLMR pmax pmax
comp=Z,54nm,1.7s
ISLE Juniper Island 90.44 30 IAmb IAmb 16 34 36.1
comp=Z,46nm,1.0s
ISLE IAMs_20 IAMs_20 17 12 29.2
comp=Z,2µm,21.0s
KIBK Kibwezi 90.44 268 P **P** **16 34 30.1 -0.8**
KIBK Kibwezi 90.44 268 IAmb IAmb 16 34 38.1
comp=Z,132nm,1.7s
KIBK Kibwezi 90.44 268 P **P** **16 34 32.2 +1.3**
SNR=24
LPSR Galich'ya Gora 90.54 322 *e*P **P** **16 34 27.4 -3.0**
LPSR pmax pmax
comp=Z,40nm,1.0s
MESA MESA 90.62 30 IAmb IAmb 16 34 34.0
comp=Z,51nm,1.0s
MESA IAMs_20 IAMs_20 17 11 22.2
comp=Z,2µm,21.0s
MESA MESA 90.62 30 P **P** **16 34 32.1 +1.2**
baz=269
MESA S **S** **16 45 28.0 +1.8**
baz=269
K27K Chicken 90.63 26 IAMs_20 IAMs_20 17 12 16.1
comp=Z,2µm,22.0s
K27K Chicken 90.63 26 P **P** **16 34 32.1 +1.5**
baz=269
K27K S **S** **16 45 29.0 +3.3**
baz=269
M27K Edge Creek, AK 90.69 28 P **P** **16 34 31.9 +0.8**
baz=269,SNR=16
M27K S **S** **16 45 28.8 +2.1**
baz=269
L27K Beaver Creek, 90.72 27 P **P** **16 34 32.1 +1.0**
baz=269
L27K S **S** **16 45 28.2 +1.5**
baz=269
YAH Yahtse 90.73 30 IAmb IAmb 16 34 35.0
comp=Z,50nm,1.0s
GRNC Granite Creek 90.73 29 IAmb IAmb 16 34 34.3
comp=Z,45nm,0.9s
BCAR Beaver Creek A 90.74 27 P **P** **16 34 31.6 +0.4**
BARN Barnard Glacie 90.78 29 IAmb IAmb 16 34 36.3
comp=Z,57nm,1.0s
G27K Doyon Strip 90.84 23 P **P** **16 34 32.6 +1.1**
baz=269,SNR=19
G27K S **S** **16 45 29.0 +1.4**
baz=269
I27K Kandik River 90.84 25 P **P** **16 34 32.8 +1.1**
baz=269,SNR=112
I27K S **S** **16 45 30.6 +2.8**
baz=269
E27K Coleen River 90.88 22 P **P** **16 34 32.5 +0.8**
baz=270,SNR=19
H27K Steamboat Moun 90.89 24 IAmb IAmb 16 34 34.7
comp=Z,39nm,0.9s
H27K Steamboat Moun 90.89 24 P **P** **16 34 33.1 +1.3**
baz=270,SNR=41
H27K S **S** **16 45 29.7 +1.6**
baz=270
CTG Chitna Glacier 90.93 29 P **P** **16 34 33.5 +1.2**
baz=270,SNR=24
CTG S **S** **16 45 31.7 +2.8**
baz=270
CTGM Chitina Glacie 90.94 29 IAmb IAmb 16 34 40.5
comp=Z,66nm,1.0s
EGAK Eagle 91.03 25 IAmb IAmb 16 34 34.5
comp=Z,31nm,0.9s
EGAK IAMs_20 IAMs_20 17 17 03.8
comp=Z,2µm,20.0s
EGAK Eagle 91.03 25 P **P** **16 34 32.8 +0.3**
baz=270,SNR=37
EGAK S **S** **16 45 32.4 +3.1**
baz=270
LOGN Logan Glacier 91.10 29 IAmb IAmb 16 34 41.0
comp=Z,58nm,1.0s
D27M Malcolm River 91.11 21 P **P** **16 34 33.6 +0.8**
baz=270,SNR=14
D27M S **S** **16 45 32.3 +2.2**
baz=270
TAOE Nuku Hiva Isla 91.16 99 *e*P **P** **16 34 32.5 -1.7**
comp=Z,242nm,1.4s
TAOE Nuku Hiva Isla 91.16 99 *e*S S 16 45 23.4 -9.3

TAOE comp=Z,422nm,23.3s *e*SS **SS** **16 51 35.9 -1.4**
TAOE comp=Z,855nm,27.8s *e*LQ LQ 16 59 42.5
TAOE comp=Z,1µm,24.9s *e*LR LR 17 03 37.5
BVCY Beaver Creek 91.17 28 P **P** **16 34 34.3 +1.1**
BVCY baz=270,SNR=16 S **S** **16 45 32.3 +1.5**
KMBO Kilima Mbogo 91.25 269 P **P** **16 34 36.2 +1.3**
KMBO comp=Z,24nm,1.1s,baz=81,slow=5.3,SNR=28 LR LR 17 11 47.8
comp=Z,960nm,22.0s,baz=102,slow=33
comp=Z,24nm,1.1s
MOS Moscow 91.33 326 *e*P **P** **16 34 30.6 -3.4**
MOS *e* 16 38 11.3
MOS *e*PPP PPP 16 40 07.1
MOS *e* 16 45 03.7
MOS *e*S **S** **16 45 26.9 -5.5**
MOS *e*PS **PS** **16 46 36.9 -5.8**
MOS comp=Z,50nm,0.8s pmax pmax
MOS comp=Z,2µm,21.0s MLR MLR
YUK3 Moose Creek 91.36 28 P **P** **16 34 35.2 +0.9**
YUK3 baz=270,SNR=19 S **S** **16 45 35.7 +2.8**
PCA Pinnacle 91.47 30 IAmb IAmb 16 34 37.9
PCA comp=Z,44nm,0.9s IAMs_20 IAMs_20 17 09 15.6
PINM Pinnacle 91.47 30 P **P** **16 34 35.5 +0.8**
ANN Anapa 91.47 315 *e*P **P** **16 34 33.6 -1.3**
ANN *e*PP **PcP** **16 34 37.1 +1.3**
ANN *e* 16 38 16.8
ANN *e* 16 45 05.9
ANN comp=Z,46nm,0.9s pmax pmax
ANN comp=E,776nm,21.0s MLR MLR
ANN comp=Z,1µm,25.0s MLR MLR
ANN comp=N,1µm,21.0s MLR MLR
O28M Mount Upton 91.50 29 IAmb IAmb 16 34 38.9
O28M Mount Upton 91.50 29 P **P** **16 34 36.0 +1.0**
F28M Old Crow 91.53 23 IAmb IAmb 16 34 37.1
F28M comp=Z,34nm,1.0s IAMs_20 IAMs_20 17 16 26.9
F28M Old Crow 91.53 23 P **P** **16 34 35.2 +0.4**
I28M Miner Creek 91.55 25 P **P** **16 34 35.9 +1.0**
I28M baz=271,SNR=144 S **S** **16 45 35.6 +1.3**
E28M Babbage River 91.64 22 IAMs_20 IAMs_20 17 19 45.6
E28M Babbage River 91.64 22 P **P** **16 34 35.9 +0.7**
YUK8 Steele Glacier 91.69 29 P **P** **16 34 36.5 +0.6**
YUK8 baz=271,SNR=17 S **S** **16 45 39.3 +3.2**
DAWY Dawson 91.81 26 IAmb IAmb 16 34 38.7
DAWY Dawson 91.81 26 P **P** **16 34 37.0 +0.9**
DAWY baz=271,SNR=36 S **S** **16 45 39.8 +3.2**
D28M Stokes Point 91.90 21 P **P** **16 34 37.4 +1.0**
ASF Jabal al Asfar 91.91 302 P **P** **16 34 37.7 +0.4**
ASF comp=Z,19nm,0.9s,baz=114,slow=1.0,SNR=23 LR LR 17 22 40.8
comp=Z,398nm,19.0s,baz=113,slow=40
comp=Z,19nm,0.9s
PNL Peninsula 91.91 30 P **P** **16 34 38.8 +2.2**
PNL Peninsula 91.91 30 P **P** **16 34 37.1 +0.5**
OBN Obninsk 91.94 325 LR LR 17 18 36.0
OBN Obninsk 91.94 325⇓ *e*P **P** **16 34 35.8 -1.0**
OBN *e* 16 38 14.5
OBN *e*PPP PPP 16 40 14.2
OBN *e*S **SKSac** **16 45 09.8 +0.6**
OBN *e*SS **SS** **16 51 47.9 +1.7**
OBN comp=Z,50nm,1.0s pmax pmax
OBN comp=Z,2µm,19.0s MLR MLR
OBN Obninsk 91.94 325 P **P** **16 34 36.9 +0.1**
H29M Whitestone 92.17 24 IAmb IAmb 16 34 48.3
H29M Whitestone 92.17 24 P **P** **16 34 38.2 +0.5**
H29M comp=Z,41nm,1.1s S **S** **16 45 40.2 +0.6**
I29M Ogilvie Camp, 92.23 25 P **P** **16 34 38.4 +0.4**
YUK4 Talbot Arm 92.23 29 P **P** **16 34 39.6 +1.2**
YUK4 baz=272,SNR=12 S **S** **16 45 41.2 +0.4**
E29M Blow River 92.25 22 IAmb IAmb 16 34 48.3
E29M Blow River 92.25 22 P **P** **16 34 38.5 +0.5**
E29M baz=273,SNR=7.8 S **S** **16 45 40.6 +0.3**
G29M Pine Creek 92.27 23 P **P** **16 34 38.5 +0.4**
G29M baz=273,SNR=60 S **S** **16 45 40.4 -0.2**
M29M Somme Creek 92.28 28 IAmb IAmb 16 34 42.1
M29M comp=Z,30nm,0.9s IAMs_20 IAMs_20 17 15 21.9
M29M Somme Creek 92.28 28 P **P** **16 34 39.4 +1.0**
M29M comp=Z,2µm,21.0s S **S** **16 45 43.0 +2.0**
O29M Mount Kennedy 92.30 30 IAMs_20 IAMs_20 17 11 49.6
O29M Mount Kennedy 92.30 30 P **P** **16 34 39.9 +1.3**
O29M baz=272,SNR=10 S **S** **16 45 43.9 +2.5**
J29N Klondike Camp 92.31 26 IAMs_20 IAMs_20 17 15 46.4
J29N Klondike Camp 92.31 26 S **S** **16 45 40.8 -0.3**
LVZ Lovozero 92.38 338⇓ *e*P **P** **16 34 39.1 +0.4**
LVZ comp=Z,29nm,1.1s pmax pmax
YUK6 Outpost Mounta 92.39 29 P **P** **16 34 40.4 +1.3**
YUK6 baz=272,SNR=6.2 S **S** **16 45 44.0 +1.7**
L29M L29M 92.41 27 IAmb IAmb 16 34 50.6
L29M comp=Z,63nm,1.1s IAMs_20 IAMs_20 17 14 44.1
L29M L29M 92.41 27 P **P** **16 34 40.2 +1.3**
L29M comp=Z,2µm,20.0s S **S** **16 45 44.3 +2.4**
K29M Barlow Dome 92.64 26 IAMs_20 IAMs_20 17 15 37.3
K29M Barlow Dome 92.64 26 P **P** **16 34 41.1 +1.0**
K29M baz=273,SNR=36 S **S** **16 45 45.2 +1.0**
P29M Windy Craggy 92.75 31 IAmb IAmb 16 34 45.5
P29M Windy Craggy 92.75 31 P **P** **16 34 41.6 +1.1**
HYT Haines Junctio 92.81 29 IAmb IAmb 16 34 44.2
HYT Haines Junctio 92.81 29 P **P** **16 34 42.0 +1.1**
HYT comp=Z,42nm,0.9s S **S** **16 45 45.4 -0.4**
baz=273,SNR=24
EPYK Eagle Plains 92.82 24 IAmb IAmb 16 34 43.4
EPYK Eagle Plains 92.82 24 P **P** **16 34 41.0 +0.2**
EPYK comp=Z,57nm,1.0s S **S** **16 45 46.0 +0.4**
APA Apatity 92.88 337⇓ *e*P **P** **16 34 39.9 -1.0**
APA baz=274,SNR=24 pmax pmax
APA comp=Z,16nm,1.1s MLR MLR
N30M Aishikik Lake 92.98 29 IAmb IAmb 16 34 44.6
N30M Aishikik Lake 92.98 29 P **P** **16 34 42.7 +1.1**
N30M comp=Z,36nm,0.9s S **S** **16 45 48.7 +1.6**
G30M tAoh Zraii Nji 92.98 23 IAmb IAmb 16 34 43.6
G30M baz=273 IAMs_20 IAMs_20 17 17 09.1
G30M tAoh Zraii Nji 92.98 23 P **P** **16 34 41.2 -0.3**
M30M Minto, Yukon 93.05 28 IAmb IAmb 16 34 44.9
M30M comp=Z,41nm,1.1s IAMs_20 IAMs_20 17 15 45.1
M30M Minto, Yukon 93.05 28 P **P** **16 34 42.8 +1.0**
M30M baz=274,SNR=30 S **S** **16 45 49.8 +2.1**
I30M Mount Dempster 93.05 25 IAmb IAmb 16 34 44.1
I30M comp=Z,32nm,1.0s IAMs_20 IAMs_20 17 14 08.1
I30M Mount Dempster 93.05 25 P **P** **16 34 42.4 +0.4**
I30M baz=274,SNR=24 S **S** **16 45 47.5 -0.2**
F30M Barrier River 93.09 22 IAmb IAmb 16 34 44.0
F30M Barrier River 93.09 22 P **P** **16 34 42.3 +0.3**
J30M Hart River 93.11 26 P **P** **16 34 43.0 +0.7**
P30M Million Dollar 93.12 30 P **P** **16 34 43.2 +1.0**
P30M baz=273 S **S** **16 45 49.6 +1.2**
MMAI Mount Meron Ar 93.16 303 P **P** **16 34 42.8 -0.3**
MMAI comp=Z,11nm,0.9s,baz=174,slow=0.8,SNR=8.2 LR LR 17 24 03.5
comp=Z,399nm,18.2s,baz=77,slow=40
comp=Z,11nm,0.9s
LODK Lodwar 93.22 273 P **P** **16 34 44.8 +1.1**
SNR=14
MAYO Mayo, Yukon 93.38 26 IAMs_20 IAMs_20 17 16 19.9
MAYO Mayo, Yukon 93.38 26 P **P** **16 34 44.3 +0.9**
baz=274,SNR=6.3
PLBC Pleasant Camp 93.46 31 P **P** **16 34 44.7 +1.0**
PLBC baz=274,SNR=5.2 S **S** **16 45 52.7 +1.4**
O30N Mendenhall 93.51 29 IAmb IAmb 16 34 47.4
O30N comp=Z,3µm,22.0s IAMs_20 IAMs_20 17 10 20.3
O30N Mendenhall 93.51 29 P **P** **16 34 45.1 +1.1**
O30N baz=274,SNR=15 S **S** **16 45 52.7 +0.9**
EIL Elat 93.60 300 LR LR 17 22 35.1
comp=Z,913nm,18.9s,baz=89,slow=39
N31M Braeburn, Yuko 93.60 29 IAmb IAmb 16 34 47.4
comp=Z,46nm,0.9s
N31M Braeburn, Yuko 93.60 29 P **P** **16 34 45.7 +1.3**
baz=274,SNR=16
S31K Pelican 93.63 32 P **P** **16 34 45.8 +1.2**
baz=274
G31M Satah River 93.75 23 IAMs_20 IAMs_20 17 17 30.4
comp=Z,2µm,22.0s
G31M Satah River 93.75 23 P **P** **16 34 44.9 0.0**
baz=276,SNR=31
SIM Simferopol' 93.83 315 *e*P **P** **16 34 44.3 -1.5**
SIM *e*S **S** **16 45 51.6 -3.6**
SIM comp=Z,54nm,0.9s pmax pmax
SIM comp=N,181nm,18.0s smax smax
SIM comp=Z,344nm,20.1s MLR MLR
H31M Peel River 93.84 24 IAmb IAmb 16 34 48.0
H31M comp=Z,33nm,0.9s IAMs_20 IAMs_20 17 17 04.9
H31M Peel River 93.84 24 P **P** **16 34 45.6 +0.2**
comp=Z,2µm,21.0s
baz=276,SNR=18
INK Inuvik 93.87 22 IAmb IAmb 16 34 47.0
comp=Z,35nm,1.0s
INK Inuvik 93.87 22 LR LR 17 16 52.5
comp=Z,1µm,20.8s,baz=257,slow=35
INK Inuvik 93.87 22 P **P** **16 34 44.9 -0.6**
baz=277,SNR=17
F31M Tsiigehtchic 93.89 23 IAmb IAmb 16 34 47.1
comp=Z,51nm,0.9s
F31M comp=Z,2µm,21.0s IAMs_20 IAMs_20 17 17 49.3
F31M Tsiigehtchic 93.89 23 P **P** **16 34 45.1 -0.4**
baz=277,SNR=9.8
SKAG Skagway 93.99 31 IAmb IAmb 16 34 49.6
comp=Z,36nm,1.0s
SKAG Skagway 93.99 31 P **P** **16 34 48.8 +2.6**
SKAG Skagway 93.99 31 P **P** **16 34 47.5 +1.3**
baz=275,SNR=10
WHY Whitehorse 94.11 29 P **P** **16 34 47.9 +1.0**
WHY baz=275,SNR=23 S **S** **16 46 01.5 +4.3**
baz=275
SIT Sitka 94.19 33 P **P** **16 34 48.2 +1.1**
baz=275
M31M Drury Creek, Y 94.19 28 IAMs_20 IAMs_20 17 16 30.4
comp=Z,2µm,20.0s
M31M Drury Creek, Y 94.19 28 P **P** **16 34 48.0 +0.9**
baz=276
KIRS Kirsehir-Merke 94.21 309⇓ P **P** **16 34 48.4 +0.6**
BESE Bessie Mountai 94.31 31 IAmb IAmb 16 34 59.0
comp=Z,44nm,1.2s
BRTR Keskin Array B 94.40 310 P **P** **16 34 46.5 -2.3**
BRTR Keskin Array B 94.40 310 P **P** **16 34 47.3 -1.5**
comp=Z,5.4nm,1.0s,baz=138,slow=4.7,SNR=17
BRTR PKKPbc **PKKPbc** **16 51 49.7 +0.1**
comp=Z,0.9nm,0.9s,baz=224,slow=3.4,SNR=4.4
comp=Z,5.4nm,1.0s
BRTR Keskin Array B 94.40 310 *i* P **P** **16 34 47.2 -1.5**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
R32K Eaglecrest 94.51 32 P **P** **16 34 49.7 +1.1**
baz=275,SNR=5.7
JIS Juneau Island 94.58 32 P **P** **16 34 51.2 +2.3**
P32M Atlin 94.80 30 P **P** **16 34 50.8 +0.8**
baz=276
CSS Mathiatis 94.83 305 P **P** **16 34 50.6 -0.1**
comp=Z,23nm,1.2s
N32M Quiet Lake 94.93 29 IAMs_20 IAMs_20 17 13 16.9
comp=Z,2µm,22.0s
N32M Quiet Lake 94.93 29 P **P** **16 34 51.2 +0.7**
baz=277
P33M Teslin, Yukon 95.17 30 P **P** **16 34 52.5 +0.7**
baz=277,SNR=11
SPB2 Spitsbergen Ar 95.43 349 IAmb IAmb 16 34 54.2
comp=Z,55nm,1.0s
SPITS Spitsbergen Ar 95.43 349 P **P** **16 34 52.1 -0.4**
comp=Z,51nm,1.0s,baz=115,slow=6.5,SNR=7.4
SPITS LR LR 17 25 35.0
comp=Z,863nm,18.5s,baz=50,slow=40
comp=Z,51nm,1.0s
SPITS Spitsbergen Ar 95.43 349 P **P** **16 34 52.3 -0.2**
SPITS pmax pmax
comp=Z,82nm,1.1s
ARCES ARCESS Array B 95.48 340 P **P** **16 34 51.9 -0.9**
ARCES ARCESS Array B 95.48 340 P **P** **16 34 52.1 -0.8**
comp=Z,29nm,0.9s,baz=69,slow=6.6,SNR=21
ARCES LR LR 17 23 03.4
comp=Z,2µm,20.0s,baz=75,slow=39
comp=Z,29nm,0.9s

U33K Whale Pass 95.49 34 IAMs_20 IAMs_20 17 08 37.1
comp=Z,2µm,22.0s
U33K Whale Pass 95.49 34 P **P** **16 34 53.9 +0.8**
baz=276
T33K Petersburg 95.51 33 P **P** **16 34 54.0 +0.9**
baz=277
CRAG Craig 95.56 34 IAMs_20 IAMs_20 17 18 23.0
comp=Z,2µm,19.0s
CRAG Craig 95.56 34 P **P** **16 34 53.4 0.0**
baz=276
MMPY Sheldon Lake, 95.58 27 IAmb IAmb 16 34 56.4
comp=Z,41nm,1.0s
MMPY IAMs_20 IAMs_20 17 14 18.2
comp=Z,2µm,22.0s
MMPY Sheldon Lake, 95.58 27 P **P** **16 34 54.6 +1.1**
baz=279,SNR=33
RKT Rikitea 95.59 113 *e*S **S** **16 46 07.0 -4.4**
comp=Z,3µm,29.8s
RKT comp=Z,2µm,29.2s *e*SS **SS** **16 52 35.7 -4.5**
RKT *e*LQ LQ 17 01 35.6
RKT comp=Z,13µm,39.5s *e*LR LR 17 05 41.7
comp=Z,13µm,28.2s
Q32M Nakina River 95.61 31 P **P** **16 34 54.6 +0.7**
baz=277
WRAK Wrangell Islan 95.89 33 P **P** **16 34 55.1 +0.2**
baz=277
A36M Sachs Harbour 95.94 17 P **P** **16 34 55.0 +0.2**
baz=285
R33M Jennings River 96.21 30 P **P** **16 34 57.2 +0.7**
baz=278,SNR=8.6
S34M Telegraph Cree 96.34 32 P **P** **16 34 57.6 +0.6**
baz=278
V35K Ketchikan 96.43 35 IAMs_20 IAMs_20 17 20 01.0
comp=Z,2µm,19.0s
V35K Ketchikan 96.43 35 P **P** **16 34 58.3 +0.8**
baz=278
AKASG Malin Array Be 96.67 321 P **P** **16 34 57.1 -1.5**
comp=Z,3.8nm,0.8s,baz=70,slow=4.4,SNR=10
AKASG PP PP 16 38 42.7 -10
comp=Z,3.6nm,0.9s,baz=70,slow=7.0,SNR=4.4
AKASG LR LR 17 24 45.7
comp=Z,687nm,18.1s,baz=70,slow=39
comp=Z,3.8nm,0.8s
AKASG Malin Array Be 96.67 321 *i* P **P** **16 34 56.4 -2.2**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 96.68 321 P **P** **16 34 57.3 -1.4**
KIEV Kiev 96.68 321⇑ P **P** **16 34 58.2 -0.4**
KIEV Kiev 96.68 321 P **P** **16 34 58.2 -0.4**
AK18 Malin Array Si 96.77 321 P **P** **16 34 57.8 -1.3**
FINES FINESS Array B 96.82 332 P **P** **16 34 57.7 -1.4**
comp=Z,6.5nm,0.8s,baz=65,slow=4.2,SNR=20
FINES PKIKP **PKiKP** **16 39 36.2 +0.7**
comp=Z,3.4nm,0.9s,baz=80,slow=1.7,SNR=5.0
FINES LR LR 17 21 53.8
comp=Z,1µm,19.7s,baz=72,slow=38
comp=Z,6.5nm,0.8s
DLBC Dease Lake 96.84 31 LR LR 17 12 41.7
comp=Z,8µm,21.7s,baz=274,slow=32
DLBC Dease Lake 96.84 31 P **P** **16 35 00.2 +0.9**
baz=279
T35M Bob Quinn 96.95 33 IAMs_20 IAMs_20 17 19 36.7
comp=Z,2µm,20.0s
T35M Bob Quinn 96.95 33 P **P** **16 35 00.5 +0.7**
baz=279
MNK Minsk 96.99 325 *i* P **P** **16 34 59.4 -0.6**
MNK *i* 16 38 55.7
MNK *i* PPP PPP 16 40 58.1
MNK *i* S **SKSac** **16 45 36.4 -0.2**
MNK *i* SS **SS** **16 52 55.7 -2.6**
MNK *i* SSS SSS 16 56 48.4
MNK pmax pmax
MNK comp=E,19nm,1.2s pmax pmax
MNK comp=N,9.0nm,0.9s pmax pmax
MNK comp=Z,31nm,1.0s MLR MLR
MNK comp=E,2µm,23.0s MLR MLR
MNK comp=Z,3µm,22.0s MLR MLR
MNK comp=N,1µm,20.0s
TGTN Hyland Airport 97.16 28 P Pdif 16 35 01.6 +0.8
baz=281,SNR=9.3
WTLY Watson Lake, Y 97.17 30 IAmb IAmb 16 35 04.2
comp=Z,40nm,1.2s
WTLY IAMs_20 IAMs_20 17 20 10.3
comp=Z,2µm,20.0s
WTLY Watson Lake, Y 97.17 30 P Pdif 16 35 01.8 +0.9
baz=280,SNR=13
SORM Soroca 97.54 318⇑ P **P** **16 35 01.7 -0.9**
SORM Soroca 97.54 318 P **P** **16 35 01.7 -0.9**
TLCR 97.56 315⇓ P **P** **16 35 02.4 -0.4**
TLCR 97.56 315 P **P** **16 35 02.3 -0.4**
JURR Jurilovca 97.56 315⇑ P Pdif 16 35 03.0 +0.1
MI28 Mi28,Pidlybu 97.62 321 P **P** **16 35 02.7 -0.2**
LUBAR Lubar, Ukraine 97.70 320 P **P** **16 35 03.1 -0.2**
MBAR Mbarara 97.77 269 P **P** **16 35 02.8 -1.8**
MBAR Mbarara 97.77 269 *ce*P Pdif 16 35 06.1 +1.4
MBAR pmax pmax
comp=Z,18nm,1.7s
MANR Mangalia 97.86 314⇑ P **P** **16 35 03.5 -0.7**
TPGR Topolog 97.87 315⇑ P **P** **16 35 03.5 -0.8**
TIRR Tirgusor 97.92 315 IAmb IAmb 16 35 06.5
comp=Z,25nm,1.0s
TIRR Tirgusor 97.92 315⇑ P **P** **16 35 04.1 -0.3**
TIRR Tirgusor 97.92 315 P **P** **16 35 04.1 -0.3**
TIRR Tirgusor 97.92 315 P **P** **16 35 04.2 -0.3**
comp=Z,27nm,1.0s
CFR Carcaliu 98.03 315⇓ P **P** **16 35 04.5 -0.5**
CFR Carcaliu 98.03 315 P **P** **16 35 04.4 -0.5**
LIRD Liard River Hi 98.66 30 P Pdif 16 35 07.6 +0.2
baz=283
TESR Tescani 98.89 317⇓ P **P** **16 35 08.0 -0.7**
TESR Tescani 98.89 317 P **P** **16 35 08.4 -0.4**
comp=Z,1µmcomp=Z,57nm,0.9s
VRI Vrincioaia 98.93 316⇓ P **P** **16 35 09.0 +0.1**
VRI Vrincioaia 98.93 316 P **P** **16 35 09.0 +0.1**
VRI Vrincioaia 98.93 316 P **P** **16 35 08.6 -0.4**
comp=Z,32nm,1.4s
WRGLY Wrigley 98.94 26 IAMs_20 IAMs_20 17 15 01.0
comp=Z,2µm,22.0s
WRGLY Wrigley 98.94 26 P Pdif 16 35 09.2 +0.6
baz=286
BBB Bella Bella 98.97 37 LR LR 17 11 47.1
comp=Z,1µm,21.8s,baz=271,slow=30
PLOR5 Plostina Array 98.98 316 P **P** **16 35 08.9 -0.3**
comp=Z,27nm,0.9s
PLOR Plostina 98.99 316⇑ P Pdif 16 35 09.6 +0.3
PLOR Plostina 98.99 316 P Pdif 16 35 09.5 +0.2
ONER Baraj Valea Uz 99.09 317⇑ P **Pdif** **16 35 10.2 +0.5**
NEHR Nehoiu 99.29 316⇑ P **Pdif** **16 35 09.8 -0.8**
COVR Voineasa-Covas 99.30 316⇑ P **Pdif** **16 35 09.9 -0.7**
TURR Turia 99.39 316⇑ P **Pdif** **16 35 11.1 0.0**
KOTAN Kotaneelee Air 99.49 29 P **Pdif** **16 35 11.6 +0.5**
baz=285
MLR Muntele Rosu 99.53 316 IAmb IAmb 16 35 13.3
comp=Z,22nm,0.9s
MLR Muntele Rosu 99.53 316 PKKPbc PKKPbc 16 51 34.8 -0.9
comp=Z,1.7nm,0.7s,baz=105,slow=6.7,SNR=3.1
MLR Muntele Rosu 99.53 316⇑ P **Pdif** **16 35 11.8 -0.1**
MLR Muntele Rosu 99.53 316 P **Pdif** **16 35 11.7 -0.1**
MLR Muntele Rosu 99.53 316 P **Pdif** **16 35 11.5 -0.3**
comp=Z,28nm,0.9s
TROLL Troll, Antarti 99.56 195⇑ P **Pdif** **16 35 12.7 +1.3**
comp=Z,415nm,0.9s
BURAR Bucovina Array 99.70 318⇑ P **Pdif** **16 35 12.9 +0.4**
BURAR Bucovina Array 99.70 318 P **Pdif** **16 35 12.9 +0.4**
LSZ Lusaka 99.71 254 IAMs_20 IAMs_20 17 14 24.9
comp=Z,2µm,22.0s
LSZ Lusaka 99.71 254 LR LR 17 15 42.4
comp=Z,2µm,21.9s,baz=100,slow=33
SUW Suwalki 99.80 325 IAMs_20 IAMs_20 17 24 03.7
comp=Z,3µm,22.0s
DOPR Dopca 99.84 316⇑ P **Pdif** **16 35 13.1 +0.1**
ELND Elena 99.94 313⇓ P **Pdif** **16 35 13.3 -0.2**
STNU Starunia 99.99 319 P **Pdif** **16 35 13.2 -0.4**
EZN Ezine 100.01 310⇓ P **Pdif** **16 35 12.9 -0.9**
EZN Ezine 100.01 310 P **Pdif** **16 35 12.9 -0.9**
ARR Arges 100.46 316⇓ P **Pdif** **16 35 15.6 -0.2**
TNR Turnu Rosu 100.66 316⇑ P **Pdif** **16 35 16.4 -0.4**
TNR Turnu Rosu 100.66 316 P **Pdif** **16 35 16.3 -0.4**
BMR Baia Mare 100.83 318⇓ P **Pdif** **16 35 17.4 0.0**

BMR	Baia Mare	100.83	318	P		Pdif		16 35 17.4	0.0		
CJR	Cluj-Napoca	100.94	317	⇑P		Pdif		16 35 17.7	-0.2		
CJR	Cluj-Napoca	100.94	317	P		Pdif		16 35 17.7	-0.2		
CBBR	Cluj-Babes-Bol	100.96	317	⇑P		Pdif		16 35 18.2	+0.2		
APE	Apeiranthos	100.97	307	⇑P		Pdif		16 35 17.9	-0.5		
APE	Apeiranthos	100.97	307	P		Pdif		16 35 17.8	-0.5		
KWP	Kalwaria Pacla	100.97	320	P		Pdif		16 35 17.9	-0.1		
SNAA	Sanae	101.11	194	⇑P		Pdif		16 35 19.3	+1.1		
	comp=Z,144nm,1.0s										
SNAA	Sanae	101.11	194	P		Pdif		16 35 19.3	+1.1		
	comp=Z,7.0nm,1.0s,baz=120,slow=4.9,SNR=13										
SNAA				PP		PP		16 39 27.0	+0.6		
	comp=Z,20nm,1.3s,baz=153,slow=7.8,SNR=4.9										
SNAA				PKKPbc		PKKPbc		16 51 29.1	-2.8		
	comp=Z,4.1nm,0.8s,baz=337,slow=2.5,SNR=16										
BOSA	Boshof	101.16	241	P		Pdif		16 35 19.9	+0.4		
	comp=Z,4.8nm,1.0s,baz=99,slow=2.9,SNR=3.5										
BOSA				PKKPbc		PKKPbc		16 51 30.4	-0.1		
	comp=Z,2.7nm,0.7s,baz=210,slow=16,SNR=3.5										
MUKU	Mukachevo	101.22	319	P		Pdif		16 35 19.0	0.0		
MARR	Marisel-Cluj	101.27	317	⇑P		Pdif		16 35 19.9	+0.4		
KOLS	Kolonicke sedl	101.39	320	*e*P		Pdif		16 35 20.0	+0.1		
KOLS				*e*				16 39 31.3			
DRGR		101.53	318	⇑P		Pdif		16 35 19.9	-0.7		
DRGR		101.53	318	P		Pdif		16 35 19.8	-0.7		
DEV	Deva	101.56	317	⇓P		Pdif		16 35 20.5	-0.1		
DEV	Deva	101.56	317	P		Pdif		16 35 20.5	-0.1		
GZR	Gura Zlata	101.74	316	⇑P		Pdif		16 35 22.1	+0.5		
GZR	Gura Zlata	101.74	316	P		Pdif		16 35 22.0	+0.5		
HERR	Herculane	102.09	316	⇑P		Pdif		16 35 23.1	+0.1		
SURR	Surduc	102.12	317	⇑P		Pdif		16 35 23.4	+0.3		
DAG	Danmarks Havn	102.14	353	PP		PKiKP		16 39 33.0	-12		
BZS	Buzias	102.50	317	⇑P		Pdif		16 35 24.1	-0.8		
BZS	Buzias	102.50	317	P		Pdif		16 35 24.0	-0.8		
MDVR	Moldovita	102.60	316	⇑P		Pdif		16 35 25.5	+0.2		
VNA2	Neumayer--Watz	102.70	194	⇑P		Pdif		16 35 28.0	+2.8		
	comp=Z,4.1nm,0.8s,baz=119,slow=4.4										
WISH	Wishkah	102.73	42	IAMs_20		IAMs_20		17 23 28.0			
	comp=Z,2μm,19.0s										
BOVS	Bovan	102.82	315	⇓P		Pdif		16 35 25.3	-1.1		
VNA3	Neumayer Olymp	102.99	193	⇑P		Pdif		16 35 29.0	+2.5		
	comp=Z,5.1nm,0.8s										
E03A	Lebam	102.99	42	IAMs_20		IAMs_20		17 19 03.0			
	comp=Z,1μm,20.0s										
HFS	Hagfors	103.01	332	P		Pdif		16 35 25.4	-1.4		
	comp=Z,2.7nm,0.8s,baz=114,slow=3.6,SNR=5.8										
YKA	Yellowknife Ar	103.01	25	P		Pdif		16 35 26.6	-0.1		
	comp=Z,5.4nm,0.9s,baz=301,slow=4.9,SNR=11										
YKA				PKKPbc		PKKPbc		16 51 23.6	-2.4		
	comp=Z,1.4nm,0.8s,baz=66,slow=1.9,SNR=3.9										
YKA	Yellowknife Ar	103.01	25	*i* P		Pdif		16 35 28.7	+2.0		
YKA				pmax		pmax					
	comp=Z,5.0nm,0.9s										
A04D	Lummi Island	103.06	40	IAMs_20		IAMs_20		17 11 41.7			
	comp=Z,μm,22.0s										
VNA1	Neumayer--Stat	103.09	194	⇑P		Pdif		16 35 30.7	+3.8		
	comp=Z,9.0nm,1.1s										
F03A	Seaside	103.12	43	IAMs_20		IAMs_20		17 16 22.6			
	comp=Z,2μm,22.0s										
KEBM	Edson Butte	103.20	46	IAMs_20		IAMs_20		17 18 17.9			
	comp=Z,2μm,20.0s										
GNW	Green Mountain	103.25	41	IAMs_20		IAMs_20		17 13 36.9			
	comp=Z,2μm,22.0s										
I02E	Swisshome, OR	103.31	45	IAMs_20		IAMs_20		17 18 52.5			
	comp=Z,2μm,21.0s										
KBO	Bosley Butte	103.41	47	IAMs_20		IAMs_20		17 14 52.3			
	comp=Z,2μm,20.0s										
F04D	Rainier, OR	103.47	43	IAMs_20		IAMs_20		17 16 43.6			
	comp=Z,2μm,21.0s										
G03D	McMinnville, O	103.48	44	IAMs_20		IAMs_20		17 18 26.1			
	comp=Z,1μm,20.0s										
COR	Corvallis	103.59	44	IAMs_20		IAMs_20		17 16 00.9			
	comp=Z,2μm,20.0s										
KSXB	Camp Six Broad	103.73	47	IAMs_20		IAMs_20		17 15 24.1			
	comp=Z,2μm,21.0s										
I03D	Drain, OR	103.74	45	IAMs_20		IAMs_20		17 20 39.1			
	comp=Z,2μm,20.0s										
KRMB	Red Mountain	103.77	47	IAMs_20		IAMs_20		17 13 01.0			
	comp=Z,2μm,22.0s										
NB2	NORSAR Subarra	103.79	334	P		Pdif		16 35 28.9	-1.4		
	comp=Z,36nm,1.2s,baz=68,slow=4.6										
NB2	NORSAR Subarra	103.79	334	P		Pdif		16 35 28.9	-1.4		
	comp=Z,36nm,1.2s,baz=68,slow=4.6										
NOA	NORSAR Array B	103.79	334	Pdiff		Pdif		16 35 29.0	-1.3		
	comp=Z,6.1nm,0.8s,baz=68,slow=4.5,SNR=14										
JCC	Jacoby Creek,	103.81	48	IAMs_20		IAMs_20		17 14 14.3			
	comp=Z,2μm,21.0s										
BUCK	Buck Mountain	103.89	45	IAMs_20		IAMs_20		17 13 02.0			
	comp=Z,2μm,21.0s										
TULEG	Thule	103.91	4	IAMs_20		IAMs_20		17 18 54.9			
	comp=Z,2μm,22.0s										
H04D	Lebanon	104.00	44	IAMs_20		IAMs_20		17 19 06.7			
	comp=Z,2μm,21.0s										
STEB	Steborice	104.01	321	*e*PKP		PKiKP		16 39 49.4	+0.6		
LON	Longmire	104.12	42	IAMs_20		IAMs_20		17 17 32.8			
	comp=Z,1μm,21.0s										
MORC	Moravsky Berou	104.20	321	⇑P		Pdif		16 35 32.3	0.0		
MORC	Moravsky Berou	104.20	321	P		Pdif		16 35 32.3	0.0		
H04A	Detroit Lake	104.34	44	IAMs_20		IAMs_20		17 16 35.9			
	comp=Z,2μm,22.0s										
KCPM	Cahto Peak	104.36	49	IAMs_20		IAMs_20		17 21 22.9			
	comp=Z,2μm,20.0s										
BBOR	Butler Butte	104.39	46	IAMs_20		IAMs_20		17 19 07.3			
	comp=Z,2μm,21.0s										
MORH	Mrgy, Hunngar	104.39	318	⇑P		Pdif		16 35 32.4	-0.8		
KHBM	Hayfork Bally	104.45	48	IAMs_20		IAMs_20		17 14 14.1			
	comp=Z,2μm,21.0s										
HOOD	Mount Hood Mea	104.57	43	IAMs_20		IAMs_20		17 20 08.8			
	comp=Z,2μm,21.0s										
KRLC	Kraliky	104.59	322	AMS		AMS		17 24 30.0			
	comp=Z,2μm,16.4s										
J04A	Umpqua Nationa	104.72	45	IAMs_20		IAMs_20		17 21 20.0			
	comp=Z,2μm,19.0s										
LTY	Liberty	104.75	41	IAMs_20		IAMs_20		17 14 04.5			
	comp=Z,2μm,22.0s										
DPC	Dobruska-Polom	104.79	322	AMS		AMS		17 25 20.0			
	comp=Z,2μm,22.7s										
OSTC	Ostas	104.80	322	*e*PKP		PKiKP		16 39 51.4	+1.1		
OSTC				AMS		AMS		17 25 30.0			
	comp=Z,2μm,22.9s										
G05A	Wamic	104.81	43	IAMs_20		IAMs_20		17 20 15.3			
	comp=Z,2μm,21.0s										
HOPS	Hopland Field	104.88	50	IAMs_20		IAMs_20		17 21 34.7			
	comp=Z,2μm,21.0s										
CHVC	Chvalec	104.89	322	AMS		AMS		17 25 30.0			
	comp=Z,2μm,22.9s										
VRAC	Vranov	104.92	321	PKKPbc		PKKPbc		16 51 19.3	-0.6		
	comp=Z,1.4nm,0.5s,baz=103,slow=8.5,SNR=3.7										
UPC	Upice	104.94	322	*e*PKP		PKiKP		16 39 52.4	+1.9		
UPC				AMS		AMS		17 25 40.0			
	comp=Z,2μm,23.5s										
K04D	Chiloquin, OR	105.11	46	IAMs_20		IAMs_20		17 19 39.4			
	comp=Z,2μm,21.0s										
FARB	Farallon Islan	105.18	51	IAMs_20		IAMs_20		17 27 09.7			
	comp=Z,2μm,19.0s										
MCCM	Marconi Confer	105.19	51	IAMs_20		IAMs_20		17 27 22.9			
	comp=Z,2μm,18.0s										
B08A	Colville Reser	105.32	40	IAMs_20		IAMs_20		17 17 58.5			
	comp=Z,2μm,21.0s										
J05D	Fort Rock, OR	105.33	45	IAMs_20		IAMs_20		17 19 51.2			
	comp=Z,2μm,21.0s										
MNRC	McLaughlin Min	105.39	50	IAMs_20		IAMs_20		17 22 01.0			
	comp=Z,2μm,20.0s										
TULE	Intermountain	105.47	47	IAMs_20		IAMs_20		17 20 00.8			
	comp=Z,2μm,20.0s										
CVS	Carmenet Viney	105.48	50	IAMs_20		IAMs_20		17 27 43.5			
	comp=Z,1μm,19.0s										
RONA	Rosalia, Austr	105.56	320	*e*PP		PP		16 39 59.0	-1.4		
	comp=Z,9.1nm,1.4s										
O03E	Paynes Creek	105.58	48	IAMs_20		IAMs_20		17 16 34.0			
	comp=Z,2μm,22.0s										
F07A	Phinny Hill Vi	105.60	42	IAMs_20		IAMs_20		17 20 55.9			
	comp=Z,2μm,21.0s										
RUE	Ruedersdorf	105.64	325	*e*PP		PP		16 40 03.9	+3.2		
	baz=68,slow=7.3										
K05A	Summer Lake	105.71	46	IAMs_20		IAMs_20		17 20 00.1			
	comp=Z,2μm,22.0s										
HATC	Hat Creek Radi	105.72	48	IAMs_20		IAMs_20		17 15 26.8			
	comp=Z,2μm,21.0s										
CONA	Conrad Observa	105.78	320	*i* PP		PP		16 39 58.7	-3.4		
	comp=Z,15nm,1.3s										
PVCC	Panska Ves	105.81	323	AMS		AMS		17 26 30.0			
	comp=Z,2μm,21.2s										
RUSS	Russell Ranch	105.89	50	IAMs_20		IAMs_20		17 13 03.5			
	comp=Z,1μm,20.0s										
D08A	Wollman Farm,	105.95	41	IAMs_20		IAMs_20		17 14 50.3			
	comp=Z,2μm,22.0s										
PRU	Pruhonice	106.00	322	AMS		AMS		17 26 20.0			
	comp=Z,2μm,25.0s										
PRA	Prague	106.04	322	AMS		AMS		17 26 30.0			
	comp=Z,2μm,24.5s										
YPT	Yellepit	106.20	42	IAMs_20		IAMs_20		17 21 05.0			
	comp=Z,2μm,20.0s										
ZVC	Zvikov	106.38	322	AMS		AMS		17 26 50.0			
	comp=Z,2μm,24.2s										
CLL	Collm	106.49	324	IAMs_20		IAMs_20		17 28 25.1			
	comp=Z,2μm,19.0s										
CLL	Collm	106.49	324	*e*PP		PP		16 40 06.1	-1.0		
	baz=68,slow=7.3										
AFDM	Forest Hills D	106.50	50	IAMs_20		IAMs_20		17 22 36.4			
	comp=Z,1μm,21.0s										
CKRC	Cesky Krumlov	106.50	321	*e*PKP		PKiKP		16 39 48.8	-4.7		
CKRC				*e*SKS		SKSac		16 46 20.1	-2.4		
CKRC				*e*SP		SP		16 49 26.6	+2.6		
CKRC				AMS		AMS		17 26 00.0			
	comp=Z,2μm,17.9s										
SAO	San Andreas Ge	106.58	52	IAMs_20		IAMs_20		17 27 04.7			
	comp=Z,2μm,19.0s										
SCZ	Santa Cruz	106.64	52	IAMs_20		IAMs_20		17 16 46.5			
	comp=Z,2μm,20.0s										
SOKA	Soboth	106.68	319	*i* PKiKP		PKiKP		16 39 54.7	+0.7		
	comp=Z,5.7nm,1.0s										
LNOR	Lincton Mounta	106.71	42	IAMs_20		IAMs_20		17 21 30.3			
	comp=Z,1μm,20.0s										
NEW	Newport	106.76	39	IAMs_20		IAMs_20		17 18 52.5			
	comp=Z,2μm,21.0s										
WELL	Weller Preserv	106.79	50	IAMs_20		IAMs_20		17 23 04.3			
	comp=Z,1μm,21.0s										
KHC	Kasperske Hory	106.86	322	*e*PP		PP		16 40 02.5	-7.4		
KHC				AMS		AMS		17 26 40.0			
	comp=Z,2μm,27.2s										
GERES	GERESS Array B	106.88	321	Pdiff		Pdif		16 35 43.6	-0.7		
	comp=Z,0.4nm,0.6s,baz=38,slow=5.0,SNR=4.4										
GERES				PKiKP		PKiKP		16 39 54.6	+0.3		
	comp=Z,2.0nm,0.7s,baz=52,slow=2.2,SNR=8.3										
GERES				PKKPbc		PKKPbc		16 51 12.8	-1.1		
	comp=Z,0.2nm,0.2s,baz=46,slow=3.9,SNR=4.0										
BBGB	Big Mountain B	106.94	52	IAMs_20		IAMs_20		17 16 56.2			
	comp=Z,2μm,20.0s										
OBKA	Obir	107.05	319	*i* PKiKP		PKiKP		16 39 55.7	+1.1		
	comp=Z,9.0nm,1.6s										
TANN	Tannenbergstha	107.12	323	*e*PP		PP		16 40 10.5	-1.3		
	baz=68,slow=7.3										
CMB	Columbia Colle	107.14	50	IAMs_20		IAMs_20		17 17 10.5			
	comp=Z,1μm,21.0s										
J08A	Circle Bar Ran	107.27	45	IAMs_20		IAMs_20		17 22 56.3			
	comp=Z,1μm,21.0s										
PLN	Plauen	107.28	323	*e*PP		PP		16 40 12.7	-0.2		
	baz=68,slow=7.3										
BIOA	Bad Ischl, Aus	107.28	320	*i* PKiKP		PKiKP		16 39 56.2	+1.2		
	comp=Z,5.5nm,0.8s										
WVOR	Wild Horse Val	107.39	46	IAMs_20		IAMs_20		17 16 15.8			
	comp=Z,1μm,21.0s										
MANZ	Manzenberg	107.48	323	*e*PP		PP		16 40 12.7	-1.7		
	baz=68,slow=7.3										
ROTZ	Rotzenmuhle	107.50	322	*e*PP		PP		16 40 14.9	+0.4		
	baz=68,slow=7.3										
MOX	Moxa	107.55	323	*e*PP		PP		16 40 13.8	-1.1		
	baz=68,slow=7.3										
BMO	Blue Mountains	107.66	43	IAMs_20		IAMs_20		17 18 12.6			
	comp=Z,1μm,22.0s										
KBA	Koelnbriesper	107.66	320	*i* pPKiKP		PKiKP		16 39 57.7	+1.8		
	comp=Z,6.6nm,0.9s										
RJOB	Jochberg	107.80	320	*e*PP		PP		16 40 15.9	-1.0		
	baz=68,slow=7.3										
CLZ	Clausthal	107.83	325	*e*PP		PP		16 40 17.1	+0.1		
	baz=68,slow=7.3										
SCO	Scoresbysund	107.98	350	IAMs_20		IAMs_20		17 24 23.9			
	comp=Z,2μm,22.0s										
LESA	Schwarzleotal	107.98	320	*i* pPKiKP		PKiKP		16 39 58.5	+2.2		
	comp=Z,7.2nm,1.0s										
RETH	Retzbach/Aller,	108.06	326	*e*PP		PP		16 40 16.0	-2.4		
	baz=68,slow=7.3										
SUMG	Summit	108.06	356	IAMs_20		IAMs_20		17 28 15.7			
	comp=Z,2μm,21.0s										
GRA1	Grafenberg Arr	108.12	323	IAMs_20		IAMs_20		17 29 40.2			
	comp=Z,1μm,19.0s										
GRF	Grafenberg Arr	108.12	323	*e*L		L		17 29 30.7			
	comp=Z,1μm,20.3s										
GRFO	Grafenberg	108.12	323	IAMs_20		IAMs_20		17 29 41.3			
	comp=Z,1μm,19.0s										
GRFO	Grafenberg	108.12	323	*e*L		L		17 29 30.1			
	comp=Z,1μm,20.7s										
GTTG	Gottingen	108.18	325	*e*PP		PP		16 40 19.5	+0.1		
	baz=68,slow=7.3										
ABTA	Abfaltersbach	108.31	319	*i* PKiKP		PKiKP		16 39 57.5	+0.5		
	comp=Z,8.2nm,1.0s										
PLID	Pearl Lake	108.47	42	IAMs_20		IAMs_20		17 22 23.1			
	comp=Z,2μm,21.0s										
FUR	Furstenfeldbru	108.62	321	*e*PP		PP		16 40 24.7	+1.9		
	baz=68,slow=7.3										
VES	Vestal, Richgr	108.64	52	IAMs_20		IAMs_20		17 17 55.2			
	comp=Z,2μm,21.0s										
NVAR	Mina Array Bea	108.65	50	Pdiff		Pdif		16 35 52.4	-0.3		
	comp=Z,1.4nm,0.7s,baz=254,slow=5.3,SNR=7.2										
NVAR				PKiKP		PKiKP		16 39 59.5	+1.5		
	comp=Z,0.4nm,0.4s,baz=293,slow=2.6,SNR=3.8										
NVAR				PKKPbc		PKKPbc		16 51 08.5	+0.2		
	comp=Z,1.2nm,0.8s,baz=144,slow=5.3,SNR=6.0										
WTTA	Wattenberg	108.70	320	*e*PKiKP		PKiKP		16 39 57.6	-0.3		
	comp=Z,23nm,1.1s										
WATA	Walderalm	108.72	320	*ep*PKiKP		PKiKP		16 39 59.3	+1.5		
	comp=Z,7.2nm,0.9s										
SQTA	Sankt Quirin	108.99	320	*e*PKiKP		PKiKP		16 39 57.4	-0.9		
	comp=Z,5.0nm,0.7s										
MOTA	Moosalm	109.02	320	*e*PKiKP		PKiKP		16 39 59.8	+1.4		
	comp=Z,8.9nm,1.0s										
TIN	Tinemaha, Big	109.03	51	IAMs_20		IAMs_20		17 22 34.6			
	comp=Z,2μm,20.0s										
IBBN	Ibbenburen	109.13	326	*e*PP		PP		16 40 26.6	+0.3		
	baz=68,slow=7.3										
RETA	Reutte	109.18	321	*i* PKiKP		PKiKP		16 39 58.6	0.0		
	comp=Z,6.9nm,1.0s										
KASTN	Kahler Asten	109.21	325	*e*PP		PP		16 40 27.2	+0.3		
	baz=68,slow=7.3										
MSO	Missoula	109.27	40	IAMs_20		IAMs_20		17 21 00.9			
	comp=Z,2μm,20.0s										
WIN	Windhoek	109.33	246	IAMs_20		IAMs_20		17 29 43.5			
	comp=Z,1μm,19.0s										
FETA	Feichten	109.37	320	*i* PKiKP		PKiKP		16 39 59.8	+0.7		
	comp=Z,6.8nm,1.0s										
UBR	Ueberruh	109.53	321	*e*PP		PP		16 40 28.0	-1.4		
	baz=68,slow=7.3										
TNS	Taunus Mts	109.58	324	*e*PP		PP		16 40 29.1	-0.6		
	baz=68,slow=7.3										
STU	Stuttgart	109.69	322	IAMs_20		IAMs_20		17 30 47.9			
	comp=Z,1μm,19.0s										
STU	Stuttgart	109.69	322	*e*PP		PP		16 40 32.4	+1.9		
	baz=68,slow=7.3										
FUORN	Ofenpass-Fuorn	109.81	320	IAMs_20		IAMs_20		17 35 32.6			
	comp=Z,1μm,20.0s										
DAVA	Damuels	109.81	321	*i* PKiKP		PKiKP		16 40 00.1	+0.2		
	comp=Z,17nm,1.1s										
DAVOX	Davos/Dischmat	110.00	320	PKKPbc		PKKPbc		16 51 02.1	-2.0		
	comp=Z,0.4nm,0.3s,baz=240,slow=7.5,SNR=1.5										
SMAI	San Martin Ant	110.16	174	IAMs_20		IAMs_20		17 26 29.1			
	comp=Z,2μm,20.0s										
FURC	Furnace Creek,	110.24	51	IAMs_20		IAMs_20		17 22 14.5			
	comp=Z,2μm,20.0s										
ELK	Elko	110.31	47	IAMs_20		IAMs_20		17 18 48.0			
	comp=Z,2μm,20.0s										
BFO	Black Forest	110.39	322	IAMs_20		IAMs_20		17 31 17.5			
	comp=Z,1μm,18.0s										
BFO	Black Forest	110.39	322	*e*PP		PP		16 40 35.7	+0.1		
	baz=68,slow=7.3										
TUE	Stuetta	110.45	320	IAMs_20		IAMs_20		17 36 34.6			
	comp=Z,1μm,22.0s										
TPNV	Topopah Spring	110.59	51	IAMs_20		IAMs_20		17 20 58.9			
	comp=Z,2μm,20.0s										
DLMT	Dillon	110.65	41	IAMs_20		IAMs_20		17 23 59.7			
	comp=Z,2μm,20.0s										
MEM	Membach	110.84	325	*d*PKiKP		PKiKP		16 40 02.7	+1.2		
BHOU	Houvegnez	110.95	325	*d*PKiKP		PKiKP		16 40 04.4	+2.7		
ECH	Echery	111.16	322	IAMs_20		IAMs_20		17 31 38.6			
	comp=Z,2μm,20.0s										
WLF	Walferdange	111.16	324	IAMs_20		IAMs_20		17 31 08.6			
	comp=Z,2μm,22.0s										
BCLA	Clavier	111.33	325	*d*PKiKP		PKiKP		16 40 04.6	+2.2		
EGMT	Eagleton	111.45	38	IAMs_20		IAMs_20		17 21 57.9			
	comp=Z,2μm,22.0s										
BMRD	Maredsous	111.69	325	*d*PKiKP		PKiKP		16 40 04.8	+1.7		
SALN	Salton City	111.71	54	IAMs_20		IAMs_20		17 16 47.8			
	comp=Z,2μm,22.0s										
SENIN	Lac Senin/Sane	111.80	320	IAMs_20		IAMs_20		17 36 48.4			
	comp=Z,1μm,21.0s										
DOU	Dourbes	111.88	325	*d*PKiKP		PKiKP		16 40 04.7	+1.2		
ILULI	Ilulissat	111.91	360	IAMs_20		IAMs_20		17 28 21.2			
	comp=Z,2μm,21.0s										
LKWY	Lake	112.40	41	IAMs_20		IAMs_20		17 24 54.8			
	comp=Z,2μm,20.0s										
TPAW	Teton Pass	112.42	43	IAMs_20		IAMs_20		17 22 09.6			
	comp=Z,1μm,22.0s										
NEE2	Needles Airpor	112.44	53	IAMs_20		IAMs_20		17 27 37.9			
	comp=Z,2μm,19.0s										
FFC	Flin Flon	112.52	29	IAMs_20		IAMs_20		17 24 51.1			
	comp=Z,2μm,22.0s										
SNOW	Snow King Moun	112.57	43	IAMs_20		IAMs_20		17 22 13.5			
	comp=Z,1μm,22.0s										
AHID	Auburn Hatcher	112.58	43	IAMs_20		IAMs_20		17 19 31.9			
	comp=Z,2μm,22.0s										
LOHW	Long Hollow	112.61	42	IAMs_20		IAMs_20		17 22 26.7			
	comp=Z,2μm,21.0s										
HWUT	Hardware Ranch	112.67	45	IAMs_20		IAMs_20		17 18 14.2			
	comp=Z,2μm,22.0s										
W13A	Hualapai Mount	112.93	52	IAMs_20		IAMs_20		17 20 05.7			
	comp=Z,2μm,22.0s										
EKA	Eskdalemuir Ar	113.21	332	PKiKP		PKiKP		16 40 09.1	+3.2		
	comp=Z,1.4nm,0.6s,baz=78,slow=3.8,SNR=4.4										
EKA				PKKPbc		PKKPbc		16 50 54.7	+1.2		
	comp=Z,1.9nm,0.8s,baz=248,slow=3.8,SNR=3.8										
PDAR	Pinedale Array	113.64	43	PKiKP		PKiKP		16 40 08.0	+0.5		
	comp=Z,1.0nm,0.8s,baz=214,slow=0.5,SNR=4.9										
PDAR				PKKPbc		PKKPbc		16 50 51.3	-0.7		
	comp=Z,2.0nm,0.8s,baz=116,slow=5.6,SNR=9.9										
113A	Mohawk Valley,	113.64	55	IAMs_20		IAMs_20		17 17 56.9			
	comp=Z,2μm,21.0s										
KEST	Kesra	114.00	309	PKiKP		PKiKP		16 40 09.2	+1.0		
	comp=Z,3.9nm,0.8s,baz=356,slow=5.1,SNR=3.8			

MTE Manteigas 124.13 320 *e*PKP **PKiKP** 16 40 28.0 +0.3
MTE *e*PP **PP** 16 42 13.1 +1.6
MTE *e*LQ LQ 17 23 40.1
MTE *e*LR LR 17 28 14.7
MTE *i* IAMs_20 IAMs_20 17 42 23.7
comp=Z,1µm,20.0s
PVIS Viseu 124.18 321 *e*PKP **PKiKP** 16 40 28.7 +0.9
PVIS *e*PP **PP** 16 42 13.2 +1.4
PCBR Castelo Branco 124.39 320 *e*PKP **PKiKP** 16 40 29.1 +1.0
PMRV Marv??o 124.56 319 *e*PKP **PKiKP** 16 40 29.1 +0.6
PMRV *e*PP **PP** 16 42 10.6 -3.6
PMRV *e*LQ LQ 17 28 27.6
PMRV *e*LR LR 17 32 22.7
PMRV *i* IAMs_20 IAMs_20 17 40 42.9
comp=Z,1µm,20.0s
WMOK Wichita Mounta 124.62 47 IAMs_20 IAMs_20 17 27 57.0
comp=Z,2µm,22.0s
SCIA State Center 124.64 37 IAMs_20 IAMs_20 17 36 43.4
comp=Z,1µm,21.0s
COI Coimbra 124.79 320 IAMs_20 IAMs_20 17 38 24.6
comp=Z,2µm,21.0s
SCHQ Schefferville 124.89 11 PKP **PKiKP** 16 40 28.8 +0.1
comp=Z,129nm,1.0s,baz=313,slow=1.3,SNR=9.1
ABTX Abilene, Hawle 124.89 50 IAMs_20 IAMs_20 17 37 12.4
comp=Z,2µm,20.0s
PCAS Casmilo, Conde 124.93 320 *e*PKP **PKiKP** 16 40 29.9 +0.7
PCAS *e*PP **PP** 16 42 19.6 +2.9
I40A Norwalk 124.93 34 IAMs_20 IAMs_20 17 41 55.8
comp=Z,1µm,19.0s
CEU Ceuta 124.96 314 PKP **PKPdf** 16 40 29.3 +0.2
PSARD Sardoal 124.97 320 *e*PKP **PKiKP** 16 40 29.5 +0.1
PSARD *e*PP **PP** 16 42 17.9 +0.9
PBAR Barrancos 124.98 318 *e*PKP **PKiKP** 16 40 30.3 +0.9
PBAR *e*PP **PP** 16 42 15.5 -1.6
PESTR Estremoz 124.99 319 **PKPdf** 16 40 27.8 -1.3
PESTR IAMs_20 IAMs_20 17 42 24.0
comp=Z,2µm,21.0s
PESTR Estremoz 124.99 319 *e*PKP **PKiKP** 16 40 29.6 +0.1
PESTR *e*PP **PP** 16 42 18.6 +1.5
F42A Maple Grove Fa 125.02 31 IAMs_20 IAMs_20 17 32 27.9
comp=Z,1µm,22.0s
OK029 Liberty Lake 125.09 46 IAMs_20 IAMs_20 17 38 04.3
comp=Z,2µm,20.0s
SFS San Fernando 125.27 315 IAMs_20 IAMs_20 17 41 41.4
comp=Z,2µm,20.0s
N38A Joes South For 125.28 38 IAMs_20 IAMs_20 17 29 13.4
comp=Z,2µm,22.0s
PMTG Montargil 125.30 319 *e*PKP **PKiKP** 16 40 30.1 +0.1
PMTG *e*PP **PP** 16 42 20.8 +1.6
PSBE So Bento 125.42 320 *e*PKP **PKiKP** 16 40 31.6 +1.3
EVO Evora 125.44 319 PKP **PKiKP** 16 40 30.7 +0.4
EVO Evora 125.44 319 *e*PKP **PKiKP** 16 40 31.2 +0.9
EVO *e*PP **PP** 16 42 23.1 +2.9
OK052 Battle Ridge R 125.46 45 IAMs_20 IAMs_20 17 35 17.0
comp=Z,2µm,20.0s
PBEJ Beja 125.62 318 *e*PKP **PKiKP** 16 40 31.4 +0.8
JCT Junction City 125.64 53 IAMs_20 IAMs_20 17 28 01.4
comp=Z,2µm,22.0s
P38A Dawn 125.76 40 IAMs_20 IAMs_20 17 30 02.2
comp=Z,2µm,21.0s
PVAQ Vaqueiros 125.84 317 *e*PKP **PKiKP** 16 40 31.9 +0.8
PVAQ *e*PP **PP** 16 42 25.5 +2.6
PVAQ *e*LQ LQ 17 18 58.5
PVAQ *e*LR LR 17 26 57.9
PVAQ *i* IAMs_20 IAMs_20 17 44 25.3
comp=Z,754nm,20.0s
ZAIG Zacatecas 125.89 62 IAMs_20 IAMs_20 17 24 33.2
comp=Z,2µm,22.0s
PCVE Castro Verde 125.94 318 *e*PKP **PKiKP** 16 40 32.2 +0.8
PCVE *e*PP **PP** 16 42 26.7 +3.2
MESJ Messejana 125.95 318 *e*PKPdf **PKPdf** 16 40 31.0 +0.1
MESJ *e*PP **PP** 16 42 24.1 +0.5
MESJ IAMs_20 IAMs_20 17 42 54.2
comp=Z,1µm,17.3s
MESJ Messejana 125.95 318 *e*PKP **PKiKP** 16 40 32.7 +1.4
MESJ *e*PP **PP** 16 42 25.9 +2.3
MESJ Messejana 125.95 318 *e*PKIKP **PKPdf** 16 40 31.0 +0.1
MESJ *e* 16 42 24.1
PARRA Arraiolos 125.97 319 *e*PKP **PKPdf** 16 40 30.1 -0.9
PARRA *e*PP **PP** 16 42 21.1 -2.5
TORD Torodi Ar. Bea 126.00 285 **PKPdf** 16 40 29.4 -2.2
TORD Torodi Ar. Bea 126.00 285 PKP **PKiKP** 16 40 32.0 0.0
comp=2,50nm,0.8s,baz=38,slow=3.0,SNR=120
TORD PKKPbc **PKKPbc** 16 50 07.3 +1.9
comp=2,3.0nm,0.8s,baz=302,slow=4.2,SNR=10
PMAFR Mafra 126.05 320 *e*PP **PP** 16 42 25.1 +1.0
PBDV Barranco-do-Ve 126.07 317 *e*PKP **PKiKP** 16 40 33.4 +1.8
PBDV *e*PP **PP** 16 42 28.0 +3.6
LIS Lisbon 126.09 319 *e*PP **PP** 16 42 25.2 +0.7
TUL3 Leonard 126.22 45 IAMs_20 IAMs_20 17 40 18.9
comp=Z,2µm,19.0s
PTEO Sao Teotonio 126.45 318 *e*PKP **PKiKP** 16 40 32.7 +0.4
PTEO *e*PP **PP** 16 42 28.4 +1.5
E46A Sault Ste Mari 126.46 28 IAMs_20 IAMs_20 17 37 27.7
comp=Z,1µm,20.0s
MORF Marmelete 126.53 318 *e*PP **PP** 16 42 28.0 +0.5
MORF IAMs_20 IAMs_20 17 36 33.1
comp=E,2µm,36.9s
MORF Marmelete 126.53 318 *e*PKP **PKiKP** 16 40 33.2 +0.7
MORF *e*PP **PP** 16 42 31.7 +4.2
L42A Oliver, Polo 126.67 35 IAMs_20 IAMs_20 17 28 28.0
comp=Z,2µm,22.0s
PFVI Vila Bisbo 126.74 317 *e*PKP **PKiKP** 16 40 34.6 +1.7
PFVI *e*PP **PP** 16 42 31.7 +2.9
P40A Paris 126.75 39 IAMs_20 IAMs_20 17 31 07.4
comp=Z,2µm,21.0s
N41A Harden Midland 126.78 37 IAMs_20 IAMs_20 17 28 09.1
comp=Z,2µm,22.0s
WHTX Lake Whitney, 126.83 50 IAMs_20 IAMs_20 17 26 44.8
comp=Z,2µm,22.0s
S39A Bolivar 126.97 41 IAMs_20 IAMs_20 17 33 42.7
comp=Z,2µm,21.0s
K43A Burlington 126.97 34 IAMs_20 IAMs_20 17 41 44.8
comp=Z,1µm,20.0s
HHAR Hobbs 127.31 43 IAMs_20 IAMs_20 17 29 54.8
comp=Z,2µm,22.0s
GLMI Grayling 127.44 29 IAMs_20 IAMs_20 17 42 08.8
comp=Z,1µm,20.0s
L44A Lake County Fo 127.55 34 IAMs_20 IAMs_20 17 35 13.2
comp=Z,1µm,22.0s
AVE Averroes 127.68 313 PKP **PKPdf** 16 40 33.8 -0.5
AVE Averroes 127.68 313 IAMs_20 IAMs_20 17 48 40.4
comp=Z,1µm,21.0s
MGMO Mountain Grove 127.97 41 IAMs_20 IAMs_20 17 40 31.9
comp=Z,1µm,20.0s
Z38A Mt. Pleasant 128.10 47 IAMs_20 IAMs_20 17 41 36.0
comp=Z,2µm,20.0s
CCM Cathedral Cave 128.12 40 **PKPdf** 16 40 34.4 -0.7
CCM Cathedral Cave 128.12 40 IAMs_20 IAMs_20 17 35 50.8
comp=Z,2µm,20.0s
CCM Cathedral Cave 128.12 40 PKIKP **PKPdf** 16 40 34.4 -0.7
CCM MLR MLR
comp=Z,2µm,20.0s
P43A Skaggs, Pawnee 128.24 37 IAMs_20 IAMs_20 17 34 32.8
comp=Z,1µm,21.0s
SLM Saint Louis 128.42 39 IAMs_20 IAMs_20 17 31 36.5
comp=Z,1µm,22.0s
MIAR Mount Ida 128.47 45 **PKPdf** 16 40 33.5 -2.3
MIAR Mount Ida 128.47 45 PKIKP **PKPdf** 16 40 33.5 -2.3
MIAR MLR MLR
comp=Z,3µm,21.0s
L46A Eue Claire 128.55 33 IAMs_20 IAMs_20 17 31 10.6
comp=Z,2µm,22.0s
FVM French Village 128.69 40 IAMs_20 IAMs_20 17 32 26.7
comp=Z,1µm,22.0s
FCAR Ozark Folk Cen 128.76 43 IAMs_20 IAMs_20 17 28 51.1
comp=Z,2µm,22.0s
I49A Point Hope 128.96 29 IAMs_20 IAMs_20 17 40 19.0
comp=Z,1µm,20.0s
WHAR Wooly Hollow 128.98 43 IAMs_20 IAMs_20 17 30 10.8
comp=Z,1µm,21.0s
Q44A Meyer Farm, Va 129.01 38 IAMs_20 IAMs_20 17 27 40.0
comp=Z,2µm,22.0s
NATX Nacogdoches 129.06 49 IAMs_20 IAMs_20 17 31 04.5
comp=Z,2µm,22.0s
LCAR Lake Charles 129.32 42 IAMs_20 IAMs_20 17 29 33.7
comp=Z,1µm,21.0s
BUKO Buck Lake 129.37 25 IAMs_20 IAMs_20 17 35 08.4
comp=Z,2µm,22.0s
PBMO Poplar Bluff 129.39 41 IAMs_20 IAMs_20 17 36 14.5
comp=Z,2µm,22.0s
S44A Carbondale 129.60 39 IAMs_20 IAMs_20 17 39 04.9
comp=Z,966nm,20.0s
SIUC Southern Illin 129.61 39 IAMs_20 IAMs_20 17 39 06.2
comp=Z,1µm,20.0s

P46A Rosedale 129.64 36 IAMs_20 IAMs_20 17 29 46.5
comp=Z,1µm,22.0s
N47A Urbana 129.66 34 IAMs_20 IAMs_20 17 30 13.8
comp=Z,2µm,22.0s
OLIL Olney 129.67 37 IAMs_20 IAMs_20 17 30 37.6
comp=Z,2µm,22.0s
AAM Ann Arbor 129.75 31 IAMs_20 IAMs_20 17 34 47.0
comp=Z,2µm,22.0s
PARMO Parma 129.90 40 IAMs_20 IAMs_20 17 31 48.9
comp=Z,1µm,22.0s
K50A Casco 129.92 30 IAMs_20 IAMs_20 17 35 08.6
comp=Z,2µm,21.0s
PVMO Portageville 130.08 41 IAMs_20 IAMs_20 17 27 48.7
comp=Z,2µm,22.0s
HICK Hickman 130.31 40 IAMs_20 IAMs_20 17 32 45.8
comp=Z,1µm,20.0s
O48B Farmland 130.38 34 IAMs_20 IAMs_20 17 33 56.0
comp=Z,1µm,21.0s
GLAT Glass 130.43 41 IAMs_20 IAMs_20 17 36 46.1
comp=Z,2µm,20.0s
441A DeRidder 130.64 49 IAMs_20 IAMs_20 17 31 51.6
comp=Z,2µm,22.0s
UTMT University of 130.66 40 IAMs_20 IAMs_20 17 28 40.0
comp=Z,2µm,22.0s
MET Memphis--Engin 130.67 42 IAMs_20 IAMs_20 17 31 08.6
comp=Z,2µm,22.0s
M50A Fremont 130.71 31 IAMs_20 IAMs_20 17 38 56.6
comp=Z,2µm,20.0s
P48A Milroy 130.77 35 IAMs_20 IAMs_20 17 33 34.4
comp=Z,1µm,21.0s
O49A Covington 130.88 33 IAMs_20 IAMs_20 17 30 27.3
comp=Z,2µm,22.0s
WCI Wyandotte Cave 131.08 37 IAMs_20 IAMs_20 17 29 27.8
comp=Z,2µm,22.0s
N51A Ashland 131.41 31 IAMs_20 IAMs_20 17 33 15.0
comp=Z,2µm,21.0s
WVT Waverly 131.46 40 IAMs_20 IAMs_20 17 41 57.1
comp=Z,1µm,20.0s
ACSO Alum Creek Sta 131.59 32 IAMs_20 IAMs_20 17 40 41.8
comp=Z,1µm,21.0s
MEDO Medina 131.59 26 IAMs_20 IAMs_20 17 40 16.3
comp=Z,2µm,20.0s
PECO Prince Edward 131.59 25 IAMs_20 IAMs_20 17 40 53.3
comp=Z,1µm,22.0s
D62A Allapoint, All 131.61 16 IAMs_20 IAMs_20 17 42 41.2
comp=Z,1µm,19.0s
J55A Hilton 131.79 26 IAMs_20 IAMs_20 17 32 58.5
comp=Z,2µm,22.0s
E62A Clayton Lake 131.90 17 IAMs_20 IAMs_20 17 42 04.9
comp=Z,1µm,20.0s
LONY Lake Ozonia 131.98 22 IAMs_20 IAMs_20 17 39 02.4
comp=Z,1µm,21.0s
P51A Williamsport 132.08 33 IAMs_20 IAMs_20 17 30 49.9
comp=Z,1µm,21.0s
FRNY Flat Rock 132.16 21 IAMs_20 IAMs_20 17 36 45.1
comp=Z,1µm,20.0s
MMNY Mt. Morris Dam 132.18 26 IAMs_20 IAMs_20 17 40 43.8
comp=Z,2µm,21.0s
Q51A Peebles 132.24 34 IAMs_20 IAMs_20 17 34 52.3
comp=Z,1µm,22.0s
O52A Adamsville 132.28 32 IAMs_20 IAMs_20 17 34 00.2
comp=Z,2µm,20.0s
PAOC Oil Creek Stat 132.31 29 IAMs_20 IAMs_20 17 39 14.6
comp=Z,1µm,20.0s
V48A Smith Brothers 132.34 40 IAMs_20 IAMs_20 17 42 51.5
comp=Z,1µm,20.0s
CLTN Cedars of Leba 132.43 39 IAMs_20 IAMs_20 17 37 16.8
comp=Z,1µm,22.0s
J57A Williamstown 132.44 24 IAMs_20 IAMs_20 17 34 06.6
comp=Z,2µm,22.0s
P52A Corning 132.47 32 IAMs_20 IAMs_20 17 41 18.2
comp=Z,2µm,22.0s
L56A Grenwood 132.81 26 IAMs_20 IAMs_20 17 38 53.5
comp=Z,2µm,22.0s
G62A West of Eustis 132.86 18 IAMs_20 IAMs_20 17 45 39.4
comp=Z,1µm,21.0s
LL01 San Ignacio de 132.87 159 IAMs_20 IAMs_20 17 37 47.9
comp=Z,1µm,20.0s
Q52A Bidwell 132.88 33 IAMs_20 IAMs_20 17 35 36.1
comp=Z,1µm,21.0s
VT1 Waterbury 132.90 21 IAMs_20 IAMs_20 17 39 29.8
comp=Z,2µm,22.0s
F64A Sherman 132.92 16 IAMs_20 IAMs_20 17 43 27.9
comp=Z,1µm,21.0s
P53A Whipple 132.97 32 IAMs_20 IAMs_20 17 34 42.4
comp=Z,1µm,21.0s
J59A Piesco 132.99 23 IAMs_20 IAMs_20 17 41 06.1
comp=Z,1µm,21.0s
Z47A Carrollton 133.04 43 IAMs_20 IAMs_20 17 43 33.4
comp=Z,1µm,19.0s
S51A Beattyville 133.06 35 IAMs_20 IAMs_20 17 35 05.1
comp=Z,2µm,21.0s
DBIC Dimbokro 133.17 278 PKP **PKPdf** 16 40 45.6 +0.3
comp=Z,28nm,0.9s,baz=80,slow=2.8,SNR=17
PKME Peaks-Kenny Pk 133.20 17 IAMs_20 IAMs_20 17 38 41.3
comp=Z,994nm,21.0s
H62A Milan 133.23 19 IAMs_20 IAMs_20 17 40 33.3
comp=Z,1µm,22.0s
SWET Sewanee 133.24 39 IAMs_20 IAMs_20 17 30 14.1
comp=Z,1µm,22.0s
LBNH Lisbon 133.27 20 IAMs_20 IAMs_20 17 39 50.3
comp=Z,1µm,22.0s
HNH Hanover 133.61 21 IAMs_20 IAMs_20 17 38 00.4
comp=Z,2µm,22.0s
Q54A Coxs Mills 133.63 32 IAMs_20 IAMs_20 17 42 01.9
comp=Z,2µm,22.0s
W50A Signal Mountai 133.64 39 IAMs_20 IAMs_20 17 45 45.7
comp=Z,1µm,21.0s
I62A Tamworth 133.79 20 IAMs_20 IAMs_20 17 40 50.1
comp=Z,1µm,22.0s
J61A Chester 133.82 21 IAMs_20 IAMs_20 17 42 28.1
comp=Z,1µm,20.0s
L59A Walton 133.84 24 IAMs_20 IAMs_20 17 40 52.8
comp=Z,2µm,21.0s
LRAL Lakeview Retre 133.87 43 IAMs_20 IAMs_20 17 36 06.1
comp=Z,2µm,22.0s
I63A Otisfield 133.89 19 IAMs_20 IAMs_20 17 37 18.6
comp=Z,1µm,22.0s
PMPST Porto Santo, M 134.10 318 *e*PKP **PKiKP** 16 40 50.3 +2.4
PMPST *e*PP **PP** 16 43 18.9 +2.3
N58A Sunbury 134.22 27 IAMs_20 IAMs_20 17 42 44.1
comp=Z,2µm,21.0s
EMMW East Machias 134.23 16 IAMs_20 IAMs_20 17 43 19.6
comp=Z,1µm,20.0s
S54A Dingess, Beckl 134.24 33 IAMs_20 IAMs_20 17 51 55.0
comp=Z,1µm,19.0s
X51A Calhoun 134.33 39 IAMs_20 IAMs_20 17 46 05.1
comp=Z,2µm,21.0s
R55A Marlinton 134.53 32 IAMs_20 IAMs_20 17 32 54.6
comp=Z,1µm,22.0s
K62A Royalston 134.53 22 IAMs_20 IAMs_20 17 38 06.8
comp=Z,1µm,20.0s
FUL Funchal 134.73 318 *e*PKP **PKiKP** 16 40 50.7 +1.6
FUL *e*PP **PP** 16 43 24.8 +4.1
PMOZ Porto Moniz, M 134.83 318 *e*PKP **PKiKP** 16 40 52.4 +2.9
PMOZ *e*PP **PP** 16 43 23.3 +1.9
PMOZ *e*LR LR 17 36 04.7
PMOZ *i* IAMs_20 IAMs_20 17 45 18.5
comp=Z,733nm,22.0s
V53A Saluda 134.86 37 IAMs_20 IAMs_20 17 35 42.9
comp=Z,1µm,21.0s
LR05 Currie 134.89 158 IAMs_20 IAMs_20 17 40 40.4
comp=Z,960nm,21.0s
HRV Adam Dziewonsk 134.91 21 IAMs_20 IAMs_20 17 46 43.9
comp=Z,1µm,20.0s
PLCA Paso Flores 134.98 159 **PKPdf** 16 40 47.4 -0.7
PLCA Paso Flores 134.98 159 PKP **PKiKP** 16 40 49.8 +0.3
comp=Z,15nm,0.9s,baz=172,slow=2.4,SNR=24
PLCA Paso Flores 134.98 159 PKIKP **PKPdf** 16 40 47.4 -0.7
MVL Millersville 135.06 27 IAMs_20 IAMs_20 17 36 17.4
comp=Z,1µm,22.0s
WES Weston 135.11 21 IAMs_20 IAMs_20 17 40 57.0
comp=Z,1µm,22.0s
LR03 Panguipulli 135.27 157 IAMs_20 IAMs_20 17 36 42.7
comp=Z,1µm,21.0s
UCCT U. Connecticut 135.29 22 IAMs_20 IAMs_20 17 41 22.9
comp=Z,2µm,22.0s
PAL Palisades 135.30 24 IAMs_20 IAMs_20 17 42 08.3
comp=Z,1µm,20.0s
N62A Cannett State 135.54 24 IAMs_20 IAMs_20 17 42 24.7
comp=Z,1µm,21.0s
152A Waverly Hall 135.61 41 IAMs_20 IAMs_20 17 48 11.3
comp=Z,1µm,20.0s
L64A Middleborough 135.67 21 IAMs_20 IAMs_20 17 41 03.0
comp=Z,1µm,21.0s
M63A Gales Ferry 135.69 22 IAMs_20 IAMs_20 17 36 46.6
comp=Z,1µm,22.0s
U56A King 135.80 34 IAMs_20 IAMs_20 17 46 56.4
comp=Z,2µm,20.0s
GOGA Godfrey 135.96 40 IAMs_20 IAMs_20 17 33 24.2
comp=Z,2µm,22.0s
KMSC Kings Mountain 136.10 36 IAMs_20 IAMs_20 17 49 21.7
comp=Z,1µm,19.0s
HODGE Hodges 136.17 38 IAMs_20 IAMs_20 17 42 39.6
comp=Z,1µm,20.0s
JSC Jenkinsville 136.74 37 **PKPdf** 16 40 50.4 -1.0
JSC Jenkinsville 136.74 37 PKIKP **PKPdf** 16 40 50.4 -1.0
JSC MLR MLR
comp=Z,2µm,22.0s
CCIG Comitan 137.16 67 IAMs_20 IAMs_20 17 28 30.1
comp=Z,2µm,22.0s
HUEH Huehuetenango 138.01 68 IAMs_20 IAMs_20 17 36 13.9
comp=Z,1µm,22.0s
BI02 San Fabin de 138.26 156 IAMs_20 IAMs_20 17 40 30.7
comp=Z,1µm,22.0s
Y60A Bolivia 138.71 35 IAMs_20 IAMs_20 17 47 32.6
comp=Z,1µm,20.0s
TRQA Tornquist 139.94 167 PKPpre 16 40 50.6
TRQA Tornquist 139.94 167 PKHKP PKPpre 16 40 50.6
TRQA MLR MLR
comp=Z,2µm,21.0s
BO02 Sierra Bellavi 140.06 155 IAMs_20 IAMs_20 17 45 47.7
comp=Z,1µm,22.0s
ESQI Esquipulas 140.23 68 IAMs_20 IAMs_20 17 30 58.6
comp=Z,1µm,21.0s
MTO3 Montecristo 140.26 69 IAMs_20 IAMs_20 17 37 23.4
comp=Z,1µm,22.0s
BO01 Tunca 140.28 154 IAMs_20 IAMs_20 17 45 43.3
comp=Z,1µm,19.0s
MT01 Popeta 140.65 154 IAMs_20 IAMs_20 17 53 07.2
comp=Z,884nm,19.0s
BO04 La Punta 140.82 154 IAMs_20 IAMs_20 17 46 16.8
comp=Z,940nm,20.0s
MT09 Talagante 140.84 154 IAMs_20 IAMs_20 17 39 38.3
comp=Z,950nm,22.0s
VA03 San Esteban 141.89 154 IAMs_20 IAMs_20 17 42 31.1
comp=Z,1µm,19.0s
VA03 San Esteban 141.89 154 *e*P **PKPdf** 16 40 55.0 -6.1
TGUH Tegucigalpa,Un 142.29 68 IAMs_20 IAMs_20 17 32 35.3
comp=Z,1µm,22.0s
TGUH Tegucigalpa,Un 142.29 68 PKP PKPdf 16 40 54.2 -8.0
AAGR Agrelo 142.35 156 *e*P **PKPdf** 16 40 59.1 -2.8
061Z Ochoppi 142.38 46 IAMs_20 IAMs_20 17 46 00.1
comp=Z,1µm,21.0s
SOR Soroa 142.48 52 IAMs_20 IAMs_20 17 40 27.4
comp=Z,963nm,22.0s
SOR Soroa 142.48 52 *e*P **PKPdf** 16 41 00.3 -1.8
ASAL Salagasta 142.78 155 *e*P **PKPdf** 16 40 59.1 -3.4
CO02 Combarbal 142.99 152 **PKPdf** 16 40 59.8 -3.3
RTLS Leoncito 143.27 154 *e*P PKPbc 16 41 01.2 +0.6
CAMR Camarioca 143.62 51 **PKPdf** 16 41 03.1 -1.1
CAMR IAMs_20 IAMs_20 17 34 08.5
comp=Z,3µm,21.0s
CAMR Camarioca 143.62 51 *e*P **PKPdf** 16 41 03.2 -1.0
ACAN Cantantal 143.72 157 *e*P PKPbc 16 41 01.5 -0.1
MGAN Managua 143.78 71 PKP PKPab 16 40 59.4 -2.1
ACCO Cerro Coronel 144.40 153 *e*P **PKPdf** 16 41 05.1 -0.7
AROD Rodeo 144.57 153 *e*P **PKPab** 16 41 04.1 -0.4
SIUN Universidad Ur 144.71 67 IAMs_20 IAMs_20 17 36 59.2
comp=Z,731nm,22.0s
ELI1 Hacienda Flor 144.81 73 *e*P **PKPdf** 16 41 06.7 +0.3
ALIBA Liberia Airpor 144.83 73 *e*P **PKPdf** 16 41 07.2 +0.7
ACON Acoyapa 144.84 71 *e*P **PKPab** 16 41 05.5 0.0
ACON Acoyapa 144.84 71 PKP **PKPab** 16 41 03.5 -2.0
ACON PKP PKPbc 16 41 05.9 +0.3
LAPC Finca la Perla 144.90 73 *e*P PKPbc 16 41 06.2 +0.4
ACHE Chepes 144.91 157 *e*P **PKPdf** 16 41 06.3 -0.1
JUD3 Juan Diaz 3 144.94 74 *e*P **PKPdf** 16 41 07.2 +0.4
LCO Las Campanas 144.94 150 IAMs_20 IAMs_20 17 39 11.2
comp=Z,1µm,22.0s
VRLE La Escondida, 144.96 73 *e*P **PKPdf** 16 41 06.6 -0.2
BUAI Buenos Aires 144.97 72 *e*P **PKPdf** 16 41 06.5 -0.2
AVFE Valle Fertil 145.03 156 *e*P **PKPdf** 16 41 06.9 +0.3
MESS Mesas 145.13 73 *e*P **PKPdf** 16 41 07.3 +0.2
COLC Colonia 145.14 73 *e*P **PKPbc** 16 41 06.6 0.0
HORNC Hornillas 145.15 73 *e*P **PKPdf** 16 41 07.2 0.0
VMAR Armenia, Volca 145.19 72 *e*P **PKPdf** 16 41 07.2 0.0
MGV Manicaragua 145.21 51 *e*P **PKPdf** 16 41 08.3 +1.4
INVE Universidad In 145.32 73 *e*P **PKPdf** 16 41 07.9 +0.6
CAIB Caibarien 145.39 50 *e*P **PKPab** 16 41 08.1 +0.8
QUEB Quebradon, Cot 145.44 73 *e*P **PKPab** 16 41 08.0 +0.2
JTS Las Juntas de 145.47 73 IAMs_20 IAMs_20 17 35 23.8
comp=Z,1µm,22.0s
JTS Las Juntas de 145.47 73 *e*P **PKPbc** 16 41 07.7 0.0
TCA Tanti 145.51 160 *e*P **PKPab** 16 41 08.2 +0.6
AGUA GUANDACOL 145.60 153 *e*P **PKPab** 16 41 08.0 0.0
ESPN Las Esperanzas 145.60 70 IAMs_20 IAMs_20 17 34 56.0
comp=Z,987nm,21.0s
ESPN Las Esperanzas 145.60 70 *e*P **PKPab** 16 41 08.9 +0.6
ESPN Las Esperanzas 145.60 70 PKP **PKPdf** 16 41 06.4 -1.4
ESPN PKP **PKPab** 16 41 09.4 +1.1
APLL PUNTA DE LOS L 145.64 157 *e*P **PKPab** 16 41 08.2 +0.1
VARE2 V. Arenal 145.65 73 *e*P **PKPab** 16 41 08.8 +0.2
ARE1 Arenal 1 145.65 73 *e*P **PKPbc** 16 41 08.3 +0.1
CEDE Laguna Cedeo 145.66 73 *e*P **PKPdf** 16 41 07.8 -0.2
FSCY Frank Sound, G 145.68 56 *e*P **PKPdf** 16 41 03.0 -4.8
VACR Volcan Arenal 145.69 73 *e*P **PKPab** 16 41 08.9 +0.2
BILN Bilwi Airport 145.89 66 IAMs_20 IAMs_20 17 44 31.4
comp=Z,722nm,21.0s
ACLC CERRO LA CRUZ 146.32 155 *e*P **PKPdf** 16 41 09.3 +0.3
GO03 Copiapo 146.33 149 *e*P **PKPdf** 16 41 08.8 -0.1
PICV PH. Pirrs 146.34 74 *e*P **PKPab** 16 41 12.0 +0.8
VCA Vinchina 146.37 153 *e*P **PKPab** 16 41 11.7 +0.7
LCR2 La Lucha 2 146.50 74 *e*P **PKPab** 16 41 12.1 +0.1
PIEC Cerro El Cedra 146.57 74 *e*P **PKPbc** 16 41 11.7 +0.4
VICA Volcano Irazu 146.60 73 *e*P **PKPbc** 16 41 11.3 -0.3
CVTQ Turrialba Volc 146.67 73 *e*P **PKPdf** 16 41 09.2 -1.0
VTR0 Volcan Turrial 146.67 73 *e*P **PKPdf** 16 41 10.7 +0.5
BUS1 Rivas 146.79 74 *e*P **PKPdf** 16 41 11.3 +0.9
AANI Anillaco 146.86 155 *e*P **PKPdf** 16 41 10.1 +0.3
VERH Veragua Rainfo 147.24 73 *e*P **PKPab** 16 41 14.1 -0.6
DRK0 Durika 147.34 74 *e*P **PKPbc** 16 41 13.1 -0.3
PLTB Pedras Altas 147.35 177 **PKPdf** 16 41 11.0 +0.6
AC02 Maricunga 147.52 150 IAMs_20 IAMs_20 17 41 55.4
comp=Z,1µm,22.0s
AC02 Maricunga 147.52 150 *e*P **PKPdf** 16 41 11.8 +0.4
CYA Choya 147.66 156 *e*P **PKPdf** 16 41 11.9 +0.9
ALCO Alturas Coton, 147.80 75 *e*P **PKPdf** 16 41 13.1 +1.3
SAIC Isla e San And 147.91 68 PKP **PKPdf** 16 41 12.8 +1.1
SAIC PKP **PKPbc** 16 41 15.1 +0.4
PRVC Isla de Provid 147.96 66 IAMs_20 IAMs_20 17 37 48.1
comp=Z,1µm,22.0s
PRVC Isla de Provid 147.96 66 PKP **PKPdf** 16 41 08.1 -3.6
BRU2 Volcan 147.97 75 *e*P **PKPdf** 16 41 13.4 +1.3
SERC Banco Serrana, 148.53 64 PKP PKPdf 16 41 04.1 -8.6
PB14 IPOC Station P 148.60 145 IAMs_20 IAMs_20 17 50 47.6
comp=Z,994nm,20.0s
GO02 Mina Guanaco 148.63 147 IAMs_20 IAMs_20 17 41 45.1
comp=Z,945nm,20.0s
GO02 Mina Guanaco 148.63 147 *e*P **PKPdf** 16 41 12.5 -0.5
LMGC Las Mercedes 148.65 51 *e*P **PKPbc** 16 41 16.9 +0.5
HLGC Holguin 148.91 49 *e*P **PKiKP** 16 41 18.0 -0.5
RNCC Cayo Roncador, 149.04 65 PKP **PKPdf** 16 41 07.6 -5.9
CHIV Chivirico 149.16 51 IAMs_20 IAMs_20 17 48 07.3
comp=Z,1µm,21.0s
CHIV Chivirico 149.16 51 *e*P **PKPbc** 16 41 18.4 +0.6
MTDJ Mount Denham 149.21 55 **PKPbc** 16 41 18.4 +0.3
MTDJ IAMs_20 IAMs_20 17 40 19.2
comp=Z,1µm,21.0s
MTDJ Mount Denham 149.21 55 *e*P PKPdf 16 41 06.1 -7.8
MTDJ Mount Denham 149.21 55 PKP **PKPdf** 16 41 13.4 -0.5
PINC Pinares de May 149.34 49 *e*P **PKiKP** 16 41 19.0 -0.3
PB10 IPOC Station P 149.38 144 IAMs_20 IAMs_20 17 43 49.1
comp=Z,1µm,21.0s
MARVS Santiago de Cu 149.54 50 *e*P **PKiKP** 16 41 19.4 -0.5
FSA Cafayete 149.62 154 *e*P **PKPdf** 16 41 15.6 +1.1
RCC Rio Carpintero 149.71 50 *e*P **PKiKP** 16 41 19.9 -0.3
MAPC Malpelo 149.75 84 PKP **PKPdf** 16 41 11.6 -3.2
NMDO Nuevo Mundo 149.91 48 IAMs_20 IAMs_20 17 43 14.8
comp=Z,1µm,22.0s
NMDO Nuevo Mundo 149.91 48 *e*P **PKiKP** 16 41 21.2 +0.6
GTBY Guantanamo Bay 150.19 49 IAMs_20 IAMs_20 17 42 44.3
comp=Z,1000nm,20.0s
GTBY Guantanamo Bay 150.19 49 *e*P **PKPbc** 16 41 20.4 +0.1
GTBY Guantanamo Bay 150.19 49 PKP **PKPdf** 16 41 12.2 -3.0
GTBY PKP **pPKPdf** 16 41 16.0 -4.1
QMBU Quimbuelo 150.25 49 *e*P **PKiKP** 16 41 21.7 +0.4
PB06 IPOC Station P 150.57 144 IAMs_20 IAMs_20 17 56 43.8
comp=Z,869nm,21.0s
PPLP Puerto Lpez 150.59 95 PKP **PKPdf** 16 41 11.1 -5.0
BCIP Isla Barro Col 150.63 73 PKP **PKPdf** 16 41 12.8 -3.3

MASC	**Masc**	**150.70**	**48**	*eP*		**PKiKP**	**16 41 22.7**	**+0.5**
CAZU	**Cerro Azul, Pa**	**151.02**	**73**	*eP*		**PKPdf**	**16 41 15.9**	**-0.9**
MCRA	**Macar, Loja**	**151.05**	**101**	PKP		**PKPdf**	**16 41 14.0**	**-2.8**
MCRA				PKP		**pPKPdf**	**16 41 17.8**	**-4.1**
SALTA		**151.07**	**151**	*eP*		**PKPdf**	**16 41 19.0**	**+1.9**
PATCX	**Punta Patache**	**151.64**	**141**	IAMs_20	IAMs_20		17 48 18.9	
	comp=Z,1µm,22.0s							
AZAP	**Zapla**	**151.67**	**153**	*eP*		**PKPdf**	**16 41 18.0**	**+0.2**
NNA	**Nana**	**151.69**	**118**			**PKPdf**	**16 41 16.2**	**-1.5**
NNA	**Nana**	**151.69**	**118**	IAMs_20	IAMs_20		17 46 59.3	
	comp=Z,1µm,19.0s							
NNA	**Nana**	**151.69**	**118**	PKIKP		**PKPdf**	**16 41 16.2**	**-1.5**
NNA				MLR	MLR			
	comp=Z,1µm,19.0s							
NNA	**Nana**	**151.69**	**118**	PKP		**PKPdf**	**16 41 15.1**	**-2.7**
TA01	**Diego Aracena**	**151.81**	**140**	IAMs_20	IAMs_20		17 44 50.9	
	comp=Z,1µm,21.0s							
PB01	**IPOC Station P**	**151.89**	**142**	IAMs_20	IAMs_20		17 46 05.9	
	comp=Z,832nm,20.0s							
ITAB	**Concordia**	**151.92**	**179**	IAMs_20	IAMs_20		17 51 20.9	
	comp=Z,1µm,20.0s							
COHC	**Cochancay**	**152.01**	**97**	PKP		**PKPdf**	**16 41 17.4**	**-0.8**
COHC				PKP		**pPKPdf**	**16 41 19.8**	**-3.5**
GRTK	**Grand Turk**	**152.02**	**42**	IAMs_20	IAMs_20		17 47 58.9	
	comp=Z,960nm,22.0s							
GRTK	**Grand Turk**	**152.02**	**42**	*eP*		PKPdf	16 41 04.5	-14
HMBC	**Humberstone**	**152.20**	**141**	IAMs_20	IAMs_20		17 46 54.4	
	comp=Z,1µm,21.0s							
CPUP	**Villa Florida**	**152.25**	**169**	PKP		**PKPdf**	**16 41 19.4**	**+1.2**
	comp=Z,3.3nm,1.0s,baz=306,slow=0.6,SNR=14							
CPUP				PKPbc		**PKiKP**	**16 41 26.0**	**+0.7**
	comp=Z,18nm,0.9s,baz=270,slow=4.0,SNR=33							
PAC1	**Pacto, Paraso**	**152.68**	**91**	PKP		**PKPdf**	**16 41 19.8**	**+0.4**
PB08	**IPOC Station P**	**152.77**	**141**	IAMs_20	IAMs_20		17 47 24.5	
	comp=Z,855nm,22.0s							
OTAV	**Otavalo**	**153.02**	**91**	IAMs_20	IAMs_20		17 39 37.6	
	comp=Z,943nm,20.0s							
OTAV	**Otavalo**	**153.02**	**91**	PKP		**PKPdf**	**16 41 20.9**	**+0.6**
OTAV				PKP		**pPKPdf**	**16 41 22.3**	**-2.9**
PTAC	**Punta Ardita,**	**153.05**	**76**	PKP		**PKPdf**	**16 41 15.7**	**-4.0**
CUSE	**Cuicocha Este**	**153.07**	**91**	PKP		PKPdf	16 41 12.2	-8.2
GO01	**Chusmiza**	**153.09**	**141**	IAMs_20	IAMs_20		17 44 09.9	
	comp=Z,1µm,20.0s							
CAPC	**Capurgana**	**153.14**	**73**	PKP		**PKPdf**	**16 41 16.9**	**-3.0**
PIAT	**Ana Tenorio**	**153.14**	**94**	PKP		**PKPdf**	**16 41 16.9**	**-3.5**
SDDR	**Presa de Saban**	**153.60**	**46**	*eP*		**PKPab**	**16 41 41.2**	**+0.5**
SDDR	**Presa de Saban**	**153.60**	**46**	PKP		**PKPdf**	**16 41 18.6**	**-1.9**
SC01	**Santiago de lo**	**153.71**	**45**	IAMs_20	IAMs_20		17 56 38.1	
	comp=Z,1µm,20.0s							
PB16	**IPOC Station P**	**153.85**	**138**	IAMs_20	IAMs_20		17 47 35.3	
	comp=Z,762nm,21.0s							
BONI	**La Bonita**	**153.94**	**91**	PKP		**PKPdf**	**16 41 18.6**	**-2.8**
APAC	**Apartado, Choc**	**154.06**	**74**	PKP		**PKPdf**	**16 41 20.3**	**-0.9**
GCUF	**Volcan Galeras**	**154.13**	**89**	PKP		**PKPdf**	**16 41 16.3**	**-5.7**
BBAC	**Balboa, Cauca**	**154.22**	**87**	PKP		**PKPdf**	**16 41 14.0**	**-7.7**
DBBC	**Dabeiba**	**154.62**	**76**	PKP		**PKPdf**	**16 41 20.9**	**-1.2**
JAMC	**Jamundi, Valle**	**154.72**	**85**	PKP		**PKPdf**	**16 41 18.0**	**-4.4**
POPC	**Popayan, Colom**	**154.77**	**86**	PKP		**PKPdf**	**16 41 16.3**	**-6.2**
POPC				PKP		**pPKPdf**	**16 41 23.3**	**-4.1**
SJCC	**San Jacinto, C**	**154.82**	**69**	PKP		**PKPdf**	**16 41 22.7**	**+0.4**
SJCC				PKP		**pPKPdf**	**16 41 24.2**	**-3.0**
YOTC	**Yotoco, Valle**	**154.98**	**83**	PKP		PKPdf	16 41 11.1	-12
CBOC	**Ciudad Bolivar**	**155.04**	**78**	PKP		**PKPdf**	**16 41 18.6**	**-4.2**
CBOC				PKP		**pPKPdf**	**16 41 25.5**	**-2.2**
UREC	**San Jos de Ur**	**155.11**	**74**	PKP		**PKPdf**	**16 41 18.0**	**-4.7**
SPB	**Sao Paulo**	**155.24**	**189**	IAMs_20	IAMs_20		17 59 41.3	
	comp=Z,1µm,20.0s							
SMRC	**Santa Marta, M**	**155.25**	**65**	PKP	PKPdf		16 41 14.0	-8.8
HELC	**Santa Helena**	**155.45**	**77**	PKP	PKPdf		16 41 15.7	-7.9
ARGC	**Ariguani, Magd**	**155.71**	**68**	PKP		**PKPdf**	**16 41 18.6**	**-4.8**
VAO	**Valinhos**	**155.74**	**190**	IAMs_20	IAMs_20		17 51 48.7	
	comp=Z,1µm,19.0s							
GUY2C	**Guyana, Caldas**	**155.78**	**80**	PKP		**PKPdf**	**16 41 22.1**	**-2.1**
ZARC	**Zaragoza, Cauc**	**155.82**	**74**	PKP	PKPdf		16 41 14.5	-9.1
FLOC	**Florencia**	**155.82**	**88**	IAMs_20	IAMs_20		17 43 31.9	
	comp=Z,985nm,21.0s							
FLOC	**Florencia**	**155.82**	**88**	PKP		**PKPdf**	**16 41 22.1**	**-1.6**
FLOC				PKP		**pPKPdf**	**16 41 26.7**	**-1.9**
ANIL	**Santa Ana**	**155.85**	**81**	PKP		**PKPdf**	**16 41 19.8**	**-4.2**
ORTC	**Ortega, Tolima**	**156.08**	**83**	PKP	PKPdf		16 41 14.5	-10
NORC	**Norcasia**	**156.22**	**78**	PKP		**PKPdf**	**16 41 22.1**	**-2.1**
LPAZ	**La Paz**	**156.22**	**137**	PKP		**PKPdf**	**16 41 26.1**	**+1.3**
	comp=Z,9.5nm,0.9s,baz=350,slow=0.4,SNR=22							
LPAZ				PKPab		**PKPab**	**16 41 54.0**	**+1.6**
	comp=Z,12nm,0.8s,baz=192,slow=4.9,SNR=7.6							
LPAZ	**La Paz**	**156.22**	**137**	PKP		**PKPdf**	**16 41 20.3**	**-4.5**
PTBC	**PUERTO BERRIO**	**156.43**	**76**	PKP		**PKPdf**	**16 41 20.9**	**-3.5**
PRAC	**Prado**	**156.46**	**83**	PKP		**PKPdf**	**16 41 18.6**	**-5.9**
CRJC	**Cerrejon, Guaj**	**156.52**	**64**	PKP		**PKPdf**	**16 41 23.2**	**-1.4**
PTLC	**Puerto Leguiza**	**156.66**	**92**	PKP		**PKPdf**	**16 41 18.0**	**-6.8**
ROSC	**El Rosal**	**156.87**	**80**	PKP		**PKPdf**	**16 41 26.8**	**+1.3**
	comp=Z,11nm,0.3s,baz=273,slow=8.8,SNR=5.8							
ROSC				PKPab		**PKPab**	**16 41 57.1**	**+1.8**
	comp=Z,77nm,0.9s,baz=307,slow=5.1,SNR=10							
ROSC	**El Rosal**	**156.87**	**80**	PKP		**PKPdf**	**16 41 18.6**	**-6.9**
SPBC	**San Pablo de B**	**156.98**	**78**	PKP		**PKPdf**	**16 41 22.1**	**-3.1**
URMC	**La Uribe, Meta**	**157.00**	**84**	PKP		**PKPdf**	**16 41 20.9**	**-4.4**
BRJC	**Barrancabermej**	**157.02**	**74**	PKP		**PKPdf**	**16 41 20.3**	**-4.9**
URIC	**Uribia, Colomb**	**157.03**	**62**	PKP		**PKPdf**	**16 41 17.4**	**-7.7**
OCAC	**Ocana**	**157.08**	**71**	PKP		**PKPdf**	**16 41 22.1**	**-3.3**
OCAC				PKP		**pPKPdf**	**16 41 26.6**	**-3.7**
CZSB	**Cruzeiro do Su**	**157.12**	**113**	IAMs_20	IAMs_20		17 56 01.6	
	comp=Z,916nm,21.0s							
CZSB	**Cruzeiro do Su**	**157.12**	**113**	PKP		**PKPdf**	**16 41 22.1**	**-3.2**
CZSB				PKP		**pPKPdf**	**16 41 27.0**	**-3.4**
AOPR	**Arecibo Observ**	**157.15**	**40**	IAMs_20	IAMs_20		17 52 52.5	
	comp=Z,844nm,22.0s							
CVER	**Cruz Verde, Cu**	**157.16**	**81**	PKP		**PKPdf**	**16 41 21.5**	**-4.5**
CELP	**Cerrillos**	**157.46**	**40**	IAMs_20	IAMs_20		17 54 35.8	
	comp=Z,773nm,22.0s							
VILC	**Villavicencio,**	**157.59**	**82**	PKP		**PKPdf**	**16 41 26.2**	**+0.1**
GCPR	**Guaynabo City**	**157.60**	**39**	IAMs_20	IAMs_20		17 53 37.5	
	comp=Z,848nm,22.0s							
MACC	**Macarena, Meta**	**157.61**	**87**	PKP		**PKPdf**	**16 41 24.4**	**-1.6**
MACC				PKP		**pPKPdf**	**16 41 27.0**	**-3.8**
BARC	**Barichara**	**157.65**	**75**	PKP		**PKPdf**	**16 41 20.9**	**-5.4**
SJG	**San Juan**	**157.71**	**39**	IAMs_20	IAMs_20		17 43 18.3	
	comp=Z,1µm,22.0s							
SJG	**San Juan**	**157.71**	**39**	PKPab		**PKPab**	**16 41 58.8**	**+0.7**
	comp=Z,5.9nm,0.3s,baz=36,slow=9.0,SNR=3.5							
SJG	**San Juan**	**157.71**	**39**	PKP		**PKPdf**	**16 41 22.1**	**-3.8**
PDPR	**Patillas Dam,**	**157.86**	**39**	IAMs_20	IAMs_20		17 43 29.3	
	comp=Z,876nm,22.0s							
RUSC	**La Rusia**	**157.90**	**77**	IAMs_20	IAMs_20		17 40 41.4	
	comp=Z,1µm,21.0s							
RUSC	**La Rusia**	**157.90**	**77**	PKP		**PKPdf**	**16 41 23.2**	**-3.7**
PAMC	**Pamplona, Colo**	**157.93**	**73**	PKP		**PKPdf**	**16 41 25.0**	**-1.9**
PTGC	**Puerto Gaitan,**	**159.12**	**81**	PKP		**PKPdf**	**16 41 26.2**	**-1.6**
SDV	**Santo Domingo**	**159.38**	**67**	IAMs_20	IAMs_20		18 00 26.0	
	comp=Z,1µm,22.0s							
SDV	**Santo Domingo**	**159.38**	**67**	PKP		**PKPdf**	**16 41 25.0**	**-3.3**
SDV				PKP		**pPKPdf**	**16 41 28.9**	**-4.3**
TBTG	**Tabatinga, AM**	**160.87**	**106**	PKP		**PKPdf**	**16 41 27.3**	**-2.4**
BDFB	**Brasilia**	**163.12**	**192**	PKP		**PKPdf**	**16 41 33.3**	**+1.3**
	comp=Z,3.7nm,0.7s,baz=105,slow=9.5,SNR=4.9							
BDFB				PKPab		**PKPab**	**16 42 22.9**	**+1.2**
	comp=Z,28nm,1.0s,baz=192,slow=9.0,SNR=9.2							
BDFB				PP		**PP**	**16 46 04.9**	**+0.1**
	comp=Z,7.1nm,0.9s,baz=112,slow=12,SNR=4.1							
MPOM	**Morne Pois Mar**	**163.74**	**34**			**PKPab**	**16 42 22.1**	**-2.2**
PCRV	**Puerto La Cruz**	**164.05**	**55**	PKPab		**PKPab**	**16 42 27.8**	**+1.7**
	comp=Z,6.5nm,0.9s,baz=36,slow=15,SNR=1.3							
SGC2	**Sao Gabriel da**	**164.46**	**94**	PKP		**PKPdf**	**16 41 29.1**	**-4.2**
SGC2				PKP		**pPKPdf**	**16 41 33.6**	**-4.5**
BOAV	**Boa Vista**	**170.85**	**81**	PKP		**PKPdf**	**16 41 37.2**	**-0.6**
BOAV				PKP		**pPKPdf**	**16 41 38.0**	**-4.7**
MDP	**Montagnes des**	**175.76**	**16**	PKP		**PKPdf**	**16 41 40.2**	**+0.5**
	comp=Z,17nm,1.2s,baz=274,slow=0.8,SNR=9.6							
MDP				PKPab		**PKPab**	**16 43 17.7**	**+0.2**
	comp=Z,16nm,0.9s,baz=348,slow=3.2,SNR=8.8							
MDP				PP		**PP**	**16 47 11.0**	**+2.4**
	comp=Z,8.6nm,1.1s,baz=4.0,slow=4.6,SNR=3.9							

*GRAL **14** 16:27:00.8±0.3, 33°.04N×35°.56E, h12km±3km, MD2.6*
*GII **14** 16:27:00.8±0.0, 33°.135N±0°.002×35°.524E±0°.001, h1km, Mws2.1, confirmed*
*JSO **14** 16:27:01.4±0.6, 33°N±4°×3°6E±°, h6km±4km, M1.9/7, MLv1.9/7*
ISC 14 16:27:01.3±0.8**, 33°.14N**±0°.03×**35°.53E**±0°.03**, h14**km±5km**, n43**, σ0°.73/50**, Jordan-Syria region**

*IDC **14** 16:37:14.3±0.6, 1°.02S×128°.65E, h0km, mb4.0/11, mbtmp4.0/14, ML4.1/3, Error ellipse: s-maj=29.4km s-min=13.5km az=82.0*
*NEIC **14** 16:37:15.9±1.6, 1°.07S±0°.05×128°.6E±0°.1, h10km±1km, mb4.1/8, Error ellipse: s-maj=18.2km s-min=5.2km az=68.0*
*DJA **14** 16:37:17.2±0.2, 1°S±3°×12°9E±°, h10km, M4.6/19, mb4.7/12, MLv4.5/19*
ISC 14 16:37:16.8±0.5**, 1°.07S**±0°.05×**128°.59E**±0°.07**, h17**km**, n56,** σ1°.50/57**, mb4.2/17, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.20**	**326**		**Pn**	**16 37 52.5**	**0.0**
TNTI	**Ternate**	**2.20**	**326**	P	**Pn**	**16 37 52.8**	**+0.2**
MSAI	**Masohi**	**2.29**	**171**	P	**Pb**	**16 37 57.6**	**-0.1**
NLAI	**Namlea**	**2.62**	**215**	P	**Pn**	**16 38 00.0**	**+1.6**
AAI	**Ambon**	**2.63**	**189**	P	**Pn**	**16 38 01.7**	**+3.1**
SWI	**Sorong**	**2.68**	**86**	P	**Pn**	**16 38 00.3**	**+1.1**
SANI	**Sanana**	**2.77**	**249**	P	**Pn**	**16 38 00.3**	**-0.2**
FAKI	**Fak Fak**	**4.10**	**117**	Pn	**Pn**	**16 38 19.8**	**+1.1**
FAKI	**Fak Fak**	**4.10**	**117**	P	**Pn**	**16 38 21.2**	**+2.5**
KMSI	**Cibinong**	**4.88**	**289**	P	**Pn**	**16 38 29.9**	**+0.3**
RKPI	**Ransiki, Papua**	**5.61**	**95**	P	**Pn**	**16 38 41.0**	**+1.5**
	0.6nm52nm,0.7s						
KMPI	**Kaimana, Papua**	**5.73**	**117**	P	**Pn**	**16 38 43.3**	**+2.2**
LUWI	**Luwuk**	**5.81**	**270**		**Pn**	**16 38 42.6**	**+0.3**
LUWI	**Luwuk**	**5.81**	**270**	P	**Pn**	**16 38 42.6**	**+0.3**
	1.3nm148nm,1.0s						
KDI	**Kendari**	**6.62**	**244**	P	**Pn**	**16 38 54.8**	**+1.4**
MRSI	**Marisa**	**6.82**	**283**	P	**Pn**	**16 38 56.7**	**+0.5**
APSI	**Ampana**	**6.94**	**271**	P	**Pn**	**16 38 58.6**	**+0.8**
BBSI	**Bau Bau**	**7.44**	**234**	P	**Pn**	**16 39 09.7**	**+5.0**
TOLI2	**Tolitoli**	**8.10**	**285**	Pn	**Pn**	**16 39 14.1**	**+0.4**
TTSI	**Tana Toraja**	**8.98**	**257**	P	**Pn**	**16 39 27.3**	**+1.5**
	31nm,0.6s						
BNSI	**Bone**	**9.09**	**248**	P	**Pn**	**16 39 28.6**	**+1.2**
	31nm,1.1s						
SPSI	**Sidrap Palu**	**9.27**	**252**	P	**Pn**	**16 39 32.5**	**+2.7**
BKSI	**Bulukumba**	**9.45**	**243**	P	Pn	16 39 37.4	+5.2
BSSI	**Bau Bau, Buton**	**9.52**	**238**	P	**Pn**	**16 39 37.3**	**+4.0**
	73nm,1.8s						
KAPI	**Kappang**	**9.65**	**246**		**Pn**	**16 39 37.9**	**+2.9**
KAPI	**Kappang**	**9.65**	**246**	Pn	**Pn**	**16 39 37.4**	**+2.3**
	3.9nm,0.3s,baz=48,slow=5.0,SNR=9.7						
KAPI				Sn	**Sn**	**16 41 23.3**	**+0.1**
	2.7nm,0.3s,baz=94,slow=9.0,SNR=1.8						
	13nm,0.4s						
MYLDM	**Lahad Datu**	**11.83**	**302**	Pn	**Pn**	**16 40 07.4**	**+2.5**
KNRA	**Kununurra**	**14.52**	**179**	Pn	**Pn**	**16 40 40.0**	**-1.6**
FITZ	**Fitzroy Crossi**	**17.17**	**190**	Pn	**Pn**	**16 41 15.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**17.17**	**190**	P	**Pn**	**16 41 15.8**	**-0.3**
	0.2nm,0.3s,baz=14,slow=11,SNR=6.1						
	1.8nm,0.6s						
WB0	**Warramunga Arr**	**19.43**	**163**	P	**P**	**16 41 42.5**	**-0.1**
WB0				IAmb	IAmb	16 41 48.0	
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**19.58**	**164**	P	**P**	**16 41 43.6**	**-0.6**
WRAB				IAmb	IAmb	16 41 50.1	
	comp=Z,5.9nm,0.7s						
WRA	**Warramunga Arr**	**19.59**	**164**	P	**P**	**16 41 43.3**	**-1.0**
WRA	**Warramunga Arr**	**19.59**	**164**	P	**P**	**16 41 43.4**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=342,slow=12,SNR=19						
WRA				S	**S**	**16 45 21.9**	**-3.0**
	comp=Z,0.6nm,0.7s,baz=338,slow=22,SNR=2.4						
	comp=Z,2.1nm,0.6s						
WR8	**Warramunga Arr**	**19.64**	**163**	P	**P**	**16 41 43.9**	**-1.0**
WR8				IAmb	IAmb	16 42 15.5	
	comp=Z,7.9nm,0.9s						
AS31	**Alice Springs**	**23.05**	**167**	P	**P**	**16 42 20.8**	**-0.7**
AS31				IAmb	IAmb	16 42 30.9	
	comp=Z,4.3nm,0.5s						
ASAR	**Alice Springs**	**23.05**	**167**	P	**P**	**16 42 20.4**	**-1.2**
ASAR	**Alice Springs**	**23.05**	**167**	P	**P**	**16 42 21.0**	**-0.5**
	comp=Z,5.0nm,0.7s,baz=346,slow=10,SNR=39						
ASAR				PcP	**PcP**	**16 46 10.9**	**0.0**
	comp=Z,0.4nm,0.7s,baz=343,slow=3.0,SNR=2.2						
ASAR				S	**S**	**16 46 29.4**	**-2.4**
	comp=Z,0.9nm,0.8s,baz=346,slow=21,SNR=5.0						
	comp=Z,5.0nm,0.7s						
BBOO	**Buckleboo**	**32.35**	**168**	P	**P**	**16 43 44.4**	**-1.1**
STKA	**Stephens Creek**	**33.02**	**159**	P	**P**	**16 43 51.1**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=322,slow=13,SNR=2.1						
	comp=Z,1.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**35.02**	**305**	P	**P**	**16 44 09.4**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=130,slow=7.2,SNR=7.1						
	comp=Z,0.6nm,0.5s						
KSRS	**Korea Array**	**38.33**	**359**	P	**P**	**16 44 37.0**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=176,slow=9.2,SNR=6.4						
	comp=Z,0.7nm,0.5s						
MJAR	**Matsushiro Arr**	**38.47**	**12**	P	**P**	**16 44 36.8**	**-1.3**
	comp=Z,2.8nm,0.8s,baz=180,slow=8.8,SNR=8.7						
	comp=Z,2.8nm,0.8s						
LYN	**LuoYang**	**38.52**	**338**	*eP*	P	16 44 43.9	+5.4
LYN				pmax	pmax		
	comp=Z,11nm,0.5s						
XAN	**Xi'an**	**39.51**	**334**	P	**P**	**16 44 46.0**	**-0.8**
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
USRK	**Ussuriysk Ar.**	**45.17**	**3**	P	**P**	**16 45 32.5**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=201,slow=7.5,SNR=4.8						
	comp=Z,2.1nm,0.8s						
GTA	**Gaotai**	**48.15**	**330**	*eP*	**P**	**16 45 57.3**	**+1.0**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PETK	**Petropavlovsk-**	**59.21**	**20**	P	**P**	**16 47 17.1**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=226,slow=10,SNR=1.3						
	comp=Z,1.8nm,0.9s						
MKAR	**Makanchi Array**	**62.54**	**326**	P	**P**	**16 47 39.1**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=116,slow=8.0,SNR=10						
	comp=Z,1.2nm,0.7s						
KSH	**Kashi**	**62.75**	**316**	P	**P**	**16 47 42.1**	**+0.6**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURBB	**Kurchatov Arra**	**66.76**	**328**	P	**P**	**16 48 06.3**	**-0.9**
	comp=Z,5.5nm,0.2s,baz=126,slow=5.8,SNR=6.1						
KURK	**Kurchatov**	**66.76**	**328**	P	**P**	**16 48 05.1**	**-2.2**
VNDA	**Vanda**	**78.47**	**173**	P	**P**	**16 49 16.8**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=318,slow=7.0,SNR=12						
	comp=Z,1.1nm,0.6s						
ILAR	**Eielson Array**	**88.62**	**25**	P	**P**	**16 50 10.6**	**+1.9**
	comp=Z,0.1nm,0.5s,baz=272,slow=3.2,SNR=1.4						
	comp=Z,0.1nm,0.5s						
QSPA	**South Pole Qui**	**88.87**	**180**	P	**P**	**16 50 12.2**	**+2.2**
	comp=Z,2.2nm,0.7s,baz=14,slow=4.2,SNR=16						
	comp=Z,2.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**126.08**	**285**	PKP	**PKPdf**	**16 56 19.7**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=45,slow=2.8,SNR=6.0						

*GUC **14** 16:39:40.4±0.7, 28°.24S×70°.42W, h83km±7km, ML2.9*
ISC 14 16:39:42.1±2.0**, 28°.29S**±0°.06×**70°.4W**±0°.1**, h59**km±32km**, n7,** σ1°.21/12**, 1C, Central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.65**	**278**	*i* P	**Pn**	**16 39 54.9**	**-0.8**
AC04				*i* S	**Sn**	**16 40 05.5**	**-0.1**
AC04				IAML		16 40 07.0	
	comp=N,548nm,0.1s						
GO03	**Copiapo**	**0.70**	**8**	*i* P	**Pn**	**16 39 55.9**	**-0.5**
GO03				*i* S	**Sn**	**16 40 07.2**	**+0.4**
GO03				IAML		16 40 08.8	
	comp=E,608nm,0.1s						
LCO	**Las Campanas**	**0.78**	**203**	*eP*	**Pn**	**16 39 56.6**	**-1.0**
LCO				*i* S	**Sn**	**16 40 10.8**	**+1.9**
AC02	**Maricunga**	**1.81**	**37**	*eP*	**Pn**	**16 40 10.8**	**-0.6**
AC02				*i* S	**Sn**	**16 40 33.6**	**0.0**
GO04	**Tololo Observa**	**1.91**	**192**	*i* P	**Pn**	**16 40 12.5**	**-0.1**
GO04				*i* S	**Sn**	**16 40 36.2**	**+0.4**
GO04				IAML		16 40 41.7	
	comp=N,145nm,0.4s						
MRA	**San Martin**	**5.74**	**137**	*eP*	**Pn**	**16 41 03.3**	**-1.4**
HJA	**Humahuaca**	**6.74**	**42**	*eP*	**Pn**	**16 41 20.7**	**+1.9**

*NOU **14** 16:41:52.9, 30°.77S×175°.29W, h0km, mb4.9/7, Kermadec Islands Region*
*BJI **14** 16:42:05.3, 29°.83S×177°.22W, h9km, mb5.1/14, Ms5.2/1, Ms7 5.1/1*
*MOS **14** 16:42:07.8±1.0, 30°.25S×177°.96W, h21km, mb5.2/13, Error ellipse: s-maj=10.8km s-min=9.4km az=94.5*
*NEIC **14** 16:42:11.3±2.1, 30°.22S±0°.08×177°.9W±0°.1, h35km±1km, mb5.0/67, Error ellipse: s-maj=19.1km s-min=13.9km az=83.0*
*IDC **14** 16:42:11.1±2.1, 30°.24S×177°.99W, h35km±15km, mb4.6/22, mbtmp4.8/23, ML3.3/1, Error ellipse: s-maj=13.4km s-min=12.4km az=128.0*
ISC 14 16:42:09.4±0.7**, 30°.31S**±0°.04×**177°.88W**±0°.06**, h27**km±4km**, n363,** σ1°.85/377**, mb5.1/90, 26C-37D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.04**	**358**	P	**Pn**	**16 42 28.6**	**+0.3**
GLKZ				S	**Sn**	**16 42 40.0**	**-2.0**
RAO	**Raoul Island**	**1.05**	**358**		**Pn**	**16 42 28.7**	**+0.3**
RAO	**Raoul Island**	**1.05**	**358**	Pn	**Pn**	**16 42 28.5**	**+0.1**
	798nm,0.3s,baz=177,slow=18,SNR=39						
RAO				Sn	**Sn**	**16 42 41.5**	**-0.7**
	5µm,0.3s,baz=72,slow=20,SNR=23						
RAO	**Raoul Island**	**1.05**	**358**	P	**Pn**	**16 42 29.0**	**+0.6**
RAO				S	**Sn**	**16 42 41.4**	**-0.8**
MXZ	**Matakaoa Point**	**7.90**	**203**	Pn	Pn	16 43 57.1	-5.3
MXZ	**Matakaoa Point**	**7.90**	**203**	P	**Pn**	**16 44 02.6**	**+0.1**
MXZ				S	**Sn**	**16 45 29.6**	**-1.3**
WMGZ	**Waiomatatini S**	**8.10**	**201**	P	**Pn**	**16 44 03.4**	**-1.8**
WMGZ				S	**Sn**	**16 45 35.5**	**-0.3**
GRZ	**Great Barrier**	**8.13**	**221**	P	**Pn**	**16 44 10.1**	**+4.4**
PKGZ	**Pakihiroa**	**8.25**	**203**	P	**Pn**	**16 44 05.8**	**-1.4**
PKGZ				S	**Sn**	**16 45 38.4**	**-1.1**
HAZ	**Te Kaha**	**8.25**	**205**	P	**Pn**	**16 44 06.4**	**-0.9**
HAZ				S	**Sn**	**16 45 40.7**	**+1.1**
PUZ	**Puketiti**	**8.38**	**201**	P	**Pn**	**16 44 06.7**	**-2.4**
PUZ				S	**Sn**	**16 45 40.0**	**-2.7**
RUGZ	**Raukumara Rang**	**8.47**	**205**	P	**Pn**	**16 44 09.6**	**-1.0**
RUGZ				S	**Sn**	**16 45 43.8**	**-1.5**
WCZ	**Waipu Caves**	**8.60**	**227**	P	Pn	16 44 19.2	+7.1
OUZ	**Omahuta**	**8.68**	**233**	P	Pn	16 44 21.6	+8.3
OUZ	**Omahuta**	**8.68**	**233**	P	Pn	16 44 21.4	+8.1
CNGZ	**Carnagh Statio**	**8.77**	**201**	P	**Pn**	**16 44 12.5**	**-1.9**
OPRZ	**Ohinepanea**	**8.82**	**210**	P	**Pn**	**16 44 13.3**	**-1.8**
TKGZ	**Te Karaka**	**8.84**	**202**	P	**Pn**	**16 44 12.5**	**-2.9**
MWZ	**Matawai**	**8.86**	**204**	P	**Pn**	**16 44 12.9**	**-2.8**
MKAZ	**Moumakai**	**8.91**	**219**	P	**Pn**	**16 44 20.6**	**+4.2**
URZ	**Urewera**	**8.94**	**206**	Pn	**Pn**	**16 44 14.3**	**-2.5**
	2.6nm,0.3s,baz=297,slow=2.0,SNR=20						

TOO **Toolangi** **31.09 247** P **P** **16 48 27.8 +2.3**
TOO pmax pmax
comp=Z,25nm,1.5s
CMSA **Cobar Meteorol** **31.18 258** P **P** **16 48 28.9 +2.5**
comp=Z,37nm,0.9s
QLP **Quilpie** **33.41 267** P **P** **16 48 47.6 +1.7**
comp=Z,84nm,0.7s
CTAO **Charters Tower** **33.88 279** **P** **16 48 52.4 +2.3**
CTAO **Charters Tower** **33.88 279** P **P** **16 48 52.4 +2.3**
CTAO pmax pmax
comp=Z,44nm,0.7s
STKA **Stephens Creek** **34.60 257** P **P** **16 48 57.7 +1.5**
comp=Z,378nm,0.7s
STKA **Stephens Creek** **34.60 257** P **P** **16 48 58.5 +2.3**
STKA **Stephens Creek** **34.60 257** P **P** **16 48 57.4 +1.3**
comp=Z,81nm,0.9s,baz=92,slow=9.6,SNR=102
comp=Z,81nm,0.9s
STKA **Stephens Creek** **34.60 257***c i*P **P** **16 48 58.3 +2.1**
INKA **Innaminka** **36.13 264** P **P** **16 49 11.7 +2.3**
INKA IAmb IAmb 16 49 16.2
comp=Z,15nm,0.7s
MTSU **Mount Surprise** **36.38 281** P **P** **16 49 13.7 +2.1**
comp=Z,20nm,0.7s
HTT **Hallett** **36.62 254** P **P** **16 49 14.9 +1.2**
comp=Z,14nm,0.8s
PMG **Port Moresby** **38.66 295** P **P** **16 49 31.2 +0.3**
PMG IAmb IAmb 16 49 59.5
comp=Z,30nm,1.1s
PMG **Port Moresby** **38.66 295** P **P** **16 49 31.2 +0.3**
PMG pmax pmax
comp=Z,30nm,1.1s
BBOO **Buckleboo** **39.09 254** P **P** **16 49 35.0 +0.6**
comp=Z,48nm,0.7s
BBOO **Buckleboo** **39.09 254** P **P** **16 49 35.1 +0.7**
BBOO IAmb IAmb 16 49 36.9
comp=Z,30nm,0.7s
COEN **Coen** **39.34 286** P **P** **16 49 37.5 +0.8**
QIS **Mount Isa** **39.41 274** P **P** **16 49 37.4 +0.2**
comp=Z,23nm,0.7s
AS31 **Alice Springs** **43.21 267** P **P** **16 50 08.6 +0.1**
ASAR **Alice Springs** **43.21 267** **P** **16 50 08.0 -0.5**
ASAR **Alice Springs** **43.21 267** P **P** **16 50 08.4 0.0**
comp=Z,12nm,0.5s,baz=106,slow=7.1,SNR=221
ASAR PcP **PcP** **16 51 56.2 -1.4**
comp=Z,2.2nm,0.5s,baz=100,slow=2.8,SNR=5.1
ASAR ScP **ScP** **16 55 46.6 -0.4**
comp=Z,1.1nm,0.7s,baz=98,slow=4.1,SNR=5.2
ASAR S **S** **16 56 32.1 -1.8**
comp=Z,0.4nm,0.8s,baz=107,slow=14,SNR=2.7
ASAR PKiKP **PKiKP** **16 58 59.5 -1.2**
comp=Z,0.7nm,0.7s,baz=106,slow=1.5,SNR=9.6
comp=Z,12nm,0.5s
WR8 **Warramunga Arr** **44.05 272** P **P** **16 50 14.9 -0.3**
WRAB **Tennant Creek** **44.19 272** P **P** **16 50 15.8 -0.5**
WRAB **Tennant Creek** **44.19 272** *i* P **P** **16 50 15.9 -0.4**
WRA **Warramunga Arr** **44.20 272** P **P** **16 50 15.8 -0.6**
WRA **Warramunga Arr** **44.20 272** P **P** **16 50 16.4 0.0**
comp=Z,27nm,0.3s,baz=110,slow=8.0,SNR=302
WRA PcP **PcP** **16 52 01.6 +0.7**
comp=Z,2.7nm,0.8s,baz=128,slow=3.6,SNR=2.4
WRA ScP **ScP** **16 55 50.1 -0.9**
comp=Z,1.1nm,0.9s,baz=108,slow=4.2,SNR=4.9
WRA S **S** **16 56 42.5 -5.7**
comp=Z,2.0nm,0.7s,baz=111,slow=14,SNR=6.0
WRA PKiKP **PKiKP** **16 59 00.5 -1.2**
comp=Z,0.7nm,0.6s,baz=114,slow=0.3,SNR=12
comp=Z,27nm,0.3s
DRV **Dumont d'Urvil** **44.26 203** P **P** **16 50 16.7 +0.5**
DRV PcP **PP** **16 51 59.3 -0.2**
WRKA **Warakurna** **47.59 263** P **P** **16 50 41.6 -1.6**
JAY **Jayapura** **47.95 297** P **P** **16 50 46.0 0.0**
comp=Z,8.9nm,0.5s,baz=157,slow=4.5,SNR=11
comp=Z,8.9nm,0.5s
JAY **Jayapura** **47.95 297** P **P** **16 50 46.3 +0.3**
comp=Z,12nm,0.9s
JAY **Jayapura** **47.95 297** P **P** **16 50 46.0 0.0**
SBA **Scott Base** **48.13 184** **P** **16 50 50.4 +3.8**
SBA IAmb IAmb 16 50 52.0
comp=Z,25nm,1.1s
SBA PcP **PcP** **16 52 15.6 +1.9**
SBA **Scott Base** **48.13 184** P **P** **16 50 50.4 +3.8**
SBA 16 52 15.6
SBA pmax pmax
comp=Z,25nm,1.1s
VNDA **Vanda** **48.20 186** P **P** **16 50 49.4 +2.4**
VNDA IAmb IAmb 16 50 53.4
comp=Z,20nm,1.6s
VNDA **Vanda** **48.20 186** P **P** **16 50 49.5 +2.4**
comp=Z,3.3nm,0.6s,baz=360,slow=8.0,SNR=19
comp=Z,3.3nm,0.6s
VNDA **Vanda** **48.20 186** P **P** **16 50 49.6 +2.5**
VNDA PcP **PcP** **16 52 14.0 +0.1**
GENI **Genyem** **48.31 297** P **P** **16 50 48.2 -0.5**
comp=Z,33nm,0.8s
SMPI **Sarmi** **49.82 296** P **P** **16 50 59.3 -1.0**
MTN **Manton Dam** **50.07 279** P **P** **16 51 00.7 -1.5**
MTN PcP **PcP** **16 52 20.4 -1.3**
MTN IAmb IAmb 16 52 58.0
comp=Z,32nm,1.3s
KNRA **Kununurra** **50.80 274** P **P** **16 51 07.9 +0.1**
comp=Z,27nm,0.6s
KNRA **Kununurra** **50.80 274** P **P** **16 51 07.5 -0.2**
KNRA IAmb IAmb 16 51 10.5
comp=Z,18nm,0.7s
KNRA PcP **PcP** **16 52 20.6 -3.8**
FITZ **Fitzroy Crossi** **52.46 270** P **P** **16 51 19.0 -1.1**
FITZ PcP **PcP** **16 52 28.0 -2.6**
FITZ **Fitzroy Crossi** **52.46 270** P **P** **16 51 20.1 0.0**
comp=Z,18nm,0.8s,baz=166,slow=9.6,SNR=26
comp=Z,18nm,0.8s
CCD **Concordia, Ant** **53.07 196** P **P** **16 51 25.4 +1.1**
CCD PcP **PcP** **16 52 33.2 +0.7**
RKPI **Ransiki, Papua** **53.68 293** P **P** **16 51 29.3 +0.2**
comp=Z,37nm,0.7s
FAKI **Fak Fak** **54.40 290** P **P** **16 51 33.7 -0.7**
FAKI **Fak Fak** **54.40 290** P **P** **16 51 36.3 +1.9**
comp=Z,84nm,1.5s
CASY **Casey** **55.27 208** P **P** **16 51 40.1 +0.2**
CASY **Casey** **55.27 208** ⇑P **P** **16 51 40.2 +0.3**
CASY pP **sP** **16 51 50.8 +0.7**
CASY PcP **PcP** **16 52 40.2 -0.2**
PSAC2 **Pilbara Seismi** **56.03 263** P **P** **16 51 44.6 -1.6**
PSA00 **Pilbara Seismi** **56.08 263** P **P** **16 51 44.8 -1.7**
MBWA **Marble Bar** **56.34 264** P **P** **16 51 46.6 -1.7**
MBWA **Marble Bar** **56.34 264** P **P** **16 51 46.9 -1.4**
MBWA PcP **PcP** **16 52 44.4 -1.0**
SWI **Sorong** **56.40 291** P **P** **16 51 48.9 +0.1**
comp=Z,33nm,0.7s
MORW **Morawa** **56.65 253** P **P** **16 51 47.7 -2.8**
MORW **Morawa** **56.65 253** P **P** **16 51 49.6 -0.9**
MORW IAmb IAmb 16 52 15.1
comp=Z,28nm,1.4s
SOEI **Soe** **57.44 278** P **P** **16 51 57.0 +0.6**
comp=Z,24nm,1.2s
BATI **Baumata** **57.74 277** P **P** **16 51 58.8 +0.4**
comp=Z,20nm,0.6s,baz=135,slow=4.3,SNR=5.8
comp=Z,20nm,0.6s
NLAI **Namlea** **58.45 286** P **P** **16 52 01.3 -2.0**
comp=Z,28nm,0.8s
QSPA **South Pole Qui** **59.80 180** **P** **16 52 15.8 +3.8**
QSPA **South Pole Qui** **59.80 180** P **P** **16 52 16.3 +4.2**
comp=Z,15nm,0.7s,baz=40,slow=3.1,SNR=66
SANI **Sanana** **60.03 287** P **P** **16 52 13.9 -0.3**
comp=Z,38nm,0.8s
EDFI **Ende, Flores** **60.15 278** P **P** **16 52 11.9 -3.2**
comp=Z,18nm,0.6s
GIRL **Giralia** **60.46 260** P **P** **16 52 16.9 -0.2**
PCI **Palu** **65.79 284** P **P** **16 52 53.5 +0.9**
comp=Z,43nm,1.1s
BELA **Belgrano 2** **69.86 172** P **P** **16 53 18.2 +1.0**
BELA IAmb IAmb 16 53 19.0
comp=Z,12nm,0.7s
PMSA **Palmer Station** **72.31 156** P **P** **16 53 33.4 +1.2**
PMSA IAmb IAmb 16 53 34.6
comp=Z,11nm,0.8s
MAW **Mawson** **72.43 201** P **P** **16 53 33.9 +1.0**
comp=Z,5.9nm,0.7s,baz=133,slow=6.5,SNR=22
comp=Z,5.9nm,0.7s
KKM **Kota Kinabalu** **72.62 288** P **P** **16 53 34.0 -1.1**
LEM **Lembang** **73.22 272** P **P** **16 53 38.4 -0.2**
comp=Z,25nm,0.5s,baz=127,slow=16,SNR=6.4
comp=Z,25nm,0.5s
SBUM **Sibu** **74.00 283** **P** **16 53 42.4 -0.6**
SYO **Syowa Base** **77.22 193**⇑*i*P **P** **16 54 01.4 +0.8**
SYO **Syowa Base** **77.22 193**⇓*e*PcP **PcP** **16 54 09.2 -2.0**
MDSI **Maura Dua** **77.34 272** P **P** **16 54 00.4 -1.8**
comp=Z,41nm,0.9s
TROLL **Troll, Antarti** **77.96 180** ⇑P **P** **16 54 06.1 +1.2**
comp=Z,1μm,0.8s
MJAR **Matsushiro Arr** **78.22 325** **P** **16 54 05.7 -0.8**
MJAR **Matsushiro Arr** **78.22 325** P **P** **16 54 06.0 -0.6**
comp=Z,2.9nm,0.7s,baz=155,slow=4.6,SNR=10.0
comp=Z,2.9nm,0.7s
MJAR **Matsushiro Arr** **78.22 325** P **P** **16 54 06.0 -0.6**
MAJO **Matsushiro** **78.23 325**⇓*e*P **P** **16 54 06.4 -0.2**
MAJO pmax pmax
comp=Z,26nm,2.2s
SNAA **Sanae** **78.24 178** ⇑P **P** **16 54 07.2 +0.8**
comp=Z,156nm,1.0s
SNAA **Sanae** **78.24 178** **P** **16 54 06.7 +0.4**
SNAA IAmb IAmb 16 54 08.4
comp=Z,13nm,1.1s
SNAA **Sanae** **78.24 178** P **P** **16 54 07.1 +0.8**
comp=Z,8.1nm,1.0s,baz=203,slow=9.7,SNR=20
comp=Z,8.1nm,1.0s
VNA3 **Neumayer Olymp** **78.39 176** ⇑P **P** **16 54 07.5 +0.4**
comp=Z,25nm,0.7s
VNA2 **Neumayer--Watz** **78.82 177** ⇑P **P** **16 54 10.2 +0.7**
comp=Z,14nm,0.4s,baz=169,slow=4.8
COYC **Coyhaique** **78.93 136** IAmb IAmb 16 54 13.6
comp=Z,24nm,1.0s
VNA1 **Neumayer--Stat** **79.05 176** ⇑P **P** **16 54 11.9 +1.2**
comp=Z,26nm,1.0s
MASI **Masa Aman, Be** **79.68 272** P **P** **16 54 13.9 -1.3**
H03S2 **Juan Fernandez** **80.43 124** T T 18 23 30.3
baz=238,slow=74
H03S1 **Juan Fernandez** **80.44 124** T T 18 23 31.5
baz=238,slow=74
H03S3 **Juan Fernandez** **80.45 124** T T 18 23 35.2
baz=238,slow=74
H03N3 **Juan Fernandez** **80.62 123** T T 18 23 40.6
baz=251,slow=71
H03N2 **Juan Fernandez** **80.62 123** T T 18 23 35.6
baz=251,slow=71
H03N1 **Juan Fernandez** **80.64 123** T T 18 23 39.1
baz=251,slow=71
PDSI **Padang** **82.33 273** P **P** **16 54 27.2 -2.1**
comp=Z,18nm,0.6s
ASAJ **Asahikawa** **82.41 332** P **P** **16 54 28.9 +0.1**
comp=Z,11nm,1.0s,baz=229,slow=11,SNR=2.4
comp=Z,11nm,1.0s
ASAJ **Asahikawa** **82.41 332** P **P** **16 54 29.0 +0.1**
PLCA **Paso Flores** **82.49 133** **P** **16 54 31.6 +1.8**
PLCA IAmb IAmb 16 54 32.7
comp=Z,13nm,1.1s
PLCA **Paso Flores** **82.49 133** P **P** **16 54 31.9 +2.2**
comp=Z,6.3nm,0.9s,baz=217,slow=3.4,SNR=6.8
comp=Z,6.3nm,0.9s
PLCA **Paso Flores** **82.49 133** P **P** **16 54 32.0 +2.2**
BI02 **San Fabin de** **84.27 129** **P** **16 54 40.0 +1.0**
BI02 IAmb IAmb 16 54 40.9
comp=Z,7.9nm,0.7s
KSRS **Korea Array** **84.34 320** P **P** **16 54 39.5 +0.6**
comp=Z,3.0nm,0.8s,baz=139,slow=5.8,SNR=14
comp=Z,3.0nm,0.8s
YSS **Yuzhno-Sakhali** **84.71 334** *e*P **P** **16 54 41.3 +0.7**
YSS pmax pmax
comp=Z,10.0nm,0.9s
PET **Petropavlovsk** **85.47 346**⇓*e*P **P** **16 54 45.5 +1.3**
PET pmax pmax
comp=Z,34nm,1.2s
BO02 **Sierra Bellavi** **85.64 128** **P** **16 54 47.1 +1.2**
PETK **Petropavlovsk-** **85.75 346** P **P** **16 54 45.8 +0.2**
comp=Z,6.0nm,0.6s,baz=316,slow=4.1,SNR=17
comp=Z,6.0nm,0.6s
GSI **Gunungsitoli** **85.94 274** **P** **16 54 47.1 -0.5**
PFO **Pinyon Flats O** **86.07 47**⇓*i*P **P** **16 54 50.0 +2.1**
PFO pmax pmax
comp=Z,12nm,1.2s
NJ2 **Nanjing** **86.26 311** *e*P **P** **16 54 49.6 +0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
BUCR **Buckhorn Ranch** **86.52 42** **P** **16 54 50.4 +0.4**
BELC **Belle Mtn. Jos** **86.61 47** IAmb IAmb 16 55 10.1
comp=Z,19nm,1.3s
BC3 **Big Chuckawall** **86.74 48** **P** **16 54 53.1 +2.0**
BC3 IAmb IAmb 16 55 11.0
comp=Z,20nm,1.4s
USRK **Ussuriysk Ar.** **87.14 326** P **P** **16 54 53.6 +0.9**
comp=Z,3.6nm,0.8s,baz=144,slow=2.6,SNR=9.6
comp=Z,3.6nm,0.8s
IRM **Iron Mountain** **87.26 48** **P** **16 54 54.6 +1.0**
IRM IAmb IAmb 16 55 13.5
comp=Z,20nm,1.3s
WAKR **Walker** **87.49 42** IAmb IAmb 16 54 57.5
comp=Z,6.9nm,1.0s
NVAR **Mina Array Bea** **88.10 43** P **P** **16 54 59.2 +1.4**
comp=Z,5.1nm,0.8s,baz=222,slow=8.5,SNR=26
comp=Z,5.1nm,0.8s
Y14A **Wickenburg** **88.50 49** IAmb IAmb 16 55 02.6
comp=Z,9.3nm,1.0s
TPH **Tonopah** **88.51 43** IAmb IAmb 16 55 02.0
comp=Z,7.1nm,0.8s
W13A **Hualapai Mount** **88.66 47** IAmb IAmb 16 55 19.3
comp=Z,6.3nm,1.0s
J05D **Fort Rock, OR** **89.76 38** **P** **16 55 05.7 +0.3**
J05D IAmb IAmb 16 55 08.9
comp=Z,18nm,1.5s
X16A **Lo Mia Camp, P** **89.82 49** IAmb IAmb 16 55 09.8
comp=Z,10nm,1.0s
TIA **Tai'an** **89.98 313** P **P** **16 55 06.5 +0.1**
TIA pmax pmax
comp=Z,11nm,0.7s
CN2 **Changchun** **90.13 323** P **P** **16 55 07.3 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
GRNR **Gornyy** **90.25 333** *e*P **P** **16 55 06.6 -0.6**
PINE **Pine Mountain** **90.27 37** **P** **16 55 08.9 +1.1**
PINE IAmb IAmb 16 55 10.3
comp=Z,12nm,1.0s
KDAK **Kodiak Island** **90.30 13**⇓*e*P **P** **16 55 07.6 +0.4**
KDAK pmax pmax
comp=Z,65nm,2.2s
BNX **BinXian** **90.49 325** ⇑P **P** **16 55 08.5 0.0**
BNX pmax pmax
comp=Z,8.0nm,0.9s
KNB **Kanab** **90.53 47** IAmb IAmb 16 55 12.2
comp=Z,7.8nm,1.0s
X18A **Snowflake** **90.86 50** **P** **16 55 11.7 +0.9**
X18A IAmb IAmb 16 55 14.0
comp=Z,7.1nm,1.0s
MTPU **Mount Pierson** **91.56 46** IAmb IAmb 16 55 18.1
comp=Z,7.9nm,1.2s
HNS **HongShan** **92.24 313** ⇓P **P** **16 55 17.5 +0.7**
HNS pmax pmax
comp=Z,8.0nm,0.9s
TXAR **Lajitas Array** **92.25 57** P **P** **16 55 18.9 +1.6**
comp=Z,1.6nm,1.0s,baz=203,slow=5.4,SNR=5.3
comp=Z,1.6nm,1.0s
G08A **Pilot Rock** **92.33 37** IAmb IAmb 16 55 35.7
comp=Z,12nm,1.3s
MFID **Camas Ranch** **92.78 40** **P** **16 55 19.4 0.0**
MFID IAmb IAmb 16 55 21.4
comp=Z,4.8nm,0.8s
TMUT **Trail Mountain** **92.93 46** **P** **16 55 21.0 +0.6**
TMUT IAmb IAmb 16 55 25.3
comp=Z,5.3nm,1.0s
ANMO **Albuquerque** **93.44 51**⇓*e*P **P** **16 55 24.3 +1.6**
ANMO pmax pmax
comp=Z,13nm,4.0s
CMAR **Chiang Mai Arr** **93.47 289** P **P** **16 55 23.6 +0.6**
comp=Z,0.7nm,0.3s,baz=125,slow=4.4,SNR=5.3
comp=Z,0.7nm,0.3s
HVU **Hansel Valley** **93.50 43** **P** **16 55 22.7 -0.1**
HVU IAmb IAmb 16 55 24.9
comp=Z,6.0nm,0.9s
HVU **Hansel Valley** **93.50 43** P **P** **16 55 22.7 -0.1**
HVU pmax pmax
comp=Z,6.0nm,0.9s
D08A **Wollman Farm,** **93.53 36** **P** **16 55 23.0 +0.5**
D08A IAmb IAmb 16 55 24.5
comp=Z,4.7nm,0.7s
PZH **PanZhiHua** **95.35 297** P **P** **16 55 33.6 +2.0**
PDAR **Pinedale Array** **96.00 43** P **P** **16 55 34.8 +0.5**
comp=Z,0.6nm,0.8s,baz=233,slow=5.5,SNR=2.1
PDAR PKKPbc **PKKPbc** **17 12 22.3 -0.9**
comp=Z,0.6nm,0.7s,baz=83,slow=3.8,SNR=4.8
comp=Z,0.6nm,0.8s
CD2 **Chengdu** **96.12 302** *e*P **P** **16 55 36.0 +1.1**
HHC **Hu-ho-hao-te** **96.24 314** *e*P **P** **16 55 36.6 +1.3**
HHC pmax pmax
comp=Z,20nm,0.6s
RLMT **Red Lodge** **97.55 42** P 16 55 35.8 -5.5
COLA **College** **97.72 12**⇓*e*P Pdif 16 55 43.0 +1.8
COLA pmax pmax
comp=Z,6.0nm,1.0s
ILAR **Eielson Array** **97.82 13** P **P** **16 55 41.4 -0.2**
comp=Z,1.0nm,0.7s,baz=216,slow=5.9,SNR=8.2
ILAR PKKPbc **PKKPbc** **17 12 15.7 -3.1**
comp=Z,0.5nm,0.7s,baz=323,slow=2.5,SNR=4.8
comp=Z,1.0nm,0.7s
LPAZ **La Paz** **98.09 114** P Pdif 16 55 46.0 +1.1
comp=Z,0.5nm,0.4s,baz=310,slow=4.0,SNR=7.0
comp=Z,0.5nm,0.4s
WMQ **Urumqi** **113.25 308** *e*PKP **PKiKP** **17 00 45.1 +0.7**
OPO **Ambohidratompo** **114.86 228** PKP PKPdf 17 00 49.2 +0.7
comp=Z,1.8nm,0.6s,baz=113,slow=7.7,SNR=3.0
BOSA **Boshof** **117.38 203** PKP **PKiKP** **17 00 53.0 -0.1**
comp=Z,2.2nm,0.7s,baz=144,slow=1.7,SNR=7.8
MK31 **Makanchi Array** **117.79 310***d i*PKiKP **PKPdf** **17 00 51.8 -1.2**
MKAR **Makanchi Array** **117.79 310** **PKPdf** **17 00 51.4 -1.7**
MKAR **Makanchi Array** **117.79 310** PKP **PKPdf** **17 00 52.3 -0.7**
comp=Z,2.5nm,0.6s,baz=90,slow=1.4,SNR=14
MAKZ **Makanchi** **118.00 310** PKiKP **PKPdf** **17 00 52.8 -0.6**
ZALV **Zalesovo Beam** **118.03 318** PKP **PKPdf** **17 00 51.8 -1.4**
comp=Z,2.1nm,0.7s,baz=187,slow=1.9,SNR=8.3
KSH **Kashi** **120.28 301** PKP **PKiKP** **17 01 03.0 +4.7**
KURK **Kurchatov** **121.06 314***c i*PKiKP **PKPdf** **17 00 57.7 -1.4**
KURBB **Kurchatov Arra** **121.10 314** PKP **PKPdf** **17 00 58.0 -1.2**
comp=Z,10.0nm,0.7s,baz=106,slow=1.8,SNR=8.7
KBL **Kabul** **124.28 293** **PKPdf** **17 01 04.9 -1.2**
KBL **Kabul** **124.28 293** PKiKP **PKPdf** **17 01 04.9 -1.2**
KKAR **Karatay Array** **125.11 304** **PKPdf** **17 01 05.9 -1.3**
KKAR **Karatay Array** **125.11 304** PKiKP **PKPdf** **17 01 05.9 -1.3**
SCHQ **Schefferville** **126.11 42** PKP **PKPdf** **17 01 08.0 -0.7**
comp=Z,30nm,0.6s,baz=180,slow=2.0,SNR=2.9
LMN **Caledonia Moun** **126.59 53** **PKPdf** **17 01 09.2 -0.7**
LSZ **Lusaka** **128.19 213** **PKPdf** **17 01 13.5 -0.6**
LSZ **Lusaka** **128.19 213** PKiKP **PKPdf** **17 01 13.5 -0.6**
SPITS **Spitsbergen Ar** **131.62 356** PKP **PKPdf** **17 01 18.4 -0.2**
comp=Z,36nm,1.2s,baz=94,slow=4.6,SNR=2.5
SFJD **Kangerlussuaq** **131.88 25** PKP **PKPdf** **17 01 17.8 -1.5**
comp=Z,4.7nm,0.7s,baz=99,slow=8.2,SNR=4.3
ARTI **Arti** **133.19 321** **PKPdf** **17 01 20.4 -1.7**
ARTI **Arti** **133.19 321** PKP **PKPdf** **17 01 20.7 -1.4**
comp=Z,10nm,0.7s,baz=139,slow=0.9,SNR=18
ARTI **Arti** **133.19 321** *i* PKiKP **PKPdf** **17 01 21.3 -0.8**
AKTO **Aktyubinsk** **134.12 312** PKP **PKPdf** **17 01 23.7 -0.3**
comp=Z,6.7nm,0.8s,baz=141,slow=0.6,SNR=18
KIRV **Kirov** **137.30 325**⇓*e*PKiKP **PKPdf** **17 01 29.5 -0.2**
ARCES **ARCESS Array B** **138.52 348** PKhKP PKPpre 17 01 23.5
comp=Z,2.7nm,0.6s,baz=50,slow=1.9,SNR=11
ARCES PKP **PKPdf** **17 01 30.4 -1.3**
comp=Z,6.3nm,0.7s,baz=39,slow=1.8,SNR=9.9
BELG **Belogornoye** **140.19 317**⇓*e*PKiKP **PKPdf** **17 01 34.8 -0.3**
KLMR **Klimovskoe** **140.73 332** *e*PKiKP **PKPdf** **17 01 35.7 -0.2**
KLMR pmax pmax
comp=Z,32nm,1.9s
RAYN **Ar Rayn** **140.91 271** ⇓PKiKP **PKPdf** **17 01 35.3 -2.2**
VRH **Novokhopyorsk** **144.05 317** *e*PKiKP **PKiKP** **17 01 43.9 -1.7**
VRH pmax pmax
comp=Z,9.0nm,0.8s
GNI **Garni** **144.12 298***c i*PKiKP **PKPdf** **17 01 44.0 +1.2**
GNI pmax pmax
comp=Z,23nm,1.7s
NCK **Nalchik** **144.68 304**⇓*i*PKiKP **PKPab** **17 01 41.5 -0.8**
PUL **Pulkovo** **144.96 335**⇓*e*PKiKP **PKPab** **17 01 42.7 0.0**
FINES **FINESS Array B** **145.09 340** **PKPbc** **17 01 41.6 -1.5**
FINES **FINESS Array B** **145.09 340** PKPbc **PKPbc** **17 01 42.4 -0.7**
comp=Z,80nm,0.6s,baz=60,slow=3.5,SNR=398
LPSR **Galich'ya Gora** **145.11 320** *e*PKP2 **PKPbc** **17 01 42.2 -1.2**
LPSR pmax pmax
comp=Z,20nm,0.8s
KBZ **Khabaz** **145.14 304** PKPbc **PKPbc** **17 01 43.3 -0.5**
comp=Z,12nm,0.8s,baz=136,slow=2.1,SNR=16
OBN **Obninsk** **145.16 325** **PKPbc** **17 01 42.2 -1.2**
OBN **Obninsk** **145.16 325** *e*PKP2 **PKPbc** **17 01 42.8 -0.7**
OBN *e* 17 05 02.5
OBN *e*PPP PPP 17 08 19.6
OBN *e* 17 08 52.5
OBN pmax pmax
comp=Z,23nm,1.0s
KIV **Kislovodsk** **145.26 304** **PKPbc** **17 01 42.4 -2.0**
KIV **Kislovodsk** **145.26 304** ⇑P **PKiKP** **17 01 46.5 -2.0**
KIV **Kislovodsk** **145.26 304** *e*PKP2 **PKPbc** **17 01 42.5 -1.8**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV **Kislovodsk** **145.26 304** PKP **PKPbc** **17 01 43.6 -0.7**
VORR **Voronezh** **145.33 319** *e*PKP2 **PKPbc** **17 01 42.9 -1.3**
VORR pmax pmax
comp=Z,20nm,0.8s
VSR **Storozhevoye** **145.54 318** *e*PKP2 **PKPdf** **17 01 42.3 -2.4**
VSR pmax pmax
comp=Z,10.0nm,0.8s
ERBR **Yeremizino-Bor** **146.44 308** *e*PKP2 **PKPbc** **17 01 47.7 -0.1**
ERBR pmax pmax
comp=Z,83nm,1.0s
VSU **Vasula** **147.18 336***c i*PKiKP **PKPdf** **17 01 47.9 +0.7**
VSLR **Vesyoloye** **147.24 304**⇓*e*PKP2 **PKPbc** **17 01 49.9 -0.3**
NB2 **NORSAR Subarra** **148.68 351** PKP **PKPbc** **17 01 52.8 -0.7**
comp=Z,11nm,0.6s,baz=14,slow=4.3
NOA **NORSAR Array B** **148.68 351** PKPbc **PKPbc** **17 01 53.0 -0.5**
comp=Z,11nm,0.6s,baz=15,slow=4.2,SNR=36
NOA **NORSAR Array B** **148.68 351** PKP2 **PKPbc** **17 01 53.0 -0.5**
ANN **Anapa** **148.76 307** *e*PKP2 **PKPab** **17 01 56.9 -1.0**
ANN pmax pmax
comp=Z,51nm,0.8s
HFS **Hagfors** **149.18 349** PKPbc **PKPbc** **17 01 54.1 -0.6**
comp=Z,23nm,0.7s,baz=46,slow=4.3,SNR=40
MNK **Minsk** **149.56 330** *i* PKP2 **PKPbc** **17 01 55.9 +0.1**
MNK *i* 17 05 34.7
MNK *i* PPP PPP 17 08 52.8
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=Z,55nm,0.8s
MNK pmax pmax
comp=E,24nm,0.9s
KONO **Kongsberg** **150.23 352**⇓*i*PKiKP **PKPbc** **17 01 56.9 -0.4**
STRU **Stroemstad** **150.62 350** *i* P **PKPbc** **17 01 58.1 -0.1**
SIM **Simferopol'** **150.97 309** *i* PKiKP **PKPbc** **17 01 59.7 +0.2**
SIM *e* 17 02 09.3
SIM pmax pmax
comp=Z,32nm,0.9s
BNN **Bunyan** **151.08 296** PKPdf **PKPdf** **17 01 51.9 -2.4**
BNN **PKPbc** **17 01 58.3 -1.9**
HWQ **Hawqa** **151.21 287** *e*P **PKPbc** **17 01 59.1 -1.5**
AKASG **Malin Array Be** **151.29 323** PKPbc **PKPbc** **17 01 59.5 -0.5**
comp=Z,29nm,0.7s,baz=50,slow=2.9,SNR=101
AKBB **Malin Array Si** **151.29 323***c i*PKiKP **PKPbc** **17 01 59.2 -0.8**
AKBB *i* 17 02 02.2
KIEV **Kiev** **151.30 323** **PKPbc** **17 01 58.2 -1.9**
KIEV **Kiev** **151.30 323** ⇓P **PKPbc** **17 01 58.8 -1.3**
KIEV **Kiev** **151.30 323** ⇓PKiKP **PKPbc** **17 01 58.8 -1.3**
BHL **Bhannes** **151.44 286** *e*P **PKPbc** **17 01 59.9 -1.2**
TJOU **Tjoern** **151.51 349** *i* P **PKPbc** **17 02 00.1 -0.3**
MMAI **Mount Meron Ar** **151.60 284** PKPbc **PKiKP** **17 02 01.9 0.0**
comp=Z,16nm,0.6s,baz=83,slow=7.1,SNR=22
BORU **Boraas** **151.70 348** *i* P **PKPbc** **17 02 00.4 -0.4**
HOMB **Hornborsund** **151.70 353** *i* P **PKPbc** **17 02 00.8 0.0**
SNART **Snartemo** **151.76 354** *i* P **PKiKP** **17 02 01.3 0.0**
ONAU **Onsala** **152.07 349** *i* P **PKPbc** **17 02 01.3 -0.3**
FABU **Falkenberg** **152.30 347** *i* P **PKPbc** **17 02 02.0 -0.1**
KIRS **Kirsehir-Merke** **152.53 297** ⇑P **PKPbc** **17 02 02.7 -0.7**
DEL **Delary** **152.57 346** *i* P **PKPbc** **17 02 02.5 -0.3**
BRTR **Keskin Array B** **152.65 299** PKPdf **PKPdf** **17 01 54.9 -1.8**
BRTR **PKPbc** **17 02 01.2 -2.5**
BRTR **Keskin Array B** **152.65 299** PKPbc **PKPbc** **17 02 03.1 -0.6**
comp=Z,4.4nm,0.5s,baz=145,slow=5.5,SNR=31
BRTR **Keskin Array B** **152.65 299** PKiKP **PKPbc** **17 02 01.2 -2.5**
SORM **Soroca** **153.18 319** ⇑P **PKPbc** **17 02 04.0 -0.4**
SORM **Soroca** **153.18 319** ⇑PKiKP **PKPbc** **17 02 04.0 -0.4**
ANTO **Ankara** **153.26 299** ⇑P **PKPbc** **17 02 01.5 -3.5**
ANTO **Ankara** **153.26 299** ⇑PKiKP **PKPbc** **17 02 01.5 -3.5**
BSD **Bornholm Skovb** **153.57 343** *i* P **PKPbc** **17 02 05.0 0.0**
EKA **Eskdalemuir Ar** **154.71 7** PKP **PKPdf** **17 01 58.3 -0.6**
comp=Z,0.4nm,0.4s,baz=6.4,slow=5.0,SNR=5.0
EKA PKPab **PKPab** **17 02 22.2 -0.2**
comp=Z,2.8nm,0.5s,baz=336,slow=3.7,SNR=7.0
CFR **Carcaliu** **154.77 313** ⇓P **PKPbc** **17 02 05.6 -2.3**
CFR **Carcaliu** **154.77 313** ⇓PKiKP **PKPbc** **17 02 05.6 -2.3**
BURAR **Bucovina Array** **155.22 321** ⇓P PKPdf 17 02 09.4 +9.4
BURAR **Bucovina Array** **155.22 321** ⇓PKiKP PKPdf 17 02 09.4 +9.4
ONER **Baraj Valea Uz** **155.27 317** ⇑P PKPdf 17 02 08.8 +8.8
VRI **Vrincioaia** **155.31 316** ⇓P **PKPdf** **17 02 05.2 +5.1**
VRI **Vrincioaia** **155.31 316** ⇓PKiKP **PKPdf** **17 02 05.2 +5.1**
PLOR **Plostina** **155.37 316** ⇓P **PKPdf** **17 02 06.8 +6.6**

PLOR	**Plostina**	**155.37 316**	⇓PKIKP	**PKPdf**	**17 02 06.8 +6.6**
TURR	**Turia**	**155.64 317**	⇑P	PKPdf	17 02 10.7 +10
MLR	**Muntele Rosu**	**155.97 316**	⇓P	**PKPdf**	**17 02 06.9 +5.8**
MLR	**Muntele Rosu**	**155.97 316**	⇓PKIKP	**PKPdf**	**17 02 06.9 +5.8**
STHS	**Stebnicka Huta**	**156.04 328**	*e*PKP2	**PKPab**	**17 02 31.6 +3.2**
ARR	**Arges**	**156.82 317**	⇑P	**PKPdf**	**17 02 03.6 +1.5**
LANS	**Liptovska Anna**	**157.03 330**	*e*PKP2	**PKPab**	**17 02 33.0 +0.4**
OSTC	**Ostas**	**157.18 336**	*e*PKP2	**PKPab**	**17 02 33.8 +0.6**
OSTC	**Ostas**	**157.18 336**	*e*PKPAB	**PKPab**	**17 02 33.8 +0.6**
LOT	**Lotru**	**157.29 318**	⇑P	**PKPdf**	**17 02 07.4 +4.6**
UPC	**Upice**	**157.29 337**	*e*PKP2	**PKPab**	**17 02 33.5 -0.1**
UPC	**Upice**	**157.29 337**	*e*PKPAB	**PKPab**	**17 02 33.5 -0.1**
CLL	**Collm**	**157.51 342**	⇓*e*PKIKP	**PKPdf**	**17 02 05.0 +2.3**
CLL			*i*		17 02 14.0
CLL			pmax	pmax	
	comp=Z,7.0nm,1.0s				
CLL			pmax	pmax	
	comp=Z,13nm,1.0s				
CLL	**Collm**	**157.51 342**	*e*PKPdf	**PKPdf**	**17 02 05.0 +2.3**
CLL			*i* PKPdif	**sPKPdf**	**17 02 14.0 +0.5**
	comp=Z,7.0nm,1.0s				
CLL			*ex*	x	17 02 18.0
CLL			⇓*i* PKPab	**PKPab**	**17 02 34.2 -0.3**
	comp=Z,13nm,1.0s				
CLL			*i* pPKPab	**pPKPab**	**17 02 37.6 -4.7**
BRG	**Berggiesshubel**	**157.63 340**	*e*PKP	**PKPab**	**17 02 36.5 +1.4**
BRG			Amp		17 02 38.1
	comp=Z,6.1nm,0.8s				
BRG	**Berggiesshubel**	**157.63 340**	P	**PKPab**	**17 02 40.3 +5.2**
BRG			Amp		17 02 41.1
	comp=Z,3.9nm,0.7s				
RICC	**Richard**	**157.88 339**	*e*PKPAB	**PKPab**	**17 02 37.3 +1.2**
HERR	**Herculane**	**158.40 318**	⇑P	**PKPdf**	**17 02 04.0 0.0**
ZVC	**Zvikov**	**158.81 338**	*e*PKPAB	**PKPab**	**17 02 40.3 +0.1**
KHC	**Kasperske Hory**	**159.28 338**	*e*PKIKP	PKPdf	17 02 14.0 +9.0
KHC	**Kasperske Hory**	**159.28 338**	*e*PKPDF	PKPdf	17 02 14.0 +9.0
KHC			*e*PKPAB	**PKPab**	**17 02 45.8 +3.5**
GRF	**Grafenberg Arr**	**159.45 343**	*e*PKP	**PKPab**	**17 02 43.0 0.0**
	baz=23,slow=3.8				
CONA	**Conrad Observa**	**159.48 333**	*i* PKP	**PKPdf**	**17 02 04.8 -0.5**
	comp=Z,4.6nm,1.4s				
CONA			*i* PKP	**PKPab**	**17 02 42.0 -1.3**
	comp=Z,3.4nm,1.0s				
GERES	**GERESS Array B**	**159.49 338**	PKP	**PKPdf**	**17 02 03.9 -1.4**
	comp=Z,0.8nm,0.8s,baz=32,slow=3.5,SNR=6.2				
GERES			PKPab	**PKPab**	**17 02 42.7 -0.6**
	comp=Z,1.2nm,0.6s,baz=36,slow=5.0,SNR=9.3				
RONA	**Rosalia, Austr**	**159.49 332**	*i* PKP	**PKPab**	**17 02 43.6 +0.3**
	comp=Z,6.4nm,1.3s				
MEM	**Membach**	**159.51 353**	*d*PKP	**PKPab**	**17 02 42.4 -0.8**
BTNL	**Ternell**	**159.52 353**	*d*PKP	**PKPab**	**17 02 41.0 -2.2**
BHOU	**Houvegnez**	**159.76 353**	*d*PKP	**PKPab**	**17 02 44.4 0.0**
BCLA	**Clavier**	**159.77 354**	*d*PKP	**PKPab**	**17 02 43.7 -0.6**
BGES	**Gesves**	**159.82 354**	*d*PKP	**PKPab**	**17 02 44.1 -0.5**
BMRD	**Maredsous**	**159.93 355**	*d*PKP	**PKPab**	**17 02 44.8 -0.2**
DOU	**Dourbes**	**160.15 355**	*d*PKP	**PKPab**	**17 02 45.6 -0.4**
MOA	**Molln**	**160.15 335**	*e*PKP	**PKPab**	**17 02 47.9 +1.8**
	comp=Z,6.4nm,1.1s				
WLF	**Walferdange**	**160.43 352**	*d*PKP	**PKPab**	**17 02 47.6 +0.4**
BIOA	**Bad Ischl, Aus**	**160.51 336**	*i* PKP	**PKPab**	**17 02 49.1 +1.4**
	comp=Z,4.7nm,0.8s				
SOKA	**Soboth**	**160.83 332**	*e*PKP	**PKPdf**	**17 02 07.8 +0.9**
	comp=Z,4.8nm,1.2s				
SOKA			*ep*PKP	**PKPab**	**17 02 51.9 +2.7**
	comp=Z,3.6nm,1.3s				
LESA	**Schwarzleotal**	**161.07 337**	*i* PKP	**PKPdf**	**17 02 08.0 +0.9**
	comp=Z,3.7nm,0.9s				
LESA			*i* PKP	**PKPab**	**17 02 52.2 +2.0**
	comp=Z,2.9nm,0.7s				
KBA	**Koelnbreinsper**	**161.14 336**	*e*PKP	**PKPab**	**17 02 52.0 +1.3**
	comp=Z,3.8nm,0.8s				
OBKA	**Obir**	**161.16 333**	*ep*PKP	**PKPab**	**17 02 52.8 +2.1**
	comp=Z,13nm,1.9s				
MYKA	**Terra Mystica**	**161.41 334**	*i* PKP	**PKPdf**	**17 02 08.0 +0.5**
	comp=Z,1.7nm,0.7s				
MYKA			*e*PKP	**PKPab**	**17 02 51.7 0.0**
	comp=Z,4.1nm,0.9s				
WATA	**Walderalm**	**161.50 339**	*i* PKP	**PKPab**	**17 02 51.8 -0.4**
	comp=Z,5.9nm,0.9s				
WTTA	**Wattenberg**	**161.54 339**	*i* PKP	**PKPdf**	**17 02 08.9 +1.2**
	comp=Z,6.1nm,1.3s				
WTTA			*i* PKP	**PKPab**	**17 02 52.4 0.0**
	comp=Z,4.3nm,0.6s				
RETA	**Reutte**	**161.60 341**	*e*PKP	**PKPab**	**17 02 52.6 +0.1**
	comp=Z,5.6nm,0.7s				
MOTA	**Moosalm**	**161.63 340**	*e*PKP	**PKPab**	**17 02 52.6 -0.2**
	comp=Z,9.3nm,1.0s				
SQTA	**Sankt Quirin**	**161.71 340**	*e*PKP	**PKPab**	**17 02 53.5 +0.4**
	comp=Z,6.9nm,1.1s				
ABTA	**Abfaltersbach**	**161.71 337**	*i* PKP	**PKPab**	**17 02 52.3 -0.8**
	comp=Z,3.3nm,0.7s				
DAVA	**Damuels**	**162.02 343**	*e*PKP	**PKPab**	**17 02 54.1 -0.3**
	comp=Z,6.3nm,0.7s				
FETA	**Feichten**	**162.03 341**	*i* PKP	**PKPdf**	**17 02 07.9 -0.4**
	comp=Z,3.6nm,1.0s				
FETA			*i* PKP	**PKPab**	**17 02 55.0 +0.5**
	comp=Z,4.1nm,1.1s				
TUE	**Stuetta**	**162.91 343**		**PKPdf**	**17 02 07.4 -1.8**
TUE				**PKPab**	**17 02 58.0 -0.4**
TORD	**Torodi Ar. Bea**	**162.92 179**		**PKPdf**	**17 02 07.9 -1.9**
TORD				**PKPab**	**17 02 57.8 -1.1**
TORD	**Torodi Ar. Bea**	**162.92 179**	PKP	**PKPdf**	**17 02 10.0 +0.2**
	comp=Z,1.8nm,0.9s,baz=120,slow=2.1,SNR=6.3				
TORD			PKPab	**PKPab**	**17 02 58.9 0.0**
	comp=Z,11nm,0.7s,baz=179,slow=2.2,SNR=32				
PVIS	**Viseu**	**166.81 35**	*e*PKPdf	**PKPdf**	**17 02 12.8 +0.2**
MVO	**Moncorvo**	**166.88 32**	*e*PKPdf	**PKPdf**	**17 02 13.8 +1.2**
MTE	**Manteigas**	**167.22 35**	*e*PKPdf	**PKPdf**	**17 02 14.5 +1.6**
PCBR	**Castelo Branco**	**167.67 37**	*e*PKPdf	**PKPdf**	**17 02 14.3 +1.2**
PMAV	**Marv??o**	**168.02 38**	*e*PKPab	**PKPdf**	**17 03 21.4 +0.4**
PESTR	**Estremoz**	**168.31 41**	*e*PKPdf	**PKPdf**	**17 02 15.4 +1.8**
MORF	**Marmelete**	**168.65 49**	*e*PKPdf	**PKPdf**	**17 02 15.9 +2.0**
PCVE	**Castro Verde**	**168.85 46**	*e*PKPdf	**PKPdf**	**17 02 15.7 +1.7**
PBDV	**Barranco-do-Ve**	**169.16 48**	*e*PKPdf	**PKPdf**	**17 02 16.3 +2.1**
PAB	**San Pablo**	**169.37 28**	⇑PKIKP	**PKPdf**	**17 02 14.0 -0.4**
ESDC	**Sonseca Array**	**169.41 26**	PKP	**PKPdf**	**17 02 14.9 +0.6**
	comp=Z,1.6nm,0.9s,baz=358,slow=1.8,SNR=7.8				
ESDC			PKPab	**PKPab**	**17 03 27.2 0.0**
	comp=Z,0.8nm,1.0s,baz=344,slow=4.3,SNR=4.4				

*IDC **14** 16:43:23.8±2.3, 3°.59S×127°.42E, h0km, **mb3.1**/2, **mbtmp3.1**/3, **ML2.6**/1, Error ellipse: s-maj=209.2km s-min=29.0km az=66.0, Seram*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.60**	**158**	P	P	16 47 32.0	+0.2
	baz=340,slow=13,SNR=1.6						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**20.92**	**163**	P	P	16 48 07.6	-0.6
	0.2nm,0.7s,baz=343,slow=9.6,SNR=6.6						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**63.98**	**327**	P	P	16 53 59.1	0.0
	0.2nm,0.5s,baz=134,slow=7.6,SNR=4.2						
	0.2nm,0.5s						

*IDC **14** 16:49:41.2±1.9, 54°.24N×35°.85W, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=52.5km s-min=28.2km az=46.0*

ISC 14 16:49:42.4±1.7, 54°.3N±0°.3×35°.9W±0°.3, h10km, n8, σ0s88/8, mb3.8/6, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.93**	**111**	P	**P**	**16 55 13.9**	**-0.8**
	0.5nm,0.9s,baz=317,slow=9.4,SNR=1.3						
	0.5nm,0.9s						
BRTR	**Keskin Array B**	**47.64**	**78**	P	**P**	**16 58 18.0**	**-0.7**
	0.2nm,0.3s,baz=324,slow=7.1,SNR=2.0						
	0.2nm,0.3s						
ARTI	**Arti**	**49.56**	**47**	P	**P**	**16 58 33.5**	**+0.4**
	1.8nm,0.6s,baz=304,slow=11,SNR=3.5						
	1.8nm,0.6s						
ILAR	**Eielson Array**	**50.11**	**329**	P	**P**	**16 58 36.5**	**-0.6**
	0.4nm,0.7s,baz=65,slow=6.9,SNR=4.2						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**50.50**	**130**	P	**P**	**16 58 41.1**	**+0.5**
	0.7nm,0.8s,baz=357,slow=7.4,SNR=3.6						
	0.7nm,0.8s						
KURBB	**Kurchatov Array**	**61.99**	**41**	P	**P**	**17 00 01.9**	**-0.3**
	1.5nm,0.2s,baz=332,slow=7.8,SNR=1.6						
	1.5nm,0.2s						
MKAR	**Makanchi Array**	**66.55**	**41**	P	**P**	**17 00 33.6**	**+1.3**
	0.7nm,0.7s,baz=324,slow=6.0,SNR=6.0						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**148.51**	**18**	PKPbc	**PKPbc**	**17 09 29.6**	**+0.4**
	1.0nm,0.7s,baz=348,slow=2.4,SNR=18						

*NOU **14** 17:08:39.2, 38°.72S×176°.19E, h99km, MLv2.8/8, North Island, New Zealand*
*WEL **14** 17:08:40.7±1.2, 39°.5S±7°×17°.6E±°, h85km±10km, M2.1/7, ML2.4/8, MLv2.1/7, Error ellipse: s-maj=8.8km s-min=8.0km az=179.0, confirmed*

ISC 14 17:08:38.3±2.2, 38°.68S±0°.05×176°.12E±0°.06, h115km±13km, n18, σ0s77/27, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRHZ	**Matea Rd**	**0.28**	**123**	P	**Pn**	**17 08 54.7**	**+0.1**
MRHZ				S	**Sn**	**17 09 05.7**	**-1.3**
TMVZ	**Te Maari**	**0.54**	**217**	P	**Pn**	**17 08 56.8**	**+0.7**
TMVZ				S	**Sn**	**17 09 09.2**	**-0.4**
MUGZ	**Murupara**	**0.55**	**68**	P	**Pn**	**17 08 56.1**	**+0.1**
MUGZ				S	**Sn**	**17 09 08.1**	**-1.2**
BKZ	**Black Stump Fm**	**0.56**	**149**	P	**Pn**	**17 08 56.1**	**-0.1**
BKZ	**Black Stump Fm**	**0.56**	**149**	S	**Sn**	**17 09 09.0**	**-0.7**
BKZ	**Black Stump Fm**	**0.56**	**149**	P	**Pn**	**17 08 56.6**	**+0.5**
BKZ				S	**Sn**	**17 09 09.0**	**-0.7**
TLZ	**Tolley Road**	**0.58**	**307**	P	**Pn**	**17 08 56.6**	**+0.4**
TLZ				S	**Sn**	**17 09 09.5**	**-0.3**
NMHZ	**Naumai**	**0.68**	**128**	P	**Pn**	**17 08 58.7**	**+1.7**
NMHZ				S	**Sn**	**17 09 12.6**	**+1.5**
TUVZ	**Tukino**	**0.69**	**212**	P	**Pn**	**17 08 57.4**	**+0.2**
TUVZ				S	**Sn**	**17 09 11.4**	**-0.1**
WHVZ	**Whangaehu Hut**	**0.73**	**215**	P	**Pn**	**17 08 58.2**	**+0.6**
WHVZ				S	**Sn**	**17 09 11.6**	**-0.7**
KWHZ	**Kaweka Forest**	**0.78**	**163**	P	**Pn**	**17 08 58.6**	**+0.8**
KWHZ				S	**Sn**	**17 09 13.0**	**+0.4**
URZ	**Urewera**	**0.88**	**62**	P	**Pn**	**17 08 58.6**	**-0.1**
URZ	**Urewera**	**0.88**	**62**	S	**Sn**	**17 09 13.7**	**-0.4**
TGRZ	**Tauranga**	**0.96**	**7**	P	**Pn**	**17 09 00.0**	**+0.6**
HIZ	**Hauiti**	**1.01**	**279**	P	**Pn**	**17 09 00.4**	**+0.5**
KUZ	**Kuaotunu**	**1.96**	**351**	P	**Pn**	**17 09 11.4**	**+0.4**
BFZ	**Birch Farm**	**2.00**	**177**	P	**Pn**	**17 09 11.1**	**-0.4**
BFZ	**Birch Farm**	**2.00**	**177**	S	**Sn**	**17 09 35.9**	**-0.9**

*SJA **14** 17:40:31.3±0.7, 25°.13S×70°.95W, h29km±3km, ML4.4, MW4.2*
*NEIC **14** 17:40:34.1±1.4, 25°.11S±0°.04×70°.79W±0°.08, h45km±10km, mb4.3/3, ML4.2(GUC), Error ellipse: s-maj=12.1km s-min=1.7km az=117.0*
*GUC **14** 17:40:35.0±0.6, 25°.16S×70°.70W, h27km±2km, ML4.2*
*IDC **14** 17:40:38.6±2.6, 25°.16S×70°.49W, h55km±21km, mb3.8/8, mbtmp4.0/13, ML3.7/5, Error ellipse: s-maj=28.4km s-min=13.1km az=95.0*

ISC 14 17:40:33.1±1.2, 25°.18S±0°.02×70°.83W±0°.05, h22km±9km, n100, σ1s90/117, mb4.4/9, 5C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.67**	**35**		**Pb**	**17 40 46.3**	**-0.1**
PB14					**Sb**	**17 40 55.0**	**-0.3**
PB14	**IPOC Station P**	**0.67**	**35**	⇓*i* P	**Pb**	**17 40 46.6**	**+0.2**
PB14				*i* S	**Sb**	**17 40 55.3**	**0.0**
PB14	**IPOC Station P**	**0.67**	**35**	*e*P	**Pb**	**17 40 46.0**	**-0.4**
AC01	**Pan de Azucar**	**0.99**	**168**		**Pb**	**17 40 52.4**	**+0.7**
AC01				Sn	**Sb**	**17 41 05.3**	**+1.0**
AC01	**Pan de Azucar**	**0.99**	**168**	⇓*i* P	**Pb**	**17 40 52.4**	**+0.7**
AC01				*i* S	**Sb**	**17 41 05.6**	**+1.3**
AC01				IAML		17 41 06.8	
	comp=N,7μm,0.5s						
AC01	**Pan de Azucar**	**0.99**	**168**	*e*P	**Pn**	**17 40 51.7**	**0.0**
AC01				*e*P		17 40 52.3	
GO02	**Mina Guanaco**	**1.12**	**90**		**Pn**	**17 40 53.4**	**-0.4**
GO02				Sn	**Sn**	**17 41 06.7**	**-2.0**
GO02	**Mina Guanaco**	**1.12**	**90**	*e*P	**Pn**	**17 40 53.3**	**-0.4**
GO02				*i* S	**Sn**	**17 41 06.9**	**-1.9**
GO02	**Mina Guanaco**	**1.12**	**90**	*e*P	**Pn**	**17 40 53.4**	**-0.4**
GO02				*e*S	**Sn**	**17 41 07.6**	**-1.2**
GO02				IAML		17 41 08.2	
	comp=Z,11μm,0.3s						
PB10	**IPOC Station P**	**1.67**	**9**		**Pn**	**17 41 00.9**	**-0.2**
PB10	**IPOC Station P**	**1.67**	**9**	*i* P	**Pn**	**17 41 00.9**	**-0.2**
PB10				*e*S	**Sb**	**17 41 24.5**	**+0.6**
PB10	**IPOC Station P**	**1.67**	**9**	*e*P	**Pn**	**17 41 00.5**	**-0.6**
PB10				*e*S	**Sb**	**17 41 26.4**	**+2.5**
AC02	**Maricunga**	**2.25**	**138**		**Pb**	**17 41 12.2**	**-1.3**
AC02	**Maricunga**	**2.25**	**138**	⇑*i* P	**Pb**	**17 41 12.2**	**-1.3**
AC02				IAML		17 41 43.1	
	comp=E,4μm,0.2s						
AC02	**Maricunga**	**2.25**	**138**	*e*S	**Sb**	**17 41 40.3**	**-0.8**
AC02				*e*S		17 41 40.4	
AC02				IAML		17 41 42.5	
	comp=Z,1μm,0.3s						
PB05	**IPOC Station P**	**2.38**	**14**		**Pn**	**17 41 10.4**	**-0.5**
PB05	**IPOC Station P**	**2.38**	**14**	⇑*i* P	**Pn**	**17 41 10.9**	**-0.1**
PB05				*i* S	**Sb**	**17 41 43.1**	**-1.4**
PB05	**IPOC Station P**	**2.38**	**14**	*e*P	**Pn**	**17 41 10.3**	**-0.7**
PB05				*e*S	**Sn**	**17 41 40.3**	**+0.8**
GO03	**Copiapo**	**2.47**	**168**		**Pn**	**17 41 13.2**	**+1.1**
GO03	**Copiapo**	**2.47**	**168**	*i* P	**Pn**	**17 41 13.4**	**+1.4**
GO03				IAML		17 41 52.8	
	comp=E,1μm,0.4s						
GO03	**Copiapo**	**2.47**	**168**	*e*P	**Pn**	**17 41 13.6**	**+1.5**
GO03				*e*S	**Sb**	**17 41 52.6**	**+5.7**
GO03				IAML		17 41 53.8	
	comp=Z,970nm,0.5s						
PB06	**IPOC Station P**	**2.71**	**25**		**Pn**	**17 41 15.2**	**-0.4**
PB06	**IPOC Station P**	**2.71**	**25**	*i* P	**Pn**	**17 41 16.0**	**+0.4**
PB06				*e*S	**Sn**	**17 41 52.0**	**+4.2**
PB06				IAML		17 42 05.5	
	comp=N,1μm,0.5s						
PB06	**IPOC Station P**	**2.71**	**25**	*e*P	**Pn**	**17 41 15.9**	**+0.4**
PB06				*e*S	**Sn**	**17 41 50.8**	**+3.0**
PB06				IAML		17 42 03.4	
	comp=Z,1μm,0.7s						
AC04	**Llanos de Chal**	**3.02**	**184**		**Pn**	**17 41 19.9**	**+0.2**
AC04	**Llanos de Chal**	**3.02**	**184**	*e*P	**Pn**	**17 41 19.3**	**-0.4**
AC04	**Llanos de Chal**	**3.02**	**184**	*e*P	**Pn**	**17 41 20.2**	**+0.5**
AC04				*e*S	**Sn**	**17 41 49.8**	**-5.4**
AC04				*e*S		17 41 58.8	
PB03	**IPOC Station P**	**3.27**	**18**		**Pn**	**17 41 22.8**	**-0.3**
AF01	**San Pedro de A**	**3.28**	**48**		**Pn**	**17 41 23.2**	**-0.3**
AF01	**San Pedro de A**	**3.28**	**48**	*e*P	**Pn**	**17 41 26.5**	**+3.0**
AF01	**San Pedro de A**	**3.28**	**48**	*e*P	**Pn**	**17 41 24.8**	**+1.3**
AF01				*e*S	**Sb**	**17 42 14.3**	**+3.8**
AF01				IAML		17 42 47.8	
	comp=Z,2μm,0.6s						
PB09	**IPOC Station P**	**3.67**	**24**		**Pn**	**17 41 29.7**	**+1.0**
PB09	**IPOC Station P**	**3.67**	**24**	⇑*i* P	**Pn**	**17 41 29.8**	**+1.0**
PB09	**IPOC Station P**	**3.67**	**24**	*e*P	**Pn**	**17 41 29.4**	**+0.7**
PB09				*e*S	**Sb**	**17 42 29.6**	**+8.1**
PB09				IAML		17 42 35.5	
	comp=Z,655nm,0.7s						
LCO	**Las Campanas**	**3.82**	**178**	Pn	**Pn**	**17 41 32.9**	**+2.0**
PB02	**IPOC Station P**	**3.93**	**13**		**Pn**	**17 41 31.6**	**-0.6**
PB02	**IPOC Station P**	**3.93**	**13**	*e*P	**Pn**	**17 41 32.0**	**-0.2**
PB02				*e*S	**Sb**	**17 42 27.3**	**-1.7**
PB02				IAML		17 42 43.6	
	comp=Z,494nm,0.4s						
PB01	**IPOC Station P**	**4.29**	**17**		**Pn**	**17 41 37.1**	**-0.2**
PB01	**IPOC Station P**	**4.29**	**17**	*e*P	**Pn**	**17 41 37.3**	**0.0**
PB01	**IPOC Station P**	**4.29**	**17**	*e*P	**Pn**	**17 41 37.4**	**+0.2**
PB01				*e*S	**Sb**	**17 42 36.3**	**-3.1**
PB01				IAML		17 42 58.3	
	comp=Z,239nm,0.4s						
PATCX	**Punta Patache**	**4.38**	**8**		**Pn**	**17 41 36.5**	**-1.9**
TA01	**Diego Aracena**	**4.63**	**8**		**Pn**	**17 41 39.9**	**-1.8**
TA01	**Diego Aracena**	**4.63**	**8**	*e*P	**Pn**	**17 41 40.3**	**-1.4**
TA01				*e*P		17 41 40.7	
TA01				*e*S	**Sb**	**17 42 49.8**	**+0.9**
CO05	**La Serena**	**4.74**	**184**		**Pn**	**17 41 44.6**	**+1.3**
AGUA	**GUANDACOL**	**4.77**	**155**	*e*P	**Pn**	**17 41 43.6**	**-0.2**
AGUA				*e*S	**Sb**	**17 42 50.3**	**-2.9**
AGUA				IAML		17 42 58.2	
	comp=Z,242nm,0.6s						
CO01	**Juntas del Tor**	**4.83**	**172**		**Pn**	**17 41 44.8**	**+0.1**
HMBC	**Humberstone**	**4.95**	**10**		**Pn**	**17 41 45.2**	**-1.1**
HMBC	**Humberstone**	**4.95**	**10**	*e*P	**Pn**	**17 41 46.5**	**+0.2**
HMBC				*e*S	**Sb**	**17 42 52.3**	**-6.1**
HMBC				IAML		17 43 23.4	
GO04	**Tololo Observa**	**4.98**	**180**		**Pn**	**17 41 47.1**	**+0.3**
PB08	**IPOC Station P**	**5.24**	**18**		**Pn**	**17 41 50.9**	**+0.4**
PB11	**IPOC Station P**	**5.50**	**12**		**Pn**	**17 41 51.9**	**-2.0**
CO06	**Fray Jorge**	**5.52**	**187**	Pn	**Pn**	**17 41 54.5**	**+0.5**
CO03	**El Pedregal**	**5.64**	**179**	Pn	**Pn**	**17 41 56.2**	**+0.5**
GO01	**Chusmiza**	**5.69**	**16**		**Pn**	**17 41 54.4**	**-2.3**
CO02	**Combarbal**	**6.01**	**181**		**Pn**	**17 42 01.4**	**+0.6**
CFA	**Coronel Fontan**	**6.80**	**161**	P	**Pn**	**17 42 15.7**	**+4.0**
	comp=Z,2.7nm,0.3s,baz=343,slow=13,SNR=9.6						
CFA				S	**Sn**	**17 43 31.5**	**+3.1**
	comp=Z,50nm,0.8s,baz=351,slow=19,SNR=13						
	comp=Z,4.5nm,0.3s						
PB16	**IPOC Station P**	**6.92**	**10**		**Pn**	**17 42 11.7**	**-2.0**
VA06	**Catapilco**	**7.37**	**183**	Pn	**Pn**	**17 42 19.6**	**+0.2**
VA03	**San Esteban**	**7.56**	**178**		**Pn**	**17 42 21.4**	**-0.7**
PB18	**Visviri**	**7.65**	**10**		**Pn**	17 42 19.4	-4.4
MT02	**Curacav**	**8.06**	**182**	Pn	**Pn**	**17 42 28.7**	**-0.2**
MT16	**CCHEN**	**8.23**	**178**		**Pn**	**17 42 31.5**	**+0.3**
MT08	**Bocatoma Ro**	**8.27**	**175**	Pn	**Pn**	**17 42 30.2**	**-1.8**
MT13	**San Alfonso**	**8.55**	**177**	Pn	**Pn**	**17 42 34.9**	**-0.8**
MT09	**Talagante**	**8.57**	**181**	Pn	**Pn**	**17 42 35.2**	**-0.8**
LMEL	**Las Melosas**	**8.66**	**177**	Pn	**Pn**	**17 42 36.9**	**-0.3**
MT01	**Popeta**	**8.67**	**182**		**Pn**	**17 42 36.3**	**-0.9**
BO04	**La Punta**	**8.79**	**179**	Pn	**Pn**	**17 42 39.4**	**+0.5**
BO01	**Tunca**	**9.19**	**181**	Pn	**Pn**	**17 42 44.0**	**-0.3**
LPAZ	**La Paz**	**9.20**	**16**		**Pn**	**17 42 43.5**	**-1.5**
LPAZ	**La Paz**	**9.20**	**16**	P	**Pn**	**17 42 46.5**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=191,slow=6.9,SNR=7.3						
	comp=Z,1.1nm,0.4s						
H03N1	**Juan Fernandez**	**10.84**	**219**	T	T	17 54 23.4	
	baz=45,slow=72,SNR=472						
H03N2	**Juan Fernandez**	**10.85**	**219**	T	T	17 54 21.9	
	baz=45,slow=72,SNR=376						
H03N3	**Juan Fernandez**	**10.86**	**219**	T	T	17 54 19.5	
	baz=45,slow=72,SNR=425						
CPUP	**Villa Florida**	**12.22**	**98**	P	**Pn**	**17 43 27.6**	**+1.6**
	baz=337,slow=9.6,SNR=3.1						
	comp=Z,0.2nm,0.5s						
SIV	**San Ignacio**	**12.92**	**47**	P	**Pn**	**17 43 36.4**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=244,slow=9.3,SNR=19						
SIV				S	**Sn**	**17 45 57.2**	**-1.4**
	comp=Z,6.7nm,0.9s,baz=130,slow=21,SNR=10						
	comp=Z,6.6nm,0.5s						
PTLB	**Pontes e Lacer**	**14.62**	**51**		**Pn**	**17 43 57.1**	**-1.5**
TRQA	**Tornquist**	**14.88**	**152**		**Pn**	**17 43 58.9**	**-3.3**
PLCA	**Paso Flores**	**15.52**	**179**	P	**P**	**17 44 13.3**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=27,slow=14,SNR=3.6						
	comp=Z,0.6nm,0.6s						
BDFB	**Brasilia**	**23.36**	**70**	P	**P**	**17 45 37.8**	**-2.5**
	comp=Z,2.1nm,0.4s,baz=250,slow=14,SNR=3.3						
	comp=Z,2.1nm,0.4s						
BELA	**Belgrano 2**	**55.38**	**171**	P	**P**	**17 50 03.2**	**-1.9**
BELA				IAmb	IAmb	17 50 16.0	
	comp=Z,6.5nm,1.5s						
SNAA	**Sanae**	**59.42**	**160**	⇑P	**P**	**17 50 33.3**	**-0.3**
	comp=Z,34nm,0.5s						
SNAA	**Sanae**	**59.42**	**160**	P	**P**	**17 50 32.2**	**-1.4**
SNAA				IAmb	IAmb	17 50 35.3	
	comp=Z,2.9nm,1.1s						
SNAA	**Sanae**	**59.42**	**160**	P	**P**	**17 50 32.6**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=283,slow=6.0,SNR=20						
	comp=Z,1.4nm,0.6s						
TROLL	**Troll, Antarti**	**61.14**	**160**	⇑P	**P**	**17 50 45.6**	**+0.1**
	comp=Z,66nm,0.5s						
TXAR	**Lajitas Array**	**62.70**	**328**	P	**P**	**17 50 58.4**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=175,slow=5.1,SNR=2.1						
	comp=Z,0.2nm,0.6s						
QSPA	**South Pole Qui**	**65.03**	**180**	P	**P**	**17 51 14.3**	**+2.9**
	comp=Z,1.5nm,0.5s,baz=178,slow=0.5,SNR=19				

BCAM				S		Sg	18 09 03.9	-3.4
GOKD	**Ankara-Kalecik**	**0.76**	**153**	P		Pg	18 08 58.5	+0.1
GOKD				S		Sg	18 09 08.2	0.0
TOS	**Tosya**	**0.81**	**69**	Pg		Pg	18 08 59.3	+0.1
TOS				Sg		Sb	18 09 12.3	+0.4
KMON	**Kastamonu**	**0.84**	**43**	Pg		Pg	18 09 00.7	+0.7
KMON				Sg		Sb	18 09 13.0	0.0
DEVR	**Zonguldak/Devr**	**0.89**	**296**	P		Pg	18 08 59.8	-1.0
DEVR				S		Sg	18 09 10.5	-1.8
ANTO	**Ankara**	**0.90**	**191**	Pg		Pg	18 09 01.2	+0.2
ANTO	**Ankara**	**0.90**	**191**	Pg		Pg	18 09 01.0	0.0
KIBS	**BOLU**	**0.95**	**250**	P		Pg	18 09 01.1	-0.9
DELI	**KIRIKKALE**	**1.02**	**138**	P		Pg	18 09 03.0	-0.3
DELI				S		Sg	18 09 14.2	-2.2
BOLU	**Bolu-Merkez-Mu**	**1.02**	**272**	P		Pg	18 09 02.3	-1.1
BOLU				S		Sg	18 09 18.0	+1.3
SEYI	**Kastamonu-Seyd**	**1.03**	**31**	P		Pg	18 09 03.6	0.0
SEYI				S		Sg	18 09 15.1	-1.9
BTIN	**Bartın**	**1.06**	**327**	P		Pg	18 09 03.4	-0.6
BTIN				S		Sg	18 09 18.0	+0.3
YUVA	**Yuva-Kibriscik**	**1.08**	**251**	Pg		Pg	18 09 03.4	-1.1
YUVA				Sg		Sg	18 09 19.1	+0.6
SUNG	**orum-Sungurl**	**1.09**	**121**	P		Pb	18 09 05.0	-0.3
SUNG				S		Sb	18 09 19.5	-0.5
KURC	**Kurucasile-Bar**	**1.11**	**349**	Pn		Pb	18 09 04.8	-0.9
BR106	**Keskin Array S**	**1.11**	**156**	Pg		Pg	18 09 04.5	-0.6
BR105	**Keskin Array S**	**1.13**	**156**	Pg		Pg	18 09 04.7	-0.7
BR131	**Keskin Array S**	**1.13**	**155**	*d*	*iP*	Pg	18 09 04.8	-0.6
CIDE	**Kastamonu/Cide**	**1.13**	**357**	P		Pb	18 09 05.5	-0.4
CIDE				S		Sb	18 09 20.4	-0.6
CIDE	**Kastamonu/Cide**	**1.13**	**357**	⇓P		Pb	18 09 05.5	-0.4
BRTR	**Keskin Array B**	**1.13**	**155**	Pg		Pg	18 09 05.5	0.0
	255nm,0.3s,baz=334,slow=13,SNR=1038							
BRTR				Lg		Lg	18 09 22.4	
	152nm,0.3s,baz=144,slow=9.3,SNR=7.9							
BRTR				LR		LR	18 09 51.1	
	comp=Z,883nm,21.0s,baz=306,slow=59							
BRTR	**Keskin Array B**	**1.13**	**155**	*eP*		**Pg**	**18 09 04.9**	**-0.5**
BRTR				pmax		pmax		
	comp=Z,255nm,0.3s							
BR104	**Keskin Array S**	**1.15**	**156**	Pg		Pb	18 09 04.9	-1.4
KAGI	**orum-Kargı**	**1.17**	**70**	P		Pb	18 09 05.7	-0.9
KESK	**Krkkale-Ke**	**1.20**	**159**	P		Pb	18 09 05.9	-1.2
KESK				S		Sb	18 09 21.1	-1.9
BBAL	**Bala**	**1.21**	**176**	P		Pb	18 09 06.6	-0.8
POLA	**Polatl-ANKAR**	**1.24**	**212**	Pn		Pn	18 09 07.6	-0.5
POLA				Sn		Sn	18 09 25.2	-0.2
AFSR	**Afar-Bala (An**	**1.31**	**178**	Pn		Pn	18 09 08.6	-0.4
AFSR				Sn		Sn	18 09 27.9	+0.9
AYAZ	**Ayas K¶y, M**	**1.39**	**92**	P		Pb	18 09 10.2	-0.4
BZK	**Bozkurt**	**1.41**	**31**	Pn		Pb	18 09 10.5	-0.3
BZK	**Bozkurt**	**1.41**	**31**	⇑P		Pn	18 09 10.4	0.0
MDUB	**Mudurnu**	**1.42**	**259**	Pn		Pn	18 09 09.7	-0.9
AKPI	**Kirsehir/Akpin**	**1.45**	**149**	P		Pn	18 09 10.7	-0.3
AKPI				S		Sn	18 09 28.3	-2.4
BOYA	**Sinop/Boyabat-**	**1.47**	**58**	P		Pn	18 09 10.7	-0.5
BOYA				S		Sn	18 09 28.8	-2.2
KAMT	**Kaman**	**1.48**	**159**	Pn		Pn	18 09 11.2	-0.2
CDAG	**Cicekdag**	**1.53**	**137**	P		Pn	18 09 12.0	-0.1
BTAS	**Taskesti**	**1.55**	**264**	P		Pn	18 09 11.7	-0.6
COAL	**Corum-Alaca**	**1.58**	**108**	P		Pb	18 09 13.2	-0.5
COAL				S		Sn	18 09 31.0	-2.7
KKUL	**Konya-Kulu**	**1.58**	**183**	P		Pb	18 09 12.9	-0.8
SAHE	**Sakarya_HENDEK**	**1.65**	**274**	P		Pn	18 09 12.8	-1.0
YOZG	**Bozok Univ. Me**	**1.67**	**125**	P		Pb	18 09 14.6	-0.6
SUSU	**Bolu-G¶ynk-**	**1.71**	**257**	P		Pn	18 09 14.1	-0.5
KIRS	**Kirsehir-Merke**	**1.76**	**157**	P		Pn	18 09 15.0	-0.2
KIRS	**Kirsehir-Merke**	**1.76**	**157**	⇓P		Pn	18 09 15.0	-0.2
GULT	**Gulveren**	**1.94**	**261**	Pn		Pn	18 09 17.3	-0.4
MCUR	**KIREHR**	**1.96**	**144**	P		Pn	18 09 17.7	-0.4
CKRK	**Yozgat, Cekere**	**2.01**	**109**	P		Pb	18 09 20.2	-0.7
CTIK	**Konya-Celtik**	**2.02**	**212**	P		Pn	18 09 18.5	-0.4
KAYN	**Sakarya, Kayna**	**2.05**	**277**	P		Pn	18 09 18.6	-0.5
CIFT	**Cifteler, Eski**	**2.05**	**228**	Pn		Pn	18 09 19.2	-0.1
SAUV	**Serdivan-Sakar**	**2.05**	**271**	Pn		Pn	18 09 18.8	-0.4
CBEY	**Konya-Cihanbey**	**2.07**	**185**	P		Pn	18 09 19.2	-0.3
SINO	**SINOP_Merkez**	**2.07**	**52**	P		Pn	18 09 19.4	-0.1
SNOP	**Sinop**	**2.07**	**52**	Pn		Pn	18 09 20.1	+0.6
SGAZ	**Eskisehir, Sey**	**2.08**	**235**	P		Pn	18 09 18.6	-0.9
YOZ	**Yozgat**	**2.08**	**122**	Pn		Pb	18 09 20.7	-1.5
KOZK	**Kozakli-Nevseh**	**2.09**	**137**	Pn		Pb	18 09 21.1	-1.3
GEYV	**SAKARYA_Geyve**	**2.10**	**264**	P		Pn	18 09 19.2	-0.6
GPA	**Golpazari**	**2.12**	**258**	Pn		Pn	18 09 19.9	-0.3
YARM	**Yarimca-Ladik(**	**2.13**	**85**	Pn		Pb	18 09 21.4	-1.7
SIRC	**Yozgat**	**2.16**	**130**	P		Pn	18 09 20.6	-0.2
KAND	**Kocaeli-Kandir**	**2.17**	**280**	P		Pn	18 09 20.5	-0.4
AKSY	**AKSARAY - Alti**	**2.18**	**165**	P		Pn	18 09 19.4	-1.6
KIZO	**Buyukkizoglu-L**	**2.21**	**85**	Pn		Pn	18 09 22.2	+0.7
HACI	**Hacifakili, Ak**	**2.32**	**116**	P		Pn	18 09 23.8	+0.8
KDHN	**Kadinhani**	**2.34**	**198**	P		Pn	18 09 21.0	-2.2
HISA	**Bilecik-Osmane**	**2.38**	**264**	P		Pn	18 09 22.0	-1.8
BYAT	**Afyon-Bayat**	**2.39**	**222**	P		Pn	18 09 23.1	-0.9
AVNS	**Nevsehir-Avano**	**2.40**	**144**	P		Pn	18 09 24.7	+0.7
UCKU	**Afyonkarahisar**	**2.45**	**211**	P		Pn	18 09 23.7	-1.0
AOVT	**Abdulvahap**	**2.52**	**264**	Pn		Pn	18 09 23.3	-0.4
HRT	**Hereke**	**2.55**	**273**	Pn		Pn	18 09 25.6	-0.5
KURO	**Afyon-Bolvadin**	**2.58**	**219**	P		Pn	18 09 25.9	-0.7
SILT	**Sile**	**2.59**	**280**	Pn		Pn	18 09 26.3	-0.3
SILT	**Sile**	**2.59**	**280**	⇓P		Pn	18 09 30.8	-0.1
LADK	**Ladik-KONYA**	**2.60**	**192**	Pn		Pn	18 09 27.8	+0.9
TOKT	**Tokat**	**2.72**	**98**	Pn		Pn	18 09 30.1	+1.7
YLV	**Yalova**	**2.79**	**267**	Pn		Pn	18 09 29.1	-0.2
YVAC	**Isparta, Yalva**	**2.84**	**210**	P		Pn	18 09 28.4	-1.7
BNN	**Bunyan**	**2.88**	**130**	Pn		Pn	18 09 32.6	+1.8
NIG	**Nigde**	**2.91**	**155**	Pn		Pn	18 09 32.7	+1.4
KAVV	**Kandilli-Istan**	**3.02**	**277**	Pn		Pn	18 09 32.4	-0.1
ISK	**Istanbul-Kandi**	**3.02**	**277**	Pn		Pn	18 09 32.7	+0.2
TVSB	**Tavsanli**	**3.03**	**246**	Pn		Pn	18 09 33.1	+0.4
KLYT	**Kilyos**	**3.06**	**281**	Pn		Pn	18 09 32.9	-0.1
KLYT	**Kilyos**	**3.06**	**281**	⇑P		Pg	18 09 44.4	+2.1
SVSK	**Karacayir**	**3.15**	**104**	Pn		Pn	18 09 35.7	+1.4
ARMT	**Armutlu**	**3.17**	**268**	Pn		Pn	18 09 34.0	-0.6
MDNY	**Mudanya-Bursa**	**3.18**	**264**	Pn		Pn	18 09 34.7	0.0
BGKT	**Bogazkoy**	**3.25**	**279**	Pn		Pn	18 09 35.2	-0.4
CTKS	**Kestanelik-??a**	**3.45**	**280**	Pn		Pn	18 09 38.8	+0.3
ISP	**Isparta**	**3.51**	**214**	*c*	*iP*	Pn	18 09 39.2	-0.2
CTYL	**Yalikoy Yolu**	**3.65**	**283**	Pn		Pn	18 09 41.4	+0.2
CTYL	**Yalikoy Yolu**	**3.65**	**283**	⇑P		Pb	18 09 48.3	-0.7
SEV	**Sevastopol'**	**3.82**	**7**	*eP*		Pn	18 09 44.2	+0.7
SEV				*eS*		Sn	18 10 27.9	-1.0
SEV	**Sevastopol'**	**3.82**	**7**	*eP*		Pn	18 09 44.2	+0.7
SEV				Sm			18 09 36.6	
	comp=N,13nm,0.4s							
SEV				Sm			18 09 36.6	
	comp=E,35nm,0.5s							
SEV				Pm			18 09 48.9	
	comp=Z,11nm,0.3s							
SEV				*eS*		Sn	18 10 27.9	-1.0
YAL	**Yalta**	**3.82**	**12**	*eP*		Pn	18 09 44.4	+0.9
YAL				*eS*		Sn	18 10 28.3	-0.7
YAL	**Yalta**	**3.82**	**12**	*eP*		Pn	18 09 44.4	+0.9
YAL				Sm			18 09 34.4	
	comp=N,2.0nm,0.1s							
YAL				Sm			18 09 34.4	
	comp=E,59nm,0.5s							
YAL				Pm			18 09 52.1	
	comp=Z,35nm,0.4s							
YAL				*eS*		Sn	18 10 28.3	-0.7
ALU	**Alushta**	**4.05**	**14**	*eP*		Pn	18 09 46.6	-0.1
ALU				*eS*		Sn	18 10 33.0	-1.7
ALU	**Alushta**	**4.05**	**14**	*eP*		Pn	18 09 46.6	-0.1
ALU				Pm			18 09 53.0	
	comp=Z,28nm,0.5s							
ALU				*eS*		Sn	18 10 33.0	-1.7
ALU				Sm			18 10 39.6	
	comp=N,4.0nm,0.2s							
ALU				Sm			18 10 39.6	
	comp=E,22nm,0.5s							
SIM	**Simferopol'**	**4.27**	**10**	*eP*		Pn	18 09 50.9	+1.2
SIM				*eS*		Sn	18 10 40.6	+0.6
SIM				pmax		pmax		
	comp=Z,74nm,1.0s							
SIM				smax		smax		
	comp=E,70nm,1.0s							
SIM				smax		smax		
	comp=N,137nm,0.9s							
SIM	**Simferopol'**	**4.27**	**10**	*eP*		Pn	18 09 52.0	+2.3
SIM				Pm			18 09 58.1	
	comp=Z,52nm,0.5s							
SUDU	**Sudak**	**4.38**	**19**	*eP*		Pn	18 09 51.0	-0.2
SUDU				*eS*		Sn	18 10 42.1	-0.7
SUDU	**Sudak**	**4.38**	**19**	*eP*		Pn	18 09 51.0	-0.2
SUDU				Pm			18 09 56.8	
	comp=Z,52nm,0.4s							
SUDU				*eS*		Sn	18 10 42.1	-0.7
SUDU				Sm			18 10 49.0	
	comp=N,179nm,0.7s							
SUDU				Sm			18 10 49.0	
	comp=E,99nm,0.8s							
SUDU	**Sudak**	**4.38**	**19**	*eP*		Pn	18 09 54.4	+3.2
SUDU				Sm			18 09 49.0	
	comp=E,4.0nm,0.2s							
SUDU				Sm			18 09 52.5	
	comp=N,28nm,0.3s							
SUDU				Pm			18 10 03.0	
	comp=Z,39nm,0.4s							
SUDU				*eS*		Sn	18 10 45.8	+3.0
MANR	**Mangalia**	**4.50**	**314**	⇑P		Pb	18 09 58.5	-4.8
FEO	**Feodosiya**	**4.60**	**21**	*eP*		Pn	18 09 54.4	+0.2
FEO				*eS*		Sn	18 10 45.8	-2.4
FEO	**Feodosiya**	**4.60**	**21**	*eP*		Pn	18 09 54.4	+0.2
FEO				Pm			18 10 03.0	
	comp=Z,39nm,0.4s							
FEO				*eS*		Sn	18 10 45.8	-2.4
FEO				Sm			18 10 52.5	
	comp=N,28nm,0.3s							
FEO				Sm			18 10 52.5	
	comp=E,4.0nm,0.2s							
DNZ2	**Donuzlav2**	**4.62**	**2**	*eP*		Pn	18 09 55.7	+1.2
DNZ2				Sm			18 09 51.2	
	comp=N,33nm,0.4s							
DNZ2				Sm			18 09 51.2	
	comp=E,138nm,0.8s							
DNZ2				Pm			18 10 00.5	
	comp=Z,148nm,0.6s							
DNZ2				*eS*		Sn	18 10 48.1	-0.5
TARU	**Tarkhankut**	**4.63**	**356**	*eS*		Sn	18 10 48.8	-0.2
TARU				Sm			18 10 54.6	
	comp=N,68nm,0.6s							
TARU				Sm			18 10 54.7	
	comp=E,16nm,0.5s							
MFTR	**Murfatlar**	**4.83**	**317**	⇓P		Pn	18 09 59.7	+2.4
TIRR	**Tirgusor**	**5.03**	**319**	⇓P		Pn	18 10 02.8	+2.7
TIRR	**Tirgusor**	**5.03**	**319**	⇓P		Pn	18 10 02.8	+2.7
TIRR	**Tirgusor**	**5.03**	**319**	Pn		Pn	18 10 02.5	+2.4
	comp=E,0.1nmcomp=E,31nm,0.6s							
ICOR	**Ion Corvin**	**5.12**	**313**	⇑P		Pb	18 10 08.1	-5.9
ANN	**Anapa**	**5.18**	**37**	*eP*		Pn	18 10 02.7	+0.5
KERU	**Kerch**	**5.20**	**28**	*eP*		Pn	18 10 05.0	+2.5
KERU	**Kerch**	**5.20**	**28**	*eP*		Pn	18 10 05.0	+2.5
KERU				Pm			18 10 08.0	
	comp=Z,44nm,0.5s							
EZN	**Ezine**	**5.21**	**262**	⇓P		Pn	18 10 02.8	+0.3
EZN	**Ezine**	**5.21**	**262**	⇓P		Pn	18 10 02.8	+0.3
TPGR	**Topolog**	**5.32**	**322**	⇑P		Pn	18 10 06.2	+2.1
TLCR		**5.40**	**327**	⇑P		Pn	18 10 07.7	+2.5
TLCR		**5.40**	**327**	⇑P		Pn	18 10 07.7	+2.5
HARR	**Harsova**	**5.44**	**318**	⇑P		Pn	18 10 08.2	+2.5
HARR	**Harsova**	**5.44**	**318**	⇑P		Pn	18 10 08.2	+2.5
CFR	**Carcaliu**	**5.69**	**323**	⇓P		Pn	18 10 11.5	+2.3
CFR	**Carcaliu**	**5.69**	**323**	⇓P		Pn	18 10 11.5	+2.3
SOC	**Sochi**	**5.72**	**58**	*eP*		Pn	18 10 07.7	-1.9
SOC				*e*			18 11 13.4	
SOC				MLR		MLR		
	comp=Z,79nm,14.0s							
ELND	**Elena**	**5.77**	**294**	⇑P		Pn	18 10 12.0	+1.8
ISR	**Istrita**	**6.45**	**315**	⇑P		Pn	18 10 24.6	+4.9
ISR	**Istrita**	**6.45**	**315**	⇑P		Pn	18 10 24.6	+4.9
ISR	**Istrita**	**6.45**	**315**	Pn		Pn	18 10 23.4	+3.7
	comp=Z,0.3nmcomp=Z,54nm,0.9s							
ODBI	**Odbesti**	**6.64**	**321**	Pn		Pn	18 10 26.2	+4.0
	comp=Z,0.1nmcomp=Z,21nm,0.6s							
GHRR		**6.70**	**324**	Pn		Pn	18 10 26.1	+3.1
PLVB	**Pleven**	**6.79**	**296**	⇑P		Pn	18 10 30.6	+6.4
VRI	**Vrincioaia**	**6.87**	**320**	⇑P		Pn	18 10 30.1	+4.7
VRI	**Vrincioaia**	**6.87**	**320**	⇑P		Pn	18 10 30.1	+4.7
MILM	**Milestii Mici**	**6.87**	**335**	⇓P		Pn	18 10 24.0	-1.4
MILM	**Milestii Mici**	**6.87**	**335**	⇓P		Pn	18 10 24.0	-1.4
PLOR5	**Plostina Array**	**6.89**	**320**	Pn		Pn	18 10 29.1	+3.4
	comp=Z,0.1nmcomp=Z,25nm,1.2s							
PLOR	**Plostina**	**6.90**	**320**	⇑P		Pb	18 10 36.0	-8.2
PLOR	**Plostina**	**6.90**	**320**	⇑P		Pb	18 10 36.0	-8.3
MLR	**Muntele Rosu**	**7.02**	**315**	Pn		Pn	18 10 28.5	+1.0
	comp=Z,0.8nm,0.3s,baz=118,slow=15,SNR=8.5							
MLR				Sn		Sn	18 11 48.1	+0.2
	comp=Z,1.4nm,0.3s,baz=324,slow=17,SNR=3.9							
	comp=Z,1.0nm,0.3s							
MLR	**Muntele Rosu**	**7.02**	**315**	⇑P		Pn	18 10 31.9	+4.4
MLR	**Muntele Rosu**	**7.02**	**315**	⇑P		Pn	18 10 31.9	+4.4
MLR	**Muntele Rosu**	**7.02**	**315**	Pn		Pn	18 10 31.1	+3.6
	comp=Z,0.1nmcomp=Z,20nm,1.6s							
COVR	**Voineasa-Covas**	**7.12**	**318**	⇓P		Pn	18 10 30.1	+1.3
TURR	**Turia**	**7.36**	**318**	⇑P		Pn	18 10 36.1	+4.0
ONRR	**Baraj Valea Uz**	**7.37**	**321**	⇑P		Pn	18 10 34.3	+2.1
TESR	**Tescani**	**7.38**	**323**	⇓P		Pn	18 10 37.7	+5.3
TESR	**Tescani**	**7.38**	**323**	Pn		Pn	18 10 34.9	+2.5
	comp=Z,0.2nmcomp=Z,19nm,0.6s							
OZUR		**7.50**	**318**	⇓P		Pn	18 10 37.2	+3.1
DOPR	**Dopca**	**7.62**	**316**	⇓P		Pn	18 10 39.9	+4.2
ARR	**Arges**	**7.68**	**310**	⇑P		Pn	18 10 39.3	+2.8
SHA1	**Shidzhatmaz**	**7.74**	**64**	*jL*	*eP*	Pn	18 10 37.9	+0.3
KIV	**Kislovodsk**	**7.84**	**63**	*eP*		Pn	18 10 38.3	-0.5
KIV				pmax		pmax		
	comp=Z,3.0nm,1.0s							
KVAR	**Kislovodsk Arr**	**7.84**	**63**	Pn		Pn	18 10 40.3	+1.5
	baz=262,slow=18							
	comp=Z,1.0nm,0.4s							
KBZ	**Khabaz**	**7.90**	**65**	Pn		Pn	18 10 40.0	+0.5
	comp=Z,0.2nm,0.3s,baz=301,slow=11,SNR=4.3							
KBZ				LR		LR	18 14 48.3	
	comp=Z,188nm,20.5s,baz=300,slow=46							
	comp=Z,0.3nm,0.3s							
KBZ	**Khabaz**	**7.90**	**65**	⇓*eP*		Pn	18 10 44.3	+4.7
KBZ				pmax		pmax		
	comp=Z,6.0nm,1.2s							
MMAI	**Mount Meron Ar**	**7.95**	**165**	Pn		Pn	18 10 41.6	+1.2
	comp=Z,0.6nm,0.3s,baz=339,slow=12,SNR=3.5							
	comp=Z,1.2nm,0.5s							
SORM	**Soroca**	**8.10**	**337**	⇓P		Pn	18 10 40.9	-1.3
SORM	**Soroca**	**8.10**	**337**	⇓P		Pn	18 10 40.9	-1.3
LOT	**Lotru**	**8.24**	**308**	⇓P		Pn	18 10 46.2	+1.9
IDI	**Anoyia**	**8.42**	**232**	Pn		Pn	18 10 47.1	+0.3
	comp=Z,14nm,1.0s,baz=45,slow=17,SNR=1.7							
GZR	**Gura Zlata**	**8.82**	**305**	⇓P		Pn	18 10 53.0	+0.8
GZR	**Gura Zlata**	**8.82**	**305**	⇓P		Pn	18 10 53.0	+0.8
BURAR	**Bucovina Array**	**8.86**	**323**	⇓P		Pn	18 10 52.9	+0.1
BURAR	**Bucovina Array**	**8.86**	**323**	⇓P		Pn	18 10 52.9	+0.1
GNI	**Garni**	**8.95**	**90**	⇑*eP*		Pn	18 11 00.8	+6.6
CHRU	**Chernivtsi**	**9.09**	**328**	Pn		Pn	18 10 59.4	+3.6
	comp=Z,36nm,0.6s							
KMPD	**K-Podol'skiy**	**9.10**	**331**	Pn		Pn	18 10 59.4	+3.5
KMPD				Pn		Pn	18 10 59.1	+3.2
ASF	**Jabal al Asfar**	**9.11**	**159**	Pn		Pn	18 10 56.9	+0.6
	comp=Z,0.1nm,0.3s,baz=342,slow=9.6,SNR=3.2							
	comp=Z,1.2nm,0.4s							
MDVR	**Moldovita**	**9.24**	**300**	⇓P		Pn	18 10 59.7	+1.8
MARR	**Marisel-Cluj**	**9.30**	**313**	⇑P		Pn	18 11 02.9	+4.1
SURR	**Surduc**	**9.39**	**306**	⇓P		Pn	18 11 05.5	+5.5
BZS	**Buzias**	**9.64**	**304**	⇑P		Pn	18 11 06.8	+3.4
BZS	**Buzias**	**9.64**	**304**	⇑P		Pn	18 11 06.8	+3.4
LUBAR	**Lubar, Ukraine**	**9.89**	**340**	Pn		Pn	18 11 09.2	+2.5
AK13	**Malin Array Si**	**10.24**	**346**	Pn		Pn	18 11 14.6	+3.0
AKASG	**Malin Array Be**	**10.30**	**346**	Pn		Pn	18 11 09.9	-2.4
	comp=Z,2.1nm,0.5s,baz=158,slow=13,SNR=14							
AKASG				Sn		Sn	18 13 02.6	-5.5
	comp=Z,0.6nm,0.3s,baz=155,slow=24,SNR=4.3							
AKASG	**Malin Array Be**	**10.30**	**346**	*eP*		Pn	18 11 11.5	-0.8
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.3s							
AKBB	**Malin Array Si**	**10.30**	**346**	⇓*eP*		Pn	18 11 12.5	+0.2
AKBB	**Malin Array Si**	**10.30**	**346**	Pn		Pn	18 11 14.5	+2.2
AK17	**Malin Array Si**	**10.31**	**346**	Pn		Pn	18 11 15.8	+3.3
MAK	**Makhachkala**	**11.03**	**74**	*eP*		Pn	18 11 17.3	-5.0
MAK				*eS*		Sn	18 13 19.4	-6.7
MAK				pmax		pmax		
	comp=Z,227nm,1.3s							
MAK				MLR		MLR		
	comp=Z,332nm,16.0s							
AKT	**Akhty**	**11.12**	**81**	*eP*		Pn	18 11 17.5	-6.3
KOLS	**Kolonicke sedl**	**11.18**	**321**	*eP*		Pn	18 11 34.6	+10
OBN	**Obninsk**	**14.56**	**8**	*eP*		Pn	18 12 13.3	+2.7
OBN				pmax		pmax		
	comp=Z,3.0nm,0.9s							
BELG	**Belogornoye**	**15.34**	**36**	*eP*		Pn	18 12 20.9	-0.1
	comp=Z,0.6nm,0.3s,baz=19,slow=3.4,SNR=5.0							
	comp=Z,5.9nm,0.8s							
BELG	**Belogornoye**	**15.34**	**36**	⇑*eP*		Pn	18 12 20.5	-0.5
BELG				pmax		pmax		
	comp=Z,4.0nm,1.3s							
GERES	**GERESS Array B**	**15.89**	**307**	Pn		Pn	18 12 28.5	+0.1
	baz=124,slow=11,SNR=1.8							
	comp=Z,0.1nm,0.4s							
VSU	**Vasula**	**18.17**	**349**	⇑*eP*		Pn	18 12 54.7	-2.2
VSU				pmax		pmax		
	comp=Z,34nm,1.2s							
KEST	**Kesra**	**19.24**	**263**	P		Pn	18 13 10.9	+0.7
	baz=69,slow=14,SNR=4.0							
	comp=Z,3.2nm,0.9s							
AKTO	**Aktyubinsk**	**19.90**	**53**	P		Pn	18 13 17.4	-0.6
	comp=Z,0.4nm,0.3s,baz=256,slow=9.4,SNR=21							
	comp=Z,7.9nm,0.7s							
KLMR	**Klimovskoe**	**20.52**	**9**	*eP*		P	18 13 20.5	-2.4
KLMR				pmax		pmax		
	comp=Z,8.0nm,1.0s							
KIRV	**Kirov**	**20.66**	**25**	P		P	18 13 25.0	+0.6
	comp=Z,9.9nm,0.6s,baz=127,slow=3.7,SNR=4.0							
	comp=Z,9.9nm,0.6s							
KIRV	**Kirov**	**20.66**	**25**	⇑*eP*		Pn	18 13 26.3	-0.4
FINES	**FINESS Array B**	**21.15**	**351**	P		P	18 13 30.2	+0.5
	comp=Z,4.6nm,0.9s,baz=152,slow=12,SNR=7.9							
	comp=Z,4.6nm,0.9s							
FINES	**FINESS Array B**	**21.15**	**351**	*eP*		P	18 13 32.9	+3.2
FINES				pmax		pmax		
	comp=Z,5.0nm,0.9s							
ARTI	**Arti**	**22.75**	**38**	*d*	*iP*	P	18 13 48.4	+1.5
ARTI							18 14 09.5	
ARTI				SS		Sn	18 18 32.1	+22
ARTI				pmax		pmax		
	comp=Z,13nm,1.0s							
HFS	**Hagfors**	**22.82**	**335**	P		P	18 13 47.0	-0.6
	comp=Z,2.4nm,0.7s,baz=148,slow=9.8,SNR=6.8							
	comp=Z,2.4nm,0.7s							
HFS	**Hagfors**	**22.82**	**335**	P		P	18 13 47.0	-0.6
SVE	**Sverdlovsk**	**24.04**	**39**	*eP*		P	18 14 07.3	+7.5
NOA	**NORSAR Array B**	**24.31**	**334**	P		P	18 14 01.9	-0.4
	comp=Z,0.7nm,0.8s,baz=128,slow=8.9,SNR=2.1							
	comp=Z,0.7nm,0.8s							
ESDC	**Sonseca Array**	**28.14**	**280**	P		P	18 14 37.2	+0.1
	comp=Z,0.5nm,0.8s,baz=80,slow=9.5,SNR=2.4							
	comp=Z,0.5nm,0.8s							
ARCES	**ARCESS Array B**	**29.12**	**355**	P		P	18 14 44.9	-0.5
	comp=Z,3.9nm,0.9s,baz=168,slow=6.2,SNR=5.0				

ADVT	Abdulvahap	2.50	264	Pn		Pn	18 12 44.1	+0.4	
HRT	Hereke	2.52	273	Pn		Pn	18 12 44.7	+0.6	
SILT	Sile	2.57	280	Pn		Pn	18 12 45.2	+0.6	
LADK	Ladik-KONYA	2.59	191	Pn		Pn	18 12 46.1	+1.0	
TOKT	Tokat	2.74	98	Pn		Pn	18 12 48.6	+1.5	
YLV	Yalova	2.76	267	Pn		Pn	18 12 47.7	+0.4	
BNN	Bunyan	2.90	130	Pn		Pn	18 12 50.9	+1.5	
KAVV	Kandilli-Istan	3.00	277	Pn		Pn	18 12 51.4	+0.9	
ISK	Istanbul-Kandi	3.00	277	Pn		Pn	18 12 51.6	+1.1	
TVSB	Tavsanli	3.00	246	Pn		Pn	18 12 51.7	+1.0	
KLYT	Kilyos	3.03	281	Pn		Pn	18 12 51.9	+0.9	
SVSK	Karacayir	3.17	104	Pn		Pn	18 12 54.9	+2.0	
BGKT	Bogazkoy	3.22	279	Pn		Pn	18 12 54.6	+1.0	
SEV	Sevastopol'	3.83	7	*e*P		Pn	18 13 04.7	+2.8	
SEV				Pm			18 13 07.5		
	comp=Z,5.0nm,0.4s								
YAL	Yalta	3.83	13	*e*P		Pn	18 13 03.4	+1.4	
YAL				Pm			18 13 07.6		
	comp=Z,6.0nm,0.3s								
YAL				*e*S		Sn	18 13 46.9	-0.5	
YAL				Sm			18 13 53.6		
	comp=N,10.0nm,0.3s								
YAL				Sm			18 13 53.6		
	comp=E,18nm,0.5s								
SUDU	Sudak	4.39	19	*e*P		Pn	18 13 11.5	+1.8	
SUDU				Pm			18 13 16.2		
	comp=Z,26nm,0.5s								
SUDU				*e*S		Sn	18 14 00.8	-0.4	
SUDU				Sm			18 14 07.2		
	comp=N,53nm,0.7s								
SUDU				Sm			18 14 07.2		
	comp=E,3.0nm,0.2s								
DNZ2	Donuzlav2	4.63	2	*e*P		Pn	18 13 14.8	+1.9	
DNZ2				Pm			18 13 18.5		
	comp=Z,16nm,0.3s								
DNZ2				*e*S		Sn	18 14 08.5	+1.6	
DNZ2				Sm			18 14 18.1		
	comp=E,9.0nm,0.4s								
DNZ2				Sm			18 14 18.2		
	comp=N,20nm,0.4s								

MOS ***14*** *18:14:30.8±0.8,52.°84N×152.°98E,h510km,mb3.9/13, Error ellipse: s-maj=9.6km s-min=6.7km az=60.2*
SKHL ***14*** *18:14:30.0±0.3,52.°70N×152.°80E,h525km±4km,mb4.6/4, msha4.7/3*
KRSC ***14*** *18:14:31.1±1.9,52.°58N×153.°93E,h541km±22km,Ml4.4*
NEIC ***14*** *18:14:32.0±1.2,52.°97N±0.°08×152.°8E±0.°2,h498km±8km, mb4.2/97, Error ellipse: s-maj=16.9km s-min=4.8km az=127.0*
IDC ***14*** *18:14:32.0±1.0,52.°86N×152.°93E,h505km±13km, mb3.2/18,mbtmp4.1/25, Error ellipse: s-maj=12.1km s-min=8.5km az=144.0*

ISC 14 18:14:31.1±0.4, 52.79N±0.05×153.06E±0.05, h500km, n484,σ1s27/489, mb4.2/76, 1C-6D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MIPR	Malaya Ipel'ka	2.32	101	P		P		18 15 39.3	+1.6
MIPR	Malaya Ipel'ka	2.32	101	*e*P		P		18 15 39.4	+1.6
APC	Apacha	2.49	85	P		P		18 15 42.0	+3.4
APC	Apacha	2.49	85	*e*P		P		18 15 42.0	+3.4
PAU	Pauzhetka	2.67	118	P		P		18 15 41.2	+1.4
PAU	Pauzhetka	2.67	118	*e*P		P		18 15 41.2	+1.4
PAU	Pauzhetka	2.67	118	*e*P		P		18 15 41.2	+1.4
PAU				AMB		AMB	AMB	18 15 41.7	
	70nm,0.8s								
PAU				*e*S		S		18 16 36.5	+0.7
PAU				A		A		18 16 39.6	
	120nm,0.6s								
PAU				A		A		18 16 39.6	
	100nm,0.6s								
PEA0B	Petropavlovsk-	2.82	82			P		18 15 41.5	+0.8
PEA0B	Petropavlovsk-	2.82	82	P		P		18 15 42.2	+1.5
PETK	Petropavlovsk-	2.82	82	P		P		18 15 41.1	+0.4
	52nm,0.6s,baz=277,slow=2.7,SNR=174								
SKR	Severo-Kuril's	2.84	137	P		P		18 15 42.5	+1.6
SKR				S		S		18 16 38.3	+0.5
SKR	Severo-Kuril's	2.84	137	*e*P		P		18 15 42.6	+1.6
SKR				*e*S		S		18 16 38.4	+0.5
SKR	Severo-Kuril's	2.84	137	*e*P		P		18 15 39.4	-1.5
SKR				AMB		AMB	AMB	18 15 42.9	
	20nm,0.2s								
SKR				*e*S		S		18 16 38.0	+0.2
SKR				A		A		18 16 43.7	
	70nm,0.4s								
SKR				A		A		18 16 43.7	
	80nm,0.4s								
ASAK	Asacha	2.98	96	P		P		18 15 43.2	+1.3
ASAK	Asacha	2.98	96	*e*P		P		18 15 43.3	+1.3
GRL	Gorelyy	3.06	93	P		P		18 15 44.2	+1.7
GRL	Gorelyy	3.06	93	*e*P		P		18 15 44.2	+1.7
GNL	Ganaly	3.07	71	P		P		18 15 44.2	+1.8
GNL				S		S		18 16 43.3	+2.5
GNL	Ganaly	3.07	71	*e*P		P		18 15 44.3	+1.8
GNL				*e*S		S		18 16 43.4	+2.5
KRMR	Karymshinskiy	3.08	87	P		P		18 15 43.6	+1.2
KRMR	Karymshinskiy	3.08	87	*e*P		P		18 15 43.7	+1.2
KRMR	Karymshinskiy	3.08	87	*e*P		P		18 15 43.6	+1.2
MTVR	Mutnovka	3.14	94	P		P		18 15 44.2	+1.2
MTVR				S		S		18 16 43.6	+1.9
MTVR	Mutnovka	3.14	94	*e*P		P		18 15 44.3	+1.2
MTVR				*e*S		S		18 16 43.6	+1.9
RUS	Russkaya	3.34	94	P		P		18 15 44.6	+0.3
RUS				S		S		18 16 42.6	-1.4
RUS	Russkaya	3.34	94	*e*P		P		18 15 44.6	+0.3
RUS				*e*S		S		18 16 42.7	-1.4
RUS	Russkaya	3.34	94	*e*P		P		18 15 44.6	+0.3
PET	Petropavlovsk	3.39	84	P		P		18 15 45.6	+1.0
PET	Petropavlovsk	3.39	84	*e*P		P		18 15 45.6	+1.0
PET				*e*S		S		18 16 45.0	+0.3
PET				pmax		pmax			
	comp=Z,134nm,0.4s								
PET				smax		smax			
	comp=N,41nm,0.9s								
PET				smax		smax			
	comp=E,38nm,0.9s								
PET	Petropavlovsk	3.39	84	*e*P		P		18 15 45.6	+1.0
PET	Petropavlovsk	3.39	84	*e*P		P		18 15 45.7	+1.0
PET				AMB		AMB	AMB	18 15 47.0	
	comp=E,130nm,0.4s								
PET				*e*S		S		18 16 45.0	+0.3
PET				A		A		18 16 46.1	
	comp=E,40nm,0.9s								
PET				A		A		18 16 46.1	
	comp=E,40nm,0.9s								
KOK	Koryaka	3.40	79	P		P		18 15 46.4	+1.6
KOK	Koryaka	3.40	79	*e*P		P		18 15 46.5	+1.6
KOK	Koryaka	3.40	79	*e*P		P		18 15 46.4	+1.6
KRX	Arik	3.42	78	P		P		18 15 46.6	+1.6
KRX	Arik	3.42	78	*e*P		P		18 15 46.6	+1.6
DALK	Dalny	3.45	84	P		P		18 15 46.0	+0.9
DALK				S		S		18 16 45.1	-0.4
DALK	Dalny	3.45	84	*e*P		P		18 15 46.0	+0.9
DALK				*e*S		S		18 16 45.2	-0.4
AVH	Avacha	3.46	80	P		P		18 15 46.6	+1.4
AVH	Avacha	3.46	80	*e*P		P		18 15 46.7	+1.4
AVH	Avacha	3.46	80	*e*P		P		18 15 46.6	+1.4
SMAR	Somma	3.50	80	P		P		18 15 46.8	+1.1
SMAR	Somma	3.50	80	*e*P		P		18 15 46.8	+1.1
UGLR	Uglovaya	3.51	81	P		P		18 15 47.0	+1.4
UGLR	Uglovaya	3.51	81	*e*P		P		18 15 47.0	+1.4
SDLR	Sedlovina	3.55	80	P		P		18 15 47.0	+1.1
SDLR	Sedlovina	3.55	80	*e*P		P		18 15 47.1	+1.1
KII	Karymskiy	4.02	69	P		P		18 15 52.0	+2.5
KII	Karymskiy	4.02	69	*e*P		P		18 15 52.1	+2.5
SPN	Mys Shipunski	4.22	83	P		P		18 15 50.6	-0.5
SPN				S		S		18 16 52.4	-4.2
SPN	Mys Shipunski	4.22	83	*e*P		P		18 15 50.7	-0.5
SPN				*e*S		S		18 16 52.5	-4.2
ESO	Esso	4.55	44	P		P		18 15 56.1	+2.2
ESO	Esso	4.55	44	*e*P		P		18 15 56.1	+2.2
TUMD	Tumrok D	4.96	58	P		P		18 16 00.2	+2.8
TUMD				S		S		18 17 07.7	-0.5
TUMD	Tumrok D	4.96	58	*e*P		P		18 16 00.3	+2.8
TUMD				*e*S		S		18 17 07.7	-0.5
KMNR	Kamenistaya	5.15	52	P		P		18 16 01.4	+2.2
KMNR	Kamenistaya	5.15	52	*e*P		P		18 16 01.4	+2.2
KOZ	Kozyrevsk	5.15	48	P		P		18 16 01.4	+2.2
KOZ	Kozyrevsk	5.15	48	*e*P		P		18 16 01.4	+2.2
KIRR	Kirishev	5.30	50	P		P		18 16 02.5	+1.8
KIRR	Kirishev	5.30	50	*e*P		P		18 16 02.5	+1.8
BZWR	Bezymyannyi-We	5.38	51	P		P		18 16 03.6	+2.1
BZWR	Bezymyannyi-We	5.38	51	*e*P		P		18 16 03.6	+2.1
MKZ	Mys Kozlova	5.45	68	P		P		18 16 02.0	+0.1
MKZ				S		S		18 17 10.8	-5.5
MKZ	Mys Kozlova	5.45	68	*e*P		P		18 16 02.1	+0.1
MKZ				*e*S		S		18 17 10.8	-5.5
MKZ	Mys Kozlova	5.45	68	*e*P		P		18 16 02.0	+0.1
BZGR	Bezymyannyi-Gr	5.46	52	P		P		18 16 04.3	+2.1
BZGR	Bezymyannyi-Gr	5.46	52	*e*P		P		18 16 04.3	+2.1
KBG	Krutoberegovo	6.60	54	*e*S		S		18 17 34.2	-2.4
KBTR	Krutoberegovo	6.63	55	P		P		18 16 13.1	-0.2
KBTR	Krutoberegovo	6.63	55	*e*P		P		18 16 13.1	-0.2
TYV	Tymovskoe	6.73	257	*e*P		P		18 15 59.9	-15
TYV				pmax		pmax			
	comp=Z,200nm,3.7s								
TYV				pmax		pmax			
	comp=Z,12nm,1.4s								
TYV	Tymovskoe	6.73	257	*e*P		P		18 16 11.0	-3.5
MA2	Magadan	6.92	350	P		P		18 16 16.2	+0.1
MA2	Magadan	6.92	350	P		P		18 16 16.7	+0.6
	comp=Z,8.3nm,0.6s,baz=134,slow=9.9,SNR=5.1								
MA2	Magadan	6.92	350	P		P		18 16 16.2	+0.1
MA2	Magadan	6.92	350	*e*P		P		18 16 16.2	+0.1
PALN	Palana	7.40	29	P		P		18 16 23.8	+2.9
PALN	Palana	7.40	29	*e*P		P		18 16 23.9	+2.9
NKL	Nikolayevsk	7.49	278	*e*P		P		18 16 20.7	-1.3
BKI	Bering	7.98	67	P		P		18 16 28.2	+1.2
BKI				S		S		18 17 55.6	-6.7
BKI	Bering	7.98	67	*e*P		P		18 16 28.3	+1.2
BKI				*e*S		S		18 17 55.6	-6.7
BKI	Bering	7.98	67	*e*S		S		18 18 01.1	-1.2
YSS	Yuzhno-Sakhali	8.85	233	P		P		18 16 37.9	+1.7
YSS	Yuzhno-Sakhali	8.85	233	*e*P		P		18 16 37.5	+1.2
YSS				pmax		pmax			
	comp=Z,10.0nm,0.6s								
YSS	Yuzhno-Sakhali	8.85	233	*e*P		P		18 16 36.3	0.0
YSS				AMB		AMB		18 16 38.5	
	comp=Z,20nm,0.6s								
SHO	Shikotan	9.84	207	*e*P		P		18 16 44.8	-1.9
SHO				*e*S		S		18 18 32.8	-5.5
SEY	Seymchan	10.18	358	P		P		18 16 51.6	+1.7
	comp=Z,27nm,0.4s,baz=178,slow=10.0,SNR=80								
SEY	Seymchan	10.18	358	*i*P		P		18 16 51.8	+1.9
SEY				pmax		pmax			
	comp=Z,18nm,0.5s								
SEY	Seymchan	10.18	358	*e*P		P		18 16 51.8	+1.9
GRNR	Gornyy	10.51	266	*i*P		P		18 16 55.2	+1.5
GRNR				pmax		pmax			
	comp=Z,10.0nm,0.7s								
GRNR	Gornyy	10.51	266	*e*rx		rx		18 16 55.2	
JKA	Kamikawa-asahi	11.11	223	*e*P		P		18 17 00.8	+0.7
ASAJ	Asahikawa	11.11	223	P		P		18 17 00.8	+0.7
	comp=Z,5.4nm,0.8s,baz=55,slow=12,SNR=1.9								
ERM	Erimo	12.68	216	P		P		18 17 15.2	-1.6
ERM	Erimo	12.68	216	P		P		18 17 15.2	-1.6
YAK	Yakutsk	15.54	316			P		18 17 45.0	-1.5
YAK	Yakutsk	15.54	316	P		P		18 17 46.3	-0.2
	comp=Z,10nm,0.3s,baz=116,slow=4.0,SNR=15								
YAK	Yakutsk	15.54	316	*e*P		P		18 17 45.1	-1.3
YAK				pmax		pmax			
	comp=Z,16nm,1.0s								
YAK				pmax		pmax			
	comp=N,8.0nm,1.3s								
YAK				pmax		pmax			
	comp=E,4.0nm,1.0s								
YAK	Yakutsk	15.54	316	*e*P		P		18 17 45.1	-1.3
HEH	HeiHe	16.14	271	*e*P		P		18 17 51.3	-1.6
HEH				pmax		pmax			
	comp=Z,11nm,0.8s								
USRK	Ussuriysk Ar.	16.35	247	P		P		18 17 55.1	-0.1
	comp=Z,1.8nm,0.6s,baz=57,slow=8.9,SNR=3.0								
BILL	Bilibino	16.56	18	*i*P		P		18 17 56.6	-0.5
BILL				pmax		pmax			
	comp=Z,5.0nm,0.5s								
BILL	Bilibino	16.56	18	*e*P		P		18 17 56.6	-0.5
BNX	BinXian	18.11	257	P		P		18 18 11.3	-0.9
BNX				pmax		pmax			
	comp=Z,15nm,1.0s								
MJA0	Matsu Arr-Jizo	19.30	219	*e*P		P		18 18 24.6	+1.3
MJA0				pmax		pmax			
	comp=Z,3.0nm,0.5s								
MJB9	Matsu-Tunnel	19.31	219	P		P		18 18 25.3	+1.9
MJB9				IAmb		IAmb		18 18 26.7	
	comp=Z,6.8nm,0.6s								
MAJO	Matsushiro	19.32	219	P		P		18 18 23.8	+0.3
MAJO	Matsushiro	19.32	219	*i*P		P		18 18 24.8	+1.4
MAJO				pmax		pmax			
	comp=Z,6.0nm,0.6s								
MJAR	Matsushiro Arr	19.32	219	P		P		18 18 24.3	+0.9
MJAR	Matsushiro Arr	19.32	219	P		P		18 18 24.7	+1.3
	comp=Z,2.2nm,0.5s,baz=17,slow=10,SNR=27								
MJAR	Matsushiro Arr	19.32	219	P		P		18 18 24.3	+0.9
MJAR				pmax		pmax			
	comp=Z,4.0nm,1.5s								
JGF	Kuroka	20.47	219	P		P		18 18 34.1	+0.2
INU	Inuyama	20.82	219	P		P		18 18 37.1	0.0
HIA	Hailar	21.14	274	P		P		18 18 39.0	-0.8
HIA				IAmb		IAmb		18 18 40.8	
	comp=Z,8.1nm,0.9s								
HIA	Hailar	21.14	274	P		P		18 18 39.0	-0.8
HIA				pmax		pmax			
	comp=Z,8.0nm,0.9s								
GAMB	Gambell	21.23	45	P		P		18 18 40.3	-0.1
	baz=256								
SPIA	Saint Paul Isl	21.32	63	P		P		18 18 41.6	+0.3
	baz=274								
P08K	Saint George I	21.76	65	P		P		18 18 45.9	+0.8
	baz=276								
TNA	Tin City	23.25	42	P		P		18 18 58.8	+0.3
TNA	Tin City	23.25	42	P		P		18 18 58.2	-0.3
	baz=256								
KSRS	Korea Array	23.28	239	P		P		18 19 00.2	+1.1
	comp=Z,1.3nm,0.8s,baz=50,slow=9.3,SNR=5.1								
	comp=Z,1.3nm,0.8s								
M11K	Mekoryuk	23.35	55	P		P		18 18 59.4	0.0
	baz=270								
F14K	Arctic Creek	23.88	42	P		P		18 19 03.9	-0.2
	baz=258								
UNV	Unalaska Valle	23.95	71	P		P		18 19 05.0	+0.2
	baz=284								
ANM	Nome	24.10	45	P		P		18 19 05.8	-0.3
	baz=261								
K13K	Kusilvak Mount	24.15	51	P		P		18 19 07.9	+1.4
K13K				IAmb		IAmb		18 19 11.2	
	comp=Z,15nm,1.5s								
K13K	Kusilvak Mount	24.15	51	P		P		18 19 06.8	+0.3
	baz=268								
F15K	North Star Dit	24.61	42	P		P		18 19 11.9	+1.3
F15K				IAmb		IAmb		18 19 24.2	
	comp=Z,10nm,1.1s								
F15K	North Star Dit	24.61	42	P		P		18 19 11.0	+0.4
	baz=259								
J14K	Nanvaranak Lak	24.70	49	P		P		18 19 11.6	+0.2
	baz=267								
G15K	Niukluk	24.74	44	P		P		18 19 12.1	+0.3
	baz=262								
M13K	Dall Lake	24.76	55	P		P		18 19 13.1	+1.1
	baz=272								
C16K	Lisburne Hills	24.98	36	P		P		18 19 14.1	+0.3
C16K	Lisburne Hills	24.98	36	P		P		18 19 13.5	-0.3
	baz=253								
L14K	Kuka Creek	25.07	53	P		P		18 19 14.8	+0.1
	baz=271								
M14K	Bethel	25.44	54	P		P		18 19 19.2	+1.3
M14K	Bethel	25.44	54	P		P		18 19 17.6	-0.3
	baz=273								
H16K	Elim	25.45	45	P		P		18 19 17.5	-0.6
	baz=264								
FALS	False Pass	25.47	68	P		P		18 19 18.5	+0.2
	baz=284								
G16K	Koyuk River	25.50	43	P		P		18 19 18.7	+0.2
	baz=262								
N14K	Kuskokwak Cree	25.62	56	P		P		18 19 19.2	-0.4
	baz=275								
K15K	Wolf Creek Mou	25.63	50	P		P		18 19 19.6	0.0
	baz=270								
L15K	Ungalak Mounta	25.65	52	P		P		18 19 19.9	+0.2
	baz=271								
D17K	Noatak River	25.65	38	P		P		18 19 19.4	-0.3
	baz=257								
RDOG	Red Dog Mine	25.80	37	P		P		18 19 21.3	+0.2
	baz=256								
C17K	DeLong Mountai	25.81	36	P		P		18 19 21.4	+0.2
	baz=255								
E17K	Hotham Inlet	25.99	39	P		P		18 19 23.3	+0.5
	baz=260								
S12K	Black Hills	26.03	66	P		P		18 19 24.0	+0.7
	baz=283								
I17K	Unalakleet	26.06	47	P		P		18 19 24.4	+0.9
	baz=267								
M15K	Kasigluk River	26.07	54	P		P		18 19 24.8	+1.3
	baz=274								
J16K	Anvik River	26.08	48	P		P		18 19 24.3	+0.7
	baz=268								
F17K	Baldwin Pennin	26.10	41			P		18 19 24.7	+1.0
F17K	Baldwin Pennin	26.10	41	P		P		18 19 24.8	+1.0
	baz=261								
G17K	Kiwalik Mounta	26.22	43	P		P		18 19 25.2	+0.4
	baz=264								
N15K	Kwethluk River	26.40	55	P		P		18 19 27.6	+1.1
	baz=275								
H17K	Granite Mounta	26.47	44	P		P		18 19 28.0	+0.9
	baz=266								
E18K	Tukpahlearik C	26.52	39	P		P		18 19 28.0	+0.6
	baz=260								
C18K	Utukok River	26.56	36	P		P		18 19 27.6	-0.2
	baz=257								
L16K	Owhat River	26.60	52	P		P		18 19 28.9	+0.7
	baz=273								
O15K	Ungalikthiuk R	26.64	57	P		P		18 19 29.7	+1.1
	baz=278								
F18K	Selawik	26.76	41	P		P		18 19 29.3	-0.2
	baz=263								
J17K	VABM Dome	26.77	48	P		P		18 19 29.8	+0.1
	baz=270								
M16K	Timber Creek	26.89	53	P		P		18 19 30.4	-0.3
	baz=274								
SDPT	Sand Point	26.99	66	P		P		18 19 32.5	+0.7
	baz=284								
A19K	Wainwright	27.00	33	P		P		18 19 31.1	-0.4
	baz=254								
N16K	Nishlik Lake	27.03	54	P		P		18 19 32.5	+0.4
	baz=276								
G18K	Tagagawik	27.08	42	P		P		18 19 33.0	+0.5
G18K				IAmb		IAmb		18 19 33.8	
	comp=Z,5.5nm,0.6s								
G18K	Tagagawik	27.08	42	P		P		18 19 32.3	-0.1
	baz=285								
K17K	Iditarod	27.12	49	P		P		18 19 32.9	+0.1
	baz=272								
L17K	Donlin	27.14	51	P		P		18 19 33.5	+0.5
	baz=273								
H18K	Honhosa River	27.14	44	P		P		18 19 33.5	+0.5
	baz=267								
C19K	Lookout Ridge	27.23	35	P		P		18 19 33.2	-0.5
	baz=258								
S14K	Fog Glacier	27.28	64	P		P		18 19 34.7	+0.3
	baz=283								
O16K	Kokwok River B	27.46	56	P		P		18 19 36.2	+0.4
	baz=278								
F19K	Shaleruckik Mo	27.53	40			P		18 19 36.6	+0.3
F19K				IAmb		IAmb		18 19 37.6	
	comp=Z,7.2nm,0.8s								
F19K	Shaleruckik Mo	27.53	40	P		P		18 19 36.6	+0.3
	baz=264,SNR=6.1								
P16K	Nushagak River	27.59	57	P		P		18 19 37.6	+0.7
	baz=279								
M17K	Holitna River	27.59	52	P		P		18 19 38.0	+1.1
	baz=275								
CHNA	Chernabura Isl	27.62	67	P		P		18 19 37.1	-0.1
	baz=286								
D19K	Kuna River	27.63	37			P		18 19 37.6	+0.4
D19K	Kuna River	27.63	37	P		P		18 19 37.4	+0.1
	baz=261								
G19K	Purcell Mounta	27.74	42	P		P		18 19 38.1	-0.1
	baz=266								
GCSA	Galena City Sc	27.76	45	P		P		18 19 38.3	0.0
	baz=269								
N17K	Nushagak Hills	27.80	54	P		P		18 19 38.5	-0.3
	baz=277								
E19K	Redstone River	27.81	39			P		18 19 39.9	+1.0
E19K	Redstone River	27.81	39	P		P		18 19 39.4	+0.6
	baz=264,SNR=8.7								
J18K	Innoko River	27.83	48	P		P		18 19 39.4	+0.4
	baz=272								
L18K	Granite Mounta	27.89	50	P		P		18 19 40.2	+0.7
	baz=274								
O17K	Koliganek Bris	27.94	56	P		P		18 19 41.0	+1.1
	baz=278								
H19K	Roundabout Mou	27.97	43			P		18 19 41.4	+1.3
H19K				IAmb		IAmb		18 19 42.1	
	comp=Z,12nm,0.9s								
H19K	Roundabout Mou	27.97	43	P		P		18 19 41.4	+1.3
	baz=268,SNR=8.8								
R16K	Pilot Point	28.07	60	P		P		18 19 40.8	-0.3
	baz=282								
D20K	Etivluk River	28.21	36			P		18 19 43.1	+0.8
D20K	Etivluk River	28.21	36	P		P		18 19 43.2	+0.8
	baz=262,SNR=8.2								
B20K	Meade River	28.25	34	P		P		18 19 43.1	+0.6
B20K	Meade River	28.25	34	P		P		18 19 42.9	+0.3
	baz=259								
E20K	Nigu River	28.30	37	P		P		18 19 43.9	+0.7
	baz=263,SNR=6.2								
J19K	Poorman	28.30	47	P		P		18 19 43.6	+0.4
	baz=272								
F20K	Avaraart Lake	28.35	40	P		P		18 19 44.1	+0.6
	baz=266								
P17K	Kvichak River	28.36	57	P		P		18 19 45.3	+1.6
	baz=280								
M18K	Stony River	28.36	52	P		P		18 19 44.9	+1.3
	baz=276								
N18K	Kilae Creek	28.42	54	P		P		18 19 45.0	+0.8
	baz=278								
H20K	Anotleneega Mo	28.62	43	P		P		18 19 46.5	+0.6
	baz=270								
R17L	Mt. Peulik Vol	28.70	60	P		P		18 19 47.1	+0.4
	baz=283								
L19K	White Mountain	28.75	50	P		P		18 19 46.9	-0.2
	baz=276								
I20K	Naaghedeneel	28.79	45	P		P	

baz=273
P19K Oil Pt 29.89 55 P P 18 19 58.0 +1.0
baz=281
PPLA Purkeypile 29.91 49 P P 18 19 57.3 -0.1
baz=276
E22K Anaktuvuk Pass 29.92 38 P P 18 19 58.1 +0.9
E22K IAmb IAmb 18 19 58.8
comp=Z,6.9nm,0.8s
E22K Anaktuvuk Pass 29.92 38 P P 18 19 57.7 +0.4
baz=268,SNR=7.6
G22K Bettles 30.00 40 P P 18 19 58.5 +0.6
baz=270
H22K Ishtalitna Cre 30.07 43 P P 18 19 59.5 +1.0
baz=272,SNR=6.8
SII Sitkinak Islan 30.11 61 P P 18 20 00.4 +1.5
baz=286
O20K Slope Mountain 30.11 54 P P 18 20 00.0 +1.0
baz=281
SKT Skwentna 30.33 50 P P 18 20 01.7 +0.9
baz=278
BPAW Bear Paw Mtn. 30.33 46 P P 18 20 01.2 +0.4
baz=275
MLY Manley 30.37 44 P P 18 20 01.5 +0.3
baz=274
HHC Hu-ho-hao-te 30.38 264 *e*P P 18 19 59.8 -1.8
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,83nm,4.6s
D23K Nanushuk River 30.38 36 P P 18 20 01.7 +0.6
baz=267
OHAK Old Harbor 30.41 60 P P 18 20 02.3 +0.8
baz=285
C23K Itkillik River 30.46 35 P 18 20 01.9 +0.1
C23K IAmb IAmb 18 20 03.8
comp=Z,20nm,1.4s
C23K Itkillik River 30.46 35 P P 18 20 02.2 +0.4
baz=266
COLD Coldfoot 30.52 40 P P 18 20 02.4 +0.1
COLD IAmb IAmb 18 20 04.0
comp=Z,6.1nm,0.6s
COLD Coldfoot 30.52 40 P P 18 20 02.7 +0.4
baz=271,SNR=8.8
Q20K Shuyak Island 30.53 57 P P 18 20 02.1 -0.4
baz=284
G23K Bananza Creek 30.59 41 P 18 20 04.0 +1.0
G23K IAmb IAmb 18 20 04.5
comp=Z,5.3nm,0.8s
G23K Bananza Creek 30.59 41 P P 18 20 03.1 +0.1
baz=272
KDAK Kodiak Island 30.63 59 P P 18 20 03.6 +0.2
KDAK IAmb IAmb 18 20 04.6
comp=Z,12nm,1.1s
KDAK Kodiak Island 30.63 59 P P 18 20 03.6 +0.2
KDAK pmax pmax
comp=Z,13nm,1.2s
KDAK Kodiak Island 30.63 59 P P 18 20 03.7 +0.3
baz=285
TRF Thorofare Moun 30.71 47 IAmb IAmb 18 20 07.3
comp=Z,3.8nm,0.7s
TRF Thorofare Moun 30.71 47 P P 18 20 04.4 +0.1
baz=277
E23K Chandalar 30.74 38 P P 18 20 05.5 +1.1
baz=270,SNR=9.0
TOLK Toolik Lake Re 30.77 37 P P 18 20 04.7 +0.2
TOLK IAmb IAmb 18 20 06.3
comp=Z,7.7nm,1.1s
TOLK Toolik Lake Re 30.77 37 P P 18 20 05.3 +0.7
baz=269
SUA Susitna One 30.78 51 P P 18 20 04.8 0.0
baz=280
H23K Yukon River 30.82 43 IAmb IAmb 18 20 07.3
comp=Z,6.2nm,0.8s
H23K Yukon River 30.82 43 P P 18 20 06.1 +1.1
baz=274
CUT Chulitna 30.85 49 P P 18 20 05.9 +0.7
baz=279
I23K Minto, Yukon-K 30.95 44 P P 18 20 06.8 +0.9
I23K IAmb IAmb 18 20 08.0
comp=Z,4.3nm,0.6s
I23K Minto, Yukon-K 30.95 44 P P 18 20 06.6 +0.6
baz=275
D24K Happy Valley 31.05 36 IAmb IAmb 18 20 08.4
comp=Z,11nm,1.1s
D24K Happy Valley 31.05 36 P P 18 20 07.8 +0.8
baz=269
BRSE Bradley Lake S 31.11 55 P P 18 20 08.5 +0.9
baz=283
NEA2 Nenana 31.12 45 IAmb IAmb 18 20 09.4
comp=Z,3.8nm,0.7s
NEA2 Nenana 31.12 45 P P 18 20 08.3 +0.8
baz=276
C24K Franklin Bluff 31.12 35 P P 18 20 08.3 +0.9
baz=268
E24K Your Creek 31.17 38 P P 18 20 08.7 +0.7
E24K Your Creek 31.17 38 P P 18 20 09.2 +1.2
baz=271,SNR=17
MCK McKinley 31.27 47 P P 18 20 09.6 +0.7
baz=278
F24K Squaw Lake 31.41 39 P P 18 20 11.0 +1.0
baz=272,SNR=7.1
H24K Noodor Dome 31.51 42 P P 18 20 11.9 +1.0
baz=275
PMR Palmer 31.52 51 P P 18 20 11.3 +0.3
baz=281
WAT1 Susitna Watana 31.57 48 P P 18 20 11.5 0.0
baz=279
G24K Hadweenzic Riv 31.61 41 P P 18 20 12.3 +0.6
G24K IAmb IAmb 18 20 13.5
comp=Z,7.6nm,0.6s
G24K Hadweenzic Riv 31.61 41 P P 18 20 12.7 +1.1
baz=274,SNR=9.2
CCB Clear Creek Bu 31.66 45 P 18 20 12.7 +0.6
CCB IAmb IAmb 18 20 13.3
comp=Z,3.5nm,0.5s
SEW Seward 31.66 54 P P 18 20 13.1 +0.8
baz=283
POKR Poker Plat Res 31.76 44 P P 18 20 14.4 +1.4
baz=277
KNK Knik Glacier 31.87 51 P P 18 20 14.8 +0.7
KNK Knik Glacier 31.87 51 P P 18 20 15.1 +1.1
baz=282,SNR=6.3
D25K Kavik River 31.93 36 P P 18 20 14.7 +0.2
D25K Kavik River 31.93 36 P P 18 20 15.2 +0.8
baz=271,SNR=13
WAT6 Susitna Watana 31.98 49 P P 18 20 14.8 -0.4
baz=280
IL31 32.03 44 IAmb IAmb 18 20 16.7
comp=Z,3.4nm,0.5s
ILAR Eielson Array 32.03 44 P P 18 20 16.1 +0.8
comp=Z,2.3nm,0.5s,baz=281,slow=12,SNR=46
comp=Z,2.3nm,0.5s
ILAR Eielson Array 32.03 44 *e*P P 18 20 16.1 +0.8
ILAR pmax pmax
comp=Z,3.0nm,0.6s
PWL Port Wells 32.04 52 P P 18 20 16.1 +0.6
baz=283
DHY Denali Highway 32.06 48 P P 18 20 16.1 +0.2
baz=280
M23K Glacier View 32.14 50 P P 18 20 16.6 +0.3
baz=282
G25K Bearman Lake 32.15 41 P P 18 20 16.8 +0.5
baz=275
E25K Arctic Village 32.26 38 PcP 18 22 52.4 +1.9
E25K Arctic Village 32.26 38 P P 18 20 16.4 -0.9
baz=273
F25K Christian Rive 32.26 39 IAmb IAmb 18 20 19.6
comp=Z,3.3nm,0.5s
F25K Christian Rive 32.26 39 P P 18 20 18.3 +0.9
baz=274,SNR=5.5
H25L Birch Creek 32.30 42 P P 18 20 18.7 +1.1
baz=276
SCM Sheep Creek Mo 32.31 50 P P 18 20 18.7 +0.8
baz=282
C26K Camden Bay 32.44 35 P P 18 20 18.4 -0.3
baz=271
PRP Porcupine Dome 32.51 43 P 18 20 20.6 +1.0
PRP IAmb IAmb 18 20 21.7
comp=Z,12nm,0.8s
PRP Porcupine Dome 32.51 43 P P 18 20 20.6 +1.0
baz=278,SNR=14
GLI Glacier Island 32.63 52 P P 18 20 19.7 -0.8
baz=284
K24K Donnelly Dome 32.65 46 IAmb IAmb 18 20 21.6
comp=Z,9.6nm,0.9s
K24K Donnelly Dome 32.65 46 P P 18 20 20.6 0.0
baz=280
J25K Salcha River, 32.70 45 IAmb IAmb 18 20 22.2
comp=Z,2.6nm,0.5s
J25K Salcha River, 32.70 45 P P 18 20 21.6 +0.5
baz=279
F26K Sheenjek River 32.83 39 IAmb IAmb 18 20 24.3
comp=Z,5.0nm,0.8s
F26K Sheenjek River 32.83 39 P P 18 20 23.0 +0.9
baz=275,SNR=8.3
C27K Jago River 32.86 35 IAmb IAmb 18 20 24.2
comp=Z,9.6nm,0.7s
C27K Jago River 32.86 35 P P 18 20 23.6 +1.3
baz=273,SNR=6.0
PAX Paxson 32.94 48 P P 18 20 22.8 -0.4
baz=282
G26K Porcupine Rive 33.04 40 P P 18 20 23.7 -0.2
baz=277
KLU Klutina 33.04 50 P P 18 20 24.8 +0.7
baz=283
RIDG Independent Ri 33.07 46 P P 18 20 24.1 -0.1
baz=281
HARP HAARP 33.20 49 P P 18 20 26.5 +1.2
baz=283
EYAK Cordova Ski Ar 33.35 52 P P 18 20 26.9 +0.3
baz=285
Q23K Middleton Isla 33.35 54 P P 18 20 26.6 0.0
baz=286
SCRK Sand Creek 33.40 46 P 18 20 27.0 -0.1
SCRK IAmb IAmb 18 20 27.8
comp=Z,7.8nm,0.6s
SCRK Sand Creek 33.40 46 P P 18 20 27.2 +0.1
baz=281,SNR=12
DOT Dot Lake 33.43 46 IAmb IAmb 18 20 28.8
comp=Z,5.9nm,0.8s
J26L Joseph Creek 33.49 45 P P 18 20 28.6 +0.8
baz=281
I26K Coal Creek Min 33.52 43 P P 18 20 28.7 +0.7
baz=280
N25K Chitina, Valde 33.63 50 P P 18 20 29.8 +0.7
baz=284
E27K Coleen River 33.74 38 P P 18 20 31.0 +1.3
baz=277
BMRM Bremner River 33.79 51 P P 18 20 31.4 +1.0
baz=285
D27M Malcolm River 33.86 36 P P 18 20 31.7 +0.8
baz=276
G27K Doyon Strip 33.89 40 P P 18 20 32.8 +1.7
baz=279,SNR=6.8
H27K Steamboat Moun 34.03 41 P 18 20 33.9 +1.6
H27K Steamboat Moun 34.03 41 P P 18 20 34.0 +1.6
baz=280,SNR=5.2
I27K Kandik River 34.10 42 P P 18 20 34.1 +1.1
baz=281
KAIM Kayak Island 34.16 53 P P 18 20 33.9 +0.5
baz=287
M26K Nabesna, AK 34.18 48 IAmb IAmb 18 20 36.4
comp=Z,12nm,1.2s
M26K Nabesna, AK 34.18 48 P P 18 20 35.6 +2.0
baz=284,SNR=7.3
K27K Chicken 34.22 45 P P 18 20 34.3 +0.5
baz=282
MCARA McCarthy VSAT 34.42 50 P P 18 20 37.1 +1.5
baz=286
E28M Babbage River 34.44 37 P P 18 20 36.4 +0.7
baz=278
EGAK Eagle 34.45 44 IAmb IAmb 18 20 36.9
comp=Z,7.4nm,0.8s
EGAK Eagle 34.45 44 P P 18 20 36.2 +0.4
baz=282,SNR=7.7
F28M Old Crow 34.46 39 P P 18 20 36.4 +0.6
baz=279
L27K Beaver Creek, 34.54 47 P P 18 20 38.3 +1.6
baz=284
CRQE Cirque 34.56 51 P P 18 20 38.1 +1.2
baz=286
BCAR Beaver Creek A 34.56 47 P 18 20 38.2 +1.4
M27K Edge Creek, AK 34.69 48 IAmb IAmb 18 20 40.7
comp=Z,10.0nm,0.8s
M27K Edge Creek, AK 34.69 48 P P 18 20 40.1 +2.1
baz=285,SNR=10
I28M Miner Creek 34.82 42 IAmb IAmb 18 20 41.9
comp=Z,4.2nm,0.8s
I28M Miner Creek 34.82 42 P P 18 20 40.2 +1.2
baz=282,SNR=7.7
E29M Blow River 35.07 37 IAmb IAmb 18 20 43.0
comp=Z,3.5nm,0.6s
E29M Blow River 35.07 37 P P 18 20 41.9 +0.9
baz=280
BVCY Beaver Creek 35.14 48 P P 18 20 43.1 +1.5
baz=286
BARN Barnard Glacie 35.14 50 IAmb IAmb 18 20 44.3
comp=Z,7.3nm,0.6s
MESA MESA 35.27 52 P P 18 20 43.9 +1.0
baz=288
G29M Pine Creek 35.29 40 P P 18 20 43.7 +0.9
baz=282
H29M Whitestone 35.29 41 P P 18 20 44.0 +1.2
baz=282
CTG Chitna Glacier 35.32 50 P P 18 20 44.9 +1.6
baz=287,SNR=5.0
DAWY Dawson 35.36 45 P P 18 20 44.1 +0.6
baz=284
YUK3 Moose Creek 35.49 49 P P 18 20 45.7 +0.9
baz=287
I29M Ogilvie Camp, 35.51 42 P P 18 20 45.4 +0.8
baz=284
EPYK Eagle Plains 35.91 40 P P 18 20 48.2 +0.2
baz=283
O28M Mount Upton 35.91 50 P P 18 20 49.3 +0.8
baz=288
YUK8 Steele Glacier 35.96 49 P P 18 20 50.1 +1.3
baz=288
G30M tAoh Zraii Nji 35.97 39 P P 18 20 49.6 +1.1
baz=283
F30M Barrier River 36.00 38 P 18 20 50.1 +1.5
F30M IAmb IAmb 18 20 51.2
comp=Z,10nm,0.8s
F30M Barrier River 36.00 38 P P 18 20 50.4 +1.7
baz=282,SNR=6.7
PINM Pinnacle 36.10 51 P P 18 20 50.8 +1.1
baz=289
L29M L29M 36.16 46 P 18 20 52.0 +1.9
L29M L29M 36.16 46 P P 18 20 51.6 +1.5
baz=287,SNR=11
M29M Somme Creek 36.20 47 P P 18 20 51.2 +0.6
baz=287
K29M Barlow Dome 36.21 45 P P 18 20 50.5 -0.1
baz=286
I30M Mount Dempster 36.33 42 IAmb IAmb 18 20 53.4
comp=Z,5.7nm,0.9s
I30M Mount Dempster 36.33 42 P P 18 20 52.9 +1.3
baz=285,SNR=6.3
YUK4 Talbot Arm 36.45 49 P P 18 20 52.5 -0.2
baz=289
J30M Hart River 36.52 43 P P 18 20 53.8 +0.6
baz=286
PNL Peninsula 36.65 52 P P 18 20 54.5 +0.3
baz=290
INK Inuvik 36.68 37 P P 18 20 54.5 +0.2
baz=283
YUK6 Outpost Mounta 36.71 49 P P 18 20 54.9 0.0
baz=289
G31M Satah River 36.73 39 P P 18 20 54.8 +0.1
baz=285
F31M Tsiigehtchic 36.80 38 P P 18 20 55.2 -0.1
baz=284
O29M Mount Kennedy 36.82 51 P P 18 20 56.2 +0.5
baz=290
M30M Minto, Yukon 36.90 46 P P 18 20 57.8 +1.5
M30M Minto, Yukon 36.90 46 P P 18 20 56.4 +0.2
baz=288
H31M Peel River 36.99 41 P P 18 20 57.4 +0.5
baz=286
N30M Aishikik Lake 37.12 48 P P 18 20 58.3 +0.2
baz=290
HYT Haines Junctio 37.15 49 P P 18 21 00.8 +2.4
HYT IAmb IAmb 18 21 01.8
comp=Z,6.1nm,0.8s
HYT Haines Junctio 37.15 49 P P 18 20 59.0 +0.6
baz=290
P29M Windy Craggy 37.45 51 P P 18 21 01.9 +1.1
baz=291
P30M Million Dollar 37.64 50 P P 18 21 02.9 +0.6
baz=291
N31M Braeburn, Yuko 37.71 48 P P 18 21 04.5 +1.7
baz=290
O30N Mendenhall 37.81 49 P P 18 21 04.8 +1.1
baz=291
M31M Drury Creek, Y 38.08 46 P P 18 21 06.5 +0.6
baz=290
PLBC Pleasant Camp 38.17 51 P P 18 21 07.3 +0.8
baz=292
GTA Gaotai 38.38 271 *e*P P 18 21 09.6 +0.8
GTA pmax pmax
comp=Z,6.0nm,0.6s
WHY Whitehorse 38.41 49 P P 18 21 09.1 +0.4
baz=292
SKAG Skagway 38.66 51 P P 18 21 11.4 +0.8
baz=293
ENH Enshi 38.82 252 P P 18 21 11.6 -0.8
ENH IAmb IAmb 18 21 12.1
comp=Z,7.1nm,0.5s
MMPY Sheldon Lake, 39.29 45 P P 18 21 16.8 +1.1
baz=292
ZAA0 Zalesovo Array 39.30 300 P P 18 21 14.1 -1.7
ZALV Zalesovo Beam 39.30 300 P P 18 21 14.8 -1.0
ZALV Zalesovo Beam 39.30 300 P P 18 21 15.2 -0.6
comp=Z,1.1nm,0.5s,baz=55,slow=7.9,SNR=6.3
comp=Z,1.1nm,0.5s
P32M Atlin 39.36 50 P P 18 21 16.2 -0.1
baz=294
R32K Eaglecrest 39.52 52 P P 18 21 18.9 +1.3
baz=295
P33M Teslin, Yukon 39.53 49 P P 18 21 18.7 +1.0
baz=294
SIT Sitka 39.64 54 P P 18 21 20.6 +2.1
baz=296
Q32M Nakina River 40.30 51 P P 18 21 25.2 +1.2
baz=296
R33M Jennings River 40.72 50 P P 18 21 28.5 +1.2
baz=296
TGTN Hyland Airport 41.02 46 P P 18 21 30.5 +0.9
baz=295
U33K Whale Pass 41.15 55 P P 18 21 30.8 +0.2
baz=298
S34M Telegraph Cree 41.30 52 P P 18 21 32.7 +0.9
baz=297
WRAK Wrangell Islan 41.39 54 P P 18 21 31.4 -1.1
baz=298
CRAG Craig 41.45 56 P P 18 21 32.6 -0.4
baz=299
DLBC Dease Lake 41.58 51 P P 18 21 33.6 -0.5
baz=297
T35M Bob Quinn 42.15 53 P P 18 21 39.3 +0.7
baz=299
V35K Ketchikan 42.28 55 P P 18 21 39.4 -0.1
baz=300
KOTAN Kotaneelee Air 43.49 46 P P 18 21 48.3 -0.8
baz=299
KURK Kurchatov 44.21 299 P P 18 21 54.4 -0.3
KURK Kurchatov 44.21 299 ‖ *i*P P 18 21 54.2 -0.5
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 44.21 299 *e*P P 18 21 54.2 -0.5
KURBB Kurchatov Arra 44.30 298 P P 18 21 55.3 -0.2
comp=Z,4.2nm,0.4s,baz=62,slow=7.7,SNR=20
comp=Z,4.2nm,0.4s
MK31 Makanchi Array 44.38 292 P P 18 21 55.7 -0.4
MK31 Makanchi Array 44.38 292 ‖ *i*P P 18 21 55.8 -0.4
MKAR Makanchi Array 44.38 292 P P 18 21 55.9 -0.3
comp=Z,2.5nm,0.6s,baz=60,slow=6.9,SNR=43
comp=Z,2.5nm,0.6s
MAKZ Makanchi 44.55 292 P P 18 21 56.8 -0.7
MAKZ Makanchi 44.55 292 P P 18 21 56.8 -0.7
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
RES Resolute Bay 45.14 20 P P 18 22 01.7 +0.1
RES IAmb IAmb 18 22 23.9
comp=Z,10nm,1.1s
RES Resolute Bay 45.14 20 P P 18 22 01.7 +0.1
RES pmax pmax
comp=Z,10.0nm,1.1s
PZH PanZhiHua 46.15 256 P P 18 22 10.8 +0.6
YKA Yellowknife Ar 46.20 40 P P 18 22 09.6 -0.2
YKA Yellowknife Ar 46.20 40 P P 18 22 10.5 +0.7
comp=Z,2.5nm,0.7s,baz=307,slow=8.0,SNR=14
comp=Z,2.5nm,0.7s
YKA Yellowknife Ar 46.20 40 P P 18 22 09.6 -0.2
BVAR Borovoye Array 47.16 305 P P 18 22 17.0 -0.3
comp=Z,3.2nm,0.5s,baz=58,slow=8.2,SNR=13
comp=Z,3.2nm,0.5s
KDJ Kajisay 50.12 290 P P 18 22 39.2 -0.5
KDJ IAmb IAmb 18 22 40.5
comp=Z,3.7nm,0.5s
KDJ Kajisay 50.12 290 P P 18 22 39.2 -0.5
KDJ pmax pmax
comp=Z,4.0nm,0.5s
NLWA Neilton Lookou 50.75 61 P P 18 22 45.2 +1.2
AAK Ala-Archa 51.32 292 P P 18 22 48.1 -0.3
AAK IAmb IAmb 18 22 49.1
comp=Z,4.9nm,0.5s
AAK Ala-Archa 51.32 292 *e*P P 18 22 48.0 -0.4
AAK Ala-Archa 51.32 292 *e*P P 18 22 48.0 -0.4
BLKN Baker Lake 51.64 31 P P 18 22 49.5 -0.6
BLKN IAmb IAmb 18 22 49.6
comp=Z,16nm,1.4s
ILON Igloolik, Nuna 51.75 22 P P 18 22 49.6 -1.2
ILON IAmb IAmb 18 23 32.1
comp=Z,28nm,1.5s
ARCES ARCESS Array B 52.15 339 P P 18 22 53.1 -0.7
comp=Z,3.1nm,0.9s,baz=34,slow=4.8,SNR=5.3
comp=Z,3.1nm,0.9s
ARCES ARCESS Array B 52.15 339 *e*P P 18 22 53.8 0.0
ARCES pmax pmax
comp=Z,5.0nm,1.0s
SHL Shillong 52.74 264 P P 18 22 58.2 -0.7
SHL Shillong 52.74 264 P P 18 22 58.2 -0.7
KIRV Kirov 53.01 320 *e*P P 18 23 00.0 0.0
KK31 Karatay Array 53.23 295 P P 18 23 01.1 -0.8
KK31 Karatay Array 53.23 295 P P 18 23 01.1 -0.8
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 53.23 295 P P 18 23 01.2 -0.7
KKAR Karatay Array 53.23 295 P P 18 23 01.2 -0.7
KBO Bosley Butte 53.91 66 P P 18 23 09.2 +2.3
CMAR Chiang Mai Arr 53.99 252 P P 18 23 08.2 +0.6
comp=Z,1.2nm,0.8s,baz=25,slow=7.0,SNR=10
comp=Z,1.2nm,0.8s
EVN Everest 54.06 270 P P 18 23 08.0 -0.8
KRMB Red Mountain 54.55 66 P P 18 23 13.2 +1.8
KRMB IAmb IAmb 18 23 20.3
comp=Z,31nm,1.4s
AB31 Akbulak array 54.65 307 P P 18 23 11.0 -0.8
ABKAR Akbulak array 54.65 307 P P 18 23 11.5 -0.4
J05D Fort Rock, OR 54.83 63 P P 18 23 15.3 +1.9
J05D IAmb IAmb 18 23 16.5
comp=Z,6.1nm,0.7s
K05A Summer Lake 55.39 63 P P 18 23 18.9 +1.5
NIL Nilore 58.14 285 P P 18 23 35.4 -0.9
NIL Nilore 58.14 285 P P 18 23 35.4 -0.9
NIL pmax pmax
comp=Z,7.0nm,1.0s
BOZ Bozeman (W) 58.24 55 P P 18 23 38.2 +1.3
BOZ Bozeman (W) 58.24 55 P P 18 23 38.2 +1.3
BOZ pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 58.59 333 P P 18 23 37.9 -0.9
comp=Z,4.3nm,1.0s,baz=33,slow=6.9,SNR=2.1
comp=Z,4.3nm,1.0s
NVAR Mina Array Bea 59.79 65 P P 18 23 49.4 +1.9
comp=Z,0.7nm,0.5s,baz=297,slow=5.3,SNR=5.8
comp=Z,0.7nm,0.5s
OBN Obninsk 60.35 324 *e*P P 18 23 50.9 +0.3
OBN *e* 18 24 30.7
OBN *e**PP **pP** 18 25 32.5 +1.5
OBN *e* 18 26 11.4
OBN *e**SP **sP** 18 26 27.9 +3.3
OBN *e*S S 18 31 33.4 +7.5
OBN pmax pmax
comp=Z,7.0nm,1.3s
OBN Obninsk 60.35 324 *e*P P 18 23 50.9 +0.3
SBUM Sibu 60.48 229 P P 18 23 52.7 +0.7
HWUT Hardware Ranch 61.12 59 P P 18 23 57.6 +1.4
PD31 Pinedale Array 61.31 56 P P 18 23 58.4 +0.9
PDAR Pinedale Array 61.31 56 P P 18 23 58.0 +0.5
PDAR Pinedale Array 61.31 56 P P 18 23 58.4 +0.9
comp=Z,1.3nm,0.7s,baz=330,slow=2.4,SNR=12
comp=Z,1.3nm,0.7s
ULM Lac du Bonnet 62.03 43 P P 18 24 01.9 +0.2
comp=Z,1.1nm,0.5s,baz=290,slow=8.5,SNR=2.2
comp=Z,1.1nm,0.5s
PMG Port Moresby 62.16 187 P P 18 24 03.9 +0.9
PMG Port Moresby 62.16 187 P P 18 24 03.9 +0.9
PMG pmax pmax
comp=Z,57nm,1.5s
HFS Hagfors 62.80 339 P P 18 24 05.6 -1.0

comp=Z,0.8nm,0.4s,baz=54,slow=7.3,SNR=1.1
comp=Z,0.8nm,0.4s

SRU	**San Rafael Swe**	**63.49**	**60**	P	**P**	**18 24 12.4**	**+0.8**
SRU	**San Rafael Swe**	**63.49**	**60**	P	**P**	**18 24 12.4**	**+0.8**
SRU				pmax	pmax		

comp=Z,2.0nm,0.9s

HMU	**Henry Mountain**	**64.24**	**61**		**P**	**18 24 16.8**	**+0.2**
HMU				IAmb	IAmb	18 24 18.5	

comp=Z,4.8nm,0.7s

SCHQ	**Schefferville**	**67.76**	**24**	P	**P**	**18 24 36.8**	**-1.1**

comp=Z,13nm,0.4s,baz=304,slow=6.5,SNR=1.5

WRA	**Warramunga Arr**	**74.23**	**198**	P	**P**	**18 25 16.6**	**+0.2**

comp=Z,1.0nm,0.6s,baz=15,slow=6.0,SNR=14
comp=Z,1.0nm,0.6s

WRA	**Warramunga Arr**	**74.23**	**198**	*i* P	**P**	**18 25 15.5**	**-0.9**
WRA				pmax	pmax		

comp=Z,1.0nm,0.6s

TXAR	**Lajitas Array**	**74.60**	**62**	P	**P**	**18 25 19.8**	**+1.2**

comp=Z,0.7nm,0.6s,baz=290,slow=4.0,SNR=4.9
comp=Z,0.7nm,0.6s

ASAR	**Alice Springs**	**77.94**	**198**	P	**P**	**18 25 37.3**	**+0.5**

comp=Z,1.1nm,0.7s,baz=10,slow=5.0,SNR=34
comp=Z,1.1nm,0.7s

IDC ***14*** *18:21:06.8±1.2, 12°.53N×47°.54E, h0km, mb3.7/7, mbtmp3.7/7, ML2.0/1, MS3.9/1, Error ellipse: s-maj=35.1km s-min=25.0km az=163.0*

ISC 14 18:21:08.9±1.2, 12°.5N±0°.2×47°.5E±0°.1, h14km, n9, σ1§04/8, mb3.8/6, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**4.65**	**258**	Pn	**Pn**	**18 22 18.0**	**-0.8**

0.1nm,0.3s,baz=100,slow=17,SNR=5.5

ARTI	**Arti**	**44.55**	**9**	LR	LR	18 53 05.1	

comp=Z,147nm,19.2s,baz=290,slow=43

TORD	**Torodi Ar. Bea**	**44.60**	**276**	P	**P**	**18 29 22.7**	**+1.5**

0.8nm,1.0s,baz=74,slow=8.1,SNR=3.2
0.8nm,1.0s

MKAR	**Makanchi Array**	**44.96**	**34**	P	**P**	**18 29 24.2**	**+0.6**

2.1nm,0.9s,baz=218,slow=7.7,SNR=11
2.1nm,0.9s

KURBB	**Kurchatov Arra**	**45.64**	**27**	P	**P**	**18 29 29.3**	**+0.4**

0.4nm,0.3s,baz=228,slow=8.3,SNR=4.2
0.4nm,0.3s

GERES	**GERESS Array B**	**45.73**	**329**	P	**P**	**18 29 29.3**	**-0.5**

0.2nm,0.5s,baz=142,slow=9.7,SNR=2.6
0.2nm,0.5s

ZALV	**Zalesovo Beam**	**50.73**	**28**	P	**P**	**18 30 06.9**	**-1.2**

0.8nm,0.6s,baz=216,slow=7.3,SNR=4.1
0.8nm,0.6s

WRA	**Warramunga Arr**	**91.30**	**110**	P	**P**	**18 34 14.5**	**-0.3**

0.5nm,0.7s,baz=290,slow=4.1,SNR=6.6
0.5nm,0.7s

ASAR	**Alice Springs**	**91.73**	**114**	P	**P**	**18 34 16.7**	**0.0**

0.3nm,0.8s,baz=292,slow=4.5,SNR=5.1
0.3nm,0.8s

CATAC ***14*** *18:34:06.9±0.7, 14°.N±4°.×9°.3W±°, h1km, M3.7/9, MLv3.7/9, Error ellipse: s-maj=9.4km s-min=5.1km az=29.2, confirmed*

GCG ***14*** *18:34:07.8±1.5, 14°.20N×93°.36W, h38km±11km, MD4.0, ML3.8, MW3.4*

MEX ***14*** *18:34:08.5±1.0, 14°.32N×93°.42W, h10km, MD4.0*

ISC 14 18:34:03.5±2.2, 14°.28N±0°.07×93°.36W±0°.05, h7km±12km, n27, σ1§67/42, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.23**	**60**	*e*P	**Pn**	**18 34 28.4**	**+1.2**
THIG				*e*S	**Sb**	**18 34 43.9**	**+0.7**
THIG		**1.23**	**60**	*e*P	**Pn**	**18 34 28.3**	**+1.1**
THIG				*i* S	**Sn**	**18 34 44.2**	**+0.2**
THIG				IAML		18 34 47.6	

comp=E,2μm,0.3s

SMCA	**Catarina**	**1.37**	**65**	*e*P	**Pb**	**18 34 30.4**	**+0.9**
PATR	**El Naranjo**	**1.37**	**53**	*e*P	**Pg**	**18 34 30.0**	**+0.1**
PATR				*e*S	**Sg**	**18 34 47.1**	**-0.6**
PCIG		**1.42**	**6**	*e*P	**Pn**	**18 34 30.6**	**+0.8**
PCIG				*e*S	**Sg**	**18 34 47.9**	**-1.4**
CHIJ	**Union Juarez**	**1.46**	**56**	*e*P	**Pn**	**18 34 31.5**	**+1.0**
CHUJ				*e*S	**Sg**	**18 34 49.5**	**-1.0**
PAVE	**Pavencul**	**1.46**	**52**	*e*P	**Pn**	**18 34 31.4**	**+0.8**
PAVE				*e*S	**Sg**	**18 34 49.2**	**-1.4**
RTAL	**Retalhuleu**	**1.64**	**81**	*e*P	**Pn**	**18 34 34.6**	**+1.8**
RTAL				*e*S	**Sn**	**18 34 54.4**	**+0.4**
RTAL	**Retalhuleu**	**1.64**	**81**	P	**Pb**	**18 34 34.8**	**+0.8**
RTAL	**Retalhuleu**	**1.64**	**81**	S	**Sb**	**18 34 55.7**	**+0.8**
QUEO	**Labor Ovalle**	**1.89**	**72**	*e*P	**Pn**	**18 34 37.9**	**+1.5**
SOKI	**Kika Raxquin**	**1.97**	**74**	*i* P	**Pb**	**18 34 41.5**	**+1.5**
HUEH	**Huehuetenango**	**2.08**	**60**	*e*P	**Pb**	**18 34 41.9**	**+0.2**
HUEH				*e*S	**Sb**	**18 35 08.6**	**+0.9**
HUEH	**Huehuetenango**	**2.08**	**60**	P	**Pb**	**18 34 42.1**	**+0.5**
CCIG	**Comitan**	**2.31**	**31**	*e*P	**Pb**	**18 34 46.0**	**+0.2**
CCIG				*e*S	**Sb**	**18 35 15.5**	**+0.9**
CCIG	**Comitan**	**2.31**	**31**	*e*P	**Pb**	**18 34 45.8**	**+0.1**
CCIG				*e*S	**Sb**	**18 35 15.1**	**+0.5**
CCIG				IAML		18 35 18.6	

comp=N,291nm,0.4s

CCIG	**Comitan**	**2.31**	**31**	S	**Sb**	**18 35 13.8**	**-0.9**
CCIG	**Comitan**	**2.31**	**31**	P	**Pb**	**18 34 46.4**	**+0.6**
QUIS	**Sacapulas**	**2.42**	**65**	*e*P	**Pb**	**18 34 47.5**	**+0.1**
TGIG		**2.49**	**5**	*e*P	**Pb**	**18 34 47.5**	**-1.2**

comp=Z,76nm,0.3s

TGIG				*e*S	**Sn**	**18 35 17.4**	**+2.1**
FG16	**Alotenango, Sa**	**2.77**	**90**	*e*P	**Pn**	**18 34 45.7**	**-2.7**
FG16				IAML		18 35 16.5	

comp=N,1μm,0.2s

CMIG	**Matias Romero**	**3.15**	**333**	*e*P	**Pn**	**18 34 56.5**	**+2.9**
CMIG				*e*S	**Sn**	**18 35 31.3**	**-0.3**
NEUV	**Arroyo Zacate**	**4.14**	**326**	*e*P	**Pn**	**18 35 10.3**	**+3.2**
NEUV				*e*S	**Sn**	**18 35 57.1**	**+1.3**
PMUV	**Sontecomapan**	**4.56**	**339**	*e*P	**Pn**	**18 35 14.1**	**+1.0**
PMUV				*e*S	**Sn**	**18 36 00.6**	**-5.9**
SCIG	**Sabancuy**	**5.11**	**24**	*e*P	**Pn**	**18 35 23.1**	**+2.7**
JAUV	**Jalcomulco**	**6.03**	**327**	*e*P	**Pn**	**18 35 34.6**	**+1.3**
JAUV				*e*S	**Sn**	**18 36 42.0**	**-0.6**
BRG	**Berggiesshubel**	**89.60**	**37**	*e*P	**P**	**18 47 00.1**	**-1.9**
BRG				Amp		18 47 02.3	

comp=Z,3.3nm,1.1s

IDC ***14*** *18:47:36.8±0.9, 35°.49N×141°.79E, h0km, mb3.8/11, mbtmp3.8/13, ML3.2/2, Error ellipse: s-maj=26.8km s-min=16.9km az=81.0*

JMA ***14*** *18:47:37.9±0.4, 35°.6N±0°.7×14°.2E±°, h31km±4km, MV3.7/36, FAR E OFF KANTO*

NIED ***14*** *18:47:37.9, 35°.55N×142°.00E, h31km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.89; Mθθ0.46; Mφφ-1.35; Mrθ0.17; Mθφ-0.54; Mrφ-0.14; Fault plane solution: M₀1.25000×10¹⁵ NP1:φs41.00000°, δ49.00000°, λ128.00000°. NP2:φs171.00000°, δ53.00000°, λ54.00000°.*

ISC 14 18:47:39.1±0.9, 35°.53N±0°.07×142°.02E±0°.10, h22km, n29, σ1§54/26, mb3.8/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.22**	**224**	*e*P	**Pn**	**18 47 59.1**	**-1.3**
BSO1				*e*S	**Sn**	**18 48 15.2**	**-0.7**
JSMT	**Sammumatsuo**	**1.28**	**275**	*e*P	**Pn**	**18 48 00.4**	**-1.3**
JIHU	**Itakohorinouch**	**1.29**	**290**	*e*P	**Pn**	**18 48 00.6**	**-1.2**
JHYU	**Hitachinakayam**	**1.41**	**305**	*e*P	**Pn**	**18 48 02.3**	**-1.2**
BSO3	**Boso 3**	**1.43**	**240**	*e*P	**Pn**	**18 48 02.4**	**-1.1**
BSO4	**Boso 4**	**1.48**	**249**	*e*P	**Pn**	**18 48 03.2**	**-1.1**
BSO4				*e*S	**Sn**	**18 48 21.9**	**-0.9**
JHO	**Hitachi**	**1.59**	**313**	P	**Pn**	**18 48 04.3**	**-1.7**
JYT	**Yasato**	**1.64**	**296**	P	**Pn**	**18 48 04.7**	**-1.9**
JFK	**Kawauchi**	**2.05**	**334**	*e*P	**Pn**	**18 48 11.7**	**-0.7**
JAG	**Ashikaga**	**2.26**	**294**	P	**Pn**	**18 48 13.8**	**-1.5**
MJAR	**Matsushiro Arr**	**3.25**	**289**	Pn	**Pn**	**18 48 27.5**	**-1.3**

0.7nm,0.3s,baz=98,slow=10,SNR=24

MJAR				Sn	**Sn**	**18 49 10.4**	**+3.7**

0.6nm,0.3s,baz=145,slow=6.7,SNR=5.4
5.0nm,0.5s

ASAJ	**Asahikawa**	**8.59**	**3**	Pn	**Pn**	**18 49 42.0**	**-0.1**

0.6nm,0.3s,baz=206,slow=14,SNR=10

ASAJ				Sn	**Sn**	**18 51 14.7**	**-3.5**

0.1nm,0.3s,baz=206,slow=17,SNR=1.7
3.7nm,0.6s

PETK	**Petropavlovsk-**	**20.77**	**27**	P	Pn	18 52 21.4	+0.6

4.1nm,0.9s,baz=271,slow=7.3,SNR=3.7
4.1nm,0.9s

H11N2	**WAKE ISLAND Hy**	**26.98**	**119**	T	T	19 21 50.1	

baz=311,slow=75,SNR=18

H11N1	**WAKE ISLAND Hy**	**26.98**	**119**	T	T	19 21 47.1	

baz=311,slow=75,SNR=17

H11N3	**WAKE ISLAND Hy**	**27.00**	**119**	T	T	19 21 46.5	

baz=311,slow=75,SNR=16

H11S1	**WAKE ISLAND Hy**	**27.65**	**121**	T	T	19 22 36.8	

baz=313

H11S3	**WAKE ISLAND Hy**	**27.65**	**121**	T	T	19 22 35.9	

baz=313,slow=74

H11S2	**WAKE ISLAND Hy**	**27.66**	**121**	T	T	19 22 36.6	

baz=313,slow=74

SONM	**Songino Array**	**29.04**	**306**	P	**P**	**18 53 37.8**	**+0.1**

0.9nm,0.5s,baz=124,slow=7.7,SNR=3.0
0.9nm,0.5s

ZALV	**Zalesovo Beam**	**43.29**	**314**	P	**P**	**18 55 39.0**	**0.0**

2.1nm,0.8s,baz=94,slow=6.5,SNR=7.9
2.1nm,0.8s

MKAR	**Makanchi Array**	**45.34**	**303**	P	**P**	**18 55 55.9**	**+0.3**

0.5nm,0.6s,baz=89,slow=9.1,SNR=6.1
0.5nm,0.6s

KURBB	**Kurchatov Arra**	**47.32**	**309**	P	**P**	**18 56 11.1**	**+0.2**

5.5nm,0.6s,baz=85,slow=8.2,SNR=23
5.3nm,0.6s

ILAR	**Eielson Array**	**50.51**	**32**	P	**P**	**18 56 37.2**	**+2.0**

0.4nm,0.8s,baz=270,slow=6.7,SNR=4.5
0.4nm,0.8s

BVAR	**Borovoye Array**	**51.95**	**313**	P	**P**	**18 56 45.1**	**-1.1**

0.5nm,0.5s,baz=68,slow=7.7,SNR=5.1
0.5nm,0.5s

FITZ	**Fitzroy Crossi**	**55.55**	**199**	P	**P**	**18 57 12.6**	**-0.2**

1.8nm,0.9s,baz=11,slow=5.2,SNR=1.9
1.8nm,0.9s

WRA	**Warramunga Arr**	**55.65**	**189**	P	**P**	**18 57 13.4**	**-0.1**

0.5nm,0.5s,baz=4.4,slow=7.5,SNR=9.3
0.5nm,0.5s

ASAR	**Alice Springs**	**59.37**	**189**	P	**P**	**18 57 41.1**	**+1.4**

0.5nm,1.0s,baz=1.7,slow=6.1,SNR=11
0.5nm,1.0s

AKASG	**Malin Array Be**	**75.78**	**323**	P	**P**	**18 59 23.8**	**+0.7**

0.4nm,0.4s,baz=51,slow=6.0,SNR=5.3
0.4nm,0.4s

MOS ***14*** *19:03:31.7±1.3, 40°.74N×33°.06E, h9km, mb4.5/4, Error ellipse: s-maj=6.0km s-min=3.8km az=91.1*

MCSM ***14*** *19:03:31.4±1.1, 41°.N±7°.×3°.3E±°, h7km±16km, mb4.6, MLv4.4*

ISK ***14*** *19:03:31.9, 40°.76N×32°.93E, h2km, ML4.3/37*

AFAD ***14*** *19:03:32.0, 40°.73N×32°.98E, h11km±1km, MW4.3*

IDC ***14*** *19:03:32.2±0.6, 40°.70N×32°.99E, h0km, mb3.8/12, mbtmp3.8/24, ML3.4/10, MS3.5/24, Error ellipse: s-maj=10.5km s-min=6.3km az=60.0*

MED_RC ***14*** *19:03:33.0±0.5, 40°.72N×32°.98E, h12km±4km, MW4.5/17, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s17,c19; Duration: 1§0 Moment tensor: Scale 10¹⁵Nm; Mrr-2.21±1.36; Mθθ-0.75±.91; Mφφ2.96±.75; Mrθ-3.73±2.80; Mθφ-4.49±.36; Mrφ-0.87±1.43; Best double couple: M₀6.46000×10¹⁵ NP1:φs4.00000°, δ55.00000°, λ-23.00000°. NP2:φs108.00000°, δ72.00000°, λ-142.00000°. Principal axes: T 6.2200, Plg11.0000°, Azm232.0000°; N 0.4800, Plg49.0000°, Azm130.0000°; P -6.7000, Plg39.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

NEIC ***14*** *19:03:34.4±2.5, 40°.72N±0°.02×32°.99E±0°.05, h10km±2km, mb4.3/9 Error ellipse: s-maj=6.8km s-min=3.1km az=118.0*

CFUSG ***14*** *19:03:35.5, 40°.94N×33°.48E, h18km, mb3.2/8, MD3.5/5, North Turkey Magtype MSH 3.1 from 5 stations*

ISC 14 19:03:32.4±1.0, 40°.76N±0°.02×33°.01E±0°.02, h3km±7km, n324, σ1§59/348, mb4.0/12, MS3.5/15, 31C-31D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DERS	**Karabk-Eskip**	**0.36**	**285**	P	**Pg**	**19 03 40.3**	**+0.9**
DERS				S	**Sg**	**19 03 44.3**	**+0.3**
ELDT	**Eldivan**	**0.42**	**130**	P	**Pg**	**19 03 40.8**	**+0.3**
ELDT				S	**Sg**	**19 03 46.4**	**+0.4**
CMDR	**Camlidere-ANKA**	**0.48**	**237**	P	**Pg**	**19 03 41.2**	**-0.5**
CMDR				S	**Sg**	**19 03 47.0**	**-1.0**
SAFT	**Safranbolu**	**0.54**	**333**	Pg	**Pg**	**19 03 42.9**	**+0.2**
SAFT				Sg	**Sg**	**19 03 50.8**	**+1.1**
KBUK	**KARABUK-Merkez**	**0.56**	**329**	P	**Pg**	**19 03 43.4**	**+0.3**
PELI	**Kastamonı-Ara**	**0.59**	**23**	P	**Pg**	**19 03 44.5**	**+0.8**
PELI				S	**Sg**	**19 03 51.0**	**-0.3**
ILGA	**Ilgaz**	**0.61**	**61**	P	**Pg**	**19 03 44.0**	**-0.2**
ILGA	**Ilgaz**	**0.61**	**61**	P	**Pg**	**19 03 44.0**	**-0.2**
ILGA				S	**Sg**	**19 03 52.9**	**+0.8**
YENC	**ankr-Yen**	**0.64**	**97**	P	**Pg**	**19 03 45.6**	**+0.9**
YENC				S	**Sg**	**19 03 52.5**	**-0.5**
BCAM	**Yenicaga**	**0.72**	**275**	P	**Pg**	**19 03 45.9**	**-0.3**
BCAM				S	**Sg**	**19 03 53.3**	**-2.2**
GOKD	**Ankara-Kalecik**	**0.78**	**152**	P	**Pg**	**19 03 47.2**	**-0.1**
GOKD				S	**Sg**	**19 03 57.4**	**+0.1**
TOS	**Tosya**	**0.82**	**70**	Pg	**Pg**	**19 03 49.4**	**+1.3**
KMON	**Kastamonu**	**0.85**	**44**	Pg	**Pg**	**19 03 49.6**	**+0.9**
DEVR	**Zonguldak/Devr**	**0.87**	**296**	P	**Pg**	**19 03 49.0**	**-0.2**
DEVR				S	**Sg**	**19 03 58.6**	**-1.8**
ANTO	**Ankara**	**0.91**	**190**	Pg	**Pg**	**19 03 49.9**	**+0.1**
ANTO	**Ankara**	**0.91**	**190**		**Pg**	**19 03 49.5**	**-0.3**
ANTO				Sg	**Sb**	**19 04 03.5**	**+0.2**
ANTO	**Ankara**	**0.91**	**190**	⇑P	**Pg**	**19 03 49.7**	**-0.1**
ANTO	**Ankara**	**0.91**	**190**	P	**Pg**	**19 03 49.5**	**-0.3**
ANTO						19 04 03.5	
ANTO	**Ankara**	**0.91**	**190**	Pg	**Pg**	**19 03 49.5**	**-0.3**
KIBS	**BOLU**	**0.94**	**249**	P	**Pg**	**19 03 50.0**	**-0.5**
KIBS				S	**Sg**	**19 04 02.3**	**-0.5**
BOLU	**Bolu-Merkez-Mu**	**1.01**	**271**	P	**Pg**	**19 03 51.2**	**-0.6**
DELI	**KIRIKKALE**	**1.03**	**137**	P	**Pg**	**19 03 51.8**	**-0.5**
SEYI	**Kastamonu-Seyd**	**1.03**	**32**	P	**Pg**	**19 03 52.5**	**+0.2**
SEYI				S	**Sg**	**19 04 04.3**	**-1.4**
BTIN	**Bartın**	**1.04**	**327**	P	**Pg**	**19 03 52.1**	**-0.3**
BTIN				S	**Sg**	**19 04 06.8**	**+0.7**
YUVA	**Yuva-Kibriscik**	**1.07**	**250**	Pg	**Pg**	**19 03 52.5**	**-0.5**
KURC	**Kurucasile-Bar**	**1.10**	**350**	Pn	**Pb**	**19 03 53.6**	**-0.5**
SUNG	**orum-Sungurl**	**1.10**	**121**	P	**Pb**	**19 03 53.5**	**-0.8**
SUNG				S	**Sg**	**19 04 08.6**	**+0.7**
CIDE	**Kastamonu/Cide**	**1.12**	**358**	P	**Pb**	**19 03 54.1**	**-0.4**
CIDE				S	**Sb**	**19 04 08.9**	**-0.6**
CIDE	**Kastamonu/Cide**	**1.12**	**358**	⇓P	**Pb**	**19 03 54.7**	**+0.3**
BR106	**Keskin Array S**	**1.13**	**155**	Pg	**Pb**	**19 03 53.6**	**-1.1**
BR105	**Keskin Array S**	**1.14**	**156**	Pg	**Pb**	**19 03 53.8**	**-1.1**
BR131	**Keskin Array S**	**1.14**	**155**		**Pb**	**19 03 53.7**	**-1.3**
BR131				Sg	**Sg**	**19 04 10.1**	**+0.9**
BR131	**Keskin Array S**	**1.14**	**155**	*d* P	**Pb**	**19 03 53.6**	**-1.3**
BRTR	**Keskin Array B**	**1.14**	**155**		**Pb**	**19 03 53.7**	**-1.3**
BRTR	**Keskin Array B**	**1.14**	**155**	Pg	**Pb**	**19 03 53.3**	**-1.7**

485nm,0.3s,baz=120,slow=1.1,SNR=1436

BRTR				Lg	Lg	19 04 09.7	

474nm,0.3s,baz=27,slow=27,SNR=15

BRTR				LR	LR	19 04 16.7	

comp=Z,2μm,21.5s,baz=156,slow=41

BRTR	**Keskin Array B**	**1.14**	**155**	*i* P	**Pb**	**19 03 53.2**	**-1.7**
BRTR				pmax	pmax		

comp=Z,1μm,0.4s

BR104	**Keskin Array S**	**1.16**	**155**	Pg	**Pb**	**19 03 54.1**	**-1.1**
KAGI	**orum-Kargı**	**1.18**	**71**	P	**Pb**	**19 03 54.0**	**-1.4**
KESK	**Krkkale-Ke**	**1.21**	**158**	P	**Pb**	**19 03 55.2**	**-0.8**
KESK				S	**Sb**	**19 04 10.9**	**-1.2**
BBAL	**Bala**	**1.22**	**176**	P	**Pb**	**19 03 55.6**	**-0.7**
BBAL				S	**Sb**	**19 04 12.5**	**0.0**
POLA	**Polatl-ANKAR**	**1.24**	**212**	Pn	**Pn**	**19 03 56.0**	**-0.8**
AFSR	**Afar-Bala (An**	**1.31**	**178**	Pn	**Pb**	**19 03 58.0**	**+0.2**
MDUB	**Mudurnu**	**1.41**	**259**	Pn	**Pn**	**19 03 58.6**	**-0.5**
MDUB	**Mudurnu**	**1.41**	**259**		**Pn**	**19 03 58.4**	**-0.7**
AYAZ	**Ayas K¶y, M**	**1.41**	**93**	P	**Pn**	**19 03 58.6**	**-0.5**
BZK	**Bozkurt**	**1.41**	**32**	Pn	**Pb**	**19 03 59.6**	**+0.2**
BZK	**Bozkurt**	**1.41**	**32**		**Pn**	**19 03 59.0**	**0.0**
BZK				Sn	**Sg**	**19 04 20.4**	**+2.5**
BZK	**Bozkurt**	**1.41**	**32**	⇑P	**Pb**	**19 03 59.7**	**+0.2**
AKPI	**Kirsehir/Akpin**	**1.47**	**149**	P	**Pn**	**19 03 59.6**	**-0.3**
BOYA	**Sinop/Boyabat-**	**1.48**	**58**	P	**Pn**	**19 03 59.5**	**-0.5**
KAMT	**Kaman**	**1.49**	**158**	Pn	**Pn**	**19 04 00.2**	**-0.1**
BTAS	**Taskesti**	**1.54**	**264**	P	**Pn**	**19 04 00.4**	**-0.5**
BTAS				S	**Sb**	**19 04 21.8**	**+0.3**
CDAG	**Cicekdag**	**1.54**	**137**	P	**Pn**	**19 04 01.0**	**+0.1**
KKUL	**Konya-Kulu**	**1.59**	**183**	P	**Pn**	**19 04 01.7**	**+0.1**
COAL	**Corum-Alaca**	**1.59**	**108**	P	**Pn**	**19 04 01.9**	**+0.3**
COAL				S	**Sn**	**19 04 22.5**	**-0.2**
SAHE	**Sakarya_HENDEK**	**1.64**	**274**	P	**Pn**	**19 04 02.4**	**+0.2**
SAHE	**Sakarya_HENDEK**	**1.64**	**274**	⇑P	**Pn**	**19 04 02.6**	**+0.5**
YOZG	**Bozok Univ. Me**	**1.68**	**125**	P	**Pn**	**19 04 03.3**	**+0.4**
SUSU	**Bolu-G¶lynk-**	**1.70**	**256**	P	**Pn**	**19 04 03.0**	**-0.2**
KIRS	**Kirsehir-Merke**	**1.77**	**156**	P	**Pn**	**19 04 03.9**	**-0.2**
KIRS				S	**Sn**	**19 04 26.5**	**-0.6**
KIRS	**Kirsehir-Merke**	**1.77**	**156**	⇓P	**Pn**	**19 04 03.8**	**-0.2**
GULT	**Gulveren**	**1.93**	**261**	Pn	**Pn**	**19 04 06.3**	**+0.1**
MCUR	**KIREHR**	**1.98**	**143**	P	**Pn**	**19 04 06.5**	**-0.5**
SINP	**Sinop**	**1.99**	**52**	Pn	**Pb**	**19 04 08.8**	**-0.5**
CKRK	**Yozgat, Cekere**	**2.02**	**109**	P	**Pn**	**19 04 08.8**	**+1.2**
CTIK	**Konya-Celtik**	**2.02**	**212**	P	**Pn**	**19 04 07.0**	**-0.5**
KAYN	**Sakarya, Kayna**	**2.03**	**277**	P	**Pn**	**19 04 07.5**	**-0.1**
SAUV	**Serdivan-Sakar**	**2.04**	**270**	Pn	**Pn**	**19 04 07.8**	**+0.2**
CIFT	**Cifteler, Eski**	**2.04**	**227**	Pn	**Pn**	**19 04 07.8**	**0.0**
SGAZ	**Eskisehir, Sey**	**2.07**	**234**	P	**Pn**	**19 04 07.7**	**-0.4**
SINO	**SINOP_Merkez**	**2.07**	**52**	P	**Pn**	**19 04 08.2**	**0.0**
CBEY	**Konya-Cihanbey**	**2.08**	**185**	P	**Pn**	**19 04 08.3**	**0.0**
SNOP	**Sinop**	**2.08**	**52**	Pn	**Pb**	**19 04 10.0**	**-0.8**
GEYV	**SAKARYA_Geyve**	**2.08**	**263**	P	**Pn**	**19 04 08.2**	**-0.1**
YOZ	**Yozgat**	**2.10**	**122**	Pn	**Pn**	**19 04 09.9**	**+1.3**
GPA	**Golpazari**	**2.11**	**258**	Pn	**Pn**	**19 04 08.3**	**-0.4**
YARM	**Yarimca-Ladik(**	**2.15**	**85**	Pn	**Pb**	**19 04 10.9**	**-1.1**
AMSY	**Amasya-Merkez**	**2.15**	**92**	P	**Pn**	**19 04 09.2**	**-0.2**
KAND	**Kocaeli-Kandir**	**2.16**	**280**	P	**Pn**	**19 04 09.7**	**+0.4**
SIRC	**Yozgat**	**2.17**	**130**	P	**Pn**	**19 04 10.2**	**+0.6**
AKSY	**AKSARAY - Alti**	**2.19**	**164**	P	**Pn**	**19 04 09.9**	**+0.1**
KIZO	**Buyukkizoglu-L**	**2.23**	**85**	Pn	**Pb**	**19 04 12.3**	**-1.0**
HACI	**Hacifakili, Ak**	**2.34**	**116**	P	**Pn**	**19 04 12.4**	**+0.6**
KDHN	**Kadinhani**	**2.34**	**197**	P	**Pn**	**19 04 12.0**	**+0.1**
HISA	**Bilecik-Osmane**	**2.37**	**264**	P	**Pn**	**19 04 12.3**	**0.0**
BYAT	**Afyon-Bayat**	**2.39**	**221**	P	**Pn**	**19 04 12.3**	**-0.3**
AVNS	**Nevsehir-Avano**	**2.41**	**143**	P	**Pn**	**19 04 13.1**	**+0.2**
UCKU	**Afyonkarahisar**	**2.45**	**210**	P	**Pn**	**19 04 12.4**	**-1.0**
ALIN	**Konya, Altinte**	**2.46**	**182**	P	**Pn**	**19 04 13.0**	**-0.6**
BILE	**Bilecik/Merkez**	**2.46**	**257**	P	**Pn**	**19 04 12.7**	**-0.9**
SAMS	**Samsun-Alacam**	**2.48**	**75**	P	**Pn**	**19 04 14.9**	**+1.2**
SEMS	**Kocaeli-K¶rfe**	**2.48**	**274**	P	**Pn**	**19 04 12.7**	**-1.1**
ADVT	**Abdulvahap**	**2.51**	**264**	Pn	**Pn**	**19 04 14.2**	**+0.1**
OSMT	**Osmaniye**	**2.52**	**267**	Pn	**Pn**	**19 04 14.6**	**+0.3**
HRT	**Hereke**	**2.54**	**272**	Pn	**Pn**	**19 04 14.7**	**+0.2**
SILT	**Sile**	**2.58**	**280**	Pn	**Pn**	**19 04 15.4**	**+0.3**
SILT	**Sile**	**2.58**	**280**	⇓P	**Pb**	**19 04 19.8**	**+0.5**
**KUR

ANN				MLR	MLR		
	comp=N,285nm,12.0s						
EZN	**Ezine**	**5.19 262**	⇑P	**Pn**		**19 04 51.7**	**+0.7**
EZN	**Ezine**	**5.19 262**	⇑P	**Pn**		**19 04 51.7**	**+0.7**
AKAS	**Kas**	**5.25 212**		**Pn**		**19 04 53.2**	**+1.3**
ALN	**Alexandroupoli**	**5.28 274**		**Pn**		**19 04 51.5**	**-0.7**
ALN	**Alexandroupoli**	**5.28 274**	P	**Pn**		**19 04 51.5**	**-0.7**
TPGR	**Topolog**	**5.30 322**	⇑P	**Pn**		**19 04 55.1**	**+2.6**
TLCR		**5.39 327**	⇓P	**Pn**		**19 04 55.2**	**+1.6**
TLCR		**5.39 327**	⇓P	**Pn**		**19 04 55.2**	**+1.6**
RDO	**Rodhopi**	**5.67 276**		**Pn**		**19 04 57.5**	**-0.1**
CFR	**Carcaliu**	**5.68 323**	⇓P	**Pn**		**19 04 57.9**	**+0.2**
CFR	**Carcaliu**	**5.68 323**	⇓P	**Pn**		**19 04 57.9**	**+0.2**
SOC	**Sochi**	**5.73 58**	*e*P	**Pn**		**19 04 58.9**	**+0.6**
SOC			*e*			19 06 07.4	
SOC			MLR	MLR			
	comp=Z,239nm,13.0s						
ELND	**Elena**	**5.75 294**	⇑P	**Pn**		**19 05 00.7**	**+2.1**
CSS	**Mathiatis**	**5.79 177**	Pn	**Pn**		**19 04 59.7**	**+0.4**
VSLR	**Vesyoloye**	**5.88 60**	⇓*e*P	**Pn**		**19 05 00.0**	**-0.4**
ARG	**Arkhangelos**	**5.94 222**		**Pn**		**19 05 02.6**	**+1.4**
ARG	**Arkhangelos**	**5.94 222**	P	**Pn**		**19 05 02.6**	**+1.4**
ISR	**Istrita**	**6.44 315**	Pn	**Pn**		**19 05 06.9**	**-1.3**
	comp=Z,0.4nmcomp=Z,100nm,0.9s						
VRI	**Vrincioaia**	**6.85 320**	⇓P	Pn		19 05 21.1	+7.3
VRI	**Vrincioaia**	**6.85 320**	⇓P	Pn		19 05 21.1	+7.3
MILM	**Milestii Mici**	**6.86 335**	⇑P	**Pn**		**19 05 13.2**	**-0.7**
MILM	**Milestii Mici**	**6.86 335**	⇑P	**Pn**		**19 05 13.2**	**-0.7**
PLOR5	**Plostina Array**	**6.87 320**	Pn	**Pn**		**19 05 13.1**	**-1.0**
	comp=Z,0.2nmcomp=Z,60nm,1.0s						
PLOR	**Plostina**	**6.88 320**	⇑P	Pn		19 05 19.4	+5.2
PLOR	**Plostina**	**6.88 320**	⇑P	Pn		19 05 19.4	+5.2
KARP	**Karpathos**	**6.95 223**	Pn	**Pn**		**19 05 15.9**	**+0.7**
MARD	**Mardin**	**6.96 117**		**Pn**		**19 05 16.9**	**+1.5**
MLR	**Muntele Rosu**	**7.00 315**		**Pn**		**19 05 18.8**	**+2.9**
MLR	**Muntele Rosu**	**7.00 315**	Pn	**Pn**		**19 05 17.1**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=325,slow=23,SNR=12						
MLR			Sn	**Sn**		**19 06 37.5**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=140,slow=13,SNR=3.6						
MLR			LR	LR		19 08 34.6	
	comp=Z,365nm,19.1s,baz=137,slow=43						
	comp=Z,2.9nm,0.7s						
MLR	**Muntele Rosu**	**7.00 315**	⇓P	**Pn**		**19 05 20.4**	**+4.4**
MLR	**Muntele Rosu**	**7.00 315**	⇓P	**Pn**		**19 05 20.4**	**+4.4**
COVR	**Voineasa-Covas**	**7.10 318**	⇑P	**Pn**		**19 05 17.7**	**+0.4**
GURO	**Guroymak-BITLI**	**7.30 105**		**Pn**		**19 05 21.7**	**+1.5**
ONER	**Baraj Valea Uz**	**7.35 321**	⇑P	**Pn**		**19 05 24.7**	**+4.0**
ERBR	**Yeremizino-Bor**	**7.37 45**	*e*P	**Pn**		**19 05 24.0**	**+3.1**
ERBR			*e*S	**Sn**		**19 06 47.9**	**+3.0**
ERBR			pmax	pmax			
	comp=Z,119nm,0.9s						
TESR	**Tescani**	**7.37 323**	⇓P	**Pn**		**19 05 21.7**	**+0.9**
TESR	**Tescani**	**7.37 323**	Pn	**Pn**		**19 05 19.7**	**-1.2**
OZUR		**7.48 318**	⇑P	**Pn**		**19 05 26.3**	**+3.8**
DOPR	**Dopca**	**7.61 316**	⇓P	Pn		19 05 29.5	+5.3
ARR	**Arges**	**7.67 310**	⇓P	Pn		19 05 30.0	+5.0
KIV	**Kislovodsk**	**7.84 63**	Pn	**Pn**		**19 05 29.4**	**+1.9**
KIV	**Kislovodsk**	**7.84 63**	*e*P	**Pn**		**19 05 26.7**	**-0.8**
KIV			pmax	pmax			
	comp=Z,4.0nm,1.0s						
KIV			MLR	MLR			
	comp=Z,112nm,11.0s						
KVAR	**Kislovodsk Arr**	**7.85 63**	Pn	**Pn**		**19 05 29.7**	**+2.1**
	baz=254,slow=20						
	comp=Z,0.7nm,0.3s						
KBZ	**Khabaz**	**7.91 65**	Pn	**Pn**		**19 05 32.2**	**+3.9**
	comp=Z,0.3nm,0.3s,baz=282,slow=5.8,SNR=11						
KBZ			LR	LR		19 09 37.6	
	comp=Z,334nm,20.9s,baz=278,slow=46						
	comp=Z,0.9nm,0.8s						
MMAI	**Mount Meron Ar**	**7.97 165**	Pn	**Pn**		**19 05 29.7**	**+0.5**
	comp=Z,1.6nm,0.3s,baz=358,slow=12,SNR=3.7						
MMAI			LR	LR		19 09 18.7	
	comp=Z,367nm,18.3s,baz=6.5,slow=44						
	comp=Z,0.9nm,0.3s						
TNR	**Turnu Rosu**	**8.03 310**	⇑P	**Pn**		**19 05 34.4**	**+4.3**
TNR	**Turnu Rosu**	**8.03 310**	⇑P	**Pn**		**19 05 34.4**	**+4.3**
LIT	**Litokhoron**	**8.05 269**	Pn	**Pn**		**19 05 29.4**	**-0.9**
LIT	**Litokhoron**	**8.05 269**	P	**Pn**		**19 05 29.4**	**-0.9**
SORM	**Soroca**	**8.09 337**	⇓P	**Pn**		**19 05 29.4**	**-1.3**
SORM	**Soroca**	**8.09 337**	⇓P	**Pn**		**19 05 29.4**	**-1.3**
NCK	**Nalchik**	**8.33 67**	⇓*e*P	**Pn**		**19 05 33.1**	**-1.0**
IDI	**Anoyia**	**8.42 232**	Pn	**Pn**		**19 05 36.6**	**+1.3**
IDI	**Anoyia**	**8.42 232**	Pn	**Pn**		**19 05 36.5**	**+1.1**
	comp=Z,15nm,0.9s,baz=51,slow=3.8,SNR=8.4						
GZR	**Gura Zlata**	**8.80 305**	⇑P	**Pn**		**19 05 44.2**	**+3.6**
GZR	**Gura Zlata**	**8.80 305**	⇑P	**Pn**		**19 05 44.2**	**+3.6**
BURAR	**Bucovina Array**	**8.84 323**		**Pn**		**19 05 41.0**	**-0.2**
BURAR	**Bucovina Array**	**8.84 323**	⇓P	**Pn**		**19 05 41.7**	**+0.5**
BURAR	**Bucovina Array**	**8.84 323**	⇓P	**Pn**		**19 05 41.7**	**+0.5**
BUR08	**Bucovina Ar. S**	**8.87 323**		**Pn**		**19 05 41.4**	**-0.2**
GNI	**Garni**	**8.97 90**	LR	LR		19 09 42.8	
	comp=Z,177nm,20.8s,baz=298,slow=41						
KMPD	**K-Podol'skiy**	**9.09 331**	Pn	Pn		19 05 41.4	-3.0
KMPD			Pn	**Pn**		**19 05 41.2**	**-3.2**
ASF	**Jabal al Asfar**	**9.12 159**	Pn	**Pn**		**19 05 45.3**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=316,slow=7.9,SNR=2.4						
	comp=Z,0.8nm,0.3s						
MDVR	**Moldovita**	**9.22 300**	⇓P	**Pn**		**19 05 48.8**	**+2.4**
MARR	**Marisel-Cluj**	**9.28 313**	⇓P	**Pn**		**19 05 50.5**	**+3.3**
ITM	**Ithomi**	**9.34 251**	Pn	**Pn**		**19 05 49.5**	**+1.5**
SURR	**Surduc**	**9.37 306**	⇓P	**Pn**		**19 05 53.0**	**+4.7**
KSV	**Kosov**	**9.44 326**	Pn	**Pn**		**19 05 47.6**	**-1.7**
DRGR		**9.58 312**	⇑P	**Pn**		**19 05 54.9**	**+3.7**
DRGR		**9.58 312**	⇑P	**Pn**		**19 05 54.9**	**+3.7**
RAKU	**Rahkiv**	**9.63 322**	Pn	**Pn**		**19 05 52.0**	**+0.2**
BZS	**Buzias**	**9.63 304**	⇑P	**Pn**		**19 05 53.8**	**+2.0**
BZS	**Buzias**	**9.63 304**	⇑P	**Pn**		**19 05 53.8**	**+2.0**
HORU	**Horodok**	**9.65 333**	Pn	**Pn**		**19 05 50.2**	**-1.9**
LUBAR	**Lubar, Ukraine**	**9.87 340**	Pn	**Pn**		**19 05 53.5**	**-1.7**
STNU	**Staruna**	**9.98 326**	Pn	**Pn**		**19 05 54.0**	**-2.7**
AK07	**Malin Array Si**	**10.14 346**	Pn	**Pn**		**19 05 56.4**	**-2.5**
AK06	**Malin Array Si**	**10.18 346**	Pn	**Pn**		**19 05 57.1**	**-2.3**
AK10	**Malin Array Si**	**10.18 346**	Pn	**Pn**		**19 05 57.1**	**-2.3**
AK09	**Malin Array Si**	**10.19 346**	Pn	**Pn**		**19 05 57.5**	**-2.0**
AK05	**Malin Array Si**	**10.21 346**	Pn	**Pn**		**19 05 57.6**	**-2.2**
AK08	**Malin Array Si**	**10.21 346**	Pn	**Pn**		**19 05 57.6**	**-2.2**
AK14	**Malin Array Si**	**10.24 346**	Pn	**Pn**		**19 05 58.4**	**-1.8**
AK12	**Malin Array Si**	**10.24 346**	Pn	**Pn**		**19 05 58.5**	**-1.7**
AK01	**Malin Array Si**	**10.28 346**	Pn	**Pn**		**19 05 58.6**	**-2.1**
KIEV	**Kiev**	**10.28 346**		**Pn**		**19 05 59.0**	**-1.8**
KIEV	**Kiev**	**10.28 346**	P	**Pn**		**19 05 59.0**	**-1.8**
AKBB	**Malin Array Si**	**10.28 346**	⇓*e*P	**Pn**		**19 05 58.8**	**-2.0**
AKBB	**Malin Array Si**	**10.28 346**	Pn	**Pn**		**19 05 58.4**	**-2.4**
AKASG	**Malin Array Be**	**10.29 346**		**Pn**		**19 05 58.5**	**-2.3**
AKASG	**Malin Array Be**	**10.29 346**	Pn	**Pn**		**19 05 58.4**	**-2.4**
	comp=Z,1.8nm,0.3s,baz=168,slow=12,SNR=17						
AKASG			Sn	**Sn**		**19 07 52.9**	**-3.7**
	comp=Z,0.5nm,0.3s,baz=158,slow=24,SNR=4.7						
AKASG	**Malin Array Be**	**10.29 346**	P	**Pn**		**19 05 58.5**	**-2.3**
MI28	**Mi28,Pidlybu**	**10.83 342**	Pn	**Pn**		**19 06 06.5**	**-1.7**
HOLU	**Holmets**	**10.83 319**	Pn	**Pn**		**19 06 07.0**	**-1.3**
MAK	**Makhachkala**	**11.04 74**	*c* *i*P	**Pn**		**19 06 08.1**	**-3.0**
MAK			*e*S	**Sn**		**19 08 10.2**	**-4.8**
MAK			pmax	pmax			
	comp=Z,329nm,1.6s						
MAK			MLR	MLR			
	comp=Z,143nm,7.0s						
AKT	**Akhty**	**11.13 81**	*e*P	**Pn**		**19 06 10.9**	**-1.7**
KOLS	**Kolonicke sedl**	**11.16 321**	*e*P	Pn		19 06 21.4	+8.5
EIL	**Elat**	**11.18 171**	LR	LR		19 10 50.4	
	comp=Z,182nm,20.9s,baz=345,slow=39						
VSR	**Storozhevoye**	**11.29 20**	*e*P	**Pn**		**19 06 18.2**	**+3.6**
VSR			pmax	pmax			
	comp=Z,5.0nm,0.8s						
RNPP5	**Staryi Chortor**	**11.57 337**	Pn	**Pn**		**19 06 16.8**	**-1.6**
RNPP8	**Varash**	**11.68 337**	Pn	**Pn**		**19 06 17.9**	**-2.0**
RNPP9	**Sopachiv**	**11.73 338**	Pn	**Pn**		**19 06 18.5**	**-2.1**
STHS	**Stebnicka Huta**	**11.99 320**	*e*P	**Pn**		**19 06 28.1**	**+4.0**
VRH	**Novokhopyorsk**	**12.06 27**	*e*P	**Pn**		**19 06 23.4**	**-1.7**
VRH			pmax	pmax			
	comp=Z,6.0nm,0.9s						
LPSR	**Galich'ya Gora**	**12.52 17**	*e*P	**Pn**		**19 06 30.1**	**-1.2**
LPSR			pmax	pmax			
	comp=Z,10.0nm,0.9s						
MNK	**Minsk**	**14.17 348**	*i* P	**Pn**		**19 06 51.3**	**-2.6**
	comp=E,17nm,1.0s						
MNK			*i* P	**Pn**		**19 06 51.3**	**-2.6**
	comp=N,21nm,1.1s						
MNK			*i* P	**Pn**		**19 06 51.3**	**-2.6**
	comp=Z,20nm,0.9s,baz=164						
MNK			*i* PP	**P**		**19 07 01.2**	**-0.4**
MNK			*i* S	**Sn**		**19 09 28.8**	**-2.7**
MNK			*i* SS	**SnSn**		**19 09 43.8**	**0.0**
MNK			*i* LR	LR		19 11 42.9	
MNK			*i* LRM	MLR		19 14 19.1	
	comp=Z,82nm,19.1s						
MNK			*i* LRM	MLR		19 14 25.0	
	comp=N,128nm,16.0s						
MNK	**Minsk**	**14.17 348**	*i* P	**Pn**		**19 06 51.2**	**-2.6**
MNK			*i* S	**Sn**		**19 09 28.7**	**-2.7**
MNK			pmax	pmax			
	comp=E,17nm,1.0s						
MNK			pmax	pmax			
	comp=N,21nm,1.1s						
MNK			pmax	pmax			
	comp=Z,20nm,0.9s						
MNK			MLR	MLR			
	comp=Z,82nm,19.0s						
MNK			MLR	MLR			
	comp=N,128nm,16.0s						
MNK			MLR	MLR			
	comp=E,103nm,16.0s						
VRAC	**Vranov**	**14.39 312**	LR	LR		19 13 27.8	
	comp=E,91nm,19.5s,baz=126,slow=41						
OBN	**Obninsk**	**14.55 8**	⇓*e*P	**Pn**		**19 07 00.0**	**+0.9**
OBN			pmax	pmax			
	comp=Z,24nm,1.3s						
OBN			MLR	MLR			
	comp=Z,90nm,19.0s						
NACGM	**Naroch**	**14.74 346**	*e*P	**P**		**19 07 06.6**	**-1.4**
	comp=Z,12nm,1.0s,baz=161						
VAE	**Valguarnera**	**14.80 263**	LR	LR		19 13 17.7	
	comp=Z,159nm,22.0s,baz=148,slow=40						
SUW	**Suwalki**	**14.81 337**		**Pn**		**19 07 02.8**	**+0.2**
SUW	**Suwalki**	**14.81 337**	P	**Pn**		**19 07 02.8**	**+0.2**
MOS	**Moscow**	**15.29 10**	*e*P	**P**		**19 07 12.8**	**-1.2**
BELG	**Belogornoye**	**15.34 36**	Pn	**Pn**		**19 07 10.2**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=180,slow=20,SNR=4.3						
	comp=Z,13nm,0.8s						
BELG	**Belogornoye**	**15.34 36**	⇓*e*P	**Pn**		**19 07 09.7**	**0.0**
BELG			pmax	pmax			
	comp=Z,5.0nm,0.9s						
GERES	**GERESS Array B**	**15.88 307**	Pn	**Pn**		**19 07 17.0**	**+0.1**
	baz=94,slow=11,SNR=2.8						
GERES			LR	LR		19 14 38.1	
	comp=Z,115nm,19.4s,baz=118,slow=42						
	comp=Z,0.3nm,0.8s						
PABE	**Paberze**	**15.92 341**	Pn	**Pn**		**19 07 17.9**	**+0.8**
PABE			IAmb	IAmb		19 07 31.9	
	comp=Z,48nm,1.1s						
KHC	**Kasperske Hory**	**16.07 308**	⇓*e*P	**Pn**		**19 07 20.3**	**+1.0**
CLL	**Collm**	**17.38 314**	*e*P	**P**		**19 07 40.0**	**+2.8**
CLL	**Collm**	**17.38 314**	*e*sP	**P**		**19 07 40.0**	**+2.8**
CLL			LmH			19 14 00.0	
	comp=N,200nm,21.1s						
CLL			LmH			19 14 00.0	
	comp=E,200nm,19.6s						
CLL			LmV			19 15 00.0	
	comp=Z,200nm,18.3s						
DAVOX	**Davos/Dischmat**	**17.72 298**	P	**P**		**19 07 42.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=135,slow=20,SNR=4.1						
	comp=Z,2.6nm,1.2s						
KEST	**Kesra**	**19.23 262**		**Pn**		**19 07 58.2**	**-0.4**
KEST			IAmb	IAmb		19 08 07.0	
	comp=Z,24nm,1.3s						
KEST	**Kesra**	**19.23 262**	P	**Pn**		**19 07 59.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=35,slow=12,SNR=4.9						
KEST			LR	LR		19 17 02.0	
	comp=Z,153nm,18.2s,baz=324,slow=42						
	comp=Z,5.3nm,0.9s						
SENIN	**Lac Senin/Sane**	**19.41 295**		**Pn**		**19 08 00.3**	**-0.6**
BNI	**Bardonecchia**	**19.72 291**		**P**		**19 08 03.7**	**+0.5**
BNI			IAmb	IAmb		19 08 15.3	
	comp=Z,8.9nm,0.9s						
BNI	**Bardonecchia**	**19.72 291**	P	**P**		**19 08 03.7**	**+0.5**
BNI			pmax	pmax			
	comp=Z,9.0nm,1.0s						
ECH	**Echery**	**19.83 301**		**Pn**		**19 08 05.0**	**-0.7**
ECH			IAmb	IAmb		19 08 09.5	
	comp=Z,5.2nm,1.0s						
ECH	**Echery**	**19.83 301**	P	**Pn**		**19 08 05.0**	**-0.7**
ECH			pmax	pmax			
	comp=Z,5.0nm,1.0s						
AKTO	**Aktyubinsk**	**19.91 53**	P	**P**		**19 08 05.7**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=253,slow=9.5,SNR=28						
AKTO			LR	LR		19 17 13.8	
	comp=Z,104nm,19.6s,baz=346,slow=41						
	comp=Z,11nm,0.8s						
KLMR	**Klimovskoe**	**20.51 9**	*e*P	**P**		**19 08 12.0**	**+0.5**
KLMR			pmax	pmax			
	comp=Z,20nm,1.0s						
KIRV	**Kirov**	**20.66 25**	⇓*e*P	**P**		**19 08 11.8**	**-1.2**
AB31	**Akbulak array**	**20.77 57**		**P**		**19 08 14.6**	**+0.3**
ABKAR	**Akbulak array**	**20.77 57**	P	**P**		**19 08 14.3**	**-0.1**
FINES	**FINESS Array B**	**21.14 351**	P	**P**		**19 08 19.2**	**+1.0**
FINES	**FINESS Array B**	**21.14 351**	P	**P**		**19 08 19.8**	**+1.6**
	comp=Z,1.3nm,0.5s,baz=155,slow=10,SNR=8.4						
	comp=Z,1.3nm,0.5s						
FIA1	**FINESS Array S**	**21.14 351**	P	**P**		**19 08 20.1**	**+1.9**
ARTI	**Arti**	**22.75 38**		**P**		**19 08 35.1**	**-0.4**
ARTI			IAmb	IAmb		19 08 40.4	
	comp=Z,16nm,0.9s						
ARTI	**Arti**	**22.75 38**	P	**P**		**19 08 36.0**	**+0.5**
	comp=Z,9.0nm,0.9s,baz=240,slow=7.1,SNR=12						
	comp=Z,9.0nm,0.9s						
ARTI	**Arti**	**22.75 38**	*c* *i*P	**P**		**19 08 35.6**	**+0.1**
ARTI						19 08 56.9	
ARTI			S	**S**		**19 12 46.4**	**+1.6**
ARTI			SS	**SnSn**		**19 13 16.0**	**+1.6**
ARTI			pmax	pmax			
	comp=Z,18nm,1.0s						
HFS	**Hagfors**	**22.80 335**	P	**P**		**19 08 37.3**	**+1.3**
	comp=Z,3.6nm,0.7s,baz=134,slow=11,SNR=5.2						
HFS			LR	LR		19 17 53.2	
	comp=Z,178nm,19.1s,baz=146,slow=38						
	comp=Z,3.6nm,0.7s						
SVE	**Sverdlovsk**	**24.04 39**	*e*P	**P**		**19 08 52.0**	**+3.5**
NOA	**NORSAR Array B**	**24.30 334**	LR	LR		19 20 39.6	
	comp=Z,118nm,18.3s,baz=150,slow=42						
BVAR	**Borovoye Array**	**28.00 51**	P	**P**		**19 09 26.2**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=289,slow=9.2,SNR=4.3						
BVAR			LR	LR		19 22 02.9	
	comp=Z,125nm,21.2s,baz=280,slow=40						
	comp=Z,0.8nm,0.8s						
ESDC	**Sonseca Array**	**28.12 280**	P	**P**		**19 09 25.9**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=74,slow=7.9,SNR=1.8						
	comp=Z,0.4nm,0.9s						
GAR	**Garm**	**28.55 81**	P	**P**		**19 09 30.1**	**+0.5**
ARCES	**ARCESS Array B**	**29.11 355**	P	**P**		**19 09 34.3**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=170,slow=9.1,SNR=4.2						
ARCES			LR	LR		19 20 58.5	
	comp=Z,78nm,19.2s,baz=209,slow=36						
	comp=Z,2.1nm,0.8s						
AAK	**Ala-Archa**	**30.81 73**	LR	LR		19 23 17.1	
	comp=Z,94nm,19.2s,baz=290,slow=38						
FURI	**Furi**	**32.13 169**	LR	LR		19 22 54.9	
	comp=Z,88nm,20.1s,baz=342,slow=36						
KURBB	**Kurchatov Arra**	**32.82 57**	P	**P**		**19 10 08.1**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=278,slow=9.2,SNR=6.6						
	comp=Z,1.1nm,0.5s						
KURK	**Kurchatov**	**32.88 57**	⇑*e*P	**P**		**19 10 09.1**	**+1.7**
KURK			pmax	pmax			
	comp=Z,10.0nm,4.7s						
MKAR	**Makanchi Array**	**35.61 63**	LR	LR		19 28 38.9	
	comp=Z,89nm,19.8s,baz=310,slow=42						
ZALV	**Zalesovo Beam**	**36.66 51**	P	**P**		**19 10 40.5**	**+0.4**
ZALV	**Zalesovo Beam**	**36.66 51**	P	**P**		**19 10 40.8**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=251,slow=7.7,SNR=6.6						
ZALV			LR	LR		19 29 10.5	
	comp=Z,72nm,19.8s,baz=280,slow=42						
	comp=Z,1.9nm,0.7s						
ZALV	**Zalesovo Beam**	**36.66 51**	*e*P	**P**		**19 10 42.7**	**+2.6**
ZALV			pmax	pmax			
	comp=Z,2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**38.82 234**	P	**P**		**19 10 57.9**	**-0.7**
	comp=Z,0.8nm,1.0s,baz=34,slow=9.4,SNR=4.9						
	comp=Z,0.8nm,1.0s						
WMQ	**Urumqi**	**39.95 67**	*e*P	**P**		**19 11 09.8**	**+1.8**
WMQ			LR	LR			
	comp=Z,240nm,24.2s						
DBIC	**Dimbokro**	**47.88 235**	LR	LR		19 35 27.7	
	comp=Z,52nm,18.4s,baz=35,slow=40						
BBTS	**Babate**	**50.16 254**	LR	LR		19 36 51.5	
	comp=Z,59nm,18.2s,baz=159,slow=40						
SONM	**Songino Array**	**51.18 56**	P	**P**		**19 12 38.1**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=313,slow=9.9,SNR=3.9						
SONM			LR	LR		19 37 29.7	
	comp=Z,87nm,19.9s,baz=304,slow=40						
	comp=Z,0.5nm,0.6s						
ULN	**Ulaanbaatar**	**51.58 56**	⇓*e*P	**P**		**19 12 39.9**	**0.0**
ULN			pmax	pmax			
	comp=Z,18nm,3.8s						
HHC	**Hu-ho-hao-te**	**57.45 62**	*e*P	**P**		**19 13 22.0**	**-0.6**
HHC			pmax	pmax			
	comp=Z,9.0nm,0.6s						
HHC			pmax	pmax			
	comp=Z,38nm,5.1s						
PZH	**PanZhiHua**	**57.62 81**	P	**P**		**19 13 25.8**	**+1.8**
YKA	**Yellowknife Ar**	**73.85 345**	P	**P**		**19 15 08.4**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=26,slow=6.5,SNR=5.0						
	comp=Z,2.3nm,0.9s						
ILAR	**Eielson Array**	**74.81 360**	P	**P**		**19 15 13.9**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=26,slow=8.8,SNR=2.6						
	comp=Z,0.1nm,0.4s						
ULM	**Lac du Bonnet**	**78.90 329**	LR	LR		19 51 13.8	
	comp=Z,48nm,18.7s,baz=226,slow=36						
SHEM	**Shemya Is, Ala**	**80.98 23**	LR	LR		19 55 25.1	
	comp=Z,42nm,19.1s,baz=280,slow=38						
TKL	**Tuckaleechee C**	**84.33 313**	LR	LR		19 53 53.0	
	comp=Z,27nm,18.5s,baz=102,slow=36						

IDC ***14*** *19:05:05.9±1.8, 6°.53N×126°.02E, h85km±10km, mb3.5/10, mbtmp3.8/10, Error ellipse: s-maj=98.0km s-min=12.9km az=68.0*
NEIC ***14*** *19:05:06.1±1.7, 6°.7N±0°.1×126°.2E±0°.1, h85km±5km, mb4.0/9, Error ellipse: s-maj=23.3km s-min=5.9km az=48.0*

ISC 14 19:05:07.2±0.7, 6°.60N±0°.07×126°.1E±0°.1, h97km, n31, σ1s20/34, mb4.0/15, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.69**	**313**	Pn	**Pn**	**19 05 21.6**	**-2.6**
DAV				Sn	**Sn**	**19 05 36.0**	**-1.1**
DAV	**Davao City (W)**	**0.69**	**313**	P	**Pn**	**19 05 21.6**	**-2.6**
	2μm,0.4s,baz=216,slow=0.5,SNR=28						
DAV				S	**Sn**	**19 05 35.5**	**-1.6**
	2μm,0.6s,baz=260,slow=23,SNR=23						
TNTI	**Ternate**	**5.93**	**168**	Pn	**Pn**	**19 06 30.5**	**-2.0**
TOLI2	**Tolitoli**	**7.60**	**224**	Pn	**Pn**	**19 06 53.6**	**-1.7**
LUWI	**Luwuk**	**8.28**	**204**	Pn	**Pn**	**19 07 03.6**	**-0.9**
SBUM	**Sibu**	**14.43**	**254**		**P**	**19 08 32.1**	**+1.3**
KNRA	**Kununurra**	**22.29**	**173**	P	**P**	**19 09 56.8**	**+0.1**
KNRA				IAmb	IAmb	19 10 03.4	
	comp=Z,17nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.54**	**181**	P	**P**	**19 10 18.4**	**+0.5**
FITZ				IAmb	IAmb	19 10 24.8	
	comp=Z,2.3nm,1.4s						
FITZ	**Fitzroy Crossi**	**24.54**	**181**	P	**P**	**19 10 17.3**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=3.8,slow=9.6,SNR=5.9						
	comp=Z,1.8nm,0.7s						
WB0	**Warramunga Arr**	**27.44**	**163**	P	**P**	**19 10 44.3**	**+0.1**
WB0				IAmb	IAmb	19 11 27.2	
	comp=Z,8.5nm,1.4s						
WRA	**Warramunga Arr**	**27.59**	**163**	P	**P**	**19 10 45.4**	**-0.1**
WRA	**Warramunga Arr**	**27.59**	**163**	P	**P**	**19 10 44.4**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=343,slow=10.0,SNR=5.5						
	comp=Z,0.5nm,0.6s						
AS31	**Alice Springs**	**31.03**	**166**	P	**P**	**19 11 15.4**	**-0.5**
ASAR	**Alice Springs**	**31.03**	**166**	P	**P**	**19 11 15.7**	**-0.3**
ASAR	**Alice Springs**	**31.03**	**166**	P	**P**	**19 11 15.5**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=342,slow=7.0,SNR=11						
ASAR				PcP	**PcP**	**19 14 09.7**	**0.0**
	comp=Z,0.3nm,0.9s,baz=354,slow=2.9,SNR=1.5						
	comp=Z,0.6nm,0.6s						
FORT	**Forrest**	**37.21**	**177**	P	**P**	**19 12

	56nm,0.3s							
SATY	**Saty**	**4.25**	**257**	Pg	**Pg**	19 08 16.6	**-0.2**	
	4.0nm,0.1s							
SATY				Lg	Lg	19 09 11.2		
	70nm,0.3s							
KURS	**Kuram**	**4.32**	**263**	Pg	**Pg**	19 08 16.4	**-1.6**	
	1.1nm,0.3s							
KURS				Lg	Lg	19 09 11.1		
	24nm,0.6s							
ARXS	**Arharly**	**4.49**	**273**	*eP*	**Pg**	19 08 19.8	**-1.5**	
ARXS				*eS*	**Sg**	19 09 17.1	**-2.3**	
CHKK	**Chushkaly**	**5.12**	**269**	Pg	**Pg**	19 08 31.9	**-1.4**	
	2.5nm,0.1s							
CHKK				Lg	Lg	19 09 37.9		
	35nm,0.5s							
CHKK	**Chushkaly**	**5.12**	**269**	*eP*	**Pg**	19 08 31.9	**-1.4**	
	2.5nm,0.1s							
CHKK				*eS*	**Sg**	19 09 37.9	**-1.6**	
	35nm,0.5s							
MDOK	**Medeo**	**5.19**	**262**	Pg	**Pg**	19 08 34.8	**+0.1**	
	2.0nm,0.3s							
TNSS	**Tian-Shan**	**5.29**	**260**	Pg	**Pg**	19 08 37.6	**+1.0**	
	0.2nm,0.0s							
TNSS	**Tian-Shan**	**5.29**	**260**	*eP*	**Pg**	19 08 37.6	**+1.0**	
	0.2nm,0.0s							
TNSS				*eS*	**Sg**	19 09 47.2	**+2.0**	
	2.9nm,0.5s							
KTBS	**Karatobe**	**5.35**	**268**	Pg	**Pg**	19 08 38.0	**+0.2**	
	2.3nm,0.4s							
KUU	**Kurty**	**5.58**	**270**	Pg	**Pg**	19 08 42.5	**+0.4**	
	4.1nm,0.1s							
KUU	**Kurty**	**5.58**	**270**	*eP*	**Pg**	19 08 42.5	**+0.4**	
	4.1nm,0.1s							
KUU				*eS*	**Sg**	19 09 55.8	**+1.4**	
	30nm,0.3s							
MTBS	**Maitube**	**5.64**	**262**	Pg	**Pg**	19 08 42.6	**-0.6**	
	1.3nm,0.1s							
MTBS	**Maitube**	**5.64**	**262**	*eP*	**Pg**	19 08 42.6	**-0.6**	
	1.3nm,0.1s							
MTBS				*eS*	**Sg**	19 09 55.9	**-0.3**	
	19nm,0.4s							
KST	**Kastek**	**5.99**	**262**	Pg	**Pg**	19 08 48.7	**-1.2**	
	1.1nm,0.3s							
KST	**Kastek**	**5.99**	**262**	*eP*	**Pg**	19 08 48.7	**-1.2**	
	1.1nm,0.3s							
KST				*eS*	**Sg**	19 10 06.6	**-0.9**	
	13nm,0.7s							
KURBB	**Kurchatov Arra**	**7.49**	**332**	⇑P	**Pn**	19 08 44.9	**+0.5**	
	2.1nm,0.3s							
KURBB	**Kurchatov Arra**	**7.49**	**332**	Pn	**Pn**	19 08 45.0	**+0.5**	
	0.3nm,0.3s,baz=141,slow=13,SNR=24							
KURBB				Lg	Lg	19 10 46.2		
	0.3nm,0.3s,baz=140,slow=32,SNR=7.4							
	1.2nm,0.4s							
KURK	**Kurchatov**	**7.54**	**333**	⇓P	**Pn**	19 08 45.5	**+0.3**	
	0.4nm,0.6s							
ZAA0	**Zalesovo Array**	**9.82**	**3**	⇑P	**Pn**	19 09 15.6	**-0.8**	
	0.5nm,1.1s							
ZAA0				⇑S	**Sn**	19 11 01.4	**-5.3**	
	0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**9.82**	**3**	Pn	**Pn**	19 09 15.4	**-1.1**	
	0.7nm,0.3s,baz=187,slow=13,SNR=9.5							
ZALV				Sn	**Sn**	19 10 59.7	**-7.1**	
	0.7nm,0.3s,baz=177,slow=25,SNR=7.1							
	1.4nm,0.3s							
BVAR	**Borovoye Array**	**12.67**	**319**	Pn	**Pn**	19 09 55.2	**-0.2**	
	baz=126,slow=12,SNR=1.7							
	0.3nm,0.3s							
FINES	**FINESS Array B**	**37.62**	**318**	P	**P**	19 14 11.4	**+1.6**	
	2.2nm,0.9s,baz=108,slow=4.5,SNR=1.7							
	2.2nm,0.9s							
ARCES	**ARCESS Array B**	**38.58**	**331**	P	**P**	19 14 19.7	**+1.9**	
	1.7nm,0.8s,baz=101,slow=6.7,SNR=5.3							
	1.7nm,0.8s							

*AEIC **14** 19:40:55.4±1.9,53.84N±0.07×163.96W±0.07,h27km±6km, Error ellipse: s-maj=10.9km s-min=4.4km az=155.0*
*NEIC **14** 19:40:57.2±2.0,53.87N±0.06×163.97W±0.07, h41km±11km,mb3.5/14,ML3.5/16,ML3.4(AEIC),Error ellipse: s-maj=9.4km s-min=5.1km az=155.0*
ISC 14 19:40:55.2±2.1,53.79N±0.08×163.93W±0.05, h32km±15km,n90,σ1s10/99,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLS	**Shishaldin Sou**	**0.92**	**357**		**Pn**	**19 41 11.2**	**-0.8**
SSLS					**Sn**	**19 41 23.4**	**-0.8**
WEBT	**Westdahl Beart**	**0.93**	**329**		**Pn**	**19 41 11.8**	**-0.3**
WEBT					**Sn**	**19 41 23.5**	**-0.9**
SSBA	**Shishaldin**	**0.99**	**353**		**Pn**	**19 41 12.2**	**-0.7**
SSBA					**Sn**	**19 41 25.3**	**-0.5**
ISNN	**Isanotski Nort**	**1.04**	**5**		**Pn**	**19 41 13.7**	**0.0**
ISNN					**Sb**	**19 41 27.8**	**-0.3**
AKSA	**Akutan Strait**	**1.10**	**289**		**Pn**	**19 41 14.2**	**-0.1**
AKSA					**Sn**	**19 41 28.6**	**+0.1**
FALS	**False Pass**	**1.11**	**15**		**Pn**	**19 41 13.9**	**-0.5**
FALS					**Sn**	**19 41 27.4**	**-1.2**
AKUT	**Akutan**	**1.14**	**288**	Pn	**Pn**	**19 41 15.0**	**+0.1**
AKUT				IAML		19 41 30.3	
	comp=N,489nm,0.5s						
AKUT					**Sb**	**19 41 30.4**	**-0.4**
AHB	**Akutan Harbor**	**1.16**	**287**		**Pn**	**19 41 15.1**	**-0.1**
AKBBA	**Akutan Broad B**	**1.22**	**285**		**Pn**	**19 41 16.1**	**0.0**
ZRO	**Akutan Zero**	**1.25**	**285**		**Pn**	**19 41 16.4**	**0.0**
AKMO	**Akutan Morgan**	**1.27**	**284**		**Sn**	**19 41 33.4**	**+0.8**
LVA	**Lava Point**	**1.30**	**287**	Pn	**Pn**	**19 41 17.2**	**+0.1**
LVA				Sn	**Sb**	**19 41 34.4**	**-0.9**
LVA				IAML		19 41 44.9	
	comp=E,554nm,0.7s						
LVA				IAML		19 41 44.9	
	comp=N,1μm,0.7s						
UNV	**Unalaska Valle**	**1.53**	**273**	Pn	**Pn**	**19 41 20.0**	**-0.2**
DT1	**Dutton Round H**	**1.63**	**35**		**Pn**	**19 41 21.3**	**-0.3**
MSW	**Makushin Switc**	**1.69**	**275**		**Pn**	**19 41 22.7**	**+0.2**
MAPS	**Pakushin South**	**1.79**	**272**		**Pn**	**19 41 24.1**	**+0.2**
S12K	**Black Hills**	**2.20**	**29**		**Pn**	**19 41 30.0**	**+0.5**
S12K				Sn	**Sn**	**19 41 56.2**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**2.49**	**262**		**Pn**	**19 41 35.4**	**+1.9**
SDPT	**Sand Point**	**2.54**	**51**		**Pn**	**19 41 34.9**	**+0.7**
SDPT				IAML		19 42 13.7	
	comp=E,336nm,0.5s						
SDPT				IAML		19 42 15.3	
	comp=N,366nm,0.5s						
OKCE	**Okmok Cone E**	**2.55**	**263**		**Pn**	**19 41 34.7**	**+0.3**
CNBA	**Chernabura Isl**	**2.74**	**66**	Pn	**Pn**	**19 41 36.4**	**-0.5**
CNBA				IAML		19 42 30.3	
	comp=E,119nm,0.7s						
VNHG	**Veniaminof 1**	**3.67**	**47**		**Pn**	**19 41 51.5**	**+1.8**
CHGN	**Chignik**	**4.05**	**49**		**Pn**	**19 41 55.6**	**+0.8**
CHGN				IAML		19 42 55.1	
	comp=N,88nm,0.8s						
CHGN				IAML		19 43 06.8	
	comp=E,86nm,0.8s						
O14K	**Tigyukauivet M**	**5.67**	**14**	Pn	**Pn**	**19 42 18.5**	**+1.4**
PLK4	**Peulik 4**	**5.75**	**45**	Pn	**Pn**	**19 42 20.4**	**+2.1**
O15K	**Ungalikthiuk R**	**5.85**	**21**	Pn	**Pn**	**19 42 20.6**	**+0.9**
N14K	**Kuskokwak Cree**	**6.27**	**10**		**Pn**	**19 42 26.8**	**+1.5**
ACHA	**Angle Creek He**	**6.54**	**44**		**Pn**	**19 42 30.3**	**+1.1**
O16K	**Kokwok River B**	**6.64**	**27**		**Pn**	**19 42 31.4**	**+1.0**
M13K	**Dall Lake**	**6.64**	**2**	Pn	**Pn**	**19 42 32.0**	**+1.5**
N15K	**Kwethluk River**	**6.72**	**17**		**Pn**	**19 42 33.5**	**+1.9**
OHAK	**Old Harbor**	**6.95**	**56**	Pn	**Pn**	**19 42 35.1**	**+0.4**
M14K	**Bethel**	**7.06**	**8**		**Pn**	**19 42 38.0**	**+1.9**
P18K	**Big Mountain,**	**7.38**	**37**	Pn	**Pn**	**19 42 41.9**	**+1.3**
KDAK	**Kodiak Island**	**7.54**	**53**	Pn	**Pn**	**19 42 41.8**	**-1.0**
L14K	**Kuka Creek**	**7.60**	**5**		**Pn**	**19 42 45.0**	**+1.5**
N17K	**Nushagak Hills**	**7.68**	**26**		**Pn**	**19 42 45.6**	**+1.0**
Q19K	**Cape Douglas,**	**7.68**	**44**	Pn	**Pn**	**19 42 45.6**	**+0.9**
M16K	**Timber Creek**	**7.73**	**18**		**Pn**	**19 42 46.3**	**+1.0**
N18K	**Kilae Creek**	**8.16**	**29**	Pn	**Pn**	**19 42 52.2**	**+0.9**
K13K	**Kusilvak Mount**	**8.17**	**358**	Pn	**Pn**	**19 42 53.0**	**+1.6**
L16K	**Owhat River**	**8.29**	**15**		**Pn**	**19 42 53.9**	**+0.9**
P19K	**Oil Pt**	**8.30**	**41**	Pn	**Pn**	**19 42 54.7**	**+1.4**
M17K	**Holitna River**	**8.38**	**22**		**Pn**	**19 42 55.1**	**+0.8**
ILSW	**Iliamna Southw**	**8.56**	**39**		**Pn**	**19 42 58.8**	**+2.0**
K15K	**Wolf Creek Mou**	**8.62**	**7**		**Pn**	**19 42 59.5**	**+2.0**
N19K	**Bonanza Creek**	**8.69**	**32**	Pn	**Pn**	**19 42 59.7**	**+1.1**
J14K	**Nanvaranak Lak**	**8.98**	**1**	Pn	**Pn**	**19 43 04.9**	**+2.4**
CNPM	**China Poot**	**9.04**	**45**	Pn	**Pn**	**19 43 03.7**	**+0.4**
L18K	**Granite Mounta**	**9.27**	**21**	Pn	**Pn**	**19 43 07.5**	**+0.9**
K17K	**Iditarod**	**9.42**	**16**	Pn	**Pn**	**19 43 10.2**	**+1.6**
J16K	**Anvik River**	**9.67**	**9**	Pn	**Pn**	**19 43 14.0**	**+2.0**
L19K	**White Mountain**	**9.68**	**26**	Pn	**Pn**	**19 43 12.4**	**+0.3**
M20K	**Styx River**	**9.93**	**31**		**Pn**	**19 43 17.7**	**+2.1**
J17K	**VABM Dome**	**9.95**	**13**		**Pn**	**19 43 17.6**	**+1.8**
J18K	**Innoko River**	**10.39**	**18**		**Pn**	**19 43 23.3**	**+1.5**
K20K	**Telida**	**10.87**	**24**		**Pn**	**19 43 29.0**	**+0.7**
J19K	**Poorman**	**11.08**	**19**	Pn	**Pn**	**19 43 32.2**	**+1.0**
HIN	**Hinchinbrook I**	**11.53**	**48**	Pn	**Pn**	**19 43 36.2**	**-1.2**
J20K	**Nowinta River**	**11.55**	**22**		**Pn**	**19 43 38.5**	**+0.8**
BPAW	**Bear Paw Mtn.**	**12.27**	**28**		**Pn**	**19 43 48.4**	**+0.8**
KLU	**Klutina**	**12.31**	**44**		**Pn**	**19 43 46.6**	**-1.6**
M24K	**Tolsona, Glenn**	**12.54**	**41**	Pn	**Pn**	**19 43 50.3**	**-0.9**
N25K	**Chitina, Valde**	**12.92**	**45**		**Pn**	**19 43 54.6**	**-1.8**
H21K	**Melozitna Rive**	**13.12**	**21**		**Pn**	**19 43 59.7**	**+0.6**
PAX	**Paxson**	**13.30**	**39**	Pn	**Pn**	**19 44 00.2**	**-1.4**
CCB	**Clear Creek Bu**	**13.60**	**31**	Pn	**Pn**	**19 44 05.3**	**-0.3**
G21K	**Allakaket**	**13.74**	**18**	Pn	**Pn**	**19 44 08.1**	**+0.5**
F20K	**Avaraart Lake**	**13.88**	**13**	Pn	**Pn**	**19 44 10.3**	**+0.9**
SCRK	**Sand Creek**	**14.43**	**37**		**Pn**	**19 44 17.7**	**+0.6**
G23K	**Bananza Creek**	**14.62**	**22**		**Pn**	**19 44 20.1**	**+0.6**
BCAR	**Beaver Creek A**	**14.78**	**42**	Pn	**Pn**	**19 44 21.8**	**+0.2**
J26L	**Joseph Creek**	**14.89**	**36**		**Pn**	**19 44 24.7**	**+1.5**
I26K	**Coal Creek Min**	**15.52**	**34**		**Pn**	**19 44 32.7**	**+1.3**
F24K	**Squaw Lake**	**15.77**	**23**		**P**	**19 44 37.0**	**-1.2**
F24K				IAmb	IAmb	19 45 03.8	
	comp=Z,6.2nm,1.5s						
HYT	**Haines Junctio**	**15.83**	**53**		**P**	**19 44 40.0**	**+0.9**
HYT				IAmb	IAmb	19 44 54.8	
	comp=Z,4.2nm,1.0s						
E24K	**Your Creek**	**16.09**	**21**		**P**	**19 44 41.6**	**-0.2**
E24K				IAmb	IAmb	19 44 43.2	
	comp=Z,4.0nm,1.0s						
N30M	**Aishikik Lake**	**16.20**	**51**		**P**	**19 44 43.9**	**+0.9**
N30M				IAmb	IAmb	19 45 02.6	
	comp=Z,3.6nm,0.9s						
F25K	**Christian Rive**	**16.37**	**25**	Pn	**Pn**	**19 44 43.4**	**+1.1**
F25K				IAmb	IAmb	19 45 00.9	
	comp=Z,5.8nm,1.4s						
BMAR	**Burnt Mountain**	**16.53**	**27**	Pn	**Pn**	**19 44 45.1**	**+0.8**
H27K	**Steamboat Moun**	**16.62**	**33**		**P**	**19 44 47.4**	**-0.3**
M30M	**Minto, Yukon**	**16.67**	**47**		**P**	**19 44 49.8**	**+1.5**
I28M	**Miner Creek**	**16.70**	**36**	Pn	**Pn**	**19 44 47.3**	**+0.7**
I28M				IAmb	IAmb	19 44 48.2	
	comp=Z,6.0nm,1.4s						
N31M	**Braeburn, Yuko**	**16.81**	**52**		**P**	**19 44 51.1**	**+1.3**
F26K	**Sheenjek River**	**16.83**	**26**	Pn	**Pn**	**19 44 48.4**	**+0.3**
F26K				IAmb	IAmb	19 45 09.5	
	comp=Z,5.5nm,1.5s						
K29M	**Barlow Dome**	**16.84**	**43**		**P**	**19 44 51.0**	**+0.7**
J30M	**Hart River**	**17.62**	**41**		**P**	**19 44 59.0**	**+0.2**
J30M				IAmb	IAmb	19 45 35.7	
	comp=Z,6.9nm,1.4s						
AB31	**Akbulak array**	**70.86**	**331**	P	**P**	**19 52 07.8**	**-0.7**
ABKAR	**Akbulak array**	**70.86**	**331**	P	**P**	**19 52 08.1**	**-0.4**
KKAR	**Karatay Array**	**72.82**	**321**	P	**P**	**19 52 19.7**	**-0.7**

*IDC **14** 19:45:53.4±1.0,59°.41S×25°.82W,h0km,mb3.9/6, mbtmp4.0/7,ML4.6/1,MS3.1/2,Error ellipse: s-maj=33.1km s-min=22.2km az=64.0*
ISC 14 19:45:58.2±0.9,59.5S±0.1×25.7W±0.2,h35km,n18, σ1s33/14,mb3.9/5,5C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.30**	**154**	⇑P	**Pn**	**19 49 02.8**	**-1.4**
	comp=Z,26nm,0.6s						
VNA3	**Neumayer Olymp**	**13.47**	**157**	⇑P	**Pn**	**19 49 04.8**	**-1.6**
	comp=Z,7.5nm,0.2s						
VNA2	**Neumayer--Watz**	**13.70**	**154**	⇑P	**Pn**	**19 49 08.3**	**-1.3**
	comp=Z,13nm,0.6s,baz=315,slow=14						
SNAA	**Sanae**	**15.28**	**152**	⇑P	**Pn**	**19 49 29.4**	**-1.5**
	comp=Z,420nm,0.6s						
SNAA	**Sanae**	**15.28**	**152**	Pn	**Pn**	**19 49 29.8**	**-1.1**
	comp=Z,2.7nm,0.3s,baz=315,slow=16,SNR=52						
SNAA				LR	LR	19 54 09.2	
	comp=Z,98nm,21.7s,baz=194,slow=32						
	comp=Z,14nm,0.6s						
TROLL	**Troll, Antarti**	**16.82**	**149**	⇑P	**Pn**	**19 49 49.8**	**-0.9**
	comp=Z,154nm,0.5s						
PMSA	**Palmer Station**	**18.44**	**237**	LR	LR	19 55 38.5	
	comp=Z,57nm,21.0s,baz=82,slow=32						
QSPA	**South Pole Qui**	**30.73**	**180**	P	**P**	**19 52 11.8**	**+2.2**
	comp=Z,0.9nm,0.8s,baz=196,slow=7.0,SNR=6.7						
	comp=Z,0.9nm,0.8s						
PLCA	**Paso Flores**	**33.49**	**284**	P	**P**	**19 52 33.1**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=162,slow=7.5,SNR=5.3						
	comp=Z,2.4nm,0.8s						
CFA	**Coronel Fontan**	**39.71**	**296**	P	**P**	**19 53 25.8**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=174,slow=6.4,SNR=7.3						
	comp=Z,1.3nm,0.5s						
VNDA	**Vanda**	**43.14**	**182**	P	**P**	**19 53 55.2**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=168,slow=9.3,SNR=1.8						
	comp=Z,0.4nm,0.8s						
H04S2	**CROZET ISLANDS**	**45.52**	**110**	T	T	20 44 38.3	
	baz=225,slow=75,SNR=31						
H04S3	**CROZET ISLANDS**	**45.53**	**110**	T	T	20 44 39.3	
	baz=225,slow=75,SNR=18						
H04S1	**CROZET ISLANDS**	**45.53**	**110**	T	T	20 44 48.8	
	baz=225,slow=75,SNR=8.8						
LPAZ	**La Paz**	**53.03**	**306**	P	**P**	**19 55 13.1**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=95,slow=7.8,SNR=6.1						
	comp=Z,0.9nm,0.4s						
TORD	**Torodi Ar. Bea**	**75.73**	**28**	P	**P**	**19 57 40.1**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=202,slow=5.5,SNR=9.5						
	comp=Z,0.7nm,0.5s						
ARCES	**ARCESS Array B**	**133.87**	**22**	PKP	**PKiKP**	**20 05 11.6**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=184,slow=3.6,SNR=4.2						
ILAR	**Eielson Array**	**152.91**	**306**	PKPbc	**PKPbc**	**20 05 49.1**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=116,slow=5.7,SNR=5.5						

*NEIC **14** 19:52:02.3±2.7,9°.52S±0°.07×120°.01E±0°.06,h77km±8km, mb4.3/24,Error ellipse: s-maj=10.7km s-min=7.5km az=205.0*
*DJA **14** 19:52:02.6±0.1,10°S±2°×12°0E±°,h76km±2km,M4.6/42, mb4.6/42,mB5.2/5,MLv4.5/25,Mw(mB)4.6/5*
*IDC **14** 19:52:05.4±2.7,9°.29S×120°.32E,h108km±24km,mb3.7/9, mbtmp4.1/12,MS3.3/2,Error ellipse: s-maj=36.8km s-min=9.3km az=54.0*
ISC 14 19:52:03.5±0.4,9°.64S±0°.04×120°.06E±0°.04,h100km,n141, σ2s07/144,mb4.2/32,Suma region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.24**	**97**	P	**Pn**	**19 52 14.9**	**-2.9**
WSI				S	**Sn**	**19 52 23.8**	**-4.8**
WBSI	**Waikabubak, Su**	**0.66**	**270**	P	**Pn**	**19 52 17.9**	**-2.7**
WBSI				S	**Sn**	**19 52 29.2**	**-4.2**
BASI	**Baing, Sumba**	**0.77**	**138**	P	**Pn**	**19 52 19.9**	**-1.7**
BASI				S	**Sn**	**19 52 33.4**	**-1.8**
EDFI	**Ende, Flores**	**1.84**	**61**	P	**Pn**	**19 52 31.6**	**-2.6**
MMRI	**Maumere**	**2.38**	**65**		**Pn**	**19 52 39.8**	**-1.2**
MMRI				Sn	**Sn**	**19 53 05.7**	**-4.1**
MMRI	**Maumere**	**2.38**	**65**	P	**Pn**	**19 52 40.3**	**-0.7**
MMRI	**Maumere**	**2.38**	**65**	P	**Pn**	**19 52 39.7**	**-1.3**
PLAI	**Plampang**	**2.39**	**290**	P	**Pn**	**19 52 41.2**	**0.0**
PLAI	**Plampang**	**2.39**	**290**	P	**Pn**	**19 52 40.6**	**-0.6**
BSSI	**Bau Bau, Buton**	**3.50**	**7**	P	**Pn**	**19 52 54.1**	**-2.0**
BATI	**Baumata**	**3.60**	**99**	P	**Pn**	**19 52 57.2**	**-0.1**
	378nm,0.4s,baz=297,slow=4.9,SNR=216						
BATI				S	**Sn**	**19 53 37.1**	**-1.9**
	304nm,0.3s,baz=44,slow=19,SNR=25						
BATI	**Baumata**	**3.60**	**99**	P	**Pn**	**19 52 57.7**	**+0.4**
SOEI	**Soe**	**4.15**	**92**		**Pn**	**19 53 01.2**	**+0.2**
SOEI				Sn	**Sn**	**19 53 51.1**	**-1.5**
SOEI	**Soe**	**4.15**	**92**	P	**Pn**	**19 53 05.1**	**+0.2**
SOEI	**Soe**	**4.15**	**92**	P	**Pn**	**19 53 05.1**	**+0.2**
BKSI	**Bulukumba**	**4.29**	**1**	P	**Pn**	**19 53 05.6**	**-1.1**
KAPI	**Kappang**	**4.61**	**356**		**Pn**	**19 53 08.0**	**-2.9**
KAPI				Sn	**Sn**	**19 53 58.6**	**-4.7**
KAPI	**Kappang**	**4.61**	**356**	P	**Pn**	**19 53 07.8**	**-3.1**
	12nm,0.4s,baz=190,slow=7.5,SNR=10						
KAPI				S	**Sn**	**19 53 58.7**	**-4.6**
	48nm,0.5s,baz=299,slow=22,SNR=6.7						
KAPI	**Kappang**	**4.61**	**356**	P	**Pn**	**19 53 08.5**	**-2.5**
BSBI	**Bau Bau**	**4.82**	**31**	P	**Pn**	**19 53 13.1**	**-0.8**
DNP	**Denpasar**	**4.88**	**281**	P	**Pn**	**19 53 14.3**	**-0.3**
SRBI	**Singaraja**	**5.03**	**288**	P	**Pn**	**19 53 16.4**	**-0.3**
BNSI	**Bone**	**5.21**	**1**	P	**Pn**	**19 53 18.5**	**-0.6**
	0.2nm46nm,0.6s						
SPSI	**Sidrap Palu**	**5.65**	**357**	P	**Pn**	**19 53 23.4**	**-1.7**
	0.1nm22nm,0.4s						
JAGI	**Jajag, Banyuwa**	**5.95**	**281**		**Pn**	**19 53 26.7**	**-2.4**
JAGI				Sn	**Sn**	**19 54 31.5**	**-4.4**
JAGI	**Jajag, Banyuwa**	**5.95**	**281**	P	**Pn**	**19 53 26.7**	**-2.4**
JAGI	**Jajag, Banyuwa**	**5.95**	**281**	P	**Pn**	**19 53 26.9**	**-2.2**
	2μm68nm,0.4s						
ABJI	**Asem Bagus**	**6.04**	**287**	P	**Pn**	**19 53 30.2**	**-0.2**
	0.4nm64nm,1.0s						
KDI	**Kendari**	**6.19**	**24**	P	**Pn**	**19 53 32.5**	**0.0**
TTSI	**Tana Toraja**	**6.56**	**358**	P	**Pn**	**19 53 36.7**	**-0.8**
	0.1nm26nm,0.7s						
BLJI	**Banyuglugur**	**6.66**	**286**	P	**Pn**	**19 53 38.3**	**-0.5**
	0.4nm70nm,0.5s						
GMJI	**Gumukmas**	**6.67**	**281**	P	**Pn**	**19 53 36.8**	**-2.2**
	0.3nm43nm,0.8s						
KBKI	**Kotabaru**	**7.39**	**328**	P	**Pn**	**19 53 47.2**	**-1.6**
PCJI	**Pacitan**	**8.89**	**279**	P	**Pn**	**19 54 08.9**	**-0.3**
LUWI	**Luwuk**	**8.96**	**18**	Pn	**Pn**	**19 54 07.2**	**-2.9**
LUWI	**Luwuk**	**8.96**	**18**	P	**Pn**	**19 54 11.5**	**+1.4**
	28nm,1.1s						
WOJI	**Wonogiri, Jawa**	**9.20**	**281**	P	**Pn**	**19 54 13.2**	**-0.2**
	51nm,1.1s						
NLAI	**Namlea**	**9.46**	**48**	P	**Pn**	**19 54 18.0**	**+1.1**
	24nm,1.6s						
SANI	**Sanana**	**9.57**	**38**	P	**Pn**	**19 54 17.8**	**-0.7**
	33nm,1.1s						
UGM	**Wanagama**	**9.58**	**280**	Pn	**Pn**	**19 54 16.5**	**-2.1**
UGM	**Wanagama**	**9.58**	**280**	P	**Pn**	**19 54 17.1**	**-1.5**
UGM	**Wanagama**	**9.58**	**280**	P	**Pn**	**19 54 17.8**	**-0.8**
	74nm,2.0s						
FITZ	**Fitzroy Crossi**	**10.00**	**148**	Pn	**Pn**	**19 54 21.7**	**-2.6**
FITZ	**Fitzroy Crossi**	**10.00**	**148**	P	**Pn**	**19 54 22.2**	**-2.1**
	3.6nm,0.4s,baz=342,slow=9.3,SNR=45						
FITZ				S	**Sn**	**19 56 08.4**	**-6.3**
	24nm,0.3s,baz=180,slow=21,SNR=24						
KNRA	**Kununurra**	**10.40**	**126**		**Pn**	**19 54 27.7**	**-2.0**
MSAI	**Masohi**	**10.80**	**55**	P	**Pn**	**19 54 34.7**	**-0.6**
DRS	**Darwin Rock St**	**11.00**	**106**	P	**Pn**	**19 54 35.1**	**-2.8**
	23nm,0.8s						
SAUI	**Saumlaki**	**11.23**	**82**	Pn	**Pn**	**19 54 39.0**	**-2.1**
SAUI	**Saumlaki**	**11.23**	**82**	P	**Pn**	**19 54 38.6**	**-2.5**
	387nm,0.7s						
SAUI	**Saumlaki**	**11.23**	**82**	P	**Pn**	**19 54 40.1**	**-1.0**
KPJI	**Karang Pucung**	**11.24**	**281**	P	**Pn**	**19 54 40.4**	**-0.7**
	19nm,0.5s						
MTN	**Manton Dam**	**11.32**	**107**		**Pn**	**19 54 39.1**	**-3.1**
MBWA	**Marble Bar**	**11.46**	**182**	Pn	**Pn**	**19 54 41.2**	**-2.8**
MBWA	**Marble Bar**	**11.46**	**182**	P	**Pn**	**19 54 42.7**	**-1.3**
PSA00	**Pilbara Seismi**	**11.87**	**181**	P	**Pn**	**19 54 46.6**	**-2.9**
BBJI	**Bungbulang**	**12.46**	**279**	P	**Pn**	**19 54 55.7**	**-1.7**
	15nm,0.9s						
KDU	**Kakadu**	**12.55**	**105**	P	**Pn**	**19 54 56.3**	**-2.3**
TNTI	**Ternate**	**12.65**	**36**	P	**Pn**	**19 54 58.9**	**-1.0**
	45nm,1.5s						
FAKI	**Fak Fak**	**13.83**	**62**	Pn	**Pn**	**19 55 12.8**	**-2.6**
FAKI	**Fak Fak**	**13.83**	**62**	P	**Pn**	**19 55 13.7**	**-1.7**
	51nm,0.9s						
FAKI	**Fak Fak**	**13.83**	**62**	P	**Pn**	**19 55 13.4**	**-2.0**
	51nm,0.8s						
GIRL	**Giralia**	**14.08**	**203**	Pn	**Pn**	**19 55 19.2**	**+0.7**
SBUM	**Sibu**	**14.32**	**327**		**Pn**	**19 55 22.8**	**+1.1**
KSM	**Kuching**	**14.70**	**318**		**P**	**19 55 27.6**	**-2.5**
KASI	**Kota Agung**	**15.95**	**284**	P	**P**	**19 55 42.6**	**-1.4**
	37nm,0.9s						
LWLI	**Liwa**	**16.52**	**285**	P	**P**	**19 55 50.3**	**0.0**
MDSI	**Maura Dua**	**16.56**	**287**	P	**P**	**19 55 50.6

EVN	**Everest**	**49.31**	**320**	P	**P**	**20 00 44.2 +0.8**
HHC	**Hu-ho-hao-te**	**50.84**	**352**	*e*P	**P**	**20 00 56.5 +2.3**
HHC				pmax	pmax	
	comp=Z,9.0nm,0.6s					
HHC				pmax	pmax	
	comp=Z,110nm,4.0s					
GTA	**Gaotai**	**52.30**	**340**	*e*P	**P**	**20 01 07.1 +2.0**
GTA				pmax	pmax	
	comp=Z,2.0nm,1.0s					
TARA	**Tarawa**	**53.76**	**81**	P	**P**	**20 01 15.1 -1.0**
MRNZ	**Matariki Terra**	**56.00**	**134**	P	**P**	**20 01 33.7 +1.8**
BKZ	**Black Stump Fm**	**58.10**	**130**	P	**P**	**20 01 48.1 +1.3**
SONM	**Songino Array**	**58.49**	**349**	P	**P**	**20 01 49.1 -0.2**
	comp=Z,1.9nm,0.8s,baz=165,slow=8.8,SNR=6.2					
	comp=Z,1.9nm,0.8s					
KSH	**Kashi**	**63.74**	**323**	P	**P**	**20 02 24.9 0.0**
KSH				pmax	pmax	
	comp=Z,2.0nm,0.6s					
MKAR	**Makanchi Array**	**65.50**	**332**	P	**P**	**20 02 35.6 -0.6**
MKAR	**Makanchi Array**	**65.50**	**332**	P	**P**	**20 02 35.9 -0.3**
	comp=Z,0.7nm,0.5s,baz=146,slow=5.8,SNR=12					
	comp=Z,0.7nm,0.5s					
MAKZ	**Makanchi**	**65.66**	**332**	P	**P**	**20 02 36.7 -0.4**
ARSB	**Arslanbob**	**66.65**	**323**	P	**P**	**20 02 43.6 -0.2**
ARSB				IAmb	IAmb	20 02 48.5
	comp=Z,3.1nm,0.7s					
SIMJ	**Simiganj**	**67.55**	**319**	P	**P**	**20 02 49.2 -0.3**
SIMJ				IAmb	IAmb	20 03 18.7
	comp=Z,3.0nm,1.1s					
KURBB	**Kurchatov Arra**	**70.00**	**333**	P	**P**	**20 03 03.6 -0.7**
	comp=Z,0.4nm,0.4s,baz=139,slow=5.2,SNR=12					
	comp=Z,0.4nm,0.4s					
ZAA0	**Zalesovo Array**	**70.01**	**339**	P	**P**	**20 03 03.2 -1.0**
ZAA0				IAmb	IAmb	20 03 05.3
	comp=Z,2.5nm,0.6s					
ZALV	**Zalesovo Beam**	**70.01**	**339**	P	**P**	**20 03 03.1 -1.1**
ZALV	**Zalesovo Beam**	**70.01**	**339**	P	**P**	**20 03 03.3 -1.0**
	comp=Z,2.6nm,0.5s,baz=138,slow=4.8,SNR=10					
	comp=Z,2.6nm,0.5s					
KURK	**Kurchatov**	**70.03**	**333**	P	**P**	**20 03 03.7 -0.7**
BVAR	**Borovoye Array**	**75.35**	**332**	P	**P**	**20 03 35.6 -0.3**
	comp=Z,0.4nm,0.5s,baz=105,slow=3.3,SNR=2.4					
	comp=Z,0.4nm,0.5s					
SMY	**Shemya**	**77.29**	**30**	P	**P**	**20 03 49.5 +2.7**
	comp=Z,143nm,2.3s					
AB31	**Akbulak array**	**78.68**	**325**	P	**P**	**20 03 54.3 -0.4**
ABKAR	**Akbulak array**	**78.68**	**325**	P	**P**	**20 03 54.1 -0.5**
QSPA	**South Pole Qui**	**80.36**	**180**	P	**P**	**20 04 07.1 +3.4**
QSPA				IAmb	IAmb	20 04 13.4
	comp=Z,3.6nm,1.4s					
QSPA	**South Pole Qui**	**80.36**	**180**	P	**P**	**20 04 07.5 +3.8**
	comp=Z,0.5nm,0.7s,baz=327,slow=8.2,SNR=1.8					
	comp=Z,0.5nm,0.7s					
GNI	**Garni**	**85.14**	**312**	LR	LR	20 46 03.3
	comp=Z,29nm,21.8s,baz=339,slow=38					

TEH ***14*** *19:57:10.9, 27.68N×56.79E, h10km±101km*
DSN ***14*** *19:57:13.2±1.5, 27.60N×56.67E, h15km, ML2.5/5, Error ellipse: s-maj=68.1km s-min=11.8km az=107.0*

ISC 14 19:57:10.9±0.9, 27.64N±0.05×56.81E±0.07, h10km, n13, σ1§14/16, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.30**	**232**	Pg	**Pg**	**19 57 17.1**	**+0.1**
IBND				Sg	**Sb**	**19 57 22.8**	**-0.7**
KHNJ	**Kahnooj**	**0.85**	**69**	Pg	**Pg**	**19 57 27.4**	**0.0**
SHME	**Shamm**	**1.69**	**201**	P	**Pn**	**19 57 40.4**	**-0.1**
SHME				S	**Sn**	**19 58 02.9**	**+0.7**
BANOM	**Banah**	**1.77**	**195**	P	**Pn**	**19 57 41.1**	**-0.5**
BANOM				S	**Sn**	**19 58 04.3**	**+0.1**
KBAM	**BAM**	**2.08**	**44**	Pn	**Pb**	**19 57 47.7**	**-1.1**
CHMN	**Cheshme madani**	**2.31**	**16**	Pn	**Pb**	**19 57 51.3**	**-1.5**
KRBR	**Kerman**	**2.33**	**359**	Pn	**Pn**	**19 57 50.7**	**+1.0**
MSFE	**Esma-Masafi**	**2.34**	**194**	P	**Pn**	**19 57 51.3**	**+1.7**
UOSS	**Minazif**	**2.74**	**192**	P	**Pn**	**19 57 56.3**	**+1.3**
KHGB	**Koh Gabri**	**2.74**	**354**	Pn	**Pn**	**19 57 56.0**	**+0.8**
HATD	**Hatta, Dubai**	**2.87**	**192**	P	**Pn**	**19 57 57.6**	**+0.8**
KRM1	**Kerman Provinc**	**2.88**	**8**	Pn	**Pn**	**19 57 59.0**	**+1.9**
ASHO	**Ashiyiah**	**3.02**	**193**	P	**Pn**	**19 58 00.2**	**+1.4**

IDC ***14*** *20:08:57.2±12.0, 5.11N×124.64E, h406km±158km, mb3.1/7, mbtmp3.9/7, Error ellipse: s-maj=87.9km s-min=15.6km az=55.0*

ISC 14 20:08:56.9±1.1, 5.1N±0.2×124.6E±0.4, h400km, n7, σ0§64/7, mb3.3/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.67**	**159**	P	**P**	**20 14 00.6**	**-1.0**
	0.5nm,0.4s,baz=333,slow=11,SNR=27						
	0.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**28.37**	**300**	P	**P**	**20 14 16.6**	**+0.1**
	0.8nm,0.7s,baz=121,slow=7.3,SNR=7.3						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**30.01**	**163**	P	**P**	**20 14 30.8**	**-0.1**
	0.6nm,0.5s,baz=344,slow=7.6,SNR=15						
	0.6nm,0.5s						
STKA	**Stephens Creek**	**40.19**	**157**	P	**P**	**20 15 57.0**	**+0.6**
	1.1nm,0.4s,baz=331,slow=4.4,SNR=4.9						
	1.1nm,0.4s						
SONM	**Songino Array**	**45.34**	**343**	P	**P**	**20 16 37.5**	**+0.2**
	0.5nm,0.5s,baz=152,slow=6.5,SNR=2.7						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**55.23**	**326**	P	**P**	**20 17 50.2**	**0.0**
	1.7nm,0.5s,baz=120,slow=7.8,SNR=34						
	1.7nm,0.5s						
KURBB	**Kurchatov Arra**	**59.45**	**328**	P	**P**	**20 18 18.6**	**-0.6**
	1.3nm,0.6s,baz=131,slow=6.4,SNR=18						
	1.3nm,0.6s						

UPP ***14*** *20:19:09.6±0.2, 67.12N×21.12E, h0km, ML2.6, Suspected explosion*

HEL 14 20:19:17.0±0.3, 67.18N×20.64E, h0km, ML1.4, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.06**	**205**	P	Pg	20 19 13.9	-4.2
DUNU				S	Sg	20 19 17.9	-1.1
MASU	**Masugnsbyn**	**0.60**	**61**	S	Pg	20 19 27.7	-0.7
RATU	**Laukkuluspa**	**0.76**	**329**	P	Pg	20 19 26.0	-5.6
SALU	**Saltoluokta**	**0.85**	**285**	P	Pg	20 19 28.2	-5.1
ERTU	**Ertsjaerv**	**0.88**	**135**	S	Pg	20 19 31.4	-2.3
ERTU	**Ertsjaerv**	**0.88**	**135**	PG	Pg	20 19 32.4	-1.3
ERTU				SB	Sg	20 19 44.6	-0.5
PAJU	**Pajala**	**0.98**	**98**	S	Pg	20 19 34.9	-0.9
PAJU	**Pajala**	**0.98**	**98**	PG	Pg	20 19 34.8	-0.9
PAJU				SB	Sg	20 19 49.1	+0.6
LANU	**Lannavaara**	**1.02**	**30**	PN	Pn	20 19 38.4	-0.1
LANU				SB	Sg	20 19 49.2	-0.5
HEF	**Hetta**	**1.69**	**42**	*e*P	Pn	20 19 43.7	-4.0
HEF	**Hetta**	**1.69**	**42**	PG	Pn	20 19 47.1	-0.6
HEF				SG	Sn	20 20 07.1	-2.9
HEF				MSG		20 20 07.5	
	comp=Z,1.6nm,0.2s						
KALU	**Kalix**	**1.71**	**139**	PG	Pn	20 19 47.6	-0.4
KALU				SN	Sb	20 20 11.0	-0.3
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*P	Pn	20 19 46.7	-3.1
KIF	**Kilpisjarvi**	**1.84**	**2**	PG	Pb	20 19 51.1	-0.3
KIF				SB	Sn	20 20 12.6	-1.0
KIF				MSG		20 20 12.7	
	comp=Z,2.6nm,0.2s						
TOF	**Tornio**	**1.84**	**125**	PG	Pn	20 19 50.0	+0.3
TOF				MSG		20 20 11.9	
	comp=Z,2.2nm,0.2s						
TOF				SG	Sb	20 20 15.0	0.0
KTK1	**Kautokeino**	**2.09**	**27**	PG	Pn	20 19 54.1	+0.9
KTK1				SG	Sb	20 20 22.1	0.0
RANF	**Ranua**	**2.72**	**113**	PG	Pb	20 20 05.8	-0.6
RANF				SG	Sb	20 20 40.1	-0.2
ARA0	**ARCESS Array S**	**2.98**	**35**	PB	Pn	20 20 06.8	+1.3
ARA0				SB	Sn	20 20 43.9	+2.1
KEV	**Kevo**	**3.50**	**39**	SN	Sn	20 20 54.4	-0.1
VRF	**Varrio**	**3.50**	**76**	SG	Sb	20 21 04.5	+1.7
HEMU	**Hemsoen**	**4.65**	**195**	SG	Sg	20 21 41.6	-4.6

TAP ***14*** *20:53:05.5, 24.93N×122.07E, h119km, ML3.5, C*
JMA ***14*** *20:53:05.9±0.2, 24.9N±0.8×122.0E±0.4, h116km±1km, MV2.7/15, TAIWAN REGION*

ISC 14 20:53:05.6±1.3, 24.93N±0.04×122.03E±0.03, h120km±6km, n130, σ0§76/250, 17C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.08**	**332**	*i* P	**Pn**	**20 53 22.1**	**+0.1**
TWB1				*i* S	**Sn**	**20 53 33.4**	**-0.9**
TIPB	**Shuangxi**	**0.19**	**281**	⇑*i*P	**Pn**	**20 53 22.2**	**0.0**
TIPB				*i* S	**Sn**	**20 53 34.0**	**-0.7**
SXI1	**Grass Mountain**	**0.21**	**318**	*i* P	**Pn**	**20 53 22.1**	**-0.3**
SXI1				S	**Sn**	**20 53 34.6**	**-0.4**
NWF	**Wu-fen Shan**	**0.27**	**301**	*i* P	**Pn**	**20 53 22.4**	**-0.1**
NWF				*i* S	**Sn**	**20 53 34.8**	**-0.5**
WFSB	**Wu-fen Shan**	**0.27**	**301**	*i* P	**Pn**	**20 53 22.5**	**+0.1**
WFSB				S	**Sn**	**20 53 34.8**	**-0.3**
ILA	**Ilan**	**0.31**	**237**	*i* P	**Pn**	**20 53 22.9**	**+0.3**
ILA				S	**Sn**	**20 53 35.6**	**+0.3**
TNOU	**National Taiwa**	**0.32**	**312**	P	**Pn**	**20 53 22.8**	**+0.1**
TNOU				*e*S	**Sn**	**20 53 35.5**	**-1.9**
TWC	**Suao**	**0.36**	**207**	*i* P	**Pn**	**20 53 22.9**	**0.0**
TWC				*i* S	**Sn**	**20 53 34.8**	**-0.9**
TWE	**Neicheng**	**0.39**	**237**	*i* P	**Pn**	**20 53 23.1**	**+0.1**
TWE				*i* S	**Sn**	**20 53 35.6**	**-0.3**
TWA	**Mucha**	**0.41**	**277**	*i* P	**Pn**	**20 53 23.0**	**0.0**
TWA				*i* S	**Sn**	**20 53 35.3**	**-0.9**
NDS	**Dongshan**	**0.41**	**224**	*i* P	**Pn**	**20 53 23.5**	**+0.4**
NDS				*i* S	**Sn**	**20 53 36.6**	**+0.4**
NHY	**Taipei**	**0.43**	**284**	*i* P	**Pn**	**20 53 22.4**	**-0.7**
NHY				*e*S	**Sn**	**20 53 37.4**	**+1.0**
FUSB	**Fushanzhiwuyua**	**0.44**	**247**	*i* P	**Pn**	**20 53 23.4**	**+0.1**
FUSB				S	**Sn**	**20 53 36.0**	**-0.6**
NHDH	**Xindian Distri**	**0.46**	**274**	*i* P	**Pn**	**20 53 23.4**	**+0.1**
NHDH				*i* S	**Sn**	**20 53 36.7**	**+0.1**
TAP	**Taipei**	**0.49**	**282**	*i* P	**Pn**	**20 53 23.8**	**+0.4**
TAP				*i* S	**Sn**	**20 53 36.8**	**-0.1**
TATO	**Taipei**	**0.50**	**275**	P	**Pn**	**20 53 23.8**	**+0.3**
TATO	**Taipei**	**0.50**	**275**	P	**Pn**	**20 53 23.6**	**+0.1**
TATO				S	**Sn**	**20 53 36.2**	**-0.8**
ZUZH	**Zhuzihu**	**0.50**	**297**	*i* P	**Pn**	**20 53 22.7**	**-0.9**
ZUZH				S	**Sn**	**20 53 36.2**	**-1.0**
NWLT	**Wulai**	**0.51**	**252**	*i* P	**Pn**	**20 53 23.7**	**+0.1**
NWLT				*i* S	**Sn**	**20 53 36.1**	**-1.0**
ENTT	**Nioudou**	**0.52**	**235**	*i* P	**Pn**	**20 53 24.1**	**+0.5**
ENTT				*i* S	**Sn**	**20 53 38.0**	**+0.8**
TWY	**Chenhua**	**0.52**	**311**	*i* P	**Pn**	**20 53 23.8**	**+0.2**
TWY				S	**Sn**	**20 53 37.6**	**+0.3**
ANP	**Anpu**	**0.53**	**298**	*i* P	**Pn**	**20 53 23.6**	**-0.2**
ANP				*e*S	**Sn**	**20 53 36.7**	**-0.9**
BACT	**New Taipei Cit**	**0.54**	**277**	*e*P	**Pn**	**20 53 24.3**	**+0.5**
BACT				*e*S	**Sn**	**20 53 37.7**	**+0.2**
EOS2	**EOS2**	**0.54**	**160**	*e*P	**Pn**	**20 53 24.5**	**+0.8**
EOS2				*e*S	**Sn**	**20 53 38.5**	**+1.3**
ENA	**Nanau**	**0.57**	**208**	*i* P	**Pn**	**20 53 24.6**	**+0.6**
ENA				*i* S	**Sn**	**20 53 38.4**	**+0.5**
NTST	**Danshui**	**0.58**	**294**	*i* P	**Pn**	**20 53 24.1**	**+0.1**
NTST				*i* S	**Sn**	**20 53 39.6**	**+1.7**
TWS1	**Kuangyinshan**	**0.58**	**287**	*i* P	**Pn**	**20 53 24.3**	**+0.2**
TWS1				*i* S	**Sn**	**20 53 38.1**	**+0.1**
LATG	**Datong**	**0.61**	**229**	*i* P	**Pn**	**20 53 25.0**	**+0.6**
LATG				*i* S	**Sn**	**20 53 39.4**	**+0.8**
YHNB	**Yeheng**	**0.65**	**246**	P	**Pn**	**20 53 24.7**	**0.0**
YHNB	**Yeheng**	**0.65**	**246**	⇑*i*P	**Pn**	**20 53 24.7**	**0.0**
YHNB				*i* S	**Sn**	**20 53 38.6**	**-0.4**
EAHA	**Aohua**	**0.66**	**204**	*i* P	**Pn**	**20 53 24.6**	**-0.1**
EAHA				*i* S	**Sn**	**20 53 40.0**	**+1.0**
NSK	**Sanguang**	**0.67**	**247**	⇑*i*P	**Pn**	**20 53 24.8**	**0.0**
NSK				*i* S	**Sn**	**20 53 38.0**	**-1.2**
NTY	**Taoyuan**	**0.67**	**276**	*i* P	**Pn**	**20 53 25.0**	**+0.3**
NTY				*i* S	**Sn**	**20 53 39.2**	**+0.1**
EOS3	**EOS3**	**0.69**	**158**	*e*P	**Pn**	**20 53 25.7**	**+0.9**
EOS3				*e*S	**Sn**	**20 53 40.6**	**+1.4**
NCU	**National Centr**	**0.77**	**273**	⇑*e*P	**Pn**	**20 53 25.4**	**-4.1**
NCU				*e*S	**Sn**	**20 53 36.6**	**-3.9**
NCUH	**Zhongli**	**0.77**	**273**	⇑*i*P	**Pn**	**20 53 25.9**	**+0.4**
NCUH				*i* S	**Sn**	**20 53 40.9**	**+0.3**
NNS	**Nan Shan**	**0.78**	**231**	*i* P	**Pn**	**20 53 26.0**	**+0.3**
NNS				*i* S	**Sn**	**20 53 41.0**	**+0.1**
NNSB	**Datong**	**0.78**	**230**	⇑*i*P	**Pn**	**20 53 26.1**	**+0.3**
NNSB				*i* S	**Sn**	**20 53 40.9**	**0.0**
KSHI	**Guanxi Townshi**	**0.79**	**259**	⇑*i*P	**Pn**	**20 53 26.1**	**+0.4**
KSHI				*i* S	**Sn**	**20 53 41.0**	**+0.2**
EOS4	**EOS4**	**0.85**	**162**	*i* P	**Pn**	**20 53 26.3**	**+0.4**
EOS4				*i* S	**Sn**	**20 53 41.2**	**+0.1**
NACB	**Ninganchiao**	**0.86**	**208**	P	**Pn**	**20 53 26.0**	**-0.3**
NACB	**Ninganchiao**	**0.86**	**208**	*i* P	**Pn**	**20 53 25.9**	**-0.3**
NACB				*i* S	**Sn**	**20 53 41.4**	**-0.4**
ETL	**Fush Village**	**0.86**	**206**	*i* P	**Pn**	**20 53 26.5**	**+0.1**
ETL				*i* S	**Sn**	**20 53 41.5**	**-0.5**
NJD	**Zhudong**	**0.88**	**257**	*i* P	**Pn**	**20 53 27.0**	**+0.5**
NJD				*i* S	**Sn**	**20 53 42.5**	**+0.2**
ETLH	**Xiulin Townshi**	**0.88**	**215**	*i* P	**Pn**	**20 53 26.6**	**0.0**
ETLH				*i* S	**Sn**	**20 53 42.2**	**-0.3**
NFF	**Wufeng Townshi**	**0.88**	**250**	⇑*i*P	**Pn**	**20 53 26.6**	**0.0**
NFF				*i* S	**Sn**	**20 53 41.6**	**-0.8**
NHW	**Xinwu Township**	**0.90**	**275**	*i* P	**Pn**	**20 53 27.2**	**+0.6**
NHW				*i* S	**Sn**	**20 53 43.9**	**+1.3**
HSN1	**Hsinchu**	**0.94**	**261**	*i* P	**Pn**	**20 53 27.4**	**+0.4**
HSN1				*i* S	**Sn**	**20 53 43.7**	**+0.5**
TWD	**Chiawan**	**0.94**	**205**	*i* P	**Pn**	**20 53 26.6**	**-0.4**
TWD				*i* S	**Sn**	**20 53 42.1**	**-1.2**
JYNG	**Yonagunijimaku**	**0.96**	**120**	P	**Pn**	**20 53 27.0**	**-0.2**
JYNG				*e*S	**Sn**	**20 53 42.6**	**-1.0**
SBCB	**Hsinchu**	**0.96**	**262**	⇑*i*P	**Pn**	**20 53 27.7**	**+0.5**
SBCB				*i* S	**Sn**	**20 53 44.0**	**+0.4**
LIOB	**Emei**	**0.97**	**253**	⇑*i*P	**Pn**	**20 53 27.7**	**+0.3**
LIOB				*i* S	**Sn**	**20 53 43.6**	**-0.1**
HSN	**Hsinchu**	**0.97**	**262**	⇑*i*P	**Pn**	**20 53 27.6**	**+0.1**
HSN				*i* S	**Sn**	**20 53 43.6**	**-0.2**
NSTT	**Nanjuang**	**0.98**	**252**	⇑*i*P	**Pn**	**20 53 27.7**	**+0.2**
NSTT				*i* S	**Sn**	**20 53 43.6**	**-0.4**
FUSS	**Fushou**	**0.99**	**227**	*i* P	**Pn**	**20 53 28.6**	**+0.8**
FUSS				*i* S	**Sn**	**20 53 45.0**	**+0.4**
YOJ	**Yonaguni jima**	**1.01**	**118**	P	**Pn**	**20 53 27.7**	**0.0**
YOJ				*e*S	**Sn**	**20 53 44.6**	**+0.3**
YOJ	**Yonaguni jima**	**1.01**	**118**	*e*P	**Pn**	**20 53 27.7**	**0.0**
HWA	**Hwalien**	**1.03**	**202**	*i* P	**Pn**	**20 53 27.8**	**-0.1**
HWA				S	**Sn**	**20 53 45.2**	**+0.5**
TWT	**Tachien**	**1.03**	**229**	⇑*i*P	**Pn**	**20 53 29.1**	**+0.9**
TWT				*i* S	**Sn**	**20 53 45.9**	**+0.7**
TDCB	**Techi**	**1.04**	**230**	⇑*i*P	**Pn**	**20 53 29.0**	**+0.7**
TDCB				*i* S	**Sn**	**20 53 45.4**	**+0.1**
WHF	**Hehuan Shan**	**1.05**	**222**	*i* P	**Pn**	**20 53 28.9**	**+0.3**
WHF				*i* S	**Sn**	**20 53 45.9**	**-0.1**
LXIB	**Xiulin Townshi**	**1.07**	**212**	*i* P	**Pn**	**20 53 27.9**	**-0.6**
LXIB				*i* S	**Sn**	**20 53 45.6**	**-0.3**
ETM	**Tongmen**	**1.08**	**207**	*i* P	**Pn**	**20 53 27.9**	**-0.6**
ETM				*i* S	**Sn**	**20 53 44.7**	**-1.1**
NJN	**Zhunan**	**1.08**	**257**	P	**Pn**	**20 53 28.7**	**+0.3**
NJN				*i* S	**Sn**	**20 53 46.2**	**+0.5**
WHP	**Taichung City**	**1.19**	**237**	⇑*i*P	**Pn**	**20 53 30.2**	**+0.6**
WHP				*i* S	**Sn**	**20 53 47.3**	**-0.5**
NMLH	**Miaoli**	**1.20**	**251**	*i* P	**Pn**	**20 53 30.0**	**+0.4**
NMLH				*i* S	**Sn**	**20 53 47.8**	**0.0**
SHUL	**Shoufeng**	**1.22**	**201**	*i* P	**Pn**	**20 53 30.1**	**+0.2**
SHUL				*i* S	**Sn**	**20 53 48.7**	**+0.4**
ESL	**Shilin**	**1.24**	**206**	*i* P	**Pn**	**20 53 29.4**	**-0.8**
ESL				S	**Sn**	**20 53 47.2**	**-1.6**
OWD	**Renai**	**1.25**	**219**	*i* P	**Pn**	**20 53 30.4**	**0.0**
OWD				*i* S	**Sn**	**20 53 48.8**	**-0.3**
WUSB	**Renai**	**1.25**	**222**	*i* P	**Pn**	**20 53 31.2**	**+0.8**
WUSB				S	**Sn**	**20 53 49.9**	**+0.6**
TWQ1	**Liyutan**	**1.29**	**243**	⇑*i*P	**Pn**	**20 53 30.9**	**+0.3**
TWQ1				*i* S	**Sn**	**20 53 49.7**	**+0.1**
WPL	**Puli Township**	**1.34**	**227**	*i* P	**Pn**	**20 53 32.2**	**+0.9**
WPL				S	**Sn**	**20 53 51.5**	**+0.8**
WCS	**Beigang Elemen**	**1.34**	**230**	⇑*i*P	**Pn**	**20 53 31.8**	**+0.5**
WCS				*i* S	**Sn**	**20 53 50.7**	**0.0**
WARBT	**Fenglin Townsh**	**1.35**	**206**	*i* P	**Pn**	**20 53 30.5**	**-0.8**
WARBT				*i* S	**Sn**	**20 53 49.4**	**-1.4**
DPDB	**Guoxing**	**1.35**	**229**	*i* P	**Pn**	**20 53 32.0**	**+0.6**
DPDB				S	**Sn**	**20 53 51.9**	**+1.0**
EGFH	**Guangfu**	**1.38**	**204**	*i* P	**Pn**	**20 53 31.7**	**+0.1**
EGFH				*i* S	**Sn**	**20 53 50.1**	**-1.3**
WDJ	**Dajia District**	**1.40**	**246**	*i* P	**Pn**	**20 53 32.4**	**+0.6**
WDJ				*i* S	**Sn**	**20 53 52.3**	**+0.6**
TCU	**Taichung**	**1.46**	**238**	*i* P	**Pn**	**20 53 33.0**	**+0.4**
TCU				*i* S	**Sn**	**20 53 53.3**	**+0.2**
SMLT	**Sun Moon Lake**	**1.47**	**225**	*i* P	**Pn**	**20 53 33.5**	**+0.6**
SMLT				*i* S	**Sn**	**20 53 54.0**	**+0.6**
TYC	**Yuchr**	**1.48**	**226**	*i* P	**Pn**	**20 53 33.4**	**+0.5**
TYC				*i* S	**Sn**	**20 53 54.2**	**+0.7**
WWF	**Wufeng**	**1.50**	**234**	*i* P	**Pn**	**20 53 33.6**	**+0.5**
WWF				S	**Sn**	**20 53 54.9**	**+0.9**
SSLB	**Suanglung**	**1.51**	**221**	P	**Pn**	**20 53 33.8**	**+0.6**
SSLB	**Suanglung**	**1.51**	**221**	*i* P	**Pn**	**20 53 33.8**	**+0.6**
SSLB				*i* S	**Sn**	**20 53 54.5**	**+0.4**
HGSD	**Ruisui**	**1.54**	**201**	*i* P	**Pn**	**20 53 33.8**	**+0.3**
HGSD				S	**Sn**	**20 53 55.5**	**+0.8**
EHY	**Hungye**	**1.56**	**205**	*i* P	**Pn**	**20 53 33.6**	**-0.2**
EHY				*i* S	**Sn**	**20 53 54.1**	**-1.1**
EHYH	**Wanrong**	**1.56**	**204**	*i* P	**Pn**	**20 53 34.0**	**+0.1**
EHYH				*i* S	**Sn**	**20 53 53.7**	**-1.5**
WCHH	**Zhanghua**	**1.59**	**238**	*i* P	**Pn**	**20 53 34.3**	**+0.2**
WCHH				*i* S	**Sn**	**20 53 55.9**	**+0.2**
WNT1	**Nantou City**	**1.60**	**231**	*i* P	**Pn**	**20 53 35.0**	**+0.7**
WNT1				*i* S	**Sn**	**20 53 56.7**	**+0.7**
WCH1	**Changhua City**	**1.60**	**238**	*e*P	**Pn**	**20 53 34.7**	**+0.5**
WCH1				S	**Sn**	**20 53 56.2**	**+0.2**
WNT	**Mingjian**	**1.62**	**230**	*i* P	**Pn**	**20 53 35.1**	**+0.7**
WNT				*i* S	**Sn**	**20 53 56.8**	**+0.5**
WJS	**Zhushan**	**1.62**	**227**	*i* P	**Pn**	**20 53 35.1**	**+0.6**
WJS				*i* S	**Sn**	**20 53 57.0**	**+0.4**
WHYT	**Xinyi Township**	**1.64**	**221**	*i* P	**Pn**	**20 53 35.5**	**+0.8**
WHYT				*i* S	**Sn**	**20 53 57.5**	**+0.6**
IRIF	**Iriomote-Funau**	**1.66**	**111**	P	**Pn**	**20 53 34.7**	**-0.1**
IRIF				S	**Sn**	**20 53 56.5**	**-0.7**
YULB	**Yu-li**	**1.68**	**204**	P	**Pn**	**20 53 35.6**	**+0.5**
YULB	**Yu-li**	**1.68**	**204**	S	**Sn**	**20 53 55.9**	**-1.7**
YULB	**Yu-li**	**1.68**	**204**	*i* P	**Pn**	**20 53 35.2**	**+0.1**
YULB				S	**Sn**	**20 53 57.1**	**-0.6**
TWF1	**Yuli**	**1.71**	**203**	*i* P	**Pn**	**20 53 35.4**	**-0.2**
TWF1				*i* S	**Sn**	**20 53 57.3**	**-1.1**
ALS	**Alishan**	**1.81**	**219**	*i* P	**Pn**	**20 53 37.6**	**+0.6**
ALS				*i* S	**Sn**	**20 54 01.9**	**+1.0**
CHN5	**Tsauling**	**1.82**	**223**	*i* P	**Pn**	**20 53 37.5**	**+0.6**
CHN5				*i* S	**Sn**	**20 54 01.0**	**+0.3**
WGK	**Gukeng**	**1.83**	**227**	*i* P	**Pn**	**20 53 37.9**	**+0.9**
WGK				*i* S	**Sn**	**20 54 01.6**	**+0.8**
CHKH	**Chenggong**	**1.83**	**199**	*e*P	**Pn**	**20 53 36.7**	**-0.3**
CHKH				S	**Sn**	**20 53 59.1**	**-1.8**
WDLH	**Douliu**	**1.84**	**228**	*i* P	**Pn**	**20 53 37.6**	**+0.5**
WDLH				*i* S	**Sn**	**20 54 01.2**	**+0.1**
RLNB	**Erlin**	**1.84**	**236**	*i* P	**Pn**	**20 53 37.3**	**+0.2**
RLNB				*i* S	**Sn**	**20 54 01.1**	**-0.1**
FULB	**Fuli**	**1.85**	**201**	*i* P	**Pn**	**20 53 38.4**	**+1.1**
FULB				*i* S	**Sn**	**20 54 01.6**	**+0.1**
JKRS	**Kuro-shima**	**1.93**	**111**	P	**Pn**	**20 53 38.4**	**+0.2**
JKRS				*e*S	**Sn**	**20 54 02.4**	**-0.7**
EHD	**Haiduan**	**1.93**	**203**	*i* P	**Pn**	**20 53 37.3**	**-1.0**
EHD				*i* S	**Sn**	**20 54 02.1**	**-1.0**
WTK	**Tuku**	**1.95**	**231**	*i* P	**Pn**	**20 53 38.5**	**+0.1**
WTK				*i* S	**Sn**	**20 54 03.0**	**-0.4**
ELDTW	**Lidau**	**1.97**	**208**	*i* P	**Pn**	**20 53 39.2**	**+0.4**
ELDTW				S	**Sn**	**20 54 04.8**	**+0.6**
ECS	**Chishang**	**1.98**	**202**	*e*P	**Pn**	**20 53 38.7**	**-0.1**
ECS				S	**Sn**	**20 54 02.9**	**-1.3**
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RTLS	**Leoncito**	**2.16**	**77**	*eP*	**Pn**	**20 55 46.7**	**+1.8**
RTLS				*eS*	**Sb**	**20 56 16.2**	**+1.2**
RTLS				IAML		20 56 19.4	
	comp=Z,370nm,0.9s						
GO04	**Tololo Observa**	**2.29**	**21**	*eP*	Pn	20 55 44.4	-2.3
GO04				*eS*	**Sn**	**20 56 14.5**	**-0.9**
GO04				IAML		20 56 18.9	
	comp=Z,532nm,0.3s						
ARCO	**CERRO ARCO**	**2.45**	**103**	*eP*	Pn	20 55 47.8	-1.0
ARCO				*eS*	Sn	20 56 13.3	-5.9
ARCO				IAML		20 56 32.0	
	comp=Z,148nm,0.3s						
ASAL	**Salagasta**	**2.50**	**97**	*eP*	Pn	20 55 48.3	-1.0
ASAL				*eS*	**Sn**	**20 56 22.2**	**+2.1**
AAGR	**Agrelo**	**2.59**	**108**	*eP*	Pn	20 55 49.8	-0.9
AAGR				*eS*	**Sg**	**20 56 32.1**	**+0.6**
ACCO	**Cerro Coronel**	**2.88**	**54**	*eP*	Pn	20 55 37.5	-17
ACCO				*eS*	**Sn**	**20 56 32.3**	**+2.3**
AROD	**Rodeo**	**2.91**	**43**	*eP*	**Pb**	**20 55 59.7**	**-0.9**
AROD				*eS*	**Sb**	**20 56 36.6**	**+0.1**
ACDV	**Cuesta del Vie**	**3.12**	**47**	*eS*	**Sn**	**20 56 33.9**	**-1.7**
AGUA	**GUANDACOL**	**3.99**	**46**	*eS*	**Sn**	**20 56 59.4**	**+2.5**
AGUA				IAML		20 56 59.6	
	comp=Z,82nm,0.7s						
AVFE	**Valle Fertil**	**4.04**	**67**	*eP*	**Pn**	**20 56 11.1**	**+0.6**
AVFE				*eS*	**Sn**	**20 56 59.8**	**+1.6**
AVFE				IAML		20 57 08.8	
	comp=Z,50nm,0.6s						
ACHE	**Chepes**	**4.50**	**77**	*eP*	**Pn**	**20 56 17.8**	**+0.9**
ACHE				*eS*	**Sn**	**20 57 13.5**	**+3.8**
VCA	**Vinchina**	**4.71**	**42**	*eP*	Pn	20 56 17.8	-2.1
VCA				*eP*	Pn	20 56 18.3	-1.6
VCA				*eS*	**Sb**	**20 57 26.1**	**-2.1**
VCA				*eS*		20 57 32.3	
VCA				IAML		20 57 34.2	
	comp=Z,49nm,0.4s						
APLL	**PUNTA DE LOS L**	**4.88**	**68**	*eP*	Pn	20 56 03.2	-19
APLL				*eS*	**Sn**	**20 57 19.3**	**+0.5**
GO03	**Copiapo**	**4.89**	**16**	*eP*	Pn	20 56 18.8	-3.5
GO03				*eS*	**Sn**	**20 57 26.3**	**+7.1**
GO03				IAML		20 57 36.0	
	comp=Z,36nm,0.4s						
ACLC	**CERRO LA CRUZ**	**5.04**	**56**	*eP*	**Pn**	**20 56 25.2**	**+0.7**

FUNV ***14*** *20:56:04.7, 10˚.34N×72˚.73W, h21km, MW3.4*
RSNC ***14*** *20:56:04.6±0.0, 10˚.N×3˚.7×3W±˚, h22km±3km, M2.5, ML2.5*

ISC 14 20:56:00.8±2.0, **10˚.36N**±0˚.03×**72˚.84W**±0˚.03, **h17**km±16km, **n15**, σ1§**63**/25, **1C, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.42**	**136**	*iP*	**Pn**	**20 56 11.5**	**-0.7**
MCQV				*eS*	**Sb**	**20 56 18.1**	**+2.1**
CRJC	**Cerrejon, Guaj**	**0.66**	**356**	P	**Pn**	**20 56 16.5**	**+1.0**
CRJC				S	**Sn**	**20 56 26.6**	**+1.0**
ARGC	**Ariguani, Magd**	**1.48**	**250**	P	**Pb**	**20 56 28.3**	**+0.5**
ARGC				S	**Sb**	**20 56 47.6**	**+1.3**
URIC	**Uribia, Colomb**	**1.57**	**32**	P	**Pb**	**20 56 29.2**	**-0.3**
URIC				S	**Sg**	**20 56 52.1**	**+0.6**
SMRC	**Santa Marta, M**	**1.58**	**301**	P	**Pn**	**20 56 25.7**	**-2.4**
SMRC				S	**Sn**	**20 56 47.6**	**-0.7**
OCAC	**Ocana**	**2.16**	**193**	P	**Pn**	**20 56 36.9**	**+0.7**
OCAC				S	**Sb**	**20 57 07.0**	**+0.8**
SJCC	**San Jacinto, C**	**2.35**	**259**	P	**Pb**	**20 56 42.2**	**-0.6**
SJCC				S	**Sb**	**20 57 12.3**	**+0.6**
CAPV	**Capacho**	**2.53**	**168**	*eP*	**Pb**	**20 56 44.2**	**-1.7**
CAPV				*eS*	**Sn**	**20 57 12.2**	**+0.3**
PAMC	**Pamplona, Colo**	**3.00**	**177**	P	**Pb**	**20 56 51.6**	**-2.5**
ZARC	**Zaragoza, Cauc**	**3.48**	**215**	P	**Pn**	**20 56 55.0**	**+0.8**
JACV	**Jacura**	**4.00**	**79**	*eP*	**Pn**	**20 57 03.2**	**+1.7**
PTBC	**PUERTO BERRIO,**	**4.12**	**203**	P	**Pn**	**20 57 01.9**	**-1.2**
PTBC				S	**Sn**	**20 57 53.1**	**+2.2**
RUSC	**La Rusia**	**4.44**	**183**	P	**Pn**	**20 57 08.5**	**+0.6**
BAUV	**El Baul**	**4.93**	**106**	*eP*	**Pn**	**20 57 14.6**	**+0.4**
BAUV				*eS*	**Sn**	**20 58 06.7**	**-4.3**
BENV	**Beln**	**5.17**	**94**	*eP*	**Pn**	**20 57 18.0**	**+0.5**

IDC ***14*** *20:56:42.3±2.0, 0˚.98S×128˚.88E, h0km, mb3.6/2, mbtmp3.7/5, ML3.5/3, MS3.3/2, Error ellipse: s-maj=56.1km s-min=26.2km az=68.0*
DJA ***14*** *20:56:45.8±0.2, 1˚.S±3˚×12˚.9E±˚, h10km, M4.2/18, mB5.0/3, mb4.5/8, MLv4.0/18, Mw(mB)4.3/3*

ISC 14 20:56:45.8±1.0, **1˚.01S**±0˚.08×**128˚.55E**±0˚.09, **h17**km, **n25**, σ1§**41**/23, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.13**	**326**	P	**Pn**	**20 57 21.1**	**+0.5**
MSAI	**Masohi**	**2.35**	**171**	P	**Pb**	**20 57 27.3**	**-0.3**
NLAI	**Namlea**	**2.64**	**213**	P	**Pn**	**20 57 29.4**	**+1.8**
AAI	**Ambon**	**2.68**	**188**	P	**Pn**	**20 57 29.7**	**+1.6**
SWI	**Sorong**	**2.71**	**87**	P	**Pn**	**20 57 29.8**	**+1.2**
SANI	**Sanana**	**2.76**	**248**	P	**Pn**	**20 57 29.8**	**+0.5**
BNDI	**Bandanaira**	**3.74**	**159**	P	**Pn**	**20 57 45.2**	**+2.5**
FAKI	**Fak Fak**	**4.15**	**117**	P	**Pn**	**20 57 49.8**	**+1.4**
KMSI	**Cibinong**	**4.83**	**289**	P	**Pn**	**20 57 58.9**	**+1.1**
LUWI	**Luwuk**	**5.78**	**270**	P	**Pn**	**20 58 10.9**	**+0.1**
	0.3nm997nm21nm,0.8s						
APSI	**Ampana**	**6.90**	**271**	P	**Pn**	**20 58 27.0**	**+0.8**
	52nm,0.9s						
BBSI	**Bau Bau**	**7.44**	**233**	P	**Pn**	**20 58 34.4**	**+0.7**
	0.1nm43nm,1.1s						
SAUI	**Saumlaki**	**7.44**	**158**	P	**Pn**	**20 58 34.7**	**+1.0**
BAKI	**Biak**	**7.56**	**91**	P	**Pn**	**20 58 35.6**	**+0.4**
	40nm,1.4s						
TTSI	**Tana Toraja**	**8.96**	**257**	P	**Pn**	**20 58 55.6**	**+1.1**
SPSI	**Sidrap Palu**	**9.25**	**251**	P	**Pn**	**20 58 59.6**	**+1.1**
	1µm17nm,1.0s						
BKSI	**Bulukumba**	**9.44**	**243**	P	**Pn**	**20 59 01.3**	**+0.2**
	517nm41nm,0.5s						
BSSI	**Bau Bau, Buton**	**9.52**	**237**	P	**Pn**	**20 59 02.3**	**+0.1**
KAPI	**Kappang**	**9.64**	**245**	Pn	**Pn**	**20 59 07.1**	**+3.2**
	1.1nm,0.3s,baz=66,slow=20,SNR=6.1						
	3.7nm,0.4s						
BATI	**Baumata**	**10.35**	**208**	LR	LR	21 04 18.1	
	comp=Z,80nm,19.4s,baz=168,slow=43						
FITZ	**Fitzroy Crossi**	**17.22**	**189**	Pn	**Pn**	**21 00 43.4**	**-2.2**
	baz=17,slow=18,SNR=1.6						
	2.2nm,1.1s						
WRA	**Warramunga Arr**	**19.65**	**164**	P	**P**	**21 01 12.5**	**-1.4**
	0.2nm,0.3s,baz=350,slow=11,SNR=15						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**23.11**	**167**	P	**P**	**21 01 50.2**	**-0.8**
	1.4nm,0.7s,baz=344,slow=11,SNR=12						
	1.4nm,0.7s						
URZ	**Urewera**	**57.87**	**136**	LR	LR	21 32 29.0	
	comp=Z,54nm,18.2s,baz=341,slow=37						
MKAR	**Makanchi Array**	**62.47**	**326**	P	**P**	**21 07 08.5**	**+0.2**
	0.6nm,0.9s,baz=140,slow=7.0,SNR=4.0						
	0.6nm,0.9s						

WEL 14 21:07:07.3±0.7, **32˚S**±5˚×**18˚0E**±1˚2, **h12**km, **mB5.0**/11, **ML4.5**/17, **MLv4.5**/10, **Mw(mB)4.2**/11, **Error ellipse: s-maj=15.9km s-min=5.3km az=104.8, confirmed, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.60**	**36**	P	Pb	21 08 07.8	-3.0
WMGZ	**Waiomatatini S**	**5.70**	**190**	P	Pn	21 08 32.5	+0.7
WMGZ				S	Sn	21 09 42.2	+5.1
HAZ	**Te Kaha**	**5.75**	**195**	P	Pn	21 08 33.5	+1.0
HAZ				S	Sn	21 09 42.3	+3.9
WCZ	**Waipu Caves**	**5.77**	**228**	P	Pn	21 08 33.6	+0.9
PKGZ	**Pakihiroa**	**5.80**	**192**	P	Pn	21 08 33.0	-0.1
PKGZ				S	Sn	21 09 44.2	+4.6
OUZ	**Omahuta**	**5.88**	**238**	P	Pn	21 08 36.4	+2.2
PUZ	**Puketiti**	**5.97**	**191**	P	Pn	21 08 34.4	-1.0
PUZ				S	Sn	21 09 45.1	+1.3
RUGZ	**Raukumara Rang**	**5.98**	**195**	P	Pn	21 08 35.1	-0.6
RUGZ				S	Sn	21 09 46.9	+2.8
TWGZ	**Tauwhareparae**	**6.12**	**192**	P	Pn	21 08 36.4	-1.2
TWGZ				S	Sn	21 09 50.4	+2.9
ETAZ	**East Tamaki Re**	**6.14**	**218**	P	Pn	21 08 39.7	+1.9
MWZ	**Matawai**	**6.36**	**195**	P	Pn	21 08 38.9	-2.0
MWZ				S	Sn	21 09 55.0	+1.5
CNGZ	**Carnagh Statio**	**6.38**	**190**	P	Pn	21 08 40.2	-0.9
URZ	**Urewera**	**6.39**	**198**	P	Pn	21 08 38.9	-2.4
URZ				S	Sn	21 09 54.0	-0.2
TKGZ	**Te Karaka**	**6.40**	**193**	P	Pn	21 08 40.3	-1.0
TKGZ				S	Sn	21 09 54.3	0.0
RAGZ	**Rawiri**	**6.54**	**196**	P	Pn	21 08 41.6	-1.9
RIGZ	**Rimuhau**	**6.67**	**193**	P	Pn	21 08 42.5	-2.7
RIGZ				S	Sn	21 10 03.0	+1.9
MUGZ	**Murupara**	**6.69**	**200**	P	Pn	21 08 43.9	-1.5
MUGZ				S	Sn	21 10 01.4	-0.2
SNGZ	**Shannon Statio**	**6.83**	**195**	P	Pn	21 08 46.0	-1.3
SNGZ				S	Sn	21 10 07.1	+2.1
PRGZ	**Paritu Road**	**6.86**	**192**	P	Pn	21 08 45.2	-2.6
PRGZ				S	Sn	21 10 05.4	-0.4
RAHZ	**Arahi**	**7.02**	**197**	P	Pn	21 08 47.3	-2.6
RAHZ				S	Sn	21 10 10.9	+1.2
MHGZ	**Mahia Peninsul**	**7.08**	**191**	P	Pn	21 08 46.7	-4.1

DNK ***14*** *21:10:40.8±5.7, 53˚.48N×34˚.58W, h0km±150km, mb5.5*
MOS ***14*** *21:10:50.8±0.9, 54˚.54N×35˚.10W, h10km, mb5.1/93, MS4.4/10, Error ellipse: s-maj=6.7km s-min=5.0km az=54.9*
BJI ***14*** *21:10:50.5, 54˚.50N×35˚.20W, h10km, mB5.3/11, mb4.8/41, Ms4.8/6, Ms7 4.5/12*
IDC ***14*** *21:10:50.7±0.4, 54˚.45N×35˚.13W, h0km, mb4.4/35, mbtmp4.4/39, ML4.1/5, MS4.1/83, Error ellipse: s-maj=12.2km s-min=9.4km az=179.0*
INMG ***14*** *21:10:52.0±3.9, 54˚.54N×35˚.36W, h10km, mb4.9, Ms4.1, MW4.8, #DIST_RANGE: DISTANT*
GCMT ***14*** *21:10:52.5±0.2, 54˚.77N±0˚.02×35˚.09W±0˚.02, h12km, MW4.9/125, Moment Tensor Solution. s30,c33; s125,c178; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.37±.06; Mθθ-0.13±.07; Mϕϕ2.50±.05; Mrθ1.62±.26; Mθϕ0.02±.05; Mrϕ0.26±.21; Best double couple: M₀2.87400×10¹⁶ NP1:ϕs337.00000°, δ48.00000°, λ-129.00000°. NP2:ϕs206.00000°, δ55.00000°, λ-56.00000°. Principal axes: T 2.5190, Plg4.0000°, Azm273.0000°; N 0.7090, Plg27.0000°, Azm5.0000°; P -3.2280, Plg62.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***14*** *21:10:52.5, 54˚.39N×34˚.97W, h12km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10¹⁶Nm; Mrr-1.66; Mθθ0.05; Mϕϕ1.61; Mrθ1.65; Mθϕ0.16; Mrϕ-2.91; Fault plane solution: M₀3.73000×10¹⁶ NP1: ϕs200.27000°, δ16.40000°, λ-46.19000°. NP2: ϕs335.27000°, δ78.24000°, λ-101.52000°. Principal axes: T 3.4724, Plg32.0000°, Azm75.0000°; N 0.4665, Plg11.0000°, Azm338.0000°; P -3.9388, Plg55.0000°, Azm231.0000°;*
NEIC ***14*** *21:10:52.5, 54˚.49N×35˚.14W, h12km*
NEIC ***14*** *21:10:52.5±1.2, 54˚.49N±0˚.08×35˚.1W±0˚.1, h10km±1km, mb5.0/213, Mww5.0/23, Error ellipse: s-maj=13.5km s-min=12.3km az=173.0*

ISC 14 21:10:51.6±0.8, **54˚.55N**±0˚.04×**35˚.17W**±0˚.04, **h6**km±4km, **n950**, σ1§**07**/914, **mb4.9**/248, **MS4.2**/94, **37C-43D, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVI	**Ivigtut**	**9.60**	**319**	Pn	**Pn**	**21 13 12.2**	**+2.0**
BORG	**Borgarnes**	**12.35**	**29**	Pn	**Pn**	**21 13 48.6**	**+0.8**
BORG	**Borgarnes**	**12.35**	**29**	Pn	**Pn**	**21 13 49.7**	**+1.9**
	0.9nm,0.3s,baz=222,slow=11,SNR=1.5						
BORG				LR	LR	21 16 54.4	
	comp=Z,422nm,21.9s,baz=234,slow=29						
	12nm,0.8s						
BORG	**Borgarnes**	**12.35**	**29**	P	**Pn**	**21 13 48.6**	**+0.8**
DY2G	**Dye2**	**13.12**	**340**	*iP*	**Pn**	**21 14 00.6**	**+2.2**
DY2G				*iS*	**S**	**21 16 45.0**	**-5.0**
SFJD	**Kangerlussuaq**	**14.52**	**335**		**Pn**	**21 14 17.5**	**+0.2**
SFJD	**Kangerlussuaq**	**14.52**	**335**	Pn	**Pn**	**21 14 19.6**	**+2.3**
	1.5nm,0.3s,baz=142,slow=8.1,SNR=10						
SFJD				LR	LR	21 18 52.9	
	comp=Z,1µm,19.2s,baz=134,slow=33						
	4.5nm,0.8s						
SFJD	**Kangerlussuaq**	**14.52**	**335**	P	**Pn**	**21 14 17.5**	**+0.2**
SFJD	**Kangerlussuaq**	**14.52**	**335**	*iP*	**P**	**21 14 25.2**	**+1.1**
DRLN	**Deer Lake**	**14.74**	**258**	Pn	**Pn**	**21 14 19.4**	**-1.1**
ILULI	**Ilulissat**	**16.42**	**340**	Pn	**P**	**21 14 44.0**	**-1.1**
ILULI				IAmb	IAmb	21 14 47.5	
	comp=Z,156nm,1.8s						
ILULI	**Ilulissat**	**16.42**	**340**	P	**P**	**21 14 44.0**	**-1.1**
ILULI				pmax	pmax		
	comp=Z,156nm,1.8s						
SAQQ	**Saqqaq**	**17.25**	**340**	*iP*	**P**	**21 14 58.6**	**+4.3**
SUMG	**Summit**	**18.15**	**357**		**Pn**	**21 15 03.6**	**-0.6**
SUMG				IAmb	IAmb	21 15 13.9	
	comp=Z,240nm,1.7s						
SUMG	**Summit**	**18.15**	**357**	P	**Pn**	**21 15 03.7**	**-0.6**
SUMG				pmax	pmax		
	comp=Z,240nm,1.7s						
SUMG	**Summit**	**18.15**	**357**	*iP*	**Pn**	**21 15 04.0**	**-0.3**
SCHQ	**Schefferville**	**18.23**	**284**		**Pn**	**21 15 04.0**	**-1.0**
SCHQ	**Schefferville**	**18.23**	**284**	P	**Pn**	**21 15 04.7**	**-0.3**
	comp=Z,3.8nm,0.3s,baz=89,slow=8.4,SNR=15						
SCHQ				LR	LR	21 20 44.4	
	comp=Z,8µm,21.8s,baz=78,slow=32						
ESK	**Eskdalemuir**	**18.30**	**75**		**Pn**	**21 15 05.5**	**-0.3**
ESK	**Eskdalemuir**	**18.30**	**75**	P	**Pn**	**21 15 05.5**	**-0.3**
ESK				pmax	pmax		
	comp=Z,49nm,1.4s						
EKA	**Eskdalemuir Ar**	**18.32**	**74**	P	**P**	**21 15 06.7**	**+0.4**
	baz=272,slow=11						
	comp=Z,8.4nm,1.0s						
KUQ	**Kuujjuaa**	**18.66**	**295**		**P**	**21 15 08.3**	**-1.5**
GBN	**Guysborough**	**19.15**	**252**		**P**	**21 15 13.6**	**-1.8**
FRB	**Frobisher Bay**	**19.21**	**312**	P	**Pn**	**21 15 16.8**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=103,slow=9.4,SNR=7.7						
FRB				LR	LR	21 21 06.3	
	comp=Z,1µm,19.3s,baz=105,slow=32						
	comp=Z,10nm,0.9s						
JMIC	**Jan Mayen**	**20.20**	**25**	LR	LR	21 21 05.2	
	comp=Z,791nm,22.0s,baz=230,slow=30						
UPNV	**Upernavik**	**20.30**	**342**	*iP*	Pn	21 15 29.3	-0.3
BATG	**Bathurst New B**	**20.66**	**262**		**P**	**21 15 31.3**	**-0.6**
BATG				IAmb	IAmb	21 15 37.3	
	comp=Z,68nm,0.9s						
DBG	**Daneborg**	**20.73**	**11**	*iP*	Pn	21 15 34.7	0.0
LMN	**Caledonia Moun**	**20.74**	**257**		**P**	**21 15 31.5**	**-1.2**
HAL	**Halifax**	**20.79**	**253**	P	**P**	**21 15 33.1**	**-0.1**
HAL				IAmb	IAmb	21 15 34.7	
	comp=Z,47nm,0.9s						
HAL	**Halifax**	**20.79**	**253**	P	**P**	**21 15 33.1**	**-0.1**
HAL				pmax	pmax		
	comp=Z,47nm,0.9s						
PGAV	**Gavieira, Arco**	**21.73**	**114**	*eP*	**P**	**21 15 44.7**	**+1.2**
PGAV				*i* IAmb	IAmb	21 15 52.9	
	comp=Z,94nm,1.9s						
PGAV				*eS*	Sn	21 19 49.0	-4.2
PGAV				*i* IAMs_20	IAMs_20	21 22 06.4	
	comp=Z,719nm,20.0s						
KULLO	**Kullorsuaq**	**21.93**	**344**	*iP*	**P**	**21 15 46.6**	**+1.3**
PCAB	**Cabril**	**22.04**	**114**	*eP*	**P**	**21 15 48.0**	**+1.3**
PCAB				*i* IAmb	IAmb	21 16 03.5	
	comp=Z,72nm,1.6s						
GGN	**Saint George**	**22.33**	**258**	P	**P**	**21 15 47.7**	**-2.1**
GGN				IAmb	IAmb	21 15 52.1	
	comp=Z,41nm,1.0s						
POLO	**Lamas de Olo**	**22.40**	**115**	*eP*	**P**	**21 15 52.5**	**+1.8**
POLO				*i* IAmb	IAmb	21 16 25.2	
	comp=Z,32nm,1.8s						
D62A	**Allapoint, All**	**22.50**	**265**		**P**	**21 15 51.4**	**-0.2**
D62A				IAmb	IAmb	21 15 54.8	
	comp=Z,51nm,1.0s						
PVRL	**Vila Real**	**22.51**	**115**	*eP*	**P**	**21 15 54.3**	**+2.4**
PVRL				*i* IAmb	IAmb	21 15 56.1	
	comp=Z,64nm,1.7s						
PBRG	**Braganca**	**22.66**	**113**	*eP*	**P**	**21 15 55.1**	**+1.7**
PBRG				*i* IAmb	IAmb	21 16 00.2	
	comp=Z,126nm,1.6s						
F64A	**Sherman**	**22.76**	**261**	P	**P**	**21 15 53.1**	**-1.3**
F64A				IAmb	IAmb	21 16 04.2	
	comp=Z,59nm,1.3s						
PVIS	**Viseu**	**22.82**	**116**	*eP*	**P**	**21 15 56.5**	**+1.3**
COI	**Coimbra**	**22.92**	**118**	P	**P**	**21 15 54.4**	**-1.7**
COI				IAmb	IAmb	21 16 00.5	
	comp=Z,91nm,1.6s						
COI	**Coimbra**	**22.92**	**118**	P	**P**	**21 15 57.3**	**+1.2**
COI	**Coimbra**	**22.92**	**118**	P	**P**	**21 15 54.4**	**-1.7**
COI				pmax	pmax		
	comp=Z,91nm,1.6s						
EMMW	**East Machias**	**22.93**	**258**	P	**P**	**21 15 55.2**	**-0.9**
EMMW				IAmb	IAmb	21 16 06.3	
	comp=Z,86nm,1.3s						
MVO	**Moncorvo**	**22.96**	**114**	*eP*	**P**	**21 15 58.1**	**+1.5**
MVO				*i* IAmb	IAmb	21 16 16.6	
	comp=Z,38nm,1.7s						
MVO				*eS*	Sn	21 20 16.6	-5.8
MVO				*i* IAMs_20	IAMs_20	21 22 56.9	
	comp=Z,764nm,20.0s						
PCAS	**Casmilo, Conde**	**22.99**	**118**	*eP*	**P**	**21 15 58.0**	**+1.2**
PCAS				*i* IAmb	IAmb	21 16 02.5	
	comp=Z,84nm,1.7s						
E62A	**Clayton Lake**	**23.02**	**264**	P	**P**	**21 15 56.5**	**-0.5**
MTE	**Manteigas**	**23.23**	**116**		**P**	**21 15 57.5**	**-1.9**
MTE				IAmb	IAmb	21 16 01.9	
	comp=Z,58nm,1.4s						
MTE	**Manteigas**	**23.23**	**116**	*eP*	**P**	**21 16 00.6**	**+1.2**
MTE				*i* IAmb	IAmb	21 16 03.5	
	comp=Z,71nm,1.7s						
MTE				*eS*	**S**	**21 20 15.8**	**+4.0**
MTE				*i* IAMs_20	IAMs_20	21 22 52.7	
	comp=Z,660nm,22.0s						
PSBE	**So Bento**	**23.25**	**119**	*eP*	**P**	**21 16 01.3**	**+1.8**
PSBE				*i* IAmb	IAmb	21 16 06.0	
	comp=Z,76nm,1.5s						
LDAQ	**Lac Daran**	**23.32**	**269**		**P**	**21 15 59.0**	**-1.3**
PMAFR	**Mafra**	**23.43**	**121**	*eP*	**P**	**21 16 03.0**	**+1.7**
PMAFR				*i* IAmb	IAmb	21 16 34.1	
	comp=Z,111nm,1.7s						
PSARD	**Sardoal**	**23.50**	**118**	*eP*	**P**	**21 16 02.8**	**+0.8**
PSARD				*i* IAmb	IAmb	21 16 10.4	
	comp=Z,97nm,2.0s						
PKME	**Peaks-Kenny Pk**	**23.65**	**261**	P	**P**	**21 16 02.8**	**-0.6**
PKME				IAmb	IAmb	21 16 11.3	
	comp=Z,25nm,0.8s						
PARRA	**Arraiolos**	**23.65**	**121**	*eP*	**P**	**21 16 08.5**	**+5.0**
PARRA				*i* IAmb	IAmb	21 16 15.5	
	comp=Z,51nm,1.8s						
LIS	**Lisbon**	**23.67**	**121**	*eP*	**P**	**21 16 03.9**	**+0.2**
LIS				IAmb	IAmb	21 16 04.6	
	comp=Z,25nm,0.6s						
LIS	**Lisbon**	**23.67**	**121**	*eP*	**P**	**21 16 03.9**	**+0.2**
PCBR	**Castelo Branco**	**23.68**	**117**	*eP*	**P**	**21 16 04.5**	**+0.7**
PCBR				*i* IAmb	IAmb	21 16 10.1	
	comp=Z,182nm,1.7s						
NEEM	**North Greenlan**	**23.70**	**351**	*i* P	**P**	**21 16 05.8**	**+1.8**
NEEM				IAmb	IAmb	21 16 10.6	
	comp=Z,212nm,1.9s						
PMTG	**Montargil**	**23.87**	**119**	*eP*	**P**	**21 16 05.8**	**+0.1**
PMTG				*i* IAmb	IAmb	21 16 35.9	
	comp=Z,53nm,1.9s						
PMRV	**Marv??o**	**24.03**	**118**	*eP*	**P**	**21 16 07.8**	**+0.6**
PMRV				*i* IAmb	IAmb	21 16 14.2	
	comp=Z,87nm,1.7s						
PMRV				*eS*	**S**	**21 20 27.1**	**+2.6**
PMRV				*i* IAMs_20	IAMs_20	21 23 28.4	
	comp=Z,811nm,18.0s						
PMRV				*i* IAMs_20	IAMs_20	21 23 29.2	
	comp=Z,346nm,18.0s						
UCC	**Uccle**	**24.03**	**83**		**P**	**21 16 05.7**	**-1.4**
UCC				IAmb	IAmb	21 16 11.0	
	comp=Z,78nm,1.7s						
UCC	**Uccle**	**24.03**	**83**	*dP*	**P**	**21 16 06.8**	**-0.3**
UCC	**Uccle**	**24.03**	**83**	P	**P**	**21 16 05.7**	**-1.4**
UCC				pmax	pmax		
	comp=Z,78nm,1.7s						
CLF	**Chambon-Foret**	**24.08**	**90**		**P**	**21 16 06.0**	**-1.5**
PESTR	**Estremoz**	**24.35**	**119**		**P**	**21 16 08.8**	**-1.3**
PESTR	**Estremoz**	**24.35**	**119**	*eP*	**P**	**21 16 10.2**	**+0.1**
PESTR				*i* IAmb	IAmb	21 16 17.7	
	comp=Z,68nm,1.7s						
EVO	**Evora**	**24.39**	**120**	*eP*	**P**	**21 16 09.7**	**-0.7**
EVO				*i* IAmb	IAmb	21 16 14.6	
	comp=Z,36nm,1.6s						
G62A	**West of Eustis**	**24.39**	**262**	P	**P**	**21 16 10.0**	**-0.4**
DOU	**Dourbes**	**24.47**	**84**	*dP*	**P**	**21 16 13.6**	**+2.5**
	comp=Z,6.2nm,1.2s						
BMRD	**Maredsous**	**24.48**	**83**	*dP*	**P**	**21 16 14.0**	**+2.8**
PTEO	**Sao Teotonio**	**24.80**	**122**	*eP*	**P**	**21 16 15.1**	**+0.9**
RCHB	**Rochefort**	**24.81**	**83**	*dP*	**P**	**21 16 14.2**	**+0.1**
RCHB				*d*PP	**PnPn**	**21 16 44.5**	**-1.5**
MESJ	**Messejana**	**24.82**	**121**	*eP*	**P**	**21 16 14.6**	**+0.3**
MESJ				IAmb	IAmb	21 16 20.4	
	comp=Z,192nm,2.2s						
MESJ	**Messejana**	**24.82**	**121**	P	**P**	**21 16 13.1**	**-1.2**
MESJ				IAmb	IAmb	21 16 19.1	
	comp=Z,43nm,1.3s						
MESJ	**Messejana**	**24.82**	**121**	*eP*	**P**	**21 16 15.4**	**+1.1**
MESJ				*i* IAmb	IAmb	21 16 18.4	
	comp=Z,71nm,1.5s						
MESJ	**Messejana**	**24.82**	**121**	*eP*	**P**	**21 16 14.6**	**+0.3**
PBEJ	**Beja**	**24.85**	**120**	*eP*	**P**	**21 16 15.2**	**+0.6**
PBEJ				*i* IAmb	IAmb	21 16 21.8	
	comp=Z,48nm,1.6s						
MORF	**Marmelete**	**25.02**	**123**	*eP*	**P**	**21 16 16.3**	**+0.1**

TRQ Mont Tremblant 26.16 268 P 21 16 26.3 -0.2
TRQ IAmb IAmb 21 16 28.1
comp=Z,29nm,0.8s
FRNY Flat Rock 26.38 264 P 21 16 28.4 0.0
FRNY IAmb IAmb 21 16 39.7
comp=Z,71nm,1.7s
HFS Hagfors 26.43 58 LR LR 21 25 55.6
comp=Z,524nm,18.3s,baz=294,slow=34
CEST Esterni de Car 26.59 102 P 21 16 30.3 -0.1
ECH Echery 26.84 86 P **P 21 16 31.8 -0.7**
ECH Echery 26.84 86 P **P 21 16 31.8 -0.7**
ECH pmax pmax
comp=Z,15nm,1.5s
SSB Saint Sauveur 26.87 94 P P 21 16 32.3 -0.6
SSB Saint Sauveur 26.87 94 P **P 21 16 32.3 -0.6**
SSB pmax pmax
comp=Z,26nm,1.9s
NCB Newcomb 27.25 263 P P 21 16 35.3 -1.0
BFO Black Forest 27.46 85 P 21 16 37.3 -0.8
BFO Black Forest 27.46 85 P **P 21 16 37.3 -0.8**
BFO pmax pmax
comp=Z,20nm,1.4s
J59A Piesco 27.72 263 P P 21 16 40.5 -0.1
J59A IAmb IAmb 21 16 47.2
comp=Z,21nm,1.0s
STU Stuttgart 27.75 84 P P 21 16 39.8 -0.9
STU IAmb IAmb 21 17 18.4
comp=Z,40nm,1.9s
STU Stuttgart 27.75 84 P P 21 16 39.8 -0.9
STU pmax pmax
comp=Z,40nm,1.9s
SENIN Lac Senin/Sane 27.88 89 P 21 16 41.4 -0.8
BNI Bardonecchia 28.25 92 P P 21 16 45.0 -0.4
BNI Bardonecchia 28.25 92 P **P 21 16 45.0 -0.4**
BNI pmax pmax
comp=Z,15nm,1.5s
GRA1 Grafenberg Arr 28.48 80 P 21 16 47.0 -0.2
GRA1 IAmb IAmb 21 16 53.4
comp=Z,72nm,1.8s
GRF Grafenberg Arr 28.48 80 P P 21 16 47.0 -0.2
GRF pmax pmax
comp=Z,72nm,1.8s
GRF Grafenberg Arr 28.48 80 *e*P **P 21 16 47.5 +0.2**
comp=Z,18nm,1.4s,baz=298,slow=8.4
GRFO Grafenberg 28.48 80 P P 21 16 47.2 0.0
GRFO IAmb IAmb 21 16 53.3
comp=Z,69nm,1.8s
GRFO Grafenberg 28.48 80 P P 21 16 47.2 0.0
GRFO pmax pmax
comp=Z,69nm,1.8s
CLL Collm 28.77 76 P 21 16 49.4 -0.4
CLL IAmb IAmb 21 16 51.0
comp=Z,30nm,1.5s
CLL Collm 28.77 76 *i* P **P 21 16 49.6 -0.2**
CLL pmax pmax
comp=Z,33nm,1.6s
CLL Collm 28.77 76 P **P 21 16 49.5 -0.2**
comp=Z,13nm,1.5s
CLL pP **pwP 21 16 53.8 +0.4**
CLL Collm 28.77 76 *i* P **P 21 16 49.6 -0.2**
comp=Z,33nm,1.6s
CLL *i* x x 21 17 03.7
CLL *e*PPP PPP 21 17 50.0
DAVA Damuels 28.89 86 *i* pP **P 21 16 53.3 +2.2**
comp=Z,13nm,1.8s
TUE Stuetta 29.01 88 P 21 16 51.6 -0.6
TUE IAmb IAmb 21 16 59.3
comp=Z,35nm,1.6s
TUE Stuetta 29.01 88 P **P 21 16 53.7 +1.5**
comp=Z,59nm,1.6s
KBS Kingsbay 29.06 17⇓ *e*P **P 21 16 48.2 -3.9**
DAVOX Davos/Dischmat 29.16 87 P **P 21 16 54.5 +1.0**
comp=Z,2.1nm,0.8s,baz=309,slow=10,SNR=5.3
DAVOX LR LR 21 28 03.9
comp=Z,1μm,18.2s,baz=304,slow=36
comp=Z,2.1nm,0.8s
RETA Reutte 29.30 85 *i* pP **P 21 16 55.6 +1.0**
comp=Z,8.5nm,1.2s
FUORN Ofenpass-Fuorn 29.46 87 P **P 21 16 56.4 +0.1**
BRG Berggiesshubel 29.49 77 *e*P **P 21 16 58.6 +2.5**
BRG Amp 21 17 00.4
comp=Z,6.4nm,1.2s
FETA Feichten 29.52 86 *i* pP **P 21 16 58.1 +1.4**
comp=Z,12nm,1.6s
SPITS Spitsbergen Ar 29.54 19 P **P 21 16 57.4 +1.1**
comp=Z,12nm,1.0s,baz=270,slow=10,SNR=1.6
comp=Z,12nm,1.0s
MOTA Moosalm 29.57 85 *i* P **P 21 16 57.9 +0.8**
comp=Z,15nm,1.7s
SADO Sadowa 29.64 269 LR LR 21 27 47.6
comp=Z,14μm,19.6s,baz=66,slow=34
SQTA Sankt Quirin 29.70 85 *e*pP **P 21 16 59.5 +1.4**
comp=Z,16nm,1.4s,SNR=7.4
RICC Richard 29.73 77 AMS AMS 21 28 40.0
comp=Z,800nm,19.3s
WATA Walderalm 29.85 84 *i* pP **P 21 17 00.6 +1.0**
comp=Z,8.6nm,1.4s
WTTA Wattenberg 29.92 85 *i* pP **P 21 17 01.5 +1.3**
comp=Z,13nm,1.5s
PVCC Panska Ves 30.00 77 AMS AMS 21 29 10.0
comp=Z,700nm,18.8s
KHC Kasperske Hory 30.10 80⇑ *i* P **P 21 17 02.4 +0.8**
KHC pmax pmax
comp=Z,44nm,4.1s
KHC Kasperske Hory 30.10 80 *e*P **P 21 17 01.8 +0.2**
KHC AMS AMS 21 28 20.0
comp=Z,700nm,14.8s
KHC Kasperske Hory 30.10 80 P **P 21 17 02.0 +0.4**
PRA Prague 30.14 78 AMS AMS 21 29 50.0
comp=Z,900nm,14.2s
PRU Pruhonice 30.24 78 AMS AMS 21 29 50.0
comp=Z,900nm,13.1s
ZVC Zvikov 30.30 79 *e*P **P 21 17 04.4 +1.0**
ZVC AMS AMS 21 30 00.0
comp=Z,700nm,15.9s
GEC2 GERESS Array S 30.31 80 P **P 21 17 03.0 -0.6**
GERES GERESS Array B 30.31 80 P **P 21 17 03.4 -0.1**
comp=Z,1.6nm,0.8s,baz=324,slow=6.6,SNR=18
GERES LR LR 21 28 13.8
comp=Z,563nm,20.1s,baz=298,slow=34
comp=Z,1.6nm,0.8s
GKP Gorka Klasztor 30.31 71 *e*P **P 21 17 05.0 +1.7**
LESA Schwarzleotal 30.44 84 *e*pP **P 21 17 05.9 +1.1**
comp=Z,20nm,1.9s,SNR=7.5
MD01 Midelt array s 30.48 123 P **P 21 17 05.2 0.0**
MD31 MD31 30.48 123 P 21 17 04.9 -0.2
MD31 IAmb IAmb 21 17 07.0
comp=Z,42nm,1.6s
RES Resolute Bay 30.50 333 LR LR 21 28 55.6
comp=Z,209nm,18.6s,baz=138,slow=36
ARCES ARCESS Array B 30.55 37 P **P 21 17 05.0 -0.3**
ARCES IAmb IAmb 21 18 09.7
comp=Z,25nm,1.5s
ARCES ARCESS Array B 30.55 37 P **P 21 17 05.1 -0.3**
comp=Z,5.6nm,1.0s,baz=241,slow=7.6,SNR=5.9
ARCES LR LR 21 27 03.0
comp=Z,292nm,18.9s,baz=266,slow=32
comp=Z,5.6nm,1.0s
CTI Castel Tesino 30.58 87 P 21 17 05.6 -0.4
CTI Castel Tesino 30.58 87 P **P 21 17 05.6 -0.4**
CTI pmax pmax
comp=Z,22nm,1.5s
MDT Midelt 30.59 123 P **P 21 17 04.6 -1.6**
comp=Z,3.5nm,0.7s,baz=328,slow=9.9,SNR=6.1
MDT LR LR 21 28 32.1
comp=Z,363nm,18.2s,baz=354,slow=35
comp=Z,3.5nm,0.7s
CKRC Cesky Krumlov 30.67 80 AMS AMS 21 28 40.0
comp=Z,600nm,14.4s
ABTA Abfaltersbach 30.70 85 *i* pP **P 21 17 08.2 +1.2**
comp=Z,7.1nm,1.4s
KSP Ksiaz 30.83 75 *e*P **P 21 17 08.9 +0.9**
KSP Ksiaz 30.83 75 P **P 21 17 08.5 +0.5**
comp=Z,8.8nm,2.9s
KSP pP **pwP 21 17 12.2 +0.5**
comp=Z,8.8nm,2.9s
BIOA Bad Ischl, Aus 30.86 82 *i* P **P 21 17 09.2 +0.9**
comp=Z,11nm,1.6s
OSTC Ostas 30.92 76 *e*P **P 21 17 09.9 +1.0**
OSTC Ostas 30.92 76 *e*P **P 21 17 09.9 +1.0**
KBA Koelnbreinsper 31.01 84 *i* pP **P 21 17 10.8 +0.9**
comp=Z,14nm,1.6s
DPC Dobruska-Polom 31.08 76 *e*P **P 21 17 10.9 +0.6**
DPC MLR MLR
comp=Z,800nm,14.8s

DPC Dobruska-Polom 31.08 76 *e*P **P 21 17 10.9 +0.6**
DPC AMS AMS 21 30 10.0
comp=Z,800nm,14.8s
DPC Dobruska-Polom 31.08 76 P **P 21 17 10.9 +0.6**
comp=Z,22nm,2.0s
STAL STALIGIAL 31.08 85 P **P 21 17 09.1 -1.2**
STAL IAmb IAmb 21 17 15.1
comp=Z,24nm,1.5s
MOA Molln 31.14 82 *i* pP **P 21 17 12.0 +1.2**
comp=Z,17nm,1.6s
ZCCA Zocca 31.15 90 P **P 21 17 11.1 +0.1**
ZCCA IAmb IAmb 21 17 16.1
comp=Z,36nm,1.5s
BLKN Baker Lake 31.21 313 P 21 17 11.0 -0.2
BLKN IAmb IAmb 21 17 13.0
comp=Z,23nm,1.2s
MYKA Terra Mystica 31.42 84 *i* pP **P 21 17 14.5 +1.1**
comp=Z,23nm,1.7s
SSPA Standing Stone 31.46 262 P **P 21 17 13.7 +0.1**
KRLC Kraliky 31.47 76 *e*P **P 21 17 14.9 +1.2**
KRLC MLR MLR
comp=Z,900nm,14.5s
KRLC Kraliky 31.47 76 *e*P **P 21 17 14.9 +1.2**
KRLC AMS AMS 21 30 30.0
comp=Z,900nm,14.5s
VRAC Vranov 31.73 78 LR LR 21 29 38.8
comp=Z,553nm,18.1s,baz=306,slow=36
VRAC Vranov 31.73 78 *e*P **P 21 17 16.9 +0.9**
VRAC Vranov 31.73 78⇓ P **P 21 17 13.2 -2.8**
VRAC Vranov 31.73 78 P **P 21 17 13.2 -2.8**
FCC Fort Churchill 31.74 302 P **P 21 17 16.3 +0.4**
FCC IAmb IAmb 21 17 18.7
comp=Z,24nm,0.9s
FCC Fort Churchill 31.74 302 P **P 21 17 16.3 +0.4**
FCC pmax pmax
comp=Z,24nm,0.9s
KRUC Moravsky 31.74 78 *e*P **P 21 17 15.7 -0.4**
SABO M.te Sabotino 31.75 85 P 21 17 13.8 -2.4
SABO IAmb IAmb 21 17 20.2
comp=Z,31nm,1.4s
TRI Trieste 32.00 86 P 21 17 17.8 -0.5
TRI IAmb IAmb 21 17 22.2
comp=Z,25nm,1.1s
TRI Trieste 32.00 86 P **P 21 17 17.8 -0.5**
TRI pmax pmax
comp=Z,25nm,1.1s
OBKA Obir 32.01 84 *e*P **P 21 17 19.0 +0.4**
comp=Z,9.1nm,1.0s
CONA Conrad Observa 32.01 81 *e*P **P 21 17 19.4 +0.8**
comp=Z,7.1nm,1.9s
MORC Moravsky Berou 32.04 76 P 21 17 17.9 -0.8
MORC IAmb IAmb 21 17 20.7
comp=Z,24nm,1.5s
MORC Moravsky Berou 32.04 76 *e*P **P 21 17 19.2 +0.4**
MORC Moravsky Berou 32.04 76⇑ P **P 21 17 19.8 +1.0**
MORC Moravsky Berou 32.04 76⇑ P **P 21 17 19.8 +1.0**
FINES FINESS Array B 32.06 53 P **P 21 17 18.9 +0.2**
comp=Z,7.9nm,1.1s,baz=226,slow=3.6,SNR=5.1
FINES LR LR 21 28 32.4
comp=Z,370nm,21.5s,baz=272,slow=33
comp=Z,7.9nm,1.1s
ARSA Arzberg 32.18 82 P 21 17 19.4 -0.5
ARSA IAmb IAmb 21 17 21.8
comp=Z,33nm,1.8s
ARSA Arzberg 32.18 82 *i* P **P 21 17 20.8 +0.9**
comp=Z,8.1nm,1.3s
SOKA Soboth 32.20 83 *i* P **P 21 17 20.6 +0.4**
comp=Z,9.3nm,1.5s
OKC Ostrava-Krasne 32.35 76 AMS AMS 21 31 10.0
comp=Z,700nm,14.2s
RONA Rosalia, Austr 32.38 81 *e*pP **P 21 17 23.0 +1.2**
comp=Z,13nm,1.3s,SNR=8.0
MAUC Mauska 32.41 77 *e*P **P 21 17 23.0 +1.1**
JAVC Velka Javorina 32.57 78 *e*P **P 21 17 24.7 +1.3**
ZST Bratislava 32.59 79 *e*P **P 21 17 24.9 +1.4**
ZST pmax pmax
comp=Z,79nm,3.5s
BEL Belsk 32.89 71 *e*P **P 21 17 26.6 +0.6**
PABE Paberze 33.02 64 P 21 17 27.3 +0.2
OJC Ojcow 33.10 74 *e*P **P 21 17 28.6 +0.6**
OJC Ojcow 33.10 74 P 21 17 27.4 -0.5
OJC Ojcow 33.10 74 P **P 21 17 27.5 -0.5**
OJC Ojcow 33.10 74 P **P 21 17 28.0 +0.1**
comp=Z,18nm,1.9s
FDMO Fiordimonte 33.17 90 P P 21 17 28.3 -0.4
SUW Suwalki 33.22 66 *e*P **P 21 17 29.1 +0.1**
SUW Suwalki 33.22 66 P **P 21 17 28.4 -0.6**
SUW Suwalki 33.22 66 P **P 21 17 28.4 -0.6**
NRCA Norcia 33.30 90 P **P 21 17 29.5 -0.4**
VSU Vasula 33.31 58⇓ *e*P **P 21 17 29.3 -0.4**
VSU pmax pmax
comp=Z,25nm,1.1s
LANS Liptovska Anna 33.44 76 *e*P **P 21 17 32.7 +1.7**
LANS pmax pmax
comp=Z,12nm,1.4s
SRO Srobarova 33.48 79 *e*P **P 21 17 33.0 +1.7**
SRO pmax pmax
comp=Z,25nm,1.5s
O53A New Philadelph 33.63 264 P **P 21 17 33.5 +0.8**
APA Apatity 33.67 40⇓ *e*P **P 21 17 29.7 -3.0**
APA pmax pmax
comp=Z,11nm,1.4s
APA MLR MLR
comp=Z,3μm,4.7s
NIE Niedzica 33.78 75 *e*P **P 21 17 35.4 +1.5**
NIE Niedzica 33.78 75 P **P 21 17 34.7 +0.8**
comp=Z,9.3nm,2.9s
R55A Marlinton 34.32 260 P **P 21 17 39.5 +0.7**
R55A IAmb IAmb 21 17 41.4
comp=Z,20nm,0.8s
PSZ Piszkesteto 34.33 78 P **P 21 17 38.7 0.0**
PSZ IAmb IAmb 21 17 46.9
comp=Z,58nm,1.9s
PSZ Piszkesteto 34.33 78 P **P 21 17 38.7 0.0**
PSZ pmax pmax
comp=Z,58nm,1.9s
KECS Kecovo 34.37 77 *e*P **P 21 17 41.9 +2.9**
KECS pmax pmax
comp=Z,36nm,1.7s
MORH Mrgy, Hungar 34.54 81⇑ P **P 21 17 40.1 -0.4**
MORH Mrgy, Hungar 34.54 81 P **P 21 17 40.3 -0.2**
comp=Z,12nm,1.4s
ACSO Alum Creek Sta 34.67 266 P 21 17 41.9 +0.1
ACSO IAmb IAmb 21 17 44.5
comp=Z,23nm,0.8s
NACGM Naroch 34.74 63 *e*P **P 21 17 43.4 +1.3**
KWP Kalwaria Pacla 35.02 74 *e*P **P 21 17 45.0 +0.4**
KWP Kalwaria Pacla 35.02 74 P **P 21 17 44.3 -0.4**
comp=Z,28nm,1.2s
EYMN Ely 35.03 283 P 21 17 45.2 +0.4
EYMN IAmb IAmb 21 17 47.1
comp=Z,35nm,1.1s
KOLS Kolonicke sedl 35.14 75 *e*P **P 21 17 46.6 +0.9**
KOLS pmax pmax
comp=Z,10.0nm,1.4s
UZHM Uzhgorod 35.31 75 P P 21 17 46.7 -0.4
EPLO Experimental L 35.38 287 P 21 17 47.5 -0.2
EPLO IAmb IAmb 21 17 49.6
comp=Z,34nm,1.3s
HOLU Holmets 35.41 75 P P 21 17 48.3 +0.3
MNK Minsk 35.49 64 *i* P **P 21 17 48.1 -0.5**
MNK comp=E,7.0nm,0.9s *i* P **P 21 17 48.1 -0.5**
MNK comp=N,14nm,0.8s *i* P **P 21 17 48.1 -0.5**
MNK comp=Z,16nm,0.8s,baz=296 *i* PP **PnPn 21 19 07.2 +0.1**
MNK *i* PPP PPP 21 19 19.7
MNK *i* PcP **PcP 21 20 17.5 -0.2**
MNK *i* S **S 21 23 24.2 +0.2**
MNK *i* SS **SnSn 21 25 40.5 -2.4**
MNK *i* SSS SSS 21 26 03.8
MNK *i* LRM MLR 21 32 09.7
comp=E,255nm,18.3s
MNK Minsk 35.49 64 *i* P **P 21 17 48.1 -0.5**
MNK *i* 21 19 07.2
MNK *i* 21 20 17.5
MNK *i* S **S 21 23 24.2 +0.2**
MNK *i* SS **SnSn 21 25 40.5 -2.4**
MNK *i* SSS SSS 21 26 03.7
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax

comp=Z,16nm,0.8s
MNK MLR MLR
comp=Z,390nm,16.0s
MNK MLR MLR
comp=N,374nm,18.0s
MNK MLR MLR
comp=E,255nm,18.0s
SHIU Shidnytsya 35.60 74 P P 21 17 50.5 +0.9
MUKU Mukachevo 35.62 75 P P 21 17 50.7 +0.9
KEST Kesra 35.85 103 P 21 17 51.3 -0.7
KEST Kesra 35.85 103 P P 21 17 52.1 +0.1
comp=E,10nm,0.8s,baz=311,slow=3.5,SNR=12
KEST LR LR 21 31 49.0
comp=E,351nm,18.1s,baz=285,slow=35
comp=E,10nm,0.8s
BRIU Brid 35.88 75 P P 21 17 52.3 +0.3
RNPP9 Sopachiv 35.88 69 P P 21 17 51.8 -0.2
RNPP8 Varash 35.90 69 P P 21 17 52.0 -0.2
MORS Morshin 35.94 74 P P 21 17 53.6 +1.1
RNPP5 Staryi Chortor 35.97 70 P P 21 17 52.5 -0.3
MEZ Mezhgor'ye 36.06 75 P P 21 17 54.4 +0.8
SIRR Siria 36.24 79⇑ P **P 21 17 56.3 +1.2**
ULM Lac du Bonnet 36.28 289 P P 21 17 55.5 +0.2
comp=E,15nm,1.0s,baz=72,slow=9.4,SNR=9.8
ULM LR LR 21 31 26.7
comp=E,858nm,19.3s,baz=91,slow=34
comp=E,15nm,1.0s
ULM Lac du Bonnet 36.28 289 *c i* P **P 21 17 55.8 +0.4**
MESR Meseseni 36.48 77⇓ P **P 21 17 58.8 +1.7**
BMR Baia Mare 36.50 76⇓ P **P 21 17 58.1 +0.7**
BMR Baia Mare 36.50 76 P P 21 17 58.1 +0.7
STNU Starunia 36.51 74 P P 21 17 58.1 +0.7
DRGR 36.55 78⇓ P **P 21 17 59.0 +1.2**
DRGR 36.55 78⇓ P **P 21 17 59.0 +1.2**
BZS Buzias 36.59 80⇓ P **P 21 17 59.0 +0.9**
SURR Surduc 36.80 80⇑ P **P 21 18 00.7 +0.8**
MARR Marisel-Cluj 36.84 78⇓ P **P 21 18 01.4 +1.0**
KSV Kosov 37.04 74 P P 21 18 02.8 +0.9
MI28 Mi28,Pidlybu 37.09 69 P P 21 18 02.5 +0.2
MDVR Moldovita 37.13 81⇓ P **P 21 18 02.8 0.0**
JFWS Jewell Farm 37.21 275 P P 21 18 04.3 +0.9
JFWS IAmb IAmb 21 18 06.1
comp=Z,29nm,0.8s
JFWS Jewell Farm 37.21 275 P **P 21 18 04.3 +0.9**
JFWS pmax pmax
comp=Z,29nm,0.9s
AGMN Agassiz Nation 37.30 286 P 21 18 04.5 +0.3
AGMN IAmb IAmb 21 18 07.6
comp=Z,59nm,2.0s
HORU Horodok 37.31 72 P **P 21 18 04.2 0.0**
FFC Flin Flon 37.33 298 P 21 18 05.2 +0.9
FFC Flin Flon 37.33 298 P **P 21 18 05.2 +0.9**
FFC pmax pmax
comp=Z,14nm,0.9s
GZR Gura Zlata 37.38 80⇑ P **P 21 18 01.7 -3.2**
GZR Gura Zlata 37.38 80⇑ P **P 21 18 01.7 -3.2**
MI29 MI29, Kamyanyy 37.46 70 P **P 21 18 05.5 +0.1**
comp=Z,78nm,0.9s
MI30 MI30,Zelenitsa 37.47 69 P **P 21 18 05.7 +0.2**
HERR Herculane 37.48 81⇑ P **P 21 18 05.6 0.0**
BUR08 Bucovina Ar. S 37.48 75 P 21 18 06.2 +0.4
BURAR Bucovina Array 37.51 75 P 21 18 06.2 +0.2
BURAR Bucovina Array 37.51 75⇓ P **P 21 18 07.0 +1.0**
BURAR Bucovina Array 37.51 75⇓ P **P 21 18 07.0 +1.0**
VAE Valguarnera 37.54 96 LR LR 21 32 12.7
comp=Z,200nm,18.8s,baz=335,slow=34
LUBAR Lubar, Ukraine 37.67 70 P P 21 18 07.1 -0.1
KMPD K-Podol'skiy 37.68 73 P pP 21 18 06.8 -1.7
KMPD P P 21 18 06.1 -1.2
BOVS Bovan 37.81 83⇑ P **P 21 18 08.8 +0.4**
LOT Lotru 37.92 79⇑ P **P 21 18 10.0 +0.5**
AK20 Malin Array Si 37.92 69 P P 21 18 08.9 -0.4
AK21 Malin Array Si 37.92 68 P P 21 18 08.9 -0.4
WCI Wyandotte Cave 37.92 266 P 21 18 09.9 +0.4
WCI IAmb IAmb 21 18 12.2
comp=Z,23nm,0.8s
WCI Wyandotte Cave 37.92 266 P **P 21 18 09.9 +0.4**
WCI pmax pmax
comp=Z,23nm,0.9s
AK19 Malin Array Si 37.93 69 P P 21 18 09.3 -0.1
AK22 Malin Array Si 37.94 68 P P 21 18 09.2 -0.3
AK17 Malin Array Si 37.98 69 P P 21 18 09.4 -0.4
AK16 Malin Array Si 38.01 69 P P 21 18 10.0 -0.1
AK04 Malin Array Si 38.02 68 P P 21 18 09.8 -0.3
AK14 Malin Array Si 38.03 69 P P 21 18 10.0 -0.3
AK11 Malin Array Si 38.04 69 P P 21 18 10.2 -0.1
AK03 Malin Array Si 38.04 68 P P 21 18 10.0 -0.2
AK12 Malin Array Si 38.05 69 P P 21 18 10.3 -0.1
KIEV Kiev 38.05 68⇑ P **P 21 18 10.7 +0.3**
KIEV Kiev 38.05 68⇑ P **P 21 18 10.7 +0.3**
KIEV Kiev 38.05 68 P P 21 18 10.2 -0.2
comp=Z,81nm,1.3s
AK01 Malin Array Si 38.06 68 P P 21 18 10.2 -0.3
AKASG Malin Array Be 38.06 68 P P 21 18 10.0 -0.5
comp=Z,3.1nm,0.7s,baz=302,slow=8.5,SNR=26
AKASG PcP **PcP 21 20 24.2 -1.4**
comp=Z,2.0nm,0.7s,baz=290,slow=3.5,SNR=6.0
AKASG LR LR 21 34 03.2
comp=Z,410nm,18.2s,baz=300,slow=37
comp=Z,3.1nm,0.7s
AKASG Malin Array Be 38.06 68 *i* P **P 21 18 10.5 0.0**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 38.06 68 P 21 18 09.7 -0.7
AKBB IAmb IAmb 21 18 11.4
comp=Z,48nm,1.5s
AKBB Malin Array Si 38.06 68⇓ *e*P **P 21 18 10.0 -0.5**
AKBB pmax pmax
comp=Z,39nm,1.6s
AKBB Malin Array Si 38.06 68 P P 21 18 09.8 -0.7
AK02 Malin Array Si 38.07 69 P P 21 18 10.2 -0.4
AK05 Malin Array Si 38.09 69 P P 21 18 10.7 -0.1
AK10 Malin Array Si 38.13 69 P P 21 18 10.7 -0.4
AK09 Malin Array Si 38.14 69 P P 21 18 10.7 -0.4
TKL Tuckaleechee C 38.24 261 LR LR 21 32 57.8
comp=Z,578nm,20.7s,baz=52,slow=35
KLMR Klimovskoe 38.37 50 *e*P **P 21 18 11.0 -2.0**
KLMR pmax pmax
comp=Z,104nm,1.4s
ARR Arges 38.46 78⇓ P **P 21 18 15.3 +1.2**
DOPR Dopca 38.54 77⇓ P **P 21 18 15.6 +1.0**
CPCT Copper Cave 38.82 261 P P 21 18 17.3 +0.2
SORM Soroca 38.97 72⇑ P **P 21 18 17.7 -0.4**
SORM Soroca 38.97 72⇑ P **P 21 18 17.7 -0.4**
COVR Voineasa-Covas 39.07 77⇑ P **P 21 18 21.2 +2.1**
MLR Muntele Rosu 39.13 77 P 21 18 20.2 +0.4
MLR Muntele Rosu 39.13 77 LR LR 21 33 38.0
comp=Z,624nm,20.9s,baz=314,slow=35
MLR Muntele Rosu 39.13 77⇓ P **P 21 18 17.8 -2.0**
MLR Muntele Rosu 39.13 77⇓ P **P 21 18 17.8 -2.0**
MLR Muntele Rosu 39.13 77 P P 21 18 20.1 +0.4
comp=Z,13nm,1.6s
PLOR Plostina 39.32 76⇑ P **P 21 18 20.7 -0.5**
PLOR Plostina 39.32 76⇑ P **P 21 18 20.7 -0.5**
VRI Vrincioaia 39.36 76⇑ P **P 21 18 20.9 -0.6**
VRI Vrincioaia 39.36 76⇑ P **P 21 18 20.9 -0.6**
VRI Vrincioaia 39.36 76 P P 21 18 22.5 +1.0
FNA Florina 39.40 86 P 21 18 21.9 0.0
FNA Florina 39.40 86 P **P 21 18 21.9 0.0**
FNA pmax pmax
comp=Z,36nm,1.5s
A36M Sachs Harbour 39.45 331 P **P 21 18 22.2 +0.3**
baz=66
OBN Obninsk 39.63 59 P P 21 18 22.9 -0.8
OBN Obninsk 39.63 59 LR LR 21 33 56.8
comp=Z,440nm,18.9s,baz=198,slow=35
OBN Obninsk 39.63 59⇓ *e*P **P 21 18 23.6 0.0**
OBN *e* 21 19 54.8
OBN *e*PPP PPP 21 20 16.9
OBN *e* 21 20 30.4
OBN *e*S **S 21 24 26.0 -0.8**
OBN pmax pmax
comp=Z,54nm,1.5s
OBN MLR MLR
comp=Z,405nm,17.0s
OBN Obninsk 39.63 59 P **P 21 18 23.1 -0.5**
comp=Z,30nm,1.6s
YKA Yellowknife Ar 39.70 314 P **P 21 18 25.3 +1.2**
comp=Z,3.6nm,0.9s,baz=61,slow=9.3,SNR=6.9
YKA PcP **PcP 21 20 29.3 -1.2**
comp=Z,1.4nm,0.7s,baz=51,slow=3.9,SNR=4.7
YKA LR LR 21 33 16.5
comp=Z,332nm,20.5s,baz=44,slow=34
comp=Z,3.6nm,0.9s

MOS Moscow 39.85 57 *e*P **P** **21 18 24.7 -0.7**
MOS pmax pmax
comp=Z,32nm,0.7s
SIUC Southern Illin 39.97 268 P **P** **21 18 27.1 +0.5**
SIUC IAmb IAmb 21 18 29.3
comp=Z,44nm,1.0s
WVT Waverly 40.26 265 **P** **21 18 29.7 +0.7**
WVT Waverly 40.26 265 P **P** **21 18 29.7 +0.7**
WVT pmax pmax
comp=Z,18nm,0.9s
ECSD EROS Data Cent 40.38 281 **P** **21 18 31.0 +1.0**
ECSD IAmb IAmb 21 18 32.9
comp=Z,23nm,0.9s
CCM Cathedral Cave 40.92 270 P **P** **21 18 35.3 +0.8**
CCM IAmb IAmb 21 18 37.0
comp=Z,18nm,0.8s
CCM Cathedral Cave 40.92 270 P **P** **21 18 35.3 +0.8**
CCM pmax pmax
comp=Z,18nm,0.8s
DGMT Dagmar 41.80 291 P **P** **21 18 42.6 +0.9**
DGMT IAmb IAmb 21 18 45.2
comp=Z,27nm,1.1s
LPSR Galich'ya Gora 42.14 61 *e*P **P** **21 18 42.6 -1.8**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LCAR Lake Charles 42.23 268 **P** **21 18 45.0 -0.2**
LCAR IAmb IAmb 21 18 47.1
comp=Z,27nm,0.8s
OXF Oxford 42.31 265 **P** **21 18 45.9 0.0**
OXF Oxford 42.31 265 P **P** **21 18 45.9 0.0**
OXF pmax pmax
comp=Z,77nm,0.9s
BBTS Babate 42.38 153 LR LR 21 32 39.8
comp=Z,125nm,20.1s,baz=314,slow=31
VORR Voronezh 42.81 62 *e*P **P** **21 18 48.7 -1.1**
VORR pmax pmax
comp=Z,10.0nm,1.1s
VSR Storozhevoye 43.04 63 *e*P **P** **21 18 48.7 -3.0**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VORD Divnogorie 43.25 63 *e*P **P** **21 18 52.2 -1.2**
VORD pmax pmax
comp=Z,20nm,1.0s
WHAR Wooly Hollow 43.43 268 **P** **21 18 55.6 +0.6**
WHAR IAmb IAmb 21 18 57.2
comp=Z,34nm,0.8s
SJG San Juan 43.44 225 LR LR 21 36 24.3
comp=Z,67nm,18.2s,baz=20,slow=35
CELP Cerrillos 43.65 226 P **P** **21 18 56.9 0.0**
INK Inuvik 43.69 328 LR LR 21 36 37.1
comp=Z,604nm,18.7s,baz=62,slow=35
INK Inuvik 43.69 328 P **P** **21 18 56.2 -0.4**
baz=56
KIRV Kirov 43.85 49 LR LR 21 35 54.6
comp=Z,277nm,19.5s,baz=298,slow=34
KIRV Kirov 43.85 49⇑ *e*P **P** **21 18 57.9 -0.1**
TAM Tamanrasset 43.89 120 **P** **21 18 59.4 +0.4**
TAM IAmb IAmb 21 19 02.0
comp=Z,16nm,0.7s
TAM Tamanrasset 43.89 120 P **P** **21 18 59.4 +0.4**
TAM pmax pmax
comp=Z,16nm,0.7s
LAO LASA Array 43.97 290 **P** **21 18 59.7 +0.4**
F31M Tsiigehtchic 44.25 327 P **P** **21 19 00.9 -0.2**
baz=56
VRH Novokhopyorsk 44.36 61 *e*P **P** **21 19 00.0 -2.3**
VRH pmax pmax
comp=Z,10.0nm,1.2s
FDF Fort de France 44.59 217 P **P** **21 19 04.7 +0.2**
FDF Fort de France 44.59 217 P **P** **21 19 04.7 +0.2**
FDF pmax pmax
comp=Z,39nm,1.0s
VBMS Vicksburg 44.60 263 P **P** **21 19 04.4 0.0**
D28M Stokes Point 44.66 331 P **P** **21 19 04.0 -0.5**
baz=54
MIAR Mount Ida 44.71 268 **P** **21 19 05.6 +0.3**
MIAR Mount Ida 44.71 268 P **P** **21 19 05.6 +0.3**
MIAR pmax pmax
comp=Z,43nm,1.0s
G31M Satah River 44.71 326 P **P** **21 19 04.9 0.0**
baz=55,SNR=7.5
BIM Bigot 44.77 217 P **P** **21 19 05.3 -0.6**
F30M Barrier River 44.79 328 P **P** **21 19 05.6 0.0**
baz=54,SNR=11
KOTAN Kotaneelee Air 44.82 315 P **P** **21 19 06.1 +0.3**
baz=56
E29M Blow River 44.98 329 **P** **21 19 07.5 +0.5**
E29M Blow River 44.98 329 P **P** **21 19 07.1 +0.2**
baz=54,SNR=6.0
IDI Anoyia 45.15 90 LR LR 21 38 48.5
comp=Z,130nm,19.2s,baz=306,slow=37
G30M tAoh Zraii Nji 45.30 327 P **P** **21 19 09.4 -0.3**
baz=54
E28M Babbage River 45.33 330 P **P** **21 19 10.0 +0.2**
baz=52,SNR=9.0
D27M Malcolm River 45.34 331 P **P** **21 19 10.4 +0.4**
baz=52,SNR=7.0
H31M Peel River 45.39 325 P **P** **21 19 10.9 +0.6**
baz=54,SNR=7.0
TGTN Hyland Airport 45.71 318 P **P** **21 19 14.3 +1.3**
baz=54
EPYK Eagle Plains 45.83 327 P **P** **21 19 14.5 +0.6**
baz=53,SNR=8.1
C27K Jago River 45.86 332 P **P** **21 19 14.7 +0.7**
baz=50
CROK Carrier 45.90 274 P **P** **21 19 15.1 +0.3**
G29M Pine Creek 45.91 328 P **P** **21 19 15.3 +0.9**
baz=52,SNR=7.3
ANN Anapa 45.99 71 *e*P **P** **21 19 13.6 -1.7**
ANN pmax pmax
comp=Z,18nm,0.9s
ANN MLR MLR
comp=N,147nm,17.0s
ANN MLR MLR
comp=Z,727nm,16.0s
ANN MLR MLR
comp=E,628nm,15.0s
C26K Camden Bay 45.99 333 P **P** **21 19 15.6 +0.6**
baz=50
F28M Old Crow 46.04 329 P **P** **21 19 16.8 +1.3**
baz=52,SNR=8.4
TOAD Toad River Com 46.05 314 P **P** **21 19 16.8 +1.1**
baz=54
LIRD Liard River Hi 46.08 315 P **P** **21 19 16.6 +0.7**
baz=54
E27K Coleen River 46.19 330 P **P** **21 19 17.1 +0.5**
baz=51,SNR=11
MMPY Sheldon Lake, 46.20 320 **P** **21 19 17.6 +0.8**
MMPY IAmb IAmb 21 19 20.7
comp=Z,17nm,1.2s
MMPY Sheldon Lake, 46.20 320 P **P** **21 19 17.8 +1.0**
baz=53,SNR=8.0
I30M Mount Dempster 46.42 325 P **P** **21 19 19.1 +0.5**
baz=52,SNR=11
H29M Whitestone 46.45 327 P **P** **21 19 18.9 +0.2**
baz=52,SNR=7.7
BELG Belogornoye 46.60 57*c i*P **P** **21 19 20.1 +0.1**
BELG pmax pmax
comp=Z,13nm,1.1s
WTLY Watson Lake, Y 46.76 317 P **P** **21 19 22.4 +1.2**
baz=53,SNR=5.6
D25K Kavik River 46.77 333 P **P** **21 19 21.9 +0.7**
baz=48,SNR=9.7
J30M Hart River 46.81 324 P **P** **21 19 22.0 +0.4**
baz=52,SNR=20
I29M Ogilvie Camp, 46.97 326 P **P** **21 19 23.4 +0.6**
baz=51
ERBR Yeremizino-Bor 47.07 68 *e*P **P** **21 19 23.1 -0.7**
ERBR pmax pmax
comp=Z,33nm,1.3s
ERBR MLR MLR
comp=Z,314nm,15.0s
G27K Doyon Strip 47.09 329 P **P** **21 19 24.5 +0.8**
G27K Doyon Strip 47.09 329 P **P** **21 19 24.7 +1.0**
baz=50,SNR=8.7
C24K Franklin Bluff 47.10 334 P **P** **21 19 24.3 +0.6**
baz=47
BRTR Keskin Array B 47.17 79 P **P** **21 19 26.4 +1.5**
comp=Z,7.1nm,0.7s,baz=317,slow=5.1,SNR=3.9
comp=Z,7.1nm,0.7s
BRTR Keskin Array B 47.17 79 *i* P **P** **21 19 26.7 +1.9**
BRTR pmax pmax
comp=Z,7.0nm,0.7s
F26K Sheenjek River 47.24 331 P **P** **21 19 25.5 +0.6**
baz=49
MAYO Mayo, Yukon 47.27 323 P **P** **21 19 25.7 +0.5**
baz=51
NATX Nacogdoches 47.34 266 **P** **21 19 26.6 +0.5**
E25K Arctic Village 47.36 331 P **P** **21 19 26.2 +0.4**
baz=48,SNR=5.6
H27K Steamboat Moun 47.43 328 P **P** **21 19 25.8 -0.6**
baz=49,SNR=6.6
I28M Miner Creek 47.44 327 P **P** **21 19 27.5 +1.0**
baz=50,SNR=12
C23K Itkillik River 47.50 335 P **P** **21 19 27.7 +0.9**
baz=46
J29N Klondike Camp 47.52 325 P **P** **21 19 29.0 +1.9**
baz=50
D24K Happy Valley 47.53 334 P **P** **21 19 29.0 +2.0**
baz=46
BMAR Burnt Mountain 47.54 330 P **P** **21 19 28.1 +0.9**
WMOK Wichita Mounta 47.60 273 **P** **21 19 28.6 +0.5**
WMOK Wichita Mounta 47.60 273 P **P** **21 19 28.6 +0.5**
WMOK pmax pmax
comp=Z,29nm,1.2s
M31M Drury Creek, Y 47.61 321 P **P** **21 19 29.3 +1.5**
baz=51
JTMT Jette 47.62 296 P **P** **21 19 28.9 +0.7**
G26K Porcupine Rive 47.63 330 P **P** **21 19 29.4 +1.6**
baz=48,SNR=13
K29M Barlow Dome 47.67 324 P **P** **21 19 29.3 +0.9**
baz=50,SNR=12
A22K Sinclair Lake 47.69 337 P **P** **21 19 29.3 +1.0**
baz=43
F25K Christian Rive 47.73 331 P **P** **21 19 30.0 +1.2**
baz=48
N32M Quiet Lake 47.79 320 P **P** **21 19 30.0 +0.8**
baz=51
B22K Teshekpuk Lake 47.82 336 P **P** **21 19 30.3 +1.0**
baz=44
I27K Kandik River 47.87 328 P **P** **21 19 31.2 +1.4**
baz=49,SNR=6.5
ISCO Idaho Springs 48.05 283 **P** **21 19 33.3 +1.4**
ISCO IAmb IAmb 21 19 35.1
comp=Z,14nm,0.8s
ISCO Idaho Springs 48.05 283 P **P** **21 19 33.3 +1.4**
ISCO pmax pmax
comp=Z,14nm,0.9s
R33M Jennings River 48.07 317 P **P** **21 19 33.2 +1.6**
baz=51,SNR=7.0
TOLK Toolik Lake Re 48.08 333 P **P** **21 19 32.4 +1.0**
TOLK Toolik Lake Re 48.08 333 P **P** **21 19 32.6 +1.3**
baz=45,SNR=6.8
WTFS Witchita Falls 48.11 271 **P** **21 19 32.7 +0.7**
D23K Nanushuk River 48.13 334 P **P** **21 19 33.8 +2.0**
baz=45,SNR=7.3
FW06 Azle 48.15 270 P **P** **21 19 32.3 0.0**
DAWY Dawson 48.16 325 **P** **21 19 33.4 +1.3**
DAWY IAmb IAmb 21 19 35.1
comp=Z,27nm,1.4s
DAWY Dawson 48.16 325 P **P** **21 19 33.9 +1.8**
baz=49
E24K Your Creek 48.19 332 P **P** **21 19 33.3 +1.0**
baz=46,SNR=9.9
M30M Mitio, Yukon 48.24 323 P **P** **21 19 34.5 +1.8**
baz=50,SNR=10.0
DLMT Dillon 48.25 293 P **P** **21 19 34.2 +1.0**
DLMT IAmb IAmb 21 19 36.5
comp=Z,18nm,1.1s
EGAK Eagle 48.27 326 P **P** **21 19 34.6 +1.7**
baz=49,SNR=8.4
P33M Teslin, Yukon 48.28 318 P **P** **21 19 34.3 +1.2**
baz=51
VSLR Vesyoloye 48.28 71⇓ *e*P **P** **21 19 35.2 +2.0**
VSLR pmax pmax
comp=Z,30nm,1.1s
PD31 Pinedale Array 48.29 288 P **P** **21 19 33.5 -0.1**
PD31 IAmb IAmb 21 19 35.4
comp=Z,15nm,1.2s
PDAR Pinedale Array 48.29 288 P **P** **21 19 33.6 -0.1**
PDAR Pinedale Array 48.29 288 P **P** **21 19 34.1 +0.5**
comp=Z,4.7nm,0.7s,baz=62,slow=7.0,SNR=38
PDAR PcP **PcP** **21 21 00.2 -0.2**
comp=Z,0.8nm,0.8s,baz=50,slow=5.2,SNR=2.6
PDAR LR LR 21 38 53.3
comp=Z,493nm,18.7s,baz=27,slow=35
comp=Z,4.7nm,0.7s
DLBC Dease Lake 48.29 315 LR LR 21 38 55.3
comp=Z,4µm,18.5s,baz=23,slow=35
DLBC Dease Lake 48.29 315 P **P** **21 19 34.7 +1.5**
baz=51
L29M L29M 48.36 324 P **P** **21 19 35.5 +1.9**
baz=49,SNR=8.3
F24K Squaw Lake 48.41 332 P **P** **21 19 36.3 +2.3**
baz=46,SNR=6.2
G25K Bearman Lake 48.43 330 P **P** **21 19 35.7 +1.7**
baz=47,SNR=7.1
E23K Chandalar 48.50 333 P **P** **21 19 35.8 +1.1**
baz=45
I26K Coal Creek Min 48.55 328 P **P** **21 19 36.4 +1.4**
baz=48
N31M Braeburn, Yuko 48.58 321 P **P** **21 19 36.6 +1.3**
baz=50,SNR=6.5
B21K Ikpikpuk River 48.63 336 P **P** **21 19 37.3 +1.8**
baz=42
H25L Birch Creek 48.69 330 P **P** **21 19 37.7 +1.7**
baz=46
D22K Ayikyak River 48.70 335 P **P** **21 19 37.6 +1.5**
baz=43
NEW Newport 48.76 298 **P** **21 19 37.9 +1.0**
NEW IAmb IAmb 21 19 39.5
comp=Z,15nm,1.1s
NEW Newport 48.76 298 LR LR 21 38 46.6
comp=Z,405nm,19.4s,baz=46,slow=34
NEW Newport 48.76 298 P **P** **21 19 37.9 +1.0**
NEW pmax pmax
comp=Z,15nm,1.1s
WHY Whitehorse 48.78 320 P **P** **21 19 37.7 +0.7**
baz=50
Q32M Nakina River 48.87 317 P **P** **21 19 38.6 +0.8**
baz=50
G24K Hadweenzic Riv 48.87 331 P **P** **21 19 38.9 +1.4**
baz=46,SNR=10
GOF Gofitskoye 48.87 67*ce*P **P** **21 19 38.9 +1.2**
M29M Somme Creek 48.91 323 P **P** **21 19 39.2 +1.3**
baz=49,SNR=11
B20K Meade River 48.92 337 P **P** **21 19 39.2 +1.4**
baz=41
C21K Knifeblade Rid 49.01 336 P **P** **21 19 39.4 +0.9**
baz=42
BNN Bunyan 49.02 78 P **P** **21 19 39.9 +0.7**
E22K Anaktuvuk Pass 49.02 334 P **P** **21 19 39.9 +1.2**
baz=44,SNR=6.1
P32M Atlin 49.03 318 P **P** **21 19 40.5 +1.7**
baz=50
ARTI Arti 49.05 47 P **P** **21 19 39.4 +0.4**
ARTI Arti 49.05 47 LR LR 21 38 44.8
comp=Z,519nm,20.0s,baz=304,slow=34
ARTI Arti 49.05 47*d i*P **P** **21 19 39.8 +0.9**
ARTI 21 21 00.4
ARTI 21 21 26.9
ARTI S **S** **21 26 47.6 +4.0**
ARTI SS **SS** **21 30 14.0 +0.1**
ARTI pmax pmax
comp=Z,37nm,1.3s
K27K Chicken 49.07 326 P **P** **21 19 40.7 +1.8**
baz=48
N30M Aishikik Lake 49.07 322 P **P** **21 19 40.2 +1.1**
baz=49
S34M Telegraph Cree 49.08 315 P **P** **21 19 40.9 +1.8**
baz=50
PRP Porcupine Dome 49.13 329 P **P** **21 19 40.3 +0.7**
baz=46
AHID Auurn Hatcher 49.14 289 P **P** **21 19 40.4 +0.3**
O30N Mendenhall 49.16 320 P **P** **21 19 41.0 +1.2**
baz=49,SNR=5.2
J26L Joseph Creek 49.22 327 P **P** **21 19 41.6 +1.3**
baz=47,SNR=7.0
COLD Coldfoot 49.25 332 P **P** **21 19 40.4 0.0**
baz=44
T35M Bob Quinn 49.31 314 P **P** **21 19 41.3 +0.3**
baz=50
E21K Killik River 49.35 335 P **P** **21 19 41.9 +0.8**
baz=42
HKT Hockley 49.35 266 **P** **21 19 42.0 +0.5**
HKT IAmb IAmb 21 19 43.7
comp=Z,18nm,1.1s
HKT Hockley 49.35 266*ce*P **P** **21 19 42.7 +1.2**
HKT pmax pmax
comp=Z,19nm,1.1s
SDCO Great Sand Dun 49.39 280 **P** **21 19 43.0 +0.8**
SDCO IAmb IAmb 21 19 55.7
comp=Z,26nm,1.8s
KIV Kislovodsk 49.41 68 P **P** **21 19 42.7 +0.8**
KIV Kislovodsk 49.41 68 *e*P **P** **21 19 42.8 +0.8**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,192nm,16.0s
KVAR Kislovodsk Arr 49.41 68 LR LR 21 40 27.1
comp=Z,215nm,18.8s,baz=294,slow=36
SHA1 Shidzhatmaz 49.53 69⇓ *e*P **P** **21 19 44.2 +1.1**
F22K John River 49.58 333 P **P** **21 19 43.7 +0.8**
baz=43
G23K Bananza Creek 49.58 332 P **P** **21 19 44.7 +1.8**
baz=44,SNR=14
H24K Noodor Dome 49.60 330 P **P** **21 19 43.8 +0.8**
baz=45,SNR=8.6
A19K Wainwright 49.63 339 P **P** **21 19 44.3 +1.2**
baz=38
BCAR Beaver Creek A 49.63 325 P **P** **21 19 44.1 +0.8**
LLLB Lillooet 49.63 303 **P** **21 19 44.2 +0.7**
LLLB IAmb IAmb 21 19 46.1
comp=Z,17nm,1.0s
HYT Haines Junctio 49.64 321 P **P** **21 19 45.0 +1.4**
baz=48,SNR=7.8
L27K Beaver Creek, 49.65 325 P **P** **21 19 45.0 +1.6**
baz=47
KBZ Khabaz 49.67 68 P **P** **21 19 45.3 +1.5**
comp=Z,5.0nm,1.0s,baz=314,slow=7.5,SNR=9.8
KBZ LR LR 21 40 50.4
comp=Z,293nm,19.5s,baz=320,slow=36
comp=Z,5.0nm,1.0s
KBZ Khabaz 49.67 68*d i*P **P** **21 19 45.4 +1.5**
KBZ pmax pmax
comp=Z,22nm,1.5s
YUK4 Talbot Arm 49.71 322 P **P** **21 19 44.9 +0.8**
baz=48,SNR=5.4
J25K Salcha River, 49.71 328 P **P** **21 19 45.1 +1.1**
baz=46,SNR=7.9
SVE Sverdlovsk 49.72 46 *e*P **P** **21 19 45.1 +1.1**
SVE pmax pmax
comp=Z,20nm,1.4s
SCRK Sand Creek 49.72 327 P **P** **21 19 45.6 +1.5**
baz=46,SNR=14
SKAG Skagway 49.73 319 P **P** **21 19 46.0 +1.9**
baz=49
BVCY Beaver Creek 49.76 324 P **P** **21 19 46.0 +1.7**
baz=47,SNR=9.1
D20K Etivluk River 49.78 336 P **P** **21 19 45.3 +0.9**
baz=41
B08A Colville Reser 49.83 300 **P** **21 19 45.7 +0.7**
B08A IAmb IAmb 21 19 47.5
comp=Z,26nm,1.0s
G22K Bettles 49.83 332 P **P** **21 19 46.2 +1.4**
baz=43,SNR=6.5
YUK6 Outpost Mounta 49.88 322 P **P** **21 19 46.3 +0.8**
baz=48
P30M Million Dollar 49.91 320 P **P** **21 19 47.1 +1.6**
baz=48
POKR Poker Plat Res 49.98 329 P **P** **21 19 47.2 +1.3**
baz=45
E20K Nigu River 50.03 335 P **P** **21 19 47.0 +0.6**
baz=41
YUK3 Moose Creek 50.06 323 P **P** **21 19 48.1 +1.2**
baz=47,SNR=8.1
PCRV Puerto La Cruz 50.06 219 LR LR 21 37 01.6
comp=Z,77nm,21.2s,slow=31
ILAR Eielson Array 50.06 329 P **P** **21 19 47.1 +0.6**
ILAR Eielson Array 50.06 329 P **P** **21 19 47.8 +1.3**
comp=Z,2.8nm,0.7s,baz=42,slow=5.9,SNR=27
ILAR PcP **PcP** **21 21 06.0 -0.1**
comp=Z,1.9nm,0.9s,baz=18,slow=2.4,SNR=6.4
ILAR LR LR 21 40 47.1
comp=Z,378nm,18.4s,baz=56,slow=36
comp=Z,2.8nm,0.7s
H23K Yukon River 50.09 331 P **P** **21 19 47.9 +1.1**
baz=44,SNR=9.6
F21K Alatna River 50.13 333 P **P** **21 19 48.5 +1.4**
baz=42,SNR=9.9
PLBC Pleasant Camp 50.13 319 P **P** **21 19 48.6 +1.4**
baz=48
M27K Edge Creek, AK 50.15 324 P **P** **21 19 48.6 +1.2**
baz=47
S22A 4UR Ranch, Cre 50.15 281 P **P** **21 19 48.8 +0.9**
S22A IAmb IAmb 21 20 08.3
comp=Z,35nm,2.0s
RIDG Independent Ri 50.16 327 P **P** **21 19 49.0 +1.7**
baz=46
C19K Lookout Ridge 50.17 337 P **P** **21 19 48.5 +1.1**
baz=39
L26K Log Cabin Wild 50.17 326 P **P** **21 19 48.2 +0.8**
baz=46
HWUT Hardware Ranch 50.18 288 P **P** **21 19 49.0 +1.0**
HWUT IAmb IAmb 21 19 50.2
comp=Z,20nm,0.9s
NCK Nalchik 50.20 68⇑ *i*P **P** **21 19 50.2 +2.3**
NCK pmax pmax
comp=Z,8.0nm,0.5s
R32K Eaglecrest 50.20 317 P **P** **21 19 48.5 +0.7**
baz=48
COLA College 50.28 329*ce*P **P** **21 19 50.1 +2.0**
COLA pmax pmax
comp=Z,22nm,2.0s
D19K Kuna River 50.31 336 P **P** **21 19 49.2 +0.8**
baz=39
HDA Harding Lake 50.34 328 P **P** **21 19 49.5 +0.8**
HDA IAmb IAmb 21 19 50.9
comp=Z,30nm,1.6s
HDA Harding Lake 50.34 328 P **P** **21 19 49.5 +0.8**
baz=45,SNR=5.5
TORD Torodi Ar. Bea 50.38 131 P **P** **21 19 47.8 -1.7**
TORD IAmb IAmb 21 19 49.8
comp=Z,19nm,1.4s
TORD Torodi Ar. Bea 50.38 131 P **P** **21 19 48.5 -0.9**
comp=Z,9.4nm,1.1s,baz=333,slow=8.2,SNR=34
TORD PcP **PcP** **21 21 07.5 -0.5**
comp=Z,1.3nm,0.9s,baz=332,slow=3.9,SNR=1.9
TORD LR LR 21 39 51.2
comp=Z,166nm,18.1s,baz=332,slow=35
comp=Z,9.4nm,1.1s
O29M Mount Kennedy 50.39 321 P **P** **21 19 49.6 +0.3**
baz=47
K24K Donnelly Dome 50.41 327 P **P** **21 19 51.4 +2.2**
baz=45,SNR=9.8
HLID Hailey 50.42 292 **P** **21 19 50.8 +1.0**
TCUT Toone Canyon 50.42 288 P **P** **21 19 50.5 +0.6**
TCUT IAmb IAmb 21 19 52.3
comp=Z,25nm,1.0s
CCB Clear Creek Bu 50.43 329 **P** **21 19 49.7 +0.4**
CCB IAmb IAmb 21 19 51.8
comp=Z,29nm,2.0s
E09A Wood Farm, Sta 50.43 297 P **P** **21 19 49.9 +0.3**
B18K Kokolik River 50.45 338 P **P** **21 19 50.7 +1.3**
baz=37
M26K Nabesna, AK 50.49 325 P **P** **21 19 51.5 +1.5**
baz=46,SNR=5.6
I23K Minto, Yukon-K 50.52 330 P **P** **21 19 51.2 +1.2**
baz=44,SNR=7.9
P29M Windy Craggy 50.53 320 P **P** **21 19 51.4 +1.1**
baz=47
H22K Ishtalitna Cre 50.55 331 P **P** **21 19 51.7 +1.5**
baz=42,SNR=5.5
WRAK Wrangell Islan 50.56 314 P **P** **21 19 52.0 +1.6**
baz=48
O28M Mount Upton 50.65 322 P **P** **21 19 51.4 0.0**
baz=47
G21K Allakaket 50.67 333 P **P** **21 19 51.5 +0.3**
baz=42,SNR=5.3
F20K Avaraart Lake 50.84 334 P **P** **21 19 53.1 +0.7**
baz=40,SNR=6.9
NEA2 Nenana 50.84 329 P **P** **21 19 53.2 +0.7**
baz=43,SNR=7.0
KOPT Kop Dagi 50.85 74 P **P** **21 19 53.6 +0.4**
KOPT IAmb IAmb 21 19 57.7
comp=Z,21nm,1.3s
C18K Utukok River 50.89 338 P **P** **21 19 53.0 +0.1**
baz=37
E19K Redstone River 50.90 335 P **P** **21 19 53.8 +0.9**
baz=40,SNR=9.2
PAX Paxson 50.90 326 P **P** **21 19 54.1 +1.0**
baz=45,SNR=5.7
CTG Chitna Glacier 50.92 323 P **P** **21 19 53.7 +0.4**
baz=46
GAZ Gaziantep 50.96 79 P **P** **21 19 54.0 +0.2**
GAZ IAmb IAmb 21 19 56.3
comp=Z,35nm,1.2s
V35K Ketchikan 50.98 313 P **P** **21 19 54.0 +0.4**
baz=48
MLY Manley 51.01 330 P **P** **21 19 54.3 +0.5**

baz=42,SNR=10
U33K Whale Pass 51.08 315 P P 21 19 55.1 +0.8
baz=48
S31K Pelican 51.09 318 P P 21 19 55.2 +0.9
baz=47
H21K Melozitna Rive 51.12 332 P P 21 19 55.6 +1.0
baz=42,SNR=6.6
PNL Peninsula 51.12 321 P P 21 19 54.9 +0.2
baz=46
IMAR Indian Mountai 51.13 333 P P 21 19 55.4 +0.8
PINM Pinnacle 51.14 322 P P 21 19 55.6 +0.7
baz=46
HARP HAARP 51.21 326 P P 21 19 55.7 +0.4
baz=45
MCARA McCarthy VSAT 51.22 324 P P 21 19 56.2 +0.9
baz=45
I21K Tanana 51.25 331 P P 21 19 56.8 +1.3
baz=42
JCT Junction City 51.27 270 P P 21 19 55.9 -0.3
JCT Junction City 51.27 270 P P 21 19 55.9 -0.3
JCT pmax pmax
comp=Z,33nm,0.9s
MDP Montagnes des 51.30 203 LR LR 21 37 32.6
comp=Z,73nm,19.1s,baz=32,slow=31
SIT Sitka 51.35 316 P P 21 19 57.2 +0.9
baz=47
DHY Denali Highway 51.43 327 P P 21 19 58.1 +1.0
DHY Denali Highway 51.43 327 P P 21 19 57.5 +0.4
baz=44,SNR=6.1
MCK McKinley 51.43 329 P P 21 19 57.7 +0.8
baz=43,SNR=5.8
C17K DeLong Mountai 51.46 338 P P 21 19 57.4 +0.3
baz=36
F19K Shaleruckik Mo 51.52 335 P P 21 19 58.4 +0.9
baz=39
CRAG Craig 51.52 314 P P 21 19 58.3 +0.7
baz=47
ISLE Juniper Island 51.53 323 P P 21 19 58.2 +0.4
BBB Bella Bella 51.53 308 LR LR 21 40 52.5
comp=Z,313nm,18.5s,baz=83,slow=35
N25K Chitina, Valde 51.59 325 P P 21 19 58.2 0.0
baz=44
CRQE Cirque 51.69 323 P P 21 19 59.3 +0.3
baz=45,SNR=13
CRQM Cirque 51.70 323 P P 21 20 00.2 +1.1
E18K Tukpahlearik C 51.73 336 P P 21 19 59.3 +0.2
baz=37
RDOG Red Dog Mine 51.75 338 P P 21 19 59.6 +0.4
baz=36
M24K Tolsona, Glenn 51.75 326 P P 21 20 00.3 +0.9
baz=44
BPAW Bear Paw Mtn. 51.77 330 P P 21 20 00.1 +0.7
BPAW Bear Paw Mtn. 51.77 330 P P 21 19 59.8 +0.3
baz=42,SNR=11
H20K Anotleneega Mo 51.81 333 P P 21 20 00.0 +0.3
baz=40,SNR=17
G19K Purcell Mounta 51.88 334 P P 21 20 00.8 +0.5
baz=39
ANMO Albuquerque 51.90 279 P P 21 20 02.1 +1.0
ANMO Albuquerque 51.90 279 LR LR 21 41 26.9
comp=Z,1μm,18.6s,baz=148,slow=35
ANMO Albuquerque 51.90 279 *c i* **P P 21 20 03.1 +2.0**
ANMO pmax pmax
comp=Z,14nm,1.4s
WAT6 Susitna Watana 51.91 327 P P 21 20 01.4 +0.7
baz=43,SNR=9.4
WAT1 Susitna Watana 51.98 328 P P 21 20 01.6 +0.5
baz=43
BMRM Bremner River 52.05 324 P P 21 20 02.2 +0.6
baz=44
TRF Thorofare Moun 52.05 329 P P 21 20 02.3 +0.6
baz=42,SNR=7.2
D17K Noatak River 52.08 338 P P 21 20 02.4 +0.8
baz=36
C16K Lisburne Hills 52.09 339 P P 21 20 02.2 +0.5
baz=34
KLU Klutina 52.11 325 P P 21 20 02.7 +0.6
baz=44,SNR=5.6
F18K Selawik 52.16 335 P P 21 20 02.2 -0.1
baz=37
H19K Roundabout Mou 52.20 333 P P 21 20 02.8 +0.2
baz=39,SNR=6.6
I20K Naaghedeneel 52.24 332 P P 21 20 03.2 +0.4
baz=40,SNR=5.3
E17K Hotham Inlet 52.29 337 P P 21 20 03.6 +0.3
baz=36
CHUM Lake Minchumin 52.32 330 P P 21 20 03.4 -0.1
baz=41
SCM Sheep Creek Mo 52.32 326 P P 21 20 03.9 +0.2
baz=43
G18K Tagagawik 52.48 334 P P 21 20 05.3 +0.6
baz=38
M23K Glacier View 52.48 326 P P 21 20 05.3 +0.5
baz=43
BAUV El Baul 52.49 223 P P 21 20 05.1 -0.2
J20K Nowinta River 52.62 331 P P 21 20 06.1 +0.3
baz=40
MAK Makhachkala 52.67 66 *d i* **P P 21 20 02.2 -4.1**
MAK *e* 21 22 04.3
MAK *e* PPP PPP 21 23 11.7
MAK *e* S **S 21 27 27.8 -6.2**
MAK *e* SS **SS 21 31 13.3 +1.5**
MAK pmax pmax
comp=Z,187nm,1.2s
MAK MLR MLR
comp=Z,268nm,14.0s
F17K Baldwin Pennin 52.67 336 P P 21 20 05.8 -0.2
baz=36
GURO Guroymak-BITLI 52.73 74 P P 21 20 07.7 +0.6
KAIM Kayak Island 52.74 323 P P 21 20 07.1 +0.5
baz=44
EYAK Cordova Ski Ar 52.74 324 P P 21 20 07.1 +0.5
baz=43
NLWA Neilton Lookou 52.75 301 P P 21 20 08.8 +1.8
CUT Chulitna 52.83 328 P P 21 20 08.1 +0.8
baz=41
AKTO Aktyubinsk 52.83 53 LR LR 21 41 57.1
comp=Z,288nm,19.3s,baz=195,slow=35
MMAI Mount Meron Ar 52.87 84 P P 21 20 09.2 +1.1
comp=Z,2.0nm,0.7s,baz=335,slow=6.4,SNR=1.7
MMAI LR LR 21 44 36.9
comp=Z,156nm,19.2s,baz=306,slow=38
comp=Z,2.0nm,0.7s
MARD Mardin 52.89 76 P P 21 20 09.1 +0.8
MARD IAmb IAmb 21 20 11.6
comp=Z,33nm,1.4s
GCSA Galena City Sc 52.93 333 P P 21 20 08.2 +0.2
baz=38
GLI Glacier Island 52.95 325 P P 21 20 08.8 +0.5
baz=43,SNR=6.7
H18K Honhosa River 52.99 334 P P 21 20 09.0 +0.5
baz=38,SNR=6.7
KNK Knik Glacier 53.00 326 P P 21 20 09.1 +0.5
baz=42,SNR=6.9
PPLA Purkeypile 53.04 329 P P 21 20 09.2 +0.2
PPLA Purkeypile 53.04 329 P P 21 20 09.7 +0.7
baz=40
PMR Palmer 53.08 327 P P 21 20 10.0 +0.8
baz=42
GNI Garni 53.11 71 P P 21 20 10.4 +0.5
GNI Garni 53.11 71 LR LR 21 43 43.3
comp=Z,172nm,19.4s,baz=316,slow=37
GNI Garni 53.11 71 *d i* **P P 21 20 11.5 +1.6**
GNI pmax pmax
comp=Z,55nm,1.4s
J19K Poorman 53.17 332 P P 21 20 10.6 +0.8
baz=39,SNR=5.9
K20K Telida 53.23 330 P P 21 20 10.6 +0.3
baz=40,SNR=8.1
M22K Willow 53.27 327 P P 21 20 10.8 +0.3
baz=41
G17K Kiwalik Mounta 53.29 335 P P 21 20 10.5 -0.2
baz=36
PWL Port Wells 53.37 326 P P 21 20 11.9 +0.6
PWL Port Wells 53.37 326 P P 21 20 10.7 -0.6
baz=42,SNR=11
WVOR Wild Horse Val 53.45 294 P P 21 20 12.9 +0.6
WVOR IAmb IAmb 21 20 15.6
comp=Z,18nm,0.9s
WVOR Wild Horse Val 53.45 294 P P 21 20 12.9 +0.6
WVOR pmax pmax
comp=Z,18nm,1.0s
SKT Skwentna 53.54 328 P P 21 20 12.3 -0.3
baz=40,SNR=9.6
H17K Granite Mounta 53.56 334 P P 21 20 12.8 +0.2
baz=36,SNR=6.0
SDV Santo Domingo 53.59 225 LR LR 21 41 12.9
comp=Z,54nm,21.1s,baz=68,slow=34
TIXI Tiksi 53.59 6 P P 21 20 13.6 +0.8
TIXI Tiksi 53.59 6 LR LR 21 40 54.2
comp=Z,38nm,18.6s,baz=7.0,slow=34
TIXI Tiksi 53.59 6 *c e* **P P 21 20 14.8 +2.0**
TIXI pmax pmax
comp=Z,46nm,1.3s
DBIC Dimbokro 53.60 141 P P 21 20 12.5 -1.0
DBIC Dimbokro 53.60 141 P P 21 20 12.4 -1.0
comp=Z,5.8nm,0.7s,baz=352,slow=6.7,SNR=5.9
DBIC LR LR 21 40 39.0
comp=Z,515nm,18.8s,baz=358,slow=33
comp=Z,5.8nm,0.7s
DBIC Dimbokro 53.60 141 P P 21 20 12.5 -1.0
DBIC pmax pmax
comp=Z,65nm,1.9s
RC01 Rabbit Creek A 53.65 327 P P 21 20 14.7 +1.3
RC01 IAmb IAmb 21 20 16.6
comp=Z,29nm,1.2s
RC01 Rabbit Creek A 53.65 327 P P 21 20 13.8 +0.4
baz=41
SUA Susitna One 53.69 327 P P 21 20 14.8 +1.0
SUA IAmb IAmb 21 20 16.9
comp=Z,11nm,0.9s
SUA Susitna One 53.69 327 P P 21 20 14.4 +0.6
baz=41
Q23K Middleton Isla 53.77 324 P P 21 20 15.1 +0.9
baz=42
G16K Koyuk River 53.80 336 P P 21 20 14.8 +0.4
baz=35
AKT Akhty 53.81 67 *e* **P P 21 20 13.9 -1.1**
AKT pmax pmax
comp=Z,16nm,2.0s
AKT MLR MLR
comp=Z,304nm,15.0s
L20K Farewell, AK 53.86 330 P P 21 20 15.4 +0.5
baz=39,SNR=7.5
J18K Innoko River 53.89 332 P P 21 20 15.6 +0.5
baz=38,SNR=7.5
F15K North Star Dit 54.07 337 P P 21 20 16.4 +0.1
baz=34
M20K Styx River 54.10 329 P P 21 20 16.5 -0.3
baz=39
GHAJ Ghor Haditha 54.21 85 P P 21 20 18.9 +1.1
J05D Fort Rock, OR 54.23 296 P P 21 20 19.5 +1.4
SEW Seward 54.31 326 P P 21 20 18.5 +0.4
baz=41
CAPN Captain Cook N 54.35 327 P P 21 20 18.4 0.0
baz=40
ASF Jabal al Asfar 54.35 83 LR LR 21 45 52.5
comp=Z,122nm,18.3s,baz=300,slow=39
TXAR Lajitas Array 54.37 272 P P 21 20 19.5 +0.3
TXAR Lajitas Array 54.37 272 P P 21 20 19.8 +0.6
comp=Z,4.4nm,0.8s,baz=62,slow=6.4,SNR=36
TXAR PcP **PcP 21 21 23.6 +0.6**
comp=Z,1.6nm,0.7s,baz=72,slow=4.1,SNR=4.3
TXAR LR LR 21 43 00.4
comp=Z,417nm,18.2s,baz=38,slow=36
comp=Z,4.4nm,0.8s
L19K White Mountain 54.38 330 P P 21 20 18.8 +0.1
baz=38
H16K Elim 54.39 335 P P 21 20 18.6 0.0
baz=35
K05A Summer Lake 54.45 295 P P 21 20 21.3 +1.6
G15K Niukluk 54.53 336 P P 21 20 19.2 -0.5
baz=34
AB31 Akbulak array 54.55 53 P P 21 20 20.1 0.0
AB31 IAmb IAmb 21 20 21.9
comp=Z,25nm,1.5s
ABKAR Akbulak array 54.55 53 P P 21 20 20.4 +0.3
J17K VABM Dome 54.59 333 P P 21 20 19.9 -0.3
baz=36
I17K Unalakleet 54.62 334 P P 21 20 19.4 -0.9
baz=36
F14K Arctic Creek 54.65 337 P P 21 20 20.0 -0.6
baz=32
L18K Granite Mounta 54.88 331 P P 21 20 22.0 -0.3
baz=37,SNR=6.0
K17K Iditarod 54.93 332 P P 21 20 22.7 +0.1
baz=36
BRSE Bradley Lake S 55.01 326 P P 21 20 23.5 +0.3
baz=40
EIL Elat 55.06 87 LR LR 21 47 11.5
comp=Z,69nm,18.1s,baz=348,slow=40
J16K Anvik River 55.08 333 P P 21 20 23.7 -0.1
baz=35
ANM Nome 55.20 336 P P 21 20 24.1 -0.5
baz=33
M18K Stony River 55.21 330 P P 21 20 24.5 -0.2
baz=38
O20K Slope Mountain 55.34 327 P P 21 20 25.3 -0.5
baz=39
N19K Bonanza Creek 55.34 329 P P 21 20 24.8 -1.0
baz=38
HOM Homer 55.36 326 P P 21 20 25.7 -0.1
baz=39
L17K Donlin 55.40 331 P P 21 20 26.1 +0.1
baz=36
M17K Holitna River 55.75 331 P P 21 20 28.1 -0.4
baz=36
TPH Tonopah 55.76 289 P P 21 20 29.9 +0.7
TPH IAmb IAmb 21 20 31.9
comp=Z,19nm,1.0s
TPH Tonopah 55.76 289 P P 21 20 29.9 +0.7
TPH pmax pmax
comp=Z,19nm,1.0s
N18K Kilae Creek 55.87 329 P P 21 20 29.6 +0.1
baz=37
P19K Oil Pt 55.87 327 P P 21 20 29.0 -0.6
baz=38
BOAV Boa Vista 55.96 211 P P 21 20 30.0 -0.6
BOAV Boa Vista 55.96 211 *e* P P 21 20 29.9 -0.6
NV11 Mina Array Sit 56.01 290 P P 21 20 31.5 +0.5
TPNV Topopah Spring 56.02 287 P P 21 20 31.8 +0.7
TPNV IAmb IAmb 21 20 33.8
comp=Z,46nm,2.0s
TPNV Topopah Spring 56.02 287 P P 21 20 31.8 +0.7
TPNV pmax pmax
comp=Z,46nm,2.0s
SIUN Universidad Ur 56.05 243 P P 21 20 31.6 +0.3
SIUN IAmb IAmb 21 20 55.1
comp=Z,14nm,1.5s
L16K Owhat River 56.07 332 P P 21 20 30.8 -0.1
baz=35
NVAR Mina Array Bea 56.10 290 P P 21 20 32.1 +0.4
comp=Z,1.1nm,0.6s,baz=54,slow=6.9,SNR=9.9
NVAR LR LR 21 43 53.8
comp=Z,498nm,18.2s,baz=76,slow=35
comp=Z,1.1nm,0.6s
YBH Yreka Blue Hor 56.10 296 P P 21 20 31.5 0.0
YBH Yreka Blue Hor 56.10 296 LR LR 21 43 22.3
comp=Z,19nm,20.2s,baz=60,slow=35
YBH Yreka Blue Hor 56.10 296 P P 21 20 31.5 0.0
YBH pmax pmax
comp=Z,7.0nm,1.0s
319A Douglas 56.12 278 P P 21 20 31.7 -0.1
K15K Wolf Creek Mou 56.14 333 P P 21 20 31.6 +0.3
baz=34
J14K Nanvaranak Lak 56.29 334 P P 21 20 33.0 +0.7
baz=33
TUC Tucson 56.30 280 P P 21 20 33.9 +0.9
TUC Tucson 56.30 280 P P 21 20 33.9 +0.9
TUC pmax pmax
comp=Z,7.0nm,0.9s
N17K Nushagak Hills 56.38 330 P P 21 20 32.9 -0.2
baz=36
BVAR Borovoye Array 56.40 44 P P 21 20 34.3 +0.9
comp=Z,5.7nm,0.6s,baz=318,slow=7.1,SNR=32
BVAR LR LR 21 42 47.7
comp=Z,242nm,20.9s,baz=299,slow=34
comp=Z,5.7nm,0.6s
Q20K Shuyak Island 56.42 326 P P 21 20 32.8 -0.6
baz=38
M16K Timber Creek 56.49 331 P P 21 20 33.3 -0.5
baz=35
Q19K Cape Douglas, 56.57 327 P P 21 20 34.0 -0.6
baz=38
L15K Ungalak Mounta 56.64 333 P P 21 20 33.7 -1.2
baz=34
BILL Bilibino 56.69 351 *e* **P P 21 20 34.4 -0.8**
BILL pmax pmax
comp=Z,18nm,1.5s
MTPC Mountain Pass 56.69 286 P P 21 20 36.7 +0.8
MTPC IAmb IAmb 21 20 38.5
comp=Z,36nm,1.8s
P18K Big Mountain, 56.70 328 P P 21 20 34.8 -0.7
baz=37
N16K Nishlik Lake 56.88 330 P P 21 20 35.9 -0.8
baz=35
O17K Koliganek Bris 56.96 329 P P 21 20 36.5 -0.7
baz=36
KDAK Kodiak Island 57.14 326 LR LR 21 44 53.2
comp=Z,237nm,18.5s,baz=47,slow=36
KDAK Kodiak Island 57.14 326 P P 21 20 37.8 -0.7
baz=38
Q18K Katmai Hardscr 57.23 327 P P 21 20 38.6 -0.7
baz=37
P17K Kvichak River 57.23 328 P P 21 20 38.7 -0.4
baz=36
M15K Kasigluk River 57.24 332 P P 21 20 38.1 -1.1
baz=34
L14K Kuka Creek 57.24 333 P P 21 20 38.4 -0.7
baz=33
K13K Kusilvak Mount 57.25 334 P P 21 20 38.5 -0.8
baz=32
GAMB Gambell 57.30 339 P P 21 20 38.6 -0.8
baz=28
O16K Kokwok River B 57.40 330 P P 21 20 39.9 -0.4
baz=35
WELL Weller Preserv 57.41 292 P P 21 20 41.8 +1.0
N15K Kwethluk River 57.51 331 P P 21 20 41.1 0.0
baz=34
M14K Bethel 57.54 332 P P 21 20 41.2 0.0
baz=34,SNR=5.9
BUCR Buckhorn Ranch 57.65 291 P P 21 20 43.6 +1.0
OHAK Old Harbor 57.81 325 P P 21 20 43.0 -0.2
baz=37
Q17K Contact Creek 57.81 328 P P 21 20 42.9 -0.5
baz=36
P16K Nushagak River 57.83 329 P P 21 20 43.1 -0.3
baz=35
MTO3 Montecristo 57.92 248 P P 21 20 44.3 -0.4
MTO3 IAmb IAmb 21 20 45.7
comp=Z,40nm,1.9s
R18K Karluk 57.92 326 P P 21 20 43.6 -0.4
baz=37
N14K Kuskokwak Cree 58.16 332 P P 21 20 45.1 -0.5
baz=33
M13K Dall Lake 58.20 333 P P 21 20 45.4 -0.5
baz=32
O15K Ungalikthiuk R 58.25 330 P P 21 20 45.9 -0.4
baz=34
R17L Mt. Peulik Vol 58.48 327 P P 21 20 46.8 -1.1
baz=36
PFO Pinyon Flats O 58.57 285 P P 21 20 50.2 +1.2
PFO IAmb IAmb 21 20 52.4
comp=Z,14nm,0.8s
PFO Pinyon Flats O 58.57 285 LR LR 21 46 23.9
comp=Z,218nm,18.5s,baz=46,slow=36
PFO Pinyon Flats O 58.57 285 *c i* **P P 21 20 51.3 +2.2**
PFO pmax pmax
comp=Z,26nm,0.9s
O14K Tigyukauivet M 58.60 331 P P 21 20 47.9 -0.9
baz=33
SII Sitkinak Islan 58.64 325 P P 21 20 47.8 -1.3
baz=37
ZAIG Zacatecas 58.71 266 P P 21 20 51.1 +0.7
ZAIG IAmb IAmb 21 20 53.8
comp=Z,21nm,1.1s
CMIG Matias Romero 58.78 255 LR LR 21 47 33.4
comp=Z,147nm,19.4s,baz=360,slow=38
ROSC El Rosal 58.78 227 P P 21 20 51.4 +0.4
ROSC El Rosal 58.78 227 P P 21 20 52.1 +1.2
comp=Z,37nm,0.8s,baz=22,slow=3.7,SNR=15
ROSC LR LR 21 45 24.5
comp=Z,47nm,20.5s,baz=48,slow=35
comp=Z,37nm,0.8s
ROSC El Rosal 58.78 227 P P 21 20 51.4 +0.4
ROSC pmax pmax
comp=Z,42nm,0.9s
R16K Pilot Point 58.91 328 P P 21 20 50.3 -0.6
baz=35
M11K Mekoryuk 58.97 334 P P 21 20 50.5 -0.7
baz=31
JTS Las Juntas de 59.04 241 LR LR 21 45 39.7
comp=Z,163nm,18.7s,baz=10,slow=35
CHIR Chirikof Islan 59.71 326 P P 21 20 55.9 -0.6
baz=36
RCBR Riachuelo 60.16 181 LR LR 21 40 37.3
comp=Z,43nm,20.9s,baz=50,slow=30
CHGN Chignik 60.21 328 P P 21 20 58.8 -1.1
baz=34
TLIG Tlapa 60.49 259 P P 21 21 02.6 +0.2
S14K Fog Glacier 60.58 328 P P 21 21 01.3 -1.2
baz=33
ZAA0 Zalesovo Array 61.09 36 P P 21 21 05.9 -0.1
ZALV Zalesovo Beam 61.09 36 P P 21 21 05.8 -0.1
ZALV Zalesovo Beam 61.09 36 P P 21 21 06.2 +0.2
comp=Z,1.4nm,0.7s,baz=308,slow=8.7,SNR=6.5
ZALV PcP **PcP 21 21 48.3 -0.6**
comp=Z,0.8nm,0.8s,baz=290,slow=4.3,SNR=3.8
ZALV LR LR 21 47 30.8
comp=Z,79nm,18.7s,baz=314,slow=36
comp=Z,1.4nm,0.7s
ZALV Zalesovo Beam 61.09 36 *i* **P P 21 21 06.4 +0.5**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ITTB Itaituba 61.16 204 *e* **P P 21 21 06.6 -0.2**
KURK Kurchatov 61.44 41 P P 21 21 08.6 +0.2
KURK IAmb IAmb 21 21 09.6
comp=Z,7.5nm,0.7s
KURK Kurchatov 61.44 41 P P 21 21 09.1 +0.7
KURBB Kurchatov Arra 61.48 42 P P 21 21 09.1 +0.4
comp=Z,6.2nm,0.6s,baz=326,slow=6.8,SNR=54
KURBB LR LR 21 46 43.4
comp=Z,182nm,20.4s,baz=172,slow=35
comp=Z,6.2nm,0.6s
SDPT Sand Point 61.65 328 P P 21 21 09.2 -0.5
baz=33
CHNA Chernabura Isl 61.81 327 P P 21 21 11.3 +0.5
baz=33
S12K Black Hills 61.83 329 P P 21 21 10.0 -0.9
baz=32
LPIG La Paz 62.19 273 LR LR 21 47 50.4
comp=Z,365nm,18.6s,baz=24,slow=36
SEY Seymchan 62.71 356 LR LR 21 49 48.1
comp=Z,143nm,18.2s,baz=356,slow=37
SEY Seymchan 62.71 356 *i e* **P P 21 21 18.8 +2.1**
SEY pmax pmax
comp=Z,31nm,1.8s
SPIA Saint Paul Isl 62.81 334 P P 21 21 15.8 -1.6
baz=28
FALS False Pass 62.96 329 P P 21 21 17.7 -0.7
baz=31
P08K Saint George I 63.14 334 P P 21 21 18.7 -0.9
baz=28
YAK Yakutsk 63.15 8 P P 21 21 19.5 -0.1
YAK Yakutsk 63.15 8 LR LR 21 46 35.6
comp=Z,63nm,20.7s,baz=343,slow=34
YAK Yakutsk 63.15 8 *e* **P P 21 21 19.1 -0.5**
YAK pmax pmax
comp=Z,21nm,1.4s
YAK pmax pmax
comp=N,19nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.5s
NPGB Novo Progresso 63.66 202 *e* **P P 21 21 23.1 -0.5**
KK31 Karatay Array 64.02 52 P P 21 21 25.8 +0.1
KK31 IAmb IAmb 21 21 41.4
comp=Z,19nm,1.6s
KK31 Karatay Array 64.02 52 P P 21 21 25.8 +0.1
KK31 pmax pmax
comp=Z,19nm,1.6s
KKAR Karatay Array 64.02 52 P P 21 21 25.9 +0.2
KKAR Karatay Array 64.02 52 P P 21 21 25.9 +0.2
SMTB Santa Maria do 64.03 194 *e* **P P 21 21 25.8 -0.2**
OTAV Otavalo 64.69 229 P P 21 21 30.7 -0.2
OTAV IAmb IAmb 21 21 41.2
comp=Z,24nm,1.7s
OTAV Otavalo 64.69 229 P P 21 21 30.7 -0.2
OTAV pmax pmax
comp=Z,24nm,1.7s
OTAV Otavalo 64.69 229 *e* **P P 21 21 31.7 +0.8**
UNV Unalaska Valle 64.74 331 P P 21 21 29.1 -1.1
baz=29
RAYN Ar Rayn 65.84 83 P P 21 21 37.6 -0.2
RAYN IAmb IAmb 21 21 39.6
comp=Z,17nm,1.5s
RAYN Ar Rayn 65.84 83 P P 21 21 37.7 -0.2
RAYN pmax pmax
comp=Z,17nm,1.5s
MAKZ Makanchi 65.91 42 P P 21 21 37.7 -0.3
MAKZ IAmb IAmb 21 21 39.6
comp=Z,11nm,1.1s

MAKZ	**Makanchi**	**65.91**	**42**	P	**P**	**21 21 37.7**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,11nm,1.1s						
MK31	**Makanchi Array**	**66.05**	**42**	*d iP*	**P**	**21 21 39.0**	**+0.2**
MKAR	**Makanchi Array**	**66.05**	**42**	P	**P**	**21 21 38.9**	**0.0**
	comp=Z,5.2nm,0.7s,baz=334,slow=6.1,SNR=40						
MKAR				LR	LR	21 49 26.8	
	comp=Z,96nm,18.7s,baz=300,slow=35						
	comp=Z,5.2nm,0.7s						
MKAR	**Makanchi Array**	**66.05**	**42**	*i* P	**P**	**21 21 39.2**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MA2	**Magadan**	**66.12**	**357**	LR	LR	21 51 59.6	
	comp=Z,93nm,18.1s,baz=350,slow=37						
AAK	**Ala-Archa**	**66.18**	**49**	P	**P**	**21 21 40.5**	**+0.6**
AAK				IAmb	IAmb	21 21 42.8	
	comp=Z,15nm,1.3s						
AAK	**Ala-Archa**	**66.18**	**49**	LR	LR	21 49 29.4	
	comp=Z,330nm,20.6s,baz=328,slow=35						
AAK	**Ala-Archa**	**66.18**	**49**	*d iP*	**P**	**21 21 41.3**	**+1.4**
AAK				pmax	pmax		
	comp=Z,13nm,1.2s						
ARSB	**Arslanbob**	**66.55**	**51**	P	**P**	**21 21 42.7**	**+0.4**
ARSB				IAmb	IAmb	21 21 44.7	
	comp=Z,16nm,1.2s						
ARSB	**Arslanbob**	**66.55**	**51**	P	**P**	**21 21 42.7**	**+0.4**
ARSB				pmax	pmax		
	comp=Z,17nm,1.2s						
HRA	**Herat**	**66.75**	**63**	P	**P**	**21 21 43.9**	**+0.1**
SIMJ	**Simiganj**	**66.80**	**56**	P	**P**	**21 21 44.1**	**+0.1**
GAR	**Garm**	**67.16**	**55**	P	**P**	**21 21 47.2**	**+1.0**
SDBA	**SAO DESIDERIO**	**67.21**	**190**	*eP*	**P**	**21 21 45.7**	**-0.8**
CLDB	**Colider**	**67.47**	**202**	*eP*	**P**	**21 21 48.0**	**-0.1**
SNDB	**Serra Nova Dou**	**67.66**	**197**	*eP*	**P**	**21 21 49.2**	**-0.1**
KDJ	**Kajisay**	**67.76**	**48**	P	**P**	**21 21 50.0**	**0.0**
KDJ				IAmb	IAmb	21 21 53.3	
	comp=Z,27nm,1.7s						
KDJ	**Kajisay**	**67.76**	**48**	P	**P**	**21 21 50.1**	**0.0**
KDJ				pmax	pmax		
	comp=Z,27nm,1.7s						
TARG	**Taragay, Kyrgy**	**68.36**	**48**	P	**P**	**21 21 54.8**	**+0.7**
TARG				IAmb	IAmb	21 22 04.0	
	comp=Z,10nm,0.9s						
TARG	**Taragay, Kyrgy**	**68.36**	**48**	P	**P**	**21 21 54.8**	**+0.7**
TARG				pmax	pmax		
	comp=Z,11nm,0.9s						
PDRB	**Porto dos Gac**	**68.39**	**203**	*eP*	**P**	**21 21 54.0**	**0.0**
KSH	**Kashi**	**69.36**	**50**	P	**P**	**21 22 02.8**	**+2.8**
KSH				pmax	pmax		
	comp=Z,15nm,1.3s						
KSH				LR	LR		
	comp=Z,150nm,9.8s						
KSH				LR	LR		
	comp=Z,250nm,12.6s						
KSH				LR	LR		
	comp=Z,340nm,16.1s						
CMC01	**Camacan, BA**	**69.73**	**184**	*eP*	**P**	**21 22 01.7**	**-0.5**
JANB	**Januaria**	**69.77**	**189**	*eP*	**P**	**21 22 00.8**	**-1.7**
ZAK	**Zakamensk**	**69.80**	**27**	*eP*	**P**	**21 22 02.2**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,13nm,1.8s						
KBL	**Kabul**	**70.08**	**58**	P	**P**	**21 22 05.0**	**+0.5**
KBL	**Kabul**	**70.08**	**58**	P	**P**	**21 22 05.1**	**+0.5**
KBL				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SHEM	**Shemya Is, Ala**	**70.36**	**342**	LR	LR	21 54 02.0	
	comp=Z,48nm,21.1s,baz=328,slow=37						
VILB	**Vilhena**	**70.52**	**206**	P	**P**	**21 22 07.2**	**+0.2**
VILB				IAmb	IAmb	21 22 08.9	
	comp=Z,18nm,1.0s						
VILB	**Vilhena**	**70.52**	**206**	*eP*	**P**	**21 22 07.7**	**+0.6**
WMQ	**Urumqi**	**70.61**	**40**	*eP*	**P**	**21 22 10.5**	**+3.0**
WMQ				LR	LR		
	comp=Z,130nm,23.9s						
BDFB	**Brasilia**	**70.77**	**193**	P	**P**	**21 22 08.2**	**-0.4**
BDFB	**Brasilia**	**70.77**	**193**	P	**P**	**21 22 07.8**	**-0.9**
	comp=Z,4.4nm,0.8s,baz=355,slow=9.3,SNR=5.7						
BDFB				LR	LR	21 48 34.7	
	comp=Z,95nm,18.2s,baz=117,slow=32						
	comp=Z,4.4nm,0.8s						
BDFB	**Brasilia**	**70.77**	**193**	P	**P**	**21 22 08.2**	**-0.4**
BDFB				pmax	pmax		
	comp=Z,38nm,1.7s						
UOSS	**Minazif**	**70.84**	**74**	P	**P**	**21 22 08.6**	**-0.5**
UOSS				IAmb	IAmb	21 22 11.1	
	comp=Z,21nm,1.1s						
GUA01	**Guaratinga, BA**	**70.96**	**185**	*eP*	**P**	**21 22 08.6**	**-1.1**
ZEA	**Zeya**	**71.10**	**11**	*eP*	**P**	**21 22 11.5**	**+1.3**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ATAH	**Atahualpa**	**71.28**	**226**	LR	LR	21 52 35.1	
	comp=Z,78nm,21.8s,baz=2.6,slow=35						
ARAG	**Araguaiana, MT**	**71.40**	**197**	*eP*	**P**	**21 22 12.8**	**+0.4**
PEA0B	**Petropavlovsk-**	**72.18**	**352**	P	**P**	**21 22 17.2**	**+0.4**
PEA0B	**Petropavlovsk-**	**72.18**	**352**	*||eP*	**P**	**21 22 16.4**	**-0.3**
PETK	**Petropavlovsk-**	**72.18**	**352**	P	**P**	**21 22 17.2**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=66,slow=9.2,SNR=8.0						
PETK				LR	LR	21 55 15.8	
	comp=Z,159nm,19.2s,baz=37,slow=37						
	comp=Z,3.2nm,0.7s						
PET	**Petropavlovsk**	**72.18**	**351**	*||eP*	**P**	**21 22 17.8**	**+1.1**
PET				pmax	pmax		
	comp=Z,53nm,1.7s						
SALV	**Santo Antonio**	**72.32**	**201**	*eP*	**P**	**21 22 17.8**	**-0.1**
PTLB	**Pontes e Lacer**	**72.65**	**204**	P	**P**	**21 22 19.7**	**-0.1**
PTLB				IAmb	IAmb	21 22 21.7	
	comp=Z,9.6nm,1.0s						
PTLB	**Pontes e Lacer**	**72.65**	**204**	*eP*	**P**	**21 22 20.2**	**+0.4**
NIL	**Nilore**	**72.86**	**56**	P	**P**	**21 22 21.2**	**0.0**
NIL				IAmb	IAmb	21 22 22.8	
	comp=Z,11nm,1.1s						
NIL	**Nilore**	**72.86**	**56**	P	**P**	**21 22 21.2**	**0.0**
NIL				pmax	pmax		
	comp=Z,11nm,1.1s						
DIAM	**Diamantina, MG**	**72.92**	**188**	*eP*	**P**	**21 22 19.9**	**-1.7**
SONM	**Songino Array**	**72.95**	**26**	P	**P**	**21 22 21.8**	**+0.2**
SONM				IAmb	IAmb	21 22 23.4	
	comp=Z,23nm,1.3s						
SONM	**Songino Array**	**72.95**	**26**	P	**P**	**21 22 22.3**	**+0.7**
	comp=Z,8.3nm,1.0s,baz=327,slow=6.0,SNR=32						
SONM				LR	LR	21 54 55.2	
	comp=Z,95nm,19.2s,baz=313,slow=36						
	comp=Z,8.3nm,1.0s						
SONM	**Songino Array**	**72.95**	**26**	P	**P**	**21 22 21.8**	**+0.2**
SONM				pmax	pmax		
	comp=Z,23nm,1.3s						
ULN	**Ulaanbaatar**	**73.09**	**26**	*d iP*	**P**	**21 22 23.4**	**+0.9**
ULN				pmax	pmax		
	comp=Z,30nm,1.3s						
FURI	**Furi**	**73.44**	**98**	LR	LR	21 53 57.1	
	comp=Z,113nm,21.6s,baz=332,slow=35						
SIV	**San Ignacio**	**73.65**	**206**	LR	LR	21 50 09.6	
	comp=Z,110nm,21.2s,baz=107,slow=32						
RIB01	**Linhares ES**	**73.70**	**185**	*eP*	**P**	**21 22 25.6**	**-0.3**
HIA	**Hailar**	**74.42**	**17**	P	**P**	**21 22 30.6**	**+0.5**
HIA				IAmb	IAmb	21 22 32.1	
	comp=Z,7.4nm,0.7s						
HIA	**Hailar**	**74.42**	**17**	P	**P**	**21 22 30.6**	**+0.5**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HEH	**HeiHe**	**74.55**	**12**	*eP*	**P**	**21 22 31.5**	**+0.7**
HEH				pmax	pmax		
	comp=Z,22nm,1.3s						
SHEL	**Horse Pasture**	**74.57**	**151**	*i* P	**P**	**21 22 33.9**	**+2.7**
ITRB	**Iturama**	**75.09**	**195**	*eP*	**P**	**21 22 34.7**	**+0.6**
LPAZ	**La Paz**	**75.94**	**213**	P	**P**	**21 22 39.2**	**-0.6**
LPAZ	**La Paz**	**75.94**	**213**	P	**P**	**21 22 39.5**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=25,slow=6.4,SNR=8.4						
LPAZ				LR	LR	21 53 24.3	
	comp=Z,40nm,20.8s,baz=32,slow=34						
	comp=Z,2.0nm,0.5s						
LPAZ	**La Paz**	**75.94**	**213**	*eP*	**P**	**21 22 39.7**	**-0.1**
LODK	**Lodwar**	**75.99**	**104**	P	**P**	**21 22 39.5**	**-0.1**
LODK				IAmb	IAmb	21 22 45.6	
	comp=Z,18nm,1.7s						
RPRD	**Ribas do Rio P**	**76.40**	**198**	*eP*	**P**	**21 22 42.0**	**+0.5**
MBAR	**Mbarara**	**76.74**	**110**	*||iP*	**P**	**21 22 45.1**	**+1.1**
MBAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AQDB	**Aquidauana**	**76.77**	**200**	P	**P**	**21 22 43.6**	**0.0**
AQDB				IAmb	IAmb	21 22 45.1	
	comp=Z,33nm,1.6s						
AQDB	**Aquidauana**	**76.77**	**200**	*eP*	**P**	**21 22 44.2**	**+0.5**
VAS01	**Vassouras-RJ**	**76.84**	**188**	*eP*	**P**	**21 22 44.4**	**+0.4**
BDQN	**Bodoquena, MS**	**76.95**	**201**	*eP*	**P**	**21 22 44.9**	**+0.2**
PB16	**IPOC Station P**	**78.30**	**213**	P	**P**	**21 22 52.0**	**-1.0**
MURT	**Porto Murtinho**	**78.31**	**201**	*eP*	**P**	**21 22 52.1**	**-0.1**
FRTB	**Fartura**	**78.56**	**193**	*eP*	**P**	**21 22 55.0**	**+1.3**
GTA	**Gaotai**	**78.76**	**34**	P	**P**	**21 22 54.8**	**-0.1**
GTA				pP	pwP	21 22 59.3	+0.7
GTA				PP	**PP**	**21 25 52.6**	**+0.2**
GTA				pmax	pmax		
	comp=Z,18nm,1.3s						
GTA				LR	LR		
	comp=Z,100nm,18.2s						
GTA				LR	LR		
	comp=Z,140nm,19.3s						
GTA				LR	LR		
	comp=Z,170nm,18.9s						
YSS	**Yuzhno-Sakhali**	**78.85**	**1**	*eP*	**P**	**21 22 56.9**	**+1.8**
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
YSS				MLR	MLR		
	comp=Z,200nm,16.0s						
XLT	**XiLinHaoTe**	**78.91**	**21**	*eP*	**P**	**21 22 57.3**	**+1.7**
XLT				pP	pwP	21 23 01.3	+2.0
XLT				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BNX	**BinXian**	**78.99**	**12**	⇑P	**P**	**21 22 56.4**	**+0.5**
BNX				pmax	pmax		
	comp=Z,10.0nm,1.1s						
AMBA	**Amambai (Brazi**	**79.02**	**199**	*eP*	**P**	**21 22 56.8**	**+0.6**
PET01	**Itanhaem-SP**	**79.20**	**191**	*eP*	**P**	**21 22 58.4**	**+1.3**
GO01	**Chusmiza**	**79.45**	**212**	P	**P**	**21 22 58.7**	**-0.5**
GO01				IAmb	IAmb	21 23 00.7	
	comp=Z,9.6nm,0.8s						
PB11	**IPOC Station P**	**79.68**	**213**	P	**P**	**21 22 59.4**	**-0.6**
PB11				IAmb	IAmb	21 23 01.1	
	comp=Z,17nm,0.8s						
PB08	**IPOC Station P**	**79.88**	**212**	P	**P**	**21 23 01.2**	**-0.2**
GOMU	**GeErMu**	**79.91**	**39**	P	**P**	**21 23 00.8**	**-0.8**
GOMU				pP	sP	21 23 04.3	+1.0
GOMU				sP	PcP	21 23 08.3	-0.9
GOMU				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PTGB	**Pitanga**	**80.27**	**196**	*eP*	**P**	**21 23 03.5**	**+0.5**
MDJ	**Mudanjiang**	**80.36**	**11**	P	**P**	**21 23 04.4**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,18nm,2.1s						
HHC	**Hu-ho-hao-te**	**80.79**	**25**	*eP*	**P**	**21 23 03.9**	**-2.0**
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,4.0s						
KMBO	**Kilima Mbogo**	**80.79**	**105**	LR	LR	21 58 20.5	
	comp=Z,46nm,21.5s,baz=88,slow=35						
KMBO	**Kilima Mbogo**	**80.79**	**105**	*i* P	**P**	**21 23 09.5**	**+3.1**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
USRK	**Ussuriysk Ar.**	**81.02**	**9**	P	**P**	**21 23 07.2**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=339,slow=4.9,SNR=7.1						
	comp=Z,3.0nm,0.8s						
SJPY	**San Joaquin**	**81.25**	**199**	*eP*	**P**	**21 23 07.4**	**-0.8**
ASAJ	**Asahikawa**	**81.69**	**2**	LR	LR	21 59 11.0	
	comp=Z,66nm,20.6s,baz=6.0,slow=36						
ASAJ	**Asahikawa**	**81.69**	**2**	P	**P**	**21 23 10.0**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,67nm,1.6s						
JKA	**Kamikawa-asahi**	**81.69**	**2**	P	**P**	**21 23 10.0**	**-0.4**
BJT	**Baijiatuau**	**82.64**	**22**	P	**P**	**21 23 15.5**	**-0.1**
BJT	**Baijiatuau**	**82.64**	**22**	P	**P**	**21 23 15.5**	**-0.1**
BJT				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PB05	**IPOC Station P**	**82.75**	**212**	P	**P**	**21 23 15.9**	**-0.3**
PB05				IAmb	IAmb	21 23 18.2	
	comp=Z,15nm,0.9s						
CPUP	**Villa Florida**	**82.78**	**200**	P	**P**	**21 23 15.3**	**-0.8**
CPUP	**Villa Florida**	**82.78**	**200**	P	**P**	**21 23 14.8**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=0.0,slow=3.0,SNR=4.7						
CPUP				LR	LR	21 57 08.2	
	comp=Z,14nm,18.4s,baz=219,slow=34						
	comp=Z,0.7nm,0.8s						
CPUP	**Villa Florida**	**82.78**	**200**	P	**P**	**21 23 15.3**	**-0.8**
CPUP				pmax	pmax		
	comp=Z,10.0nm,1.8s						
CPUP	**Villa Florida**	**82.78**	**200**	*eP*	**P**	**21 23 14.9**	**-1.3**
LZH	**Lanzhou**	**83.08**	**32**	*eP*	**P**	**21 23 17.9**	**-0.2**
LZH				sP	PcP	21 23 25.9	+3.1
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LSA	**Lhasa**	**84.23**	**45**	P	**P**	**21 23 23.7**	**-0.8**
LSA	**Lhasa**	**84.23**	**45**	P	**P**	**21 23 23.7**	**-0.8**
LSA				pmax	pmax		
	comp=Z,10.0nm,1.5s						
DL2	**Dalian**	**84.80**	**18**	*eP*	**P**	**21 23 26.3**	**-0.3**
DL2				pmax	pmax		
	comp=Z,25nm,0.8s						
HNS	**HongShan**	**84.82**	**24**	⇑P	**P**	**21 23 28.3**	**+1.6**
HNS				pmax	pmax		
	comp=Z,16nm,1.1s						
JTM	**Tenmabayashi**	**84.98**	**3**	P	**P**	**21 23 27.4**	**-0.1**
CPSB	**Cacapava Do Su**	**86.06**	**196**	*eP*	**P**	**21 23 32.0**	**-0.7**
TSUM	**Tsumeb**	**86.13**	**131**	LR	LR	21 58 57.7	
	comp=Z,67nm,20.2s,baz=338,slow=34						
TIA	**Tai'an**	**86.51**	**22**	P	**P**	**21 23 32.3**	**-2.9**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.7s						
KSRS	**Korea Array**	**87.21**	**13**	P	**P**	**21 23 38.2**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=356,slow=5.0,SNR=4.6						
	comp=Z,1.7nm,0.9s						
XAUDM	**Khaudum**	**87.24**	**128**	P	**P**	**21 23 38.3**	**-0.6**
LSZ	**Lusaka**	**87.75**	**120**	P	**P**	**21 23 41.3**	**-0.1**
LSZ				IAmb	IAmb	21 23 43.7	
	comp=Z,15nm,1.4s						
LSZ	**Lusaka**	**87.75**	**120**	LR	LR	22 03 14.1	
	comp=Z,105nm,19.8s,baz=346,slow=36						
LSZ	**Lusaka**	**87.75**	**120**	P	**P**	**21 23 41.3**	**-0.1**
LSZ				pmax	pmax		
	comp=Z,15nm,1.4s						
CD2	**Chengdu**	**87.82**	**34**	*eP*	**P**	**21 23 40.0**	**-1.7**
SHL	**Shillong**	**88.18**	**46**	P	**P**	**21 23 42.9**	**-0.7**
SHL	**Shillong**	**88.18**	**46**	P	**P**	**21 23 42.9**	**-0.7**
SHL				pmax	pmax		
	comp=Z,39nm,1.9s						
HYB	**Hyderabad**	**88.97**	**61**	*eP*	**P**	**21 23 47.5**	**+0.2**
MJAR	**Matsushiro Arr**	**89.09**	**5**	P	**P**	**21 23 46.9**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=302,slow=3.3,SNR=4.1						
	comp=Z,0.4nm,0.4s						
ENH	**Enshi**	**90.20**	**30**	P	**P**	**21 23 52.7**	**-0.2**
BRDH	**Bariadhala**	**90.62**	**48**	LR	LR	22 07 36.1	
	comp=Z,216nm,18.4s,baz=292,slow=38						
NJ2	**Nanjing**	**90.89**	**22**	*eP*	**P**	**21 23 54.3**	**-1.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH	**PanZhiHua**	**91.17**	**38**	P	**P**	**21 23 57.3**	**-0.3**
LBTB	**Lobatse**	**94.80**	**127**	LR	LR	22 06 12.3	
	comp=Z,83nm,18.0s,baz=331,slow=35						
CMAR	**Chiang Mai Arr**	**97.42**	**43**	P	**P**	**21 24 25.8**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=330,slow=10,SNR=4.7						
CMAR				LR	LR	22 10 20.8	
	comp=Z,77nm,20.1s,baz=310,slow=37						
	comp=Z,0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**97.42**	**43**	*i* P	Pdif	21 24 26.2	0.0
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BOSA	**Boshof**	**97.72**	**129**	LR	LR	22 06 55.9	
	comp=Z,145nm,19.2s,baz=358,slow=34						
PALK	**Pallekele**	**98.62**	**65**	LR	LR	22 11 46.7	
	comp=Z,52nm,18.5s,baz=352,slow=37						
PLCA	**Paso Flores**	**99.64**	**207**	LR	LR	22 08 59.6	
	comp=Z,50nm,18.0s,baz=60,slow=35						
TAOE	**Nuku Hiva Isla**	**105.85**	**277**	*e*LR	LR	21 59 59.1	
	comp=Z,173nm,25.2s						
PPT2	**Papeete2**	**118.28**	**280**	*e*LR	LR	22 05 32.5	
	comp=Z,208nm,31.0s						
PPT2				*e*LR	LR	22 05 39.3	
	comp=Z,147nm,34.8s						
TBI	**Tubuai**	**122.72**	**275**	*e*LR	LR	22 07 45.9	
	comp=Z,812nm,29.8s						
TBI				*e*LR	LR	22 07 47.6	
	comp=Z,1μm,32.5s						
SNAA	**Sanae**	**127.97**	**168**	⇑P	**PKPdf**	**21 29 56.5**	**-0.2**
	comp=Z,25nm,0.6s						
SNAA	**Sanae**	**127.97**	**168**		**PKPdf**	**21 29 56.5**	**-0.2**
SNAA	**Sanae**	**127.97**	**168**	PKP	**PKPdf**	**21 29 56.1**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=285,slow=5.2,SNR=12						
TROLL	**Troll, Antarti**	**129.00**	**166**	⇑P	**PKPdf**	**21 29 58.5**	**-0.2**
	comp=Z,96nm,1.1s						
SYO	**Syowa Base**	**134.67**	**151**	*e*Pdiff	**Pdif**	**21 27 11.4**	**+1.0**
SYO	**Syowa Base**	**134.67**	**151**	*||e*PPdiff	pPdif	21 27 14.0	+2.3
MAW	**Mawson**	**141.44**	**143**	PKP	**PKPdf**	**21 30 20.3**	**-1.5**
	comp=Z,2.2nm,1.1s,baz=270,slow=1.0,SNR=4.6						
QSPA	**South Pole Qui**	**144.44**	**180**		**PKPdf**	**21 30 26.8**	**-0.5**
QSPA	**South Pole Qui**	**144.44**	**180**	PKP	PKPbc	21 30 26.1	+0.2
	comp=Z,8.1nm,0.9s,baz=193,slow=1.7,SNR=29						
WRA	**Warramunga Arr**	**144.54**	**17**	PKP	PKPbc	21 30 27.4	0.0
	comp=Z,1.7nm,1.0s,baz=339,slow=2.6,SNR=12						
WB2	**Warramunga Arr**	**144.54**	**17**	PKPdf	**PKPdf**	**21 30 28.8**	**-0.1**
CTAO	**Charters Tower**	**145.58**	**358**	PKPdf	**PKPdf**	**21 30 30.5**	**-0.1**
CTAO	**Charters Tower**	**145.58**	**358**	PKIKP	**PKPdf**	**21 30 30.5**	**-0.1**
AS31	**Alice Springs**	**148.09**	**19**	PKPbc	**PKPbc**	**21 30 37.6**	**-0.4**
ASAR	**Alice Springs**	**148.09**	**19**	PKPdf	**PKPdf**	**21 30 34.2**	**-0.6**
ASAR				PKPbc	**PKPbc**	**21 30 37.7**	**-0.2**
ASAR	**Alice Springs**	**148.09**	**19**	PKPbc	**PKPbc**	**21 30 37.8**	**-0.2**
	comp=Z,9.0nm,0.7s,baz=351,slow=2.4,SNR=125						
ASAR	**Alice Springs**	**148.09**	**19**	PKIKP	**PKPdf**	**21 30 34.2**	**-0.6**
ASAR						21 30 37.7	
VNDA	**Vanda**	**156.13**	**189**	PKPdf	**PKPdf**	**21 30 45.3**	**+0.2**
VNDA	**Vanda**	**156.13**	**189**	PKIKP	**PKPdf**	**21 30 45.3**	**+0.2**

*NIC **14** 21:14:52.0, 36.38N×28.63E, h76km±2km, Ml2.9/10*
*GII **14** 21:14:52.8±0.0, 36.209N±0.002×28.885E±0.001, h10km, Mws3.2, confirmed*
*AFAD **14** 21:14:53.7, 36.53N×28.73E, h7km±3km, MW3.6*
*ISK **14** 21:14:53.5, 36.57N×28.70E, h11km, ML3.4/17*
*ATH **14** 21:14:53.7, 36.51N×28.75E, h15km±1km, ML3.3/4, Manual Solution by F.Xalaris First location: 2019/09/14 21:16:19, This location: 2019/09/14 21:26:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*THE **14** 21:14:54.0, 37°N×14.2°9E±1.1°, h12km±22km, M3.3/6, MLh3.3/6*

ISC 14 21:14:52.8±1.0, 36.45N±0.03×28.74E±0.02, h23km±10km, n123, σ1.970/166, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IZZE	**Mula-Seydike**	**0.39**	**91**	P	**Pn**	**21 15 08.2**	**-1.0**
IZZE				S	**Sb**	**21 15 07.3**	**+0.5**
RDI1	**Rhodes Town Ha**	**0.41**	**271**	P	**Pb**	**21 15 02.6**	**+1.0**
RDI1				S	**Sb**	**21 15 08.0**	**+0.5**
RODB	**Rodos**	**0.42**	**270**	P	**Pb**	**21 15 01.9**	**+0.4**
RODB				S	**Sb**	**21 15 08.2**	**+0.7**
SABU	**Mula-Dalaman**	**0.42**	**26**	P	**Pb**	**21 15 01.3**	**-0.4**
SABU				S	**Sb**	**21 15 06.1**	**-1.5**
TURN	**Turunc**	**0.52**	**310**	Pg	**Pb**	**21 15 02.8**	**-0.4**
TURN				Sg	**Sb**	**21 15 08.7**	**-1.6**
TURN	**Turunc**	**0.52**	**310**	P	**Pb**	**21 15 03.1**	**-0.2**
TURN				S	**Sb**	**21 15 08.3**	**-2.0**
ARG	**Arkhangelos**	**0.55**	**245**	Pg	**Pn**	**21 15 04.9**	**-0.3**
ARG				Sg	**Sn**	**21 15 13.7**	**+0.1**
ARG	**Arkhangelos**	**0.55**	**245**	P	**Pn**	**21 15 05.0**	**-0.3**
ARG				S	**Sn**	**21 15 13.8**	**+0.1**
ARG	**Arkhangelos**	**0.55**	**245**	P	**Pn**	**21 15 04.9**	**-0.3**
ARG				S	**Sn**	**21 15 14.3**	**+0.7**
ARG				AML	AML	21 15 15.1	
	2.8nm,0.4s						
ARG				AML	AML	21 15 18.9	
	4.7nm,0.3s						
ARG	**Arkhangelos**	**0.55**	**245**	P	**Pn**	**21 15 04.8**	**-0.3**
ARG				S	**Sn**	**21 15 13.5**	**-0.2**
CAME	**Cameli-Denizli**	**0.67**	**42**	Pg	**Pb**	**21 15 05.8**	**-0.2**
CAME				Sg	**Sb**	**21 15 14.9**	**-0.1**
AKAS	**Kas**	**0.73**	**107**	Pg	**Pn**	**21 15 09.1**	**+1.2**
AKAS				Sg	**Sn**	**21 15 21.1**	**+2.7**
AKAS	**Kas**	**0.73**	**107**	P	**Pn**	**21 15 08.8**	**+0.9**
AKAS				S	**Sn**	**21 15 20.0**	**+1.5**
KSL	**Kastellorizon**	**0.74**	**113**	P	**Pn**	**21 15 08.7**	**+0.7**
KSL				S	**Sn**	**21 15 19.9**	**+1.4**
KSL	**Kastellorizon**	**0.74**	**113**	P	**Pn**	**21 15 08.7**	**+0.7**
KSL				S	**Sn**	**21 15 22.0**	**+3.5**
KSL				AML	AML	21 15 22.9	
	3.7nm,0.5s						
KSL				AML	AML	21 15 23.8	
	1.9nm,0.5s						
KSL	**Kastellorizon**	**0.74**	**113**	P	**Pn**	**21 15 08.6**	**+0.6**
KSL				S	**Sn**	**21 15 18.8**	**+0.2**
RGE1	**Gennadi, Rhode**	**0.78**	**238**	P	**Pn**	**21 15 09.4**	**+1.1**
KNIK	**Mula-Seydike**	**0.78**	**59**	P	**Pb**	**21 15 08.0**	**+0.2**
KNIK				S	**Sb**	**21 15 18.6**	**+0.6**
CAEL	**Denizli, Camel**	**0.82**	**35**	P	**Pb**	**21 15 07.8**	**-0.7**
CAEL				S	**Sb**	**21 15 19.2**	**0.0**
DNZT	**Denizli-Tavas-**	**0.86**	**15**	P	**Pn**	**21 15 09.1**	**-0.6**
DNZT				S	**Sn**	**21 15 18.8**	**-1.5**
MULA	**Mugla, Merkez-**	**0.87**	**338**	P	**Pn**	**21 15 09.0**	**-0.8**
DEMR	**Demre-Antalya**	**0.96**	**102**	Pg	**Pb**	**21 15 13.5**	**+2.6**
DAT	**Datca**	**0.98**	**287**	Pg	**Pn**	**21 15 11.7**	**+0.5**
DAT	**Datca**	**0.98**	**287**	P	**P

ALFC				AML	AML	21 16 26.2	
	0.1nm,0.6s						
ALFC				AML	AML	21 16 27.9	
	0.1nm,0.6s						
TROD	**Troodos**	**3.68**	**113**	P	**Pn**	**21 15 48.3**	**-0.2**
TROD				S	**Sn**	**21 16 32.6**	**+1.3**
TROD				AML	AML	21 16 43.8	
	0.1nm,0.5s						
TROD				AML	AML	21 16 45.8	
	0.1nm,0.6s						
XYLS	**Xyliatos**	**3.79**	**111**	P	**Pn**	**21 15 49.4**	**-0.5**
XYLS				S	**Sn**	**21 16 34.5**	**+0.7**
XYLS				AML	AML	21 16 37.5	
	0.1nm,0.3s						
XYLS				AML	AML	21 16 41.0	
	0.1nm,0.4s						
APOL	**The Sanctuary**	**3.80**	**117**	P	**Pn**	**21 15 50.1**	**+0.1**
APOL				S	**Sn**	**21 16 35.2**	**+1.2**
CSS	**Mathiatis**	**4.02**	**110**	P	**Pn**	**21 15 53.1**	**0.0**
CSS				S	**Sn**	**21 16 40.8**	**+1.4**
CSS				AML	AML	21 16 45.2	
	0.1nm,0.7s						
CSS				AML	AML	21 16 49.2	
CSS	**Mathiatis**	**4.02**	**110**	P	**Pn**	**21 15 51.9**	**-1.1**
CSS	**Mathiatis**	**4.02**	**110**	S	**Sn**	**21 16 37.1**	**-2.3**
ASGA	**Asgata**	**4.03**	**113**	P	**Pn**	**21 15 53.5**	**+0.4**
ASGA				S	**Sn**	**21 16 40.4**	**+0.8**
ASGA				AML	AML	21 16 48.7	
	0.1nm,0.4s						
ASGA				AML	AML	21 16 53.4	
	0.1nm,0.6s						
MVOU	**Mavrovouni**	**4.23**	**108**	P	**Pn**	**21 15 55.6**	**-0.3**
MVOU				S	**Sn**	**21 16 45.8**	**+1.3**
MVOU				AML	AML	21 16 52.3	
MVOU				AML	AML	21 16 54.8	
	0.1nm,0.4s						
HNTI	**Hanita**	**6.27**	**120**	P	**Pn**	**21 16 23.0**	**-1.0**
HNTI	**Hanita**	**6.27**	**120**	S	**Sn**	**21 17 32.0**	**-2.9**
MMC7	**Mount Meron ar**	**6.46**	**120**	P	**Pn**	**21 16 25.3**	**-1.3**
MMA0B	**Mount Meron ar**	**6.47**	**120**	P	**Pn**	**21 16 25.5**	**-1.2**
MMA0B	**Mount Meron ar**	**6.47**	**120**	S	**Sn**	**21 17 37.6**	**-2.2**
BLGI	**Bet Lehem HaGe**	**6.48**	**123**	P	**Pn**	**21 16 25.3**	**-1.6**
BLGI	**Bet Lehem HaGe**	**6.48**	**123**	S	**Sn**	**21 17 37.2**	**-2.9**
GEM	**Giv'at Ha'Em**	**6.55**	**118**	P	**Pn**	**21 16 26.7**	**-1.0**
GEM	**Giv'at Ha'Em**	**6.55**	**118**	S	**Sn**	**21 17 38.9**	**-2.8**
NATI	**Neve Ativ**	**6.57**	**117**	P	**Pn**	**21 16 27.4**	**-0.7**
NATI	**Neve Ativ**	**6.57**	**117**	S	**Sn**	**21 17 39.9**	**-2.3**
SLTI	**Sal'it**	**6.69**	**127**	P	**Pn**	**21 16 28.2**	**-1.5**
SLTI	**Sal'it**	**6.69**	**127**	S	**Sn**	**21 17 41.2**	**-4.1**
KSHT	**Keshet**	**6.77**	**119**	P	**Pn**	**21 16 30.1**	**-0.8**
KSHT	**Keshet**	**6.77**	**119**	S	**Sn**	**21 17 44.9**	**-2.4**
MMLI	**Mount Malkishu**	**6.82**	**124**	P	**Pn**	**21 16 30.3**	**-1.2**
MMLI	**Mount Malkishu**	**6.82**	**124**	S	**Sn**	**21 17 45.4**	**-3.0**
SALP	**Salfit**	**6.90**	**127**	P	**Pn**	**21 16 31.7**	**-0.9**
HMDT	**Nahal Hemdat**	**7.00**	**125**	P	**Pn**	**21 16 33.0**	**-1.0**
HMDT	**Nahal Hemdat**	**7.00**	**125**	S	**Sn**	**21 17 49.9**	**-2.9**
KZIT	**Kziot**	**7.26**	**138**	P	**Pn**	**21 16 35.9**	**-1.7**
KZIT	**Kziot**	**7.26**	**138**	S	**Sn**	**21 17 55.4**	**-4.0**
YTIR	**Yattir**	**7.33**	**132**	P	**Pn**	**21 16 37.4**	**-1.3**
YTIR	**Yattir**	**7.33**	**132**	S	**Sn**	**21 17 58.1**	**-3.2**
DSI	**Dead Sea**	**7.35**	**130**	P	**Pn**	**21 16 37.2**	**-1.6**
DSI	**Dead Sea**	**7.35**	**130**	S	**Sn**	**21 17 57.7**	**-3.9**
MSBI	**Mazada**	**7.52**	**131**	P	**Pn**	**21 16 39.3**	**-1.8**
MSBI	**Mazada**	**7.52**	**131**	S	**Sn**	**21 18 01.6**	**-3.9**
GHAJ	**Ghor Haditha**	**7.65**	**130**	P	**Pn**	**21 16 41.3**	**-1.5**
GHAJ	**Ghor Haditha**	**7.65**	**130**	S	**Sn**	**21 18 05.2**	**-3.7**
RMNI	**Mount Ramon**	**7.70**	**138**	P	**Pn**	**21 16 42.0**	**-1.7**
RMNI	**Mount Ramon**	**7.70**	**138**	S	**Sn**	**21 18 06.6**	**-3.6**
ZFRI	**Zfri**	**7.96**	**136**	P	**Pn**	**21 16 45.3**	**-1.9**
ZFRI	**Zfri**	**7.96**	**136**	S	**Sn**	**21 18 12.3**	**-4.3**
PRNI	**Paran**	**8.02**	**137**	P	**Pn**	**21 16 46.1**	**-1.9**
PRNI	**Paran**	**8.02**	**137**	S	**Sn**	**21 18 14.1**	**-3.9**
KRMI	**Paran Flat**	**8.06**	**140**	P	**Pn**	**21 16 46.8**	**-1.8**
KRMI	**Paran Flat**	**8.06**	**140**	S	**Sn**	**21 18 15.2**	**-3.8**
HRFI	**Mount Harif**	**8.29**	**139**	P	**Pn**	**21 16 50.1**	**-1.6**
HRFI	**Mount Harif**	**8.29**	**139**	S	**Sn**	**21 18 21.0**	**-3.6**
MBRI	**Mt Berech**	**8.41**	**140**	P	**Pn**	**21 16 51.6**	**-1.9**
MBRI	**Mt Berech**	**8.41**	**140**	S	**Sn**	**21 18 23.7**	**-4.1**
EIL	**Elat**	**8.53**	**141**	P	**Pn**	**21 16 53.0**	**-2.0**
EIL	**Elat**	**8.53**	**141**	S	**Sn**	**21 18 26.4**	**-4.2**
BLY	**Banja Luka**	**12.07**	**317**	⇑P	**Pn**	**21 17 42.7**	**-0.6**
BERU	**Beregovo**	**12.60**	**341**	P	**Pn**	**21 17 51.5**	**+0.9**

*TAP **14** 21:31:32.0,24.°82N×122.°23E,h115km,ML3.1,D*
*JMA **14** 21:31:33.0±0.2,25.°N±1.°×122.°2E±0.°4,h109km±2km,*
MV2.5/13,TAIWAN REGION

ISC 14 21:31:32.4±1.5,24.°82N±0.°04×122.°19E±0.°03,h116km±7km,
n93,σ0.°72/185,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.26**	**315**	*i* P	**Pn**	**21 31 48.5**	**-0.1**
TWB1				S	**Sn**	**21 32 00.2**	**-0.7**
TIPB	**Shuangxi**	**0.36**	**295**	*i* P	**Pn**	**21 31 49.0**	**-0.1**
TIPB				S	**Sn**	**21 32 00.9**	**-0.9**
TWC	**Suao**	**0.38**	**236**	*i* P	**Pn**	**21 31 49.0**	**-0.1**
TWC				S	**Sn**	**21 32 01.3**	**-0.4**
SXI1	**Grass Mountain**	**0.40**	**314**	*i* P	**Pn**	**21 31 49.0**	**-0.4**
SXI1				*i* S	**Sn**	**21 32 01.4**	**-0.8**
ESAO	**Su ao**	**0.40**	**233**	P	**Pn**	**21 31 48.8**	**-0.4**
ESAO				*i* S	**Sn**	**21 32 01.1**	**-0.9**
EOS2	**EOS2**	**0.40**	**175**	*eP*	**Pn**	**21 31 50.0**	**+0.8**
EOS2				*eS*	**Sn**	**21 32 02.9**	**+1.2**
NWF	**Wu-fen Shan**	**0.45**	**304**	*i* P	**Pn**	**21 31 49.9**	**+0.2**
NWF				S	**Sn**	**21 32 02.2**	**-0.4**
NDS	**Dongshan**	**0.47**	**247**	*i* P	**Pn**	**21 31 50.4**	**+0.8**
NDS				S	**Sn**	**21 32 03.0**	**+0.4**
TWE	**Neicheng**	**0.49**	**258**	*i* P	**Pn**	**21 31 50.1**	**+0.3**
TWE				S	**Sn**	**21 32 03.0**	**+0.2**
EWUT	**Wuta**	**0.53**	**225**	*i* P	**Pn**	**21 31 50.3**	**+0.3**
EWUT				*i* S	**Sn**	**21 32 03.3**	**0.0**
EOS3	**EOS3**	**0.54**	**168**	*eP*	**Pn**	**21 31 51.0**	**+1.0**
EOS3				*eS*	**Sn**	**21 32 04.7**	**+1.6**
FUSB	**Fushanzhiwuyua**	**0.55**	**264**	*i* P	**Pn**	**21 31 50.0**	**-0.2**
FUSB				*i* S	**Sn**	**21 32 04.0**	**+0.3**
ENA	**Nanau**	**0.57**	**227**	*i* P	**Pn**	**21 31 50.5**	**+0.2**
ENA				*i* S	**Sn**	**21 32 04.2**	**+0.5**
TWA	**Mucha**	**0.57**	**286**	P	**Pn**	**21 31 50.0**	**-0.4**
TWA				*eS*	**Sn**	**21 32 02.5**	**-1.4**
ENTT	**Nioudou**	**0.60**	**253**	*i* P	**Pn**	**21 31 51.2**	**+0.7**
ENTT				*eS*	**Sn**	**21 32 05.0**	**+0.8**
NHDH	**Xindian Distri**	**0.62**	**283**	P	**Pn**	**21 31 50.8**	**+0.2**
NHDH				*eS*	**Sn**	**21 32 03.9**	**-0.6**
NWLT	**Wulai**	**0.63**	**266**	*i* P	**Pn**	**21 31 50.6**	**-0.1**
NWLT				*i* S	**Sn**	**21 32 04.2**	**-0.5**
EAHA	**Aohua**	**0.64**	**220**	P	**Pn**	**21 31 51.0**	**+0.2**
EAHA				*i* S	**Sn**	**21 32 05.4**	**+0.7**
LATG	**Datong**	**0.67**	**245**	*i* P	**Pn**	**21 31 51.5**	**+0.4**
LATG				*i* S	**Sn**	**21 32 06.6**	**+1.3**
ZUZH	**Zhuzihu**	**0.68**	**300**	*i* P	**Pn**	**21 31 50.5**	**-0.6**
ZUZH				*eS*	**Sn**	**21 32 04.4**	**-1.0**
EOS4	**EOS4**	**0.71**	**171**	*eP*	**Pn**	**21 31 51.5**	**+0.6**
EOS4				*eS*	**Sn**	**21 32 05.2**	**+0.3**
ANP	**Anpu**	**0.71**	**301**	*eP*	**Pn**	**21 31 51.2**	**-0.3**
ANP				S	**Sn**	**21 32 05.1**	**-0.8**
NTST	**Danshui**	**0.76**	**297**	*i* P	**Pn**	**21 31 50.9**	**-0.8**
NTST				S	**Sn**	**21 32 06.6**	**+0.3**
TWS1	**Kuangyinshan**	**0.76**	**292**	*i* P	**Pn**	**21 31 52.0**	**+0.2**
TWS1				S	**Sn**	**21 32 07.1**	**+0.8**
YHNB	**Yeheng**	**0.76**	**259**	*i* P	**Pn**	**21 31 51.9**	**0.0**
YHNB				*i* S	**Sn**	**21 32 05.8**	**-0.7**
NSK	**Sanguang**	**0.77**	**259**	*i* P	**Pn**	**21 31 52.0**	**0.0**
NSK				*i* S	**Sn**	**21 32 06.1**	**-0.7**
JYNG	**Yonagunijimaku**	**0.78**	**118**	P	**Pn**	**21 31 52.1**	**+0.2**
JYNG				S	**Sn**	**21 32 06.2**	**-0.4**
YOJ	**Yonaguni jima**	**0.83**	**115**	*eP*	**Pn**	**21 31 52.6**	**+0.2**
YOJ				*eS*	**Sn**	**21 32 07.2**	**-0.3**
NNSB	**Datong**	**0.83**	**242**	*i* P	**Pn**	**21 31 53.0**	**+0.4**
NNSB				*i* S	**Sn**	**21 32 07.5**	**-0.3**
NNS	**Nan Shan**	**0.84**	**243**	*i* P	**Pn**	**21 31 52.8**	**+0.2**
NNS				*i* S	**Sn**	**21 32 08.1**	**+0.3**
ETL	**Fush Village**	**0.84**	**218**	*i* P	**Pn**	**21 31 52.6**	**+0.1**
ETL				*i* S	**Sn**	**21 32 07.8**	**+0.1**
NACB	**Ninganchiao**	**0.84**	**220**	*i* P	**Pn**	**21 31 52.4**	**-0.1**
NACB				*i* S	**Sn**	**21 32 07.1**	**-0.6**
ETLH	**Xiulin Townshi**	**0.89**	**227**	*i* P	**Pn**	**21 31 53.1**	**0.0**
ETLH				*i* S	**Sn**	**21 32 08.0**	**-0.6**
TWD	**Chiawan**	**0.92**	**217**	*i* P	**Pn**	**21 31 53.2**	**0.0**
TWD				*i* S	**Sn**	**21 32 08.2**	**-0.7**
KSHI	**Guanxi Townshi**	**0.92**	**268**	*i* P	**Pn**	**21 31 53.4**	**+0.2**
KSHI				*i* S	**Sn**	**21 32 09.5**	**+0.5**
NCUH	**Zhongli**	**0.93**	**279**	*eP*	**Pn**	**21 31 53.3**	**0.0**
NCUH				S	**Sn**	**21 32 08.8**	**-0.3**
HWA	**Hwalien**	**0.99**	**213**	*eP*	**Pn**	**21 31 53.4**	**-0.6**
HWA				*eS*	**Sn**	**21 32 10.2**	**-0.1**
NFF	**Wufeng Townshi**	**0.99**	**259**	*i* P	**Pn**	**21 31 54.0**	**0.0**
NFF				*i* S	**Sn**	**21 32 09.3**	**-1.1**
NHW	**Xinwu Township**	**1.06**	**280**	P	**Pn**	**21 31 54.9**	**+0.4**
NHW				*i* S	**Sn**	**21 32 12.1**	**+0.7**
ETM	**Tongmen**	**1.06**	**217**	*i* P	**Pn**	**21 31 54.2**	**-0.5**
ETM				*i* S	**Sn**	**21 32 10.8**	**-0.8**
LXIB	**Xiulin Townshi**	**1.07**	**222**	*i* P	**Pn**	**21 31 54.7**	**-0.2**
LXIB				*i* S	**Sn**	**21 32 11.6**	**-0.3**
WHF	**Hehuan Shan**	**1.08**	**232**	*i* P	**Pn**	**21 31 55.9**	**+0.5**
WHF				*i* S	**Sn**	**21 32 12.8**	**+0.2**
LIOB	**Emei**	**1.08**	**261**	*i* P	**Pn**	**21 31 55.0**	**+0.1**
LIOB				*i* S	**Sn**	**21 32 11.3**	**-0.6**
TWT	**Tachien**	**1.08**	**239**	*i* P	**Pn**	**21 31 55.9**	**+0.8**
TWT				*i* S	**Sn**	**21 32 12.9**	**+0.7**
TDCB	**Techi**	**1.10**	**239**	*i* P	**Pn**	**21 31 56.1**	**+0.9**
TDCB				S	**Sn**	**21 32 12.6**	**+0.2**
NSTT	**Nanjuang**	**1.10**	**260**	*i* P	**Pn**	**21 31 55.3**	**+0.3**
NSTT				*i* S	**Sn**	**21 32 11.0**	**-1.2**
SHUL	**Shoufeng**	**1.18**	**209**	*i* P	**Pn**	**21 31 55.9**	**0.0**
SHUL				*i* S	**Sn**	**21 32 14.1**	**+0.4**
ESL	**Shilin**	**1.22**	**215**	*i* P	**Pn**	**21 31 56.4**	**0.0**
ESL				*eS*	**Sn**	**21 32 13.3**	**-1.2**
WHP	**Taichung City**	**1.26**	**245**	*i* P	**Pn**	**21 31 57.5**	**+0.7**
WHP				*i* S	**Sn**	**21 32 15.3**	**0.0**
OWD	**Renai**	**1.27**	**227**	*i* P	**Pn**	**21 31 57.2**	**+0.2**
OWD				*i* S	**Sn**	**21 32 15.4**	**-0.2**
WUSB	**Renai**	**1.28**	**230**	*i* P	**Pn**	**21 31 58.0**	**+0.9**
WUSB				S	**Sn**	**21 32 16.2**	**+0.3**
NMLH	**Miaoli**	**1.30**	**258**	*i* P	**Pn**	**21 31 57.7**	**+0.5**
NMLH				*i* S	**Sn**	**21 32 15.6**	**-0.6**
WARBT	**Fenglin Townsh**	**1.32**	**214**	*i* P	**Pn**	**21 31 56.8**	**-0.7**
WARBT				*i* S	**Sn**	**21 32 14.9**	**-1.7**
EGFH	**Guangfu**	**1.34**	**211**	*i* P	**Pn**	**21 31 57.2**	**-0.5**
EGFH				*i* S	**Sn**	**21 32 15.4**	**-1.5**
TWQ1	**Liyutan**	**1.38**	**250**	*eP*	**Pn**	**21 31 59.2**	**+1.1**
TWQ1				*i* S	**Sn**	**21 32 17.6**	**+0.1**
WCS	**Beigang Elemen**	**1.39**	**237**	*i* P	**Pn**	**21 31 58.8**	**+0.5**
WCS				*i* S	**Sn**	**21 32 17.8**	**-0.2**
DPDB	**Guoxing**	**1.39**	**236**	*i* P	**Pn**	**21 31 59.3**	**+1.0**
DPDB				S	**Sn**	**21 32 19.6**	**+1.6**
IRIF	**Iriomote-Funau**	**1.48**	**109**	P	**Pn**	**21 31 59.5**	**+0.2**
IRIF				S	**Sn**	**21 32 19.7**	**0.0**
HGSD	**Ruisui**	**1.50**	**208**	*i* P	**Pn**	**21 31 59.5**	**0.0**
HGSD				*i* S	**Sn**	**21 32 19.7**	**-0.4**
SMLT	**Sun Moon Lake**	**1.50**	**232**	*i* P	**Pn**	**21 32 00.5**	**+0.8**
SMLT				*i* S	**Sn**	**21 32 21.8**	**+1.4**
TYC	**Yuchr**	**1.52**	**233**	*i* P	**Pn**	**21 32 00.6**	**+0.9**
TYC				*i* S	**Sn**	**21 32 21.4**	**+0.9**
SSLB	**Suanglung**	**1.53**	**228**	*i* P	**Pn**	**21 32 00.9**	**+1.0**
SSLB				*i* S	**Sn**	**21 32 21.8**	**+1.0**
EHYH	**Wanrong**	**1.53**	**211**	*i* P	**Pn**	**21 32 00.5**	**+0.6**
EHYH				*i* S	**Sn**	**21 32 19.2**	**-1.6**
EHY	**Hungye**	**1.53**	**211**	*i* P	**Pn**	**21 31 59.4**	**-0.5**
EHY				*i* S	**Sn**	**21 32 19.0**	**-1.8**
YULB	**Yu-li**	**1.64**	**210**	*i* P	**Pn**	**21 32 00.6**	**-0.7**
YULB				*i* S	**Sn**	**21 32 22.0**	**-1.2**
WHYT	**Xinyi Township**	**1.66**	**228**	*i* P	**Pn**	**21 32 02.4**	**+1.0**
WHYT				*i* S	**Sn**	**21 32 24.7**	**+1.1**
WCHH	**Zhanghua**	**1.66**	**244**	*i* P	**Pn**	**21 32 01.8**	**+0.3**
WCHH				*i* S	**Sn**	**21 32 23.4**	**-0.1**
WJS	**Zhushan**	**1.67**	**234**	*i* P	**Pn**	**21 32 02.4**	**+0.9**
WJS				*i* S	**Sn**	**21 32 24.5**	**+0.8**
WNT	**Mingjian**	**1.67**	**236**	*i* P	**Pn**	**21 32 02.0**	**+0.5**
WNT				*i* S	**Sn**	**21 32 24.4**	**+0.7**
TWF1	**Yuli**	**1.68**	**209**	*i* P	**Pn**	**21 32 01.2**	**-0.5**
TWF1				*i* S	**Sn**	**21 32 22.4**	**-1.5**
JKRS	**Kuro-shima**	**1.75**	**109**	*eP*	**Pn**	**21 32 03.1**	**+0.5**
JKRS				*eS*	**Sn**	**21 32 25.6**	**0.0**
FULB	**Fuli**	**1.81**	**207**	*i* P	**Pn**	**21 32 03.9**	**+0.5**
FULB				*i* S	**Sn**	**21 32 27.7**	**+0.8**
ALS	**Alishan**	**1.82**	**224**	*i* P	**Pn**	**21 32 04.5**	**+0.8**
ALS				*i* S	**Sn**	**21 32 27.8**	**+0.3**
JIJ	**Ishigaki jima**	**1.83**	**104**	*eP*	**Pn**	**21 32 03.7**	**+0.1**
JIJ				*eS*	**Sn**	**21 32 26.6**	**-0.7**
CHN5	**Tsauling**	**1.84**	**229**	*i* P	**Pn**	**21 32 04.5**	**+0.7**
CHN5				*i* S	**Sn**	**21 32 28.3**	**+0.6**
WDLH	**Douliu**	**1.88**	**234**	P	**Pn**	**21 32 04.4**	**+0.3**
WDLH				*i* S	**Sn**	**21 32 29.1**	**+0.6**
EHD	**Haiduan**	**1.89**	**209**	*i* P	**Pn**	**21 32 03.2**	**-0.4**
EHD				S	**Sn**	**21 32 26.7**	**-2.0**
JISG	**Ishigakijimahi**	**1.94**	**96**	*eP*	**Pn**	**21 32 05.4**	**+0.5**
JISG				*eS*	**Sn**	**21 32 29.4**	**-0.3**
ELDTW	**Lidau**	**1.95**	**214**	*i* P	**Pn**	**21 32 04.7**	**-0.4**
ELDTW				*i* S	**Sn**	**21 32 29.4**	**-0.7**
WTK	**Tuku**	**2.00**	**236**	*i* P	**Pn**	**21 32 05.7**	**+0.2**
WTK				*i* S	**Sn**	**21 32 30.5**	**-0.4**
WCKO	**Fanlu**	**2.00**	**227**	*i* P	**Pn**	**21 32 06.1**	**+0.5**
WCKO				*i* S	**Sn**	**21 32 31.7**	**+0.7**
TPUB	**Ta-pu**	**2.08**	**224**	*i* P	**Pn**	**21 32 06.7**	**0.0**
TPUB				S	**Sn**	**21 32 33.9**	**+1.0**
STYH	**Taoyuan**	**2.09**	**219**	P	**Pn**	**21 32 06.9**	**+0.1**
STYH				*i* S	**Sn**	**21 32 34.7**	**+1.6**
WTP	**Ta-pu**	**2.13**	**223**	*i* P	**Pn**	**21 32 07.6**	**+0.3**
WTP				*i* S	**Sn**	**21 32 35.2**	**+1.1**
LONT	**Longtian**	**2.14**	**207**	*i* P	**Pn**	**21 32 07.7**	**+0.3**
LONT				S	**Sn**	**21 32 33.2**	**-1.0**
TWK	**Hsinying**	**2.19**	**226**	*i* P	**Pn**	**21 32 08.3**	**+0.1**
TWK				*i* S	**Sn**	**21 32 36.6**	**+1.1**
WSL	**Shuilin Townsh**	**2.21**	**235**	*i* P	**Pn**	**21 32 08.4**	**+0.1**
WSL				*i* S	**Sn**	**21 32 34.6**	**-1.2**
SNST	**Tainan City**	**2.22**	**225**	*i* P	**Pn**	**21 32 08.2**	**-0.3**
SNST				S	**Sn**	**21 32 36.3**	**+0.2**
LDUT	**Ludao**	**2.24**	**197**	*eP*	**Pn**	**21 32 08.9**	**+0.2**
LDUT				S	**Sn**	**21 32 34.8**	**-1.6**
TWG	**Pinlang**	**2.24**	**207**	P	**Pn**	**21 32 07.7**	**-1.0**
TWG				*eS*	**Sn**	**21 32 35.5**	**-1.0**
TWGBT	**Beinan**	**2.24**	**207**	*eP*	**Pn**	**21 32 08.1**	**-0.6**
TWGBT				S	**Sn**	**21 32 35.2**	**-1.2**
JTJ	**Tarama**	**2.29**	**94**	*eS*	**Sn**	**21 32 38.3**	**+0.8**
TSCK	**Chigu Township**	**2.55**	**230**	*i* P	**Pn**	**21 32 12.5**	**-0.1**
TSCK				*i* S	**Sn**	**21 32 43.2**	**-0.3**

*JSO **14** 22:04:34.4±1.1,33.°N±6.°×3.°5E±.°,h6km±6km,M2.6/8,*
Md2.8/8,ML2.9/6,MLv2.4/8,MLv2.4/8
*GRAL **14** 22:04:35.5±0.3,33.°22N×34.°65E,h13km±7km,MD3.0*
*GII **14** 22:04:36.0±0.0,33.°235N±0.°003×34.°813E±0.°001,*
h2km,Mws2.1,confirmed

ISC 14 22:04:36.1±1.3,33.°25N±0.°04×34.°81E±0.°06,h10km,n52,
σ0.°66/56,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNTI	**Hanita**	**0.35**	**118**	P	**Pb**	**22 04 43.8**	**-0.5**
HNTI				S	**Sb**	**22 04 50.9**	**+1.0**
HNTI	**Hanita**	**0.35**	**118**	P	**Pb**	**22 04 43.7**	**-0.7**
HNTI	**Hanita**	**0.35**	**118**	S	**Sb**	**22 04 49.0**	**-0.8**
MMC7	**Mount Meron ar**	**0.54**	**115**	P	**Pb**	**22 04 47.3**	**-0.4**
MMA0B	**Mount Meron ar**	**0.55**	**115**	P	**Pb**	**22 04 47.4**	**-0.4**
MMA0B	**Mount Meron ar**	**0.55**	**115**	S	**Sb**	**22 04 56.3**	**+0.6**
BLGI	**Bet Lehem HaGe**	**0.60**	**148**	P	**Pb**	**22 04 48.8**	**+0.1**
BLGI	**Bet Lehem HaGe**	**0.60**	**148**	S	**Sb**	**22 04 57.8**	**+0.5**
OFRI	**`Ofer**	**0.64**	**167**	P	**Pb**	**22 04 49.2**	**-0.2**
OFRI	**`Ofer**	**0.64**	**167**	P	**Pb**	**22 04 49.5**	**+0.1**
OFRI	**`Ofer**	**0.64**	**167**	S	**Sb**	**22 04 58.9**	**+0.4**
GEM	**Giv'at Ha'Em**	**0.71**	**93**	P	**Pb**	**22 04 50.6**	**0.0**
GEM	**Giv'at Ha'Em**	**0.71**	**93**	P	**Pb**	**22 04 50.3**	**-0.3**
GEM	**Giv'at Ha'Em**	**0.71**	**93**	S	**Sb**	**22 05 01.6**	**+1.0**
NATI	**Neve Ativ**	**0.78**	**89**	P	**Pb**	**22 04 51.4**	**-0.3**
NATI	**Neve Ativ**	**0.78**	**89**	P	**Pb**	**22 04 51.3**	**-0.3**
NATI	**Neve Ativ**	**0.78**	**89**	S	**Sn**	**22 05 03.5**	**-1.2**
DQRL	**Deir Qamar**	**0.78**	**54**	*eP*	**Pg**	**22 04 51.4**	**+0.2**
DQRL				*eS*	**Sb**	**22 05 03.2**	**+0.7**
QRWL	**Qaraoun**	**0.79**	**67**	*eP*	**Pg**	**22 04 51.6**	**+0.3**
QRWL				*eS*	**Sb**	**22 05 03.7**	**+1.0**
SHBL	**Chebaa**	**0.79**	**82**	*eP*	**Pb**	**22 04 51.8**	**-0.2**
KSHT	**Keshet**	**0.88**	**107**	P	**Pb**	**22 04 53.6**	**+0.2**
KSHT	**Keshet**	**0.88**	**107**	S	**Sn**	**22 05 06.6**	**-0.9**
RCY	**Rachaya**	**0.89**	**74**	*eP*	**Pg**	**22 04 53.5**	**+0.2**
MMLI	**Mount Malkishu**	**0.96**	**147**	P	**Pg**	**22 04 54.3**	**-0.2**
MMLI	**Mount Malkishu**	**0.96**	**147**	P	**Pg**	**22 04 54.3**	**-0.2**
MMLI	**Mount Malkishu**	**0.96**	**147**	S	**Sn**	**22 05 08.4**	**-0.9**
BHL	**Bhannes**	**0.96**	**47**	*eP*	**Pg**	**22 04 54.3**	**-0.3**
SLTI	**Sal'it**	**1.02**	**169**	P	**Pb**	**22 04 55.7**	**-0.2**
SLTI	**Sal'it**	**1.02**	**169**	S	**Sn**	**22 05 10.3**	**-0.6**
ZAHL	**Zahle**	**1.08**	**56**	*eP*	**Pg**	**22 04 56.5**	**-0.5**
QRNJ	**Al-Qirein**	**1.11**	**145**	P	**Pg**	**22 04 57.3**	**-0.2**
QRNJ				S	**Sn**	**22 05 13.9**	**+0.8**
HMDT	**Nahal Hemdat**	**1.16**	**149**	P	**Pb**	**22 04 58.0**	**-0.2**
HMDT	**Nahal Hemdat**	**1.16**	**149**	P	**Pn**	**22 04 58.2**	**-0.2**
HMDT	**Nahal Hemdat**	**1.16**	**149**	S	**Sn**	**22 05 14.9**	**+0.6**
SALP	**Salfit**	**1.22**	**165**	P	**Pb**	**22 04 58.6**	**-0.6**
SALP	**Salfit**	**1.22**	**165**	P	**Pn**	**22 04 59.1**	**-0.2**
SALP	**Salfit**	**1.22**	**165**	S	**Sn**	**22 05 16.4**	**+0.6**
HWQ	**Hawqa**	**1.40**	**42**	*eP*	**Pn**	**22 05 01.2**	**-0.6**
AMAZ	**Amatzia**	**1.71**	**177**	P	**Pb**	**22 05 07.0**	**-0.7**
AMAZ	**Amatzia**	**1.71**	**177**	S	**Sb**	**22 05 29.7**	**+0.4**
DSI	**Dead Sea**	**1.74**	**164**	P	**Pn**	**22 05 07.0**	**+0.6**
DSI	**Dead Sea**	**1.74**	**164**	S	**Sb**	**22 05 29.3**	**-0.8**
YTIR	**Yattir**	**1.90**	**172**	P	**Pn**	**22 05 09.5**	**+0.9**
YTIR	**Yattir**	**1.90**	**172**	S	**Sb**	**22 05 34.1**	**-0.6**
MSBI	**Mazada**	**1.98**	**166**	P	**Pn**	**22 05 10.5**	**+0.9**
MSBI	**Mazada**	**1.98**	**166**	S	**Sb**	**22 05 36.2**	**-0.8**
GHAJ	**Ghor Haditha**	**2.04**	**162**	P	**Pn**	**22 05 11.2**	**+0.7**
GHAJ	**Ghor Haditha**	**2.04**	**162**	S	**Sb**	**22 05 37.6**	**-1.0**
KZIT	**Kziot**	**2.36**	**189**	P	**Pn**	**22 05 15.1**	**+0.2**
KZIT	**Kziot**	**2.36**	**189**	S	**Sn**	**22 05 43.5**	**-0.5**
PRNI	**Paran**	**2.89**	**177**	P	**Pn**	**22 05 23.5**	**+1.2**
PRNI	**Paran**	**2.89**	**177**	S	**Sn**	**22 05 58.7**	**+1.6**

*NOU **14** 22:05:54.7,38.°53S×175.°90E,h165km,MLv3.6/18,North*
Island, New Zealand
*WEL **14** 22:05:57.0±1.2,38.°S±13.°×17.°6E±.°,h148km±9km,M2.8/31,*
ML2.7/10,MLv2.8/31,Error ellipse: s-maj=16.9km
s-min=11.4km az=176.0,confirmed

ISC 14 22:05:52.0±2.1,38.°42S±0.°07×175.°92E±0.°06,
h187km±12km,n58,σ1.°72/64,North Island

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

comp=E,381nm,0.8s
P18K Big Mountain, 1.31 237 Pn Pn 22 14 33.2 -1.4
SLKM Skilak Lake 1.47 73 Pn 22 14 35.4 -0.9
N18K Kilae Creek 1.51 293 Pn Pn 22 14 35.5 -1.2
STLK Strandline Lak 1.51 23 Pn 22 14 36.4 -0.5
STLK IAML 22 15 03.5
comp=N,58nm,0.4s
SYI Shuyak Island 1.55 167 Pn 22 14 36.2 -1.0
SYI IAML 22 14 59.0
comp=E,355nm,0.5s
SYI IAML 22 14 59.2
comp=N,263nm,0.7s
O22K Cooper Landing 1.71 76 Pn 22 14 38.1 -0.9
FIS Fire Island 1.74 53 Pn Pn 22 14 39.8 +0.4
FIS IAML 22 15 08.3
comp=E,354nm,0.6s
SUA Susitna One 1.77 39 Pn 22 14 39.4 -0.4
SUA IAML 22 15 04.0
comp=N,253nm,1.0s
SUA IAML 22 15 04.5
comp=E,320nm,0.4s
M20K Styx River 1.77 359 Pn 22 14 39.4 -0.5
KAHC Katmai Hardscr 1.78 215 Pn 22 14 38.9 -1.1
KAHG Katmai Hook Gl 1.79 206 Pn 22 14 39.4 -0.8
SEW Seward 1.81 89 Pn 22 14 39.1 -1.2
SEW IAML 22 15 06.0
comp=N,117nm,0.7s
SEW IAML 22 15 07.5
comp=E,87nm,0.3s
RC01 Rabbit Creek A 1.91 58 Pn Pn 22 14 40.4 -1.1
M18K Stony River 1.93 317 Pn 22 14 40.4 -1.3
P17K Kvichak River 1.94 243 Pn 22 14 41.2 -0.6
SKT Skwentna 2.01 21 Pn 22 14 42.0 -0.7
SKT IAML 22 15 12.5
comp=N,74nm,0.3s
SKT IAML 22 15 12.6
comp=E,70nm,0.3s
O17K Koliganek Bris 2.05 262 Pn 22 14 42.4 -0.8
N17K Nushagak Hills 2.09 283 Pn Pn 22 14 42.4 -1.3
M22K Willow 2.18 40 Pn 22 14 44.2 -0.6
ACHA Angle Creek He 2.24 212 Pn 22 14 44.6 -1.1
L19K White Mountain 2.24 338 Pn 22 14 44.6 -1.0
ANCK Angle Creek 2.29 214 Pn 22 14 45.5 -0.8
KDAK Kodiak Island 2.36 174 Pn 22 14 44.9 -2.2
KDAK IAML 22 15 14.9
comp=E,251nm,0.3s
KDAK IAML 22 15 14.9
comp=E,218nm,0.4s
PMR Palmer 2.43 51 Pn Pn 22 14 46.4 -1.6
PMR IAML 22 15 17.5
comp=E,75nm,0.4s
PMR IAML 22 15 17.9
comp=N,71nm,0.2s
PWL Port Wells 2.46 70 Pn 22 14 46.3 -2.1
PWL IAML 22 15 16.8
comp=E,217nm,0.4s
M17K Holitna River 2.50 303 Pn Pn 22 14 47.6 -1.3
O16K Kokwok River B 2.59 260 Pn 22 14 49.0 -1.0
KNK Knik Glacier 2.61 58 Pn 22 14 48.4 -1.9
KNK IAML 22 15 20.8
comp=N,169nm,0.3s
KNK IAML 22 15 25.9
comp=E,148nm,0.5s
GHO Glory Hole Cre 2.62 49 Pn 22 14 48.5 -2.0
GHO IAML 22 15 20.6
comp=N,150nm,0.3s
GHO IAML 22 15 23.3
comp=E,131nm,0.5s
CUT Chulitna 2.67 29 Pn 22 14 49.8 -1.2
P16K Nushagak River 2.73 249 Pn Pn 22 14 51.6 -0.2
P16K IAML 22 15 29.7
comp=E,32nm,0.9s
L18K Granite Mounta 2.74 322 Pn Pn 22 14 50.6 -1.4
PPLA Purkeypile 2.82 8 Pn 22 14 53.1 -0.1
PPLA IAML 22 15 28.4
comp=E,26nm,0.7s
OHAK Old Harbor 2.91 182 Pn 22 14 53.0 -1.1
PLK4 Peulik 4 3.02 216 Pn 22 14 55.4 -0.3
PLK4 IAML 22 15 32.6
comp=E,23nm,1.0s
PLK4 IAML 22 15 34.7
comp=N,20nm,1.0s
GLI Glacier Island 3.05 73 Pn 22 14 55.4 -0.7
GLI IAML 22 15 32.9
comp=N,103nm,0.5s
K20K Telida 3.29 352 Pn Pn 22 14 58.1 -1.0
SCM Sheep Creek Mo 3.29 56 IAML 22 15 35.8
comp=E,69nm,0.6s
SCM IAML 22 15 42.5
comp=N,65nm,0.7s
WAT1 Susitna Watana 3.48 37 Pn 22 15 00.3 -1.4
KTH Kantishna Hill 3.60 16 Pn 22 15 02.0 -1.2
KTH IAML 22 15 45.7
comp=N,34nm,0.6s
KTH IAML 22 15 46.6
comp=E,22nm,0.7s
TRF Thorofare Moun 3.60 20 Pn 22 15 02.2 -1.2
TRF IAML 22 15 44.2
comp=N,42nm,0.7s
TRF IAML 22 15 45.7
comp=E,34nm,0.6s
K17K Iditarod 3.62 318 Pn Pn 22 15 02.3 -1.2
DIV Divide 3.74 71 Pn Pn 22 15 04.2 -1.0
DIV IAML 22 15 49.6
comp=E,38nm,0.4s
KLU Klutina 3.77 65 Pn 22 15 03.4 -2.1
J18K Innoko River 3.78 334 Pn 22 15 04.2 -1.4
RND Reindeer 3.86 29 Pn 22 15 05.2 -1.6
RND IAML 22 15 47.9
comp=N,16nm,0.5s
RND IAML 22 15 53.7
comp=E,24nm,0.4s
M24K Tolsona, Glenn 3.90 56 Pn 22 15 05.8 -1.5
M24K IAML 22 15 53.3
comp=N,75nm,1.0s
DHY Denali Highway 4.03 40 Pn 22 15 07.6 -1.5
DHY IAML 22 15 56.2
comp=N,66nm,0.4s
DHY IAML 22 15 56.6
comp=E,42nm,0.4s
J19K Poorman 4.07 344 Pn 22 15 08.2 -1.3
J20K Nowinta River 4.11 353 Pn 22 15 09.2 -0.7
BPAW Bear Paw Mtn. 4.12 13 Pn 22 15 08.6 -1.5
BPAW IAML 22 15 55.8
comp=E,8.4nm,1.1s
BPAW IAML 22 15 56.7
comp=N,11nm,0.4s
MCK McKinley 4.12 27 Pn 22 15 09.3 -0.9
MCK IAML 22 15 56.4
comp=N,19nm,0.5s
MCK IAML 22 15 56.7
comp=E,24nm,0.6s
RAGM Ragged Mountai 4.19 83 Pn Pn 22 15 09.9 -1.3
O14K Tigyukauivet M 4.24 262 Pn Pn 22 15 11.4 -0.4
O14K IAML 22 16 25.5
comp=N,7.2nm,1.1s
O14K IAML 22 16 37.3
comp=E,6.2nm,1.0s
J17K VABM Dome 4.35 322 Pn Pn 22 15 11.9 -1.4
N25K Chitina, Valde 4.41 67 Pn 22 15 13.0 -1.1
N25K IAML 22 16 04.3
comp=N,45nm,0.3s
N25K IAML 22 16 05.7
comp=E,24nm,0.6s
PAX Paxson 4.63 49 Pn 22 15 15.8 -1.2
PAX IAML 22 16 14.4
comp=E,17nm,0.3s
PAX IAML 22 16 22.1
comp=N,22nm,0.8s
GLB Gilahina Butte 4.73 70 Pn 22 15 17.4 -1.0
GLB IAML 22 16 11.6
comp=E,38nm,0.3s
WRH Wood River Hil 4.95 26 Pn 22 15 19.5 -1.7
WRH IAML 22 16 15.6
comp=E,7.8nm,0.7s
WRH IAML 22 16 20.6
comp=N,6.5nm,0.5s
MLY Manley 5.05 11 Pn 22 15 22.2 -0.5
K24K Donnelly Dome 5.05 40 Pn 22 15 22.6 0.0
WAX Waxell Ridge 5.10 82 Pn 22 15 22.3 -1.1
I21K Tanana 5.11 5 Pn 22 15 22.1 -1.3
I21K IAML 22 17 19.5
comp=E,3.8nm,1.0s
CCB Clear Creek Bu 5.16 26 Pn 22 15 22.3 -1.8
CCB IAML 22 16 23.0
comp=E,12nm,0.3s
CCB IAML 22 16 27.1
comp=N,5.5nm,0.4s
RIDG Independent Ri 5.32 43 Pn 22 15 25.3 -0.9
RIDG IAML 22 16 24.4
comp=E,22nm,0.7s
RIDG IAML 22 16 45.1
comp=N,16nm,0.8s
I23K Minto, Yukon-K 5.33 17 Pn 22 15 25.3 -1.1
I23K IAML 22 16 49.9
comp=E,4.3nm,1.1s
I23K IAML 22 17 02.3
comp=N,4.5nm,0.8s
COLA College 5.35 25 Pn 22 15 25.2 -1.4
M26K Nabesna, AK 5.38 60 Pn 22 15 26.7 -0.4
M26K IAML 22 16 28.4
comp=E,17nm,0.5s
M26K IAML 22 16 29.9
comp=N,15nm,0.5s
IL31 5.48 29 Pn 22 15 26.6 -1.7
ILAR Eielson Array 5.48 29 Pn 22 15 26.4 -2.0
H21K Melozitna Rive 5.56 1 Pn 22 15 28.4 -1.2
POKR Poker Plat Res 5.65 25 Pn 22 15 29.1 -1.6
BARN Barnard Glacie 5.70 76 Pn Pn 22 15 31.2 -0.4
J25K Salcha River, 5.76 35 Pn 22 15 30.8 -1.4
SCRK Sand Creek 5.76 44 Pn 22 15 30.3 -2.1
M27K Edge Creek, AK 5.85 63 Pn 22 15 33.3 -0.3
IMAR Indian Mountai 5.90 357 Pn 22 15 33.4 -0.6
TABL Table Mountain 5.95 82 Pn 22 15 34.1 -0.8
H23K Yukon River 5.95 14 Pn 22 15 33.8 -1.0
LOGN Logan Glacier 6.01 78 Pn Pn 22 15 34.4 -1.3
BCAR Beaver Creek A 6.14 56 Pn Pn 22 15 35.8 -1.6
H24K Noodor Dome 6.21 20 Pn 22 15 36.5 -1.8
J26L Joseph Creek 6.24 41 Pn 22 15 36.9 -1.8
O28M Mount Upton 6.41 79 Pn 22 15 41.1 -0.1
PRP Porcupine Dome 6.42 29 Pn 22 15 39.5 -1.7
G21K Allakaket 6.43 358 Pn 22 15 40.1 -1.0
G23K Bananza Creek 6.76 10 Pn 22 15 44.8 -0.9
F20K Avaraard Lake 7.06 352 Pn 22 15 49.3 -0.3
G24K Hadweenzic Riv 7.07 18 Pn 22 15 47.5 -2.3
F21K Alatna River 7.14 359 Pn 22 15 49.6 -1.1
EGAK Eagle 7.23 45 Pn 22 15 49.5 -2.4
COLD Coldfoot 7.25 9 Pn 22 15 50.3 -1.9
FYU Fort Yukon 7.37 25 Pn 22 15 51.8 -2.0
M29M Somme Creek 7.41 65 Pn 22 15 53.7 -0.9
F24K Squaw Lake 7.77 15 Pn 22 15 58.0 -1.3
G27K Doyon Strip 8.43 32 Pn 22 16 05.4 -2.7
G29M Pine Creek 9.55 38 Pn Pn 22 16 21.9 -1.3
G30M tAoh Zraii Nji 10.16 40 Pn Pn 22 16 29.3 -2.2

*IDC **14** 22:21:32.3±17.0, 36°48'N×69°58'E, h146km±141km, mb3.3/4, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=113.4km s-min=53.8km az=61.0*
*NNC **14** 22:21:40.1±2.6, 37°01'N×70°39'E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=21.0km s-min=17.7km az=168.0*
ISC 14 22:21:40.8±1.6, 36°8'N±0'.1×70°3'E±0'.2, h200km, n12, σ1§68/13, mb3.2/3, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.37**	**358**	Pg		**Pn**		**22 23 02.2**	**+2.2**
	5.7nm,0.2s								
IUG				Lg		Lg		22 24 04.3	
	45nm,0.6s								
KK31	**Karatay Array**	**6.32**	**1**	⇓P		**Pn**		**22 23 11.8**	**-0.3**
	3.7nm,0.3s,baz=182,slow=14,SNR=142								
KK31				⇓S		**Sn**		**22 24 23.4**	**-1.2**
	10.0nm,0.6s,baz=182,slow=24								
MRKS	**Merke**	**6.37**	**20**	Pg		**Pn**		**22 23 12.5**	**-0.4**
	8.1nm,0.5s								
MRKS				Lg		Lg		22 24 21.7	
	40nm,0.7s								
AAK	**Ala-Archa**	**6.69**	**28**	⇑P		**Pn**		**22 23 16.6**	**-0.4**
	1.0nm,0.4s								
AAK				⇑S		**Sn**		**22 24 31.4**	**-1.9**
	5.1nm,0.7s								
MK31	**Makanchi Array**	**13.41**	**38**	P		**P**		**22 24 47.8**	**+1.9**
	1.7nm,0.7s,baz=211,slow=11,SNR=14								
MKAR	**Makanchi Array**	**13.41**	**38**	P		**Pn**		**22 24 42.6**	**-0.6**
	0.2nm,0.3s,baz=203,slow=10,SNR=5.9								
	1.1nm,0.7s								
AB31	**Akbulak array**	**14.57**	**332**	P		P		22 25 05.2	+6.5
	0.5nm,0.5s,baz=150,slow=12,SNR=16								
ZALV	**Zalesovo Beam**	**19.90**	**26**	P		**P**		**22 25 59.0**	**+2.1**
	8.0nm,0.5s,baz=222,slow=11,SNR=52								
	8.0nm,0.5s								
SONM	**Songino Array**	**28.64**	**56**	P		**P**		**22 27 20.0**	**+1.2**
	0.3nm,0.6s,baz=251,slow=8.7,SNR=2.0								
	0.3nm,0.6s								
WRA	**Warramunga Arr**	**82.61**	**121**	P		**P**		**22 33 41.2**	**-0.6**
	0.3nm,0.8s,baz=317,slow=5.2,SNR=1.5								
	0.3nm,0.8s								
ASAR	**Alice Springs**	**84.87**	**124**	P		**P**		**22 33 53.0**	**-0.3**
	0.4nm,0.7s,baz=314,slow=4.6,SNR=3.4								
	0.4nm,0.7s								
TXAR	**Lajitas Array**	**114.00**	**354**	PKP		**PKiKP**		**22 39 53.7**	**-2.7**
	0.2nm,0.7s,baz=21,slow=1.3,SNR=2.4								

IDC 14 22:47:35.6±12.0, 3°.03S×124°.85E, h0km, mb3.4/2, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=193.6km s-min=122.3km az=126.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.00**	**177**	Pn		Pn	Pn	22 51 08.2	-0.8
	baz=351,slow=13,SNR=1.1								
	1.2nm,0.9s								
WRA	**Warramunga Arr**	**19.19**	**152**	P		P	P	22 51 59.7	-1.4
	0.1nm,0.3s,baz=328,slow=12,SNR=5.7								
	0.3nm,0.6s								
ASAR	**Alice Springs**	**22.31**	**158**	P		P	P	22 52 36.0	+1.1
	0.3nm,0.5s,baz=343,slow=12,SNR=5.6								
	0.3nm,0.5s								
STKA	**Stephens Creek**	**32.74**	**153**	P		P	P	22 54 10.3	+0.1
	0.7nm,0.5s,baz=330,slow=7.5,SNR=3.1								
	0.7nm,0.5s								

*NEIC **14** 23:03:49.3±1.0, 18°.3N±0°.3×63°.6W±0°.1, h114km±29km, ML2.5/16, Md3.1/8(RSPR), Error ellipse: s-maj=48.5km s-min=8.7km az=201.0*
*RSPR **14** 23:03:50.3, 18°.09N×63°.68W, h114km±12km, MD3.1/8*
ISC 14 23:03:48.2±2.4, 18°.1N±0°.2×63°.68W±0°.07, h153km±21km, n34, σ0§82/44, 8C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKI	**Saint Kitts**	**1.20**	**132**	eP		**Pn**		**23 04 15.5**	**+0.5**
SKI				eS		**Sn**		**23 04 35.3**	**-0.2**
ANWB	**Willy Bob**	**1.86**	**104**	eP		**Pn**		**23 04 22.6**	**+0.8**
ANWB				eS		**Sn**		**23 04 46.3**	**-1.3**
HUMP	**Col San Antoni**	**2.07**	**271**	Pn		**Pn**		**23 04 24.3**	**+0.1**
HUMP				Sn		**Sn**		**23 04 51.1**	**-0.9**
PDPR	**Patillas Dam,**	**2.23**	**267**	Pn		**Pn**		**23 04 26.1**	**-0.2**
PDPR				Sn		**Sn**		**23 04 56.4**	**+0.9**
PDPR				IAML				23 04 58.4	
	comp=N,13nm,0.7s								
PDPR	**Patillas Dam,**	**2.23**	**267**	⇑eP		**Pn**		**23 04 26.8**	**+0.6**
PDPR	**Patillas Dam,**	**2.23**	**267**	eS		**Sn**		**23 04 57.1**	**+1.6**
GCPR	**Guaynabo City**	**2.29**	**275**			**Pn**		**23 04 27.3**	**+0.3**
GCPR						**Sn**		**23 04 54.7**	**-2.1**
GCPR	**Guaynabo City**	**2.29**	**275**	⇓eP		**Pn**		**23 04 28.0**	**+1.1**
GCPR	**Guaynabo City**	**2.29**	**275**	eS		**Sn**		**23 04 55.4**	**-1.4**
IGPR	**InterUniversit**	**2.32**	**266**			**Pn**		**23 04 27.8**	**+0.6**
IGPR	**InterUniversit**	**2.32**	**266**	⇑eP		**Pn**		**23 04 27.8**	**+0.6**
SJG	**San Juan**	**2.35**	**270**	Pn		**Pn**		**23 04 27.6**	**0.0**
SJG				IAML				23 06 11.9	
	comp=N,13nm,0.9s								
ECPR	**Experimental S**	**2.56**	**275**	⇑eP		**Pn**		**23 04 31.2**	**+1.0**
ECPR	**Experimental S**	**2.56**	**275**	eS		**Sn**		**23 05 01.5**	**-1.1**
CELP	**Cerrillos**	**2.76**	**269**			**Pn**		**23 04 32.8**	**+0.1**
CELP						**Sn**		**23 05 07.1**	**+0.1**
CELP				IAML				23 05 28.9	
	comp=N,12nm,1.5s								
CELP				IAML				23 05 34.4	
	comp=E,8.1nm,0.9s								
CELP	**Cerrillos**	**2.76**	**269**	⇓eP		**Pn**		**23 04 33.3**	**+0.6**
CELP	**Cerrillos**	**2.76**	**269**	eS		**Sn**		**23 05 07.0**	**-0.1**
OBIP	**Obispado Ponce**	**2.79**	**269**			**Pn**		**23 04 33.5**	**+0.5**
OBIP				IAML				23 05 27.6	
	comp=N,11nm,1.1s								
OBIP				IAML				23 05 45.8	
	comp=E,20nm,1.4s								
OBIP	**Obispado Ponce**	**2.79**	**269**	⇑eP		**Pn**		**23 04 33.6**	**+0.6**
CBE	**Ff, Capester**	**2.85**	**136**			**Pn**		**23 04 33.8**	**-0.1**
CBE						**Sn**		**23 05 08.4**	**-0.7**
CBE	**Ff, Capester**	**2.85**	**136**	⇑eP		**Pn**		**23 04 34.6**	**+0.8**
CBE	**Ff, Capester**	**2.85**	**136**	eS		**Sn**		**23 05 08.8**	**-0.3**
UUPR	**Utuado, UPR, P**	**2.90**	**273**	Pn		**Pn**		**23 04 33.7**	**-0.6**
UUPR				Sn		**Sn**		**23 05 08.7**	**-1.3**
UUPR	**Utuado, UPR, P**	**2.90**	**273**	⇑eP		**Pn**		**23 04 35.7**	**+1.3**
UUPR	**Utuado, UPR, P**	**2.90**	**273**	eS		**Sn**		**23 05 09.2**	**-0.9**
AOPR	**Arecibo Observ**	**2.93**	**275**			**Pn**		**23 04 35.4**	**+0.6**
AOPR						**Sn**		**23 05 10.8**	**0.0**
AOPR				IAML				23 05 13.9	
	comp=N,26nm,0.9s								
AOPR	**Arecibo Observ**	**2.93**	**275**	⇓eP		**Pn**		**23 04 35.7**	**+0.9**
AOPR	**Arecibo Observ**	**2.93**	**275**	eS		**Sn**		**23 05 11.5**	**+0.6**
MLPR	**Magueyes Islan**	**3.21**	**268**	⇑eP		**Pn**		**23 04 38.2**	**-0.1**
LSP	**Las Mesas**	**3.24**	**271**			**Pn**		**23 04 39.2**	**+0.4**
LSP						**Sn**		**23 05 17.6**	**-0.4**
LSP	**Las Mesas**	**3.24**	**271**	⇑eP		**Pn**		**23 04 39.2**	**+0.4**
LSP	**Las Mesas**	**3.24**	**271**	eS		**Sn**		**23 05 17.6**	**-0.4**
CRPR	**Cabo Rojo, PR**	**3.27**	**268**			**Pn**		**23 04 38.5**	**-0.6**
CRPR				IAML				23 06 30.5	
	comp=E,22nm,1.2s								
CRPR	**Cabo Rojo, PR**	**3.27**	**268**	⇓eP		**Pn**		**23 04 38.8**	**-0.2**

IDC 14 23:07:46.8±2.6, 28°.56S×177°.81W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=56.2km s-min=19.8km az=74.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.70**	**188**	Pn		Pn	Pn	23 08 04.8	+0.8
	124nm,0.3s,baz=128,slow=12,SNR=9.5								
RAO				Sn			Sn	23 08 15.1	-0.5
	1µm,0.3s,baz=177,slow=23,SNR=17								
ASAR	**Alice Springs**	**43.41**	**265**	P		P	P	23 15 51.1	-0.4
	0.4nm,0.5s,baz=102,slow=7.5,SNR=8.4								
	0.4nm,0.5s								
WRA	**Warramunga Arr**	**44.23**	**270**	P		P	P	23 15 58.3	+0.1
	0.7nm,0.5s,baz=110,slow=7.9,SNR=8.7								
	0.7nm,0.5s								
QSPA	**South Pole Qui**	**61.55**	**180**	P		P	P	23 18 05.1	-0.5
	1.2nm,1.0s,baz=39,slow=5.0,SNR=3.1								
	1.2nm,1.0s								
H03S2	**Juan Fernandez**	**81.34**	**124**	T		T	T	00 49 25.5	
	baz=238,slow=74,SNR=5.4								
H03S1	**Juan Fernandez**	**81.36**	**124**	T		T	T	00 49 26.3	
	baz=238,slow=74,SNR=5.2								
H03S3	**Juan Fernandez**	**81.36**	**124**	T		T	T	00 49 24.0	
	baz=238,slow=74,SNR=5.7								
FINES	**FINESS Array B**	**143.47**	**341**	PKP		PKPdf	PKPdf	23 27 21.9	-0.8
	1.9nm,0.4s,baz=46,slow=3.5,SNR=31								

*SJA **14** 23:13:25.4±0.7, 19°.93S×69°.13W, h107km±3km, ML3.7, MW3.7*
*GUC **14** 23:13:28.0±0.8, 19°.95S×69°.16W, h97km±3km, ML3.6*
ISC 14 23:13:27.9±1.4, 19°.97S±0°.03×69°.21W±0°.06, h97km±7km, n29, σ1§02/51, 7C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.18**	**162**	⇑iP		**Pn**		**23 13 42.0**	**-0.3**
PB08				*i* S		**Sn**		**23 13 53.0**	**+0.2**
PB08				IAML				23 13 55.0	
	comp=N,6µm,0.2s								
PB08	**IPOC Station P**	**0.18**	**162**	eP		**Pn**		**23 13 41.4**	**-0.9**
PB08				eS		**Sn**		**23 13 53.4**	**+0.5**
PB08				IAML				23 13 54.5	
	comp=Z,2µm,0.2s								
GO01	**Chusmiza**	**0.30**	**3**	eP		**Pn**		**23 13 42.6**	**-0.3**
GO01				*i* S		**Sn**		**23 13 53.9**	**0.0**
GO01	**Chusmiza**	**0.30**	**3**	eP		**Pn**		**23 13 41.6**	**-1.3**
GO01				eS		**Sn**		**23 13 54.5**	**+0.6**
GO01				IAML				23 13 55.5	
	comp=Z,2µm,0.5s								
PB11	**IPOC Station P**	**0.47**	**297**	⇑eP		**Pn**		**23 13 43.2**	**-0.2**
PB11				eS		**Sn**		**23 13 54.5**	**-0.5**
PB11				IAML				23 13 57.2	
	comp=N,2µm,0.3s								
PB11	**IPOC Station P**	**0.47**	**297**	eP		**Pn**		**23 13 43.1**	**-0.3**
PB11				IAML				23 13 58.4	
	comp=Z,1µm,0.1s								
HMBC	**Humberstone**	**0.71**	**244**	⇑iP		**Pn**		**23 13 45.2**	**-0.1**
HMBC				*i* S		**Sn**		**23 13 58.8**	**+0.5**
HMBC				IAML				23 14 00.9	
	comp=E,3µm,0.3s								
HMBC	**Humberstone**	**0.71**	**244**	eP		**Pn**		**23 13 45.2**	**-0.1**
HMBC				eS		**Sn**		**23 13 59.6**	**+1.3**
HMBC				IAML				23 14 01.7	
	comp=Z,3µm,0.3s								
TA01	**Diego Aracena**	**1.09**	**237**	⇑iP		**Pn**		**23 13 49.0**	**-0.1**
TA01				*i* S		**Sn**		**23 14 05.7**	**+0.7**
TA01				IAML				23 14 06.5	
	comp=E,2µm,0.3s								
TA01	**Diego Aracena**	**1.09**	**237**	eP		**Pn**		**23 13 49.0**	**-0.1**
TA01				eS		**Sn**		**23 14 06.2**	**+1.1**
TA01				IAML				23 14 07.8	
	comp=Z,784nm,0.2s								
PB01	**IPOC Station P**	**1.10**	**194**	⇑iP		**Pn**		**23 13 49.4**	**0.0**
PB01				*i* S		**Sn**		**23 14 05.8**	**+0.3**
PB01				IAML				23 14 07.7	
	comp=E,2µm,0.2s								
PB01	**IPOC Station P**	**1.10**	**194**	eP		**Pn**		**23 13 48.7**	**-0.7**
PB01				eS		**Sn**		**23 14 06.2**	**+0.8**
PB01				IAML				23 14 08.5	
	comp=Z,1µm,0.2s								
PATCX	**Punta Patache**	**1.22**	**226**	⇑iP		**Pn**		**23 13 50.8**	**0.0**
PATCX				*i* S		**Sn**		**23 14 08.7**	**+0.7**
PATCX				IAML				23 14 14.1	
	comp=N,965nm,0.1s								
PATCX	**Punta Patache**	**1.22**	**226**	eP		**Pn**		**23 13 50.8**	**0.0**
PATCX				eS		**Sn**		**23 14 09.7**	**+1.6**
PATCX				IAML				23 14 14.7	
	comp=Z,687nm,0.3s								
PX02	**IPOC Station P**	**1.37**	**317**	*i* P		**Pn**		**23 13 51.9**	**-0.7**
PX02				*i* S		**Sn**		**23 14 11.1**	**-0.2**
PX02				IAML				23 14 16.4	
	comp=N,631nm,0.3s								
PB02	**IPOC Station P**	**1.49**	**205**	⇑eP		**Pn**		**23 13 54.1**	**+0.1**
PB02				eS		**Sn**		**23 14 13.5**	**-0.2**
PB02				IAML				23 14 22.4	
	comp=E,3µm,0.2s								
PB02	**IPOC Station P**	**1.49**	**205**	eP		**Pn**		**23 13 54.2**	**+0.2**
PB02				eS		**Sn**		**23 14 14.9**	**+1.2**
PB02				IAML				23 14 20.9	
	comp=Z,2µm,0.2s								
PB16	**IPOC Station P**	**1.65**	**350**	eP		**Pn**		**23 13 57.2**	**+0.6**
PB16				*i* S		**Sn**		**23 14 18.7**	**+0.5**
PB16				IAML				23 14 22.6	
	comp=N,331nm,0.3s								
PB16	**IPOC Station P**	**1.65**	**350**	eP		**Pn**		**23 13 57.2**	**+0.6**
PB16				eS		**Sn**		**23 14 14.8**	**-3.4**
PB09	**IPOC Station P**	**1.81**	**181**	eP		**Pn**		**23 13 58.6**	**+0.4**
PB09				eS		**Sn**		**23 14 22.5**	**+1.3**
PB09				IAML				23 14 27.1	
	comp=E,718nm,0.7s								
PB09	**IPOC Station P**	**1.81**	**181**	eP		**Pn**		**23 13 58.6**	**+0.4**
PB09				eS		**Sn**		**23 14 24.0**	**+2.8**
PB09				IAML				23 14 32.2	
	comp=Z,368nm,0.4s								
PB06	**IPOC Station P**	**2.74**	**187**	*i* P		**Pn**		**23 14 09.7**	**-0.7**
PB06				eS		**Sn**		**23 14 41.3**	**-1.6**
PB06				IAML				23 14 51.0	
	comp=E,477nm,0.3s								
PB06	**IPOC Station P**	**2.74**	**187**	eP		**Pn**		**23 14 10.2**	**-0.2**
PB06				eS		**Sn**		**23 14 41.4**	**-1.6**
PB06				IAML				23 14 50.7	
	comp=Z,376nm,0.3s								
PB05	**IPOC Station P**	**3.01**	**198**	*i* P		**Pn**		**23 14 13.2**	**-0.7**
PB05				eS		**Sn**		**23 14 48.9**	**-0.4**
PB05				IAML				23 15 01.5	
	comp=E,346nm,0.2s								
PB05	**IPOC Station P**	**3.01**	**198**	eP		**Pn**		**23 14 13.1**	**-0.9**
PB05				eS		Sn		23 14 36.2	-13
PB05				IAML				23 14 59.6	
	comp=Z,171nm,0.3s								
AF01	**San Pedro de A**	**3.12**	**162**	eP		Pn		23 14 33.5	+18
AF01				eS		Sn		23 15 02.6	+10
AF01				IAML				23 15 47.7	
	comp=Z,181nm,0.5s								
PB10	**IPOC Station P**	**3.74**	**199**	eP		**Pn**		**23 14 22.5**	**-1.1**

PB10				*e*S	Sn	23 15 19.3	+13
PB10				IAML		23 15 23.3	
	comp=Z,70nm,0.7s						
LPAZ	**La Paz**	**3.81**	**16**	*e*P	**Pn**	**23 14 27.0**	**+1.9**
GO02	**Mina Guanaco**	**5.18**	**184**	*e*P	**Pn**	**23 14 42.1**	**-1.2**
GO02				IAML		23 16 08.3	
	comp=Z,74nm,0.3s						

*DJA **14** 23:13:36.9±0.3, 1°S±2°×12°8E±°, h10km, M3.9/11, mb4.4/1, MLv3.6/11*
*IDC **14** 23:13:55.2±2.3, 2°93S×129°27E, h0km, mb4.3/2, mbtmp4.1/5, ML3.6/3, Error ellipse: s-maj=65.9km s-min=33.4km az=81.0*
ISC 14 23:13:33.4±0.9, 0°87S±0°05×128°59E±0°06, h10km, n13, σ1s30/15, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.03**	**323**	P	**Pg**	**23 14 12.4**	**0.0**
TNTI				S	**Sg**	**23 14 39.0**	**+0.3**
MSAI	**Masohi**	**2.49**	**172**	P	**Pb**	**23 14 17.7**	**-0.5**
MSAI				S	**Sb**	**23 14 48.3**	**-0.6**
SWI	**Sorong**	**2.67**	**90**	P	**Pb**	**23 14 20.4**	**-1.0**
NLAI	**Namlea**	**2.79**	**212**	P	**Pn**	**23 14 19.5**	**+1.4**
NLAI				S	**Sn**	**23 14 51.4**	**-0.4**
AAI	**Ambon**	**2.83**	**188**	P	**Pn**	**23 14 19.9**	**+1.2**
SANI	**Sanana**	**2.85**	**246**	P	**Pn**	**23 14 19.9**	**+1.0**
SANI				S	**Sn**	**23 14 53.3**	**-0.1**
FAKI	**Fak Fak**	**4.19**	**119**	P	**Pn**	**23 14 40.5**	**+3.1**
LUWI	**Luwuk**	**5.81**	**268**	P	**Pn**	**23 15 00.2**	**+0.5**
BATI	**Baumata**	**10.49**	**208**	Pn	Pn	23 16 09.9	+6.0
	2.9nm,0.3s,baz=45,slow=13,SNR=3.5						
	11nm,0.3s						
FITZ	**Fitzroy Crossi**	**17.37**	**189**	Pn	**P**	**23 17 36.9**	**-0.5**
	0.1nm,0.3s,baz=9.5,slow=5.7,SNR=1.6						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**19.78**	**164**	P	**P**	**23 18 01.9**	**-2.0**
	0.2nm,0.3s,baz=341,slow=12,SNR=9.1						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**23.25**	**168**	P	**P**	**23 18 40.7**	**-0.4**
	1.5nm,0.6s,baz=346,slow=11,SNR=17						
	1.5nm,0.6s						
FINES	**FINESS Array B**	**96.73**	**332**	P	P	23 27 36.6	+33
	1.1nm,0.3s,baz=79,slow=3.0,SNR=9.2						
	1.1nm,0.3s						

*IDC **14** 23:25:27.8±0.8, 17°.24S×174°.87W, h0km, mb4.3/10, mbtmp4.3/10, Error ellipse: s-maj=30.5km s-min=19.7km az=102.0*
*NEIC **14** 23:25:60.0±1.5, 17°.45S±0°.09×175°.2W±0°.1, h270km±6km, mb4.4/30, Error ellipse: s-maj=18.6km s-min=7.0km az=50.0*
ISC 14 23:25:58.3±0.5, 17°.4S±0°.1×175°.29W±0°.09, h256km, n95, σ0s82/76, mb4.3/27, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**4.07**	**318**		Pn	23 27 08.3	+5.0
NIUE	**Niue**	**5.38**	**109**		**Pn**	**23 27 19.2**	**+0.2**
SANVU	**Saraoutou**	**16.91**	**274**	P	**Pn**	**23 29 41.0**	**+0.1**
PINNC	**Pines Island,**	**17.05**	**249**	P	P	**23 29 41.0**	**+0.7**
TOZ	**Tahuroa Road**	**21.86**	**200**	P	**P**	**23 30 30.4**	**-0.1**
TOZ				IAmb	IAmb	23 30 33.0	
	comp=Z,17nm,1.0s						
QRZ	**Quartz Range**	**25.65**	**202**	P	**P**	**23 31 03.9**	**-0.9**
EIDS	**Eidsvold**	**32.25**	**250**	P	**P**	**23 32 03.3**	**0.0**
EIDS				IAmb	IAmb	23 32 06.9	
	comp=Z,6.0nm,1.1s						
ARMA	**Armidale**	**32.80**	**241**	P	**P**	**23 32 08.7**	**+0.6**
ARMA				IAmb	IAmb	23 32 09.3	
	comp=Z,16nm,0.5s						
CTAO	**Charters Tower**	**36.47**	**260**	P	**P**	**23 32 39.2**	**-0.3**
CTAO				IAmb	IAmb	23 32 39.7	
	comp=Z,7.1nm,0.7s						
TOO	**Toolangi**	**39.84**	**232**	P	**P**	**23 33 06.8**	**-0.5**
COEN	**Coen**	**40.09**	**269**	P	**P**	**23 33 09.9**	**+0.3**
COEN				IAmb	IAmb	23 33 10.3	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**41.51**	**241**		**P**	**23 33 20.9**	**0.0**
STKA	**Stephens Creek**	**41.51**	**241**	P	**P**	**23 33 21.2**	**+0.2**
	comp=Z,15nm,0.6s,baz=89,slow=9.7,SNR=36						
	comp=Z,15nm,0.6s						
INKA	**Innaminka**	**41.71**	**248**		**P**	**23 33 23.0**	**+0.4**
BBOO	**Buckleboo**	**46.28**	**241**	P	**P**	**23 33 58.3**	**-0.5**
BBOO				IAmb	IAmb	23 33 59.5	
	comp=Z,16nm,1.2s						
WB0	**Warramunga Arr**	**47.63**	**259**		**P**	**23 34 08.3**	**-1.0**
WB0				IAmb	IAmb	23 34 09.4	
	comp=Z,10.0nm,0.6s						
WRA	**Warramunga Arr**	**47.66**	**259**		**P**	**23 34 08.4**	**-1.2**
WRA	**Warramunga Arr**	**47.66**	**259**	P	**P**	**23 34 08.7**	**-0.9**
	comp=Z,6.8nm,0.5s,baz=96,slow=6.9,SNR=148						
	comp=Z,6.8nm,0.5s						
AS31	**Alice Springs**	**47.80**	**254**		**P**	**23 34 10.5**	**-0.2**
AS31				IAmb	IAmb	23 34 11.6	
	comp=Z,15nm,0.6s						
ASAR	**Alice Springs**	**47.80**	**254**		**P**	**23 34 10.5**	**-0.2**
ASAR	**Alice Springs**	**47.80**	**254**	P	**P**	**23 34 10.2**	**-0.5**
	comp=Z,50nm,0.6s,baz=88,slow=8.5,SNR=808						
FORT	**Forrest**	**52.93**	**244**	P	**P**	**23 34 47.8**	**-1.0**
FAKI	**Fak Fak**	**53.41**	**279**	P	**P**	**23 34 52.7**	**+0.2**
FAKI				IAmb	IAmb	23 35 07.2	
	comp=Z,29nm,1.0s						
KNRA	**Kununurra**	**53.51**	**263**	P	**P**	**23 34 52.9**	**-0.3**
KNRA				IAmb	IAmb	23 34 53.2	
	comp=Z,9.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**56.05**	**260**	P	**P**	**23 35 11.3**	**-0.1**
PSA00	**Pilbara Seismi**	**60.93**	**255**	P	**P**	**23 35 44.0**	**-0.9**
PSA00				IAmb	IAmb	23 35 45.3	
	comp=Z,6.5nm,1.0s						
VNDA	**Vanda**	**61.27**	**186**	P	**P**	**23 35 47.3**	**+1.1**
VNDA	**Vanda**	**61.27**	**186**	P	**P**	**23 35 47.0**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=30,slow=7.6,SNR=1.9						
	comp=Z,0.5nm,0.9s						
TOLI2	**Tolitoli**	**65.55**	**279**	P	**P**	**23 36 16.0**	**+0.8**
TOLI2				IAmb	IAmb	23 36 16.6	
	comp=Z,11nm,0.8s						
JAGI	**Jajag, Banyuwa**	**69.03**	**267**	P	**P**	**23 36 35.8**	**-1.3**
JGF	**Kuroka**	**69.17**	**320**	P	**P**	**23 36 37.6**	**+0.2**
JGF				IAmb	IAmb	23 36 57.2	
	comp=Z,21nm,1.5s						
MJAR	**Matsushiro Arr**	**69.28**	**321**	P	**P**	**23 36 38.4**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=134,slow=5.9,SNR=8.8						
	comp=Z,1.5nm,0.6s						
UGM	**Wanagama**	**72.64**	**267**	P	**P**	**23 36 58.9**	**+0.1**
QSPA	**South Pole Qui**	**72.70**	**180**	P	**P**	**23 36 59.4**	**+1.0**
QSPA	**South Pole Qui**	**72.70**	**180**	P	**P**	**23 36 59.5**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=12,slow=1.4,SNR=9.0						
	comp=Z,0.7nm,0.6s						
PEA0B	**Petropavlovsk-**	**73.95**	**343**	P	**P**	**23 37 06.0**	**+0.6**
PETK	**Petropavlovsk-**	**73.95**	**343**	P	**P**	**23 37 05.7**	**+0.2**
PETK	**Petropavlovsk-**	**73.95**	**343**	P	**P**	**23 37 06.0**	**+0.6**
	comp=Z,2.4nm,0.5s,baz=106,slow=8.9,SNR=12						
	comp=Z,2.4nm,0.5s						
KSRS	**Korea Array**	**76.30**	**317**	P	**P**	**23 37 21.1**	**+1.9**
	comp=Z,2.9nm,1.0s,baz=120,slow=4.8,SNR=6.7						
	comp=Z,2.9nm,1.0s						
KSAR	**Wonju Array Be**	**76.32**	**317**	P	**P**	**23 37 20.3**	**+1.0**
N15K	**Kwehluk River**	**78.22**	**8**	P	**P**	**23 37 29.4**	**+0.1**
N15K				IAmb	IAmb	23 37 33.8	
	comp=Z,7.1nm,1.1s						
M16K	**Timber Creek**	**79.19**	**8**	P	**P**	**23 37 35.6**	**+1.1**
M16K				IAmb	IAmb	23 37 48.9	
	comp=Z,13nm,1.3s						
CCB	**Clear Creek Bu**	**84.42**	**12**		**P**	**23 38 01.8**	**+0.1**
CCB				IAmb	IAmb	23 38 02.2	
	comp=Z,4.0nm,0.5s						
ILAR	**Eielson Array**	**84.70**	**12**	P	**P**	**23 38 02.9**	**-0.2**
ILAR	**Eielson Array**	**84.70**	**12**	P	**P**	**23 38 02.7**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=226,slow=5.8,SNR=18						
	comp=Z,1.0nm,0.5s						
MAW	**Mawson**	**85.37**	**199**	P	**P**	**23 38 05.8**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=124,slow=9.0,SNR=6.7						
	comp=Z,1.9nm,0.8s						
H03N2	**Juan Fernandez**	**85.75**	**124**	T	T	01 12 00.3	
	baz=257,slow=72,SNR=8.0						
H03N3	**Juan Fernandez**	**85.75**	**124**	T	T	01 11 46.2	
	baz=257,slow=72,SNR=5.6						
H03N1	**Juan Fernandez**	**85.76**	**124**	T	T	01 12 02.6	
	baz=257,slow=72,SNR=6.2						
CMAR	**Chiang Mai Arr**	**91.51**	**289**	P	**P**	**23 38 38.0**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=91,slow=2.3,SNR=8.5						
	comp=Z,1.3nm,0.8s						
BVAR	**Borovoye Array**	**118.28**	**321**	PKhKP	PKPpre	23 44 14.2	
	comp=Z,1.2nm,0.5s,baz=94,slow=2.3,SNR=7.8						
ARCES	**ARCESS Array B**	**126.26**	**351**	PKP	**PKiKP**	**23 44 29.6**	**-0.7**
	comp=Z,3.4nm,1.0s,baz=28,slow=2.9,SNR=7.5						
CLL	**Collm**	**145.48**	**351**	*i*PKPbc	**PKPab**	**23 45 06.7**	**-0.2**
	comp=Z,11nm,0.9s						
OSTC	**Ostas**	**145.61**	**347**	*e*PKP	**PKiKP**	**23 45 08.0**	**-2.2**
OSTC				*ex*	x	23 45 29.1	
DPC	**Dobruska-Polom**	**145.78**	**347**	*e*PKP	**PKPab**	**23 45 08.2**	**0.0**
DPC				*ex*	x	23 45 29.5	
STEB	**Steborice**	**145.83**	**345**	*e*PKP	**PKPab**	**23 45 07.7**	**-0.6**
STEB				*ex*	x	23 45 28.6	
KRLC	**Kraliky**	**145.94**	**346**	*e*PKP	**PKPab**	**23 45 08.4**	**-0.4**
MAUC	**Maruska**	**146.34**	**344**	*e*PKP	**PKPbc**	**23 45 08.6**	**-0.4**
BR131	**Keskin Array S**	**146.44**	**318**	PKPbc	**PKPbc**	**23 45 09.4**	**-0.3**
BRTR	**Keskin Array B**	**146.44**	**318**	PKPbc	**PKPbc**	**23 45 09.6**	**-0.2**
BRTR	**Keskin Array B**	**146.44**	**318**	PKPbc	**PKPbc**	**23 45 09.4**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=128,slow=3.6,SNR=12						
PRU	**Pruhonice**	**146.49**	**348**	*e*PKP	**PKPab**	**23 45 10.1**	**-0.7**
MLR	**Muntele Rosu**	**146.81**	**332**	PKPbc	**PKPbc**	**23 45 10.0**	**-0.6**
LODK	**Lodwar**	**146.91**	**249**	PKPbc	**PKPbc**	**23 45 10.5**	**-1.2**
ZVC	**Zvikov**	**147.08**	**349**	*e*PKP	**PKiKP**	**23 45 11.6**	**-1.6**
KHC	**Kasperske Hory**	**147.49**	**349**	*ex*	x	23 45 33.9	
CKRC	**Cesky Krumlov**	**147.65**	**348**	*e*PKP	**PKiKP**	**23 45 13.4**	**-1.0**
CKRC				*ex*	x	23 45 34.5	
GERES	**GERESS Array B**	**147.74**	**349**	PKPbc	**PKiKP**	**23 45 13.0**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=22,slow=4.3,SNR=10.0						
CONA	**Conrad Observa**	**148.16**	**346**	*i*PKP	**PKiKP**	**23 45 14.8**	**-0.8**
	comp=Z,1.6nm,0.5s						
CONA	**Conrad Observa**	**148.16**	**346**	*i*P	PKPab	23 45 35.7	+18
	comp=Z,1.5nm,0.5s						
RONA	**Rosalia, Austr**	**148.27**	**345**	*i*PKP	**PKiKP**	**23 45 15.0**	**-0.7**
	comp=Z,1.2nm,0.5s						
RONA	**Rosalia, Austr**	**148.27**	**345**	*i*P	PKPab	23 45 35.7	+18
	comp=Z,1.7nm,0.5s						
MMAI	**Mount Meron Ar**	**148.29**	**305**	PKPbc	**PKiKP**	**23 45 15.7**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=76,slow=7.0,SNR=7.0						
LESA	**Schwarzleotal**	**149.30**	**349**	*i*PKP	**PKiKP**	**23 45 17.4**	**-0.5**
	comp=Z,0.6nm,0.3s						
LESA	**Schwarzleotal**	**149.30**	**349**	*i*P	PKPab	23 45 38.1	+16
	comp=Z,1.5nm,0.4s						
KBA	**Koelnbreinsper**	**149.51**	**348**	*i*PKP	**PKiKP**	**23 45 17.1**	**-1.4**
	comp=Z,1.5nm,0.5s						
KBA	**Koelnbreinsper**	**149.51**	**348**	*i*P	PKPab	23 45 38.9	+16
	comp=Z,1.5nm,0.5s						
SOKA	**Soboth**	**149.53**	**346**	*i*PKP	**PKiKP**	**23 45 17.3**	**-1.2**
	comp=Z,0.7nm,0.5s						
SOKA	**Soboth**	**149.53**	**346**	*i*P	PKPab	23 45 38.1	+15
	comp=Z,0.4nm,0.4s						
RETA	**Reutte**	**149.53**	**352**	*i*PKP	**PKiKP**	**23 45 17.7**	**-0.8**
	comp=Z,4.0nm,1.1s						
RETA	**Reutte**	**149.53**	**352**	*i*P	PKPab	23 45 39.0	+16
	comp=Z,0.3nm,0.2s						
WATA	**Walderalm**	**149.56**	**351**	*i*PKP	**PKiKP**	**23 45 17.7**	**-0.9**
	comp=Z,1.8nm,0.4s						
WATA	**Walderalm**	**149.56**	**351**	*i*P	PKPab	23 45 38.9	+15
	comp=Z,1.0nm,0.4s						
WTTA	**Wattenberg**	**149.62**	**351**	*i*PKP	**PKiKP**	**23 45 18.0**	**-0.7**
	comp=Z,2.8nm,0.4s						
WTTA	**Wattenberg**	**149.62**	**351**	*i*P	PKPab	23 45 39.6	+16
	comp=Z,2.0nm,0.5s						
MOTA	**Moosalm**	**149.63**	**351**	*i*PKP	**PKiKP**	**23 45 17.8**	**-0.9**
	comp=Z,1.2nm,0.6s						
MOTA	**Moosalm**	**149.63**	**351**	*i*P	PKPab	23 45 39.3	+16
	comp=Z,1.8nm,0.7s						
SQTA	**Sankt Quirin**	**149.73**	**351**	*i*PKP	**PKiKP**	**23 45 18.2**	**-0.7**
	comp=Z,0.5nm,0.3s						
SQTA	**Sankt Quirin**	**149.73**	**351**	*i*P	PKPab	23 45 39.7	+16
	comp=Z,1.9nm,0.5s						
DAVA	**Damuels**	**149.84**	**353**	*i*PKP	**PKiKP**	**23 45 19.0**	**-0.2**
	comp=Z,0.9nm,0.4s						
DAVA	**Damuels**	**149.84**	**353**	*i*P	PKPab	23 45 40.7	+16
	comp=Z,0.5nm,0.3s						
ABTA	**Abfaltersbach**	**149.98**	**349**	*i*PKP	**PKiKP**	**23 45 18.3**	**-1.1**
	comp=Z,1.2nm,0.4s						
ABTA	**Abfaltersbach**	**149.98**	**349**	*i*P	PKPab	23 45 39.3	+14
	comp=Z,1.7nm,0.5s						
FETA	**Feichten**	**150.00**	**352**	*i*PKP	**PKiKP**	**23 45 19.1**	**-0.5**
	comp=Z,1.8nm,0.8s						
FETA	**Feichten**	**150.00**	**352**	*i*P	PKPab	23 45 40.4	+15
	comp=Z,2.0nm,0.9s						

*HEL **14** 23:29:57.1±0.5, 67°.85N×20°.21E, h0km, ML1.5, Suspected explosion*
UPP 14 23:29:55.6±0.1, 67°.85N×20°.21E, h2km±4km, ML2.5, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**25**	P	Pg	23 29 57.8	0.0
KUA				S	Sg	23 29 59.5	0.2
RATU	**Laukkuluspa**	**0.24**	**263**	P	Pg	23 30 00.1	0.0
KOVU	**Salmi**	**0.37**	**357**	P	Pg	23 30 02.6	-0.1
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	23 30 08.8	-0.3
LANU	**Lannavaara**	**0.70**	**73**	PG	Pg	23 30 09.0	0.0
LANU				SG	Sg	23 30 15.0	-3.2
DUNU	**Dundret**	**0.75**	**169**	P	Pg	23 30 09.4	-0.4
SALU	**Saltoluokta**	**0.81**	**235**	P	Pg	23 30 10.6	-0.4
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*P	Pb	23 30 18.5	-0.1
KIF	**Kilpisjarvi**	**1.18**	**10**	PG	Pg	23 30 18.3	+0.1
	baz=184						
KIF				MSG		23 30 33.9	
	comp=Z,6.3nm,0.2s						
KIF				SG	Sb	23 30 34.1	-0.1
PAJU	**Pajala**	**1.40**	**125**	P	Pn	23 30 21.0	-1.0
PAJU	**Pajala**	**1.40**	**125**	PG	Pn	23 30 21.0	-1.0
PAJU				SG	Sg	23 30 39.8	-0.6
HEF	**Hetta**	**1.41**	**65**	*e*P	Pn	23 30 21.3	-0.9
HEF	**Hetta**	**1.41**	**65**	PG	Pn	23 30 21.4	-0.8
	baz=251						
HEF				MSG		23 30 38.1	
	comp=Z,4.0nm,0.2s						
HEF				SG	Sg	23 30 39.9	-0.9
ERTU	**Ertsjaerv**	**1.52**	**148**	P	Pn	23 30 23.0	-0.6
ERTU	**Ertsjaerv**	**1.52**	**148**	PG	Pn	23 30 23.0	-0.7
ERTU				SG	Sg	23 30 44.1	-0.1
KTK1	**Kautokeino**	**1.61**	**42**	SN	Sg	23 30 49.3	+1.9
HARU	**Harads**	**1.72**	**170**	P	Pn	23 30 26.8	+0.3
TRO	**Tromso**	**1.85**	**346**	SN	Sb	23 30 54.2	+0.6
KALU	**Kalix**	**2.36**	**147**	PB	Pn	23 30 36.5	+1.3
KALU				SG	Sb	23 31 08.0	-0.1
TOF	**Tornio**	**2.41**	**136**	PB	Pn	23 30 37.6	+1.7
TOF				MSG		23 31 07.1	
	comp=Z,1.3nm,0.2s						
TOF				SG	Sb	23 31 10.3	+0.8
ARA0	**ARCESS Array S**	**2.57**	**46**	PB	Pb	23 30 40.4	-1.9
	baz=228						
ARA0				SG	Sb	23 31 12.8	-1.4
RAJF	**Raja-Jooseppi**	**3.09**	**75**	SB	Sb	23 31 28.6	-0.7
KEV	**Kevo**	**3.12**	**49**	SN	Sn	23 31 25.0	+1.5
RANF	**Ranua**	**3.18**	**122**	PG	Pb	23 30 53.9	+1.2
	baz=307						
RANF				SG	Sg	23 31 35.6	-1.9
OLKF	**Oulanka, Finla**	**3.91**	**109**	SG	Sg	23 31 57.6	-3.4

IDC 14 23:50:24.9±3.1, 5°91S×153°01E, h0km, mb3.3/3, mbtmp3.3/3, MS2.9/1, Error ellipse: s-maj=253.7km s-min=32.8km az=128.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.89**	**231**	P	P	23 55 29.7	-0.7
	0.2nm,0.6s,baz=64,slow=11,SNR=1.4						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**25.49**	**224**	P	P	23 55 55.6	+0.5
	0.7nm,0.8s,baz=58,slow=9.3,SNR=9.6						
	0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.55**	**296**	LR	LR	00 24 07.6	
	comp=Z,11nm,20.9s,baz=195,slow=34						
ILAR	**Eielson Array**	**83.11**	**22**	P	P	00 02 52.2	-0.1
	0.3nm,0.6s,baz=246,slow=4.9,SNR=2.9						
	0.3nm,0.6s						

*IDC **15** 00:22:17.3±13.0, 16°.57S×175°.52W, h305km±91km, mb3.6/3, mbtmp4.2/4, Error ellipse: s-maj=131.1km s-min=51.9km az=62.0*
ISC 15 00:22:13.8±4.9, 16°.4S±0°.2×175°.2W±0°.5, h300km, n6, σ3s58/7, mb3.8/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**13.01**	**190**	P	**Pn**	**00 25 09.1**	**+0.7**
	194nm,0.3s,baz=123,slow=23,SNR=2.8						
RAO				S	**S**	**00 27 35.4**	**+2.8**
	177nm,0.4s,baz=268,slow=23,SNR=2.7						
DZM	**Mont Dzumac**	**18.18**	**249**	P	**P**	**00 26 05.6**	**0.0**
	2.7nm,0.8s,baz=282,slow=15,SNR=1.5						
URZ	**Urewera**	**22.77**	**196**	P	P	00 26 43.9	-6.9
	6.2nm,0.6s,baz=264,slow=21,SNR=1.5						
URZ				S	**S**	**00 30 30.6**	**-6.2**
	5.8nm,0.9s,baz=147,slow=19,SNR=1.3						
STKA	**Stephens Creek**	**42.00**	**240**	P	**P**	**00 29 35.3**	**-1.1**
	2.5nm,0.8s,baz=76,slow=8.3,SNR=5.2						
	2.5nm,0.8s						
WRA	**Warramunga Arr**	**47.89**	**258**	P	**P**	**00 30 23.9**	**+1.2**
	1.1nm,0.5s,baz=96,slow=7.1,SNR=20						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**48.12**	**253**	P	**P**	**00 30 25.4**	**+1.0**
	6.6nm,0.6s,baz=87,slow=8.7,SNR=112						
	6.6nm,0.6s						

DJA 15 00:27:10.4±0.4, 4°S±2°×12°0E±°, h11km±4km, M2.7/7, MLv2.7/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNSI	**Bone**	**0.28**	**227**	P	Pb	00 27 17.1	-0.3
BNSI				S	Sb	00 27 22.1	0.0
SPSI	**Sidrap Palu**	**0.59**	**294**	P	Pg	00 27 22.2	+0.3
SPSI				S	Sb	00 27 31.5	+0.3
TTSI	**Tana Toraja**	**1.26**	**337**	P	Pn	00 27 33.5	-0.4
BSSI	**Bau Bau, Buton**	**1.93**	**175**	P	Pn	00 27 43.0	-0.2
APSI	**Ampana**	**3.54**	**22**	P	Pn	00 28 06.5	+1.2
LUWI	**Luwuk**	**3.99**	**38**	P	Pn	00 28 12.5	+0.9

*DJA **15** 00:27:09.4±1.3, 2°N±3°×12°6E±°, h13km±12km, M4.2/15, mB5.4/2, mb4.4/6, MLv4.2/15, Mw(mB)4.8/2*
*NEIC **15** 00:27:12.0±1.6, 1°.5N±0°.1×126°.26E±0°.07, h53km±11km, mb4.1/11, Error ellipse: s-maj=16.1km s-min=8.6km az=205.0*
*IDC **15** 00:27:15.1±4.6, 1°.43N×125°.88E, h80km±40km, mb3.6/6, mbtmp3.9/7, ML3.8/1, MS3.5/1, Error ellipse: s-maj=104.9km s-min=12.9km az=67.0*
ISC 15 00:27:11.1±0.7, 1°.58N±0°.06×126°.37E±0°.07, h47km, n36, σ1s31/37, mb4.1/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.28**	**129**		**Pn**	**00 27 33.6**	**+1.0**
TNTI				Sn	**Sn**	**00 27 50.3**	**+1.6**
TNTI	**Ternate**	**1.28**	**129**	P	**Pn**	**00 27 33.4**	**+0.7**
SGSI	**Sangihe**	**2.25**	**338**	P	**Pn**	**00 27 45.5**	**-0.4**
LBMI	**Labuha**	**2.48**	**153**	P	**Pn**	**00 27 50.0**	**+0.9**
SANI	**Sanana**	**3.63**	**186**	P	**Pn**	**00 28 06.1**	**+1.2**
LUWI	**Luwuk**	**4.44**	**234**		**Pn**	**00 28 14.3**	**-1.7**
LUWI	**Luwuk**	**4.44**	**234**	P	**Pn**	**00 28 14.1**	**-1.9**
MRSI	**Marisa**	**4.56**	**256**	P	**Pn**	**00 28 20.8**	**+3.1**
MRSI	**Marisa**	**4.56**	**256**	P	**Pn**	**00 28 21.3**	**+3.6**
APSI	**Ampana**	**5.33**	**242**	P	**Pn**	**00 28 26.5**	**-1.7**
	0.4nm86nm,1.0s						
MSAI	**Masohi**	**5.53**	**152**	P	**Pn**	**00 28 29.8**	**-1.1**
	0.4nm6µm65nm,0.9s						
TOLI2	**Tolitoli**	**5.61**	**265**		**Pn**	**00 28 31.1**	**-0.9**
FAKI	**Fak Fak**	**7.39**	**127**	Pn	**Pn**	**00 28 55.9**	**-0.6**
MYLDM	**Lahad Datu**	**8.63**	**295**		**Pn**	**00 29 13.8**	**+0.3**
KNRA	**Kununurra**	**17.31**	**172**		**Pn**	**00 31 08.7**	**-0.9**
KNRA				IAmb	IAmb	00 31 34.4	
	comp=Z,12nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.57**	**182**	P	**P**	**00 31 35.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.57**	**182**	P	**Pn**	**00 31 35.7**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=0.0,slow=12,SNR=2.6						
	comp=Z,1.7nm,0.7s						
TPUB	**Ta-pu**	**22.29**	**346**	P	**P**	**00 32 05.0**	**+0.3**
WB0	**Warramunga Arr**	**22.63**	**160**	P	**P**	**00 32 07.8**	**-0.5**
WB0				IAmb	IAmb	00 32 15.8	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**22.78**	**160**	P	**P**	**00 32 08.7**	**-1.1**
WRA	**Warramunga Arr**	**22.78**	**160**	P	**P**	**00 32 10.5**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=337,slow=11,SNR=22						
WRA				S	**S**	**00 36 15.1**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=315,slow=24,SNR=2.0						
	comp=Z,2.2nm,0.5s						
WR8	**Warramunga Arr**	**22.84**	**160**	P	**P**	**00 32 10.2**	**-0.3**
WR8				IAmb	IAmb	00 32 19.1	
	comp=Z,11nm,1.5s						
PMG	**Port Moresby**	**23.41**	**118**	LR	LR	00 45 37.4	
	comp=Z,110nm,18.3s,baz=179,slow=46

BARC			S	Sn	00 55 03.4	-1.0		
BRJC	**Barrancabermej**	**0.64 285**	P	Pn	00 54 49.9	-0.1		
BRJC			S	Sn	00 55 07.3	+0.4		
PAMC	**Pamplona, Colo**	**0.67 38**	P	Pn	00 54 51.1	+0.3		
PAMC			S	Sn	00 55 08.4	+0.1		
RUSC	**La Rusia**	**0.91 178**	P	Pn	00 54 52.1	-0.5		
RUSC			S	Sn	00 55 10.9	-0.5		
PTBC	**PUERTO BERRIO,**	**1.35 259**	P	Pn	00 54 54.8	-1.2		
PTBC			S	Sn	00 55 15.9	-1.6		
OCAC	**Ocana**	**1.43 352**	P	Pn	00 54 56.1	-0.8		
OCAC			S	Sn	00 55 18.1	-1.2		
SPBC	**San Pablo de B**	**1.49 219**	P	Pn	00 54 57.0	-0.5		
SPBC			S	Sn	00 55 19.1	-1.1		
ZARC	**Zaragoza, Cauc**	**1.85 292**	P	Pn	00 55 00.6	-0.7		
ZARC			S	Sn	00 55 26.1	-0.9		
NORC	**Norcasia**	**2.13 235**	P	Pn	00 55 04.3	-0.4		
NORC			S	Sn	00 55 32.0	-1.0		
ROSC	**El Rosal**	**2.29 211**	P	Pn	00 55 08.0	+1.1		
ROSC			S	Sn	00 55 37.0	+0.1		
CVER	**Cruz Verde, Cu**	**2.46 203**	P	Pn	00 55 09.7	+0.7		
CVER			S	Sn	00 55 41.3	+0.5		
HELC	**Santa Helena**	**2.47 256**	P	Pn	00 55 09.9	+0.9		
HELC			S	Sn	00 55 40.6	-0.1		
GUY2C	**Guyana, Caldas**	**2.73 235**	P	Pn	00 55 12.6	+0.3		
GUY2C			S	Sn	00 55 46.8	+0.2		
VILC	**Villavicencio,**	**2.74 192**	P	Pn	00 55 11.9	-0.2		
VILC			S	Sn	00 55 46.0	-0.4		
PTGC	**Puerto Gaitan,**	**2.77 159**	P	Pn	00 55 11.1	-1.3		
PTGC			S	Sn	00 55 45.0	-1.9		
CBOC	**Ciudad Bolivar**	**3.02 252**	P	Pn	00 55 16.5	+0.8		
CBOC			S	Sn	00 55 53.7	+1.0		
DBBC	**Dabeiba**	**3.07 274**	P	Pn	00 55 15.9	-0.3		
DBBC			S	Sn	00 55 51.2	-2.5		
SDV	**Santo Domingo**	**3.21 50**	P	Pn	00 55 17.4	-0.7		
SDV			S	Sn	00 55 56.3	-0.8		
ARGC	**Ariguani, Magd**	**3.23 340**	P	Pn	00 55 18.4	+0.3		
ARGC			S	Sn	00 55 57.4	+0.3		
ANIL	**Santa Ana**	**3.24 225**	P	Pn	00 55 20.9	+2.4		
ANIL			S	Sn	00 56 00.3	+2.6		
PRAC	**Prado**	**3.54 210**	P	Pn	00 55 21.8	-0.4		
PRAC			S	Sn	00 56 03.8	-0.7		
ORTC	**Ortega, Tolima**	**3.58 216**	P	Pn	00 55 22.5	-0.2		
ORTC			S	Sn	00 56 04.7	-0.5		
APAC	**Apartado, Choc**	**3.60 288**	P	Pn	00 55 21.8	-1.1		
APAC			S	Sn	00 56 03.1	-2.5		
SJCC	**San Jacinto, C**	**3.68 327**	P	Pn	00 55 22.0	-2.0		
SJCC			S	Sn	00 56 03.6	-4.1		
URMC	**La Uribe, Meta**	**3.75 200**	P	Pn	00 55 26.2	+1.2		
URMC			S	Sn	00 56 11.0	+1.5		
CRJC	**Cerrejon, Guaj**	**4.19 3**	P	Pn	00 55 28.3	-2.4		
CRJC			S	Sn	00 56 15.7	-3.9		
YOTC	**Yotoco, Valle**	**4.26 229**	P	Pn	00 55 31.0	-0.7		
SMRC	**Santa Marta, M**	**4.46 346**	P	Pn	00 55 33.5	-0.7		
SMRC			S	Sn	00 56 21.4	-4.5		
MACC	**Macarena, Meta**	**4.69 189**	P	Pn	00 55 35.2	-2.0		
MACC			S	Sn	00 56 26.3	-5.0		
URIC	**Uribia, Colomb**	**4.99 13**	P	Pn	00 55 38.6	-2.5		
URIC			S	Sn	00 56 36.3	-2.0		
FLOC	**Florencia**	**5.77 206**	P	Pn	00 55 50.7	-0.9		

TAN 15 01:01:15.8, 18.94S×46.80E, h13km, ML3.5, Fault plane solution: NP1: ϕ=317.90000°, δ=47.90000°, , Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIRM	**Firavahana**	**0.25**	**16**	Pg	Pg	01 01 21.7	+0.5
FIRM				Sg	Sg	01 01 25.2	+0.3
FIRM	**Firavahana**	**0.25**	**16**	Pg	Pg	01 01 21.7	+0.5
FIRM				Sg	Sg	01 01 25.1	+0.2
MDSM	**Mandiavato**	**0.26**	**123**	Pg	Pb	01 01 22.0	-0.5
MDSM				Sg	Sg	01 01 25.8	+0.8
MDSM	**Mandiavato**	**0.26**	**123**	Pg	Pb	01 01 22.0	-0.5
MDSM				Sg	Sg	01 01 25.8	+0.7
ABPO	**Ambohimpanom**	**0.41**	**101**	Pg	Pg	01 01 24.4	+0.4
ABPO				Sg	Sg	01 01 30.2	+0.7
ABPO	**Ambohimpanom**	**0.41**	**101**	Pg	Pg	01 01 24.5	+0.5
ABPO				Sg	Sg	01 01 30.0	+0.5
DGRM	**Ambatolahisoa**	**0.48**	**229**	Pg	Pg	01 01 25.6	+0.3
DGRM				Sg	Sg	01 01 32.1	+0.5
DGRM	**Ambatolahisoa**	**0.48**	**229**	Pg	Pg	01 01 25.6	+0.3
DGRM				Sg	Sg	01 01 32.0	+0.3
OPO	**Ambohidratompo**	**0.52**	**45**	Pg	Pg	01 01 26.4	+0.4
OPO				Sg	Sg	01 01 33.4	+0.4
OPO	**Ambohidratompo**	**0.52**	**45**	Pg	Pg	01 01 26.4	+0.4
OPO				Sg	Sg	01 01 33.0	0.0
ATG	**Ambohiby**	**0.59**	**276**	Pg	Pg	01 01 27.4	+0.1
ATG				Sg	Sg	01 01 35.3	+0.2
ATG	**Ambohiby**	**0.59**	**276**	Pg	Pg	01 01 27.5	+0.1
ATG				Sg	Sg	01 01 35.0	-0.1
AVY	**Angavokely**	**0.88**	**89**	Pg	Pb	01 01 33.2	+0.1
AVY				Sg	Sb	01 01 44.9	-0.1
AVY	**Angavokely**	**0.88**	**89**	Pg	Pb	01 01 33.4	+0.2
AVY				Sg	Sb	01 01 44.4	-0.1
ABM	**Ambohimiarambe**	**0.99**	**148**	Pg	Pb	01 01 35.0	+0.1
ABM				Sg	Sb	01 01 48.4	+0.4
ABM	**Ambohimiarambe**	**0.99**	**148**	Pg	Pb	01 01 35.1	+0.2
ABM				Sg	Sg	01 01 47.9	+0.1

*LDO **15** 01:11:09.2±1.1, 39.93N±0.01×76.91W±0.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.3km az=176.0*

NEIC 15 01:11:08.4±1.1, 39.92N±0.02×76.925W±0.009, h5km±1km, mb_Lg2.9/78, ML2.8/24, ML2.8/8(LDO), Error ellipse: s-maj=3.0km s-min=2.7km az=189.0, Chesapeake Bay region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGS	**Pennsylvania G**	**0.35**	**26**	Pg	Pg	01 11 14.6	-0.6
PAGS				IAML		01 11 21.3	
	comp=N,2μm,0.2s						
PAGS				IAML		01 11 24.1	
	comp=E,1μm,0.3s						
MVL	**Millersville**	**0.45**	**79**		Pg	01 11 16.4	-0.6
MVL				Sg	Sg	01 11 22.3	-0.6
MVL				IAML		01 11 24.6	
	comp=N,869nm,0.2s						
SDMD	**Soldier's Deli**	**0.51**	**173**		Pg	01 11 18.0	-0.2
SDMD				Sg	Sg	01 11 24.6	-0.2
SDMD				IAML		01 11 25.0	
	comp=N,522nm,0.2s						
SDMD				IAML		01 11 25.2	
	comp=E,463nm,0.3s						
N58A	**Sunbury**	**0.94**	**10**		Pg	01 11 25.3	-1.1
N58A				IAML		01 11 40.0	
	comp=E,267nm,0.5s						
N58A				IAML		01 11 43.2	
	comp=E,241nm,0.6s						
P57A	**Homestead Farm**	**0.94**	**243**		Pg	01 11 24.8	-1.7
NED	**Newark**	**0.96**	**102**		Pg	01 11 25.9	-1.0
P60A	**Greenville**	**1.00**	**96**		Pg	01 11 26.6	-0.9
P60A					Sg	01 11 39.1	-1.3
WUPA	**West Chester U**	**1.01**	**89**		Pg	01 11 26.8	-1.1
SSPA	**Standing Stone**	**1.03**	**315**		Pg	01 11 26.7	-1.4
SSPA	**Standing Stone**	**1.03**	**315**		Sg	01 11 40.1	-1.5
PSUB	**Penn St. - Bra**	**1.13**	**89**		Pg	01 11 28.9	-1.2
PABK	**Blue Knob Stat**	**1.32**	**286**		Pn	01 11 31.9	-1.6
TUPA	**Temple Univers**	**1.36**	**79**		Pn	01 11 32.2	-1.8
P61A	**Hammonton**	**1.66**	**98**		Pn	01 11 37.9	-0.3
CBN	**Corbin Frederi**	**1.74**	**192**		Pn	01 11 38.1	-1.2
Q56A	**Snyder Ridge,**	**1.96**	**244**		Pn	01 11 42.5	+0.2
BRNJ	**Basking Ridge**	**1.96**	**66**		Pn	01 11 43.3	+1.0
R61A	**Willards**	**2.01**	**142**	Pn	Pn	01 11 42.5	-0.4
R58B	**Mineral**	**2.09**	**201**		Pn	01 11 43.0	-1.0
MCWV	**Mont Chateau**	**2.27**	**264**		Pn	01 11 46.5	0.0
L56A	**Greenwood**	**2.27**	**348**		Pn	01 11 46.9	+0.2
BINY	**Binghamton**	**2.39**	**17**		Pn	01 11 48.0	-0.2
CPNY	**Central Park**	**2.43**	**68**		Pn	01 11 50.5	+1.7
S61A	**Accomac**	**2.44**	**156**	Pn	Pn	01 11 48.1	-0.8
PAL	**Palisades**	**2.55**	**64**		Pn	01 11 50.8	+0.5
PAL				IAmb_Lg		01 12 35.4	
	comp=Z,40nm,0.8s						
PAMR	**Moraine State**	**2.63**	**294**		Pn	01 11 52.0	+0.5
PAMR				IAmb_Lg		01 12 30.3	
	comp=Z,46nm,0.8s						
PAOC	**Oil Creek Stat**	**2.63**	**308**		Pn	01 11 52.2	+0.6
O54A	**Avella**	**2.66**	**277**		Pn	01 11 52.9	+0.9
O54A				IAmb_Lg		01 12 32.7	
	comp=Z,60nm,0.7s						
S57A	**Dark Hollow, R**	**2.67**	**217**		Pn	01 11 51.7	-0.4
L59A	**Walton**	**2.68**	**31**		Pn	01 11 51.8	-0.5
N62A	**Caumsett State**	**2.83**	**68**		Pb	01 11 58.0	-1.3
K57A	**Scipio Center**	**2.83**	**6**		Pn	01 11 54.1	-0.2
K57A				IAmb_Lg		01 12 39.8	
	comp=Z,51nm,0.9s						
MMNY	**Mt. Morris Dam**	**2.91**	**346**		Pn	01 11 55.6	+0.3
R55A	**Marlinton**	**2.97**	**238**		Pn	01 11 57.4	+1.1
T59A	**Double "B" Far**	**2.98**	**190**		Pn	01 11 54.9	-1.4
N53A	**Lisbon**	**3.12**	**288**		Pn	01 11 58.9	+0.7
Q54A	**Coxs Mills**	**3.17**	**254**	IAmb_Lg		01 12 47.8	
	comp=Z,31nm,0.8s						
O53A	**New Philadelph**	**3.31**	**277**	IAmb_Lg		01 12 58.6	
	comp=Z,44nm,1.0s						
J55A	**Hilton**	**3.41**	**349**	IAmb_Lg		01 12 55.3	
	comp=Z,40nm,1.2s						
T57A	**Hurt**	**3.44**	**213**		Pn	01 12 03.1	+0.5
P53A	**Whipple**	**3.47**	**264**		Pn	01 12 03.4	+0.3
J57A	**Williamstown**	**3.56**	**11**	IAmb_Lg		01 13 00.5	
	comp=Z,34nm,0.7s						
TRY	**Troy**	**3.73**	**40**	IAmb_Lg		01 13 12.6	
	comp=Z,27nm,1.1s						
O52A	**Adamsville**	**3.78**	**275**		Pn	01 12 07.6	+0.3
J59A	**Piesco**	**3.98**	**26**		Pn	01 12 09.9	-0.2
J59A				IAmb_Lg		01 13 18.3	
	comp=Z,29nm,0.8s						
P52A	**Corning**	**4.02**	**268**	Pn	Pn	01 12 11.1	+0.5
P52A				IAmb_Lg		01 13 22.5	
	comp=Z,38nm,1.1s						
UCCT	**U. Connecticut**	**4.03**	**61**	IAmb_Lg		01 13 23.2	
	comp=Z,29nm,0.9s						
L61B	**Northampton**	**4.08**	**50**		Pn	01 12 12.0	+0.5
V61A	**Roper**	**4.13**	**176**		Pn	01 12 10.4	-1.6
Q52A	**Bidwell**	**4.25**	**259**	IAmb_Lg		01 13 21.4	
	comp=Z,27nm,1.0s						
N51A	**Ashland**	**4.28**	**285**	IAmb_Lg		01 13 27.5	
	comp=Z,25nm,0.9s						
V58A	**Windy Hill, Pi**	**4.46**	**204**	IAmb_Lg		01 13 31.3	
	comp=Z,21nm,0.8s						
K62A	**Royalston**	**4.47**	**51**	IAmb_Lg		01 13 39.6	
	comp=Z,22nm,0.8s						
ACSO	**Alum Creek Sta**	**4.66**	**276**	IAmb_Lg		01 13 41.2	
	comp=Z,25nm,0.8s						
J61A	**Chester**	**4.74**	**42**	IAmb_Lg		01 13 48.5	
	comp=Z,26nm,0.8s						
HRV	**Adam Dziewonsk**	**4.80**	**56**	IAmb_Lg		01 13 45.8	
	comp=Z,28nm,0.8s						
Q51A	**Peebles**	**5.05**	**262**		Pn	01 12 24.6	-0.2
Q51A				IAmb_Lg		01 13 56.3	
	comp=Z,30nm,0.9s						
U54A	**Nelsons Funny**	**5.13**	**230**		Pn	01 12 26.3	+0.3
V55A	**Taylorsville**	**5.29**	**221**	IAmb_Lg		01 14 08.3	
	comp=Z,27nm,1.0s						
W57A	**Gilead**	**5.34**	**208**	IAmb_Lg		01 13 58.9	
	comp=Z,18nm,1.0s						
VT1	**Waterbury**	**5.39**	**34**	IAmb_Lg		01 14 05.3	
	comp=Z,27nm,1.1s						
N49A	**Columbus Grove**	**5.63**	**283**	IAmb_Lg		01 14 04.6	
	comp=Z,15nm,0.9s						
S51A	**Beattyville**	**5.69**	**249**	IAmb_Lg		01 14 19.0	
	comp=Z,26nm,1.0s						
I62A	**Tamworth**	**5.75**	**45**	IAmb_Lg		01 14 23.3	
	comp=Z,16nm,0.7s						
KMSC	**Kings Mountain**	**5.91**	**218**	IAmb_Lg		01 14 18.0	
	comp=Z,24nm,0.7s						
BIRD	**Birdtown, Kers**	**5.97**	**209**	IAmb_Lg		01 14 19.4	
	comp=Z,20nm,1.0s						
R50A	**Paris**	**5.99**	**257**	IAmb_Lg		01 14 18.9	
	comp=Z,16nm,1.1s						
MNTQ	**Montreal, Queb**	**6.09**	**22**	IAmb_Lg		01 14 19.0	
	comp=Z,16nm,0.8s						
V53A	**Saluda**	**6.30**	**230**		Pn	01 12 42.6	+0.6
O48B	**Farmland**	**6.32**	**276**	IAmb_Lg		01 14 29.4	
	comp=Z,18nm,0.8s						
H62A	**Milan**	**6.32**	**41**	IAmb_Lg		01 14 38.9	
	comp=Z,13nm,1.0s						
PAULI	**Pauline**	**6.40**	**219**	IAmb_Lg		01 14 34.9	
	comp=Z,15nm,0.8s						
P48A	**Milroy**	**6.57**	**269**	IAmb_Lg		01 14 40.2	
	comp=Z,12nm,0.7s						
N47A	**Urbana**	**6.76**	**281**	IAmb_Lg		01 14 49.2	
	comp=Z,15nm,0.9s						
J47A	**Sunmer**	**6.79**	**302**	IAmb_Lg		01 15 00.7	
	comp=Z,20nm,0.9s						
BLO	**Bloomington**	**7.46**	**267**	IAmb_Lg		01 15 03.7	
	comp=Z,12nm,0.7s						
W50A	**Signal Mountai**	**8.15**	**237**	IAmb_Lg		01 15 21.4	
	comp=Z,9.2nm,0.8s						
Y52A	**Lilburn**	**8.31**	**226**	IAmb_Lg		01 15 32.6	
	comp=Z,12nm,0.8s						

*AEIC **15** 01:11:45.3±0.6, 53.8N±0.2×165.8W±0.2, h65km±9km, Error ellipse: s-maj=26.4km s-min=3.7km az=147.0*

NEIC 15 01:11:45.5±0.5, 53.8N±0.2×165.8W±0.2, h69km±11km, ML2.9/10, ML2.6(AEIC), Error ellipse: s-maj=28.1km s-min=2.5km az=148.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKBBA	**Akutan Broad B**	**0.28**	**346**		Pn	01 11 56.3	-0.1
AKBBA					Sn	01 12 04.4	0.0
ZRO	**Akutan Zero**	**0.29**	**341**		Pn	01 11 56.4	-0.1
ZRO					Sn	01 12 04.7	+0.2
AKMO	**Akutan Morgan**	**0.29**	**337**		Pn	01 11 56.4	-0.1
AKMO					Sn	01 12 04.8	+0.3
AHB	**Akutan Harbor**	**0.29**	**0**		Pn	01 11 56.4	-0.2
AHB					Sn	01 12 04.9	+0.3
AKUT	**Akutan**	**0.32**	**5**		Pn	01 11 56.6	0.0
AKUT				IAML		01 12 05.2	
	comp=N,769nm,0.1s						
AKUT	**Akutan**	**0.32**	**5**		Sn	01 12 05.0	+0.2
AKSA	**Akutan Strait**	**0.32**	**13**		Pn	01 11 56.5	-0.2
AKSA					Sn	01 12 04.8	-0.1
AKRB	**Akutan Reef Bi**	**0.34**	**334**		Pn	01 11 56.7	-0.1
AKLV	**Akutan Long Va**	**0.35**	**347**		Pn	01 11 56.7	-0.2
LVA	**Lava Point**	**0.36**	**340**		Pn	01 11 57.0	-0.1
LVA				Sn	Sn	01 12 05.6	+0.2
LVA				IAML		01 12 06.8	
	comp=N,632nm,0.6s						
UNV	**Unalaska Valle**	**0.41**	**274**		Pn	01 11 57.3	0.0
UNV				Sn	Sn	01 12 06.2	+0.2
UNV				IAML		01 12 08.2	
	comp=N,477nm,0.2s						
UNV				IAML		01 12 08.7	
	comp=E,340nm,0.3s						
MNAT	**Makushin Natee**	**0.52**	**277**		Pn	01 11 58.6	+0.2
MSW	**Makushin Switc**	**0.58**	**280**		Pn	01 11 59.0	0.0
MSW					Sn	01 12 09.8	+0.9
MAPS	**Pakushin South**	**0.67**	**269**		Pn	01 11 59.9	0.0
WEBT	**Westdahl Beart**	**0.99**	**39**		Pn	01 12 03.7	-0.2
WEBT					Sn	01 12 18.1	+0.6
OKER	**Okmok East Rim**	**1.38**	**255**		Pn	01 12 09.1	+0.2
OKTU	**Okmok Mt. Tuli**	**1.40**	**253**		Pn	01 12 09.0	0.0
ISNN	**Isanotski Nort**	**1.57**	**49**		Pn	01 12 11.6	+0.3
ISNN					Sn	01 12 32.5	+1.7
OKSP	**Okmok Steeple**	**1.58**	**250**		Pn	01 12 11.8	+0.3
DT1	**Dutton Round H**	**2.43**	**57**		Pn	01 12 23.3	+0.4
DOL	**Dolgoi Island**	**2.66**	**58**		Pn	01 12 26.5	+0.5
S12K	**Black Hills**	**2.88**	**48**		Pn	01 12 28.7	-0.3
S12K	**Black Hills**	**2.88**	**48**	IAML		01 13 13.3	
	comp=E,35nm,0.9s						
SDPT	**Sand Point**	**3.46**	**62**		Pn	01 12 37.4	+0.5
SDPT	**Sand Point**	**3.46**	**62**	IAML		01 13 26.1	
	comp=E,37nm,0.4s						

ASRS 15 01:20:56.3±0.3, 51°N±2°×8°7E±°, h1km, MLh3.2/1, Error ellipse: s-maj=4.3km s-min=3.2km az=35.2, confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBI	**Chibit, Altay**	**0.24**	**169**	Pg	Pg	01 21 00.6	-0.2
CHBI				Sg	Sg	01 21 03.8	-0.1
AKAR	**Aktash**	**0.26**	**152**	Pg	Pg	01 21 01.0	-0.2
AKAR				Sg	Sg	01 21 04.3	-0.3
ULGR	**Ulagan, Altay**	**0.34**	**77**	Pg	Pg	01 21 03.1	+0.2
ULGR				Sg	Sg	01 21 07.9	+0.5
CUR	**Chagan-Uzun**	**0.74**	**127**	Sg	Sg	01 21 20.8	+0.8
ELDR	**Elanda**	**1.08**	**309**	Pg	Pg	01 21 17.1	+0.1
ELDR				Sg	Sg	01 21 31.1	+0.1

*SJA **15** 01:22:29.7±0.7, 33.98S×73.41W, h37km, ML3.5, MW3.5*

*IDC **15** 01:22:30.6±1.6, 34.02S×73.31W, h0km, mb3.8/2, mbtmp3.8/4, ML4.0/2, MS3.3/2, Error ellipse: s-maj=62.1km s-min=31.7km az=70.0*

*GUC **15** 01:22:32.4±0.9, 33.90S×73.18W, h25km±5km, ML3.5*

ISC 15 01:22:33.1±1.5, 33.99S±0.04×73.38W±0.08, h35km, n59, σ1°06/69, 5C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**1.28**	**114**	↑*iP*	Pn	**01 22 53.4**	**-1.1**
BO03				*eS*	Sn	**01 23 08.4**	**-2.0**
BO03				IAML		01 23 09.7	
	comp=N,709nm,0.5s						
GO05	**Hualane**	**1.57**	**131**	↑*iP*	Pn	**01 22 58.0**	**-0.6**
GO05				*eS*	Sn	**01 23 15.9**	**-1.8**
GO05				IAML		01 23 17.9	
	comp=N,1μm,0.3s						
GO05	**Hualane**	**1.57**	**131**	*eP*	Pn	**01 22 57.3**	**-1.2**
GO05				*eS*	Sn	**01 23 16.7**	**-1.0**
GO05				IAML		01 23 17.5	
	comp=Z,760nm,0.9s						
VA01	**Torpederas**	**1.73**	**57**	*eP*	Pn	**01 22 59.0**	**-1.8**
VA01	**Torpederas**	**1.73**	**57**	*eP*	Pn	**01 22 59.8**	**-0.9**
VA01				*eS*	Sn	**01 23 19.8**	**-1.8**
MT01	**Popeta**	**1.77**	**87**	↑*iP*	Pn	**01 22 59.9**	**-1.4**
MT01				*eS*	Sn	**01 23 20.4**	**-2.2**
MT01				IAML		01 23 22.7	
	comp=N,349nm,0.4s						
MT01	**Popeta**	**1.77**	**87**	*eP*	Pn	**01 23 00.0**	**-1.2**
MT01				*eS*	Sn	**01 23 21.6**	**-1.0**
BO01	**Tunca**	**1.94**	**103**	↑*iP*	Pn	**01 23 02.5**	**-1.0**
BO01	**Tunca**	**1.94**	**103**	*eP*	Pn	**01 23 02.6**	**-1.0**
BO01				*eS*	Sn	**01 23 24.9**	**-1.9**
MT09	**Talagante**	**2.00**	**85**	↑*iP*	Pn	**01 23 03.2**	**-1.3**
MT09				IAML		01 23 28.3	
	comp=N,720nm,0.3s						
MT02	**Curacav**	**2.00**	**69**	↓*iP*	Pn	**01 23 03.2**	**-1.2**
MT02	**Curacav**	**2.00**	**69**	*eP*	Pn	**01 23 03.3**	**-1.2**
MT02				*eS*	Sn	**01 23 26.7**	**-1.6**
ROCH	**El Roble**	**2.22**	**64**	*eP*	Pn	**01 23 07.0**	**-0.6**
ROCH				IAML		01 23 37.0	
	comp=N,294nm,0.5s						
VA06	**Catapilco**	**2.25**	**51**	*eP*	Pn	**01 23 06.3**	**-1.5**
VA06				IAML		01 23 33.5	
	comp=E,671nm,0.5s						
MT05	**Renca**	**2.28**	**76**	*eP*	Pn	**01 23 07.8**	**-0.5**
MT05				IAML		01 23 37.3	
	comp=E,341nm,0.4s						
MT05	**Renca**	**2.28**	**76**	*eP*	Pn	**01 23 07.8**	**-0.5**
MT05				*eS*	Sn	**01 23 34.8**	**-0.3**
BO02	**Sierra Bellavi**	**2.29**	**111**	*eP*	Pn	**01 23 09.0**	**+0.5**
BO02				IAML		01 23 38.4	
	comp=N,637nm,0.2s						
BO02	**Sierra Bellavi**	**2.29**	**111**	*eP*	Pn	**01 23 08.5**	**0.0**
BO02				IAML		01 23 37.0	
	comp=Z,256nm,0.7s						
BO02				*eS*	Sn	**01 23 37.3**	**+1.7**
BO04	**La Punta**	**2.30**	**91**	*eP*	Pn	**01 23 08.1**	**-0.5**
BO04				IAML		01 23 37.5	
	comp=E,273nm,0.5s						
MT12	**Pirque**	**2.37**	**85**	*eP*	Pn	**01 23 08.8**	**-0.7**
MT12				IAML		01 23 37.8	
	comp=N,674nm,0.4s						
PEL	**Peldehue**	**2.40**	**70**	*eP*	Pn	**01 23 09.9**	**0.0**
PEL				IAML		01 23 41.3	
	comp=N,422nm,0.6s						
MT15	**Las Vizcachas**	**2.42**	**82**	*eP*	Pn	**01 23 09.6**	**-0.7**
MT15				IAML		01 23 44.5	
	comp=N,475nm,0.3s						
MT03	**Universidad Ad**	**2.44**	**79**	*eP*	Pn	**01 23 10.1**	**-0.4**
MT03				IAML		01 23 44.9	
	comp=N,460nm,0.2s						
MT03	**Universidad Ad**	**2.44**	**79**	*eP*	Pn	**01 23 09.9**	**-0.6**
MT03				*eS*	Sn	**01 23 39.0**	**-0.1**
MT03				IAML		01 23 44.3	
	comp=Z,188nm,0.5s						
MT14	**Cerro Calan**	**2.44**	**77**	*eP*	Pn	**01 23 09.7**	**-0.8**
MT14				IAML		01 23 44.5	
	comp=E,344nm,0.5s						
MT16	**CCHEN**	**2.44**	**78**	*eP*	Pn	**01 23 10.0**	**-0.6**
MT16				IAML		01 23 41.8	
	comp=E,144nm,0.6s						
MT10	**Hacienda Santa**	**2.47**	**74**	*eP*	Pn	**01 23 11.2**	**+0.2**
MT10				IAML		01 23 42.5	
	comp=N,1μm,0.5s						
MT13	**San Alfonso**	**2.58**	**86**	*eP*	Pn	**01 23 12.2**	**-0.3**
MT13				IAML		01 23 43.5	
	comp=E,387nm,0.4s						
MT13	**San Alfonso**	**2.58**	**86**	*eP*	Pn	**01 23 12.1**	**-0.5**
MT13				*eS*	Sn	**01 23 43.1**	**+0.3**
MT13				IAML		01 23 44.0	
	comp=Z,168nm,0.5s						
LMEL	**Las Melosas**	**2.64**	**88**	*eP*	Pn	**01 23 13.5**	**+0.1**
LMEL				IAML		01 23 50.0	
	comp=N,204nm,0.1s						
LMEL	**Las Melosas**	**2.64**	**88**	*eP*	Pn	**01 23 13.0**	**-0.4**
LMEL				*eS*	Sn	**01 23 44.5**	**+0.2**
LMEL				IAML		01 23 47.4	
	comp=Z,130nm,0.5s						
FCH	**Farellones**	**2.66**	**77**	*eP*	Pn	**01 23 13.8**	**+0.1**
FCH				IAML		01 23 45.5	
	comp=N,369nm,0.3s						
VA03	**San Esteban**	**2.66**	**64**	*eP*	Pn	**01 23 13.2**	**-0.3**
VA03				IAML		01 23 45.7

	comp=Z,22nm,0.4s							
PLCA	**Paso Flores**	**7.10**	**162**	Pn	**Pn**	**01 24 15.8**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=340,slow=14,SNR=13							
PLCA				Sn	Sn	01 25 40.8	+6.7
	comp=Z,0.1nm,0.3s,baz=20,slow=23,SNR=1.7							
PLCA				LR	LR	01 27 11.2		
	comp=Z,38nm,18.7s,baz=318,slow=40							
	comp=Z,3.4nm,0.5s							
LPAZ	**La Paz**	**18.24**	**16**	P	**Pn**	**01 26 47.0**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=190,slow=11,SNR=5.4							
	comp=Z,1.6nm,0.7s							
TXAR	**Lajitas Array**	**69.19**	**332**	P	P	01 33 39.4	+3.1	
	comp=Z,0.6nm,0.6s,baz=158,slow=8.6,SNR=12							
	comp=Z,0.6nm,0.6s							
RAR	**Rarotonga**	**75.59**	**254**	LR	LR	01 58 54.9		
	comp=Z,111nm,19.4s,baz=301,slow=29							
TORD	**Torodi Ar. Bea**	**85.25**	**71**	P	P	01 35 08.9	+2.3	
	comp=Z,0.6nm,0.8s,baz=252,slow=4.2,SNR=3.9							
	comp=Z,0.6nm,0.8s							

IDC ***15*** *01:33:54.1±0.9, 60.°36N×60.°11E, h0km, mb3.7/3, mbtmp3.6/12, ML3.4/10, MS4.2/2, Error ellipse: s-maj=14.8km s-min=8.4km az=34.0*
MIRAS ***15*** *01:33:55.0, 60.°33N×60.°00E, h1km, ML3.5/8*
ISC 15 01:33:53.2±0.8, 60.°34N±0.°05×60.°15E±0.°04, h10km, n25, σ2=58/51, mb3.8/3, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVUR	**Severouralsk**	**0.17**	**211**	*i* P	**Pg**	**01 33 56.7**	**-0.1**
	510nm,0.9s						
SVUR				*i* S	**Sg**	**01 33 58.6**	**-0.7**
SVUR				*i* S	**Sg**	**01 33 58.6**	**-0.7**
	8μm,0.2s						
SVUR				*i* S	**Sg**	**01 33 58.6**	**-0.7**
SVUR				*i* AML	AML	01 33 59.2	
	9μm,0.8s						
PR7R	**Sarany**	**1.93**	**202**	*i* P	**Pb**	**01 34 28.7**	**+0.3**
	254nm,0.2s						
PR7R				*i* S	**Sb**	**01 34 54.0**	**+1.5**
	637nm,0.3s						
PR7R				*i* S	**Sb**	**01 34 54.0**	**+1.5**
PR7R				*i* S	**Sb**	**01 34 54.0**	**+1.5**
PR7R				*i* AML	AML	01 34 56.2	
	1μm,0.4s						
PR1R	**Pomanovo**	**2.08**	**237**	*i* P	**Pb**	**01 34 31.4**	**+0.5**
	378nm,0.4s						
PR1R				*i* S	**Sg**	**01 34 58.1**	**-1.8**
PR1R				*i* S	**Sg**	**01 34 58.1**	**-1.8**
	487nm,0.4s						
PR1R				*i* S	**Sg**	**01 34 58.1**	**-1.8**
PR1R				*i* AML	AML	01 34 59.8	
	623nm,0.2s						
PR0R	**Verkhnechusovs**	**2.65**	**217**	*i* P	**Pn**	**01 34 37.6**	**+1.8**
	75nm,0.3s						
PR0R				*i* S	**Sb**	**01 35 10.8**	**-2.3**
PR0R				*i* S	**Sb**	**01 35 10.8**	**-2.3**
PR0R				*i* S	**Sb**	**01 35 10.8**	**-2.3**
	742nm,0.2s						
PR0R				*i* AML	AML	01 35 14.0	
	2μm,0.3s						
PR6R	**Ekimyata**	**3.02**	**225**	*i* P	**Pn**	**01 34 43.8**	**+2.9**
	11nm,0.4s						
PR6R				*i* S	**Sb**	**01 35 20.9**	**-2.9**
	87nm,0.3s						
PR6R				*i* S	**Sb**	**01 35 20.9**	**-2.9**
PR6R				*i* S	**Sb**	**01 35 20.9**	**-2.9**
PR6R				*i* AML	AML	01 35 22.9	
	217nm,0.2s						
PR3R	**Kungur**	**3.33**	**211**	*i* P	**Pn**	**01 34 48.3**	**+3.0**
	62nm,0.4s						
PR3R				*i* S	**Sn**	**01 35 28.9**	**+4.0**
	34nm,0.3s						
PR3R				*i* S	**Sn**	**01 35 28.9**	**+4.0**
PR3R				*i* S	**Sn**	**01 35 28.9**	**+4.0**
PR3R				*i* AML	AML	01 35 30.9	
	166nm,0.3s						
PR4R	**Vlasy**	**3.35**	**225**	*i* P	**Pn**	**01 34 44.1**	**-1.4**
	42nm,0.1s						
PR4R				*i* S	**Sn**	**01 35 24.9**	**-0.5**
PR4R				*i* S	**Sn**	**01 35 24.9**	**-0.5**
PR4R				*i* S	**Sn**	**01 35 24.9**	**-0.5**
	158nm,0.2s						
PR4R				*i* AML	AML	01 35 27.3	
	410nm,0.3s						
ARTI	**Arti**	**4.08**	**194**	Pn	**Pn**	**01 34 57.4**	**+2.0**
	2.4nm,0.3s,baz=358,slow=10,SNR=18						
ARTI				Sn	**Sn**	**01 35 43.8**	**+0.7**
	5.3nm,0.3s,baz=1.4,slow=16,SNR=4.1						
ARTI				Lg	Lg	01 35 56.1	
	10nm,0.3s,baz=4.6,slow=23,SNR=10						
	4.5nm,0.3s						
ARTI	**Arti**	**4.08**	**194**	*i* P	**Pn**	**01 34 58.3**	**+2.9**
	6.4nm,0.3s						
ARTI				*i* S	**Sn**	**01 35 47.4**	**+4.2**
	36nm,0.3s						
ARTI				*i* S	**Sn**	**01 35 47.4**	**+4.2**
ARTI				*i* S	**Sn**	**01 35 47.4**	**+4.2**
ARTI				*i* AML	AML	01 35 52.8	
	103nm,0.4s						
KIRV	**Kirov**	**5.75**	**257**	Pn	**Pn**	**01 35 21.4**	**+3.0**
	1.1nm,0.3s,baz=96,slow=6.0,SNR=1.5						
KIRV				Sn	**Sn**	**01 36 24.9**	**+0.6**
	2.9nm,0.3s,baz=360,slow=22,SNR=6.4						
KIRV				Lg	Lg	01 36 47.2	
	1.7nm,0.3s,baz=353,slow=9.7,SNR=8.4						
	3.6nm,0.4s						
BVAR	**Borovoye Array**	**9.24**	**138**	Pn	**Pn**	**01 36 07.8**	**+1.4**
	1.1nm,0.3s,baz=328,slow=15,SNR=136						
BVAR				Sn	**Sn**	**01 37 46.9**	**-3.4**
	0.3nm,0.3s,baz=328,slow=26,SNR=8.3						
BVAR				Lg	Lg	01 38 49.5	
	baz=326,slow=29						
AKTO	**Aktyubinsk**	**10.01**	**188**	Pn	**Pn**	**01 36 17.3**	**+0.5**
	0.7nm,0.3s,baz=348,slow=6.2,SNR=8.1						
AKTO				Sn	**Sn**	**01 38 05.2**	**-3.8**
	0.4nm,0.3s,baz=187,slow=23,SNR=9.0						
AKTO				Lg	Lg	01 39 07.1	
	baz=344,slow=19						
	2.0nm,0.4s						
BELG	**Belogornoye**	**10.55**	**227**	Lg	Lg	01 39 25.2	
	0.6nm,0.3s,baz=78,slow=10.0,SNR=2.9						
KURBB	**Kurchatov Arra**	**14.21**	**125**	Pn	**Pn**	**01 37 12.7**	**-1.5**
	baz=320,slow=13,SNR=5.2						
KURBB				Sn	Sn	01 39 43.5	-8.1
	baz=5.4,slow=26,SNR=4.2						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**14.78**	**105**	Sn	**Sn**	**01 40 05.9**	**+0.4**
	0.6nm,0.3s,baz=305,slow=23,SNR=4.9						
FINES	**FINESS Array B**	**16.51**	**289**	Pn	**Pn**	**01 37 42.6**	**-1.8**
	0.1nm,0.3s,baz=87,slow=11,SNR=7.6						
FINES				Sn	Sn	01 40 34.4	-13
	0.3nm,0.3s,baz=76,slow=22,SNR=6.5						
	0.8nm,0.5s						
ARCES	**ARCESS Array B**	**17.05**	**317**	Pn	**Pn**	**01 37 47.3**	**-4.1**
	0.3nm,0.3s,baz=100,slow=11,SNR=19						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**18.76**	**126**	P	**P**	**01 38 13.5**	**+1.4**
	0.2nm,0.3s,baz=332,slow=8.7,SNR=6.4						
MKAR				S	**Sn**	**01 41 35.0**	**-7.2**
	0.2nm,0.5s,baz=323,slow=23,SNR=2.2						
	0.5nm,0.5s						
KBZ	**Khabaz**	**19.63**	**220**	P	**P**	**01 38 22.9**	**+1.3**
	0.2nm,0.3s,baz=357,slow=7.2,SNR=3.6						
	1.5nm,0.8s						
AKASG	**Malin Array Be**	**19.81**	**255**	P	**P**	**01 38 23.9**	**+0.5**
	0.6nm,0.3s,baz=46,slow=10.0,SNR=6.0						
	0.6nm,0.5s						
SPITS	**Spitsbergen Ar**	**22.64**	**338**	P	**P**	**01 38 56.3**	**+2.5**
	21nm,1.2s,baz=115,slow=11,SNR=1.8						
	21nm,1.2s						
HFS	**Hagfors**	**22.70**	**290**	P	**P**	**01 38 55.2**	**+0.6**
	3.6nm,1.0s,baz=64,slow=16,SNR=4.2						
	3.6nm,1.0s						
NOA	**NORSAR Array B**	**23.52**	**293**	P	**P**	**01 39 04.5**	**+1.4**
	0.2nm,0.5s,baz=72,slow=9.7,SNR=1.7						
	0.2nm,0.5s						
KLR	**Kul'dur**	**40.71**	**73**	LR	LR	02 01 13.6	
	comp=Z,177nm,18.3s,baz=206,slow=40						
DLBC	**Dease Lake**	**61.29**	**6**	LR	LR	02 14 15.0	
	comp=Z,288nm,18.8s,baz=280,slow=40						

CATAC 15 01:37:31.2±0.3, 12.°N±3.°×87.°W±.°, h72km±3km, M3.1/20, MLv3.1/20, Error ellipse: s-maj=7.6km s-min=3.2km az=36.1, confirmed, Nicaragua

COPN	**Copaltepe**	**0.22**	**76**	P	Pn	01 37 43.0	+0.9	
ALEN	**Leon**	**0.34**	**350**	P	Pn	01 37 44.1	+1.2	
ALEN	**Leon**	**0.34**	**350**	S	Sn	01 37 53.8	+2.4	
CNGA	**Al SSO del Vol**	**0.38**	**16**	P	Pn	01 37 44.5	+1.3	
CNGA				S	Sn	01 37 55.5	+3.4	
AMTN	**Mateare**	**0.39**	**73**	P	Pn	01 37 44.9	+1.7	
AMTN	**Mateare**	**0.39**	**73**	S	Sn	01 37 55.3	+3.3	
CNGN	**Cerro Negro**	**0.39**	**17**	P	Pn	01 37 44.8	+1.5	
CNGN	**Cerro Negro**	**0.39**	**17**	S	Sn	01 37 55.6	+3.5	
SAPS	**Ciudad Sandino**	**0.40**	**84**	P	Pn	01 37 44.8	+1.5	
SAPS	**Ciudad Sandino**	**0.40**	**84**	S	Sn	01 37 55.3	+3.1	
MOM2	**El Cardon**	**0.45**	**46**	P	Pn	01 37 44.3	+0.6	
MOM2				S	Sn	01 37 55.6	+2.7	
APQ3	**Volcan Apoyequ**	**0.46**	**71**	P	Pn	01 37 45.1	+1.3	
APQ3				S	Sn	01 37 55.8	+2.8	
ILCN	**San Idelfonso**	**0.46**	**14**	P	Pn	01 37 45.0	+1.1	
ILCN				S	Sn	01 37 55.8	+2.6	
APQ2	**Apoyeque**	**0.48**	**81**	S	Sn	01 37 55.9	+2.5	
ABCN	**Banco Central**	**0.49**	**90**	S	Sn	01 37 56.4	+2.8	
UNAN	**Cigeo UNAN**	**0.53**	**91**	P	Pn	01 37 45.8	+1.3	
UNAN				S	Sn	01 37 56.9	+2.6	
R4DEC	**Barrio San Lui**	**0.55**	**87**	S	Sn	01 37 57.3	+2.7	
MGAN	**Managua**	**0.55**	**88**	S	Sn	01 37 57.1	+2.5	
MGAN	**Managua**	**0.55**	**88**	P	Pn	01 37 45.6	+0.9	
PKGN	**Cerro Pekin**	**0.56**	**343**	P	Pn	01 37 46.2	+1.4	
PKGN				S	Sn	01 37 58.3	+3.5	
WILN	**Americas 2**	**0.61**	**87**	S	Sn	01 37 58.4	+2.8	
CRIN	**San Cristobal**	**0.62**	**338**	S	Sn	01 37 58.8	+2.8	
CRIN	**San Cristobal**	**0.62**	**338**	P	Pn	01 37 46.5	+1.1	
NANN	**Nandasmo**	**0.70**	**105**	P	Pn	01 37 47.3	+1.1	
NANN	**Nandasmo**	**0.70**	**105**	S	Sn	01 38 00.7	+3.3	
CSGN	**Cosiguina Volc**	**1.12**	**319**	P	Pn	01 37 52.0	+0.7	
CSGN				S	Sn	01 38 07.8	+1.4	
BOAB	**BOACO BROADBAN**	**1.17**	**74**	S	Sn	01 38 08.5	+1.1	
BOAB	**BOACO BROADBAN**	**1.17**	**74**	P	Pn	01 37 52.3	+0.4	
MATN	**Matagalpa**	**1.18**	**47**	S	Sn	01 38 08.6	+0.8	
MATN	**Matagalpa**	**1.18**	**47**	P	Pn	01 37 51.7	-0.5	
JAPN	**Al SSO del Vol**	**1.26**	**118**	P	Pn	01 37 52.8	-0.3	
CONN	**Concepcion**	**1.29**	**116**	P	Pn	01 37 53.6	+0.1	
CNCH	**Conchagua**	**1.52**	**319**	P	Pn	01 37 56.5	-0.1	
CNCH	**Conchagua**	**1.52**	**319**	S	Sn	01 38 14.4	-1.3	
PACA	**Pacayal**	**1.99**	**312**	P	Pn	01 38 03.7	+0.8	
JTS	**Las Juntas de**	**2.58**	**135**	P	Pn	01 38 11.5	+0.8	

IPEC ***15*** *01:38:33.9±0.2, 50.°25N×18.°84E, h1km, ML2.3/3, Error ellipse: s-maj=2.0km s-min=0.9km az=176.0*
VIE ***15*** *01:38:33.4±0.3, 50.°32N×18.°82E, h0km, mb2.4/2, ml2.6/4, ms3.5/1, Error ellipse: s-maj=3.4km s-min=1.7km az=179.0*
14 km WNW of Katowice Suspected Mining induced.
PRU ***15*** *01:38:34.7, 50.°26N×18.°81E, h0km*
ISC 15 01:38:34.0±0.9, 50.°21N±0.°04×18.°82E±0.°03, h0km, n27, σ1=9/05/49, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.42**	**253**	*e*PG	**Pb**	**01 38 44.1**	**-0.3**
RAC				*e*SG	**Sb**	**01 38 51.5**	**+0.2**
OKC	**Ostrava-Krasne**	**0.57**	**230**	*e*PG	**Pb**	**01 38 46.3**	**-0.6**
OKC				*e*SG	**Sb**	**01 38 54.7**	**-0.9**
	38nm,0.4s						
OJC	**Ojcow**	**0.63**	**89**	*e*Pg	**Pg**	**01 38 45.7**	**-0.3**
OJC				*e*Sg	**Sg**	**01 38 54.2**	**+0.1**
STEB	**Steborice**	**0.73**	**248**	*e*PG	**Pb**	**01 38 49.0**	**-0.6**
STEB				*e*SG	**Sb**	**01 38 59.7**	**-0.5**
	138nm,0.6s						
MORC	**Moravsky Berou**	**0.93**	**243**	*e*Pg	**Pg**	**01 38 52.4**	**+0.5**
	baz=60						
MORC				*e*Sg	**Sg**	**01 39 04.1**	**+0.1**
	61nm,0.5s,baz=60						
NIE	**Niedzica**	**1.24**	**129**	*e*Pg	**Pg**	**01 38 58.1**	**+0.3**
NIE				*e*Sg	**Sn**	**01 39 16.4**	**+0.3**
KRLC	**Kraliky**	**1.32**	**265**	*e*PG	**Pg**	**01 38 58.3**	**-1.0**
JAVC	**Velka Javorina**	**1.55**	**210**	*e*Pn	**Pb**	**01 39 03.4**	**-0.1**
	baz=28						
DPC	**Dobruska-Polom**	**1.61**	**276**	*e*PG	**Pn**	**01 39 03.4**	**-0.4**
DPC				*e*SG	**Sg**	**01 39 25.8**	**+0.1**
	26nm,0.7s						
VRAC	**Vranov**	**1.71**	**239**	*e*Pn	**Pn**	**01 39 05.4**	**+0.4**
	baz=56						
VRAC				*e*Sg	**Sb**	**01 39 28.2**	**0.0**
	29nm,0.4s,baz=56						
OSTC	**Ostas**	**1.71**	**283**	*e*PG	**Pn**	**01 39 04.5**	**-0.5**
OSTC				*e*SG	**Sg**	**01 39 29.0**	**+0.2**
	24nm,0.9s						
KSP	**Ksiaz**	**1.74**	**292**	*e*Pg	**Pb**	**01 39 06.8**	**0.0**
KSP				*e*Sg	**Sg**	**01 39 30.6**	**+0.9**
CHVC	**Chvalec**	**1.81**	**283**	*e*PG	**Pn**	**01 39 06.2**	**-0.3**
UPC	**Upice**	**1.83**	**280**	*e*PG	**Pb**	**01 39 07.9**	**-0.4**
KRUC	**Moravsky**	**1.95**	**235**	*e*Pn	**Pn**	**01 39 08.8**	**+0.4**
	baz=52						
KRUC				*e*Sg	**Sb**	**01 39 36.0**	**+0.7**
	16nm,0.5s,baz=52						
TREC	**Trest**	**2.35**	**248**	*e*SG	**Sb**	**01 39 48.0**	**+1.2**
PRU	**Pruhonice**	**2.77**	**267**	*e*PG	**Pb**	**01 39 23.8**	**-0.5**
PRU				*e*SG	**Sb**	**01 40 00.8**	**+2.1**
CONA	**Conrad Observa**	**3.00**	**222**	*i* Pn	**Pn**	**01 39 24.0**	**+1.2**
	0.1nm,0.2s						
CONA				*e*Sn	**Sn**	**01 40 00.0**	**+0.4**
	5.4nm,0.5s						
RONA	**Rosalia, Austr**	**3.01**	**215**	*i* Pn	**Pn**	**01 39 23.7**	**+0.7**
	0.2nm,0.1s						
RONA				*i* Sn	**Sn**	**01 39 59.9**	**0.0**
	2.6nm,0.4s						
ZVC	**Zvikov**	**3.10**	**257**	*e*PN	**Pn**	**01 39 24.5**	**+0.4**
ZVC				*e*PG	**Pb**	**01 39 30.1**	**+0.2**
ZVC				*e*SG	**Sg**	**01 40 11.5**	**-1.9**
BRG	**Berggiesshubel**	**3.18**	**284**	Pg	**Pg**	**01 39 37.4**	**+2.4**
BRG				Sg	**Sg**	**01 40 17.5**	**+1.3**
BRG				Amp		01 40 19.1	
	comp=Z,4.9nm,0.5s						
CKRC	**Cesky Krumlov**	**3.25**	**246**	*e*SG	**Sg**	**01 40 19.0**	**+0.5**
KHC	**Kasperske Hory**	**3.57**	**254**	*e*PN	**Pn**	**01 39 30.1**	**-0.6**
KHC				*e*SG	**Sg**	**01 40 28.2**	**-0.6**
	comp=Z,8.2nm,0.4s						
MOA	**Molln**	**3.82**	**234**	*e*Pn	**Pn**	**01 39 35.0**	**+0.9**
	comp=Z,0.2nm,0.2s						
MOA				*i* Sn	**Sb**	**01 40 25.4**	**-3.6**
	comp=Z,9.0nm,0.9s						
CLL	**Collm**	**3.86**	**289**	*e*Pg	**Pg**	**01 39 46.0**	**-1.9**
CLL				*e*Sg	**Sg**	**01 40 37.0**	**-0.8**
BIOA	**Bad Ischl, Aus**	**4.25**	**236**	*e*Pn	**Pn**	**01 39 40.1**	**+0.1**
	comp=Z,0.9nm,0.4s						
BIOA				*e*Sn	**Sn**	**01 40 31.5**	**+1.3**
	comp=Z,5.2nm,0.6s						
WTTA	**Wattenberg**	**5.59**	**241**	*e*Pn	**Pn**	**01 39 56.8**	**-1.8**
	comp=Z,0.1nm,0.2s						
WTTA				*e*Sn	**Sn**	**01 41 04.8**	**+1.2**
	comp=Z,0.9nm,0.4s						

SNET ***15*** *01:38:41.5±1.4, 13.°49N×90.°12W, h42km, ML3.8*
CATAC ***15*** *01:38:41.2±0.6, 13.°N±4.°×9.°0W±.°, h35km±4km, M3.9/12, MLv3.9/12, Error ellipse: s-maj=8.7km s-min=5.4km az=22.6, confirmed*
GCG ***15*** *01:38:42.5±0.9, 13.°59N×90.°10W, h47km±13km, MD4.2, ML4.6, MW2.9*
ISC 15 01:38:41.1±2.1, 13.°48N±0.°09×90.°11W±0.°07, h59km±14km, n44, σ0=32/54, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.53**	**37**	*e*P	**Pn**	**01 38 53.7**	**+0.1**
NUBE				*e*S	**Sn**	**01 39 02.6**	**0.0**
NUBE	**Las Nubes**	**0.53**	**37**	P	**Pn**	**01 38 53.5**	**-0.1**
CEVE	**Cerro Verde**	**0.59**	**53**	S	**Sn**	**01 39 04.4**	**+0.6**
CEVE	**Cerro Verde**	**0.59**	**53**	P	**Pn**	**01 38 54.2**	**-0.1**
SBLS	**San Blas**	**0.60**	**53**	*e*P	**Pn**	**01 38 54.3**	**-0.1**
LOAL	**Lomas de Alarc**	**0.61**	**32**	*e*P	**Pn**	**01 38 54.5**	**+0.2**
LOAL	**Lomas de Alarc**	**0.61**	**32**	S	**Sn**	**01 39 04.9**	**+0.9**
LOAL	**Lomas de Alarc**	**0.61**	**32**	P	**Pn**	**01 38 54.2**	**-0.1**
RTR	**El Retiro**	**0.62**	**47**	*e*P	**Pn**	**01 38 54.8**	**+0.2**
SNJE	**San Jose**	**0.63**	**51**	*e*P	**Pn**	**01 38 54.6**	**-0.1**
SNJE				*e*S	**Sn**	**01 39 04.4**	**-0.2**
JAYA	**Jayaque - finc**	**0.67**	**74**	*e*P	**Pn**	**01 38 54.7**	**-0.4**
JAYA				*e*S	**Sn**	**01 39 04.9**	**-0.4**
JAYA	**Jayaque - finc**	**0.67**	**74**	*i* P	**Pn**	**01 38 54.8**	**-0.3**
JAYA				*i* S	**Sn**	**01 39 04.6**	**-0.7**
JAYA				IAML		01 39 09.0	
	comp=N,23μm,0.3s						
JAYA	**Jayaque - finc**	**0.67**	**74**	S	**Sn**	**01 39 05.2**	**-0.2**
JAYA	**Jayaque - finc**	**0.67**	**74**	P	**Pn**	**01 38 54.9**	**-0.3**
UNIC	**Universidad Ca**	**0.74**	**47**	*e*P	**Pn**	**01 38 55.6**	**-0.3**
UNIC				*e*S	**Sn**	**01 39 07.0**	**+0.3**
UNIC	**Universidad Ca**	**0.74**	**47**	P	**Pn**	**01 38 55.5**	**-0.4**
CEDA	**San Andres**	**0.77**	**65**	*e*P	**Pn**	**01 38 56.3**	**+0.1**
CEDA				*e*S	**Sn**	**01 39 07.6**	**+0.3**
CEDA	**San Andres**	**0.77**	**65**	P	**Pn**	**01 38 56.2**	**-0.1**
PMON	**Piamonte**	**0.81**	**73**	*e*P	**Pn**	**01 38 56.9**	**0.0**
PMON				*e*S	**Sn**	**01 39 08.6**	**+0.3**
PMON	**Piamonte**	**0.81**	**73**	P	**Pn**	**01 38 56.8**	**0.0**
BOQS	**Boqueron**	**0.85**	**72**	*e*P	**Pn**	**01 38 57.3**	**-0.1**
UEES	**Universidad Ev**	**0.88**	**74**	*e*P	**Pn**	**01 38 57.9**	**+0.2**
UEES				*e*S	**Sn**	**01 39 09.8**	**-0.1**
UEES	**Universidad Ev**	**0.88**	**74**	S	**Sn**	**01 39 10.1**	**+0.2**
UEES	**Universidad Ev**	**0.88**	**74**	P	**Pn**	**01 38 57.7**	**0.0**
FG16	**Alotenango, Sa**	**0.88**	**334**	*i* P	Pn	01 39 02.9	+5.0
FG16				*i* S	Sn	01 39 17.7	+7.5
FG8	**Yepocapa, Chim**	**0.89**	**331**	*i* P	Pn	01 39 03.2	+5.3
LOMA	**Loma Larga**	**0.93**	**79**	*e*P	**Pn**	**01 38 58.1**	**-0.2**
LOMA				*e*S	**Sn**	**01 39 10.9**	**-0.1**
LOMA	**Loma Larga**	**0.93**	**79**	S	**Sn**	**01 39 11.1**	**+0.1**
LOMA	**Loma Larga**	**0.93**	**79**	P	**Pn**	**01 38 58.0**	**-0.4**
JUAM	**Asuncion Mita**	**0.94**	**25**	*i* P	**Pn**	**01 38 58.2**	**-0.2**
JUAM				*i* S	**Sn**	**01 39 10.9**	**-0.3**
LFU	**La Fuente**	**1.01**	**74**	*e*P	**Pn**	**01 38 59.4**	**+0.1**
LBRS	**Las Brisas**	**1.07**	**76**	*e*P	**Pn**	**01 39 00.3**	**+0.1**
ESSG	**Sabana Grande**	**1.14**	**322**	*i* P	**Pn**	**01 39 01.4**	**+0.3**
ESSG				*i* S	**Sn**	**01 39 15.5**	**-0.4**
PAVA	**Las Pavas**	**1.17**	**78**	S	**Sn**	**01 39 17.4**	**+0.8**
PAVA	**Las Pavas**	**1.17**	**78**	P	**Pn**	**01 39 01.4**	**-0.1**
MTO3	**Montecristo**	**1.17**	**38**	*i* P	**Pn**	**01 39 01.5**	**-0.3**
MTO3	**Montecristo**	**1.17**	**38**	*i* P	**Pn**	**01 39 01.3**	**-0.3**
MTO3	**Montecristo**	**1.17**	**38**	S	**Sn**	**01 39 16.7**	**-0.2**
MTO3	**Montecristo**	**1.17**	**38**	P	**Pn**	**01 39 01.4**	**-0.3**
ESQI	**Esquipulas**	**1.31**	**35**	*e*P	**Pn**	**01 39 03.4**	**0.0**
ESQI				*e*S	**Sn**	**01 39 19.6**	**-0.5**
ESQI	**Esquipulas**	**1.31**	**35**	S	**Sn**	**01 39 20.2**	**+0.2**
ESQI	**Esquipulas**	**1.31**	**35**	P	**Pn**	**01 39 03.4**	**0.0**
SARH	**Santa Rosa de**	**1.84**	**45**	*i* P	**Pn**	**01 39 10.9**	**+0.4**
LCND	**La Caada**	**2.17**	**94**	P	**Pn**	**01 39 15.0**	**+0.1**

NNC 15 01:42:57.7±9.2, 38.°06N×69.°68E, h0km, mb3.8, mpv3.5, 4C-1D, Error ellipse: s-maj=65.5km s-min=53.5km az=156.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**4.09**	**4**	Pg	Pb	01 44 13.0	+2.4
	18nm,0.5s						
IUG				Lg	Lg	01 45 08.3	
	70nm,0.7s						
BRLS	**Borolday**	**4.96**	**1**	Pg	Pb	01 44 24.9	-0.5
	4.6nm,0.5s						
BRLS				Lg	Lg	01 45 29.0	
	20nm,0.6s						
KK31	**Karatay Array**	**5.08**	**7**	⇑Pn	Pn	01 44 15.9	+0.8
	0.4nm,0.2s,baz=108,slow=9.9,SNR=10						
KK31				Pg	Pb	01 44 31.1	+3.7
	2.7nm,0.3s,baz=197,slow=18,SNR=20						
KK31				⇑Sn	Sn	01 45 14.2	-0.2
	2.3nm,0.3s,baz=181,slow=27						
KK31				⇑Lg	Lg	01 45 38.4	
	17nm,0.5s,baz=192,slow=28,SNR=10						
MRKS	**Merke**	**5.40**	**29**	Pg	Pb	01 44 27.8	-5.2
	2.4nm,0.3s						
MRKS				Lg	Lg	01 45 33.9	
	9.0nm,1.3s						
AB31	**Akbulak array**	**13.21**	**331**	⇑P	Pn	01 46 00.6	-5.8
	0.1nm,0.2s,baz=178,slow=10,SNR=10.0						
AKTO	**Aktyubinsk**	**14.90**	**330**	⇓P	Pn	01 46 31.3	+1.8
	0.6nm,0.5s						

NEIC ***15*** *02:06:51.8±2.0, 35.°1N±0.°1×23.°05E±0.°08, h46km±11km, mb4.5/10, Error ellipse: s-maj=16.4km s-min=8.5km az=197.0*
HLW ***15*** *02:06:52.3, 35.°05N×23.°29E, h28km±5km, Md3.7, Ml3.9*
ISK ***15*** *02:06:52.5, 35.°14N×23.°30E, h83km, ML3.5/14*
IDC ***15*** *02:06:53.6±1.2, 35.°46N×23.°19E, h49km±12km, mb3.8/16, mbtmp3.9/26, ML3.6/8, MS3.0/1, Error ellipse: s-maj=18.0km s-min=9.5km az=14.0*
ATH ***15*** *02:06:53.7, 35.°14N×23.°21E, h24km±2km, ML3.6/6, Manual Solution by F.Xalaris First location: 2019/09/15 02:07:52, This location: 2019/09/15 02:25:23 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
THE ***15*** *02:06:54.

DAT				S	Sn	02 08 17.6	-15		
BDRM	**Kayabasi**	**3.91**	**60**	P	**Pn**	**02 07 51.3**	**+2.5**		
BDRM				S	Sn	02 08 18.4	-15		
CHOS	**Chios island**	**3.94**	**35**	Pn	**Pn**	**02 07 51.3**	**+2.0**		
DDIM	**Aydin, Didim**	**3.98**	**54**	P	**Pn**	**02 07 52.0**	**+2.3**		
SLUM	**Salum**	**4.03**	**155**	P	**Pn**	**02 07 52.3**	**+1.8**		
SLUM				S	**Sn**	**02 08 33.5**	**-2.9**		
GCAM	**G?zelcaml?**	**4.11**	**51**	Pn	**Pn**	**02 07 53.9**	**+2.4**		
GCAM	**G?zelcaml?**	**4.11**	**51**	P	**Pn**	**02 07 53.9**	**+2.4**		
DGB	**zmir**	**4.12**	**45**	P	**Pn**	**02 07 52.8**	**+1.1**		
ARG	**Arkhangelos**	**4.13**	**74**	Pn	**Pn**	**02 07 53.9**	**+2.0**		
ARG	**Arkhangelos**	**4.13**	**74**	Pn	**Pn**	**02 07 54.5**	**+2.6**		
URLA	**Izmir**	**4.19**	**39**	Pn	**Pn**	**02 07 54.8**	**+2.1**		
TURN	**Turunc**	**4.38**	**67**	Pn	**Pn**	**02 07 57.5**	**+2.2**		
TURN	**Turunc**	**4.38**	**67**	P	**Pn**	**02 07 57.5**	**+2.2**		
TURN				S	**Sn**	**02 08 40.4**	**-4.7**		
AYDN	**Tasoluk**	**4.51**	**55**	P	**Pn**	**02 07 59.5**	**+2.3**		
AYDN				S	Sn	02 08 29.6	-19		
SIGR	**SIGRI**	**4.55**	**27**	Pn	**Pn**	**02 07 59.5**	**+1.9**		
MULA	**Mugla, Merkez-**	**4.63**	**62**	P	**Pn**	**02 08 01.9**	**+3.1**		
MULA				S	Sn	02 08 34.6	-17		
AYDB	**Zeytinkoy-Aydi**	**4.68**	**52**	Pn	**Pn**	**02 08 01.6**	**+2.1**		
ESEN	**Aydn-Nazilli**	**4.90**	**56**	P	**Pn**	**02 08 05.4**	**+3.0**		
SABU	**Mula-Dalaman**	**4.95**	**69**	P	**Pn**	**02 08 05.3**	**+2.1**		
SABU				S	**Sn**	**02 08 53.2**	**-5.9**		
LIT	**Litokhoron**	**4.96**	**354**	Pn	**Pn**	**02 08 05.5**	**+2.2**		
IZZE	**Mula-Seydike**	**5.05**	**74**	P	**Pn**	**02 08 05.6**	**+1.2**		
IZZE				S	Sn	02 08 52.5	-9.0		
TAVA	**DENIZLI_Tavas**	**5.14**	**62**	P	**Pn**	**02 08 09.6**	**+3.8**		
DNZT	**Denizli-Tavas-**	**5.15**	**64**	P	**Pn**	**02 08 08.8**	**+2.9**		
DNZT				S	Sn	02 08 54.7	-9.4		
KEK	**Kerkira**	**5.29**	**330**	Pn	**Pn**	**02 08 12.4**	**+4.6**		
AKAS	**Kas**	**5.31**	**77**	Pn	**Pn**	**02 08 10.5**	**+2.3**		
AKAS	**Kas**	**5.31**	**77**	P	**Pn**	**02 08 09.5**	**+1.4**		
AKAS				S	**Sn**	**02 09 02.8**	**-5.3**		
KNIK	**Mula-Seydike**	**5.42**	**70**	P	**Pn**	**02 08 12.2**	**+2.5**		
KNIK				S	Sn	02 09 03.9	-6.9		
GOLH	**Golhisar**	**5.53**	**66**	P	**Pn**	**02 08 14.0**	**+2.8**		
ELL	**Elmali**	**5.66**	**72**		**Pn**	**02 08 15.4**	**+2.5**		
FNA	**Florina**	**5.79**	**346**		**Pn**	**02 08 16.4**	**+1.7**		
ALN	**Alexandroupoli**	**6.14**	**20**	Pn	**Pn**	**02 08 21.0**	**+1.6**		
SWA2		**6.20**	**162**	P	**Pn**	**02 08 21.5**	**+1.1**		
OHR	**Ohrid**	**6.23**	**343**	*i* Pn	**Pn**	**02 08 23.1**	**+2.3**		
RDO	**Rodhopi**	**6.24**	**16**		**Pn**	**02 08 22.5**	**+1.6**		
TIP	**Timpagrande**	**6.53**	**310**		**Pn**	**02 08 25.3**	**+0.5**		
TIP	**Timpagrande**	**6.53**	**310**	⇑P	**Pn**	**02 08 23.8**	**-1.0**		
TIP				⇑S	**Sn**	**02 09 34.9**	**-3.1**		
CEL	**Celeste**	**6.64**	**300**		**Pn**	**02 08 26.4**	**+0.1**		
RAFF	**Raffo Rosso**	**7.45**	**289**		**Pn**	**02 08 37.1**	**-0.3**		
VAE	**Valguarnera**	**7.47**	**291**	P	**Pn**	**02 08 39.3**	**+1.6**		
	3.0nm,0.5s,baz=188,slow=11,SNR=12								
VAE				S	**Sn**	**02 09 57.1**	**-4.0**		
	9.0nm,0.4s,baz=328,slow=10,SNR=7.2								
MATE	**Matera**	**7.51**	**319**	⇑P	**Pn**	**02 08 37.5**	**-0.7**		
MATE				⇑S	**Sn**	**02 09 58.5**	**-3.5**		
CUC	**Castrocucco**	**7.59**	**312**		**Pn**	**02 08 40.2**	**+0.7**		
PDG	**Podgorica**	**7.88**	**338**	⇓P	**Pn**	**02 08 43.5**	**+0.2**		
PDG				⇑S	**Sn**	**02 10 07.5**	**-3.6**		
ELND	**Elena**	**8.02**	**14**	⇑P	**Pn**	**02 08 47.6**	**+2.4**		
ACER	**Acerenza**	**8.03**	**316**	Pn	**Pn**	**02 08 45.9**	**+0.5**		
PLVB	**Pleven**	**8.28**	**7**	⇓P	**Pn**	**02 08 50.6**	**+1.9**		
CSS	**Mathiatis**	**8.30**	**89**	Pn	**Pn**	**02 08 47.9**	**-1.2**		
CSS	**Mathiatis**	**8.30**	**89**	P	**Pn**	**02 08 47.8**	**-1.2**		
CSS	**Mathiatis**	**8.30**	**89**	S	Sn	02 10 14.2	-7.3		
HNAT	**Natroun**	**8.34**	**129**	P	**Pn**	**02 08 50.6**	**+0.9**		
TREB	**Trebinje**	**8.44**	**335**	*e*Pn	**Pn**	**02 08 49.1**	**-1.8**		
RYAN	**Fayoum**	**8.52**	**133**	P	**Pn**	**02 08 52.6**	**+0.4**		
KLINJ	**Klinje**	**8.76**	**337**	*e*Pn	**Pn**	**02 08 56.2**	**+0.8**		
RUDO	**Rudo**	**8.95**	**342**	*e*Pn	**Pn**	**02 08 56.3**	**-1.6**		
KOT	**Kottamia**	**8.95**	**123**	P	**Pn**	**02 08 57.5**	**-0.6**		
HFRF	**Wahat Farafira**	**9.11**	**150**	P	**Pn**	**02 09 00.3**	**+0.2**		
BRTR	**Keskin Array B**	**9.45**	**58**	P	**Pn**	**02 09 05.6**	**+0.6**		
	0.2nm,0.3s,baz=230,slow=13,SNR=8.0								
	1.7nm,0.9s								
NBNS	**Bani Suef**	**9.47**	**131**	P	**Pn**	**02 09 05.1**	**-0.1**		
ZAF	**Zafarana**	**9.84**	**124**	P	**Pn**	**02 09 09.6**	**-0.7**		
ZNM	**Zenema**	**10.01**	**123**	P	**Pn**	**02 09 12.0**	**-0.5**		
OFRI	**`Ofer**	**10.11**	**101**	P	**Pn**	**02 09 13.6**	**-0.3**		
OFRI	**`Ofer**	**10.11**	**101**	S	Sn	02 10 56.2	-10		
HNTI	**Hanita**	**10.13**	**98**	P	**Pn**	**02 09 13.5**	**-0.6**		
HNTI	**Hanita**	**10.13**	**98**	S	Sn	02 10 56.7	-10		
ARR	**Arges**	**10.25**	**6**	⇓P	**Pn**	**02 09 16.9**	**+1.2**		
KIJV	**Kijevo**	**10.27**	**331**	*e*Pn	**Pn**	**02 09 14.1**	**-1.9**		
SLTI	**Sal'it**	**10.28**	**103**	P	**Pn**	**02 09 15.4**	**-0.8**		
SLTI	**Sal'it**	**10.28**	**103**	S	Sn	02 11 00.5	-10		
LOT	**Lotru**	**10.28**	**2**	⇑P	**Pn**	**02 09 17.5**	**+1.3**		
KZIT	**Kziot**	**10.30**	**111**	P	**Pn**	**02 09 15.4**	**-1.2**		
KZIT	**Kziot**	**10.30**	**111**	S	Sn	02 11 00.2	-10		
MMC7	**Mount Meron ar**	**10.32**	**99**	P	**Pn**	**02 09 16.5**	**-0.4**		
MMA0B	**Mount Meron ar**	**10.33**	**99**	P	**Pn**	**02 09 16.4**	**-0.6**		
MMA0B	**Mount Meron ar**	**10.33**	**99**	S	Sn	02 11 02.0	-10		
MMAI	**Mount Meron Ar**	**10.33**	**99**	P	**Pn**	**02 09 18.7**	**+1.7**		
	3.7nm,0.3s,baz=272,slow=9.1,SNR=15								
MMAI				S	Sn	02 11 04.5	-7.0		
	3.4nm,0.4s,baz=268,slow=22,SNR=10								
	1.1nm,0.3s								
AMAZ	**Amatzia**	**10.44**	**107**	P	**Pn**	**02 09 17.6**	**-0.7**		
AMAZ	**Amatzia**	**10.44**	**107**	S	Sn	02 11 04.0	-10		
SALP	**Salfit**	**10.45**	**104**	P	**Pn**	**02 09 17.6**	**-1.0**		
SALP	**Salfit**	**10.45**	**104**	S	Sn	02 11 04.5	-10		
GEM	**Giv'at Ha'Em**	**10.49**	**97**	P	**Pn**	**02 09 19.1**	**0.0**		
GEM	**Giv'at Ha'Em**	**10.49**	**97**	S	Sn	02 11 06.0	-9.4		
MMLI	**Mount Malkishu**	**10.52**	**102**	P	**Pn**	**02 09 18.6**	**-0.8**		
MMLI	**Mount Malkishu**	**10.52**	**102**	S	Sn	02 11 05.7	-10		
MLR	**Muntele Rosu**	**10.52**	**11**	P	**Pn**	**02 09 18.3**	**-1.2**		
	0.5nm,0.3s,baz=303,slow=17,SNR=7.0								
MLR				LR	LR	02 14 22.2			
	comp=Z,71nm,18.1s,baz=318,slow=44								
	1.1nm,0.6s								
MLR	**Muntele Rosu**	**10.52**	**11**	⇓P	**Pn**	**02 09 21.9**	**+2.3**		
ASUT		**10.53**	**135**	P	**Pn**	**02 09 20.0**	**+0.3**		
NATI	**Neve Ativ**	**10.54**	**97**	P	**Pn**	**02 09 20.1**	**+0.3**		
NATI	**Neve Ativ**	**10.54**	**97**	S	Sn	02 11 07.7	-8.8		
BLY	**Banja Luka**	**10.63**	**336**	*e*Pn	**Pn**	**02 09 20.4**	**-0.5**		
HMDT	**Nahal Hemdat**	**10.66**	**102**	P	**Pn**	**02 09 20.8**	**-0.5**		
HMDT	**Nahal Hemdat**	**10.66**	**102**	S	Sn	02 11 09.2	-10		
YTIR	**Yattir**	**10.66**	**107**	P	**Pn**	**02 09 20.1**	**-1.4**		
YTIR	**Yattir**	**10.66**	**107**	S	Sn	02 11 09.0	-11		
KSHT	**Keshet**	**10.67**	**98**	P	**Pn**	**02 09 21.6**	**0.0**		
KSHT	**Keshet**	**10.67**	**98**	S	Sn	02 11 10.7	-9.1		
RMNI	**Mount Ramon**	**10.72**	**112**	P	**Pn**	**02 09 21.5**	**-0.9**		
RMNI	**Mount Ramon**	**10.72**	**112**	S	Sn	02 11 10.7	-10		
DSI	**Dead Sea**	**10.79**	**106**	P	**Pn**	**02 09 22.4**	**-0.7**		
DSI	**Dead Sea**	**10.79**	**106**	S	Sn	02 11 12.5	-10		
MSBI	**Mazada**	**10.87**	**107**	P	**Pn**	**02 09 23.6**	**-0.6**		
MSBI	**Mazada**	**10.87**	**107**	S	Sn	02 11 14.0	-11		
COVR	**Voineasa-Covas**	**10.91**	**11**	⇑P	**Pn**	**02 09 26.2**	**+1.4**		
KRMI	**Paran Flat**	**10.93**	**114**	P	**Pn**	**02 09 23.9**	**-1.3**		
KRMI	**Paran Flat**	**10.93**	**114**	S	Sn	02 11 15.0	-11		
HDK1	**Dakhla**	**10.98**	**149**	P	**Pn**	**02 09 25.8**	**0.0**		
PLOR	**Plostina**	**10.99**	**13**	⇓P	**Pn**	**02 09 28.0**	**+2.2**		
IDAN	**Idan**	**11.01**	**110**	P	**Pn**	**02 09 24.1**	**-2.0**		
IDAN	**Idan**	**11.01**	**110**	S	Sn	02 11 17.5	-10		
VRI	**Vrincioaia**	**11.02**	**13**	⇓P	**Pn**	**02 09 29.2**	**+3.0**		
PRNI	**Paran**	**11.02**	**113**	P	**Pn**	**02 09 24.9**	**-1.5**		
PRNI	**Paran**	**11.02**	**113**	S	Sn	02 11 18.0	-10		
GHAJ	**Ghor Haditha**	**11.04**	**107**		**Pn**	**02 09 26.0**	**-0.6**		
GHAJ	**Ghor Haditha**	**11.04**	**107**	P	**Pn**	**02 09 25.6**	**-0.9**		
GHAJ	**Ghor Haditha**	**11.04**	**107**	S	Sn	02 11 18.0	-11		
ZFRI	**Zfri**	**11.06**	**111**	P	**Pn**	**02 09 25.2**	**-1.6**		
ZFRI	**Zfri**	**11.06**	**111**	S	Sn	02 11 18.2	-11		
TURR	**Turia**	**11.08**	**10**	⇑P	**Pn**	**02 09 28.1**	**+1.0**		
HRFI	**Mount Harif**	**11.20**	**114**	P	**Pn**	**02 09 27.8**	**-1.1**		
HRFI	**Mount Harif**	**11.20**	**114**	S	Sn	02 11 22.2	-11		
MBRI	**Mt Berech**	**11.24**	**115**	P	**Pn**	**02 09 28.4**	**-1.0**		
MBRI	**Mt Berech**	**11.24**	**115**	S	Sn	02 11 23.5	-10		
HKAT	**Jabal Katrina**	**11.30**	**123**	P	**Pn**	**02 09 28.6**	**-1.8**		
KEST	**Kesra**	**11.33**	**277**	P	**Pn**	**02 09 31.1**	**+0.5**		
	0.1nm,0.3s,baz=169,slow=21,SNR=1.2								
KEST				S	**Sn**	**02 11 32.8**	**-3.0**		
	1.0nm,0.5s,baz=278,slow=23,SNR=7.6								
	0.9nm,0.6s								
EIL	**Elat**	**11.33**	**116**	P	**Pn**	**02 09 29.4**	**-1.1**		
	3.4nm,0.3s,baz=346,slow=3.7,SNR=34								
EIL				S	Sn	02 11 26.5	-9.3		
	5.7nm,0.3s,baz=28,slow=14,SNR=7.3								
EIL	**Elat**	**11.33**	**116**	P	**Pn**	**02 09 29.4**	**-1.1**		
EIL	**Elat**	**11.33**	**116**	S	Sn	02 11 25.5	-10		
AKRG	**Al Kharijah**	**11.50**	**145**	P	**Pn**	**02 09 33.2**	**+0.3**		
GTR	**Jabal at Tayr**	**11.52**	**145**	P	**Pn**	**02 09 33.2**	**0.0**		
MOSL	**Moslavina**	**11.53**	**337**	*e*Pn	**Pn**	**02 09 31.7**	**-1.6**		
MORH	**Mrgy, Hungar**	**11.56**	**344**	*e*Pn	**Pn**	**02 09 32.0**	**-1.7**		
MORH	**Mrgy, Hungar**	**11.56**	**344**	⇑P	**Pn**	**02 09 33.0**	**-0.6**		
ASF	**Jabal al Asfar**	**11.79**	**101**	P	**Pn**	**02 09 37.2**	**+0.3**		
	1.4nm,0.3s,baz=303,slow=5.7,SNR=6.2								
ASF				S	**Sn**	**02 11 41.2**	**-5.9**		
	1.9nm,0.3s,baz=132,slow=18,SNR=4.1								
HHRG	**Al Ghardaqah**	**11.88**	**129**	P	**Pn**	**02 09 39.2**	**+1.0**		
OZLJ	**Ozalj**	**11.98**	**333**	*e*Pn	**Pn**	**02 09 37.5**	**-1.9**		
SOKA	**Soboth**	**13.05**	**334**	*e*Pn	**Pn**	**02 09 56.6**	**+2.6**		
	1.9nm,0.2s								
OBKA	**Obir**	**13.08**	**333**	*e*Pn	**Pn**	**02 09 54.4**	**-0.1**		
	1.5nm,0.7s								
ARSA	**Arzberg**	**13.38**	**337**	*i* Pn	**Pn**	**02 10 02.4**	**+3.9**		
	0.8nm,0.4s								
MYKA	**Terra Mystica**	**13.53**	**331**	*e*Pn	**Pn**	**02 10 04.9**	**+4.2**		
	0.6nm,0.2s								
RONA	**Rosalia, Austr**	**13.54**	**340**	*e*Pn	**Pn**	**02 10 04.8**	**+4.0**		
	0.4nm,0.3s								
CONA	**Conrad Observa**	**13.88**	**339**	*i* Pn	**Pn**	**02 10 07.6**	**+2.3**		
	0.4nm,0.3s								
KBA	**Koelnbreinsper**	**14.02**	**331**	*e*Pn	**Pn**	**02 10 07.7**	**+0.3**		
	0.4nm,0.3s								
ABTA	**Abfaltersbach**	**14.10**	**328**	*i* Pn	**Pn**	**02 10 09.5**	**+1.1**		
	0.6nm,0.4s								
MOA	**Molln**	**14.32**	**335**	*i* Pn	**Pn**	**02 10 11.5**	**+0.2**		
	0.4nm,0.3s								
BIOA	**Bad Ischl, Aus**	**14.41**	**333**	*e*Pn	**Pn**	**02 10 12.4**	**-0.1**		
	0.6nm,0.3s								
LESA	**Schwarzleotal**	**14.56**	**330**	*i* Pn	**Pn**	**02 10 16.6**	**+2.0**		
	0.4nm,0.2s								
WTTA	**Wattenberg**	**14.88**	**328**	*i* Pn	**Pn**	**02 10 19.2**	**+0.4**		
	0.2nm,0.2s								
VRAC	**Vranov**	**14.95**	**343**	P	**Pn**	**02 10 19.0**	**-0.6**		
	0.3nm,0.3s,baz=148,slow=13,SNR=3.5								
VRAC				S	**Sn**	**02 12 59.4**	**-4.5**		
	0.4nm,0.3s,baz=74,slow=15,SNR=1.8								
	0.6nm,0.5s								
WATA	**Walderalm**	**14.96**	**328**	*i* Pn	**Pn**	**02 10 19.2**	**-0.7**		
	0.6nm,0.2s								
SQTA	**Sankt Quirin**	**15.03**	**327**	*e*Pn	**Pn**	**02 10 21.2**	**+0.4**		
	0.4nm,0.2s								
FETA	**Feichten**	**15.10**	**325**	*e*Pn	**Pn**	**02 10 21.7**	**-0.1**		
	0.1nm,0.2s								
MOTA	**Moosalm**	**15.17**	**327**	*e*Pn	**Pn**	**02 10 25.9**	**+3.2**		
	0.6nm,0.4s								
DAVOX	**Davos/Dischmat**	**15.34**	**323**	P	**Pn**	**02 10 24.8**	**-0.1**		
	0.1nm,0.3s,baz=92,slow=16,SNR=1.6								
DAVOX				S	**Sn**	**02 13 05.1**	**-8.6**		
	0.8nm,0.4s,baz=326,slow=20,SNR=2.9								
	0.4nm,0.4s								
GERES	**GERESS Array B**	**15.37**	**336**	P	**Pn**	**02 10 24.6**	**-0.6**		
	baz=145,slow=12,SNR=7.2								
	0.2nm,0.5s								
RETA	**Reutte**	**15.43**	**327**	*i* Pn	**P**	**02 10 32.5**	**+2.6**		
	1.6nm,0.5s								
KHC	**Kasperske Hory**	**15.66**	**336**	*e*P	**P**	**02 10 32.4**	**0.0**		
KHC				*e*S	**Sn**	**02 13 15.3**	**-5.9**		
DAVA	**Damuels**	**15.70**	**325**	*i* Pn	**P**	**02 10 32.9**	**0.0**		
	1.8nm,0.5s								
ZVC	**Zvikov**	**15.73**	**338**	*e*P	**P**	**02 10 34.9**	**+1.8**		
KIEV	**Kiev**	**16.12**	**14**	Pn	**Pn**	**02 10 36.8**	**+2.2**		
AKASG	**Malin Array Be**	**16.13**	**14**	P	**Pn**	**02 10 33.5**	**-1.3**		
	0.2nm,0.3s,baz=207,slow=10,SNR=16								
AKBB	**Malin Array Si**	**16.13**	**14**	Pn	**Pn**	**02 10 37.0**	**+2.3**		
KVAR	**Kislovodsk Arr**	**17.37**	**54**	P	**Pn**	**02 10 50.0**	**-0.6**		
	baz=284,slow=22								
	2.2nm,0.8s								
BSD	**Bornholm Skovb**	**20.76**	**346**	*i* P	**P**	**02 11 28.1**	**-0.2**		
LUNU	**Lund**	**21.54**	**345**	*i* P	**P**	**02 11 35.8**	**-0.9**		
ESDC	**Sonseca Array**	**22.01**	**290**	P	**P**	**02 11 42.5**	**+0.6**		
	0.7nm,0.8s,baz=85,slow=10,SNR=7.4								
	0.7nm,0.8s								
DEL	**Delary**	**22.24**	**346**	*i* P	**P**	**02 11 45.1**	**+1.0**		
HFS	**Hagfors**	**25.74**	**349**	P	**P**	**02 12 15.9**	**-1.6**		
	2.7nm,0.5s,baz=145,slow=12,SNR=17								
	2.7nm,0.5s								
FINES	**FINESS Array B**	**26.36**	**3**	P	**P**	**02 12 22.6**	**-0.5**		
FINES	**FINESS Array B**	**26.36**	**3**	P	**P**	**02 12 21.0**	**-2.1**		
	1.9nm,0.5s,baz=158,slow=11,SNR=23								
FINES				PcP	**PcP**	**02 15 49.4**	**+1.5**		
	1.6nm,0.9s,baz=198,slow=2.6,SNR=5.0								
	1.9nm,0.5s								
FIA1	**FINESS Array S**	**26.36**	**3**	P	**P**	**02 12 22.2**	**-0.9**		
NB201	**NORSAR Array S**	**27.01**	**347**	P	**P**	**02 12 29.5**	**+0.5**		
NOA	**NORSAR Array B**	**27.01**	**347**	P	**P**	**02 12 29.0**	**0.0**		
	0.3nm,0.4s,baz=152,slow=10,SNR=1.2								
	0.3nm,0.4s								
TORD	**Torodi Ar. Bea**	**29.30**	**227**	P	**P**	**02 12 52.7**	**+2.8**		
	0.2nm,0.6s,baz=30,slow=9.1,SNR=6.2								
	0.2nm,0.6s								
ABKAR	**Akbulak array**	**30.30**	**51**	P	**P**	**02 12 58.6**	**+0.2**		
ARTI	**Arti**	**31.90**	**37**	P	**P**	**02 13 11.3**	**-1.0**		
ARTI				IAmb	IAmb	02 13 12.9			
	comp=Z,6.9nm,0.5s								
ARCES	**ARCESS Array B**	**34.45**	**1**	P	**P**	**02 13 34.1**	**-0.4**		
ARCES				IAmb	IAmb	02 13 53.1			
	comp=Z,8.1nm,1.2s								
ARCES	**ARCESS Array B**	**34.45**	**1**	P	**P**	**02 13 33.4**	**-1.0**		
	comp=Z,1.3nm,0.6s,baz=176,slow=6.4,SNR=11								
ARCES				PcP	**PcP**	**02 16 09.4**	**+0.5**		
	comp=Z,3.1nm,1.0s,baz=157,slow=2.5,SNR=2.4								
	comp=Z,1.3nm,0.6s								
KKAR	**Karatay Array**	**37.12**	**63**	P	**P**	**02 13 58.2**	**+0.5**		
BVAR	**Borovoye Array**	**37.50**	**47**	P	**P**	**02 14 00.3**	**-0.4**		
	comp=Z,0.5nm,0.3s,baz=240,slow=8.4,SNR=4.3								
	comp=Z,0.5nm,0.3s								
KURBB	**Kurchatov Arra**	**42.36**	**51**	P	**P**	**02 14 41.5**	**+0.5**		
	comp=Z,1.3nm,0.4s,baz=274,slow=8.6,SNR=11								
	comp=Z,1.3nm,0.4s								
SPITS	**Spitsbergen Ar**	**43.22**	**358**	P	**P**	**02 14 46.8**	**-0.9**		
	comp=Z,2.5nm,0.5s,baz=154,slow=10,SNR=7.7								
	comp=Z,2.5nm,0.5s								
MAKZ	**Makanchi**	**44.88**	**56**	P	**P**	**02 15 01.7**	**+0.2**		
MAKZ				IAmb	IAmb	02 15 30.9			
	comp=Z,5.2nm,1.4s								
MKAR	**Makanchi Array**	**45.10**	**56**	P	**P**	**02 15 04.0**	**+0.7**		
MKAR	**Makanchi Array**	**45.10**	**56**	P	**P**	**02 15 03.8**	**+0.6**		
	comp=Z,1.8nm,0.3s,baz=270,slow=7.7,SNR=47								
	comp=Z,1.8nm,0.3s								
ZAA0	**Zalesovo Array**	**46.15**	**46**	P	**P**	**02 15 11.4**	**+0.1**		
ZAA0				IAmb	IAmb	02 15 11.7			
	comp=Z,3.7nm,0.4s								
ZALV	**Zalesovo Beam**	**46.15**	**46**	P	**P**	**02 15 11.4**	**0.0**		
ZALV	**Zalesovo Beam**	**46.15**	**46**	P	**P**	**02 15 11.2**	**-0.2**		
	comp=Z,4.2nm,0.4s,baz=269,slow=9.0,SNR=22								
	comp=Z,4.2nm,0.4s								
SONM	**Songino Array**	**60.71**	**50**	P	**P**	**02 16 59.2**	**+0.7**		
	comp=Z,0.9nm,0.5s,baz=282,slow=6.4,SNR=5.8								
	comp=Z,0.9nm,0.5s								
SCHQ	**Schefferville**	**62.14**	**319**	P	**P**	**02 17 08.3**	**+0.4**		
	comp=Z,8.1nm,0.4s,baz=72,slow=3.2,SNR=1.2								
	comp=Z,8.1nm,0.4s								
E29M	**Blow River**	**75.79**	**353**	P	**P**	**02 18 33.9**	**+1.6**		
E29M				IAmb	IAmb	02 19 12.6			
	comp=Z,6.6nm,1.5s								
YKA	**Yellowknife Ar**	**76.94**	**341**	P	**P**	**02 18 38.9**	**0.0**		
	comp=Z,0.6nm,0.9s,baz=22,slow=7.7,SNR=2.3								
	comp=Z,0.6nm,0.9s								
E19K	**Redstone River**	**77.69**	**0**	P	**P**	**02 18 45.2**	**+2.1**		
E19K				IAmb	IAmb	02 18 49.8			
	comp=Z,7.8nm,1.5s								
USRK	**Ussuriysk Ar.**	**77.95**	**44**	P	**P**	**02 18 44.5**	**-0.4**		
	comp=Z,3.4nm,0.7s,baz=20,slow=5.9,SNR=5.1								
	comp=Z,3.4nm,0.7s								
KSRS	**Korea Array**	**79.53**	**52**	P	**P**	**02 18 54.8**	**+1.1**		
	comp=Z,0.5nm,0.4s,baz=313,slow=5.0,SNR=1.8								
	comp=Z,0.5nm,0.4s								

IDC 15 02:13:48.7±2.9,54°.72N×34°.46W,h0km,mb3.6/3, mbtmp3.7/4,ML3.8/1,Error ellipse: s-maj=72.1km s-min=44.2km az=49.0,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**17.88**	**75**	P	Pn	02 17 56.7	-1.9
	baz=291,slow=12						
	2.2nm,0.8s						
ESDC	**Sonseca Array**	**25.35**	**114**	P	P	02 19 17.4	+0.3
	0.6nm,0.8s,baz=315,slow=9.7,SNR=5.6						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**61.09**	**42**	P	P	02 24 04.1	+0.1
	0.7nm,0.4s,baz=321,slow=7.3,SNR=5.7						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**65.65**	**42**	P	P	02 24 35.3	+0.9
	0.5nm,0.8s,baz=341,slow=7.6,SNR=2.2						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**147.80**	**20**	PKPbc	PKPbc	02 33 33.9	-1.4
	0.8nm,0.8s,baz=331,slow=2.2,SNR=8.4						

DJA 15 02:17:00.5±1.2,9°.5E±4°.×11°.2E±°,h18km±11km,Mb3.9/21, mb3.9/3,MLv3.9/21,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.14**	**57**	P	Pn	02 17 20.8	-0.8
PCJI	**Pacitan**	**1.47**	**298**	P	Pn	02 17 26.6	+0.5
BLJI	**Banyuglugur**	**1.59**	**44**	P	Pn	02 17 27.1	-0.7
JAGI	**Jajag, Banyuwa**	**1.71**	**76**	P	Pn	02 17 28.9	-0.5
NGJI	**Ngawi**	**1.83**	**326**	P	Pn	02 17 31.4	+0.4
WOJI	**Wonogiri, Jawa**	**1.87**	**304**	P	Pn	02 17 30.8	-0.8
GRJI	**Gresik**	**1.97**	**360**	P	Pn	02 17 32.1	-0.9
ABJI	**Asem Bagus**	**2.05**	**58**	P	Pn	02 17 34.1	0.0
TBJI	**Tambak Boyo**	**2.16**	**343**	P	Pn	02 17 34.6	-1.0
UGM	**Wanagama**	**2.17**	**297**	P	Pn	02 17 35.7	-0.1
KMMI	**Kalianget**	**2.35**	**39**	P	Pn	02 17 36.8	-1.5
DNP	**Denpasar**	**2.71**	**86**	P	Pn	02 17 45.6	+2.5
SMRI	**Semarang**	**2.73**	**312**	P	Pn	02 17 43.8	+0.3
SRBI	**Singaraja**	**2.

RTBA Rita Blanca 5.38 4 lAmb_Lg 02 32 17.1
comp=Z,7.5nm,0.8s
HHAR Hobbs 9.34 54 lAmb_Lg 02 34 34.1
comp=Z,4.0nm,1.1s

IDC ***15*** *02:57:28.2±1.1,53.99N×35.46W,h0km,mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=50.8km s-min=27.3km az=10.0*
ISC 15 02:57:30.5±0.9,54.0N±0.3×35.5W±0.2,h16km,n8,σ0s47/8, mb3.5/4,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**47.45**	**78**	P	**P**	**03 06 04.3**	**-0.1**
	1.0nm,0.9s,baz=304,slow=5.1,SNR=3.9						
	1.0nm,0.9s						
PDAR	**Pinedale Array**	**48.30**	**288**	P	**P**	**03 06 10.5**	**-0.6**
	0.1nm,0.5s,baz=47,slow=13,SNR=1.2						
	0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**50.15**	**130**	P	**P**	**03 06 25.0**	**-0.1**
	0.4nm,0.9s,baz=316,slow=4.0,SNR=1.9						
	0.4nm,0.9s						
TXAR	**Lajitas Array**	**54.22**	**272**	P	**P**	**03 06 55.8**	**+0.4**
	0.1nm,0.6s,baz=19,slow=7.0,SNR=1.8						
	0.1nm,0.6s						
USRK	**Uesuriysk Ar.**	**81.58**	**9**	P	**P**	**03 09 47.6**	**+0.4**
	0.6nm,0.5s,baz=359,slow=5.8,SNR=3.2						
	0.6nm,0.5s						
QSPA	**South Pole Qui**	**143.89**	**180**	PKP	**PKPdf**	**03 17 04.0**	**+0.5**
	0.6nm,0.8s,baz=262,slow=2.6,SNR=1.6						
WRA	**Warramunga Arr**	**145.11**	**17**	PKPbc	**PKPdf**	**03 17 06.9**	**-0.2**
	0.2nm,0.6s,baz=25,slow=2.5,SNR=1.4						
ASAR	**Alice Springs**	**148.66**	**19**	PKPbc	**PKPbc**	**03 17 16.3**	**-0.4**
	0.5nm,0.7s,baz=355,slow=2.5,SNR=5.3						

IDC ***15*** *02:58:27.0±0.8,54.27N×35.64W,h0km,mb3.4/8, mbtmp3.4/8,MS3.3/4, Error ellipse: s-maj=29.5km s-min=18.6km az=174.0*
ISC 15 02:58:28.6±0.8,54.3N±0.2×35.6W±0.1,h10km,n15, σ1s06/12,mb3.7/9,MS3.1/3,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**12.71**	**29**	LR	LR	03 04 45.2	
	comp=Z,199nm,21.6s,baz=178,slow=30						
ESDC	**Sonseca Array**	**25.80**	**111**	P	**P**	**03 03 59.8**	**+0.1**
	0.7nm,1.1s,baz=314,slow=7.4,SNR=6.5						
ESDC				LR	LR	03 12 15.1	
	comp=Z,49nm,18.1s,baz=341,slow=32						
	0.7nm,1.1s						
KEST	**Kesra**	**36.05**	**102**	P	**P**	**03 05 30.0**	**-0.1**
	1.5nm,0.9s,baz=345,slow=12,SNR=5.1						
	1.5nm,0.9s						
TKL	**Tuckaleechee C**	**37.94**	**261**	LR	LR	03 19 48.2	
	comp=Z,55nm,19.9s,baz=46,slow=34						
AKASG	**Malin Array Be**	**38.40**	**68**	P	**P**	**03 05 49.7**	**0.0**
	0.2nm,0.5s,baz=313,slow=8.7,SNR=4.3						
	0.2nm,0.5s						
SJG	**San Juan**	**43.07**	**225**	LR	LR	03 20 05.3	
	comp=Z,20nm,22.0s,baz=191,slow=30						
BRTR	**Keskin Array B**	**47.48**	**78**	P	**P**	**03 07 03.0**	**-0.6**
	0.6nm,0.8s,baz=309,slow=6.1,SNR=6.4						
	0.6nm,0.8s						
PDAR	**Pinedale Array**	**48.12**	**288**	P	**P**	**03 07 07.7**	**-0.9**
	0.1nm,0.4s,baz=16,slow=5.5,SNR=1.5						
	0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**50.41**	**130**	P	**P**	**03 07 26.5**	**+0.4**
	0.4nm,0.8s,baz=320,slow=6.1,SNR=3.9						
	0.4nm,0.8s						
TXAR	**Lajitas Array**	**54.11**	**272**	P	**P**	**03 07 55.0**	**+1.4**
	0.1nm,0.7s,baz=50,slow=6.4,SNR=4.1						
	0.1nm,0.7s						
KURBB	**Kurchatov Arra**	**61.85**	**41**	P	**P**	**03 08 48.8**	**+1.3**
	0.5nm,0.2s,baz=327,slow=6.6,SNR=1.5						
MKAR	**Makanchi Array**	**66.42**	**41**	P	**P**	**03 09 18.1**	**+0.5**
	0.6nm,0.7s,baz=324,slow=7.1,SNR=1.5						
	0.6nm,0.7s						
LPAZ	**La Paz**	**75.58**	**212**	P	**P**	**03 10 13.6**	**-0.5**
	2.0nm,0.3s,baz=108,slow=9.4,SNR=25						
QSPA	**South Pole Qui**	**144.18**	**180**	PKP	**PKPdf**	**03 18 03.6**	**+0.5**
	1.1nm,1.0s,baz=227,slow=4.0,SNR=3.9						
ASAR	**Alice Springs**	**148.42**	**19**	PKPbc	**PKPbc**	**03 18 13.1**	**-2.1**
	1.1nm,0.7s,baz=360,slow=1.8,SNR=11						

JMA 15 03:01:51.6±0.0,36.82N±0.08×140.6E±0.2,h8km, MV0.1/15,NORTHERN IBARAKI PREF,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.21**	**184**	*e*P	Pg	03 01 55.9	+0.1
JHO				*e*S	Sg	03 01 58.9	+0.3

BGR ***15*** *03:02:30.8,38.61N×144.80E,h33km,mb4.7*
BJI ***15*** *03:02:37.0,39.20N×142.34E,h60km,mB5.0/8,mb4.6/31, Ms4.0/5,Ms7 3.9/5*
MOS ***15*** *03:02:39.0±0.9,39.33N×142.15E,h61km,mb4.8/15,Error ellipse: s-maj=8.9km s-min=5.8km az=95.4*
JMA ***15*** *03:02:40.1±0.1,39.3N±0.2×142.1E±0.5,h48km,MD4.3/40, MV4.3/40,E OFF IWATE PREF*
JMA Felt III J1 at E OFF IWATE PREF .
NIED ***15*** *03:02:40.1,39.34N×142.07E,h48km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr3.38; Mθθ-0.53; Mϕϕ-2.85; Mrθ1.78; Mθϕ-0.64; Mϕr3.89; Fault plane solution: M₀5.34000×10¹⁵ NP1: ϕs189.00000°,δ19.00000°,λ77.00000°. NP2:ϕs22.00000°, δ72.00000°,λ94.00000°.*
NEIC ***15*** *03:02:40.3±1.4,39.30N±0.05×142.0E±0.1,h47km±7km, mb4.7/38 Error ellipse: s-maj=13.7km s-min=7.5km az=103.0*
IDC ***15*** *03:02:42.2±0.9,39.28N×141.94E,h70km±6km,mb3.8/21, mbtmp4.1/26,MS3.6/30,Error ellipse: s-maj=15.5km s-min=9.2km az=114.0*
ISC 15 03:02:39.8±0.6,39.31N±0.04×142.19E±0.05,h49km±3km, h49km:pP-P,n231,σ1s54/215,mb4.5/79,MS3.7/31,9C-26D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.39**	**314**	⇓*e*P	**Pn**	**03 02 49.0**	**-0.8**
MIYJ				⇓*e*S	**Sn**	**03 02 55.2**	**-1.7**
MIYJ	**Miyakonagasawa**	**0.39**	**314**	A	A	03 02 49.0	
	comp=N,18nm,1.0s,comp=E,53nm,2.3s						
OFUJ	**Ofunato**	**0.46**	**241**	⇓*i*P	**Pn**	**03 02 50.1**	**-0.4**
OFUJ				⇓S	**Sn**	**03 02 57.0**	**-1.2**
OFUJ	**Ofunato**	**0.46**	**241**	A	A	03 02 50.1	
	comp=N,32nm,1.6s,comp=E,50nm,1.7s						
JTH	**Tanohata**	**0.68**	**339**	⇓*i*P	**Pn**	**03 02 52.6**	**-0.7**
JTH				⇓S	**Sn**	**03 03 01.5**	**-1.5**
JTH	**Tanohata**	**0.68**	**339**	A	A	03 02 52.6	
	comp=N,16nm,0.8s,comp=E,25nm,2.0s						
JOM	**Ohasama**	**0.71**	**284**	*i* P	**Pn**	**03 02 52.6**	**-1.1**
JOM				*e*S	**Sn**	**03 03 02.0**	**-1.7**
JOM	**Ohasama**	**0.71**	**284**	A	A	03 02 52.6	
	comp=N,12nm,1.7s,comp=E,29nm,1.2s						
JKMT	**Kesennumamotoy**	**0.74**	**228**	⇓*i*P	**Pn**	**03 02 53.6**	**-0.4**
JKMT				⇓S	**Sn**	**03 03 03.1**	**-1.3**
JKMT	**Kesennumamotoy**	**0.74**	**228**	A	A	03 02 53.6	
	comp=N,12nm,2.8s,comp=E,22nm,1.4s						
JMK	**Ichinoseki**	**0.83**	**245**	⇓*i*P	**Pn**	**03 02 54.5**	**-0.7**
JMK				⇓S	**Sn**	**03 03 04.7**	**-1.7**
JMK	**Ichinoseki**	**0.83**	**245**	A	A	03 02 54.5	
	comp=N,16nm,1.3s,comp=E,12nm,1.4s						
JKZ	**Kuzumaki**	**0.95**	**316**	⇓*i*P	**Pn**	**03 02 56.3**	**-0.5**
JKZ				⇓*e*S	**Sn**	**03 03 07.7**	**-1.7**
JKZ	**Kuzumaki**	**0.95**	**316**	A	A	03 02 56.3	
	comp=N,29nm,1.2s,comp=E,13nm,0.2s						
JKEN	**Kujiedanarisaw**	**0.97**	**338**	A	A	03 02 56.7	
	comp=N,16nm,2.3s,comp=E,18nm,1.1s						
JSZI	**Iwateshizukuis**	**1.05**	**295**	A	A	03 02 57.3	
	comp=N,27nm,2.2s,comp=E,31nm,1.8s						
JIO	**Ouri**	**1.07**	**218**	⇓*i*P	**Pn**	**03 02 58.1**	**-0.3**
JANG	**Nango**	**1.18**	**334**	⇓*i*P	**Pn**	**03 02 59.1**	**-0.8**
JANG				⇓*e*S	**Sn**	**03 03 13.5**	**-1.5**
JANG	**Nango**	**1.18**	**334**	A	A	03 02 59.1	
	comp=N,8.0nm,1.7s,comp=E,5.0nm,0.5s						
JRG	**Rokugo**	**1.21**	**275**	⇓*i*P	**Pn**	**03 02 59.3**	**-0.9**
JRG				⇓*e*S	**Sn**	**03 03 13.6**	**-2.0**
JRG	**Rokugo**	**1.21**	**275**	A	A	03 02 59.3	
	comp=N,8.0nm,1.3s,comp=E,15nm,1.6s						
JOFO	**Osakifurukawao**	**1.22**	**235**	A	A	03 03 00.3	
	comp=N,31nm,2.7s,comp=E,28nm,3.8s						
JYK	**Kaneyama**	**1.47**	**255**	⇓*i*P	**Pn**	**03 03 03.4**	**-0.5**
JYK				⇓*e*S	**Sn**	**03 03 21.0**	**-1.0**
JYK	**Kaneyama**	**1.47**	**255**	A	A	03 03 03.4	
	comp=N,5.0nm,1.5s,comp=E,6.0nm,2.1s						
JAH	**Hinai**	**1.48**	**307**	⇓*i*P	**Pn**	**03 03 03.3**	**-0.7**
JAH				⇓*e*S	**Sn**	**03 03 21.3**	**-1.0**
JAH	**Hinai**	**1.48**	**307**	A	A	03 03 03.3	
	comp=N,7.0nm,6.3s,comp=E,10.0nm,5.3s						
JYW	**Yuwa**	**1.55**	**279**	A	A	03 03 04.6	
	comp=N,17nm,2.3s,comp=E,13nm,1.4s						
JTM	**Tenmabayashi**	**1.71**	**330**		**Pn**	**03 03 06.7**	**-0.4**
JTM	**Tenmabayashi**	**1.71**	**330**	P	**Pn**	**03 03 07.0**	**-0.1**
JYYZ	**Yamagatayuza**	**1.78**	**261**	A	A	03 03 07.8	
	comp=N,11nm,1.8s,comp=E,11nm,3.4s						
JMM	**Marumori**	**1.81**	**218**		**Pn**	**03 03 07.8**	**-0.6**
JMM	**Marumori**	**1.81**	**218**	P	**Pn**	**03 03 09.3**	**+0.9**
JNTW	**Noshirotokiwa**	**1.83**	**302**	A	A	03 03 08.6	
	comp=N,14nm,3.9s,comp=E,14nm,2.3s						
JHHS	**Hirosakihyakuz**	**1.94**	**314**	A	A	03 03 10.3	
	comp=N,10.0nm,0.8s,comp=E,8.0nm,4.0s						
JYS	**Shirataka**	**1.98**	**237**	A	A	03 03 11.2	
	comp=N,7.0nm,2.4s,comp=E,7.0nm,2.4s						
JYA	**Atsumi**	**2.06**	**250**	A	A	03 03 12.1	
	comp=N,6.0nm,1.4s,comp=E,6.0nm,1.8s						
ERM	**Erimo**	**2.80**	**15**		**Pn**	**03 03 22.6**	**+0.6**
ERM	**Erimo**	**2.80**	**15**	P	**Pn**	**03 03 23.2**	**+1.1**
ERM	**Erimo**	**2.80**	**15**	P	**Pn**	**03 03 22.7**	**+0.6**
JEM	**Erimo**	**2.81**	**15**	P	**Pn**	**03 03 22.6**	**+0.5**
JSD	**Sado**	**3.32**	**249**	P	**Pn**	**03 03 29.0**	**-0.3**
MAJO	**Matsushiro**	**4.18**	**230**		**Pn**	**03 03 43.2**	**+2.0**
MAJO	**Matsushiro**	**4.18**	**230**	P	**Pn**	**03 03 43.4**	**+2.3**
MAJO	**Matsushiro**	**4.18**	**230**	*d* P	**Pn**	**03 03 43.1**	**+2.0**
MJAR	**Matsushiro Arr**	**4.18**	**230**		**Pn**	**03 03 42.5**	**+1.4**
MJAR	**Matsushiro Arr**	**4.18**	**230**	P	**Pn**	**03 03 42.0**	**+0.9**
	comp=E,32nm,0.9s,baz=36,slow=11,SNR=85						
MJAR				S	**Sn**	**03 04 28.6**	**-0.1**
	comp=E,14nm,0.6s,baz=11,slow=14,SNR=7.1						
MJAR				LR	LR	03 05 29.2	
	comp=E,411nm,21.2s,baz=51,slow=42						
MJAR	**Matsushiro Arr**	**4.18**	**230**	P	**Pn**	**03 03 42.5**	**+1.4**
MJB9	**Matsu-Tunnel**	**4.18**	**230**		**Pn**	**03 03 41.5**	**+0.5**
ASAJ	**Asahikawa**	**4.82**	**4**	P	**Pn**	**03 03 51.9**	**+2.1**
	comp=E,7.4nm,0.3s,baz=193,slow=17,SNR=12						
ASAJ				S	**Sn**	**03 04 48.5**	**+4.3**
	comp=E,23nm,0.5s,baz=217,slow=19,SNR=4.1						
JKA	**Kamikawa-asahi**	**4.82**	**4**		**Pn**	**03 03 50.1**	**+0.4**
NMR	**Nemuro--Hokkai**	**4.86**	**32**	*e*P	**Pn**	**03 03 49.3**	**-0.9**
NMR				*i* S	**Sn**	**03 04 39.7**	**-5.4**
GLVR	**Golovnino**	**5.09**	**28**	*e*P	**Pn**	**03 03 53.8**	**+0.4**
GLVR				*i* S	**Sn**	**03 04 47.3**	**-3.5**
GLVR				pmax	pmax		
	comp=E,181nm,0.6s						
GLVR				pmax	pmax		
	comp=N,51nm,0.2s						
GLVR				pmax	pmax		
	comp=E,53nm,0.3s						
GLVR				smax	smax		
	comp=N,486nm,0.3s						
GLVR				smax	smax		
	comp=E,875nm,0.5s						
RUSJ	**Misakicho**	**5.31**	**25**	*e*P	**Pn**	**03 03 58.2**	**+1.7**
RUSJ				*i* S	**Sn**	**03 04 55.8**	**-0.6**
JGF	**Kuroka**	**5.33**	**228**		**Pn**	**03 03 59.3**	**+2.4**
JGF	**Kuroka**	**5.33**	**228**	P	**Pn**	**03 03 59.0**	**+2.1**
	comp=E,76nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.47**	**29**	*e*P	**Pn**	**03 03 59.6**	**+1.0**
YUK				*i* S	**Sn**	**03 04 56.8**	**-3.3**
YUK				pmax	pmax		
	comp=Z,196nm,0.2s						
YUK				pmax	pmax		
	comp=N,101nm,0.1s						
YUK				pmax	pmax		
	comp=E,134nm,0.3s						
YUK				smax	smax		
	comp=N,1μm,0.4s						
YUK				smax	smax		
	comp=E,692nm,0.4s						
INU	**Inuyama**	**5.71**	**228**		**Pn**	**03 04 04.4**	**+2.5**
INU	**Inuyama**	**5.71**	**228**	P	**Pn**	**03 04 05.3**	**+3.4**
	comp=E,64nm,1.2s						
JHJ	**Hachijo jima 2**	**6.47**	**198**	P	**Pn**	**03 04 12.8**	**+0.3**
	comp=E,164nm,0.7s,baz=18,slow=20,SNR=1.1						
JHJ				S	**Sn**	**03 05 21.1**	**-3.8**
	comp=E,126nm,0.4s,baz=218,slow=24,SNR=1.7						
JHJ				LR	LR	03 06 51.5	
	comp=E,357nm,18.2s,baz=102,slow=39						
TEY	**Ternei**	**7.07**	**326**	⇑*e*P	**Pn**	**03 04 24.6**	**+4.1**
TEY				pmax	pmax		
	comp=N,10.0nm,1.1s						
TEY				pmax	pmax		
	comp=E,20nm,1.1s						
TEY				pmax	pmax		
	comp=Z,20nm,1.1s						
KUR	**Kuril'sk**	**7.27**	**34**	*e*P	**Pn**	**03 04 23.1**	**-0.2**
KUR				*e*S	**Sn**	**03 05 40.3**	**-4.0**
KUR				pmax	pmax		
	comp=Z,59nm,0.4s						
KUR				smax	smax		
	comp=E,162nm,0.5s						
KUR				smax	smax		
	comp=N,114nm,0.2s						
YSS	**Yuzhno-Sakhali**	**7.66**	**3**	*e*P	**Pn**	**03 04 29.9**	**+1.3**
YSS				*e*S	**Sn**	**03 05 52.5**	**-1.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				smax	smax		
	comp=N,10.0nm,0.3s						
YSS				smax	smax		
	comp=E,10.0nm,0.4s						
YSS				MLR	MLR		
	comp=E,200nm,14.0s						
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
USRK	**Ussuriysk Ar.**	**9.05**	**306**	P	**Pn**	**03 04 48.3**	**+0.5**
	comp=Z,20nm,0.8s,baz=116,slow=15,SNR=20						
MDJ	**Mudanjiang**	**10.77**	**304**		**Pn**	**03 05 14.1**	**+2.9**
MDJ	**Mudanjiang**	**10.77**	**304**	P	**Pn**	**03 05 14.1**	**+2.9**
MDJ				pmax	pmax		
	comp=Z,27nm,1.3s						
KSRS	**Korea Array**	**11.35**	**265**	P	**Pn**	**03 05 19.1**	**0.0**
	comp=Z,0.9nm,0.7s,baz=71,slow=14,SNR=6.5						
BNX	**BinXian**	**12.65**	**305**	⇑P	**Pn**	**03 05 41.5**	**+4.6**
BNX				pmax	pmax		
	comp=Z,10.0nm,0.7s						
DL2	**Dalian**	**15.97**	**275**	P	**P**	**03 06 24.5**	**+0.7**
DL2				pmax	pmax		
	comp=Z,39nm,1.2s						
PETK	**Petropavlovsk-**	**17.43**	**33**	LR	LR	03 14 17.3	
	comp=Z,63nm,19.4s,baz=213,slow=40						
ZEA	**Zeya**	**17.66**	**330**	*e*P	**Pn**	**03 06 41.7**	**-0.4**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HIA	**Hailar**	**18.84**	**309**	⇑*e*P	**P**	**03 06 55.5**	**0.0**
HIA				pmax	pmax		
	comp=Z,32nm,3.4s						
BJI	**Beijing**	**20.02**	**280**	P	**P**	**03 07 08.3**	**0.0**
BJI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TIA	**Tai'an**	**20.04**	**269**	P	**P**	**03 07 05.5**	**-3.1**
TIA				pmax	pmax		
	comp=Z,16nm,1.5s						
TIA				LR	LR		
	comp=Z,220nm,23.5s						
NJ2	**Nanjing**	**20.26**	**256**	*e*P	**P**	**03 07 10.3**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
MA2	**Magadan**	**21.01**	**12**	LR	LR	03 15 32.0	
	comp=Z,40nm,19.4s,baz=255,slow=36						
HHC	**Hu-ho-hao-te**	**23.43**	**284**	*e*P	**P**	**03 07 43.4**	**-1.2**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,150nm,5.1s						
HHC				LR	LR		
	comp=Z,180nm,10.3s						
HHC				LR	LR		
	comp=Z,140nm,11.1s						
YAK	**Yakutsk**	**24.01**	**345**	LR	LR	03 17 49.5	
	comp=Z,68nm,18.5s,baz=130,slow=38						
YAK	**Yakutsk**	**24.01**	**345**	*e*P	**P**	**03 07 48.7**	**-0.9**
YAK				pmax	pmax		
	comp=Z,15nm,0.8s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,10.0nm,2.0s						
SEY	**Seymchan**	**24.45**	**11**	LR	LR	03 17 57.0	
	comp=E,52nm,18.5s,baz=217,slow=37						
SEY	**Seymchan**	**24.45**	**11**	*e*P	P	03 08 08.1	+15
SEY				pmax	pmax		
	comp=Z,31nm,1.2s						
BTO	**Baotou**	**24.62**	**283**	*e*P	**P**	**03 07 55.0**	**-0.6**
BTO				sP	**sP**	**03 08 17.6**	**+3.2**
BTO				S	**S**	**03 12 11.8**	**-1.7**
BTO				pmax	pmax		
	comp=Z,13nm,0.6s						
BTO				pmax	pmax		
	comp=Z,250nm,3.8s						
BTO				LR	LR		
	comp=Z,330nm,4.5s						
BTO				LR	LR		
	comp=Z,500nm,4.4s						
BTO				LR	LR		
	comp=Z,460nm,14.1s						
GUMO	**Guam**	**25.73**	**174**	LR	LR	03 18 21.8	
	comp=Z,25nm,21.6s,baz=258,slow=36						
SONM	**Songino Array**	**27.10**	**300**	P	**P**	**03 08 17.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=96,slow=9.1,SNR=3.6						
SONM				pP	**sP**	**03 08 34.5**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=18,slow=42,SNR=3.2						
SONM				LR	LR	03 19 20.9	
	comp=Z,127nm,19.1s,baz=88,slow=37						
	comp=Z,0.4nm,0.3s						
XAN	**Xi'an**	**27.10**	**269**	P	**P**	**03 08 19.0**	**+1.0**
XAN				pmax	pmax		
	comp=Z,16nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**28.88**	**125**	T	T	03 38 58.3	
	baz=318,slow=76,SNR=1565						
H11N1	**WAKE ISLAND Hy**	**28.89**	**125**	T	T	03 38 58.5	
	baz=318,slow=76,SNR=2169						
H11N3	**WAKE ISLAND Hy**	**28.89**	**125**	T	T	03 39 01.1	
	baz=318,slow=76,SNR=2408						
H11S1	**WAKE ISLAND Hy**	**29.67**	**127**	T	T	03 39 56.9	
	baz=319,slow=76,SNR=343						
H11S3	**WAKE ISLAND Hy**	**29.68**	**127**	T	T	03 39 58.0	
	baz=319,slow=76,SNR=419						
H11S2	**WAKE ISLAND Hy**	**29.68**	**127**	T	T	03 40 03.8	
	baz=319,slow=76,SNR=318						
LZH	**Lanzhou**	**30.36**	**276**	*e*P	**P**	**03 08 46.4**	**-0.7**
LZH				pmax	pmax		
	comp=Z,19nm,1.4s						
GYA	**Guiyang**	**32.26**	**257**	⇓P	**P**	**03 09 02.8**	**-1.0**
GYA				pmax	pmax		
	comp=Z,25nm,0.8s						
GTA	**Gaotai**	**32.54**	**284**	*e*P	**P**	**03 09 09.0**	**+2.8**
GTA				pP	sP	03 09 24.4	-0.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TIXI	**Tiksi**	**33.12**	**352**	LR	LR	03 24 07.2	
	comp=Z,62nm,18.4s,baz=204,slow=39						
PZH	**PanZhiHua**	**35.99**	**262**	P	**P**	**03 09 36.8**	**+0.7**
ZAA0	**Zalesovo Array**	**40.87**	**310**		**P**	**03 10 15.8**	**-0.8**
ZAA0				lAmb	lAmb	03 10 34.1	
	comp=Z,15nm,0.7s						
ZALV	**Zalesovo Beam**	**40.87**	**310**	P	**P**	**03 10 16.1**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=87,slow=7.1,SNR=11						
ZALV				pP	**pP**	**03 10 31.8**	**+2.1**
	comp=Z,14nm,0.7s,baz=93,slow=7.5,SNR=15						
ZALV				LR	LR	03 27 58.9	
	comp=Z,103nm,18.8s,baz=90,slow=37						
	comp=Z,2.1nm,0.5s						
J17K	**VABM Dome**	**41.87**	**35**	P	**P**	**03 10 27.7**	**+2.9**
C18K	**Utukok River**	**41.98**	**27**	P	**P**	**03 10 26.3**	**+0.7**
C18K				lAmb	lAmb	03 10 36.9	
	comp=Z,24nm,1.4s						
G18K	**Tagagawik**	**42.39**	**32**	P	**P**	**03 10 30.6**	**+1.7**
CMAR	**Chiang Mai Arr**	**42.69**	**254**	P	**P**	**03 10 30.3**	**-1.6**
	comp=Z,1.0nm,0.3s,baz=48,slow=7.8,SNR=5.8						
CMAR				LR	LR	03 30 15.4	
	comp=Z,26nm,18.3s,baz=45,slow=39						
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**42.69**	**254**	*i* P	**P**	**03 10 31.2**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
E19K	**Redstone River**	**43.19**	**29**		**P**	**03 10 37.5**	**+2.1**
E19K				lAmb	lAmb	03 10 56.4	
	comp=Z,8.3nm,0.8s						
MK31	**Makanchi Array**	**43.47**	**300**	*ce*P	**P**	**03 10 37.3**	**-0.6**
MKAR	**Makanchi Array**	**43.47**	**300**		**P**	**03 10 36.4**	**-1.5**
MKAR	**Makanchi Array**	**43.47**	**300**	P	**P**	**03 10 36.3**	**-1.7**
	comp=Z,2.5nm,0.8s,baz=86,slow=9.1,SNR=12						
MKAR				pP	**sP**	**03 10 54.8**	**-2.2**
	comp=Z,6.2nm,0.8s,baz=83,slow=9.9,SNR=16						
MKAR				LR	LR	03 29 30.7	
	comp=Z,64nm,21.2s,baz=48,slow=37						
	comp=Z,2.5nm,0.8s						
MKAR	**Makanchi Array**	**43.47**	**300**	*ce*P	**P**	**03 10 37.2**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
E21K	**Killik River**	**44.55**	**28**	P	**P**	**03 10 48.2**	**+1.9**
KURK	**Kurchatov**	**45.04**	**306**		**P**	**03 10 49.4**	**-1.1**
KURK	**Kurchatov**	**45.04**	**306**	*d* P	**P**	**03 10 49.6**	**-0.8**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KURBB	**Kurchatov Arra**	**45.12**	**306**	P	**P**	**03 10 50.0**	**-1.0**
	comp=Z,5.3nm,0.2s,baz=81,slow=8.6,SNR=18						
KURBB				LR	LR	03 30 04.6	
	comp=Z,81nm,20.3s,baz=182,slow=36						
	comp=Z,5.3nm,0.2s						
D24K	**Happy Valley**	**46.47**	**27**	P	**P**	**03 11 03.0**	**+1.5**
D24K				lAmb	lAmb	03 11 22.4	
	comp=Z,7.7nm,0.8s						
C24K	**Franklin Bluff**	**46.55**	**27**	P	**P**	**03 11 03.8**	**+1.8**
C24K				lAmb	lAmb	03 11 22.8	
	comp=Z,13nm,0.9s						
E24K	**Your Creek**	**46.56**	**29**	P	**P**	**03 11 04.2**	**+1.9**
E24K				lAmb	lAmb	03 11 23.5	
	comp=Z,6.7nm,0.8s						
EVN	**Everest**	**46.82**	**274**		**P**	**03 11 04.5**	**-1.0**
EVN				lAmb	lAmb	03 11 23.4	
	comp=Z,5.9nm,0.9s						
IL31		**47.26**	**33**	P

SIMJ				IAmb	IAmb	03 12 09.3		
	comp=Z,11nm,0.9s							
KNRA	**Kununurra**	**56.12 196**		P	**P**	**03 12 13.8**	**-0.3**	
S34M	**Telegraph Cree**	**56.12 40**		IAmb	IAmb	03 12 51.5		
	comp=Z,12nm,1.4s							
AB31	**Akbulak array**	**56.96 309**		P	**P**	**03 12 19.4**	**-0.5**	
AB31				IAmb	IAmb	03 12 20.1		
	comp=Z,6.5nm,0.8s							
AB31	**Akbulak array**	**56.96 309**	*i* P		**P**	**03 12 19.0**	**-0.9**	
ABKAR	**Akbulak array**	**56.96 309**			**P**	**03 12 19.2**	**-0.7**	
KIRV	**Kirov**	**58.81 322**		LR	LR	03 38 14.7		
	comp=Z,56nm,18.5s,baz=319,slow=36							
KIRV	**Kirov**	**58.81 322**	‖ *e*P		**P**	**03 12 30.6**	**-2.1**	
WR8	**Warramunga Arr**	**59.39 188**		P	**P**	**03 12 36.6**	**-0.5**	
WR8				IAmb	IAmb	03 12 37.5		
	comp=Z,12nm,1.3s							
WRA	**Warramunga Arr**	**59.39 189**		P	**P**	**03 12 36.3**	**-0.8**	
WRA	**Warramunga Arr**	**59.39 189**		P	**P**	**03 12 36.1**	**-1.1**	
	comp=Z,2.2nm,0.8s,baz=6.1,slow=7.1,SNR=12							
	comp=Z,2.2nm,0.8s							
WRA	**Warramunga Arr**	**59.39 189**		P	**P**	**03 12 36.3**	**-0.8**	
ARCES	**ARCESS Array B**	**62.09 339**		P	**P**	**03 12 54.8**	**-0.2**	
	comp=Z,2.5nm,1.0s,baz=62,slow=8.4,SNR=1.5							
	comp=Z,2.5nm,1.0s							
BELG	**Belogornoye**	**62.56 317**	‖ *e*P		**P**	**03 12 58.1**	**-0.2**	
BELG				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ASAR	**Alice Springs**	**63.12 189**		P	**P**	**03 13 02.3**	**0.0**	
	comp=Z,0.8nm,0.7s,baz=9.4,slow=6.5,SNR=8.3							
	comp=Z,0.8nm,0.7s							
DZM	**Mont Dzumac**	**65.14 155**		LR	LR	03 41 07.2		
	comp=Z,56nm,19.3s,baz=20,slow=35							
OBN	**Obninsk**	**66.65 323**	⇑ *e*P		**P**	**03 13 24.9**	**0.0**	
OBN			*e**PP		**PcP**	**03 13 50.6**	**-3.2**	
OBN			*e*			03 15 47.2		
OBN			*e*S		S	03 22 33.5	+21	
OBN				pmax	pmax			
	comp=Z,45nm,2.5s							
FIA1	**FINESS Array S**	**67.09 332**		P	**P**	**03 13 27.4**	**-0.2**	
FINES	**FINESS Array B**	**67.09 332**		P	**P**	**03 13 26.7**	**-0.9**	
FINES	**FINESS Array B**	**67.09 332**		P	**P**	**03 13 27.3**	**-0.4**	
	comp=Z,2.8nm,0.8s,baz=57,slow=7.0,SNR=11							
FINES				pP	**sP**	**03 13 45.8**	**-1.4**	
	comp=Z,2.4nm,0.6s,baz=42,slow=5.9,SNR=3.0							
FINES				LR	LR	03 44 48.1		
	comp=Z,89nm,18.6s,baz=39,slow=38							
	comp=Z,2.8nm,0.8s							
KIV	**Kislovodsk**	**69.88 311**			**P**	**03 13 45.7**	**+0.2**	
KIV	**Kislovodsk**	**69.88 311**	*e*P		**P**	**03 13 45.7**	**+0.2**	
KIV				pmax	pmax			
	comp=Z,14nm,1.1s							
KIV	**Kislovodsk**	**69.88 311**		P	**P**	**03 13 45.4**	**-0.1**	
	comp=Z,14nm,1.1s							
KBZ	**Khabaz**	**69.89 310**		P	**P**	**03 13 45.4**	**0.0**	
	comp=Z,3.4nm,0.9s,baz=76,slow=11,SNR=5.7							
KBZ				LR	LR	03 46 05.4		
	comp=Z,49nm,18.4s,baz=354,slow=37							
	comp=Z,3.4nm,0.9s							
KBZ	**Khabaz**	**69.89 310**	⇑ *e*P		**P**	**03 13 45.5**	**0.0**	
KBZ				pmax	pmax			
	comp=Z,6.0nm,1.0s							
SHA1	**Shidzhatmaz**	**70.03 310**	⇑ *e*P		**P**	**03 13 47.4**	**+0.8**	
ERBR	**Yeremizino-Bor**	**70.13 313**	*e*P		**P**	**03 13 45.3**	**-1.6**	
ERBR				pmax	pmax			
	comp=Z,8.0nm,0.7s							
MNK	**Minsk**	**70.96 326**	*i* P		**P**	**03 13 50.1**	**-1.6**	
	comp=E,16nm,1.1s							
MNK			*i* P		**P**	**03 13 50.1**	**-1.6**	
	comp=N,14nm,0.9s							
MNK			*i* P		**P**	**03 13 50.1**	**-1.6**	
	comp=Z,10.0nm,0.9s,baz=48							
MNK			*i* pP		**pP**	**03 14 05.8**	**0.0**	
MNK			*i* PPP		PPP	03 18 09.4		
MNK			*i* SSS		SSS	03 30 57.4		
MNK			*i* LQ		LQ	03 40 18.9		
MNK			*i* LR		LR	03 44 45.9		
MNK			*i* LRM		MLR	03 47 01.5		
	comp=Z,134nm,16.8s							
MNK			*i* LRM		MLR	03 47 12.2		
	comp=N,93nm,15.3s							
MNK			*i* LRM		MLR	03 47 16.1		
	comp=E,90nm,16.8s							
MNK	**Minsk**	**70.96 326**	*i* P		**P**	**03 13 50.1**	**-1.6**	
MNK			*i* *PP		**pP**	**03 14 05.8**	**0.0**	
MNK			*i* PPP		PPP	03 18 09.4		
MNK			*i* S		**S**	**03 23 02.1**	**-1.5**	
MNK			*i* SS		**SS**	**03 27 35.9**	**-0.2**	
MNK				pmax	pmax			
	comp=N,14nm,0.9s							
MNK				pmax	pmax			
	comp=E,16nm,1.1s							
MNK				pmax	pmax			
	comp=Z,10.0nm,0.9s							
MNK				MLR	MLR			
	comp=Z,134nm,17.0s							
MNK				MLR	MLR			
	comp=N,93nm,15.0s							
MNK				MLR	MLR			
	comp=E,90nm,17.0s							
HFS	**Hagfors**	**72.27 336**		P	**P**	**03 13 59.1**	**-0.4**	
	comp=E,2.2nm,0.8s,baz=44,slow=6.6,SNR=5.3							
HFS				LR	LR	03 52 12.9		
	comp=E,92nm,18.1s,baz=318,slow=41							
	comp=E,2.2nm,0.8s							
NOA	**NORSAR Array B**	**72.33 337**		P	**P**	**03 13 59.4**	**-0.6**	
	comp=E,1.6nm,0.8s,baz=36,slow=6.1,SNR=3.7							
NOA				LR	LR	03 52 17.9		
	comp=E,33nm,18.3s,baz=275,slow=41							
	comp=E,1.6nm,0.8s							
ANN	**Anapa**	**72.40 314**	*e*P		**P**	**03 14 03.8**	**+3.2**	
ANN				pmax	pmax			
	comp=Z,33nm,1.0s							
AKASG	**Malin Array Be**	**72.88 322**		P	**P**	**03 14 02.5**	**-0.8**	
	comp=Z,1.7nm,0.5s,baz=47,slow=6.3,SNR=9.2							
AKASG				LR	LR	03 49 59.3		
	comp=Z,33nm,19.4s,baz=357,slow=39							
	comp=Z,1.7nm,0.5s							
AKBB	**Malin Array Si**	**72.88 322**		P	**P**	**03 14 02.5**	**-0.8**	
AK01	**Malin Array Si**	**72.89 322**		P	**P**	**03 14 02.8**	**-0.6**	
KIEV	**Kiev**	**72.89 322**		P	**P**	**03 14 02.5**	**-0.9**	
	comp=Z,6μmcomp=Z,33nm,2.9s							
AK04	**Malin Array Si**	**72.89 322**		P	**P**	**03 14 02.9**	**-0.5**	
AK02	**Malin Array Si**	**72.91 322**		P	**P**	**03 14 02.4**	**-1.1**	
NVAR	**Mina Array Bea**	**73.15 54**		P	**P**	**03 14 06.9**	**+1.4**	
NVAR	**Mina Array Bea**	**73.15 54**		P	**P**	**03 14 07.3**	**+1.8**	
	comp=Z,0.3nm,0.5s,baz=276,slow=5.8,SNR=6.0							
	comp=Z,0.3nm,0.5s							
LUBAR	**Lubar, Ukraine**	**74.10 322**		P	**P**	**03 14 10.0**	**-0.5**	
NDNU	**Novodnistrovsk**	**75.19 321**		P	**P**	**03 14 16.8**	**-0.1**	
KMPD	**K-Podol'skiy**	**75.65 322**		P	**P**	**03 14 19.2**	**-0.3**	
PDAR	**Pinedale Array**	**75.65 46**		P	**P**	**03 14 21.1**	**+1.2**	
PDAR	**Pinedale Array**	**75.65 46**		P	**P**	**03 14 20.9**	**+0.9**	
	comp=Z,0.4nm,0.5s,baz=259,slow=0.9,SNR=5.5							
	comp=Z,0.4nm,0.5s							
STNU	**Starunia**	**76.47 323**		P	**P**	**03 14 24.2**	**0.0**	
KSV	**Kosov**	**76.48 322**		P	**P**	**03 14 24.3**	**0.0**	
KWP	**Kalwaria Pacla**	**76.64 324**		P	**P**	**03 14 25.3**	**+0.2**	
BUR08	**Bucovina Ar. S**	**76.89 322**		P	**P**	**03 14 26.6**	**-0.2**	
BURAR	**Bucovina Array**	**76.91 322**		P	**P**	**03 14 26.5**	**-0.3**	
RAKU	**Rahkiv**	**77.12 323**		P	**P**	**03 14 27.2**	**-0.6**	
OJC	**Ojcow**	**77.49 326**		P	**P**	**03 14 29.8**	**-0.1**	
	comp=Z,6.2nm,1.3s							
HOLU	**Holmets**	**77.58 324**		P	**P**	**03 14 30.5**	**+0.1**	
BERU	**Beregovo**	**77.68 323**		P	**P**	**03 14 31.6**	**+0.7**	
BRTR	**Keskin Array B**	**77.80 312**		P	**P**	**03 14 31.3**	**-0.7**	
	comp=Z,0.5nm,0.7s,baz=53,slow=5.6,SNR=2.7							
	comp=Z,0.5nm,0.7s							
MLR	**Muntele Rosu**	**78.05 320**		LR	LR	03 49 58.2		
	comp=Z,82nm,20.7s,baz=21,slow=36							
KSP	**Ksiaz**	**78.49 328**		P	**P**	**03 14 35.3**	**-0.1**	
	comp=Z,4.8nm,0.9s							
PV10	**Paradox Valley**	**78.83 49**		P	**P**	**03 14 38.8**	**+1.0**	
PV10				IAmb	IAmb	03 14 54.1		
	comp=Z,9.5nm,1.0s							
PV19	**Morning Glory**	**78.90 49**		P	**P**	**03 14 39.8**	**+1.6**	
PV19				IAmb	IAmb	03 14 54.2		
	comp=Z,6.8nm,1.0s							
CLL	**Collm**	**79.43 330**	*i* P		**P**	**03 14 40.3**	**-0.2**	
CLL			*e**PP		**pP**	**03 14 57.0**	**+2.3**	
CLL				pmax	pmax			
	comp=Z,6.0nm,1.0s							
CLL	**Collm**	**79.43 330**		P	**P**	**03 14 40.4**	**-0.1**	
	comp=Z,6.8nm,2.1s							
CLL	**Collm**	**79.43 330**	*i* P		**P**	**03 14 40.3**	**-0.2**	
	comp=Z,6.0nm,1.0s							
CLL			*e*PP		**PP**	**03 17 45.0**	**+4.6**	

VRAC	**Vranov**	**79.55 327**	*e*P		**P**	**03 14 40.9**	**-0.3**	
KRUC	**Moravsky**	**79.82 327**	*e*P		**P**	**03 14 42.3**	**-0.4**	
ASF	**Jabal al Asfar**	**80.75 304**		LR	LR	03 54 09.6		
	comp=Z,38nm,18.4s,baz=32,slow=38							
RONA	**Rosalia, Austr**	**80.91 326**	*e*P		**P**	**03 14 49.3**	**+0.7**	
	comp=Z,2.1nm,0.8s							
CONA	**Conrad Observa**	**80.92 327**	*i* P		**P**	**03 14 49.4**	**+0.7**	
	comp=Z,4.5nm,1.2s							
RAR	**Rarotonga**	**81.01 127**		LR	LR	03 49 51.5		
	comp=Z,105nm,19.3s,baz=296,slow=35							
GERES	**GERESS Array B**	**81.10 328**		P	**P**	**03 14 49.3**	**-0.4**	
	comp=Z,0.6nm,0.6s,baz=17,slow=4.9,SNR=7.0							
	comp=Z,0.6nm,0.6s							
MMAI	**Mount Meron Ar**	**81.15 306**		LR	LR	03 53 05.2		
	comp=Z,38nm,18.3s,baz=85,slow=37							
EKA	**Eskdalemuir Ar**	**81.19 341**		P	**P**	**03 14 50.0**	**+0.1**	
	comp=Z,2.5nm,0.9s,baz=79,slow=4.3,SNR=1.8							
	comp=Z,2.5nm,0.9s							
GRF	**Grafenberg Arr**	**81.41 330**	*e*P		**P**	**03 14 51.5**	**+0.3**	
	comp=Z,5.7nm,1.1s,baz=36,slow=4.3							
BIOA	**Bad Ischl, Aus**	**82.04 328**	*e*P		**P**	**03 14 52.0**	**-2.6**	
	comp=Z,1.2nm,0.7s							
SOKA	**Soboth**	**82.25 326**	*i* P		**P**	**03 14 56.5**	**+0.7**	
	comp=Z,3.4nm,0.6s							
OBKA	**Obir**	**82.59 327**	*e*P		**P**	**03 14 57.2**	**-0.4**	
	comp=Z,3.9nm,1.2s							
KBA	**Koelnbreinsper**	**82.64 328**	*i* P		**P**	**03 14 58.6**	**+0.6**	
	comp=Z,3.2nm,1.0s							
LESA	**Schwarzleotal**	**82.65 328**	*i* P		**P**	**03 14 57.9**	**0.0**	
	comp=Z,2.6nm,0.8s							
WATA	**Walderalm**	**83.16 329**	*e*P		**P**	**03 15 00.3**	**-0.3**	
	comp=Z,2.9nm,1.1s							
WTTA	**Wattenberg**	**83.20 329**	*e*P		**P**	**03 14 57.5**	**-3.4**	
	comp=Z,4.7nm,1.4s							
MOTA	**Moosalm**	**83.35 329**	*i* P		**P**	**03 14 59.5**	**-2.1**	
	comp=Z,5.0nm,1.1s							
RETA	**Reutte**	**83.37 329**	*i* P		**P**	**03 15 02.1**	**+0.5**	
	comp=Z,7.2nm,1.2s							
SQTA	**Sankt Quirin**	**83.41 329**	*i* P		**P**	**03 15 02.0**	**+0.2**	
	comp=Z,5.4nm,1.6s							
EIL	**Elat**	**83.65 303**		LR	LR	03 56 48.9		
	comp=Z,31nm,18.1s,baz=358,slow=39							
FETA	**Feichten**	**83.76 329**	*i* P		**P**	**03 15 02.5**	**-1.2**	
	comp=Z,4.2nm,1.1s							
DAVA	**Damuels**	**83.88 330**	*i* P		**P**	**03 15 04.1**	**-0.2**	
	comp=Z,6.3nm,0.9s							
FUORN	**Ofenpass-Fuorn**	**84.27 329**		IAmb	IAmb	03 15 07.7		
	comp=Z,9.2nm,1.1s							
TUE	**Stuetta**	**84.76 329**		IAmb	IAmb	03 15 09.5		
	comp=Z,5.0nm,1.1s							
TUE	**Stuetta**	**84.76 329**		P	**P**	**03 15 08.2**	**-0.6**	
	comp=Z,30nm,2.3s							
PPT2	**Papeete2**	**85.13 117**	*e*LR		LR	03 41 51.0		
	comp=Z,76nm,25.5s							
TAOE	**Nuku Hiva Isla**	**86.14 105**	*e*LR		LR	03 42 29.9		
	comp=Z,43nm,21.8s							
TXAR	**Lajitas Array**	**88.26 53**		P	**P**	**03 15 27.0**	**+0.9**	
	comp=Z,0.2nm,0.6s,baz=316,slow=3.3,SNR=3.5							
	comp=Z,0.2nm,0.6s							
TBI	**Tubuai**	**89.17 121**	*e*LR		LR	03 43 42.2		
	comp=Z,790nm,32.8s							
FURI	**Furi**	**94.71 285**		LR	LR	04 03 40.5		
	comp=Z,25nm,18.0s,baz=140,slow=39							
ESDC	**Sonseca Array**	**95.52 334**		LR	LR	04 03 40.7		
	comp=Z,50nm,19.2s,baz=350,slow=38							

*IDC **15** 03:25:31.4±8.6, 18°.29S×70°.09W, h116km±51km, mb4.1/3, mbtmp4.4/6, Error ellipse: s-maj=140.3km s-min=21.1km az=19.0*
*NEIC **15** 03:25:38.1±1.7, 17°.93S±0°.04×69°.6W±0°.1, h144km±5km, mb4.4/9, ML3.8(GUC), Error ellipse: s-maj=18.3km s-min=5.8km az=97.0*
*VAO **15** 03:25:39.5±1.5, 18°.01S×69°.42W, h143km±7km, mb4.4*
*GUC **15** 03:25:39.5±0.8, 18°.00S×69°.60W, h127km±4km, ML3.8*
ISC 15 03:25:37.2±0.8, **17°.92S**±0°.05×**69°.62W**±0°.08, **h144**km±6km, **n67**, σt=**50**/**77**, **mb4.4**/4, **2C**, **Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.35**	**23**			**Pn**	**Pn**	**03 25 59.3**	**+1.4**
PB18	**Visviri**	**0.35**	**23**	⇑ *i*P		**Pn**	**Pn**	**03 25 59.3**	**+1.4**
PB18				*e*S		**Sn**	**Sn**	**03 26 14.3**	**+0.8**
PB16	**IPOC Station P**	**0.43**	**165**	Pn		**Pn**	**Pn**	**03 25 59.1**	**+0.8**
PB16				Sn		**Sn**	**Sn**	**03 26 13.9**	**-0.4**
PB16	**IPOC Station P**	**0.43**	**165**	⇑ *i*P		**Pn**	**Pn**	**03 25 59.1**	**+0.8**
PB16				*e*S		**Sn**	**Sn**	**03 26 13.7**	**-0.6**
GO01	**Chusmiza**	**1.79**	**167**	Pn		**Pn**	**Pn**	**03 26 11.7**	**+1.6**
GO01				Sn		**Sn**	**Sn**	**03 26 34.3**	**-1.0**
GO01	**Chusmiza**	**1.79**	**167**	*e*P		**Pn**	**Pn**	**03 26 11.6**	**+1.6**
GO01				*e*S		**Sn**	**Sn**	**03 26 35.9**	**+0.6**
GO01				IAML				03 26 40.5	
	comp=N,1μm,0.1s								
PB11	**IPOC Station P**	**1.84**	**181**			**Pn**	**Pn**	**03 26 11.2**	**+1.0**
PB11				Sn		**Sn**	**Sn**	**03 26 35.1**	**-0.5**
PB11	**IPOC Station P**	**1.84**	**181**	*i* P		**Pn**	**Pn**	**03 26 11.2**	**+1.0**
PB11				IAML				03 26 37.2	
	comp=E,605nm,0.5s								
LPAZ	**La Paz**	**2.16**	**42**			**Pn**		**03 26 16.1**	**+1.6**
LPAZ	**La Paz**	**2.16**	**42**	P		**Pn**		**03 26 15.4**	**+0.9**
	comp=E,228nm,0.4s,baz=224,slow=6.5,SNR=1168								
LPAZ				S		**Sn**		**03 26 42.9**	**-0.2**
	comp=E,31nm,0.4s,baz=107,slow=2.0,SNR=4.9								
LPAZ	**La Paz**	**2.16**	**42**	*e*P		**Pn**		**03 26 16.1**	**+1.6**
PB08	**IPOC Station P**	**2.26**	**169**			**Pn**		**03 26 17.0**	**+1.5**
PB08	**IPOC Station P**	**2.26**	**169**	*e*P		**Pn**		**03 26 17.0**	**+1.5**
PB08				*e*S		**Sn**		**03 26 45.4**	**+0.5**
PB08				IAML				03 26 46.9	
	comp=E,560nm,0.3s								
TA01	**Diego Aracena**	**2.69**	**191**			**Pn**		**03 26 21.0**	**+0.6**
TA01	**Diego Aracena**	**2.69**	**191**	*e*P		**Pn**		**03 26 20.9**	**+0.5**
PATCX	**Punta Patache**	**2.93**	**190**	Pn		**Pn**		**03 26 24.9**	**+1.3**
PATCX	**Punta Patache**	**2.93**	**190**	*e*P		**Pn**		**03 26 24.2**	**+0.6**
PATCX				*e*S		**Sn**		**03 26 55.1**	**-4.4**
PATCX				IAML				03 27 19.5	
	comp=E,167nm,0.3s								
PB01	**IPOC Station P**	**3.11**	**178**			**Pn**		**03 26 27.0**	**+1.1**
PB01	**IPOC Station P**	**3.11**	**178**	*e*P		**Pn**		**03 26 27.1**	**+1.1**
PB01				IAML				03 27 06.6	
	comp=N,298nm,0.1s								
PB02	**IPOC Station P**	**3.40**	**184**			**Pn**		**03 26 30.7**	**+1.2**
PB02	**IPOC Station P**	**3.40**	**184**	*e*P		**Pn**		**03 26 30.8**	**+1.2**
PB02				*e*S		**Sn**		**03 27 08.3**	**-1.8**
PB09	**IPOC Station P**	**3.88**	**175**			**Pn**		**03 26 37.5**	**+1.6**
PB09	**IPOC Station P**	**3.88**	**175**	*e*P		**Pn**		**03 26 37.5**	**+1.6**
PB03	**IPOC Station P**	**4.11**	**182**			**Pn**		**03 26 39.6**	**+0.6**
PB06	**IPOC Station P**	**4.77**	**179**			**Pn**		**03 26 48.1**	**+0.5**
PB05	**IPOC Station P**	**4.94**	**186**			**Pn**		**03 26 50.1**	**+0.3**
PB10	**IPOC Station P**	**5.64**	**189**	Pn		**Pn**		**03 26 58.8**	**-0.2**
PB14	**IPOC Station P**	**6.72**	**186**	Pn		**Pn**		**03 27 12.9**	**-0.9**
GO02	**Mina Guanaco**	**7.21**	**180**	Pn		**Pn**		**03 27 20.4**	**0.0**
AC01	**Pan de Azucar**	**8.24**	**186**	Pn		**Pn**		**03 27 32.2**	**-1.7**
SIV	**San Ignacio**	**8.40**	**78**	P		**Pn**		**03 27 35.7**	**-0.5**
	comp=N,6.4nm,0.3s,baz=242,slow=15,SNR=38								
SIV				S		**Sn**		**03 29 02.4**	**-7.2**
	comp=N,9.7nm,0.9s,baz=351,slow=23,SNR=15								
AC02	**Maricunga**	**8.89**	**177**	Pn		**Pn**		**03 27 43.0**	**+0.1**
NNA	**Nana**	**9.13**	**309**	P		Pn		03 27 40.2	-5.7
	comp=N,2.9nm,0.4s,baz=160,slow=15,SNR=1.4								
NNA				S		Sn		03 29 18.3	-8.9
	comp=N,2.8nm,0.3s,baz=194,slow=16,SNR=1.4								
AC04	**Llanos de Chal**	**10.33**	**187**	Pn		**Pn**		**03 27 57.8**	**-3.8**
VILB	**Vilhena**	**10.34**	**63**			**Pn**		**03 28 01.3**	**-0.6**
PTLB	**Pontes e Lacer**	**10.34**	**78**			**Pn**		**03 28 01.1**	**-0.8**
PDRB	**Porto dos Gac**	**13.95**	**65**	*e*P		**Pn**		**03 28 48.1**	**-0.8**
PP1B	**Ponte de Pedra**	**14.05**	**91**	*e*P		**Pn**		**03 28 51.3**	**+1.2**
AMBA	**Amambai (Brazi**	**14.59**	**112**	*e*P		**Pn**		**03 28 55.3**	**-1.6**
CLDB	**Colider**	**15.11**	**64**	*e*P		**Pn**		**03 29 03.6**	**+0.2**
PSAL	**Palomas, Salto**	**17.05**	**142**	*e*P		**P**		**03 29 25.2**	**-1.3**
ITAB	**Concordia**	**18.61**	**123**	P		**P**		**03 29 44.1**	**+0.5**
ITAB				IAmb		IAmb		03 29 46.2	
	comp=Z,54nm,1.5s								
ITAB	**Concordia**	**18.61**	**123**	*e*P		**Pn**		**03 29 45.0**	**-0.6**
SNDB	**Serra Nova Dou**	**18.66**	**74**	*e*P		**P**		**03 29 44.8**	**+0.5**
ITTB	**Itaituba**	**19.13**	**47**	*e*P		**P**		**03 29 50.2**	**+0.8**
FRTB	**Fartura**	**19.53**	**109**	*e*P		**P**		**03 29 53.5**	**-0.2**
PLTB	**Pedras Altas**	**20.00**	**137**	P		**P**		**03 29 58.5**	**-0.1**
PLTB	**Pedras Altas**	**20.00**	**137**	*e*P		**P**		**03 29 58.6**	**0.0**
BB19B	**Bebedouro**	**20.13**	**102**	*e*P		**P**		**03 29 60.0**	**-0.2**
CNLB	**Canela**	**20.57**	**127**	*e*P		**P**		**03 30 05.3**	**+0.5**
BDFB	**Brasilia**	**20.81**	**87**	P		**P**		**03 30 07.5**	**-0.1**
BDFB				IAmb		IAmb		03 30 10.9	
	comp=Z,7.5nm,0.6s								
BDFB	**Brasilia**	**20.81**	**87**	P		**P**		**03 30 09.3**	**+1.8**
	comp=Z,7.1nm,0.5s,baz=260,slow=9.5,SNR=18								
	comp=Z,7.1nm,0.5s								
TRQA	**Tornquist**	**21.15**	**163**	P		**P**		**03 30 13.1**	**+2.2**
VAO	**Valinhos**	**21.81**	**107**	P		**P**		**03 30 17.4**	**-0.8**
VAO				IAmb		IAmb		03 30 20.1	
	comp=Z,23nm,1.4s								
MAL2	**Monte Alegre,**	**21.89**	**46**	P		**P**		**03 30 18.3**	**-0.7**
MAL2				IAmb		IAmb		03 30 21.1	
	comp=Z,12nm,1.0s								
PMNB	**Patos De Minas**	**22.03**	**95**	*e*P		**P**		**03 30 19.8**	**-0.7**
SMTB	**Santa Maria do**	**23.23**	**70**	*e*P		**P**		**03 30 32.7**	**+0.9**
JANB	**Januaria**	**24.43**	**87**	*e*P		**P**		**03 30 43.2**	**+0.4**
SDBA	**SAO DESIDERIO**	**24.47**	**81**	*e*P		**P**		**03 30 43.9**	**+0.8**
DIAM	**Diamantina, MG**	**24.66**	**95**	*e*P		**P**		**03 30 46.1**	**+1.1**
GUA01	**Guaratinga, BA**	**28.50**	**92**	*e*P		**P**		**03 31 20.5**	**+1.3**
SMRC	**Santa Marta, M**	**29.25**	**351**	P		**P**		**03 31 23.3**	**-2.5**
NBAN	**Anadia - AL**	**33.36**	**80**	*e*P		**P**		**03 32 02.6**	**+0.6**
BILN	**Bilwi Airport**	**34.54**	**336**	P		**P**		**03 32 13.3**	**+1.3**
BILN				IAmb		IAmb		03 32 46.1	
	comp=Z,334nm,1.3s								
833A	**Chaparral WMA,**	**54.25**	**327**	P		**P**		**03 34 48.2**	**-0.2**
833A				IAmb		IAmb		03 34 52.7	
	comp=Z,11nm,1.4s								
DBIC	**Dimbokro**	**68.41**	**75**	P		**P**		**03 36 24.8**	**+0.8**
	comp=Z,5.2nm,0.8s,baz=253,slow=5.1,SNR=7.0								
	comp=Z,5.2nm,0.8s								
TORD	**Torodi Ar. Bea**	**76.82**	**71**	P		**P**		**03 37 14.0**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=255,slow=5.5,SNR=24								
	comp=Z,1.7nm,0.5s								

*IDC **15** 04:04:48.3±4.9, 18°.44N×145°.43E, h507km±57km, mb3.2/10, mbtmp4.0/10, Error ellipse: s-maj=24.7km s-min=14.5km az=94.0*
ISC 15 04:04:47.6±0.8, **18°.5N**±0°.1×**145°.4E**±0°.2, **h500**km, **n12**, σ0=**89**/**14**, **mb3.5**/10, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.68**	**196**	P		**P**		**04 11 36.1**	**0.0**
WRA				PcP		**PcP**		**04 13 30.6**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=16,slow=3.3,SNR=4.6								
	comp=Z,0.3nm,0.3s								
ASAR	**Alice Springs**	**43.35**	**195**	P		**P**		**04 12 04.7**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=17,slow=6.7,SNR=13								
ASAR				PcP		**pwP**		**04 13 41.8**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=31,slow=2.3,SNR=4.5								
	comp=Z,0.6nm,0.4s								
MKAR	**Makanchi Array**	**58.45**	**314**	P		**P**		**04 13 56.3**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=92,slow=9.7,SNR=2.6								
	comp=Z,0.2nm,0.4s								
KDAK	**Kodiak Island**	**59.70**	**33**	P		**P**		**04 14 04.1**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=62,slow=3.4,SNR=5.0								
	comp=Z,2.5nm,0.8s								
KURBB	**Kurchatov Arra**	**61.33**	**318**	P		**P**		**04 14 15.1**	**+1.0**
	comp=Z,1.9nm,0.4s,baz=98,slow=7.0,SNR=15								
	comp=Z,1.9nm,0.4s								
ILAR	**Eielson Array**	**63.97**	**26**	P		**P**

NMR	**Nemuro--Hokkai**	**0.48**	**253**	*i* P	**Pn**	**04 28 40.9**	**-0.8**
NMR				*i* S	**Sn**	**04 28 49.6**	**-1.1**
SHO	**Shikotan**	**0.49**	**43**	*e*P	**Pn**	**04 28 44.3**	**+2.4**
SHO				AMB	AMB	04 28 44.5	
	90nm,0.2s						
SHO				*e*S	**Sn**	**04 28 52.5**	**+1.5**
SHO				A	A	04 28 53.2	
	2µm,0.2s						
SHO				A	A	04 28 53.2	
	2µm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.64**	**326**	*i* P	**Pn**	**04 28 42.3**	**-1.1**
YUK				AMB	AMB	04 28 43.3	
	400nm,0.2s						
YUK				*i* S	**Sn**	**04 28 52.6**	**-1.0**
YUK				A	A	04 28 53.9	
	600nm,0.3s						
YUK				A	A	04 28 53.9	
	700nm,0.3s						
JKHN	**Kushirohamanak**	**0.97**	**244**	*i* P	**Pn**	**04 28 47.1**	**-0.2**
JRA	**Rausu**	**1.00**	**296**	*i* P	**Pn**	**04 28 47.7**	**+0.1**
JRA				S	**Sn**	**04 29 02.1**	**+0.9**
JNSB	**Nemuroshibetsu**	**1.02**	**286**	*i* P	**Pn**	**04 28 48.1**	**+0.1**
JNSB				*e*S	**Sn**	**04 29 02.7**	**+0.9**
JNK	**Nakash**	**1.20**	**274**	*i* P	**Pn**	**04 28 50.0**	**-0.3**
JNK				*e*S	**Sn**	**04 29 06.0**	**+0.2**
AKK	**Akkeshi**	**1.21**	**247**	*e*P	**Pn**	**04 28 49.8**	**-0.7**
JAK	**Akkeshi**	**1.32**	**248**	*i* P	**Pn**	**04 28 51.4**	**-0.4**
JAK				S	**Sn**	**04 29 08.7**	**0.0**
JTKR	**Abashiri--Toko**	**1.84**	**285**	*i* P	**Pn**	**04 28 59.5**	**+0.8**
JAR	**Ashorobuto**	**1.90**	**264**	*i* P	**Pn**	**04 29 00.1**	**+0.5**
JOB	**Onbets**	**1.94**	**253**	P	**Pn**	**04 29 00.4**	**+0.2**
JOB				*e*S	**Sn**	**04 29 24.8**	**+1.2**
KUR	**Kuril'sk**	**2.03**	**32**	*e*P	**Pn**	**04 29 00.2**	**-1.2**
KUR				AMB	AMB	04 29 01.1	
	80nm,0.4s						
KUR				*i* S	**Sn**	**04 29 23.6**	**-2.1**
KUR				A	A	04 29 24.5	
	180nm,0.6s						
KUR				A	A	04 29 24.5	
	110nm,0.6s						
JMP	**Maruseppu**	**2.23**	**284**	P	**Pn**	**04 29 05.1**	**+1.0**

BGR ***15*** *04:55:20.1±0.6,51.˚64N×16.˚22E,h1km,ML3.6/13,Error ellipse: s-maj=10.0km s-min=3.3km az=9.0*
IPEC ***15*** *04:55:20.9±0.2,51.˚54N×16.˚26E,h1km,MLa3.4/6,Error ellipse: s-maj=1.8km s-min=1.4km az=47.0*
VIE ***15*** *04:55:20.4±0.9,51.˚54N×16.˚20E,h0km,mb3.2/20, ml3.4/16,ms3.8/4,Error ellipse: s-maj=6.6km s-min=4.0km az=45.0 75 km NW of Wroclaw Suspected Mining induced.*
IDC ***15*** *04:55:20.6±0.5,51.˚57N×16.˚00E,h0km,mb3.8/7, mbtmp3.7/17,ML3.0/8,Error ellipse: s-maj=9.4km s-min=6.0km az=102.0*
DNK ***15*** *04:55:21.4±2.3,51.˚66N×15.˚87E,h0km±85km,ML3.3*
UPP ***15*** *04:55:22.8±3.1,51.˚65N×15.˚52E,h0km,ML2.7,Presumed earthquake*
PRU ***15*** *04:55:23.2,51.˚48N×16.˚18E,h0km*
ISC 15 04:55:19.4±0.5,51.˚62N±0.˚02×16.˚18E±0.˚02,h0km,n112,σ1ş49/175,mb3.8/6,3C-19D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.78**	**175**	*e*Pg		**Pg**	**04 55 34.8**	**+0.4**
KSP				*e*Sg		**Sg**	**04 55 44.5**	**0.0**
KSP	**Ksiaz**	**0.78**	**175**	*e*Pg		**Pg**	**04 55 34.8**	**+0.4**
CHVC	**Chvalec**	**1.04**	**185**	⇓*i*PG		**Pb**	**04 55 39.8**	**-0.5**
CHVC				*e*SG		**Sg**	**04 55 51.6**	**-1.1**
OSTC	**Ostas**	**1.07**	**179**	⇓*i*PG		**Pb**	**04 55 40.3**	**-0.5**
OSTC				*e*SG		**Sg**	**04 55 53.5**	**-0.1**
UPC	**Upice**	**1.12**	**186**	⇓*e*SG		**Sg**	**04 55 55.2**	**-0.2**
DPC	**Dobruska-Polom**	**1.28**	**176**	⇓*i*PG		**Pg**	**04 55 43.7**	**-0.1**
DPC				*e*SG		**Sg**	**04 55 59.2**	**-1.2**
DPC	**Dobruska-Polom**	**1.28**	**176**	*e*Pg		**Pg**	**04 55 43.6**	**-0.3**
PIVO	**Bartosovice**	**1.46**	**171**	*e*Pg		**Pn**	**04 55 46.7**	**-0.3**
	baz=352							
PIVO				*e*Sg		**Sg**	**04 56 03.9**	**-2.2**
	294nm,0.2s,baz=352							
PVCC	**Panska Ves**	**1.50**	**224**	⇓*i*PG		**Pn**	**04 55 47.4**	**-0.1**
PVCC				*e*SG		**Sn**	**04 56 07.7**	**0.0**
	385nm,0.1s							
KRLC	**Kraliky**	**1.59**	**166**	⇓*e*PG		**Pn**	**04 55 48.9**	**0.0**
KRLC				*e*SG		**Sn**	**04 56 08.3**	**-1.9**
BRG	**Berggiesshubel**	**1.59**	**243**	*e*Sg		**Sg**	**04 56 12.3**	**+1.7**
BRG	**Berggiesshubel**	**1.59**	**243**	Pn		**Pg**	**04 55 50.5**	**+0.5**
BRG				Pg		**Pb**	**04 55 52.3**	**+2.6**
BRG				Sg		**Sg**	**04 56 13.1**	**+2.5**
BRG				Amp			04 56 14.0	
	comp=Z,377nm,0.5s							
RUE	**Ruedersdorf**	**1.71**	**301**	*e*P		**Pb**	**04 55 51.2**	**-0.6**
GKP	**Gorka Klasztor**	**1.77**	**21**	*e*P		**Pb**	**04 55 53.0**	**+0.3**
PRA	**Prague**	**1.91**	**216**	⇓*e*PN		**Pn**	**04 55 53.3**	**+0.1**
FBE	**Freiberg**	**1.91**	**250**	*e*Pn		**Pn**	**04 55 52.6**	**-0.7**
FBE				*e*Sg		**Sg**	**04 56 20.9**	**+0.2**
PRU	**Pruhonice**	**1.94**	**213**	⇓*e*PN		**Pn**	**04 55 53.4**	**-0.2**
PRU				*e*PG		**Pb**	**04 55 55.4**	**-0.2**
PRU				*e*SG		**Sb**	**04 56 20.4**	**+0.1**
	comp=Z,169nm,0.3s							
STEB	**Steborice**	**1.97**	**149**	⇓*e*PG		**Pb**	**04 55 56.5**	**+0.4**
STEB				*e*SG		**Sb**	**04 56 21.2**	**0.0**
RAC	**Raciborz**	**2.00**	**140**	*e*PG		**Pg**	**04 55 57.3**	**-0.4**
RAC				*e*SG		**Sg**	**04 56 23.6**	**0.0**
CLL	**Collm**	**2.01**	**262**	*e*Pn		**Pn**	**04 55 54.4**	**-0.2**
CLL				*e*Sg		**Sg**	**04 56 24.2**	**+0.1**
CLL	**Collm**	**2.01**	**262**	*i* Pn		**Pn**	**04 55 54.4**	**-0.2**
CLL				*e*Pg		**Pg**	**04 55 58.0**	**0.0**
CLL				*i* x		x	04 56 01.6	
CLL				*e*Sg		**Sb**	**04 56 23.0**	**+0.5**
	comp=Z,200nm,0.8s							
MORC	**Moravsky Berou**	**2.04**	**154**	*e*Pn		**Pn**	**04 55 54.8**	**-0.2**
	baz=336							
MORC				*e*Sg		**Sn**	**04 56 22.0**	**+0.8**
	comp=Z,251nm,0.7s,baz=336							
MORC	**Moravsky Berou**	**2.04**	**154**	*e*PN		**Pn**	**04 55 54.9**	**-0.2**
MORC				*e*SG		**Sn**	**04 56 22.1**	**+0.8**
MORC	**Moravsky Berou**	**2.04**	**154**	⇓P		**Pn**	**04 55 54.8**	**-0.2**
MORC	**Moravsky Berou**	**2.04**	**154**	*e*Pn		**Pn**	**04 55 54.8**	**-0.2**
OKC	**Ostrava-Krasne**	**2.18**	**144**	⇓*e*SG		**Sb**	**04 56 27.6**	**+0.4**
OKC	**Ostrava-Krasne**	**2.18**	**144**	*e*Pn		**Pn**	**04 55 56.1**	**-0.8**
VRAC	**Vranov**	**2.33**	**173**	Pn		**Pn**	**04 55 59.3**	**+0.3**
	comp=Z,7.8nm,0.3s,baz=353,slow=12,SNR=104							
VRAC				Lg		Lg	04 56 32.2	
	comp=Z,21nm,0.3s,baz=20,slow=12,SNR=3.6 comp=Z,18nm,0.3s							
VRAC	**Vranov**	**2.33**	**173**	*e*Pn		**Pn**	**04 55 59.1**	**+0.1**
	baz=355							
VRAC				*e*Sg		**Sb**	**04 56 31.1**	**-0.5**
	comp=Z,230nm,0.9s,baz=355							
VRAC	**Vranov**	**2.33**	**173**	⇑P		**Pn**	**04 55 59.5**	**+0.4**
TREC	**Trest**	**2.37**	**191**	⇓*e*SG		**Sb**	**04 56 33.5**	**+0.7**
KRUC	**Moravsky**	**2.57**	**177**	*e*Pn		**Pn**	**04 56 02.4**	**+0.2**
	baz=358							
KRUC				*e*Sg		**Sb**	**04 56 38.5**	**+0.2**
	comp=Z,222nm,1.1s,baz=358							
KRUC	**Moravsky**	**2.57**	**177**	*e*PN		**Pn**	**04 56 02.5**	**+0.2**
KRUC				*e*SG		**Sb**	**04 56 38.6**	**+0.2**
TANN	**Tannenbergstha**	**2.64**	**244**	*e*Pn		**Pn**	**04 56 03.3**	**0.0**
OJC	**Ojcow**	**2.68**	**120**	*e*Pn		**Pn**	**04 56 03.1**	**-0.8**
OJC				*e*Pg		**Pg**	**04 56 12.4**	**+1.6**
OJC				*e*Sg		**Sg**	**04 56 47.2**	**+1.6**
OJC	**Ojcow**	**2.68**	**120**	*e*Pn		**Pn**	**04 56 02.4**	**-1.4**
OJC				*e*Sg		**Sg**	**04 56 45.6**	**0.0**
WERD	**Werda**	**2.71**	**246**	*e*Pn		**Pn**	**04 56 03.9**	**-0.4**
JAVC	**Velka Javorina**	**2.93**	**160**	*e*Pn		**Pn**	**04 56 07.4**	**+0.2**
	baz=342							
KHC	**Kasperske Hory**	**3.00**	**215**	⇓*e*PN		**Pn**	**04 56 08.3**	**+0.1**
KHC				*e*PG		**Pb**	**04 56 14.7**	**+1.0**
KHC				*e*SG		**Sg**	**04 56 53.4**	**-2.3**
	comp=Z,94nm,0.8s							
MOX	**Moxa**	**3.04**	**253**	*e*Pn		**Pn**	**04 56 07.9**	**-0.8**
CKRC	**Cesky Krumlov**	**3.05**	**204**	⇓*e*PN		**Pn**	**04 56 09.4**	**+0.5**
CKRC				*e*PG		**Pb**	**04 56 15.4**	**+0.8**
CKRC				*e*SG		**Sg**	**04 56 55.0**	**-2.4**
	comp=Z,86nm,0.6s							
ROTZ	**Rotzenmuhle**	**3.14**	**235**	*e*Pn		**Pn**	**04 56 10.1**	**0.0**
GEC2	**GERESS Array S**	**3.20**	**211**	*e*Pn		**Pn**	**04 56 10.6**	**-0.4**
GERES	**GERESS Array B**	**3.20**	**211**	Pn		**Pn**	**04 56 11.1**	**0.0**
	comp=Z,0.7nm,0.3s,baz=28,slow=12,SNR=133							
GERES				Sn		**Sn**	**04 56 49.6**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=36,slow=23,SNR=7.4							
GERES				Lg		Lg	04 56 57.8	
	comp=Z,0.9nm,0.3s,baz=37,slow=27,SNR=5.2							
	comp=Z,8.1nm,0.3s							
WET	**Wettzell**	**3.26**	**222**	*e*Pn		**Pn**	**04 56 11.7**	**-0.1**
NIE	**Niedzica**	**3.43**	**128**	*e*Pg		**Pg**	**04 56 25.5**	**+0.4**
NIE				*e*Sg		**Sg**	**04 57 10.5**	**+0.9**
BSD	**Bornholm Skovb**	**3.58**	**348**	*e*P		**Pn**	**04 56 16.7**	**+0.6**
BSD	**Bornholm Skovb**	**3.58**	**348**	*i* P		**Pn**	**04 56 16.4**	**+0.2**
BSD				*i* S		**Sn**	**04 56 58.9**	**-0.3**
BSD				IAML			04 57 30.3	
	comp=Z,41nm,0.8s							
GRF	**Grafenberg Arr**	**3.70**	**240**	*e*Pn		**Pn**	**04 56 18.2**	**+0.4**
CONA	**Conrad Observa**	**3.70**	**183**	*i* Pn		**Pn**	**04 56 18.4**	**+0.5**
	comp=Z,3.6nm,0.3s,SNR=26							
CONA				*e*Sg		**Sg**	**04 57 16.2**	**-2.1**
	comp=Z,86nm,0.6s							
RONA	**Rosalia, Austr**	**3.93**	**179**	*i* Pn		**Pn**	**04 56 21.1**	**+0.1**
	comp=Z,1.2nm,0.2s,SNR=10							
RONA				*e*Sg		**Sg**	**04 57 25.4**	**-0.1**
	comp=Z,2.2nm,0.2s							
MOA	**Molln**	**3.98**	**199**	*i* Pn		**Pn**	**04 56 21.9**	**+0.2**
	comp=Z,16nm,0.3s,SNR=19							
MOA				*e*Sg		**Sg**	**04 57 26.2**	**-0.9**
	comp=Z,33nm,0.3s							
BIOA	**Bad Ischl, Aus**	**4.27**	**204**	*i* Pn		**Pn**	**04 56 26.0**	**+0.3**
	comp=Z,9.3nm,0.3s,SNR=11							
BIOA				*e*Sg		**Sg**	**04 57 38.2**	**+1.7**
	comp=Z,106nm,0.9s							
LUNU	**Lund**	**4.34**	**339**	P		**Pn**	**04 56 27.2**	**+0.7**
LUNU				S		**Sn**	**04 57 17.1**	**-0.6**
LUNU	**Lund**	**4.34**	**339**	*i* P		**Pn**	**04 56 27.0**	**+0.5**
LUNU				P		**Pn**	**04 56 27.2**	**+0.7**
LUNU				*e*S		**Sn**	**04 57 15.5**	**-2.2**
LUNU				S		**Sn**	**04 57 17.1**	**-0.6**
ARSA	**Arzberg**	**4.40**	**186**	*i* Pn		**Pn**	**04 56 28.4**	**+1.0**
	comp=Z,6.1nm,0.3s,SNR=21							
ARSA				*e*Sg		**Sg**	**04 57 41.9**	**+1.3**
	comp=Z,21nm,0.7s							
PSZ	**Piszkesteto**	**4.42**	**146**	⇓P		**Pn**	**04 56 28.8**	**+1.1**
PSZ	**Piszkesteto**	**4.42**	**146**	*e*P		**Pn**	**04 56 28.2**	**+0.5**
LESA	**Schwarzleotal**	**4.78**	**210**	*i* Pn		**Pn**	**04 56 32.8**	**0.0**
	comp=Z,1.6nm,0.2s,SNR=12							
LESA				*e*Sg		**Sg**	**04 57 51.6**	**-1.3**
	comp=Z,62nm,0.8s							
SUW	**Suwalki**	**4.87**	**58**	*e*P		**Pn**	**04 56 33.4**	**-0.5**
KBA	**Koelnbreinsper**	**4.91**	**203**	*i* Pn		**Pn**	**04 56 35.3**	**+0.6**
	comp=Z,14nm,0.4s,SNR=13							
KBA				*e*Sg		**Sg**	**04 57 55.1**	**-2.0**
	comp=Z,46nm,0.7s							
SOKA	**Soboth**	**5.00**	**189**	*e*Pn		**Pn**	**04 56 38.1**	**+2.3**
	comp=Z,2.1nm,0.3s							
SOKA				*e*Sg		**Sg**	**04 57 54.5**	**-5.6**
	comp=Z,7.4nm,0.6s							
DEL	**Delary**	**5.05**	**345**	P		**Pn**	**04 56 37.0**	**+0.7**
DEL				S		**Sn**	**04 57 32.5**	**-2.7**
DEL	**Delary**	**5.05**	**345**	P		**Pn**	**04 56 37.0**	**+0.7**
DEL				*i* P		**Pn**	**04 56 37.0**	**+0.7**
DEL				S		**Sn**	**04 57 32.5**	**-2.7**
DEL				*e*S		**Sn**	**04 57 32.5**	**-2.7**
OBKA	**Obir**	**5.23**	**192**	*i* Pn		**Pn**	**04 56 39.5**	**+0.6**
	comp=Z,1.2nm,0.3s							
OBKA				*e*Sg		**Sg**	**04 58 06.1**	**-1.2**
	comp=Z,39nm,0.9s							
WATA	**Walderalm**	**5.24**	**217**	*i* Pn		**Pn**	**04 56 40.1**	**+1.1**
	comp=Z,12nm,0.4s,SNR=23							
WATA				*e*Sg		Sg	04 58 18.5	+11
	comp=Z,32nm,0.7s							
MYKA	**Terra Mystica**	**5.27**	**199**	*i* Pn		**Pn**	**04 56 40.9**	**+1.5**
	comp=Z,1.0nm,0.3s							
MYKA				Sg		**Sg**	**04 58 07.5**	**-1.0**
	comp=Z,40nm,0.8s							
WTTA	**Wattenberg**	**5.27**	**216**	*i* Pn		**Pn**	**04 56 40.5**	**+0.9**
	comp=Z,5.5nm,0.3s,SNR=16							
WTTA				*e*Sg		**Sg**	**04 58 11.3**	**+2.5**
	comp=Z,27nm,0.9s							
MOTA	**Moosalm**	**5.41**	**220**	*i* Pn		**Pn**	**04 56 41.2**	**-0.3**
	comp=Z,4.1nm,0.4s,SNR=11							
MOTA				*e*Sg		**Sg**	**04 58 15.7**	**+2.6**
	comp=Z,50nm,0.9s							
RETA	**Reutte**	**5.44**	**223**	*i* Pn		**Pn**	**04 56 41.6**	**-0.1**
	comp=Z,2.7nm,0.6s,SNR=8.1							
RETA				*e*Sg		**Sg**	**04 58 12.4**	**-1.6**
	comp=Z,28nm,0.7s							
ABTA	**Abfaltersbach**	**5.44**	**208**	*i* Pn		**Pn**	**04 56 42.7**	**+0.9**
	comp=Z,3.4nm,0.5s,SNR=12							
ABTA				*e*Sg		**Sg**	**04 58 12.6**	**-1.4**
	comp=Z,41nm,0.8s							
SQTA	**Sankt Quirin**	**5.47**	**218**	*i* Pn		**Pn**	**04 56 42.8**	**+0.6**
	comp=Z,7.8nm,0.3s,SNR=16							
SQTA				*e*Sg		**Sg**	**04 58 12.9**	**-2.2**
	comp=Z,17nm,0.7s							
OSKU	**Oskarshamn**	**5.59**	**360**	P		**Pn**	**04 56 45.3**	**+1.6**
OSKU	**Oskarshamn**	**5.59**	**360**	P		**Pn**	**04 56 45.3**	**+1.6**
MORH	**Mrgy, Hungar**	**5.65**	**162**	⇓P		**Pn**	**04 56 44.8**	**+0.2**
BYXU	**Byxelkrok**	**5.70**	**5**	P		**Pn**	**04 56 47.3**	**+2.1**
BYXU	**Byxelkrok**	**5.70**	**5**	P		**Pn**	**04 56 47.3**	**+2.1**
FETA	**Feichten**	**5.82**	**220**	*i* Pn		**Pn**	**04 56 47.5**	**+0.4**
	comp=Z,1.8nm,0.4s,SNR=6.1							
FETA				*e*Sg		**Sg**	**04 58 20.3**	**-6.0**
	comp=Z,21nm,0.9s							
DAVA	**Damuels**	**5.97**	**226**	*i* Pn		**Pn**	**04 56 49.2**	**0.0**
	comp=Z,1.5nm,0.3s,SNR=4.9							
DAVA				*e*Sg		**Sg**	**04 58 32.4**	**+1.2**
	comp=Z,24nm,0.7s							
EKSU	**Eksjoe**	**5.99**	**355**	P		**Pn**	**04 56 50.3**	**+1.2**
EKSU	**Eksjoe**	**5.99**	**355**	P		**Pn**	**04 56 50.3**	**+1.2**
PABE	**Paberze**	**6.05**	**47**	*e*P		**Pn**	**04 56 51.7**	**+1.6**
VSTU	**Vaestervik**	**6.05**	**2**	P		**Pn**	**04 56 51.5**	**+1.4**
VSTU	**Vaestervik**	**6.05**	**2**	P		**Pn**	**04 56 51.5**	**+1.4**
MESR	**Meseseni**	**6.29**	**133**	⇓P		**Pn**	**04 56 54.3**	**+0.9**
BORU	**Boraas**	**6.34**	**343**	*i* P		**Pn**	**04 56 55.6**	**+1.6**
BORU				*e*S		**Sn**	**04 58 05.5**	**-1.7**
DAVOX	**Davos/Dischmat**	**6.37**	**223**	Pn		**Pn**	**04 56 54.0**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=60,slow=7.9,SNR=10							
DAVOX				Sn		**Sn**	**04 58 07.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=353,slow=20,SNR=2.1							
DAVOX				Lg		Lg	04 58 40.8	
	comp=Z,0.5nm,0.3s,baz=252,slow=20,SNR=4.3 comp=Z,1.9nm,0.3s							
DRGR		**6.45**	**136**	⇓P		**Pn**	**04 56 56.6**	**+0.9**
LNKU	**Linkoeping**	**6.63**	**357**	P		**Pn**	**04 56 59.1**	**+1.2**
LNKU	**Linkoeping**	**6.63**	**357**	P		**Pn**	**04 56 59.1**	**+1.2**
MARR	**Marisel-Cluj**	**6.72**	**135**	⇑P		**Pn**	**04 57 00.6**	**+1.2**
VIKU	**Vikbolandet**	**6.90**	**2**	P		**Pn**	**04 57 03.1**	**+1.4**
VIKU	**Vikbolandet**	**6.90**	**2**	P		**Pn**	**04 57 03.1**	**+1.4**
BZS	**Buzias**	**7.00**	**147**	⇓P		**Pn**	**04 57 04.2**	**+1.1**
NACGM	**Naroch**	**7.16**	**59**	*e*P		**Pn**	**04 57 06.3**	**+1.1**
	comp=Z,5.0nm,0.7s,baz=247							
GZR	**Gura Zlata**	**7.61**	**142**	⇑P		**Pn**	**04 57 12.8**	**+1.2**
ESKU	**Eskilstuna**	**7.63**	**1**	P		**Pn**	**04 57 13.3**	**+1.6**
ESKU	**Eskilstuna**	**7.63**	**1**	P		**Pn**	**04 57 13.3**	**+1.6**
AKASG	**Malin Array Be**	**8.25**	**91**	Pn		**Pn**	**04 57 19.4**	**-0.8**
	comp=Z,2.4nm,0.6s,baz=280,slow=12,SNR=7.6							
AKASG				Sn		**Sn**	**04 58 50.3**	**-3.8**
	comp=Z,1.5nm,0.3s,baz=272,slow=23,SNR=4.7							
AKASG				Lg		Lg	04 59 47.8	
	comp=Z,0.7nm,0.3s,baz=274,slow=24,SNR=4.2							
HFS	**Hagfors**	**8.65**	**352**	Pn		**Pn**	**04 57 25.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=154,slow=14,SNR=6.1							
HFS				Sn		**Sn**	**04 58 59.3**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=187,slow=19,SNR=1.8							
HFS				Lg		Lg	04 59 53.9	
	comp=Z,0.2nm,0.3s,baz=196,slow=31,SNR=1.5 comp=Z,4.4nm,1.0s							
NOA	**NORSAR Array B**	**9.83**	**346**	Pn		**Pn**	**04 57 40.7**	**-1.3**
	baz=214,slow=12,SNR=1.3							
NOA				Sn		**Sn**	**04 59 28.0**	**-5.0**
	baz=137,slow=23,SNR=1.5							
NOA				Lg		Lg	05 00 33.3	
	baz=232,slow=12,SNR=4.6 comp=Z,0.7nm,0.8s							
FINES	**FINESS Array B**	**11.24**	**25**	Pn		**Pn**	**04 58 00.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=212,slow=11,SNR=13							
FINES				Sn		**Sn**	**05 00 01.1**	**-6.2**
	comp=Z,0.2nm,0.3s,baz=213,slow=20,SNR=2.0 comp=Z,3.9nm,0.9s							
EKA	**Eskdalemuir Ar**	**12.10**	**295**	Pn		**Pn**	**04 58 11.7**	**-1.2**
	baz=100,slow=13 comp=Z,0.4nm,0.3s							
ARCES	**ARCESS Array B**	**18.50**	**10**	P		**P**	**04 59 36.9**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=192,slow=14,SNR=5.9 comp=Z,1.9nm,0.8s							
BELG	**Belogornoye**	**19.30**	**75**	P		**Pn**	**04 59 47.7**	**+1.1**
	comp=Z,7.8nm,0.6s,baz=29,slow=17,SNR=3.8							
BVAR	**Borovoye Array**	**32.50**	**66**	P		**P**	**05 01 53.5**	**+2.0**
	comp=Z,0.9nm,0.6s,baz=291,slow=6.2,SNR=5.0 comp=Z,0.9nm,0.6s							
KURBB	**Kurchatov Arra**	**38.09**	**66**	P		**P**	**05 02 41.6**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=298,slow=9.2,SNR=3.2 comp=Z,0.8nm,0.3s							
AAK	**Ala-Archa**	**39.70**	**79**	P		**P**	**05 02 55.8**	**+2.4**
	comp=Z,0.8nm,0.3s,baz=318,slow=4.8,SNR=4.1 comp=Z,0.8nm,0.3s							
TORD	**Torodi Ar. Bea**	**40.12**	**202**	P		**P**	**05 02 57.1**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=20,slow=9.0,SNR=3.8 comp=Z,0.6nm,0.8s							
MKAR	**Makanchi Array**	**42.13**	**69**	P		**P**	**05 03 15.2**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=350,slow=5.9,SNR=2.7 comp=Z,0.5nm,0.8s							
PDAR	**Pinedale Array**	**74.88**	**322**	P		**P**	**05 07 03.2**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=30,slow=6.3,SNR=5.0 comp=Z,0.4nm,0.7s							
TXAR	**Lajitas Array**	**83.68**	**310**	P		**P**	**05 07 50.6**	**+0.6**
	comp=Z,1.1nm,1.2s,baz=22,slow=6.2,SNR=5.1 comp=Z,1.1nm,1.2s							

IDC ***15*** *05:09:23.9±0.6,29.˚92N×81.˚98E,h0km,mb4.0/20, mbtmp4.0/24,ML4.1/4,MS3.3/2,Error ellipse: s-maj=17.5km s-min=13.8km az=38.0*
DMN ***15*** *05:09:27.7±0.0,30.˚34N×81.˚75E,h50km,Ml5.0/10,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 15 05:09:28.3±0.5,30.˚16N±0.˚08×81.˚97E±0.˚08,h21km,n40,σ1ş39/48,mb4.0/18,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DANN	**Dangsang**	**2.39**	**139**	Pg		**Pn**	**05 10 07.5**	**+1.0**
	baz=138,slow=0.0							
DANN				Sg		**Sn**	**05 10 38.2**	**+2.9**
	5µm,0.5s,baz=138,slow=0.0							
KOLN	**Koldanda**	**2.78**	**149**	Pg		**Pn**	**05 10 12.9**	**+1.1**
	baz=147,slow=0.0							
KOLN				Sg		**Sn**	**05 10 46.9**	**+2.1**
	3µm,0.7s,baz=147,slow=0.0							
GKN	**Gorkha**	**3.18**	**132**	Pg		**Pn**	**05 10 18.8**	**+1.6**
	baz=132,slow=0.0							
GKN				Sg		**Sn**	**05 10 55.2**	**+0.7**
	2µm,0.3s,baz=132,slow=0.0							
KKN	**Kakani**	**3.74**	**128**	Pg		**Pn**	**05 10 26.2**	**+1.2**
	baz=128,slow=0.0							
KKN				Sg		**Sn**	**05 11 09.7**	**+1.1**
	664nm,0.4s,baz=128,slow=0.0							
DMN	**Daman**	**3.75**	**132**	Pg		**Pn**	**05 10 26.6**	**+1.5**
	baz=132,slow=0.0							
DMN				Sg		**Sn**	**05 11 10.9**	**+2.1**
	481nm,0.4s,baz=132,slow=0.0							
PKIN	**Phulchoki**	**3.96**	**130**	Pg		**Pn**	**05 10 29.1**	**+1.1**
	baz=130,slow=0.0							
PKIN				Sn		**Sn**	**05 11 15.5**	**+1.5**
	1µm,0.5s,baz=130,slow=0.0							
PKI	**Pulchoki**	**3.97**	**130**	Pn		**Pn**	**05 10 29.3**	**+1.0**
	baz=130,slow=0.0							
PKI				Sn		**Sn**	**05 11 15.3**	**+0.9**
	730nm,0.4s,baz=130,slow=0.0							
GUN	**Gumba**	**4.09**	**122**	Pn		**Pn**	**05 10 30.8**	**+0.8**
	baz=123,slow=0.0							
GUN				Sn		**Sn**	**05 11 18.4**	**+1.0**
	490nm,0.4s,baz=123,slow=0.0							
RAMN	**Ramite**	**5.18**	**127**	Pn		**Pn**	**05 10 44.9**	**+0.1**
	baz=127,slow=0.0							
RAMN				S

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.23 359**		P	**Pn**	**05 50 08.9**	**-2.5**
GLKZ				S	**Sn**	**05 50 22.0**	**-4.9**
RAO	**Raoul Island**	**1.25 359**		P	**Pn**	**05 50 08.7**	**-2.8**
	2μm,0.3s,baz=87,slow=11,SNR=28						
RAO				S	**Sn**	**05 50 22.9**	**-4.3**
	9μm,0.3s,baz=106,slow=22,SNR=16						
RAO				LR	LR	05 50 25.7	
	comp=Z,345nm,21.9s,baz=139,slow=34						
MXZ	**Matakaoa Point**	**7.72 203**		Pn	**Pn**	**05 51 38.6**	**-1.7**
MXZ	**Matakaoa Point**	**7.72 203**		P	Pn	05 51 35.4	-4.9
MXZ				S	**Sn**	**05 53 05.3**	**-1.0**
WMGZ	**Waiomatatini S**	**7.92 202**		P	**Pn**	**05 51 39.4**	**-3.6**
WMGZ				S	**Sn**	**05 53 09.4**	**-1.9**
PKGZ	**Pakihiroa**	**8.07 203**		P	**Pn**	**05 51 41.2**	**-4.0**
HAZ	**Te Kaha**	**8.08 205**		P	**Pn**	**05 51 42.5**	**-2.7**
HAZ				S	**Sn**	**05 53 16.0**	**+0.8**
PUZ	**Puketiti**	**8.20 202**		P	**Pn**	**05 51 42.8**	**-4.1**
PUZ				S	**Sn**	**05 53 14.8**	**-3.4**
RUGZ	**Raukumara Rang**	**8.30 205**		P	**Pn**	**05 51 44.5**	**-3.9**
WCZ	**Waipu Caves**	**8.47 228**		P	Pn	05 51 56.5	+5.9
OUZ	**Omahuta**	**8.57 234**		P	Pn	05 51 58.1	+6.1
OUZ	**Omahuta**	**8.57 234**		P	Pn	05 51 58.5	+6.5
MWZ	**Matawai**	**8.68 205**		P	Pn	05 51 48.0	-5.6
MWZ				S	**Sn**	**05 53 25.9**	**-4.2**
URZ	**Urewera**	**8.77 207**		P	**Pn**	**05 51 53.4**	**-1.3**
	6.3nm,0.3s,baz=67,slow=15,SNR=13						
URZ				S	**Sn**	**05 53 30.6**	**-1.7**
	33nm,0.5s,baz=246,slow=8.3,SNR=9.7						
URZ	**Urewera**	**8.77 207**		P	**Pn**	**05 51 52.2**	**-2.5**
URZ	**Urewera**	**8.77 207**		P	**Pn**	**05 51 50.6**	**-4.1**
URZ				S	**Sn**	**05 53 29.5**	**-2.7**
RAGZ	**Rawiri**	**8.87 205**		P	**Pn**	**05 51 51.5**	**-4.6**
RAGZ				S	**Sn**	**05 53 32.4**	**-2.3**
RIGZ	**Rimuhau**	**8.94 202**		P	**Pn**	**05 51 53.0**	**-4.1**
RIGZ				S	**Sn**	**05 53 32.7**	**-3.6**
PRGZ	**Paritu Road**	**9.09 201**		P	**Pn**	**05 51 54.8**	**-4.3**
PRGZ				S	**Sn**	**05 53 36.0**	**-4.2**
MUGZ	**Murupara**	**9.10 208**		P	**Pn**	**05 51 54.8**	**-4.3**
MUGZ				S	**Sn**	**05 53 38.2**	**-2.0**
SNGZ	**Shannon Statio**	**9.15 204**		P	**Pn**	**05 51 55.8**	**-4.1**
SNGZ				S	**Sn**	**05 53 39.4**	**-2.1**
MHGZ	**Mahia Peninsul**	**9.30 201**		P	Pn	05 51 56.7	-5.3
MHGZ				S	**Sn**	**05 53 40.8**	**-4.4**
RAHZ	**Arahi**	**9.36 205**		P	**Pn**	**05 52 00.1**	**-2.7**
RAHZ				S	**Sn**	**05 53 43.9**	**-2.8**
MTHZ	**Maungataniwha**	**9.39 206**		P	**Pn**	**05 51 59.4**	**-3.9**
MTHZ				S	**Sn**	**05 53 43.5**	**-4.0**
NMHZ	**Naumai**	**9.62 206**		P	**Pn**	**05 52 02.5**	**-4.0**
NMHZ				S	**Sn**	**05 53 50.4**	**-2.7**
HIZ	**Hauiti**	**9.98 215**		P	**Pn**	**05 52 11.8**	**+0.5**
KAHZ	**Kahuranaki**	**10.21 203**		P	Pn	05 52 09.2	-5.3
KAHZ				S	**Sn**	**05 54 02.4**	**-5.3**
QRZ	**Quartz Range**	**12.91 214**		P	**Pn**	**05 52 51.3**	**0.0**
CTZ	**Chatham Island**	**13.25 176**		P	Pn	05 52 43.4	-13
CTZ	**Chatham Island**	**13.25 176**		P	**Pn**	**05 52 52.3**	**-3.6**
CTZ				S	Sn	05 55 06.2	-16
KHZ	**Kahutara**	**13.74 208**		P	**Pn**	**05 53 00.9**	**-1.7**
RPZ	**Rata Peaks**	**15.85 211**		P	**Pn**	**05 53 31.4**	**+1.0**
	1.6nm,0.3s,baz=205,slow=19,SNR=3.6						
RPZ				S	Sn	05 56 11.1	-14
	6.0nm,0.7s,baz=39,slow=7.5,SNR=1.4						
	4.1nm,0.3s						
OUENC	**Ouen Island, N**	**15.86 297**		P	P	05 53 46.2	+12
DZM	**Mont Dzumac**	**16.36 297**		*e*Pn	**Pn**	**05 53 34.5**	**-2.6**
	70nm,1.4s						
DZM				*e*LR	LR	05 57 11.7	
	933nm,25.1s						
DZM	**Mont Dzumac**	**16.36 297**		LR	LR	05 58 53.6	
	comp=Z,464nm,18.1s,baz=198,slow=33						
DZM	**Mont Dzumac**	**16.36 297**		P	P	05 53 51.4	+12
ODZ	**Otahua Downs**	**17.09 209**		P	**Pn**	**05 53 43.6**	**-2.4**
JCZ	**Jackson Bay**	**17.17 214**		P	**Pn**	**05 53 46.3**	**-0.9**
EAZ	**Earnscleugh**	**17.81 211**		P	**Pn**	**05 53 51.8**	**-3.2**
RAR	**Rarotonga**	**18.72 65**		P	**Pn**	**05 54 06.0**	**-0.1**
	1.6nm,0.3s,baz=74,slow=17,SNR=4.3						
	20nm,0.8s						
ARMA	**Armidale**	**26.24 262**		P	**P**	**05 55 21.9**	**+0.4**
ARMA				IAmb	IAmb	05 55 31.5	
	comp=Z,9.0nm,1.1s						
TBI	**Tubuai**	**26.28 81**		*e*S	**S**	**05 59 46.2**	**-5.0**
	comp=Z,1μm,28.5s						
TBI				*e*LR	LR	06 01 49.4	
	comp=Z,2μm,26.8s						
EIDS	**Eidsvold**	**27.84 273**		P	**P**	**05 55 36.1**	**+0.4**
EIDS				IAmb	IAmb	05 55 38.5	
	comp=Z,14nm,1.1s						
CAN	**Canberra**	**28.14 251**			**P**	**05 55 40.3**	**+1.9**
CAN				IAmb	IAmb	05 55 42.4	
	comp=Z,21nm,1.0s						
PPT2	**Papeete2**	**28.78 70**		*e*LR	LR	06 03 02.5	
	comp=Z,388nm,25.5s						
PPT2				*e*LR	LR	06 03 02.6	
	comp=Z,262nm,25.5s						
PPT	**Papeete**	**28.79 70**		LR	LR	06 03 35.6	
	comp=Z,168nm,20.5s,baz=294,slow=29						
HNR	**Honiara**	**29.44 311**		P	**P**	**05 55 49.3**	**-0.7**
	comp=Z,203nm,0.8s,baz=67,slow=19,SNR=1.6						
HNR				LR	LR	06 05 31.7	
	comp=Z,127nm,20.9s,baz=52,slow=32						
TOO	**Toolangi**	**31.02 247**		P	**P**	**05 56 04.6**	**+0.8**
CTA	**Charters Tower**	**33.91 279**		LR	LR	06 08 50.0	
	comp=Z,5.5nm,18.9s,baz=52,slow=34						
CTAO	**Charters Tower**	**33.91 279**		P	**P**	**05 56 29.7**	**+0.3**
STKA	**Stephens Creek**	**34.55 257**		P	**P**	**05 56 36.5**	**+1.7**
	comp=Z,32nm,0.8s,baz=94,slow=10.0,SNR=66						
STKA				LR	LR	06 08 17.8	
	comp=Z,198nm,20.4s,baz=58,slow=32						
	comp=Z,32nm,0.8s						
INKA	**Innaminka**	**36.10 264**		P	**P**	**05 56 48.4**	**+0.2**
INKA				IAmb	IAmb	05 56 54.8	
	comp=Z,6.6nm,0.7s						
BBOO	**Buckleboo**	**39.04 254**			**P**	**05 57 13.4**	**+0.5**
COEN	**Coen**	**39.39 286**		P	**P**	**05 57 15.7**	**-0.3**
COEN				IAmb	IAmb	05 57 18.1	
	comp=Z,7.4nm,0.9s						
TAOE	**Nuku Hiva Isla**	**41.26 67**		*e*LR	LR	06 08 45.6	
	comp=Z,212nm,27.0s						
AS31	**Alice Springs**	**43.20 267**			**P**	**05 57 47.8**	**+0.5**
ASAR	**Alice Springs**	**43.20 267**		P	**P**	**05 57 47.1**	**-0.2**
ASAR	**Alice Springs**	**43.20 267**		P	**P**	**05 57 47.6**	**+0.3**
	comp=Z,4.6nm,0.4s,baz=104,slow=7.5,SNR=96						
ASAR				LR	LR	06 15 41.8	
	comp=Z,216nm,18.2s,baz=122,slow=36						
	comp=Z,4.6nm,0.4s						
WR8	**Warramunga Arr**	**44.06 272**			**P**	**05 57 54.2**	**0.0**
WR8				IAmb	IAmb	05 58 09.3	
	comp=Z,8.9nm,0.9s						
WRAB	**Tennant Creek**	**44.19 272**		P	**P**	**05 57 55.7**	**+0.4**
WRAB				IAmb	IAmb	05 57 57.5	
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**44.20 272**			**P**	**05 57 54.9**	**-0.4**
WRA	**Warramunga Arr**	**44.20 272**		P	**P**	**05 57 55.1**	**-0.2**
	comp=Z,12nm,0.4s,baz=111,slow=8.1,SNR=143						
	comp=Z,12nm,0.4s						
WB0	**Warramunga Arr**	**44.22 272**			**P**	**05 57 55.4**	**-0.1**
SBA	**Scott Base**	**47.94 184**			**P**	**05 58 25.5**	**+1.5**
SBA				IAmb	IAmb	05 58 33.1	
	comp=Z,7.6nm,0.9s						
VNDA	**Vanda**	**48.01 186**		P	**P**	**05 58 25.6**	**+1.1**
VNDA	**Vanda**	**48.01 186**		P	**P**	**05 58 27.2**	**+2.8**
	comp=Z,0.9nm,0.7s,baz=11,slow=6.9,SNR=10						
VNDA				LR	LR	06 15 10.8	
	comp=Z,35nm,21.8s,baz=350,slow=32						
	comp=Z,0.9nm,0.7s						
JAY	**Jayapura**	**48.03 297**		LR	LR	06 17 28.2	
	comp=Z,66nm,18.1s,baz=314,slow=35						
MTN	**Manton Dam**	**50.10 279**		P	**P**	**05 58 40.9**	**-0.4**
MTN				IAmb	IAmb	05 59 10.1	
	comp=Z,12nm,1.0s						
KNRA	**Kununurra**	**50.81 274**		P	**P**	**05 58 46.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**52.46 270**		P	**P**	**05 58 59.8**	**+0.9**
FITZ	**Fitzroy Crossi**	**52.46 270**		LR	LR	06 19 55.7	
	comp=Z,191nm,20.1s,baz=129,slow=34						
CASY	**Casey**	**55.10 208**			**P**	**05 59 17.9**	**+0.4**
PSA00	**Pilbara Seismi**	**56.05 263**		P	**P**	**05 59 24.5**	**-0.6**
PSA00				IAmb	IAmb	05 59 47.6	
	comp=Z,5.3nm,1.1s						
GUMO	**Guam**	**56.62 315**		LR	LR	06 21 10.4	
	comp=Z,46nm,21.0s,baz=194,slow=33						
BATI	**Baumata**	**57.76 277**		LR	LR	06 24 59.0	
	comp=Z,384nm,18.1s,baz=98,slow=36						
RPN	**Rapa Nui**	**59.31 105**		LR	LR	06 18 57.2	
	comp=Z,64nm,20.6s,baz=308,slow=29						
QSPA	**South Pole Qui**	**59.61 180**		P	**P**	**05 59 52.6**	**+3.0**
	comp=Z,6.2nm,0.9s,baz=45,slow=1.3,SNR=16						
QSPA				LR	LR	06 24 27.2	
	comp=Z,42nm,18.4s,baz=29,slow=35						
	comp=Z,6.2nm,0.9s						
KAPI	**Kappang**	**63.72 280**		LR	LR	06 30 09.4	
	comp=Z,18nm,20.7s,baz=130,slow=38						
BELA	**Belgrano 2**	**69.67 172**		P	**P**	**06 00 55.9**	**+1.1**
BELA				IAmb	IAmb	06 01 11.9	
	comp=Z,4.6nm,0.8s						
PMSA	**Palmer Station**	**72.13 156**		LR	LR	06 25 56.1	
	comp=Z,38nm,19.3s,baz=290,slow=30						
MAW	**Mawson**	**72.25 201**		P	**P**	**06 01 11.7**	**+1.2**
	comp=Z,6.0nm,1.1s,baz=112,slow=8.1,SNR=8.8						
MAW				LR	LR	06 31 30.6	
	comp=Z,61nm,20.0s,baz=114,slow=34						
	comp=Z,6.0nm,1.1s						
TROLL	**Troll, Antarti**	**77.77 180**	⇑	P	**P**	**06 01 43.5**	**+1.0**
	comp=Z,360nm,0.8s						
SNAA	**Sanae**	**78.05 178**	⇑	P	**P**	**06 01 44.1**	**+0.1**
	comp=Z,20nm,0.3s						
SNAA	**Sanae**	**78.05 178**			**P**	**06 01 45.0**	**+1.1**
SNAA				IAmb	IAmb	06 02 10.1	
	comp=Z,4.5nm,0.9s						
SNAA	**Sanae**	**78.05 178**		P	**P**	**06 01 45.1**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=219,slow=3.7,SNR=6.2						
	comp=Z,1.1nm,0.6s						
VNA3	**Neumayer Olymp**	**78.20 176**	⇑	P	**P**	**06 01 45.2**	**+0.5**
	comp=Z,9.4nm,0.9s						
MJAR	**Matsushiro Arr**	**78.38 325**		P	**P**	**06 01 45.0**	**-1.1**
	comp=Z,3.7nm,1.2s,baz=113,slow=7.1,SNR=2.0						
MJAR				LR	LR	06 35 23.2	
	comp=Z,21nm,18.0s,baz=164,slow=35						
	comp=Z,3.7nm,1.2s						
VNA2	**Neumayer--Watz**	**78.63 177**	⇑	P	**P**	**06 01 47.6**	**+0.5**
	comp=Z,6.0nm,1.0s,baz=171,slow=4.5						
VNA1	**Neumayer--Stat**	**78.86 176**	⇑	P	**P**	**06 01 49.9**	**+1.6**
	comp=Z,2.5nm,0.4s						
H03S2	**Juan Fernandez**	**80.33 123**		T	T	07 31 11.2	
	baz=238,slow=74,SNR=104						
H03S1	**Juan Fernandez**	**80.34 123**		T	T	07 31 12.4	
	baz=238,slow=74,SNR=105						
H03S3	**Juan Fernandez**	**80.34 123**		T	T	07 31 11.2	
	baz=238,slow=74,SNR=89						
H03N3	**Juan Fernandez**	**80.52 123**		T	T	07 31 20.5	
	baz=253,slow=71,SNR=23						
H03N2	**Juan Fernandez**	**80.52 123**		T	T	07 31 21.7	
	baz=253,slow=71,SNR=25						
H03N1	**Juan Fernandez**	**80.53 123**		T	T	07 31 16.5	
	baz=253,slow=71,SNR=28						
PLCA	**Paso Flores**	**82.37 133**		P	**P**	**06 02 09.8**	**+2.0**
	comp=Z,2.4nm,0.9s,baz=201,slow=6.5,SNR=3.2						
PLCA				LR	LR	06 29 21.6	
	comp=Z,57nm,20.6s,baz=240,slow=29						
	comp=Z,2.4nm,0.9s						
ASAJ	**Asahikawa**	**82.58 332**		LR	LR	06 35 00.7	
	comp=Z,57nm,18.5s,baz=174,slow=33						
SHEM	**Shemya Is, Ala**	**83.17 355**		LR	LR	06 36 06.2	
	comp=Z,50nm,18.9s,baz=339,slow=34						
KSRS	**Korea Array**	**84.49 320**		P	**P**	**06 02 18.0**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=150,slow=5.0,SNR=1.8						
	comp=Z,1.1nm,1.0s						
PETK	**Petropavlovsk-**	**85.94 346**		P	**P**	**06 02 25.3**	**+0.1**
	comp=Z,5.7nm,0.9s,baz=144,slow=2.7,SNR=3.6						
	comp=Z,5.7nm,0.9s						
NJ2	**Nanjing**	**86.39 311**		*e*P	**P**	**06 02 30.5**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NVAR	**Mina Array Bea**	**88.25 43**		P	**P**	**06 02 38.2**	**+1.1**
	comp=Z,1.6nm,0.9s,baz=218,slow=8.9,SNR=12						
NVAR				pP	**pP**	**06 02 49.9**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=204,slow=7.7,SNR=3.9						
NVAR				sP	**pwP**	**06 02 54.0**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=225,slow=8.3,SNR=9.2						
	comp=Z,1.6nm,0.9s						
TXAR	**Lajitas Array**	**92.36 57**		P	**P**	**06 02 57.1**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=296,slow=4.6,SNR=3.4						
	comp=Z,0.3nm,0.7s						
PZH	**PanZhiHua**	**95.44 297**		P	**P**	**06 03 13.0**	**+2.4**
PDAR	**Pinedale Array**	**96.14 43**		P	**P**	**06 03 14.4**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=242,slow=4.8,SNR=2.5						
	comp=Z,0.2nm,0.5s						
HHC	**Hu-ho-hao-te**	**96.38 314**		*e*P	**P**	**06 03 16.6**	**+2.1**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,240nm,4.7s						
LZH	**Lanzhou**	**98.86 307**		*e*P	Pdif	06 03 29.0	+3.1
LZH				pP	pP	06 03 34.9	-3.7
LZH				pmax	pmax		
	comp=Z,19nm,1.6s						
MKAR	**Makanchi Array**	**117.91 310**		PKP	**PKPdf**	**06 08 30.6**	**-1.3**
	comp=Z,1.5nm,0.9s,baz=129,slow=1.7,SNR=3.7						
ZALV	**Zalesovo Beam**	**118.17 318**		PKP	**PKPdf**	**06 08 31.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=131,slow=0.7,SNR=2.5						
KURBB	**Kurchatov Arra**	**121.23 314**		PKP	**PKPdf**	**06 08 37.1**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=108,slow=2.0,SNR=18						
BVAR	**Bovoye Array**	**126.55 316**		PKP	**PKPdf**	**06 08 47.7**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=90,slow=3.0,SNR=13						
BVAR				pPKP	**pPKPdf**	**06 09 02.5**	**+1.2**
	comp=Z,1.8nm,0.5s,baz=124,slow=2.4,SNR=4.7						
ARCES	**ARCESS Array B**	**138.71 348**		PKhKP	PKPpre	06 09 05.7	
	comp=Z,0.6nm,0.5s,baz=46,slow=2.7,SNR=6.4						
ARCES				PKP	**PKPdf**	**06 09 11.2**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=71,slow=1.8,SNR=7.4						
KBZ	**Ishabaz**	**145.25 304**		PKPbc	**PKPbc**	**06 09 22.8**	**0.0**
	comp=Z,4.9nm,0.9s,baz=176,slow=1.3,SNR=4.4						
FINES	**FINESS Array B**	**145.27 340**		PKPbc	**PKPbc**	**06 09 21.4**	**-0.9**
	comp=Z,25nm,0.9s,baz=60,slow=4.5,SNR=43						
NOA	**NORSAR Array B**	**148.87 351**		PKPbc	**PKPbc**	**06 09 31.1**	**-1.4**
	comp=Z,6.3nm,0.9s,baz=14,slow=4.2,SNR=8.0						
HFS	**Hagfors**	**149.36 349**		PKPbc	**PKPbc**	**06 09 32.5**	**-1.2**
	comp=Z,5.5nm,0.8s,baz=318,slow=2.0,SNR=8.7						
AKASG	**Malin Array Be**	**151.44 323**		PKPbc	**PKPbc**	**06 09 38.4**	**-0.6**
	comp=Z,4.2nm,0.5s,baz=50,slow=2.8,SNR=32						
AKASG				pPKPbc	**sPKPbc**	**06 09 54.4**	**-2.4**
	comp=Z,4.2nm,0.5s,baz=48,slow=3.0,SNR=6.9						
MMAI	**Mount Meron Ar**	**151.65 284**		PKPbc	**PKiKP**	**06 09 40.7**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=106,slow=3.6,SNR=4.7						
BRTR	**Keskin Array B**	**152.73 298**		PKPbc	**PKPbc**	**06 09 41.8**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=116,slow=2.9,SNR=7.3						
CONA	**Conrad Observa**	**159.65 333**		*i* PKP	**PKPab**	**06 10 22.6**	**-0.1**
	comp=Z,4.8nm,1.4s						
RONA	**Rosalia, Austr**	**159.66 332**		*e*PKP	**PKPab**	**06 10 23.0**	**+0.3**
	comp=Z,4.4nm,1.6s						
BIOA	**Bad Ischl, Aus**	**160.68 336**		*e*PKP	**PKPab**	**06 10 27.5**	**+0.4**
	comp=Z,5.2nm,1.3s						
LESA	**Schwarzleotal**	**161.24 337**		*i* PKP	**PKPab**	**06 10 29.8**	**+0.2**
	comp=Z,6.1nm,1.4s						
KBA	**Koelnbreinsper**	**161.31 335**		*e*PKP	**PKPab**	**06 10 30.9**	**+0.8**
	comp=Z,4.7nm,1.3s						
OBKA	**Obir**	**161.33 332**		*e*PKP	**PKPab**	**06 10 29.4**	**-0.6**
	comp=Z,5.1nm,1.3s						
MYKA	**Terra Mystica**	**161.58 334**		*e*PKP	**PKPab**	**06 10 30.7**	**-0.4**
	comp=Z,1.5nm,0.5s						
WATA	**Walderalm**	**161.67 339**		*e*PKP	**PKPab**	**06 10 31.7**	**+0.1**
	comp=Z,3.0nm,1.0s						
WTTA	**Wattenberg**	**161.72 339**		*e*PKP	**PKPab**	**06 10 31.9**	**+0.1**
	comp=Z,2.7nm,0.9s						
MOTA	**Moosalm**	**161.81 340**		*i* PKP	**PKPab**	**06 10 30.7**	**-1.4**
	comp=Z,8.1nm,1.6s						
ABTA	**Abfaltersbach**	**161.89 336**		*e*PKP	**PKPab**	**06 10 33.4**	**+0.9**
	comp=Z,0.1nm,0.4s						
SQTA	**Sankt Quirin**	**161.89 340**		*e*PKP	**PKPab**	**06 10 31.6**	**-0.9**
	comp=Z,3.7nm,0.8s						
DAVA	**Damuels**	**162.20 342**		*e*PKP	**PKPab**	**06 10 33.8**	**-0.1**
	comp=Z,2.0nm,0.5s						
FETA	**Feichten**	**162.21 340**		*e*PKP	**PKPab**	**06 10 33.2**	**-0.8**
	comp=Z,3.3nm,1.1s						
TORD	**Torodi Ar. Bea**	**162.72 179**		PKPab	**PKPab**	**06 10 37.0**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=158,slow=2.4,SNR=9.1						

MOS ***15*** *05:58:06.7±0.4,55˚.49N×161˚.10E,h152km,mb3.9/3,Error ellipse: s-maj=15.8km s-min=5.2km az=74.1*
KRSC ***15*** *05:58:06.3±0.9,55˚.44N×161˚.19E,h153km±8km,Ml3.8*
IDC ***15*** *05:58:06.7±1.9,55˚.65N×160˚.69E,h141km±19km,mb3.1/9, mbtmp3.5/11,MS3.2/1,Error ellipse: s-maj=35.7km s-min=15.0km az=141.0*

ISC 15 05:58:08.0±0.6,55˚.44N±0˚.03×161˚.15E±0˚.04,h148km±5km, n89,σ0°84/139,mb3.4/12,1C-2D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**0.49 241**		PN	**Pn**	**05 58 28.7**	**-0.4**
TUMD				S	**Sn**	**05 58 45.3**	**+0.2**
TUMD	**Tumrok D**	**0.49 241**		*e*P	**Pn**	**05 58 28.8**	**-0.4**
TUMD				*e*S	**Sn**	**05 58 45.4**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**0.56 333**		PN	**Pn**	**05 58 29.1**	**-0.4**
BZGR				S	**Sn**	**05 58 46.3**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**0.56 333**		*e*P	**Pn**	**05 58 29.2**	**-0.4**
BZGR				*e*S	**Sn**	**05 58 46.4**	**+0.3**
BZP	**Bezymyannyi-Pe**	**0.58 324**		PN	**Pn**	**05 58 28.9**	**-0.8**
BZP	**Bezymyannyi-Pe**	**0.58 324**		*e*P	**Pn**	**05 58 29.0**	**-0.8**
KMNR	**Kamenistaya**	**0.61 301**		PN	**Pn**	**05 58 29.6**	**-0.2**
KMNR				S	**Sn**	**05 58 47.3**	**+0.8**
KMNR	**Kamenistaya**	**0.61 301**		*e*P	**Pn**	**05 58 29.7**	**-0.2**
KMNR				*e*S	**Sn**	**05 58 47.3**	**+0.8**
ZLN	**Zelenaya**	**0.61 341**		PN	**Pn**	**05 58 30.1**	**+0.3**
ZLN	**Zelenaya**	**0.61 341**		*e*P	**Pn**	**05 58 30.2**	**+0.3**
BZMR	**Bezymyannaya**	**0.62 323**		PN	**Pn**	**05 58 29.4**	**-0.5**
BZMR				S	**Sn**	**05 58 47.0**	**+0.3**
BZMR	**Bezymyannaya**	**0.62 323**		*e*P	**Pn**	**05 58 29.4**	**-0.5**
BZMR				*e*S	**Sn**	**05 58 47.1**	**+0.3**
BZWR	**Bezymyannyi-We**	**0.64 325**		PN	**Pn**	**05 58 29.6**	**-0.5**
BZWR				S	**Sn**	**05 58 47.0**	**0.0**
BZWR	**Bezymyannyi-We**	**0.64 325**		*e*P	**Pn**	**05 58 29.6**	**-0.5**
BZWR				*e*S	**Sn**	**05 58 47.1**	**0.0**
KIRR	**Kirishev**	**0.69 318**		PN	**Pn**	**05 58 29.5**	**-0.8**
KIRR	**Kirishev**	**0.69 318**		*e*P	**Pn**	**05 58 29.6**	**-0.8**
LGNR	**Loginova**	**0.69 338**		PN	**Pn**	**05 58 30.5**	**-0.1**
LGNR				S	**Sn**	**05 58 48.3**	**+0.5**
LGNR	**Loginova**	**0.69 338**		*e*P	**Pn**	**05 58 30.5**	**-0.1**
LGNR				*e*S	**Sn**	**05 58 48.3**	**+0.5**
CIRR	**Tsirk**	**0.71 341**		PN	**Pn**	**05 58 30.3**	**-0.2**
CIRR				S	**Sn**	**05 58 48.3**	**+0.6**
CIRR	**Tsirk**	**0.71 341**		*e*P	**Pn**	**05 58 30.4**	**-0.2**
CIRR				*e*S	**Sn**	**05 58 48.4**	**+0.6**
KPT	**Kopyto**	**0.74 315**		PN	**Pn**	**05 58 30.3**	**-0.3**
KPT				S	**Sn**	**05 58 48.4**	**+0.4**
KPT	**Kopyto**	**0.74 315**		*e*P	**Pn**	**05 58 30.3**	**-0.3**
KPT				*e*S	**Sn**	**05 58 48.5**	**+0.4**
KLY	**Klyuchi**	**0.92 342**		PN	**Pn**	**05 58 31.0**	**-0.8**
KLY				S	**Sn**	**05 58 50.0**	**-0.1**
KLY	**Klyuchi**	**0.92 342**		*e*P	**Pn**	**05 58 31.0**	**-0.8**
KLY				*e*S	**Sn**	**05 58 50.0**	**-0.1**
MKZ	**Mys Kozlova**	**0.95 159**		PN	**Pn**	**05 58 32.1**	**0.0**
MKZ				S	**Sn**	**05 58 50.9**	**+0.5**
MKZ	**Mys Kozlova**	**0.95 159**		*e*P	**Pn**	**05 58 32.1**	**0.0**
MKZ				*e*S	**Sn**	**05 58 51.0**	**+0.5**
KOZ	**Kozyrevsk**	**0.95 311**		PN	**Pn**	**05 58 31.7**	**-0.4**
KOZ				S	**Sn**	**05 58 50.4**	**-0.2**
KOZ	**Kozyrevsk**	**0.95 311**		*e*P	**Pn**	**05 58 31.7**	**-0.4**
KOZ				*e*S	**Sn**	**05 58 50.5**	**-0.2**
BDR	**Baidarnaya**	**1.13 2**		PN	**Pn**	**05 58 33.6**	**-0.1**
BDR	**Baidarnaya**	**1.13 2**		*e*P	**Pn**	**05 58 33.6**	**-0.1**
SMKR	**Semkarok**	**1.16 9**		PN	**Pn**	**05 58 33.5**	**-0.5**
SMKR	**Semkarok**	**1.16 9**		*e*P	**Pn**	**05 58 33.6**	**-0.5**
SRDR	**Sredinnyy**	**1.19 318**		PN	**Pn**	**05 58 33.4**	**-0.9**
SRDR				S	**Sn**	**05 58 53.8**	**-0.7**
SRDR	**Sredinnyy**	**1.19 318**		*e*P	**Pn**	**05 58 33.5**	**-0.9**
SRDR				*e*S	**Sn**	**05 58 53.9**	**-0.

BELG	**Belogornoye**	**59.34**	**319**	*i* P		**P**	**06 07 54.2**	**+0.5**
BELG				pmax		pmax			
	comp=Z,1.0nm,0.9s								
TXAR	**Lajitas Array**	**69.17**	**69**	P		**P**	**06 08 59.1**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=290,slow=5.0,SNR=9.7								
	comp=Z,0.3nm,0.5s								
BFO	**Black Forest**	**74.11**	**342**	*i* P		**P**	**06 09 29.8**	**+2.4**
WRA	**Warramunga Arr**	**78.48**	**206**	P		**P**	**06 09 51.9**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=25,slow=5.9,SNR=1.4								
	comp=Z,0.2nm,0.6s								
ASAR	**Alice Springs**	**82.16**	**205**	P		**P**	**06 10 11.4**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=18,slow=5.4,SNR=2.8								
	comp=Z,0.4nm,0.8s								
QSPA	**South Pole Qui**	**145.19**	**180**	PKPbc		**PKPab**	**06 17 26.3**	**-0.2**
	comp=Z,1.5nm,1.1s,baz=258,slow=1.5,SNR=3.3								

IDC 15 05:58:31.6±8.4, 21°.59S×147°.82E, h0km, mbtmp3.0/2, ML2.1/1, Error ellipse: s-maj=72.9km s-min=63.1km az=6.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.72**	**275**	Pn	Pn	06 01 34.9	+1.1
	0.3nm,0.7s,baz=96,slow=11,SNR=1.6						
WRA				Lg	Lg	06 05 14.5	
	0.1nm,0.3s,baz=105,slow=26,SNR=5.6						
ASAR	**Alice Springs**	**13.02**	**258**	Pn	Pn	06 01 36.6	-1.4
	baz=80,slow=15,SNR=1.1						
ASAR				Lg	Lg	06 05 26.9	
	baz=88,slow=29,SNR=4.7						
	0.1nm,0.5s						
I22FR	**PORTLAGUERRE I17.67**		**95**	I	I	07 41 00.0	
	baz=270,slow=316,SNR=1.1						

*SJA **15** 06:00:33.9±0.8, 32°.43S×71°.73W, h72km±5km, ML3.6, MW3.7*
*GUC **15** 06:00:36.6±0.9, 32°.45S×71°.57W, h62km±3km, ML3.8*
ISC 15 06:00:35.9±1.4, 32°.44S±0°.03×71°.77W±0°.06, h49km±13km, n55, σ0°.91/75, 11C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.42**	**107** ⇓	*i* P	**Pn**	**06 00 46.5**	**+0.3**
VA06				*e*S	**Sn**	**06 00 53.6**	**+0.2**
VA06				IAML		06 00 57.2	
	comp=E,4μm,0.5s						
VA01	**Torpederas**	**0.59**	**170** ⇓	*i* P	**Pn**	**06 00 49.2**	**+0.9**
VA01				*e*S	**Sn**	**06 00 58.7**	**+1.6**
VA01	**Torpederas**	**0.59**	**170**	*e*P	**Pn**	**06 00 49.0**	**+0.8**
VA01				IAML		06 01 01.4	
	comp=Z,746nm,0.1s						
CO04	**Los Peladeros**	**0.78**	**60** ⇓	*i* P	**Pn**	**06 00 50.4**	**-0.6**
CO04				*e*S	**Sn**	**06 01 00.6**	**-1.2**
CO04				IAML		06 01 01.7	
	comp=N,8μm,0.2s						
ROC1	**El Roble**	**0.83**	**130**	*e*P	Pn	06 00 45.8	-5.9
ROCH	**El Roble**	**0.83**	**130** ⇑	*i* P	**Pn**	**06 00 51.0**	**-0.6**
ROCH				*e*S	**Sn**	**06 01 01.9**	**-1.2**
MT02	**Curacav**	**0.98**	**147** ⇑	*i* P	**Pn**	**06 00 53.2**	**-0.2**
MT02				*e*S	**Sn**	**06 01 05.2**	**-1.0**
MT02	**Curacav**	**0.98**	**147**	*e*P	**Pn**	**06 00 53.1**	**-0.2**
MT02				IAML		06 01 08.2	
	comp=Z,504nm,0.1s						
VA03	**San Esteban**	**1.08**	**108** ⇓	*i* P	**Pn**	**06 00 53.7**	**-1.1**
VA03				*e*S	**Sn**	**06 01 06.7**	**-2.1**
VA03				IAML		06 01 07.8	
	comp=N,4μm,0.1s						
VA03	**San Esteban**	**1.08**	**108**	*e*P	**Pn**	**06 00 53.8**	**-1.1**
VA03				IAML		06 01 11.1	
	comp=Z,950nm,0.2s						
PEL	**Peldehue**	**1.15**	**128**	*e*P	**Pn**	**06 00 55.0**	**-0.7**
PEL				*e*S	**Sn**	**06 01 09.0**	**-1.5**
PEL				IAML		06 01 10.3	
	comp=N,5μm,0.2s						
PEL	**Peldehue**	**1.15**	**128**	*e*P	**Pn**	**06 00 55.0**	**-0.7**
PEL				IAML		06 01 11.2	
	comp=Z,886nm,0.4s						
MT05	**Renca**	**1.29**	**138** ⇑	*i* P	**Pn**	**06 00 57.3**	**-0.3**
MT05				*e*S	**Sn**	**06 01 12.7**	**-1.1**
MT05				IAML		06 01 16.9	
	comp=E,3μm,0.2s						
MT05	**Renca**	**1.29**	**138**	*e*P	**Pn**	**06 00 57.4**	**-0.3**
MT05				*e*S	**Sn**	**06 01 13.5**	**-0.2**
MT05				IAML		06 01 15.3	
	comp=Z,507nm,0.2s						
MT10	**Hacienda Santa**	**1.33**	**129** ⇑	*i* P	**Pn**	**06 00 57.9**	**-0.3**
MT10				*e*S	**Sn**	**06 01 13.8**	**-1.1**
MT10				IAML		06 01 16.2	
	comp=E,3μm,0.3s						
CO02	**Combarbal**	**1.39**	**28** ⇓	*i* P	**Pn**	**06 00 58.8**	**-0.3**
CO02				*e*S	**Sn**	**06 01 15.4**	**-1.0**
CO02	**Combarbal**	**1.39**	**28**	*e*P	**Pn**	**06 00 58.7**	**-0.4**
CO02				IAML		06 01 18.5	
	comp=Z,2μm,0.1s						
MT14	**Cerro Calן**	**1.41**	**133**	*i* P	**Pn**	**06 00 59.1**	**-0.2**
MT14				*e*S	**Sn**	**06 01 15.7**	**-1.1**
MT14				IAML		06 01 18.6	
	comp=N,2μm,0.2s						
MT16	**CCHEN**	**1.44**	**134** ⇑	*i* P	**Pn**	**06 00 59.5**	**-0.2**
MT01	**Popeta**	**1.49**	**163** ⇑	*i* P	**Pn**	**06 01 00.6**	**+0.3**
MT01				*e*S	**Sn**	**06 01 18.3**	**-0.3**
MT01				IAML		06 01 21.6	
	comp=E,814nm,0.2s						
MT01	**Popeta**	**1.49**	**163**	*e*P	**Pn**	**06 00 59.9**	**-0.4**
MT01				IAML		06 01 21.0	
	comp=Z,541nm,0.1s						
MT09	**Talagante**	**1.49**	**154** ⇑	*i* P	**Pn**	**06 01 00.8**	**+0.4**
MT09				IAML		06 01 20.5	
	comp=N,2μm,0.1s						
MT03	**Universidad Ad**	**1.49**	**135** ⇑	*i* P	**Pn**	**06 01 00.2**	**-0.2**
MT03				*e*S	**Sn**	**06 01 17.9**	**-1.0**
MT03				IAML		06 01 18.9	
	comp=E,4μm,0.1s						
MT03	**Universidad Ad**	**1.49**	**135**	*e*P	**Pn**	**06 01 00.2**	**-0.2**
MT03				IAML		06 01 21.9	
	comp=Z,2μm,0.1s						
FCH	**Farellones**	**1.53**	**126**	*e*P	**Pn**	**06 01 00.5**	**-0.7**
FCH				IAML		06 01 20.4	
	comp=E,2μm,0.2s						
MT15	**Las Vizcachas**	**1.57**	**138**	*e*P	**Pn**	**06 01 01.1**	**-0.3**
MT15				IAML		06 01 23.5	
	comp=N,3μm,0.3s						
MT12	**Pirque**	**1.65**	**142** ⇑	*i* P	**Pn**	**06 01 02.5**	**0.0**
MT12				IAML		06 01 23.3	
	comp=E,2μm,0.4s						
MT04	**Ro Olivares**	**1.68**	**126**	*e*P	**Pn**	**06 01 02.7**	**-0.4**
MT04				IAML		06 01 25.5	
	comp=E,854nm,0.1s						
MT04	**Ro Olivares**	**1.68**	**126**	*e*P	**Pn**	**06 01 02.7**	**-0.4**
MT04				IAML		06 01 25.7	
	comp=Z,492nm,0.5s						
MT08	**Bocatoma Ro**	**1.78**	**125** ⇑	*i* P	**Pn**	**06 01 04.5**	**0.0**
MT08	**Bocatoma Ro**	**1.78**	**125**	*e*P	**Pn**	**06 01 04.7**	**+0.1**
MT08				*e*S	**Sn**	**06 01 26.6**	**+0.5**
MT08				IAML		06 01 30.6	
	comp=Z,238nm,0.2s						
MT13	**San Alfonso**	**1.80**	**137**	*i* P	**Pn**	**06 01 04.6**	**-0.1**
MT13				IAML		06 01 29.2	
	comp=E,1μm,0.4s						
MT13	**San Alfonso**	**1.80**	**137**	*e*P	**Pn**	**06 01 04.7**	**-0.1**
MT13				IAML		06 01 30.3	
	comp=Z,372nm,0.2s						
CO03	**El Pedregal**	**1.84**	**30**	*e*P	**Pn**	**06 01 05.0**	**-0.2**
CO03				IAML		06 01 30.6	
	comp=Z,488nm,0.2s						
LMEL	**Las Melosas**	**1.93**	**137** ⇑	*e*P	**Pn**	**06 01 06.4**	**0.0**
LMEL				*e*S	**Sn**	**06 01 29.2**	**-0.3**
LMEL				IAML		06 01 30.7	
	comp=N,3μm,0.2s						
LMEL	**Las Melosas**	**1.93**	**137**	*e*P	**Pn**	**06 01 06.6**	**+0.2**
LMEL				*e*S	**Sn**	**06 01 29.6**	**+0.1**
LMEL				IAML		06 01 30.7	
	comp=Z,921nm,0.2s						
BO01	**Tunca**	**2.03**	**164**	*e*P	**Pn**	**06 01 07.9**	**+0.2**
BO01				*e*S	**Sn**	**06 01 32.1**	**+0.2**
BO01				IAML		06 01 33.5	
	comp=Z,206nm,0.1s						
RTLS	**Leoncito**	**2.19**	**74**	*e*P	**Pn**	**06 01 11.0**	**+0.8**
RTLS				*e*S	**Sn**	**06 01 39.1**	**+2.8**
RTLS				IAML		06 01 46.7	
	comp=Z,310nm,0.4s						
GO04	**Tololo Observa**	**2.41**	**20**	*e*P	**Pn**	**06 01 12.2**	**-0.8**
GO04				IAML		06 01 43.0	
	comp=Z,764nm,0.2s						
ARCO	**CERRO ARCO**	**2.43**	**100**	*e*P	**Pn**	**06 01 15.2**	**+1.9**
ARCO				*e*S	Sn	06 01 23.6	-18
ARCO				IAML		06 01 47.4	
	comp=Z,137nm,0.3s						
ASAL	**Salagasta**	**2.48**	**94**	*e*P	**Pn**	**06 01 16.4**	**+2.4**
BO02	**Sierra Bellavi**	**2.49**	**161**	*e*P	**Pn**	**06 01 14.3**	**+0.2**
BO02				IAML		06 01 52.2	
	comp=Z,472nm,0.1s						
AAGR	**Agrelo**	**2.56**	**105**	*e*P	**Pn**	**06 01 17.1**	**+2.1**
GO05	**Hualane**	**2.57**	**183**	*e*P	**Pn**	**06 01 15.1**	**0.0**
GO05				IAML		06 01 45.2	
	comp=N,1μm,0.5s						
GO05	**Hualane**	**2.57**	**183**	*e*P	**Pn**	**06 01 15.0**	**0.0**
GO05				*e*S	**Sn**	**06 01 44.0**	**-1.1**
GO05				IAML		06 01 45.0	
	comp=Z,548nm,0.2s						
CO01	**Juntas del Tor**	**2.84**	**31**	*e*P	**Pn**	**06 01 19.2**	**+0.2**
CO01				*e*S	**Sn**	**06 01 51.9**	**-0.3**
CO01				IAML		06 01 52.6	
	comp=Z,194nm,0.1s						
AVIZ	**Vizcacheras**	**2.92**	**112**	*e*P	Pn	06 01 03.6	-16
ACCO	**Cerro Coronel**	**2.96**	**52**	*e*P	**Pn**	**06 01 22.1**	**+1.4**
ACCO				*e*S	Sn	06 01 41.0	-14
AROD	**Rodeo**	**3.00**	**42**	*e*P	**Pn**	**06 01 21.4**	**+0.1**
AGUA	**GUANDACOL**	**4.07**	**45**	*e*P	**Pn**	**06 01 37.7**	**+1.9**
AGUA				IAML		06 03 02.1	
	comp=Z,130nm,0.6s						
AVFE	**Valle Fertil**	**4.09**	**65**	*e*P	**Pn**	**06 01 35.8**	**-0.2**
AVFE				*e*S	Sn	06 02 33.6	+11
AVFE				IAML		06 02 46.6	
	comp=Z,43nm,0.4s						
BI02	**San Fabin de**	**4.24**	**175**	*e*P	**Pn**	**06 01 38.3**	**+0.3**
BI02				IAML		06 02 30.6	
	comp=Z,51nm,0.4s						
ACHE	**Chepes**	**4.53**	**75**	*e*P	**Pn**	**06 01 42.1**	**-0.1**
VCA	**Vinchina**	**4.80**	**41**	*e*P	**Pn**	**06 01 46.7**	**+0.9**
VCA				*e*P	Pn	06 01 46.7	+0.9
GO03	**Copiapo**	**5.01**	**16**	*e*P	**Pn**	**06 01 48.0**	**-0.6**
GO03				IAML		06 02 48.5	
	comp=Z,31nm,0.2s						

IDC 15 06:02:03.8±2.0, 1°.54S×127°.31E, h0km, mb3.7/3, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=204.3km s-min=23.3km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.55**	**160**	P	P	06 06 31.6	-1.6
	0.1nm,0.3s,baz=341,slow=12,SNR=4.7						
	1.4nm,0.9s						
ASAR	**Alice Springs**	**22.91**	**164**	P	P	06 07 10.6	+1.1
	2.7nm,0.8s,baz=346,slow=12,SNR=17						
	2.7nm,0.8s						
MKAR	**Makanchi Array**	**62.21**	**327**	P	P	06 12 27.5	+0.2
	0.6nm,0.8s,baz=111,slow=7.9,SNR=4.1						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**66.48**	**328**	P	P	06 12 54.8	-0.3
	0.4nm,0.6s,baz=122,slow=5.3,SNR=4.1						
	0.4nm,0.6s						

GCG 15 06:03:40.7±0.3, 13°.29N×89°.97W, h33km±3km, MD3.5, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.63**	**55**	*e*P	Pn	06 03 52.9	-0.4
JAYA				*e*S	Sn	06 04 02.5	+0.2
NUBE	**Las Nubes**	**0.64**	**17**	*e*P	Pb	06 03 53.7	+0.1
NUBE				*e*S	Sn	06 04 03.8	+1.3
MTO3	**Montecristo**	**1.25**	**28**	*e*P	Pn	06 04 02.6	+0.5

*AFAD **15** 06:27:10.1, 39°.69N×44°.58E, h7km±4km, ML2.3*
*AZER **15** 06:27:11.3, 39°.62N×44°.59E, h23km, ml2.8*
*ISK **15** 06:27:12.0, 39°.68N×44°.46E, h9km, ML2.2/7*
*TEH **15** 06:27:15.8, 39°.19N×44°.53E, h9km*
ISC 15 06:27:12.2±0.9, 39°.67N±0°.02×44°.55E±0°.02, h16km±7km, n34, σ1s39/55, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYR	**Heyderabad**	**0.24**	**79**	P	**Pg**	**06 27 17.8**	**+0.2**
HYR				S	**Sg**	**06 27 23.1**	**+1.8**
TASB	**TASBURUN-IGDIR**	**0.39**	**322**	Pg	**Pg**	**06 27 19.3**	**-1.0**
TASB				Sg	**Sg**	**06 27 24.7**	**-1.1**
GNI	**Garni**	**0.50**	**17**	Pg	**Pb**	**06 27 22.4**	**-0.4**
GNI				Sg	**Sb**	**06 27 30.3**	**+0.4**
DYDN	**Diyadin**	**0.68**	**259**	P	**Pg**	**06 27 24.1**	**-1.5**
DYDN				S	**Sg**	**06 27 34.5**	**-0.1**
DYDN				*i* IAML		06 27 37.0	
	comp=N,235nm,0.6s						
DYDN				*i* IAML		06 27 41.0	
	comp=E,300nm,0.4s						
SBZ	**Shahbuz**	**0.82**	**109**	P	**Pb**	**06 27 28.0**	**-0.3**
SBZ				S	**Sn**	**06 27 40.8**	**-0.5**
NAX	**Nakhchivan**	**0.89**	**124**	P	**Pg**	**06 27 28.6**	**-0.9**
NAX				S	**Sb**	**06 27 42.0**	**+1.1**
VMUR	**Van-Muradiye**	**1.02**	**228**	P	**Pg**	**06 27 29.5**	**-2.5**
VMUR				S	**Sg**	**06 27 43.6**	**-1.8**
VMUR				*i* IAML		06 27 51.0	
	comp=E,115nm,0.4s						
VMUR				*i* IAML		06 28 02.0	
	comp=N,91nm,0.6s						
KOTA	**Agri, Merkez-K**	**1.04**	**278**	P	**Pg**	**06 27 29.9**	**-2.6**
KOTA				S	**Sn**	**06 27 48.5**	**+1.7**
KOTA				*i* IAML		06 27 51.0	
	comp=N,58nm,0.5s						
KOTA				*i* IAML		06 27 53.0	
	comp=E,54nm,0.7s						
OZAP	**Van, Ozalp-Mer**	**1.10**	**203**	P	**Pg**	**06 27 32.5**	**-1.0**
OZAP				*i* IAML		06 27 52.0	
	comp=E,91nm,0.8s						
OZAP				*i* IAML		06 27 58.0	
	comp=N,99nm,0.9s						
DIGO	**Kars**	**1.17**	**310**	P	**Pg**	**06 27 33.0**	**-1.9**
DIGO				*i* IAML		06 28 01.0	
	comp=N,240nm,0.8s						
AGRB	**Hanur-Agry**	**1.21**	**266**	Pn	**Pb**	**06 27 34.2**	**-0.7**
AGRB				Sn	**Sb**	**06 27 50.6**	**+0.3**
IMRD	**Marand**	**1.31**	**137**	Pg	**Pn**	**06 27 35.4**	**-0.7**
ORD	**Ordubad**	**1.34**	**123**	P	**Pn**	**06 27 36.6**	**+0.1**
ORD				S	**Sg**	**06 27 55.5**	**-0.2**
GDB	**GEDABAY**	**1.40**	**41**	P	**Pg**	**06 27 38.3**	**-0.9**
GDB				S	**Sg**	**06 27 58.3**	**+1.0**
DORK	**Agr/Tutak/Do**	**1.40**	**259**	P	**Pn**	**06 27 37.1**	**-0.2**
DORK				S	**Sg**	**06 27 58.6**	**+1.1**
DORK				*i* IAML		06 27 59.0	
	comp=N,137nm,0.8s						
DORK				*i* IAML		06 27 59.0	
	comp=E,58nm,0.8s						
TVAN	**Van**	**1.45**	**218**	P	**Pn**	**06 27 38.4**	**+0.4**
TVAN				S	**Sg**	**06 28 01.2**	**+2.2**
TVAN				*i* IAML		06 28 04.0	
	comp=E,78nm,0.7s						
TVAN				*i* IAML		06 28 05.0	
	comp=N,112nm,0.6s						
QZX	**Qazax, Azerbai**	**1.52**	**24**	P	**Pb**	**06 27 40.1**	**0.0**
QZX				S	**Sg**	**06 28 01.6**	**+0.4**
EATA	**Eleskirt**	**1.60**	**277**	P	**Pn**	**06 27 40.9**	**+0.8**
EATA				S	**Sg**	**06 28 08.5**	**+4.7**
EATA				*i* IAML		06 28 10.0	
	comp=E,28nm,0.6s						
EATA				*i* IAML		06 28 13.0	
	comp=N,25nm,0.5s						
ISHB	**Shabestar**	**1.62**	**149**	Pg	**Pn**	**06 27 39.0**	**-1.4**
MLAZ	**Malazgirt-MUS**	**1.64**	**252**	Pn	**Pn**	**06 27 40.9**	**+0.3**
ADCV	**BITLIS_Adilcev**	**1.66**	**239**	P	**Pn**	**06 27 42.4**	**+1.5**
ADCV				S	**Sb**	**06 28 05.4**	**+2.1**
ADCV				*i* IAML		06 28 07.0	
	comp=N,22nm,0.5s						
ADCV				*i* IAML		06 28 07.0	
	comp=E,26nm,0.4s						
GANJ	**Ganja**	**1.67**	**54**	P	**Pg**	**06 27 43.5**	**-0.8**
GANJ				S	**Sg**	**06 28 06.8**	**+0.7**
AKDM	**Akdamar-Van**	**1.82**	**223**	Pn	**Pn**	**06 27 43.7**	**+0.7**
ITBZ	**Tabriz**	**1.90**	**139**	Pg	**Pn**	**06 27 45.5**	**+1.3**
SENK	**Senkaya-Erzuru**	**1.91**	**298**	Pn	**Pn**	**06 27 44.7**	**+0.4**
AKH	**Akhalkalaki**	**1.91**	**335**	Pn	**Pn**	**06 27 45.1**	**+0.7**
AGDM	**Agdam**	**2.02**	**77**	P	**Pn**	**06 27 46.6**	**+0.9**
AGDM				S	**Sg**	**06 28 14.7**	**-2.4**
KOPR	**Koprukoy-ERZUR**	**2.10**	**280**	Pn	**Pn**	**06 27 47.3**	**+0.3**
HAKT	**HAKKARI**	**2.21**	**198**	P	**Pn**	**06 27 50.3**	**+1.7**
HAKT				S	**Sg**	**06 28 22.7**	**-0.7**
IAZR	**Azarshahr**	**2.28**	**150**	Pn	**Pn**	**06 27 50.6**	**+1.1**
IHRS	**Heris**	**2.37**	**124**	Pn	**Pb**	**06 27 53.9**	**-0.7**
YRD	**Yardimli**	**2.96**	**104**	P	**Pb**	**06 28 06.0**	**+1.3**
YRD				S	**Sg**	**06 28 47.6**	**+0.2**
LRK	**Lerik**	**3.12**	**108**	P	**Pg**	**06 28 11.5**	**-0.6**
XNQ	**Khinaliq**	**3.12**	**60**	P	**Pb**	**06 28 06.6**	**-1.0**
XNQ				S	**Sb**	**06 28 43.1**	**-2.4**

*IDC **15** 06:42:22.7±1.4, 6°.05S×130°.50E, h0km, mb4.0/3, mbtmp4.1/7, ML4.1/4, MS3.3/1, Error ellipse: s-maj=48.4km s-min=21.7km az=75.0*
*NEIC **15** 06:42:39.6±1.9, 6°.57S±0°.06×129°.66E±0°.09, h155km±12km, mb4.2/4, Error ellipse: s-maj=14.2km s-min=6.4km az=116.0*
*DJA **15** 06:42:41.8±0.2, 7°.5±3°×13°.0E±°, h173km±7km, M4.3/12, mB5.1/2, mb4.1/10, MLv4.5/12, Mw(mB)4.5/2*
ISC 15 06:42:40.0±0.7, 6°.72S±0°.06×129°.76E±0°.07, h150km, n38, σ1s89/37, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.98**	**129**	Pn	**Pn**	**06 43 17.2**	**+2.2**
SAUI	**Saumlaki**	**1.98**	**129**	P	**Pn**	**06 43 18.3**	**+3.4**
AAI	**Ambon**	**3.39**	**333**	P	Pn	06 43 34.9	+2.5
MSAI	**Masohi**	**3.45**	**346**	P	**Pn**	**06 43 35.1**	**+1.9**
NLAI	**Namlea**	**4.35**	**322**	P	**Pn**	**06 43 46.6**	**+1.7**
FAKI	**Fak Fak**	**4.52**	**33**	Pn	**Pn**	**06 43 45.6**	**-1.5**
FAKI	**Fak Fak**	**4.52**	**33**	P	**Pn**	**06 43 45.3**	**-1.8**
KMPI	**Kaimana, Papua**	**4.97**	**53**	P	**Pn**	**06 43 53.2**	**+0.1**
SANI	**Sanana**	**5.97**	**321**	P	Pn	06 44 09.1	+2.8
	0.1nm27nm,0.8s						
SWI	**Sorong**	**6.01**	**15**	P	**Pn**	**06 44 05.0**	**-1.9**
	0.4nm2μm35nm,0.8s						
SOEI	**Soe**	**6.21**	**241**	Pn	**Pn**	**06 44 10.2**	**+0.5**
SOEI	**Soe**	**6.21**	**241**	P	Pn	06 44 14.1	+4.4
	0.4nm24nm,0.8s						
MTN	**Manton Dam**	**6.24**	**168**		**Pn**	**06 44 11.9**	**+2.0**
RKPI	**Ransiki, Papua**	**6.80**	**41**	P	**Pn**	**06 44 16.5**	**-0.9**
BATI	**Baumata**	**6.95**	**240**	Pn	**Pn**	**06 44 19.4**	**-0.1**
	4.7nm,0.3s,baz=99,slow=23,SNR=1.4						
BATI				Sn	**Sn**	**06 45 41.0**	**+3.6**
	12nm,0.3s,baz=149,slow=20,SNR=7.0						
	21nm,0.4s						
BATI	**Baumata**	**6.95**	**240**	P	**Pn**	**06 44 22.1**	**+2.6**
	0.3nm51nm,1.0s						
MMRI	**Maumere**	**7.69**	**255**	Pn	**Pn**	**06 44 27.0**	**-2.4**
EDFI	**Ende, Flores**	**8.24**	**255**	P	Pn	06 44 41.9	+5.1
	12nm,1.7s						
KNRA	**Kununurra**	**8.96**	**186**		**Pn**	**06 44 47.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**12.00**	**199**		**Pn**	**06 45 26.3**	**0.0**
FITZ	**Fitzroy Crossi**	**12.00**	**199**	Pn	**Pn**	**06 45 26.9**	**+0.6**
	1.0nm,0.3s,baz=28,slow=7.5,SNR=24						
FITZ				Sn	**Sn**	**06 47 32.8**	**-6.3**
	1.4nm,0.3s,baz=92,slow=8.4,SNR=6.3						
FITZ				LR	LR	06 50 50.6	
	comp=Z,128nm,18.1s,baz=178,slow=39						
	5.8nm,0.7s						
WB0	**Warramunga Arr**	**13.73**	**161**		**Pn**	**06 45 47.5**	**-1.1**
WRA	**Warramunga Arr**	**13.88**	**162**	Pn	**Pn**	**06 45 49.9**	**-0.6**
WRA	**Warramunga Arr**	**13.88**	**162**	Pn	**Pn**	**06 45 48.2**	**-2.3**
	0.6nm,0.3s,baz=347,slow=13,SNR=16						
WRA				Sn	Sn	06 48 16.9	-7.4
	0.9nm,0.3s,baz=337,slow=22,SNR=10						
	2.1nm,0.8s						
WB2	**Warramunga Arr**	**13.88**	**162**	Pn	**Pn**	**06 45 49.5**	**-1.0**
WR8	**Warramunga Arr**	**13.94**	**161**	Pn	**Pn**	**06 45 49.8**	**-1.5**
COEN	**Coen**	**15.03**	**120**	Pn	**Pn**	**06 46 04.5**	**-0.4**
COEN				IAmb	IAmb	06 46 09.6	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**17.32**	**167**	P	**P**	**06 46 32.7**	**+0.8**
ASAR	**Alice Springs**	**17.32**	**167**	P	**P**	**06 46 32.5**	**+0.6**
ASAR	**Alice Springs**	**17.32**	**167**	P	**P**	**06 46 33.6**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=352,slow=10,SNR=42						
ASAR				S	**S**	**06 49 46.2**	**+1.5**
	comp=Z,1.3nm,0.7s,baz=348,slow=12,SNR=6.1						
	comp=Z,2.3nm,0.7s						
PSA00	**Pilbara Seismi**	**17.60**	**212**	P	**P**	**06 46 34.7**	**-0.3**
PSA00				IAmb	IAmb	06 46 57.3	
	comp=Z,17nm,1.2s						
PCJI	**Pacitan**	**18.48**	**264**	P	**Pn**	**06 46 46.3**	**-0.3**
STKA	**Stephens Creek**	**27.36**	**158**	P	**P**	**06 48 11.8**	**+0.6**
STKA	**Stephens Creek**	**27.36**	**158**	P	**P**	**06 48 11.6**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=336,slow=9.9,SNR=2.0						
	comp=Z,0.6nm,0.3s						
BTO	**Baotou**	**50.47**	**341**	*e*P	**P**	**06 51 23.5**	**+0.8**
BTO				pmax	pmax		
	comp=Z,32nm,0.5s						
BTO				pmax	pmax		
	comp=Z,240nm,4.1s						
MKAR	**Makanchi Array**	**67.86**	**327**	P	**P**	**06 53 21.9**	**-0.2**
MKAR	**Makanchi Array**	**67.86**	**327**	P	**P**	**06 53 22.4**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=122,slow=8.0,SNR=20						
	comp=Z,1.7nm,0.6s						
KURBB	**Kurchatov Arra**	**72.14**	**329**	P	**P**	**06 53 48.0**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=117,slow=5.5,SNR=2.5						
	comp=Z,0.4nm,0.5s						

CATAC 15 06:56:36.4±0.7, 11°.N±6°×8°.6W±°, h126km±5km, M3.1/26, MLv3.1/26, Error ellipse: s-maj=12.5km s-min=8.6km az=26.7, confirmed, Nicaragua

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

Solution. Duration: 2s0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.92; $M_{\theta\theta}$-5.09; $M_{\phi\phi}$0.17; $M_{r\theta}$4.68; $M_{r\phi}$2.87; $M_{\theta\phi}$0.19; Fault plane solution: $M_0$7.43000×10^{16} NP1: ϕ_s315.25000°,δ30.12000°,λ125.76000°. NP2: ϕ_s95.47000°,δ65.97000°,λ71.27000°. Principal axes: T 7.0034, Plg64.0000°, Azm334.0000°; N 0.7880, Plg17.0000°, Azm103.0000°; P -7.7914, Plg19.0000°, Azm199.0000°;

*NEIC **15** 06:59:17.2±1.7, 13°.65N±0°.02×91°.46W±0°.07, h35km±1km, mb5.0/604, Mww5.2/21 Error ellipse: s-maj=11.1km s-min=4.3km az=261.0*

*GCMT **15** 06:59:19.2±0.2, 13°.62N±0°.01×91°.54W±0°.01, h30km, MW5.2/117, Moment Tensor Solution. s90,c145; s117,c201; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.59±.02; $M_{\theta\theta}$-0.48±.01; $M_{\phi\phi}$-0.11±.01; $M_{r\theta}$0.69±.02; $M_{\theta\phi}$0.18±.01; $M_{\phi r}$-0.14±.02; Best double couple: $M_0$0.90400×10^{17} NP1:ϕ_s298.00000°,δ20.00000°, λ104.00000°. NP2:ϕ_s104.00000°,δ71.00000°,λ85.00000°. Principal axes: T 0.9300, Plg64.0000°, Azm6.0000°; N -0.0530, Plg5.0000°, Azm106.0000°; P -0.8770, Plg25.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 06:59:15.6±1.2, 13°.64N±0°.04×91°.48W±0°.04, h32km±7km, n930,σ1s22/672, mb5.0/287, MS4.6/61, 5C-16D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.90**	**347**		**Pn**	**06 59 32.3**	**+0.2**
RTAL				Sn	**Sb**	**06 59 45.0**	**+0.4**
RTAL	**Retalhuleu**	**0.90**	**347**	S	**Sb**	**06 59 46.1**	**+1.6**
RTAL	**Retalhuleu**	**0.90**	**347**	ǁP	**Pn**	**06 59 32.4**	**+0.3**
ESSJ	**San Jos, E**	**0.96**	**95**	ǁ*i*P	**Pn**	**06 59 30.4**	**-2.5**
ESSJ				*e*S	**Sn**	**06 59 43.2**	**-2.2**
ESSG	**Sabana Grande**	**0.97**	**41**	ǁ*i*P	**Pn**	**06 59 32.2**	**-0.9**
ESSG				*e*S	**Sn**	**06 59 45.6**	**-0.3**
ESSG				IAML		06 59 47.2	
	comp=N,39μm,0.4s						
FG8	**Yepocapa, Chim**	**1.08**	**56**	ǁ*i*P	**Pn**	**06 59 32.9**	**-1.9**
FG16	**Alotenango, Sa**	**1.13**	**56**	ǁ*e*P	**Pn**	**06 59 33.8**	**-1.6**
QUEO	**Labor Ovalle**	**1.22**	**359**	ǁ*i*P	**Pn**	**06 59 37.3**	**+0.6**
QUEO				*e*S	**Sn**	**06 59 52.9**	**+0.5**
QUEO				IAML		07 00 08.1	
	comp=E,50μm,0.9s						
GCG4	**OSOP**	**1.31**	**44**	ǁ*i*P	**Pn**	**06 59 39.0**	**+1.0**
GCG4				*e*S	**Sb**	**06 59 56.2**	**-0.3**
GCG4				IAML		07 00 02.4	
	comp=N,38μm,0.7s						
SMCA	**Catarina**	**1.33**	**335**	ǁ*i*P	**Pn**	**06 59 37.8**	**-0.3**
SMCA				*e*S	**Sn**	**06 59 53.2**	**-1.6**
THIG		**1.47**	**329**	ǁ*e*P	**Pn**	**06 59 39.8**	**-0.1**
THIG				*e*S	**Sn**	**06 59 58.4**	**+0.4**
THIG				IAML		07 00 01.6	
	comp=E,34μm,0.4s						
HUEH	**Huehuetenango**	**1.66**	**359**		**Pn**	**06 59 44.3**	**+1.5**
HUEH	**Huehuetenango**	**1.66**	**359**	ǁ*i*P	**Pn**	**06 59 44.4**	**+1.6**
HUEH				*e*S	**Sb**	**07 00 06.0**	**-0.5**
HUEH				IAML		07 00 19.2	
	comp=E,65μm,1.2s						
HUEH	**Huehuetenango**	**1.66**	**359**	ǁP	**Pn**	**06 59 44.5**	**+1.6**
NUBE	**Las Nubes**	**1.68**	**81**	*e*P	**Pn**	**06 59 42.7**	**-0.2**
NUBE	**Las Nubes**	**1.68**	**81**	S	**Sb**	**07 00 05.4**	**-1.4**
NUBE	**Las Nubes**	**1.68**	**81**	P	**Pn**	**06 59 42.5**	**-0.4**
QUIS	**Sacapulas**	**1.68**	**13**	ǁ*e*P	**Pb**	**06 59 45.2**	**-0.9**
QUIS				*e*S	**Sb**	**07 00 07.0**	**+0.1**
QUIS				IAML		07 00 09.8	
	comp=E,29μm,0.4s						
LOAL	**Lomas de Alarc**	**1.69**	**78**	*e*P	**Pn**	**06 59 43.3**	**+0.2**
LOAL				*e*S	**Sn**	**07 00 04.0**	**+0.4**
LOAL	**Lomas de Alarc**	**1.69**	**78**	P	**Pn**	**06 59 43.5**	**+0.5**
RTR	**El Retiro**	**1.80**	**82**	*e*P	**Pn**	**06 59 44.9**	**+0.2**
CEVE	**Cerro Verde**	**1.82**	**84**	*e*P	**Pn**	**06 59 45.0**	**+0.1**
CEVE	**Cerro Verde**	**1.82**	**84**	S	**Sn**	**07 00 08.2**	**+1.2**
CEVE	**Cerro Verde**	**1.82**	**84**	P	**Pn**	**06 59 45.0**	**+0.1**
SBLS	**San Blas**	**1.82**	**84**	*e*P	**Pn**	**06 59 44.8**	**-0.1**
SNJE	**San Jose**	**1.84**	**83**	*e*P	**Pn**	**06 59 45.3**	**+0.1**
SNJE				*i* P	**Pn**	**06 59 45.3**	**+0.1**
UNIC	**Universidad Ca**	**1.91**	**80**	*e*P	**Pn**	**06 59 46.5**	**+0.4**
UNIC				*e*S	**Sn**	**07 00 09.6**	**+0.5**
UNIC	**Universidad Ca**	**1.91**	**80**	ǁP	**Pn**	**06 59 46.5**	**+0.4**
JAYA	**Jayaque - finc**	**1.98**	**89**	ǁ*e*P	**Pn**	**06 59 46.7**	**-0.3**
JAYA				*e*S	**Sn**	**07 00 10.0**	**-0.8**
JAYA	**Jayaque - finc**	**1.98**	**89**	S	**Sn**	**07 00 12.9**	**+2.0**
CEDA	**San Andres**	**2.04**	**85**	*e*P	**Pn**	**06 59 48.3**	**+0.5**
CEDA				*e*S	**Sn**	**07 00 12.3**	**+0.1**
CEDA	**San Andres**	**2.04**	**85**	ǁP	**Pn**	**06 59 48.2**	**+0.5**
PMON	**Piamonte**	**2.11**	**88**	*e*P	**Pn**	**06 59 48.4**	**+0.5**
PMON	**Piamonte**	**2.11**	**88**	ǁP	**Pn**	**06 59 49.1**	**+0.3**
BOQS	**Boqueron**	**2.14**	**87**	*e*P	**Pn**	**06 59 50.0**	**+0.6**
PIC2	**El Picacho**	**2.17**	**87**	*e*P	**Pn**	**06 59 50.8**	**+1.1**
UEES	**Universidad Ev**	**2.18**	**88**	*e*P	**Pn**	**06 59 50.2**	**+0.4**
UEES	**Universidad Ev**	**2.18**	**88**	P	**Pn**	**06 59 50.5**	**+0.7**
MTO3	**Montecristo**	**2.19**	**70**		**Pn**	**06 59 51.0**	**+0.9**
MTO3	**Montecristo**	**2.19**	**70**	*e*P	**Pn**	**06 59 51.0**	**+0.9**
MTO3	**Montecristo**	**2.19**	**70**	ǁ*i*P	**Pn**	**06 59 51.0**	**+0.9**
UTEC	**Universidad Te**	**2.22**	**88**	*e*P	**Pn**	**06 59 51.4**	**+1.1**
LOMA	**Loma Larga**	**2.25**	**90**	*e*P	**Pn**	**06 59 52.6**	**+1.9**
IGN	**Direccin Gen**	**2.25**	**88**	*e*P	**Pn**	**06 59 51.6**	**+0.9**
UDBS	**Universidad Do**	**2.26**	**88**	*e*P	**Pn**	**06 59 51.9**	**+1.0**
ESQI	**Esquipulas**	**2.27**	**66**		**Pn**	**06 59 52.3**	**+1.3**
ESQI	**Esquipulas**	**2.27**	**66**	*e*P	**Pn**	**06 59 52.4**	**+1.3**
ESQI				*e*S	**Sn**	**07 00 21.0**	**+3.0**
LFRS	**El Faro**	**2.35**	**90**	*e*P	**Pn**	**06 59 52.7**	**+0.5**
LBRS	**Las Brisas**	**2.37**	**87**	*e*P	**Pn**	**06 59 53.2**	**+0.8**
PAVA	**Las Pavas**	**2.48**	**88**	*e*P	**Pn**	**06 59 55.0**	**+1.1**
LLGN	**La Laguna**	**2.52**	**78**	*e*P	**Pn**	**06 59 55.6**	**+1.1**
CCIG	**Comitan**	**2.70**	**347**		**Pn**	**07 00 00.3**	**+3.3**
PQSS	**Presa 15 de Se**	**2.84**	**90**	*e*P	**Pn**	**06 59 59.7**	**+0.9**
PQSS				*e*S	**Sn**	**07 00 33.1**	**+1.2**
BLLM	**Bellamira**	**3.16**	**93**	*e*P	**Pn**	**07 00 05.2**	**+1.9**
LCND	**La Caada**	**3.51**	**95**	*e*P	**Pn**	**07 00 09.7**	**+1.7**
CNCH	**Conchagua**	**3.57**	**95**	*e*P	**Pn**	**07 00 09.6**	**+0.7**
PETF	**Flores**	**3.61**	**25**		**Pn**	**07 00 11.8**	**+2.4**
PETF	**Flores**	**3.61**	**25**	*e*P	**Pn**	**07 00 12.2**	**+2.8**
PETF	**Flores**	**3.61**	**25**	ǁ*e*P	**Pn**	**07 00 11.7**	**+2.3**
PETF				IAML		07 01 13.9	
	comp=N,9μm,0.6s						
CSGN	**Cosiguina Volc**	**3.88**	**99**	*e*P	**Pn**	**07 00 14.0**	**+0.9**
TGUH	**Tegucigalpa,Un**	**4.11**	**84**		**Pn**	**07 00 17.1**	**+0.7**
CRIN	**San Cristobal**	**4.42**	**102**		**Pn**	**07 00 23.0**	**+1.4**
CRIN	**San Cristobal**	**4.42**	**102**	P	**Pn**	**07 00 23.1**	**+2.5**
HERN	**Volcan Telica**	**4.65**	**102**		**Pn**	**07 00 24.7**	**+1.0**
CMIG	**Matias Romero**	**4.74**	**317**	Pn	**Pn**	**07 00 25.5**	**+0.6**
	comp=N,12nm,0.3s,baz=156,slow=13,SNR=59						
CMIG				Sn	**Sb**	**07 01 28.4**	**-6.4**
	comp=N,87nm,0.3s,baz=190,slow=21,SNR=9.7 comp=N,43nm,0.3s						
CNGN	**Cerro Negro**	**4.80**	**103**		**Pn**	**07 00 26.9**	**+1.1**
CNGN	**Cerro Negro**	**4.80**	**103**	P	**Pn**	**07 00 25.8**	**0.0**
USIM	**UNAN**	**5.30**	**106**	Pn	**Pn**	**07 00 33.3**	**+0.6**
MGAN	**Managua**	**5.32**	**106**		**Pn**	**07 00 33.2**	**+0.3**
MGAN	**Managua**	**5.32**	**106**	P	**Pn**	**07 00 33.2**	**+0.3**
	comp=N,8ǁmcomp=N,777nm,0.8s						
BOAB	**BOACO BROADBAN**	**5.79**	**101**		**Pn**	**07 00 39.3**	**-0.1**
ACON	**Acoyapa**	**6.38**	**104**		**Pn**	**07 00 47.4**	**-0.1**
ACON	**Acoyapa**	**6.38**	**104**	*e*P	**Pn**	**07 00 46.5**	**-0.8**
ACON	**Acoyapa**	**6.38**	**104**	P	**Pn**	**07 00 46.6**	**-0.8**
	comp=N,2ǁmcomp=N,152nm,0.7s						
ELI1	**Hacienda Flor**	**6.52**	**117**	*e*P	**Pn**	**07 00 52.5**	**+3.1**
SIUN	**Universidad Ur**	**6.52**	**89**		**Pn**	**07 00 50.3**	**+0.8**
ALIBA	**Liberia Airpor**	**6.55**	**117**	*e*P	**Pn**	**07 00 52.6**	**+2.7**
SACU	**Santa Cruz**	**6.68**	**120**	*e*P	**Pn**	**07 00 52.9**	**+1.4**
JUD3	**Juan Diaz 3**	**6.77**	**120**	*e*P	**Pn**	**07 00 54.9**	**+2.0**
COLC	**Colonia**	**6.82**	**115**	*e*P	**Pn**	**07 00 56.2**	**+2.7**
VMAR	**Armenia, Volca**	**6.83**	**114**	*e*P	**Pn**	**07 00 55.8**	**+2.0**
CUI	**Cuipilapa**	**6.85**	**115**	*e*P	**Pn**	**07 00 56.6**	**+2.6**
ESPN	**Las Esperanzas**	**7.15**	**101**		**Pn**	**07 00 58.9**	**+0.8**
ESPN	**Las Esperanzas**	**7.15**	**101**	*e*P	**Pn**	**07 00 58.5**	**+0.4**
ESPN	**Las Esperanzas**	**7.15**	**101**	P	**Pn**	**07 00 57.5**	**-0.5**
	comp=N,2ǁmcomp=N,330nm,1.0s						
JTS	**Las Juntas de**	**7.21**	**117**		**Pn**	**07 01 01.3**	**+2.5**
JTS	**Las Juntas de**	**7.21**	**117**	Pn	**Pn**	**07 01 01.4**	**+2.6**
	comp=N,5.4nm,0.3s,baz=314,slow=11,SNR=20						
JTS				Sn	**Sn**	**07 02 20.8**	**+1.1**
	comp=N,8.9nm,0.3s,baz=75,slow=20,SNR=0.9						
JTS	**Las Juntas de**	**7.21**	**117**	*d* iP	**Pn**	**07 01 00.1**	**+1.2**
JTS	**Las Juntas de**	**7.21**	**117**	*e*P	**Pn**	**07 01 01.4**	**+2.6**
JTS	**Las Juntas de**	**7.21**	**117**	P	**Pn**	**07 01 00.4**	**+1.5**
	comp=N,2ǁmcomp=N,3ǁmcomp=N,451nm,0.9s						
TEIG	**Tepich**	**7.23**	**25**		**Pn**	**07 01 01.4**	**+2.2**
TEIG	**Tepich**	**7.23**	**25**	Pn	**Pn**	**07 01 01.7**	**+2.6**
	baz=321,slow=24,SNR=38						
TEIG				Sn	**Sn**	**07 02 17.8**	**-2.4**
	baz=130,slow=24,SNR=9.4						
TEIG	**Tepich**	**7.23**	**25**	P	**Pn**	**07 01 00.2**	**+1.1**
	comp=N,20ǁmcomp=N,22ǁmcomp=N,2ǁmcomp=N,2ǁm,0.7s						
VARE2	**V. Arenal**	**7.33**	**115**	*e*P	**Pn**	**07 01 03.0**	**+2.3**
ARE1	**Arenal 1**	**7.33**	**115**	*e*P	**Pn**	**07 01 03.5**	**+2.9**
SOCE	**Pocosol**	**7.46**	**115**		**Pn**	**07 01 03.8**	**+1.5**
TLIG	**Tlapa**	**7.86**	**301**		**Pn**	**07 01 09.5**	**+1.6**
HDC	**Heredia**	**8.07**	**116**		**Pn**	**07 01 11.8**	**+0.9**
HDC	**Heredia**	**8.07**	**116**	*e*P	**Pn**	**07 01 10.7**	**-0.1**
PICV	**PH. Pirrs**	**8.18**	**118**	*e*P	**Pn**	**07 01 15.8**	**+3.6**
LCR2	**La Lucha 2**	**8.29**	**117**		**Pn**	**07 01 15.1**	**+1.2**
BUS1	**Rivas**	**8.60**	**117**	*e*P	**Pn**	**07 01 21.8**	**+3.4**
EDPE	**Pejibaye, P**	**8.95**	**119**	*e*P	**Pn**	**07 01 26.3**	**+3.6**
DRK0	**Durika**	**9.17**	**117**	*e*P	**Pn**	**07 01 28.7**	**+2.7**
UNM	**Universidad Na**	**9.29**	**308**		**Pn**	**07 01 28.7**	**+1.0**
UNM	**Universidad Na**	**9.29**	**308**	P	**Pn**	**07 01 28.7**	**+1.0**
PIRO	**Carate, Puerto**	**9.54**	**122**		**Pn**	**07 01 33.5**	**+2.6**
RGM0	**Gandoca**	**9.58**	**114**	Pn	**Pn**	**07 01 32.3**	**+0.8**
SAIC	**Isla e San And**	**9.58**	**95**	P	Pn	07 01 39.5	+8.0
	comp=N,2ǁmcomp=N,117nm,1.1s						
PRVC	**Isla de Provid**	**9.85**	**90**	P	**Pn**	**07 01 35.1**	**0.0**
	comp=N,2ǁmcomp=N,162nm,0.9s						
BRU2	**Volcan**	**9.88**	**118**		**Pn**	**07 01 38.3**	**+2.7**
JRQG	**Juriquilla Cam**	**11.07**	**311**		**Pn**	**07 01 54.0**	**+2.0**
SOR	**Soroa**	**12.14**	**40**		**Pn**	**07 02 06.4**	**-0.1**
SOR	**Soroa**	**12.14**	**40**	*e*P	**Pn**	**07 02 08.5**	**+2.0**
SOR	**Soroa**	**12.14**	**40**	P	**Pn**	**07 02 06.4**	**-0.1**
BCIP	**Isla Barro Col**	**12.25**	**110**		**Pn**	**07 02 08.6**	**+0.6**
BCIP	**Isla Barro Col**	**12.25**	**110**	P	**Pn**	**07 02 08.6**	**+0.6**
BCIP	**Isla Barro Col**	**12.25**	**110**	P	**Pn**	**07 02 04.8**	**-3.2**
	comp=N,782nmcomp=N,72nm,1.1s						
CAMR	**Camarioca**	**13.40**	**44**	*e*P	P	07 02 37.8	+5.1
MGV	**Managua**	**13.80**	**51**	*e*P	**P**	**07 02 34.7**	**-2.5**
ZAIG	**Zacatecas**	**13.89**	**312**		**Pn**	**07 02 31.9**	**+1.2**
MTDJ	**Mount Denham**	**14.16**	**69**		**Pn**	**07 02 34.5**	**+0.3**
MTDJ	**Mount Denham**	**14.16**	**69**	P	**Pn**	**07 02 33.6**	**-0.6**
	comp=N,2ǁmcomp=N,2ǁmcomp=N,130nm,0.9s						
CAIB	**Caibarien**	**14.41**	**51**	*e*P	**P**	**07 02 41.2**	**-2.7**
HBVL	**Hebbronville**	**14.95**	**334**		**Pn**	**07 02 46.6**	**+1.9**
KVTX	**Kingsville**	**15.07**	**338**	Pn	**Pn**	**07 02 47.6**	**+1.2**
KVTX				IAmb	IAmb	07 02 53.6	
	comp=Z,99nm,1.4s						
CHIV	**Chivirico**	**15.73**	**64**		**Pn**	**07 02 55.3**	**+0.3**
CHIV				IAmb	IAmb	07 02 59.7	
	comp=Z,84nm,1.9s						
735A	**Kenedy**	**16.24**	**340**		**P**	**07 03 03.3**	**-0.9**
735A				IAmb	IAmb	07 03 06.3	
	comp=Z,188nm,1.4s						
833A	**Chaparral WMA,**	**16.36**	**334**		**Pn**	**07 03 04.1**	**+1.2**
SJCC	**San Jacinto, C**	**16.39**	**101**	P	**Pn**	**07 03 03.8**	**+0.3**
	comp=Z,63nm,1.1s						
DBBC	**Dabeiba**	**16.40**	**112**	P	**P**	**07 03 06.7**	**+0.5**
EF04	**Eagle Ford 04**	**16.56**	**340**	P	**P**	**07 03 07.5**	**-0.2**
EF04				IAmb	IAmb	07 03 09.8	
	comp=Z,193nm,1.4s						
HKT	**Hockley**	**16.72**	**347**		**Pn**	**07 03 08.8**	**+1.3**
HKT				IAmb	IAmb	07 03 11.0	
	comp=Z,176nm,1.9s						
HKT	**Hockley**	**16.72**	**347**	*i* P	**Pn**	**07 03 08.2**	**+0.8**
HKT				pmax	pmax		
	comp=Z,86nm,1.8s						
CBOC	**Ciudad Bolivar**	**17.09**	**115**	P	**Pn**	**07 03 13.2**	**+0.8**
	comp=Z,651nmcomp=Z,48nm,1.1s						
441A	**DeRidder**	**17.10**	**355**	IAmb	IAmb	07 03 19.7	
	comp=Z,79nm,1.0s						
ARGC	**Ariguani, Magd**	**17.29**	**101**	P	**P**	**07 03 18.7**	**+2.7**
	comp=Z,25nm,1.0s						
HELC	**Santa Helena**	**17.36**	**114**	P	**Pn**	**07 03 16.0**	**-0.1**
	comp=Z,496nmcomp=Z,30nm,1.7s						
HNDO	**Hondo**	**17.38**	**337**	P	**Pn**	**07 03 16.8**	**+1.0**
HNVL	**Huntsville, TX**	**17.42**	**348**	P	**P**	**07 03 17.5**	**+0.2**
HNVL				IAmb	IAmb	07 03 20.0	
	comp=Z,308nm,1.8s						
656A	**Willston**	**17.71**	**27**	P	**Pn**	**07 03 20.4**	**+0.6**
656A				IAmb	IAmb	07 03 23.7	
	comp=Z,123nm,0.9s						
346A	**Big Creek Wild**	**17.76**	**6**	P	**Pn**	**07 03 20.6**	**+0.1**
YOTC	**Yotoco, Valle**	**17.76**	**121**	P	**Pn**	**07 03 19.6**	**-1.1**
	comp=Z,665nmcomp=Z,29nm,1.0s						
DRIO	**Del Rio**	**17.84**	**333**		**Pn**	**07 03 21.7**	**+0.2**
JAMC	**Jamundi, Valle**	**17.93**	**124**	P	**Pn**	**07 03 22.5**	**-0.4**
	comp=Z,764nmcomp=Z,21nm,1.3s						
GUY2C	**Guyana, Caldas**	**17.95**	**116**	P	**P**	**07 03 24.7**	**+0.9**
	comp=Z,1μmcomp=Z,88nm,0.8s						
435B	**Jarrell**	**17.96**	**343**	P	**P**	**07 03 24.1**	**+0.8**
PTBC	**PUERTO BERRIO,**	**18.18**	**111**	P	**P**	**07 03 26.2**	**+0.4**
	comp=Z,219nmcomp=Z,12nm,0.9s						
BBAC	**Balboa, Caldas**	**18.21**	**128**	P	**P**	**07 03 26.7**	**+0.3**
	comp=Z,722nmcomp=Z,44nm,1.2s						
NORC	**Norcasia**	**18.23**	**115**	P	**P**	**07 03 28.2**	**+1.8**
	comp=Z,3μmcomp=Z,699nmcomp=Z,31nm,1.0s						
NATX	**Nacogdoches**	**18.27**	**351**	P	**P**	**07 03 27.1**	**+0.5**
NATX				IAmb	IAmb	07 03 30.9	
	comp=Z,87nm,1.1s						
ANIL	**Santa Ana**	**18.29**	**118**	P	**P**	**07 03 26.7**	**-0.6**
	comp=Z,41nm,0.9s						
POPC	**Popayan, Colom**	**18.33**	**126**	P	**Pn**	**07 03 29.6**	**+1.8**
	comp=Z,1μmcomp=Z,44nm,0.9s						
JCT	**Junction City**	**18.43**	**337**	IAmb	IAmb	07 03 33.8	
	comp=Z,198nm,1.9s						
VBMS	**Vicksburg**	**18.51**	**3**	P	**Pn**	**07 03 30.4**	**+0.8**
VBMS				IAmb	IAmb	07 03 35.8	
	comp=Z,163nm,1.2s						
OTAV	**Otavalo**	**18.55**	**135**	P	**P**	**07 03 29.4**	**-1.0**
OTAV	**Otavalo**	**18.55**	**135**	P	**P**	**07 03 29.4**	**-1.0**
OTAV				pmax	pmax		
	comp=Z,11nm,1.0s						
OTAV	**Otavalo**	**18.55**	**135**	*e*P	**Pn**	**07 03 31.8**	**+1.1**
OTAV	**Otavalo**	**18.55**	**135**	P	**Pn**	**07 03 30.7**	**0.0**
	comp=Z,720nmcomp=Z,12nm,1.1s						
OCAC	**Ocana**	**18.62**	**105**	P	**P**	**07 03 30.7**	**-0.1**
	comp=Z,542nmcomp=Z,36nm,1.1s						
GCUF	**Volcan Galeras**	**18.66**	**130**	P	**Pn**	**07 03 32.7**	**+0.7**
	comp=Z,2μmcomp=Z,35nm,2.4s						
237A	**Washetta, Mont**	**18.70**	**348**	P	**P**	**07 03 31.9**	**+0.6**
ORTC	**Ortega, Tolima**	**18.72**	**120**	P	**Pn**	**07 03 32.7**	**+0.3**
	comp=Z,1μmcomp=Z,59nm,1.0s						
HPIG		**18.73**	**317**	P	**Pn**	**07 03 34.6**	**+2.0**
HPIG				IAmb	IAmb	07 03 38.9	
	comp=Z,189nm,1.9s						
BRDY	**Brady**	**18.87**	**340**	P	**Pn**	**07 03 34.4**	**+0.3**
SPBC	**San Pablo de B**	**18.90**	**113**	P	**Pn**	**07 03 35.1**	**+0.5**
	comp=Z,1μmcomp=Z,16nm,1.0s						
143A	**Socs Landing,**	**18.97**	**0**	P	**Pn**	**07 03 35.3**	**+0.1**
143A				IAmb	IAmb	07 03 40.6	
	comp=Z,148nm,1.3s						
ROSC	**El Rosal**	**19.05**	**116**	P	**Pn**	**07 03 36.7**	**0.0**
ROSC				IAmb	IAmb	07 03 42.6	
	comp=Z,86nm,1.0s						
ROSC	**El Rosal**	**19.05**	**116**	P	**Pn**	**07 03 39.0**	**+2.2**
	comp=Z,51nm,0.8s,baz=124,slow=5.4,SNR=25						
ROSC				LR	LR	07 11 25.6	
	comp=Z,698nm,21.7s,baz=302,slow=39						
ROSC	**El Rosal**	**19.05**	**116**	P	**Pn**	**07 03 36.7**	**0.0**
ROSC				pmax	pmax		
	comp=Z,86nm,1.0s						
ROSC	**El Rosal**	**19.05**	**116**	P	**Pn**	**07 03 37.8**	**+1.1**
	comp=Z,1μmcomp=Z,109nm,1.3s						
WHTX	**Lake Whitney,**	**19.07**	**344**	P	**P**	**07 03 35.8**	**+0.4**
PRAC	**Prado**	**19.13**	**120**	P	**P**	**07 03 36.9**	**+0.6**
	comp=Z,2μmcomp=Z,111nm,1.5s						
TIGA	**Tifton**	**19.14**	**21**	P	**P**	**07 03 36.5**	**+0.3**
TIGA				IAmb	IAmb	07 03 45.9	
	comp=Z,117nm,1.0s						
TXAR	**Lajitas Array**	**19.27**	**326**	P	**Pn**	**07 03 39.7**	**+0.7**
TXAR	**Lajitas Array**	**19.27**	**326**	P	**Pn**	**07 03 41.1**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=153,slow=12,SNR=235						
TXAR				LR	LR	07 12 28.5	
	comp=Z,549nm,18.6s,baz=125,slow=41 comp=Z,32nm,0.8s						
TXAR	**Lajitas Array**	**19.27**	**326**	P	**Pn**	**07 03 39.7**	**+0.7**
TX31	**Lajitas Ar. Si**	**19.27**	**326**	P	**Pn**	**07 03 40.8**	**+1.8**
BARC	**Barichara**	**19.32**	**109**	P	**Pn**	**07 03 40.2**	**+0.4**
OZNA	**Ozona**	**19.35**	**334**	P	**Pn**	**07 03 40.2**	**+0.3**
FW13	**Cleburne**	**19.40**	**345**	IAmb	IAmb	07 03 45.1	
	comp=Z,76nm,1.0s						
CVER	**Cruz Verde, Cu**	**19.42**	**116**	P	**Pn**	**07 03 42.9**	**+1.7**
TREL	**Terrell**	**19.46**	**348**	IAmb	IAmb	07 03 46.8	
	comp=Z,76nm,0.9s						
PAMC	**Pamplona, Colo**	**19.50**	**107**	P	**P**	**07 03 41.6**	**+0.8**
Z41A	**Richland Creek**	**19.56**	**357**	IAmb	IAmb	07 03 49.5	
	comp=Z,73nm,0.8s						
PIAT	**Ana Tenorio**	**19.58**	**137**	P	**Pn**	**07 03 44.0**	**+0.9**
	comp=Z,24nm,1.3s						
RUSC	**La Rusia**	**19.69**	**111**	P	**P**	**07 03 43.1**	**+0.2**
RUSC				IAmb	IAmb	07 03 46.7	
	comp=Z,95nm,1.3s						
RUSC	**La Rusia**	**19.69**	**111**	P	**Pn**	**07 03 44.0**	**-0.5**
	comp=Z,646nmcomp=Z,54nm,1.2s						
Z47A	**Carrollton**	**19.71**	**9**	P	**P**	**07 03 43.1**	**+0.6**
Z47A				IAmb	IAmb	07 03 49.9	
	comp=Z,76nm,0.8s						
FLOC	**Florencia**	**19.72**	**126**	P	**Pn**	**07 03 44.3**	**-0.1**
FLOC	**Florencia**	**19.72**	**126**	P	**P**	**07 03 43.1**	**+0.3**
	comp=Z,2μmcomp=Z,207nm,1.4s						
LRAL	**Lakeview Retre**	**19.73**	**11**	P	**P**	**07 03 43.9**	**+1.2**
LRAL				IAmb	IAmb	07 03 50.3	
	comp=Z,112nm,1.0s						
Z38A	**Mt. Pleasant**	**19.79**	**351**	IAmb	IAmb	07 03 50.9	
	comp=Z,84nm,1.0s						
URMC	**La Uribe, Meta**	**19.80**	**120**	P	**Pn**	**07 03 45.8**	**+0.4**
	comp=Z,41nm,1.7s						
152A	**Waverly Hall**	**19.92**	**17**	IAmb	IAmb	07 03 54.2	
	comp=Z,50nm,0.8s						
VILC	**Villavicencio,**	**19.95**	**117**	P	**Pn**	**07 03 47.1**	**-0.1**
	comp=Z,916nmcomp=Z,99nm,0.9s						
WLAR	**White Oak Lake**	**20.01**	**356**	IAmb	IAmb	07 03 55.1	
	comp=Z,57nm,1.0s						
PLPT	**Palo Pinto**	**20.08**	**343**	IAmb	IAmb	07 03 55.4	
	comp=Z,120nm,1.1s						
ALPN	**Alpine**	**20.08**	**328**	IAmb	IAmb	07 03 52.3	
	comp=Z,59nm,0.9s						
COHC	**Cochancay**	**20.08**	**142**	P	Pn	07 03 48.0	-0.6
COHC	**Cochancay**	**20.08**	**142**	P	**P**	**07 03 46.0**	**-0.7**
	comp=Z,622nmcomp=Z,42nm,1.2s						
SLBS	**Sierra La Lagu**	**20.12**	**302**	P	Pn	07 03 50.4	+1.3
CCAR	**Cane Creek**	**20.18**	**359**	P	**P**	**07 03 48.9**	**+1.3**
CCAR				IAmb	IAmb	07 03 54.2	
	comp=Z,53nm,0.9s						
Y45A	**Yeager Farm, C**	**20.21**	**5**	IAmb	IAmb	07 03 51.9	
	comp=Z,54nm,0.8s						
SGCY	**Ster

V55A	Taylorsville	23.96	21	IAmb	IAmb	07 04 50.9			
	comp=Z,34nm,0.9s								
121A	Cookes Peak, D	23.99	324	IAmb	IAmb	07 04 48.2			
	comp=Z,66nm,0.9s								
319A	Douglas	24.06	320	IAmb	IAmb	07 04 39.2			
	comp=Z,48nm,0.9s								
CCM	Cathedral Cave	24.31	0	P	P		07 04 29.8	-0.5	
CCM	Cathedral Cave	24.31	0	P	P		07 04 29.8	-0.5	
CCM				pmax	pmax				
	comp=Z,77nm,0.8s								
ATAH	Atahualpa	24.39	147	LR	LR	07 12 50.9			
	comp=Z,2µm,18.6s,baz=341,slow=34								
Y22A	Socorro	24.61	328	IAmb	IAmb	07 04 38.2			
	comp=Z,44nm,0.9s								
Y22D	IRIS PASSCAL I	24.70	328	P	P		07 04 36.8	+2.7	
	baz=142								
U56A	King	24.70	22	IAmb	IAmb	07 04 57.4			
	comp=Z,81nm,1.3s								
V58A	Windy Hill, Pi	24.70	25	IAmb	IAmb	07 05 03.0			
	comp=Z,39nm,0.9s								
SJG	San Juan	24.76	76	LR	LR	07 14 48.9			
	comp=Z,1µm,20.6s,baz=284,slow=39								
RTBA	Rita Blanca	24.84	338	IAmb	IAmb	07 04 56.8			
	comp=Z,47nm,1.0s								
WCI	Wyandotte Cave	24.92	10	P	P		07 04 35.0	-0.8	
WCI				IAmb	IAmb	07 05 06.4			
	comp=Z,54nm,0.8s								
WCI	Wyandotte Cave	24.92	10	P	P		07 04 35.0	-0.8	
WCI				pmax	pmax				
	comp=Z,54nm,0.9s								
SLM	Saint Louis	24.92	2	P	P		07 04 35.4	-0.4	
SLM	Saint Louis	24.92	2	P	P		07 04 35.4	-0.4	
SLM				pmax	pmax				
	comp=Z,59nm,0.7s								
ANMO	Albuquerque	25.16	330	P	P		07 04 39.7	+1.4	
ANMO	Albuquerque	25.16	330	*i* P	P		07 04 38.9	+0.6	
ANMO				pmax	pmax				
	comp=Z,17nm,1.1s								
OLIL	Olney	25.17	6	IAmb	IAmb	07 05 01.2			
	comp=Z,55nm,1.1s								
R49A	Shelbyville	25.18	12	IAmb	IAmb	07 05 08.8			
	comp=Z,38nm,0.9s								
Q44A	Meyer Farm, Va	25.25	5	IAmb	IAmb	07 05 09.1			
	comp=Z,46nm,0.9s								
R50A	Paris	25.35	13	IAmb	IAmb	07 05 02.4			
	comp=Z,87nm,1.5s								
R32A	Long Quarter,	25.50	347	IAmb	IAmb	07 05 12.3			
	comp=Z,41nm,1.1s								
T57A	Hurt	25.70	23	IAmb	IAmb	07 05 07.1			
	comp=Z,63nm,1.5s								
P40A	Paris	25.79	359	IAmb	IAmb	07 04 45.4			
	comp=Z,30nm,0.8s								
BLO	Bloomington	25.80	9	IAmb	IAmb	07 05 17.3			
	comp=Z,40nm,0.8s								
P43A	Skaggs, Pawnee	25.95	3	IAmb	IAmb	07 05 21.4			
	comp=Z,32nm,0.9s								
P48A	Milroy	26.27	11	IAmb	IAmb	07 05 23.2			
	comp=Z,48nm,1.1s								
T59A	Double "B" Far	26.36	26	IAmb	IAmb	07 04 52.7			
	comp=Z,24nm,0.7s								
R55A	Marlinton	26.53	20	IAmb	IAmb	07 05 14.8			
	comp=Z,74nm,1.2s								
X18A	Snowflake	26.68	324	IAmb	IAmb	07 04 58.0			
	comp=Z,37nm,1.4s								
HDIL	Hopedale	26.88	4	IAmb	IAmb	07 05 15.2			
	comp=Z,36nm,1.1s								
SFIN	Lafayette	26.91	7	IAmb	IAmb	07 05 24.1			
	comp=Z,27nm,0.9s								
W18A	Petrified Fore	26.99	326	IAmb	IAmb	07 05 01.5			
	comp=Z,47nm,1.2s								
SDCO	Great Sand Dun	27.05	335	P	P		07 04 55.8	+0.3	
N38A	Joes South For	27.09	357	P	P		07 04 54.6	-0.8	
N38A				IAmb	IAmb	07 04 59.0			
	comp=Z,41nm,0.8s								
KSCO	Kaye Shedlock'	27.12	341	P	P		07 04 56.5	+0.6	
CBN	Corbin Frederi	27.48	25	IAmb	IAmb	07 05 21.9			
	comp=Z,52nm,1.4s								
O54A	Avella	28.18	18	IAmb	IAmb	07 05 27.9			
	comp=Z,36nm,1.0s								
CZSB	Cruzeiro do Su	28.26	138	P	P		07 05 07.5	+1.3	
CZSB				IAmb	IAmb	07 05 09.2			
	comp=Z,33nm,1.0s								
CZSB	Cruzeiro do Su	28.26	138	*eP*	P		07 05 07.5	+1.3	
CZSB	Cruzeiro do Su	28.26	138	P	P		07 05 07.0	+0.8	
	comp=Z,29nm,1.1s								
PV02	Paradox Valley	28.86	331	IAmb	IAmb	07 05 15.6			
	comp=Z,73nm,1.5s								
PV13	Radium Mtn., P	28.87	331	IAmb	IAmb	07 05 17.4			
	comp=Z,33nm,1.2s								
PV05	Paradox Valley	28.93	330	IAmb	IAmb	07 05 17.7			
	comp=Z,27nm,1.1s								
BLYC	Blythe	28.96	318	P	P		07 05 14.2	+2.0	
PV18	Skein Mesa, Pa	28.98	331	IAmb	IAmb	07 05 18.3			
	comp=Z,63nm,1.3s								
PV12	Saucer Basin,	28.98	331	IAmb	IAmb	07 05 16.4			
	comp=Z,27nm,0.8s								
PV11	David Mesa, Pa	29.00	331	IAmb	IAmb	07 05 18.6			
	comp=Z,25nm,1.0s								
PV19	Morning Glory	29.06	331	IAmb	IAmb	07 05 18.9			
	comp=Z,24nm,0.9s								
PV20	West Nyswonger	29.08	331	IAmb	IAmb	07 05 19.6			
	comp=Z,20nm,0.9s								
PV10	Paradox Valley	29.14	331	IAmb	IAmb	07 05 19.1			
	comp=Z,31nm,1.1s								
PV23	Carpenter Ridg	29.19	331	IAmb	IAmb	07 05 18.6			
	comp=Z,23nm,0.9s								
NNA	Nana	29.31	150	LR	LR	07 14 47.6			
	comp=Z,1µm,20.7s,baz=334,slow=32								
NNA	Nana	29.31	150	*i* P	P		07 05 15.8	+0.2	
NNA				pmax	pmax				
	comp=Z,21nm,1.3s								
SSPA	Standing Stone	29.41	21	P	P		07 05 15.2	-0.9	
SSPA				IAmb	IAmb	07 06 16.0			
	comp=Z,39nm,1.6s								
BC3	Big Chuckawall	29.52	317	IAmb	IAmb	07 05 25.2			
	comp=Z,28nm,1.2s								
HMU	Henry Mountain	29.64	328	IAmb	IAmb	07 05 28.7			
	comp=Z,28nm,0.9s								
KNB	Kanab	30.09	324	IAmb	IAmb	07 05 28.4			
	comp=Z,23nm,0.8s								
PKCU	Pink Cliffs	30.11	326	IAmb	IAmb	07 05 29.3			
	comp=Z,36nm,1.1s								
PFO	Pinyon Flats O	30.17	315	P	P		07 05 24.0	+0.9	
PFO	Pinyon Flats O	30.17	315	LR	LR	07 18 51.8			
	comp=Z,703nm,18.3s,baz=132,slow=39								
PFO	Pinyon Flats O	30.17	315	*i* P	P		07 05 25.3	+2.2	
PFO				pmax	pmax				
	comp=Z,16nm,1.7s								
V12A	Nelson	30.41	320	IAmb	IAmb	07 05 29.6			
	comp=Z,20nm,0.9s								
SRU	San Rafael Swe	30.43	330	IAmb	IAmb	07 05 35.6			
	comp=Z,37nm,1.7s								
MTPU	Mount Pierson	30.47	327	IAmb	IAmb	07 05 32.0			
	comp=Z,29nm,0.8s								
Q16A	Castle Valley	30.61	329	IAmb	IAmb	07 05 37.5			
	comp=Z,17nm,0.9s								
SZCU	Shurtz Canyon	30.65	325	IAmb	IAmb	07 05 33.4			
	comp=Z,24nm,0.9s								
CCUT	Cedar City	30.77	325	IAmb	IAmb	07 05 34.9			
	comp=Z,22nm,1.1s								
P17A	Butcher Ranch,	30.82	330	IAmb	IAmb	07 05 32.4			
	comp=Z,15nm,0.9s								
TMUT	Trail Mountain	30.91	329	IAmb	IAmb	07 05 36.4			
	comp=Z,15nm,0.9s								
TCRU	Three Creeks R	31.03	327	IAmb	IAmb	07 05 36.2			
	comp=Z,26nm,0.8s								
BINY	Binghamton	31.46	22	IAmb	IAmb	07 06 11.6			
	comp=Z,52nm,1.6s								
SPMN	Marine on St.	31.50	358	IAmb	IAmb	07 05 58.6			
	comp=Z,17nm,0.8s								
TEFE	Tefe	31.63	121	*eP*	P		07 05 36.6	+0.6	
PRN	Pahroc Range	31.64	323	IAmb	IAmb	07 05 41.6			
	comp=Z,27nm,1.7s								
MPU	Maple Canyon	31.68	330	IAmb	IAmb	07 05 41.3			
	comp=Z,17nm,1.0s								
K57A	Scipio Center	31.74	21	IAmb	IAmb	07 06 05.5			
	comp=Z,33nm,1.2s								
PSUT	Pine Spring	31.74	325	IAmb	IAmb	07 05 42.9			
	comp=Z,20nm,0.9s								
LRMC	Laurel Mtn Rad	32.08	317	IAmb	IAmb	07 06 01.9			
	comp=Z,26nm,1.7s								
S11A	Rachel	32.21	322	IAmb	IAmb	07 05 47.7			
	comp=Z,31nm,1.0s								
CTU	Camp Tracy	32.26	330	IAmb	IAmb	07 05 45.0			
	comp=Z,17nm,1.0s								
SPR3	Spring Creek 3	32.33	326	IAmb	IAmb	07 05 47.6			
	comp=Z,17nm,0.9s								
BOAV	Boa Vista	32.58	107	P	P		07 05 42.6	-1.9	
BOAV	Boa Vista	32.58	107	*eP*	P		07 05 43.4	-1.0	
BOAV	Boa Vista	32.58	107	P	P		07 05 42.5	-1.9	
	comp=Z,12nm,1.0s								
SADO	Sadowa	32.76	16	LR	LR	07 19 56.4			
	comp=Z,16µm,20.6s,baz=202,slow=38								
E38A	The Farm, Brul	32.86	360	IAmb	IAmb	07 05 48.7			
	comp=Z,11nm,0.9s								
HWUT	Hardware Ranch	32.88	332	IAmb	IAmb	07 05 52.1			
	comp=Z,20nm,1.0s								
PDAR	Pinedale Array	32.95	335	P	P		07 05 48.2	+0.6	
PDAR	Pinedale Array	32.95	335	P	P		07 05 48.8	+1.2	
	comp=Z,1.4nm,0.6s,baz=128,slow=10,SNR=12								
PDAR				PcP	PcP		07 08 31.9	+0.5	
	comp=Z,0.6nm,0.5s,baz=143,slow=3.0,SNR=5.1								
PDAR				ScP	ScP		07 12 17.9	+4.6	
	comp=Z,2.1nm,0.9s,baz=143,slow=3.6,SNR=12								
PDAR				LR	LR	07 23 33.9			
	comp=Z,313nm,18.0s,baz=142,slow=44								
	comp=Z,1.4nm,0.6s								
BGU	Big Grassy Mou	33.06	329	IAmb	IAmb	07 05 53.5			
	comp=Z,13nm,0.9s								
HVU	Hansel Valley	33.59	331	IAmb	IAmb	07 05 58.8			
	comp=Z,19nm,1.0s								
AHID	Auburn Hatcher	33.60	333	IAmb	IAmb	07 05 58.4			
	comp=Z,9.7nm,0.8s								
NCB	Newcomb	33.65	23	IAmb	IAmb	07 06 30.5			
	comp=Z,30nm,1.4s								
ELK	Elko	34.06	327	IAmb	IAmb	07 06 02.2			
	comp=Z,16nm,0.8s								
ELK	Elko	34.06	327	LR	LR	07 21 35.2			
	comp=Z,762nm,21.9s,baz=162,slow=39								
LONY	Lake Ozonia	34.07	22	IAmb	IAmb	07 06 20.4			
	comp=Z,36nm,1.3s								
WBO	Williamsburg	34.16	21	IAmb	IAmb	07 06 20.2			
	comp=Z,36nm,1.4s								
NV11	Mina Array Sit	34.17	321	IAmb	IAmb	07 06 04.7			
	comp=Z,19nm,0.9s								
EYMN	Ely	34.20	360	IAmb	IAmb	07 06 18.6			
	comp=Z,25nm,1.4s								
NVAR	Mina Array Bea	34.26	321	P	P		07 06 00.7	+1.6	
NVAR	Mina Array Bea	34.26	321	P	P		07 06 02.6	+3.6	
	comp=Z,24nm,0.8s,baz=136,slow=8.1,SNR=75								
NVAR				PcP	PcP		07 08 37.4	+2.2	
	comp=Z,3.0nm,0.7s,baz=136,slow=3.7,SNR=7.1								
NVAR				ScP	ScP		07 12 20.6	+2.6	
	comp=Z,2.2nm,0.7s,baz=135,slow=4.6,SNR=17								
NVAR				LR	LR	07 22 02.4			
	comp=Z,991nm,18.5s,baz=130,slow=40								
	comp=Z,24nm,0.8s								
LHV	Little Huntoon	34.27	321	IAmb	IAmb	07 06 06.9			
	comp=Z,27nm,1.0s								
MACA	Manacapuru-AM	34.82	116	P	P		07 06 03.9	-0.1	
MACA	Manacapuru-AM	34.82	116	*eP*	P		07 06 03.5	-0.4	
RLMT	Red Lodge	34.83	338	IAmb	IAmb	07 06 05.9			
	comp=Z,22nm,1.8s								
TBO	Thunder Bay	34.94	2	IAmb	IAmb	07 06 04.6			
	comp=Z,9.6nm,0.8s								
YMR	Madison River	35.10	336	IAmb	IAmb	07 06 09.5			
	comp=Z,12nm,1.0s								
HLID	Hailey	35.73	331	IAmb	IAmb	07 06 16.8			
	comp=Z,20nm,1.1s								
EPLO	Experimental L	35.98	358	IAmb	IAmb	07 06 35.0			
	comp=Z,25nm,1.3s								
DGMT	Dagmar	36.29	346	P	P		07 06 16.2	0.0	
DGMT				IAmb	IAmb	07 06 19.3			
	comp=Z,11nm,0.9s								
MFID	Camas Ranch	36.30	330	IAmb	IAmb	07 06 22.4			
	comp=Z,20nm,0.9s								
DLMT	Dillon	36.33	335	IAmb	IAmb	07 06 20.1			
	comp=Z,24nm,1.1s								
ULM	Lac du Bonnet	36.68	355	P	P		07 06 17.9	-1.6	
	comp=Z,9.0nm,0.8s,baz=160,slow=8.9,SNR=14								
ULM				LR	LR	07 25 07.0			
	comp=Z,750nm,18.9s,baz=170,slow=43								
	comp=Z,9.0nm,0.8s								
ULM	Lac du Bonnet	36.68	355	*eP*	P		07 06 18.1	-1.3	
ULM				pmax	pmax				
	comp=Z,9.0nm,0.8s								
SUTB	Sutter Butte	36.91	319	IAmb	IAmb	07 06 25.7			
	comp=Z,18nm,0.9s								
WVOR	Wild Horse Val	37.07	326	IAmb	IAmb	07 06 28.2			
	comp=Z,32nm,0.9s								
O03E	Paes Creek	37.55	321	IAmb	IAmb	07 06 33.6			
	comp=Z,17nm,1.1s								
PLID	Pearl Lake	37.63	331	IAmb	IAmb	07 06 31.8			
	comp=Z,24nm,0.9s								
LPAZ	La Paz	37.65	141	P	P		07 06 27.7	-1.0	
LPAZ	La Paz	37.65	141	P	P		07 06 28.9	+0.3	
	comp=Z,6.1nm,0.8s,baz=333,slow=9.5,SNR=34								
LPAZ				LR	LR	07 21 47.9			
	comp=Z,1µm,20.8s,baz=320,slow=36								
	comp=Z,6.1nm,0.8s								
LPAZ	La Paz	37.65	141	*eP*	P		07 06 28.9	+0.3	
LPAZ	La Paz	37.65	141	P	P		07 06 26.0	-2.7	
LPAZ	La Paz	37.65	141	P	P		07 06 29.0	+0.3	
LPAZ				PcP	PcP		07 08 46.1	+0.1	
HATC	Hat Creek Radi	37.65	322	P	P		07 06 28.0	+0.1	
HATC				IAmb	IAmb	07 07 45.7			
	comp=Z,42nm,1.5s								
PB18	Visviri	37.88	144	IAmb	IAmb	07 07 30.9			
	comp=Z,36nm,1.3s								
BMO	Blue Mountains	38.08	330	IAmb	IAmb	07 06 35.0			
	comp=Z,15nm,1.1s								
D62A	Allapoint, Ait	38.26	25	IAmb	IAmb	07 07 11.0			
	comp=Z,27nm,1.1s								
PB16	IPOC Station P	38.46	145	P	P		07 06 36.9	+1.3	
PB16				IAmb	IAmb	07 06 38.1			
	comp=Z,15nm,1.0s								
K05A	Summer Lake	38.51	324	IAmb	IAmb	07 07 11.2			
	comp=Z,24nm,1.3s								
K04D	Chiloquin, OR	38.94	324	IAmb	IAmb	07 06 53.6			
	comp=Z,28nm,0.8s								
YBH	Yreka Blue Hor	38.95	322	LR	LR	07 23 56.9			
	comp=Z,67nm,21.4s,baz=126,slow=38								
J05D	Fort Rock, OR	39.06	325	IAmb	IAmb	07 06 45.4			
	comp=Z,31nm,1.5s								
KMPM	Mount Pierce	39.07	319	IAmb	IAmb	07 06 43.6			
	comp=Z,27nm,1.0s								
KHMM	Horse Mountain	39.08	320	IAmb	IAmb	07 06 43.9			
	comp=Z,26nm,0.9s								
MDP	Montagnes des	39.20	99	LR	LR	07 23 39.6			
	comp=Z,850nm,21.6s,baz=296,slow=38								
PINE	Pine Mountain	39.23	326	P	P		07 06 42.1	+0.8	
PINE				IAmb	IAmb	07 06 45.7			
	comp=Z,28nm,0.9s								
LNOR	Lincton Mounta	39.29	330	IAmb	IAmb	07 06 55.0			
	comp=Z,26nm,1.5s								
PB11	IPOC Station P	39.54	147	P	P		07 06 44.0	-0.1	
PB11				IAmb	IAmb	07 06 46.0			
	comp=Z,31nm,1.0s								
GO01	Chusmiza	39.71	146	IAmb	IAmb	07 06 48.6			
	comp=Z,20nm,1.1s								
KSXB	Camp Six Broad	39.72	321	IAmb	IAmb	07 06 49.1			
	comp=Z,55nm,1.8s								
ITTB	Itaituba	39.74	114	*eP*	P		07 06 44.7	-0.9	
I05D	Terrebonne, OR	39.80	326	IAmb	IAmb	07 06 51.0			
	comp=Z,14nm,0.7s								
G06A	Carlson Farm,	40.03	328	IAmb	IAmb	07 06 51.7			
	comp=Z,54nm,1.8s								
PB08	IPOC Station P	40.12	146	IAmb	IAmb	07 07 24.5			
	comp=Z,12nm,0.7s								
MAL2	Monte Alegre,	40.13	110	P	P		07 06 48.4	-0.5	
PATCX	Punta Patache	40.16	148	IAmb	IAmb	07 06 51.4			
	comp=Z,44nm,1.1s								
D08A	Wollman Farm,	40.45	331	IAmb	IAmb	07 06 55.0			
	comp=Z,36nm,1.4s								
H04A	Detroit Lake	40.49	326	P	P		07 06 52.9	+1.3	
I03D	Drain, OR	40.52	324	IAmb	IAmb	07 06 57.1			
	comp=Z,35nm,1.1s								
NEW	Newport	40.54	334	LR	LR	07 26 23.1			
	comp=Z,736nm,20.0s,baz=138,slow=40								
WAH2	Wahluke Slope	40.54	330	IAmb	IAmb	07 07 01.4			
	comp=Z,31nm,1.5s								
E07A	Sunnyside	40.55	330	IAmb	IAmb	07 06 55.4			
	comp=Z,16nm,0.8s								
BUCK	Buck Mountain	40.62	325	IAmb	IAmb	07 06 55.7			
	comp=Z,39nm,1.2s								
H04D	Lebanon	40.69	325	IAmb	IAmb	07 06 57.1			
	comp=Z,29nm,0.8s								
VILB	Vilhena	40.73	129	P	P		07 06 53.1	-0.8	
VILB				IAmb	IAmb	07 06 54.8			
	comp=Z,38nm,1.0s								
VILB	Vilhena	40.73	129	*eP*	P		07 06 53.1	-0.8	
MXC	Moxie City	40.77	329	P	P		07 06 55.0	+1.2	
MXC				IAmb	IAmb	07 06 58.5			
	comp=Z,22nm,1.2s								
NPGB	Novo Progresso	41.34	118	*eP*	P		07 06 57.3	-1.6	
LTY	Liberty	41.43	330	IAmb	IAmb	07 07 03.7			
	comp=Z,58nm,1.6s								
LON	Longmire	41.65	329	IAmb	IAmb	07 07 05.5			
	comp=Z,28nm,0.9s								
FFC	Flin Flon	41.80	351	P	P		07 07 01.9	-0.3	
FFC	Flin Flon	41.80	351	P	P		07 07 01.9	-0.3	
FFC				pmax	pmax				
	comp=Z,6.0nm,1.1s								
D05A	Enumclaw	42.04	329	IAmb	IAmb	07 07 14.4			
	comp=Z,47nm,1.2s								
SIV	San Ignacio	42.08	133	P	P		07 07 05.0	0.0	
	comp=Z,20nm,1.0s,baz=299,slow=8.1,SNR=86								
SIV				LR	LR	07 23 59.1			
	comp=Z,1µm,19.5s,baz=316,slow=36								
	comp=Z,20nm,1.0s								
PDRB	Porto dos Gac	42.63	124	*eP*	P		07 07 08.2	-1.2	
CLDB	Colider	42.97	123	*eP*	P		07 07 10.9	-1.3	
PTLB	Pontes e Lacer	43.12	131	P	P		07 07 12.0	-1.3	
PTLB	Pontes e Lacer	43.12	131	*eP*	P		07 07 11.8	-1.5	
NLWA	Neilton Lookou	43.13	328	P	P		07 07 13.2	0.0	
RPN	Rapa Nui	44.08	203	LR	LR	07 20 56.9			
	comp=Z,1µm,21.5s,baz=63,slow=29								
GO02	Mina Guanaco	44.09	151	P	P		07 07 21.9	+0.5	
GO02				IAmb	IAmb	07 07 23.6			
	comp=Z,24nm,0.9s								
LLLB	Lillooet	44.36	333	IAmb	IAmb	07 07 28.4			
	comp=Z,26nm,1.1s								
SCHQ	Schefferville	45.38	20	P	P		07 07 29.3	-1.7	
SCHQ	Schefferville	45.38	20	P	P		07 07 29.0	-2.0	
	comp=Z,97nm,0.7s,baz=209,slow=6.2,SNR=13								
AC02	Maricunga	45.73	152	IAmb	IAmb	07 07 37.4			
	comp=Z,24nm,1.0s								
PRPB	Parauapebas	45.81	113	*eP*	P		07 07 34.1	-0.9	
TMAB	Tom-Au,PA,Br	45.87	107	*eP*	P		07 07 34.7	-0.7	
SALV	Santo Antonio	45.98	129	*eP*	P		07 07 35.4	-0.7	
LCO	Las Campanas	46.92	155	P	P		07 07 43.8	+0.1	
LCO	Las Campanas	46.92	155	P	P		07 07 43.8	+0.1	
LCO				pmax	pmax				
	comp=Z,31nm,1.0s								
SNDB	Serra Nova Dou	47.28	121	*eP*	P		07 07 45.9	-0.6	
PP1B	Ponte de Pedra	47.63	130	*eP*	P		07 07 49.2	+0.1	
GO04	Tololo Observa	47.91	156	IAmb	IAmb	07 07 53.2			
	comp=Z,20nm,1.0s								
BDQN	Bodoquena, MS	48.10	134	*eP*	P		07 07 52.1	-0.6	
BBB	Bella Bella	48.31	331	LR	LR	07 32 30.8			
	comp=Z,429nm,18.0s,baz=151,slow=41								
H03N2	Juan Fernandez	48.33	166	T	T		07 59 44.1		
	baz=346,slow=76,SNR=12								
MURT	Porto Murtinho	48.33	136	*eP*	P		07 07 53.3	-1.1	
H03N1	Juan Fernandez	48.33	166	T	T		07 59 43.3		
	baz=346,slow=76,SNR=16								
H03N3	Juan Fernandez	48.34	166	T	T		07 59 40.0		
	baz=346,slow=76,SNR=14								
AQDB	Aquidauana	48.86	133	*eP*	P		07 07 58.1	-0.4	
ARAG	Araguaiana, MT	48.88	125	*eP*	P		07 07 58.1	-0.6	
SMTB	Santa Maria do	48.97	115	*eP*	P		07 07 59.0	-0.6	
VA06	Catapilco	49.84	158	IAmb	IAmb	07 08 06.7			
	comp=Z,19nm,0.9s								
CFA	Coronel Fontan	50.22	154	P	P		07 08 09.5	+0.7	
	comp=Z,6.1nm,0.8s,baz=329,slow=7.1,SNR=22								
CFA				LR	LR	07 25 27.5			
	comp=Z,270nm,21.9s,baz=340,slow=31								
	comp=Z,6.1nm,0.8s								
MT02	Curacav	50.52	158	IAmb	IAmb	07 08 12.8			
	comp=Z,13nm,1.1s								
MT16	CCHEN	50.90	157	IAmb	IAmb	07 08 16.8			
	comp=Z,14nm,0.9s								
AMBA	Amambai (Brazi	50.97	135	*eP*	P		07 08 14.1	-0.4	
MT13	San Alfonso	51.27	157	IAmb	IAmb	07 08 26.9			
	comp=Z,24nm,1.1s								
BO04	La Punta	51.37	158	IAmb	IAmb	07 08 19.1			
	comp=Z,26nm,1.1s								
LMEL	Las Melosas	51.40	157	IAmb	IAmb	07 08 19.9			
	comp=Z,22nm,1.0s								
YKA	Yellowknife Ar	51.49	347	P	P		07 08 18.0	+0.2	
	comp=Z,4.7nm,0.7s,baz=152,slow=8.0,SNR=24								
YKA				LR	LR	07 33 20.4			
	comp=Z,308nm,20.4s,baz=135,slow=40								
	comp=Z,4.7nm,0.7s								
YKAW3	Yellowknife Wh	51.55	347	P	P		07 08 17.9	-0.3	
YKAW3				IAmb	IAmb	07 08 18.6			
	comp=Z,13nm,1.0s								
BO01	Tunca	51.56	158	IAmb	IAmb	07 08 20.5			
	comp=Z,26nm,1.1s								
SJPY	San Joaquin	51.63	138	*eP*	P		07 08 18.4	-1.0	
TOAD	Toad River Com	51.65	338	P	P		07 08 19.8	+0.6	
	baz=136,SNR=7.0								
CPUP	Villa Florida	51.79	140	P	P		07

baz=124
R31K City Hall, Gus 55.54 334 P P 07 08 49.6 +1.9
baz=125
ITAB Concordia 55.76 137 eP P 07 08 49.4 -0.3
SKAG Skagway 55.97 335 P P 07 08 52.2 +1.4
baz=126
RKT Rikitea 56.10 230 eLR LR 07 25 17.1
comp=Z,6µm,41.0s
N32M Quiet Lake 56.11 337 P P 07 08 53.4 +1.6
baz=129
PLBC Pleasant Camp 56.41 334 P P 07 08 55.3 +1.5
baz=124
MMPY Sheldon Lake, 56.41 339 IAmb IAmb 07 08 57.1
comp=Z,13nm,0.8s
MMPY Sheldon Lake, 56.41 339 P P 07 08 55.3 +1.4
baz=132,SNR=15
WHY Whitehorse 56.50 336 IAmb IAmb 07 08 56.3
comp=Z,10nm,0.8s
WHY Whitehorse 56.50 336 P P 07 08 55.9 +1.3
baz=127
DIAM Diamantina, MG 56.83 123 eP P 07 08 57.4 -0.2
P30M Million Dollar 57.03 335 P P 07 09 00.5 +2.1
baz=124
O30N Mendenhall 57.05 336 IAmb IAmb 07 09 01.1
comp=Z,11nm,0.8s
O30N Mendenhall 57.05 336 P P 07 08 59.7 +1.2
baz=126,SNR=14
P29M Windy Craggy 57.08 334 IAmb IAmb 07 09 01.3
comp=Z,15nm,0.9s
P29M Windy Craggy 57.08 334 P P 07 09 00.5 +1.8
baz=123,SNR=6.9
M31M Drury Creek, Y 57.26 338 P P 07 09 00.9 +1.0
baz=128,SNR=6.1
N31M Braeburn, Yuko 57.35 337 IAmb IAmb 07 09 03.6
comp=Z,14nm,0.8s
N31M Braeburn, Yuko 57.35 337 P P 07 09 01.6 +1.1
baz=126,SNR=9.5
BSCB Bom Sucesso 57.36 126 eP P 07 09 01.4 +0.1
PLCA Paso Flores 57.48 161 P P 07 09 02.5 +0.8
PLCA Paso Flores 57.48 161 P P 07 09 02.1 +0.4
comp=Z,14nm,1.1s,baz=345,slow=8.5,SNR=9.3
PLCA LR LR 07 28 57.5
comp=Z,844nm,18.3s,baz=356,slow=31
comp=Z,14nm,1.1s
PLCA Paso Flores 57.48 161 eP P 07 09 02.6 +0.8
PLCA Paso Flores 57.48 161 P P 07 09 02.1 +0.4
HYT Haines Junctio 57.65 335 P P 07 09 04.0 +1.2
baz=124
O29M Mount Kennedy 57.80 334 P P 07 09 05.3 +1.4
baz=123
PNL Peninsula 57.81 334 P P 07 09 05.3 +1.5
baz=122
N30M Aishikik Lake 57.84 336 IAmb IAmb 07 09 06.3
comp=Z,9.3nm,0.9s
N30M Aishikik Lake 57.84 336 P P 07 09 05.3 +1.2
baz=125,SNR=10.0
PLTB Pedras Altas 57.94 142 eP P 07 09 04.5 -0.6
YUK6 Outpost Mounta 58.06 335 P P 07 09 07.3 +1.4
baz=123
M30M Minto, Yukon 58.38 337 IAmb IAmb 07 09 34.3
comp=Z,23nm,1.9s
M30M Minto, Yukon 58.38 337 P P 07 09 08.9 +1.1
baz=126
TRQA Tornquist 58.40 153 P P 07 09 07.8 -0.3
TRQA IAmb IAmb 07 09 08.4
comp=Z,17nm,1.1s
TRQA Tornquist 58.40 153 P P 07 09 07.9 -0.3
TRQA pmax pmax
comp=Z,17nm,1.2s
YUK4 Talbot Arm 58.40 335 P P 07 09 09.4 +1.3
baz=123
PINM Pinnacle 58.41 334 P P 07 09 09.0 +0.9
baz=121
LL01 San Ignacio de 58.44 163 P P 07 09 09.3 +1.0
RCBR Riachuelo 58.46 106 LR LR 07 36 10.5
comp=Z,156nm,20.4s,baz=295,slow=38
MAYO Mayo, Yukon 58.66 339 P P 07 09 10.6 +0.9
baz=127
O28M Mount Upton 58.73 334 IAmb IAmb 07 09 14.1
comp=Z,8.4nm,1.0s
O28M Mount Upton 58.73 334 P P 07 09 11.7 +1.1
baz=121
YUK8 Steele Glacier 58.82 335 P P 07 09 12.6 +1.5
baz=122,SNR=10
CMC01 Camacan, BA 58.92 117 eP P 07 09 12.4 +0.2
M29M Somme Creek 58.94 337 P P 07 09 13.1 +1.4
baz=124,SNR=37
SJMB Sao Joao De Ma 59.08 122 eP P 07 09 13.2 0.0
MESA MESA 59.18 333 P P 07 09 14.1 +0.5
baz=119
L29M L29M 59.19 337 IAmb IAmb 07 10 03.7
comp=Z,6.6nm,0.8s
L29M L29M 59.19 337 P P 07 09 14.6 +1.2
baz=125,SNR=10
CTG Chitna Glacier 59.31 334 P P 07 09 15.9 +1.5
baz=120
LL02 Futaleuf 59.35 163 P P 07 09 15.4 +0.7
YUK3 Moose Creek 59.37 335 P P 07 09 15.2 +0.4
baz=122
GRNC Granite Creek 59.37 334 IAmb IAmb 07 09 17.9
comp=Z,18nm,1.0s
K29M Barlow Dome 59.39 338 P P 07 09 15.4 +0.5
baz=126
J30M Hart River 59.41 339 P P 07 09 15.5 +0.5
baz=127
NBAN Anadia - AL 59.48 110 eP P 07 09 15.9 -0.2
H31M Peel River 59.52 341 P P 07 09 16.2 +0.6
baz=130
SFJD Kangerlussuaq 59.70 17 LR LR 07 35 36.2
comp=Z,1µm,20.2s,baz=222,slow=37
I30M Mount Dempster 59.81 340 P P 07 09 18.0 +0.2
baz=127,SNR=6.0
TGL Tana Glacier 59.84 334 IAmb IAmb 07 09 21.0
comp=Z,18nm,1.0s
BVCY Beaver Creek 59.86 336 P P 07 09 19.0 +1.0
baz=121,SNR=6.3
CRQE Cirque 59.96 334 P P 07 09 20.3 +1.5
baz=118,SNR=5.5
RIB01 Linhares ES 60.03 122 eP P 07 09 19.2 -0.5
KAIM Kayak Island 60.16 332 P P 07 09 20.6 +0.5
baz=116
DAWY Dawson 60.19 338 P P 07 09 20.7 +0.4
baz=124,SNR=6.1
G31M Satah River 60.22 342 P P 07 09 21.2 +0.9
baz=130
MCARA McCarthy VSAT 60.23 334 P P 07 09 21.5 +1.0
baz=119,SNR=6.9
M27K Edge Creek, AK 60.24 336 P P 07 09 22.0 +1.3
baz=120,SNR=5.8
CAM01 Campos-RJ 60.26 125 eP P 07 09 21.7 +0.4
VRDI Verde Repeater 60.34 334 IAmb IAmb 07 09 26.5
comp=Z,12nm,0.9s
F31M Tsiigehtchic 60.41 343 P P 07 09 22.5 +0.9
baz=131
I29M Ogilvie Camp, 60.55 339 P P 07 09 22.6 -0.1
baz=125,SNR=6.1
BCAR Beaver Creek A 60.56 336 P P 07 09 23.7 +0.9
L27K Beaver Creek, 60.58 336 P P 07 09 23.4 +0.5
baz=121
GLB Gilahina Butte 60.59 334 P P 07 09 24.2 +1.1
GLB IAmb IAmb 07 09 25.9
comp=Z,13nm,0.8s
EPYK Eagle Plains 60.63 341 P P 07 09 24.4 +1.2
baz=128
BMRM Bremner River 60.71 333 P P 07 09 25.0 +1.1
baz=117,SNR=10
M26K Nabesna, AK 60.71 335 P P 07 09 25.0 +1.1
M26K IAmb IAmb 07 09 25.8
comp=Z,8.6nm,1.0s
M26K Nabesna, AK 60.71 335 P P 07 09 25.0 +1.1
baz=119,SNR=7.3
Q23K Middleton Isla 60.83 331 P P 07 09 25.6 +1.0
baz=114
G30M tAoh Zraii Nji 60.85 342 P P 07 09 26.2 +1.4
baz=128
INK Inuvik 60.92 343 IAmb IAmb 07 09 26.0
comp=Z,6.5nm,0.7s
INK Inuvik 60.92 343 LR LR 07 41 40.8
comp=Z,378nm,18.6s,baz=113,slow=42
INK Inuvik 60.92 343 P P 07 09 25.2 +0.2
baz=132,SNR=5.4
N25K Chitina, Valde 61.00 334 P P 07 09 27.5 +1.7
baz=117,SNR=22
EYAK Cordova Ski Ar 61.03 333 P P 07 09 28.2 +2.3
baz=116,SNR=7.4
RES Resolute Bay 61.06 359 LR LR 07 38 46.7
comp=Z,981nm,19.4s,baz=194,slow=39
H29M Whitestone 61.07 340 IAmb IAmb 07 09 37.2
comp=Z,7.8nm,1.1s
H29M Whitestone 61.07 340 P P 07 09 26.8 +0.6
baz=126
F30M Barrier River 61.12 342 IAmb IAmb 07 09 27.4
comp=Z,13nm,0.9s
F30M Barrier River 61.12 342 P P 07 09 27.2 +0.7
baz=129,SNR=5.5
I28M Miner Creek 61.16 339 P P 07 09 27.6 +0.7
baz=124
L26K Log Cabin Wild 61.16 336 P P 07 09 28.1 +1.2
baz=119,SNR=7.4
K27K Chicken 61.17 337 P P 07 09 27.9 +1.0
baz=121
EGAK Eagle 61.23 338 IAmb IAmb 07 09 29.7
comp=Z,22nm,1.7s
EGAK Eagle 61.23 338 P P 07 09 27.6 +0.4
baz=122,SNR=5.1
MENT Mentasta 61.27 336 IAmb IAmb 07 09 30.4
comp=Z,12nm,1.2s
DIV Divide 61.29 333 IAmb IAmb 07 09 30.1
comp=Z,15nm,0.9s
G29M Pine Creek 61.37 341 IAmb IAmb 07 09 30.5
comp=Z,11nm,1.0s
G29M Pine Creek 61.37 341 P P 07 09 28.9 +0.7
baz=126,SNR=5.5
COYC Coyalique 61.50 165 P P 07 09 29.7 +0.4
KLU Klutina 61.52 334 P P 07 09 30.6 +1.2
baz=116,SNR=16
HARP HAARP 61.60 335 P P 07 09 31.0 +1.2
baz=117,SNR=7.8
A36M Sachs Harbour 61.69 349 P P 07 09 31.4 +1.1
baz=142
DOT Dot Lake 61.74 336 IAmb IAmb 07 09 32.5
comp=Z,12nm,0.9s
GLI Glacier Island 61.77 333 IAmb IAmb 07 09 34.8
comp=Z,11nm,0.8s
GLI Glacier Island 61.77 333 P P 07 09 32.2 +1.2
baz=114,SNR=6.1
I27K Kandik River 61.83 339 P P 07 09 32.3 +0.9
baz=122,SNR=8.0
SCRK Sand Creek 61.88 337 P P 07 09 32.8 +1.0
SCRK IAmb IAmb 07 09 33.5
comp=Z,9.6nm,1.3s
SCRK Sand Creek 61.88 337 P P 07 09 32.8 +1.0
baz=119,SNR=5.6
M24K Tolsona, Glenn 61.89 334 P P 07 09 33.0 +1.1
baz=116,SNR=7.8
J26L Joseph Creek 61.97 337 IAmb IAmb 07 09 34.2
comp=Z,9.3nm,1.0s
J26L Joseph Creek 61.97 337 P P 07 09 33.6 +1.2
baz=120,SNR=12
PAX Paxson 61.99 335 IAmb IAmb 07 09 34.0
comp=Z,10nm,0.8s
PAX Paxson 61.99 335 P P 07 09 33.4 +0.8
baz=117,SNR=14
RIDG Independent Ri 62.10 336 IAmb IAmb 07 09 34.9
comp=Z,14nm,1.0s
RIDG Independent Ri 62.10 336 P P 07 09 33.8 +0.6
baz=118,SNR=9.5
H27K Steamboat Moun 62.14 339 IAmb IAmb 07 09 36.8
comp=Z,34nm,1.9s
H27K Steamboat Moun 62.14 339 P P 07 09 34.1 +0.6
baz=122,SNR=6.6
E29M Blow River 62.22 342 P P 07 09 34.5 +0.6
baz=127,SNR=7.7
I26K Coal Creek Min 62.23 338 P P 07 09 35.0 +1.0
baz=120
SCM Sheep Creek Mo 62.27 334 P P 07 09 35.2 +0.7
baz=115,SNR=11
PWL Port Wells 62.32 332 IAmb IAmb 07 09 49.5
comp=Z,11nm,1.1s
PWL Port Wells 62.32 332 P P 07 09 35.1 +0.4
baz=113
F28M Old Crow 62.37 341 P P 07 09 35.6 +0.7
baz=125,SNR=35
M23K Glacier View 62.42 334 P P 07 09 36.0 +0.6
baz=114,SNR=11
K24K Donnelly Dome 62.49 336 IAmb IAmb 07 09 37.9
comp=Z,14nm,0.8s
K24K Donnelly Dome 62.49 336 P P 07 09 36.9 +1.1
baz=117,SNR=9.6
G27K Doyon Strip 62.49 340 P P 07 09 36.5 +0.7
baz=123,SNR=5.9
SEW Seward 62.54 331 P P 07 09 37.0 +0.9
baz=112,SNR=5.2
KNK Knik Glacier 62.59 333 P P 07 09 37.0 +0.4
baz=113,SNR=11
J25K Salcha River, 62.71 337 IAmb IAmb 07 09 40.0
comp=Z,15nm,1.1s
J25K Salcha River, 62.71 337 P P 07 09 38.2 +0.9
baz=118,SNR=14
WAT6 Susitna Watana 62.76 334 P P 07 09 38.6 +0.8
baz=114,SNR=21
O22K Cooper Landing 62.80 332 P P 07 09 38.8 +1.0
baz=112
DHY Denali Highway 62.81 335 P P 07 09 38.9 +0.8
baz=115
E28M Babbage River 62.84 342 P P 07 09 38.0 -0.1
baz=126,SNR=8.5
AY03 Cochrane 62.94 166 P P 07 09 39.8 +0.9
PMR Palmer 62.96 333 P P 07 09 39.9 +1.0
PMR IAmb IAmb 07 09 40.5
comp=Z,16nm,0.9s
PMR Palmer 62.96 333 P P 07 09 39.9 +1.0
PMR pmax pmax
comp=Z,16nm,0.9s
PMR Palmer 62.96 333 P P 07 09 39.7 +0.9
baz=113,SNR=12
BRSE Bradley Lake S 63.01 331 P P 07 09 40.6 +1.2
baz=110,SNR=8.5
D28M Stokes Point 63.04 343 P P 07 09 40.1 +0.8
baz=127
RC01 Rabbit Creek A 63.04 332 P P 07 09 40.4 +0.9
baz=112,SNR=17
PRP Porcupine Dome 63.20 338 P P 07 09 41.1 +0.5
PRP IAmb IAmb 07 09 43.0
comp=Z,9.3nm,0.8s
PRP Porcupine Dome 63.20 338 P P 07 09 41.1 +0.5
baz=118,SNR=16
WAT1 Susitna Watana 63.20 334 P P 07 09 40.7 +0.1
baz=114
HDA Harding Lake 63.23 336 IAmb IAmb 07 09 41.7
comp=Z,9.5nm,0.9s
HDA Harding Lake 63.23 336 P P 07 09 41.2 +0.5
baz=116,SNR=10
E27K Coleen River 63.23 341 IAmb IAmb 07 10 06.7
comp=Z,12nm,1.2s
E27K Coleen River 63.23 341 P P 07 09 41.4 +0.7
baz=123,SNR=11
KDAK Kodiak Island 63.28 328 i P P 07 09 42.3 +1.2
KDAK pmax pmax
comp=Z,17nm,1.0s
KDAK Kodiak Island 63.28 328 P P 07 09 42.1 +1.0
baz=108
G26K Porcupine Rive 63.28 340 P P 07 09 42.0 +1.0
baz=120
IL31 63.36 337 IAmb IAmb 07 09 43.3
comp=Z,14nm,1.1s
ILAR Eielson Array 63.36 337 P P 07 09 41.9 +0.3
comp=Z,7.7nm,0.9s,baz=117,slow=5.3,SNR=61
ILAR LR LR 07 40 41.0
comp=Z,252nm,19.7s,baz=103,slow=39
comp=Z,7.7nm,0.9s
HOM Homer 63.41 330 P P 07 09 42.9 +0.9
baz=109
Q20K Shuyak Island 63.44 329 P P 07 09 42.7 +0.6
baz=108
M22K Willow 63.46 333 P P 07 09 42.8 +0.6
baz=112,SNR=6.8
OHAK Old Harbor 63.48 328 P P 07 09 42.6 +0.2
baz=107
CAPN Captain Cook N 63.56 332 P P 07 09 44.0 +1.1
baz=110
SUA Susitna One 63.63 333 P P 07 09 44.2 +0.7
baz=111,SNR=19
D27M Malcolm River 63.63 342 P P 07 09 43.7 +0.4
baz=124,SNR=7.0
H25L Birch Creek 63.66 338 P P 07 09 43.8 +0.3
baz=118,SNR=10
WRH Wood River Hil 63.70 336 IAmb IAmb 07 09 52.7
comp=Z,8.3nm,1.0s
POKR Poker Plat Res 63.73 337 IAmb IAmb 07 09 46.2
comp=Z,8.1nm,0.8s
POKR Poker Plat Res 63.73 337 P P 07 09 44.1 +0.1
baz=116
MCK McKinley 63.73 335 IAmb IAmb 07 09 46.0
comp=Z,21nm,1.2s
MCK McKinley 63.73 335 P P 07 09 44.4 +0.3
baz=114,SNR=8.2
CUT Chulitna 63.77 334 P P 07 09 44.8 +0.6
baz=112,SNR=12
SII Sitkinak Islan 63.77 327 P P 07 09 45.0 +0.6
baz=106
COLA College 63.78 337 P P 07 09 44.5 +0.2
COLA IAmb IAmb 07 10 22.8
comp=Z,12nm,0.8s
COLA College 63.78 337 i P P 07 09 45.0 +0.8
COLA pmax pmax
comp=Z,11nm,0.9s
COLA College 63.78 337 P P 07 09 45.2 +0.9
baz=116
COLA College 63.78 337 P P 07 09 44.3 +0.1
COLA PcP PcP 07 10 21.1 +1.1
F26K Sheenjek River 63.79 340 IAmb IAmb 07 09 47.3
comp=Z,11nm,1.3s
F26K Sheenjek River 63.79 340 P P 07 09 44.8 +0.5
baz=120,SNR=9.2
BMAR Burnt Mountain 63.80 340 P P 07 09 45.2 +0.8
G25K Bearman Lake 63.99 339 P P 07 09 46.4 +0.8
baz=118,SNR=5.9
O20K Slope Mountain 64.02 331 P P 07 09 47.2 +1.1
baz=109,SNR=6.6
NEA2 Nenana 64.13 336 IAmb IAmb 07 09 49.4
comp=Z,7.3nm,0.8s
NEA2 Nenana 64.13 336 P P 07 09 46.7 0.0
baz=114,SNR=12
Q19K Cape Douglas, 64.16 329 P P 07 09 47.5 +0.6
baz=107
SKT Skwentna 64.16 333 P P 07 09 47.8 +0.9
baz=111,SNR=32
TRF Thorofare Moun 64.17 335 P P 07 09 47.7 +0.6
baz=112,SNR=39
P19K Oil Pt 64.18 330 P P 07 09 47.0 -0.1
baz=108
R18K Karluk 64.18 328 P P 07 09 47.6 +0.6
baz=106
SPCR Spurr Chakacha 64.20 332 P P 07 09 48.1 +0.9
baz=110,SNR=5.5
H24K Noodor Dome 64.21 338 IAmb IAmb 07 10 02.9
comp=Z,9.1nm,1.0s
H24K Noodor Dome 64.21 338 P P 07 09 47.9 +0.8
baz=116,SNR=9.9
F25K Christian Rive 64.23 340 IAmb IAmb 07 09 50.5
comp=Z,12nm,1.1s
F25K Christian Rive 64.23 340 P P 07 09 48.5 +1.2
baz=119,SNR=14
ILSW Iliamna Southw 64.24 331 IAmb IAmb 07 09 50.3
comp=Z,17nm,1.0s
CHIR Chirikof Islan 64.35 326 P P 07 09 49.2 +1.0
baz=104
G24K Hadweenzic Riv 64.45 339 IAmb IAmb 07 10 28.5
comp=Z,25nm,1.8s
G24K Hadweenzic Riv 64.45 339 P P 07 09 49.4 +0.7
baz=117,SNR=5.3
E25K Arctic Village 64.47 340 IAmb IAmb 07 10 15.2
comp=Z,10nm,1.2s
E25K Arctic Village 64.47 340 P P 07 09 49.6 +0.8
baz=119,SNR=6.1
I23K Minto, Yukon-K 64.48 337 P P 07 09 49.1 +0.3
baz=114,SNR=24
C27K Jago River 64.65 342 IAmb IAmb 07 10 39.0
comp=Z,11nm,1.2s
C27K Jago River 64.65 342 P P 07 09 50.7 +0.8
baz=122
BPAW Bear Paw Mtn. 64.71 335 P P 07 09 50.6 +0.2
baz=112,SNR=24
Q18K Katmai Hardscr 64.76 329 P P 07 09 51.8 +0.8
baz=106,SNR=6.8
PPLA Purkeypile 64.77 334 IAmb IAmb 07 09 52.2
comp=Z,17nm,0.9s
PPLA Purkeypile 64.77 334 P P 07 09 51.2 +0.2
baz=110,SNR=9.4
ACHA Angle Creek He 64.80 328 IAmb IAmb 07 09 55.4
comp=Z,8.6nm,1.0s
H23K Yukon River 64.82 337 P P 07 09 51.7 +0.6
baz=114
M20K Styx River 64.84 333 P P 07 09 52.2 +0.8
baz=109,SNR=22
O19K Port Alsworth 64.86 331 P P 07 09 52.0 +0.6
baz=107
F24K Squaw Lake 64.96 339 P P 07 09 52.8 +0.8
baz=117,SNR=5.8
MLY Manley 64.97 336 P P 07 09 52.7 +0.6
baz=113,SNR=38
P18K Big Mountain, 65.08 330 P P 07 09 53.4 +0.5
baz=106
Q17K Contact Creek 65.10 328 P P 07 09 54.4 +1.2
baz=105,SNR=5.7
N19K Bonanza Creek 65.12 331 P P 07 09 54.0 +0.7
baz=107,SNR=23
C26K Camden Bay 65.16 342 P P 07 09 54.1 +0.9
baz=121
CHUM Lake Minchumin 65.17 335 P P 07 09 54.8 +1.4
baz=111
PPT Papeete 65.18 243 LR LR 07 31 19.0
comp=Z,489nm,18.2s,baz=92,slow=29
PPT2 Papeete2 65.19 243 eS S 07 18 36.4 +0.7
comp=Z,112nm,23.5s
PPT2 Papeete2 65.19 243 eLR LR 07 29 18.2
comp=Z,728nm,25.5s
PPT2 eLR LR 07 29 29.6
comp=Z,816nm,23.8s
R17L Mt. Peulik Vol 65.19 328 P P 07 09 54.8 +1.1
baz=104,SNR=5.7
D25K Kavik River 65.31 341 IAmb IAmb 07 09 56.1
comp=Z,9.9nm,1.0s
D25K Kavik River 65.31 341 P P 07 09 55.0 +0.8
baz=119,SNR=8.4
L20K Farewell, AK 65.37 333 P P 07 09 55.3 +0.6
baz=108,SNR=37
G23K Bananza Creek 65.37 338 P P 07 09 55.6 +0.9
baz=114,SNR=8.2
E24K Your Creek 65.41 340 IAmb IAmb 07 10 28.4
comp=Z,13nm,1.6s
E24K Your Creek 65.41 340 P P 07 09 56.0 +1.0
baz=116
I21K Tanana 65.51 336 P P 07 09 56.4 +0.8
baz=112
H22K Ishtalitna Cre 65.54 337 P P 07 09 56.5 +0.7
baz=112,SNR=13
Q16K King Salmon 65.60 329 P P 07 09 57.2 +1.0
baz=104
P17K Kvichak River 65.62 329 P P 07 09 57.5 +1.1
baz=105
COLD Coldfoot 65.64 339 IAmb IAmb 07 09 58.5
comp=Z,9.6nm,1.1s
COLD Coldfoot 65.64 339 P P 07 09 57.8 +1.4
baz=114,SNR=6.5
L19K White Mountain 65.71 333 IAmb IAmb 07 09 58.6
comp=Z,12nm,0.8s
L19K White Mountain 65.71 333 P P 07 09 57.5 +0.6
baz=108,SNR=10
K20K Telida 65.73 334 P P 07 09 57.5 +0.5
baz=109,SNR=25
N18K Kilae Creek 65.75 331 P P 07 09 58.1 +0.9
baz=106,SNR=12
E23K Chandalar 65.79 340 IAmb IAmb 07 10 23.6
comp=Z,13nm,1.1s
E23K Chandalar 65.79 340 P P 07 09 58.9 +1.4
baz=115,SNR=12
R16K Pilot Point 65.81 327 P P 07 09 58.0 +0.4
baz=103
M18K Stony River 65.94 332 P P 07 09 58.9 +0.4
baz=106
CHGN Chignik 65.99 326 P P 07 09 59.6 +0.8
baz=102
G22K Bettles 65.99 338 P P 07 09 59.7 +1.1
baz=113
H21K Melozitna Rive 66.00 337 P P 07 09 58.9 +0.1
baz=111,SNR=7.8
D24K Happy Valley 66.00 341 P P 07 09 59.5 +0.8
baz=116
TOLK Toolik Lake Re 66.02 340 P P 07 09 59.6 +0.7
baz=115,SNR=5.3
J20K Nowinta River 66.03 335 IAmb IAmb 07 09 59.9
comp=Z,14nm,0.9s
J20K Nowinta River 66.03 335 P P 07 09 59.2 +0.3
baz=109,SNR=13
O17K Koliganek Bris 66.09 330 P P 07 10 00.1 +0.8
baz=104,SNR=10.0
C24K Franklin Bluff 66.22 341 P P 07 10 00.9 +0.9
baz=117
N17K Nushagak Hills 66.33 331 P P 07 10 01.5 +0.6
baz=105,SNR=10
P16K Nushagak River 66.36 329 P P 07 10 01.5 +0.4

baz=103
CHNA Chernabura Isl 66.36 324 P P 07 10 00.4 -0.8
baz=100
I20K Naaghedeneel 66.37 335 P P 07 10 01.5 +0.4
baz=109,SNR=16
SUMG Summit 66.44 15 P P 07 10 00.6 -1.4
SUMG Summit 66.44 15 P P 07 10 00.6 -1.4
SUMG pmax pmax
comp=Z,33nm,1.4s
F22K John River 66.46 339 P P 07 10 02.2 +0.6
baz=112
IMAR Indian Mountai 66.48 337 P P 07 10 01.8 0.0
D23K Nanushuk River 66.53 340 IAmb IAmb 07 10 28.8
comp=Z,15nm,1.2s
D23K Nanushuk River 66.53 340 P P 07 10 03.1 +1.0
baz=114
O16K Kokwok River B 66.54 329 IAmb IAmb 07 10 04.2
comp=Z,9.4nm,0.8s
O16K Kokwok River B 66.54 329 P P 07 10 03.2 +1.0
baz=103
L18K Granite Mounta 66.54 332 IAmb IAmb 07 10 04.1
comp=Z,19nm,1.1s
L18K Granite Mounta 66.54 332 P P 07 10 02.8 +0.5
baz=106,SNR=8.8
E22K Anaktuvuk Pass 66.57 339 IAmb IAmb 07 10 28.5
comp=Z,15nm,1.1s
E22K Anaktuvuk Pass 66.57 339 P P 07 10 03.3 +0.9
baz=113,SNR=6.9
G21K Allakaket 66.58 337 IAmb IAmb 07 10 04.2
comp=Z,10nm,0.8s
G21K Allakaket 66.58 337 P P 07 10 03.1 +0.7
baz=111,SNR=11
J19K Poorman 66.59 334 P P 07 10 02.7 +0.1
baz=108,SNR=24
S14K Fog Glacier 66.61 326 P P 07 10 03.7 +0.8
baz=101
M17K Holitna River 66.67 331 P P 07 10 03.7 +0.6
baz=105,SNR=8.3
H20K Anotleneega Mo 66.76 336 P P 07 10 03.5 -0.1
baz=109,SNR=13
F21K Alatna River 66.82 338 P P 07 10 05.4 +1.4
baz=111,SNR=20
C23K Itkillik River 66.87 341 IAmb IAmb 07 10 52.9
comp=Z,15nm,1.1s
C23K Itkillik River 66.87 341 P P 07 10 04.3 +0.1
baz=115
J18K Innoko River 66.90 334 IAmb IAmb 07 10 06.2
comp=Z,38nm,1.9s
J18K Innoko River 66.90 334 P P 07 10 04.8 +0.3
baz=106,SNR=6.6
SDPT Sand Point 66.96 325 P P 07 10 05.9 +0.9
baz=100
N16K Nishlik Lake 67.07 330 P P 07 10 06.4 +0.7
baz=103,SNR=11
D22K Ayikyak River 67.16 340 P P 07 10 06.9 +0.8
baz=112
L17K Donlin 67.25 332 P P 07 10 07.5 +0.7
baz=104,SNR=5.8
M16K Timber Creek 67.29 331 IAmb IAmb 07 10 15.7
comp=Z,11nm,1.0s
M16K Timber Creek 67.29 331 P P 07 10 08.0 +0.9
baz=103
O15K Ungalikthiuk R 67.31 329 P P 07 10 07.5 +0.2
baz=102
GCSA Galena City Sc 67.33 335 P P 07 10 07.6 +0.4
baz=107
H19K Roundabout Mou 67.39 336 P P 07 10 08.1 +0.5
baz=107,SNR=16
K17K Iditarod 67.39 333 IAmb IAmb 07 10 09.0
comp=Z,16nm,0.8s
K17K Iditarod 67.39 333 P P 07 10 08.4 +0.8
baz=104,SNR=11
E21K Killik River 67.43 339 P P 07 10 08.8 +1.0
baz=111
TBI Tubuai 67.58 237 *e*S S 07 19 01.0 -3.5
comp=Z,444nm,24.2s
TBI Tubuai 67.58 237 *e*LR LR 07 30 32.0
comp=Z,3μm,26.8s
F20K Avaraart Lake 67.59 338 IAmb IAmb 07 10 10.4
comp=Z,9.3nm,0.9s
F20K Avaraart Lake 67.59 338 P P 07 10 09.8 +1.0
baz=109,SNR=8.0
N15K Kwethluk River 67.65 330 P P 07 10 10.3 +0.9
baz=102
L16K Owhat River 67.69 331 IAmb IAmb 07 10 11.8
comp=Z,18nm,0.9s
L16K Owhat River 67.69 331 P P 07 10 10.6 +1.1
baz=103,SNR=6.9
G19K Purcell Mounta 67.82 336 IAmb IAmb 07 10 11.6
comp=Z,12nm,1.1s
G19K Purcell Mounta 67.82 336 P P 07 10 10.8 +0.4
baz=107,SNR=5.8
S12K Black Hills 67.90 325 P P 07 10 11.6 +0.6
baz=98
J17K VABM Dome 67.91 333 IAmb IAmb 07 10 12.1
comp=Z,7.7nm,0.9s
J17K VABM Dome 67.91 333 P P 07 10 11.6 +0.7
baz=104
B22K Teshekpuk Lake 67.95 341 P P 07 10 12.0 +1.0
baz=112
C21K Knifeblade Rid 67.96 340 P P 07 10 12.3 +1.1
baz=110
M15K Kasigluk River 68.05 330 P P 07 10 12.6 +0.8
baz=102
H18K Honhosa River 68.05 335 IAmb IAmb 07 10 14.0
comp=Z,12nm,0.9s
H18K Honhosa River 68.05 335 P P 07 10 12.5 +0.7
baz=105,SNR=7.3
O14K Tigyukauivet M 68.06 329 P P 07 10 13.0 +1.2
baz=100
B21K Ikpikpuk River 68.07 340 P P 07 10 13.0 +1.2
baz=111
E20K Nigu River 68.14 339 P P 07 10 13.2 +0.8
baz=109,SNR=10
E19K Redstone River 68.27 338 P P 07 10 13.8 +0.6
baz=107
F19K Shaleruckik Mo 68.29 337 IAmb IAmb 07 10 35.5
comp=Z,18nm,1.5s
F19K Shaleruckik Mo 68.29 337 P P 07 10 14.1 +0.9
baz=107
G18K Tagagawik 68.37 336 IAmb IAmb 07 10 16.2
comp=Z,24nm,1.6s
G18K Tagagawik 68.37 336 P P 07 10 15.0 +1.2
baz=105
N14K Kuskokwak Cree 68.39 329 P P 07 10 14.6 +0.7
baz=100
D20K Etivluk River 68.44 339 P P 07 10 14.8 +0.6
baz=108
J16K Anvik River 68.55 333 P P 07 10 15.5 +0.6
baz=102,SNR=13
FALS False Pass 68.56 324 P P 07 10 16.3 +1.2
baz=97
L15K Ungalak Mounta 68.62 331 P P 07 10 16.5 +1.2
baz=101,SNR=7.3
H17K Granite Mounta 68.64 335 IAmb IAmb 07 10 19.5
comp=Z,8.0nm,0.8s
H17K Granite Mounta 68.64 335 P P 07 10 16.4 +0.9
baz=104,SNR=7.5
M14K Bethel 68.67 330 P P 07 10 16.9 +1.2
baz=100,SNR=14
A22K Sinclair Lake 68.68 342 P P 07 10 16.5 +1.0
baz=111
I17K Unalakleet 68.72 334 IAmb IAmb 07 10 18.7
comp=Z,10nm,0.7s
I17K Unalakleet 68.72 334 P P 07 10 17.2 +1.2
baz=103,SNR=5.4
K15K Wolf Creek Mou 68.76 332 P P 07 10 17.8 +1.5
baz=101,SNR=9.6
D19K Kuna River 68.90 339 P P 07 10 17.9 +0.8
baz=107
F18K Selawik 68.94 337 P P 07 10 18.4 +1.1
baz=105
B20K Meade River 69.03 340 P P 07 10 18.4 +0.6
baz=108
G17K Kiwalik Mounta 69.07 335 P P 07 10 19.4 +1.3
baz=103
L14K Kuka Creek 69.12 331 IAmb IAmb 07 10 22.1
comp=Z,14nm,1.1s
L14K Kuka Creek 69.12 331 P P 07 10 19.4 +1.0
baz=100
M13K Dall Lake 69.29 330 P P 07 10 19.2 -0.3
baz=99
BORG Borgarnes 69.31 26 LR LR 07 41 07.2
comp=Z,371nm,18.4s,baz=256,slow=36
E18K Tukpahlearik C 69.51 337 P P 07 10 21.2 +0.4
baz=104
F17K Baldwin Pennin 69.53 336 P P 07 10 21.8 +0.9
baz=103

H16K Elim 69.54 334 P P 07 10 22.3 +1.3
baz=102
C19K Lookout Ridge 69.58 339 P P 07 10 22.6 +1.3
baz=106
G16K Koyuk River 69.74 335 P P 07 10 23.2 +1.0
baz=102
J14K Nanvaranak Lak 69.77 332 P P 07 10 23.4 +1.0
baz=100
E17K Hotham Inlet 69.89 337 P P 07 10 23.5 +0.3
baz=103,SNR=8.7
C18K Utukok River 70.03 339 P P 07 10 24.8 +0.8
baz=104
K13K Kusilvak Mount 70.15 331 P P 07 10 25.4 +0.6
baz=98
UNV Unalaska Valle 70.26 323 P P 07 10 26.1 +0.5
baz=94
G15K Niukluk 70.36 334 P P 07 10 27.4 +1.3
baz=100
A19K Wainwright 70.37 340 P P 07 10 27.2 +1.1
baz=105
B18K Kokolik River 70.41 339 P P 07 10 27.3 +1.0
baz=104
D17K Noatak River 70.50 337 P P 07 10 27.5 +0.6
baz=102
M11K Mekoryuk 70.69 329 P P 07 10 28.9 +0.8
baz=96
C17K Delong Mountai 70.70 338 P P 07 10 29.1 +1.0
baz=102
F15K North Star Dit 70.74 335 P P 07 10 30.3 +1.9
baz=100
ANM Nome 70.86 334 P P 07 10 30.4 +1.2
baz=99
F14K Arctic Creek 71.39 335 P P 07 10 33.6 +1.2
baz=98
C16K Lisburne Hills 71.45 338 P P 07 10 34.1 +1.5
baz=100
TNA Tin City 72.06 335 P P 07 10 37.6 +1.3
baz=96
BBTS Babate 72.35 79 LR LR 07 38 21.2
comp=Z,195nm,20.6s,baz=174,slow=33
SPIA Saint Paul Isl 72.56 326 P P 07 10 40.4 +0.9
baz=92
GAMB Gambell 73.54 333 P P 07 10 45.4 +0.3
baz=92
JMIC Jan Mayen 74.91 20 LR LR 07 45 22.8
comp=Z,373nm,18.4s,baz=255,slow=37
RAR Rarotonga 75.45 244 LR LR 07 35 53.5
comp=Z,241nm,19.6s,baz=112,slow=29
EKA Eskdalemuir Ar 77.96 36 P P 07 11 08.2 -2.3
comp=Z,4.0nm,0.8s,baz=274,slow=6.4,SNR=7.0
comp=Z,4.0nm,0.8s
ESDC Sonseca Array 79.54 52 P P 07 11 17.8 -1.9
comp=Z,1.9nm,1.1s,baz=276,slow=5.2,SNR=5.9
comp=Z,1.9nm,1.1s
MDT Midelt 80.15 59 LR LR 07 43 27.8
comp=Z,124nm,18.9s,baz=291,slow=33
SPITS Spitsbergen Ar 80.33 11 LR LR 07 48 21.6
comp=Z,756nm,20.3s,baz=271,slow=37
PMSA Palmer Station 80.91 168 P P 07 11 27.0 +0.7
PMSA IAmb IAmb 07 11 28.5
comp=Z,13nm,1.1s
PMSA Palmer Station 80.91 168 LR LR 07 38 50.9
comp=Z,252nm,19.8s,baz=324,slow=29
PMSA Palmer Station 80.91 168 *e*P P 07 11 26.8 +0.5
SHEM Shemya Is, Ala 81.92 322 LR LR 07 45 23.5
comp=Z,94nm,20.8s,baz=95,slow=34
BILL Bilibino 81.97 338 *i* P P 07 11 33.0 +0.9
BILL pmax pmax
comp=Z,7.0nm,0.9s
NOA NORSAR Array B 84.22 29 P P 07 11 42.3 -1.5
comp=Z,0.8nm,0.7s,baz=288,slow=4.9,SNR=3.4
NOA LR LR 07 47 41.2
comp=Z,293nm,19.6s,baz=290,slow=35
comp=Z,0.8nm,0.7s
DBIC Dimbokro 85.19 84 LR LR 07 48 06.4
comp=Z,197nm,19.7s,baz=332,slow=35
HFS Hagfors 85.67 29 P P 07 11 49.9 -1.2
comp=Z,6.6nm,0.9s,baz=289,slow=9.1,SNR=2.5
HFS LR LR 07 50 28.4
comp=Z,274nm,18.5s,baz=290,slow=36
comp=Z,6.6nm,0.9s
ARCES ARCESS Array B 86.31 18 P P 07 11 52.5 -1.7
comp=Z,1.9nm,0.7s,baz=294,slow=4.4,SNR=5.2
ARCES LR LR 07 51 21.4
comp=Z,449nm,18.6s,baz=278,slow=36
comp=Z,1.9nm,0.7s
ARCES ARCESS Array B 86.31 18 *e*P P 07 11 54.5 +0.4
ARCES pmax pmax
comp=Z,2.0nm,0.7s
GRF Grafenberg Arr 87.74 39 *e*P P 07 11 60.0 -1.5
comp=Z,3.2nm,1.0s,baz=288,slow=5.1
DAVOX Davos/Dischmat 87.78 42 P P 07 12 00.6 -1.4
comp=Z,2.3nm,0.8s,baz=308,slow=12,SNR=5.6
DAVOX LR LR 07 46 10.0
comp=Z,245nm,21.9s,baz=312,slow=32
comp=Z,2.3nm,0.8s
FUORN Ofenpass-Fuorn 88.08 42 P P 07 12 03.0 -0.5
FUORN IAmb IAmb 07 12 12.9
comp=Z,7.0nm,1.1s
SEY Seymchan 89.28 336 LR LR 07 54 52.2
comp=Z,179nm,20.8s,baz=68,slow=37
SEY Seymchan 89.28 336 *i* P P 07 12 09.0 +0.6
SEY pmax pmax
comp=Z,6.0nm,1.0s
KHC Kasperske Hory 89.38 39 *i* P P 07 12 10.7 +1.4
KHC pmax pmax
comp=Z,2.0nm,1.2s
GERES GERESS Array B 89.56 40 P P 07 12 08.8 -1.4
comp=Z,0.5nm,0.9s,baz=286,slow=4.3,SNR=3.4
comp=Z,0.5nm,0.9s
TORD Torodi Ar. Bea 89.97 77 P P 07 12 10.1 -2.6
comp=Z,0.4nm,0.7s,baz=296,slow=5.7,SNR=3.2
comp=Z,0.4nm,0.7s
FINES FINESS Array B 90.61 25 LR LR 07 53 35.2
comp=Z,416nm,18.4s,baz=282,slow=36
TIXI Tiksi 90.71 348 LR LR 07 57 54.8
comp=Z,235nm,20.1s,baz=38,slow=39
TIXI Tiksi 90.71 348 *i* P P 07 12 15.1 +0.2
TIXI pmax pmax
comp=Z,6.0nm,0.8s
PET Petropavlovsk 90.73 325 *e*P P 07 12 25.3 +10
PET *e* 07 22 44.1
PET pmax pmax
comp=Z,100nm,11.8s
PET MLR MLR
comp=Z,200nm,20.0s
VRAC Vranov 91.16 38 LR LR 07 49 50.6
comp=Z,203nm,20.0s,baz=314,slow=34
PETK Petropavlovsk- 91.22 326 P P 07 12 18.7 +1.0
comp=Z,3.8nm,0.8s,baz=71,slow=11,SNR=3.8
PETK LR LR 07 54 37.1
comp=Z,79nm,19.9s,baz=64,slow=36
comp=Z,3.8nm,0.8s
MA2 Magadan 91.64 333 LR LR 07 58 02.4
comp=Z,178nm,21.4s,baz=95,slow=38
VSU Vasula 92.42 28 *i* P P 07 12 24.5 +1.4
VSU pmax pmax
comp=Z,35nm,1.1s
RAO Raoul Island 93.50 241 LR LR 07 46 21.3
comp=Z,121nm,20.2s,baz=107,slow=30
VAE Valguarnera 94.00 50 LR LR 07 54 09.3
comp=Z,198nm,18.2s,baz=315,slow=35
MNK Minsk 95.03 31 *i* P P 07 12 34.3 -0.9
MNK *i* 07 16 24.5
MNK *i* S SKSac 07 23 07.0 -1.6
MNK *i* SS SS 07 30 11.6 -0.8
MNK *i* SSS SSS 07 33 59.6
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=N,19nm,1.0s
MNK MLR MLR
comp=Z,332nm,20.0s
MNK MLR MLR
comp=E,301nm,19.0s
MNK MLR MLR
comp=N,353nm,18.0s
AKASG Malin Array Be 97.75 33 LR LR 07 56 58.8
comp=N,267nm,19.9s,baz=276,slow=36
YAK Yakutsk 97.95 342 LR LR 08 05 20.2
comp=N,172nm,18.1s,baz=38,slow=40
MLR Muntele Rosu 98.53 39 LR LR 07 51 37.5
comp=N,136nm,21.5s,baz=316,slow=32
OBN Obninsk 98.77 27 LR LR 07 58 47.5
comp=N,325nm,18.4s,baz=175,slow=36
OBN Obninsk 98.77 27 *e*P P 07 12 52.2 +0.2
OBN *e* 07 16 53.4
OBN *e*PPP PPP 07 18 59.1

OBN *e*S S 07 24 09.1 -10
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,288nm,16.0s
URZ Urewera 99.40 233 LR LR 07 47 41.8
comp=Z,202nm,21.3s,baz=72,slow=29
SNAA Sanae 102.42 161 *i* P Pdif 07 13 08.4 +0.4
SNAA pmax pmax
comp=Z,2.0nm,1.2s
DZM Mont Dzumac 106.03 251 *e*LR LR 07 48 13.9
comp=Z,274nm,24.1s
KURK Kurchatov 115.33 7 *i* PKIKP PKPdf 07 17 54.5 +0.4
KURBB Kurchatov Arra 115.41 7 PKP PKPdf 07 17 54.8 +0.5
comp=Z,0.7nm,0.4s,baz=350,slow=1.7,SNR=12
SYO Syowa Base 116.67 162 *e*Pdiff Pdif 07 14 12.0 +0.8
KSRS Korea Array 117.12 325 PKP PKiKP 07 17 59.9 +1.9
comp=Z,1.1nm,0.7s,baz=58,slow=1.7,SNR=4.3
MK31 Makanchi Array 119.58 5 *i* PKIKP PKiKP 07 18 03.0 +0.5
MKAR Makanchi Array 119.58 5 PKP PKPdf 07 18 02.3 -0.1
comp=Z,0.7nm,0.6s,baz=9.5,slow=1.7,SNR=6.5
MKAR Makanchi Array 119.58 5 *e*PKIKP PKiKP 07 18 04.2 +1.7
MKAR pmax pmax
comp=Z,1.0nm,0.6s
BOSA Boshof 119.75 115 PKP PKPdf 07 18 03.2 -0.2
comp=Z,3.7nm,0.8s,baz=180,slow=0.1,SNR=7.9
HHC Hu-ho-hao-te 121.73 340 *e*P PKPdf 07 18 06.6 -0.3
HHC LR LR
comp=N,250nm,13.8s
HHC LR LR
comp=E,340nm,13.8s
HHC LR LR
comp=Z,300nm,15.3s
WMQ Urumqi 122.81 1 *e*PKP PKiKP 07 18 10.5 +1.5
WMQ LR LR
comp=N,820nm,23.3s
WMQ LR LR
comp=E,580nm,17.9s
WMQ LR LR
comp=Z,350nm,24.2s
MAW Mawson 123.53 169 PKP PKiKP 07 18 09.9 +0.5
comp=Z,2.3nm,1.0s,baz=304,slow=4.6,SNR=4.5
NJ2 Nanjing 126.06 328 *e*P PKPdf 07 18 15.4 +0.1
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
GTA Gaotai 126.18 349 *e*P PKiKP 07 18 17.0 +1.1
GTA pP pPKPdf 07 18 26.3 +0.3
GTA pmax pmax
comp=Z,5.0nm,1.3s
STKA Stephens Creek 128.32 240 PKP PKiKP 07 18 20.7 +0.6
comp=Z,4.0nm,0.9s,baz=130,slow=4.0,SNR=5.9
CD2 Chengdu 133.34 342 PKP PKPdf 07 18 28.5 -0.7
WRA Warramunga Arr 135.79 255 PKP PKiKP 07 18 35.4 -0.2
comp=Z,1.4nm,0.8s,baz=88,slow=1.5,SNR=11
WRA Warramunga Arr 135.79 255 *e*PKIKP PKPdf 07 18 35.1 +1.1
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 136.02 250 PKP PKPdf 07 18 35.5 +1.1
comp=Z,1.3nm,0.8s,baz=88,slow=2.4,SNR=12
PZH PanZhiHua 138.07 342 PKP PKPdf 07 18 37.1 -1.1
CMAR Chiang Mai Arr 146.49 342 PKPbc PKPbc 07 18 55.2 +0.7
comp=Z,8.6nm,0.7s,baz=322,slow=3.0,SNR=49
HYB Hyderabad 147.61 18 *e*PKPbc PKPbc 07 18 57.0 -0.7
HYB *e*PKiKP PKPab 07 19 00.1 +0.2
HYB *e*PP PP 07 22 24.4 +1.9
PSA00 Pilbara Seismi 149.16 251 PKPbc 07 19 02.3 +0.6
PSA00 Pilbara Seismi 149.16 251 PKiKP 07 19 02.8 -0.1
MBWA Marble Bar 149.33 252 PKPbc 07 19 02.7 +0.6

CNRM ***15*** *07:00:55.5, 36.96N×5.44W, h11km, ML2.9*
MDD ***15*** *07:00:55.3±0.3, 37.18N×5.26W, h1km±2km, mb_Lg2.9/19, Error ellipse: s-maj=2.2km s-min=1.3km az=1.0*
IGIL ***15*** *07:00:55.7, 37.18N×5.26W, h1km*
INMG ***15*** *07:00:56.1±1.7, 37.08N×5.24W, h14km±3km, ML2.6, Error ellipse: s-maj=2.6km s-min=2.1km az=177.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
SFS ***15*** *07:00:56.2, 37.15N×5.28W, h2km, ML2.9/7, ML2.9/10, MLv2.9/10*

ISC 15 07:00:54.6±1.0, 37.13N±0.02×5.22W±0.02, h18km±7km, n74, σ1.29/140, 3C, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.57**	**243**	Pg		**Pg**	**07 01 06.4**	**+0.4**
ESPR	**Espera**	**0.57**	**243**	↑Pg		**Pg**	**07 01 06.2**	**+0.2**
ESPR				Sg		**Sb**	**07 01 15.1**	**+1.2**
ESPR				*i* IVmb_Lg			07 01 21.5	
EGOR	**Sierra Gorda,**	**0.89**	**91**	Pg		**Pn**	**07 01 12.6**	**+0.3**
EGOR				Sg		**Sn**	**07 01 26.0**	**+1.2**
EGOR	**Sierra Gorda,**	**0.89**	**91**	Pg		**Pn**	**07 01 12.7**	**+0.3**
EGOR				Sg		**Sn**	**07 01 25.0**	**+0.2**
EGOR				*i* IVmb_Lg			07 01 32.1	
ECAB	**El Cabril**	**0.96**	**350**	Pg		**Pn**	**07 01 13.8**	**+0.5**
ECAB				Sg		**Sg**	**07 01 25.9**	**+0.1**
ECAB	**El Cabril**	**0.96**	**350**	Pg		**Pn**	**07 01 13.7**	**+0.4**
ECAB				Sg		**Sg**	**07 01 25.1**	**-0.8**
ECAB				*i* IVmb_Lg			07 01 30.3	
CNIL	**Conil**	**1.01**	**222**	Pg		**Pn**	**07 01 14.6**	**+0.7**
EADA	**Adamuz**	**1.16**	**26**	Pg		**Pg**	**07 01 17.4**	**+0.4**
EADA				Sg		**Sn**	**07 01 33.0**	**+1.6**
EADA	**Adamuz**	**1.16**	**26**	Pg		**Pg**	**07 01 17.2**	**+0.2**
EADA				Sg		**Sn**	**07 01 32.7**	**+1.4**
EADA				*i* IVmb_Lg			07 01 35.9	
ELGU	**Los Guajares,**	**1.30**	**101**	Pn		**Pg**	**07 01 20.3**	**+0.6**
ELGU	**Los Guajares,**	**1.30**	**101**	Pg		**Pg**	**07 01 19.7**	**0.0**
ELGU				Sg		**Sg**	**07 01 39.1**	**+2.5**
ELGU				*i* IVmb_Lg			07 01 41.9	
EMIN	**Mina Concepcio**	**1.32**	**299**	Pg		**Pn**	**07 01 18.8**	**+0.5**
EMIN				Sg		**Sn**	**07 01 37.2**	**+1.8**
EMIN	**Mina Concepcio**	**1.32**	**299**	Pg		**Pn**	**07 01 18.6**	**+0.3**
EMIN				Sg		**Sg**	**07 01 37.7**	**+0.3**
EMIN				*i* IVmb_Lg			07 01 39.7	
EQTA	**Presa de Quent**	**1.42**	**86**	Pn		**Pg**	**07 01 22.1**	**+0.1**
EQTA				Sn		**Sg**	**07 01 43.1**	**+2.7**
EQUE	**Quentar**	**1.42**	**86**	Pg		**Pg**	**07 01 22.1**	**+0.1**
EQUE				Sg		**Sg**	**07 01 41.0**	**+0.4**
EQUE				*i* IVmb_Lg			07 01 44.5	
SMIR	**Smir Dam**	**1.45**	**185**	P		**Pb**	**07 01 20.9**	**-0.2**
SMIR	**Smir Dam**	**1.45**	**185**	S		**Sn**	**07 01 39.0**	**+0.5**
E0803	**Jimena (Jaen)**	**1.56**	**62**	Pn		**Pb**	**07 01 23.0**	**+0.1**
E0803				Sg		**Sg**	**07 01 43.8**	**-1.1**
E0802	**Ubeda,Jaen**	**1.71**	**58**	Sn		**Sb**	**07 01 46.6**	**-0.3**
E0802				Sg		**Sg**	**07 01 50.6**	**+0.7**
PBAR	**Barrancos**	**1.79**	**306**	*e*Pn		**Pn**	**07 01 25.2**	**+0.6**
PBAR				*e*Sg		**Sg**	**07 01 51.6**	**-0.5**
PBAR				*i* IAML			07 01 55.9	
PBAR				*i* IAML			07 01 56.6	
PBAR				*i* IAML			07 02 01.1	
EQES	**Quesada**	**1.83**	**68**	Pn		**Pn**	**07 01 26.6**	**+1.2**
EQES				Sg		**Sg**	**07 01 52.5**	**-1.3**
EQES				*i* IVmb_Lg			07 01 59.7	
EGRO	**El Granado**	**1.85**	**283**	Pn		**Pn**	**07 01 25.7**	**+0.2**
EGRO				Sn		**Sn**	**07 01 48.7**	**+0.2**
EGRO				Sg		**Sg**	**07 01 53.6**	**-0.7**
EGRO				*i* IVmb_Lg			07 01 56.7	
PVAQ	**Vaqueiros**	**2.01**	**279**	↑*e*Pn		**Pn**	**07 01 28.0**	**+0.3**
PVAQ				*e*Sn		**Sn**	**07 01 53.2**	**+0.7**
PVAQ				*i* IAML			07 02 04.7	
PVAQ				*i* IAML			07 02 07.0	
PVAQ				*i* IAML			07 02 07.4	
PVAQ	**Vaqueiros**	**2.01**	**279**	P		**Pn**	**07 01 27.3**	**-0.4**
PVAQ	**Vaqueiros**	**2.01**	**279**	S		**Sn**	**07 01 52.1**	**-0.3**
PSIM	**Granatula de C**	**2.05**	**34**	Pg		**Pg**	**07 01 33.5**	**-0.4**
PSIM				Sg		**Sg**	**07 01 59.7**	**-0.8**
EBAD	**Badajoz**	**2.16**	**319**	Pn		**Pn**	**07 01 30.5**	**+0.8**
EBAD				Sn		**Sn**	**07 01 57.2**	**+1.1**
EBAD	**Badajoz**	**2.16**	**319**	Pn		**Pn**	**07 01 30.4**	**+0.7**
EBAD				Sn		**Sn**	**07 01 54.6**	**-1.4**
EBAD				Sg		**Sg**	**07 02 03.0**	**-1.0**
PBDV	**Barranco-do-Ve**	**2.17**	**274**	*e*Pn		**Pn**	**07 01 30.4**	**+0.5**
PBDV				*e*Sn		**Sn**	**07 01 56.5**	**+0.1**
PBDV				*i* IAML			07 02 06.5	
PBDV				*i* IAML			07 02 12.0	
PBDV				*i* IAML			07 02 20.1	
PBEJ	**Beja**	**2.29**	**294**	*e*Pn		**Pn**	**07 01 32.5**	**+1.0**
PBEJ				*e*Sg		**Sg**	**07 02 08.1**	**-0.1**
PBEJ				*i* IAML			07 02 13.3	
PBEJ				*i* IAML			07 02 13.4	
PBEJ				*i* IAML			07 02 17.2	

PCVE	**Castro Verde**	**2.30**	**283**	*e*Pn		**Pn**	**07 01 32.2**	**+0.5**
PCVE				*e*Sg		**Sg**	**07 02 10.1**	**+1.4**
PCVE				*i* IAML			07 02 17.8	
PCVE				*i* IAML			07 02 21.0	
PCVE				*i* IAML			07 02 22.1	
MESJ	**Messejana**	**2.49**	**287**	*e*P		**Pn**	**07 01 34.9**	**+0.6**
MESJ	**Messejana**	**2.49**	**287**	*i* Pn		**Pn**	**07 01 34.9**	**+0.6**
MESJ				*e*Sg		**Sg**	**07 02 16.7**	**+2.0**
MESJ				*i* IAML			07 02 20.0	
MESJ				*i* IAML			07 02 21.7	
MESJ				*i* IAML			07 02 21.7	
PESTR	**Estremoz**	**2.56**	**314**	*e*Pn		**Pn**	**07 01 36.2**	**+1.1**
PESTR				*e*Sn		**Sn**	**07 02 07.8**	**+2.0**
PESTR				*e*Sg		**Sg**	**07 02 15.1**	**-1.7**
PESTR				*i* IAML			07 02 17.7	
PESTR				*i* IAML			07 02 23.1	
PESTR				*i* IAML			07 02 25.0	
PESTR	**Estremoz**	**2.56**	**314**	P		**Pn**	**07 01 36.3**	**+1.1**
PESTR	**Estremoz**	**2.56**	**314**	S		**Sn**	**07 02 09.4**	**+3.5**
GOG	**Mont Gurugu**	**2.62**	**136**	P		**Pb**	**07 01 38.9**	**-2.1**
EVO	**Evora**	**2.62**	**303**	*e*Pn		**Pn**	**07 01 37.0**	**+0.9**
EVO				*e*Pg		**Pg**	**07 01 44.7**	**-0.1**
EVO				*e*Sn		**Sn**	**07 02 07.9**	**+0.5**
EVO				*i* IAML			07 02 21.5	
EVO				*i* IAML			07 02 22.7	
EVO				*i* IAML			07 02 23.6	
ESDC	**Sonseca Array**	**2.73**	**21**	Sn		**Sn**	**07 02 09.4**	**-0.7**
ESDC				Sg		**Sg**	**07 02 20.5**	**-1.7**
ESBB	**Sonseca Array**	**2.73**	**21**	Sn		**Sn**	**07 02 09.1**	**-1.0**
ESBB				Sg		**Sg**	**07 02 19.8**	**-2.5**
MORF	**Marmelete**	**2.75**	**275**	*e*P		**Pn**	**07 01 38.4**	**+0.6**
MORF	**Marmelete**	**2.75**	**275**	*e*Pn		**Pn**	**07 01 38.6**	**+0.7**
MORF				*e*Sn		**Sn**	**07 02 10.7**	**+0.1**
MORF				*e*Sg		**Sg**	**07 02 23.8**	**+0.8**
MORF				*i* IAML			07 02 23.9	
MORF				*i* IAML			07 02 25.3	
MORF				*i* IAML			07 02 31.0	
PTEO	**Sao Teotonio**	**2.83**	**280**	*e*Pn		**Pn**	**07 01 39.5**	**+0.6**
PTEO				*e*Sn		**Sn**	**07 02 14.4**	**+1.9**
PTEO				*e*Sg		**Sg**	**07 02 25.5**	**+0.1**
PTEO				*i* IAML			07 02 32.4	
PTEO				*i* IAML			07 02 36.5	
PTEO				*i* IAML			07 02 39.6	
AKLM	**AKL**	**2.83**	**157**	P		**Pn**	**07 01 39.9**	**+0.8**
AKLM	**AKL**	**2.83**	**157**	S		**Sn**	**07 02 10.4**	**-2.4**
PMRV	**Marv??o**	**2.87**	**324**	*e*Pn		**Pn**	**07 01 40.4**	**+0.9**
PMRV				*e*Sn		**Sn**	**07 02 15.4**	**+1.9**
PMRV				*e*Sg		**Sg**	**07 02 25.3**	**-1.3**
PMRV				*i* IAML			07 02 25.6	
PMRV				*i* IAML			07 02 33.6	
PMRV				*i* IAML			07 02 34.2	
PFVI	**Vila Bisbo**	**2.88**	**271**	*e*Pn		**Pn**	**07 01 39.8**	**+0.1**
PFVI				*e*Sn		**Sn**	**07 02 14.3**	**+0.4**
PFVI				*i* IAML			07 02 15.1	
PFVI				*i* IAML			07 02 15.3	
PFVI				*i* IAML			07 02 31.2	
PFVI	**Vila Bisbo**	**2.88**	**271**	P		**Pn**	**07 01 37.7**	**-1.9**
PFVI	**Vila Bisbo**	**2.88**	**271**	S		**Sn**	**07 02 13.4**	**-0.6**
EPLA	**Plasencia**	**3.01**	**347**	Pn		**Pn**	**07 01 42.3**	**+0.9**
EPLA				Sn		**Sn**	**07 02 17.8**	**+0.7**
EPLA				Sg		**Sg**	**07 02 29.5**	**-1.8**
EPLA				*i* IVmb_Lg			07 02 34.7	
PMTG	**Montargil**	**3.06**	**310**	*e*Pn		**Pn**	**07 01 42.8**	**+0.7**
PMTG				*e*Sn		**Sn**	**07 02 19.8**	**+1.4**
PMTG				*e*Sg		**Sg**	**07 02 31.6**	**-1.5**
PMTG				*i* IAML			07 02 36.1	
PMTG				*i* IAML			07 02 37.3	
PMTG				*i* IAML			07 02 42.1	
PCBR	**Castelo Branco**	**3.24**	**327**	*e*Pn		**Pn**	**07 01 45.9**	**+1.3**
PCBR				*e*Sn		**Sn**	**07 02 23.2**	**+0.6**
PCBR				*e*Sg		**Sg**	**07 02 37.4**	**-1.2**
PCBR				*i* IAML			07 02 43.0	
PCBR				*i* IAML			07 02 49.9	
PCBR				*i* IAML			07 02 51.1	
PSARD	**Sardoal**	**3.38**	**318**	*e*Pn		**Pn**	**07 01 47.6**	**+1.1**
PSARD				*e*Sn		**Sn**	**07 02 27.6**	**+1.3**
PSARD				*e*Sg		**Sg**	**07 02 40.4**	**-2.9**
PSARD				*i* IAML			07 02 44.0	
PSARD				*i* IAML			07 02 44.4	
PSARD				*i* IAML			07 02 45.1	
PARRA	**Arraiolos**	**3.46**	**300**	*e*Pn		Pn	07 01 39.1	-8.5
PARRA				*e*Sn		Sn	07 02 12.7	-15
PARRA				*e*Sg		Sb	07 02 22.4	-15
PARRA				*i* IAML			07 02 27.7	
PARRA				*i* IAML			07 02 27.8	
PARRA				*i* IAML			07 02 29.2	
JBK	**JBK**	**3.52**	**142**	P		**Pn**	**07 01 49.3**	**+0.7**
PSBE	**So Bento**	**3.69**	**311**	*e*Pn		**Pn**	**07 01 52.6**	**+1.8**
PSBE				*e*Sn		**Sn**	**07 02 34.3**	**+0.5**
PSBE				*i* IAML			07 03 00.1	
PSBE				*i* IAML			07 03 01.7	
PSBE				*i* IAML			07 03 03.4	
PMAFR	**Mafra**	**3.69**	**301**	Pn		**Pn**	**07 01 51.6**	**+0.8**
PMAFR				Sn		**Sn**	**07 02 33.5**	**-0.4**
PMAFR	**Mafra**	**3.69**	**301**	*e*Pn		**Pn**	**07 01 51.8**	**+1.0**
PMAFR				*e*Sn		**Sn**	**07 02 35.1**	**+1.2**
PMAFR				*i* IAML			07 03 03.3	
PMAFR				*i* IAML			07 03 04.3	
PMAFR				*i* IAML			07 03 09.3	
MTE	**Manteigas**	**3.74**	**332**	*e*Pn		**Pn**	**07 01 54.0**	**+2.4**
MTE				*e*Sn		**Sn**	**07 02 36.3**	**+1.2**
MTE				*e*Sg		**Sg**	**07 02 52.0**	**-2.7**
MTE				*i* IAML			07 02 58.4	
MTE				*i* IAML			07 02 59.5	
MTE				*i* IAML			07 03 03.4	
EVIV	**Cofrentes, Val**	**3.87**	**55**	Pn		**Pn**	**07 01 54.4**	**+1.1**
EVIV				Sn		**Sn**	**07 02 39.3**	**+0.9**
EVIV				Sg		**Sg**	**07 02 58.9**	**0.0**
EVIV				*i* IVmb_Lg			07 03 30.0	
PCAS	**Casmilo, Conde**	**3.89**	**320**	*e*Pn		**Pn**	**07 01 55.8**	**+2.3**
PCAS				*e*Sn		**Sn**	**07 02 39.1**	**+0.3**
PCAS				*e*Sg		**Sg**	**07 02 56.4**	**-3.1**
PCAS				*i* IAML			07 03 02.2	
PCAS				*i* IAML			07 03 09.3	
PCAS				*i* IAML			07 03 10.7	
EJUZ	**Juzbado, Salam**	**3.99**	**353**	Sn		**Sn**	**07 02 41.6**	**+0.4**
CZD	**Col de Zad**	**4.09**	**178**	P		**Pn**	**07 01 55.2**	**-1.4**
PVIS	**Viseu**	**4.15**	**331**	*e*Pn		**Pn**	**07 01 59.3**	**+2.2**
PVIS				*e*Sn		**Sn**	**07 02 45.4**	**+0.2**
PVIS				*e*Sg		**Sg**	**07 02 56.5**	**-1.2**
MD31	**MD31**	**4.27**	**175**	P		**Pn**	**07 01 57.9**	**-0.9**
MD31	**MD31**	**4.27**	**175**	S		**Sn**	**07 02 46.0**	**-2.2**
MVO	**Moncorvo**	**4.27**	**341**	*e*Pn		**Pn**	**07 01 59.8**	**+1.0**
MVO				*e*Sn		**Sn**	**07 02 48.1**	**-0.1**
MVO				*e*Sg		**Sg**	**07 03 10.1**	**-1.5**
MVO				*i* IAML			07 03 16.9	
MVO				*i* IAML			07 03 17.9	
MVO				*i* IAML			07 03 18.4	
ETOR	**Torete**	**4.43**	**33**	Pn		**Pn**	**07 02 02.8**	**+1.7**
ETOR				Sn		**Sn**	**07 02 52.9**	**+0.7**
ETOR				Sg		**Sg**	**07 03 13.1**	**-3.8**
ETOR				*i* IVmb_Lg			07 03 29.8	
PVRL	**Vila Real**	**4.57**	**336**	*e*Sn		**Sn**	**07 02 56.3**	**+0.6**
PVRL				*i* IAML			07 02 58.2	
PVRL				*i* IAML			07 02 58.2	
PVRL				*i* IAML			07 02 58.3	
POLO	**Lamas de Olo**	**4.69**	**336**	*e*Sn		**Sn**	**07 02 58.2**	**-0.3**
POLO				*e*Sg		**Sg**	**07 03 26.6**	**+1.5**
POLO				*i* IAML			07 03 31.9	
POLO				*i* IAML			07 03 35.2	
PBRG	**Braganca**	**4.82**	**346**	*e*Sn		**Sn**	**07 03 02.1**	**+0.5**
PBRG				*e*Sg		**Sg**	**07 03 28.9**	**-0.3**
PBRG				*i* IAML			07 03 33.3	
PBRG				*i* IAML			07 03 36.4	
PBRG				*i* IAML			07 03 40.3	
ECAL	**Calabor**	**4.95**	**347**	Sn		**Sn**	**07 03 03.5**	**-1.5**
ECAL				Sg		**Sg**	**07 03 32.8**	**-0.6**
ELOB	**Lobios**	**5.22**	**336**	Sn		**Sn**	**07 03 09.6**	**-2.1**
ELOB				Sg		**Sg**	**07 03 39.1**	**-3.0**
PGAV	**Gavieira, Arco**	**5.38**	**335**	*e*Sn		**Sn**	**07 03 14.8**	**-0.8**
PGAV				*i* IAML			07 03 48.7	
PGAV				*i* IAML			07 03 56.0	
PGAV				*i* IAML			07 03 57.7	

*JMA **15** 07:07:35.1±0.2,24°N±1°×123°.5E±0°.6, h35km±1km, MV2.8/9, NEAR ISHIGAKIJIMA ISLAND*
ISC 15 07:07:35.2±1.5,**23°.85N**±0°.08×**123°.50E**±0°.04,**h34**km±3km,
n16,σ8°56/23,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.34**	**53**	P	**Pb**	**07 07 43.3**	**-0.2**
HATJ				S	**Sb**	**07 07 49.5**	**+0.3**
IRIF	**Iriomote-Funau**	**0.53**	**23**	P	**Pn**	**07 07 45.8**	**-0.5**
IRIF				S	**Sb**	**07 07 53.6**	**-0.2**
JKRS	**Kuro-shima**	**0.60**	**50**	P	**Pb**	**07 07 47.4**	**-0.1**
JKRS				S	**Sb**	**07 07 56.2**	**+0.4**
YOJ	**Yonaguni jima**	**0.76**	**324**	P	**Pn**	**07 07 49.0**	**-0.5**
YOJ	**Yonaguni jima**	**0.76**	**324**	P	**Pn**	**07 07 49.7**	**+0.2**
YOJ				S	**Sn**	**07 07 59.5**	**-0.2**
JIJ	**Ishigaki jima**	**0.78**	**49**	P	**Pn**	**07 07 49.5**	**-0.2**
JIJ				*e*S	**Sn**	**07 07 59.7**	**-0.5**
JYNG	**Yonagunijimaku**	**0.79**	**320**	P	**Pn**	**07 07 49.9**	**0.0**
JYNG				*e*S	**Sb**	**07 08 01.1**	**+0.1**
JISG	**Ishigakijimahi**	**1.04**	**45**	*e*P	**Pn**	**07 07 53.8**	**+0.4**
JISG				*e*S	**Sn**	**07 08 07.0**	**+0.3**
JTJ	**Tarama**	**1.35**	**54**	*e*P	**Pn**	**07 07 58.1**	**+0.5**
NACB	**Ninganchiao**	**1.78**	**281**	P	**Pn**	**07 08 03.0**	**-0.5**
NACB	**Ninganchiao**	**1.78**	**281**	S	**Sn**	**07 08 25.5**	**+0.6**
YULB	**Yu-li**	**2.07**	**258**	P	**Pn**	**07 08 07.0**	**-0.6**
YHNB	**Yeheng**	**2.11**	**293**	P	**Pn**	**07 08 09.0**	**+0.9**
SSLB	**Suanglung**	**2.34**	**269**	P	**Pn**	**07 08 11.0**	**-0.2**
TWGBT	**Beinan**	**2.45**	**246**	P	**Pn**	**07 08 12.1**	**-0.7**
TPUB	**Ta-pu**	**2.69**	**259**	P	**Pn**	**07 08 17.5**	**+1.4**

*IDC **15** 07:10:11.1±2.5, 13°.04N×91°.09W, h0km, mb3.6/5, mbtmp3.6/6, ML1.2/1, Error ellipse: s-maj=52.8km s-min=37.8km az=9.0*
*UCR **15** 07:10:12.0±1.0, 14°.01N×91°.94W, h18km, MW4.0*
*GCG **15** 07:10:16.2±0.8, 13°.55N×91°.51W, h0km±4km, MD4.2, ML3.7, MW3.6*
*CATAC **15** 07:10:19.8±0.6, 14°N±3°×9°1W±°, h8km±5km, M4.1/18, MLv4.1/18, Error ellipse: s-maj=7.2km s-min=6.2km az=34.1, confirmed*
*SNET **15** 07:10:21.7±2.2, 13°.72N×91°.35W, h25km, ML4.1*
ISC 15 07:10:18.2±1.8,**13°.65N**±0°.07×**91°.43W**±0°.04,**h13**km±10km,
n77,σ1°33/83,**mb3.7/5**,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.91**	**344**	*e*P	**Pg**	**07 10 36.2**	**+0.4**
RTAL	**Retalhuleu**	**0.91**	**344**	P	**Pg**	**07 10 36.3**	**+0.6**
ESSJ	**San Jos, E**	**0.91**	**95**	*i* P	Pg	07 10 30.9	-5.0
ESSG	**Sabana Grande**	**0.94**	**39**	*i* P	**Pg**	**07 10 36.7**	**+0.4**
FG8	**Yepocapa, Chim**	**1.04**	**54**	*i* P	**Pg**	**07 10 36.7**	**-1.6**
FG16	**Alotenango, Sa**	**1.09**	**55**	*i* P	**Pg**	**07 10 37.7**	**-1.6**
SOKI	**Kika Raxquin**	**1.17**	**1**	*i* P	**Pg**	**07 10 40.7**	**-0.1**
QUEO	**Labor Ovalle**	**1.22**	**356**	IAML		07 11 24.8	
	comp=Z,1μm,0.4s						
GCG4	**OSOP**	**1.28**	**43**	*i* P	**Pg**	**07 10 42.7**	**-0.2**
SMCA	**Catarina**	**1.35**	**333**	*i* P	**Pn**	**07 10 41.9**	**-0.9**
THIG		**1.49**	**327**	*i* P	**Pn**	**07 10 44.1**	**-0.7**
NUBE	**Las Nubes**	**1.63**	**81**	*e*P	**Pn**	**07 10 46.6**	**-0.2**
NUBE	**Las Nubes**	**1.63**	**81**	P	**Pn**	**07 10 46.4**	**-0.4**
NUBE	**Las Nubes**	**1.63**	**81**	S	**Sn**	**07 11 05.9**	**-1.8**
LOAL	**Lomas de Alarc**	**1.64**	**78**	*e*P	**Pb**	**07 10 48.4**	**0.0**
LOAL				*e*S	**Sn**	**07 11 07.8**	**-0.2**
LOAL	**Lomas de Alarc**	**1.64**	**78**	P	**Pn**	**07 10 47.8**	**+0.8**
LOAL	**Lomas de Alarc**	**1.64**	**78**	S	**Sn**	**07 11 08.1**	**+0.1**
HUEH	**Huehuetenango**	**1.66**	**358**	*e*P	**Pn**	**07 10 48.4**	**+1.1**
HUEH	**Huehuetenango**	**1.66**	**358**	*i* P	**Pn**	**07 10 48.4**	**+1.1**
HUEH	**Huehuetenango**	**1.66**	**358**	P	**Pn**	**07 10 48.9**	**+1.6**
QUIS	**Sacapulas**	**1.67**	**11**	*i* P	**Pn**	**07 10 49.2**	**+1.9**
QUIS				*i* S	**Sg**	**07 11 13.0**	**+1.1**
RTR	**El Retiro**	**1.75**	**82**	*e*P	**Pb**	**07 10 50.6**	**+0.2**
CEVE	**Cerro Verde**	**1.77**	**84**	P	**Pn**	**07 10 49.0**	**+0.2**
CEVE	**Cerro Verde**	**1.77**	**84**	S	**Sn**	**07 11 12.0**	**+0.7**
SBLS	**San Blas**	**1.77**	**84**	*e*P	**Pn**	**07 10 49.1**	**+0.3**
SNJE	**San Jose**	**1.79**	**83**	*e*P	**Pn**	**07 10 49.2**	**+0.1**
UNIC	**Universidad Ca**	**1.86**	**80**	P	**Pn**	**07 10 50.3**	**+0.3**
UNIC	**Universidad Ca**	**1.86**	**80**	S	**Sn**	**07 11 13.4**	**0.0**
JAYA	**Jayaque - finc**	**1.93**	**90**	*e*P	**Pn**	**07 10 52.1**	**+1.2**
JAYA				*e*S	**Sn**	**07 11 14.6**	**-0.6**
JAYA	**Jayaque - finc**	**1.93**	**90**	*i* P	**Pn**	**07 10 51.9**	**+0.2**
JAYA				*i* S	**Sn**	**07 11 14.4**	**-0.8**
JAYA	**Jayaque - finc**	**1.93**	**90**	P	**Pn**	**07 10 51.5**	**+0.5**
CEDA	**San Andres**	**1.99**	**85**	P	**Pn**	**07 10 52.7**	**+1.0**
CEDA	**San Andres**	**1.99**	**85**	S	**Sn**	**07 11 17.1**	**+0.7**
PMON	**Piamonte**	**2.06**	**88**	*e*P	**Pn**	**07 10 53.1**	**+0.4**
PMON	**Piamonte**	**2.06**	**88**	P	**Pn**	**07 10 53.1**	**+0.4**
AVCB	**Coban**	**2.06**	**29**	*i* P	**Pn**	**07 10 54.1**	**+1.3**
AVCB				*i* S	**Sg**	**07 11 24.2**	**-0.5**
PIC2	**El Picacho**	**2.12**	**87**	*e*P	**Pb**	**07 10 55.9**	**-0.7**
UEES	**Universidad Ev**	**2.13**	**88**	P	**Pn**	**07 10 54.9**	**+1.2**
UEES	**Universidad Ev**	**2.13**	**88**	S	**Sn**	**07 11 21.6**	**+1.4**
MTO3	**Montecristo**	**2.15**	**69**	*e*P	**Pn**	**07 10 54.7**	**+0.7**
MTO3				*e*S	**Sb**	**07 11 22.6**	**-1.1**
MTO3	**Montecristo**	**2.15**	**69**	*i* P	**Pn**	**07 10 55.4**	**+1.4**
MTO3	**Montecristo**	**2.15**	**69**	P	**Pn**	**07 10 54.6**	**+0.6**
UESS	**Universidad de**	**2.17**	**88**	*e*P	**Pn**	**07 10 55.6**	**+1.4**
LOMA	**Loma Larga**	**2.20**	**90**	*e*P	**Pn**	**07 10 55.7**	**+1.0**
LOMA				*e*S	**Sn**	**07 11 21.9**	**+0.1**
LOMA	**Loma Larga**	**2.20**	**90**	P	**Pn**	**07 10 56.0**	**+1.4**
UDBS	**Universidad Do**	**2.21**	**88**	P	**Pn**	**07 10 55.8**	**+1.0**
ESQI	**Esquipulas**	**2.22**	**66**	*e*P	**Pn**	**07 10 56.0**	**+1.1**
ESQI				*e*S	**Sb**	**07 11 25.1**	**-0.8**
ESQI	**Esquipulas**	**2.22**	**66**	P	**Pn**	**07 10 56.0**	**+1.1**
LFU	**La Fuente**	**2.26**	**87**	*e*P	**Pn**	**07 10 56.8**	**+1.4**
LFRS	**El Faro**	**2.31**	**90**	*e*P	**Pn**	**07 10 57.2**	**+1.1**
LBRS	**Las Brisas**	**2.33**	**88**	*e*P	**Pn**	**07 10 58.0**	**+1.6**
PAVA	**Las Pavas**	**2.43**	**88**	*e*P	**Pn**	**07 10 58.8**	**+1.0**
PAVA	**Las Pavas**	**2.43**	**88**	P	**Pn**	**07 10 58.6**	**+0.9**
CCIG	**Comitan**	**2.70**	**346**	*i* P	**Pn**	**07 11 02.7**	**+1.0**
PQSS	**Presa 15 de Se**	**2.79**	**90**	*e*P	**Pn**	**07 11 03.6**	**+0.9**
PQSS	**Presa 15 de Se**	**2.79**	**90**	P	**Pn**	**07 11 03.4**	**+0.7**
PACA	**Pacayal**	**3.03**	**93**	*e*P	**Pb**	**07 11 09.9**	**-2.3**
LCND	**La Caada**	**3.46**	**95**	*e*P	**Pn**	**07 11 13.7**	**+1.8**
LCND	**La Caada**	**3.46**	**95**	P	**Pn**	**07 11 13.7**	**+1.8**
PETF	**Flores**	**3.58**	**125**	P	**Pn**	**07 11 14.9**	**+1.3**
CSGN	**Cosiguina Volc**	**3.83**	**100**	P	**Pn**	**07 11 18.4**	**+1.4**
CMIG	**Matias Romero**	**4.77**	**316**	Pn	**Pn**	**07 11 30.0**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=164,slow=14,SNR=14						
CMIG				Sn	**Sn**	**07 12 24.3**	**-0.9**
	comp=Z,3.5nm,0.3s,baz=111,slow=4.3,SNR=6.9						
COPN	**Copaltepe**	**4.94**	**107**	*e*P	**Pn**	**07 11 33.7**	**+1.4**
JUD3	**Juan Diaz 3**	**6.73**	**120**	*e*P	**Pn**	**07 11 58.6**	**+1.7**
CUI	**Cuipilapa**	**6.81**	**115**	*e*P	**Pn**	**07 11 59.1**	**+1.0**
JTS	**Las Juntas de**	**7.17**	**117**	Pg	**Pn**	**07 12 04.8**	**+2.0**
	comp=Z,1.3nm,0.3s,baz=299,slow=19,SNR=6.7						
JTS				Lg	Lg	07 13 52.4	
	comp=Z,0.3nm,0.3s,baz=135,slow=16,SNR=6.0						
JTS	**Las Juntas de**	**7.17**	**117**	*e*P	**Pn**	**07 12 05.6**	**+2.7**
TEIG	**Tepich**	**7.20**	**24**	Pn	**Pn**	**07 12 05.1**	**+1.8**
	baz=132,slow=24,SNR=7.8						
BUS1	**Rivas**	**8.56**	**118**	*e*P	**Pn**	**07 12 26.1**	**+3.7**
SAJE	**San Jernim**	**8.87**	**118**	*e*P	**Pn**	**07 12 30.8**	**+4.5**
YAAR	**Lajitas Array**	**19.29**	**326**	P	**P**	**07 14 45.4**	**+2.3**
	comp=Z,2.2nm,0.7s,baz=155,slow=12,SNR=25						
TKL	**Tuckaleechee C**	**22.97**	**16**	P	**P**	**07 15 22.0**	**-0.7**
	comp=Z,3.9nm,0.8s,baz=180,slow=12,SNR=5.0						
	comp=Z,3.9nm,0.8s						
PDAR	**Pinedale Array**	**32.97**	**335**	P	**P**	**07 16 53.8**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=149,slow=10.0,SNR=1.9						
	comp=Z,0.1nm,0.4s						
NVAR	**Mina Array Bea**	**34.29**	**321**	P	**P**	**07 17 06.2**	**+1.6**
	comp=Z,1.0nm,0.7s,baz=126,slow=8.6,SNR=8.6						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**63.38**	**337**	P	**P**	**07 20 45.6**	**-1.5**
	comp=Z,0.5nm,0.9s,baz=169,slow=5.0,SNR=8.5						
	comp=Z,0.5nm,0.9s						
ESDC	**Sonseca Array**	**79.50**	**52**	P	**P**	07 22 20.7	-4.3
	comp=Z,0.5nm,1.0s,baz=275,slow=5.9,SNR=1.9						
	comp=Z,0.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**146.50**	**342**	PKPbc	**PKPdf**	**07 29 57.2**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=6.5,slow=3.0,SNR=5.1						

GCG 15 07:15:24.4±2.2,**13°.69N**×**91°.37W**,**h19**km±13km,**MD3.5,**
Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESSG	**Sabana Grande**	**0.86**	**37**	*e*P	Pb	07 15 40.5	-0.4
ESSG				*e*S	Sn	07 15 53.7	-0.2
FG8	**Yepocapa, Chim**	**0.97**	**54**	*e*P	Pb	07 15 40.7	-1.9
FG16	**Alotenango, Sa**	**1.01**	**55**	*e*P	Pb	07 15 41.5	-2.0
SOKI	**Kika Raxquin**	**1.13**	**358**	*e*P	Pb	07 15 43.8	-1.7
NUBE	**Las Nubes**	**1.56**	**82**	*e*P	Pn	07 15 51.3	+0.1
NUBE				*e*S	Sn	07 16 10.5	-0.5
JAYA	**Jayaque - finc**	**1.86**	**91**	*e*P	Pn	07 15 56.3	+0.8
JAYA				*e*S	Sn	07 16 17.2	-1.5
MTO3	**Montecristo**	**2.07**	**70**	*e*P	Pn	07 15 59.5	+1.1
CCIG	**Comitan**	**2.68**	**344**	*e*P	Pn	07 16 06.9	+0.1
CCIG				*e*S	Sn	07 16 41.7	+2.8

*AFAD **15** 07:24:04.2, 39°.61N×44°.61E, h6km±3km, ML2.3*
*AZER **15** 07:24:05.0, 39°.62N×44°.53E, h20km, ml2.7*
*ISK **15** 07:24:05.1, 39°.64N×44°.48E, h5km, ML2.1/6*
*TEH **15** 07:24:06.5, 39°.60N×44°.60E, h6km±134km*
ISC 15 07:24:06.0±0.9,**39°.61N**±0°.03×**44°.56E**±0°.02,**h16**km±8km,
n30,σ1°44/49,**Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HYR	**Heyderabad**	**0.25**	**64**	P	**Pg**	**07 24 12.5**	**+0.9**
HYR				S	**Sg**	**07 24 17.4**	**+2.2**
TASB	**TASBURUN-IGDIR**	**0.45**	**326**	Pg	**Pg**	**07 24 13.9**	**-1.1**
TASB				Sg	**Sg**	**07 24 20.0**	**-1.1**
GNI	**Garni**	**0.56**	**14**	Pg	**Pb**	**07 24 16.8**	**-0.7**
GNI				Sg	**Sb**	**07 24 25.4**	**+0.1**
GNI	**Garni**	**0.56**	**14**	Pg	**Pb**	**07 24 17.0**	**-0.5**
GNI				Sg	**Sb**	**07 24 25.2**	**-0.1**
DYDN	**Diyadin**	**0.68**	**265**	P	**Pg**	**07 24 18.6**	**-0.7**
DYDN				S	**Sb**	**07 24 29.1**	**+0.3**
DYDN				*i* IAML		07 24 32.0	
	comp=N,208nm,0.5s						
DYDN				*i* IAML		07 24 36.0	
	comp=E,239nm,0.5s						
SBZ	**Shahbuz**	**0.80**	**105**	P	**Pn**	**07 24 22.8**	**0.0**
SBZ				S	**Sn**	**07 24 35.5**	**+1.1**
NAX	**Nakhchivan**	**0.85**	**121**	P	**Pn**	**07 24 23.2**	**-0.1**
NAX				S	**Sn**	**07 24 36.7**	**+1.2**
VMUR	**Van-Muradiye**	**0.99**	**231**	P	**Pg**	**07 24 24.3**	**-0.8**
VMUR				S	**Sb**	**07 24 38.3**	**+0.6**
VMUR				*i* IAML		07 24 41.0	
	comp=N,98nm,0.7s						
VMUR				*i* IAML		07 24 46.0	
	comp=E,81nm,0.5s						
KOTA	**Agri, Merkez-K**	**1.06**	**281**	P	**Pg**	**07 24 24.6**	**-1.9**
KOTA				S	**Sb**	**07 24 41.2**	**+1.3**
KOTA				*i* IAML		07 24 46.0	
	comp=N,50nm,0.4s						
KOTA				*i* IAML		07 24 48.0	
	comp=E,44nm,0.6s						
AGRB	**Hanur-Agry**	**1.21**	**269**	Pn	**Pg**	**07 24 28.1**	**-1.3**
AGRB				Sn	**Sb**	**07 24 45.4**	**+1.2**
IMRD	**Marand**	**1.26**	**135**	Pg	**Pn**	**07 24 30.1**	**+0.9**
ORD	**Ordubad**	**1.30**	**121**	Pn	**Pg**	**07 24 31.4**	**+0.2**
ORD				Sn	**Sn**	**07 24 50.5**	**+3.6**
DORK	**Agr/Tutak/Do**	**1.40**	**261**	P	**Pn**	**07 24 31.7**	**+0.7**
DORK				S	**Sb**	**07 24 45.9**	**-3.6**
DORK				*i* IAML		07 24 54.0	
	comp=N,112nm,0.9s						
DORK				*i* IAML		07 24 54.0	
	comp=E,47nm,1.1s						
TVAN	**Van**	**1.41**	**220**	P	**Pg**	**07 24 33.1**	**0.0**
TVAN				*i* IAML		07 24

JAYA				*i*	S		**Sn**	07 42 31.9 +1.0
JAYA	**Jayaque - finc**	**1.90**	**91**		P		**Pn**	07 42 07.5 -0.3
JAYA	**Jayaque - finc**	**1.90**	**91**		S		**Sb**	07 42 33.6 -1.0
CEDA	**San Andres**	**1.95**	**87**	*eP*			**Pn**	07 42 09.6 +1.1
CEDA	**San Andres**	**1.95**	**87**		S		**Sb**	07 42 35.1 -0.9
PMON	**Piamonte**	**2.03**	**89**	*eP*			**Pn**	07 42 09.5 0.0
PMON	**Piamonte**	**2.03**	**89**		P		**Pn**	07 42 09.7 +0.2
PMON	**Piamonte**	**2.03**	**89**		S		**Sb**	07 42 37.2 -1.0
BOQS	**Boqueron**	**2.06**	**89**	*eP*			**Pn**	07 42 10.9 +0.8
PIC2	**El Picacho**	**2.08**	**88**	*eP*			**Pn**	07 42 12.4 +2.0
MTO3	**Montecristo**	**2.10**	**70**				**Pn**	07 42 11.5 +0.9
MTO3	**Montecristo**	**2.10**	**70**	*eP*			**Pn**	07 42 11.5 +0.9
MTO3	**Montecristo**	**2.10**	**70**	*iP*			**Pn**	07 42 11.7 +1.0
MTO3	**Montecristo**	**2.10**	**70**		P		**Pn**	07 42 11.1 +0.5
MTO3	**Montecristo**	**2.10**	**70**		S		**Sb**	07 42 41.7 +1.2
UEES	**Universidad Ev**	**2.10**	**89**		P		**Pn**	07 42 11.7 +1.2
UEES	**Universidad Ev**	**2.10**	**89**		S		**Sb**	07 42 39.2 -1.1
UESS	**Universidad de**	**2.14**	**89**	*eP*			**Pn**	07 42 12.6 +1.5
UTEC	**Universidad Te**	**2.14**	**90**	*eP*			**Pn**	07 42 11.8 +0.8
LOMA	**Loma Larga**	**2.17**	**91**	*eP*			**Pn**	07 42 11.8 +0.4
LOMA	**Loma Larga**	**2.17**	**91**		P		**Pn**	07 42 11.5 0.0
LOMA	**Loma Larga**	**2.17**	**91**		S		**Sb**	07 42 42.1 -0.2
ESQI	**Esquipulas**	**2.17**	**66**				**Pn**	07 42 13.3 +1.7
ESQI	**Esquipulas**	**2.17**	**66**	*eP*			**Pn**	07 42 12.9 +1.3
ESQI	**Esquipulas**	**2.17**	**66**		P		**Pn**	07 42 12.4 +0.9
ESQI	**Esquipulas**	**2.17**	**66**		S		**Sb**	07 42 43.0 +0.5
UDBS	**Universidad Do**	**2.18**	**89**	*eP*			**Pn**	07 42 12.5 +0.9
LFU	**La Fuente**	**2.22**	**88**	*eP*			**Pn**	07 42 13.8 +1.6
LFRS	**El Faro**	**2.27**	**92**	*eP*			**Pn**	07 42 13.6 +0.6
LBRS	**Las Brisas**	**2.29**	**89**	*eP*			**Pn**	07 42 14.8 +1.6
PAVA	**Las Pavas**	**2.39**	**89**		P		**Pn**	07 42 15.0 +0.5
PAVA	**Las Pavas**	**2.39**	**89**		S		**Sb**	07 42 47.5 -1.3
LLGN	**La Laguna**	**2.43**	**79**		P		**Pn**	07 42 15.9 +0.9
CCIG	**Comitan**	**2.67**	**345**				**Pn**	07 42 20.8 +2.4
CCIG	**Comitan**	**2.67**	**345**	*iP*			**Pn**	07 42 19.5 +1.0
PQSS	**Presa 15 de Se**	**2.76**	**91**	*eP*			**Pn**	07 42 20.2 +0.7
PQSS	**Presa 15 de Se**	**2.76**	**91**		P		**Pn**	07 42 20.2 +0.7
PQSS	**Presa 15 de Se**	**2.76**	**91**		S		**Sn**	07 42 55.9 +3.9
LCND	**La Caada**	**3.44**	**96**	*eP*			**Pn**	07 42 29.4 +0.6
TGIG		**3.49**	**332**	*iP*			**Pn**	07 42 28.4 -1.2
PETF	**Flores**	**3.53**	**25**	*iP*			**Pn**	07 42 31.8 +1.7
CSGN	**Cosiguina Volc**	**3.81**	**100**	*eP*			**Pn**	07 42 35.9 +1.9
TGUH	**Tegucigalpa,Un**	**4.02**	**84**				**Pn**	07 42 37.8 +0.7
CNGN	**Cerro Negro**	**4.73**	**104**				**Pn**	07 42 47.5 +0.8
CNGN	**Cerro Negro**	**4.73**	**104**	*eP*			**Pn**	07 42 47.3 +0.6
CMIG	**Matias Romero**	**4.76**	**316**		P		**Pn**	07 42 46.3 -0.8
	3.7nm,0.3s,baz=150,slow=12,SNR=49							
CMIG					S		**Sn**	07 43 41.0 -0.4
	61nm,0.6s,baz=99,slow=9.5,SNR=7.2 10nm,0.3s							
COPN	**Copaltepe**	**4.92**	**107**	*eP*			**Pn**	07 42 52.0 +2.7
COPN				*eS*			**Sn**	07 43 47.9 +2.5
SCIG	**Sabancuy**	**5.25**	**2**	*iP*			**Pn**	07 42 54.4 +0.7
MGAN	**Managua**	**5.25**	**106**		Pn		**Pn**	07 42 55.5 +1.7
BOAB	**BOACO BROADBAN**	**5.72**	**102**				**Pn**	07 43 00.4 +0.1
LCRUZ	**La Cruz**	**6.21**	**114**	*eP*			**Pn**	07 43 07.2 +0.2
ACON	**Acoyapa**	**6.31**	**105**		Pn		**Pn**	07 43 08.8 +0.5
SIUN	**Universidad Ur**	**6.44**	**89**		Pn		**Pn**	07 43 10.7 +0.5
ALIBA	**Liberia Airpor**	**6.50**	**118**	*eP*			**Pn**	07 43 13.3 +2.4
JUD3	**Juan Diaz 3**	**6.72**	**121**	*eP*			**Pn**	07 43 15.7 +1.6
VMAR	**Armenia, Volca**	**6.78**	**114**	*eP*			**Pn**	07 43 16.4 +1.6
CUI	**Cuipilapa**	**6.80**	**116**	*eP*			**Pn**	07 43 16.6 +1.4
CMARA	**Lajas Hojancha**	**6.90**	**121**	*eP*			**Pn**	07 43 15.9 -0.6
TIMP	**Tierras Morena**	**6.96**	**116**	*eP*			**Pn**	07 43 21.6 +4.1
TEIG	**Tepich**	**7.15**	**24**				**Pn**	07 43 22.0 +2.1
TEIG	**Tepich**	**7.15**	**24**		P		**Pn**	07 43 22.5 +2.6
	baz=320,slow=24,SNR=20							
JTS	**Las Juntas de**	**7.16**	**118**		P		**Pn**	07 43 22.3 +2.2
	0.8nm,0.3s,baz=105,slow=21,SNR=9.4 1.9nm,0.3s							
VARE2	**V. Arenal**	**7.28**	**115**	*eP*			**Pn**	07 43 23.9 +2.1
TLIG	**Tlapa**	**7.90**	**300**		Pn		**Pn**	07 43 33.2 +2.9
LCR2	**La Lucha 2**	**8.24**	**118**		Pn		**Pn**	07 43 37.1 +2.1
DRK0	**Durika**	**9.12**	**118**	*eP*			**Pn**	07 43 50.0 +2.8
PIRO	**Carate, Puerto**	**9.50**	**123**				**Pn**	07 43 54.3 +2.2
SOR	**Soroa**	**12.05**	**40**		Pn		**Pn**	07 44 27.4 +0.3
MTDJ	**Mount Denham**	**14.07**	**70**		Pn		**Pn**	07 44 54.9 +0.1
HNDO	**Hondo**	**17.37**	**336**		P		**P**	07 45 38.0 -0.7
250A	**Grady**	**18.80**	**14**		P		**P**	07 45 54.1 -0.4
BRDY	**Brady**	**18.85**	**339**		P		**P**	07 45 54.7 -0.4
SAND	**Sanderson**	**18.98**	**330**				**Pn**	07 45 58.0 +0.7
TXAR	**Lajitas Array**	**19.27**	**326**		P		**Pn**	07 46 01.9 +1.0
TXAR	**Lajitas Array**	**19.27**	**326**		P		**Pn**	07 46 01.6 +0.7
	0.2nm,0.3s,baz=154,slow=12,SNR=53 2.9nm,0.7s							
TX31	**Lajitas Ar. Si**	**19.27**	**326**		P		**Pn**	07 46 00.7 -0.2
OZNA	**Ozona**	**19.34**	**334**		P		**P**	07 46 00.6 +0.1
Z47A	**Carrollton**	**19.65**	**8**		P		**P**	07 46 02.8 -1.0
LRAL	**Lakeview Retre**	**19.67**	**11**		P		**Pn**	07 46 04.5 -1.0
LRAL					IAmb	IAmb	07 46 10.9	
	comp=Z,19nm,1.4s							
PLPT	**Palo Pinto**	**20.05**	**343**		P		Pn	07 46 09.3 -0.8
PLPT					IAmb	IAmb	07 46 40.4	
	comp=Z,7.1nm,1.1s							
ALPN	**Alpine**	**20.08**	**328**				Pn	07 46 09.4 -1.1
SGCY	**Sterling City**	**20.21**	**335**		P		Pn	07 46 10.7 -1.3
SGCY					IAmb	IAmb	07 46 11.8	
	comp=Z,5.6nm,0.9s							
ABTX	**Abilene, Hawle**	**20.29**	**340**		P		Pn	07 46 11.4 -1.5
ABTX					IAmb	IAmb	07 46 12.8	
	comp=Z,7.2nm,0.9s							
MNHN	**Monahans**	**20.43**	**331**				Pn	07 46 13.3 -1.2
MIAR	**Mount Ida**	**20.85**	**355**		P		**P**	07 46 16.4 -0.4
GOGA	**Godfrey**	**20.91**	**19**		P		**P**	07 46 17.2 -0.3
PECS	**Pecos**	**20.99**	**329**		P		Pn	07 46 19.4 -1.7
PECS					IAmb	IAmb	07 46 21.3	
	comp=Z,12nm,1.0s							
APMT	**Aspermont**	**21.09**	**339**				**P**	07 46 19.8 +0.3
APMT					IAmb	IAmb	07 46 27.2	
	comp=Z,6.0nm,0.7s							
VHRN	**Van Horn**	**21.12**	**326**				**P**	07 46 20.8 +1.0
VHRN					IAmb	IAmb	07 46 22.6	
	comp=Z,9.9nm,1.2s							
Y52A	**Lilburn**	**21.16**	**17**		P		**P**	07 46 19.7 -0.4
Y52A					IAmb	IAmb	07 46 37.7	
	comp=Z,8.9nm,0.8s							
WHAR	**Wooly Hollow**	**21.52**	**358**		P		**P**	07 46 23.9 0.0
WHAR					IAmb	IAmb	07 46 27.9	
	comp=Z,6.7nm,1.1s							
DKNS	**Dickens**	**21.69**	**338**		P		**P**	07 46 26.2 +0.3
DKNS					IAmb	IAmb	07 46 31.0	
	comp=Z,5.9nm,0.5s							
WMOK	**Wichita Mounta**	**21.99**	**344**		P		**P**	07 46 29.2 +0.2
HODGE	**Hodges**	**22.06**	**21**		P		**P**	07 46 29.9 0.0
HODGE					IAmb	IAmb	07 46 30.4	
	comp=Z,12nm,1.2s							
W50A	**Signal Mountai**	**22.11**	**13**		P		**P**	07 46 30.0 -0.3
FCAR	**Ozark Folk Cen**	**22.11**	**358**		P		**P**	07 46 30.2 -0.1
FCAR					IAmb	IAmb	07 46 35.6	
	comp=Z,6.3nm,1.2s							
LCAR	**Lake Charles**	**22.28**	**1**		P		**P**	07 46 31.0 -1.2
LCAR					IAmb	IAmb	07 46 33.5	
	comp=Z,3.6nm,0.6s							
CPCT	**Cooper Cave**	**22.53**	**15**		P		**P**	07 46 33.1 -1.7
CPCT					IAmb	IAmb	07 47 04.3	
	comp=Z,5.0nm,0.9s							
WVT	**Waverly**	**22.57**	**8**		P		**P**	07 46 35.4 +0.2
WVT					IAmb	IAmb	07 47 02.5	
	comp=Z,11nm,1.4s							
CLTN	**Cedars of Leba**	**22.76**	**11**		P		**P**	07 46 37.4 +0.1
SMWD	**Samnorwood**	**22.76**	**341**		P		**P**	07 46 37.6 +0.3
SMWD					IAmb	IAmb	07 46 39.7	
	comp=Z,7.2nm,1.0s							
TKL	**Tuckaleechee C**	**22.92**	**16**		P		**P**	07 46 38.6 -0.4
TKL	**Tuckaleechee C**	**22.92**	**16**		P		**P**	07 46 38.6 -0.4
	comp=Z,4.2nm,0.8s,baz=169,slow=10,SNR=7.8 comp=Z,4.2nm,0.8s							
PBMO	**Poplar Bluff**	**23.00**	**2**		P		**P**	07 46 38.2 -1.6
PBMO					IAmb	IAmb	07 46 41.0	
	comp=Z,4.3nm,0.8s							
V53A	**Saluda**	**23.21**	**18**		P		**P**	07 46 41.3 -0.6
V53A					IAmb	IAmb	07 46 59.1	
	comp=Z,12nm,1.2s							
U49A	**Red Boiling Sp**	**23.27**	**12**		P		**P**	07 46 41.0 -1.5
U49A					IAmb	IAmb	07 47 17.5	
	comp=Z,9.5nm,1.1s							
BAUV	**El Baul**	**23.38**	**99**		P		**P**	07 46 42.7 -1.1
CGM3	**Cape Girardeau**	**23.56**	**3**		P		**P**	07 46 44.0 -1.3
CGM3					IAmb	IAmb	07 46 46.3	
	comp=Z,2.6nm,0.6s							
TZTN	**Tazewell**	**23.82**	**16**		P		**P**	07 46 46.1 -1.7
V55A	**Taylorsville**	**23.89**	**21**		P		**P**	07 46 47.8 -0.7
CCM	**Cathedral Cave**	**24.26**	**0**		P		**P**	07 46 51.8 -0.1
U54A	**Nelsons Funny**	**24.30**	**19**		P		**P**	07 46 52.1 -0.3
ATAH	**Atahualpa**	**24.39**	**147**		LR		LR	07 55 39.4
	comp=Z,73nm,18.6s,baz=3.1,slow=34							
Y22A	**Socorro**	**24.61**	**328**		IAmb		IAmb	07 46 57.9
	comp=Z,7.0nm,1.3s							
RTBA	**Rita Blanca**	**24.82**	**338**		P		**P**	07 46 58.3 +1.1
RTBA					IAmb		IAmb	07 47 17.1
	comp=Z,4.9nm,1.1s							
ANMO	**Albuquerque**	**25.15**	**330**		P		**P**	07 47 01.5 +1.3
214A	**Organ Pipe Nat**	**26.74**	**316**		P		**P**	07 47 15.0 +0.5
214A					IAmb		IAmb	07 47 32.1
	comp=Z,3.8nm,1.0s							
SDCO	**Great Sand Dun**	**27.04**	**335**		P		**P**	07 47 18.7 +1.2
PV02	**Paradox Valley**	**28.86**	**331**		IAmb		IAmb	07 48 02.3
	comp=Z,5.3nm,1.2s							
PV12	**Saucer Basin,**	**28.98**	**331**		IAmb		IAmb	07 47 36.8
	comp=Z,4.3nm,0.7s							
MTPU	**Mount Pierson**	**30.48**	**326**		IAmb		IAmb	07 47 52.8
	comp=Z,2.7nm,0.8s							
PSUT	**Pine Spring**	**31.74**	**325**		IAmb		IAmb	07 48 02.0
	comp=Z,2.0nm,0.8s							
PDAR	**Pinedale Array**	**32.94**	**335**		P		**P**	07 48 10.1 +0.5
	comp=Z,0.2nm,0.5s,baz=120,slow=8.8,SNR=3.7 comp=Z,0.2nm,0.5s							
SNOW	**Snow King Moun**	**34.01**	**334**		IAmb		IAmb	07 48 21.5
	comp=Z,2.7nm,0.8s							
NVAR	**Mina Array Bea**	**34.27**	**321**		P		**P**	07 48 23.1 +1.9
	comp=Z,1.5nm,0.7s,baz=128,slow=9.1,SNR=15 comp=Z,1.5nm,0.7s							
MCMT	**McKenzie Canyo**	**36.00**	**334**		P		**P**	07 48 36.7 +0.7
PLID	**Pearl Lake**	**37.62**	**331**		P		**P**	07 48 49.9 +0.1
PLID					IAmb		IAmb	07 48 55.7
	comp=Z,5.2nm,1.4s							
SCHQ	**Schefferville**	**45.31**	**20**		P		**P**	07 49 49.4 -3.0
	comp=Z,33nm,0.9s,baz=207,slow=4.1,SNR=2.9							
YKA	**Yellowknife Ar**	**51.46**	**346**		P		**P**	07 50 38.4 -1.3
	comp=Z,0.7nm,0.7s,baz=149,slow=7.9,SNR=6.1 comp=Z,0.7nm,0.7s							
ILAR	**Eielson Array**	**63.35**	**337**		P		**P**	07 52 02.6 -0.9
	comp=Z,0.9nm,0.9s,baz=167,slow=5.1,SNR=10.0 comp=Z,0.9nm,0.9s							
RAO	**Raoul Island**	**93.60**	**241**		LR		LR	08 26 47.5
	comp=Z,61nm,21.4s,baz=286,slow=29							
WRA	**Warramunga Arr**	**135.88**	**255**		PKP		**PKPdf**	08 00 55.4 -0.8
	comp=Z,0.2nm,0.7s,baz=87,slow=2.2,SNR=1.9							
CMAR	**Chiang Mai Arr**	**146.46**	**342**		PKPbc		**PKPbc**	08 01 15.7 -0.9
	comp=Z,1.8nm,0.6s,baz=336,slow=4.5,SNR=8.9							

GCG 15 08:18:35.0±0.8, 13°89N×91°35W, h62km±15km, MD3.5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.70**	**45**	*eP*			Pn	08 18 49.4	0.0
FG8	**Yepocapa, Chim**	**0.84**	**64**	*eP*			Pn	08 18 49.5	-1.8
ESSJ	**San Jos, E**	**0.88**	**112**	*eP*			Pn	08 18 47.0	-4.5
FG16	**Alotenango, Sa**	**0.89**	**65**	*eP*			Pn	08 18 50.4	-1.5
SOKI	**Kika Raxquin**	**0.93**	**357**	*eP*			Pn	08 18 52.8	+0.2
SOKI				*eS*			Sn	08 19 08.3	+2.8
NUBE	**Las Nubes**	**1.52**	**89**	*eP*			Pn	08 19 00.5	+0.3
NUBE				*eS*			Sn	08 19 20.3	+1.3
JAYA	**Jayaque - finc**	**1.86**	**97**	*eP*			Pn	08 19 05.1	+0.4
JAYA				*eS*			Sn	08 19 27.3	+0.1

*IDC **15** 08:27:23.9±1.6, 30°24S×177°94W, h54km±14km, mb4.1/9, mbtmp4.3/9, MS3.5/1, Error ellipse: s-maj=23.5km s-min=15.4km az=102.0*
*NEIC **15** 08:27:23.4±0.7, 30°35S±0°1×178°04W±0°04, h35km±2km, mb4.5/19, Error ellipse: s-maj=17.8km s-min=6.1km az=356.0*

ISC 15 08:27:22.3±0.6, 30°45S±0°06×178°0W±0°1, h46km, n69, σ2§17/65, mb4.5/22, 4C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.18**	**3**			P	**Pn**	**08 27 40.1**	**-2.3**
GLKZ						S	**Sn**	**08 27 53.9**	**-3.5**
RAO	**Raoul Island**	**1.19**	**3**			P	**Pn**	**08 27 41.2**	**-1.4**
	2µm,0.2s,baz=92,slow=11,SNR=28								
RAO						S	**Sn**	**08 27 55.1**	**-2.5**
	9µm,0.3s,baz=174,slow=23,SNR=17								
WMGZ	**Waiomatatini S**	**7.93**	**201**			P	**Pn**	**08 29 11.6**	**-3.5**
WMGZ						S	**Sn**	**08 30 41.5**	**-1.9**
PKGZ	**Pakihiroa**	**8.09**	**203**			P	**Pn**	**08 29 13.5**	**-3.7**
PKGZ						S	**Sn**	**08 30 46.3**	**-0.9**
HAZ	**Te Kaha**	**8.09**	**205**			P	**Pn**	**08 29 14.4**	**-2.8**
HAZ						S	**Sn**	**08 30 44.4**	**-2.8**
PUZ	**Puketiti**	**8.21**	**201**			P	**Pn**	**08 29 14.6**	**-4.3**
PUZ						S	**Sn**	**08 30 46.9**	**-3.5**
RUGZ	**Raukumara Rang**	**8.31**	**204**			P	**Pn**	**08 29 16.5**	**-3.9**
RUGZ						S	**Sn**	**08 30 52.2**	**-0.7**
WCZ	**Waipu Caves**	**8.44**	**228**			P	Pn	08 29 29.7	+7.7
OUZ	**Omahuta**	**8.53**	**234**			P	Pn	08 29 30.4	+7.2
TKGZ	**Te Karaka**	**8.68**	**202**			P	**Pn**	**08 29 21.0**	**-4.3**
MWZ	**Matawai**	**8.69**	**204**			P	**Pn**	**08 29 22.3**	**-3.2**
URZ	**Urewera**	**8.78**	**206**			P	**Pn**	**08 29 22.5**	**-4.1**
	2.7nm,0.3s,baz=253,slow=4.0,SNR=13								
URZ						S	**Sn**	**08 31 02.2**	**-2.1**
	30nm,0.5s,baz=212,slow=23,SNR=15								
URZ	**Urewera**	**8.78**	**206**			P	**Pn**	**08 29 22.3**	**-4.4**
RIGZ	**Rimuhau**	**8.95**	**202**			P	**Pn**	**08 29 25.0**	**-4.0**
MUGZ	**Murupara**	**9.10**	**207**			P	Pn	08 29 25.6	-5.4
SNGZ	**Shannon Statio**	**9.16**	**204**			P	**Pn**	**08 29 28.1**	**-3.7**
SNGZ						S	**Sn**	**08 31 11.9**	**-1.7**
ETVZ	**East Tongariro**	**10.09**	**209**			S	**Sn**	**08 31 34.6**	**-2.0**
RPZ	**Rata Peaks**	**15.85**	**210**			P	**P**	**08 31 02.0**	**-3.3**
	5.1nm,0.5s,baz=79,slow=2.3,SNR=7.1								
RPZ						S	Sn	08 33 41.6	-15
	2.9nm,0.4s,baz=110,slow=16,SNR=1.9								
DZM	**Mont Dzumac**	**16.25**	**297**			LR	LR	08 36 07.1	
	comp=Z,168nm,19.6s,baz=172,slow=32								
ARMA	**Armidale**	**26.16**	**262**			P	**P**	**08 32 53.4**	**+0.8**
ARMA						IAmb	IAmb	08 33 13.7	
	comp=Z,6.4nm,1.1s								
EIDS	**Eidsvold**	**27.75**	**273**			P	**P**	**08 33 07.1**	**+0.4**
CAN	**Canberra**	**28.07**	**251**			P	**P**	**08 33 11.6**	**+2.1**
CAN						IAmb	IAmb	08 33 13.7	
	comp=Z,11nm,0.9s								
TOO	**Toolangi**	**30.95**	**247**			P	**P**	**08 33 37.4**	**+2.3**
CTAO	**Charters Tower**	**33.81**	**279**			P	P	08 34 03.4	+3.1
STKA	**Stephens Creek**	**34.47**	**257**			P	P	08 34 08.8	+3.0
	comp=Z,26nm,0.7s,baz=99,slow=11,SNR=64 comp=Z,26nm,0.7s								
INKA	**Innaminka**	**36.02**	**264**			P	**P**	**08 34 20.5**	**+1.3**
INKA						IAmb	IAmb	08 34 22.9	
	comp=Z,4.1nm,0.7s								
BBOO	**Buckleboo**	**38.96**	**254**			P	**P**	**08 34 45.4**	**+1.3**
COEN	**Coen**	**39.29**	**286**			P	**P**	**08 34 48.6**	**+1.6**
COEN						IAmb	IAmb	08 35 03.0	
	comp=Z,14nm,1.1s								
AS31	**Alice Springs**	**43.11**	**267**			P	**P**	**08 35 19.5**	**+1.2**
AS31						IAmb	IAmb	08 35 20.1	
	comp=Z,2.7nm,0.4s								
ASAR	**Alice Springs**	**43.11**	**267**			P	**P**	**08 35 19.2**	**+0.8**
ASAR	**Alice Springs**	**43.11**	**267**			P	**P**	**08 35 19.1**	**+0.7**
	comp=Z,5.1nm,0.5s,baz=106,slow=7.1,SNR=131 comp=Z,5.1nm,0.5s								
WR8	**Warramunga Arr**	**43.96**	**272**				**P**	**08 35 26.0**	**+0.8**
WR8						IAmb	IAmb	08 35 27.2	
	comp=Z,7.5nm,0.8s								
WRAB	**Tennant Creek**	**44.10**	**272**			P	**P**	**08 35 27.3**	**+1.0**
WRAB						IAmb	IAmb	08 35 28.1	
	comp=Z,8.1nm,0.7s								
WRA	**Warramunga Arr**	**44.11**	**272**				**P**	**08 35 26.7**	**+0.3**
WRA	**Warramunga Arr**	**44.11**	**272**			P	**P**	**08 35 26.7**	**+0.3**
	comp=Z,11nm,0.4s,baz=111,slow=8.1,SNR=261 comp=Z,11nm,0.4s								
WB0	**Warramunga Arr**	**44.13**	**272**				**P**	**08 35 27.2**	**+0.7**
FORT	**Forrest**	**46.04**	**255**			P	**P**	**08 35 42.7**	**+1.1**
FORT						IAmb	IAmb	08 35 49.0	
	comp=Z,8.6nm,0.9s								
SBA	**Scott Base**	**47.99**	**184**				**P**	**08 35 59.5**	**+3.4**
SBA						IAmb	IAmb	08 36 04.9	
	comp=Z,3.3nm,0.7s								
VNDA	**Vanda**	**48.05**	**186**			P	**P**	**08 35 58.7**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=3.7,slow=8.1,SNR=7.6 comp=Z,0.4nm,0.6s								
KNRA	**Kununurra**	**50.72**	**274**			P	**P**	**08 36 19.1**	**+1.3**
KNRA						IAmb	IAmb	08 36 35.7	
	comp=Z,11nm,1.1s								
FITZ	**Fitzroy Crossi**	**52.37**	**270**			P	**P**	**08 36 30.9**	**+0.9**
CASY	**Casey**	**55.10**	**208**				**P**	**08 36 49.6**	**+0.3**
CASY						IAmb	IAmb	08 36 50.2	
	comp=Z,6.2nm,0.8s								
QSPA	**South Pole Qui**	**59.66**	**180**			P	P	08 37 25.6	+3.9
QSPA	**South Pole Qui**	**59.66**	**180**			P	**P**	**08 37 25.0**	**+3.3**
	comp=Z,2.8nm,0.8s,baz=230,slow=1.4,SNR=12 comp=Z,2.8nm,0.8s								
MAW	**Mawson**	**72.27**	**201**			P	**P**	**08 38 43.6**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=134,slow=6.1,SNR=6.3 comp=Z,1.4nm,0.8s								
TROLL	**Troll, Antarti**	**77.83**	**180**		⇑P		**P**	**08 39 14.1**	**-0.6**
	comp=Z,166nm,0.6s								
SNAA	**Sanae**	**78.11**	**178**		⇑P		**P**	**08 39 16.0**	**-0.1**
	comp=Z,16nm,0.3s								
SNAA	**Sanae**	**78.11**	**178**		P		**P**	**08 39 16.5**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=266,slow=13,SNR=3.7 comp=Z,0.6nm,0.4s								
VNA3	**Neumayer Olymp**	**78.26**	**176**		⇑P		**P**	**08 39 16.7**	**-0.1**
	comp=Z,5.8nm,0.7s								
VNA2	**Neumayer--Watz**	**78.69**	**177**		⇑P		**P**	**08 39 20.0**	**+0.8**
	comp=Z,4.2nm,0.6s,baz=176,slow=5.5								
H03S2	**Juan Fernandez**	**80.43**	**124**		T		T	10 08 41.4	
	baz=238,slow=74,SNR=87								
H03S1	**Juan Fernandez**	**80.44**	**124**		T		T	10 08 41.5	
	baz=238,slow=74,SNR=93								
H03S3	**Juan Fernandez**	**80.45**	**124**		T		T	10 08 38.8	
	baz=238,slow=74,SNR=80								
H03N3	**Juan Fernandez**	**80.63**	**123**		T		T	10 08 51.6	
	baz=242,slow=73,SNR=22								
H03N2	**Juan Fernandez**	**80.63**	**123**		T		T	10 08 47.5	
	baz=242,slow=73,SNR=20								
H03N1	**Juan Fernandez**	**80.64**	**123**		T		T	10 08 49.1	
	baz=242,slow=73,SNR=31								
PETK	**Petropavlovsk-**	**85.86**	**346**		P		**P**	**08 39 56.2**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=134,slow=4.3,SNR=5.0 comp=Z,2.7nm,0.8s								
NVAR	**Mina Array Bea**	**88.27**	**43**		P		**P**	**08 40 09.7**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=227,slow=8.6,SNR=5.4 comp=Z,0.5nm,0.7s								
MKAR	**Makanchi Array**	**117.81**	**310**		PKP		**PKiKP**	**08 46 02.7**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=102,slow=2.6,SNR=5.0								
KURBB	**Kurchatov Arra**	**121.12**	**314**		PKP		**PKiKP**	**08 46 09.0**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=106,slow=1.9,SNR=11								
BVAR	**Borovoye Array**	**126.44**	**316**		PKP		**PKiKP**	**08 46 19.9**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=90,slow=3.3,SNR=9.4								
KBZ	**Khabaz**	**145.14**	**304**		PKPbc		**PKPdf**	**08 46 54.0**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=252,slow=2.0,SNR=3

IDC 15 09:38:05.7±3.1, 32°.51S×178°.11W, h0km, mb3.5/2, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=71.6km s-min=36.5km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**6.94**	**213**	Pn		Pn	09 39 48.5	-0.1
	1.2nm,0.3s,baz=268,slow=4.4,SNR=8.6							
URZ				Sn		Sn	09 41 06.5	-1.7
	1.3nm,0.3s,baz=353,slow=22,SNR=8.5							
	7.4nm,0.7s							
ASAR	**Alice Springs**	**42.95**	**269**	P		P	09 46 07.0	+0.4
	0.3nm,0.5s,baz=101,slow=8.1,SNR=8.1							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**44.12**	**274**	P		P	09 46 15.8	-0.4
	0.3nm,0.3s,baz=114,slow=8.1,SNR=18							
	0.3nm,0.3s							
FINES	**FINESS Array B**	**147.08**	**339**	PKPbc		PKPbc	09 57 48.9	-0.9
	3.2nm,0.8s,baz=29,slow=3.2,SNR=5.3							

IDC 15 09:43:07.6±2.1, 23°.63S×67°.58W, h89km±21km, mb3.8/4, mbtmp4.0/8, MS3.3/1, Error ellipse: s-maj=46.3km s-min=15.5km az=109.0
SJA 15 09:43:07.9±0.7, 23°.47S×68°.15W, h144km±4km, ML3.4, MW3.6
VAO 15 09:43:08.9±2.6, 23°.51S×68°.10W, h140km±12km, mb4.0
GUC 15 09:43:10.4±0.8, 23°.44S×68°.13W, h126km±4km, ML3.6
ISC 15 09:43:08.7±0.7, 23°.49S±0'.04×68°.12W±0'.05, h131km±7km, n51, σ1°.972/72, 3C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AF01	**San Pedro de A**	**0.54**	**354**	⇓*iP*		**Pn**	**09 43 28.7**	**+0.2**
AF01				*eS*		**Sn**	**09 43 43.2**	**-0.3**
AF01	**San Pedro de A**	**0.54**	**354**	*eP*		**Pn**	**09 43 28.8**	**+0.2**
AF01				*eS*		**Sn**	**09 43 45.3**	**+1.7**
AF01				IAML			09 43 49.7	
	comp=Z,2μm,0.5s							
PB06	**IPOC Station P**	**1.55**	**300**	*eP*		**Pn**	**09 43 38.5**	**+0.8**
PB06				*eS*		**Sn**	**09 43 59.5**	**-0.2**
PB06				IAML			09 44 01.9	
	comp=E,1μm,0.2s							
PB06	**IPOC Station P**	**1.55**	**300**	*eP*		**Pn**	**09 43 37.9**	**+0.2**
PB06				*eS*		**Sn**	**09 44 00.2**	**+0.5**
PB06				IAML			09 44 03.9	
	comp=Z,1μm,0.1s							
SALTA		**1.78**	**114**	*eP*		**Pn**	**09 43 42.3**	**+1.6**
PB09	**IPOC Station P**	**1.98**	**328**	⇓*eP*		**Pn**	**09 43 43.8**	**+1.0**
PB09				*eS*		**Sn**	**09 44 08.1**	**-0.7**
PB09				IAML			09 44 11.6	
	comp=N,393nm,0.5s							
PB09				IAML			09 44 16.4	
	comp=E,466nm,0.4s							
PB09	**IPOC Station P**	**1.98**	**328**	*eP*		**Pn**	**09 43 43.4**	**+0.7**
PB09				*eS*		**Sn**	**09 44 09.6**	**+0.8**
PB09				IAML			09 44 13.8	
	comp=Z,513nm,0.5s							
PB05	**IPOC Station P**	**2.02**	**288**	⇑*eP*		**Pn**	**09 43 43.3**	**+0.1**
PB05				*eS*		**Sn**	**09 44 08.6**	**-0.9**
PB05				IAML			09 44 14.5	
	comp=E,228nm,0.2s							
PB05	**IPOC Station P**	**2.02**	**288**	*eP*		**Pn**	**09 43 43.4**	**+0.2**
PB05				*eS*		**Sn**	**09 44 11.0**	**+1.5**
PB05				IAML			09 44 15.0	
	comp=Z,134nm,0.4s							
GO02	**Mina Guanaco**	**2.14**	**219**	⇑*eP*		**Pn**	**09 43 45.9**	**+1.2**
GO02				*eS*		**Sn**	**09 44 13.3**	**+0.9**
PB10	**IPOC Station P**	**2.24**	**269**	⇑*eP*		**Pn**	**09 43 46.2**	**+0.5**
PB10				*eS*		**Sn**	**09 44 13.7**	**-0.3**
PB10				IAML			09 44 19.5	
	comp=E,170nm,0.2s							
PB10	**IPOC Station P**	**2.24**	**269**	*eP*		**Pn**	**09 43 45.9**	**+0.2**
PB10				*eS*		**Sn**	**09 44 17.0**	**+3.0**
PB10				IAML			09 44 20.3	
	comp=Z,120nm,0.4s							
PB14	**IPOC Station P**	**2.38**	**241**	*eP*		**Pn**	**09 43 48.4**	**+0.7**
PB14				*eS*		**Sn**	**09 44 18.1**	**+0.5**
PB14				IAML			09 44 19.6	
	comp=Z,121nm,0.2s							
HJA	**Humahuaca**	**2.50**	**84**	*eP*		**Pn**	**09 43 51.2**	**+1.8**
SLA	**San Lorenzo**	**2.68**	**118**	*eP*		**Pn**	**09 43 52.1**	**+0.6**
PB02	**IPOC Station P**	**2.72**	**322**	⇓*eP*		**Pn**	**09 43 51.9**	**0.0**
PB02				*eS*		**Sn**	**09 44 22.4**	**-2.8**
PB02	**IPOC Station P**	**2.72**	**322**	*eP*		**Pn**	**09 43 51.7**	**-0.2**
PB02				*eS*		**Sn**	**09 44 24.5**	**-0.6**
YJA	**Yavi**	**2.73**	**62**	*eP*		**Pn**	**09 43 54.2**	**+1.8**
PB01	**IPOC Station P**	**2.75**	**332**	⇓*eP*		**Pn**	**09 43 52.3**	**0.0**
PB01				*eS*		**Sn**	**09 44 24.5**	**-1.3**
PB01				IAML			09 44 27.7	
	comp=E,471nm,0.2s							
PB01	**IPOC Station P**	**2.75**	**332**	*eP*		**Pn**	**09 43 52.3**	**0.0**
PB01				*eS*		**Sn**	**09 44 25.1**	**-0.7**
PB01				IAML			09 44 27.5	
	comp=Z,234nm,0.2s							
AZAP	**Zapla**	**2.89**	**105**	*eP*		**Pn**	**09 43 55.3**	**+1.2**
AZAP				IAML			09 44 34.7	
	comp=Z,46nm,2.2s							
FSA	**Cafayete**	**3.25**	**144**	*eP*		**Pn**	**09 44 01.3**	**+2.5**
PATCX	**Punta Patache**	**3.26**	**324**	*eP*		**Pn**	**09 43 58.4**	**-0.5**
PATCX				*eS*		Sn	09 44 26.0	-12
PATCX				IAML			09 44 44.1	
	comp=Z,112nm,0.5s							
AC02	**Maricunga**	**3.45**	**195**	*eP*		**Pn**	**09 44 01.1**	**-0.6**
AC02				*eS*		**Sn**	**09 44 40.5**	**-2.2**
AC02				IAML			09 44 47.9	
	comp=Z,30nm,0.9s							
PB08	**IPOC Station P**	**3.47**	**344**	⇓*eP*		**Pn**	**09 44 02.4**	**+0.4**
PB08	**IPOC Station P**	**3.47**	**344**	*eP*		**Pn**	**09 44 02.2**	**+0.2**
PB08				*eS*		**Sn**	**09 44 39.8**	**-3.2**
PB08				IAML			09 45 17.6	
	comp=Z,41nm,0.4s							
AC01	**Pan de Azucar**	**3.48**	**220**	*eP*		**Pn**	**09 44 01.2**	**-0.4**
AC01				*eS*		**Sn**	**09 44 41.5**	**-1.0**
AC01				IAML			09 44 44.0	
	comp=Z,60nm,0.3s							
TA01	**Diego Aracena**	**3.49**	**326**	*eP*		**Pn**	**09 44 00.9**	**-0.8**
TA01				*eS*		**Sn**	**09 44 36.2**	**-6.5**
TA01				IAML			09 45 00.2	
	comp=Z,65nm,0.9s							
GO01	**Chusmiza**	**3.94**	**345**	*eP*		**Pn**	**09 44 07.5**	**-0.7**
GO01	**Chusmiza**	**3.94**	**345**	*eP*		**Pn**	**09 44 08.3**	**+0.1**
GO01				*eS*		**Sn**	**09 44 55.2**	**+1.1**
GO01				IAML			09 44 59.4	
	comp=Z,37nm,0.6s							
PB11	**IPOC Station P**	**3.98**	**339**	⇓*eP*		**Pn**	**09 44 07.2**	**-1.2**
LPAZ	**La Paz**	**7.17**	**360**	*P*		**Pn**	**09 44 51.7**	**+0.1**
	comp=Z,2.1nm,0.3s,baz=166,slow=7.4,SNR=32							
LPAZ	**La Paz**	**7.17**	**360**	*eP*		**Pn**	**09 44 52.0**	**+0.4**
CFA	**Coronel Fontan**	**8.08**	**181**	*P*		**Pn**	**09 45 01.6**	**-1.7**
	comp=Z,2.2nm,0.3s,baz=20,slow=16,SNR=46							
CFA				S		**Sn**	**09 46 26.1**	**-7.0**
	comp=Z,0.6nm,0.3s,baz=215,slow=24,SNR=1.9							
MURT	**Porto Murtinho**	**9.88**	**81**	*eP*		**Pn**	**09 45 26.1**	**-1.4**
SIV	**San Ignacio**	**9.98**	**43**	*P*		**Pn**	**09 45 25.8**	**-3.1**
	comp=Z,3.7nm,0.4s,baz=237,slow=8.2,SNR=19							
SIV				S		Sn	09 47 09.0	-10
	comp=Z,1.2nm,0.6s,baz=142,slow=23,SNR=2.0							
PTLB	**Pontes e Lacer**	**11.65**	**48**	*eP*		**Pn**	**09 45 51.0**	**0.0**
PDRB	**Porto dos Gac**	**16.03**	**44**	*eP*		**P**	**09 46 47.7**	**-0.1**
CLDB	**Colider**	**17.19**	**45**	*eP*		**Pn**	**09 47 00.4**	**-0.6**
ARAG	**Araguaiana, MT**	**17.19**	**66**	*eP*		**Pn**	**09 47 01.3**	**+0.2**
PLCA	**Paso Flores**	**17.31**	**186**	*P*		**Pn**	**09 47 02.6**	**+0.3**
	comp=Z,2.0nm,1.1s,baz=20,slow=15,SNR=2.1							
IPMB	**Ipameri, GO**	**19.40**	**77**	*eP*		**P**	**09 47 24.4**	**-0.4**
SNDB	**Serra Nova Dou**	**19.67**	**57**	*eP*		**P**	**09 47 26.1**	**-1.6**
BDFB	**Brasilia**	**20.47**	**71**	*P*		**P**	**09 47 35.6**	**-0.8**
	comp=Z,3.5nm,0.5s,baz=246,slow=8.8,SNR=8.8							
	comp=Z,3.5nm,0.5s							
MACA	**Manacapuru-AM**	**21.45**	**21**	*eP*		**P**	**09 47 44.6**	**-2.2**
JANB	**Januaria**	**23.96**	**74**	*eP*		**P**	**09 48 10.5**	**-0.7**
GUA01	**Guaratinga, BA**	**27.44**	**81**	*eP*		**P**	**09 48 42.2**	**-0.2**
PCRV	**Puerto La Cruz**	**33.63**	**6**	LR		LR	10 05 53.0	
	comp=Z,42nm,18.5s,slow=40							
QSPA	**South Pole Qui**	**66.71**	**180**	*P*		**P**	**09 53 49.2**	**+3.8**
	comp=Z,0.5nm,0.5s,baz=221,slow=0.5,SNR=7.2							
	comp=Z,0.5nm,0.5s							
DBIC	**Dimbokro**	**68.62**	**72**	*P*		**P**	**09 53 58.7**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=260,slow=6.4,SNR=2.0							
	comp=Z,2.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**77.35**	**70**	*P*		**P**	**09 54 49.8**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=258,slow=5.4,SNR=23							
	comp=Z,1.4nm,0.4s							

MOS 15 10:12:45.1±1.2, 40°.55N×79°.09E, h11km, mb4.1/5, Error ellipse: s-maj=9.1km s-min=4.8km az=114.6
SOME 15 10:12:45.2, 40°.77N×78°.82E, h10km, MS3.4
IDC 15 10:12:45.3±1.3, 40°.64N×78°.82E, h0km, mb3.9/8, mbtmp3.9/13, ML3.3/5, MS2.9/1, Error ellipse: s-maj=18.5km s-min=15.8km az=180.0
NNC 15 10:12:46.6±1.1, 40°.78N×78°.78E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=7.9km s-min=5.3km az=163.0
KRNET 15 10:12:50.1±0.1, 40°.95N×78°.70E, h16km, mb4.1
ISC 15 10:12:47.6±1.4, 40°.86N±0'.04×78°.91E±0'.03, h4km±9km, n101, σ1°.981/131, mb3.9/11, 23C-16D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TARG	**Taragay, Kyrgy**	**1.20**	**316**	⇑*iP*		**Pg**	**10 13 09.7**	**-1.0**
TARG				⇑*iS*		**Sg**	**10 13 23.9**	**-2.5**
TARG	**Taragay, Kyrgy**	**1.20**	**316**	*i* PG		**Pg**	**10 13 09.7**	**-1.0**
PRZ	**Przheval'sk**	**1.67**	**347**	⇑*iP*		**Pb**	**10 13 19.2**	**+0.2**
PRZ				⇑*iS*		**Sb**	**10 13 40.5**	**+0.1**
PRZ	**Przheval'sk**	**1.67**	**347**	*i* PN		**Pb**	**10 13 19.2**	**+0.2**
KDJ	**Kajisay**	**1.82**	**315**	⇓*iP*		**Pn**	**10 13 20.4**	**+0.6**
KDJ				⇓*iS*		**Sn**	**10 13 42.5**	**-0.9**
KDJ	**Kajisay**	**1.82**	**315**	*i* PN		**Pn**	**10 13 20.4**	**+0.6**
SATY	**Saty**	**2.23**	**350**	Pg		**Pb**	**10 13 29.4**	**+0.9**
	222nm,0.6s							
SATY				Lg		Lg	10 14 01.9	
	2μm,0.9s							
UZB	**Uzunbulak**	**2.29**	**2**	Pg		**Pb**	**10 13 29.8**	**+0.3**
	88nm,0.3s							
UZB				Lg		Lg	10 14 02.2	
	584nm,0.3s							
UZB	**Uzunbulak**	**2.29**	**2**	*eP*		**Pb**	**10 13 29.8**	**+0.3**
	87nm,0.2s							
UZB				*eS*		**Sg**	**10 14 02.2**	**+1.1**
	587nm,0.2s							
UZB	**Uzunbulak**	**2.29**	**2**	*e*PN		**Pb**	**10 13 29.9**	**+0.3**
SHLS	**Shalkode**	**2.33**	**10**	Pg		**Pg**	**10 13 32.2**	**-0.1**
	681nm,0.6s							
SHLS				Lg		Lg	10 14 06.2	
	2μm,0.6s							
SHLS	**Shalkode**	**2.33**	**10**	*eP*		**Pg**	**10 13 32.7**	**+0.3**
	64nm,0.3s							
SHLS				*eS*		**Sg**	**10 14 06.5**	**+3.9**
	2μm,0.6s							
SHLS	**Shalkode**	**2.33**	**10**	*e*PN		**Pg**	**10 13 32.6**	**+0.3**
ULHL	**Ulahol**	**2.44**	**306**	P		**Pb**	**10 13 30.8**	**-1.3**
	SNR=15							
ULHL	**Ulahol**	**2.44**	**306**	⇑*iP*		**Pn**	**10 13 30.2**	**+1.9**
ULHL				⇑*iS*		**Sn**	**10 13 59.6**	**+0.9**
ULHL	**Ulahol**	**2.44**	**306**	*i* PN		**Pn**	**10 13 30.2**	**+1.9**
PDGK	**Podgornoye**	**2.50**	**10**	⇑Pg		**Pb**	**10 13 32.7**	**-0.6**
	128nm,0.7s							
PDGK				⇓Lg		Lg	10 14 09.0	
	445nm,0.5s							
PDGK	**Podgornoye**	**2.50**	**10**	PN		**Pb**	**10 13 32.6**	**-0.6**
PDGK							10 14 09.0	
KPKS	**Kokpek**	**2.61**	**356**	Pg		**Pb**	**10 13 36.1**	**+1.1**
	0.4nm,0.6s							
KPKS				Lg		Lg	10 14 12.5	
	2μm,0.6s							
KPKS	**Kokpek**	**2.61**	**356**	*e*PN		**Pb**	**10 13 33.6**	**-1.4**
KSH	**Kashi**	**2.62**	**240**	Pn		**Pg**	**10 13 37.0**	**-0.8**
KSH				Sn		**Sg**	**10 14 18.0**	**+6.2**
KSH				smax		smax		
	comp=N,130nm,0.5s							
KSH				smax		smax		
	comp=E,140nm,1.0s							
TNSS	**Tian-Shan**	**2.62**	**327**	Pg		**Pb**	**10 13 35.3**	**-0.1**
	comp=E,53nm,0.7s							
TNSS				Lg		Lg	10 14 11.5	
	comp=E,177nm,0.6s							
TNSS	**Tian-Shan**	**2.62**	**327**	*eP*		**Pb**	**10 13 35.5**	**+0.1**
	comp=E,61nm,0.2s							
TNSS				*eS*		**Sg**	**10 14 11.5**	**-0.4**
	comp=E,152nm,0.5s							
MDOK	**Medeo**	**2.69**	**329**	Pg		**Pb**	**10 13 36.4**	**+0.1**
	comp=E,239nm,0.7s							
MDOK				Lg		Lg	10 14 13.7	
	comp=E,447nm,0.6s							
KNDC	**Almaty**	**2.77**	**329**	⇑Pg		**Pb**	**10 13 37.9**	**+0.3**
	comp=E,553nm,0.7s							
KNDC				⇑Lg		Lg	10 14 16.7	
	comp=E,1μm,0.6s							
KNDC	**Almaty**	**2.77**	**329**	PN		**Pb**	**10 13 37.9**	**+0.3**
KNDC							10 14 16.6	
AAA	**Alma-Ata**	**2.78**	**328**	*eP*		**Pb**	**10 13 37.7**	**-0.1**
	comp=E,91nm,0.2s							
AAA				*eS*		**Sg**	**10 14 15.4**	**-1.5**
	comp=E,75nm,0.8s							
MTBS	**Maitube**	**2.93**	**322**	Pg		**Pb**	**10 13 39.8**	**-0.6**
	comp=E,34nm,0.4s							
MTBS				Lg		Lg	10 14 19.4	
	comp=E,126nm,0.6s							
MTBS	**Maitube**	**2.93**	**322**	*eP*		**Pb**	**10 13 39.8**	**-0.6**
	comp=E,34nm,0.4s							
MTBS				*eS*		**Sg**	**10 14 19.4**	**-2.2**
	comp=E,126nm,0.6s							
KST	**Kastek**	**3.10**	**316**	Pg		**Pb**	**10 13 43.2**	**-0.1**
	comp=E,35nm,0.5s							
KST				Lg		Lg	10 14 24.7	
	comp=E,121nm,0.6s							
KST	**Kastek**	**3.10**	**316**	*eP*		**Pb**	**10 13 43.2**	**-0.1**
	comp=E,35nm,0.5s							
KST				*eS*		**Sg**	**10 14 24.7**	**-2.4**
	comp=E,121nm,0.6s							
TKM2	**Tokmak 2**	**3.22**	**311**	P		**Pn**	**10 13 41.8**	**+2.7**
	SNR=11							
TKM2	**Tokmak 2**	**3.22**	**311**	⇑*iP*		**Pn**	**10 13 41.1**	**+2.0**
TKM2				⇑*iS*		**Sn**	**10 14 18.5**	**+0.5**
TKM2	**Tokmak 2**	**3.22**	**311**	*e*PN		**Pn**	**10 13 41.1**	**+2.0**
KTBS	**Karatobe**	**3.29**	**331**	Pg		**Pb**	**10 13 47.0**	**+0.4**
	comp=E,136nm,0.5s							
KTBS				Lg		Lg	10 14 31.2	
	comp=E,76nm,0.4s							
CHKK	**Chushkaly**	**3.31**	**335**	Pg		**Pb**	**10 13 47.4**	**+0.5**
	comp=E,20nm,0.3s							
CHKK				Lg		Lg	10 14 32.6	
	comp=E,604nm,0.4s							
CHKK	**Chushkaly**	**3.31**	**335**	*eP*		**Pb**	**10 13 47.4**	**+0.5**
	comp=E,20nm,0.3s							
CHKK				*eS*		**Sg**	**10 14 32.5**	**-1.5**
	comp=E,604nm,0.4s							
ARXS	**Arharly**	**3.45**	**347**	Pg		**Pb**	**10 13 50.6**	**+1.4**
	comp=E,61nm,0.6s							
ARXS				Lg		Lg	10 14 37.5	
	comp=E,628nm,0.5s							
ARXS	**Arharly**	**3.45**	**347**	*eP*		**Pb**	**10 13 50.6**	**+1.4**
ARXS				*eS*		**Sg**	**10 14 37.5**	**-0.7**
ARXS	**Arharly**	**3.45**	**347**	*e*PN		**Pn**	**10 13 45.0**	**+2.9**
KBK	**Karagaybulak**	**3.47**	**302**	P		**Pb**	**10 13 50.3**	**+0.7**
	SNR=16							
KBK	**Karagaybulak**	**3.47**	**302**	⇑*iP*		**Pn**	**10 13 44.5**	**+2.0**
KBK				⇑*iS*		**Sn**	**10 14 24.3**	**+0.3**
KBK	**Karagaybulak**	**3.47**	**302**	*i* PN		**Pn**	**10 13 44.5**	**+2.0**
UCH	**Uchtor**	**3.57**	**294**	P		**Pb**	**10 13 51.7**	**+0.1**
	SNR=13							
UCH	**Uchtor**	**3.57**	**294**	⇑*iP*		**Pn**	**10 13 46.3**	**+2.1**
UCH				⇑*iS*		**Sn**	**10 14 27.2**	**+0.1**
UCH	**Uchtor**	**3.57**	**294**	*e*PN		**Pn**	**10 13 46.3**	**+2.1**
KUU	**Kurty**	**3.58**	**329**	Pg		**Pb**	**10 13 51.3**	**-0.2**
	comp=E,44nm,0.9s							
KUU				Lg		Lg	10 14 38.5	
	comp=E,85nm,0.6s							
KUU	**Kurty**	**3.58**	**329**	*eP*		**Pb**	**10 13 50.7**	**-0.8**
	comp=E,47nm,0.3s							
KUU				*eS*		**Sb**	**10 14 37.5**	**+2.2**
	comp=E,178nm,0.3s							
KRBS	**Karabastau**	**3.71**	**321**	Pg		**Pb**	**10 13 53.3**	**-0.5**
	comp=E,8.1nm,0.4s							
KRBS				Lg		Lg	10 14 42.6	
	comp=E,16nm,1.0s							
FRU1	**Bishkek**	**3.75**	**303**	⇓*iP*		**Pn**	**10 13 48.6**	**+2.4**
FRU1				⇓*iS*		**Sn**	**10 14 31.3**	**+0.5**
FRU1	**Bishkek**	**3.75**	**303**	*i* PN		**Pn**	**10 13 48.6**	**+2.4**
AAK	**Ala-Archa**	**3.75**	**300**	P		**Pb**	**10 13 54.5**	**0.0**
	SNR=18							
AAK	**Ala-Archa**	**3.75**	**300**	⇓Pg		**Pb**	**10 13 54.1**	**-0.4**
	comp=E,297nm,0.9s							
AAK				⇑Lg		Lg	10 14 42.7	
	comp=E,301nm,0.6s							
AAK	**Ala-Archa**	**3.75**	**300**	Pn		**Pn**	**10 13 49.4**	**+3.1**
	comp=E,9.0nm,0.3s,baz=134,slow=13,SNR=25							
AAK				Pg		**Pb**	**10 13 54.5**	**0.0**
	comp=E,9.0nm,0.3s,baz=146,slow=9.9,SNR=22							
AAK				Lg		Lg	10 14 43.7	
	comp=E,7.2nm,0.3s,baz=335,slow=21,SNR=7.6							
AAK				LR		LR	10 15 17.6	
	comp=E,169nm,18.8s,baz=322,slow=40							
	comp=E,23nm,0.9s							
AAK	**Ala-Archa**	**3.75**	**300**	⇓*iP*		**Pn**	**10 13 48.5**	**+2.1**
AAK				⇓*iS*		**Sn**	**10 14 31.2**	**+0.1**
AAK	**Ala-Archa**	**3.75**	**300**	*i* PN		**Pn**	**10 13 48.1**	**+1.7**
AAK				pmax		pmax		
	comp=E,297nm,0.9s							
CHMS	**Chumysh**	**3.77**	**306**	P		**Pb**	**10 13 54.7**	**0.0**
	SNR=5.9							
CHMS	**Chumysh**	**3.77**	**306**	⇓*iP*		**Pn**	**10 13 48.6**	**+2.1**
CHMS				⇓*iS*		**Sn**	**10 14 31.4**	**+0.1**
CHMS	**Chumysh**	**3.77**	**306**	*e*PN		**Pn**	**10 13 48.6**	**+2.1**
USP	**Ospenovka**	**4.07**	**308**	P		**Pb**	**10 14 00.6**	**+0.8**
	SNR=15							
USP	**Ospenovka**	**4.07**	**308**	⇓*iP*		**Pn**	**10 13 52.8**	**+2.1**
USP				⇓*iS*		**Sn**	**10 14 38.7**	**-0.1**
USP	**Ospenovka**	**4.07**	**308**	*e*PN		**Pn**	**10 13 52.8**	**+2.1**
SGDS	**Sogindy**	**4.10**	**311**	Pg		**Pb**	**10 14 00.1**	**-0.3**
	comp=Z,9.5nm,0.6s							
SGDS				Lg		Lg	10 14 54.1	
	comp=Z,88nm,0.7s							
TDK	**Taldyqorghan**	**4.16**	**355**	*eP*		**Pb**	**10 14 03.7**	**+2.4**
	comp=Z,66nm,0.2s							
TDK				*eS*		**Sg**	**10 14 59.9**	**-1.2**
	comp=Z,330nm,0.3s							
EKS2	**Erkin-Say**	**4.24**	**297**	P		**Pb**	**10 14 03.9**	**+1.1**
	SNR=52							
EKS2	**Erkin-Say**	**4.24**	**297**	⇓*iP*		**Pn**	**10 13 55.3**	**+2.2**
EKS2				⇓*iS*		**Sn**	**10 14 42.8**	**-0.3**
EKS2	**Erkin-Say**	**4.24**	**297**	*e*PN		**Pn**	**10 13 55.3**	**+2.2**
ARSB	**Arslanbob**	**4.50**	**278**	⇑*iP*		**Pn**	**10 13 59.2**	**+2.5**
ARSB				⇑*iS*		**Sn**	**10 14 49.6**	**0.0**
ARSB	**Arslanbob**	**4.50**	**278**	*i* PN		**Pn**	**10 13 59.2**	**+2.5**
ARSB				*i* S		**Sn**	**10 14 49.6**	**0.0**
BTLS	**Baital**	**5.50**	**321**	Pg		**Pb**	**10 14 27.4**	**+3.3**
	comp=Z,8.2nm,0.9s							
BTLS				Lg		Lg	10 15 41.3	
	comp=Z,9.9nm,0.8s							
TRKS	**Terek-Say**	**5.90**	**279**	⇑*iP*		**Pn**	**10 14 17.9**	**+2.0**
TRKS				⇑*iS*		**Sn**	**10 15 22.1**	**-1.9**
TRKS	**Terek-Say**	**5.90**	**279**	*i* PN		**Pn**	**10 14 17.9**	**+2.0**
TRKS				*i* S		**Sb**	**10 15 42.1**	**-0.1**
MK31	**Makanchi Array**	**6.41**	**21**	⇑Pn		**Pn**	**10 14 25.6**	**+2.8**
	comp=Z,1.0nm,0.3s,baz=200,slow=12,SNR=78							
MK31				⇓Pg		**Pg**	**10 14 47.9**	**-2.6**
	comp=Z,1.9nm,0.4s,baz=200,slow=14,SNR=4.7							
MK31				⇓Sn		**Sn**	**10 15 39.2**	**+2.8**
	comp=Z,4.0nm,0.5s							
MK31				⇑Lg		Lg	10 16 11.1	
	comp=Z,28nm,0.9s,baz=206,slow=25,SNR=3.6							
MK31	**Makanchi Array**	**6.41**	**21**	*i* PN		**Pn**	**10 14 25.4**	**+2.6**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**6.41**	**21**	Pn		**Pn**	**10 14 25.6**	**+2.8**
	comp=Z,1.9nm,0.3s,baz=204,slow=13,SNR=73							
MKAR				Sn		**Sn**	**10 15 39.9**	**+3.4**
	comp=Z,1.3nm,0.3s,baz=201,slow=20,SNR=5.2							
MKAR				Lg		Lg	10 16 14.1	
	comp=Z,2.6nm,0.3s,baz=204,slow=29,SNR=5.6							
	comp=Z,2.9nm,0.3s							
KK31	**Karatay Array**	**6.65**	**292**	Pg		**Pb**	**10 14 45.4**	**+1.6**
	comp=Z,4.1nm,0.6s,baz=109,slow=14,SNR=31							
KK31				Lg		Lg	10 16 16.5	
	comp=Z,8.2nm,0.6s,baz=106,slow=27,SNR=6.5							
KK31	**Karatay Array**	**6.65**	**292**	PN		Pn	10 14 32.0	+6.0
KK31				S		Sn	10 15 53.0	+11
IUG	**Iuzhnay**	**6.79**	**284**	Pg		Pg	10 14 52.5	-5.2
	comp=Z,19nm,0.8s							
IUG				Lg		Lg	10 16 23.7	
	comp=Z,32nm,0.7s							
KURBB	**Kurchatov Arra**	**9.77**	**359**	Pn		**Pn**	**10 15 10.8**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=188,slow=12,SNR=16							
KURBB				Pg			10 15 48.8	
	comp=Z,0.1nm,0.3s,baz=176,slow=17,SNR=5.0							
KURBB				Lg		Lg

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.08**	**350**	*eP*	Pn	10 51 46.1	-0.9
SKR				*eS*	Sn	10 52 10.5	-2.0
PAU	**Pauzhetka**	**2.84**	**2**	*eP*	Pn	10 51 59.9	+2.5
PAU				*eS*	Sn	10 52 33.4	+2.3
MIPR	**Malaya Ipel'ka**	**3.65**	**1**	*eP*	Pn	10 52 10.5	+2.0
ASAK	**Asacha**	**3.83**	**11**	*eP*	Pn	10 52 15.4	+4.3
MTVR	**Mutnovka**	**3.97**	**14**	*eP*	Pn	10 52 17.4	+4.2
MTVR				*eS*	Sn	10 53 04.4	+5.0
RUS	**Russkaya**	**3.98**	**17**	*eP*	Pn	10 52 16.9	+3.8
GRL	**Gorelyy**	**4.02**	**12**	*eP*	Pn	10 52 18.4	+4.6
GRL				*eS*	Sb	10 53 06.5	-5.2
KRMR	**Karymshinskiy**	**4.30**	**12**	*eP*	Pn	10 52 22.4	+4.9
KRMR				*eS*	Sb	10 53 14.8	-4.8
DALK	**Dalny**	**4.60**	**16**	*eP*	Pn	10 52 25.9	+4.4
DALK				*eS*	Sn	10 53 19.8	+5.3
UGLR	**Uglovaya**	**4.78**	**16**	*eP*	Pn	10 52 29.1	+4.9
AVH	**Avacha**	**4.82**	**15**	*eP*	Pn	10 52 30.7	+6.0
KOK	**Koryaka**	**4.83**	**14**	*eP*	Pn	10 52 30.7	+5.9
SMAR	**Somma**	**4.83**	**15**	*eP*	Pn	10 52 29.7	+4.8
SDLR	**Sedlovina**	**4.86**	**16**	*eP*	Pn	10 52 29.5	+4.3
KRX	**Arik**	**4.89**	**14**	*eP*	Pn	10 52 30.7	+4.9
SPN	**Mys Shipunski**	**4.95**	**24**	*eP*	Pn	10 52 31.4	+5.0
GNL	**Ganaly**	**5.13**	**9**	*eP*	Pn	10 52 34.1	+5.2
MKZ	**Mys Kozlova**	**6.72**	**26**	*eP*	Pn	10 52 54.8	+4.2

*DJA **15** 11:37:13.1±0.5,4˚S±4˚×14˚0E±˚, h10km,M4.4/7, mB6.2/1, mb4.3/1,MLv4.5/7,Mw(mB)5.8/1*
*IDC **15** 11:37:23.3±5.2,3.66S×140.66E, h161km±49km, mb2.9/3, mbtmp3.4/4, Error ellipse: s-maj=60.3km s-min=19.8km az=96.0*
ISC 15 11:37:13.8±0.9,**3.92S**±0.07×**139.95E**±0.07,**h35**km,**n12**, σ**2.9**95/16,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.33**	**10**	P	**Pn**	**11 37 38.8**	**+2.9**
GENI				S	**Sn**	**11 37 52.9**	**+0.5**
JAY	**Jayapura**	**1.58**	**29**	P	**Pn**	**11 37 41.4**	**+2.0**
JAY				S	**Sn**	**11 37 57.8**	**-0.9**
SMPI	**Sarmi**	**2.28**	**327**	P	**Pn**	**11 37 51.4**	**+2.5**
SRPI	**Serui, Papua**	**4.22**	**299**	P	**Pn**	**11 38 18.6**	**+2.9**
SRPI				S	**Sn**	**11 39 01.8**	**-2.0**
MMPI	**Merauke**	**4.54**	**175**	P	**Pn**	**11 38 21.5**	**+1.4**
BAKI	**Biak**	**4.69**	**305**	P	**Pn**	**11 38 25.1**	**+3.0**
RKPI	**Ransiki, Papua**	**6.24**	**292**	P	**Pn**	**11 38 45.8**	**+2.4**
FAKI	**Fak Fak**	**7.75**	**277**	P	**Pn**	**11 39 03.3**	**-0.8**
WRA	**Warramunga Arr**	**16.84**	**198**	P	**P**	**11 41 14.0**	**+5.2**
WRA	0.5nm,0.4s,baz=21,slow=12,SNR=15			S	**Sn**	**11 44 10.6**	**-2.6**
ASAR	3.1nm,0.7s,baz=20,slow=22,SNR=5.2 **Alice Springs**	**20.48**	**196**	P	Pn	11 41 53.9	+2.8
ASAR	0.4nm,0.7s,baz=27,slow=11,SNR=9.1			S	**S**	**11 45 39.0**	**+2.7**
MKAR	1.6nm,0.8s,baz=17,slow=26,SNR=7.0 **Makanchi Array**	**71.49**	**322**	P	**P**	**11 48 28.3**	**-2.7**
	0.4nm,0.7s 0.3nm,0.5s,baz=108,slow=7.7,SNR=2.3						
VNDA	0.3nm,0.5s **Vanda**	**74.48**	**175**	P	**P**	**11 48 44.1**	**-4.0**
	0.2nm,0.4s,baz=344,slow=7.4,SNR=5.9 0.2nm,0.4s						

*ISN **15** 11:41:06.1±1.0,34˚60N×45˚84E, h18km±7km, ML2.5*
*TEH **15** 11:41:06.2,34˚53N×45˚84E, h10km±22km*
ISC 15 11:41:07.4±1.6,**34.53N**±0.07×**45.83E**±0.08,**h10**km,**n8**, σ**0.98**/12,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.42**	**172**	Pg	**Pg**	**11 41 14.8**	**-1.0**
GLG1				Sg	**Sg**	**11 41 21.3**	**-0.1**
IDHR	**Dehrash**	**0.48**	**70**	Pg	**Pg**	**11 41 15.9**	**-1.0**
IGHG	**Ghaleghazi**	**0.64**	**108**	Pg	**Pg**	**11 41 18.8**	**-1.1**
IBDR	**Badra**	**1.42**	**177**	*e*Pg	**Pn**	**11 41 33.5**	**+0.2**
IBDR				*e*Sg	**Sn**	**11 41 52.0**	**-0.1**
SNQR	**Sonqor, Kerman**	**1.51**	**77**	Pg	**Pn**	**11 41 35.1**	**+0.3**
IBZA	**Bozab**	**1.67**	**92**	Pg	**Pn**	**11 41 38.3**	**+1.3**
BHD	**Baghdad**	**1.75**	**224**	*e*Pn	**Pn**	**11 41 37.5**	**-0.3**
BHD				*e*Sn	**Sn**	**11 42 01.6**	**+1.5**
RAFI	**Al-Rafai**	**2.81**	**175**	*e*Pn	**Pn**	**11 41 53.0**	**+0.6**
RAFI				*e*Sn	**Sn**	**11 42 27.5**	**+1.1**

*NEIC **15** 11:43:41.0±2.0,15˚2S±0˚1×173˚85W±0˚08, h73km±6km, mb4.9/45, Error ellipse: s-maj=15.8km s-min=11.2km az=194.0*
*IDC **15** 11:43:40.1±3.2,15˚10S×174˚00W, h63km±28km, mb4.3/16, mbtmp4.6/18, ML4.0/2, MS3.7/30, Error ellipse: s-maj=17.9km s-min=12.6km az=135.0*
*GCMT **15** 11:43:46.0±0.2, 15˚06S±0.02×173˚74W±0˚02, h106km±3km, MW4.9/91, Moment Tensor Solution. s28,c30; s91,c125; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.93±.11; Mθθ1.22±.13; Mφφ-0.29±.13; Mrθ0.40±.07; Mθφ-1.17±.13; Mφr-2.04±.06; Best double couple: M=2.62200×10^16 NP1:Φs=85.00000°, δ35.00000°, λ-158.00000°. NP2:Φs=337.00000°, δ78.00000°, λ-57.00000°. Principal axes: T 2.5100, Plg26.0000°, Azm41.0000°; N 0.2210, Plg32.0000°, Azm149.0000°; P -2.7330, Plg47.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 15 11:43:40.6±0.3,**15.18S**±0.07×**173.93W**±0.06,**h73**km, **n200**,σ**1.28**/167,**mb4.9**/48,**18C-15D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**4.15**	**282**		**Pn**	**11 44 45.9**	**+4.4**
NIUE	**Niue**	**5.45**	**136**		**Pn**	**11 44 59.8**	**+0.5**
MSVF	**Nonsavu**	**8.10**	**251**		Pn	11 45 44.5	+8.8
RAO	**Raoul Island**	**14.48**	**194**	LR	LR	11 51 06.8	
	comp=Z,182nm,19.1s,baz=330,slow=31						
RAR	**Rarotonga**	**14.72**	**116**	Pn	**Pn**	**11 47 02.9**	**-2.1**
RAR	**Rarotonga**	**14.72**	**116**	P	**Pn**	**11 47 05.4**	**+0.3**
	2.9nm,0.3s,baz=162,slow=3.0,SNR=5.9						
RAR				S	Sn	11 49 36.0	-11
	9.8nm,0.6s,baz=342,slow=6.2,SNR=1.9						
RAR				LR	LR	11 51 28.9	
	comp=Z,126nm,20.1s,baz=286,slow=32						
	21nm,0.8s						
SANVU	**Saraoutou**	**18.20**	**267**	P	**P**	**11 47 45.5**	**-2.3**
PINNC	**Pines Island,**	**19.10**	**244**		**P**	**11 47 55.3**	**-2.3**
DZM	**Mont Dzumac**	**19.81**	**247**	*e*P	**Pn**	**11 48 06.9**	**-0.8**
	150nm,1.2s						
DZM				*e*S	**S**	**11 51 36.6**	**-8.4**
	207nm,30.8s						
DZM				*e*LR	LR	11 52 57.3	
	620nm,32.5s						
DZM	**Mont Dzumac**	**19.81**	**247**	P	**P**	**11 48 04.1**	**-1.4**
DZM				IAmb	IAmb	11 48 14.2	
	comp=Z,60nm,1.0s						
DZM	**Mont Dzumac**	**19.81**	**247**	P	**Pn**	**11 48 06.8**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=72,slow=19,SNR=11						
DZM				LR	LR	11 54 06.0	
	comp=Z,295nm,20.6s,baz=52,slow=32						
	comp=Z,12nm,0.8s						
PPT	**Papeete**	**23.48**	**99**	LR	LR	11 56 56.2	
	comp=Z,103nm,19.2s,baz=288,slow=34						
PPT2	**Papeete2**	**23.48**	**99**	*e*LR	LR	11 54 18.5	
	comp=Z,422nm,32.0s						
PPT2				*e*LR	LR	11 54 21.3	
	comp=Z,288nm,43.8s						
XMAS	**Kiritimati**	**23.64**	**45**		**P**	**11 48 44.6**	**-1.0**
XMAS				IAmb	IAmb	11 48 48.1	
	comp=Z,87nm,0.9s						
URZ	**Urewera**	**24.32**	**197**	LR	LR	11 56 16.1	
	comp=Z,104nm,21.1s,baz=14,slow=31						
TOZ	**Tahuroa Road**	**24.34**	**201**	P	**P**	**11 48 52.8**	**+1.2**
TBI	**Tubuai**	**24.46**	**113**	*e*P	**P**	**11 48 48.0**	**-4.8**
	comp=Z,1μm,43.2s						
TBI				*e*LR	LR	11 54 49.9	
	comp=Z,2μm,32.5s						
TBI				*e*LR	LR	11 54 52.0	
	comp=Z,822nm,32.5s						
HNR	**Honiara**	**26.14**	**280**	LR	LR	11 58 36.0	
	comp=Z,76nm,18.7s,baz=146,slow=34						
TAOE	**Nuku Hiva Isla**	**33.60**	**83**	*e*LR	LR	11 59 07.5	
	comp=Z,284nm,26.9s						
CTAO	**Charters Tower**	**38.19**	**257**	P	**P**	**11 50 54.0**	**+0.4**
H11S2	**WAKE ISLAND Hy**	**38.51**	**330**	T	T	12 32 11.0	
	baz=149,slow=74						
H11S3	**WAKE ISLAND Hy**	**38.53**	**330**	T	T	12 31 37.2	
	baz=149						
H11S1	**WAKE ISLAND Hy**	**38.53**	**330**	T	T	12 32 14.0	
	baz=149,slow=74						
CAN	**Canberra**	**38.76**	**232**	P	**P**	**11 50 57.6**	**-0.6**
CAN				sP	**sP**	**11 51 26.3**	**+3.0**
H11N3	**WAKE ISLAND Hy**	**39.47**	**331**	T	T	12 33 19.0	
	baz=150,slow=76,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**39.47**	**331**	T	T	12 33 18.5	
	baz=150,slow=76,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**39.49**	**331**	T	T	12 33 11.4	
	baz=150,slow=76,SNR=7.7						
COEN	**Coen**	**41.49**	**266**		**P**	**11 51 21.9**	**+1.0**
COEN				IAmb	IAmb	11 51 23.0	
	comp=Z,82nm,1.6s						
TOO	**Toolangi**	**42.21**	**230**		**P**	**11 51 26.6**	**0.0**
TOO				IAmb	IAmb	11 51 27.8	
	comp=Z,12nn,0.9s						
STKA	**Stephens Creek**	**43.70**	**240**		**P**	**11 51 38.5**	**-0.2**
STKA				IAmb	IAmb	11 51 39.4	
	comp=Z,38nm,0.9s						
STKA	**Stephens Creek**	**43.70**	**240**	P	**P**	**11 51 38.0**	**-0.6**
	comp=Z,5.5nm,0.8s,baz=77,slow=9.1,SNR=7.9						
STKA				LR	LR	12 10 55.0	
	comp=Z,97nm,18.1s,baz=26,slow=37						
	comp=Z,5.5nm,0.8s						
INKA	**Innaminka**	**43.76**	**246**		**P**	**11 51 39.4**	**+0.2**
INKA				IAmb	IAmb	11 51 41.0	
	comp=Z,12nn,0.8s						
JAY	**Jayapura**	**46.44**	**281**	LR	LR	12 10 12.1	
	comp=Z,87nn,18.2s,baz=0.5,slow=34						
WB0	**Warramunga Arr**	**49.35**	**257**	P	**P**	**11 52 22.9**	**-0.2**
WRA	**Warramunga Arr**	**49.40**	**257**	P	**P**	**11 52 22.6**	**-0.8**
WRA	**Warramunga Arr**	**49.40**	**257**	P	**P**	**11 52 22.6**	**-0.8**
	comp=Z,23nm,0.6s,baz=97,slow=7.8,SNR=259						
WRA				PcP	**PcP**	**11 53 44.8**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=95,slow=3.3,SNR=1.2						
WRA				S	**S**	**11 59 26.8**	**+1.5**
	comp=Z,0.3nm,0.9s,baz=110,slow=14,SNR=4.9						
WRA				LR	LR	12 10 31.2	
	comp=Z,120nm,21.4s,baz=52,slow=33						
	comp=Z,23nm,0.6s						
AS31	**Alice Springs**	**49.69**	**252**	P	**P**	**11 52 25.6**	**0.0**
ASAR	**Alice Springs**	**49.69**	**252**	P	**P**	**11 52 25.5**	**-0.2**
ASAR	**Alice Springs**	**49.69**	**252**	P	**P**	**11 52 24.9**	**-0.7**
	comp=Z,205nm,0.7s,baz=86,slow=8.2,SNR=1585						
ASAR				PcP	**PcP**	**11 53 46.7**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=86,slow=4.1,SNR=2.1						
ASAR				LR	LR	12 11 37.2	
	comp=Z,132nm,22.0s,baz=108,slow=34						
GUMO	**Guam**	**49.78**	**303**	LR	LR	12 08 20.4	
	comp=Z,22nm,20.1s,baz=168,slow=30						
BAKI	**Biak**	**51.22**	**281**	P	**P**	**11 52 40.2**	**+3.0**
	comp=Z,38nm,1.0s						
MTN	**Manton Dam**	**53.24**	**265**	P	**P**	**11 52 51.8**	**-0.4**
FAKI	**Fak Fak**	**54.38**	**277**	P	**P**	**11 52 58.4**	**-2.1**
KNRA	**Kununurra**	**55.09**	**261**	P	**P**	**11 53 04.5**	**-1.1**
KNRA				IAmb	IAmb	11 53 05.9	
	comp=Z,23nm,1.1s						
SWI	**Sorong**	**55.92**	**279**	P	**P**	**11 53 12.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**57.75**	**258**	LR	LR	12 15 37.9	
	comp=Z,142nm,21.1s,baz=92,slow=33						
DRV	**Dumont d'Urvil**	**59.63**	**199**	P	**P**	**11 53 37.3**	**+0.5**
SOEI	**Soe**	**60.43**	**267**	P	**P**	**11 53 43.8**	**+0.6**
SOEI	**Soe**	**60.43**	**267**	P	**P**	**11 53 44.7**	**+1.4**
	comp=Z,59nm,0.8s						
PSA00	**Pilbara Seismi**	**62.78**	**253**	P	**P**	**11 53 57.9**	**-0.9**
PSA00	**Pilbara Seismi**	**62.78**	**253**	P	**P**	**11 53 58.3**	**-0.5**
PSA00				IAmb	IAmb	11 53 59.0	
	comp=Z,13nm,0.9s						
MBWA	**Marble Bar**	**62.93**	**254**	P	**P**	**11 53 59.2**	**-0.7**
MBWA				IAmb	IAmb	11 53 60.0	
	comp=Z,20nm,0.9s						
MBWA	**Marble Bar**	**62.93**	**254**	P	**P**	**11 53 59.0**	**-0.8**
EDFI	**Ende, Flores**	**63.12**	**268**	P	**P**	**11 54 00.7**	**-0.7**
	comp=Z,33nn,0.6s						
SBA	**Scott Base**	**63.43**	**184**	P	**P**	**11 54 03.9**	**+1.8**
SBA				IAmb	IAmb	11 54 05.9	
	comp=Z,28nn,1.6s						
VNDA	**Vanda**	**63.54**	**186**	P	**P**	**11 54 04.4**	**+1.5**
VNDA				IAmb	IAmb	11 54 05.8	
	comp=Z,13nm,1.3s						
VNDA	**Vanda**	**63.54**	**186**	P	**P**	**11 54 04.4**	**+1.5**
	comp=Z,4.6nm,0.8s,baz=6.0,slow=6.3,SNR=24						
	comp=Z,4.6nm,0.8s						
VNDA	**Vanda**	**63.54**	**186**	P	**P**	**11 54 04.5**	**+1.5**
VNDA				PcP	**PcP**	**11 54 40.4**	**+1.5**
DAV	**Davao City (W)**	**63.88**	**286**	LR	LR	12 18 24.5	
	comp=Z,33nm,21.1s,baz=149,slow=33						
KAPI	**Kapanjang**	**65.86**	**271**	LR	LR	12 21 17.1	
	comp=Z,100nn,18.6s,baz=108,slow=34						
GIRL	**Giralia**	**67.81**	**251**	P	**P**	**11 54 30.2**	**-1.2**
SHEM	**Shemya Is, Ala**	**68.41**	**352**	LR	LR	12 18 25.8	
	comp=Z,33nn,20.4s,baz=108,slow=30						
MJAR	**Matsushiro Arr**	**68.44**	**320**	P	**P**	**11 54 34.8**	**-0.2**
MJAR	**Matsushiro Arr**	**68.44**	**320**	P	**P**	**11 54 34.5**	**-0.5**
	comp=Z,4.0nm,1.0s,baz=151,slow=6.9,SNR=5.4						
MJAR				LR	LR	12 17 56.4	
	comp=Z,41nm,20.9s,baz=116,slow=30						
	comp=Z,4.0nm,1.0s						
MJB9	**Matsu-Tunnel**	**68.45**	**320**	P	**P**	**11 54 34.6**	**-0.5**
MJB9				IAmb	IAmb	11 55 19.6	
	comp=Z,26nm,1.5s						
CCD	**Concordia, Ant**	**68.55**	**194**	P	**P**	**11 54 36.2**	**+0.6**
JAGI	**Jajag, Banyuwa**	**70.45**	**266**	P	**P**	**11 54 45.7**	**-2.2**
JKA	**Kamikawa-asahi**	**71.08**	**328**	P	**P**	**11 54 51.8**	**+0.8**
JKA				IAmb	IAmb	11 54 53.4	
	comp=Z,17nm,1.3s						
ASAJ	**Asahikawa**	**71.08**	**328**	LR	LR	12 21 44.4	
	comp=Z,20nm,18.7s,baz=346,slow=32						
JNU	**Nakatsue**	**71.28**	**313**	P	**P**	**11 54 51.6**	**-0.9**
PETK	**Petropavlovsk-**	**72.27**	**342**	P	**P**	**11 54 58.5**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=101,slow=6.3,SNR=6.2						
	comp=Z,4.0nm,0.8s						
VES	**Vestal, Richgr**	**72.54**	**44**	P	**P**	**11 55 00.7**	**+0.8**
VES				IAmb	IAmb	11 56 43.2	
	comp=Z,19nm,1.3s						
ESJX	**Sierra Juarez**	**72.68**	**49**	P	**P**	**11 55 01.2**	**+0.2**
ISA	**Isabella, Lake**	**72.85**	**45**	P	**P**	**11 55 02.8**	**+0.9**
ISA				IAmb	IAmb	11 56 32.3	
	comp=Z,4.2nm,0.5s						
BUCR	**Buckhorn Ranch**	**72.88**	**42**	P	**P**	**11 55 02.5**	**+0.4**
YSS	**Yuzhno-Sakhali**	**73.04**	**331**	P	**P**	**11 55 03.3**	**+0.7**
PFO	**Pinyon Flats O**	**73.15**	**47**	LR	LR	12 18 42.5	
	comp=Z,97nn,20.9s,baz=256,slow=29						
LPIG	**La Paz**	**73.36**	**59**	P	**P**	**11 55 07.5**	**+2.5**
	comp=Z,9.1nm,0.4s,baz=190,slow=2.7,SNR=6.3						
LPIG				LR	LR	12 19 27.2	
	comp=Z,56nm,19.0s,baz=228,slow=29						
	comp=Z,9.1nm,0.4s						
CLC	**China Lake**	**73.53**	**45**	P	**P**	**11 55 06.7**	**+0.8**
NVAR	**Mina Array Bea**	**74.51**	**42**	P	**P**	**11 55 12.0**	**+0.3**
	comp=Z,7.6nm,1.1s,baz=229,slow=8.9,SNR=28						
	comp=Z,7.6nm,1.1s						
QSPA	**South Pole Qui**	**74.86**	**180**	P	**P**	**11 55 15.7**	**+2.4**
	comp=Z,24nn,0.9s,baz=42,slow=1.2,SNR=87						
	comp=Z,24nn,0.9s						
KSRS	**Korea Array**	**75.64**	**316**	P	**P**	**11 55 18.7**	**+0.7**
	comp=Z,1.4nm,1.1s,baz=112,slow=5.5,SNR=2.3						
	comp=Z,1.4nm,1.1s						
M14K	**Bethel**	**76.28**	**6**	P	**P**	**11 55 20.5**	**-0.5**
M14K				IAmb	IAmb	11 55 23.9	
	comp=Z,27nn,1.1s						
USRK	**Ussuriysk Ar.**	**76.90**	**323**	P	**P**	**11 55 26.5**	**+1.6**
	comp=Z,2.4nm,0.7s,baz=97,slow=4.6,SNR=6.9						
	comp=Z,2.4nm,0.7s						
SPR3	**Spring Creek 3**	**77.43**	**44**	P	**P**	**11 55 28.2**	**-0.3**
SPR3				IAmb	IAmb	11 56 36.4	
	comp=Z,7.7nm,0.9s						
SZCU	**Shurtz Canyon**	**77.55**	**45**	P	**P**	**11 55 29.1**	**+0.1**
ELK	**Elko**	**77.76**	**42**	P	**P**	**11 55 30.3**	**+0.1**
ELK	**Elko**	**77.76**	**42**	LR	LR	12 24 08.4	
	comp=Z,57nn,19.5s,baz=288,slow=31						
BBB	**Bella Bella**	**77.92**	**27**	LR	LR	12 21 55.3	
	comp=Z,66nn,19.1s,baz=205,slow=30						
M22K	**Willow**	**78.97**	**11**	P	**P**	**11 55 36.2**	**+0.3**
M22K				IAmb	IAmb	11 55 37.8	
	comp=Z,12nn,0.8s						
BMRM	**Bremner River**	**79.43**	**14**	P	**P**	**11 55 38.8**	**+0.1**
BMRM				IAmb	IAmb	11 55 40.2	
	comp=Z,9.7nm,1.0s						
NJ2	**Nanjing**	**79.62**	**307**	*e*P	**P**	**11 55 40.5**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BNX	**BinXian**	**80.45**	**323**	⇑P	**P**	**11 55 44.8**	**+0.4**
BNX				pmax	pmax		
	comp=Z,11nm,0.7s						
TRF	**Thorofare Moun**	**80.50**	**11**	P	**P**	**11 55 43.7**	**-0.8**
CN2	**Changchun**	**80.59**	**320**	P	**P**	**11 55 44.3**	**-0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
RND	**Reindeer**	**80.72**	**11**	P	**P**	**11 55 44.9**	**-0.7**
RND				IAmb	IAmb	11 55 47.7	
	comp=Z,15nm,1.2s						
NEW	**Newport**	**80.81**	**35**	LR	LR	12 22 48.7	
	comp=Z,41nm,21.8s,baz=158,slow=29						
TXAR	**Lajitas Array**	**80.92**	**56**	LR	LR	12 25 51.5	
	comp=Z,33nn,19.0s,baz=54,slow=31						
ANMO	**Albuquerque**	**81.05**	**50**	LR	LR	12 26 38.4	
	comp=Z,76nn,18.3s,baz=4.5,slow=32						
DLBC	**Dease Lake**	**81.68**	**22**	LR	LR	12 28 05.6	
	comp=Z,595nn,18.6s,baz=176,slow=33						
DOT	**Dot Lake**	**81.91**	**13**	P	**P**	**11 55 51.4**	**-0.4**
ILAR	**Eielson Array**	**82.33**	**11**	P	**P**	**11 55 53.8**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=226,slow=5.9,SNR=14						
	comp=Z,0.9nm,0.6s						
PDAR	**Pinedale Array**	**82.44**	**42**	P	**P**	**11 55 55.5**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=206,slow=3.0,SNR=16						
PDAR				LR	LR	12 25 29.1	
	comp=Z,33nm,19.6s,baz=138,slow=30						
	comp=Z,2.3nm,0.9s						
J25K	**Salcha River,**	**82.48**	**12**	P	**P**	**11 55 54.8**	**0.0**
CMIG	**Matias Romero**	**84.29**	**71**	LR	LR	12 24 35.9	
	comp=Z,34nm,18.7s,baz=330,slow=29						
E21K	**Killik River**	**84.63**	**7**	P	**P**	**11 56 05.8**	**+0.1**
E21K				IAmb	IAmb	11 56 08.7	
	comp=Z,12nm,1.2s						
F24K	**Squaw Lake**	**84.64**	**10**	P	**P**	**11 56 05.5**	**-0.3**
F24K				IAmb	IAmb	11 56 08.7	
	comp=Z,18nm,1.8s						
I30M	**Mount Dempster**	**85.03**	**15**	P	**P**	**11 56 08.3**	**+0.4**
BMAR	**Burnt Mountain**	**85.13**	**11**	P	**P**	**11 56 08.5**	**+0.2**
MAW	**Mawson**	**87.84**	**199**	P	**P**	**11 56 22.1**	**+0.5**
	comp=Z,14nm,0.7s,baz=125,slow=6.1,SNR=50						
	comp=Z,14nm,0.7s						
XAN	**Xi'an**	**88.09**	**306**	P	**P**	**11 56 25.5**	**+2.0**
XAN				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC	**Hu-ho-hao-te**	**88.50**	**313**	*e*P	**P**	**11 56 26.1**	**+0.8**
HHC				pmax	pmax		
	comp=Z,19nm,0.6s						
HHC				pmax	pmax		
	comp=Z,83nm,4.4s						
JTS	**Las Juntas de**	**91.67**	**80**	LR	LR	12 27 59.6	
	comp=Z,34nn,20.6s,baz=304,slow=29						
PZH	**PanZhiHua**	**91.72**	**297**	P	**P**	**11 56 41.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**92.06**	**288**	P	**P**	**11 56 43.5**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=101,slow=4.6,SNR=14						
CMAR				LR	LR	12 37 50.0	
	comp=Z,12nm,18.6s,baz=325,slow=35						
	comp=Z,2.1nm,0.8s						
LZH	**Lanzhou**	**92.68**	**307**	*e*P	**P**	**11 56 44.8**	**-0.2**
LZH				sP	sP	11 57 23.8	+12
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
SYO	**Syowa Base**	**92.71**	**191**	⇑*e*P	**P**	**11 56 44.0**	**-0.3**
TROLL	**Troll, Antarti**	**92.99**	**179**	⇑P	**P**	**11 56 46.3**	**+0.5**
	comp=Z,216nm,0.8s						
VNA3	**Neumayer Olymp**	**93.12**	**175**	⇑P	**P**	**11 56 46.1**	**-0.1**
	comp=Z,8.0nm,0.8s						
SNAA	**Sanae**	**93.15**	**177**	⇑P	**P**	**11 56 46.7**	**+0.3**
	comp=Z,84nm,0.9s						
SNAA	**Sanae**	**93.15**	**177**	P	**P**	**11 56 46.6**	**+0.2**
	comp=Z,4.0nm,0.9s,baz=154,slow=7.5,SNR=14						
	comp=Z,4.0nm,0.9s						
ATAH	**Atahualpa**	**93.46**	**98**	LR	LR	12 31 29.4	
	comp=Z,39nn,18.6s,baz=270,slow=31						
VNA2	**Neumayer--Watz**	**93.61**	**176**	⇑P	**P**	**11 56 48.7**	**+0.3**
	comp=Z,5.3nm,0.6s,baz=210,slow=3.9						
VNA1	**Neumayer--Stat**	**93.81**	**175**	⇑P	**P**	**11 56 50.2**	**+0.8**
	comp=Z,17nm,1.1s						
SONM	**Songino Array**	**94.34**	**318**	P	**P**	**11 56 53.8**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=123,slow=5.3,SNR=1.8						
	comp=Z,0.3nm,0.3s						
TKL	**Tuckaleechee C**	**98.81**	**55**	LR	LR	12 35 03.8	
	comp=Z,60nm,18.1s,baz=292,slow=31						
MKAR	**Makanchi Array**	**110.31**	**315**	PKiKP	**PKiKP**	**12 02 02.9**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=135,slow=1.0,SNR=3.8						
KURBB	**Kurchatov Arra**	**112.70**	**319**	PKiKP	**PKiKP**	**12 02 07.5**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=90,slow=1.7,SNR=5.9						
KURBB				PP	**PP**	**12 02 53.2**

SQTA	Sankt Quirin	147.77	353	*i* PKP	PKPbc	12 03 17.5	+0.2		
	comp=Z,14nm,1.6s								
DAVA	Damuels	147.83	355	*i* PKiKP	PKPbc	12 03 17.9	+0.4		
	comp=Z,31nm,1.1s,SNR=7.7								
OBKA	Obir	147.97	349	*i* PKP	PKPbc	12 03 17.6	-0.2		
	comp=Z,5.8nm,1.0s								
MYKA	Terra Mystica	148.01	350	*i* PKP	PKPbc	12 03 17.3	-0.7		
	comp=Z,5.6nm,0.9s								
FETA	Feichten	148.02	354	*i* PKiKP	PKPbc	12 03 18.6	+0.5		
	comp=Z,9.7nm,1.2s								
MMAI	Mount Meron Ar	148.03	309	PKPbc	PKPbc	12 03 17.9	-0.6		
	comp=Z,3.5nm,0.6s,baz=101,slow=5.1,SNR=4.5								
ABTA	Abfaltersbach	148.07	352	*i* PKP	PKPbc	12 03 17.6	-0.5		
	comp=Z,10nm,0.9s								
BOVS	Bovan	148.65	338	⇓P	PKPbc	12 03 17.9	-1.7		
PBRG	Braganca	151.25	20	*e*PKP	PKPbc	12 03 26.3	+0.2		
POLO	Lamas de Olo	151.26	22	*e*PKP	PKiKP	12 03 26.9	+0.2		
PVRL	Vila Real	151.38	22	*e*PKP	PKiKP	12 03 27.2	+0.4		
MVO	Moncorvo	151.72	21	*e*PKP	PKiKP	12 03 27.6	+0.1		
MTE	Manteigas	152.21	23	*e*PKP	PKiKP	12 03 29.0	+0.4		
PCBR	Castelo Branco	152.72	23	*e*PKP	PKiKP	12 03 29.9	+0.3		
PMRV	Marv??o	153.11	23	*e*PKP	PKPbc	12 03 29.8	-0.4		
ESDC	Sonseca Array	154.06	18	PKPbc	PKPbc	12 03 32.3	0.0		
	comp=Z,1.3nm,0.7s,baz=329,slow=2.6,SNR=9.5								
KEST	Kesra	159.32	352	PKP	PKPdf	12 03 28.9	-2.2		
	comp=Z,1.5nm,0.6s,baz=130,slow=7.9,SNR=2.1								

IDC ***15*** *11:50:24.7±0.8, 15°.10N×93°.82W, h0km, mb4.6/21, mbtmp4.6/23, ML4.2/2, MS3.7/30, Error ellipse: s-maj=29.8km s-min=12.6km az=55.0*

GCG ***15*** *11:50:28.3±2.2, 14°.91N×94°.24W, h37km±999km, MD5.2, ML5.0, MW4.1*

CATAC ***15*** *11:50:28.4±0.3, 15°N±3°×9°4W±°, h1km, M5.0/21, mb5.3/7, mB5.4/7, MLv5.1/21, Mw(mB)4.8/7, Error ellipse: s-maj=6.6km s-min=4.3km az=43.7, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.70; Mθθ-3.75; Mφφ1.04; Mrθ5.54; Mrφ-3.21; Mθφ-5.05; Fault plane solution: Ms8.81628×10¹⁵ NP1:φ1=111.40952°, δ80.36004°, λ121.24101°. NP2:φ2=216.84207°, δ32.55021°, λ18.13367°. Principal axes: T 9.9184, Plg45.5977°, Azm53.0196°; N -2.9728, Plg30.7515°, Azm285.6094°; P -6.9456, Plg28.5304°, Azm176.7375°; confirmed*

MEX ***15*** *11:50:30.5±0.8, 14°.92N×94°.15W, h28km±11km, MD4.7*

NEIC ***15*** *11:50:31.2±2.7, 15°.01N±0°.07×94°.08W±0°.05, h43km±5km, mb4.8/25, Md4.7/94(MEX), Error ellipse: s-maj=10.4km s-min=6.5km az=199.0*

SNET ***15*** *11:50:32.5±3.0, 15°.19N×93°.96W, h38km, ML4.7*

UCR ***15*** *11:51:50.6±1.0, 13°.13N×88°.30W, h43km, MW3.5*

ISC 15 11:50:30.2±0.8, 14°.94N±0°.04×94°.18W±0°.03, h48km±7km, n564, σ1ᵠ70/603, mb4.8/35, MS3.7/30, 8D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.20**	**51**		**Pn**	**11 50 48.9**	**-1.7**
PCIG					**Sn**	**11 51 03.0**	**-2.8**
PCIG		**1.20**	**51**	*e*P	**Pn**	**11 50 48.9**	**-1.7**
PCIG				*e*S	**Sn**	**11 51 03.0**	**-2.8**
THIG		**1.85**	**91**		**Pn**	**11 50 58.3**	**-1.2**
THIG		**1.85**	**91**	*e*P	**Pn**	**11 50 58.3**	**-1.2**
THIG				*e*S	**Sn**	**11 51 16.2**	**-5.5**
THIG		**1.85**	**91**	*e*P	**Pn**	**11 50 58.3**	**-1.2**
THIG				*e*S	**Sn**	**11 51 19.8**	**-1.9**
THIG				IAML		11 51 29.8	
	comp=E,8μm,0.6s						
PATR	**El Naranjo**	**1.89**	**84**		**Pn**	**11 50 58.6**	**-1.7**
PATR					**Sn**	**11 51 20.1**	**-2.9**
PATR	**El Naranjo**	**1.89**	**84**	*e*P	**Pn**	**11 50 58.6**	**-1.7**
PATR				*e*S	**Sn**	**11 51 20.1**	**-2.9**
PAVE	**Pavencul**	**1.95**	**82**		**Pn**	**11 50 59.8**	**-1.3**
PAVE					**Sn**	**11 51 22.1**	**-2.5**
PAVE	**Pavencul**	**1.95**	**82**	*e*P	**Pn**	**11 50 59.8**	**-1.3**
PAVE				*e*S	**Sn**	**11 51 22.1**	**-2.5**
CHUJ	**Union Juarez**	**2.01**	**85**	*e*P	**Pn**	**11 51 00.1**	**-1.8**
CHUJ				*e*S	**Sn**	**11 51 23.8**	**-2.2**
HUIG	**Huatulco**	**2.03**	**294**	*e*P	**Pn**	**11 51 00.8**	**-1.2**
HUIG				*e*S	**Sn**	**11 51 22.0**	**-4.2**
HUIG	**Huatulco**	**2.03**	**294**	*e*P	**Pn**	**11 51 00.3**	**-1.7**
HUIG				*e*S	**Sn**	**11 51 21.5**	**-4.7**
HUIG				IAML		11 51 22.6	
	comp=N,1μm,0.4s						
SMCA	**Catarina**	**2.04**	**92**	*e*P	**Pn**	**11 51 00.8**	**-1.3**
SMCA				*e*S	**Sn**	**11 51 23.2**	**-3.2**
SMCA				IAML		11 51 33.9	
	comp=E,4μm,0.5s						
TGIG		**2.09**	**29**		**Pn**	**11 51 02.0**	**-0.9**
TGIG					**Sn**	**11 51 26.4**	**-1.3**
TGIG		**2.09**	**29**	*e*P	**Pn**	**11 51 02.0**	**-0.9**
TGIG				*e*S	**Sn**	**11 51 26.4**	**-1.3**
TGIG		**2.09**	**29**	*e*P	**Pn**	**11 51 02.5**	**-0.4**
TGIG				*e*S	**Sn**	**11 51 28.1**	**+0.3**
TGIG				IAML		11 51 29.9	
	comp=E,17μm,0.4s						
TGBT	**Tuxtla Gutierr**	**2.11**	**30**		**Pn**	**11 51 02.8**	**-0.2**
TGBT					**Sn**	**11 51 26.5**	**-1.5**
TGBT	**Tuxtla Gutierr**	**2.11**	**30**	*e*P	**Pn**	**11 51 02.8**	**-0.2**
TGBT				*e*S	**Sn**	**11 51 26.5**	**-1.5**
CMIG	**Matias Romero**	**2.24**	**343**	Pn	**Pn**	**11 51 04.2**	**-0.7**
	comp=E,171nm,0.3s,baz=176,slow=13,SNR=2094						
CMIG				Sn	**Sn**	**11 51 30.2**	**-1.1**
	comp=E,400nm,0.3s,baz=166,slow=14,SNR=18						
	comp=E,1μm,0.7s						
CMIG	**Matias Romero**	**2.24**	**343**	*e*P	**Pn**	**11 51 04.1**	**-0.7**
CMIG				*e*S	**Sn**	**11 51 25.7**	**-5.6**
CCIG	**Comitan**	**2.38**	**56**		**Pn**	**11 51 06.8**	**-0.1**
CCIG	**Comitan**	**2.38**	**56**	*e*P	**Pn**	**11 51 07.5**	**+0.5**
CCIG				*e*S	**Sn**	**11 51 35.3**	**+0.4**
CCIG	**Comitan**	**2.38**	**56**	*e*P	**Pn**	**11 51 07.3**	**+0.4**
CCIG				*e*S	**Sn**	**11 51 36.3**	**+1.3**
CCIG				IAML		11 51 39.5	
	comp=N,11μm,0.5s						
CCIG	**Comitan**	**2.38**	**56**	P	**Pn**	**11 51 07.6**	**+0.6**
RTAL	**Retalhuleu**	**2.44**	**99**		**Pn**	**11 51 06.8**	**-0.8**
RTAL	**Retalhuleu**	**2.44**	**99**	*e*P	**Pn**	**11 51 06.5**	**-1.1**
RTAL				*e*S	**Sn**	**11 51 32.8**	**-3.5**
RTAL	**Retalhuleu**	**2.44**	**99**	P	**Pn**	**11 51 06.5**	**-1.1**
QUEO	**Labor Ovalle**	**2.58**	**91**	*e*P	**Pn**	**11 51 09.6**	**-0.2**
QUEO				IAML		11 51 58.9	
	comp=E,12μm,0.7s						
HUEH	**Huehuetenango**	**2.61**	**81**		**Pn**	**11 51 10.7**	**+0.5**
HUEH	**Huehuetenango**	**2.61**	**81**	*e*P	**Pn**	**11 51 11.1**	**+0.9**
HUEH				*e*S	**Sn**	**11 51 43.3**	**+2.4**
HUEH	**Huehuetenango**	**2.61**	**81**	*e*P	**Pn**	**11 51 11.1**	**+0.9**
HUEH				*e*S	**Sn**	**11 51 40.9**	**0.0**
HUEH	**Huehuetenango**	**2.61**	**81**	P	**Pn**	**11 51 10.9**	**+0.8**
PEIG	**Puerto Escondi**	**3.05**	**291**		**Pn**	**11 51 15.3**	**-0.6**
PEIG	**Puerto Escondi**	**3.05**	**291**	*e*P	**Pn**	**11 51 15.3**	**-0.6**
PEIG				*e*S	**Sn**	**11 51 46.1**	**-5.1**
TUIG	**Tuzandepetl**	**3.08**	**356**	*e*P	**Pn**	**11 51 15.8**	**-0.7**
TUIG				*e*S	**Sn**	**11 51 49.9**	**-2.2**
NEUV	**Arroyo Zacate**	**3.17**	**331**		**Pn**	**11 51 16.8**	**-0.8**
NEUV	**Arroyo Zacate**	**3.17**	**331**	*e*P	**Pn**	**11 51 16.8**	**-0.8**
NEUV				*e*S	**Sn**	**11 51 46.8**	**-7.3**
OXLC	**Oaxaca**	**3.22**	**311**		**Pn**	**11 51 18.1**	**-0.3**
OXLC	**Oaxaca**	**3.22**	**311**	*e*P	**Pn**	**11 51 18.1**	**-0.3**
OXLC				*e*S	**Sn**	**11 51 51.4**	**-4.2**
OXBJ	**Oaxaca**	**3.23**	**311**		**Pn**	**11 51 18.8**	**+0.1**
OXBJ	**Oaxaca**	**3.23**	**311**	*e*P	**Pn**	**11 51 18.8**	**+0.1**
OXBJ				*e*S	**Sn**	**11 51 54.4**	**-1.7**
OXIG	**Oaxaca**	**3.24**	**311**		**Pn**	**11 51 20.3**	**+1.5**
VHO	**Vista Hermosa**	**3.24**	**311**	*e*P	**Pn**	**11 51 20.3**	**+1.5**
VHO				*e*S	**Sn**	**11 51 54.8**	**-1.5**
VHSA	**Villahermosa**	**3.25**	**21**		**Pn**	**11 51 19.9**	**+1.2**
VHSA					**Sn**	**11 51 57.9**	**+1.8**
VHSA	**Villahermosa**	**3.25**	**21**	*e*P	**Pn**	**11 51 19.9**	**+1.2**
VHSA				*e*S	**Sn**	**11 51 57.9**	**+1.8**
FG8	**Yepocapa, Chim**	**3.57**	**100**	*e*P	Pn	11 51 17.6	-5.6
FG16	**Alotenango, Sa**	**3.62**	**100**	*e*P	Pn	11 51 18.9	-5.0
FG16				IAML		11 52 01.7	
	comp=E,8μm,0.3s						
PMUV	**Sontecomapan**	**3.70**	**346**	*e*P	**Pn**	**11 51 22.6**	**-2.3**
PMUV				*i* S	Sn	11 51 56.8	-10
YOIG	**Yosondua**	**3.76**	**301**		**Pn**	**11 51 27.5**	**+1.5**
YOIG	**Yosondua**	**3.76**	**301**	*e*P	**Pn**	**11 51 27.5**	**+1.5**
YOIG				*e*S	**Sn**	**11 52 06.4**	**-2.7**
TXIG	**Tlaxiaco**	**4.14**	**304**		**Pn**	**11 51 33.0**	**+1.7**
TXIG	**Tlaxiaco**	**4.14**	**304**	*e*P	**Pn**	**11 51 33.0**	**+1.7**
TXIG				*i* S	**Sn**	**11 52 14.0**	**-4.6**
TOIG	**Toxpalan**	**4.18**	**319**		**Pn**	**11 51 33.7**	**+2.0**
TOIG					**Sn**	**11 52 19.1**	**-0.3**
TOIG	**Toxpalan**	**4.18**	**319**	*e*P	**Pn**	**11 51 33.7**	**+2.0**
TOIG				*e*S	**Sn**	**11 52 19.1**	**-0.3**
NUBE	**Las Nubes**	**4.39**	**103**	*e*P	**Pn**	**11 51 35.3**	**+0.8**
NUBE				*e*S	**Sn**	**11 52 22.9**	**-1.6**
NUBE	**Las Nubes**	**4.39**	**103**	*e*P	**Pn**	**11 51 35.0**	**+0.5**
NUBE	**Las Nubes**	**4.39**	**103**	P	**Pn**	**11 51 34.9**	**+0.5**
HLIG	**Huajuapan de L**	**4.51**	**310**		**Pn**	**11 51 38.5**	**+2.3**
HLIG					**Sn**	**11 52 27.2**	**-0.3**
HLIG	**Huajuapan de L**	**4.51**	**310**	*e*P	**Pn**	**11 51 38.5**	**+2.3**
HLIG				*e*S	**Sn**	**11 52 27.2**	**-0.3**
CEVE	**Cerro Verde**	**4.55**	**103**	*e*P	**Pn**	**11 51 38.2**	**+1.3**
CEVE				*e*S	**Sn**	**11 52 28.3**	**-0.3**
CEVE	**Cerro Verde**	**4.55**	**103**	P	**Pn**	**11 51 37.9**	**+1.1**
PETF	**Flores**	**4.59**	**64**		**Pn**	**11 51 37.1**	**0.0**
PETF	**Flores**	**4.59**	**64**	*e*P	**Pn**	**11 51 37.1**	**0.0**
PETF				IAML		11 52 52.3	
	comp=N,3μm,0.7s						
PETF	**Flores**	**4.59**	**64**	P	**Pn**	**11 51 37.3**	**+0.2**
TPIG	**Tehuac#an**	**4.61**	**319**		**Pn**	**11 51 39.6**	**+2.0**
TPIG					**Sn**	**11 52 33.0**	**+3.0**
TPIG	**Tehuac#an**	**4.61**	**319**	*e*P	**Pn**	**11 51 39.6**	**+2.0**
TPIG				*i* S	**Sn**	**11 52 33.0**	**+3.0**
MTO3	**Montecristo**	**4.70**	**96**		**Pn**	**11 51 38.5**	**-0.3**
MTO3	**Montecristo**	**4.70**	**96**	*e*P	**Pn**	**11 51 39.1**	**+0.4**
MTO3	**Montecristo**	**4.70**	**96**	P	**Pn**	**11 51 38.9**	**+0.1**
ESQI	**Esquipulas**	**4.70**	**94**		**Pn**	**11 51 39.5**	**+0.8**
ESQI	**Esquipulas**	**4.70**	**94**	*e*P	**Pn**	**11 51 39.5**	**+0.8**
ESQI	**Esquipulas**	**4.70**	**94**	P	**Pn**	**11 51 40.0**	**+1.3**
JAYA	**Jayaque - finc**	**4.76**	**105**	*e*P	**Pn**	**11 51 40.0**	**+0.3**
JAYA				*e*S	**Sn**	**11 52 31.3**	**-2.3**
JAYA	**Jayaque - finc**	**4.76**	**105**	P	**Pn**	**11 51 41.6**	**+2.0**
FTIG	**Fresnillo de T**	**4.80**	**308**		**Pn**	**11 51 42.7**	**+2.5**
FTIG	**Fresnillo de T**	**4.80**	**308**	*e*P	**Pn**	**11 51 42.7**	**+2.5**
FTIG				*i* S	**Sn**	**11 52 32.5**	**-2.1**
PMON	**Piamonte**	**4.87**	**104**	P	**Pn**	**11 51 42.1**	**+1.0**
BOQS	**Boqueron**	**4.90**	**104**	*e*P	**Pn**	**11 51 42.5**	**+0.9**
SCIG	**Sabancuy**	**4.92**	**35**	*e*P	**Pn**	**11 51 40.9**	**-0.8**
SCIG				*i* S	**Sn**	**11 52 34.4**	**-3.0**
SCIG	**Sabancuy**	**4.92**	**35**	*e*P	**Pn**	**11 51 40.9**	**-0.8**
SCIG				IAML		11 53 07.2	
	comp=E,2μm,0.9s						
SCIG	**Sabancuy**	**4.92**	**35**	P	**Pn**	**11 51 41.0**	**-0.7**
TLIG	**Tlapa**	**4.95**	**302**		**Pn**	**11 51 44.6**	**+2.4**
TLIG	**Tlapa**	**4.95**	**302**	*e*P	**Pn**	**11 51 44.5**	**+2.2**
TLIG				*e*S	**Sn**	**11 52 33.1**	**-5.2**
TLIG	**Tlapa**	**4.95**	**302**	P	**Pn**	**11 51 44.7**	**+2.5**
JAUV	**Jalcomulco**	**5.06**	**331**		**Pn**	**11 51 42.2**	**-1.4**
JAUV	**Jalcomulco**	**5.06**	**331**	*e*P	**Pn**	**11 51 42.2**	**-1.4**
JAUV				*i* S	**Sn**	**11 52 35.9**	**-5.0**
CRIG	**Cruz Grande**	**5.09**	**291**		**Pn**	**11 51 44.7**	**+0.7**
CRIG	**Cruz Grande**	**5.09**	**291**	*e*P	**Pn**	**11 51 44.7**	**+0.7**
CRIG				*e*S	Sn	11 52 34.8	-6.6
LBRS	**Las Brisas**	**5.12**	**103**	*e*P	**Pn**	**11 51 45.2**	**+0.7**
LFRS	**El Faro**	**5.13**	**104**	*e*P	**Pn**	**11 51 45.8**	**+1.1**
LVIG	**Laguna Verde**	**5.21**	**336**	*e*P	**Pn**	**11 51 46.0**	**+0.4**
LVIG				*e*S	**Sn**	**11 52 37.4**	**-7.2**
DAIG	**Los Arroyos**	**5.65**	**292**		**Pn**	**11 51 53.0**	**+1.3**
DAIG	**Los Arroyos**	**5.65**	**292**	*e*P	**Pn**	**11 51 53.0**	**+1.3**
DAIG				*e*S	Sn	11 52 48.5	-6.9
PPCL	**Tochimilco**	**5.80**	**314**	*e*P	**Pn**	**11 51 57.9**	**+4.0**
PPCL				*e*S	**Sn**	**11 52 58.2**	**-1.1**
PPSX	**Xalitzintla**	**5.84**	**315**	*e*P	**Pn**	**11 51 58.3**	**+4.1**
PPSX				*i* S	**Sn**	**11 53 08.4**	**+7.9**
PPPT	**Popocatepetl**	**5.84**	**314**	*e*P	**Pn**	**11 51 58.5**	**+3.7**
PPPT				*i* S	**Sn**	**11 52 59.4**	**-1.4**
PACA	**Pacayal**	**5.87**	**104**	*e*P	**Pn**	**11 51 55.2**	**+0.4**
PACA	**Pacayal**	**5.87**	**104**	P	**Pn**	**11 51 58.7**	**+3.9**
PPM	**Popocatepetl**	**5.91**	**315**	*e*P	**Pn**	**11 51 59.7**	**+4.0**
PPM				*e*S	**Sn**	**11 53 02.7**	**+0.3**
PPIG	**Popocatepetl**	**5.91**	**315**		**Sn**	**11 53 02.7**	**+0.3**
MEIG	**Mezcala**	**6.00**	**300**		**Pn**	**11 51 59.7**	**+3.1**
MEIG	**Mezcala**	**6.00**	**300**	*e*P	**Pn**	**11 51 59.7**	**+3.1**
MEIG				*e*S	**Sn**	**11 53 00.5**	**-3.6**
YAIG	**Yautepec**	**6.09**	**311**		**Pn**	**11 52 00.8**	**+3.0**
YAIG	**Yautepec**	**6.09**	**311**	*e*P	**Pn**	**11 52 00.8**	**+3.0**
YAIG				*i* S	**Sn**	**11 53 01.8**	**-4.5**
CXUV	**Coxquihui**	**6.14**	**328**		**Pn**	**11 51 58.6**	**+0.2**
CXUV					**Sn**	**11 53 06.5**	**-0.7**
CXUV	**Coxquihui**	**6.14**	**328**	*e*P	**Pn**	**11 51 58.6**	**+0.2**
CXUV				*i* S	**Sn**	**11 53 06.5**	**-0.7**
MPVM	**San Francisco**	**6.27**	**313**		**Pn**	**11 52 01.0**	**+0.6**
MPVM					**Sn**	**11 53 11.8**	**+1.0**
MPVM	**San Francisco**	**6.27**	**313**	*e*P	**Pn**	**11 52 01.0**	**+0.6**
MPVM				*e*S	**Sn**	**11 53 11.8**	**+1.0**
THVM	**De Xico**	**6.31**	**314**	*e*P	**Pn**	**11 52 05.2**	**+4.2**
LCND	**La Caada**	**6.32**	**104**	P	**Pn**	**11 52 01.9**	**+1.1**
CNCH	**Conchagua**	**6.38**	**104**	*e*P	**Pn**	**11 52 02.4**	**+0.6**
CNCH	**Conchagua**	**6.38**	**104**	P	**Pn**	**11 52 02.1**	**+0.4**
XCVM	**Xochimilco**	**6.38**	**313**		**Sn**	**11 53 14.6**	**+1.1**
XCVM	**Xochimilco**	**6.38**	**313**	*e*P	Pn	11 52 06.8	+4.9
XCVM				*e*S	**Sn**	**11 53 14.6**	**+1.1**
MAVM	**Malinalco, Edo**	**6.46**	**309**		**Pn**	**11 52 06.7**	**+3.7**
MAVM					**Sn**	**11 53 16.9**	**+1.3**
MAVM	**Malinalco, Edo**	**6.46**	**309**	*e*P	**Pn**	**11 52 06.7**	**+3.7**
MAVM				*i* S	**Sn**	**11 53 16.9**	**+1.3**
AOVM	**Tlapan**	**6.53**	**312**		**Pn**	**11 52 06.5**	**+2.3**
AOVM					**Sn**	**11 53 19.0**	**+1.4**
AOVM	**Tlapan**	**6.53**	**312**	*e*P	**Sn**	**11 52 06.5**	**+2.3**
AOVM				*i* S	**Sn**	**11 53 19.0**	**+1.4**
INVM	**La Marquesa**	**6.59**	**312**		**Pn**	**11 52 08.4**	**+3.4**
INVM	**La Marquesa**	**6.59**	**312**	*e*P	**Pn**	**11 52 08.4**	**+3.4**
CSGN	**Cosiguina Volc**	**6.72**	**106**	*e*P	Pn	11 52 02.2	-4.2
ZUVM	**ZUMPANGO**	**6.74**	**317**		**Pn**	**11 52 08.6**	**+1.7**
ZUVM					**Sn**	**11 53 24.4**	**+1.9**
ZUVM	**ZUMPANGO**	**6.74**	**317**	*e*P	**Pn**	**11 52 08.6**	**+1.7**
ZUVM				*e*S	**Sn**	**11 53 24.4**	**+1.9**
TGUH	**Tegucigalpa,Un**	**6.75**	**97**		**Pn**	**11 52 07.3**	**+0.4**
TOVM	**TOLUCA**	**6.80**	**310**		**Sn**	**11 53 23.2**	**-0.9**
TOVM	**TOLUCA**	**6.80**	**310**	*e*P	**Pn**	**11 52 11.6**	**+3.9**
TOVM				*e*S	**Sn**	**11 53 23.2**	**-0.9**
MYIG	**Merida**	**7.33**	**35**	*e*P	**Pn**	**11 52 14.5**	**-0.2**
MYIG				*e*S	**Sn**	**11 53 31.2**	**-5.3**
CNGA	**Al SSO del Vol**	**7.66**	**108**	P	**Pn**	**11 52 19.7**	**+0.3**
CNGN	**Cerro Negro**	**7.67**	**108**	P	**Pn**	**11 52 26.9**	**+7.5**
TEIG	**Tepich**	**7.70**	**46**		**Pn**	**11 52 17.5**	**-2.3**
TEIG	**Tepich**	**7.70**	**46**	Pn	**Pn**	**11 52 17.2**	**-2.6**
	baz=305,slow=24,SNR=34						
TEIG				Sn	**Sn**	**11 53 38.7**	**-7.0**
	baz=131,slow=24,SNR=5.6						
TEIG	**Tepich**	**7.70**	**46**	P	**Pn**	**11 52 17.9**	**-1.9**
COPN	**Copaltepe**	**7.87**	**109**	P	**Pn**	**11 52 21.7**	**-0.5**
MOIG	**Morelia**	**8.18**	**306**		**Pn**	**11 52 29.6**	**+3.0**
MOIG	**Morelia**	**8.18**	**306**	P	**Pn**	**11 52 30.7**	**+4.1**
BOAB	**BOACO BROADBAN**	**8.64**	**106**		**Pn**	**11 52 32.2**	**-0.5**
LCRUZ	**La Cruz**	**9.17**	**114**	*e*P	**Pn**	**11 52 41.8**	**+1.8**
SIUN	**Universidad Ur**	**9.20**	**96**		**Pn**	**11 52 39.0**	**-1.3**
LAPC	**Finca la Perla**	**9.48**	**115**	*e*P	**Pn**	**11 52 48.8**	**+4.5**
JUD3	**Juan Diaz 3**	**9.68**	**118**	*e*P	**Pn**	**11 52 40.2**	**+2.2**
MESS	**Mesas**	**9.71**	**114**	*e*P	**Pn**	**11 52 48.3**	**+0.9**
COLC	**Colonia**	**9.73**	**115**	*e*P	**Pn**	**11 52 48.6**	**+0.9**
CUI	**Cuipilapa**	**9.77**	**115**	*e*P	**Pn**	**11 52 49.7**	**+1.5**
CMARA	**Lajas Hojancha**	**9.85**	**119**	*e*P	**Pn**	**11 52 50.1**	**+0.7**
ESPN	**Las Esperanzas**	**9.99**	**105**		**Pn**	**11 52 49.3**	**-1.8**
JTS	**Las Juntas de**	**10.12**	**116**		**Pn**	**11 52 55.2**	**+2.1**
JTS	**Las Juntas de**	**10.12**	**116**	Pn	**Pn**	**11 52 54.4**	**+1.4**
	comp=E,2.0nm,0.3s,baz=304,slow=19,SNR=8.0						
JTS				Sn	**Sn**	**11 54 47.2**	**+1.9**
	comp=E,0.7nm,0.3s,baz=147,slow=23,SNR=1.0						
JTS	**Las Juntas de**	**10.12**	**116**	*e*P	**Pn**	**11 52 54.6**	**+1.6**
JTS	**Las Juntas de**	**10.12**	**116**	P	**Pn**	**11 52 56.3**	**+3.3**
LCR2	**La Lucha 2**	**11.20**	**116**		**Pn**	**11 53 09.7**	**+1.7**
LCR2	**La Lucha 2**	**11.20**	**116**	P	**Pn**	**11 53 10.7**	**+2.7**
PIEC	**Cerro El Cedra**	**11.30**	**117**	*e*P	**Pn**	**11 53 12.0**	**+2.6**
ABRB	**Las Abras (San**	**11.33**	**114**	*e*P	**Pn**	**11 53 10.2**	**+0.4**
BUS1	**Rivas**	**11.52**	**117**	*i* P	**Pn**	**11 53 14.7**	**+2.2**
SAJE	**San Jernim**	**11.82**	**117**	*e*P	**Pn**	**11 53 18.1**	**+1.7**
EDPE	**Pejibaye, P**	**11.86**	**118**	*e*P	**Pn**	**11 53 17.6**	**+0.8**
DRK0	**Durika**	**12.09**	**117**	*e*P	**Pn**	**11 53 20.7**	**+0.7**
DRK0	**Durika**	**12.09**	**117**	P	**Pn**	**11 53 23.3**	**+3.2**
SOR	**Soroa**	**13.14**	**52**		**Pn**	**11 53 31.6**	**-2.7**
833A	**Chaparral WMA,**	**14.17**	**341**		**Pn**	**11 53 49.0**	**+0.8**
HNDO	**Hondo**	**15.26**	**343**		**Pn**	**11 54 01.3**	**-1.3**
HNDO				IAmb	IAmb	11 54 20.8	
	comp=Z,41nm,0.9s						
DRIO	**Del Rio**	**15.59**	**339**		**Pn**	**11 54 06.9**	**+0.1**
HPIG		**16.03**	**320**	P	**P**	**11 54 14.9**	**-0.5**
HPIG		**16.03**	**320**	P	**Pn**	**11 54 12.8**	**+0.1**
435B	**Jarrell**	**16.07**	**349**		**P**	**11 54 13.6**	**-2.1**
435B				IAmb	IAmb	11 54 24.8	
	comp=Z,39nm,0.6s						
TXAR	**Lajitas Array**	**16.79**	**330**	P	**P**	**11 54 23.5**	**-0.2**
TXAR	**Lajitas Array**	**16.79**	**330**	Pn	**P**	**11 54 24.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=155,slow=12,SNR=22						
TXAR				LR	LR	12 01 28.5	
	comp=Z,92nm,18.4s,baz=131,slow=39						
	comp=Z,5.1nm,1.2s						
TX31	**Lajitas Ar. Si**	**16.79**	**330**	P	**P**	**11 54 23.1**	**-0.7**
LPIG	**La Paz**	**17.71**	**303**	LR	LR	12 00 54.0	
	comp=Z,170nm,18.5s,baz=124,slow=35						
SGCY	**Sterling City**	**18.05**	**341**	P	**P**	**11 54 38.0**	**+0.4**
SGCY				IAmb	IAmb	11 54 52.8	
	comp=Z,32nm,0.7s						
HTMS	**Hat Mesa**	**19.46**	**335**	P	**Pn**	**11 54 53.9**	**-0.8**
HELC	**Santa Helena**	**20.28**	**113**	P	**P**	**11 55 04.2**	**+1.8**
ROSC	**El Rosal**	**21.97**	**115**	P	**P**	**11 55 22.4**	**+1.8**
ROSC				IAmb	IAmb	11 55 26.7	
	comp=Z,64nm,1.2s						
ROSC	**El Rosal**	**21.97**	**115**	P	**P**	**11 55 20.0**	**-0.7**
	comp=Z,13nm,0.4s,baz=11,slow=3.1,SNR=17						
ROSC				LR	LR	12 03 44.4	
	comp=Z,103nm,18.8s,baz=245,slow=37						
	comp=Z,13nm,0.4s						
Y22D	**IRIS PASSCAL I**	**22.26**	**331**	P	**P**	**11 55 24.3**	**+1.0**
	baz=145						
LENM	**Lemitar**	**22.36**	**331**	P	**P**	**11 55 25.9**	**+1.5**
RUSC	**La Rusia**	**22.59**	**111**	P	**P**	**11 55 28.0**	**+0.5**
RUSC				IAmb	IAmb	11 55 29.8	
	comp=Z,67nm,1.1s						
FLOC	**Florencia**	**22.60**	**124**	P	**P**	**11 55 29.0**	**+2.0**
FLOC				IAmb	IAmb	11 55 32.8	
	comp=Z,47nm,1.2s						
TKL	**Tuckaleechee C**	**22.64**	**22**	LR	LR	12 05 09.8	
	comp=Z,141nm,21.5s,baz=202,slow=40						
COHC	**Cochancay**	**22.75**	**138**	P	**P**	**11 55 31.1**	**+2.5**
SDV	**Santo Domingo**	**23.80**	**102**	LR	LR	12 06 48.1	
	comp=Z,36nm,19.0s,baz=240,slow=42

comp=Z,0.6nm,0.6s,baz=225,slow=9.1,SNR=4.1
CPUP LR LR 12 23 03.0
comp=Z,18nm,19.5s,baz=202,slow=36
comp=Z,0.6nm,0.6s
P30M Million Dollar 54.76 335 P P 11 59 55.5 +0.6
baz=126
P29M Windy Craggy 54.79 335 P P 11 59 55.5 +0.5
baz=125
BDFB Brasilia 54.81 122 P P 11 59 55.6 -0.3
BDFB IAmb IAmb 12 00 00.2
comp=Z,13nm,1.0s
BDFB Brasilia 54.81 122 P P 11 59 56.0 +0.1
comp=Z,7.5nm,0.8s,baz=298,slow=10.0,SNR=9.5
BDFB LR LR 12 22 06.0
comp=Z,66nm,21.9s,baz=352,slow=35
comp=Z,7.5nm,0.8s
O30N Mendenhall 54.81 336 P P 11 59 55.5 +0.3
baz=128
M31M Drury Creek, Y 55.08 338 P P 11 59 57.7 +0.5
baz=130
N31M Braeburn, Yuko 55.13 337 P P 11 59 58.3 +0.7
baz=128
HYT Haines Junctio 55.40 336 P P 11 59 59.7 +0.2
baz=126
PNL Peninsula 55.50 334 P P 11 59 60.0 -0.2
baz=123
O29M Mount Kennedy 55.52 335 P P 12 00 00.8 +0.3
baz=125
N30M Aishikik Lake 55.62 337 P P 12 00 01.6 +0.6
baz=127
YUK6 Outpost Mounta 55.80 336 P P 12 00 02.8 +0.2
baz=125
SDBA SAO DESIDERIO 55.85 117 eP P 12 00 04.8 +1.4
PINM Pinnacle 56.10 334 P P 12 00 05.0 +0.5
baz=125
YUK4 Talbot Arm 56.15 336 P P 12 00 05.7 +0.6
baz=125
M30M Minto, Yukon 56.19 338 P P 12 00 04.3 -0.8
baz=128
O28M Mount Upton 56.45 335 P P 12 00 06.6 -0.7
baz=123
YUK8 Steele Glacier 56.56 336 P P 12 00 07.2 -0.8
baz=124
M29M Somme Creek 56.73 337 P P 12 00 08.7 -0.3
baz=126,SNR=13
MESA MESA 56.86 334 P P 12 00 10.5 +0.4
baz=121
L29M L29M 57.00 338 P P 12 00 10.6 -0.2
baz=127
CTG Chitna Glacier 57.02 335 P P 12 00 10.8 -0.4
baz=122
YUK3 Moose Creek 57.11 336 P P 12 00 11.6 -0.3
baz=124
K29M Barlow Dome 57.23 339 P P 12 00 12.2 -0.3
baz=128
J30M Hart River 57.28 340 P P 12 00 12.6 -0.3
baz=129
H31M Peel River 57.46 342 P P 12 00 13.7 -0.3
baz=132
JANB Januaria 57.61 119 eP P 12 00 17.6 +1.7
BVCY Beaver Creek 57.62 336 P P 12 00 15.2 -0.1
baz=123
CRQE Cirque 57.65 334 P P 12 00 14.9 -0.6
baz=120
I30M Mount Dempster 57.72 340 P P 12 00 15.7 -0.2
baz=130
KAIM Kayak Island 57.81 333 P P 12 00 16.3 -0.2
baz=118
J29N Klondike Camp 57.85 339 P P 12 00 16.6 -0.3
baz=127
MCARA McCarthy VSAT 57.94 335 P P 12 00 17.4 0.0
baz=121
M27K Edge Creek, AK 57.99 336 P P 12 00 17.5 -0.5
baz=122
DAWY Dawson 58.02 338 P P 12 00 18.1 +0.1
baz=126
G31M Satah River 58.20 343 P P 12 00 19.1 0.0
baz=133
L27K Beaver Creek, 58.35 337 P P 12 00 20.0 -0.3
baz=123
BMRM Bremner River 58.40 334 P P 12 00 20.6 -0.1
baz=119
F31M Tsiigehtchic 58.41 343 P P 12 00 20.7 +0.1
baz=134
M26K Nabesna, AK 58.45 336 P P 12 00 20.3 -0.8
baz=121
EPYK Eagle Plains 58.56 341 P P 12 00 21.8 0.0
baz=130
EYAK Cordova Ski Ar 58.69 333 P P 12 00 22.4 -0.2
baz=117
N25K Chitina, Valde 58.70 334 P P 12 00 22.2 -0.7
baz=119
G30M tAoh Zraii Nji 58.81 342 P P 12 00 22.7 -0.7
baz=131
L26K Log Cabin Wild 58.92 336 P P 12 00 24.1 -0.2
baz=121
INK Inuvik 58.95 344 P P 12 00 23.7 -0.6
baz=134,SNR=5.1
K27K Chicken 58.98 338 P P 12 00 24.2 -0.4
baz=123
H29M Whitestone 58.98 341 P P 12 00 24.3 -0.3
baz=128
I28M Miner Creek 59.03 340 P P 12 00 24.1 -1.0
baz=126
EGAK Eagle 59.06 339 P P 12 00 23.5 -1.6
baz=124
F30M Barrier River 59.10 343 P P 12 00 24.8 -0.6
baz=131
KLU Klutina 59.21 334 P P 12 00 26.0 -0.4
baz=118
G29M Pine Creek 59.31 341 P P 12 00 26.8 -0.1
baz=129
GLI Glacier Island 59.43 333 P P 12 00 27.7 -0.1
baz=116
PLCA Paso Flores 59.57 159 LR LR 12 20 10.4
comp=Z,46nm,21.2s,baz=289,slow=30
M24K Tolsona, Glenn 59.60 335 P P 12 00 29.3 +0.2
baz=118
SCRK Sand Creek 59.66 337 P P 12 00 29.7 +0.2
baz=121,SNR=7.4
I27K Kandik River 59.69 339 P P 12 00 30.2 +0.6
baz=124,SNR=6.3
PAX Paxson 59.73 336 P P 12 00 29.7 -0.3
baz=119,SNR=5.8
DIAM Diamantina, MG 59.73 122 eP P 12 00 30.7 0.0
J26L Joseph Creek 59.78 338 P P 12 00 30.1 -0.2
baz=122,SNR=11
RIDG Independent Ri 59.87 337 P P 12 00 30.8 0.0
baz=120,SNR=10
A36M Sachs Harbour 59.93 349 P P 12 00 31.1 +0.1
baz=145
SCM Sheep Creek Mo 59.96 334 P P 12 00 31.3 -0.3
baz=116
PWL Port Wells 59.97 333 P P 12 00 31.1 -0.4
baz=115
H27K Steamboat Moun 60.02 340 P P 12 00 31.9 +0.1
baz=125,SNR=7.0
I26K Coal Creek Min 60.06 339 P P 12 00 32.3 +0.3
baz=122
M23K Glacier View 60.11 334 P P 12 00 32.6 +0.1
baz=116
SEW Seward 60.16 332 P P 12 00 32.7 -0.1
baz=113
E29M Blow River 60.21 343 P P 12 00 32.6 -0.5
baz=129
K24K Donnelly Dome 60.26 336 P P 12 00 33.4 -0.1
baz=119,SNR=8.7
KNK Knik Glacier 60.26 333 P P 12 00 33.7 +0.1
baz=115
F28M Old Crow 60.31 342 P P 12 00 34.9 +1.1
F28M Old Crow 60.31 342 P P 12 00 33.8 +0.1
baz=127,SNR=15
G27K Doyon Strip 60.40 340 P P 12 00 34.6 +0.2
baz=125,SNR=6.7
O22K Cooper Landing 60.43 332 P P 12 00 34.2 -0.5
baz=113
WAT6 Susitna Watana 60.47 335 P P 12 00 33.2 -1.9
baz=116,SNR=7.8
J25K Salcha River, 60.51 337 P P 12 00 35.3 +0.1
baz=120,SNR=7.7
DHY Denali Highway 60.54 335 P P 12 00 34.2 -1.4
baz=117
BRSE Bradley Lake S 60.62 331 P P 12 00 35.3 -0.6
baz=112
PMR Palmer 60.63 333 P P 12 00 37.5 +1.5
PMR IAmb IAmb 12 00 37.9
comp=Z,4.1nm,0.7s
PMR Palmer 60.63 333 P P 12 00 35.9 0.0
baz=114,SNR=6.0
RC01 Rabbit Creek A 60.69 333 P P 12 00 36.2 -0.2
baz=114
KDAK Kodiak Island 60.81 328 P P 12 00 37.0 -0.3
baz=109
E28M Babbage River 60.82 343 P P 12 00 36.8 -0.4
baz=128
WAT1 Susitna Watana 60.91 335 P P 12 00 38.0 0.0
baz=116
OHAK Old Harbor 60.99 328 P P 12 00 37.8 -0.7
baz=108
Q20K Shuyak Island 61.00 329 P P 12 00 38.5 0.0
baz=110
HDA Harding Lake 61.00 337 P P 12 00 38.6 +0.1
baz=118,SNR=7.5
PRP Porcupine Dome 61.02 338 P P 12 00 38.4 -0.4
baz=120,SNR=12
D28M Stokes Point 61.05 343 P P 12 00 38.7 0.0
baz=129
M22K Willow 61.12 333 P P 12 00 39.3 0.0
baz=114
ILAR Eielson Array 61.15 337 P P 12 00 40.6 +1.1
ILAR Eielson Array 61.15 337 P P 12 00 40.4 +0.8
comp=Z,6.3nm,1.0s,baz=144,slow=4.3,SNR=45
comp=Z,6.3nm,1.0s
G26K Porcupine Rive 61.17 340 P P 12 00 39.0 -0.5
baz=123,SNR=9.3
E27K Coleen River 61.18 342 P P 12 00 39.4 -0.3
baz=125,SNR=6.8
CAPN Captain Cook N 61.20 332 P P 12 00 39.0 -0.8
baz=112
SII Sitkinak Islan 61.26 327 P P 12 00 39.9 -0.5
baz=107
SUA Susitna One 61.28 333 P P 12 00 40.5 -0.1
baz=113,SNR=9.0
CUT Chulitna 61.45 334 P P 12 00 39.7 -1.8
baz=114
MCK McKinley 61.47 336 P P 12 00 41.9 +0.2
baz=116,SNR=6.8
H25L Birch Creek 61.50 339 P P 12 00 41.5 -0.4
baz=120,SNR=9.1
POKR Poker Plat Res 61.52 337 P P 12 00 42.3 +0.3
baz=118
COLA College 61.56 337 P P 12 00 41.6 -0.6
baz=117
D27M Malcolm River 61.62 343 P P 12 00 41.8 -0.8
baz=127
O20K Slope Mountain 61.62 331 P P 12 00 42.7 -0.1
baz=110
BMAR Burnt Mountain 61.69 340 P P 12 00 44.0 +0.9
F26K Sheenjek River 61.70 341 P P 12 00 42.1 -1.1
baz=123,SNR=6.7
R18K Karluk 61.70 328 P P 12 00 43.0 -0.3
baz=107
Q19K Cape Douglas, 61.72 330 P P 12 00 42.5 -1.0
baz=109
P19K Oil Pt 61.76 330 P P 12 00 41.3 -2.5
baz=110
SKT Skwentna 61.83 333 P P 12 00 44.1 -0.1
baz=112,SNR=7.4
N20K Mount Spurr 61.84 332 P P 12 00 42.3 -1.9
baz=111
SPCR Spurr Chakacha 61.84 332 P P 12 00 43.2 -1.0
baz=111
CMC01 Camacan, BA 61.84 117 eP P 12 00 45.6 +0.7
G25K Bearman Lake 61.85 339 P P 12 00 42.9 -1.3
baz=120,SNR=6.1
TRF Thorofare Moun 61.89 335 P P 12 00 44.2 -0.6
baz=114,SNR=9.4
NEA2 Nenana 61.90 336 P P 12 00 44.2 -0.4
baz=116,SNR=5.8
SJMB Sao Joao De Ma 61.98 121 eP P 12 00 48.5 +2.7
H24K Noodor Dome 62.03 338 P P 12 00 44.1 -1.4
baz=118,SNR=11
F25K Christian Rive 62.13 340 P P 12 00 45.0 -1.1
baz=121,SNR=8.9
I23K Minto, Yukon-K 62.26 337 P P 12 00 46.0 -1.0
baz=116,SNR=15
G24K Hadweenzic Riv 62.30 339 P P 12 00 45.3 -1.9
baz=119,SNR=8.8
Q18K Katmai Hardscr 62.31 329 P P 12 00 46.4 -1.1
baz=107
E25K Arctic Village 62.38 341 P P 12 00 47.0 -0.8
baz=121,SNR=5.8
NBAN Anadia - AL 62.38 109 eP P 12 00 48.1 -0.5
BPAW Bear Paw Mtn. 62.45 336 P P 12 00 47.2 -1.0
baz=114
O19K Port Alsworth 62.46 331 P P 12 00 47.7 -0.6
baz=109
PPLA Purkeypile 62.46 334 P P 12 00 47.1 -1.5
baz=112
M20K Styx River 62.49 333 P P 12 00 47.6 -1.1
baz=111,SNR=5.4
H23K Yukon River 62.63 338 P P 12 00 49.0 -0.4
baz=116
C27K Jago River 62.63 343 P P 12 00 48.3 -1.1
baz=124,SNR=6.5
Q17K Contact Creek 62.63 328 P P 12 00 48.3 -1.4
baz=106
P18K Big Mountain, 62.64 330 P P 12 00 46.6 -3.1
baz=108
R17L Mt. Peulik Vol 62.70 328 P P 12 00 47.9 -2.2
baz=106
MLY Manley 62.74 337 P P 12 00 51.0 +0.8
MLY Manley 62.74 337 P P 12 00 46.8 -3.5
baz=115,SNR=18
N19K Bonanza Creek 62.74 331 P P 12 00 47.5 -2.9
baz=109,SNR=5.3
F24K Squaw Lake 62.84 340 P P 12 00 50.0 -0.8
baz=119
CHUM Lake Minchumin 62.90 335 P P 12 00 49.3 -1.9
baz=112
RIB01 Linhares ES 62.93 121 eP P 12 00 52.2 +0.1
L20K Farewell, AK 63.04 333 P P 12 00 48.5 -3.7
baz=110,SNR=7.5
Q16K King Salmon 63.14 329 P P 12 00 52.9 0.0
baz=106
C26K Camden Bay 63.14 343 P P 12 00 48.1 -4.6
baz=123
CAM01 Campos-RJ 63.14 124 eP P 12 00 54.5 +1.0
P17K Kvichak River 63.18 329 P P 12 00 51.6 -1.5
baz=106
G23K Bananza Creek 63.20 338 P P 12 00 52.8 -0.5
baz=116,SNR=6.4
D25K Kavik River 63.26 342 P P 12 00 54.0 +0.4
baz=121,SNR=7.0
I21K Tanana 63.28 336 P P 12 00 53.0 -0.7
baz=114
E24K Your Creek 63.30 340 P P 12 00 54.0 +0.1
baz=118
H22K Ishtalitna Cre 63.34 337 P P 12 00 53.7 -0.4
baz=114,SNR=8.2
N18K Kilae Creek 63.35 331 P P 12 00 53.3 -1.0
baz=108
L19K White Mountain 63.36 333 P P 12 00 53.9 -0.4
baz=109
K20K Telida 63.43 334 P P 12 00 54.1 -0.7
baz=110
PPT Papeete 63.46 241 LR LR 12 21 20.1
comp=Z,90nm,20.6s,baz=123,slow=29
PPT2 Papeete2 63.47 241 eLR LR 12 20 00.2
comp=Z,125nm,23.5s
COLD Coldfoot 63.49 339 P P 12 00 55.3 +0.2
baz=116
M18K Stony River 63.57 332 P P 12 00 55.7 -0.1
baz=108
O17K Koliganek Bris 63.66 330 P P 12 00 54.8 -1.5
baz=106
E23K Chadalar 63.67 340 P P 12 00 54.6 -1.8
baz=117,SNR=7.3
J20K Nowinta River 63.75 335 P P 12 00 56.8 -0.1
baz=111,SNR=8.9
H21K Melozitna Rive 63.78 337 P P 12 00 56.3 -0.7
baz=113
CHNA Chernabura Isl 63.79 324 P P 12 00 56.9 -0.3
baz=101
G22K Bettles 63.82 338 P P 12 00 56.5 -0.7
baz=115
P16K Nushagak River 63.90 329 P P 12 00 57.0 -0.9
baz=105
N17K Nushagak Hills 63.92 331 P P 12 00 56.8 -1.3
baz=106
TOLK Toolik Lake Re 63.93 340 P P 12 00 58.1 +0.1
baz=117
D24K Happy Valley 63.93 341 P P 12 00 57.2 -0.8
baz=118
S14K Fog Glacier 64.07 326 P P 12 00 58.2 -1.1
baz=102
O16K Kokwok River B 64.10 329 P P 12 00 58.3 -0.9
baz=105
I20K Naaghedeneel 64.11 336 P P 12 00 58.5 -0.7
baz=111,SNR=5.2
C24K Franklin Bluff 64.17 342 P P 12 00 57.5 -1.9
baz=119
L18K Granite Mounta 64.19 333 P P 12 00 57.9 -1.9
baz=108
M17K Holitna River 64.28 332 P P 12 00 59.4 -1.0
baz=106
J19K Poorman 64.30 335 P P 12 00 59.2 -1.3
baz=109,SNR=15
F22K John River 64.31 339 P P 12 00 59.1 -1.4
baz=114
G21K Allakaket 64.38 338 P P 12 00 59.6 -1.4
baz=112
SDPT Sand Point 64.39 325 P P 12 01 00.6 -0.6
baz=101
D23K Nanushuk River 64.43 341 P P 12 01 01.8 +0.5
D23K IAmb IAmb 12 01 03.8
comp=Z,11nm,1.1s
D23K Nanushuk River 64.43 341 P P 12 00 59.6 -1.7
baz=116
E22K Anaktuvuk Pass 64.44 339 P P 12 01 00.6 -0.8
baz=115,SNR=8.7
H20K Anotleneega Mo 64.52 336 P P 12 01 02.1 +0.1
baz=111
J18K Innoko River 64.59 334 P P 12 01 00.1 -2.2
baz=108
F21K Alatna River 64.65 338 P P 12 01 02.3 -0.5
baz=113,SNR=28
N16K Nishlik Lake 64.66 330 P P 12 01 03.4 +0.5
baz=105
C23K Itkillik River 64.81 341 P P 12 01 02.9 -0.8
baz=117,SNR=6.4
O15K Ungalikthiuk R 64.86 329 P P 12 01 03.2 -1.0
baz=103
L17K Donlin 64.89 332 P P 12 01 04.8 +0.5
baz=106
M16K Timber Creek 64.89 331 P P 12 01 03.4 -1.0
baz=105
D22K Ayikyak River 65.05 340 P P 12 01 06.4 +1.1
D22K IAmb IAmb 12 01 08.1
comp=Z,16nm,1.0s
D22K Ayikyak River 65.05 340 P P 12 01 05.4 +0.1
baz=114,SNR=8.1
K17K Iditarod 65.05 333 P P 12 01 05.0 -0.4
baz=106
GCSA Galena City Sc 65.06 335 P P 12 01 04.4 -1.0
baz=108
H19K Roundabout Mou 65.15 336 P P 12 01 05.5 -0.4
baz=109,SNR=9.6
N15K Kwethluk River 65.22 330 P P 12 01 06.1 -0.4
baz=103
E21K Killik River 65.30 339 P P 12 01 07.1 +0.1
baz=113
L16K Owhat River 65.31 332 P P 12 01 07.6 +0.5
baz=105
S12K Black Hills 65.34 325 P P 12 01 07.3 -0.1
baz=100
F20K Avaraart Lake 65.40 338 P P 12 01 07.4 -0.1
baz=111,SNR=11
J17K VABM Dome 65.58 333 P P 12 01 08.7 -0.1
baz=106
O14K Tigyukauivet M 65.59 329 P P 12 01 08.6 -0.4
baz=102
G19K Purcell Mounta 65.60 337 P P 12 01 08.7 -0.2
baz=109,SNR=6.4
M15K Kasigluk River 65.63 330 P P 12 01 09.1 -0.1
baz=103
H18K Honhosa River 65.79 335 P P 12 01 09.7 -0.5
baz=107
C21K Knifeblade Rid 65.85 340 P P 12 01 11.9 +1.4
baz=112
B22K Teshekpuk Lake 65.89 341 P P 12 01 11.3 +0.6
baz=114
N14K Kuskokwak Cree 65.94 329 P P 12 01 12.1 +0.9
baz=102
FALS False Pass 65.97 324 P P 12 01 13.2 +1.8
baz=98
B21K Ikpikpuk River 65.98 341 P P 12 01 12.1 +0.8
baz=113
E20K Nigu River 66.00 339 P P 12 01 12.0 +0.5
baz=111
F19K Shaleruckik Mo 66.08 337 P P 12 01 12.4 +0.5
baz=108,SNR=9.1
E19K Redstone River 66.09 338 P P 12 01 12.6 +0.6
baz=109
TBI Tubuai 66.11 236 eLR LR 12 21 13.2
comp=Z,1µm,45.5s
G18K Tagagawik 66.13 336 P P 12 01 10.6 -1.7
baz=107,SNR=5.0
J16K Anvik River 66.22 333 P P 12 01 12.4 -0.4
baz=104
L15K Ungalak Mounta 66.23 331 P P 12 01 11.7 -1.3
baz=103
M14K Bethel 66.25 330 P P 12 01 11.9 -1.3
baz=102
D20K Etivluk River 66.31 339 P P 12 01 11.4 -2.0
baz=110
H17K Granite Mounta 66.36 335 P P 12 01 10.9 -2.9
baz=106
K15K Wolf Creek Mou 66.39 332 P P 12 01 11.2 -2.8
baz=103
I17K Unalakleet 66.41 334 P P 12 01 13.7 -0.4
baz=104
A22K Sinclair Lake 66.64 342 P P 12 01 14.9 -0.5
baz=113
L14K Kuka Creek 66.72 331 P P 12 01 14.8 -1.3
baz=102
F18K Selawik 66.72 337 P P 12 01 15.0 -1.0
baz=107
D19K Kuna River 66.75 339 P P 12 01 13.9 -2.3
baz=109
G17K Kiwalik Mounta 66.81 335 P P 12 01 15.3 -1.4
baz=105
M13K Dall Lake 66.86 330 P P 12 01 15.4 -1.6
baz=100
B20K Meade River 66.94 341 P P 12 01 15.7 -1.7
baz=110
H16K Elim 67.25 334 P P 12 01 17.2 -2.2
baz=103
F17K Baldwin Pennin 67.30 336 P P 12 01 19.3 -0.4
baz=105
E18K Tukpahlearik C 67.32 337 P P 12 01 19.6 -0.2
baz=106
J14K Nanvaranak Lak 67.41 332 P P 12 01 20.9 +0.5
baz=101
C19K Lookout Ridge 67.45 339 P P 12 01 19.5 -1.2
baz=108
G16K Koyuk River 67.47 335 P P 12 01 18.6 -2.2
baz=104
UNV Unalaska Valle 67.65 322 P P 12 01 21.8 -0.3
baz=95
E17K Hotham Inlet 67.68 337 P P 12 01 21.7 -0.5
baz=105,SNR=6.0
K13K Kusilvak Mount 67.76 331 P P 12 01 21.9 -0.7
baz=100
G15K Niukluk 68.08 335 P P 12 01 23.6 -1.1
baz=102
M11K Mekoryuk 68.25 329 P P 12 01 23.6 -2.2
baz=98
A19K Wainwright 68.28 340 P P 12 01 23.8 -2.0
baz=107
B18K Kokolik River 68.28 339 P P 12 01 23.8 -2.0
baz=106
D17K Noatak River 68.31 337 P P 12 01 24.4 -1.7
baz=104
RDOG Red Dog Mine 68.33 338 P P 12 01 23.9 -2.3
baz=104
F15K North Star Dit 68.47 335 P P 12 01 25.1 -2.0
baz=101
C17K DeLong Mountai 68.53 338 P P 12 01 24.2 -3.2
baz=104
ANM Nome 68.55 334 P P 12 01 26.2 -1.4
baz=100
ALE Alert 68.79 4 P P 12 01 28.7 -0.1
F14K Arctic Creek 69.11 335 P P 12 01 31.7 +0.6
baz=100
C16K Lisburne Hills 69.27 338 P P 12 01 32.4 +0.4
baz=102
P08K Saint George I 69.60 325 P P 12 01 34.1 -0.1
baz=94
TNA Tin City 69.78 335 P P 12 01 33.5 -1.7
baz=98
SPIA Saint Paul Isl 70.02 326 P P 12 01 37.1 +0.2
baz=93
GAMB Gambell 71.20 333 P P 12 01 43.8 0.0

baz=94

RAR	**Rarotonga**	**73.71**	**242**	LR	LR	12 26 31.9	
	comp=Z,62nm,21.8s,baz=261,slow=29						
PMAFR	**Mafra**	**76.85**	**53**	*eP*	**P**	**12 02 15.8**	**-1.7**
PARRA	**Arraiolos**	**77.06**	**53**	*eP*	**P**	**12 02 21.1**	**+2.5**
PCAS	**Casmilo, Conde**	**77.29**	**52**	*eP*	**P**	**12 02 18.6**	**-1.3**
PCAS				*i* IAmb	IAmb	12 02 27.3	
	comp=Z,20nm,1.8s						
MORF	**Marmelete**	**77.60**	**54**	*eP*	**P**	**12 02 20.3**	**-1.4**
POLO	**Lamas de Olo**	**77.61**	**50**	*eP*	**P**	**12 02 20.2**	**-1.6**
PSARD	**Sardoal**	**77.61**	**52**	*eP*	**P**	**12 02 19.9**	**-1.8**
PVIS	**Viseu**	**77.64**	**51**	*eP*	**P**	**12 02 19.9**	**-2.0**
PMTG	**Montargil**	**77.65**	**53**	*eP*	**P**	**12 02 20.0**	**-1.9**
PVRL	**Vila Real**	**77.68**	**50**	*eP*	**P**	**12 02 20.8**	**-1.3**
PVRL				*i* IAmb	IAmb	12 02 21.9	
	comp=Z,23nm,2.2s						
MESJ	**Messejana**	**77.85**	**54**	*eP*	**P**	**12 02 21.9**	**-1.1**
EVO	**Evora**	**77.90**	**53**	*eP*	**P**	**12 02 21.6**	**-1.7**
PCBR	**Castelo Branco**	**78.09**	**52**	*eP*	**P**	**12 02 23.2**	**-1.2**
PBEJ	**Beja**	**78.10**	**54**	*eP*	**P**	**12 02 23.2**	**-1.2**
PBDV	**Barranco-do-Ve**	**78.18**	**54**	*eP*	**P**	**12 02 24.3**	**-0.6**
PBDV				*i* IAmb	IAmb	12 02 29.7	
	comp=Z,25nm,1.6s						
PMRV	**Marv??o**	**78.23**	**52**	*eP*	**P**	**12 02 23.5**	**-1.6**
PMRV				*i* IAmb	IAmb	12 02 50.9	
	comp=Z,18nm,1.8s						
PVAQ	**Vaqueiros**	**78.32**	**54**	*eP*	**P**	**12 02 24.8**	**-0.8**
PVAQ				*i* IAmb	IAmb	12 03 11.7	
	comp=Z,20nm,2.0s						
PBRG	**Braganca**	**78.32**	**50**	*eP*	**P**	**12 02 23.5**	**-2.1**
EKA	**Eskdalemuir Ar**	**78.44**	**36**	P	**P**	**12 02 25.1**	**-0.9**
	comp=Z,4.0nm,0.6s,baz=286,slow=5.3,SNR=21						
	comp=Z,4.0nm,0.6s						
PBAR	**Barrancos**	**78.72**	**53**	*eP*	**P**	**12 02 26.4**	**-1.5**
SPITS	**Spitsbergen Ar**	**79.59**	**11**	P	**P**	**12 02 34.1**	**+2.3**
	comp=Z,9.9nm,0.9s,baz=15,slow=7.4,SNR=4.6						
SPITS				LR	LR	12 39 19.2	
	comp=Z,100nm,19.4s,baz=212,slow=37						
	comp=Z,9.9nm,0.9s						
ESDC	**Sonseca Array**	**80.79**	**51**	P	**P**	**12 02 37.2**	**-1.9**
	comp=Z,3.6nm,1.0s,baz=290,slow=5.3,SNR=20						
	comp=Z,3.6nm,1.0s						
MD01	**Midelt array s**	**81.57**	**58**	P	**P**	**12 02 42.2**	**-1.3**
MDT	**Midelt**	**81.71**	**58**	LR	LR	12 34 51.7	
	comp=Z,70nm,20.0s,baz=12,slow=33						
DOU	**Dourbes**	**84.20**	**40**	*dP*	**P**	**12 02 56.1**	**-0.5**
NB2	**NORSAR Subarra**	**84.32**	**28**	P	**P**	**12 02 58.5**	**+1.5**
	comp=Z,76nm,1.4s,baz=290,slow=5.3						
NB2	**NORSAR Subarra**	**84.32**	**28**	P	**P**	**12 02 58.5**	**+1.5**
	comp=Z,76nm,1.4s,baz=290,slow=5.3						
NOA	**NORSAR Array B**	**84.32**	**28**	P	**P**	**12 02 58.2**	**+1.2**
	comp=Z,13nm,0.9s,baz=291,slow=5.0,SNR=15						
	comp=Z,13nm,0.9s						
BGES	**Gesves**	**84.42**	**39**	*dP*	**P**	**12 02 58.0**	**+0.3**
	comp=Z,12nm,0.7s						
BCLA	**Clavier**	**84.55**	**39**	*dP*	**P**	**12 02 58.5**	**+0.2**
RCHB	**Rochefort**	**84.58**	**40**	*dP*	**P**	**12 02 59.3**	**+0.8**
	comp=Z,6.2nm,0.9s						
BSTI	**Sart Tilman**	**84.66**	**39**	*dP*	**P**	**12 02 58.8**	**-0.1**
MEM	**Membach**	**84.92**	**39**	*dP*	**P**	**12 03 01.2**	**+1.0**
	comp=Z,8.3nm,1.1s						
BHOU	**Houvegnez**	**85.00**	**39**	*dP*	**P**	**12 03 02.4**	**+1.8**
WLF	**Walferdange**	**85.29**	**40**	*dP*	**P**	**12 03 03.3**	**+1.2**
HFS	**Hagfors**	**85.80**	**29**	P	**P**	**12 03 05.3**	**+0.9**
	comp=Z,5.7nm,0.7s,baz=232,slow=4.7,SNR=7.2						
	comp=Z,5.7nm,0.7s						
ARCES	**ARCESS Array B**	**85.90**	**18**	P	**P**	**12 03 04.5**	**-0.2**
	comp=Z,4.2nm,0.7s,baz=297,slow=4.0,SNR=10						
	comp=Z,4.2nm,0.7s						
SEY	**Seymchan**	**87.02**	**335**	LR	LR	12 43 39.0	
	comp=Z,59nm,19.1s,baz=66,slow=37						
BNI	**Bardonecchia**	**87.04**	**44**	P	**P**	**12 03 10.5**	**-0.5**
SENIN	**Lac Senin/Sane**	**87.04**	**43**	P	**P**	**12 03 10.6**	**-0.5**
DBIC	**Dimbokro**	**87.66**	**84**	P	**P**	**12 03 14.0**	**-0.3**
	comp=Z,6.5nm,0.8s,baz=320,slow=5.0,SNR=7.5						
DBIC				LR	LR	12 41 10.2	
	comp=Z,29nm,19.2s,baz=3.5,slow=35						
	comp=Z,6.5nm,0.8s						
DAVOX	**Davos/Dischmat**	**88.58**	**42**	LR	LR	12 41 03.0	
	comp=Z,89nm,18.3s,baz=259,slow=34						
FUORN	**Ofenpass-Fuorn**	**88.89**	**42**	P	**P**	**12 03 19.4**	**-0.5**
TIXI	**Tiksi**	**88.90**	**348**	LR	LR	12 49 02.5	
	comp=Z,35nm,19.7s,baz=26,slow=40						
MA2	**Magadan**	**89.30**	**333**	LR	LR	12 48 14.0	
	comp=Z,45nm,18.5s,baz=92,slow=39						
BRG	**Berggiesshubel**	**89.56**	**37**	*e*PKP	**P**	**12 03 25.3**	**+2.6**
BRG				Amp		12 03 27.0	
	comp=Z,8.1nm,1.0s						
BRG	**Berggiesshubel**	**89.56**	**37**	Sg	**S**	**12 14 08.4**	**-1.5**
BRG				Amp		12 14 09.0	
	comp=Z,2.0nm,0.3s						
GERES	**GERESS Array B**	**90.21**	**39**	P	**P**	**12 03 26.4**	**+0.5**
	comp=Z,4.5nm,0.9s,baz=328,slow=3.5,SNR=13						
	comp=Z,4.5nm,0.9s						
FINES	**FINESS Array B**	**90.54**	**25**	P	**P**	**12 03 27.7**	**+0.8**
	comp=Z,3.6nm,0.7s,baz=264,slow=8.2,SNR=8.8						
	comp=Z,3.6nm,0.7s						
CADS	**Cadrg**	**91.26**	**41**	*i* P	**P**	**12 03 31.1**	**+0.3**
VRAC	**Vranov**	**91.76**	**38**	LR	LR	12 45 20.6	
	comp=Z,112nm,20.1s,baz=340,slow=36						
CEY	**Cerknica**	**91.90**	**42**	*i* P	**P**	**12 03 34.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**92.21**	**76**	P	**P**	**12 03 34.6**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=299,slow=5.4,SNR=7.6						
	comp=Z,0.7nm,0.6s						
LEGS	**Legarje**	**92.38**	**41**	*i* P	**P**	**12 03 36.5**	**+0.7**
VAE	**Valguarnera**	**95.16**	**49**	LR	LR	12 42 07.2	
	comp=Z,130nm,18.7s,baz=327,slow=33						
YAK	**Yakutsk**	**95.89**	**341**	LR	LR	12 51 25.9	
	comp=Z,14nm,19.3s,baz=5.0,slow=38						
AKASG	**Malin Array Be**	**98.09**	**32**	P	Pdif	12 04 01.7	-0.1
	comp=Z,0.5nm,0.5s,baz=292,slow=4.2,SNR=4.3						
	comp=Z,0.5nm,0.5s						
DZM	**Mont Dzumac**	**103.99**	**251**	*e*LR	LR	12 38 40.5	
	comp=Z,90nm,24.2s						
KURBB	**Kurchatov Arra**	**114.41**	**5**	PKiKP	**PKiKP**	**12 09 04.2**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=360,slow=2.2,SNR=5.1						
HHC	**Hu-ho-hao-te**	**119.58**	**338**	*eP*	**PKPdf**	**12 09 10.8**	**-4.5**
BOSA	**Boshof**	**122.67**	**115**	PKP	**PKPdf**	**12 09 20.9**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=300,slow=3.4,SNR=3.9						
NJ2	**Nanjing**	**123.56**	**326**	*eP*	**PKPdf**	**12 09 23.4**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
MAW	**Mawson**	**125.29**	**169**	PKP	**PKPdf**	**12 09 26.1**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=5.2,slow=11,SNR=1.9						
LZH	**Lanzhou**	**126.46**	**342**	*eP*	**PKPdf**	**12 09 25.3**	**-3.4**
LZH				pP	PKiKP	12 09 32.8	+3.7
LZH				pmax	pmax		
	comp=Z,18nm,1.6s						
WRA	**Warramunga Arr**	**133.57**	**257**	PKP	**PKPdf**	**12 09 43.6**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=87,slow=2.3,SNR=14						
ASAR	**Alice Springs**	**133.97**	**251**	PKP	**PKPdf**	**12 09 44.5**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=81,slow=1.9,SNR=7.0						
PZH	**PanZhiHua**	**135.99**	**339**	PKP	**PKPdf**	**12 09 46.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**144.38**	**338**	PKP	PKPbc	12 10 01.2	+0.7
	comp=Z,4.4nm,0.9s,baz=342,slow=3.9,SNR=21						

JMA 15 11:58:09.7±0.6, 24°N±2°×122°4E±°, h21km±3km, MV0.8/5, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.09**	**79**	P	Pb	11 58 13.6	-0.1
IRIF	**Iriomote-Funau**	**0.29**	**4**	P	Pb	11 58 16.3	-0.1
JKRS	**Kuro-shima**	**0.34**	**54**	P	Pb	11 58 17.1	+0.1
JKRS				*eS*	Sb	11 58 21.8	-0.1
JIJ	**Ishigaki jima**	**0.51**	**51**	*eP*	Pb	11 58 19.5	-0.5
JIJ				*i* S	Sb	11 58 27.1	+0.1
JISG	**Ishigakijimahi**	**0.77**	**45**	*eP*	Pb	11 58 24.5	0.0

TAP 15 11:58:30.6, 23°36N×121°72E, h33km, ML1.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBN	**Changbin**	**0.25**	**261**	*i* P	Pb	11 58 37.4	-0.3
ECBN				*i* S	Sb	11 58 42.4	-0.1
HGSD	**Ruisui**	**0.30**	**296**	*i* P	Pb	11 58 37.5	-0.9
HGSD				*i* S	Sb	11 58 43.1	-0.5
CHKH	**Chenggong**	**0.34**	**241**	P	Pb	11 58 38.3	-0.5
CHKH				*i* S	Sb	11 58 43.7	-0.7
EHYH	**Wanrong**	**0.37**	**292**	*i* P	Pb	11 58 39.0	-0.3
EHYH				S	Sn	11 58 45.9	+0.1
TWF1	**Yuli**	**0.39**	**269**	*i* P	Pb	11 58 39.2	-0.3
TWF1				*eS*	Sn	11 58 46.0	-0.3
YULB	**Yu-li**	**0.39**	**275**	*i* P	Pb	11 58 39.4	-0.2
YULB				*eS*	Sn	11 58 46.0	-0.3
EHY	**Hungye**	**0.39**	**292**	*i* P	Pb	11 58 39.3	-0.3
EHY				*i* S	Sn	11 58 46.2	-0.2
EGFH	**Guangfu**	**0.41**	**319**	*i* P	Pb	11 58 40.0	+0.2
EGFH				*i* S	Sb	11 58 46.4	+0.2
CHKT	**Chengkung**	**0.41**	**232**	*e*P	Pn	11 58 40.2	-0.1
CHKT				*i* S	Sb	11 58 45.4	-0.9
FULB	**Fuli**	**0.42**	**248**	*i* P	Pb	11 58 39.4	-0.6
FULB				*i* S	Sb	11 58 46.1	-0.4
SHUL	**Shoufeng**	**0.45**	**342**	*i* P	Pb	11 58 39.9	-0.6
SHUL				*i* S	Sb	11 58 47.3	+0.1
WARBT	**Fenglin Townsh**	**0.47**	**320**	*i* P	Pb	11 58 40.3	-0.5
WARBT				*i* S	Sb	11 58 47.6	-0.2
EHD	**Haiduan**	**0.52**	**246**	*i* P	Pb	11 58 41.0	-0.4
EHD				*i* S	Sb	11 58 49.1	+0.2
ESL	**Shilin**	**0.53**	**330**	*i* P	Pb	11 58 40.6	-1.0
ESL				*eS*	Sb	11 58 48.6	-0.5
EDH	**Donghe**	**0.54**	**225**	P	Pb	11 58 41.4	-0.5
EDH				*i* S	Sb	11 58 48.6	-0.9
ETM	**Tongmen**	**0.64**	**341**	*i* P	Pn	11 58 42.5	-1.0
ETM				*eS*	Sb	11 58 51.7	-0.6
ELDTW	**Lidau**	**0.67**	**256**	*i* P	Pn	11 58 43.3	-0.6
ELDTW				*i* S	Sb	11 58 52.6	-0.5
LONT	**Longtian**	**0.70**	**231**	*i* P	Pn	11 58 44.1	-0.2
LONT				S	Sb	11 58 53.7	-0.3
YUS	**Yu-Shan**	**0.72**	**281**	*i* P	Pb	11 58 45.1	0.0
YUS				*eS*	Sn	11 58 55.4	+0.3
OWD	**Renai**	**0.78**	**320**	*i* P	Pn	11 58 44.5	-1.0
OWD				*i* S	Sn	11 58 54.9	-1.1
TWGBT	**Beinan**	**0.80**	**228**	*e*P	Pn	11 58 45.3	-0.3
TWGBT				*eS*	Sn	11 58 56.2	-0.2
TWG	**Pinlang**	**0.80**	**228**	*e*P	Pn	11 58 45.0	-0.6
TWG				*eS*	Sn	11 58 56.4	0.0
NACB	**Ninganchiao**	**0.82**	**352**	*i* P	Pn	11 58 45.3	-0.7
NACB				*i* S	Sn	11 58 55.9	-1.1
SSLB	**Suanglung**	**0.82**	**302**	P	Pn	11 58 46.0	0.0
SSLB				S	Sn	11 58 57.0	0.0
WUSB	**Renai**	**0.84**	**319**	*i* P	Pn	11 58 46.4	+0.1
WUSB				*i* S	Sn	11 58 57.5	-0.1
ALS	**Alishan**	**0.85**	**280**	*i* P	Pb	11 58 47.2	0.0
ALS				*eS*	Sn	11 58 58.3	+0.1
WHYT	**Xinyi Township**	**0.86**	**293**	*i* P	Pb	11 58 47.2	-0.1
WHYT				*eS*	Sn	11 58 58.2	+0.1
ETLH	**Xiulin Townshi**	**0.87**	**346**	*i* P	Pn	11 58 46.0	-0.7
ETLH				*i* S	Sn	11 58 57.6	-0.8
WHF	**Hehuan Shan**	**0.89**	**332**	*i* P	Pn	11 58 47.0	-0.3
WHF				*i* S	Sn	11 58 59.2	0.0
SMLT	**Sun Moon Lake**	**0.92**	**305**	*e*P	Pn	11 58 47.5	+0.2
SMLT				*eS*	Sb	11 58 59.9	-0.2
EOS4	**EOS4**	**0.94**	**36**	*i* P	Sn	11 58 46.2	-1.0
EOS4				*i* S	Sn	11 58 58.2	-1.2
CHN5	**Tsauling**	**0.98**	**284**	*i* P	Pb	11 58 49.0	-0.3
CHN5				S	Sb	11 59 02.6	+0.6
TPUB	**Ta-pu**	**1.00**	**267**	P	Pb	11 58 49.8	+0.3
TPUB				S	Sb	11 59 04.5	+2.1
EOS3	**EOS3**	**1.07**	**31**	*e*P	Pn	11 58 48.7	-0.6
EOS3				*eS*	Sn	11 59 02.0	-1.1
NNSB	**Datong**	**1.11**	**344**	P	Pn	11 58 50.3	+0.2
NNSB				S	Sn	11 59 03.8	-0.5
WHP	**Taichung City**	**1.16**	**322**	P	Pb	11 58 52.7	+0.5
WHP				*eS*	Sb	11 59 06.5	-0.5
LATG	**Datong**	**1.19**	**351**	*i* P	Pn	11 58 51.2	+0.2
LATG				*eS*	Sn	11 59 05.4	-0.7
YHNB	**Yeheng**	**1.34**	**347**	*i* P	Pn	11 58 53.9	+0.6
YHNB				*eS*	Sn	11 59 10.2	+0.2

*THE **15** 12:02:35.4, 37°N±2°×2°1E±°, h14km±2km, M3.0/11, MLh3.0/11*
*ATH **15** 12:02:35.0, 37°.41N×20°.77E, h12km±1km, ML2.9/12, Manual Solution by D.Makaris First location: 2019/09/15 12:03:34, This location: 2020/09/30 13:37:12 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
ISC 15 12:02:35.4±1.3, 37°.43N±0°.05×20°.80E±0°.04, h12km±7km, n39, σ0°62/76, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.23**	**3**	P	**Pg**	**12 02 40.5**	**+0.2**
LTHK	**Lithakia**	**0.28**	**6**	P	**Pg**	**12 02 41.2**	**0.0**
LTHK				S	**Sg**	**12 02 45.3**	**+0.2**
LTHK	**Lithakia**	**0.28**	**6**	P	**Pg**	**12 02 41.2**	**0.0**
LTHK				S	**Sg**	**12 02 45.4**	**+0.4**
ORTH	**Orthonies,Zaky**	**0.43**	**349**	P	**Pg**	**12 02 43.7**	**-0.2**
ORTH				S	**Sg**	**12 02 50.4**	**+0.8**
ORTH	**Orthonies,Zaky**	**0.43**	**349**	P	**Pg**	**12 02 43.9**	**0.0**
ORTH				S	**Sb**	**12 02 50.4**	**-0.6**
RTZL	**Ratzakli, Kefa**	**0.64**	**358**	P	**Pg**	**12 02 47.3**	**-0.6**
RTZL				S	**Sb**	**12 02 57.3**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.70**	**346**	P	**Pg**	**12 02 48.6**	**-0.4**
PSDA				S	**Sb**	**12 02 59.5**	**+0.3**
VLS	**Valsamata**	**0.76**	**347**	P	**Pg**	**12 02 49.4**	**-0.8**
VLS				S	**Sb**	**12 03 01.4**	**+0.4**
VLS	**Valsamata**	**0.76**	**347**	P	**Pg**	**12 02 49.6**	**-0.5**
VLS				S	**Sb**	**12 03 01.0**	**0.0**
ARG2	**Argostoli**	**0.79**	**342**	P	**Pg**	**12 02 50.2**	**-0.5**
ARG2				S	**Sb**	**12 03 02.0**	**+0.4**
DMLN	**Damoulianata-K**	**0.87**	**337**	P	**Pg**	**12 02 51.9**	**-0.4**
DMLN				S	**Sb**	**12 03 04.3**	**+0.2**
AXS	**Araxos**	**0.89**	**31**	P	**Pb**	**12 02 52.7**	**-0.1**
AXS				S	**Sb**	**12 03 04.5**	**0.0**
DRO	**Drossia**	**0.89**	**54**	P	**Pg**	**12 02 51.5**	**-1.1**
DRO				S	**Sb**	**12 03 05.0**	**+0.4**
DRO	**Drossia**	**0.89**	**54**	P	**Pg**	**12 02 52.6**	**0.0**
DRO				S	**Sb**	**12 03 05.0**	**+0.4**
ITM	**Ithomi**	**0.93**	**105**	P	**Pb**	**12 02 52.7**	**-0.8**
ITM				S	**Sb**	**12 03 05.9**	**0.0**
ITM	**Ithomi**	**0.93**	**105**	P	**Pg**	**12 02 53.4**	**0.0**
ITM				S	**Sb**	**12 03 06.3**	**+0.5**
FSK	**Fiskardo**	**1.04**	**350**	P	**Pb**	**12 02 54.5**	**-0.9**
FSK				S	**Sn**	**12 03 09.8**	**-0.5**
FSK	**Fiskardo**	**1.04**	**350**	P	**Pn**	**12 02 55.8**	**0.0**
FSK				S	**Sg**	**12 03 09.3**	**+0.2**
KLV	**Kalavryta, Ach**	**1.23**	**60**	P	**Pn**	**12 02 57.9**	**-0.6**
KLV				S	**Sn**	**12 03 15.0**	**-0.1**
PVO	**Paravola**	**1.31**	**26**	P	**Pb**	**12 02 59.6**	**-0.4**
PVO				S	**Sb**	**12 03 16.3**	**-0.5**
GUR	**Goura**	**1.32**	**67**	P	**Pn**	**12 02 58.9**	**-0.8**
GUR				S	**Sn**	**12 03 17.6**	**+0.2**
KALE	**Kalithea**	**1.43**	**47**	P	**Pn**	**12 03 01.0**	**-0.1**
KALE				S	**Sb**	**12 03 20.4**	**+0.2**
ANX	**Ano Chora**	**1.46**	**37**	P	**Pn**	**12 03 01.3**	**-0.3**
ANX				S	**Sb**	**12 03 21.1**	**0.0**
EVR	**Evrytania**	**1.68**	**28**	P	**Pb**	**12 03 05.9**	**-0.4**
LOUT	**Loutraki**	**1.81**	**72**	P	**Pn**	**12 03 05.2**	**-1.2**
LOUT				S	**Sn**	**12 03 29.4**	**+0.1**
LTK	**Loutraki**	**1.82**	**70**	P	**Pn**	**12 03 06.5**	**0.0**
LTK				S	**Sb**	**12 03 30.5**	**-0.8**
VLI	**Veliai**	**1.85**	**112**	P	**Pn**	**12 03 07.7**	**+0.8**
VLI				S	**Sb**	**12 03 31.0**	**-1.2**
MAKR	**Makrakomi, Fth**	**1.90**	**33**	P	**Pn**	**12 03 07.5**	**-0.1**
MAKR				S	**Sb**	**12 03 32.9**	**-0.6**
TETR	**Tetrakomo, Epi**	**1.95**	**11**	P	**Pn**	**12 03 08.9**	**+0.6**
TETR				S	**Sn**	**12 03 33.3**	**+0.6**
AXAR	**Agios Charalam**	**1.98**	**47**	P	**Pn**	**12 03 08.6**	**-0.2**
AXAR				S	**Sn**	**12 03 34.6**	**+1.1**
MET6	**Megalochori,Me**	**2.04**	**85**	P	**Pn**	**12 03 10.4**	**+0.9**
MET6				S	**Sn**	**12 03 35.6**	**+0.8**
VIL2	**Platees**	**2.10**	**68**	P	**Pn**	**12 03 11.4**	**+0.9**
VIL2				S	**Sb**	**12 03 38.1**	**-1.4**
LKR	**Lokris**	**2.12**	**54**	P	**Pn**	**12 03 10.5**	**-0.1**
LKR				S	**Sn**	**12 03 36.9**	**0.0**
ATAL	**Atalanti**	**2.16**	**54**	P	**Pn**	**12 03 11.0**	**-0.1**
ATAL				S	**Sn**	**12 03 39.1**	**+1.3**
THL	**Klokotos Trika**	**2.33**	**24**	P	**Pn**	**12 03 13.6**	**0.0**
THL				S	**Sn**	**12 03 43.0**	**+0.9**
VLY	**Voula,Athens**	**2.41**	**79**	P	**Pn**	**12 03 14.6**	**0.0**
VLY				S	**Sn**	**12 03 45.2**	**+1.1**
DION	**Dionisos Attik**	**2.57**	**74**	P	**Pn**	**12 03 17.6**	**+0.9**
DION				S	**Sn**	**12 03 49.1**	**+1.2**
NEO	**Neokhori**	**2.67**	**45**	P	**Pn**	**12 03 18.3**	**+0.1**
NEO				S	**Sn**	**12 03 51.8**	**+1.3**
KYMI	**Kymi, Euboea I**	**2.87**	**64**	P	**Pn**	**12 03 21.3**	**+0.4**
KYMI				S	**Sn**	**12 03 56.1**	**+0.7**

*IDC **15** 12:09:51.4±1.3, 13°.47N×91°.35W, h0km, mb3.8/3, mbtmp3.8/5, ML2.4/2, MS3.3/5, Error ellipse: s-maj=48.1km s-min=24.3km az=42.0*
*CATAC **15** 12:09:56.3±0.8, 14°N±4°×9°1W±°, h20km±8km, M4.3/13, MLv4.3/13, Error ellipse: s-maj=9.6km s-min=5.8km az=44.3, confirmed*
*GCG **15** 12:09:56.8±0.6, 13°.85N×91°.38W, h78km±7km, MD4.3, ML4.1*
*SNET **15** 12:09:56.6±2.3, 13°.72N×91°.43W, h23km, ML4.2*
*NEIC **15** 12:10:00.1±1.5, 13°.80N±0°.08×91°.32W±0°.08, h48km±13km, mb4.1/19, Error ellipse: s-maj=13.8km s-min=8.0km az=219.0*
*UCR **15** 12:11:02.6±0.4, 12°.50N×86°.40W, h47km, MW3.8, MB4.2(NEIC)*
ISC 15 12:09:56.6±0.7, 13°.69N±0°.06×91°.41W±0°.04, h28km, n103, σ1°45/110, mb4.1/7, MS3.5/4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.88**	**342**		**Pn**	**12 10 12.8**	**-0.3**
RTAL	**Retalhuleu**	**0.88**	**342**	*eP*	**Pb**	**12 10 13.1**	**-0.1**
RTAL	**Retalhuleu**	**0.88**	**342**	P	**Pn**	**12 10 12.6**	**-0.5**
ESSG	**Sabana Grande**	**0.89**	**39**	*eP*	**Pn**	**12 10 13.2**	**-0.2**
ESSG				IAML		12 10 30.4	
	comp=E,4μm,0.5s						
ESSJ	**San Jos, E**	**0.89**	**98**	*i* P	**Pn**	**12 10 10.8**	**-2.5**
ESSJ				*eS*	**Sb**	**12 10 21.4**	**-3.7**
SOKI	**Kika Raxquin**	**1.13**	**0**	*i* P	**Pn**	**12 10 17.0**	**+0.1**
SOKI				IAML		12 10 51.0	
	comp=N,6μm,1.2s						
GCG4	**OSOP**	**1.23**	**44**	IAML		12 10 48.5	
	comp=N,3μm,0.7s						
SMCA	**Catarina**	**1.33**	**331**	*eP*	**Pn**	**12 10 18.3**	**-1.0**
SMCA				*eS*	**Sn**	**12 10 34.8**	**-1.3**
SMCA				IAML		12 10 40.9	
	comp=N,2μm,0.4s						
THIG		**1.47**	**326**	*eP*	**Pn**	**12 10 20.5**	**-0.7**
THIG				IAML		12 10 45.2	
	comp=N,2μm,0.6s						
NUBE	**Las Nubes**	**1.60**	**82**	*eP*	**Pn**	**12 10 23.1**	**-0.1**
NUBE	**Las Nubes**	**1.60**	**82**	P	**Pn**	**12 10 23.2**	**0.0**
NUBE	**Las Nubes**	**1.60**	**82**	S	**Sn**	**12 10 43.6**	**+0.6**
LOAL	**Lomas de Alarc**	**1.61**	**79**	P	**Pn**	**12 10 23.7**	**+0.5**
LOAL	**Lomas de Alarc**	**1.61**	**79**	S	**Sn**	**12 10 44.1**	**+0.9**
HUEH	**Huehuetenango**	**1.62**	**357**		**Pn**	**12 10 23.7**	**+0.1**
HUEH	**Huehuetenango**	**1.62**	**357**	*eP*	**Pb**	**12 10 24.9**	**-1.1**
HUEH	**Huehuetenango**	**1.62**	**357**	P	**Pn**	**12 10 24.1**	**+0.6**
RTR	**El Retiro**	**1.73**	**83**	*eP*	**Pn**	**12 10 25.5**	**+0.6**
CEVE	**Cerro Verde**	**1.74**	**85**	*eP*	**Pn**	**12 10 25.4**	**+0.2**
CEVE				*eS*	**Sn**	**12 10 47.0**	**+0.4**
CEVE	**Cerro Verde**	**1.74**	**85**	P	**Pn**	**12 10 25.6**	**+0.4**
SBLS	**San Blas**	**1.74**	**85**	*eP*	**Pn**	**12 10 25.6**	**+0.3**
SNJE	**San Jose**	**1.76**	**84**	*eP*	**Pn**	**12 10 25.8**	**+0.3**
UNIC	**Universidad Ca**	**1.83**	**81**	S	**Sb**	**12 10 50.5**	**-1.6**
JAYA	**Jayaque - finc**	**1.91**	**91**	*eP*	**Pn**	**12 10 27.2**	**-0.2**
JAYA	**Jayaque - finc**	**1.91**	**91**	*eP*	**Pn**	**12 10 27.2**	**-0.2**
JAYA				*eS*	**Sn**	**12 10 50.3**	**-0.3**
JAYA	**Jayaque - finc**	**1.91**	**91**	P	**Pn**	**12 10 27.8**	**+0.4**
PMON	**Piamonte**	**2.04**	**89**	*eP*	**Pn**	**12 10 29.6**	**+0.4**
PMON	**Piamonte**	**2.04**	**89**	P	**Pn**	**12 10 29.8**	**+0.6**
PMON	**Piamonte**	**2.04**	**89**	S	**Sn**	**12 10 54.5**	**+0.7**
BOQS	**Boqueron**	**2.07**	**88**	*eP*	**Pn**	**12 10 30.2**	**+0.5**
PIC2	**El Picacho**	**2.10**	**88**	*eP*	**Pn**	**12 10 31.7**	**+1.7**
PIC2				*eS*	**Sb**	**12 10 59.0

comp=Z,0.3nm,0.5s,baz=146,slow=8.6,SNR=4.2
PDAR PcP **PcP** 12 19 12.5 -0.5
comp=Z,0.2nm,0.7s,baz=173,slow=3.8,SNR=2.1
comp=Z,0.3nm,0.5s
NVAR Mina Array Bea 34.27 321 P **P** 12 16 42.6 +1.9
comp=Z,1.6nm,0.7s,baz=129,slow=5.2,SNR=12
NVAR PcP **PcP** 12 19 16.9 +0.1
comp=Z,0.4nm,0.6s,baz=78,slow=2.7,SNR=4.1
NVAR LR LR 12 32 07.7
comp=Z,68nm,19.5s,baz=245,slow=39
comp=Z,1.6nm,0.7s
LPAZ La Paz 37.64 142 LR LR 12 32 16.8
comp=Z,46nm,19.5s,baz=262,slow=36
FRB Frobisher Bay 52.49 13 LR LR 12 43 27.3
comp=Z,52nm,18.8s,baz=14,slow=38
SFJD Kangerlussuaq 59.64 17 LR LR 12 46 42.9
comp=Z,42nm,19.2s,baz=276,slow=37
ILAR Eielson Array 63.35 337 P **P** 12 20 21.9 -1.1
comp=Z,1.2nm,0.9s,baz=113,slow=6.6,SNR=12
comp=Z,1.2nm,0.9s
RND Reindeer 63.55 335 **P** 12 20 24.6 +0.1
WRA Warramunga Arr 135.87 255 PKP **PKPdf** 12 29 14.9 -0.8
comp=Z,0.3nm,0.8s,baz=88,slow=2.6,SNR=1.8
ASAR Alice Springs 136.10 250 PKP **PKPdf** 12 29 14.4 -1.6
comp=Z,0.4nm,0.8s,baz=95,slow=2.8,SNR=4.2
CMAR Chiang Mai Arr 146.47 342 PKPbc **PKPbc** 12 29 35.9 -0.2
comp=Z,2.1nm,0.7s,baz=21,slow=3.4,SNR=14

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*GII **15** 12:11:50.6±0.0,32°.251N±0°.001×36°.370E±0°.001,h0km, Md1.4/5,confirmed*
*GRAL **15** 12:11:53.7±0.4,32°.23N×36°.25E,h1km±4km,MD3.6*
ISC 15 12:11:50.9±1.3,**32°.24N**±0°.03×**36°.38E**±0°.08,**h0km,n37,**
σ0s43/39,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HMDT	**Nahal Hemdat**	**0.73**	**271**	P	**Pg**	**12 12 04.6**	**-0.2**
HMDT	**Nahal Hemdat**	**0.73**	**271**	S	**Sb**	**12 12 16.7**	**-0.2**
MMLI	**Mount Malkishu**	**0.84**	**284**	P	**Pg**	**12 12 07.5**	**+0.5**
MMLI	**Mount Malkishu**	**0.84**	**284**	S	**Sb**	**12 12 20.6**	**+0.4**
KSHT	**Keshet**	**0.88**	**327**	P	**Pg**	**12 12 08.3**	**+0.5**
KSHT	**Keshet**	**0.88**	**327**	S	**Sb**	**12 12 21.7**	**+0.1**
DSI	**Dead Sea**	**1.08**	**232**	P	**Pg**	**12 12 11.2**	**-0.5**
DSI	**Dead Sea**	**1.08**	**232**	S	**Sb**	**12 12 27.2**	**0.0**
BLGI	**Bet Lehem HaGe**	**1.12**	**296**	P	**Pg**	**12 12 12.5**	**+0.1**
BLGI	**Bet Lehem HaGe**	**1.12**	**296**	S	**Sb**	**12 12 28.5**	**+0.2**
MMA0B	**Mount Meron ar**	**1.13**	**313**	P	**Pg**	**12 12 12.7**	**+0.1**
MMA0B	**Mount Meron ar**	**1.13**	**313**	S	**Sb**	**12 12 29.3**	**+0.6**
NATI	**Neve Ativ**	**1.16**	**332**	P	**Pg**	**12 12 13.3**	**+0.2**
NATI	**Neve Ativ**	**1.16**	**332**	S	**Sb**	**12 12 30.0**	**+0.7**
GHAJ	**Ghor Haditha**	**1.17**	**217**	P	**Pg**	**12 12 13.3**	**+0.1**
GHAJ	**Ghor Haditha**	**1.17**	**217**	S	**Sb**	**12 12 30.3**	**+0.8**
SHBL	**Chebaa**	**1.23**	**334**	*eP*	**Pn**	**12 12 15.3**	**-0.2**
OFRI	**`Ofer**	**1.24**	**288**	P	**Pg**	**12 12 14.4**	**-0.3**
OFRI	**`Ofer**	**1.24**	**288**	S	**Sb**	**12 12 32.4**	**+0.6**
RCY	**Rachaya**	**1.33**	**340**	*eP*	**Pn**	**12 12 17.0**	**0.0**
YTIR	**Yattir**	**1.39**	**231**	P	**Pg**	**12 12 17.4**	**-0.1**
YTIR	**Yattir**	**1.39**	**231**	S	**Sn**	**12 12 37.0**	**+0.2**
QRWL	**Qaraoun**	**1.43**	**336**	*eP*	**Pb**	**12 12 18.6**	**0.0**
QRWL				*eS*	**Sg**	**12 12 36.6**	**-0.3**
DQRL	**Deir Qamar**	**1.61**	**335**	*eP*	**Pb**	**12 12 21.5**	**-0.1**
DQRL				*eS*	**Sn**	**12 12 42.0**	**-0.3**
ZAHL	**Zahle**	**1.67**	**346**	*eP*	**Pb**	**12 12 22.5**	**-0.1**
BHL	**Bhannes**	**1.77**	**340**	*eP*	**Pb**	**12 12 23.8**	**-0.5**
HWQ	**Hawqa**	**2.06**	**350**	*eP*	**Pb**	**12 12 28.1**	**-1.2**
KZIT	**Kziot**	**2.15**	**232**	P	**Pn**	**12 12 27.6**	**-0.4**
KZIT	**Kziot**	**2.15**	**232**	S	**Sn**	**12 12 55.6**	**+0.1**
PRNI	**Paran**	**2.22**	**212**	P	**Pn**	**12 12 28.8**	**-0.2**
PRNI	**Paran**	**2.22**	**212**	S	**Sn**	**12 12 57.8**	**+0.6**
KRMI	**Paran Flat**	**2.55**	**214**	P	**Pn**	**12 12 33.5**	**0.0**
KRMI	**Paran Flat**	**2.55**	**214**	S	**Sn**	**12 13 05.9**	**+0.6**
MBRI	**Mt Berech**	**2.75**	**208**	P	**Pn**	**12 12 36.4**	**+0.1**
MBRI	**Mt Berech**	**2.75**	**208**	S	**Sn**	**12 13 10.7**	**+0.5**
EIL	**Elat**	**2.84**	**206**	P	**Pn**	**12 12 37.4**	**-0.1**
EIL	**Elat**	**2.84**	**206**	S	**Sn**	**12 13 12.9**	**+0.4**

GCG 15 12:31:12.5±0.4,**13°.76N×90°.41W,h60km**±8km,**MD3.7,**
Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESSJ	**San Jos, E**	**0.21**	**204**	*i* P		12 31 23.9	+1.9
NUBE	**Las Nubes**	**0.63**	**77**	*i* P	Pn	12 31 26.5	+0.3
NUBE				*eS*	Sn	12 31 37.3	+1.2
ESSG	**Sabana Grande**	**0.74**	**327**	*i* P	Pn	12 31 27.8	+0.4
ESSG				*i* S	Sn	12 31 39.5	+1.2
JAYA	**Jayaque - finc**	**0.94**	**96**	*i* P	Pn	12 31 29.9	-0.1

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*MEX **15** 12:33:04.8±0.7,14°.26N×92°.70W,h25km±32km,MD3.8*
*GCG **15** 12:33:06.1±0.6,14°.46N×92°.45W,h62km±10km,MD3.6, ML3.3*
ISC 15 12:33:02.4±1.9,**14°.22N**±0°.09×**92°.57W**±0°.05,**h31**km±17km,
n17,σ1s42/30,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.75**	**23**	*eP*	**Pn**	**12 33 17.5**	**+0.6**
THIG				*eS*	**Sn**	**12 33 26.2**	**-1.0**
THIG		**0.75**	**23**	*eP*	**Pn**	**12 33 17.5**	**+0.6**
SMCA	**Catarina**	**0.80**	**37**	*eP*	**Pn**	**12 33 18.8**	**+1.2**
SMCA				*eS*	**Sn**	**12 33 28.4**	**0.0**
RTAL	**Retalhuleu**	**0.90**	**70**	*eP*	**Pn**	**12 33 20.1**	**+1.1**
RTAL				*eS*	**Sn**	**12 33 33.2**	**+2.2**
PATR	**El Naranjo**	**0.95**	**20**	*eP*	**Pn**	**12 33 19.8**	**-0.1**
PATR				*eS*	**Sn**	**12 33 31.7**	**-0.8**
CHUJ	**Union Juarez**	**0.98**	**27**	*eP*	**Pn**	**12 33 20.4**	**+0.2**
CHUJ				*eS*	**Sn**	**12 33 33.1**	**-0.1**
PAVE	**Pavencul**	**1.04**	**21**	*eP*	**Pn**	**12 33 21.2**	**+0.1**
PAVE				*eS*	**Sn**	**12 33 34.2**	**-0.5**
QUEO	**Labor Ovalle**	**1.21**	**57**	*eP*	**Pb**	**12 33 25.6**	**+0.6**
QUEO				IAML		12 33 42.5	
	comp=E,1μm,0.2s						
SOKI	**Kika Raxquin**	**1.28**	**62**	*eP*	**Pb**	**12 33 26.9**	**+0.7**
SOKI				*eS*	**Sn**	**12 33 42.2**	**+1.4**
HUEH	**Huehuetenango**	**1.51**	**43**	*eP*	**Pb**	**12 33 29.7**	**-0.2**
HUEH				*eS*	**Sn**	**12 33 45.2**	**-1.0**
PCIG		**1.61**	**337**	*eP*	**Pn**	**12 33 27.9**	**-0.8**
PCIG				*eS*	**Sn**	**12 33 46.0**	**-2.4**
ESSG	**Sabana Grande**	**1.69**	**84**	*eP*	**Pb**	**12 33 32.1**	**-1.0**
FG8	**Yepocapa, Chim**	**1.95**	**88**	*eP*	**Pn**	**12 33 30.8**	**-2.7**
CCIG	**Comitan**	**2.10**	**11**	*eP*	**Pb**	**12 33 38.8**	**-1.2**
CCIG				*eS*	**Sn**	**12 34 01.4**	**+0.7**
TGIG		**2.60**	**348**	*eP*	**Pn**	**12 33 43.1**	**+0.7**
TGIG				*eS*	**Sn**	**12 34 12.3**	**-0.7**
CMIG	**Matias Romero**	**3.63**	**322**	*eP*	**Pn**	**12 33 57.4**	**+1.0**
CMIG				*eS*	**Sn**	**12 34 35.5**	**-2.7**
NEUV	**Arroyo Zacate**	**4.66**	**319**	*eP*	**Pn**	**12 34 13.7**	**+2.9**
NEUV				*eS*	**Sn**	**12 35 05.9**	**+2.1**

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*SSNC **15** 12:48:14.2±1.5,19°.37N×70°.94W,h89km±15km,MD3.6, ML3.4*
*SDD **15** 12:48:17.8±2.5,19°.13N×71°.18W,h102km±13km,MD3.4, ML3.6,MW3.4*
*OSPL **15** 12:48:19.0±2.1,19°.14N×71°.20W,h89km±8km,ML3.3*
ISC 15 12:48:16.7±1.3,**19°.16N**±0°.03×**71°.19W**±0°.03,**h97**km±7km,
n40,σ0s94/66,12C-12D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**0.20**	**207**	*eP*	**Pn**	**12 48 30.1**	**-0.5**
SDDR				*eS*	**Sn**	**12 48 38.8**	**-2.2**
SDDR				IAML		12 48 40.2	
	comp=Z,2μm,0.3s						
SDDR				IAML		12 48 40.3	
	3μm,0.4s						
SDDR	**Presa de Saban**	**0.20**	**207**	⇓*e*Pg	**Pn**	**12 48 30.3**	**-0.3**
SDDR				⇑*e*Sg	**Sn**	**12 48 39.5**	**-1.5**
SDDR				IAML		12 48 40.2	
	comp=N,2μm,0.2s						
SDDR	**Presa de Saban**	**0.20**	**207**	*i* P	**Pn**	**12 48 30.3**	**-0.3**
SDDR				*eS*	**Sn**	**12 48 39.4**	**-1.5**
SDDR				IAML		12 48 41.3	
	comp=Z,2μm,0.5s						
MADR	**Mao Valverde**	**0.42**	**12**	⇑*e*Pg	**Pn**	**12 48 31.7**	**+0.1**
MADR				⇓*e*Sg	**Sn**	**12 48 42.1**	**-0.6**
MADR				IAML		12 48 43.8	
	comp=N,2μm,0.8s						
SC01	**Santiago de Io**	**0.52**	**58**	⇑*e*Pg	**Pn**	**12 48 32.2**	**-0.1**
SC01				⇓*e*Sg	**Sn**	**12 48 45.3**	**+1.3**
SC01	**Santiago de Io**	**0.52**	**58**	*i* P	**Pn**	**12 48 32.4**	**+0.1**
LONE3	**El Aguacate, B**	**0.60**	**205**	*i* P	**Pn**	**12 48 32.9**	**-0.3**
LONE3				*eS*	**Sn**	**12 48 44.4**	**-1.1**
LONE3				IAML		12 48 44.7	
	comp=Z,570nm,0.2s						
LODA1	**ITESIL, Dajabo**	**0.62**	**309**	*i* P	**Pn**	**12 48 33.3**	**+0.2**
LODA1				*eS*	**Sn**	**12 48 45.0**	**-0.4**
LODA1				IAML		12 48 49.2	
	comp=Z,1μm,0.3s						
ABDR	**Alto Bandera**	**0.64**	**122**	⇓*e*Pg	**Pn**	**12 48 33.1**	**-0.5**
ABDR				⇑*e*Sg	**Sn**	**12 48 47.3**	**+0.9**
ABDR				IAML		12 48 51.5	
	comp=N,978nm,0.2s						
LOPP1	**Punta Rusia, P**	**0.69**	**360**	*i* P	**Pn**	**12 48 34.4**	**+0.6**
LOPP1				*eS*	**Sn**	**12 48 47.8**	**+1.2**
LOPP1				IAML		12 48 54.4	
	comp=Z,834nm,0.5s						
NEDR	**Neiba UASD**	**0.70**	**198**	⇑*e*Pg	**Pn**	**12 48 34.2**	**+0.4**
NEDR				⇓*e*Sg	**Sn**	**12 48 46.5**	**-0.2**
NEDR				IAML		12 48 47.7	
	comp=N,1μm,0.4s						
LUDR	**Luperon**	**0.77**	**17**	⇓*e*Pg	**Pn**	**12 48 34.9**	**+0.4**
LUDR				⇑*e*Sg	**Sn**	**12 48 49.0**	**+1.2**
SODR	**Sosua Marina B**	**0.83**	**44**	⇓*e*Pg	**Pn**	**12 48 35.6**	**+0.5**
SODR				⇓*e*Sg	**Sn**	**12 48 50.3**	**+1.4**
SODR				IAML		12 48 58.7	
	comp=N,1μm,0.5s						
LODU1	**El Espartillar**	**0.84**	**198**	*i* P	**Pn**	**12 48 35.9**	**+0.7**
LODU1				IAML		12 48 50.4	
	comp=Z,1μm,0.3s						
MCDR	**Montecristi**	**0.85**	**329**	⇑*e*Pg	**Pn**	**12 48 36.1**	**+0.8**
MCDR				⇓*e*Sg	**Sn**	**12 48 50.7**	**+1.4**
MCDR				IAML		12 48 55.0	
	comp=N,2μm,0.5s						
JIDR	**Jimani**	**0.91**	**223**	⇓*e*Pg	**Pn**	**12 48 36.9**	**+1.0**
JIDR				⇓*e*Sg	**Sn**	**12 48 52.0**	**+1.7**
JIDR				IAML		12 48 54.5	
	comp=N,371nm,0.4s						
PODR	**Polo**	**0.99**	**185**	⇑*e*Pg	**Pn**	**12 48 37.4**	**+0.4**
PODR				⇓*e*Sg	**Sn**	**12 48 52.0**	**-0.2**
PODR				IAML		12 48 58.4	
	comp=N,925nm,0.2s						
PODR	**Polo**	**0.99**	**185**	*i* P	**Pn**	**12 48 37.4**	**+0.4**
PODR				*eS*	**Sn**	**12 48 53.1**	**+0.9**
BANI	**BANI**	**1.10**	**134**	⇑*e*Pg	**Pn**	**12 48 37.9**	**-0.2**
BANI				⇑*e*Sg	**Sn**	**12 48 52.7**	**-1.5**
BANI				IAML		12 49 02.4	
	comp=N,758nm,0.3s						
PAPH	**Port-au-Prince**	**1.22**	**239**	*eP*	**Pn**	**12 48 40.8**	**+1.3**
PAPH				*eS*	**Sn**	**12 48 57.9**	**+1.3**
PAPH				IAML		12 48 58.9	
	comp=E,157nm,0.2s						
PAPH				IAML		12 49 04.1	
	comp=N,153nm,0.2s						
PAPH	**Port-au-Prince**	**1.22**	**239**	*i* P	**Pn**	**12 48 40.9**	**+1.4**
LONA1	**Toro Cenizo, N**	**1.27**	**80**	*i* P	**Pn**	**12 48 40.7**	**+0.6**
LONA1				*eS*	**Sn**	**12 48 58.4**	**+0.7**
LONA1				IAML		12 48 59.1	
	comp=Z,3μm,3.0s						
NADR	**Nagua**	**1.28**	**81**	⇓*e*Pg	**Pn**	**12 48 40.0**	**0.0**
NADR				⇑*e*Sg	**Sn**	**12 48 57.6**	**-0.1**
LOBH	**Bahia de las A**	**1.35**	**198**	*i* P	**Pn**	**12 48 42.5**	**+1.5**
LOBH				IAML		12 49 16.2	
	comp=Z,227nm,0.7s						
LOVI	**El Cajuil, Ovi**	**1.36**	**187**	*i* P	**Pn**	**12 48 42.3**	**+1.2**
LOVI				IAML		12 49 15.8	
	comp=Z,343nm,0.6s						
SDD	**Santo Domingo**	**1.40**	**120**	*i* P	**Pn**	**12 48 41.6**	**+0.1**
SDD				*eS*	**Sn**	**12 48 59.2**	**-1.2**
GRTK	**Grand Turk**	**2.34**	**1**	*i* P	**Pn**	**12 48 53.7**	**0.0**
GRTK				*eS*	**Sn**	**12 49 21.4**	**-0.6**
GRTK				IAML		12 49 25.6	
	comp=Z,90nm,0.2s						
MASC	**Masc**	**3.04**	**290**	*eP*	**Pn**	**12 49 03.0**	**+0.2**
MASC				*eS*	**Sn**	**12 49 37.0**	**-1.4**
MASC				IAML		12 49 48.2	
	comp=N,73nm,0.5s						
MASC				IAML		12 49 48.2	
	comp=E,56nm,0.4s						
MASC	**Masc**	**3.04**	**290**	*i* P	**Pn**	**12 49 03.2**	**+0.4**
MASC				IAML		12 49 48.0	
	comp=Z,32nm,0.4s						
QMBU	**Quimbuelo**	**3.56**	**288**	*eP*	**Pn**	**12 49 09.4**	**-0.6**
QMBU				*eS*	**Sn**	**12 49 50.2**	**-1.0**
QMBU				IAML		12 49 57.5	
	comp=E,57nm,0.3s						
QMBU				IAML		12 50 02.4	
	comp=N,51nm,0.2s						
GTBY	**Guantanamo Bay**	**3.77**	**282**	*eP*	**Pn**	**12 49 13.5**	**+0.8**
GTBY				*eS*	**Sn**	**12 49 55.9**	**-0.3**
GTBY				IAML		12 49 59.2	
	comp=N,19nm,0.4s						
GTBY				IAML		12 49 59.9	
	comp=N,22nm,0.7s						
GTBY	**Guantanamo Bay**	**3.77**	**282**	*i* P	**Pn**	**12 49 13.7**	**+0.9**
GTBY				IAML		12 50 01.0	
	comp=Z,21nm,1.4s						
NMDO	**Nuevo Mundo**	**3.83**	**292**	*eP*	**Pn**	**12 49 12.2**	**-1.3**
AGPR	**Aguadilla, PR**	**3.93**	**99**	*i* P	**Pn**	**12 49 14.5**	**-0.3**
AGPR				IAML		12 50 13.9	
	comp=Z,49nm,1.1s						
CRPR	**Cabo Rojo, PR**	**4.04**	**106**	*i* P	**Pn**	**12 49 17.1**	**+0.8**
CRPR				IAML		12 50 20.9	
	comp=Z,39nm,1.8s						
RCC	**Rio Carpintero**	**4.33**	**282**	*eP*	**Pn**	**12 49 19.7**	**-0.5**
RCC				*eS*	**Sn**	**12 50 08.7**	**-0.9**
RCC				IAML		12 50 11.9	
	comp=N,16nm,0.5s						
RCC				IAML		12 50 13.8	
	comp=E,19nm,0.4s						
MARVS	**Santiago de Cu**	**4.52**	**281**	*eP*	**Pn**	**12 49 22.1**	**-0.7**
MARVS				IAML		12 50 16.1	
	comp=E,14nm,0.3s						
MARVS				IAML		12 50 17.5	
	comp=N,16nm,0.4s						
PINC	**Pinares de May**	**4.53**	**288**	*eP*	**Pn**	**12 49 21.8**	**-1.1**
HLGC	**Holguin**	**4.89**	**291**	*eP*	**Pn**	**12 49 28.8**	**+0.9**
CHIV	**Chivirico**	**4.99**	**280**	*eP*	**Pn**	**12 49 28.3**	**-1.0**

IDC 15 12:49:46.1±2.6,**4°.79N×126°.49E,h0km,mb3.4/3,**
mbtmp3.4/3,Error ellipse: s-maj=234.5km
s-min=26.2km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.76**	**163**	P	P	12 55 19.4	+0.7
	0.5nm,0.9s,baz=343,slow=9.1,SNR=5.8						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**29.19**	**166**	P	P	12 55 48.6	-0.9
	0.3nm,0.8s,baz=346,slow=8.5,SNR=2.2						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**56.56**	**325**	P	P	12 59 30.5	0.0
	0.3nm,0.4s,baz=118,slow=7.1,SNR=9.1						
	0.3nm,0.4s						

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*NEIC **15** 12:55:17.6±0.5,19°.05N±0°.02×155°.48W±0°.03,h39km±2km, Error ellipse: s-maj=4.9km s-min=1.7km az=122.0*
HVO 15 12:55:18.3±0.8,**18°.97N**±0°.06×**155°.44W**±0°.05,**h36**km±4km,
ML2.5/19,ML2.4/42(NEIC),**Error ellipse: s-maj=10.7km**
s-min=3.3km az=145.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.27**	**8**		Pn	12 55 25.2	-1.2
KHU	**Kahuku**	**0.32**	**328**		Pn	12 55 25.6	-1.2
KHU					Sn	12 55 31.0	-2.6
HLP	**Hilina Pali**	**0.34**	**21**		Pn	12 55 26.1	-0.7
HLP					Sn	12 55 31.9	-1.5
HLP	**Hilina Pali**	**0.34**	**21**	IAML		12 55 32.3	
	comp=N,482nm,0.3s						
HLP				IAML		12 55 36.5	
	comp=E,460nm,0.8s						
AIN	**Ainahou**	**0.40**	**357**		Pn	12 55 26.8	-0.8
AIN					Sn	12 55 33.1	-1.2
AIN	**Ainahou**	**0.40**	**357**	IAML		12 55 33.5	
	comp=E,917nm,0.3s						
AIN				IAML		12 55 33.8	
	comp=N,1μm,0.3s						
SDHHI	**Sand Hill**	**0.43**	**18**		Pn	12 55 26.8	-1.2
SDHHI					Sn	12 55 33.1	-1.9
RIM	**Rim**	**0.45**	**20**		Pn	12 55 26.9	-1.3
RIM					Sn	12 55 33.5	-1.8
PUH	**Pauahi**	**0.45**	**28**		Pn	12 55 26.9	-1.3
PUH					Sn	12 55 33.2	-2.1
WRMHI	**West Rim**	**0.45**	**17**		Pn	12 55 26.9	-1.3
WRMHI					Sn	12 55 33.6	-1.7
KKO	**Keanakako'i**	**0.45**	**21**		Pn	12 55 27.1	-1.2
KKO					Sn	12 55 33.4	-2.0
OBL	**Observatory Le**	**0.47**	**18**		Pn	12 55 27.1	-1.4
OBL					Sn	12 55 33.6	-2.0
UWE	**Uwekahuna**	**0.47**	**17**		Pn	12 55 27.1	-1.4
UWE					Sn	12 55 33.8	-1.9
UWE	**Uwekahuna**	**0.47**	**17**	IAML		12 55 35.2	
	comp=N,387nm,1.7s						
UWE				IAML		12 55 47.4	
	comp=E,480nm,2.0s						
BYL	**Byron's Ledge**	**0.47**	**21**		Pn	12 55 27.1	-1.4
BYL					Sn	12 55 33.7	-2.0
BYL	**Byron's Ledge**	**0.47**	**21**	IAML		12 55 33.9	
	comp=N,206nm,0.3s						
BYL				IAML		12 55 47.9	
	comp=E,194nm,1.5s						
UWB	**Uwekahuna Bluf**	**0.47**	**19**		Pn	12 55 27.1	-1.6
UWB					Sn	12 55 33.8	-2.0
HATHI	**Halema'uma'u T**	**0.48**	**21**		Pn	12 55 27.2	-1.5
HATHI					Sn	12 55 33.7	-2.3
HATHI	**Halema'uma'u T**	**0.48**	**21**	IAML		12 55 34.0	
	comp=N,173nm,0.3s						
HATHI				IAML		12 55 39.2	
	comp=E,215nm,0.9s						
KNHH	**Kane Nui o Ham**	**0.48**	**32**		Pn	12 55 27.3	-1.4
SBLHI	**Steaming Bluff**	**0.48**	**20**		Pn	12 55 27.1	-1.6
SBLHI					Sn	12 55 33.6	-2.3
STCH	**Steam Cracks**	**0.51**	**36**		Pn	12 55 27.6	-1.5
STCH					Sn	12 55 34.4	-2.2
STCH	**Steam Cracks**	**0.51**	**36**	IAML		12 55 34.8	
	comp=N,217nm,0.4s						
STCH				IAML		12 55 35.1	
	comp=E,208nm,0.4s						
RSD	**Rainshed**	**0.51**	**17**		Pn	12 55 27.1	-2.1
RSD	**Rainshed**	**0.51**	**17**		Sn	12 55 34.6	-2.2
JCUZ	**Jacuzzi**	**0.52**	**38**		Pn	12 55 27.7	-1.6
JCUZ					Sn	12 55 34.8	-2.1
MLH	**Mauna Loa**	**0.52**	**6**		Pn	12 55 28.0	-1.4
MLH					Sn	12 55 35.3	-1.9
MLH	**Mauna Loa**	**0.52**	**6**	IAML		12 55 35.5	
	comp=N,192nm,0.4s						
MLH				IAML		12 55 35.6	
	comp=E,135nm,0.3s						
NPOC	**North of Pu'u**	**0.52**	**37**		Pn	12 55 27.8	-1.5
NPOC					Sn	12 55 34.9	-2.1
MWH	**Mokuaweoweo**	**0.53**	**344**		Pn	12 55 28.0	-1.9
MWH					Sn	12 55 35.5	-2.3
MWH	**Mokuaweoweo**	**0.53**	**344**	IAML		12 55 40.7	
	comp=E,216nm,0.8s						
MWH				IAML		12 55 41.5	
	comp=N,221nm,1.0s						
ALEP	**Alea Permanent**	**0.60**	**341**		Pn	12 55 28.7	-2.1
ALEP					Sn	12 55 37.2	-2.0
JOKA	**Jonika Flow**	**0.61**	**42**		Pn	12 55 28.9	-1.8
JOKA					Sn	12 55 36.9	-2.4
JOKA	**Jonika Flow**	**0.61**	**42**	IAML		12 55 40.0	
	comp=N,201nm,0.3s						
HMH	**Humu'ula Sheep**	**0.63**	**356**		Pn	12 55 29.6	-1.5
HMH					Sn	12 55 37.7	-2.3
HMH	**Humu'ula Sheep**	**0.63**	**356**	IAML		12 55 50.1	
	comp=E,158nm,2.9s						
HMH				IAML		12 55 54.9	
	comp=N,146nm,2.2s						
CPH	**Captain Cook**	**0.68**	**319**		Pn	12 55 29.5	-2.1
POHA	**Pohakuloa**	**0.78**	**354**	Pn	Pn	12 55 31.0	-2.0
POHA				IAML		12 55 56.4	
	comp=N,109nm,4.1s						
POHA	**Pohakuloa**	**0.78**	**354**		Sn	12 55 40.7	-3.0
HUH	**Hualalai**	**0.80**	**332**		Pn	12 55 31.6	-1.7
HUH					Sn	12 55 41.7	-2.5
KKH	**Kailua Kona**	**0.87**	**321**		Pn	12 55 32.1	-2.0
KKH					Sn	12 55 42.8	-2.7
HPAH	**Hawaii Prepara**	**1.08**	**347**		Pn	12 55 34.8	-2.1
HPAH					Sn	12 55 46.9	-3.8
HPAH	**Hawaii Prepara**	**1.08**	**347**	IAML		12 56 05.4	
	comp=E,95nm,2.8s						
HPAH				IAML		12 56 10.6	
	comp=N,79nm,4.1s						
MHA	**Mahukona**	**1.28**	**340**	Pn	Pn	12 55 37.7	-2.0
HLK	**Haleakala**	**1.93**	**337**	Pn	Pn	12 55 46.4	-2.5

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*IDC **15** 13:07:43.0±1.2,44°.10S×15°.83W,h0km,mb3.8/5, mbtmp3.8/5,MS3.5/15,Error ellipse: s-maj=37.9km s-min=31.3km az=113.0*
ISC 15 13:07:45.4±1.1,**44°.1S**±0°.2×**15°.8W**±0°.2,**h16**km,**n28,**
σ0s86/6,mb3.7/4,MS3.6/15,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**33.67**	**215**	LR	LR	13 25 55.8	
	comp=Z,36nm,19.3s,baz=146,slow=32						
H10S2	**ASCENSION HYDR**	**35.02**	**2**	T	T	13 51 54.7	
	baz=181,slow=74,SNR=16						
H10S3	**ASCENSION HYDR**	**35.03**	**2**	T	T	13 51 55.2	
	baz=39,slow=74,SNR=23						
BOSA	**Boshof**	**36.11**	**79**	LR	LR	13 26 14.1	
	comp=Z,58nm,21.2s,baz=211,slow=31						
H10N1	**ASCENSION HYDR**	**36.13**	**2**	T	T	13 53 41.2	
	baz=180						
H10N3	**ASCENSION HYDR**	**36.13**	**2**	T	T	13 53 18.8

ML2.0/3, Error ellipse: s-maj=11.7km s-min=6.0km az=57.0

ISC 15 13:21:43.9±0.9, 50°11N±0′05×78°75E±0°08, h0km, n16, σ0960/27, 13C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.50**	**343**	⇑P	**Pg**	**13 21 54.1**	**+0.6**
KUR06	**Kurchatov Arra**	**0.52**	**344**	⇑P	**Pg**	**13 21 54.5**	**+0.6**
KUR06				⇑S	**Sb**	**13 22 04.1**	**+0.1**
KUR14	**Kurchatov Arra**	**0.52**	**349**	⇓P	**Pg**	**13 21 54.4**	**+0.5**
KUR14				⇓S	**Sb**	**13 22 03.8**	**-0.2**
KUR15	**Kurchatov Arra**	**0.53**	**347**	⇓P	**Pg**	**13 21 54.7**	**+0.7**
KUR15				⇑S	**Sb**	**13 22 04.2**	**0.0**
KURBB	**Kurchatov Arra** 15nm,0.5s	**0.54**	**345**	⇑P	**Pg**	**13 21 54.8**	**+0.6**
KURBB	18nm,0.6s			⇓S	**Sb**	**13 22 04.2**	**-0.2**
KURBB	**Kurchatov Arra** 1.2nm,0.3s,baz=164,slow=19,SNR=22	**0.54**	**345**	Pg	**Pg**	**13 21 54.5**	**+0.3**
KURBB	0.9nm,0.3s,baz=163,slow=33,SNR=6.6			Lg	Lg	13 22 03.5	
KUR16	**Kurchatov Arra**	**0.55**	**343**	⇓P	**Pg**	**13 21 55.0**	**+0.7**
KUR16				⇑S	**Sb**	**13 22 04.8**	**+0.1**
KUR05	**Kurchatov Arra**	**0.56**	**346**	⇑S	**Sb**	**13 22 04.9**	**-0.1**
KUR17	**Kurchatov Arra**	**0.56**	**341**	⇓P	**Pb**	**13 21 55.6**	**-0.9**
KUR17				⇑S	**Sb**	**13 22 05.3**	**+0.3**
KUR04	**Kurchatov Arra**	**0.57**	**347**	⇑P	**Pb**	**13 21 55.9**	**-0.9**
KUR04				⇑S	**Sb**	**13 22 05.9**	**+0.4**
KURK	**Kurchatov** 2.1nm,0.4s	**0.62**	**352**	⇑P	**Pg**	**13 21 56.4**	**+0.7**
KURK	1.0nm,0.4s			⇓S	**Sb**	**13 22 07.2**	**+0.5**
MK31	**Makanchi Array** baz=325,slow=9.9,SNR=6.8	**4.07**	**143**	⇑Pn	**Pn**	**13 22 47.1**	**-0.2**
MK31	0.2nm,0.2s,baz=328,slow=14,SNR=11			⇓Pg	**Pb**	**13 22 57.0**	**+0.7**
MK31	3.7nm,0.5s,baz=328,slow=28,SNR=17			⇑Lg	Lg	13 23 48.6	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=325,slow=11,SNR=7.9	**4.07**	**143**	Pn	**Pn**	**13 22 47.1**	**-0.2**
MKAR	0.4nm,0.3s,baz=326,slow=13,SNR=13			Pg	**Pb**	**13 22 55.4**	**-1.0**
MKAR	0.1nm,0.3s,baz=330,slow=13,SNR=1.7			Sn	**Sn**	**13 23 34.8**	**-0.8**
MKAR	1.1nm,0.3s,baz=326,slow=22,SNR=11 0.2nm,0.3s			Lg	Lg	13 23 48.3	
I46RU	**ZALESOVO INFRA** baz=222,slow=309,SNR=4.7	**5.37**	**42**	I	I	13 58 30.0	
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=229,slow=13,SNR=4.8	**5.37**	**42**	Pn	**Pn**	**13 23 05.5**	**+0.3**
ZALV	0.1nm,0.3s,baz=227,slow=23,SNR=2.1 0.5nm,0.3s			Lg	Lg	13 24 33.9	
BVAR	**Borovoye Array** baz=108,slow=15,SNR=1.7	**5.98**	**302**	Pn	**Pn**	**13 23 14.4**	**+0.8**
BVAR	baz=118,slow=25,SNR=2.5			Sn	**Sn**	**13 24 22.2**	**-0.5**
BVAR	baz=113,slow=24,SNR=3.4 0.3nm,0.5s			Lg	Lg	13 24 54.0	

*IDC **15** 13:26:24.0±0.7, 21°.90S×169°.43E, h0km, mb4.3/12, mbtmp4.3/14, ML3.9/2, MS3.7/20, Error ellipse: s-maj=21.8km s-min=19.0km az=79.0*

*NEIC **15** 13:26:27.4±1.9, 21°.98S±0°.09×169°.27E±0°.08, h10km±1km, mb4.7/28, Error ellipse: s-maj=16.7km s-min=10.7km az=153.0*

*NOU **15** 13:26:29.1, 21°.96S×169°.34E, h23km, mb4.7/28, Southeast of Loyalty Islands*

ISC 15 13:26:28.7±0.4, 21°.99S±0°.05×169°.36E±0°.05, h25km, n121, σ1922/115, mb4.7/28, MS3.8/18, 5C-1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**1.88**	**250**		**Pn**	**13 26 58.4**	**-0.9**
PINNC	**Pines Island,**	**1.88**	**250**	P	**Pn**	**13 26 58.8**	**-0.5**
PINNC	**Pines Island,**	**1.88**	**250**	S	**Sn**	**13 27 22.1**	**-0.1**
OUENC	**Ouen Island, N**	**2.37**	**259**	P	**Pn**	**13 27 06.2**	**+0.1**
OUENC	**Ouen Island, N**	**2.37**	**259**	S	**Sn**	**13 27 34.3**	**-0.1**
INH	**Isangel**	**2.44**	**358**	P	**Pn**	**13 27 06.6**	**-0.3**
DZM	**Mont Dzumac** 214nm,0.8s	**2.71**	**268**	*e*Pn	**Pn**	**13 27 10.7**	**0.0**
DZM	1μm,1.1s			*e*Sn	**Sn**	**13 27 42.1**	**-0.7**
DZM	**Mont Dzumac**	**2.71**	**268**		**Pn**	**13 27 10.2**	**-0.5**
DZM	**Mont Dzumac** 19nm,0.3s,baz=90,slow=20,SNR=235	**2.71**	**268**	Pn	**Pn**	**13 27 10.8**	**0.0**
DZM	comp=Z,228nm,20.0s,baz=8.0,slow=28			LR	LR	13 27 40.9	
DZM	81nm,0.3s,baz=90,slow=20,SNR=13 64nm,0.5s			Sn	**Sn**	**13 27 41.5**	**-1.3**
DZM	**Mont Dzumac**	**2.71**	**268**	P	**Pn**	**13 27 11.1**	**+0.3**
DZM	**Mont Dzumac**	**2.71**	**268**	S	**Sn**	**13 27 43.5**	**+0.7**
ONTNC	**Ouen Toro**	**2.71**	**263**		**Pn**	**13 27 09.7**	**-1.1**
ONTNC	**Ouen Toro**	**2.71**	**263**	P	**Pn**	**13 27 11.3**	**+0.5**
ONTNC	**Ouen Toro**	**2.71**	**263**	S	**Sn**	**13 27 44.1**	**+1.3**
DVP	**Devils Point**	**4.39**	**345**	P	**Pn**	**13 27 32.7**	**-1.1**
SANVU	**Saraoutou**	**6.83**	**342**	Pn	**Pn**	**13 28 05.9**	**-1.4**
SANVU	**Saraoutou**	**6.83**	**342**	P	**Pn**	**13 28 07.9**	**+0.6**
MSVF	**Nonsavu**	**9.21**	**64**	Pn	**Pn**	**13 28 42.7**	**+2.6**
MSVF	**Nonsavu**	**9.21**	**64**	P	**Pn**	**13 28 39.7**	**-0.4**
OUZ	**Omahuta**	**13.69**	**165**	P	**Pn**	**13 29 42.3**	**+1.0**
HNR	**Honiara** 5.3nm,0.3s,baz=153,slow=6.8,SNR=1.9	**15.42**	**323**	Pn	**Pn**	**13 30 06.9**	**+2.1**
HNR	comp=Z,96nm,21.6s,baz=106,slow=33			LR	LR	13 34 48.0	
ALEG	**Aligego Malai**	**15.58**	**326**	P	**Pn**	**13 30 07.6**	**+0.7**
TATA	**Tatamba Isabel**	**16.36**	**324**	P	**Pn**	**13 30 18.4**	**+1.5**
EIDS	**Eidsvold**	**17.08**	**255**	Pn	**Pn**	**13 30 24.9**	**-1.0**
URZ	**Urewera** 0.4nm,0.3s,baz=337,slow=17,SNR=6.9	**17.53**	**159**	P	**Pn**	**13 30 31.7**	**+0.3**
URZ	comp=Z,231nm,21.3s,baz=357,slow=31 17nm,0.9s			LR	LR	13 35 23.8	
RTZ	**Ruatahuna**	**17.81**	**160**		**Pn**	**13 30 36.9**	**+1.9**
BKZ	**Black Stump Fm**	**18.17**	**162**		**Pn**	**13 30 41.1**	**+1.7**
MRZ	**Mangatainoka R**	**19.34**	**166**	P	**Pn**	**13 30 51.8**	**-0.5**
MRZ	comp=Z,47nm,1.2s			IAmb	IAmb	13 31 24.9	
TUWZ	**Tuamarina**	**19.76**	**170**	P	**P**	**13 30 57.9**	**+1.1**
THZ	**Tophouse**	**19.94**	**172**	P	**P**	**13 30 59.7**	**+0.9**
THZ	comp=Z,61nm,1.3s			IAmb	IAmb	13 31 05.8	
KHZ	**Kahutara**	**20.66**	**171**	P	**P**	**13 31 07.1**	**+0.5**
KHZ	comp=Z,78nm,1.5s			IAmb	IAmb	13 31 18.7	
CTAO	**Charters Tower**	**21.65**	**271**	P	**P**	**13 31 19.3**	**+1.8**
CNB	**Canberra Magne**	**21.95**	**228**	P	**P**	**13 31 22.6**	**+1.9**
CMSA	**Cobar Meteorol**	**23.13**	**241**	P	**P**	**13 31 34.0**	**+0.9**
QLP	**Quilpie**	**23.34**	**254**	P	**P**	**13 31 36.2**	**+1.0**
MTSU	**Mount Surprise**	**23.83**	**275**	P	**P**	**13 31 41.2**	**+1.1**
COEN	**Coen**	**26.13**	**283**	P	**P**	**13 32 02.0**	**+0.9**
COEN	comp=Z,15nm,1.1s			IAmb	IAmb	13 32 46.5	
COEN	**Coen**	**26.13**	**283**	P	**P**	**13 32 02.4**	**+1.3**
INKA	**Innaminka**	**26.55**	**252**	P	**P**	**13 32 03.5**	**-1.3**
STKA	**Stephens Creek** comp=Z,3.9nm,0.8s,baz=84,slow=9.2,SNR=5.5	**26.57**	**242**	P	**P**	**13 32 05.4**	**+0.4**
STKA	comp=Z,178nm,20.8s,baz=32,slow=34 comp=Z,3.9nm,0.8s			LR	LR	13 41 33.2	
HTT	**Hallett**	**29.15**	**240**	P	**P**	**13 32 28.8**	**+0.7**
WR8	**Warramunga Arr**	**32.58**	**267**	P	**P**	**13 32 56.6**	**-1.7**
WR8	comp=Z,8.7nm,0.9s			IAmb	IAmb	13 32 58.4	
AS31	**Alice Springs**	**32.67**	**260**	P	**P**	**13 32 58.9**	**-0.3**
ASAR	**Alice Springs**	**32.67**	**260**	P	**P**	**13 32 58.4**	**-0.8**
ASAR	**Alice Springs** comp=Z,6.6nm,0.8s,baz=88,slow=8.3,SNR=77	**32.67**	**260**	P	**P**	**13 32 58.8**	**-0.4**
ASAR	comp=Z,1.1nm,1.0s,baz=94,slow=2.7,SNR=3.8			PcP	**PcP**	**13 35 44.0**	**-0.9**
ASAR	comp=Z,120nm,20.0s,baz=109,slow=34 comp=Z,6.6nm,0.8s			LR	LR	13 45 11.3	
WB0	**Warramunga Arr**	**32.71**	**267**	P	**P**	**13 32 57.4**	**-2.1**
WB0	comp=Z,10nm,0.9s			IAmb	IAmb	13 32 60.0	
WRAB	**Tennant Creek**	**32.72**	**267**	P	**P**	**13 32 57.6**	**-2.0**
WRAB	comp=Z,14nm,1.2s			IAmb	IAmb	13 33 13.2	
WRA	**Warramunga Arr**	**32.73**	**267**	P	**P**	**13 32 57.5**	**-2.1**
WRA	**Warramunga Arr** comp=Z,4.3nm,0.7s,baz=99,slow=8.3,SNR=28	**32.73**	**267**	P	**P**	**13 32 58.6**	**-1.1**
WRA	comp=Z,0.3nm,0.5s,baz=101,slow=5.1,SNR=1.6			PcP	**PcP**	**13 35 44.2**	**-0.8**
WRA	comp=Z,138nm,19.0s,baz=37,slow=35 comp=Z,4.3nm,0.7s			LR	LR	13 45 43.4	
MTN	**Manton Dam**	**37.51**	**278**	P	**P**	**13 33 40.5**	**-0.4**
TBI	**Tubuai** comp=Z,914nm,40.5s	**37.93**	**100**	*e*LR	LR	13 44 06.3	
KNRA	**Kununurra**	**38.85**	**272**	P	**P**	**13 33 51.6**	**-0.6**
KNRA	comp=Z,26nm,1.3s			IAmb	IAmb	13 33 58.6	
FITZ	**Fitzroy Crossi**	**41.16**	**267**	P	**P**	**13 34 11.5**	**+0.2**
FITZ	comp=Z,7.0nm,0.8s			IAmb	IAmb	13 34 12.6	
FITZ	**Fitzroy Crossi** comp=Z,84nm,20.6s,baz=118,slow=36	**41.16**	**267**	LR	LR	13 51 04.9	
FITZ	**Fitzroy Crossi**	**41.16**	**267**	P	**P**	**13 34 11.8**	**+0.5**
PSA00	**Pilbara Seismi**	**45.82**	**261**	P	**P**	**13 34 48.0**	**-0.9**
PSA00	comp=Z,9.1nm,0.8s			IAmb	IAmb	13 35 03.6	
MBWA	**Marble Bar**	**45.99**	**261**	P	**P**	**13 34 49.9**	**-0.4**
MBWA	**Marble Bar**	**45.99**	**261**	P	**P**	**13 34 50.7**	**+0.4**
MEEK	**Meekatharra**	**46.24**	**254**	P	**P**	**13 34 51.8**	**-0.4**
NWAO	**Narrogin (SRO)**	**47.11**	**245**	P	**P**	**13 34 58.8**	**-0.1**
BLDU	**Ballidu**	**47.62**	**248**	P	**P**	**13 35 02.2**	**-0.7**
KIP	**Kipapa**	**53.62**	**39**	P	**P**	**13 35 48.1**	**0.0**
VNDA	**Vanda**	**55.70**	**182**	P	**P**	**13 36 01.8**	**-0.7**
VNDA	**Vanda** comp=Z,0.6nm,0.8s,baz=360,slow=5.7,SNR=5.4	**55.70**	**182**	P	**P**	**13 36 02.1**	**-0.4**
VNDA	comp=Z,49nm,18.3s,baz=3.0,slow=33 comp=Z,0.6nm,0.8s			LR	LR	13 57 11.7	
SBA	**Scott Base**	**55.92**	**181**	P	**P**	**13 36 04.3**	**+0.1**
SBA	comp=Z,8.5nm,0.9s			IAmb	IAmb	13 36 05.2	
YULB	**Yu-li**	**64.98**	**311**	P	**P**	**13 37 05.4**	**-1.4**
MJAR	**Matsushiro Arr** comp=Z,0.9nm,0.6s,baz=165,slow=7.0,SNR=4.2 comp=Z,0.9nm,0.6s	**65.23**	**333**	P	**P**	**13 37 07.2**	**-1.0**
MAJO	**Matsushiro**	**65.24**	**333**	P	**P**	**13 37 08.7**	**+0.5**
MJB9	**Matsu-Tunnel**	**65.24**	**333**	P	**P**	**13 37 08.6**	**+0.4**
QSPA	**South Pole Qui** comp=Z,15nm,0.8s,baz=23,slow=2.0,SNR=72	**68.07**	**180**	P	**P**	**13 37 26.4**	**+0.2**
QSPA	comp=Z,65nm,18.3s,baz=40,slow=33 comp=Z,15nm,0.8s			LR	LR	14 04 16.1	
ASAJ	**Asahikawa** comp=Z,85nm,21.6s,baz=170,slow=32	**70.21**	**340**	LR	LR	14 03 30.8	
SHEM	**Shemya Is, Ala** comp=Z,48nm,19.7s,baz=134,slow=32	**74.52**	**3**	LR	LR	14 06 01.9	
PETK	**Petropavlovsk-** comp=Z,56nm,19.5s,baz=149,slow=32	**75.47**	**353**	LR	LR	14 06 36.6	
MAW	**Mawson** comp=Z,7.2nm,0.8s,baz=112,slow=12,SNR=22	**75.94**	**202**	P	**P**	**13 38 13.1**	**+0.1**
MAW	comp=Z,53nm,20.1s,baz=118,slow=33 comp=Z,7.2nm,0.8s			LR	LR	14 07 40.0	
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.3s,baz=116,slow=5.0,SNR=6.6 comp=Z,0.7nm,0.3s	**79.74**	**295**	P	**P**	**13 38 34.1**	**-0.9**
SMAI	**San Martin Ant**	**81.19**	**162**	P	**P**	**13 38 40.8**	**-1.1**
SMAI	comp=Z,6.2nm,1.0s			IAmb	IAmb	13 38 42.1	
PZH	**PanZhiHua**	**81.29**	**303**	P	**P**	**13 38 45.0**	**+1.7**
SYO	**Syowa Base**	**82.33**	**196**	*e*P	**P**	**13 38 46.6**	**-1.4**
HHC	**Hu-ho-hao-te**	**82.38**	**320**	*e*P	**P**	**13 38 51.3**	**+2.6**
HHC	comp=Z,24nm,0.6s			pmax	pmax		
HHC	comp=Z,210nm,5.0s			pmax	pmax		
MA2	**Magadan** comp=Z,42nm,20.6s,baz=110,slow=31	**82.69**	**351**	LR	LR	14 08 59.3	
LZH	**Lanzhou**	**84.65**	**312**	*e*P	**P**	**13 39 02.1**	**+1.5**
LZH	comp=Z,19nm,1.3s			pmax	pmax		
KDAK	**Kodiak Island** comp=Z,37nm,18.2s,baz=177,slow=34	**85.58**	**19**	LR	LR	14 15 32.2	
TROLL	**Troll, Antarti** comp=Z,621nm,0.7s	**85.81**	**184**	⇑P	**P**	**13 39 04.7**	**-1.1**
SNAA	**Sanae** comp=Z,57nm,0.6s	**86.43**	**182**	⇑P	**P**	**13 39 07.3**	**-1.5**
SNAA	**Sanae**	**86.43**	**182**	P	**P**	**13 39 07.2**	**-1.5**
SNAA	**Sanae** comp=Z,4.5nm,0.9s,baz=203,slow=6.7,SNR=16 comp=Z,4.5nm,0.9s	**86.43**	**182**	P	**P**	**13 39 07.3**	**-1.5**
VNA3	**Neumayer Olymp** comp=Z,9.5nm,0.7s	**87.01**	**180**	⇑P	**P**	**13 39 10.0**	**-1.6**
VNA2	**Neumayer--Watz** comp=Z,8.1nm,0.6s,baz=176,slow=4.8	**87.31**	**181**	⇑P	**P**	**13 39 11.6**	**-1.4**
VNA1	**Neumayer--Stat** comp=Z,7.8nm,1.0s	**87.59**	**181**	⇑P	**P**	**13 39 13.1**	**-1.3**
SONM	**Songino Array** comp=Z,0.5nm,0.5s,baz=108,slow=4.7,SNR=2.3 comp=Z,0.5nm,0.5s	**89.48**	**323**	P	**P**	**13 39 22.8**	**-1.0**
YAK	**Yakutsk** comp=Z,45nm,20.5s,baz=90,slow=32	**89.52**	**342**	LR	LR	14 14 14.9	
LPIG	**La Paz** comp=Z,59nm,18.2s,baz=280,slow=31	**90.50**	**64**	LR	LR	14 12 55.5	
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.8s,baz=241,slow=4.2,SNR=5.9	**90.53**	**48**	P	**P**	**13 39 28.6**	**-0.4**
NVAR	comp=Z,47nm,19.2s,baz=290,slow=31 comp=Z,0.7nm,0.8s			LR	LR	14 12 53.5	
ILAR	**Eielson Array** comp=Z,0.4nm,0.6s,baz=232,slow=4.4,SNR=11	**92.81**	**17**	P	**P**	**13 39 36.6**	**-2.0**
ILAR	comp=Z,45nm,18.1s,baz=259,slow=34 comp=Z,0.4nm,0.6s			LR	LR	14 18 23.5	
DLBC	**Dease Lake** comp=Z,340nm,18.2s,baz=318,slow=33	**94.42**	**27**	LR	LR	14 18 00.2	
EGAK	**Eagle**	**94.48**	**19**	P	**P**	**13 39 45.5**	**-0.8**
EGAK	comp=Z,3.6nm,0.8s			IAmb	IAmb	13 39 45.7	
TIXI	**Tiksi** comp=Z,29nm,18.3s,baz=12,slow=35	**97.45**	**348**	LR	LR	14 23 39.1	
WMQ	**Urumqi**	**99.18**	**313**	*e*P	**Pdif**	**13 40 11.4**	**+3.2**
WMQ	comp=Z,36nm,0.7s			pmax	pmax		
OSTC	**Ostas**	**144.58**	**330**	*e*PKP	**PKPdf**	**13 46 03.6**	**+0.6**
EKA	**Eskdalemuir Ar** comp=Z,2.2nm,0.7s,baz=4.6,slow=1.8,SNR=4.7	**146.24**	**352**	PKPbc	**PKPdf**	**13 46 04.8**	**-0.8**
CONA	**Conrad Observa** comp=Z,1.7nm,0.7s	**146.53**	**327**	*i* pPKP	**PKPab**	**13 46 09.6**	**+0.6**
CKRC	**Cesky Krumlov**	**146.68**	**330**	*e*PKP	**PKPbc**	**13 46 09.2**	**+0.9**
KHC	**Kasperske Hory**	**146.80**	**331**	*e*PKP	**PKPbc**	**13 46 09.1**	**+0.5**
GERES	**GERESS Array B** comp=Z,0.7nm,0.6s,baz=47,slow=4.5,SNR=6.4	**146.94**	**330**	PKPbc	**PKPdf**	**13 46 08.6**	**+1.4**
ARSA	**Arzberg** comp=Z,2.2nm,0.8s	**147.15**	**326**	*i* PKP	**PKPdf**	**13 46 09.2**	**+1.7**
MOA	**Molln** comp=Z,2.3nm,0.9s	**147.37**	**328**	*i* pPKP	**PKPbc**	**13 46 11.6**	**+1.4**
SOKA	**Sohb** comp=Z,1.7nm,0.6s	**147.78**	**326**	*i* PKP	**PKPbc**	**13 46 12.9**	**+1.4**
BIOA	**Bad Ischl, Aus** comp=Z,4.5nm,1.0s	**147.79**	**329**	*e*PKP	**PKPbc**	**13 46 11.6**	**+0.2**
OBKA	**Obir** comp=Z,1.7nm,0.9s	**148.14**	**326**	*e*pPKP	**PKPbc**	**13 46 13.2**	**+0.7**
KBA	**Koelnbreinsper** comp=Z,1.2nm,0.5s	**148.36**	**328**	*e*PKiKP	**PKiKP**	**13 46 15.6**	**+0.9**
LESA	**Schwarzleotal** comp=Z,2.9nm,0.9s	**148.44**	**329**	*e*PKiKP	**PKiKP**	**13 46 15.1**	**+0.3**
MYKA	**Terra Mystica** comp=Z,0.6nm,0.4s	**148.52**	**327**	*e*PKP	**PKPbc**	**13 46 13.4**	**0.0**
ABTA	**Abfaltersbach** comp=Z,2.0nm,0.7s	**149.00**	**328**	*e*pPKP	**PKPbc**	**13 46 14.3**	**-0.4**
WATA	**Walderalm** comp=Z,1.8nm,0.7s	**149.02**	**330**	*e*pPKP	**PKPbc**	**13 46 13.9**	**-0.8**
WTTA	**Wattenberg** comp=Z,2.8nm,0.9s	**149.04**	**330**	*e*PKiKP	**PKPbc**	**13 46 15.9**	**+1.0**
MOTA	**Moosalm** comp=Z,2.9nm,0.8s	**149.23**	**331**	*i* pPKP	**PKPdf**	**13 46 13.7**	**+2.6**
SQTA	**Sankt Quirin** comp=Z,3.1nm,0.9s	**149.27**	**330**	*i* pPKP	**PKPdf**	**13 46 14.2**	**+3.2**
RETA	**Reutte** comp=Z,1.2nm,0.8s	**149.28**	**331**	*e*pPKP	**PKPbc**	**13 46 14.5**	**-0.8**
FETA	**Feichten** comp=Z,4.6nm,1.4s	**149.64**	**330**	*i* PKP	**PKPbc**	**13 46 15.8**	**-0.6**
DAVA	**Damuels** comp=Z,3.6nm,1.4s	**149.82**	**332**	*e*pPKP	**PKPdf**	**13 46 15.0**	**+3.0**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.9s,baz=80,slow=1.6,SNR=4.3	**165.32**	**235**	PKP	**PKPdf**	**13 46 31.2**	**-0.7**
TORD	comp=Z,0.6nm,0.9s,baz=84,slow=4.5,SNR=2.7			PKPab	**PKPab**	**13 47 28.4**	**-1.1**

*NEIC **15** 13:53:18.4±1.7, 60°.75S±0°.2×25°.2W±0°.3, h10km±2km, mb4.5/29, Error ellipse: s-maj=32.4km s-min=20.5km az=42.0*

*IDC **15** 13:53:20.1±0.8, 60°.58S×26°.26W, h0km, mb4.1/10, mbtmp4.1/10, MS3.0/2, Error ellipse: s-maj=31.4km s-min=17.4km az=60.0*

ISC 15 13:53:20.0±0.6, 60°.9S±0°.1×25°.8W±0°.1, h10km, n55, σ1965/48, mb4.3/21, 8C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat** comp=Z,50nm,0.4s	**12.09**	**151**	⇑P	**Pn**	**13 56 12.6**	**+0.6**
VNA1	comp=N,1.2nm,0.3s			⇑S	**Sn**	**13 58 19.3**	**-7.3**
VNA3	**Neumayer Olymp** comp=Z,27nm,0.3s	**12.22**	**155**	⇑P	**Pn**	**13 56 14.1**	**+0.3**
VNA3	comp=N,4.5nm,0.3s			⇑S	Sn	13 58 18.8	-11
VNA2	**Neumayer--Watz** comp=Z,12nm,0.5s,baz=319,slow=14	**12.49**	**151**	⇑P	**Pn**	**13 56 17.5**	**0.0**
SNAA	**Sanae** comp=Z,150nm,0.4s	**14.09**	**150**	⇑P	**Pn**	**13 56 39.5**	**+0.1**
SNAA	comp=Z,36nm,0.3s			⇑S	Sn	13 59 05.9	-10
SNAA	**Sanae**	**14.09**	**150**		**Pn**	**13 56 38.6**	**-0.7**
SNAA	**Sanae** comp=Z,1.6nm,0.3s,baz=306,slow=15,SNR=46	**14.09**	**150**	Pn	**Pn**	**13 56 39.4**	**+0.1**
SNAA	comp=Z,0.6nm,0.3s,baz=311,slow=18,SNR=3.6			Sn	Sn	13 59 05.9	-10
SNAA	comp=Z,79nm,18.5s,baz=29,slow=32			LR	LR	14 01 02.9	
ESPZ	**Base Esperanza**	**14.71**	**247**	Pn	**P**	**13 56 53.7**	**-0.2**
TROLL	**Troll, Antarti** comp=Z,446nm,0.9s	**15.67**	**147**	⇑P	**P**	**13 57 04.9**	**+0.2**
BELA	**Belgrano 2**	**17.30**	**186**		**P**	**13 57 23.9**	**+1.2**
EFI	**East Falkland**	**19.94**	**283**	P	**P**	**13 57 51.9**	**+0.2**
QSPA	**South Pole Qui** comp=Z,4.2nm,0.9s,baz=174,slow=0.5,SNR=20 comp=Z,4.2nm,0.9s	**29.34**	**180**	P	P	13 59 28.1	+5.4
TRQA	**Tornquist**	**32.10**	**299**	P	**P**	**13 59 46.7**	**-0.4**
TRQA	comp=Z,16nm,1.4s			IAmb	IAmb	13 59 50.2	
PLCA	**Paso Flores**	**33.80**	**286**	P	**P**	**14 00 01.6**	**-0.3**
PLCA	**Paso Flores** comp=Z,0.9nm,0.8s,baz=122,slow=9.5,SNR=4.5 comp=Z,0.9nm,0.8s	**33.80**	**286**	P	**P**	**14 00 02.3**	**+0.3**
PLTB	**Pedras Altas**	**34.37**	**315**	P	**P**	**14 00 05.7**	**-1.1**
BO02	**Sierra Bellavi**	**38.72**	**292**	P	**P**	**14 00 42.8**	**-1.3**
BO02	comp=Z,7.7nm,1.2s			IAmb	IAmb	14 01 10.1	
BO01	**Tunca** comp=Z,14nm,1.5s	**39.19**	**292**	P	**P**	**14 00 46.8**	**-1.1**
BO01				IAmb	IAmb	14 01 13.3	
BO04	**La Punta**	**39.31**	**292**	P	**P**	**14 00 48.1**	**-0.9**
BO04	comp=Z,7.1nm,1.1s			IAmb	IAmb	14 01 00.0	
MT09	**Talagante**	**39.66**	**292**	P	**P**	**14 00 50.7**	**-1.2**
MT09	comp=Z,6.3nm,0.7s			IAmb	IAmb	14 00 53.3	
MT02	**Curacav**	**40.16**	**293**	P	**P**	**14 00 55.3**	**-0.7**
MT02	comp=Z,13nm,1.3s			IAmb	IAmb	14 01 10.1	
CFA	**Coronel Fontan** comp=Z,1.4nm,0.3s,baz=136,slow=9.9,SNR=7.9 comp=Z,1.4nm,0.3s	**40.28**	**297**	P	**P**	**14 00 55.4**	**-1.7**
CPUP	**Villa Florida**	**40.63**	**314**		**P**	**14 00 58.3**	**-1.6**
CPUP	**Villa Florida** comp=Z,2.0nm,0.5s,baz=159,slow=2.0,SNR=15 comp=Z,2.0nm,0.5s	**40.63**	**314**	P	**P**	**14 00 58.5**	**-1.4**
VNDA	**Vanda** comp=Z,0.7nm,0.6s,baz=164,slow=5.2,SNR=5.7 comp=Z,0.7nm,0.6s	**41.75**	**182**	P	**P**	**14 01 12.8**	**+4.2**
CO02	**Combarbal**	**41.84**	**294**	P	**P**	**14 01 09.9**	**-0.1**
CO02	comp=Z,19nm,1.4s			IAmb	IAmb	14 01 29.5	
CO03	**El Pedregal**	**42.01**	**295**	P	**P**	**14 01 11.3**	**0.0**
CO03	comp=Z,5.2nm,1.0s			IAmb	IAmb	14 01 43.6	
CO01	**Juntas del Tor**	**42.49**	**296**		**P**	**14 01 15.6**	**+0.2**
CO06	**Fray Jorge**	**42.58**	**294**	P	**P**	**14 01 15.7**	**-0.1**
GO04	**Tololo Observa**	**42.63**	**295**	P	**P**	**14 01 16.2**	**-0.4**
GO04	comp=Z,16nm,1.3s			IAmb	IAmb	14 01 43.8	
AC04	**Llanos de Chal**	**44.45**	**296**	P	**P**	**14 01 31.0**	**+0.1**
H04S2	**CROZET ISLANDS** baz=223,slow=75,SNR=6.8	**45.10**	**109**	T	T	14 50 47.6	
H04S3	**CROZET ISLANDS** baz=223,slow=75,SNR=7.4	**45.11**	**109**	T	T	14 50 41.6	
H04S1	**CROZET ISLANDS** baz=223,slow=75,SNR=5.7	**45.12**	**109**	T	T	14 50 42.9	
AC01	**Pan de Azucar**	**46.03**	**298**	P	**P**	**14 01 42.3**	**-1.2**
PB05	**IPOC Station P**	**48.76**	**301**	P	**P**	**14 02 03.6**	**-1.3**
PB09	**IPOC Station P**	**49.30**	**303**	P	**P**	**14 02 09.1**	**-0.1**
PB09	comp=Z,4.7nm,0.9s			IAmb	IAmb	14 02 10.6	
GO01	**Chusmiza**	**51.19**	**304**	P	**P**	**14 02 22.8**	**-1.0**
GO01	comp=Z,3.4nm,0.9s			IAmb	IAmb	14 02 23.8	
PTLB	**Pontes e Lacer**	**51.32**	**317**		**P**	**14 02 22.6**	**-1.6**
PTLB	comp=Z,5.1nm,0.8s			IAmb	IAmb	14 02 23.5	
SIV	**San Ignacio** comp=Z,3.5nm,0.5s,baz=170,slow=10,SNR=30 comp=Z,3.5nm,0.5s	**51.48**	**315**	P	**P**	**14 02 23.9**	**-1.6**
H10N1	**ASCENSION HYDR** baz=186	**53.61**	**14**	T	T	15 01 03.0	
H10N3	**ASCENSION HYDR** baz=186	**53.61**	**14**	T	T	15 01 00.5	
H10N2	**ASCENSION HYDR** baz=186	**53.63**	**14**	T	T	15 01 02.5	
LPAZ	**La Paz**	**53.82**	**307**		**P**	**14 02 43.0**	**

8.8nm,1.1s,baz=98,slow=7.1,SNR=1.6
3.8nm,0.7s

TATA	**Tatamba Isabel**	**21.38**	**294**	P	**P**	**14 07 17.0 +4.5**
QRZ	**Quartz Range**	**23.58**	**193**	P	**P**	**14 07 32.9 +1.2**
TCW	**Tory Channel**	**23.62**	**190**	P	**P**	**14 07 31.9 0.0**
SNZO	**South Karori**	**23.65**	**189**	P	**P**	**14 07 31.7 -0.6**
SNZO	**South Karori**	**23.65**	**189**	P	**P**	**14 07 32.5 +0.3**
PLWZ	**Palliser**	**23.83**	**188**	P	**P**	**14 07 33.4 -0.5**
KHZ	**Kahutara**	**24.92**	**191**	P	**P**	**14 07 42.8 -0.6**
GVZ	**Greta Valley S**	**25.54**	**191**	P	**P**	**14 07 48.1 -0.8**
JCZ	**Jackson Bay**	**27.57**	**197**	P	**P**	**14 08 07.1 +0.5**
ODZ	**Otahua Downs**	**28.02**	**193**	P	**P**	**14 08 09.9 -0.5**
COEN	**Coen**	**35.11**	**271**	P	**P**	**14 09 11.0 +0.3**
COEN				IAmb	IAmb	14 09 41.4
	comp=Z,17nm,1.2s					
JOHN	**Johnston Islan**	**36.11**	**18**	P	**P**	**14 09 16.9 -1.8**
WR8	**Warramunga Arr**	**42.52**	**260**	P	**P**	**14 10 08.7 -1.1**
WR8				IAmb	IAmb	14 10 26.1
	comp=Z,7.9nm,1.4s					
WB0	**Warramunga Arr**	**42.63**	**260**	P	**P**	**14 10 09.5 -1.2**
WRA	**Warramunga Arr**	**42.67**	**260**	P	**P**	**14 10 09.9 -1.2**
WRA	**Warramunga Arr**	**42.67**	**260**	P	**P**	**14 10 10.1 -0.9**
	comp=Z,1.6nm,0.7s,baz=95,slow=7.8,SNR=31					
	comp=Z,1.6nm,0.7s					
AS31	**Alice Springs**	**42.86**	**254**	P	**P**	**14 10 12.3 -0.3**
AS31				IAmb	IAmb	14 10 13.0
	comp=Z,4.5nm,0.5s					
ASAR	**Alice Springs**	**42.87**	**254**	P	**P**	**14 10 11.8 -0.7**
ASAR	**Alice Springs**	**42.87**	**254**	P	**P**	**14 10 12.4 -0.2**
	comp=Z,11nm,0.5s,baz=92,slow=7.5,SNR=428					
ASAR				S	**S**	**14 15 49.0 -3.5**
	comp=Z,0.9nm,0.9s,baz=94,slow=14,SNR=5.4					
	comp=Z,11nm,0.5s					
MTN	**Manton Dam**	**46.81**	**269**	P	**P**	**14 10 42.0 -0.6**
MTN				IAmb	IAmb	14 11 00.3
	comp=Z,47nm,1.4s					
KNRA	**Kununurra**	**48.50**	**265**	P	**P**	**14 10 54.7 -0.3**
KNRA				IAmb	IAmb	14 11 03.0
	comp=Z,18nm,1.2s					
FITZ	**Fitzroy Crossi**	**51.06**	**261**	P	**P**	**14 11 13.7 +0.1**
FITZ	**Fitzroy Crossi**	**51.06**	**261**	P	**P**	**14 11 13.4 -0.2**
	comp=Z,1.2nm,0.3s,baz=103,slow=8.2,SNR=16					
	comp=Z,1.2nm,0.3s					
JOW	**Kunigami**	**66.72**	**311**	P	**P**	**14 12 56.5 -1.0**
JOW				IAmb	IAmb	14 13 38.0
	comp=Z,56nm,1.1s					
MJAR	**Matsushiro Arr**	**66.76**	**325**	P	**P**	**14 12 57.3 -0.3**
MJAR	**Matsushiro Arr**	**66.76**	**325**	P	**P**	**14 12 57.4 -0.2**
	comp=Z,0.9nm,0.6s,baz=151,slow=5.9,SNR=5.0					
	comp=Z,0.9nm,0.6s					
ASAJ	**Asahikawa**	**70.37**	**333**	P	**P**	**14 13 20.0 +1.0**
	comp=Z,3.3nm,0.8s,baz=225,slow=8.6,SNR=4.5					
	comp=Z,3.3nm,0.8s					
QSPA	**South Pole Qui**	**72.11**	**180**	P	**P**	**14 13 31.4 +2.4**
	comp=Z,0.6nm,0.5s,baz=6.5,slow=2.5,SNR=5.7					
	comp=Z,0.6nm,0.5s					
PET	**Petropavlovsk**	**72.94**	**347**	P	**P**	**14 13 33.3 -0.2**
PET				IAmb	IAmb	14 13 38.0
	comp=Z,35nm,1.3s					
PEA0B	**Petropavlovsk-**	**73.22**	**346**	P	**P**	**14 13 35.2 0.0**
PEA0B				IAmb	IAmb	14 14 08.6
	comp=Z,36nm,1.4s					
PETK	**Petropavlovsk-**	**73.22**	**346**	P	**P**	**14 13 35.1 -0.1**
FARB	**Farallon Islan**	**77.33**	**43**	P	**P**	**14 13 58.4 +0.2**
P18K	**Big Mountain,**	**79.78**	**13**	P	**P**	**14 14 10.6 -0.2**
P18K				IAmb	IAmb	14 14 14.0
	comp=Z,16nm,1.4s					
ILAR	**Eielson Array**	**86.38**	**14**	P	**P**	**14 14 42.6 -0.7**
	comp=Z,0.6nm,0.8s,baz=202,slow=5.3,SNR=6.0					
	comp=Z,0.6nm,0.8s					
TXAR	**Lajitas Array**	**87.70**	**58**	P	**P**	**14 14 52.0 +1.6**
	comp=Z,0.4nm,0.7s,baz=231,slow=4.5,SNR=5.0					
	comp=Z,0.4nm,0.7s					

*NOU **15** 14:37:43.0, 10˚.57S×161˚.74E, h46km, MLv4.4/12, Solomon Islands*
*IDC **15** 14:37:45.9±2.5, 10˚.43S×161˚.57E, h77km±20km, mb3.3/6, mbtmp3.7/7, MS3.3/2, Error ellipse: s-maj=27.8km s-min=16.6km az=62.0*
ISC 15 14:37:43.0±0.8, **10˚.54S**±0˚.06×**161˚.75E**±0˚.07, **h61**km, **n21, σ1§40/22, mb3.6/6, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HURO	**Huro Makira**	**0.17**	**63**	P	**Pn**	**14 37 51.8**	**-0.6**
HURO	**Huro Makira**	**0.17**	**63**	S	**Sn**	**14 37 59.4**	**+0.2**
NGOA	**Tingoa Renbel**	**1.94**	**239**	P	**Pn**	**14 38 13.7**	**+0.1**
NGOA	**Tingoa Renbel**	**1.94**	**239**	S	**Sn**	**14 38 35.8**	**-1.1**
ALEG	**Aligegeo Malai**	**2.06**	**330**	P	**Pn**	**14 38 15.4**	**+0.1**
ALEG	**Aligegeo Malai**	**2.06**	**330**	S	**Sn**	**14 38 39.1**	**-0.8**
HNR	**Honiara**	**2.09**	**302**	P	**Pn**	**14 38 15.4**	**-0.3**
	269nm,0.3s,baz=173,slow=8.1,SNR=58						
HNR				S	**Sn**	**14 38 39.5**	**-1.1**
	238nm,0.3s,baz=142,slow=19,SNR=6.9						
HNR				LR	LR	14 39 08.7	
	comp=Z,118nm,19.6s,baz=230,slow=44						
HNR	**Honiara**	**2.09**	**302**	P	**Pn**	**14 38 15.4**	**-0.3**
HNR	**Honiara**	**2.09**	**302**	S	**Sn**	**14 38 41.3**	**+0.6**
SAVO	**Savo Central**	**2.36**	**306**	P	**Pn**	**14 38 19.7**	**+0.3**
SAVO	**Savo Central**	**2.36**	**306**	S	**Sn**	**14 38 47.9**	**+0.7**
TATA	**Tatamba Isabel**	**2.88**	**318**	P	**Pn**	**14 38 26.7**	**+0.3**
TATA	**Tatamba Isabel**	**2.88**	**318**	S	**Sn**	**14 39 01.1**	**+1.2**
DZM	**Mont Dzumac**	**12.31**	**159**	P	**P**	**14 40 42.7**	**-3.2**
	3.2nm,0.3s,baz=324,slow=14,SNR=30						
DZM				S	**Sn**	**14 42 55.7**	**+4.3**
	6.0nm,1.0s,baz=323,slow=20,SNR=0.9						
DZM				LR	LR	14 44 27.1	
	comp=Z,97nm,18.1s,baz=19,slow=32						
WRA	**Warramunga Arr**	**28.01**	**247**	P	**P**	**14 43 28.8**	**+0.3**
	0.6nm,0.7s,baz=73,slow=9.2,SNR=8.0						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**29.57**	**240**	P	**P**	**14 43 42.7**	**+0.4**
	0.2nm,0.7s,baz=70,slow=8.9,SNR=7.7						
	0.2nm,0.7s						
MJAR	**Matsushiro Arr**	**51.81**	**336**	P	**P**	**14 46 43.9**	**-0.9**
	0.4nm,0.6s,baz=163,slow=8.4,SNR=1.9						
	0.4nm,0.6s						
ASAJ	**Asahikawa**	**57.12**	**344**	LR	LR	15 11 45.4	
	comp=Z,32nm,18.9s,baz=332,slow=36						
SONM	**Songino Array**	**75.98**	**325**	P	**P**	**14 49 24.0**	**+0.4**
	0.8nm,0.6s,baz=135,slow=8.2,SNR=3.4						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**84.33**	**20**	P	**P**	**14 50 08.8**	**+0.8**
	0.2nm,0.4s,baz=238,slow=4.6,SNR=8.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**90.49**	**318**	P	**P**	**14 50 38.5**	**+0.3**
	0.2nm,0.4s,baz=84,slow=7.8,SNR=2.4						
	0.2nm,0.4s						

*THE **15** 14:52:46.7, 39˚.N±1˚.×2˚.6E±˚, h21km±2km, M2.3/5, MLh2.3/5*
*ISK **15** 14:52:47.9, 38˚.76N×26˚.46E, h5km, ML2.6/13*
*AFAD **15** 14:52:48.0, 38˚.82N×26˚.35E, h7km±3km, ML2.5*
ISC 15 14:52:47.6±0.9, **38˚.80N**±0˚.02×**26˚.42E**±0˚.03, **h17**km±6km, **n26, σ1§19/36, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARB	**zmir-Karabur**	**0.13**	**184**	P	**Pg**	**14 52 52.2**	**+0.8**
KARB				S	**Sg**	**14 52 54.7**	**+0.6**
KARB				*i* IAML		14 52 55.0	
	comp=N,2μm,0.3s						
KARB				*i* IAML		14 52 55.0	
	comp=E,1μm,0.3s						
URLA	**Izmir**	**0.46**	**163**	Pg	**Pg**	**14 52 55.6**	**-1.2**
URLA	**Izmir**	**0.46**	**163**	P	**Pg**	**14 52 55.5**	**-1.3**
URLA				S	**Sb**	**14 53 04.8**	**+1.2**
PRK	**Paraskevi**	**0.47**	**345**	P	**Pg**	**14 52 56.2**	**-0.8**
PRK				S	**Sb**	**14 53 03.5**	**-0.4**
CHOS	**Chios island**	**0.50**	**215**	Pg	**Pb**	**14 52 57.9**	**-0.1**
CHOS				Sg	**Sb**	**14 53 05.7**	**+0.7**
CHOS	**Chios island**	**0.50**	**215**	P	**Pn**	**14 52 59.7**	**-0.4**
CHOS				S	**Sn**	**14 53 09.7**	**+1.4**
ZEYE	**Izmir, Urla-Ze**	**0.56**	**174**	P	**Pb**	**14 52 59.3**	**+0.4**
ZEYE				*i* IAML		14 53 09.0	
	comp=N,296nm,0.2s						
ZEYE				*i* IAML		14 53 09.0	
	comp=E,391nm,0.4s						
ZEYE				S	**Sn**	**14 53 09.1**	**-0.5**
SIGR	**SIGRI**	**0.61**	**313**	Pg	**Pn**	**14 53 01.6**	**+0.2**
SIGR				Sg	**Sn**	**14 53 10.6**	**-0.2**
SIGR	**SIGRI**	**0.61**	**313**	P	Pg	14 52 52.1	-7.5
SIGR				S	Sg	14 52 56.5	-11
BLCB	**Balcova**	**0.64**	**130**	Pg	**Pb**	**14 52 59.9**	**-0.3**
BLCB				Sg	**Sb**	**14 53 08.9**	**+0.1**
BLCB	**Balcova**	**0.64**	**130**	P	Pn	14 53 07.5	+5.7
GMLD	**Gumuldur**	**0.82**	**152**	Pg	**Pg**	**14 53 03.2**	**-0.3**
GMLD				Sg	**Sg**	**14 53 13.9**	**-0.3**
DGB	**zmir**	**0.83**	**154**	P	**Pn**	**14 53 04.6**	**+0.2**
DGB				S	**Sn**	**14 53 15.5**	**-0.7**
SOMA	**Soma-Manisa**	**0.94**	**67**	Pg	**Pn**	**14 53 06.7**	**+0.7**
YAYO	**Edremit-Balk**	**0.96**	**32**	Pg	**Pn**	**14 53 07.8**	**+1.6**
EZNE	**Ezine-Canakkal**	**0.96**	**357**	Pg	**Pg**	**14 53 07.4**	**+1.2**
EZNE				Sg	**Sn**	**14 53 21.8**	**+2.3**
EZN	**Ezine**	**1.03**	**356**	Pg	**Pg**	**14 53 08.9**	**+1.3**
EZN	**Ezine**	**1.03**	**356**	P	**Pb**	**14 53 03.9**	**-3.0**
EZN				S	**Sb**	**14 53 17.2**	**-3.0**
BOZC	**Bozcaada**	**1.08**	**345**	Pn	**Pg**	**14 53 09.9**	**+1.3**
GCAM	**G?zelcaml?**	**1.27**	**150**	Pn	**Pb**	**14 53 10.9**	**-0.1**
COMU	**Canakkale**	**1.30**	**2**	Pn	**Pg**	**14 53 13.9**	**+1.2**
GORD	**Gordes-Manisa**	**1.37**	**85**	Pn	**Pg**	**14 53 14.2**	**+0.1**
ODEM	**Odemis-Izmir**	**1.40**	**111**	Pn	**Pg**	**14 53 14.3**	**-0.2**
AYDN	**Tasoluk**	**1.61**	**134**	P	**Pb**	**14 53 17.0**	**+0.1**
AYDN				S	**Sg**	**14 53 38.1**	**-1.5**
NAZL	**Nazilli-Aydin**	**1.69**	**119**	Pn	**Pb**	**14 53 18.4**	**+0.2**
SMTH	**Samothraki Isl**	**1.81**	**338**	P	Pn	14 53 11.3	-6.7

IDC 15 14:57:06.5±7.3, **30˚.65S**×**177˚.56W, h0**km, **mb3.7/3, mbtmp3.7/4, ML3.0/1, Error ellipse: s-maj=140.6km s-min=23.3km az=100.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.43**	**347**	Pn	Pb	14 57 34.2	+0.3
	48nm,0.3s,baz=120,slow=20,SNR=1.9						
RAO				Sn	Sb	14 57 52.5	-0.1
	89nm,0.3s,baz=197,slow=19,SNR=5.8						
URZ	**Urewera**	**8.77**	**209**	Pn	Pn	14 59 13.4	-1.2
	0.2nm,0.3s,baz=33,slow=13,SNR=2.7						
URZ				Sn	Sn	15 00 50.6	-3.6
	0.7nm,0.3s,baz=15,slow=20,SNR=10						
	7.2nm,0.9s						
STKA	**Stephens Creek**	**34.79**	**257**	P	P	15 04 00.4	+1.5
	1.9nm,0.7s,baz=104,slow=12,SNR=3.3						
	1.9nm,0.7s						
ASAR	**Alice Springs**	**43.47**	**267**	P	P	15 05 11.1	-0.6
	0.2nm,0.4s,baz=113,slow=8.2,SNR=8.2						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.48**	**272**	P	P	15 05 19.2	-0.6
	0.4nm,0.4s,baz=112,slow=8.1,SNR=7.1						
	0.4nm,0.4s						
H03S2	**Juan Fernandez**	**80.01**	**123**	T	T	16 38 22.7	
	baz=238,slow=74,SNR=4.1						
H03S1	**Juan Fernandez**	**80.02**	**123**	T	T	16 38 27.9	
	baz=238,slow=74,SNR=4.7						
H03S3	**Juan Fernandez**	**80.03**	**123**	T	T	16 38 28.1	
	baz=238,slow=74,SNR=5.4						
H03N3	**Juan Fernandez**	**80.21**	**123**	T	T	16 38 44.3	
	baz=248						
H03N2	**Juan Fernandez**	**80.21**	**123**	T	T	16 38 34.1	
	baz=248						
H03N1	**Juan Fernandez**	**80.22**	**123**	T	T	16 38 43.7	
	baz=248						

*SOME **15** 15:23:59.5, 45˚.78N×83˚.37E, h10km*
*NNC **15** 15:24:02.3±3.7, 46˚.06N×83˚.80E, h0km, mb3.0, mpv2.1, Error ellipse: s-maj=30.1km s-min=12.2km az=84.0*
ISC 15 15:24:00.5±1.6, **45˚.79N**±0˚.08×**83˚.59E**±0˚.09, **h8**km, **n5, σ1§31/8, 5C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.35**	**319**	⇑P	**Pg**	**15 24 26.0**	**-0.5**
	0.1nm,0.1s,baz=137,slow=17,SNR=58						
MK31				⇓S	**Sn**	**15 24 44.5**	**+0.6**
	3.0nm,0.2s,baz=134,slow=29,SNR=26						
ZSN	**Zaisan**	**1.88**	**27**	*e*P	**Pg**	**15 24 36.0**	**-0.6**
	5.6nm,0.1s						
ZSN				*e*S	**Sg**	**15 25 02.4**	**+1.3**
	12nm,0.2s						
PDGK	**Podgornoye**	**3.82**	**232**	⇑Pn	**Pb**	**15 25 07.3**	**-1.0**
	0.6nm,0.5s						
PDGK				⇑Sn	**Sb**	**15 25 56.7**	**+1.9**
	3.0nm,0.5s						
KURBB	**Kurchatov Arra**	**5.90**	**327**	⇓Sn	**Sn**	**15 26 36.4**	**+0.4**
	1.1nm,0.6s						
KURBB				⇓Lg	Lg	15 27 08.2	
	5.5nm,0.7s						
KURK	**Kurchatov**	**5.95**	**328**	⇑Sn	**Sn**	**15 26 35.9**	**-1.1**
	0.1nm,0.4s						
KURK				⇑Lg	Lg	15 27 08.0	
	0.4nm,0.6s						

*IDC **15** 15:32:44.8±2.7, 28˚.31N×139˚.80E, h450km±41km, mb2.9/7, mbtmp3.7/8, Error ellipse: s-maj=80.5km s-min=14.8km az=74.0*
*JMA **15** 15:32:45.5±0.2, 28˚.N±2˚.×14˚.0E±˚, h478km, MV3.6/25, W OFF OGASAWARA*
ISC 15 15:32:45.2±0.9, **28˚.35N**±0˚.09×**139˚.8E**±0˚.2, **h450**km, **n17, σ1§69/20, mb3.2/7, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.46**	**120**	*e*P	**P**	**15 33 49.4**	**+0.8**
JHH2	**Haha-jima-NKT2**	**2.72**	**128**	*e*S	**S**	**15 34 43.6**	**+0.5**
BSO1	**Boso 1**	**6.37**	**9**	*e*P	**P**	**15 34 24.8**	**+2.2**
JIE	**Ise**	**6.58**	**337**	*e*P	**P**	**15 34 29.5**	**+4.1**
JOD2	**Odawara 2**	**6.92**	**355**	*e*P	**P**	**15 34 31.6**	**+2.6**
JRY	**Ryogami san**	**7.68**	**355**	*e*P	**P**	**15 34 39.7**	**+2.5**
JYT	**Yasato**	**7.86**	**2**	*e*P	**P**	**15 34 40.3**	**+1.2**
JYT				*e*S	**S**	**15 36 10.7**	**-1.7**
JAG	**Ashikaga**	**8.06**	**358**	*e*P	**P**	**15 34 41.3**	**+0.1**
JHO	**Hitachi**	**8.27**	**4**	P	**P**	**15 34 44.8**	**+1.5**
JHO				*e*S	**S**	**15 36 18.6**	**-1.8**
MJAR	**Matsushiro Arr**	**8.28**	**351**	P	**P**	**15 34 44.0**	**+0.5**
	1.4nm,0.6s,baz=174,slow=12,SNR=8.2						
MJAR				S	**S**	**15 36 20.8**	**+0.1**
	1.5nm,1.1s,baz=185,slow=13,SNR=1.6						
SONM	**Songino Array**	**32.34**	**316**	P	**P**	**15 38 35.0**	**-0.8**
	0.4nm,0.4s,baz=112,slow=6.9,SNR=3.1						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**48.04**	**309**	P	**P**	**15 40 41.8**	**-0.4**
	0.3nm,0.4s,baz=83,slow=11,SNR=4.7						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**48.30**	**187**	P	**P**	**15 40 43.3**	**-1.0**
	0.3nm,0.5s,baz=2.7,slow=7.7,SNR=5.7						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**50.65**	**314**	P	**P**	**15 41 01.0**	**-0.4**
	0.6nm,0.2s,baz=93,slow=7.9,SNR=3.9						
	0.6nm,0.2s						
ASAR	**Alice Springs**	**52.02**	**187**	P	**P**	**15 41 10.9**	**-0.9**
	0.2nm,0.4s,baz=2.5,slow=6.0,SNR=11						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**55.69**	**317**	P	**P**	**15 41 37.5**	**+0.1**
	0.7nm,0.4s,baz=96,slow=8.5,SNR=5.3						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**75.88**	**333**	P	**P**	**15 43 43.6**	**-0.4**
	4.5nm,1.0s,baz=50,slow=4.3,SNR=4.5						
	4.5nm,1.0s						

NEIC 15 15:34:39.9±0.7, **38˚.01N**±0˚.02×**98˚.00W**±0˚.04, **h2**km±5km, **mb_Lg2.5/39, Error ellipse: s-maj=5.2km s-min=2.3km az=64.0, Kansas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
R32A	**Long Quarter,**	**0.70**	**307**		Pg	15 34 52.6	-0.6
KAN14	**Manchester OK**	**1.05**	**178**		Pg	15 34 59.2	-0.7
CBKS	**Cedar Bluff**	**1.59**	**301**		Pn	15 35 08.6	-0.5
CBKS					Sn	15 35 29.8	-0.5
T35A	**Sooner Cattle**	**1.61**	**132**		Pn	15 35 09.0	-0.4
OK038	**West end E0370**	**1.64**	**201**		Pn	15 35 09.3	-0.5
OK051	**E0350 and S346**	**1.76**	**148**		Pn	15 35 10.8	-0.7
OK048	**Pawnee Station**	**1.80**	**152**		Pn	15 35 11.9	-0.1
OK052	**Battle Ridge R**	**2.23**	**154**	Pn	Pn	15 35 17.3	-0.5
OK029	**Liberty Lake**	**2.25**	**169**		Pn	15 35 17.6	-0.6
OK029					Sb	15 35 50.3	+0.7
TUL3	**Leonard**	**2.74**	**139**	Pn	Pn	15 35 25.5	+0.6
TUL3					LR	15 36 05.7	
TUL3				IAmb_Lg		15 36 07.8	
	comp=Z,19nm,0.7s						
U38A	**Gravette**	**3.28**	**117**	Pn	Pn	15 35 32.4	0.0
U38A					Sn	15 36 14.1	+2.0
U38A				IAmb_Lg		15 36 24.0	
	comp=Z,16nm,0.8s						
WMOK	**Wichita Mounta**	**3.32**	**191**	Pn	Pn	15 35 32.8	-0.2
SMWD	**Samnorwood**	**3.41**	**213**	Pn	Pn	15 35 33.7	-0.6
SMWD					LR	15 36 28.9	
SMWD				IAmb_Lg		15 36 32.2	
	comp=Z,14nm,0.9s						
HHAR	**Hobbs**	**3.67**	**117**	Pn	Pn	15 35 36.9	-0.8
HHAR					Sn	15 36 21.8	+0.1
KSCO	**Kaye Shedlock'**	**3.77**	**287**	IAmb_Lg		15 36 49.6	
	comp=Z,11nm,0.7s						
P38A	**Dawn**	**3.84**	**64**		Pn	15 35 39.4	-0.7
P38A				IAmb_Lg		15 36 43.1	
	comp=Z,13nm,0.8s						
RTBA	**Rita Blanca**	**4.09**	**249**	IAmb_Lg		15 36 50.9	
	comp=Z,6.9nm,0.9s						
OGNE	**Ogallala**	**4.28**	**314**	IAmb_Lg		15 36 57.3	
	comp=Z,15nm,0.9s						
AMTX	**Amarillo**	**4.30**	**225**	IAmb_Lg		15 37 02.4	
	comp=Z,14nm,0.8s						
R40A	**Maddies Statio**	**4.53**	**85**	IAmb_Lg		15 37 03.6	
	comp=Z,6.6nm,0.7s						
MGMO	**Mountain Grove**	**4.63**	**99**	IAmb_Lg		15 37 08.0	
	comp=Z,12nm,0.8s						
DKNS	**Dickens**	**4.94**	**210**	IAmb_Lg		15 37 19.0	
	comp=Z,8.8nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.16**	**112**	IAmb_Lg		15 37 28.2	
	comp=Z,8.8nm,0.7s						
T25A	**Trinidad**	**5.17**	**262**	IAmb_Lg		15 37 25.7	
	comp=Z,10nm,0.9s						
SN07	**Snyder 07**	**5.44**	**207**	IAmb_Lg		15 37 46.1	
	comp=Z,11nm,1.0s						
X40A	**Basin Creek Fa**	**5.45**	**129**	IAmb_Lg		15 37 45.1	
	comp=Z,11nm,0.7s						
MSTX	**Muleshoe**	**5.58**	**225**	IAmb_Lg		15 37 43.5	
	comp=Z,9.8nm,1.3s						
POST	**Post**	**5.70**	**211**	IAmb_Lg		15 37 47.9	
	comp=Z,10nm,1.2s						
FVM	**French Village**	**5.98**	**88**	IAmb_Lg		15 37 47.9	
	comp=Z,6.7nm,0.9s						
ISCO	**Idaho Springs**	**6.20**	**289**	IAmb_Lg		15 38 08.3	
	comp=Z,6.7nm,1.1s						
CGM3	**Cape Girardeau**	**6.66**	**94**	IAmb_Lg		15 38 09.7	
	comp=Z,7.3nm,1.1s						
PECS	**Pecos**	**8.19**	**218**	IAmb_Lg		15 39 19.0	
	comp=Z,3.5nm,0.8s						

*JMA **15** 15:57:21.7±0.1, 32˚.3N±0˚.3×131˚.9E±0˚.6, h30km±1km, MV3.6/36, HYUGANADA REGION*
JMA Felt II J1 at HYUGANADA REGION .
*NIED **15** 15:57:21.7, 32˚.26N×131˚.91E, h30km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.15; $M_{\theta\theta}$0.15; $M_{\phi\phi}$1.00; $M_{r\theta}$0.50; $M_{\theta\phi}$-0.05; $M_{\phi r}$4.60; Fault plane solution: $M_0$4.75000×10^{14} NP1: ϕ_s352.00000°, δ7.00000°, λ-104.00000°. NP2: ϕ_s186.00000°, δ84.00000°, λ-88.00000°.*
*IDC **15** 15:57:31.1±4.4, 33˚.11N×131˚.91E, h71km±53km, mb3.2/2, mbtmp3.3/4, ML2.8/2, MS2.7/3 Error ellipse: s-maj=42.1km s-min=24.9km az=12.0*
ISC 15 15:57:21.1±1.3, **32˚.25N**±0˚.06×**131˚.94E**±0˚.05, **h30**km±8km, **n21, σ0§77/21, 11D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHC	**Hyugahichiya**	**0.32**	**307**	⇓*i*P	**Pb**	**15 57 28.7**	**-0.1**
JHHC				⇓S	**Sb**	**15 57 34.0**	**-0.1**
JTSN	**Tsuno**	**0.37**	**269**	⇓*i*P	**Pb**	**15 57 29.3**	**-0.2**
JTSN				⇓S	**Sb**	**15 57 35.1**	**-0.1**
JSKE	**Saikikamae**	**0.55**	**356**	⇓*i*P	**Pn**	**15 57 32.6**	**-0.2**
JSKE				⇓*e*S	**Sb**	**15 57 40.6**	**+0.7**
JKIT	**Kitakata**	**0.56**	**312**	⇓*i*P	**Pb**	**15 57 32.3**	**-0.1**
JKIT				⇓S	**Sb**	**15 57 40.3**	**+0.1**
JTZ	**Takazaki**	**0.81**	**244**	*i* P	**Pb**	**15 57 36.2**	**-0.4**
JTZ				S	**Sn**	**15 57 47.3**	**+0.1**
JUS	**Usuki**	**0.83**	**349**	*i* P	**Pn**	**15 57 37.2**	**+0.6**
JUS				S	**Sn**	**15 57 48.6**	**+0.7**
JTO	**Tosashimizu**	**0.95**	**50**	⇓P	**Pb**	**15 57 38.3**	**-0.6**
JTO				⇓S	**Sn**	**15 57 50.8**	**0.0**
JIU3	**Izumi3**	**1.00**	**288**	*i* P	**Pn**	**15 57 39.3**	**+0.3**
UWA2	**Uwa jima 2**	**1.12**	**31**	⇓P	**Pn**	**15 57 40.8**	**+0.1**
KSRS	**Korea Array**	**6.15**	**329**	P	**Pn**	**15 58 50.0**	**+0.2**
	0.5nm,0.3s,baz=149,slow=15,SNR=8.6						
KSRS				S	**Sn**	**15 59 57.9**	**-1.2**
	0.6nm,0.5s,baz=149,slow=25,SNR=6.0						
	0.6nm,0.3s						
MJAR	**Matsushiro Arr**	**6.72**	**49**	P	**Pn**	**15 58 59.4**	**+1.7**
	0.2nm,0.3s,baz=239,slow=15,SNR=14						
MJAR				S	**Sn**	**16 00 11.3**	**-1.9**
	1.7nm,1.0s,baz=218,slow=17,SNR=2.2						
MJAR				LR	LR	16 01 22.5	
	comp=Z

WB0					IAmb	IAmb	16 11 45.3		
	comp=Z,9.9nm,1.4s								
WRAB	**Tennant Creek**	**49.18**	**260**	P	**P**	**P**	**16 11 42.4**	**-2.0**	
WRAB					IAmb	IAmb	16 11 54.2		
	comp=Z,9.9nm,1.4s								
WRA	**Warramunga Arr**	**49.19**	**260**	P	**P**		**16 11 42.3**	**-2.3**	
WRA	**Warramunga Apr**	**49.19**	**260**	P	**P**		**16 11 43.4**	**-1.2**	
	comp=Z,2.6nm,1.0s,baz=96,slow=7.1,SNR=18								
WRA				PcP	**PcP**		**16 13 10.0**	**+2.2**	
	comp=Z,0.8nm,0.8s,baz=102,slow=3.0,SNR=3.9								
	comp=Z,2.6nm,1.0s								
MTN	**Manton Dam**	**53.69**	**268**	P	**P**		**16 12 18.1**	**-0.2**	
KNRA	**Kununurra**	**55.23**	**264**	P	**P**		**16 12 27.9**	**-1.6**	
FITZ	**Fitzroy Crossi**	**57.61**	**261**	P	**P**		**16 12 46.4**	**-0.1**	
SOEI	**Soe**	**61.01**	**270**	P	**P**		**16 13 10.9**	**+0.7**	
MJAR	**Matsushiro Art**	**72.37**	**321**	P	**P**		**16 14 24.7**	**+2.6**	
	comp=Z,1.8nm,0.7s,baz=146,slow=5.6,SNR=5.9								
	comp=Z,1.8nm,0.7s								
PETK	**Petropavlovsk-**	**76.79**	**342**	P	**P**		**16 14 49.8**	**+2.5**	
	comp=Z,2.6nm,1.0s,baz=167,slow=6.1,SNR=1.9								
	comp=Z,2.6nm,1.0s								
NVAR	**Mina Array Bea**	**77.41**	**41**	P	P		16 14 57.9	+6.5	
	comp=Z,0.4nm,0.5s,baz=246,slow=7.5,SNR=2.6								
	comp=Z,0.4nm,0.5s								
ILAR	**Eielson Array**	**86.62**	**11**	P	P		16 15 43.4	+4.4	
	comp=Z,0.2nm,0.6s,baz=227,slow=4.8,SNR=2.2								
	comp=Z,0.2nm,0.6s								
AKASG	**Malin Array Be**	**144.36**	**335**	PKP		**PKiKP**	**16 22 33.9**	**-1.8**	
	comp=Z,0.6nm,0.5s,baz=33,slow=3.8,SNR=5.4								
BRTR	**Keskin Array B**	**149.53**	**317**	PKPbc		**PKPab**	**16 22 49.9**	**-0.9**	
	comp=Z,1.6nm,0.9s,baz=50,slow=1.9,SNR=5.1								

MOS ***15*** *16:13:02.2±1.5,42.2°21N×84.2°68E,h14km,mb4.5/11,Error ellipse: s-maj=9.1km s-min=5.5km az=130.4*
IDC ***15*** *16:13:04.4±0.7,42.2°33N×84.2°26E,h0km,mb3.9/14, mbtmp3.9/21,ML3.5/6,MS3.4/8,Error ellipse: s-maj=16.1km s-min=9.9km az=54.0*
SOME ***15*** *16:13:04.9,42.2°40N×84.2°32E,h5km,MS3.9*
NNC ***15*** *16:13:06.9±1.7,42.2°40N×84.2°29E,h0km,mb4.7,mpv4.4, Error ellipse: s-maj=13.9km s-min=7.8km az=150.0*
BJI ***15*** *16:13:07.5,42.2°30N×84.2°28E,h17km,mB4.8/2,mb4.2/9, ML4.5/13,Ms4.0/3,Ms7 3.7/1*
NEIC ***15*** *16:13:08.3±2.2,42.2°25N±0.2°05×84.2°5E±0.2°1,h35km±2km, mb4.5/28,Error ellipse: s-maj=14.3km s-min=9.2km az=268.0*

ISC 15 16:13:05.5±0.4,42°26N±0.2°03×84°42E±0.2°03,h10km,n167, σ2s41/166,mb4.3/47,MS3.8/4,9C-10D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**2.86**	**56**	Pg	**Pg**	**16 14 02.0**	**+1.7**
WMQ				Sn	**Sb**	**16 14 35.1**	**+3.3**
WMQ				smax	smax		
	comp=N,1μm,1.1s						
WMQ				smax	smax		
	comp=E,640nm,0.9s						
SHLS	**Shalkode**	**3.76**	**285**	Pg	**Pn**	**16 14 07.5**	**+3.8**
	166nm,0.3s						
SHLS				Lg	Lg	16 14 53.5	
	2μm,0.7s						
SHLS	**Shalkode**	**3.76**	**285**	*e*P	**Pn**	**16 14 07.5**	**+3.8**
	131nm,0.3s						
SHLS				*e*S	**Sn**	**16 14 53.5**	**+5.4**
	2μm,0.5s						
SHLS	**Shalkode**	**3.76**	**285**	*e*P	**Pn**	**16 14 02.6**	**-1.1**
PDGK	**Podgornoye**	**3.78**	**288**	⇑Pn	**Pn**	**16 14 05.6**	**+1.6**
	270nm,0.8s						
PDGK				Pg	**Pb**	**16 14 16.3**	**+3.9**
PDGK				⇑Lg	Lg	16 15 01.9	
	487nm,0.7s						
PDGK	**Podgornoye**	**3.78**	**288**	P	Pn	16 14 09.4	+5.4
UZB	**Uzynbulak**	**4.08**	**284**	Pg	**Pb**	**16 14 17.9**	**+0.5**
	48nm,0.2s						
UZB				Lg	Lg	16 15 11.1	
	305nm,0.3s						
UZB	**Uzynbulak**	**4.08**	**284**	*e*P	**Pb**	**16 14 17.9**	**+0.5**
	51nm,0.2s						
UZB				*e*S	**Sb**	**16 15 11.1**	**+4.3**
	880nm,0.6s						
UZB	**Uzynbulak**	**4.08**	**284**	*e*P	**Pn**	**16 14 10.5**	**+2.5**
KPKS	**Kokpek**	**4.38**	**288**	Pg	**Pb**	**16 14 24.2**	**+1.5**
	0.1nm,0.1s						
KPKS				Lg	Lg	16 15 21.7	
	290nm,0.2s						
PRZ	**Przheval'sk**	**4.46**	**275**	Pn	**Pn**	**16 14 16.7**	**+3.3**
PRZ	**Przheval'sk**	**4.46**	**275**	P	**Pn**	**16 14 16.7**	**+3.3**
SATY	**Saty**	**4.51**	**282**	Pg	**Pb**	**16 14 27.2**	**+2.5**
	55nm,0.3s						
SATY				Lg	Lg	16 15 27.0	
	503nm,0.3s						
KAPS	**Kapalarasan**	**4.75**	**311**	Pg	**Pb**	**16 14 29.7**	**+0.9**
KAPS				Lg	Lg	16 15 30.8	
KURS	**Kuram**	**4.75**	**287**	Pg	**Pb**	**16 14 31.9**	**+3.0**
	174nm,0.6s						
KURS				Lg	Lg	16 15 34.7	
	400nm,0.8s						
MK31	**Makanchi Array**	**4.78**	**342**	Pn	**Pn**	**16 14 18.0**	**+0.4**
MK31				Sn	**Sb**	**16 15 32.5**	**+5.6**
MK31	**Makanchi Array**	**4.78**	**342**	⇓Pn	**Pn**	**16 14 18.8**	**+1.2**
	0.6nm,0.2s,baz=160,slow=14,SNR=282						
MK31				⇑Pg	**Pb**	**16 14 32.1**	**+2.8**
	6.6nm,0.3s,baz=166,slow=15,SNR=38						
MK31				⇑Lg	Lg	16 15 32.5	
	38nm,0.3s,baz=158,slow=29,SNR=6.8						
MK31	**Makanchi Array**	**4.78**	**342**	P	**Pn**	**16 14 18.7**	**+1.2**
MKAR	**Makanchi Array**	**4.78**	**342**	Pn	**Pn**	**16 14 18.4**	**+0.8**
MKAR				Sn	**Sb**	**16 15 32.5**	**+5.7**
MKAR	**Makanchi Array**	**4.78**	**342**	Pn	**Pn**	**16 14 19.0**	**+1.4**
	2.2nm,0.3s,baz=177,slow=14,SNR=110						
MKAR				Pg	**Pb**	**16 14 29.5**	**+0.2**
	4.1nm,0.3s,baz=163,slow=16,SNR=13						
MKAR				Lg	Lg	16 15 32.6	
	54nm,0.3s,baz=160,slow=29,SNR=13						
MKAR				LR	LR	16 16 22.2	
	comp=Z,538nm,20.2s,baz=117,slow=42						
	3.9nm,0.4s						
MKAR	**Makanchi Array**	**4.78**	**342**	P	**Pn**	**16 14 18.4**	**+0.8**
MAKZ	**Makanchi**	**4.87**	**340**	Pn	**Pn**	**16 14 20.0**	**+1.2**
MAKZ				Sn	**Sn**	**16 15 14.1**	**-1.1**
MAKZ				Lg	Lg	16 15 35.3	
MAKZ	**Makanchi**	**4.87**	**340**	P	**Pn**	**16 14 20.0**	**+1.2**
MAKZ						16 15 14.1	
TARG	**Taragay, Kyrgy**	**4.96**	**266**	Pn	**Pn**	**16 14 21.3**	**+0.9**
TARG				Sn	**Sn**	**16 15 18.0**	**0.0**
TARG					Lg	16 15 43.9	
TARG	**Taragay, Kyrgy**	**4.96**	**266**	P	**Pn**	**16 14 21.3**	**+0.9**
TARG						16 15 18.0	
TDK	**Taldyqorghan**	**5.15**	**304**	Pg	**Pb**	**16 14 38.5**	**+2.8**
	356nm,0.5s						
TDK				Lg	Lg	16 15 46.4	
	566nm,0.5s						
TDK	**Taldyqorghan**	**5.15**	**304**	*e*P	**Pb**	**16 14 38.5**	**+2.8**
	356nm,0.5s						
TDK				*e*S	**Sg**	**16 15 46.4**	**-4.4**
	566nm,0.5s						
ARXS	**Arharly**	**5.20**	**294**	Pg	**Pb**	**16 14 37.8**	**+1.4**
	38nm,0.3s						
ARXS				Lg	Lg	16 15 45.4	
	289nm,0.6s						
ARXS	**Arharly**	**5.20**	**294**	*e*P	**Pb**	**16 14 37.8**	**+1.4**
ARXS				*e*S	**Sb**	**16 15 45.4**	**+6.4**
ARXS	**Arharly**	**5.20**	**294**	*e*P	**Pn**	**16 14 24.8**	**+1.5**
ZSN	**Zaisan**	**5.20**	**3**	Pg	**Pb**	**16 14 39.3**	**+2.9**
	8.5nm,0.2s						
ZSN				Lg	Lg	16 15 47.9	
	343nm,0.5s						
ZSN	**Zaisan**	**5.20**	**3**	*e*P	**Pb**	**16 14 39.3**	**+2.9**
	8.5nm,0.2s						
ZSN				*e*S	**Sg**	**16 15 47.9**	**-4.4**
	343nm,0.5s						
KDJ	**Kajisay**	**5.38**	**271**	Pn	**Pn**	**16 14 26.8**	**+0.8**
KDJ				Sn	**Sn**	**16 15 29.2**	**+1.2**
KDJ					Lg	16 15 55.7	
KDJ	**Kajisay**	**5.38**	**271**	P	**Pn**	**16 14 26.8**	**+0.8**
KDJ						16 15 29.2	
MDOK	**Medeo**	**5.50**	**282**	Pg	**Pb**	**16 14 44.7**	**+2.9**
	16nm,0.4s						
MDOK				Lg	Lg	16 15 57.0	
	247nm,0.8s						
TNSS	**Tian-Shan**	**5.56**	**280**	Pg	**Pb**	**16 14 45.4**	**+2.4**
	4.4nm,0.2s						
TNSS				Lg	Lg	16 15 58.6	
	62nm,0.8s						
TNSS	**Tian-Shan**	**5.56**	**280**	*e*P	**Pb**	**16 14 45.4**	**+2.4**
	4.4nm,0.2s						
TNSS				*e*S	**Sg**	**16 15 58.6**	**-5.5**
	62nm,0.8s						
KNDC	**Almaty**	**5.57**	**282**	⇓Pg	**Pb**	**16 14 47.4**	**+4.6**
	16nm,0.3s						
KNDC				⇑Sn	**Sn**	**16 15 37.9**	**+5.3**
	413nm,0.8s						
KNDC				⇓Lg	Lg	16 15 56.2	
	582nm,0.7s						
CHKK	**Chushkaly**	**5.67**	**289**	Pg	**Pb**	**16 14 46.4**	**+1.9**
	11nm,0.3s						
CHKK				Lg	Lg	16 16 00.2	
	141nm,0.3s						
CHKK	**Chushkaly**	**5.67**	**289**	*e*P	**Pb**	**16 14 47.9**	**+3.4**
	7.0nm,0.1s						
CHKK				*e*S	**Sg**	**16 16 02.0**	**-5.5**
	141nm,0.3s						
KTBS	**Karatobe**	**5.86**	**287**	Pg	**Pb**	**16 14 51.7**	**+4.0**
	41nm,0.5s						
KTBS				Lg	Lg	16 16 08.8	
	412nm,0.6s						
MTBS	**Maitube**	**5.95**	**281**	Pg	**Pb**	**16 14 52.1**	**+2.7**
	26nm,0.4s						
MTBS				Lg	Lg	16 16 09.7	
	193nm,0.5s						
MTBS	**Maitube**	**5.95**	**281**	*e*P	**Pb**	**16 14 52.1**	**+2.7**
	13nm,0.3s						
MTBS				*e*S	Sb	16 16 09.7	+9.0
	193nm,0.5s						
KUU	**Kurty**	**6.14**	**288**	Pg	**Pb**	**16 14 55.9**	**+3.4**
	48nm,0.8s						
KUU				Lg	Lg	16 16 15.9	
	263nm,0.6s						
KUU	**Kurty**	**6.14**	**288**	*e*P	**Pb**	**16 14 55.9**	**+3.4**
	48nm,0.8s						
KUU				*e*S	**Sg**	**16 16 15.9**	**-6.5**
	263nm,0.6s						
KST	**Kastek**	**6.29**	**280**	Pg	**Pb**	**16 14 59.1**	**+4.0**
	25nm,0.6s						
KST				Lg	Lg	16 16 22.0	
	306nm,0.5s						
KST	**Kastek**	**6.29**	**280**	*e*P	**Pb**	**16 14 59.1**	**+4.0**
	11nm,0.3s						
KST				*e*S	**Sg**	**16 16 22.0**	**-5.2**
	306nm,0.5s						
KSH	**Kashi**	**6.96**	**250**	Pn	Pn	16 14 55.9	+8.2
KSH				Sn	Sb	16 16 20.6	-9.2
KSH				smax	smax		
	comp=N,220nm,1.0s						
KSH				smax	smax		
	comp=E,170nm,1.0s						
FRU1	**Bishkek**	**7.25**	**278**	Pn	**Pn**	**16 14 52.2**	**+0.6**
FRU1	**Bishkek**	**7.25**	**278**	P	**Pn**	**16 14 52.2**	**+0.6**
AAK	**Ala-Archa**	**7.35**	**276**	Pn	**Pn**	**16 14 54.1**	**+1.1**
AAK	**Ala-Archa**	**7.35**	**276**	⇓Pg	**Pg**	**16 15 30.1**	**+3.9**
	14nm,0.7s						
AAK				⇓Lg	Lg	16 16 56.3	
	77nm,0.8s						
AAK	**Ala-Archa**	**7.35**	**276**	Pn	**Pn**	**16 14 53.2**	**+0.2**
	1.9nm,0.3s,baz=84,slow=9.2,SNR=5.1						
AAK				Sn	**Sn**	**16 16 14.1**	**-2.4**
	4.6nm,0.3s,baz=156,slow=14,SNR=2.0						
AAK				Lg	Lg	16 16 52.7	
	3.3nm,0.3s,baz=24,slow=12,SNR=3.9						
AAK				LR	LR	16 18 13.8	
	comp=Z,179nm,21.7s,baz=82,slow=43						
	2.2nm,0.3s						
AAK	**Ala-Archa**	**7.35**	**276**	*i* P	**Pn**	**16 14 52.1**	**-0.9**
BTLS	**Baital**	**8.02**	**294**	*e*P	**Pn**	**16 15 06.6**	**+4.6**
KURBB	**Kurchatov Arra**	**9.29**	**336**	⇓Pn	**Pn**	**16 15 20.3**	**+0.8**
	9.0nm,0.5s						
KURBB				⇑Sn	**Sn**	**16 17 05.9**	**+1.9**
	36nm,0.6s						
KURBB				⇑Lg	Lg	16 17 59.1	
	260nm,0.9s						
KURBB	**Kurchatov Arra**	**9.29**	**336**	Pn	**Pn**	**16 15 19.2**	**-0.2**
	0.3nm,0.3s,baz=150,slow=12,SNR=11						
KURBB				Sn	**Sn**	**16 16 58.9**	**-5.1**
	0.3nm,0.3s,baz=174,slow=19,SNR=4.6						
KURBB				Lg	Lg	16 17 55.7	
	0.6nm,0.3s,baz=151,slow=31,SNR=8.8						
KURBB				LR	LR	16 19 14.3	
	comp=Z,177nm,21.7s,baz=160,slow=40						
	1.0nm,0.2s						
KURBB	**Kurchatov Arra**	**9.29**	**336**	P	**Pn**	**16 15 20.3**	**+0.8**
KURBB				S	**Sn**	**16 17 05.9**	**+1.9**
KURK	**Kurchatov**	**9.35**	**337**	Pn	**Pn**	**16 15 20.8**	**+0.6**
KURK	**Kurchatov**	**9.35**	**337**	⇑Pn	**Pn**	**16 15 20.1**	**-0.1**
	2.8nm,0.6s						
KURK				⇓Sn	**Sn**	**16 17 04.1**	**-1.3**
	7.5nm,0.7s						
KURK				⇑Lg	Lg	16 17 57.5	
	50nm,1.0s						
KURK	**Kurchatov**	**9.35**	**337**	P	**Pn**	**16 15 19.2**	**-1.0**
KURK						16 16 58.9	
GOMU	**GeErMu**	**10.08**	**124**	P	**Pn**	**16 15 32.1**	**+1.5**
GAR	**Garm**	**11.20**	**258**	Pn	**Pn**	**16 15 45.0**	**-0.8**
ZAA0	**Zalesovo Array**	**11.70**	**1**		**Pn**	**16 15 51.1**	**-1.2**
ZALV	**Zalesovo Beam**	**11.70**	**1**		**Pn**	**16 15 50.9**	**-1.4**
ZALV	**Zalesovo Beam**	**11.70**	**1**	Pn	**Pn**	**16 15 51.4**	**-1.0**
	0.5nm,0.3s,baz=182,slow=13,SNR=13						
ZALV				Sn	**Sn**	**16 18 02.5**	**-0.3**
	0.8nm,0.3s,baz=178,slow=24,SNR=7.0						
ZALV				Lg	Lg	16 19 14.1	
	0.1nm,0.3s,baz=191,slow=22,SNR=7.0						
	3.5nm,0.6s						
GTA	**Gaotai**	**12.01**	**99**	*e*P	Pn	16 16 02.3	+5.6
GTA				pP		16 16 06.3	
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA				LR	LR		
	comp=E,570nm,7.6s						
GTA				LR	LR		
	comp=Z,180nm,5.8s						
CHGR	**Chuyangaron**	**12.17**	**258**	Pn	**Pn**	**16 15 58.3**	**-0.7**
CHGR	**Chuyangaron**	**12.17**	**258**	P	**Pn**	**16 15 58.3**	**-0.7**
SIMJ	**Simiganj**	**12.28**	**258**	Pn	**Pn**	**16 15 59.5**	**-0.9**
NIL	**Nilore**	**12.30**	**229**	Pn	**Pn**	**16 16 00.8**	**0.0**
NIL	**Nilore**	**12.30**	**229**	P	**Pn**	**16 16 00.8**	**0.0**
KBL	**Kabul**	**14.30**	**242**		**Pn**	**16 16 28.0**	**-0.2**
KBL				P	**P**	**16 16 35.7**	**+0.3**
KBL	**Kabul**	**14.30**	**242**	P	**Pn**	**16 16 28.0**	**-0.2**
BVA0	**Borovoye Array**	**14.30**	**324**	P	**Pn**	**16 16 28.6**	**+0.7**
BVAR	**Borovoye Array**	**14.30**	**324**	Pn	**Pn**	**16 16 27.2**	**-0.7**
	0.1nm,0.3s,baz=125,slow=13,SNR=16						
BVAR				Sn	Sn	16 18 56.3	-10
	baz=125,slow=25,SNR=1.2						
BVAR				Lg	Lg	16 20 33.5	
	0.1nm,0.3s,baz=133,slow=28,SNR=5.1						
BVAR				LR	LR	16 22 27.4	
	comp=Z,215nm,20.2s,baz=151,slow=40						
EVN	**Everest**	**14.41**	**171**	P	**Pn**	**16 16 33.7**	**+3.6**
ZAK	**Zakamensk**	**15.32**	**52**	*e*P	**Pn**	**16 16 43.7**	**+1.9**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
LZDM	**Lanzhou Array**	**16.22**	**106**	Pn	**Pn**	**16 16 54.9**	**+1.2**
	comp=Z,2.0nm,0.3s,baz=287,slow=15,SNR=1.8						
SONM	**Songino Array**	**16.48**	**63**	Pn	**Pn**	**16 16 58.0**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=252,slow=12,SNR=9.9						
SONM				Lg	Lg	16 21 50.0	
	comp=Z,0.2nm,0.3s,baz=262,slow=29,SNR=5.8						
SONM				LR	LR	16 22 28.2	
	comp=Z,40nm,18.1s,baz=265,slow=34						
	comp=Z,1.0nm,0.8s						
ULN	**Ulaanbaatar**	**16.92**	**63**	*i* P	Pn	16 16 44.9	-17
SHL	**Shillong**	**17.75**	**157**	Pn	Pn	16 17 07.5	-5.4
SHL	**Shillong**	**17.75**	**157**	P	Pn	16 17 07.5	-5.4
SHL				pmax	pmax		
	comp=Z,13nm,0.9s						
AB31	**Akbulak array**	**18.41**	**301**	P	**Pn**	**16 17 17.6**	**-3.0**
AB31	**Akbulak array**	**18.41**	**301**	P	**Pn**	**16 17 18.9**	**-1.7**
	comp=Z,2.2nm,0.8s,baz=96,slow=12,SNR=13						
AB31	**Akbulak array**	**18.41**	**301**	P	**Pn**	**16 17 18.9**	**-1.7**
ABKAR	**Akbulak array**	**18.41**	**301**	P	**Pn**	**16 17 17.0**	**-3.6**
AKTO	**Aktyubinsk**	**19.89**	**303**	⇓P	**P**	**16 17 34.0**	**-2.9**
	comp=Z,4.6nm,1.0s						
AKTO	**Aktyubinsk**	**19.89**	**303**	P	**P**	**16 17 36.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=118,slow=10,SNR=7.7						
	comp=Z,3.1nm,0.6s						
XAN	**Xi'an**	**20.89**	**105**	P	**P**	**16 17 48.6**	**+0.7**
XAN				pmax	pmax		
	comp=Z,12nm,1.2s						
SVE	**Sverdlovsk**	**21.07**	**322**	*e*P	**P**	**16 17 49.6**	**0.0**
SVE				pmax	pmax		
	comp=Z,18nm,0.8s						
ARTI	**Arti**	**21.90**	**319**	P	**P**	**16 17 57.9**	**-0.6**
ARTI	**Arti**	**21.90**	**319**	P	**P**	**16 17 58.0**	**-0.5**
	comp=Z,10nm,0.7s,baz=131,slow=6.8,SNR=14						
ARTI				LR	LR	16 26 16.5	
	comp=Z,216nm,18.8s,baz=202,slow=36						
	comp=Z,10nm,0.7s						
ARTI	**Arti**	**21.90**	**319**	*d i*P	**P**	**16 17 56.7**	**-1.8**
ARTI						16 18 21.9	
ARTI				SS	Sn	16 22 42.0	+32
ARTI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BELG	**Belogornoye**	**26.65**	**305**	*i* P	**P**	**16 18 41.1**	**-3.0**
BELG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CM31	**Chiang Mai Arr**	**26.75**	**148**	P	**P**	**16 18 42.1**	**-3.3**
CMAR	**Chiang Mai Arr**	**26.75**	**148**	P	**P**	**16 18 43.8**	**-1.6**
CMAR	**Chiang Mai Arr**	**26.75**	**148**	P	**P**	**16 18 47.5**	**+2.1**
	comp=Z,2.5nm,0.8s,baz=327,slow=9.0,SNR=19						
	comp=Z,2.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**26.75**	**148**	P	**P**	**16 18 43.8**	**-1.6**
UOSS	**Minazif**	**28.98**	**242**	P	**P**	**16 19 03.5**	**-1.8**
KIV	**Kislovodsk**	**30.29**	**288**	*e*P	**P**	**16 19 14.8**	**-2.0**
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KLMR	**Klimovskoe**	**32.68**	**320**	*e*P	**P**	**16 19 37.3**	**-0.3**
KLMR				pmax	pmax		
	comp=Z,24nm,1.3s						
YAK	**Yakutsk**	**33.15**	**38**	*i* P	P	16 19 29.0	-13
YAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN	**Obninsk**	**33.42**	**309**	*de*P	P	16 19 39.9	-4.2
OBN				*e*		16 20 56.7	
OBN				*e*SS	SS	16 27 32.9	+4.0
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,219nm,17.0s						
MARD	**Mardin**	**33.62**	**276**	P	**P**	**16 19 44.6**	**-1.6**
MARD				IAmb	IAmb	16 20 01.0	
	comp=Z,5.0nm,0.8s						
PALK	**Pallekele**	**35.00**	**186**	LR	LR	16 36 13.2	
	comp=Z,64nm,18.2s,baz=35,slow=40						
RAYN	**Ar Rayn**	**37.24**	**252**	P	**P**	**16 20 17.2**	**-0.2**
RAYN				IAmb	IAmb	16 20 29.4	
	comp=Z,6.1nm,1.2s						
RAYN	**Ar Rayn**	**37.24**	**252**	P	**P**	**16 20 17.2**	**-0.2**
RAYN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BRTR	**Keskin Array B**	**37.95**	**284**	P	**P**	**16 20 23.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=67,slow=11,SNR=1.7						
	comp=Z,0.4nm,0.6s						
AKASG	**Malin Array Be**	**38.13**	**302**	P	**P**	**16 20 24.4**	**-0.1**
	comp=Z,2.0nm,0.3s,baz=68,slow=8.7,SNR=4.3						
	comp=Z,0.2nm,0.3s						
AKBB	**Malin Array Si**	**38.13**	**302**	P	**P**	**16 20 22.4**	**-2.2**
AKBB				IAmb	IAmb	16 20 41.7	
	comp=Z,5.4nm,1.1s						
AKBB	**Malin Array Si**	**38.13**	**302**	P	**P**	**16 20 22.4**	**-2.2**
AKBB				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIEV	**Kiev**	**38.15**	**302**	P	**P**	**16 20 22.8**	**-1.9**
KIEV				IAmb	IAmb	16 20 31.2	
	comp=Z,10nm,1.4s						
KIEV	**Kiev**	**38.15**	**302**	P	**P**	**16 20 22.8**	**-1.9**
KIEV				pmax	pmax		
	comp=Z,10.0nm,1.4s						
FINES	**FINESS Array B**	**39.21**	**320**	P	**P**	**16 20 32.6**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=119,slow=16,SNR=3.8						
	comp=Z,1.6nm,0.8s						
ARCES	**ARCESS Array B**	**40.35**	**332**	P	**P**	**16 20 43.0**	**+0.1**
	comp=Z,4.7nm,0.9s,baz=96,slow=8.1,SNR=20						
	comp=Z,4.7nm,0.9s						
ARCES	**ARCESS Array B**	**40.35**	**332**	P	**P**	**16 20 43.0**	**+0.1**
HFS	**Hagfors**	**45.35**	**318**	P	**P**	**16 21 23.7**	**+0.2**
	comp=Z,8.5nm,1.1s,baz=79,slow=7.5,SNR=1.5						
	comp=Z,8.5nm,1.1s						
NOA	**NORSAR Array B**	**46.39**	**320**	P	**P**	**16 21 30.4**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=78,slow=7.9,SNR=1.8						
	comp=Z,0.9nm,0.7s						
RONA	**Rosalia, Austr**	**47.09**	**301**	*e*pP	P	16 21 34.5	-2.9
	comp=Z,2.4nm,0.8s						
CONA	**Conrad Observa**	**47.28**	**302**	*i* P	P	16 21 33.4	-5.5
	comp=Z,4.2nm,1.5s						
ARSA	**Arzberg**	**47.73**	**301**	*e*P	P	16 21 36.5	-5.9
	comp=Z,2.9nm,1.1s						
CLL	**Collm**	**47.92**	**307**	*e*P	P	16 21 41.0	-2.8
SOKA	**Soboth**	**48.25**	**300**	*e*P	P	16 21 41.0	-5.5
	comp=Z,3.8nm,1.3s						
MOA	**Molln**	**48.32**	**302**	*e*pP	P	16 21 42.9	-4.0
	comp=Z,5.9nm,1.8s						
GERES	**GERESS Array B**	**48.32**	**303**	P	**P**	**16 21 46.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=70,slow=6.0,SNR=2.2						
	comp=Z,0.4nm,0.5s						
OBKA	**Obir**	**48.62**	**300**	*e*P	P	16 21 42.2	-7.1
	comp=Z,4.3nm,1.5s						
BILL	**Bilibino**	**48.67**	**30**	*i* P	P	16 21 37.3	-12
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BIOA	**Bad Ischl, Aus**	**48.77**	**302**	*e*P	P	16 21 45.0	-5.4
	comp=Z,6.2nm,1.4s						
KBA	**Koelnbreinsper**	**49.18**	**301**	*e*P	P	16 21 49.0	-4.7
	comp=Z,3.1nm,1.1s						
LESA	**Schwarzleotal**	**49.47**	**302**	*e*P	P	16 21 48.9	-6.9

ASAR	**Alice Springs**	**79.94**	**135**	P	**P**	**16 25 16.0**	**+1.3**	
	comp=Z,1.5nm,0.8s,baz=322,slow=5.4,SNR=16							
	comp=Z,1.5nm,0.8s							
ASAR	**Alice Springs**	**79.94**	**135**	P	P	16 25 11.4	-3.3	
BBB	**Bella Bella**	**81.80**	**20**	LR	LR	17 05 30.8		
	comp=Z,57nm,18.4s,baz=273,slow=38							
NNA	**Nana**	**145.70**	**326**	PKPdf	**PKPdf**	**16 32 40.0**	**-4.7**	
NNA	**Nana**	**145.70**	**326**	PKIKP	**PKPdf**	**16 32 40.0**	**-4.7**	
PB11	**IPOC Station P**	**148.65**	**308**	PKPdf	**PKPdf**	**16 32 46.5**	**-3.0**	

IDC 15 16:15:42.8±8.7, 17°99S×178°42W, h596km±96km, mb2.9/4, mbtmp3.8/4, Error ellipse: s-maj=110.2km s-min=33.5km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.60**	**260**	P	P	16 23 03.4	-0.3
	0.7nm,0.6s,baz=97,slow=6.8,SNR=18						
WRA				PcP	PcP	16 24 33.3	-0.1
	0.4nm,1.1s,baz=91,slow=3.2,SNR=1.7						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**44.76**	**254**	P	P	16 23 04.9	+0.1
	2.2nm,0.6s,baz=89,slow=8.8,SNR=55						
ASAR				PcP	PcP	16 24 33.5	-0.4
	0.2nm,0.5s,baz=99,slow=3.7,SNR=5.0						
	2.2nm,0.6s						
ILAR	**Eielson Array**	**85.97**	**13**	P	P	16 27 20.0	-0.4
	0.3nm,0.4s,baz=219,slow=5.0,SNR=4.7						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**86.05**	**58**	P	P	16 27 21.9	+0.2
	0.4nm,0.7s,baz=232,slow=6.2,SNR=5.7						
	0.4nm,0.7s						

BJI ***15*** *16:27:07.4,41.˝16N×142.˝27E,h72km,mB5.0/14,mb4.6/45, Ms4.1/18,Ms7 4.0/22*

MOS ***15*** *16:27:08.0±1.0,41.˝24N×141.˝97E,h58km,mb4.8/26,Error ellipse: s-maj=7.0km s-min=5.1km az=99.0*

NIED ***15*** *16:27:09.6,41.˝20N×142.˝05E,h58km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.81; Mθθ-0.01; Mϕϕ-0.80; Mrθ0.57; Mθϕ-0.08; Mϕr1.05; Fault plane solution: M₀1.44000×10¹⁶ NP1: ϕs171.00000°,δ19.00000°,λ59.00000°. NP2:ϕs24.00000°, δ73.00000°,λ100.00000°.*

JMA ***15*** *16:27:09.6±0.1,41.˝2N±0.˝3×142.˝1E±0.˝8,h58km±1km, MD4.5/40,MW4.8/40,E OFF AOMORI PREF*

JMA Felt III J1 at E OFF AOMORI PREF .

BGR ***15*** *16:27:09.5,41.˝90N×143.˝08E,h33km,mb4.7*

NEIC ***15*** *16:27:10.1±1.1,41.˝25N±0.˝07×141.˝96E±0.˝09,h57km±7km, mb4.7/93,Error ellipse: s-maj=13.2km s-min=6.3km az=134.0*

IDC ***15*** *16:27:11.4±1.6,41.˝35N×142.˝03E,h72km±13km,mb4.0/30, mbtmp4.2/35,MS4.0/47,Error ellipse: s-maj=14.0km s-min=10.3km az=125.0*

GCMT ***15*** *16:27:13.1±0.3,41.˝19N±0.˝02×142.˝10E±0.˝03,h55km±2km, MW4.8/79,Moment Tensor Solution. s36,c51; s79,c117; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.57±.12; Mθθ0.07±.08; Mϕϕ-1.64±.07; Mrθ0.63±.06; Mθϕ-0.69±.08; Mϕr1.11±.07; Best double couple: M₀2.15000×10¹⁶ NP1:ϕs191.00000°,δ27.00000°,λ76.00000°. NP2: ϕs26.00000°,δ63.00000°,λ97.00000°. Principal axes: T 2.0050, Plg71.0000°, Azm312.0000°; N 0.2880, Plg6.0000°, Azm203.0000°; P -2.2950, Plg18.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 16:27:09.4±0.5, 41.˝17N±0.˝03×142.˝06E±0.˝04, h59km±3km, h59km:pP-P,n335,σ1$40/247, mb4.6/120, MS4.0/56, 9C-22D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JARK	**Aomorirokkasho**	**0.55**	**253**	⇓*i*P	**Pn**	**16 27 21.9**	**+0.2**
JARK				⇓S	**Sn**	**16 27 30.8**	**0.0**
JARK	**Aomorirokkasho**	**0.55**	**253**	A	A	16 27 21.9	
	comp=N,72nm,2.0s,comp=E,71nm,2.0s						
JAHD	**Aomorihigashid**	**0.55**	**281**	⇓*i*P	**Pn**	**16 27 22.0**	**+0.1**
JAHD				⇓S	**Sn**	**16 27 31.1**	**+0.2**
JAHD	**Aomorihigashid**	**0.55**	**281**	A	A	16 27 22.0	
	comp=N,72nm,1.7s,comp=E,69nm,1.1s						
JOT	**Ohata**	**0.79**	**286**	⇓*i*P	**Pn**	**16 27 24.6**	**-0.1**
JOT				⇓S	**Sn**	**16 27 35.4**	**-0.6**
JOT	**Ohata**	**0.79**	**286**	A	A	16 27 24.6	
	comp=N,10.0nm,1.2s,comp=E,13nm,2.3s						
JTM	**Tenmabayashi**	**0.84**	**244**	Pn	**Pn**	**16 27 25.5**	**+0.2**
JTM	**Tenmabayashi**	**0.84**	**244**	⇓*i*P	**Pn**	**16 27 25.7**	**+0.4**
JTM				⇓*e*S	**Sn**	**16 27 37.6**	**+0.6**
JTM	**Tenmabayashi**	**0.84**	**244**	A	A	16 27 25.7	
	comp=N,33nm,2.2s,comp=E,17nm,1.5s						
JANG	**Nango**	**0.89**	**208**	P	**Pn**	**16 27 26.1**	**+0.1**
JANG				S	**Sn**	**16 27 38.1**	**-0.2**
JANG	**Nango**	**0.89**	**208**	A	A	16 27 26.1	
	comp=N,22nm,1.7s,comp=E,31nm,2.7s						
JKEN	**Kujiedanarisaw**	**0.99**	**196**	A	A	16 27 28.1	
	comp=N,40nm,1.3s,comp=E,75nm,0.9s						
JKB	**Kayabe**	**1.06**	**313**	⇓*i*P	**Pn**	**16 27 27.8**	**-0.2**
JKB				⇓*e*S	**Sn**	**16 27 41.5**	**-0.5**
JKB	**Kayabe**	**1.06**	**313**	A	A	16 27 27.8	
	comp=N,11nm,2.8s,comp=E,7.0nm,1.5s						
ERM	**Erimo**	**1.18**	**44**	Pn	**Pn**	**16 27 30.3**	**+0.6**
ERM	**Erimo**	**1.18**	**44**	P	**Pn**	**16 27 30.3**	**+0.6**
JEM	**Erimo**	**1.18**	**44**	*e*P	**Pn**	**16 27 30.2**	**+0.4**
JEM	**Erimo**	**1.18**	**44**	A	A	16 27 30.2	
	comp=N,11nm,4.2s,comp=E,14nm,2.7s						
JNBK	**Urakawa-nobuka**	**1.23**	**25**	P	**Pn**	**16 27 30.6**	**+0.3**
JNBK	**Urakawa-nobuka**	**1.23**	**25**	A	A	16 27 30.6	
	comp=N,22nm,1.7s,comp=E,34nm,1.9s						
JTH	**Tanohata**	**1.23**	**187**	A	A	16 27 31.4	
	comp=N,5.0nm,4.0s,comp=E,6.0nm,2.2s						
JSI2	**Shiura 2**	**1.25**	**266**	A	A	16 27 31.1	
	comp=N,19nm,2.3s,comp=E,14nm,2.1s						
JSHD	**Hidakashinhida**	**1.28**	**14**	A	A	16 27 31.2	
	comp=N,27nm,2.1s,comp=E,36nm,3.2s						
JSR	**Shiriuchi**	**1.29**	**287**	⇓*i*P	**Pn**	**16 27 31.6**	**+0.5**
JSR				⇓S	**Sn**	**16 27 47.9**	**+0.4**
JSR	**Shiriuchi**	**1.29**	**287**	A	A	16 27 31.6	
	comp=N,7.0nm,3.0s,comp=E,15nm,3.1s						
JKZ	**Kuzumaki**	**1.30**	**205**	A	A	16 27 32.3	
	comp=N,8.0nm,0.8s,comp=E,10.0nm,3.5s						
JHHS	**Hirosakihyakuz**	**1.39**	**249**	A	A	16 27 33.2	
	comp=N,33nm,1.9s,comp=E,26nm,2.8s						
JAH	**Hinai**	**1.46**	**228**	⇓*i*P	**Pn**	**16 27 34.2**	**+0.7**
JAH	**Hinai**	**1.46**	**228**	A	A	16 27 34.2	
	comp=N,12nm,1.9s,comp=E,12nm,2.7s						
JTHR	**Tokachihiroo**	**1.46**	**39**	A	A	16 27 33.8	
	comp=N,10.0nm,1.4s,comp=E,9.0nm,2.2s						
JIAM	**Iburiatsuma**	**1.46**	**356**	*e*P	**Pn**	**16 27 34.2**	**+0.8**
JIAM	**Iburiatsuma**	**1.46**	**356**	A	A	16 27 34.2	
	comp=N,22nm,1.2s,comp=E,27nm,2.9s						
JNB	**Noboribetsu**	**1.51**	**330**	⇓*i*P	**Pn**	**16 27 33.5**	**-0.6**
JNB	**Noboribetsu**	**1.51**	**330**	A	A	16 27 33.5	
	comp=N,7.0nm,4.9s,comp=E,5.0nm,4.6s						
JYM2	**Yakumo 2**	**1.58**	**307**	⇓*i*P	**Pn**	**16 27 35.4**	**+0.3**
JYM2	**Yakumo 2**	**1.58**	**307**	A	A	16 27 35.4	
	comp=N,5.0nm,2.2s,comp=E,6.0nm,2.6s						
JOMM	**Oshimamatsumae**	**1.59**	**284**	⇓*i*P	**Pn**	**16 27 35.0**	**-0.1**
JOMM	**Oshimamatsumae**	**1.59**	**284**	A	A	16 27 35.0	
	comp=N,3.0nm,2.1s,comp=E,4.0nm,2.6s						
MIYJ	**Miyakonagasawa**	**1.60**	**187**	A	A	16 27 36.5	
	comp=N,11nm,2.4s,comp=E,19nm,4.2s						
JBT2	**Biratori 2**	**1.63**	**8**	⇓*i*P	**Pn**	**16 27 36.5**	**+0.8**
JBT2	**Biratori 2**	**1.63**	**8**	A	A	16 27 36.5	
	comp=N,13nm,1.8s,comp=E,23nm,1.9s						
JSZI	**Iwateshizukuis**	**1.65**	**211**	A	A	16 27 37.2	
	comp=N,17nm,2.1s,comp=E,18nm,2.1s						
JIW	**Iwasaki**	**1.66**	**250**	⇓*i*P	**Pn**	**16 27 36.7**	**+0.5**
JIW	**Iwasaki**	**1.66**	**250**	A	A	16 27 36.7	
	comp=N,12nm,1.3s,comp=E,11nm,6.0s						
JNTW	**Noshirotokiwa**	**1.70**	**239**	A	A	16 27 37.6	
	comp=N,30nm,2.0s,comp=E,37nm,3.9s						
JEW	**Eniwo**	**1.73**	**345**	⇓*i*P	**Pn**	**16 27 37.4**	**+0.2**
JEW	**Eniwo**	**1.73**	**345**	A	A	16 27 37.4	
	comp=N,9.0nm,1.8s,comp=E,16nm,2.7s						
JCH	**Churui**	**1.74**	**33**	*i* P	**Pn**	**16 27 38.2**	**+0.9**
JCH				S	**Sn**	**16 27 59.6**	**+1.1**
JCH	**Churui**	**1.74**	**33**	A	A	16 27 38.2	
	comp=N,10.0nm,3.1s,comp=E,9.0nm,2.7s						
JOM	**Ohasama**	**1.79**	**199**	*i* P	**Pn**	**16 27 38.6**	**+0.6**
JOM				S	**Sn**	**16 27 59.6**	**0.0**
JOM	**Ohasama**	**1.79**	**199**	A	A	16 27 38.6	
	comp=N,7.0nm,0.6s,comp=E,8.0nm,3.8s						
JFR	**Furan**	**2.04**	**11**	A	A	16 27 41.8	
	comp=N,6.0nm,5.5s,comp=E,7.0nm,4.3s						
JRG	**Rokugo**	**2.08**	**212**	A	A	16 27 43.2	
	comp=N,7.0nm,1.6s,comp=E,7.0nm,5.5s						
OFUJ	**Ofunato**	**2.10**	**188**	A	A	16 27 43.7	
	comp=N,3.0nm,4.9s,comp=E,5.0nm,3.3s						
JYW	**Yuwa**	**2.15**	**222**	A	A	16 27 44.2	
	comp=N,14nm,5.2s,comp=E,10.0nm,1.7s						
JISS	**Ishikarishitsu**	**2.16**	**347**	A	A	16 27 43.5	
	comp=N,13nm,2.7s,comp=E,10.0nm,2.6s						
JOB	**Onbets**	**2.18**	**37**	A	A	16 27 44.0	
	comp=N,15nm,1.6s,comp=E,10.0nm,3.1s						
JAB	**Ashibetsu**	**2.34**	**3**	A	A	16 27 46.1	
	comp=N,17nm,2.5s,comp=E,10.0nm,3.3s						
JAR	**Ashorobuto**	**2.48**	**30**	A	A	16 27 48.2	
	comp=N,6.0nm,1.8s,comp=E,5.0nm,2.1s						
JHR	**Hokuryu**	**2.59**	**355**	A	A	16 27 49.6	
	comp=N,8.0nm,2.8s,comp=E,9.0nm,2.3s						
JOG3	**Oga3**	**2.59**	**242**	A	A	16 27 43.6	
	comp=N,9.0nm,4.2s,comp=E,9.0nm,4.4s						
JYK	**Kaneyama**	**2.60**	**211**	A	A	16 27 50.5	
	comp=N,6.0nm,1.7s,comp=E,9.0nm,2.4s						
JAK	**Akkeshi**	**2.68**	**46**	A	A	16 27 51.2	
	comp=N,7.0nm,2.9s,comp=E,7.0nm,2.7s						
JYYZ	**Yamagatayuza**	**2.70**	**218**	A	A	16 27 51.9	
	comp=N,10.0nm,2.4s,comp=E,17nm,2.9s						
JOFO	**Osakifurukawao**	**2.71**	**199**	A	A	16 27 52.2	
	comp=N,19nm,4.1s,comp=E,22nm,1.8s						
JKK2	**Kamakawa 2**	**2.75**	**10**	A	A	16 27 52.0	
	comp=N,3.0nm,3.0s,comp=E,5.0nm,2.9s						
ASAJ	**Asahikawa**	**2.98**	**7**	P	**Pn**	**16 27 54.9**	**+0.8**
	comp=E,76nm,0.3s,baz=210,slow=14,SNR=378						
ASAJ				S	**Sn**	**16 28 27.1**	**-1.5**
	comp=E,131nm,0.5s,baz=103,slow=28,SNR=4.1						
JKA	**Kamikawa-asahi**	**2.98**	**8**		**Pn**	**16 27 55.1**	**+1.1**
JOU	**Okura**	**3.00**	**201**	A	A	16 27 56.2	
	comp=N,4.0nm,4.6s,comp=E,5.0nm,2.6s						
JTKR	**Abashiri--Toko**	**3.12**	**25**	A	A	16 27 57.2	
	comp=N,2.0nm,1.4s,comp=E,2.0nm,1.7s						
JYA	**Atsumi**	**3.14**	**216**	A	A	16 27 58.1	
	comp=N,5.0nm,1.3s,comp=E,5.0nm,3.6s						
JNSB	**Nemuroshibetsu**	**3.40**	**39**	A	A	16 28 01.2	
	comp=N,6.0nm,2.3s,comp=E,5.0nm,3.1s						
JMM	**Marumori**	**3.44**	**197**	Pn	**Pn**	**16 28 01.5**	**+1.1**
NMR	**Nemuro--Hokkai**	**3.50**	**50**	⇓*i*P	**Pn**	**16 27 59.8**	**-1.5**
NMR				*i* S	**Sn**	**16 28 37.0**	**-4.4**
GLVR	**Golovnino**	**3.63**	**44**	*e*P	**Pn**	**16 28 02.9**	**-0.1**
GLVR				*i* S	**Sn**	**16 28 42.1**	**-2.4**
GLVR				pmax	pmax		
	comp=Z,429nm,0.4s						
GLVR				pmax	pmax		
	comp=N,189nm,0.2s						
GLVR				pmax	pmax		
	comp=E,119nm,0.3s						
GLVR				smax	smax		
	comp=E,807nm,0.3s						
GLVR				smax	smax		
	comp=N,2μm,0.2s						
RUSJ	**Misakicho**	**3.76**	**38**	⇓*i*P	**Pn**	**16 28 05.9**	**+1.1**
RUSJ				*i* S	**Sn**	**16 28 48.9**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**4.01**	**43**	*e*P	**Pn**	**16 28 08.3**	**+0.1**
YUK				*i* S	**Sn**	**16 28 50.6**	**-3.3**
YUK				pmax	pmax		
	comp=Z,428nm,0.5s						
YUK				pmax	pmax		
	comp=N,159nm,0.2s						
YUK				pmax	pmax		
	comp=E,251nm,0.3s						
YUK				smax	smax		
	comp=N,2μm,0.5s						
YUK				smax	smax		
	comp=E,3μm,0.6s						
MJB9	**Matsu-Tunnel**	**5.51**	**214**		**Pn**	**16 28 31.3**	**+2.5**
MAJO	**Matsushiro**	**5.51**	**214**		**Pn**	**16 28 31.4**	**+2.6**
MAJO	**Matsushiro**	**5.51**	**214**	*i* P	**Pn**	**16 28 29.9**	**+1.1**
MJAR	**Matsushiro Arr**	**5.51**	**214**	P	**Pn**	**16 28 32.0**	**+3.2**
	comp=E,8.0nm,0.7s,baz=32,slow=12,SNR=33						
MJAR				LR	LR	16 31 02.9	
	comp=E,532nm,20.1s,baz=34,slow=41						
TEY	**Ternei**	**5.56**	**316**	*e*P	**Pn**	**16 28 29.8**	**+0.4**
YSS	**Yuzhno-Sakhali**	**5.81**	**5**		**Pn**	**16 28 32.8**	**0.0**
YSS	**Yuzhno-Sakhali**	**5.81**	**5**	*e*P	**Pn**	**16 28 33.8**	**+1.0**
YSS				*e*S	**Sn**	**16 29 38.8**	**+0.8**
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS				smax	smax		
	comp=N,40nm,0.9s						
YSS				smax	smax		
	comp=E,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,600nm,13.0s						
YSS				MLR	MLR		
	comp=N,400nm,14.0s						
YSS				MLR	MLR		
	comp=E,400nm,15.0s						
KUR	**Kuril'sk**	**5.88**	**44**	*e*P	**Pn**	**16 28 34.9**	**+1.1**
KUR				*e*S	**Sn**	**16 29 37.9**	**-1.8**
KUR				pmax	pmax		
	comp=Z,168nm,0.6s						
KUR				smax	smax		
	comp=N,198nm,1.0s						
KUR				smax	smax		
	comp=E,131nm,0.5s						
JGF	**Kuroka**	**6.67**	**215**		**Pn**	**16 28 45.5**	**+0.8**
INU	**Inuyama**	**7.03**	**216**		**Pn**	**16 28 51.1**	**+1.4**
VLA	**Vladivostok**	**7.81**	**288**	*i* P	**Pn**	**16 28 58.7**	**-1.5**
USRK	**Ussuriysk Ar.**	**8.01**	**296**	P	**Pn**	**16 29 03.5**	**+0.4**
	comp=E,4.5nm,0.5s,baz=105,slow=15,SNR=26						
MSHR	**Mys Shultsa**	**8.26**	**283**	*i* P	**Pn**	**16 29 06.0**	**-0.4**
MSHR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TYV	**Tymovskoe**	**9.71**	**2**	*e*P	Pn	16 29 32.4	+6.2
TYV				*e*S	**Sn**	**16 31 19.4**	**+5.8**
TYV				pmax	pmax		
	comp=Z,300nm,3.3s						
TYV				pmax	pmax		
	comp=Z,13nm,0.7s						
TYV				smax	smax		
	comp=N,100nm,3.7s						
TYV				smax	smax		
	comp=E,100nm,3.7s						
TYV				smax	smax		
	comp=N,5.0nm,1.3s						
TYV				smax	smax		
	comp=E,8.0nm,1.3s						
TYV				MLR	MLR		
	comp=Z,500nm,21.0s						
MDJ	**Mudanjiang**	**9.78**	**295**		**Pn**	**16 29 31.4**	**+4.2**
MDJ	**Mudanjiang**	**9.78**	**295**	P	**Pn**	**16 29 30.8**	**+3.6**
MDJ				S	**Sn**	**16 31 11.0**	**-4.4**
MDJ				pmax	pmax		
	comp=Z,38nm,1.3s						
MDJ				LR	LR		
	comp=Z,430nm,15.1s						
MDJ				LR	LR		
	comp=Z,800nm,17.2s						
MDJ				LR	LR		
	comp=Z,1μm,22.0s						
GRNR	**Gornyy**	**10.37**	**340**	*e*P	**Pn**	**16 29 34.3**	**-0.9**
GRNR				MLR	MLR		
	comp=E,240nm,17.0s						
GRNR				MLR	MLR		
	comp=N,160nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,410nm,23.0s						
KSRS	**Korea Array**	**11.56**	**256**	P	**Pn**	**16 29 54.3**	**+2.8**
	comp=Z,4.2nm,0.8s,baz=65,slow=14,SNR=12						
KSRS				S	**Sn**	**16 32 01.3**	**+2.3**
	comp=Z,4.2nm,0.8s,baz=68,slow=25,SNR=7.1						
BNX	**BinXian**	**11.59**	**298**	⇓P	**Pn**	**16 29 54.6**	**+2.7**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KSAR	**Wonju Array Be**	**11.59**	**256**		**Pn**	**16 29 50.5**	**-1.5**
KSAR	**Wonju Array Be**	**11.59**	**256**	P	**Pn**	**16 29 50.5**	**-1.5**
HEH	**HeiHe**	**13.66**	**317**	*e*P	**Pn**	**16 30 21.6**	**+1.5**
HEH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HEH				LR	LR		
	comp=Z,470nm,13.6s						
HEH				LR	LR		
	comp=Z,440nm,15.3s						
HEH				LR	LR		
	comp=Z,860nm,14.3s						
DL2	**Dalian**	**15.81**	**268**	P	**P**	**16 30 50.3**	**-0.6**
DL2				sP	**sP**	**16 31 07.8**	**-3.3**
DL2				S	**Sn**	**16 33 43.5**	**+1.2**
DL2				pmax	pmax		
	comp=Z,36nm,1.4s						
DL2				LR	LR		
	comp=Z,320nm,20.1s						
DL2				LR	LR		
	comp=Z,390nm,20.9s						
DL2				LR	LR		
	comp=Z,550nm,24.5s						
PETK	**Petropavlovsk-**	**15.95**	**36**	P	**Pn**	**16 30 48.3**	**-1.6**
	comp=Z,4.0nm,1.1s,baz=227,slow=8.7,SNR=5.8						
PETK				LR	LR	16 37 08.0	
	comp=Z,185nm,21.7s,baz=222,slow=38						
ZEA	**Zeya**	**16.03**	**327**	*e*P	**Pn**	**16 30 50.1**	**-0.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,300nm,19.0s						
JOW	**Kunigami**	**18.27**	**223**	LR	LR	16 39 23.5	
	comp=Z,210nm,18.4s,baz=140,slow=40						
XLT	**XiLinHaoTe**	**19.31**	**287**	*e*P	**P**	**16 31 27.3**	**-2.3**
XLT				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TIA	**Tai'an**	**20.06**	**264**	P	**P**	**16 31 34.8**	**-2.8**
TIA				pmax	pmax		
	comp=Z,11nm,0.8s						
TIA				LR	LR		
	comp=N,270nm,18.6s						
TIA				LR	LR		
	comp=E,250nm,19.4s						
TIA				LR	LR		
	comp=Z,550nm,22.4s						
NJ2	**Nanjing**	**20.68**	**251**	*e*P	**P**	**16 31 44.8**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,380nm,20.8s						
NJ2				LR	LR		
	comp=Z,420nm,14.2s						
NJ2				LR	LR		
	comp=Z,390nm,14.2s						
HNS	**HongShan**	**21.47**	**269**	⇑P	**P**	**16 31 53.8**	**+1.0**
YAK	**Yakutsk**	**22.19**	**344**	P	**P**	**16 31 57.8**	**-2.5**
YAK				IAmb	IAmb	16 32 09.3	
	comp=Z,22nm,0.8s						
YAK	**Yakutsk**	**22.19**	**344**	P	**P**	**16 31 58.0**	**-2.3**
	comp=Z,16nm,0.6s,baz=138,slow=5.2,SNR=7.1						
YAK				LR	LR	16 40 47.9	
	comp=Z,166nm,21.4s,baz=156,slow=37						
	comp=Z,16nm,0.6s						
YAK	**Yakutsk**	**22.19**	**344**	*e*P	**P**	**16 31 58.0**	**-2.3**
YAK				*e**PP	**pP**	**16 32 10.8**	**-2.2**
YAK				*e*		16 32 22.8	
YAK				*e*S	**S**	**16 35 58.5**	**-2.3**
YAK				*e**SS	**sS**	**16 36 24.2**	**+2.1**
YAK				*e*SS	**SnSn**	**16 36 41.9**	**+10**
YAK				pmax	pmax		
	comp=Z,22nm,1.4s						
YAK				pmax	pmax		
	comp=N,11nm,1.6s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.9s						
YAK				pmax	pmax		
	comp=Z,154nm,3.0s						
YAK				pmax	pmax		
	comp=N,467nm,3.5s						
YAK				pmax	pmax		
	comp=E,129nm,2.7s						
YAK				smax	smax		
	comp=N,288nm,3.7s						
YAK				smax	smax		
	comp=E,158nm,3.3s						
SEY	**Seymchan**	**22.65**	**12**	P	**P**	**16 32 03.2**	**-2.0**
	comp=E,4.7nm,0.9s,baz=199,slow=10.0,SNR=4.1						
	comp=E,4.7nm,0.9s						
HHC	**Hu-ho-hao-te**	**22.96**	**279**	*e*P	**P**	**16 32 08.1**	**-0.7**
HHC				pmax	pmax		
	comp=E,17nm,0.5s						
HHC				pmax	pmax		
	comp=E,120nm,4.6s						
HHC				LR	LR		
	comp=E,190nm,16.8s						
HHC				LR	LR		
	comp=E,320nm,17.6s						
BTO	**Baotou**	**24.16**	**279**	*e*P	**P**	**16 32 20.3**	**+0.3**
BTO				sP	**sP**	**16 32 44.0**	**+2.6**
BTO				S	**S**	**16 36 34.4**	**+0.5**
BTO				pmax	pmax		
	comp=E,27nm,0.7s						
BTO				pmax	pmax		
	comp=E,150nm,4.2s						
BTO				LR	LR		
	comp=E,480nm,5.6s						
BTO				LR	LR		
	comp=E,610nm,8.5s						
BTO				LR	LR		
	comp=E,570nm,9.6s						
SHEM	**Shemya Is, Ala**	**24.53**	**51**	LR	LR	16 43 12.2	
	comp=E,36nm,19.5s,baz=274,slow=39						
ULN	**Ulaanbaatar**	**25.68**	**297**	*ce*P	**P**	**16 32 34.5**	**+0.7**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
SONM	**Songino Array**	**26.12**	**297**	P	**P**	**16 32 37.2**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=94,slow=7.9,SNR=15						
SONM				LR	LR	16 43 37.5	
	comp=Z,433nm,18.8s,baz=88,slow=38						
	comp=Z,2.6nm,0.7s						
GUMO	**Guam**	**27.58**	**174**	LR	LR	16 43 35.0	
	comp=Z,102nm,21.4s,baz=332,slow=35						
ZAK	**Zakamensk**	**28.29**	**302**	*e*P	**P**	**16 32 56.7**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.5s						
BILL	**Bilibino**	**29.94**	**18**	*i* P	**P**	**16 33 11.7**	**+0.3**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**30.06**	**128**	T	T	17 04 52.8	
	baz=320,slow=76						
H11N1	**WAKE ISLAND Hy**	**30.07**	**128**	T	T	17 05 38.9	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**30.08**	**128**	T	T	17 05 18.4	
	baz=320,slow=76						
LZH	**Lanzhou**	**30.11**	**273**	*e*P	**P**	**16 33 14.4**	**+0.9**
LZH				pP	pP	16 33 27.1	-1.0
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				LR	LR		
	comp=Z,350nm,16.3s						
LZH				LR	LR		
	comp=Z,400nm,18.1s						
LZDM	**Lanzhou Array**	**30.27**	**273**	LR	LR	16 45 09.6	
	comp=Z,197nm,21.5s,baz=15,slow=36						
H11S1	**WAKE ISLAND Hy**	**30.90**	**130**	T	T

comp=Z,4.0nm,0.8s
SLVN Son La 37.75 250 P 16 34 20.2 +0.5
TNCH TengChong 39.43 260 P **P 16 34 34.8 +0.9**
TNCH S **S 16 40 30.8 -0.8**
TNCH pmax pmax
comp=Z,35nm,1.2s
TNCH pmax pmax
comp=Z,250nm,4.1s
TNCH LR LR
comp=Z,240nm,18.6s
WMQ Urumqi 39.57 293 *e*P **P 16 34 35.8 +1.1**
WMQ PcP **PcP 16 36 42.1 +1.1**
WMQ pmax pmax
comp=Z,25nm,0.7s
WMQ LR LR
comp=Z,170nm,21.9s
ZAA0 Zalesovo Array 39.61 309 P 16 34 34.1 -0.7
ZAA0 IAmb IAmb 16 34 51.7
comp=Z,6.3nm,0.6s
ZALV Zalesovo Beam 39.61 309 P 16 34 34.1 -0.7
ZALV Zalesovo Beam 39.61 309 P **P 16 34 34.5 -0.3**
comp=Z,3.9nm,0.6s,baz=88,slow=9.2,SNR=16
ZALV PcP **PcP 16 36 41.0 +0.2**
comp=Z,4.6nm,1.0s,baz=62,slow=4.0,SNR=2.8
ZALV LR LR 16 51 53.6
comp=Z,227nm,18.6s,baz=72,slow=38
comp=Z,3.9nm,0.6s
ZALV Zalesovo Beam 39.61 309 *e*P **P 16 34 34.8 0.0**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
G18K Tagagawik 40.87 33 P 16 34 46.2 +1.2
E19K Redstone River 41.63 30 P **P 16 34 51.8 +0.5**
H19K Roundabout Mou 41.73 33 IAmb IAmb 16 35 21.3
comp=Z,13nm,0.8s
J19K Poorman 42.00 36 IAmb IAmb 16 35 14.9
comp=Z,13nm,0.9s
MK31 Makanchi Array 42.47 298 *c e*P **P 16 34 58.1 -0.3**
MKAR Makanchi Array 42.47 298 P **P 16 34 58.6 +0.1**
comp=Z,3.9nm,0.9s,baz=82,slow=9.6,SNR=20
MKAR LR LR 16 53 43.4
comp=Z,209nm,20.0s,baz=60,slow=38
comp=Z,3.9nm,0.9s
LSA Lhasa 42.49 271 P **P 16 34 59.3 0.0**
J20K Nowinta River 42.65 35 IAmb IAmb 16 35 20.6
comp=Z,10nm,0.9s
IMAR Indian Mountai 42.88 33 P **P 16 35 02.5 +1.0**
CHTO Chiang Mai 42.92 252 P 16 35 02.5 +0.1
CHTO Chiang Mai 42.92 252 P **P 16 35 02.5 +0.1**
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 43.16 252 P **P 16 35 04.7 +0.4**
comp=Z,1.2nm,0.3s,baz=41,slow=8.6,SNR=6.0
CMAR LR LR 16 53 31.1
comp=Z,87nm,18.3s,baz=45,slow=37
comp=Z,1.2nm,0.3s
CMAR Chiang Mai Arr 43.16 252 *i* P **P 16 35 05.6 +1.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
JAY Jayapura 43.49 182 LR LR 16 51 41.7
comp=Z,59nm,19.1s,baz=359,slow=34
KDAK Kodiak Island 43.75 45 LR LR 16 53 23.7
comp=Z,81nm,20.8s,baz=247,slow=36
KURK Kurchatov 43.88 305 P 16 35 09.2 -0.5
KURK IAmb IAmb 16 35 22.0
comp=Z,12nm,0.8s
KURK Kurchatov 43.88 305 P **P 16 35 10.0 +0.3**
KURK 16 36 55.7
KURBB Kurchatov Arra 43.96 305 P **P 16 35 10.0 -0.3**
comp=Z,7.7nm,0.8s,baz=78,slow=8.6,SNR=22
KURBB PcP **PcP 16 36 55.7 +0.6**
comp=Z,0.9nm,0.3s,baz=74,slow=3.4,SNR=1.7
KURBB LR LR 16 54 29.8
comp=Z,92nm,18.8s,baz=192,slow=37
comp=Z,7.7nm,0.8s
KTH Kantishna Hill 44.09 36 IAmb IAmb 16 35 37.3
comp=Z,21nm,1.0s
NEA2 Nenana 44.85 35 IAmb IAmb 16 35 38.1
comp=Z,9.5nm,0.7s
MCK McKinley 44.96 36 IAmb IAmb 16 35 43.3
comp=Z,14nm,1.1s
DHY Denali Highway 45.72 37 IAmb IAmb 16 35 48.9
comp=Z,9.7nm,1.0s
IL31 45.77 34 IAmb IAmb 16 35 48.8
comp=Z,22nm,1.4s
ILAR Eielson Array 45.77 34 P **P 16 35 24.7 +0.2**
comp=Z,1.0nm,0.6s,baz=264,slow=6.0,SNR=17
comp=Z,1.0nm,0.6s
ILAR Eielson Array 45.77 34 *e*P **P 16 35 25.4 +0.8**
ILAR pmax pmax
comp=Z,2.0nm,0.7s
HDA Harding Lake 45.78 35 IAmb IAmb 16 35 48.8
comp=Z,16nm,1.5s
SCM Sheep Creek Mo 45.88 39 IAmb IAmb 16 35 49.8
comp=Z,12nm,1.1s
BRDH Bariadhala 45.92 262 LR LR 16 57 34.6
comp=Z,148nm,18.2s,baz=66,slow=40
PRP Porcupine Dome 46.28 33 IAmb IAmb 16 35 53.1
comp=Z,15nm,0.9s
FYU Fort Yukon 46.31 32 IAmb IAmb 16 35 53.5
comp=Z,12nm,1.0s
K24K Donnelly Dome 46.35 36 IAmb IAmb 16 35 48.9
comp=Z,16nm,1.1s
BMAR Burnt Mountain 46.50 31 P 16 35 31.9 +1.6
EVN Everest 46.64 272 P 16 35 32.3 -0.3
EVN IAmb IAmb 16 35 35.5
comp=Z,15nm,0.9s
F26K Sheenjek River 46.65 30 IAmb IAmb 16 35 41.5
comp=Z,8.0nm,1.1s
G26K Porcupine Rive 46.85 31 IAmb IAmb 16 35 43.7
comp=Z,15nm,1.1s
SCRK Sand Creek 47.11 35 IAmb IAmb 16 35 58.8
comp=Z,6.9nm,0.8s
M26K Nabesna, AK 47.81 37 IAmb IAmb 16 36 01.8
comp=Z,9.8nm,1.1s
H27K Steamboat Moun 47.83 32 IAmb IAmb 16 36 05.7
comp=Z,7.4nm,0.9s
BCAR Beaver Creek A 48.24 36 P **P 16 35 45.1 +1.2**
BVAR Borovoye Array 48.24 310 P **P 16 35 44.3 +0.3**
comp=Z,4.9nm,0.7s,baz=76,slow=8.3,SNR=24
BVAR LR LR 16 56 26.5
comp=Z,169nm,20.0s,baz=45,slow=36
comp=Z,4.9nm,0.7s
F28M Old Crow 48.28 30 IAmb IAmb 16 35 54.6
comp=Z,9.2nm,1.0s
M27K Edge Creek, AK 48.33 37 IAmb IAmb 16 36 08.1
comp=Z,12nm,1.1s
E29M Blow River 48.90 29 IAmb IAmb 16 35 59.3
comp=Z,9.2nm,0.9s
AAK Ala-Archa 49.07 295 P **P 16 35 50.6 0.0**
AAK Ala-Archa 49.07 295 P **P 16 35 51.2 +0.6**
comp=Z,1.4nm,0.5s,baz=111,slow=7.6,SNR=5.3
AAK LR LR 16 57 41.9
comp=Z,249nm,21.1s,baz=70,slow=37
comp=Z,1.4nm,0.5s
G29M Pine Creek 49.10 31 IAmb IAmb 16 36 15.4
comp=Z,10nm,0.9s
L29M L29M 49.85 36 IAmb IAmb 16 36 22.8
comp=Z,9.0nm,1.0s
K29M Barlow Dome 49.95 35 IAmb IAmb 16 36 18.8
comp=Z,12nm,1.2s
INK Inuvik 50.50 29 IAmb IAmb 16 36 26.6
comp=Z,6.3nm,0.7s
PMG Port Moresby 50.54 173 LR LR 16 59 23.0
comp=Z,58nm,18.8s,baz=346,slow=38
G31M Satah River 50.55 30 IAmb IAmb 16 36 24.9
comp=Z,10.0nm,0.8s
KK31 Karatay Array 51.58 298 IAmb IAmb 16 36 18.6
comp=Z,4.8nm,0.8s
KK31 Karatay Array 51.58 298 *i* P **P 16 36 08.7 -0.7**
KKAR Karatay Array 51.58 298 P 16 36 09.0 -0.4
KKAR Karatay Array 51.58 298 P **P 16 36 09.0 -0.4**
SVE Sverdlovsk 52.44 317 *e*P **P 16 36 16.7 +1.2**
HNR Honiara 52.98 158 LR LR 16 57 36.4
comp=Z,62nm,21.2s,baz=359,slow=34
P33M Teslin, Yukon 53.12 38 IAmb IAmb 16 36 54.2
comp=Z,11nm,1.2s
ARTI Arti 53.76 317 P 16 36 25.1 -0.1
ARTI Arti 53.76 317 P **P 16 36 24.7 -0.6**
comp=Z,4.9nm,0.7s,baz=45,slow=5.7,SNR=7.6
ARTI LR LR 17 00 53.2
comp=Z,243nm,18.6s,baz=56,slow=38
comp=Z,4.9nm,0.7s
ARTI Arti 53.76 317 *c i* P **P 16 36 25.4 +0.1**
ARTI *PP **pP 16 36 42.7 +2.1**
ARTI 16 37 30.8
ARTI 16 38 23.2
ARTI S **S 16 43 53.2 -1.8**
ARTI pmax pmax
comp=Z,19nm,1.5s
NIL Nilore 53.89 286 P **P 16 36 27.0 +0.3**
NIL Nilore 53.89 286 P **P 16 36 27.0 +0.3**
NIL pmax pmax
comp=Z,14nm,0.9s
SIMJ Simiganj 54.53 293 P 16 36 30.9 -0.5
SIMJ IAmb IAmb 16 36 53.8
comp=Z,13nm,1.1s
DLBC Dease Lake 55.10 40 LR LR 17 01 41.0
comp=Z,622nm,18.7s,baz=242,slow=38
AB31 Akbulak array 55.72 308 *i* P **P 16 36 39.6 0.0**
ABKAR Akbulak array 55.72 308 P 16 36 39.5 0.0
AKTO Aktyubinsk 56.34 310 P **P 16 36 43.7 -0.3**
comp=Z,4.3nm,0.8s,baz=58,slow=12,SNR=11
AKTO LR LR 17 02 10.1
comp=Z,169nm,21.4s,baz=326,slow=37
comp=Z,4.3nm,0.8s
KBL Kabul 56.48 289 P **P 16 36 45.5 -0.1**
KBL IAmb IAmb 16 36 54.1
comp=Z,7.1nm,0.7s
KBL Kabul 56.48 289 P **P 16 36 45.5 -0.1**
KBL pmax pmax
comp=Z,7.0nm,0.7s
KIRV Kirov 57.29 322 LR LR 17 04 07.2
comp=Z,182nm,21.1s,baz=345,slow=39
KIRV Kirov 57.29 322 *c e*P **P 16 36 50.7 +0.1**
RES Resolute Bay 58.48 15 LR LR 17 05 51.5
comp=Z,63nm,18.4s,baz=14,slow=40
LVZ Lovozero 58.57 335 *c e*P **P 16 36 59.5 +0.1**
LVZ pmax pmax
comp=Z,277nm,0.9s
ARCES ARCESS Array B 60.32 339 P **P 16 37 11.1 -0.4**
comp=Z,1.2nm,0.6s,baz=48,slow=7.4,SNR=1.3
ARCES LR LR 17 05 44.7
comp=Z,223nm,19.2s,baz=244,slow=38
comp=Z,1.2nm,0.6s
KLMR Klimovskoe 60.56 327 *e*P P 16 37 07.7 -5.5
KLMR pmax pmax
comp=Z,19nm,1.0s
BELG Belogornoye 61.16 316 P **P 16 37 17.6 +0.3**
comp=Z,12nm,0.8s,baz=43,slow=4.9,SNR=4.4
comp=Z,12nm,0.8s
BELG Belogornoye 61.16 316 *i* P **P 16 37 17.2 -0.1**
BELG pmax pmax
comp=Z,3.0nm,1.0s
WRA Warramunga Arr 61.22 188 P **P 16 37 17.0 -1.1**
WRA Warramunga Arr 61.22 188 P **P 16 37 18.0 0.0**
comp=Z,1.5nm,0.7s,baz=6.7,slow=6.8,SNR=6.4
comp=Z,1.5nm,0.7s
VRH Novokhopyorsk 64.88 317 *e*P **P 16 37 40.5 -1.6**
VRH pmax pmax
comp=Z,10.0nm,0.9s
ASAR Alice Springs 64.94 188 P **P 16 37 43.1 +0.3**
comp=Z,1.6nm,0.9s,baz=14,slow=6.2,SNR=6.7
comp=Z,1.6nm,0.9s
OBN Obninsk 65.11 322 *e*P **P 16 37 43.4 -0.1**
OBN *e* 16 38 13.8
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN MLR MLR
comp=Z,273nm,16.0s
FINES FINESS Array B 65.41 332 P **P 16 37 45.0 -0.4**
comp=Z,3.8nm,0.3s,baz=33,slow=8.4,SNR=57
FINES LR LR 17 07 23.4
comp=Z,389nm,18.4s,baz=59,slow=37
comp=Z,3.8nm,0.3s
FINES FINESS Array B 65.41 332 *e*P **P 16 37 45.2 -0.1**
FINES pmax pmax
comp=Z,4.0nm,0.3s
LPSR Galich'ya Gora 65.48 319 *e*P **P 16 37 44.7 -1.2**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 66.18 318 *e*P **P 16 37 48.1 -2.4**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 66.27 318 *e*P **P 16 37 49.6 -1.4**
VORD pmax pmax
comp=Z,10.0nm,1.0s
DZM Mont Dzumac 66.87 155 *e*LR LR 16 57 57.4
comp=Z,137nm,22.1s
KIV Kislovodsk 68.61 310 P 16 38 07.1 +1.0
KIV Kislovodsk 68.61 310 *e*P **P 16 38 07.0 +0.9**
KIV pmax pmax
comp=Z,26nm,1.0s
KIV MLR MLR
comp=Z,93nm,17.0s
KBZ Khabaz 68.62 310 P **P 16 38 06.7 +0.7**
comp=Z,6.6nm,0.9s,baz=44,slow=4.1,SNR=12
KBZ LR LR 17 10 57.6
comp=Z,149nm,19.5s,baz=11,slow=38
comp=Z,6.6nm,0.9s
KBZ Khabaz 68.62 310 *i* P **P 16 38 05.8 -0.2**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
SHA1 Shidzhatmaz 68.75 310 *i* P **P 16 38 06.7 -0.5**
MNK Minsk 69.37 325 *i* P **P 16 38 09.7 -0.8**
MNK *i* *PP **pP 16 38 25.6 -0.8**
MNK *i* 16 40 44.3
MNK *i* PPP PPP 16 42 24.5
MNK *i* S **S 16 47 12.1 -0.5**
MNK *i* SS **SS 16 51 39.0 -0.5**
MNK pmax pmax
comp=N,11nm,1.0s
MNK pmax pmax
comp=Z,11nm,0.9s
MNK pmax pmax
comp=E,19nm,0.9s
MNK MLR MLR
comp=E,833nm,23.0s
MNK MLR MLR
comp=Z,94nm,7.0s
MNK MLR MLR
comp=N,400nm,19.0s
GNI Garni 69.67 306 LR LR 17 13 42.8
comp=N,133nm,18.3s,baz=14,slow=40
BEKR Beckworth 70.00 54 P 16 38 15.7 +0.8
BEKR IAmb IAmb 16 38 36.7
comp=Z,7.3nm,0.9s
HFS Hagfors 70.54 335 P **P 16 38 17.6 0.0**
comp=Z,2.0nm,0.3s,baz=46,slow=6.4,SNR=12
HFS LR LR 17 11 16.0
comp=Z,206nm,19.6s,baz=344,slow=38
comp=Z,2.0nm,0.3s
NB2 NORSAR Subarra 70.58 337 P **P 16 38 18.2 +0.4**
comp=Z,1.8nm,0.6s,baz=36,slow=6.5
NOA NORSAR Array B 70.58 337 P **P 16 38 17.8 -0.1**
comp=Z,3.3nm,0.7s,baz=37,slow=6.1,SNR=8.5
NOA LR LR 17 14 08.6
comp=Z,84nm,18.5s,baz=25,slow=40
comp=Z,3.3nm,0.7s
DLMT Dillon 71.08 46 IAmb IAmb 16 38 42.4
comp=Z,10nm,0.9s
AKASG Malin Array Be 71.35 322 P **P 16 38 22.5 -0.2**
AKASG IAmb IAmb 16 38 24.1
comp=Z,11nm,1.4s
AKASG Malin Array Be 71.35 322 P **P 16 38 22.3 -0.3**
comp=Z,1.0nm,0.3s,baz=46,slow=6.2,SNR=24
AKASG LR LR 17 13 12.7
comp=Z,170nm,20.2s,baz=326,slow=39
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 71.35 322 *e*P **P 16 38 22.6 0.0**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 71.35 322 P **P 16 38 22.1 -0.5**
AKBB IAmb IAmb 16 38 31.7
comp=Z,7.7nm,1.0s
AKBB Malin Array Si 71.35 322 *i* P **P 16 38 21.7 -0.9**
AKBB pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 71.36 322 P **P 16 38 22.0 -0.7**
KIEV Kiev 71.36 322 P **P 16 38 22.0 -0.7**
KIEV pmax pmax
comp=Z,7.0nm,1.0s
SFJD Kangerlussuaq 71.73 5 LR LR 17 11 34.4
comp=Z,138nm,18.9s,baz=14,slow=37
LHV Little Huntoon 72.13 55 P **P 16 38 28.7 +1.2**
NVAR Mina Array Bea 72.14 54 P **P 16 38 27.9 0.0**
comp=Z,1.2nm,0.8s,baz=293,slow=6.1,SNR=6.7
comp=Z,1.2nm,0.8s
MARD Mardin 73.86 306 P **P 16 38 38.8 +0.9**
TPNV Topopah Spring 74.34 55 IAmb IAmb 16 39 03.1
comp=Z,17nm,1.4s
PDAR Pinedale Array 74.44 47 P **P 16 38 41.3 -0.1**
PDAR Pinedale Array 74.44 47 P **P 16 38 41.8 +0.5**
comp=Z,1.4nm,0.9s,baz=265,slow=2.1,SNR=11
comp=Z,1.4nm,0.9s
ULM Lac du Bonnet 75.79 34 LR LR 17 16 05.0
comp=Z,57nm,18.0s,baz=1.0,slow=39
ULM Lac du Bonnet 75.79 34 *e*P **P 16 38 49.0 +0.3**
ULM pmax pmax
comp=Z,1.0nm,0.4s
BNN Bunyan 75.81 309 IAmb IAmb 16 38 51.5
comp=Z,12nm,1.1s
OJC Ojcow 75.90 326 P **P 16 38 48.8 -0.5**
OJC Ojcow 75.90 326 P **P 16 38 48.8 -0.5**
PFO Pinyon Flats O 76.36 57 LR LR 17 06 44.7
comp=Z,42nm,20.9s,baz=326,slow=31
BRTR Keskin Array B 76.50 311 P **P 16 38 53.4 +0.3**
BRTR Keskin Array B 76.50 311 P **P 16 38 53.6 +0.5**
comp=Z,1.2nm,0.7s,baz=45,slow=5.4,SNR=6.5
comp=Z,1.2nm,0.7s
MLR Muntele Rosu 76.57 320 LR LR 17 16 30.3
comp=Z,289nm,19.1s,baz=10.0,slow=39
LANS Liptovska Anna 76.85 325 *e*P **P 16 38 55.8 +1.0**
LANS pmax pmax
comp=Z,4.0nm,1.0s
STEB Steborice 76.96 327 *e*P **P 16 38 56.0 +0.7**
MORC Moravsky Berou 77.18 327 IAmb IAmb 16 39 24.8
comp=Z,6.8nm,1.1s
MORC Moravsky Berou 77.18 327 *e*P **P 16 38 57.6 +1.0**
DPC Dobruska-Polom 77.23 328 *e*P **P 16 38 58.3 +1.4**
DPC Dobruska-Polom 77.23 328 *e*P **P 16 38 58.3 +1.4**
KRLC Kraliky 77.26 327 *e*P **P 16 38 57.9 +0.8**
KRLC Kraliky 77.26 327 *e*P **P 16 38 57.9 +0.8**
CLL Collm 77.77 330 *i* P **P 16 39 00.0 +0.2**
CLL *i* 16 39 13.8
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 77.77 330 *i* P **P 16 39 00.0 +0.2**
comp=Z,8.0nm,1.0s
CLL *i* (pP) **pP 16 39 13.8 -2.1**
JAVC Velka Javorina 77.83 326 *e*P **P 16 39 01.8 +1.5**
VRAC Vranov 77.93 327 P **P 16 39 01.3 +0.5**
comp=Z,2.9nm,0.7s,baz=67,slow=7.7,SNR=4.1
VRAC LR LR 17 17 32.8
comp=Z,170nm,18.2s,baz=354,slow=39
comp=Z,2.9nm,0.7s
VRAC Vranov 77.93 327 *e*P **P 16 39 01.9 +1.1**
PV13 Radium Mtn., P 77.97 50 IAmb IAmb 16 39 23.9
comp=Z,12nm,1.2s
KRUC Moravsky 78.21 327 *e*P **P 16 39 02.8 +0.5**
SRO Srobarova 78.36 325 *e*P **P 16 39 05.1 +1.9**
SRO pmax pmax
comp=Z,10.0nm,1.0s
TREC Trest 78.39 328 *e*P **P 16 39 04.4 +1.0**
TREC Trest 78.39 328 *e*P **P 16 39 04.4 +1.0**
ZVC Zvikov 78.80 328 *e*P **P 16 39 06.7 +1.1**
CKRC Cesky Krumlov 79.25 328 *e*P **P 16 39 09.0 +1.0**
CKRC Cesky Krumlov 79.25 328 *e*P **P 16 39 09.0 +1.0**
RAO Raoul Island 79.25 145 LR LR 17 13 41.6
comp=Z,11nm,18.4s,baz=282,slow=35
KHC Kasperske Hory 79.29 328 *e*P **P 16 39 09.2 +0.9**
KHC Kasperske Hory 79.29 328 *e*P **P 16 39 09.2 +0.9**
RONA Rosalia, Austr 79.31 326 *i* P **P 16 39 08.1 -0.3**
comp=Z,8.8nm,1.5s,SNR=5.1
CONA Conrad Observa 79.31 326 *e*P **P 16 39 09.2 +0.7**
comp=Z,5.2nm,1.1s,SNR=4.2
EKA Eskdalemuir Ar 79.41 341 P **P 16 39 08.7 0.0**
comp=Z,1.8nm,0.8s,baz=28,slow=5.3,SNR=5.4
comp=Z,1.8nm,0.8s
GERES GERESS Array B 79.47 328 P **P 16 39 09.5 +0.1**
comp=Z,1.0nm,0.7s,baz=37,slow=6.9,SNR=8.5
comp=Z,1.0nm,0.7s
GERES GERESS Array B 79.47 328 *e*P **P 16 39 10.0 +0.7**
GERES pmax pmax
comp=Z,1.0nm,0.7s
RAYN Ar Rayn 79.56 292 P **P 16 39 10.0 -0.2**
RAYN Ar Rayn 79.56 292 P **P 16 39 10.0 -0.2**
RAYN pmax pmax
comp=Z,3.0nm,0.9s
GRF Grafenberg Arr 79.75 330 *e*P **P 16 39 11.4 +0.7**
comp=Z,7.2nm,1.0s,baz=36,slow=4.7
ARSA Arzberg 79.99 326 *i* P **P 16 39 12.5 +0.4**
comp=Z,3.2nm,1.2s
MMAI Mount Meron Ar 79.99 305 P **P 16 39 13.0 +0.6**
comp=Z,0.3nm,0.3s,baz=42,slow=4.5,SNR=1.9
MMAI LR LR 17 18 32.0
comp=Z,125nm,18.1s,baz=19,slow=39
comp=Z,0.3nm,0.3s
MOA Molln 80.03 327 *i* P **P 16 39 12.0 -0.3**
comp=Z,4.9nm,1.2s
BIOA Bad Ischl, Aus 80.42 328 *i* P **P 16 39 15.1 +0.7**
comp=Z,3.8nm,0.9s
SOKA Soboth 80.65 326 *i* P **P 16 39 16.5 +0.7**
comp=Z,16nm,1.6s,SNR=9.3
OBKA Obir 80.98 326 *i* P **P 16 39 18.3 +0.7**
comp=Z,3.8nm,0.8s,SNR=5.0
LESA Schwarzleotal 81.02 328 *i* P **P 16 39 18.6 +0.9**
comp=Z,10nm,1.3s
KBA Koelnbreinsper 81.03 327 *i* P **P 16 39 18.2 +0.4**
comp=Z,7.2nm,1.0s
SCHQ Schefferville 81.23 16 LR LR 17 20 59.1
comp=Z,625nm,18.1s,baz=336,slow=40
MYKA Terra Mystica 81.27 327 *i* P **P 16 39 19.6 +0.6**
comp=Z,6.1nm,1.0s
WATA Walderalm 81.53 328 *i* P **P 16 39 21.2 +0.7**
comp=Z,5.9nm,1.0s
ANMO Albuquerque 81.56 51 *c e*P **P 16 39 21.6 +0.7**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
WTTA Wattenberg 81.56 328 *i* P **P 16 39 21.4 +0.7**
comp=Z,6.0nm,0.9s
MOTA Moosalm 81.71 329 *i* P **P 16 39 22.1 +0.7**
comp=Z,11nm,1.0s,SNR=6.3
RETA Reutte 81.72 329 *e*P **P 16 39 22.1 +0.7**
comp=Z,7.6nm,0.9s,SNR=5.5
SQTA Sankt Quirin 81.77 329 *i* P **P 16 39 22.1 +0.4**
comp=Z,3.3nm,1.2s
BFO Black Forest 81.95 331 P **P 16 39 22.6 +0.1**
BFO IAmb IAmb 16 39 57.9
comp=Z,11nm,1.4s
BFO Black Forest 81.95 331 P **P 16 39 22.6 +0.1**
BFO pmax pmax
comp=Z,11nm,1.4s
FETA Feichten 82.12 329 *i* P **P 16 39 24.1 +0.5**
comp=Z,4.4nm,0.9s
RAR Rarotonga 82.20 127 LR LR 17 10 15.2
comp=Z,74nm,21.7s,baz=289,slow=31
DAVA Damuels 82.23 329 *i* P **P 16 39 24.7 +0.6**
comp=Z,8.4nm,1.0s,SNR=5.5
EIL Elat 82.55 303 LR LR 17 20 57.1
comp=Z,70nm,18.1s,baz=2.5,slow=39
FUORN Ofenpass-Fuorn 82.63 329 IAmb IAmb 16 39 27.9
comp=Z,8.6nm,0.8s
DAVOX Davos/Dischmat 82.65 329 LR LR 17 22 43.6
comp=Z,149nm,21.4s,baz=35,slow=40
FDMO Fiordimonte 84.39 325 IAmb IAmb 16 39 54.1
comp=Z,8.0nm,1.0s
BNI Bardonecchia 85.32 330 IAmb IAmb 16 40 16.0
comp=Z,6.0nm,1.1s
PPT2 Papeete2 86.07 117 *e*LR LR 17 06 48.0
comp=Z,174nm,21.8s
PPT2 *e*LR LR 17 06 57.4
comp=Z,188nm,24.0s
TAOE Nuku Hiva Isla 86.70 105 *e*LR LR 17 07 22.3
comp=Z,130nm,22.4s
SADO Sadowa 86.81 28 LR LR 17 21 58.9
comp=Z,633nm,18.7s,baz=8.0,slow=38
TXAR Lajitas Array 87.22 53 P **P 16 39 49.5 0.0**
comp=Z,0.8nm,1.0s,baz=298,slow=2.7,SNR=5.8
comp=Z,0.8nm,1.0s
TBI Tubuai 90.22 121 *e*LR LR 17 08 59.2
comp=Z,1μm,38.2s
TKL Tuckaleechee C 92.74 36 LR LR 17 25 48.8
comp=Z,47nm,18.5s,baz=347,slow=38
ESDC Sonseca Array 93.80 334 P **P 16 40 19.7 -0.3**
comp=Z,0.5nm,0.8s,baz=8.5,slow=4.7,SNR=4.3
ESDC LR LR 17 30 10.1
comp=Z,86nm,19.6s,baz=346,slow=40
comp=Z,0.5nm,0.8s
FURI Furi 94.12 285 LR LR 17 28 03.5
comp=Z,42nm,20.1s,baz=34,slow=39
SNAA Sanae 144.83 198 PKPbc PKPbc 16 46 37.8 +0.2
comp=Z,8.6nm,1.1s,baz=149,slow=3.9,SNR=24
H03N2 Juan Fernandez 146.74 90 T T 19 31 26.8
baz=299,slow=77
H03N3 Juan Fernandez 146.75 90 T T 19 31 28.0
baz=299,slow=77
H03N1 Juan Fernandez 146.75 90 T T 19 31 31.8
baz=299,slow=77

*IDC **15** 16:29:59.9±1.4,2˚.61S×138˚.75E,h0km,mb3.8/5,*

mbtmp4.0/7,ML4.2/2,MS3.2/2,Error ellipse: s-maj=33.6km s-min=14.1km az=161.0

*NEIC **15** 16:30:04.2±1.2,2°.7S±0°.1×138°.75E±0°.03,h35km±2km, mb4.0/11,Error ellipse: s-maj=24.6km s-min=5.3km az=357.0*

*DJA **15** 16:30:04.5±0.7,2°.S±5°×13°.9E±°,h21km±6km,M4.3/8, mb4.5/3,MLv4.2/8*

ISC 15 16:30:03.5±0.6,**2°.67S**±0°.06×**138°.68E**±0°.04,**h32**km,**n33,** σ**2**§**10**/**37**,**mb4.0/6**,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.67**	**2**	P	**Pb**	**16 30 15.7**	**-1.2**
SMPI				S	**Sb**	**16 30 23.5**	**-2.5**
GENI	**Genyem**	**1.49**	**87**	P	**Pn**	**16 30 27.9**	**-0.2**
GENI				S	**Sb**	**16 30 48.7**	**-0.4**
JAY	**Jayapura**	**2.03**	**86**	Pg	**Pn**	**16 30 35.3**	**-0.2**
	16nm,0.3s,baz=232,slow=11,SNR=117						
JAY				Lg	Lg	16 31 02.2	
	20nm,0.3s,baz=112,slow=21,SNR=8.8						
JAY				LR	LR	16 31 22.6	
	comp=Z,194nm,20.3s,baz=268,slow=42						
JAY	**Jayapura**	**2.03**	**86**	P	**Pn**	**16 30 34.3**	**-1.2**
JAY				S	**Sn**	**16 31 00.6**	**+0.8**
SRPI	**Serui, Papua**	**2.56**	**288**	P	**Pn**	**16 30 45.1**	**+2.2**
SRPI				S	**Sb**	**16 31 17.0**	**-3.0**
BAKI	**Biak**	**2.96**	**300**	P	**Pb**	**16 30 52.1**	**-3.5**
RKPI	**Ransiki, Papua**	**4.64**	**284**	P	**Pn**	**16 31 13.7**	**+2.2**
RKPI				S	**Sn**	**16 32 08.4**	**+4.0**
MMPI	**Merauke**	**6.01**	**164**	P	Pn	16 31 35.6	+5.4
	209nm,0.9s						
FAKI	**Fak Fak**	**6.43**	**268**	Pn	**Pn**	**16 31 37.5**	**+1.4**
FAKI	**Fak Fak**	**6.43**	**268**	P	**Pn**	**16 31 39.5**	**+3.4**
	0.3nm25nm,1.3s						
SWI	**Sorong**	**7.63**	**283**	P	**Pn**	**16 31 54.8**	**+2.2**
COEN	**Coen**	**12.07**	**159**	Pn	**Pn**	**16 32 53.3**	**-0.1**
MTN	**Manton Dam**	**12.57**	**216**	Pn	**Pn**	**16 33 00.7**	**+0.3**
SOEI	**Soe**	**15.96**	**243**	Pn	**Pn**	**16 33 45.5**	**-0.5**
KNRA	**Kununurra**	**16.20**	**216**	Pn	**Pn**	**16 33 48.5**	**-0.5**
KNRA				IAmb	IAmb	16 34 32.1	
	comp=Z,320nm,1.4s						
BATI	**Baumata**	**16.69**	**243**	Pn	**P**	**16 33 57.3**	**+0.1**
	comp=Z,3.8nm,0.3s,baz=52,slow=19,SNR=8.5						
	comp=Z,8.6nm,0.4s						
WB0	**Warramunga Arr**	**17.50**	**194**		**Pn**	**16 34 04.6**	**-0.7**
WB0				IAmb	IAmb	16 34 22.5	
	comp=Z,5.3nm,0.8s						
WR8	**Warramunga Arr**	**17.66**	**193**		**Pn**	**16 34 06.6**	**-0.7**
WR8				IAmb	IAmb	16 34 19.9	
	comp=Z,9.3nm,1.2s						
WRAB	**Tennant Creek**	**17.68**	**194**		**Pn**	**16 34 06.7**	**-0.7**
WRAB				IAmb	IAmb	16 34 18.5	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**17.69**	**194**		**Pn**	**16 34 05.0**	**-2.6**
WRA	**Warramunga Arr**	**17.69**	**194**	P	**Pn**	**16 34 07.6**	**0.0**
	comp=Z,0.5nm,0.3s,baz=14,slow=12,SNR=18						
	comp=Z,3.3nm,0.6s						
KAPI	**Kappang**	**19.03**	**262**	LR	LR	16 43 58.1	
	comp=Z,48nm,18.4s,baz=304,slow=44						
FITZ	**Fitzroy Crossi**	**19.97**	**219**	P	**P**	**16 34 32.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**19.97**	**219**	P	**P**	**16 34 34.4**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=32,slow=13,SNR=1.5						
FITZ				S	**S**	**16 38 09.6**	**-6.7**
	comp=Z,2.5nm,0.8s,baz=180,slow=20,SNR=2.1						
	comp=Z,1.4nm,0.6s						
AS31	**Alice Springs**	**21.38**	**192**	P	**P**	**16 34 48.6**	**0.0**
AS31				IAmb	IAmb	16 34 58.8	
	comp=Z,3.8nm,0.6s						
ASAR	**Alice Springs**	**21.38**	**192**	P	**P**	**16 34 48.7**	**+0.1**
ASAR	**Alice Springs**	**21.38**	**192**	P	**P**	**16 34 49.4**	**+0.8**
	comp=Z,2.4nm,0.5s,baz=17,slow=10,SNR=35						
ASAR				LR	LR	16 43 45.6	
	comp=Z,110nm,21.2s,baz=344,slow=38						
	comp=Z,2.4nm,0.5s						
EIDS	**Eidsvold**	**25.54**	**153**	P	**P**	**16 35 27.8**	**-1.7**
EIDS				IAmb	IAmb	16 35 54.0	
	comp=Z,4.7nm,0.9s						
LTZ	**Lake Taylor**	**49.92**	**148**	P	**P**	**16 38 54.4**	**+0.1**
VNDA	**Vanda**	**75.83**	**175**	P	**P**	**16 41 47.6**	**+1.5**
VNDA				IAmb	IAmb	16 41 56.2	
	comp=Z,2.9nm,1.4s						
VNDA	**Vanda**	**75.83**	**175**	P	**P**	**16 41 47.9**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=336,slow=4.1,SNR=5.7						
	comp=Z,0.3nm,0.5s						
ILAR	**Eielson Array**	**85.81**	**24**	P	**P**	**16 42 40.3**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=267,slow=4.4,SNR=5.2						
	comp=Z,0.7nm,0.9s						
QSPA	**South Pole Qui**	**87.28**	**180**	P	**P**	**16 42 49.6**	**+2.7**
	comp=Z,3.0nm,0.9s,baz=328,slow=4.0,SNR=8.6						
	comp=Z,3.0nm,0.9s						

*IDC **15** 16:34:52.8±0.7,42°.32N×84°.30E,h0km,mb3.9/14, mbtmp3.9/21,ML3.3/7,MS3.2/5,Error ellipse: s-maj=17.9km s-min=9.5km az=57.0*

*BJI **15** 16:34:56.1,42°.31N×84°.30E,h20km,mb4.2/5,ML4.1/12, Ms3.9/2*

*SOME **15** 16:34:56.3,42°.43N×84°.13E,h10km,MS3.8*

*NEIC **15** 16:34:58.9±1.9,42°.48N±0°.08×84°.3E±0°.1,h35km±2km, mb4.5/25,Error ellipse: s-maj=14.0km s-min=10.3km az=62.0*

*NNC **15** 16:35:01.2±1.9,42°.62N×83°.99E,h0km,mb4.6,mpv4.3, Error ellipse: s-maj=15.7km s-min=8.3km az=148.0*

ISC 15 16:34:54.9±0.5,**42°.23N**±0°.04×**84°.13E**±0°.03,**h10**km,**n105,** σ**2**§**45**/119,**mb4.3**/**27**,**7C-4D**,**Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**3.06**	**57**	Pg	**Pb**	**16 35 50.9**	**+1.4**
WMQ				Sn	**Sn**	**16 36 24.0**	**+3.9**
WMQ				smax	smax		
	comp=N,300nm,0.5s						
WMQ				smax	smax		
	comp=E,580nm,1.1s						
SHLS	**Shalkode**	**3.57**	**287**	Pg	**Pb**	**16 35 55.6**	**-2.5**
	67nm,0.2s						
SHLS				Lg	Lg	16 36 38.5	
	932nm,0.6s						
SHLS	**Shalkode**	**3.57**	**287**	*eP*	**Pb**	**16 35 55.6**	**-2.5**
	44nm,0.2s						
SHLS				*eS*	**Sb**	**16 36 38.5**	**-3.0**
	807nm,0.5s						
PDGK	**Podgornoye**	**3.59**	**289**	⇓Pn	**Pb**	**16 35 59.2**	**+0.6**
	130nm,0.7s						
PDGK				⇑Lg	Lg	16 36 49.9	
	1μm,1.3s						
UZB	**Uzynbulak**	**3.88**	**285**	Pg	**Pg**	**16 36 08.0**	**-1.2**
	46nm,0.4s						
UZB				Lg	Lg	16 36 59.2	
	136nm,0.4s						
UZB	**Uzynbulak**	**3.88**	**285**	*eP*	**Pg**	**16 36 08.0**	**-1.2**
	46nm,0.4s						
UZB				*eS*	**Sg**	**16 36 59.2**	**-0.2**
	294nm,0.4s						
KPKS	**Kokpek**	**4.19**	**289**	Pg	**Pg**	**16 36 13.8**	**-1.4**
	18nm,0.3s						
KPKS				Lg	Lg	16 37 08.6	
	210nm,0.4s						
PRZ	**Przheval'sk**	**4.26**	**275**	Pn	**Pn**	**16 36 02.3**	**+2.4**
SATY	**Saty**	**4.31**	**283**	Pg	**Pg**	**16 36 16.1**	**-1.3**
	31nm,0.3s						
SATY				Lg	Lg	16 37 13.1	
	136nm,0.3s						
KURS	**Kuram**	**4.56**	**288**	Pg	**Pg**	**16 36 20.8**	**-1.4**
	75nm,0.8s						
KURS				Lg	Lg	16 37 21.2	
	139nm,0.7s						
KAPS	**Kapalarasan**	**4.62**	**313**	Pg	**Pb**	**16 36 18.5**	**+2.5**
	12nm,0.1s						
KAPS				Lg	Lg	16 37 16.8	
	121nm,0.1s						
TARG	**Taragay, Kyrgy**	**4.74**	**266**		**Pn**	**16 36 11.3**	**+4.4**
MK31	**Makanchi Array**	**4.75**	**345**	⇑Pn	**Pn**	**16 36 07.5**	**+0.9**
	1.2nm,0.2s,baz=330,slow=17,SNR=82						
MK31				⇑Pg	**Pb**	**16 36 21.6**	**+3.3**
	9.4nm,0.3s,baz=153,slow=17,SNR=19						
MK31				Sn	**Sn**	**16 37 01.0**	**-0.8**
	38nm,0.5s,baz=150,slow=16,SNR=3.6						
MK31				⇑Lg	Lg	16 37 20.7	
	54nm,0.3s,baz=158,slow=29,SNR=8.5						
MKAR	**Makanchi Array**	**4.75**	**345**	Pn	**Pn**	**16 36 06.1**	**-0.6**
MKAR	**Makanchi Array**	**4.75**	**345**	Pn	**Pn**	**16 36 07.5**	**+0.8**
	2.2nm,0.3s,baz=168,slow=14,SNR=34						
MKAR				Pg	**Pb**	**16 36 18.6**	**+0.3**
	8.8nm,0.3s,baz=159,slow=16,SNR=14						
MKAR				Sn	**Sn**	**16 37 00.8**	**-1.0**
	18nm,0.3s,baz=162,slow=16,SNR=5.3						
MKAR				Lg	Lg	16 37 21.3	
	46nm,0.3s,baz=148,slow=28,SNR=11						
MKAR				LR	LR	16 38 10.5	
	comp=Z,252nm,19.4s,baz=120,slow=42						
	3.5nm,0.3s						
MAKZ	**Makanchi**	**4.83**	**342**	Pn	**Pn**	**16 36 06.0**	**-1.8**
TDK	**Taldyqorghan**	**5.00**	**306**	Pg	**Pb**	**16 36 25.9**	**+3.4**
	193nm,0.4s						
TDK				Lg	Lg	16 37 30.3	
	340nm,0.6s						
TDK	**Taldyqorghan**	**5.00**	**306**	*eP*	**Pb**	**16 36 25.9**	**+3.4**
	193nm,0.4s						
TDK				*eS*	**Sb**	**16 37 30.3**	**+7.7**
	340nm,0.6s						
ARXS	**Arharly**	**5.02**	**295**	Pg	**Pb**	**16 36 27.5**	**+4.6**
	28nm,0.3s						
ARXS				Lg	Lg	16 37 32.7	
	116nm,0.4s						
ARXS	**Arharly**	**5.02**	**295**	*eP*	**Pb**	**16 36 27.5**	**+4.6**
ARXS				*eS*	**Sg**	**16 37 32.7**	**-3.2**
KDJ	**Kajisay**	**5.17**	**271**	Pn	**Pn**	**16 36 16.8**	**+4.3**
ZSN	**Zaisan**	**5.25**	**5**	Pg	**Pb**	**16 36 29.4**	**+2.6**
	14nm,0.3s						
ZSN				Lg	Lg	16 37 35.7	
	268nm,0.5s						
ZSN	**Zaisan**	**5.25**	**5**	*eP*	**Pb**	**16 36 29.4**	**+2.6**
	14nm,0.3s						
ZSN				*eS*	**Sb**	**16 37 35.7**	**+5.9**
	268nm,0.5s						
MDOK	**Medeo**	**5.30**	**283**	Pg	**Pg**	**16 36 33.8**	**-2.6**
	13nm,0.4s						
MDOK				Lg	Lg	16 37 43.7	
	117nm,0.7s						
TNSS	**Tian-Shan**	**5.36**	**281**	Pg	**Pb**	**16 36 33.6**	**+4.7**
	3.3nm,0.3s						
TNSS				Lg	Lg	16 37 43.7	
	23nm,0.6s						
TNSS	**Tian-Shan**	**5.36**	**281**	*eP*	**Pb**	**16 36 33.6**	**+4.7**
	3.3nm,0.3s						
TNSS				*eS*	**Sg**	**16 37 43.7**	**-3.4**
	23nm,0.6s						
KNDC	**Almaty**	**5.37**	**283**	⇑Pg	**Pb**	**16 36 33.2**	**+4.3**
	30nm,0.4s						
KNDC				⇓Lg	Lg	16 37 49.9	
	224nm,0.9s						
CHKK	**Chushkaly**	**5.48**	**290**	*eP*	**Pg**	**16 36 37.0**	**-2.9**
	5.9nm,0.2s						
CHKK				*eS*	**Sg**	**16 37 48.9**	**-2.0**
	68nm,0.3s						
KTBS	**Karatobe**	**5.67**	**288**	Pg	**Pg**	**16 36 41.1**	**-2.3**
	21nm,0.5s						
KTBS				Lg	Lg	16 37 55.6	
	228nm,0.8s						
MTBS	**Maitube**	**5.75**	**282**	Pg	**Pg**	**16 36 42.8**	**-2.2**
	20nm,0.3s						
MTBS				Lg	Lg	16 37 58.6	
	58nm,0.5s						
MTBS	**Maitube**	**5.75**	**282**	*eP*	**Pg**	**16 36 42.8**	**-2.2**
	20nm,0.3s						
MTBS				*eS*	**Sg**	**16 37 58.6**	**-0.8**
	58nm,0.5s						
KUU	**Kurty**	**5.95**	**289**	Pg	**Pg**	**16 36 45.8**	**-3.0**
	8.1nm,0.1s						
KUU				Lg	Lg	16 38 03.9	
	141nm,0.5s						
KUU	**Kurty**	**5.95**	**289**	*eP*	**Pg**	**16 36 45.8**	**-3.0**
	8.1nm,0.1s						
KUU				*eS*	**Sg**	**16 38 03.9**	**-1.9**
	199nm,0.7s						
KST	**Kastek**	**6.08**	**280**	Pg	**Pg**	**16 36 48.4**	**-2.9**
	20nm,0.5s						
KST				Lg	Lg	16 38 08.3	
	103nm,0.8s						
KST	**Kastek**	**6.08**	**280**	*eP*	**Pg**	**16 36 48.4**	**-2.9**
	14nm,0.3s						
KST				*eS*	**Sg**	**16 38 08.3**	**-1.8**
	103nm,0.8s						
KSH	**Kashi**	**6.75**	**249**	Pn	**Pb**	**16 36 51.3**	**-1.1**
KSH				Sn	**Sb**	**16 38 20.4**	**+7.3**
KSH				smax	smax		
	comp=N,83nm,0.9s						
KSH				smax	smax		
	comp=E,69nm,0.8s						
AAK	**Ala-Archa**	**7.14**	**277**	Pn	**Pn**	**16 36 42.4**	**+2.8**
AAK	**Ala-Archa**	**7.14**	**277**	⇓Pg	**Pg**	**16 37 13.7**	**+2.1**
	comp=E,5.5nm,0.6s						
AAK				⇑Lg	Lg	16 38 46.4	
	comp=E,26nm,0.8s						
AAK	**Ala-Archa**	**7.14**	**277**	Pn	**Pn**	**16 36 41.9**	**+2.3**
	comp=E,1.6nm,0.3s,baz=96,slow=9.2,SNR=5.7						
AAK				Lg	Lg	16 38 44.4	
	comp=E,1.7nm,0.3s,baz=276,slow=15,SNR=5.4						
AAK				LR	LR	16 39 19.7	
	comp=E,98nm,18.7s,baz=156,slow=37						
	comp=E,1.7nm,0.4s						
BTLS	**Baital**	**7.84**	**294**	Pg	Pg	16 37 20.6	-4.4
	comp=E,7.1nm,0.6s						
BTLS				Lg	Lg	16 39 03.1	
	comp=E,5.6nm,0.6s						
BTLS	**Baital**	**7.84**	**294**	*eP*	Pg	16 37 20.6	-4.4
	comp=E,5.5nm,0.3s						
BTLS				*eS*	**Sg**	**16 39 03.1**	**-3.2**
	comp=E,7.1nm,0.5s						
KURBB	**Kurchatov Arra**	**9.24**	**337**	⇑Lg	Lg	16 39 48.5	
	comp=E,157nm,0.7s						
KURBB	**Kurchatov Arra**	**9.24**	**337**	Pn	**Pn**	**16 37 07.9**	**-0.3**
	comp=E,0.3nm,0.3s,baz=160,slow=12,SNR=4.3						
KURBB				Lg	Lg	16 39 44.0	
	comp=E,0.9nm,0.3s,baz=146,slow=31,SNR=5.7						
KURBB				LR	LR	16 40 33.3	
	comp=E,50nm,20.2s,baz=182,slow=37						
	comp=E,1.6nm,0.2s						
KURK	**Kurchatov**	**9.30**	**338**	Pn	**Pn**	**16 37 06.7**	**-2.2**
KURK	**Kurchatov**	**9.30**	**338**	⇓Lg	Lg	16 39 46.1	
	comp=E,19nm,0.7s						
GOMU	**GeErMu**	**10.24**	**122**	P	**Pn**	**16 37 21.5**	**-0.7**
GOMU				S	**Sn**	**16 39 10.8**	**-6.4**
ZAA0	**Zalesovo Array**	**11.74**	**2**	Pn	**Pn**	**16 37 39.0**	**-3.3**
ZALV	**Zalesovo Beam**	**11.74**	**2**	Pn	**Pn**	**16 37 39.0**	**-3.3**
ZALV	**Zalesovo Beam**	**11.74**	**2**	Pn	**Pn**	**16 37 40.3**	**-2.0**
	comp=E,0.9nm,0.3s,baz=178,slow=13,SNR=8.1						
ZALV				Sn	**Sn**	**16 39 52.1**	**-1.2**
	comp=E,1.6nm,0.3s,baz=177,slow=25,SNR=4.5						
ZALV				Lg	Lg	16 41 00.8	
	comp=E,0.4nm,0.3s,baz=189,slow=26,SNR=6.3						
	comp=E,2.6nm,0.4s						
GTA	**Gaotai**	**12.21**	**98**	*eP*	**Pn**	**16 37 52.8**	**+3.8**
GTA				pP		16 37 56.3	
GTA				sP		16 37 58.9	
GTA				pmax	pmax		
	comp=E,3.0nm,0.6s						
BVAR	**Borovoye Array**	**14.21**	**324**	Pn	**Pn**	**16 38 14.4**	**-1.6**
	comp=E,0.1nm,0.3s,baz=128,slow=13,SNR=4.0						
BVAR				Sn	Sn	16 40 45.4	-8.2
	baz=131,slow=15,SNR=1.3						
BVAR				Lg	Lg	16 42 23.4	
	comp=E,0.1nm,0.3s,baz=138,slow=24,SNR=5.2						
	comp=E,2.9nm,0.8s						
EVN	**Everest**	**14.40**	**170**	Pn	**P**	**16 38 26.3**	**-0.2**
SONM	**Songino Array**	**16.68**	**63**	Pn	**Pn**	**16 38 46.5**	**-2.3**
	baz=256,slow=12,SNR=3.6						
SONM				Lg	Lg	16 43 39.1	
	baz=267,slow=18						
	comp=E,0.4nm,0.6s						
AB31	**Akbulak array**	**18.24**	**301**	P	**Pn**	**16 39 07.4**	**-0.6**
ABKAR	**Akbulak array**	**18.24**	**301**	P	**Pn**	**16 39 07.0**	**-1.0**
BTO	**Baotou**	**19.46**	**86**	*eP*	**Pn**	**16 39 23.3**	**+0.3**
BTO				S	**S**	**16 43 02.9**	**+1.1**
BTO				pmax	pmax		
	comp=E,28nm,0.5s						
BTO				LR	LR		
	comp=E,290nm,4.8s						
AKTO	**Aktyubinsk**	**19.74**	**304**	P	**P**	**16 39 24.4**	**-0.2**
	comp=E,0.3nm,0.3s,baz=94,slow=14,SNR=2.7						
	comp=E,2.1nm,0.6s						
ARTI	**Arti**	**21.79**	**319**	P	**P**	**16 39 46.2**	**-0.6**
ARTI				IAmb	IAmb	16 39 51.9	
	comp=Z,17nm,0.5s						
ARTI	**Arti**	**21.79**	**319**	P	**P**	**16 39 46.4**	**-0.4**
	comp=Z,5.9nm,0.5s,baz=125,slow=7.1,SNR=11						
	comp=Z,5.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**26.84**	**147**	P	**P**	**16 40 35.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**26.84**	**147**	P	**P**	**16 40 35.3**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=326,slow=8.6,SNR=12						
	comp=Z,1.7nm,0.7s						
YAK	**Yakutsk**	**33.31**	**38**	LR	LR	16 55 34.2	
	comp=Z,79nm,19.1s,baz=302,slow=37						
LVZ	**Lovozero**	**36.64**	**331**	P	**P**	**16 41 60.0**	**-1.2**
TIXI	**Tiksi**	**36.66**	**22**	LR	LR	16 58 01.6	
	comp=Z,98nm,20.5s,baz=267,slow=38						
AKASG	**Malin Array Be**	**37.98**	**302**	P	**P**	**16 42 12.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=64,slow=10.0,SNR=1.5						
	comp=Z,0.2nm,0.3s						
AKBB	**Malin Array Si**	**37.98**	**302**	P	**P**	**16 42 11.8**	**-0.8**
AKBB				IAmb	IAmb	16 42 32.3	
	comp=Z,9.8nm,1.4s						
KIEV	**Kiev**	**37.99**	**302**	P	**P**	**16 42 11.7**	**-1.0**
KIEV				IAmb	IAmb	16 42 32.2	
	comp=Z,8.9nm,1.4s						
FINES	**FINESS Array B**	**39.10**	**320**	P	**P**	**16 42 21.6**	**-0.3**
FINES	**FINESS Array B**	**39.10**	**320**	P	**P**	**16 42 21.4**	**-0.6**
	comp=Z,3.8nm,0.9s,baz=91,slow=15,SNR=4.1						
	comp=Z,3.8nm,0.9s						
ARCES	**ARCESS Array B**	**40.29**	**332**	P	**P**	**16 42 31.4**	**-0.4**
ARCES				IAmb	IAmb	16 42 52.7	
	comp=Z,7.6nm,1.4s						
ARCES	**ARCESS Array B**	**40.29**	**332**	P	**P**	**16 42 30.6**	**-1.2**
	comp=Z,4.0nm,0.7s,baz=91,slow=7.8,SNR=18						
	comp=Z,4.0nm,0.7s						
OJC	**Ojcow**	**43.96**	**303**	P	**P**	**16 43 02.9**	**+1.0**
HFS	**Hagfors**	**45.24**	**318**	P	**P**	**16 43 11.7**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=80,slow=8.9,SNR=1.0						
	comp=Z,1.0nm,0.5s						
NC405	**NORSAR Array S**	**46.03**	**320**	P	**P**	**16 43 18.3**	**0.0**
NC303	**NORSAR Array S**	**46.17**	**320**	P	**P**	**16 43 19.9**	**+0.5**
NOA	**NORSAR Array B**	**46.28**	**320**	P	**P**	**16 43 20.0**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=83,slow=6.1,SNR=2.0						
	comp=Z,0.5nm,0.4s						
SBUM	**Sibu**	**46.91**	**140**	P	**P**	**16 43 27.2**	**+1.6**
GERES	**GERESS Array B**	**48.16**	**303**	P	**P**	**16 43 35.6**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=60,slow=8.0,SNR=4.6						
	comp=Z,0.4nm,0.5s						
WTTA	**Watteng**	**50.03**	**302**	*i* P	**P**	**16 43 50.4**	**+0.8**
	comp=Z,2.5nm,0.4s						
WATA	**Walderalm**	**50.04**	**302**	*i* P	**P**	**16 43 50.3**	**+0.6**
	comp=Z,2.1nm,0.5s						
SQTA	**Sankt Quirin**	**50.31**	**302**	*i* P	**P**	**16 43 52.5**	**+0.8**
	comp=Z,4.4nm,0.5s						
MOTA	**Moosalm**	**50.33**	**302**	*i* P	**P**	**16 43 56.1**	**+4.3**
	comp=Z,6.0nm,1.9s						
FUORN	**Ofenpass-Fuorn**	**51.15**	**302**	P	**P**	**16 43 58.5**	**+0.3**
FUORN				IAmb	IAmb	16 44 06.0	
	comp=Z,5.7nm,1.4s						
TUE	**Stuetta**	**51.78**	**302**	P	**P**	**16 44 03.0**	**+0.1**
BNI	**Bardonecchia**	**54.08**	**301**	P	**P**	**16 44 20.2**	**+0.4**
BNI				IAmb	IAmb	16 44 42.4	
	comp=Z,3.8nm,1.1s						
D19K	**Kuna River**	**60.34**	**22**	P	**P**	**16 45 01.7**	**-1.8**
D19K				IAmb	IAmb	16 45 09.6	
	comp=Z,4.8nm,0.9s						
D20K	**Etivluk River**	**60.61**	**21**	P	**P**	**16 45 03.8**	**-1.6**
D20K				IAmb	IAmb	16 45 08.2	
	comp=Z,9.0nm,1.4s						
D22K	**Ayikyak River**	**61.53**	**20**	P	**P**	**16 45 09.9**	**-1.7**
D22K				IAmb	IAmb	16 45 13.9	
	comp=Z,12nm,1.4s						
E24K	**Your Creek**	**63.18**	**20**	P	**P**	**16 45 21.2**	**-1.5**
IMAR	**Indian Mountai**	**63.30**	**23**	P	**P**	**16 45 21.6**	**-1.8**
ESDC	**Sonseca Array**	**63.59**	**301**	P	**P**	**16 45 25.3**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=53,slow=6.9,SNR=9.3						
	comp=Z,0.5nm,0.5s						
F25K	**Christian Rive**	**64.25**	**19**	P	**P**	**16 45 28.2**	**-1.5**
F25K				IAmb	IAmb	16 45 30.7	
	comp=Z,3.9nm,1.4s						
ILAR	**Eielson Array**	**66.13**	**21**	P	**P**	**16 45 39.1**	**-2.8**
	comp=Z,0.3nm,0.8s,baz=325,slow=5.9,SNR=2.6						
	comp=Z,0.3nm,0.8s						
G31M	**Satah River**	**67.30**	**15**	P	**P**	**16 45 47.6**	**-1.7**
BCAR	**Beaver Creek A**	**68.85**	**21**	P	**P**	**16 45 58.1**	**-1.1**
KNRA	**Kununurra**	**70.77**	**134**	P	**P**	**16 46 11.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**71.20**	**138**	P	**P**	**16 46 14.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**71.20**	**138**	P	**P**	**16 46 13.6**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=342,slow=13,SNR=2.2						
	comp=Z,1.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.73**	**275**	P	**P**	**16 46 40.6**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=36,slow=7.2,SNR=3.6						
	comp=Z,0.3nm,0.4s						
WB0	**Warramunga Arr**	**77.17**	**132**	P	**P**	**16 46 48.3**	**-0.6**
WB0				IAmb	IAmb	16 46 59.4	
	comp=Z,6.7nm,1.2s						
WRA	**Warramunga Arr**	**77.28**	**132**	P	**P**	**16 46 48.8**	**-0.7**
WRA	**Warramunga Arr**	**77.28**	**132**	P	**P**	**16 46 48.9**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=332,slow=5.5,SNR=15						
	comp=Z,1.3nm,0.6s						
WR8	**Warramunga Arr**	**77.38**	**132**	P	**P**	**16 46 49.5**	**-0.5**
WR8				IAmb	IAmb	16 46 59.1	
	comp=Z,8.2nm,1.3s						
ASAR	**Alice Springs**	**80.06**	**135**	P	**P**	**16 47 04.3**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=330,slow=5.1,SNR=11						
	comp=Z,1.0nm,0.7s						
BBOO	**Buckleboo**	**88.59**	**138**	P	**P**	**16 47 49.5**	**+1.7**

*SJA **15** 16:43:57.5±0.8,32°.30S×71°.88W,h13km±2km,ML3.6, MW3.5*

*NEIC **15** 16:44:00.3±0.8,32°.26S±0°.04×71°.76W±0°.09,h22km±11km, mb4.0/1,ML3.5(GUC),Error ellipse: s-maj=12.1km s-min=3.7km az=71.0*

*GUC **15** 16:44:00.3±0.8,32°.30S×71°.80W,h25km±9km,ML3.5*

ISC 15 16:43:58.3±1.2,**32°.

comp=E,2μm,0.5s
MT14 Cerro Cal¡n 1.59 135 *e*P Pn 16 44 26.9 +0.7
MT14 eS Sn 16 44 46.4 -0.2
MT14 IAML 16 44 51.9
comp=E,917nm,0.3s
CO06 Fray Jorge 1.61 7 Pn 16 44 26.1 -0.4
CO06 Fray Jorge 1.61 7⇑ *i*P Pn 16 44 26.2 -0.4
CO06 eS Sb 16 44 49.2 +0.9
MT16 CCHEN 1.62 135 Pn 16 44 26.6 0.0
MT16 CCHEN 1.62 135 *e*P Pn 16 44 27.4 +0.7
MT16 eS Sn 16 44 47.6 +0.3
MT01 Popeta 1.67 162 Pn 16 44 27.7 +0.4
MT01 Popeta 1.67 162 *e*P Pn 16 44 27.6 +0.4
MT01 eS Sn 16 44 48.2 -0.3
MT01 IAML 16 44 51.8
comp=E,649nm,0.4s
MT09 Talagante 1.67 154 Pn 16 44 28.2 +0.8
MT09 Talagante 1.67 154 *e*P Pn 16 44 28.5 +1.1
MT09 eS Sn 16 44 48.9 +0.1
MT09 IAML 16 44 56.2
comp=N,764nm,0.3s
MT03 Universidad Ad 1.67 137 Pn 16 44 27.7 +0.3
MT03 Universidad Ad 1.67 137 *e*P Pn 16 44 27.8 +0.4
MT03 eS Sn 16 44 49.3 +0.6
MT03 IAML 16 44 51.3
comp=E,2μm,0.2s
MT03 Universidad Ad 1.67 137 *e*P Pn 16 44 28.0 +0.6
MT03 eS Sn 16 44 49.1 +0.4
MT03 eS Sb 16 44 50.9 +0.9
MT03 IAML 16 44 51.5
comp=Z,603nm,0.1s
FCH Farellones 1.70 128 *e*P Pn 16 44 28.2 +0.2
FCH IAML 16 44 53.3
comp=E,576nm,0.2s
MT15 Las Vizcachas 1.75 139 *e*P Pn 16 44 29.4 +1.0
MT15 eS Sn 16 44 51.3 +0.6
MT15 IAML 16 44 59.0
comp=E,1μm,0.2s
CO03 El Pedregal 1.76 36 Pn 16 44 29.1 +0.5
CO03 El Pedregal 1.76 36 *e*P Pn 16 44 29.7 +1.1
CO03 eS Sb 16 44 52.2 -0.4
CO03 IAML 16 44 55.7
comp=E,892nm,0.4s
CO03 El Pedregal 1.76 36 *e*P Pn 16 44 29.8 +1.1
CO03 eS Sg 16 44 54.4 -0.6
CO03 IAML 16 44 59.7
comp=Z,266nm,0.3s
MT04 Ro Olivares 1.85 128 *e*P Pn 16 44 30.5 +0.6
MT08 Bocatoma Ro 1.95 127 *e*P Pn 16 44 32.8 +1.4
MT08 IAML 16 45 00.1
comp=E,366nm,0.4s
MT13 San Alfonso 1.98 138 Pn 16 44 32.6 +0.9
MT13 San Alfonso 1.98 138 *e*P Pn 16 44 33.0 +1.3
MT13 eS Sb 16 44 58.2 -0.8
MT13 IAML 16 45 05.7
comp=E,782nm,0.4s
BO04 La Punta 2.01 148 Pn 16 44 33.3 +1.3
BO04 La Punta 2.01 148 *e*P Pn 16 44 33.4 +1.4
BO04 eS Sn 16 44 58.4 +1.3
BO04 IAML 16 45 07.5
comp=E,513nm,0.5s
LMEL Las Melosas 2.10 138 Pn 16 44 34.2 +0.8
LMEL Las Melosas 2.10 138 *e*P Pn 16 44 34.6 +1.2
LMEL IAML 16 45 07.8
comp=N,432nm,0.3s
BO01 Tunca 2.21 163 Pn 16 44 35.4 +0.7
BO01 Tunca 2.21 163 *e*P Pn 16 44 35.5 +0.8
BO01 eS Sn 16 44 59.6 -2.3
BO01 eS Sg 16 45 08.1 -1.2
RTLS Leoncito 2.25 78 *e*P Pb 16 44 38.8 -0.1
RTLS eS Sg 16 45 11.4 +0.8
RTLS IAML 16 45 12.6
comp=Z,454nm,0.4s
GO04 Tololo Observa 2.30 24 Pn 16 44 36.3 +0.1
GO04 Tololo Observa 2.30 24 *e*P Pn 16 44 36.6 +0.5
GO04 eS Sb 16 45 09.2 +1.1
GO04 IAML 16 45 14.3
comp=Z,636nm,0.7s
ARCO CERRO ARCO 2.55 103 *e*P Pb 16 44 44.9 +0.8
ARCO eS Sn 16 45 13.1 +2.5
ASAL Salagasta 2.59 98 *e*P Pb 16 44 45.2 +0.4
ASAL eS Sb 16 45 14.6 -1.9
ASAL eS Sn 16 45 15.6 +4.1
BO02 Sierra Bellavi 2.67 160 Pn 16 44 41.9 +0.8
BO02 Sierra Bellavi 2.67 160 *e*P Pn 16 44 42.7 +1.6
BO02 eS Sn 16 45 15.6 +2.3
BO02 IAML 16 45 21.2
comp=Z,265nm,0.6s
AAGR Agrelo 2.69 108 *e*P Pb 16 44 46.3 -0.2
AAGR eS Sg 16 45 23.6 -1.4
CO01 Juntas del Tor 2.76 34 Pn 16 44 42.7 +0.2
ACCO Cerro Coronel 2.94 56 *e*P Pb 16 44 49.1 -1.7
ACCO eS Sb 16 45 25.1 -1.6
ACDV Cuesta del Vie 3.16 49 *e*P Pn 16 44 41.9 -6.1
ACDV eS Sb 16 45 36.8 +3.7
ACDV IAML 16 45 37.0
comp=Z,95nm,0.3s
LCO Las Campanas 3.41 18 Pn 16 44 51.5 -0.1
RFA San Rafael 3.78 132 *e*P Pn 16 44 59.6 +3.2
RFA eS Sg 16 46 00.2 +0.4
AGUA GUANDACOL 4.03 47 *e*P Pn 16 44 44.5 -15
AGUA eS Sb 16 45 59.1 +1.2
AGUA IAML 16 46 12.2
comp=Z,109nm,0.5s
AVFE Valle Fertil 4.11 68 *e*P Pn 16 44 59.1 -1.8
AVFE eP Pb 16 45 03.7 -6.9
AVFE eS Sb 16 45 55.6 -4.6
AVFE IAML 16 46 04.0
comp=Z,66nm,0.8s
BI02 San Fabin de 4.40 174 Pn Pn 16 45 06.0 +1.1
ACHE Chepes 4.58 77 eS Sb 16 46 09.4 -4.5
VCA Vinchina 4.75 43 *e*P Pn 16 45 11.1 +1.4
VCA eP Pb 16 45 14.6 -6.9
VCA eS Sb 16 46 14.6 -4.0
VCA eS Sg 16 46 20.8 -10
VCA IAML 16 46 21.9
comp=Z,93nm,0.5s
GO03 Copiapo 4.88 17 Pn Pn 16 45 11.5 -0.1
GO03 Copiapo 4.88 17 *e*P Pn 16 44 55.6 -16
GO03 eP Pn 16 45 12.5 +0.9
GO03 eS Sb 16 46 20.1 -2.4
GO03 IAML 16 46 29.8
comp=Z,46nm,0.7s
ACLC CERRO LA CRUZ 5.10 57 *e*P Pn 16 45 13.1 -1.6
ACLC eS Sn 16 46 14.6 +1.0
ACLC IAML 16 46 27.4
comp=Z,29nm,0.5s
AC01 Pan de Azucar 6.21 11 Pn Pn 16 45 29.5 -0.3
CYA Choya 6.50 55 *e*P Pn 16 45 36.7 +3.0
CYA eS Sn 16 46 49.6 +1.9
PLCA Paso Flores 8.50 173 Pn Pn 16 46 02.3 +1.1
TRQA Tornquist 9.94 128 Pn Pn 16 46 20.9 0.0
HMBC Humberstone 12.09 9 Pn Pn 16 46 49.6 -0.8
BOAV Boa Vista 36.13 19 P P 16 50 59.7 -0.6
BOAV IAmb IAmb 16 51 00.1
comp=Z,3.2nm,1.5s

*TAP **15** 16:46:34.4,24.7N×122.3E,h12km,ML2.8,C*
*JMA **15** 16:46:34.4±0.1,24.7N±0.6×122.5E±0.3,h33km±1km,*
MV2.4/10,NW OFF ISHIGAKIJIMA IS
ISC 15 16:46:33.4±1.1,**24.78N**±0.03×**122.44E**±0.02,**h18**km±7km,
n64,σ**61**/96,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.41**	**208**	*i* P		**Pg**	**16 46 41.8**	**+0.1**
EOS2				*i* S		**Sg**	**16 46 47.9**	**+0.6**
TWB1	**Santiao Chiao**	**0.47**	**299**	*i* P		**Pb**	**16 46 43.6**	**+0.5**
TWB1				S		**Sb**	**16 46 49.8**	**+0.1**
EOS3	**EOS3**	**0.50**	**193**	*i* P		**Pg**	**16 46 43.5**	**0.0**
EOS3				S		**Sg**	**16 46 50.8**	**+0.6**
TWC	**Suao**	**0.56**	**252**	P		**Pg**	**16 46 44.0**	**-0.6**
TWC				S		**Sg**	**16 46 50.9**	**-1.3**
JYNG	**Yonagunijimaku**	**0.57**	**125**	P		**Pb**	**16 46 44.8**	**0.0**
JYNG				eS		**Sg**	**16 46 52.2**	**-0.1**
ESAO	**Su ao**	**0.58**	**249**	*e*P		**Pg**	**16 46 44.6**	**-0.3**
TIPB	**Shuangxi**	**0.59**	**289**	*e*P		**Pb**	**16 46 45.6**	**+0.5**
SXI1	**Grass Mountain**	**0.60**	**302**	P		**Pn**	**16 46 46.5**	**-0.6**
SXI1				S		**Sb**	**16 46 54.8**	**+1.2**
YOJ	**Yonaguni jima**	**0.61**	**121**	*e*P		**Pb**	**16 46 45.8**	**+0.3**
YOJ	**Yonaguni jima**	**0.61**	**121**	P		**Pb**	**16 46 45.5**	**0.0**
YOJ				eS		**Sg**	**16 46 53.5**	**-0.2**
NWF	**Wu-fen Shan**	**0.66**	**296**	P		**Pn**	**16 46 48.2**	**+0.2**
NWF				*i* S		**Sn**	**16 46 57.0**	**-1.0**
WFSB	**Wu-fen Shan**	**0.66**	**296**	*e*P		**Pn**	**16 46 48.1**	**+0.2**
EOS4	**EOS4**	**0.67**	**189**	*e*P		**Pg**	**16 46 46.6**	**+0.2**
EOS4				S		**Sg**	**16 46 56.4**	**+1.2**
NDS	**Dongshan**	**0.67**	**258**	P		**Pg**	**16 46 46.5**	**-0.1**
NDS				eS		**Sg**	**16 46 55.1**	**-0.5**
EWUT	**Wuta**	**0.69**	**241**	*e*P		**Pg**	**16 46 46.3**	**-0.6**
EWUT				eS		**Sg**	**16 46 55.3**	**-0.8**
TWE	**Neicheng**	**0.70**	**265**	*i* P		**Sg**	**16 46 47.0**	**-0.2**
TWE				S		**Sg**	**16 46 56.0**	**-0.6**
ENA	**Nanau**	**0.72**	**241**	*e*P		**Pb**	**16 46 47.5**	**0.0**
ENA				eS		**Sg**	**16 46 56.9**	**-0.4**
FUSB	**Fushanzhiwuyua**	**0.77**	**269**	P		**Pg**	**16 46 48.4**	**-0.1**
FUSB				S		**Sg**	**16 46 59.2**	**+0.4**
EAHA	**Aohua**	**0.78**	**235**	*e*P		**Pb**	**16 46 48.0**	**-0.4**
EAHA				S		**Sb**	**16 46 58.3**	**-0.4**
TWA	**Mucha**	**0.80**	**285**	P		**Pn**	**16 46 50.3**	**+0.5**
TWA				S		**Sn**	**16 47 00.9**	**-0.4**
ENTT	**Nioudou**	**0.81**	**260**	P		**Pg**	**16 46 49.1**	**0.0**
ENTT				S		**Sb**	**16 46 59.5**	**0.0**
NWLT	**Wulai**	**0.85**	**270**	*e*P		**Pg**	**16 46 50.1**	**+0.2**
NWLT				S		**Sb**	**16 47 00.6**	**-0.2**
LATG	**Datong**	**0.86**	**254**	*e*P		**Pb**	**16 46 49.9**	**0.0**
LATG				S		**Sb**	**16 47 01.1**	**-0.2**
ZUZH	**Zhuzihu**	**0.90**	**295**	*e*P		**Pn**	**16 46 52.0**	**+0.8**
ZUZH				eS		**Sn**	**16 47 03.4**	**-0.3**
TWY	**Chenhua**	**0.91**	**303**	*e*P		**Pn**	**16 46 51.9**	**+0.7**
ANP	**Anpu**	**0.93**	**296**	*e*P		**Pg**	**16 46 51.3**	**-0.1**
YHNB	**Yeheng**	**0.97**	**264**	*e*P		**Pg**	**16 46 52.1**	**-0.2**
YHNB				eS		**Sb**	**16 47 04.3**	**0.0**
NACB	**Ninganchiao**	**0.98**	**232**	P		**Pb**	**16 46 51.4**	**-0.4**
NACB				S		**Sb**	**16 47 03.3**	**-1.1**
NSK	**Sanguang**	**0.99**	**264**	P		**Pn**	**16 46 52.5**	**0.0**
NSK				S		**Sb**	**16 47 04.6**	**-0.2**
NNSB	**Datong**	**1.02**	**250**	*e*P		**Pb**	**16 46 52.5**	**-0.1**
NNSB				S		**Sb**	**16 47 05.2**	**-0.6**
NNS	**Nan Shan**	**1.03**	**251**	P		**Pg**	**16 46 53.3**	**0.0**
NNS				S		**Sb**	**16 47 06.4**	**+0.4**
ETLH	**Xiulin Townshi**	**1.04**	**237**	P		**Pb**	**16 46 53.2**	**+0.3**
ETLH				S		**Sb**	**16 47 05.4**	**-0.9**
KSHI	**Guanxi Townshi**	**1.15**	**270**	*e*P		**Pg**	**16 46 56.2**	**+0.6**
ETM	**Tongmen**	**1.18**	**227**	*e*P		**Pb**	**16 46 55.8**	**+0.5**
LXIB	**Xiulin Townshi**	**1.20**	**231**	*e*P		**Pg**	**16 46 56.8**	**+0.2**
NFF	**Wufeng Townshi**	**1.21**	**263**	*e*P		**Pg**	**16 46 56.8**	**0.0**
NFF				eS		**Sg**	**16 47 12.2**	**-0.4**
FUSS	**Fushou**	**1.21**	**244**	*e*P		**Pb**	**16 46 56.4**	**+0.5**
WHF	**Hehuan Shan**	**1.24**	**240**	*e*P		**Pb**	**16 46 56.6**	**0.0**
WHF				eS		**Sb**	**16 47 12.0**	**-0.5**
IRIF	**Iriomote-Funau**	**1.26**	**110**	P		**Pn**	**16 46 55.5**	**-0.6**
TWT	**Tachien**	**1.26**	**246**	*e*P		**Pg**	**16 46 57.4**	**-0.4**
SHUL	**Shoufeng**	**1.27**	**219**	*e*P		**Pn**	**16 46 56.3**	**+0.1**
LIOB	**Emei**	**1.30**	**264**	*e*P		**Pg**	**16 46 59.7**	**+1.2**
NSTT	**Nanjuang**	**1.32**	**264**	*e*P		**Pg**	**16 46 58.6**	**-0.2**
ESL	**Shilin**	**1.33**	**224**	*e*P		**Pn**	**16 46 57.6**	**+0.5**
OWD	**Renai**	**1.42**	**235**	*e*P		**Pb**	**16 46 59.1**	**-0.3**
WARBT	**Fenglin Townsh**	**1.43**	**222**	*e*P		**Pn**	**16 46 58.9**	**+0.4**
WUSB	**Renai**	**1.44**	**237**	*e*P		**Pb**	**16 47 00.2**	**+0.5**
WUSB				eS		**Sb**	**16 47 19.0**	**+1.2**
WHP	**Taichung City**	**1.45**	**250**	*e*P		**Pg**	**16 47 01.1**	**-0.2**
WHP				eS		**Sb**	**16 47 19.0**	**+0.9**
NMLH	**Miaoli**	**1.52**	**261**	*e*P		**Pg**	**16 47 02.2**	**-0.4**
JKRS	**Kuro-shima**	**1.53**	**110**	*e*P		**Pn**	**16 46 59.9**	**+0.1**
HGSD	**Ruisui**	**1.58**	**216**	*e*P		**Pn**	**16 47 00.2**	**-0.4**
JIJ	**Ishigaki jima**	**1.61**	**105**	P		**Pn**	**16 47 00.5**	**-0.4**
EHY	**Hungye**	**1.63**	**219**	*e*P		**Pn**	**16 47 01.4**	**+0.1**
SMLT	**Sun Moon Lake**	**1.66**	**238**	*e*P		**Pg**	**16 47 05.4**	**0.0**
SMLT				eS		**Sb**	**16 47 25.9**	**+1.7**
SSLB	**Suanglung**	**1.68**	**234**	*e*P		**Pb**	**16 47 03.9**	**+0.1**
SSLB				eS		**Sb**	**16 47 26.1**	**+1.5**
TYC	**Yuchr**	**1.69**	**239**	*e*P		**Pb**	**16 47 04.0**	**+0.1**
YULB	**Yu-li**	**1.73**	**217**	P		**Pn**	**16 47 02.9**	**+0.2**
WHYT	**Xinyi Township**	**1.81**	**234**	*e*P		**Pb**	**16 47 06.2**	**+0.2**
FULB	**Fuli**	**1.89**	**214**	*e*P		**Pn**	**16 47 04.6**	**-0.3**
ALS	**Alishan**	**1.96**	**230**	*e*P		**Pb**	**16 47 07.9**	**-0.8**
CHN5	**Tsauling**	**1.99**	**234**	*e*P		**Pb**	**16 47 09.5**	**+0.3**
TPUB	**Ta-pu**	**2.21**	**229**	*e*P		**Pb**	**16 47 12.1**	**-0.9**
WTP	**Ta-pu**	**2.26**	**228**	*e*P		**Pb**	**16 47 12.6**	**-1.2**
MASBT	**Mashibuluo**	**2.72**	**218**	*e*P		**Pn**	**16 47 18.5**	**+2.2**

*SJA **15** 16:56:33.1±0.9,32.3S×71.95W,h9km±3km,ML3.8,*
MW3.5
*IDC **15** 16:56:34.1±2.0,32.19S×71.22W,h0km,mb3.8/2,*
mbtmp3.6/4,ML3.7/2,Error ellipse: s-maj=147.1km
s-min=24.7km az=94.0
*NEIC **15** 16:56:35.0±0.7,32.25S±0.04×71.89W±0.08,h12km±6km,*
mb4.4/5,ML4.0(GUC),Error ellipse: s-maj=10.7km
s-min=4.7km az=70.0
*GUC **15** 16:56:36.9±0.8,32.28S×71.83W,h24km±13km,ML4.0*
ISC 15 16:56:33.6±1.4,**32.29S**±0.02×**71.89W**±0.04,**h6**km±9km,
n105,σ**100**/133,**mb4.1**/3,**6C-7D**,**Near coast of central**
Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.57**	**118**			**Pb**	**16 56 47.1**	**+1.2**
VA06	**Catapilco**	**0.57**	**118**‖	*e*P		**Pb**	**16 56 47.2**	**+1.2**
VA06				eS		**Sb**	**16 56 54.6**	**+0.3**
VA06				IAML			16 56 55.2	
comp=E,30μm,0.3s								
VA01	**Torpederas**	**0.76**	**164**			**Pn**	**16 56 50.5**	**-0.3**
VA01	**Torpederas**	**0.76**	**164**	*e*P		**Pn**	**16 56 50.9**	**0.0**
VA01				eS		**Sb**	**16 57 00.7**	**+1.0**
VA01				IAML			16 57 05.0	
comp=N,8μm,0.1s								
VA01	**Torpederas**	**0.76**	**164**	*e*P		**Pn**	**16 56 50.5**	**-0.3**
CO04	**Los Peladeros**	**0.82**	**72**‖	*e*P		**Pb**	**16 56 51.0**	**+0.7**
CO04				eS		**Sb**	**16 57 01.4**	**-0.4**
CO04				IAML			16 57 01.8	
comp=N,8μm,0.2s								
ROC1	**El Roble**	**1.00**	**133**	*e*P		**Pb**	**16 56 54.0**	**+0.5**
ROC1				eS		**Sb**	**16 57 07.0**	**-0.1**
ROCH	**El Roble**	**1.00**	**133**‖	*e*P		**Pn**	**16 56 54.3**	**-0.1**
ROCH				eS		**Sb**	**16 57 07.0**	**-0.1**
ROCH				IAML			16 57 10.6	
comp=N,6μm,0.4s								
MT02	**Curacav**	**1.15**	**147**			**Pn**	**16 56 57.0**	**+0.7**
MT02	**Curacav**	**1.15**	**147**	*e*P		**Pn**	**16 56 56.6**	**+0.3**
MT02				eS		**Sb**	**16 57 11.4**	**+0.2**
MT02	**Curacav**	**1.15**	**147**	*e*P		**Pn**	**16 56 56.7**	**+0.4**
MT02				IAML			16 57 13.2	
comp=Z,1μm,0.5s								
VA03	**San Esteban**	**1.23**	**113**			**Pb**	**16 56 57.3**	**+0.1**
VA03	**San Esteban**	**1.23**	**113**‖	*e*P		**Pn**	**16 56 57.4**	**0.0**
VA03				eS		**Sb**	**16 57 12.8**	**-0.5**
VA03				IAML			16 57 16.1	
comp=E,11μm,0.1s								
VA03	**San Esteban**	**1.23**	**113**	*e*P		**Pn**	**16 56 57.4**	**0.0**
VA03				eS		**Sn**	**16 57 14.9**	**+0.5**
VA03				IAML			16 57 16.1	
comp=Z,5μm,0.2s								
PEL	**Peldehue**	**1.32**	**130**			**Pg**	**16 56 59.2**	**+0.3**
PEL	**Peldehue**	**1.32**	**130**‖	*e*P		**Pg**	**16 56 59.3**	**+0.3**
PEL				eS		**Sn**	**16 57 16.3**	**-0.4**
PEL				IAML			16 57 19.0	
comp=N,4μm,0.5s								
PEL	**Peldehue**	**1.32**	**130**	*e*P		Pn	16 56 53.9	-4.8
PEL				eS		**Sn**	**16 57 16.6**	**0.0**
PEL				IAML			16 57 18.1	
comp=Z,2μm,0.2s								
CO02	**Combarbal**	**1.32**	**35**			**Pn**	**16 56 59.1**	**+0.4**
CO02	**Combarbal**	**1.32**	**35**‖	*e*P		**Pb**	**16 56 59.3**	**+0.4**
CO02				eS		**Sb**	**16 57 16.1**	**-0.1**
CO02				IAML			16 57 21.6	
comp=N,9μm,0.4s								
CO02	**Combarbal**	**1.32**	**35**	*e*P		**Pn**	**16 56 58.6**	**-0.1**
CO02				IAML			16 57 21.4	
comp=Z,2μm,0.3s								
MT05	**Renca**	**1.46**	**139**			**Pb**	**16 57 01.3**	**+0.1**
MT05	**Renca**	**1.46**	**139**	*e*P		**Pg**	**16 57 01.7**	**+0.1**
MT05				eS		**Sg**	**16 57 20.7**	**+0.1**
MT05				IAML			16 57 25.9	
comp=E,6μm,0.3s								
MT05	**Renca**	**1.46**	**139**	*e*P		**Pb**	**16 57 01.6**	**+0.3**
MT05				eS		**Sg**	**16 57 21.9**	**+1.3**
MT05				IAML			16 57 22.9	
comp=Z,1μm,0.5s								
MT10 Hacienda Santa 1.50 131‖ *e*P Pb 16 57 02.2 +0.2								
MT10				eS		**Sg**	**16 57 21.5**	**-0.3**
MT10				IAML			16 57 26.1	
comp=E,6μm,0.5s								
MT14 Cerro Cal¡n 1.58 134 *e*P Pb 16 57 03.8 +0.4								
MT14				eS		**Sn**	**16 57 23.0**	**-0.1**
MT14				IAML			16 57 29.1	
comp=N,3μm,0.6s								
MT16 CCHEN 1.61 135 Pb 16 57 03.7 -0.1								
CO06 Fray Jorge 1.63 8 Pn 16 57 02.8 -0.1								
CO06 Fray Jorge 1.63 8‖ *e*P Pn 16 57 03.1 +0.2								
CO06 eS Sn 16 57 24.7 +0.5								
MT01 Popeta 1.66 161 Pb 16 57 04.3 -0.2								
MT01 Popeta 1.66 161⇑ *e*P Pb 16 57 04.4 -0.2								
MT01 IAML 16 57 28.6								
comp=E,1μm,0.2s								
MT01 Popeta 1.66 161 *e*P Pn 16 57 03.9 +0.7								
MT01 IAML 16 57 32.3								
comp=Z,610nm,0.4s								
MT09 Talagante 1.66 153 Pb 16 57 05.0 +0.2								
MT09 Talagante 1.66 153 *e*P Pb 16 57 05.2 +0.5								
MT09 eS Sb 16 57 26.0 0.0								
MT09 IAML 16 57 32.8								
comp=N,2μm,0.2s								
MT03 Universidad Ad 1.67 136 Pb 16 57 04.7 -0.1								
MT03 Universidad Ad 1.67 136 *e*P Pb 16 57 04.6 -0.2								
MT03 eS Sg 16 57 26.9 -0.3								
MT03 IAML 16 57 30.2								
comp=E,5μm,0.3s								
MT03 Universidad Ad 1.67 136 *e*P Pb 16 57 04.7 -0.1								
MT03 eS Sg 16 57 27.0 -0.2								
MT03 IAML 16 57 29.9								
comp=Z,1μm,0.2s								
FCH Farellones 1.70 128 *e*P Pb 16 57 04.9 -0.5								
MT15 Las Vizcachas 1.75 139 *e*P Pb 16 57 06.3 +0.2								
MT15 eS Sb 16 57 28.1 -0.2								
MT15 IAML 16 57 38.3								
comp=N,3μm,0.5s								
CO03 El Pedregal 1.78 36 Pn 16 57 05.7 +0.7								
CO03 El Pedregal 1.78 36 *e*P Pb 16 57 06.2 -0.4								
CO03 eS Sb 16 57 29.3 +0.1								
CO03 IAML 16 57 32.6								
comp=E,2μm,0.3s								
CO03 El Pedregal 1.78 36 *e*P Pb 16 57 06.5 -0.2								
CO03 eS Sg 16 57 30.8 +0.2								
CO03 IAML 16 57 35.6								
comp=Z,742nm,0.4s								
MT04 Ro Olivares 1.85 127 *e*P Pb 16 57 07.3 -0.6								
MT04 eS Sb 16 57 31.2 -0.2								
MT04 IAML 16 57 32.4								
comp=E,1μm,0.2s								
MT04 Ro Olivares 1.85 127 *e*P Pb 16 57 07.3 -0.6								
MT04 eS Sb 16 57 31.7 +0.4								
MT04 IAML 16 57 32.2								
comp=Z,604nm,0.1s								
MT08 Bocatoma Ro 1.95 127⇑ *e*P Pb 16 57 09.3 -0.3								
MT08 IAML 16 57 36.8								
comp=E,973nm,0.5s								
MT08 Bocatoma Ro 1.95 127 *e*P Pb 16 57 09.4 -0.3								
MT08 eS Sg 16 57 36.2 -0.1								
MT08 IAML 16 57 36.7								
comp=Z,426nm,0.3s								
MT13 San Alfonso 1.98 137 Pb 16 57 09.5 -0.6								
MT13 San Alfonso 1.98 137 *e*P Pb 16 57 09.8 -0.3								
MT13 eS Sb 16 57 34.8 -0.3								
MT13 IAML 16 57 42.6								
comp=E,2μm,0.4s								
MT13 San Alfonso 1.98 137 *e*P Pb 16 57 09.7 -0.4								
MT13 eS Sn 16 57 30.8 -2.1								
MT13 IAML 16 57 41.0								
comp=Z,790nm,0.5s								
BO04 La Punta 2.00 148 Pb 16 57 10.0 -0.5								
BO04 La Punta 2.00 148 *e*P Pb 16 57 10.1 -0.4								
BO04 eS Sb 16 57 35.5 -0.2								
BO04 IAML 16 57 41.0								
comp=E,1μm,0.5s								
LMEL Las Melosas 2.10 138 Pn 16 57 09.3 -0.2								
LMEL Las Melosas 2.10 138⇑ *e*P Pb 16 57 11.5 -0.7								
LMEL eS Sb 16 57 38.4 -0.2								
LMEL IAML 16 57 44.5								
comp=N,1μm,0.3s								
LMEL Las Melosas 2.10 138 *e*P Pb 16 57 11.5 -0.7								
LMEL IAML 16 57 43.6								
comp=Z,713nm,0.6s								
BO03 Pichilemu 2.20 182⇑ *e*P Pn 16 57 11.2 +0.5								
BO01 Tunca 2.20 162 Pn 16 57 12.0 +1.3								
BO01 Tunca 2.20 162 *e*P Pn 16 57 12.1 +1.4								
BO01 Tunca 2.20 162 *e*P Pn 16 57 11.7 +1.0								
BO01 eS Sn 16 57 34.0 -4.3								
BO01 IAML 16 57 48.1								
comp=Z,343nm,0.8s								
GO04 Tololo Observa 2.31 24 Pn 16 57 12.7 +0.2								
GO04 Tololo Observa 2.31 24⇑ *e*P Pn 16 57 13.2 +0.7								
GO04 Tololo Observa 2.31 24 *e*P Pn 16 57 13.4 +1.0								
GO04 eS Sb 16 57 45.3 +0.6								
GO04 IAML 16 57 51.1								
comp=Z,1μm,0.3s								
CO05 La Serena 2.43 13 Pn 16 57 13.6 -0.3								
ARCO CERRO ARCO 2.56 103 *e*P Pb 16 57 21.2 +1.2								
ARCO eS Sb 16 57 49.9 -1.9								
ARCO IAML 16 57 57.8								
comp=Z,238nm,1.1s								
ASAL Salagasta 2.60 97 *e*P Pn 16 57 16.2 -0.1								
ASAL eS Sb 16 57 51.7 -1.3								
BO02 Sierra Bellavi 2.66 160 Pn 16 57 18.1 +1.0								
BO02 Sierra Bellavi 2.66 160 *e*P Pn 16 57 19.0 +1.9								
BO02 eS Sb 16 57 52.6 -2.0								
BO02 IAML 16 57 58.0								
comp=Z,449nm,0.7s								
AAGR Agrelo 2.70 108 *e*P Pb 16 57 23.0 +0.6								
AAGR eS Sb 16 57 55.3 -0.5								
GO05 Hualane 2.71 181 *e*P Pn 16 57 17.6 -0.1								
GO05 eS Sn 16 57 53.0 +2.2								
CO01 Juntas del Tor 2.78 34 Pn 16 57 18.8 0.0								
CO01 Juntas del Tor 2.78 34 *e*P Pn 16 57 21.3 +2.5								
CO01 eS Sb 16 57 58.5 +0.4								
CO01 IAML 16 58 00.6								
comp=Z,360nm,0.4s								
ACCO Cerro Coronel 2.95 56 *e*P Pb 16 57 25.8 -1.1								
ACCO eS Sb 16 58 02.6 -0.7								
AROD Rodeo 2.96 45 *e*P Pn 16 57 23.4 +1.9								
AROD eS Sb 16 58 02.9 -0.8								
AVIZ Vizcacheras 3.07 113 *e*P Pn 16 57 25.4 +2.7								
ACDV Cuesta del Vie 3.18 49 *e*P Pn 16

SNAA				IAmb	IAmb	17 05 55.1
	comp=Z,3.8nm,1.4s					
SNAA	**Sanae**	**53.12**	**158**	P	**P**	**17 05 52.0 +0.3**
	comp=Z,0.7nm,0.8s,baz=274,slow=14,SNR=5.8					
	comp=Z,0.7nm,0.8s					
TEIG	**Tepich**	**54.53**	**341**	P	**P**	**17 06 00.8 -1.7**
QSPA	**South Pole Qui**	**57.94**	**180**	P	**P**	**17 06 28.3 +1.7**
QSPA				IAmb	IAmb	17 07 01.6
	comp=Z,5.1nm,1.5s					
QSPA	**South Pole Qui**	**57.94**	**180**	P	**P**	**17 06 28.9 +2.3**
	comp=Z,0.9nm,0.6s,baz=150,slow=7.9,SNR=6.3					
	comp=Z,0.9nm,0.6s					
H11S2	**WAKE ISLAND Hyl**	**25.90**	**270**	T	T	19 34 40.0
	baz=118,slow=74					
H11S1	**WAKE ISLAND Hyl**	**25.92**	**270**	T	T	19 34 42.2
	baz=118,slow=74					
H11S3	**WAKE ISLAND Hyl**	**25.92**	**270**	T	T	19 34 40.2
	baz=118,slow=74					
BVAR	**Borovoye Array**	**145.94**	**41**	PKPbc	**PKPdf**	**17 16 13.7 +0.8**
	comp=Z,0.7nm,0.4s,baz=308,slow=3.3,SNR=6.5					
KURBB	**Kurchatov Arra**	**151.53**	**41**	PKPbc	**PKPbc**	**17 16 28.5 +0.3**
	comp=Z,0.9nm,0.5s,baz=304,slow=2.7,SNR=13					
ZALV	**Zalesovo Beam**	**152.71**	**31**	PKPbc	**PKPbc**	**17 16 30.5 -0.3**
	comp=Z,1.2nm,0.5s,baz=297,slow=2.1,SNR=7.5					
MKAR	**Makanchi Array**	**155.52**	**46**	PKPab	**PKPab**	**17 16 52.7 -1.1**
	comp=Z,0.1nm,0.4s,baz=288,slow=0.5,SNR=1.5					

*DJA **15** 17:12:26.6±0.8,1°N±2°×12°5E±°,h11km±7km,M4.3/20, mB5.0/2,mb4.4/10,MLv4.2/20,Mw(mB)4.4/2*
*IDC **15** 17:12:36.2±9.1,0.50S×127.59E,h303km±106km,mb2.6/6, mbtmp3.3/7,Error ellipse: s-maj=60.8km s-min=24.8km az=80.0*
ISC 15 17:12:29.1±1.0,**0.56N**±0.09×**125.42E**±0.06,**h100**km,**n24,** σ1**s77/20,mb3.3/6,Northern Moluccа Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.44**	**270**	P	**Pn**	**17 12 51.5**	**-3.1**
TNTI	**Ternate**	**1.96**	**84**	P	**Pn**	**17 13 00.2**	**-0.9**
SANI	**Sanana**	**2.66**	**168**	P	**Pn**	**17 13 07.1**	**-3.2**
LUWI	**Luwuk**	**3.09**	**239**	P	**Pn**	**17 13 15.9**	**-0.2**
SGSI	**Sangihe**	**3.10**	**2**	P	**Pn**	**17 13 15.6**	**-0.7**
MRSI	**Marisa**	**3.48**	**269**	P	**Pn**	**17 13 19.9**	**-1.4**
APSI	**Ampana**	**4.05**	**249**	P	**Pn**	**17 13 30.1**	**+1.2**
NLAI	**Namlea**	**4.13**	**156**	P	**Pn**	**17 13 28.4**	**-1.7**
AAI	**Ambon**	**5.05**	**147**	P	**Pn**	**17 13 42.1**	**-0.4**
	0.3nm57nm,0.6s						
MSAI	**Masohi**	**5.23**	**138**	P	**Pn**	**17 13 44.5**	**-0.5**
	0.5nm58nm,0.8s						
KDI	**Kendari**	**5.29**	**212**	P	**Pn**	**17 13 44.5**	**-1.3**
PCI	**Palu**	**5.77**	**255**	P	**Pn**	**17 13 52.0**	**-0.4**
	0.2nm2µm35nm,0.8s						
TTSI	**Tana Toraja**	**6.65**	**237**	P	**Pn**	**17 14 04.5**	**+0.2**
SPSI	**Sidrap Palu**	**7.22**	**231**	P	**Pn**	**17 14 12.2**	**+0.2**
	0.2nm33nm,0.8s						
FAKI	**Fak Fak**	**7.65**	**117**	P	**Pn**	**17 14 17.2**	**-0.7**
	31nm,1.3s						
EDFI	**Ende, Flores**	**9.97**	**202**	P	**Pn**	**17 14 50.1**	**+0.5**
	5.1nm,0.9s						
KPJI	**Karang Pucung**	**18.23**	**244**	P	**Pn**	**17 16 40.2**	**+4.5**
FITZ	**Fitzroy Crossi**	**18.55**	**179**	P	P	17 16 21.8	-16
	1.2nm,0.8s,baz=0.0,slow=17,SNR=1.3						
WRA	**Warramunga Arr**	**22.17**	**157**	P	P	17 16 52.6	-25
	0.1nm,0.3s,baz=337,slow=10,SNR=5.8						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**25.46**	**162**	P	P	17 17 21.7	-26
	0.2nm,0.6s,baz=340,slow=8.3,SNR=14						
	0.2nm,0.6s						
KSRS	**Korea Array**	**36.78**	**3**	P	P	17 19 22.8	-4.3
	0.5nm,0.8s,baz=178,slow=9.6,SNR=4.1						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**59.44**	**327**	P	**P**	**17 22 21.2**	**-0.2**
	0.2nm,0.4s,baz=122,slow=7.6,SNR=6.9						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.72**	**329**	P	**P**	**17 22 49.5**	**-0.5**
	0.1nm,0.3s,baz=132,slow=7.1,SNR=5.3						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**69.27**	**328**	P	**P**	**17 23 24.2**	**-1.2**
	0.2nm,0.3s,baz=101,slow=7.5,SNR=1.7						
	0.2nm,0.3s						

*WEL **15** 17:37:27.6±0.4,39°S±2°×17°7E±°,h23km±3km,M3.3/66, ML3.8/17,MLv3.3/66,Error ellipse: s-maj=3.5km s-min=2.4km az=96.7,confirmed*
*NOU **15** 17:37:27.2,39.32S×176.93E,h13km,MLv3.5/11,North Island, New Zealand*
ISC 15 17:37:28.5±0.9,**39.33S**±0.02×**176.91E**±0.02,**h31**km±5km, **n119,** σ0**s91/133,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARHZ	**Aropaoanui**	**0.10**	**46**	P	**Pb**	**17 37 33.2**	**-0.8**
ARHZ				S	Sb	17 37 37.7	0.0
NAAS	**Napier Airport**	**0.14**	**191**	P	**Pb**	**17 37 33.8**	**+0.5**
NAAS				S	Sb	17 37 39.0	+0.8
NGHS	**Napier Girls H**	**0.15**	**177**	P	**Pb**	**17 37 34.1**	**-0.3**
NGHS				S	Sb	17 37 39.4	+1.0
NSPS	**Napier St Paul**	**0.16**	**177**	P	**Pb**	**17 37 34.0**	**-0.4**
NCDS	**Napier Civil D**	**0.17**	**188**	P	**Pb**	**17 37 34.0**	**-0.5**
NCDS				S	Sb	17 37 39.6	+1.0
NCHS	**Napier Colenso**	**0.17**	**182**	P	**Pb**	**17 37 34.2**	**-0.4**
NCHS				S	Sb	17 37 39.6	+0.8
MCHZ	**McNeill Hill**	**0.20**	**235**	P	**Pb**	**17 37 34.2**	**-0.6**
NMHZ	**Naumai**	**0.25**	**342**	P	**Pb**	**17 37 34.5**	**-0.9**
NMHZ				S	Sb	17 37 39.8	-0.4
HCDS	**Hastings Civil**	**0.32**	**189**	P	**Pb**	**17 37 36.1**	**-0.1**
HCDS				S	Sn	17 37 43.0	+0.5
CKHZ	**Cape Kidnapper**	**0.35**	**158**	P	**Pb**	**17 37 37.3**	**+0.5**
CKHZ				S	Sn	17 37 45.0	+1.6
KFHS	**Kaweka Forest**	**0.35**	**253**	P	**Pb**	**17 37 35.9**	**-0.9**
KFHS				S	Sb	17 37 42.4	0.0
BKZ	**Black Stump Fm**	**0.36**	**297**	P	**Pb**	**17 37 35.5**	**-1.4**
BKZ	**Black Stump Fm**	**0.36**	**297**	P	**Pb**	**17 37 35.6**	**-1.4**
BKZ				S	Sb	17 37 41.7	-1.0
WHHZ	**Waihua**	**0.36**	**45**	P	**Pb**	**17 37 36.6**	**-0.3**
KWHZ	**Kaweka Forest**	**0.39**	**256**	P	**Pb**	**17 37 36.3**	**-0.9**
KWHZ				S	Sb	17 37 43.1	-0.2
RAHZ	**Arahi**	**0.44**	**19**	P	**Pb**	**17 37 37.4**	**-0.6**
RAHZ				S	Sb	17 37 44.7	+0.1
KAHZ	**Kahuranaki**	**0.46**	**183**	P	**Pb**	**17 37 39.0**	**+0.5**
MTHZ	**Maungataniwha**	**0.48**	**354**	P	**Pb**	**17 37 37.7**	**-0.9**
MTHZ				S	Sb	17 37 45.3	-0.4
KRHZ	**Kereru**	**0.52**	**233**	P	**Pb**	**17 37 38.7**	**-0.6**
KRHZ				S	Sb	17 37 47.0	+0.3
MRHZ	**Matea Rd**	**0.62**	**322**	P	**Pb**	**17 37 39.9**	**-1.1**
SNGZ	**Shannon Statio**	**0.65**	**32**	P	**Pb**	**17 37 41.1**	**-0.2**
KNZ	**Kokohu**	**0.67**	**63**	P	**Pb**	**17 37 41.5**	**-0.3**
PXZ	**Pawanui**	**0.70**	**183**	P	**Pb**	**17 37 41.8**	**-0.4**
RTZ	**Ruatahuna**	**0.72**	**5**	P	**Pb**	**17 37 41.7**	**-0.9**
HATZ	**Hinemaiaia**	**0.77**	**305**	P	**Pb**	**17 37 42.5**	**-0.9**
PNHZ	**Pukenui**	**0.80**	**223**	P	**Pb**	**17 37 43.2**	**-0.7**
MHGZ	**Mahia Peninsul**	**0.80**	**77**	P	**Pb**	**17 37 43.3**	**-0.6**
WPHZ	**Waipukurau**	**0.81**	**206**	P	**Pb**	**17 37 43.5**	**-0.7**
MUGZ	**Murupara**	**0.86**	**353**	P	**Pb**	**17 37 43.9**	**-1.0**
PRGZ	**Paritu Road**	**0.86**	**62**	P	**Pb**	**17 37 44.1**	**-0.9**
ALRZ	**Allen Road**	**0.88**	**330**	P	**Pb**	**17 37 44.5**	**-0.8**
RITZ	**Rihia Road**	**0.89**	**293**	P	**Pb**	**17 37 44.9**	**-0.5**
MOVZ	**Moawhango**	**0.90**	**265**	P	**Pb**	**17 37 44.5**	**-1.1**
RIGZ	**Rimuhau**	**0.91**	**47**	P	**Pb**	**17 37 45.0**	**-0.8**
PRRZ	**Plateau Road**	**0.92**	**334**	P	**Pb**	**17 37 45.2**	**-0.8**
RAGZ	**Rawiri**	**0.93**	**26**	P	**Pb**	**17 37 45.4**	**-0.7**
ETVZ	**East Tongariro**	**0.95**	**282**	P	**Pb**	**17 37 45.7**	**-0.7**
PRHZ	**Porangahau**	**0.96**	**192**	P	**Pb**	**17 37 45.2**	**-1.3**
TMVZ	**Te Maari**	**0.96**	**283**	P	**Pb**	**17 37 45.8**	**-0.8**
TUVZ	**Tukino**	**0.97**	**273**	P	**Pb**	**17 37 46.2**	**-0.7**
OTVZ	**Oturere**	**0.98**	**280**	P	**Pb**	**17 37 46.3**	**-0.7**
NTVZ	**North Tongarir**	**0.98**	**283**	P	**Pb**	**17 37 46.3**	**-0.8**
SNVZ	**South Ngauruho**	**0.99**	**278**	P	**Pb**	**17 37 46.6**	**-0.7**
RATZ	**Rangitukua**	**1.00**	**297**	P	**Pb**	**17 37 46.6**	**-0.7**
WPRZ	**Whakapapatarin**	**1.00**	**324**	P	**Pb**	**17 37 46.0**	**-1.2**
KATZ	**Kakaramea**	**1.01**	**290**	P	**Pb**	**17 37 46.8**	**-0.6**
KRVZ	**Karewarewa**	**1.01**	**283**	P	**Pb**	**17 37 46.8**	**-0.7**
WNVZ	**Wahianoa**	**1.01**	**270**	P	**Pb**	**17 37 46.8**	**-0.7**
NNVZ	**North Ngauruho**	**1.02**	**281**	P	**Pb**	**17 37 47.0**	**-0.7**
WHVZ	**Whangaehu Hut**	**1.02**	**272**	P	**Pb**	**17 37 47.1**	**-0.7**
NGZ	**Ngauruhoe**	**1.02**	**278**	P	**Pb**	**17 37 47.0**	**-0.7**
TSZ	**Takapari Road**	**1.03**	**225**	P	**Pn**	**17 37 46.1**	**-0.7**
RRRZ	**Republican Roa**	**1.04**	**343**	P	**Pn**	**17 37 46.7**	**-0.2**
MAVZ	**Matarangi**	**1.04**	**273**	P	**Pb**	**17 37 47.4**	**-0.7**
WTVZ	**West Tongariro**	**1.04**	**282**	P	**Pn**	**17 37 47.4**	**+0.4**
TRVZ	**Turoa**	**1.05**	**271**	P	**Pn**	**17 37 47.6**	**+0.3**
HRRZ	**Handcock Road**	**1.06**	**333**	P	**Pn**	**17 37 47.2**	**+0.1**
COVZ	**Chateau Observ**	**1.07**	**277**	P	**Pn**	**17 37 47.6**	**+0.2**
URZ	**Urewera**	**1.08**	**9**	P	**Pn**	**17 37 47.2**	**-0.3**
URZ	**Urewera**	**1.08**	**9**	S	**Sn**	**17 38 02.2**	**+0.8**
URZ	**Urewera**	**1.08**	**9**	P	**Pn**	**17 37 47.2**	**-0.3**
WATZ	**Wairara**	**1.10**	**304**	P	**Pn**	**17 37 47.5**	**-0.3**
MWZ	**Matawai**	**1.11**	**26**	P	**Pn**	**17 37 47.7**	**-0.2**
MTVZ	**Mangateitei**	**1.11**	**267**	P	**Pn**	**17 37 48.3**	**+0.4**
DVHZ	**Dannevirke**	**1.12**	**210**	P	**Pn**	**17 37 47.2**	**-0.9**
TARZ	**Mount Tarawera**	**1.14**	**344**	P	**Pn**	**17 37 48.5**	**+0.2**
HSRZ	**Hossack Road**	**1.14**	**333**	P	**Pn**	**17 37 48.3**	**0.0**
TKGZ	**Te Karaka**	**1.16**	**40**	P	**Pn**	**17 37 48.1**	**-0.3**
GRRZ	**Galatos Road**	**1.16**	**327**	P	**Pn**	**17 37 48.7**	**+0.1**
HLRZ	**Highlands Stat**	**1.16**	**338**	P	**Pb**	**17 37 49.8**	**-0.2**
TWVZ	**Taurewa**	**1.17**	**282**	P	**Pn**	**17 37 48.5**	**-0.2**
ANWZ	**Angora Road**	**1.18**	**196**	P	**Pn**	**17 37 48.3**	**-0.4**
KUTZ	**Kaahu Road**	**1.19**	**315**	P	**Pn**	**17 37 48.8**	**-0.2**
PKVZ	**Pokaka**	**1.21**	**271**	P	**Pn**	**17 37 49.5**	**+0.3**
UTU	**Utuhina**	**1.28**	**334**	P	**Pn**	**17 37 50.3**	**+0.1**
OMRZ	**Omania**	**1.29**	**341**	P	**Pn**	**17 37 50.2**	**-0.2**
CNGZ	**Carnagh Statio**	**1.32**	**51**	P	**Pn**	**17 37 50.2**	**-0.5**
NGRZ	**Ngongotaha**	**1.35**	**335**	P	**Pn**	**17 37 51.8**	**+0.6**
MARZ	**Manawahe**	**1.36**	**352**	P	**Pn**	**17 37 52.2**	**+0.9**
POWZ	**Post Office Ro**	**1.37**	**219**	P	**Pn**	**17 37 51.0**	**-0.5**
KARZ	**Kaharoa**	**1.41**	**338**	P	**Pn**	**17 37 50.2**	**-1.8**
PRWZ	**Pori Road**	**1.42**	**210**	P	**Pn**	**17 37 51.4**	**-0.7**
TLZ	**Tolley Road**	**1.46**	**313**	P	**Pn**	**17 37 52.3**	**-0.5**
WHRZ	**Whale Island**	**1.47**	**2**	P	**Pn**	**17 37 52.8**	**-0.1**
RUGZ	**Raukumara Rang**	**1.49**	**24**	P	**Pn**	**17 37 53.0**	**-0.2**
OHWZ	**Ohakea**	**1.50**	**234**	P	**Pn**	**17 37 54.3**	**+1.1**
OPRZ	**Ohinepanea**	**1.51**	**349**	P	**Pn**	**17 37 54.1**	**+0.7**
WAZ	**Wanganui**	**1.54**	**253**	P	**Pn**	**17 37 55.1**	**+1.3**
PUZ	**Puketiti**	**1.64**	**40**	P	**Pn**	**17 37 54.3**	**-0.9**
MRZ	**Mangatainoka R**	**1.67**	**217**	P	**Pn**	**17 37 54.4**	**-1.2**
TGRZ	**Tauranga**	**1.68**	**342**	P	**Pb**	**17 38 00.5**	**+1.8**
VRZ	**Vera Road**	**1.68**	**276**	P	**Pn**	**17 37 55.7**	**0.0**
HAZ	**Te Kaha**	**1.72**	**24**	P	**Pn**	**17 37 56.7**	**+0.5**
PKGZ	**Pakihiroa**	**1.73**	**33**	P	**Pn**	**17 37 55.9**	**-0.5**
HIZ	**Hauiti**	**1.79**	**296**	P	**Pn**	**17 37 57.2**	**-0.1**
HIZ	**Hauiti**	**1.79**	**296**	P	**Pn**	**17 37 57.2**	**-0.1**
WMGZ	**Waiomatatini S**	**1.92**	**39**	P	**Pn**	**17 37 58.1**	**-0.9**
TMWZ	**Te Maipa**	**1.94**	**203**	P	**Pn**	**17 37 58.1**	**-1.1**
TOZ	**Tahuroa Road**	**1.94**	**325**	P	**Pn**	**17 37 58.8**	**-0.4**
LREZ	**Lake Rotokare**	**1.94**	**265**	P	**Pn**	**17 38 00.3**	**+1.0**
OGWZ	**Otaki Gorge**	**1.99**	**221**	P	**Pn**	**17 37 58.4**	**-1.5**
MXZ	**Matakaoa Point**	**2.08**	**32**	P	**Pn**	**17 38 01.5**	**+0.3**
MXZ	**Matakaoa Point**	**2.08**	**32**	P	**Pn**	**17 38 00.9**	**-0.3**
DREZ	**Durham Road**	**2.10**	**273**	P	**Pn**	**17 38 02.6**	**+1.1**
MTW	**Mount Morrison**	**2.12**	**210**	P	**Pn**	**17 37 59.6**	**-2.1**
PREZ	**Palmer Road**	**2.13**	**269**	P	**Pn**	**17 38 03.3**	**+1.4**
KIW	**Kapiti Island**	**2.16**	**224**	P	**Pn**	**17 38 00.7**	**-1.6**
NEZ	**North Egmont**	**2.18**	**271**	P	**Pn**	**17 38 04.2**	**+1.5**
KHEZ	**Kahui Hut**	**2.24**	**270**	P	**Pn**	**17 38 05.1**	**+1.6**
KHEZ	**Kahui Hut**	**2.24**	**270**	P	**Pn**	**17 38 05.0**	**+1.6**
CAW	**Cannon Point**	**2.26**	**218**	P	**Pn**	**17 38 01.4**	**-2.3**
PKE	**Pukeiti**	**2.27**	**273**	P	**Pn**	**17 38 05.1**	**+1.3**
NBEZ	**Newall Road No**	**2.36**	**271**	P	**Pn**	**17 38 06.0**	**+1.0**
MSWZ	**Moikau Station**	**2.44**	**211**	P	**Pn**	**17 38 03.4**	**-2.7**
PLWZ	**Palliser**	**2.57**	**209**	P	**Pn**	**17 38 04.8**	**-3.1**
SNZO	**South Karori**	**2.59**	**220**	P	**Pn**	**17 38 09.1**	**+0.9**
KUZ	**Kuaotunu**	**2.75**	**340**	P	**Pn**	**17 38 10.6**	**+0.3**
QRZ	**Quartz Range**	**3.67**	**245**	P	**Pn**	**17 38 24.1**	**+1.0**
KHZ	**Kahutara**	**4.00**	**219**	P	**Pn**	**17 38 28.4**	**+0.8**

*THE **15** 17:45:05.9,38°N±20°×3°0E±4°,h10km,M3.2/4,MLh3.2/4*
*IDC **15** 17:45:06.4±1.4,37°.70N×29°.84E,h0km,mb3.5/4, mbtmp3.4/8,ML3.1/4,Error ellipse: s-maj=23.5km s-min=22.8km az=165.0*
*ISK **15** 17:45:06.9,37°.80N×29°.64E,h11km,ML3.4/18*
*AFAD **15** 17:45:07.0,37°.79N×29°.64E,h15km,MW3.4*
ISC 15 17:45:07.6±0.8,**37.76N**±0.02×**29.68E**±0.02,**h11**km±6km, **n54,** σ1**s03/78,mb3.4/3,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.10**	**237**	P	**Pg**	**17 45 10.6**	**+0.2**
INCE				S	Sg	17 45 13.2	+0.8
BRDR	**BURDUR-Merkez**	**0.31**	**102**	P	**Pb**	**17 45 14.1**	**-1.2**
BRDR				S	Sb	17 45 19.6	-0.8
BASM	**Basmaki-Afyon**	**0.33**	**62**	Pg	**Pg**	**17 45 13.9**	**-0.5**
APMY	**Acipayam-Deniz**	**0.42**	**226**	Pg	**Pb**	**17 45 15.8**	**-1.2**
DNIZ	**Denizli-Tavas-**	**0.53**	**255**	P	**Pg**	**17 45 17.6**	**-0.3**
DNIZ				S	Sg	17 45 24.7	-0.1
GOLH	**Golhisar**	**0.53**	**190**	P	**Pb**	**17 45 18.5**	**-0.6**
GOLH				S	Sb	17 45 28.1	+1.3
KHL	**Karahalli**	**0.57**	**348**	Pg	**Pg**	**17 45 17.1**	**-1.4**
KHL				Sg	Sg	17 45 25.7	-0.7
PASA	**Karahalli, USA**	**0.60**	**346**	P	**Pg**	**17 45 17.8**	**-1.6**
PASA				S	Sg	17 45 26.3	-1.1
KZIL	**AFYON_Kizioren**	**0.61**	**36**	P	**Pg**	**17 45 19.0**	**-0.6**
ISP	**Isparta**	**0.67**	**85**	Pg	**Pb**	**17 45 20.6**	**-0.8**
ISP				Sg	Sb	17 45 31.2	+0.4
TAVA	**DENIZLI_Tavas**	**0.68**	**244**	P	**Pb**	**17 45 20.3**	**-1.1**
TAVA				S	Sb	17 45 29.9	-0.9
CAEL	**Denizli, Camel**	**0.70**	**204**	P	**Pn**	**17 45 21.9**	**-1.7**
CAEL				S	Sn	17 45 32.3	-2.2
DNZT	**Denizli-Tavas-**	**0.71**	**227**	P	**Pb**	**17 45 21.0**	**-1.1**
DNZT				P	Pg	17 45 21.1	-0.2
DNZT				S	Sb	17 45 31.6	-0.3
BUCA	**Burdur, Bucak-**	**0.82**	**121**	P	**Pb**	**17 45 23.8**	**-0.2**
BUCA				S	Sn	17 45 37.4	-0.1
AFYN	**Afyon-Dinar-K**	**0.83**	**52**	P	**Pg**	**17 45 23.3**	**-0.3**
AFYN				P	Pb	17 45 24.0	-0.1
AFYN				S	Sb	17 45 36.3	+1.0
CAME	**Cameli-Denizli**	**0.87**	**200**	Pg	**Pn**	**17 45 24.5**	**-1.4**
BAGO	**Egridir - ISPA**	**0.91**	**75**	P	**Pg**	**17 45 24.4**	**-0.7**
BAGO				S	Sn	17 45 39.5	-0.1
KNIK	**Mula-Seydike**	**0.92**	**185**	P	**Pn**	**17 45 26.1**	**-0.5**
KNIK				S	Sn	17 45 40.0	+0.2
BNAZ	**Uak-Banaz**	**0.93**	**10**	P	**Pg**	**17 45 24.2**	**-1.3**
ELL	**Elmali**	**1.03**	**170**	Pg	**Pn**	**17 45 27.6**	**-0.5**
ESEN	**Aydn-Nazilli**	**1.05**	**272**	P	**Pg**	**17 45 26.6**	**-1.3**
ESEN				S	Sg	17 45 40.9	-0.7
SABU	**Mula-Dalaman**	**1.09**	**211**	P	**Pn**	**17 45 29.1**	**+0.2**
SABU				S	Sn	17 45 43.8	-0.3
KULA	**Kula-Manisa**	**1.10**	**313**	Pg	**Pg**	**17 45 27.6**	**-1.2**
NAZL	**Nazilli-Aydin**	**1.11**	**281**	Pn	**Pg**	**17 45 28.1**	**-1.0**
ANTB	**Antalya**	**1.16**	**138**	Pn	**Pn**	**17 45 30.2**	**+0.4**
GEDZ	**Gediz**	**1.30**	**351**	Pn	**Pn**	**17 45 30.9**	**-0.9**
SHAP	**Saphane-Kutahy**	**1.31**	**344**	Pn	**Pn**	**17 45 31.0**	**-1.0**
ODEM	**Odemis-Izmir**	**1.37**	**293**	Pn	**Pn**	**17 45 31.9**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.43**	**278**	Pn	**Pn**	**17 45 32.9**	**-0.7**
SMAA	**Simav-Kutahya**	**1.44**	**338**	Pn	**Pn**	**17 45 32.9**	**-0.9**
AKAS	**Kas**	**1.53**	**182**	Pn	**Pg**	**17 45 35.4**	**-1.5**
GORD	**Gordes-Manisa**	**1.65**	**315**	Pn	**Pn**	**17 45 36.0**	**-0.5**
TVSB	**Tavsanli**	**1.69**	**354**	Pn	**Pn**	**17 45 36.5**	**-0.8**
SEYD	**Seydisehir-KON**	**1.75**	**101**	Pn	**Pn**	**17 45 38.5**	**+0.4**
CIFT	**Cifteler, Eski**	**1.93**	**34**	Pn	**Pn**	**17 45 39.6**	**-0.9**
DAT	**Datca**	**1.97**	**239**	P	**Pb**	**17 45 42.8**	**-0.7**
DAT				S	Sg	17 46 12.0	+1.2
BLCB	**Balcova**	**2.17**	**287**	P	**Pb**	**17 45 46.3**	**-0.6**
BLCB				S	Sg	17 46 17.8	+0.4
SMG	**Samos**	**2.25**	**270**	P	**Pn**	**17 45 45.3**	**+0.4**
CHOS	**Chios island**	**2.93**	**283**	P	**Pn**	**17 45 54.5**	**+0.3**
PRK	**Paraskevi**	**3.06**	**300**	P	**Pn**	**17 45 56.1**	**+0.2**
PRK				S	Sn	17 46 35.9	+3.5
SIGR	**SIGRI**	**3.33**	**297**	P	**Pn**	**17 45 59.5**	**-0.1**
EZN	**Ezine**	**3.33**	**309**	P	**Pn**	**17 45 59.7**	**+0.1**
EZN				S	Sn	17 46 42.5	+3.2
BRTR	**Keskin Array B**	**3.67**	**56**	Pn	**Pn**	**17 46 05.1**	**+0.7**
	0.5nm,0.3s,baz=238,slow=15,SNR=17						
BRTR				Sn	**Sn**	**17 46 45.6**	**-2.1**
	0.3nm,0.3s,baz=236,slow=22,SNR=5.5						
	1.8nm,0.4s						
GADA	**Gvkgeada**	**3.81**	**311**	P	**Pn**	**17 46 06.7**	**+0.4**
LIA	**Limnos Island**	**4.11**	**303**	P	**Pn**	**17 46 09.9**	**-0.4**
SMTH	**Samothraki Isl**	**4.21**	**311**	P	**Pn**	**17 46 11.6**	**-0.1**
ALN	**Alexandroupoli**	**4.21**	**319**	P	**Pn**	**17 46 11.9**	**+0.2**
MMAI	**Mount Meron Ar**	**6.65**	**134**	Pn	**Pn**	**17 46 44.3**	**-1.1**
	2.6nm,0.3s,baz=321,slow=13,SNR=17						
MMAI				Sn	**Sn**	**17 48 01.9**	**+0.6**
	0.7nm,0.3s,baz=317,slow=40,SNR=2.0						
	1.0nm,0.3s						
AKASG	**Malin Array Be**	**12.94**	**359**	Pn	**Pn**	**17 48 12.9**	**+1.6**
	0.2nm,0.3s,baz=179,slow=14,SNR=1.2						
	0.3nm,0.5s						
GERES	**GERESS Array B**	**16.02**	**319**	Pn	**P**	**17 48 56.7**	**+0.3**
	baz=133,slow=19,SNR=2.5						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**34.95**	**233**	P	**P**	**17 52 00.4**	**+0.6**
	0.6nm,0.8s,baz=37,slow=9.9,SNR=3.2						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**36.65**	**53**	P	**P**	**17 52 13.4**	**-0.6**
	0.5nm,0.8s,baz=275,slow=9.0,SNR=4.1						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**39.31**	**60**	P	**P**	**17 52 36.8**	**+0.3**
	0.6nm,0.8s,baz=280,slow=7.1,SNR=5.1						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**40.57**	**48**	P	**P**	**17 52 46.1**	**-0.8**
	0.5nm,0.7s,baz=289,slow=9.0,SNR=2.1						
	0.5nm,0.7s						

*SFS **15** 18:04:01.6,37°.10N×5°.22W,h9km,ML3.2/12,ML3.0/16, MLv2.9/16*
*MDD **15** 18:04:01.2±0.3,37°.10N×5°.27W,h2km±2km,mb_Lg3.0/21, Error ellipse: s-maj=2.3km s-min=1.5km az=178.0*
*CNRM **15** 18:04:01.4,37°.01N×5°.16W,h80km,ML2.9*
*IGIL **15** 18:04:01.4,37°.10N×5°.27W,h0km,ML2.6*
*INMG **15** 18:04:02.3±1.9,37°.10N×5°.24W,h16km±4km,ML2.9,Error ellipse: s-maj=3.1km s-min=2.8km az=115.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
ISC 15 18:04:00.2±1.0,**37.08N**±0.02×**5.22W**±0.02,**h16**km±9km, **n67,** σ1**s09/118,Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.55**	**248**	Pg	**Pb**	**18 04 12.3**	**+0.9**
ESPR				Sg	**Sb**	**18 04 20.5**	**+1.3**
ESPR	**Espera**	**0.55**	**248**	Pg	**Pb**	**18 04 12.7**	**+1.2**
ESPR				Sg	**Sb**	**18 04 20.8**	**+1.7**
ESPR				*i* lVmb_Lg		18 04 29.1	
EJIF	**Jimena Fronter**	**0.65**	**198**	Pg	**Pg**	**18 04 13.3**	**+0.4**
EJIF				Sg	**Sb**	**18 04 23.8**	**+1.7**
EGOR	**Sierra Gorda,**	**0.89**	**87**	Pg	**Pb**	**18 04 17.4**	**+0.1**
EGOR				Sg	**Sn**	**18 04 30.6**	**-0.2**
EGOR	**Sierra Gorda,**	**0.89**	**87**	Pg	**Pb**	**18 04 17.1**	**-0.3**
EGOR				Sg	**Sn**	**18 04 30.1**	**-0.7**
EGOR				*i

EPLA					Sg	Sg	18 05 37.5	-1.0	
EPLA					*i* IVmb_Lg		18 05 39.9		
PMTG	**Montargil**	**3.10**	**311**		*e*Pn	**Pn**	**18 04 49.3**	**+0.9**	
PMTG					*e*Sg	**Sb**	**18 05 35.8**	**+3.4**	
PMTG					*i* IAML		18 05 43.7		
PMTG					*i* IAML		18 05 46.0		
PMTG					*i* IAML		18 05 46.6		
EMUR	**La Murta**	**3.26**	**75**		Pn	**Pn**	**18 04 51.8**	**+1.1**	
EMUR	**La Murta**	**3.26**	**75**		Pn	**Pn**	**18 04 52.5**	**+1.8**	
EMUR					Sn	**Sn**	**18 05 31.2**	**+2.0**	
EMUR					Sg	**Sg**	**18 05 45.8**	**+1.0**	
PCBR	**Castelo Branco**	**3.28**	**328**		*e*Pn	**Pn**	**18 04 52.2**	**+1.3**	
PCBR					*e*Sn	**Sn**	**18 05 29.1**	**-0.6**	
PCBR					*e*Sg	**Sg**	**18 05 42.9**	**-2.7**	
PCBR					*i* IAML		18 05 48.8		
PCBR					*i* IAML		18 05 50.1		
PCBR					*i* IAML		18 05 52.5		
PSARD	**Sardoal**	**3.42**	**318**		*e*Pn	**Pn**	**18 04 53.2**	**+0.3**	
PSARD					*e*Sn	**Sn**	**18 05 33.4**	**+0.2**	
PSARD					*e*Sg	**Sg**	**18 05 49.3**	**-0.8**	
PSARD					*i* IAML		18 05 51.2		
PSARD					*i* IAML		18 05 54.0		
PSARD					*i* IAML		18 05 57.4		
JBK	**JBK**	**3.48**	**141**		P	**Pn**	**18 04 52.5**	**-1.4**	
JBK	**JBK**	**3.48**	**141**		S	**Sn**	**18 05 30.8**	**-4.2**	
PARRA	**Arraiolos**	**3.48**	**301**		*e*P	Pn	18 04 45.0	-8.7	
PARRA					*e*Sn	Sn	18 05 19.1	-16	
PARRA					*e*Sg	Sb	18 05 28.9	-15	
PARRA					*i* IAML		18 05 33.4		
PARRA					*i* IAML		18 05 34.2		
PARRA					*i* IAML		18 05 39.2		
PMAFR	**Mafra**	**3.72**	**302**		Sn	**Sn**	**18 05 39.4**	**-1.1**	
PMAFR					Pn	**Pn**	**18 04 57.9**	**+0.9**	
MD31	**MD31**	**4.21**	**175**		P	**Pn**	**18 05 04.2**	**+0.3**	
MD31	**MD31**	**4.21**	**175**		S	**Sn**	**18 05 51.0**	**-1.8**	
MDT	**Midelt**	**4.28**	**173**		P	**Pn**	**18 05 05.2**	**+0.4**	
MDT	**Midelt**	**4.28**	**173**		S	**Sn**	**18 05 52.7**	**-1.8**	
ETOR	**Torete**	**4.48**	**32**		Pn	**Pn**	**18 05 08.1**	**+0.6**	
ETOR					Sn	**Sn**	**18 05 59.9**	**+0.6**	
ETOR					Sg	**Sg**	**18 06 25.1**	**+1.1**	
OUZM	**OUZ**	**6.28**	**192**		P	**Pn**	**18 05 32.1**	**-0.2**	
OUZM	**OUZ**	**6.28**	**192**		S	**Sn**	**18 06 43.4**	**-0.4**	

NEIC ***15*** *18:20:06.3±1.7,51.7°N±0.2°×177.3°E±0.0°,07,h158km±5km, mb4.5/158,ML3.9/12,ML3.5(AEIC),Error ellipse: s-maj=24.0km s-min=6.0km az=183.0*

AEIC ***15*** *18:20:08.2±1.8,51.9°N±0.2°×178.0°E±0.1,h150km±5km, Error ellipse: s-maj=23.9km s-min=9.6km az=186.0*

IDC ***15*** *18:20:09.8±0.9,52.2°20N×178.14E,h158km±7km,mb3.5/17, mbtmp4.0/19,Error ellipse: s-maj=18.0km s-min=11.5km az=168.0*

ISC 15 18:20:07.5±0.6, 52°00N±0°09×178°02E±0°04, h149km±4km, n169,σ1s21/106, mb4.4/71, 1D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.31**	**99**		**Pn**	**18 20 27.8**	**-0.2**
LSSA					**Sn**	**18 20 43.4**	**0.0**
LSPA	**Little Sitkin**	**0.34**	**97**		**Pn**	**18 20 28.1**	**+0.1**
LSPA					**Sn**	**18 20 45.0**	**+1.4**
CESW	**Semis' Southwe**	**0.96**	**95**		**Pn**	**18 20 31.8**	**0.0**
CEPE	**Semis' Perret**	**1.01**	**91**		**Pn**	**18 20 32.5**	**+0.3**
CEPE					**Sn**	**18 20 51.1**	**+0.1**
AMKA	**Amchitka**	**1.01**	**127**		**Pn**	**18 20 32.1**	**-0.1**
AMKA	**Amchitka**	**1.01**	**127**		**Sn**	**18 20 49.8**	**-1.2**
GASW	**Gareloi Southw**	**1.95**	**95**		**Pn**	**18 20 41.4**	**-0.5**
GASW					**Sn**	**18 21 07.2**	**-1.2**
GANO	**Gareloi North**	**1.98**	**94**		**Pn**	**18 20 42.3**	**+0.1**
GANE	**Gareloi Northe**	**1.99**	**94**		**Pn**	**18 20 42.2**	**-0.2**
GANE					**Sn**	**18 21 08.1**	**-1.1**
GALAA	**Gareloi Lava P**	**2.00**	**96**		**Pn**	**18 20 42.6**	**0.0**
GAKI	**Gareloi-Kavalg**	**2.02**	**102**		**Pn**	**18 20 42.2**	**-0.5**
GAKI					**Sn**	**18 21 08.7**	**-1.0**
TASE	**Tanaga Southea**	**2.45**	**92**		**Sn**	**18 21 18.4**	**-0.7**
TAFP	**Tanaga Falls P**	**2.48**	**91**		**Pn**	**18 20 47.8**	**-0.5**
SHEM	**Shemya Is, Ala**	**2.51**	**288**	Pn	**Pn**	**18 20 48.1**	**-0.5**
SHEM	comp=N,444nm,0.6s			IAML		18 21 21.4	
SHEM	comp=E,468nm,0.3s			IAML		18 21 22.5	
SHEM	**Shemya Is, Ala**	**2.51**	**288**	P	**Pn**	**18 20 48.0**	**-0.6**
SHEM	comp=E,288nm,0.3s,baz=101,slow=2.8,SNR=97			S	**Sn**	**18 21 18.9**	**-1.4**
	comp=E,557nm,0.4s,baz=239,slow=20,SNR=25						
SMY	**Shemya**	**2.51**	**288**		**Pn**	**18 20 48.0**	**-0.6**
SMY	**Shemya**	**2.51**	**288**		**Sn**	**18 21 18.7**	**-1.7**
KIMD	**Kanaga Island**	**2.95**	**93**		**Sn**	**18 21 28.9**	**-1.3**
KIWB	**Kanaga Island**	**2.99**	**91**		**Pn**	**18 20 54.4**	**-0.3**
KIWB	comp=E,264nm,0.5s			IAML		18 21 32.9	
KIRH	**Kanaga Island**	**3.02**	**90**		**Pn**	**18 20 54.8**	**-0.3**
ADK	**Adak**	**3.28**	**90**	Pn	**Pn**	**18 20 57.6**	**-0.7**
ADK	**Adak**	**3.28**	**90**	IAML		18 21 37.6	
	comp=E,191nm,0.3s						
GSSP	**Great Sitkin S**	**3.58**	**86**		**Pn**	**18 21 02.0**	**-0.3**
GSTD	**Great Sitkin T**	**3.60**	**87**		**Pn**	**18 21 01.4**	**-1.2**
GSTR	**Great Sitkin T**	**3.66**	**86**		**Pn**	**18 21 02.3**	**-0.9**
GSTR	**Great Sitkin T**	**3.66**	**86**	IAML		18 21 57.6	
	comp=E,213nm,0.4s						
GSIG	**Igitkin Island**	**3.74**	**88**		**Pn**	**18 21 03.1**	**-1.2**
ATKA	**Atka Island**	**4.80**	**85**		**Pn**	**18 21 17.8**	**-0.4**
ATKA	**Atka Island**	**4.80**	**85**	IAML		18 22 25.0	
	comp=N,78nm,2.0s						
OKTU	**Okmok Mt. Tuli**	**8.58**	**75**		**Pn**	**18 22 07.7**	**-0.9**
MAPS	**Pakushin South**	**9.27**	**73**		**Pn**	**18 22 17.6**	**-0.1**
MSW	**Makushin Switc**	**9.37**	**72**		**Pn**	**18 22 19.6**	**+0.5**
UNV	**Unalaska Valle**	**9.53**	**73**	Pn	**Pn**	**18 22 21.8**	**+0.7**
PETK	**Petropavlovsk-**	**12.41**	**283**	P	**Pn**	**18 22 59.9**	**+0.9**
PETK	comp=N,14nm,0.9s,baz=88,slow=17,SNR=61			S	**Sn**	**18 25 13.0**	**-3.1**
	comp=N,2.2nm,0.5s,baz=29,slow=18,SNR=4.9						
SDPT	**Sand Point**	**13.17**	**67**	Pn	**Pn**	**18 23 07.0**	**-1.7**
N14K	**Kuskokwak Cree**	**13.81**	**47**	Pn	**Pn**	**18 23 17.2**	**+0.4**
M14K	**Bethel**	**14.08**	**44**		**Pn**	**18 23 21.9**	**+1.7**
L14K	**Kuka Creek**	**14.09**	**41**		**Pn**	**18 23 21.5**	**+1.3**
N15K	**Kwethluk River**	**14.64**	**48**	P	**P**	**18 23 32.1**	**+2.5**
K15K	**Wolf Creek Mou**	**15.07**	**39**		**P**	**18 23 36.8**	**+2.6**
M17K	**Holitna River**	**16.34**	**45**		**Pn**	**18 23 50.0**	**+1.8**
M17K	comp=Z,17nm,0.9s			IAmb	IAmb	18 23 52.3	
ACHA	**Angle Creek He**	**16.40**	**57**	P	**P**	**18 23 49.6**	**+0.5**
ACHA	comp=Z,20nm,1.1s			IAmb	IAmb	18 23 54.6	
K17K	**Iditarod**	**16.57**	**40**		**Pn**	**18 23 52.6**	**+1.7**
K17K	comp=Z,16nm,0.9s			IAmb	IAmb	18 23 53.7	
P18K	**Big Mountain,**	**16.71**	**53**	P	**Pn**	**18 23 54.0**	**+1.4**
P18K	comp=Z,27nm,1.0s			IAmb	IAmb	18 23 57.1	
N18K	**Kilae Creek**	**16.77**	**49**		**Pn**	**18 23 54.8**	**+1.4**
L18K	**Granite Mounta**	**17.00**	**43**		**Pn**	**18 23 57.2**	**+1.0**
H17K	**Granite Mounta**	**17.22**	**33**	P	**P**	**18 23 59.2**	**+1.2**
OHAK	**Old Harbor**	**17.34**	**61**	P	**P**	**18 23 58.0**	**-1.3**
OHAK	comp=Z,10nm,0.6s			IAmb	IAmb	18 23 59.4	
Q19K	**Cape Douglas,**	**17.40**	**55**	P	**P**	**18 24 00.8**	**+0.8**
N19K	**Bonanza Creek**	**17.46**	**49**	IAmb	IAmb	18 24 08.0	
	comp=Z,21nm,0.6s						
J18K	**Innoko River**	**17.57**	**39**	P	**P**	**18 24 03.3**	**+1.5**
P19K	**Oil Pt**	**17.76**	**53**	P	**P**	**18 24 03.9**	**0.0**
KDAK	**Kodiak Island**	**17.78**	**59**	P	**P**	**18 24 03.1**	**-1.0**
KDAK	comp=Z,20nm,1.1s			IAmb	IAmb	18 24 06.7	
KDAK	**Kodiak Island**	**17.78**	**59**	P	**P**	**18 24 03.1**	**-1.0**
	comp=Z,7.8nm,0.4s,baz=250,slow=3.4,SNR=30						
H18K	**Honhosa River**	**17.87**	**33**	P	**P**	**18 24 06.6**	**+1.5**
G18K	**Tagagawik**	**18.23**	**31**		**P**	**18 24 08.9**	**-0.1**
K20K	**Telida**	**18.58**	**41**	IAmb	IAmb	18 24 18.0	
	comp=Z,17nm,0.8s						
E18K	**Tukpahlearik C**	**18.68**	**26**	P	**P**	**18 24 14.8**	**+1.0**
SPU	**Mount Spurr**	**18.70**	**49**	IAmb	IAmb	18 24 19.8	
	comp=Z,20nm,0.8s						
CNPM	**China Poot**	**18.73**	**54**		**P**	**18 24 14.9**	**+0.4**
CNPM				IAmb	IAmb	18 24 15.9	
	comp=Z,21nm,0.6s						
H19K	**Roundabout Mou**	**18.75**	**34**		**Pn**	**18 24 17.0**	**+0.3**
H19K				IAmb	IAmb	18 24 21.9	
	comp=Z,18nm,0.8s						
STLK	**Strandline Lak**	**18.90**	**48**	IAmb	IAmb	18 24 23.0	
	comp=Z,19nm,0.6s						
J20K	**Nowinta River**	**18.91**	**39**		**P**	**18 24 17.5**	**+1.1**
J20K	comp=Z,12nm,0.7s			IAmb	IAmb	18 24 21.4	
BRLK	**Bradley Lake**	**18.94**	**54**	IAmb	IAmb	18 24 18.0	
	comp=Z,27nm,0.8s						
I20K	**Naaghedeneel**	**19.07**	**37**	IAmb	IAmb	18 24 20.5	
	comp=Z,20nm,0.9s						
SKT	**Skwentna**	**19.17**	**47**	IAmb	IAmb	18 24 25.4	
	comp=Z,17nm,0.9s						
PPLA	**Purkeypile**	**19.19**	**44**	IAmb	IAmb	18 24 26.3	
	comp=Z,23nm,0.8s						
SUA	**Susitna One**	**19.39**	**49**	IAmb	IAmb	18 24 28.0	
	comp=Z,29nm,0.9s						
SLKM	**Skilak Lake**	**19.41**	**52**	IAmb	IAmb	18 24 25.3	
	comp=Z,28nm,1.4s						
F20K	**Avaraart Lake**	**19.87**	**31**		**P**	**18 24 27.7**	**+1.0**
IMAR	**Indian Mountai**	**19.93**	**35**	P	**P**	**18 24 28.2**	**+0.7**
KTH	**Kantishna Hill**	**19.96**	**43**	IAmb	IAmb	18 24 33.0	
	comp=Z,27nm,1.2s						
D19K	**Kuna River**	**20.10**	**26**	IAmb	IAmb	18 24 33.7	
	comp=Z,13nm,0.9s						
H21K	**Melozitna Rive**	**20.11**	**36**	IAmb	IAmb	18 24 34.4	
	comp=Z,16nm,0.9s						
BPAW	**Bear Paw Mtn.**	**20.13**	**41**	IAmb	IAmb	18 24 33.8	
	comp=Z,13nm,0.5s						
C19K	**Lookout Ridge**	**20.16**	**23**	P	**P**	**18 24 31.8**	**+2.0**
C19K	comp=Z,8.8nm,0.7s			IAmb	IAmb	18 24 34.3	
TRF	**Thorofare Moun**	**20.19**	**43**		**P**	**18 24 31.6**	**+1.2**
GHO	**Glory Hole Cre**	**20.31**	**48**	IAmb	IAmb	18 24 34.9	
	comp=Z,12nm,0.6s						
PWL	**Port Wells**	**20.39**	**51**	IAmb	IAmb	18 24 35.8	
	comp=Z,16nm,0.6s						
D20K	**Etivluk River**	**20.66**	**26**	P	**P**	**18 24 36.0**	**+0.8**
F21K	**Alatna River**	**20.69**	**32**		**P**	**18 24 36.6**	**+1.1**
F21K	comp=Z,18nm,1.0s			IAmb	IAmb	18 24 40.1	
I23K	**Minto, Yukon-K**	**21.18**	**39**	P	**P**	**18 24 41.3**	**+0.5**
I23K	comp=Z,9.0nm,0.5s			IAmb	IAmb	18 24 45.9	
FID	**Port Fidalgo**	**21.27**	**52**	P	**P**	**18 24 41.4**	**-0.5**
FID	comp=Z,13nm,0.7s			IAmb	IAmb	18 24 47.6	
DHY	**Denali Highway**	**21.33**	**45**		**P**	**18 24 42.7**	**+0.1**
G23K	**Bananza Creek**	**21.60**	**35**	IAmb	IAmb	18 24 48.7	
	comp=Z,11nm,0.8s						
CCB	**Clear Creek Bu**	**21.62**	**41**		**P**	**18 24 44.9**	**-0.5**
KLU	**Klutina**	**21.66**	**50**	IAmb	IAmb	18 24 52.5	
	comp=Z,12nm,0.6s						
DIV	**Divide**	**21.67**	**51**	IAmb	IAmb	18 24 48.5	
	comp=Z,14nm,0.6s						
E22K	**Anaktuvuk Pass**	**21.72**	**31**	IAmb	IAmb	18 24 49.2	
	comp=Z,13nm,0.7s						
HDA	**Harding Lake**	**21.90**	**42**		**P**	**18 24 47.2**	**-1.1**
POKR	**Poker Flat Res**	**21.93**	**40**	IAmb	IAmb	18 24 51.5	
	comp=Z,14nm,0.6s						
H24K	**Noodor Dome**	**22.02**	**38**	IAmb	IAmb	18 24 53.5	
	comp=Z,22nm,0.9s						
ILAR	**Eielson Array**	**22.04**	**41**	P	**P**	**18 24 48.5**	**-1.3**
	comp=Z,2.7nm,0.5s,baz=250,slow=11,SNR=32						
	comp=Z,2.7nm,0.5s						
PAX	**Paxson**	**22.15**	**46**	IAmb	IAmb	18 24 53.1	
	comp=Z,9.3nm,0.8s						
K24K	**Donnelly Dome**	**22.22**	**44**	IAmb	IAmb	18 24 54.2	
	comp=Z,14nm,0.7s						
N25K	**Chitina, Valde**	**22.30**	**50**	IAmb	IAmb	18 24 54.6	
	comp=Z,13nm,0.6s						
E23K	**Chandalar**	**22.39**	**32**	IAmb	IAmb	18 24 55.7	
	comp=Z,16nm,1.3s						
G24K	**Hadweenzic Riv**	**22.51**	**36**	IAmb	IAmb	18 24 57.8	
	comp=Z,14nm,0.8s						
D23K	**Nanushuk River**	**22.53**	**29**	IAmb	IAmb	18 24 56.6	
	comp=Z,7.8nm,0.7s						
BERG	**Berg Lake**	**22.60**	**53**	IAmb	IAmb	18 24 57.5	
	comp=Z,30nm,1.0s						
GLB	**Gilahina Butte**	**22.65**	**50**	IAmb	IAmb	18 24 58.0	
	comp=Z,9.4nm,0.6s						
F24K	**Squaw Lake**	**22.71**	**34**	IAmb	IAmb	18 25 00.0	
	comp=Z,11nm,0.7s						
VRDI	**Verde Repeater**	**22.80**	**51**	IAmb	IAmb	18 25 00.8	
	comp=Z,11nm,0.7s						
CRQM	**Cirque**	**22.90**	**52**	IAmb	IAmb	18 25 01.8	
	comp=Z,19nm,1.0s						
DOT	**Dot Lake**	**22.92**	**45**	IAmb	IAmb	18 24 59.6	
	comp=Z,8.4nm,0.6s						
MCARA	**McCarthy VSAT**	**23.02**	**51**	IAmb	IAmb	18 25 03.5	
	comp=Z,19nm,0.7s						
WAX	**Waxell Ridge**	**23.02**	**53**	IAmb	IAmb	18 25 02.3	
	comp=Z,22nm,0.9s						
SCRK	**Sand Creek**	**23.03**	**44**	IAmb	IAmb	18 24 59.9	
	comp=Z,17nm,1.4s						
L26K	**Log Cabin Wild**	**23.11**	**46**	IAmb	IAmb	18 25 02.7	
	comp=Z,19nm,1.0s						
D24K	**Happy Valley**	**23.19**	**30**	IAmb	IAmb	18 25 03.0	
	comp=Z,11nm,0.7s						
ISLE	**Juniper Island**	**23.28**	**53**	IAmb	IAmb	18 25 04.0	
	comp=Z,14nm,0.9s						
FYU	**Fort Yukon**	**23.29**	**37**	IAmb	IAmb	18 25 05.0	
	comp=Z,10nm,0.8s						
M27K	**Edge Creek, AK**	**23.68**	**48**	IAmb	IAmb	18 25 08.7	
	comp=Z,19nm,0.8s						
E25K	**Arctic Village**	**23.77**	**34**	IAmb	IAmb	18 25 08.3	
	comp=Z,7.2nm,0.6s						
BCAR	**Beaver Creek A**	**23.82**	**47**		**P**	**18 25 07.4**	**+0.9**
K27K	**Chicken**	**23.86**	**44**	IAmb	IAmb	18 25 08.7	
	comp=Z,16nm,0.8s						
LOGN	**Logan Glacier**	**23.95**	**52**	IAmb	IAmb	18 25 11.6	
	comp=Z,18nm,0.8s						
G26K	**Porcupine Rive**	**23.96**	**37**	IAmb	IAmb	18 25 10.5	
	comp=Z,14nm,0.6s						
F26K	**Sheenjek River**	**24.09**	**35**	IAmb	IAmb	18 25 11.2	
	comp=Z,8.2nm,0.6s						
I28M	**Miner Creek**	**25.05**	**41**	IAmb	IAmb	18 25 18.8	
	comp=Z,18nm,1.0s						
E27K	**Coen River**	**25.17**	**35**	IAmb	IAmb	18 25 21.1	
	comp=Z,9.9nm,0.6s						
M29M	**Somme Creek**	**25.27**	**49**	IAmb	IAmb	18 25 27.5	
	comp=Z,7.0nm,0.7s						
L29M	**L29M**	**25.48**	**47**	IAmb	IAmb	18 25 23.2	
	comp=Z,8.8nm,0.8s						
P29M	**Windy Craggy**	**25.57**	**55**	IAmb	IAmb	18 25 27.2	
	comp=Z,12nm,0.9s						
J29N	**Klondike Camp**	**25.59**	**44**	IAmb	IAmb	18 25 24.7	
	comp=Z,10.0nm,0.5s						
F28M	**Old Crow**	**25.61**	**36**	IAmb	IAmb	18 25 26.0	
	comp=Z,5.6nm,0.6s						
I29M	**Ogilvie Camp,**	**25.70**	**42**	IAmb	IAmb	18 25 27.4	
	comp=Z,12nm,0.8s						
K29M	**Barlow Dome**	**25.82**	**45**	IAmb	IAmb	18 25 26.7	
	comp=Z,7.8nm,0.7s						
H29M	**Whitestone**	**25.84**	**40**	IAmb	IAmb	18 25 25.9	
	comp=Z,6.0nm,0.6s						
N30M	**Aishikik Lake**	**25.87**	**51**	IAmb	IAmb	18 25 31.0	
	comp=Z,16nm,0.8s						
G29M	**Pine Creek**	**26.13**	**38**	IAmb	IAmb	18 25 29.5	
	comp=Z,8.7nm,0.7s						
J30M	**Hart River**	**26.42**	**44**	IAmb	IAmb	18 25 32.0	
	comp=Z,7.4nm,0.7s						
I30M	**Mount Dempster**	**26.48**	**42**	IAmb	IAmb	18 25 43.6	
	comp=Z,7.4nm,0.6s						
EPYK	**Eagle Plains**	**26.53**	**40**	IAmb	IAmb	18 25 32.1	
	comp=Z,11nm,0.6s						
F30M	**Barrier River**	**27.13**	**37**	IAmb	IAmb	18 25 39.0	
	comp=Z,11nm,0.7s						
H31M	**Peel River**	**27.40**	**41**	IAmb	IAmb	18 25 39.6	
	comp=Z,5.9nm,0.5s						
G31M	**Satah River**	**27.58**	**39**	IAmb	IAmb	18 25 42.0	
	comp=Z,9.4nm,0.6s						
INK	**Inuvik**	**28.10**	**36**	IAmb	IAmb	18 25 47.1	
	comp=Z,4.7nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**33.36**	**199**	T	T	19 02 17.7	
	baz=11,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**33.37**	**199**	T	T	19 02 16.7	
	baz=11,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy**	**33.38**	**199**	T	T	19 02 25.0	
	baz=11,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**34.59**	**199**	T	T	19 03 38.0	
	baz=11,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**34.61**	**199**	T	T	19 03 50.9	
	baz=11,slow=76,SNR=3.3						
H11S3	**WAKE ISLAND Hy**	**34.61**	**199**	T	T	19 03 44.6	
	baz=11,slow=76,SNR=8.6						
YKA	**Yellowknife Ar**	**36.24**	**46**	P	**P**	**18 26 56.2**	**+0.5**
	comp=Z,4.0nm,0.7s,baz=288,slow=8.7,SNR=9.9						
	comp=Z,4.0nm,0.7s						
DCMP	**DeCamp, Califo**	**41.70**	**84**	P	**P**	**18 27 37.5**	**-3.9**
LYMT	**Lyon Mountain**	**43.97**	**68**	P	**P**	**18 27 59.5**	**-0.3**
SONM	**Songino Array**	**44.59**	**294**	P	**P**	**18 28 06.0**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=65,slow=8.3,SNR=3.0						
	comp=Z,0.4nm,0.5s						
BOZ	**Bozeman (W)**	**45.12**	**69**	P	**P**	**18 28 07.1**	**-1.8**
BOZ	comp=Z,10nm,1.2s			IAmb	IAmb	18 28 19.0	
NVAR	**Mina Array Bea**	**45.42**	**81**	P	**P**	**18 28 11.9**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=300,slow=7.6,SNR=6.2						
	comp=Z,1.0nm,0.5s						
NJ2	**Nanjing**	**46.83**	**269**	*e*P	**P**	**18 28 20.0**	**-2.2**
NJ2	comp=Z,10.0nm,0.5s			pmax	pmax		
PDAR	**Pinedale Array**	**47.99**	**71**	P	**P**	**18 28 30.8**	**-0.6**
PDAR	**Pinedale Array**	**47.99**	**71**	P	**P**	**18 28 31.3**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=312,slow=3.5,SNR=14						
	comp=Z,0.6nm,0.4s						
SPITS	**Spitsbergen Ar**	**49.60**	**355**	P	**P**	**18 28 42.3**	**-0.6**
	comp=Z,6.6nm,0.8s,baz=34,slow=5.9,SNR=1.7						
	comp=Z,6.6nm,0.8s						
ULM	**Lac du Bonnet**	**50.98**	**56**	P	**P**	**18 28 52.6**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=296,slow=7.6,SNR=5.3						
	comp=Z,1.8nm,0.6s						
ARCES	**ARCESS Array B**	**57.12**	**349**	P	**P**	**18 29 37.8**	**0.0**
	comp=Z,2.0nm,0.8s,baz=18,slow=6.6,SNR=2.0						
	comp=Z,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**57.25**	**312**	P	**P**	**18 29 39.5**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=42,slow=6.6,SNR=6.9						
KURBB				pP	**pP**	**18 30 15.2**	**+2.9**
	comp=Z,0.8nm,0.6s,baz=42,slow=6.6,SNR=5.6						
	comp=Z,0.2nm,0.4s						
WMQ	**Urumqi**	**57.33**	**301**	*e*P	**P**	**18 29 40.5**	**+0.7**
WMQ	comp=Z,340nm,22.5s			LR	LR		
MKAR	**Makanchi Array**	**58.08**	**306**	P	**P**	**18 29 45.2**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=36,slow=5.4,SNR=1.6						
MKAR				pP	**pwP**	**18 30 21.9**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=51,slow=8.3,SNR=2.2						
	comp=Z,0.2nm,0.4s						
BVAR	**Borovoye Array**	**59.12**	**318**	P	**P**	**18 29 53.0**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=59,slow=6.5,SNR=4.9						
BVAR				pP	**pwP**	**18 30 30.5**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=38,slow=7.5,SNR=3.9						
	comp=Z,0.7nm,0.4s						
TXAR	**Lajitas Array**	**60.50**	**79**	P	**P**	**18 30 02.5**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=307,slow=5.2,SNR=14						
	comp=Z,0.5nm,0.5s						
FINES	**FINESS Array B**	**64.71**	**346**	P	**P**	**18 30 29.2**	**+0.2**
	comp=Z,3.8nm,1.0s,baz=29,slow=5.8,SNR=2.0						
FINES				pP	**pwP**	**18 31 07.2**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=34,slow=7.4,SNR=1.7						
	comp=Z,3.8nm,1.0s						
AKASG	**Malin Array Be**	**74.31**	**340**	P	**P**	**18 31 28.3**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=23,slow=6.3,SNR=5.1						
	comp=Z,0.5nm,0.4s						
BMRD	**Maredsous**	**77.91**	**356**	*d*P	**P**	**18 31 48.7**	**+0.2**
WRA	**Warramunga Arr**	**81.14**	**221**	P	**P**	**18 32 07.9**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=31,slow=6.2,SNR=11						
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**84.65**	**220**	P	**P**	**18 32 26.6**	**+2.3**
	comp=Z,0.6nm,0.7s,baz=15,slow=5.5,SNR=6.4						
	comp=Z,0.6nm,0.7s						
STKA	**Stephens Creek**	**89.42**	**210**	P	**P**	**18 32 49.1**	**+2.1**
	comp=Z,2.8nm,1.0s,baz=301,slow=5.9,SNR=3.7						
	comp=Z,2.8nm,1.0s						
QSPA	**South Pole Qui**	**141.75**	**180**	PKP	**PKPdf**	**18 39 19.0**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=45,slow=2.1,SNR=11						
MAW	**Mawson**	**145.76**	**218**	PKPbc	**PKiKP**	**18 39 29.0**	**-1.9**
	comp=Z,2.2nm,0.7s,baz=113,slow=5.0,SNR=10						

KRNET ***15*** *18:26:15.9±0.1,42.37N×78.94E,mb3.0*

SOME ***15*** *18:26:15.8,42.57N×78.90E,h15km*

NNC ***15*** *18:26:15.3±0.9,42.58N×78.94E,h0km,mb3.3,mpv3.2, Error ellipse: s-maj=6.3km s-min=3.3km az=163.0*

ISC 15 18:26:16.2±1.4, 42.59N±0.05×78.88E±0.04, h4km±10km, n29,σ0s89/51, 7C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**0.37**	**254**	⇑*i*P

KUU				*e*S		**Sb**	**18 27 26.7**	**+0.5**
	52nm,0.2s							
TKM2	**Tokmak 2**	**2.44**	**279**	⇑*i*P		**Pb**	**18 26 59.7**	**-1.1**
TKM2				⇑*i*S		**Sb**	**18 27 31.6**	**+0.3**
KRBS	**Karabastau**	**2.60**	**296**	Pg		**Pb**	**18 27 03.2**	**-0.2**
	0.3nm,0.1s							
KRBS				Lg		Lg	18 27 37.0	
	2.4nm,0.2s							
KAPS	**Kapalarasan**	**2.72**	**7**	Pg		**Pb**	**18 27 05.7**	**+0.3**
	1.5nm,0.1s							
KAPS				Lg		Lg	18 27 41.4	
	21nm,0.1s							
MK31	**Makanchi Array**	**4.86**	**29**	⇓Pn		**Pn**	**18 27 33.7**	**+3.7**
	0.1nm,0.2s,baz=208,slow=15,SNR=2.6							
MK31				⇓Sn		**Sn**	**18 28 26.4**	**-0.4**
	0.1nm,0.2s,baz=206,slow=24							
MK31				⇓Lg		Lg	18 28 45.5	
	0.2nm,0.2s,baz=204,slow=27							

IDC ***15*** *18:49:02.3±1.2,2°.66S×138°.79E, h0km, mb3.5/5, mbtmp3.8/7, ML3.9/2, Error ellipse: s-maj=29.0km s-min=20.4km az=145.0*
DJA ***15*** *18:49:05.2±1.0,3°.5S×13°.9E±°, h11km±10km, M3.9/7, mB4.8/1, mb4.2/3, MLv3.7/7, Mw(mB)4.1/1*
ISC 15 18:49:07.2±0.8,2°.59S±0°.09×138°.79E±0°.05,h37km,n14,
σ1§37/15,mb3.6/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.60**	**352**	P	**Pn**	**18 49 17.6**	**-1.8**
GENI	**Genyem**	**1.38**	**90**	P	**Pn**	**18 49 30.5**	**+0.6**
JAY	**Jayapura**	**1.92**	**88**	Pn	**Pn**	**18 49 36.9**	**-0.4**
	6.0nm,0.3s,baz=226,slow=11,SNR=50						
JAY				Sn	**Sn**	**18 50 00.9**	**+0.7**
	12nm,0.3s,baz=128,slow=14,SNR=7.6						
JAY	**Jayapura**	**1.92**	**88**	P	**Pn**	**18 49 37.1**	**-0.2**
SRPI	**Serui, Papua**	**2.65**	**286**	P	**Pn**	**18 49 46.3**	**-1.0**
BAKI	**Biak**	**3.02**	**297**	P	**Pn**	**18 49 53.9**	**+1.4**
RKPI	**Ransiki, Papua**	**4.73**	**283**	P	**Pn**	**18 50 17.4**	**+1.4**
BATI	**Baumata**	**16.82**	**243**	Pn	**Pn**	**18 52 59.6**	**-0.4**
	2.1nm,0.3s,baz=201,slow=1.1,SNR=5.8						
	4.1nm,0.3s						
WRA	**Warramunga Arr**	**17.78**	**194**	P	**Pn**	**18 53 09.6**	**-2.3**
	0.2nm,0.3s,baz=14,slow=12,SNR=9.9						
	1.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.09**	**219**	P	**P**	**18 53 37.0**	**-0.7**
	1.4nm,0.9s,baz=20,slow=12,SNR=1.7						
	1.4nm,0.9s						
ASAR	**Alice Springs**	**21.48**	**192**	P	**P**	**18 53 51.2**	**-1.5**
	1.2nm,0.6s,baz=21,slow=9.9,SNR=22						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**69.75**	**322**	P	**P**	**19 00 15.0**	**+1.5**
	0.3nm,0.8s,baz=101,slow=7.5,SNR=2.9						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**85.69**	**24**	P	**P**	**19 01 41.8**	**-0.1**
	0.3nm,0.7s,baz=269,slow=5.4,SNR=2.4						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**87.35**	**180**	P	**P**	**19 01 51.9**	**+1.6**
	0.7nm,0.7s,baz=352,slow=4.6,SNR=7.5						
	0.7nm,0.7s						

ISK ***15*** *18:55:31.9,35°.68N×34°.86E, h14km, ML2.2/15*
AFAD ***15*** *18:55:32.3,35°.70N×34°.94E, h6km±5km, ML2.0*
NIC ***15*** *18:55:34.4,35°.90N×34°.40E, h6km±6km, MI1.4/8*
GRAL ***15*** *18:55:35.5±0.2,35°.55N×34°.97E, h13km±6km, MD2.9*
ISC 15 18:55:31.8±1.1,35°.68N±0°.03×34°.92E±0°.02,h13km±9km,
n42,σ1§29/63,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.99**	**227**	P	**Pn**	**18 55 52.8**	**+1.4**
PARAL				S	**Sb**	**18 56 06.7**	**+2.9**
PARAL				AML	AML	18 56 07.7	
	0.1nm,0.5s						
PARAL				AML	AML	18 56 08.2	
	0.1nm,0.6s						
KIZK	**Mersin**	**1.02**	**322**	Pg	**Pb**	**18 55 52.3**	**+1.0**
KIZK				Sg	**Sb**	**18 56 05.8**	**+1.1**
KIZK	**Mersin**	**1.02**	**322**	P	**Pb**	**18 55 52.2**	**+0.8**
KIZK				S	**Sg**	**18 56 04.7**	**-0.1**
SILI	**Silifke-Mersin**	**1.06**	**311**	Pg	**Pg**	**18 55 52.4**	**+0.1**
SILI				Sg	**Sg**	**18 56 06.6**	**+0.4**
SLFK	**Silifke-Mersin**	**1.06**	**312**	Pg	**Pg**	**18 55 52.4**	**0.0**
SLFK				Sg	**Sg**	**18 56 06.3**	**0.0**
YESI	**Yesilovacik-Me**	**1.16**	**297**	Pn	**Pg**	**18 55 53.7**	**-0.5**
AKK1	**Akkuyu-Mersin**	**1.21**	**293**	Pn	**Pg**	**18 55 54.6**	**-0.6**
GULN	**MERSIN_Gulnar**	**1.23**	**295**	P	**Pg**	**18 55 54.8**	**-0.6**
GULN				S	**Sg**	**18 56 09.7**	**-1.7**
MERS	**Mersin**	**1.23**	**345**	Pn	**Pg**	**18 55 55.3**	**-0.2**
TAHT	**Tahtakopru-Hat**	**1.24**	**55**	Pn	**Pg**	**18 55 55.3**	**-0.4**
MVOU	**Mavrovouni**	**1.24**	**238**	P	**Pn**	**18 55 55.2**	**+0.3**
MVOU				S	**Sg**	**18 56 12.9**	**+1.0**
MVOU				AML	AML	18 56 13.3	
MVOU				AML	AML	18 56 18.7	
KEBE	**Keben-Mersin**	**1.25**	**308**	Pn	**Pg**	**18 55 55.1**	**-0.7**
YURE	**YUREGIR**	**1.28**	**26**	P	**Pn**	**18 56 00.0**	**+4.5**
YURE				S	**Sg**	**18 56 12.0**	**-1.2**
DED	**Mersin**	**1.29**	**356**	P	**Pn**	**18 55 55.6**	**+0.1**
DED				S	**Sg**	**18 56 11.3**	**-2.0**
RHAN	**Hatay/Reyhanl**	**1.48**	**66**	P	**Pn**	**18 55 58.3**	**+0.1**
RHAN				S	**Sn**	**18 56 16.4**	**-1.0**
RHAN				*i* IAML		18 56 18.0	
	comp=E,23nm,0.4s						
RHAN				*i* IAML		18 56 22.0	
	comp=N,29nm,0.5s						
CSS	**Mathiatis**	**1.48**	**242**	Pn	**Pn**	**18 55 57.7**	**-0.5**
CSS	**Mathiatis**	**1.48**	**242**	P	**Pn**	**18 55 57.6**	**-0.5**
CSS				S	**Sn**	**18 56 16.9**	**-0.6**
CSS				AML	AML	18 56 21.5	
CSS				AML	AML	18 56 27.2	
CEYT	**Ceyhan**	**1.49**	**26**	Pn	**Pb**	**18 55 59.5**	**+0.2**
BERE	**Bereket-Mersin**	**1.53**	**296**	Pn	**Pn**	**18 55 59.2**	**+0.2**
BEIL	**Beino**	**1.53**	**137**	*e*P	**Pn**	**18 55 59.5**	**+0.6**
BEIL				*e*S	**Sn**	**18 56 17.5**	**-1.3**
TEKE	**Tekeli-Mersin**	**1.54**	**288**	Pn	**Pn**	**18 55 59.3**	**+0.3**
KARA	**Karaisali**	**1.58**	**4**	Pn	**Pn**	**18 55 59.9**	**+0.3**
GULE	**Gulek**	**1.61**	**356**	P	**Pn**	**18 56 00.4**	**+0.3**
GULE				*i* IAML		18 56 22.0	
	comp=E,14nm,0.5s						
HWQ	**Hawqa**	**1.63**	**149**	*e*P	**Pn**	**18 56 01.0**	**+0.7**
HWQ				*e*S	**Sn**	**18 56 19.8**	**-1.4**
ASGA	**Asgata**	**1.63**	**238**	P	**Pn**	**18 56 01.1**	**+0.9**
ASGA				S	**Sn**	**18 56 22.3**	**+1.2**
ASGA				AML	AML	18 56 23.5	
ASGA				AML	AML	18 56 26.9	
HASA	**Hatay-Hassa-Ha**	**1.66**	**49**	P	**Pg**	**18 56 03.5**	**-0.1**
HASA				S	**Sn**	**18 56 19.9**	**-1.9**
XYLS	**Xyliatos**	**1.67**	**247**	P	**Pn**	**18 55 59.8**	**-1.0**
XYLS				S	**Sn**	**18 56 20.4**	**-1.6**
XYLS				AML	AML	18 56 21.2	
XYLS				AML	AML	18 56 22.5	
TROD	**Troodos**	**1.83**	**247**	P	**Pn**	**18 56 03.2**	**0.0**
TROD				AML	AML	18 56 24.2	
TROD				S	**Sn**	**18 56 25.4**	**-1.0**
TROD				AML	AML	18 56 26.7	
KERG	**Konya-Eregli**	**1.85**	**340**	P	**Pn**	**18 56 04.2**	**+0.8**
KERG				S	**Sn**	**18 56 27.1**	**+0.4**
BHL	**Bhannes**	**1.87**	**161**	*e*P	**Pn**	**18 56 04.2**	**+0.6**
ALFC	**Alefka**	**1.97**	**255**	P	**Pn**	**18 56 04.0**	**-0.8**
ALFC				S	**Sn**	**18 56 26.1**	**-3.3**
ALFC				AML	AML	18 56 29.1	
ALFC				AML	AML	18 56 30.3	
ZAHL	**Zahle**	**1.98**	**156**	*e*P	**Pn**	**18 56 05.8**	**+0.6**
CMRD	**Camardi-Nigde**	**1.98**	**2**	Pn	**Pn**	**18 56 06.1**	**+0.9**
KRMN	**Karaman**	**2.00**	**319**	Pn	**Pn**	**18 56 06.0**	**+0.5**
DQRL	**Deir Qamar**	**2.04**	**165**	*e*P	**Pn**	**18 56 06.3**	**+0.4**
KUZU	**Kuzuini**	**2.06**	**57**	P	**Pn**	**18 56 06.1**	**0.0**
KUZU				S	**Sn**	**18 56 29.3**	**-2.4**
KUZU				*i* IAML		18 56 42.0	
	comp=E,18nm,0.3s						
KUZU				*i* IAML		18 56 47.0	
	comp=N,17nm,0.5s						
GAZI	**Gazipasa**	**2.19**	**286**	Pn	**Pn**	**18 56 08.3**	**+0.4**
AKMS	**Akamas**	**2.21**	**253**	S	**Sn**	**18 56 32.3**	**-3.2**
AKMS				AML	AML	18 56 35.3	
	0.1nm,1.3s						
QRWL	**Qaraoun**	**2.21**	**163**	*e*P	**Pn**	**18 56 09.0**	**+0.6**
RCY	**Rachaya**	**2.30**	**161**	*e*P	**Pn**	**18 56 10.2**	**+0.6**
RCY				*e*S	**Sn**	**18 56 35.9**	**-2.0**
HDMB	**Hadim**	**2.35**	**304**	Pn	**Pn**	**18 56 10.8**	**+0.5**
SHBL	**Chebaa**	**2.42**	**163**	*e*P	**Pn**	**18 56 11.9**	**+0.6**

JMA ***15*** *18:57:34.2±0.6,46°.2°×14°.1E±°, h0km, MV3.0/14, SOUTH SAKHALIN*
SKHL ***15*** *18:57:36.9±0.6,46°.30N×140°.30E, h55km±9km, mb4.0/2*
ISC 15 18:57:35.5±5.0,46°.3N±0°.1×140°.3E±0°.3,h35km,n5,
σ1§19/7,Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRBN	**Rebuntou**	**1.04**	**147**	P	**Pn**	**18 57 52.2**	**-1.3**
NEVR	**Nevel`sk**	**1.16**	**71**	*e*P	**Pn**	**18 57 56.2**	**+1.0**
JRR	**Rishiri**	**1.37**	**148**	*e*P	**Pn**	**18 57 58.7**	**+0.6**
JRR				*e*S	**Sn**	**18 58 16.1**	**+1.1**
JWK2	**Keihoku**	**1.50**	**130**	*e*P	**Pn**	**18 57 59.8**	**-0.1**
YSS	**Yuzhno-Sakhali**	**1.83**	**68**	*e*P	**Pn**	**18 58 04.2**	**-0.2**
YSS				AMB	AMB	18 58 06.5	
	10.0nm,0.5s						
YSS				*e*S	**Sn**	**18 58 25.2**	**-1.2**
YSS				A	A	18 58 27.4	
	60nm,0.6s						
YSS				A	A	18 58 27.4	
	60nm,0.6s						

SNET ***15*** *18:59:04.6±1.8, 12°.93N×89°.56W, h24km, ML3.7*
CATAC ***15*** *18:59:05.2±0.8, 13°.N±4°.×9°.0W±°, h18km±5km, M3.8/13, MLv3.8/13, Error ellipse: s-maj=8.5km s-min=5.4km az=27.6, confirmed*
GCG ***15*** *18:59:06.8±0.6, 13°.07N×89°.69W, h29km±5km, MD4.5*
ISC 15 18:59:06.1±2.1,13°.01N±0°.09×89°.54W±0°.05,h24km±13km,
n45,σ0§62/57,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.64**	**8**	*i* P	**Pb**	**18 59 18.8**	**-0.1**
JAYA				*e*S	**Sn**	**18 59 30.5**	**+1.1**
JAYA	**Jayaque - finc**	**0.64**	**8**	*i* P	**Pb**	**18 59 18.7**	**-0.1**
JAYA				*e*S	**Sb**	**18 59 28.6**	**+1.1**
JAYA	**Jayaque - finc**	**0.64**	**8**	P	**Pb**	**18 59 18.8**	**-0.1**
LOMA	**Loma Larga**	**0.72**	**29**	*e*P	**Pb**	**18 59 20.1**	**0.0**
LOMA	**Loma Larga**	**0.72**	**29**	P	**Pb**	**18 59 20.3**	**+0.1**
PMON	**Piamonte**	**0.73**	**17**	*e*P	**Pb**	**18 59 20.1**	**-0.1**
PMON	**Piamonte**	**0.73**	**17**	S	**Sn**	**18 59 31.3**	**-0.1**
PMON	**Piamonte**	**0.73**	**17**	P	**Pb**	**18 59 20.0**	**-0.3**
UEES	**Universidad Ev**	**0.76**	**22**	*e*P	**Pb**	**18 59 20.6**	**-0.1**
UEES				*e*S	**Sn**	**18 59 32.0**	**-0.1**
UEES	**Universidad Ev**	**0.76**	**22**	P	**Pb**	**18 59 20.5**	**-0.2**
BOQS	**Boqueron**	**0.76**	**19**	*e*P	**Pb**	**18 59 20.9**	**0.0**
BOQS				*e*S	**Sn**	**18 59 32.3**	**0.0**
LFRS	**El Faro**	**0.76**	**37**	*e*P	**Pb**	**18 59 20.9**	**0.0**
CEDA	**San Andres**	**0.80**	**10**	*e*P	**Pb**	**18 59 21.4**	**0.0**
CEDA				*e*S	**Sn**	**18 59 33.4**	**+0.3**
CEVE	**Cerro Verde**	**0.81**	**354**	*e*P	**Pb**	**18 59 21.6**	**-0.3**
CEVE				*e*S	**Sn**	**18 59 33.9**	**+0.1**
CEVE	**Cerro Verde**	**0.81**	**354**	P	**Pb**	**18 59 21.5**	**-0.3**
SBLS	**San Blas**	**0.82**	**354**	*e*P	**Pb**	**18 59 21.7**	**-0.3**
LFIJ	**La Fuente**	**0.84**	**29**	*e*P	**Pn**	**18 59 22.5**	**0.0**
SNJE	**San Jose**	**0.85**	**355**	*e*P	**Pb**	**18 59 21.9**	**-0.5**
SNJE				*e*S	**Sb**	**18 59 34.1**	**+0.5**
LBRS	**Las Brisas**	**0.87**	**34**	*e*P	**Pn**	**18 59 22.6**	**-0.2**
RTR	**El Retiro**	**0.89**	**353**	*e*P	**Pb**	**18 59 22.6**	**-0.3**
PAVA	**Las Pavas**	**0.91**	**40**	*e*P	**Pb**	**18 59 23.2**	**-0.1**
PAVA				*e*S	**Sn**	**18 59 36.8**	**+1.0**
PAVA	**Las Pavas**	**0.91**	**40**	P	**Pn**	**18 59 23.0**	**-0.5**
NUBE	**Las Nubes**	**0.92**	**345**	*e*P	**Pn**	**18 59 22.6**	**-1.0**
NUBE				*e*S	**Sb**	**18 59 35.1**	**-0.2**
NUBE	**Las Nubes**	**0.92**	**345**	*e*P	**Pn**	**18 59 22.5**	**-1.2**
NUBE				*e*S	**Sb**	**18 59 34.8**	**-0.5**
NUBE	**Las Nubes**	**0.92**	**345**	P	**Pn**	**18 59 22.4**	**-1.2**
UESV	**Universidad de**	**0.96**	**50**	P	**Pn**	**18 59 23.3**	**-0.8**
UESV	**Universidad de**	**0.96**	**50**	S	**Sn**	**18 59 36.8**	**-0.1**
UNIC	**Universidad Ca**	**0.96**	**359**	S	**Sn**	**18 59 37.0**	**-0.1**
UNIC	**Universidad Ca**	**0.96**	**359**	P	**Pn**	**18 59 23.6**	**-0.6**
LOAL	**Lomas de Alarc**	**1.01**	**346**	P	**Pn**	**18 59 24.1**	**-0.7**
LOAL	**Lomas de Alarc**	**1.01**	**346**	S	**Sn**	**18 59 38.2**	**0.0**
PQSS	**Presa 15 de Se**	**1.13**	**57**	*i* P	**Pn**	**18 59 25.9**	**-0.5**
PQSS				*e*S	**Sb**	**18 59 41.5**	**+0.3**
PQSS	**Presa 15 de Se**	**1.13**	**57**	P	**Pn**	**18 59 25.7**	**-0.7**
PACA	**Pacayal**	**1.27**	**69**	*e*P	**Pn**	**18 59 28.2**	**-0.2**
PACA				*e*S	**Sb**	**18 59 45.2**	**-0.1**
PACA	**Pacayal**	**1.27**	**69**	P	**Pn**	**18 59 28.1**	**-0.3**
LLGN	**La Laguna**	**1.28**	**27**	P	**Pn**	**18 59 28.9**	**+0.3**
BLLM	**Bellamira**	**1.33**	**71**	*e*P	**Pn**	**18 59 29.0**	**-0.3**
MTO3	**Montecristo**	**1.39**	**7**	*e*P	**Pn**	**18 59 30.3**	**+0.1**
MTO3	**Montecristo**	**1.39**	**7**	*e*P	**Pn**	**18 59 30.1**	**0.0**
MTO3	**Montecristo**	**1.39**	**7**	P	**Pn**	**18 59 30.2**	**0.0**
MTO3	**Montecristo**	**1.39**	**7**	S	**Sb**	**18 59 48.7**	**-0.2**
ESQI	**Esquipulas**	**1.55**	**7**	P	**Pn**	**18 59 32.6**	**+0.3**
FG16	**Alotenango, Sa**	**1.57**	**323**	*e*P	**Pb**	**18 59 36.2**	**+1.5**
FG8	**Yepocapa, Chim**	**1.59**	**321**	*e*P	**Pb**	**18 59 36.8**	**+1.8**
ESSG	**Sabana Grande**	**1.85**	**317**	*e*P	**Pn**	**18 59 34.8**	**-1.7**

OMAN 15 19:27:16.9±0.1,17°.37N×59°.71E,h39km±9km,mb4.0/6,
ml3.8/7,Error ellipse: s-maj=2.4km s-min=0.7km
az=313.0,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQM	**DQM**	**3.27**	**321**	P	Pn	19 28 05.8	0.0
	SNR=47						
DQM				S	Sn	19 28 45.1	+1.6
SHAO	**Shalim**	**3.95**	**280**	P	Pn	19 28 14.4	-0.6
SHAO				S	Sn	19 29 00.1	0.0
MHTO	**MHTO**	**3.96**	**336**	P	Pn	19 28 14.3	-0.8
	SNR=334						
MHTO				S	Sn	19 29 02.2	+1.9
DMTO	**DMTO**	**4.56**	**275**	P	Pn	19 28 23.0	-0.4
	SNR=33						
DMTO				S	Sn	19 29 13.7	-1.4
JLN	**Jalan Bani Buh**	**4.76**	**357**	P	Pn	19 28 25.4	-0.8
JLN				S	Sn	19 29 19.3	-1.0
JMDO	**Jabal Madar**	**5.20**	**343**	P	Pn	19 28 32.4	+0.2
JMDO				S	Sn	19 29 31.3	+0.3
RBK	**Rabkut**	**5.26**	**272**	P	Pn	19 28 33.3	+0.2
RBK				S	Sn	19 29 32.7	+0.2
DOK	**Doka**	**5.46**	**284**	P	Pn	19 28 36.3	+0.6
DOK				S	Sn	19 29 38.4	+1.1
WHFO	**Wadi Hawf**	**5.69**	**276**	P	Pn	19 28 39.6	+0.6
WHFO				S	Sn	19 29 43.0	-0.2
SMDO	**Samad**	**5.87**	**345**	P	Pn	19 28 41.6	+0.1
SMDO				S	Sn	19 29 47.4	-0.3
WSAR	**Wadi Sarin**	**5.93**	**350**	P	Pn	19 28 42.3	+0.1
WSAR				S	Sn	19 29 48.7	-0.2
ABTO	**Aybut**	**6.12**	**271**	P	Pn	19 28 44.9	-0.1
	SNR=8.8						
ABTO				S	Sn	19 29 53.2	-0.7
ABTO				S		19 29 55.0	
	SNR=7.3						
BIDO	**Bidbid**	**6.30**	**347**	P	Pn	19 28 48.0	+0.7
BIDO				S	Sn	19 30 00.0	+2.0
HOQ	**Hoqain**	**6.58**	**340**	P	Pn	19 28 51.7	+0.5
ARQ	**Araqi**	**6.65**	**334**	P	Pn	19 28 52.6	+0.4
ARQ				S	Sn	19 30 08.8	+2.1
UMZA	**Um Al Zommool**	**6.82**	**322**	P	Pn	19 28 55.0	+0.4
UMZA				S	Sn	19 30 12.8	+1.9
SOHO	**SOHO**	**7.36**	**337**	P	Pn	19 29 03.0	+1.1
SOHO				S	Sn	19 30 25.4	+1.3
ASHO	**Ashiyiah**	**8.04**	**336**	P	Pn	19 29 11.8	+0.6
MZR	**Muzera**	**8.10**	**315**	P	Pn	19 29 12.3	+0.3
RAYN	**Ar Rayn**	**14.65**	**297**	P	Pn	19 30 39.3	-2.3

NOU ***15*** *19:32:15.1, 11°.37S×162°.90E, h0km, MLv4.0/9, Solomon Islands*
IDC ***15*** *19:32:17.8±2.7, 6°.28S×158°.87E, h0km, mb3.3/3, mbtmp3.4/4, ML4.0/1, MS2.3/1, Error ellipse: s-maj=59.1km s-min=30.9km az=64.0*
ISC 15 19:32:14.9±2.7,11°.4S±0°.1×162°.9E±0°.2,h10km,n13,
σ1§18/12,mb3.3/3,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	**Huro Makira**	**1.38**	**313**	P	**Pn**	**19 32 39.0**	**-1.1**
HURO	**Huro Makira**	**1.38**	**313**	S	**Sg**	**19 32 57.8**	**-1.4**
NGOA	**Tingoa Renbel**	**2.82**	**267**	P	**Pn**	**19 33 00.5**	**+0.5**
ALEG	**Aligegeo Malai**	**3.43**	**320**	P	**Pn**	**19 33 08.7**	**+0.2**
ALEG	**Aligegeo Malai**	**3.43**	**320**	S	**Sn**	**19 33 50.5**	**+1.2**
HNR	**Honiara**	**3.53**	**303**	Pn	**Pn**	**19 33 10.9**	**+1.1**
	17nm,0.3s,baz=182,slow=7.4,SNR=6.7						
HNR				Sn	**Sn**	**19 33 51.2**	**-0.4**
	9.4nm,0.3s,baz=202,slow=4.6,SNR=1.6						
HNR				LR	LR	19 33 52.4	
	comp=Z,50nm,19.4s,baz=7.5,slow=29						
	56nm,0.3s						
HNR	**Honiara**	**3.53**	**303**	P	**Pn**	**19 33 11.3**	**+1.5**
SAVO	**Savo Central**	**3.80**	**306**	P	**Pn**	**19 33 14.6**	**+1.0**
TATA	**Tatamba Isabel**	**4.30**	**314**	P	**Pn**	**19 33 21.3**	**+0.9**
TATA	**Tatamba Isabel**	**4.30**	**314**	S	**Sn**	**19 34 11.8**	**+1.2**
WRA	**Warramunga Arr**	**28.77**	**249**	P		19 38 05.5	-7.6
	0.3nm,1.1s,baz=62,slow=9.5,SNR=1.8						
	0.3nm,1.1s						
ASAR	**Alice Springs**	**30.17**	**242**	P	**P**	**19 38 24.8**	**-0.7**
	0.5nm,0.9s,baz=66,slow=9.8,SNR=4.5						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**91.90**	**317**	P	P	19 44 57.4	-26
	0.1nm,0.5s,baz=104,slow=3.6,SNR=1.4						
	0.1nm,0.5s						

SFS ***15*** *19:35:51.0, 37°.10N×5°.24W, h6km, ML3.0/12, ML3.0/16, MLv2.9/16*
IGIL ***15*** *19:35:51.2, 37°.11N×5°.25W, h6km*
INMG ***15*** *19:35:51.8±2.1, 37°.09N×5°.19W, h11km±5km, ML2.7, Error ellipse: s-maj=3.4km s-min=3.1km az=109.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
MDD ***15*** *19:35:51.4±0.3, 37°.11N×5°.25W, h6km±2km, mb_Lg2.9/23, Error ellipse: s-maj=2.3km s-min=1.4km az=176.0*
CNRM ***15*** *19:35:52.8, 36°.85N×5°.42W, h81km, ML2.3*
ISC 15 19:35:50.0±1.1,37°.05N±0°.02×5°.23W±0°.02,h14km±9km,
n68,σ1§15/121,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.53**	**250**	Pg	**Pb**	**19 36 01.7**	**+0.6**
ESPR				Sg	**Sb**	**19 36 09.0**	**+0.3**
ESPR	**Espera**	**0.53**	**250**	Pg	**Pb**	**19 36 02.1**	**+1.0**
ESPR				Sg	**Sb**	**19 36 10.0**	**+1.4**
ESPR				*i* IVmb_Lg		19 36 17.4	
EJIF	**Jimena Fronter**	**0.63**	**198**	Pg	**Pn**	**19 36 04.0**	**-0.5**
EJIF				Sg	**Sn**	**19 36 14.1**	**-0.2**
EGOR	**Sierra Gorda,**	**0.90**	**86**	Pg	**Pg**	**19 36 07.0**	**-0.4**
EGOR	**Sierra Gorda,**	**0.90**	**86**	Pg	**Pn**	**19 36 07.8**	**-0.5**
EGOR				Sg	**Sn**	**19 36 21.3**	**+0.1**
EGOR				*i* IVmb_Lg		19 36 25.9	
ECAB	**El Cabril**	**1.03**	**352**	Pg	**Pb**	**19 36 08.9**	**-0.7**
ECAB				Sg	**Sb**	**19 36 22.3**	**-0.8**
ECAB	**El Cabril**	**1.03**	**352**	Pg	**Pb**	**19 36 09.0**	**-0.7**
ECAB				Sg	**Sg**	**19 36 23.5**	**0.0**
ECAB				*i* IVmb_Lg		19 36 25.4	
EADA	**Adamuz**	**1.23**	**25**	Pg	**Pn**	**19 36 12.7**	**-0.1**
EADA				Sg	**Sb**	**19 36 28.8**	**0.0**
EADA	**Adamuz**	**1.23**	**25**	Pg	**Pb**	**19 36 12.8**	**-0.2**
EADA				Sg	**Sg**	**19 36 30.2**	**+0.5**
EADA				*i* IVmb_Lg		19 36 30.9	
ELGU	**Los Guajares,**	**1.30**	**98**	Pn	**Pg**	**19 36 15.3**	**+0.3**
ELGU	**Los Guajares,**	**1.30**	**98**	Pg	**Pg**	**19 36 14.9**	**0.0**
ELGU				Sg	**Sg**	**19 36 34.0**	**+2.1**
ELGU				*i* IVmb_Lg		19 36 38.2	
EMIN	**Mina Concepcio**	**1.35**	**302**	Pn	**Pn**	**19 36 14.1**	**-0.3**
EMIN				Sn	**Sg**	**19 36 33.3**	**-0.2**
EMIN	**Mina Concepcio**	**1.35**	**302**	Pn	**Pn**	**19 36 14.1**	**-0.3**
EMIN				Pg	**Pb**	**19 36 15.4**	**+0.3**
EMIN				Sn	**Sn**	**19 36 31.5**	**-0.7**
EMIN				Sg	**Sg**	**19 36 34.0**	**+0.4**
EMIN				*i* IVmb_Lg		19 36 35.3	
SMIR	**Smir Dam**	**1.37**	**185**	P	**Pn**	**19 36 13.6**	**-1.0**
SMIR	**Smir Dam**	**1.37**	**185**	S	**Sn**	**19 36 30.6**	**-2.1**
EQTA	**Presa de Quent**	**1.44**	**83**	Pn	**Pg**	**19 36 17.0**	**-0.6**
EQUE	**Quentar**	**1.44**	**83**	Pn	**Pg**	**19 36 17.2**	**-0.5**
EQUE				Sn	**Sg**	**19 36 36.5**	**+0.2**
EQUE				*i* IVmb_Lg		19 36 42.0	
E0803	**Jimena (Jaen)**	**1.60**	**60**	Pn	**Pn**	**19 36 18.4**	**+0.4**
E0803				Sn	**Sg**	**19 36 40.3**	**-1.3**
E0803				Sg	**Sb**	**19 36 44.1**	**+4.6**
E0802	**Ubeda,Jaen**	**1.77**	**56**	Pn	**Pb**	**19 36 22.6**	**+0.5**
E0802				Sn	**Sb**	**19 36 43.5**	**-0.7**
PBAR	**Barrancos**	**1.82**	**309**	Pn	**Pn**	**19 36 20.5**	**-0.4**
PBAR	**Barrancos**	**1.82**	**309**	*e*P	**Pn**

PFVI				*e*Sn	**Sn**	**19 37 09.5**	**-0.3**	
PFVI				*i* IAML		19 37 10.6		
PFVI				*i* IAML		19 37 10.9		
PFVI				*i* IAML		19 37 11.9		
PMRV	**Marv??o**	**2.92**	**325**	*e*Pn	**Pn**	**19 36 34.7**	**-1.3**	
PMRV				*e*Sn	**Sn**	**19 37 10.6**	**-0.3**	
PMRV				*i* IAML		19 37 28.0		
PMRV				*i* IAML		19 37 29.2		
PMRV				*i* IAML		19 37 31.6		
EPLA	**Plasencia**	**3.08**	**348**	Pn	**Pn**	**19 36 39.7**	**+1.5**	
EPLA				Pg	**Pg**	**19 36 47.1**	**-1.9**	
EPLA				Sn	**Sn**	**19 37 14.2**	**-0.7**	
EPLA				Sg	**Sg**	**19 37 26.7**	**-2.2**	
EPLA				*i* IVmb_Lg		19 37 31.3		
PMTG	**Montargil**	**3.11**	**311**	*e*Pn	**Pn**	**19 36 39.2**	**+0.6**	
PMTG				*e*Sn	**Sn**	**19 37 15.7**	**+0.3**	
PMTG				*e*Sg	**Sb**	**19 37 25.4**	**+2.6**	
PMTG				*i* IAML		19 37 31.4		
PMTG				*i* IAML		19 37 35.9		
PMTG				*i* IAML		19 37 36.0		
TAF	**Taforalt**	**3.19**	**133**	P	**Pn**	**19 36 40.2**	**+0.3**	
TAF	**Taforalt**	**3.19**	**133**	S	**Sn**	**19 37 18.0**	**+0.2**	
EMUR	**La Murta**	**3.27**	**75**	Pn	**Pn**	**19 36 40.8**	**-0.1**	
PSARD	**Sardoal**	**3.43**	**319**	*e*Pn	**Pn**	**19 36 44.0**	**+0.9**	
PSARD				*e*Sn	**Sn**	**19 37 23.1**	**-0.5**	
PSARD				*e*Sg	**Sb**	**19 37 35.6**	**+3.4**	
PSARD				*i* IAML		19 37 43.8		
PSARD				*i* IAML		19 37 44.9		
JBK	**JBK**	**3.47**	**141**	P	**Pn**	**19 36 43.6**	**-0.1**	
JBK	**JBK**	**3.47**	**141**	S	**Sn**	**19 37 24.4**	**-0.4**	
PARRA	**Arraiolos**	**3.49**	**301**	*e*Pn	Pn	19 36 34.9	-8.9	
PARRA				*e*Sn	Sn	19 37 08.5	-16	
PARRA				*e*Sg	Sb	19 37 19.5	-14	
PARRA				*i* IAML		19 37 23.2		
PARRA				*i* IAML		19 37 24.2		
PARRA				*i* IAML		19 37 29.0		
PMAFR	**Mafra**	**3.72**	**302**	Pn	**Pn**	**19 36 47.1**	**0.0**	
PMAFR				Sn	**Sn**	**19 37 29.6**	**-1.1**	
ZHG	**ZHG**	**3.78**	**198**	P	**Pn**	**19 36 47.3**	**-0.6**	
ZHG	**ZHG**	**3.78**	**198**	S	**Sn**	**19 37 32.8**	**+0.6**	
AFON	**Font Roja**	**4.05**	**65**	Pn	**Pn**	**19 36 50.9**	**-0.7**	
MD31	**MD31**	**4.19**	**175**	P	**Pn**	**19 36 53.0**	**-0.5**	
MD31	**MD31**	**4.19**	**175**	S	**Sn**	**19 37 38.3**	**-4.1**	
ETOR	**Torete**	**4.50**	**32**	Pn	**Pn**	**19 36 57.9**	**+0.1**	
ETOR				Sg	**Sg**	**19 38 15.1**	**+0.5**	
OUZM	**OUZ**	**6.26**	**192**	P	**Pn**	**19 37 22.5**	**+0.5**	
OUZM	**OUZ**	**6.26**	**192**	S	**Sn**	**19 38 28.8**	**-4.6**	

CNRM ***15*** *19:56:36.0, 35.26N×12.81W, h13km, ML3.9*
MDD ***15*** *19:57:15.4±0.7, 37.09N×5.30W, h6km±4km, mb_Lg2.2/7, Error ellipse: s-maj=6.4km s-min=3.2km az=17.0*
SFS ***15*** *19:57:16.0, 37.13N×5.24W, h4km, ML2.3/8, ML2.0/10, MLv1.9/10*
IGIL ***15*** *19:57:15.8, 37.09N×5.30W, h6km*
INMG 15 19:57:16.0±1.7, 37°08N×5°26W, h15km±6km, ML1.9, Error ellipse: s-maj=3.8km s-min=3.7km az=125.0, #DIST_RANGE: LOCAL #IPMA_REGION: SE Sevilha (ESP),Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.53**	**247**	Pg	Pb	19 57 26.7	-0.3
ESPR				Sg	Sb	19 57 34.1	-0.3
EGOR	**Sierra Gorda,**	**0.92**	**88**	Pg	Pb	19 57 32.7	-1.1
EGOR				Sg	Sb	19 57 45.3	-0.5
EGOR	**Sierra Gorda,**	**0.92**	**88**	Pg	Pb	19 57 32.5	-1.2
EGOR				Sg	Sg	19 57 46.5	+0.7
EGOR				*i* IVmb_Lg		19 57 51.2	
ECAB	**El Cabril**	**1.00**	**353**	Pg	Pb	19 57 33.6	-1.5
ECAB				Sg	Sb	19 57 46.8	-1.4
ECAB	**El Cabril**	**1.00**	**353**	Pg	Pb	19 57 33.4	-1.7
ECAB				Sg	Sb	19 57 48.3	+0.1
ECAB				*i* IVmb_Lg		19 57 49.4	
EADA	**Adamuz**	**1.21**	**26**	Pg	Pn	19 57 36.9	-1.6
EADA	**Adamuz**	**1.21**	**26**	Pg	Pn	19 57 36.8	-1.7
EADA				Sg	Sb	19 57 53.4	-0.8
EADA				*i* IVmb_Lg		19 57 55.1	
ELGU	**Los Guajares,**	**1.32**	**99**	Pn	Pn	19 57 40.0	0.0
ELGU	**Los Guajares,**	**1.32**	**99**	Pg	Pn	19 57 39.9	-0.2
ELGU				Sg	Sg	19 57 59.2	+0.5
ELGU				*i* IVmb_Lg		19 58 01.8	
EMIN	**Mina Concepcio**	**1.32**	**302**	Pn	Pn	19 57 38.2	-1.8
EMIN				Sn	Sn	19 57 57.7	+0.4
EMIN	**Mina Concepcio**	**1.32**	**302**	Pg	Pn	19 57 38.7	-1.3
EMIN				Sg	Sb	19 57 56.6	-0.7
EMIN				*i* IVmb_Lg		19 58 01.4	
PBAR	**Barrancos**	**1.79**	**308**	Pn	Pn	19 57 44.9	-1.5
PBAR				Sn	Sb	19 58 10.0	-0.8
PBAR	**Barrancos**	**1.79**	**308**	*e*Pn	Pn	19 57 45.1	-1.3
PBAR				*e*Sn	Sn	19 58 06.7	-2.2
PBAR				*e*Sg	Sb	19 58 12.0	+1.2
PBAR				*i* IAML		19 58 15.0	
PBAR				*i* IAML		19 58 15.2	
PBAR				*i* IAML		19 58 16.8	
PVAQ	**Vaqueiros**	**1.99**	**280**	*e*Pn	Pn	19 57 47.8	-1.4
PVAQ				*e*Sn	Sn	19 58 12.1	-1.8
PVAQ				*i* IAML		19 58 22.7	
PVAQ				*i* IAML		19 58 23.2	
PVAQ	**Vaqueiros**	**1.99**	**280**	P	Pn	19 57 47.7	-1.5
PVAQ	**Vaqueiros**	**1.99**	**280**	S	Sg	19 58 41.5	+21
PBDV	**Barranco-do-Ve**	**2.14**	**275**	*e*Pn	Pn	19 57 50.3	-1.0
EBAD	**Badajoz**	**2.18**	**321**	Pn	Pn	19 57 50.3	-1.5
EBAD	**Badajoz**	**2.18**	**321**	Pn	Pn	19 57 50.2	-1.5
EBAD				Sn	Sn	19 58 17.8	-0.6
PCVE	**Castro Verde**	**2.29**	**285**	Pn	Pn	19 57 52.3	-1.0
PCVE	**Castro Verde**	**2.29**	**285**	*e*Pn	Pn	19 57 52.1	-1.2
MESJ	**Messejana**	**2.48**	**289**	*e*Pn	Pn	19 57 54.4	-1.5
MESJ	**Messejana**	**2.48**	**289**	*e*Pn	Pn	19 57 54.8	-1.1
MESJ				*e*Sn	Sn	19 58 25.4	-0.5
PESTR	**Estremoz**	**2.57**	**315**	Pn	Pn	19 57 56.2	-1.0
PESTR				Sn	Sn	19 58 27.3	-0.8
PESTR	**Estremoz**	**2.57**	**315**	*e*Pn	Pn	19 57 56.5	-0.6
PESTR				*e*Sn	Sn	19 58 27.6	-0.5
PESTR				*e*Sg	Sb	19 58 35.5	+2.3
PESTR				*i* IAML		19 58 41.3	
PESTR	**Estremoz**	**2.57**	**315**	P	Pn	19 57 56.3	-0.8
PESTR	**Estremoz**	**2.57**	**315**	S	Sg	19 59 00.7	+22
EVO	**Evora**	**2.62**	**304**	*e*Sn	Sn	19 58 27.5	-1.9
MORF	**Marmelete**	**2.72**	**276**	*e*Pn	Pn	19 57 58.6	-0.6
MORF				*e*Sn	Sn	19 58 31.2	-0.8
MORF				*i* IAML		19 58 49.2	
MORF				*i* IAML		19 58 50.4	
PMRV	**Marv??o**	**2.89**	**325**	*e*Pn	Pn	19 58 01.5	0.0
PMRV				*e*Sn	Sn	19 58 35.9	-0.1
PMRV				*e*Sg	Sb	19 58 45.0	+2.6
PMRV				*i* IAML		19 58 49.2	
PMRV				*i* IAML		19 58 49.3	
PMTG	**Montargil**	**3.07**	**311**	*e*Pn	Pn	19 58 03.5	-0.5
PMTG				*e*Sn	Sn	19 58 39.8	-0.7
PMTG				*e*Sg	Sb	19 58 49.8	+2.1
PMTG				*i* IAML		19 58 53.3	
PMTG				*i* IAML		19 58 57.9	
PMTG				*i* IAML		19 59 03.6	
PSARD	**Sardoal**	**3.40**	**319**	*e*Pn	Pn	19 58 08.7	+0.2
PSARD				*e*Sn	Sn	19 58 47.2	-1.4
PARRA	**Arraiolos**	**3.46**	**301**	*e*Pn	Pn	19 57 59.2	-10
PARRA				*e*Sn	Sn	19 58 32.7	-17
PARRA				*e*Sg	Sb	19 58 41.5	-17
PARRA				*i* IAML		19 58 47.6	
PARRA				*i* IAML		19 58 48.8	
PARRA				*i* IAML		19 58 53.0	
MD31	**MD31**	**4.22**	**174**	P	Pn	19 58 18.7	-1.2
MD31	**MD31**	**4.22**	**174**	S	Sg	19 59 40.7	+9.1

SFS ***15*** *20:57:59.4, 37.27N×3.77W, h0km*
MDD 15 20:58:00.6±0.4, 37.22N×3.74W, h0km, mb_Lg1.5/6, Error ellipse: s-maj=3.4km s-min=2.9km az=117.0, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQTA	**Presa de Quent**	**0.24**	**93**	Sg	Sg	20 58 07.7	-0.5
EQTA				Pg	Pg	20 58 04.7	-0.4
EQUE	**Quentar**	**0.24**	**94**	Pg	Pg	20 58 04.9	-0.3
EQUE				Sg	Sg	20 58 07.8	-0.5
EQUE				*i* IVmb_Lg		20 58 08.6	
EGOR	**Sierra Gorda,**	**0.32**	**250**	Sg	Sg	20 58 09.4	-1.4
EGOR				Pg	Pg	20 58 05.0	-1.6
EGOR	**Sierra Gorda,**	**0.32**	**250**	Pg	Pg	20 58 05.5	-1.2
EGOR				Sg	Sg	20 58 10.7	-0.1
ELGU	**Los Guajares,**	**0.36**	**166**	Pg	Pg	20 58 07.2	-0.3
ELGU				Sg	Sg	20 58 12.7	+0.4
ELGU	**Los Guajares,**	**0.36**	**166**	Pg	Pg	20 58 07.4	-0.1
ELGU				Sg	Sg	20 58 12.6	+0.3
E0803	**Jimena (Jaen)**	**0.65**	**19**	Pg	Pg	20 58 13.0	0.0
E0803				Sg	Sg	20 58 20.8	-0.7
EADA	**Adamuz**	**1.16**	**325**	Sg	Sg	20 58 37.7	-0.1

IDC ***15*** *21:02:02.7±1.6, 24.38N×121.25E, h0km, mb3.3/3, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=70.6km s-min=27.7km az=69.0*
TAP ***15*** *21:02:16.0, 24.79N×122.54E, h116km, ML4.0, C*
JMA ***15*** *21:02:16.4±0.2, 25.1N±1.1×122.5E±0.4, h114km±1km, MV3.2/17, NW OFF ISHIGAKIJIMA IS*
ISC 15 21:02:16.5±0.9, 24.72N±0.03×122.54E±0.02, h117km±5km, n156, σ0°78/270, mb3.2/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.41**	**223**	*i* P	**Pn**	**21 02 33.6**	**+0.2**
EOS2				*i* S	**Sn**	**21 02 46.8**	**+0.8**
JYNG	**Yonagunijimaku**	**0.46**	**126**	*i* P	**Pn**	**21 02 33.6**	**-0.2**
JYNG				S	**Sn**	**21 02 46.2**	**-0.6**
EOS3	**EOS3**	**0.48**	**205**	*i* P	**Pn**	**21 02 34.1**	**+0.4**
EOS3				*i* S	**Sn**	**21 02 47.9**	**+1.2**
YOJ	**Yonaguni jima**	**0.50**	**121**	P	**Pn**	**21 02 33.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.50**	**121**	*i* P	**Pn**	**21 02 34.0**	**-0.1**
YOJ				S	**Sn**	**21 02 47.0**	**-0.2**
YOJ	**Yonaguni jima**	**0.50**	**121**	P	**Pn**	**21 02 33.9**	**-0.2**
YOJ				S	**Sn**	**21 02 46.8**	**-0.5**
TWB1	**Santiao Chiao**	**0.57**	**300**	*i* P	**Pn**	**21 02 34.2**	**-0.3**
TWB1				*i* S	**Sn**	**21 02 47.5**	**-0.7**
EOS4	**EOS4**	**0.63**	**199**	*e*P	**Pn**	**21 02 34.3**	**-0.2**
EOS4				*e*S	**Sn**	**21 02 48.3**	**+0.2**
TWC	**Suao**	**0.64**	**260**	*i* P	**Pn**	**21 02 34.5**	**-0.5**
TWC				S	**Sn**	**21 02 47.8**	**-1.1**
ESAO	**Su ao**	**0.65**	**257**	*i* P	**Pn**	**21 02 34.9**	**-0.1**
ESAO				*i* S	**Sn**	**21 02 48.2**	**-0.9**
TIPB	**Shuangxi**	**0.69**	**291**	*i* P	**Pn**	**21 02 35.5**	**0.0**
TIPB				*i* S	**Sn**	**21 02 49.0**	**-0.7**
SXI1	**Grass Mountain**	**0.71**	**302**	*i* P	**Pn**	**21 02 35.7**	**0.0**
SXI1				*i* S	**Sn**	**21 02 50.0**	**0.0**
ILA	**Ilan**	**0.72**	**274**	*i* P	**Pn**	**21 02 35.9**	**+0.2**
ILA				*i* S	**Sn**	**21 02 50.4**	**+0.4**
EWUT	**Wuta**	**0.74**	**248**	*e*P	**Pn**	**21 02 35.9**	**+0.1**
NDS	**Dongshan**	**0.75**	**263**	P	**Pn**	**21 02 36.0**	**+0.1**
NDS				*e*S	**Sn**	**21 02 49.9**	**-0.7**
NWF	**Wu-fen Shan**	**0.77**	**297**	*i* P	**Pn**	**21 02 36.2**	**0.0**
NWF				*i* S	**Sn**	**21 02 50.6**	**-0.4**
WFSB	**Wu-fen Shan**	**0.77**	**297**	P	**Pn**	**21 02 36.3**	**+0.2**
WFSB				S	**Sn**	**21 02 50.6**	**-0.2**
ENA	**Nanau**	**0.78**	**248**	*i* P	**Pn**	**21 02 36.2**	**0.0**
ENA				*i* S	**Sn**	**21 02 50.8**	**-0.2**
TWE	**Neicheng**	**0.79**	**270**	*i* P	**Pn**	**21 02 36.2**	**0.0**
TWE				S	**Sn**	**21 02 50.8**	**-0.4**
TNOU	**National Taiwa**	**0.81**	**302**	*e*P	**Pn**	**21 02 36.5**	**+0.1**
TNOU				*e*S	**Sn**	**21 02 51.6**	**+0.1**
EAHA	**Aohua**	**0.82**	**242**	*i* P	**Pn**	**21 02 36.5**	**-0.1**
EAHA				*i* S	**Sn**	**21 02 51.8**	**+0.2**
FUSB	**Fushanzhiwuyua**	**0.86**	**273**	*i* P	**Pn**	**21 02 36.9**	**-0.1**
FUSB				*e*S	**Sn**	**21 02 51.6**	**-0.9**
ENTT	**Nioudou**	**0.89**	**265**	*i* P	**Pn**	**21 02 37.4**	**+0.3**
ENTT				*e*S	**Sn**	**21 02 53.2**	**+0.5**
TWA	**Mucha**	**0.90**	**287**	*i* P	**Pn**	**21 02 37.1**	**-0.1**
TWA				S	**Sn**	**21 02 52.2**	**-0.8**
NHY	**Taipei**	**0.93**	**290**	*e*P	**Pn**	**21 02 37.6**	**0.0**
NHY				*e*S	**Sn**	**21 02 53.1**	**-0.4**
LATG	**Datong**	**0.94**	**259**	P	**Pn**	**21 02 38.0**	**+0.3**
LATG				S	**Sn**	**21 02 54.3**	**+0.5**
NWLT	**Wulai**	**0.94**	**274**	P	**Pn**	**21 02 37.4**	**-0.3**
NWLT				*e*S	**Sn**	**21 02 52.3**	**-1.4**
NHDH	**Xindian Distri**	**0.95**	**285**	P	**Pn**	**21 02 37.4**	**-0.3**
NHDH				S	**Sn**	**21 02 52.7**	**-1.1**
TATO	**Taipei**	**0.99**	**285**	P	**Pn**	**21 02 37.5**	**-0.6**
TATO				*e*S	**Sn**	**21 02 53.5**	**-0.9**
TAP	**Taipei**	**0.99**	**289**	P	**Pn**	**21 02 37.9**	**-0.1**
TAP				S	**Sn**	**21 02 53.5**	**-0.8**
PCYT	**Pengchaiyu**	**1.00**	**335**	P	**Pn**	**21 02 38.4**	**+0.3**
ZUZH	**Zhuzihu**	**1.00**	**296**	*i* P	**Pn**	**21 02 38.3**	**0.0**
ZUZH				S	**Sn**	**21 02 53.9**	**-0.8**
ETL	**Fush Village**	**1.00**	**236**	*e*P	**Pn**	**21 02 37.8**	**-0.5**
ETL				*e*S	**Sn**	**21 02 54.6**	**-0.2**
TWY	**Chenhua**	**1.01**	**303**	*e*S	**Sn**	**21 02 54.0**	**-0.1**
NACB	**Ninganchiao**	**1.02**	**238**	P	**Pn**	**21 02 37.8**	**-0.6**
NACB	**Ninganchiao**	**1.02**	**238**	P	**Pn**	**21 02 37.8**	**-0.6**
NACB				*e*S	**Sn**	**21 02 54.3**	**-0.7**
ANP	**Anpu**	**1.03**	**297**	P	**Pn**	**21 02 38.4**	**-0.2**
ANP				S	**Sn**	**21 02 54.4**	**-1.0**
YHNB	**Yeheng**	**1.06**	**267**	P	**Pn**	**21 02 38.9**	**0.0**
YHNB	**Yeheng**	**1.06**	**267**	S	**Sn**	**21 02 54.9**	**-0.9**
YHNB	**Yeheng**	**1.06**	**267**	*i* P	**Pn**	**21 02 39.1**	**+0.3**
YHNB				S	**Sn**	**21 02 55.1**	**-0.7**
TWD	**Chiawan**	**1.07**	**234**	*i* P	**Pn**	**21 02 38.5**	**-0.5**
TWD				S	**Sn**	**21 02 55.6**	**-0.3**
NSK	**Sanguang**	**1.07**	**268**	*i* P	**Pn**	**21 02 39.2**	**+0.2**
NSK				*i* S	**Sn**	**21 02 55.7**	**-0.4**
NTST	**Danshui**	**1.08**	**294**	P	**Pn**	**21 02 39.2**	**+0.2**
NTST				S	**Sn**	**21 02 55.6**	**-0.5**
TWS1	**Kuangyinshan**	**1.08**	**291**	*i* P	**Pn**	**21 02 39.2**	**+0.1**
TWS1				*i* S	**Sn**	**21 02 55.6**	**-0.6**
ETLH	**Xiulin Townshi**	**1.09**	**242**	P	**Pn**	**21 02 39.1**	**0.2**
ETLH				*e*S	**Sn**	**21 02 56.4**	**0.0**
NNSB	**Datong**	**1.09**	**255**	*i* P	**Pn**	**21 02 39.4**	**+0.1**
NNSB				S	**Sn**	**21 02 56.4**	**-0.1**
NNS	**Nan Shan**	**1.10**	**255**	*i* P	**Pn**	**21 02 39.4**	**+0.1**
NNS				*i* S	**Sn**	**21 02 56.5**	**-0.1**
HWA	**Hwalien**	**1.13**	**229**	*e*P	**Pn**	**21 02 39.5**	**0.0**
HWA				*e*S	**Sn**	**21 02 57.5**	**+0.6**
IRIF	**Iriomote-Funau**	**1.15**	**109**	P	**Pn**	**21 02 39.7**	**-0.1**
IRIF				S	**Sn**	**21 02 56.8**	**-0.6**
TEYL	**Yanliau Villag**	**1.21**	**225**	*e*P	**Pn**	**21 02 40.0**	**-0.4**
TEYL				*e*S	**Sn**	**21 02 58.2**	**-0.2**
ETM	**Tongmen**	**1.22**	**232**	*i* P	**Pn**	**21 02 40.1**	**-0.4**
ETM				S	**Sn**	**21 02 58.3**	**-0.4**
KSHI	**Guanxi Townshi**	**1.24**	**273**	*i* P	**Pn**	**21 02 41.1**	**+0.4**
KSHI				*i* S	**Sn**	**21 02 59.4**	**+0.3**
LXIB	**Xiulin Townshi**	**1.24**	**236**	*i* P	**Pn**	**21 02 40.4**	**-0.5**
LXIB				*e*S	**Sn**	**21 02 59.8**	**+0.4**
NCUH	**Zhongli**	**1.25**	**282**	*i* P	**Pn**	**21 02 41.4**	**+0.5**
NCUH				S	**Sn**	**21 02 59.5**	**+0.1**
FUSS	**Fushou**	**1.27**	**248**	*e*P	**Pn**	**21 02 41.6**	**+0.3**
FUSS				*e*S	**Sn**	**21 02 59.9**	**-0.2**
SHUL	**Shoufeng**	**1.29**	**224**	*e*P	**Pn**	**21 02 41.4**	**+0.1**
SHUL				*e*S	**Sn**	**21 03 00.2**	**+0.2**
WHF	**Hehuan Shan**	**1.29**	**244**	*i* P	**Pn**	**21 02 41.8**	**+0.1**
WHF				*i* S	**Sn**	**21 03 00.6**	**-0.3**
NFF	**Wufeng Townshi**	**1.29**	**266**	P	**Pn**	**21 02 41.5**	**+0.2**
NFF				S	**Sn**	**21 02 60.0**	**-0.3**
TWT	**Tachien**	**1.32**	**250**	*i* P	**Pn**	**21 02 42.7**	**+0.8**
TWT				*i* S	**Sn**	**21 03 01.5**	**+0.4**
HATJ	**Hateruma jima**	**1.33**	**120**	*e*S	**Sn**	**21 03 00.2**	**-0.7**
TDCB	**Techi**	**1.34**	**250**	*i* P	**Pn**	**21 02 42.7**	**+0.7**
TDCB				*i* S	**Sn**	**21 03 01.2**	**-0.2**
ESL	**Shilin**	**1.35**	**228**	*e*P	**Pn**	**21 02 41.4**	**-0.6**
ESL				*e*S	**Sn**	**21 03 00.5**	**-0.9**
TEGC	**Jichi Village**	**1.36**	**222**	*e*P	**Pn**	**21 02 42.0**	**-0.1**
TEGC				*e*S	**Sn**	**21 03 01.5**	**0.0**
LIOB	**Emei**	**1.39**	**267**	*i* P	**Pn**	**21 02 42.6**	**+0.2**
LIOB				S	**Sn**	**21 03 01.9**	**-0.2**
NSTT	**Nanjuang**	**1.40**	**267**	P	**Pn**	**21 02 42.6**	**+0.1**
NSTT				S	**Sn**	**21 03 01.8**	**-0.5**
SBCB	**Hsinchu**	**1.41**	**273**	P	**Pn**	**21 02 42.9**	**+0.3**
SBCB				*e*S	**Sn**	**21 03 02.6**	**0.0**
JKRS	**Kuro-shima**	**1.43**	**109**	*e*P	**Pn**	**21 02 43.2**	**+0.4**
JKRS				*e*S	**Sn**	**21 03 02.6**	**-0.2**
HSN	**Hsinchu**	**1.43**	**274**	*i* P	**Pn**	**21 02 42.6**	**-0.2**
HSN				*i* S	**Sn**	**21 03 02.1**	**-0.8**
WARBT	**Fenglin Townsh**	**1.45**	**227**	*i* P	**Pn**	**21 02 42.4**	**-0.8**
WARBT				S	**Sn**	**21 03 02.0**	**-1.3**
EGFH	**Guangfu**	**1.46**	**224**	P	**Pn**	**21 02 42.8**	**-0.4**
EGFH				*e*S	**Sn**	**21 03 02.7**	**-0.8**
OWD	**Renai**	**1.46**	**239**	P	**Pn**	**21 02 43.6**	**+0.2**
OWD				*e*S	**Sn**	**21 03 03.1**	**-0.7**
WUSB	**Renai**	**1.48**	**241**	*i* P	**Pn**	**21 02 44.1**	**+0.5**
WUSB				S	**Sn**	**21 03 04.7**	**+0.4**
JIJ	**Ishigaki jima**	**1.50**	**103**	P	**Pn**	**21 02 43.7**	**-0.1**
JIJ				*e*S	**Sn**	**21 03 03.1**	**-1.4**
WHP	**Taichung City**	**1.52**	**253**	*i* P	**Pn**	**21 02 45.0**	**+1.0**
WHP				S	**Sn**	**21 03 05.7**	**+0.8**
HGSD	**Ruisui**	**1.59**	**220**	P	**Pn**	**21 02 44.6**	**-0.2**
HGSD				S	**Sn**	**21 03 06.2**	**-0.1**
NMLH	**Miaoli**	**1.60**	**264**	P	**Pn**	**21 02 45.3**	**+0.4**
NMLH				*e*S	**Sn**	**21 03 06.5**	**0.0**
JISG	**Ishigakijimahi**	**1.62**	**94**	P	**Pn**	**21 02 45.0**	**-0.1**
JISG				S	**Sn**	**21 03 05.9**	**-1.0**
EHYH	**Wanrong**	**1.64**	**222**	*e*P	**Pn**	**21 02 44.8**	**-0.6**
EHYH				*e*S	**Sn**	**21 03 07.6**	**+0.3**
EHY	**Hungye**	**1.64**	**223**	*e*P	**Pn**	**21 02 44.5**	**-0.9**
EHY				*e*S	**Sn**	**21 03 06.4**	**-1.0**
NSY	**Sanyi**	**1.65**	**260**	P	**Pn**	**21 02 46.3**	**+0.8**
NSY				*e*S	**Sn**	**21 03 08.6**	**+1.1**
TWQ1	**Liyutan**	**1.65**	**257**	*e*P	**Pn**	**21 02 45.6**	**+0.1**
TWQ1				*e*S	**Sn**	**21 03 08.0**	**+0.4**
SMLT	**Sun Moon Lake**	**1.71**	**241**	*e*P	**Pn**	**21 02 47.1**	**+0.7**
SMLT				*e*S	**Sn**	**21 03 10.3**	**+1.2**
ECBN	**Changbin**	**1.72**	**216**	*e*P	**Pn**	**21 02 46.0**	**-0.3**
ECBN				*e*S	**Sn**	**21 03 08.4**	**-0.6**
SSLB	**Suanglung**	**1.72**	**238**	P	**Pn**	**21 02 46.6**	**+0.3**
SSLB	**Suanglung**	**1.72**	**238**	P	**Pn**	**21 02 46.6**	**+0.3**
SSLB				*e*S	**Sn**	**21 03 10.3**	**+1.2**
TYC	**Yuchr**	**1.74**	**242**	P	**Pn**	**21 02 47.7**	**+1.2**
TYC				*e*S	**Sn**	**21 03 11.1**	**+1.7**
YULB	**Yu-li**	**1.74**	**221**	P	**Pn**	**21 02 45.7**	**-0.9**
YULB	**Yu-li**	**1.74**	**221**	*i* P	**Pn**	**21 02 45.8**	**-0.9**
YULB				S	**Sn**	**21 03 08.1**	**-1.5**
EYUL	**Yuli**	**1.77**	**219**	*e*P	**Pn**	**21 02 47.0**	**+0.1**
WDJ	**Dajia District**	**1.77**	**258**	*e*P	**Pn**	**21 02 47.3**	**+0.4**
WDJ				*e*S	**Sn**	**21 03 10.3**	**+0.2**
TWF1	**Yuli**	**1.77**	**220**	*e*P	**Pn**	**21 02 46.5**	**-0.5**
TWF1				*e*S	**Sn**	**21 03 09.0**	**-1.2**
TCU	**Taichung**	**1.79**	**252**	*e*P	**Pn**	**21 02 47.7**	**+0.5**
WHYT	**Xinyi Township**	**1.85**	**237**	*i* P	**Pn**	**21 02 49.1**	**+1.2**
WHYT				*i* S	**Sn**	**21 03 13.8**	**+1.9**
CHKH	**Chenggong**	**1.85**	**215**	*e*P	**Pn**	**21 02 47.4**	**-0.5**
CHKH				*e*S	**Sn**	**21 03 10.9**	**-0.9**
WJS	**Zhushan**	**1.88**	**242**	*e*P	**Pn**	**21 02 49.3**	**+1.0**
WJS				*e*S	**Sn**	**21 03 14.4**	**+1.9**
WNT	**Mingjian**	**1.89**	**244**	*e*P	**Pn**	**21 02 49.2**	**+0.8**
WNT				*e*S	**Sn**	**21 03 14.3**	**+1.5**
FULB	**Fuli**	**1.90**	**217**	*e*P	**Pn**	**21 02 48.4**	**-0.2**
FULB				*e*S	**Sn**	**21 03 13.5**	**+0.5**
WCH1	**Changhua City**	**1.93**	**251**	*e*P	**Pn**	**21 02 49.2**	**+0.4**
CHKT	**Chengkung**	**1.94**	**214**	*e*P	**Pn**	**21 02 48.6**	**-0.4**
CHKT				*e*S	**Sn**	**21 03 12.2**	**-1.7**
JTJ	**Tarama**	**1.97**	**92**	*e*P	**Pn**	**21 03 49.7**	**+0.3**
JTJ				*e*S	**Sn**	**21 03 14.2**	**-0.4**
EHD	**Haiduan**	**1.98**	**218**	*e*P	**Pn**	**21 02 48.9**	**-0.8**
EHD				*e*S	**Sn**	**21 03 15.1**	**+0.1**
ALS	**Alishan**	**1.99**	**233**	*i* P	**Pn**	**21 02 50.9**	**+0.9**
ALS				*e*S	**Sn**	**21 03 17.1**	**+1.6**
ECS	**Chishang**	**2.02**	**217**	*e*P	**Pn**	**21 02 50.2**	**+0.2**
CHN5	**Tsauling**	**2.03**	**237**	*i* P	**Pn**	**21 02 51.2**	**+1.0**
CHN5				S	**Sn**	**21 03 17.1**	**+1.0**
**ELDT

s-maj=22.9km s-min=15.6km az=78.0
ISC 15 21:17:33.6±0.6, 30.16N±0.06 141.18E±0.08, h50km, n85, σ1836/88, mb4.3/28, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.16**	**339**	Pn	**Pn**	**21 18 21.1**	**+0.2**
JHJ2	**Mitsune**	**3.16**	**339**	*eP*	**Pn**	**21 18 22.6**	**+1.7**
JHJ2				*eS*	**Sn**	**21 18 58.5**	**+1.1**
JHJ	**Hachijo jima 2**	**3.18**	**338**	P	**Pn**	**21 18 22.7**	**+1.5**
	26nm,0.3s,baz=255,slow=18,SNR=1.5						
JHJ				S	**Sn**	**21 18 57.6**	**-0.2**
	209nm,0.4s,baz=56,slow=22,SNR=6.8						
	81nm,0.4s						
CBIJ	**Chichi jima**	**3.18**	**164**	*eS*	**Sn**	**21 18 55.7**	**-2.2**
JMKN	**Mikurajimanish**	**3.96**	**341**	*eS*	**Sn**	**21 19 18.6**	**+1.6**
BSO1	**Boso 1**	**4.48**	**358**	*eP*	**Pn**	**21 18 39.7**	**+1.2**
BSO1				*eS*	**Sn**	**21 19 30.4**	**+1.3**
BSO4	**Boso 4**	**4.87**	**352**	*eP*	**Pn**	**21 18 46.4**	**+2.2**
TTO1	**TONANKAI O.B.S**	**5.08**	**314**	*eP*	**Pn**	**21 18 50.3**	**+3.2**
JOD2	**Odawara 2**	**5.38**	**341**	*eP*	**Pn**	**21 18 52.9**	**+1.5**
JOD2				*eS*	**Sn**	**21 19 51.9**	**-0.2**
JYT	**Yasato**	**6.11**	**353**	*eP*	**Pn**	**21 19 02.0**	**+0.7**
JYT				*eS*	**Sn**	**21 20 08.7**	**-1.1**
JRY	**Ryogami san**	**6.14**	**342**	P	**Pn**	**21 19 03.8**	**+2.0**
JRY				*eS*	**Sn**	**21 20 12.0**	**+1.2**
INU	**Inuyama**	**6.25**	**327**		**Pn**	**21 19 03.3**	**+0.1**
JGF	**Kuroka**	**6.30**	**330**		**Pn**	**21 19 05.2**	**+1.2**
MJAR	**Matsushiro Arr**	**6.83**	**339**		**Pn**	**21 19 12.2**	**+1.0**
MJAR	**Matsushiro Arr**	**6.83**	**339**	P	**Pn**	**21 19 12.7**	**+1.5**
	0.4nm,0.3s,baz=164,slow=12,SNR=31						
MJAR				S	**Sn**	**21 20 27.4**	**-0.2**
	3.2nm,0.5s,baz=135,slow=13,SNR=1.4						
	2.3nm,0.3s						
MAJO	**Matsushiro**	**6.83**	**339**		**Pn**	**21 19 13.5**	**+2.2**
MJB9	**Matsu-Tunnel**	**6.83**	**339**		**Pn**	**21 19 13.3**	**+2.0**
JMM	**Marumori**	**7.69**	**358**		**Pn**	**21 19 23.0**	**0.0**
JMK	**Ichinoseki**	**8.77**	**0**	*eP*	**Pn**	**21 19 37.4**	**-0.4**
JMK				*eS*	**Sn**	**21 21 08.2**	**-7.0**
JTM	**Tenmabayashi**	**10.60**	**360**	Pn	**Pn**	**21 20 02.0**	**-0.8**
ERM	**Erimo**	**11.94**	**7**	Pn	**Pn**	**21 20 19.2**	**-1.9**
KSRS	**Korea Array**	**13.20**	**307**	P	**Pn**	**21 20 36.2**	**-2.1**
	0.4nm,0.3s,baz=126,slow=10,SNR=1.6						
	0.6nm,0.6s						
ASAJ	**Asahikawa**	**13.97**	**4**	P	**Pn**	**21 20 46.7**	**-2.1**
	1.4nm,0.3s,baz=248,slow=12,SNR=7.0						
ASAJ				S	Sn	21 23 12.2	-10
	4.3nm,0.9s,baz=312,slow=11,SNR=1.8						
JKA	**Kamikawa-asahi**	**13.97**	**4**	Pn	**Pn**	**21 20 48.1**	**-0.8**
USRK	**Ussuriysk Ar.**	**15.79**	**335**	P	**Pn**	**21 21 12.2**	**-0.5**
	0.2nm,0.3s,baz=137,slow=15,SNR=4.4						
	2.3nm,0.7s						
YHNB	**Yeheng**	**18.40**	**257**	P	**P**	**21 21 45.2**	**+0.4**
YHNB				IAmb	IAmb	21 21 51.7	
	comp=Z,27nm,1.1s						
YULB	**Yu-li**	**18.97**	**254**	P	**P**	**21 21 51.5**	**+0.5**
YULB				IAmb	IAmb	21 21 58.3	
	comp=Z,43nm,1.4s						
SSLB	**Suanglung**	**19.10**	**255**	Pn	**P**	**21 21 53.6**	**+1.2**
SSLB				IAmb	IAmb	21 22 00.1	
	comp=Z,16nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**25.47**	**108**	T	T	21 50 43.3	
	baz=300,slow=75,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	**25.48**	**108**	T	T	21 50 48.5	
	baz=300,slow=75,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**25.49**	**108**	T	T	21 50 45.7	
	baz=300,slow=75,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**25.92**	**111**	T	T	21 51 04.3	
	baz=303						
H11S1	**WAKE ISLAND Hy**	**25.93**	**111**	T	T	21 50 58.1	
	baz=303						
H11S2	**WAKE ISLAND Hy**	**25.94**	**111**	T	T	21 51 00.9	
	baz=303						
SONM	**Songino Array**	**31.93**	**313**	P	**P**	**21 23 55.4**	**+0.8**
SONM	**Songino Array**	**31.93**	**313**	P	**P**	**21 23 53.6**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=100,slow=7.5,SNR=2.7						
	comp=Z,0.5nm,0.6s						
KIWB	**Kanaga Island**	**37.50**	**43**	P	**P**	**21 24 43.5**	**+1.1**
CHTO	**Chiang Mai**	**39.85**	**263**	P	**P**	**21 25 01.4**	**-1.1**
CHTO				IAmb	IAmb	21 25 02.0	
	comp=Z,4.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.01**	**263**	P	**P**	**21 25 03.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**40.01**	**263**	P	**P**	**21 25 02.8**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=68,slow=9.1,SNR=4.2						
CMAR				LR	LR	21 41 41.9	
	comp=Z,22nm,18.1s,baz=185,slow=36						
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**46.62**	**317**	P	**P**	**21 25 55.7**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=81,slow=7.3,SNR=3.9						
	comp=Z,0.4nm,0.3s						
MKAR	**Makanchi Array**	**47.88**	**308**	P	**P**	**21 26 06.3**	**-0.4**
MKAR				PcP	**PcP**	**21 27 34.3**	**-0.3**
MKAR	**Makanchi Array**	**47.88**	**308**	P	**P**	**21 26 05.6**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=91,slow=9.5,SNR=8.9						
MKAR				PcP	**PcP**	**21 27 34.9**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=75,slow=5.6,SNR=5.9						
	comp=Z,0.7nm,0.7s						
MAKZ	**Makanchi**	**48.09**	**308**	P	**P**	**21 26 07.5**	**-0.8**
F15K	**North Star Dit**	**48.33**	**27**	P	**P**	**21 26 08.7**	**-1.1**
F15K				IAmb	IAmb	21 26 16.5	
	comp=Z,4.5nm,0.8s						
CNBA	**Chernabura Isl**	**48.39**	**42**	P	**P**	**21 26 09.0**	**-1.3**
K15K	**Wolf Creek Mou**	**48.65**	**32**	P	**P**	**21 26 13.2**	**+0.9**
L16K	**Owhat River**	**49.47**	**33**	P	**P**	**21 26 17.8**	**-0.7**
L16K				IAmb	IAmb	21 26 18.5	
	comp=Z,8.9nm,1.3s						
WB0	**Warramunga Arr**	**50.07**	**188**	P	**P**	**21 26 22.5**	**-1.1**
WB0				IAmb	IAmb	21 26 27.8	
	comp=Z,3.2nm,1.1s						
WRAB	**Tennant Creek**	**50.24**	**188**	P	P	21 26 22.5	-2.4
WR8	**Warramunga Arr**	**50.24**	**188**	P	**P**	**21 26 24.2**	**-0.7**
WR8				IAmb	IAmb	21 26 32.7	
	comp=Z,2.9nm,1.1s						
WRA	**Warramunga Arr**	**50.25**	**188**	P	**P**	**21 26 23.6**	**-1.3**
WRA	**Warramunga Arr**	**50.25**	**188**	P	**P**	**21 26 23.7**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=5.4,slow=7.7,SNR=17						
WRA				PcP	**PcP**	**21 27 43.3**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=7.1,slow=4.0,SNR=1.2						
	comp=Z,0.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**50.26**	**199**	P	**P**	**21 26 23.8**	**-1.3**
KURBB	**Kurchatov Arra**	**50.29**	**313**	P	**P**	**21 26 23.9**	**-1.1**
	comp=Z,4.5nm,0.2s,baz=96,slow=6.9,SNR=6.3						
	comp=Z,4.5nm,0.2s						
N17K	**Nushagak Hills**	**50.36**	**34**	P	**P**	**21 26 25.4**	**0.0**
M17K	**Holitna River**	**50.37**	**33**	P	**P**	**21 26 25.9**	**+0.5**
M17K				IAmb	IAmb	21 26 28.0	
	comp=Z,6.5nm,0.9s						
H18K	**Honhosa River**	**50.69**	**28**	P	**P**	**21 26 27.4**	**-0.4**
H18K				IAmb	IAmb	21 26 30.3	
	comp=Z,7.1nm,1.3s						
G18K	**Tagagawik**	**50.75**	**27**	P	**P**	**21 26 28.9**	**+0.7**
G18K				IAmb	IAmb	21 26 33.6	
	comp=Z,6.4nm,1.4s						
L18K	**Granite Mounta**	**50.85**	**32**	P	**P**	**21 26 28.8**	**-0.2**
L18K				IAmb	IAmb	21 26 30.5	
	comp=Z,4.7nm,1.1s						
C19K	**Lookout Ridge**	**51.28**	**23**	P	**P**	**21 26 32.9**	**+0.7**
H19K	**Roundabout Mou**	**51.55**	**28**	P	**P**	**21 26 34.7**	**+0.5**
H19K				IAmb	IAmb	21 26 42.9	
	comp=Z,3.3nm,1.2s						
J19K	**Poorman**	**51.62**	**30**	P	**P**	**21 26 35.2**	**+0.5**
E19K	**Redstone River**	**51.67**	**26**	P	**P**	**21 26 36.3**	**+1.2**
E19K				IAmb	IAmb	21 26 36.7	
	comp=Z,3.7nm,0.8s						
D20K	**Etivluk River**	**52.20**	**24**	P	**P**	**21 26 39.7**	**+0.6**
D20K				IAmb	IAmb	21 26 44.7	
	comp=Z,11nm,1.5s						
J20K	**Nowinta River**	**52.29**	**30**	P	**P**	**21 26 40.3**	**+0.6**
M20K	**Styx River**	**52.47**	**33**	P	**P**	**21 26 41.7**	**+0.4**
KDAK	**Kodiak Island**	**52.48**	**38**	P	**P**	**21 26 41.3**	**0.0**
PPLA	**Purkeypile**	**53.01**	**32**	P	**P**	**21 26 46.1**	**+0.8**
PPLA				IAmb	IAmb	21 26 55.5	
	comp=Z,8.6nm,1.3s						
STLK	**Strandline Lak**	**53.06**	**34**	P	**P**	**21 26 46.1**	**+0.6**
ASAR	**Alice Springs**	**53.97**	**188**	P	**P**	**21 26 51.5**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=355,slow=5.8,SNR=6.2						
	comp=Z,0.3nm,0.6s						
BVAR	**Borovoye Array**	**55.21**	**316**	P	**P**	**21 27 01.0**	**-0.3**
	comp=Z,3.9nm,0.6s,baz=96,slow=7.2,SNR=16						
	comp=Z,3.9nm,0.6s						
AB31	**Akbulak array**	**62.34**	**313**	P	**P**	**21 27 50.1**	**-0.8**
ABKAR	**Akbulak array**	**62.34**	**313**	P	**P**	**21 27 50.2**	**-0.7**
ARCES	**ARCESS Array B**	**70.36**	**340**	P	**P**	**21 28 42.8**	**+1.0**
	comp=Z,7.9nm,1.2s,baz=89,slow=6.2,SNR=3.6						
	comp=Z,7.9nm,1.2s						
FINES	**FINESS Array B**	**74.82**	**333**	P	**P**	**21 29 08.0**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=75,slow=6.1,SNR=13						
	comp=Z,0.9nm,0.4s						
KBZ	**Khabaz**	**75.29**	**312**	P	**P**	**21 29 11.1**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=75,slow=5.9,SNR=8.7						
	comp=Z,3.2nm,0.8s						
NVAR	**Mina Array Bea**	**79.32**	**52**	P	**P**	**21 29 35.7**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=284,slow=4.8,SNR=6.6						
	comp=Z,1.1nm,0.7s						
AKASG	**Malin Array Be**	**79.64**	**323**	P	**P**	**21 29 34.7**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=53,slow=5.4,SNR=4.4						
	comp=Z,0.5nm,0.4s						
BRTR	**Keskin Array B**	**83.28**	**312**	P	**P**	**21 29 55.4**	**0.0**
	comp=Z,2.7nm,0.9s,baz=104,slow=4.3,SNR=13						
	comp=Z,2.7nm,0.9s						
BORG	**Borgarnes**	**84.42**	**353**	LR	LR	22 08 19.1	
	comp=Z,91nm,18.0s,baz=56,slow=36						
TXAR	**Lajitas Array**	**94.46**	**52**	P	**P**	**21 30 50.2**	**+1.4**
	comp=Z,1.1nm,0.8s,baz=305,slow=3.7,SNR=14						
	comp=Z,1.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**121.89**	**312**	PKP	**PKPdf**	**21 36 24.9**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=14,slow=0.6,SNR=2.0						
LPAZ	**La Paz**	**149.84**	**69**	PKPbc	**PKPbc**	**21 37 19.8**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=317,slow=3.0,SNR=8.3						
PLCA	**Paso Flores**	**152.22**	**121**	PKPbc	**PKPbc**	**21 37 23.7**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=315,slow=1.4,SNR=3.2						

*JMA **15** 21:34:48.3±0.1, 42.4N±0.4 141.4E±0.5, h132km, MV3.1/39, S OFF TOMAKOMAI*
*IDC **15** 21:35:06.3±3.0, 40.15N 140.80E, h423km±72km, mb3.1/8, mbtmp3.9/9, Error ellipse: s-maj=104.9km s-min=47.7km az=162.0*
ISC 15 21:34:48.1±0.8, 42.41N±0.04 141.46E±0.04, h134km±6km, n32, σ0978/45, mb3.9/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNB	**Noboribetsu**	**0.32**	**281**	P	**Pn**	**21 35 06.6**	**-0.2**
JNB				S	**Sn**	**21 35 20.7**	**-0.2**
JIAM	**Iburiatsuma**	**0.40**	**58**	P	**Pn**	**21 35 07.4**	**+0.3**
JEW	**Eniwo**	**0.43**	**359**	P	**Pn**	**21 35 07.4**	**+0.1**
JEW				S	**Sn**	**21 35 21.1**	**-0.7**
JKB	**Kayabe**	**0.61**	**212**	*iP*	**Pn**	**21 35 08.4**	**+0.2**
JKB				S	**Sn**	**21 35 23.3**	**-0.2**
JBT2	**Biratori 2**	**0.76**	**61**	*eP*	**Pn**	**21 35 09.7**	**+0.3**
JBT2				*eS*	**Sn**	**21 35 26.0**	**+0.5**
JYM2	**Yakumo 2**	**0.86**	**251**	P	**Pn**	**21 35 10.3**	**+0.2**
JISS	**Ishikarishitsu**	**0.87**	**358**	P	**Pn**	**21 35 10.2**	**+0.1**
JISS				S	**Sn**	**21 35 26.8**	**-0.2**
JNBK	**Urakawa-nobuka**	**0.97**	**97**	P	**Pn**	**21 35 11.7**	**+0.7**
JOT	**Ohata**	**1.07**	**197**	*iP*	**Pn**	**21 35 12.5**	**+0.5**
JOT				S	**Sn**	**21 35 30.2**	**+0.1**
JSH	**Shimam**	**1.07**	**283**	*iP*	**Pn**	**21 35 11.9**	**-0.1**
JHST	**Hiyamasetana**	**1.17**	**271**	P	**Pn**	**21 35 12.8**	**-0.2**
JEM	**Erimo**	**1.32**	**107**	P	**Pn**	**21 35 15.4**	**+0.9**
ERM	**Erimo**	**1.32**	**107**	P	**Pn**	**21 35 15.5**	**+1.0**
JHR	**Hokuryu**	**1.35**	**8**	P	**Pn**	**21 35 15.1**	**+0.3**
JHR				S	**Sn**	**21 35 35.6**	**+0.4**
JOMM	**Oshimamatsumae**	**1.40**	**231**	P	**Pn**	**21 35 15.8**	**+0.5**
JOMM				*eS*	**Sn**	**21 35 36.4**	**+0.4**
JCH	**Churui**	**1.42**	**81**	P	**Pn**	**21 35 16.0**	**+0.4**
JCH				S	**Sn**	**21 35 36.4**	**-0.1**
JOSM	**Okushiri--Mats**	**1.51**	**258**	P	**Pn**	**21 35 16.4**	**-0.2**
JOSM				S	**Sn**	**21 35 38.0**	**-0.2**
JTM	**Tenmabayashi**	**1.65**	**190**	P	**Pn**	**21 35 18.5**	**+0.4**
JKK2	**Kamakawa 2**	**1.74**	**32**	P	**Pn**	**21 35 19.0**	**-0.2**
JKK2				S	**Sn**	**21 35 41.5**	**-1.5**
JAR	**Ashorobuto**	**1.92**	**62**	P	**Pn**	**21 35 20.8**	**-0.4**
JAR				S	**Sn**	**21 35 45.1**	**-1.6**
JSS	**Shosan**	**2.01**	**8**	P	**Pn**	**21 35 22.9**	**+0.5**
JSS				*eS*	**Sn**	**21 35 49.0**	**+0.3**
JANG	**Nango**	**2.03**	**179**	P	**Pn**	**21 35 22.2**	**-0.5**
JANG				S	**Sn**	**21 35 47.4**	**-1.8**
JMM	**Marumori**	**4.56**	**187**	P	**Pn**	**21 35 54.5**	**-0.9**
MJAR	**Matsushiro Arr**	**6.38**	**204**	P	**Pn**	**21 36 21.3**	**+1.6**
	1.3nm,0.3s,baz=23,slow=10,SNR=12						
SONM	**Songino Array**	**25.18**	**295**	P	**P**	**21 40 00.6**	**-0.5**
	0.4nm,0.4s,baz=84,slow=10,SNR=3.0						
	0.4nm,0.4s						
LZDM	**Lanzhou Array**	**29.79**	**270**	P	P	21 40 32.4	-10
	2.7nm,0.4s,baz=77,slow=6.4,SNR=3.7						
	2.7nm,0.4s						
ZALV	**Zalesovo Beam**	**38.49**	**308**	P	**P**	**21 41 57.8**	**+1.0**
	0.6nm,0.3s,baz=90,slow=8.3,SNR=4.8						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**41.50**	**297**	P	**P**	**21 42 20.3**	**-1.4**
	0.2nm,0.5s,baz=68,slow=7.3,SNR=4.3						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**42.89**	**304**	P	**P**	**21 42 32.2**	**-0.8**
	1.2nm,0.4s,baz=76,slow=9.1,SNR=10						
	1.2nm,0.4s						
BVAR	**Borovoye Array**	**47.11**	**309**	P	**P**	**21 43 06.0**	**-0.2**
	0.6nm,0.3s,baz=74,slow=10,SNR=7.1						
	0.6nm,0.3s						
ARCES	**ARCESS Array B**	**59.00**	**338**	P	**P**	**21 44 34.5**	**+1.4**
	2.8nm,1.1s,baz=35,slow=6.9,SNR=1.1						
	2.8nm,1.1s						
FINES	**FINESS Array B**	**64.10**	**331**	P	**P**	**21 45 08.8**	**+1.4**
	1.5nm,0.8s,baz=43,slow=6.2,SNR=4.8						
	1.5nm,0.8s						

*IDC **15** 21:44:00.8±0.7, 39.41N 77.16E, h0km, mb3.9/15, mbtmp3.8/21, ML3.2/6, MS3.1/6, Error ellipse: s-maj=17.8km s-min=12.2km az=49.0*
*SOME **15** 21:44:02.3, 39.62N 77.07E, h5km*
*MOS **15** 21:44:03.5±2.3, 39.56N 77.03E, h10km, mb4.4/11, Error ellipse: s-maj=7.6km s-min=4.9km az=103.9*
*NEIC **15** 21:44:05.0±1.8, 39.58N±0.07 77.07E±0.10, h10km±2km, mb4.4/15, Error ellipse: s-maj=14.0km s-min=10.4km az=126.0*
*KRNET **15** 21:44:04.5±0.1, 39.38N 77.04E, mb4.4*
*NNC **15** 21:44:05.2±0.8, 39.67N 77.11E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=6.3km s-min=4.8km az=151.0*
ISC 15 21:44:04.1±0.5, 39.43N±0.04 77.34E±0.03, h17km, n181, σ2920/204, mb4.2/42, MS3.6/6, 25C-19D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.06**	**275**	Pg	**Pg**	**21 44 28.6**	**+3.9**
KSH				Sg	**Sg**	**21 44 47.1**	**+8.5**
KSH				smax	smax		
	comp=N,7μm,0.6s						
KSH				smax	smax		
	comp=E,7μm,0.6s						
TARG	**Taragay, Kyrgy**	**2.32**	**9**	Pn	**Pn**	**21 44 42.7**	**+0.8**
TARG	**Taragay, Kyrgy**	**2.32**	**9**	PN	**Pn**	**21 44 42.7**	**+0.8**
KDJ	**Kajisay**	**2.70**	**357**		**Pn**	**21 44 48.3**	**+1.4**
KDJ	**Kajisay**	**2.70**	**357**	⇑*iP*	**Pn**	**21 44 48.9**	**+2.0**
KDJ				⇑*iS*	**Sn**	**21 45 21.5**	**+2.2**
KDJ	**Kajisay**	**2.70**	**357**	PN	**Pn**	**21 44 48.3**	**+1.4**
ULHL	**Ulahol**	**2.93**	**344**	P	**Pn**	**21 44 51.8**	**+1.6**
	SNR=129						
ULHL	**Ulahol**	**2.93**	**344**	⇑*iP*	**Pn**	**21 44 51.6**	**+1.4**
ULHL				⇑*iS*	**Sn**	**21 45 25.6**	**+0.5**
PRZ	**Przheval'sk**	**3.15**	**14**		**Pn**	**21 44 55.7**	**+2.5**
PRZ	**Przheval'sk**	**3.15**	**14**	⇓*iP*	**Pn**	**21 44 56.5**	**+3.3**
PRZ				⇓*iS*	**Sn**	**21 45 34.4**	**+3.9**
PRZ	**Przheval'sk**	**3.15**	**14**	PN	**Pn**	**21 44 55.7**	**+2.5**
UCH	**Uchtor**	**3.52**	**323**	P	**Pn**	**21 44 59.5**	**+1.0**
	SNR=107						
UCH	**Uchtor**	**3.52**	**323**	⇑*iP*	**Pn**	**21 44 58.7**	**+0.2**
UCH				⇑*iS*	**Sn**	**21 45 38.2**	**-1.8**
TNSS	**Tian-Shan**	**3.62**	**355**	Pg	**Pb**	**21 45 06.2**	**-1.6**
	comp=E,42nm,0.4s						
TNSS				Lg	Lg	21 45 52.5	
	comp=E,103nm,0.4s						
TNSS	**Tian-Shan**	**3.62**	**355**	*eP*	**Pb**	**21 45 06.2**	**-1.6**
	comp=E,42nm,0.4s						
TNSS				*eS*	**Sb**	**21 45 52.5**	**+1.0**
	comp=E,104nm,0.5s						
KBK	**Karagaybulak**	**3.70**	**331**	P	**Pn**	**21 45 02.3**	**+1.7**
	SNR=19						
KBK	**Karagaybulak**	**3.70**	**331**	⇑*iP*	**Pn**	**21 45 01.4**	**+0.8**
KBK				⇑*iS*	**Sn**	**21 45 42.9**	**-1.0**
SATY	**Saty**	**3.71**	**12**	Pg	**Pb**	**21 45 10.0**	**+0.7**
	comp=E,62nm,0.5s						
SATY				Lg	Lg	21 45 58.6	
	comp=E,315nm,0.3s						
TKM2	**Tokmak 2**	**3.73**	**340**	P	**Pn**	**21 45 02.7**	**+1.6**
	SNR=31						
TKM2	**Tokmak 2**	**3.73**	**340**	⇑*iP*	**Pn**	**21 45 02.3**	**+1.2**
TKM2				⇑*iS*	**Sn**	**21 45 44.5**	**-0.2**
MDOK	**Medeo**	**3.74**	**357**	Pg	**Pb**	**21 45 08.5**	**-1.2**
	comp=E,45nm,0.4s						
MDOK				Lg	Lg	21 45 56.1	
	comp=E,374nm,0.5s						
KST	**Kastek**	**3.76**	**344**	Pg	**Pb**	**21 45 08.4**	**-1.6**
	comp=E,54nm,0.4s						
KST				Lg	Lg	21 45 56.5	
	comp=E,257nm,0.4s						
KST	**Kastek**	**3.76**	**344**	*eP*	**Pb**	**21 45 08.4**	**-1.6**
	comp=E,40nm,0.2s						
KST				*eS*	**Sb**	**21 45 56.5**	**+1.2**
	comp=E,257nm,0.4s						
MTBS	**Maitube**	**3.76**	**350**	Pg	**Pb**	**21 45 08.9**	**-1.2**
	comp=E,72nm,0.4s						
MTBS				Lg	Lg	21 45 57.1	
	comp=E,185nm,0.6s						
MTBS	**Maitube**	**3.76**	**350**	*eP*	**Pb**	**21 45 08.9**	**-1.2**
	comp=E,38nm,0.4s						
MTBS				*eS*	**Sb**	**21 45 57.1**	**+1.8**
	comp=E,185nm,0.6s						
AAA	**Alma-Ata**	**3.79**	**355**	Pg	**Pb**	**21 45 10.4**	**-0.1**
	comp=E,228nm,0.4s						
AAA				Lg	Lg	21 45 59.3	
	comp=E,51nm,0.3s						
AAA	**Alma-Ata**	**3.79**	**355**	*eP*	**Pb**	**21 45 10.4**	**-0.1**
	comp=E,152nm,0.4s						
AAA				*eS*	**Sb**	**21 45 59.4**	**+3.2**
	comp=E,51nm,0.3s						
KNDC	**Almaty**	**3.79**	**356**	⇓Pn	**Pn**	**21 45 02.5**	**+0.7**
	comp=E,19nm,0.6s						
KNDC				⇑Pg	**Pb**	**21 45 10.5**	**-0.1**
	comp=E,134nm,0.6s						
KNDC				⇓Lg	Lg	21 45 58.7	
	comp=E,281nm,0.6s						
KNDC	**Almaty**	**3.79**	**356**	PN	**Pb**	**21 45 09.4**	**-1.2**
KNDC						21 46 00.0	
ARSB	**Arslanbob**	**3.83**	**301**		**Pn**	**21 45 01.2**	**-1.2**
ARSB	**Arslanbob**	**3.83**	**301**	⇓*iP*	**Pn**	**21 45 01.6**	**-0.8**
ARSB				⇓*iS*	**Sn**	**21 45 43.4**	**-3.7**
ARSB	**Arslanbob**	**3.83**	**301**	PN	**Pn**	**21 45 01.2**	**-1.2**
AAK	**Ala-Archa**	**3.86**	**327**	P	**Pn**	**21 45 04.2**	**+1.3**
	SNR=18						
AAK	**Ala-Archa**	**3.86**	**327**		**Pn**	**21 45 02.5**	**-0.4**
AAK	**Ala-Archa**	**3.86**	**327**	⇑Pn	**Pn**	**21 45 03.8**	**+1.0**
	comp=E,101nm,1.2s						
AAK				⇑Pg	**Pb**	**21 45 10.6**	**-1.2**
	comp=E,415nm,1.0s						
AAK				Lg	Lg	21 45 58.7	
AAK	**Ala-Archa**	**3.86**	**327**	Pn	**Pn**	**21 45 04.4**	**+1.5**
	comp=E,7.6nm,0.3s,baz=149,slow=8.0,SNR=41						
AAK				Lg	Lg	21 45 59.4	
	comp=E,54nm,0.3s,baz=329,slow=20,SNR=19						
AAK				LR	LR	21 46 31.5	
	comp=E,159nm,18.2s,baz=147,slow=40						
	comp=E,24nm,0.5s						
AAK	**Ala-Archa**	**3.86**	**327**	⇓*iP*	**Pn**	**21 45 03.3**	**+0.5**
AAK				⇓*iS*	**Sn**	**21 45 46.1**	**-1.8**
AAK	**Ala-Archa**	**3.86**	**327**	*diPN*	**Pn**	**21 45 04.3**	**+1.5**
AAK				pmax	pmax		
	comp=Z,415nm,1.0s						
UZB	**Uzunbulak**	**3.92**	**18**	Pg	**Pb**	**21 45 13.4**	**+0.5**
	comp=Z,15nm,0.4s						
UZB				Lg	Lg	21 46 04.5	
	comp=Z,124nm,0.3s						
UZB	**Uzunbulak**	**3.92**	**18**	*eP*	**Pb**	**21 45 13.4**	**+0.5**
	comp=Z,15nm,0.4s						
UZB				*eS*	**Sb**	**21 46 04.5**	**+4.3**
	comp=Z,124nm,0.3s						
FRU1	**Bishkek**	**3.95**	**330**		**Pn**	**21 45 04.7**	**+0.7**
FRU1	**Bishkek**	**3.95**	**330**	⇓*iP*	**Pn**	**21 45 04.9**	**+0.9**
FRU1				⇓*iS*	**Sn**	**21 45 49.0**	**-0.9**
FRU1	**Bishkek**	**3.95**	**330**	PN	**Pn**	**21 45 04.7**	**+0.7**
SHLS	**Shalkode**	**4.05**	**23**	Pg	**Pb**	**21 45 18.1**	**+3.0**
	comp=Z,35nm,0.4s						
SHLS				Lg	Lg	21 46 12.

comp=N,33nm,0.2s
BTLS Baital 6.12 338 Pg **Pb** 21 45 51.6 +1.4
comp=N,16nm,0.6s
BTLS Lg Lg 21 47 10.3
comp=N,16nm,0.5s
BTLS Baital 6.12 338 *e*P **Pb** **21 45 51.6 +1.4**
comp=N,9.0nm,0.4s
BTLS *e*S **Sb** **21 47 10.3 +7.3**
comp=N,149nm,0.3s
KK31 Karatay Array 6.32 308 Pn **Pn** **21 45 34.8 -1.7**
KK31 Karatay Array 6.32 308 Pn **Pn** **21 45 35.2 -1.2**
comp=N,0.4nm,0.2s,baz=128,slow=11,SNR=30
KK31 ⇑Pg **Pb** **21 45 54.1 +0.5**
comp=N,8.7nm,0.5s,baz=129,slow=15,SNR=18
KK31 ⇓Lg Lg 21 47 15.1
comp=N,33nm,0.6s,baz=125,slow=27,SNR=6.2
KK31 Karatay Array 6.32 308 PN **Pn** **21 45 35.2 -1.2**
KK31 *e* 21 45 54.1
KKAR Karatay Array 6.32 308 **Pn** **21 45 35.9 -0.6**
KKAR Karatay Array 6.32 308 PN **Pn** **21 45 35.9 -0.6**
CHGR Chuyangaron 6.42 266 **Pn** **21 45 36.4 -1.5**
CHGR Chuyangaron 6.42 266 PN **Pn** **21 45 36.4 -1.5**
SIMJ Simíganj 6.53 266 **Pn** **21 45 38.5 -1.0**
CHM Chimkent 6.54 299 *e*P **Pb** **21 45 59.1 +1.8**
comp=N,26nm,0.2s
CHM *e*S **Sb** **21 47 23.4 +8.3**
comp=N,161nm,0.4s
NIL Nilore 6.64 211 Pn 21 45 44.8 +3.9
NIL Nilore 6.64 211 PN Pn 21 45 44.8 +3.9
TSSA Tissa 6.65 189 *e*P Pn 21 45 44.7 +3.5
TSSA *e*P **Pb** 21 45 45.3 -14
TSSA *e*S **Sn** **21 46 57.4 +0.7**
TSSA *e*S Sb 21 46 59.8 -19
TSSA IAML 21 47 14.1
comp=N,216nm,0.2s
TSSA IAML 21 47 14.7
comp=E,192nm,0.9s
BRLS Boroldav 6.70 305 Pg **Pb** **21 46 02.0 +1.9**
comp=E,9.6nm,0.4s
BRLS Lg Lg 21 47 28.4
comp=E,35nm,0.7s
BRLS Boroldav 6.70 305 *e*P **Pb** **21 46 02.0 +1.9**
comp=E,9.6nm,0.4s
BRLS *e*S **Sb** **21 47 28.4 +8.5**
comp=E,35nm,0.7s
JMU Jammu 6.98 197 *e*P Pn 21 45 48.1 +2.5
JMU *e*S **Sn** **21 47 02.6 -2.0**
JMU IAML 21 47 21.9
comp=E,159nm,0.5s
JMU IAML 21 47 32.8
comp=N,141nm,0.4s
MAKZ Makanchi 8.12 23 Pn **Pn** **21 46 00.1 -1.0**
MAKZ Makanchi 8.12 23 P **Pn** **21 46 00.1 -1.0**
MK31 Makanchi Array 8.20 25 ⇓Pn **Pn** **21 46 02.9 +0.6**
comp=N,0.2nm,0.2s,baz=201,slow=12,SNR=19
MK31 ⇓Pg Pb 21 46 35.7 +10
comp=N,1.1nm,0.3s,baz=211,slow=17,SNR=3.5
MK31 ⇑Lg Lg 21 48 18.3
comp=N,12nm,0.7s,baz=206,slow=26,SNR=4.1
MK31 Makanchi Array 8.20 25 *i* P **Pn** **21 46 02.7 +0.4**
MK31 pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 8.20 25 Pn **Pn** **21 46 03.0 +0.7**
MKAR Makanchi Array 8.20 25 Pn **Pn** **21 46 03.5 +1.3**
comp=Z,0.3nm,0.3s,baz=205,slow=12,SNR=14
MKAR Sn **Sn** **21 47 27.9 -6.7**
comp=Z,0.6nm,0.3s,baz=190,slow=27,SNR=5.1
MKAR Lg Lg 21 48 17.7
comp=Z,1.3nm,0.3s,baz=200,slow=24,SNR=5.2
comp=Z,0.6nm,0.4s
KBL Kabul 8.24 236 **Pn** **21 46 04.3 +1.3**
KBL Kabul 8.24 236 P **Pn** **21 46 04.3 +1.3**
SMLA Simla 8.28 181 *e*P Pn 21 46 06.7 +3.3
SMLA *e*S **Sn** **21 47 35.0 -1.6**
SMLA IAML 21 47 49.9
comp=N,78nm,0.8s
SMLA IAML 21 47 50.1
comp=E,84nm,0.4s
WMQ Urumqi 8.91 57 Pn **Pn** 21 46 18.8 +6.8
WMQ Sn **Sn** **21 47 55.9 +3.9**
WMQ smax smax
comp=N,39nm,1.1s
WMQ smax smax
comp=E,62nm,1.1s
KURBB Kurchatov Arra 11.22 4 ⇑Lg Lg 21 49 54.5
comp=E,31nm,0.7s
KURBB Kurchatov Arra 11.22 4 Pn **Pn** **21 46 42.6 -1.0**
comp=E,0.1nm,0.3s,baz=191,slow=12,SNR=5.2
KURBB Lg Lg 21 49 53.1
comp=E,0.1nm,0.3s,baz=188,slow=29,SNR=4.6
comp=E,0.3nm,0.5s
KURK Kurchatov 11.32 4 ⇑Lg Lg 21 49 55.3
comp=E,18nm,1.4s
KURK Kurchatov 11.32 4 *i* P **Pn** **21 46 44.9 -0.1**
GOMU GeErMu 14.19 98 P **Pn** **21 47 23.6 -0.9**
GOMU pP P 21 47 27.0 -5.0
GOMU sP 21 47 31.5
GOMU pmax pmax
comp=Z,9.0nm,0.9s
BVA0 Borovoye Array 14.41 343 P **Pn** **21 47 30.1 +2.9**
comp=Z,3.5nm,0.7s,baz=157,slow=13,SNR=19
BVA0 Borovoye Array 14.41 343 *i* P **Pn** **21 47 30.1 +2.9**
BVAR Borovoye Array 14.41 343 Pn **Pn** **21 47 24.5 -2.7**
baz=146,slow=10,SNR=8.0
BVAR Lg Lg 21 51 32.5
baz=156,slow=31,SNR=5.6
BVAR LR LR 21 53 05.6
comp=Z,128nm,19.6s,baz=321,slow=38
comp=Z,0.4nm,0.4s
ZALV Zalesovo Beam 15.39 17 Pn **Pn** **21 47 39.2 -1.0**
comp=Z,0.4nm,0.3s,baz=222,slow=12,SNR=6.5
ZALV LR LR 21 54 09.7
comp=Z,49nm,19.1s,baz=327,slow=39
comp=Z,0.5nm,0.5s
AB31 Akbulak array 15.82 314 **Pn** **21 47 43.8 -2.1**
AB31 Akbulak array 15.82 314 ⇑P **Pn** **21 47 43.5 -2.4**
comp=Z,2.1nm,0.5s,baz=122,slow=13,SNR=34
AB31 Akbulak array 15.82 314 *i* P **Pn** **21 47 43.2 -2.7**
ABKAR Akbulak array 15.82 314 Pn **Pn** **21 47 43.9 -2.0**
GTA Gaotai 17.36 83 *e*P **Pn** **21 48 04.4 -1.3**
GTA pP pP 21 48 09.5 -2.6
GTA pmax pmax
comp=Z,3.0nm,1.0s
AKTO Aktyubinsk 17.50 315 ⇑P **Pn** **21 48 03.0 -4.2**
comp=Z,0.2nm,0.4s
AKTO Aktyubinsk 17.50 315 P **Pn** **21 48 04.7 -2.5**
comp=Z,0.3nm,0.3s,baz=120,slow=9.3,SNR=6.2
AKTO Lg Lg 21 53 14.2
comp=Z,0.2nm,0.3s,baz=349,slow=12,SNR=1.4
comp=Z,1.0nm,0.4s
ARTI Arti 21.08 330 P **P** **21 48 46.9 -0.4**
comp=Z,2.0nm,0.6s,baz=161,slow=4.6,SNR=5.4
ARTI LR LR 21 56 37.2
comp=Z,185nm,21.3s,baz=316,slow=36
comp=Z,2.0nm,0.6s
ARTI Arti 21.08 330 *d* P **P** **21 48 47.3 0.0**
ARTI 21 49 05.4
ARTI S **S** **21 52 41.3 +0.2**
ARTI SS **SnSn** **21 53 02.5 0.0**
ARTI pmax pmax
comp=Z,11nm,2.2s
LZH Lanzhou 21.19 91 *e*P **P** **21 48 52.1 +3.2**
LZH sP sP 21 49 01.8 +5.4
LZH pmax pmax
comp=Z,22nm,1.3s
LZH LR LR
comp=N,220nm,17.2s
LZH LR LR
comp=E,210nm,16.5s
LZH LR LR
comp=Z,260nm,17.5s
LKRN Lenkeran, Azer 22.15 277 P **P** **21 48 58.1 -0.9**
SONM Songino Array 22.54 59 P **P** **21 49 05.7 +2.4**
SONM Songino Array 22.54 59 P **P** **21 49 04.5 +1.3**
comp=Z,1.1nm,0.6s,baz=256,slow=11,SNR=9.1
SONM LR LR 21 59 09.5
comp=Z,60nm,21.6s,baz=260,slow=40
comp=Z,1.1nm,0.6s
SONM Songino Array 22.54 59 *e*P **P** **21 49 06.0 +2.7**
SONM pmax pmax
comp=Z,1.0nm,0.6s
MAK Makhachkala 22.67 289 *e*P **P** **21 49 01.1 -3.4**
MAK *e*S **S** **21 53 07.2 -4.6**
MAK pmax pmax
comp=Z,62nm,1.3s
MAK MLR MLR
comp=Z,155nm,10.0s
ULN Ulaanbaatar 22.98 59 *i* P **P** **21 49 12.4 +4.5**
ULN pmax pmax
comp=Z,4.0nm,0.9s
SEKA Sheki 23.00 284 P **P** **21 49 06.2 -1.9**
MNGR Mingechevir, A 23.13 283 P **P** **21 49 08.3 -1.0**
GANJ Ganja 23.72 283 P **P** **21 49 14.5 -0.7**
PZH PanZhiHua 24.11 115 P P 21 49 27.8 +8.8
BELG Belogornoye 24.20 312 *i* P **P** **21 49 18.0 -1.5**
BELG pmax pmax
comp=Z,3.0nm,0.9s
NAX Nakhchivan 24.58 280 P **P** **21 49 22.9 -0.4**
GNI Garni 24.99 282 P **P** **21 49 25.7 -1.3**
GNI IAmb IAmb 21 49 34.4
comp=Z,9.7nm,0.9s
GNI Garni 24.99 282 *i* P **P** **21 49 27.2 +0.2**
GNI pmax pmax
comp=Z,11nm,1.0s
HHC Hu-ho-hao-te 26.11 76 *e*P P 21 49 44.3 +7.2
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,120nm,5.1s
KIV Kislovodsk 26.15 291 *e*P **P** **21 49 37.3 -0.1**
KIV pmax pmax
comp=Z,4.0nm,1.0s
CHTO Chiang Mai 27.77 132 P P 21 49 58.3 +6.2
CHTO IAmb IAmb 21 50 02.9
comp=Z,2.9nm,1.1s
CHTO Chiang Mai 27.77 132 P P
CHTO pmax pmax 21 49 58.3 +6.2
comp=Z,3.0nm,1.1s
CMAR Chiang Mai Arr 28.05 132 P **P** **21 49 54.8 +0.2**
comp=Z,0.4nm,0.7s,baz=310,slow=10,SNR=5.5
CMAR LR LR 22 04 04.8
comp=Z,21nm,20.5s,baz=155,slow=43
comp=Z,0.4nm,0.7s
CMAR Chiang Mai Arr 28.05 132 *e*P P 21 50 00.9 +6.3
CMAR pmax pmax
comp=Z,1.0nm,0.8s
OBN Obninsk 31.27 314 ⇑ *e*P **P** **21 50 24.2 +1.5**
OBN *e* 21 51 20.6
OBN pmax pmax
OBN MLR MLR
comp=Z,138nm,14.0s
BR131 Keskin Array S 33.44 285 P **P** **21 50 41.6 -0.5**
BR131 IAmb IAmb 21 51 01.9
comp=Z,8.9nm,1.4s
BR131 Keskin Array S 33.44 285 P **P** **21 50 41.6 -0.5**
BR131 pmax pmax
comp=Z,9.0nm,1.4s
BRTR Keskin Array B 33.44 285 P **P** **21 50 41.0 -1.1**
BRTR Keskin Array B 33.44 285 P **P** **21 50 41.7 -0.5**
comp=Z,1.6nm,0.6s,baz=89,slow=8.0,SNR=12
comp=Z,1.6nm,0.6s
NJ2 Nanjing 34.25 89 *e*P P 21 50 56.3 +7.2
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
MLR Muntele Rosu 37.86 296 P **P** **21 51 19.2 -0.8**
MLR IAmb IAmb 21 51 21.6
comp=Z,4.7nm,0.9s
MLR Muntele Rosu 37.86 296 P **P** **21 51 19.2 -0.8**
MLR pmax pmax
comp=Z,5.0nm,0.9s
FIA1 FINESS Array S 38.03 323 P **P** **21 51 20.2 -0.9**
FINES FINESS Array B 38.03 323 P **P** **21 51 20.0 -1.1**
FINES FINESS Array B 38.03 323 P **P** **21 51 19.8 -1.3**
comp=Z,1.9nm,0.6s,baz=110,slow=12,SNR=9.3
comp=Z,1.9nm,0.6s
BURAR Bucovina Array 38.04 300 P **P** **21 51 20.6 -0.9**
BUR08 Bucovina Ar. S 38.05 300 P **P** **21 51 21.2 -0.4**
BUR08 IAmb IAmb 21 52 02.6
comp=Z,7.2nm,1.5s
YAK Yakutsk 38.65 37 *i* P P 21 51 31.5 +5.2
YAK pmax pmax
comp=Z,3.0nm,0.7s
KOLS Kolonicke sedl 39.83 302 *e*P **P** **21 51 38.8 +2.5**
ARCES ARCESS Array B 40.49 335 P **P** **21 51 38.9 -2.7**
comp=Z,6.3nm,0.9s,baz=105,slow=9.0,SNR=8.4
comp=Z,6.3nm,0.9s
ARCES ARCESS Array B 40.49 335 *e*P **P** **21 51 40.6 -1.0**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
HFS Hagfors 43.97 320 P **P** **21 52 08.7 -1.3**
comp=Z,1.1nm,0.6s,baz=101,slow=7.8,SNR=1.2
comp=Z,1.1nm,0.6s
CONA Conrad Observa 44.20 302 *e*P **P** **21 52 11.6 -0.6**
comp=Z,4.9nm,1.6s
NC405 NORSAR Array S 44.91 321 P **P** **21 52 16.2 -1.4**
SOKA Soboth 45.04 301 *i* P **P** **21 52 18.2 -0.7**
comp=Z,2.2nm,0.7s
NOA NORSAR Array B 45.16 321 P **P** **21 52 17.5 -2.0**
comp=Z,1.1nm,0.7s,baz=79,slow=7.7,SNR=2.2
comp=Z,1.1nm,0.7s
GERES GERESS Array B 45.41 304 P **P** **21 52 21.2 -0.5**
comp=Z,1.6nm,0.7s,baz=69,slow=7.4,SNR=15
comp=Z,1.6nm,0.7s
OBKA Obir 45.41 300 *i* P **P** **21 52 20.7 -1.1**
comp=Z,1.1nm,0.6s
BIOA Bad Ischl, Aus 45.72 302 *e*P **P** **21 52 23.3 -0.9**
comp=Z,5.1nm,1.6s
MYKA Terra Mystica 45.98 301 *e*P **P** **21 52 23.8 -2.5**
comp=Z,2.1nm,0.4s
LESA Schwarzleotal 46.41 302 *i* P **P** **21 52 28.5 -1.2**
comp=Z,3.0nm,0.7s
CUC Castrocucco 46.48 291 P **P** **21 52 29.7 -0.6**
CUC IAmb IAmb 21 52 31.0
comp=Z,4.6nm,0.8s
WTTA Wattenberg 47.14 302 *e*P **P** **21 52 34.3 -1.2**
comp=Z,1.2nm,0.5s
FDMO Fiordimonte 47.40 296 P **P** **21 52 36.7 -0.7**
FDMO IAmb IAmb 21 52 37.6
comp=Z,4.2nm,0.7s
NRCA Norcia 47.45 296 P **P** **21 52 37.1 -0.7**
NRCA IAmb IAmb 21 52 39.0
comp=Z,5.3nm,1.0s
RETA Reutte 47.65 303 *e*P **P** **21 52 38.4 -1.0**
comp=Z,3.6nm,1.3s
FETA Feichten 47.80 302 *e*P **P** **21 52 40.6 0.0**
comp=Z,2.1nm,1.2s
DAVA Damuels 48.28 303 *e*P **P** **21 52 42.8 -1.5**
comp=Z,3.8nm,0.7s
EKA Eskdalemuir Ar 53.69 316 P **P** **21 53 21.6 -3.0**
comp=Z,1.4nm,0.9s,baz=79,slow=8.8,SNR=1.1
comp=Z,1.4nm,0.9s
ESK Eskdalemuir 53.72 316 P **P** **21 53 25.8 +0.9**
ESK Eskdalemuir 53.72 316 P **P** **21 53 25.8 +0.9**
ESK pmax pmax
comp=Z,20nm,1.3s
BILL Bilibino 53.73 28 *i* P P 21 53 32.0 +7.2
BILL pmax pmax
comp=Z,4.0nm,1.0s
ESDC Sonseca Array 60.49 299 P **P** **21 54 11.9 -1.2**
comp=Z,0.9nm,0.5s,baz=53,slow=7.0,SNR=21
comp=Z,0.9nm,0.5s
ABPO Ambohimpanom 64.60 212 *i* P P 21 54 47.4 +6.6
ILAR Eielson Array 70.51 18 P **P** **21 55 16.0 -1.4**
comp=Z,0.2nm,0.6s,baz=328,slow=5.6,SNR=2.8
comp=Z,0.2nm,0.6s
ILAR Eielson Array 70.51 18 P **P** **21 55 16.0 -1.4**
TORD Torodi Ar. Bea 70.73 271 P **P** **21 55 17.4 -2.2**
comp=Z,1.1nm,0.5s,baz=46,slow=5.5,SNR=17
comp=Z,1.1nm,0.5s
WRA Warramunga Arr 79.49 127 P **P** **21 56 10.1 +0.2**
comp=Z,0.7nm,0.8s,baz=329,slow=5.5,SNR=8.5
comp=Z,0.7nm,0.8s
ASAR Alice Springs 82.02 129 P **P** **21 56 23.3 -0.1**
comp=Z,0.5nm,0.5s,baz=319,slow=5.5,SNR=6.2
comp=Z,0.5nm,0.5s

*BER **15** 21:48:19.4±1.0, 79.°80N×4.°99E, h10km, mb(Pn)2.7, Confirmed Earthquake*
ISC 15 21:48:14.7±1.2, 79.°9N±0.°4×4.°6E±0.°3, h10km, n5, σ1s54/8, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.66**	**122**	*e*P	**Pn**	**21 48 45.1**	**+1.3**
KBS				*e*S	**Sn**	**21 49 03.9**	**-1.2**
KBS				IAML		21 49 13.9	
comp=Z,11nm,0.4s							
BRBA	**Barentsburg A**	**2.60**	**130**	*e*P	**Pb**	**21 49 00.0**	**-1.3**
SPA0	**Spitsbergen Ar**	**2.82**	**122**	*e*P	**Pn**	**21 49 01.7**	**+1.9**
SPA0				*e*S	**Sn**	**21 49 33.1**	**-0.7**
SPA0				IAML		21 49 35.0	
comp=Z,4.9nm,0.9s
HSPB Hornsund (broa 3.63 137 *e*P **Pn** **21 49 12.3 +1.5**
NOR Nord 3.83 307 *i* P **Pn** **21 49 14.3 +0.8**
NOR *i* S **Sn** **21 49 57.9 -0.5**

IDC 15 21:54:38.5±34.0, 16.°42S×177.°98W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=650.4km s-min=163.3km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.72**	**240**	P	P	22 02 12.4	-0.4
0.8nm,0.4s,baz=63,slow=9.0,SNR=3.0							
0.8nm,0.4s							
WRA	**Warramunga Arr**	**45.32**	**258**	P	P	22 02 58.2	-0.5
0.3nm,0.4s,baz=91,slow=8.2,SNR=5.7							
0.3nm,0.4s							
ASAR	**Alice Springs**	**45.60**	**253**	P	P	22 03 01.1	+0.3
1.7nm,0.5s,baz=85,slow=8.4,SNR=21							
1.7nm,0.5s							
FITZ	**Fitzroy Crossi**	**53.69**	**259**	P	P	22 04 02.5	0.0
1.5nm,0.8s,baz=90,slow=8.1,SNR=2.0							
1.5nm,0.8s							

*IDC **15** 22:05:28.1±3.7, 30.°11S×117.°75E, h0km, mb3.7/1, mbtmp4.1/4, ML4.0/3, Error ellipse: s-maj=65.9km s-min=25.0km az=127.0*
*NEIC **15** 22:05:30.7±2.0, 30.°32S±0.°05×117.°90E±0.°08, h10km±1km, mb4.4/11, Error ellipse: s-maj=13.1km s-min=4.1km az=237.0*
*AUST **15** 22:05:31.6±0.3, 30.°S±2.°×11.°8E±.°, h10km, ML3.4/10, Error ellipse: s-maj=5.8km s-min=4.9km az=113.2*
*NOU **15** 22:05:31.4, 30.°35S×117.°74E, h0km, MLv4.3/7, Western Australia*
ISC 15 22:05:29.6±0.5, 30.°33S±0.°04×117.°86E±0.°04, h10km, n50, σ1s99/54, mb4.9/3, 2D, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLDU	**Ballidu**	**1.03**	**253**	⇓P	**Pg**	**22 05 49.3**	**-0.1**
BLDU				S	**Sg**	**22 06 01.1**	**-1.8**
BLDU	**Ballidu**	**1.03**	**253**	P	**Pg**	**22 05 49.7**	**+0.2**
MORW	**Morawa**	**2.02**	**308**	⇓P	**Pb**	**22 06 05.9**	**-0.5**
MORW	**Morawa**	**2.02**	**308**	S	**Sn**	**22 06 30.6**	**+1.6**
MORW	**Morawa**	**2.02**	**308**		**Pb**	**22 06 05.5**	**-0.9**
MORW				Sn	**Sn**	**22 06 30.4**	**+1.5**
MORW	**Morawa**	**2.02**	**308**	P	**Pb**	**22 06 05.9**	**-0.5**
MORW	**Morawa**	**2.02**	**308**	S	**Sb**	**22 06 31.0**	**-0.5**
MUN	**Mundaring**	**2.17**	**220**	P	**Pn**	**22 06 07.2**	**+1.4**
MUN	**Mundaring**	**2.17**	**220**	S	**Sn**	**22 06 32.7**	**-0.1**
MUN	**Mundaring**	**2.17**	**220**	P	**Pn**	**22 06 07.4**	**+1.6**
MUN	**Mundaring**	**2.17**	**220**	S	**Sb**	**22 06 34.5**	**-1.5**
NWAO	**Narrogin (SRO)**	**2.65**	**191**	P	**Pn**	**22 06 14.1**	**+1.8**
NWAO				S	**Sn**	**22 06 43.9**	**-0.6**
NWAO	**Narrogin (SRO)**	**2.65**	**191**	P	**Pn**	**22 06 14.1**	**+1.8**
NWAO	**Narrogin (SRO)**	**2.65**	**191**	S	**Sb**	**22 06 48.6**	**-1.1**
NWAO	**Narrogin (SRO)**	**2.65**	**191**		**Pn**	**22 06 13.6**	**+1.2**
NWAO	**Narrogin (SRO)**	**2.65**	**191**	Pn	**Pn**	**22 06 14.1**	**+1.8**
2.3nm,0.3s,baz=10,slow=14,SNR=24							
NWAO				Sn	**Sn**	**22 06 44.6**	**+0.1**
9.3nm,0.3s,baz=265,slow=11,SNR=10							
NWAO				Lg	Lg	22 06 49.6	
32nm,0.3s,baz=96,slow=23,SNR=35							
MEEK	**Meekatharra**	**3.73**	**10**	P	**Pn**	**22 06 31.1**	**+3.7**
MEEK	**Meekatharra**	**3.73**	**10**	S	**Sn**	**22 07 12.8**	**+1.4**
MEEK	**Meekatharra**	**3.73**	**10**	P	**Pn**	**22 06 31.0**	**+3.7**
RKGY	**Rocky Gully**	**4.34**	**190**	P	**Pn**	**22 06 37.9**	**+2.3**
DNDOZ	**Balladonia**	**5.56**	**114**	P	**Pn**	**22 06 55.0**	**+2.6**
comp=Z,0.8nmcomp=Z,97nm,2.7s							
CVQOZ	**Cooralya Stati**	**6.75**	**329**	P	**Pn**	**22 07 10.5**	**+1.8**
comp=Z,0.9nmcomp=Z,259nm,1.5s							
GIRL	**Giralia**	**8.31**	**336**	P	**Pn**	**22 07 33.4**	**+3.2**
comp=Z,0.1nmcomp=Z,52nm,1.7s							
GIRL	**Giralia**	**8.31**	**336**	Pn	**Pn**	**22 07 31.9**	**+1.8**
FORT	**Forrest**	**8.81**	**96**	Pn	**Pn**	**22 07 39.8**	**+2.8**
PSA00	**Pilbara Seismi**	**8.90**	**12**	P	**Pn**	**22 07 39.2**	**+1.0**
comp=Z,0.1nmcomp=Z,12nm,1.5s							
PSA00	**Pilbara Seismi**	**8.90**	**12**	Pn	**Pn**	**22 07 39.3**	**+1.0**
PSA00	**Pilbara Seismi**	**8.90**	**12**	Pn	**Pn**	**22 07 39.8**	**+1.6**
MBWA	**Marble Bar**	**9.28**	**11**	P	**Pn**	**22 07 45.2**	**+1.7**
comp=Z,0.1nmcomp=Z,11nm,1.8s							
MBWA	**Marble Bar**	**9.28**	**11**	Pn	**Pn**	**22 07 44.5**	**+1.0**
WRKA	**Warakurna**	**10.64**	**63**	P	**Pn**	**22 08 04.2**	**+2.0**
comp=Z,0.0nmcomp=Z,5.8nm,1.2s							
FITZ	**Fitzroy Crossi**	**14.08**	**32**	Pn	**Pn**	**22 08 49.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**14.08**	**32**	Pn	**Pn**	**22 08 48.6**	**-0.6**
comp=Z,1.4nm,0.3s,baz=211,slow=11,SNR=46							
FITZ				Sn	**Sn**	**22 11 17.1**	**-8.6**
comp=Z,0.4nm,0.3s,baz=334,slow=21,SNR=6.2							
comp=Z,11nm,0.6s							
BBOO	**Buckleboo**	**15.71**	**104**	Pn	**Pn**	**22 09 11.6**	**+0.6**
BBOO				IAmb	IAmb	22 09 17.3	
comp=Z,31nm,1.4s							
ASAR	**Alice Springs**	**15.76**	**69**	Pn	**Pn**	**22 09 11.0**	**-0.7**
ASAR	**Alice Springs**	**15.76**	**69**	Pn	**Pn**	**22 09 09.8**	**-2.0**
comp=Z,0.6nm,0.3s,baz=242,slow=11,SNR=32							
ASAR				Sn	Sn	22 11 53.8	-13
comp=Z,0.3nm,0.3s,baz=248,slow=22,SNR=6.5							
ASAR				Lg	Lg	22 13 48.4	
comp=Z,0.2nm,0.3s,baz=243,slow=29,SNR=2.6							
comp=Z,1.9nm,0.4s							
AS31	**Alice Springs**	**15.76**	**69**	Pn	**Pn**	**22 09 10.7**	**-1.0**
KNRA	**Kununurra**	**17.68**	**37**		**P**	**22 09 37.5**	**+0.5**
KNRA				IAmb	IAmb	22 09 49.0	
comp=Z,18nm,1.4s							
WRA	**Warramunga Arr**	**18.13**	**59**		**Pn**	**22 09 40.6**	**-1.0**
WRA	**Warramunga Arr**	**18.13**	**59**	P	**Pn**	**22 09 39.8**	**-1.9**
comp=Z,0.3nm,0.3s,baz=231,slow=13,SNR=27							
WRA				S	Sn	22 12 51.5	-13
comp=Z,1.1nm,0.7s,baz=238,slow=23,SNR=5.2							
WRA				Lg	Lg	22 15 03.5	
baz=279,slow=23							
comp=Z,1.6nm,0.7s							
WRAB	**Tennant Creek**	**18.14**	**59**		**Pn**	**22 09 41.0**	**-0.8**
WR8	**Warramunga Arr**	**18.24**	**59**	Pn	**Pn**	**22 09 41.0**	**-2.0**
WR8				IAmb	IAmb	22 09 49.7	
comp=Z,5.4nm,0.8s							
WB0	**Warramunga Arr**	**18.28**	**59**	Pn	**Pn**	**22 09 41.5**	**-1.9**
WB0				IAmb	IAmb	22 09 57.1	
comp=Z,4.7nm,0.9s							
STKA	**Stephens Creek**	**20.38**	**100**	P	Pn	22 10 09.5	+0.9
comp=Z,1.8nm,0.5s,baz=274,slow=12,SNR=5.8							
comp=Z,1.8nm,0.5s							
KKM	**Kota Kinabalu**	**36.20**	**357**	P	**P**	**22 12 32.3**	**-0.3**
KKM				IAmb	IAmb	22 12 50.7	
comp=Z,25nm,1.2s							
WKZ	**Wanaka**	**42.37**	**125**	P	**P**	**22 13 25.0**	**+1.0**
DZM	**Mont Dzumac**	**44.09**	**91**	P	**P**	**22 13 37.5**	**-0.7**
DZM				IAmb	IAmb	22 13 50.1	
comp=Z,20nm,1.3s							
BFZ	**Birch Farm**	**47.87**	**119**	P	**P**	**22 14 08.4**	**+0.7**
QSPA	**South Pole Qui**	**59.78**	**180**	P	**P**	**22 15 34.9**	**+0.3**
ERM	**Erimo**	**75.67**	**19**	P	**P**	**22 17 15.4**	**+0.7**
ERM				IAmb	IAmb	22 17 22.6	
comp=Z,24nm,1.0s							

*NEIC **15** 22:23:08.6±1.2, 36.°43N±0.°01×96.°91W±0.°01, h6km±1km, Error ellipse: s-maj=1.6km s-min=1.4km az=61.0*
NEIC 15 22:23:08.7±1.0, 36.°427N±0.°010×96.°91W±0.°01, h6km±1km, mb_Lg2.3/13, ML2.5/23, ML2.5/16, Error ellipse: s-maj=1.6km s-min=1.4km az=63.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK048	**Pawnee Station**	**0.03**	**251**		Pg	22 23 10.2	+0.2
OK048				Sg	Sg	22 23 10.9	+0.1
OK048				IAML		22 23 11.1	
8µm,0.1s							
OK051	**E0350 and S346**	**0.10**	**35**		Pg	22 23 11.3	+0.5
OK051				Sg	Sg	22 23 12.8	+0.6
QUOK	**Quay**	**0.30**	**148**		Pg	22 23 15.0	+0.4
QUOK					Sg	22 23 19.1	+0.5
BLOK	**Blackwell**	**0.42**	**323**		Pg	22 23 17.1	+0.3
BLOK					Sg	22 23 22.7	+0.5
OK052	**Battle Ridge R**	**0.44**	**169**		Pg	22 23 17.5	+0.3
OK052					Sg	22 23 23.3	+0.4
OK052				IAML		22 23 27.5	
320nm,0.2s							
T35A	**Sooner Cattle**	**0.58**	**33**		Pg	22 23 20.1	+0.3
T35A					Sg	22 23 27.8	+0.3
T35A				IAML		22 23 29.3	

	276nm,0.2s						
DEOK	**Depew**	**0.67**	**150**		Pg	22 23 21.7	+0.2
DEOK					Sg	22 23 30.6	+0.4
OK029	**Liberty Lake**	**0.77**	**215**		Pg	22 23 23.6	+0.1
OK029					Sg	22 23 33.8	+0.3
OK029				IAML		22 23 37.9	
	151nm,0.5s						
OK029				IAML		22 23 39.9	
	141nm,0.5s						
CROK	**Carrier**	**0.87**	**275**		Pg	22 23 25.5	+0.1
CROK					Sg	22 23 37.2	+0.4
GC02	**Grant County #**	**0.88**	**299**		Pg	22 23 25.4	-0.1
GC02					Sg	22 23 37.0	+0.1
KAN01	**Argonia South**	**1.00**	**317**		Pg	22 23 27.7	-0.1
KAN01					Sb	22 23 41.7	-0.1
KAN14	**Manchester OK**	**1.00**	**302**		Pg	22 23 27.5	-0.4
KAN14					Sb	22 23 41.5	-0.4
KAN14				IAML		22 23 48.3	
	comp=N,239nm,0.1s						
TUL3	**Leonard**	**1.04**	**119**		Pg	22 23 28.4	-0.2
TUL3				IAML		22 23 48.9	
	comp=N,90nm,0.2s						
OKCFA	**Oklahoma City**	**1.10**	**204**		Pg	22 23 29.5	-0.3
OKCFA					Sb	22 23 44.6	-0.1
KAN08	**Anthony NE Sta**	**1.17**	**313**		Pg	22 23 30.6	-0.6
KAN08					Sg	22 23 46.5	+0.2
OK038	**West end E0370**	**1.48**	**273**		Pn	22 23 35.3	-0.6
OK038					Sg	22 23 56.3	-0.1
RLO	**Rose Lookout**	**1.54**	**99**		Pn	22 23 37.0	+0.2
RLO					Sb	22 23 57.7	+0.3
CSTR	**Hydro, Custer**	**1.64**	**242**		Pb	22 23 39.4	0.0
NOKA	**Waynoka**	**1.65**	**278**		Pn	22 23 37.5	-0.6
U38A	**Gravette**	**2.03**	**89**		Pn	22 23 43.9	+0.4
WMOK	**Wichita Mounta**	**2.28**	**223**		Pn	22 23 47.5	+0.7
WMOK				IAmb_Lg		22 24 25.5	
	comp=Z,5.7nm,0.8s						
HHAR	**Hobbs**	**2.40**	**93**		Pn	22 23 48.5	0.0
HHAR					Sb	22 24 23.1	+1.0
LOOK	**Love County**	**2.44**	**185**	IAmb_Lg		22 24 31.0	
	comp=Z,18nm,1.0s						
R32A	**Long Quarter,**	**2.46**	**325**	Pn	Pn	22 23 49.6	+0.3
X40A	**Basin Creek Fa**	**3.84**	**119**	IAmb_Lg		22 25 13.3	
	comp=Z,14nm,0.9s						
DKNS	**Dickens**	**4.30**	**231**	IAmb_Lg		22 25 32.6	
	comp=Z,5.5nm,1.0s						
SN07	**Snyder 07**	**4.67**	**226**	IAmb_Lg		22 25 36.8	
	comp=Z,5.8nm,1.1s						
BRDY	**Brady**	**5.42**	**199**	IAmb_Lg		22 26 06.0	
	comp=Z,3.9nm,0.9s						

IGIL ***15*** *22:30:39.6,37˚.01N×5˚.01W,h15km,ML3.8*
INMG ***15*** *22:30:40.7±1.3,37˚.07N×5˚.23W,h6km±2km,ML3.7,Error ellipse: s-maj=1.6km s-min=1.3km az=34.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
MDD ***15*** *22:30:40.6±0.2,37˚.04N×5˚.25W,h0km,mb_Lg3.9/55, Error ellipse: s-maj=1.6km s-min=1.3km az=161.0*
SFS ***15*** *22:30:41.3,37˚.06N×5˚.21W,h11km,ML4.0/21,ML4.0/28, MLv3.9/28*
LDG ***15*** *22:30:41.4±0.2,37˚.03N×5˚.20W,h10km,Ml3.6/23,Error ellipse: s-maj=4.7km s-min=3.3km az=163.0*
CNRM ***15*** *22:30:42.9,36˚.89N×5˚.40W,h88km,ML3.4*
ISC 15 22:30:39.3±1.0,37˚.03N±0˚.02×5˚.24W±0˚.02,h16km±8km, n166,σ1s83/249,5C-2D,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.52**	**252**	Pg	**Pb**	**22 30 52.0**	**+1.9**
ESPR	**Espera**	**0.52**	**252**	Pg	**Pb**	**22 30 51.9**	**+1.9**
ESPR				Sg	**Sb**	**22 30 57.9**	**+0.5**
ESPR				*i* IVmb_Lg		22 31 12.5	
EJIF	**Jimena Fronter**	**0.61**	**198**	Pg	**Pb**	**22 30 52.8**	**+1.2**
EJIF				Sg	**Sb**	**22 31 01.1**	**+1.2**
EMAL	**Malaga-Limoner**	**0.70**	**112**	Sg	**Sg**	**22 31 02.6**	**+0.2**
EMAL				Pg	**Pg**	**22 30 53.0**	**-0.1**
EGOR	**Sierra Gorda,**	**0.91**	**85**	Pg	**Pg**	**22 30 56.9**	**-0.1**
EGOR	**Sierra Gorda,**	**0.91**	**85**	Pg	**Pg**	**22 30 56.9**	**-0.1**
EGOR				Sg	**Sg**	**22 31 09.3**	**+0.4**
EGOR				*i* IVmb_Lg		22 31 15.4	
CNIL	**Conil**	**0.93**	**225**	Pg	**Pn**	**22 31 00.4**	**+2.7**
SFS	**San Fernando**	**0.96**	**234**	Pg	**Pn**	**22 31 00.9**	**+2.8**
SFS	**San Fernando**	**0.96**	**234**	P	**Pn**	**22 31 01.2**	**+3.1**
SFS	**San Fernando**	**0.96**	**234**	S	**Sg**	**22 31 04.9**	**-5.7**
SFS				S	**Sn**	**22 31 12.1**	**+0.7**
ECAB	**El Cabril**	**1.05**	**352**	Pg	**Pg**	**22 30 59.4**	**-0.3**
ECAB				Sg	**Sg**	**22 31 13.1**	**-0.4**
ECAB				*i* IVmb_Lg		22 31 15.6	
CEU	**Ceuta**	**1.14**	**186**	Pg	**Pn**	**22 31 03.6**	**+3.1**
ECEU	**Ceuta**	**1.14**	**186**	Pg	**Pn**	**22 31 03.8**	**+3.2**
ECEU	**Ceuta**	**1.14**	**186**	Pg	**Pn**	**22 31 03.7**	**+3.2**
ECEU				Sg	**Sb**	**22 31 16.8**	**+1.6**
EADA	**Adamuz**	**1.25**	**25**	Sn	**Sb**	**22 31 19.4**	**+1.0**
EADA				Pn	**Pn**	**22 31 03.1**	**+0.9**
EADA	**Adamuz**	**1.25**	**25**	Pg	**Pn**	**22 31 02.8**	**+0.6**
EADA				Sg	**Sb**	**22 31 18.4**	**+0.1**
ELGU	**Los Guajares,**	**1.30**	**97**	Pg	**Pn**	**22 31 04.2**	**+1.4**
ELGU	**Los Guajares,**	**1.30**	**97**	Pg	**Pn**	**22 31 04.6**	**+1.7**
ELGU				Sg	**Sb**	**22 31 22.3**	**+2.4**
ELGU				*i* IVmb_Lg		22 31 30.7	
SMIR	**Smir Dam**	**1.35**	**185**	P	**Pg**	**22 31 06.5**	**+1.1**
SMIR	**Smir Dam**	**1.35**	**185**	S	**Sb**	**22 31 22.0**	**+0.7**
CPS	**Cap Spartel**	**1.36**	**204**	P	Pg	22 31 11.0	+5.5
CPS	**Cap Spartel**	**1.36**	**204**	S	**Sb**	**22 31 20.9**	**-0.5**
EMIN	**Mina Concepcio**	**1.36**	**303**	Sn	**Sn**	**22 31 23.7**	**+2.5**
EMIN				Pg	**Pn**	**22 31 04.5**	**+1.0**
EMIN	**Mina Concepcio**	**1.36**	**303**	Pg	**Pn**	**22 31 04.6**	**+1.0**
EMIN				Sg	**Sb**	**22 31 22.8**	**+1.4**
EMIN				*i* IVmb_Lg		22 31 26.9	
EQTA	**Presa de Quent**	**1.45**	**83**	Pn	**Pb**	**22 31 07.5**	**+1.6**
EQUE	**Quentar**	**1.45**	**83**	Pg	**Pb**	**22 31 07.4**	**+1.5**
EQUE				Sg	**Sn**	**22 31 25.9**	**+2.3**
EQUE				*i* IVmb_Lg		22 31 29.4	
E0803	**Jimena (Jaen)**	**1.62**	**60**	Pn	**Pn**	**22 31 08.4**	**+1.2**
E0803				Sg	**Sn**	**22 31 29.6**	**+1.8**
E0802	**Ubeda,Jaen**	**1.78**	**56**	Pn	**Pn**	**22 31 10.4**	**+0.9**
E0802				Sn	**Sn**	**22 31 33.4**	**+1.6**
PBAR	**Barrancos**	**1.83**	**309**	Sn	**Sn**	**22 31 34.4**	**+1.5**
PBAR				Pn	**Pn**	**22 31 10.9**	**+0.8**
PBAR	**Barrancos**	**1.83**	**309**	*e*Pn	**Pn**	**22 31 10.8**	**+0.8**
PBAR				*e*Sn	**Sn**	**22 31 35.1**	**+2.2**
PBAR				*e*Sg	**Sg**	**22 31 38.7**	**+0.5**
PBAR				*i* IAML		22 31 39.6	
PBAR				*i* IAML		22 31 40.8	
PBAR				*i* IAML		22 31 45.6	
EGRO	**El Granado**	**1.86**	**286**	Pn	**Pn**	**22 31 11.7**	**+1.2**
EGRO	**El Granado**	**1.86**	**286**	Pn	**Pn**	**22 31 11.5**	**+1.0**
EGRO				Sn	**Sn**	**22 31 35.8**	**+2.2**
EGRO				*i* IVmb_Lg		22 31 41.4	
EQES	**Quesada**	**1.89**	**65**	Pn	**Pn**	**22 31 12.1**	**+1.1**
EQES				Sn	**Sn**	**22 31 35.6**	**+1.1**
EQES				*i* IVmb_Lg		22 31 48.0	
CHEFC	**Chefchaouen**	**1.92**	**182**	P	**Pn**	**22 31 12.4**	**+1.0**
CHEFC	**Chefchaouen**	**1.92**	**182**	S	**Sn**	**22 31 34.5**	**-0.9**
PVAQ	**Vaqueiros**	**2.01**	**281**	*e*Pn	**Pn**	**22 31 13.8**	**+1.2**
PVAQ				*e*Sn	**Sn**	**22 31 38.8**	**+1.4**
PVAQ				*i* IAML		22 31 49.6	
PVAQ				*i* IAML		22 31 51.4	
PVAQ				*i* IAML		22 31 53.1	
PVAQ	**Vaqueiros**	**2.01**	**281**	P	**Pn**	**22 31 13.9**	**+1.2**
PVAQ	**Vaqueiros**	**2.01**	**281**	S	**Sn**	**22 31 38.0**	**+0.6**
PALE	**Palemas**	**2.10**	**149**	P	**Pn**	**22 31 16.7**	**+2.9**
PALE	**Palemas**	**2.10**	**149**	S	**Sn**	**22 31 41.2**	**+1.7**
PSIM	**Granatula de C**	**2.13**	**33**	Pn	**Pn**	**22 31 15.3**	**+1.0**
PSIM				Sn	**Sn**	**22 31 43.4**	**+2.9**
PBDV	**Barranco-do-Ve**	**2.16**	**276**	*e*Pn	**Pn**	**22 31 16.1**	**+1.4**
PBDV				*e*Sn	**Sn**	**22 31 42.1**	**+1.0**
PBDV				*i* IAML		22 31 52.4	
PBDV				*i* IAML		22 32 00.5	
PBDV				*i* IAML		22 32 01.7	
EBAD	**Badajoz**	**2.22**	**321**	Pn	**Pn**	**22 31 16.2**	**+0.7**
EBAD	**Badajoz**	**2.22**	**321**	Pn	**Pn**	**22 31 16.1**	**+0.7**
EBAD				Sn	**Sn**	**22 31 44.4**	**+1.8**
EBAD				*i* IVmb_Lg		22 31 52.1	
PCVE	**Castro Verde**	**2.31**	**286**	Pn	**Pn**	**22 31 17.9**	**+1.2**
PCVE	**Castro Verde**	**2.31**	**286**	*e*Pn	**Pn**	**22 31 18.0**	**+1.2**
PCVE				*i* IAML		22 31 58.9	
PCVE				*i* IAML		22 32 02.5	
PCVE				*i* IAML		22 32 03.6	
PBEJ	**Beja**	**2.31**	**296**	*e*Pn	**Pn**	**22 31 17.9**	**+1.2**
PBEJ				*e*Sn	**Sn**	**22 31 45.1**	**+0.3**
PBEJ				*i* IAML		22 31 59.2	
PBEJ				*i* IAML		22 32 04.7	
PBEJ				*i* IAML		22 32 09.2	
ENIJ	**Nijar**	**2.43**	**91**	Pn	**Pn**	**22 31 20.1**	**+1.8**
ENIJ	**Nijar**	**2.43**	**91**	Pn	**Pn**	**22 31 20.2**	**+1.9**
ENIJ				Sn	**Sn**	**22 31 50.3**	**+2.6**
MESJ	**Messejana**	**2.51**	**290**	*e*P	**Pn**	**22 31 20.7**	**+1.3**
MESJ				*e*S	**Sn**	**22 31 50.7**	**+1.1**
MESJ				IAML		22 32 04.2	
	comp=N,220nm,0.6s						
MESJ	**Messejana**	**2.51**	**290**	*e*Pn	**Pn**	**22 31 20.7**	**+1.3**
MESJ				*e*Sn	**Sn**	**22 31 51.2**	**+1.6**
MESJ				*i* IAML		22 32 05.0	
MESJ				*i* IAML		22 32 05.0	
MESJ				*i* IAML		22 32 06.7	
GOG	**Mont Gurugu**	**2.56**	**134**	P	**Pn**	**22 31 22.6**	**+2.4**
GOG				P	**Pb**	**22 31 23.0**	**-1.9**
GOG	**Mont Gurugu**	**2.56**	**134**	S	**Sn**	**22 31 53.9**	**+2.9**
PESTR	**Estremoz**	**2.61**	**315**	Sn	**Sn**	**22 31 52.8**	**+0.7**
PESTR				Pn	**Pn**	**22 31 21.8**	**+1.0**
PESTR	**Estremoz**	**2.61**	**315**	*e*Pn	**Pn**	**22 31 21.9**	**+1.1**
PESTR				*e*Sn	**Sn**	**22 31 53.3**	**+1.1**
PESTR				*e*Sg	**Sb**	**22 32 01.9**	**+4.4**
PESTR				*i* IAML		22 32 05.0	
PESTR				*i* IAML		22 32 09.0	
PESTR				*i* IAML		22 32 10.9	
PESTR	**Estremoz**	**2.61**	**315**	P	**Pn**	**22 31 21.6**	**+0.8**
PESTR	**Estremoz**	**2.61**	**315**	S	**Sn**	**22 31 55.0**	**+2.9**
EVO	**Evora**	**2.66**	**305**	Pn	**Pn**	**22 31 22.8**	**+1.3**
EVO				Sn	**Sn**	**22 31 53.6**	**+0.2**
EVO	**Evora**	**2.66**	**305**	*e*Pn	**Pn**	**22 31 22.8**	**+1.3**
EVO				*e*Sn	**Sn**	**22 31 53.8**	**+0.4**
EVO				*i* IAML		22 32 08.6	
EVO				*i* IAML		22 32 11.0	
EVO				*i* IAML		22 32 12.8	
MORF	**Marmelete**	**2.74**	**277**	*e*P	**Pn**	**22 31 23.8**	**+1.2**
MORF				*e*S	**Sn**	**22 31 56.6**	**+1.1**
MORF				IAML		22 32 13.8	
	comp=N,581nm,0.5s						
MORF	**Marmelete**	**2.74**	**277**	*e*Pn	**Pn**	**22 31 23.9**	**+1.2**
MORF				*e*Sn	**Sn**	**22 31 57.4**	**+2.0**
MORF				*i* IAML		22 32 13.7	
MORF				*i* IAML		22 32 14.0	
MORF				*i* IAML		22 32 18.3	
AKLM	**AKL**	**2.75**	**156**	P	**Pn**	**22 31 22.6**	**-0.3**
AKLM	**AKL**	**2.75**	**156**	S	**Sn**	**22 31 52.4**	**-3.5**
PTEO	**Sao Teotonio**	**2.83**	**281**	*e*Pn	**Pn**	**22 31 25.3**	**+1.5**
PTEO				*e*Sn	**Sn**	**22 31 59.2**	**+1.8**
PTEO				*i* IAML		22 32 20.8	
PTEO				*i* IAML		22 32 23.2	
PTEO				*i* IAML		22 32 25.9	
PFVI	**Vila Bisbo**	**2.87**	**273**	*e*Pn	**Pn**	**22 31 25.6**	**+1.2**
PFVI				*e*Sn	**Sn**	**22 31 59.6**	**+1.0**
PFVI				*i* IAML		22 32 00.7	
PFVI				*i* IAML		22 32 00.8	
PFVI				*i* IAML		22 32 01.3	
PFVI	**Vila Bisbo**	**2.87**	**273**	P	**Pn**	**22 31 25.5**	**+1.1**
PFVI	**Vila Bisbo**	**2.87**	**273**	S	**Sn**	**22 31 58.0**	**-0.6**
TLOR	**Lorca, Murcia**	**2.90**	**77**	Pn	**Pn**	**22 31 26.9**	**+2.2**
PMRV	**Marv??o**	**2.93**	**325**	*e*Pn	**Pn**	**22 31 25.9**	**+0.7**
PMRV				*e*Sn	**Sn**	**22 32 00.0**	**-0.1**
PMRV				*e*Sg	**Sb**	**22 32 10.8**	**+4.0**
PMRV				*i* IAML		22 32 17.5	
PMRV				*i* IAML		22 32 18.3	
PMRV				*i* IAML		22 32 19.5	
EPLA	**Plasencia**	**3.10**	**348**	Pn	**Pn**	**22 31 28.4**	**+0.8**
EPLA				Sn	**Sn**	**22 32 04.4**	**+0.2**
EPLA				*i* IVmb_Lg		22 32 17.5	
PMTG	**Montargil**	**3.11**	**312**	*e*Pn	**Pn**	**22 31 28.8**	**+1.0**
PMTG				*e*Sn	**Sn**	**22 32 04.5**	**0.0**
PMTG				*i* IAML		22 32 21.9	
PMTG				*i* IAML		22 32 26.1	
PMTG				*i* IAML		22 32 26.1	
TAF	**Taforalt**	**3.19**	**133**	P	**Pn**	**22 31 30.6**	**+1.8**
TAF	**Taforalt**	**3.19**	**133**	S	**Sn**	**22 32 08.2**	**+1.7**
EMUR	**La Murta**	**3.28**	**75**	Pn	**Pn**	**22 31 31.6**	**+1.5**
EMUR	**La Murta**	**3.28**	**75**	Pn	**Pn**	**22 31 31.6**	**+1.5**
EMUR				Sn	**Sn**	**22 32 11.3**	**+2.5**
PCBR	**Castelo Branco**	**3.31**	**329**	*e*Pn	**Pn**	**22 31 31.2**	**+0.8**
PCBR				*e*Sn	**Sn**	**22 32 29.2**	**-0.2**
PCBR				*i* IAML		22 32 27.3	
PCBR				*i* IAML		22 32 30.3	
PCBR				*i* IAML		22 32 31.8	
RTC	**Rabat Centre**	**3.31**	**204**	Sn	**Sn**	**22 32 09.6**	**+0.1**
LCRM	**LCR**	**3.35**	**175**	P	**Pn**	**22 31 33.0**	**+1.8**
LCRM	**LCR**	**3.35**	**175**	S	**Sn**	**22 32 12.9**	**+2.1**
CART	**Cartagena**	**3.42**	**79**	Pn	**Pn**	**22 31 32.6**	**+0.6**
CART	**Cartagena**	**3.42**	**79**	P	**Pn**	**22 31 32.7**	**+0.7**
CART	**Cartagena**	**3.42**	**79**	S	**Sn**	**22 32 17.5**	**+5.3**
PSARD	**Sardoal**	**3.44**	**319**	*e*Pn	**Pn**	**22 31 33.4**	**+1.1**
PSARD				*e*Sn	**Sn**	**22 32 12.9**	**+0.2**
PSARD				*i* IAML		22 32 36.5	
PSARD				*i* IAML		22 32 38.0	
PSARD				*i* IAML		22 32 38.3	
JBK	**JBK**	**3.46**	**140**	P	**Pn**	**22 31 34.1**	**+1.4**
JBK	**JBK**	**3.46**	**140**	S	**Sn**	**22 32 14.3**	**+0.9**
PARRA	**Arraiolos**	**3.49**	**302**	*e*Pn	Pn	22 31 25.0	-8.0
PARRA				*e*Sn	Sn	22 31 58.5	-15
PARRA				*i* IAML		22 32 13.7	
PARRA				*i* IAML		22 32 14.7	
PARRA				*i* IAML		22 32 15.4	
LIS	**Lisbon**	**3.52**	**300**	*e*Sn	**Sn**	**22 32 16.8**	**+2.2**
LIS				*i* IAML		22 32 39.3	
LIS				*i* IAML		22 32 42.0	
LIS				*i* IAML		22 32 50.2	
PMAFR	**Mafra**	**3.73**	**302**	*e*Pn	**Pn**	**22 31 37.6**	**+1.4**
PMAFR				*e*Sn	**Sn**	**22 32 20.9**	**+1.1**
PMAFR				*i* IAML		22 32 47.9	
PMAFR				*i* IAML		22 32 50.2	
PMAFR				*i* IAML		22 32 52.7	
PSBE	**So Bento**	**3.74**	**313**	*e*Pn	**Pn**	**22 31 37.9**	**+1.5**
PSBE				*e*Sn	**Sn**	**22 32 20.5**	**+0.5**
ZHG	**ZHG**	**3.76**	**198**	P	**Pn**	**22 31 39.0**	**+2.3**
MTE	**Manteigas**	**3.81**	**332**	*e*Pn	**Pn**	**22 31 38.6**	**+1.1**
MTE				*e*Sn	**Sn**	**22 32 22.7**	**+0.7**
MTE				*e*Sg	**Sb**	**22 32 38.6**	**+6.4**
MTE				*i* IAML		22 32 45.9	
MTE				*i* IAML		22 32 47.3	
MTE				*i* IAML		22 32 52.6	
EVIV	**Cofrentes, Val**	**3.94**	**54**	Pn	**Pn**	**22 31 40.4**	**+1.2**
EVIV				Sn	**Sn**	**22 32 25.3**	**+0.3**
EVIV				*i* IVmb_Lg		22 32 51.6	
PCAS	**Casmilo, Conde**	**3.95**	**321**	*e*Pn	**Pn**	**22 31 40.6**	**+1.3**
PCAS				*e*Sn	**Sn**	**22 32 25.2**	**0.0**
PCAS				*e*Sg	**Sg**	**22 32 45.8**	**-0.4**
PCAS				*i* IAML		22 32 51.4	
PCAS				*i* IAML		22 32 51.7	
PCAS				*i* IAML		22 32 52.7	
CZD	**Col de Zad**	**4.00**	**178**	P	**Pn**	**22 31 40.8**	**+0.6**
CZD	**Col de Zad**	**4.00**	**178**	S	**Sn**	**22 32 24.6**	**-2.1**
AFON	**Font Roja**	**4.06**	**65**	Pn	**Pn**	**22 31 41.5**	**+0.7**
AFON				Sn	**Sn**	**22 32 29.8**	**+1.8**
AFON				*i* IVmb_Lg		22 33 06.5	
EJUZ	**Juzbado, Salam**	**4.08**	**353**	Pn	**Pn**	**22 31 42.3**	**+1.2**
AVE	**Averroes**	**4.13**	**206**	Sn	**Sn**	**22 32 28.2**	**-1.5**
AVE				Pn	**Pn**	**22 31 43.3**	**+1.6**
AVE	**Averroes**	**4.13**	**206**	P	**Pn**	**22 31 43.4**	**+1.6**
AVE	**Averroes**	**4.13**	**206**	S	**Sn**	**22 32 26.8**	**-2.9**
MD31	**MD31**	**4.17**	**174**	P	**Pn**	**22 31 44.3**	**+1.9**
MD31	**MD31**	**4.17**	**174**	S	**Sn**	**22 32 29.3**	**-1.6**
ECHE	**Chera**	**4.22**	**51**	Pn	**Pn**	**22 31 43.7**	**+0.7**
ECHE				Sn	**Sn**	**22 32 32.9**	**+1.0**
ECHE				*i* IVmb_Lg		22 33 02.6	
PVIS	**Viseu**	**4.22**	**331**	*e*Pn	**Pn**	**22 31 44.3**	**+1.3**
PVIS				*e*Sn	**Sn**	**22 32 31.8**	**-0.1**
MDT	**Midelt**	**4.24**	**173**	P	**Pn**	**22 31 45.2**	**+1.9**
MDT	**Midelt**	**4.24**	**173**	S	**Sn**	**22 32 30.9**	**-1.7**
MVO	**Moncorvo**	**4.35**	**342**	*e*Pn	**Pn**	**22 31 45.4**	**+0.6**
MVO				*e*Sn	**Sn**	**22 32 34.6**	**-0.7**
MVO				*i* IAML		22 33 02.0	
MVO				*i* IAML		22 33 07.3	
MVO				*i* IAML		22 33 07.9	
ETOR	**Torete**	**4.52**	**32**	Pn	**Pn**	**22 31 48.5**	**+1.3**
ETOR				Sn	**Sn**	**22 32 38.8**	**-0.6**
ETOR				*i* IVmb_Lg		22 33 10.7	
PVRL	**Vila Real**	**4.65**	**336**	*e*Pn	**Pn**	**22 31 49.6**	**+0.6**
PVRL				*i* IAML		22 33 09.6	
PVRL				*i* IAML		22 33 09.6	
PVRL				*i* IAML		22 33 17.4	
E0901	**Celadas (Terue**	**4.71**	**42**	Pn	**Pn**	**22 31 51.6**	**+1.9**
E0901				Sn	**Sn**	**22 32 45.8**	**+1.8**
POLO	**Lamas de Olo**	**4.77**	**336**	*e*Pn	**Pn**	**22 31 51.5**	**+1.0**
POLO				*e*Sn	**Sn**	**22 32 43.9**	**-1.6**
POLO				*i* IAML		22 33 16.3	
POLO				*i* IAML		22 33 18.8	
POLO				*i* IAML		22 33 22.1	
PBRG	**Braganca**	**4.91**	**347**	*e*Pn	**Pn**	**22 31 53.1**	**+0.7**
PBRG				*e*Sn	**Sn**	**22 32 48.3**	**-0.5**
PBRG				*i* IAML		22 33 18.9	
PBRG				*i* IAML		22 33 19.2	
PBRG				*i* IAML		22 33 23.9	
EMOS	**Mosqueruela**	**5.00**	**47**	Pn	**Pn**	**22 31 55.2**	**+1.5**
EMOS				Sn	**Sn**	**22 32 52.7**	**+1.5**
EMOS				*i* IVmb_Lg		22 33 26.5	
ECAL	**Calabor**	**5.04**	**347**	Pn	**Pn**	**22 31 55.1**	**+0.9**
ECAL				Sn	**Sn**	**22 32 53.3**	**+1.2**
ECAL				*i* IVmb_Lg		22 33 28.0	
SRHM	**Skhour des Reh**	**5.05**	**206**	P	**Pn**	**22 31 55.5**	**+1.0**
SRHM	**Skhour des Reh**	**5.05**	**206**	S	**Sn**	**22 32 56.2**	**+3.7**
PCAB	**Cabril**	**5.15**	**336**	*e*Pn	**Pn**	**22 31 56.4**	**+0.7**
PCAB				*e*Sn	**Sn**	**22 32 53.8**	**-1.0**
PCAB				*i* IAML		22 33 27.7	
PCAB				*i* IAML		22 33 31.8	
PCAB				*i* IAML		22 33 37.4	
ELOB	**Lobios**	**5.30**	**337**	Pn	**Pn**	**22 31 58.3**	**+0.5**
ELOB				Sn	**Sn**	**22 32 57.7**	**-0.9**
ELOB				*i* IVmb_Lg		22 33 31.8	
TISM	**Timmit**	**5.39**	**191**	P	**Pn**	**22 31 57.6**	**-1.4**
TISM				P	Pb	22 31 59.1	-14
TISM	**Timmit**	**5.39**	**191**	S	**Sn**	**22 32 58.4**	**-2.3**
PGAV	**Gavieira, Arco**	**5.46**	**335**	*e*Pn	**Pn**	**22 32 00.7**	**+0.7**
PGAV				*e*Sn	**Sn**	**22 33 00.7**	**-1.8**
PGAV				*i* IAML		22 33 37.1	
PGAV				*i* IAML		22 33 39.3	
PGAV				*i* IAML		22 33 45.9	
EIBI	**Ibiza**	**5.56**	**67**	Pn	**Pn**	**22 32 02.0**	**+0.6**
EIBI				Sn	**Sn**	**22 33 04.2**	**-0.7**
EIBI				*i* IVmb_Lg		22 34 30.2	
EZAM	**Zamans**	**5.76**	**333**	Pn	**Pn**	**22 32 05.4**	**+1.2**
EZAM				*i* IVmb_Lg		22 33 46.3	
ERTA	**Horta de San J**	**5.85**	**46**	Pn	**Pn**	**22 32 07.2**	**+1.9**
ERTA				Sn	**Sn**	**22 33 11.8**	**-0.2**
ERTA				*i* IVmb_Lg		22 33 52.8	
ESAC	**San Caprasio**	**5.96**	**37**	Pn	**Pn**	**22 32 08.3**	**+1.3**
ESAC				Sn	**Sn**	**22 33 15.1**	**+0.2**
EAGO	**Agolada(Pontev**	**6.17**	**340**	Pn	**Pn**	**22 32 10.9**	**+1.2**
EAGO				Sn	**Sn**	**22 33 19.0**	**-0.9**
EAGO				*i* IVmb_Lg		22 34 02.1	
OUK	**Oukaimeden**	**6.21**	**201**	P	**Pn**	**22 32 08.9**	**-1.6**
OUK	**Oukaimeden**	**6.21**	**201**	S	**Sn**	**22 33 17.9**	**-3.4**
OUZM	**OUZ**	**6.24**	**192**	P	**Pn**	**22 32 12.6**	**+1.8**
OUZM				P	Pb	22 32 13.0	-15
TZRR	**Tazzarine**	**6.24**	**183**	P	**Pn**	**22 32 12.2**	**+1.4**
TZRR	**Tazzarine**	**6.24**	**183**	S	**Sn**	**22 33 20.0**	**-1.8**
EARI	**Arriondas**	**6.26**	**0**	Pn	**Pn**	**22 32 13.6**	**+2.6**
EARI				Sn	**Sn**	**22 33 19.3**	**-2.9**
EARI				*i* IVmb_Lg		22 34 08.1	
TIO	**Tiouine**	**6.32**	**196**	Sn	**Sn**	**22 33 21.1**	**-2.7**
TIO				Pn	**Pn**	**22 32 13.5**	**+1.6**
TIO	**Tiouine**	**6.32**	**196**	P	**Pn**	**22 32 13.0**	**+1.1**
ELAN	**Lanestosa**	**6.34**	**12**	Pn	**Pn**	**22 32 13.2**	**+1.1**
ELAN				Sn	**Sn**	**22 33 24.3**	**0.0**
ELAN				*i* IVmb_Lg		22 34 27.6	
EPON	**Pontenova**	**6.45**	**347**	Pn	**Pn**	**22 32 15.5**	**+1.8**
EPON				Sn	**Sn**	**22 33 25.1**	**-1.8**
EPON				*i* IVmb_Lg		22 34 17.0	
EPOB	**Poblet**	**6.53**	**47**	Pn	**Pn**	**22 32 16.0**	**+1.2**
EPOB				*i* IVmb_Lg		22 34 18.0	
EORO	**Oroz-Betelu**	**6.58**	**26**	Pn	**Pn**	**

n609,σ1$09/551,mb4.5/151,MS3.9/31,6C-3D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.12	298	PN	Pg	22 38 16.7	+0.4
KBTR	Krutoberegovo	0.12	298	eP	Pg	22 38 16.7	+0.4
KBG	Krutoberegovo	0.20	301	PN	Pg	22 38 17.5	0.0
KBG				S	Sg	22 38 21.2	+0.7
KBG	Krutoberegovo	0.20	301	eP	Pg	22 38 17.6	0.0
KBG				eS	Sg	22 38 21.3	+0.7
SMKR	Semkarok	0.96	297	PN	Pg	22 38 30.5	-1.1
SMKR	Semkarok	0.96	297	eP	Pg	22 38 30.6	-1.1
ZLN	Zelenaya	1.24	265	PN	Pg	22 38 35.8	-1.2
ZLN	Zelenaya	1.24	265	eP	Pg	22 38 35.8	-1.2
CIRR	Tsirk	1.27	269	PN	Pn	22 38 36.1	-0.5
CIRR	Tsirk	1.27	269	eP	Pn	22 38 36.1	-0.5
LGNR	Loginova	1.30	268	PN	Pn	22 38 37.0	-0.2
LGNR	Loginova	1.30	268	eP	Pn	22 38 37.1	-0.2
BZGR	Bezymyannyi-Gr	1.31	262	PN	Pn	22 38 36.7	-0.5
BZGR				S	Sg	22 38 54.9	-0.5
BZGR	Bezymyannyi-Gr	1.31	262	eP	Pn	22 38 36.8	-0.5
BZGR				eS	Sg	22 38 54.9	-0.5
KLY	Klyuchi	1.32	278	PN	Pn	22 38 34.9	-2.3
KLY				S	Sb	22 38 51.4	-3.2
KLY	Klyuchi	1.32	278	eP	Pn	22 38 35.0	-2.3
KLY				eS	Sb	22 38 51.5	-3.2
BZP	Bezymyannyi-Pe	1.41	261	PN	Pn	22 38 38.1	-0.4
BZP	Bezymyannyi-Pe	1.41	261	eP	Pn	22 38 38.1	-0.4
BZWR	Bezymyannyi-We	1.42	263	PN	Pn	22 38 38.4	-0.3
BZWR	Bezymyannyi-We	1.42	263	eP	Pn	22 38 38.5	-0.3
BZMR	Bezymyannaya	1.43	262	PN	Pn	22 38 38.6	-0.2
BZMR	Bezymyannaya	1.43	262	eP	Pn	22 38 38.7	-0.2
KIRR	Kirishev	1.51	263	PN	Pn	22 38 39.7	-0.2
KIRR				S	Sn	22 39 00.5	+1.0
KIRR	Kirishev	1.51	263	eP	Pn	22 38 39.7	-0.2
KIRR				eS	Sn	22 39 00.6	+1.0
KPT	Kopyto	1.57	264	PN	Pn	22 38 40.6	-0.1
KPT				S	Sn	22 39 03.1	+2.1
KPT	Kopyto	1.57	264	eP	Pn	22 38 40.7	-0.1
KPT				eS	Sn	22 39 03.2	+2.1
KMNR	Kamenistaya	1.61	257	PN	Pn	22 38 41.3	0.0
KMNR	Kamenistaya	1.61	257	eP	Pn	22 38 41.3	0.0
TUMD	Tumrok D	1.76	238	PN	Pn	22 38 43.7	+0.5
TUMD	Tumrok D	1.76	238	eP	Pn	22 38 43.8	+0.5
KOZ	Kozyrevsk	1.76	268	PN	Pn	22 38 44.0	+0.8
KOZ				S	Sb	22 39 08.1	+1.0
KOZ	Kozyrevsk	1.76	268	eP	Pn	22 38 44.1	+0.8
KOZ				eS	Sb	22 39 08.2	+1.0
MKZ	Mys Kozlova	1.76	205	PN	Pn	22 38 43.0	-0.2
MKZ				S	Sn	22 39 06.4	+1.0
MKZ	Mys Kozlova	1.76	205	eP	Pn	22 38 43.0	-0.2
MKZ				eS	Sn	22 39 06.4	+1.0
SRDR	Sredinnyy	1.84	276	PN	Pn	22 38 45.5	+1.0
SRDR				S	Sn	22 39 09.2	+1.5
SRDR	Sredinnyy	1.84	276	eP	Pn	22 38 45.5	+1.0
SRDR				eS	Sn	22 39 09.2	+1.5
BKI	Bering	1.93	118	PN	Pn	22 38 44.5	-1.0
BKI				S	Sn	22 39 08.9	-0.7
BKI	Bering	1.93	118	eP	Pn	22 38 44.6	-1.0
BKI				eS	Sn	22 39 09.0	-0.7
ESO	Esso	2.43	266	PN	Pn	22 38 53.1	+0.7
ESO	Esso	2.43	266	eP	Pn	22 38 53.2	+0.7
KII	Karymskiy	2.95	225	PN	Pn	22 39 01.0	+1.4
KII	Karymskiy	2.95	225	eP	Pn	22 39 01.0	+1.4
OSSR	Ossora	3.11	1	PN	Pn	22 39 01.8	+0.1
OSSR	Ossora	3.11	1	eP	Pn	22 39 01.9	+0.1
PALN	Palana	3.37	332	PN	Pn	22 39 05.9	+0.6
PALN	Palana	3.37	332	eP	Pn	22 39 06.0	+0.6
SPN	Mys Shipunski	3.52	211	PN	Pn	22 39 07.0	-0.4
SPN	Mys Shipunski	3.52	211	eP	Pn	22 39 07.0	-0.4
SPN				eS	Sn	22 39 40.3	-0.6
NLC	Nalytchevo	3.67	217	PN	Pn	22 39 10.7	+1.3
NLC	Nalytchevo	3.67	217	eP	Pn	22 39 10.7	+1.3
SDLR	Sedlovina	3.74	221	PN	Pn	22 39 12.2	+1.6
SDLR	Sedlovina	3.74	221	eP	Pn	22 39 12.3	+1.6
KRX	Arik	3.77	224	PN	Pn	22 39 13.3	+2.3
KRX	Arik	3.77	224	eP	Pn	22 39 13.3	+2.3
SMAR	Somma	3.79	222	PN	Pn	22 39 13.0	+1.7
SMAR	Somma	3.79	222	eP	Pn	22 39 13.1	+1.7
AVH	Avacha	3.81	222	PN	Pn	22 39 14.0	+2.5
AVH	Avacha	3.81	222	eP	Pn	22 39 14.0	+2.5
UGLR	Uglovaya	3.82	221	PN	Pn	22 39 13.7	+2.1
UGLR	Uglovaya	3.82	221	eP	Pn	22 39 13.8	+2.1
GNL	Ganaly	3.82	232	PN	Pn	22 39 13.4	+1.7
GNL	Ganaly	3.82	232	eP	Pn	22 39 13.4	+1.7
KOK	Koryaka	3.83	223	PN	Pn	22 39 14.2	+2.5
KOK	Koryaka	3.83	223	eP	Pn	22 39 14.3	+2.5
DALK	Dalny	3.99	220	PN	Pn	22 39 15.2	+1.4
DALK	Dalny	3.99	220	eP	Pn	22 39 15.3	+1.4
PET	Petropavlovsk	4.03	221		Pn	22 39 14.0	+0.4
PET	Petropavlovsk	4.03	221	ceP	Pn	22 39 15.1	+0.7
PET				pmax	pmax		
	comp=Z,92nm,0.5s						
PET	Petropavlovsk	4.03	221	eP	Pn	22 39 17.2	+2.8
PET				eS	Sn	22 40 04.6	+3.2
PEA0B	Petropavlovsk-	4.34	228		Pn	22 39 19.6	+0.9
PEA0B	Petropavlovsk-	4.34	228	ceP	Pn	22 39 17.8	-0.9
PETK	Petropavlovsk-	4.34	228		Pn	22 39 19.1	+0.4
PETK	Petropavlovsk-	4.34	228	Pn	Pn	22 39 18.8	+0.2
	comp=Z,9.1nm,0.3s,baz=62,slow=16,SNR=26						
PETK				Sn	Sn	22 40 08.4	-0.7
	comp=Z,5.9nm,0.3s,baz=81,slow=18,SNR=1.3						
PETK				LR	LR	22 40 51.1	
	comp=Z,133nm,19.1s,baz=34,slow=38						
	comp=Z,22nm,0.5s						
PETK	Petropavlovsk-	4.34	228	PN	Pn	22 39 19.1	+0.4
KRMR	Karymshinskiy	4.38	223	PN	Pn	22 39 21.3	+2.1
KRMR	Karymshinskiy	4.38	223	eP	Pn	22 39 21.3	+2.1
RUS	Russkaya	4.56	217	PN	Pn	22 39 23.5	+1.8
RUS	Russkaya	4.56	217	eP	Pn	22 39 23.5	+1.8
TILK	Tilichiki	4.61	20	PN	Pn	22 39 23.7	+1.3
TILK	Tilichiki	4.61	20	eP	Pn	22 39 23.7	+1.3
GRL	Gorelyy	4.62	221	PN	Pn	22 39 25.6	+3.0
GRL	Gorelyy	4.62	221	eP	Pn	22 39 25.6	+3.0
MTVR	Mutnovka	4.64	220	PN	Pn	22 39 25.2	+2.3
MTVR	Mutnovka	4.64	220	eP	Pn	22 39 25.3	+2.3
ASAK	Asacha	4.82	221	PN	Pn	22 39 28.2	+2.9
ASAK	Asacha	4.82	221	eP	Pn	22 39 28.2	+2.9
MIPR	Malaya Ipel'ka	5.34	226	PN	Pn	22 39 35.4	+3.0
MIPR	Malaya Ipel'ka	5.34	226	eP	Pn	22 39 35.4	+3.0
SKR	Severo-Kuril's	6.85	220	i PN	Pn	22 39 53.1	-0.1
SHEM	Shemya Is, Ala	7.32	113	Pn	Pn	22 40 00.6	+1.0
	comp=Z,5.4nm,0.3s,baz=336,slow=2.4,SNR=7.1						
SHEM				Sn	Sn	22 41 21.3	-1.1
	comp=Z,2.3nm,0.3s,baz=104,slow=19,SNR=1.2						
	comp=Z,21nm,0.4s						
MA2	Magadan	7.37	303	LR	LR	22 43 06.5	
	comp=Z,626nm,19.4s,baz=128,slow=40						
SEY	Seymchan	8.67	326	LR	LR	22 43 48.4	
	comp=Z,342nm,21.7s,baz=130,slow=39						
SEY	Seymchan	8.67	326	i PN	Pn	22 40 18.7	+0.7
SEY				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SEY				MLR	MLR		
	comp=Z,682nm,11.0s						
BILL	Bilibino	12.03	6	i PN	Pn	22 41 05.8	+1.9
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,495nm,12.0s						
TYV	Tymovskoe	13.20	255	ePN	Pn	22 41 21.9	+1.9
TYV				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TYV				pmax	pmax		
	comp=Z,300nm,3.3s						
ATKA	Atka Island	13.90	97	Pn	Pn	22 41 29.1	-0.5
GAMB	Gambell	14.70	48	P	Pn	22 41 41.5	+1.2
	baz=251						
P08K	Saint George I	15.17	77	P	Pn	22 41 48.3	+1.5
	baz=280						
YUK	Yuzh-Kuril'sk	16.32	229	i P	Pn	22 42 02.9	+1.2
YUK				pmax	pmax		
	comp=Z,7.0nm,0.2s						
M11K	Mekoryuk	16.65	63	P	P	22 42 06.9	-1.3
	baz=269						
TNA	Tin City	16.84	44	P	Pn	22 42 08.5	+0.3
	baz=250						
K13K	Kusilvak Mount	17.48	57	P	P	22 42 16.9	-0.5
	baz=266						
UNV	Unalaska Valle	17.57	85	P	P	22 42 19.2	+0.8
	baz=290						
ANM	Nome	17.58	49	P	P	22 42 18.4	0.0
	baz=257						
JKA	Kamikawa-asahi	17.70	236		Pn	22 42 18.7	-0.4
ASAJ	Asahikawa	17.70	236	P	Pn	22 42 18.9	-0.2
	comp=Z,0.9nm,0.3s,baz=52,slow=8.7,SNR=6.3						
ASAJ				LR	LR	22 49 02.6	
	comp=Z,320nm,18.0s,baz=50,slow=37						
	comp=Z,10nm,0.8s						
YAK	Yakutsk	17.95	303	P	Pn	22 42 21.9	-0.1
	comp=Z,2.3nm,0.3s,baz=240,slow=4.5,SNR=1.7						
YAK				LR	LR	22 50 42.6	
	comp=Z,39nm,18.7s,baz=96,slow=42						
	comp=Z,12nm,0.5s						
YAK	Yakutsk	17.95	303	eP	Pn	22 42 21.5	-0.5
YAK				eS	Sn	22 45 39.3	-2.5
YAK				pmax	pmax		
	comp=Z,17nm,1.4s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,11nm,1.4s						
YAK				pmax	pmax		
	comp=Z,186nm,5.4s						
YAK				pmax	pmax		
	comp=N,185nm,2.9s						
YAK				pmax	pmax		
	comp=E,220nm,5.2s						
YAK				smax	smax		
	comp=N,77nm,3.5s						
YAK				smax	smax		
	comp=E,59nm,2.2s						
M13K	Dall Lake	18.06	62	P	P	22 42 25.0	+1.1
	baz=272						
J14K	Nanvaranak Lak	18.07	55	P	P	22 42 24.4	+0.6
	baz=264						
F15K	North Star Dit	18.17	45	P	P	22 42 25.6	+0.6
	baz=254						
G15K	Niukluk	18.24	48	P	P	22 42 26.4	+0.7
	baz=257						
L14K	Kuka Creek	18.39	59		P	22 42 29.5	+2.2
L14K				IAmb	IAmb	22 42 35.4	
	comp=Z,19nm,0.7s						
L14K	Kuka Creek	18.39	59	P	P	22 42 28.0	+0.6
	baz=269						
M14K	Bethel	18.74	61	P	Pn	22 42 32.1	+0.4
	baz=272						
C16K	Lisburne Hills	18.82	37	P	Pn	22 42 32.2	-0.4
	baz=246						
H16K	Elim	18.92	49	P	Pn	22 42 33.8	0.0
	baz=260						
N14K	Kuskokwak Cree	18.92	64	P	Pn	22 42 34.1	+0.3
	baz=274						
FALS	False Pass	18.96	80	P	Pn	22 42 34.6	+0.3
	baz=288						
K15K	Wolf Creek Mou	18.97	57	P	Pn	22 42 34.4	-0.1
	baz=268						
L15K	Ungalak Mounta	18.97	58	P	Pn	22 42 35.0	+0.6
	baz=269						
G16K	Koyuk River	19.02	47	P	Pn	22 42 35.4	+0.3
	baz=258						
O14K	Tigyukauivet M	19.19	66	P	Pn	22 42 37.3	+0.2
	baz=276						
M15K	Kasigluk River	19.37	61	P	Pn	22 42 39.1	-0.2
	baz=273						
D17K	Noatak River	19.39	40	P	Pn	22 42 39.2	-0.2
	baz=250						
S12K	Black Hills	19.45	77	P	Pn	22 42 40.3	0.0
	baz=286						
J16K	Anvik River	19.46	54	P	Pn	22 42 40.5	+0.1
	baz=266						
I17K	Unalakleet	19.47	52	P	Pn	22 42 40.6	+0.1
	baz=264						
RDOG	Red Dog Mine	19.57	39	P	Pn	22 42 40.9	-0.8
	baz=250						
C17K	DeLong Mountai	19.63	38	P	Pn	22 42 42.1	-0.3
	baz=248						
E17K	Hotham Inlet	19.66	42	P	Pn	22 42 42.8	+0.1
	baz=254,SNR=7.1						
N15K	Kwethluk River	19.70	63		Pn	22 42 43.1	0.0
N15K				IAmb	IAmb	22 42 45.3	
	comp=Z,38nm,0.9s						
N15K	Kwethluk River	19.70	63	P	Pn	22 42 43.2	0.0
	baz=275,SNR=5.7						
F17K	Baldwin Pennin	19.70	44	P	P	22 42 41.0	-0.8
F17K				IAmb	IAmb	22 42 45.1	
	comp=Z,22nm,0.7s						
F17K	Baldwin Pennin	19.70	44	P	Pn	22 42 43.1	-0.1
	baz=256,SNR=5.2						
G17K	Kiwalik Mounta	19.74	47	P	Pn	22 42 43.0	-0.7
	baz=259						
L16K	Owhat River	19.93	58	P	Pn	22 42 45.3	-0.6
L16K	Owhat River	19.93	58	P	Pn	22 42 45.0	-0.9
	baz=271						
O15K	Ungalikthiuk R	19.94	66		Pn	22 42 45.7	-0.4
O15K				IAmb	IAmb	22 42 46.6	
	comp=Z,30nm,0.8s						
O15K	Ungalikthiuk R	19.94	66	P	Pn	22 42 45.3	-0.8
	baz=278						
H17K	Granite Mounta	19.95	49		Pn	22 42 45.9	-0.3
H17K	Granite Mounta	19.95	49	P	P	22 42 44.8	+0.3
	baz=262,SNR=8.2						
J17K	VABM Dome	20.15	53		Pn	22 42 48.2	-0.3
J17K	VABM Dome	20.15	53	P	P	22 42 47.3	+0.6
	baz=267						
M16K	Timber Creek	20.20	60		Pn	22 42 48.4	-0.7
M16K	Timber Creek	20.20	60	P	Pn	22 42 48.3	-0.9
	baz=273						
E18K	Tukpahlearik C	20.21	42	P	Pn	22 42 49.1	-0.1
E18K	Tukpahlearik C	20.21	42	P	P	22 42 47.8	+0.6
	baz=254						
N16K	Nishlik Lake	20.33	62	P	Pn	22 42 49.8	-0.9
	baz=275						
F18K	Selawik	20.36	44	P	P	22 42 48.1	-0.9
	baz=258						
C18K	Utukok River	20.38	38		Pn	22 42 50.1	-1.1
C18K	Utukok River	20.38	38	P	P	22 42 49.0	-0.2
	baz=250						
B18K	Kokolik River	20.43	36	P	P	22 42 49.7	0.0
	baz=248						
K17K	Iditarod	20.48	55		Pn	22 42 51.6	-0.8
K17K				IAmb	IAmb	22 42 52.9	
	comp=Z,20nm,0.8s						
K17K	Iditarod	20.48	55	P	P	22 42 50.6	+0.4
	baz=269,SNR=9.0						
L17K	Donlin	20.48	57	P	Pn	22 42 51.7	-0.7
	baz=271						
ZEA	Zeya	20.54	278	eP	P	22 42 45.9	-5.0
ZEA				MLR	MLR		
	comp=E,100nm,9.0s						
ZEA				MLR	MLR		
	comp=Z,100nm,10.0s						
G18K	Tagagawik	20.62	46	P	Pn	22 42 52.8	-1.3
	baz=260,SNR=6.0						
H18K	Honhosa River	20.63	48	P	P	22 42 52.2	+0.3
	baz=263,SNR=5.5						
S14K	Fog Glacier	20.66	74	P	P	22 42 53.3	+1.0
	baz=286						
O16K	Kokwok River B	20.76	64	P	P	22 42 53.9	+0.6
O16K	Kokwok River B	20.76	64	P	P	22 42 53.5	+0.2
	baz=278						
P16K	Nushagak River	20.89	66	P	P	22 42 55.9	+1.1
	baz=279						
M17K	Holitna River	20.91	59		Pn	22 42 56.3	-1.2
M17K				IAmb	IAmb	22 42 57.4	
	comp=Z,22nm,0.9s						
M17K	Holitna River	20.91	59	P	P	22 42 55.1	+0.2
	baz=274,SNR=5.2						
A19K	Wainwright	21.00	34	P	P	22 42 56.6	+0.8
	baz=247						
CHNA	Chernabura Isl	21.07	78	P	P	22 42 57.9	+1.3
	baz=289						
C19K	Lookout Ridge	21.08	37	IAmb	IAmb	22 43 05.0	
	comp=Z,34nm,1.2s						
C19K	Lookout Ridge	21.08	37	P	P	22 42 57.6	+0.8
	baz=251						
N17K	Nushagak Hills	21.10	62	P	P	22 42 57.8	+0.8
	baz=276						
TIXI	Tiksi	21.12	330		P	22 42 56.7	-0.4
TIXI	Tiksi	21.12	330	P	P	22 42 57.3	+0.2
	comp=Z,2.2nm,0.5s,baz=126,slow=11,SNR=7.4						
TIXI				LR	LR	22 51 57.3	
	comp=Z,204nm,18.4s,baz=140,slow=39						
	comp=Z,2.2nm,0.5s						
TIXI	Tiksi	21.12	330	ceP	P	22 42 57.5	+0.4
TIXI				pmax	pmax		
	comp=Z,19nm,1.3s						
F19K	Shaleruckik Mo	21.14	44	IAmb	IAmb	22 43 02.1	
	comp=Z,22nm,0.7s						
F19K	Shaleruckik Mo	21.14	44	P	P	22 42 58.9	+1.5
	baz=259,SNR=29						
GCSA	Galena City Sc	21.21	50	P	P	22 42 59.0	+0.9
	baz=265						
L18K	Granite Mounta	21.23	57	P	P	22 42 59.0	+0.6
	baz=272						
O17K	Koliganek Bris	21.24	64	P	P	22 42 59.2	+0.7
	baz=278						
G19K	Purcell Mounta	21.30	46	P	P	22 43 00.5	+1.5
	baz=262,SNR=9.1						
R16K	Pilot Point	21.39	70	P	P	22 43 00.9	+0.8
	baz=283						
D19K	Kuna River	21.41	39		P	22 43 01.4	+1.2
D19K				IAmb	IAmb	22 43 13.6	
	comp=Z,18nm,0.9s						
D19K	Kuna River	21.41	39	P	P	22 43 01.4	+1.2
	baz=254,SNR=5.5						
H19K	Roundabout Mou	21.47	48	IAmb	IAmb	22 43 18.3	
	comp=Z,25nm,0.9s						
H19K	Roundabout Mou	21.47	48	P	P	22 43 02.7	+1.8
	baz=264,SNR=16						
E19K	Redstone River	21.48	42		P	22 43 02.6	+1.5
E19K				IAmb	IAmb	22 43 23.3	
	comp=Z,19nm,1.1s						
E19K	Redstone River	21.48	42	P	P	22 43 02.5	+1.5
	baz=258,SNR=7.0						
Q16K	King Salmon	21.64	66	P	P	22 43 03.8	+1.1
	baz=281						
P17K	Kvichak River	21.66	65	P	P	22 43 03.8	+0.9
	baz=280						
M18K	Stony River	21.68	59	P	P	22 43 04.4	+1.2
	baz=275						
J19K	Poorman	21.72	52	P	P	22 43 04.3	+0.7
	baz=268,SNR=5.5						
N18K	Kilae Creek	21.72	61	P	P	22 43 05.4	+1.8
	baz=277						
HEH	HeiHe	21.94	269	eP	P	22 43 03.5	-2.6
HEH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HEH				LR	LR		
	comp=N,310nm,13.7s						
HEH				LR	LR		
	comp=E,610nm,14.9s						
HEH				LR	LR		
	comp=Z,620nm,11.7s						
F20K	Avaraart Lake	21.98	44	P	P	22 43 06.6	+0.3
	baz=261						
D20K	Etivluk River	22.00	39	IAmb	IAmb	22 43 09.8	
	comp=Z,16nm,0.7s						
D20K	Etivluk River	22.00	39	P	P	22 43 06.8	+0.2
	baz=256,SNR=9.3						
R17L	Mt. Peulik Vol	22.01	69	P	P	22 43 07.0	+0.1
	baz=284						
E20K	Nigu River	22.04	40	P	P	22 43 07.4	+0.3
	baz=257,SNR=6.7						
L19K	White Mountain	22.09	57	P	P	22 43 09.1	+1.4
	baz=274						
Q17K	Contact Creek	22.12	67	P	P	22 43 08.7	+0.7
	baz=282						
H20K	Anotleneega Mo	22.12	48	P	P	22 43 09.2	+1.3
	baz=266,SNR=10						
B20K	Meade River	22.18	36	P	P	22 43 09.5	+1.1
	baz=252						
P18K	Big Mountain,	22.23	64	P	P	22 43 10.1	+0.9
	baz=280						
I20K	Naaghedeneel	22.25	50	P	P	22 43 10.5	+1.3
	baz=268						
J20K	Nowinta River	22.37	52	IAmb	IAmb	22 43 25.9	
	comp=Z,15nm,0.9s						
J20K	Nowinta River	22.37	52	P	P	22 43 11.8	+1.2
	baz=269,SNR=7.1						
N19K	Bonanza Creek	22.39	60	P	P	22 43 12.0	+1.0
	baz=277						
K20K	Telida	22.41	54	P	P	22 43 11.9	+0.9
	baz=271						
Q18K	Katmai Hardscr	22.49	66	P	P	22 43 12.8	+0.8
	baz=282						
L20K	Farewell, AK	22.53	56	P	P	22 43 13.4	+1.1
	baz=274						
IMAR	Indian Mountai	22.63	47	P	P	22 43 14.1	+0.8
C21K	Knifeblade Rid	22.75	38	P	P	22 43 16.0	+1.4
	baz=257						
G21K	Allakaket	22.78	45	IAmb	IAmb	22 43 18.1	
	comp=Z,22nm,1.4s						
G21K	Allakaket	22.78	45	P	P	22 43 15.7	+0.9
	baz=264,SNR=8.5						
F21K	Alatna River	22.87	44	P	P	22 43 16.7	+0.8
	baz=263,SNR=7.1						
E21K	Killik River	22.88	40	P	P	22 43 16.2	+0.2
	baz=259						
CHIR	Chirikof Islan	22.90	73	P	P	22 43 15.6	-0.7
	baz=288						
B21K	Ikpikpuk River	22.92	37	P	P	22 43 17.2	+0.9
	baz=256,SNR=8.7						
M20K	Styx River	22.93	57	P	P	22 43 16.5	-0.1
	baz=276						
USRK	Ussuriysk Ar.	22.97	252	P	P	22 43 16.4	-0.6
	comp=Z,2.0nm,0.7s,baz=55,slow=11,SNR=10						
	comp=Z,2.0nm,0.7s						
H21K	Melozitna Rive	22.99	48	P	P	22 43 17.9	+0.7
	baz=267,SNR=7.0						
R18K	Karluk	23.03	69	P	P	22 43 18.2	+0.7
	baz=285						
Q19K	Cape Douglas,	23.12	65	P	P	22 43 19.2	+0.6
	baz=282						
CHUM	Lake Minchumin	23.18	52	P	P	22 43 19.8	+0.8
	baz=272						
A22K	Sinclair Lake	23.19	34	P	P	22 43 19.8	+0.8
	baz=252						
PPLA	Purkeypile	23.28	55	P	P	22 43 21.1	+0.8
	baz=274						
I21K	Tanana	23.32	49	P	P	22 43 20.5	0.0
	baz=269						
F22K	John River	23.41	43	P	P	22 43 21.8	+0.5
	baz=263						
O20K	Slope Mountain	23.41	62	P	P	22 43 21.2	-0.3
	baz=280						
D22K	Ayikyak River	23.43	40	IAmb	IAmb	22 43 36.1	
	comp=Z,12nm,0.9s						
D22K	Ayikyak River	23.43	40	P	P	22 43 21.7	+0.2
	baz=260						
SII	Sitkinak Islan	23.44	71	P	P	22 43 22.7	+0.9
	baz=287						
B22K	Teshekpuk Lake	23.50	36	P	P	22 43 22.4	+0.3
	baz=256						
H22K	Ishtalitna Cre	23.59	47	P	P	22 43 23.8	+0.6
	baz=268,SNR=9.5						
G22K	Bettles	23.61	45	P	P	22 43 23.7	+0.4
	baz=265						
E22K	Anaktuvuk Pass	23.62	42	IAmb	IAmb	22 43 24.6	
	comp=Z,14nm,0.7s						
E22K	Anaktuvuk Pass	23.62	42	P	P	22 43 23.7	+0.2
	baz=262,SNR=16						
SKT	Skwentna	23.67	57	P	P	22 43 23.7	-0.2
	baz=277						
OHAK	Old Harbor	23.73	69	P	P	22 43 24.9	+0.4
	baz=286						
BPAW	Bear Paw Mtn.	23.75	52	P	P	22 43 25.5	+0.7
	baz=272,SNR=5.9						
K

baz=262
G23K Bananza Creek 24.18 45 P P 22 43 28.9 +0.1
baz=267,SNR=9.2
CUT Chulitna 24.21 56 P P 22 43 29.2 +0.3
baz=277
C23K Itkillik River 24.32 38 P P 22 43 29.7 -0.3
baz=260
H23K Yukon River 24.34 47 P P 22 43 30.3 0.0
baz=270
M22K Willow 24.36 57 P P 22 43 31.6 +1.3
baz=278
BRSE Bradley Lake S 24.41 62 P P 22 43 31.2 +0.2
baz=282
I23K Minto, Yukon-K 24.43 49 IAmb IAmb 22 43 46.5
comp=Z,16nm,1.0s
I23K Minto, Yukon-K 24.43 49 P P 22 43 31.7 +0.7
baz=271,SNR=13
E23K Chandalar 24.43 42 IAmb IAmb 22 43 33.3
comp=Z,22nm,1.0s
E23K Chandalar 24.43 42 P P 22 43 31.9 +0.7
baz=265,SNR=14
BNX BinXian 24.46 260 ⇓P **P 22 43 32.3 +0.8**
BNX pmax pmax
comp=Z,6.0nm,1.4s
TOLK Toolik Lake Re 24.51 41 P P 22 43 32.2 +0.4
baz=264,SNR=18
NEA2 Nenana 24.57 50 P P 22 43 32.6 +0.3
baz=273,SNR=6.8
RC01 Rabbit Creek A 24.64 59 P P 22 43 32.7 -0.3
baz=280
MCK McKinley 24.68 52 P 22 43 33.7 +0.3
MCK McKinley 24.68 52 P P 22 43 33.7 +0.3
MCK pmax pmax
comp=Z,6.0nm,0.8s
MCK McKinley 24.68 52 P P 22 43 33.3 0.0
baz=275
RND Reindeer 24.75 53 IAmb IAmb 22 43 34.9
comp=Z,12nm,1.2s
O22K Cooper Landing 24.76 60 P P 22 43 34.6 +0.6
baz=281
D24K Happy Valley 24.84 39 P P 22 43 35.5 +0.8
baz=263
E24K Your Creek 24.86 42 P P 22 43 34.6 -0.3
baz=266
WAT1 Susitna Watana 24.95 55 P P 22 43 34.9 -0.9
baz=277
C24K Franklin Bluff 24.96 38 P P 22 43 35.2 -0.6
baz=262
SEW Seward 24.97 61 P P 22 43 36.8 +0.9
baz=282
WRH Wood River Hil 25.00 51 P 22 43 36.5 +0.4
WRH IAmb IAmb 22 43 45.0
comp=Z,18nm,1.0s
H24K Noodor Dome 25.03 47 IAmb IAmb 22 43 52.4
comp=Z,9.7nm,1.0s
H24K Noodor Dome 25.03 47 P P 22 43 36.3 -0.2
baz=271,SNR=8.3
F24K Squaw Lake 25.05 43 IAmb IAmb 22 43 41.1
comp=Z,6.6nm,0.7s
F24K Squaw Lake 25.05 43 P P 22 43 36.6 0.0
baz=268
COLA College 25.08 50 *i* P **P 22 43 37.1 +0.3**
COLA pmax pmax
comp=Z,7.0nm,0.9s
G24K Hadweenzic Riv 25.19 45 P P 22 43 38.4 +0.5
G24K Hadweenzic Riv 25.19 45 P P 22 43 38.4 +0.5
baz=270,SNR=27
KNK Knik Glacier 25.20 58 P P 22 43 38.0 0.0
KNK IAmb IAmb 22 43 51.9
comp=Z,9.5nm,0.9s
KNK Knik Glacier 25.20 58 P P 22 43 37.8 -0.3
baz=280
POKR Poker Plat Res 25.24 49 P P 22 43 38.0 -0.4
baz=273
WAT6 Susitna Watana 25.35 55 P P 22 43 39.0 -0.6
baz=278
PWL Port Wells 25.36 59 P P 22 43 38.6 -0.9
baz=281
DHY Denali Highway 25.45 54 P 22 43 39.9 -0.6
DHY IAmb IAmb 22 43 41.0
comp=Z,5.6nm,0.6s
DHY Denali Highway 25.45 54 P P 22 43 39.3 -1.2
baz=278,SNR=6.4
M23K Glacier View 25.48 57 P P 22 43 40.0 -0.5
baz=280
IL31 25.50 50 P P 22 43 40.6 0.0
IL31 IAmb IAmb 22 43 46.2
comp=Z,8.7nm,0.7s
ILAR Eielson Array 25.50 50 P P 22 43 40.4 -0.3
comp=Z,4.6nm,0.8s,baz=267,slow=8.5,SNR=57
comp=Z,4.6nm,0.8s
HDA Harding Lake 25.50 51 P 22 43 40.2 -0.4
HDA IAmb IAmb 22 43 46.0
comp=Z,8.1nm,0.7s
HDA Harding Lake 25.50 51 P P 22 43 40.3 -0.4
baz=275,SNR=11
SCM Sheep Creek Mo 25.66 57 P P 22 43 42.3 0.0
SCM Sheep Creek Mo 25.66 57 P P 22 43 42.3 0.0
SCM pmax pmax
comp=Z,26nm,0.6s
SCM Sheep Creek Mo 25.66 57 P P 22 43 41.3 -0.9
baz=280,SNR=12
D25K Kavik River 25.73 39 P P 22 43 43.2 +0.4
D25K IAmb IAmb 22 43 47.8
comp=Z,14nm,0.8s
D25K Kavik River 25.73 39 P P 22 43 42.6 -0.2
baz=265,SNR=12
G25K Bearman Lake 25.74 45 P P 22 43 43.7 +0.9
baz=271,SNR=5.1
MJA0 Matsu Arr-Jizo 25.77 231 *e*P **P 22 43 46.4 +3.0**
MJA0 pmax pmax
comp=Z,3.0nm,0.6s
MAJO Matsushiro 25.79 231 *i* P **P 22 43 44.4 +0.8**
MAJO pmax pmax
comp=Z,8.0nm,0.9s
MJAR Matsushiro Arr 25.79 231 P P 22 43 42.7 -0.9
comp=Z,2.2nm,0.5s,baz=26,slow=8.5,SNR=8.0
comp=Z,2.2nm,0.5s
H25L Birch Creek 25.86 46 P P 22 43 45.7 +1.8
baz=272
F25K Christian River 25.91 43 P P 22 43 45.2 +0.7
F25K IAmb IAmb 22 43 48.2
comp=Z,7.1nm,0.8s
F25K Christian River 25.91 43 P P 22 43 44.3 -0.2
baz=270,SNR=11
E25K Arctic Village 25.95 42 P P 22 43 45.4 +0.6
E25K IAmb IAmb 22 44 07.3
comp=Z,12nm,1.2s
E25K Arctic Village 25.95 42 P P 22 43 45.0 +0.2
baz=269,SNR=5.4
PRP Porcupine Dome 26.02 48 P 22 43 45.6 0.0
PRP IAmb IAmb 22 43 46.9
comp=Z,13nm,0.9s
PRP Porcupine Dome 26.02 48 P P 22 43 45.4 -0.1
baz=274,SNR=14
K24K Donnelly Dome 26.07 52 P P 22 43 45.6 -0.3
baz=277
FYU Fort Yukon 26.09 46 P P 22 43 47.1 +1.2
M24K Tolsona, Glenn 26.15 56 P P 22 43 47.1 +0.4
M24K Tolsona, Glenn 26.15 56 P P 22 43 46.3 -0.4
baz=280
J25K Salcha River, 26.16 50 P P 22 43 46.0 -0.7
J25K Salcha River, 26.16 50 P P 22 43 46.1 -0.7
baz=276,SNR=6.1
BOD Bodaibo 26.29 294 *e*P P 22 44 03.4 +16
BOD pmax pmax
comp=Z,12nm,1.2s
C26K Camden Bay 26.29 38 P P 22 43 47.6 -0.2
baz=266
BMAR Burnt Mountain 26.32 44 P 22 43 49.0 +0.8
PAX Paxson 26.32 54 P 22 43 48.9 +0.6
PAX Paxson 26.32 54 P P 22 43 48.9 +0.6
PAX pmax pmax
comp=Z,4.0nm,0.9s
PAX Paxson 26.32 54 P P 22 43 48.2 -0.1
baz=279
KLU Klutina 26.38 57 P P 22 43 48.6 -0.2
KLU IAmb IAmb 22 44 18.1
comp=Z,10nm,1.0s
KLU Klutina 26.38 57 P P 22 43 49.3 +0.5
baz=282
F26K Sheenjek River 26.49 43 P P 22 43 50.3 +0.7
F26K Sheenjek River 26.49 43 P P 22 43 49.7 0.0
baz=271,SNR=8.9
RIDG Independent Ri 26.49 52 IAmb IAmb 22 44 02.0
comp=Z,11nm,1.0s
RIDG Independent Ri 26.49 52 P P 22 43 50.1 +0.3
baz=278
G26K Porcupine Rive 26.65 45 P 22 43 51.7 +0.7
G26K IAmb IAmb 22 43 52.7
comp=Z,13nm,0.8s
G26K Porcupine Rive 26.65 45 P P 22 43 51.1 +0.1
baz=273,SNR=12
EYAK Cordova Ski Ar 26.67 59 P P 22 43 51.4 +0.1
baz=284
C27K Jago River 26.69 39 P P 22 43 52.2 +0.8
C27K IAmb IAmb 22 44 27.5
comp=Z,21nm,1.4s
SCRK Sand Creek 26.83 51 P 22 43 52.4 -0.5
SCRK IAmb IAmb 22 44 02.5
comp=Z,11nm,0.9s
SCRK Sand Creek 26.83 51 P P 22 43 52.2 -0.7
baz=278,SNR=9.6
J26L Joseph Creek 26.95 50 P P 22 43 53.6 -0.3
J26L Joseph Creek 26.95 50 P P 22 43 54.4 +0.5
baz=278
N25K Chitina, Valde 26.98 57 P P 22 43 54.0 -0.1
N25K IAmb IAmb 22 44 26.9
comp=Z,15nm,1.4s
N25K Chitina, Valde 26.98 57 P P 22 43 54.5 +0.3
baz=282
I26K Coal Creek Min 27.02 48 P P 22 43 55.0 +0.6
baz=276
BMRM Bremner River 27.12 58 P P 22 43 55.5 +0.1
BMRM IAmb IAmb 22 44 09.5
comp=Z,12nm,1.0s
BMRM Bremner River 27.12 58 P P 22 43 55.7 +0.3
baz=284
L26K Log Cabin Wild 27.27 53 P P 22 43 56.5 -0.2
baz=281
E27K Coleen River 27.44 42 P P 22 43 58.4 +0.2
baz=272
KAIM Kayak Island 27.47 60 P P 22 43 58.5 0.0
baz=286
G27K Doyon Strip 27.49 45 P P 22 43 59.4 +0.6
G27K Doyon Strip 27.49 45 P P 22 43 59.1 +0.3
baz=275,SNR=6.2
M26K Nabesna, AK 27.55 55 P P 22 44 00.4 +1.1
M26K Nabesna, AK 27.55 55 P P 22 43 59.6 +0.3
baz=282
H27K Steamboat Moun 27.60 46 P 22 44 00.2 +0.6
H27K IAmb IAmb 22 44 01.6
comp=Z,8.8nm,0.9s
H27K Steamboat Moun 27.60 46 P P 22 43 59.9 +0.2
baz=276,SNR=9.8
I27K Kandik River 27.63 47 P P 22 43 59.4 -0.6
baz=277
D27M Malcolm River 27.65 40 P P 22 43 59.6 -0.6
baz=271
K27K Chicken 27.66 51 P P 22 44 00.4 +0.3
baz=280
MCARA McCarthy VSAT 27.76 57 P P 22 44 00.9 -0.2
baz=284
CRQE Cirque 27.89 58 P P 22 44 02.6 +0.2
baz=285
EGAK Eagle 27.93 49 P P 22 44 02.2 -0.4
EGAK IAmb IAmb 22 44 02.7
comp=Z,9.9nm,0.7s
EGAK Eagle 27.93 49 P P 22 44 02.2 -0.4
baz=279,SNR=8.3
L27K Beaver Creek, 27.94 53 P P 22 44 03.1 +0.3
baz=282
BCAR Beaver Creek A 27.96 53 P 22 44 03.7 +0.7
BGLC Bering Glacier 27.96 59 P P 22 44 03.7 +0.8
baz=286
M27K Edge Creek, AK 28.07 54 P P 22 44 04.9 +0.9
M27K Edge Creek, AK 28.07 54 P P 22 44 03.4 -0.6
baz=283,SNR=5.1
F28M Old Crow 28.12 43 P P 22 44 05.0 +0.7
F28M Old Crow 28.12 43 P P 22 44 03.9 -0.4
baz=275
E28M Babbage River 28.18 41 P P 22 44 05.5 +0.6
baz=273
I28M Miner Creek 28.34 48 P 22 44 06.2 -0.2
I28M IAmb IAmb 22 44 07.7
comp=Z,5.1nm,0.7s
I28M Miner Creek 28.34 48 P P 22 44 06.1 -0.3
baz=279,SNR=6.7
MESA MESA 28.59 59 P P 22 44 09.1 +0.4
baz=287
CTG Chitna Glacier 28.66 57 P P 22 44 09.2 -0.1
baz=286
E29M Blow River 28.80 41 P P 22 44 10.4 +0.1
baz=275
DAWY Dawson 28.81 50 P P 22 44 11.0 +0.5
DAWY Dawson 28.81 50 P P 22 44 10.3 -0.2
baz=282
H29M Whitestone 28.87 46 P 22 44 11.8 +0.8
H29M IAmb IAmb 22 44 12.6
comp=Z,11nm,0.7s
H29M Whitestone 28.87 46 P P 22 44 10.6 -0.4
baz=279,SNR=9.6
G29M Pine Creek 28.91 44 P 22 44 12.5 +1.1
G29M IAmb IAmb 22 44 13.4
comp=Z,13nm,0.8s
G29M Pine Creek 28.91 44 P P 22 44 10.7 -0.6
baz=278,SNR=8.6
I29M Ogilvie Camp, 29.03 48 P P 22 44 12.8 +0.4
I29M IAmb IAmb 22 44 13.5
comp=Z,7.4nm,0.8s
I29M Ogilvie Camp, 29.03 48 P P 22 44 12.2 -0.2
baz=280,SNR=9.0
O28M Mount Upton 29.25 57 P P 22 44 15.1 +0.4
O28M Mount Upton 29.25 57 P P 22 44 14.6 -0.1
baz=287
YUK8 Steele Glacier 29.31 56 P P 22 44 14.9 -0.3
baz=286
PINM Pinnacle 29.42 59 P P 22 44 15.9 -0.1
baz=288
EPYK Eagle Plains 29.50 45 P P 22 44 17.2 +0.6
EPYK Eagle Plains 29.50 45 P P 22 44 16.4 -0.2
baz=280
L29M L29M 29.57 52 P 22 44 18.4 +1.1
L29M IAmb IAmb 22 44 19.3
comp=Z,10nm,0.9s
L29M L29M 29.57 52 P P 22 44 17.8 +0.6
baz=284,SNR=9.3
M29M Somme Creek 29.59 53 P P 22 44 18.4 +0.9
M29M Somme Creek 29.59 53 P P 22 44 17.7 +0.2
baz=285,SNR=8.7
G30M tAoh Zraii Nji 29.60 44 P 22 44 18.1 +0.6
G30M IAmb IAmb 22 44 19.7
comp=Z,8.5nm,0.8s
G30M tAoh Zraii Nji 29.60 44 P P 22 44 17.6 +0.1
baz=279,SNR=6.3
K29M Barlow Dome 29.67 50 P P 22 44 18.6 +0.4
baz=283
F30M Barrier River 29.68 43 P 22 44 19.0 +0.9
F30M IAmb IAmb 22 44 25.3
comp=Z,8.2nm,0.8s
F30M Barrier River 29.68 43 P P 22 44 18.0 -0.1
baz=278
BCPM Bancas Point 29.76 59 P P 22 44 19.3 +0.4
BCPM IAmb IAmb 22 44 29.6
comp=Z,8.9nm,0.7s
YUK4 Talbot Arm 29.81 56 P P 22 44 19.6 0.0
baz=287
I30M Mount Dempster 29.85 48 P 22 44 20.0 +0.2
I30M IAmb IAmb 22 44 20.9
comp=Z,8.9nm,0.7s
I30M Mount Dempster 29.85 48 P P 22 44 19.5 -0.3
baz=282,SNR=13
PNL Peninsula 29.97 59 P P 22 44 21.0 +0.2
baz=289
KSRS Korea Array 29.97 246 P P 22 44 20.7 -0.2
comp=Z,0.8nm,0.5s,baz=41,slow=9.0,SNR=1.7
comp=Z,0.8nm,0.5s
J30M Hart River 30.01 49 P P 22 44 21.6 +0.4
baz=283
YUK6 Outpost Mounta 30.06 56 P P 22 44 21.8 0.0
baz=288
O29M Mount Kennedy 30.16 58 P P 22 44 23.2 +0.7
baz=289
M30M Minto, Yukon 30.30 53 P P 22 44 24.1 +0.4
baz=286
G31M Satah River 30.37 44 P P 22 44 24.5 +0.3
G31M IAmb IAmb 22 44 33.4
comp=Z,6.9nm,1.1s
G31M Satah River 30.37 44 P P 22 44 23.9 -0.3
baz=281
INK Inuvik 30.42 41 P 22 44 25.1 +0.5
INK IAmb IAmb 22 44 27.2
comp=Z,5.8nm,0.9s
INK Inuvik 30.42 41 P P 22 44 25.4 +0.8
comp=Z,4.4nm,0.7s,baz=294,slow=7.6,SNR=12
INK LR LR 22 57 48.1
comp=Z,50nm,21.3s,baz=314,slow=39
comp=Z,4.4nm,0.7s
INK Inuvik 30.42 41 P P 22 44 25.1 +0.5
INK pmax pmax
comp=Z,6.0nm,1.0s
INK Inuvik 30.42 41 P P 22 44 25.4 +0.8
baz=279,SNR=6.1
F31M Tsiigehtchic 30.48 43 P 22 44 25.7 +0.6
F31M Tsiigehtchic 30.48 43 P P 22 44 25.9 +0.8
baz=280,SNR=5.2
N30M Aishikik Lake 30.49 55 P P 22 44 26.1 +0.7
baz=288
HYT Haines Junctio 30.49 56 P P 22 44 25.9 +0.4
HYT Haines Junctio 30.49 56 P P 22 44 25.4 -0.1
baz=288
H31M Peel River 30.56 46 P P 22 44 26.0 0.0
baz=282
P29M Windy Craggy 30.77 59 P P 22 44 28.5 +0.6
baz=290
P30M Million Dollar 30.98 57 P P 22 44 31.0 +1.2
baz=290
N31M Braeburn, Yuko 31.08 55 P P 22 44 31.2 +0.7
baz=288
O30N Mendenhall 31.17 56 P P 22 44 31.1 -0.3
baz=289
M31M Drury Creek, Y 31.48 53 P P 22 44 35.5 +1.4
M31M Drury Creek, Y 31.48 53 P P 22 44 35.1 +1.0
baz=288,SNR=5.5
PLBC Pleasant Camp 31.49 58 P P 22 44 34.4 +0.3
baz=291
WHY Whitehorse 31.77 56 P P 22 44 37.5 +0.8
baz=290
SKAG Skagway 31.98 58 P P 22 44 39.5 +1.1
baz=292
N32M Quiet Lake 32.42 54 P P 22 44 42.5 +0.1
baz=291
A36M Sachs Harbour 32.63 33 P P 22 44 44.6 +0.6
baz=280
P32M Atlin 32.70 57 P P 22 44 45.4 +0.6
baz=292
MMPY Sheldon Lake, 32.73 51 P 22 44 46.0 +0.9
MMPY IAmb IAmb 22 44 51.2
comp=Z,5.1nm,0.9s
MMPY Sheldon Lake, 32.73 51 P P 22 44 44.2 -0.9
baz=290
R32K Eaglecrest 32.83 60 P P 22 44 46.1 +0.2
baz=294
P33M Teslin, Yukon 32.88 56 P P 22 44 46.2 -0.3
baz=292
SIT Sitka 32.94 62 P P 22 44 46.6 -0.3
baz=295
Q32M Nakina River 33.63 58 P P 22 44 53.3 +0.2
baz=294
R33M Jennings River 34.06 57 P 22 44 58.1 +1.3
R33M Jennings River 34.06 57 P P 22 44 57.2 +0.4
baz=294
TGTN Hyland Airport 34.44 52 P P 22 44 60.0 0.0
baz=293
U33K Whale Pass 34.45 63 P P 22 45 01.0 +1.0
baz=298
WRAK Wrangell Islan 34.70 62 P P 22 45 02.4 +0.3
baz=298
CRAG Craig 34.75 64 P P 22 45 02.3 -0.2
baz=298
DLBC Dease Lake 34.91 58 LR LR 23 00 24.1
comp=Z,2µm,18.1s,baz=283,slow=38
DLBC Dease Lake 34.91 58 P P 22 45 02.7 -1.4
baz=296
SONM Songino Array 34.92 281 P P 22 45 04.0 -0.4
comp=Z,1.4nm,0.5s,baz=64,slow=7.5,SNR=10
SONM ScP **ScP 22 51 21.6 +0.1**
comp=Z,0.6nm,0.7s,baz=45,slow=2.4,SNR=4.3
SONM LR LR 23 00 11.9
comp=Z,70nm,21.4s,baz=54,slow=38
comp=Z,1.4nm,0.5s
SONM Songino Array 34.92 281 P P 22 45 04.0 -0.4
T35M Bob Quinn 35.46 60 P P 22 45 07.3 -1.4
baz=298
V35K Ketchikan 35.58 63 P P 22 45 08.8 -0.9
baz=299
WRGLY Wrigley 35.83 48 P P 22 45 10.8 -1.0
baz=294
HHC Hu-ho-hao-te 36.43 267 *e*P **P 22 45 16.3 -1.0**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,140nm,4.6s
HHC LR LR
comp=N,160nm,13.8s
HHC LR LR
comp=E,260nm,13.8s
HHC LR LR
comp=Z,280nm,13.8s
H11N2 WAKE ISLAND Hy 36.48 174 T T 23 24 08.8
baz=356,slow=76,SNR=1880
H11N3 WAKE ISLAND Hy 36.50 174 T T 23 24 11.4
baz=356,slow=76,SNR=1893
H11N1 WAKE ISLAND Hy 36.50 174 T T 23 24 07.2
baz=356,slow=76,SNR=1775
NJ2 Nanjing 38.87 251 *e*P **P 22 45 37.3 -0.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
BBB Bella Bella 38.99 66 LR LR 23 00 28.5
comp=Z,58nm,18.3s,baz=292,slow=34
YKA Yellowknife Ar 39.78 46 P P 22 45 44.5 -0.7
comp=Z,4.3nm,0.7s,baz=302,slow=8.5,SNR=17
comp=Z,4.3nm,0.7s
RES Resolute Bay 39.84 24 LR LR 23 03 37.3
comp=Z,47nm,18.5s,baz=358,slow=38
ZALV Zelesovo Beam 42.59 301 PcP **PcP 22 47 58.3 -2.0**
comp=Z,0.8nm,0.6s,baz=26,slow=3.7,SNR=3.7
ZALV LR LR 23 05 04.1
comp=Z,91nm,18.7s,baz=34,slow=38
GTA Gaotai 43.98 275 P P 22 46 19.0 -0.9
GTA pP sP 22 46 24.8 -1.1
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA LR LR
comp=N,270nm,16.7s
GTA LR LR
comp=E,340nm,17.1s
GTA LR LR
comp=Z,480nm,16.0s
LZH Lanzhou 44.08 269 *e*P **P 22 46 21.9 +1.1**
LZH pP sP 22 46 31.1 +4.3
LZH sP pP 22 46 36.3 +11
LZH sS sS 22 53 08.0 +8.1
LZH pmax pmax
comp=Z,13nm,1.2s
LZH LR LR
comp=N,290nm,17.1s
LZH LR LR
comp=E,270nm,15.6s
LZH LR LR
comp=Z,330nm,16.2s
SPITS Spitsbergen Ar 44.39 351 P P 22 46 22.8 +0.2
comp=Z,2.6nm,0.5s,baz=64,slow=9.4,SNR=7.4
comp=Z,2.6nm,0.5s
B08A Colville Reser 45.79 65 P 22 46 34.6 +0.4
B08A IAmb IAmb 22 46 41.4
comp=Z,4.7nm,1.0s
KURK Kurchatov 47.58 301 P 22 46 46.5 -1.5
KURK IAmb IAmb 22 46 52.2
comp=Z,2.9nm,0.5s
KURK Kurchatov 47.58 301 *i* P **P 22 46 46.1 -1.9**
KURK pmax pmax
comp=Z,1.0nm,0.6s
KURBB Kurchatov Arra 47.69 301 P P 22 46 47.0 -1.9
comp=Z,2.6nm,0.6s,baz=52,slow=7.9,SNR=14
comp=Z,2.6nm,0.6s
MK31 Makanchi Array 48.38 295 *ce*P **P 22 46 51.9 -2.4**
MKAR Makanchi Array 48.38 295 P 22 46 52.1 -2.2
MKAR Makanchi Array 48.38 295 P P 22 46 51.9 -2.5
comp=Z,0.9nm,0.4s,baz=47,slow=6.2,SNR=24
MKAR LR LR 23 07 06.0
comp=Z,118nm,19.5s,baz=21,slow=36
comp=Z,0.9nm,0.4s
MKAR Makanchi Array 48.38 295 P P 22 46 52.1 -2.2
FFC Flin Flon 49.70 49 P P 22 47 04.9 +0.6
FFC Flin Flon 49.70 49 P P 22 47 04.9 +0.6
FFC pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 49.83 308 P P 22 47 04.6 -0.7
comp=Z,0.5nm,0.3s,baz=55,slow=8.1,SNR=4.9
BVAR LR LR 23 11 13.7
comp=Z,135nm,18.5s,baz=37,slow=40

comp=Z,0.5nm,0.3s
ARCES ARCESS Array B 50.90 342 P **P** **22 47 11.0 -2.2**
comp=Z,2.1nm,0.8s,baz=34,slow=6.9,SNR=4.2
comp=Z,2.1nm,0.8s
ARCES ARCESS Array B 50.90 342 P **P** **22 47 11.0 -2.2**
YHL Hebgen Lake 52.29 64 IAmb IAmb 22 47 26.6
comp=Z,5.0nm,0.8s
ARTI Arti 52.39 317 LR LR 23 12 32.4
comp=Z,113nm,19.0s,baz=40,slow=39
ARTI Arti 52.39 317 *d* P **P** **22 47 25.9 +1.4**
ARTI S **S** **22 54 54.8 +5.2**
ARTI SS **SS** **22 58 30.4 +3.8**
ARTI pmax pmax
comp=Z,8.0nm,1.9s
PZH PanZhiHua 52.49 262 P **P** **22 47 25.6 -0.1**
YFT Old Faithful 52.75 64 IAmb IAmb 22 47 30.9
comp=Z,5.4nm,0.7s
NVAR Mina Array Bea 53.19 74 P **P** **22 47 32.3 +1.4**
comp=Z,1.2nm,0.7s,baz=304,slow=7.9,SNR=5.3
comp=Z,1.2nm,0.7s
KIRV Kirov 53.94 324 LR LR 23 12 16.2
comp=Z,247nm,18.6s,baz=355,slow=38
TPH Tonopah 54.03 74 IAmb IAmb 22 47 39.3
comp=Z,3.6nm,0.8s
HWUT Hardware Ranch 54.43 67 IAmb IAmb 22 47 42.1
comp=Z,3.9nm,0.9s
BW06 Boulder Array 54.61 64 IAmb IAmb 22 47 42.9
comp=Z,3.2nm,0.8s
PD31 Pinedale Array 54.61 64 **P** **22 47 41.8 +0.5**
PD31 IAmb IAmb 22 47 42.9
comp=Z,3.0nm,0.8s
PDAR Pinedale Array 54.61 64 **P** **22 47 41.8 +0.5**
PDAR Pinedale Array 54.61 64 P **P** **22 47 42.2 +1.0**
comp=Z,2.9nm,0.7s,baz=334,slow=2.7,SNR=26
PDAR PcP **PcP** **22 48 45.3 +1.1**
comp=Z,0.3nm,0.5s,baz=299,slow=6.8,SNR=1.1
PDAR LR LR 23 11 47.9
comp=Z,34nm,19.0s,baz=333,slow=37
comp=Z,2.9nm,0.7s
SPR3 Spring Creek 3 54.89 71 IAmb IAmb 22 47 46.5
comp=Z,6.0nm,0.9s
AAK Ala-Archa 55.24 296 LR LR 23 14 19.1
comp=Z,51nm,19.3s,baz=14,slow=39
AAK Ala-Archa 55.24 296 *ce* P **P** **22 47 46.5 +0.7**
AAK pmax pmax
comp=Z,5.0nm,1.0s
TPNV Topopah Spring 55.38 74 IAmb IAmb 22 47 49.2
comp=Z,8.9nm,1.3s
PSUT Pine Spring 55.48 71 P **P** **22 47 48.6 +1.0**
ULM Lac du Bonnet 55.52 50 P **P** **22 47 47.3 -0.1**
comp=Z,2.9nm,0.6s,baz=322,slow=10,SNR=6.8
ULM LR LR 23 13 42.0
comp=Z,71nm,18.8s,baz=16,slow=38
comp=Z,2.9nm,0.6s
ULM Lac du Bonnet 55.52 50 *e* P **P** **22 47 46.6 -0.8**
ULM pmax pmax
comp=Z,3.0nm,0.6s
BSUT Blindstream Ca 55.63 67 IAmb IAmb 22 48 05.8
comp=Z,4.6nm,1.1s
PRN Pahroc Range 55.68 73 IAmb IAmb 22 47 51.5
comp=Z,5.1nm,0.8s
WSHM Spangler Hills 55.71 76 IAmb IAmb 22 47 51.3
comp=Z,3.6nm,0.8s
GWY Greenwater Val 55.72 75 IAmb IAmb 22 47 51.5
comp=Z,5.0nm,0.8s
GSC Goldstone, Bar 56.30 76 P **P** **22 47 54.2 +0.8**
GSC IAmb IAmb 22 47 55.6
comp=Z,5.3nm,0.8s
GSC Goldstone, Bar 56.30 76 P **P** **22 47 54.2 +0.8**
GSC pmax pmax
comp=Z,5.0nm,0.9s
TMUT Trail Mountain 56.31 68 IAmb IAmb 22 47 56.0
comp=Z,5.8nm,0.8s
RSSD Black Hills 56.34 60 **P** **22 47 53.4 -0.3**
RSSD IAmb IAmb 22 47 55.2
comp=Z,5.7nm,0.8s
RSSD Black Hills 56.34 60 P **P** **22 47 53.4 -0.3**
RSSD pmax pmax
comp=Z,6.0nm,0.8s
P17A Butcher Ranch, 56.42 68 IAmb IAmb 22 47 58.4
comp=Z,4.5nm,0.9s
P18A Preston Nutter 56.56 68 IAmb IAmb 22 48 06.6
comp=Z,6.5nm,1.1s
Q16A Castle Valley 56.61 69 IAmb IAmb 22 47 58.5
comp=Z,6.4nm,0.9s
SRU San Rafael Swe 56.80 68 P **P** **22 47 56.8 -0.2**
SRU San Rafael Swe 56.80 68 P **P** **22 47 56.8 -0.2**
SRU pmax pmax
comp=Z,11nm,0.8s
KK31 Karatay Array 56.88 299 **P** **22 47 54.6 -2.7**
KK31 IAmb IAmb 22 48 01.5
comp=Z,4.4nm,0.8s
KK31 Karatay Array 56.88 299 P **P** **22 47 54.6 -2.7**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 56.88 299 **P** **22 47 55.1 -2.2**
KKAR Karatay Array 56.88 299 P **P** **22 47 55.1 -2.2**
AB31 Akbulak array 57.09 311 **P** **22 47 57.8 -0.9**
O20A White River Ci 57.22 66 **P** **22 48 00.2 +0.3**
HMU Henry Mountain 57.56 69 **P** **22 48 02.7 +0.2**
PMD Palm Desert 57.78 77 IAmb IAmb 22 48 05.2
comp=Z,3.6nm,0.8s
FINES FINESS Array B 57.97 337 P **P** **22 48 04.7 +0.1**
comp=Z,2.6nm,0.8s,baz=12,slow=9.8,SNR=5.7
FINES LR LR 23 19 47.1
comp=Z,239nm,19.8s,baz=254,slow=43
comp=Z,2.6nm,0.8s
PV21 Cone Mtn., Par 58.02 67 IAmb IAmb 22 48 07.6
comp=Z,6.7nm,0.8s
PV04 Paradox Valley 58.18 68 IAmb IAmb 22 48 08.8
comp=Z,7.3nm,0.9s
PV16 Nyswonger Mesa 58.23 68 IAmb IAmb 22 48 18.9
comp=Z,5.4nm,0.8s
PV07 Paradox Valley 58.28 67 IAmb IAmb 22 48 15.2
comp=Z,5.1nm,0.8s
PV03 Paradox Valley 58.31 68 IAmb IAmb 22 48 09.7
comp=Z,6.4nm,0.9s
PV13 Radium Mtn., P 58.40 68 P **P** **22 48 08.5 +0.2**
ISCO Idaho Springs 58.80 64 **P** **22 48 10.8 -0.3**
ISCO IAmb IAmb 22 48 13.8
comp=Z,4.9nm,0.8s
ISCO Idaho Springs 58.80 64 P **P** **22 48 10.8 -0.3**
ISCO pmax pmax
comp=Z,5.0nm,0.9s
ESJX Sierra Juarez 59.26 78 IAmb IAmb 22 48 15.7
comp=Z,4.7nm,0.8s
Y14A Wickenburg 59.38 74 IAmb IAmb 22 48 17.3
comp=Z,4.8nm,1.1s
BELG Belogornoye 59.47 320 *i* P **P** **22 48 16.0 +0.8**
BELG pmax pmax
comp=Z,2.0nm,1.0s
X16A Lo Mia Camp, P 59.85 72 **P** **22 48 19.1 +0.8**
X16A IAmb IAmb 22 48 21.1
comp=Z,4.3nm,0.9s
GAR Garm 60.07 296 **P** **22 48 18.0 -1.7**
SDCO Great Sand Dun 60.42 66 **P** **22 48 22.9 +0.6**
SDCO IAmb IAmb 22 48 24.6
comp=Z,3.2nm,0.8s
CMAR Chiang Mai Arr 60.45 259 P **P** **22 48 22.7 +0.3**
comp=Z,0.6nm,0.4s,baz=18,slow=5.4,SNR=5.0
CMAR LR LR 23 15 49.5
comp=Z,54nm,19.2s,baz=50,slow=37
comp=Z,0.6nm,0.4s
X18A Snowflake 60.56 71 **P** **22 48 24.9 +1.7**
OBN Obninsk 60.83 328 *de* P **P** **22 48 26.2 +1.8**
OBN *e* 22 49 05.0
OBN *e* 22 50 36.0
OBN *eS* S 22 57 02.9 +22
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,146nm,13.0s
CHGR Chuyangaron 60.91 297 P **P** **22 48 23.4 -2.0**
CHGR Chuyangaron 60.91 297 P **P** **22 48 23.4 -2.0**
CHGR pmax pmax
comp=Z,8.0nm,0.6s
NOA NORSAR Array B 61.05 345 P **P** **22 48 25.9 -0.1**
comp=Z,0.6nm,0.5s,baz=8.6,slow=3.5,SNR=1.4
comp=Z,0.6nm,0.5s
HFS Hagfors 61.53 343 P **P** **22 48 28.4 -0.8**
comp=Z,3.9nm,1.0s,baz=57,slow=5.3,SNR=1.9
comp=Z,3.9nm,1.0s
L34A Svendsen Farm, 61.62 56 **P** **22 48 30.0 -0.1**
ANMO Albuquerque 62.08 68 **P** **22 48 33.8 +0.3**
ANMO IAmb IAmb 22 48 35.5
comp=Z,3.9nm,0.8s
ANMO Albuquerque 62.08 68 *ce* P **P** **22 48 34.6 +1.1**
ANMO pmax pmax
comp=Z,3.0nm,0.9s
LENM Lemitar 62.41 69 P **P** **22 48 37.1 +1.4**
SBM South Baldy 62.45 70 P **P** **22 48 36.8 +0.6**
RTBA Rita Blanca 62.83 65 P **P** **22 48 38.8 +0.3**
121A Cookes Peak, D 63.25 71 IAmb IAmb 22 48 44.1
comp=Z,4.4nm,0.8s
HNR Honiara 65.39 183 LR LR 23 13 19.9
comp=Z,96nm,19.8s,baz=324,slow=32
DKNS Dickens 65.92 65 IAmb IAmb 22 49 01.3
comp=Z,6.0nm,0.9s
POST Post 66.10 66 **P** **22 49 00.3 +0.5**
AKASG Malin Array Be 66.83 330 P **P** **22 49 02.5 -1.5**
comp=Z,1.1nm,0.5s,baz=30,slow=6.8,SNR=4.2
comp=Z,1.1nm,0.5s
ALPN Alpine 67.13 69 **P** **22 49 07.0 +0.5**
HHAR Hobbs 67.28 59 **P** **22 49 07.3 +0.1**
HHAR IAmb IAmb 22 49 14.7
comp=Z,5.2nm,0.9s
MGMO Mountain Grove 67.37 57 **P** **22 49 06.8 -1.0**
ABTX Abilene, Hawle 67.40 65 P **P** **22 49 08.0 0.0**
PLPT Palo Pinto 67.92 64 **P** **22 49 11.6 +0.4**
PLPT IAmb IAmb 22 49 13.6
comp=Z,5.9nm,1.0s
TX31 Lajitas Ar. Si 67.94 70 **P** **22 49 12.1 +0.5**
TXAR Lajitas Array 67.94 70 P **P** **22 49 12.8 +1.3**
comp=Z,8.6nm,0.7s,baz=299,slow=4.4,SNR=126
SAND Sanderson 68.25 69 IAmb IAmb 22 49 19.4
comp=Z,3.4nm,0.9s
EKA Eskdalemuir Ar 68.30 352 P **P** **22 49 14.0 +0.8**
comp=Z,1.3nm,0.7s,baz=21,slow=5.2,SNR=5.9
comp=Z,1.3nm,0.7s
KIV Kislovodsk 68.33 318 *e* P **P** **22 49 14.3 +0.5**
KIV pmax pmax
comp=Z,2.0nm,1.0s
KBZ Khabaz 68.44 318 P **P** **22 49 15.6 +1.2**
comp=Z,0.6nm,0.6s,baz=357,slow=4.2,SNR=1.4
comp=Z,0.6nm,0.6s
LPIG La Paz 68.52 79 LR LR 23 16 19.0
comp=Z,49nm,18.1s,baz=226,slow=33
BRDY Brady 68.80 65 **P** **22 49 16.5 -0.3**
JCT Junction City 69.03 67 P **P** **22 49 18.1 -0.2**
JCT Junction City 69.03 67 P **P** **22 49 18.1 -0.2**
JCT pmax pmax
comp=Z,7.0nm,0.7s
DRIO Del Rio 69.46 68 **P** **22 49 20.4 -0.5**
LANS Liptovska Anna 70.75 336 *e* P **P** **22 49 31.3 +2.7**
GNI Garni 70.78 314 LR LR 23 24 34.8
comp=Z,118nm,18.9s,baz=22,slow=39
GERES GERESS Array B 72.28 339 P **P** **22 49 37.6 -0.3**
comp=Z,0.2nm,0.3s,baz=10,slow=6.2,SNR=3.8
GERES LR LR 23 24 54.2
comp=Z,53nm,18.4s,baz=336,slow=39
comp=Z,0.2nm,0.3s
TKL Tuckaleechee C 72.46 52 LR LR 23 22 43.1
comp=Z,86nm,18.0s,baz=343,slow=37
MLR Muntele Rosu 72.49 330 LR LR 23 26 08.1
comp=Z,125nm,19.8s,baz=12,slow=40
CONA Conrad Observa 72.71 338 *i* pP **P** **22 49 41.3 +0.9**
comp=Z,5.6nm,1.8s
RONA Rosalia, Austr 72.83 337 *i* pP pP 22 49 44.3 -1.2
comp=Z,5.9nm,1.5s
BIOA Bad Ischl, Aus 73.40 339 *i* pP pP 22 49 51.6 +2.7
comp=Z,1.4nm,0.5s
LESA Schwarzleotal 73.84 340 *i* PcP P 22 49 54.8 +7.7
comp=Z,5.4nm,1.9s
KBA Koelnbreinsper 74.04 339 *i* pP pP 22 49 50.4 -2.4
comp=Z,5.3nm,1.0s
SOKA Soboth 74.07 338 *i* pP pP 22 49 55.6 +2.7
comp=Z,3.4nm,1.5s
WATA Walderalm 74.14 340 *e* PcP P 22 49 56.6 +7.6
comp=Z,1.5nm,1.1s
WTTA Wattenberg 74.20 340 *e* pP pP 22 49 55.5 +1.8
comp=Z,2.8nm,1.5s
SQTA Sankt Quirin 74.32 340 *i* P **P** **22 49 48.9 -1.0**
comp=Z,1.4nm,0.6s
OBKA Obir 74.34 338 *i* pP pP 22 49 52.2 -2.2
comp=Z,3.6nm,1.0s
MYKA Terra Mystica 74.41 339 *i* pP pP 22 49 52.7 -2.1
comp=Z,2.7nm,1.0s
DAVA Damuels 74.50 341 *e* PcP P 22 49 58.4 +7.4
comp=Z,3.7nm,0.9s
ABTA Abfaltersbach 74.52 339 *i* pP **P** **22 49 52.5 +1.4**
comp=Z,4.7nm,1.5s
FETA Feichten 74.60 341 *e* PcP **PcP** **22 50 07.6 +1.6**
comp=Z,4.2nm,1.4s
BRTR Keskin Array B 75.30 322 P **P** **22 49 56.4 +0.6**
comp=Z,0.9nm,0.8s,baz=59,slow=4.7,SNR=2.7
comp=Z,0.9nm,0.8s
WRA Warramunga Arr 79.58 207 P **P** **22 50 17.9 -1.7**
comp=Z,1.6nm,0.9s,baz=15,slow=5.9,SNR=10
comp=Z,1.6nm,0.9s
ASF Jabal al Asfar 80.82 316 LR LR 23 32 03.3
comp=Z,83nm,18.5s,baz=65,slow=40
ASAR Alice Springs 83.25 207 P **P** **22 50 38.8 -0.2**
comp=Z,1.5nm,0.6s,baz=15,slow=5.0,SNR=14
comp=Z,1.5nm,0.6s
EIL Elat 83.80 316 LR LR 23 33 06.8
comp=Z,67nm,19.5s,baz=64,slow=39
ESDC Sonseca Array 83.90 350 P **P** **22 50 42.7 +0.3**
comp=Z,0.5nm,0.6s,baz=357,slow=5.5,SNR=11
comp=Z,0.5nm,0.6s
RAYN Ar Rayn 84.74 305 **P** **22 50 44.8 -2.1**
RAYN IAmb IAmb 22 50 51.4
comp=Z,2.0nm,0.6s
RAYN Ar Rayn 84.74 305 P **P** **22 50 44.8 -2.1**
RAYN pmax pmax
comp=Z,2.0nm,0.6s
PESTR Estremoz 85.01 353 P **P** **22 50 47.4 -0.6**
KEST Kesra 85.76 339 P **P** **22 50 52.0 +0.1**
comp=Z,0.9nm,0.5s,baz=45,slow=1.4,SNR=4.3
comp=Z,0.9nm,0.5s
STKA Stephens Creek 89.56 198 P **P** **22 51 08.9 -0.8**
comp=Z,4.9nm,0.9s,baz=14,slow=6.6,SNR=4.7
comp=Z,4.9nm,0.9s
STKA Stephens Creek 89.56 198 *e* P **P** **22 51 11.3 +1.6**
STKA pmax pmax
comp=Z,2.0nm,0.7s
WHZ Wether Hill Ro 101.76 176 Pdif **Pdif** **22 52 04.1 -0.8**
VNDA Vanda 133.41 180 PKPdf **PKPdf** **22 57 27.6 +0.6**
VNDA Vanda 133.41 180 PKP **PKPdf** **22 57 27.2 +0.2**
comp=Z,1.2nm,1.2s,baz=281,slow=5.2,SNR=2.1
PLCA Paso Flores 142.31 89 PKP **PKPdf** **22 57 45.6 +1.1**
comp=Z,0.9nm,0.4s,baz=333,slow=9.0,SNR=2.1
MAW Mawson 143.44 219 PKhKP PKPpre 22 57 42.2
comp=Z,1.6nm,0.9s,baz=323,slow=5.1,SNR=3.3
PLTB Pedras Altas 144.76 62 PKPdf **PKPab** **22 57 48.0 0.0**
TRQA Tornquist 145.20 78 PKPbc **PKPbc** **22 57 49.1 -0.2**
TRQA Tornquist 145.20 78 PKIKP **PKPbc** **22 57 49.1 -0.2**
QSPA South Pole Qui 145.91 180 PKPbc **PKPdf** **22 57 51.1 +1.1**
comp=Z,5.2nm,0.8s,baz=333,slow=2.5,SNR=50
SMAI San Martin Ant 154.54 138 PKPdf **PKPdf** **22 58 05.0 +1.6**
SNAA Sanae 163.31 196 PKPab **PKPab** **22 59 02.6 -2.0**
comp=Z,0.6nm,0.5s,baz=187,slow=10,SNR=8.8

IDC ***15*** *23:05:21.4± 4.3, 23.˚80N× 125.˚65E, h0km, mb3.7/4, mbtmp3.7/4, MS3.0/1, Error ellipse: s-maj=288.3km s-min=27.0km az=64.0*
JMA ***15*** *23:05:24.4± 0.2, 24.˚0N± 0.˚9× 126.˚0E± 0.˚9, h81km, MV3.3/17, NEAR MIYAKOJIMA ISLAND*
ISC 15 23:05:21.9± 2.0, 23.˚93N± 0.˚07× 126.˚03E± 0.˚05, h12km± 11km, n19, σ1° 10/31, mb3.7/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.00**	**326**	P	**Pn**	**23 05 42.7**	**+0.9**
JOGS				S	**Sn**	**23 05 56.7**	**+0.9**
JMJ2	**Miyako jima3**	**1.03**	**322**	*e*P	**Pn**	**23 05 43.0**	**+0.9**
JMJ2				*eS*	**Sn**	**23 05 56.6**	**+0.1**
JIRB	**Irabujima**	**1.19**	**319**	*e*P	**Pg**	**23 05 45.0**	**+0.2**
JIRB				S	**Sn**	**23 06 00.8**	**+0.4**
JIKM	**Ikemajima**	**1.22**	**325**	*e*P	**Pg**	**23 05 45.4**	**0.0**
JIKM				*eS*	**Sb**	**23 06 00.3**	**-0.3**
JTJ	**Tarama**	**1.40**	**301**	*e*P	**Pb**	**23 05 48.1**	**0.0**
JTJ				S	**Sg**	**23 06 06.0**	**-1.1**
JISG	**Ishigakijimahi**	**1.70**	**293**	*e*P	**Pn**	**23 05 51.6**	**+0.3**
JISG				*eS*	**Sn**	**23 06 11.2**	**-1.8**
JIJ	**Ishigaki jima**	**1.77**	**285**	P	**Pn**	**23 05 53.3**	**+0.8**
JIJ				*eS*	**Sn**	**23 06 14.3**	**-0.5**
JKRS	**Kuro-shima**	**1.87**	**280**	*e*P	**Pn**	**23 05 54.2**	**+0.5**
JKRS				S	**Sn**	**23 06 16.3**	**-0.9**
HATJ	**Hateruma jima**	**2.04**	**274**	*e*P	**Pn**	**23 05 56.2**	**+0.2**
HATJ				*eS*	**Sn**	**23 06 19.3**	**-2.0**
IRIF	**Iriomote-Funau**	**2.14**	**281**	P	**Pn**	**23 05 57.8**	**+0.4**
IRIF				*eS*	**Sn**	**23 06 22.9**	**-0.9**
JKE Kume jima 2 2.48 16 P **Pn** **23 06 02.9 +0.7**
JYNG Yonagunijimaku 2.86 281 *e*P **Pn** **23 06 08.1 +0.7**
JYNG *eS* **Sn** **23 06 39.8 -1.9**
JNTH Nagotoyohara 3.15 35 *e*P **Pn** **23 06 11.7 +0.4**
JNTH *eS* **Sn** **23 06 46.6 -2.2**
JOW Kunigami 3.54 35 *e*P **Pn** **23 06 17.5 +0.8**
JOW *eS* **Sn** **23 06 55.8 -2.6**
MJAR Matsushiro Arr 16.38 37 LR LR 23 15 07.9
comp=Z,53nm,18.5s,baz=344,slow=35
MKAR Makanchi Array 41.64 314 P **P** **23 13 10.2 +0.1**
0.3nm,0.5s,baz=99,slow=10.0,SNR=5.0
0.3nm,0.5s
ZALV Zalesovo Beam 42.92 325 P **P** **23 13 21.0 +0.6**
0.5nm,0.4s,baz=105,slow=9.5,SNR=2.7
0.5nm,0.4s
WRA Warramunga Arr 44.35 169 P **P** **23 13 33.0 +0.8**
1.3nm,0.9s,baz=350,slow=8.4,SNR=5.6
1.3nm,0.9s
KURBB Kurchatov Arra 45.19 319 P **P** **23 13 38.8 +0.2**
0.9nm,0.3s,baz=108,slow=8.2,SNR=3.2
0.9nm,0.3s

NEIC ***15*** *23:21:13.5± 1.2, 3.˚71N± 0.˚10× 122.˚4E± 0.˚1, h585km± 8km, mb4.4/60, Error ellipse: s-maj=15.9km s-min=12.9km az=49.0*
IDC ***15*** *23:21:13.4± 0.7, 3.˚73N× 122.˚48E, h596km± 9km, mb3.4/20, mbtmp4.4/22, Error ellipse: s-maj=15.4km s-min=7.0km az=72.0*
DJA ***15*** *23:21:13.3± 0.3, 4.˚N± 3.˚× 12.˚2E± .˚, h574km± 3km, M4.4/19, mb4.5/19, mB4.9/10, MLv4.7/17, Mw(mB)4.2/10, MwMwp5.2/1, Mwp5.5/1*
ISC 15 23:21:13.8± 0.3, 3.˚65N± 0.˚05× 122.˚40E± 0.˚06, h602km, n143, σ1° 43/160, mb4.4/49, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOLI2	**Tolitoli**	**3.00**	**213**		**P**	**23 22 31.0**	**-2.2**
TOLI2					**S**	**23 23 32.9**	**-4.8**
TOLI2	**Tolitoli**	**3.00**	**213**	P	**P**	**23 22 31.0**	**-2.2**
TOLI2	**Tolitoli**	**3.00**	**213**	S	**S**	**23 23 34.2**	**-3.5**
MRSI	**Marisa**	**3.19**	**188**	P	**P**	**23 22 32.8**	**-1.5**
MRSI				S	**S**	**23 23 36.5**	**-3.2**
KMSI	**Cibinong**	**3.44**	**153**	P	**P**	**23 22 35.1**	**-0.7**
KMSI				S	**S**	**23 23 39.7**	**-2.8**
MYLDM	**Lahad Datu**	**4.18**	**291**		**P**	**23 22 39.6**	**-1.1**
MYLDM	**Lahad Datu**	**4.18**	**291**	P	**P**	**23 22 40.0**	**-0.7**
APSI	**Ampana**	**4.59**	**189**	P	**P**	**23 22 42.6**	**-1.2**
DAV	**Davao City (W)**	**4.64**	**43**	P	**P**	**23 22 42.0**	**-2.1**
DAV	**Davao City (W)**	**4.64**	**43**	P	**P**	**23 22 41.3**	**-2.8**
	149nm,0.3s,baz=316,slow=3.4,SNR=4.6						
DAV				S	**S**	**23 23 56.0**	**-1.6**
	179nm,0.5s,baz=224,slow=19,SNR=1.5						
DAV	**Davao City (W)**	**4.64**	**43**	P	**S**	**23 22 44.3**	**+0.2**
DAV	**Davao City (W)**	**4.64**	**43**	S	**S**	**23 23 56.1**	**-1.6**
LUWI	**Luwuk**	**4.68**	**175**		**P**	**23 22 41.7**	**-2.7**
LUWI					**S**	**23 23 53.8**	**-4.4**
LUWI	**Luwuk**	**4.68**	**175**	P	**P**	**23 22 42.5**	**-1.8**
LUWI	**Luwuk**	**4.68**	**175**	S	**S**	**23 23 54.6**	**-3.6**
LUWI	**Luwuk**	**4.68**	**175**	P	**P**	**23 22 42.6**	**-1.8**
LUWI				S	**S**	**23 23 55.6**	**-2.6**
PCI	**Palu**	**5.20**	**210**	P	**P**	**23 22 47.8**	**-0.7**
	0.6nm86nm,1.1s						
PCI				S	**S**	**23 24 04.5**	**-1.2**
	0.6nm86nm,1.1s						
TNTI	**Ternate**	**5.73**	**120**		**P**	**23 22 50.4**	**-2.5**
TNTI					**S**	**23 24 10.1**	**-3.4**
TNTI	**Ternate**	**5.73**	**120**	P	**P**	**23 22 51.0**	**-1.4**
TNTI	**Ternate**	**5.73**	**120**	P	**P**	**23 22 50.3**	**-2.5**
	0.5nm1μm166nm,1.1s						
TNTI				S	**S**	**23 24 11.3**	**-2.3**
	0.5nm1μm166nm,1.1s						
KKM	**Kota Kinabalu**	**6.61**	**291**		**P**	**23 22 58.0**	**-2.5**
KKM	**Kota Kinabalu**	**6.61**	**291**	P	**P**	**23 22 58.8**	**-1.7**
SANI	**Sanana**	**6.70**	**148**	P	**P**	**23 22 59.4**	**-1.9**
	40nm,0.6s						
TTSI	**Tana Toraja**	**7.14**	**201**	P	**P**	**23 23 05.7**	**+0.5**
	0.2nm41nm,0.7s						
SPSI	**Sidrap Palu**	**8.01**	**199**	P	**P**	**23 23 13.2**	**-0.2**
	0.2nm7μm45nm,0.7s						
NLAI	**Namlea**	**8.30**	**146**	P	**P**	**23 23 16.0**	**-0.1**
	2μm152nm,0.8s						
KAPI	**Kappang**	**9.01**	**197**	P	**P**	**23 23 22.4**	**-0.6**
KAPI	**Kappang**	**9.01**	**197**	P	**P**	**23 23 21.5**	**-1.4**
	12nm,0.8s,baz=331,slow=6.5,SNR=5.4						
BBSI	**Bau Bau**	**9.08**	**179**	P	**P**	**23 23 23.7**	**0.0**
	112nm,1.0s						
MSAI	**Masohi**	**9.53**	**137**	P	**P**	**23 23 27.8**	**-0.3**
	111nm,0.6s						
SBUM	**Sibu**	**10.24**	**264**		**P**	**23 23 34.2**	**-0.9**
SBUM	**Sibu**	**10.24**	**264**	P	**P**	**23 23 35.4**	**+0.3**
SBUM	**Sibu**	**10.24**	**264**	S	**S**	**23 25 29.4**	**-1.6**
TGY	**Tagaytay City**	**10.48**	**352**	P	**P**	**23 23 35.0**	**-2.5**
	137nm,0.5s,baz=6.0,slow=12,SNR=1.9						
MMRI	**Maumere**	**12.21**	**181**	P	**P**	**23 23 54.3**	**-0.4**
KSM	**Kuching**	**12.27**	**260**	P	**P**	**23 23 53.9**	**-1.5**
KSM	**Kuching**	**12.27**	**260**	P	**P**	**23 23 55.1**	**-0.3**
EDFI	**Ende, Flores**	**12.34**	**183**	P	**P**	**23 23 56.5**	**+0.3**
SOEI	**Soe**	**13.45**	**172**		**P**	**23 24 06.7**	**-0.7**
SOEI	**Soe**	**13.45**	**172**	P	**P**	**23 24 07.4**	**0.0**
SOEI	**Soe**	**13.45**	**172**	S	**S**	**23 26 31.1**	**+1.4**
SOEI	**Soe**	**13.45**	**172**	P	**P**	**23 24 07.3**	**-0.1**
	127nm,0.8s						
TWSI	**Taliwang, Sumb**	**13.48**	**204**	P	**P**	**23 24 07.0**	**-0.6**
BATI	**Baumata**	**13.82**	**175**	P	**P**	**23 24 10.8**	**-0.3**
	369nm,0.6s,baz=27,slow=0.9,SNR=58						
BATI				S	**S**	**23 26 36.0**	**-0.1**
	15nm,0.4s,baz=19,slow=20,SNR=1.6						
BATI	**Baumata**	**13.82**	**175**	P	**P**	**23 24 10.7**	**-0.3**
DRS	**Darwin Rock St**	**18.07**	**152**	P	**P**	**23 24 51.0**	**+0.9**
MTN	**Manton Dam**	**18.54**	**152**		**P**	**23 24 54.9**	**+0.5**
MTN	**Manton Dam**	**18.54**	**152**	P	**P**	**23 24 55.1**	**+0.7**
MYKOM	**Kota Tinggi**	**18.62**	**265**		**P**	**23 24 55.6**	**+0.4**
KDU	**Kakadu**	**19.07**	**149**	P	**P**	**23 24 59.3**	**+0.2**
KNRA	**Kununurra**	**20.21**	**162**		**P**	**23 25 10.4**	**+1.0**
IPM	**Ipoh**	**21.34**	**273**	P	**P**	**23 25 19.6**	**-0.1**
BKNI	**Bangkinang**	**21.60**	**262**	P	**P**	**23 25 22.8**	**+0.8**
KULM	**Kulim**	**21.75**	**275**	P	**P**	**23 25 23.4**	**+0.1**
KULM				IAmb	IAmb	23 25 39.5	
	comp=Z,12nm,1.3s						
FITZ	**Fitzroy Crossi**	**21.85**	**172**	P	**P**	**23 25 24.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**21.85**	**172**	P	**P**	**23 25 24.6**	**+0.5**
	comp=Z,13nm,0.8s,baz=8.7,slow=7.0,SNR=20						
FITZ				ScP	**ScP**	**23 31 39.6**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=329,slow=23,SNR=2.6						
	comp=Z,13nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.85**	**172**	P	**P**	**23 25 24.7**	**+0.6**
PSI	**Prapat**	**23.46**	**269**	P	**P**	**23 25 39.4**	**+0.8**
	comp=Z,7.9nm,0.8s,baz=63,slow=5.0,SNR=6.8						
	comp=Z,7.9nm,0.8s						
PSI	**Prapat**	**23.46**	**269**	P	**P**	**23 25 39.3**	**+0.7**
RPSI	**Rantau Prapat**	**23.46**	**268**	P	**P**	**23 25 38.9**	**+0.3**
RPSI				IAmb	IAmb	23 25 39.7	
	comp=Z,12nm,1.0s						
MBWA	**Marble Bar**	**24.80**	**186**	P	**P**	**23 25 50.6**	**+0.4**
MBWA				IAmb	IAmb	23 25 51.1	
	comp=Z,9.2nm,0.7s						
GSI	**Gunungsitoli**	**24.91**	**265**	P	**P**	**23 25 51.0**	**-0.4**
SLVN	**Son La**	**25.14**	**316**	P	**P**	**23 25 54.8**	**+1.4**
PSA00	**Pilbara Seismi**	**25.19**	**186**		**P**	**23 25 54.3**	**+0.6**
PSA00				IAmb	IAmb	23 25 54.8	
	comp=Z,11nm,0.8s						
PSA00	**Pilbara Seismi**	**25.19**	**186**		**P**	**23 25 53.5**	**-0.2**
PSA00				IAmb	IAmb	23 25 54.7	
	comp=Z,6.2nm,0.9s						
PSA00	**Pilbara Seismi**	**25.19**	**186**	P	**P**	**23 25 54.3**	**+0.6**
WRAB	**Tennant Creek**	**26.21**	**154**	P	**P**	**23 26 02.8**	**0.0**
WRA	**Warramunga Arr**	**26.22**	**154**		**P**	**23 26 01.7**	**-1.0**
WRA	**Warramunga Arr**	**26.22**	**154**	P	**P**	**23 26 02.6**	**-0.1**
	comp=Z,21nm,0.6s,baz=336,slow=9.5,SNR=193						
WRA				S	**S**	**23 29 51.8**	**-2.3**
	comp=Z,1.8nm,0.7s,baz=334,slow=16,SNR=6.8						
WRA				ScP	**ScP**	**23 31 53.5**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=338,slow=3.1,SNR=14						
	comp=Z,21nm,0.6s						
WR8	**Warramunga Arr**	**26.30**	**154**	IAmb	IAmb	23 26 04.1	
	comp=Z,14nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.27**	**304**	P	**P**	**23 26 12.5**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=128,slow=7

PMG	**Port Moresby**	**27.87**	**118**	P	**P**	**23 26 16.6**	**-0.7**
PMG				IAmb	IAmb	23 26 17.6	
	comp=Z,14nm,0.8s						
AS31	**Alice Springs**	**29.38**	**158**	IAmb	IAmb	23 26 32.0	
	comp=Z,5.3nm,0.5s						
ASAR	**Alice Springs**	**29.38**	**158**		**P**	**23 26 31.0**	**+0.8**
ASAR	**Alice Springs**	**29.38**	**158**	P	**P**	**23 26 31.0**	**+0.8**
	comp=Z,11nm,0.6s,baz=334,slow=7.0,SNR=132						
ASAR				S	**S**	**23 30 43.5**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=337,slow=14,SNR=13						
ASAR				ScP	**ScP**	**23 32 03.5**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=347,slow=2.7,SNR=14						
	comp=Z,11nm,0.6s						
QIS	**Mount Isa**	**29.39**	**146**	P	**P**	**23 26 31.4**	**+1.0**
PZH	**PanZhiHua**	**30.13**	**321**	P	**P**	**23 26 39.1**	**+2.3**
MEEK	**Meekatharra**	**30.33**	**187**	P	**P**	**23 26 39.1**	**+0.7**
MORW	**Morawa**	**33.10**	**190**	P	**P**	**23 27 02.6**	**+0.8**
MORW				IAmb	IAmb	23 27 16.6	
	comp=Z,26nm,1.4s						
KSRS	**Korea Array**	**34.02**	**8**	P	**P**	**23 27 09.2**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=185,slow=9.9,SNR=7.8						
	comp=Z,1.2nm,0.5s						
MJAR	**Matsushiro Arr**	**35.82**	**22**	P	**P**	**23 27 22.4**	**-1.9**
	comp=Z,1.9nm,0.8s,baz=199,slow=7.7,SNR=4.2						
	comp=Z,1.9nm,0.8s						
INKA	**Innaminka**	**35.87**	**152**	P	**P**	**23 27 26.9**	**+2.1**
INKA				IAmb	IAmb	23 27 27.5	
	comp=Z,8.1nm,0.6s						
SHL	**Shillong**	**36.52**	**310**		**P**	**23 27 30.3**	**-0.1**
SHL				IAmb	IAmb	23 27 30.9	
	comp=Z,10nm,0.6s						
HHC	**Hu-ho-hao-te**	**38.30**	**347**	*eP*	**P**	**23 27 45.6**	**+1.1**
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,160nm,5.3s						
BBOO	**Buckleboo**	**38.51**	**161**	P	**P**	**23 27 47.4**	**+1.2**
STKA	**Stephens Creek**	**39.77**	**154**	P	**P**	**23 27 57.8**	**+1.5**
STKA	**Stephens Creek**	**39.77**	**154**	P	**P**	**23 27 57.6**	**+1.3**
	comp=Z,9.3nm,0.6s,baz=332,slow=7.1,SNR=18						
	comp=Z,9.3nm,0.6s						
STKA	**Stephens Creek**	**39.77**	**154**	P	**P**	**23 27 57.9**	**+1.6**
EIDS	**Eidsvold**	**40.08**	**138**	P	**P**	**23 27 59.3**	**+0.4**
EIDS				IAmb	IAmb	23 28 00.3	
	comp=Z,8.2nm,1.0s						
GTA	**Gaotai**	**41.08**	**333**	*eP*	**P**	**23 28 08.3**	**+1.6**
GTA				pP	PcP	23 29 52.8	+1.2
GTA				ScP	**ScP**	**23 32 46.6**	**+1.7**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
USRK	**Ussurisyk Ar.**	**41.26**	**10**	P	**P**	**23 28 07.4**	**-0.5**
	comp=Z,3.5nm,0.5s,baz=186,slow=6.3,SNR=5.9						
	comp=Z,3.5nm,0.5s						
CMSA	**Cobar Meteorol**	**41.43**	**149**	P	**P**	**23 28 11.8**	**+2.3**
EVN	**Everest**	**41.63**	**309**	P	**P**	**23 28 12.6**	**+0.7**
EVN				IAmb	IAmb	23 28 13.3	
	comp=Z,15nm,0.8s						
ARMA	**Armidale**	**43.91**	**143**		**P**	**23 28 31.6**	**+2.7**
ARMA				IAmb	IAmb	23 28 32.6	
	comp=Z,16nm,0.8s						
ARMA	**Armidale**	**43.91**	**143**	P	**P**	**23 28 31.0**	**+2.1**
CAN	**Canberra**	**46.10**	**149**	P	**P**	**23 28 47.7**	**+2.2**
CAN				IAmb	IAmb	23 28 49.0	
	comp=Z,23nm,1.0s						
SONM	**Songino Array**	**46.12**	**345**	P	**P**	**23 28 45.6**	**+0.1**
SONM	**Songino Array**	**46.12**	**345**	P	**P**	**23 28 45.6**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=163,slow=8.8,SNR=16						
SONM				PcP	**PcP**	**23 30 08.3**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=178,slow=3.2,SNR=3.5						
	comp=Z,3.2nm,0.8s						
PRZ	**Przheval'sk**	**55.00**	**321**	P	**P**	**23 29 51.8**	**+1.8**
MKAR	**Makanchi Array**	**55.22**	**327**	P	**P**	**23 29 51.5**	**+0.1**
	comp=Z,3.3nm,0.5s,baz=122,slow=8.6,SNR=53						
MKAR				PcP	**PcP**	**23 30 42.6**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=126,slow=4.4,SNR=14						
MKAR				ScP	**ScP**	**23 33 45.5**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=116,slow=5.4,SNR=7.5						
	comp=Z,3.3nm,0.5s						
PET	**Petropavlovsk**	**57.55**	**25**	P	**P**	**23 30 07.9**	**+0.9**
PET				IAmb	IAmb	23 30 10.2	
	comp=Z,28nm,1.2s						
KBL	**Kabul**	**58.17**	**309**		**P**	**23 30 11.9**	**0.0**
ZALV	**Zalesovo Beam**	**58.77**	**335**	P	**P**	**23 30 14.4**	**-0.8**
ZALV	**Zalesovo Beam**	**58.77**	**335**	P	**P**	**23 30 14.2**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=131,slow=6.3,SNR=7.4						
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**59.53**	**329**	P	**P**	**23 30 20.4**	**0.0**
	comp=Z,3.3nm,0.5s,baz=128,slow=6.3,SNR=20						
	comp=Z,3.3nm,0.5s						
KURK	**Kurchatov**	**59.54**	**329**		**P**	**23 30 19.8**	**-0.6**
KURK				IAmb	IAmb	23 30 21.0	
	comp=Z,8.8nm,0.6s						
LBZ	**Lake Benmore**	**64.11**	**144**	P	**P**	**23 30 51.4**	**+1.3**
THZ	**Tophouse**	**64.35**	**140**	P	**P**	**23 30 52.1**	**+0.3**
ODZ	**Otahua Downs**	**64.75**	**144**	P	**P**	**23 30 55.6**	**+1.5**
BVAR	**Borovoye Array**	**65.07**	**328**	P	**P**	**23 30 55.7**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=132,slow=8.7,SNR=11						
	comp=Z,1.9nm,0.7s						
BKZ	**Black Stump Fm**	**65.47**	**136**	P	**P**	**23 30 59.6**	**+0.8**
BKZ				IAmb	IAmb	23 31 02.8	
	comp=Z,24nm,1.3s						
RTZ	**Ruatahuna**	**65.56**	**135**	P	**P**	**23 30 59.9**	**+0.5**
AB31	**Akbulak array**	**69.50**	**322**		**P**	**23 31 23.0**	**-0.2**
ABKAR	**Akbulak array**	**69.50**	**322**	P	**P**	**23 31 22.8**	**-0.3**
RAYN	**Ar Rayn**	**76.54**	**293**		**P**	**23 32 03.8**	**-0.2**
ABPO	**Ambohimpanom**	**77.23**	**250**	P	**P**	**23 32 08.6**	**+0.7**
VOI	**Vohitsoka**	**78.06**	**247**	P	**P**	**23 32 12.2**	**-0.1**
J16K	**Anvik River**	**80.91**	**26**	P	**P**	**23 32 27.6**	**+1.4**
J16K				IAmb	IAmb	23 33 07.3	
	comp=Z,14nm,1.4s						
L16K	**Owhat River**	**81.17**	**28**	P	**P**	**23 32 28.8**	**+1.2**
L16K				IAmb	IAmb	23 33 04.3	
	comp=Z,17nm,1.4s						
M16K	**Timber Creek**	**81.31**	**29**	P	**P**	**23 32 28.0**	**-0.3**
M16K				IAmb	IAmb	23 32 56.0	
	comp=Z,14nm,1.3s						
H17K	**Granite Mounta**	**81.49**	**25**	P	**P**	**23 32 30.4**	**+1.3**
O16K	**Kokwok River B**	**81.55**	**30**	P	**P**	**23 32 30.4**	**+0.9**
O16K				IAmb	IAmb	23 33 13.1	
	comp=Z,24nm,1.4s						
J17K	**VABM Dome**	**81.61**	**26**	P	**P**	**23 32 31.1**	**+1.4**
J17K				IAmb	IAmb	23 32 49.4	
	comp=Z,16nm,1.5s						
K17K	**Iditarod**	**81.86**	**27**	P	**P**	**23 32 32.2**	**+1.1**
K17K				IAmb	IAmb	23 32 43.2	
	comp=Z,16nm,1.5s						
L18K	**Granite Mounta**	**82.54**	**28**	P	**P**	**23 32 35.8**	**+1.3**
D19K	**Kuna River**	**82.76**	**21**	P	**P**	**23 32 36.6**	**+1.1**
N18K	**Kilae Creek**	**82.77**	**29**	P	**P**	**23 32 36.6**	**+0.9**
N18K				IAmb	IAmb	23 33 11.0	
	comp=Z,19nm,1.5s						
ACHA	**Angle Creek He**	**82.83**	**32**	P	**P**	**23 32 36.2**	**+0.1**
ACHA				IAmb	IAmb	23 33 13.3	
	comp=Z,13nm,1.3s						
G19K	**Purcell Mounta**	**82.83**	**24**	P	**P**	**23 32 37.1**	**+1.2**
E19K	**Redstone River**	**82.95**	**23**	P	**P**	**23 32 38.4**	**+2.0**
J19K	**Poorman**	**83.21**	**26**	P	**P**	**23 32 39.0**	**+1.2**
J19K				IAmb	IAmb	23 33 04.8	
	comp=Z,9.7nm,1.5s						
D20K	**Etivluk River**	**83.34**	**21**	P	**P**	**23 32 38.2**	**-0.2**
J20K	**Nowinta River**	**83.87**	**26**	P	**P**	**23 32 41.7**	**+0.6**
KMBO	**Kilima Mbogo**	**85.23**	**269**	P	**P**	**23 32 50.2**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=216,slow=18,SNR=3.6						
	comp=Z,1.9nm,0.6s						
MMAI	**Mount Meron Ar**	**85.52**	**303**	P	**P**	**23 32 50.9**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=84,slow=4.3,SNR=3.6						
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**86.74**	**309**	P	**P**	**23 32 54.6**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=70,slow=4.7,SNR=3.5						
	comp=Z,0.8nm,0.9s						
ILAR	**Eielson Array**	**87.03**	**25**	P	**P**	**23 32 54.2**	**-2.0**
	comp=Z,0.3nm,0.7s,baz=257,slow=5.5,SNR=2.4						
	comp=Z,0.3nm,0.7s						
SPITS	**Spitsbergen Ar**	**89.71**	**349**	P	**P**	**23 33 07.9**	**-0.5**
	comp=Z,4.7nm,0.6s,baz=94,slow=9.3,SNR=7.5						
	comp=Z,4.7nm,0.6s						
FINES	**FINESS Array B**	**89.85**	**331**	P	**P**	**23 33 07.8**	**-1.4**
	comp=Z,2.0nm,0.8s,baz=45,slow=3.2,SNR=4.5						
	comp=Z,2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**118.83**	**287**	PKP	**PKPdf**	**23 38 55.5**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=85,slow=1.7,SNR=17						
DBIC	**Dimbokro**	**126.36**	**281**	PKP	**PKPdf**	**23 39 09.8**	**-0.5**
	comp=Z,7.5nm,1.1s,baz=127,slow=8.7,SNR=3.3						

*UCR **15** 23:22:16.8±0.9, 10.00N×84.09W, h7km±1km, MW3.5,*

Fault plane solution: NP1:φ≈247.01000°, δ86.60000°, λ-19.72000°.
*CATAC **15** 23:22:16.5±0.3, 10.7N±2.7×8.4W±.7, h8km±2km, M3.2/7, MLv3.2/7, Error ellipse: s-maj=7.0km s-min=3.0km az=49.7, confirmed*
ISC 15 23:22:16.7±0.8, **9.98N**±0.03×**84.09W**±0.02, **h13**km±3km, **n81**, σ0.47/94, **35C-8D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOMI	**Santo Domingo**	**0.01**	**4**	⇑*eP*	**Pg**	**23 22 18.9**	**-0.3**
DOMI				*eS*	**Sg**	**23 22 20.2**	**-0.7**
TIBA	**Tibas**	**0.02**	**128**	⇑*eP*	**Pg**	**23 22 19.0**	**-0.2**
TIBA				*eS*	**Sg**	**23 22 20.6**	**-0.4**
HDC	**Heredia**	**0.03**	**317**	*eP*	**Pg**	**23 22 18.7**	**-0.6**
MEXI	**Barrio Mexico**	**0.04**	**172**	⇑*eP*	**Pg**	**23 22 19.2**	**-0.1**
MEXI				*eS*	**Sg**	**23 22 20.7**	**-0.4**
LUPE	**Guadalupe**	**0.05**	**129**	⇑*eP*	**Pg**	**23 22 19.3**	**-0.1**
LUPE				*eS*	**Sg**	**23 22 21.1**	**-0.2**
CENT	**San Jose**	**0.05**	**166**	⇑*eP*	**Pg**	**23 22 20.3**	**+0.9**
CENT				*eS*	**Sg**	**23 22 21.9**	**+0.7**
HEME	**Heredia, Merce**	**0.05**	**292**	⇑*eP*	**Pg**	**23 22 20.2**	**+0.8**
SJS	**Escuela Geolog**	**0.05**	**136**	⇑*eP*	**Pg**	**23 22 19.4**	**-0.1**
SJS				*eS*	**Sg**	**23 22 21.1**	**-0.2**
ECI	**Escuela Centro**	**0.06**	**135**	⇑*eP*	**Pg**	**23 22 19.4**	**0.0**
ECI				*eS*	**Sg**	**23 22 21.2**	**-0.2**
SJS3	**Mercedes San J**	**0.06**	**135**	⇑*eP*	**Pg**	**23 22 19.5**	**+0.1**
AMPA	**Desamparados**	**0.09**	**160**	⇑*eP*	**Pg**	**23 22 19.7**	**0.0**
AMPA				*eS*	**Sg**	**23 22 21.7**	**-0.1**
CORON	**Coronado**	**0.09**	**93**	⇑*eP*	**Pg**	**23 22 20.0**	**+0.2**
BELE	**Belen**	**0.10**	**269**	⇑*eP*	**Pg**	**23 22 19.8**	**0.0**
BELE				*eS*	**Sg**	**23 22 21.7**	**-0.2**
SANTA	**Santa Ana**	**0.10**	**245**	⇓*eP*	**Pg**	**23 22 19.9**	**0.0**
SANTA				*eS*	**Sg**	**23 22 21.8**	**-0.2**
TRIO	**Tres Rios**	**0.12**	**127**	⇑*eP*	**Pg**	**23 22 20.3**	**+0.2**
TRIO				*eS*	**Sg**	**23 22 22.9**	**+0.4**
CVIMO	**Finca Echandi**	**0.15**	**72**	⇑*eP*	**Pg**	**23 22 21.0**	**+0.4**
POAS	**San Pedro de P**	**0.18**	**303**	*eP*	**Pg**	**23 22 21.5**	**+0.5**
ACOS	**Acosta**	**0.19**	**202**	⇓*eP*	**Pg**	**23 22 21.5**	**+0.3**
TAGO	**Cartago**	**0.20**	**124**	*eP*	**Pg**	**23 22 21.5**	**+0.2**
TCS1	**Tacares**	**0.21**	**287**	⇑*eP*	**Pg**	**23 22 22.2**	**+0.7**
TCS1	**Tacares**	**0.21**	**287**	P	**Pg**	**23 22 22.2**	**+0.7**
GRECI	**Grecia**	**0.23**	**294**	⇑*eP*	**Pg**	**23 22 23.5**	**+1.6**
VICA	**Volcano Irazu**	**0.24**	**88**	⇑*eP*	**Pg**	**23 22 22.4**	**+0.2**
LCR2	**La Lucha 2**	**0.25**	**160**	⇓*eP*	**Pg**	**23 22 22.5**	**+0.3**
LCR2	**La Lucha 2**	**0.25**	**160**	P	**Pg**	**23 22 22.4**	**+0.2**
LCR2				S	**Sg**	**23 22 26.2**	**+0.4**
VPS8	**V Poas**	**0.25**	**323**	⇑*eP*	**Pg**	**23 22 22.9**	**+0.6**
PURI	**Puriscal**	**0.25**	**239**	*eP*	**Pg**	**23 22 22.7**	**+0.5**
VPS5	**V. Poas**	**0.25**	**327**	⇑*eP*	**Pg**	**23 22 22.7**	**+0.4**
REPA	**Paraso**	**0.27**	**124**	⇑*eP*	**Pg**	**23 22 22.9**	**+0.5**
RAFA	**San Farael, Vo**	**0.28**	**94**	⇑*eP*	**Pg**	**23 22 23.0**	**+0.3**
PCAYA	**Pacayas**	**0.28**	**102**	*eP*	**Pg**	**23 22 23.2**	**+0.4**
ATEO	**Atenas**	**0.29**	**270**	⇑*eP*	**Pg**	**23 22 23.1**	**+0.3**
CVTQ	**Turrialba Volc**	**0.32**	**85**	*eP*	**Pg**	**23 22 23.9**	**+0.4**
PITB	**Pirrs, San**	**0.32**	**168**	*eP*	**Pg**	**23 22 23.6**	**+0.2**
RAZU	**San Marcos de**	**0.32**	**168**	⇓*eP*	**Pg**	**23 22 23.6**	**+0.2**
VTR0	**Volcan Turrial**	**0.33**	**83**	⇑*eP*	**Pb**	**23 22 24.2**	**-0.6**
CVTR	**Volcan Turrial**	**0.33**	**83**	⇑*eP*	**Pg**	**23 22 24.1**	**+0.5**
CVTV	**Tajo**	**0.34**	**85**	⇑*eP*	**Pg**	**23 22 24.2**	**+0.5**
PALD	**Palmares**	**0.35**	**283**	⇑*eP*	**Pg**	**23 22 24.1**	**+0.3**
VINA	**Juan Vinas**	**0.35**	**103**	⇑*eP*	**Pg**	**23 22 24.4**	**+0.5**
ZARE	**Zarcero**	**0.36**	**305**	⇑*eP*	**Pb**	**23 22 24.8**	**-0.3**
PICV	**PH. Pirrs**	**0.36**	**196**	⇓*eP*	**Pb**	**23 22 24.3**	**+0.1**
ABRB	**Las Abras (San**	**0.37**	**86**	⇓*eP*	**Pb**	**23 22 24.8**	**-0.5**
PIEC	**Cerro El Cedra**	**0.38**	**159**	⇓*eP*	**Pg**	**23 22 24.7**	**+0.3**
PILE	**Guapiles**	**0.38**	**51**	⇓*eP*	**Pb**	**23 22 25.0**	**-0.4**
ARTO	**Ro Cuarto**	**0.38**	**341**	*eP*	**Pb**	**23 22 24.8**	**-0.7**
RAMO	**San Ramon**	**0.39**	**286**	*eP*	**Pg**	**23 22 24.8**	**+0.3**
VPL1	**V. Platanar**	**0.39**	**316**	⇑*eP*	**Pg**	**23 22 24.9**	**+0.3**
OROT	**Orotina**	**0.43**	**261**	*eP*	**Pg**	**23 22 25.4**	**0.0**
QUEU	**Ciudad Quesada**	**0.48**	**315**	*eP*	**Pb**	**23 22 27.3**	**+0.2**
LCOCO	**El Coco**	**0.54**	**79**	*eP*	**Pb**	**23 22 27.7**	**-0.3**
BUS1	**Rivas**	**0.54**	**141**	⇑*eP*	**Pg**	**23 22 27.6**	**+0.1**
EGUB	**Earth Gu¡pi**	**0.55**	**65**	*eP*	**Pb**	**23 22 28.6**	**+0.4**
ARZA	**Esparza**	**0.57**	**271**	*eP*	**Pg**	**23 22 27.9**	**0.0**
ROBF	**Roble, Puntare**	**0.64**	**270**	⇑*eP*	**Pg**	**23 22 29.2**	**0.0**
SOCE	**Pocosol**	**0.66**	**308**	⇑*eP*	**Pg**	**23 22 29.7**	**+0.1**
SOCE	**Pocosol**	**0.66**	**308**	P	**Pg**	**23 22 29.6**	**+0.1**
VACR	**Volcan Arenal**	**0.76**	**311**	*eP*	**Pg**	**23 22 31.3**	**-0.2**
CASO	**Castillo**	**0.78**	**306**	⇓*eP*	**Pg**	**23 22 31.7**	**-0.1**
ARE1	**Arenal 1**	**0.78**	**308**	*eP*	**Pg**	**23 22 32.0**	**+0.1**
COVE	**Coope Vega, Sa**	**0.80**	**338**	P	**Pg**	**23 22 31.7**	**-0.6**
COVE	**Coope Vega, Sa**	**0.80**	**338**	S	**Sb**	**23 22 43.4**	**+0.2**
MTEVE	**Monteverde**	**0.80**	**295**	⇑*eP*	**Pg**	**23 22 32.0**	**-0.3**
PAQE	**Paquera**	**0.84**	**259**	*eP*	**Pg**	**23 22 33.0**	**-0.1**
SAJE	**San Jernim**	**0.85**	**137**	*eP*	**Pg**	**23 22 32.6**	**-0.7**
VERH	**Veragua Rainfo**	**0.89**	**93**	⇑*eP*	**Pg**	**23 22 33.9**	**-0.1**
JTS	**Las Juntas de**	**0.90**	**290**	⇑*eP*	**Pg**	**23 22 33.5**	**-0.8**
JTS	**Las Juntas de**	**0.90**	**290**	P	**Pg**	**23 22 33.6**	**-0.6**
JTS				S	**Sb**	**23 22 46.6**	**+0.3**
EDPE	**Pejibaye, P**	**0.96**	**148**	*eP*	**Pg**	**23 22 34.7**	**-0.6**
OCHAL	**Ojochal**	**0.98**	**153**	S	**Sn**	**23 22 50.5**	**+0.5**
OCHAL	**Ojochal**	**0.98**	**153**	P	**Pg**	**23 22 35.7**	**+0.1**
LAES	**El Progreso Va**	**1.05**	**102**	*eP*	**Pg**	**23 22 36.7**	**-0.3**
INVE	**Universidad In**	**1.08**	**298**	*eP*	**Pg**	**23 22 36.6**	**-0.9**
DRK0	**Durika**	**1.10**	**130**	*eP*	**Pg**	**23 22 36.8**	**-1.1**
DRK0	**Durika**	**1.10**	**130**	P	**Pg**	**23 22 37.0**	**-0.9**
DRK0	**Durika**	**1.10**	**130**	S	**Sg**	**23 22 51.6**	**-0.6**
INDI	**Punta indio, G**	**1.39**	**266**	S	**Sb**	**23 23 00.2**	**-0.2**
INDI	**Punta indio, G**	**1.39**	**266**	P	**Pn**	**23 22 42.2**	**+0.3**
JUD3	**Juan Diaz 3**	**1.44**	**278**	*eP*	**Pn**	**23 22 42.4**	**-0.2**
LAPC	**Finca la Perla**	**1.54**	**301**	*eP*	**Pn**	**23 22 44.1**	**+0.2**
ALCO	**Alturas Coton,**	**1.61**	**129**	*eP*	**Pn**	**23 22 46.0**	**+1.0**

*KRNET **15** 23:28:45.8±0.1, 42.25N×72.76E, h29km, mb3.0*
*SOME **15** 23:28:46.9, 42.30N×72.80E, h5km*
*NNC **15** 23:28:46.4±0.9, 42.20N×72.80E, h0km, mb3.2, mpv3.2, Error ellipse: s-maj=8.3km s-min=4.5km az=167.0*
*KNET **15** 23:28:49.3±0.4, 42.26N×72.97E, h14km±2km, ml2.5, Error ellipse: s-maj=4.5km s-min=3.0km az=134.0*
ISC 15 23:28:45.8±1.1, **42.25N**±0.03×**72.78E**±0.02, **h10**km±9km, **n43**, σ1.03/75, **34C-12D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRKS	**Merke**	**0.60**	**34**	P	**Pb**	**23 28 58.6**	**+0.2**
	12nm,0.1s						
MRKS				S	**Sb**	**23 29 06.7**	**-0.3**
	233nm,0.2s						
MRKS	**Merke**	**0.60**	**34**	*eP*	**Pb**	**23 28 58.8**	**+0.4**
	12nm,0.1s						
MRKS				*eS*	**Sb**	**23 29 06.7**	**-0.3**
	233nm,0.2s						
EKS2	**Erkin-Say**	**0.85**	**61**	⇓P	**Pb**	**23 29 03.2**	**+0.5**
	SNR=29						
EKS2				⇓S	**Sb**	**23 29 14.5**	**+0.3**
	23nm,0.2s						
EKS2	**Erkin-Say**	**0.85**	**61**	⇓*i*P	**Pg**	**23 29 02.0**	**-0.2**
EKS2				⇓*i*S	**Sg**	**23 29 13.8**	**+0.6**
ARSB	**Arslanbob**	**0.94**	**171**	⇑*i*P	**Pg**	**23 29 03.6**	**-0.3**
ARSB				⇑*i*S	**Sg**	**23 29 16.2**	**+0.1**
UCH	**Uchtor**	**1.29**	**90**	⇑P	**Pb**	**23 29 11.0**	**+0.5**
	6.1nm,0.1s,SNR=40						
UCH				⇓S	**Sg**	**23 29 27.7**	**+0.3**
	31nm,0.2s						
UCH	**Uchtor**	**1.29**	**90**	⇑*i*P	**Pn**	**23 29 10.0**	**-0.3**
UCH				⇑*i*S	**Sg**	**23 29 27.4**	**0.0**
AAK	**Ala-Archa**	**1.33**	**72**	⇓P	**Pg**	**23 29 11.9**	**+0.6**
	11nm,0.2s,SNR=10						
AAK				⇑S	**Sn**	**23 29 29.1**	**+0.6**
	17nm,0.3s						
AAK	**Ala-Archa**	**1.33**	**72**	⇑P	**Pg**	**23 29 11.9**	**+0.6**
	2.0nm,0.4s						
AAK				⇑S	**Sn**	**23 29 29.6**	**+1.1**
	6.7nm,0.6s						
AAK	**Ala-Archa**	**1.33**	**72**	⇓*i*P	**Pn**	**23 29 10.4**	**-0.2**
AAK				⇓*i*S	**Sb**	**23 29 28.1**	**0.0**
TRKS	**Terek-Say**	**1.42**	**240**	⇑*i*P	**Pn**	**23 29 11.8**	**0.0**
TRKS				⇑*i*S	**Sb**	**23 29 30.3**	**-0.4**
FRU1	**Bishkek**	**1.48**	**67**	⇑*i*P	**Pn**	**23 29 12.9**	**+0.3**
FRU1				⇑*i*S	**Sn**	**23 29 32.4**	**+0.4**
USP	**Ospenovka**	**1.63**	**51**	⇑P	**Pg**	**23 29 17.0**	**0.0**
	19nm,0.3s,SNR=16						
USP				⇑S	**Sg**	**23 29 38.5**	**+0.4**
	74nm,0.2s						
USP	**Ospenovka**	**1.63**	**51**	⇑*i*P	**Pn**	**23 29 14.8**	**+0.2**
USP				⇑*i*S	**Sn**	**23 29 35.8**	**+0.2**
CHMS	**Chumysh**	**1.64**	**62**	⇑P	**Pg**	**23 29 17.2**	**0.0**
	10nm,0.3s,SNR=7.4						
CHMS				⇑S	**Sg**	**23 29 39.2**	**+0.7**
	57nm,0.3s						
CHMS	**Chumysh**	**1.64**	**62**	⇑*i*P	**Pn**	**23 29 15.1**	**+0.4**
CHMS				⇑*i*S	**Sn**	**23 29 36.1**	**+0.2**
KBK	**Karagaybulak**	**1.66**	**75**	⇑P	**Pg**	**23 29 17.8**	**+0.2**
	9.5nm,0.1s,SNR=38						
KBK				⇑S	**Sg**	**23 29 39.8**	**+0.7**
	57nm,0.2s						
KBK	**Karagaybulak**	**1.66**	**75**	⇓*i*P	**Pn**	**23 29 15.5**	**+0.4**
KBK				⇓*i*S	**Sn**	**23 29 37.1**	**+0.5**
SGDS	**Sogindy**	**1.82**	**48**	P	**Pb**	**23 29 20.1**	**+0.9**
SGDS				S	**Sg**	**23 29 44.1**	**-0.1**
	41nm,0.1s						
KK31	**Karatay Array**	**1.88**	**298**	P	**Pb**	**23 29 20.8**	**+0.6**
	2.5nm,0.2s,baz=119,slow=17,SNR=148						
KK31				S	**Sg**	**23 29 45.4**	**-0.8**
	8.4nm,0.2s,baz=124,slow=26,SNR=9.7						
TKM2	**Tokmak 2**	**2.19**	**71**	⇑P	**Pb**	**23 29 26.6**	**+1.0**
	6.5nm,0.2s						
TKM2				⇑S	**Sg**	**23 29 55.1**	**-1.0**
	36nm,0.1s						
TKM2	**Tokmak 2**	**2.19**	**71**	⇑*i*P	**Pn**	**23 29 23.0**	**+0.5**
TKM2				⇑*i*S	**Sn**	**23 29 49.7**	**0.0**
BRLS	**Boroldey**	**2.31**	**291**	Pg	**Pg**	**23 29 30.2**	**+0.1**
	7.0nm,0.3s						
BRLS				Lg	Lg	23 30 00.7	
	29nm,0.3s						
BRLS	**Boroldey**	**2.31**	**291**	*eP*	**Pg**	**23 29 30.1**	**+0.1**
	4.7nm,0.3s						
BRLS				*eS*	**Sg**	**23 30 00.7**	**+0.8**
	29nm,0.3s						
JNKS	**Jany-Kuch**	**2.46**	**118**	⇑*i*P	**Pn**	**23 29 26.7**	**+0.4**
JNKS				⇑*i*S	**Sn**	**23 29 56.6**	**+0.1**
KRBS	**Karabastau**	**2.57**	**55**	Pg	**Pg**	**23 29 34.1**	**-1.0**
	3.7nm,0.1s						
KRBS				Lg	Lg	23 30 07.5	
	7.2nm,0.2s						
ULHL	**Ulahol**	**2.57**	**89**	⇑*i*P	**Pn**	**23 29 28.2**	**+0.5**
ULHL				⇑*i*S	**Sn**	**23 29 59.0**	**-0.2**
MTBS	**Maitube**	**2.83**	**71**	Pg	**Pg**	**23 29 38.9**	**-1.2**
	2.4nm,0.1s						
MTBS				Lg	Lg	23 30 16.1	
	28nm,0.5s						
MTBS	**Maitube**	**2.83**	**71**	*eP*	**Pg**	**23 29 38.9**	**-1.2**
	2.4nm,0.1s						
MTBS				*eS*	**Sg**	**23 30 16.1**	**-0.7**
	28nm,0.5s						
KUU	**Kurty**	**3.08**	**57**	Pg	**Pb**	**23 29 42.6**

UNAN			S	**S**	**23 58 45.1 +2.7**	
PAR1A	**Puntarenas Pro**	**1.62 145**	*e*P	**Pn**	**23 58 17.7 +1.4**	
PICV	**PH. Pirrs**	**1.63 143**	*e*P	**Pn**	**23 58 16.6 +0.1**	
LCR2	**La Lucha 2**	**1.67 136**	*e*P	**Pn**	**23 58 16.9 0.0**	
LCR2	**La Lucha 2**	**1.67 136**	S	**S**	**23 58 44.5 +0.2**	
LCR2	**La Lucha 2**	**1.67 136**	⇑P	**Pn**	**23 58 17.0 0.0**	
SAPS	**Ciudad Sandino**	**1.71 316**	P	**Pn**	**23 58 17.0 0.0**	
SAPS	**Ciudad Sandino**	**1.71 316**	S	**S**	**23 58 46.3 +1.6**	
PIEC	**Cerro El Cedra**	**1.79 137**	*e*P	**Pn**	**23 58 18.4 +0.2**	
LLNJ	**Naranjito**	**1.81 144**	*e*P	**Pn**	**23 58 19.3 +1.2**	
COPN	**Copaltepe**	**1.84 312**	⇑P	**Pn**	**23 58 17.0 -1.4**	
MOM2	**El Cardon**	**1.95 320**	⇑P	**Pn**	**23 58 19.5 0.0**	
MOM2			S	**S**	**23 58 50.6 +1.6**	
BUS1	**Rivas**	**1.98 134**	*e*P	**Pn**	**23 58 20.2 0.0**	
MATN	**Matagalpa**	**2.10 340**	⇑P	**Pn**	**23 58 19.7 -1.4**	
SAJE	**San Jernim**	**2.29 134**	*e*P	**Pn**	**23 58 23.4 +0.1**	
OCHAL	**Ojochal**	**2.38 140**	P	**Pn**	**23 58 25.1 +1.1**	
OCHAL	**Ojochal**	**2.38 140**	S	**S**	**23 58 57.1 -0.1**	
PKGN	**Cerro Pekin**	**2.45 315**	P	**Pn**	**23 58 23.8 -1.1**	
PKGN			S	**S**	**23 58 59.2 +0.6**	
DRK0	**Durika**	**2.54 131**	*e*P	**Pn**	**23 58 25.8 -0.3**	
DRK0	**Durika**	**2.54 131**	S	**S**	**23 58 59.1 -1.5**	
DRK0	**Durika**	**2.54 131**	⇓P	**Pn**	**23 58 25.7 -0.3**	
EDP2	**Potrero Grande**	**2.75 134**	*e*P	**Pn**	**23 58 28.5 +0.2**	
ALCO	**Alturas Coton,**	**3.05 130**	*e*P	**Pn**	**23 58 31.3 -0.6**	
PIRO	**Carate, Puerto**	**3.11 144**	P	Pn	23 58 35.2 +2.7	
PIRO	**Carate, Puerto**	**3.11 144**	S	**S**	**23 59 13.8 +1.5**	

NIED ***16*** *00:29:28.9, 25˚.80N×143˚.30E, h11km, MW5.1, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁶Nm; Mrr3.53; Mθθ0.21; Mϕϕ-3.74; Mrθ2.30; Mθϕ-0.08; Mϕr3.34; Fault plane solution: M₀5.43000×10¹⁶ NP1: ϕs163.00000°, δ26.00000°, λ51.00000°. NP2:ϕs24.00000°, δ70.00000°, λ107.00000°.*

JMA ***16*** *00:29:28.9±0.5, 26˚N±1˚×14˚3E±˚, h11km, MV5.4/20, IOTO ISLANDS REGION*

JMA Felt I J1 at IOTO ISLANDS REGION .

BJI ***16*** *00:29:28.4, 25˚.64N×143˚.29E, h29km, mB5.2/36, mb4.9/65, Ms4.9/71, Ms7 4.8/68*

IDC ***16*** *00:29:30.8±0.4, 25˚.89N×142˚.59E, h0km, mb4.7/38, mbtmp4.7/40, ML4.0/2, MS4.4/75, Error ellipse: s-maj=13.8km s-min=11.0km az=93.0*

MOS ***16*** *00:29:32.1±1.0, 25˚.91N×142˚.72E, h23km, mb5.3/78, MS5.3/15, Error ellipse: s-maj=7.2km s-min=4.2km az=112.2*

NEIC ***16*** *00:29:32.8, 25˚.93N×143˚.06E, h18km*

NEIC ***16*** *00:29:32.8, 25˚.33N×143˚.06E, h18km, Moment Tensor Solution. Duration: 1ŝ9 Moment tensor: Scale 10¹⁶Nm; Mrr3.31; Mθθ1.78; Mϕϕ-5.09; Mrθ3.56; Mθϕ-1.60; Mϕr0.31; Fault plane solution: M₀5.94000×10¹⁶ NP1: ϕs160.46000°, δ49.94000°, λ35.22000°. NP2:ϕs46.02000°, δ63.80000°, λ134.17000°. Principal axes: T 6.2378, Plg50.0000°, Azm6.0000°; N -0.6408, Plg39.0000°, Azm203.0000°; P -5.5970, Plg8.0000°, Azm106.0000°;*

NEIC ***16*** *00:29:32.8±2.2, 25˚.94N±0˚.07×143˚.07E±0˚.08, h10km±1km, mb5.2/465, Mww5.1/24 Error ellipse: s-maj=13.3km s-min=10.1km az=238.0*

GCMT ***16*** *00:29:35.8±0.1, 25˚.77N±0˚.01×142˚.81E±0˚.01, h17km, MW5.1/141, Moment Tensor Solution. s80,c122; s141,c255; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.39±.14; Mθθ0.30±.09; Mϕϕ-5.69±.10; Mrθ0.78±.26; Mθϕ-1.39±.07; Mϕr1.65±.22; Best double couple: M₀5.98100×10¹⁶ NP1:ϕs188.00000°, δ37.00000°, λ83.00000°. NP2:ϕs17.00000°, δ54.00000°, λ95.00000°. Principal axes: T 5.6930, Plg80.0000°, Azm310.0000°; N 0.5750, Plg4.0000°, Azm194.0000°; P -6.2690, Plg9.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***16*** *00:29:57.3, 29˚.98N×140˚.53E, h33km, mb4.5*

ISC 16 00:29:35.1±0.6, 25°92N±0˚.04×142°97E±0˚.04, h32km±3km, n1065, σ1§34/1065, mb5.1/370, MS4.6/112, 28C-12D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.01**	**315**	*e*P	**Pn**	**00 29 52.9**	**-0.1**
JHH2	**Haha-jima-NKT2**	**1.01**	**315**	A	A	00 29 52.9	
	comp=N,79nm,3.0s,comp=E,108nm,4.3s						
CBIJ	**Chichi jima**	**1.37**	**329**	*e*P	**Pn**	**00 29 58.4**	**+0.4**
CBIJ				*e*S	**Sb**	**00 30 19.2**	**+1.9**
CBIJ	**Chichi jima**	**1.37**	**329**	A	A	00 29 58.4	
	comp=N,55nm,8.6s,comp=E,76nm,6.8s						
JCJ	**Chichijima**	**1.37**	**329**		**Pn**	**00 29 57.9**	**-0.1**
JCJ				Sn	**Sb**	**00 30 17.6**	**+0.4**
JHJ	**Hachijo jima 2**	**7.70**	**340**	LR	LR	00 34 12.1	
	comp=E,2µm,19.1s,baz=166,slow=37						
BSO3	**Boso 3**	**9.11**	**347**	*e*P	**Pn**	**00 31 44.6**	**+0.7**
BSO4	**Boso 4**	**9.32**	**347**	*e*P	**Pn**	**00 31 47.9**	**+0.8**
BSO4				*e*S	**Sn**	**00 33 30.7**	**-0.1**
JYT	**Yasato**	**10.55**	**348**	*e*P	**Pn**	**00 32 04.3**	**+0.3**
JYT				*e*S	**Sn**	**00 33 57.0**	**-4.0**
INU	**Inuyama**	**10.71**	**333**		**Pn**	**00 32 05.3**	**-0.8**
JGF	**Kuroka**	**10.79**	**335**		**Pn**	**00 32 07.8**	**+0.5**
JHO	**Hitachi**	**10.86**	**350**	*e*P	**Pn**	**00 32 06.6**	**-1.6**
JAG	**Ashikaga**	**10.90**	**345**	*e*P	**Pn**	**00 32 07.2**	**-1.6**
JAG				*e*S	**Sn**	**00 34 05.2**	**-4.4**
JMN	**Monobe**	**11.08**	**317**	Pn	**Pn**	**00 32 12.0**	**+0.6**
MJAR	**Matsushiro Arr**	**11.35**	**340**		**Pn**	**00 32 14.3**	**-0.6**
MJAR	**Matsushiro Arr**	**11.35**	**340**	Pn	**Pn**	**00 32 14.4**	**-0.5**
	comp=E,0.5nm,0.3s,baz=156,slow=11,SNR=15						
MJAR				Sn	**Sn**	**00 34 15.0**	**-5.6**
	comp=E,0.1nm,0.3s,baz=14,slow=40,SNR=1.8						
MJAR				LR	LR	00 36 46.7	
	comp=E,3µm,19.0s,baz=140,slow=39						
	comp=E,10nm,0.9s						
MAJO	**Matsushiro**	**11.35**	**340**		**Pn**	**00 32 13.9**	**-1.0**
MAJO	**Matsushiro**	**11.35**	**340**	*i* P	**Pn**	**00 32 12.9**	**-2.0**
MJB9	**Matsu-Tunnel**	**11.35**	**340**		**Pn**	**00 32 13.5**	**-1.5**
JMM	**Marumori**	**12.05**	**352**		**Pn**	**00 32 22.3**	**-2.3**
GUMO	**Guam**	**12.39**	**171**	LR	LR	00 36 11.1	
	comp=E,2µm,21.8s,baz=4.5,slow=32						
JNU	**Nakatsue**	**12.74**	**307**		**Pn**	**00 32 34.7**	**+0.7**
JOW	**Kunigami**	**13.21**	**277**	LR	LR	00 37 09.6	
	comp=E,2µm,19.7s,baz=138,slow=36						
JTM	**Tenmabayashi**	**14.91**	**354**		**Pn**	**00 33 01.9**	**-1.7**
ERM	**Erimo**	**16.06**	**0**		**Pn**	**00 33 15.2**	**-3.2**
ERM	**Erimo**	**16.06**	**0**	P	**Pn**	**00 33 15.2**	**-3.2**
ERM				pmax	pmax		
	comp=Z,66nm,1.3s						
TJN	**Taejon**	**16.93**	**312**		**Pn**	**00 33 29.6**	**+0.2**
TJN	**Taejon**	**16.93**	**312**	P	**Pn**	**00 33 29.7**	**+0.2**
TJN				pmax	pmax		
	comp=Z,83nm,0.8s						
KSRS	**Korea Array**	**17.19**	**316**	Pn	**Pn**	**00 33 32.7**	**0.0**
	comp=Z,0.4nm,0.3s,baz=124,slow=12,SNR=24						
KSAR	**Wonju Array Be**	**17.21**	**316**		**P**	**00 33 34.0**	**-0.2**
KSAR	**Wonju Array Be**	**17.21**	**316**	P	**P**	**00 33 34.0**	**-0.2**
KS19	**Wonju Array Si**	**17.25**	**316**	P	**Pn**	**00 33 33.1**	**-0.4**
JKA	**Kamikawa-asahi**	**18.16**	**359**		**Pn**	**00 33 42.2**	**-2.4**
ASAJ	**Asahikawa**	**18.16**	**359**	P	**P**	**00 33 46.3**	**+1.5**
	comp=Z,1.4nm,0.3s,baz=241,slow=16,SNR=12						
ASAJ				S	**Sn**	**00 37 00.6**	**-5.8**
	comp=Z,10nm,0.9s,baz=30,slow=27,SNR=2.9						
ASAJ				LR	LR	00 41 06.6	
	comp=Z,989nm,21.6s,baz=202,slow=38						
	comp=Z,19nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**18.23**	**7**	*i* P	**Pn**	**00 33 43.7**	**-1.8**
MSHR	**Mys Shultsa**	**19.24**	**333**	*i* P	**P**	**00 33 55.5**	**-1.2**
MSHR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TEY	**Ternei**	**19.76**	**347**	⇑*e*P	**Pn**	**00 34 04.1**	**+0.2**
TEY				pmax	pmax		
	comp=N,10.0nm,0.7s						
TEY				pmax	pmax		
	comp=Z,20nm,0.7s						
SSE	**Sheshan**	**19.82**	**290**	P	**P**	**00 34 00.3**	**-2.7**
SSE				S	**S**	**00 37 43.6**	**-1.0**
SSE				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SSE				pmax	pmax		
	comp=Z,98nm,3.2s						
SSE				LR	LR		
	comp=Z,500nm,15.5s						
SSE				LR	LR		
	comp=Z,780nm,15.5s						
YULB	**Yu-li**	**19.86**	**267**	P	**Pn**	**00 34 05.5**	**+0.1**
SSLB	**Suanglung**	**20.09**	**269**		Pn	00 34 08.7	+0.6
SSLB				IAmb	IAmb	00 34 13.8	
	comp=Z,69nm,0.7s						
TWG	**Pinlang**	**20.18**	**266**	P	Pn	00 34 08.5	-0.6
USRK	**Ussuriysk Ar.**	**20.30**	**337**	P	**P**	**00 34 08.2**	**0.0**
	comp=Z,14nm,0.7s,baz=163,slow=10,SNR=18						
	comp=Z,14nm,0.7s						
TPUB	**Ta-pu**	**20.48**	**267**	P	**P**	**00 34 10.3**	**0.0**
YSS	**Yuzhno-Sakhali**	**21.00**	**360**	P	**P**	**00 34 15.2**	**-0.4**
YSS	**Yuzhno-Sakhali**	**21.00**	**360**	*e*P	Pn	00 34 17.7	-0.7
YSS				*e*S	Sn	00 38 13.0	-1.6
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS				pmax	pmax		
	comp=Z,500nm,8.1s						
YSS				pmax	pmax		
	comp=N,500nm,7.6s						
YSS				smax	smax		
	comp=E,2µm,12.2s						
YSS				MLR	MLR		
	comp=Z,700nm,15.0s						
YSS				MLR	MLR		
	comp=N,700nm,12.0s						
YSS				MLR	MLR		
	comp=E,1µm,14.0s						
MDJ	**Mudanjiang**	**21.57**	**333**		**P**	**00 34 22.1**	**+0.3**
MDJ	**Mudanjiang**	**21.57**	**333**	P	**P**	**00 34 23.0**	**+1.2**
MDJ				pmax	pmax		
	comp=E,17nm,0.6s						
MDJ				pmax	pmax		
	comp=E,610nm,8.3s						
MDJ				LR	LR		
	comp=E,2µm,18.3s						
MDJ				LR	LR		
	comp=E,2µm,15.5s						
MDJ				LR	LR		
	comp=E,4µm,16.0s						
NJ2	**Nanjing**	**21.94**	**292**	*e*P	**P**	**00 34 27.3**	**+1.3**
NJ2				pmax	pmax		
	comp=E,20nm,0.6s						
NJ2				pmax	pmax		
	comp=E,350nm,6.1s						
NJ2				LR	LR		
	comp=E,670nm,9.0s						
NJ2				LR	LR		
	comp=E,2µm,15.6s						
NJ2				LR	LR		
	comp=E,2µm,16.1s						
QZH	**Quanzhou**	**22.04**	**273**	P	**P**	**00 34 28.0**	**+1.0**
QZH				LR	LR		
	comp=E,2µm,20.3s						
DL2	**Dalian**	**22.12**	**311**	P	**P**	**00 34 20.9**	**-7.0**
DL2				S	S	00 38 15.0	-15
DL2				pmax	pmax		
	comp=Z,35nm,1.0s						
DL2				pmax	pmax		
	comp=Z,510nm,8.0s						
DL2				LR	LR		
	comp=N,2µm,11.5s						
DL2				LR	LR		
	comp=E,2µm,16.5s						
DL2				LR	LR		
	comp=Z,3µm,15.1s						
SNY	**Shenyang**	**22.53**	**320**	⇓P	**P**	**00 34 32.4**	**+0.2**
SNY				S	**S**	**00 38 35.0**	**-2.2**
SNY				pmax	pmax		
	comp=Z,31nm,0.8s						
SNY				pmax	pmax		
	comp=Z,300nm,5.9s						
SNY				LR	LR		
	comp=Z,940nm,12.7s						
SNY				LR	LR		
	comp=Z,510nm,13.7s						
SNY				LR	LR		
	comp=Z,740nm,12.0s						
CN2	**Changchun**	**22.83**	**326**	*e*P	**P**	**00 34 34.9**	**-0.5**
CN2				*e*S	**S**	**00 38 38.9**	**-3.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=Z,800nm,12.0s						
CN2				LR	LR		
	comp=Z,2µm,12.0s						
CN2				LR	LR		
	comp=Z,1µm,14.0s						
H11N2	**WAKE ISLAND Hy**	**22.88**	**101**	T	T	00 58 25.7	
	baz=290,slow=74,SNR=82						
H11N1	**WAKE ISLAND Hy**	**22.88**	**101**	T	T	00 58 21.5	
	baz=290,slow=74,SNR=98						
H11N3	**WAKE ISLAND Hy**	**22.89**	**101**	T	T	00 58 26.9	
	baz=290,slow=74,SNR=98						
H11S3	**WAKE ISLAND Hy**	**23.14**	**104**	T	T	00 58 48.5	
	baz=285,slow=74,SNR=23						
H11S1	**WAKE ISLAND Hy**	**23.15**	**104**	T	T	00 58 45.2	
	baz=285,slow=74,SNR=20						
H11S2	**WAKE ISLAND Hy**	**23.16**	**104**	T	T	00 58 49.5	
	baz=285,slow=74,SNR=21						
BNX	**BinXian**	**23.39**	**332**	⇑P	**P**	**00 34 39.8**	**-1.1**
BNX				S	**S**	**00 38 54.3**	**+2.6**
BNX				pmax	pmax		
	comp=Z,31nm,1.3s						
BNX				pmax	pmax		
	comp=Z,670nm,8.3s						
BNX				LR	LR		
	comp=Z,1µm,12.9s						
BNX				LR	LR		
	comp=Z,680nm,13.3s						
BNX				LR	LR		
	comp=Z,2µm,18.0s						
TGY	**Tagaytay City**	**23.77**	**245**	LR	LR	00 43 38.9	
	comp=Z,1µm,18.5s,baz=14,slow=36						
PATS	**Pohnpei**	**23.96**	**140**	P	**P**	**00 34 48.1**	**+1.5**
	comp=Z,104nm,1.7s						
TIA	**Tai'an**	**24.34**	**301**	P	**P**	**00 34 47.0**	**-3.0**
TIA				S	**S**	**00 39 08.3**	**+1.0**
TIA				pmax	pmax		
	comp=Z,78nm,0.7s						
TIA				LR	LR		
	comp=Z,930nm,19.9s						
TIA				LR	LR		
	comp=Z,2µm,19.2s						
TIA				LR	LR		
	comp=Z,3µm,14.4s						
TYV	**Tymovskoe**	**24.91**	**360**	*e*P	P	00 35 12.1	+17
TYV				pmax	pmax		
	comp=Z,19nm,1.1s						
TYV				pmax	pmax		
	comp=Z,300nm,6.3s						
TYV				MLR	MLR		
	comp=Z,700nm,17.0s						
DAV	**Davao City (W)**	**25.03**	**225**	LR	LR	00 42 36.2	
	comp=Z,627nm,21.3s,baz=20,slow=32						
GRNR	**Gornyy**	**25.32**	**350**	*e*P	**P**	**00 35 01.1**	**+2.4**
GRNR				MLR	MLR		
	comp=N,380nm,12.0s						
GRNR				MLR	MLR		
	comp=E,380nm,12.0s						
GRNR				MLR	MLR		
	comp=Z,620nm,14.0s						
WHN	**Wuhan**	**25.60**	**287**	P	**P**	**00 35 01.9**	**+0.4**
WHN				S	**S**	**00 39 33.6**	**+6.0**
WHN				pmax	pmax		
	comp=Z,60nm,1.0s						
WHN				LR	LR		
	comp=Z,4µm,14.1s						
WHN				LR	LR		
	comp=Z,2µm,11.5s						
WHN				LR	LR		
	comp=Z,6µm,16.1s						
HKPS	**Hong Kong Po S**	**26.54**	**268**	P	**P**	**00 35 10.5**	**+0.3**
HNS	**HongShan**	**26.54**	**302**	⇓P	**P**	**00 35 07.4**	**-2.6**
HNS				pmax	pmax		
	comp=Z,45nm,1.0s						
HNS				LR	LR		
	comp=Z,1µm,17.8s						
HNS				LR	LR		
	comp=Z,2µm,16.0s						
HNS				LR	LR		
	comp=Z,2µm,17.1s						
CNSH	**ChangSha**	**26.82**	**282**	P	**P**	**00 35 13.8**	**+1.2**
CNSH				S	**S**	**00 39 52.0**	**+5.1**
CNSH				LR	LR		
	comp=Z,1µm,15.3s						
CNSH				LR	LR		
	comp=Z,1µm,15.6s						
CNSH				LR	LR		
	comp=Z,1µm,14.9s						
HEH	**HeiHe**	**27.10**	**338**	*e*P	**P**	**00 35 15.9**	**+1.1**
HEH				S	**S**	**00 39 50.8**	**0.0**
HEH				pmax	pmax		
	comp=Z,42nm,1.1s						
HEH				pmax	pmax		
	comp=Z,570nm,5.1s						
HEH				LR	LR		
	comp=Z,1µm,13.7s						
HEH				LR	LR		
	comp=Z,1µm,14.7s						
HEH				LR	LR		
	comp=Z,2µm,14.9s						
LYN	**LuoYang**	**27.64**	**295**	*e*P	**P**	**00 35 19.3**	**-0.6**
LYN				S	**S**	**00 39 58.8**	**-0.9**
LYN				pmax	pmax		
	comp=Z,26nm,0.9s						
LYN				pmax	pmax		
	comp=Z,400nm,5.6s						
LYN				LR	LR		
	comp=Z,1µm,13.4s						
LYN				LR	LR		
	comp=Z,2µm,14.8s						
LYN				LR	LR		
	comp=Z,4µm,15.5s						
MANU	**Manus Island**	**28.12**	**171**	P	**P**	**00 35 25.1**	**+0.8**
MANU				IAmb	IAmb	00 36 11.7	
	comp=Z,53nm,1.4s						
JAY	**Jayapura**	**28.35**	**185**	LR	LR	00 46 19.7	
	comp=Z,1µm,18.6s,baz=14,slow=36						
TIY	**Taiyuan**	**28.36**	**302**	P	**P**	**00 35 30.8**	**+4.4**
TIY				pmax	pmax		
	comp=Z,220nm,4.7s						
TIY				LR	LR		
	comp=Z,680nm,18.6s						
TIY				LR	LR		
	comp=Z,1µm,15.8s						
TIY				LR	LR		
	comp=Z,1µm,17.9s						
PETK	**Petropavlovsk-**	**29.32**	**18**	P	**P**	**00 35 34.2**	**-0.3**
PETK	**Petropavlovsk-**	**29.32**	**18**	P	**P**	**00 35 37.3**	**+2.8**
	comp=Z,2.3nm,0.9s,baz=199,slow=8.4,SNR=3.1						
PETK				LR	LR	00 49 38.5	
	comp=Z,216nm,19.1s,baz=194,slow=41						
	comp=Z,2.3nm,0.9s						
GULI	**GuiLin**	**29.37**	**276**	P	**P**	**00 35 33.6**	**-1.8**
GULI				pP	**pP**	**00 35 43.3**	**-0.4**
GULI				sP	**pwP**	**00 35 48.6**	**+0.7**
GULI				S	**S**	**00 40 30.3**	**+3.2**
GULI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GULI				pmax	pmax		
	comp=Z,180nm,5.3s						
GULI				LR	LR		
	comp=Z,630nm,15.2s						
GULI				LR	LR		
	comp=Z,750nm,16.2s						
GULI				LR	LR		
	comp=Z,1µm,19.7s						
PET	**Petropavlovsk**	**29.52**	**19**	P	**P**	**00 35 33.1**	**-3.2**
PET				IAmb	IAmb	00 36 08.5	
	comp=Z,82nm,1.9s						
ENH	**Enshi**	**29.79**	**286**	P	**P**	**00 35 37.0**	**-2.1**
ENH				IAmb	IAmb	00 35 39.7	
	comp=Z,29nm,0.9s						
HHC	**Hu-ho-hao-te**	**29.97**	**308**	*e*P	**P**	**00 35 42.3**	**+1.7**
HHC				S	**S**	**00 40 41.8**	**+5.4**
HHC				sS	sS	00 40 55.3	+5.2
HHC				pmax	pmax		
	comp=Z,230nm,5.8s						
HHC				LR	LR		
	comp=Z,640nm,16.0s						
HHC				LR	LR		
	comp=Z,1µm,13.8s						
HHC				LR	LR		
	comp=Z,1µm,16.0s						
ZEA	**Zeya**	**30.16**	**341**	*e*P	**P**	**00 35 43.2**	**+1.2**
ZEA				*e*S	**S**	**00 40 38.3**	**-0.5**
ZEA				pmax	pmax		
	comp=Z,100nm,2.8s						
ZEA				pmax	pmax		
	comp=N,20nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,40nm,0.7s						
ZEA				smax	smax		
	comp=N,300nm,13.9s						
ZEA				MLR	MLR		
	comp=N,900nm,16.0s						
ZEA				MLR	MLR		
	comp=Z,1µm,18.0s						
XAN	**Xi'an**	**30.48**	**294**	⇑P	**P**	**00 35 42.8**	**-2.4**
XAN				S	**S**	**00 40 42.8**	**-1.7**
XAN				SS	**ScP**	**00 42 29.3**	**+5.1**
XAN				pmax	pmax		
	comp=Z,32nm,0.8s						
XAN				pmax	pmax		
	comp=Z,400nm,5.1s						
XAN				LR	LR		
	comp=Z,840nm,14.4s						
XAN				LR	LR		
	comp=Z,2µm,12.4s						
XAN				LR	LR		
	comp=Z,2µm,14.4s						
BTO	**Baotou**	**31.00**	**306**	*e*P	**P**	**00 35 49.0**	**-0.7**
BTO				PP	**PnPn**	**00 36 55.0**	**+3.8**
BTO				S	**S**	**00 40 54.4**	**+1.9**
BTO				pmax	pmax		
	comp=Z,17nm,0.6s						
BTO				pmax	pmax		
	comp=Z,300nm,5.2s						
BTO				LR	LR		
	comp=Z,2µm,14.6s						
BTO				LR	LR		
	comp=Z,3µm,14.3s						
BTO				LR	LR		
	comp=Z,3µm,14.7s						
MYLDM	**Lahad Datu**	**31.20**	**233**	P	**P**	**00 35 52.0**	**+0.4**
MYLDM				IAmb	IAmb	00 36 21.1	
	comp=Z,50nm,1.3s						
QIZ	**Qiongzhong**	**31.31**	**264**	P	**P**	**00 35 52.8**	**+0.2**
QIZ				S	**S**	**00 41 00.5**	**+2.9**
QIZ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
QIZ				LR	LR		
	comp=Z,390nm,14.2s						
QIZ				LR	LR		
	comp=Z,470nm,14.1s						
QIZ				LR	LR		
	comp=Z,660nm,27.9s						
KKM	**Kota Kinabalu**	**32.31**	**237**	P	**P**	**00 36 01.8**	**+0.3**
KKM				IAmb	IAmb	00 36 32.2	
	comp=Z,23nm,1.0s						
MA2	**Magadan**	**34.08**	**7**	LR	LR	00 49 18.5	
	comp=Z,299nm,21.7s,baz=168,slow=35						
CIT	**Chita**	**34.26**	**327**	*e*P	**P**	**00 36 17.1**	**-0.9**
CIT				*e*		00 36 25.9	
CIT				pmax	pmax		
	comp=Z,118nm,3.1s						
CD2	**Chengdu**	**34.72**	**287**	P	**P**	**00 36 20.3**	**-2.0**
CD2				S	**S**	**00 41 51.3**	**+0.7**
CD2				pmax	pmax		
	comp=Z,120nm,0.6s						
CD2				LR	LR		
	comp=Z,2µm,12.7s						
CD2				LR	LR		
	comp=Z,2µm,16.3s						
LZH	**Lanzhou**	**34.84**	**297**	*e*P	**P**	**00 36 21.3**	**-2.1**
LZH				S	**S**	**00 41 55.4**	**+3.0**
LZH				pmax	pmax		
	comp=Z,50nm,1.3s						
LZH				pmax	pmax		
	comp=Z,190nm,4.1s						
LZH				LR	LR		
	comp=Z,840nm,14.6s						
LZH				LR	LR		
	comp=Z,2µm,14.9s						
LZH				LR	LR		
	comp=Z,2µm,14.6s						
LZDM	**Lanzhou Array**	**34.94**	**296**	P	**P**	**00 36 22.7**	**-1.8**
	comp=Z,42nm,0.8s,baz=134,slow=6.4,SNR=29						
LZDM				LR	LR	00 51 54.6	
	comp=Z,727nm,18.4s,baz=100,slow=39						
	comp=Z,42nm,0.8s						
PMG	**Port Moresby**	**35.35**	**173**	P	**P**	**00 36 26.4**	**-1.3**
PMG				IAmb	IAmb	00 36 43.5	

comp=Z,28nm,0.8s
PMG Port Moresby 35.35 173 P **P** **00 36 28.1 +0.4**
comp=Z,11nm,0.6s,baz=332,slow=1.7,SNR=2.7
PMG LR LR 00 49 06.2
comp=Z,330nm,21.6s,baz=352,slow=33
comp=Z,11nm,0.6s
SHEM Shemya Is, Ala 35.52 33 LR LR 00 53 01.4
comp=Z,231nm,18.2s,baz=214,slow=40
ULN Ulaanbaatar 35.66 317 P **P** **00 36 28.2 -2.1**
ULN Ulaanbaatar 35.66 317 *ce*P **P** **00 36 28.8 -1.5**
ULN pmax pmax
comp=Z,12nm,1.0s
SLVN Son La 35.99 271 P **P** **00 36 32.2 -1.2**
SONM Songino Array 36.05 317 P **P** **00 36 31.4 -2.2**
SONM Songino Array 36.05 317 P **P** **00 36 31.9 -1.8**
comp=Z,4.1nm,0.7s,baz=136,slow=10,SNR=18
SONM PcP **PcP** **00 39 00.3 +0.9**
comp=Z,2.3nm,0.7s,baz=130,slow=2.2,SNR=5.1
SONM LR LR 00 51 37.9
comp=Z,1µm,20.4s,baz=118,slow=37
comp=Z,4.1nm,0.7s
KMI Kunming 36.22 278 P **P** **00 36 34.8 -0.7**
KMI PP **PP** **00 38 01.8 +3.7**
KMI S **S** **00 42 17.1 +3.2**
KMI pmax pmax
comp=Z,26nm,0.9s
KMI LR LR
comp=Z,510nm,18.2s
KMI LR LR
comp=Z,780nm,20.3s
PZH PanZhiHua 36.88 280 P **P** **00 36 39.8 -1.2**
PZH PP **PnPn** **00 38 10.8 +5.3**
PZH S **S** **00 42 25.4 +1.5**
PZH pmax pmax
comp=Z,30nm,0.9s
PZH LR LR
comp=Z,180nm,10.4s
PZH LR LR
comp=Z,510nm,14.7s
PZH LR LR
comp=Z,460nm,15.2s
YAK Yakutsk 37.20 350 P **P** **00 36 43.3 +0.3**
YAK Yakutsk 37.20 350 LR LR 00 51 39.3
comp=Z,706nm,19.8s,baz=156,slow=36
YAK Yakutsk 37.20 350 *eP* **P** **00 36 43.9 +0.9**
YAK *e**PP **sP** **00 36 56.0 +0.9**
YAK *e* 00 38 09.2
YAK *e*PPP PPP 00 38 26.4
YAK *e* 00 39 03.1
YAK *e*S **S** **00 42 27.9 +0.4**
YAK *e*SSS SSS 00 45 24.1
YAK *e* 00 46 54.2
YAK pmax pmax
comp=Z,41nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.5s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=N,82nm,2.7s
YAK pmax pmax
comp=Z,110nm,3.4s
YAK pmax pmax
comp=E,72nm,2.3s
YAK smax smax
comp=N,96nm,2.7s
YAK smax smax
comp=E,58nm,1.6s
SEY Seymchan 37.53 7 LR LR 00 51 18.0
comp=E,290nm,21.9s,baz=194,slow=35
SEY Seymchan 37.53 7 *i* P **P** **00 36 45.2 -0.7**
SEY pmax pmax
comp=Z,9.0nm,0.9s
SBUM Sibu 37.66 237 P **P** **00 36 45.5 -2.0**
BOD Bodaibo 37.92 335 *eP* **P** **00 36 49.5 +0.3**
BOD pmax pmax
comp=Z,38nm,1.8s
KAPI Kappang 38.12 220 LR LR 00 50 27.6
comp=Z,206nm,21.8s,baz=39,slow=33
GTA Gaotai 38.39 301 P **P** **00 36 51.5 -2.1**
GTA sP pP 00 37 01.6 -0.5
GTA PcP **PcP** **00 39 07.8 +1.1**
GTA pmax pmax
comp=Z,15nm,1.2s
GTA LR LR
comp=Z,520nm,15.3s
GTA LR LR
comp=Z,1µm,16.7s
GTA LR LR
comp=Z,1µm,15.3s
HNR Honiara 38.82 153 P **P** **00 36 55.1 -2.1**
HNR Honiara 38.82 153 LR LR 00 52 42.4
comp=Z,658nm,19.9s,baz=336,slow=36
HNR Honiara 38.82 153 P **P** **00 36 55.1 -2.1**
HNR pmax pmax
comp=Z,166nm,1.1s
ZAK Zakamensk 38.96 319 *eP* **P** **00 36 55.5 -2.7**
ZAK pmax pmax
comp=Z,16nm,1.2s
COEN Coen 39.63 180 P **P** **00 37 04.1 +0.1**
comp=Z,32nm,1.1s
COEN Coen 39.63 180 P **P** **00 37 03.5 -0.4**
KDU Kakadu 39.71 196 P **P** **00 37 03.2 -1.4**
comp=Z,10nm,0.8s
KSM Kuching 39.74 238 P **P** **00 37 04.0 -0.9**
MMRI Maumere 39.83 213 P **P** **00 37 05.2 -0.5**
MMRI IAmb IAmb 00 38 27.2
comp=Z,52nm,0.8s
SOEI Soe 39.86 210 P **P** **00 37 06.2 +0.2**
comp=Z,16µmcomp=Z,50nm,0.8s
TNCH TengChong 40.00 279 ⇑P **P** **00 37 05.1 -2.2**
TNCH pP pP 00 37 09.6 -6.1
TNCH PP **PnPn** **00 38 44.8 +1.8**
TNCH S **S** **00 43 10.8 -0.3**
TNCH SS **SS** **00 46 03.5 -5.2**
TNCH pmax pmax
comp=Z,44nm,0.9s
TNCH pmax pmax
comp=Z,220nm,3.7s
TNCH LR LR
comp=Z,430nm,10.5s
TNCH LR LR
comp=Z,540nm,11.4s
TNCH LR LR
comp=Z,1µm,18.3s
EDFI Ende, Flores 40.20 214 P **P** **00 37 07.2 -1.6**
comp=Z,33nm,0.9s
MTN Manton Dam 40.22 198 P **P** **00 37 07.7 -1.1**
comp=Z,30nm,0.9s
CHTO Chiang Mai 41.18 269 **P** **00 37 15.8 -1.1**
CHTO Chiang Mai 41.18 269 P **P** **00 37 15.8 -1.1**
CHTO pmax pmax
comp=Z,12nm,0.7s
CM31 Chiang Mai Arr 41.29 269 P **P** **00 37 16.9 -0.9**
CMAR Chiang Mai Arr 41.29 269 **P** **00 37 16.7 -1.1**
CMAR Chiang Mai Arr 41.29 269 P **P** **00 37 17.2 -0.6**
comp=Z,6.0nm,0.6s,baz=69,slow=8.5,SNR=38
CMAR PcP **PcP** **00 39 17.1 +1.0**
comp=Z,1.3nm,0.7s,baz=87,slow=3.8,SNR=4.2
CMAR LR LR 00 54 44.4
comp=Z,413nm,18.9s,baz=75,slow=37
comp=Z,6.0nm,0.6s
KNRA Kununurra 43.60 200 P **P** **00 37 36.2 -0.2**
KNRA IAmb IAmb 00 38 37.1
comp=Z,45nm,1.1s
JAGI Jajag, Banyuwa 44.20 223 P **P** **00 37 41.1 -0.2**
JAGI IAmb IAmb 00 38 37.8
comp=Z,57nm,1.2s
BILL Bilibino 44.45 12 *ce*P **P** **00 37 40.2 -2.5**
BILL pmax pmax
comp=Z,17nm,1.0s
MYKOM Kota Tinggi 44.62 244 P **P** **00 37 44.4 -0.3**
MYKOM IAmb IAmb 00 37 45.3
comp=Z,27nm,0.8s
KULM Kulim 45.34 250 P **P** **00 37 49.4 -1.1**
IPM Ipoh 45.45 249 **P** **00 37 50.1 -1.3**
IPM IAmb IAmb 00 37 51.7
comp=Z,20nm,0.8s
SHL Shillong 45.77 281 P **P** **00 37 52.2 -1.9**
SHL IAmb IAmb 00 37 53.1
comp=Z,27nm,0.8s
SHL Shillong 45.77 281 P **P** **00 37 52.2 -1.9**
SHL pmax pmax
comp=Z,27nm,0.8s
CTA Charters Tower 45.84 176 LR LR 00 56 44.1
comp=Z,6.3nm,18.8s,baz=22,slow=36
CTAO Charters Tower 45.84 176 P **P** **00 37 53.7 -0.6**
CTAO Charters Tower 45.84 176 P **P** **00 37 53.7 -0.6**
CTAO pmax pmax
comp=Z,64nm,1.7s
WB0 Warramunga Arr 46.17 191 **P** **00 37 56.1 -0.7**
WB0 IAmb IAmb 00 38 07.7
comp=Z,28nm,0.8s
QIS Mount Isa 46.31 184 P **P** **00 37 56.9 -1.1**
comp=Z,12nm,0.8s
WR0 Warramunga Arr 46.33 191 P **P** **00 37 56.8 -1.4**
WR8 Warramunga Arr 46.34 191 **P** **00 37 56.5 -1.7**
WRAB Tennant Creek 46.34 191 P **P** **00 37 57.0 -1.2**
WRAB Tennant Creek 46.34 191 *i* P **P** **00 37 57.4 -0.8**
WRAB pmax pmax
comp=Z,25nm,0.7s
WB2 Warramunga Arr 46.35 191 P **P** **00 37 57.9 -0.4**
WRA Warramunga Arr 46.35 191 **P** **00 37 56.5 -1.9**
WRA Warramunga Arr 46.35 191 P **P** **00 37 58.1 -0.2**
comp=Z,26nm,0.8s,baz=9.0,slow=8.0,SNR=89
WRA LR LR 00 56 46.0
comp=Z,226nm,21.2s,baz=20,slow=35
comp=Z,26nm,0.8s
WRA Warramunga Arr 46.35 191 *ce*P **P** **00 37 57.7 -0.6**
WRA pmax pmax
comp=Z,27nm,0.8s
UNV Unalaska Valle 46.41 39 P **P** **00 37 57.7 -0.7**
UNV Unalaska Valle 46.41 39 P **P** **00 37 59.1 +0.6**
baz=254
TIXI Tiksi 46.45 354 P **P** **00 37 58.5 +0.1**
TIXI IAmb IAmb 00 39 31.8
comp=Z,13nm,0.5s
TIXI Tiksi 46.45 354 LR LR 00 59 36.0
comp=Z,183nm,19.3s,baz=174,slow=39
TIXI Tiksi 46.45 354 *i* P **P** **00 37 58.1 -0.4**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
BRDH Bariadhala 46.66 277 LR LR 01 00 39.1
comp=Z,351nm,18.4s,baz=89,slow=40
FITZ Fitzroy Crossi 46.89 203 P **P** **00 38 01.9 -0.6**
FITZ Fitzroy Crossi 46.89 203 **P** **00 38 01.2 -1.3**
FITZ Fitzroy Crossi 46.89 203 P **P** **00 38 02.1 -0.3**
comp=Z,18nm,0.9s,baz=32,slow=10,SNR=31
FITZ LR LR 00 58 47.7
comp=Z,132nm,20.7s,baz=21,slow=38
comp=Z,18nm,0.9s
LEM Lembang 47.31 231 P **P** **00 38 04.5 -1.6**
comp=Z,23nm,0.6s,baz=59,slow=19,SNR=4.3
LEM LR LR 01 00 21.4
comp=Z,102nm,18.1s,baz=148,slow=39
comp=Z,23nm,0.6s
WMQ Urumqi 47.84 307 *eP* **P** **00 38 13.3 +3.5**
WMQ LR LR
comp=Z,730nm,11.3s
WMQ LR LR
comp=Z,930nm,14.7s
WMQ LR LR
comp=Z,620nm,21.5s
PSI Prapat 48.12 249 LR LR 00 59 05.8
comp=Z,310nm,18.1s,baz=68,slow=37
PSI Prapat 48.12 249 P **P** **00 38 11.3 -1.1**
PSI pmax pmax
comp=Z,33nm,0.7s
RPSI Rantau Prapat 48.17 249 **P** **00 38 11.3 -1.4**
MDSI Maura Dua 48.24 237 P **P** **00 38 11.6 -1.6**
comp=Z,15nm,1.0s
MNSI Mandailing Nat 48.67 246 P **P** **00 38 15.5 -1.0**
KCSI Kotacane, Aceh 48.71 251 P **P** **00 38 14.5 -2.3**
comp=Z,19nm,1.0s
PPI Padang Panjang 48.72 244 P **P** **00 38 16.3 -0.6**
comp=Z,28nm,1.0s
MASI Maura Aman, Be 48.87 240 P **P** **00 38 17.1 -1.0**
EVN Everest 49.73 286 P **P** **00 38 24.4 -0.9**
K13K Kusilvak Mount 49.98 29 P **P** **00 38 27.6 +1.8**
K13K IAmb IAmb 00 38 35.2
comp=Z,42nm,1.4s
ZSN Zaisan 50.05 311 *eP* **P** **00 38 25.4 -1.2**
ZSN Zaisan 50.05 311 *eP* **P** **00 38 25.4 -1.2**
M13K Dall Lake 50.05 31 P **P** **00 38 26.2 -0.2**
baz=251
GSI Gunungsitoli 50.06 248 P **P** **00 38 25.7 -1.4**
GSI IAmb IAmb 00 38 28.1
comp=Z,35nm,0.9s
ASAR Alice Springs 50.07 191 P **P** **00 38 26.2 -0.7**
comp=Z,4.7nm,0.7s,baz=11,slow=7.7,SNR=25
ASAR LR LR 00 58 14.4
comp=Z,349nm,20.5s,baz=349,slow=34
comp=Z,4.7nm,0.7s
SDPT Sand Point 50.18 38 P **P** **00 38 27.3 -0.2**
baz=258
CHNA Chernabura Isl 50.58 39 P **P** **00 38 31.2 +0.7**
baz=259
N14K Kuskokwak Cree 50.69 32 P **P** **00 38 32.2 +1.0**
baz=253
O14K Tigyukauivet M 50.71 33 P **P** **00 38 32.7 +1.3**
baz=254
F14K Arctic Creek 50.72 25 P **P** **00 38 32.1 +0.7**
baz=244
M14K Bethel 50.81 31 P **P** **00 38 31.7 -0.4**
ZAA0 Zalesovo Array 50.84 320 P **P** **00 38 32.1 -0.3**
ZALV Zalesovo Beam 50.84 320 P **P** **00 38 31.1 -1.3**
ZALV Zalesovo Beam 50.84 320 P **P** **00 38 30.8 -1.7**
comp=Z,5.0nm,0.5s,baz=102,slow=7.4,SNR=19
ZALV PcP **PcP** **00 39 49.5 +0.6**
comp=Z,10nm,0.7s,baz=113,slow=3.8,SNR=13
ZALV LR LR 01 00 28.0
comp=Z,846nm,19.3s,baz=96,slow=37
comp=Z,5.0nm,0.5s
ZALV Zalesovo Beam 50.84 320 *i* P **P** **00 38 31.8 -0.7**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
M15K Kasigluk River 51.39 32 P **P** **00 38 37.7 +1.2**
baz=254
G15K Niukluk 51.40 26 P **P** **00 38 37.9 +1.4**
baz=247
O15K Ungalikthiuk R 51.40 34 P **P** **00 38 37.7 +1.0**
baz=256
F15K North Star Dit 51.45 25 P **P** **00 38 37.6 +0.7**
baz=246
K15K Wolf Creek Mou 51.48 29 P **P** **00 38 38.5 +1.3**
baz=251
N15K Kwethluk River 51.53 32 P **P** **00 38 38.0 +0.5**
baz=254
MK31 Makanchi Array 51.77 310 P **P** **00 38 37.6 -2.1**
MK31 Makanchi Array 51.77 310 *ce*P **P** **00 38 37.9 -1.7**
MKAR Makanchi Array 51.77 310 **P** **00 38 37.3 -2.3**
MKAR Makanchi Array 51.77 310 P **P** **00 38 37.8 -1.8**
comp=Z,9.6nm,0.8s,baz=92,slow=9.1,SNR=47
MKAR PcP **PcP** **00 39 52.6 +0.1**
comp=Z,4.2nm,0.8s,baz=92,slow=5.1,SNR=5.4
MKAR ScP **ScP** **00 43 49.9 +2.8**
comp=Z,1.0nm,0.8s,baz=90,slow=4.3,SNR=3.8
MKAR LR LR 01 01 44.3
comp=Z,638nm,19.3s,baz=86,slow=38
comp=Z,9.6nm,0.8s
MBWA Marble Bar 51.95 208 P **P** **00 38 40.2 -0.9**
comp=Z,16nm,1.1s
MBWA Marble Bar 51.95 208 P **P** **00 38 40.3 -0.9**
H16K Elim 51.98 27 P **P** **00 38 41.6 +0.7**
baz=249
MAKZ Makanchi 51.98 310 P **P** **00 38 40.2 -1.1**
MAKZ Makanchi 51.98 310 P **P** **00 38 40.2 -1.1**
MAKZ pmax pmax
comp=Z,16nm,1.2s
PSAD1 Pilbara Seismi 52.17 208 P **P** **00 38 41.8 -1.0**
comp=Z,22nm,1.3s
J16K Anvik River 52.20 28 P **P** **00 38 43.4 +0.9**
baz=252
G16K Koyuk River 52.21 26 P **P** **00 38 43.5 +1.0**
baz=248
L16K Owhat River 52.24 31 P **P** **00 38 43.2 +0.4**
baz=254
N16K Nishlik Lake 52.24 32 P **P** **00 38 43.1 +0.2**
baz=256
PSA00 Pilbara Seismi 52.27 208 P **P** **00 38 42.6 -0.9**
comp=Z,22nm,1.9s
PSA00 Pilbara Seismi 52.27 208 P **P** **00 38 42.9 -0.6**
PSA00 Pilbara Seismi 52.27 208 **P** **00 38 42.4 -1.1**
PSA00 IAmb IAmb 00 38 43.2
comp=Z,7.5nm,0.8s
PSAB3 Pilbara Seismi 52.28 208 P **P** **00 38 42.5 -1.1**
comp=Z,24nm,1.4s
C16K Lisburne Hills 52.31 22 P **P** **00 38 44.9 +1.7**
C16K Lisburne Hills 52.31 22 P **P** **00 38 44.0 +0.7**
baz=243
I17K Unalakleet 52.35 28 P **P** **00 38 46.0 +2.4**
I17K IAmb IAmb 00 38 52.0
comp=Z,64nm,1.9s
I17K Unalakleet 52.35 28 P **P** **00 38 44.1 +0.5**
baz=251
O16K Kokwok River B 52.36 33 P **P** **00 38 42.5 -1.3**
O16K IAmb IAmb 00 40 06.0
comp=Z,39nm,1.6s
O16K Kokwok River B 52.36 33 P **P** **00 38 44.1 +0.4**
baz=257
WRKA Warakuna 52.60 197 P **P** **00 38 45.2 -0.8**
comp=Z,9.5nm,1.3s
D17K Noatak River 52.84 23 P **P** **00 38 47.1 -0.1**
baz=246
DZM Mont Dzumac 52.85 152 *e*LR LR 00 53 54.1
comp=Z,719nm,22.6s
R17L Mt. Peulik Vol 52.86 36 P **P** **00 38 47.7 +0.1**
baz=260
L17K Donlin 52.89 30 P **P** **00 38 47.5 -0.2**
baz=255
J17K VABM Dome 52.89 29 P **P** **00 38 47.5 -0.1**
J17K IAmb IAmb 00 38 56.3
comp=Z,55nm,1.8s
J17K VABM Dome 52.89 29 P **P** **00 38 47.4 -0.2**
baz=253
O17K Koliganek Bris 52.90 33 P **P** **00 38 47.7 0.0**
baz=258
G17K Kiwalik Mounta 52.91 26 P **P** **00 38 48.4 +0.6**
baz=250
CHIR Chirikof Islan 52.98 38 P **P** **00 38 47.3 -1.1**
CHIR Chirikof Islan 52.98 38 P **P** **00 38 49.0 +0.6**
baz=262
F17K Baldwin Pennin 53.01 25 P **P** **00 38 47.2 -1.3**
F17K Baldwin Pennin 53.01 25 P **P** **00 38 49.1 +0.7**
baz=249
H17K Granite Mounta 53.02 27 P **P** **00 38 47.5 -1.1**
H17K Granite Mounta 53.02 27 P **P** **00 38 49.6 +1.0**
baz=251
N17K Nushagak Hills 53.02 32 P **P** **00 38 48.1 -0.6**
N17K IAmb IAmb 00 38 57.3
comp=Z,26nm,1.1s
N17K Nushagak Hills 53.02 32 P **P** **00 38 49.3 +0.7**
baz=257
E17K Hotham Inlet 53.04 24 P **P** **00 38 49.5 +0.8**
baz=248
K17K Iditarod 53.04 30 P **P** **00 38 48.1 -0.7**
K17K IAmb IAmb 00 38 58.1
comp=Z,42nm,1.2s
K17K Iditarod 53.04 30 P **P** **00 38 49.9 +1.1**
baz=254,SNR=7.3
RDOG Red Dog Mine 53.04 22 P **P** **00 38 50.3 +1.6**
baz=246
M17K Holitna River 53.10 31 P **P** **00 38 49.1 -0.1**
M17K IAmb IAmb 00 38 58.4
comp=Z,26nm,0.9s
M17K Holitna River 53.10 31 P **P** **00 38 50.3 +1.0**
baz=256
P17K Kvichak River 53.11 34 P **P** **00 38 49.4 +0.1**
baz=259
C17K DeLong Mountai 53.12 22 P **P** **00 38 50.2 +0.9**
baz=245
INKA Innaminka 53.39 182 P **P** **00 38 51.7 0.0**
E18K Tukpahlearik C 53.61 24 P **P** **00 38 52.8 0.0**
E18K Tukpahlearik C 53.61 24 P **P** **00 38 53.2 +0.3**
baz=249
L18K Granite Mounta 53.64 30 P **P** **00 38 52.2 -0.9**
L18K IAmb IAmb 00 39 02.6
comp=Z,23nm,1.2s
L18K Granite Mounta 53.64 30 P **P** **00 38 53.2 0.0**
baz=256
F18K Selawik 53.67 25 P **P** **00 38 53.8 +0.6**
baz=250
N18K Kilae Creek 53.67 32 P **P** **00 38 53.2 -0.3**
N18K IAmb IAmb 00 39 02.0
comp=Z,28nm,1.2s
N18K Kilae Creek 53.67 32 P **P** **00 38 54.9 +1.4**
baz=258
H18K Honhosa River 53.71 27 P **P** **00 38 54.8 +1.1**
baz=252
Q18K Katmai Hardscr 53.74 35 P **P** **00 38 54.9 +0.8**
baz=260
P18K Big Mountain, 53.75 34 P **P** **00 38 54.3 +0.2**
P18K Big Mountain, 53.75 34 P **P** **00 38 54.9 +0.8**
baz=260
G18K Tagagawik 53.82 26 P **P** **00 38 53.0 -1.4**
G18K Tagagawik 53.82 26 P **P** **00 38 55.6 +1.1**
baz=252
SHLS Shalkode 53.83 306 *eP* **P** **00 38 50.9 -4.2**
SHLS Shalkode 53.83 306 *eP* **P** **00 38 50.8 -4.2**
C18K Utukok River 53.86 22 P **P** **00 38 52.5 -2.2**
M18K Stony River 53.88 31 P **P** **00 38 55.8 +0.9**
baz=258
J18K Innoko River 53.93 29 P **P** **00 38 56.0 +0.7**
baz=255
UZB Uzynbulak 54.15 306 *eP* **P** **00 38 55.5 -1.9**
UZB Uzynbulak 54.15 306 *eP* **P** **00 38 55.5 -1.9**
KURK Kurchatov 54.31 315 **P** **00 38 57.1 -1.2**
KURK IAmb IAmb 00 39 09.0
comp=Z,14nm,0.8s
KURK Kurchatov 54.31 315 *i* P **P** **00 38 56.8 -1.4**
KURK pmax pmax
comp=Z,20nm,2.8s
O19K Port Alsworth 54.35 33 P **P** **00 38 58.6 +0.3**
O19K Port Alsworth 54.35 33 P **P** **00 38 59.2 +0.9**
baz=260
KURBB Kurchatov Arra 54.37 315 P **P** **00 38 57.0 -1.6**
comp=Z,11nm,0.5s,baz=92,slow=7.7,SNR=83
KURBB LR LR 01 03 08.9
comp=Z,1µm,19.2s,baz=124,slow=37
comp=Z,11nm,0.5s
N19K Bonanza Creek 54.38 32 P **P** **00 38 57.3 -1.4**
N19K Bonanza Creek 54.38 32 P **P** **00 38 59.7 +1.0**
baz=259
OHAK Old Harbor 54.44 37 P **P** **00 38 59.9 +0.8**
baz=263
F19K Shaleruckik Mo 54.45 25 P **P** **00 39 00.2 +1.2**
baz=252
L19K White Mountain 54.47 31 P **P** **00 38 58.0 -1.3**
L19K White Mountain 54.47 31 P **P** **00 38 59.9 +0.7**
baz=258
TDK Taldyqorghan 54.50 308 *eP* **P** **00 38 58.2 -1.5**
comp=Z,3.8nm,0.5s
TDK Taldyqorghan 54.50 308 *eP* **P** **00 38 58.2 -1.5**
TDK pmax pmax
comp=Z,4.0nm,0.5s
G19K Purcell Mounta 54.51 26 P **P** **00 38 58.1 -1.3**
G19K IAmb IAmb 00 40 11.2
comp=Z,30nm,1.8s
G19K Purcell Mounta 54.51 26 P **P** **00 39 00.8 +1.4**
baz=253
A19K Wainwright 54.52 20 P **P** **00 39 00.5 +1.1**
baz=246
J19K Poorman 54.53 28 P **P** **00 38 59.2 -0.5**
J19K IAmb IAmb 00 39 08.3
comp=Z,16nm,0.9s
J19K Poorman 54.53 28 P **P** **00 39 00.9 +1.2**
baz=256,SNR=9.1
C19K Lookout Ridge 54.57 22 P **P** **00 38 59.1 -0.9**
C19K IAmb IAmb 00 39 15.0
comp=Z,15nm,0.8s
C19K Lookout Ridge 54.57 22 P **P** **00 39 01.1 +1.2**
baz=249
H19K Roundabout Mou 54.59 26 P **P** **00 38 59.0 -1.0**
H19K IAmb IAmb 00 39 08.3
comp=Z,22nm,1.1s
H19K Roundabout Mou 54.59 26 P **P** **00 39 01.2 +1.2**
baz=254,SNR=5.5
SATY Saty 54.61 306 *eP* **P** **00 38 59.0 -1.8**
SATY Saty 54.61 306 *eP* **P** **00 38 58.9 -1.8**
E19K Redstone River 54.84 24 P **P** **00 39 00.5 -1.4**
E19K IAmb IAmb 00 39 10.0
comp=Z,23nm,1.4s
E19K Redstone River 54.84 24 P **P** **00 39 02.7 +0.8**
baz=252,SNR=5.6
D19K Kuna River 54.86 23 P **P** **00 39 00.5 -1.5**
D19K IAmb IAmb 00 39 10.2
comp=Z,24nm,1.3s
D19K Kuna River 54.86 23 P **P** **00 39 03.2 +1.2**
baz=250
KDAK Kodiak Island 54.89 36 P **P** **00 39 01.4 -0.9**
KDAK IAmb IAmb 00 39 10.2
comp=Z,41nm,1.2s
KDAK Kodiak Island 54.89 36 P **P** **00 39 03.9 +1.6**
comp=Z,4.1nm,0.6s,baz=268,slow=9.2,SNR=4.4
KDAK LR LR 01 01 38.1
comp=Z,267nm,20.3s,baz=241,slow=35
comp=Z,4.1nm,0.6s
KDAK Kodiak Island 54.89 36 P **P** **00 39 03.4 +1.1**
baz=263
L20K Farewell, AK 54.98 30 P **P** **00 39 03.6 +0.7**

baz=259
K20K Telida 55.07 29 P P 00 39 03.8 +0.2
K20K Telida 55.07 29 P P 00 39 04.4 +0.8
baz=258
Q20K Shuyak Island 55.09 35 P P 00 39 04.0 +0.3
baz=263
O20K Slope Mountain 55.17 33 P P 00 39 05.5 +1.1
baz=262
I20K Naaghedeneel 55.21 28 P P 00 39 04.2 -0.2
I20K IAmb IAmb 00 39 13.7
comp=Z,22nm,0.9s
I20K Naaghedeneel 55.21 28 P P 00 39 05.9 +1.4
baz=257
H20K Anotleneega Mo 55.21 27 P P 00 39 05.0 +0.4
baz=256,SNR=9.2
J20K Nowinta River 55.21 28 P 00 39 04.7 +0.1
J20K IAmb IAmb 00 39 13.7
comp=Z,33nm,1.1s
J20K Nowinta River 55.21 28 P P 00 39 06.5 +2.0
baz=257,SNR=12
M20K Styx River 55.21 31 P P 00 39 06.1 +1.4
baz=260
F20K Avaraart Lake 55.29 25 P P 00 39 05.3 +0.3
baz=254
D20K Etivluk River 55.45 23 P P 00 39 05.6 -0.7
D20K IAmb IAmb 00 39 14.4
comp=Z,28nm,1.1s
D20K Etivluk River 55.45 23 P P 00 39 07.3 +1.1
baz=252,SNR=6.4
E20K Nigu River 55.47 23 P P 00 39 07.1 +0.7
baz=253
MDOK Medeo 55.59 306 *e*P P 00 39 06.3 -1.5
MDOK Medeo 55.59 306 *e*P P 00 39 06.3 -1.5
SPU Mount Spurr 55.61 32 P P 00 39 08.5 +1.0
AAA Alma-Ata 55.68 306 *e*P P 00 39 07.0 -1.5
comp=Z,9.4nm,0.7s
AAA Alma-Ata 55.68 306 *e*P P 00 39 06.9 -1.5
AAA pmax pmax
comp=Z,9.0nm,0.7s
B20K Meade River 55.69 21 P P 00 39 08.8 +0.9
baz=250
STLK Strandline Lak 55.76 32 P P 00 39 08.5 -0.1
IMAR Indian Mountai 55.78 26 P P 00 39 09.7 +1.0
CNPM China Poot 55.79 34 P P 00 39 09.4 +0.6
CNPM IAmb IAmb 00 39 16.0
comp=Z,38nm,1.2s
PPLA Purkeypile 55.82 30 P P 00 39 09.8 +0.6
baz=260
CHUM Lake Minchumin 55.94 29 P P 00 39 11.2 +1.4
baz=259
SKT Skwentna 55.97 31 P P 00 39 09.9 -0.2
SKT IAmb IAmb 00 39 17.9
comp=Z,38nm,1.4s
SKT Skwentna 55.97 31 P P 00 39 10.4 +0.3
baz=261
CAPN Captain Cook N 55.98 33 P P 00 39 13.0 +2.9
baz=262
G21K Allakaket 56.00 26 P 00 39 10.4 +0.2
G21K Allakaket 56.00 26 P P 00 39 10.8 +0.6
baz=256,SNR=11
H21K Melozitna Rive 56.09 27 P P 00 39 09.2 -1.6
H21K IAmb IAmb 00 39 20.1
comp=Z,31nm,1.3s
F21K Alatna River 56.18 25 P P 00 39 11.7 +0.2
F21K Alatna River 56.18 25 P P 00 39 12.4 +0.9
baz=256
C21K Knifeblade Rid 56.22 22 P P 00 39 12.7 +1.0
baz=253
E21K Killik River 56.31 23 P P 00 39 13.4 +1.0
baz=255
I21K Tanana 56.33 27 P P 00 39 13.4 +0.9
baz=259
SLKM Skilak Lake 56.41 33 P P 00 39 13.0 -0.2
SLKM IAmb IAmb 00 39 19.6
comp=Z,19nm,1.0s
B21K Ikpikpuk River 56.41 22 P P 00 39 13.8 +0.8
baz=253
KTH Kantishna Hill 56.49 29 P P 00 39 14.8 +0.9
BPAW Bear Paw Mtn. 56.55 29 P P 00 39 14.9 +0.7
BPAW IAmb IAmb 00 39 22.3
comp=Z,35nm,1.6s
BPAW Bear Paw Mtn. 56.55 29 P P 00 39 14.3 +0.1
baz=260
RC01 Rabbit Creek A 56.71 32 P P 00 39 16.3 +1.0
RC01 IAmb IAmb 00 39 22.8
comp=Z,47nm,1.4s
RC01 Rabbit Creek A 56.71 32 P P 00 39 16.4 +1.1
baz=264
H22K Ishtalitna Cre 56.71 27 P P 00 39 16.4 +1.1
baz=259
F22K John River 56.73 25 P P 00 39 16.7 +1.2
baz=257
SEW Seward 56.75 34 P P 00 39 16.2 +0.7
baz=264
TRF Thorofare Moun 56.76 30 P P 00 39 16.5 +0.7
TRF IAmb IAmb 00 39 23.8
comp=Z,23nm,0.9s
TRF Thorofare Moun 56.76 30 P P 00 39 16.8 +0.9
baz=262,SNR=9.1
KSH Kashi 56.79 302 P P 00 39 18.3 +1.9
KSH sP sP 00 39 27.4 -1.2
KSH pmax pmax
comp=Z,16nm,0.9s
KSH LR LR
comp=Z,500nm,16.9s
KSH LR LR
comp=Z,680nm,15.7s
KSH LR LR
comp=Z,720nm,19.6s
MLY Manley 56.82 28 P 00 39 16.6 +0.5
MLY Manley 56.82 28 P P 00 39 17.2 +1.1
baz=260
G22K Bettles 56.86 25 P P 00 39 17.7 +1.4
baz=258
D22K Ayikyak River 56.88 23 P 00 39 17.0 +0.5
D22K IAmb IAmb 00 39 25.8
comp=Z,28nm,1.0s
D22K Ayikyak River 56.88 23 P P 00 39 16.8 +0.4
baz=256,SNR=8.3
B22K Teshekpuk Lake 57.01 21 P P 00 39 18.2 +0.9
baz=254
E22K Anaktuvuk Pass 57.01 24 P P 00 39 18.2 +0.8
E22K Anaktuvuk Pass 57.01 24 P P 00 39 18.0 +0.5
baz=257,SNR=8.1
PMR Palmer 57.05 32 P P 00 39 18.2 +0.5
PMR IAmb IAmb 00 39 25.2
comp=Z,25nm,1.0s
PMR Palmer 57.05 32 P P 00 39 18.2 +0.5
PMR pmax pmax
comp=Z,25nm,1.0s
PMR Palmer 57.05 32 P P 00 39 18.6 +0.9
baz=264,SNR=8.4
GHO Glory Hole Cre 57.17 32 P P 00 39 18.4 -0.3
GHO IAmb IAmb 00 39 30.9
comp=Z,22nm,1.1s
CMSA Cobar Meteorol 57.19 177 P P 00 39 17.4 -1.6
comp=Z,14nm,2.2s
BWN Browne 57.22 29 P P 00 39 18.9 0.0
MEEK Meekatharra 57.29 206 P P 00 39 18.6 -1.2
comp=Z,17nm,2.2s
KNK Knik Glacier 57.36 32 P P 00 39 21.0 +1.1
KNK IAmb IAmb 00 39 27.7
comp=Z,25nm,0.9s
KNK Knik Glacier 57.36 32 P P 00 39 20.1 +0.2
baz=264
PWL Port Wells 57.37 33 P P 00 39 20.7 +0.7
PWL IAmb IAmb 00 39 27.7
comp=Z,33nm,1.0s
PWL Port Wells 57.37 33 P P 00 39 20.4 +0.4
baz=265
RND Reindeer 57.39 30 P 00 39 20.7 +0.5
RND IAmb IAmb 00 39 28.4
comp=Z,14nm,0.8s
RND Reindeer 57.39 30 P P 00 39 20.7 +0.5
RND pmax pmax
comp=Z,14nm,0.8s
MCK McKinley 57.40 29 P 00 39 21.0 +0.8
MCK IAmb IAmb 00 39 28.0
comp=Z,21nm,0.9s
MCK McKinley 57.40 29 P P 00 39 21.0 +0.8
MCK pmax pmax
comp=Z,21nm,0.9s
MCK McKinley 57.40 29 P P 00 39 20.7 +0.5
baz=263,SNR=7.5
G23K Bananza Creek 57.40 26 P P 00 39 21.2 +1.0
G23K IAmb IAmb 00 39 29.4
comp=Z,29nm,1.1s
G23K Bananza Creek 57.40 26 P P 00 39 20.7 +0.5
baz=260,SNR=22
I23K Minto, Yukon-K 57.41 28 P P 00 39 20.4 +0.3
COLD Coldfoot 57.43 25 P P 00 39 20.4 +0.1
COLD IAmb IAmb 00 39 28.8
comp=Z,42nm,1.7s
COLD Coldfoot 57.43 25 P P 00 39 21.0 +0.7
baz=259
H23K Yukon River 57.44 27 P P 00 39 21.2 +0.7
baz=261
NEA2 Nenana 57.45 28 P P 00 39 20.8 +0.2
NEA2 IAmb IAmb 00 39 28.2
comp=Z,48nm,1.6s
NEA2 Nenana 57.45 28 P P 00 39 21.1 +0.6
baz=262,SNR=8.2
WAT1 Susitna Watana 57.46 30 P P 00 39 21.4 +0.7
baz=264
STKA Stephens Creek 57.49 181 P P 00 39 20.5 -0.5
comp=Z,55nm,1.1s
STKA Stephens Creek 57.49 181 P P 00 39 21.1 +0.1
STKA Stephens Creek 57.49 181 P P 00 39 20.6 -0.5
comp=Z,5.3nm,0.8s,baz=346,slow=9.0,SNR=7.0
STKA LR LR 01 04 54.9
comp=Z,245nm,18.6s,baz=9.2,slow=37
comp=Z,5.3nm,0.8s
STKA Stephens Creek 57.49 181 *i*P P 00 39 21.2 +0.1
AAK Ala-Archa 57.51 306 P 00 39 20.7 -0.9
AAK Ala-Archa 57.51 306 P P 00 39 20.2 -1.3
comp=Z,3.8nm,0.6s,baz=56,slow=21,SNR=5.5
AAK LR LR 01 06 02.8
comp=Z,492nm,18.4s,baz=80,slow=38
comp=Z,3.8nm,0.6s
AAK Ala-Archa 57.51 306 *ce*P P 00 39 20.9 -0.6
AAK pmax pmax
comp=Z,6.0nm,0.8s
BTLS Baital 57.58 308 *e*P P 00 39 20.3 -1.4
comp=Z,6.6nm,0.8s
BTLS Baital 57.58 308 *e*P P 00 39 20.3 -1.4
BTLS pmax pmax
comp=Z,7.0nm,0.8s
D23K Nanushuk River 57.60 23 P P 00 39 22.1 +0.6
D23K IAmb IAmb 00 39 31.0
comp=Z,30nm,1.0s
D23K Nanushuk River 57.60 23 P P 00 39 22.6 +1.1
baz=258,SNR=10
M23K Glacier View 57.74 32 P P 00 39 23.5 +0.8
baz=255,SNR=5.9
E23K Chandalar 57.80 24 P P 00 39 23.9 +0.9
E23K Chandalar 57.80 24 P P 00 39 24.2 +1.1
baz=259,SNR=10
WAT6 Susitna Watana 57.81 31 P P 00 39 24.1 +0.8
baz=264,SNR=7.9
C23K Itkillik River 57.81 22 P P 00 39 24.1 +1.2
C23K Itkillik River 57.81 22 P P 00 39 24.5 +1.6
baz=257,SNR=10
WRH Wood River Hil 57.86 29 P P 00 39 23.7 +0.4
TOLK Toolik Lake Re 57.93 24 P P 00 39 25.8 +1.9
TOLK Toolik Lake Re 57.93 24 P P 00 39 25.1 +1.2
baz=259
SCM Sheep Creek Mo 57.93 32 P P 00 39 24.9 +0.9
SCM Sheep Creek Mo 57.93 32 P P 00 39 24.9 +0.9
SCM pmax pmax
comp=Z,52nm,1.0s
SCM Sheep Creek Mo 57.93 32 P P 00 39 25.0 +1.0
baz=265,SNR=11
GLI Glacier Island 57.97 33 P P 00 39 25.1 +0.9
baz=266
CCB Clear Creek Bu 58.00 28 P 00 39 25.8 +1.5
DHY Denali Highway 58.02 30 P P 00 39 26.5 +1.8
DHY Denali Highway 58.02 30 P P 00 39 25.0 +0.3
baz=264
H24K Noodor Dome 58.12 27 P P 00 39 25.6 +0.3
H24K Noodor Dome 58.12 27 P P 00 39 25.3 0.0
baz=262
BRZS Berezniki 58.13 314 *e*P P 00 39 24.4 -1.1
BRZS Berezniki 58.13 314 *e*P P 00 39 24.4 -1.1
POKR Poker Plat Res 58.21 28 P P 00 39 27.1 +1.2
POKR Poker Plat Res 58.21 28 P P 00 39 26.4 +0.5
baz=263
E24K Your Creek 58.22 24 P P 00 39 26.8 +0.8
baz=260
HIN Hinchinbrook I 58.24 33 P P 00 39 26.8 +0.7
D24K Happy Valley 58.29 23 P P 00 39 26.8 +0.5
D24K IAmb IAmb 00 39 35.6
comp=Z,23nm,1.0s
D24K Happy Valley 58.29 23 P P 00 39 27.4 +1.1
baz=259,SNR=7.5
HDA Harding Lake 58.34 29 P 00 39 27.3 +0.5
HDA Harding Lake 58.34 29 P P 00 39 29.0 +2.2
baz=264
F24K Squaw Lake 58.36 25 P P 00 39 27.4 +0.5
F24K IAmb IAmb 00 39 35.6
comp=Z,38nm,1.6s
F24K Squaw Lake 58.36 25 P P 00 39 28.6 +1.8
baz=261,SNR=12
G24K Hadweenzic Riv 58.40 26 P P 00 39 28.0 +0.8
G24K IAmb IAmb 00 39 35.8
comp=Z,53nm,1.7s
G24K Hadweenzic Riv 58.40 26 P P 00 39 29.0 +1.9
baz=262,SNR=9.6
IL31 58.41 28 P P 00 39 28.1 +1.0
IL31 IAmb IAmb 00 39 34.5
comp=Z,19nm,1.0s
ILAR Eielson Array 58.41 28 P P 00 39 27.9 +0.6
ILAR Eielson Array 58.41 28 P P 00 39 28.9 +1.7
comp=Z,6.0nm,0.8s,baz=260,slow=6.6,SNR=66
comp=Z,6.0nm,0.8s
C24K Franklin Bluff 58.44 22 P P 00 39 28.6 +1.2
baz=259
M24K Tolsona, Glenn 58.50 31 P P 00 39 29.1 +1.1
baz=266
KLU Klutina 58.58 32 P P 00 39 28.4 -0.2
KLU IAmb IAmb 00 39 36.9
comp=Z,18nm,1.0s
KLU Klutina 58.58 32 P P 00 39 29.8 +1.2
baz=267,SNR=7.9
DIV Divide 58.63 33 P P 00 39 30.4 +1.5
ARSB Arslanbob 58.80 304 P 00 39 29.2 -1.4
ARSB IAmb IAmb 00 39 31.4
comp=Z,17nm,1.0s
ARSB Arslanbob 58.80 304 P P 00 39 29.2 -1.4
ARSB pmax pmax
comp=Z,17nm,1.0s
PAX Paxson 58.88 30 P P 00 39 31.6 +0.9
PAX IAmb IAmb 00 39 39.0
comp=Z,33nm,1.4s
PAX Paxson 58.88 30 P P 00 39 31.6 +0.9
PAX pmax pmax
comp=Z,33nm,1.4s
PAX Paxson 58.88 30 P P 00 39 32.3 +1.7
baz=266
G25K Bearman Lake 58.95 26 P P 00 39 33.0 +2.0
baz=263
HARP HAARP 58.99 31 P P 00 39 33.2 +1.9
baz=267
H25L Birch Creek 59.01 27 P P 00 39 32.7 +1.4
baz=264,SNR=11
J25K Salcha River, 59.04 28 P P 00 39 31.4 -0.3
J25K Salcha River, 59.04 28 P P 00 39 33.0 +1.3
baz=265
PRP Porcupine Dome 59.05 27 00 39 32.1 +0.2
PRP Porcupine Dome 59.05 27 P P 00 39 32.3 +0.4
baz=265
RAGM Ragged Mountai 59.14 33 P P 00 39 33.4 +0.9
D25K Kavik River 59.18 23 P P 00 39 34.0 +1.4
baz=262
BMRM Bremner River 59.19 33 P 00 39 33.9 +1.0
BMRM Bremner River 59.19 33 P P 00 39 33.8 +1.0
baz=268
RIDG Independent Ri 59.21 30 P P 00 39 33.4 +0.6
RIDG Independent Ri 59.21 30 P P 00 39 34.1 +1.2
baz=266
N25K Chitina, Valde 59.22 32 P P 00 39 33.2 +0.2
N25K IAmb IAmb 00 39 41.0
comp=Z,19nm,1.3s
N25K Chitina, Valde 59.22 32 P P 00 39 34.3 +1.3
baz=268
F25K Christian Rive 59.22 25 P P 00 39 33.8 +0.9
F25K IAmb IAmb 00 39 42.6
comp=Z,16nm,1.0s
F25K Christian Rive 59.22 25 P P 00 39 34.8 +1.8
baz=263,SNR=14
KAIM Kayak Island 59.26 34 P P 00 39 34.6 +1.4
baz=269
FYU Fort Yukon 59.27 26 P P 00 39 33.8 +0.6
E25K Arctic Village 59.31 24 P P 00 39 35.4 +1.9
E25K IAmb IAmb 00 39 43.1
comp=Z,22nm,0.9s
E25K Arctic Village 59.31 24 P P 00 39 35.2 +1.7
baz=263,SNR=16
BVAR Borovoye Array 59.39 318 P P 00 39 33.4 -0.8
comp=Z,25nm,0.8s,baz=87,slow=7.3,SNR=45
BVAR LR LR 01 06 17.5
comp=Z,667nm,19.3s,baz=81,slow=37
comp=Z,25nm,0.8s
DOT Dot Lake 59.55 30 P P 00 39 36.6 +1.4
DOT IAmb IAmb 00 39 43.2
comp=Z,17nm,1.0s
GLB Gilahina Butte 59.59 32 P 00 39 36.3 +0.8
GLB IAmb IAmb 00 39 43.3
comp=Z,29nm,1.3s
SCRK Sand Creek 59.60 29 P 00 39 36.8 +1.2
SCRK IAmb IAmb 00 39 43.6
comp=Z,22nm,0.9s
SCRK Sand Creek 59.60 29 P P 00 39 37.1 +1.4
baz=267,SNR=15
BMAR Burnt Mountain 59.61 25 P P 00 39 36.5 +0.9
BERG Berg Lake 59.62 33 P P 00 39 37.3 +1.5
MENT Mentasta 59.68 31 P P 00 39 36.5 +0.4
VRDI Verde Repeater 59.76 32 P P 00 39 38.0 +1.2
VRDI IAmb IAmb 00 39 44.6
comp=Z,26nm,1.4s
DZA Taraz 59.78 306 *e*P P 00 39 35.1 -2.1
comp=Z,5.3nm,0.8s
DZA Taraz 59.78 306 *e*P P 00 39 35.9 -1.3
DZA pmax pmax
comp=Z,5.0nm,0.8s
F26K Sheenjek River 59.80 25 P P 00 39 38.1 +1.2
F26K IAmb IAmb 00 39 46.5
comp=Z,14nm,0.8s
F26K Sheenjek River 59.80 25 P P 00 39 38.7 +1.9
baz=265,SNR=16
J26L Joseph Creek 59.81 29 P P 00 39 37.6 +0.5
J26L IAmb IAmb 00 39 44.9
comp=Z,25nm,0.9s
J26L Joseph Creek 59.81 29 P P 00 39 38.3 +1.3
baz=267,SNR=20
L26K Log Cabin Wild 59.85 30 P P 00 39 38.3 +1.0
L26K Log Cabin Wild 59.85 30 P P 00 39 39.1 +1.9
baz=268
G26K Porcupine Rive 59.88 26 P P 00 39 39.0 +1.7
G26K IAmb IAmb 00 39 46.2
comp=Z,23nm,1.1s
G26K Porcupine Rive 59.88 26 P P 00 39 39.6 +2.3
baz=265
CRQM Cirque 59.91 33 P P 00 39 38.5 +0.6
CRQM IAmb IAmb 00 39 50.7
comp=Z,20nm,0.8s
CRQE Cirque 59.93 33 P P 00 39 38.8 +0.8
baz=270
HYB Hyderabad 59.96 276 *e*P P 00 39 39.7 +0.9
MCARA McCarthy VSAT 59.97 32 P P 00 39 38.9 +0.9
MCARA IAmb IAmb 00 39 51.7
comp=Z,16nm,0.8s
MCARA McCarthy VSAT 59.97 32 P P 00 39 39.1 +1.1
baz=269
NIL Nilore 59.99 295 P 00 39 37.9 -0.9
NIL Nilore 59.99 295 P P 00 39 37.9 -0.9
NIL pmax pmax
comp=Z,86nm,1.8s
M26K Nabesna, AK 59.99 31 P P 00 39 39.1 +0.8
M26K IAmb IAmb 00 39 49.4
comp=Z,36nm,2.0s
M26K Nabesna, AK 59.99 31 P P 00 39 39.8 +1.5
baz=269
I26K Coal Creek Min 60.03 28 P P 00 39 40.6 +2.2
baz=267
WAX Waxell Ridge 60.05 33 P P 00 39 38.5 -0.2
WAX IAmb IAmb 00 39 55.5
comp=Z,12nm,0.8s
TGL Tana Glacier 60.06 33 P P 00 39 39.3 +0.5
TGL IAmb IAmb 00 39 47.1
comp=Z,22nm,0.9s
C27K Jago River 60.15 23 P P 00 39 39.8 +0.6
C27K IAmb IAmb 00 39 44.4
comp=Z,17nm,0.9s
C27K Jago River 60.15 23 P P 00 39 41.1 +1.9
baz=264
ISLE Juniper Island 60.30 33 P P 00 39 40.8 +0.3
ISLE IAmb IAmb 00 39 48.6
comp=Z,18nm,1.0s
KK31 Karatay Array 60.35 307 P 00 39 39.5 -1.5
KK31 Karatay Array 60.35 307 *i*P P 00 39 39.8 -1.2
KKAR Karatay Array 60.35 307 P P 00 39 39.8 -1.2
KKAR Karatay Array 60.35 307 P P 00 39 39.8 -1.2
K27K Chicken 60.45 29 P P 00 39 42.4 +1.1
K27K IAmb IAmb 00 39 49.4
comp=Z,16nm,1.1s
K27K Chicken 60.45 29 P P 00 39 43.0 +1.7
baz=269
MORW Morawa 60.48 207 P P 00 39 41.2 -0.7
comp=Z,27nm,0.9s
MORW Morawa 60.48 207 P P 00 39 41.2 -0.7
MORW IAmb IAmb 00 39 49.4
comp=Z,31nm,1.2s
M27K Edge Creek, AK 60.52 31 P P 00 39 42.7 +0.7
M27K IAmb IAmb 00 39 49.7
comp=Z,41nm,1.9s
M27K Edge Creek, AK 60.52 31 P P 00 39 43.6 +1.6
baz=270
L27K Beaver Creek, 60.54 30 P P 00 39 43.2 +1.1
L27K Beaver Creek, 60.54 30 P P 00 39 42.4 +0.4
baz=270,SNR=12
BCAR Beaver Creek A 60.56 30 P P 00 39 43.3 +1.1
GRNC Granite Creek 60.59 33 P P 00 39 43.0 +0.4
GRNC IAmb IAmb 00 39 50.7
comp=Z,16nm,1.0s
BARN Barnard Glacie 60.63 33 P P 00 39 43.0 +0.2
BARN IAmb IAmb 00 40 35.1
comp=Z,18nm,1.4s
I27K Kandik River 60.68 27 P P 00 39 43.5 +0.5
baz=268
G27K Doyon Strip 60.71 26 P P 00 39 44.3 +1.2
G27K IAmb IAmb 00 39 53.2
comp=Z,29nm,1.9s
G27K Doyon Strip 60.71 26 P P 00 39 44.0 +0.9
baz=268
H27K Steamboat Moun 60.74 27 P 00 39 44.8 +1.5
H27K Steamboat Moun 60.74 27 P P 00 39 44.8 +1.5
baz=268,SNR=30
CTG Chitna Glacier 60.78 33 P P 00 39 44.6 +0.8
baz=271
CTGM Chitina Glacie 60.79 33 P P 00 39 44.5 +0.7
CTGM IAmb IAmb 00 39 51.5
comp=Z,43nm,1.8s
E27K Coleen River 60.80 24 P 00 39 44.2 +0.5
E27K IAmb IAmb 00 39 52.2
comp=Z,40nm,1.8s
E27K Coleen River 60.80 24 P P 00 39 44.0 +0.3
baz=267
BRLS Boroldav 60.85 307 *e*P P 00 39 44.2 -0.2
comp=Z,5.1nm,0.9s
BRLS Boroldav 60.85 307 *e*P P 00 39 44.2 -0.2
BRLS pmax pmax
comp=Z,5.0nm,0.9s
EGAK Eagle 60.86 28 P P 00 39 45.3 +1.2
EGAK Eagle 60.86 28 P P 00 39 44.0 -0.1
baz=269
TABL Table Mountain 60.90 33 P P 00 39 46.1 +1.4
TABL IAmb IAmb 00 39 52.8
comp=Z,22nm,1.0s
LOGN Logan Glacier 60.95 33 P P 00 39 45.4 +0.3
D27M Malcolm River 61.09 23 P P 00 39 46.8 +1.2
baz=267
CHM Chimkent 61.13 306 *e*P P 00 39 45.2 -1.2
comp=Z,4.7nm,0.4s
CHM Chimkent 61.13 306 *e*P P 00 39 45.2 -1.2
CHM pmax pmax
comp=Z,5.0nm,0.4s
YUK3 Moose Creek 61.19 32 P P 00 39 47.7 +1.0
baz=271
GAR Garm 61.21 302 P 00 39 45.6 -1.5
GAR IAmb IAmb 00 39 47.5
comp=Z,21nm,0.9s
O28M Mount Upton 61.35 33 P P 00 39 47.4 -0.5
O28M IAmb IAmb 00 39 55.6
comp=Z,27nm,1.7s
O28M Mount Upton 61.35 33 P P 00 39 48.6 +0.7
baz=272
I28M Miner Creek 61.38 28 P 00 39 49.1 +1.4
I28M Miner Creek 61.38 28 P P 00 39 48.9 +1.1

baz=270,SNR=10
F28M Old Crow 61.43 25 P **P 00 39 49.9 +2.0**
F28M Old Crow 61.43 25 P **P 00 39 49.1 +1.2**
baz=269,SNR=11
YUK8 Steele Glacier 61.54 32 P **P 00 39 50.7 +1.6**
baz=272
E28M Babbage River 61.58 24 **P 00 39 50.5 +1.5**
E28M Babbage River 61.58 24 P **P 00 39 50.5 +1.5**
baz=268,SNR=15
BLDU Ballidu 61.58 206 P **P 00 39 48.9 -0.5**
comp=Z,33nm,1.7s
DAWY Dawson 61.63 29 **P 00 39 50.1 +0.7**
DAWY Dawson 61.63 29 P **P 00 39 50.5 +1.2**
baz=271,SNR=15
BCPM Bancas Point 61.67 34 P **P 00 39 50.3 +0.7**
BCPM IAmb IAmb 00 39 58.3
comp=Z,20nm,1.0s
PALK Pallekele 61.94 264 LR LR 01 05 50.1
comp=Z,65nm,21.6s,baz=60,slow=35
H29M Whitestone 62.02 27 **P 00 39 53.0 +1.1**
H29M IAmb IAmb 00 40 14.3
comp=Z,24nm,1.2s
H29M Whitestone 62.02 27 P **P 00 39 53.4 +1.5**
baz=271,SNR=7.8
I29M Ogilvie Camp, 62.06 28 P **P 00 39 53.5 +1.2**
I29M IAmb IAmb 00 40 00.8
comp=Z,32nm,1.4s
I29M Ogilvie Camp, 62.06 28 P **P 00 39 53.7 +1.5**
baz=271
YUK4 Talbot Arm 62.08 32 P **P 00 39 54.5 +1.9**
baz=273
M29M Somme Creek 62.10 31 P **P 00 39 54.5 +1.9**
M29M IAmb IAmb 00 40 01.7
comp=Z,16nm,1.0s
M29M Somme Creek 62.10 31 P **P 00 39 54.1 +1.4**
baz=273,SNR=15
J29N Klondike Camp 62.13 29 P **P 00 39 53.7 +0.9**
baz=272
G29M Pine Creek 62.15 26 **P 00 39 54.3 +1.5**
G29M Pine Creek 62.15 26 P **P 00 39 53.6 +0.8**
baz=271,SNR=15
CHGR Chuyangaron 62.16 302 **P 00 39 52.4 -1.1**
CHGR Chuyangaron 62.16 302 P **P 00 39 52.4 -1.1**
CHGR pmax pmax
comp=Z,53nm,0.8s
O29M Mount Kennedy 62.17 33 P **P 00 39 54.3 +1.1**
O29M IAmb IAmb 00 40 01.7
comp=Z,29nm,1.2s
O29M Mount Kennedy 62.17 33 P **P 00 39 54.4 +1.2**
baz=274
E29M Blow River 62.18 24 **P 00 39 54.2 +1.2**
E29M IAmb IAmb 00 40 02.0
comp=Z,22nm,1.1s
E29M Blow River 62.18 24 P **P 00 39 54.4 +1.5**
baz=270,SNR=11
L29M L29M 62.22 30 **P 00 39 54.5 +1.1**
L29M L29M 62.22 30 P **P 00 39 54.1 +0.7**
baz=273,SNR=16
YUK6 Outpost Mounta 62.24 33 P **P 00 39 55.0 +1.2**
baz=274
SIMJ Simiganj 62.28 302 **P 00 39 52.9 -1.4**
SIMJ IAmb IAmb 00 39 54.7
comp=Z,17nm,0.8s
ARPS Mount Arapiles 62.36 181 P **P 00 39 54.7 +0.2**
comp=Z,12nm,1.5s
K29M Barlow Dome 62.46 29 **P 00 39 55.4 +0.4**
K29M IAmb IAmb 00 40 04.0
comp=Z,31nm,1.4s
K29M Barlow Dome 62.46 29 P **P 00 39 56.2 +1.2**
baz=273,SNR=16
P29M Windy Craggy 62.65 34 **P 00 39 56.9 +0.6**
P29M IAmb IAmb 00 40 09.6
comp=Z,15nm,0.9s
P29M Windy Craggy 62.65 34 P **P 00 39 57.6 +1.3**
baz=275,SNR=5.8
HYT Haines Junctio 62.66 33 **P 00 39 57.2 +0.7**
HYT IAmb IAmb 00 40 05.5
comp=Z,13nm,1.0s
HYT Haines Junctio 62.66 33 P **P 00 39 57.8 +1.3**
baz=274
EPYK Eagle Plains 62.68 27 P **P 00 39 57.4 +1.0**
EPYK Eagle Plains 62.68 27 P **P 00 39 58.0 +1.6**
baz=272,SNR=19
N30M Aishikik Lake 62.81 32 P **P 00 39 59.0 +1.6**
N30M Aishikik Lake 62.81 32 P **P 00 39 58.4 +1.0**
baz=274
G30M tAoh Zraii Nji 62.85 26 **P 00 39 58.2 +0.7**
G30M tAoh Zraii Nji 62.85 26 P **P 00 39 58.7 +1.1**
baz=272,SNR=15
M30M Minto, Yukon 62.87 31 P **P 00 39 59.1 +1.4**
M30M IAmb IAmb 00 40 05.9
comp=Z,35nm,1.8s
M30M Minto, Yukon 62.87 31 P **P 00 39 59.3 +1.6**
baz=274
I30M Mount Dempster 62.88 28 **P 00 39 58.9 +1.1**
I30M Mount Dempster 62.88 28 P **P 00 39 59.3 +1.4**
baz=273,SNR=11
J30M Hart River 62.94 29 **P 00 39 59.0 +0.8**
J30M IAmb IAmb 00 40 06.2
comp=Z,33nm,1.6s
J30M Hart River 62.94 29 P **P 00 39 59.8 +1.5**
baz=274,SNR=10
F30M Barrier River 62.99 25 **P 00 39 59.2 +0.8**
F30M Barrier River 62.99 25 P **P 00 39 59.6 +1.2**
baz=272,SNR=15
P30M Million Dollar 62.99 34 P **P 00 39 59.9 +1.3**
baz=275
KBL Kabul 63.18 297 **P 00 39 59.0 -1.5**
KBL IAmb IAmb 00 40 00.9
comp=Z,19nm,0.9s
KBL Kabul 63.18 297 P **P 00 39 59.0 -1.5**
KBL pmax pmax
comp=Z,19nm,1.0s
MAYO Mayo, Yukon 63.20 30 P **P 00 40 02.0 +2.2**
MAYO Mayo, Yukon 63.20 30 P **P 00 40 01.0 +1.2**
baz=274
O30N Mendenhall 63.36 33 P **P 00 40 01.7 +0.6**
O30N Mendenhall 63.36 33 P **P 00 40 01.5 +0.5**
baz=276
PLBC Pleasant Camp 63.36 34 P **P 00 40 01.9 +0.9**
baz=276,SNR=8.4
N31M Braeburn, Yuko 63.44 32 P **P 00 40 02.9 +1.4**
N31M IAmb IAmb 00 40 10.4
comp=Z,14nm,1.0s
N31M Braeburn, Yuko 63.44 32 P **P 00 40 02.1 +0.6**
baz=276
S31K Pelican 63.60 36 P **P 00 40 03.2 +0.7**
baz=277
G31M Satah River 63.62 26 **P 00 40 04.3 +1.8**
G31M Satah River 63.62 26 P **P 00 40 04.1 +1.6**
baz=274,SNR=17
H31M Peel River 63.68 27 **P 00 40 04.0 +1.0**
H31M Peel River 63.68 27 P **P 00 40 04.6 +1.6**
baz=275,SNR=12
F31M Tsiigehtchic 63.79 25 **P 00 40 05.0 +1.4**
F31M IAmb IAmb 00 40 12.7
comp=Z,11nm,0.8s
F31M Tsiigehtchic 63.79 25 P **P 00 40 05.0 +1.4**
baz=274
INK Inuvik 63.80 24 **P 00 40 05.4 +1.7**
INK IAmb IAmb 00 40 11.7
comp=Z,17nm,1.1s
INK Inuvik 63.80 24 P **P 00 40 05.8 +2.1**
comp=Z,6.3nm,0.9s,baz=271,slow=6.5,SNR=12
comp=Z,6.3nm,0.9s
INK Inuvik 63.80 24 P **P 00 40 04.7 +1.0**
baz=274,SNR=11
SKAG Skagway 63.89 34 P **P 00 40 05.1 +0.7**
SKAG IAmb IAmb 00 40 12.5
comp=Z,41nm,1.8s
SKAG Skagway 63.89 34 P **P 00 40 05.3 +0.9**
baz=277
WHY Whitehorse 63.96 33 **P 00 40 06.1 +1.0**
WHY Whitehorse 63.96 33 P **P 00 40 06.0 +0.9**
baz=277
NIUE Niue 63.99 130 P **P 00 40 05.6 0.0**
M31M Drury Creek, Y 64.02 31 P **P 00 40 06.0 +0.7**
M31M Drury Creek, Y 64.02 31 P **P 00 40 06.3 +1.0**
baz=276
BESE Bessie Mountai 64.24 35 P **P 00 40 08.0 +1.1**
R32K Eaglecrest 64.46 35 P **P 00 40 09.6 +1.4**
R32K Eaglecrest 64.46 35 P **P 00 40 09.7 +1.4**
baz=278
SVE Sverdlovsk 64.59 323 *e*P **P 00 40 09.0 -0.1**
SVE pmax pmax
comp=Z,40nm,0.9s

P32M Atlin 64.68 34 P **P 00 40 11.4 +1.6**
baz=278
P33M Teslin, Yukon 65.04 33 P **P 00 40 12.3 +0.2**
P33M IAmb IAmb 00 40 20.1
comp=Z,38nm,1.9s
P33M Teslin, Yukon 65.04 33 P **P 00 40 12.8 +0.7**
baz=279
MMPY Sheldon Lake, 65.40 30 **P 00 40 15.2 +0.9**
MMPY Sheldon Lake, 65.40 30 P **P 00 40 15.2 +0.9**
baz=279
Q32M Nakina River 65.52 35 P **P 00 40 16.4 +1.1**
Q32M Nakina River 65.52 35 P **P 00 40 16.4 +1.1**
baz=280
U33K Whale Pass 65.56 38 P **P 00 40 16.4 +1.0**
baz=280
CRAG Craig 65.68 38 P **P 00 40 16.9 +0.8**
baz=281
ARTI Arti 65.89 323 **P 00 40 16.8 -0.8**
ARTI Arti 65.89 323 LR LR 01 11 48.7
comp=Z,628nm,18.0s,baz=82,slow=39
ARTI Arti 65.89 323*d i*P **P 00 40 16.5 -1.0**
ARTI 00 40 41.2
ARTI S **S 00 49 05.3 +3.0**
ARTI SS **SS 00 53 10.6 -6.4**
ARTI pmax pmax
comp=Z,44nm,0.8s
WRAK Wrangell Islan 65.93 37 P **P 00 40 17.3 -0.4**
WRAK Wrangell Islan 65.93 37 P **P 00 40 18.8 +1.0**
baz=281
R33M Jennings River 66.10 34 P **P 00 40 20.2 +1.2**
R33M Jennings River 66.10 34 P **P 00 40 19.7 +0.7**
baz=279
A36M Sachs Harbour 66.14 20 **P 00 40 18.8 0.0**
A36M Sachs Harbour 66.14 20 P **P 00 40 20.1 +1.2**
baz=280
S34M Telegraph Cree 66.30 36 P **P 00 40 21.1 +1.0**
S34M Telegraph Cree 66.30 36 P **P 00 40 21.3 +1.2**
baz=281
AB31 Akbulak array 66.42 315 **P 00 40 19.9 -1.1**
AB31 IAmb IAmb 00 40 30.5
comp=Z,18nm,0.9s
AB31 Akbulak array 66.42 315 P **P 00 40 20.1 -1.0**
ABKAR Akbulak array 66.42 315 **P 00 40 19.8 -1.2**
RAO Raoul Island 66.46 143 LR LR 01 06 49.2
comp=Z,222nm,19.3s,baz=309,slow=34
V35K Ketchikan 66.55 38 P **P 00 40 22.2 +0.4**
baz=282
DLBC Dease Lake 66.76 35 P **P 00 40 25.7 +2.5**
comp=Z,28nm,0.8s,baz=297,slow=5.1,SNR=5.7
DLBC LR LR 01 08 28.1
comp=Z,1µm,20.5s,baz=238,slow=35
comp=Z,28nm,0.8s
DLBC Dease Lake 66.76 35 P **P 00 40 23.9 +0.7**
baz=282
T35M Bob Quinn 66.95 36 P **P 00 40 24.9 +0.6**
baz=282
AKTO Aktyubinsk 67.37 316 P **P 00 40 26.4 -0.7**
comp=Z,14nm,0.7s,baz=90,slow=6.2,SNR=38
AKTO LR LR 01 10 43.9
comp=Z,412nm,18.6s,baz=70,slow=37
comp=Z,14nm,0.7s
BBB Bella Bella 69.33 41 LR LR 01 06 09.0
comp=Z,142nm,19.7s,baz=294,slow=32
KIRV Kirov 70.06 326 LR LR 01 13 45.1
comp=Z,1µm,19.9s,baz=67,slow=38
KIRV Kirov 70.06 326*ce*P **P 00 40 43.6 0.0**
URZ Urewera 71.41 152 LR LR 01 09 22.4
comp=Z,260nm,20.2s,baz=328,slow=33
SPITS Spitsbergen Ar 71.66 350 P **P 00 40 52.6 -0.5**
comp=Z,4.9nm,0.8s,baz=46,slow=8.3,SNR=1.5
SPITS LR LR 01 13 44.1
comp=Z,152nm,20.8s,baz=39,slow=37
comp=Z,4.9nm,0.8s
RAR Rarotonga 72.65 125 LR LR 01 06 33.8
comp=Z,395nm,19.1s,baz=286,slow=30
YKAW3 Yellowknife Wh 72.81 28 P **P 00 41 00.2 0.0**
YKAW3 IAmb IAmb 00 41 07.3
comp=Z,31nm,1.5s
YKA Yellowknife Ar 72.84 28 **P 00 41 00.4 0.0**
YKA Yellowknife Ar 72.84 28 P **P 00 41 02.4 +2.0**
comp=Z,4.2nm,0.8s,baz=297,slow=6.6,SNR=11
YKA LR LR 01 14 19.3
comp=Z,64nm,20.1s,baz=309,slow=37
comp=Z,4.2nm,0.8s
BELG Belogornoye 73.02 320 *i* P **P 00 41 01.6 0.0**
BELG pmax pmax
comp=Z,7.0nm,0.9s
RES Resolute Bay 73.03 14 LR LR 01 13 32.8
comp=Z,89nm,21.6s,baz=314,slow=36
KLMR Klimovskoe 73.95 330 *e*P P 00 41 01.4 -5.5
KLMR *e* 00 41 16.4
KLMR pmax pmax
comp=Z,37nm,1.6s
ARCES ARCESS Array B 74.88 341 P **P 00 41 13.6 +1.4**
ARCES IAmb IAmb 00 41 36.5
comp=Z,52nm,1.6s
ARCES ARCESS Array B 74.88 341 P **P 00 41 13.7 +1.4**
comp=Z,7.9nm,0.8s,baz=48,slow=6.0,SNR=16
ARCES LR LR 01 18 49.4
comp=Z,693nm,18.4s,baz=69,slow=40
comp=Z,7.9nm,0.8s
ARCES ARCESS Array B 74.88 341 P **P 00 41 13.6 +1.4**
ARCES pmax pmax
comp=Z,52nm,1.6s
B08A Colville Reser 75.91 43 P **P 00 41 19.6 +1.1**
B08A IAmb IAmb 00 41 25.9
comp=Z,41nm,1.8s
MXC Moxie City 76.00 45 P **P 00 41 20.1 +0.9**
MXC IAmb IAmb 00 41 26.8
comp=Z,54nm,1.8s
YBH Yreka Blue Hor 76.26 50 P **P 00 41 20.6 -0.2**
YBH IAmb IAmb 00 41 28.8
comp=Z,31nm,1.8s
YBH Yreka Blue Hor 76.26 50 LR LR 01 10 49.3
comp=Z,14nm,19.4s,baz=284,slow=32
E07A Sunnyside 76.29 45 P **P 00 41 21.4 +0.7**
E07A IAmb IAmb 00 41 28.6
comp=Z,45nm,1.7s
WAH2 Wahluke Slope 76.39 45 P **P 00 41 21.7 +0.4**
WAH2 IAmb IAmb 00 41 29.6
comp=Z,24nm,1.4s
NEEM North Greenlan 76.52 3 *i* P **P 00 41 23.0 +1.1**
NEEM IAmb IAmb 00 41 25.7
comp=Z,28nm,0.9s
N02D Trinity Center 76.55 51 P **P 00 41 21.8 -0.7**
N02D IAmb IAmb 00 43 34.0
comp=Z,48nm,2.0s
HAWA Hanford 76.56 45 P **P 00 41 22.8 +0.6**
HAWA IAmb IAmb 00 41 30.0
comp=Z,31nm,1.8s
MAK Makhachkala 76.57 311 *e*P P 00 41 16.6 -5.8
MAK *e*PPP PPP 00 45 55.6
MAK *e*S **S 00 50 59.6 -6.8**
MAK *e*SS **SS 00 56 03.3 +2.0**
MAK *e*SSS SSS 00 59 21.4
MAK pmax pmax
comp=Z,40nm,1.1s
MAK MLR MLR
comp=Z,1µm,15.0s
PINE Pine Mountain 76.67 48 P **P 00 41 23.4 +0.2**
VRH Novokhopyorsk 76.86 321 *e*P **P 00 41 22.4 -1.4**
VRH pmax pmax
comp=Z,20nm,0.8s
MOS Moscow 77.07 326 *e*P **P 00 41 23.3 -1.6**
MOS *e* 00 41 33.6
MOS MLR MLR
comp=E,1µm,17.0s
MOS MLR MLR
comp=Z,2µm,17.0s
NEW Newport 77.30 42 **P 00 41 27.3 +0.9**
NEW IAmb IAmb 00 41 34.0
comp=Z,35nm,1.6s
NEW Newport 77.30 42 LR LR 01 12 26.0
comp=Z,227nm,18.9s,baz=305,slow=33
NEW Newport 77.30 42 P **P 00 41 27.3 +0.9**
NEW pmax pmax
comp=Z,35nm,1.7s
G08A Pilot Rock 77.37 46 P **P 00 41 28.1 +1.1**
E09A Wood Farm, Sta 77.39 44 P **P 00 41 28.2 +1.3**
E09A IAmb IAmb 00 41 35.2
comp=Z,34nm,1.5s
O03E Paynes Creek 77.45 51 P **P 00 41 28.1 +0.6**
O03E IAmb IAmb 00 41 35.4
comp=Z,21nm,1.1s
MNRC McLaughlin Min 77.55 53 P **P 00 41 29.3 +1.3**
LNOR Lincton Mounta 77.56 45 P **P 00 41 29.7 +1.7**

LNOR IAmb IAmb 00 41 36.8
comp=Z,34nm,1.9s
LPSR Galich'ya Gora 77.81 323 *e*P **P 00 41 32.8 +3.7**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
SUTB Sutter Butte 77.88 52 P **P 00 41 29.8 0.0**
SUTB IAmb IAmb 00 41 37.0
comp=Z,51nm,1.9s
OBN Obninsk 77.90 326 P **P 00 41 30.6 +1.0**
OBN Obninsk 77.90 326 LR LR 01 18 39.5
comp=Z,2µm,18.6s,baz=22,slow=38
OBN Obninsk 77.90 326⇑*e*P **P 00 41 29.6 +0.1**
OBN *e* 00 44 21.7
OBN *e*S **SKSac 00 51 35.1 -5.9**
OBN *e*SS **SS 00 56 20.1 -0.4**
OBN pmax pmax
comp=Z,33nm,1.1s
OBN MLR MLR
comp=Z,2µm,17.0s
ORV Oroville 77.95 52 P **P 00 41 31.2 +1.0**
ORV IAmb IAmb 00 41 38.1
comp=Z,21nm,1.3s
ORV Oroville 77.95 52 P **P 00 41 31.2 +1.0**
ORV pmax pmax
comp=Z,21nm,1.3s
VORR Voronezh 78.07 322 *e*P **P 00 41 29.1 -1.5**
VORR pmax pmax
comp=Z,10.0nm,0.8s
F10A Beach Ranch, E 78.19 45 P **P 00 41 32.9 +1.4**
F10A IAmb IAmb 00 41 46.5
comp=Z,36nm,1.9s
VSR Storozhevoye 78.30 321 *e*P **P 00 41 29.6 -2.3**
VSR pmax pmax
comp=Z,9.0nm,0.9s
VORD Divnogorie 78.34 321 *e*P **P 00 41 30.2 -1.9**
VORD pmax pmax
comp=Z,8.0nm,1.0s
J08A Circle Bar Ran 78.48 47 P **P 00 41 34.8 +1.6**
PPT Papeete 78.52 116 LR LR 01 12 34.7
comp=Z,414nm,18.0s,baz=304,slow=33
PPT2 Papeete2 78.53 116 *e*S **S 00 51 24.5 -3.8**
comp=Z,91nm,25.8s
PPT2 Papeete2 78.53 116 *e*LR LR 01 05 49.3
comp=Z,391nm,26.0s
PPT2 *e*LR LR 01 05 50.3
comp=Z,468nm,24.8s
AFDM Forest Hills D 78.58 52 P **P 00 41 34.6 +0.9**
BMO Blue Mountains 78.61 46 P **P 00 41 34.7 +0.8**
BMO IAmb IAmb 00 41 42.2
comp=Z,20nm,1.2s
BMO Blue Mountains 78.61 46 P **P 00 41 34.7 +0.8**
BMO pmax pmax
comp=Z,20nm,1.3s
BEKR Beckworth 78.63 51 **P 00 41 34.7 +0.5**
GOF Gofitskoye 78.66 315*ce*P **P 00 41 33.7 -0.3**
WVOR Wild Horse Val 78.76 48 P **P 00 41 34.1 -0.7**
WVOR Wild Horse Val 78.76 48 P **P 00 41 34.1 -0.7**
MTOS Mt Oso, Westle 78.91 54 P **P 00 41 35.7 +0.2**
MTOS IAmb IAmb 00 41 46.5
comp=Z,41nm,1.9s
WELL Weller Preserv 78.96 53 P **P 00 41 36.2 +0.3**
BLKN Baker Lake 79.10 22 **P 00 41 37.4 +1.4**
BLKN IAmb IAmb 00 41 42.6
comp=Z,18nm,1.1s
SCZ Santa Cruz 79.22 55 P **P 00 41 37.7 +0.5**
JTMT Jette 79.24 42 **P 00 41 37.8 +0.4**
FINES FINESS Array B 79.31 334 **P 00 41 37.4 +0.3**
FINES FINESS Array B 79.31 334 P **P 00 41 37.6 +0.4**
comp=Z,16nm,0.5s,baz=68,slow=5.3,SNR=130
FINES LR LR 01 19 16.1
comp=Z,445nm,18.2s,baz=61,slow=38
comp=Z,16nm,0.5s
FINES FINESS Array B 79.31 334*ce*P **P 00 41 37.5 +0.3**
FINES pmax pmax
comp=Z,16nm,0.5s
KBZ Khabaz 79.33 313 P **P 00 41 37.9 +0.3**
comp=Z,45nm,0.8s,baz=75,slow=5.8,SNR=98
KBZ LR LR 01 19 20.2
comp=Z,843nm,20.4s,baz=57,slow=38
KBZ Khabaz 79.33 313*ce*P **P 00 41 38.1 +0.5**
KBZ pmax pmax
comp=Z,43nm,0.9s
PLID Pearl Lake 79.35 45 **P 00 41 39.2 +1.1**
KVAR Kislovodsk Arr 79.36 314 LR LR 01 19 47.4
comp=Z,374nm,18.3s,baz=276,slow=38
KIV Kislovodsk 79.37 314 **P 00 41 38.6 +0.6**
KIV Kislovodsk 79.37 314 ⇑P **P 00 41 39.1 +1.0**
KIV Kislovodsk 79.37 314 P **P 00 41 39.0 +1.0**
CMB Columbia Colle 79.37 53 **P 00 41 38.5 +0.4**
CMB Columbia Colle 79.37 53 P **P 00 41 38.5 +0.4**
CMB pmax pmax
comp=Z,13nm,1.0s
PAHR Pah Rah Range 79.38 51 P **P 00 41 38.9 +0.6**
SHA1 Shidzhatmaz 79.48 314 *i* P **P 00 41 38.1 -0.7**
BBGB Big Mountain B 79.50 55 P **P 00 41 40.1 +1.2**
BBGB IAmb IAmb 00 41 51.1
comp=Z,28nm,1.1s
GNI Garni 79.61 310 **P 00 41 40.0 +0.5**
GNI IAmb IAmb 00 41 51.2
comp=Z,27nm,1.0s
GNI Garni 79.61 310 LR LR 01 20 29.7
comp=Z,214nm,18.0s,baz=70,slow=38
GNI Garni 79.61 310*ce*P **P 00 41 39.8 +0.3**
GNI pmax pmax
comp=Z,20nm,1.3s
BUCR Buckhorn Ranch 79.69 53 P **P 00 41 40.9 +1.0**
PMPB Monarch Peak 79.82 55 P **P 00 41 41.7 +1.1**
PMPB IAmb IAmb 00 42 34.8
comp=Z,43nm,1.5s
WAKR Walker 79.85 52 P **P 00 41 41.1 +0.2**
MSO Missoula 79.86 43 P **P 00 41 41.6 +0.9**
ERBR Yeremizino-Bor 80.00 316 *e*P **P 00 41 39.9 -1.4**
ERBR *e*S **S 00 51 43.8 +0.7**
ERBR pmax pmax
comp=Z,45nm,0.8s
ERBR MLR MLR
comp=Z,759nm,18.0s
MFID Camas Ranch 80.20 47 **P 00 41 42.4 -0.1**
MFID IAmb IAmb 00 41 50.2
comp=Z,31nm,1.4s
QVMT Ovando 80.33 42 P **P 00 41 43.1 -0.1**
RYN Ryan 80.45 52 P **P 00 41 44.5 +0.4**
HEL Helsinki 80.50 333 P P 00 41 55.7 +12
HEL pmax pmax
comp=Z,30nm,1.7s
LHV Little Huntoon 80.62 52 P **P 00 41 45.1 +0.3**
LHV IAmb IAmb 00 41 53.7
comp=Z,57nm,1.8s
NVAR Mina Array Bea 80.69 52 P **P 00 41 46.4 +1.0**
NVAR Mina Array Bea 80.69 52 P **P 00 41 48.1 +2.7**
comp=Z,1.3nm,0.7s,baz=291,slow=7.7,SNR=6.1
NVAR LR LR 01 10 24.3
comp=Z,298nm,22.0s,baz=284,slow=30
comp=Z,1.3nm,0.7s
UPNV Upernavik 80.70 6 *i* P P 00 41 38.6 -5.9
UPNV IAmb IAmb 00 41 42.4
comp=Z,61nm,0.8s
NV11 Mina Array Sit 80.79 52 **P 00 41 45.9 0.0**
LYMT Lyon Mountain 80.80 42 P **P 00 41 46.1 +0.2**
HLID Hailey 81.05 46 P **P 00 41 47.6 +0.3**
VES Vestal, Richgr 81.24 55 P **P 00 41 49.4 +1.2**
VES IAmb IAmb 00 41 55.5
comp=Z,25nm,1.0s
LRM Limekiln Ridge 81.24 43 P **P 00 41 47.8 -0.5**
DLMT Dillon 81.37 44 P **P 00 41 49.5 +0.7**
DLMT IAmb IAmb 00 41 57.0
comp=Z,31nm,1.6s
DSP Deep Springs 81.39 53 **P 00 41 50.3 +1.4**
SOC Sochi 81.46 314 *e*P **P 00 41 46.0 -3.1**
SOC *e*S **S 00 51 57.2 -1.2**
SOC *e*SSS SSS 01 00 36.5
SOC pmax pmax
comp=Z,31nm,1.0s
SOC MLR MLR
comp=Z,482nm,16.0s
MCMT McKenzie Canyo 81.46 44 P **P 00 41 50.3 +0.8**
GEVA Gevas 81.58 308 P **P 00 41 50.9 +0.8**
GEVA IAmb IAmb 00 42 01.3
comp=Z,15nm,0.9s
TPH Tonopah 81.61 52 P **P 00 41 51.0 +0.8**
TPH Tonopah 81.61 52 P **P 00 41 51.1 +0.8**
TPH pmax pmax
comp=Z,20nm,1.4s
TBI Tubuai 81.69 121 *e*P P 00 41 42.2 -8.3
comp=Z,510nm,27.5s

TBI **Tubuai** **81.69 121** *e*S **S** **00 51 59.3 -1.9**
comp=Z,965nm,39.8s
TBI **Tubuai** **81.69 121** *e*LR LR 01 07 15.4
comp=Z,1µm,22.0s
CWC **Cottonwood Cre** **81.71 54** P **P** **00 41 51.3 +0.5**
SUMG **Summit** **81.76 0** P **P** **00 41 51.5 +0.8**
SUMG **Summit** **81.76 0** P **P** **00 41 51.5 +0.8**
SUMG pmax pmax
comp=Z,61nm,1.9s
SUMG **Summit** **81.76 0** *i* P **P** **00 41 52.6 +1.9**
SUMG IAmb IAmb 00 41 54.9
comp=Z,24nm,1.3s
ISA **Isabella, Lake** **81.76 54** P **P** **00 41 50.9 -0.1**
ISA **Isabella, Lake** **81.76 54** P **P** **00 41 50.9 -0.1**
ISA pmax pmax
comp=Z,19nm,1.6s
ELK **Elko** **81.79 49** **P** **00 41 53.8 +2.5**
ELK **Elko** **81.79 49** LR LR 01 12 05.3
comp=Z,144nm,21.7s,baz=290,slow=31
ELK **Elko** **81.79 49** P **P** **00 41 53.8 +2.5**
ELK pmax pmax
comp=Z,15nm,1.3s
BOZ **Bozeman (W)** **81.86 43** P **P** **00 41 52.8 +1.4**
BOZ **Bozeman (W)** **81.86 43** P **P** **00 41 52.8 +1.4**
BOZ pmax pmax
comp=Z,8.0nm,1.3s
GMN **Gold Mountain** **81.92 53** P **P** **00 41 54.1 +2.1**
GURO **Guroymak-BITLI** **82.20 309** P **P** **00 41 53.6 +0.2**
TAOE **Nuku Hiva Isla** **82.21 104** *e*LR LR 01 07 35.2
comp=Z,512nm,22.5s
TPO **Tropico Hills** **82.29 55** P **P** **00 41 55.4 +1.7**
TPO IAmb IAmb 00 42 02.2
comp=Z,38nm,1.4s
MPMC **Manual Prospec** **82.31 54** P **P** **00 41 55.3 +1.3**
ANN **Anapa** **82.33 316** *e*P **P** **00 41 51.2 -2.5**
ANN *e* 00 44 59.1
FFC **Flin Flon** **82.36 32** **P** **00 41 55.1 +1.4**
FFC IAmb IAmb 00 41 57.9
comp=Z,14nm,0.8s
FFC **Flin Flon** **82.36 32** P **P** **00 41 55.1 +1.4**
FFC pmax pmax
comp=Z,14nm,0.9s
LRMC **Laurel Mtn Rad** **82.42 54** P **P** **00 41 55.9 +1.3**
LRMC IAmb IAmb 00 42 01.9
comp=Z,43nm,1.7s
YHL **Hebgen Lake** **82.49 44** P **P** **00 41 54.5 -0.5**
MNK **Minsk** **82.51 328** *i* P **P** **00 41 52.4 -2.0**
MNK *i* 00 45 01.6
MNK *i* PPP PPP 00 46 52.5
MNK *i* S **S** **00 52 10.3 +1.5**
MNK *i* SS **SS** **00 57 32.5 +3.1**
MNK *i* SSS SSS 01 01 00.8
MNK pmax pmax
comp=N,17nm,0.9s
MNK pmax pmax
comp=E,19nm,1.1s
MNK pmax pmax
comp=Z,26nm,0.9s
MNK MLR MLR
comp=E,1µm,21.0s
MNK MLR MLR
comp=N,2µm,20.0s
MNK MLR MLR
comp=Z,763nm,16.0s
WSHM **Spangler Hills** **82.51 54** P **P** **00 41 56.0 +1.1**
WSHM IAmb IAmb 00 42 02.2
comp=Z,18nm,1.4s
YHB **Horse Butte** **82.53 44** P **P** **00 41 57.5 +2.4**
YHB IAmb IAmb 00 42 09.6
comp=Z,12nm,0.9s
KOPT **Kop Dagi** **82.59 311** P **P** **00 41 55.6 +0.1**
WCT **Wildcat Mounta** **82.60 53** P **P** **00 41 57.1 +1.7**
CCCA **Chr Cany lake** **82.64 54** P **P** **00 41 56.4 +0.9**
CCCA IAmb IAmb 00 42 03.1
comp=Z,48nm,1.8s
R11B **Troy Canyon, C** **82.64 51** **P** **00 41 56.3 +0.6**
R11B IAmb IAmb 00 42 03.1
comp=Z,29nm,1.7s
MWC **Mount Wilson** **82.70 56** P **P** **00 41 55.5 -0.6**
MWC **Mount Wilson** **82.70 56** P **P** **00 41 55.5 -0.6**
MWC pmax pmax
comp=Z,24nm,0.5s
QSM **Queen of Sheba** **82.80 54** P **P** **00 41 56.2 -0.2**
QSM IAmb IAmb 00 42 04.4
comp=Z,18nm,1.3s
TPNV **Topopah Spring** **82.80 52** P **P** **00 41 55.6 -1.0**
TPNV IAmb IAmb 00 42 03.8
comp=Z,20nm,1.5s
TPNV **Topopah Spring** **82.80 52** P **P** **00 41 55.6 -1.0**
TPNV pmax pmax
comp=Z,20nm,1.5s
S11A **Rachel** **82.84 52** P **P** **00 41 56.5 -0.2**
GWY **Greenwater Val** **82.84 53** P **P** **00 41 56.7 -0.1**
GWY IAmb IAmb 00 42 04.0
comp=Z,31nm,1.6s
YNR **Norris Junctio** **82.87 44** P **P** **00 41 57.2 +0.4**
YNR IAmb IAmb 00 42 06.4
comp=Z,28nm,1.4s
YFT **Old Faithful** **82.90 44** P **P** **00 41 58.2 +1.2**
YFT IAmb IAmb 00 42 08.6
comp=Z,35nm,1.4s
HVU **Hansel Valley** **82.95 47** P **P** **00 41 57.2 0.0**
HVU IAmb IAmb 00 42 05.1
comp=Z,17nm,1.4s
HVU **Hansel Valley** **82.95 47** P **P** **00 41 57.2 0.0**
HVU pmax pmax
comp=Z,17nm,1.4s
BFSC **Mount Baldy Ra** **82.99 55** P **P** **00 41 56.1 -1.5**
YPP **Pitchstone Pla** **83.01 44** P **P** **00 41 57.0 -0.7**
YPP IAmb IAmb 00 42 06.7
comp=Z,25nm,1.8s
LKWY **Lake** **83.12 44** P **P** **00 41 58.5 +0.3**
LKWY IAmb IAmb 00 42 07.7
comp=Z,15nm,0.9s
LKWY **Lake** **83.12 44** P **P** **00 41 58.5 +0.3**
LKWY pmax pmax
comp=Z,15nm,1.0s
YNE **Yellowstone No** **83.14 43** P **P** **00 41 57.8 -0.5**
YNE IAmb IAmb 00 44 52.6
comp=Z,13nm,0.9s
GSC **Goldstone, Bar** **83.14 54** P **P** **00 41 57.8 -0.4**
GSC IAmb IAmb 00 42 05.6
comp=Z,27nm,1.5s
GSC **Goldstone, Bar** **83.14 54** P **P** **00 41 57.8 -0.4**
GSC pmax pmax
comp=Z,27nm,1.5s
YMP **Mirror Lake Pl** **83.18 43** P **P** **00 41 58.7 +0.2**
YMP IAmb IAmb 00 42 08.9
comp=Z,11nm,0.9s
BGU **Big Grassy Mou** **83.19 48** P **P** **00 41 58.0 -0.4**
SPR3 **Spring Creek 3** **83.21 50** P **P** **00 41 57.6 -1.2**
SPR3 IAmb IAmb 00 42 07.4
comp=Z,27nm,1.7s
SHOC **Shoshone, Teco** **83.26 53** P **P** **00 41 58.4 -0.3**
SHOC IAmb IAmb 00 42 06.0
comp=Z,38nm,1.7s
TPAW **Teton Pass** **83.30 45** P **P** **00 41 58.5 -0.7**
TPAW IAmb IAmb 00 42 15.1
comp=Z,16nm,1.4s
ELS **Elsinore Mount** **83.43 56** P **P** **00 42 00.0 +0.3**
SNOW **Snow King Moun** **83.44 45** P **P** **00 42 00.0 +0.2**
SNOW IAmb IAmb 00 42 07.7
comp=Z,38nm,1.9s
PRN **Pahroc Range** **83.44 52** P **P** **00 41 58.3 -1.6**
LOHW **Long Hollow** **83.46 45** P **P** **00 41 59.9 0.0**
LOHW IAmb IAmb 00 42 07.8
comp=Z,18nm,1.6s
RLMT **Red Lodge** **83.54 43** P **P** **00 41 59.6 -0.7**
AHID **Auburn Hatcher** **83.56 45** P **P** **00 41 59.7 -0.7**
AHID IAmb IAmb 00 42 10.1
comp=Z,29nm,1.8s
MARD **Mardin** **83.64 308** P **P** **00 42 00.5 -0.4**
PABE **Paberze** **83.74 330** **P** **00 42 00.0 -0.7**
PSUT **Pine Spring** **83.76 50** P **P** **00 42 00.8 -0.7**
PSUT IAmb IAmb 00 42 08.7
comp=Z,17nm,1.4s
SHPR **Sheep Range** **83.78 52** P **P** **00 42 01.1 -0.5**
HWUT **Hardware Ranch** **83.83 47** P **P** **00 42 00.4 -1.4**
HWUT IAmb IAmb 00 42 10.2
comp=Z,16nm,1.2s
MTPC **Mountain Pass** **83.97 54** P **P** **00 42 01.9 -0.6**
MTPC IAmb IAmb 00 42 10.0
comp=Z,35nm,1.9s
AKASG **Malin Array Be** **83.98 324** P **P** **00 42 01.4 -0.7**
AKASG IAmb IAmb 00 42 07.4
comp=Z,13nm,1.2s
AKASG **Malin Array Be** **83.98 324** P **P** **00 42 01.2 -0.9**
comp=Z,3.0nm,0.4s,baz=52,slow=5.2,SNR=31
AKASG LR LR 01 22 23.1
comp=Z,849nm,18.4s,baz=47,slow=38
comp=Z,3.0nm,0.4s
AKASG **Malin Array Be** **83.98 324** P **P** **00 42 01.4 -0.7**
AKASG pmax pmax
comp=Z,13nm,1.2s
AKBB **Malin Array Si** **83.98 324** **P** **00 42 01.4 -0.6**
AKBB IAmb IAmb 00 42 08.3
comp=Z,15nm,1.1s
AKBB **Malin Array Si** **83.98 324** *i* P **P** **00 42 01.5 -0.6**
AKBB pmax pmax
comp=Z,7.0nm,0.8s
KIEV **Kiev** **83.99 324** **P** **00 42 01.4 -0.7**
KIEV IAmb IAmb 00 42 08.3
comp=Z,12nm,1.0s
KIEV **Kiev** **83.99 324** ⇓P **P** **00 42 01.8 -0.3**
KIEV **Kiev** **83.99 324** P **P** **00 42 01.8 -0.3**
DNR **Dunn Ranch,Anz** **84.06 56** P **P** **00 42 02.0 -1.0**
CTU **Camp Tracy** **84.15 48** P **P** **00 42 03.2 -0.2**
CTU IAmb IAmb 00 42 10.7
comp=Z,41nm,1.9s
PFO **Pinyon Flats O** **84.16 56** P **P** **00 42 03.1 -0.4**
PFO IAmb IAmb 00 42 10.7
comp=Z,18nm,1.5s
PFO **Pinyon Flats O** **84.16 56** LR LR 01 16 00.2
comp=Z,194nm,18.3s,baz=262,slow=33
PFO **Pinyon Flats O** **84.16 56** P **P** **00 42 03.1 -0.4**
PFO pmax pmax
comp=Z,18nm,1.5s
TCUT **Toone Canyon** **84.17 47** P **P** **00 42 05.1 +1.5**
PMD **Palm Desert** **84.21 55** P **P** **00 42 04.0 +0.4**
PMD IAmb IAmb 00 42 10.7
comp=Z,31nm,1.6s
SIM **Simferopol'** **84.30 318** *e*P **P** **00 42 04.1 +0.3**
SIM pmax pmax
comp=Z,48nm,0.8s
BELC **Belle Mtn. Jos** **84.33 55** P **P** **00 42 04.1 -0.3**
BELC IAmb IAmb 00 42 11.2
comp=Z,26nm,1.8s
BORC **Borrego Spring** **84.35 56** P **P** **00 42 04.0 -0.3**
V12A **Nelson** **84.37 53** **P** **00 42 05.0 +0.5**
V12A IAmb IAmb 00 42 12.8
comp=Z,28nm,1.5s
JLU **Jordanelle** **84.39 47** P **P** **00 42 05.3 +0.5**
BAR **Barrett** **84.43 56** P **P** **00 42 05.0 +0.2**
LAO **LASA Array** **84.54 40** **P** **00 42 05.7 +0.5**
BW06 **Boulder Array** **84.55 45** P **P** **00 42 05.8 +0.3**
PD31 **Pinedale Array** **84.55 45** **P** **00 42 06.3 +0.9**
PDAR **Pinedale Array** **84.55 45** **P** **00 42 05.7 +0.2**
PDAR **Pinedale Array** **84.55 45** P **P** **00 42 07.8 +2.3**
comp=Z,1.2nm,0.8s,baz=297,slow=9.3,SNR=10
PDAR LR LR 01 14 25.0
comp=Z,182nm,21.0s,baz=296,slow=32
comp=Z,1.2nm,0.8s
MPU **Maple Canyon** **84.56 48** P **P** **00 42 06.4 +0.9**
MPU IAmb IAmb 00 42 13.6
comp=Z,17nm,1.3s
CCUT **Cedar City** **84.56 51** **P** **00 42 06.4 +0.8**
DGMT **Dagmar** **84.73 38** P **P** **00 42 07.3 +1.3**
SZCU **Shurtz Canyon** **84.73 51** P **P** **00 42 07.7 +1.2**
NC405 **NORSAR Array S** **84.74 338** P **P** **00 42 05.6 -0.2**
HFS **Hagfors** **84.78 337** P **P** **00 42 05.8 -0.2**
comp=Z,13nm,0.7s,baz=40,slow=1.2,SNR=20
HFS LR LR 01 24 03.6
comp=Z,465nm,18.7s,baz=36,slow=39
comp=Z,13nm,0.7s
IRM **Iron Mountain** **84.88 55** P **P** **00 42 06.9 -0.2**
IRM IAmb IAmb 00 42 14.5
comp=Z,19nm,1.4s
BSUT **Blindstream Ca** **84.88 47** P **P** **00 42 06.7 -0.7**
BSUT IAmb IAmb 00 42 19.3
comp=Z,21nm,1.7s
BC3 **Big Chuckawall** **84.89 55** P **P** **00 42 08.6 +1.4**
BC3 IAmb IAmb 00 42 14.5
comp=Z,30nm,1.6s
LCMT **Little Creek M** **84.90 51** P **P** **00 42 08.4 +1.2**
LCMT IAmb IAmb 00 42 14.8
comp=Z,22nm,1.5s
NC204 **NORSAR Array S** **84.93 339** P **P** **00 42 06.5 -0.3**
NB2 **NORSAR Subarra** **84.96 339** P **P** **00 42 06.7 -0.2**
comp=Z,17nm,1.0s,baz=44,slow=5.3
NB2 **NORSAR Subarra** **84.96 339** P **P** **00 42 06.7 -0.2**
comp=Z,17nm,1.0s,baz=44,slow=5.3
NOA **NORSAR Array B** **84.96 339** P **P** **00 42 06.7 -0.2**
comp=Z,7.7nm,0.8s,baz=48,slow=4.7,SNR=20
NOA PP **PP** **00 45 25.6 +2.5**
comp=Z,2.5nm,0.9s,baz=45,slow=8.3,SNR=3.9
NOA LR LR 01 24 11.4
comp=Z,318nm,18.8s,baz=30,slow=39
comp=Z,7.7nm,0.8s
YUH **Yuha Desert** **85.00 56** P **P** **00 42 08.6 +1.0**
SUW **Suwalki** **85.02 329** P **P** **00 42 06.7 -0.6**
SUW **Suwalki** **85.02 329** P **P** **00 42 06.7 -0.6**
TOKA **Tokat** **85.14 313** P **P** **00 42 09.2 +0.9**
TOKA IAmb IAmb 00 42 18.9
comp=Z,17nm,0.9s
MTPU **Mount Pierson** **85.15 50** P **P** **00 42 08.6 -0.2**
TMUT **Trail Mountain** **85.20 49** P **P** **00 42 09.5 +0.6**
KNB **Kanab** **85.20 51** **P** **00 42 10.0 +1.2**
KNB **Kanab** **85.20 51** P **P** **00 42 10.0 +1.2**
KNB pmax pmax
comp=Z,37nm,1.5s
ESJX **Sierra Juarez** **85.28 57** P **P** **00 42 08.6 -0.7**
ESJX IAmb IAmb 00 42 16.4
comp=Z,24nm,1.7s
PKCU **Pink Cliffs** **85.35 51** P **P** **00 42 09.5 -0.2**
PKCU IAmb IAmb 00 42 26.1
comp=Z,31nm,1.9s
W13A **Hualapai Mount** **85.36 53** P **P** **00 42 08.6 -1.1**
Q16A **Castle Valley** **85.41 49** P **P** **00 42 09.8 0.0**
Q16A IAmb IAmb 00 42 18.2
comp=Z,15nm,1.0s
P17A **Butcher Ranch,** **85.42 48** P **P** **00 42 10.2 +0.3**
P17A IAmb IAmb 00 42 17.2
comp=Z,22nm,1.4s
BLYC **Blythe** **85.53 55** P **P** **00 42 09.7 -0.5**
BLYC IAmb IAmb 00 42 17.8
comp=Z,16nm,1.4s
P18A **Preston Nutter** **85.68 48** P **P** **00 42 11.6 +0.3**
SRU **San Rafael Swe** **85.75 48** P **P** **00 42 12.4 +0.9**
SRU IAmb IAmb 00 42 18.4
comp=Z,31nm,1.7s
SRU **San Rafael Swe** **85.75 48** P **P** **00 42 12.4 +0.9**
SRU pmax pmax
comp=Z,31nm,1.7s
SORM **Soroca** **85.90 322** ⇓P **P** **00 42 11.2 -0.7**
SORM **Soroca** **85.90 322** P **P** **00 42 11.1 -0.7**
HMU **Henry Mountain** **86.19 50** P **P** **00 42 15.4 +1.6**
HMU IAmb IAmb 00 42 20.5
comp=Z,12nm,1.0s
GAZ **Gaziantep** **86.21 310** **P** **00 42 13.9 +0.3**
GAZ IAmb IAmb 00 42 16.5
comp=Z,19nm,1.0s
RAYN **Ar Rayn** **86.27 294** P **P** **00 42 13.5 -0.7**
RAYN **Ar Rayn** **86.27 294** P **P** **00 42 13.5 -0.7**
RAYN pmax pmax
comp=Z,20nm,0.8s
BNN **Bunyan** **86.30 312** P **P** **00 42 13.8 -0.4**
K22A **Casper** **86.52 44** P **P** **00 42 15.3 +0.1**
K22A IAmb IAmb 00 42 22.3
comp=Z,34nm,1.8s
Y14A **Wickenburg** **86.55 54** P **P** **00 42 15.8 +0.4**
Y14A IAmb IAmb 00 42 22.7
comp=Z,26nm,1.5s
113A **Mohawk Valley,** **86.55 55** **P** **00 42 15.8 +0.4**
113A IAmb IAmb 00 42 22.6
comp=Z,23nm,1.6s
O20A **White River Ci** **86.75 47** **P** **00 42 17.3 +0.9**
O20A IAmb IAmb 00 42 23.3
comp=Z,17nm,1.4s
SFJD **Kangerlussuaq** **86.81 5** LR LR 01 23 28.4
comp=Z,98nm,19.6s,baz=354,slow=37
WUAZ **Wupatki** **86.95 52** P **P** **00 42 19.1 +1.7**
WUAZ IAmb IAmb 00 42 25.7
comp=Z,16nm,1.3s
PV21 **Cone Mtn., Par** **87.07 48** P **P** **00 42 18.3 +0.2**
PV23 **Carpenter Ridg** **87.10 48** P **P** **00 42 18.9 +0.6**
PV23 IAmb IAmb 00 42 27.5
comp=Z,14nm,0.7s
PV10 **Paradox Valley** **87.12 48** P **P** **00 42 18.5 +0.2**
PV14 **Lion Creek, Pa** **87.14 48** P **P** **00 42 18.1 -0.3**
PV14 IAmb IAmb 00 42 25.4
comp=Z,18nm,1.1s
HAYD **Hayden** **87.18 46** P **P** **00 42 18.3 -0.3**
HAYD IAmb IAmb 00 42 26.2
comp=Z,15nm,1.4s
PV20 **West Nyswonger** **87.19 48** P **P** **00 42 19.5 +0.9**
PV19 **Morning Glory** **87.19 48** P **P** **00 42 20.1 +1.4**
PV04 **Paradox Valley** **87.20 48** P **P** **00 42 19.0 +0.3**
PV22 **Blue Mesa, Par** **87.21 48** P **P** **00 42 19.4 +0.7**
PV22 IAmb IAmb 00 42 25.8
comp=Z,16nm,1.4s
PV17 **East Wray Mesa** **87.23 49** P **P** **00 42 19.9 +1.1**
RSSD **Black Hills** **87.23 42** P **P** **00 42 19.0 +0.3**
RSSD IAmb IAmb 00 42 25.8
comp=Z,31nm,1.7s
RSSD **Black Hills** **87.23 42** P **P** **00 42 19.0 +0.3**
RSSD pmax pmax
comp=Z,31nm,1.7s
PV05 **Paradox Valley** **87.24 49** P **P** **00 42 20.1 +1.2**
PV05 IAmb IAmb 00 42 26.8
comp=Z,34nm,1.7s
PV16 **Nyswonger Mesa** **87.24 48** P **P** **00 42 18.9 0.0**
PV16 IAmb IAmb 00 42 26.8
comp=Z,13nm,1.0s
FRB **Frobisher Bay** **87.25 13** LR LR 01 21 32.7
comp=Z,124nm,21.8s,baz=322,slow=36
PV11 **David Mesa, Pa** **87.28 48** P **P** **00 42 20.6 +1.6**
PV11 IAmb IAmb 00 42 26.1
comp=Z,14nm,1.0s
PV18 **Skein Mesa, Pa** **87.28 49** P **P** **00 42 20.0 +1.0**
PV12 **Saucer Basin,** **87.31 48** P **P** **00 42 20.5 +1.3**
PV03 **Paradox Valley** **87.31 48** P **P** **00 42 20.4 +1.1**
PV03 IAmb IAmb 00 42 26.9
comp=Z,20nm,1.3s
BR131 **Keskin Array S** **87.32 313** IAmb IAmb 00 42 21.6
comp=Z,8.3nm,0.8s
BRTR **Keskin Array B** **87.32 313** **P** **00 42 18.1 -1.1**
BRTR **Keskin Array B** **87.32 313** P **P** **00 42 18.2 -1.0**
comp=Z,5.8nm,0.8s,baz=97,slow=2.1,SNR=30
comp=Z,5.8nm,0.8s
BRTR **Keskin Array B** **87.32 313** *ce*P **P** **00 42 18.3 -0.8**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
PV07 **Paradox Valley** **87.36 48** P **P** **00 42 20.0 +0.6**
PV07 IAmb IAmb 00 42 26.5
comp=Z,17nm,1.7s
PV13 **Radium Mtn., P** **87.38 49** P **P** **00 42 20.7 +1.1**
PV02 **Paradox Valley** **87.41 48** P **P** **00 42 21.0 +1.3**
X16A **Lo Mia Camp, P** **87.45 53** P **P** **00 42 21.3 +1.4**
X16A IAmb IAmb 00 42 27.7
comp=Z,17nm,1.6s
PV15 **Paradox Valley** **87.52 48** P **P** **00 42 21.5 +1.2**
BEL **Belsk** **87.52 328** P P 00 42 04.1 -16
BEL pmax pmax
comp=Z,26nm,1.8s
PV01 **Paradox Valley** **87.56 48** P **P** **00 42 20.7 +0.3**
PV01 IAmb IAmb 00 42 27.4
comp=Z,23nm,1.7s
MDND **Maddock** **87.60 37** **P** **00 42 20.4 +0.3**
214A **Organ Pipe Nat** **87.65 56** P **P** **00 42 21.4 +0.7**
214A IAmb IAmb 00 42 29.1
comp=Z,16nm,1.2s
CFR **Carcaliu** **87.72 320** ⇑P **P** **00 42 19.4 -1.3**
CFR **Carcaliu** **87.72 320** P **P** **00 42 19.4 -1.3**
TPGR **Topolog** **87.74 320** ⇑P **P** **00 42 20.1 -0.8**
E28A **Huff** **87.76 38** P **P** **00 42 22.3 +1.3**
BUR08 **Bucovina Ar. S** **87.91 323** P **P** **00 42 20.8 -0.9**
BUR08 IAmb IAmb 00 43 44.0
comp=Z,27nm,2.0s
BURAR **Bucovina Array** **87.92 323** P **P** **00 42 20.6 -1.2**
BURAR **Bucovina Array** **87.92 323** ⇓P **P** **00 42 21.5 -0.3**
BURAR **Bucovina Array** **87.92 323** P **P** **00 42 21.4 -0.3**
TIRR **Tirgusor** **87.97 319** P **P** **00 42 21.9 0.0**
TIRR **Tirgusor** **87.97 319** P **P** **00 42 21.9 0.0**
TIRR pmax pmax
comp=Z,37nm,1.5s
KWP **Kalwaria Pacla** **87.99 326** *e*P **P** **00 42 22.2 +0.2**
ULM **Lac du Bonnet** **88.04 33** P **P** **00 42 23.9 +1.8**
comp=Z,3.2nm,0.8s,baz=334,slow=6.1,SNR=6.6
ULM LR LR 01 23 36.1
comp=Z,89nm,19.1s,baz=319,slow=37
comp=Z,3.2nm,0.8s
ULM **Lac du Bonnet** **88.04 33** *i* P **P** **00 42 21.1 -1.0**
MVCO **Mesa Verde** **88.09 49** P **P** **00 42 21.8 -1.2**
MVCO IAmb IAmb 00 42 32.5
comp=Z,27nm,1.9s
HARR **Harsova** **88.12 320** ⇑P **P** **00 42 22.2 -0.4**
HARR **Harsova** **88.12 320** P **P** **00 42 22.2 -0.4**
VRI **Vrincioaia** **88.13 321** ⇑P **P** **00 42 23.2 +0.5**
VRI **Vrincioaia** **88.13 321** P **P** **00 42 23.2 +0.5**
TURR **Turia** **88.41 322** ⇓P **P** **00 42 24.1 0.0**
X18A **Snowflake** **88.46 52** P **P** **00 42 25.2 +0.5**
X18A IAmb IAmb 00 42 32.2
comp=Z,26nm,2.0s
OZUR **88.52 322** ⇑P **P** **00 42 23.6 -1.0**
ISCO **Idaho Springs** **88.63 46** P **P** **00 42 25.6 0.0**
ISCO IAmb IAmb 00 42 33.3
comp=Z,26nm,1.9s
ISCO **Idaho Springs** **88.63 46** P **P** **00 42 25.6 0.0**
ISCO pmax pmax
comp=Z,26nm,1.9s
MLR **Muntele Rosu** **88.79 321** LR LR 01 25 05.5
comp=Z,370nm,18.1s,baz=58,slow=38
DOPR **Dopca** **88.82 322** ⇓P **P** **00 42 26.5 +0.5**
ASF **Jabal al Asfar** **88.92 305** LR LR 01 27 01.9
comp=Z,132nm,18.6s,baz=64,slow=39
TUC **Tucson** **88.97 54** P **P** **00 42 27.5 +0.5**
TUC IAmb IAmb 00 42 34.9
comp=Z,18nm,1.6s
TUC **Tucson** **88.97 54** P **P** **00 42 27.5 +0.5**
TUC pmax pmax
comp=Z,18nm,1.6s
OJC **Ojcow** **89.05 327** *e*P **P** **00 42 26.2 -0.7**
OJC **Ojcow** **89.05 327** P **P** **00 42 27.3 +0.4**
OJC **Ojcow** **89.05 327** P **P** **00 42 27.3 +0.4**
AGMN **Agassiz Nation** **89.29 35** P **P** **00 42 27.7 -0.4**
AGMN IAmb IAmb 00 42 35.6
comp=Z,17nm,1.2s
NIE **Niedzica** **89.33 327** *e*P **P** **00 42 28.2 -0.1**
EPLO **Experimental L** **89.47 33** P **P** **00 42 27.8 -1.1**
EPLO IAmb IAmb 00 42 31.4
comp=Z,9.3nm,0.8s
MMAI **Mount Meron Ar** **89.58 307** P **P** **00 42 29.1 -0.7**
comp=Z,3.6nm,0.9s,baz=55,slow=5.5,SNR=3.7
MMAI LR LR 01 27 14.4
comp=Z,141nm,18.3s,baz=28,slow=39
comp=Z,3.6nm,0.9s
ARR **Arges** **89.60 322** ⇓P **P** **00 42 30.3 +0.6**
MARR **Marisel-Cluj** **89.62 323** ⇑P **P** **00 42 29.6 -0.2**
MSEY **Mahe Island** **89.77 265** P **P** **00 42 31.4 +0.5**
MSEY **Mahe Island** **89.77 265** P **P** **00 42 31.5 +0.5**
MSEY pmax pmax
comp=Z,79nm,1.3s
DRGR **89.77 324** ⇑P **P** **00 42 29.6 -0.9**
DRGR **89.77 324** P **P** **00 42 29.6 -0.9**
SDCO **Great Sand Dun** **89.83 48** P **P** **00 42 30.1 -1.1**
LANS **Liptovska Anna** **89.92 327** *e*P **P** **00 42 31.0 -0.1**
LANS pmax pmax
comp=Z,1.0nm,0.6s
LOT **Lotru** **90.03 322** ⇓P **P** **00 42 31.3 -0.4**
OKC **Ostrava-Krasne** **90.10 328** *e*P **P** **00 42 32.6 +0.8**
OKC MLR MLR
comp=Z,2µm,6.8s
OKC **Ostrava-Krasne** **90.10 328** *e*P **P** **00 42 32.6 +0.8**
OKC AMS AMS 01 27 10.0
comp=Z,2µm,6.8s
KSP **Ksiaz** **90.28 329** *e*P **P** **00 42 32.3 -0.3**
GHAJ **Ghor Haditha** **90.33 305** P **P** **00 42 33.5 +0.2**
ELND **Elena** **90.36 319** ⇑P **P** **00 42 32.6 -0.6**
ISP **Isparta** **90.39 313** P **P** **00 42 32.5 -1.1**
ISP IAmb IAmb 00 45 03.4
comp=Z,25nm,1.6s
ISP **Isparta** **90.39 313** P **P** **00 42 32.5 -1.1**
ISP pmax pmax
comp=Z,25nm,1.6s
MORC **Moravsky Berou** **90.43 328** *e*P **P** **00 42 33.0 -0.4**
HSIG **90.50 57** P **P** **00 42 33.8 -0.3**
HSIG IAmb IAmb 00 42 41.7
comp=Z,30nm,1.7s
OSTC **Ostas** **90.51 329** *e*P **P** **00 42 34.8 +1.0**
OSTC MLR MLR
comp=Z,900nm,16.0s
OSTC **Ostas** **90.51 329** *e*P **P** **00 42 34.8 +1.0**
OSTC AMS AMS 01 27 10.0

comp=Z,900nm,16.0s
PSZ Piszkesteto 90.51 326 P **P** **00 42 32.6 -1.3**
PSZ Piszkesteto 90.51 326 P **P** **00 42 32.6 -1.3**
PSZ pmax pmax
comp=Z,8.0nm,0.9s
CHVC Chvalec 90.57 329 *e*P **P** **00 42 34.2 +0.2**
CHVC MLR MLR
comp=Z,1μm,20.0s
CHVC Chvalec 90.57 329 *e*P **P** **00 42 34.2 +0.2**
CHVC AMS AMS 01 27 30.0
comp=Z,1μm,20.0s
KRLC Kraliky 90.58 329 *e*P **P** **00 42 34.2 0.0**
KRLC MLR MLR
comp=Z,1μm,7.2s
KRLC Kraliky 90.58 329 *e*P **P** **00 42 34.2 0.0**
KRLC AMS AMS 01 27 30.0
comp=Z,1μm,7.2s
DPC Dobruska-Polom 90.61 329 *e*P **P** **00 42 34.5 +0.2**
DPC MLR MLR
comp=Z,900nm,15.8s
DPC Dobruska-Polom 90.61 329 *e*P **P** **00 42 34.5 +0.2**
F33A 5 Mile Ranch, 90.62 37 IAmb IAmb 00 42 41.5
comp=Z,21nm,1.4s
UPC Upice 90.64 329 *e*P **P** **00 42 34.5 +0.1**
UPC MLR MLR
comp=Z,1μm,8.5s
UPC Upice 90.64 329 *e*P **P** **00 42 34.5 +0.1**
UPC AMS AMS 01 27 10.0
comp=Z,1μm,8.5s
ANMO Albuquerque 90.69 50 P **P** **00 42 34.8 -0.4**
ANMO IAmb IAmb 00 42 43.5
comp=Z,17nm,1.5s
ANMO Albuquerque 90.69 50 LR LR 01 24 40.8
comp=Z,115nm,18.0s,baz=24,slow=36
ANMO Albuquerque 90.69 50 *ce*P **P** **00 42 35.3 +0.1**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
SURR Surduc 90.74 323 ⇑P **P** **00 42 34.5 -0.4**
LENM Lemitar 90.75 51 P **P** **00 42 34.5 -0.9**
Y22A Socorro 90.87 51 P **P** **00 42 34.8 -1.2**
Y22A IAmb IAmb 00 42 43.6
comp=Z,20nm,1.8s
JAVC Velka Javorina 90.99 327 *e*P **P** **00 42 36.9 +0.8**
CRNM Carthage 91.03 51 P **P** **00 42 36.5 -0.2**
121A Cookes Peak, D 91.03 53 P **P** **00 42 35.6 -1.2**
VRAC Vranov 91.20 328 P **P** **00 42 36.9 -0.1**
comp=Z,4.4nm,0.8s,baz=67,slow=5.4,SNR=7.8
VRAC LR LR 01 26 52.0
comp=Z,286nm,18.1s,baz=44,slow=38
comp=Z,4.4nm,0.8s
VRAC Vranov 91.20 328 *e*P **P** **00 42 36.5 -0.5**
VRAC Vranov 91.20 328 ⇑P **P** **00 42 37.1 +0.1**
PVCC Panska Ves 91.28 330 *e*P **P** **00 42 37.5 +0.2**
PVCC MLR MLR
comp=Z,900nm,8.4s
PVCC Panska Ves 91.28 330 *e*P **P** **00 42 37.5 +0.2**
PVCC AMS AMS 01 27 10.0
comp=Z,900nm,8.4s
CLL Collm 91.42 331 *i* P **P** **00 42 37.2 -0.7**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 91.42 331 *i* Px Px 00 42 37.2
comp=Z,8.0nm,1.1s
CLL *e*PP **PP** **00 46 17.0 +2.0**
KRUC Moravsky 91.46 328 *e*P **P** **00 42 37.9 -0.3**
MDVR Moldovita 91.58 322 ⇓P **P** **00 42 37.8 -1.1**
EIL Elat 91.63 304 LR LR 01 27 44.9
comp=Z,84nm,18.1s,baz=58,slow=38
PRA Prague 91.67 330 AMS AMS 01 28 20.0
comp=Z,900nm,10.8s
PRU Pruhonice 91.68 330 AMS AMS 01 28 10.0
comp=Z,900nm,13.9s
TREC Trest 91.73 329 *e*P **P** **00 42 39.2 -0.3**
TREC MLR MLR
comp=Z,900nm,8.4s
TREC Trest 91.73 329 *e*P **P** **00 42 39.2 -0.3**
TREC AMS AMS 01 27 30.0
comp=Z,900nm,8.4s
ECSD EROS Data Cent 91.78 39 P **P** **00 42 39.4 -0.4**
ZVC Zvikov 92.23 329 *e*P **P** **00 42 41.8 +0.1**
ZVC AMS AMS 01 28 00.0
comp=Z,1μm,19.8s
MORH Mrgy, Hungar 92.28 325 ⇓P **P** **00 42 41.4 -0.7**
RONA Rosalia, Austr 92.45 327 *i* P **P** **00 42 42.6 -0.3**
comp=Z,2.9nm,0.7s
RONA *i* PP **PP** **00 46 24.2 +0.8**
comp=Z,2.2nm,1.0s
CONA Conrad Observa 92.51 328 *i* P **P** **00 42 43.2 0.0**
comp=Z,3.7nm,0.8s
E38A The Farm, Brul 92.60 34 **P** **00 42 44.3 +0.7**
E38A IAmb IAmb 00 42 46.6
comp=Z,9.0nm,0.6s
CKRC Cesky Krumlov 92.61 329 *e*P **P** **00 42 43.5 -0.1**
CKRC MLR MLR
comp=Z,1μm,7.7s
CKRC Cesky Krumlov 92.61 329 *e*P **P** **00 42 43.5 -0.1**
CKRC AMS AMS 01 29 50.0
comp=Z,1μm,7.7s
KHC Kasperske Hory 92.73 329 *e*P **P** **00 42 44.1 0.0**
KHC MLR MLR
comp=Z,900nm,15.3s
KHC Kasperske Hory 92.73 329 *e*P **P** **00 42 44.1 0.0**
KHC AMS AMS 01 28 50.0
comp=Z,900nm,15.3s
GEC2 GERESS Array S 92.88 329 **P** **00 42 43.8 -1.1**
GEC2 IAmb IAmb 00 43 26.2
comp=Z,13nm,1.6s
GERES GERESS Array B 92.88 329 P **P** **00 42 44.4 -0.5**
comp=Z,1.6nm,0.7s,baz=42,slow=6.1,SNR=16
GERES PP **PP** **00 46 29.2 +2.5**
comp=Z,0.9nm,0.8s,baz=32,slow=7.8,SNR=4.5
GERES LR LR 01 28 36.5
comp=Z,503nm,18.5s,baz=44,slow=38
comp=Z,1.6nm,0.7s
SPMN Marine on St. 92.89 36 P **P** **00 42 46.3 +1.5**
SPMN IAmb IAmb 00 42 48.5
comp=Z,6.9nm,0.7s
CBKS Cedar Bluff 92.94 44 P **P** **00 42 45.4 +0.1**
CBKS Cedar Bluff 92.94 44 P **P** **00 42 45.4 +0.1**
CBKS pmax pmax
comp=Z,56nm,1.8s
L34A Svendsen Farm, 93.03 40 **P** **00 42 47.0 +1.4**
ARSA Arzberg 93.14 327 P **P** **00 42 44.9 -1.2**
ARSA Arzberg 93.14 327 *i* P **P** **00 42 45.9 -0.1**
comp=Z,2.9nm,0.6s
MNTX Cornudas Mount 93.20 53 P **P** **00 42 48.1 +1.5**
MNTX IAmb IAmb 00 42 54.1
comp=Z,16nm,1.5s
MOA Molln 93.33 328 *e*P **P** **00 42 46.4 -0.5**
comp=Z,1.7nm,0.6s
MOA *e*PP **PP** **00 46 30.4 +0.2**
comp=Z,2.7nm,1.0s
GRF Grafenberg Arr 93.38 331 *e*P **P** **00 42 46.8 -0.2**
comp=Z,3.9nm,1.2s,baz=50,slow=4.2
LPIG La Paz 93.45 61 LR LR 01 21 57.2
comp=Z,144nm,18.1s,baz=266,slow=34
BIOA Bad Ischl, Aus 93.73 328 *i* P **P** **00 42 48.2 -0.6**
comp=Z,1.6nm,0.6s
BIOA *i* PP **PP** **00 46 33.4 0.0**
comp=Z,3.5nm,1.2s
PERS Pernice 93.77 327 *i* P **P** **00 42 48.2 -0.8**
SOKA Soboth 93.78 327 *i* P **P** **00 42 48.3 -0.8**
comp=Z,2.2nm,0.8s
SOKA *i* PP **PP** **00 46 33.2 -0.6**
comp=Z,4.5nm,1.8s
EKA Eskdalemuir Ar 94.04 341 P **P** **00 42 50.2 +0.2**
comp=Z,1.3nm,0.8s,baz=49,slow=8.6,SNR=2.1
EKA PP **PP** **00 46 37.1 +1.7**
comp=Z,3.6nm,0.9s,baz=32,slow=6.9,SNR=6.7
comp=Z,1.3nm,0.8s
OBKA Obir 94.14 327 *i* P **P** **00 42 49.8 -1.0**
comp=Z,2.5nm,0.8s
OBKA *i* PP **PP** **00 46 38.9 +2.2**
comp=Z,3.6nm,1.0s
G40A Rib Lake 94.21 35 P **P** **00 42 52.8 +1.8**
G40A IAmb IAmb 00 42 55.3
comp=Z,10nm,1.1s
KBA Koelnbreinsper 94.31 328 *e*P **P** **00 42 50.9 -0.8**
comp=Z,2.6nm,0.6s
KBA *i* PP **PP** **00 46 39.1 +1.0**
comp=Z,5.2nm,1.2s
LESA Schwarzleotal 94.38 329 *i* P **P** **00 42 50.9 -0.9**
comp=Z,2.0nm,0.6s
LESA *e*PP **PP** **00 46 41.5 +3.0**
comp=Z,2.0nm,1.0s
MYKA Terra Mystica 94.49 328 *i* P **P** **00 42 51.3 -1.0**
comp=Z,1.9nm,0.4s
MYKA *e*PP **PP** **00 46 40.2 +0.8**
comp=Z,5.3nm,1.1s
CRNS Crni Vrh 94.58 327 *i* P **P** **00 42 51.2 -1.5**
GBRS Gornja Briga 94.70 326 *i* P **P** **00 42 51.1 -2.2**
ABTA Abfaltersbach 94.95 328 *i* P **P** **00 42 53.1 -1.4**
comp=Z,3.2nm,0.7s
WATA Walderalm 94.95 329 *e*pP **P** **00 42 56.4 +1.9**
comp=Z,1.5nm,0.9s
WATA *e*PP **PP** **00 46 42.9 -0.1**
comp=Z,4.2nm,1.1s
WTTA Wattenberg 94.98 329 *e*PcP **PcP** **00 42 55.5 +0.5**
comp=Z,2.9nm,1.0s
WTTA *i* PP **PP** **00 46 41.4 -1.9**
comp=Z,3.3nm,1.3s
MOTA Moosalm 95.17 329 *i* P **P** **00 42 54.8 -0.7**
comp=Z,2.9nm,1.3s
MOTA *i* PP **PP** **00 46 42.8 -1.9**
comp=Z,3.7nm,1.2s
STAL STALIGIAL 95.21 328 P **P** **00 42 53.3 -2.3**
SQTA Sankt Quirin 95.21 329 *i* P **P** **00 42 55.0 -0.6**
comp=Z,2.3nm,1.0s
SQTA *e*PP **PP** **00 46 45.3 +0.4**
comp=Z,4.1nm,1.1s
RETA Reutte 95.22 330 *e*pP **P** **00 42 57.2 +1.6**
comp=Z,1.9nm,1.0s
IDI Anoyia 95.56 314 LR LR 01 30 59.9
comp=Z,210nm,19.0s,baz=56,slow=39
FETA Feichten 95.58 329 *i* P **P** **00 42 56.6 -0.8**
comp=Z,1.4nm,0.8s
FETA *e*PP PP 00 46 39.4 -8.5
comp=Z,4.3nm,1.7s
SCHQ Schefferville 95.60 17 P **P** **00 42 58.5 +1.4**
comp=Z,25nm,0.8s,baz=207,slow=18,SNR=2.5
SCHQ LR LR 01 26 38.0
comp=Z,1μm,21.6s,baz=312,slow=36
TXAR Lajitas Array 95.73 54 P **P** **00 42 58.5 +0.2**
TXAR Lajitas Array 95.73 54 P **P** **00 43 00.4 +2.0**
comp=Z,0.9nm,0.8s,baz=330,slow=5.0,SNR=12
TXAR LR LR 01 25 10.8
comp=Z,76nm,18.1s,baz=300,slow=35
comp=Z,0.9nm,0.8s
DAVA Damuels 95.76 330 *e*P **P** **00 42 56.1 -2.1**
comp=Z,6.0nm,1.2s
WMOK Wichita Mounta 95.99 47 **P** **00 43 00.6 +1.2**
WMOK IAmb IAmb 00 43 06.2
comp=Z,22nm,1.9s
WMOK Wichita Mounta 95.99 47 P **P** **00 43 00.6 +1.2**
WMOK pmax pmax
comp=Z,22nm,1.9s
FUORN Ofenpass-Fuorn 96.09 329 **P** **00 42 59.2 -0.6**
FUORN IAmb IAmb 00 43 04.9
comp=Z,6.9nm,0.9s
DAVOX Davos/Dischmat 96.14 330 P **P** **00 42 59.6 -0.4**
comp=Z,1.2nm,0.7s,baz=11,slow=11,SNR=5.0
DAVOX LR LR 01 30 17.2
comp=Z,449nm,18.1s,baz=40,slow=38
comp=Z,1.2nm,0.7s
OK048 Pawnee Station 96.15 45 P **P** **00 43 00.7 +0.7**
P38A Dawn 96.18 40 P **P** **00 43 01.0 +0.9**
FDMO Fiordimonte 97.34 325 P **P** **00 43 04.4 -0.9**
FDMO IAmb IAmb 00 43 06.7
comp=Z,5.0nm,1.0s
PLPT Palo Pinto 97.46 48 P Pdif 00 43 07.6 +1.5
PLPT IAmb IAmb 00 43 14.0
comp=Z,8.0nm,1.2s
CEL Celeste 99.17 320 **Pdif** **00 43 12.6 -1.1**
TORD Torodi Ar. Bea 125.89 311 PKP **PKPdf** **00 48 33.8 -0.7**
comp=Z,1.0nm,0.7s,baz=31,slow=2.1,SNR=7.1
SNAA Sanae 130.40 194 PKP **PKiKP** **00 48 42.4 0.0**
comp=Z,0.8nm,1.0s,baz=93,slow=1.7,SNR=3.7
PMSA Palmer Station 137.44 163 PKPpre 00 48 49.4
BOAV Boa Vista 143.82 42 **PKPdf** **00 49 08.4 +0.5**
MACA Manacapuru-AM 147.94 49 **PKiKP** **00 49 19.2 -0.6**
PLCA Paso Flores 148.55 126 **PKiKP** **00 49 20.9 +0.6**
PLCA Paso Flores 148.55 126 PKPbc **PKiKP** **00 49 20.2 -0.1**
comp=Z,5.4nm,0.9s,baz=234,slow=4.6,SNR=6.2
PLCA Paso Flores 148.55 126 PKPz **PKiKP** **00 49 21.0 +0.6**
LPAZ La Paz 149.51 78 PKPbc **PKiKP** **00 49 24.4 +0.7**
comp=Z,5.9nm,0.9s,baz=329,slow=2.4,SNR=6.6
MT08 Bocatoma Ro 150.46 113 **PKiKP** **00 49 25.4 +0.6**
BDFB Brasilia 165.51 47 PKPab **PKPab** **00 50 38.1 +2.5**
comp=Z,1.7nm,0.6s,baz=321,slow=9.4,SNR=3.5

NEIC ***16*** *00:36:28.2±1.3,6˚.49S±0˚.07×127˚.87E±0˚.07,h341km±9km, mb4.4/9,Error ellipse: s-maj=10.8km s-min=9.6km az=119.0*
IDC ***16*** *00:36:28.6±1.2,6˚.56S×127˚.96E,h351km±12km,mb3.6/17, mbtmp4.5/23,Error ellipse: s-maj=16.4km s-min=7.5km az=80.0*
DJA ***16*** *00:36:28.7±0.1,7˚.S±2˚×12˚.8E±˚,h350km,3km, M4.7/31, mb4.4/31,mB5.3/9,MLv4.9/18,Mw(mB)4.7/9*
ISC 16 00:36:28.6±0.4,6˚.56S±0˚.05×127˚.93E±0˚.05,h353km,n90, σ1§42/97,**mb3.9**/18,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
BNDI	**Bandanaira**	**2.82**	**44**	P	**Pn**	**00 37 27.4**	**+0.8**
BNDI	**Bandanaira**	**2.82**	**44**	P	**Pn**	**00 37 27.2**	**+0.6**
AAI	**Ambon**	**2.86**	**5**	P	**Pn**	**00 37 27.4**	**+0.4**
MSAI	**Masohi**	**3.34**	**17**	P	**Pn**	**00 37 31.3**	**-0.1**
NLAI	**Namlea**	**3.40**	**346**	P	**Pn**	**00 37 33.7**	**+1.8**
SAUI	**Saumlaki**	**3.63**	**113**		**Pn**	**00 37 33.8**	**-0.2**
SAUI				Sn	**S**	**00 38 22.6**	**-4.2**
SAUI	**Saumlaki**	**3.63**	**113**	P	**Pn**	**00 37 35.0**	**+0.9**
SAUI	**Saumlaki**	**3.63**	**113**	P	**Pn**	**00 37 34.6**	**+0.5**
SOEI	**Soe**	**4.82**	**229**		**Pn**	**00 37 46.4**	**-0.2**
SOEI	**Soe**	**4.82**	**229**	P	**Pn**	**00 37 46.7**	**+0.1**
SOEI	**Soe**	**4.82**	**229**	P	**Pn**	**00 37 46.4**	**-0.2**
SANI	**Sanana**	**4.88**	**337**	P	**Pn**	**00 37 47.6**	**+0.5**
SANI	**Sanana**	**4.88**	**337**	P	**Pn**	**00 37 47.5**	**+0.5**
BATI	**Baumata**	**5.57**	**229**	P	**Pn**	**00 37 55.2**	**+0.5**
	1μm,0.3s,baz=56,slow=1.9,SNR=140						
BATI				S	**S**	**00 39 02.5**	**-1.8**
	413nm,0.8s,baz=96,slow=23,SNR=8.1						
BATI	**Baumata**	**5.57**	**229**	P	**Pn**	**00 37 55.0**	**+0.3**
FAKI	**Fak Fak**	**5.62**	**50**		**Pn**	**00 37 53.8**	**-1.4**
FAKI				Sn	**S**	**00 38 58.1**	**-7.3**
FAKI	**Fak Fak**	**5.62**	**50**	P	**Pn**	**00 37 54.3**	**-0.9**
FAKI	**Fak Fak**	**5.62**	**50**	P	**Pn**	**00 37 54.0**	**-1.2**
	1.6nm2μm112nm,0.6s						
KDI	**Kendari**	**5.89**	**296**	P	**Pn**	**00 37 58.9**	**+0.6**
MMRI	**Maumere**	**6.01**	**250**	P	**Pn**	**00 37 59.3**	**-0.4**
	0.5nm54nm,0.4s						
KMPI	**Kaimana, Papua**	**6.43**	**64**	P	**Pn**	**00 38 05.0**	**+0.5**
DRS	**Darwin Rock St**	**6.53**	**154**	P	**Pn**	**00 38 06.6**	**+1.0**
SWI	**Sorong**	**6.56**	**31**	P	**P**	**00 38 07.7**	**+0.4**
	0.4nm55nm,0.7s						
EDFI	**Ende, Flores**	**6.56**	**250**	P	**Pn**	**00 38 05.6**	**-0.5**
	0.2nm46nm,0.4s						
MTN	**Manton Dam**	**7.00**	**153**		**Pn**	**00 38 11.4**	**+0.4**
MTN	**Manton Dam**	**7.00**	**153**	P	**Pn**	**00 38 11.6**	**+0.6**
LUWI	**Luwuk**	**7.52**	**317**	Pn	**Pn**	**00 38 14.4**	**-2.7**
KDU	**Kakadu**	**7.56**	**144**	P	**Pn**	**00 38 18.3**	**+0.7**
RKPI	**Ransiki, Papua**	**7.99**	**51**	P	**Pn**	**00 38 23.1**	**+0.3**
BNSI	**Bone**	**8.08**	**285**	P	**Pn**	**00 38 24.7**	**+0.9**
	35nm,0.8s						
KMSI	**Cibinong**	**8.11**	**331**	P	**Pn**	**00 38 24.5**	**+0.4**
	159nm,0.8s						
BASI	**Baing, Sumba**	**8.13**	**243**	P	**Pn**	**00 38 23.6**	**-0.8**
WSI	**Waingapu**	**8.17**	**247**	P	**Pn**	**00 38 23.2**	**-1.6**
KAPI	**Kappang**	**8.28**	**280**	P	**P**	**00 38 27.6**	**-1.2**
	5.3nm,0.3s,baz=169,slow=9.9,SNR=1.7						
KAPI				S	**S**	**00 39 58.4**	**-3.8**
	7.1nm,0.2s,baz=87,slow=23,SNR=2.5						
WBSI	**Waikabubak, Su**	**8.99**	**250**	P	**Pn**	**00 38 31.8**	**-2.9**
	113nm,0.7s						
KNRA	**Kununurra**	**9.10**	**175**		**Pn**	**00 38 36.0**	**+0.2**
MRSI	**Marisa**	**9.20**	**319**	P	**Pn**	**00 38 37.8**	**+0.7**
	54nm,0.8s						
BAKI	**Biak**	**9.74**	**57**	P	**Pn**	**00 38 44.6**	**+1.1**
TOLI2	**Tolitoli**	**10.44**	**317**	Pn	**Pn**	**00 38 48.0**	**-3.9**
TWSI	**Taliwang, Sumb**	**11.16**	**258**	P	**Pn**	**00 38 59.6**	**-0.9**
	19nm,1.0s						
SMPI	**Sarmi**	**11.66**	**68**	P	**P**	**00 39 08.0**	**+1.6**
	34nm,0.8s						
FITZ	**Fitzroy Crossi**	**11.69**	**191**		**Pn**	**00 39 06.3**	**-0.3**
FITZ					**S**	**00 41 17.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.69**	**191**	P	**Pn**	**00 39 06.8**	**+0.2**
	9.6nm,0.3s,baz=31,slow=11,SNR=15						
GENI	**Genyem**	**12.81**	**73**	P	**P**	**00 39 18.1**	**-1.1**
JAY	**Jayapura**	**13.35**	**73**	P	**P**	**00 39 25.7**	**+0.5**
	33nm,0.8s,baz=254,slow=7.2,SNR=12						
JAY	**Jayapura**	**13.35**	**73**	P	**P**	**00 39 25.9**	**+0.8**
	44nm,0.9s						
BBKI	**Banjar Baru**	**13.40**	**283**	P	**P**	**00 39 25.9**	**+0.3**
DAV	**Davao City (W)**	**13.74**	**350**	P	**P**	**00 39 30.3**	**+1.0**
	172nm,0.3s,baz=290,slow=3.5,SNR=2.9						
BLJI	**Banyuglugur**	**14.28**	**264**	P	**Pn**	**00 39 37.4**	**+0.3**
	100nm,0.7s						
WB0	**Warramunga Arr**	**14.55**	**155**	P	**P**	**00 39 38.6**	**+0.4**
WRAB	**Tennant Creek**	**14.69**	**155**	P	**P**	**00 39 40.3**	**+0.6**
WRA	**Warramunga Arr**	**14.69**	**156**	P	**P**	**00 39 38.9**	**-0.8**
WRA	**Warramunga Arr**	**14.69**	**156**	P	**P**	**00 39 40.2**	**+0.4**
	23nm,0.5s,baz=330,slow=11,SNR=59						
WRA				S	**S**	**00 42 16.2**	**-2.1**
	7.0nm,0.6s,baz=337,slow=15,SNR=12						
WR8	**Warramunga Arr**	**14.77**	**155**	P	**P**	**00 39 41.2**	**+0.6**
COEN	**Coen**	**16.70**	**117**	P	**P**	**00 40 02.5**	**+0.9**
COEN				IAmb	IAmb	00 40 11.1	
	comp=Z,15nm,1.1s						
PCJI	**Pacitan**	**16.70**	**263**	P	**P**	**00 40 01.6**	**0.0**
	comp=Z,68nm,2.2s						
PSA00	**Pilbara Seismi**	**16.85**	**207**	P	**P**	**00 40 03.3**	**+0.1**
PSA00				IAmb	IAmb	00 40 03.7	
	comp=Z,10nm,0.6s						
PSA00	**Pilbara Seismi**	**16.85**	**207**		**P**	**00 40 01.8**	**-1.3**
PSA00				IAmb	IAmb	00 40 03.7	
	comp=Z,8.2nm,1.2s						
AS31	**Alice Springs**	**17.95**	**162**	P	**P**	**00 40 15.8**	**+0.8**
AS31				IAmb	IAmb	00 40 16.7	
	comp=Z,13nm,0.9s						
ASAR	**Alice Springs**	**17.95**	**162**	P	**P**	**00 40 15.7**	**+0.7**
ASAR	**Alice Springs**	**17.95**	**162**	P	**P**	**00 40 15.8**	**+0.8**
	comp=Z,22nm,0.5s,baz=344,slow=11,SNR=72						
ASAR				S	**S**	**00 43 22.0**	**-0.7**
	comp=Z,10nm,0.9s,baz=346,slow=24,SNR=19						
ASAR				ScP	**ScP**	**00 47 32.1**	**-1.5**
	comp=Z,1.4nm,0.4s,baz=339,slow=2.0,SNR=5.4						
KPJI	**Karang Pucung**	**18.88**	**267**	P	**P**	**00 40 25.0**	**+0.2**
	comp=Z,32nm,1.4s						
GIRL	**Giralia**	**20.74**	**218**	P	**P**	**00 40 43.4**	**+0.1**
GIRL				IAmb	IAmb	00 40 53.1	
	comp=Z,74nm,1.2s						
FORT	**Forrest**	**24.10**	**180**	P	**P**	**00 41 13.8**	**+0.2**
FORT				IAmb	IAmb	00 41 14.3	
	comp=Z,8.9nm,0.7s						
RABL	**Rabaul**	**24.24**	**86**	P	**P**	**00 41 15.4**	**+0.3**
MORW	**Morawa**	**25.05**	**205**	P	**P**	**00 41 21.5**	**-0.7**
STKA	**Stephens Creek**	**28.24**	**155**	P	**P**	**00 41 50.7**	**+0.3**
	comp=Z,5.4nm,0.5s,baz=329,slow=8.4,SNR=8.3						
	comp=Z,5.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**37.89**	**311**	P	**P**	**00 43 15.2**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=124,slow=9.0,SNR=1.2						
CMAR				ScP	**ScP**	**00 48 34.9**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=128,slow=3.5,SNR=4.2						
	comp=Z,0.8nm,0.3s						
KSRS	**Korea Array**	**43.78**	**360**	P	**P**	**00 44 01.0**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=178,slow=9.7,SNR=13						
	comp=Z,3.1nm,0.6s						
MJAR	**Matsushiro Ar**	**43.94**	**12**	P	**P**	**00 44 00.1**	**-1.8**
	comp=Z,12nm,1.1s,baz=191,slow=9.0,SNR=9.6						
	comp=Z,12nm,1.1s						
USRK	**Ussuriysk Ar.**	**50.65**	**4**	P	**P**	**00 44 52.9**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=187,slow=7.2,SNR=6.2						
	comp=Z,4.2nm,0.7s						
SONM	**Songino Array**	**57.40**	**343**		pP	00 46 52.9	-2.4
SONM	**Songino Array**	**57.40**	**343**	P	**P**	**00 45 42.1**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=169,slow=7.7,SNR=5.5						
	comp=Z,1.0nm,0.5s						
PETK	**Petropavlovsk-**	**64.57**	**19**	P	**P**	**00 46 29.3**	**+0.5**
	comp=Z,4.6nm,0.6s,baz=186,slow=3.6,SNR=9.2						
	comp=Z,4.6nm,0.6s						
MKAR	**Makanchi Array**	**66.74**	**328**	P	**P**	**00 46 42.9**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=123,slow=7.9,SNR=19						
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**70.29**	**335**	P	**P**	**00 47 03.8**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=126,slow=5.4,SNR=4.9						
	comp=Z,1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**71.07**	**329**	P	**P**	**00 47 09.2**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=129,slow=5.1,SNR=7.3						
	comp=Z,0.9nm,0.5s						
VNDA	**Vanda**	**73.14**	**173**	P	**P**	**00 47 20.6**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=314,slow=8.1,SNR=9.5						
	comp=Z,0.9nm,0.7s						
MAW	**Mawson**	**74.61**	**201**	P	**P**	**00 47 30.1**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=69,slow=5.8,SNR=15						
	comp=Z,2.1nm,0.6s						
BVAR	**Borovoye Array**	**76.60**	**328**	P	**P**	**00 47 40.9**	**0.0**
	comp=Z,0.5nm,0.4s,baz=126,slow=7.3,SNR=2.4						
	comp=Z,0.5nm,0.4s						
BILL	**Bilibino**	**79.16**	**14**	P	**P**	**00 47 58.4**	**+3.9**
QSPA	**South Pole Qui**	**83.42**	**180**	P	**P**	**00 48 17.9**	**+1.0**
	comp=Z,1.7nm,0.5s,baz=184,slow=0.8,SNR=27						
	comp=Z,1.7nm,0.5s						
OHAK	**Old Harbor**	**89.43**	**32**		pP	00 50 06.6	-0.4
ILAR	**Eielson Array**	**93.83**	**25**	P	**P**	**00 49 05.5**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=262,slow=6.7,SNR=4.2						
	comp=Z,0.2nm,0.6s						
SNAA	**Sanae**	**95.61**	**194**	P	**P**	**00 49 14.5**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=216,slow=7.0,SNR=6.5						
	comp=Z,0.9nm,0.7s						
MESA	**MESA**	**95.70**	**30**		pwP	00 50 40.1	-2.6
BOSA	**Boshof**	**97.91**	**240**	P	**P**	**00 49 25.2**	**-0.3**
	comp=Z,4.2nm,1.1s,baz=350,slow=22,SNR=2.3						
	comp=Z,4.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**126.71**	**281**	PKP	**PKPdf**	**00 54 51.2**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=74,slow=2.6,SNR=8.3						
CPUP	**Villa Florida**	**146.91**	**171**	PKPbc	**PKPbc**	**00 55 30.6**	**0.0**
	comp=Z,0.7nm,0.5s,baz=34,slow=2.2,SNR=6.5						
LPAZ	**La Paz**	**152.29**	**145**	PKPbc	**PKPbc**	**00 55 45.1**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=38,slow=1.2,SNR=6.8						
LPAZ				PKPab	**PKPab**	**00 55 56.6**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=263,slow=2.0,SNR=8.5						

BKK ***16*** *00:52:03.2±9.2,5˚N±49˚×9˚5E±6˚1,h10km,M4.8/6, mb4.8/4,ML4.8/6,MLv4.8/6*
NEIC ***16*** *00:52:06.4±1.5,5˚.0N±0˚.1×95˚.0E±0˚.1,h48km±14km, mb4.4/10,Error ellipse: s-maj=21.6km s-min=16.4km az=126.0*
DJA ***16*** *00:52:06.8±0.6,5˚N±3˚×9˚5E±˚,h34km±6km,M4.5/13, mb4.7/4,MLv4.4/13*
IDC ***16*** *00:52:07.0±3.2,4˚.90N×94˚.98E,h64km±28km,mb4.0/18, mbtmp4.3/21,ML4.2/3,Error ellipse: s-maj=34.0km s-min=13.6km az=51.0*
ISC 16 00:52:05.7±0.5,4˚.81N±0˚.05×94˚.96E±0˚.05,h50km,n98, σ1§05/99,**mb4.3**/38,**1D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MLSI	**Meulaboh, Aceh**	**1.54**	**110**	P	**Pn**	**00 52 30.3**	**-0.5**
MLSI				S	**Sn**	**00 52 49.3**	**-0.4**
LHMI	**Lhok Sumawe**	**2.03**	**78**		**Pn**	**00 52 38.3**	**+0.8**
LHMI	**Lhok Sumawe**	**2.03**	**78**	P	**Pn**	**00 52 38.0**	**+0.6**
LHMI				S	**Sn**	**00 53 01.4**	**-0.2**
CMBY	**CAMPBELL BAY**	**2.42**	**335**	*e*P	**Pn**	**00 52 44.0**	**+1.2**
CMBY				*e*S	**Sn**	**00 53 14.9**	**+3.7**
CMBY				IAML		00 53 24.1	
	comp=N,1μm,0.8s						
CMBY				IAML		00 53 25.7	
	comp=E,1μm,0.4s						
SNSI	**Sinabang, Aceh**	**2.75**	**150**	P	**Pn**	**00 52 46.8**	**-0.5**
SNSI				S	**Sn**	**00 53 20.2**	**+0.9**
KCSI	**Kotacane, Aceh**	**3.08**	**114**	P	**Pn**	**00 52 52.0**	**0.0**
KCSI				S	**Sn**	**00 53 27.9**	**+0.2**
TSI	**Tuntungan**	**3.83**	**110**	P

DGPR				IAML			00 56 04.9		
	comp=E,158nm,1.9s								
DGPR				IAML			00 56 34.1		
	comp=N,114nm,5.4s								
CMAR	**Chiang Mai Arr**	**14.12**	**16**	P		**Pn**	**00 55 24.6**	**+1.6**	
	comp=N,0.9nm,0.3s,baz=202,slow=11,SNR=29								
CMAR				S		Sn	00 57 49.6	-8.6	
	comp=N,0.8nm,0.3s,baz=236,slow=33,SNR=1.8								
	comp=N,4.0nm,0.6s								
PALK	**Pallekele**	**14.38**	**281**	P		**Pn**	**00 55 28.0**	**+1.4**	
	comp=N,0.7nm,0.3s,baz=67,slow=7.3,SNR=1.5								
PALK				S		Sn	00 57 52.8	-12	
	comp=N,3.9nm,0.3s,baz=176,slow=19,SNR=6.9								
	comp=N,9.4nm,0.9s								
VJD	**Vijayawada**	**18.23**	**311**	*eP*		**P**	**00 56 13.4**	**-1.6**	
VJD				*eS*		**Sn**	**00 59 36.9**	**-1.2**	
AZL	**Aizawl**	**18.95**	**354**	*eP*		**P**	**00 56 22.1**	**-0.8**	
AZL				*eS*		**Sn**	**00 59 56.5**	**+1.1**	
PZH	**PanZhiHua**	**22.53**	**16**	P		**P**	**00 57 02.3**	**+0.7**	
H08S2	**Diego Garcia H**	**25.60**	**241**	T		T	01 24 33.4		
	baz=61,slow=75,SNR=93								
H08S3	**Diego Garcia H**	**25.60**	**241**	T		T	01 24 35.9		
	baz=61,slow=75,SNR=484								
H08S1	**Diego Garcia H**	**25.61**	**241**	T		T	01 24 42.5		
	baz=61,slow=75,SNR=18								
LYN	**LuoYang**	**33.76**	**27**	*eP*		**P**	**00 58 43.3**	**+0.6**	
LYN				pmax		pmax			
	comp=Z,21nm,0.5s								
FITZ	**Fitzroy Crossi**	**37.87**	**128**	P		**P**	**00 59 17.2**	**-0.8**	
	comp=Z,1.8nm,0.8s,baz=326,slow=8.2,SNR=1.7								
	comp=Z,1.8nm,0.8s								
KSH	**Kashi**	**38.59**	**336**	P		**P**	**00 59 25.3**	**+1.3**	
HHC	**Hu-ho-hao-te**	**38.86**	**20**	*eP*		**P**	**00 59 28.8**	**+2.5**	
HHC				pmax		pmax			
	comp=Z,4.0nm,0.7s								
HHC				pmax		pmax			
	comp=Z,190nm,6.1s								
WMQ	**Urumqi**	**39.38**	**352**	*eP*		**P**	**00 59 33.0**	**+2.5**	
WMQ				pmax		pmax			
	comp=Z,81nm,0.7s								
CHGR	**Chuyangaron**	**41.04**	**329**	P		**P**	**00 59 43.9**	**-0.5**	
CHGR				IAmb		IAmb	01 00 23.8		
	comp=Z,9.5nm,1.2s								
SIMJ	**Simiganj**	**41.12**	**329**	P		**P**	**00 59 43.8**	**-1.4**	
ARSB	**Arslanbob**	**41.34**	**335**			**P**	**00 59 47.2**	**+0.3**	
MKAR	**Makanchi Array**	**43.24**	**347**	P		**P**	**01 00 01.1**	**-1.0**	
	comp=Z,3.9nm,0.5s,baz=157,slow=7.5,SNR=43								
MKAR				PcP		**PcP**	**01 01 50.2**	**-0.4**	
	comp=Z,0.4nm,0.4s,baz=156,slow=2.1,SNR=2.7								
	comp=Z,3.9nm,0.5s								
H01W3	**Cape Leeuwin H**	**43.41**	**157**	T		T	01 46 59.8		
	baz=331								
H01W2	**Cape Leeuwin H**	**43.43**	**157**	T		T	01 47 01.0		
	baz=331								
H01W1	**Cape Leeuwin H**	**43.43**	**157**	T		T	01 46 46.3		
	baz=331								
KK31	**Karatay Array**	**43.85**	**334**			**P**	**01 00 07.2**	**0.0**	
KKAR	**Karatay Array**	**43.85**	**334**			**P**	**01 00 07.2**	**0.0**	
SONM	**Songino Array**	**43.98**	**11**	P		**P**	**01 00 07.0**	**-1.2**	
	comp=Z,0.7nm,0.4s,baz=190,slow=9.7,SNR=3.6								
	comp=Z,0.7nm,0.4s								
WRA	**Warramunga Arr**	**45.86**	**124**	P		**P**	**01 00 23.2**	**-0.2**	
	comp=Z,4.4nm,0.9s,baz=298,slow=8.4,SNR=8.8								
	comp=Z,4.4nm,0.9s								
ASAR	**Alice Springs**	**47.36**	**128**	P		**P**	**01 00 35.3**	**+0.1**	
	comp=Z,0.8nm,0.3s,baz=303,slow=7.9,SNR=10								
	comp=Z,0.8nm,0.3s								
KURBB	**Kurchatov Arra**	**47.70**	**346**	P		**P**	**01 00 36.6**	**-0.7**	
	comp=Z,1.9nm,0.6s,baz=169,slow=6.7,SNR=21								
KURBB				PcP		**PcP**	**01 02 05.9**	**-0.1**	
	comp=Z,1.0nm,0.6s,baz=156,slow=3.2,SNR=7.0								
	comp=Z,1.9nm,0.6s								
KURK	**Kurchatov**	**47.76**	**346**			**P**	**01 00 37.0**	**-0.8**	
KURK				IAmb		IAmb	01 00 37.7		
	comp=Z,2.9nm,0.8s								
ZAA0	**Zalesovo Array**	**49.69**	**352**			**P**	**01 00 51.5**	**-1.0**	
ZAA0				IAmb		IAmb	01 00 51.5		
	comp=Z,3.0nm,0.7s								
ZALV	**Zalesovo Beam**	**49.69**	**352**	P		**P**	**01 00 51.1**	**-1.3**	
	comp=Z,3.4nm,0.5s,baz=163,slow=8.0,SNR=25								
	comp=Z,3.4nm,0.5s								
BVAR	**Borovoye Array**	**52.14**	**341**	P		**P**	**01 01 10.0**	**-0.9**	
	comp=Z,8.4nm,0.6s,baz=140,slow=8.9,SNR=49								
	comp=Z,8.4nm,0.6s								
AB31	**Akbulak array**	**53.30**	**332**			**P**	**01 01 19.7**	**+0.1**	
AB31				IAmb		IAmb	01 01 20.1		
	comp=Z,3.9nm,1.1s								
ABKAR	**Akbulak array**	**53.30**	**332**	P		**P**	**01 01 18.9**	**-0.7**	
H04N2	**CROZET ISLANDS**	**63.55**	**212**	T		T	02 12 03.1		
	baz=50,slow=75,SNR=304								
H04N1	**CROZET ISLANDS**	**63.56**	**212**	T		T	02 12 10.3		
	baz=50,slow=75,SNR=354								
H04N3	**CROZET ISLANDS**	**63.57**	**212**	T		T	02 12 08.0		
	baz=50,slow=75,SNR=317								
H04S1	**CROZET ISLANDS**	**63.93**	**211**	T		T	02 12 28.9		
	baz=48,slow=76,SNR=6.6								
H04S3	**CROZET ISLANDS**	**63.94**	**211**	T		T	02 12 28.9		
	baz=48,slow=76,SNR=5.7								
H04S2	**CROZET ISLANDS**	**63.95**	**211**	T		T	02 12 26.5		
	baz=48,slow=76,SNR=24								
BR131	**Keskin Array S**	**65.05**	**312**	P		**P**	**01 02 40.6**	**-0.6**	
BR131				IAmb		IAmb	01 02 41.1		
	comp=Z,2.0nm,0.6s								
BRTR	**Keskin Array B**	**65.05**	**312**	P		**P**	**01 02 40.2**	**-1.1**	
BRTR	**Keskin Array B**	**65.05**	**312**	P		**P**	**01 02 40.5**	**-0.8**	
	comp=Z,1.3nm,0.5s,baz=115,slow=6.1,SNR=12								
	comp=Z,1.3nm,0.5s								
ELL	**Elmali**	**67.22**	**308**	P		**P**	**01 02 55.3**	**+0.1**	
AKAS	**Kas**	**67.36**	**307**	P		**P**	**01 02 55.2**	**-0.9**	
AKASG	**Malin Array Be**	**71.05**	**322**	P		**P**	**01 03 16.9**	**-1.6**	
	comp=Z,0.7nm,0.6s,baz=91,slow=5.5,SNR=5.3								
	comp=Z,0.7nm,0.6s								
VRI	**Vrincioaia**	**71.47**	**317**	⇓P		**P**	**01 03 21.6**	**+0.4**	
FINES	**FINESS Array B**	**75.79**	**332**	P		**P**	**01 03 45.3**	**-0.8**	
	comp=Z,2.7nm,0.4s,baz=103,slow=5.5,SNR=26								
	comp=Z,2.7nm,0.4s								
VADS	**Vadso**	**77.35**	**341**	*eP*		**P**	**01 03 54.2**	**-0.6**	
ARA0	**ARCESS Array S**	**78.41**	**340**	*eP*		**P**	**01 04 00.5**	**-0.3**	
ARCES	**ARCESS Array B**	**78.41**	**340**	P		**P**	**01 04 00.2**	**-0.5**	
	comp=Z,2.5nm,0.5s,baz=105,slow=4.1,SNR=24								
	comp=Z,2.5nm,0.5s								
KTK1	**Kautokeino**	**79.03**	**340**	*eP*		**P**	**01 04 03.9**	**-0.3**	
HAMF	**Hammerfest**	**79.33**	**341**	*eP*		**P**	**01 04 05.3**	**-0.4**	
SOKA	**Soboth**	**79.61**	**316**	*i* P		**P**	**01 04 07.9**	**0.0**	
	comp=Z,0.8nm,0.4s								
OBKA	**Obir**	**79.93**	**316**	*i* P		**P**	**01 04 10.1**	**+0.5**	
	comp=Z,0.9nm,0.6s								
JETT	**Jettan, Norway**	**80.14**	**340**	*eP*		**P**	**01 04 10.2**	**-0.1**	
MYKA	**Terra Mystica**	**80.56**	**316**	*i* P		**P**	**01 04 12.6**	**-0.4**	
	comp=Z,0.3nm,0.2s								
BIOA	**Bad Ischl, Aus**	**80.62**	**317**	*i* P		**P**	**01 04 12.9**	**-0.4**	
	comp=Z,1.6nm,0.4s								
GERES	**GERESS Array B**	**80.64**	**319**	P		**P**	**01 04 13.6**	**+0.1**	
	comp=Z,1.7nm,0.7s,baz=96,slow=5.4,SNR=15								
	comp=Z,1.7nm,0.7s								
TRO	**Tromso**	**80.67**	**340**	*eP*		**P**	**01 04 11.9**	**-1.1**	
KBA	**Koelnbreinsper**	**80.79**	**317**	*eP*		**P**	**01 04 13.3**	**-1.0**	
	comp=Z,0.2nm,0.2s								
LESA	**Schwarzleotal**	**81.26**	**317**	*i* P		**P**	**01 04 15.9**	**-0.8**	
	comp=Z,1.9nm,0.3s								
HFS	**Hagfors**	**81.50**	**330**	P		**P**	**01 04 16.6**	**-1.0**	
	comp=Z,13nm,1.2s,baz=103,slow=4.6,SNR=5.3								
	comp=Z,13nm,1.2s								
FAUS	**Fauske**	**81.61**	**337**	*eP*		**P**	**01 04 17.6**	**-0.5**	
STEI	**Steigen**	**81.70**	**338**	*eP*		**P**	**01 04 17.9**	**-0.6**	
MOR8	**Moi Rana**	**81.79**	**336**	*eP*		**P**	**01 04 18.5**	**-0.5**	
WTTA	**Wattenberg**	**81.96**	**317**	*i* P		**P**	**01 04 19.5**	**-1.1**	
	comp=Z,1.8nm,0.3s								
WATA	**Walderalm**	**82.00**	**317**	*i* P		**P**	**01 04 19.7**	**-1.0**	
	comp=Z,0.5nm,0.2s								
SQTA	**Sankt Quirin**	**82.25**	**317**	*i* P		**P**	**01 04 21.2**	**-0.9**	
	comp=Z,2.0nm,0.4s								
MOTA	**Moosalm**	**82.32**	**317**	*i* P		**P**	**01 04 21.5**	**-1.0**	
	comp=Z,1.1nm,0.5s								
LOF	**Lofoten**	**82.36**	**338**	*eP*		**P**	**01 04 20.9**	**-1.0**	
RETA	**Reutte**	**82.56**	**317**	*i* P		**P**	**01 04 22.9**	**-0.7**	
	comp=Z,2.5nm,0.4s								
FETA	**Feichten**	**82.57**	**317**	*i* P		**P**	**01 04 23.3**	**-0.4**	
	comp=Z,0.3nm,0.4s								
NSS	**Namsos**	**82.67**	**334**	*eP*		**P**	**01 04 23.4**	**-0.2**	
NOA	**NORSAR Array B**	**82.78**	**331**	P		**P**	**01 04 24.4**	**0.0**	
	comp=Z,1.1nm,0.9s,baz=227,slow=25,SNR=1.9								
	comp=Z,1.1nm,0.9s								
SPITS	**Spitsbergen Ar**	**82.99**	**348**	P		**P**	**01 04 24.3**	**-0.8**	
	comp=Z,8.3nm,0.8s,baz=108,slow=11,SNR=5.7								
	comp=Z,8.3nm,0.8s								
DAVA	**Damuels**	**83.15**	**317**	*i* P		**P**	**01 04 26.9**	**+0.2**	
	comp=Z,0.5nm,0.3s								
EKA	**Eskdalemuir Ar**	**90.69**	**326**	P		**P**	**01 05 03.1**	**0.0**	
	comp=Z,0.5nm,0.5s,baz=90,slow=5.0,SNR=6.1								
	comp=Z,0.5nm,0.5s								
ESDC	**Sonseca Array**	**93.80**	**310**	P		**P**	**01 05 18.1**	**+0.2**	
	comp=Z,0.2nm,0.6s,baz=80,slow=4.8,SNR=4.7								
	comp=Z,0.2nm,0.6s								
NVAR	**Mina Array Bea**	**127.08**	**33**	PKP		**PKPdf**	**01 11 05.8**	**+0.7**	
	comp=Z,0.3nm,0.5s,baz=307,slow=4.6,SNR=2.3								
PDAR	**Pinedale Array**	**127.69**	**23**	PKP		**PKPdf**	**01 11 05.3**	**-0.9**	
	comp=Z,0.2nm,0.3s,baz=335,slow=1.4,SNR=2.9								
TXAR	**Lajitas Array**	**141.63**	**27**	PKP		**PKPdf**	**01 11 32.6**	**+0.2**	
	comp=Z,0.2nm,0.5s,baz=357,slow=3.0,SNR=4.9								

IDC ***16*** *00:52:10.3±1.8, 3.°05S×128.°66E, h0km, mb3.6/3, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=106.2km s-min=24.0km az=71.0*

DJA ***16*** *00:52:14.1±0.3, 3.°5S×12.°9E±.°, h10km, M3.5/7, MLv3.5/7*

ISC 16 00:52:15.5±1.0, 3.°08S±0.°06×128.°81E±0.°05, h33km, n11, σ1s06/14, mb3.6/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.29**	**156**	P		**Pn**	**00 52 23.4**	**0.0**
MSAI				S		**Sb**	**00 52 28.8**	**+0.4**
AAI	**Ambon**	**0.86**	**225**	P		**Pb**	**00 52 32.7**	**+0.6**
AAI				S		**Sb**	**00 52 44.4**	**+1.1**
NLAI	**Namlea**	**1.71**	**265**	P		**Pn**	**00 52 43.9**	**+0.8**
SANI	**Sanana**	**3.00**	**290**	P		**Pn**	**00 53 00.4**	**-0.3**
SWI	**Sorong**	**3.29**	**48**	P		**Pn**	**00 53 05.4**	**+0.6**
FAKI	**Fak Fak**	**3.44**	**87**	P		**Pn**	**00 53 08.1**	**+1.3**
FITZ	**Fitzroy Crossi**	**15.25**	**192**	Pn		**Pn**	**00 55 49.2**	**+0.7**
	0.1nm,0.3s,baz=14,slow=16,SNR=1.5							
	2.6nm,1.1s							
WRA	**Warramunga Arr**	**17.61**	**163**	P		**Pn**	**00 56 17.2**	**-1.3**
	0.4nm,0.3s,baz=340,slow=13,SNR=11							
	0.7nm,0.4s							
ASAR	**Alice Springs**	**21.05**	**167**	P		**P**	**00 56 57.4**	**+0.4**
	2.8nm,0.3s,baz=345,slow=10,SNR=19							
ASAR				S		**S**	**01 00 47.8**	**-2.0**
	0.8nm,0.4s,baz=297,slow=8.1,SNR=6.3							
	2.8nm,0.3s							
MKAR	**Makanchi Array**	**64.32**	**326**	P		**P**	**01 02 47.0**	**-0.9**
	0.2nm,0.5s,baz=142,slow=5.4,SNR=1.7							
	0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**68.57**	**328**	P		**P**	**01 03 14.1**	**-0.9**
	0.3nm,0.5s,baz=130,slow=6.2,SNR=1.9							
	0.3nm,0.5s							

NOU 16 00:55:48.6, 21.°03S×169.°68E, h0km, mb4.5/12, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
INH	**Isangel**	**1.52**	**345**	P		Pn	00 56 15.4	-1.7
INH	**Isangel**	**1.52**	**345**	S		Sg	00 56 36.4	-1.2
PINNC	**Pines Island,**	**2.60**	**232**	P		Pn	00 56 32.2	+0.2
PINNC	**Pines Island,**	**2.60**	**232**	S		Sn	00 57 04.1	-0.3
OUENC	**Ouen Island, N**	**2.98**	**242**	P		Pn	00 56 37.6	+0.5
OUENC	**Ouen Island, N**	**2.98**	**242**	S		Sn	00 57 13.7	+0.1
DZM	**Mont Dzumac**	**3.19**	**250**	P		Pn	00 56 40.6	+0.5
DZM	**Mont Dzumac**	**3.19**	**250**	S		Sn	00 57 19.1	+0.3
ONTNC	**Ouen Toro**	**3.26**	**246**	P		Pn	00 56 41.4	+0.4
ONTNC	**Ouen Toro**	**3.26**	**246**	S		Sn	00 57 19.9	-0.6
KOUNC	**Koumac, New Ca**	**5.07**	**274**	P		Pn	00 57 06.6	+0.7
KOUNC	**Koumac, New Ca**	**5.07**	**274**	S		Sn	00 58 06.8	+1.6

VAO ***16*** *01:00:17.8±0.8, 7.°65N×71.°36W, h10km, mb4.3*

FUNV ***16*** *01:00:18.9, 7.°82N×71.°51W, h6km, MW4.2*

RSNC ***16*** *01:00:18.7±0.0, 8.°N±1.°×7.°1W±.°, h4km±2km, M4.2, mB5.1, mb4.9, ML3.9, Mw(mB)4.5*

IDC ***16*** *01:00:19.9±1.9, 7.°96N×71.°50W, h27km±13km, mb3.5/8, mbtmp4.0/13, ML3.9/5, MS3.2/5, Error ellipse: s-maj=18.0km s-min=11.7km az=130.0*

ISC 16 01:00:17.0±1.6, 7.°77N±0.°03×71.°42W±0.°03, h13km±10km, n74, σ1s89/119, mb3.7/7, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.89**	**276**	*eS*		**Sg**	**01 00 45.0**	**-1.1**
PAMC	**Pamplona, Colo**	**1.34**	**252**	P		**Pn**	**01 00 40.6**	**-1.2**
PAMC				S		**Sb**	**01 00 57.1**	**-2.4**
SDV	**Santo Domingo**	**1.36**	**35**	Pg		**Pb**	**01 00 42.6**	**+0.2**
	216nm,0.3s,baz=6.3,slow=9.3,SNR=80							
SDV				Lg		Lg	01 01 01.0	
	1μm,0.3s,baz=17,slow=10.0,SNR=27							
SDV				LR		LR	01 01 27.5	
	comp=Z,395nm,18.6s,baz=149,slow=54							
SDV	**Santo Domingo**	**1.36**	**35**	*eP*		**Pb**	**01 00 42.6**	**+0.2**
SDV	**Santo Domingo**	**1.36**	**35**	P		**Pb**	**01 00 42.4**	**0.0**
SDV				S		**Sg**	**01 01 00.6**	**-0.2**
OCAC	**Ocana**	**1.94**	**284**	P		**Pn**	**01 00 50.7**	**+0.9**
OCAC				S		**Sb**	**01 01 15.6**	**-0.9**
BARC	**Barichara**	**2.10**	**236**	P		**Pn**	**01 00 53.3**	**+1.2**
BARC				S		**Sb**	**01 01 21.6**	**+0.3**
BRJC	**Barrancabermej**	**2.44**	**251**	P		**Pn**	**01 00 58.0**	**+1.5**
BRJC				S		**Sn**	**01 01 28.6**	**+2.4**
RUSC	**La Rusia**	**2.49**	**222**	P		**Pn**	**01 00 58.5**	**+0.8**
RUSC				S		**Sb**	**01 01 32.8**	**+0.1**
MCQV	**Machiques**	**2.52**	**334**	*eP*		**Pn**	**01 00 58.6**	**+0.9**
MCQV				*eS*		**Sn**	**01 01 27.8**	**-0.5**
PTBC	**PUERTO BERRIO,**	**3.25**	**248**	P		**Pn**	**01 01 07.1**	**-0.6**
PTBC				S		**Sn**	**01 01 45.7**	**-0.7**
SPBC	**San Pablo de B**	**3.37**	**232**	P		**Pn**	**01 01 10.5**	**+1.1**
SPBC				S		**Sn**	**01 01 51.7**	**+2.3**
ZARC	**Zaragoza, Cauc**	**3.42**	**266**	P		**Pn**	**01 01 09.9**	**-0.2**
ZARC				S		**Sn**	**01 01 52.6**	**+2.1**
ARGC	**Ariguani, Magd**	**3.48**	**307**	P		**Pn**	**01 01 11.7**	**+0.8**
ARGC				S		**Sn**	**01 01 51.2**	**-0.8**
BAUV	**El Baul**	**3.54**	**70**	*eP*		**Pn**	**01 01 13.8**	**+2.2**
BAUV				*eS*		**Sn**	**01 01 55.2**	**+1.8**
CRJC	**Cerrejon, Guaj**	**3.54**	**336**	P		**Pn**	**01 01 11.9**	**+0.1**
CRJC				S		**Sn**	**01 01 54.2**	**+0.6**
URIC	**Uribia, Colomb**	**3.95**	**352**	P		**Pn**	**01 01 17.1**	**-0.2**
URIC				S		**Sn**	**01 02 01.7**	**-1.9**
NORC	**Norcasia**	**4.07**	**238**	P		**Pn**	**01 01 19.2**	**+0.2**
NORC				S		**Sn**	**01 02 08.7**	**+2.1**
UREC	**San Jos de Ur**	**4.08**	**270**	P		**Pn**	**01 01 20.6**	**+1.5**
URIC				S		**Sn**	**01 02 05.0**	**-1.8**
ROSC	**El Rosal**	**4.10**	**225**	Pn		**Pn**	**01 01 22.2**	**+2.6**
	31nm,0.3s,baz=66,slow=8.0,SNR=84							
ROSC				Sn		**Sn**	**01 02 12.2**	**+4.5**
	40nm,0.3s,baz=210,slow=23,SNR=3.8							
ROSC				Lg		Lg	01 02 32.7	
	31nm,0.3s,baz=234,slow=24,SNR=5.0							
	73nm,0.3s							
ROSC	**El Rosal**	**4.10**	**225**	P		**Pn**	**01 01 23.0**	**+3.3**
ROSC				S		**Sn**	**01 02 11.1**	**+3.4**
CVER	**Cruz Verde, Cu**	**4.17**	**219**	P		**Pn**	**01 01 22.4**	**+1.7**
CVER				S		**Sn**	**01 02 11.1**	**+1.5**
JACV	**Jacura**	**4.17**	**38**	*eP*		**Pn**	**01 01 22.1**	**+1.7**
JACV				*eS*		**Sn**	**01 02 08.6**	**-0.5**
SJCC	**San Jacinto, C**	**4.28**	**300**	P		**Pn**	**01 01 23.8**	**+1.9**
SJCC				S		**Sn**	**01 02 13.3**	**+1.6**
VILC	**Villavicencio,**	**4.28**	**212**	P		**Pn**	**01 01 22.6**	**+0.6**
VILC				S		**Sn**	**01 02 13.4**	**+1.5**
BENV	**Beln**	**4.36**	**60**	*eP*		**Pn**	**01 01 26.0**	**+3.0**
BENV				*eS*		**Sn**	**01 02 14.1**	**+0.3**
SMRC	**Santa Marta, M**	**4.37**	**321**	P		**Pn**	**01 01 22.1**	**-0.9**
SMRC				S		**Sn**	**01 02 14.6**	**+0.8**
HELC	**Santa Helena**	**4.37**	**249**	P		**Pn**	**01 01 24.2**	**+0.8**
HELC				S		**Sn**	**01 02 14.9**	**+0.4**
GUY2C	**Guyana, Caldas**	**4.67**	**237**	P		**Pn**	**01 01 28.9**	**+1.3**
GUY2C				S		**Sn**	**01 02 21.2**	**-0.7**
RECRC	**Villamaria, Ca**	**4.80**	**235**	P		**Pn**	**01 01 31.2**	**+1.7**
RECRC				S		**Sn**	**01 02 27.8**	**+2.4**
DBBC	**Dabeiba**	**4.81**	**261**	P		**Pn**	**01 01 31.7**	**+2.5**
DBBC				S		**Sn**	**01 02 30.7**	**+5.8**
CACV	**CAICARA DEL OR**	**4.84**	**92**	*eP*		**Pb**	**01 01 39.1**	**-2.6**
CACV				*eS*		**Sb**	**01 02 38.8**	**-1.1**
NIZA	**Niza - Manizal**	**4.84**	**236**	P		**Pn**	**01 01 31.6**	**+1.7**
NIZA				S		**Sn**	**01 02 25.7**	**-0.3**
TACV	**Tcata**	**4.94**	**61**	*eP*		**Pn**	**01 01 32.9**	**+1.9**
TACV				*eS*		**Sn**	**01 02 27.2**	**-0.7**
CBOC	**Ciudad Bolivar**	**4.94**	**248**	P		**Pn**	**01 01 34.0**	**+2.9**
CBOC				S		**Sn**	**01 02 33.1**	**+4.9**
ANIL	**Santa Ana**	**5.13**	**231**	P		**Pn**	**01 01 35.1**	**+1.3**
	5μm288nm,0.5s							
ANIL				S		**Sn**	**01 02 31.1**	**-1.9**
	5μm288nm,0.5s							
FUNV	**FUNVISIS**	**5.28**	**59**	*eP*		**Pn**	**01 01 37.5**	**+1.8**
FUNV				*eS*		**Sn**	**01 02 35.6**	**-1.0**
PRAC	**Prado**	**5.30**	**221**	P		**Pn**	**01 01 36.0**	**0.0**
	2μm123nm,0.6s							
PRAC				S		**Sn**	**01 02 36.4**	**-0.6**
	2μm123nm,0.6s							
GUVC	**San Jose del G**	**5.33**	**193**	P		**Pn**	**01 01 36.6**	**+0.3**
GUVC				S		**Sn**	**01 02 36.0**	**-1.5**
URMC	**La Uribe, Meta**	**5.37**	**213**	P		**Pn**	**01 01 38.1**	**+1.1**
	3μm112nm,0.9s							
URMC				S		**Sn**	**01 02 34.7**	**-4.1**
	3μm112nm,0.9s							
ORTC	**Ortega, Tolima**	**5.40**	**225**	P		**Pn**	**01 01 38.0**	**+0.6**
	2μm133nm,0.9s							
ORTC				S		**Sn**	**01 02 33.1**	**-6.4**
	2μm133nm,0.9s							
MACC	**Macarena, Meta**	**6.09**	**204**	P		**Pn**	**01 01 45.9**	**-0.8**
MACC				S		**Sn**	**01 02 53.3**	**-3.0**
YOTC	**Yotoco, Valle**	**6.18**	**233**	P		**Pn**	**01 01 48.8**	**+0.7**
	568nm70nm,0.7s							
PCRV	**Puerto La Cruz**	**7.11**	**70**	Pn		**Pn**	**01 02 03.1**	**+2.2**
	5.1nm,0.3s,baz=335,slow=2.9,SNR=35							
PCRV				Sn		**Sn**	**01 03 24.9**	**+3.2**
	9.5nm,0.3s,baz=199,slow=23,SNR=6.8							
PCRV				Lg		Lg	01 04 07.6	
	baz=44,slow=21							
	18nm,0.4s							
PCRV	**Puerto La Cruz**	**7.11**	**70**	*eP*		**Pn**	**01 02 02.9**	**+2.0**
PCRV				*eS*		**Sn**	**01 03 19.6**	**-2.1**
FLOC	**Florencia**	**7.45**	**215**	P		**Pn**	**01 02 05.2**	**-0.3**
	725nm89nm,0.8s							
BBAC	**Balboa, Cauca**	**8.14**	**226**	P		**Pn**	**01 02 16.7**	**+1.6**
	13nm,0.7s							
PTLC	**Puerto Leguiza**	**8.26**	**204**	P		**Pn**	**01 02 19.5**	**+2.9**
	765nm56nm,0.7s							
CRUC	**La Cruz**	**8.27**	**222**	P		**Pn**	**01 02 19.6**	**+2.6**
	348nm,0.6s							
SGC2	**Sao Gabriel da**	**9.03**	**150**	P		**Pn**	**01 02 26.9**	**-0.2**
SGC2				S		**Sn**	**01 04 05.2**	**-3.5**
SJG	**San Juan**	**11.49**	**26**	Pn		**Pn**	**01 03 01.8**	**+0.9**
	3.5nm,0.3s,baz=215,slow=16,SNR=8.8							
SJG				Sn		**Sn**	**01 05 08.7**	**-0.4**
	0.5nm,0.3s,baz=351,slow=11,SNR=1.5							
SJG				LR		LR	01 08 42.5	
	comp=Z,36nm,18.0s,baz=159,slow=44							
	12nm,0.4s							
BOAV	**Boa Vista**	**12.09**	**116**	*eP*		**Pn**	**01 03 08.5**	**-0.6**
BOAV	**Boa Vista**	**12.09**	**116**	P		**Pn**	**01 03 09.8**	**+0.7**
BOAV				S		**Sn**	**01 05 21.3**	**-2.6**
TEFE	**Tefe**	**13.09**	**149**	*eP*		**Pn**	**01 03 21.8**	**-0.9**
JTS	**Las Juntas de**	**13.60**	**282**	LR		LR	01 09 22.7	
	comp=Z,41nm,20.2s,baz=56,slow=40							
CZSB	**Cruzeiro do Su**	**15.45**	**185**	*eP*		**Pn**	**01 03 53.8**	**-0.9**
ATAH	**Atahualpa**	**16.36**	**205**	Pn		**P**	**01 04 10.8**	**+1.0**
	0.4nm,0.3s,baz=53,slow=

MLv2.4/11
*MDD **16** 01:40:56.6±0.3,36°.91N×4°.79W, h8km±2km, mb_Lg2.3/14, Error ellipse: s-maj=3.0km s-min=1.9km az=173.0*
*CNRM **16** 01:41:00.2,36°.72N×4°.69W, h62km, ML2.5*

ISC 16 01:40:54.4±1.1,36°.86N±0°.02×4°.84W±0°.02, h12km±9km, n52, σ1.17/85, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
EMAL	**Malaga-Limoner**	**0.34**	**107**	Sg	**Sg**	**01**	**41**	**06.4**	**+0.6**
EMAL				Pg	**Pb**	**01**	**41**	**02.1**	**-0.3**
EGOR	**Sierra Gorda,**	**0.63**	**67**	Pg	**Pb**	**01**	**41**	**07.4**	**-0.1**
EGOR	**Sierra Gorda,**	**0.63**	**67**	Pg	**Pb**	**01**	**41**	**07.4**	**-0.1**
EGOR				Sg	**Sg**	**01**	**41**	**15.1**	**0.0**
EGOR				*i* IVmb_Lg		01	41	21.0	
EJIF	**Jimena Fronter**	**0.65**	**231**	Pg	**Pn**	**01**	**41**	**09.7**	**+0.2**
EJIF				Sg	**Sn**	**01**	**41**	**20.1**	**+0.4**
ESPR	**Espera**	**0.82**	**271**	Pg	**Pn**	**01**	**41**	**13.2**	**+1.4**
ESPR	**Espera**	**0.82**	**271**	Pg	**Pn**	**01**	**41**	**13.4**	**+1.6**
ESPR				Sg	**Sn**	**01**	**41**	**24.6**	**+0.7**
ESPR				*i* IVmb_Lg		01	41	32.8	
ELGU	**Los Guajares,**	**0.97**	**89**	Pg	**Pg**	**01**	**41**	**12.7**	**-0.3**
ELGU	**Los Guajares,**	**0.97**	**89**	Pg	**Pb**	**01**	**41**	**13.4**	**+0.2**
ELGU				Sg	**Sg**	**01**	**41**	**26.1**	**+0.4**
ELGU				*i* IVmb_Lg		01	41	34.5	
ECAB	**El Cabril**	**1.30**	**339**	Pn	**Pg**	**01**	**41**	**18.9**	**-0.4**
ECAB				Sn	**Sg**	**01**	**41**	**35.4**	**-0.8**
ECAB	**El Cabril**	**1.30**	**339**	Pg	**Pg**	**01**	**41**	**18.7**	**-0.7**
ECAB				Sg	**Sg**	**01**	**41**	**35.9**	**-0.4**
ECAB				*i* IVmb_Lg		01	41	37.3	
EADA	**Adamuz**	**1.32**	**9**	Pn	**Pn**	**01**	**41**	**18.9**	**+0.1**
EADA				Sn	**Sg**	**01**	**41**	**36.3**	**-0.6**
E0803	**Jimena (Jaen)**	**1.46**	**48**	Pg	**Pn**	**01**	**41**	**21.3**	**+0.7**
E0803				Sg	**Sb**	**01**	**41**	**41.3**	**+1.1**
E0802	**Ubeda,Jaen**	**1.64**	**45**	Pn	**Pn**	**01**	**41**	**23.8**	**+0.6**
E0802				Pg	**Pg**	**01**	**41**	**25.9**	**-0.1**
E0802				Sn	**Sn**	**01**	**41**	**43.9**	**-0.5**
E0802				Sg	**Sb**	**01**	**41**	**46.7**	**+1.3**
EQES	**Quesada**	**1.69**	**56**	Pn	**Pn**	**01**	**41**	**24.4**	**+0.5**
EQES				Pg	**Pg**	**01**	**41**	**26.8**	**0.0**
EQES				Sn	**Sn**	**01**	**41**	**45.0**	**-0.6**
EQES				Sg	**Sg**	**01**	**41**	**48.7**	**-0.1**
EQES				*i* IVmb_Lg		01	41	52.4	
EMIN	**Mina Concepcio**	**1.72**	**302**	Pn	**Pn**	**01**	**41**	**24.8**	**+0.5**
EMIN				Sn	**Sn**	**01**	**41**	**48.0**	**+1.8**
EMIN	**Mina Concepcio**	**1.72**	**302**	Pn	**Pn**	**01**	**41**	**23.6**	**-0.6**
EMIN				Pg	**Pg**	**01**	**41**	**28.8**	**+1.4**
EMIN				Sn	**Sn**	**01**	**41**	**47.8**	**+1.6**
EMIN				*i* IVmb_Lg		01	41	52.4	
PSIM	**Granatula de C**	**2.13**	**23**	Pn	**Pn**	**01**	**41**	**31.0**	**+1.0**
PSIM				Pg	**Pg**	**01**	**41**	**34.7**	**-0.6**
PSIM				Sn	**Sn**	**01**	**41**	**56.5**	**0.0**
PBAR	**Barrancos**	**2.19**	**307**	Pn	**Pn**	**01**	**41**	**30.5**	**-0.1**
PBAR				Sn	**Sn**	**01**	**41**	**59.0**	**+1.3**
PBAR	**Barrancos**	**2.19**	**307**	*e*Pn	**Pn**	**01**	**41**	**31.3**	**+0.6**
PBAR				*e*Sn	**Sn**	**01**	**41**	**58.2**	**+0.5**
PBAR				*i* IAML		01	42	10.2	
PBAR				*i* IAML		01	42	11.2	
PBAR				*i* IAML		01	42	16.2	
GOG	**Mont Gurugu**	**2.21**	**137**	P	**Pn**	**01**	**41**	**32.7**	**+1.6**
GOG	**Mont Gurugu**	**2.21**	**137**	S	**Sn**	**01**	**41**	**55.6**	**-2.8**
EGRO	**El Granado**	**2.22**	**288**	Pn	**Pn**	**01**	**41**	**30.5**	**-0.6**
EGRO				Sn	**Sn**	**01**	**42**	**00.1**	**+1.7**
PVAQ	**Vaqueiros**	**2.37**	**284**	*e*Pn	**Pn**	**01**	**41**	**33.9**	**+0.8**
PVAQ				*e*Sn	**Sn**	**01**	**42**	**01.6**	**-0.5**
PVAQ				*i* IAML		01	42	15.5	
PVAQ				*i* IAML		01	42	17.6	
PVAQ	**Vaqueiros**	**2.37**	**284**	P	**Pg**	**01**	**41**	**38.3**	**-1.5**
PVAQ	**Vaqueiros**	**2.37**	**284**	S	**Sg**	**01**	**42**	**08.7**	**-1.8**
AKLM	**AKL**	**2.48**	**161**	P	**Pn**	**01**	**41**	**36.3**	**+1.6**
AKLM	**AKL**	**2.48**	**161**	S	**Sn**	**01**	**42**	**01.6**	**-3.3**
PBDV	**Barranco-do-Ve**	**2.51**	**280**	Pn	**Pn**	**01**	**41**	**35.4**	**+0.4**
PBDV				Sn	**Sn**	**01**	**42**	**04.9**	**-0.7**
EBAD	**Badajoz**	**2.56**	**318**	Pn	**Pn**	**01**	**41**	**35.3**	**-0.4**
EBAD				Sn	**Sn**	**01**	**42**	**07.1**	**+0.2**
EBAD	**Badajoz**	**2.56**	**318**	Pn	**Pn**	**01**	**41**	**36.8**	**+1.0**
EBAD				Sn	**Sn**	**01**	**42**	**07.1**	**+0.2**
EBAD				*i* IVmb_Lg		01	42	22.2	
PCVE	**Castro Verde**	**2.67**	**288**	*e*Pn	**Pn**	**01**	**41**	**37.4**	**+0.1**
PCVE				*e*Sn	**Sn**	**01**	**42**	**08.5**	**-1.1**
PCVE				*i* IAML		01	42	26.2	
PCVE				*i* IAML		01	42	28.3	
PCVE				*i* IAML		01	42	32.6	
TAF	**Taforalt**	**2.83**	**135**	P	**Pn**	**01**	**41**	**40.9**	**+1.3**
TAF	**Taforalt**	**2.83**	**135**	S	**Sn**	**01**	**42**	**13.1**	**-0.6**
PESTR	**Estremoz**	**2.96**	**313**	Sn	**Sn**	**01**	**42**	**15.1**	**-1.7**
PESTR				Pn	**Pn**	**01**	**41**	**41.8**	**+0.5**
PESTR	**Estremoz**	**2.96**	**313**	*e*Pn	**Pn**	**01**	**41**	**42.5**	**+1.2**
PESTR				*e*Sn	**Sn**	**01**	**42**	**16.8**	**0.0**
PESTR	**Estremoz**	**2.96**	**313**	P	**Pb**	**01**	**41**	**46.9**	**-0.2**
PESTR	**Estremoz**	**2.96**	**313**	S	**Sb**	**01**	**42**	**24.4**	**+1.1**
EVO	**Evora**	**3.02**	**304**	Sn	**Sn**	**01**	**42**	**17.1**	**-1.1**
JBK	**JBK**	**3.12**	**143**	P	**Pn**	**01**	**41**	**44.4**	**+0.6**
JBK	**JBK**	**3.12**	**143**	S	**Sn**	**01**	**42**	**17.9**	**-3.2**
PFVI	**Vila Bisbo**	**3.21**	**276**	Sn	**Sn**	**01**	**42**	**22.5**	**-0.3**
PMRV	**Marv??o**	**3.26**	**323**	*e*Pn	**Pn**	**01**	**41**	**46.3**	**+0.9**
PMRV				*e*Sn	**Sn**	**01**	**42**	**22.7**	**-1.8**
EPLA	**Plasencia**	**3.34**	**343**	Pn	**Pn**	**01**	**41**	**47.7**	**+1.1**
EPLA				Pg	**Pg**	**01**	**41**	**57.8**	**-0.7**
EPLA				*i* IVmb_Lg		01	42	44.2	
PMTG	**Montargil**	**3.47**	**310**	*e*Sn	**Sn**	**01**	**42**	**27.4**	**-1.9**
PSARD	**Sardoal**	**3.79**	**317**	*e*Pn	**Pn**	**01**	**41**	**53.4**	**+0.7**
PSARD				*e*Sn	**Sn**	**01**	**42**	**34.7**	**-2.5**
PSARD				*i* IAML		01	42	57.5	
PSARD				*i* IAML		01	42	57.5	
PSARD				*i* IAML		01	43	03.0	
PARRA	**Arraiolos**	**3.86**	**302**	*e*Pn	Pn	01	41	45.0	-8.6
PARRA				*e*Sn	Sn	01	42	21.3	-18
PARRA				*i* IAML		01	42	41.3	
PARRA				*i* IAML		01	42	42.3	
PARRA				*i* IAML		01	42	44.2	
MD31	**MD31**	**3.98**	**179**	P	**Pn**	**01**	**41**	**57.0**	**+1.6**
MD31	**MD31**	**3.98**	**179**	S	**Sn**	**01**	**42**	**41.2**	**-1.0**
MDT	**Midelt**	**4.04**	**177**	P	**Pn**	**01**	**41**	**57.8**	**+1.5**
MDT	**Midelt**	**4.04**	**177**	S	**Sn**	**01**	**42**	**43.1**	**-0.5**
PMAFR	**Mafra**	**4.09**	**302**	Sn	**Sn**	**01**	**42**	**43.3**	**-1.4**
MVO	**Moncorvo**	**4.62**	**339**	*e*Pn	**Pn**	**01**	**42**	**05.1**	**+0.9**
MVO				*e*Sn	**Sn**	**01**	**42**	**55.7**	**-2.2**
MVO				*i* IAML		01	43	25.1	
MVO				*i* IAML		01	43	27.0	
MVO				*i* IAML		01	43	29.4	

*IDC **16** 01:43:58.1±1.7,0°.94S×120°.91E, h0km, mb3.3/3, mbtmp3.5/4, ML4.3/1, Error ellipse: s-maj=52.5km s-min=25.8km az=73.0*
*DJA **16** 01:44:00.6±0.6,1°.S±2°×12°.1E±°, h14km±5km, M4.0/9, MLv4.0/9*

ISC 16 01:44:03.2±1.0,1°.00S±0°.06×120°.88E±0°.06, h35km, n11, σ0.98/14, mb3.2/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
APSI	**Ampana**	**0.78**	**84**	P	**Pn**	**01**	**44**	**15.8**	**-1.9**
PCI	**Palu**	**1.04**	**275**	P	**Pn**	**01**	**44**	**20.5**	**-0.9**
MRSI	**Marisa**	**1.81**	**36**	P	**Pn**	**01**	**44**	**31.5**	**-0.4**
MRSI				S	**Sn**	**01**	**44**	**55.1**	**+1.4**
LUWI	**Luwuk**	**1.90**	**91**	P	**Pn**	**01**	**44**	**32.6**	**-0.5**
LUWI				S	**Sn**	**01**	**44**	**56.8**	**+1.0**
TTSI	**Tana Toraja**	**2.29**	**207**	P	**Pn**	**01**	**44**	**37.6**	**-0.9**
SPSI	**Sidrap Palu**	**3.15**	**201**	P	**Pn**	**01**	**44**	**49.6**	**-0.7**
BNSI	**Bone**	**3.46**	**193**	P	**Pn**	**01**	**44**	**55.1**	**+0.4**
KAPI	**Kappang**	**4.14**	**196**	Pn	**Pn**	**01**	**45**	**03.5**	**-0.5**
	16nm,0.3s,baz=345,slow=11,SNR=18								
KAPI				Sn	**Sn**	**01**	**45**	**51.7**	**+0.4**
	8.8nm,0.3s,baz=145,slow=19,SNR=7.3 38nm,0.3s								
WRA	**Warramunga Arr**	**22.98**	**146**	P	**P**	**01**	**49**	**04.6**	**-0.3**
	0.6nm,0.9s,baz=329,slow=10,SNR=6.4 0.6nm,0.9s								
ASAR	**Alice Springs**	**25.83**	**152**	P	**P**	**01**	**49**	**32.3**	**+0.8**
	0.2nm,0.3s,baz=340,slow=11,SNR=6.3 0.2nm,0.3s								
MKAR	**Makanchi Array**	**58.37**	**330**	P	**P**	**01**	**53**	**55.1**	**0.0**
	0.2nm,0.5s,baz=144,slow=8.2,SNR=2.5 0.2nm,0.5s								

*TAP **16** 01:46:19.9,24°.67N×122°.39E, h15km, ML3.0, C*
*JMA **16** 01:46:20.6±0.1,25°.N±1°.×122°.4E±0°.4, h33km±2km,*

MV2.4/10, NW OFF ISHIGAKIJIMA IS

ISC 16 01:46:18.7±1.0,24°.76N±0°.03×122°.44E±0°.02, h12km±8km, n74, σ0.80/139, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
EOS2	**EOS2**	**0.39**	**210**	*i* P	**Pg**	**01**	**46**	**26.7**	**+0.4**
EOS2				*i* S	**Sg**	**01**	**46**	**31.7**	**+0.3**
EGS		**0.47**	**281**	*i* P	**Pb**	**01**	**46**	**28.9**	**0.0**
EGS				*e*S	**Sb**	**01**	**46**	**36.1**	**+0.3**
EOS3	**EOS3**	**0.48**	**194**	*i* P	**Pg**	**01**	**46**	**28.2**	**+0.2**
EOS3				*i* S	**Sg**	**01**	**46**	**34.3**	**-0.1**
TWB1	**Santiao Chiao**	**0.48**	**302**	*i* P	**Pn**	**01**	**46**	**30.1**	**-1.3**
TWB1				*i* S	**Sb**	**01**	**46**	**36.6**	**+0.4**
JYNG	**Yonagunijimaku**	**0.55**	**123**	*e*P	**Pb**	**01**	**46**	**30.7**	**+0.4**
JYNG				*e*S	**Sg**	**01**	**46**	**37.5**	**+0.8**
TWC	**Suao**	**0.56**	**255**	*i* P	**Pg**	**01**	**46**	**29.5**	**-0.1**
TWC				*e*S	**Sb**	**01**	**46**	**37.9**	**-0.5**
ESAO	**Su ao**	**0.57**	**252**	*i* P	**Pg**	**01**	**46**	**29.8**	**0.0**
ESAO				S	**Sg**	**01**	**46**	**37.7**	**+0.3**
YOJ	**Yonaguni jima**	**0.59**	**119**	P	**Pn**	**01**	**46**	**31.9**	**+0.8**
YOJ	**Yonaguni jima**	**0.59**	**119**	*i* P	**Pb**	**01**	**46**	**31.6**	**+0.6**
YOJ				*i* S	**Sb**	**01**	**46**	**40.2**	**+0.8**
YOJ	**Yonaguni jima**	**0.59**	**119**	*e*P	**Pb**	**01**	**46**	**31.6**	**+0.6**
YOJ				*e*S	**Sg**	**01**	**46**	**39.0**	**+0.9**
TIPB	**Shuangxi**	**0.60**	**291**	*i* P	**Pn**	**01**	**46**	**32.3**	**-0.8**
TIPB				*e*S	**Sn**	**01**	**46**	**41.4**	**-1.4**
SXI1	**Grass Mountain**	**0.61**	**303**	*i* P	**Pn**	**01**	**46**	**33.3**	**0.0**
SXI1				S	**Sn**	**01**	**46**	**42.9**	**-0.3**
EOS4	**EOS4**	**0.64**	**190**	*i* P	**Pg**	**01**	**46**	**31.2**	**+0.2**
EOS4				*e*S	**Sg**	**01**	**46**	**39.9**	**+0.4**
NDS	**Dongshan**	**0.67**	**260**	*i* P	**Pb**	**01**	**46**	**32.0**	**-0.3**
NDS				*i* S	**Sb**	**01**	**46**	**41.9**	**+0.3**
WFSB	**Wu-fen Shan**	**0.68**	**298**	*i* P	**Pn**	**01**	**46**	**34.6**	**+0.5**
WFSB				*i* S	**Sn**	**01**	**46**	**44.5**	**-0.1**
TWE	**Neicheng**	**0.70**	**267**	*i* P	**Pb**	**01**	**46**	**32.7**	**-0.2**
TWE				*i* S	**Sb**	**01**	**46**	**42.8**	**+0.2**
ENA	**Nanau**	**0.72**	**243**	*i* P	**Pg**	**01**	**46**	**32.2**	**-0.4**
ENA				S	**Sg**	**01**	**46**	**41.9**	**-0.1**
TNOU	**National Taiwa**	**0.72**	**303**	P	**Pn**	**01**	**46**	**34.8**	**+0.1**
TNOU				*i* S	**Sn**	**01**	**46**	**45.1**	**-0.7**
EAHA	**Aohua**	**0.77**	**237**	*i* P	**Pg**	**01**	**46**	**33.4**	**-0.2**
EAHA				S	**Sg**	**01**	**46**	**43.2**	**-0.4**
FUSB	**Fushanzhiwuyua**	**0.78**	**271**	*i* P	**Pb**	**01**	**46**	**34.3**	**+0.1**
FUSB				*i* S	**Sb**	**01**	**46**	**44.5**	**-0.2**
ENTT	**Nioudou**	**0.81**	**262**	*i* P	**Pb**	**01**	**46**	**34.5**	**-0.1**
ENTT				S	**Sb**	**01**	**46**	**45.3**	**-0.2**
TWA	**Mucha**	**0.81**	**286**	*i* P	**Pn**	**01**	**46**	**36.4**	**+0.5**
TWA				*i* S	**Sn**	**01**	**46**	**47.1**	**-0.9**
NWLT	**Wulai**	**0.85**	**272**	*i* P	**Pb**	**01**	**46**	**35.9**	**+0.4**
NWLT				*i* S	**Sg**	**01**	**46**	**46.2**	**-0.2**
LATG	**Datong**	**0.86**	**256**	*i* P	**Pg**	**01**	**46**	**35.2**	**-0.2**
LATG				*i* S	**Sg**	**01**	**46**	**46.6**	**0.0**
TATO	**Taipei**	**0.89**	**284**	P	**Pn**	**01**	**46**	**37.8**	**+0.7**
TATO	**Taipei**	**0.89**	**284**	S	**Sn**	**01**	**46**	**49.4**	**-0.6**
TATO	**Taipei**	**0.89**	**284**	P	**Pb**	**01**	**46**	**37.6**	**+0.5**
TATO				*i* S	**Sb**	**01**	**46**	**48.8**	**+0.8**
ZUZH	**Zhuzihu**	**0.91**	**297**	*i* P	**Pn**	**01**	**46**	**37.0**	**-0.4**
ZUZH				*i* S	**Sn**	**01**	**46**	**50.4**	**0.0**
TWY	**Chenhua**	**0.92**	**304**	*e*P	**Pn**	**01**	**46**	**37.6**	**+0.1**
TWY				*i* S	**Sn**	**01**	**46**	**52.1**	**+1.4**
ETL	**Fush Village**	**0.95**	**232**	*i* P	**Pg**	**01**	**46**	**36.5**	**-0.5**
ETL				S	**Sg**	**01**	**46**	**48.7**	**-0.8**
NACB	**Ninganchiao**	**0.96**	**233**	P	**Pg**	**01**	**46**	**36.4**	**-0.9**
NACB	**Ninganchiao**	**0.96**	**233**	*i* P	**Pg**	**01**	**46**	**36.3**	**-0.9**
NACB				*i* S	**Sg**	**01**	**46**	**48.4**	**-1.5**
YHNB	**Yeheng**	**0.97**	**265**	P	**Pn**	**01**	**46**	**38.3**	**0.0**
YHNB	**Yeheng**	**0.97**	**265**	*i* P	**Pb**	**01**	**46**	**37.7**	**+0.2**
YHNB				*i* S	**Sb**	**01**	**46**	**50.1**	**-0.3**
NSK	**Sanguang**	**0.99**	**266**	*i* P	**Pb**	**01**	**46**	**38.0**	**+0.1**
NSK				*i* S	**Sg**	**01**	**46**	**49.8**	**-0.9**
TWS1	**Kuangyinshan**	**0.99**	**291**	P	**Pn**	**01**	**46**	**40.0**	**+1.6**
TWS1				*e*S	**Sn**	**01**	**46**	**52.5**	**+0.1**
NNSB	**Datong**	**1.02**	**252**	*i* P	**Pg**	**01**	**46**	**37.6**	**-0.7**
NNSB				S	**Sg**	**01**	**46**	**51.1**	**-0.5**
NNS	**Nan Shan**	**1.02**	**252**	*i* P	**Pg**	**01**	**46**	**36.8**	**-1.6**
NNS				*i* S	**Sb**	**01**	**46**	**52.2**	**+0.3**
TWD	**Chiawan**	**1.02**	**229**	*i* P	**Pg**	**01**	**46**	**37.9**	**-0.5**
TWD				*e*S	**Sg**	**01**	**46**	**51.5**	**-0.2**
ETLH	**Xiulin Townshi**	**1.03**	**238**	*i* P	**Pg**	**01**	**46**	**37.7**	**-0.9**
ETLH				*e*S	**Sg**	**01**	**46**	**52.3**	**+0.3**
KSHI	**Guanxi Townshi**	**1.15**	**271**	*i* P	**Pn**	**01**	**46**	**41.8**	**+1.2**
KSHI				S	**Sn**	**01**	**46**	**57.4**	**+1.1**
ETM	**Tongmen**	**1.17**	**228**	*i* P	**Pg**	**01**	**46**	**40.4**	**-0.7**
ETM				*e*S	**Sg**	**01**	**46**	**55.7**	**-0.7**
LXIB	**Xiulin Townshi**	**1.19**	**232**	*i* P	**Pg**	**01**	**46**	**40.3**	**-1.3**
LXIB				*e*S	**Sb**	**01**	**46**	**57.5**	**+0.8**
FUSS	**Fushou**	**1.20**	**245**	*i* P	**Pg**	**01**	**46**	**41.5**	**-0.4**
FUSS				*e*S	**Sb**	**01**	**46**	**58.0**	**+0.8**
NFF	**Wufeng Townshi**	**1.21**	**264**	*i* P	**Pn**	**01**	**46**	**42.7**	**+1.2**
NFF				*i* S	**Sb**	**01**	**46**	**57.8**	**+0.6**
WHF	**Hehuan Shan**	**1.23**	**241**	*i* P	**Pg**	**01**	**46**	**41.5**	**-0.9**
WHF				*i* S	**Sg**	**01**	**46**	**58.0**	**-0.6**
IRIF	**Iriomote-Funau**	**1.25**	**109**	*e*P	**Pg**	**01**	**46**	**41.4**	**-1.2**
IRIF				*e*S	**Sg**	**01**	**46**	**57.1**	**-1.8**
SHUL	**Shoufeng**	**1.25**	**220**	*i* P	**Pn**	**01**	**46**	**42.3**	**+0.3**
SHUL				*e*S	**Sg**	**01**	**46**	**59.1**	**+0.1**
TWT	**Tachien**	**1.26**	**247**	*i* P	**Pg**	**01**	**46**	**42.1**	**-0.8**
TWT				*e*S	**Sg**	**01**	**46**	**59.1**	**-0.2**
LIOB	**Emei**	**1.30**	**266**	*i* P	**Pg**	**01**	**46**	**44.6**	**+0.9**
LIOB				S	**Sn**	**01**	**47**	**01.7**	**+1.6**
NSTT	**Nanjuang**	**1.32**	**265**	*e*P	**Pg**	**01**	**46**	**43.8**	**-0.2**
NSTT				S	**Sn**	**01**	**47**	**01.3**	**+0.9**
OWD	**Renai**	**1.40**	**236**	*i* P	**Pn**	**01**	**46**	**44.3**	**+0.1**
OWD				S	**Sb**	**01**	**47**	**03.1**	**+0.2**
WARBT	**Fenglin Townsh**	**1.41**	**223**	*i* P	**Pn**	**01**	**46**	**44.1**	**-0.2**
WARBT				*e*S	**Sb**	**01**	**47**	**02.5**	**-0.5**
WHP	**Taichung City**	**1.44**	**251**	*i* P	**Pg**	**01**	**46**	**46.1**	**-0.3**
WHP				*e*S	**Sg**	**01**	**47**	**06.0**	**-0.2**
WCS	**Beigang Elemen**	**1.56**	**244**	*i* P	**Pb**	**01**	**46**	**47.6**	**+0.1**
WCS				*e*S	**Sn**	**01**	**47**	**06.5**	**+0.2**
HGSD	**Ruisui**	**1.56**	**217**	*e*P	**Pn**	**01**	**46**	**46.0**	**-0.3**
HGSD				*e*S	**Sn**	**01**	**47**	**04.9**	**-1.6**
JIJ	**Ishigaki jima**	**1.60**	**104**	*e*P	**Pn**	**01**	**46**	**46.9**	**+0.2**
JIJ				*e*S	**Sn**	**01**	**47**	**06.0**	**-1.3**
EHYH	**Wanrong**	**1.61**	**219**	*e*P	**Pn**	**01**	**46**	**47.5**	**+0.6**
EHYH				*e*S	**Sn**	**01**	**47**	**06.2**	**-1.3**
EHY	**Hungye**	**1.61**	**220**	*e*P	**Pn**	**01**	**46**	**47.9**	**+1.0**
EHY				*e*S	**Sn**	**01**	**47**	**07.5**	**-0.2**
SMLT	**Sun Moon Lake**	**1.65**	**239**	*i* P	**Pn**	**01**	**46**	**48.7**	**+1.0**
SMLT				*e*S	**Sn**	**01**	**47**	**08.9**	**+0.1**
SSLB	**Suanglung**	**1.66**	**235**	P	**Pb**	**01**	**46**	**49.5**	**+0.2**
SSLB	**Suanglung**	**1.66**	**235**	*i* P	**Pb**	**01**	**46**	**49.6**	**+0.3**
SSLB				S	**Sn**	**01**	**47**	**09.2**	**+0.1**
TYC	**Yuchr**	**1.68**	**240**	*e*P	**Pb**	**01**	**46**	**49.2**	**-0.3**
TYC				*e*S	**Sn**	**01**	**47**	**09.5**	**+0.3**
JISG	**Ishigakijimahi**	**1.71**	**95**	*e*S	**Sn**	**01**	**47**	**10.1**	**+0.1**
YULB	**Yu-li**	**1.71**	**218**	P	**Pn**	**01**	**46**	**48.7**	**+0.3**
YULB	**Yu-li**	**1.71**	**218**	*i* P	**Pn**	**01**	**46**	**47.9**	**-0.5**
YULB				*e*S	**Sn**	**01**	**47**	**07.5**	**-2.7**
TWF1	**Yuli**	**1.75**	**217**	P	**Pn**	**01**	**46**	**48.1**	**-0.7**
TWF1				*e*S	**Sn**	**01**	**47**	**10.1**	**-0.9**
WHYT	**Xinyi Township**	**1.79**	**234**	P	**Pb**	**01**	**46**	**51.6**	**+0.1**
WHYT				*e*S	**Sn**	**01**	**47**	**13.2**	**+1.0**
FULB	**Fuli**	**1.87**	**214**	*i* P	**Pn**	**01**	**46**	**50.5**	**0.0**
FULB				*e*S	**Sn**	**01**	**47**	**13.0**	**-1.1**
ELDTW	**Lidau**	**2.03**	**220**	*e*P	**Pn**	**01**	**46**	**53.2**	**+0.3**
ELDTW				*e*S	**Sn**	**01**	**47**	**15.6**	**-2.7**
STYH	**Taoyuan**	**2.19**	**224**	*e*P	**Pn**	**01**	**46**	**56.2**	**+1.2**
STYH				*e*S	**Sn**	**01**	**47**	**22.7**	**+0.7**
TPUB	**Ta-pu**	**2.20**	**229**	P	**Pn**	**01**	**46**	**56.1**	**+1.0**
WTP	**Ta-pu**	**2.25**	**228**	P	**Pn**	**01**	**46**	**56.7**	**+0.9**
WTP				*e*S	**Sn**	**01**	**47**	**23.5**	**0.0**
TWK	**Hsinying**	**2.32**	**231**	*e*P	**Pn**	**01**	**46**	**58.9**	**+2.1**
TWK				*e*S	**Sn**	**01**	**47**	**26.9**	**+1.6**

ANF 16 02:15:48.2±0.2,66°.29N×135°.71W, h22km±2km, ML3.8/55, Error ellipse: s-maj=1.5km s-min=1.0km az=86.0, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
EPYK	**Eagle Plains**	**0.41**	**282**	P	Pb	02	15	57.5	+0.7
	baz=99,SNR=1000								
EPYK				S	Sb	02	16	03.7	+0.9
	baz=99								
G30M	**tAoh Zraii Nji**	**0.73**	**344**	P	Pb	02	16	02.0	-0.2
	baz=163,SNR=624								
G30M				S	Sb	02	16	12.0	+0.3
	baz=163								
H31M	**Peel River**	**0.74**	**130**	P	Pb	02	16	02.2	-0.1
	baz=312,SNR=1000								
H31M				S	Sb	02	16	12.4	+0.4
	baz=312								
G31M	**Satah River**	**0.86**	**41**	P	Pb	02	16	04.5	+0.2
	baz=223,SNR=1000								
G31M				S	Sn	02	16	16.4	-0.3
	baz=223								
H29M	**Whitestone**	**1.08**	**268**	P	Pb	02	16	08.0	-0.1
	baz=84,SNR=1000								
H29M				S	Sn	02	16	22.5	+0.3
	baz=84								
I30M	**Mount Dempster**	**1.10**	**195**	P	Pn	02	16	08.3	0.0
	baz=14,SNR=1000								
I30M				S	Sn	02	16	23.4	+0.4
	baz=14								
G29M	**Pine Creek**	**1.12**	**305**	P	Pn	02	16	08.4	-0.1
	baz=122,SNR=1000								
G29M				S	Sn	02	16	23.4	+0.3
	baz=122								
F30M	**Barrier River**	**1.33**	**359**	P	Pn	02	16	10.7	-0.7
	baz=179,SNR=805								
F30M				S	Sn	02	16	28.1	-0.3
	baz=179								
F31M	**Tsiigehtchic**	**1.40**	**33**	P	Pn	02	16	12.0	-0.3
	baz=215,SNR=264								
F31M				S	Sn	02	16	30.0	0.0
	baz=215								
I29M	**Ogilvie Camp,**	**1.42**	**230**	P	Pn	02	16	12.3	-0.3
	baz=47,SNR=348								
I29M				S	Sb	02	16	31.6	+0.1
	baz=47								
J30M	**Hart River**	**1.74**	**189**	P	Pn	02	16	17.4	+0.3
	baz=8.3,SNR=1000								
J30M				Sb	Sb	02	16	42.2	+1.4
	baz=8.3								
I28M	**Miner Creek**	**1.93**	**246**	P	Pn	02	16	18.7	-1.0
	baz=62,SNR=431								
I28M				S	Sn	02	16	44.3	+1.1
	baz=62								
F28M	**Old Crow**	**2.11**	**311**	P

N32M	**Quiet Lake** baz=348	**5.29 166**	P	Pn	02 17 06.5	+0.8
PAX	**Paxson** baz=47	**5.35 236**	P	Pn	02 17 06.9	+0.2
HYT	**Haines Junctio** baz=7.5,SNR=23	**5.54 189**	P	Pn	02 17 09.7	+0.4
O30N	**Mendenhall** baz=1.6,SNR=13	**5.54 182**	P	Pn	02 17 09.7	+0.5
H23K	**Yukon River** baz=79	**5.65 272**	P	Pn	02 17 10.0	-0.7
HARP	**HAARP** baz=42	**5.66 231**	P	Pn	02 17 11.5	+0.7
E23K	**Chandalar** baz=102	**5.70 294**	P	Pn	02 17 11.8	+0.5
G23K	**Bananza Creek** baz=88	**5.74 281**	P	Pn	02 17 12.2	+0.2
I23K	**Minto, Yukon-K** baz=72	**5.75 265**	P	Pn	02 17 11.7	-0.2
COLD	**Coldfoot** baz=92	**5.81 286**	P	Pn	02 17 13.1	+0.2
NEA2	**Nenana** baz=67	**5.82 259**	P	Pn	02 17 12.8	-0.3
TOLK	**Toolik Lake Re** baz=107	**5.83 300**	P	Pn	02 17 13.9	+0.7
MCARA	**McCarthy VSAT** baz=30,SNR=25	**5.89 217**	P	Pn	02 17 14.5	+0.6
O28M	**Mount Upton** baz=18,SNR=11	**5.89 202**	P	Pn	02 17 15.0	+0.8
DHY	**Denali Highway** baz=52	**5.95 243**	P	Pn	02 17 15.4	+0.5
WRGLY	**Wrigley** baz=306,SNR=12	**6.07 115**	P	Pn	02 17 17.2	+0.8
O29M	**Mount Kennedy** baz=11,SNR=7.0	**6.14 193**	P	Pn	02 17 18.2	+0.7
MCK	**McKinley** baz=59	**6.16 252**	P	Pn	02 17 18.4	+0.8
M24K	**Tolsona, Glenn** baz=43	**6.20 232**	P	Pn	02 17 19.5	+1.2
P30M	**Million Dollar** baz=4.7	**6.21 186**	P	Pn	02 17 19.1	+0.7
P33M	**Teslin, Yukon** baz=349,SNR=21	**6.24 167**	P	Pn	02 17 18.5	-0.3
D23K	**Nanushuk River** baz=108	**6.31 302**	P	Pn	02 17 20.4	+0.7
G22K	**Bettles** baz=88	**6.32 283**	P	Pn	02 17 20.2	+0.3
MLY	**Manley** baz=72	**6.34 265**	P	Pn	02 17 19.8	-0.3
H22K	**Ishtalitna Cre** baz=79	**6.38 274**	P	Pn	02 17 19.9	-0.8
CRQE	**Cirque** baz=27	**6.46 214**	P	Pn	02 17 22.9	+1.0
E22K	**Anaktuvuk Pass** baz=99	**6.52 294**	P	Pn	02 17 22.9	+0.3
WAT1	**Susitna Watana** baz=52	**6.52 244**	P	Pn	02 17 23.3	+0.6
F22K	**John River** baz=93	**6.59 288**	P	Pn	02 17 23.6	0.0
C23K	**Itkillik River** baz=115	**6.61 309**	P	Pn	02 17 24.1	+0.3
SCM	**Sheep Creek Mo** baz=44	**6.77 234**	P	Pn	02 17 27.5	+1.4
P32M	**Atlin** baz=353,SNR=6.1	**6.78 171**	P	Pn	02 17 26.4	+0.2
BPAW	**Bear Paw Mtn.** baz=64	**6.79 258**	P	Pn	02 17 27.0	+0.7
TRF	**Thorofare Moun** baz=59	**6.83 252**	P	Pn	02 17 27.6	+0.7
D22K	**Ayikyak River** baz=104	**6.98 300**	P	Pn	02 17 29.8	+0.9
F21K	**Alatna River** baz=89	**7.09 286**	P	Pn	02 17 30.4	-0.1
G21K	**Allakaket** baz=84	**7.14 280**	P	Pn	02 17 31.2	+0.1
KNK	**Knik Glacier** baz=43	**7.45 235**	P	Pn	02 17 36.3	+0.9

ASRS 16 02:26:41.4±0.2,52°N±2°×9°9E±°,h10km,MLh3.6/12,Error ellipse: s-maj=4.0km s-min=2.6km az=25.2,confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOY	**Mondy**	**1.57**	**108**	Pg	Pb	02 27 10.1	-0.6
MOY				Sg	Sn	02 27 29.1	-0.9
KNGR	**Kungurtug, Tuv**	**1.71**	**204**	Pg	Pg	02 27 13.8	-0.4
KNGR				Sg	Sg	02 27 36.8	+0.4
KZLR	**Kyzyl**	**2.60**	**261**	Pg	Pg	02 27 30.0	-1.3
KZLR				Sg	Sg	02 28 04.2	-0.9
ARDR	**Aradan**	**3.19**	**279**	Pg	Pb	02 27 39.5	+1.3
ARDR				Sg	Sg	02 28 20.5	-3.3
ZAK	**Zakamensk**	**3.45**	**120**	Pg	Pb	02 27 43.7	+1.1
ZAK				Sg	Sb	02 28 27.7	+3.2
MINR	**Mina**	**3.79**	**318**	Pg	Pg	02 27 51.2	-2.7
MINR				Sg	Sg	02 28 43.3	+0.4
CERR	**Cheremushki**	**4.44**	**282**	Pg	Pb	02 28 02.6	+3.2
CERR				Sg	Sg	02 29 01.9	-1.9
DJO	**Djoy, Khakassi**	**4.55**	**281**	Sg	Sg	02 29 05.1	-2.3
GZLN	**Zheleznogorsk**	**5.07**	**328**	Pg	Pb	02 28 13.6	+3.4
GZLN				Sg	Sg	02 29 22.1	-2.1
SHTK	**Zheleznogorsk-**	**5.09**	**327**	Pg	Pb	02 28 14.0	+3.5
SHTK				Sg	Sg	02 29 22.2	-2.5
VEH	**Verkhnyaya Baz**	**5.15**	**285**	Pg	Pg	02 28 16.3	-3.6
VEH				Sg	Sg	02 29 22.4	-4.1
TEL	**Teeli**	**5.36**	**261**	Pg	Pb	02 28 17.9	+2.8
TEL				Sg	Sg	02 29 27.7	-5.6
LUZB	**Luzhba, Kemero**	**6.05**	**288**	Pg	Pg	02 28 32.2	-5.0
LUZB				Sg	Sb	02 29 47.3	+8.1
CUR	**Chagan-Uzun**	**6.77**	**256**	Pg	Pg	02 28 46.8	-4.2
CUR				Sg	Sg	02 30 13.6	-5.1

*IDC **16** 02:36:58.6±1.2,0°.66N×26°.35W,h0km,mb3.8/8, mbtmp3.8/8,MS3.6/33,Error ellipse: s-maj=48.1km s-min=22.9km az=157.0*

ISC 16 02:37:00.3±1.1,0°.7N±0°.3×26°.4W±0°.2,h10km,n47,σ0s94/9, mb3.8/7,MS3.6/32,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo** comp=Z,129nm,21.4s,baz=65,slow=31	**11.52**	**236**	LR	LR	02 42 55.6	
H10N3	**ASCENSION HYDR** baz=305,slow=75,SNR=164	**14.53**	**126**	T	T	02 55 38.9	
H10N2	**ASCENSION HYDR** baz=305,slow=75,SNR=185	**14.53**	**126**	T	T	02 55 42.5	
H10N1	**ASCENSION HYDR** baz=305,slow=75,SNR=226	**14.55**	**126**	T	T	02 55 43.3	
H10S3	**ASCENSION HYDR** baz=307,slow=74,SNR=45	**15.07**	**130**	T	T	02 56 24.1	
H10S2	**ASCENSION HYDR** baz=273,slow=74,SNR=110	**15.08**	**130**	T	T	02 56 27.1	
DBIC	**Dimbokro** 8.3nm,0.9s,baz=274,slow=9.7,SNR=5.5	**22.25**	**74**	P	**P**	**02 41 57.8**	**+0.2**
DBIC	comp=Z,153nm,20.5s,baz=225,slow=31 8.3nm,0.9s			LR	LR	02 48 33.1	
MDP	**Montagnes des** comp=Z,37nm,18.3s,baz=109,slow=34	**26.62**	**280**	LR	LR	02 52 02.4	
BDFB	**Brasilia** comp=Z,217nm,18.8s,baz=69,slow=34	**26.86**	**232**	LR	LR	02 52 06.6	
TORD	**Torodi Ar. Bea** 3.6nm,1.0s,baz=260,slow=9.1,SNR=14 3.6nm,1.0s	**30.41**	**65**	P	**P**	**02 43 14.1**	**+0.9**
H05S1	**Guadeloupe/Mar**	**36.73**	**293**	T	T	03 22 40.0	
MDT	**Midelt** comp=Z,79nm,18.2s,baz=250,slow=34	**37.95**	**30**	LR	LR	02 58 20.0	
SIV	**San Ignacio** comp=Z,56nm,20.2s,baz=112,slow=34	**38.08**	**243**	LR	LR	02 58 37.4	
PCRV	**Puerto La Cruz** comp=Z,20nm,18.1s,slow=37	**39.22**	**285**	LR	LR	03 01 13.5	
H09N1	**TRISTAN DA CUN** SNR=6.9	**39.75**	**162**	T	T	03 27 17.1	
H09W1	**TRISTAN DA CUN** SNR=7.0	**39.77**	**162**	T	T	03 27 14.9	
CPUP	**Villa Florida** comp=Z,44nm,18.6s,baz=266,slow=36	**40.17**	**226**	LR	LR	03 00 49.5	
SJG	**San Juan** comp=Z,26nm,20.3s,baz=210,slow=33	**42.76**	**296**	LR	LR	03 00 13.4	
ESDC	**Sonseca Array** 0.5nm,0.9s,baz=213,slow=9.5,SNR=3.3	**43.86**	**25**	P	**P**	**02 45 06.7**	**-0.2**
ESDC	comp=Z,57nm,18.3s,baz=297,slow=35 0.5nm,0.9s			LR	LR	03 02 40.2	
LPAZ	**La Paz** 1.1nm,1.1s,baz=104,slow=7.9,SNR=2.0	**44.54**	**246**	P	**P**	**02 45 13.7**	**+0.3**
LPAZ	comp=Z,66nm,20.0s,baz=57,slow=35 1.1nm,1.1s			LR	LR	03 02 55.6	
SDV	**Santo Domingo** comp=Z,24nm,21.0s,baz=83,slow=33	**44.84**	**282**	LR	LR	03 01 52.1	
KEST	**Kesra** comp=Z,132nm,18.7s,baz=266,slow=37	**48.12**	**40**	LR	LR	03 06 51.9	
VAE	**Valguarnera** comp=Z,178nm,19.0s,baz=306,slow=36	**52.43**	**41**	LR	LR	03 08 41.4	
DAVOX	**Davos/Dischmat** comp=Z,63nm,19.4s,baz=291,slow=33	**55.74**	**29**	LR	LR	03 07 40.8	
LSZ	**Lusaka** comp=Z,54nm,19.9s,baz=293,slow=31	**56.16**	**109**	LR	LR	03 06 15.0	
LBTB	**Lobatse** comp=Z,31nm,19.1s,baz=305,slow=32	**56.34**	**121**	LR	LR	03 06 51.6	
BOSA	**Boshof** comp=Z,48nm,20.6s,baz=322,slow=31	**57.28**	**125**	LR	LR	03 06 34.6	
PLCA	**Paso Flores** comp=Z,48nm,19.1s,baz=73,slow=34	**57.52**	**219**	LR	LR	03 09 43.9	
GERES	**GERESS Array B** comp=Z,49nm,20.3s,baz=306,slow=33	**59.04**	**30**	LR	LR	03 09 21.6	
SCHQ	**Schefferville** comp=Z,286nm,21.3s,baz=108,slow=32	**63.28**	**335**	LR	LR	03 10 12.4	
TKL	**Tuckaleechee C** comp=Z,38nm,21.5s,baz=53,slow=31	**63.56**	**310**	LR	LR	03 09 43.8	
SADO	**Sadowa** comp=Z,182nm,21.9s,baz=117,slow=30	**63.96**	**321**	LR	LR	03 08 24.4	
MLR	**Muntele Rosu** comp=Z,57nm,19.1s,baz=291,slow=37	**63.99**	**38**	LR	LR	03 16 40.3	
EIL	**Elat** comp=Z,72nm,18.1s,baz=181,slow=37	**64.93**	**57**	LR	LR	03 16 40.8	
NOA	**NORSAR Array B** comp=Z,22nm,19.8s,baz=0.0,slow=33	**66.67**	**19**	LR	LR	03 13 15.0	
HFS	**Hagfors** comp=Z,79nm,18.5s,baz=332,slow=34	**66.84**	**20**	LR	LR	03 15 01.4	
BRTR	**Keskin Array B** 1.1nm,1.0s,baz=268,slow=5.5,SNR=5.1 1.1nm,1.0s	**66.84**	**47**	P	**P**	**02 47 53.4**	**+0.6**
ASF	**Jabal al Asfar** comp=Z,27nm,18.7s,baz=247,slow=37	**67.17**	**55**	LR	LR	03 18 53.0	
AKASG	**Malin Array Be** 0.3nm,0.4s,baz=251,slow=5.8,SNR=0.9 0.3nm,0.4s	**68.37**	**34**	P	**P**	**02 48 00.9**	**-1.1**
FINES	**FINESS Array B** 2.8nm,1.0s,baz=231,slow=11,SNR=1.3 2.8nm,1.0s	**72.34**	**24**	P	**P**	**02 48 25.7**	**-0.4**
TXAR	**Lajitas Array** 0.6nm,0.9s,baz=86,slow=5.1,SNR=4.0 0.6nm,0.9s	**78.62**	**300**	P	**P**	**02 49 03.5**	**+0.6**
ANMO	**Albuquerque** comp=Z,38nm,20.8s,baz=190,slow=32	**81.50**	**305**	LR	LR	03 20 16.7	
YKA	**Yellowknife Ar** comp=Z,34nm,21.0s,baz=328,slow=32	**86.59**	**332**	LR	LR	03 24 43.2	
ELK	**Elko** comp=Z,24nm,19.7s,baz=225,slow=32	**88.72**	**311**	LR	LR	03 25 05.9	
NVAR	**Mina Array Bea** comp=Z,20nm,18.0s,baz=88,slow=35	**91.12**	**308**	LR	LR	03 30 44.6	
DLBC	**Dease Lake** comp=Z,262nm,19.4s,baz=28,slow=34	**96.57**	**329**	LR	LR	03 31 53.4	
ASAR	**Alice Springs** 0.5nm,0.8s,baz=202,slow=2.5,SNR=4.9	**150.18**	**141**	PKPbc	**PKPbc**	**02 56 51.0**	**-1.5**

IDC 16 02:40:11.0±7.8,31°.88S×179°.20E,h543km±109km, mb2.6/2,mbtmp3.7/3,Error ellipse: s-maj=143.3km s-min=43.8km az=6.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 4.7nm,0.4s,baz=352,slow=2.0,SNR=8.3	**6.59**	**194**	P	P	02 41 55.2	+0.6
URZ	3.0nm,0.4s,baz=237,slow=15,SNR=2.4			S	S	02 43 19.2	-0.4
ASAR	**Alice Springs** 0.2nm,0.3s,baz=112,slow=8.6,SNR=1.8 0.2nm,0.3s	**40.66**	**270**	P	P	02 47 04.6	0.0
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=111,slow=8.0,SNR=10 0.5nm,0.3s	**41.79**	**275**	P	P	02 47 13.2	-0.2
FINES	**FINESS Array B** 3.8nm,0.9s,baz=45,slow=2.2,SNR=4.9	**145.65**	**337**	PKPbc	PKPdf	02 58 47.5	+0.6

*TAP **16** 02:47:21.5,23°.72N×126°.35E,h13km±20km,ML3.6,D*
*JMA **16** 02:47:24.2±0.2,24°.N±2°×12°.6E±°,h90km±4km,MV2.8/9, NEAR MIYAKOJIMA ISLAND*

ISC 16 02:47:17.5±2.7,23°.9N±0°.1×126°.7E±0°.1,h25km,n29, σ2s73/31,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**1.51**	**303**	*eS*	**Sn**	**02 48 00.1**	**-1.7**
JMJ	**Miyako jima 2**	**1.57**	**305**	*eS*	**Sb**	**02 48 07.1**	**+1.6**
JIKM	**Ikemajima**	**1.67**	**307**	*eS*	**Sn**	**02 48 03.3**	**-2.5**
JTJ	**Tarama**	**1.97**	**292**	P	**Pn**	**02 47 51.4**	**+2.0**
JISG	**Ishigakijimahi**	**2.29**	**287**	*eP*	**Pn**	**02 47 56.2**	**+2.4**
JKE	**Kume jima 2**	**2.39**	**1**	*eP*	**Pn**	**02 47 56.3**	**+1.2**
JKE				*eS*	**Sn**	**02 48 20.1**	**-3.6**
JIJ	**Ishigaki jima**	**2.39**	**281**	*eP*	**Pn**	**02 47 58.0**	**+2.9**
JKRS	**Kuro-shima**	**2.50**	**278**	*eP*	**Pn**	**02 47 59.9**	**+3.3**
IRIF	**Iriomote-Funau**	**2.76**	**279**	*eP*	**Pn**	**02 48 03.1**	**+2.9**
TIPB	**Shuangxi**	**4.58**	**284**	*eP*	**Pn**	**02 48 28.8**	**+3.5**
NACB	**Ninganchiao**	**4.69**	**274**	*eP*	**Pn**	**02 48 28.3**	**+1.5**
NACB				*eS*	**Sn**	**02 49 18.2**	**-2.2**
SHUL	**Shoufeng**	**4.72**	**269**	*eP*	Pn	02 48 35.0	+7.8
FUSB	**Fushanzhiwuyua**	**4.75**	**281**	*eP*	**Pn**	**02 48 30.2**	**+2.5**
ENTT	**Nioukou**	**4.76**	**280**	*eP*	**Pn**	**02 48 29.1**	**+1.5**
LATG	**Datong**	**4.78**	**278**	*eP*	Pn	02 48 23.1	-4.9
ETM	**Tongmen**	**4.78**	**272**	*eP*	**Pn**	**02 48 29.2**	**+1.2**
ETLH	**Xiulin Townshi**	**4.79**	**274**	*eP*	**Pn**	**02 48 29.9**	**+1.6**
NWLT	**Wulai**	**4.83**	**281**	*eP*	**Pn**	**02 48 32.0**	**+3.2**
LXIB	**Xiulin Townshi**	**4.85**	**272**	*eP*	**Pn**	**02 48 30.6**	**+1.4**
LXIB				*eS*	**Sn**	**02 49 19.8**	**-4.9**
HGSD	**Ruisui**	**4.87**	**266**	*eP*	Pn	02 48 26.7	-2.5
WARBT	**Fenglin Townsh**	**4.89**	**269**	*eP*	**Pn**	**02 48 30.4**	**+0.9**
WARBT				*eS*	**Sn**	**02 49 19.2**	**-6.1**
NNSB	**Datong**	**4.90**	**277**	*eP*	**Pn**	**02 48 32.4**	**+2.7**
YHNB	**Yeheng**	**4.93**	**280**	*eP*	**Pn**	**02 48 32.5**	**+2.4**
WHF	**Hehuan Shan**	**4.99**	**274**	*eP*	**Pn**	**02 48 32.5**	**+1.2**
YULB	**Yu-li**	**5.00**	**265**	*eP*	**Pn**	**02 48 32.8**	**+1.7**
YULB				*eS*	**Sn**	**02 49 25.5**	**-2.6**
FUSS	**Fushou**	**5.01**	**275**	*eP*	**Pn**	**02 48 33.3**	**+1.8**
OWD	**Renai**	**5.07**	**271**	*eP*	**Pn**	**02 48 33.4**	**+1.3**
WUSB	**Renai**	**5.12**	**272**	*eP*	**Pn**	**02 48 34.9**	**+2.0**
SMLT	**Sun Moon Lake**	**5.33**	**271**	*eP*	**Pn**	**02 48 37.9**	**+2.4**

*DJA **16** 03:02:13.2±1.2,3°.S±6°×14°.1E±°,h60km±10km,M4.4/5, mb4.6/1,MLv4.3/5*
*IDC **16** 03:02:14.4±0.8,2°.95S×140°.20E,h0km,mb3.9/7, mbtmp4.1/9,ML4.3/2,MS3.4/9,Error ellipse: s-maj=27.9km s-min=8.4km az=138.0*

ISC 16 03:02:17.7±0.7,3°.15S±0°.05×140°.67E±0°.07,h35km,n26, σ3s15/24,mb4.0/6,MS3.3/6,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura** 163nm,0.3s,baz=184,slow=9.3,SNR=300	**0.63**	**3**	Pg	**Pn**	**03 02 26.8**	**-3.5**
JAY	346nm,0.3s,baz=101,slow=9.5,SNR=19			Lg	Lg	03 02 36.9	
JAY	**Jayapura**	**0.63**	**3**	P	**Pn**	**03 02 26.7**	**-3.5**
JAY				S	**Sn**	**03 02 39.6**	**+0.5**
GENI	**Genyem**	**0.75**	**318**	P	**Pn**	**03 02 29.7**	**-2.0**
GENI				S	**Sn**	**03 02 44.2**	**+2.4**
WAMI	**Wamena**	**2.09**	**249**	P	**Pn**	**03 02 50.7**	**+0.5**
WAMI				S	**Sn**	**03 03 16.3**	**+1.3**
SMPI	**Sarmi**	**2.27**	**300**	P	**Pn**	**03 02 52.3**	**-0.4**
SMPI				S	**Sn**	**03 03 22.2**	**+2.7**
BAKI	**Biak**	**4.96**	**293**	P	**Pn**	**03 03 29.2**	**-0.5**
PMG	**Port Moresby** 0.5nm,0.3s,baz=272,slow=6.9,SNR=2.3	**8.96**	**134**	Pn	**Pn**	**03 04 26.5**	**+1.9**
PMG	comp=Z,322nm,18.1s,baz=357,slow=42			LR	LR	03 08 47.1	
GUMO	**Guam** comp=Z,115nm,20.8s,baz=240,slow=32	**17.14**	**14**	LR	LR	03 11 29.9	
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=24,slow=12,SNR=16	**17.80**	**200**	P	**Pn**	**03 06 22.8**	**0.0**
WRA	2.1nm,0.9s,baz=19,slow=24,SNR=4.7			S	**Sn**	**03 09 32.5**	**-7.7**
WRA	comp=Z,125nm,20.4s,baz=25,slow=39 2.4nm,0.5s			LR	LR	03 13 42.3	
BATI	**Baumata** 2.0nm,0.3s,baz=93,slow=14,SNR=1.3	**18.28**	**247**	P	**P**	**03 06 25.3**	**-3.4**
	17nm,0.3s						
HNR	**Honiara** comp=Z,64nm,18.1s,baz=13,slow=40	**20.14**	**109**	LR	LR	03 16 03.4	
FITZ	**Fitzroy Crossi** 4.3nm,1.1s,baz=46,slow=9.5,SNR=7.9	**20.92**	**224**	P	**P**	**03 06 56.0**	**-1.4**
FITZ	1.5nm,0.8s,baz=148,slow=20,SNR=1.4 4.3nm,1.1s			S	**S**	**03 10 41.1**	**-7.8**
ASAR	**Alice Springs** 8.5nm,0.8s,baz=29,slow=9.0,SNR=10.0	**21.42**	**197**	P	**P**	**03 07 04.7**	**+1.9**
ASAR	1.5nm,0.9s,baz=11,slow=26,SNR=4.2			S	**S**	**03 10 59.0**	**+0.2**
ASAR	comp=Z,156nm,21.2s,baz=3.0,slow=38 8.5nm,0.8s			LR	LR	03 15 39.4	
H11S3	**WAKE ISLAND Hy** baz=232	**33.45**	**49**	T	T	03 43 30.0	
H11S2	**WAKE ISLAND Hy** baz=232	**33.46**	**49**	T	T	03 43 30.7	
H11S1	**WAKE ISLAND Hy** baz=232	**33.47**	**49**	T	T	03 43 31.3	
ASAJ	**Asahikawa** comp=Z,30nm,18.3s,baz=178,slow=36	**47.08**	**2**	LR	LR	03 30 20.4	
SHEM	**Shemya Is, Ala** comp=Z,32nm,21.4s,baz=294,slow=31	**62.39**	**22**	LR	LR	03 34 38.4	
MA2	**Magadan** comp=Z,19nm,18.8s,baz=10,slow=36	**63.04**	**6**	LR	LR	03 39 31.5	
SEY	**Seymchan** comp=Z,24nm,21.6s,baz=182,slow=34	**66.50**	**6**	LR	LR	03 39 40.7	
MKAR	**Makanchi Array** 1.2nm,1.0s,baz=104,slow=6.1,SNR=2.9 1.2nm,1.0s	**71.33**	**322**	P	**P**	**03 13 33.1**	**-0.9**
KURBB	**Kurchatov Arra** 0.4nm,0.7s,baz=116,slow=5.5,SNR=1.7 0.4nm,0.7s	**75.22**	**324**	P	**P**	**03 13 56.3**	**-0.5**
BVAR	**Borovoye Array** 0.8nm,0.5s,baz=99,slow=4.8,SNR=2.5 0.8nm,0.5s	**80.79**	**325**	P	**P**	**03 14 28.1**	**+0.4**
ILAR	**Eielson Array** 1.1nm,1.1s,baz=257,slow=5.5,SNR=2.6 1.1nm,1.1s	**85.42**	**24**	P	**P**	**03 14 54.0**	**+2.6**
QSPA	**South Pole Qui** 0.7nm,0.7s,baz=298,slow=0.7,SNR=7.7 0.7nm,0.7s	**86.80**	**180**	P	**P**	**03 15 02.2**	**+3.9**
LPAZ	**La Paz** 1.5nm,0.9s,baz=60,slow=3.3,SNR=4.8	**145.60**	**125**	PKPbc	**PKiKP**	**03 21 58.1**	**0.0**

CATAC 16 03:11:27.8±0.5,12°N±3°×8°7W±°,h27km±5km,M3.2/18, MLv3.2/18,Error ellipse: s-maj=6.9km s-min=6.2km az=55.4,confirmed,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.77**	**71**	P	Pb	03 11 42.4	-0.2
CRIN	**San Cristobal**	**0.82**	**20**	P	Pb	03 11 43.5	0.0
PKGN	**Cerro Pekin**	**0.82**	**25**	P	Pn	03 11 44.0	+0.4
PKGN				S	Sn	03 11 54.9	0.0
CNGA	**Al SSO del Vol**	**0.84**	**48**	P	Pn	03 11 44.0	0.0
CNGA				S	Sn	03 11 57.0	+1.6
CNGN	**Cerro Negro**	**0.84**	**47**	P	Pb	03 11 43.8	-0.1
CNGN	**Cerro Negro**	**0.84**	**47**	S	Sn	03 11 55.7	+0.1
PLRN	**Geotermica Pol**	**0.85**	**40**	P	Pn	03 11 43.5	-0.6
PLRN				S	Sb	03 11 55.4	+0.2
SAPS	**Ciudad Sandino**	**0.94**	**75**	P	Pn	03 11 44.9	-0.4
SAPS	**Ciudad Sandino**	**0.94**	**75**	S	Sn	03 11 58.0	+0.1
MOM2	**El Cardon**	**0.97**	**59**	P	Pn	03 11 45.7	0.0
MOM2				S	Sn	03 11 59.5	+0.7
APQ3	**Volcan Apoyequ**	**1.00**	**70**	P	Pn	03 11 46.1	-0.1
APQ2	**Apoyeque**	**1.02**	**75**	P	Pn	03 11 46.2	-0.3
APQ2				S	Sb	03 12 00.5	+0.5
UNAN	**Cigeo UNAN**	**1.06**	**80**	P	Pb	03 11 47.3	-0.2
UNAN				S	Sb	03 12 01.5	+0.5
ALLN	**Telcor Managua**	**1.06**	**78**	S	Sn	03 12 00.6	-0.4
R4DEC	**Barrio San Lui**	**1.08**	**78**	P	Pn	03 11 47.3	0.0
R4DEC	**Barrio San Lui**	**1.08**	**78**	S	Sb	03 12 02.0	+0.3
MGAN	**Managua**	**1.09**	**78**	P	Pn	03 11 47.4	+0.1
MGAN	**Managua**	**1.09**	**78**	S	Sb	03 12 01.7	0.0
MAS3	**Al N del Volca**	**1.14**	**85**	P	Pn	03 11 48.1	0.0
MAS3				S	Sn	03 12 02.8	-0.1
WILN	**Americas 2**	**1.15**	**78**	P	Pn	03 11 48.2	+0.1
WILN				S	Sn	03 12 03.2	+0.2
NANN	**Nandasmo**	**1.19**	**89**	S	Sb	03 12 05.0	+0.2
NANN	**Nandasmo**	**1.19**	**89**	P	Pb	03 11 49.5	-0.2
MORN	**Al O del Volca**	**1.69**	**103**	P	Pn	03 11 55.7	0.0
MORN				S	Sn	03 12 17.4	+0.8
MATN	**Matagalpa**	**1.70**	**54**	P	Pn	03 11 55.1	-0.8
MATN	**Matagalpa**	**1.70**	**54**	S	Sn	03 12 16.6	-0.2
BOAB	**BOACO BROADBAN**	**1.71**	**72**	P	Pn	03 11 55.8	-0.2
BOAB	**BOACO BROADBAN**	**1.71**	**72**	S	Sn	03 12 17.7	+0.7
CONN	**Concepcion**	**1.71**	**102**	P	Pn	03 11 55.4	-0.6
CONN				S	Sn	03 12 17.0	0.0

*AEIC **16** 04:17:21.4±1.6,53°.50N±0°.04×166°.98W±0°.04,h12km±5km, Error ellipse: s-maj=7.2km s-min=1.0km az=149.0*

NEIC 16 04:17:20.7±0.6,53°.42N±0°.01×166°.93W±0°.03,h14km±4km, ML3.2(AEIC),Error ellipse: s-maj=3.0km s-min=1.4km az=111.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGOD	**Makushin Gods**	**0.38**	**5**		Pg	04 17 28.6	+0.2
MGOD					Sg	04 17 33.4	-0.2
MAPS	**Pakushin South**	**0.39**	**359**		Pg	04 17 28.6	+0.1
MAPS					Sg	04 17 33.8	-0.1
MREP	**Makushin Rep't**	**0.41**	**15**		Pg	04 17 29.2	+0.3
MNAT	**Makushin Natee**	**0.49**	**17**		Pg	04 17 30.5	+0.2
MNAT					Sg	04 17 36.7	-0.2
UNV	**Unalaska Valle**	**0.50**	**30**		Pg	04 17 30.6	+0.2
UNV					Sg	04 17 37.1	0.0
MSW	**Makushin Switc**	**0.51**	**10**		Pg	04 17 30.6	-0.1
MSW					Sg	04 17 37.0	-0.4
OKFG	**Magazine Ridge**	**0.59**	**270**		Pb	04 17 32.5	-0.2
OKTU	**Okmok Mt. Tuli**	**0.67**	**267**		Pb	04 17 34.0	-0.1
OKNC	**Okmok New Cone**	**0.72**	**274**		Pg	04 17 34.6	0.0
OKNC					Sg	04 17 44.0	0.0
OKCE	**Okmok Cone E**	**0.74**	**271**		Pb	04 17 35.3	0.0
OKSP	**Okmok Steeple**	**0.83**	**259**		Pg	04 17 36.3	-0.5
AKMO	**Akutan Morgan**	**0.87**	**39**		Pb	04 17 37.5	0.0
AKMO					Sb	04 17 49.0	0.0
AKRB	**Akutan Reef Bi**	**0.88**	**35**		Pg	04 17 37.6	-0.1
ZRO	**Akutan Zero**	**0.88**	**40**		Pb	04 17 37.7	0.0
AKBBA	**Akutan Broad B**	**0.90**	**41**		Pg	04 17 38.2	+0.1
AKV	**Akutan Volcano**	**0.91**	**39**		Pg	04 17 38.3	0.0
AKV					Sb	04 17 50.4	0.0
LVA	**Lava Point**	**0.91**	**35**	Pg	Pb	04 17 38.0	-0.3
LVA	**Lava Point**	**0.91**	**35**		Sb	04 17 50.6	+0.3
AKLV	**Akutan Long

	comp=E,72nm,0.8s							
HAKT	**HAKKARI**	**0.93**	**222**	P	Pn	04 22 05.4	+6.2
HAKT				S	Sn	04 22 21.9	+8.6
HAKT				*i* IAML		04 22 24.0	
	comp=N,36nm,0.3s						
HAKT				*i* IAML		04 22 24.0	
	comp=E,34nm,0.4s						
AKDM	**Akdamar-Van**	**1.19**	**274**	Pn	**Pg**	**04 22 03.4**	**+1.8**
AKDM				Sn	**Sn**	**04 22 20.3**	**+0.6**
CUKT	**Cukurca**	**1.22**	**215**	Pn	**Pb**	**04 22 01.8**	**-1.0**
TASB	**TASBURUN-IGDIR**	**1.74**	**354**	Pn	**Pb**	**04 22 11.7**	**+0.2**
TASB				Sn	**Sg**	**04 22 35.1**	**+0.5**
AGRB	**Hanur-Agry**	**1.76**	**319**	Pn	**Pb**	**04 22 11.8**	**-0.2**
GNI	**Garni**	**1.90**	**6**	Pn	**Pb**	**04 22 13.5**	**-0.9**
GNI				Sn	**Sb**	**04 22 39.1**	**+0.3**

*IDC **16** 04:25:12.7±2.4,5.°91S×142.°86E,h45km±25km,mb3.7/6, mbtmp4.0/9,ML2.8/2,Error ellipse: s-maj=26.7km s-min=20.4km az=79.0*

ISC 16 04:25:11.1±0.7,6.°26S±0.°06×142.°61E±0.°08,h35km,n11, σ0°39/15,mb3.7/5,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.17**	**333**	P	**Pn**	**04 26 12.3**	**-0.1**
	5.6nm,0.3s,baz=163,slow=18,SNR=11						
JAY				S	**Sn**	**04 27 00.8**	**+0.8**
	44nm,0.5s,baz=144,slow=16,SNR=4.5 8.0nm,0.3s						
PMG	**Port Moresby**	**5.49**	**125**	P	**Pn**	**04 26 30.6**	**+0.2**
	3.6nm,0.3s,baz=298,slow=12,SNR=8.4						
PMG				S	**Sn**	**04 27 30.8**	**-1.5**
	13nm,0.6s,baz=152,slow=4.6,SNR=1.7 8.8nm,0.3s						
WRA	**Warramunga Arr**	**15.80**	**210**	P	**P**	**04 28 53.2**	**-1.4**
	1.2nm,0.4s,baz=27,slow=14,SNR=22						
WRA				S	**Sn**	**04 31 43.3**	**-1.9**
	2.2nm,0.5s,baz=29,slow=21,SNR=5.8						
HNR	**Honiara**	**17.46**	**102**	P	**Pn**	**04 29 11.5**	**-0.5**
	191nm,0.4s,baz=297,slow=6.8,SNR=2.6						
ASAR	**Alice Springs**	**19.23**	**205**	P	**Pn**	**04 29 38.3**	**+4.7**
	10nm,0.8s,baz=33,slow=9.8,SNR=78						
ASAR				S	**S**	**04 33 07.8**	**-0.7**
	0.9nm,0.7s,baz=23,slow=22,SNR=5.7						
FITZ	**Fitzroy Crossi**	**20.31**	**233**	P	Pn	04 29 48.8	+2.4
	2.7nm,0.7s,baz=49,slow=9.8,SNR=7.4						
FITZ				S	**S**	**04 33 26.3**	**-4.0**
	1.6nm,0.4s,baz=59,slow=13,SNR=2.2 2.7nm,0.7s						
STKA	**Stephens Creek**	**25.51**	**182**	P	**P**	**04 30 40.5**	**+4.2**
	1.9nm,0.8s,baz=345,slow=12,SNR=3.0 1.9nm,0.8s						
MKAR	**Makanchi Array**	**74.95**	**322**	P	**P**	**04 36 48.9**	**+0.2**
	0.3nm,0.5s,baz=125,slow=7.6,SNR=5.9 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**78.85**	**324**	P	**P**	**04 37 09.6**	**-1.0**
	0.3nm,0.4s,baz=105,slow=4.2,SNR=2.7 0.3nm,0.4s						
BVAR	**Borovoye Array**	**84.43**	**325**	P	**P**	**04 37 39.7**	**-0.3**
	1.8nm,0.5s,baz=102,slow=6.2,SNR=7.2 1.8nm,0.5s						
ILAR	**Eielson Array**	**87.46**	**24**	P	**P**	**04 37 53.0**	**-1.7**
	0.8nm,0.8s,baz=249,slow=5.2,SNR=10 0.8nm,0.8s						

*AEIC **16** 04:32:13.2±1.4,53.°06N±0.°03×164.°58W±0.°08,h28km±8km, Error ellipse: s-maj=6.9km s-min=4.5km az=99.0*

NEIC 16 04:32:12.6±0.7,53.°15N±0.°03×164.°59W±0.°06, h26km±11km,ML3.0/10,ML2.8(AEIC),Error ellipse: s-maj=6.1km s-min=1.2km az=54.0,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**1.19**	**327**		Pn	04 32 33.2	-0.5
AKSA					Sn	04 32 49.2	+0.2
AHB	**Akutan Harbor**	**1.22**	**324**		Pn	04 32 33.9	-0.1
AHB					Sb	04 32 50.6	+0.4
AKUT	**Akutan**	**1.22**	**325**	Pn	Pn	04 32 33.2	-0.8
AKUT					Sn	04 32 49.2	-0.3
AKUT				IAML		04 32 51.1	
	comp=N,170nm,0.5s						
AKUT				IAML		04 32 56.2	
	comp=E,176nm,0.5s						
AKBBA	**Akutan Broad B**	**1.25**	**321**		Pn	04 32 34.4	0.0
AKBBA					Sb	04 32 51.2	0.0
AKMO	**Akutan Morgan**	**1.27**	**319**		Pn	04 32 34.7	0.0
AKMO					Sb	04 32 51.5	-0.4
AKLV	**Akutan Long Va**	**1.30**	**322**		Pn	04 32 35.4	+0.1
LVA	**Lava Point**	**1.33**	**320**	Pn	Pn	04 32 35.0	-0.6
LVA				IAML		04 32 59.3	
	comp=E,233nm,0.7s						
LVA				IAML		04 33 12.3	
	comp=N,281nm,0.9s						
UNV	**Unalaska Valle**	**1.34**	**302**	Pn	Pn	04 32 34.8	-0.9
UNV					Sn	04 32 52.3	-0.4
AKGG	**Akutan Green G**	**1.35**	**322**		Pn	04 32 35.8	0.0
AKGG					Sn	04 32 52.6	-0.2
MREP	**Makushin Rep't**	**1.45**	**298**		Pn	04 32 37.3	+0.1
WEBT	**Westdahl Beart**	**1.45**	**356**		Pn	04 32 37.2	-0.1
WEBT					Pb	04 32 37.3	-1.7
WEBT					Sb	04 32 56.9	-0.2
WEBT					Sb	04 32 57.2	+0.2
MNAT	**Makushin Natee**	**1.45**	**301**		Pn	04 32 37.5	+0.2
MSW	**Makushin Switc**	**1.52**	**301**		Pn	04 32 38.2	+0.1
MSW					Sn	04 32 57.6	+0.5
MSW					Sb	04 32 58.4	-0.6
SSBA	**Shishaldin**	**1.65**	**9**		Pn	04 32 39.9	-0.2
SSBA					Pn	04 32 40.0	-0.1
ISNN	**Isanotski Nort**	**1.76**	**15**		Pn	04 32 41.2	-0.3
ISNN					Pn	04 32 41.5	+0.1
FALS	**False Pass**	**1.85**	**21**	Pn	Pn	04 32 42.0	-0.6
OKTU	**Okmok Mt. Tuli**	**2.09**	**278**		Pn	04 32 46.4	+0.4
OKCE	**Okmok Cone E**	**2.17**	**279**		Pn	04 32 47.0	0.0
OKCE					Pn	04 32 48.2	+1.1
DT1	**Dutton Round H**	**2.39**	**34**		Pn	04 32 50.0	-0.1
SDPT	**Sand Point**	**3.27**	**46**	Pn	Pn	04 33 01.0	-1.2
SDPT				IAML		04 33 56.4	
	comp=E,43nm,1.2s						
SDPT				IAML		04 34 10.2	
	comp=N,45nm,0.9s						

*GUC **16** 04:35:48.6±0.7,22.°25S×67.°82W,h201km±8km,ML3.0*
*SCB **16** 04:35:48.4±1.3,22.°27S×67.°57W,h158km±19km,MB5.6, ML3.0/2,Error ellipse: s-maj=7.2km s-min=4.3km az=1.0*

ISC 16 04:35:47.7±1.9,22.°27S±0.°06×67.°59W±0.°08, h173km±19km,n27,σ0°90/34,2C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.60**	**287**	*e*P	**Pn**	**04 36 21.6**	**+1.3**
PB09	**IPOC Station P**	**1.60**	**287**	Pg	**Pn**	**04 36 21.4**	**+1.1**
PB06	**IPOC Station P**	**1.88**	**256**	*e*P	**Pn**	**04 36 23.9**	**+0.8**
PB06				*e*S	**Sn**	**04 36 50.7**	**+0.1**
PB06				IAML		04 36 53.7	
	comp=E,51nm,0.2s						
PB06	**IPOC Station P**	**1.88**	**256**	Pg	**Pn**	**04 36 24.0**	**+0.8**
MOCB	**Mochara**	**2.08**	**61**	Pg	**Pn**	**04 36 25.7**	**0.0**
PB01	**IPOC Station P**	**2.15**	**304**	*e*P	**Pn**	**04 36 26.6**	**+0.5**
PB01				*e*S	**Sn**	**04 36 55.3**	**-0.4**
PB01				IAML		04 36 56.8	
	comp=E,34nm,0.2s						
PB01	**IPOC Station P**	**2.15**	**304**	Pg	**Pn**	**04 36 26.4**	**+0.3**
PB01				Sg	**Sn**	**04 36 55.9**	**+0.2**
PB01				IAML		04 36 57.8	
	comp=E,26nm,0.4s						
PB02	**IPOC Station P**	**2.34**	**294**	*e*P	**Pn**	**04 36 28.7**	**+0.4**
PB05	**IPOC Station P**	**2.48**	**256**	*e*P	**Pn**	**04 36 30.5**	**+0.6**
PB05				*e*S	**Sn**	**04 37 01.6**	**-1.0**
PB05				IAML		04 37 05.3	
	comp=N,39nm,0.2s						
PB08	**IPOC Station P**	**2.57**	**325**	*e*P	**Pn**	**04 36 32.8**	**+1.4**
PB08				IAML		04 37 07.2	
	comp=E,27nm,0.2s						
PB08	**IPOC Station P**	**2.57**	**325**	Pg	**Pn**	**04 36 32.5**	**+1.2**
PATCX	**Punta Patache**	**2.79**	**301**	*e*P	**Pn**	**04 36 33.8**	**+0.2**
PATCX				*e*S	**Sn**	**04 37 07.9**	**-1.3**
PATCX				IAML		04 37 09.3	
	comp=E,51nm,0.2s						
TA01	**Diego Aracena**	**2.95**	**305**	*e*P	**Pn**	**04 36 35.2**	**-0.3**
TA01				IAML		04 37 12.5	
	comp=E,44nm,0.2s						
GO01	**Chusmiza**	**2.99**	**330**	*e*P	**Pn**	**04 36 37.2**	**+0.7**
GO01	**Chusmiza**	**2.99**	**330**	Pg	**Pn**	**04 36 37.1**	**+0.6**
PB10	**IPOC Station P**	**3.00**	**245**	*e*S	**Sn**	**04 37 12.0**	**-1.6**
PB10				IAML		04 37 13.0	
	comp=N,27nm,0.3s						
PB11	**IPOC Station P**	**3.16**	**322**	*e*P	**Pn**	**04 36 38.0**	**-0.2**
PB11				*e*S	**Sn**	**04 37 16.1**	**-1.3**
PB11	**IPOC Station P**	**3.16**	**322**	Pg	**Pn**	**04 36 38.2**	**0.0**
PB11				Sg	**Sn**	**04 37 16.3**	**-1.1**
PB11				IAML		04 37 18.0	
	comp=N,81nm,0.2s						
GO02	**Mina Guanaco**	**3.41**	**212**	*e*P	**Pn**	**04 36 42.2**	**+0.8**
PB14	**IPOC Station P**	**3.48**	**227**	Pg	**Pn**	**04 36 43.0**	**+0.6**
PB16	**IPOC Station P**	**4.31**	**335**	*e*P	**Pn**	**04 36 54.4**	**+1.1**
PB16	**IPOC Station P**	**4.31**	**335**	Pg	**Pn**	**04 36 54.1**	**+0.9**
SOET	**ToroToro**	**4.46**	**22**	Pg	**Pn**	**04 36 55.2**	**+0.2**
BBOJ	**La Paz, Jacaqu**	**5.30**	**354**	Pg	**Pn**	**04 37 07.3**	**+1.2**
BBOE	**La Paz, Chanca**	**5.45**	**356**	Pg	**Pn**	**04 37 09.2**	**+1.2**
LPAZ	**La Paz**	**5.98**	**355**	Pg	**Pn**	**04 37 15.6**	**+0.6**
BBOB	**La Paz, Bander**	**6.12**	**355**	Pg	**Pn**	**04 37 17.3**	**+0.5**

*TEH **16** 04:46:41.9,32.°88N×45.°94E,h10km±63km*
*ISN **16** 04:46:41.3±0.7,32.°90N×45.°93E,h8km±999km,ML3.0*

ISC 16 04:46:42.5±1.1,32.°90N±0.°04×45.°95E±0.°06,h10km,n8, σ0°99/11,Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.21**	**355**	*e*Pg	**Pg**	**04 46 46.0**	**-1.0**
IBDR				*e*Sg	**Sg**	**04 46 49.0**	**-1.0**
IBDR				AML	AML	04 46 55.1	
	comp=N,3μm,0.4s						
IBDR				AML	AML	04 46 56.6	
	comp=E,3μm,0.7s						
RAFI	**Al-Rafai**	**1.18**	**173**	*e*Pg	**Pb**	**04 47 04.4**	**-0.5**
RAFI				*e*Sg	**Sg**	**04 47 20.3**	**-0.1**
RAFI				AML	AML	04 47 42.8	
	comp=N,213nm,0.5s						
RAFI				AML	AML	04 47 46.7	
	comp=E,242nm,0.6s						
GLG1	**Gilan-e-Gharb**	**1.22**	**358**	Pg	**Pg**	**04 47 05.4**	**-0.4**
BHD	**Baghdad**	**1.37**	**286**	*e*Pn	**Pg**	**04 47 08.0**	**-0.9**
BHD				*e*Sn	**Sg**	**04 47 28.0**	**+1.3**
BHD				AML	AML	04 47 36.5	
	comp=E,266nm,0.4s						
IGHG	**Ghaleghazi**	**1.52**	**20**	Pg	**Pg**	**04 47 11.5**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.65**	**33**	Pg	**Pb**	**04 47 12.5**	**-0.5**
IDHR	**Dehrash**	**1.83**	**11**	Pn	**Pb**	**04 47 15.9**	**-0.4**
SNQR	**Sonqor, Kerman**	**2.40**	**35**	Pn	**Pn**	**04 47 23.7**	**+1.6**

*NOU **16** 04:57:30.9,40.°59S×174.°64E,h10km,MLv4.2/21,Cook Strait, New Zealand*
*WEL **16** 04:57:30.5±0.2,41.°3S±1.°17×174.°5E±.°,h5km,M4.1/94, ML4.4/37,MLv4.1/94,Error ellipse: s-maj=2.2km s-min=1.9km az=105.1,confirmed*
*IDC **16** 04:57:36.1±6.5,40.°31S×174.°69E,h61km±57km,mb3.2/2, mbtmp3.6/3,ML3.7/1,Error ellipse: s-maj=66.0km s-min=29.6km az=173.0*

ISC 16 04:57:30.5±1.0,40.°56S±0.°02×174.°62E±0.°02,h11km±8km, n193,σ0°81/203,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.37**	**145**	P	**Pg**	**04 57 37.9**	**-0.1**
KIW				S	**Sg**	**04 57 42.6**	**-0.3**
OTUS	**Otaki School**	**0.44**	**117**	P	**Pg**	**04 57 39.2**	**0.0**
PAPS	**Paraparaumu Pr**	**0.46**	**141**	P	**Pg**	**04 57 39.6**	**0.0**
FXBS	**Foxton Beach S**	**0.47**	**79**	P	**Pg**	**04 57 39.7**	**+0.1**
OGWZ	**Otaki Gorge**	**0.49**	**122**	P	**Pg**	**04 57 40.1**	**0.0**
HOCS	**Levin Horowhen**	**0.50**	**98**	P	**Pg**	**04 57 40.2**	**-0.1**
DUWZ	**D'Urville Isla**	**0.59**	**245**	P	**Pg**	**04 57 41.6**	**-0.4**
DUWZ				S	**Sg**	**04 57 50.4**	**+0.7**
POKS	**Katoa Kinderga**	**0.59**	**165**	P	**Pg**	**04 57 41.9**	**-0.1**
PWES	**Porirua West**	**0.59**	**165**	P	**Pg**	**04 57 41.9**	**-0.1**
POLS	**Porirua Librar**	**0.60**	**164**	P	**Pg**	**04 57 42.1**	**0.0**
PFAS	**Porirua Free A**	**0.61**	**164**	P	**Pg**	**04 57 42.2**	**-0.1**
OHWZ	**Ohakea**	**0.63**	**57**	P	**Pg**	**04 57 42.6**	**-0.2**
OHWZ				S	**Sg**	**04 57 51.5**	**+0.4**
CAW	**Cannon Point**	**0.65**	**149**	P	**Pg**	**04 57 43.0**	**0.0**
HSSS	**Lower Hutt Hay**	**0.65**	**156**	P	**Pg**	**04 57 43.0**	**-0.2**
TMDS	**Te Marua Water**	**0.66**	**142**	P	**Pg**	**04 57 43.2**	**-0.1**
UHSS	**Upper Hutt Pri**	**0.66**	**150**	P	**Pg**	**04 57 43.4**	**0.0**
HIBS	**Hutt Internati**	**0.66**	**152**	P	**Pg**	**04 57 43.3**	**-0.1**
LHBS	**Lower Hutt Nor**	**0.67**	**162**	P	**Pg**	**04 57 43.2**	**-0.1**
MKBS	**Makara Bunker**	**0.67**	**175**	P	**Pg**	**04 57 43.2**	**-0.3**
TAIT	**Taita Central**	**0.67**	**158**	P	**Pg**	**04 57 43.5**	**-0.1**
BMTS	**Belmont**	**0.68**	**160**	P	**Pg**	**04 57 43.5**	**-0.1**
SOCS	**Lower Hutt St**	**0.68**	**161**	P	**Pg**	**04 57 43.8**	**0.0**
PTOS	**Petone Overbri**	**0.69**	**165**	P	**Pg**	**04 57 43.7**	**-0.2**
NBSS	**St Bernadette"**	**0.69**	**159**	P	**Pg**	**04 57 43.9**	**0.0**
NEWS	**Newlands**	**0.69**	**168**	P	**Pg**	**04 57 43.8**	**-0.1**
FAIS	**Fairfield**	**0.69**	**160**	P	**Pg**	**04 57 43.9**	**-0.1**
WCDS	**Wanganui Civil**	**0.70**	**28**	P	**Pg**	**04 57 43.9**	**-0.1**
TCW	**Tory Channel**	**0.70**	**202**	P	**Pg**	**04 57 43.4**	**-0.8**
MRZ	**Mangatainoka R**	**0.73**	**98**	P	**Pg**	**04 57 44.6**	**-0.1**
WEL	**Wellington**	**0.73**	**171**	P	**Pg**	**04 57 44.6**	**-0.2**
SNZO	**South Karori**	**0.76**	**175**	P	**Pg**	**04 57 44.8**	**-0.3**
SNZO	**South Karori**	**0.76**	**175**	S	**Sg**	**04 57 55.0**	**0.0**
HOWZ	**Holdsworth Sta**	**0.76**	**117**	P	**Pg**	**04 57 45.2**	**+0.1**
PNMS	**Monrad Interme**	**0.76**	**76**	P	**Pg**	**04 57 45.1**	**-0.1**
PNMS				S	**Sg**	**04 57 55.6**	**+0.3**
SEAW	**Seatoun School**	**0.79**	**168**	P	**Pg**	**04 57 45.6**	**-0.1**
FAHS	**Feilding Agric**	**0.80**	**65**	P	**Pg**	**04 57 45.8**	**-0.2**
FAHS				S	**Sg**	**04 57 57.0**	**+0.5**
EKTS	**Eketahuna Scho**	**0.83**	**97**	P	**Pg**	**04 57 46.5**	**-0.1**
WAZ	**Wanganui**	**0.85**	**19**	P	**Pg**	**04 57 46.4**	**-0.5**
QCCS	**Picton Queen C**	**0.85**	**212**	P	**Pg**	**04 57 46.5**	**-0.5**
BHW	**Baring Head**	**0.87**	**168**	P	**Pg**	**04 57 47.1**	**-0.2**
POWZ	**Post Office Ro**	**0.89**	**80**	P	**Pg**	**04 57 47.3**	**-0.3**
POWZ				S	**Sg**	**04 57 59.0**	**-0.2**
MTW	**Mount Morrison**	**0.90**	**132**	P	**Pg**	**04 57 48.1**	**+0.3**
MTW				S	**Sb**	**04 58 00.8**	**+0.8**
HAVS	**Havelock**	**0.96**	**221**	P	**Pg**	**04 57 47.8**	**-1.1**
MSWZ	**Moikau Station**	**0.98**	**151**	P	**Pb**	**04 57 49.8**	**+0.3**
MSWZ				S	**Sb**	**04 58 02.9**	**+0.5**
TIWZ	**Tintock**	**0.98**	**103**	P	**Pg**	**04 57 49.7**	**+0.2**
TUWZ	**Tuamarina**	**1.01**	**210**	P	**Pg**	**04 57 49.5**	**-0.5**
PAWZ	**Paruwai Farm**	**1.02**	**144**	P	**Pb**	**04 57 50.6**	**+0.4**
PRWZ	**Pori Road**	**1.03**	**90**	P	**Pg**	**04 57 49.4**	**+0.1**
TMWZ	**Te Maipa**	**1.11**	**120**	P	**Pb**	**04 57 52.2**	**+0.3**
LREZ	**Lake Rotokare**	**1.11**	**351**	P	**Pb**	**04 57 51.5**	**-0.2**
LREZ				S	**Sb**	**04 58 07.3**	**+1.2**
PLWZ	**Palliser**	**1.12**	**155**	P	**Pg**	**04 57 52.4**	**+0.3**
TSZ	**Takapari Road**	**1.14**	**65**	P	**Pb**	**04 57 51.4**	**-0.7**
NNZ	**Nelson**	**1.15**	**235**	P	**Pb**	**04 57 51.3**	**-1.1**
TRWZ	**Traveller**	**1.17**	**137**	P	**Pb**	**04 57 52.8**	**+0.2**
SEDS	**Seddon Fire St**	**1.19**	**200**	P	**Pg**	**04 57 53.8**	**+0.4**
DVHZ	**Dannevirke**	**1.21**	**78**	P	**Pb**	**04 57 53.2**	**-0.1**
CMWZ	**Cape Campbell**	**1.23**	**194**	P	**Pg**	**04 57 55.0**	**+0.8**
BFZ	**Birch Farm**	**1.24**	**96**	P	**Pn**	**04 57 53.9**	**+0.1**
BFZ	**Birch Farm**	**1.24**	**96**	S	**Sn**	**04 58 11.5**	**+1.0**
BFZ	**Birch Farm**	**1.24**	**96**	P	**Pn**	**04 57 54.0**	**+0.3**
CPWZ	**Castlepoint**	**1.25**	**107**	P	**Pg**	**04 57 54.9**	**+0.4**
PREZ	**Palmer Road**	**1.26**	**343**	P	**Pn**	**04 57 54.1**	**0.0**
NMEZ	**Namu Road**	**1.28**	**333**	P	**Pn**	**04 57 54.6**	**+0.4**
BSWZ	**Blackbirch Sta**	**1.29**	**206**	P	**Pn**	**04 57 54.1**	**-0.3**
MTVZ	**Mangateitei**	**1.34**	**299**	P	**Pn**	**04 57 54.7**	**-0.4**
KHEZ	**Kahui Hut**	**1.34**	**339**	P	**Pn**	**04 57 55.3**	**0.0**
KHEZ	**Kahui Hut**	**1.34**	**339**	S	**Sg**	**04 58 15.1**	**+1.3**
KHEZ	**Kahui Hut**	**1.34**	**339**	P	**Pn**	**04 57 55.3**	**0.0**
NEZ	**North Egmont**	**1.35**	**342**	P	**Pn**	**04 57 55.1**	**-0.2**
MOTS	**Motueka DOC wo**	**1.35**	**245**	P	**Pn**	**04 57 55.7**	**+0.4**
TKNZ	**Takaka Hill**	**1.35**	**249**	P	**Pn**	**04 57 55.1**	**-0.1**
PNHZ	**Pukenui**	**1.37**	**62**	P	**Pn**	**04 57 55.3**	**-0.2**
PKVZ	**Pokaka**	**1.38**	**24**	P	**Pn**	**04 57 55.2**	**-0.5**
TSFS	**Takaka Scotts**	**1.40**	**257**	P	**Pn**	**04 57 56.5**	**+0.6**
DREZ	**Durham Road**	**1.40**	**346**	P	**Pn**	**04 57 56.4**	**+0.4**
NBEZ	**Newall Road No**	**1.41**	**335**	P	**Pn**	**04 57 56.4**	**+0.3**
ANWZ	**Angora Road**	**1.42**	**87**	P	**Pn**	**04 57 56.5**	**+0.3**
VRZ	**Vera Road**	**1.43**	**4**	P	**Pn**	**04 57 56.6**	**+0.2**
WVFS	**Wairau Valley**	**1.43**	**222**	P	**Pn**	**04 57 56.4**	**0.0**
WNVZ	**Wahianoa**	**1.44**	**32**	P	**Pn**	**04 57 56.2**	**-0.4**
MOVZ	**Moawhango**	**1.44**	**37**	P	**Pn**	**04 57 55.5**	**-1.0**
TRVZ	**Turoa**	**1.44**	**30**	P	**Pn**	**04 57 56.2**	**-0.5**
PKE	**Pukeiti**	**1.45**	**340**	P	**Pn**	**04 57 56.9**	**+0.3**
WHVZ	**Whangaehu Hut**	**1.47**	**31**	P	**Pn**	**04 57 56.7**	**-0.5**
WPHZ	**Waipukurau**	**1.47**	**71**	P	**Pn**	**04 57 57.8**	**+0.8**
MAVZ	**Matarangi**	**1.48**	**30**	P	**Pn**	**04 57 56.9**	**-0.4**
MHEZ	**Mangahewa**	**1.50**	**351**	P	**Pb**	**04 57 58.5**	**+0.3**
TUVZ	**Tukino**	**1.51**	**32**	P	**Pn**	**04 57 57.6**	**0.0**
COVZ	**Chateau Observ**	**1.53**	**28**	P	**Pn**	**04 57 57.5**	**-0.3**
PRHZ	**Porangahau**	**1.56**	**80**	P	**Pb**	**04 57 59.2**	**-0.2**
NGZ	**Ngauruhoe**	**1.57**	**29**	P	**Pn**	**04 57 58.3**	**-0.1**
SNVZ	**South Ngauruho**	**1.58**	**30**	P	**Pn**	**04 57 58.6**	**+0.1**
OTVZ	**Oturere**	**1.61**	**30**	P	**Pn**	**04 57 59.2**	**+0.3**
TWVZ	**Taurewa**	**1.61**	**23**	P	**Pn**	**04 57 58.5**	**-0.4**
NNVZ	**North Ngauruho**	**1.61**	**29**	P	**Pn**	**04 57 58.8**	**-0.2**
QRZ	**Quartz Range**	**1.61**	**260**	P	**Pn**	**04 57 59.7**	**+0.8**
QRZ	**Quartz Range**	**1.61**	**260**	S	**Sb**	**04 58 21.3**	**+0.6**
QRZ	**Quartz Range**	**1.61**	**260**	P	**Pn**	**04 57 59.8**	**+0.8**
KRHZ	**Kereru**	**1.62**	**56**	P	**Pn**	**04 57 59.5**	**+0.5**
WTVZ	**West Tongariro**	**1.62**	**28**	P	**Pn**	**04 57 58.8**	**-0.2**
MRNZ	**Matariki Terra**	**1.65**	**239**	P	**Pn**	**04 58 00.1**	**+0.8**
ETVZ	**East Tongariro**	**1.65**	**31**	P	**Pn**	**04 57 59.6**	**+0.1**
KRVZ	**Karewarewa**	**1.66**	**29**	P	**Pn**	**04 57 59.7**	**+0.2**
TMVZ	**Te Maari**	**1.66**	**30**	P	**Pn**	**04 57 59.6**	**0.0**
NTVZ	**North Tongarir**	**1.67**	**29**	P	**Pn**	**04 57 59.9**	**+0.2**
THZ	**Tophouse**	**1.77**	**227**	P	**Pn**	**04 58 01.7**	**+0.6**
KATZ	**Kakaramea**	**1.78**	**28**	P	**Pn**	**04 58 02.1**	**+0.8**
KWHZ	**Kaweka Forest**	**1.79**	**51**	P	**Pn**	**04 58 02.6**	**+1.3**
PXZ	**Pawanui**	**1.79**	**74**	P	**Pn**	**04 58 01.4**	**+0.2**
RITZ	**Rihia Road**	**1.84**	**32**	P	**Pn**	**04 58 03.5**	**+1.5**
KAHZ	**Kahuranaki**	**1.89**	**67**	P	**Pn**	**04 58 03.1**	**+0.4**
RATZ	**Rangitukua**	**1.91**	**28**	P	**Pn**	**04 58 04.5**	**+1.5**
MCHZ	**McNeill Hill**	**1.94**	**56**	P	**Pn**	**04 58 04.8**	**+1.4**
BKZ	**Black Stump Fm**	**2.00**	**47**	P	**Pn**	**04 58 05.5**	**+1.3**
BKZ	**Black Stump Fm**	**2.00**	**47**	S	**Sn**	**04 58 30.6**	**+1.4**
BKZ	**Black Stump Fm**	**2.00**	**47**	P	**Pn**	**04 58 05.5**	**+1.3**
HATZ	**Inemaiaia**	**2.01**	**35**	P	**Pb**	**04 58 06.7**	**-0.3**
KHZ	**Kahutara**	**2.03**	**203**	P	**Pn**	**04 58 05.4**	**+0.8**
KHZ	**Kahutara**	**2.03**	**203**	S	**Sn**	**04 58 30.5**	**+0.6**
KHZ	**Kahutara**	**2.03**	**203**	P	**Pn**	**04 58 05.5**	**+1.0**
WATZ	**Wairara**	**2.04**	**25**	P	**Pn**	**04 58 05.7**	**+1.0**
HIZ	**Hauiti**	**2.05**	**5**	P	**Pn**	**04 58 05.0**	**+0.2**
HIZ	**Hauiti**	**2.05**	**5**	S	**Sn**	**04 58 32.3**	**+1.9**
HIZ	**Hauiti**	**2.05**	**5**	P	**Pn**	**04 58 05.7**	**+0.8**
CKHZ	**Cape Kidnapper**	**2.08**	**65**	P	**Pn**	**04 58 05.1**	**-0.3**
MRHZ	**Matea Rd**	**2.21**	**39**	P	**Pn**	**04 58 08.8**	**+1.7**
NMHZ	**Naumai**	**2.22**	**50**	P	**Pn**	**04 58 08.4**	**+1.1**
ARHZ	**Aropaoanui**	**2.23**	**55**	P	**Pn**	**04 58 09.1**	**+1.7**
KUTZ	**Kaahu Road**	**2.26**	**25**	P	**Pb**	**04 58 10.9**	**-0.5**
TLZ	**Tolley Road**	**2.33**	**18**	P	**Pn**	**04 58 08.7**	**-0.1**
WPRZ	**Whakapapatarin**	**2.36**	**31**	P	**Pn**	**04 58 11.0**	**+1.9**
ALRZ	**Allen Road**	**2.39**	**34**	P	**Pn**	**04 58 11.2**	**+1.6**
MTHZ	**Maungataniwha**	**2.41**	**46**	P	**Pn**	**04 58 10.7**	**+0.8**
DSZ	**Denniston Nort**	**2.44**	**240**	P	**Pn**	**04 58 12.8**	**+2.5**
PRRZ	**Plateau Road**	**2.47**	**34**	P	**Pn**	**04 58 12.6**	**+2.0**
WHHZ	**Waihua**	**2.50**	**55**	P	**Pn**	**04 58 11.8**	**+0.8**
RAHZ	**Arahi**	**2.51**	**50**	P	**Pn**	**04 58 11.5**	**+0.3**
HRRZ	**Handcock Road**	**2.52**	**31**	P	**Pn**	**04 58 13.7**	**+2.4**
RRRZ	**Republican Roa**	**2.65**

KUA				S	Sg	05 03 37.5	-0.6
RATU	**Laukkuluspa**	**0.23**	**277**	P	Pg	05 03 36.9	-0.2
RATU				S	Sg	05 03 41.0	+0.9
KOVU	**Salmi**	**0.43**	**359**	P	Pg	05 03 40.2	-0.8
KOVU				S	Sg	05 03 45.6	-0.9
NIKU	**Nikkaluokta**	**0.44**	**280**	P	Pg	05 03 40.9	-0.4
NIKU				S	Sg	05 03 47.3	+0.3
DUNU	**Dundret**	**0.69**	**168**	S	Sg	05 03 56.0	+0.9
LANU	**Lannavaara**	**0.73**	**69**	PG	Pg	05 03 45.9	-0.8
LANU				SG	Sg	05 03 55.7	-0.4
SALU	**Saltoluokta**	**0.77**	**238**	P	Pg	05 03 47.5	0.0
SALU				S	Sg	05 03 57.9	+0.5
KIF	**Kilpisjarvi**	**1.23**	**10**	*eP*	Pg	05 03 55.8	-0.6
KIF	**Kilpisjarvi**	**1.23**	**10**	PG	Pg	05 03 55.5	-0.9
KIF				MSG		05 04 11.2	
	comp=Z,7.0nm,0.2s						
KIF				SG	Sg	05 04 12.3	-0.1
PAJU	**Pajala**	**1.37**	**123**	P	Pg	05 03 57.6	-1.4
PAJU				S	Sg	05 04 16.3	-0.5
PAJU	**Pajala**	**1.37**	**123**	PG	Pg	05 03 57.2	-1.9
	baz=302						
PAJU				SG	Sg	05 04 15.4	-1.4
HEF	**Hetta**	**1.44**	**63**	*eP*	Pn	05 03 58.7	-1.4
HEF	**Hetta**	**1.44**	**63**	PG	Pn	05 03 58.4	-1.7
	baz=246						
HEF				MSG		05 04 16.1	
	comp=Z,4.0nm,0.2s						
HEF				SG	Sg	05 04 17.8	-1.2
ERTU	**Ertsjaerv**	**1.47**	**147**	P	Pn	05 03 59.6	-1.0
ERTU				S	Sn	05 04 21.0	+0.5
ERTU	**Ertsjaerv**	**1.47**	**147**	PG	Pn	05 03 59.6	-1.0
ERTU				SN	Sn	05 04 20.6	+0.1
KTK1	**Kautokeino**	**1.66**	**41**	PG	Pn	05 04 02.3	-0.9
KTK1				SN	Sg	05 04 26.1	0.0
HARU	**Harads**	**1.67**	**169**	P	Pb	05 04 04.0	-0.4
HARU				S	Sg	05 04 26.9	+0.5
TRO	**Tromso**	**1.90**	**347**	PG	Pn	05 04 07.1	+0.7
TRO				SG	Sn	05 04 31.4	+0.5
KALU	**Kalix**	**2.32**	**146**	PG	Pn	05 04 13.6	+1.5
KALU				SG	Sb	05 04 45.7	+1.2
TOF	**Tornio**	**2.37**	**135**	PG	Pn	05 04 14.2	+1.3
TOF				MSG		05 04 43.0	
	comp=Z,2.4nm,0.2s						
TOF				SG	Sb	05 04 46.0	-0.1
ARA0	**ARCESS Array S**	**2.61**	**46**	PB	Pn	05 04 17.6	+1.3
	baz=230						
ARA0				SB	Sn	05 04 50.5	+1.9
RAJF	**Raja-Jooseppi**	**3.12**	**74**	PN	Pn	05 04 23.1	0.0
RAJF				SG	Sb	05 05 06.0	-1.5
RANF	**Ranua**	**3.16**	**121**	PG	Pb	05 04 28.5	-1.2
RANF				SB	Sb	05 05 06.6	-2.1
KEV	**Kevo**	**3.17**	**48**	PB	Pn	05 04 26.2	+2.4
KEV				SN	Sn	05 05 02.3	+0.1
VRF	**Varrio**	**3.58**	**86**	PG	Pb	05 04 38.0	+1.0
OBF0	**Syolatti, Pyha**	**3.70**	**152**	SG	Sb	05 05 27.5	+3.2
KU2	**Taivalkoski**	**3.82**	**120**	PG	Pb	05 04 42.4	+1.5
	baz=305						
OLKF	**Oulanka, Finla**	**3.90**	**108**	PG	Pb	05 04 44.0	+1.7
OLKF				SG	Sb	05 05 32.9	+2.9
KU6	**Riekki**	**4.21**	**110**	PN	Pn	05 04 39.7	+1.5

*NIED **16** 05:13:37.8, 40.67N × 142.74E, h24km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; Mrr=0.70; Mθθ 0.95; Mϕϕ -0.26; Mrθ -0.14; Mθϕ -1.95; Mϕr -1.94; Fault plane solution: M0 2.88000 × 10^{14} NP1: ϕs 88.00000°, δ 48.00000°, λ -165.00000°. NP2: ϕs 347.00000°, δ 79.00000°, λ -43.00000°.*

*JMA **16** 05:13:37.8 ± 0.2, 40.7N ± 0.5 × 142.7E ± 0.8, h24km ± 3km, MV3.8/38, E OFF AOMORI PREF*

*IDC **16** 05:13:43.5 ± 5.6, 41.18N × 141.79E, h32km ± 43km, mb3.6/8, mbtmp3.8/11, ML3.4/3, Error ellipse: s-maj=27.8km s-min=20.3km az=102.0*

ISC 16 05:13:37.2 ± 1.0, **40.75N** ± 0.04 × **142.68E** ± 0.06, **h22**km ± 7km, **n33**, σ1 **s53**/33, **mb3.9**/8, **6D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JKEN	**Kujiedanarisaw**	**0.91**	**234**	*i*	P	**Pb**	**05 13 54.4**	**0.0**
JKEN					S	**Sb**	**05 14 06.1**	**0.0**
JANG	**Nango**	**0.96**	**248**	*i*	P	**Pn**	**05 13 55.7**	**+0.3**
JANG					S	**Sn**	**05 14 07.6**	**-0.8**
JTH	**Tanohata**	**1.02**	**218**	*i*	P	**Pb**	**05 13 55.8**	**-0.4**
JTH				*e*	S	**Sb**	**05 14 08.8**	**-0.3**
JARK	**Aomorirokkasho**	**1.03**	**285**	⇓	P	**Pn**	**05 13 57.4**	**+1.1**
JARK				⇓	S	**Sn**	**05 14 11.0**	**+1.0**
JTM	**Tenmabayashi**	**1.22**	**272**	⇑	P	**Pb**	**05 14 00.4**	**+0.7**
JTM				⇓	S	**Sn**	**05 14 16.5**	**+1.7**
JEM	**Erimo**	**1.32**	**16**	*i*	P	**Pb**	**05 14 01.7**	**+0.4**
JOT	**Ohata**	**1.39**	**298**	⇓	P	**Pb**	**05 14 02.7**	**+0.2**
JOT				⇓	S	**Sb**	**05 14 20.3**	**+0.6**
JNBK	**Urakawa-nobuka**	**1.53**	**2**		P	**Pb**	**05 14 05.2**	**+0.2**
JAH	**Hinai**	**1.65**	**251**		P	**Pb**	**05 14 06.8**	**-0.2**
JAH					S	**Sb**	**05 14 27.6**	**+0.2**
JOM	**Ohasama**	**1.66**	**220**	*i*	P	**Pn**	**05 14 05.8**	**+0.9**
JKB	**Kayabe**	**1.68**	**313**	*i*	P	**Pb**	**05 14 07.1**	**-0.4**
JSR	**Shiriuchi**	**1.88**	**295**		P	**Pb**	**05 14 10.2**	**-0.6**
JCH	**Churui**	**1.94**	**15**	*i*	P	**Pb**	**05 14 10.4**	**-1.4**
JIW	**Iwasaki**	**2.04**	**267**		P	**Pb**	**05 14 12.3**	**-1.2**
JRG	**Rokugo**	**2.07**	**230**	*i*	P	**Pb**	**05 14 12.6**	**-1.4**
JMK	**Ichinoseki**	**2.12**	**212**	*i*	P	**Pn**	**05 14 12.2**	**+0.9**
ASAJ	**Asahikawa**	**3.37**	**359**		Pn	**Pn**	**05 14 30.2**	**+1.7**
	8.0nm,0.3s,baz=217,slow=10,SNR=20							
ASAJ					Sn	**Sn**	**05 15 04.2**	**-3.5**
	3.9nm,0.3s,baz=118,slow=33,SNR=8.1							
	14nm,0.3s							
MJAR	**Matsushiro Arr**	**5.46**	**221**		Pn	**Pn**	**05 14 59.7**	**+2.4**
	0.2nm,0.3s,baz=32,slow=13,SNR=10							
	4.5nm,0.5s							
USRK	**Ussuriysk Ar.**	**8.62**	**297**		Pn	Pn	05 15 35.0	-5.6
	0.4nm,0.3s,baz=105,slow=17,SNR=5.1							
	0.9nm,0.2s							
SONM	**Songino Array**	**26.73**	**298**		P	**P**	**05 19 12.7**	**-2.4**
	0.4nm,0.4s,baz=78,slow=9.0,SNR=2.8							
	0.4nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**29.44**	**128**		T	T	05 50 36.0	
	baz=319,slow=75,SNR=22							
H11N1	**WAKE ISLAND Hy**	**29.45**	**128**		T	T	05 50 40.8	
	baz=319,slow=75,SNR=15							
H11N3	**WAKE ISLAND Hy**	**29.45**	**128**		T	T	05 50 34.9	
	baz=319,slow=75,SNR=22							
H11S1	**WAKE ISLAND Hy**	**30.27**	**130**		T	T	05 52 19.3	
	baz=322,slow=76,SNR=10							
H11S3	**WAKE ISLAND Hy**	**30.27**	**130**		T	T	05 52 30.0	
	baz=322,slow=76,SNR=9.7							
H11S2	**WAKE ISLAND Hy**	**30.29**	**130**		T	T	05 52 28.6	
	baz=322,slow=76,SNR=7.4							
ZALV	**Zalesovo Beam**	**40.24**	**309**		P	**P**	**05 21 10.2**	**-1.8**
	2.6nm,0.5s,baz=87,slow=8.8,SNR=9.1							
	2.6nm,0.5s							
MKAR	**Makanchi Array**	**43.08**	**299**		P	**P**	**05 21 34.1**	**-1.4**
	0.7nm,0.6s,baz=83,slow=13,SNR=4.6							
	0.7nm,0.6s							
KURBB	**Kurchatov Arra**	**44.58**	**305**		P	**P**	**05 21 46.0**	**-1.4**
	2.1nm,0.6s,baz=79,slow=8.7,SNR=8.6							
	2.1nm,0.6s							
ILAR	**Eielson Array**	**45.85**	**34**		P	**P**	**05 22 01.5**	**+4.1**
	0.2nm,0.7s,baz=276,slow=7.5,SNR=4.1							
	0.2nm,0.7s							
BVAR	**Borovoye Array**	**48.87**	**310**		P	**P**	**05 22 19.9**	**-1.0**
	0.9nm,0.3s,baz=68,slow=10.0,SNR=4.2							
	0.9nm,0.3s							
WRA	**Warramunga Arr**	**60.87**	**189**		P	P	05 23 56.1	+8.0
	0.3nm,0.8s,baz=8.5,slow=7.6,SNR=4.8							
	0.3nm,0.8s							
FINES	**FINESS Array B**	**66.00**	**332**		P	**P**	**05 24 20.5**	**-1.0**
	2.6nm,0.9s,baz=77,slow=8.2,SNR=4.0							
	2.6nm,0.9s							

*SOME **16** 05:35:57.5, 39.27N × 71.42E, h10km*

*KRNET **16** 05:36:00.2 ± 0.1, 39.25N × 70.75E, mb3.5*

ISC 16 05:36:02.3 ± 1.0, **39.23N** ± 0.07 × **70.66E** ± 0.08, **h17**km, **n14**, σ1 **s89**/27, **20C-5D**, **Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GAR	**Garm**	**0.35**	**229**	⇓	*i* P	**Pg**	**05 36 08.5**	**-1.2**
GAR				⇓	*i* S	**Sg**	**05 36 14.5**	**-0.2**
CHGR	**Chuyangaron**	**1.30**	**244**	⇑	*i* P	**Pb**	**05 36 26.2**	**-0.1**
CHGR				⇑	*i* S	**Sg**	**05 36 45.1**	**+0.7**
TRKS	**Terek-Say**	**2.33**	**9**	⇑	*i* P	**Pn**	**05 36 40.5**	**+0.5**
TRKS				⇑	*i* S	**Sb**	**05 37 09.8**	**-2.6**
ARSB	**Arslanbob**	**2.75**	**40**	⇑	*i* P	**Pn**	**05 36 46.6**	**+0.9**
ARSB				⇑	*i* S	**Sn**	**05 37 20.4**	**+1.8**
BRLS	**Boroldaу**	**3.85**	**351**		*e* P	**Pb**	**05 37 06.7**	**-3.0**
	1.4nm,0.1s							
BRLS					*e* S	**Sb**	**05 37 56.6**	**+0.6**
	10nm,0.1s							
KK31	**Karatay Array**	**3.87**	**358**	⇑	Pn	**Pn**	**05 37 03.3**	**+2.2**
	0.9nm,0.3s,baz=179,slow=12,SNR=22							
KK31				⇑	Pg	**Pb**	**05 37 12.3**	**+2.2**
	1.4nm,0.2s,baz=175,slow=12,SNR=14							
KK31				⇑	Lg	Lg	05 38 03.4	
	5.5nm,0.4s,baz=174,slow=29,SNR=6.0							
MRKS	**Merke**	**4.01**	**28**		*e* P	**Pn**	**05 37 06.6**	**+3.5**
	2.1nm,0.2s							
MRKS					*e* S	**Sb**	**05 37 56.3**	**-4.6**
	11nm,0.2s							
EKS2	**Erkin-Say**	**4.16**	**34**	⇑	*i* P	**Pn**	**05 37 06.3**	**+1.1**
EKS2				⇑	*i* S	**Sn**	**05 37 54.4**	**+0.9**
UCH	**Uchtor**	**4.19**	**43**	⇑	*i* P	**Pn**	**05 37 06.9**	**+1.1**
UCH				⇑	*i* S	**Sn**	**05 37 55.5**	**+0.9**
AAK	**Ala-Archa**	**4.48**	**39**	⇑	Pg	**Pn**	**05 37 12.8**	**+3.3**
	0.7nm,0.4s							
AAK				⇓	Lg	Lg	05 38 06.8	
	4.0nm,0.7s							
AAK	**Ala-Archa**	**4.48**	**39**	⇑	*i* P	**Pn**	**05 37 10.6**	**+1.1**
AAK				⇑	*i* S	**Sn**	**05 38 02.1**	**+0.8**
CHMS	**Chumysh**	**4.87**	**38**	⇑	*i* P	**Pn**	**05 37 15.9**	**+1.1**
CHMS				⇑	*i* S	**Sn**	**05 38 11.4**	**+0.6**
USP	**Ospenovka**	**4.96**	**34**	⇓	*i* P	**Pn**	**05 37 17.1**	**+1.0**
USP				⇓	*i* S	**Sn**	**05 38 13.4**	**+0.3**
TKM2	**Tokmak 2**	**5.25**	**44**	⇑	*i* P	**Pn**	**05 37 21.3**	**+1.2**
TKM2				⇑	*i* S	**Sn**	**05 38 20.4**	**+0.1**

*IDC **16** 05:54:17.5 ± 0.6, 3.76S × 76.29W, h93km ± 5km, mb3.7/12, mbtmp4.2/19, MS2.7/3, Error ellipse: s-maj=13.0km s-min=9.4km az=104.0*

*NEIC **16** 05:54:18.3 ± 1.4, 3.81S ± 0.06 × 76.28W ± 0.07, h110km ± 7km, mb4.6/70, Error ellipse: s-maj=10.5km s-min=8.0km az=67.0*

*RSNC **16** 05:54:19.3 ± 0.4, 4°S ± 3' × 77°W ± ', h61km ± 62km, M4.6, mB5.2, mb4.7, ML4.1, Mw(mB)4.6*

*VAO **16** 05:54:20.6 ± 0.6, 3.81S × 76.03W, h110km ± 5km, mb4.7*

ISC 16 05:54:16.9 ± 0.3, **3.79S** ± 0.02 × **76.35W** ± 0.03, **h100**km, **n191**, σ1 **s64**/169, **mb4.5**/41, **5C**, **Northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
COHC	**Cochancay**	**3.19**	**294**			**Pn**	**05 55 08.6**	**+3.4**
COHC					Sn	**Sn**	**05 55 47.1**	**+4.7**
COHC	**Cochancay**	**3.19**	**294**		P	**Pn**	**05 55 08.4**	**+3.2**
COHC					S	**Sn**	**05 55 45.0**	**+2.5**
PIAT	**Ana Tenorio**	**3.37**	**325**		P	**Pn**	**05 55 10.5**	**+2.4**
PIAT					S	**Sn**	**05 55 48.5**	**+1.1**
MCRA	**Macar, Loja**	**3.64**	**261**		P	**Pn**	**05 55 11.4**	**0.0**
MCRA					S	**Sn**	**05 55 53.4**	**-0.2**
ATAH	**Atahualpa**	**3.90**	**211**		P	**Pn**	**05 55 17.8**	**+2.7**
	258nm,0.5s,baz=26,slow=9.3,SNR=254							
ATAH					S	**Sn**	**05 56 01.9**	**+1.7**
	474nm,0.8s,baz=138,slow=16,SNR=21							
PTLC	**Puerto Leguiza**	**4.23**	**22**		P	**Pn**	**05 55 17.9**	**-1.4**
PTLC					S	**Sn**	**05 56 00.7**	**-7.0**
BONI	**La Bonita**	**4.38**	**344**		P	**Pn**	**05 55 23.6**	**+2.1**
BONI					S	Sn	05 55 57.2	-14
OTAV	**Otavalo**	**4.52**	**332**			Pn	05 55 27.3	+3.7
OTAV	**Otavalo**	**4.52**	**332**		*eP*	Pn	05 55 27.8	+4.1
OTAV	**Otavalo**	**4.52**	**332**		P	Pn	05 55 27.3	+3.7
OTAV					S	Sn	05 56 02.6	-13
CUSE	**Cuicocha Este**	**4.56**	**333**		P	Pn	05 55 29.6	+5.5
CUSE					S	**Sn**	**05 56 08.5**	**-7.7**
TULM	**Tulcn-Chalpat**	**4.70**	**342**		P	Pn	05 55 30.0	+3.9
PAC1	**Pacto, Paraso**	**4.71**	**329**		P	Pn	05 55 30.8	+4.8
CMBC	**Cumbal**	**4.93**	**343**		P	**Pn**	**05 55 32.2**	**+3.1**
PPLP	**Puerto Lpez**	**4.95**	**297**		P	**Pn**	**05 55 29.5**	**+0.4**
	12µm778nm,0.6s							
GCUF	**Volcan Galeras**	**5.08**	**349**		P	Pn	05 55 34.9	+3.6
	3µm45nm,0.5s							
CZSB	**Cruzeiro do Su**	**5.33**	**137**			**Pn**	**05 55 35.8**	**+1.5**
CZSB	**Cruzeiro do Su**	**5.33**	**137**		*eP*	**Pn**	**05 55 35.7**	**+1.5**
CZSB	**Cruzeiro do Su**	**5.33**	**137**		P	**Pn**	**05 55 35.6**	**+1.4**
	7µm480nm,0.4s							
CRUC	**La Cruz**	**5.36**	**354**		P	**Pn**	**05 55 38.0**	**+3.1**
	35µm1µm,2.2s							
FLOC	**Florencia**	**5.38**	**7**			**Pn**	**05 55 37.8**	**+2.9**
FLOC	**Florencia**	**5.38**	**7**		P	**Pn**	**05 55 37.4**	**+2.5**
BBAC	**Balboa, Cauca**	**5.84**	**351**		P	**Pn**	**05 55 44.7**	**+3.3**
	1µm64nm,0.5s							
POPC	**Popayan, Colom**	**6.30**	**357**		P	Pn	05 55 51.2	+3.6
	725nm80nm,1.0s							
MACC	**Macarena, Meta**	**6.40**	**23**		P	**Pn**	**05 55 51.1**	**+2.3**
	3µm130nm,0.5s							
TBTG	**Tabatinga, AM**	**6.43**	**94**		Pn	**Pn**	**05 55 50.8**	**+1.6**
BETC	**Betania**	**6.49**	**8**		P	Pn	05 55 54.1	+4.0
JAMC	**Jamundi, Valle**	**6.97**	**357**		P	Pn	05 56 00.6	+4.0
	595nm24nm,0.9s							
GR1C	**Gorgona, Isla**	**6.99**	**345**		P	Pn	05 56 00.5	+3.8
URMC	**La Uribe, Meta**	**7.26**	**16**		P	**Pn**	**05 56 03.3**	**+2.8**
	2µm136nm,0.8s							
PRAC	**Prado**	**7.60**	**11**		P	Pn	05 56 08.9	+3.8
	1µm37nm,0.6s							
YOTC	**Yotoco, Valle**	**7.72**	**0**		P	Pn	05 56 11.2	+4.4
	297nm15nm,0.8s							
ORTC	**Ortega, Tolima**	**7.73**	**8**		P	**Pn**	**05 56 09.9**	**+3.1**
NNA	**Nana**	**8.16**	**183**			**Pn**	**05 56 14.3**	**+1.6**
NNA	**Nana**	**8.16**	**183**		P	**Pn**	**05 56 13.9**	**+1.3**
	25nm,0.3s,baz=16,slow=10.0,SNR=25							
NNA					S	Sn	05 57 35.5	-7.8
	157nm,0.3s,baz=262,slow=11,SNR=8.0							
NNA	**Nana**	**8.16**	**183**		P	**Pn**	**05 56 14.0**	**+1.3**
	39nm,0.4s							
ANIL	**Santa Ana**	**8.28**	**7**		P	Pn	05 56 18.7	+4.1
	1µm59nm,0.5s							
VILC	**Villavicencio,**	**8.29**	**19**		P	**Pn**	**05 56 17.6**	**+3.1**
	2µm103nm,0.5s							
CVER	**Cruz Verde, Cu**	**8.56**	**15**		P	Pn	05 56 23.6	+5.0
ROSC	**El Rosal**	**8.81**	**13**			**Pn**	**05 56 22.0**	**+0.1**
ROSC	**El Rosal**	**8.81**	**13**		P	**Pn**	**05 56 22.3**	**+0.4**
	1.8nm,0.5s,baz=88,slow=21,SNR=2.7							
GUY2C	**Guyana, Caldas**	**9.01**	**6**		P	Pn	05 56 30.9	+6.2
NORC	**Norcasia**	**9.41**	**9**		P	Pn	05 56 33.8	+4.1
	16nm,0.7s							
CBOC	**Ciudad Bolivar**	**9.60**	**2**		P	**Pn**	**05 56 35.0**	**+2.6**
	17nm,1.3s							
SPBC	**San Pablo de B**	**9.65**	**14**		P	Pn	05 56 36.8	+3.7
	9.0nm,1.1s							
HELC	**Santa Helena**	**9.95**	**5**		P	**Pn**	**05 56 39.9**	**+2.5**
	7.4nm,1.1s							
SGC2	**Sao Gabriel da**	**10.04**	**69**		P	**Pn**	**05 56 36.9**	**-1.3**
	1µm33nm,0.4s							
RUSC	**La Rusia**	**10.16**	**19**			**Pn**	**05 56 41.0**	**+0.7**
RUSC	**La Rusia**	**10.16**	**19**		P	**Pn**	**05 56 43.3**	**+3.0**
	346nm31nm,0.5s							
PTBC	**PUERTO BERRIO,**	**10.43**	**10**		P	**Pn**	**05 56 45.8**	**+2.1**
	103nm10.0nm,0.9s							
BARC	**Barichara**	**10.79**	**17**		P	**Pn**	**05 56 51.7**	**+3.0**
	25nm,1.4s							
PAMC	**Pamplona, Colo**	**11.64**	**18**		P	**Pn**	**05 57 02.4**	**+2.0**
TEFE	**Tefe**	**11.69**	**89**		*eP*	**Pn**	**05 56 59.9**	**-0.8**
OCAC	**Ocana**	**12.33**	**14**		P	**P**	**05 57 17.2**	**0.0**
BCIP	**Isla Barro Col**	**13.33**	**345**		Pn	**Pn**	**05 57 21.4**	**-0.9**
SDV	**Santo Domingo**	**13.82**	**24**		Pn	**Pn**	**05 57 29.2**	**+0.3**
SDV	**Santo Domingo**	**13.82**	**24**		P	**Pn**	**05 57 29.3**	**+0.5**
	5.6nm,0.5s,baz=228,slow=10,SNR=8.3							
SDV					S	**Sn**	**05 59 58.4**	**-2.9**
	4.1nm,0.5s,baz=322,slow=11,SNR=1.7							
SDV	**Santo Domingo**	**13.82**	**24**		*eP*	**P**	**05 57 31.6**	**-2.3**
BRU2	**Volcan**	**14.01**	**333**		Pn	**Pn**	**05 57 31.1**	**-0.2**
LPAZ	**La Paz**	**14.81**	**148**		Pn	**Pn**	**05 57 41.6**	**-0.4**
LPAZ	**La Paz**	**14.81**	**148**		P	Pn	05 57 38.1	-3.9
	6.1nm,0.7s,baz=334,slow=12,SNR=28							
LPAZ					LR	LR	06 04 51.6	
	comp=Z,15nm,19.9s,baz=52,slow=43							
LPAZ	**La Paz**	**14.81**	**148**		*eP*	**Pn**	**05 57 42.4**	**+0.4**
BAUV	**El Baul**	**15.12**	**33**			**Pn**	**05 57 45.6**	**+0.3**
PB18	**Visviri**	**15.28**	**154**			**Pn**	**05 57 47.8**	**0.0**
MACA	**Manacapuru-AM**	**15.65**	**88**			**Pn**	**05 57 50.1**	**-1.9**
MACA	**Manacapuru-AM**	**15.65**	**88**		*eP*	**Pn**	**05 57 51.4**	**-0.6**
PB16	**IPOC Station P**	**15.93**	**156**			**Pn**	**05 57 55.4**	**-0.6**
SOCE	**Pocosol**	**16.31**	**330**			**Pn**	**05 58 01.5**	**+1.2**
SOCE					IAmb	IAmb	05 58 08.7	
	comp=Z,61nm,1.5s							
JTS	**Las Juntas de**	**16.41**	**329**		P	**Pn**	**05 58 01.4**	**0.0**
	comp=Z,6.3nm,1.0s,baz=128,slow=12,SNR=4.7							
JTS					LR	LR	06 03 47.6	
	comp=Z,18nm,19.0s,baz=146,slow=35							
BOAV	**Boa Vista**	**16.97**	**69**		Pn	**Pn**	**05 58 05.9**	**-2.5**
PB11	**IPOC Station P**	**17.16**	**158**			**Pn**	**05 58 10.4**	**-0.4**
GO01	**Chusmiza**	**17.26**	**157**		P	**Pn**	**05 58 11.7**	**-0.5**
PB08	**IPOC Station P**	**17.70**	**157**		P	**P**	**05 58 15.9**	**-1.1**
PB08					IAmb	IAmb	05 58 26.0	
	comp=Z,36nm,0.7s							
TA01	**Diego Aracena**	**17.72**	**161**		P	**P**	**05 58 16.3**	**-0.5**
TA01					IAmb	IAmb	05 58 25.6	
	comp=Z,32nm,0.7s							
PATCX	**Punta Patache**	**17.97**	**161**		P	**P**	**05 58 19.1**	**-0.6**
PATCX					IAmb	IAmb	05 58 29.8	
	comp=Z,28nm,0.6s							
PCRV	**Puerto La Cruz**	**18.13**	**40**		P	**Pn**	**05 58 23.8**	**+1.4**
	comp=Z,10nm,1.1s,baz=110,slow=12,SNR=2.7							
VILB	**Vilhena**	**18.37**	**121**			**P**	**05 58 22.9**	**-1.3**
VILB					IAmb	IAmb	05 58 46.4	
	comp=Z,19nm,0.7s							
VILB	**Vilhena**	**18.37**	**121**		*eP*	**P**	**05 58 24.6**	**+0.5**
PB01	**IPOC Station P**	**18.40**	**159**		P	**P**	**05 58 24.3**	**-0.1**
BOAB	**BOACO BROADBAN**	**18.60**	**330**		P	**P**	**05 58 26.9**	**+0.4**
BOAB					IAmb	IAmb	05 58 34.1	
	comp=Z,36nm,0.9s							
CNGN	**Cerro Negro**	**19.18**	**328**		P	**P**	**05 58 33.5**	**+0.6**
PB09	**IPOC Station P**	**19.18**	**160**		P	**P**	**05 58 32.3**	**-0.7**
PB03	**IPOC Station P**	**19.24**	**161**		P	**P**	**05 58 33.4**	**-0.4**
SIV	**San Ignacio**	**19.30**	**130**		P	**P**	**05 58 35.0**	**+0.7**
	comp=Z,6.8nm,0.5s,baz=306,slow=12,SNR=41							
SIV					LR	LR	06 05 57.5	
	comp=Z,65nm,21.2s,baz=325,slow=36							
PB05	**IPOC Station P**	**19.86**	**163**		P	**P**	**05 58 40.4**	**+0.1**
PB05					IAmb	IAmb	05 58 53.5	
	comp=Z,26nm,0.6s							
PB06	**IPOC Station P**	**19.92**	**161**		P	**P**	**05 58 40.5**	**-0.5**
PB10	**IPOC Station P**	**20.39**	**165**		P	**P**	**05 58 45.4**	**-0.6**
PB10					IAmb	IAmb	05 59 14.3	
	comp=Z,41nm,1.2s							
PTLB	**Pontes e Lacer**	**20.52**	**126**		P	**P**	**05 58 46.9**	**-0.5**
PTLB	**Pontes e Lacer**	**20.52**	**126**		*eP*	**P**	**05 58 48.1**	**+0.7**
ITTB	**Itaituba**	**20.57**	**92**		*eP*	**P**	**05 58 46.9**	**-1.1**
AF01	**San Pedro de A**	**20.62**	**158**		P	**P**	**05 58 47.5**	**-1.2**
TGUH	**Tegucigalpa,Un**	**20.78**	**329**		P	**P**	**05 58 50.2**	**-0.1**
TGUH					IAmb	IAmb	05 58 59.3	
	comp=Z,15nm,0.7s							
PDRB	**Porto dos Gac**	**20.92**	**113**		*eP*	**P**	**05 58 51.0**	**-0.8**
NPGB	**Novo Progresso**	**21.14**	**100**		*eP*	**P**	**05 58 53.2**	**-1.0**
PB14	**IPOC Station P**	**21.49**	**165**		P	**P**	**05 58 56.5**	**-1.6**
PB14					IAmb	IAmb	05 59 08.8	
	comp=Z,27nm,1.2s							
CLDB	**Colider**	**21.55**	**110**		*eP*	**P**	**05 58 57.9**	**-0.6**
MTO3	**Montecristo**	**22.20**	**325**		P	**P**	**05 59 06.6**	**+1.0**
MAL2	**Monte Alegre,**	**22.21**	**86**		P	**P**	**05 59 03.8**	**-1.7**
MAL2					IAmb	IAmb	05 59 30.7	
	comp=Z,25nm,1.0s							
GO02	**Mina Guanaco**	**22.22**	**164**		P	**P**	**05 59 04.5**	**-1.3**
GO02					IAmb	IAmb	05 59 17.9	
	comp=Z,41nm,0.8s							
AC01	**Pan de Azucar**	**22.90**	**167**		P	**P**	**

YBH	**Yreka Blue Hor**	**61.84**	**322**	P		**P**		**06 04 25.9**	**+0.1**
KUQ	**Kuujjuuaa**	**62.03**	**5**	P		**P**		**06 04 25.5**	**-1.0**
DBIC	**Dimbokro**	**72.12**	**82**	P		**P**		**06 05 30.6**	**-0.6**
DBIC	**Dimbokro**	**72.12**	**82**	P		**P**		**06 05 32.4**	**+1.1**
	comp=Z,4.4nm,0.8s,baz=296,slow=8.8,SNR=6.1								
DBIC				pP		**pP**		**06 05 56.7**	**-0.1**
	comp=Z,6.8nm,1.0s,baz=284,slow=6.4,SNR=2.5								
	comp=Z,4.4nm,0.8s								
YKA	**Yellowknife Ar**	**72.20**	**342**	P		**P**		**06 05 31.2**	**+0.4**
YKAW3	**Yellowknife Wh**	**72.26**	**342**	P		**P**		**06 05 30.4**	**-0.7**
YKAW3				IAmb		IAmb		06 05 50.3	
	comp=Z,5.6nm,1.1s								
PFVI	**Vila Bisbo**	**74.61**	**50**	*e*pP		pP		06 06 16.0	+4.9
MORF	**Marmelete**	**74.79**	**50**	P		**P**		**06 05 45.9**	**-0.7**
MORF				IAmb		IAmb		06 06 18.4	
	comp=Z,18nm,1.0s								
MORF	**Marmelete**	**74.79**	**50**	*e*pP		pP		06 06 17.1	+4.9
PARRA	**Arraiolos**	**74.94**	**48**	*e*pP		pP		06 06 21.4	+8.4
PSBE	**So Bento**	**75.34**	**48**	*e*pP		pP		06 06 19.7	+4.3
PCVE	**Castro Verde**	**75.35**	**50**	*e*pP		pP		06 06 20.3	+4.8
PMTG	**Montargil**	**75.63**	**48**	*e*pP		pP		06 06 21.1	+4.1
EVO	**Evora**	**75.63**	**49**	*e*pP		pP		06 06 21.2	+4.2
PSARD	**Sardoal**	**75.83**	**48**	*e*pP		pP		06 06 22.3	+4.1
PESTR	**Estremoz**	**76.04**	**49**	*e*pP		pP		06 06 23.7	+4.3
PMRV	**Marv??o**	**76.35**	**48**	*e*pP		pP		06 06 24.8	+3.7
PVIS	**Viseu**	**76.36**	**47**	*e*pP		pP		06 06 25.0	+3.8
PCBR	**Castelo Branco**	**76.41**	**48**	*e*pP		pP		06 06 25.0	+3.6
MTE	**Manteigas**	**76.52**	**47**	*e*pP		pP		06 06 25.9	+3.8
POLO	**Lamas de Olo**	**76.62**	**46**	*e*pP		pP		06 06 26.1	+3.3
MD01	**Midelt array s**	**76.72**	**55**	P		**P**		**06 05 56.5**	**-1.3**
MD31	**MD31**	**76.72**	**55**	P		**P**		**06 05 56.2**	**-1.5**
MVO	**Moncorvo**	**77.11**	**46**	*e*pP		pP		06 06 29.8	+4.3
PBRG	**Braganca**	**77.50**	**46**	*e*pP		pP		06 06 31.4	+3.7
ESDC	**Sonseca Array**	**78.97**	**49**	pP		pP		06 06 39.1	+3.2
	comp=Z,1.3nm,0.6s,baz=252,slow=5.6,SNR=13								
VNA3	**Neumayer Olymp**	**79.05**	**162**	⇑P		**P**		**06 06 11.2**	**+1.4**
	comp=Z,3.2nm,0.6s								
TORD	**Torodi Ar. Bea**	**79.25**	**76**	P		**P**		**06 06 11.2**	**-0.7**
TORD				IAmb		IAmb		06 06 17.5	
	comp=Z,6.8nm,0.8s								
TORD	**Torodi Ar. Bea**	**79.25**	**76**	P		**P**		**06 06 12.3**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=283,slow=6.1,SNR=14								
TORD				pP		**pP**		**06 06 37.0**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=282,slow=5.5,SNR=7.8								
	comp=Z,0.5nm,0.4s								
VNA1	**Neumayer--Stat**	**79.28**	**162**	⇑P		**P**		**06 06 12.7**	**+1.7**
	comp=Z,3.8nm,0.7s								
VNA2	**Neumayer--Watz**	**79.64**	**162**	⇑P		**P**		**06 06 14.0**	**+1.0**
	comp=Z,2.8nm,0.7s,baz=308,slow=9.9								
SUMG	**Summit**	**79.94**	**11**	P		**P**		**06 06 15.2**	**+0.1**
SUMG				IAmb		IAmb		06 06 46.5	
	comp=Z,16nm,1.0s								
SNAA	**Sanae**	**81.26**	**162**	⇑P		**P**		**06 06 22.7**	**+1.0**
	comp=Z,33nm,0.6s								
SNAA	**Sanae**	**81.26**	**162**	P		**P**		**06 06 23.0**	**+1.3**
	comp=Z,2.1nm,0.9s,baz=266,slow=7.3,SNR=13								
	comp=Z,2.1nm,0.9s								
TROLL	**Troll, Antarti**	**82.98**	**162**	⇑P		**P**		**06 06 32.3**	**+1.5**
	comp=Z,114nm,0.8s								
ILAR	**Eielson Array**	**85.23**	**336**	P		**P**		**06 06 43.4**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=142,slow=3.5,SNR=6.4								
	comp=Z,0.6nm,0.9s								
QSPA	**South Pole Qui**	**86.29**	**180**	P		**P**		**06 06 50.4**	**+2.9**
QSPA				IAmb		IAmb		06 06 51.7	
	comp=Z,10nm,1.1s								
QSPA	**South Pole Qui**	**86.29**	**180**	P		**P**		**06 06 50.4**	**+2.9**
	comp=Z,4.5nm,0.9s,baz=131,slow=1.8,SNR=16								
	comp=Z,4.5nm,0.9s								
TUE	**Stuetta**	**89.75**	**44**	P		**P**		**06 07 04.4**	**-0.1**
TUE				IAmb		IAmb		06 07 35.6	
	comp=Z,3.8nm,0.9s								
VNDA	**Vanda**	**92.88**	**191**	P		**P**		**06 07 19.8**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=127,slow=6.9,SNR=5.6								
	comp=Z,0.6nm,0.7s								
ZALV	**Zalesovo Beam**	**127.68**	**14**	PKP		**PKPdf**		**06 13 10.1**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=259,slow=2.4,SNR=8.2								
ZALV				pPKP		**pPKPdf**		**06 13 38.8**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=253,slow=1.1,SNR=1.9								
KURBB	**Kurchatov Arra**	**128.76**	**20**	PKP		**PKiKP**		**06 13 14.6**	**+1.2**
	comp=Z,1.0nm,0.4s,baz=320,slow=2.5,SNR=7.7								
STKA	**Stephens Creek**	**129.42**	**223**	PKP		**PKPdf**		**06 13 15.5**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=260,slow=2.1,SNR=3.5								
MKAR	**Makanchi Array**	**133.33**	**20**	PKP		**PKPdf**		**06 13 22.4**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=346,slow=1.7,SNR=3.0								
ASAR	**Alice Springs**	**139.83**	**226**	PKP		**PKPdf**		**06 13 34.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=103,slow=1.9,SNR=7.8								
WRA	**Warramunga Arr**	**141.72**	**231**	PKhKP		PKPpre		06 13 31.9	
	comp=Z,1.0nm,0.6s,baz=119,slow=2.6,SNR=7.8								
LZDM	**Lanzhou Array**	**147.99**	**360**	PKPbc		**PKPbc**		**06 13 52.6**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=46,slow=4.2,SNR=1.6								
FITZ	**Fitzroy Crossi**	**149.29**	**224**	PKPbc		**PKPbc**		**06 13 56.1**	**+1.1**
	comp=Z,4.3nm,0.6s,baz=115,slow=3.6,SNR=7.1								

IDC ***16*** *05:55:18.8±3.4,54°.43N×87°.00E,h0km, mbtmp3.2/2, ML2.5/2, Error ellipse: s-maj=31.4km s-min=19.8km az=50.0*

ASRS 16 05:55:20.0±0.9, 54°.32N×86°.77E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.21**	**253**	I	I	06 03 20.0	
	baz=70,slow=320,SNR=2.1						
ZALV	**Zalesovo Beam**	**1.21**	**253**	Pg	Pg	05 55 42.8	-0.3
	0.9nm,0.3s,baz=68,slow=16,SNR=11						
ZALV				Lg	Lg	05 56 02.4	
	0.6nm,0.3s,baz=67,slow=26,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.25**	**237**	Pn	Pn	05 56 56.5	+3.1
	0.1nm,0.3s,baz=50,slow=14,SNR=1.9						
	2.0nm,0.3s						
MKAR	**Makanchi Array**	**8.05**	**203**	Pn	Pn	05 57 19.9	+1.7
	0.1nm,0.3s,baz=24,slow=13,SNR=5.2						
	0.2nm,0.3s						

NOU 16 05:55:21.6, 10°.90S×161°.70E, h7km, MLv4.1/10, Solomon Islands, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HURO	**Huro Makira**	**0.48**	**25**	P	Pb	05 55 31.9	-0.4
HURO	**Huro Makira**	**0.48**	**25**	S	Sg	05 55 37.7	+0.6
NGOA	**Tingoa Renbel**	**1.73**	**248**	P	Pn	05 55 52.4	+0.2
NGOA	**Tingoa Renbel**	**1.73**	**248**	S	Sn	05 56 13.5	-1.0
ALEG	**Aligegeo Malai**	**2.35**	**335**	P	Pn	05 56 00.0	-0.7
ALEG	**Aligegeo Malai**	**2.35**	**335**	S	Sn	05 56 29.0	-0.8
SAVO	**Savo Central**	**2.55**	**313**	P	Pn	05 56 04.5	+1.1
SAVO	**Savo Central**	**2.55**	**313**	P	Sn	05 56 37.4	+2.7
TATA	**Tatamba Isabel**	**3.12**	**323**	P	Pn	05 56 12.4	+1.2
TATA	**Tatamba Isabel**	**3.12**	**323**	S	Sn	05 56 49.1	+0.3

MDD ***16*** *05:55:44.6±0.3, 37°.63N×6°.77W, h3km±2km, mb_Lg2.6/19, Error ellipse: s-maj=2.2km s-min=1.6km az=2.0*
IGIL ***16*** *05:55:45.3, 37°.63N×6°.77W, h3km, ML2.5*
INMG ***16*** *05:55:46.9±1.7, 37°.55N×6°.84W, h16km±3km, ML2.4, Error ellipse: s-maj=2.0km s-min=1.9km az=155.0, #DIST_RANGE: LOCAL #IPMA_REGION: NE Huelva (ESP)*
CNRM ***16*** *05:55:46.1, 37°.45N×6°.77W, h24km, ML2.3*
SFS ***16*** *05:55:46.9, 37°.54N×6°.83W, h13km, ML2.7/11, ML2.6/14, MLv2.5/14*

ISC 16 05:55:45.9±1.0, 37°.52N±0°.02×6°.82W±0°.02, h21km±2km, n66, σ1°.94/117, 1C, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMIN	**Mina Concepcio**	**0.28**	**24**	Sg	**Sb**	**05 55 56.2**	**-0.5**
EMIN				Pg	**Pb**	**05 55 52.4**	**+0.2**
EMIN	**Mina Concepcio**	**0.28**	**24**	Pg	**Pb**	**05 55 52.4**	**+0.2**
EMIN				Sg	**Sb**	**05 55 55.9**	**-0.8**
EMIN				*i* IVmb_Lg		05 55 56.9	
EGRO	**El Granado**	**0.53**	**272**	⇑Pg	**Pb**	**05 55 56.8**	**+0.3**
EGRO				Sg	**Sb**	**05 56 03.1**	**-0.6**
EGRO				*i* IVmb_Lg		05 56 04.5	
PBAR	**Barrancos**	**0.68**	**345**	Sg	**Sb**	**05 56 07.5**	**-0.6**
PBAR				Pg	**Pn**	**05 55 59.2**	**-1.0**
PBAR	**Barrancos**	**0.68**	**345**	*e*Pg	**Pn**	**05 55 59.2**	**-1.0**
PBAR				*e*Sg	**Sb**	**05 56 07.7**	**-0.4**
PBAR				*i* IAML		05 56 08.2	
PBAR				*i* IAML		05 56 09.4	
PBAR				*i* IAML		05 56 09.7	
PVAQ	**Vaqueiros**	**0.73**	**261**	*e*Pg	**Pn**	**05 56 00.2**	**-0.6**
PVAQ				*e*Sg	**Sb**	**05 56 09.5**	**+0.1**
PVAQ				*i* IAML		05 56 11.5	
PVAQ				*i* IAML		05 56 11.6	
PVAQ				*i* IAML		05 56 11.7	
PVAQ	**Vaqueiros**	**0.73**	**261**	P	**Pn**	**05 56 00.2**	**-0.6**
PVAQ	**Vaqueiros**	**0.73**	**261**	S	**Sn**	**05 56 11.3**	**0.0**
PBDV	**Barranco-do-Ve**	**0.93**	**253**	Pg	**Pn**	**05 56 03.4**	**-0.3**
PBDV				Sg	**Sn**	**05 56 16.0**	**-0.5**
PBDV	**Barranco-do-Ve**	**0.93**	**253**	*e*P	**Pn**	**05 56 03.5**	**-0.3**
PBDV				*e*S	**Sb**	**05 56 15.5**	**+0.3**
PBDV				*i* IAML		05 56 17.3	
PBDV				*i* IAML		05 56 17.5	
PBDV				*i* IAML		05 56 18.3	
PBEJ	**Beja**	**0.97**	**302**	*e*P	**Pb**	**05 56 04.0**	**-0.1**
PBEJ				*e*S	**Sn**	**05 56 16.7**	**-0.8**
PBEJ				*i* IAML		05 56 17.6	
PBEJ				*i* IAML		05 56 18.3	
PBEJ				*i* IAML		05 56 18.8	
PCVE	**Castro Verde**	**0.98**	**277**	Sg	**Sn**	**05 56 16.9**	**-0.7**
PCVE				Pg	**Pb**	**05 56 04.1**	**0.0**
PCVE	**Castro Verde**	**0.98**	**277**	*e*P	**Pb**	**05 56 04.1**	**0.0**
PCVE				*e*S	**Sn**	**05 56 17.0**	**-0.6**
PCVE				*i* IAML		05 56 18.1	
PCVE				*i* IAML		05 56 18.1	
PCVE				*i* IAML		05 56 18.5	
ESPR	**Espera**	**1.00**	**130**	Pg	**Pb**	**05 56 05.2**	**+0.7**
ESPR				Sg	**Sn**	**05 56 20.0**	**+1.8**
ESPR	**Espera**	**1.00**	**130**	Pg	**Pb**	**05 56 04.8**	**+0.3**
ESPR				Sg	**Sn**	**05 56 17.7**	**-0.5**
ESPR				*i* IVmb_Lg		05 56 22.5	
MESJ	**Messejana**	**1.16**	**287**	*e*P	**Pn**	**05 56 06.6**	**-0.2**
MESJ				*e*S	**Sn**	**05 56 21.4**	**-0.7**
MESJ				IAML		05 56 24.2	
	comp=N,43nm,0.1s						
MESJ	**Messejana**	**1.16**	**287**	*e*P	**Pn**	**05 56 06.7**	**-0.2**
MESJ				*e*S	**Sn**	**05 56 21.4**	**-0.7**
MESJ				*i* IAML		05 56 23.3	
MESJ				*i* IAML		05 56 24.2	
MESJ				*i* IAML		05 56 24.3	
ECAB	**El Cabril**	**1.24**	**63**	Pn	**Pn**	**05 56 06.9**	**-1.1**
ECAB				Sn	**Sb**	**05 56 24.4**	**+0.3**
ECAB	**El Cabril**	**1.24**	**63**	Pg	**Pn**	**05 56 06.9**	**-1.1**
ECAB				Sg	**Sb**	**05 56 23.4**	**-0.8**
ECAB				*i* IVmb_Lg		05 56 26.1	
EBAD	**Badajoz**	**1.25**	**353**	Pn	**Pb**	**05 56 08.2**	**-0.5**
EBAD				Sn	**Sb**	**05 56 23.9**	**-0.4**
EBAD	**Badajoz**	**1.25**	**353**	Pg	**Pn**	**05 56 08.5**	**-0.6**
EBAD				Sg	**Sn**	**05 56 21.6**	**-2.6**
EBAD				*i* IVmb_Lg		05 56 26.1	
EVO	**Evora**	**1.39**	**317**	Pn	**Pb**	**05 56 10.8**	**-0.3**
EVO				Sn	**Sb**	**05 56 28.7**	**+0.4**
EVO	**Evora**	**1.39**	**317**	*e*P	**Pn**	**05 56 09.7**	**-0.3**
EVO				*e*S	**Sb**	**05 56 29.0**	**+0.7**
EVO				*i* IAML		05 56 29.9	
EVO				*i* IAML		05 56 30.6	
EVO				*i* IAML		05 56 32.1	
MORF	**Marmelete**	**1.48**	**262**	*e*P	**Pn**	**05 56 11.1**	**-0.2**
MORF				*e*S	**Sb**	**05 56 31.0**	**+0.1**
MORF				IAML		05 56 33.4	
	comp=N,80nm,0.2s						
MORF	**Marmelete**	**1.48**	**262**	*e*Pn	**Pn**	**05 56 11.1**	**-0.2**
MORF				*e*Sg	**Sb**	**05 56 32.1**	**+1.1**
MORF				*i* IAML		05 56 34.2	
MORF				*i* IAML		05 56 35.6	
MORF				*i* IAML		05 56 35.8	
PESTR	**Estremoz**	**1.48**	**336**	Pn	**Pn**	**05 56 11.2**	**-0.1**
PESTR				Sn	**Sb**	**05 56 31.4**	**+0.4**
PESTR	**Estremoz**	**1.48**	**336**	*e*Pn	**Pb**	**05 56 11.6**	**-1.0**
PESTR				*e*Sg	**Sb**	**05 56 31.2**	**+0.2**
PESTR				*i* IAML		05 56 35.5	
PESTR				*i* IAML		05 56 35.7	
PESTR				*i* IAML		05 56 37.3	
PESTR	**Estremoz**	**1.48**	**336**	P	**Pb**	**05 56 12.2**	**-0.4**
PESTR	**Estremoz**	**1.48**	**336**	S	**Sb**	**05 56 31.6**	**+0.6**
EJIF	**Jimena Fronter**	**1.52**	**134**	Pn	**Pn**	**05 56 11.8**	**0.0**
EJIF				Sn	**Sn**	**05 56 31.2**	**+0.4**
PTEO	**Sao Teotonio**	**1.52**	**272**	*e*Pn	**Pn**	**05 56 11.8**	**+0.1**
PTEO				*e*Sg	**Sb**	**05 56 33.0**	**+0.9**
PTEO				*i* IAML		05 56 35.4	
PTEO				*i* IAML		05 56 37.7	
PTEO				*i* IAML		05 56 40.3	
PFVI	**Vila Bisbo**	**1.65**	**257**	Pn	**Pn**	**05 56 13.1**	**-0.5**
PFVI				Sn	**Sb**	**05 56 36.5**	**+0.7**
PFVI	**Vila Bisbo**	**1.65**	**257**	*e*Pn	**Pn**	**05 56 13.5**	**-0.1**
PFVI				*e*Sg	**Sb**	**05 56 37.5**	**+1.7**
PFVI				*i* IAML		05 56 40.2	
PFVI				*i* IAML		05 56 41.3	
PFVI				*i* IAML		05 56 41.4	
PFVI	**Vila Bisbo**	**1.65**	**257**	P	**Pb**	**05 56 15.2**	**-0.3**
PFVI	**Vila Bisbo**	**1.65**	**257**	S	**Sb**	**05 56 35.8**	**0.0**
PMTG	**Montargil**	**1.91**	**325**	*e*Pn	**Pn**	**05 56 16.9**	**-0.3**
PMTG				*e*Sg	**Sb**	**05 56 44.9**	**+1.6**
PMTG				*i* IAML		05 56 47.9	
PMTG				*i* IAML		05 56 49.0	
PMTG				*i* IAML		05 56 52.5	
PMRV	**Marv??o**	**1.96**	**347**	*e*Pn	**Pn**	**05 56 17.6**	**-0.3**
PMRV				*e*Sg	**Sb**	**05 56 46.0**	**+1.1**
PMRV				*i* IAML		05 56 49.0	
PMRV				*i* IAML		05 56 50.2	
PMRV				*i* IAML		05 56 52.3	
PARRA	**Arraiolos**	**2.18**	**307**	*e*Pn	Pn	05 56 12.7	-8.2
PARRA				*e*Sg	Sn	05 56 36.0	-11
PARRA				*i* IAML		05 56 39.6	
PARRA				*i* IAML		05 56 39.7	
PARRA				*i* IAML		05 56 40.7	
EGOR	**Sierra Gorda,**	**2.20**	**100**	Sn	**Sb**	**05 56 49.9**	**-1.8**
EGOR				Pn	**Pn**	**05 56 20.3**	**-0.9**
EGOR	**Sierra Gorda,**	**2.20**	**100**	Pn	**Pn**	**05 56 20.5**	**-0.7**
EGOR				Sn	**Sn**	**05 56 49.0**	**+1.1**
EGOR				*i* IVmb_Lg		05 56 58.6	
PSARD	**Sardoal**	**2.33**	**334**	*e*Pn	**Pn**	**05 56 22.7**	**-0.3**
PSARD				*e*Pg	**Pb**	**05 56 28.1**	**+0.9**
PSARD				*e*Sg	**Sb**	**05 56 57.5**	**+2.0**
PSARD				*i* IAML		05 57 01.0	
PSARD				*i* IAML		05 57 02.5	
PCBR	**Castelo Branco**	**2.38**	**348**	*e*Pn	**Pn**	**05 56 23.5**	**-0.1**
PCBR				*e*Sg	**Sb**	**05 56 58.7**	**+1.9**
PCBR				*i* IAML		05 57 01.9	
PCBR				*i* IAML		05 57 02.0	
PCBR				*i* IAML		05 57 07.2	
PMAFR	**Mafra**	**2.42**	**307**	Sn	**Sn**	**05 56 50.8**	**-2.3**
PMAFR	**Mafra**	**2.42**	**307**	*e*Sn	**Sn**	**05 56 51.5**	**-1.5**
PMAFR				*i* IAML		05 57 05.9	
PMAFR				*i* IAML		05 57 07.9	
PMAFR				*i* IAML		05 57 09.0	
PSBE	**So Bento**	**2.53**	**323**	*e*Sg	**Sb**	**05 57 04.5**	**+3.4**
PSBE				*i* IAML		05 57 09.0	
PSBE				*i* IAML		05 57 09.8	
ELGU	**Los Guajares,**	**2.63**	**103**	Pn	**Pn**	**05 56 27.1**	**0.0**
ELGU	**Los Guajares,**	**2.63**	**103**	Pn	**Pn**	**05 56 26.9**	**-0.3**
ELGU				Sn	**Sn**	**05 57 04.7**	**-1.0**
ELGU				*i* IVmb_Lg		05 57 06.6	
E0803	**Jimena (Jaen)**	**2.67**	**82**	Pn	**Pn**	**05 56 26.5**	**-1.2**
E0803				Sn	**Sn**	**05 56 59.4**	**-0.1**
E0803				Sg	**Sb**	**05 57 07.1**	**+1.8**
PSIM	**Granatula de C**	**2.74**	**61**	Pn	**Pn**	**05 56 27.5**	**-1.1**
PSIM				Sn	**Sn**	**05 56 58.6**	**-2.6**
PSIM				Sg	**Sb**	**05 57 09.3**	**+2.0**
PCAS	**Casmilo, Conde**	**2.85**	**333**	*e*Pn	**Pn**	**05 56 30.2**	**0.0**
PCAS				*e*Sg	**Sb**	**05 57 14.8**	**+4.3**
PCAS				*i* IAML		05 57 22.6	
PCAS				*i* IAML		05 57 23.4	
PCAS				*i* IAML		05 57 23.6	
MTE	**Manteigas**	**2.93**	**349**	*e*Sn	**Sn**	**05 57 04.3**	**-1.7**
MTE				*e*Sg	**Sb**	**05 57 15.8**	**+2.9**
MTE				*i* IAML		05 57 20.0	
MTE				*i* IAML		05 57 21.3	
MTE				*i* IAML		05 57 21.5	
EQES	**Quesada**	**2.98**	**83**	Pn	**Pn**	**05 56 31.2**	**-0.8**
EQES				Sn	**Sn**	**05 57 04.3**	**-3.0**
EQES				Sg	**Sb**	**05 57 18.5**	**+4.1**
EQES				*i* IVmb_Lg		05 57 21.2	
ESBB	**Sonseca Array**	**3.11**	**45**	Sg	**Sb**	**05 57 18.5**	**+0.7**
PVIS	**Viseu**	**3.30**	**346**	*e*Sg	**Sb**	**05 57 28.1**	**+4.6**
MVO	**Moncorvo**	**3.65**	**357**	*e*Pn	**Pn**	**05 56 41.0**	**-0.1**
MVO				*e*Sn	**Sn**	**05 57 20.9**	**-2.7**
MVO				*e*Sg	**Sb**	**05 57 39.0**	**+5.6**
POLO	**Lamas de Olo**	**3.92**	**349**	*e*Pn	**Pn**	**05 56 44.6**	**-0.4**
POLO				*e*Sn	**Sn**	**05 57 26.2**	**-4.2**
POLO				*e*Sg	**Sb**	**05 57 48.2**	**+6.7**
POLO				*i* IAML		05 57 52.6	
POLO				*i* IAML		05 57 53.1	
POLO				*i* IAML		05 57 55.2	
PBRG	**Braganca**	**4.28**	**1**	*e*Sn	**Sn**	**05 57 35.4**	**-3.8**
PBRG				*e*Sg	**Sb**	**05 57 58.6**	**+6.9**
ELOB	**Lobios**	**4.45**	**348**	Pn	**Pn**	**05 56 50.8**	**-1.4**
ELOB				Sn	**Sn**	**05 57 39.0**	**-4.3**
ELOB				Sg	**Sb**	**05 58 04.4**	**+7.9**
ELOB				*i* IVmb_Lg		05 58 09.7	
PGAV	**Gavieira, Arco**	**4.58**	**346**	*e*Pn	**Pn**	**05 56 53.9**	**-0.1**
PGAV				*i* IAML		05 58 09.5	
PGAV				*e*Sg	Sb	05 58 10.6	+10
PGAV				*i* IAML		05 58 11.0	
PGAV				*i* IAML		05 58 18.9	
MD31	**MD31**	**4.94**	**159**	P	**Pn**	**05 56 57.8**	**-1.1**
MD31	**MD31**	**4.94**	**159**	S	**Sn**	**05 57 56.3**	**+0.9**
MDT	**Midelt**	**5.03**	**158**	P	**Pn**	**05 56 59.0**	**-1.1**
MDT	**Midelt**	**5.03**	**158**	S	**Sn**	**05 57 58.2**	**+0.5**
TIO	**Tiouine**	**6.58**	**183**	P	**Pn**	**05 57 21.3**	**-0.3**
TIO	**Tiouine**	**6.58**	**183**	S	**Sn**	**05 58 32.6**	**-3.5**
OUZM	**OUZ**	**6.59**	**180**	P	**Pn**	**05 57 21.3**	**-0.4**

UCR ***16*** *06:11:45.9±1.4, 12°.59N×87°.74W, h106km±22km, MW4.0*
CATAC ***16*** *06:11:45.5±0.5, 12°.N±3°.×8°.8W±°, h20km±3km, M3.7/25, MLv3.7/25, Error ellipse: s-maj=5.9km s-min=1.8km az=26.1, confirmed*
SNET ***16*** *06:11:47.7±1.5, 12°.28N×87°.95W, h36km, ML3.6*
GCG ***16*** *06:11:48.0±0.3, 12°.28N×88°.64W, h164km±13km, MD4.1*

ISC 16 06:11:42.1±1.3, 12°.16N±0°.05×87°.98W±0°.03, h5km±10km, n85, σ1°.21/104, 6C-8D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**1.05**	**59**	⇑*e*P	**Pn**	**06 12 04.5**	**+0.8**
CRIN				*e*S	**Sn**	**06 12 19.4**	**+0.7**
CRIN	**San Cristobal**	**1.05**	**59**	S	**Sn**	**06 12 18.8**	**0.0**
CRIN	**San Cristobal**	**1.05**	**59**	⇑P	**Pn**	**06 12 04.6**	**+1.0**
PKGN	**Cerro Pekin**	**1.10**	**62**	⇑P	**Pn**	**06 12 04.8**	**+0.6**
PKGN				S	**Sn**	**06 12 19.6**	**-0.2**
CNCH	**Conchagua**	**1.12**	**7**	*e*P	**Pn**	**06 12 05.8**	**+1.1**
CNCH				*e*S	**Sn**	**06 12 20.8**	**+0.3**
CNCH	**Conchagua**	**1.12**	**7**	S	**Sn**	**06 12 21.1**	**+0.6**
CNCH	**Conchagua**	**1.12**	**7**	⇑P	**Pn**	**06 12 05.7**	**+1.1**
LCND	**La Caada**	**1.15**	**4**	*e*P	**Pn**	**06 12 06.1**	**+1.2**
LCND	**La Caada**	**1.15**	**4**	⇑P	**Pn**	**06 12 06.2**	**+1.3**
CNGA	**Al SSO del Vol**	**1.29**	**75**	⇓P	**Pg**	**06 12 07.1**	**+0.2**
CNGA				S	**Sn**	**06 12 23.5**	**-1.0**
CNGN	**Cerro Negro**	**1.29**	**75**	*e*P	**Pg**	**06 12 06.9**	**-0.1**
CNGN	**Cerro Negro**	**1.29**	**75**	S	**Sn**	**06 12 24.2**	**-0.5**
CNGN	**Cerro Negro**	**1.29**	**75**	⇓P	**Pg**	**06 12 07.2**	**+0.3**
VSM	**San Miguel**	**1.30**	**347**	*e*P	**Pg**	**06 12 08.8**	**+1.8**
BLLM	**Bellamira**	**1.30**	**349**	*e*P	**Pg**	**06 12 08.5**	**+1.4**
CNRM	**Centro Naciona**	**1.32**	**352**	P	**Pg**	**06 12 08.9**	**+1.4**
CNRM	**Centro Naciona**	**1.32**	**352**	S	**Sn**	**06 12 27.1**	**+1.8**
PACA	**Pacayal**	**1.35**	**345**	*e*P	**Pg**	**06 12 09.4**	**+1.5**
PACA				*e*S	**Sn**	**06 12 26.5**	**+0.4**
PACA	**Pacayal**	**1.35**	**345**	S	**Sn**	**06 12 27.1**	**+1.0**
PACA	**Pacayal**	**1.35**	**345**	⇑P	**Pg**	**06 12 09.6**	**+1.6**
COPN	**Copaltepe**	**1.35**	**89**	⇓*i*P	**Pb**	**06 12 07.7**	**-0.3**
COPN				*e*S	**Sg**	**06 12 26.2**	**+0.6**
**

0.3nm,0.8s

IDC ***16*** *06:30:19.3±3.2,54°.47N×86°.99E,h0km,mbtmp2.9/2, ML2.8/2,Error ellipse: s-maj=29.6km s-min=19.0km az=56.0*

ASRS 16 06:30:20.0±1.7,54°.42N×86°.82E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**249**	I	I	06 38 40.0	
	baz=68,slow=321,SNR=2.5						
ZALV	**Zalesovo Beam**	**1.27**	**249**	Pg	Pg	06 30 43.9	-0.4
	1.7nm,0.3s,baz=66,slow=16,SNR=16						
ZALV				Lg	Lg	06 31 03.0	
	1.6nm,0.3s,baz=64,slow=25,SNR=5.7						
KURBB	**Kurchatov Arra**	**6.33**	**236**	Pn	Pn	06 31 56.4	+1.9
	0.2nm,0.3s,baz=53,slow=14,SNR=14						
	1.5nm,0.5s						
MKAR	**Makanchi Array**	**8.16**	**202**	Pn	Pn	06 32 20.8	+1.2
	0.1nm,0.3s,baz=26,slow=14,SNR=4.0						
MKAR				Lg	Lg	06 34 40.9	
	0.1nm,0.3s,baz=22,slow=31,SNR=1.0						
	0.1nm,0.3s						

IDC ***16*** *06:33:13.8±0.6,17°.63S×178°.73W,h518km±6km,mb4.1/22, mbtmp4.9/24,Error ellipse: s-maj=11.5km s-min=8.5km az=111.0*

NOU ***16*** *06:33:15.9±1.7,17°.62S±0°.07×178°.70W±0°.09, h539km±7km,mb4.6/419,Error ellipse: s-maj=14.2km s-min=6.8km az=127.0*

ISC 16 06:33:15.7±0.2,17°.64S±0°.04×178°.67W±0°.04,h547km, n868,σ1s01/811,mb4.6/262,33C-22D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.61**	**193**	P	P	06 34 21.7	+0.8
TAVE	**Taveuni**	**1.50**	**308**	P	P	06 34 24.1	+0.8
DGTI	**Dogotuki**	**2.03**	**311**	P	P	06 34 25.7	+0.3
MSVF	**Nonsavu**	**3.13**	**268**		P	06 34 32.8	+1.4
MSVF	**Nonsavu**	**3.13**	**268**	P	P	06 34 32.9	+1.4
FUTU	**Fugatoga**	**3.35**	**9**		P	06 34 32.9	0.0
FUTU	**Fugatoga**	**3.35**	**9**	P	P	06 34 33.1	+0.2
AFI	**Afiamalu**	**7.60**	**62**		P	06 35 07.2	-2.4
AFI	**Afiamalu**	**7.60**	**62**	P	P	06 35 06.9	-2.7
AFI	**Afiamalu**	**7.60**	**62**	P	P	06 35 06.6	-2.9
AFI				S	S	06 36 36.9	-5.8
NIUE	**Niue**	**8.42**	**101**	P	P	06 35 17.4	-0.1
	comp=Z,1μm,0.6s						
NIUE	**Niue**	**8.42**	**101**		P	06 35 17.3	-0.3
NIUE	**Niue**	**8.42**	**101**	P	P	06 35 17.7	+0.1
NIUE	**Niue**	**8.42**	**101**	P	S	06 36 58.7	+1.1
NIUE	**Niue**	**8.42**	**101**	P	P	06 35 17.7	+0.1
NIUE				S	S	06 37 00.3	+2.7
FUNA	**Funafuti**	**9.29**	**347**		P	06 35 25.3	-1.3
FUNA	**Funafuti**	**9.29**	**347**	P	P	06 35 25.5	-1.0
RAO	**Raoul Island**	**11.58**	**177**	P	P	06 35 47.4	-2.4
RAO	**Raoul Island**	**11.58**	**177**	P	P	06 35 46.8	-3.0
	comp=Z,292nm,0.3s,baz=86,slow=11,SNR=4.5						
RAO				S	S	06 37 55.8	-0.8
	comp=Z,229nm,0.4s,baz=269,slow=24,SNR=2.7						
GLKZ	**Green Lake**	**11.59**	**177**	P	P	06 35 47.6	-2.3
GLKZ				S	S	06 37 55.4	-1.4
INH	**Isangel**	**11.59**	**259**	P	P	06 35 51.3	+1.2
DVP	**Devils Point**	**12.53**	**268**	P	P	06 35 59.7	-0.1
SANVU	**Saraoutou**	**13.72**	**277**		P	06 36 10.6	-1.6
SANVU	**Saraoutou**	**13.72**	**277**	P	P	06 36 11.1	-1.1
PINNC	**Pines Island,**	**13.95**	**247**		P	06 36 13.6	-0.8
PINNC	**Pines Island,**	**13.95**	**247**	P	P	06 36 13.7	-0.7
OUENC	**Ouen Island, N**	**14.42**	**248**	P	P	06 36 18.3	-1.0
DZM	**Mont Dzumac**	**14.69**	**250**		P	06 36 21.1	-1.1
DZM	**Mont Dzumac**	**14.69**	**250**	P	P	06 36 20.8	-1.4
	comp=Z,42nm,0.7s,baz=141,slow=22,SNR=24						
DZM				S	S	06 38 54.9	-0.9
	comp=Z,9.5nm,0.9s,baz=152,slow=18,SNR=1.4						
DZM	**Mont Dzumac**	**14.69**	**250**	P	P	06 36 21.0	-1.1
ONTNC	**Ouen Toro**	**14.74**	**249**		P	06 36 21.6	-1.0
ONTNC	**Ouen Toro**	**14.74**	**249**	P	P	06 36 21.2	-1.4
KOUNC	**Koumac, New Ca**	**16.37**	**257**	P	P	06 36 38.7	-0.2
RAR	**Rarotonga**	**18.17**	**104**	P	P	06 36 55.5	+0.2
RAR	**Rarotonga**	**18.17**	**104**	P	P	06 36 54.9	-0.4
	comp=Z,24nm,0.7s,baz=242,slow=9.2,SNR=5.6						
OUZ	**Omahuta**	**18.82**	**200**	P	P	06 37 03.2	+2.1
WCZ	**Waipu Caves**	**19.25**	**197**	P	P	06 37 07.2	+2.2
GRZ	**Great Barrier**	**19.26**	**195**	P	P	06 37 06.0	+1.0
KUZ	**Kuaotunu**	**19.67**	**194**	P	P	06 37 10.0	+1.2
KUZ	**Kuaotunu**	**19.67**	**194**	P	P	06 37 10.1	+1.2
ABAZ	**Army Bay**	**19.75**	**196**	P	P	06 37 11.9	+2.4
WIAZ	**Waiheke Island**	**19.85**	**195**	P	P	06 37 10.8	+0.3
MBAZ	**Motutapu North**	**19.89**	**195**	P	P	06 37 13.0	+2.2
MXZ	**Matakaoa Point**	**20.03**	**187**	P	P	06 37 10.7	-1.3
ETAZ	**East Tamaki Re**	**20.05**	**195**	P	P	06 37 13.4	+1.1
WTAZ	**Waiatarua**	**20.13**	**196**	P	P	06 37 15.0	+2.0
MKAZ	**Moumakai**	**20.14**	**194**	P	P	06 37 14.5	+1.5
AWAZ	**Awhitu Peninsu**	**20.23**	**196**	P	P	06 37 15.5	+1.6
HAZ	**Te Kaha**	**20.29**	**188**	P	P	06 37 13.5	-0.8
RUGZ	**Raukumara Rang**	**20.50**	**188**	P	P	06 37 14.0	-2.5
TARA	**Tarawa**	**20.61**	**335**	P	P	06 37 17.2	-0.4
TARA	**Tarawa**	**20.61**	**335**	P	P	06 37 17.2	-0.4
TOZ	**Tahuroa Road**	**20.66**	**193**	P	P	06 37 19.2	+1.4
URZ	**Urewera**	**20.88**	**189**	P	P	06 37 17.2	-2.5
	comp=Z,19nm,0.5s,baz=311,slow=0.7,SNR=26						
URZ				S	S	06 40 30.7	-6.3
	comp=Z,9.9nm,0.8s,baz=163,slow=19,SNR=2.1						
	comp=Z,19nm,0.5s						
URZ	**Urewera**	**20.88**	**189**	P	P	06 37 18.8	-0.9
URZ	**Urewera**	**20.88**	**189**	P	P	06 37 17.6	-2.1
MWZ	**Matawai**	**20.89**	**188**	P	P	06 37 18.2	-1.7
MWZ				S	S	06 40 34.2	-3.1
RIGZ	**Rimuhau**	**21.22**	**188**	P	P	06 37 22.4	-0.5
RIGZ				S	S	06 40 46.0	+3.4
MTHZ	**Maungataniwha**	**21.50**	**190**	P	P	06 37 24.1	-1.3
BKZ	**Black Stump Fm**	**21.86**	**190**	P	P	06 37 26.1	-2.6
ALEG	**Aligegeo Malai**	**21.93**	**291**	P	P	06 37 29.9	+0.4
VRZ	**Vera Road**	**22.16**	**194**	P	P	06 37 32.5	+1.2
HNR	**Honiara**	**22.32**	**289**	P	P	06 37 32.9	-0.1
SAVO	**Savo Central**	**22.55**	**289**	P	P	06 37 36.5	+1.4
TATA	**Tatamba Isabel**	**22.88**	**291**	P	P	06 37 37.8	-0.2
QRZ	**Quartz Range**	**24.32**	**196**	P	P	06 37 50.5	0.0
RPZ	**Rata Peaks**	**27.41**	**196**	P	P	06 38 16.8	-0.9
	comp=Z,9.4nm,0.4s,baz=24,slow=3.2,SNR=5.1						
	comp=Z,9.4nm,0.4s						
PPT	**Papeete**	**27.72**	**94**	P	P	06 38 21.8	+1.0
	comp=Z,32nm,0.7s,baz=266,slow=23,SNR=2.4						
	comp=Z,32nm,0.7s						
XMAS	**Kiritimati**	**28.64**	**49**	P	P	06 38 28.9	+0.2
TW1H	**Toowoomba 1 Ha**	**28.78**	**245**	P	P	06 38 30.5	+0.5
EIDS	**Eidsvold**	**29.13**	**249**	P	P	06 38 31.9	-1.1
	comp=Z,110nm,0.8s						
EIDS	**Eidsvold**	**29.13**	**249**	P	P	06 38 32.2	-0.7
EIDS	**Eidsvold**	**29.13**	**249**	P	P	06 38 32.4	-0.5
ARMA	**Armidale**	**29.87**	**239**	P	P	06 38 40.1	+0.7
	comp=Z,153nm,1.0s						
ARMA	**Armidale**	**29.87**	**239**	P	P	06 38 40.1	+0.7
ARMA	**Armidale**	**29.87**	**239**	P	P	06 38 40.1	+0.7
NTLH	**Newcastle Hard**	**30.67**	**235**	P	P	06 38 47.1	+1.0
MGCD	**Mangrove Creek**	**31.25**	**234**	P	P	06 38 51.8	+0.7
	comp=Z,129nm,0.8s						
MGCD	**Mangrove Creek**	**31.25**	**234**	P	P	06 38 52.1	+1.0
SYDH	**Sydney Hard Ro**	**31.74**	**234**	P	P	06 38 56.1	+0.8
TV1H	**Townsville Har**	**32.77**	**262**	P	P	06 39 03.6	-0.6
CTA	**Charters Tower**	**33.25**	**260**	P	P	06 39 07.8	-0.5
CTAO	**Charters Tower**	**33.25**	**260**	P	P	06 39 08.1	-0.2
CTAO	**Charters Tower**	**33.25**	**260**	P	P	06 39 08.3	0.0
CNB	**Canberra Magne**	**33.40**	**232**	P	P	06 39 10.0	+0.6
	comp=Z,146nm,0.7s						
CNB	**Canberra Magne**	**33.40**	**232**	P	P	06 39 09.8	+0.4
CAN	**Canberra**	**33.67**	**232**	P	P	06 39 11.6	-0.1
	comp=Z,70nm,1.0s						
CAN	**Canberra**	**33.67**	**232**	P	P	06 39 12.3	+0.6
CAN	**Canberra**	**33.67**	**232**	P	P	06 39 12.1	+0.4
YNG	**Young**	**33.75**	**234**	P	P	06 39 12.8	+0.5
	comp=Z,25nm,1.4s						
PMG	**Port Moresby**	**34.17**	**279**	P	P	06 39 16.4	+0.4
PMG	**Port Moresby**	**34.17**	**279**	P	P	06 39 16.8	+0.7
CMSA	**Cobar Meteorol**	**35.07**	**240**	P	P	06 39 23.3	-0.1
	comp=Z,164nm,0.8s						
CMSA	**Cobar Meteorol**	**35.07**	**240**	P	P	06 39 23.1	-0.3
MTSU	**Mount Surprise**	**35.20**	**263**	P	P	06 39 23.6	-1.0
	comp=Z,45nm,0.9s						
MTSU	**Mount Surprise**	**35.20**	**263**	P	P	06 39 24.2	-0.4
JOHN	**Johnston Islan**	**35.32**	**15**	P	P	06 39 25.4	-0.1
JOHN	**Johnston Islan**	**35.32**	**15**	P	P	06 39 26.0	+0.5
QLP	**Quilpie**	**35.40**	**249**	P	P	06 39 25.6	-0.5
	comp=Z,412nm,1.3s						
QLP	**Quilpie**	**35.40**	**249**	P	P	06 39 25.9	-0.3
MANU	**Manus Island**	**36.77**	**291**	P	P	06 39 38.3	+0.6
COEN	**Coen**	**36.86**	**270**	P	P	06 39 38.5	+0.2
	comp=Z,132nm,0.9s						
COEN	**Coen**	**36.86**	**270**	P	P	06 39 38.5	+0.2
COEN	**Coen**	**36.86**	**270**	P	P	06 39 38.3	-0.1
TOO	**Toolangi**	**37.15**	**230**	P	P	06 39 40.7	+0.2
	comp=Z,59nm,0.9s						
TOO	**Toolangi**	**37.15**	**230**	P	P	06 39 41.1	+0.7
CORO	**Coronation Par**	**37.67**	**224**	P	P	06 39 45.8	+1.2
TAU	**Tasmania Unive**	**38.28**	**222**	P	P	06 39 49.5	0.0
BRAT	**Ballarat**	**38.30**	**231**	P	P	06 39 51.0	+1.3
STKA	**Stephens Creek**	**38.55**	**241**	P	P	06 39 52.1	+0.2
	comp=Z,606nm,1.6s						
STKA	**Stephens Creek**	**38.55**	**241**	P	P	06 39 52.4	+0.6
STKA	**Stephens Creek**	**38.55**	**241**	P	P	06 39 52.1	+0.2
	comp=Z,62nm,0.5s,baz=91,slow=10,SNR=152						
	comp=Z,62nm,0.5s						
STKA	**Stephens Creek**	**38.55**	**241**	P	P	06 39 52.5	+0.6
INKA	**Innaminka**	**38.62**	**248**	P	P	06 39 53.1	+0.6
WAKE	**Wake Island**	**39.42**	**338**	P	P	06 39 59.2	+0.2
QIS	**Mount Isa**	**39.47**	**259**	P	P	06 39 58.0	-1.5
	comp=Z,22nm,0.8s						
QIS	**Mount Isa**	**39.47**	**259**	P	P	06 39 58.7	-0.8
ARPS	**Mount Arapiles**	**39.62**	**233**	P	P	06 40 00.2	-0.3
	comp=Z,26nm,1.4s						
HTT	**Hallett**	**41.07**	**239**	P	P	06 40 12.3	+0.1
	comp=Z,37nm,1.2s						
HTT	**Hallett**	**41.07**	**239**	P	P	06 40 12.3	+0.1
PTPS	**Port Pirie**	**41.78**	**240**	P	P	06 40 18.4	+0.7
WHYH	**Whyalla**	**42.10**	**240**	P	P	06 40 20.7	+0.5
JAY	**Jayapura**	**42.60**	**286**	P	P	06 40 24.5	+0.1
	comp=Z,1μmcomp=Z,114nm,1.2s						
GENI	**Genyem**	**43.06**	**286**	P	P	06 40 29.0	+1.0
GENI	**Genyem**	**43.06**	**286**	P	P	06 40 28.2	+0.2
BBOO	**Buckleboo**	**43.32**	**241**	P	P	06 40 29.6	-0.2
	comp=Z,220nm,1.0s						
BBOO	**Buckleboo**	**43.32**	**241**	P	P	06 40 30.2	+0.3
BBOO	**Buckleboo**	**43.32**	**241**	P	P	06 40 29.9	+0.1
STCH	**Steam Cracks**	**43.46**	**33**	P	P	06 40 31.7	+0.7
POHA	**Pohakuloa**	**43.55**	**32**	P	P	06 40 32.5	+0.5
HPAH	**Hawaii Prepara**	**43.70**	**32**	P	P	06 40 33.6	+0.8
MHA	**Mahukona**	**43.73**	**32**	P	P	06 40 33.4	+0.4
WR8	**Warramunga Arr**	**44.29**	**259**	P	P	06 40 36.4	-1.1
WB0	**Warramunga Arr**	**44.41**	**260**	P	P	06 40 37.2	-1.2
WB2	**Warramunga Arr**	**44.43**	**259**	P	P	06 40 37.5	-1.1
WRAB	**Tennant Creek**	**44.43**	**259**	P	P	06 40 37.4	-1.2
WRA	**Warramunga Arr**	**44.44**	**259**	P	P	06 40 37.3	-1.4
	comp=Z,31nm,0.6s,baz=94,slow=7.1,SNR=408						
WRA				PcP	PcP	06 42 10.8	+0.4
	comp=Z,8.3nm,0.7s,baz=90,slow=3.6,SNR=6.4						
WRA				ScP	ScP	06 45 13.2	+2.6
	comp=Z,4.1nm,0.9s,baz=85,slow=4.7,SNR=6.0						
WRA				S	S	06 46 29.4	-4.8
	comp=Z,0.4nm,0.7s,baz=100,slow=14,SNR=1.6						
	comp=Z,31nm,0.6s						
AS31	**Alice Springs**	**44.63**	**254**	P	P	06 40 39.6	-0.5
ASAR	**Alice Springs**	**44.63**	**254**	P	P	06 40 39.6	-0.5
	comp=Z,327nm,0.5s,baz=88,slow=8.0,SNR=3548						
ASAR				PcP	PcP	06 42 11.6	+0.5
	comp=Z,8.3nm,0.4s,baz=96,slow=5.0,SNR=5.0						
ASAR				ScP	ScP	06 45 13.8	+2.4
	comp=Z,3.8nm,0.8s,baz=104,slow=4.0,SNR=7.2						
ASAR				S	S	06 46 33.3	-3.5
	comp=Z,3.8nm,0.8s,baz=89,slow=16,SNR=12						
SMPI	**Sarmi**	**44.63**	**286**	P	P	06 40 40.9	+0.7
	comp=Z,167nm,0.7s						
KDU	**Kakadu**	**47.32**	**269**	P	P	06 40 59.9	-0.6
	comp=Z,182nm,0.7s						
KDU	**Kakadu**	**47.32**	**269**	P	P	06 41 00.0	-0.6
BAKI	**Biak**	**47.34**	**285**	P	P	06 41 01.9	+1.2
	comp=Z,2μmcomp=Z,212nm,0.8s						
MTN	**Manton Dam**	**48.56**	**268**	P	P	06 41 08.5	-1.3
	comp=Z,112nm,0.8s						
MTN	**Manton Dam**	**48.56**	**268**	P	P	06 41 09.2	-0.7
MTN	**Manton Dam**	**48.56**	**268**	P	P	06 41 09.1	-0.7
DRS	**Darwin Rock St**	**48.87**	**269**	P	P	06 41 11.8	-0.4
RKPI	**Ransiki, Papua**	**49.00**	**284**	P	P	06 41 14.3	+1.2
WRKA	**Warakurna**	**49.70**	**252**	P	P	06 41 17.6	-0.5
	comp=Z,166nm,1.0s						
KNRA	**Kununurra**	**50.27**	**264**	P	P	06 41 21.6	-0.8
	comp=Z,160nm,0.8s						
KNRA	**Kununurra**	**50.27**	**264**	P	P	06 41 22.2	-0.3
FAKI	**Fak Fak**	**50.29**	**281**	P	P	06 41 22.8	+0.2
SWI	**Sorong**	**51.94**	**283**	P	P	06 41 34.5	-0.1
SOEI	**Soe**	**55.83**	**270**	P	P	06 42 02.1	0.0
SOEI	**Soe**	**55.83**	**270**	P	P	06 42 02.7	+0.6
SOEI	**Soe**	**55.83**	**270**	P	P	06 42 01.7	-0.4
TNTI	**Ternate**	**56.16**	**283**	P	P	06 42 04.5	+0.1
TNTI	**Ternate**	**56.16**	**283**	P	P	06 42 05.3	+1.0
TNTI	**Ternate**	**56.16**	**283**	P	P	06 42 04.4	+0.1
	comp=Z,108nm,0.8s						
SANI	**Sanana**	**56.46**	**279**	P	P	06 42 06.1	-0.2
SANI	**Sanana**	**56.46**	**279**	P	P	06 42 05.5	-0.8
	comp=Z,1μmcomp=Z,127nm,0.8s						
PSAC2	**Pilbara Seismi**	**57.69**	**255**	P	P	06 42 14.2	-0.5
	comp=Z,126nm,0.8s						
PSAB3	**Pilbara Seismi**	**57.73**	**255**	P	P	06 42 14.0	-1.0
	comp=Z,128nm,1.0s						
PSA00	**Pilbara Seismi**	**57.74**	**255**	P	P	06 42 13.9	-1.2
	comp=Z,128nm,1.0s						
PSA00	**Pilbara Seismi**	**57.74**	**255**	P	P	06 42 14.6	-0.5
PSA00	**Pilbara Seismi**	**57.74**	**255**	P	P	06 42 13.8	-1.2
PSA00				IAmb	IAmb	06 42 15.4	
	comp=Z,38nm,0.9s						
PSA00	**Pilbara Seismi**	**57.74**	**255**	P	P	06 42 14.5	-0.5
PSAC1	**Pilbara Seismi**	**57.78**	**255**	P	P	06 42 14.4	-0.9
	comp=Z,117nm,0.8s						
MBWA	**Marble Bar**	**57.90**	**256**	P	P	06 42 15.2	-0.9
	comp=Z,76nm,0.9s						
MBWA	**Marble Bar**	**57.90**	**256**	P	P	06 42 15.7	-0.5
MBWA				IAmb	IAmb	06 42 16.5	
	comp=Z,44nm,0.8s						
MBWA	**Marble Bar**	**57.90**	**256**	P	P	06 42 15.6	-0.5
MEEK	**Meekatharra**	**58.30**	**249**	P	P	06 42 17.7	-1.0
	comp=Z,74nm,0.8s						
MEEK	**Meekatharra**	**58.30**	**249**	P	P	06 42 18.1	-0.7
NWAO	**Narrogin (SRO)**	**59.12**	**242**	P	P	06 42 23.9	-0.3
NWAO				IAmb	IAmb	06 42 24.6	
	comp=Z,54nm,1.4s						
BLDU	**Ballidu**	**59.68**	**244**	P	P	06 42 27.0	-0.9
	comp=Z,55nm,0.9s						
BLDU	**Ballidu**	**59.68**	**244**	P	P	06 42 27.1	-0.8
LUWI	**Luwuk**	**59.82**	**279**	P	P	06 42 29.0	-0.1
MUN	**Mundaring**	**60.03**	**243**	P	P	06 42 29.7	-0.5
	comp=Z,44nm,1.0s						
MUN	**Mundaring**	**60.03**	**243**	P	P	06 42 30.4	+0.2
MORW	**Morawa**	**60.37**	**246**	P	P	06 42 31.5	-1.0
	comp=Z,55nm,0.7s						
MORW	**Morawa**	**60.37**	**246**	P	P	06 42 32.2	-0.3
MORW	**Morawa**	**60.37**	**246**	P	P	06 42 31.9	-0.6
SBA	**Scott Base**	**60.67**	**184**	P	P	06 42 35.1	+1.5
VNDA	**Vanda**	**60.69**	**185**	P	P	06 42 35.4	+1.6
VNDA	**Vanda**	**60.69**	**185**	P	P	06 42 35.2	+1.4
	comp=Z,1.6nm,0.5s,baz=347,slow=6.9,SNR=16						
	comp=Z,1.6nm,0.5s						
APSI	**Ampana**	**60.92**	**279**	P	P	06 42 37.4	+1.0
	comp=Z,2μmcomp=Z,134nm,1.2s						
BNSI	**Bone**	**61.28**	**275**	P	P	06 42 39.3	+0.6
	comp=Z,2μmcomp=Z,101nm,1.1s						
KAPI	**Kappang**	**61.43**	**274**	P	P	06 42 38.7	-1.0
KAPI				IAmb	IAmb	06 42 40.0	
	comp=Z,21nm,0.7s						
KAPI	**Kappang**	**61.43**	**274**	P	P	06 42 40.3	+0.6
PLAI	**Plampang**	**62.25**	**269**	P	P	06 42 45.1	0.0
TOLI2	**Tolitoli**	**62.42**	**281**	P	P	06 42 45.9	-0.3
TOLI2				IAmb	IAmb	06 42 50.0	
	comp=Z,24nm,0.7s						
TOLI2	**Tolitoli**	**62.42**	**281**	P	P	06 42 46.5	+0.3
GIRL	**Giralia**	**62.74**	**253**	P	P	06 42 48.0	0.0
	comp=Z,62nm,1.0s						
GIRL	**Giralia**	**62.74**	**253**	P	P	06 42 49.1	+1.0
JAGI	**Jajag, Banyuwa**	**65.80**	**268**	P	P	06 43 06.8	-0.9
JAGI	**Jajag, Banyuwa**	**65.80**	**268**	P	P	06 43 06.5	-1.1
MYLDM	**Lahad Datu**	**66.01**	**284**	P	P	06 43 08.7	-0.2
MYLDM	**Lahad Datu**	**66.01**	**284**	P	P	06 43 10.0	+1.1
CASY	**Casey**	**66.28**	**205**	P	P	06 43 10.4	+0.8
CASY				IAmb	IAmb	06 43 11.1	
	comp=Z,20nm,1.1s						
JMM	**Marumori**	**67.08**	**326**	P	P	06 43 15.2	+0.2
JGF	**Kuroka**	**67.38**	**322**	P	P	06 43 16.6	-0.4
JGF				IAmb	IAmb	06 43 23.6	
	comp=Z,46nm,1.5s						
MJAR	**Matsushiro Arr**	**67.55**	**323**	P	P	06 43 13.1	-4.9
MJAR	**Matsushiro Arr**	**67.55**	**323**	P	P	06 43 17.8	-0.1
	comp=Z,4.9nm,0.5s,baz=151,slow=6.3,SNR=9.8						
	comp=Z,4.9nm,0.5s						
MAJO	**Matsushiro**	**67.55**	**323**	P	P	06 43 14.3	-3.6
MAJO				IAmb	IAmb	06 43 24.1	
	comp=Z,17nm,0.6s						
MAJO	**Matsushiro**	**67.55**	**323**	P	P	06 43 18.1	+0.2
MJB9	**Matsu-Tunnel**	**67.55**	**323**	P	P	06 43 13.7	-4.2
MJB9				IAmb	IAmb	06 43 24.1	
	comp=Z,16nm,0.6s						
JOW	**Kunigami**	**67.86**	**310**	P	P	06 43 18.1	-1.9
JMN	**Monobe**	**68.23**	**319**	P	P	06 43 22.4	+0.2
JMN				IAmb	IAmb	06 43 24.7	
	comp=Z,30nm,1.0s						
KKM	**Kota Kinabalu**	**68.44**	**284**	P	P	06 43 24.2	+0.2
KKM	**Kota Kinabalu**	**68.44**	**284**	P	P	06 43 24.4	+0.5
ADK	**Adak**	**69.25**	**1**	P	P	06 43 28.1	+0.3
UGM	**Wanagama**	**69.41**	**268**	P	P	06 43 29.6	-0.1
ATKA	**Atka Island**	**69.65**	**3**	P	P	06 43 30.3	+0.1
ATKA	**Atka Island**	**69.65**	**3**	P	P	06 43 30.1	-0.1
SBUM	**Sibu**	**70.92**	**279**	P	P	06 43 39.6	+1.0
NACB	**Ninganchiao**	**71.56**	**304**	P	P	06 43 43.0	+0.8
TPUB	**Ta-pu**	**71.91**	**302**	P	P	06 43 43.5	-0.7
UNV	**Unalaska Valle**	**71.95**	**8**	P	P	06 43 42.8	-0.9
UNV	**Unalaska Valle**	**71.95**	**8**	P	P	06 43 42.6	-1.1
	baz=192						
BBJI	**Bungbulang**	**72.27**	**268**	P	P	06 43 46.0	-0.6
KSMI	**Kuching**	**72.41**	**277**	P	P	06 43 48.1	+0.8
QSPA	**South Pole Qui**	**72.42**	**180**	P	P	06 43 49.2	+2.6
QSPA				IAmb	IAmb	06 43 50.3	
	comp=Z,17nm,1.0s						
QSPA	**South Pole Qui**	**72.42**	**180**	P	P	06 43 48.9	+2.4
	comp=Z,9.2nm,0.5s,baz=290,slow=0.5,SNR=70						
QSPA				pP	pP	06 45 35.8	-4.3
	comp=Z,2.4nm,1.1s,baz=121,slow=7.5,SNR=1.9						
	comp=Z,9.2nm,0.5s						
PEA0B	**Petropavlovsk-**	**73.36**	**345**	P	P	06 43 52.4	+0.6
PEA0B				IAmb	IAmb	06 43 53.1	
	comp=Z,14nm,0.7s						
PETK	**Petropavlovsk-**	**73.36**	**345**	P	P	06 43 51.9	0.0
PETK	**Petropavlovsk-**	**73.36**	**345**	P	P	06 43 52.3	+0.5
	comp=Z,14nm,0.7s,baz=129,slow=8.4,SNR=26						
	comp=Z,14nm,0.7s						
KSRS	**Korea Array**	**74.34**	**318**	P	P	06 43 59.0	+1.3
	comp=Z,2.9nm,0.6s,baz=127,slow=6.1,SNR=11						
	comp=Z,2.9nm,0.6s						
KSAR	**Wonju Array Be**	**74.36**	**318**	P	P	06 43 58.3	+0.5
CHGN	**Chignik**	**75.60**	**11**	P	P	06 44 04.5	+0.2
CHGN	**Chignik**	**75.60**	**11**	P	P	06 44 04.3	-0.1
	baz=200						
CHIR	**Chirikof Islan**	**75.72**	**13**	P	P	06 44 05.4	+0.3
HULI	**Fort Hunter Li**	**76.12**	**45**	P	P	06 44 09.2	+1.4
HULI				IAmb	IAmb	06 44 10.2	
	comp=Z,20nm,0.8s						
RAMR	**Ramage Ranch**	**76.16**	**45**	P	P	06 44 09.8	+1.8
USRK	**Ussuriysk Ar.**	**76.25**	**326**	P	P	06 44 09.2	+1.0
	comp=Z,2.0nm,0.6s,baz=140,slow=5.4,SNR=4.6						
	comp=Z,2.0nm,0.6s						
SCZ	**Santa Cruz**	**76.34**	**44**	P	P	06 44 10.3	+1.4
SCZ				IAmb	IAmb	06 44 11.3	
	comp=Z,15nm,0.8s						

baz=200
M11K Mekoryuk 78.40 6 P P 06 44 19.8 +0.3
baz=192
WSHM Spangler Hills 78.45 47 P P 06 44 21.2 +0.7
Q18K Katmai Nardscr 78.47 12 P P 06 44 19.8 -0.3
baz=203
YBH Yreka Blue Hor 78.47 39 P P 06 44 21.7 +1.2
CWC Cottonwood Cre 78.49 46 P P 06 44 21.9 +1.1
CCCA Chr Cany lake 78.50 47 P P 06 44 22.1 +1.4
CCCA IAmb IAmb 06 44 23.3
comp=Z,22nm,0.9s
N14K Kuskokwak Cree 78.51 9 P P 06 44 20.3 +0.2
baz=196
M03C McCloud 78.56 40 P P 06 44 21.9 +1.0
M03C IAmb IAmb 06 44 23.2
comp=Z,26nm,0.8s
MYKOM Kota Tinggi 78.63 276 IAmb IAmb 06 44 22.9
comp=Z,16nm,0.6s
MYKOM Kota Tinggi 78.63 276 P P 06 44 22.7 +0.9
P17K Kvichak River 78.69 11 P P 06 44 20.9 -0.2
baz=202
WAKR Walker 78.69 43 IAmb IAmb 06 44 24.4
comp=Z,22nm,0.9s
MPMC Manual Prospec 78.69 46 P P 06 44 22.6 +0.6
HATC Hat Creek Radi 78.70 41 P P 06 44 22.9 +1.2
HATC IAmb IAmb 06 44 24.2
comp=Z,24nm,0.9s
O16K Kokwok River B 78.77 10 P P 06 44 20.6 -0.9
baz=200
GSC Goldstone, Bar 78.78 47 P P 06 44 23.4 +1.2
BEKR Beckworth 78.85 42 P 06 44 23.7 +1.0
BC3 Big Chuckawall 78.91 49 P 06 44 23.1 +0.1
N15K Kwethluk River 78.98 9 P P 06 44 23.4 +0.8
N15K IAmb IAmb 06 44 24.3
comp=Z,17nm,0.6s
N15K Kwethluk River 78.98 9 P P 06 44 23.0 +0.3
baz=198
Q20K Shuyak Island 78.99 14 P P 06 44 23.0 +0.3
baz=205
Q19K Cape Douglas, 79.01 13 P P 06 44 22.9 +0.1
baz=204
DSP Deep Springs 79.06 45 IAmb IAmb 06 44 26.2
comp=Z,20nm,1.0s
GLA Glamis 79.07 50 IAmb IAmb 06 44 26.8
comp=Z,17nm,0.8s
QSM Queen of Sheba 79.08 47 P P 06 44 23.2 -0.5
P18K Big Mountain, 79.11 12 P P 06 44 23.2 -0.2
P18K Big Mountain, 79.11 12 P P 06 44 23.2 -0.2
baz=203
O17K Koliganek Bris 79.11 11 P P 06 44 23.0 -0.3
baz=201
LHV Little Huntoon 79.17 44 P P 06 44 25.7 +1.5
LHV IAmb IAmb 06 44 26.9
comp=Z,24nm,0.9s
M14K Bethel 79.27 8 P P 06 44 24.6 +0.5
baz=196
RYN Ryan 79.36 44 P P 06 44 26.9 +1.5
IRM Iron Mountain 79.38 49 P 06 44 26.8 +1.3
PAHR Pah Rah Range 79.39 42 P P 06 44 25.6 +0.1
PAHR IAmb IAmb 06 44 27.7
comp=Z,15nm,0.8s
M15K Kasigluk River 79.39 9 P P 06 44 25.1 +0.3
baz=197
NVAR Mina Array Bea 79.40 44 P P 06 44 26.6 +1.0
NVAR Mina Array Bea 79.40 44 P P 06 44 26.9 +1.2
comp=Z,11nm,0.7s,baz=225,slow=9.0,SNR=91
NVAR pP pP 06 46 18.5 -3.1
comp=Z,0.1nm,0.4s,baz=245,slow=4.5,SNR=1.3
comp=Z,11nm,0.7s
SHOC Shoshone, Teco 79.45 47 IAmb IAmb 06 44 27.9
comp=Z,21nm,1.2s
N16K Nishlik Lake 79.48 10 P P 06 44 25.7 +0.4
baz=199
NV11 Mina Array Sit 79.50 44 P P 06 44 27.3 +1.2
BLYC Blythe 79.63 50 P P 06 44 28.4 +1.7
CN2 Changchun 79.66 322 ⇑P P 06 44 28.3 +1.7
CN2 pmax pmax
comp=Z,10.0nm,0.8s
BNX BinXian 79.73 325 ⇑P P 06 44 27.8 +0.9
BNX pmax pmax
comp=Z,21nm,0.9s
L14K Kuka Creek 79.74 8 P P 06 44 27.1 +0.5
baz=196
P19K Oil Pt 79.76 13 P P 06 44 26.7 0.0
P19K IAmb IAmb 06 44 27.3
comp=Z,34nm,0.8s
P19K Oil Pt 79.76 13 P P 06 44 26.8 0.0
baz=205
N17K Nushagak Hills 79.80 11 P P 06 44 27.0 0.0
baz=201
M16K Timber Creek 79.97 10 IAmb IAmb 06 44 30.2
comp=Z,34nm,0.9s
M16K Timber Creek 79.97 10 P P 06 44 29.1 +1.3
baz=199,SNR=6.0
TPNV Topopah Spring 80.01 46 P P 06 44 29.9 +1.1
O19K Port Alsworth 80.03 12 P P 06 44 28.1 0.0
O19K Port Alsworth 80.03 12 P P 06 44 28.2 0.0
baz=204,SNR=13
NEE2 Needles Airpor 80.06 49 IAmb IAmb 06 44 31.6
comp=Z,31nm,1.4s
ILSW Iliamna Southw 80.08 13 P P 06 44 28.2 -0.3
K13K Kusilvak Mount 80.08 7 P P 06 44 28.1 -0.3
baz=194
K05A Summer Lake 80.15 39 IAmb IAmb 06 44 32.0
comp=Z,27nm,0.9s
N18K Kilae Creek 80.18 11 P 06 44 29.2 +0.3
N18K Kilae Creek 80.18 11 P P 06 44 28.6 -0.3
baz=202
L15K Ungalak Mounta 80.22 8 P P 06 44 29.3 +0.2
baz=197
WHN Wuhan 80.25 306 P P 06 44 31.3 +1.3
J05D Fort Rock, OR 80.26 39 P 06 44 31.7 +1.7
O20K Slope Mountain 80.28 13 P P 06 44 28.1 -1.4
baz=205
BRLK Bradley Lake 80.37 14 P P 06 44 30.4 +0.4
BRSE Bradley Lake S 80.39 14 P P 06 44 30.1 +0.1
baz=207
H04A Detroit Lake 80.53 37 P P 06 44 32.1 +0.9
H04A IAmb IAmb 06 44 32.4
comp=Z,12nm,0.7s
L16K Owhat River 80.55 9 P 06 44 31.8 +1.0
L16K IAmb IAmb 06 44 32.8
comp=Z,23nm,1.1s
L16K Owhat River 80.55 9 P P 06 44 31.6 +0.8
baz=198
RED Redoubt Volcan 80.55 13 IAmb IAmb 06 44 33.9
comp=Z,23nm,0.7s
N19K Bonanza Creek 80.57 12 P P 06 44 30.6 -0.5
baz=203,SNR=5.5
M17K Holitna River 80.58 10 P 06 44 32.3 +1.3
M17K Holitna River 80.58 10 P P 06 44 32.4 +1.4
baz=200,SNR=9.7
S11A Rachel 80.71 46 IAmb IAmb 06 44 34.8
comp=Z,20nm,1.0s
PINE Pine Mountain 80.73 38 P P 06 44 32.8 +0.3
PINE IAmb IAmb 06 44 35.0
comp=Z,24nm,0.9s
K15K Wolf Creek Mou 80.81 8 P P 06 44 33.3 +1.1
baz=196,SNR=9.6
I05D Terrebonne, OR 80.81 38 P P 06 44 34.0 +1.3
I05D IAmb IAmb 06 44 35.0
comp=Z,21nm,1.1s
Y14A Wickenburg 80.83 50 P 06 44 34.3 +1.3
E03A Lebam 80.87 35 P P 06 44 34.0 +1.1
TIA Tai'an 80.89 312 P P 06 44 33.8 +0.6
TIA pmax pmax
comp=Z,7.0nm,0.7s
M18K Stony River 80.94 11 P P 06 44 33.3 +0.5
baz=202
J14K Nanvaranak Lak 81.00 7 P P 06 44 33.4 +0.3
baz=195
SEW Seward 81.01 14 P P 06 44 33.1 -0.1
baz=208
PRN Pahroc Range 81.07 46 IAmb IAmb 06 44 37.1
comp=Z,24nm,0.9s
L17K Donlin 81.13 10 P P 06 44 35.2 +1.3
baz=200,SNR=8.9
HOOD Mount Hood Mea 81.21 37 P P 06 44 35.6 +0.8
HOOD IAmb IAmb 06 44 36.6
comp=Z,31nm,1.2s
O22K Cooper Landing 81.28 14 P P 06 44 34.8 +0.2
O22K Cooper Landing 81.28 14 P P 06 44 34.5 -0.1
baz=208
GAMB Gambell 81.33 3 P P 06 44 35.4 +0.7
baz=187
WVOR Wild Horse Val 81.36 40 IAmb IAmb 06 44 38.0
comp=Z,26nm,1.0s
N20K Mount Spurr 81.38 13 P P 06 44 34.4 -0.8
baz=205
SPCR Spurr Chakacha 81.38 13 P P 06 44 34.5 -0.7
baz=205
SPU Mount Spurr 81.39 13 IAmb IAmb 06 44 35.3
comp=Z,22nm,1.3s
L18K Granite Mounta 81.47 10 P P 06 44 36.5 +0.9
L18K IAmb IAmb 06 44 37.7
comp=Z,38nm,1.2s
L18K Granite Mounta 81.47 10 P P 06 44 36.3 +0.7
baz=201,SNR=9.7
SMAI San Martin Ant 81.49 159 P P 06 44 37.0 +1.3
K17K Iditarod 81.68 9 P P 06 44 37.5 +0.9
K17K IAmb IAmb 06 44 38.7
comp=Z,25nm,1.3s
K17K Iditarod 81.68 9 P P 06 44 36.7 +0.1
baz=200
STLK Strandline Lak 81.73 13 P P 06 44 36.4 -0.6
STLK IAmb IAmb 06 44 36.9
comp=Z,17nm,0.8s
TUC Tucson 81.73 52 P P 06 44 39.2 +1.4
TUC IAmb IAmb 06 44 41.0
comp=Z,16nm,0.9s
G06A Carlson Farm, 81.74 37 P P 06 44 38.2 +0.8
G06A IAmb IAmb 06 44 39.3
comp=Z,19nm,1.2s
L19K White Mountain 81.76 11 IAmb IAmb 06 44 38.7
comp=Z,39nm,1.5s
L19K White Mountain 81.76 11 P P 06 44 37.4 +0.3
baz=203
M20K Styx River 81.81 12 P P 06 44 36.7 -0.8
baz=204
RC01 Rabbit Creek A 81.82 14 P P 06 44 37.2 -0.2
baz=208
J16K Anvik River 81.89 8 P P 06 44 38.7 +1.0
baz=197,SNR=8.5
GNW Green Mountain 81.89 34 IAmb IAmb 06 44 40.0
comp=Z,12nm,0.9s
SUA Susitna One 81.93 13 P P 06 44 38.1 0.0
SUA Susitna One 81.93 13 P P 06 44 37.7 -0.4
baz=207,SNR=9.4
PWL Port Wells 81.94 14 P P 06 44 38.3 +0.2
PWL Port Wells 81.94 14 P P 06 44 37.8 -0.2
baz=209,SNR=6.0
J08A Circle Bar Ran 81.97 40 P P 06 44 39.8 +1.1
J08A IAmb IAmb 06 44 40.9
comp=Z,19nm,0.9s
CBB Campbell River 82.11 31 P P 06 44 40.0 +0.9
CBB IAmb IAmb 06 44 41.1
comp=Z,25nm,1.1s
LCMT Little Creek M 82.13 47 IAmb IAmb 06 44 42.2
comp=Z,13nm,0.9s
IPM Ipoh 82.14 277 P 06 44 40.7 +0.6
IPM Ipoh 82.14 277 P P 06 44 40.5 +0.3
X16A Lo Mia Camp, P 82.20 50 P P 06 44 41.9 +1.7
X16A IAmb IAmb 06 44 43.2
comp=Z,19nm,0.9s
BBB Bella Bella 82.20 29 P P 06 44 40.3 +0.8
comp=Z,13nm,0.9s,baz=241,slow=3.5,SNR=8.3
comp=Z,13nm,0.9s
J17K VABM Dome 82.21 9 P 06 44 40.0 +0.8
J17K IAmb IAmb 06 44 41.1
comp=Z,13nm,0.8s
J17K VABM Dome 82.21 9 P P 06 44 40.4 +1.1
baz=199,SNR=5.8
L20K Farewell, AK 82.21 11 P P 06 44 39.3 -0.1
baz=204,SNR=5.7
SKT Skwentna 82.22 13 P P 06 44 39.1 -0.3
baz=206
GLI Glacier Island 82.26 15 P P 06 44 39.9 +0.2
GLI Glacier Island 82.26 15 P P 06 44 39.2 -0.4
baz=210
CCUT Cedar City 82.31 47 P 06 44 42.1 +1.4
CCUT IAmb IAmb 06 44 43.5
comp=Z,13nm,1.0s
EYAK Cordova Ski Ar 82.31 16 P P 06 44 39.8 -0.1
baz=212
M22K Wiley 82.32 13 P P 06 44 39.8 -0.1
baz=207,SNR=7.8
SPR3 Spring Creek 3 82.35 45 P 06 44 41.5 +0.5
KNK Knik Glacier 82.39 14 P P 06 44 40.5 +0.2
KNK IAmb IAmb 06 44 41.2
comp=Z,15nm,0.7s
KNK Knik Glacier 82.39 14 P P 06 44 40.2 -0.1
baz=209,SNR=5.8
PMR Palmer 82.40 14 P P 06 44 40.0 -0.2
PMR IAmb IAmb 06 44 41.0
comp=Z,40nm,1.4s
PMR Palmer 82.40 14 P P 06 44 40.2 -0.1
PMR Palmer 82.40 14 P P 06 44 40.2 -0.1
baz=208,SNR=6.4
KNB Kanab 82.42 47 P P 06 44 41.8 +0.5
KNB IAmb IAmb 06 44 44.0
comp=Z,14nm,0.9s
PSUT Pine Spring 82.45 46 P P 06 44 42.2 +0.8
PSUT IAmb IAmb 06 44 43.5
comp=Z,12nm,0.8s
BELA Belgrano 2 82.46 173 P P 06 44 41.1 +0.5
BELA IAmb IAmb 06 44 41.7
comp=Z,18nm,1.0s
319A Douglas 82.46 54 P 06 44 42.1 +0.6
319A IAmb IAmb 06 44 44.8
comp=Z,23nm,1.0s
SZCU Shurtz Canyon 82.52 47 P P 06 44 41.7 -0.1
F07A Phinny Hill Vi 82.53 37 P P 06 44 42.2 +0.9
F07A IAmb IAmb 06 44 43.3
comp=Z,12nm,0.7s
GHO Glory Hole Cre 82.60 14 P P 06 44 41.4 -0.1
ELK Elko 82.63 43 P P 06 44 42.0 -0.3
ELK IAmb IAmb 06 44 44.4
comp=Z,14nm,0.9s
J18K Innoko River 82.64 10 P P 06 44 41.9 +0.4
baz=201
MXC Moxie City 82.71 36 P P 06 44 42.4 +0.2
MXC IAmb IAmb 06 44 44.3
comp=Z,16nm,1.2s
G08A Pilot Rock 82.75 38 P 06 44 43.7 +1.1
G08A IAmb IAmb 06 44 44.7
comp=Z,19nm,1.0s
WUAZ Wupatki 82.75 49 P P 06 44 44.1 +1.2
WUAZ IAmb IAmb 06 44 46.3
comp=Z,18nm,0.9s
KULM Kulim 82.75 278 P 06 44 43.1 -0.1
KULM IAmb IAmb 06 44 45.0
comp=Z,32nm,1.0s
DIV Divide 82.80 15 P P 06 44 42.8 +0.3
U33K Whale Pass 82.84 24 P P 06 44 42.9 +0.3
baz=223
V35K Ketchikan 82.87 25 P P 06 44 43.0 +0.2
baz=225
CUT Chulitna 82.87 13 P P 06 44 42.3 -0.3
baz=207,SNR=8.3
LTY Liberty 82.89 36 P P 06 44 43.6 +0.4
M23K Glacier View 82.90 14 P P 06 44 42.7 -0.2
baz=210
PPLA Purkeypile 82.92 12 P P 06 44 43.3 +0.2
baz=205
E07A Sunnyside 82.95 36 P P 06 44 45.0 +1.6
E07A IAmb IAmb 06 44 45.6
comp=Z,16nm,0.9s
BMRM Bremner River 82.97 16 P P 06 44 43.2 0.0
BMRM IAmb IAmb 06 44 44.2
comp=Z,20nm,0.6s
BMRM Bremner River 82.97 16 P P 06 44 43.2 0.0
baz=212,SNR=6.6
H16K Elim 82.98 7 P P 06 44 43.7 +0.6
baz=196
K20K Telida 82.99 11 IAmb IAmb 06 44 44.5
comp=Z,25nm,0.8s
K20K Telida 82.99 11 P P 06 44 43.4 +0.1
baz=204,SNR=14
PKCU Pink Cliffs 82.99 47 IAmb IAmb 06 44 47.7
comp=Z,33nm,1.1s
WAX Waxell Ridge 83.01 17 P P 06 44 44.1 +0.6
SCM Sheep Creek Mo 83.03 14 P P 06 44 43.5 -0.1
baz=210,SNR=16
HAWA Hanford 83.03 37 IAmb IAmb 06 44 46.0
comp=Z,18nm,0.9s
MESA MESA 83.04 18 P P 06 44 44.3 +0.5
baz=215
KLU Klutina 83.08 15 IAmb IAmb 06 44 44.8
comp=Z,16nm,1.2s
KLU Klutina 83.08 15 P P 06 44 43.9 +0.1
baz=211,SNR=5.2
S31K Pelican 83.09 21 P P 06 44 44.3 +0.5
baz=220
G15K Niukluk 83.13 6 P P 06 44 44.6 +0.7
baz=194
CRQM Cirque 83.18 17 P P 06 44 45.0 +0.5
CRQM IAmb IAmb 06 44 45.7
comp=Z,30nm,0.9s
CRQE Cirque 83.19 17 P P 06 44 44.7 +0.2
baz=214,SNR=6.7
WAH2 Wahluke Slope 83.22 36 P P 06 44 45.1 +0.3
WAH2 IAmb IAmb 06 44 46.3
comp=Z,8.4nm,0.6s
TGL Tana Glacier 83.27 17 IAmb IAmb 06 44 46.1
comp=Z,34nm,1.1s
J19K Poorman 83.31 10 P P 06 44 45.4 +0.6
baz=202,SNR=5.1
TNA Tin City 83.34 4 P P 06 44 45.4 +0.5
baz=190
MTPU Mount Pierson 83.36 47 IAmb IAmb 06 44 49.4
comp=Z,16nm,1.0s
E08A Dider Farm, El 83.36 37 P P 06 44 46.6 +1.1
E08A IAmb IAmb 06 44 47.5
comp=Z,12nm,0.7s
WRAK Wrangell Islan 83.36 24 P P 06 44 46.2 +1.0
baz=224
F14K Arctic Creek 83.39 5 P P 06 44 45.8 +0.7
baz=192
PNL Peninsula 83.39 19 P P 06 44 45.8 +0.4
baz=217
BJT Baijiatuau 83.42 315 P P 06 44 46.8 +0.9
T33K Petersburg 83.42 23 P P 06 44 45.8 +0.3
baz=223
TCRU Three Creeks R 83.45 46 IAmb IAmb 06 44 49.4
comp=Z,11nm,0.9s
PINM Pinnacle 83.47 18 P P 06 44 46.6 +0.8
baz=217
LYN LuoYang 83.47 309 P P 06 44 47.8 +1.5
LYN pmax pmax
comp=Z,38nm,0.9s
VRDI Verde Repeater 83.49 16 P P 06 44 46.0 0.0
VRDI IAmb IAmb 06 44 47.1
comp=Z,18nm,0.8s
N25K Chitina, Valde 83.51 16 P P 06 44 46.4 +0.4
N25K Chitina, Valde 83.51 16 P P 06 44 46.2 +0.2
baz=212,SNR=13
M24K Tolsona, Glenn 83.54 15 P P 06 44 46.8 +0.6
M24K Tolsona, Glenn 83.54 15 P P 06 44 46.7 +0.6
baz=211
GRNC Granite Creek 83.55 17 P P 06 44 46.7 +0.3
GRNC IAmb IAmb 06 44 47.6
comp=Z,19nm,0.9s
GLB Gilahina Butte 83.57 16 P 06 44 46.6 +0.3
WAT6 Susitna Watana 83.58 14 P P 06 44 46.4 0.0
baz=210,SNR=5.6
PSI Prapat 83.62 275 P P 06 44 47.7 0.0
WAT1 Susitna Watana 83.62 13 P P 06 44 46.1 -0.3
baz=209
MFID Camas Ranch 83.63 41 P P 06 44 47.4 +0.3
MFID IAmb IAmb 06 44 49.2
comp=Z,14nm,0.9s
G16K Koyuk River 83.70 7 P P 06 44 47.2 +0.4
baz=196
J20K Nowinta River 83.73 11 P P 06 44 47.4 +0.5
J20K IAmb IAmb 06 44 48.1
comp=Z,15nm,0.8s
J20K Nowinta River 83.73 11 P P 06 44 47.2 +0.3
baz=203,SNR=8.3
MCARA McCarthy VSAT 83.73 16 P P 06 44 47.3 +0.3
MCARA IAmb IAmb 06 44 48.3
comp=Z,15nm,1.0s
MCARA McCarthy VSAT 83.73 16 P P 06 44 47.4 +0.4
baz=214
D08A Wollman Farm, 83.76 36 IAmb IAmb 06 44 49.5
comp=Z,13nm,0.9s
KTH Kantishna Hill 83.76 12 IAmb IAmb 06 44 47.5
comp=Z,17nm,0.8s
CHUM Lake Minchumin 83.79 11 P P 06 44 46.6 -0.6
baz=205,SNR=8.0
TRF Thorofare Moun 83.80 12 P 06 44 47.0 -0.5
TRF Thorofare Moun 83.80 12 P P 06 44 47.0 -0.5
baz=207,SNR=23
GCSA Galena City Sc 83.81 9 P P 06 44 47.5 +0.3
baz=201
LOGN Logan Glacier 83.84 18 IAmb IAmb 06 44 48.9
comp=Z,16nm,0.8s
BARN Barnard Glacie 83.84 17 P P 06 44 48.2 +0.5
CTG Chitna Glacier 83.86 17 P P 06 44 48.0 +0.2
baz=216,SNR=7.3
P29M Windy Craggy 83.88 20 IAmb IAmb 06 44 49.7
comp=Z,18nm,0.8s
P29M Windy Craggy 83.88 20 P P 06 44 48.3 +0.5
baz=219,SNR=6.4
E09A Wood Farm, Sta 83.90 37 P P 06 44 48.7 +0.5
ENH Enshi 83.92 304 P P 06 44 50.2 +1.5
H18K Honhosa River 83.98 8 P P 06 44 47.9 -0.2
baz=199
G17K Kiwalik Mounta 84.01 7 P P 06 44 48.4 +0.2
baz=197
MAW Mawson 84.03 200 P P 06 44 49.3 +0.8
comp=Z,5.9nm,0.5s,baz=138,slow=5.8,SNR=24
MAW pP pP 06 46 42.0 -3.8
comp=Z,1.2nm,0.9s,baz=46,slow=6.2,SNR=2.0
comp=Z,5.9nm,0.5s
O28M Mount Upton 84.03 18 P P 06 44 49.2 +0.4
baz=217,SNR=10
HARP HAARP 84.04 15 P P 06 44 48.8 +0.3
baz=212,SNR=7.4
DHY Denali Highway 84.10 14 IAmb IAmb 06 44 49.2
comp=Z,9.1nm,0.5s
DHY Denali Highway 84.10 14 P P 06 44 49.1 +0.2
baz=210,SNR=7.8
F10A Beach Ranch, E 84.14 38 P P 06 44 50.1 +0.6
F10A IAmb IAmb 06 44 51.1
comp=Z,21nm,0.9s
O29M Mount Kennedy 84.14 19 P P 06 44 49.6 +0.4
baz=218
PLBC Pleasant Camp 84.19 20 P P 06 44 50.0 +0.7
baz=220,SNR=6.8
LLLB Lillooet 84.22 32 P P 06 44 50.2 +0.5
BPAW Bear Paw Mtn. 84.24 12 P P 06 44 49.2 -0.3
BPAW Bear Paw Mtn. 84.24 12 P P 06 44 49.5 0.0
baz=206
I20K Naaghedeneel 84.24 10 P P 06 44 50.2 +0.8
I20K IAmb IAmb 06 44 51.0
comp=Z,24nm,0.9s
I20K Naaghedeneel 84.24 10 P P 06 44 49.9 +0.5
baz=203
B08A Colville Reser 84.26 35 P 06 44 50.0 0.0
B08A IAmb IAmb 06 44 51.2
comp=Z,11nm,0.8s
MCK McKinley 84.33 13 IAmb IAmb 06 44 50.5
comp=Z,26nm,1.0s
MCK McKinley 84.33 13 P P 06 44 49.6 -0.3
baz=208,SNR=11
GSI Gunungsitoli 84.44 273 P P 06 44 52.5 +0.9
PAX Paxson 84.45 15 P 06 44 50.7 0.0
PAX IAmb IAmb 06 44 51.1
comp=Z,11nm,0.9s
PAX Paxson 84.45 15 P P 06 44 50.1 -0.5
baz=212,SNR=6.6
Q16A Castle Valley 84.47 46 IAmb IAmb 06 44 54.5
comp=Z,15nm,1.3s
P30M Million Dollar 84.50 20 P P 06 44 51.7 +0.8
baz=220
SKAG Skagway 84.53 21 P P 06 44 52.0 +1.1
SKAG IAmb IAmb 06 44 53.3
comp=Z,17nm,1.2s
SKAG Skagway 84.53 21 P P 06 44 52.6 +1.7
SKAG Skagway 84.53 21 P P 06 44 52.1 +1.1
baz=221
YUK8 Steele Glacier 84.57 18 P P 06 44 52.1 +0.6
baz=217,SNR=11
T35M Bob Quinn 84.58 24 P P 06 44 51.5 +0.2
T35M Bob Quinn 84.58 24 P P 06 44 51.3 0.0
baz=226
HLID Hailey 84.59 41 P P 06 44 53.1 +1.2
HLID IAmb IAmb 06 44 54.4
comp=Z,11nm,0.8s
M26K Nabesna, AK 84.59 16 P P 06 44 52.0 +0.8
M26K IAmb IAmb 06 44 52.6
comp=Z,26nm,1.0s
M26K Nabesna, AK 84.59 16 P P 06 44 51.6 +0.4
baz=214,SNR=18
H19K Roundabout Mou 84.61 9 P P 06 44 51.5 +0.3
baz=201
G18K Tagagawik 84.64 8 P P 06 44 51.4 0.0
baz=199
YUK6 Outpost Mounta 84.71 18 P P 06 44 52.1 0.0

baz=218
HVU **Hansel Valley** 84.75 43 P 06 44 53.9 +1.2
YUK3 **Moose Creek** 84.76 17 P P 06 44 52.4 +0.1
baz=216,SNR=17
H20K **Anotleneega Mo** 84.82 10 P P 06 44 52.7 +0.5
baz=203
M27K **Edge Creek, AK** 84.85 16 P P 06 44 53.4 +0.8
M27K IAmb IAmb 06 44 54.3
comp=Z,21nm,0.9s
M27K **Edge Creek, AK** 84.85 16 P P 06 44 53.1 +0.5
baz=215,SNR=11
MENT **Mentasta** 84.85 15 P P 06 44 52.6 +0.1
MENT IAmb IAmb 06 44 53.7
comp=Z,13nm,0.9s
MENT **Mentasta** 84.85 15 P P 06 44 53.1 +0.6
HYT **Haines Junctio** 84.88 19 P P 06 44 53.2 +0.4
HYT **Haines Junctio** 84.88 19 P P 06 44 53.3 +0.5
baz=219,SNR=9.0
S34M **Telegraph Cree** 84.89 23 P P 06 44 53.7 +1.0
baz=225,SNR=15
YUK4 **Talbot Arm** 84.94 18 P P 06 44 53.9 +0.7
baz=218
SRU **San Rafael Swe** 85.01 46 P P 06 44 54.0 -0.1
L26K **Log Cabin Wild** 85.02 15 IAmb IAmb 06 44 54.5
comp=Z,9.5nm,0.8s
L26K **Log Cabin Wild** 85.02 15 P P 06 44 53.6 +0.3
baz=214,SNR=7.3
P17A **Butcher Ranch,** 85.03 46 P P 06 44 54.0 -0.1
I21K **Tanana** 85.03 11 P P 06 44 53.1 -0.2
baz=205
NEA2 **Nenana** 85.06 12 P P 06 44 53.5 +0.1
baz=208
G19K **Purcell Mounta** 85.09 9 P P 06 44 53.3 -0.3
baz=201
K24K **Donnelly Dome** 85.09 14 P P 06 44 53.8 +0.1
baz=211,SNR=13
MLY **Manley** 85.13 12 P 06 44 53.5 -0.3
MLY **Manley** 85.13 12 P P 06 44 53.0 -0.8
baz=207,SNR=7.1
SLVN **Son La** 85.15 294 IAmb IAmb 06 44 57.3
comp=Z,10nm,0.9s
SLVN **Son La** 85.15 294 P P 06 44 55.8 +0.9
BVCY **Beaver Creek** 85.17 17 P P 06 44 54.4 +0.3
baz=216,SNR=8.5
P32M **Atlin** 85.18 21 P P 06 44 55.1 +1.0
P32M IAmb IAmb 06 44 56.1
comp=Z,10nm,0.8s
P32M **Atlin** 85.18 21 P P 06 44 54.7 +0.5
baz=222,SNR=5.5
Q32M **Nakina River** 85.23 22 IAmb IAmb 06 44 56.6
comp=Z,16nm,0.7s
Q32M **Nakina River** 85.23 22 P P 06 44 55.7 +1.1
baz=224,SNR=13
RIDG **Independent Ri** 85.26 14 P P 06 44 54.2 -0.2
RIDG IAmb IAmb 06 44 55.4
comp=Z,15nm,0.8s
RIDG **Independent Ri** 85.26 14 P P 06 44 54.3 -0.1
baz=212,SNR=9.4
O30N **Mendenhall** 85.28 19 P P 06 44 55.0 +0.4
O30N IAmb IAmb 06 44 56.3
comp=Z,11nm,0.8s
O30N **Mendenhall** 85.28 19 P P 06 44 55.1 +0.5
baz=220,SNR=8.4
H21K **Melozitna Rive** 85.32 10 P P 06 44 54.7 0.0
baz=205
HDA **Harding Lake** 85.35 13 IAmb IAmb 06 44 55.4
comp=Z,15nm,0.8s
HDA **Harding Lake** 85.35 13 P P 06 44 54.2 -0.6
baz=210,SNR=14
DOT **Dot Lake** 85.37 15 IAmb IAmb 06 44 56.0
comp=Z,16nm,0.8s
CCB **Clear Creek Bu** 85.38 13 IAmb IAmb 06 44 55.3
comp=Z,20nm,1.2s
XLT **XiLinHaoTe** 85.39 319 eP P 06 44 55.6 0.0
XLT pmax pmax
comp=Z,8.0nm,0.8s
XLT pmax pmax
comp=Z,130nm,4.2s
E17K **Hotham Inlet** 85.39 7 P P 06 44 54.7 -0.3
baz=196,SNR=5.1
NEW **Newport** 85.44 36 IAmb IAmb 06 44 57.0
comp=Z,6.8nm,0.7s
L27K **Beaver Creek,** 85.44 16 P P 06 44 55.5 +0.2
baz=215
BCAR **Beaver Creek A** 85.45 16 P 06 44 55.5 +0.1
IMAR **Indian Mountai** 85.46 10 P P 06 44 55.2 -0.1
HWUT **Hardware Ranch** 85.47 44 P 06 44 56.6 +0.4
I23K **Minto, Yukon-K** 85.50 12 P P 06 44 54.7 -0.8
baz=208
N30M **Aishikik Lake** 85.50 19 P P 06 44 55.5 -0.2
baz=219
BSUT **Blindstream Ca** 85.50 45 P 06 44 57.8 +1.1
PV05 **Paradox Valley** 85.54 48 IAmb IAmb 06 44 59.9
comp=Z,14nm,1.4s
COLA **College** 85.56 13 P P 06 44 55.7 -0.1
COLA **College** 85.56 13 P P 06 44 56.1 +0.3
COLA **College** 85.56 13 P P 06 44 55.1 -0.7
baz=209
VHRN **Van Horn** 85.57 56 IAmb IAmb 06 44 59.9
comp=Z,13nm,1.3s
WHY **Whitehorse** 85.59 20 P 06 44 56.9 +0.7
WHY IAmb IAmb 06 44 57.9
comp=Z,17nm,0.9s
WHY **Whitehorse** 85.59 20 P P 06 44 56.6 +0.4
baz=221
MNTX **Cornudas Mount** 85.62 55 P P 06 44 58.5 +1.5
F19K **Shaleruckik Mo** 85.65 8 P P 06 44 55.8 -0.3
baz=200
SCRK **Sand Creek** 85.66 15 IAmb IAmb 06 44 58.8
comp=Z,7.9nm,0.8s
SCRK **Sand Creek** 85.66 15 P P 06 44 56.3 -0.2
baz=213,SNR=9.1
DLBC **Dease Lake** 85.68 23 P P 06 44 57.4 +0.7
baz=226,SNR=7.1
IL31 85.68 13 P P 06 44 56.2 -0.2
IL31 IAmb IAmb 06 44 56.8
comp=Z,8.5nm,0.6s
ILAR **Eielson Array** 85.68 13 P P 06 44 56.0 -0.4
ILAR **Eielson Array** 85.68 13 P P 06 44 56.0 -0.4
comp=Z,4.0nm,0.4s,baz=230,slow=5.3,SNR=17
ILAR pP pP 06 46 50.8 -3.9
comp=Z,0.4nm,0.9s,baz=218,slow=6.7,SNR=1.4
ILAR PP PP 06 48 25.5 -0.4
comp=Z,2.6nm,1.0s,baz=228,slow=7.4,SNR=6.2
comp=Z,4.0nm,0.4s
PV10 **Paradox Valley** 85.71 48 P P 06 44 58.2 +0.7
PV10 IAmb IAmb 06 44 59.3
comp=Z,9.6nm,0.8s
PV18 **Skein Mesa, Pa** 85.75 48 P P 06 44 58.1 +0.5
PV18 IAmb IAmb 06 45 02.7
comp=Z,11nm,1.1s
PV20 **West Nyswonger** 85.75 48 IAmb IAmb 06 45 02.7
comp=Z,12nm,0.9s
H22K **Ishtalitna Cre** 85.78 11 P P 06 44 56.8 -0.1
baz=206,SNR=5.8
PV04 **Paradox Valley** 85.82 48 P P 06 44 57.9 0.0
PV04 IAmb IAmb 06 45 01.7
comp=Z,12nm,1.3s
E18K **Tukpahleark C** 85.85 7 IAmb IAmb 06 44 59.0
comp=Z,8.4nm,0.9s
E18K **Tukpahleark C** 85.85 7 P P 06 44 57.0 -0.1
baz=197
PV12 **Saucer Basin,** 85.86 48 IAmb IAmb 06 45 01.0
comp=Z,9.6nm,0.7s
D17K **Noatak River** 85.86 6 P P 06 44 58.0 +0.8
baz=195
M29M **Somme Creek** 85.86 18 IAmb IAmb 06 45 00.0
comp=Z,6.8nm,0.8s
M29M **Somme Creek** 85.86 18 P P 06 44 57.7 +0.3
baz=218,SNR=8.8
POKR **Poker Plat Res** 85.86 13 IAmb IAmb 06 44 57.6
comp=Z,8.2nm,0.6s
POKR **Poker Plat Res** 85.86 13 P P 06 44 56.5 -0.8
baz=210
J25K **Salcha River,** 85.88 14 IAmb IAmb 06 44 59.0
comp=Z,8.0nm,0.9s
J25K **Salcha River,** 85.88 14 P P 06 44 57.2 -0.3
baz=212,SNR=11
XAN **Xi'an** 85.90 307 ⇑P P 06 44 58.1 -0.2
XAN S S 06 54 48.3 +1.8
XAN pmax pmax
comp=Z,50nm,0.9s
XAN pmax pmax
comp=Z,280nm,5.1s
N31M **Braeburn, Yuko** 85.92 19 IAmb IAmb 06 44 59.4
comp=Z,11nm,1.0s
N31M **Braeburn, Yuko** 85.92 19 P P 06 44 58.0 +0.3
baz=221
P33M **Teslin, Yukon** 85.94 21 P P 06 44 58.2 +0.3
baz=223
G21K **Allakaket** 85.99 10 IAmb IAmb 06 44 58.8
comp=Z,6.6nm,0.7s
G21K **Allakaket** 85.99 10 P P 06 44 57.7 -0.2
baz=204,SNR=6.9
R33M **Jennings River** 86.01 22 IAmb IAmb 06 45 00.4
comp=Z,17nm,1.2s
R33M **Jennings River** 86.01 22 P P 06 44 58.8 +0.6
baz=225,SNR=8.5
TX31 **Lajitas Ar. Si** 86.06 58 P P 06 45 01.3 +2.2
TX31 IAmb IAmb 06 45 02.6
comp=Z,15nm,0.9s
TXAR **Lajitas Array** 86.06 58 P P 06 45 01.1 +1.9
TXAR **Lajitas Array** 86.06 58 P P 06 45 01.3 +2.1
comp=Z,7.4nm,0.7s,baz=217,slow=6.3,SNR=120
TXAR pP pP 06 46 53.5 -3.8
comp=Z,0.2nm,0.7s,baz=236,slow=4.1,SNR=1.3
comp=Z,7.4nm,0.7s
H23K **Yukon River** 86.06 12 P P 06 44 58.7 +0.4
baz=208
PV15 **Paradox Valley** 86.09 48 P P 06 44 59.8 +0.5
ANMO **Albuquerque** 86.12 52 P P 06 45 00.0 +0.6
F20K **Avaraart Lake** 86.14 9 P P 06 44 58.6 +0.1
baz=202
MCMT **McKenzie Canyo** 86.19 41 P P 06 45 01.2 +1.5
J26L **Joseph Creek** 86.20 14 P P 06 44 59.7 +0.7
J26L IAmb IAmb 06 45 00.5
comp=Z,12nm,0.7s
J26L **Joseph Creek** 86.20 14 P P 06 44 59.3 +0.3
baz=213,SNR=14
E19K **Redstone River** 86.31 8 IAmb IAmb 06 45 00.3
comp=Z,9.7nm,0.7s
E19K **Redstone River** 86.31 8 P P 06 44 59.5 +0.2
baz=200,SNR=7.0
AHID **Auburn Hatcher** 86.32 43 IAmb IAmb 06 45 02.6
comp=Z,13nm,1.5s
H24K **Noodor Dome** 86.40 12 P P 06 45 00.3 +0.4
baz=209
M30M **Minto, Yukon** 86.45 18 IAmb IAmb 06 45 01.5
comp=Z,12nm,0.8s
M30M **Minto, Yukon** 86.45 18 P P 06 45 00.6 +0.4
baz=220,SNR=12
ALPN **Alpine** 86.48 57 IAmb IAmb 06 45 04.8
comp=Z,7.3nm,0.9s
L29M **L29M** 86.48 17 P P 06 45 00.9 +0.6
baz=218
MSO **Missoula** 86.53 38 P P 06 45 01.6 +0.6
DLMT **Dillon** 86.61 40 IAmb IAmb 06 45 03.7
comp=Z,13nm,0.8s
PRP **Porcupine Dome** 86.62 13 P P 06 45 00.7 -0.3
PRP **Porcupine Dome** 86.62 13 P P 06 45 00.7 -0.3
baz=212
BPMT **Black Pine Rid** 86.62 39 P P 06 45 02.6 +1.0
F21K **Alatna River** 86.64 10 P P 06 45 00.8 -0.1
baz=204
G22K **Bettles** 86.69 10 P P 06 45 01.3 +0.2
baz=206
TPAW **Teton Pass** 86.75 42 IAmb IAmb 06 45 04.8
comp=Z,8.6nm,0.8s
G23K **Bananza Creek** 86.76 11 P P 06 45 01.5 -0.1
baz=207
JTMT **Jette** 86.79 38 P P 06 45 02.4 +0.2
SNOW **Snow King Moun** 86.86 43 P P 06 45 04.4 +1.5
SNOW IAmb IAmb 06 45 05.3
comp=Z,17nm,0.9s
DAWY **Dawson** 86.90 16 P P 06 45 03.0 +0.7
DAWY **Dawson** 86.90 16 P P 06 45 02.3 +0.1
baz=217
M31M **Drury Creek, Y** 86.90 19 P P 06 45 02.6 +0.4
M31M **Drury Creek, Y** 86.90 19 P P 06 45 02.1 -0.2
baz=222,SNR=6.0
HHC **Hu-ho-hao-te** 86.91 315 eP P 06 45 03.8 +0.9
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,68nm,4.5s
I26K **Coal Creek Min** 86.97 14 P P 06 45 03.1 +0.6
I26K IAmb IAmb 06 45 03.7
comp=Z,6.9nm,0.6s
I26K **Coal Creek Min** 86.97 14 P P 06 45 02.7 +0.2
baz=214,SNR=6.3
EGAK **Eagle** 87.02 15 P P 06 45 03.2 +0.5
EGAK IAmb IAmb 06 45 03.8
comp=Z,7.9nm,0.7s
EGAK **Eagle** 87.02 15 P P 06 45 03.0 +0.3
baz=216,SNR=6.0
LOHW **Long Hollow** 87.03 42 P 06 45 04.8 +1.2
LOHW IAmb IAmb 06 45 05.8
comp=Z,7.2nm,0.8s
O20A **White River Ci** 87.04 46 P 06 45 04.7 +1.0
O20A IAmb IAmb 06 45 05.8
comp=Z,19nm,1.4s
F22K **John River** 87.11 10 P P 06 45 03.2 0.0
baz=205
D19K **Kuna River** 87.17 7 P P 06 45 03.2 -0.2
baz=200
YHB **Horns Butte** 87.19 41 IAmb IAmb 06 45 07.2
comp=Z,18nm,1.1s
COLD **Coldfoot** 87.19 11 IAmb IAmb 06 45 05.0
comp=Z,9.6nm,0.8s
COLD **Coldfoot** 87.19 11 P P 06 45 03.9 +0.4
baz=207,SNR=8.9
E20K **Nigu River** 87.20 8 P P 06 45 03.5 -0.2
baz=201
YPP **Pitchstone Pla** 87.21 42 P P 06 45 06.2 +1.7
K29M **Barlow Dome** 87.23 17 P P 06 45 04.4 +0.5
baz=219
G24K **Hadweenzic Riv** 87.24 12 P P 06 45 03.9 +0.2
baz=210
YHL **Hebgen Lake** 87.24 41 P P 06 45 06.6 +2.0
YHL IAmb IAmb 06 45 07.6
comp=Z,15nm,0.8s
YFT **Old Faithful** 87.28 42 P P 06 45 06.9 +2.2
YFT IAmb IAmb 06 45 08.3
comp=Z,12nm,0.9s
YMR **Madison River** 87.30 41 IAmb IAmb 06 45 07.7
comp=Z,13nm,0.8s
BOZ **Bozeman (W)** 87.32 40 IAmb IAmb 06 45 07.2
comp=Z,11nm,1.2s
BW06 **Boulder Array** 87.32 44 P P 06 45 05.5 +0.5
BW06 IAmb IAmb 06 45 06.6
comp=Z,24nm,1.4s
PD31 **Pinedale Array** 87.33 44 P 06 45 05.9 +0.9
PD31 IAmb IAmb 06 45 06.6
comp=Z,21nm,1.4s
PDAR **Pinedale Array** 87.33 44 P P 06 45 06.0 +0.9
PDAR **Pinedale Array** 87.33 44 P P 06 45 05.7 +0.7
comp=Z,5.0nm,0.6s,baz=212,slow=3.2,SNR=64
PDAR pP pP 06 47 00.7 -3.1
comp=Z,0.1nm,0.4s,baz=244,slow=5.6,SNR=1.2
PDAR PP PP 06 48 37.2 -2.6
comp=Z,1.3nm,0.9s,baz=235,slow=7.0,SNR=7.0
comp=Z,5.0nm,0.6s
H17A **Grant Village** 87.41 42 IAmb IAmb 06 45 08.9
comp=Z,12nm,0.9s
YNR **Norris Junctio** 87.50 41 IAmb IAmb 06 45 09.9
comp=Z,17nm,1.5s
J29N **Klondike Camp** 87.52 16 IAmb IAmb 06 45 07.8
comp=Z,10nm,0.7s
J29N **Klondike Camp** 87.52 16 P P 06 45 05.2 0.0
baz=218
SAND **Sanderson** 87.54 58 P P 06 45 07.2 +1.2
SAND IAmb IAmb 06 45 08.5
comp=Z,6.1nm,0.8s
MNHN **Monahans** 87.54 56 P 06 45 07.2 +1.1
G25K **Bensman Lake** 87.57 12 P P 06 45 05.6 +0.4
baz=211
D20K **Etivluk River** 87.57 8 P P 06 45 05.5 +0.3
baz=201
LYMT **Lyon Mountain** 87.58 39 P P 06 45 07.3 +1.2
C19K **Lookout Ridge** 87.58 7 P P 06 45 05.5 +0.2
baz=198
I27K **Kandik River** 87.58 15 P P 06 45 05.4 -0.1
baz=215
B18K **Kokolik River** 87.60 6 P P 06 45 05.8 +0.4
baz=196
LKWY **Lake** 87.60 42 IAmb IAmb 06 45 09.9
comp=Z,8.9nm,0.8s
E21K **Killik River** 87.69 9 P P 06 45 06.0 +0.2
baz=204
E22K **Anaktuvuk Pass** 87.74 10 IAmb IAmb 06 45 06.8
comp=Z,7.6nm,0.8s
E22K **Anaktuvuk Pass** 87.74 10 P P 06 45 06.1 0.0
baz=206
TOAD **Toad River Com** 87.82 25 P P 06 45 06.9 +0.3
baz=230,SNR=7.7
BTO **Baotou** 87.86 314 eP P 06 45 09.6 +2.2
BTO PP PP 06 48 44.8 +0.9
BTO S S 06 54 59.4 -5.2
BTO pmax pmax
comp=Z,11nm,0.7s
BTO pmax pmax
comp=Z,160nm,5.1s
I28M **Miner Creek** 87.87 15 IAmb IAmb 06 45 07.6
comp=Z,5.5nm,0.7s
I28M **Miner Creek** 87.87 15 P P 06 45 06.8 -0.1
baz=217,SNR=7.1
F24K **Squaw Lake** 87.88 11 IAmb IAmb 06 45 08.1
comp=Z,9.3nm,0.7s
F24K **Squaw Lake** 87.88 11 P P 06 45 07.0 +0.3
baz=209,SNR=7.2
E23K **Chandalar** 88.04 11 IAmb IAmb 06 45 08.7
comp=Z,7.8nm,0.8s
E23K **Chandalar** 88.04 11 P P 06 45 07.7 +0.1
baz=208
YNE **Yellowstone No** 88.06 41 IAmb IAmb 06 45 11.0
comp=Z,7.9nm,0.9s
H27K **Steamboat Moun** 88.12 14 IAmb IAmb 06 45 09.8
comp=Z,4.9nm,0.7s
H27K **Steamboat Moun** 88.12 14 P P 06 45 08.3 +0.4
baz=215,SNR=6.7
J30M **Hart River** 88.13 17 P P 06 45 08.2 +0.1
baz=220
MMPY **Sheldon Lake,** 88.20 20 P P 06 45 09.1 +0.7
baz=225,SNR=16
G26K **Porcupine Rive** 88.21 13 IAmb IAmb 06 45 10.3
comp=Z,10nm,0.8s
G26K **Porcupine Rive** 88.21 13 P P 06 45 08.8 +0.6
baz=213,SNR=9.8
I29M **Ogilvie Camp,** 88.21 16 P P 06 45 08.8 +0.5
baz=218
C21K **Knifeblade Rid** 88.23 8 P P 06 45 08.6 +0.2
baz=203
E24K **Your Creek** 88.25 11 P P 06 45 08.9 +0.4
baz=209
D22K **Ayikyak River** 88.28 9 P P 06 45 08.9 +0.3
baz=205
F25K **Christian Rive** 88.37 12 P P 06 45 09.6 +0.5
baz=211
BMAR **Burnt Mountain** 88.45 12 P P 06 45 10.3 +0.9
TGTN **Hyland Airport** 88.45 22 P P 06 45 10.1 +0.5
baz=227
MSTX **Muleshoe** 88.53 54 P P 06 45 11.8 +1.1
MSTX IAmb IAmb 06 45 12.6
comp=Z,8.2nm,0.8s
DRIO **Del Rio** 88.56 59 P P 06 45 12.1 +1.3
CMAR **Chiang Mai Arr** 88.56 290 P P 06 45 12.0 +1.0
CMAR **Chiang Mai Arr** 88.56 290 P P 06 45 12.2 +1.2
comp=Z,4.0nm,0.4s,baz=111,slow=2.9,SNR=38
CMAR PP PP 06 48 49.9 +0.2
comp=Z,0.9nm,0.3s,baz=105,slow=8.8,SNR=1.1
comp=Z,4.0nm,0.4s
G27K **Doyon Strip** 88.56 14 P P 06 45 10.2 +0.3
baz=215
TOLK **Toolik Lake Re** 88.56 10 P P 06 45 10.5 +0.6
TOLK IAmb IAmb 06 45 10.6
comp=Z,7.1nm,1.0s
TOLK **Toolik Lake Re** 88.56 10 P P 06 45 10.4 +0.4
baz=208
RLMT **Red Lodge** 88.58 42 IAmb IAmb 06 45 13.2
comp=Z,9.3nm,1.0s
I30M **Mount Dempster** 88.61 16 P P 06 45 10.9 +0.5
I30M IAmb IAmb 06 45 11.4
comp=Z,6.0nm,0.8s
I30M **Mount Dempster** 88.61 16 P P 06 45 10.8 +0.5
baz=220,SNR=5.4
D23K **Nanushuk River** 88.67 10 P P 06 45 10.9 +0.5
baz=207
CHTO **Chiang Mai** 88.68 290 P P 06 45 12.7 +1.1
CHTO IAmb IAmb 06 45 13.6
comp=Z,13nm,1.1s
CHTO **Chiang Mai** 88.68 290 P P 06 45 12.5 +0.9
B21K **Ikpikpuk River** 88.69 8 P P 06 45 10.8 +0.5
baz=203
OZNA **Ozona** 88.69 57 IAmb IAmb 06 45 13.7
comp=Z,11nm,0.8s
B20K **Meade River** 88.72 7 P P 06 45 11.2 +0.7
baz=200
F26K **Sheenjek River** 88.76 12 P P 06 45 11.5 +0.6
baz=213
PZH **PanZhiHua** 88.81 298 P P 06 45 12.3 +0.1
E25K **Arctic Village** 88.84 12 P P 06 45 11.6 +0.4
baz=211
H29M **Whitestone** 88.87 15 IAmb IAmb 06 45 13.0
comp=Z,10nm,0.9s
H29M **Whitestone** 88.87 15 P P 06 45 11.5 +0.1
baz=218
KOTAN **Kotaneelee Air** 89.10 24 P P 06 45 12.9 +0.3
baz=231
D24K **Happy Valley** 89.15 10 P P 06 45 13.0 +0.5
baz=208
K22A **Casper** 89.29 45 IAmb IAmb 06 45 16.0
comp=Z,11nm,1.3s
EPYK **Eagle Plains** 89.41 16 P P 06 45 14.2 +0.3
EPYK IAmb IAmb 06 45 15.0
comp=Z,9.8nm,1.0s
EPYK **Eagle Plains** 89.41 16 P P 06 45 13.9 0.0
baz=220
C23K **Itkillik River** 89.46 9 P P 06 45 14.4 +0.4
baz=207
G29M **Pine Creek** 89.51 15 P P 06 45 14.4 +0.1
baz=218
JCT **Junction City** 89.60 58 IAmb IAmb 06 45 17.5
comp=Z,6.8nm,0.8s
H31M **Peel River** 89.61 17 P P 06 45 14.9 +0.1
baz=222
F28M **Old Crow** 89.63 14 P P 06 45 15.1 +0.2
baz=217
E27K **Coleen River** 89.71 13 P P 06 45 15.6 +0.4
baz=215
D25K **Kavik River** 89.72 11 P P 06 45 15.7 +0.4
baz=211
G30M **tAoh Zraii Nji** 90.01 15 P 06 45 17.1 +0.4
G30M **tAoh Zraii Nji** 90.01 15 P P 06 45 16.5 -0.2
baz=220,SNR=7.2
APMT **Aspermont** 90.35 55 IAmb IAmb 06 45 20.8
comp=Z,8.6nm,0.8s
G31M **Satah River** 90.47 16 P P 06 45 19.1 +0.4
baz=222
C27K **Jago River** 90.48 12 P P 06 45 18.9 +0.1
baz=213
E28M **Babbage River** 90.50 13 P P 06 45 19.2 +0.4
baz=217
C26K **Camden Bay** 90.50 11 P P 06 45 19.0 +0.2
baz=212
BRDY **Brady** 90.53 57 IAmb IAmb 06 45 21.8
comp=Z,4.3nm,0.9s
TROLL **Troll, Antarti** 90.58 180 ⇑P P 06 45 19.7 +0.1
comp=Z,360nm,0.5s
LZDM **Lanzhou Array** 90.60 308 P P 06 45 21.6 +1.1
comp=Z,2.7nm,0.4s,baz=158,slow=4.3,SNR=5.2
comp=Z,2.7nm,0.4s
F30M **Barrier River** 90.60 15 P P 06 45 20.2 +0.9
baz=220
E29M **Blow River** 90.70 14 P P 06 45 20.5 +0.7
baz=218
D27M **Malcolm River** 90.71 13 P P 06 45 20.4 +0.5
baz=216
SNAA **Sanae** 90.87 179 ⇑P P 06 45 20.9 +0.2
comp=Z,91nm,0.5s
SNAA **Sanae** 90.87 179 P 06 45 21.0 +0.2
SNAA IAmb IAmb 06 45 21.6
comp=Z,8.0nm,1.2s
SNAA **Sanae** 90.87 179 P P 06 45 20.7 -0.1
comp=Z,2.3nm,0.4s,baz=208,slow=7.2,SNR=98
comp=Z,2.3nm,0.4s
SMWD **Samnorwood** 90.89 53 P 06 45 22.3 +0.8
SMWD IAmb IAmb 06 45 23.3
comp=Z,6.5nm,1.0s
F31M **Tsiigehtchic** 90.99 16 P 06 45 21.5 +0.4
F31M **Tsiigehtchic** 90.99 16 P P 06 45 21.2 +0.1
baz=222
VNA3 **Neumayer Olymp** 91.02 176 ⇑P P 06 45 21.7 +0.3
comp=Z,17nm,0.7s
LAO **LASA Array** 91.17 41 P P 06 45 24.3 +1.7
D28M **Stokes Point** 91.25 13 P P 06 45 22.7 +0.5
baz=218
VNA2 **Neumayer--Watz** 91.46 177 ⇑P P 06 45 24.0 +0.5
comp=Z,5.1nm,0.6s,baz=176,slow=3.4
RSSD **Black Hills** 91.54 44 P P 06 45 25.0 +0.5
RSSD IAmb IAmb 06 45 26.0
comp=Z,6.3nm,1.0s
PLPT **Palo Pinto** 91.59 56 P P 06 45 25.8 +1.0

INK	**Inuvik**	**91.69**	**15**			**P**		**06 45 24.5 +0.2**
INK				IAmb		IAmb		06 45 25.0
	comp=Z,8.6nm,0.9s							
INK	**Inuvik**	**91.69**	**15**	P		**P**		**06 45 24.2 -0.1**
	baz=222							
VNA1	**Neumayer--Stat**	**91.69**	**177**	⇑P		**P**		**06 45 24.9 +0.5**
	comp=Z,14nm,1.0s							
DGMT	**Dagmar**	**93.14**	**40**	P		**P**		**06 45 31.6 +0.1**
SONM	**Songino Array**	**93.19**	**319**	P		**P**		**06 45 32.4 +0.5**
	comp=Z,1.8nm,0.8s,baz=121,slow=3.3,SNR=7.1							
	comp=Z,1.8nm,0.8s							
R32A	**Long Quarter,**	**93.19**	**51**	P		**P**		**06 45 32.7 +0.7**
YKA	**Yellowknife Ar**	**94.19**	**25**	P		**P**		**06 45 36.6 +0.8**
YKA	**Yellowknife Ar**	**94.19**	**25**	P		**P**		**06 45 36.2 +0.3**
	comp=Z,3.0nm,0.8s,baz=258,slow=4.3,SNR=11							
	comp=Z,3.0nm,0.8s							
GTA	**Gaotai**	**94.67**	**310**	*e*P		**P**		**06 45 40.0 +1.1**
GTA				pmax		pmax		
	comp=Z,6.0nm,1.2s							
A36M	**Sachs Harbour**	**96.28**	**15**	P		**P**		**06 45 45.4 +0.2**
	baz=230							
ZALV	**Zalesovo Beam**	**107.87**	**322**	PKiKP		**PKiKP**		**06 50 40.1 -0.8**
	comp=Z,0.9nm,0.5s,baz=132,slow=2.1,SNR=5.3							
MKAR	**Makanchi Array**	**108.77**	**314**	Pdiff		**Pdif**		**06 46 42.8 +1.4**
	comp=Z,0.3nm,0.6s,baz=98,slow=4.4,SNR=1.7							
MKAR				PKiKP		**PKiKP**		**06 50 41.8 -1.2**
	comp=Z,1.2nm,0.5s,baz=259,slow=0.2,SNR=12							
KURBB	**Kurchatov Arra**	**111.52**	**318**	PKiKP		**PKiKP**		**06 50 46.8 -1.1**
	comp=Z,1.5nm,0.6s,baz=92,slow=1.8,SNR=16							
KURBB				PP		**PP**		**06 51 40.2 +0.2**
	comp=Z,0.9nm,0.8s,baz=90,slow=6.7,SNR=5.0							
BVAR	**Borovoye Array**	**116.48**	**321**	PKP		**PKPdf**		**06 50 56.9 -0.5**
	comp=Z,3.9nm,0.4s,baz=106,slow=2.6,SNR=9.4							
ARCES	**ARCESS Array B**	**126.01**	**350**	PKP		**PKPdf**		**06 51 15.4 +0.1**
	comp=Z,4.7nm,1.0s,baz=56,slow=0.8,SNR=7.6							
FINES	**FINESS Array B**	**132.86**	**344**	PKhKP		PKPpre		06 51 20.9
	comp=Z,5.8nm,1.0s,baz=96,slow=5.7,SNR=4.8							
FINES				SKPbc		**SKPab**		**06 54 07.7 +0.3**
	comp=Z,2.5nm,0.7s,baz=184,slow=5.2,SNR=4.8							
HFS	**Hagfors**	**136.63**	**351**	PKhKP		PKPpre		06 51 24.4
	comp=Z,1.9nm,0.5s,baz=70,slow=5.5,SNR=8.0							
AKASG	**Malin Array Be**	**140.21**	**332**	PKhKP		PKPpre		06 51 35.2
	comp=Z,0.7nm,0.3s,baz=44,slow=4.1,SNR=8.5							
EKA	**Eskdalemuir Ar**	**142.22**	**4**	PKhKP		PKPpre		06 51 41.5
	comp=Z,0.3nm,0.4s,baz=351,slow=2.2,SNR=3.9							
VASR	**Vaslui**	**143.75**	**329**	⇑P		**PKPdf**		**06 51 48.8 +0.1**
TLCR		**144.21**	**326**	⇓P		**PKPab**		**06 51 49.8 +0.2**
BURAR	**Bucovina Array**	**144.26**	**332**	⇑P		**PKPab**		**06 51 50.5 +0.6**
OJC	**Ojcow**	**144.28**	**340**	*e*PKP		**PKPab**		**06 51 50.1 +0.4**
GHRR		**144.35**	**328**	⇑P		**PKPab**		**06 51 51.5 +1.5**
TESR	**Tescani**	**144.40**	**330**	⇑P		PKPbc		06 51 49.4 -0.4
BRTR	**Keskin Array B**	**144.42**	**315**	PKP		**PKPdf**		**06 51 50.5 +0.2**
	comp=Z,8.3nm,0.6s,baz=113,slow=3.6,SNR=35							
KIRS	**Kirsehir-Merke**	**144.51**	**314**	⇓P		**PKPab**		**06 51 50.9 -0.2**
CFR	**Carcaliu**	**144.58**	**327**	⇑P		**PKPab**		**06 51 51.4 +0.4**
TPGR	**Topolog**	**144.64**	**326**	⇑P		**PKPab**		**06 51 51.7 +0.4**
ONER	**Baraj Valea Uz**	**144.65**	**330**	⇑P		**PKPab**		**06 51 52.2 +0.9**
KSP	**Ksiaz**	**144.78**	**344**	*e*PKP		**PKPab**		**06 51 51.9 +0.3**
NIE	**Niedzica**	**144.78**	**338**	*e*PKP		**PKPab**		**06 51 52.1 +0.4**
VRI	**Vrincioaia**	**144.82**	**329**	⇑P		**PKPab**		**06 51 52.2 +0.2**
PLOR	**Plostina**	**144.87**	**329**	⇑P		**PKPdf**		**06 51 50.9 +0.1**
TIRR	**Tirgusor**	**144.91**	**325**	⇑P		**PKPdf**		**06 51 49.8 -1.0**
ANKO	**Ankara**	**144.92**	**316**	⇑P		**PKPab**		**06 51 53.0 +0.4**
HARR	**Harsova**	**145.01**	**326**	⇑P		**PKPab**		**06 51 53.0 +0.3**
TURR	**Turia**	**145.04**	**330**	⇓P		**PKPab**		**06 51 53.1 +0.3**
ARCR	**ARCALIA**	**145.05**	**332**	⇑P		**PKPab**		**06 51 53.3 +0.5**
OSTC	**Ostas**	**145.06**	**343**	*e*PKP		**PKPab**		**06 51 53.5 +0.8**
CHVC	**Chvalec**	**145.08**	**344**	*e*PKP		**PKiKP**		**06 51 54.1 -1.0**
COVR	**Voineasa-Covas**	**145.09**	**329**	⇑P		**PKPdf**		**06 51 49.3 -1.8**
OZUR		**145.12**	**330**	⇑P		**PKPab**		**06 51 53.4 +0.3**
CLL	**Collm**	**145.15**	**347**	⇓*i*PKPbc		**PKPab**		**06 51 52.5 -0.4**
	comp=Z,15nm,0.6s							
CLL				*i* (PKPab)		**PKiKP**		**06 51 54.5 -0.6**
UPC	**Upice**	**145.16**	**344**	*e*PKP		**PKPab**		**06 51 53.2 +0.1**
DPC	**Dobruska-Polom**	**145.22**	**343**	*e*PKP		**PKPab**		**06 51 53.4 +0.1**
MANR	**Mangalia**	**145.23**	**324**	⇑P		**PKPab**		**06 51 53.1 -0.4**
KRLC	**Kraliky**	**145.34**	**342**	*e*PKP		**PKPab**		**06 51 53.4 -0.4**
BRG	**Berggiesshubel**	**145.34**	**346**	*i* PKP		**PKiKP**		**06 51 55.5 -0.1**
BRG				Amp				06 51 56.1
	comp=Z,6.6nm,0.7s							
MORC	**Moravsky Berou**	**145.38**	**341**	*e*PKP		**PKPbc**		**06 51 52.3 -0.4**
DOPR	**Dopca**	**145.40**	**330**	⇑P		**PKPab**		**06 51 54.4 +0.2**
ISR	**Istrita**	**145.44**	**328**	⇑P		**PKPab**		**06 51 54.2 -0.2**
MLR	**Muntele Rosu**	**145.47**	**329**	⇑P		**PKPbc**		**06 51 52.9 -0.4**
PVCC	**Panska Ves**	**145.52**	**345**	*e*PKP		**PKPab**		**06 51 54.2 -0.2**
CJR	**Cluj-Napoca**	**145.66**	**332**	⇑P		**PKPdf**		**06 51 51.6 -0.5**
MMAI	**Mount Meron Ar**	**145.79**	**303**	PKPbc		**PKPab**		**06 51 55.5 -0.7**
	comp=Z,14nm,0.5s,baz=72,slow=5.4,SNR=24							
MARR	**Marisel-Cluj**	**145.90**	**333**	⇓P		**PKPbc**		**06 51 53.7 -0.7**
DRGR		**145.99**	**333**	⇑P		**PKPbc**		**06 51 53.7 -0.9**
PRU	**Pruhonice**	**146.02**	**345**	*e*PKP		**PKPbc**		**06 51 54.8 +0.3**
VRAC	**Vranov**	**146.08**	**342**	*e*PKP		**PKPab**		**06 51 55.8 -0.9**
JAVC	**Velka Javorina**	**146.15**	**341**	*e*PKP		**PKPab**		**06 51 56.6 -0.5**
ARR	**Arges**	**146.20**	**330**	⇓P		**PKPdf**		**06 51 53.9 +0.8**
KRUC	**Moravsky**	**146.36**	**342**	*e*PKP		**PKPbc**		**06 51 55.9 +0.5**
RAZG	**Razgrad**	**146.53**	**326**	⇓P		**PKPbc**		**06 51 56.7 +0.6**
SIRR	**Siria**	**146.85**	**334**	⇓P		**PKPbc**		**06 51 57.8 +1.0**
MEM	**Membach**	**146.89**	**355**	*d*PKPdf		**PKPdf**		**06 51 54.3 +0.3**
MEM				*d*PKP		**PKPbc**		**06 51 56.5 -0.3**
BSTI	**Sart Tilman**	**146.96**	**355**	*d*PKP		**PKPbc**		**06 51 57.2 +0.2**
GRF	**Grafenberg Arr**	**147.04**	**348**	*e*PKP		**PKPbc**		**06 51 58.1 +0.8**
	baz=18,slow=2.1							
KHC	**Kasperske Hory**	**147.05**	**345**	*e*PKP		**PKiKP**		**06 51 58.4 -0.8**
SURR	**Surduc**	**147.06**	**333**	⇓P		**PKPbc**		**06 51 57.8 +0.4**
BCLA	**Clavier**	**147.14**	**355**	*d*PKP		**PKPbc**		**06 51 56.8 -0.7**
BHOU	**Houvegnez**	**147.15**	**354**	*d*PKP		**PKPbc**		**06 51 58.0 +0.5**
CKRC	**Cesky Krumlov**	**147.16**	**344**	*e*PKP		**PKiKP**		**06 51 58.7 -0.7**
PHSR	**Pinarhisar**	**147.22**	**322**	⇑P		**PKPbc**		**06 51 58.7 +0.1**
GERES	**GERESS Array B**	**147.29**	**345**	PKPbc		**PKPbc**		**06 51 58.6 +0.5**
	comp=Z,4.3nm,0.5s,baz=30,slow=3.2,SNR=26							
BMRD	**Maredsous**	**147.30**	**356**	*d*PKP		**PKPbc**		**06 51 58.4 +0.5**
ELND	**Elena**	**147.30**	**326**	⇑P		**PKPbc**		**06 51 58.0 -0.2**
BZS	**Buzias**	**147.38**	**333**	⇑P		**PKPdf**		**06 51 56.3 +1.3**
RCHB	**Rochefort**	**147.41**	**355**	*d*PKPdf		**PKPdf**		**06 51 55.2 +0.4**
RCHB				*d*PKiKP		**PKiKP**		**06 51 59.6 -0.2**
DOU	**Dourbes**	**147.51**	**356**	*d*PKP		**PKPbc**		**06 51 59.0 +0.5**
CONA	**Conrad Observa**	**147.53**	**342**	*i* PKP		**PKiKP**		**06 51 59.5 -0.8**
	comp=Z,7.3nm,0.6s,SNR=6.2							
HERR	**Herculane**	**147.60**	**331**	⇓P		**PKPbc**		**06 51 59.4 +0.5**
RONA	**Rosalia, Austr**	**147.60**	**341**	*i* PKP		**PKiKP**		**06 51 59.7 -0.7**
	comp=Z,7.8nm,0.7s							
WLF	**Walferdange**	**147.82**	**354**	*d*PKiKP		**PKiKP**		**06 52 00.8 +0.1**
MOA	**Molln**	**148.06**	**343**	*e*PKP		**PKPbc**		**06 52 00.4 +0.4**
	comp=Z,2.1nm,0.5s							
ARSA	**Arzberg**	**148.24**	**342**	*e*PKP		**PKPbc**		**06 52 00.4 0.0**
	comp=Z,4.1nm,1.1s							
BIOA	**Bad Ischl, Aus**	**148.37**	**344**	*e*PKP		**PKPbc**		**06 52 01.2 +0.4**
	comp=Z,3.8nm,0.7s							
LESA	**Schwarzleotal**	**148.86**	**345**	*i* PKP		**PKPbc**		**06 52 02.5 +0.4**
	comp=Z,5.5nm,0.4s							
BOVS	**Bovan**	**148.88**	**331**	⇑P		**PKPbc**		**06 52 02.6 +0.4**
SOKA	**Soboth**	**148.90**	**342**	*i* PKP		**PKPbc**		**06 52 02.1 -0.1**
	comp=Z,2.9nm,0.5s							
KBA	**Koelnbreinsper**	**149.01**	**344**	*i* PKP		**PKPbc**		**06 52 02.3 -0.3**
	comp=Z,5.7nm,0.4s,SNR=6.2							
EZN	**Ezine**	**149.06**	**321**	⇓P		**PKPbc**		**06 52 02.9 +0.3**
OBKA	**Obir**	**149.20**	**342**	*e*PKP		**PKPbc**		**06 52 02.5 -0.4**
	comp=Z,1.7nm,0.6s							
WATA	**Walderalm**	**149.21**	**346**	*i* PKP		**PKPbc**		**06 52 03.3 +0.3**
	comp=Z,6.0nm,0.5s							
RETA	**Reutte**	**149.24**	**347**	*i* PKP		**PKPbc**		**06 52 03.3 +0.3**
	comp=Z,3.9nm,0.7s							
WTTA	**Wattenberg**	**149.26**	**346**	*i* PKP		**PKPbc**		**06 52 03.6 +0.4**
	comp=Z,10nm,0.4s							
MOTA	**Moosalm**	**149.30**	**347**	*e*PKP		**PKPbc**		**06 52 03.6 +0.4**
	comp=Z,1.9nm,0.4s							
MYKA	**Terra Mystica**	**149.35**	**343**	*i* PKP		**PKPbc**		**06 52 03.0 -0.3**
	comp=Z,6.9nm,0.5s,SNR=5.2							
SQTA	**Sankt Quirin**	**149.40**	**347**	*i* PKP		**PKPbc**		**06 52 03.7 +0.3**
	comp=Z,5.5nm,0.6s							
ABTA	**Abfaltersbach**	**149.53**	**345**	*i* PKP		**PKPbc**		**06 52 03.4 -0.3**
	comp=Z,8.4nm,0.5s							
DAVA	**Damuels**	**149.60**	**348**	*i* PKiKP		**PKiKP**		**06 52 04.9 +0.2**
	comp=Z,7.9nm,0.7s							
FETA	**Feichten**	**149.69**	**347**	*i* PKP		**PKiKP**		**06 52 04.8 -0.1**
	comp=Z,4.0nm,0.5s							
PDG	**Podgorica**	**150.95**	**332**	⇑P		**PKiKP**		**06 52 07.3 -0.1**
ESDC	**Sonseca Array**	**157.56**	**11**	PKPab		**PKPab**		**06 52 45.5 +0.1**
	comp=Z,2.3nm,0.9s,baz=344,slow=4.4,SNR=9.9							
TORD	**Torodi Ar. Bea**	**175.52**	**184**	PKP		**PKPdf**		**06 52 23.4 -0.6**
	comp=Z,1.8nm,0.8s,baz=5.9,slow=2.9,SNR=10							
TORD				PKPab		**PKPab**		**06 54 04.6 -0.4**
	comp=Z,1.0nm,0.7s,baz=154,slow=2.5,SNR=5.3							

SSNC ***16*** *06:33:28.9±3.0, 18°.79N×70°.50W, h115km±999km, MD3.6, ML2.8*

OSPL ***16*** *06:33:30.3±2.0, 19°.70N×70°.29W, h0km±12km, ML2.0*

ISC 16 06:33:31.8±3.4, 19°.75N±0°.09×70°.5W±0°.2, h25km, n10, σ1s05/17, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SC01	**Santiago de lo**	**0.39**	**216**	*i* P		**Pb**	**06 33 39.1**	**-1.1**
SC01				*e*S		**Sb**	**06 33 45.3**	**-0.7**
LOPP1	**Punta Rusia, P**	**0.68**	**279**	*i* P		**Pb**	**06 33 46.1**	**+1.1**
LOPP1				*e*S		**Sn**	**06 33 57.8**	**+2.2**
LOPP1				IAML			06 33 58.5	
	comp=Z,49nm,1.2s							
SDDR	**Presa de Saban**	**1.07**	**225**	*i* P		**Pn**	**06 33 50.7**	**-0.6**
SDDR				IAML			06 34 06.2	
	comp=Z,14nm,0.1s							
LONE3	**El Aguacate, B**	**1.46**	**219**	*i* P		**Pn**	**06 33 57.1**	**+0.4**
LONE3				*e*S		**Sb**	**06 34 17.1**	**+0.5**
LONE3				IAML			06 34 18.1	
	comp=Z,14nm,0.2s							
LODU1	**El Espartillar**	**1.67**	**214**	*i* P		**Pb**	**06 34 01.4**	**-0.5**
LODU1				IAML			06 34 25.2	
	comp=Z,31nm,0.4s							
PODR	**Polo**	**1.74**	**206**	*i* P		**Pn**	**06 34 02.0**	**+1.4**
PODR				*e*S		**Sb**	**06 34 25.9**	**+1.1**
MASC	**Masc**	**3.55**	**278**	*e*P		**Pn**	**06 34 24.9**	**-0.4**
MASC				*e*S		**Sn**	**06 35 06.6**	**+0.1**
QMBU	**Quimbuelo**	**4.09**	**277**	*e*P		**Pn**	**06 34 31.8**	**-1.0**
QMBU				*e*S		**Sn**	**06 35 19.3**	**-0.7**
QMBU				IAML			06 35 21.2	
	comp=N,5.8nm,0.3s							
QMBU				IAML			06 35 21.7	
	comp=E,4.8nm,0.4s							
GTBY	**Guantanamo Bay**	**4.36**	**273**	*e*P		**Pn**	**06 34 35.9**	**-0.6**
GTBY				*e*S		**Sn**	**06 35 25.9**	**-0.5**
RCC	**Rio Carpintero**	**4.91**	**274**	*e*P		**Pn**	**06 34 42.9**	**-1.2**

IDC ***16*** *06:35:34.0±6.9, 17°.54S×179°.06W, h630km±86km, mb3.4/12, mbtmp4.3/12, Error ellipse: s-maj=34.6km s-min=21.8km az=112.0*

ISC 16 06:35:26.2±0.7, 17°.5S±0°.2×178°.9W±0°.2, h539km, n12, σ0s99/13, mb3.8/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.42**	**241**	P		**P**	**06 42 02.9**	**+1.0**
	8.5nm,0.8s,baz=75,slow=12,SNR=2.9							
	8.5nm,0.8s							
WRA	**Warramunga Arr**	**44.26**	**259**	P		**P**	**06 42 48.1**	**-0.2**
	1.8nm,0.6s,baz=96,slow=7.8,SNR=2.0							
	1.8nm,0.6s							
ASAR	**Alice Springs**	**44.46**	**254**	P		**P**	**06 42 50.5**	**+0.6**
	26nm,0.5s,baz=88,slow=7.9,SNR=9.0							
ASAR				PcP		**PcP**	**06 44 20.1**	**-1.7**
	0.8nm,0.4s,baz=94,slow=3.6,SNR=1.8							
	26nm,0.5s							
QSPA	**South Pole Qui**	**72.52**	**180**	P		**P**	**06 45 59.2**	**+0.8**
	3.2nm,0.8s,baz=78,slow=0.8,SNR=3.0							
	3.2nm,0.8s							
PETK	**Petropavlovsk-**	**73.20**	**346**	P		**P**	**06 46 03.0**	**+0.9**
	1.3nm,0.5s,baz=169,slow=6.3,SNR=3.4							
	1.3nm,0.5s							
NVAR	**Mina Array Bea**	**79.46**	**44**	P		**P**	**06 46 37.5**	**+0.3**
	2.0nm,0.8s,baz=226,slow=9.0,SNR=6.7							
	2.0nm,0.8s							
MAW	**Mawson**	**84.06**	**200**	P		**P**	**06 46 59.7**	**-0.2**
	1.0nm,0.5s,baz=311,slow=8.0,SNR=1.8							
	1.0nm,0.5s							
ILAR	**Eielson Array**	**85.62**	**13**	P		**P**	**06 47 06.7**	**-0.7**
	0.7nm,0.4s,baz=224,slow=5.3,SNR=5.3							
	0.7nm,0.4s							
TXAR	**Lajitas Array**	**86.17**	**58**	P		**P**	**06 47 11.9**	**+1.0**
	2.7nm,1.0s,baz=215,slow=6.1,SNR=9.9							
	2.7nm,1.0s							
PDAR	**Pinedale Array**	**87.39**	**44**	P		**P**	**06 47 16.4**	**-0.1**
	0.7nm,0.5s,baz=216,slow=3.3,SNR=6.8							
	0.7nm,0.5s							
SNAA	**Sanae**	**90.98**	**179**	P		**P**	**06 47 31.2**	**-1.3**
	0.5nm,0.5s,baz=22,slow=8.8,SNR=2.3							
	0.5nm,0.5s							
SONM	**Songino Array**	**92.97**	**319**	P		**P**	**06 47 41.3**	**-0.8**
	0.4nm,0.5s,baz=104,slow=6.1,SNR=2.0							
	0.4nm,0.5s							

GCG ***16*** *06:48:23.5±1.2, 15°.37N×94°.84W, h35km±25km, MD4.4, ML3.1*

MEX ***16*** *06:48:23.1±0.7, 15°.29N×94°.73W, h22km±20km, MD4.1*

ISC 16 06:48:17.1±1.3, 15°.31N±0°.06×94°.78W±0°.03, h16km±10km, n24, σ1s55/46, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.36**	**290**	*e*P		**Pg**	**06 48 45.3**	**+2.0**
HUIG				*e*S		**Sg**	**06 49 00.9**	**-0.2**
HUIG	**Huatulco**	**1.36**	**290**	*i* P		**Pg**	**06 48 45.2**	**+1.9**
HUIG				*i* S		**Sg**	**06 49 01.0**	**-0.1**
HUIG				IAML			06 49 02.2	
	comp=E,77nm,0.2s							
PCIG		**1.56**	**75**	*e*P		**Pb**	**06 48 45.5**	**0.0**
PCIG				*e*S		**Sn**	**06 49 04.2**	**+0.2**
CMIG	**Matias Romero**	**1.77**	**357**	*i* P		**Pg**	**06 48 51.3**	**+0.1**
CMIG				*i* S		**Sb**	**06 49 11.6**	**+0.3**
TGIG		**2.16**	**47**	*e*P		**Pb**	**06 48 56.9**	**+1.0**
TGIG				*e*S		**Sb**	**06 49 20.5**	**-2.0**
TGIG		**2.16**	**47**	*i* P		**Pg**	**06 48 58.1**	**-0.5**
TGIG				*i* S		**Sb**	**06 49 24.1**	**+1.6**
TGIG				IAML			06 49 25.3	
	comp=E,250nm,0.3s							
PEIG	**Puerto Escondi**	**2.38**	**287**	*e*P		**Pb**	**06 48 59.4**	**-0.3**
PEIG				*e*S		**Sn**	**06 49 22.4**	**-2.1**
THIG		**2.46**	**99**	*e*P		**Pb**	**06 49 00.8**	**-0.2**
THIG				*e*S		**Sn**	**06 49 25.5**	**-0.8**
PATR	**El Naranjo**	**2.46**	**94**	*e*P		**Pb**	**06 48 59.6**	**-1.7**
PATR				*e*S		**Sn**	**06 49 26.8**	**-0.1**
PAVE	**Pavencul**	**2.52**	**92**	*e*P		**Pb**	**06 49 00.8**	**-1.3**
PAVE				*e*S		**Sn**	**06 49 28.4**	**+0.3**
VHO	**Vista Hermosa**	**2.57**	**313**	*e*P		**Pg**	**06 49 04.5**	**-1.9**
VHO				*e*S		**Sn**	**06 49 30.7**	**+1.4**
NEUV	**Arroyo Zacate**	**2.58**	**338**	*e*P		**Pb**	**06 49 03.1**	**+0.1**
NEUV				*e*S		**Sb**	**06 49 32.3**	**-2.3**
CHUJ	**Union Juarez**	**2.59**	**94**	*e*P		**Pb**	**06 49 01.3**	**-2.0**
CHUJ				*e*S		**Sn**	**06 49 30.1**	**+0.3**
CCIG	**Comitan**	**2.72**	**69**	*e*P		**Pb**	**06 49 05.2**	**-0.3**
CCIG				*e*S		**Sn**	**06 49 32.7**	**-0.4**
CCIG	**Comitan**	**2.72**	**69**	*e*P		**Pb**	**06 49 06.2**	**+0.6**
CCIG				*e*S		**Sb**	**06 49 38.3**	**-0.5**
CCIG				IAML			06 49 46.7	
	comp=N,126nm,0.4s							
YOIG	**Yosondua**	**3.07**	**300**	*e*P		**Pb**	**06 49 10.9**	**-0.7**
YOIG				*e*S		**Sn**	**06 49 42.5**	**+0.6**
RTAL	**Retalhuleu**	**3.08**	**104**	*e*S		**Sn**	**06 49 39.4**	**-2.3**
HUEH	**Huehuetenango**	**3.16**	**89**	*e*P		**Pn**	**06 49 08.8**	**+2.3**
HUEH				*e*S		**Sn**	**06 49 44.1**	**+0.1**
TXIG	**Tlaxiaco**	**3.46**	**304**	*e*P		**Pb**	**06 49 17.3**	**-0.9**
TXIG				*e*S		**Sn**	**06 49 50.8**	**-0.6**
TOIG	**Toxpalan**	**3.53**	**322**	*e*P		**Pb**	**06 49 17.7**	**-1.6**
TOIG				*e*S		**Sn**	**06 49 52.4**	**-0.5**
HLIG	**Huajuapan de L**	**3.83**	**311**	*e*P		**Pb**	**06 49 22.4**	**-2.1**
HLIG				*e*S		**Sn**	**06 50 01.8**	**+1.3**
TPIG	**Tehuac#an**	**3.96**	**322**	*e*P		**Pb**	**06 49 22.9**	**-3.8**
TPIG				*e*S		**Sn**	**06 50 07.2**	**+3.6**
FTIG	**Fresnillo de T**	**4.12**	**309**	*e*P		**Pb**	**06 49 26.7**	**-2.8**
FTIG				*e*S		**Sn**	**06 50 09.3**	**+1.7**
PETF	**Flores**	**4.98**	**71**	*e*P		Pn	06 49 36.3	+5.0
PETF				*e*S		**Sn**	**06 50 28.1**	**-0.6**

SDD ***16*** *06:53:53.5±2.5, 19°.54N×69°.79W, h12km±23km, MD3.9, ML3.9, MW3.9*

NEIC ***16*** *06:53:53.2±1.3, 19°.47N±0°.02×69°.86W±0°.05, h10km±2km, mb4.0/5, Error ellipse: s-maj=7.9km s-min=3.2km az=84.0*

OSPL ***16*** *06:53:54.1±2.9, 19°.51N×69°.76W, h0km±11km, ML3.7*

ISC 16 06:53:53.5±0.9, 19°.48N±0°.03×69°.83W±0°.02, h19km±2km, n74, σ1s61/99, 25C-6D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LONA1	**Toro Cenizo, N**	**0.10**	**198**	*i* P		**Pg**	**06 53 57.5**	**+0.2**
LONA1				*e*S		**Sg**	**06 54 00.5**	**+0.7**
LONA1				IAML			06 54 00.7	
	comp=Z,14μm,0.3s							
NADR	**Nagua**	**0.12**	**191**	⇓*e*Pg		**Pg**	**06 53 57.0**	**-0.5**
NADR				⇑*e*Sg		**Sg**	**06 54 00.6**	**+0.4**
SFDR	**San Fco. de Ma**	**0.43**	**244**	⇓*e*Pg		**Pg**	**06 54 01.8**	**-0.5**
SFDR				⇑*e*Sg		**Sb**	**06 54 09.3**	**+0.7**
SFDR				IAML			06 54 09.8	
	comp=N,10μm,0.7s							
SMDR	**Samana, DR**	**0.64**	**107**	⇑*e*Pg		**Pg**	**06 54 05.3**	**-0.8**
SMDR				IAML			06 54 17.0	
	comp=N,2μm,0.8s							
SODR	**Sosua Marina B**	**0.75**	**292**	⇑*e*Pg		**Pg**	**06 54 08.2**	**-0.1**
SODR				IAML			06 54 28.6	
	comp=N,8μm,0.9s							
SC01	**Santiago de lo**	**0.85**	**267**			**Pb**	**06 54 09.4**	**-0.2**
SC01				Sn		**Sn**	**06 54 23.0**	**+0.6**
SC01	**Santiago de lo**	**0.85**	**267**	⇑*e*Pg		**Pb**	**06 54 09.8**	**+0.2**
SC01				IAML			06 54 24.7	
	comp=N,6μm,0.7s							
SC01	**Santiago de lo**	**0.85**	**267**	*i* P		**Pb**	**06 54 09.7**	**+0.1**
SC01				*e*S		**Sn**	**06 54 23.6**	**+1.3**
MIDR	**Miches**	**0.89**	**123**	⇓*e*Pg		**Pb**	**06 54 09.8**	**-0.4**
MIDR				IAML			06 54 25.2	
	comp=N,1μm,0.4s							
ABDR	**Alto Bandera**	**1.00**	**229**	⇓*e*Pg		**Pb**	**06 54 10.9**	**-1.5**
ABDR				⇑*e*Sg		**Sb**	**06 54 24.8**	**-0.5**
ABDR				IAML			06 54 28.0	
	comp=N,2μm,0.7s							
SDD	**Santo Domingo**	**1.01**	**184**	Pg		**Pb**	**06 54 11.5**	**-0.9**
SDD				Sg		**Sb**	**06 54 25.3**	**-0.1**
SDD	**Santo Domingo**	**1.01**	**184**	⇓*e*Pg		**Pb**	**06 54 11.4**	**-1.0**
SDD				⇓*e*Sg		**Sb**	**06 54 25.4**	**+0.1**
SDD				IAML			06 54 28.4	
	comp=N,369nm,0.8s							
SDD	**Santo Domingo**	**1.01**	**184**	*i* P		**Pb**	**06 54 11.5**	**-1.0**
SDD				*e*S		**Sb**	**06 54 25.2**	**-0.2**
MADR	**Mao Valverde**	**1.20**	**275**	⇑*e*Pg		**Pn**	**06 54 15.3**	**+0.1**
MADR				IAML			06 54 42.5	
	comp=N,6μm,0.5s							
LOPP1	**Punta Rusia,

T59A				IAmb	IAmb	06 58 16.7		
	comp=Z,11nm,1.3s							
BOAV	**Boa Vista**	**19.26**	**151**	P	**P**	**06 58 15.2**	**-1.8**
S54A	**Dingess, Beckl**	**20.82**	**334**	P	**P**	**06 58 35.1**	**+1.1**
S54A				IAmb	IAmb	06 58 53.0		
	comp=Z,13nm,1.3s							

SDD **16** *06:59:35.3±2.6, 19°.51N×69°.85W, h12km±17km, MD3.4, ML2.8, MW3.1*
OSPL **16** *06:59:35.6±2.5, 19°.49N×69°.72W, h7km±9km, ML2.7*
ISC 16 06:59:35.7±1.0, **19°.47N**±0°.04×**69°.80W**±0°.03, **h15**km±5km, **n30**, σ1§**47**/48, **26C-4D**, **Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LONA1	**Toro Cenizo, N**	**0.10**	**215**	*i* P	**Pg**	**06 59 39.0**	**0.0**
LONA1				*e*S	**Sg**	**06 59 42.1**	**+0.9**
LONA1				IAML		06 59 42.6	
	comp=Z,4μm,0.2s						
NADR	**Nagua**	**0.12**	**205**	⇓*e*Pg	**Pg**	**06 59 38.7**	**-0.5**
NADR				⇑*e*Sg	**Sg**	**06 59 41.0**	**-0.6**
NADR				IAML		06 59 42.4	
	comp=N,14μm,0.6s						
SFDR	**San Fco. de Ma**	**0.45**	**247**	⇓*e*Pg	**Pg**	**06 59 43.4**	**-1.4**
SFDR				⇑*e*Sg	**Sg**	**06 59 50.8**	**0.0**
SFDR				IAML		06 59 55.0	
	comp=N,762nm,0.5s						
SMDR	**Samana, DR**	**0.61**	**107**	⇓*e*Pg	**Pg**	**06 59 47.5**	**-0.1**
SMDR				IAML		06 59 59.2	
	comp=N,251nm,0.8s						
SODR	**Sosua Marina B**	**0.78**	**291**	⇑*e*Pg	**Pg**	**06 59 49.8**	**-1.2**
SODR				IAML		07 00 11.3	
	comp=N,478nm,0.8s						
MIDR	**Miches**	**0.86**	**124**	⇑*e*Pg	**Pg**	**06 59 51.2**	**-1.2**
MIDR				⇑*e*Sg	**Sb**	**07 00 05.0**	**+1.4**
MIDR				IAML		07 00 07.3	
	comp=N,121nm,0.4s						
SC01	**Santiago de lo**	**0.87**	**268**	⇑*e*Pg	**Pg**	**06 59 51.3**	**-1.3**
SC01				IAML		07 00 12.1	
	comp=N,395nm,0.8s						
SC01	**Santiago de lo**	**0.87**	**268**	*i* P	**Pg**	**06 59 51.4**	**-1.3**
SC01				*e*S	**Sb**	**07 00 05.2**	**+1.1**
SDD	**Santo Domingo**	**1.01**	**186**	⇓*e*Pg	**Pg**	**06 59 53.1**	**-2.1**
SDD				⇑*e*Sg	**Sg**	**07 00 07.2**	**-1.2**
SDD	**Santo Domingo**	**1.01**	**186**	*i* P	**Pg**	**06 59 53.1**	**-2.1**
SDD				*e*S	**Sg**	**07 00 07.2**	**-1.2**
ABDR	**Alto Bandera**	**1.01**	**230**	⇑*e*Pg	**Pg**	**06 59 52.6**	**-2.8**
ABDR				⇑*e*Sg	**Sg**	**07 00 07.2**	**-1.6**
ABDR				IAML		07 00 11.0	
	comp=N,184nm,0.1s						
LUDR	**Luperon**	**1.17**	**292**	⇑*e*Pg	**Pb**	**06 59 56.0**	**-1.5**
MADR	**Mao Valverde**	**1.23**	**275**	⇑*e*Pg	**Pn**	**06 59 58.3**	**0.0**
MADR				IAML		07 00 22.5	
	comp=N,327nm,0.7s						
HIDR	**Higuey Centro**	**1.35**	**130**	⇑*e*Pg	**Pn**	**06 59 59.9**	**-0.1**
HIDR				⇑*e*Sg	**Sg**	**07 00 20.2**	**+1.0**
HIDR				IAML		07 00 25.1	
	comp=N,187nm,0.2s						
LOPP1	**Punta Rusia, P**	**1.37**	**287**	*i* P	**Pn**	**06 59 59.1**	**-1.2**
LOPP1				*e*S	**Sb**	**07 00 18.9**	**+0.5**
LOPP1				IAML		07 00 27.3	
	comp=Z,97nm,0.6s						
SDDR	**Presa de Saban**	**1.48**	**251**	⇑*e*Pg	**Pn**	**07 00 01.1**	**-0.8**
SDDR				⇑*e*Sg	**Sn**	**07 00 21.0**	**-0.1**
SDDR				IAML		07 00 27.1	
	comp=N,99nm,0.3s						
SDDR	**Presa de Saban**	**1.48**	**251**	*i* P	**Pn**	**07 00 01.1**	**-0.8**
SDDR				*e*S	**Sn**	**07 00 20.6**	**-0.5**
SDDR				IAML		07 00 24.2	
	comp=Z,87nm,0.3s						
REDR	**Restauracion**	**1.53**	**259**	⇑*e*Pg	**Pg**	**07 00 05.9**	**+0.7**
REDR				⇑*e*Sg	**Sg**	**07 00 29.6**	**+4.4**
REDR				IAML		07 00 31.8	
	comp=N,320nm,0.2s						
PCDR	**Punta Cana, DR**	**1.65**	**125**	⇑*e*Sg	**Sg**	**07 00 29.8**	**+1.1**
PCDR				IAML		07 00 30.2	
	comp=N,106nm,0.9s						
LONE3	**El Aguacate, B**	**1.79**	**242**	*i* P	**Pn**	**07 00 06.2**	**+0.1**
LONE3				*e*S	**Sn**	**07 00 29.6**	**+0.9**
LONE3				IAML		07 00 35.9	
	comp=Z,65nm,0.3s						
MCDR	**Montecristi**	**1.80**	**284**	⇑*e*Pg	**Pn**	**07 00 05.7**	**-0.5**
MCDR				⇑*e*Sg	**Sn**	**07 00 29.8**	**+1.1**
MCDR				IAML		07 00 42.8	
	comp=N,103nm,0.5s						
NEDR	**Neiba UASD**	**1.81**	**238**	⇑*e*Pg	**Pn**	**07 00 06.9**	**+0.5**
NEDR				⇑*e*Sg	**Sb**	**07 00 33.0**	**+1.8**
NEDR				IAML		07 00 36.1	
	comp=N,45nm,0.4s						
PODR	**Polo**	**1.91**	**228**	⇑*e*Pg	**Pn**	**07 00 08.9**	**+1.1**
PODR				⇑*e*Sg	**Sb**	**07 00 36.5**	**+2.5**
PODR				IAML		07 00 39.5	
	comp=N,53nm,1.1s						
PODR	**Polo**	**1.91**	**228**	*i* P	**Pn**	**07 00 08.4**	**+0.5**
LODU1	**El Espartillar**	**1.93**	**235**	*i* P	**Pn**	**07 00 09.5**	**+1.4**
LODU1				IAML		07 00 38.0	
	comp=Z,43nm,1.9s						
JIDR	**Jimani**	**2.17**	**244**	⇓*e*Pg	**Pn**	**07 00 12.9**	**+1.6**
JIDR				⇑*e*Sg	**Sb**	**07 00 44.0**	**+2.7**
JIDR				IAML		07 00 46.1	
	comp=N,64nm,0.6s						
LOVI	**El Cajuil, Ovi**	**2.23**	**222**	*i* P	**Pn**	**07 00 12.3**	**+0.3**
LOVI				IAML		07 00 44.1	
	comp=Z,70nm,1.3s						
LOBH	**Bahia de las A**	**2.36**	**228**	*i* P	**Pn**	**07 00 16.4**	**+2.5**
LOBH				IAML		07 00 57.9	
	comp=Z,42nm,2.1s						
GRTK	**Grand Turk**	**2.39**	**329**	*e*S	**Sn**	**07 00 42.5**	**-0.8**
GRTK				IAML		07 00 43.9	
	comp=Z,66nm,1.2s						
PAPH	**Port-au-Prince**	**2.54**	**249**	*i* P	**Pn**	**07 00 16.3**	**-0.1**

IDC **16** *07:22:38.1±1.7, 37°.00N×20°.73E, h0km, mb3.6/3, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=43.3km s-min=29.1km az=113.0*
ATH **16** *07:22:38.6, 36°.77N×20°.49E, h8km±1km, ML3.5/7, Manual Solution by A.Moschou First location: 2019/09/16 07:23:52, This location: 2019/09/16 07:35:47 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
THE **16** *07:22:42.0, 37°.N±3°×2°.0E±°, h0km±4km, M3.3/11, MLh3.3/11*
BEO **16** *07:22:42.7±0.7, 37°.09N×20°.21E, h10km, ML3.1/14*
ISC 16 07:22:41.5±1.6, **36°.90N**±0°.06×**20°.49E**±0°.05, **h30**km±11km, **n54**, σ1§**77**/89, **Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.81**	**19**	P	**Pn**	**07 22 56.7**	**-0.1**
KRI1				S	**Sn**	**07 23 09.1**	**+1.3**
KRI1	**kERI**	**0.81**	**19**	P	**Pn**	**07 22 56.8**	**-0.1**
KRI1				S	**Sn**	**07 23 08.9**	**+1.0**
LTHK	**Lithakia**	**0.86**	**19**	P	**Pn**	**07 22 57.2**	**-0.3**
LTHK				S	**Sn**	**07 23 10.1**	**+1.1**
LTHK	**Lithakia**	**0.86**	**19**	P	**Pn**	**07 22 57.4**	**-0.1**
LTHK				S	**Sn**	**07 23 09.9**	**+0.9**
KYPS	**Kipseli, Zakin**	**0.96**	**16**	P	**Pn**	**07 22 59.9**	**+1.0**
KYPS				S	**Sn**	**07 23 14.2**	**+2.6**
PYL1	**Pylos**	**0.96**	**89**	P	**Pb**	**07 22 57.2**	**-2.4**
PYL1				S	**Sb**	**07 23 10.5**	**-1.4**
ORTH	**Orthonies,Zaky**	**0.97**	**10**	P	**Pn**	**07 22 59.3**	**+0.3**
ORTH				S	**Sn**	**07 23 13.1**	**+1.3**
ORTH	**Orthonies,Zaky**	**0.97**	**10**	P	**Pn**	**07 22 59.5**	**+0.4**
ORTH				S	**Sn**	**07 23 14.8**	**+2.9**
ZARO	**Zacharo**	**1.09**	**57**	P	**Pb**	**07 23 01.7**	**-0.1**
CLEM	**Kyllini,Ilia,G**	**1.12**	**27**	P	**Pb**	**07 23 03.1**	**+0.9**
AMT	**Artemida-Makis**	**1.16**	**56**	P	**Pb**	**07 23 02.0**	**-0.9**
ITM	**Ithomi**	**1.18**	**76**	P	**Pn**	**07 23 02.1**	**+0.1**
ITM				S	**Sn**	**07 23 19.9**	**+2.8**
ITM	**Ithomi**	**1.18**	**76**	P	**Pn**	**07 23 01.8**	**-0.2**
ITM				S	**Sn**	**07 23 18.1**	**+1.0**
RTZL	**Ratzakli, Kefa**	**1.20**	**11**	P	**Pb**	**07 23 04.3**	**+0.7**
PSDA	**Pessada-Kefalo**	**1.22**	**3**	P	**Pb**	**07 23 03.8**	**-0.1**
PSDA				S	**Sn**	**07 23 20.9**	**+3.0**
PSDA	**Pessada-Kefalo**	**1.22**	**3**	P	**Pb**	**07 23 04.2**	**+0.4**
PSDA				S	**Sn**	**07 23 21.4**	**+3.5**
VLS	**Valsamata**	**1.28**	**3**	P	**Pb**	**07 23 04.6**	**-0.3**
VLS				S	**Sb**	**07 23 22.5**	**+1.4**
VLS	**Valsamata**	**1.28**	**3**	P	**Pb**	**07 23 04.7**	**-0.3**
VLS				S	**Sb**	**07 23 22.6**	**+1.5**
DMLN	**Damoulianata-K**	**1.34**	**356**	P	**Pb**	**07 23 05.2**	**-0.8**
DMLN				S	**Sb**	**07 23 23.7**	**+0.8**
DRO	**Drossia**	**1.43**	**42**	P	**Pb**	**07 23 07.1**	**-0.4**
DRO	**Drossia**	**1.43**	**42**	P	**Pb**	**07 23 06.5**	**-1.0**
DRO				S	**Sb**	**07 23 27.0**	**+1.6**
FSK	**Fiskardo**	**1.56**	**2**	P	**Pb**	**07 23 09.6**	**-0.1**
EVGI	**Lefkada island**	**1.73**	**4**	P	**Pb**	**07 23 12.0**	**-0.6**
EVGI				S	**Sb**	**07 23 34.6**	**+0.8**
KLV	**Kalavryta, Ach**	**1.75**	**49**	P	**Pn**	**07 23 10.9**	**+1.1**
KLV				S	**Sb**	**07 23 34.2**	**-0.2**
GUR	**Goura**	**1.80**	**54**	P	**Pn**	**07 23 11.4**	**+0.8**
NYDR	**Nydri-Lefkada**	**1.82**	**5**	P	**Pn**	**07 23 13.2**	**-0.9**
NYDR				S	**Sb**	**07 23 38.2**	**+1.7**
LKD2	**Lefkada island**	**1.89**	**4**	P	**Pb**	**07 23 14.2**	**-1.2**
LKD2				S	**Sb**	**07 23 39.0**	**+0.4**
EFP	**Efpalio**	**1.90**	**36**	P	**Pb**	**07 23 14.4**	**-0.9**
EFP	**Efpalio**	**1.90**	**36**	P	**Pn**	**07 23 13.1**	**+1.3**
PVO	**Paravola**	**1.90**	**25**	P	**Pb**	**07 23 14.4**	**-0.9**
PVO	**Paravola**	**1.90**	**25**	P	**Pb**	**07 23 13.7**	**-1.8**
PVO				S	**Sb**	**07 23 38.2**	**-0.7**
SERG	**Sergoula**	**1.96**	**39**	P	**Pb**	**07 23 15.2**	**-1.3**
VLI	**Veliai**	**1.97**	**94**	P	**Pn**	**07 23 12.7**	**-0.1**
VLI				S	**Sn**	**07 23 37.4**	**+0.8**
KALE	**Kalithea**	**1.98**	**41**	P	**Pn**	**07 23 14.4**	**+1.3**
ANX	**Ano Chora**	**2.04**	**33**	P	**Pb**	**07 23 16.4**	**-1.4**
FNA	**Florina**	**3.94**	**10**	*e*Pn	**Pn**	**07 23 42.0**	**+2.0**
FNA				*e*Sn	**Sn**	**07 24 25.2**	**-0.1**
BOSS	**Bosilegrad**	**5.80**	**15**	*e*Pn	**Pn**	**07 24 06.5**	**+1.1**
BOSS				*e*Sn	**Sn**	**07 25 09.0**	**-1.9**
BARS	**Barje**	**6.00**	**9**	*e*Pn	**Pn**	**07 24 09.0**	**+0.8**
BARS				*e*Sn	**Sn**	**07 25 13.4**	**-2.5**
VTS	**Vitosha**	**6.09**	**19**	*e*Pn	**Pn**	**07 24 10.3**	**+0.7**
VTS				*e*Sn	**Sn**	**07 25 16.9**	**-1.5**
SELS	**Selova**	**6.33**	**4**	*e*Pn	**Pn**	**07 24 12.9**	**+0.1**
SELS				*e*Sn	**Sn**	**07 25 21.4**	**-2.7**
SJES	**Sjenica**	**6.37**	**357**	*e*Pn	**Pn**	**07 24 13.6**	**+0.2**
SJES				*e*Sn	**Sn**	**07 25 21.7**	**-3.4**
ZAPS	**Zavoj**	**6.58**	**14**	*e*Pn	**Pn**	**07 24 16.1**	**-0.1**
ZAPS				*e*Sn	**Sn**	**07 25 27.5**	**-2.6**
GOCS	**Kraljevo Serbi**	**6.67**	**2**	*e*Pn	**Pn**	**07 24 18.4**	**+1.0**
GOCS				*e*Sn	**Sn**	**07 25 28.6**	**-3.8**
IVAS	**Ivanjica**	**6.68**	**358**	*e*Pn	**Pn**	**07 24 16.6**	**-0.9**
IVAS				*e*Sn	**Sn**	**07 25 29.0**	**-3.6**
GRUS	**Gruza**	**6.99**	**1**	*e*Pn	**Pn**	**07 24 22.3**	**+0.6**
GRUS				*e*Sn	**Sn**	**07 25 36.9**	**-3.2**
BBLS	**Lazi&#263i**	**7.01**	**354**	*e*Pn	**Pn**	**07 24 21.2**	**-0.9**
BBLS				*e*Sn	**Sn**	**07 25 36.6**	**-4.3**
ZAGS	**Zajecar**	**7.04**	**10**	*e*Sn	**Sn**	**07 25 38.6**	**-2.7**
DIVS	**Divibare**	**7.20**	**357**	*e*Pn	**Pn**	**07 24 24.7**	**-0.1**
TRUS	**Trudelj**	**7.32**	**360**	*e*Pn	**Pn**	**07 24 26.9**	**+0.6**
TRUS				*e*Sn	**Sn**	**07 25 44.2**	**-4.1**
TEKS	**Tekeris**	**7.68**	**355**	*e*Pn	**Pn**	**07 24 29.4**	**-1.9**
TEKS				*e*Sn	**Sn**	**07 25 51.6**	**-5.6**
GERES	**GERESS Array B**	**12.93**	**340**	Pn	**Pn**	**07 25 43.1**	**-0.1**
	baz=150,slow=14,SNR=3.3 0.6nm,0.5s						
FINES	**FINESS Array B**	**24.82**	**6**	P	**P**	**07 28 00.8**	**+0.1**
	2.1nm,0.8s,baz=175,slow=8.5,SNR=3.8 2.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.03**	**220**	P	**P**	**07 28 41.7**	**+2.8**
	0.4nm,0.8s,baz=33,slow=9.6,SNR=2.4 0.4nm,0.8s						
MKAR	**Makanchi Array**	**46.00**	**57**	P	**P**	**07 31 01.2**	**-0.8**
	0.5nm,0.6s,baz=271,slow=8.1,SNR=5.3 0.5nm,0.6s						

GCG 16 07:28:19.7±0.7, **14°.47N**×**91°.80W**, **h69**km±12km, **MD3.0, ML1.2, MW4.5, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMCA	**Catarina**	**0.47**	**325**	*i* P	Pn	07 28 32.6	+0.4
SMCA				*e*S	Sn	07 28 41.6	+0.3
SMCA				IAML		07 28 44.4	
	comp=E,29nm,0.1s						
ESSG	**Sabana Grande**	**0.94**	**95**	*e*P	Pn	07 28 37.7	+0.2
ESSG				IAML		07 28 53.1	
	comp=E,72nm,0.1s						

HEL **16** *07:31:28.9±0.1, 63°.98N×28°.15E, h0km, ML1.5, Suspected explosion*
IDC **16** *07:31:29.5±2.0, 63°.95N×28°.12E, h0km, mbtmp2.9/2, ML1.8/2, Error ellipse: s-maj=52.0km s-min=10.6km az=96.0*
ISC 16 07:31:28.5±0.8, **63°.97N**±0°.02×**28°.12E**±0°.03, **h0**km, **n26**, σ1§**16**/46, **Finland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIF	**Nilsia**	**0.59**	**193**	PG	**Pg**	**07 31 39.9**	**+0.1**
	baz=15						
NIF				SG	**Sg**	**07 31 48.0**	**+0.5**
NIF				MSG		07 31 48.4	
	comp=Z,7.6nm,0.2s						
RMF	**Romuvaara**	**0.84**	**72**	PB	**Pg**	**07 31 44.5**	**0.0**
RMF				MSG		07 31 54.3	
	comp=Z,5.3nm,0.2s						
RMF				SB	**Sg**	**07 31 55.0**	**-0.3**
OUL	**Oulu**	**1.48**	**320**	PN	**Pn**	**07 31 55.9**	**-0.4**
	baz=138						
OUL				SN	**Sg**	**07 32 15.6**	**-0.3**
SUF	**Sumiainen**	**1.54**	**216**	PG	**Pn**	**07 31 56.8**	**-0.3**
SUF				MSG		07 32 15.3	
	comp=Z,2.3nm,0.2s						
SUF				SN	**Sn**	**07 32 18.1**	**+0.4**
OUF	**Merijarvi**	**1.54**	**287**	PG	**Pn**	**07 31 56.6**	**-0.5**
OUF				MSG		07 32 15.3	
	comp=Z,5.1nm,0.2s						
OUF				SG	**Sn**	**07 32 16.6**	**-1.1**
OBF4	**Vikkela, Lumij**	**1.56**	**304**	PN	**Pn**	**07 31 57.4**	**0.0**
OBF4				MSG		07 32 15.8	
	comp=Z,3.0nm,0.2s						
OBF4				SN	**Sb**	**07 32 18.7**	**+0.2**
KU1	**Kurvinen**	**1.72**	**20**	PN	**Pn**	**07 31 60.0**	**+0.4**
KU1				SN	**Sn**	**07 32 21.7**	**-0.5**
KU2	**Taivalkoski**	**1.75**	**2**	PG	**Pn**	**07 32 00.3**	**+0.2**
KU2				SN	**Sb**	**07 32 24.2**	**+0.3**
OBF0	**Syolatti, Pyha**	**1.78**	**289**	PG	**Pn**	**07 32 01.2**	**+0.9**
OBF0				MSG		07 32 22.3	
	comp=Z,3.8nm,0.2s						
OBF0				SN	**Sn**	**07 32 24.1**	**+0.5**
JOF	**Joensuu**	**1.78**	**125**	PG	**Pn**	**07 32 00.8**	**+0.3**
	baz=309						
JOF				SG	**Sn**	**07 32 24.4**	**+0.7**
MSF	**Maaselka**	**1.99**	**11**	PG	**Pn**	**07 32 04.2**	**+0.8**
MSF				SG	**Sn**	**07 32 29.5**	**+0.5**
KAF	**Kangasniemi**	**2.04**	**205**	PG	**Pb**	**07 32 05.3**	**-0.9**
	baz=26						
KAF				MSG		07 32 29.8	
	comp=Z,5.3nm,0.2s						
KAF				SG	**Sg**	**07 32 33.2**	**-0.6**
OBF8	**Ulkokalla**	**2.08**	**282**	PG	**Pb**	**07 32 07.1**	**+0.1**
OBF8				MSG		07 32 30.8	
	comp=Z,2.5nm,0.2s						
RANF	**Ranua**	**2.13**	**345**	PG	**Pb**	**07 32 07.1**	**-0.8**
RANF				SG	**Sb**	**07 32 34.3**	**-0.6**
KU6	**Riekki**	**2.20**	**19**	PG	**Pn**	**07 32 08.0**	**+1.8**
	baz=199						
KU6				MSG		07 32 33.7	
	comp=Z,1.6nm,0.2s						
KU6				SG	**Sn**	**07 32 35.9**	**+1.8**
KEF	**Keuruu**	**2.33**	**221**	PG	**Pb**	**07 32 10.6**	**-0.8**
KEF				MSG		07 32 38.4	
	comp=Z,2.2nm,0.2s						
KEF				SG	**Sb**	**07 32 40.9**	**+0.2**
OLKF	**Oulanka, Finla**	**2.42**	**12**	PG	**Pb**	**07 32 11.7**	**-1.2**
OLKF				MSG		07 32 40.2	
	comp=Z,2.0nm,0.2s						
OLKF				SG	**Sb**	**07 32 42.2**	**-1.1**
RUF	**Ruokolahti**	**2.58**	**171**	PG	**Pb**	**07 32 14.5**	**-1.0**
	baz=357						
RUF				MSG		07 32 45.3	
	comp=Z,2.1nm,0.2s						
RUF				SG	**Sb**	**07 32 48.9**	**+1.1**
FIA0	**FINESS Array S**	**2.70**	**201**	PB	**Pb**	**07 32 16.0**	**-1.6**
FIA0				MSG		07 32 49.0	
	comp=Z,1.2nm,0.2s						
FIA0				SB	**Sb**	**07 32 50.3**	**-0.9**
FINES	**FINESS Array B**	**2.70**	**201**	Pn	**Pn**	**07 32 15.3**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=18,slow=14,SNR=12						
FINES				Sn	**Sb**	**07 32 50.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=21,slow=24,SNR=10.0						
	comp=Z,1.8nm,0.6s						
KALU	**Kalix**	**2.78**	**315**	PB	**Pn**	**07 32 15.8**	**+1.7**
	baz=128						
UMAU	**Umeaa**	**3.29**	**272**	PN	**Pn**	**07 32 21.6**	**+0.5**
ERTU	**Ertsjaerv**	**3.60**	**319**	PB	**Pn**	**07 32 28.4**	**+3.0**
ERTU				SN	**Sn**	**07 33 09.2**	**+0.7**
PAJU	**Pajala**	**3.71**	**328**	PB	**Pn**	**07 32 30.1**	**+3.2**
ARCES	**ARCESS Array B**	**5.69**	**351**	Pn	**Pn**	**07 32 54.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=170,slow=11,SNR=2.0						
ARCES				Sn	**Sn**	**07 33 57.5**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=171,slow=24,SNR=1.4 comp=Z,3.1nm,1.0s						
I37NO	**I37NO**	**6.38**	**328**	I	I	08 10 00.0	
	baz=138,slow=328,SNR=1.0						

AEIC **16** *07:33:37.1±0.3, 53°.51N±0°.04×166°.02W±0°.07, h48km±9km, Error ellipse: s-maj=7.0km s-min=5.5km az=143.0*
NEIC 16 07:33:37.0±0.4, **53°.5N**±0°.1×**166°.0W**±0°.1, **h54**km±18km, **ML2.6**/6, **ML2.2**(AEIC), **Error ellipse: s-maj=19.0km s-min=2.2km az=149.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UNV	**Unalaska Valle**	**0.46**	**320**		Pn	07 33 47.9	-0.2
UNV					Sn	07 33 56.1	+0.1
UNV				IAML		07 33 56.4	
	comp=E,344nm,0.2s						
UNV				IAML		07 33 56.4	
	comp=N,240nm,0.1s						
MREP	**Makushin Rep't**	**0.55**	**306**		Pn	07 33 49.0	-0.1
MNAT	**Makushin Natee**	**0.56**	**314**		Pn	07 33 49.1	-0.1
AKMO	**Akutan Morgan**	**0.60**	**359**		Pn	07 33 49.6	0.0
AKMO					Sn	07 33 59.2	+0.4
ZRO	**Akutan Zero**	**0.60**	**1**		Pn	07 33 49.6	-0.1
ZRO					Sn	07 33 59.4	+0.5
MGOD	**Makushin Gods**	**0.60**	**300**		Pn	07 33 49.6	-0.1
AKBBA	**Akutan Broad B**	**0.61**	**4**		Pn	07 33 49.7	-0.1
AKBBA					Sn	07 33 59.6	+0.6
MSW	**Makushin Switc**	**0.63**	**312**		Pn	07 33 49.9	-0.1
MSW					Sn	07 33 59.8	+0.4
AHB	**Akutan Harbor**	**0.63**	**10**		Pn	07 33 50.0	-0.1
AHB					Sn	07 33 59.9	+0.3
AKV	**Akutan Volcano**	**0.64**	**2**		Pn	07 33 50.1	0.0
AKRB	**Akutan Reef Bi**	**0.64**	**356**		Pn	07 33 50.2	0.0
MAPS	**Pakushin South**	**0.64**	**300**		Pn	07 33 50.1	-0.1
AKUT	**Akutan**	**0.66**	**12**		Pn	07 33 50.3	0.0
AKUT				IAML		07 34 00.8	
	comp=E,238nm,0.2s						
AKSA	**Akutan Strait**	**0.67**	**15**		Pn	07 33 50.1	-0.4
AKSA					Sn	07 34 00.6	+0.3
LVA	**Lava Point**	**0.67**	**358**		Pn	07 33 50.5	0.0
LVA					Sn	07 34 00.7	+0.3
LVA				IAML		07 34 00.9	
	comp=E,242nm,0.3s						
AKLV	**Akutan Long Va**	**0.67**	**2**		Pn	07 33 50.4	-0.2
AKGG	**Akutan Green G**	**0.71**	**0**		Pn	07 33 51.1	+0.1
OKNC	**Okmok New Cone**	**1.27**	**269**		Pn	07 33 59.2	+0.7
WEBT	**Westdahl Beart**	**1.32**	**33**		Pn	07 34 00.3	+1.1

SDD **16** *07:34:33.8±2.7, 19°.58N×69°.85W, h12km±25km, MD3.0, ML2.8, MW2.9*
OSPL **16** *07:34:35.3±2.5, 19°.48N×69°.72W, h12km±9km, ML2.7*
ISC 16 07:34:34.4±1.0, **19°.52N**±0°.04×**69°.80W**±0°.03, **h17**km±6km, **n34**, σ1§**83**/48, **17C-7D**, **Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LONA1	**Toro Cenizo, N**	**0.15**	**204**	*i* P	**Pg**	**07 34 38.8**	**+0.4**
LONA1				*e*S	**Sg**	**07 34 41.9**	**+0.8**
NADR	**Nagua**	**0.17**	**198**	⇓*e*Pg	**Pg**	**07 34 38.3**	**-0.4**
NADR				⇑*e*Sg	**Sg**	**07 34 41.9**	**+0.2**
NADR				IAML		07 34 42.2	
	comp=N,8μm,0.2s						
SFDR	**San Fco. de Ma**	**0.47**	**241**	⇓*e*Pg	**Pg**	**07 34 43.1**	**-0.9**
SFDR				IAML		07 34 52.3	
	comp=N,797nm,0.1s						
SMDR	**Samana, DR**	**0.62**	**111**	⇓*e*Pg	**Pb**	**07 34 47.2**	**+0.4**
SMDR				IAML		07 34 59.0	
	comp=N,222nm,0.8s						
SC01	**Santiago de lo**	**0.88**	**264**	⇑*e*Pg	Pg	07 34 46.7	-4.8
SC01				IAML		07 35 06.6	
	comp=N,226nm,0.6s						
SC01	**Santiago de lo**	**0.88**	**264**	*i* P	**Pg**	**07 34 51.4**	**-0.1**
SC01				*e*S	**Sn**	**07 35 05.0**	**+0.5**
MIDR	**Miches**	**0.89**	**127**	⇑*e*Pg	**Pg**	**07 34 51.0**	**-0.6**
MIDR				⇑*e*Sg	**Sn**	**07 35 05.2**	**+0.6**
MIDR				IAML		07 35 07.1	
	comp=N,94nm,0.4s						
ABDR	**Alto Bandera**	**1.05**	**228**	⇑*e*Pg	**Pb**	**07 34 52.3**	**-2.0**
ABDR				⇑*e*Sg	**Sg**	**07 35 07.0**	**-1.6**
ABDR				IAML		07 35 09.5	
	comp=N,206nm,0.2s						
SDD	**Santo Domingo**	**1.06**	**186**	⇑*e*Pg	**Pb**	**07 34 52.5**	**-1.8**

QMBU				IAML		07 36 38.9	
	comp=N,6.5nm,0.3s						
QMBU				IAML		07 36 39.2	
	comp=E,4.8nm,0.4s						
MOAC	**Moa**	**4.98**	**284** *eP*	**Pn**		**07 35 44.9**	**-3.5**
GTBY	**Guantanamo Bay**	**5.02**	**276** *eP*	**Pn**		**07 35 46.2**	**-2.7**
RCC	**Rio Carpintero**	**5.57**	**276** *eP*	**Pn**		**07 35 53.8**	**-2.8**
PINC	**Pinares de May**	**5.71**	**281** *eP*	**Pn**		**07 35 55.2**	**-3.3**
PINC				IAML		07 37 03.2	
	comp=N,1.5nm,0.1s						
PINC				IAML		07 37 03.7	
	comp=E,1.7nm,0.1s						

IDC ***16*** *07:37:26.0±0.8, 38°.56N×96°.81W, h0km, mbtmp3.8/6, ML3.6/6, Error ellipse: s-maj=10.4km s-min=8.9km az=137.0*

NEIC ***16*** *07:37:27.5±1.1, 38°.49N±0°.03×96°.75W±0°.05, h5km±2km, mb3.8/13, mb_Lg3.3/133, Error ellipse: s-maj=7.8km s-min=3.1km az=122.0*

ISC 16 07:37:24.7±0.7, 38°.53N±0°.05×96°.72W±0°.04, h10km, n122, σ 2°.66/96, Kansas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
KSU1	**Kansas State U**	**0.57**	**9**	Pg			**Pb**	**07 37 38.9**	**+1.9**
KSU1				Sg			**Sb**	**07 37 47.2**	**+2.1**
R32A	**Long Quarter,**	**1.56**	**267**				**Pb**	**07 37 54.9**	**+1.1**
R32A							**Sb**	**07 38 14.4**	**+0.8**
T35A	**Sooner Cattle**	**1.62**	**174**				**Pn**	**07 37 56.0**	**+2.6**
BLOK	**Blackwell**	**1.81**	**193**	Pn			**Pn**	**07 37 58.8**	**+2.8**
KAN14	**Manchester OK**	**1.85**	**212**				**Pn**	**07 37 59.3**	**+2.7**
GC02	**Grant County #**	**1.90**	**209**				**Pn**	**07 38 00.0**	**+2.8**
OK051	**E0350 and S346**	**2.02**	**183**				**Pn**	**07 38 01.4**	**+2.5**
OK048	**Pawnee Station**	**2.12**	**185**				**Pn**	**07 38 02.7**	**+2.5**
CROK	**Carrier**	**2.26**	**207**				**Pn**	**07 38 05.0**	**+2.9**
QUOK	**Quay**	**2.36**	**180**				**Pn**	**07 38 06.2**	**+2.7**
CBKS	**Cedar Bluff**	**2.38**	**278**				**Pb**	**07 38 07.2**	**-0.5**
CBKS				IAmb_Lg				07 38 40.8	
	comp=Z,104nm,0.8s								
N35A	**Tabor**	**2.47**	**19**				**Pb**	**07 38 09.3**	**+0.1**
OK052	**Battle Ridge R**	**2.53**	**181**				**Pn**	**07 38 08.1**	**+2.2**
OK038	**West end E0370**	**2.60**	**219**				**Pn**	**07 38 09.8**	**+2.9**
DEOK	**Depew**	**2.69**	**176**				**Pn**	**07 38 10.6**	**+2.5**
P38A	**Dawn**	**2.71**	**65**				**Pn**	**07 38 12.2**	**+3.8**
P38A				IAmb_Lg				07 38 58.4	
	comp=Z,89nm,0.7s								
TUL3	**Leonard**	**2.72**	**164**				**Pn**	**07 38 10.9**	**+2.5**
TUL3				IAmb_Lg				07 38 58.4	
	comp=Z,132nm,0.7s								
OK029	**Liberty Lake**	**2.79**	**192**				**Pn**	**07 38 11.9**	**+2.5**
U38A	**Gravette**	**2.80**	**138**				**Pn**	**07 38 12.6**	**+3.0**
S39A	**Bolivar**	**2.81**	**106**				**Pn**	**07 38 13.4**	**+3.7**
ADOK	**Arcadia Dam**	**2.92**	**190**				**Pn**	**07 38 12.2**	**+0.9**
BGNE	**Belgrade**	**3.08**	**340**				**Pn**	**07 38 16.3**	**+2.9**
HHAR	**Hobbs**	**3.15**	**135**				**Pn**	**07 38 16.3**	**+1.9**
CSTR	**Hydro, Custer**	**3.28**	**209**				**Pn**	**07 38 19.0**	**+2.8**
L34A	**Svendsen Farm,**	**3.44**	**4**	Pn			**Pn**	**07 38 22.9**	**+4.5**
R40A	**Maddies Statio**	**3.51**	**93**				**Pn**	**07 38 23.1**	**+3.8**
N38A	**Joes South For**	**3.51**	**49**				**Pn**	**07 38 22.9**	**+3.6**
N38A				IAmb_Lg				07 39 22.6	
	comp=Z,117nm,0.7s								
P40A	**Paris**	**3.77**	**73**				**Pn**	**07 38 26.8**	**+3.8**
P40A				IAmb_Lg				07 39 29.6	
	comp=Z,67nm,0.9s								
MGMO	**Mountain Grove**	**3.79**	**110**				**Pn**	**07 38 27.0**	**+3.8**
X34A	**Smith Ranch, M**	**4.02**	**193**				**Pn**	**07 38 29.2**	**+2.8**
X34A				IAmb_Lg				07 39 35.4	
	comp=Z,89nm,0.8s								
WMOK	**Wichita Mounta**	**4.13**	**204**				**Pn**	**07 38 29.9**	**+2.0**
SCIA	**State Center**	**4.31**	**37**				**Pn**	**07 38 34.5**	**+4.2**
CCM	**Cathedral Cave**	**4.34**	**95**				**Pn**	**07 38 33.6**	**+2.9**
CCM	**Cathedral Cave**	**4.34**	**95**	IAmb_Lg				07 39 54.9	
	comp=Z,81nm,0.7s								
SMWD	**Samnorwood**	**4.43**	**221**				**Pn**	**07 38 33.8**	**+1.7**
SMWD				IAmb_Lg				07 39 55.3	
	comp=Z,72nm,0.8s								
FCAR	**Ozark Folk Cen**	**4.52**	**124**				**Pn**	**07 38 35.4**	**+2.2**
LOOK	**Love County**	**4.54**	**185**	IAmb_Lg				07 40 02.2	
	comp=Z,80nm,0.8s								
KSCO	**Kaye Shedlock'**	**4.64**	**278**	Pn			**Pn**	**07 38 36.7**	**+1.7**
MIAR	**Mount Ida**	**4.72**	**147**				**Pn**	**07 38 38.6**	**+2.7**
MIAR				IAmb_Lg				07 40 07.1	
	comp=Z,51nm,0.7s								
OGNE	**Ogallala**	**4.75**	**302**				**Pn**	**07 38 39.5**	**+3.0**
WHAR	**Wooly Hollow**	**4.80**	**131**				**Pn**	**07 38 39.8**	**+2.7**
WTFS	**Witchita Falls**	**4.96**	**197**				**Pn**	**07 38 42.0**	**+2.7**
FVM	**French Village**	**4.99**	**94**				**Pn**	**07 38 43.0**	**+3.4**
N41A	**Harden Midland**	**5.03**	**63**	Pn			**Pn**	**07 38 43.6**	**+3.5**
LCAR	**Lake Charles**	**5.07**	**117**				**Pn**	**07 38 44.4**	**+3.6**
LCAR				IAmb_Lg				07 40 10.1	
	comp=Z,50nm,0.8s								
SLM	**Saint Louis**	**5.08**	**87**	Pn			**Pn**	**07 38 43.9**	**+2.9**
X40A	**Basin Creek Fa**	**5.11**	**141**				**Pn**	**07 38 43.6**	**+2.3**
UALR	**University of**	**5.14**	**135**	Pn			**Pn**	**07 38 43.1**	**+1.3**
UALR				IAmb_Lg				07 40 11.7	
	comp=Z,86nm,0.8s								
Z35A	**Perchaven, San**	**5.21**	**185**				**Pn**	**07 38 44.7**	**+2.1**
Z35A				IAmb_Lg				07 40 21.1	
	comp=Z,45nm,0.8s								
RTBA	**Rita Blanca**	**5.22**	**248**	IAmb_Lg				07 40 17.4	
	comp=Z,38nm,1.0s								
PBMO	**Poplar Bluff**	**5.29**	**107**	IAmb_Lg				07 40 19.9	
	comp=Z,75nm,0.7s								
AMTX	**Amarillo**	**5.39**	**229**	IAmb_Lg				07 40 29.8	
	comp=Z,79nm,0.8s								
Z38A	**Mt. Pleasant**	**5.45**	**164**	IAmb_Lg				07 40 20.8	
	comp=Z,42nm,0.8s								
FW06	**Azle**	**5.59**	**187**	IAmb_Lg				07 40 36.2	
	comp=Z,36nm,0.9s								
WLAR	**White Oak Lake**	**5.65**	**148**	IAmb_Lg				07 40 28.0	
	comp=Z,48nm,0.8s								
P43A	**Skaggs, Pawnee**	**5.71**	**77**				**Pn**	**07 38 53.0**	**+3.4**
P43A				IAmb_Lg				07 40 40.5	
	comp=Z,75nm,0.7s								
CGM3	**Cape Girardeau**	**5.72**	**100**	IAmb_Lg				07 40 25.7	
	comp=Z,35nm,0.7s								
PARMO	**Parma**	**5.84**	**106**				**Pn**	**07 38 53.2**	**+1.8**
DKNS	**Dickens**	**5.93**	**216**	IAmb_Lg				07 40 35.8	
	comp=Z,54nm,0.8s								
S44A	**Carbondale**	**5.95**	**96**	IAmb_Lg				07 40 35.3	
	comp=Z,69nm,0.8s								
Q44A	**Meyer Farm, Va**	**6.04**	**84**	IAmb_Lg				07 40 46.5	
	comp=Z,50nm,1.0s								
SUSD	**Miller**	**6.14**	**345**				**Pn**	**07 38 57.4**	**+1.9**
SUSD				IAmb_Lg				07 40 44.8	
	comp=Z,49nm,0.8s								
Z41A	**Richland Creek**	**6.15**	**148**	Pn			**Pn**	**07 38 57.3**	**+1.7**
Z41A				IAmb_Lg				07 40 49.5	
	comp=Z,62nm,1.1s								
T25A	**Trinidad**	**6.24**	**260**	IAmb_Lg				07 40 46.8	
	comp=Z,68nm,0.9s								
ABTX	**Abilene, Hawle**	**6.36**	**203**	IAmb_Lg				07 40 52.2	
	comp=Z,29nm,0.9s								
SN07	**Snyder 07**	**6.40**	**213**	IAmb_Lg				07 41 07.1	
	comp=Z,43nm,0.8s								
JFWS	**Jewell Farm**	**6.58**	**46**	IAmb_Lg				07 41 07.6	
	comp=Z,62nm,0.7s								
MSTX	**Muleshoe**	**6.68**	**229**	IAmb_Lg				07 41 14.7	
	comp=Z,37nm,0.9s								
POST	**Post**	**6.69**	**217**				**Pn**	**07 39 04.3**	**+1.2**
POST				IAmb_Lg				07 41 16.3	
	comp=Z,37nm,0.8s								
OLIL	**Olney**	**6.75**	**86**	Pn			**Pn**	**07 39 05.9**	**+2.0**
OLIL				IAmb_Lg				07 41 03.0	
	comp=Z,51nm,1.0s								
ISCO	**Idaho Springs**	**7.02**	**283**	IAmb_Lg				07 41 12.3	
	comp=Z,33nm,1.1s								
I40A	**Norwalk**	**7.06**	**39**				**Pn**	**07 39 10.1**	**+2.0**
I40A				IAmb_Lg				07 41 20.1	
	comp=Z,29nm,0.7s								
OXF	**Oxford**	**7.12**	**122**	IAmb_Lg				07 41 18.2	
	comp=Z,49nm,0.7s								
143A	**Socs Landing,**	**7.25**	**142**	IAmb_Lg				07 41 21.6	
	comp=Z,25nm,0.7s								
M44A	**Midewin, Midew**	**7.25**	**64**	IAmb_Lg				07 41 22.3	
	comp=Z,55nm,0.9s								
SPMN	**Marine on St.**	**7.30**	**22**				**Pn**	**07 39 13.9**	**+2.5**
SPMN				IAmb_Lg				07 41 33.1	
	comp=Z,32nm,1.0s								
Y45A	**Yeager Farm, C**	**7.44**	**127**	IAmb_Lg				07 41 29.4	
	comp=Z,54nm,0.9s								
WVT	**Waverly**	**7.48**	**106**	IAmb_Lg				07 41 28.0	
	comp=Z,27nm,0.7s								
P46A	**Rosedale**	**7.48**	**79**	IAmb_Lg				07 41 37.0	
	comp=Z,47nm,0.8s								
SGCY	**Sterling City**	**7.52**	**210**	IAmb_Lg				07 41 42.8	
	comp=Z,31nm,0.8s								
K43A	**Burlington**	**7.62**	**54**				**Pn**	**07 39 18.0**	**+2.2**
SFIN	**Lafayette**	**7.67**	**73**	IAmb_Lg				07 41 37.8	
	comp=Z,35nm,0.8s								
435B	**Jarrell**	**7.76**	**185**				**Pn**	**07 39 18.9**	**+1.1**
435B				IAmb_Lg				07 41 38.4	
	comp=Z,35nm,0.9s								
T47A	**Sharon Grove**	**7.77**	**98**				**Pn**	**07 39 20.0**	**+2.1**
T47A				IAmb_Lg				07 41 40.1	
	comp=Z,27nm,0.7s								
PLAL	**Pickwick Lake**	**7.79**	**114**	Pn			**Pn**	**07 39 21.0**	**+2.8**
PLAL				IAmb_Lg				07 41 33.4	
	comp=Z,31nm,0.7s								
RSSD	**Black Hills**	**7.84**	**318**	IAmb_Lg				07 42 00.3	
	comp=Z,27nm,0.9s								
I42A	**Draeger Farm,**	**7.96**	**45**				**Pn**	**07 39 23.2**	**+2.8**
I42A				IAmb_Lg				07 41 47.0	
	comp=Z,26nm,0.7s								
VBMS	**Vicksburg**	**8.08**	**139**	IAmb_Lg				07 42 06.5	
	comp=Z,37nm,1.1s								
G40A	**Rib Lake**	**8.30**	**34**	Pn			**Pn**	**07 39 27.2**	**+2.0**
G40A				IAmb_Lg				07 41 50.8	
	comp=Z,22nm,0.9s								
V48A	**Smith Brothers**	**8.38**	**106**	IAmb_Lg				07 41 50.3	
	comp=Z,34nm,1.0s								
OZNA	**Ozona**	**8.41**	**207**				**Pn**	**07 39 27.6**	**+0.9**
JCT	**Junction City**	**8.42**	**198**	Pn			**Pn**	**07 39 27.7**	**+0.8**
JCT				IAmb_Lg				07 42 08.3	
	comp=Z,37nm,0.8s								
K22A	**Casper**	**8.51**	**302**	Pn			**Pn**	**07 39 32.8**	**+4.6**
K22A				IAmb_Lg				07 42 01.7	
	comp=Z,34nm,0.9s								
E28A	**Huff**	**8.55**	**341**	Pn			**Pn**	**07 39 32.8**	**+4.2**
E28A				IAmb_Lg				07 42 08.0	
	comp=Z,24nm,0.9s								
ANMO	**Albuquerque**	**8.59**	**248**	Pn			**Pn**	**07 39 30.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=76,slow=8.3,SNR=3.1								
ANMO				Pg			Pg	07 40 00.8	-8.4
	comp=Z,0.3nm,0.3s,baz=154,slow=14,SNR=3.9								
ANMO				Lg			Lg	07 41 47.7	
	comp=Z,2.2nm,0.3s,baz=39,slow=22,SNR=7.4								
	comp=Z,0.4nm,0.4s								
MNHN	**Monahans**	**8.72**	**216**	IAmb_Lg				07 42 07.9	
	comp=Z,19nm,0.9s								
N47A	**Urbana**	**8.82**	**71**	Pn			**Pn**	**07 39 33.6**	**+1.4**
MDND	**Maddock**	**9.55**	**348**	IAmb_Lg				07 42 51.7	
	comp=Z,55nm,0.9s								
F42A	**Maple Grove Fa**	**9.63**	**39**	IAmb_Lg				07 42 32.7	
	comp=Z,23nm,0.7s								
DRIO	**Del Rio**	**9.64**	**201**	Pn			**Pn**	**07 39 44.0**	**+0.4**
O49A	**Covington**	**9.74**	**76**	Pn			**Pn**	**07 39 46.5**	**+1.7**
AGMN	**Agassiz Nation**	**9.78**	**3**	Pn			**Pn**	**07 39 47.4**	**+2.0**
N49A	**Columbus Grove**	**9.95**	**72**	Pn			**Pn**	**07 39 49.2**	**+1.4**
EYMN	**Ely**	**10.15**	**20**	Pn			**Pn**	**07 39 52.5**	**+2.0**
PDAR	**Pinedale Array**	**10.63**	**298**	Pn			**Pn**	**07 39 59.7**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=117,slow=13,SNR=7.1								
PDAR				Sn			**Sn**	**07 41 54.5**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=118,slow=21,SNR=3.6								
PDAR				Lg			Lg	07 42 56.0	
	comp=Z,0.6nm,0.3s,baz=111,slow=29,SNR=8.3								
	comp=Z,0.3nm,0.3s								
TKL	**Tuckaleechee C**	**10.73**	**102**	Pn			**Pn**	**07 40 02.2**	**+3.7**
	comp=Z,0.2nm,0.3s,baz=262,slow=7.1,SNR=4.6								
TKL				Sn			**Sn**	**07 41 55.4**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=137,slow=5.9,SNR=0.9								
TKL				Lg			Lg	07 43 00.2	
	comp=Z,1.1nm,0.3s,baz=8.1,slow=23,SNR=8.0								
	comp=Z,1.0nm,0.3s								
TXAR	**Lajitas Array**	**10.83**	**214**	Pn			**Pn**	**07 40 00.1**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=37,slow=11,SNR=31								
TXAR				Sn			**Sn**	**07 41 57.0**	**-4.2**
	comp=Z,0.2nm,0.3s,baz=46,slow=20,SNR=1.7								
TXAR				Lg			Lg	07 42 59.0	
	comp=Z,0.7nm,0.3s,baz=38,slow=26,SNR=5.7								
	comp=Z,0.8nm,0.4s								
ULM	**Lac du Bonnet**	**11.73**	**3**	Pn			**Pn**	**07 40 11.2**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=180,slow=12,SNR=8.2								
ULM				Sn			**Sn**	**07 42 15.3**	**-7.7**
	comp=Z,0.5nm,0.3s,baz=122,slow=22,SNR=3.1								
ULM				Lg			Lg	07 43 28.9	
	comp=Z,0.5nm,0.3s,baz=265,slow=16,SNR=3.9								
	comp=Z,1.6nm,0.3s								
ELK	**Elko**	**14.44**	**285**	Lg			Lg	07 44 55.9	
	comp=Z,0.1nm,0.3s,baz=331,slow=7.7,SNR=1.6								
SADO	**Sadowa**	**14.54**	**59**	Pn			**Pn**	**07 40 48.6**	**-1.8**
	comp=Z,2.0nm,0.3s,baz=265,slow=11,SNR=1.1								
SADO				Sn			**Sn**	**07 43 25.9**	**-5.6**
	comp=Z,1.0nm,0.3s,baz=128,slow=22,SNR=1.6								
SADO				Lg			Lg	07 44 55.8	
	comp=Z,3.6nm,0.3s,baz=156,slow=15,SNR=4.6								
	comp=Z,18nm,0.7s								
L56A	**Greenwood**	**15.05**	**70**	Pn			**Pn**	**07 40 57.4**	**0.0**
T59A	**Double "B" Far**	**15.25**	**90**	Pn			**Pn**	**07 41 00.5**	**+0.5**
T59A				IAmb			IAmb	07 41 10.4	
	comp=Z,8.6nm,1.3s								
SDMD	**Soldier's Deli**	**15.49**	**81**	Pn			**Pn**	**07 41 02.9**	**-0.3**
SDMD				IAmb			IAmb	07 41 10.5	
	comp=Z,6.2nm,1.5s								
N58A	**Sunbury**	**15.58**	**75**	Pn			**Pn**	**07 41 04.1**	**-0.2**
KSPA	**Keystone Colle**	**16.33**	**73**	Pn			**Pn**	**07 41 12.4**	**-1.6**
J57A	**Williamstown**	**16.38**	**66**	Pn			**Pn**	**07 41 13.2**	**-1.5**
FFC	**Flin Flon**	**16.59**	**349**	Pn			**Pn**	**07 41 17.0**	**-0.2**
L59A	**Walton**	**16.92**	**71**	Pn			**Pn**	**07 41 21.7**	**+0.2**
L59A				IAmb			IAmb	07 41 36.1	
	comp=Z,7.7nm,1.3s								
LHV	**Little Huntoon**	**17.08**	**276**	Pn			**Pn**	**07 41 22.7**	**-0.8**
LHV				IAmb			IAmb	07 41 28.0	
	comp=Z,12nm,1.0s								
J59A	**Piesco**	**17.47**	**67**	Pn			**Pn**	**07 41 29.3**	**+0.9**
J59A				IAmb			IAmb	07 41 43.2	
	comp=Z,6.2nm,1.2s								
TRQ	**Mont Tremblant**	**18.05**	**58**				**Pn**	**07 41 37.7**	**+2.1**
K62A	**Royalston**	**19.03**	**70**	P			**P**	**07 41 48.5**	**+1.8**

GCG ***16*** *07:46:40.4±0.5, 13°.33N×88°.38W, h223km±20km, MD4.2*
CATAC ***16*** *07:46:42.1±0.6, 13°.1N±13°×8°.8W±°, h192km±4km, M2.9/15, MLv2.9/15, Error ellipse: s-maj=31.2km s-min=4.1km az=26.5, confirmed*
SNET ***16*** *07:46:44.2±0.8, 12°.72N×88°.44W, h154km±19km, ML3.0*

ISC 16 07:46:41.3±2.6, 13°.3N±0°.2×88°.2W±0°.1, h201km±17km, n47, σ 0°.73/53, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BLLM	**Bellamira**	**0.20**	**342** *eP*				**Pn**	**07 47 08.1**	**+0.3**
CNRM	**Centro Naciona**	**0.22**	**1**	P			**Pn**	**07 47 07.9**	**+0.1**
PACA	**Pacayal**	**0.26**	**326** *eP*				**Pn**	**07 47 08.3**	**+0.3**
PACA	**Pacayal**	**0.26**	**326**	P			**Pn**	**07 47 09.0**	**+1.0**
PACA	**Pacayal**	**0.26**	**326**	S			**S**	**07 47 28.3**	**-0.6**
LCND	**La Caada**	**0.28**	**78** *eP*				**Pn**	**07 47 08.1**	**+0.2**
LCND	**La Caada**	**0.28**	**78**	P			**Pn**	**07 47 07.9**	**0.0**
CNCH	**Conchagua**	**0.33**	**86** *eP*				**Pn**	**07 47 08.1**	**0.0**
CNCH				eS			**S**	**07 47 27.3**	**-1.6**
CNCH	**Conchagua**	**0.33**	**86**	P			**Pn**	**07 47 08.0**	**-0.1**
CNCH	**Conchagua**	**0.33**	**86**	S			**S**	**07 47 29.2**	**+0.3**
UESV	**Universidad de**	**0.71**	**303**	P			**Pn**	**07 47 09.8**	**+0.4**
UESV	**Universidad de**	**0.71**	**303**	S			**S**	**07 47 31.8**	**+0.6**
PAVA	**Las Pavas**	**0.87**	**302** *eP*				**Pn**	**07 47 10.2**	**-0.2**
PAVA				eS			**S**	**07 47 31.7**	**-1.2**
PAVA	**Las Pavas**	**0.87**	**302**	P			**Pn**	**07 47 10.7**	**+0.3**
PAVA	**Las Pavas**	**0.87**	**302**	S			**S**	**07 47 32.7**	**-0.3**
LFRS	**El Faro**	**0.94**	**293** *eP*				**Pn**	**07 47 10.3**	**-0.6**
LBRS	**Las Brisas**	**0.97**	**300** *eP*				**Pn**	**07 47 11.2**	**+0.1**
LFU	**La Fuente**	**1.04**	**298** *eP*				**Pn**	**07 47 11.8**	**+0.3**
LOMA	**Loma Larga**	**1.05**	**292** *eP*				**Pn**	**07 47 11.1**	**-0.6**
LOMA	**Loma Larga**	**1.05**	**292**	S			**S**	**07 47 36.0**	**+1.1**
LOMA	**Loma Larga**	**1.05**	**292**	P			**Pn**	**07 47 12.0**	**+0.4**
UDBS	**Universidad Do**	**1.06**	**296** *eP*				**Pn**	**07 47 11.9**	**+0.3**
UDBS	**Universidad Do**	**1.06**	**296**	P			**Pn**	**07 47 12.0**	**+0.4**
UTEC	**Universidad Te**	**1.09**	**294**	P			**Pn**	**07 47 12.5**	**+0.6**
UESS	**Universidad de**	**1.10**	**295** *eP*				**Pn**	**07 47 12.2**	**+0.3**
UEES	**Universidad Ev**	**1.13**	**294** *eP*				**Pn**	**07 47 12.6**	**+0.4**
UEES	**Universidad Ev**	**1.13**	**294**	P			**Pn**	**07 47 12.8**	**+0.6**
LLGN	**La Laguna**	**1.18**	**320**	P			**Pn**	**07 47 12.4**	**-0.1**
BOQS	**Boqueron**	**1.18**	**294** *eP*				**Pn**	**07 47 13.3**	**+0.6**
PMON	**Piamonte**	**1.20**	**293** *eP*				**Pn**	**07 47 12.8**	**+0.1**
PMON	**Piamonte**	**1.20**	**293**	P			**Pn**	**07 47 13.4**	**+0.7**
PMON	**Piamonte**	**1.20**	**293**	S			**S**	**07 47 37.8**	**+1.1**
JAYA	**Jayaque - finc**	**1.30**	**288** *eP*				**Pn**	**07 47 13.1**	**-0.5**
JAYA				eS			**S**	**07 47 35.0**	**-3.3**
JAYA				IAML				07 47 44.5	
	comp=Z,139nm,0.2s								
JAYA	**Jayaque - finc**	**1.30**	**288** *i P*				**Pn**	**07 47 13.5**	**-0.1**
JAYA				*i S*			**S**	**07 47 39.2**	**+1.0**
JAYA	**Jayaque - finc**	**1.30**	**288**	P			**Pn**	**07 47 13.7**	**+0.2**
PKGN	**Cerro Pekin**	**1.30**	**116**	P			**Pn**	**07 47 14.1**	**+0.8**
PKGN				S			**S**	**07 47 38.3**	**+0.4**
CEDA	**San Andres**	**1.31**	**295** *eP*				**Pn**	**07 47 13.5**	**0.0**
CNGA	**Al SSO del Vol**	**1.62**	**118**	P			**Pn**	**07 47 15.9**	**-0.3**
CNGA				S			**S**	**07 47 43.4**	**+0.6**
CNGN	**Cerro Negro**	**1.62**	**117**	S			**S**	**07 47 42.9**	**0.0**
CNGN	**Cerro Negro**	**1.62**	**117**	P			**Pn**	**07 47 16.5**	**+0.2**
MTO3	**Montecristo**	**1.62**	**315** *i P*				**Pn**	**07 47 16.5**	**+0.1**
MTO3	**Montecristo**	**1.62**	**315**	P			**Pn**	**07 47 16.3**	**-0.1**
NUBE	**Las Nubes**	**1.69**	**293** *i P*				**Pn**	**07 47 17.0**	**+0.1**
NUBE	**Las Nubes**	**1.69**	**293**	P			**Pn**	**07 47 17.1**	**+0.1**
NUBE	**Las Nubes**	**1.69**	**293**	S			**S**	**07 47 45.3**	**+1.1**
SAPS	**Ciudad Sandino**	**2.03**	**122**	S			**S**	**07 47 50.1**	**+0.1**
SAPS	**Ciudad Sandino**	**2.03**	**122**	P			**Pn**	**07 47 19.9**	**-0.3**

ASRS ***16*** *07:59:21.0±0.7, 53°.94N×86°.54E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 16 07:59:22.8±2.9, 53°.92N×86°.71E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=26.1km s-min=14.9km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.12**	**273**		I		I	08 06 30.0	
	baz=89,slow=316,SNR=1.9								
ZALV	**Zalesovo Beam**	**1.12**	**272**	Pg			Pg	07 59 43.0	-1.3
	0.5nm,0.3s,baz=95,slow=15,SNR=8.6								
ZALV				Lg			Lg	07 59 59.4	
	1.2nm,0.3s,baz=95,slow=30,SNR=4.7								
KURBB	**Kurchatov Arra**	**6.00**	**240**	Pn			Pn	08 00 55.0	+2.2
	0.1nm,0.3s,baz=56,slow=14,SNR=5.4								
	0.7nm,0.4s								
MKAR	**Makanchi Array**	**7.67**	**203**	Pn			Pn	08 01 16.0	+0.3
	0.2nm,0.3s,baz=25,slow=12,SNR=5.8								
	0.2nm,0.3s								

KRNET ***16*** *07:59:49.2±0.1, 40°.39N×72°.97E, mb2.6*
ISU ***16*** *07:59:52, 40°.55N×72°.81E, h3km*
SOME ***16*** *07:59:55.7, 40°.60N×72°.80E, h10km*

ISC 16 07:59:50.9±2.0, 40°.47N±0°.08×72°.85E±0°.04, h0km±12km, n15, σ 1°.907/28, 18C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
TSTA	**Tashata**	**0.30**	**291**	P			**Pg**	**07 59 57.6**	**+1.0**
TSTA				S			**Sg**	**08 00 01.8**	**+1.3**
ARSB	**Arslanbob**	**0.86**	**7**	⇑*iP*			**Pg**	**08 00 07.0**	**-0.3**
ARSB				⇑*iS*			**Sb**	**

AZAP				eS		Sn	08 27 20.5	-5.9
TCA	**Tanti**	**4.44**	**145**	eP		Pn	08 26 42.5	+0.6
TCA				eS		Sn	08 27 32.2	-1.1
TCA				IAML			08 27 32.4	
	comp=Z,85nm,0.7s							
MRA	**San Martin**	**4.96**	**162**	eP		Pn	08 26 49.4	+0.7
MRA				eS		Sn	08 27 29.0	-16
MRA				IAML			08 27 46.0	
	comp=Z,47nm,0.6s							
PIL	**Pilar**	**5.08**	**142**	eS		Sn	08 27 40.0	-8.2

*SJA **16** 08:28:22.6±0.9, 33°.67S×74°.45W, h1km±8km, ML3.5, MW3.2*
*GUC **16** 08:28:38.3±0.7, 33°.93S×73°.20W, h29km±2km, ML3.2*
ISC 16 08:28:38.2±1.5, 33°.95S±0°.03×73°.34W±0°.07, h35km, n40, σ1§42/61, 3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BO03	**Pichilemu**	**1.26**	**116**	⇓*i* P		**Pn**	**08 28 58.6**	**-0.8**
BO03				*i* S		**Sn**	**08 29 13.3**	**-1.8**
BO03				IAML			08 29 14.8	
	comp=N,590nm,0.3s							
GO05	**Hualane**	**1.57**	**133**	*i* P		**Pn**	**08 29 03.3**	**-0.3**
GO05				*i* S		**Sn**	**08 29 20.7**	**-2.1**
GO05				IAML			08 29 22.6	
	comp=N,1μm,0.2s							
VA01	**Torpederas**	**1.69**	**57**	*e*P		**Pn**	**08 29 05.0**	**-0.1**
MT01	**Popeta**	**1.74**	**88**	*i* P		**Pn**	**08 29 05.2**	**-0.7**
MT01				*i* S		**Sn**	**08 29 25.4**	**-1.4**
MT01	**Popeta**	**1.74**	**88**	*i* P		**Pn**	**08 29 04.9**	**-1.0**
MT01				*e*S		Sn	08 29 43.9	+17
MT01				IAML			08 29 45.6	
	comp=Z,191nm,1.3s							
BO01	**Tunca**	**1.92**	**104**	*e*P		**Pn**	**08 29 08.1**	**-0.3**
BO01	**Tunca**	**1.92**	**104**	*i* P		**Pn**	**08 29 08.3**	**0.0**
MT02	**Curacav**	**1.96**	**70**	*i* P		**Pn**	**08 29 08.7**	**-0.3**
MT02				*i* S		**Sn**	**08 29 31.9**	**-0.4**
MT02	**Curacav**	**1.96**	**70**	*i* P		**Pn**	**08 29 08.4**	**-0.6**
MT02				*e*S		Sn	08 29 47.8	+15
MT02				IAML			08 29 52.3	
	comp=Z,90nm,0.3s							
MT09	**Talagante**	**1.96**	**86**	*e*P		**Pn**	**08 29 08.7**	**-0.4**
MT09				*e*S		**Sn**	**08 29 32.1**	**-0.5**
MT09				IAML			08 29 33.3	
	comp=N,192nm,0.3s							
ROCH	**El Roble**	**2.18**	**64**	*e*P		**Pn**	**08 29 12.4**	**+0.3**
VA06	**Catapilco**	**2.20**	**52**	*e*P		**Pn**	**08 29 12.1**	**-0.2**
VA06				*e*S		**Sn**	**08 29 37.6**	**-0.6**
VA06				IAML			08 29 38.6	
	comp=E,307nm,0.3s							
BO04	**La Punta**	**2.27**	**92**	*e*P		**Pn**	**08 29 13.8**	**+0.5**
BO04				*e*S		**Sn**	**08 29 41.0**	**+1.1**
BO04				IAML			08 29 42.8	
	comp=E,125nm,0.5s							
BO02	**Sierra Bellavi**	**2.27**	**112**	*e*P		**Pn**	**08 29 14.0**	**+0.7**
BO02				*e*S		**Sn**	**08 29 40.3**	**+0.1**
BO02	**Sierra Bellavi**	**2.27**	**112**	*i* P		**Pn**	**08 29 14.8**	**+1.5**
MT12	**Pirque**	**2.33**	**85**	*e*P		**Pn**	**08 29 13.7**	**-0.4**
MT12				*e*S		**Sn**	**08 29 41.1**	**-0.4**
PEL	**Peldehue**	**2.36**	**71**	*i* P		**Pn**	**08 29 15.4**	**+1.0**
PEL				*i* S		**Sn**	**08 29 41.7**	**-0.4**
MT15	**Las Vizcachas**	**2.38**	**82**	*e*P		**Pn**	**08 29 15.4**	**+0.5**
MT03	**Universidad Ad**	**2.40**	**80**	*e*P		**Pn**	**08 29 15.1**	**0.0**
MT03				*e*S		**Sn**	**08 29 43.0**	**-0.3**
MT03				IAML			08 29 49.7	
	comp=E,108nm,0.1s							
MT03	**Universidad Ad**	**2.40**	**80**	*i* P		**Pn**	**08 29 16.0**	**+0.9**
MT03				*e*S		Sn	08 29 59.9	+17
MT14	**Cerro Cal¡n**	**2.40**	**77**	*e*S		**Sn**	**08 29 43.1**	**-0.2**
MT14				IAML			08 29 52.0	
	comp=E,119nm,0.5s							
MT10	**Hacienda Santa**	**2.43**	**75**	⇓*i* P		**Pn**	**08 29 16.5**	**+1.0**
MT10				IAML			08 29 47.4	
	comp=N,305nm,0.3s							
MT13	**San Alfonso**	**2.55**	**86**	*e*P		**Pn**	**08 29 17.3**	**+0.2**
MT13				*e*S		**Sn**	**08 29 46.8**	**-0.2**
MT13				IAML			08 29 48.8	
	comp=E,123nm,0.7s							
LMEL	**Las Melosas**	**2.61**	**89**	*e*P		**Pn**	**08 29 18.8**	**+0.8**
LMEL				*e*S		**Sn**	**08 29 48.2**	**-0.3**
LMEL				IAML			08 30 11.7	
	comp=E,169nm,0.7s							
LMEL	**Las Melosas**	**2.61**	**89**	*i* P		**Pn**	**08 29 18.6**	**+0.6**
LMEL				*e*S		Sn	08 30 06.2	+18
LMEL				IAML			08 30 11.8	
	comp=Z,156nm,0.9s							
VA03	**San Esteban**	**2.62**	**64**	*e*P		**Pn**	**08 29 18.7**	**+0.6**
VA03	**San Esteban**	**2.62**	**64**	*i* P		**Pn**	**08 29 19.4**	**+1.4**
VA03				*e*S		Sn	08 30 02.4	+14
VA03				IAML			08 30 18.3	
	comp=Z,123nm,0.5s							
MT04	**Ro Olivares**	**2.72**	**79**	*e*P		**Pn**	**08 29 20.3**	**+0.7**
MT04				*e*S		**Sn**	**08 29 51.3**	**-0.2**
MT04				IAML			08 29 53.6	
	comp=N,57nm,0.4s							
MT04	**Ro Olivares**	**2.72**	**79**	*i* P		**Pn**	**08 29 20.8**	**+1.1**
MT04				*e*S		Sn	08 30 08.0	+17
MT04				IAML			08 30 19.1	
	comp=Z,65nm,0.4s							
CO04	**Los Peladeros**	**2.75**	**47**	*i* P		**Pn**	**08 29 20.3**	**+0.3**
CO04				*i* S		**Sn**	**08 29 52.5**	**+0.3**
CO04				IAML			08 29 54.2	
	comp=N,113nm,0.2s							
BI05	**Punta Hualpn**	**2.79**	**178**	*i* P		**Pn**	**08 29 17.9**	**-2.4**
BI05				*e*S		**Sn**	**08 29 58.2**	**+5.3**
BI05				IAML			08 30 16.7	
	comp=Z,113nm,0.5s							
BI02	**San Fabin de**	**3.19**	**149**	*e*P		**Pn**	**08 29 26.4**	**+0.5**
BI02				*e*S		**Sn**	**08 30 00.6**	**-2.2**
BI02				IAML			08 30 09.8	
	comp=E,75nm,0.6s							
BI02	**San Fabin de**	**3.19**	**149**	*i* P		**Pn**	**08 29 27.5**	**+1.6**
BI02				IAML			08 30 34.7	
	comp=Z,87nm,0.6s							
CO02	**Combarbal**	**3.38**	**36**	⇓*i* P		**Pn**	**08 29 29.1**	**+0.5**
CO02				*i* S		**Sn**	**08 30 07.4**	**0.0**
CO02	**Combarbal**	**3.38**	**36**	*i* P		**Pn**	**08 29 27.9**	**-0.6**
CO02				*e*S		**Sn**	**08 30 12.4**	**+5.0**
CO02				IAML			08 30 29.3	
	comp=Z,103nm,0.4s							
CO06	**Fray Jorge**	**3.57**	**24**	*e*P		**Pn**	**08 29 30.6**	**-0.5**
CO06				*e*S		**Sn**	**08 30 10.0**	**-2.0**
CO06				IAML			08 30 14.0	
	comp=E,29nm,0.2s							
CO03	**El Pedregal**	**3.83**	**37**	*i* P		**Pn**	**08 29 35.8**	**+1.1**
CO03				*i* S		**Sn**	**08 30 18.4**	**-0.1**
RTLS	**Leoncito**	**4.02**	**59**	*i* P		**Pn**	**08 29 40.0**	**+2.4**
RTLS				IAML			08 30 57.8	
	comp=Z,69nm,0.5s							
GO04	**Tololo Observa**	**4.34**	**30**	*i* P		**Pn**	**08 29 38.5**	**-3.3**
GO04				IAML			08 30 54.7	
	comp=Z,65nm,0.3s							
ACCO	**Cerro Coronel**	**4.93**	**48**	*i* P		**Pn**	**08 29 50.7**	**+0.6**

*GUC **16** 08:28:55.6±0.8, 33°.99S×73°.29W, h31km±4km, ML3.5*
*IDC **16** 08:28:55.4±1.1, 33°.98S×73°.12W, h0km, mb3.8/6, mbtmp3.7/9, ML3.6/3, Error ellipse: s-maj=33.5km s-min=20.0km az=99.0*
ISC 16 08:28:55.6±2.9, 33°.98S±0°.04×73°.18W±0°.07, h4km±17km, n35, σ1§50/42, mb4.1/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BO03	**Pichilemu**	**1.14**	**117**	*e*S		**Sg**	**08 29 32.1**	**-0.1**
BO03				IAML			08 29 33.7	
	comp=N,1μm,0.4s							
GO05	**Hualane**	**1.46**	**135**	*e*S		**Sn**	**08 29 39.9**	**-2.6**
GO05				IAML			08 29 41.8	
	comp=N,2μm,0.4s							
VA01	**Torpederas**	**1.60**	**54**	*e*S		**Sn**	**08 29 43.9**	**-1.9**
MT01	**Popeta**	**1.61**	**87**	*e*P		**Pn**	**08 29 23.9**	**-1.0**
MT01				*e*S		**Sn**	**08 29 44.9**	**-1.3**
BO01	**Tunca**	**1.79**	**104**	*e*S		**Sn**	**08 29 49.5**	**-1.0**
BO01	**Tunca**	**1.79**	**104**	*e*S		**Sn**	**08 29 49.6**	**-1.0**
BO01	**Tunca**	**1.79**	**104**	IAML			08 29 54.8	
	comp=Z,96nm,0.5s							
MT09	**Talagante**	**1.84**	**84**	*e*P		**Pn**	**08 29 27.2**	**-0.9**
MT09				*e*S		**Sn**	**08 29 51.0**	**-1.0**
MT09				IAML			08 29 52.1	
	comp=N,425nm,0.5s							
MT02	**Curacav**	**1.85**	**68**	*e*P		**Pn**	**08 29 27.3**	**-0.9**
MT02				*e*S		**Sn**	**08 29 51.4**	**-0.7**
ROCH	**El Roble**	**2.07**	**62**	*e*P		**Pn**	**08 29 31.0**	**-0.5**
ROCH				*e*S		**Sn**	**08 29 57.5**	**-0.4**
ROCH				IAML			08 30 00.0	
	comp=N,254nm,0.3s							
VA06	**Catapilco**	**2.12**	**49**	*e*P		**Pn**	**08 29 30.7**	**-1.1**
VA06				*e*S		**Sn**	**08 29 56.2**	**-2.4**
VA06				IAML			08 29 57.9	
	comp=E,450nm,0.3s							
BO04	**La Punta**	**2.14**	**91**	*i* S		**Sn**	**08 29 57.5**	**-1.7**
BO04				IAML			08 30 01.7	
	comp=E,304nm,0.4s							
BO02	**Sierra Bellavi**	**2.15**	**113**	*e*P		**Pn**	**08 29 30.9**	**-1.4**
BO02				*e*S		**Sn**	**08 29 58.8**	**-0.7**
BO02				IAML			08 30 01.8	
	comp=N,741nm,0.6s							
BO02	**Sierra Bellavi**	**2.15**	**113**	*e*S		**Sn**	**08 29 58.6**	**-0.9**
MT12	**Pirque**	**2.21**	**84**	*e*S		**Sn**	**08 30 00.2**	**-0.7**
MT12				IAML			08 30 05.2	
	comp=E,451nm,0.7s							
MT03	**Universidad Ad**	**2.28**	**79**	*e*S		**Sn**	**08 30 02.1**	**-0.6**
MT03				IAML			08 30 13.6	
	comp=E,199nm,0.2s							
MT10	**Hacienda Santa**	**2.32**	**73**	*e*P		**Pn**	**08 29 34.4**	**-0.3**
MT10				*e*S		**Sn**	**08 30 03.8**	**0.0**
MT10				IAML			08 30 06.3	
	comp=N,580nm,0.4s							
VA03	**San Esteban**	**2.51**	**62**	*e*S		**Sn**	**08 30 07.8**	**-0.7**
VA03				IAML			08 30 10.0	
	comp=E,271nm,0.4s							
CO04	**Los Peladeros**	**2.68**	**45**	*e*P		**Pn**	**08 29 39.1**	**-0.7**
CO04				*e*S		**Sn**	**08 30 11.4**	**-1.4**
CO04				IAML			08 30 12.8	
	comp=N,196nm,0.3s							
BI02	**San Fabin de**	**3.10**	**150**	*e*P		**Pn**	**08 29 44.0**	**-1.5**
BI02				*e*S		**Sn**	**08 30 20.6**	**-2.5**
BI02				IAML			08 30 24.4	
	comp=N,193nm,0.4s							
CO02	**Combarbal**	**3.32**	**34**	*e*P		**Pn**	**08 29 47.2**	**-1.3**
CO02				*e*S		**Sn**	**08 30 27.1**	**-1.5**
CO06	**Fray Jorge**	**3.54**	**22**	*e*S		**Sn**	**08 30 28.8**	**-5.0**
CFA	**Coronel Fontan**	**4.79**	**62**	Pn		**Pn**	**08 30 08.2**	**-0.4**
	comp=N,0.7nm,0.3s,baz=246,slow=15,SNR=3.6							
CFA				Sn		**Sn**	**08 31 05.5**	**+0.9**
	comp=N,1.2nm,0.3s,baz=260,slow=22,SNR=3.6							
	comp=N,3.4nm,0.6s							
H03N1	**Juan Fernandez**	**4.80**	**275**	T		T	08 34 52.9	
	baz=89,slow=74,SNR=5.4							
H03N3	**Juan Fernandez**	**4.81**	**275**	T		T	08 34 52.6	
	baz=89,slow=74,SNR=4.3							
H03N2	**Juan Fernandez**	**4.82**	**275**	T		T	08 34 53.9	
	baz=89,slow=74,SNR=4.6							
PLCA	**Paso Flores**	**7.06**	**164**	Pn		**Pn**	**08 30 39.8**	**-0.1**
	comp=N,0.7nm,0.3s,baz=293,slow=16,SNR=6.4							
	comp=N,4.7nm,0.5s							
LPAZ	**La Paz**	**18.19**	**16**	P		**Pn**	**08 33 11.1**	**+1.3**
	comp=N,0.1nm,0.3s,baz=183,slow=11,SNR=4.4							
	comp=N,1.1nm,0.8s							
SIV	**San Ignacio**	**20.97**	**34**	P		**P**	**08 33 40.7**	**+0.8**
	comp=N,0.6nm,0.6s,baz=192,slow=9.0,SNR=4.0							
	comp=N,0.6nm,0.6s							
SNAA	**Sanae**	**51.97**	**158**	P		**P**	**08 38 05.5**	**0.0**
	comp=N,1.7nm,0.5s,baz=265,slow=7.3,SNR=14							
	comp=N,1.7nm,0.5s							
QSPA	**South Pole Qui**	**56.26**	**180**	P		**P**	**08 38 38.3**	**+1.3**
	comp=N,1.9nm,1.1s,baz=135,slow=1.0,SNR=2.5							
	comp=N,1.9nm,1.1s							
TXAR	**Lajitas Array**	**69.26**	**332**	P		**P**	**08 40 04.2**	**+0.2**
	comp=N,0.2nm,0.5s,baz=153,slow=8.3,SNR=5.4							
	comp=N,0.2nm,0.5s							
DBIC	**Dimbokro**	**76.08**	**72**	P		**P**	**08 40 43.9**	**-0.9**
	comp=N,1.3nm,0.5s,baz=254,slow=7.4,SNR=1.5							
	comp=N,1.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**85.10**	**71**	P		**P**	**08 41 33.4**	**+0.2**
	comp=N,0.6nm,0.7s,baz=245,slow=5.7,SNR=4.1							
	comp=N,0.6nm,0.7s							
BVAR	**Borovoye Array**	**147.91**	**42**	PKPbc		**PKPdf**	**08 48 41.3**	**+2.7**
	comp=N,1.2nm,0.4s,baz=290,slow=0.9,SNR=3.9							

*ASRS **16** 08:35:18.0±0.7, 54°.30N×86°.88E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 16 08:35:20.0±3.1, 54°.34N×87°.00E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=26.1km s-min=16.3km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**254**	I		I	08 43 50.0	
	baz=73,slow=320,SNR=6.2							
ZALV	**Zalesovo Beam**	**1.34**	**254**	Pg		Pg	08 35 43.9	-1.9
	1.0nm,0.3s,baz=70,slow=17,SNR=17							
ZALV				Lg		Lg	08 36 02.9	
	1.5nm,0.3s,baz=74,slow=29,SNR=7.0							
KURBB	**Kurchatov Arra**	**6.38**	**238**	Pn		Pn	08 36 55.7	+0.6
	0.1nm,0.3s,baz=54,slow=14,SNR=6.0							
KURBB				Lg		Lg	08 38 42.9	
	baz=56,slow=29,SNR=4.2							
	0.5nm,0.3s							
MKAR	**Makanchi Array**	**8.13**	**204**	Pn		Pn	08 37 21.1	+1.8
	0.1nm,0.3s,baz=23,slow=13,SNR=1.6							
MKAR				Sn		Sn	08 38 51.4	-0.4
	0.1nm,0.3s,baz=24,slow=28,SNR=2.7							
MKAR				Lg		Lg	08 39 38.9	
	0.1nm,0.3s,baz=22,slow=30,SNR=2.9							
	0.2nm,0.4s							

*TEH **16** 08:52:17.0, 33°.20N×48°.91E, h10km±63km*
*ISN **16** 08:52:17.8±1.1, 33°.29N×48°.75E, h10km, ML2.8*
ISC 16 08:52:18.1±1.2, 33°.21N±0°.08×48°.83E±0°.06, h10km, n9, σ1§02/10, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BDRS	**Dareh Seyedi**	**0.74**	**3**	Pg		**Pg**	**08 52 31.2**	**-1.2**
IBZA	**Bozab**	**1.49**	**328**	Pg		**Pb**	**08 52 46.5**	**+0.4**
IPIR	**Pirpir**	**1.81**	**106**	Pg		**Pn**	**08 52 50.2**	**+0.6**
JHBN	**Jahan bin**	**1.83**	**122**	Pg		**Pn**	**08 52 49.8**	**-0.1**
ZNGN	**Zangian**	**2.03**	**122**	Pn		**Pn**	**08 52 52.9**	**+0.3**
IKLH	**Kolahrood**	**2.31**	**87**	Pn		**Pn**	**08 52 57.2**	**+0.9**
IBRJ	**Brojen**	**2.43**	**122**	Pn		**Pn**	**08 52 59.0**	**+0.9**
IBDR	**Badra**	**2.43**	**268**	*e*Pg		**Pn**	**08 52 59.0**	**+1.1**
	baz=85							
IBDR				*e*Sg		**Sb**	**08 53 31.0**	**-1.0**
IBDR				AML		AML	08 53 50.8	
	comp=N,4.6nm,0.9s							
IQOM	**Qom**	**2.47**	**48**	Pn		**Pn**	**08 52 59.7**	**+1.1**

*ECX **16** 08:53:58.9±0.3, 30°.79N×114°.21W, h4km±4km, ML2.8*
*MEX **16** 08:54:04.6±0.7, 30°.91N×114°.50W, h3km±11km, MD3.9*
ISC 16 08:53:58.7±1.2, 30°.97N±0°.05×114°.25W±0°.02, h17km±9km, n16, σ1§60/27, 5C-5D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SFX	**San Felipe**	**0.52**	**277**	*e*P		**Pb**	**08 54 09.6**	**+0.2**
SFX				IAML			08 54 15.8	
	comp=Z,472nm,0.8s							
SFX				⇓*e*			08 54 15.8	
SFX				IAML			08 54 16.6	
	comp=E,405nm,0.8s							
SFX				⇓*e*			08 54 16.6	
SFX				⇈*e*			08 54 16.7	
SFX				IAML			08 54 16.7	
	comp=N,329nm,0.7s							
SFX				*e*S		**Sb**	**08 54 17.8**	**+1.2**
SFX	**San Felipe**	**0.52**	**277**	*e*P		**Pn**	**08 54 11.1**	**-0.2**
SFX				*i* S		**Sg**	**08 54 15.2**	**-0.9**
PPXB	**Puerto Peasco**	**0.64**	**56**	⇈*e*P		**Pg**	**08 54 12.1**	**+0.7**
PPXB				*e*S		**Sb**	**08 54 22.0**	**+1.9**
PPXB				⇓*e*			08 54 22.4	
PPXB				IAML			08 54 22.4	
	comp=E,425nm,0.3s							
PIX	**Pinacate**	**0.90**	**49**	⇓*e*P		**Pg**	**08 54 16.3**	**+0.2**
PIX				*e*S		**Sn**	**08 54 30.0**	**+1.0**
SPIG	**San Pedro Mart**	**1.04**	**274**	*e*P		**Pg**	**08 54 19.1**	**+0.1**
SPIG				*e*S		**Sn**	**08 54 34.4**	**+1.1**
SPIG				⇈*e*			08 54 37.8	
SPIG	**San Pedro Mart**	**1.04**	**274**	*e*P		**Pg**	**08 54 19.1**	**+0.1**
SPIG				*e*S		**Sb**	**08 54 31.9**	**-0.2**
SLGB	**San Luis Gonza**	**1.15**	**187**	⇈*e*P		Pn	08 54 15.7	-4.3
SLGB				⇑*e*			08 54 40.8	
SLGB				IAML			08 54 40.8	
	comp=N,218nm,0.6s							
VTX	**Valle De La Tr**	**1.38**	**288**	*e*P		**Pb**	**08 54 24.2**	**+0.1**
SQX	**San Quintin**	**1.45**	**255**	*e*P		**Pn**	**08 54 24.2**	**0.0**
SQX				*e*S		**Sn**	**08 54 43.5**	**+0.6**
SQX				⇓*e*			08 54 59.4	
SQX				IAML			08 54 59.4	
	comp=N,115nm,0.7s							
RHX	**Rio Hardy**	**1.46**	**323**	*e*P		**Pg**	**08 54 26.9**	**+0.1**
ALAMX	**Rancho Alamar**	**1.61**	**310**	*e*P		**Pg**	**08 54 29.1**	**-0.7**
MBIG	**Mexicali**	**1.64**	**331**	*e*P		**Pn**	**08 54 25.0**	**-1.8**
MBIG				*e*S		**Sn**	**08 54 43.6**	**-3.9**
CBX	**Cerro Bola**	**2.45**	**304**	*e*P		**Pn**	**08 54 40.4**	**+2.4**
CBX				*e*S		**Sn**	**08 55 08.8**	**+1.1**
TJIG	**Tijuana**	**2.53**	**306**	*e*P		**Pn**	**08 54 41.2**	**+2.2**
TJIG				*e*S		**Sb**	**08 55 12.4**	**-2.1**
TUC	**Tucson**	**3.24**	**65**	*e*P		**Pb**	**08 54 57.5**	**+1.7**
TUC				*e*S		**Sb**	**08 55 32.9**	**-2.3**
HSIG		**3.46**	**123**	*e*P		**Pn**	**08 54 49.2**	**-2.7**
HSIG				*e*S		**Sn**	**08 55 33.0**	**+0.4**

*ASRS **16** 09:04:24.0±1.6, 54°.34N×86°.94E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 16 09:04:23.3±3.0, 54°.31N×87°.03E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=25.5km s-min=15.9km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**255**	I		I	09 12 55.0	
	baz=73,slow=320,SNR=22							
ZALV	**Zalesovo Beam**	**1.35**	**255**	Pg		Pg	09 04 48.1	-1.0
	2.1nm,0.3s,baz=71,slow=17,SNR=15							
ZALV				Lg		Lg	09 05 07.1	
	1.9nm,0.3s,baz=78,slow=32,SNR=8.1							
KURBB	**Kurchatov Arra**	**6.37**	**238**	Pn		Pn	09 05 57.8	-0.6
	0.1nm,0.3s,baz=54,slow=14,SNR=5.1							
KURBB				Lg		Lg	09 07 45.8	
	baz=50,slow=33,SNR=1.5							
	0.8nm,0.4s							
MKAR	**Makanchi Array**	**8.10**	**204**	Pn		Pn	09 06 24.5	+2.3
	0.1nm,0.3s,baz=22,slow=12,SNR=4.5							
MKAR				Sn		Sn	09 07 53.5	-0.9
	0.1nm,0.3s,baz=26,slow=26,SNR=2.9							
MKAR				Lg		Lg	09 08 41.4	
	0.1nm,0.3s,baz=20,slow=29,SNR=1.7							
	0.2nm,0.3s							

IDC 16 09:12:30.8±10.0, 31°.40S×179°.44W, h277km±110km, mb2.6/2, mbtmp3.4/3, Error ellipse: s-maj=104.2km s-min=52.2km az=1.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**7.41**	**202**	P		Pn	09 14 17.2	+0.5
	5.9nm,0.9s,baz=29,slow=10,SNR=1.5							
URZ				S		S	09 15 42.1	-0.2
	4.8nm,0.6s,baz=49,slow=20,SNR=9.0							
ASAR	**Alice Springs**	**41.84**	**269**	P		P	09 19 54.4	+0.2
	0.3nm,0.9s,baz=107,slow=7.4,SNR=1.8							
	0.3nm,0.9s							
WRA	**Warramunga Arr**	**42.92**	**274**	P		P	09 20 02.6	-0.3
	0.2nm,0.3s,baz=111,slow=8.1,SNR=6.1							
	0.2nm,0.3s							
FINES	**FINESS Array B**	**145.64**	**338**	PKPbc		PKPdf	09 31 35.3	0.0
	7.1nm,1.2s,baz=42,slow=4.3,SNR=4.0							

*SOME **16** 09:13:47.0, 45°.38N×84°.73E, h5km*
*NNC **16** 09:13:50.2±2.0, 45°.39N×84°.80E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=17.9km s-min=12.2km az=69.0*
ISC 16 09:13:48.8±2.0, 45°.25N±0°.07×84°.7E±0°.1, h10km, n7, σ1§53/13, 4C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ZSN	**Zaisan**	**2.21**	**3**	*e*P		**Pn**	**09 14 26.1**	**+0.6**
	16nm,0.2s							
ZSN				*e*S		**Sn**	**09 14 53.6**	**+0.7**
	74nm,0.4s							
MK31	**Makanchi Array**	**2.27**	**314**	⇑Pn		**Pb**	**09 14 28.8**	**-1.1**
	2.6nm,0.2s,baz=125,slow=17,SNR=119							
MK31				⇓Sn		**Sb**	**09 14 58.0**	**0.0**
	30nm,0.3s,baz=125,slow=27,SNR=40							
MAKZ	**Makanchi**	**2.44**	**311**	Pn		**Pb**	**09 14 32.1**	**-0.7**
	3.4nm,0.3s							
MAKZ				Sn		**Sb**	**09 15 02.2**	**-0.8**
	21nm,0.6s							
PDGK	**Podgornoye**	**4.18**	**245**	⇑Pg		**Pg**	**09 15 07.0**	**-1.9**
	1.6nm,0.5s							
PDGK				⇓Lg		Lg	09 16 09.3	
	14nm,0.7s							
SHLS	**Shalkode**	**4.29**	**243**	*e*P		**Pb**	**09 15 03.9**	**-0.4**
	1.4nm,0.1s							
SHLS				*e*S		**Sb**	**09 15 58.7**	**+2.5**
	23nm,0.3s							
KURBB	**Kurchatov Arra**	**6.78**	**325**	⇓Pn		**Pn**	**09 15 28.2**	**0.0**
	1.1nm,0.6s							
KURBB				⇓Sn		**Sn**	**09 16 48.3**	**+2.9**
	2.7nm,0.6s							
KURBB				⇑Lg		Lg	09 17

HNR				Sn	**Sn**	**09 35 40.9**	**+1.5**		
	12nm,0.3s,baz=241,slow=19,SNR=2.1								
HNR				LR	LR	09 36 26.9			
	comp=Z,206nm,21.0s,baz=231,slow=39 60nm,0.8s								
PMG	**Port Moresby**	**8.97**	**259**	LR	LR	09 39 14.4			
	comp=Z,155nm,19.0s,baz=147,slow=37								
WRA	**Warramunga Arr**	**24.31**	**238**	P	**P**	**09 39 04.5**	**0.0**		
	1.9nm,0.9s,baz=63,slow=9.5,SNR=8.1 1.9nm,0.9s								
ASAR	**Alice Springs**	**26.51**	**231**	P	**P**	**09 39 24.3**	**-0.2**		
	0.4nm,0.8s,baz=60,slow=8.4,SNR=4.5								
ASAR				LR	LR	09 47 59.5			
	comp=Z,42nm,19.9s,baz=27,slow=32 0.4nm,0.8s								
SONM	**Songino Array**	**70.53**	**327**	P	**P**	**09 45 02.3**	**+0.5**		
	0.5nm,0.4s,baz=123,slow=6.2,SNR=1.4 0.5nm,0.4s								
QSPA	**South Pole Qui**	**82.25**	**180**	P	**P**	**09 46 08.5**	**+0.6**		
	0.4nm,0.6s,baz=19,slow=16,SNR=1.4 0.4nm,0.6s								
ILAR	**Eielson Array**	**83.67**	**21**	P	**P**	**09 46 15.3**	**+0.2**		
	0.2nm,0.8s,baz=236,slow=6.6,SNR=2.1 0.2nm,0.8s								
MKAR	**Makanchi Array**	**84.66**	**319**	P	**P**	**09 46 20.1**	**-0.5**		
	0.2nm,0.4s,baz=97,slow=6.9,SNR=1.9 0.2nm,0.4s								
BBB	**Bella Bella**	**87.47**	**37**	LR	LR	10 19 31.6			
	comp=Z,18nm,19.4s,baz=178,slow=31								

NEIC ***16*** *09:36:24.7±0.9,35°.90N±0°.01×121°.42W±0°.02,h10km±2km, Error ellipse: s-maj=3.4km s-min=3.0km az=253.0*

NCEDC 16 09:36:24.9±0.8,35°.91N±0°.01×121°.40W±0°.02,h12km±7km, ML3.0/46,ML2.6/57(NEIC),Error ellipse: s-maj=2.7km s-min=1.6km az=72.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HULI	**Fort Hunter Li**	**0.18**	**50**	Pg	Pg	09 36 29.2	+0.2
HULI	**Fort Hunter Li**	**0.18**	**50**		Sg	09 36 32.4	+0.7
PCCM	**Crazy Canyon**	**0.27**	**47**		Pg	09 36 30.7	+0.2
PCCM					Sg	09 36 35.1	+0.9
PHCM	**Hearst Castle**	**0.30**	**138**		Pg	09 36 31.4	+0.3
BCWM	**Chews Ridge**	**0.42**	**342**		Pg	09 36 33.3	-0.1
PSAM	**San Ardo**	**0.43**	**74**		Pg	09 36 33.6	0.0
PSAM					Sg	09 36 39.9	+0.6
BSMM	**Soledad Missio**	**0.48**	**358**		Pg	09 36 34.2	-0.1
PCBM	**Cambria**	**0.48**	**144**		Pg	09 36 34.3	0.0
RAMR	**Ramage Ranch**	**0.51**	**122**	Pg	Pg	09 36 35.1	+0.2
BSGM	**Shirttail Gulc**	**0.52**	**13**		Pg	09 36 34.9	-0.3
BPRM	**Ponciano Ridge**	**0.56**	**332**		Pg	09 36 35.8	-0.3
PMPB	**Monarch Peak**	**0.58**	**57**		Pg	09 36 36.2	0.0
PMPB	**Monarch Peak**	**0.58**	**57**	IAML		09 36 47.3	
	comp=N,769nm,0.5s						
PMPB				IAML		09 36 47.4	
	comp=E,881nm,0.4s						
PPTM	**Peach Tree Val**	**0.59**	**70**		Pg	09 36 36.4	-0.1
LCUV	**Le Cuvier**	**0.60**	**115**		Pg	09 36 36.4	-0.3
LRV	**Little Rabbit**	**0.60**	**31**		Pg	09 36 36.8	+0.1
BJCM	**Johnson Can.**	**0.64**	**1**		Pg	09 36 37.2	-0.2
PPO	**Portuguese Can**	**0.64**	**93**		Pg	09 36 37.6	+0.2
PHPM	**Hope Ranch**	**0.65**	**83**		Pg	09 36 37.3	-0.3
PSMM	**Smith Mountain**	**0.68**	**76**		Pg	09 36 38.2	+0.1
SCZ	**Santa Cruz**	**0.69**	**0**		Pg	09 36 38.0	-0.3
SCZ	**Santa Cruz**	**0.69**	**0**	IAML		09 36 50.0	
	comp=N,778nm,0.6s						
PKD	**Bear Valley Ra**	**0.70**	**87**		Pg	09 36 38.0	-0.6
PVCM	**Vineyard Canyo**	**0.70**	**88**		Pg	09 36 38.3	-0.3
BJOM	**Mount Johnson**	**0.72**	**6**		Pg	09 36 38.3	-0.7
PSTM	**Stockdale Moun**	**0.73**	**88**		Pg	09 36 38.5	-0.5
BBGB	**Big Mountain B**	**0.73**	**24**		Pb	09 36 39.5	-0.2
TCAS	**Cass Winery, P**	**0.75**	**113**		Pg	09 36 38.8	-0.6
LSDC	**Los Osos Digit**	**0.76**	**143**		Pg	09 36 39.6	0.0
BSRM	**Salinas Radio**	**0.76**	**353**		Pg	09 36 39.5	-0.3
EFD	**Emergency Oper**	**0.80**	**136**		Pg	09 36 39.8	-0.7
PHFM	**Heflinger Ranc**	**0.81**	**91**		Pg	09 36 40.3	-0.4
DCD	**Diablo Creek**	**0.83**	**146**		Pg	09 36 40.2	-0.8
FORD	**Fort Ord Natur**	**0.84**	**339**		Pg	09 36 41.0	-0.1
DPD	**Davis Peak**	**0.84**	**143**		Pg	09 36 40.9	-0.3
TCHL	**Shandon**	**0.84**	**105**		Pg	09 36 41.1	-0.1
FRP	**Fremont Peak**	**0.85**	**355**		Pg	09 36 40.8	-0.5
SAO	**San Andreas Ge**	**0.86**	**358**		Pg	09 36 41.0	-0.6
SAO	**San Andreas Ge**	**0.86**	**358**		Pg	09 36 41.0	-0.5
CTM	**Castle Mountai**	**0.87**	**88**		Pg	09 36 41.7	0.0
BSLM	**Silva Ranch**	**0.87**	**3**		Pb	09 36 42.0	+0.1
PKLM	**Kerr Lake**	**0.87**	**98**		Pg	09 36 41.5	-0.4
BMSM	**Mercy Hot Spri**	**0.90**	**33**		Pb	09 36 42.8	+0.2
HERM	**Elkhorn Road**	**0.92**	**345**		Pg	09 36 42.2	-0.6
TSCN	**Private Proper**	**0.93**	**113**		Pg	09 36 42.5	-0.5
HTUM	**Tustin Road**	**0.94**	**348**		Pg	09 36 42.5	-0.6
PAGB	**Antelope Grade**	**0.95**	**100**		Pg	09 36 42.3	-1.0
HCOM	**Corn Cob Canyo**	**1.01**	**346**		Pb	09 36 43.6	-0.8
HCBM	**Chamberlain**	**1.04**	**349**		Pb	09 36 44.0	-0.9
JELB	**Ellicott, Sant**	**1.07**	**342**		Pb	09 36 44.1	-1.4
WSRE	**Westside REC,**	**1.12**	**67**		Pb	09 36 45.7	-0.6
PBPM	**Bitterwater Pu**	**1.13**	**106**		Pb	09 36 45.2	-1.2
HLPM	**Lions Peak**	**1.15**	**351**		Pb	09 36 45.1	-1.6
GHS	**Gilroy Hot Spr**	**1.19**	**358**		Pb	09 36 46.3	-1.2
CADM	**Anderson Res.**	**1.27**	**352**		Pn	09 36 47.0	-1.4
JLAB	**Laurel Hill**	**1.27**	**348**		Pn	09 36 47.1	-1.5
SMMC	**Simmler**	**1.29**	**117**		Pn	09 36 47.5	-1.3
CCOB	**Coe Ranch Numb**	**1.37**	**351**		Pn	09 36 49.1	-0.8
JJOM	**Saint Joseph's**	**1.38**	**341**		Pn	09 36 48.2	-1.8
MHC	**Mount Hamilton**	**1.45**	**352**		Pn	09 36 49.8	-1.3
JPSM		**1.50**	**330**		Pn	09 36 49.9	-1.8
CRGC	**Crocker Grade**	**1.52**	**115**		Pn	09 36 51.2	-0.9
JBMM	**Black Mountain**	**1.53**	**337**		Pn	09 36 50.1	-2.1
MTOS	**Mt Oso, Westle**	**1.60**	**2**	Pn	Pn	09 36 52.6	-0.4
MTOS				IAML		09 37 19.0	
	comp=E,89nm,0.5s						
MTOS				IAML		09 37 22.5	
	comp=N,92nm,0.6s						
JSFB	**Stanford Teles**	**1.62**	**338**		Pn	09 36 51.7	-1.6
JRSC	**Jasper Ridge**	**1.64**	**336**		Pn	09 36 51.9	-1.7
FIGC	**Figueroa Mtn.**	**1.65**	**135**		Pn	09 36 52.7	-1.1
MYLM	**Yosemite Lake**	**1.67**	**28**		Pn	09 36 53.1	-1.0
VES	**Vestal, Richgr**	**1.88**	**91**		Pn	09 36 55.4	-1.6
VES				IAML		09 37 23.9	
	comp=E,36nm,0.3s						
VES				IAML		09 37 27.5	
	comp=N,41nm,0.5s						
MMIM	**Miami Mountain**	**2.02**	**41**		Pn	09 36 58.8	-0.1
BUCR	**Buckhorn Ranch**	**2.03**	**29**		Pn	09 36 58.3	-0.8
BUCR				IAML		09 37 28.8	
	comp=E,29nm,0.5s						
CMB	**Columbia Colle**	**2.27**	**21**		Pn	09 37 02.0	-0.4
ISA	**Isabella, Lake**	**2.39**	**95**		Pn	09 37 02.9	-1.2
ISA				IAML		09 37 34.0	
	comp=N,24nm,0.4s						
ISA				IAML		09 37 38.6	
	comp=E,19nm,0.6s						
MDPB	**Devils Postpil**	**2.54**	**47**	Pn	Pn	09 37 06.9	+0.7
MDPB				IAML		09 37 44.2	
	comp=E,42nm,0.5s						
MDPB				IAML		09 37 45.5	
	comp=N,49nm,0.6s						
WELL	**Weller Preserv**	**2.58**	**12**		Pn	09 37 06.8	+0.1
WELL				IAML		09 37 48.8	
	comp=E,16nm,0.8s						
CWC	**Cottonwood Cre**	**2.74**	**78**		Pn	09 37 09.2	+0.3
CWC				IAML		09 37 47.1	
	comp=N,20nm,0.3s						
CWC				IAML		09 37 47.8	
	comp=E,18nm,0.3s						
TPO	**Tropico Hills**	**2.79**	**111**		Pn	09 37 09.2	-0.3
TPO				IAML		09 38 01.6	
	comp=E,22nm,1.1s						
TPO				IAML		09 38 01.8	
	comp=N,22nm,1.3s						
WAKR	**Walker**	**3.03**	**31**		Pn	09 37 14.5	+1.5
WAKR				IAML		09 37 52.5	
	comp=E,22nm,0.6s						
WAKR				IAML		09 38 09.6	
	comp=N,18nm,1.1s						
AFDM	**Forest Hills D**	**3.06**	**6**	Pn	Pn	09 37 14.0	+0.8
DSP	**Deep Springs**	**3.12**	**61**	IAML		09 38 08.8	
	comp=E,11nm,3.8s						
MPMC	**Manual Prospec**	**3.18**	**86**		Pn	09 37 14.9	-0.1
MPMC				IAML		09 38 53.4	
	comp=E,11nm,0.2s						
MWC	**Mount Wilson**	**3.22**	**120**		Pn	09 37 14.5	-1.0
MWC				IAML		09 38 10.0	
	comp=E,14nm,1.4s						
MWC				IAML		09 38 25.6	
	comp=N,20nm,4.5s						
NV11	**Mina Array Sit**	**3.62**	**45**	Pn	Pn	09 37 21.8	+0.8
BEKR	**Beckworth**	**4.04**	**11**	Pn	Pn	09 37 27.1	+0.3
BEKR				IAML		09 38 21.9	
	comp=E,4.8nm,0.6s						
BEKR				IAML		09 38 54.5	
	comp=N,5.0nm,4.8s						

OSPL ***16*** *09:38:24.2±2.2, 19°.53N×69°.69W,h5km±9km, ML2.3*
SDD ***16*** *09:38:25.2±2.4, 19°.48N×69°.88W,h9km±17km, MD2.8, ML2.4, MW2.7*

ISC 16 09:38:24.9±1.1, 19°.49N±0°.05×69°.81W±0°.03, h12km±6km, n22,σ1°43/37,22C-1D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONA1	**Toro Cenizo, N**	**0.12**	**205**	*i* P	**Pg**	**09 38 28.4**	**+0.3**
LONA1				*e*S	**Sg**	**09 38 31.5**	**+1.1**
LONA1				IAML		09 38 32.1	
	comp=Z,1μm,0.5s						
NADR	**Nagua**	**0.14**	**197**	⇑*e*Pg	**Pg**	**09 38 27.9**	**-0.5**
NADR				⇑*e*Sg	**Sg**	**09 38 29.7**	**-1.2**
NADR				IAML		09 38 31.7	
	comp=N,3μm,0.5s						
SMDR	**Samana, DR**	**0.62**	**109**	⇓*e*Pg	**Pg**	**09 38 36.9**	**-0.2**
SMDR				⇓*e*Sg	**Sb**	**09 38 47.7**	**+1.3**
SMDR				IAML		09 38 48.1	
	comp=N,127nm,0.6s						
SODR	**Sosua Marina B**	**0.77**	**290**	⇑*e*Pg	**Pg**	**09 38 38.3**	**-1.5**
SODR				IAML		09 39 00.2	
	comp=N,247nm,1.2s						
SC01	**Santiago de lo**	**0.87**	**266**	⇑*e*Pg	**Pg**	**09 38 41.2**	**-0.5**
SC01				IAML		09 39 01.5	
	comp=N,140nm,0.5s						
SC01	**Santiago de lo**	**0.87**	**266**	*i* P	**Pg**	**09 38 40.9**	**-0.9**
SC01				*e*S	**Sb**	**09 38 54.9**	**+1.4**
MIDR	**Miches**	**0.88**	**125**	⇑*e*Pg	**Pg**	**09 38 41.1**	**-0.8**
MIDR				⇑*e*Sg	**Sn**	**09 38 55.1**	**-0.6**
MIDR				IAML		09 38 59.1	
	comp=N,27nm,1.1s						
ABDR	**Alto Bandera**	**1.02**	**229**	⇑*e*Pg	**Pg**	**09 38 41.9**	**-2.9**
ABDR				⇑*e*Sg	**Sg**	**09 38 55.8**	**-2.4**
ABDR				IAML		09 38 59.6	
	comp=N,107nm,0.3s						
SDD	**Santo Domingo**	**1.03**	**185**	⇑*e*Sg	**Sg**	**09 38 57.4**	**-0.9**
SDD				IAML		09 38 58.1	
	comp=N,17nm,0.9s						
SDD	**Santo Domingo**	**1.03**	**185**	*i* P	**Pg**	**09 38 42.9**	**-1.9**
SDD				*e*S	**Sg**	**09 38 56.8**	**-1.5**
LUDR	**Luperon**	**1.15**	**291**	⇑*e*Pg	**Pg**	**09 38 45.1**	**-2.0**
LOPP1	**Punta Rusia, P**	**1.36**	**286**	*i* P	**Pn**	**09 38 48.4**	**-1.3**
LOPP1				*e*S	**Sb**	**09 39 07.7**	**+0.2**
LOPP1				IAML		09 39 13.2	
	comp=Z,42nm,0.5s						
HIDR	**Higuey Centro**	**1.37**	**131**	⇑*e*Pg	**Pn**	**09 38 49.3**	**-0.5**
HIDR				⇑*e*Sg	**Sg**	**09 39 10.8**	**+1.8**
HIDR				IAML		09 39 15.2	
	comp=N,113nm,0.3s						
SDDR	**Presa de Saban**	**1.48**	**250**	⇑*e*Pg	**Pn**	**09 38 51.1**	**-0.4**
SDDR				⇑*e*Sg	**Sn**	**09 39 10.2**	**-0.6**
SDDR				IAML		09 39 10.4	
	comp=N,39nm,0.6s						
SDDR	**Presa de Saban**	**1.48**	**250**	*i* P	**Pn**	**09 38 51.7**	**+0.2**
SDDR				*e*S	**Sn**	**09 39 10.4**	**-0.4**
SDDR				IAML		09 39 13.4	
	comp=Z,35nm,0.3s						
REDR	**Restauracion**	**1.53**	**258**	⇑*e*Pg	**Pg**	**09 38 55.1**	**+0.8**
REDR				⇑*e*Sg	**Sg**	**09 39 17.8**	**+3.7**
REDR				IAML		09 39 19.8	
	comp=N,252nm,0.2s						
PCDR	**Punta Cana, DR**	**1.67**	**125**	⇑*e*Sg	**Sg**	**09 39 18.2**	**-0.4**
MCDR	**Montecristi**	**1.78**	**283**	⇑*e*Pg	**Pn**	**09 38 55.0**	**-0.6**
MCDR				⇑*e*Sg	**Sb**	**09 39 20.6**	**+0.7**
MCDR				IAML		09 39 22.9	
	comp=N,71nm,0.1s						
LONE3	**El Aguacate, B**	**1.79**	**241**	*i* P	**Pn**	**09 38 55.6**	**-0.2**
LONE3				*e*S	**Sn**	**09 39 19.6**	**+1.2**
LONE3				IAML		09 39 25.1	
	comp=Z,21nm,0.3s						
PODR	**Polo**	**1.92**	**227**	⇑*e*Pg	**Pn**	**09 38 58.5**	**+0.9**
PODR				⇑*e*Sg	**Sn**	**09 39 24.1**	**+2.4**
PODR				IAML		09 39 25.8	
	comp=N,32nm,1.2s						
PODR	**Polo**	**1.92**	**227**	*i* P	**Pn**	**09 38 58.4**	**+0.8**
LODU1	**El Espartillar**	**1.94**	**235**	*i* P	**Pn**	**09 38 59.4**	**+1.8**

IDC ***16*** *09:51:47.9±1.2, 17°.71N×82°.57W, h0km, mb3.6/5, mbtmp3.7/8, ML3.7/3, MS3.2/20, Error ellipse: s-maj=27.8km s-min=26.1km az=31.0*
NEIC ***16*** *09:51:49.5±1.6, 17°.69N±0°.03×82°.44W±0°.07, h10km±2km, mb4.3/45, Error ellipse: s-maj=11.6km s-min=3.0km az=112.0*
SSNC ***16*** *09:51:54.6±2.6, 17°.92N×82°.06W, h25km±113km, MD3.9, ML3.5*

ISC 16 09:51:48.6±0.6, 17°.71N±0°.06×82°.46W±0°.06, h10km, n80, σ1°64/58, mb4.2/18, MS3.2/15, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BILN	**Bilwi Airport**	**3.74**	**194**	Pn	**Pn**	**09 52 46.4**	**-0.1**
PRVC	**Isla de Provid**	**4.43**	**166**	Pn	**Pn**	**09 52 56.0**	**0.0**
SIUN	**Universidad Ur**	**4.55**	**210**		**Pn**	**09 52 57.3**	**-0.3**
MTDJ	**Mount Denham**	**4.71**	**83**	Pn	**Pn**	**09 52 58.9**	**-1.0**
MTDJ	**Mount Denham**	**4.71**	**83**	*e*P	**Pn**	**09 52 58.3**	**-1.6**
MTDJ				*e*Pg	**Pn**	**09 53 00.3**	**+0.3**
MTDJ				IAML		09 53 51.0	
	37nm,0.6s						
MTDJ				IAML		09 53 51.4	
	comp=Z,19nm,0.4s						
MGV	**Manicaragua**	**4.96**	**28**	*e*P	**Pn**	**09 53 02.5**	**-0.7**
MGV				*e*S	**Sn**	**09 53 56.0**	**-4.7**
MGV				IAML		09 53 58.6	
	comp=N,54nm,0.6s						
MGV				IAML		09 54 01.0	
	comp=E,42nm,0.4s						
SOR	**Soroa**	**5.09**	**354**		**Pn**	**09 53 06.9**	**+1.9**
SOR				Sn	**Sn**	**09 54 03.0**	**-0.8**
SOR	**Soroa**	**5.09**	**354**	*e*P	**Pn**	**09 53 06.3**	**+1.4**
SOR				IAML		09 54 05.8	
	comp=E,97nm,0.6s						
SOR				IAML		09 54 06.0	
	comp=N,56nm,0.4s						
STH	**Stony Hill**	**5.39**	**85**	*e*P	**Pn**	**09 53 07.4**	**-1.7**
STH				AMP		09 54 09.2	
	comp=E,1μm,0.1s						
STH				AMP		09 54 09.3	
	comp=N,1μm,0.2s						
CAMR	**Camarioca**	**5.42**	**11**	Pn	**Pn**	**09 53 10.9**	**+1.3**
CAMR	**Camarioca**	**5.42**	**11**	*e*P	**Pn**	**09 53 10.7**	**+1.1**
CAIB	**Caibarien**	**5.53**	**30**	*e*P	**Pn**	**09 53 11.4**	**+0.5**
LMGC	**Las Mercedes**	**5.67**	**65**	*e*P	**Pn**	**09 53 11.2**	**-1.7**
LMGC				IAML		09 54 13.4	
	comp=E,3.7nm,0.1s						
LMGC				IAML		09 54 13.5	
	comp=N,3.3nm,0.2s						
ESPN	**Las Esperanzas**	**5.76**	**198**		**Pn**	**09 53 14.7**	**+0.4**
TGUH	**Tegucigalpa,Un**	**5.88**	**233**		**Pn**	**09 53 16.2**	**+0.1**
TEIG	**Tepich**	**6.05**	**295**		**Pn**	**09 53 16.4**	**-1.8**
TEIG	**Tepich**	**6.05**	**295**	Pn	**Pn**	**09 53 17.0**	**-1.2**
	baz=130,slow=24,SNR=64						
TEIG				Sn	**Sn**	**09 54 20.5**	**-7.0**
	baz=130,slow=24,SNR=7.0						
BOAB	**BOACO BROADBAN**	**6.08**	**211**		**Pn**	**09 53 19.3**	**+0.7**
ACON	**Acoyapa**	**6.28**	**205**		**Pn**	**09 53 20.8**	**-0.6**
CNGN	**Cerro Negro**	**6.60**	**219**	Pn	**Pn**	**09 53 26.6**	**+0.8**
MARVS	**Santiago de Cu**	**6.61**	**69**	*e*P	**Pn**	**09 53 23.8**	**-2.1**
RCC	**Rio Carpintero**	**6.79**	**69**	*e*P	**Pn**	**09 53 26.6**	**-1.9**
RCC				IAML		09 54 39.7	
	comp=E,0.8nm,0.3s						
RCC				IAML		09 54 40.0	
	comp=N,1.2nm,0.3s						
PINC	**Pinares de May**	**6.88**	**65**	*e*P	**Pn**	**09 53 29.0**	**-0.7**
PINC				IAML		09 54 43.6	
	comp=E,0.5nm,0.1s						
PINC				IAML		09 54 43.7	
	comp=N,0.6nm,0.1s						
GTBY	**Guantanamo Bay**	**7.30**	**71**	Pn	**Pn**	**09 53 34.8**	**-0.6**
GTBY	**Guantanamo Bay**	**7.30**	**71**	*e*P	**Pn**	**09 53 33.9**	**-1.4**
GTBY				IAML		09 54 55.2	
	comp=N,1.5nm,0.1s						
GTBY				IAML		09 54 55.2	
	comp=N,3.3nm,0.1s						
MTO3	**Montecristo**	**7.41**	**245**		**Pn**	**09 53 37.8**	**+0.8**
QMBU	**Quimbuelo**	**7.65**	**70**	*e*P	**Pn**	**09 53 38.0**	**-2.1**
QMBU				IAML		09 55 03.0	
	comp=E,6.7nm,0.6s						
QMBU				IAML		09 55 03.4	
	comp=N,5.8nm,0.8s						
JTS	**Las Juntas de**	**7.76**	**199**	Pn	**Pn**	**09 53 42.1**	**+0.4**
	comp=N,0.8nm,0.3s,baz=85,slow=21,SNR=6.6						
JTS				LR	LR	09 56 43.4	
	comp=N,225nm,20.3s,baz=22,slow=38 comp=N,1.4nm,0.3s						
CMIG	**Matias Romero**	**11.88**	**269**	Pn	**Pn**	**09 54 36.5**	**-1.7**
	comp=N,0.4nm,0.3s,baz=56,slow=6.3,SNR=5.0						
CMIG				Sn	Sn	09 56 41.6	-9.3
	comp=N,0.2nm,0.3s,baz=60,slow=20,SNR=1.6						
CMIG				LR	LR	09 59 17.3	
	comp=N,76nm,18.6s,baz=93,slow=38 comp=N,1.2nm,0.5s						
553A	**Crawfordville**	**12.56**	**352**	Pn	**Pn**	**09 54 47.6**	**+0.3**
SDV	**Santo Domingo**	**14.46**	**126**	LR	LR	10 01 22.3	
	comp=N,221nm,21.3s,baz=260,slow=40						
ROSC	**El Rosal**	**15.06**	**147**	LR	LR	10 01 22.7	
	comp=N,148nm,21.2s,baz=258,slow=38						
SJG	**San Juan**	**15.53**	**86**	LR	LR	10 01 12.0	
	comp=N,117nm,21.4s,baz=313,slow=36						
BAUV	**El Baul**	**16.50**	**120**		**P**	**09 55 41.5**	**-1.5**
BAUV				IAmb	IAmb	09 55 46.8	
	comp=Z,23nm,1.1s						
TKL	**Tuckaleechee C**	**17.92**	**357**	P	**P**	**09 55 59.8**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=191,slow=7.1,SNR=4.4 comp=Z,7.9nm,1.2s						
833A	**Chaparral WMA,**	**18.81**	**307**		**P**	**09 56 08.1**	**-0.4**
PCRV	**Puerto La Cruz**	**18.84**	**111**	LR	LR	10 04 25.5	
	comp=Z,71nm,18.8s,slow=40						
ZAIG	**Zacatecas**	**19.52**	**288**		**Pn**	**09 56 18.7**	**+0.8**
WHTX	**Lake Whitney,**	**19.65**	**319**		**Pn**	**09 56 19.4**	**+0.4**
BRDY	**Brady**	**20.20**	**315**		**P**	**09 56 25.1**	**+1.5**
BRDY				IAmb	IAmb	09 56 32.2	
	comp=Z,9.7nm,0.8s						
JCT	**Junction City**	**20.27**	**312**	P	**P**	**09 56 25.1**	**+0.6**
JCT				IAmb	IAmb	09 56 39.4	
	comp=Z,8.5nm,0.6s						
DRIO	**Del Rio**	**20.30**	**308**		**P**	**09 56 25.2**	**+0.5**
DRIO				IAmb	IAmb	09 56 37.3	
	comp=Z,11nm,0.9s						
FW06	**Azle**	**20.39**	**321**	P	**P**	**09 56 26.8**	**+1.1**
FW06				IAmb	IAmb	09 56 32.0	
	comp=Z,18nm,1.0s						
PLPT	**Palo Pinto**	**20.74**	**319**		**P**	**09 56 29.8**	**+0.3**
PLPT				IAmb	IAmb	09 56 41.4	
	comp=Z,8.7nm,0.8s						
OZNA	**Ozona**	**21.46**	**311**	P	**P**	**09 56 37.9**	**+0.5**
OZNA				IAmb	IAmb	09 57 00.0	
	comp=Z,12nm,1.1s						
WTFS	**Witchita Falls**	**21.49**	**321**		**P**	**09 56 39.5**	**+1.9**
WTFS				IAmb	IAmb	09 56 43.4	
	comp=Z,13nm,1.0s						
SAND	**Sanderson**	**21.69**	**308**		**P**	**09 56 40.1**	**+0.2**
SAND				IAmb	IAmb	09 56 43.4	
	comp=Z,12nm,0.9s						
SGCY	**Sterling City**	**22.03**	**313**		**P**	**09 56 46.6**	**+3.2**
TXAR	**Lajitas Array**	**22.59**	**305**		**P**	**09 56 49.5**	**-0.1**
TXAR	**Lajitas Array**	**22.59**	**305**	P	**P**	**09 56 49.6**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=119,slow=10,SNR=11 comp=Z,1.1nm,0.9s						
TX31	**Lajitas Ar. Si**	**22.59**	**305**	IAmb	IAmb	09 56 56.8	
	comp=Z,15nm,1.5s						
ALPN	**Alpine**	**23.04**	**307**	IAmb	IAmb	09 57 05.7	
	comp=Z,13nm,1.4s						
PECS	**Pecos**	**23.70**	**309**	IAmb	IAmb	09 57 10.0	
	comp=Z,6.4nm,0.9s						
VHRN	**Van Horn**	**24.26**	**307**	IAmb	IAmb	09 57 09.2	
	comp=Z,12nm,1.4s						
BOAV	**Boa Vista**	**26.36**	**123**		**P**	**09 57 27.2**	**+2.0**
BOAV				IAmb	IAmb	09 57 29.2	
	comp=Z,6.7nm,1.0s						
LPIG	**La Paz**	**26.76**	**288**	LR	LR	10 08 08.4	
	comp=Z,41nm,20.2s,baz=130,slow=37						
SADO	**Sadowa**	**27.12**	**5**	LR	LR	10 07 25.8	
	comp=Z,231nm,18.1s,baz=298,slow=35						
ANMO	**Albuquerque**	**27.41**	**313**	LR	LR	10 09 10.9	
	comp=Z,78nm,20.6s,baz=230,slow=38						
MDP	**Montagnes des**	**31.73**	**110**	LR	LR	10 12 53.3	
	comp=Z,27nm,18.1s,baz=285,slow=40						
P17A	**Butcher Ranch,**	**32.74**	**317**	IAmb	IAmb	09 58 24.0	
	comp=Z,4.0nm,1.0s						
PDAR	**Pinedale Array**	**33.96**	**323**	P	**P**	**09 58 32.5**	**0.0**
	comp=Z,1.7nm,1.0s,baz=137,slow=9.5,SNR=8.0						
PDAR				LR	LR	10 14 30.6	
	comp=Z,30nm,18.1s,baz=119,slow=40 comp=Z,1.7nm,1.0s						
PFO	**Pinyon Flats O**	**34.31**	**304**	LR	LR	10 14 45.4	
	comp=Z,28nm,18.4s,baz=209,slow=40						
PSUT	**Pine Spring**	**34.34**

IDC ***16*** *09:56:52.7±1.7, 10.20N×126.37E, h59km±14km, mb3.8/19, mbtmp4.1/20, MS3.6/30, Error ellipse: s-maj=24.0km s-min=9.4km az=81.0*

ISC 16 09:56:51.1±0.4, 10.21N±0.05×126.44E±0.09, h42km, n85, σ1§17/68, mb4.4/29, MS3.6/24, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.23**	**195**	Pn		**Pn**		**09 57 39.5**	**+0.1**
DAV	**Davao City (W)**	**3.23**	**195**	P		**Pn**		**09 57 40.8**	**+1.3**
	236nm,0.4s,baz=53,slow=14,SNR=2.1								
DAV				S		**Sn**		**09 58 18.9**	**+2.1**
	613nm,0.7s,baz=116,slow=23,SNR=9.2								
DAV				LR		LR		09 59 20.8	
	comp=Z,1μm,18.3s,baz=3.0,slow=46								
TGY	**Tagaytay City**	**6.62**	**306**	P		**Pn**		**09 58 27.6**	**+1.6**
	113nm,0.3s,baz=143,slow=15,SNR=1.8								
TGY				LR		LR		10 01 18.4	
	comp=Z,1μm,19.4s,baz=208,slow=40								
MYLDM	**Lahad Datu**	**9.32**	**238**	Pn		**Pn**		**09 59 04.5**	**+1.5**
YULB	**Yu-li**	**14.00**	**340**	Pn		**Pn**		**10 00 07.7**	**+0.7**
TPUB	**Ta-pu**	**14.15**	**338**	Pn		**Pn**		**10 00 09.6**	**+0.5**
FAKI	**Fak Fak**	**14.27**	**156**	Pn		**Pn**		**10 00 11.3**	**+0.7**
SBUM	**Sibu**	**16.09**	**242**			**P**		**10 00 34.7**	**-2.6**
KAPI	**Kappang**	**16.53**	**204**	LR		LR		10 07 56.1	
	comp=Z,98nm,19.9s,baz=20,slow=40								
JOW	**Kunigami**	**16.62**	**6**	LR		LR		10 08 45.7	
	comp=Z,68nm,18.4s,baz=113,slow=43								
GUMO	**Guam**	**18.34**	**78**	LR		LR		10 06 54.1	
	comp=Z,117nm,21.7s,baz=274,slow=33								
JAY	**Jayapura**	**19.02**	**131**	LR		LR		10 08 12.6	
	comp=Z,219nm,18.9s,baz=342,slow=36								
BATI	**Baumata**	**20.47**	**188**	LR		LR		10 12 08.6	
	comp=Z,280nm,18.1s,baz=300,slow=45								
MTN	**Manton Dam**	**23.37**	**168**			**P**		**10 01 56.8**	**+0.6**
MTN				IAmb		IAmb		10 02 02.2	
	comp=Z,24nm,1.1s								
KNRA	**Kununurra**	**25.82**	**175**			**P**		**10 02 18.4**	**-0.2**
KNRA				IAmb		IAmb		10 02 22.1	
	comp=Z,15nm,0.9s								
JHJ	**Hachijo jima 2**	**25.90**	**26**	LR		LR		10 12 30.9	
	comp=Z,53nm,19.7s,baz=268,slow=36								
CMAR	**Chiang Mai Arr**	**27.84**	**290**	P		**P**		**10 02 36.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**27.84**	**290**	P		**P**		**10 02 36.3**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=97,slow=6.7,SNR=6.0								
CMAR				LR		LR		10 13 42.6	
	comp=Z,48nm,19.2s,baz=110,slow=36								
	comp=Z,0.7nm,0.3s								
FITZ	**Fitzroy Crossi**	**28.14**	**182**	P		**P**		**10 02 38.3**	**-1.1**
PSI	**Prapat**	**28.29**	**257**	LR		LR		10 17 54.7	
	comp=Z,170nm,18.5s,baz=78,slow=45								
MJAR	**Matsushiro Arr**	**28.30**	**20**	LR		LR		10 14 59.3	
	comp=Z,47nm,18.2s,baz=176,slow=38								
PMG	**Port Moresby**	**28.37**	**133**	LR		LR		10 16 04.7	
	comp=Z,68nm,18.1s,baz=47,slow=40								
WB0	**Warramunga Arr**	**30.80**	**165**	P		**P**		**10 03 01.9**	**-1.2**
WB0				IAmb		IAmb		10 03 28.6	
	comp=Z,11nm,1.4s								
WRAB	**Tennant Creek**	**30.95**	**165**	P		**P**		**10 03 04.6**	**+0.2**
WRA	**Warramunga Arr**	**30.96**	**165**	P		**P**		**10 03 04.0**	**-0.5**
WRA	**Warramunga Arr**	**30.96**	**165**	P		**P**		**10 03 02.5**	**-2.0**
	comp=Z,2.4nm,0.9s,baz=332,slow=9.7,SNR=13								
WRA				PcP		**PcP**		**10 06 00.0**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=345,slow=2.8,SNR=2.2								
WRA				ScP		**ScP**		**10 09 37.4**	**-2.4**
	comp=Z,0.7nm,1.0s,baz=355,slow=3.9,SNR=3.0								
WRA				LR		LR		10 20 30.6	
	comp=Z,55nm,18.1s,baz=332,slow=46								
	comp=Z,2.4nm,0.9s								
WR8	**Warramunga Arr**	**31.01**	**165**	P		**P**		**10 03 04.9**	**-0.1**
WR8				IAmb		IAmb		10 03 08.9	
	comp=Z,6.5nm,0.9s								
MBWA	**Marble Bar**	**31.86**	**192**	P		**P**		**10 03 11.9**	**-0.5**
MBWA				IAmb		IAmb		10 03 40.2	
	comp=Z,12nm,1.1s								
PSA00	**Pilbara Seismi**	**32.24**	**192**	P		**P**		**10 03 15.8**	**0.0**
PSA00				IAmb		IAmb		10 03 39.7	
	comp=Z,13nm,1.1s								
AS31	**Alice Springs**	**34.45**	**168**			**P**		**10 03 35.2**	**+0.2**
ASAR	**Alice Springs**	**34.45**	**168**	P		**P**		**10 03 34.5**	**-0.5**
ASAR	**Alice Springs**	**34.45**	**168**	P		**P**		**10 03 34.0**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=18,slow=9.4,SNR=18								
ASAR				PcP		**PcP**		**10 06 09.4**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=335,slow=2.9,SNR=2.7								
ASAR				ScP		**ScP**		**10 09 49.2**	**-2.7**
	comp=Z,0.5nm,0.9s,baz=336,slow=2.7,SNR=4.1								
	comp=Z,1.4nm,0.5s								
BRDH	**Bariadhala**	**35.50**	**295**	LR		LR		10 18 58.1	
	comp=Z,167nm,19.2s,baz=137,slow=37								
CTAO	**Charters Tower**	**35.88**	**147**	P		**P**		**10 03 49.1**	**+1.8**
ASAJ	**Asahikawa**	**36.57**	**20**	LR		LR		10 20 17.3	
	comp=Z,29nm,18.3s,baz=200,slow=38								
HNR	**Honiara**	**38.63**	**119**	LR		LR		10 18 25.0	
	comp=Z,59nm,21.8s,baz=346,slow=33								
H11N1	**WAKE ISLAND Hy**	**40.12**	**72**	T		T		10 47 41.9	
	baz=264,slow=74,SNR=245								
H11N2	**WAKE ISLAND Hy**	**40.12**	**72**	T		T		10 47 43.2	
	baz=264,slow=74,SNR=190								
H11N3	**WAKE ISLAND Hy**	**40.14**	**72**	T		T		10 47 43.3	
	baz=264,slow=74,SNR=223								
MORW	**Morawa**	**40.32**	**194**	P		**P**		**10 04 24.1**	**-0.5**
MORW				IAmb		IAmb		10 05 02.9	
	comp=Z,24nm,1.4s								
FORT	**Forrest**	**40.78**	**178**	P		**P**		**10 04 28.4**	**0.0**
SONM	**Songino Array**	**41.13**	**339**	P		**P**		**10 04 31.5**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=170,slow=9.0,SNR=4.3								
SONM				ScP		**ScP**		**10 10 15.0**	**-1.8**
	comp=Z,1.2nm,1.0s,baz=134,slow=6.2,SNR=1.7								
	comp=Z,0.5nm,0.3s								
BBOO	**Buckleboo**	**43.75**	**168**	P		**P**		**10 04 52.7**	**+0.1**
BBOO				IAmb		IAmb		10 04 53.1	
	comp=Z,19nm,1.0s								
NWAO	**Narrogin (SRO)**	**43.78**	**191**	P		**P**		**10 04 52.7**	**-0.1**
NWAO				IAmb		IAmb		10 05 13.4	
	comp=Z,20nm,1.1s								
NWAO	**Narrogin (SRO)**	**43.78**	**191**	P		**P**		**10 04 52.5**	**-0.4**
	comp=Z,3.7nm,0.4s,baz=36,slow=7.8,SNR=9.3								
	comp=Z,3.7nm,0.4s								
STKA	**Stephens Creek**	**44.29**	**161**	P		**P**		**10 04 56.9**	**0.0**
STKA	**Stephens Creek**	**44.29**	**161**	P		**P**		**10 04 57.2**	**+0.2**
	comp=Z,4.5nm,0.6s,baz=338,slow=6.1,SNR=7.7								
	comp=Z,4.5nm,0.6s								
PALK	**Pallekele**	**45.27**	**270**	LR		LR		10 23 16.6	
	comp=Z,76nm,22.0s,baz=86,slow=35								
PETK	**Petropavlovsk-**	**49.62**	**24**	P		**P**		**10 05 38.8**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=226,slow=6.5,SNR=2.3								
PETK				LR		LR		10 25 23.5	
	comp=Z,26nm,21.6s,baz=211,slow=34								
	comp=Z,1.1nm,0.6s								
MKAR	**Makanchi Array**	**52.17**	**323**	P		**P**		**10 05 57.0**	**-0.7**
MKAR	**Makanchi Array**	**52.17**	**323**	P		**P**		**10 05 56.8**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=118,slow=7.6,SNR=11								
MKAR				PcP		**PcP**		**10 07 08.8**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=106,slow=6.6,SNR=1.3								
MKAR				ScP		**ScP**		**10 10 59.8**	**-3.0**
	comp=Z,0.4nm,0.6s,baz=151,slow=3.3,SNR=1.8								
MKAR				LR		LR		10 29 33.8	
	comp=Z,75nm,19.7s,baz=104,slow=38								
	comp=Z,1.4nm,0.6s								
MA2	**Magadan**	**52.55**	**15**	LR		LR		10 31 27.6	
	comp=Z,15nm,18.1s,baz=107,slow=40								
ZALV	**Zalesovo Beam**	**54.76**	**331**	P		**P**		**10 06 15.1**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=116,slow=6.1,SNR=5.4								
ZALV				PcP		**PcP**		**10 07 17.8**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=141,slow=5.7,SNR=1.9								
	comp=Z,1.0nm,0.3s								
AAK	**Ala-Archa**	**55.48**	**315**	LR		LR		10 31 39.3	
	comp=Z,132nm,20.0s,baz=85,slow=38								
SEY	**Seymchan**	**55.84**	**14**	P		**P**		**10 06 23.7**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=205,slow=19,SNR=1.5								
	comp=Z,0.4nm,0.3s								
KURBB	**Kurchatov Arra**	**56.22**	**325**	P		**P**		**10 06 25.9**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=124,slow=6.9,SNR=9.0								
	comp=Z,0.8nm,0.4s								
TIXI	**Tiksi**	**61.41**	**1**	P		**P**		**10 07 03.8**	**+1.2**
BVAR	**Borovoye Array**	**61.81**	**325**	P		**P**		**10 07 05.3**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=120,slow=5.7,SNR=1.8								
BVAR				LR		LR		10 34 19.7	
	comp=Z,40nm,18.4s,baz=54,slow=36								
	comp=Z,0.4nm,0.3s								
AB31	**Akbulak array**	**67.03**	**319**	P		**P**		**10 07 39.7**	**-0.2**
ABKAR	**Akbulak array**	**67.03**	**319**	P		**P**		**10 07 38.9**	**-1.0**
AKTO	**Aktyubinsk**	**68.47**	**320**	LR		LR		10 40 09.7	
	comp=Z,100nm,18.3s,baz=36,slow=38								
KDAK	**Kodiak Island**	**76.62**	**33**	LR		LR		10 37 10.5	
	comp=Z,42nm,21.7s,baz=233,slow=32								
CASY	**Casey**	**77.18**	**187**	P		**P**		**10 08 41.2**	**+1.1**
CASY				IAmb		IAmb		10 08 44.2	
	comp=Z,8.0nm,0.9s								
BPAW	**Bear Paw Mtn.**	**77.64**	**26**	P		**P**		**10 08 45.4**	**+2.5**
BPAW				IAmb		IAmb		10 08 47.6	
	comp=Z,8.9nm,1.4s								
C23K	**Itkillik River**	**78.05**	**21**	P		**P**		**10 08 46.8**	**+1.7**
KBZ	**Khabaz**	**78.37**	**313**	LR		LR		10 45 35.5	
	comp=Z,29nm,21.8s,baz=124,slow=37								
ILAR	**Eielson Array**	**79.42**	**26**	P		**P**		**10 08 53.2**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=249,slow=4.4,SNR=7.9								
	comp=Z,0.2nm,0.7s								
BMAR	**Burnt Mountain**	**80.26**	**23**	P		**P**		**10 08 59.6**	**+2.3**
BCAR	**Beaver Creek A**	**81.78**	**27**	P		**P**		**10 09 06.2**	**+0.7**
ASF	**Jabal al Asfar**	**84.26**	**302**	LR		LR		10 51 36.0	
	comp=Z,34nm,18.8s,baz=197,slow=39								
ARCES	**ARCESS Array B**	**84.31**	**340**	P		**P**		**10 09 19.1**	**+0.8**
ARCES	**ARCESS Array B**	**84.31**	**340**	P		**P**		**10 09 18.4**	**0.0**
	comp=Z,2.3nm,0.7s,baz=85,slow=6.9,SNR=7.9								
	comp=Z,2.3nm,0.7s								
FINES	**FINESS Array B**	**86.02**	**332**	P		**P**		**10 09 26.1**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=74,slow=5.0,SNR=12								
	comp=Z,1.2nm,0.4s								
FURI	**Furi**	**86.27**	**278**	LR		LR		10 48 02.4	
	comp=Z,58nm,18.8s,baz=131,slow=36								
EIL	**Elat**	**86.30**	**299**	LR		LR		10 53 40.2	
	comp=Z,19nm,18.5s,baz=161,slow=40								
AKASG	**Malin Array Be**	**86.71**	**321**	P		**P**		**10 09 29.4**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=64,slow=4.2,SNR=1.6								
	comp=Z,0.3nm,0.4s								
DLBC	**Dease Lake**	**88.36**	**31**	LR		LR		10 43 37.8	
	comp=Z,197nm,21.0s,baz=191,slow=32								
MAW	**Mawson**	**89.70**	**200**	P		**P**		**10 09 43.9**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=173,slow=2.7,SNR=3.9								
	comp=Z,2.2nm,0.9s								
VNDA	**Vanda**	**89.85**	**173**	P		**P**		**10 09 46.2**	**+1.3**
VNDA				IAmb		IAmb		10 10 20.5	
	comp=Z,2.8nm,1.2s								
VNDA	**Vanda**	**89.85**	**173**	P		**P**		**10 09 45.3**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=305,slow=5.1,SNR=7.4								
	comp=Z,1.4nm,0.8s								
MLR	**Muntele Rosu**	**90.05**	**316**	LR		LR		10 54 11.0	
	comp=Z,53nm,21.1s,baz=40,slow=38								
HFS	**Hagfors**	**92.18**	**332**	P		**P**		**10 09 55.0**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=75,slow=19,SNR=1.1								
	comp=Z,1.5nm,0.7s								
TXAR	**Lajitas Array**	**117.74**	**49**	PKP		**PKPdf**		**10 15 33.4**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=21,slow=1.3,SNR=2.3								
TORD	**Torodi Ar. Bea**	**120.44**	**292**	PKP		**PKPdf**		**10 15 37.9**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=72,slow=1.4,SNR=6.2								
PLCA	**Paso Flores**	**146.09**	**157**	PKPbc		**PKPdf**		**10 16 25.6**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=223,slow=5.5,SNR=3.7								

IDC ***16*** *10:00:18.6±3.3, 54.17N×87.45E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=27.5km s-min=18.8km az=53.0*

ASRS 16 10:00:19.0±0.9, 54.14N×87.15E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**263**	I		I		10 09 40.0	
	baz=80,slow=324,SNR=4.7								
ZALV	**Zalesovo Beam**	**1.39**	**263**	Pg		Pb		10 00 46.4	+0.6
	2.0nm,0.3s,baz=81,slow=17,SNR=20								
ZALV				Lg		Lg		10 01 07.9	
	1.0nm,0.3s,baz=80,slow=26,SNR=5.6								
KURBB	**Kurchatov Arra**	**6.34**	**240**	Pn		Pn		10 01 57.1	+3.5
	0.1nm,0.3s,baz=57,slow=13,SNR=4.3								
KURBB				Lg		Lg		10 03 47.0	
	baz=54,slow=30,SNR=1.9								
	0.5nm,0.4s								
MKAR	**Makanchi Array**	**7.98**	**205**	Pn		Pn		10 02 17.7	+1.5
	0.1nm,0.3s,baz=18,slow=14,SNR=1.3								
MKAR				Lg		Lg		10 04 33.2	
	baz=22,slow=28								
	0.1nm,0.3s								

RSNC 16 10:05:51.1±0.0, 7°N±1°×7°3W±°, h149km±2km, M3.2, mB4.7, mb3.6, ML2.9, Mw(mB)3.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**188**	P		Pn		10 06 11.3	-0.4
BARC				S		Sn		10 06 26.5	-0.8
BRJC	**Barrancabermej**	**0.61**	**284**	P		Pn		10 06 12.9	0.0
BRJC				S		Sn		10 06 30.4	+0.9
PAMC	**Pamplona, Colo**	**0.68**	**41**	P		Pn		10 06 14.0	+0.1
PAMC				S		Sn		10 06 31.2	-0.1
RUSC	**La Rusia**	**0.93**	**176**	P		Pn		10 06 15.1	-0.7
RUSC				S		Sn		10 06 33.6	-1.0
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	P		Pn		10 06 17.6	-1.3
PTBC				S		Sn		10 06 38.9	-1.1
OCAC	**Ocana**	**1.41**	**353**	P		Pn		10 06 19.2	-0.6
OCAC				S		Sn		10 06 41.3	-0.6
SPBC	**San Pablo de B**	**1.49**	**218**	P		Pn		10 06 19.9	-0.7
SPBC				S		Sn		10 06 42.7	-0.4
NORC	**Norcasia**	**2.12**	**234**	P		Pn		10 06 26.9	-0.8
NORC				S		Sn		10 06 55.1	-0.7
ROSC	**El Rosal**	**2.29**	**211**	P		Pn		10 06 31.0	+0.9
ROSC				S		Sn		10 07 01.2	+1.2
HELC	**Santa Helena**	**2.45**	**255**	P		Pn		10 06 31.8	-0.1
HELC				S		Sn		10 07 03.5	+0.2
CVER	**Cruz Verde, Cu**	**2.47**	**202**	P		Pn		10 06 32.5	+0.2
CVER				S		Sn		10 07 04.1	+0.1
UREC	**San Jos de Ur**	**2.54**	**291**	P		Pn		10 06 30.8	-1.8
UREC				S		Sn		10 07 02.5	-2.1
GUY2C	**Guyana, Caldas**	**2.72**	**234**	P		Pn		10 06 35.2	-0.2
GUY2C				S		Sn		10 07 12.5	+3.0
VILC	**Villavicencio,**	**2.75**	**191**	P		Pn		10 06 34.6	-0.9
VILC				S		Sn		10 07 08.4	-1.4
RECRC	**Villamaria, Ca**	**2.87**	**230**	P		Pn		10 06 39.2	+1.8
RECRC				S		Sn		10 07 15.7	+2.7
NIZA	**Niza - Manizal**	**2.90**	**233**	P		Pn		10 06 39.3	+1.8
NIZA				S		Sn		10 07 14.7	+1.4
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P		Pn		10 06 38.5	-0.1
CBOC				S		Sn		10 07 14.9	-0.4
DBBC	**Dabeiba**	**3.04**	**274**	P		Pn		10 06 38.6	-0.5
DBBC				S		Sn		10 07 13.6	-2.5
ARGC	**Ariguani, Magd**	**3.20**	**340**	P		Pn		10 06 41.1	+0.1
ARGC				S		Sn		10 07 20.5	+0.9
SDV	**Santo Domingo**	**3.22**	**51**	P		Pn		10 06 40.8	-0.7
ANIL	**Santa Ana**	**3.23**	**224**	P		Pn		10 06 42.2	+0.5
ANIL				S		Sn		10 07 21.8	+1.1
PRAC	**Prado**	**3.55**	**209**	P		Pn		10 06 44.4	-1.1
PRAC				S		Sn		10 07 25.9	-1.8
ORTC	**Ortega, Tolima**	**3.57**	**216**	P		Pn		10 06 45.5	-0.4
ORTC				S		Sn		10 07 27.9	-0.4
SJCC	**San Jacinto, C**	**3.65**	**327**	P		Pn		10 06 45.0	-1.9
SJCC				S		Sn		10 07 28.2	-1.9
URMC	**La Uribe, Meta**	**3.76**	**199**	P		Pn		10 06 48.2	-0.2
URMC				S		Sn		10 07 31.2	-1.6
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	P		Pn		10 06 51.4	-2.3
CRJC				S		Sn		10 07 38.5	-3.9
YOTC	**Yotoco, Valle**	**4.26**	**229**	P		Pn		10 06 53.6	-1.2
YOTC				S		Sn		10 07 44.3	-0.1
SMRC	**Santa Marta, M**	**4.43**	**346**	P		Pn		10 06 56.0	-1.1
SMRC				S		Sn		10 07 44.7	-3.8
MACC	**Macarena, Meta**	**4.71**	**189**	P		Pn		10 06 58.3	-2.4
MACC				S		Sn		10 07 50.4	-4.5
URIC	**Uribia, Colomb**	**4.97**	**13**	P		Pn		10 07 01.4	-2.8
URIC				S		Sn		10 07 59.1	-2.1
JAMC	**Jamundi, Valle**	**5.02**	**225**	P		Pn		10 07 04.2	-0.8
	4.8nm,0.5s								
GARC	**Garzon, Huila**	**5.17**	**207**	P		Pn		10 07 04.9	-2.1
GARC				S		Sn		10 08 03.4	-2.9
POPC	**Popayan, Colom**	**5.52**	**220**	P		Pn		10 07 10.8	-0.9
	7.7nm,0.8s								
POPC				S		Sn		10 08 13.7	-0.9
	7.7nm,0.8s								
FLOC	**Florencia**	**5.78**	**206**	P		Pn		10 07 13.5	-1.4
FLOC				S		Sn		10 08 19.2	-1.3

GCG ***16*** *10:13:10.0±1.2, 15.59N×95.00W, h110km±53km, MD3.9, ML2.4*

MEX ***16*** *10:13:13.1±0.5, 15.32N×94.73W, h17km±13km, MD4.1*

ISC 16 10:13:05.8±1.6, 15.26N±0.06×94.77W±0.02, h8km±12km, n21, σ1§84/41, 2D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.39**	**292**	*e*P		**Pg**		**10 13 34.4**	**+1.9**
HUIG				*e*S		**Sn**		**10 13 50.0**	**-0.1**
HUIG	**Huatulco**	**1.39**	**292**	⇓*e*P		**Pb**		**10 13 31.2**	**-0.8**
HUIG				*i* S		**Sn**		**10 13 49.8**	**-0.2**
HUIG				IAML				10 13 50.9	
	comp=N,17nm,0.2s								
PCIG		**1.56**	**73**	*e*P		**Pg**		**10 13 35.9**	**+0.3**
PCIG				*e*S		**Sn**		**10 13 53.3**	**-0.8**
CMIG	**Matias Romero**	**1.83**	**356**	*e*P		**Pg**		**10 13 40.3**	**-0.5**
CMIG				*e*S		**Sn**		**10 14 00.8**	**0.0**
TGIG		**2.19**	**46**	*e*P		**Pg**		**10 13 45.7**	**0.0**
TGIG				*e*S		**Sn**		**10 14 09.9**	**+0.1**
TGIG		**2.19**	**46**	*e*P		**Pg**		**10 13 46.1**	**-1.7**
TGIG				⇓*i* S		**Sb**		**10 14 12.7**	**-0.3**
TGIG				IAML				10 14 14.3	
	comp=E,38nm,0.3s								
PEIG	**Puerto Escondi**	**2.41**	**288**	*e*P		**Pb**		**10 13 49.0**	**-0.5**
PEIG				*e*S		**Sn**		**10 14 13.7**	**-1.5**
PATR	**El Naranjo**	**2.45**	**93**	*e*P		**Pb**		**10 13 49.2**	**-1.0**
PATR				*e*S		**Sn**		**10 14 15.9**	**-0.5**
PAVE	**Pavencul**	**2.50**	**91**	*e*P		**Pb**		**10 13 49.9**	**-1.2**
PAVE				*e*S		**Sn**		**10 14 17.8**	**0.0**
CHUJ	**Union Juarez**	**2.57**	**93**	*e*P		**Pb**		**10 13 50.9**	**-1.4**
CHUJ				*e*S		**Sn**		**10 14 19.2**	**-0.3**
VHO	**Vista Hermosa**	**2.62**	**314**	*e*P		**Pb**		**10 13 50.9**	**-2.1**
VHO				*e*S		**Sn**		**10 14 22.1**	**+1.6**
NEUV	**Arroyo Zacate**	**2.64**	**338**	*e*P		**Pn**		**10 13 50.0**	**+1.4**
NEUV				*e*S		**Sn**		**10 14 19.9**	**-0.9**
CCIG	**Comitan**	**2.73**	**68**	*e*P		**Pb**		**10 13 53.0**	**-2.0**
CCIG				*e*S		**Sn**		**10 14 23.9**	**+0.6**
CCIG	**Comitan**	**2.73**	**68**	*e*P		**Pb**		**10 13 55.0**	**0.0**
CCIG				IAML				10 14 35.1	
	comp=N,27nm,0.3s								
YOIG	**Yosondua**	**3.11**	**301**	*e*P		**Pn**		**10 13 51.4**	**-4.0**
YOIG				*e*S		**Sn**		**10 14 30.1**	**-2.8**
TXIG	**Tlaxiaco**	**3.50**	**305**	*e*P		**Pn**		**10 14 02.4**	**+1.6**
TXIG				*e*S		**Sn**		**10 14 40.1**	**-2.4**
TOIG	**Toxpalan**	**3.58**	**322**	*e*P		**Pn**		**10 14 04.6**	**+2.8**
TOIG				*e*S		**Sn**		**10 14 47.0**	**+2.7**
HLIG	**Huajuapan de L**	**3.88**	**312**	*e*P		**Pb**		**10 14 13.9**	**-0.7**
HLIG				*e*S		**Sn**		**10 14 54.0**	**+2.2**
FTIG	**Fresnillo de T**	**4.17**	**310**	*e*P		**Pn**		**10 14 11.3**	**+1.5**
FTIG				*e*S		**Sn**		**10 14 56.3**	**-2.5**
CRIG	**Cruz Grande**	**4.45**	**290**	*e*P		**Pn**		**10 14 17.6**	**+4.0**
CRIG				*e*S		**Sn**		**10 15 01.9**	**-3.7**
PETF	**Flores**	**4.99**	**70**	*e*P		**Pn**		**10 14 22.9**	**+2.0**
PETF				*e*S		**Sn**		**10 15 19.4**	**+0.5**

BEO ***16*** *10:25:43.2±2.8, 37.52N×20.62E, h79km±9km, ML3.1/13*

ATH ***16*** *10:25:48.3, 37.88N×20.86E, h48km±2km, ML3.9/12, Manual Solution by A.Moschou First location: 2019/09/16 10:26:46, This location: 2019/09/16 10:33:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*

THE ***16*** *10:25:49.3, 38°N±1°×2°1E±°, h44km±2km, M4.1/20, MLh4.1/20*

IDC ***16*** *10:25:50.2±1.7, 37.97N×21.03E, h74km±19km, mb3.5/9, mbtmp3.6/18, Error ellipse: s-maj=18.3km s-min=14.7km az=162.0*

**ISC 16 10:25:47.7±0.6, 37

SJES				*e*Sn		**Sn**	**10 28 02.7**	**-3.4**
ZAPS	**Zavoj**	**5.52**	**14**	*e*Pn		**Pn**	**10 27 07.4**	**+0.1**
GOCS	**Kraljevo Serbi**	**5.64**	**0**	*e*Pn		**Pn**	**10 27 08.8**	**-0.2**
GOCS				*e*Sn		**Sn**	**10 28 09.3**	**-3.2**
IVAS	**Ivanjica**	**5.68**	**355**	*e*Pn		**Pn**	**10 27 08.9**	**-0.6**
IVAS				*e*Sn		**Sn**	**10 28 08.1**	**-5.3**
BOVS	**Bovan**	**5.75**	**6**	*e*Pn		**Pn**	**10 27 09.3**	**-1.1**
BOVS				*e*Sn		**Sn**	**10 28 12.0**	**-3.0**
GRUS	**Gruza**	**5.97**	**359**	*e*Pn		**Pn**	**10 27 12.4**	**-1.0**
GRUS				*e*Sn		**Sn**	**10 28 16.9**	**-3.4**
BBLS	**Lazi&#263i**	**6.04**	**350**	*e*Pn		**Pn**	**10 27 13.9**	**-0.6**
BBLS				*e*Sn		**Sn**	**10 28 17.5**	**-4.8**
DIVS	**Divibare**	**6.21**	**354**	*e*Pn		**Pn**	**10 27 15.5**	**-1.3**
DIVS				*e*Sn		**Sn**	**10 28 21.1**	**-5.3**
TEKS	**Tekeris**	**6.70**	**352**	*e*Pn		**Pn**	**10 27 21.8**	**-1.7**
TEKS				*e*Sn		**Sn**	**10 28 32.2**	**-6.2**
MLR	**Muntele Rosu**	**8.47**	**25**	P		**Pn**	**10 27 48.6**	**+0.8**
	0.7nm,0.4s,baz=221,slow=9.3,SNR=1.4							
KEST	**Kesra**	**9.48**	**260**	P		**Pn**	**10 28 04.3**	**+2.7**
	1.7nm,0.6s,baz=103,slow=14,SNR=2.8							
KEST				S		**Sn**	**10 29 44.1**	**-2.6**
	2.3nm,0.6s,baz=29,slow=18,SNR=4.8							
SOKA	**Soboth**	**9.76**	**336**	*e*Pn		**Pn**	**10 28 04.9**	**-0.4**
	0.5nm,0.2s							
OBKA	**Obir**	**9.77**	**333**	*i* Pn		**Pn**	**10 28 05.6**	**+0.1**
	0.8nm,0.2s							
ARSA	**Arzberg**	**10.12**	**339**	*i* Pn		**Pn**	**10 28 11.7**	**+1.4**
	0.5nm,0.2s							
BRTR	**Keskin Array B**	**10.14**	**76**	P		**Pn**	**10 28 11.1**	**+0.4**
	0.5nm,0.5s,baz=252,slow=14,SNR=3.6							
KBA	**Koelnbreinsper**	**10.70**	**331**	*e*Pn		**Pn**	**10 28 16.8**	**-1.5**
	2.1nm,0.3s							
WTTA	**Wattenberg**	**11.54**	**327**	*e*Pn		**Pn**	**10 28 30.9**	**+1.2**
	2.2nm,0.4s							
WATA	**Walderalm**	**11.62**	**327**	*e*Pn		**Pn**	**10 28 31.6**	**+0.7**
	0.1nm,0.1s							
MOTA	**Moosalm**	**11.84**	**326**	*e*Pn		**Pn**	**10 28 34.0**	**+0.2**
	0.2nm,0.1s							
DAVOX	**Davos/Dischmat**	**12.01**	**321**	P		**Pn**	**10 28 38.3**	**+2.2**
	0.5nm,0.3s,baz=153,slow=18,SNR=2.1							
DAVOX				S		**Sn**	**10 30 45.8**	**-2.7**
	1.2nm,0.5s,baz=294,slow=19,SNR=2.7							
GERES	**GERESS Array B**	**12.09**	**337**	P		**Pn**	**10 28 38.6**	**+1.4**
	0.2nm,0.3s,baz=150,slow=14,SNR=1.6							
RETA	**Reutte**	**12.10**	**325**	*e*Pn		**Pn**	**10 28 39.2**	**+2.0**
	1.1nm,0.1s							
AKASG	**Malin Array Be**	**14.10**	**22**	P		**Pn**	**10 29 04.4**	**0.0**
	0.2nm,0.3s,baz=211,slow=9.0,SNR=4.8							
EIL	**Elat**	**14.31**	**121**	P		**Pn**	**10 29 04.2**	**-3.1**
	1.6nm,0.4s,baz=346,slow=16,SNR=1.8							
EIL				S		Sn	10 31 26.9	-18
	2.4nm,0.3s,baz=255,slow=2.9,SNR=4.1							
ESDC	**Sonseca Array**	**19.41**	**283**	P		**Pn**	**10 30 12.7**	**+1.8**
	0.5nm,0.6s,baz=82,slow=10,SNR=4.9							
HFS	**Hagfors**	**22.70**	**351**	P		**P**	**10 30 44.6**	**+0.2**
	2.1nm,0.6s,baz=156,slow=11,SNR=6.3							
	2.1nm,0.6s							
FINES	**FINESS Array B**	**23.78**	**6**	P		**P**	**10 30 56.2**	**+1.4**
	1.4nm,0.7s,baz=190,slow=9.6,SNR=2.5							
	1.4nm,0.7s							
EKA	**Eskdalemuir Ar**	**23.79**	**325**	P		**P**	**10 30 57.3**	**+2.2**
	1.6nm,0.6s,baz=132,slow=8.1,SNR=6.7							
	1.6nm,0.6s							
NOA	**NORSAR Array B**	**23.93**	**348**	P		**P**	**10 30 57.0**	**+0.7**
	1.0nm,0.7s,baz=160,slow=8.7,SNR=3.5							
	1.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**30.00**	**220**	P		**P**	**10 31 52.6**	**+1.5**
	0.8nm,0.4s,baz=35,slow=9.3,SNR=12							
	0.8nm,0.4s							
KURBB	**Kurchatov Arra**	**42.17**	**53**	P		**P**	**10 33 34.2**	**-0.4**
	1.0nm,0.5s,baz=279,slow=8.7,SNR=8.7							
	1.0nm,0.5s							
MKAR	**Makanchi Array**	**45.21**	**58**	P		**P**	**10 33 58.4**	**-0.8**
	0.8nm,0.4s,baz=278,slow=7.2,SNR=9.6							
	0.8nm,0.4s							
ZALV	**Zalesovo Beam**	**45.67**	**48**	P		**P**	**10 34 01.9**	**-0.8**
	0.7nm,0.4s,baz=269,slow=8.6,SNR=4.5							
	0.7nm,0.4s							
ILAR	**Eielson Array**	**77.19**	**355**	P		**P**	**10 37 34.8**	**-0.4**
	0.2nm,0.8s,baz=36,slow=5.7,SNR=2.5							
	0.2nm,0.8s							

IDC ***16*** *10:34:32.5±0.5, 1.06×128.66E, h0km, mb4.4/20, mbtmp4.5/23, ML4.7/3, MS3.8/39, Error ellipse: s-maj=23.2km s-min=9.5km az=75.0*

BJI ***16*** *10:34:32.2, 1.30S×128.62E, h12km, mB5.0/9, mb4.7/47, Ms4.5/8, Ms7 4.2/9*

NEIC ***16*** *10:34:35.1±2.4, 1.09S±0.07×128.54E±0.05, h10km±1km, mb4.8/39, Error ellipse: s-maj=12.2km s-min=7.4km az=204.0*

DJA ***16*** *10:34:35.6±0.1, 1.2S×128.9E±, h10km, M4.8/46, mb4.9/46, mB5.3/14, MLv4.9/22, Mw(mB)4.7/14, MwMwp4.9/2, Mwp5.2/2*

GCMT ***16*** *10:34:35.1±0.2, 0.92S±0.01×128.61E±0.03, h13km±1km, MW4.8/100, Moment Tensor Solution. s24,c27; s100,c133; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.92±.13; Mθθ1.73±.08; Mφφ0.19±.07; Mrθ-0.10±.16; Mθφ0.09±.05; Mrφ-0.05±.22; Best double couple: M0 1.83100×10^16^ NP1:φs268.00000°, δ43.00000°, λ-88.00000°. NP2:φs85.00000°, δ47.00000°, λ-92.00000°. Principal axes: T 1.7380, Plg2.0000°, Azm177.0000°; N 0.1870, Plg1.0000°, Azm87.0000°; P -1.9240, Plg88.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 10:34:36.7±0.9, 1.08S±0.05×128.52E±0.05, h20km±11km, n184, σ1.980/160, mb4.7/47, MS3.9/37, 2C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.18**	**328**		**Pn**	**10 35 09.0**	**-2.8**
TNTI	**Ternate**	**2.18**	**328**	P	**Pn**	**10 35 10.1**	**-1.7**
TNTI	**Ternate**	**2.18**	**328**	P	**Pn**	**10 35 09.2**	**-2.6**
MSAI	**Masohi**	**2.28**	**170**	P	**Pn**	**10 35 15.1**	**+1.8**
NLAI	**Namlea**	**2.57**	**214**	P	**Pn**	**10 35 18.4**	**+1.2**
AAI	**Ambon**	**2.61**	**187**	P	**Pn**	**10 35 19.9**	**+2.2**
SANI	**Sanana**	**2.71**	**249**	P	**Pn**	**10 35 18.7**	**-0.5**
SANI	**Sanana**	**2.71**	**249**	P	**Pn**	**10 35 18.9**	**-0.3**
SWI	**Sorong**	**2.77**	**85**	P	**Pn**	**10 35 18.5**	**-1.1**
BNDI	**Bandanaira**	**3.68**	**158**	P	**Pn**	**10 35 35.8**	**+3.3**
BNDI	**Bandanaira**	**3.68**	**158**	P	**Pn**	**10 35 34.5**	**+2.0**
FAKI	**Fak Fak**	**4.14**	**116**		**Pn**	**10 35 37.6**	**-1.3**
FAKI	**Fak Fak**	**4.14**	**116**	P	**Pn**	**10 35 37.5**	**-1.4**
FAKI	**Fak Fak**	**4.14**	**116**	P	**Pn**	**10 35 37.5**	**-1.4**
KMSI	**Cibinong**	**4.83**	**290**	P	**Pn**	**10 35 48.1**	**-0.2**
SGSI	**Sangihe**	**5.60**	**328**	P	**Pn**	**10 36 00.0**	**+1.0**
	1.4nm3µm358nm,0.9s						
RKPI	**Ransiki, Papua**	**5.67**	**94**	P	**Pn**	**10 36 01.4**	**+1.6**
	1.3nm143nm,0.6s						
LUWI	**Luwuk**	**5.75**	**270**		**Pn**	**10 36 00.8**	**-0.1**
LUWI	**Luwuk**	**5.75**	**270**	P	**Pn**	**10 36 01.3**	**+0.3**
LUWI	**Luwuk**	**5.75**	**270**	P	**Pn**	**10 36 00.9**	**-0.1**
KMPI	**Kaimana, Papua**	**5.77**	**116**	P	**Pn**	**10 36 01.7**	**+0.4**
MRSI	**Marisa**	**6.76**	**283**	P	**Pn**	**10 36 16.0**	**+1.1**
	0.5nm2µm65nm,1.0s						
BBSI	**Bau Bau**	**7.38**	**234**	P	Pn	10 36 28.3	+4.9
	3µm283nm,0.9s						
TOLI2	**Tolitoli**	**8.04**	**286**		**Pn**	**10 36 32.5**	**0.0**
TOLI2	**Tolitoli**	**8.04**	**286**	P	**Pn**	**10 36 34.6**	**+2.1**
TTSI	**Tana Toraja**	**8.91**	**257**	P	**Pn**	**10 36 45.6**	**+1.1**
	1µm148nm,0.9s						
BNSI	**Bone**	**9.03**	**248**	P	**Pn**	**10 36 48.3**	**+2.3**
	52nm,0.6s						
SPSI	**Sidrap Palu**	**9.20**	**252**	P	**Pn**	**10 36 50.5**	**+2.1**
	2µm91nm,0.6s						
BKSI	**Bulukumba**	**9.38**	**243**	P	**Pn**	**10 36 54.5**	**+3.6**
BSSI	**Bau Bau, Buton**	**9.46**	**238**	P	**Pn**	**10 36 55.1**	**+3.1**
KAPI	**Kappang**	**9.59**	**246**		**Pn**	**10 36 53.4**	**-0.3**
KAPI	**Kappang**	**9.59**	**246**	Pn	**Pn**	**10 36 55.4**	**+1.7**
	4.0nm,0.3s,baz=49,slow=7.3,SNR=27						
KAPI				Sn	**Sn**	**10 38 40.4**	**-0.5**
	2.3nm,0.3s,baz=76,slow=18,SNR=1.6						
KAPI				LR	LR	10 40 39.8	
	comp=Z,768nm,19.9s,baz=80,slow=38 71nm,0.7s						
KAPI	**Kappang**	**9.59**	**246**	P	**Pn**	**10 36 55.5**	**+1.7**
SOEI	**Soe**	**9.60**	**206**	P	Pn	10 36 58.9	+4.9
	1µm82nm,1.6s						
BATI	**Baumata**	**10.27**	**208**	LR	LR	10 41 10.5	
	comp=Z,1µm,21.6s,baz=24,slow=38						
DRS	**Darwin Rock St**	**11.52**	**168**	P	**Pn**	**10 37 20.8**	**+0.7**
GENI	**Genyem**	**11.73**	**98**	P	**Pn**	**10 37 25.4**	**+2.3**
GENI	**Genyem**	**11.73**	**98**	P	**Pn**	**10 37 23.2**	**+0.1**
	42nm,1.2s						
MYLDM	**Lahad Datu**	**11.79**	**302**		**Pn**	**10 37 24.9**	**+1.1**
MYLDM	**Lahad Datu**	**11.79**	**302**	P	**Pn**	**10 37 25.2**	**+1.4**
MTN	**Manton Dam**	**11.97**	**168**		**Pn**	**10 37 25.3**	**-1.0**
MTN	**Manton Dam**	**11.97**	**168**	P	**Pn**	**10 37 26.4**	**+0.1**
KDU	**Kakadu**	**12.18**	**161**	P	**Pn**	**10 37 27.4**	**-1.7**
JAY	**Jayapura**	**12.26**	**97**	LR	LR	10 44 02.9	
	comp=Z,470nm,18.2s,baz=359,slow=47						
PLAI	**Plampang**	**13.18**	**234**	P	**Pn**	**10 37 46.2**	**+3.3**
	92nm,1.8s						
TWSI	**Taliwang, Sumb**	**13.86**	**236**	P	**Pn**	**10 37 55.3**	**+3.1**
	39nm,0.6s						
KNRA	**Kununurra**	**14.50**	**179**		**Pn**	**10 37 58.3**	**-2.7**
JAGI	**Jajag, Banyuwa**	**16.08**	**242**		**Pn**	**10 38 21.2**	**-0.6**
JAGI				IAmb	IAmb	10 38 30.3	
	comp=Z,66nm,1.0s						
JAGI	**Jajag, Banyuwa**	**16.08**	**242**	P	**P**	**10 38 25.6**	**+0.5**
JAGI	**Jajag, Banyuwa**	**16.08**	**242**	P	**P**	**10 38 24.7**	**-0.4**
	comp=Z,109nm,1.1s						
BWJI	**Bawean**	**16.53**	**253**	P	**Pn**	**10 38 27.1**	**-0.4**
SBUM	**Sibu**	**16.67**	**282**		**P**	**10 38 31.4**	**-0.2**
SBUM	**Sibu**	**16.67**	**282**	P	**P**	**10 38 31.0**	**-0.6**
TGY	**Tagaytay City**	**16.86**	**334**	LR	LR	10 46 53.9	
	comp=Z,238nm,18.4s,baz=138,slow=44						
FITZ	**Fitzroy Crossi**	**17.14**	**189**	Pn	**Pn**	**10 38 32.7**	**-2.5**
FITZ	**Fitzroy Crossi**	**17.14**	**189**	P	**Pn**	**10 38 33.7**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=33,slow=11,SNR=17						
FITZ				LR	LR	10 46 14.8	
	comp=Z,602nm,18.5s,baz=18,slow=41 comp=Z,6.5nm,0.5s						
KSM	**Kuching**	**18.39**	**278**		**P**	**10 38 49.3**	**-1.4**
KSM	**Kuching**	**18.39**	**278**	P	**Pn**	**10 38 51.6**	**+0.9**
PCJI	**Pacitan**	**18.67**	**247**	P	**Pn**	**10 38 54.9**	**+0.8**
	comp=Z,148nm,1.3s						
COEN	**Coen**	**19.33**	**132**		**P**	**10 38 57.8**	**-3.1**
COEN				IAmb	IAmb	10 39 09.6	
	comp=Z,107nm,1.7s						
COEN	**Coen**	**19.33**	**132**	P	**Pn**	**10 39 02.7**	**+0.6**
WB0	**Warramunga Arr**	**19.44**	**163**		**P**	**10 38 59.9**	**-2.2**
WB0				IAmb	IAmb	10 39 03.5	
	comp=Z,45nm,0.7s						
WRAB	**Tennant Creek**	**19.58**	**163**	P	**P**	**10 39 01.7**	**-2.0**
WRAB				IAmb	IAmb	10 39 05.4	
	comp=Z,42nm,0.8s						
WRA	**Warramunga Arr**	**19.59**	**163**		**P**	**10 39 01.6**	**-2.1**
WRA	**Warramunga Arr**	**19.59**	**163**	P	**P**	**10 39 02.4**	**-1.3**
	comp=Z,3.8nm,0.3s,baz=346,slow=12,SNR=107						
WRA				S	**S**	**10 42 36.4**	**-7.8**
	comp=Z,8.1nm,1.2s,baz=347,slow=21,SNR=4.8						
WRA				LR	LR	10 47 29.7	
	comp=Z,464nm,19.1s,baz=354,slow=40 comp=Z,34nm,0.8s						
WR8	**Warramunga Arr**	**19.65**	**163**		**P**	**10 39 02.5**	**-1.9**
WR8				IAmb	IAmb	10 39 06.0	
	comp=Z,28nm,0.8s						
PMG	**Port Moresby**	**20.30**	**115**		**P**	**10 39 10.8**	**-0.7**
PMG				IAmb	IAmb	10 39 16.5	
	comp=Z,51nm,1.1s						
PMG	**Port Moresby**	**20.30**	**115**	P	**P**	**10 39 09.7**	**-1.9**
	comp=Z,15nm,0.7s,baz=224,slow=9.0,SNR=4.6						
PMG				LR	LR	10 47 50.6	
	comp=Z,456nm,19.8s,baz=290,slow=40 comp=Z,15nm,0.7s						
PMG	**Port Moresby**	**20.30**	**115**	P	Pn	10 39 14.3	+0.7
PMG	**Port Moresby**	**20.30**	**115**	P	Pn	10 39 14.0	+0.4
KPJI	**Karang Pucung**	**20.49**	**252**	P	Pn	10 39 15.8	-0.1
	comp=Z,50nm,1.1s						
MBWA	**Marble Bar**	**21.72**	**203**		**P**	**10 39 24.3**	**-2.5**
MBWA				IAmb	IAmb	10 39 30.6	
	comp=Z,48nm,1.1s						
MBWA	**Marble Bar**	**21.72**	**203**	P	**P**	**10 39 29.6**	**+2.8**
GUMO	**Guam**	**21.80**	**47**	LR	LR	10 47 57.8	
	comp=Z,117nm,19.8s,baz=219,slow=37						
PSA00	**Pilbara Seismi**	**22.05**	**202**	P	**P**	**10 39 29.0**	**-1.3**
PSA00	**Pilbara Seismi**	**22.05**	**202**		**P**	**10 39 27.8**	**-2.5**
PSA00				IAmb	IAmb	10 39 33.6	
	comp=Z,16nm,1.1s						
PSA00	**Pilbara Seismi**	**22.05**	**202**	P	**P**	**10 39 29.5**	**-0.9**
QIS	**Mount Isa**	**22.18**	**152**	P	**P**	**10 39 31.0**	**-0.8**
MTSU	**Mount Surprise**	**22.97**	**138**	P	**P**	**10 39 42.2**	**+2.0**
AS31	**Alice Springs**	**23.05**	**167**		**P**	**10 39 39.7**	**-1.2**
AS31				IAmb	IAmb	10 39 48.0	
	comp=Z,29nm,0.7s						
ASAR	**Alice Springs**	**23.05**	**167**		**P**	**10 39 39.2**	**-1.8**
ASAR	**Alice Springs**	**23.05**	**167**	P	**P**	**10 39 39.3**	**-1.6**
	comp=Z,67nm,0.8s,baz=348,slow=10,SNR=159						
ASAR				PcP	**PcP**	**10 43 29.5**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=326,slow=1.8,SNR=3.1						
ASAR				S	**S**	**10 43 50.6**	**-0.3**
	comp=Z,5.1nm,0.9s,baz=347,slow=20,SNR=7.7						
ASAR				LR	LR	10 49 40.0	
	comp=Z,443nm,18.8s,baz=2.0,slow=39 comp=Z,67nm,0.8s						
DLV	**Lat**	**23.74**	**304**	P	**P**	**10 39 47.1**	**-1.0**
MDSI	**Maura Dua**	**24.55**	**262**	P	**P**	**10 39 55.6**	**+0.2**
	comp=Z,44nm,1.0s						
MYKOM	**Kota Tinggi**	**24.84**	**277**		**P**	**10 39 57.9**	**-0.1**
MYKOM	**Kota Tinggi**	**24.84**	**277**	P	**P**	**10 39 58.3**	**+0.3**
BTDF	**Bukit Timah Da**	**24.87**	**276**	P	**P**	**10 39 59.5**	**+1.2**
CTA	**Charters Tower**	**25.64**	**139**	LR	LR	10 52 04.9	
	comp=Z,6.6nm,19.7s,baz=318,slow=41						
MEEK	**Meekatharra**	**27.14**	**200**	P	**P**	**10 40 17.9**	**-0.8**
JOW	**Kunigami**	**27.75**	**360**	LR	LR	10 50 25.3	
	comp=Z,335nm,21.2s,baz=128,slow=34						
IPM	**Ipoh**	**28.03**	**282**	P	**P**	**10 40 27.8**	**+1.0**
INKA	**Innaminka**	**28.98**	**157**		**P**	**10 40 35.2**	**+0.1**
QLP	**Quilpie**	**29.51**	**151**	P	**P**	**10 40 40.1**	**+0.2**
RPSI	**Rantau Prapat**	**29.83**	**277**		**P**	**10 40 42.1**	**-0.7**
RPSI				IAmb	IAmb	10 40 47.3	
	comp=Z,12nm,1.0s						
PSI	**Prapat**	**29.84**	**277**	P	**P**	**10 40 42.6**	**-0.5**
BBOO	**Buckleboo**	**32.35**	**168**	P	**P**	**10 41 04.7**	**-0.1**
SLVN	**Son La**	**32.80**	**314**	P	**P**	**10 41 08.9**	**0.0**
SLVN				IAmb	IAmb	10 41 11.6	
	comp=Z,8.4nm,1.0s						
SLVN	**Son La**	**32.80**	**314**	P	**P**	**10 41 10.7**	**+1.8**
STKA	**Stephens Creek**	**33.02**	**159**	P	**P**	**10 41 10.8**	**+0.1**
STKA	**Stephens Creek**	**33.02**	**159**	P	**P**	**10 41 09.6**	**-1.1**
	comp=Z,6.5nm,0.8s,baz=329,slow=6.6,SNR=9.1						
STKA				LR	LR	10 56 03.6	
	comp=Z,334nm,18.5s,baz=8.7,slow=39 comp=Z,6.5nm,0.8s						
STKA	**Stephens Creek**	**33.02**	**159**	P	**P**	**10 41 10.5**	**-0.2**
NWAO	**Narrogin (SRO)**	**33.41**	**197**	P	**P**	**10 41 14.5**	**+0.4**
NWAO	**Narrogin (SRO)**	**33.41**	**197**	LR	LR	10 56 29.2	
	comp=Z,108nm,18.2s,baz=171,slow=39						
NJ2	**Nanjing**	**34.20**	**345**	*e*P	**P**	**10 41 22.4**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
WHN	**Wuhan**	**34.23**	**338**	P	**P**	**10 41 21.6**	**+0.4**
WHN				pmax	pmax		
	comp=Z,38nm,0.8s						
CMSA	**Cobar Meteorol**	**34.37**	**153**	P	**P**	**10 41 22.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**34.97**	**305**		**P**	**10 41 27.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**34.97**	**305**	P	**P**	**10 41 27.6**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=135,slow=6.9,SNR=14						
CMAR				PcP	**PcP**	**10 44 01.6**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=159,slow=2.3,SNR=5.1 comp=Z,0.9nm,0.3s						
CHTO	**Chiang Mai**	**35.15**	**306**		**P**	**10 41 28.9**	**-0.5**
CHTO				IAmb	IAmb	10 41 31.4	
	comp=Z,11nm,1.1s						
CHTO	**Chiang Mai**	**35.15**	**306**	P	**P**	**10 41 30.2**	**+0.8**
JHJ	**Hachijo jima 2**	**35.64**	**16**	LR	LR	10 53 32.9	
	comp=Z,186nm,21.5s,baz=156,slow=32						
ENH	**Enshi**	**36.08**	**331**		**P**	**10 41 37.4**	**+0.2**
ENH				IAmb	IAmb	10 41 38.8	
	comp=Z,17nm,0.8s						
ENH	**Enshi**	**36.08**	**331**	P	**P**	**10 41 37.8**	**+0.6**
ARMA	**Armidale**	**36.50**	**145**	P	**P**	**10 41 41.6**	**+0.7**
ARMA				IAmb	IAmb	10 41 43.5	
	comp=Z,17nm,1.1s						
PZH	**PanZhiHua**	**37.67**	**319**	P	**P**	**10 41 53.5**	**+2.5**
KSRS	**Korea Array**	**38.35**	**359**	P	**P**	**10 41 56.3**	**0.0**
	comp=Z,1.8nm,0.8s,baz=177,slow=8.9,SNR=5.3 comp=Z,1.8nm,0.8s						
MJAR	**Matsushiro Arr**	**38.50**	**13**	P	**P**	**10 41 54.6**	**-3.0**
	comp=Z,12nm,1.0s,baz=187,slow=9.7,SNR=12						
MJAR				LR	LR	10 55 37.8	
	comp=Z,210nm,19.6s,baz=180,slow=33 comp=Z,12nm,1.0s						
MAJO	**Matsushiro**	**38.50**	**13**	P	**P**	**10 41 59.8**	**+2.1**
XAN	**Xi'an**	**39.50**	**334**	‖P	**P**	**10 42 05.3**	**-0.8**
XAN				pP	pP	10 42 08.4	-4.0
XAN				S	**S**	**10 48 05.8**	**-1.6**
XAN				pmax	pmax		
	comp=Z,23nm,1.0s						
DZM	**Mont Dzumac**	**42.38**	**122**	*e*S	**S**	**10 48 51.2**	**+0.3**
	comp=Z,56nm,25.8s						
DZM				*e*LR	LR	10 54 17.2	
	comp=Z,246nm,27.0s						
BRDH	**Bariadhala**	**42.99**	**306**	LR	LR	11 03 20.6	
	comp=Z,61nm,18.6s,baz=138,slow=40						
LZDM	**Lanzhou Array**	**43.51**	**330**	P	**P**	**10 42 38.5**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=150,slow=10.0,SNR=7.1						
LZDM				LR	LR	11 01 32.8	
	comp=Z,107nm,21.1s,baz=200,slow=37 comp=Z,1.2nm,0.3s						
LZH	**Lanzhou**	**43.54**	**331**	*e*P	**P**	**10 42 40.8**	**+1.4**
LZH				pP	pP	10 42 44.8	-1.0
LZH				pmax	pmax		
	comp=Z,31nm,1.4s						
LZH				LR	LR		
	comp=Z,300nm,15.6s						
LZH				LR	LR		
	comp=Z,260nm,14.6s						
LZH				LR	LR		
	comp=Z,450nm,17.8s						
SHL	**Shillong**	**44.23**	**309**		**P**	**10 42 44.4**	**-0.8**
HHC	**Hu-ho-hao-te**	**44.50**	**342**	*e*P	**P**	**10 42 48.1**	**+1.2**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,100nm,3.9s						
BTO	**Baotou**	**44.79**	**340**	*e*P	**P**	**10 42 52.6**	**+3.4**
BTO				S	**S**	**10 49 34.3**	**+8.8**
BTO				SS	**ScS**	**10 52 43.0**	**-3.0**
BTO				pmax	pmax		
	comp=Z,18nm,0.8s						
USRK	**Ussuriysk Ar.**	**45.19**	**4**	P	**P**	**10 42 51.2**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=179,slow=11,SNR=5.5 comp=Z,1.9nm,0.6s						
MDJ	**Mudanjiang**	**45.51**	**1**	P	**P**	**10 42 57.0**	**+2.2**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ASAJ	**Asahikawa**	**46.73**	**14**	LR	LR	11 01 01.3	
	comp=Z,153nm,20.8s,baz=203,slow=34						
GTA	**Gaotai**	**48.13**	**330**	*e*P	**P**	**10 43 15.8**	**+0.3**
GTA				pP	pP	10 43 21.0	-1.0
GTA				PcP	**PcP**	**10 44 46.3**	**+3.3**
GTA				pmax	pmax		
	comp=Z,16nm,1.3s						
GTA				LR	LR		
	comp=Z,150nm,20.4s						
GTA				LR	LR		
	comp=Z,160nm,19.6s						
GTA				LR	LR		
	comp=Z,260nm,20.0s						
PALK	**Pallekele**	**48.42**	**281**	LR	LR	11 05 42.7	
	comp=Z,67nm,18.1s,baz=96,slow=38						
GOMU	**GeErMu**	**48.57**	**323**	P	**P**	**10 43 17.5**	**-1.8**
GOMU				pmax	pmax		
	comp=Z,3.0nm,1.0s						
HEH	**HeiHe**	**51.15**	**359**	*e*P	**P**	**10 43 38.9**	**+0.7**
HEH				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ULN	**Ulaanbaatar**	**52.22**	**342**	P	**P**	**10 43 46.2**	**-0.3**
ULN				IAmb	IAmb	10 43 48.0	
	comp=Z,12nm,1.1s						
SONM	**Songino Array**	**52.40**	**341**	P	**P**	**10 43 47.4**	**-0.4**
SONM	**Songino Array**	**52.40**	**341**	P	**P**	**10 43 46.0**	**-1.7**
	comp=Z,3.0nm,0.9s,baz=162,slow=8.0,SNR=13 comp=Z,3.0nm,0.9s						
WMQ	**Urumqi**	**57.68**	**326**	*e*P	**P**	**10 44 27.5**	**+1.6**
WMQ				PcP	**PcP**	**10 45 21.5**	**+2.7**
WMQ				pmax	pmax		
	comp=Z,46nm,0.9s						
WMQ				LR	LR		
	comp=Z,460nm,22.5s						
WMQ				LR	LR		
	comp=Z,450nm,23.9s						
WMQ				LR	LR		
	comp=Z,180nm,24.3s						
URZ	**Urewera**	**57.84**	**136**	LR	LR	11 11 11.8	
	comp=Z,86nm,18.9s,baz=303,slow=38						
PETK	**Petropavlovsk-**	**59.25**	**20**	P	**P**	**10 44 35.6**	**-1.0**

comp=Z,10nm,0.9s,baz=316,slow=1.8,SNR=30
comp=Z,10nm,0.9s

I28M	**Miner Creek**	**91.62**	**25**	P	**P**	**10 47 42.4**	**+0.1**
I28M				IAmb	IAmb	10 47 43.0	

comp=Z,3.3nm,0.8s

ASF	**Jabal al Asfar**	**91.95**	**302**	LR	LR	11 35 19.5	

comp=Z,23nm,19.1s,baz=151,slow=40

L29M	**L29M**	**92.48**	**27**	P	**P**	**10 47 46.0**	**-0.1**
SPITS	**Spitsbergen Ar**	**95.52**	**349**	LR	LR	11 39 20.1	

comp=Z,42nm,18.9s,baz=84,slow=41

ARCES	**ARCESS Array B**	**95.55**	**340**	LR	LR	11 34 26.7	

comp=Z,72nm,18.6s,baz=70,slow=38

FINES	**FINESS Array B**	**96.89**	**332**	LR	LR	11 35 02.8	

comp=Z,69nm,18.2s,baz=45,slow=38

TROLL	**Troll, Antarti**	**99.48**	**195**	⇑P	**Pdif**	**10 48 15.0**	**-3.0**

comp=Z,24nm,0.4s

MLR	**Muntele Rosu**	**99.58**	**316**	LR	LR	11 40 17.2	

comp=Z,50nm,18.9s,baz=80,slow=40

LSZ	**Lusaka**	**99.68**	**254**	LR	LR	11 28 03.2	

comp=Z,60nm,19.9s,baz=138,slow=32

TXAR	**Lajitas Array**	**122.98**	**55**	PKP	**PKPdf**	**10 53 32.0**	**-0.5**

comp=Z,0.3nm,0.7s,baz=226,slow=2.1,SNR=4.0

TORD	**Torodi Ar. Bea**	**126.02**	**285**	PKP	**PKPdf**	**10 53 38.7**	**+0.2**

comp=Z,3.1nm,0.9s,baz=43,slow=1.6,SNR=12

CPUP	**Villa Florida**	**152.17**	**169**	PKPbc	**PKiKP**	**10 54 32.2**	**+0.2**

comp=Z,1.4nm,1.0s,baz=135,slow=4.3,SNR=4.5

*JSO **16** 10:35:31.2±0.7,30°N×4°×3°4E±°, h10km±3km, M4.0/21, ML4.0/21, MLv4.0/21, MLv4.0/21*
*SGS **16** 10:35:31.0,30.01N×34.19E, h10km, Ml3.6*
*GII **16** 10:35:31.9±0.0,29.975N±0.001×34.403E±0.001, h7km, Mws3.3, confirmed*
*HLW **16** 10:35:32.1,29.96N×34.41E, h16km±1km, Md3.2, Ml3.7*

ISC 16 10:35:31.6±0.9, 29.97N±0.02×34.36E±0.04, h14km, n90, σ0§62/92, 5C-1D, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRMI	**Paran Flat**	**0.35**	**65**	P	**Pg**	**10 35 38.7**	**0.0**
KRMI	**Paran Flat**	**0.35**	**65**	P	**Pg**	**10 35 38.7**	**0.0**
KRMI	**Paran Flat**	**0.35**	**65**	S	**Sg**	**10 35 43.7**	**+0.2**
MBRI	**Mt Berech**	**0.51**	**110**	P	**Pg**	**10 35 41.6**	**-0.1**
MBRI	**Mt Berech**	**0.51**	**110**	⇑P	**Pg**	**10 35 41.5**	**-0.3**
MBRI	**Mt Berech**	**0.51**	**110**	S	**Sg**	**10 35 48.8**	**+0.3**
HRFI	**Mount Harif**	**0.59**	**83**	P	**Pg**	**10 35 42.9**	**-0.3**
HRFI	**Mount Harif**	**0.59**	**83**	⇓P	**Pg**	**10 35 42.9**	**-0.3**
HRFI	**Mount Harif**	**0.59**	**83**	S	**Sg**	**10 35 50.9**	**-0.1**
SAMR	**Samar**	**0.59**	**103**	P	**Pg**	**10 35 42.6**	**-0.6**
SAMR	**Samar**	**0.59**	**103**	S	**Sg**	**10 35 50.3**	**-0.7**
EIL	**Elat**	**0.59**	**120**	⇑P	**Pg**	**10 35 42.8**	**-0.4**
EIL	**Elat**	**0.59**	**120**	S	**Sg**	**10 35 51.1**	**0.0**
BEOR	**Beer Ora**	**0.60**	**115**	P	**Pg**	**10 35 43.2**	**-0.2**
BEOR	**Beer Ora**	**0.60**	**115**	S	**Sg**	**10 35 50.9**	**-0.4**
AQBJ	**Aqaba**	**0.64**	**112**	P	**Pg**	**10 35 44.1**	**-0.1**
PRNI	**Paran**	**0.67**	**55**	P	**Pg**	**10 35 44.4**	**-0.3**
PRNI	**Paran**	**0.67**	**55**	⇑P	**Pg**	**10 35 44.4**	**-0.3**
PRNI	**Paran**	**0.67**	**55**	S	**Sb**	**10 35 53.9**	**-0.5**
RMNI	**Mount Ramon**	**0.71**	**29**	P	**Pg**	**10 35 45.3**	**-0.3**
RMNI	**Mount Ramon**	**0.71**	**29**	S	**Sg**	**10 35 54.5**	**-0.5**
HBST	**Basata**	**0.82**	**157**	P	**Pg**	**10 35 47.0**	**-0.5**
HQLS		**0.90**	**137**	P	**Pg**	**10 35 48.5**	**-0.7**
ZFRI	**Zfri**	**0.91**	**50**	P	**Pb**	**10 35 48.8**	**-0.5**
ZFRI	**Zfri**	**0.91**	**50**	⇑P	**Pb**	**10 35 48.7**	**-0.5**
ZFRI	**Zfri**	**0.91**	**50**	S	**Sg**	**10 36 01.0**	**-0.3**
KZIT	**Kziot**	**0.93**	**2**	P	**Pb**	**10 35 49.5**	**-0.1**
KZIT				S	**Sb**	**10 36 02.3**	**+0.5**
KZIT	**Kziot**	**0.93**	**2**	⇑P	**Pb**	**10 35 49.5**	**-0.1**
MSPR	**Moshav SAPIR**	**0.96**	**48**	P	**Pb**	**10 35 49.4**	**-0.6**
MSPR	**Moshav SAPIR**	**0.96**	**48**	S	**Sg**	**10 36 02.6**	**-0.1**
NUB	**Nuweibaa**	**0.97**	**165**	PG	**Pb**	**10 35 50.2**	**0.0**
JMOS	**Jabal al Moall**	**1.03**	**141**	P	**Pb**	**10 35 50.7**	**-0.5**
HAQS	**Haql**	**1.04**	**152**	P	**Pn**	**10 35 53.8**	**+2.0**
IDAN	**Idan**	**1.17**	**42**	P	**Pb**	**10 35 52.9**	**-0.6**
IDAN	**Idan**	**1.17**	**42**	S	**Sb**	**10 36 08.4**	**-0.1**
HSNJ	**Maan**	**1.18**	**76**	P	**Pb**	**10 35 53.7**	**-0.2**
HSNJ				S	**Sb**	**10 36 08.7**	**-0.4**
HDHB	**Dhahab**	**1.26**	**170**	P	**Pn**	**10 35 54.5**	**-0.3**
NTKR	**Neot Hakikar**	**1.30**	**42**	P	**Pb**	**10 35 55.9**	**+0.2**
NTKR	**Neot Hakikar**	**1.30**	**42**	S	**Sg**	**10 36 13.7**	**+0.1**
ZNM	**Zenema**	**1.42**	**246**	P	**Pn**	**10 35 57.0**	**-0.1**
ARADI	**Arad**	**1.47**	**30**	P	**Pn**	**10 35 57.9**	**+0.1**
ARADI	**Arad**	**1.47**	**30**	S	**Sn**	**10 36 17.2**	**+0.3**
HKAT	**Jabal Katrina**	**1.48**	**193**	P	**Pn**	**10 35 57.6**	**-0.4**
YTIR	**Yattir**	**1.53**	**25**	P	**Pn**	**10 35 58.0**	**-0.6**
YTIR	**Yattir**	**1.53**	**25**	P	**Pn**	**10 35 58.2**	**-0.5**
YTIR	**Yattir**	**1.53**	**25**	S	**Sn**	**10 36 18.8**	**+0.4**
JLOS		**1.58**	**141**	P	**Pn**	**10 35 58.9**	**-0.4**
MDBI	**Mazsada**	**1.59**	**32**	P	**Pn**	**10 35 58.5**	**-0.8**
MSBI	**Mazada**	**1.59**	**32**	P	**Pn**	**10 35 58.8**	**-0.5**
MSBI	**Mazada**	**1.59**	**32**	P	**Pn**	**10 35 58.9**	**-0.4**
LISJ	**El Lisan**	**1.59**	**37**	P	**Pn**	**10 35 59.3**	**0.0**
AMAZ	**Amatzia**	**1.63**	**17**	P	**Pn**	**10 35 59.7**	**-0.2**
AMAZ	**Amatzia**	**1.63**	**17**	P	**Pn**	**10 36 00.7**	**+0.8**
AMAZ	**Amatzia**	**1.63**	**17**	S	**Sn**	**10 36 21.2**	**+0.5**
BDAS	**Al Bad`**	**1.67**	**157**	S	**Sn**	**10 36 22.2**	**+0.5**
BDAS	**Al Bad`**	**1.67**	**157**	P	**Pn**	**10 35 59.7**	**-0.8**
GHAJ	**Ghor Haditha**	**1.69**	**38**	P	**Pn**	**10 36 01.2**	**+0.6**
GHAJ	**Ghor Haditha**	**1.69**	**38**	P	**Pn**	**10 36 00.8**	**+0.2**
DSI	**Dead Sea**	**1.82**	**29**	P	**Pn**	**10 36 02.1**	**-0.4**
DSI	**Dead Sea**	**1.82**	**29**	P	**Pn**	**10 36 02.2**	**-0.4**
SWQJ	**Swaqa**	**1.94**	**49**	P	**Pb**	**10 36 06.1**	**-0.6**
AYUS	**`Aynunah**	**1.94**	**156**	P	**Pn**	**10 36 03.7**	**-0.5**
AYUS	**`Aynunah**	**1.94**	**156**	S	**Sn**	**10 36 30.0**	**+1.6**
KRABS	**KRABS**	**2.02**	**157**	P	**Pn**	**10 36 04.6**	**-0.6**
UJAP	**Al Uja**	**2.19**	**25**	P	**Pn**	**10 36 06.6**	**-1.0**
SALP	**Salfit**	**2.21**	**19**	P	**Pn**	**10 36 07.7**	**-0.2**
WTBKS	**WTBKS**	**2.32**	**144**	P	**Pn**	**10 36 09.4**	**-0.1**
WTBKS	**WTBKS**	**2.32**	**144**	S	**Sn**	**10 36 38.2**	**+0.3**
SLTI	**Sal'it**	**2.34**	**14**	P	**Pn**	**10 36 09.7**	**+0.1**
HMDT	**Nahal Hemdat**	**2.48**	**23**	P	**Pn**	**10 36 11.7**	**+0.1**
HMDT	**Nahal Hemdat**	**2.48**	**23**	P	**Pn**	**10 36 12.0**	**+0.3**
HMDT	**Nahal Hemdat**	**2.48**	**23**	S	**Sn**	**10 36 43.0**	**+1.3**
QRNJ	**Al-Qirein**	**2.58**	**23**	P	**Pn**	**10 36 13.5**	**+0.6**
TBKS	**Tabuk**	**2.58**	**132**	P	**Pn**	**10 36 13.7**	**+0.7**
URD10	**Hayder**	**2.99**	**126**	S	**Sn**	**10 36 55.3**	**+0.9**
URD10	**Hayder**	**2.99**	**126**	P	**Pn**	**10 36 18.8**	**+0.1**
URD07	**Al Anba**	**3.00**	**139**	P	**Pn**	**10 36 19.9**	**+0.9**
ASF	**Jabal al Asfar**	**3.09**	**44**	P	**Pn**	**10 36 19.7**	**-0.4**
URD12	**Shuwaq**	**3.23**	**132**	P	**Pn**	**10 36 22.1**	**+0.1**
URD06	**Shuwaq**	**3.28**	**139**	P	**Pn**	**10 36 23.4**	**+0.6**
URD05	**Al Faraah**	**3.56**	**139**	P	**Pn**	**10 36 27.0**	**+0.5**
HANO	**Al Hamad**	**3.70**	**67**	P	**Pn**	**10 36 29.6**	**+1.2**
QRWL	**Qaraoun**	**3.74**	**17**	eP	**Pb**	**10 36 36.3**	**-1.2**
QLABS	**Al Qalibar**	**3.77**	**123**	P	**Pn**	**10 36 29.7**	**+0.2**
URD15	**Abu Rakah**	**3.84**	**134**	P	**Pn**	**10 36 31.0**	**+0.6**
BIDS	**Bi'r al Bayda'**	**3.84**	**143**	P	**Pn**	**10 36 31.1**	**+0.7**
DQRL	**Deir Qamar**	**3.86**	**15**	eP	**Pn**	**10 36 33.4**	**+2.7**
WSKAK	**WSKAK**	**4.11**	**84**	P	**Pn**	**10 36 33.9**	**-0.1**
URD03	**Al Ula**	**4.27**	**140**	P	**Pn**	**10 36 36.6**	**+0.3**
NTAIM	**NTAIM**	**4.33**	**113**	P	**Pn**	**10 36 37.2**	**+0.2**

*IDC **16** 10:40:05.9±1.4,3.77S×152.24E, h0km, mb3.9/6, mbtmp3.9/7, ML1.8/1, MS3.6/5, Error ellipse: s-maj=49.3km s-min=25.1km az=117.0*

ISC 16 10:40:11.1±1.3, 3.38S±0.2×152.3E±0.3, h35km, n12, σ1§25/7, mb3.9/6, MS3.7/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.52**	**222**	Pn	**Pn**	**10 41 58.2**	**-0.1**

0.9nm,0.3s,baz=32,slow=13,SNR=4.2
15nm,1.0s

HNR	**Honiara**	**9.47**	**127**	LR	LR	10 46 23.3	

comp=Z,427nm,19.6s,baz=270,slow=40

WRA	**Warramunga Arr**	**23.71**	**226**	P	**P**	**10 45 19.2**	**-0.8**

2.7nm,0.8s,baz=50,slow=9.7,SNR=7.2
2.7nm,0.8s

ASAR	**Alice Springs**	**26.53**	**220**	P	**P**	**10 45 46.1**	**+0.4**

1.3nm,0.9s,baz=38,slow=11,SNR=3.1
1.3nm,0.9s

CMAR	**Chiang Mai Arr**	**56.96**	**295**	P	**P**	**10 49 55.0**	**+1.4**

0.4nm,0.3s,baz=110,slow=5.9,SNR=4.1
0.4nm,0.3s

ILAR	**Eielson Array**	**81.45**	**22**	P	**P**	**10 52 24.6**	**+0.3**

0.5nm,0.7s,baz=246,slow=6.0,SNR=5.9
0.5nm,0.7s

QSPA	**South Pole Qui**	**86.15**	**180**	P	**P**	**10 52 48.9**	**+0.4**

1.0nm,0.9s,baz=0.0,slow=5.1,SNR=1.3
1.0nm,0.9s

INK	**Inuvik**	**87.72**	**21**	LR	LR	11 27 49.1	

comp=Z,30nm,20.6s,baz=290,slow=33

BVAR	**Borovoye Array**	**88.12**	**323**	P	**P**	**10 52 56.4**	**-1.8**

0.7nm,0.5s,baz=104,slow=6.1,SNR=2.4
0.7nm,0.5s

NEW	**Newport**	**93.23**	**42**	LR	LR	11 27 35.7	

comp=Z,65nm,22.0s,baz=290,slow=31

YKA	**Yellowknife Ar**	**94.81**	**28**	LR	LR	11 32 34.3	

comp=Z,25nm,20.0s,baz=300,slow=33

PDAR	**Pinedale Array**	**98.58**	**47**	LR	LR	11 33 23.4	

comp=Z,15nm,20.8s,baz=300,slow=32

*SJA **16** 10:42:08.5±0.6,30.54S×72.18W, h6km±3km, ML3.7, MW3.5*
*GUC **16** 10:42:12.3±0.6,30.64S×72.04W, h29km±4km, ML3.6*

ISC 16 10:42:10.9±1.8, 30.65S±0.03×72.15W±0.06, h4km±12km, n42, σ1§60/69, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.45**	**93**	eP	**Pg**	**10 42 20.9**	**+1.4**
CO06				IAML		10 42 28.5	

comp=E,5μm,0.1s

CO05	**La Serena**	**1.08**	**47**	eP	**Pb**	**10 42 31.0**	**-1.2**
CO05				IAML		10 42 49.7	

comp=E,3μm,0.3s

CO02	**Combarbal**	**1.13**	**119**	eP	**Pn**	**10 42 32.5**	**-1.2**
CO02				eS	**Sb**	**10 42 47.9**	**-0.4**
CO02	**Combarbal**	**1.13**	**119**	eP	**Pn**	**10 42 31.8**	**-1.9**
CO02				eS	**Sn**	**10 42 48.9**	**-0.9**
CO02				IAML		10 42 50.0	

comp=Z,2μm,0.8s

GO04	**Tololo Observa**	**1.26**	**68**	eP	**Pn**	**10 42 34.1**	**-1.5**
GO04				eS	**Sb**	**10 42 51.6**	**-0.5**
GO04	**Tololo Observa**	**1.26**	**68**	eP	**Pn**	**10 42 34.0**	**-1.6**
GO04				eS	**Sb**	**10 42 51.0**	**-1.2**
GO04				IAML		10 42 56.4	

comp=Z,3μm,0.3s

CO03	**El Pedregal**	**1.27**	**99**	eP	**Pn**	**10 42 34.0**	**-1.6**
CO03				eS	**Sb**	**10 42 51.4**	**-0.9**
CO03				IAML		10 42 54.1	

comp=E,2μm,0.3s

CO03	**El Pedregal**	**1.27**	**99**	eP	**Pn**	**10 42 34.1**	**-1.5**
CO03				eS	**Sn**	**10 42 52.7**	**-0.5**
CO03				IAML		10 42 53.0	

comp=Z,755nm,0.3s

CO04	**Los Peladeros**	**1.71**	**144**	eP	**Pb**	**10 42 42.4**	**-0.8**
CO04				eS	**Sb**	**10 43 05.2**	**0.0**
CO04				IAML		10 43 11.7	

comp=N,1μm,0.4s

CO01	**Juntas del Tor**	**1.90**	**70**	eP	**Pn**	**10 42 44.6**	**+0.2**
CO01				eS	**Sb**	**10 43 09.6**	**-1.0**
CO01				IAML		10 43 10.5	

comp=N,578nm,0.4s

CO01	**Juntas del Tor**	**1.90**	**70**	eP	**Pn**	**10 42 44.0**	**-0.4**
CO01				eS	**Sb**	**10 43 10.1**	**-0.5**
CO01				IAML		10 43 12.8	

comp=Z,407nm,0.5s

VA06	**Catapilco**	**2.04**	**159**	eP	**Pn**	**10 42 46.4**	**+0.4**
VA06				IAML		10 43 23.9	

comp=N,1μm,0.4s

LCO	**Las Campanas**	**2.06**	**38**	eP	**Pn**	**10 42 45.6**	**-1.1**
LCO				eS	**Sb**	**10 43 14.6**	**-0.7**
LCO				IAML		10 43 20.3	

comp=Z,746nm,0.7s

AROD	**Rodeo**	**2.36**	**79**	eP	**Pb**	**10 42 53.0**	**-1.3**
AROD				eS	**Sb**	**10 43 23.8**	**-0.2**
VA03	**San Esteban**	**2.51**	**147**	eP	**Pn**	**10 42 53.9**	**+1.2**
VA03	**San Esteban**	**2.51**	**147**	eP	**Pb**	**10 42 54.1**	**-2.5**
VA03				eS	**Sb**	**10 43 25.6**	**-2.3**
VA03				IAML		10 43 37.0	

comp=Z,494nm,0.8s

ROC1	**El Roble**	**2.51**	**158**	eP	**Pn**	**10 42 53.5**	**+0.7**
ROC1				eS	**Sb**	**10 43 26.9**	**-1.2**
AC04	**Llanos de Chal**	**2.61**	**21**	eP	**Pn**	**10 42 52.0**	**-2.0**
AC04				eS	**Sb**	**10 43 31.5**	**+0.7**
AC04				IAML		10 43 41.5	

comp=Z,216nm,1.1s

ACCO	**Cerro Coronel**	**2.66**	**89**	eP	**Pb**	**10 42 58.3**	**-1.1**
ACCO				eS	**Sb**	**10 43 31.7**	**-0.8**
ACDV	**Cuesta del Vie**	**2.66**	**80**	eP	**Pb**	**10 43 01.0**	**+1.7**
ACDV				IAML		10 43 48.0	

comp=Z,267nm,0.8s

RTLS	**Leoncito**	**2.70**	**116**	eP	**Pb**	**10 42 59.0**	**-1.0**
RTLS				eS	**Sg**	**10 43 36.4**	**-1.3**
RTLS				IAML		10 43 38.4	

comp=Z,750nm,0.5s

MT02	**Curacav**	**2.74**	**162**	eP	**Pn**	**10 42 57.1**	**+1.4**
MT02				IAML		10 43 46.8	

comp=E,128nm,0.5s

MT02	**Curacav**	**2.74**	**162**	eP	**Pn**	**10 42 57.3**	**+1.6**
MT02				eS	**Sb**	**10 43 33.3**	**-1.1**
MT02				IAML		10 43 46.3	

comp=Z,213nm,0.5s

PEL	**Peldehue**	**2.78**	**154**	eP	**Pn**	**10 42 57.6**	**+1.2**
PEL				IAML		10 43 43.0	

comp=N,290nm,0.4s

PEL	**Peldehue**	**2.78**	**154**	eP	**Pn**	**10 42 58.0**	**+1.7**
PEL				eS	**Sb**	**10 43 34.6**	**-1.1**
PEL				IAML		10 43 48.1	

comp=Z,300nm,0.6s

MT10	**Hacienda Santa**	**2.95**	**153**	eP	**Pn**	**10 43 00.1**	**+1.3**
MT05	**Renca**	**2.98**	**157**	eP	**Pb**	**10 43 01.6**	**-3.1**
MT05				eS	**Sb**	**10 43 40.4**	**-1.2**
MT05				IAML		10 43 49.9	

comp=Z,250nm,0.7s

FCH	**Farellones**	**3.10**	**150**	eP	**Pn**	**10 43 03.1**	**+2.1**
FCH				IAML		10 43 52.1	

comp=E,197nm,0.3s

MT03	**Universidad Ad**	**3.16**	**154**	eP	**Pn**	**10 43 02.8**	**+1.2**
MT03	**Universidad Ad**	**3.16**	**154**	eP	**Pn**	**10 43 03.4**	**+1.9**
MT03				eS	**Sb**	**10 43 46.0**	**-0.6**
MT03				IAML		10 44 00.9	

comp=Z,300nm,0.8s

MT04	**Ro Olivares**	**3.23**	**149**	eP	**Pn**	**10 43 04.9**	**+2.2**
MT04				eS	**Sb**	**10 43 46.8**	**-2.2**
MT04				IAML		10 43 58.3	

comp=Z,186nm,0.7s

MT09	**Talagante**	**3.27**	**163**	eP	**Pn**	**10 43 04.3**	**+1.2**
MT08	**Bocatoma Ro**	**3.32**	**148**	eP	**Pn**	**10 43 02.3**	**-1.6**
MT08				eS	**Sg**	**10 43 58.6**	**+0.9**
MT08				IAML		10 44 04.0	

comp=Z,147nm,0.7s

GO03	**Copiapo**	**3.48**	**29**	eP	**Pn**	**10 43 04.8**	**-1.1**
GO03				eS	**Sb**	**10 43 55.6**	**-0.2**
GO03				IAML		10 44 06.9	

comp=Z,157nm,0.9s

CFA	**Coronel Fontan**	**3.49**	**107**	eP	**Pn**	**10 43 08.9**	**+2.9**
CFA				eS	**Sn**	**10 43 50.5**	**+2.7**
BO04	**La Punta**	**3.57**	**159**	eP	**Pn**	**10 43 08.6**	**+1.4**
LMEL	**Las Melosas**	**3.59**	**153**	eP	**Pn**	**10 43 09.2**	**+1.7**
LMEL				IAML		10 44 07.0	

comp=N,162nm,0.4s

LMEL	**Las Melosas**	**3.59**	**153**	eP	**Pn**	**10 43 09.3**	**+1.7**
LMEL				eS	**Sn**	**10 43 53.1**	**+2.7**
LMEL				IAML		10 44 08.5	

comp=Z,126nm,0.6s

BO01	**Tunca**	**3.84**	**167**	eP	**Pn**	**10 43 12.1**	**+1.3**
BO01	**Tunca**	**3.84**	**167**	eP	**Pn**	**10 43 11.8**	**+1.0**
BO01				IAML		10 44 19.6	

comp=Z,70nm,0.8s

VCA	**Vinchina**	**3.93**	**62**	eP	**Pn**	**10 43 10.7**	**-1.5**
VCA				eS	**Sb**	**10 44 13.9**	**+5.0**
VCA				IAML		10 44 26.9	

comp=Z,228nm,0.9s

AC02	**Maricunga**	**4.64**	**36**	eP	**Pn**	**10 43 22.4**	**+0.1**
AC02				eS	**Sb**	**10 44 30.9**	**+1.4**
AC02				IAML		10 44 43.0	

comp=Z,103nm,1.0s

*IDC **16** 10:44:46.8±0.8,3.93S×152.28E, h0km, mb4.1/11, mbtmp4.1/12, ML1.7/1, Error ellipse: s-maj=30.1km s-min=18.0km az=98.0*

ISC 16 10:44:52.3±0.8, 4.08S±0.1×152.2E±0.2, h35km, n14, σ0§82/14, mb4.1/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.34**	**223**	Pn	**Pn**	**10 46 36.2**	**-0.8**

0.7nm,0.3s,baz=318,slow=7.4,SNR=5.7
7.6nm,0.9s

WRA	**Warramunga Arr**	**23.55**	**226**	P	**P**	**10 49 59.3**	**-0.3**

5.7nm,0.8s,baz=50,slow=9.8,SNR=35
5.7nm,0.8s

ASAR	**Alice Springs**	**26.35**	**220**	P	**P**	**10 50 25.5**	**+0.2**

1.0nm,0.7s,baz=60,slow=8.9,SNR=12
1.0nm,0.7s

STKA	**Stephens Creek**	**29.47**	**199**	P	**P**	**10 50 52.5**	**-0.5**

2.3nm,0.8s,baz=352,slow=7.1,SNR=3.2
2.3nm,0.8s

CMAR	**Chiang Mai Arr**	**57.00**	**295**	P	**P**	**10 54 36.7**	**+1.7**

2.0nm,0.7s,baz=115,slow=5.3,SNR=12
2.0nm,0.7s

SONM	**Songino Array**	**65.33**	**328**	P	**P**	**10 55 30.8**	**-0.3**

0.8nm,0.4s,baz=144,slow=8.4,SNR=2.3
0.8nm,0.4s

VNDA	**Vanda**	**73.65**	**178**	P	**P**	**10 56 22.5**	**+0.7**

0.6nm,0.8s,baz=339,slow=4.7,SNR=4.1
0.6nm,0.8s

MKAR	**Makanchi Array**	**79.33**	**319**	P	**P**	**10 56 54.5**	**-0.1**

0.6nm,0.7s,baz=74,slow=6.4,SNR=4.4
0.6nm,0.7s

ZALV	**Zalesovo Beam**	**80.16**	**326**	P	**P**	**10 56 58.1**	**-0.7**

2.1nm,0.7s,baz=110,slow=6.3,SNR=6.7
2.1nm,0.7s

ILAR	**Eielson Array**	**81.64**	**22**	P	**P**	**10 57 05.5**	**-1.0**

1.4nm,0.8s,baz=252,slow=5.1,SNR=14
1.4nm,0.8s

QSPA	**South Pole Qui**	**85.96**	**180**	P	**P**	**10 57 29.7**	**+0.9**

2.1nm,0.9s,baz=327,slow=1.8,SNR=8.6
2.1nm,0.9s

BVAR	**Borovoye Array**	**88.24**	**323**	P	**P**	**10 57 39.3**	**-0.6**

4.3nm,0.8s,baz=93,slow=5.9,SNR=9.7
4.3nm,0.8s

LPAZ	**La Paz**	**135.32**	**118**	PKP	**PKiKP**	**11 04 11.8**	**0.0**

0.8nm,0.7s,baz=309,slow=6.5,SNR=4.4

BDFB	**Brasilia**	**152.05**	**135**	PKPbc	**PKiKP**	**11 04 45.4**	**0.0**

3.1nm,0.4s,baz=117,slow=2.3,SNR=5.8

*TEH **16** 10:46:08.2,35.75N×58.16E, h11km±18km*
*IDC **16** 10:46:09.2±1.5,35.88N×58.09E, h0km, mb3.5/7, mbtmp3.6/10, ML3.3/3, MS3.4/4, Error ellipse: s-maj=26.8km s-min=20.7km az=48.0*

ISC 16 10:46:09.6±0.7, 35.80N±0.04×58.16E±0.04, h10km, n53, σ1§80/53, mb3.7/5, MS3.7/3, 4C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBZV	**Sabzevar**	**0.73**	**323**	Pg	**Pg**	**10 46 24.4**	**+0.6**
IAKL	**Akhelmad**	**0.93**	**31**	Pg	**Pg**	**10 46 28.3**	**+0.7**
IPAY	**Payeh**	**0.94**	**46**	Pg	**Pg**	**10 46 28.3**	**+0.6**
IPAY				Sg	**Sb**	**10 46 41.9**	**+1.2**
TBHD	**Torbat heydari**	**0.96**	**114**	Pg	**Pg**	**10 46 28.0**	**-0.1**
IMOG	**Moghan**	**1.01**	**72**	Pg	**Pg**	**10 46 29.3**	**+0.3**
IMOG				Sg	**Sb**	**10 46 43.9**	**+1.2**
TAPT	**Tabas- Tapeh t**	**1.23**

SC01	**Santiago de lo**	**0.87**	**266**	*i*	P	**Pg**	**10 48 26.9**	**-0.7**
SC01				e	S	**Sg**	**10 48 41.0**	**+2.1**
MIDR	**Miches**	**0.88**	**125**	⇑e	Pg	**Pg**	**10 48 27.0**	**-0.7**
MIDR				⇑e	Sg	**Sn**	**10 48 40.9**	**-1.2**
MIDR					IAML		10 48 41.3	
	comp=N,251nm,0.5s							
ABDR	**Alto Bandera**	**1.03**	**229**	⇑e	Pg	**Pg**	**10 48 28.1**	**-2.5**
ABDR				⇑e	Sg	**Sg**	**10 48 42.2**	**-1.9**
ABDR					IAML		10 48 45.4	
	comp=N,800nm,0.2s							
SDD	**Santo Domingo**	**1.04**	**186**	⇑e	Pg	**Pg**	**10 48 28.8**	**-1.9**
SDD				⇑e	Sg	**Sg**	**10 48 42.2**	**-2.0**
SDD					IAML		10 48 44.6	
	comp=N,115nm,0.9s							
SDD	**Santo Domingo**	**1.04**	**186**	*i*	P	**Pg**	**10 48 28.8**	**-1.9**
SDD				e	S	**Sg**	**10 48 42.8**	**-1.5**
LUDR	**Luperon**	**1.15**	**290**	⇑e	Pg	**Pn**	**10 48 31.6**	**-1.3**
MADR	**Mao Valverde**	**1.22**	**274**	⇑e	Pg	**Pn**	**10 48 31.4**	**-2.5**
MADR					IAML		10 48 58.2	
	comp=N,2μm,0.3s							
LOPP1	**Punta Rusia, P**	**1.36**	**285**	*i*	P	**Pn**	**10 48 34.8**	**-1.0**
LOPP1				e	S	**Sn**	**10 48 54.0**	**+0.1**
LOPP1					IAML		10 49 02.9	
	comp=Z,531nm,0.3s							
HIDR	**Higuey Centro**	**1.37**	**131**	⇑e	Pg	**Pg**	**10 48 36.7**	**-0.4**
HIDR				⇑e	Sg	**Sg**	**10 48 55.2**	**+0.3**
HIDR					IAML		10 49 01.2	
	comp=N,590nm,0.2s							
SDDR	**Presa de Saban**	**1.49**	**250**	e	P	**Pn**	**10 48 36.5**	**-1.1**
SDDR				e	S	**Sn**	**10 48 56.0**	**-1.2**
SDDR	**Presa de Saban**	**1.49**	**250**	⇑e	Pg	**Pn**	**10 48 35.3**	**-2.3**
SDDR				⇑e	Sg	**Sn**	**10 48 56.0**	**-1.2**
SDDR					IAML		10 48 59.4	
	comp=N,462nm,0.8s							
SDDR	**Presa de Saban**	**1.49**	**250**	*i*	P	**Pn**	**10 48 36.6**	**-1.0**
SDDR				e	S	**Sn**	**10 48 56.1**	**-1.0**
SDDR					IAML		10 48 59.8	
	comp=Z,428nm,0.3s							
REDR	**Restauracion**	**1.53**	**258**	⇑e	Pg	**Pb**	**10 48 41.4**	**+2.1**
REDR				⇑e	Sg	**Sg**	**10 49 05.1**	**+5.0**
REDR					IAML		10 49 06.2	
	comp=N,2μm,0.2s							
PCDR	**Punta Cana, DR**	**1.67**	**126**	⇑e	Sg	**Sg**	**10 49 05.6**	**+1.2**
PCDR					IAML		10 49 13.3	
	comp=N,359nm,0.9s							
MCDR	**Montecristi**	**1.79**	**283**	⇑e	Pg	**Pn**	**10 48 41.4**	**-0.3**
MCDR				⇑e	Sg	**Sn**	**10 49 06.5**	**+2.0**
MCDR					IAML		10 49 16.2	
	comp=N,602nm,0.4s							
LODA1	**ITESIL, Dajabo**	**1.79**	**272**	⇑e	Sg	**Sn**	**10 49 05.8**	**+1.2**
LODA1	**ITESIL, Dajabo**	**1.79**	**272**	*i*	P	**Pn**	**10 48 41.4**	**-0.3**
LODA1				e	S	**Sn**	**10 49 04.6**	**+0.1**
LODA1					IAML		10 49 09.0	
	comp=Z,975nm,0.9s							
LONE3	**El Aguacate, B**	**1.79**	**241**	*i*	P	**Pn**	**10 48 41.9**	**0.0**
LONE3				e	S	**Sn**	**10 49 05.7**	**+0.9**
LONE3					IAML		10 49 11.5	
	comp=Z,262nm,0.3s							
NEDR	**Neiba UASD**	**1.82**	**237**	⇑e	Pg	**Pn**	**10 48 43.7**	**+1.5**
NEDR				⇑e	Sg	**Sb**	**10 49 09.8**	**+2.6**
NEDR					IAML		10 49 53.8	
	comp=N,215nm,0.7s							
PODR	**Polo**	**1.92**	**227**	⇑e	Pg	**Pn**	**10 48 44.4**	**+0.6**
PODR				⇑e	Sg	**Sb**	**10 49 11.3**	**+1.2**
PODR					IAML		10 49 16.1	
	comp=N,242nm,0.5s							
PODR	**Polo**	**1.92**	**227**	*i*	P	**Pn**	**10 48 44.3**	**+0.6**
LODU1	**El Espartillar**	**1.94**	**234**	*i*	P	**Pn**	**10 48 45.2**	**+1.4**
LOVI	**El Cajuil, Ovi**	**2.24**	**221**	*i*	P	**Pn**	**10 48 49.4**	**+1.5**
LOVI					IAML		10 49 32.4	
	comp=Z,98nm,0.7s							
GRTK	**Grand Turk**	**2.36**	**328**	e	P	**Pn**	**10 48 48.1**	**-1.4**
GRTK				e	S	**Sn**	**10 49 18.8**	**+0.2**
GRTK	**Grand Turk**	**2.36**	**328**	⇑e	Pg	**Pn**	**10 48 52.3**	**+2.8**
GRTK					IAML		10 49 27.9	
	comp=N,175nm,0.6s							
GRTK	**Grand Turk**	**2.36**	**328**	*i*	P	**Pn**	**10 48 49.6**	**0.0**
GRTK				e	S	**Sn**	**10 49 18.1**	**-0.5**
GRTK					IAML		10 49 23.5	
	comp=Z,91nm,0.7s							
LOBH	**Bahia de las A**	**2.38**	**227**	*i*	P	**Pn**	**10 48 52.0**	**+2.2**
LOBH					IAML		10 49 33.5	
	comp=Z,61nm,0.5s							
PAPH	**Port-au-Prince**	**2.55**	**248**	e	P	**Pn**	**10 48 53.2**	**+1.0**
PAPH				e	S	**Sn**	**10 49 27.6**	**+4.3**
PAPH	**Port-au-Prince**	**2.55**	**248**	*i*	P	**Pn**	**10 48 53.6**	**+1.4**
MASC	**Masc**	**4.22**	**280**	e	P	Pn	10 49 11.2	-4.0
MASC				e	S	**Sn**	**10 50 00.3**	**-4.2**
QMBU	**Quimbuelo**	**4.76**	**279**	e	P	Pn	10 49 18.7	-4.0
QMBU				e	S	**Sn**	**10 50 12.6**	**-5.4**
QMBU	**Quimbuelo**	**4.76**	**279**	e	P	**Sn**	**10 50 13.3**	**-4.7**
QMBU	**Quimbuelo**	**4.76**	**279**	e	P	**Sn**	**10 50 13.7**	**-4.3**
NMDO	**Nuevo Mundo**	**4.98**	**283**	e	P	Pn	10 49 20.4	-5.2
NMDO				e	S	**Sn**	**10 50 17.7**	**-5.6**
NMDO	**Nuevo Mundo**	**4.98**	**283**	e	P	**Sn**	**10 50 18.9**	**-4.3**
GTBY	**Guantanamo Bay**	**5.01**	**276**	e	P	**Pn**	**10 49 23.1**	**-3.0**
GTBY				e	S	**Sn**	**10 50 19.1**	**-5.0**
RCC	**Rio Carpintero**	**5.57**	**276**	e	P	Pn	10 49 30.3	-3.4
RCC				e	S	**Sn**	**10 50 32.1**	**-5.7**
PINC	**Pinares de May**	**5.71**	**281**	e	P	Pn	10 49 29.1	-6.6
PINC				e	S	Sn	10 50 33.9	-7.5
MARVS	**Santiago de Cu**	**5.76**	**276**	e	P	Pn	10 49 32.7	-3.6
HLGC	**Holguin**	**6.03**	**284**	e	P	Pn	10 49 35.9	-4.2
LMGC	**Las Mercedes**	**6.80**	**276**	e	P	Pn	10 49 46.2	-4.4
LMGC				e	S	Sn	10 50 56.4	-12
CAIB	**Caibarien**	**9.51**	**290**	IAML			10 53 30.8	
	comp=E,9.4nm,0.8s							

*OSPL **16** 10:49:20.6±3.0, 19°.51N×69°.72W, h6km±11km, ML3.7*
*SDD **16** 10:49:21.5±2.6, 19°.49N×69°.86W, h12km±16km, MD3.4, ML3.8, MW3.7*

ISC 16 10:49:19.8±1.0, 19°.51N±0°.03×69°.85W±0°.03, h18km±2km, n75, σ1°68/67, 21C-6D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LONA1	**Toro Cenizo, N**	**0.14**	**188**	*i*	P	**Pg**	**10 49 24.1**	**+0.2**
LONA1				e	S	**Sg**	**10 49 27.2**	**+0.6**
LONA1					IAML		10 49 29.9	
	comp=Z,8μm,0.4s							
NADR	**Nagua**	**0.16**	**184**	⇓e	Pg	**Pb**	**10 49 23.8**	**+0.3**
NADR				⇑e	Sg	**Sb**	**10 49 26.2**	**+0.5**
NADR					IAML		10 49 28.2	
	comp=N,45μm,0.3s							
SFDR	**San Fco. de Ma**	**0.44**	**239**	⇓e	Pg	**Pg**	**10 49 28.4**	**-0.4**
SFDR				⇑e	Sg	**Sb**	**10 49 36.3**	**+1.0**
SFDR					IAML		10 49 40.0	
	comp=N,9μm,0.5s							
SMDR	**Samana, DR**	**0.66**	**110**	⇓e	Pg	**Pb**	**10 49 32.8**	**0.0**
SMDR				⇑e	Sg	**Sn**	**10 49 43.9**	**-0.2**
SMDR					IAML		10 49 45.9	
	comp=N,1μm,0.6s							
SODR	**Sosua Marina B**	**0.73**	**289**	⇑e	Pg	**Pn**	**10 49 34.8**	**-0.4**
SODR					IAML		10 49 56.1	
	comp=N,5μm,1.1s							
SC01	**Santiago de lo**	**0.84**	**264**	⇑e	Pg	**Pg**	**10 49 36.2**	**0.0**
SC01					IAML		10 49 57.5	
	comp=N,4μm,0.5s							
SC01	**Santiago de lo**	**0.84**	**264**	*i*	P	**Pg**	**10 49 36.4**	**+0.2**
SC01				e	S	**Sn**	**10 49 50.3**	**+1.7**
MIDR	**Miches**	**0.92**	**125**	⇑e	Pg	**Pb**	**10 49 36.5**	**-0.7**
MIDR				e	Sg	**Sn**	**10 49 50.9**	**+0.3**
MIDR					IAML		10 49 51.2	
	comp=N,406nm,1.7s							
ABDR	**Alto Bandera**	**1.02**	**227**	⇓e	Pg	**Pb**	**10 49 37.6**	**-1.6**
ABDR				⇑e	Sg	**Sb**	**10 49 51.6**	**-0.7**
ABDR					IAML		10 49 55.4	
	comp=N,2μm,0.4s							
SDD	**Santo Domingo**	**1.05**	**184**	⇑e	Pg	**Pb**	**10 49 38.3**	**-1.1**
SDD				⇓e	Sg	**Sb**	**10 49 52.3**	**-0.7**
SDD					IAML		10 49 55.0	
	comp=N,207nm,0.7s							
SDD	**Santo Domingo**	**1.05**	**184**	*i*	P	**Pb**	**10 49 38.4**	**-1.1**
SDD				e	S	**Sb**	**10 49 51.9**	**-1.1**
LUDR	**Luperon**	**1.11**	**290**	e	Pg	**Pg**	**10 49 41.3**	**0.0**
MADR	**Mao Valverde**	**1.19**	**273**	⇑e	Pg	**Pg**	**10 49 42.6**	**-0.3**
MADR					IAML		10 50 07.4	
	comp=N,4μm,0.6s							
LOPP1	**Punta Rusia, P**	**1.32**	**285**	*i*	P	**Pb**	**10 49 44.2**	**+0.1**
LOPP1				e	S	**Sg**	**10 50 03.8**	**+1.1**
LOPP1					IAML		10 50 12.2	
	comp=Z,2μm,0.3s							

HIDR	**Higuey Centro**	**1.41**	**131**	⇑e	Pg	**Pn**	**10 49 45.0**	**+0.4**
HIDR				⇑e	Sg	**Sg**	**10 50 05.2**	**-0.2**
HIDR					IAML		10 50 11.0	
	comp=N,998nm,0.2s							
SDDR	**Presa de Saban**	**1.46**	**249**	IAML			10 50 08.9	
	comp=N,1μm,0.4s							
SDDR	**Presa de Saban**	**1.46**	**249**	⇑e	Pg	**Pn**	**10 49 45.7**	**+0.3**
SDDR				⇑e	Sg	**Sb**	**10 50 05.3**	**+0.5**
SDDR					IAML		10 50 08.7	
	comp=N,1μm,0.8s							
SDDR	**Presa de Saban**	**1.46**	**249**	e	P	**Pn**	**10 49 45.2**	**-0.2**
SDDR	**Presa de Saban**	**1.46**	**249**	e	S	**Sb**	**10 50 04.9**	**+0.1**
SDDR	**Presa de Saban**	**1.46**	**249**	IAML			10 50 08.6	
	comp=N,1μm,0.9s							
SDDR	**Presa de Saban**	**1.46**	**249**	*i*	P	**Pb**	**10 49 46.1**	**-0.4**
SDDR				e	S	**Sb**	**10 50 05.2**	**+0.3**
SDDR					IAML		10 50 09.2	
	comp=Z,1μm,0.3s							
REDR	**Restauracion**	**1.50**	**257**	⇑e	Pg	**Pg**	**10 49 51.0**	**+2.2**
REDR				⇑e	Sg	**Sg**	**10 50 14.6**	**+6.1**
REDR					IAML		10 50 15.5	
	comp=N,4μm,0.1s							
MCDR	**Montecristi**	**1.75**	**283**	⇑e	Pg	**Pb**	**10 49 50.8**	**-0.6**
MCDR				⇑e	Sg	**Sg**	**10 50 16.0**	**-0.3**
MCDR					IAML		10 50 25.5	
	comp=N,1μm,0.5s							
LODA1	**ITESIL, Dajabo**	**1.75**	**271**	⇑e	Pg	**Pb**	**10 49 51.1**	**-0.4**
LODA1				⇑e	Sg	**Sb**	**10 50 13.9**	**+0.7**
LODA1					IAML		10 50 18.8	
	comp=N,4μm,0.5s							
LODA1	**ITESIL, Dajabo**	**1.75**	**271**	*i*	P	**Pb**	**10 49 50.8**	**-0.7**
LODA1				e	S	**Sb**	**10 50 14.0**	**+0.8**
LODA1					IAML		10 50 18.0	
	comp=Z,2μm,0.2s							
LONE3	**El Aguacate, B**	**1.77**	**240**	*i*	P	**Pb**	**10 49 51.4**	**-0.5**
LONE3				e	S	**Sb**	**10 50 15.4**	**+1.5**
LONE3					IAML		10 50 20.5	
	comp=Z,518nm,0.4s							
PODR	**Polo**	**1.91**	**226**	⇓e	Pg	**Pb**	**10 49 54.1**	**-0.1**
PODR					IAML		10 50 25.1	
	comp=N,469nm,1.1s							
PODR	**Polo**	**1.91**	**226**	*i*	P	**Pb**	**10 49 54.2**	**-0.1**
LODU1	**El Espartillar**	**1.93**	**233**	*i*	P	**Pb**	**10 49 55.1**	**+0.7**
JIDR	**Jimani**	**2.15**	**242**	⇑e	Pg	**Pb**	**10 49 57.7**	**-0.6**
JIDR					IAML		10 50 29.9	
	comp=N,961nm,0.4s							
GRTK	**Grand Turk**	**2.33**	**329**	IAML			10 50 32.0	
	comp=N,550nm,0.2s							
GRTK	**Grand Turk**	**2.33**	**329**	⇑e	Sg	**Sb**	**10 50 30.0**	**+0.4**
GRTK					IAML		10 50 31.9	
	comp=N,562nm,0.2s							
GRTK	**Grand Turk**	**2.33**	**329**	e	P	**Pn**	**10 49 58.0**	**+0.8**
GRTK	**Grand Turk**	**2.33**	**329**	e	S	**Sn**	**10 50 27.1**	**+1.8**
GRTK	**Grand Turk**	**2.33**	**329**	IAML			10 50 31.6	
	comp=N,533nm,0.4s							
LOBH	**Bahia de las A**	**2.37**	**226**	*i*	P	**Pb**	**10 50 01.6**	**-0.3**
LOBH					IAML		10 50 42.9	
	comp=Z,163nm,0.5s							
PAPH	**Port-au-Prince**	**2.52**	**247**	IAML			10 50 48.6	
	comp=E,265nm,0.8s							
PAPH	**Port-au-Prince**	**2.52**	**247**	e	P	**Pn**	**10 50 01.3**	**+1.4**
PAPH	**Port-au-Prince**	**2.52**	**247**	e	S	**Sb**	**10 50 34.5**	**-0.8**
PAPH	**Port-au-Prince**	**2.52**	**247**	IAML			10 50 38.5	
	comp=N,273nm,0.6s							
PAPH	**Port-au-Prince**	**2.52**	**247**	*i*	P	**Pb**	**10 50 02.4**	**-2.2**
MASC	**Masc**	**4.18**	**280**	IAML			10 51 32.0	
	comp=N,114nm,1.2s							
MASC	**Masc**	**4.18**	**280**	e	P	Pn	10 50 17.6	-5.1
MASC	**Masc**	**4.18**	**280**	e	S	**Sn**	**10 51 09.1**	**-2.0**
MASC	**Masc**	**4.18**	**280**	IAML			10 51 30.4	
	comp=E,114nm,0.8s							
QMBU	**Quimbuelo**	**4.72**	**279**	IAML			10 51 44.6	
	comp=N,72nm,0.1s							
QMBU	**Quimbuelo**	**4.72**	**279**	e	S	**Sn**	**10 51 21.6**	**-3.0**
QMBU	**Quimbuelo**	**4.72**	**279**	AMP			10 51 40.1	
	comp=E,106nm,0.4s							
NMDO	**Nuevo Mundo**	**4.94**	**283**	IAML			10 51 57.9	
	comp=N,41nm,0.8s							
NMDO	**Nuevo Mundo**	**4.94**	**283**	e	S	**Sn**	**10 51 27.6**	**-2.3**
NMDO	**Nuevo Mundo**	**4.94**	**283**	IAML			10 51 51.4	
	comp=E,38nm,0.3s							
GTBY	**Guantanamo Bay**	**4.98**	**276**	IAML			10 51 46.1	
	comp=E,39nm,0.5s							
GTBY	**Guantanamo Bay**	**4.98**	**276**	e	P	**Pn**	**10 50 35.5**	**+1.9**
GTBY	**Guantanamo Bay**	**4.98**	**276**	e	S	**Sn**	**10 51 29.4**	**-1.4**
GTBY	**Guantanamo Bay**	**4.98**	**276**	IAML			10 51 41.5	
	comp=E,38nm,0.6s							
RCC	**Rio Carpintero**	**5.53**	**276**	IAML			10 51 54.2	
	comp=N,20nm,0.6s							
RCC	**Rio Carpintero**	**5.53**	**276**	e	P	Pn	10 50 33.4	-7.9
RCC	**Rio Carpintero**	**5.53**	**276**	e	S	**Sn**	**10 51 42.5**	**-2.0**
RCC	**Rio Carpintero**	**5.53**	**276**	IAML			10 51 53.9	
	comp=E,20nm,0.7s							
PINC	**Pinares de May**	**5.67**	**281**	IAML			10 51 51.3	
	comp=N,18nm,0.4s							
PINC	**Pinares de May**	**5.67**	**281**	e	P	Pn	10 50 36.2	-7.1
PINC	**Pinares de May**	**5.67**	**281**	e	S	**Sn**	**10 51 43.3**	**-4.7**
PINC	**Pinares de May**	**5.67**	**281**	IAML			10 51 49.8	
	comp=E,23nm,0.2s							
MARVS	**Santiago de Cu**	**5.72**	**276**	IAML			10 51 58.7	
	comp=E,29nm,0.4s							
MARVS	**Santiago de Cu**	**5.72**	**276**	e	P	Pn	10 50 36.6	-7.3
MARVS	**Santiago de Cu**	**5.72**	**276**	e	S	**Sn**	**10 51 45.8**	**-3.3**
MARVS	**Santiago de Cu**	**5.72**	**276**	IAML			10 51 55.9	
	comp=N,16nm,0.5s							
MARVS	**Santiago de Cu**	**5.72**	**276**	e	S	Pn	10 50 37.0	-6.9
HLGC	**Holguin**	**6.00**	**284**	IAML			10 52 15.3	
	comp=E,24nm,0.7s							
HLGC	**Holguin**	**6.00**	**284**	e	P	**Pn**	**10 50 46.8**	**-0.9**
HLGC	**Holguin**	**6.00**	**284**	e	P	**Pn**	**10 50 52.4**	**+4.7**
HLGC	**Holguin**	**6.00**	**284**	e	S	**Sn**	**10 51 55.3**	**-0.6**
HLGC	**Holguin**	**6.00**	**284**	IAML			10 51 58.4	
	comp=N,21nm,0.1s							
HLGC	**Holguin**	**6.00**	**284**	e	S	**Pn**	**10 50 46.4**	**-1.3**
LMGC	**Las Mercedes**	**6.76**	**276**	e	P	**Pn**	**10 50 55.3**	**-2.9**
LMGC				e	S	**Sn**	**10 52 11.7**	**-3.1**
LMGC					IAML		10 52 17.1	
	comp=N,12nm,0.3s							
LMGC					IAML		10 52 24.6	
	comp=E,14nm,0.5s							

HEL 16 11:01:12.5±0.1, 61°.63N×23°.51E, h0km, ML1.1, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KPF	**Kankaanpaa**	**0.72**	**288**	PG		Pg	11 01 25.5	-0.7
	baz=110							
KPF				MSG			11 01 35.1	
	comp=Z,1.4nm,0.2s							
KEF	**Keuruu**	**0.84**	**49**	PG		Pg	11 01 27.8	-0.9
	baz=229							
KEF				MSG			11 01 38.7	
	comp=Z,1.7nm,0.2s							
KEF				SB		Sg	11 01 39.0	-0.6
RAF	**Rauma**	**1.04**	**235**	PG		Pg	11 01 31.1	-1.2
RAF				MSG			11 01 44.1	
	comp=Z,1.2nm,0.2s							
RAF				SB		Sg	11 01 44.9	-0.8
FIA0	**FINESS Array S**	**1.24**	**97**	PG		Pg	11 01 34.4	-1.9
FIA0				MSG			11 01 50.1	
	comp=Z,1.2nm,0.2s							
FIA0				SN		Sn	11 01 55.4	+0.9
KAF	**Kangasniemi**	**1.41**	**69**	PG		Pn	11 01 37.8	-1.7
	baz=251							
KAF				MSG			11 01 55.0	
	comp=Z,1.1nm,0.2s							
KAF				SN		Sn	11 01 59.5	+0.7
MEF	**Metsahovi**	**1.48**	**163**	PG		Pn	11 01 38.9	-1.4
MEF				MSG			11 01 56.8	
	comp=Z,1.7nm,0.2s							
PVF	**Pernaja**	**1.58**	**132**	PN		Pn	11 01 41.5	-0.2
PVF				MSG			11 01 59.7	
	comp=Z,1.1nm,0.2s							
SUF	**Sumiainen**	**1.66**	**47**	PG		Pn	11 01 42.4	-0.4
	baz=228							
SUF				MSG			11 02 02.0	
	comp=Z,0.7nm,0.2s							
TVF	**Tvarminne**	**1.79**	**184**	PG		Pn	11 01 44.8	+0.2
TVF				MSG			11 02 05.9	
	comp=Z,0.5nm,0.2s							
TVF				SN		Sn	11 02 07.5	-0.5
UMAU	**Umeaa**	**2.61**	**331**	PG		Pb	11 01 58.8	-1.3
	baz=145							
UMAU				SG		Sb	11 02 33.4	+0.7
RUF	**Ruokolahti**	**2.62**	**92**	MSG			11 02 29.7	
	comp=Z,4.0nm,0.2s							
HEMU	**Hemsoen**	**2.78**	**295**	PB		Pn	11 02 00.0	+1.9
HEMU				SG		Sb	11 02 36.9	-0.5

CATAC 16 11:05:37.9±0.2, 12°.N±1°×85°.3W±1°.0, h3km±1km, M3.0/25, MLv3.0/25, 6C-7D, Error ellipse: s-maj=2.6km s-min=2.1km az=15.9, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ACON	**Acoyapa**	**0.20**	**43**	⇑P		Pg	11 05 42.2	+0.4
ACON				S		Sg	11 05 45.5	+1.1
CONN	**Concepcion**	**0.40**	**230**	⇑P		Pg	11 05 46.6	+0.9
CONN				S		Sg	11 05 52.4	+1.4
MORN	**Al O del Volca**	**0.43**	**230**	⇑P		Pg	11 05 47.0	+0.8
MORN				S		Sg	11 05 53.2	+1.3
OMEN	**Al SSO del Vol**	**0.44**	**225**	⇑P		Pg	11 05 45.9	-0.5
OMEN				S		Sg	11 05 52.3	+0.2
JAPN	**Al SSO del Vol**	**0.47**	**231**	⇑P		Pg	11 05 46.7	-0.2
JAPN				S		Sg	11 05 53.2	+0.3
BOAB	**BOACO BROADBAN**	**0.71**	**331**	S		Sg	11 06 01.5	+0.5
BOAB	**BOACO BROADBAN**	**0.71**	**331**	⇓P		Pg	11 05 52.0	+0.3
NANN	**Nandasmo**	**0.80**	**278**	S		Sb	11 06 05.2	-0.6
NANN	**Nandasmo**	**0.80**	**278**	P		Pb	11 05 54.4	-0.1
MAS3	**Al N del Volca**	**0.87**	**283**	⇓P		Pg	11 05 54.3	-0.4
MAS3				S		Sg	11 06 06.3	+0.3
AERN	**Aeropuerto Man**	**0.90**	**291**	S		Sg	11 06 06.6	-0.3
AERN	**Aeropuerto Man**	**0.90**	**291**	P		Pg	11 05 55.0	-0.2
WILN	**Americas 2**	**0.92**	**291**	⇓P		Pg	11 05 55.5	-0.1
WILN				S		Sg	11 06 08.3	+0.6
MGAN	**Managua**	**0.97**	**289**	S		Sg	11 06 09.9	+0.7
MGAN	**Managua**	**0.97**	**289**	P		Pg	11 05 56.9	+0.3
R4DEC	**Barrio San Lui**	**0.97**	**290**	S		Sb	11 06 10.1	-0.6
R4DEC	**Barrio San Lui**	**0.97**	**290**	P		Pg	11 05 56.9	+0.2
UNAN	**Cigeo UNAN**	**0.98**	**287**	P		Pg	11 05 57.0	+0.2
UNAN				S		Sb	11 06 10.4	-0.6
ALLN	**Telcor Managua**	**1.00**	**289**	P		Pb	11 05 57.7	-0.2
ALLN	**Telcor Managua**	**1.00**	**289**	S		Sb	11 06 10.8	-0.6
ESPN	**Las Esperanzas**	**1.06**	**69**	S		Sg	11 06 12.0	+0.1
ESPN	**Las Esperanzas**	**1.06**	**69**	P		Pg	11 05 58.0	-0.2
SAPS	**Ciudad Sandino**	**1.12**	**288**	P		Pg	11 05 59.5	-0.1
SAPS	**Ciudad Sandino**	**1.12**	**288**	S		Sg	11 06 14.2	0.0
APQ3	**Volcan Apoyequ**	**1.13**	**293**	P		Pg	11 05 59.4	-0.2
APQ3				S		Sg	11 06 14.2	-0.1
MATN	**Matagalpa**	**1.25**	**331**	S		Sg	11 06 17.6	-0.7
MATN	**Matagalpa**	**1.25**	**331**	⇑P		Pg	11 06 00.7	-1.3
MOM2	**El Cardon**	**1.30**	**298**	⇓P		Pg	11 06 02.0	-0.9
MOM2				S		Sg	11 06 19.5	-0.3
COPN	**Copaltepe**	**1.30**	**286**	⇓P		Pg	11 06 00.9	-2.0
CNGN	**Cerro Negro**	**1.52**	**297**	P		Pn	11 06 05.5	-0.5
CNGN	**Cerro Negro**	**1.52**	**297**	S		Sn	11 06 25.5	-0.8
CNGA	**Al SSO del Vol**	**1.52**	**296**	⇓P		Pn	11 06 05.6	-0.4
CNGA				S		Sn	11 06 25.3	-1.0
SOCE	**Pocosol**	**1.58**	**155**	S		Sn	11 06 26.7	-1.2
SOCE	**Pocosol**	**1.58**	**155**	P		Pn	11 06 06.7	-0.3
RCPN	**Sur Rio San Ju**	**1.86**	**336**	⇓P		Pn	11 06 11.2	+0.4
CRIN	**San Cristobal**	**1.91**	**297**	P		Pn	11 06 11.4	-0.1
CRIN	**San Cristobal**	**1.91**	**297**	S		Sn	11 06 35.7	-0.4
RCVN	**Varillal2**	**1.95**	**334**	P		Pn	11 06 12.1	0.0
SIUN	**Universidad Ur**	**1.95**	**15**	P		Pn	11 06 11.8	-0.2
SIUN				S		Sb	11 06 38.1	-0.9

HEL 16 11:09:30.9±0.5, 61°.07N×30°.07E, h0km, ML1.4, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
RUF	**Ruokolahti**	**0.65**	**304**	PB		Pg	11 09 43.1	-0.2
RUF				SG		Sg	11 09 51.2	-0.5
RUF				MSG			11 09 51.4	
	comp=Z,3.6nm,0.2s							
VJF	**Virojoki**	**1.34**	**248**	PG		Pg	11 09 55.9	-0.7
VJF				MSG			11 10 11.3	
	comp=Z,4.0nm,0.2s							
V

SMAI	**San Martin Ant**	**75.14**	**159**	P	**P**	**11 32 07.2**	**+0.6**		
SMAI				IAmb	IAmb	11 32 07.8			
	comp=Z,4.4nm,0.8s								
BELA	**Belgrano 2**	**75.36**	**173**	P	**P**	**11 32 07.2**	**-0.6**		
BELA				IAmb	IAmb	11 32 28.6			
	comp=Z,5.2nm,1.5s								
MAW	**Mawson**	**76.65**	**201**	P	**P**	**11 32 15.0**	**0.0**		
	comp=Z,1.7nm,0.8s,baz=143,slow=9.2,SNR=6.2								
	comp=Z,1.7nm,0.8s								
KSRS	**Korea Array**	**78.98**	**320**	P	**P**	**11 32 26.4**	**-1.5**		
	comp=Z,0.8nm,0.7s,baz=138,slow=6.0,SNR=2.5								
	comp=Z,0.8nm,0.7s								
PEA0B	**Petropavlovsk-**	**80.13**	**347**	P	**P**	**11 32 33.7**	**0.0**		
PEA0B				IAmb	IAmb	11 33 16.9			
	comp=Z,27nm,1.4s								
PETK	**Petropavlovsk-**	**80.13**	**347**	P	**P**	**11 32 33.7**	**0.0**		
PETK	**Petropavlovsk-**	**80.13**	**347**	P	**P**	**11 32 33.1**	**-0.6**		
	comp=Z,2.1nm,0.7s,baz=106,slow=6.7,SNR=6.6								
	comp=Z,2.1nm,0.7s								
CBX	**Cerro Bola**	**83.19**	**50**	P	**P**	**11 32 50.4**	**+0.4**		
CBX				IAmb	IAmb	11 33 02.5			
	comp=Z,11nm,1.2s								
SLBS	**Sierra La Lagu**	**83.51**	**60**	P	**P**	**11 32 52.4**	**+0.6**		
SLBS				IAmb	IAmb	11 33 26.2			
	comp=Z,11nm,1.4s								
NVAR	**Mina Array Bea**	**85.68**	**44**	P	**P**	**11 33 01.9**	**-0.4**		
	comp=Z,0.6nm,0.7s,baz=230,slow=6.6,SNR=6.0								
	comp=Z,0.6nm,0.7s								
CMAR	**Chiang Mai Arr**	**89.73**	**290**	P	**P**	**11 33 22.3**	**+0.8**		
	comp=Z,1.2nm,0.5s,baz=138,slow=3.8,SNR=11								
	comp=Z,1.2nm,0.5s								
TMUT	**Trail Mountain**	**90.74**	**46**	P	**P**	**11 33 26.4**	**+0.3**		
TMUT				IAmb	IAmb	11 33 26.7			
	comp=Z,2.7nm,0.9s								
TX31	**Lajitas Ar. Si**	**91.17**	**58**	P	**P**	**11 33 27.7**	**-0.3**		
TX31				IAmb	IAmb	11 33 28.8			
	comp=Z,2.0nm,0.9s								
TXAR	**Lajitas Array**	**91.17**	**58**	P	**P**	**11 33 27.7**	**-0.3**		
TXAR	**Lajitas Array**	**91.17**	**58**	P	**P**	**11 33 28.1**	**0.0**		
	comp=Z,1.0nm,0.8s,baz=211,slow=6.6,SNR=15								
	comp=Z,1.0nm,0.8s								
NOA	**NORSAR Array B**	**143.14**	**351**	PKhKP	PKPpre	11 39 48.9			
	comp=Z,1.7nm,0.9s,baz=16,slow=4.9,SNR=3.6								
HFS	**Hagfors**	**143.59**	**348**	PKP	PKPab	11 39 50.9	-1.1		
	comp=Z,2.5nm,0.6s,baz=325,slow=2.3,SNR=5.2								
AKASG	**Malin Array Be**	**145.79**	**326**	PKPbc	**PKPdf**	**11 39 57.6**	**+0.1**		
	comp=Z,2.4nm,0.6s,baz=47,slow=4.2,SNR=11								
MMAI	**Mount Meron Ar**	**147.97**	**293**	PKPbc	**PKPbc**	**11 40 05.7**	**0.0**		
	comp=Z,4.4nm,0.6s,baz=73,slow=1.1,SNR=5.7								
BRTR	**Keskin Array B**	**148.08**	**306**	PKPbc	**PKPbc**	**11 40 05.0**	**-0.8**		
	comp=Z,0.9nm,0.6s,baz=138,slow=2.8,SNR=5.5								

*AEIC **16** 11:57:10.4±0.8, 53.°51N±0.°06×165.°28W±0.°09, h44km±9km, Error ellipse: s-maj=9.8km s-min=5.9km az=144.0*

NEIC 16 11:57:10.1±0.5, 53.°45N±0.°06×165.°23W±0.°04, h35km±2km, ML3.1/12, ML2.8(AEIC), Error ellipse: s-maj=9.6km s-min=3.4km az=346.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.74**	**338**		Pn	11 57 23.7	-0.4
AKSA					Sn	11 57 33.9	-0.3
AHB	**Akutan Harbor**	**0.75**	**333**		Pn	11 57 24.1	-0.2
AHB					Sn	11 57 34.6	+0.1
AKUT	**Akutan**	**0.76**	**335**		Pn	11 57 24.3	-0.1
AKUT	**Akutan**	**0.76**	**335**		Sn	11 57 34.7	+0.1
AKBBA	**Akutan Broad B**	**0.77**	**328**		Pn	11 57 24.4	-0.1
AKBBA					Sn	11 57 35.4	+0.4
ZRO	**Akutan Zero**	**0.78**	**326**		Pn	11 57 24.5	-0.2
ZRO					Sn	11 57 34.9	-0.4
AKMO	**Akutan Morgan**	**0.79**	**325**		Pn	11 57 24.7	-0.1
AKMO					Sn	11 57 35.3	-0.1
AKV	**Akutan Volcano**	**0.81**	**328**		Pn	11 57 25.0	-0.1
AKV					Sn	11 57 36.8	+0.9
UNV	**Unalaska Valle**	**0.86**	**298**		Pn	11 57 25.4	-0.2
UNV					Sn	11 57 36.5	-0.4
UNV				IAML		11 57 37.2	
	comp=E,489nm,0.3s						
UNV				IAML		11 57 37.4	
	comp=N,572nm,0.2s						
LVA	**Lava Point**	**0.86**	**327**		Pn	11 57 25.6	-0.1
LVA					Sn	11 57 37.3	+0.3
LVA				IAML		11 57 43.6	
	comp=E,437nm,0.5s						
AKGG	**Akutan Green G**	**0.88**	**329**		Pn	11 57 26.0	+0.1
MREP	**Makushin Rep't**	**0.97**	**293**		Pn	11 57 27.4	+0.1
MSW	**Makushin Switc**	**1.03**	**298**		Pn	11 57 28.3	+0.2
MSW					Sn	11 57 41.2	-0.2
WEBT	**Westdahl Beart**	**1.18**	**14**		Pn	11 57 30.6	+0.4
WEBT					Sn	11 57 45.5	+0.5
SSBA	**Shishaldin**	**1.48**	**26**		Pn	11 57 34.5	+0.3
ISNN	**Isanotski Nort**	**1.63**	**31**		Pn	11 57 36.8	+0.5
OKTU	**Okmok Mt. Tuli**	**1.68**	**269**		Pn	11 57 37.8	+0.7
OKCE	**Okmok Cone E**	**1.75**	**271**		Pn	11 57 39.2	+1.2
FALS	**False Pass**	**1.77**	**36**		Pn	11 57 38.2	0.0
OKSP	**Okmok Steeple**	**1.84**	**265**		Pn	11 57 39.9	+0.7
S12K	**Black Hills**	**2.92**	**38**	Pn	Pn	11 57 53.9	-0.1
S12K				IAML		11 58 38.5	
	comp=E,65nm,0.8s						
S12K				IAML		11 59 08.3	
	comp=N,61nm,1.1s						
SDPT	**Sand Point**	**3.37**	**54**	Pn	Pn	11 58 00.1	-0.1
SDPT				IAML		11 58 51.4	
	comp=E,47nm,0.9s						

*NEIC **16** 12:06:20.9±0.5, 19.°21N±0.°02×155.°51W±0.°02, h36km±4km, Error ellipse: s-maj=3.3km s-min=2.4km az=142.0*

HVO 16 12:06:21.9±1.1, 19.°18N±0.°05×155.°48W±0.°06, h33km±8km, ML3.1/39, ML3.2/40(NEIC), Error ellipse: s-maj=10.5km s-min=2.3km az=134.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.10**	**56**		Pb	12 06 27.4	-0.3
HPO	**Honuapo**	**0.12**	**216**		Pb	12 06 27.3	-0.4
HPO					Sb	12 06 31.2	-0.5
KHU	**Kahuku**	**0.14**	**296**		Pn	12 06 27.5	+0.6
KHU					Sb	12 06 31.6	-1.0
AIN	**Ainahou**	**0.19**	**7**	Pg	Pn	12 06 28.0	+0.1
HLP	**Hilina Pali**	**0.20**	**56**	Pg	Pn	12 06 28.0	-0.1
HLP				Sg	Sb	12 06 32.6	-0.5
HLP				IAML		12 06 32.8	
	comp=N,3µm,0.4s						
HLP				IAML		12 06 34.8	
	comp=E,2µm,0.2s						
SDHHI	**Sand Hill**	**0.27**	**41**		Pb	12 06 28.5	-1.0
SDHHI					Sn	12 06 33.4	-0.7
WRMHI	**West Rim**	**0.28**	**38**		Pb	12 06 28.5	-1.1
WRMHI					Sn	12 06 33.5	-0.8
RIM	**Rim**	**0.29**	**43**		Pb	12 06 28.6	-1.0
RIM					Sn	12 06 33.6	-1.0
KKO	**Keanakako'i**	**0.29**	**44**		Pb	12 06 28.7	-1.0
KKO					Sn	12 06 33.9	-0.9
UWE	**Uwekahuna**	**0.30**	**37**		Pb	12 06 28.7	-1.1
UWE					Sn	12 06 33.9	-0.9
UWE	**Uwekahuna**	**0.30**	**37**	IAML		12 06 34.5	
	comp=E,3µm,0.2s						
UWE				IAML		12 06 37.5	
	comp=N,4µm,0.3s						
OBL	**Observatory Le**	**0.30**	**39**		Pb	12 06 28.6	-1.1
OBL					Sn	12 06 33.8	-1.1
UWB	**Uwekahuna Bluf**	**0.31**	**39**		Pb	12 06 28.6	-1.2
UWB					Sn	12 06 33.7	-1.4
BYL	**Byron's Ledge**	**0.31**	**43**		Pb	12 06 28.7	-1.2
BYL					Sn	12 06 34.0	-1.2
BYL	**Byron's Ledge**	**0.31**	**43**	IAML		12 06 37.5	
	comp=N,1µm,0.4s						
BYL				IAML		12 06 38.3	
	comp=E,1µm,0.5s						
PUH	**Pauahi**	**0.32**	**53**		Pb	12 06 28.8	-1.1
PUH					Sn	12 06 34.0	-1.4
PUH	**Pauahi**	**0.32**	**53**	IAML		12 06 34.2	
	comp=E,2µm,0.4s						
PUH				IAML		12 06 34.3	
	comp=N,2µm,0.2s						
SBLHI	**Steaming Bluff**	**0.32**	**40**		Pb	12 06 28.7	-1.3
SBLHI					Sn	12 06 33.8	-1.6
HATHI	**Halema'uma'u T**	**0.32**	**41**		Pb	12 06 28.8	-1.2
HATHI					Sn	12 06 34.0	-1.5
HATHI	**Halema'uma'u T**	**0.32**	**41**	IAML		12 06 34.1	
	comp=N,2µm,0.2s						
HATHI				IAML		12 06 36.0	
	comp=E,2µm,0.4s						
MWH	**Mokuaweoweo**	**0.32**	**340**		Pb	12 06 29.0	-1.4
MWH					Sn	12 06 34.6	-1.1
MWH	**Mokuaweoweo**	**0.32**	**340**	IAML		12 06 34.9	
	comp=E,3µm,0.4s						
MWH				IAML		12 06 39.7	
	comp=N,2µm,0.3s						
MLH	**Mauna Loa**	**0.32**	**16**		Pb	12 06 29.2	-1.0
MLH				IAML		12 06 34.7	
	comp=E,3µm,0.4s						
MLH	**Mauna Loa**	**0.32**	**16**		Sn	12 06 34.3	-1.4
RSD	**Rainshed**	**0.34**	**35**		Pb	12 06 29.0	-1.3
RSD					Sb	12 06 34.4	-1.6
KNHH	**Kane Nui o Ham**	**0.35**	**56**		Pb	12 06 29.3	-1.1
ALEP	**Alea Permanent**	**0.39**	**337**		Pb	12 06 29.6	-1.5
ALEP					Sb	12 06 35.3	-2.2
STCH	**Steam Cracks**	**0.39**	**59**		Pb	12 06 29.7	-1.3
STCH	**Steam Cracks**	**0.39**	**59**	IAML		12 06 35.7	
	comp=E,1µm,0.2s						
STCH				IAML		12 06 38.1	
	comp=N,1µm,0.2s						
NPOC	**North of Pu'u**	**0.41**	**59**		Pb	12 06 29.9	-1.3
NPOC					Sb	12 06 35.9	-1.7
JCUZ	**Jacuzzi**	**0.41**	**61**		Pb	12 06 29.9	-1.3
JCUZ					Pn	12 06 36.0	+4.4
HMH	**Humu'ula Sheep**	**0.42**	**360**		Pb	12 06 30.5	-1.1
HMH					Sb	12 06 36.6	-1.5
HMH	**Humu'ula Sheep**	**0.42**	**360**	IAML		12 06 37.0	
	comp=N,4µm,0.4s						
HMH				IAML		12 06 37.5	
	comp=E,2µm,0.2s						
CPH	**Captain Cook**	**0.51**	**306**		Pb	12 06 30.9	-1.9
JOKA	**Jonika Flow**	**0.52**	**61**		Pb	12 06 31.1	-1.6
JOKA					Sb	12 06 38.0	-2.3
JOKA	**Jonika Flow**	**0.52**	**61**	IAML		12 06 38.2	
	comp=E,570nm,0.5s						
JOKA				IAML		12 06 39.7	
	comp=N,643nm,0.5s						
POHA	**Pohakuloa**	**0.57**	**355**		Pb	12 06 31.9	-2.0
POHA				IAML		12 06 44.3	
	comp=N,723nm,0.3s						
POHA	**Pohakuloa**	**0.57**	**355**		Sb	12 06 39.0	-3.0
HUH	**Hualalai**	**0.60**	**326**		Pb	12 06 32.6	-1.7
HUH				IAML		12 06 52.0	
	comp=E,2µm,0.3s						
KKH	**Kailua Kona**	**0.69**	**313**		Pn	12 06 33.3	-2.1
KKH					Sn	12 06 42.0	-3.0
HPAH	**Hawaii Prepara**	**0.87**	**346**		Pn	12 06 35.6	-2.2
HPAH					Sn	12 06 45.4	-4.0
MHA	**Mahukona**	**1.07**	**338**		Pn	12 06 38.6	-2.0
MHA					Sn	12 06 50.9	-3.6
HLK	**Haleakala**	**1.73**	**335**	Pn	Pn	12 06 47.2	-2.6
HLK	**Haleakala**	**1.73**	**335**		Sn	12 07 06.3	-4.6
KPA	**Kalaupapa**	**2.44**	**325**	Pn	Pn	12 06 56.9	-2.6
HON	**Honolulu**	**3.18**	**312**	Pn	Pn	12 07 07.0	-2.7

*SJA **16** 12:33:20.6±1.4, 22.°69S×70.°79W, h35km±6km, ML3.3, MW3.5*

*GUC **16** 12:33:22.9±1.0, 22.°66S×70.°62W, h42km±2km, ML3.6*

ISC 16 12:33:19.8±1.7, 22.°66S±0.°02×70.°71W±0.°06, h12km±11km, n30, σ2°05/50, 4C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB05	**IPOC Station P**	**0.51**	**112**	↓*eP*	**Pn**	**12 33 33.4**	**+0.4**
PB05				*eS*	**Sb**	**12 33 40.2**	**+2.1**
PB05				IAML		12 33 40.6	
	comp=N,16µm,0.3s						
PB05	**IPOC Station P**	**0.51**	**112**	*eP*	**Pn**	**12 33 33.2**	**+0.2**
PB05				*eS*	**Pn**	**12 33 33.2**	**+0.2**
PB05				IAML		12 33 40.5	
	comp=Z,8µm,0.3s						
PB10	**IPOC Station P**	**0.86**	**171**	↑*eP*	**Pn**	**12 33 38.8**	**+1.0**
PB10				*eS*	**Sn**	**12 33 49.6**	**-0.8**
PB10				IAML		12 33 51.2	
	comp=E,3µm,0.3s						
PB10	**IPOC Station P**	**0.86**	**171**	*eP*	**Pn**	**12 33 38.1**	**+0.3**
PB10				*eS*	**Sn**	**12 33 49.9**	**-0.4**
PB10				IAML		12 33 51.2	
	comp=Z,675nm,0.4s						
PB06	**IPOC Station P**	**1.05**	**93**	↓*eP*	**Pn**	**12 33 41.2**	**+0.7**
PB06				*eS*	**Sb**	**12 33 53.8**	**0.0**
PB06				IAML		12 33 55.4	
	comp=E,4µm,0.4s						
PB06	**IPOC Station P**	**1.05**	**93**	*eP*	**Pn**	**12 33 41.2**	**+0.7**
PB06				*eS*	**Sn**	**12 33 54.5**	**-0.7**
PB06				IAML		12 33 54.9	
	comp=Z,2µm,0.2s						
PB02	**IPOC Station P**	**1.53**	**30**	↓*eP*	**Pb**	**12 33 48.8**	**+0.6**
PB02				IAML		12 34 11.8	
PB02	**IPOC Station P**	**1.53**	**30**	*eP*	**Pb**	**12 33 48.8**	**+0.6**
PB02				*eS*	**Sn**	**12 33 59.2**	**-7.8**
PB02				IAML		12 34 22.4	
	comp=Z,753nm,0.3s						
PB09	**IPOC Station P**	**1.61**	**58**	*eP*	**Pg**	**12 33 50.2**	**-0.5**
PB09				*eS*	**Sb**	**12 34 09.7**	**-0.2**
PB09				IAML		12 34 11.1	
PB09	**IPOC Station P**	**1.61**	**58**	*eP*	**Pg**	**12 33 50.2**	**-0.5**
PB09				*eS*	**Sg**	**12 34 11.1**	**-0.5**
PB09				IAML		12 34 12.1	
	comp=Z,452nm,0.2s						
PATCX	**Punta Patache**	**1.90**	**16**	↑*eP*	**Pn**	**12 33 53.5**	**+1.4**
PATCX	**Punta Patache**	**1.90**	**16**	*eP*	**Pn**	**12 33 53.4**	**+1.3**
PATCX				*eS*	Sn	12 34 03.1	-13
PATCX				IAML		12 34 16.9	
	comp=Z,107nm,0.7s						
PB01	**IPOC Station P**	**1.97**	**35**	*eP*	**Pb**	**12 33 55.1**	**-0.5**
PB01	**IPOC Station P**	**1.97**	**35**	*eP*	**Pb**	**12 33 55.2**	**-0.5**
PB01				*eS*	**Sn**	**12 34 12.9**	**-4.8**
PB01				IAML		12 34 30.2	
	comp=Z,244nm,0.3s						
PB14	**IPOC Station P**	**1.98**	**172**	↑*eP*	**Pn**	**12 33 54.3**	**+0.9**
PB14	**IPOC Station P**	**1.98**	**172**	*eP*	**Pn**	**12 33 53.7**	**+0.3**
PB14				IAML		12 34 17.4	
	comp=Z,156nm,0.3s						
PB14				*eS*	**Sn**	**12 34 17.5**	**-0.8**
TA01	**Diego Aracena**	**2.14**	**13**	↑*eP*	**Pn**	**12 33 56.6**	**+1.2**
TA01	**Diego Aracena**	**2.14**	**13**	*eP*	**Pn**	**12 33 56.4**	**+1.1**
TA01				IAML		12 34 36.8	
	comp=Z,121nm,0.6s						
AF01	**San Pedro de A**	**2.35**	**98**	*eP*	**Pg**	**12 34 04.7**	**-0.3**
AF01				*eS*	**Sg**	**12 34 35.7**	**+0.2**
GO02	**Mina Guanaco**	**2.69**	**158**	*eP*	**Pn**	**12 34 05.4**	**+2.2**
GO02				*eS*	**Sn**	**12 34 37.5**	**+1.6**
GO02	**Mina Guanaco**	**2.69**	**158**	*eP*	**Pn**	**12 34 04.8**	**+1.5**
GO02				*eS*	**Sb**	**12 34 38.2**	**-3.1**
GO02				IAML		12 34 49.6	
	comp=Z,150nm,0.9s						
PB08	**IPOC Station P**	**2.90**	**30**	*eP*	**Pn**	**12 34 09.0**	**+2.9**
PB08				*eS*	**Sn**	**12 34 43.0**	**+2.0**
PB08				IAML		12 34 56.4	
	comp=N,124nm,0.5s						
PB08	**IPOC Station P**	**2.90**	**30**	*eP*	**Pn**	**12 34 09.2**	**+3.1**
PB08				*eS*	**Sb**	**12 34 45.9**	**-1.3**
PB08				IAML		12 34 58.0	
	comp=Z,85nm,0.8s						
PB11	**IPOC Station P**	**3.05**	**19**	*eP*	**Pn**	**12 34 10.2**	**+2.2**
PB11				IAML		12 35 06.8	
	comp=N,113nm,0.3s						
PB11	**IPOC Station P**	**3.05**	**19**	*eP*	**Pn**	**12 34 09.7**	**+1.7**
PB11				*eS*	**Sb**	**12 34 49.4**	**-1.9**
PB11				IAML		12 35 12.8	
	comp=Z,98nm,0.5s						
GO01	**Chusmiza**	**3.29**	**26**	*eP*	**Pn**	**12 34 13.9**	**+2.2**
GO01				*eS*	**Sn**	**12 34 52.9**	**+1.9**
GO01	**Chusmiza**	**3.29**	**26**	*eS*	**Sb**	**12 35 00.9**	**+2.1**
GO01				IAML		12 35 10.5	
	comp=Z,69nm,0.7s						
AC01	**Pan de Azucar**	**3.47**	**178**	*eP*	**Pn**	**12 34 13.6**	**-0.1**
AC01				*eS*	**Sn**	**12 34 51.6**	**-3.2**
AC01				IAML		12 34 52.9	
	comp=Z,34nm,0.2s						
AC02	**Maricunga**	**4.40**	**161**	*eP*	**Pn**	**12 34 29.1**	**+2.2**
AC02				*eS*	**Sn**	**12 35 20.6**	**+2.3**
AC02				IAML		12 35 47.9	
	comp=Z,28nm,0.3s						
PB16	**IPOC Station P**	**4.45**	**15**	*eP*	**Pn**	**12 34 29.9**	**+2.2**
PB16				IAML		12 35 48.0	
	comp=Z,15nm,0.6s						

*BJI **16** 12:43:53.1, 39.°42N×143.°16E, h37km, mB4.9/6, mb4.4/23, Ms3.8/2, Ms7 3.5/2*

*NIED **16** 12:43:56.5, 39.°43N×142.°67E, h32km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr=3.25; Mθθ=4.54; Mφφ=-1.29; Mrθ=-1.33; Mθφ=0.51; Mφr=1.86; Fault plane solution: M0=4.68000×10^15 NP1: φs=237.00000°, δ=45.00000°, λ=-136.00000°. NP2: φs=112.00000°, δ=61.00000°, λ=-55.00000°.*

*JMA **16** 12:43:56.5±0.1, 39.°4N±0.°3×142.°7E±0.°8, h32km±1km, MD4.5/39, MW4.4/39, E OFF IWATE PREF*

JMA Felt I J1 at E OFF IWATE PREF .

*MOS **16** 12:43:56.7±1.0, 39.°50N×142.°71E, h41km, mb4.9/20, Error ellipse: s-maj=8.6km s-min=5.0km az=84.6*

*NEIC **16** 12:43:59.1±1.4, 39.°44N±0.°06×142.°7E±0.°1, h44km±7km, mb4.7/196, Error ellipse: s-maj=12.8km s-min=8.2km az=109.0*

*IDC **16** 12:43:59.5±1.9, 39.°45N×142.°63E, h51km±17km, mb4.1/25, mbtmp4.4/31, ML3.7/6, MS3.6/4, Error ellipse: s-maj=14.1km s-min=10.7km az=115.0*

ISC 16 12:43:56.8±0.6, 39.°44N±0.°04×142.°72E±0.°04, h29km±3km, n525, σ1°23/439, mb4.7/127, 12C-24D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.71**	**282**	↓*iP*	**Pb**	**12 44 09.5**	**-1.1**
MIYJ				↓*S*	**Sb**	**12 44 18.5**	**-1.5**
MIYJ	**Miyakonagasawa**	**0.71**	**282**	A	A	12 44 09.5	
	comp=N,25nm,3.1s,comp=E,26nm,0.8s						
JTH	**Tanohata**	**0.83**	**307**	*i* P	**Pn**	**12 44 11.3**	**-1.2**
JTH				*eS*	**Sb**	**12 44 22.1**	**-1.3**
JTH	**Tanohata**	**0.83**	**307**	A	A	12 44 11.3	
	comp=N,14nm,1.7s,comp=E,13nm,1.6s						
OFUJ	**Ofunato**	**0.89**	**247**	↓*iP*	**Pn**	**12 44 12.1**	**-1.3**
OFUJ				↓*S*	**Sb**	**12 44 23.1**	**-2.0**
OFUJ	**Ofunato**	**0.89**	**247**	A	A	12 44 12.1	
	comp=N,10.0nm,0.6s,comp=E,8.0nm,1.6s						
JKEN	**Kujiedanarisaw**	**1.09**	**315**	A	A	12 44 15.6	
	comp=N,31nm,1.0s,comp=E,25nm,0.6s						
JOM	**Ohasama**	**1.10**	**272**	↓*iP*	**Pn**	**12 44 15.8**	**-0.6**
JOM				↓*S*	**Sn**	**12 44 29.6**	**-1.1**
JOM	**Ohasama**	**1.10**	**272**	A	A	12 44 15.8	
	comp=N,15nm,0.9s,comp=E,13nm,0.6s						
JKMT	**Kesennumamotoy**	**1.15**	**237**	↓*iP*	**Pn**	**12 44 16.0**	**-1.0**
JKMT				↓*S*	**Sn**	**12 44 30.1**	**-1.7**
JKMT	**Kesennumamotoy**	**1.15**	**237**	A	A	12 44 16.0	
	comp=N,12nm,1.6s,comp=E,9.0nm,1.0s						
JKZ	**Kuzumaki**	**1.20**	**297**	↓*iP*	**Pn**	**12 44 17.4**	**-0.3**
JKZ				↓*S*	**Sn**	**12 44 32.3**	**-0.8**
JKZ	**Kuzumaki**	**1.20**	**297**	A	A	12 44 17.4	
	comp=N,16nm,0.7s,comp=E,14nm,0.6s						
JMK	**Ichinoseki**	**1.26**	**248**	↓*iP*	**Pn**	**12 44 17.9**	**-0.6**
JMK				↓*S*	**Sn**	**12 44 33.7**	**-0.8**
JMK	**Ichinoseki**	**1.26**	**248**	A	A	12 44 17.9	
	comp=N,7.0nm,1.0s,comp=E,5.0nm,1.1s						
JANG	**Nango**	**1.31**	**316**	*i* P	**Pn**	**12 44 18.5**	**-0.7**
JANG	**Nango**	**1.31**	**316**	A	A	12 44 18.5	
	comp=N,7.0nm,1.6s,comp=E,5.0nm,1.2s						
JSZI	**Iwateshizukuis**	**1.40**	**283**	A	A	12 44 20.0	
	comp=N,33nm,1.8s,comp=E,36nm,1.0s						
JIO	**Ouri**	**1.45**	**228**	*i* P	**Pn**	**12 44 20.2**	**-0.9**
JIO				S	**Sn**	**12 44 37.9**	**-1.3**
JIO	**Ouri**	**1.45**	**228**	A	A	12 44 20.2	
	comp=N,9.0nm,2.0s,comp=E,7.0nm,0.4s						
JIKH	**Ishinomakibobu**	**1.49**	**221**	A	A	12 44 21.4	
	comp=N,10.0nm,0.9s,comp=E,12nm,0.8s						
JRG	**Rokugo**	**1.61**	**269**	P	**Pn**	**12 44 23.8**	**+0.4**
JRG	**Rokugo**	**1.61**	**269**	A	A	12 44 23.8	
	comp=N,17nm,0.9s,comp=E,17nm,0.8s						
JOFO	**Osakifurukawao**	**1.64**	**240**	A	A	12 44 23.4	
	comp=N,46nm,1.7s,comp=E,56nm,1.5s						
JAH	**Hinai**	**1.77**	**296**	*i* P	**Pn**	**12 44 26.2**	**+0.7**
JAH	**Hinai**	**1.77**	**296**	A	A	12 44 26.2	
	comp=N,14nm,0.6s,comp=E,16nm,0.5s						
JTM	**Tenmabayashi**	**1.85**	**317**		**Pn**	**12 44 27.2**	**+0.6**
JTM	**Tenmabayashi**	**1.85**	**317**	P	**Pn**	**12 44 27.1**	**+0.6**
JTM	**Tenmabayashi**	**1.85**	**317**	S	**Sn**	**12 44 50.1**	**+1.1**
JTM	**Tenmabayashi**	**1.85**	**317**	*i* P	**Pn**	**12 44 27.1**	**+0.5**
JTM	**Tenmabayashi**	**1.85**	**317**	A	A	12 44 27.1	
	comp=N,12nm,1.7s,comp=E,6.0nm,1.3s						
JARK	**Aomorirokkasho**	**1.88**	**327**	A	A	12 44 27.3	
	comp=N,10.0nm,3.2s,comp=E,8.0nm,0.6s						
JYK	**Kaneyama**	**1.91**	**255**	A	A	12 44 27.4	
	comp=N,4.0nm,3.7s,comp=E,5.0nm,1.0s						
JOU	**Okura**	**1.93**	**237**	A	A	12 44 27.7	
	comp=N,11nm,2.2s,comp=E,12nm,1.0s						
JYW	**Yuwa**	**1.94**	**274**	A	A	12 44 28.0	
	comp=N,21nm,2.0s,comp=E,23nm,1.7s						
JAHD	**Aomorihigashid**	**2.11**	**330**	A	A	12 44 30.6	
	comp=N,18nm,1.3s,comp=E,16nm,0.6s						
JNTW	**Noshirotokiwa**	**2.14**	**294**	A	A	12 44 30.8	
	comp=N,27nm,1.6s,comp=E,19nm,1.6s						
JMM	**Marumori**	**2.18**	**224**		**Pn**	**12 44 31.4**	**+0.3**
JMM	**Marumori**	**2.18**	**224**	S	**Sn**	**12 44 57.3**	**+0.2**
JHHS	**Hirosakihy

JGF	Kuroka	5.73	230		P		Pn	12 45 23.4	+3.4
	comp=N,150nm,0.7s								
INU	Inuyama	6.10	230				Pn	12 45 26.8	+1.7
INU	Inuyama	6.10	230		P		Pn	12 45 27.9	+2.8
	comp=N,115nm,0.8s								
JHJ2	Mitsune	6.73	201		Pn		Pn	12 45 33.0	-0.7
JHJ	Hachijo jima 2	6.74	201		P		Pn	12 45 33.6	-0.2
	comp=N,26nm,0.3s,baz=90,slow=22,SNR=5.1								
JHJ					S		Sn	12 46 42.8	-6.7
	comp=N,102nm,0.3s,baz=44,slow=20,SNR=1.4								
JHJ					LR		LR	12 48 39.0	
	comp=N,574nm,18.6s,baz=34,slow=42								
	comp=N,120nm,0.6s								
KUR	Kuril'sk	6.93	32		*e*P		Pn	12 45 35.1	-1.3
KUR					*e*S		Sn	12 46 48.6	-5.7
KUR					pmax		pmax		
	comp=Z,80nm,0.6s								
KUR					pmax		pmax		
	comp=N,30nm,0.2s								
KUR					pmax		pmax		
	comp=E,26nm,0.5s								
KUR					smax		smax		
	comp=N,74nm,0.3s								
KUR					smax		smax		
	comp=E,56nm,0.7s								
TEY	Ternei	7.20	323	⇑	*e*P		Pn	12 45 45.9	+5.8
TEY					pmax		pmax		
	comp=Z,70nm,1.0s								
TEY					pmax		pmax		
	comp=N,60nm,1.0s								
TEY					pmax		pmax		
	comp=E,60nm,1.0s								
YSS	Yuzhno-Sakhali	7.51	0				Pn	12 45 45.9	+1.5
YSS	Yuzhno-Sakhali	7.51	0		P		Pn	12 45 48.6	+4.2
	comp=E,41nm,0.9s								
YSS	Yuzhno-Sakhali	7.51	0	*de*	P		Pn	12 45 46.4	+2.0
YSS					pmax		pmax		
	comp=Z,34nm,1.3s								
JMN	Monobe	9.11	234		Pn		Pn	12 46 06.5	+0.2
MSHR	Mys Shultsa	9.29	293	⇑	*e*P		Pn	12 46 10.1	+1.4
MSHR					pmax		pmax		
	comp=Z,3.0nm,0.6s								
USRK	Ussuriysk Ar.	9.31	304		P		Pn	12 46 11.8	+2.7
	comp=Z,0.5nm,0.3s,baz=114,slow=12,SNR=9.2								
	comp=Z,6.4nm,0.7s								
MDJ	Mudanjiang	11.04	302				Pn	12 46 33.6	+0.9
MDJ	Mudanjiang	11.04	302		P		Pn	12 46 35.1	+2.3
MDJ					pmax		pmax		
	comp=Z,7.0nm,1.2s								
TYV	Tymovskoe	11.43	360		*e*P		Pn	12 46 41.3	+3.4
TYV					*e*S		Sn	12 48 52.2	+7.7
TYV					pmax		pmax		
	comp=Z,100nm,3.3s								
TYV					pmax		pmax		
	comp=Z,10.0nm,1.2s								
TYV					smax		smax		
	comp=N,4.0nm,1.6s								
TYV					smax		smax		
	comp=E,6.0nm,1.6s								
TYV					smax		smax		
	comp=N,100nm,3.7s								
TYV					smax		smax		
	comp=E,100nm,3.7s								
TYV					MLR		MLR		
	comp=Z,500nm,17.0s								
KSRS	Korea Array	11.77	265		P		Pn	12 46 45.9	+3.2
	comp=Z,0.6nm,0.3s,baz=68,slow=15,SNR=7.8								
	comp=Z,0.7nm,0.3s								
BNX	BinXian	12.91	304	⇑	P		Pn	12 47 01.8	+3.5
BNX					pmax		pmax		
	comp=Z,8.0nm,0.7s								
PEA0B	Petropavlovsk-	17.10	32				P	12 47 55.9	+0.8
PEA0B	Petropavlovsk-	17.10	32	*ce*	P		P	12 47 55.1	0.0
PETK	Petropavlovsk-	17.10	32				P	12 47 55.9	+0.8
PETK	Petropavlovsk-	17.10	32		P		P	12 47 54.9	-0.2
	comp=Z,0.1nm,0.3s,baz=219,slow=9.0,SNR=4.1								
PETK					LR		LR	12 55 45.5	
	comp=Z,103nm,18.1s,baz=229,slow=41								
	comp=Z,4.6nm,0.9s								
PETK	Petropavlovsk-	17.10	32		P		P	12 47 55.9	+0.8
PET	Petropavlovsk	17.44	34	⇑	*e*P		P	12 47 59.5	+0.7
ZEA	Zeya	17.76	329		*e*P		P	12 48 02.1	-0.3
ZEA					pmax		pmax		
	comp=N,10.0nm,1.8s								
ZEA					pmax		pmax		
	comp=E,10.0nm,1.8s								
ZEA					pmax		pmax		
	comp=Z,20nm,1.8s								
BJI	Beijing	20.40	280		P		Pn	12 48 33.3	-0.3
BJI					pmax		pmax		
	comp=Z,3.0nm,0.9s								
TIA	Tai'an	20.45	269		P		Pn	12 48 34.9	+0.7
TIA					pmax		pmax		
	comp=Z,9.0nm,0.6s								
NJ2	Nanjing	20.69	257		*e*P		P	12 48 34.8	+0.3
NJ2					pmax		pmax		
	comp=Z,7.0nm,0.5s								
NJ2					pmax		pmax		
	comp=Z,290nm,4.7s								
MA2	Magadan	20.79	12		P		P	12 48 36.1	+0.6
MA2					IAmb		IAmb	12 48 36.7	
	comp=Z,30nm,0.7s								
MA2	Magadan	20.79	12		P		P	12 48 36.0	+0.6
	comp=Z,30nm,0.8s,baz=190,slow=10,SNR=12								
	comp=Z,30nm,0.8s								
MA2	Magadan	20.79	12	*de*	P		P	12 48 35.5	0.0
MA2					pmax		pmax		
	comp=Z,15nm,1.0s								
HHC	Hu-ho-hao-te	23.80	283		*e*P		P	12 49 11.8	+4.6
YAK	Yakutsk	23.98	345				P	12 49 07.6	-0.9
YAK					IAmb		IAmb	12 49 08.0	
	comp=Z,22nm,0.8s								
YAK	Yakutsk	23.98	345		*e*P		P	12 49 06.1	-2.4
YAK					pmax		pmax		
	comp=Z,13nm,0.6s								
YAK					pmax		pmax		
	comp=N,8.0nm,1.2s								
YAK					pmax		pmax		
	comp=E,8.0nm,2.3s								
SEY	Seymchan	24.24	11	⇓	*e*P		P	12 49 12.0	+1.1
SEY					pmax		pmax		
	comp=Z,39nm,1.0s								
WHN	Wuhan	24.80	258		P		P	12 49 15.6	-0.7
BTO	Baotou	24.99	283		*e*P		P	12 49 19.6	+1.5
BTO					PP		PnPn	12 49 55.8	+4.1
BTO					S		S	12 53 37.4	-2.8
BTO					pmax		pmax		
	comp=Z,14nm,0.8s								
ULN	Ulaanbaatar	26.95	300	*de*	P		P	12 49 36.3	+0.5
ULN					pmax		pmax		
	comp=Z,13nm,3.0s								
SONM	Songino Array	27.39	300		P		P	12 49 39.9	+0.2
	comp=Z,2.8nm,0.8s,baz=88,slow=8.6,SNR=10								
	comp=Z,2.8nm,0.8s								
XAN	Xi'an	27.51	269	⇑	P		P	12 49 39.6	-1.3
XAN					pmax		pmax		
	comp=Z,11nm,1.7s								
H11N2	WAKE ISLAND Hy	28.62	126		T		T	13 19 43.4	
	baz=318,slow=75,SNR=2190								
H11N1	WAKE ISLAND Hy	28.63	126		T		T	13 19 43.4	
	baz=318,slow=75,SNR=2058								
H11N3	WAKE ISLAND Hy	28.64	126		T		T	13 19 43.4	
	baz=318,slow=75,SNR=1824								
H11S1	WAKE ISLAND Hy	29.42	128		T		T	13 20 45.3	
	baz=318,slow=76,SNR=223								
H11S3	WAKE ISLAND Hy	29.42	128		T		T	13 20 48.1	
	baz=318,slow=76,SNR=158								
H11S2	WAKE ISLAND Hy	29.44	128		T		T	13 20 48.1	
	baz=318,slow=76,SNR=137								
SPIA	Saint Paul Isl	35.11	44		P		P	12 50 47.3	0.0
	baz=260								
P08K	Saint George I	35.40	45		P		P	12 50 49.3	-0.5
	baz=262								
GAMB	Gambell	36.13	33		P		P	12 50 56.2	+0.2
	baz=250								
PZH	PanZhiHua	36.41	262		P		P	12 50 58.4	-0.6
UNV	Unalaska Valle	36.89	50		P		P	12 51 03.0	+0.5
	baz=268								
M11K	Mekoryuk	37.74	39		P		P	12 51 10.1	+0.4
	baz=260								
TNA	Tin City	38.26	31		P		P	12 51 14.7	+0.7
	baz=252								
K13K	Kusilvak Mount	38.76	37		P		P	12 51 18.9	+0.6
	baz=260								
F14K	Arctic Creek	38.87	31		P		P	12 51 20.2	+1.0
	baz=254								
ANM	Nome	39.02	33		P		P	12 51 20.4	-0.1
	baz=256								
M13K	Dall Lake	39.15	39		P		P	12 51 21.5	0.0
	baz=263								
J14K	Nanvaranak Lak	39.41	36		P		P	12 51 24.2	+0.5
	baz=260								
S12K	Black Hills	39.50	47		P		P	12 51 24.1	-0.5
	baz=270								
L14K	Kuka Creek	39.59	38		P		P	12 51 25.4	+0.2
	baz=262								
F15K	North Star Dit	39.61	31		P		P	12 51 24.7	-0.7
	baz=255								
G15K	Niukluk	39.67	32		P		P	12 51 26.2	+0.3
	baz=256								
M14K	Bethel	39.87	39		P		P	12 51 28.2	+0.7
M14K	Bethel	39.87	39		P		P	12 51 27.9	+0.4
	baz=264								
N14K	Kuskokwak Cree	39.92	40		P		P	12 51 27.6	-0.3
	baz=265								
O14K	Tigyukauivet M	40.08	41		P		P	12 51 29.1	-0.2
	baz=266								
C16K	Lisburne Hills	40.10	27		P		P	12 51 29.2	-0.2
	baz=251								
L15K	Ungalak Mounta	40.21	38		P		P	12 51 30.1	-0.2
	baz=263								
K15K	Wolf Creek Mou	40.27	37		P		P	12 51 30.6	-0.3
	baz=262								
H16K	Elim	40.35	33		P		P	12 51 31.5	0.0
	baz=259								
SDPT	Sand Point	40.40	48		P		P	12 51 31.8	-0.2
	baz=271								
G16K	Koyuk River	40.46	32		P		P	12 51 31.7	-0.7
	baz=258								
M15K	Kasigluk River	40.48	39		P		P	12 51 32.3	-0.4
	baz=265								
N15K	Kwethluk River	40.73	40		P		P	12 51 35.4	+0.6
N15K					IAmb		IAmb	12 51 37.2	
	comp=Z,21nm,1.1s								
N15K	Kwethluk River	40.73	40		P		P	12 51 35.2	+0.4
	baz=266								
D17K	Noatak River	40.74	28		P		P	12 51 34.6	-0.1
	baz=254								
O15K	Ungalikthiuk R	40.81	42		P		P	12 51 35.0	-0.4
	baz=267								
J16K	Anvik River	40.83	35		P		P	12 51 35.6	+0.1
	baz=262								
I17K	Unalakleet	40.88	34		P		P	12 51 36.2	+0.3
	baz=261								
RDOG	Red Dog Mine	40.90	28		P		P	12 51 36.2	+0.2
	baz=254								
S14K	Fog Glacier	40.91	46		P		P	12 51 36.2	-0.2
	baz=271								
C17K	DeLong Mountai	40.92	27		P		P	12 51 36.2	-0.1
	baz=253								
CHNA	Chernabura Isl	40.93	48		P		P	12 51 36.2	-0.2
	baz=273								
E17K	Hotham Inlet	41.05	29		P		P	12 51 37.0	-0.3
	baz=256								
ZAA0	Zalesovo Array	41.10	310				P	12 51 37.2	-0.6
ZALV	Zalesovo Beam	41.10	310				P	12 51 37.0	-0.8
ZALV	Zalesovo Beam	41.10	310		P		P	12 51 37.6	-0.2
	comp=Z,3.3nm,0.5s,baz=92,slow=8.3,SNR=17								
	comp=Z,3.3nm,0.5s								
F17K	Baldwin Pennin	41.13	30		P		P	12 51 37.9	0.0
	baz=258								
L16K	Owhat River	41.16	38		P		P	12 51 38.5	+0.3
	baz=265								
G17K	Kiwalik Mounta	41.18	32		P		P	12 51 38.4	+0.1
	baz=259								
M16K	Timber Creek	41.35	39		P		P	12 51 39.9	0.0
	baz=266								
H17K	Granite Mounta	41.38	33		P		P	12 51 40.1	0.0
	baz=261								
N16K	Nishlik Lake	41.41	40		P		P	12 51 39.8	-0.6
	baz=267								
J17K	VABM Dome	41.53	35		P		P	12 51 40.6	-0.6
	baz=263								
E18K	Tukpahlearik C	41.59	29		P		P	12 51 41.9	+0.2
	baz=257								
B18K	Kokolik River	41.65	26		P		P	12 51 42.1	0.0
	baz=254								
C18K	Utukok River	41.67	27		P		P	12 51 42.4	0.0
	baz=255								
O16K	Kokwok River B	41.71	41		P		P	12 51 42.7	-0.1
	baz=268								
L17K	Donlin	41.76	37		P		P	12 51 43.4	+0.3
	baz=265								
F18K	Selawik	41.79	30		P		P	12 51 43.1	-0.1
	baz=259								
K17K	Iditarod	41.80	36		P		P	12 51 45.0	+1.5
K17K					IAmb		IAmb	12 51 46.3	
	comp=Z,17nm,0.9s								
K17K	Iditarod	41.80	36		P		P	12 51 43.4	-0.1
	baz=265								
R16K	Pilot Point	41.97	44		P		P	12 51 45.1	+0.2
	baz=271								
G18K	Tagagawik	42.06	32				P	12 51 46.9	+1.4
G18K					IAmb		IAmb	12 51 47.5	
	comp=Z,8.9nm,0.8s								
G18K	Tagagawik	42.06	32		P		P	12 51 45.6	0.0
	baz=261,SNR=6.0								
H18K	Honhosa River	42.07	33		IAmb		IAmb	12 51 48.0	
	comp=Z,16nm,0.9s								
H18K	Honhosa River	42.07	33		P		P	12 51 45.8	+0.1
	baz=262								
M17K	Holitna River	42.11	38		P		P	12 51 46.6	+0.6
	baz=267								
A19K	Wainwright	42.13	25		P		P	12 51 46.5	+0.4
	baz=254								
O17K	Koliganek Bris	42.22	41		P		P	12 51 47.6	+0.7
	baz=269								
C19K	Lookout Ridge	42.35	27		P		P	12 51 47.9	0.0
	baz=256								
Q16K	King Salmon	42.44	42		P		P	12 51 48.4	-0.3
	baz=271								
L18K	Granite Mounta	42.51	37		P		P	12 51 49.6	+0.3
	baz=267								
F19K	Shaleruckik Mo	42.56	30		P		P	12 51 49.4	-0.2
	baz=261								
J18K	Innoko River	42.59	35		P		P	12 51 49.6	-0.4
	baz=265								
R17L	Mt. Peulik Vol	42.62	44		P		P	12 51 50.1	-0.2
	baz=272								
GCSA	Galena City Sc	42.64	33		P		P	12 51 50.4	+0.2
	baz=264								
G19K	Purcell Mounta	42.73	31		P		P	12 51 50.9	-0.1
	baz=262								
D19K	Kuna River	42.74	28		IAmb		IAmb	12 51 53.2	
	comp=Z,21nm,0.9s								
D19K	Kuna River	42.74	28		P		P	12 51 50.9	-0.2
	baz=258								
N18K	Kilae Creek	42.84	39		P		P	12 51 52.1	+0.1
	baz=269								
Q17K	Contact Creek	42.86	43		P		P	12 51 52.1	-0.2
	baz=272								
E19K	Redstone River	42.88	29		IAmb		IAmb	12 51 54.6	
	comp=Z,16nm,0.8s								
E19K	Redstone River	42.88	29		P		P	12 51 52.3	+0.1
	baz=260								
M18K	Stony River	42.89	38		P		P	12 51 52.5	+0.1
	baz=268								
H19K	Roundabout Mou	42.91	32		P		P	12 51 52.5	0.0
	baz=263,SNR=15								
J19K	Poorman	43.12	35		IAmb		IAmb	12 51 56.2	
	comp=Z,15nm,0.8s								
J19K	Poorman	43.12	35		P		P	12 51 53.9	-0.3
	baz=266,SNR=7.8								
CMAR	Chiang Mai Arr	43.12	254		P		P	12 51 54.9	+0.1
	comp=Z,0.6nm,0.4s,baz=47,slow=6.0,SNR=5.4								
	comp=Z,0.6nm,0.4s								
CMAR	Chiang Mai Arr	43.12	254	*i*	P		P	12 51 55.7	+0.9
CMAR					pmax		pmax		
	comp=Z,1.0nm,0.5s								
CHIR	Chirikof Islan	43.13	47		P		P	12 51 54.1	-0.3
	baz=275								
P18K	Big Mountain,	43.17	41		P		P	12 51 54.5	-0.2
	baz=271								
Q18K	Katmai Hardscr	43.31	42		P		P	12 51 55.9	0.0
	baz=272								
D20K	Etivluk River	43.32	28		P		P	12 51 55.6	-0.2
	baz=260								
L19K	White Mountain	43.37	37		P		P	12 51 56.1	-0.2
	baz=268								
B20K	Meade River	43.38	26		P		P	12 51 56.1	-0.1
	baz=258								
F20K	Avaraart Lake	43.39	30		P		P	12 51 56.3	0.0
	baz=262								
E20K	Nigu River	43.40	28		P		P	12 51 56.1	-0.3
	baz=261								
N19K	Bonanza Creek	43.53	39		P		P	12 51 57.6	-0.1
	baz=270								
H20K	Anotleneega Mo	43.56	32		P		P	12 51 58.3	+0.6
	baz=265,SNR=5.1								
O19K	Port Alsworth	43.62	40		P		P	12 51 58.3	+0.1
	baz=271								
I20K	Naaghedeneel	43.67	33		IAmb		IAmb	12 52 00.8	
	comp=Z,21nm,1.1s								
I20K	Naaghedeneel	43.67	33		P		P	12 51 58.3	-0.2
	baz=266								
MK31	Makanchi Array	43.76	300	*de*	P		P	12 51 59.2	-0.4
MKAR	Makanchi Array	43.76	300		P		P	12 51 59.3	-0.3
	comp=Z,3.2nm,0.8s,baz=84,slow=9.4,SNR=22								
	comp=Z,3.2nm,0.8s								
K20K	Telida	43.77	36		P		P	12 51 59.3	-0.2
	baz=268								
J20K	Nowinta River	43.78	34		IAmb		IAmb	12 52 01.9	
	comp=Z,13nm,0.9s								
J20K	Nowinta River	43.78	34		P		P	12 51 59.6	+0.2
	baz=267,SNR=8.5								
L20K	Farewell, AK	43.83	37		P		P	12 51 59.6	-0.4
	baz=269								
SII	Sitkinak Islan	43.87	45		P		P	12 52 00.3	-0.1
	baz=275								
Q19K	Cape Douglas,	44.00	42		P		P	12 52 01.3	-0.1
	baz=273								
C21K	Knifeblade Rid	44.05	27		P		P	12 52 01.9	+0.3
	baz=261								
IMAR	Indian Mountai	44.07	32		P		P	12 52 03.0	+1.2
B21K	Ikpikpuk River	44.18	27		P		P	12 52 03.0	+0.4
	baz=261								
M20K	Styx River	44.18	38		P		P	12 52 02.3	-0.5
	baz=270								
P19K	Oil Pt	44.18	41		P		P	12 52 02.9	+0.1
	baz=272								
G21K	Allakaket	44.21	31		P		P	12 52 03.6	+0.7
	baz=265								
E21K	Killik River	44.24	28		IAmb		IAmb	12 52 05.2	
	comp=Z,17nm,0.8s								
E21K	Killik River	44.24	28		P		P	12 52 03.3	+0.1
	baz=263,SNR=7.0								
F21K	Alatna River	44.28	30		P		P	12 52 03.8	+0.2
	baz=264								
OHAK	Old Harbor	44.31	44		P		P	12 52 03.8	+0.1
	baz=275								
H21K	Meloztna Rive	44.43	32		P		P	12 52 04.6	-0.1
	baz=267,SNR=7.1								
O20K	Slope Mountain	44.47	40		P		P	12 52 05.1	-0.1
	baz=273								
SHL	Shillong	44.50	268				P	12 52 05.0	-1.0
SHL	Shillong	44.50	268		P		P	12 52 05.0	-1.0
CHUM	Lake Minchumin	44.57	35		P		P	12 52 06.1	+0.3
	baz=269								
PPLA	Purkeypile	44.62	36		P		P	12 52 06.5	+0.1
	baz=270								
SPCR	Spurr Chakacha	44.63	39		P		P	12 52 06.8	+0.4
	baz=272								
KDAK	Kodiak Island	44.64	44		P		P	12 52 06.6	+0.2
	baz=275								
Q20K	Shuyak Island	44.67	42		P		P	12 52 06.7	0.0
	baz=274								
B22K	Teshekpuk Lake	44.70	26		P		P	12 52 07.0	+0.3
	baz=261								
D22K	Ayikyak River	44.76	28		P		P	12 52 07.3	0.0
	baz=264								
SKT	Skwentna	44.94	38		P		P	12 52 08.7	-0.1
	baz=272								
HOM	Homer	44.99	41		P		P	12 52 09.2	0.0
	baz=274								
E22K	Anaktuvuk Pass	45.00	29		P		P	12 52 09.5	+0.2
	baz=265,SNR=11								
G22K	Bettles	45.03	31		P		P	12 52 09.5	0.0
	baz=267								
H22K	Ishtalitna Cre	45.03	32		P		P	12 52 09.6	+0.1
	baz=268,SNR=6.3								
BPAW	Bear Paw Mtn.	45.16	35		P		P	12 52 10.9	+0.3
	baz=270								
CAPN	Captain Cook N	45.16	39		P		P	12 52 10.7	+0.2
	baz=273								
MLY	Manley	45.27	33				P	12 52 12.9	+1.4
MLY					IAmb		IAmb	12 52 14.0	
	comp=Z,8.8nm,0.8s								
MLY	Manley	45.27	33		P		P	12 52 11.7	+0.3
	baz=269,SNR=7.8								
KURK	Kurchatov	45.30	306				P	12 52 11.3	-0.4
KURK					IAmb		IAmb	12 52 30.5	
	comp=Z,7.6nm,0.8s								
KURK	Kurchatov	45.30	306	*d*	P		P	12 52 11.1	-0.7
KURK					pmax		pmax		
	comp=Z,15nm,1.3s								
SUA	Susitna One	45.33	38		P		P	12 52 13.4	+1.3
SUA					IAmb		IAmb	12 52 15.4	
	comp=Z,15nm,0.8s								
SUA	Susitna One	45.33	38		P		P	12 52 11.9	-0.2
	baz=273								
KURBB	Kurchatov Arra	45.37	306		P		P	12 52 11.9	-0.5
	comp=Z,9.3nm,0.7s,baz=81,slow=8.3,SNR=56								
	comp=Z,9.3nm,0.7s								
BRSE	Bradley Lake S	45.44	41		P		P	12 52 13.2	+0.4
	baz=274								
TRF	Thorofare Moun	45.47	35		IAmb		IAmb	12 52 16.4	
	comp=Z,10.0nm,0.9s								
TRF	Thorofare Moun	45.47	35		P		P	12 52 13.1	-0.1
	baz=271								
D23K	Nanushuk River	45.49	28		P		P	12 52 13.0	-0.1
	baz=265								
CUT	Chulitna	45.51	37		P		P	12 52 13.4	0.0
	baz=272								
COLD	Coldfoot	45.56	30		P		P	12 52 13.6	0.0
	baz=268								
C23K	Itkillik River	45.59	26		P		P	12 52 13.8	-0.1
	baz=265								
G23K	Bananza Creek	45.61	31		P		P	12 52 14.5	+0.4
	baz=268								
M22K	Willow	45.61	38		P		P	12 52 14.4	+0.3
	baz=273								
H23K	Yukon River	45.78	32		IAmb		IAmb	12 52 18.4	
	comp=Z,13nm,0.8s								
H23K	Yukon River	45.78	32		P		P	12 52 15.8	+0.3
	baz=270,SNR=12								
E23K	Chandalar	45.82	29		IAmb		IAmb	12 52 18.4	
	comp=Z,15nm,0.9s								
E23K	Chandalar	45.82	29		P		P	12 52 16.5	+0.7
	baz=267,SNR=6.6								
RC01	Rabbit Creek A	45.84	39		P		P	12 52 16.9	+1.0
	baz=274								
I23K	Minto, Yukon-K	45.86	33		P		P	12 52 16.5	+0.5
	baz=270								
TOLK	Toolik Lake Re	45.87	28		P		P	12 52 16.5	+0.4
	baz=267								
O22K	Cooper Landing	45.89	40		P		P	12 52 17.0	+0.7
	baz=275								
NEA2	Nenana	45.99	34		IAmb		IAmb	12 52 18.8	
	comp=Z,7.4nm,0.7s								
NEA2	Nenana	45.99	34		P		P	12 52 17.4	+0.3
	baz=271,SNR=5.2								
SEW	Seward	46.05	40		P		P	12 52 18.3	+0.7
	baz=275								
MCK	McKinley	46.07	35				P	12 52 18.7	+0.9
MCK					IAmb		IAmb	12 52 19.8	
	comp=Z,13nm,1.0s								
MCK	McKinley	46.07	35		P		P	12 52 18.7	+0.9
MCK					pmax		pmax		
	comp=Z,13nm,1.0s								
MCK	McKinley	46.07	35		P		P	12 52 17.8	0.0
	ba

COLA College 46.51 33 P P 12 52 22.4 +1.3
COLA IAmb IAmb 12 52 23.1
comp=Z,9.6nm,0.9s

COLA College 46.51 33 eP P 12 52 21.9 +0.8
COLA pmax pmax
comp=Z,12nm,1.0s

COLA College 46.51 33 P P 12 52 21.2 +0.1
baz=272

PWL Port Wells 46.54 39 P P 12 52 21.5 0.0
baz=275

G24K Hadweenzic Riv 46.62 31 P P 12 52 22.3 +0.3
baz=271

POKR Poker Plat Res 46.67 33 P P 12 52 22.6 +0.2
baz=272

WAT6 Susitna Watana 46.68 37 P P 12 52 23.0 +0.3
baz=274

M23K Glacier View 46.74 38 P P 12 52 23.7 +0.6
baz=275

DHY Denali Highway 46.81 36 P P 12 52 23.5 -0.2
baz=274

HDA Harding Lake 46.91 34 IAmb IAmb 12 52 25.6
comp=Z,11nm,0.8s

HDA Harding Lake 46.91 34 P P 12 52 25.2 +0.9
baz=273,SNR=8.6

IL31 46.92 34 IAmb IAmb 12 52 25.8
comp=Z,9.3nm,0.7s

ILAR Eielson Array 46.92 34 P P 12 52 25.0 +0.6

ILAR Eielson Array 46.92 34 P P 12 52 25.0 +0.6
comp=Z,7.4nm,0.7s,baz=267,slow=6.3,SNR=107
comp=Z,7.4nm,0.7s

SCM Sheep Creek Mo 46.93 38 P P 12 52 24.5 -0.1
baz=275

D25K Kavik River 47.05 27 P P 12 52 25.5 +0.1
baz=269,SNR=9.1

GLI Glacier Island 47.14 39 P P 12 52 26.1 -0.1
baz=276

G25K Bearman Lake 47.17 31 P P 12 52 27.3 +1.1
baz=272

H25L Birch Creek 47.30 31 P P 12 52 27.9 +0.7
baz=272

F25K Christian Rive 47.32 30 IAmb IAmb 12 52 30.5
comp=Z,5.3nm,0.8s

F25K Christian Rive 47.32 30 P P 12 52 28.2 +0.7
baz=271

E25K Arctic Village 47.34 29 P P 12 52 27.9 +0.2
baz=271

M24K Tolsona, Glenn 47.45 37 P P 12 52 29.3 +0.8
baz=276

PRP Porcupine Dome 47.45 32 P P 12 52 29.3 +0.5
baz=273,SNR=14

K24K Donnelly Dome 47.47 35 P P 12 52 28.5 -0.2
baz=275

C26K Camden Bay 47.56 26 P P 12 52 29.1 -0.1
baz=270

J25K Salcha River, 47.58 34 P P 12 52 29.3 -0.3
baz=274

KLU Klutina 47.63 38 P P 12 52 30.4 +0.4
baz=277

PAX Paxson 47.68 36 P P 12 52 30.6 +0.1
baz=276

Q23K Middleton Isla 47.69 41 P P 12 52 30.7 +0.3
baz=278

BMAR Burnt Mountain 47.74 30 P 12 52 31.9 +1.2

EYAK Cordova Ski Ar 47.84 39 P P 12 52 32.3 +0.7
baz=278

RIDG Independent Ri 47.89 35 P P 12 52 32.6 +0.6
baz=276

HARP HAARP 47.89 37 P P 12 52 31.5 -0.5
baz=277

F26K Sheenjek River 47.89 30 P P 12 52 32.4 +0.4
baz=273,SNR=8.0

C27K Jago River 47.98 27 P P 12 52 31.7 -0.9
baz=271

G26K Porcupine Rive 48.07 30 P P 12 52 33.2 -0.1
baz=274

SCRK Sand Creek 48.24 34 P P 12 52 34.3 -0.5
baz=276,SNR=13

DOT Dot Lake 48.24 35 IAmb IAmb 12 52 35.9
comp=Z,5.4nm,0.9s

N25K Chitina, Valde 48.25 38 P P 12 52 34.4 -0.4
baz=278

BMRM Bremner River 48.33 39 P P 12 52 35.5 0.0
baz=278

J26L Joseph Creek 48.37 34 P P 12 52 35.7 0.0
baz=276

I26K Coal Creek Min 48.46 33 P P 12 52 36.9 +0.6
baz=276

KAIM Kayak Island 48.58 40 P P 12 52 37.4 +0.1
baz=279

L26K Log Cabin Wild 48.64 36 P P 12 52 38.5 +0.8
baz=278,SNR=6.1

E27K Coleen River 48.82 29 P P 12 52 39.7 +0.6
baz=275

M26K Nabesna, AK 48.88 37 IAmb IAmb 12 52 43.0
comp=Z,9.8nm,1.2s

M26K Nabesna, AK 48.88 37 P P 12 52 40.3 +0.6
baz=278,SNR=5.2

G27K Doyon Strip 48.92 31 P P 12 52 40.3 +0.4
baz=276

D27M Malcolm River 48.97 27 P P 12 52 40.5 +0.3
baz=274

MCARA McCarthy VSAT 49.03 38 P P 12 52 40.7 0.0
baz=279

H27K Steamboat Moun 49.03 31 IAmb IAmb 12 52 44.7
comp=Z,7.4nm,1.0s

H27K Steamboat Moun 49.03 31 P P 12 52 40.9 +0.2
baz=276,SNR=5.8

I27K Kandik River 49.07 32 P P 12 52 41.1 0.0
baz=277

K27K Chicken 49.07 34 IAmb IAmb 12 52 43.3
comp=Z,9.4nm,0.9s

K27K Chicken 49.07 34 P P 12 52 40.8 -0.2
baz=278

CRQE Cirque 49.10 39 P P 12 52 41.2 -0.2
baz=280

BGLC Bering Glacier 49.11 40 P P 12 52 41.0 -0.3
baz=280

L27K Beaver Creek, 49.32 36 IAmb IAmb 12 52 45.7
comp=Z,11nm,0.9s

L27K Beaver Creek, 49.32 36 P P 12 52 43.4 +0.4
baz=279,SNR=7.6

BCAR Beaver Creek A 49.34 36 P 12 52 44.7 +1.5

EGAK Eagle 49.36 33 P P 12 52 43.2 0.0
baz=278

M27K Edge Creek, AK 49.41 36 IAmb IAmb 12 52 46.4
comp=Z,9.8nm,0.9s

M27K Edge Creek, AK 49.41 36 P P 12 52 43.8 0.0
baz=279

F28M Old Crow 49.53 29 P P 12 52 44.5 +0.1
baz=277

E28M Babbage River 49.54 28 P P 12 52 44.7 +0.1
baz=276

BVAR Borovoye Array 49.74 311 P P 12 52 45.1 -1.2
comp=Z,1.6nm,0.4s,baz=72,slow=9.3,SNR=8.2
comp=Z,1.6nm,0.4s

MESA MESA 49.76 39 P P 12 52 46.5 0.0
baz=281

I28M Miner Creek 49.78 32 IAmb IAmb 12 52 48.9
comp=Z,6.2nm,0.8s

I28M Miner Creek 49.78 32 P P 12 52 47.1 +0.5
baz=278,SNR=6.6

BVCY Beaver Creek 49.86 36 P P 12 52 48.0 +0.8
baz=280

CTG Chitna Glacier 49.90 38 P P 12 52 47.9 +0.4
baz=281

YUK3 Moose Creek 50.17 37 P P 12 52 50.0 +0.4
baz=281,SNR=5.3

E29M Blow River 50.17 28 P P 12 52 50.0 +0.7
baz=278,SNR=6.4

DAWY Dawson 50.23 34 P P 12 52 50.0 +0.1
baz=280

AAK Ala-Archa 50.28 297 eP P 12 52 50.6 -0.2
AAK pmax pmax
comp=Z,2.0nm,0.8s

H29M Whitestone 50.30 31 P P 12 52 50.7 +0.3
baz=279

G29M Pine Creek 50.33 30 P P 12 52 51.2 +0.6
baz=279,SNR=7.3

I29M Ogilvie Camp, 50.47 32 P P 12 52 52.8 +1.2
baz=280,SNR=7.7

O28M Mount Upton 50.49 38 P P 12 52 52.5 +0.3
baz=282

YUK8 Steele Glacier 50.59 38 P P 12 52 53.2 +0.3
baz=282

PINM Pinnacle 50.61 39 P P 12 52 52.5 -0.4
baz=282

EPYK Eagle Plains 50.94 31 P P 12 52 55.7 +0.6
baz=280,SNR=8.1

M29M Somme Creek 50.95 36 P P 12 52 56.0 +0.6
baz=282

L29M L29M 50.97 35 P P 12 52 56.2 +0.8
baz=282,SNR=10

G30M tAoh Zraii Nji 51.02 30 P P 12 52 56.5 +0.7
baz=280

F30M Barrier River 51.08 29 P P 12 52 56.9 +0.7
baz=280,SNR=5.3

K29M Barlow Dome 51.09 34 IAmb IAmb 12 52 59.1
comp=Z,11nm,0.8s

K29M Barlow Dome 51.09 34 P P 12 52 57.2 +0.8
baz=282,SNR=8.7

PNL Peninsula 51.12 40 P P 12 52 57.0 +0.3
baz=284

I30M Mount Dempster 51.29 32 P P 12 52 58.9 +0.9
baz=282,SNR=20

YUK6 Outpost Mounta 51.33 38 P P 12 52 58.9 +0.4
baz=283

O29M Mount Kennedy 51.38 39 P P 12 52 59.3 +0.7
baz=284

J30M Hart River 51.44 33 P P 12 53 00.4 +1.2
baz=282

M30M Minto, Yukon 51.68 36 IAmb IAmb 12 53 03.8
comp=Z,5.0nm,0.8s

M30M Minto, Yukon 51.68 36 P P 12 53 02.0 +1.2
baz=283

HYT Haines Junctio 51.77 38 P P 12 53 02.1 +0.5
baz=284,SNR=9.8

INK Inuvik 51.78 28 IAmb IAmb 12 53 03.4
comp=Z,8.0nm,1.1s

INK Inuvik 51.78 28 P P 12 53 02.3 +0.9
baz=282

G31M Satah River 51.78 30 IAmb IAmb 12 53 03.4
comp=Z,11nm,1.1s

G31M Satah River 51.78 30 P P 12 53 02.3 +0.9
baz=282

N30M Aishikik Lake 51.81 37 P P 12 53 02.5 +0.7
baz=284

MAYO Mayo, Yukon 51.85 34 P P 12 53 02.8 +0.8
baz=283

F31M Tsiigehtchic 51.88 29 P P 12 53 02.4 +0.3
baz=282

P29M Windy Craggy 51.95 39 P P 12 53 04.2 +1.3
baz=285

H31M Peel River 52.00 31 P P 12 53 03.2 +0.1
baz=283,SNR=14

P30M Million Dollar 52.20 39 P P 12 53 05.7 +1.0
baz=285

N31M Braeburn, Yuko 52.41 37 P P 12 53 06.3 +0.1
baz=285,SNR=5.4

O30N Mendenhall 52.45 38 P P 12 53 06.6 0.0
baz=285

PLBC Pleasant Camp 52.67 39 P P 12 53 08.2 0.0
baz=286

KKAR Karatay Array 52.84 299 P 12 53 09.5 -0.2

KKAR Karatay Array 52.84 299 P P 12 53 09.5 -0.2

M31M Drury Creek, Y 52.86 36 IAmb IAmb 12 53 12.1
comp=Z,7.6nm,0.8s

M31M Drury Creek, Y 52.86 36 P P 12 53 10.1 +0.5
baz=286,SNR=5.1

WHY Whitehorse 53.05 38 P P 12 53 11.8 +0.7
baz=286

S31K Pelican 53.16 41 P P 12 53 12.0 +0.3
baz=287

SKAG Skagway 53.18 39 P P 12 53 11.3 -0.5
baz=287

N32M Quiet Lake 53.75 37 P P 12 53 15.7 -0.4
baz=287

SIT Sitka 53.91 42 P P 12 53 17.0 -0.2
baz=288

SVE Sverdlovsk 54.04 318 eP P 12 53 18.4 +0.1
SVE pmax pmax
comp=Z,18nm,0.9s

MMPY Sholdon Lake, 54.14 35 P P 12 53 19.5 +0.6
baz=288

P33M Teslin, Yukon 54.16 38 P P 12 53 18.6 -0.6
baz=288,SNR=7.0

Q32M Nakina River 54.83 39 P P 12 53 23.9 -0.3
baz=289

R33M Jennings River 55.31 38 P P 12 53 27.0 -0.6
baz=290

ARTI Arti 55.36 318 P 12 53 27.9 +0.1

ARTI Arti 55.36 318 cP P 12 53 28.0 +0.1
ARTI *PP sP 12 53 39.9 +0.2
ARTI 12 55 30.5
ARTI S S 13 01 11.5 +1.4
ARTI SS SS 13 04 50.0 -4.2
ARTI pmax pmax
comp=Z,19nm,0.8s

U33K Whale Pass 55.37 43 P P 12 53 28.1 +0.2
baz=291

CRAG Craig 55.60 43 P P 12 53 29.8 +0.3
baz=291

WRAK Wrangell Islan 55.67 42 P P 12 53 30.2 +0.2
baz=291

SIMJ Simiganj 55.69 295 P 12 53 30.5 -0.2

S34M Telegraph Cree 55.75 40 P P 12 53 30.1 -0.5
baz=291

TGTN Hyland Airport 55.82 35 P P 12 53 31.6 +0.4
baz=291

DLBC Dease Lake 56.11 39 P P 12 53 33.3 0.0
baz=291

V35K Ketchikan 56.45 43 P P 12 53 36.1 +0.5
baz=292

T35M Bob Quinn 56.54 41 P P 12 53 37.4 +1.1
T35M IAmb IAmb 12 53 39.8
comp=Z,6.6nm,0.9s

T35M Bob Quinn 56.54 41 P P 12 53 36.8 +0.5
baz=292

AB31 Akbulak array 57.19 309 IAmb IAmb 12 53 51.8
comp=Z,6.7nm,0.6s

ABKAR Akbulak array 57.19 309 P 12 53 40.7 -0.3

WRGLY Wrigley 57.27 32 P P 12 53 41.5 +0.3
baz=293

LIRD Liard River Hi 57.62 37 P P 12 53 44.6 +0.8
baz=294,SNR=5.7

TOAD Toad River Com 58.26 38 P P 12 53 48.9 +0.5
baz=295

KOTAN Kotaneelee Air 58.27 36 P P 12 53 48.4 0.0
baz=295

KIRV Kirov 58.96 322 deP P 12 53 53.1 -0.1

WB0 Warramunga Arr 59.41 189 P P 12 53 56.1 -0.6

FITZ Fitzroy Crossi 59.42 199 P P 12 53 56.9 +0.2
comp=Z,2.8nm,0.9s,baz=21,slow=8.6,SNR=2.9
comp=Z,2.8nm,0.9s

WRAB Tennant Creek 59.58 189 P P 12 53 57.4 -0.4
WRAB IAmb IAmb 12 54 08.6
comp=Z,7.8nm,0.9s

WRAB Tennant Creek 59.58 189 eP P 12 53 57.5 -0.4
WRAB pmax pmax
comp=Z,4.0nm,0.9s

WR8 Warramunga Arr 59.58 189 P 12 53 57.7 -0.2

WRA Warramunga Arr 59.59 189 P P 12 53 56.9 -1.1
comp=Z,2.6nm,0.8s,baz=6.8,slow=6.9,SNR=23
comp=Z,2.6nm,0.8s

LVZ Lovozero 60.35 336 deP P 12 54 02.6 -0.1
LVZ pmax pmax
comp=Z,27nm,1.4s

YKA Yellowknife Ar 61.22 31 P P 12 54 08.8 +0.2
comp=Z,2.1nm,0.8s,baz=331,slow=10,SNR=6.3
comp=Z,2.1nm,0.8s

YKA Yellowknife Ar 61.22 31 iP P 12 54 09.1 +0.5
YKA pmax pmax
comp=Z,1.0nm,0.6s

ARCES ARCESS Array B 62.11 339 P P 12 54 14.1 -0.5
comp=Z,3.7nm,0.9s,baz=43,slow=7.5,SNR=3.7
comp=Z,3.7nm,0.9s

KLMR Klimovskoe 62.28 327 eP P 12 54 12.6 -3.2
KLMR pmax pmax
comp=Z,24nm,1.4s

BELG Belogornoye 62.75 317 ceP P 12 54 19.0 0.0
BELG pmax pmax
comp=Z,3.0nm,1.0s

ASAR Alice Springs B 63.31 189 P P 12 54 23.4 +0.3
comp=Z,1.0nm,0.7s,baz=9.9,slow=6.6,SNR=9.6
comp=Z,1.0nm,0.7s

OBN Obninsk 66.79 323 eP P 12 54 44.5 -0.8
OBN pmax pmax
comp=Z,8.0nm,0.8s

MXC Moxie City 66.85 48 P P 12 54 47.3 +1.4
MXC IAmb IAmb 12 54 48.2
comp=Z,6.1nm,0.9s

FINES FINESS Array B 67.17 332 P P 12 54 47.5 -0.2
comp=Z,8.1nm,0.7s,baz=36,slow=10,SNR=14
comp=Z,8.1nm,0.7s

E09A Wood Farm, Sta 68.12 47 IAmb IAmb 12 54 55.9
comp=Z,9.0nm,1.0s

SUMG Summit 68.28 0 P 12 54 55.1 +0.1
SUMG IAmb IAmb 12 55 07.8
comp=Z,9.2nm,0.8s

SUMG Summit 68.28 0 P P 12 54 55.1 +0.1
SUMG pmax pmax
comp=Z,9.0nm,0.8s

N02D Trinity Center 68.50 54 P P 12 54 57.4 +0.9
N02D IAmb IAmb 12 54 59.1
comp=Z,7.0nm,0.8s

K05A Summer Lake 68.64 52 IAmb IAmb 12 55 00.3
comp=Z,8.9nm,0.9s

O02D Mt. Diablo Mer 68.89 55 IAmb IAmb 12 55 01.2
comp=Z,6.6nm,0.9s

O03E Paynes Creek 69.45 54 IAmb IAmb 12 55 04.0
comp=Z,6.4nm,0.9s

J08A Circle Bar Ran 69.74 50 IAmb IAmb 12 55 06.6
comp=Z,9.3nm,1.2s

MNRC McLaughlin Min 69.85 56 IAmb IAmb 12 55 07.5
comp=Z,8.5nm,1.0s

KBZ Khabaz 70.12 311 P P 12 55 06.5 +0.2
comp=Z,5.6nm,0.8s,baz=48,slow=5.4,SNR=8.9
comp=Z,5.6nm,0.8s

SHA1 Shidzhatmaz 70.25 311 deP P 12 55 07.5 0.0

BEKR Beckworth 70.60 54 IAmb IAmb 12 55 11.4
comp=Z,8.0nm,0.9s

MNK Minsk 71.08 326 iP P 12 55 11.1 -0.9
MNK i *PP sP 12 55 23.1 -0.8
MNK i 12 57 49.0
MNK i PPP PPP 12 59 32.4
MNK i S S 13 04 25.7 -0.6
MNK i *SS SKiKP 13 04 46.2 -4.8
MNK i SS SS 13 09 00.8 +1.9
MNK pmax pmax
comp=N,49nm,0.8s
MNK pmax pmax
comp=E,23nm,0.7s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK MLR MLR
comp=N,635nm,18.0s
MNK MLR MLR
comp=E,1µm,20.0s
MNK MLR MLR
comp=Z,242nm,17.0s

FFC Flin Flon 71.13 34 P 12 55 12.6 +0.3
FFC IAmb IAmb 12 55 13.6
comp=Z,6.6nm,0.8s

FFC Flin Flon 71.13 34 P P 12 55 12.6 +0.3
FFC pmax pmax
comp=Z,7.0nm,0.9s

DLMT Dillon 71.92 46 IAmb IAmb 12 55 19.4
comp=Z,6.9nm,0.8s

HFS Hagfors 72.32 336 P P 12 55 19.3 -0.1
comp=Z,4.9nm,0.7s,baz=29,slow=3.4,SNR=7.9
comp=Z,4.9nm,0.7s

NB2 NORSAR Subarra 72.36 338 P P 12 55 19.6 -0.1
comp=Z,2.0nm,0.7s,baz=38,slow=6.2

NOA NORSAR Array B 72.36 338 P P 12 55 19.4 -0.3
comp=Z,4.5nm,0.8s,baz=38,slow=6.0,SNR=9.5
comp=Z,4.5nm,0.8s

LHV Little Huntoon 72.72 55 IAmb IAmb 12 55 24.9
comp=Z,11nm,0.9s

NVAR Mina Array Bea 72.74 54 P P 12 55 23.6 +1.0

NVAR Mina Array Bea 72.74 54 P P 12 55 23.7 +1.1
comp=Z,4.5nm,0.8s,baz=287,slow=6.2,SNR=38
comp=Z,4.5nm,0.8s

AKASG Malin Array Be 73.02 322 P P 12 55 23.3 -0.4
comp=Z,3.6nm,0.5s,baz=46,slow=5.8,SNR=16
comp=Z,3.6nm,0.5s

AKBB Malin Array Si 73.02 322 P P 12 55 23.5 -0.3
AKBB IAmb IAmb 12 55 24.2
comp=Z,9.9nm,0.8s

AKBB Malin Array Si 73.02 322 deP P 12 55 23.0 -0.7

DSP Deep Springs 73.59 55 IAmb IAmb 12 55 29.8
comp=Z,8.0nm,1.0s

TPH Tonopah 73.63 54 IAmb IAmb 12 55 29.8
comp=Z,7.1nm,0.8s

H17A Grant Village 73.65 46 IAmb IAmb 12 55 31.5
comp=Z,10nm,1.2s

LAO LASA Array 74.49 42 IAmb IAmb 12 55 34.5
comp=Z,9.9nm,1.1s

FURC Furnace Creek, 74.84 55 IAmb IAmb 12 55 36.7
comp=Z,9.9nm,0.9s

TPNV Topopah Spring 74.93 55 IAmb IAmb 12 55 37.3
comp=Z,8.5nm,1.0s

QSM Queen of Sheba 75.14 56 IAmb IAmb 12 55 38.8
comp=Z,7.6nm,1.0s

PDAR Pinedale Array 75.26 46 P P 12 55 37.6 +0.3
comp=Z,1.8nm,0.7s,baz=278,slow=1.3,SNR=18
comp=Z,1.8nm,0.7s

P17A Butcher Ranch, 76.71 50 IAmb IAmb 12 55 47.6
comp=Z,11nm,1.1s

LCMT Little Creek M 76.77 53 IAmb IAmb 12 55 48.1
comp=Z,6.2nm,0.9s

ULM Lac du Bonnet 76.94 34 P P 12 55 46.2 -0.2
comp=Z,4.4nm,0.7s,baz=304,slow=9.5,SNR=8.5
comp=Z,4.4nm,0.7s

KNB Kanab 77.03 53 IAmb IAmb 12 55 49.8
comp=Z,6.9nm,1.0s

BUR08 Bucovina Ar. S 77.05 322 P P 12 55 46.6 -0.6
BUR08 IAmb IAmb 12 55 49.0
comp=Z,7.7nm,1.2s

BURAR Bucovina Array 77.06 322 P 12 55 47.3 +0.1

RSSD Black Hills 77.36 43 P P 12 55 49.3 +0.2
RSSD IAmb IAmb 12 55 50.3
comp=Z,6.7nm,0.9s

RSSD Black Hills 77.36 43 P P 12 55 49.3 +0.2
RSSD pmax pmax
comp=Z,7.0nm,1.0s

HMU Henry Mountain 77.70 51 IAmb IAmb 12 55 53.0
comp=Z,9.0nm,0.9s

O20A White River Ci 77.73 48 IAmb IAmb 12 55 53.3
comp=Z,7.6nm,1.2s

BRTR Keskin Array B 78.02 312 P P 12 55 52.7 -0.1
comp=Z,0.9nm,0.6s,baz=76,slow=5.2,SNR=6.0
comp=Z,0.9nm,0.6s

GLA Glamis 78.28 57 IAmb IAmb 12 55 55.9
comp=Z,5.4nm,0.8s

PV21 Cone Mtn., Par 78.34 49 IAmb IAmb 12 55 56.6
comp=Z,8.4nm,0.8s

AGMN Agassiz Nation 78.38 36 IAmb IAmb 12 55 55.0
comp=Z,5.9nm,0.9s

PV16 Nyswonger Mesa 78.54 50 IAmb IAmb 12 55 57.7
comp=Z,7.4nm,0.8s

PV05 Paradox Valley 78.59 50 IAmb IAmb 12 55 58.1
comp=Z,11nm,0.9s

PV12 Saucer Basin, 78.60 50 IAmb IAmb 12 56 02.7
comp=Z,7.1nm,0.8s

PV03 Paradox Valley 78.62 50 IAmb IAmb 12 55 58.0
comp=Z,6.0nm,0.8s

PV13 Radium Mtn., P 78.70 50 IAmb IAmb 12 55 58.7
comp=Z,10nm,0.9s

PV02 Paradox Valley 78.72 50 IAmb IAmb 12 55 59.4
comp=Z,6.8nm,0.7s

PV01 Paradox Valley 78.86 50 IAmb IAmb 12 55 59.5
comp=Z,9.9nm,1.5s

CLL Collm 79.52 331 eP P 12 56 00.0 -0.6
CLL i *PP sP 12 56 11.5 -0.9
CLL pmax pmax
comp=Z,7.0nm,0.8s

CLL Collm 79.52 331 eP P 12 56 00.0 -0.6
comp=Z,7.0nm,0.8s
CLL iP sP 12 56 11.5 -0.9

GERES GERESS Array B 81.20 329 P P 12 56 08.0 -1.9
comp=Z,1.1nm,0.7s,baz=22,slow=9.1,SNR=4.6
comp=Z,1.1nm,0.7s

GERES GERESS Array B 81.20 329 P P 12 56 08.0 -1.9

ECSD EROS Data Cent 81.40 39 IAmb IAmb 12 56 11.8
comp=Z,6.2nm,0.8s

E38A The Farm, Brul 81.58 34 IAmb IAmb 12 56 12.2
comp=Z,8.3nm,0.9s

ANMO Albuquerque 82.26 51 P P 12 56 15.7 -0.1
ANMO IAmb IAmb 12 56 18.0
comp=Z,6.9nm,1.2s

ANMO Albuquerque 82.26 51 P P 12 56 15.7 -0.1
ANMO pmax pmax
comp=Z,7.0nm,1.2s

BTNL Ternell 82.59 334 dP P 12 56 17.6 +0.6

319A Douglas 82.93 55 IAmb IAmb 12 56 21.1
comp=Z,8.8nm,0.8s

121A Cookes Peak, D 83.09 53 IAmb IAmb 12 56 22.3
comp=Z,8.2nm,1.1s

TAOE Nuku Hiva Isla 85.78 105 eLR LR 13 23 30.8
comp=Z,99nm,24.8s

PECS Pecos 86.30 52 IAmb IAmb 12 56 37.5
comp=Z,4.8nm,1.0s

DKNS Dickens 86.42 48 IAmb IAmb 12 56 39.4

comp=Z,6.5nm,0.9s
TX31 Lajitas Ar. Si 87.85 53 IAmb IAmb 12 56 45.3
comp=Z,5.9nm,1.4s
TXAR Lajitas Array 87.85 53 P **P** **12 56 44.4 +0.6**
comp=Z,1.0nm,0.6s,baz=300,slow=3.6,SNR=16
comp=Z,1.0nm,0.6s
CCM Cathedral Cave 88.35 40 P **P** **12 56 45.4 -0.5**
CCM Cathedral Cave 88.35 40 P **P** **12 56 45.4 -0.5**
CCM pmax pmax
comp=Z,13nm,0.9s
MGMO Mountain Grove 88.54 41 IAmb IAmb 12 56 47.4
comp=Z,4.3nm,0.7s
FCAR Ozark Folk Cen 89.59 42 IAmb IAmb 12 56 52.3
comp=Z,5.3nm,0.9s
ESDC Sonseca Array 95.57 335 P **P** **12 57 18.9 -0.5**
comp=Z,0.6nm,0.8s,baz=357,slow=4.7,SNR=5.2
comp=Z,0.6nm,0.8s
QSPA South Pole Qui 129.18 180 PKP **PKiKP** **13 03 01.9 0.0**
comp=Z,0.8nm,0.6s,baz=301,slow=1.0,SNR=12
SNAA Sanae 143.35 197 PKhKP PKPpre 13 03 22.8
comp=Z,2.2nm,0.7s,baz=156,slow=4.8,SNR=24
LPAZ La Paz 144.57 58 PKP **PKPab** **13 03 30.2 0.0**
comp=Z,2.1nm,0.8s,baz=294,slow=3.1,SNR=8.0

AEIC ***16*** *12:46:25.3±0.5, 53.51N±0.08×165.30W±0.09, h50km±9km, Error ellipse: s-maj=12.0km s-min=6.9km az=158.0*
NEIC 16 12:46:24.7±0.4, 53.41N±0.06×165.24W±0.04, h35km±2km, ML2.6/10, ML2.3(AEIC)**, Error ellipse: s-maj=10.7km s-min=3.7km az=353.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKSA	**Akutan Strait**	**0.78**	**340**		Pn	12 46 38.7	-0.4
AKSA					Sn	12 46 48.8	-0.8
AHB	**Akutan Harbor**	**0.78**	**334**		Pn	12 46 39.2	-0.1
AHB					Sn	12 46 50.3	+0.5
AKUT	**Akutan**	**0.79**	**337**		Pn	12 46 39.2	-0.1
AKUT					Sn	12 46 50.0	0.0
AKBBA	**Akutan Broad B**	**0.80**	**329**		Pn	12 46 39.5	0.0
AKBBA					Sn	12 46 50.5	+0.3
ZRO	**Akutan Zero**	**0.81**	**328**		Pn	12 46 39.6	0.0
ZRO					Sn	12 46 50.0	-0.5
AKMO	**Akutan Morgan**	**0.82**	**326**		Pn	12 46 39.7	-0.1
AKMO					Sn	12 46 50.3	-0.3
AKV	**Akutan Volcano**	**0.83**	**329**		Pn	12 46 39.9	-0.1
AKV					Sn	12 46 51.1	-0.1
UNV	**Unalaska Valle**	**0.87**	**301**		Pn	12 46 40.4	0.0
UNV					Sn	12 46 51.6	-0.2
UNV				IAML		12 46 52.2	
	comp=E,134nm,0.3s						
UNV				IAML		12 46 52.4	
	comp=N,141nm,0.2s						
AKRB	**Akutan Reef Bi**	**0.87**	**326**		Pn	12 46 40.5	0.0
LVA	**Lava Point**	**0.89**	**328**		Pn	12 46 40.6	-0.1
LVA					Sn	12 46 52.0	-0.3
LVA				IAML		12 46 54.0	
	comp=N,158nm,0.7s						
LVA				IAML		12 46 58.6	
	comp=E,118nm,0.7s						
MREP	**Makushin Rep't**	**0.98**	**295**		Pn	12 46 42.3	+0.3
MSW	**Makushin Switc**	**1.05**	**299**		Pn	12 46 43.3	+0.4
MSW					Sn	12 46 55.4	-0.9
WEBT	**Westdahl Beart**	**1.22**	**13**		Pn	12 46 45.4	+0.2
SSBA	**Shishaldin**	**1.51**	**25**		Pn	12 46 49.4	0.0
ISNN	**Isanotski Nort**	**1.66**	**31**		Pn	12 46 51.6	+0.2
FALS	**False Pass**	**1.80**	**36**		Pn	12 46 53.4	+0.2
S12K	**Black Hills**	**2.95**	**38**	Pn	Pn	12 47 08.5	-0.5
S12K				IAML		12 47 59.7	
	comp=N,48nm,1.1s						
S12K				IAML		12 48 38.8	
	comp=E,51nm,1.0s						

MOS ***16*** *12:48:37.8±1.0, 38.54N×100.25E, h10km, mb5.5/65, MS4.7/33, Error ellipse: s-maj=5.4km s-min=3.5km az=130.4*
IDC ***16*** *12:48:38.0±0.3, 38.55N×100.34E, h0km, mb5.1/37, mbtmp5.1/42, ML4.6/5, MS4.5/58, Error ellipse: s-maj=11.5km s-min=9.1km az=28.0*
BJI ***16*** *12:48:39.0, 38.57N×100.31E, h10km, mB5.2/34, mb5.1/62, ML5.4/17, Ms5.0/79, Ms7.5/77*
GCMT ***16*** *12:48:41.5±0.2, 38.55N±0.01×100.31E±0.01, h22km, MW5.1/114, Moment Tensor Solution. s101,c137; s114,c187; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.72±.12; Mθθ-3.36±.09; Mϕϕ-2.36±.09; Mrθ-0.70±.13; Mθϕ2.71±.06; Mϕr-0.48±.14; Best double couple: M05.72800×10^16 NP1:ϕs137.00000°, δ44.00000°, λ101.00000°. NP2:ϕs302.00000°, δ47.00000°, λ79.00000°. Principal axes: T 5.8360, Plg82.0000°, Azm138.0000°; N -0.2150, Plg8.0000°, Azm309.0000°; P -5.6210, Plg1.0000°, Azm40.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***16*** *12:48:41.1, 38.56N×100.50E, h24km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^16Nm; Mrr5.51; Mθθ-3.23; Mϕϕ-2.29; Mrθ0.23; Mθϕ2.31; Mϕr0.25; Fault plane solution: M05.34000×10^16 NP1: ϕs312.55000°, δ44.98000°, λ94.65000°. NP2: ϕs125.99000°, δ45.21000°, λ85.37000°. Principal axes: T 5.5328, Plg87.0000°, Azm311.0000°; N -0.4146, Plg3.0000°, Azm129.0000°; P -5.1181, Plg0.0000°, Azm219.0000°;*
NEIC ***16*** *12:48:41.5±1.4, 38.57N±0.07×100.25E±0.09, h17km±3km, mb5.5/503, Mww5.1/16 Error ellipse: s-maj=11.1km s-min=9.4km az=58.0*
NEIC ***16*** *12:48:41.1, 38.56N×100.24E, h24km*
BGR ***16*** *12:48:44.5, 38.43N×100.12E, h33km, mb5.1, Ms4.6*
ISC 16 12:48:39.9±0.4, 38.56N±0.03×100.26E±0.03, h12km±2km, h12km:pP-P, n1427, σ1s25/1308, mb5.4/462, MS4.6/92, 79C-35D, Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**0.92**	**338**	Pg	**Pn**	**12 48 58.6**	**-0.3**
GTA				Sg	**Sn**	**12 49 12.5**	**+0.4**
GTA				smax	smax		
	comp=N,39μm,0.6s						
GTA				smax	smax		
	comp=E,53μm,1.2s						
LZH	**Lanzhou**	**3.77**	**130**	⇑Pn	**Pn**	**12 49 39.8**	**+1.7**
LZH				Sn	**Sb**	**12 50 29.3**	**-3.0**
LZH				smax	smax		
	comp=N,10μm,1.7s						
LZH				smax	smax		
	comp=E,10μm,1.8s						
LZH				LR	LR		
	comp=N,22μm,8.6s						
LZH				LR	LR		
	comp=Z,22μm,9.2s						
LZDM	**Lanzhou Array**	**3.77**	**132**	Pn	**Pn**	**12 49 39.0**	**+0.7**
	baz=307,slow=11						
LZDM				Lg	Lg	12 50 30.1	
	baz=43,slow=28						
LZDM				LR	LR	12 51 10.9	
	comp=Z,4μm,18.6s,baz=205,slow=41						
	107nm,0.4s						
GOMU	**GeErMu**	**4.93**	**243**	Pn	**Pn**	**12 49 55.6**	**+1.4**
GOMU				Sn	**Sn**	**12 50 53.8**	**+2.4**
GOMU				smax	smax		
	comp=N,3μm,1.0s						
GOMU				smax	smax		
	comp=E,2μm,1.1s						
BTO	**Baotou**	**7.81**	**72**	*e*Pn	**Pn**	**12 50 33.1**	**-0.4**
BTO				Sn	**Sn**	**12 52 01.8**	**-0.1**
BTO				LR	LR		
	comp=N,18μm,3.0s						
BTO				LR	LR		
	comp=E,16μm,3.8s						
BTO				LR	LR		
	comp=Z,22μm,7.8s						
CD2	**Chengdu**	**8.15**	**158**	P	**Pn**	**12 50 40.9**	**+2.8**
CD2				S	**Sn**	**12 52 09.8**	**-0.5**
CD2				pmax	pmax		
	comp=Z,40nm,0.5s						
CD2				LR	LR		
	comp=N,12μm,9.2s						
CD2				LR	LR		
	comp=E,14μm,9.2s						
CD2				LR	LR		
	comp=Z,13μm,11.0s						
XAN	**Xi'an**	**8.32**	**120**	⇑P	**Pn**	**12 50 38.8**	**-1.6**
XAN				S	**Sn**	**12 52 12.0**	**-2.3**
XAN				smax	smax		
	comp=N,960nm,1.4s						
XAN				smax	smax		
	comp=E,810nm,1.6s						
XAN				LR	LR		
	comp=N,12μm,11.7s						
XAN				LR	LR		
	comp=E,14μm,11.3s						
XAN				LR	LR		
	comp=E,18μm,11.3s						
HHC	**Hu-ho-hao-te**	**9.01**	**72**	⇑*i*P	**Pn**	**12 50 50.8**	**+0.9**
HHC				pP		12 50 55.5	
HHC				S	**Sn**	**12 52 32.3**	**+0.9**
HHC				LR	LR		
	comp=E,8μm,8.2s						
HHC				LR	LR		
	comp=Z,9μm,13.3s						
TIY	**Taiyuan**	**9.63**	**91**	P	**Pn**	**12 50 58.1**	**-0.3**
TIY				S	**Sn**	**12 52 46.1**	**-0.5**
SONM	**Songino Array**	**10.29**	**24**		**Pn**	**12 51 08.5**	**+0.9**
SONM	**Songino Array**	**10.29**	**24**	Pn	**Pn**	**12 51 08.7**	**+1.1**
	7.6nm,0.3s,baz=208,slow=15,SNR=99						
SONM				Sn	**Sn**	**12 53 04.2**	**+1.3**
	5.4nm,0.3s,baz=209,slow=23,SNR=2.0						
SONM				Lg	Lg	12 54 00.9	
	12nm,0.3s,baz=223,slow=30,SNR=5.5						
SONM				LR	LR	12 55 27.6	
	comp=Z,5μm,20.0s,baz=208,slow=40						
	36nm,0.6s						
ULN	**Ulaanbaatar**	**10.54**	**26**		**Pn**	**12 51 11.3**	**+0.4**
ULN	**Ulaanbaatar**	**10.54**	**26**	P	**Pn**	**12 51 11.8**	**+0.9**
ULN	**Ulaanbaatar**	**10.54**	**26**	*de*P	**Pn**	**12 51 12.1**	**+1.2**
ULN				pmax	pmax		
	comp=Z,75nm,1.0s						
LYN	**LuoYang**	**10.60**	**108**	⇓*i*P	**Pn**	**12 51 11.6**	**0.0**
LYN				S	**Sn**	**12 53 10.1**	**-0.2**
LYN				SS	**SnSn**	**12 53 26.0**	**+4.1**
LYN				pmax	pmax		
	comp=Z,130nm,0.8s						
LYN				pmax	pmax		
	comp=Z,450nm,4.8s						
LYN				LR	LR		
	comp=Z,11μm,14.4s						
LYN				LR	LR		
	comp=Z,11μm,14.1s						
LYN				LR	LR		
	comp=Z,15μm,13.1s						
WMQ	**Urumqi**	**10.83**	**303**	P	**Pn**	**12 51 18.0**	**+3.2**
WMQ				S	**Sn**	**12 53 17.0**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,32nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.1s						
WMQ				LR	LR		
	comp=Z,6μm,15.1s						
WMQ				LR	LR		
	comp=Z,2μm,14.5s						
ENH	**Enshi**	**11.23**	**135**	P	**Pn**	**12 51 19.5**	**-0.9**
HNS	**HongShan**	**11.46**	**91**	⇓P	**Pn**	**12 51 22.3**	**-1.1**
HNS				S	**Sn**	**12 53 37.5**	**+6.1**
HNS				SS	**SnSn**	**12 53 50.0**	**+6.9**
HNS				pmax	pmax		
	comp=Z,93nm,1.2s						
HNS				LR	LR		
	comp=Z,7μm,11.8s						
HNS				LR	LR		
	comp=Z,13μm,12.6s						
HNS				LR	LR		
	comp=Z,14μm,12.7s						
LSA	**Lhasa**	**11.61**	**223**	P	**Pn**	**12 51 25.3**	**-0.6**
LSA				LR	LR		
	comp=Z,4μm,14.0s						
LSA				LR	LR		
	comp=Z,7μm,13.5s						
LSA	**Lhasa**	**11.61**	**223**	P	**Pn**	**12 51 29.0**	**+3.0**
LSA	**Lhasa**	**11.61**	**223**	P	**Pn**	**12 51 29.1**	**+3.2**
LKP	**Lekhapani**	**11.79**	**200**	*e*P	**Pn**	**12 51 28.4**	**+0.5**
LKP				IAmb	IAmb	12 51 29.2	
	comp=Z,179nm,0.4s						
ZAK	**Zakamensk**	**12.02**	**9**	*e*P	**Pn**	**12 51 32.7**	**+1.6**
ZAK				pmax	pmax		
	comp=Z,86nm,1.5s						
PZH	**PanZhiHua**	**12.08**	**174**	P	**Pn**	**12 51 33.8**	**+1.7**
PZH				S	**Sn**	**12 53 53.8**	**+6.9**
PZH				pmax	pmax		
	comp=Z,40nm,1.3s						
PZH				pmax	pmax		
	comp=Z,310nm,4.2s						
PZH				LR	LR		
	comp=Z,6μm,12.1s						
PZH				LR	LR		
	comp=Z,8μm,10.6s						
ZIRO	**ZIRO**	**12.24**	**208**	*e*P	**Pn**	**12 51 31.9**	**-2.4**
ZIRO				IAML		12 51 40.1	
	comp=Z,91nm,0.8s						
BJT	**Baijiatuau**	**12.41**	**78**	P	**Pn**	**12 51 37.7**	**+1.3**
BJI	**Beijing**	**12.42**	**78**	P	**Pn**	**12 51 37.4**	**+0.9**
BJI				pmax	pmax		
	comp=Z,23nm,1.3s						
BJI				pmax	pmax		
	comp=Z,260nm,9.4s						
BJI				LR	LR		
	comp=Z,2μm,10.9s						
BJI				LR	LR		
	comp=Z,4μm,9.3s						
BJI				LR	LR		
	comp=Z,5μm,11.0s						
XLT	**XiLinHaoTe**	**13.04**	**61**	*e*P	**Pn**	**12 51 43.9**	**-1.2**
XLT				pP	P	12 51 47.8	-7.7
XLT				PP	**PnPn**	**12 51 53.3**	**+0.4**
XLT				S	**Sn**	**12 54 11.3**	**+1.1**
XLT				pmax	pmax		
	comp=Z,13nm,0.5s						
XLT				LR	LR		
	comp=Z,7μm,7.4s						
XLT				LR	LR		
	comp=Z,8μm,10.0s						
MOY	**Mondy**	**13.12**	**2**	*e*P	**Pn**	**12 51 49.2**	**+3.1**
GYA	**Guiyang**	**13.21**	**154**	⇑P	**Pn**	**12 51 47.3**	**-0.2**
GYA				pmax	pmax		
	comp=Z,120nm,1.1s						
GYA				LR	LR		
	comp=Z,10μm,11.6s						
KMI	**Kunming**	**13.56**	**170**	⇑P	**Pn**	**12 51 51.8**	**-0.5**
KMI				pP	P	12 52 01.1	-0.3
KMI				S	**Sn**	**12 54 25.8**	**+2.8**
KMI				LR	LR		
	comp=Z,3μm,12.7s						
KMI				LR	LR		
	comp=Z,5μm,13.3s						
TNCH	**TengChong**	**13.57**	**187**	P	**Pn**	**12 51 52.9**	**+0.5**
TNCH				pP	P	12 51 57.3	-4.2
TNCH				sP		12 52 02.6	
TNCH				S	**Sn**	**12 54 23.3**	**+0.1**
TNCH				sS	sSn	12 54 29.8	+0.9
TNCH				SS	**S**	**12 54 44.5**	**-2.1**
TNCH				pmax	pmax		
	comp=Z,40nm,1.0s						
TNCH				pmax	pmax		
	comp=Z,130nm,3.0s						
TNCH				LR	LR		
	comp=Z,5μm,8.9s						
TNCH				LR	LR		
	comp=Z,7μm,10.2s						
TNCH				LR	LR		
	comp=Z,7μm,11.0s						
TIA	**Tai'an**	**13.62**	**95**	P	**Pn**	**12 51 50.9**	**-1.9**
TIA				pmax	pmax		
	comp=Z,41nm,0.9s						
TIA				LR	LR		
	comp=Z,9μm,11.0s						
TIA				LR	LR		
	comp=Z,3μm,10.7s						
TIA				LR	LR		
	comp=Z,18μm,10.0s						
KOHI	**KOHIMA**	**13.81**	**204**	*e*P	**Pn**	**12 51 54.6**	**-1.1**
KOHI				IAmb	IAmb	12 52 01.2	
	comp=Z,142nm,1.0s						
IRK	**Irkutsk**	**13.97**	**10**	*e*P	**Pn**	**12 51 58.2**	**+0.6**
IRK				pmax	pmax		
	comp=Z,174nm,2.0s						
WHN	**Wuhan**	**14.09**	**120**	P	**Pn**	**12 51 59.4**	**+0.1**
WHN				S	**Sn**	**12 54 38.4**	**+2.9**
WHN				SS	**S**	**12 54 53.8**	**-3.0**
WHN				pmax	pmax		
	comp=Z,140nm,0.9s						
WHN				pmax	pmax		
	comp=Z,1μm,2.7s						
WHN				LR	LR		
	comp=Z,11μm,6.6s						
WHN				LR	LR		
	comp=Z,12μm,13.6s						
WHN				LR	LR		
	comp=Z,14μm,16.4s						
GUWA	**GUWAHATI**	**14.29**	**213**	*e*P	**Pn**	**12 51 59.9**	**-2.1**
ZSN	**Zaisan**	**14.33**	**313**	*e*P	**Pn**	**12 52 04.2**	**+1.7**
ZSN	**Zaisan**	**14.33**	**313**	*e*P	**Pn**	**12 52 04.2**	**+1.7**
IMP	**Imphal**	**14.69**	**203**	*e*P	**Pn**	**12 52 06.5**	**-1.2**
SHL	**Shillong**	**14.76**	**211**	*e*P	**Pn**	**12 52 07.0**	**-1.8**
CNSH	**ChangSha**	**14.79**	**131**	P	**Pn**	**12 52 06.5**	**-2.4**
CNSH				S	**Sn**	**12 54 53.1**	**+0.4**
CNSH				LR	LR		
	comp=Z,3μm,10.8s						
CNSH				LR	LR		
	comp=Z,5μm,15.5s						
SILR	**SILCHAR**	**15.12**	**207**	*e*P	**Pn**	**12 52 12.6**	**-0.8**
EVN	**Everest**	**15.41**	**231**		**Pn**	**12 52 16.5**	**-1.3**
MK31	**Makanchi Array**	**15.54**	**308**	*ce*P	**Pn**	**12 52 19.2**	**+0.3**
MKAR	**Makanchi Array**	**15.54**	**308**	Pn	**Pn**	**12 52 19.1**	**+0.2**
MKAR	**Makanchi Array**	**15.54**	**308**	Pn	**Pn**	**12 52 13.8**	**-5.1**
	comp=Z,0.6nm,0.3s,baz=93,slow=11,SNR=9.8						
MKAR				Lg	Lg	12 56 50.0	
	comp=Z,1.3nm,0.3s,baz=125,slow=30,SNR=2.1						
MKAR	**Makanchi Array**	**15.54**	**308**	P	**Pn**	**12 52 19.1**	**+0.2**
GULI	**GuiLin**	**15.75**	**144**	P	**Pn**	**12 52 14.9**	**-6.7**
GULI				pmax	pmax		
	comp=Z,110nm,1.2s						
AZL	**Aizawl**	**16.12**	**206**	*e*P	**Pn**	**12 52 25.1**	**-1.4**
CIT	**Chita**	**16.36**	**30**	*e*P	**Pn**	**12 52 29.6**	**+0.3**
CIT				pmax	pmax		
	comp=Z,487nm,2.9s						
SHLS	**Shalkode**	**16.38**	**293**	*e*P	**Pn**	**12 52 25.1**	**-4.7**
SHLS	**Shalkode**	**16.38**	**293**	*e*P	**Pn**	**12 52 25.1**	**-4.7**
PDGK	**Podgornoye**	**16.39**	**294**	P	**Pn**	**12 52 27.7**	**-2.2**
NJ2	**Nanjing**	**16.50**	**108**	*e*P	**Pn**	**12 52 28.8**	**-2.4**
NJ2				pP	**P**	**12 52 34.6**	**+0.8**
NJ2				sP	**pP**	**12 52 38.4**	**+0.6**
NJ2				S	**Sn**	**12 55 37.3**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,36nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,340nm,3.6s						
NJ2				LR	LR		
	comp=Z,3μm,10.4s						
NJ2				LR	LR		
	comp=Z,6μm,10.4s						
NJ2				LR	LR		
	comp=Z,7μm,10.9s						
AGT	**Agartala**	**16.52**	**210**	*e*P	**Pn**	**12 52 28.6**	**-2.9**
DL2	**Dalian**	**16.68**	**82**	P	**Pn**	**12 52 29.8**	**-3.6**
DL2				S	**Sn**	**12 55 32.3**	**-6.2**
DL2				pmax	pmax		
	comp=Z,120nm,1.1s						
DL2				pmax	pmax		
	comp=Z,1μm,9.6s						
DL2				LR	LR		
	comp=Z,4μm,15.1s						
DL2				LR	LR		
	comp=Z,5μm,15.1s						
UZB	**Uzynbulak**	**16.70**	**293**	*e*P	**Pn**	**12 52 32.6**	**-1.2**
UZB	**Uzynbulak**	**16.70**	**293**	*e*P	**Pn**	**12 52 32.6**	**-1.2**
SATY	**Saty**	**17.13**	**292**	*e*P	**Pn**	**12 52 38.2**	**-1.1**
SATY	**Saty**	**17.13**	**292**	*e*P	**Pn**	**12 52 38.1**	**-1.1**
STMR	**SITAMARHI**	**17.23**	**231**	*e*P	**Pn**	**12 52 39.2**	**-1.2**
SLVN	**Son La**	**17.45**	**169**		**Pn**	**12 52 43.1**	**-0.2**
SLVN	**Son La**	**17.45**	**169**	P	**Pn**	**12 52 43.6**	**+0.3**
BRDH	**Bariadhala**	**17.46**	**207**	P	**Pn**	**12 52 42.5**	**-0.9**
	comp=Z,145nm,0.3s,baz=61,slow=15,SNR=3.6						
TDK	**Taldyqorghan**	**17.50**	**299**	*e*P	**Pn**	**12 52 43.1**	**-0.7**
TDK	**Taldyqorghan**	**17.50**	**299**	*e*P	**Pn**	**12 52 43.0**	**-0.7**
HIA	**Hailar**	**17.60**	**46**	P	**P**	**12 52 46.2**	**+0.2**
ARXS	**Arharly**	**17.73**	**296**	*e*P	**P**	**12 52 48.7**	**+1.1**
KDJ	**Kajisay**	**17.94**	**289**		**Pn**	**12 52 48.4**	**-1.0**
KDJ	**Kajisay**	**17.94**	**289**	P	**Pn**	**12 52 48.4**	**-1.0**
KDJ				pmax	pmax		
	comp=Z,149nm,1.2s						
SNY	**Shenyang**	**18.10**	**72**	⇑P	**P**	**12 52 52.1**	**+0.6**
SNY				S	**Sn**	**12 56 13.0**	**+0.1**
SNY				pmax	pmax		
	comp=Z,66nm,0.8s						
SNY				pmax	pmax		
	comp=Z,650nm,8.3s						
SNY				LR	LR		
	comp=Z,3μm,10.1s						
SNY				LR	LR		
	comp=Z,4μm,15.9s						
MDOK	**Medeo**	**18.13**	**292**	*e*P	**Pn**	**12 52 51.5**	**-0.3**
MDOK	**Medeo**	**18.13**	**292**	*e*P	**Pn**	**12 52 51.4**	**-0.3**
TNSS	**Tian-Shan**	**18.19**	**292**	*e*P	**Pn**	**12 52 52.6**	**-0.1**
TNSS	**Tian-Shan**	**18.19**	**292**	*e*P	**Pn**	**12 52 52.6**	**-0.1**
AAA	**Alma-Ata**	**18.23**	**292**	*e*P	**P**	**12 52 53.5**	**+0.4**
AAA	**Alma-Ata**	**18.23**	**292**	*e*P	**P**	**12 52 53.4**	**+0.4**
CHKK	**Chushkaly**	**18.27**	**294**	*e*P	**Pn**	**12 52 51.9**	**-1.3**
CHKK	**Chushkaly**	**18.27**	**294**	*e*P	**Pn**	**12 52 51.9**	**-1.3**
ZAA0	**Zalesovo Array**	**18.67**	**331**		**P**	**12 52 57.0**	**-0.6**
ZALV	**Zalesovo Beam**	**18.67**	**331**	P	**P**	**12 52 57.4**	**-0.3**
	comp=Z,4.1nm,0.3s,baz=132,slow=11,SNR=58						
ZALV				LR	LR	13 00 33.7	
	comp=Z,948nm,18.4s,baz=139,slow=38						
	comp=Z,31nm,0.6s						
SSE	**Sheshan**	**18.70**	**107**	P	**P**	**12 52 57.8**	**-0.3**
SSE				S	**Sn**	**12 56 27.4**	**-0.2**
SSE				pmax	pmax		
	comp=Z,19nm,0.7s						
SSE				pmax	pmax		
	comp=Z,250nm,3.5s						
SSE				LR	LR		
	comp=Z,1μm,15.8s						
SSE				LR	LR		
	comp=Z,2μm,15.6s						
GAYA	**Gaya**	**18.71**	**227**	*e*P	**P**	**12 52 57.3**	**-1.0**
JOSI	**Joshimath**	**18.80**	**251**	*e*P	**P**	**12 52 57.5**	**-2.1**
PTH	**Pithoragarh**	**18.85**	**248**	*e*P	**P**	**12 52 58.5**	**-1.5**
KSH	**Kashi**	**18.88**	**281**	P	**Pn**	**12 53 05.1**	**+4.3**
KSH				pP	sP	12 53 10.4	+4.0
KSH				pmax	pmax		
	comp=Z,81nm,0.8s						
KSH				LR	LR		
	comp=Z,2μm,12.6s						
KSH				LR	LR		
	comp=Z,5μm,12.7s						
HRYA	**Harraiya (Bast**	**18.97**	**237**	*e*P	**P**	**12 53 01.3**	**+0.1**
GZH	**Guangzhou**	**19.05**	**140**	P	**P**	**12 52 58.9**	**-3.1**
GZH				pP	**Pn**	**12 53 02.6**	**-0.1**
GZH				S	**Sn**	**12 56 29.3**	**-6.7**
GZH				pmax	pmax		
	comp=Z,110nm,1.0s						
GZH				LR	LR		
	comp=Z,6μm,10.7s						
GZH				LR	LR		
	comp=Z,3μm,10.4s						
GZH				LR	LR		
	comp=Z,9μm,11.4s						
BRCI	**Bahraich**	**19.07**	**240**	*e*P	**P**	**12 53 01.9**	**-0.3**
BOK	**Bokaro**	**19.14**	**224**	*e*P	**Pn**	**12 53 03.7**	**-0.3**
KLP	**Kalpa**	**19.31**	**255**	*e*P	**P**	**12 53 03.2**	**-2.0**
KURK	**Kurchatov**	**19.53**	**315**	P	**Pn**	**12 53 08.0**	**-0.5**
KURK	**Kurchatov**	**19.53**	**315**	*c* *i*P	**P**	**12 53 07.7**	**+0.6**
KURK				pmax	pmax		
	comp=Z,136nm,0.9s						
KURBB	**Kurchatov Arra**	**19.54**	**315**	P	**P**	**12 53 07.8**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=128,slow=9.9,SNR=131						
KURBB				PcP	**PcP**	**12 57 27.2**	**0.0**
	comp=Z,5.8nm,0.7s,baz=113,slow=1.7,SNR=5.1						
KURBB				LR	LR	13 01 05.8	
	comp=Z,2μm,20.1s,baz=150,slow=38						
	comp=Z,134nm,0.7s						
KURBB	**Kurchatov Arra**	**19.54**	**315**	P	**P**	**12 53 07.1**	**-0.1**
KBK	**Karagaybulak**	**19.62**	**290**	P	**Pn**	**12 53 10.6**	**+0.8**
	SNR=15						
CN2	**Changchun**	**19.64**	**66**	*e*P	**Pn**	**12 53 09.5**	**-0.2**
CN2				*es*P	sP	12 53 15.4	+0.9
CN2				*e*S	**S**	**12 56 44.3**	**-5.4**
CN2				pmax	pmax		
	comp=Z,30nm,0.8s						
CN2				pmax	pmax		
	comp=Z,300nm,5.0s						

CN2 LR LR
comp=Z,3μm,11.0s
CN2 LR LR
comp=Z,4μm,11.0s
CN2 LR LR
comp=Z,4μm,13.0s
CHTO Chiang Mai 19.70 184 P P 12 53 08.6 -0.7
CHTO IAmb IAmb 12 53 20.6
comp=Z,259nm,1.2s
CHTO Chiang Mai 19.70 184 P Pn 12 53 10.9 +0.2
CHTO P Pn **12 53 10.9 +0.2**
CHTO P P **12 53 11.3 +2.1**
CHTO P P **12 53 11.3 +2.1**
CHTO Chiang Mai 19.70 184 P Pn 12 53 10.2 -0.5
CHTO Chiang Mai 19.70 184 P P 12 53 08.6 -0.7
CHTO pmax pmax
comp=Z,259nm,1.2s
CHMS Chumysh 19.79 291 P Pn 12 53 12.6 +1.0
SNR=8.2
FRU1 Bishkek 19.87 291 P Pn 12 53 12.1 -0.5
FRU1 IAmb IAmb 12 53 22.2
comp=Z,167nm,1.0s
FRU1 Bishkek 19.87 291 P Pn 12 53 12.1 -0.5
FRU1 pmax pmax
comp=Z,167nm,1.0s
SGDS Sogindy 19.92 292 *e*P **P 12 53 12.2 +0.7**
UCH Uchtor 19.92 289 P **Pn 12 53 14.5 +0.9**
SNR=89
AAK Ala-Archa 19.96 290 P **Pn 12 53 14.1 +0.4**
SNR=15
AAK Ala-Archa 19.96 290 P 12 53 11.9 -0.1
AAK IAmb IAmb 12 53 24.0
comp=Z,142nm,0.9s
AAK Ala-Archa 19.96 290 P **Pn 12 53 14.0 +0.3**
comp=Z,22nm,0.7s,baz=98,slow=10.0,SNR=31
AAK LR LR 13 01 18.2
comp=Z,1μm,21.0s,baz=100,slow=38
comp=Z,22nm,0.7s
AAK Ala-Archa 19.96 290 P **Pn 12 53 13.9 +0.2**
AAK Ala-Archa 19.96 290 P **Pn 12 53 13.3 -0.4**
AAK Ala-Archa 19.96 290*c***eP Pn 12 53 13.7 0.0**
AAK pmax pmax
comp=Z,70nm,1.3s
USP Ospenovka 20.00 292 P **Pn 12 53 14.9 +0.8**
SNR=39
KNTI KHUNTI 20.06 224 *e*P **P 12 53 06.8 -6.4**
CM31 Chiang Mai Arr 20.06 184 P Pn 12 53 13.9 -1.0
CM31 Chiang Mai Arr 20.06 184 P Pn 12 53 15.1 +0.2
SNR=47
CMAR Chiang Mai Arr 20.06 184 P Pn 12 53 14.4 -0.4
CMAR Chiang Mai Arr 20.06 184 P Pn 12 53 14.7 -0.2
comp=Z,52nm,0.8s,baz=352,slow=9.2,SNR=219
CMAR LR LR 13 01 45.8
comp=Z,2μm,19.0s,baz=350,slow=39
comp=Z,52nm,0.8s
CMAR Chiang Mai Arr 20.06 184 *i* P Pn 12 53 14.6 -0.3
CMAR pmax pmax
comp=Z,56nm,0.8s
HKPS Hong Kong Po S 20.12 140 P Pn 12 53 15.0 -0.7
HKPS Hong Kong Po S 20.12 140 P Pn 12 53 15.3 -0.3
SMLA Simla 20.32 256 *e*P **P 12 53 14.7 -1.1**
TSSA Tissa 20.37 261 *e*P **P 12 53 15.0 -1.7**
ALBI Allahabad 20.43 235 *e*P **P 12 53 14.1 -3.0**
EKS2 Erkin-Say 20.49 290 P Pn 12 53 19.8 -0.1
SNR=36
DHRM DHARAMSHALA 20.49 259 *e*P **P 12 53 14.5 -3.5**
BTLS Baital 20.54 297 *e*P **P 12 53 18.1 0.0**
comp=Z,53nm,0.8s
BTLS Baital 20.54 297 *e*P **P 12 53 18.1 0.0**
BTLS pmax pmax
comp=Z,53nm,0.8s
QZH Quanzhou 20.62 126 P **P 12 53 19.8 +0.7**
QZH S Sn 12 57 12.3 -1.6
QZH pmax pmax
comp=Z,140nm,1.3s
QZH LR LR
comp=Z,2μm,7.9s
QZH LR LR
comp=Z,3μm,15.3s
BHK Bhakra 20.76 257 *e*P **P 12 53 15.3 -5.4**
INCN Inchon 20.79 85 P **P 12 53 21.8 +0.9**
CGRH CHANDIGARH 20.80 255 *e*P **P 12 53 20.0 -1.1**
TLWR Talawar 20.88 259 *e*P **P 12 53 20.8 -1.2**
SRNI Srinagar 20.92 266 *e*P **P 12 53 21.9 -0.5**
ASOR Ausora 21.07 249 *e*P **P 12 53 23.1 -0.9**
QIZ Qiongzhong 21.17 154 P **P 12 53 26.1 +1.0**
QIZ S **S 12 57 23.5 +3.1**
QIZ pmax pmax
comp=Z,170nm,1.0s
QIZ pmax pmax
comp=Z,400nm,4.3s
QIZ LR LR
comp=Z,3μm,11.2s
QIZ LR LR
comp=Z,2μm,9.6s
QIZ LR LR
comp=Z,5μm,12.3s
QIZ Qiongzhong 21.17 154 P **P 12 53 25.7 +0.6**
UGON Onchagaon 21.22 248 *e*P **P 12 53 26.9 +1.3**
BOD Bodaibo 21.26 21 *e*P **P 12 53 26.5 +0.7**
BOD pmax pmax
comp=Z,140nm,1.3s
BNDA BANDA 21.28 238 *e*P **P 12 53 24.4 -1.9**
BNX BinXian 21.30 62 ⇑P **P 12 53 27.4 +1.0**
BNX pP **pP 12 53 30.3 0.0**
BNX S **S 12 57 26.4 +3.7**
BNX sS Sn 12 57 30.3 +0.2
BNX pmax pmax
comp=Z,180nm,0.9s
BNX pmax pmax
comp=Z,580nm,6.2s
BNX LR LR
comp=Z,3μm,7.1s
BNX LR LR
comp=Z,3μm,8.7s
BNX LR LR
comp=Z,4μm,10.4s
JMU Jammu 21.39 262 *e*P **P 12 53 27.2 -0.2**
GNR GANAUR 21.42 251 *e*P **P 12 53 26.8 -1.0**
NDI New Delhi 21.52 250 *e*P **P 12 53 27.8 -1.0**
NRLA Narela 21.55 250 *e*P **P 12 53 29.2 0.0**
LDR Lodi Road 21.57 249 *e*P **P 12 53 28.4 -1.0**
NPLP NPLP New Delhi 21.58 250 *e*P **P 12 53 28.3 -1.2**
TJN Taejon 21.60 87 P **P 12 53 29.7 +0.1**
TJN Taejon 21.60 87 P **P 12 53 30.0 +0.4**
TJN Taejon 21.60 87*de*P **P 12 53 29.5 -0.1**
AYAN Aya Nagar 21.69 249 *e*P **P 12 53 30.1 -0.6**
PWAL Palwal 21.73 248 *e*P **P 12 53 29.5 -1.6**
KS19 Wonju Array Si 21.75 84 P **P 12 53 31.4 +0.2**
KS19 IAmb IAmb 12 53 39.5
comp=Z,125nm,0.9s
KSRS Korea Array 21.80 84 P **P 12 53 31.8 0.0**
comp=Z,39nm,0.9s,baz=280,slow=9.3,SNR=99
KSRS LR LR 13 02 58.2
comp=Z,1067μm,21.5s,baz=280,slow=40
comp=Z,39nm,0.9s
AGRA Agra 21.82 245 *e*P **P 12 53 31.0 -1.1**
JHSG JHARSUGUGA 21.93 225 *e*P **P 12 53 31.6 -1.6**
JHJR Jhajjar 21.98 250 *e*P **P 12 53 32.5 -1.3**
BWNR Bhubaneshwar 22.08 219 *e*P **P 12 53 33.0 -1.9**
DZA Taraz 22.29 290 *e*P **P 12 53 37.7 +0.6**
DZA Taraz 22.29 290 *e*P **P 12 53 37.7 +0.6**
NIL Nilore 22.33 266 P **P 12 53 35.3 -2.3**
NIL IAmb IAmb 12 53 51.6
comp=Z,166nm,0.8s
NIL Nilore 22.33 266 P **P 12 53 38.7 +1.2**
NIL Nilore 22.33 266 P **P 12 53 35.3 -2.3**
NIL pmax pmax
comp=Z,166nm,0.8s
KUDL Kundal 22.35 249 *e*P **P 12 53 36.7 -1.0**
TRKS Terek-Say 22.44 287 P **P 12 53 39.8 +0.9**
TATO Taipei 22.49 121 P **P 12 53 39.8 +0.5**
JHNI Jhansi 22.50 241 *e*P **P 12 53 35.4 -4.0**
HEH HeiHe 22.52 50 *e*P **P 12 53 40.3 +0.9**
HEH sP **sP 12 53 44.9 -0.6**
HEH S **S 12 57 48.6 +2.6**
HEH pmax pmax
comp=Z,350nm,0.9s
HEH pmax pmax
comp=Z,800nm,4.2s
HEH LR LR
comp=Z,4μm,9.2s
HEH LR LR
comp=Z,7μm,10.6s
HEH LR LR
comp=Z,8μm,10.9s
BLSP Bilaspur 22.58 229 *e*P **P 12 53 40.8 +0.6**
YHNB Yeheng 22.62 122 IAmb IAmb 12 53 48.1
comp=Z,112nm,1.0s
YHNB Yeheng 22.62 122 P **P 12 53 41.5 +0.7**
BRZS Berezniki 22.68 309 *e*P **P 12 53 41.8 +0.7**
BRZS Berezniki 22.68 309 *e*P **P 12 53 41.8 +0.7**
MDJ Mudanjiang 22.69 65 P **P 12 53 42.9 +1.7**
MDJ pP sP 12 53 48.3 +0.9
MDJ S **S 12 57 50.0 +0.7**
MDJ pmax pmax
comp=Z,36nm,1.2s
MDJ pmax pmax
comp=Z,530nm,8.6s
MDJ LR LR
comp=Z,1μm,9.5s
MDJ LR LR
comp=Z,6μm,10.5s
MDJ LR LR
comp=Z,8μm,12.7s
MDJ Mudanjiang 22.69 65 P **P 12 53 42.9 +1.7**
KK31 Karatay Array 22.90 291 P **P 12 53 43.4 -0.1**
KK31 Karatay Array 22.90 291 P **P 12 53 43.4 -0.1**
KK31 pmax pmax
comp=Z,61nm,1.0s
KKAR Karatay Array 22.90 291 P **P 12 53 43.7 +0.2**
KKAR Karatay Array 22.90 291 P **P 12 53 43.7 +0.2**
SSLB Suanglung 22.95 124 P **P 12 53 45.4 +1.2**
SSLB IAmb IAmb 12 54 09.3
comp=Z,129nm,1.3s
SSLB Suanglung 22.95 124 P **P 12 53 45.6 +1.4**
TPUB Ta-pu 23.09 125 P **P 12 53 46.2 +0.6**
TPUB Ta-pu 23.09 125 P **P 12 53 46.8 +1.2**
NACB Ninganchiao 23.11 122 P **P 12 53 47.2 +1.4**
IUG Iuzhnay 23.25 289 *e*P **P 12 53 47.4 +0.1**
comp=Z,126nm,1.1s
IUG Iuzhnay 23.25 289 *e*P **P 12 53 47.3 +0.1**
IUG pmax pmax
comp=Z,126nm,1.1s
GAR Garm 23.30 281 P **P 12 53 47.3 -0.5**
GAR IAmb IAmb 12 54 06.1
comp=Z,189nm,1.1s
BRLS Borolday 23.39 291 *e*P **P 12 53 49.7 +1.1**
BRLS Borolday 23.39 291 *e*P **P 12 53 49.7 +1.1**
YULB Yu-li 23.45 124 IAmb IAmb 12 53 52.6
comp=Z,162nm,1.3s
YULB Yu-li 23.45 124 P **P 12 53 50.1 +0.8**
PSTR Posyet 23.48 70*c i*P **P 12 53 49.9 +0.5**
CHM Chimkent 23.57 289 *e*P **P 12 53 50.6 +0.3**
comp=Z,60nm,1.1s
CHM Chimkent 23.57 289 *e*P **P 12 53 50.6 +0.3**
CHM pmax pmax
comp=Z,59nm,1.1s
TWGBT Beinan 23.72 125 P **P 12 53 53.8 +1.9**
MSHR Mys Shultsa 23.74 70*ce*P **P 12 53 52.3 +0.4**
MSHR pmax pmax
comp=Z,75nm,1.7s
ZEA Zeya 23.89 42 *e*P **P 12 53 54.9 +1.7**
ZEA *e* 12 58 14.1
ZEA pmax pmax
comp=Z,200nm,2.0s
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=Z,40nm,1.0s
ZEA MLR MLR
comp=N,2μm,9.0s
ZEA MLR MLR
comp=E,4μm,9.0s
ZEA MLR MLR
comp=Z,5μm,11.0s
VLA Vladivostok 24.27 69*ce*P **P 12 53 57.8 +0.9**
VLA pmax pmax
comp=Z,20nm,1.1s
SIMJ Simiganj 24.37 280 P **P 12 53 58.4 +0.4**
SIMJ IAmb IAmb 12 54 11.5
comp=Z,90nm,0.8s
USRK Ussuriysk Ar. 24.37 66 P **P 12 53 58.0 +0.2**
comp=Z,14nm,0.9s,baz=261,slow=10,SNR=23
comp=Z,14nm,0.9s
BVA0 Borovoye Array 25.13 315 *i* P **P 12 54 03.9 -0.7**
BVAR Borovoye Array 25.13 315 P **P 12 54 05.6 +1.0**
comp=Z,56nm,0.7s,baz=113,slow=10,SNR=44
BVAR PcP **PcP 12 57 37.5 -0.9**
comp=Z,9.0nm,0.7s,baz=87,slow=2.9,SNR=5.1
comp=Z,56nm,0.7s
NRDN NARMADA NAGAR 25.27 238 *e*P **P 12 54 06.0 -0.2**
KBL Kabul 25.33 271 P **P 12 54 06.7 -0.2**
KBL IAmb IAmb 12 54 20.5
comp=Z,91nm,1.1s
KBL Kabul 25.33 271 P **P 12 54 09.0 +2.1**
SNR=21
KBL Kabul 25.33 271 P **P 12 54 06.7 -0.2**
KBL pmax pmax
comp=Z,91nm,1.1s
JNU Nakatsue 25.34 93 IAmb IAmb 12 54 14.7
comp=Z,91nm,1.0s
JNU Nakatsue 25.34 93 P **P 12 54 06.7 0.0**
DGPR DIGLIPUR 26.10 196 *e*P **P 12 54 12.7 -1.0**
JOW Kunigami 26.21 108 LR LR 13 05 34.1
comp=Z,696nm,18.2s,baz=308,slow=39
AKL Akola 26.80 235 *e*P **P 12 54 19.0 -1.0**
JMN Monobe 27.48 90 P **P 12 54 26.4 +0.3**
JMN IAmb IAmb 12 54 44.6
comp=Z,63nm,0.9s
JMN Monobe 27.48 90 P **P 12 54 28.0 +1.9**
TEY Ternei 27.69 65 *e*P **P 12 54 28.3 +0.5**
GRNR Gornyy 28.18 53⇑*i*P **P 12 54 33.0 +0.9**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=E,2μm,10.0s
GRNR MLR MLR
comp=N,560nm,19.0s
GRNR MLR MLR
comp=Z,2μm,16.0s
HYB Hyderabad 28.34 228 *e*P **P 12 54 34.3 +0.5**
HYB *es*P **sP 12 54 42.1 +1.8**
HYB *e*PcP **PcP 12 57 46.7 +0.1**
HYB *e*S **S 12 59 21.4 +1.0**
YAK Yakutsk 29.61 28 P **P 12 54 45.3 +0.6**
YAK Yakutsk 29.61 28 LR LR 13 07 18.3
comp=Z,2μm,20.1s,baz=230,slow=38
YAK Yakutsk 29.61 28 *e*P **P 12 54 45.0 +0.3**
YAK *e* 12 55 40.5
YAK *e* 12 57 49.3
YAK *e*S **S 12 59 37.6 -1.9**
YAK *e*SS **SnSn 13 01 08.3 +0.5**
YAK *e* 13 05 22.5
YAK pmax pmax
comp=Z,17nm,1.3s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,16nm,1.8s
YAK pmax pmax
comp=Z,125nm,4.2s
YAK pmax pmax
comp=N,163nm,4.1s
YAK pmax pmax
comp=E,262nm,3.3s
YAK smax smax
comp=N,151nm,3.2s
YAK smax smax
comp=E,45nm,1.9s
YAK MLR MLR
comp=Z,564nm,8.0s
YAK MLR MLR
comp=N,497nm,9.0s
YAK MLR MLR
comp=E,1μm,15.0s
MAJO Matsushiro 30.02 82⇑*e*P **P 12 54 50.7 +2.1**
MAJO pmax pmax
comp=Z,10.0nm,1.2s
MAJO MLR MLR
comp=Z,721nm,16.0s
MJAR Matsushiro Arr 30.02 82 P **P 12 54 47.4 -1.3**
comp=Z,6.7nm,1.1s,baz=277,slow=9.6,SNR=9.6
MJAR PcP **PcP 12 57 50.0 -0.5**
comp=Z,6.2nm,1.0s,baz=293,slow=2.6,SNR=6.2
MJAR LR LR 13 07 04.4
comp=Z,825nm,20.0s,baz=294,slow=37
comp=Z,6.7nm,1.1s
TGY Tagaytay City 30.46 137 LR LR 13 07 38.1
comp=Z,750nm,18.6s,baz=270,slow=38
AB31 Akbulak array 30.61 304 P **P 12 54 54.5 +0.8**
AB31 Akbulak array 30.61 304 *i* P **P 12 54 53.9 +0.2**
ABKAR Akbulak array 30.61 304 P **P 12 54 54.4 +0.7**
UGL Uglegorsk 31.58 57 *e*P P 12 54 56.5 -5.7
UGL MLR MLR
comp=N,3μm,10.0s
UGL MLR MLR
comp=E,6μm,10.0s
UGL MLR MLR
comp=Z,7μm,10.0s
SVE Sverdlovsk 31.73 318 *e*P **P 12 55 04.4 +0.9**
SVE pmax pmax
comp=Z,79nm,1.4s
SVE MLR MLR
comp=Z,459nm,9.0s
AKTO Aktyubinsk 31.96 306 LR LR 13 09 00.2
comp=Z,2μm,20.3s,baz=76,slow=38
AKTO Aktyubinsk 31.96 306 P **P 12 55 05.7 +0.1**
YSS Yuzhno-Sakhali 31.98 61 P **P 12 55 05.5 -0.3**
YSS Yuzhno-Sakhali 31.98 61 P **P 12 55 06.7 +0.9**
YSS Yuzhno-Sakhali 31.98 61 *e*P **P 12 55 05.8 0.0**
YSS *e* 12 56 17.1
YSS *e* 12 57 55.1
YSS *e*S **S 13 00 16.5 -0.4**
YSS *e*SS **SS 13 02 25.3 -8.6**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS pmax pmax
comp=Z,200nm,4.6s
YSS MLR MLR
comp=Z,2μm,12.0s
YSS MLR MLR
comp=N,2μm,13.0s
ASAJ Asahikawa 32.00 66 P **P 12 55 05.7 -0.3**
ASAJ pmax pmax
comp=Z,31nm,1.0s
JKA Kamikawa-asahi 32.01 66 P **P 12 55 05.7 -0.3**
TYV Tymovskoe 32.10 54 *e*P **P 12 55 08.4 +1.6**
TYV *e*S **S 13 00 21.5 +2.8**
TYV pmax pmax
comp=Z,200nm,3.4s
TYV pmax pmax
comp=Z,24nm,1.3s
TYV smax smax
comp=N,200nm,4.6s
TYV MLR MLR
comp=Z,2μm,11.0s
JHJ Hachijo jima 2 32.32 87 LR LR 13 09 35.8
comp=Z,1μm,18.2s,baz=287,slow=39
ARTI Arti 32.80 317 P **P 12 55 12.8 0.0**
ARTI Arti 32.80 317 LR LR 13 09 50.9
comp=Z,1μm,18.3s,baz=99,slow=39
ARTI Arti 32.80 317*d i*P **P 12 55 12.5 -0.4**
ARTI 12 56 18.1
ARTI 12 57 52.4
ARTI S **S 13 00 31.0 +1.5**
ARTI SS **SnSn 13 02 20.9 -4.5**
ARTI pmax pmax
comp=Z,66nm,1.2s
ARTI MLR MLR
comp=Z,940nm,17.0s
KULM Kulim 33.12 179 P **P 12 55 16.4 +0.5**
YUK Yuzh-Kuril'sk 34.35 66 P **P 12 55 24.5 -2.0**
YUK S **S 13 00 53.2 -0.5**
YUK MLR MLR
comp=Z,3μm,19.0s
YUK MLR MLR
comp=E,2μm,17.0s
YUK MLR MLR
comp=N,823nm,10.0s
KCSI Kotacane, Aceh 34.94 184 P **P 12 55 28.6 -3.2**
KKM Kota Kinabalu 35.45 152 IAmb IAmb 12 55 37.8
comp=Z,74nm,1.2s
KKM Kota Kinabalu 35.45 152 P **P 12 55 36.4 +0.1**
PSI Prapat 35.61 182 LR LR 13 09 52.1
comp=Z,233nm,19.4s,baz=344,slow=36
PSI Prapat 35.61 182 P **P 12 55 38.4 +0.7**
PSI Prapat 35.61 182 P **P 12 55 37.8 +0.1**
PSI pmax pmax
comp=Z,49nm,1.0s
RPSI Rantau Prapat 35.71 182 P **P 12 55 37.8 -0.7**
RPSI IAmb IAmb 12 55 39.6
comp=Z,49nm,1.0s
PALK Pallekele 35.81 215 LR LR 13 11 05.9
comp=Z,628nm,20.2s,baz=26,slow=38
PALK Pallekele 35.81 215 P **P 12 55 40.3 +1.0**
SNSI Sinabang, Aceh 36.16 187 P **P 12 55 41.7 -0.5**
TIXI Tiksi 36.22 15 P **P 12 55 41.5 -0.7**
TIXI Tiksi 36.22 15⇑*e*P **P 12 55 41.7 -0.5**
TIXI pmax pmax
comp=Z,32nm,1.3s
TIXI MLR MLR
comp=Z,882nm,15.0s
MYKOM Kota Tinggi 36.74 174 P **P 12 55 48.2 +1.0**
MYLDM Lahad Datu 37.13 149 P **P 12 55 51.8 +1.3**
GSI Gunungsitoli 37.16 184 P **P 12 55 50.5 -0.2**
GSI IAmb IAmb 12 55 51.4
comp=Z,96nm,1.0s
GSI Gunungsitoli 37.16 184 P **P 12 55 50.4 -0.4**
GSI Gunungsitoli 37.16 184 P **P 12 55 50.4 -0.4**
comp=Z,111nm,1.2s
SBUM Sibu 37.56 160 P **P 12 55 55.7 +1.5**
MNSI Mandailing Nat 37.58 181 P **P 12 55 54.2 -0.2**
TPRI Tanjung Pinang 37.66 173 P **P 12 55 55.9 +0.9**
MA2 Magadan 37.99 40 LR LR 13 13 23.9
comp=Z,528nm,20.7s,baz=250,slow=39
KIRV Kirov 37.99 319 LR LR 13 12 09.3
comp=Z,330nm,18.1s,baz=99,slow=37
KIRV Kirov 37.99 319*ce*P **P 12 55 57.6 +0.2**
KSM Kuching 38.04 164 P **P 12 55 59.6 +1.4**
BKNI Bangkinang 38.05 179 P **P 12 55 59.1 +0.8**
WSAR Wadi Sarin 38.50 259 P **P 12 56 03.9 +1.7**
comp=Z,0.4nm,0.8s,baz=71,slow=24,SNR=39
WSAR PcP **PcP 12 58 15.5 +0.5**
comp=Z,0.1nm,0.7s,baz=224,slow=24,SNR=6.4
WSAR Wadi Sarin 38.50 259 P **P 12 56 04.0 +1.9**
SNR=15
JLN Jalan Bani Buh 38.51 257 P **P 12 56 04.0 +1.7**
JLN P **P 12 56 04.0 +1.7**
BELG Belogornoye 38.55 309 PcP **PcP 12 58 15.1 +0.5**
comp=Z,78nm,1.0s,baz=194,slow=3.2,SNR=2.7
BELG Belogornoye 38.55 309*c i*P **P 12 56 02.4 +0.2**
BELG pmax pmax
comp=Z,28nm,1.0s
BIDO Bidbid 38.74 260 P **P 12 56 06.3 +2.2**
SNR=5.9
BIDO P **P 12 56 06.3 +2.2**
SNR=5.9
DAV Davao City (W) 38.80 137 LR LR 13 13 52.5
comp=Z,1μm,18.1s,baz=340,slow=39
SHME Shamm 38.97 265 P **P 12 56 08.2 +2.1**
SHME P **P 12 56 08.2 +2.1**
SHME Shamm 38.97 265 P **P 12 56 08.1 +2.1**
DSRI Dabo 39.05 173 P **P 12 56 08.0 +1.3**
comp=Z,3μmcomp=Z,80nm,1.0s
SMDO Samad 39.05 259 P **P 12 56 09.0 +2.1**
SNR=9.0
SMDO P **P 12 56 09.0 +2.1**
SNR=9.0
PDSI Padang 39.27 180 P **P 12 56 05.9 -2.7**
comp=Z,5μmcomp=Z,40nm,0.9s
MASF Masafi 39.30 264 P **P 12 56 09.1 +0.2**
MASF P **P 12 56 09.1 +0.2**
MSFE Esma-Masafi 39.30 264 P **P 12 56 11.4 +2.5**
HOQ Hoqain 39.34 260 P **P 12 56 10.3 +1.1**
HOQ P **P 12 56 10.3 +1.1**
JMDO Jabal Madar 39.39 258 P **P 12 56 10.9 +1.3**
JMDO P **P 12 56 10.9 +1.3**
SEY Seymchan 39.45 35 LR LR 13 13 45.5
comp=Z,1μm,18.1s,baz=258,slow=38
SEY Seymchan 39.45 35⇑*e*P **P 12 56 08.7 -0.9**
SEY pmax pmax
comp=Z,4.0nm,1.0s
SEY MLR MLR
comp=Z,2μm,15.0s
MAK Makhachkala 39.66 294 *e*P **P 12 56 08.9 -2.7**
MAK *e* 12 57 39.5
MAK *e*S **S 13 02 11.5 -3.1**
MAK *e*SS **SS 13 05 08.8 -0.9**
MAK pmax pmax
comp=Z,122nm,0.8s
MAK MLR MLR
comp=Z,2μm,13.0s

STKI **Sintang** 39.67 162 P P 12 56 13.4 +1.5
comp=Z,83nm,1.0s
SISI **Saibi** 39.70 182 P P 12 56 12.3 +0.1
comp=Z,168nm,1.3s
ASHO **Ashiyiah** 39.73 263 P P 12 56 14.5 +2.0
SNR=6.5
ASHO P P 12 56 14.5 +2.0
SNR=6.5
ASHO **Ashiyiah** 39.73 263 *i* P P 12 56 15.0 +2.5
SNR=7.9
ARQ **Araqi** 40.08 261 P P 12 56 17.1 +1.7
SNR=6.9
ARQ P P 12 56 17.1 +1.7
SNR=6.9
ARQ P P 12 56 17.4 +2.0
SNR=6.9
ARQ P P 12 56 17.4 +2.0
SNR=6.9
MHTO **MHTO** 40.27 257 P P 12 56 18.4 +1.5
SNR=11
MHTO P P 12 56 18.4 +1.5
SNR=11
ASUD **Al Ashush, Dub** 40.33 263 P P 12 56 19.4 +2.0
PPBI **Pangkal Pinang** 40.88 171 P P 12 56 21.9 0.0
DQM **DQM** 41.21 256 P P 12 56 26.0 +1.3
DQM P P 12 56 26.0 +1.3
PEA0B **Petropavlovsk-** 41.44 50 P P 12 56 26.3 0.0
PEA0B **Petropavlovsk-** 41.44 50 *de*P P 12 56 27.2 +0.9
PETK **Petropavlovsk-** 41.44 50 P P 12 56 25.9 -0.4
PETK **Petropavlovsk-** 41.44 50 P P 12 56 26.4 +0.1
comp=Z,4.0nm,0.6s,baz=268,slow=9.0,SNR=10
comp=Z,4.0nm,0.6s
PETK **Petropavlovsk-** 41.44 50 P P 12 56 25.9 -0.4
UMZA **Um Al Zommool** 41.47 261 P P 12 56 28.0 +1.2
UMZA P P 12 56 28.0 +1.2
MASI **Maura Aman, Be** 41.53 177 P P 12 56 26.8 -0.5
TPI **Tanjungpandan** 41.67 169 P P 12 56 29.0 +0.6
comp=Z,62nm,1.2s
TOLI2 **Tolitoli** 41.75 148 P P 12 56 28.8 -0.3
TOLI2 **Tolitoli** 41.75 148 P P 12 56 29.9 +0.8
SMKI **Samarinda** 41.83 154 P P 12 56 31.8 +2.1
MZWR **Madinat Zayed** 41.90 263 P P 12 56 30.4 +0.1
MZWR P P 12 56 30.4 +0.1
MZWR P P 12 56 31.4 +1.1
MZWR P P 12 56 31.4 +1.1
PET **Petropavlovsk** 42.02 50 P P 12 56 32.3 +1.3
PET **Petropavlovsk** 42.02 50 *ce*P P 12 56 30.1 -0.9
PET pmax pmax
comp=Z,12nm,1.1s
PET MLR MLR
comp=Z,499nm,15.0s
KSI **Kapahiang** 42.05 177 P P 12 56 31.6 0.0
JRN **Qarnain Island** 42.10 266 P P 12 56 32.1 +0.2
VRH **Novokhopyorsk** 42.27 307 *e*P P 12 56 31.1 -1.9
VRH pmax pmax
comp=Z,60nm,0.9s
LHSI **Lahat** 42.28 175 P P 12 56 33.0 -0.4
comp=Z,2µmcomp=Z,59nm,1.3s
GNI **Garni** 42.36 290 P P 12 56 33.4 -0.7
GNI IAmb IAmb 12 56 43.0
comp=Z,140nm,1.2s
GNI **Garni** 42.36 290 P P 12 56 34.2 +0.1
comp=Z,46nm,1.1s,baz=134,slow=6.9,SNR=8.8
GNI LR LR 13 17 18.4
comp=Z,484nm,18.4s,baz=86,slow=41
comp=Z,46nm,1.1s
GNI **Garni** 42.36 290 P P 12 56 34.0 -0.1
GNI **Garni** 42.36 290 *c i*P P 12 56 36.2 +2.0
GNI pmax pmax
comp=Z,101nm,1.3s
BKB **Balikpapan** 42.48 155 P P 12 56 35.4 +0.3
comp=Z,140nm,1.0s
MZR **Muzera** 42.62 263 P P 12 56 36.7 +0.5
SNR=5.3
MZR P P 12 56 36.7 +0.5
SNR=5.3
MZR **Muzera** 42.62 263 *i* P P 12 56 36.5 +0.3
SNR=7.3
KBZ **Khabaz** 42.77 296 P P 12 56 38.0 +0.8
comp=Z,16nm,0.7s,baz=98,slow=5.6,SNR=20
KBZ LR LR 13 17 38.9
comp=Z,787nm,18.0s,baz=92,slow=41
comp=Z,16nm,0.7s
KBZ **Khabaz** 42.77 296 *c i*P P 12 56 37.8 +0.7
KBZ pmax pmax
comp=Z,23nm,1.0s
MRSI **Marisa** 42.80 147 P P 12 56 38.8 +1.1
comp=Z,1µmcomp=Z,86nm,1.1s
KIV **Kislovodsk** 42.87 296 P P 12 56 38.4 +0.3
KIV IAmb IAmb 12 56 40.9
comp=Z,95nm,0.9s
KIV **Kislovodsk** 42.87 296 P P 12 56 40.2 +2.1
KIV **Kislovodsk** 42.87 296 ⇓P P 12 56 39.4 +1.3
KIV **Kislovodsk** 42.87 296 *i* P P 12 56 39.7 +1.6
SNR=7.5
KIV **Kislovodsk** 42.87 296 P P 12 56 39.4 +1.3
MDSI **Maura Dua** 42.98 174 P P 12 56 36.9 -2.2
SHMA **Al-Shehemyia** 43.12 268 P P 12 56 40.0 -0.2
PCI **Palu** 43.21 151 P P 12 56 40.6 -0.4
comp=Z,89nm,0.9s
KLMR **Klimovskoe** 43.21 321 *e*P P 12 56 38.1 -2.4
KLMR *e* 12 58 30.2
KLMR pmax pmax
comp=Z,85nm,0.8s
KLMR MLR MLR
comp=Z,1µm,15.0s
SAKB **Bahrain** 43.39 268 P P 12 56 42.9 +0.5
KLI **Kotabumi** 43.41 173 P P 12 56 42.6 0.0
comp=Z,4µmcomp=Z,212nm,1.3s
SLWR **Sila** 43.45 265 P P 12 56 43.1 +0.2
SLWR P P 12 56 43.1 +0.2
TRNA **Turayna** 43.48 266 P P 12 56 43.1 -0.1
LWLI **Liwa** 43.50 174 P P 12 56 41.3 -2.1
comp=Z,131nm,0.8s
KMSI **Cibinong** 43.62 144 P P 12 56 44.2 -0.1
VORR **Voronezh** 43.78 308 *e*P P 12 56 43.5 -1.7
VORR pmax pmax
comp=Z,90nm,0.9s
SMRA **Abu-Samra** 43.78 267 P P 12 56 45.7 +0.1
SHAO **Shalim** 43.80 255 P P 12 56 46.9 +1.2
SHAO P P 12 56 46.9 +1.2
SHAO **Shalim** 43.80 255 P P 12 56 46.7 +0.9
VORD **Divnogorie** 43.82 307 *e*P P 12 56 44.5 -1.1
VORD pmax pmax
comp=Z,50nm,1.0s
LPSR **Galich'ya Gora** 43.84 309 *e*P P 12 56 43.8 -1.9
LPSR pmax pmax
comp=Z,110nm,1.0s
VSR **Storozhevoye** 43.87 307 *e*P P 12 56 43.8 -2.1
VSR pmax pmax
comp=Z,90nm,0.9s
APSI **Ampana** 43.93 148 P P 12 56 46.9 +0.1
comp=Z,2µmcomp=Z,136nm,1.1s
ERBR **Yeremizino-Bor** 43.99 299 *e*P P 12 56 46.8 -0.3
ERBR *e*PPP PPP 12 59 03.8
ERBR *e*S S 13 03 17.5 -1.2
ERBR *e*SS SS 13 06 33.4 -1.9
ERBR pmax pmax
comp=Z,135nm,1.0s
ERBR MLR MLR
comp=Z,968nm,17.0s
GEVA **Gevas** 44.17 288 IAmb IAmb 12 56 52.4
comp=Z,64nm,0.9s
MOS **Moscow** 44.30 314 *e*P P 12 56 47.8 -1.5
MOS *e* 12 58 32.5
MOS pmax pmax
comp=Z,215nm,1.0s
DMTO **DMTO** 44.50 255 P P 12 56 52.3 +0.9
LUWI **Luwuk** 44.52 147 P P 12 56 51.5 0.0
comp=Z,2µmcomp=Z,84nm,1.0s
DOK **Doka** 44.58 257 P P 12 56 52.5 +0.5
DOK P P 12 56 52.5 +0.5
VSLR **Vesyoloye** 44.85 296 *d i*P P 12 56 55.2 +1.2
VSLR pmax pmax
comp=Z,63nm,1.0s
OBN **Obninsk** 44.95 313 P P 12 56 54.9 +0.3
OBN **Obninsk** 44.95 313 LR LR 13 16 31.3
comp=Z,431nm,18.8s,baz=78,slow=37
OBN **Obninsk** 44.95 313 *c i*P P 12 56 54.4 -0.1
OBN *i* 12 56 58.6
OBN *e* 12 58 40.2
OBN *e*S S 13 03 31.2 -1.1
OBN *e*SS ScS 13 06 51.4 0.0
OBN pmax pmax
comp=Z,78nm,1.3s
OBN MLR MLR
comp=Z,462nm,16.0s
SOC **Sochi** 45.04 297 *e*P P 12 56 54.9 -0.5
SOC *e* 12 58 42.5
SOC *e*PPP PPP 12 59 19.0
SOC *e*S S 13 03 35.0 +1.0
SOC *e*SSS SSS 13 07 41.8
SOC pmax pmax
comp=Z,47nm,0.7s
SOC MLR MLR
comp=Z,683nm,15.0s
TNTI **Ternate** 45.08 140 IAmb IAmb 12 56 57.2
comp=Z,87nm,1.2s
TNTI **Ternate** 45.08 140 P P 12 56 54.7 -1.3
comp=Z,1µmcomp=Z,61nm,1.1s
TTSI **Tana Toraja** 45.17 152 P P 12 56 57.2 +0.5
comp=Z,1µmcomp=Z,133nm,1.1s
WHFO **Wadi Hawf** 45.27 256 P P 12 56 58.1 +0.5
WHFO P P 12 56 58.1 +0.5
DBJI **Dramaga** 45.28 171 P P 12 56 56.9 -0.7
comp=Z,64nm,1.1s
KOPT **Kop Dagi** 45.51 292 IAmb IAmb 12 57 17.4
comp=Z,63nm,1.0s
LEM **Lembang** 45.67 170 P P 12 57 01.2 +0.4
comp=Z,16nm,0.3s,baz=335,slow=18,SNR=3.6
LEM LR LR 13 18 17.8
comp=Z,730nm,18.5s,baz=325,slow=39
comp=Z,16nm,0.3s
LEM **Lembang** 45.67 170 P P 12 57 00.4 -0.4
comp=Z,53nm,1.1s
LVZ **Lovozero** 45.81 331⇑ *e*P P 12 57 00.7 -0.5
LVZ pmax pmax
comp=Z,64nm,1.3s
LVZ MLR MLR
comp=Z,1µm,16.0s
ABTO **Aybut** 45.97 256 P P 12 57 03.3 +0.1
ABTO P P 12 57 03.3 +0.1
BILL **Bilibino** 45.97 29*c i*P P 12 57 03.3 +0.8
BILL pmax pmax
comp=Z,25nm,1.3s
BILL MLR MLR
comp=Z,1µm,17.0s
SPSI **Sidrap Palu** 46.00 152 P P 12 57 03.1 -0.2
APA **Apatity** 46.25 331⇓ *i*P P 12 57 04.7 0.0
APA *i* 12 58 38.2
APA *i* 12 58 55.7
APA *i*S S 13 03 45.3 -5.5
APA *e* 13 06 52.7
APA *e*SS ScS 13 07 07.3 +7.9
APA pmax pmax
comp=Z,30nm,0.9s
APA MLR MLR
comp=Z,3µm,15.5s
ANN **Anapa** 46.31 299 *e*P P 12 57 05.6 +0.2
ANN *e* 12 58 51.8
ANN *e*PPP PPP 12 59 35.9
ANN *e*S S 13 03 50.6 -1.5
ANN pmax pmax
comp=Z,66nm,0.9s
ANN MLR MLR
comp=Z,582nm,16.0s
SMRI **Semarang** 46.35 166 P P 12 57 08.4 +2.4
KPJI **Karang Pucung** 46.36 168 P P 12 57 06.9 +0.8
BNSI **Bone** 46.53 152 P P 12 57 07.4 0.0
comp=Z,54nm,1.5s
GUMO **Guam** 46.55 110 LR LR 13 18 43.3
comp=Z,127nm,18.9s,baz=310,slow=39
SANI **Sanana** 46.86 144 P P 12 57 09.0 -1.0
SANI **Sanana** 46.86 144 P P 12 57 09.2 -0.8
comp=Z,1µmcomp=Z,114nm,0.9s
NGJI **Ngawi** 46.86 165 P P 12 57 12.6 +2.6
comp=Z,97nm,1.1s
KAPI **Kappang** 46.97 153 P P 12 57 11.0 +0.1
KAPI **Kappang** 46.97 153 P P 12 57 11.2 +0.3
KAPI **Kappang** 46.97 153 P P 12 57 10.9 +0.1
KAPI **Kappang** 46.97 153 *ce*P P 12 57 10.8 0.0
KAPI pmax pmax
comp=Z,73nm,1.0s
JOF **Joensuu** 47.09 324 *e*P P 12 57 11.6 +0.3
WOJI **Wonogiri, Jawa** 47.21 166 P P 12 57 11.4 -1.3
comp=Z,144nm,2.1s
BKSI **Bulukumba** 47.39 153 P P 12 57 13.5 -0.6
PUL **Pulkovo** 47.82 320⇑ *e*P P 12 57 18.0 +1.0
PUL pmax pmax
comp=Z,92nm,1.0s
GMJI **Gumukmas** 48.18 162 P P 12 57 20.2 0.0
comp=Z,57nm,1.0s
BSSI **Bau Bau, Buton** 48.28 153 P P 12 57 20.4 -0.6
comp=Z,110nm,1.0s
NLAI **Namlea** 48.42 143 P P 12 57 21.9 -0.3
comp=Z,56nm,1.4s
SRBI **Singaraja** 48.45 160 P P 12 57 22.3 0.0
comp=Z,56nm,1.0s
SWI **Sorong** 48.49 137 P P 12 57 21.7 -1.0
SIM **Simferopol'** 48.53 300 *e*P P 12 57 23.3 +0.6
SIM pmax pmax
comp=Z,47nm,0.8s
SIM MLR MLR
comp=Z,252nm,17.0s
JAGI **Jajag, Banyuwa** 48.54 162 P P 12 57 22.9 -0.2
JAGI **Jajag, Banyuwa** 48.54 162 P P 12 57 22.8 -0.2
JAGI **Jajag, Banyuwa** 48.54 162 P P 12 57 22.4 -0.6
comp=Z,123nm,1.1s
RAYN **Ar Rayn** 48.58 269 P P 12 57 23.4 0.0
RAYN **Ar Rayn** 48.58 269 P P 12 57 23.5 +0.1
RAYN **Ar Rayn** 48.58 269 *i* P P 12 57 23.3 -0.2
SNR=10
RAYN **Ar Rayn** 48.58 269 P P 12 57 23.4 0.0
RAYN pmax pmax
comp=Z,11nm,0.8s
GAZ **Gaziantep** 48.91 289 IAmb IAmb 12 57 28.4
comp=Z,33nm,0.8s
ARCES **ARCESS Array B** 49.19 333 P P 12 57 27.9 +0.4
ARCES IAmb IAmb 12 57 33.3
comp=Z,51nm,0.9s
ARCES **ARCESS Array B** 49.19 333 P P 12 57 28.3 +0.8
comp=Z,38nm,0.7s,baz=86,slow=5.3,SNR=23
ARCES PcP PcP 12 58 50.1 -0.3
comp=Z,11nm,0.9s,baz=91,slow=3.6,SNR=2.3
ARCES LR LR 13 19 20.3
comp=Z,248nm,19.7s,baz=93,slow=37
comp=Z,38nm,0.7s
ARCES **ARCESS Array B** 49.19 333 P P 12 57 27.9 +0.4
ARCES pmax pmax
comp=Z,51nm,0.9s
AAI **Ambon** 49.34 142 P P 12 57 28.5 -0.7
comp=Z,77nm,1.3s
MSAI **Masohi** 49.40 141 P P 12 57 30.1 +0.4
comp=Z,5µmcomp=Z,95nm,0.7s
TWSI **Taliwang, Sumb** 49.53 158 P P 12 57 28.4 -2.3
comp=Z,41nm,1.5s
BZK **Bozkurt** 49.54 296 IAmb IAmb 12 57 49.4
comp=Z,49nm,0.8s
BZK **Bozkurt** 49.54 296 ⇑P P 12 57 31.5 +1.0
FINES **FINESS Array B** 49.68 323 P P 12 57 31.6 +0.3
FINES **FINESS Array B** 49.68 323 P P 12 57 31.8 +0.5
comp=Z,44nm,0.7s,baz=77,slow=6.3,SNR=32
FINES PcP PcP 12 58 52.1 -0.2
comp=Z,11nm,0.8s,baz=83,slow=7.9,SNR=4.1
comp=Z,44nm,0.7s
FINES **FINESS Array B** 49.68 323 *i* P P 12 57 33.0 +1.7
FINES pmax pmax
comp=Z,44nm,0.7s
VSU **Vasula** 49.84 319 *e*P P 12 57 31.5 -1.0
VSU **Vasula** 49.84 319⇓ *e*P P 12 57 31.9 -0.6
VSU pmax pmax
comp=Z,90nm,1.7s
MNK **Minsk** 50.01 313 *i* P P 12 57 32.9 -1.0
comp=E,28nm,0.7s
MNK *i* P P 12 57 32.9 -1.0
comp=N,30nm,0.8s
MNK *i* P P 12 57 32.9 -1.0
comp=Z,44nm,0.7s,baz=77
MNK *i* PP PP 12 59 28.1 -0.5
MNK *i* PPP PPP 13 00 22.6
MNK *i* S S 13 04 45.1 +0.7
MNK *i* SS SS 13 08 19.8 +2.9
MNK *i* SSS SSS 13 09 43.6
MNK *i* LQ LQ 13 15 09.5
MNK *i* LR LR 13 18 30.6
MNK *i* LRM MLR 13 19 50.1
comp=Z,534nm,17.8s
MNK *i* LRM MLR 13 19 59.8
comp=E,904nm,20.2s
MNK **Minsk** 50.01 313 *i* P P 12 57 32.9 -1.0
MNK *i* 12 59 28.1
MNK *i* PPP PPP 13 00 22.5
MNK *i* S S 13 04 45.0 +0.7
MNK *i* SS SS 13 08 19.7 +2.9
MNK *i* SSS SSS 13 09 43.6
MNK pmax pmax
comp=E,28nm,0.7s
MNK pmax pmax
comp=Z,44nm,0.7s
MNK pmax pmax
comp=N,30nm,0.8s
MNK MLR MLR
comp=N,493nm,17.0s
MNK MLR MLR
comp=Z,534nm,18.0s
MNK MLR MLR
comp=E,904nm,20.0s
KTK1 **Kautokeino** 50.02 333 *e*P P 12 57 34.7 +0.9
ARBE **Arbavere** 50.05 320 *e*P P 12 57 34.0 -0.1
AKASG **Malin Array Be** 50.13 308 P P 12 57 34.9 0.0
AKASG IAmb IAmb 12 57 40.8
comp=Z,52nm,1.0s
AKASG **Malin Array Be** 50.13 308 P P 12 57 34.9 0.0
comp=Z,22nm,0.8s,baz=66,slow=7.5,SNR=36
AKASG PcP PcP 12 58 54.0 -0.2
comp=Z,4.0nm,0.7s,baz=66,slow=4.8,SNR=4.6
AKASG LR LR 13 19 35.0
comp=Z,693nm,18.8s,baz=66,slow=37
comp=Z,22nm,0.8s
AKBB **Malin Array Si** 50.13 308 IAmb IAmb 12 57 40.8
comp=Z,37nm,0.9s
AKBB **Malin Array Si** 50.13 308 *ce*P P 12 57 34.5 -0.3
KEF **Keuruu** 50.14 324 *e*P P 12 57 34.3 -0.4
KIEV **Kiev** 50.14 308 P P 12 57 34.9 0.0
KIEV IAmb IAmb 12 57 40.8
comp=Z,36nm,0.9s
KIEV **Kiev** 50.14 308 *i* P P 12 57 34.7 -0.3
SNR=17
KIEV **Kiev** 50.14 308 P P 12 57 34.9 0.0
KIEV pmax pmax
comp=Z,36nm,1.0s
NACGM **Naroch** 50.54 314⇑ *i*P P 12 57 38.3 +0.4
comp=Z,29nm,0.9s,baz=77
BR131 **Keskin Array S** 50.58 294 IAmb IAmb 12 57 40.5
comp=Z,43nm,0.8s
BR131 **Keskin Array S** 50.58 294 P P 12 57 39.3 +0.7
SNR=27
BR131 **Keskin Array S** 50.58 294 *c i*P P 12 57 39.3 +0.7
BRTR **Keskin Array B** 50.58 294 P P 12 57 39.5 +0.9
BRTR **Keskin Array B** 50.58 294 P P 12 57 39.4 +0.7
comp=Z,23nm,0.7s,baz=100,slow=7.8,SNR=106
comp=Z,23nm,0.7s
KIRS **Kirsehir-Merke** 50.59 293 ⇓P P 12 57 39.3 +0.7
RKPI **Ransiki, Papua** 50.64 134 P P 12 57 40.0 +0.9
comp=Z,2µmcomp=Z,125nm,0.8s
MEF **Metsahovi** 50.70 321 *e*P P 12 57 39.4 +0.5
SJUU **Sjulsmark** 51.06 328 *e*P P 12 57 42.3 +0.6
ANTO **Ankara** 51.13 294 P P 12 57 43.2 +0.5
ANTO **Ankara** 51.13 294 P P 12 57 43.2 +0.5
ANTO pmax pmax
comp=Z,23nm,0.8s
WBSI **Waikabubak, Su** 51.16 155 P P 12 57 41.1 -1.9
ASF **Jabal al Asfar** 51.17 283 P P 12 57 44.8 +1.7
comp=Z,30nm,0.9s,baz=111,slow=5.6,SNR=32
comp=Z,30nm,0.9s
MMRI **Maumere** 51.22 152 P P 12 57 41.6 -1.8
comp=Z,86nm,1.1s
SPITS **Spitsbergen Ar** 51.35 345 P P 12 57 44.7 +1.0
comp=Z,35nm,1.1s,baz=129,slow=3.9,SNR=3.6
comp=Z,35nm,1.1s
SORM **Soroca** 51.39 305 ⇑P P 12 57 44.8 +0.3
SORM **Soroca** 51.39 305 P P 12 57 44.7 +0.3
MILM **Milestii Mici** 51.47 304 *e*P P 12 57 44.0 -1.0
MILM LRM MLR 13 20 23.0
comp=Z,600nm,12.5s
MILM **Milestii Mici** 51.47 304 *e*P P 12 57 44.0 -1.0
MILM MLR MLR
comp=Z,600nm,15.5s
BAKI **Biak** 51.50 132 P P 12 57 46.5 +0.9
comp=Z,1µmcomp=Z,93nm,0.9s
MMAI **Mount Meron Ar** 51.94 285 P P 12 57 49.7 +0.9
comp=Z,19nm,0.9s,baz=60,slow=8.8,SNR=14
MMAI PcP PcP 12 59 01.8 +0.4
comp=Z,5.0nm,0.7s,baz=131,slow=2.5,SNR=3.7
MMAI LR LR 13 24 23.2
comp=Z,373nm,19.4s,baz=72,slow=41
comp=Z,19nm,0.9s
PABE **Paberze** 51.96 315 *e*P P 12 57 49.4 +0.9
SRPI **Serui, Papua** 52.12 132 P P 12 57 50.3 +0.1
comp=Z,45nm,0.4s
SAHE **Sakarya_HENDEK** 52.15 296 ⇓P P 12 57 50.8 +0.6
VLDR **Vladesti** 52.29 303 ⇓P P 12 57 52.6 +1.4
TPGR **Topolog** 52.40 301 ⇓P P 12 57 53.2 +1.2
CFR **Carcaliu** 52.48 302 ⇓P P 12 57 53.3 +0.8
CFR **Carcaliu** 52.48 302 P P 12 57 53.3 +0.8
TIRR **Tirgusor** 52.54 301 ⇑P P 12 57 53.4 +0.3
TIRR **Tirgusor** 52.54 301 P P 12 57 53.3 +0.3
CSS **Mathiatis** 52.67 288 IAmb IAmb 12 58 05.3
comp=Z,43nm,0.7s
TLBR **Topalu** 52.76 301 ⇑P P 12 57 55.1 +0.5
HARR **Harsova** 52.78 301 ⇑P P 12 57 56.4 +1.5
HARR **Harsova** 52.78 301 P P 12 57 56.3 +1.5
SUW **Suwalki** 52.80 314 *e*P P 12 57 55.4 +0.6
TESR **Tescani** 53.01 304 ⇑P P 12 57 56.9 +0.4
SOEI **Soe** 53.02 150 P P 12 57 55.5 -1.5
SOEI **Soe** 53.02 150 P P 12 57 55.3 -1.7
ICOR **In Corvin** 53.07 301 ⇓P P 12 57 58.9 +1.9
VRI **Vrincioaia** 53.18 303 ⇓P P 12 57 59.0 +1.3
VRI **Vrincioaia** 53.18 303 P P 12 57 59.0 +1.3
BATI **Baumata** 53.20 151 P P 12 57 57.0 -1.2
comp=Z,103nm,1.0s
PLOR **Plostina** 53.23 303 ⇑P P 12 57 59.4 +1.2
PLOR **Plostina** 53.23 303 P P 12 57 59.3 +1.1
BISRR **Bisoca** 53.30 303 ⇓P P 12 58 00.6 +1.9
COVR **Voineasa-Covas** 53.53 303 ⇑P P 12 58 01.8 +1.5
ISP **Isparta** 53.55 293 *e*P P 12 58 01.1 +0.3
ISP **Isparta** 53.55 293 *ce*P P 12 58 00.8 0.0
ISP pmax pmax
comp=Z,134nm,1.0s
BURAR **Bucovina Array** 53.56 306 P P 12 58 01.1 +0.4
BURAR **Bucovina Array** 53.56 306 ⇓P P 12 58 01.5 +0.8
BURAR **Bucovina Array** 53.56 306 P P 12 58 01.4 +0.8
ISR **Istrita** 53.56 302 ⇑P P 12 58 02.5 +1.8
ISR **Istrita** 53.56 302 P P 12 58 02.4 +1.8
PRD **Provadia** 53.68 300 *e*P P 12 58 02.9 +1.4
SMPI **Sarmi** 53.68 130 P P 12 58 02.8 +1.0
comp=Z,129nm,1.1s
EIL **Elat** 53.79 281 P P 12 58 03.5 +1.0
comp=Z,41nm,0.9s,baz=27,slow=3.1,SNR=28
EIL LR LR 13 23 37.1
comp=Z,180nm,19.4s,baz=162,slow=39
comp=Z,41nm,0.9s
MOR8 **Moi Rau** 53.81 330 *e*P P 12 58 01.3 -0.8
MLR **Muntele Rosu** 53.82 303 LR LR 13 24 59.9
comp=Z,542nm,19.7s,baz=70,slow=40
MLR **Muntele Rosu** 53.82 303 ⇓P P 12 58 03.7 +1.0
MLR **Muntele Rosu** 53.82 303 P P 12 58 03.6 +1.0
DOPR **Dopca** 54.02 304 ⇑P P 12 58 05.0 +1.1
UPP **Uppsala** 54.09 322 *e*P P 12 58 04.5 +0.3
PHSR **Pinarhisar** 54.18 298 ⇑P P 12 58 05.8 +0.6
KONS **Konsvik** 54.25 330 *e*P P 12 58 05.6 +0.4
BAND **Balkesir-Ban** 54.27 296 ⇑P P 12 58 06.1 +0.3
ARCR **ARCALIA** 54.29 305 ⇑P P 12 58 07.6 +1.7
STOK **Stokkvaagen** 54.33 330 *e*P P 12 58 06.9 +1.1
LEIR **Leirfjorden** 54.35 330 *e*P P 12 58 05.9 -0.1
KWP **Kalwaria Pacla** 54.45 306 *e*P P 12 58 08.0 +1.0
JMB **Jambol** 54.53 299 *e*P P 12 58 09.3 +1.6
BMR **Baia Mare** 54.63 306 ⇑P P 12 58 09.9 +1.5
BMR **Baia Mare** 54.63 306 P P 12 58 09.8 +1.5
ARR **Arges** 54.73 303 ⇑P P 12 58 09.4 +0.2
ELND **Elena** 54.81 300 ⇑P P 12 58 10.5 +0.8
KOLS **Kolonicke sedl** 54.95 308 *e*P P 12 58 15.7 +5.0
KOLS pmax pmax
comp=Z,16nm,0.8s
GENI **Genyem** 55.05 129 P P 12 58 13.4 +1.7
GENI **Genyem** 55.05 129 P P 12 58 12.4 +0.7
comp=Z,83nm,1.0s
MARR **Marisel-Cluj** 55.23 305 ⇑P P 12 58 13.9 +1.1
LOT **Lotru** 55.26 304 ⇑P P 12 58 13.3 +0.2
NSS **Namsos** 55.26 328 *e*P P 12 58 12.6 0.0
JAY **Jayapura** 55.32 128 P P 12 58 12.9 -0.8
comp=Z,615nmcomp=Z,41nm,1.2s
GAMB **Gambell** 55.39 33 P P 12 58 13.7 +0.2
baz=288

KDZ	Kurdzhali	55.69	299	*e*P		P		12 58 17.3	+1.2
HFS	Hagfors	55.88	323	P		P		12 58 17.4	+0.3
	comp=Z,52nm,0.9s,baz=79,slow=7.7,SNR=28								
HFS				PcP		PcP		12 59 15.5	-0.3
	comp=Z,25nm,0.9s,baz=92,slow=4.5,SNR=3.6								
HFS				LR		LR	13 23 35.3		
	comp=Z,321nm,20.0s,baz=70,slow=38								
	comp=Z,52nm,0.9s								
GZR	Gura Zlata	55.93	304	⇑P		P		12 58 18.5	+0.6
GZR	Gura Zlata	55.93	304	P		P		12 58 18.4	+0.6
NIE	Niedzica	55.99	309	*e*P		P		12 58 19.7	+1.5
OJC	Ojcow	56.00	310	*e*P		P		12 58 18.9	+0.7
RZN	Rozhen	56.07	299	*e*P		P		12 58 20.7	+1.6
MPEP	Malo Peshtene	56.09	301	*e*P		P		12 58 20.3	+1.4
PGB	Panagyurishte	56.13	300	*e*P		P	12 58 24.9	+5.6	
SURR	Surduc	56.22	304	⇑P		P		12 58 21.2	+1.4
SIRR	Siria	56.32	305	⇓P		P		12 58 22.1	+1.6
TNA	Tin City	56.35	30	P		P		12 58 21.0	+0.6
	baz=290								
HERR	Herculane	56.37	303	⇑P		P		12 58 21.7	+0.8
C16K	Lisburne Hills	56.38	26	P		P		12 58 20.9	+0.4
	baz=290								
NC405	NORSAR Array S	56.48	324	IAmb		IAmb	12 58 26.8		
	comp=Z,45nm,0.8s								
LANS	Liptovska Anna	56.59	309	*e*P		P		12 58 22.8	+0.3
LANS				pmax		pmax			
	comp=Z,3.0nm,0.5s								
BZS	Buzias	56.60	304	⇑P		P		12 58 22.9	+0.4
BZS	Buzias	56.60	304	P		P		12 58 22.9	+0.4
PLNA	Plana	56.65	300	*e*P		P		12 58 24.9	+1.8
NC602	NORSAR Array S	56.69	324	IAmb		IAmb	12 58 27.8		
	comp=Z,36nm,0.9s								
NC602	NORSAR Array S	56.69	324	*e*P		P		12 58 22.9	0.0
NB201	NORSAR Array S	56.69	324	IAmb		IAmb	12 58 23.9		
	comp=Z,71nm,1.4s								
VTS	Vitosha	56.72	301	*e*P		P		12 58 25.3	+1.7
NB2	NORSAR Subarra	56.73	324	P		P		12 58 22.3	-0.9
	comp=Z,65nm,1.2s,baz=71,slow=7.4								
NB2	NORSAR Subarra	56.73	324	P		P		12 58 22.3	-0.9
	comp=Z,65nm,1.2s,baz=71,slow=7.4								
NB2				PCP		PcP		12 59 18.4	-0.7
	comp=Z,8.6nm,0.9s,baz=71,slow=4.3								
NB2				PP		PP		13 00 28.1	-0.9
	comp=Z,7.6nm,0.9s,baz=70,slow=9.3								
NOA	NORSAR Array B	56.73	324	P		P		12 58 22.9	-0.4
	comp=Z,20nm,0.9s,baz=71,slow=7.2,SNR=21								
NOA				PcP		PcP		12 59 18.9	-0.3
	comp=Z,5.8nm,0.9s,baz=72,slow=4.5,SNR=2.7								
NOA				PP		PP		13 00 28.2	-0.9
	comp=Z,6.7nm,0.9s,baz=69,slow=7.6,SNR=3.9								
	comp=Z,20nm,0.9s								
PSZ	Piszkesteto	56.80	308	*e*P		P		12 58 24.9	+0.9
MMB	Musomishta	56.81	299	*e*P		P		12 58 25.3	+1.2
MDVR	Moldovita	56.86	304	⇑P		P		12 58 25.1	+0.6
NBO00	NORSAR Array S	56.93	324	IAmb		IAmb	12 58 29.8		
	comp=Z,53nm,1.1s								
NAO01	NORSAR Array S	56.95	324	IAmb		IAmb	12 58 29.6		
	comp=Z,27nm,0.9s								
KARP	Karpathos	56.97	291	*e*P		P		12 58 25.2	-0.1
F14K	Arctic Creek	57.00	30	P		P		12 58 26.0	+0.9
	baz=291								
C17K	DeLong Mountai	57.05	26	P		P		12 58 26.1	+0.7
	baz=292								
DEL	Delary	57.06	319	*i* P		P		12 58 25.8	+0.2
A19K	Wainwright	57.09	24	P		P		12 58 26.9	+1.3
	baz=293								
KKB	Krupnik	57.11	300	*e*P		P		12 58 27.6	+1.4
OKC	Ostrava-Krasne	57.13	310	AMS		AMS	13 23 30.0		
	comp=Z,800nm,25.9s								
B18K	Kokolik River	57.18	25	P		P		12 58 27.4	+1.2
	baz=292								
BORU	Boraas	57.20	320	*i* P		P		12 58 26.7	+0.1
RDOG	Red Dog Mine	57.31	26	P		P		12 58 27.9	+0.7
	baz=292								
BOVS	Bovan	57.33	302	⇑P		P		12 58 28.1	+0.4
DOMB	Dombas	57.33	326	*e*P		P		12 58 27.9	+0.4
OSL	Oslo	57.35	323	*e*P		P		12 58 27.9	+0.3
D17K	Noatak River	57.38	27	P		P		12 58 28.9	+1.2
	baz=292,SNR=8.8								
FABU	Falkenberg	57.46	320	*i* P		P		12 58 28.7	+0.3
STRU	Stroemstad	57.46	322	*e*P		P		12 58 27.8	-0.6
STRU	Stroemstad	57.46	322	*i* P		P		12 58 28.1	-0.3
ATD	Arta Tunnel	57.51	258	P		P		12 58 30.7	+1.3
ATD	Arta Tunnel	57.51	258	P		P		12 58 30.0	+0.6
	comp=Z,0.9nm,0.7s,baz=319,slow=6.7,SNR=7.9								
ATD				LR		LR	13 25 42.3		
	comp=Z,6.0nm,19.5s,baz=111,slow=39								
ATD	Arta Tunnel	57.51	258	P		P		12 58 31.0	+1.6
	SNR=6.2								
ATD				P		P		12 58 31.0	+1.6
	SNR=6.2								
MORC	Moravsky Berou	57.52	310	*e*P		P		12 58 29.2	+0.2
F15K	North Star Dit	57.57	29	P		P		12 58 29.9	+0.9
	baz=292								
BJUU	Bjuv	57.65	318	*i* P		P		12 58 30.2	+0.5
C18K	Utukok River	57.66	25	IAmb		IAmb	12 58 31.7		
	comp=Z,37nm,0.8s								
C18K	Utukok River	57.66	25	P		P		12 58 30.8	+1.1
	baz=293,SNR=7.6								
ONAU	Onsala	57.71	320	*i* P		P		12 58 30.5	+0.3
ANM	Nome	57.72	31	P		P		12 58 30.9	+0.8
	baz=292								
MOL	Molde	57.79	327	*e*P		P		12 58 31.4	+0.8
JAVC	Velka Javorina	57.80	309	*e*P		P		12 58 32.8	+1.8
KSP	Ksiaz	57.84	312	*e*P		P		12 58 31.9	+0.7
KRLC	Kraliky	57.85	311	*e*P		P		12 58 32.5	+1.1
KRLC				*e**PP		sP		12 58 37.0	-1.0
KRLC				MLR		MLR			
	comp=Z,700nm,24.1s								
KRLC	Kraliky	57.85	311	*e*P		P		12 58 32.5	+1.1
KRLC				*ep*P		sP		12 58 37.0	-1.0
KRLC				AMS		AMS	13 23 50.0		
	comp=Z,700nm,24.1s								
KONO	Kongsberg	57.99	323	P		P		12 58 32.4	+0.4
KONO				IAmb		IAmb	12 58 33.9		
	comp=Z,68nm,1.2s								
KONO	Kongsberg	57.99	323	*e*P		P		12 58 31.8	-0.3
KONO	Kongsberg	57.99	323	*de*P		P		12 58 32.5	+0.4
KONO				pmax		pmax			
	comp=Z,78nm,1.7s								
OSTC	Ostas	58.00	312	*e*P		P		12 58 33.6	+1.2
OSTC				MLR		MLR			
	comp=Z,400nm,19.9s								
OSTC	Ostas	58.00	312	*e*P		P		12 58 33.6	+1.2
OSTC				AMS		AMS	13 25 20.0		
	comp=Z,400nm,19.9s								
C19K	Lookout Ridge	58.01	25	P		P		12 58 33.2	+1.1
C19K				IAmb		IAmb	12 58 43.6		
	comp=Z,36nm,0.9s								
C19K	Lookout Ridge	58.01	25	P		P		12 58 33.4	+1.3
	baz=294,SNR=6.3								
DPC	Dobruska-Polom	58.02	311	*e*P		P		12 58 34.1	+1.6
DPC				*e**PP		sP		12 58 38.5	-0.7
DPC				MLR		MLR			
	comp=Z,600nm,25.3s								
DPC	Dobruska-Polom	58.02	311	*e*P		P		12 58 34.1	+1.6
DPC				*ep*P		sP		12 58 38.5	-0.7
DPC				AMS		AMS	13 24 30.0		
	comp=Z,600nm,25.3s								
E17K	Hotham Inlet	58.07	27	P		P		12 58 33.5	+0.9
	baz=294,SNR=5.3								
G15K	Niukluk	58.08	30	P		P		12 58 33.5	+0.9
	baz=293,SNR=5.2								
CHVC	Chvalec	58.08	312	*e*P		P		12 58 34.3	+1.4
CHVC				*e**PP		sP		12 58 38.7	-0.9
CHVC				MLR		MLR			
	comp=Z,400nm,16.9s								
CHVC	Chvalec	58.08	312	*e*P		P		12 58 34.3	+1.4
CHVC				*ep*P		sP		12 58 38.7	-0.9
CHVC				AMS		AMS	13 25 10.0		
	comp=Z,400nm,16.9s								
UPC	Upice	58.14	312	*e*P		P		12 58 34.7	+1.4
UPC				*e**PP		sP		12 58 39.3	-0.6
UPC				MLR		MLR			
	comp=Z,400nm,14.3s								
UPC	Upice	58.14	312	*e*P		P		12 58 34.7	+1.4
UPC				*ep*P		sP		12 58 39.3	-0.6
UPC				AMS		AMS	13 24 50.0		
	comp=Z,400nm,14.3s								
AKN	Aaknes	58.18	327	*e*P		P		12 58 33.7	+0.3
SKAR	Skarslia	58.19	325	*e*P		P		12 58 34.2	+0.6
MODS	Modra-Piesok	58.23	309	*e*P		P		12 58 33.2	-0.8
MODS				pmax		pmax			
	comp=Z,29nm,0.9s								
DRS	Darwin Rock St	58.25	144	P		P		12 58 34.3	-0.1
MORH	Mrgy, Hungar	58.26	306	⇑P		P		12 58 34.6	+0.4
VRAC	Vranov	58.27	310	LR		LR	13 24 40.3		
	comp=Z,526nm,20.1s,baz=69,slow=37								
VRAC	Vranov	58.27	310	*e*P		P		12 58 34.8	+0.5
VRAC	Vranov	58.27	310	⇓P		P		12 58 35.7	+1.4
VRAC	Vranov	58.27	310	P		P		12 58 35.6	+1.4
E18K	Tukpahlearik C	58.37	27	P		P		12 58 35.4	+0.8
	baz=295								
SPIA	Saint Paul Isl	58.37	40	P		P		12 58 35.9	+1.1
	baz=293								
B20K	Meade River	58.39	23	P		P		12 58 36.0	+1.3
B20K	Meade River	58.39	23	P		P		12 58 36.0	+1.3
	baz=296								
KRUC	Moravsky	58.49	310	*e*P		P		12 58 36.5	+0.7
F17K	Baldwin Pennin	58.54	28	P		P		12 58 36.9	+1.0
	baz=295								
G16K	Koyuk River	58.57	29	P		P		12 58 37.1	+1.1
G16K				IAmb		IAmb	12 58 47.1		
	comp=Z,50nm,1.0s								
G16K	Koyuk River	58.57	29	P		P		12 58 36.9	+0.9
	baz=294,SNR=6.0								
A22K	Sinclair Lake	58.60	22	P		P		12 58 37.5	+1.3
	baz=297								
RUE	Ruedersdorf	58.63	314	*e*P		P		12 58 36.8	+0.2
	comp=Z,42nm,0.8s,baz=64,slow=6.8								
MTN	Manton Dam	58.72	144	P		P		12 58 36.7	-1.0
	comp=Z,34nm,1.3s								
MTN	Manton Dam	58.72	144	P		P		12 58 36.8	-0.9
MTN				IAmb		IAmb	12 58 38.9		
	comp=Z,72nm,1.4s								
MTN	Manton Dam	58.72	144	P		P		12 58 37.0	-0.7
IDI	Anoyia	58.74	292	P		P		12 58 37.1	-0.7
	comp=Z,33nm,0.7s,baz=56,slow=12,SNR=7.1								
	comp=Z,33nm,0.7s								
D19K	Kuna River	58.75	25	P		P		12 58 38.3	+0.9
	baz=296								
IVA	Berane	58.85	302	⇑*i* P		P		12 58 39.7	+1.2
H16K	Elim	58.93	30	P		P		12 58 39.2	+0.6
	baz=295								
TREC	Trest	58.94	310	AMS		AMS	13 24 30.0		
	comp=Z,500nm,24.2s								
PVCC	Panska Ves	58.97	312	*e*P		P		12 58 40.9	+1.8
PVCC				*e**PP		sP		12 58 45.1	-0.6
PVCC				MLR		MLR			
	comp=Z,500nm,19.0s								
PVCC	Panska Ves	58.97	312	*e*P		P		12 58 40.9	+1.8
PVCC				*ep*P		sP		12 58 45.1	-0.6
PVCC				AMS		AMS	13 25 10.0		
	comp=Z,500nm,19.0s								
M11K	Mekoryuk	59.02	35	P		P		12 58 40.0	+0.8
	baz=294								
HOMB	Homborsund	59.05	322	*e*P		P		12 58 40.0	+0.6
HOMB	Homborsund	59.05	322	*i* P		P		12 58 39.6	+0.2
F18K	Selawik	59.05	27	P		P		12 58 40.3	+0.9
	baz=296								
K13K	Kusilvak Mount	59.07	33	IAmb		IAmb	12 58 40.5		
	comp=Z,30nm,1.0s								
K13K	Kusilvak Mount	59.07	33	P		P		12 58 40.2	+0.6
	baz=294								
RONA	Rosalia, Austr	59.11	308	*i* P		P		12 58 41.2	+1.0
	comp=Z,12nm,0.8s								
KOME	Kolasin	59.11	302	⇑*i* P		P		12 58 41.3	+1.0
D20K	Etivluk River	59.15	24	P		P		12 58 40.9	+0.8
	baz=297								
G17K	Kiwalik Mounta	59.17	29	P		P		12 58 40.7	+0.5
	baz=296,SNR=6.9								
BRG	Berggiesshubel	59.19	313	*i* P		P		12 58 43.5	+2.9
BRG				Amp			12 58 44.7		
	comp=Z,22nm,1.1s								
BRG	Berggiesshubel	59.19	313	P		P		12 58 48.2	+7.6
BRG				Amp			12 58 49.0		
	comp=Z,20nm,0.9s								
BRG				⇑PP		PcP		12 59 33.0	+4.0
BRG				Amp			12 59 38.0		
	comp=Z,8.2nm,0.9s								
BRG				PP		PP		13 00 53.5	+2.5
BRG				Amp			13 00 57.0		
	comp=Z,6.1nm,1.0s								
J14K	Nanvaranak Lak	59.19	32	P		P		12 58 41.1	+0.7
	baz=295								
KDU	Kakadu	59.21	143	P		P		12 58 40.6	-0.5
	comp=Z,43nm,1.2s								
KDU	Kakadu	59.21	143	P		P		12 58 40.4	-0.6
PRU	Pruhonice	59.21	311	*e*P		P		12 58 41.9	+1.1
PRU				MLR		MLR			
	comp=Z,500nm,16.6s								
PRU	Pruhonice	59.21	311	*e*P		P		12 58 41.9	+1.1
PRU				AMS		AMS	13 24 40.0		
	comp=Z,500nm,16.6s								
PRA	Prague	59.24	312	*e*P		P	12 58 47.1	+6.1	
PRA				MLR		MLR			
	comp=Z,400nm,16.7s								
PRA	Prague	59.24	312	*e*P		P	12 58 47.1	+6.1	
PRA				AMS		AMS	13 24 50.0		
	comp=Z,400nm,16.7s								
ODD1	Odda	59.26	324	*e*P		P		12 58 41.0	0.0
CONA	Conrad Observa	59.28	309	*i* P		P		12 58 42.7	+1.3
	comp=Z,34nm,1.8s,SNR=13								
B21K	Ikpikpuk River	59.35	23	P		P		12 58 42.9	+1.4
	baz=298,SNR=9.4								
UPM	Unac-Piva	59.36	303	⇑*i* P		P		12 58 41.1	-1.1
B22K	Teshekpuk Lake	59.37	22	P		P		12 58 42.8	+1.3
	baz=299								
PDG	Podgorica	59.47	302	⇑*i* P		P		12 58 43.2	+0.6
E20K	Nigu River	59.50	25	P		P		12 58 43.6	+1.0
	baz=298								
E19K	Redstone River	59.52	26	P		P		12 58 43.4	+0.7
	baz=297								
NKME	Niksic	59.52	302	⇑*i* P		P		12 58 43.3	+0.2
C21K	Knifeblade Rid	59.52	24	P		P		12 58 43.9	+1.2
	baz=298,SNR=8.6								
CLL	Collm	59.55	313	IAmb		IAmb	12 58 49.4		
	comp=Z,21nm,0.8s								
CLL	Collm	59.55	313	⇑*i* P		P		12 58 43.5	+0.4
CLL				*i*			12 58 47.2		
CLL				*i*			12 59 31.6		
CLL				pmax		pmax			
	comp=Z,23nm,1.0s								
CLL				MLR		MLR			
	comp=Z,500nm,18.5s								
CLL	Collm	59.55	313	*e*P		P		12 58 42.9	-0.2
	comp=Z,22nm,0.9s,baz=64,slow=6.8								
CLL	Collm	59.55	313	⇑*i* P		P		12 58 43.5	+0.4
	comp=Z,23nm,1.0s								
CLL				*i* x		x	12 58 47.2		
	comp=Z,26nm,0.9s								
CLL				*i* PcP		PcP		12 59 31.6	+1.2
	comp=Z,17nm,1.4s								
CLL				*e*PcS		PcS		13 03 34.0	+1.7
CLL				Lm		MLR	13 25 00.0		
	comp=N,400nm,18.2s								
CLL				Lm		MLR	13 25 00.0		
	comp=E,300nm,18.2s								
CLL				Lm		MLR	13 25 00.0		
	comp=Z,500nm,18.5s								
SUE	Sulen	59.62	326	*e*P		P		12 58 44.7	+1.3
F19K	Shaleruckik Mo	59.62	27	IAmb		IAmb	12 58 44.6		
	comp=Z,36nm,0.9s								
F19K	Shaleruckik Mo	59.62	27	P		P		12 58 43.6	+0.3
	baz=297,SNR=15								
DRME	Dracevica, Mon	59.62	302	⇑*i* P		P		12 58 44.4	+0.7
SNART	Snartemo	59.65	322	*i* P		P		12 58 44.4	+0.7
ZVC	Zvikov	59.65	311	*e*P		P		12 58 44.8	+1.0
ZVC				*ep*P		sP		12 58 49.4	-1.0
ZVC				AMS		AMS	13 25 00.0		
	comp=Z,600nm,18.5s								
BER	Bergen	59.65	325	*e*P		P		12 58 44.3	+0.8
ASK	Askoy	59.67	325	*e*P		P		12 58 43.7	0.0
ULC	Ulcinj	59.68	301	⇑*i* P		P		12 58 45.3	+1.1
H17K	Granite Mounta	59.70	29	IAmb		IAmb	12 58 50.5		
	comp=Z,47nm,0.9s								
H17K	Granite Mounta	59.70	29	P		P		12 58 45.0	+1.1
	baz=297,SNR=16								
G18K	Tagagawik	59.73	28	P		P		12 58 44.5	+0.4
	baz=297								
BRY	Bratgost	59.74	303	⇑*i* P		P		12 58 44.7	0.0
BUM	Brajici-Budva	59.77	302	⇑*i* P		P		12 58 45.1	+0.3
ARSA	Arzberg	59.77	308	*i* P		P		12 58 45.1	+0.3
	comp=Z,6.3nm,0.7s								
GORT1	Trebel	59.79	316	*e*P		P		12 58 45.4	+0.8
	comp=Z,63nm,1.3s,baz=64,slow=6.8								
CKRC	Cesky Krumlov	59.84	310	*e*P		P		12 58 46.7	+1.5
CKRC				*e**PP		sP		12 58 51.4	-0.4
CKRC				MLR		MLR			
	comp=Z,500nm,22.1s								
CKRC	Cesky Krumlov	59.84	310	*e*P		P		12 58 46.7	+1.5
CKRC				*ep*P		sP		12 58 51.4	-0.4
CKRC				AMS		AMS	13 25 00.0		
	comp=Z,500nm,22.1s								
I17K	Unalakleet	59.86	30	IAmb		IAmb	12 58 47.0		
	comp=Z,43nm,1.1s								
I17K	Unalakleet	59.86	30	P		P		12 58 45.9	+0.9
	baz=296								
FLTG	Flechtingen	60.11	315	*e*P		P		12 58 46.5	-0.4
	comp=Z,33nm,0.9s,baz=64,slow=6.8								
GROS	Grobnik	60.13	307	*e*P		P		12 58 47.4	+0.1
E21K	Killik River	60.13	24	IAmb		IAmb	12 58 48.7		
	comp=Z,47nm,1.2s								
E21K	Killik River	60.13	24	P		P		12 58 47.5	+0.7
	baz=300,SNR=15								
KHC	Kasperske Hory	60.14	311	*ce*P		P		12 58 47.8	+0.5
KHC				pmax		pmax			
	comp=Z,26nm,1.7s								
KHC	Kasperske Hory	60.14	311	*e*P		P		12 58 48.3	+1.0
KHC				*ep*P		sP		12 58 52.9	-1.0
KHC				AMS		AMS	13 25 10.0		
	comp=Z,700nm,19.6s								
J16K	Anvik River	60.17	31	P		P		12 58 47.7	+0.5
	baz=297,SNR=7.5								
L14K	Kuka Creek	60.17	33	IAmb		IAmb	12 59 03.1		
	comp=Z,53nm,1.2s								
L14K	Kuka Creek	60.17	33	P		P		12 58 47.9	+0.8
	baz=296								
H18K	Honhosa River	60.18	29	P		P		12 58 47.7	+0.5
	baz=298								
G19K	Purcell Mounta	60.19	27	IAmb		IAmb	12 58 49.0		
	comp=Z,34nm,1.2s								
G19K	Purcell Mounta	60.19	27	P		P		12 58 47.8	+0.6
	baz=298,SNR=9.2								
GEC2	GERESS Array S	60.19	311	*e*P		P		12 58 47.8	+0.2
	comp=Z,12nm,1.0s,baz=64,slow=6.8								
GEC2				*e*PcP		PcP		12 59 33.8	+0.7
GERES	GERESS Array B	60.19	311	P		P		12 58 47.2	-0.5
	comp=Z,4.1nm,0.8s,baz=60,slow=8.0,SNR=15								
GERES				LR		LR	13 25 58.8		
	comp=Z,452nm,19.9s,baz=69,slow=37								
	comp=Z,4.1nm,0.8s								
KNRA	Kununurra	60.20	148	P		P		12 58 48.2	+0.3
	comp=Z,102nm,1.1s								
F20K	Avaraart Lake	60.23	26	P		P		12 58 48.1	+0.6
	baz=299,SNR=7.5								
K15K	Wolf Creek Mou	60.24	32	IAmb		IAmb	12 59 04.3		
	comp=Z,28nm,1.0s								
K15K	Wolf Creek Mou	60.24	32	P		P		12 58 48.6	+1.0
	baz=297								
TANN	Tannenbergstha	60.24	313	*e*P		P		12 58 48.1	+0.2
	comp=Z,15nm,0.9s,baz=64,slow=6.8								
GOLS	Golise	60.25	307	*e*P		P		12 58 48.4	+0.3
MOA	Molln	60.28	309	*i* P		P		12 58 49.2	+0.9
	comp=Z,32nm,1.8s,SNR=8.5								
MOA				*i* PcP		PcP		12 59 34.2	+0.8
	comp=Z,20nm,1.1s								
MOA				*i* PP		PP		13 00 58.9	-1.9
	comp=Z,5.3nm,1.0s								
M13K	Dall Lake	60.29	35	P		P		12 58 49.0	+1.0
	baz=296								
NEUB	Neuenburg	60.29	314	*e*P		P		12 58 48.2	0.0
	comp=Z,46nm,0.9s,baz=64,slow=6.8								
D22K	Ayikyak River	60.32	24	IAmb		IAmb	12 59 02.9		
	comp=Z,32nm,0.9s								
D22K	Ayikyak River	60.32	24	P		P		12 58 49.5	+1.3
	baz=300								
SOKA	Soboth	60.33	308	*e*P		P		12 58 49.1	+0.5
	comp=Z,27nm,1.2s,SNR=19								
SOKA				*i* PcP		PcP		12 59 34.2	+0.5
	comp=Z,12nm,0.9s								
PLN	Plauen	60.39	313	*e*P		P		12 58 49.0	+0.2
	comp=Z,4.0nm,0.9s,baz=64,slow=6.8								
PLN				*e*PcP		PcP		12 59 34.7	+0.9
C23K	Itkillik River	60.45	22	P		P		12 58 50.1	+1.1
	baz=302,SNR=17								
ASSE	Asse, Remlinge	60.51	315	*e*P		P		12 58 49.7	+0.1
	comp=Z,20nm,1.2s,baz=64,slow=6.8								
L15K	Ungalak Mounta	60.53	33	P		P		12 58 49.9	+0.3
	baz=297								
WET	Wettzell	60.55	311	*e*P		P		12 58 50.4	+0.4
	comp=Z,18nm,1.1s,baz=64,slow=6.8								
MOX	Moxa	60.63	313	*e*P		P		12 58 50.7	+0.2
	comp=Z,13nm,1.0s,baz=64,slow=6.8								
MOX				*e*PcP		PcP		12 59 35.7	+1.0
MOX				*e*L		L		13 26 23.1	
	comp=Z,430nm,18.4s								
MANZ	Manzenberg	60.63	312	*e*P		P		12 58 50.9	+0.4
	comp=Z,3.4nm,1.1s,baz=64,slow=6.8								
ROTZ	Rotzenmuhle	60.67	312	*e*P		P		12 58 51.3	+0.5
	comp=Z,5.3nm,0.9s,baz=64,slow=6.8								
OBKA	Obir	60.70	308	*e*P		P		12 58 51.4	+0.2
	comp=Z,14nm,1.2s,SNR=6.8								
H19K	Roundabout Mou	60.71	28	P		P		12 58 51.7	+0.9
	baz=299,SNR=16								
J17K	VABM Dome	60.73	30	IAmb		IAmb	12 58 59.2		
	comp=Z,33nm,1.1s								
J17K	VABM Dome	60.73	30	P		P		12 58 51.8	+0.8
	baz=298,SNR=6.5								
BIOA	Bad Ischl, Aus	60.73	309	*e*P		P		12 58 52

D24K	Happy Valley	61.35	22	P		P		12 58 55.9	+0.8
	baz=304								
K17K	Iditarod	61.37	31	IAmb		IAmb		12 59 01.8	
	comp=Z,46nm,0.9s								
K17K	Iditarod	61.37	31	P		P		12 58 55.9	+0.6
	baz=299,SNR=17								
L16K	Owhat River	61.37	32	P		P		12 58 55.8	+0.5
	baz=298								
TOLK	Toolik Lake Re	61.41	23	IAmb		IAmb		12 59 02.1	
	comp=Z,48nm,0.9s								
TOLK	Toolik Lake Re	61.41	23	P		P		12 58 56.6	+1.0
	baz=303,SNR=17								
LESA	Schwarzleotal	61.44	309	*e*P		P		12 58 57.0	+0.9
	comp=Z,42nm,0.9s,SNR=22								
LESA				*i* PP		PP		13 01 09.6	-1.4
	comp=Z,9.6nm,1.5s								
IMAR	Indian Mountai	61.45	27	P		P		12 58 56.2	+0.4
SABO	M.te Sabotino	61.53	308	IAmb		IAmb		12 59 07.5	
	comp=Z,26nm,1.1s								
TRI	Trieste	61.55	307	IAmb		IAmb		12 59 06.0	
	comp=Z,26nm,1.0s								
J18K	Innoko River	61.63	30	P		P		12 58 57.3	+0.2
	baz=300								
L17K	Donlin	61.65	32	P		P		12 58 57.9	+0.7
	baz=299,SNR=7.2								
E23K	Chandalar	61.72	24	IAmb		IAmb		12 59 06.6	
	comp=Z,42nm,0.9s								
E23K	Chandalar	61.72	24	P		P		12 58 58.3	+0.6
	baz=303,SNR=22								
UNV	Unalaska Valle	61.72	42	P		P		12 58 57.8	0.0
	baz=297								
G22K	Bettles	61.72	25	P		P		12 58 58.0	+0.4
	baz=302								
O14K	Tigyukauivet M	61.76	35	P		P		12 58 58.6	+0.6
	baz=298								
J19K	Poorman	61.78	29	IAmb		IAmb		12 59 00.2	
	comp=Z,36nm,1.1s								
J19K	Poorman	61.78	29	P		P		12 58 58.9	+0.8
	baz=300,SNR=11								
I20K	Naaghedeneel	61.80	28	P		P		12 58 59.3	+1.2
	baz=301,SNR=15								
N15K	Kwethluk River	61.84	34	IAmb		IAmb		12 59 15.0	
	comp=Z,30nm,1.1s								
N15K	Kwethluk River	61.84	34	P		P		12 58 59.3	+0.7
	baz=299								
ABTA	Abfaltersbach	61.84	309	*i* P		P		12 58 58.7	-0.2
	comp=Z,17nm,0.9s,SNR=8.0								
ABTA				*i* PcP		PcP		12 59 40.4	+0.5
	comp=Z,11nm,1.1s								
M16K	Timber Creek	61.92	33	IAmb		IAmb		12 59 07.8	
	comp=Z,34nm,1.0s								
M16K	Timber Creek	61.92	33	P		P		12 58 59.6	+0.6
	baz=299								
FUR	Furstenfeldbru	61.94	311	*e*P		P		12 59 00.1	+0.6
	comp=Z,66nm,1.1s,baz=64,slow=6.8								
STAL	STALIGIAL	61.95	308	IAmb		IAmb		12 59 05.0	
	comp=Z,20nm,0.9s								
H21K	Melozitna Rive	61.95	27	P		P		12 59 00.1	+0.9
	baz=302,SNR=52								
D25K	Kavik River	61.98	22	IAmb		IAmb		12 59 05.7	
	comp=Z,39nm,0.9s								
D25K	Kavik River	61.98	22	P		P		12 59 00.4	+1.0
	baz=305,SNR=15								
COLD	Coldfoot	61.99	25	P		P		12 59 00.4	+1.0
	baz=303,SNR=28								
IBBN	Ibbenburen	62.04	316	*e*P		P		12 59 00.2	+0.2
	comp=Z,36nm,0.9s,baz=64,slow=6.8								
C26K	Camden Bay	62.04	21	P		P		12 59 00.6	+0.9
	baz=306								
E24K	Your Creek	62.06	23	IAmb		IAmb		12 59 02.1	
	comp=Z,45nm,1.0s								
E24K	Your Creek	62.06	23	P		P		12 59 01.0	+1.0
	baz=304,SNR=28								
WTTA	Wattenberg	62.14	310	*i* P		P		12 59 01.6	+0.6
	comp=Z,30nm,0.7s,SNR=14								
WTTA				*i* PcP		PcP		12 59 40.8	-0.4
	comp=Z,19nm,1.4s								
WTTA				*i* ScP		ScP		13 03 41.2	-1.7
	comp=Z,6.1nm,1.0s								
WATA	Walderalm	62.14	310	*e*P		P		12 59 01.4	+0.4
	comp=Z,20nm,0.7s,SNR=6.1								
MBWA	Marble Bar	62.15	159	P		P		12 59 01.1	+0.1
	comp=Z,20nm,1.1s								
MBWA	Marble Bar	62.15	159	P		P		12 59 01.5	+0.5
MBWA	Marble Bar	62.15	159	P		P		12 59 01.6	+0.6
MBWA	Marble Bar	62.15	159	P		P		12 59 01.3	+0.3
KASTN	Kahler Asten	62.19	315	*e*P		P		12 59 01.2	+0.2
	comp=Z,10nm,0.9s,baz=64,slow=6.8								
J20K	Nowinta River	62.24	28	IAmb		IAmb		12 59 03.4	
	comp=Z,34nm,0.9s								
J20K	Nowinta River	62.24	28	P		P		12 59 02.2	+1.0
	baz=302,SNR=18								
L18K	Granite Mounta	62.26	31	P		P		12 59 02.0	+0.7
	baz=300,SNR=5.6								
N16K	Nishlik Lake	62.27	33	P		P		12 59 02.3	+0.8
	baz=300								
H22K	Ishtalitna Cre	62.32	26	P		P		12 59 02.4	+0.6
	baz=303,SNR=7.8								
G23K	Bananza Creek	62.33	25	IAmb		IAmb		12 59 03.7	
	comp=Z,38nm,1.4s								
G23K	Bananza Creek	62.33	25	P		P		12 59 02.5	+0.7
	baz=304,SNR=13								
FURI	Furi	62.35	259	LR		LR		13 29 36.1	
	comp=Z,150nm,18.2s,baz=34,slow=39								
M17K	Holitna River	62.37	32	IAmb		IAmb		12 59 11.4	
	comp=Z,49nm,1.1s								
M17K	Holitna River	62.37	32	P		P		12 59 03.5	+1.4
	baz=300,SNR=9.6								
SQTA	Sankt Quirin	62.42	310	*i* P		P		12 59 03.1	+0.3
	comp=Z,48nm,1.3s,SNR=13								
SQTA				*i* PcP		PcP		12 59 42.6	+0.4
	comp=Z,13nm,0.8s								
SQTA				*i* ScP		ScP		13 03 43.3	-0.8
	comp=Z,5.8nm,0.7s								
MOTA	Moosalm	62.42	310	*i* P		P		12 59 03.3	+0.4
	comp=Z,38nm,1.0s,SNR=14								
MOTA				*i* PcP		PcP		12 59 42.4	+0.1
	comp=Z,13nm,1.1s								
MOTA				*e*PP		PP		13 01 16.5	-3.3
	comp=Z,7.7nm,1.0s								
O15K	Ungalikthiuk R	62.45	35	P		P		12 59 02.9	+0.3
	baz=300								
PSAC1	Pilbara Seismi	62.52	159	P		P		12 59 03.4	-0.1
	comp=Z,138nm,0.9s								
C27K	Jago River	62.55	21	P		P		12 59 04.6	+1.4
	baz=308,SNR=26								
RETA	Reutte	62.56	310	*i* P		P		12 59 04.2	+0.5
	comp=Z,10nm,0.6s,SNR=7.0								
F24K	Squaw Lake	62.56	24	P		P		12 59 04.2	+0.9
	baz=305,SNR=7.9								
PSA00	Pilbara Seismi	62.57	159	P		P		12 59 03.4	-0.4
	comp=Z,122nm,1.0s								
PSA00	Pilbara Seismi	62.57	159	P		P		12 59 03.9	+0.1
PSA00	Pilbara Seismi	62.57	159	IAmb		IAmb		12 59 05.3	
	comp=Z,105nm,0.9s								
PSA00	Pilbara Seismi	62.57	159	P		P		12 59 04.0	+0.1
PSAC2	Pilbara Seismi	62.58	159	P		P		12 59 04.1	+0.2
	comp=Z,124nm,1.0s								
PSAB3	Pilbara Seismi	62.59	159	P		P		12 59 03.6	-0.3
	comp=Z,123nm,1.1s								
TNS	Taunus Mts	62.63	314	*e*P		P		12 59 04.3	+0.2
	comp=Z,9.9nm,0.9s,baz=64,slow=6.8								
TNS				*e*PcP		PcP		12 59 43.9	+1.0
TIP	Timpagrande	62.64	300	IAmb		IAmb		12 59 14.5	
	comp=Z,27nm,1.1s								
K20K	Telida	62.70	29	IAmb		IAmb		12 59 11.0	
	comp=Z,29nm,0.9s								
K20K	Telida	62.70	29	P		P		12 59 05.4	+1.0
	baz=302,SNR=14								
BUG	Bochum--Univer	62.71	315	*e*P		P		12 59 04.8	+0.4
	comp=Z,26nm,0.9s,baz=64,slow=6.8								
FETA	Feichten	62.80	310	*i* P		P		12 59 05.5	+0.1
	comp=Z,30nm,1.5s,SNR=14								
FETA				*e*ScP		ScP		13 03 46.1	+0.3
	comp=Z,4.0nm,0.7s								
FALS	False Pass	62.84	40	P		P		12 59 06.0	+0.7
	baz=299								
UBR	Ueberruh	62.86	311	*e*P		P		12 59 05.7	+0.1
	comp=Z,39nm,1.0s,baz=64,slow=6.8								
STU	Stuttgart	62.88	312	*e*P		P		12 59 05.6	-0.1
	comp=Z,39nm,0.7s,baz=64,slow=6.8								
CUC	Castrocucco	62.89	301	IAmb		IAmb		12 59 17.4	
	comp=Z,36nm,0.9s								
N17K	Nushagak Hills	62.92	33	P		P		12 59 06.8	+1.0
	baz=301								
NEEM	North Greenlan	62.92	353	*i* P		P		12 59 06.5	+0.6
NEEM						IAmb		IAmb	12 59 12.5
	comp=Z,99nm,1.2s								
E25K	Arctic Village	62.93	23	IAmb		IAmb		12 59 07.7	
	comp=Z,24nm,0.9s								
E25K	Arctic Village	62.93	23	P		P		12 59 06.7	+0.9
	baz=307,SNR=9.0								
H23K	Yukon River	62.99	26	P		P		12 59 07.5	+1.3
	baz=304,SNR=25								
M18K	Stony River	62.99	32	P		P		12 59 07.2	+1.0
	baz=301,SNR=8.0								
O16K	Kokwok River B	63.01	34	P		P		12 59 07.2	+0.9
	baz=300,SNR=8.1								
TEOL	Teolo	63.01	308	IAmb		IAmb		12 59 12.7	
	comp=Z,39nm,0.9s								
L19K	White Mountain	63.02	31	IAmb		IAmb		12 59 19.5	
	comp=Z,34nm,1.0s								
L19K	White Mountain	63.02	31	P		P		12 59 07.4	+1.0
	baz=302,SNR=15								
MLY	Manley	63.02	27	P		P		12 59 07.4	+1.0
	baz=304,SNR=24								
GUMA	Gualdo di Mace	63.05	305	IAmb		IAmb		12 59 23.6	
	comp=Z,39nm,0.8s								
CHUM	Lake Minchumin	63.08	28	P		P		12 59 07.9	+1.2
	baz=303,SNR=13								
S12K	Black Hills	63.10	39	P		P		12 59 08.1	+1.0
	baz=300								
G24K	Hadweenzic Riv	63.17	24	IAmb		IAmb		12 59 13.9	
	comp=Z,23nm,0.9s								
G24K	Hadweenzic Riv	63.17	24	P		P		12 59 08.4	+1.0
	baz=306,SNR=16								
DAVA	Damuels	63.18	310	*e*P		P		12 59 07.7	-0.2
	comp=Z,14nm,1.2s								
DAVA				*i* PcP		PcP		12 59 45.5	+0.1
	comp=Z,8.4nm,0.7s								
F25K	Christian Rive	63.22	23	IAmb		IAmb		12 59 14.7	
	comp=Z,36nm,0.9s								
F25K	Christian Rive	63.22	23	P		P		12 59 09.2	+1.5
	baz=307,SNR=29								
FDMO	Fiordimonte	63.23	305	IAmb		IAmb		12 59 19.3	
	comp=Z,29nm,0.9s								
L20K	Farewell, AK	63.25	30	P		P		12 59 09.0	+1.1
	baz=302,SNR=10								
NRCA	Norcia	63.31	305	IAmb		IAmb		12 59 19.5	
	comp=Z,22nm,0.8s								
P16K	Nushagak River	63.34	35	P		P		12 59 09.3	+0.7
	baz=301								
O17K	Koliganek Bris	63.35	34	P		P		12 59 09.0	+0.4
	baz=301								
N18K	Kilae Creek	63.39	32	IAmb		IAmb		12 59 15.5	
	comp=Z,18nm,0.8s								
N18K	Kilae Creek	63.39	32	P		P		12 59 09.9	+1.0
	baz=302								
DAVOX	Davos/Dischmat	63.43	310	LR		LR		13 28 06.0	
	comp=Z,528nm,18.5s,baz=82,slow=37								
I23K	Minto, Yukon-K	63.44	26	P		P		12 59 10.2	+1.1
	baz=305,SNR=19								
BPAW	Bear Paw Mtn.	63.45	28	IAmb		IAmb		12 59 19.6	
	comp=Z,56nm,1.2s								
BPAW	Bear Paw Mtn.	63.45	28	P		P		12 59 10.2	+0.9
	baz=304,SNR=17								
MURB	Monte Urbino	63.48	305	IAmb		IAmb		12 59 13.4	
	comp=Z,58nm,1.2s								
H24K	Noodor Dome	63.54	25	IAmb		IAmb		12 59 16.5	
	comp=Z,28nm,1.2s								
H24K	Noodor Dome	63.54	25	P		P		12 59 10.7	+0.8
	baz=306,SNR=13								
D27M	Malcolm River	63.55	20	IAmb		IAmb		12 59 11.9	
	comp=Z,35nm,0.9s								
D27M	Malcolm River	63.55	20	P		P		12 59 10.8	+0.9
	baz=310,SNR=7.2								
G25K	Bearman Lake	63.57	24	P		P		12 59 11.5	+1.5
	baz=307,SNR=18								
BFO	Black Forest	63.60	312	P		P		12 59 10.9	+0.4
BFO	Black Forest	63.60	312	P		P		12 59 10.9	+0.4
BFO				pmax		pmax			
	comp=Z,13nm,0.8s								
BFO	Black Forest	63.60	312	*e*P		P		12 59 10.2	-0.3
	comp=Z,12nm,0.8s,baz=64,slow=6.8								
F26K	Sheenjek River	63.61	23	P		P		12 59 11.4	+1.1
	baz=308,SNR=13								
BMAR	Burnt Mountain	63.65	23	P		P		12 59 11.9	+1.3
PPLA	Purkeypile	63.67	29	P		P		12 59 11.6	+0.7
	baz=304,SNR=9.5								
CEL	Celeste	63.68	299	IAmb		IAmb		12 59 22.3	
	comp=Z,38nm,0.9s								
BTNL	Ternell	63.75	315	*d*P		P		12 59 12.0	+0.5
	comp=Z,11nm,1.4s								
MEM	Membach	63.81	315	*d*P		P		12 59 12.8	+1.0
	comp=Z,14nm,0.0s								
NEA2	Nenana	63.86	27	IAmb		IAmb		12 59 18.2	
	comp=Z,27nm,0.8s								
NEA2	Nenana	63.86	27	P		P		12 59 12.7	+0.8
	baz=305,SNR=8.9								
M20K	Styx River	63.87	30	IAmb		IAmb		12 59 28.4	
	comp=Z,34nm,0.9s								
M20K	Styx River	63.87	30	P		P		12 59 13.3	+1.2
	baz=303,SNR=10								
TUE	Stuetta	63.90	310	IAmb		IAmb		12 59 27.1	
	comp=Z,25nm,0.8s								
N19K	Bonanza Creek	63.90	32	IAmb		IAmb		12 59 18.9	
	comp=Z,25nm,1.0s								
N19K	Bonanza Creek	63.90	32	P		P		12 59 13.3	+0.9
	baz=303,SNR=5.7								
ZCCA	Zocca	63.93	307	IAmb		IAmb		12 59 20.3	
	comp=Z,32nm,0.8s								
BHOU	Houvegnez	63.94	315	*d*P		P		12 59 13.6	+1.0
P17K	Kvichak River	63.94	34	P		P		12 59 12.8	+0.4
	baz=302								
H25L	Birch Creek	63.96	24	P		P		12 59 13.3	+0.7
	baz=307,SNR=7.8								
FYU	Fort Yukon	63.97	24	IAmb		IAmb		12 59 22.0	
	comp=Z,36nm,1.1s								
S14K	Fog Glacier	64.03	38	P		P		12 59 13.8	+0.6
	baz=301								
E27K	Coleen River	64.06	21	P		P		12 59 13.9	+0.7
	baz=310,SNR=26								
SDPT	Sand Point	64.06	39	P		P		12 59 14.2	+0.9
	baz=301								
RABL	Rabaul	64.06	119	P		P		12 59 14.1	+0.1
TRF	Thorofare Moun	64.08	28	IAmb		IAmb		12 59 33.6	
	comp=Z,25nm,1.0s								
TRF	Thorofare Moun	64.08	28	P		P		12 59 13.9	+0.3
	baz=305								
D28M	Stokes Point	64.10	20	P		P		12 59 13.1	-0.3
	baz=312								
Q16K	King Salmon	64.11	34	P		P		12 59 13.9	+0.3
	baz=302								
POKR	Poker Plat Res	64.12	26	IAmb		IAmb		12 59 24.1	
	comp=Z,31nm,1.1s								
POKR	Poker Plat Res	64.12	26	P		P		12 59 14.5	+0.8
	baz=306,SNR=5.2								
COLA	College	64.12	26	P		P		12 59 14.2	+0.7
COLA	College	64.12	26	P		P		12 59 14.0	+0.4
COLA	College	64.12	26	*c* iP		P		12 59 13.9	+0.4
COLA				pmax		pmax			
	comp=Z,59nm,1.1s								
COLA	College	64.12	26	P		P		12 59 14.3	+0.7
	baz=306								
G26K	Porcupine Rive	64.19	23	IAmb		IAmb		12 59 22.8	
	comp=Z,40nm,1.2s								
G26K	Porcupine Rive	64.19	23	P		P		12 59 15.3	+1.3
	baz=308,SNR=17								
WLF	Walferdange	64.19	314	IAmb		IAmb		12 59 17.0	
	comp=Z,47nm,1.1s								
WLF	Walferdange	64.19	314	*d*P		P		12 59 15.9	+1.5
WLF				*d*PcP		PcP		12 59 50.5	+1.3
WLF	Walferdange	64.19	314	*e*P		P		12 59 15.1	+0.7
	comp=Z,53nm,1.2s,baz=64,slow=6.8								
CCB	Clear Creek Bu	64.27	26	IAmb		IAmb		12 59 24.9	
	comp=Z,26nm,1.0s								
WRH	Wood River Hil	64.27	27	IAmb		IAmb		12 59 21.3	
	comp=Z,23nm,1.0s								
R16K	Pilot Point	64.29	36	P		P		12 59 15.5	+0.7
	baz=302								
BCLA	Clavier	64.29	315	*d*P		P		12 59 16.0	+1.0
	comp=Z,12nm,0.8s								
O19K	Port Alsworth	64.31	32	IAmb		IAmb		12 59 24.9	
	comp=Z,33nm,1.0s								
O19K	Port Alsworth	64.31	32	P		P		12 59 15.6	+0.7
	baz=303								
P18K	Big Mountain,	64.36	33	IAmb		IAmb		12 59 23.9	
	comp=Z,43nm,1.1s								
P18K	Big Mountain,	64.36	33	P		P		12 59 15.6	+0.3
	baz=303								
E28M	Babbage River	64.36	21	IAmb		IAmb		12 59 17.1	
	comp=Z,34nm,0.8s								
E28M	Babbage River	64.36	21	P		P		12 59 16.1	+1.0
	baz=311,SNR=18								
MCK	McKinley	64.41	27	IAmb		IAmb		12 59 22.1	
	comp=Z,27nm,0.9s								
MCK	McKinley	64.41	27	P		P		12 59 16.5	+1.0
	baz=306,SNR=14								
BGES	Gesves	64.43	315	*d*P		P		12 59 16.5	+0.6
	comp=Z,9.3nm,1.1s								
SKT	Skwentna	64.44	30	IAmb		IAmb		12 59 24.1	
	comp=Z,21nm,0.8s								
SKT	Skwentna	64.44	30	P		P		12 59 16.0	+0.2
	baz=304,SNR=6.3								
RCHB	Rochefort	64.47	315	*d*P		P		12 59 16.7	+0.5
IL31		64.51	26	IAmb		IAmb		12 59 21.6	
	comp=Z,25nm,0.9s								
ILAR	Eielson Array	64.51	26	P		P		12 59 15.8	-0.4
	comp=Z,14nm,0.9s,baz=291,slow=5.4,SNR=122								
ILAR				LR		LR		13 30 36.4	
	comp=Z,396nm,19.6s,baz=306,slow=39								
	comp=Z,14nm,0.9s								
PRP	Porcupine Dome	64.52	25	IAmb		IAmb		12 59 18.6	
	comp=Z,26nm,1.2s								
PRP	Porcupine Dome	64.52	25	P		P		12 59 17.1	+0.7
	baz=308,SNR=14								
CHGN	Chignik	64.56	37	P		P		12 59 17.1	+0.5
	baz=302								
STLK	Strandline Lak	64.59	30	IAmb		IAmb		12 59 25.2	
	comp=Z,24nm,0.9s								
SPCR	Spurr Chakacha	64.61	31	P		P		12 59 17.4	+0.4
	baz=304								
UCC	Uccle	64.62	316	IAmb		IAmb		12 59 26.9	
	comp=Z,19nm,0.7s								
RND	Reindeer	64.63	28	IAmb		IAmb		12 59 18.2	
	comp=Z,28nm,1.0s								
BMRD	Maredsous	64.65	315	*d*P		P		12 59 16.4	-0.9
	comp=Z,12nm,1.2s								
PMG	Port Moresby	64.67	127	LR		LR		13 27 41.0	
	comp=Z,39nm,20.6s,baz=281,slow=36								
PMG	Port Moresby	64.67	127	*de*P		P		12 59 18.3	+0.4
PMG				pmax		pmax			
	comp=Z,41nm,1.2s								
Q17K	Contact Creek	64.68	35	P		P		12 59 17.2	-0.4
	baz=303								
CUT	Chulitna	64.68	29	P		P		12 59 17.7	+0.3
	baz=305,SNR=18								
SPU	Mount Spurr	64.69	31	IAmb		IAmb		12 59 24.6	
	comp=Z,24nm,0.9s								
HDA	Harding Lake	64.71	26	IAmb		IAmb		12 59 26.9	
	comp=Z,37nm,1.4s								
HDA	Harding Lake	64.71	26	P		P		12 59 17.2	-0.3
	baz=307,SNR=8.6								
CHNA	Chernabura Isl	64.77	39	P		P		12 59 18.1	+0.1
	baz=302								
R17L	Mt. Peulik Vol	64.81	35	P		P		12 59 18.6	+0.3
	baz=303								
DOU	Dourbes	64.85	315	*d*P		P		12 59 19.2	+0.6
	comp=Z,12nm,1.1s								
Q18K	Katmai Hardscr	64.86	34	P		P		12 59 18.6	-0.1
	baz=303								
ILSW	Iliamna Southw	64.92	32	IAmb		IAmb		12 59 33.9	
	comp=Z,38nm,1.0s								
F28M	Old Crow	64.92	22	IAmb		IAmb		12 59 20.9	
	comp=Z,43nm,1.0s								
F28M	Old Crow	64.92	22	P		P		12 59 19.9	+1.1
	baz=311,SNR=22								
G27K	Doyon Strip	64.93	23	IAmb		IAmb		12 59 25.6	
	comp=Z,20nm,0.9s								
G27K	Doyon Strip	64.93	23	P		P		12 59 20.0	+1.1
	baz=310,SNR=23								
E29M	Blow River	64.96	20	P		P		12 59 20.1	+1.1
	baz=313,SNR=39								
SUA	Susitna One	65.04	30	P		P		12 59 20.3	+0.4
	baz=305,SNR=18								
P19K	Oil Pt	65.06	32	P		P		12 59 19.9	-0.1
	baz=304								
O20K	Slope Mountain	65.08	32	P		P		12 59 20.0	0.0
	baz=304								
WAT1	Susitna Watana	65.08	28	P		P		12 59 19.7	-0.3
	baz=306								
VAE	Valguarnera	65.09	299	LR		LR		13 31 03.5	
	comp=Z,284nm,20.0s,baz=80,slow=39								
M22K	Willow	65.12	30	P		P		12 59 20.1	-0.1
	baz=306								
J25K	Salcha River,	65.13	26	P		P		12 59 19.4	-0.9
	baz=308,SNR=9.3								
A36M	Sachs Harbour	65.23	14	P		P		12 59 21.4	+0.7
	baz=322								
CAPN	Captain Cook N	65.28	31	P		P		12 59 21.6	+0.4
	baz=305								
Q19K	Cape Douglas,	65.29	33	P		P		12 59 21.7	+0.3
	baz=304								
H27K	Steamboat Moun	65.34	23	P		P		12 59 22.9	+1.3
	baz=311,SNR=44								
DHY	Denali Highway	65.36	28	IAmb		IAmb		12 59 30.6	
	comp=Z,38nm,0.9s								
DHY	Denali Highway	65.36	28	P		P		12 59 22.0	0.0
	baz=307,SNR=19								
I26K	Coal Creek Min	65.42	24	P		P		12 59 22.5	+0.4
	baz=310								
K24K	Donnelly Dome	65.49	26	P		P		12 59 22.4	-0.2
	baz=308,SNR=12								
SUMG	Summit	65.52	347	*i* P		P		12 59 22.0	-1.1
SUMG				IAmb		IAmb		12 59 26.6	
	comp=Z,49nm,1.5s								
WAT6	Susitna Watana	65.53	28	P		P		12 59 22.9	-0.1
	baz=307,SNR=12								
GHO	Glory Hole Cre	65.57	29	IAmb		IAmb		12 59 36.8	
	comp=Z,22nm,0.8s								
PMR	Palmer	65.60	29	IAmb		IAmb		12 59 28.9	
	comp=Z,37nm,0.9s								
PMR	Palmer	65.60	29	P		P		12 59 23.4	+0.1
PMR	Palmer	65.60	29	P		P		12 59 23.4	+0.1
	baz=306,SNR=11								
RC01	Rabbit Creek A	65.66	30	IAmb		IAmb		12 59 29.9	
	comp=Z,44nm,1.0s								
RC01	Rabbit Creek A	65.66	30	P

baz=304
KULLO **Kullorsuaq** 66.15 354 *i* P **P** 12 59 27.4 +0.8
KULLO IAmb IAmb 12 59 28.5
comp=Z,600nm,1.2s
INK **Inuvik** 66.17 19 IAmb IAmb 12 59 32.9
comp=Z,36nm,0.8s
INK **Inuvik** 66.17 19 LR LR 13 32 36.3
comp=Z,263nm,19.2s,baz=266,slow=40
INK **Inuvik** 66.17 19 P **P** 12 59 27.4 +0.6
baz=316,SNR=27
H29M **Whitestone** 66.30 22 IAmb IAmb 12 59 48.0
comp=Z,23nm,0.9s
H29M **Whitestone** 66.30 22 P **P** 12 59 28.4 +0.6
baz=313,SNR=10
PWL **Port Wells** 66.34 30 IAmb IAmb 12 59 34.0
comp=Z,47nm,1.0s
PWL **Port Wells** 66.34 30 P **P** 12 59 28.4 +0.2
baz=307,SNR=6.9
I28M **Miner Creek** 66.35 23 IAmb IAmb 12 59 34.4
comp=Z,33nm,0.8s
I28M **Miner Creek** 66.35 23 P **P** 12 59 28.9 +0.7
baz=312,SNR=35
SEW **Seward** 66.36 31 IAmb IAmb 12 59 33.8
comp=Z,40nm,0.8s
SEW **Seward** 66.36 31 P **P** 12 59 28.4 +0.3
baz=307
WRAB **Tennant Creek** 66.39 145 P **P** 12 59 28.6 -0.3
WRAB **Tennant Creek** 66.39 145*c* *i* P **P** 12 59 28.5 -0.3
WRAB pmax pmax
comp=Z,63nm,1.0s
SII **Sitkinak Islan** 66.39 36 P **P** 12 59 29.3 +0.7
baz=305
WRA **Warramunga Arr** 66.39 145 P **P** 12 59 28.2 -0.7
WRA **Warramunga Arr** 66.39 145 P **P** 12 59 28.6 -0.3
comp=Z,38nm,0.9s,baz=341,slow=6.6,SNR=157
comp=Z,38nm,0.9s
WRA **Warramunga Arr** 66.39 145 *i* P **P** 12 59 28.6 -0.3
WRA pmax pmax
comp=Z,41nm,0.9s
G30M **tAoh Zraii Nji** 66.39 21 P **P** 12 59 28.8 +0.3
baz=314,SNR=12
M24K **Tolsona, Glenn** 66.40 28 P **P** 12 59 29.2 +0.6
baz=308,SNR=17
KDAK **Kodiak Island** 66.41 34 P **P** 12 59 28.5 -0.1
KDAK **Kodiak Island** 66.41 34 LR LR 13 31 05.7
comp=Z,456nm,19.7s,baz=321,slow=38
KDAK **Kodiak Island** 66.41 34*ce* P **P** 12 59 27.9 -0.6
KDAK pmax pmax
comp=Z,42nm,0.9s
KDAK **Kodiak Island** 66.41 34 P **P** 12 59 28.1 -0.5
baz=305
WB1 **Warramunga Ar.** 66.41 145 P **P** 12 59 28.9 -0.1
EGAK **Eagle** 66.41 24 P **P** 12 59 28.7 +0.2
baz=311,SNR=9.2
OHAK **Old Harbor** 66.42 35 IAmb IAmb 12 59 30.2
comp=Z,43nm,1.1s
OHAK **Old Harbor** 66.42 35 P **P** 12 59 28.7 +0.1
OHAK **Old Harbor** 66.42 35 P **P** 12 59 28.3 -0.3
baz=305
WR8 **Warramunga Arr** 66.48 145 IAmb IAmb 12 59 30.2
comp=Z,47nm,1.1s
HARP **HAARP** 66.59 27 P **P** 12 59 30.3 +0.6
baz=309,SNR=8.0
K27K **Chicken** 66.61 25 P **P** 12 59 30.5 +0.7
baz=311
EPYK **Eagle Plains** 66.68 22 IAmb IAmb 12 59 35.8
comp=Z,36nm,0.9s
EPYK **Eagle Plains** 66.68 22 P **P** 12 59 30.4 +0.1
baz=314,SNR=19
F31M **Tsiigehtchic** 66.74 20 IAmb IAmb 12 59 36.3
comp=Z,27nm,0.9s
F31M **Tsiigehtchic** 66.74 20 P **P** 12 59 30.8 +0.3
baz=316,SNR=12
MENT **Mentasta** 66.75 27 P **P** 12 59 31.3 +0.5
GLI **Glacier Island** 66.81 29 IAmb IAmb 12 59 36.8
comp=Z,31nm,0.9s
GLI **Glacier Island** 66.81 29 P **P** 12 59 31.2 +0.1
baz=308
L26K **Log Cabin Wild** 66.83 26 P **P** 12 59 31.5 +0.3
baz=310
KLU **Klutina** 66.88 29 P **P** 12 59 32.6 +1.0
baz=309,SNR=32
I29M **Ogilvie Camp,** 66.91 23 P **P** 12 59 31.6 -0.1
baz=313,SNR=8.6
G31M **Satah River** 66.98 20 P **P** 12 59 32.1 +0.1
baz=316,SNR=31
MEEK **Meekatharra** 67.09 162 P **P** 12 59 32.5 -0.7
comp=Z,86nm,2.4s
MEEK **Meekatharra** 67.09 162 P **P** 12 59 33.3 +0.1
N25K **Chitina, Valde** 67.30 28 P **P** 12 59 35.2 +0.9
baz=310,SNR=13
L27K **Beaver Creek,** 67.33 26 P **P** 12 59 35.3 +0.9
baz=311,SNR=13
BCAR **Beaver Creek A** 67.34 26 P **P** 12 59 34.5 0.0
M26K **Nabesna, AK** 67.36 27 IAmb IAmb 12 59 42.5
comp=Z,36nm,0.8s
M26K **Nabesna, AK** 67.36 27 P **P** 12 59 35.4 +0.8
baz=311,SNR=26
DAWY **Dawson** 67.46 24 P **P** 12 59 35.5 +0.2
baz=313,SNR=13
EYAK **Cordova Ski Ar** 67.54 29 P **P** 12 59 36.8 +1.1
EYAK **Cordova Ski Ar** 67.54 29 P **P** 12 59 36.6 +0.9
baz=309,SNR=8.1
J29N **Klondike Camp** 67.57 24 P **P** 12 59 36.8 +0.8
baz=314,SNR=9.0
I30M **Mount Dempster** 67.59 22 P **P** 12 59 36.2 0.0
baz=315,SNR=71
GLB **Gilahina Butte** 67.69 28 IAmb IAmb 12 59 47.0
comp=Z,45nm,1.2s
BMRM **Bremner River** 67.70 29 P **P** 12 59 37.7 +0.8
baz=310,SNR=19
H31M **Peel River** 67.77 21 P **P** 12 59 37.2 +0.1
baz=316,SNR=37
M27K **Edge Creek, AK** 67.78 26 IAmb IAmb 12 59 39.8
comp=Z,51nm,1.2s
M27K **Edge Creek, AK** 67.78 26 P **P** 12 59 38.5 +1.1
baz=312,SNR=13
VRDI **Verde Repeater** 67.96 28 IAmb IAmb 12 59 45.5
comp=Z,32nm,0.9s
Q23K **Middleton Isla** 68.01 30 P **P** 12 59 39.0 +0.4
baz=309
MCARA **McCarthy VSAT** 68.02 28 P **P** 12 59 39.6 +0.8
baz=311,SNR=14
J30M **Hart River** 68.06 23 P **P** 12 59 39.5 +0.3
baz=315,SNR=15
BVCY **Beaver Creek** 68.09 26 P **P** 12 59 40.2 +1.0
baz=312,SNR=9.4
K29M **Barlow Dome** 68.21 24 IAmb IAmb 12 59 46.4
comp=Z,35nm,1.0s
K29M **Barlow Dome** 68.21 24 P **P** 12 59 40.7 +0.6
baz=314,SNR=26
IDGL **Inch Island, C** 68.27 324 P **P** 12 59 40.9 +0.5
ILTH **Belurgan, Co L** 68.34 323 P **P** 12 59 40.4 -0.4
LODK **Lodwar** 68.36 257 P **P** 12 59 42.5 +0.9
SNR=14
CRQM **Cirque** 68.39 28 IAmb IAmb 12 59 58.8
comp=Z,39nm,1.0s
CRQE **Cirque** 68.41 28 P **P** 12 59 41.9 +0.5
baz=311
KAIM **Kayak Island** 68.45 29 P **P** 12 59 42.2 +0.8
baz=310
WRKA **Warakurna** 68.50 153 P **P** 12 59 41.7 -0.5
comp=Z,29nm,1.2s
L29M **L29M** 68.53 25 IAmb IAmb 12 59 44.1
comp=Z,37nm,1.1s
L29M **L29M** 68.53 25 P **P** 12 59 42.9 +0.9
baz=314,SNR=18
YUK3 **Moose Creek** 68.67 26 P **P** 12 59 44.0 +1.0
baz=313,SNR=8.0
DSB **Dublin** 68.82 322 P **P** 12 59 44.1 +0.2
DSB **Dublin** 68.82 322 IAmb IAmb 12 59 45.2
comp=Z,25nm,0.9s
MORW **Morawa** 68.87 165 P **P** 12 59 44.2 -0.2
comp=Z,41nm,1.4s
MORW **Morawa** 68.87 165 P **P** 12 59 44.9 +0.6
MORW IAmb IAmb 12 59 50.6
comp=Z,47nm,1.1s
MORW **Morawa** 68.87 165 P **P** 12 59 44.9 +0.6
M29M **Somme Creek** 68.89 25 IAmb IAmb 12 59 51.1
comp=Z,24nm,0.9s
M29M **Somme Creek** 68.89 25 P **P** 12 59 45.5 +1.2
baz=314,SNR=13
MAYO **Mayo, Yukon** 68.90 23 P **P** 12 59 44.8 +0.6
baz=316
CTG **Chitna Glacier** 68.90 27 P **P** 12 59 45.4 +0.9
baz=312,SNR=14
GRNC **Granite Creek** 68.91 28 IAmb IAmb 12 59 51.1
comp=Z,37nm,0.8s
POIN **Pond Inlet** 69.03 359 IAmb IAmb 12 59 46.7
comp=Z,37nm,0.9s
LOGN **Logan Glacier** 69.12 27 IAmb IAmb 12 59 55.5
comp=Z,40nm,0.9s
MESA **MESA** 69.21 28 P **P** 12 59 47.5 +1.0
baz=312
YUK8 **Steele Glacier** 69.25 27 P **P** 12 59 47.2 +0.5
baz=314
M30M **Minto, Yukon** 69.34 25 P **P** 12 59 47.4 +0.3
baz=315
QIS **Mount Isa** 69.42 141 P **P** 12 59 47.0 -1.0
comp=Z,50nm,1.0s
QIS **Mount Isa** 69.42 141 P **P** 12 59 47.3 -0.7
O28M **Mount Upton** 69.45 27 IAmb IAmb 13 00 00.1
comp=Z,35nm,1.1s
O28M **Mount Upton** 69.45 27 P **P** 12 59 48.2 +0.1
baz=313
KEST **Kesra** 69.47 300 P **P** 12 59 48.9 +0.5
comp=Z,5.7nm,0.8s,baz=331,slow=1.0,SNR=7.9
KEST LR LR 13 35 07.0
comp=Z,154nm,18.7s,baz=4.7,slow=40
comp=Z,5.7nm,0.8s
KEST **Kesra** 69.47 300 P **P** 12 59 46.5 -1.8
ASAR **Alice Springs** 69.47 147 P **P** 12 59 48.1 -0.1
ASAR **Alice Springs** 69.47 147 P **P** 12 59 48.2 0.0
comp=Z,13nm,0.8s,baz=335,slow=6.3,SNR=109
comp=Z,13nm,0.8s
IWEX **Carrickbyrne,** 69.54 321 P **P** 12 59 49.0 +0.7
YUK4 **Talbot Arm** 69.59 26 P **P** 12 59 49.1 +0.3
baz=314
SAQQ **Saqqaq** 69.86 350 *i* P **P** 12 59 49.3 -0.7
SAQQ IAmb IAmb 12 59 50.8
comp=Z,52nm,1.2s
PINM **Pinnacle** 69.89 28 P **P** 12 59 51.7 +1.2
baz=313
MTSU **Mount Surprise** 69.89 135 P **P** 12 59 50.3 -0.6
comp=Z,40nm,0.9s
MTSU **Mount Surprise** 69.89 135 P **P** 12 59 51.3 +0.4
KMBO **Kilima Mbogo** 69.90 252 P **P** 12 59 51.3 -0.1
comp=Z,14nm,0.9s,baz=51,slow=8.1,SNR=24
KMBO LR LR 13 30 45.6
comp=Z,222nm,21.1s,baz=98,slow=36
comp=Z,14nm,0.9s
KMBO **Kilima Mbogo** 69.90 252*c* *i* P **P** 12 59 51.7 +0.3
KMBO pmax pmax
comp=Z,21nm,0.9s
YUK6 **Ouzel Mounta** 69.97 26 P **P** 12 59 51.8 +0.7
baz=315
N30M **Aishikik Lake** 70.04 25 IAmb IAmb 12 59 53.7
comp=Z,61nm,1.4s
N30M **Aishikik Lake** 70.04 25 P **P** 12 59 52.6 +1.2
baz=315,SNR=11
KIBK **Kibwezi** 70.12 250 IAmb IAmb 12 59 59.1
comp=Z,43nm,1.1s
KIBK **Kibwezi** 70.12 250 P **P** 12 59 53.4 +0.8
SNR=13
IGLA **Glengowla, Co** 70.15 323 P **P** 12 59 52.1 +0.1
O29M **Mount Kennedy** 70.35 27 IAmb IAmb 13 00 03.7
comp=Z,41nm,1.2s
O29M **Mount Kennedy** 70.35 27 P **P** 12 59 54.2 +0.8
baz=315
HYT **Haines Junctio** 70.36 26 IAmb IAmb 12 59 60.0
comp=Z,46nm,0.9s
HYT **Haines Junctio** 70.36 26 P **P** 12 59 54.3 +0.9
baz=315,SNR=19
M31M **Drury Creek, Y** 70.39 24 IAmb IAmb 12 59 55.0
comp=Z,37nm,1.4s
M31M **Drury Creek, Y** 70.39 24 P **P** 12 59 54.0 +0.6
baz=317,SNR=8.6
N31M **Braeburn, Yuko** 70.46 25 IAmb IAmb 13 00 06.0
comp=Z,45nm,0.8s
N31M **Braeburn, Yuko** 70.46 25 P **P** 12 59 54.8 +0.9
baz=316,SNR=14
ILULI **Ilulissat** 70.48 350 *i* P **P** 12 59 53.5 -0.3
ILULI IAmb IAmb 12 59 54.1
comp=Z,33nm,0.9s
PNL **Peninsula** 70.50 28 P **P** 12 59 55.5 +1.3
PNL **Peninsula** 70.50 28 P **P** 12 59 55.3 +1.1
baz=314
BLDU **Ballidu** 70.51 165 P **P** 12 59 53.6 -0.8
comp=Z,46nm,1.0s
BLDU **Ballidu** 70.51 165 P **P** 12 59 53.9 -0.5
CRHA **Rehia** 70.60 301 P **P** 12 59 56.4 +1.1
CEST **Esterri de Car** 70.85 309 IAmb IAmb 12 59 58.3
comp=Z,30nm,1.1s
O30N **Mendenhall** 70.88 26 IAmb IAmb 13 00 03.0
comp=Z,42nm,0.9s
O30N **Mendenhall** 70.88 26 P **P** 12 59 57.5 +1.0
baz=316,SNR=18
MMPY **Sheldon Lake,** 71.04 23 IAmb IAmb 13 00 03.9
comp=Z,35nm,0.8s
MMPY **Sheldon Lake,** 71.04 23 P **P** 12 59 58.4 +0.9
baz=320,SNR=31
P30M **Million Dollar** 71.05 26 P **P** 12 59 58.2 +0.6
baz=316
P29M **Windy Craggy** 71.12 27 P **P** 12 59 58.5 +0.6
baz=315
CTEI **Djebel Teioual** 71.27 301 P **P** 13 00 01.1 +1.7
WHY **Whitehorse** 71.37 25 P **P** 12 59 59.6 +0.1
baz=317
CTGD **Timgad** 71.48 301 P **P** 13 00 03.1 +2.4
VAL **Valentia** 71.49 322 P **P** 13 00 00.8 +0.6
N32M **Quiet Lake** 71.59 24 P **P** 13 00 00.8 0.0
baz=318
MUN **Mundaring** 71.73 166 P **P** 13 00 01.2 -0.6
comp=Z,55nm,1.0s
MUN **Mundaring** 71.73 166 P **P** 13 00 02.0 +0.2
PLBC **Pleasant Camp** 71.74 27 P **P** 13 00 02.3 +0.7
baz=316,SNR=10
SKAG **Skagway** 72.10 26 P **P** 13 00 05.0 +1.2
SKAG **Skagway** 72.10 26 P **P** 13 00 05.1 +1.4
baz=317,SNR=23
DY2G **Dye2** 72.18 347 *i* P **P** 13 00 04.6 +0.2
DY2G IAmb IAmb 13 00 10.4
comp=Z,127nm,1.4s
TV1H **Townsville Har** 72.18 134 P **P** 13 00 05.4 +0.7
CKTS **El Kantara** 72.22 301 P **P** 13 00 06.2 +1.1
CTCHA **Tamokra** 72.23 303 P **P** 13 00 12.6 +7.6
TATA **Tatamba Isabel** 72.35 116 P **P** 13 00 06.7 +0.8
P33M **Teslin, Yukon** 72.39 25 P **P** 13 00 06.0 +0.4
baz=319,SNR=10
SFJD **Kangerlussuaq** 72.45 348 P **P** 13 00 05.6 -0.1
SFJD IAmb IAmb 13 00 06.5
comp=Z,52nm,0.9s
SFJD **Kangerlussuaq** 72.45 348 LR LR 13 33 44.3
comp=Z,496nm,18.2s,baz=27,slow=37
SFJD **Kangerlussuaq** 72.45 348 P **P** 13 00 05.6 -0.1
SFJD pmax pmax
comp=Z,52nm,0.9s
SFJD **Kangerlussuaq** 72.45 348 *i* P **P** 13 00 05.2 -0.5
SFJD IAmb IAmb 13 00 06.3
comp=Z,50nm,0.9s
CTA **Charters Tower** 72.54 135 P **P** 13 00 07.2 +0.3
CTAO **Charters Tower** 72.54 135 P **P** 13 00 07.2 +0.3
CTAO IAmb IAmb 13 00 08.3
comp=Z,47nm,1.2s
CTAO **Charters Tower** 72.54 135 P **P** 13 00 07.4 +0.5
CTAO **Charters Tower** 72.54 135 P **P** 13 00 07.2 +0.3
CTAO pmax pmax
comp=Z,47nm,1.2s
P32M **Atlin** 72.55 26 IAmb IAmb 13 00 08.6
comp=Z,46nm,1.2s
P32M **Atlin** 72.55 26 P **P** 13 00 07.3 +0.7
baz=318,SNR=8.7
R31K **City Hall, Gus** 72.72 27 P **P** 13 00 08.1 +0.6
baz=317
WRGLY **Wrigley** 72.73 19 IAmb IAmb 13 00 13.6
comp=Z,52nm,0.9s
WRGLY **Wrigley** 72.73 19 P **P** 13 00 08.1 +0.6
baz=326,SNR=14
TGTN **Hyland Airport** 72.78 22 P **P** 13 00 09.0 +1.1
baz=322,SNR=21
NWAO **Narrogin (SRO)** 72.85 165 P **P** 13 00 06.5 -2.0
comp=Z,41nm,0.9s
NWAO **Narrogin (SRO)** 72.85 165 P **P** 13 00 08.4 -0.1
NWAO IAmb IAmb 13 00 09.5
comp=Z,50nm,1.1s
NWAO **Narrogin (SRO)** 72.85 165 LR LR 13 33 30.4
comp=Z,277nm,20.4s,baz=301,slow=37
NWAO **Narrogin (SRO)** 72.85 165 P **P** 13 00 08.8 +0.3
NWAO P **P** 13 00 08.8 +0.3
NWAO **Narrogin (SRO)** 72.85 165 P **P** 13 00 08.0 -0.4
NWAO **Narrogin (SRO)** 72.85 165 P **P** 13 00 08.4 -0.1
NWAO pmax pmax
comp=Z,50nm,1.1s
S31K **Pelican** 72.88 28 P **P** 13 00 09.4 +1.0
baz=317
BESE **Bessie Mountai** 72.91 27 IAmb IAmb 13 00 15.5
comp=Z,45nm,1.0s
AKET **Djebel Ketaf** 72.96 303 P **PcP** 13 00 27.7 +1.2
ABSD **Ouled Sidi Bra** 73.10 302 P **P** 13 00 10.7 +0.4
ADJB **Djebel Djouab** 73.19 303 P **P** 13 00 12.3 +1.5
ALEG **Aligegeo Malai** 73.23 116 P **P** 13 00 11.2 +0.1
R32K **Eaglecrest** 73.26 27 P **P** 13 00 11.8 +1.0
baz=318
JIS **Juneau Island** 73.31 27 P **P** 13 00 11.9 +1.0
AFRS **Ain Fares** 73.34 301 P **P** 13 00 12.1 +0.4
Q32M **Nakina River** 73.52 25 P **P** 13 00 13.2 +0.7
baz=320
R33M **Jennings River** 73.61 25 IAmb IAmb 13 00 19.6
comp=Z,29nm,0.8s
R33M **Jennings River** 73.61 25 P **P** 13 00 13.8 +0.8
baz=320,SNR=20
ABRIN **Birine** 73.70 303 P **P** 13 00 14.9 +1.1
SIT **Sitka** 73.87 28 P **P** 13 00 15.3 +1.0
baz=318
ADCK **Dar Chioukh** 73.91 302 P **P** 13 00 16.4 +1.3
EDDR **Deurdeur** 74.08 303 P **P** 13 00 17.0 +1.0
MBAR **Mbarara** 74.47 256 P **P** 13 00 19.5 +0.8
MBAR IAmb IAmb 13 00 25.1
comp=Z,34nm,0.9s
MBAR **Mbarara** 74.47 256*c* *i* P **P** 13 00 19.2 +0.5
MBAR pmax pmax
comp=Z,26nm,1.0s
DLBC **Dease Lake** 74.67 25 LR LR 13 36 45.7
comp=Z,4µm,18.1s,baz=306,slow=39
DLBC **Dease Lake** 74.67 25 P **P** 13 00 20.3 +1.2
baz=321,SNR=14
EZEK **Zmalet El Emir** 74.69 302 P P 13 00 25.0 +5.4
S34M **Telegraph Cree** 74.71 26 IAmb IAmb 13 00 26.2
comp=Z,35nm,0.9s
S34M **Telegraph Cree** 74.71 26 P **P** 13 00 20.7 +1.5
baz=321,SNR=21
T33K **Petersburg** 74.92 27 P **P** 13 00 21.9 +1.5
baz=320
LIRD **Liard River Hi** 75.13 23 P **P** 13 00 22.4 +0.8
baz=324,SNR=8.4
KOTAN **Kotaneelee Air** 75.14 21 P **P** 13 00 22.6 +1.0
baz=326
EADEB **Ain Deheb** 75.19 303 P **P** 13 00 24.2 +1.6
CART **Cartagena** 75.20 306 IAmb IAmb 13 00 23.9
comp=Z,38nm,1.2s
U33K **Whale Pass** 75.39 28 P **P** 13 00 24.4 +1.3
baz=320
YKAW3 **Yellowknife Wh** 75.40 16 IAmb IAmb 13 00 29.2
comp=Z,69nm,0.9s
WRAK **Wrangell Islan** 75.44 27 IAmb IAmb 13 00 32.2
comp=Z,48nm,1.1s
WRAK **Wrangell Islan** 75.44 27 P **P** 13 00 24.8 +1.4
baz=320
YKA **Yellowknife Ar** 75.46 16 P **P** 13 00 23.5 +0.1
YKA **Yellowknife Ar** 75.46 16 P **P** 13 00 23.8 +0.3
comp=Z,27nm,0.9s,baz=334,slow=6.3,SNR=42
comp=Z,27nm,0.9s
YKAW1 **Yellowknife Wh** 75.50 16 IAmb IAmb 13 00 29.7
comp=Z,78nm,0.9s
OPO **Ambohidtompo** 75.50 232 LR LR 13 31 38.3
comp=Z,122nm,19.3s,baz=186,slow=34
EASA **Ain Sidi Ali** 75.62 302 P **P** 13 00 28.5 +3.4
T35M **Bob Quinn** 75.73 26 P **P** 13 00 26.9 +1.7
baz=321
ESDC **Sonseca Array** 75.76 309 P **P** 13 00 26.1 +0.5
ESDC **Sonseca Array** 75.76 309 P **P** 13 00 26.2 +0.5
comp=Z,14nm,0.9s,baz=48,slow=5.7,SNR=81
ESDC PP **PP** 13 03 13.4 -1.6
comp=Z,1.6nm,1.0s,baz=47,slow=7.8,SNR=4.5
ESDC LR LR 13 36 59.1
comp=Z,200nm,20.2s,baz=32,slow=38
comp=Z,14nm,0.9s
OFRG **Douar Fergoug** 75.79 304 P P 13 00 36.6 +11
ABPO **Ambohimpanom** 75.82 231 P **P** 13 00 26.3 +0.1
ABPO **Ambohimpanom** 75.82 231 P **P** 13 00 26.3 +0.1
ABPO pmax pmax
comp=Z,21nm,1.1s
TOAD **Toad River Com** 75.84 22 P **P** 13 00 26.5 +0.7
baz=325,SNR=24
CRAG **Craig** 75.88 28 IAmb IAmb 13 00 32.7
comp=Z,36nm,0.8s
CRAG **Craig** 75.88 28 P **P** 13 00 26.9 +1.0
CRAG **Craig** 75.88 28 P **P** 13 00 27.0 +1.1
baz=320
INKA **Innaminka** 76.05 144 IAmb IAmb 13 00 33.8
comp=Z,39nm,0.7s
PBRG **Braganca** 76.06 313 *e* P **P** 13 00 28.0 +0.6
PBRG *i* IAmb IAmb 13 00 30.2
comp=Z,35nm,1.6s
V35K **Ketchikan** 76.54 28 P **P** 13 00 30.9 +1.2
baz=321
MVO **Moncorvo** 76.64 312 *e* P **P** 13 00 31.2 +0.5
MVO *i* IAmb IAmb 13 00 42.9
comp=Z,29nm,1.9s
MVO *i* IAMs_20 IAMs_20 13 36 52.6
comp=Z,187nm,20.0s
QLP **Quilpie** 76.76 140 P **P** 13 00 31.8 +0.5
comp=Z,183nm,1.1s
QLP **Quilpie** 76.76 140 P **P** 13 00 31.9 +0.7
OSBL **Sidi Abdelli** 76.82 304 P **P** 13 00 34.8 +3.1
PGAV **Gavieira, Arco** 76.84 313 *e* P **P** 13 00 32.9 +1.1
PGAV *i* IAmb IAmb 13 00 34.3
comp=Z,46nm,1.4s
PGAV *e* LR LR 13 31 36.9
PGAV *i* IAMs_20 IAMs_20 13 38 00.2
comp=Z,233nm,20.0s
PCAB **Cabril** 76.86 313 *e* P **P** 13 00 32.9 +1.0
PCAB *i* IAmb IAmb 13 00 34.9
comp=Z,79nm,1.6s
POLO **Lamas de Olo** 76.95 313 *e* P **P** 13 00 33.0 +0.6
POLO *i* IAmb IAmb 13 00 34.7
comp=Z,18nm,1.4s
OBBL **Beni Bahdel** 77.28 304 P **P** 13 00 35.6 +1.2
IVI **Ivigtut** 77.31 345 IAmb IAmb 13 00 42.8
comp=Z,58nm,1.0s
MTE **Manteigas** 77.43 312 *e* P **P** 13 00 36.3 +1.2
MTE *i* IAmb IAmb 13 00 42.1
comp=Z,49nm,1.7s
MTE *e* LR LR 13 31 47.4
MTE *i* IAMs_20 IAMs_20 13 37 28.6
comp=Z,149nm,18.0s
PVIS **Viseu** 77.43 312 *e* P **P** 13 00 36.0 +0.9
PVIS *e* PP **PP** 13 03 28.6 -0.5
PCBR **Castelo Branco** 77.75 311 *e* P **P** 13 00 37.5 +0.7
PCBR *i* IAmb IAmb 13 00 39.9
comp=Z,26nm,1.4s
PMRV **Marv??o** 77.97 311 *e* P **P** 13 00 38.9 +0.8
PMRV *i* IAmb IAmb 13 00 41.0
comp=Z,52nm,1.8s
PMRV *i* IAMs_20 IAMs_20 13 38 27.6
comp=Z,302nm,22.0s
PCAS **Casmilo, Conde** 78.21 312 *e* P **P** 13 00 40.3 +0.9
PCAS *i* IAmb IAmb 13 00 42.5
comp=Z,60nm,1.6s
VOI **Vohitsoka** 78.28 230 P **P** 13 00 40.0 +0.1
VOI IAmb IAmb 13 00 46.0
comp=Z,64nm,1.2s
VOI **Vohitsoka** 78.28 230 P **P** 13 00 40.5 +0.5
PSARD **Sardoal** 78.31 312 *e* P **P** 13 00 40.8 +0.8
PSARD *i* IAmb IAmb 13 00 51.6
comp=Z,45nm,1.5s
BBOO **Buckleboo** 78.42 150 P **P** 13 00 40.3 -0.1
PESTR **Estremoz** 78.44 311 IAmb IAmb 13 00 42.8
comp=Z,34nm,1.1s
PESTR **Estremoz** 78.44 311 *e* P **P** 13 00 41.4 +0.7
PESTR *i* IAmb IAmb 13 00 43.6
comp=Z,47nm,1.5s
PBAR **Barrancos** 78.56 310 *e* P **P** 13 00 42.0 +0.7
PBAR *i* IAmb IAmb 13 00 44.3
comp=Z,44nm,1.9s
PBAR *e* PP **PP** 13 03 37.9 -0.6
PMTG **Montargil** 78.69 311 *e* P **P** 13 00 42.7 +0.7
PMTG *i* IAmb IAmb 13 00 44.9
comp=Z,34nm,1.5s
PMTG *e* PP **PP** 13 03 39.1 -0.5
EVO **Evora** 78.91 311 *e* P **P** 13 00 44.2 +1.0
EVO *i* IAmb IAmb 13 00 45.7
comp=Z,54nm,1.4s
PBEJ **Beja** 79.16 310 *e* P **P** 13 00 45.2 +0.6
PBEJ *i* IAmb IAmb 13 00 47.8
comp=Z,38nm,1.9s
PARRA **Arraiolos** 79.34 311 *e* P **P** 13 00 42.9 -2.7
PARRA *i* IAmb IAmb 13 00 53.8
comp=Z,25nm,1.7s
PMAFR **Mafra** 79.39 312 *e* P **P** 13 00 46.7 +0.8
PMAFR *i* IAmb IAmb 13 00 48.2

	comp=Z,107nm,1.3s								
EIDS	**Eidsvold**	**79.42**	**134**	P		**P**		**13 00 45.9**	**-0.1**
	comp=Z,31nm,1.1s								
EIDS	**Eidsvold**	**79.42**	**134**	IAmb		IAmb		13 00 47.9	
	comp=Z,49nm,1.4s								
EIDS	**Eidsvold**	**79.42**	**134**	P		**P**		**13 00 46.2**	**+0.2**
PVAQ	**Vaqueiros**	**79.47**	**310**	IAmb		IAmb		13 00 48.5	
	comp=Z,59nm,1.4s								
PVAQ	**Vaqueiros**	**79.47**	**310**	*eP*		**P**		**13 00 47.2**	**+0.8**
PVAQ				*i* IAmb		IAmb		13 00 53.1	
	comp=Z,31nm,1.7s								
PVAQ				*e*LR		LR		13 31 24.8	
PVAQ				*i* IAMs_20		IAMs_20		13 39 39.7	
	comp=Z,187nm,18.0s								
MESJ	**Messejana**	**79.49**	**310**	*eP*		**P**		**13 00 47.2**	**+0.8**
MESJ				IAmb		IAmb		13 00 48.9	
	comp=Z,36nm,1.0s								
MESJ	**Messejana**	**79.49**	**310**	*eP*		**P**		**13 00 47.5**	**+1.1**
MESJ				*i* IAmb		IAmb		13 00 48.8	
	comp=Z,45nm,1.4s								
MESJ	**Messejana**	**79.49**	**310**	*eP*		**P**		**13 00 47.2**	**+0.8**
PCVE	**Castro Verde**	**79.52**	**310**	*eP*		**P**		**13 00 47.4**	**+0.8**
PCVE				*i* IAmb		IAmb		13 00 49.7	
	comp=Z,35nm,1.8s								
PBDV	**Barranco-do-Ve**	**79.70**	**310**	*eP*		**P**		**13 00 48.8**	**+1.1**
PBDV				*i* IAmb		IAmb		13 00 50.4	
	comp=Z,57nm,1.3s								
STKA	**Stephens Creek**	**79.94**	**145**	P		**P**		**13 00 48.4**	**-0.3**
	comp=Z,192nm,1.1s								
STKA	**Stephens Creek**	**79.94**	**145**	P		**P**		**13 00 48.6**	**-0.1**
	comp=Z,23nm,0.9s,baz=335,slow=6.9,SNR=28								
	comp=Z,23nm,0.9s								
STKA	**Stephens Creek**	**79.94**	**145**	P		**P**		**13 00 48.2**	**-0.5**
STKA	**Stephens Creek**	**79.94**	**145**	*c iP*		**P**		**13 00 48.2**	**-0.5**
PTEO	**Sao Teotonio**	**79.98**	**310**	*eP*		**P**		**13 00 50.2**	**+1.0**
PTEO				*i* IAmb		IAmb		13 00 56.2	
	comp=Z,62nm,1.6s								
MORF	**Marmelete**	**80.10**	**310**	*eP*		**P**		**13 00 50.3**	**+0.5**
MORF				IAmb		IAmb		13 00 52.0	
	comp=Z,42nm,1.1s								
MORF	**Marmelete**	**80.10**	**310**	IAmb		IAmb		13 00 52.2	
	comp=Z,50nm,1.2s								
MORF	**Marmelete**	**80.10**	**310**	*eP*		**P**		**13 00 50.4**	**+0.5**
MORF				*i* IAmb		IAmb		13 00 52.9	
	comp=Z,68nm,1.4s								
MORF	**Marmelete**	**80.10**	**310**	*eP*		**P**		**13 00 50.3**	**+0.5**
HTT	**Hallett**	**80.12**	**148**	P		**P**		**13 00 49.4**	**-0.3**
	comp=Z,8.8nm,1.6s								
HTT	**Hallett**	**80.12**	**148**	P		**P**		**13 00 49.8**	**+0.1**
BBB	**Bella Bella**	**80.30**	**28**	LR		LR		13 38 37.4	
	comp=Z,284nm,19.0s,baz=322,slow=37								
PFVI	**Vila Bisbo**	**80.32**	**310**	*eP*		**P**		**13 00 51.9**	**+1.0**
PFVI				*i* IAmb		IAmb		13 00 53.4	
	comp=Z,59nm,1.3s								
MDT	**Midelt**	**80.48**	**304**	LR		LR		13 39 05.2	
	comp=Z,109nm,18.9s,baz=48,slow=38								
MD01	**Midelt array s**	**80.54**	**305**	P		**P**		**13 00 53.0**	**+0.5**
CMSA	**Cobar Meteorol**	**81.56**	**142**	P		**P**		**13 00 56.8**	**-0.6**
	comp=Z,50nm,1.3s								
CMSA	**Cobar Meteorol**	**81.56**	**142**	P		**P**		**13 00 57.5**	**+0.1**
TW1H	**Toowoomba 1 Ha**	**81.61**	**135**	P		**P**		**13 00 59.6**	**+1.7**
FCC	**Fort Churchill**	**82.30**	**7**	IAmb		IAmb		13 01 01.9	
	comp=Z,57nm,1.1s								
LLLB	**Lillooet**	**83.80**	**25**	IAmb		IAmb		13 01 11.2	
	comp=Z,49nm,1.4s								
ARPS	**Mount Arapiles**	**84.20**	**148**	P		**P**		**13 01 10.6**	**-0.4**
	comp=Z,27nm,0.9s								
CLRS	**Cowichan Lake**	**84.52**	**28**	IAmb		IAmb		13 01 21.4	
	comp=Z,24nm,1.1s								
PGC	**Sidney**	**84.91**	**27**	IAmb		IAmb		13 01 22.9	
	comp=Z,19nm,0.8s								
FFC	**Flin Flon**	**85.14**	**13**	P		**P**		**13 01 15.4**	**-0.3**
FFC				IAmb		IAmb		13 01 20.9	
	comp=Z,28nm,0.8s								
FFC	**Flin Flon**	**85.14**	**13**	P		**P**		**13 01 15.4**	**-0.3**
FFC				pmax		pmax			
	comp=Z,28nm,0.8s								
B04A	**Port Angeles**	**85.39**	**28**	IAmb		IAmb		13 01 28.0	
	comp=Z,17nm,0.8s								
BRAT	**Ballarat**	**85.75**	**147**	P		**P**		**13 01 19.4**	**+0.7**
LSZ	**Lusaka**	**85.96**	**247**	P		**P**		**13 01 21.2**	**+0.7**
LSZ				IAmb		IAmb		13 01 27.1	
	comp=Z,39nm,0.9s								
LSZ	**Lusaka**	**85.96**	**247**	LR		LR		13 38 25.5	
	comp=Z,118nm,20.9s,baz=24,slow=35								
LSZ	**Lusaka**	**85.96**	**247**	P		**P**		**13 01 21.6**	**+1.2**
LSZ				P		**P**		**13 01 21.6**	**+1.2**
LSZ	**Lusaka**	**85.96**	**247**	P		**P**		**13 01 21.2**	**+0.7**
LSZ				pmax		pmax			
	comp=Z,39nm,1.0s								
SCHQ	**Schefferville**	**86.32**	**353**	P		**P**		**13 01 21.3**	**-0.3**
	comp=Z,145nm,0.9s,baz=44,slow=5.9,SNR=9.4								
SCHQ				LR		LR		13 41 35.5	
	comp=Z,µm,19.7s,baz=344,slow=37								
DZM	**Mont Dzumac**	**86.46**	**122**	*e*SS		SS		13 17 35.8	-3.9
	comp=Z,124nm,23.0s								
DZM	**Mont Dzumac**	**86.46**	**122**	*e*LR		LR		13 28 37.8	
	comp=Z,214nm,25.7s								
D05A	**Enumclaw**	**86.67**	**27**	IAmb		IAmb		13 01 25.4	
	comp=Z,21nm,1.0s								
LTY	**Liberty**	**87.08**	**27**	IAmb		IAmb		13 01 27.1	
	comp=Z,39nm,1.5s								
NEW	**Newport**	**87.39**	**24**	IAmb		IAmb		13 01 29.1	
	comp=Z,22nm,1.1s								
NEW	**Newport**	**87.39**	**24**	LR		LR		13 43 19.5	
	comp=Z,395nm,18.4s,baz=334,slow=38								
EDA	**Edea**	**87.75**	**273**	IAmb		IAmb		13 01 30.6	
	comp=Z,28nm,0.8s								
MXC	**Moxie City**	**87.80**	**27**	IAmb		IAmb		13 01 31.3	
	comp=Z,40nm,1.2s								
D08A	**Wollman Farm,**	**87.85**	**26**	IAmb		IAmb		13 01 31.4	
	comp=Z,36nm,1.5s								
WAH2	**Wahluke Slope**	**87.89**	**26**	IAmb		IAmb		13 01 31.7	
	comp=Z,32nm,1.3s								
E07A	**Sunnyside**	**87.97**	**26**	IAmb		IAmb		13 01 32.1	
	comp=Z,41nm,1.2s								
HAWA	**Hanford**	**88.22**	**26**	IAmb		IAmb		13 01 34.1	
	comp=Z,19nm,1.1s								
PMOZ	**Porto Moniz, M**	**88.25**	**312**	*i* IAMs_20		IAMs_20		13 44 01.9	
	comp=Z,144nm,20.0s								
TORD	**Torodi Ar. Bea**	**88.48**	**286**	P		**P**		**13 01 31.4**	**-1.3**
	comp=Z,17nm,0.9s,baz=31,slow=5.5,SNR=66								
	comp=Z,17nm,0.9s								
F07A	**Phinny Hill Vi**	**88.51**	**27**	IAmb		IAmb		13 01 39.8	
	comp=Z,27nm,1.4s								
E09A	**Wood Farm, Sta**	**88.59**	**25**	IAmb		IAmb		13 01 34.9	
	comp=Z,31nm,1.3s								
H04A	**Detroit Lake**	**88.72**	**29**	IAmb		IAmb		13 01 35.3	
	comp=Z,42nm,1.4s								
G06A	**Carlson Farm,**	**88.83**	**28**	IAmb		IAmb		13 01 42.9	
	comp=Z,37nm,1.4s								
MATP	**Matopo**	**89.15**	**243**	LR		LR		13 40 13.0	
	comp=Z,347nm,19.2s,baz=40,slow=35								
I05D	**Terrebonne, OR**	**89.33**	**28**	IAmb		IAmb		13 01 43.2	
	comp=Z,18nm,1.0s								
MSO	**Missoula**	**89.65**	**23**	IAmb		IAmb		13 01 39.6	
	comp=Z,28nm,1.1s								
KSANE	**Kasane**	**89.80**	**247**	IAmb		IAmb		13 01 45.6	
	comp=Z,19nm,1.0s								
K02D	**Willamette Mer**	**89.82**	**31**	IAmb		IAmb		13 01 41.0	
	comp=Z,26nm,1.1s								
PINE	**Pine Mountain**	**89.95**	**28**	IAmb		IAmb		13 01 42.3	
	comp=Z,39nm,1.1s								
BBOR	**Butler Butte**	**90.05**	**30**	IAmb		IAmb		13 01 45.9	
	comp=Z,29nm,1.3s								
J05D	**Fort Rock, OR**	**90.27**	**29**	IAmb		IAmb		13 01 48.2	
	comp=Z,28nm,0.9s								
BMO	**Blue Mountains**	**90.33**	**26**	IAmb		IAmb		13 01 42.7	
	comp=Z,20nm,1.1s								
ULM	**Lac du Bonnet**	**90.44**	**10**	P		**P**		**13 01 40.2**	**-1.0**
	comp=Z,12nm,0.9s,baz=334,slow=7.5,SNR=14								
ULM				LR		LR		13 47 18.2	
	comp=Z,158nm,18.2s,baz=342,slow=39								
	comp=Z,12nm,0.9s								
KSXB	**Camp Six Broad**	**90.46**	**31**	IAmb		IAmb		13 01 44.5	
	comp=Z,36nm,1.2s								
M02C	**Callahan**	**91.25**	**31**	IAmb		IAmb		13 01 48.3	
	comp=Z,38nm,1.4s								
EPLO	**Experimental L**	**91.28**	**9**	IAmb		IAmb		13 01 45.5	
	comp=Z,36nm,1.1s								
KHMM	**Horse Mountain**	**91.32**	**32**	IAmb		IAmb		13 01 48.5	
	comp=Z,29nm,1.2s								
DLMT	**Dillon**	**91.38**	**22**	IAmb		IAmb		13 01 54.5	
	comp=Z,29nm,0.9s								
BOZ	**Bozeman (W)**	**91.45**	**22**	IAmb		IAmb		13 01 48.1	
	comp=Z,22nm,1.1s								
N02D	**Trinity Center**	**91.66**	**31**	IAmb		IAmb		13 01 54.6	
	comp=Z,19nm,1.1s								
LAO	**LASA Array**	**91.88**	**18**	IAmb		IAmb		13 01 50.8	
	comp=Z,16nm,1.1s								
WVOR	**Wild Horse Val**	**91.97**	**28**	IAmb		IAmb		13 01 51.3	
	comp=Z,25nm,1.1s								
O02D	**Mt. Diablo Mer**	**92.30**	**32**	IAmb		IAmb		13 01 53.0	
	comp=Z,23nm,1.1s								
AGMN	**Agassiz Nation**	**92.34**	**11**	IAmb		IAmb		13 01 50.7	
	comp=Z,20nm,1.1s								
YHB	**Horse Butte**	**92.35**	**22**	IAmb		IAmb		13 01 52.8	
	comp=Z,18nm,1.2s								
YNE	**Yellowstone No**	**92.46**	**21**	IAmb		IAmb		13 01 57.6	
	comp=Z,21nm,1.5s								
O03E	**Paynes Creek**	**92.60**	**31**	IAmb		IAmb		13 02 01.3	
	comp=Z,17nm,1.1s								
YMP	**Mirror Lake Pl**	**92.66**	**21**	IAmb		IAmb		13 01 54.4	
	comp=Z,27nm,1.2s								
YFT	**Old Faithful**	**92.73**	**22**	IAmb		IAmb		13 02 02.5	
	comp=Z,17nm,1.1s								
LKWY	**Lake**	**92.75**	**21**	IAmb		IAmb		13 02 02.4	
	comp=Z,18nm,0.9s								
TBO	**Thunder Bay**	**92.75**	**6**	IAmb		IAmb		13 01 52.8	
	comp=Z,21nm,1.0s								
H17A	**Grant Village**	**92.86**	**22**	IAmb		IAmb		13 02 03.0	
	comp=Z,14nm,1.0s								
YPP	**Pitchstone Pla**	**92.90**	**22**	IAmb		IAmb		13 02 01.2	
	comp=Z,22nm,1.4s								
GDXM	**Geysers**	**93.45**	**32**	IAmb		IAmb		13 02 07.2	
	comp=Z,13nm,1.0s								
LDAQ	**Lac Daran**	**93.53**	**354**	IAmb		IAmb		13 01 57.1	
	comp=Z,27nm,1.1s								
MNRC	**McLaughlin Min**	**93.54**	**32**	IAmb		IAmb		13 01 58.8	
	comp=Z,34nm,1.2s								
BEKR	**Beckworth**	**93.54**	**30**	IAmb		IAmb		13 02 04.7	
	comp=Z,18nm,0.9s								
BATG	**Bathurst New B**	**93.68**	**351**	IAmb		IAmb		13 02 03.2	
	comp=Z,39nm,1.4s								
VLDQ	**Val d'Or**	**93.69**	**358**	IAmb		IAmb		13 01 56.9	
	comp=Z,14nm,1.1s								
QNGWA	**Qangwa**	**93.80**	**248**	IAmb		IAmb		13 02 04.0	
	comp=Z,20nm,1.1s								
LBTB	**Lobatse**	**94.18**	**241**	IAmb		IAmb		13 02 04.7	
	comp=Z,23nm,1.1s								
LBTB	**Lobatse**	**94.18**	**241**	LR		LR		13 42 08.6	
	comp=Z,240nm,21.0s,baz=45,slow=34								
E38A	**The Farm, Brul**	**94.56**	**8**	IAmb		IAmb		13 02 06.1	
	comp=Z,25nm,1.2s								
PDAR	**Pinedale Array**	**94.64**	**22**	P		**P**		**13 02 01.1**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=30,slow=3.2,SNR=12								
PDAR				LR		LR		13 49 13.3	
	comp=Z,241nm,18.0s,baz=332,slow=38								
	comp=Z,1.5nm,0.9s								
RSSD	**Black Hills**	**94.82**	**17**	P		**P**		**13 02 02.5**	**+0.6**
RSSD	**Black Hills**	**94.82**	**17**	P		**P**		**13 02 02.5**	**+0.6**
RSSD				pmax		pmax			
	comp=Z,29nm,0.8s								
LMN	**Caledonia Moun**	**94.91**	**350**	IAmb		IAmb		13 02 02.6	
	comp=Z,23nm,1.0s								
GRTLG	**Ghanzi**	**94.93**	**247**	IAmb		IAmb		13 02 09.3	
	comp=Z,15nm,0.9s								
F64A	**Sherman**	**95.34**	**352**	IAmb		IAmb		13 02 05.3	
	comp=Z,27nm,1.2s								
E46A	**Sault Ste Mari**	**95.36**	**3**	IAmb		IAmb		13 02 04.5	
	comp=Z,15nm,1.0s								
NVAR	**Mina Array Bea**	**95.58**	**29**	P		**P**		**13 02 06.2**	**+0.7**
NVAR	**Mina Array Bea**	**95.58**	**29**	P		**P**		**13 02 06.7**	**+1.2**
	comp=Z,4.0nm,0.9s,baz=304,slow=3.7,SNR=31								
NVAR				LR		LR		13 46 29.3	
	comp=Z,205nm,18.5s,baz=333,slow=36								
	comp=Z,4.0nm,0.9s								
LHV	**Little Huntoon**	**95.66**	**30**	IAmb		IAmb		13 02 08.8	
	comp=Z,23nm,1.2s								
G40A	**Rib Lake**	**96.03**	**7**	IAmb		IAmb		13 02 07.8	
	comp=Z,14nm,1.0s								
TSUM	**Tsumeb**	**96.23**	**251**	LR		LR		13 47 16.9	
	comp=Z,233nm,18.5s,baz=333,slow=36								
BUKO	**Buck Lake**	**96.38**	**360**	P		**P**		**13 02 08.4**	**-0.2**
BUKO				IAmb		IAmb		13 02 10.8	
	comp=Z,20nm,1.5s								
ECSD	**EROS Data Cent**	**96.68**	**12**	IAmb		IAmb		13 02 11.0	
	comp=Z,16nm,1.2s								
BOSA	**Boshof**	**96.74**	**239**	P		**P**		**13 02 09.9**	**-0.6**
BOSA				IAmb		IAmb		13 02 15.4	
	comp=Z,12nm,0.9s								
BOSA	**Boshof**	**96.74**	**239**	P		**P**		**13 02 09.8**	**-0.8**
	comp=Z,9.0nm,0.9s,baz=45,slow=3.8,SNR=6.3								
BOSA				LR		LR		13 45 22.0	
	comp=Z,125nm,18.4s,baz=28,slow=35								
	comp=Z,9.0nm,0.9s								
BOSA	**Boshof**	**96.74**	**239**	P		**P**		**13 02 10.0**	**-0.6**
BOSA				pmax		pmax			
	comp=Z,12nm,1.0s								
SADO	**Sadowa**	**97.05**	**360**	LR		LR		13 47 58.8	
	comp=Z,2µm,18.1s,baz=348,slow=37								
I42A	**Draeger Farm,**	**97.51**	**7**	IAmb		IAmb		13 02 21.2	
	comp=Z,21nm,1.2s								
DBIC	**Dimbokro**	**97.55**	**285**	P		**P**		**13 02 14.1**	**-0.4**
	comp=Z,8.8nm,0.8s,baz=75,slow=3.7,SNR=7.8								
DBIC				LR		LR		13 53 15.2	
	comp=Z,173nm,19.3s,baz=60,slow=40								
	comp=Z,8.8nm,0.8s								
WCT	**Wildcat Mounta**	**97.66**	**29**	IAmb		IAmb		13 02 17.4	
	comp=Z,11nm,1.2s								
J59A	**Piesco**	**98.22**	**356**	IAmb		IAmb		13 02 18.5	
	comp=Z,12nm,1.1s								
ACCN	**Adirondack Com**	**98.25**	**356**	IAmb		IAmb		13 02 18.7	
	comp=Z,17nm,1.1s								
PV10	**Paradox Valley**	**98.84**	**23**	IAmb		IAmb		13 02 37.7	
	comp=Z,6.6nm,0.8s								
KNB	**Kanab**	**98.84**	**26**	IAmb		IAmb		13 02 27.3	
	comp=Z,18nm,1.5s								
ANMO	**Albuquerque**	**102.79**	**22**	⇓*e*P		**Pdif**		**13 02 38.3**	**+0.5**
ANMO				pmax		pmax			
	comp=Z,4.0nm,1.9s								
TXAR	**Lajitas Array**	**108.86**	**22**	PKiKP		**PKiKP**		**13 07 10.7**	**+1.1**
	comp=Z,1.5nm,1.1s,baz=7.3,slow=4.3,SNR=4.7								
TXAR				PKKPbc		**PKKPbc**		**13 18 16.3**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=155,slow=9.1,SNR=4.1								
MAW	**Mawson**	**109.55**	**194**	PKKPbc		PKKPbc		13 18 13.8	-1.7
	comp=Z,1.2nm,1.0s,baz=180,slow=9.1,SNR=1.9								
PPT2	**Papeete2**	**116.37**	**92**	*e*LR		LR		13 42 30.6	
	comp=Z,117nm,25.0s								
PPT2				*e*LR		LR		13 42 31.5	
	comp=Z,113nm,22.8s								
TAOE	**Nuku Hiva Isla**	**118.53**	**78**	*e*LR		LR		13 43 42.0	
	comp=Z,110nm,21.9s								
TBI	**Tubuai**	**119.63**	**97**	*e*LR		LR		13 44 00.8	
	comp=Z,605nm,24.5s								
VNDA	**Vanda**	**121.65**	**167**	PKP		**PKPdf**		**13 07 30.5**	**-1.8**
	comp=Z,2.0nm,0.7s,baz=288,slow=5.3,SNR=4.9								
VNDA				PP		**PP**		**13 09 05.2**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=290,slow=5.3,SNR=3.4								
VNDA				PKKPbc		**PKKPbc**		**13 17 31.8**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=160,slow=6.1,SNR=3.7								
CMIG	**Matias Romero**	**122.85**	**17**	PKP		**PKPdf**		**13 07 35.1**	**-1.3**
	comp=Z,4.4nm,0.8s,baz=308,slow=1.9,SNR=4.7								
NVL	**N'lazarevskaya**	**125.35**	**204**	*e*PKiKP		PKiKP		13 07 49.3	+9.5
NVL				*e*SS		SS		13 26 49.1	+21
NVL				pmax		pmax			
	comp=Z,12nm,1.0s								
QSPA	**South Pole Qui**	**128.32**	**180**			**PKiKP**		**13 07 45.7**	**-0.3**
QSPA	**South Pole Qui**	**128.32**	**180**	PKP		**PKPdf**		**13 07 44.7**	**-0.6**
QSPA				PP		**PP**		**13 09 51.0**	**+0.7**
	comp=Z,7.3nm,1.0s,baz=246,slow=1.3,SNR=3.5								
BOAB	**BOACO BROADBA**	**126.96**	**7**			**PKPdf**		**13 07 48.2**	**+0.1**
ACON	**Acoyapa**	**129.49**	**7**			**PKPdf**		**13 07 48.1**	**-1.1**
SNAA	**Sanae**	**130.17**	**204**	⇑PKPdf		**PKPdf**		**13 07 47.6**	**-1.1**
	comp=Z,49nm,0.8s								
SNAA	**Sanae**	**130.17**	**204**			**PKPdf**		**13 07 48.5**	**-0.3**
SNAA	**Sanae**	**130.17**	**204**	PKP		**PKPdf**		**13 07 48.1**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=89,slow=4.5,SNR=7.5								
SNAA				PP		**PP**		**13 10 00.2**	**-2.2**
	comp=Z,1.7nm,1.0s,baz=123,slow=6.8,SNR=3.5								
RKT	**Rikitea**	**130.84**	**89**	*e*LR		LR		13 49 20.6	
BAUV	**El Baul**	**131.50**	**344**			**PKPdf**		**13 07 51.9**	**-1.1**
VNA2	**Neumayer--Watz**	**131.63**	**205**	⇑PKPdf		**PKPdf**		**13 07 50.7**	**-0.8**
	comp=Z,8.5nm,0.8s,baz=51,slow=3.3								
VNA1	**Neumayer--Stat**	**131.93**	**205**	⇑PKPdf		**PKPdf**		**13 07 51.7**	**-0.3**
	comp=Z,8.0nm,1.0s								
SDV	**Santo Domingo**	**132.05**	**348**			**PKPdf**		**13 07 53.0**	**-1.3**
SDV	**Santo Domingo**	**132.05**	**348**	PKP		**PKPdf**		**13 07 53.6**	**-0.7**
	comp=Z,9.5nm,0.4s,baz=1.5,slow=2.4,SNR=10								
SDV				SKPbc		**SKPbc**		**13 11 18.7**	**-1.6**
	comp=Z,6.0nm,0.3s,baz=302,slow=22,SNR=7.1								
VNA3	**Neumayer Olymp**	**132.36**	**204**	⇑PKPdf		**PKPdf**		**13 07 52.0**	**-0.8**
	comp=Z,7.7nm,0.9s								
BOAV	**Boa Vista**	**135.56**	**332**			**PKPdf**		**13 08 00.3**	**-0.4**
BOAV	**Boa Vista**	**135.56**	**332**	*e*P		**PKPdf**		**13 08 00.6**	**-0.1**
ROSC	**El Rosal**	**136.53**	**352**	PKP		**PKPdf**		**13 08 02.0**	**-0.9**
	comp=Z,27nm,0.7s,baz=40,slow=2.3,SNR=8.0								
CMC01	**Camacan, BA**	**137.81**	**292**	*e*P		**PKPdf**		**13 08 03.3**	**-1.3**
PRPB	**Parauapebas**	**137.90**	**312**	*e*P		**PKPdf**		**13 08 04.5**	**-0.4**
SMTB	**Santa Maria do**	**138.68**	**307**	*e*P		**PKPdf**		**13 08 06.2**	**-0.2**
GUA01	**Guaratinga, BA**	**138.81**	**291**	*e*P		**PKPdf**		**13 08 06.7**	**+0.2**
ITTB	**Itaituba**	**139.56**	**321**	*e*P		**PKPdf**		**13 08 08.0**	**0.0**
SDBA	**SAO DESIDERIO**	**139.57**	**301**	*e*P		**PKPdf**		**13 08 07.7**	**-0.3**
MACA	**Manacapuru-AM**	**140.71**	**329**	*e*P		**PKPdf**		**13 08 10.0**	**-0.1**
JANB	**Januaria**	**141.03**	**297**	*e*P		**PKPdf**		**13 08 10.5**	**-0.1**
SJMB	**Sao Joao De Ma**	**141.17**	**290**	*e*P		**PKPdf**		**13 08 10.7**	**-0.1**
OTAV	**Otavalo**	**141.38**	**358**			**PKPdf**		**13 08 09.8**	**-2.1**
OTAV	**Otavalo**	**141.38**	**358**	PKIKP		**PKPdf**		**13 08 09.8**	**-2.1**
NPGB	**Novo Progresso**	**141.67**	**319**	*e*P		**PKPdf**		**13 08 11.9**	**+0.1**
TEFE	**Tefe**	**142.49**	**335**	*e*P		**PKPdf**		**13 08 12.7**	**-0.6**
DIAM	**Diamantina, MG**	**142.73**	**293**	*e*P		**PKPdf**		**13 08 13.6**	**-0.1**
SNDB	**Serra Nova Dou**	**143.37**	**309**	*e*P		**PKPdf**		**13 08 14.3**	**-0.5**
CAM01	**Campos-RJ**	**143.40**	**286**	*e*P		**PKPdf**		**13 08 14.7**	**+0.1**
BDFB	**Brasilia**	**143.98**	**301**	PKP		PKPbc		13 08 14.0	+0.3
	comp=Z,41nm,0.9s,baz=65,slow=3.1,SNR=31								
DUB01	**Friburgo-RJ**	**144.09**	**286**	*e*P		**PKPdf**		**13 08 15.7**	**-0.2**
PMNB	**Patos De Minas**	**144.87**	**295**	*e*P		**PKPdf**		**13 08 17.0**	**-0.4**
VAS01	**Vassouras-RJ**	**145.01**	**287**	*e*P		**PKPdf**		**13 08 17.1**	**-0.3**
CLDB	**Colider**	**145.10**	**316**	*e*P		**PKPbc**		**13 08 17.1**	**-0.2**
BSCB	**Bom Sucesso**	**145.23**	**290**	*e*P		**PKPab**		**13 08 17.7**	**0.0**
MAN01	**Angra dos Reis**	**145.74**	**287**	*e*P		**PKPdf**		**13 08 18.8**	**0.0**
IPMB	**Ipameri, GO**	**145.74**	**298**	*e*P		**PKPdf**		**13 08 18.4**	**-0.4**
PDRB	**Porto dos Gac**	**146.22**	**316**	*e*P		**PKPdf**		**13 08 19.3**	**-0.5**
ARAG	**Araguaiana, MT**	**146.53**	**305**	*e*P		**PKPdf**		**13 08 20.1**	**0.0**
SLP01	**Ubatuba-SP**	**146.90**	**287**	*e*P		**PKPdf**		**13 08 20.7**	**-0.1**
PARB	**Paraibuna**	**147.26**	**288**	*e*P		**PKPdf**		**13 08 21.3**	**0.0**
BB19B	**Bebedouro**	**148.00**	**294**	*e*P		**PKPdf**		**13 08 21.8**	**-0.8**
ITRB	**Iturama**	**148.40**	**298**	*e*P		**PKPdf**		**13 08 21.2**	**-2.1**
ATAH	**Atahualpa**	**148.69**	**357**	PKPbc		**PKPbc**		**13 08 28.6**	**+0.5**
	comp=Z,64nm,0.9s,baz=42,slow=0.9,SNR=28								
SPB	**Sao Paulo**	**148.75**	**289**			**PKPdf**		**13 08 22.9**	**-0.8**
SPB	**Sao Paulo**	**148.75**	**289**	*e*P		**PKPdf**		**13 08 22.8**	**-0.8**
SALV	**Santo Antonio**	**149.09**	**310**	*e*P		**PKPbc**		**13 08 26.8**	**-1.7**
PP1B	**Ponte de Pedra**	**149.89**	**307**	*e*P		**PKPdf**		**13 08 25.4**	**-0.2**
PMSA	**Palmer Station**	**152.16**	**194**			**PKPdf**		**13 08 26.7**	**-0.9**
SIV	**San Ignacio**	**152.17**	**319**	PKP		**PKPdf**		**13 08 29.3**	**+0.1**
	comp=Z,11nm,0.9s,baz=98,slow=3.3,SNR=32								
SIV				PKPbc		**pPKPdf**		**13 08 34.4**	**+0.2**
	comp=Z,15nm,0.7s,baz=104,slow=1.5,SNR=22								
AQDB	**Aquidauana**	**152.52**	**304**	*e*P		**PKPdf**		**13 08 28.9**	**-0.7**
LPAZ	**La Paz**	**155.58**	**332**	PKP		**PKPdf**		**13 08 34.2**	**-0.5**
	comp=Z,5.3nm

C27K	**Jago River**	**62.49**	**21**	P	**P**	**13 04 23.1**	**+0.1**
C27K				IAmb	IAmb	13 04 26.2		
	comp=Z,4.3nm,0.8s							
PSA00	**Pilbara Seismi**	**62.60**	**159**	P	**P**	**13 04 24.0**	**-0.3**
PSA00				IAmb	IAmb	13 04 24.8		
	comp=Z,3.3nm,0.9s							
PSA00	**Pilbara Seismi**	**62.60**	**159**	P	**P**	**13 04 23.8**	**-0.4**
PSA00				IAmb	IAmb	13 04 24.4		
	comp=Z,11nm,0.9s							
K20K	**Telida**	**62.64**	**29**	P	**P**	**13 04 24.4**	**+0.3**
K20K				IAmb	IAmb	13 04 25.6		
	comp=Z,7.6nm,1.1s							
G24K	**Hadweenzic Riv**	**63.11**	**24**	P	**P**	**13 04 27.6**	**+0.4**
G24K				IAmb	IAmb	13 04 36.0		
	comp=Z,2.7nm,1.1s							
F25K	**Christian Rive**	**63.16**	**23**	P	**P**	**13 04 28.2**	**+0.7**
F25K				IAmb	IAmb	13 04 28.9		
	comp=Z,3.3nm,0.9s							
BMAR	**Burnt Mountain**	**63.58**	**23**		**P**	**13 04 30.7**	**+0.4**
PPLA	**Purkeypile**	**63.61**	**29**		**P**	**13 04 31.0**	**+0.4**
E27K	**Coleen River**	**63.99**	**22**		**P**	**13 04 33.2**	**+0.3**
E27K				IAmb	IAmb	13 04 36.2		
	comp=Z,4.0nm,1.0s							
E28M	**Babbage River**	**64.30**	**21**		**P**	**13 04 35.1**	**+0.2**
E28M				IAmb	IAmb	13 04 36.2		
	comp=Z,4.9nm,0.8s							
SKT	**Skwentna**	**64.38**	**30**	P	**P**	**13 04 35.5**	**-0.1**
SKT				IAmb	IAmb	13 04 53.6		
	comp=Z,5.6nm,1.2s							
ILAR	**Eielson Array**	**64.45**	**26**		**P**	**13 04 36.0**	**0.0**
ILAR	**Eielson Array**	**64.45**	**26**	P	**P**	**13 04 35.4**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=296,slow=4.8,SNR=5.7							
	comp=Z,1.3nm,0.8s							
F28M	**Old Crow**	**64.86**	**22**	P	**P**	**13 04 39.1**	**+0.5**
F28M				IAmb	IAmb	13 04 50.6		
	comp=Z,4.7nm,1.1s							
E29M	**Blow River**	**64.89**	**20**	IAmb	IAmb	13 04 40.4		
	comp=Z,5.9nm,0.8s							
H27K	**Steamboat Moun**	**65.28**	**23**	P	**P**	**13 04 42.4**	**+0.9**
H27K				IAmb	IAmb	13 04 43.1		
	comp=Z,4.4nm,0.9s							
J26L	**Joseph Creek**	**65.74**	**25**	P	**P**	**13 04 43.8**	**-0.7**
RIDG	**Independent Ri**	**65.79**	**26**	P	**P**	**13 04 44.1**	**-0.6**
G29M	**Pine Creek**	**65.87**	**22**	P	**P**	**13 04 45.8**	**+0.6**
G29M				IAmb	IAmb	13 04 50.8		
	comp=Z,4.0nm,0.9s							
SCRK	**Sand Creek**	**65.93**	**26**	P	**P**	**13 04 45.1**	**-0.6**
SCRK				IAmb	IAmb	13 04 56.6		
	comp=Z,2.6nm,1.0s							
F30M	**Barrier River**	**66.01**	**20**	P	**P**	**13 04 46.9**	**+0.9**
F30M				IAmb	IAmb	13 04 47.0		
	comp=Z,5.7nm,0.8s							
EKA	**Eskdalemuir Ar**	**66.07**	**323**	P	**P**	**13 04 46.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=45,slow=7.1,SNR=2.6							
	comp=Z,0.2nm,0.3s							
SCM	**Sheep Creek Mo**	**66.07**	**29**	P	**P**	**13 04 47.0**	**+0.4**
I28M	**Miner Creek**	**66.29**	**23**	IAmb	IAmb	13 04 49.0		
	comp=Z,3.6nm,0.8s							
KDAK	**Kodiak Island**	**66.34**	**34**	P	**P**	**13 04 47.8**	**-0.5**
WRA	**Warramunga Arr**	**66.41**	**145**	P	**P**	**13 04 47.8**	**-1.4**
	comp=Z,2.3nm,0.9s,baz=340,slow=6.3,SNR=5.9							
	comp=Z,2.3nm,0.9s							
WR8	**Warramunga Arr**	**66.50**	**145**	P	**P**	**13 04 49.0**	**-0.8**
WR8				IAmb	IAmb	13 04 49.3		
	comp=Z,5.9nm,1.1s							
G31M	**Satah River**	**66.91**	**20**	P	**P**	**13 04 51.1**	**-0.7**
G31M				IAmb	IAmb	13 04 52.2		
	comp=Z,4.2nm,0.7s							
N25K	**Chitina, Valde**	**67.23**	**28**		**P**	**13 04 54.5**	**+0.5**
N25K				IAmb	IAmb	13 05 11.3		
	comp=Z,5.8nm,1.1s							
I30M	**Mount Dempster**	**67.53**	**22**	IAmb	IAmb	13 04 56.7		
	comp=Z,5.2nm,0.8s							
H31M	**Peel River**	**67.70**	**21**		**P**	**13 04 56.8**	**-0.1**
AS31	**Alice Springs**	**69.49**	**147**	P	**P**	**13 05 07.6**	**-0.9**
ASAR	**Alice Springs**	**69.49**	**147**		**P**	**13 05 07.8**	**-0.8**
ASAR	**Alice Springs**	**69.49**	**147**	P	**P**	**13 05 07.7**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=344,slow=6.7,SNR=5.9							
	comp=Z,1.3nm,0.7s							
YKA	**Yellowknife Ar**	**75.40**	**16**	P	**P**	**13 05 43.1**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=332,slow=6.1,SNR=5.6							
	comp=Z,2.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**88.51**	**286**		**P**	**13 06 52.6**	**-0.4**
BDFB	**Brasilia**	**143.99**	**301**	PKP	PKPab	13 13 33.7	+0.3
	comp=Z,1.8nm,0.5s,baz=54,slow=0.3,SNR=3.4							
ATAH	**Atahualpa**	**148.65**	**358**	PKPbc	**PKPdf**	**13 13 48.5**	**+4.0**
	comp=Z,3.2nm,0.6s,baz=357,slow=4.7,SNR=3.8							

*IDC **16** 12:56:55.8±0.8,31°.45N×51°.07E,h0km,mb4.1/19, mbtmp4.1/23,ML4.1/4,MS3.9/2,Error ellipse: s-maj=20.1km s-min=14.7km az=17.0*
*TEH **16** 12:56:55.1,31°.44N×51°.30E,h5km*
*THR **16** 12:56:57.7±0.0,31°.42N×51°.29E,h12km±4km,ML4.3*
*NEIC **16** 12:56:57.7±1.2,31°.38N±0°.07×51°.12E±0°.09,h10km±1km, mb4.6/20,Error ellipse: s-maj=16.3km s-min=4.0km az=228.0*
*SGS **16** 12:56:58.5,31°.50N×51°.52E,h7km,Ml4.4*
*DSN **16** 12:57:02.2±1.3,30°.94N×51°.27E,h15km,ML3.8/6,Error ellipse: s-maj=17.7km s-min=6.7km az=13.0*
*NAO **16** 12:57:11.5,31°.84N×48°.49E,h33km,MB3.8*

ISC 16 12:56:56.9±0.4,31°.40N±0°.03×51°.26E±0°.03,h10km,n130,
σ1s72/133,mb4.4/29,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLNJ	**Kolanjah**	**0.49**	**144**	Pg	**Pg**	**12 57 05.7**	**-0.8**
KLNJ				Sg	**Sg**	**12 57 13.8**	**+0.8**
KLNJ	**Kolanjah**	**0.49**	**144**	*e*Pg	**Pg**	**12 57 06.0**	**-0.5**
KLNJ				IAML		12 57 17.8	
	comp=Z,44nm,1.0s						
IBRJ	**Brojen**	**0.50**	**1**	Pg	**Pg**	**12 57 05.4**	**-1.4**
IBRJ				Sg	**Sg**	**12 57 13.7**	**+0.2**
ZNGN	**Zangian**	**0.79**	**335**	Pg	**Pg**	**12 57 11.6**	**-0.6**
JHBN	**Jahan bin**	**0.97**	**329**	Pg	**Pg**	**12 57 14.8**	**-0.8**
JHBN				Sg	**Sn**	**12 57 31.4**	**+0.6**
IRAM	**Ramesheh**	**1.04**	**67**	Pg	**Pg**	**12 57 15.1**	**-1.9**
ABEH	**Behbahan**	**1.17**	**227**	Pg	**Pn**	**12 57 20.6**	**+1.2**
IGAR	**Gharneh**	**1.20**	**34**	Pg	**Pn**	**12 57 18.8**	**-1.3**
IPIR	**Pirpir**	**1.31**	**347**	Pg	**Pn**	**12 57 21.6**	**0.0**
IZEF	**Zefreh**	**1.75**	**31**	Pg	**Pn**	**12 57 28.1**	**+0.6**
KAZ2	**Kazeron-Fars-I**	**1.82**	**169**	Pn	**Pb**	**12 57 29.9**	**-0.4**
NASN	**Na'in**	**1.92**	**43**	*e*Pn	**Pn**	**12 57 30.5**	**+0.5**
NASN				IAML		12 58 00.8	
	comp=Z,5.3nm,1.0s						
IKLH	**Kolahrood**	**1.93**	**8**	Pn	**Pn**	**12 57 31.3**	**+1.2**
SHI	**Shiraz**	**2.06**	**148**	Pn	**Pn**	**12 57 33.5**	**+1.7**
GTMR	**Gotvand**	**2.11**	**301**	*i* P	**Pb**	**12 57 34.9**	**-0.4**
GTMR				IAML		12 58 16.5	
	comp=Z,8.6nm,1.0s						
AHWZ	**Ahwaz**	**2.23**	**269**	Pn	**Pb**	**12 57 36.5**	**-0.8**
QAMS	**Qamsar**	**2.33**	**3**	Pn	**Pn**	**12 57 37.2**	**+1.7**
KHMZ	**Khomeyn**	**2.57**	**335**	*e*Pn	**Pn**	**12 57 41.5**	**+2.6**
KHMZ				IAML		12 58 27.0	
	comp=Z,5.0nm,1.0s						
KRSH	**Karshahi**	**2.67**	**16**	Pn	**Pn**	**12 57 41.7**	**+1.6**
ANAR	**Anarak**	**2.75**	**49**	Pn	**Pn**	**12 57 43.2**	**+2.0**
ICHK	**Chekchek**	**2.81**	**72**	Pn	**Pn**	**12 57 43.7**	**+1.5**
IMEH	**Mehriz**	**2.87**	**89**	Pn	**Pn**	**12 57 44.9**	**+1.9**
YZKH	**Yazd**	**3.00**	**70**	*e*Pn	**Pn**	**12 57 47.9**	**+3.2**
YZKH				IAML		12 58 34.9	
	comp=Z,1.7nm,1.0s						
DSBU	**Dashti - Bushe**	**3.03**	**180**	Pn	**Pn**	**12 57 47.5**	**+2.5**
ISFB	**Sefidab**	**3.06**	**15**	Pn	**Pn**	**12 57 47.0**	**+1.6**
GHVR	**GHOM**	**3.07**	**1**	*e*Pn	**Pn**	**12 57 48.7**	**+3.1**
GHVR				IAML		12 58 50.8	
	comp=Z,3.0nm,1.0s						
BDRS	**Dareh Seyedi**	**3.24**	**322**	Pn	**Pn**	**12 57 50.4**	**+2.4**
ASAO	**Ashtian**	**3.30**	**342**	*e*Pn	**Pn**	**12 57 51.3**	**+2.4**
ASAO				IAML		12 58 50.5	
	comp=Z,3.4nm,1.0s						
IQOM	**Qom**	**3.43**	**357**	Pn	**Pn**	**12 57 52.2**	**+1.4**
GHIR	**Ghir-Karzin**	**3.45**	**154**	*e*Pn	**Pn**	**12 57 54.9**	**+4.0**
GHIR				IAML		12 58 42.4	
	comp=Z,0.2nm,1.0s						
IDOB	**Doab**	**3.52**	**313**	Pn	**Pn**	**12 57 54.4**	**+2.5**
IVRN	**Varamin**	**3.60**	**6**	Pn	**Pn**	**12 57 54.6**	**+1.7**
IBAF	**Bafgh**	**3.69**	**86**	Pn	**Pn**	**12 57 56.2**	**+2.1**
KFJS2	**Khafji**	**3.93**	**220**	S	**Sn**	**12 58 47.6**	**+4.2**
KFJS2	**Khafji**	**3.93**	**220**	P	**Pn**	**12 57 59.8**	**+2.5**
IDMV	**Damavand**	**4.21**	**9**	Pn	**Pn**	**12 58 03.2**	**+1.6**
DAMV	**Damavand**	**4.26**	**8**	*e*Pn	**Pn**	**12 58 03.6**	**+1.5**
DAMV				IAML		12 59 19.2	
	comp=Z,0.0nm,1.0s						
KFJS1	**Al Wafrah**	**4.31**	**223**	P	**Pn**	**12 58 05.3**	**+2.7**
IFIR	**Firoozkooh**	**4.41**	**16**	Pn	**Pn**	**12 58 06.2**	**+2.1**
KCHF	**Cheshme Sefid,**	**4.56**	**310**	Pn	**Pn**	**12 58 08.4**	**+2.2**
SNQR	**Sonqor, Kerman**	**4.60**	**320**	Pn	**Pn**	**12 58 08.8**	**+2.0**
IALA	**Alasht**	**4.84**	**15**	Pn	**Pn**	**12 58 11.9**	**+1.8**
IGHG	**Ghaleghazi**	**4.91**	**308**	Pn	**Pn**	**12 58 13.1**	**+2.1**
IPRN	**Peran**	**4.91**	**10**	Pn	**Pn**	**12 58 12.8**	**+1.9**
KRBR	**Kerman**	**4.95**	**105**	Pn	**Pn**	**12 58 13.3**	**+1.6**
NGRK	**Negar Kerman**	**5.04**	**109**	Pn	**Pn**	**12 58 15.1**	**+2.2**
WANAN	**Al Wanan**	**5.10**	**209**	S	**Sn**	**12 59 14.8**	**+2.3**
WANAN	**Al Wanan**	**5.10**	**209**	P	**Pn**	**12 58 14.8**	**+1.4**
QYSM	**Um Kedad**	**5.20**	**228**	P	**Pg**	**12 58 33.6**	**-2.9**
IDHR	**Dehrash**	**5.25**	**310**	Pn	**Pn**	**12 58 18.0**	**+2.4**
BOQSS		**5.75**	**197**	P	**Pn**	**12 58 24.9**	**+2.4**
GENO	**Geno**	**5.86**	**132**	Pn	**Pn**	**12 58 26.2**	**+2.2**
SMAN	**Sihmah**	**5.91**	**209**	P	**Pg**	**12 58 49.7**	**-0.4**
TAPT	**Tabas- Tapeh t**	**6.05**	**53**	Pn	**Pn**	**12 58 28.4**	**+1.8**
NHFOF	**Ain Dar Gosp**	**6.07**	**197**	S	**Sn**	**12 59 36.7**	**+0.5**
NHFOF	**Ain Dar Gosp**	**6.07**	**197**	P	**Pn**	**12 58 28.2**	**+1.5**
HOFOF	**Al Hofuf**	**6.10**	**192**	P	**Pn**	**12 58 28.9**	**+1.7**
RQBS	**RQBS**	**6.14**	**230**	P	**Pn**	**12 58 28.4**	**+0.7**
SHOFU	**Shofu**	**6.53**	**192**	P	**Pn**	**12 58 34.3**	**+1.2**
BSRN	**Basiran**	**6.73**	**83**	Pn	**Pn**	**12 58 37.7**	**+1.7**
SHME	**Shamm**	**6.84**	**140**	P	**Pn**	**12 58 37.2**	**-0.2**
NHRD	**Haradh**	**6.94**	**197**	P	**Pn**	**12 58 39.7**	**+0.9**
RMAH	**Rumah**	**7.16**	**214**	P	**Pn**	**12 58 44.9**	**+3.1**
BTHS		**7.34**	**183**	P	**Pn**	**12 58 44.8**	**+0.6**
MSFE	**Esma-Masafi**	**7.41**	**143**	P	**Pn**	**12 58 44.5**	**-0.7**
MSFE				S	**Sn**	**13 00 05.4**	**-4.0**
MDH	**Madha**	**7.53**	**143**	P	**Pn**	**12 58 46.1**	**-0.7**
ASUD	**Al Ashush, Dub**	**7.65**	**151**	P	**Pn**	**12 58 49.2**	**+0.8**
UOSS	**Minazif**	**7.77**	**145**		**Pn**	**12 58 49.3**	**-0.9**
UOSS	**Minazif**	**7.77**	**145**	P	**Pn**	**12 58 49.5**	**-0.6**
HATD	**Hatta, Dubai**	**7.84**	**145**	P	**Pn**	**12 58 50.9**	**-0.2**
ALNE	**Al Ain**	**8.33**	**150**	P	**Pn**	**12 58 57.1**	**-0.7**
RAYN	**Ar Rayn**	**9.36**	**214**		**Pn**	**12 59 11.3**	**-0.7**
RAYN	**Ar Rayn**	**9.36**	**214**	P	**Pn**	**12 59 11.7**	**-0.3**
WSAR	**Wadi Sarin**	**10.44**	**139**	Pn	**Pn**	**12 59 28.2**	**+1.4**
	baz=348,slow=24,SNR=10						
WSAR				Sn	**Sn**	**13 01 16.0**	**-7.9**
	baz=239,slow=24,SNR=5.0						
MARD	**Mardin**	**10.47**	**307**		**Pn**	**12 59 26.4**	**-0.9**
ASF	**Jabal al Asfar**	**12.24**	**277**	Pn	**Pn**	**12 59 48.1**	**-3.3**
	comp=Z,1.9nm,0.3s,baz=94,slow=4.5,SNR=6.1						
ASF				Sn	Sn	13 01 56.5	-12
	comp=Z,0.4nm,0.3s,baz=141,slow=12,SNR=1.2						
	comp=Z,2.6nm,0.4s						
GHAJ	**Ghor Haditha**	**13.41**	**274**	Pn	**Pn**	**13 00 06.7**	**-0.6**
MMAI	**Mount Meron Ar**	**13.52**	**281**	Pn	**Pn**	**13 00 06.3**	**-2.6**
	comp=Z,2.7nm,0.3s,baz=96,slow=15,SNR=1.8						
	comp=Z,1.9nm,0.6s						
KBZ	**Khabaz**	**13.96**	**334**	LR	LR	13 06 04.5	
	comp=Z,147nm,18.2s,baz=142,slow=40						
KIV	**Kislovodsk**	**14.24**	**334**	Pn	**Pn**	**13 00 19.5**	**+0.8**
BR131	**Keskin Array S**	**16.55**	**305**		**Pn**	**13 00 49.4**	**+0.2**
BRTR	**Keskin Array B**	**16.55**	**305**		**Pn**	**13 00 49.3**	**+0.2**
BRTR	**Keskin Array B**	**16.55**	**305**	Pn	**Pn**	**13 00 49.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=128,slow=8.5,SNR=6.4						
	comp=Z,4.3nm,0.7s						
MDUB	**Mudurnu**	**18.56**	**305**	P	**P**	**13 01 13.5**	**-0.5**
AKTO	**Aktyubinsk**	**19.67**	**13**	P	**P**	**13 01 25.9**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=24,slow=12,SNR=2.8						
	comp=Z,2.8nm,0.7s						
MANT	**Manisa**	**19.88**	**297**		**P**	**13 01 27.9**	**-0.6**
BELG	**Belogornoye**	**21.14**	**354**	P	**P**	**13 01 40.9**	**-1.0**
	comp=Z,15nm,0.6s,baz=244,slow=1.5,SNR=3.6						
	comp=Z,15nm,0.6s						
IDI	**Anoyia**	**22.34**	**287**	P	**P**	**13 01 54.0**	**-1.0**
	comp=Z,25nm,1.0s,baz=72,slow=13,SNR=3.8						
	comp=Z,25nm,1.0s						
ALN	**Alexandroupoli**	**22.39**	**302**		**P**	**13 01 55.0**	**-0.4**
ALN				IAmb	IAmb	13 01 59.5	
	comp=Z,15nm,0.8s						
RDO	**Rodhopi**	**22.83**	**302**		**P**	**13 01 59.9**	**-0.1**
RDO				IAmb	IAmb	13 02 20.1	
	comp=Z,14nm,0.8s						
LIT	**Litokhoron**	**24.82**	**298**	P	**P**	**13 02 19.1**	**-0.3**
LIT				IAmb	IAmb	13 02 44.8	
	comp=Z,12nm,0.8s						
ITM	**Ithomi**	**24.85**	**291**		**P**	**13 02 18.9**	**-0.7**
AKASG	**Malin Array Be**	**25.28**	**326**	P	**P**	**13 02 24.0**	**+0.7**
AKASG	**Malin Array Be**	**25.28**	**326**	P	**P**	**13 02 22.9**	**-0.4**
	comp=Z,7.1nm,0.6s,baz=134,slow=8.3,SNR=33						
	comp=Z,7.1nm,0.6s						
AKBB	**Malin Array Si**	**25.28**	**326**		**P**	**13 02 22.9**	**-0.4**
KIEV	**Kiev**	**25.29**	**326**		**P**	**13 02 23.0**	**-0.4**
BURAR	**Bucovina Array**	**25.63**	**317**		**P**	**13 02 26.1**	**-0.5**
BURAR				IAmb	IAmb	13 02 33.3	
	comp=Z,7.3nm,0.8s						
BUR08	**Bucovina Ar. S**	**25.65**	**317**	P	**P**	**13 02 26.4**	**-0.5**
BUR08				IAmb	IAmb	13 02 41.0	
	comp=Z,15nm,0.8s						
BVAR	**Borovoye Array**	**25.68**	**27**	P	**P**	**13 02 27.8**	**+0.8**
	comp=Z,4.4nm,0.7s,baz=233,slow=6.9,SNR=4.7						
	comp=Z,4.4nm,0.7s						
FNA	**Florina**	**25.79**	**300**		**P**	**13 02 27.2**	**-1.0**
FNA				IAmb	IAmb	13 02 31.3	
	comp=Z,12nm,0.8s						
TIP	**Timpagrande**	**29.07**	**295**	P	**P**	**13 02 57.6**	**-0.1**
TIP				IAmb	IAmb	13 03 10.9	
	comp=Z,5.9nm,0.8s						
GUMA	**Gualdo di Mace**	**32.10**	**302**	P	**P**	**13 03 22.6**	**-1.7**
GUMA				IAmb	IAmb	13 03 53.5	
	comp=Z,8.7nm,0.9s						
ZALV	**Zalesovo Beam**	**32.92**	**37**	P	**P**	**13 03 32.7**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=254,slow=8.2,SNR=5.1						
	comp=Z,1.5nm,0.5s						
FINES	**FINESS Array B**	**34.25**	**339**	P	**P**	**13 03 43.0**	**+0.2**
FINES	**FINESS Array B**	**34.25**	**339**	P	**P**	**13 03 42.0**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=142,slow=9.3,SNR=7.0						
	comp=Z,3.4nm,0.8s						
KEST	**Kesra**	**34.99**	**289**	P	**P**	**13 03 48.2**	**-1.4**
	comp=Z,3.7nm,0.9s,baz=94,slow=14,SNR=2.6						
	comp=Z,3.7nm,0.9s						
BFO	**Black Forest**	**36.49**	**310**		**P**	**13 04 01.6**	**-0.6**
BNI	**Bardonecchia**	**37.11**	**304**		**P**	**13 04 06.8**	**-0.9**
BNI				IAmb	IAmb	13 04 23.5	
	comp=Z,8.9nm,0.8s						
HFS	**Hagfors**	**37.99**	**330**	P	**P**	**13 04 14.0**	**-0.7**
	comp=Z,4.1nm,0.5s,baz=136,slow=8.2,SNR=12						
	comp=Z,4.1nm,0.5s						
NB2	**NORSAR Subarra**	**39.51**	**331**	P	**P**	**13 04 25.8**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=123,slow=8.6						
NOA	**NORSAR Array B**	**39.51**	**331**	P	**P**	**13 04 25.7**	**-1.8**
	comp=Z,0.9nm,0.6s,baz=122,slow=8.3,SNR=3.7						
	comp=Z,0.9nm,0.6s						
ARCES	**ARCESS Array B**	**40.87**	**346**	P	**P**	**13 04 38.5**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=125,slow=7.6,SNR=6.2						
	comp=Z,1.9nm,0.6s						
EKA	**Eskdalemuir Ar**	**44.78**	**319**	P	**P**	**13 05 09.9**	**-0.7**
	comp=Z,0.2nm,0.2s,baz=98,slow=7.5,SNR=1.4						
	comp=Z,0.2nm,0.2s						
CMAR	**Chiang Mai Arr**	**44.80**	**95**	P	**P**	**13 05 11.5**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=290,slow=7.2,SNR=2.9						
	comp=Z,1.1nm,0.3s						
ESDC	**Sonseca Array**	**45.08**	**296**	P	**P**	**13 05 13.0**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=82,slow=8.2,SNR=5.4						
	comp=Z,1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**48.89**	**260**	P	**P**	**13 05 42.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**48.89**	**260**	P	**P**	**13 05 43.0**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=51,slow=8.5,SNR=9.9						
	comp=Z,2.0nm,0.5s						
SPITS	**Spitsbergen Ar**	**49.31**	**351**	P	**P**	**13 05 46.2**	**+0.6**
	comp=Z,12nm,1.0s,baz=133,slow=8.5,SNR=1.9						
	comp=Z,12nm,1.0s						
TIXI	**Tiksi**	**56.64**	**22**	P	**P**	**13 06 42.0**	**+2.3**
KSRS	**Korea Array**	**61.91**	**61**	P	**P**	**13 07 18.2**	**+1.4**
	comp=Z,1.3nm,0.9s,baz=275,slow=5.6,SNR=2.8						
	comp=Z,1.3nm,0.9s						
SCHQ	**Schefferville**	**79.05**	**329**	P	**P**	**13 09 00.8**	**-0.4**
	comp=Z,30nm,0.9s,baz=11,slow=5.2,SNR=2.1						
BMAR	**Burnt Mountain**	**80.75**	**6**	P	**P**	**13 09 11.0**	**+0.8**
IMAR	**Indian Mountai**	**81.03**	**10**	P	**P**	**13 09 12.4**	**+0.8**
G24K	**Hadweenzic Riv**	**81.17**	**7**	P	**P**	**13 09 13.7**	**+1.3**
G24K				IAmb	IAmb	13 09 33.9	
	comp=Z,5.9nm,1.2s						
ILAR	**Eielson Array**	**83.10**	**8**	P	**P**	**13 09 22.5**	**0.0**
	comp=Z,0.3nm,0.7s,baz=321,slow=3.8,SNR=7.2						
	comp=Z,0.3nm,0.7s						
BCAR	**Beaver Creek A**	**85.28**	**6**	P	**P**	**13 09 34.7**	**+1.0**
WRA	**Warramunga Arr**	**94.53**	**110**	P	**P**	**13 10 20.1**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=309,slow=4.5,SNR=4.7						
	comp=Z,0.2nm,0.7s						
ASAR	**Alice Springs**	**96.12**	**114**	P	**P**	**13 10 27.6**	**+2.3**
	comp=Z,0.2nm,0.6s,baz=294,slow=4.9,SNR=1.3						
	comp=Z,0.2nm,0.6s						
MAW	**Mawson**	**99.09**	**176**	LR	LR	13 53 03.2	
	comp=Z,130nm,18.6s,baz=31,slow=34						
QSPA	**South Pole Qui**	**121.24**	**180**	PKP	**PKPdf**	**13 15 48.4**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=249,slow=1.8,SNR=1.6						

*NEIC **16** 13:06:30.0±0.3,13°.6N±0°.1×144°.8E±0°.2,h127km±4km, mb4.3/12,Error ellipse: s-maj=24.1km s-min=13.7km az=106.0*
*IDC **16** 13:06:29.4±0.5,13°.57N×144°.80E,h126km±7km,mb3.3/8, mbtmp3.7/8,Error ellipse: s-maj=34.9km s-min=14.9km az=96.0*

ISC 16 13:06:29.5±0.9,13°.6N±0°.1×144°.8E±0°.2,h130km±8km,n30,
σ0s49/25,mb3.9/14,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.12**	**71**	P	**Pn**	**13 06 47.3**	**+0.2**
	2μm,0.3s,baz=288,slow=3.2,SNR=456						
GUMO				S	**Sn**	**13 07 00.2**	**-0.3**
	1μm,0.3s,baz=27,slow=22,SNR=53						
JOW	**Kunigami**	**20.31**	**313**	P	**P**	**13 10 55.0**	**-0.3**
H11S3	**WAKE ISLAND Hy**	**21.64**	**74**	T	T	13 33 54.8	
	baz=259,slow=75						
H11S1	**WAKE ISLAND Hy**	**21.66**	**74**	T	T	13 33 55.3	
	baz=259,slow=75						
H11S2	**WAKE ISLAND Hy**	**21.66**	**74**	T	T	13 33 55.6	
	baz=259,slow=75						
H11N1	**WAKE ISLAND Hy**	**22.07**	**71**	T	T	13 34 26.9	
	baz=256,slow=75,SNR=8.8						
H11N2	**WAKE ISLAND Hy**	**22.08**	**71**	T	T	13 34 27.9	
	baz=256,slow=75,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**22.09**	**71**	T	T	13 34 28.3	
	baz=256,slow=75,SNR=6.6						
JNU	**Nakatsue**	**23.23**	**329**	P	**P**	**13 11 24.2**	**-1.0**
MJAR	**Matsushiro Arr**	**23.64**	**347**	P	**P**	**13 11 29.5**	**+0.7**
	2.3nm,0.8s,baz=169,slow=10.0,SNR=4.6						
	2.3nm,0.8s						
MTN	**Manton Dam**	**29.49**	**208**	P	**P**	**13 12 20.7**	**-0.8**
MTN				IAmb	IAmb	13 12 55.6	
	comp=Z,22nm,1.3s						
SOEI	**Soe**	**30.81**	**222**	P	**P**	**13 12 33.3**	**0.0**
KNRA	**Kununurra**	**33.06**	**209**	P	**P**	**13 12 52.8**	**0.0**
KNRA				IAmb	IAmb	13 13 00.4	
	comp=Z,7.8nm,1.1s						
WB0	**Warramunga Arr**	**34.64**	**197**	P	**P**	**13 13 06.6**	**+0.1**
WB0				IAmb	IAmb	13 13 40.1	
	comp=Z,9.7nm,1.4s						
WR8	**Warramunga Arr**	**34.79**	**197**	P	**P**	**13 13 07.9**	**+0.2**
WR8				IAmb	IAmb	13 13 11.9	
	comp=Z,7.6nm,1.4s						
WRAB	**Tennant Creek**	**34.81**	**197**	P	**P**	**13 13 08.1**	**+0.1**
WRAB				IAmb	IAmb	13 13 09.9	
	comp=Z,2.9nm,1.1s						
WRA	**Warramunga Arr**	**34.82**	**197**	P	**P**	**13 13 08.3**	**+0.

VA03	**San Esteban**	**2.53**	**148**	*eP*		**Pn**	**13 40 26.1**	**+0.9**
VA03				*eS*		**Sb**	**13 40 59.8**	**-1.1**
VA03				IAML			13 41 09.4	
	comp=Z,712nm,0.6s							
ROCH	**El Roble**	**2.54**	**158**	IAML			13 41 12.0	
	comp=N,1μm,0.5s							
ROCH				⇓*eP*		**Pn**	**13 40 25.9**	**+0.5**
ROC1	**El Roble**	**2.54**	**158**	*eP*		Pn	13 40 20.6	-4.9
ROC1				*eS*		**Sb**	**13 41 01.1**	**-0.1**
AC04	**Llanos de Chal**	**2.57**	**21**			**Pn**	**13 40 24.4**	**-1.3**
AC04	**Llanos de Chal**	**2.57**	**21**	⇑*iP*		**Pn**	**13 40 24.3**	**-1.3**
AC04				IAML			13 41 08.8	
	comp=E,598nm,0.7s							
AC04	**Llanos de Chal**	**2.57**	**21**	*eP*		**Pn**	**13 40 24.1**	**-1.6**
AC04				*eS*		**Sn**	**13 40 58.6**	**+1.5**
AC04				IAML			13 41 18.1	
	comp=Z,322nm,0.7s							
ACDV	**Cuesta del Vie**	**2.64**	**81**	*eP*		**Pn**	**13 40 25.2**	**-1.6**
ACDV				IAML			13 41 11.8	
	comp=Z,370nm,0.6s							
ACCO	**Cerro Coronel**	**2.65**	**90**	*eP*		**Pn**	**13 40 25.3**	**-1.6**
ACCO				*eS*		**Sb**	**13 41 05.0**	**+0.7**
RTLS	**Leoncito**	**2.70**	**117**	*eP*		**Pb**	**13 40 31.1**	**-1.3**
RTLS				*eS*		**Sb**	**13 41 06.0**	**+0.1**
RTLS				IAML			13 41 11.0	
	comp=Z,993nm,0.5s							
MT02	**Curacav**	**2.77**	**162**			**Pn**	**13 40 28.6**	**+0.3**
MT02	**Curacav**	**2.77**	**162**	*eP*		**Pn**	**13 40 28.6**	**+0.3**
MT02	**Curacav**	**2.77**	**162**	*eP*		**Pn**	**13 40 29.6**	**+1.2**
MT02				*eS*		**Sb**	**13 41 05.7**	**-1.9**
MT02				IAML			13 41 18.9	
	comp=Z,289nm,0.5s							
PEL	**Peldehue**	**2.81**	**154**			**Pn**	**13 40 29.5**	**+0.6**
PEL	**Peldehue**	**2.81**	**154**	*eP*		**Pn**	**13 40 25.2**	**-3.7**
PEL				*eS*		**Sb**	**13 41 08.7**	**0.0**
PEL				IAML			13 41 19.9	
	comp=Z,461nm,1.7s							
MT05	**Renca**	**3.01**	**157**			**Pn**	**13 40 32.2**	**+0.5**
MT05	**Renca**	**3.01**	**157**	*eP*		**Pn**	**13 40 31.6**	**-0.1**
MT05				*eS*		**Sn**	**13 41 09.8**	**+1.7**
MT05				IAML			13 41 31.4	
	comp=Z,347nm,0.9s							
MT03	**Universidad Ad**	**3.19**	**155**	Pn		**Pn**	**13 40 34.9**	**+0.8**
MT03	**Universidad Ad**	**3.19**	**155**	*eP*		**Pn**	**13 40 35.6**	**+1.4**
MT03				*eS*		**Sn**	**13 41 14.8**	**+2.4**
MT03				IAML			13 41 30.1	
	comp=Z,326nm,0.5s							
MT04	**Ro Olivares**	**3.26**	**149**	*eP*		**Pn**	**13 40 37.4**	**+2.1**
MT04				*eS*		**Sb**	**13 41 20.4**	**-1.5**
MT04				IAML			13 41 29.0	
	comp=Z,261nm,0.6s							
MT01	**Popeta**	**3.33**	**167**			**Pn**	**13 40 36.2**	**+0.2**
MT01	**Popeta**	**3.33**	**167**	*eP*		**Pn**	**13 40 36.0**	**0.0**
MT01				IAML			13 41 36.3	
	comp=E,424nm,0.6s							
MT01	**Popeta**	**3.33**	**167**	*eP*		**Pn**	**13 40 35.8**	**-0.2**
MT01				*eS*		**Sn**	**13 41 18.4**	**+2.6**
MT01				IAML			13 41 42.4	
	comp=Z,144nm,0.6s							
MT08	**Bocatoma Ro**	**3.35**	**148**	*eP*		**Pn**	**13 40 38.6**	**+2.1**
MT08				*eS*		**Sb**	**13 41 20.0**	**-4.4**
MT08				IAML			13 41 37.9	
	comp=Z,204nm,0.7s							
AGUA	**GUANDACOL**	**3.35**	**71**	*eP*		**Pn**	**13 40 39.5**	**+3.1**
AGUA				IAML			13 41 41.6	
	comp=Z,366nm,0.6s							
GO03	**Copiapo**	**3.44**	**29**			**Pn**	**13 40 36.5**	**-1.1**
GO03	**Copiapo**	**3.44**	**29**	*eP*		**Pn**	**13 40 37.6**	**0.0**
GO03				*eS*		**Sb**	**13 41 28.4**	**+1.7**
GO03				IAML			13 41 40.5	
	comp=Z,246nm,0.7s							
ASAL	**Salagasta**	**3.44**	**126**	*eS*		**Sg**	**13 41 33.0**	**-1.1**
MT13	**San Alfonso**	**3.49**	**154**			**Pn**	**13 40 38.8**	**+0.4**
LMEL	**Las Melosas**	**3.62**	**154**	*eP*		**Pn**	**13 40 42.2**	**+2.0**
LMEL				IAML			13 41 39.1	
	comp=Z,133nm,0.8s							
BO01	**Tunca**	**3.87**	**167**			**Pn**	**13 40 43.7**	**+0.2**
BO01	**Tunca**	**3.87**	**167**	*eP*		**Pn**	**13 40 39.3**	**-4.2**
BO01				IAML			13 41 52.3	
	comp=Z,110nm,0.7s							
VCA	**Vinchina**	**3.90**	**62**	IAML			13 41 56.7	
	comp=Z,397nm,0.9s							
AVFE	**Valle Fertil**	**4.03**	**92**	*eP*		**Pn**	**13 40 42.5**	**-3.3**
BO02	**Sierra Bellavi**	**4.32**	**165**			**Pn**	**13 40 50.2**	**+0.4**
AC02	**Maricunga**	**4.60**	**36**	Pn		**Pn**	**13 40 51.2**	**-2.7**
AC01	**Pan de Azucar**	**4.65**	**17**			**Pn**	**13 40 51.6**	**-2.6**
H03N1	**Juan Fernandez**	**6.41**	**242**	T		T	13 48 23.7	
	baz=71,slow=72,SNR=544							
H03N2	**Juan Fernandez**	**6.42**	**242**	T		T	13 48 18.4	
	baz=71,slow=72,SNR=470							
H03N3	**Juan Fernandez**	**6.42**	**242**	T		T	13 48 17.3	
	baz=71,slow=72,SNR=485							
PLCA	**Paso Flores**	**10.18**	**173**	Pn		**Pn**	**13 42 10.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=344,slow=10,SNR=3.4							
PLCA				Lg		Lg	13 44 52.9	
	baz=218,slow=19,SNR=1.2							
PLCA				LR		LR	13 46 49.9	
	comp=Z,78nm,21.4s,baz=22,slow=42							
	comp=Z,1.7nm,0.8s							
CPUP	**Villa Florida**	**13.70**	**76**	Pn		Pn	13 42 53.2	-5.0
	comp=Z,0.1nm,0.3s,baz=83,slow=20,SNR=1.6							
CPUP				Lg		Lg	13 46 46.6	
	baz=168,slow=20,SNR=2.0							
	comp=Z,0.5nm,0.8s							
LPAZ	**La Paz**	**14.72**	**15**	Pn		**Pn**	**13 43 10.3**	**-2.6**
LPAZ	**La Paz**	**14.72**	**15**	Pn		**Pn**	**13 43 13.8**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=213,slow=6.3,SNR=5.7							
	comp=Z,0.7nm,0.5s							
BDFB	**Brasilia**	**26.64**	**61**	P		**P**	**13 45 21.8**	**-1.3**
	comp=Z,2.2nm,0.4s,baz=197,slow=11,SNR=1.7							
	comp=Z,2.2nm,0.4s							
MAL2	**Monte Alegre,**	**33.14**	**34**	P		**P**	**13 46 19.0**	**-1.6**
BOAV	**Boa Vista**	**34.64**	**21**	P		**P**	**13 46 32.3**	**-1.3**
BOAV				IAmb		IAmb	13 46 36.2	
	comp=Z,5.0nm,1.3s							
SNAA	**Sanae**	**54.75**	**159**	P		**P**	**13 49 13.7**	**+0.3**
SNAA				IAmb		IAmb	13 49 45.1	
	comp=Z,7.3nm,1.4s							
SNAA	**Sanae**	**54.75**	**159**	P		**P**	**13 49 14.0**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=276,slow=8.6,SNR=24							
	comp=Z,1.6nm,0.6s							
QSPA	**South Pole Qui**	**59.61**	**180**	P		**P**	**13 49 49.2**	**+1.2**
QSPA				IAmb		IAmb	13 49 59.3	
	comp=Z,3.5nm,1.1s							
QSPA	**South Pole Qui**	**59.61**	**180**	P		**P**	**13 49 49.8**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=79,slow=5.2,SNR=4.1							
	comp=Z,1.4nm,0.8s							
TXAR	**Lajitas Array**	**66.75**	**330**	P		**P**	**13 50 37.2**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=135,slow=4.7,SNR=2.0							
	comp=Z,0.1nm,0.5s							
BOSA	**Boshof**	**81.73**	**118**	LR		LR	14 25 33.9	
	comp=Z,23nm,18.4s,baz=12,slow=34							
TORD	**Torodi Ar. Bea**	**83.14**	**70**	P		**P**	**13 52 10.7**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=279,slow=4.4,SNR=6.9							
	comp=Z,1.2nm,0.8s							
LBTB	**Lobatse**	**83.81**	**115**	LR		LR	14 27 39.8	
	comp=Z,30nm,19.3s,baz=344,slow=34							
H11S2	**WAKE ISLAND Hyl**	**25.67**	**272**	T		T	16 17 23.2	
	baz=115,slow=75,SNR=8.3							
H11S1	**WAKE ISLAND Hyl**	**25.68**	**272**	T		T	16 17 25.5	
	baz=115,slow=75,SNR=7.9							
H11S3	**WAKE ISLAND Hyl**	**25.69**	**272**	T		T	16 17 24.5	
	baz=115,slow=75,SNR=8.0							
BVAR	**Borovoye Array**	**144.79**	**40**	PKP		**PKPdf**	**13 59 21.1**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=316,slow=4.1,SNR=4.9							
KURBB	**Kurchatov Arra**	**150.38**	**39**	PKPbc		**PKPbc**	**13 59 35.6**	**+0.3**
	comp=Z,0.3nm,0.2s,baz=297,slow=3.1,SNR=10							
ZALV	**Zalesovo Beam**	**151.36**	**29**	PKPbc		**PKiKP**	**13 59 38.2**	**+0.3**
	comp=Z,4.9nm,0.6s,baz=303,slow=3.6,SNR=23							

*IDC **16** 13:40:03.1±4.8,6°.52S×130°.00E,h118km±40km, mb3.8/8, mbtmp4.3/12, MS3.5/3, Error ellipse: s-maj=54.3km s-min=16.7km az=71.0*
*NEIC **16** 13:40:06.1±2.2,6°.43S±0°.07×129°.7E±0°.1,h152km±8km, mb4.0/8, Error ellipse: s-maj=15.9km s-min=9.5km az=98.0*
*DJA **16** 13:40:07.1±0.2,7°.S±2°.×13°.0E±°,h170km±5km, M4.4/15, mB5.0/7, mb4.5/12, MLv4.5/15, Mw(mB)4.3/7*

ISC 16 13:40:06.0±0.6,**6°.63S**±0°.05×**129°.73E**±0°.06,**h150**km,**n55,** σ**2s31/56, mb3.9**/10, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.05**	**131**		**Pn**	**13 40 43.6**	**+1.8**
SAUI	**Saumlaki**	**2.05**	**131**	P	**Pn**	**13 40 44.0**	**+2.2**
SAUI	**Saumlaki**	**2.05**	**131**	P	**Pn**	**13 41 13.9**	**+4.6**
SAUI	**Saumlaki**	**2.05**	**131**	P	**Pn**	**13 40 43.9**	**+2.2**
SAUI				S	**Sn**	**13 41 11.0**	**+1.7**
BNDI	**Bandanaira**	**2.10**	**5**	P	**Pn**	**13 40 44.8**	**+2.4**
BNDI	**Bandanaira**	**2.10**	**5**	P	**Pn**	**13 40 44.6**	**+2.2**
MSAI	**Masohi**	**3.36**	**346**	P	**Pn**	**13 41 01.5**	**+3.5**
NLAI	**Namlea**	**4.27**	**322**	P	**Pn**	**13 41 13.7**	**+3.8**
FAKI	**Fak Fak**	**4.46**	**34**		**Pn**	**13 41 11.0**	**-1.3**
FAKI	**Fak Fak**	**4.46**	**34**	P	**Pn**	**13 41 11.1**	**-1.3**
FAKI	**Fak Fak**	**4.46**	**34**	P	**Pn**	**13 41 10.9**	**-1.5**
KMPI	**Kaimana, Papua**	**4.94**	**53**	P	**Pn**	**13 41 17.7**	**-0.9**
DRS	**Darwin Rock St**	**5.88**	**169**	P	**Pn**	**13 41 31.7**	**+0.6**
SANI	**Sanana**	**5.89**	**320**	P	**Pn**	**13 41 34.0**	**+2.7**
SWI	**Sorong**	**5.93**	**15**	P	**Pn**	**13 41 30.7**	**-1.1**
SOEI	**Soe**	**6.24**	**240**		**Pn**	**13 41 37.9**	**+1.9**
SOEI	**Soe**	**6.24**	**240**	P	**Pn**	**13 41 38.5**	**+2.5**
SOEI	**Soe**	**6.24**	**240**	P	**Pn**	**13 41 38.1**	**+2.1**
	0.6nm3μm139nm,0.9s						
MTN	**Manton Dam**	**6.32**	**167**		**Pn**	**13 41 37.4**	**+0.3**
MTN	**Manton Dam**	**6.32**	**167**	P	**Pn**	**13 41 37.4**	**+0.3**
KDU	**Kakadu**	**6.59**	**156**	P	**Pn**	**13 41 40.9**	**+0.2**
RKPI	**Ransiki, Papua**	**6.75**	**41**	P	**Pn**	**13 41 42.4**	**-0.4**
BATI	**Baumata**	**6.97**	**239**	P	**Pn**	**13 41 48.0**	**+2.2**
	83nm,0.4s,baz=152,slow=2.2,SNR=26						
BATI				S	**Sn**	**13 43 02.3**	**-1.7**
	62nm,0.3s,baz=347,slow=20,SNR=7.5						
BATI	**Baumata**	**6.97**	**239**	P	**Pn**	**13 41 47.7**	**+1.9**
	0.5nm3μm113nm,0.8s						
BAKI	**Biak**	**8.35**	**50**	P	**Pn**	**13 42 04.8**	**+0.7**
	1μm117nm,0.9s						
KNRA	**Kununurra**	**9.04**	**186**		**Pn**	**13 42 12.3**	**-0.9**
PLAI	**Plampang**	**12.05**	**259**	P	**Pn**	**13 42 55.0**	**+2.0**
	22nm,1.0s						
FITZ	**Fitzroy Crossi**	**12.07**	**199**	Pn	**Pn**	**13 42 51.7**	**-1.6**
FITZ	**Fitzroy Crossi**	**12.07**	**199**	P	**Pn**	**13 42 52.0**	**-1.3**
	7.6nm,0.3s,baz=19,slow=9.4,SNR=79						
FITZ				S	Sn	13 44 57.4	-9.5
	9.3nm,0.4s,baz=80,slow=18,SNR=6.2						
WB0	**Warramunga Arr**	**13.82**	**161**		**Pn**	**13 43 12.6**	**-3.1**
WRAB	**Tennant Creek**	**13.96**	**162**		**Pn**	**13 43 15.6**	**-1.9**
WRA	**Warramunga Arr**	**13.97**	**162**	P	**Pn**	**13 43 15.3**	**-2.3**
	3.0nm,0.3s,baz=346,slow=12,SNR=32						
WRA				S	Sn	13 45 39.6	-13
	8.4nm,0.5s,baz=334,slow=22,SNR=12						
WR8	**Warramunga Arr**	**14.03**	**161**		**Pn**	**13 43 16.4**	**-2.0**
COEN	**Coen**	**15.09**	**120**	P	**P**	**13 43 33.8**	**+0.4**
COEN				IAmb	IAmb	13 43 36.9	
	comp=Z,9.5nm,0.8s						
AS31	**Alice Springs**	**17.40**	**167**	P	**P**	**13 43 59.7**	**+0.8**
AS31				IAmb	IAmb	13 44 19.1	
	comp=Z,3.5nm,0.4s						
ASAR	**Alice Springs**	**17.41**	**167**		**Pn**	**13 44 00.4**	**+0.5**
ASAR	**Alice Springs**	**17.41**	**167**	P	**Pn**	**13 44 00.1**	**+0.3**
	comp=Z,2.7nm,0.4s,baz=342,slow=9.1,SNR=57						
ASAR				S	**S**	**13 47 03.0**	**-10**
	comp=Z,0.9nm,0.6s,baz=324,slow=16,SNR=4.1						
PSA00	**Pilbara Seismi**	**17.66**	**212**		**Pn**	**13 44 03.4**	**+0.5**
PSA00	**Pilbara Seismi**	**17.66**	**212**		**P**	**13 44 03.0**	**+1.3**
PSA00				IAmb	IAmb	13 44 10.8	
	comp=Z,3.9nm,1.0s						
SBUM	**Sibu**	**19.67**	**297**	P	**P**	**13 44 21.8**	**-1.8**
CMAR	**Chiang Mai Arr**	**39.29**	**310**	P	**P**	**13 47 21.2**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=140,slow=7.3,SNR=9.0						
	comp=Z,1.4nm,0.7s						
KSAR	**Wonju Array Be**	**43.88**	**358**	P	**P**	**13 47 53.9**	**-3.6**
LZDM	**Lanzhou Array**	**48.92**	**332**	LR	LR	14 11 28.9	
	comp=Z,39nm,20.0s,baz=180,slow=38						
SONM	**Songino Array**	**58.01**	**342**	P	**P**	**13 49 43.7**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=162,slow=5.3,SNR=3.6						
	comp=Z,0.5nm,0.4s						
PETK	**Petropavlovsk-**	**64.06**	**18**	LR	LR	14 16 19.6	
	comp=Z,27nm,20.8s,baz=220,slow=34						
MKAR	**Makanchi Array**	**67.78**	**327**	P	**P**	**13 50 48.8**	**+1.2**
	comp=Z,1.4nm,0.4s,baz=114,slow=7.9,SNR=23						
	comp=Z,1.4nm,0.4s						
MAKZ	**Makanchi**	**67.95**	**327**	P	**P**	**13 50 46.7**	**-2.0**
MAKZ				IAmb	IAmb	13 51 03.5	
	comp=Z,2.9nm,1.2s						
ZALV	**Zalesovo Beam**	**71.14**	**334**	P	**P**	**13 51 05.6**	**-2.5**
ZALV	**Zalesovo Beam**	**71.14**	**334**	P	**P**	**13 51 08.4**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=118,slow=5.9,SNR=5.2						
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**72.06**	**329**	P	**P**	**13 51 14.5**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=129,slow=4.8,SNR=20						
	comp=Z,1.5nm,0.3s						
KURK	**Kurchatov**	**72.07**	**329**	P	**P**	**13 51 14.0**	**+0.3**
KURK				IAmb	IAmb	13 51 15.4	
	comp=Z,2.9nm,0.9s						
MAW	**Mawson**	**75.19**	**201**	P	**P**	**13 51 33.3**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=75,slow=6.4,SNR=6.3						
	comp=Z,0.7nm,0.4s						
BVAR	**Borovoye Array**	**77.61**	**328**	P	**P**	**13 51 46.5**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=108,slow=4.8,SNR=6.1						
	comp=Z,1.5nm,0.7s						
QSPA	**South Pole Qui**	**83.34**	**180**	P	**P**	**13 52 18.4**	**+2.4**
QSPA	**South Pole Qui**	**83.34**	**180**	P	**P**	**13 52 17.7**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=257,slow=1.0,SNR=9.5						
QSPA				LR	LR	14 28 43.7	
	comp=Z,35nm,18.5s,baz=47,slow=35						
	comp=Z,0.8nm,0.5s						

NOU 16 13:43:02.3,10°.72S×165°.29E,h11km,mb5.3/12, Santa Cruz Islands, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUES	**Luesalemba Tem**	**0.62**	**85**	P	Pg	13 43 14.2	-0.1
LUES	**Luesalemba Tem**	**0.62**	**85**	S	Sb	13 43 23.6	-0.2
HURO	**Huro Makira**	**3.34**	**274**	P	Pn	13 43 54.3	-0.2
HURO	**Huro Makira**	**3.34**	**274**	S	Sn	13 44 34.5	+0.3
ALEG	**Aligegeo Malai**	**4.93**	**293**	P	Pn	13 44 16.6	+0.2
ALEG	**Aligegeo Malai**	**4.93**	**293**	S	Sn	13 45 13.4	-0.1
SANVU	**Saraoutou**	**5.05**	**159**	P	Pn	13 44 18.7	+0.6
SANVU	**Saraoutou**	**5.05**	**159**	S	Sn	13 45 16.6	+0.1
NGOA	**Tingoa Renbel**	**5.20**	**260**	P	Pn	13 44 18.6	-1.4
SAVO	**Savo Central**	**5.62**	**286**	P	Pn	13 44 27.6	+1.8
TATA	**Tatamba Isabel**	**5.89**	**293**	P	Pn	13 44 30.3	+0.8

*BGSI **16** 13:53:17.2±1.8,26°.94S×27°.87E,h67km±38km, ML2.7*
*PRE **16** 13:53:17.6±0.8,26°.33S×27°.42E,h2km,ML2.4*

ISC 16 13:53:17.9±0.9,**26°.41S**±0°.04×**27°.45E**±0°.05,**h5**km,**n18,** σ**1s93/35, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HRAO	**HartRAO**	**0.56**	**22**	*eP*	**Pg**	**13 53 27.3**	**-1.2**
HRAO				*eS*	**Sg**	**13 53 34.4**	**-1.5**
HRAO				IAML		13 53 44.3	
	comp=Z,122nm,0.1s						
CRLN	**Carolina, Mapu**	**2.35**	**81**	*eP*	**Pn**	**13 53 58.3**	**+1.0**
CRLN				*eS*	**Sn**	**13 54 27.9**	**+1.3**
CRLN				IAML		13 54 28.5	
	comp=Z,19nm,0.2s						
MAKGR	**Makgori**	**2.46**	**283**	*i* P	**Pn**	**13 53 60.0**	**+1.3**
MAKGR				*i* S	**Sb**	**13 54 33.6**	**+0.4**
MAKGR				IAML		13 54 39.0	
	comp=N,258nm,0.7s						
BOSA	**Boshof**	**2.94**	**221**	*eP*	**Pn**	**13 54 06.5**	**+1.1**
BOSA				*eS*	**Sn**	**13 54 43.4**	**+2.2**
BOSA				IAML		13 54 52.3	
	comp=N,40nm,0.7s						
LPHEP	**Lephephe**	**3.36**	**334**	*i* P	**Pn**	**13 54 14.6**	**+3.5**
LPHEP				*i* S	**Sb**	**13 54 57.7**	**-1.5**
LPHEP				IAML		13 55 11.2	
	comp=N,17nm,0.5s						
SKOMA	**Sekoma**	**3.70**	**300**	*i* P	**Pn**	**13 54 19.2**	**+3.5**
SKOMA				*i* S	**Sn**	**13 55 03.5**	**+3.7**
SKOMA				IAML		13 55 19.2	
	comp=N,32nm,0.5s						
MREMI	**Moremi**	**3.82**	**360**	*i* P	**Pn**	**13 54 18.8**	**+1.3**
KSTD	**Kokstad**	**4.50**	**159**	*eP*	**Pn**	**13 54 29.3**	**+2.4**
KSTD				*eS*	**Sn**	**13 55 21.6**	**+1.9**
KSTD				IAML		13 55 38.3	
	comp=Z,4.9nm,0.4s						
HVD	**Gariep Dam**	**4.52**	**202**	*eP*	**Pn**	**13 54 28.2**	**+1.0**
HVD				*eS*	**Sn**	**13 55 21.2**	**+1.0**
BROLN	**Tlhalogang**	**5.28**	**359**	*i* P	**Pn**	**13 54 39.9**	**+2.2**
BROLN				*i* S	**Sn**	**13 55 38.4**	**-0.6**
BROLN				IAML		13 56 05.0	
	comp=E,11nm,1.2s						
ALKP	**Alkanpan, Nort**	**5.79**	**231**	*eP*	**Pn**	**13 54 45.3**	**+0.7**
ALKP				*eS*	**Sn**	**13 55 50.4**	**-1.0**
ALKP				IAML		13 56 26.5	
	comp=Z,9.2nm,0.3s						
KEIM	**Keimoes**	**6.19**	**247**	*eP*	**Pn**	**13 54 50.6**	**+0.5**
KEIM				*eS*	**Sn**	**13 55 59.3**	**-2.0**
KEIM				IAML		13 56 37.4	
	comp=Z,6.7nm,0.4s						
BFON	**Badsfontein, M**	**6.30**	**211**	*eP*	**Pn**	**13 54 53.7**	**+2.1**
BFON				*eS*	**Sn**	**13 56 02.6**	**-1.4**
BFON				IAML		13 56 37.0	
	comp=Z,6.8nm,0.6s						
GRAF	**Camdeboo Natio**	**6.40**	**203**	*eP*	**Pn**	**13 54 54.7**	**+1.9**
GRAF				*eS*	**Sn**	**13 56 05.2**	**-1.1**
GRAF				IAML		13 56 43.8	
	comp=Z,5.9nm,0.4s						
BRAK	**Brakfontein**	**6.68**	**216**	*eP*	**Pn**	**13 54 58.9**	**+2.2**
BRAK				*eS*	**Sn**	**13 56 11.7**	**-1.5**
BRAK				IAML		13 56 56.2	
	comp=Z,8.3nm,0.7s						
ARMS	**Ukamas**	**7.06**	**255**	*eP*	**Pn**	**13 55 03.8**	**+1.9**
ARMS				*eS*	**Sn**	**13 56 20.4**	**-2.2**
GRAN	**Grantham**	**7.46**	**217**	*eP*	**Pn**	**13 55 09.2**	**+1.7**
GRAN				*eS*	**Sn**	**13 56 30.6**	**-2.1**
GRAN				IAML		13 57 29.4	
	comp=Z,3.9nm,0.4s						
FRAZ	**Fraserburg**	**7.63**	**222**	*eP*	**Pn**	**13 55 11.6**	**+1.8**
FRAZ				*eS*	**Sn**	**13 56 34.8**	**-1.9**
FRAZ				IAML		13 57 20.4	
	comp=Z,4.8nm,0.5s						

*JMA **16** 13:59:00.2±0.2,23°.6N±0°.7×12°.2E±°,h37km±3km, MV3.3/15, TAIWAN REGION*
*TAP **16** 13:59:00.9,23°.66N×121°.58E,h33km,ML4.0,B*

ISC 16 13:59:00.9±0.9,**23°.66N**±0°.01×**121°.60E**±0°.02,**h33**km±3km, **n153,** σ**0s76/275, 8C-45D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.07**	**314**	⇑*iP*	**Pb**	**13 59 06.7**	**+0.2**
TEGC				S	**Sb**	**13 59 11.3**	**+0.9**
SHUL	**Shoufeng**	**0.13**	**347**	⇑*iP*	**Pb**	**13 59 07.1**	**+0.2**
SHUL				S	**Sb**	**13 59 11.9**	**+0.9**
EGFH	**Guangfu**	**0.15**	**273**	*i* P	**Pb**	**13 59 07.0**	**-0.1**
EGFH				*i* S	**Sb**	**13 59 11.3**	**0.0**
WARBT	**Fenglin Townsh**	**0.20**	**287**	⇓*iP*	**Pn**	**13 59 07.1**	**-0.1**
WARBT				*eS*	**Sb**	**13 59 11.3**	**-0.8**
TEYL	**Yanliau Villag**	**0.21**	**1**	⇑*iP*	**Pb**	**13 59 08.2**	**+0.7**
TEYL				*eS*	**Sb**	**13 59 13.8**	**+1.7**
ESL	**Shilin**	**0.21**	**316**	⇓*iP*	**Pn**	**13 59 07.3**	**-0.1**
ESL				*eS*	**Sb**	**13 59 11.9**	**-0.4**
HGSD	**Ruisui**	**0.23**	**223**	⇑*iP*	**Pb**	**13 59 08.1**	**+0.2**
HGSD				*eS*	**Sb**	**13 59 13.2**	**+0.8**
EHYH	**Wanrong**	**0.28**	**234**	⇓*iP*	**Pb**	**13 59 08.1**	**-0.3**
EHYH				S	**Sn**	**13 59 13.1**	**-0.3**
EHY	**Hungye**	**0.29**	**238**	⇓*iP*	**Pb**	**13 59 08.1**	**-0.5**
EHY				S	**Sn**	**13 59 13.0**	**-0.8**
HWA	**Hwalien**	**0.32**	**2**	⇑*iP*	**Pn**	**13 59 09.1**	**-0.1**
HWA				*eS*	**Sn**	**13 59 15.4**	**+1.0**
ETM	**Tongmen**	**0.32**	**343**	⇓*iP*	**Pb**	**13 59 08.6**	**-0.3**
ETM				*eS*	**Sn**	**13 59 14.5**	**0.0**
ECBN	**Changbin**	**0.37**	**201**	*eP*	**Pb**	**13 59 09.7**	**+0.1**
ECBN				*eS*	**Sn**	**13 59 16.6**	**+0.7**
YULB	**Yu-li**	**0.38**	**226**	⇓*iP*	**Pb**	**13 59 09.2**	**-0.6**
YULB				S	**Sb**	**13 59 14.8**	**-1.0**
LXIB	**Xiulin Townshi**	**0.40**	**335**	⇓*iP*	**Pb**	**13 59 09.5**	**-0.6**
LXIB				*eS*	**Sb**	**13 59 15.0**	**-1.4**
EYUL	**Yuli**	**0.40**	**219**	*eP*	**Pb**	**13 59 09.8**	**-0.2**
EYUL				*eS*	**Sb**	**13 59 15.1**	**-0.5**
**TWF1

ENTT	**Nioudou**	**0.97**	**358**	⇓P	**Pn**	**13 59 18.1**	**-0.2**
ENTT				eS	**Sn**	**13 59 31.3**	**+0.2**
NDS	**Dongshan**	**0.97**	**6**	*eP*	**Pn**	**13 59 18.4**	**+0.1**
NDS				eS	**Sn**	**13 59 30.9**	**-0.1**
LDUT	**Ludao**	**0.99**	**187**	*eP*	**Pn**	**13 59 16.8**	**-1.7**
WTP	**Ta-pu**	**0.99**	**246**	⇓*iP*	**Pb**	**13 59 19.4**	**-0.3**
WTP				eS	**Sb**	**13 59 33.1**	**+0.6**
TTN	**Taitung**	**0.99**	**205**	*eP*	**Pn**	**13 59 17.1**	**-1.4**
TTN				eS	**Sn**	**13 59 31.1**	**-0.3**
TWQ1	**Liyutan**	**1.02**	**312**	⇓P	**Pb**	**13 59 20.4**	**+0.3**
TWQ1				eS	**Sb**	**13 59 32.3**	**-0.8**
YHNB	**Yeheng**	**1.02**	**349**	⇓*iP*	**Pn**	**13 59 19.3**	**+0.2**
YHNB				eS	**Sn**	**13 59 31.5**	**-0.8**
NSK	**Sanguang**	**1.03**	**348**	⇓P	**Pn**	**13 59 19.4**	**+0.2**
NSK				eS	**Sn**	**13 59 32.0**	**-0.5**
CHN2	**Minshiung**	**1.03**	**263**	*eP*	**Pb**	**13 59 20.7**	**+0.4**
CHN2				*i* S	**Sb**	**13 59 35.3**	**+1.7**
WCHH	**Zhanghua**	**1.04**	**294**	⇓*eP*	**Pb**	**13 59 20.6**	**+0.2**
WCHH				S	**Sb**	**13 59 34.7**	**+1.1**
WCH1	**Changhua City**	**1.04**	**293**	*eP*	**Pb**	**13 59 20.6**	**+0.1**
WCH1				eS	**Sb**	**13 59 35.1**	**+1.2**
TWE	**Neicheng**	**1.06**	**4**	*eP*	**Pn**	**13 59 19.5**	**+0.1**
TWE				eS	**Sn**	**13 59 33.3**	**+0.3**
NFF	**Wufeng Townshi**	**1.06**	**336**	*eP*	**Pb**	**13 59 20.2**	**-0.6**
NFF				eS	**Sb**	**13 59 33.9**	**-0.6**
NSY	**Sanyi**	**1.07**	**315**	⇓*iP*	**Pb**	**13 59 21.7**	**+0.8**
NSY				eS	**Sb**	**13 59 36.0**	**+1.3**
CHY	**Chiayi**	**1.09**	**262**	*eP*	**Pb**	**13 59 21.0**	**-0.2**
CHY				S	**Sb**	**13 59 36.1**	**+1.0**
TWK	**Hsinying**	**1.09**	**249**	⇑*iP*	**Pb**	**13 59 21.2**	**-0.1**
TWK				S	**Sb**	**13 59 36.0**	**+0.8**
FUSB	**Fushanzhiwuyua**	**1.09**	**360**	*eP*	**Pn**	**13 59 20.1**	**+0.1**
FUSB				eS	**Sn**	**13 59 34.2**	**+0.1**
SNST	**Tainan City**	**1.10**	**247**	*eP*	**Pb**	**13 59 21.4**	**0.0**
SNST				*i* S	**Sb**	**13 59 35.8**	**+0.3**
WTK	**Tuku**	**1.11**	**272**	*eP*	**Pb**	**13 59 21.4**	**-0.1**
WTK				*i* S	**Sb**	**13 59 36.2**	**+0.5**
NSTT	**Nanjuang**	**1.11**	**331**	*eP*	**Pb**	**13 59 21.7**	**+0.1**
NSTT				eS	**Sb**	**13 59 35.0**	**-0.8**
WDJ	**Dajia District**	**1.11**	**308**	*eP*	**Pb**	**13 59 21.8**	**+0.2**
WDJ				eS	**Sb**	**13 59 36.5**	**+0.7**
LIOB	**Emei**	**1.11**	**332**	*eP*	**Pb**	**13 59 21.8**	**+0.1**
LIOB				eS	**Sn**	**13 59 34.7**	**+0.2**
NWLT	**Wulai**	**1.11**	**356**	*i* P	**Pn**	**13 59 20.7**	**+0.4**
NWLT				eS	**Sn**	**13 59 34.5**	**0.0**
NMLH	**Miaoli**	**1.14**	**320**	*eP*	**Pb**	**13 59 21.9**	**-0.2**
NMLH				eS	**Sb**	**13 59 37.1**	**+0.4**
KSHI	**Guanxi Townshi**	**1.18**	**341**	*eP*	**Pb**	**13 59 23.0**	**+0.3**
KSHI				eS	**Sb**	**13 59 37.6**	**-0.1**
ECL	**Taimali**	**1.21**	**209**	*eP*	**Pn**	**13 59 20.1**	**-1.5**
EGS		**1.22**	**15**	*eP*	**Pb**	**13 59 22.6**	**-0.8**
WTCT	**Ta-ch'eng**	**1.22**	**280**	*eP*	**Pb**	**13 59 22.9**	**-0.6**
WTCT				S	**Sb**	**13 59 39.8**	**+0.8**
ICHU	**Yijhu**	**1.24**	**256**	*eP*	**Pn**	**13 59 22.3**	**+0.3**
SBCB	**Hsinchu**	**1.26**	**334**	*eP*	**Pb**	**13 59 23.6**	**-0.5**
SBCB				eS	**Sb**	**13 59 40.4**	**+0.4**
WSF	**Szhu**	**1.26**	**269**	*eP*	**Pb**	**13 59 23.2**	**-0.9**
WSF				*i* S	**Sb**	**13 59 39.6**	**-0.4**
WSL	**Shuilin Townsh**	**1.26**	**264**	*eP*	**Pn**	**13 59 22.9**	**+0.7**
WSL				eS	**Sb**	**13 59 40.1**	**+0.1**
SSD	**Sandimen**	**1.27**	**224**	*eP*	**Pn**	**13 59 22.6**	**+0.2**
SSD				eS	**Sb**	**13 59 40.6**	**+0.3**
CHN3	**Shinhua**	**1.27**	**243**	*eP*	**Pb**	**13 59 24.3**	**0.0**
CHN3				eS	**Sb**	**13 59 42.4**	**+2.0**
HSN	**Hsinchu**	**1.27**	**333**	*eP*	**Pb**	**13 59 23.6**	**-0.8**
SCST	**Cishan**	**1.27**	**233**	*i* P	**Pb**	**13 59 24.7**	**+0.4**
SCST				eS	**Sb**	**13 59 42.6**	**+2.2**
NHDH	**Xindian Distri**	**1.30**	**357**	*eP*	**Pb**	**13 59 23.8**	**-0.9**
NHDH				eS	**Sn**	**13 59 39.6**	**+0.7**
CHN8	**Yiju**	**1.31**	**256**	*eP*	**Pn**	**13 59 23.6**	**+0.7**
CHN8				eS	**Sb**	**13 59 41.3**	**-0.1**
SHHT	**Tainan City**	**1.31**	**241**	*eP*	**Pb**	**13 59 25.1**	**+0.1**
TIPB	**Shuangxi**	**1.32**	**9**	P	**Pn**	**13 59 23.9**	**+0.8**
TIPB				eS	**Sn**	**13 59 39.5**	**-0.1**
NCUH	**Zhongli**	**1.35**	**344**	*eP*	**Pb**	**13 59 24.7**	**-1.0**
NCUH				eS	**Sb**	**13 59 43.9**	**+1.2**
TWM1	**Shoushan**	**1.36**	**233**	P	**Pb**	**13 59 26.8**	**+0.9**
TWM1				eS	**Sb**	**13 59 45.4**	**+2.4**
MASBT	**Mashibuluo**	**1.37**	**221**	*eP*	**Pn**	**13 59 23.5**	**-0.2**
SCLT	**Jiali**	**1.38**	**250**	*eP*	**Pn**	**13 59 24.7**	**+0.9**
SCLT				eS	**Sb**	**13 59 43.5**	**+0.2**
SGLT	**Jiouru**	**1.38**	**228**	*eP*	**Pb**	**13 59 26.3**	**+0.2**
SGLT				eS	**Sb**	**13 59 46.9**	**+3.5**
TWB1	**Santiao Chiao**	**1.39**	**15**	*eP*	**Pb**	**13 59 25.6**	**-0.8**
TWB1				eS	**Sn**	**13 59 40.8**	**+0.8**
NWF	**Wu-fen Shan**	**1.41**	**7**	*eP*	**Pb**	**13 59 25.8**	**-1.0**
NWF				eS	**Sn**	**13 59 42.2**	**+0.2**
WFSB	**Wu-fen Shan**	**1.41**	**7**	*eP*	**Pn**	**13 59 25.4**	**+1.1**
WFSB				eS	**Sn**	**13 59 41.6**	**-0.2**
TWS1	**Kuangyinshan**	**1.44**	**354**	*eP*	**Pb**	**13 59 26.9**	**-0.4**
TWS1				eS	**Sb**	**13 59 45.4**	**+0.1**
EAST	**Anshuo**	**1.45**	**209**	*eP*	**Pn**	**13 59 23.6**	**-1.2**
EAST				eS	**Sn**	**13 59 43.2**	**+0.5**
TAW	**Tawu**	**1.45**	**207**	*eP*	**Pn**	**13 59 23.6**	**-1.2**
TAW				eS	**Sn**	**13 59 40.4**	**-2.2**
SXI1	**Grass Mountain**	**1.45**	**10**	*eP*	**Pb**	**13 59 26.4**	**-1.0**
SXI1				eS	**Sb**	**13 59 45.0**	**-0.6**
JYNG	**Yonagunijimaku**	**1.46**	**57**	*eP*	**Pn**	**13 59 25.8**	**+0.7**
JYNG				eS	**Sn**	**13 59 43.8**	**+0.8**
TAWH	**Dawu Township**	**1.47**	**207**	*eP*	**Pn**	**13 59 23.5**	**-1.6**
TSCK	**Chigu Township**	**1.48**	**250**	*eP*	**Pb**	**13 59 26.6**	**-1.2**
YM01	**YM01**	**1.48**	**359**	*eP*	**Pb**	**13 59 27.1**	**-0.8**
YM01				eS	**Sn**	**13 59 43.3**	**-0.2**
ZUZH	**Zhuzihu**	**1.50**	**358**	*eP*	**Pn**	**13 59 26.0**	**+0.5**
ZUZH				eS	**Sn**	**13 59 44.4**	**+0.4**
NTST	**Danshui**	**1.50**	**355**	*eP*	**Pn**	**13 59 26.4**	**+0.8**
NTST				S	**Sb**	**13 59 46.5**	**-0.5**
YOJ	**Yonaguni jima**	**1.52**	**58**	*eP*	**Pn**	**13 59 26.7**	**+0.9**
YOJ				S	**Sn**	**13 59 45.2**	**+0.8**
YOJ	**Yonaguni jima**	**1.52**	**58**	eS	**Sn**	**13 59 44.5**	**+0.1**
ANP	**Anpu**	**1.52**	**357**	*eP*	**Pn**	**13 59 26.6**	**+0.7**
ANP				eS	**Sn**	**13 59 45.0**	**+0.4**
SCZT	**Fangliau**	**1.57**	**215**	*eP*	**Pn**	**13 59 27.2**	**+0.8**
SCZT				*i* S	**Sb**	**13 59 48.8**	**+0.1**
WSSB	**Gushan**	**1.59**	**231**	*eP*	**Pb**	**13 59 28.3**	**-1.5**
WSSB				eS	**Sb**	**13 59 49.7**	**+0.1**
SLIU	**Shizi**	**1.61**	**207**	*eP*	**Pn**	**13 59 28.3**	**+1.2**
LAY	**Lan-yu**	**1.61**	**181**	*eP*	**Pn**	**13 59 25.4**	**-1.7**
TWP	**Hsiaoliuchiu**	**1.73**	**221**	*eP*	**Pn**	**13 59 29.8**	**+1.1**
SMST	**Manzhou Townsh**	**1.78**	**203**	*eP*	**Pn**	**13 59 30.4**	**+1.0**
WDGT	**Dungji**	**1.82**	**258**	*eP*	**Pn**	**13 59 30.8**	**+0.8**
WDGT				eS	**Sn**	**13 59 51.4**	**-0.5**
HEN	**Hengchun**	**1.83**	**206**	*eP*	**Pn**	**13 59 31.0**	**+1.0**
TWK1	**Hengchun**	**1.86**	**203**	*eP*	**Pn**	**13 59 31.3**	**+0.8**
TWK1				eS	**Sn**	**13 59 52.8**	**0.0**
TWKBT	**Hengchun**	**1.86**	**203**	*eP*	**Pn**	**13 59 31.2**	**+0.8**
TWKBT				eS	**Sn**	**13 59 52.6**	**-0.2**
PHUB	**P'eng-hu**	**1.86**	**266**	P	**Pn**	**13 59 31.2**	**+0.7**
PHUB				eS	**Sn**	**13 59 52.8**	**-0.1**
PNG	**Penghu**	**1.87**	**268**	*eP*	**Pn**	**13 59 31.3**	**+0.6**
PNG				eS	**Sn**	**13 59 53.4**	**+0.2**
VCHM	**Qimei**	**2.04**	**258**	*eP*	**Pn**	**13 59 33.4**	**+0.5**
VCHM				eS	**Sn**	**13 59 57.2**	**0.0**
HATJ	**Hateruma jima**	**2.06**	**79**	eS	**Sn**	**13 59 57.3**	**-0.5**
IRIF	**Iriomote-Funau**	**2.06**	**71**	*eP*	**Pn**	**13 59 34.0**	**+0.7**
IRIF				eS	**Sn**	**13 59 58.3**	**+0.4**
JKRS	**Kuro-shima**	**2.28**	**75**	*eP*	**Pn**	**13 59 36.9**	**+0.6**
JKRS				eS	**Sn**	**14 00 04.3**	**+1.1**
VWUC	**VWUC**	**2.36**	**305**	*eP*	**Pn**	**13 59 37.4**	**0.0**
JIJ	**Ishigaki jima**	**2.43**	**73**	*eP*	**Pn**	**13 59 38.8**	**+0.4**
JIJ				eS	**Sn**	**14 00 06.4**	**-0.6**
PTMZ	**Houxiangcun**	**2.64**	**302**	*eP*	**Pn**	**13 59 41.3**	**+0.1**
JISG	**Ishigakijimahi**	**2.65**	**69**	P	**Pn**	**13 59 41.5**	**+0.2**
JISG				eS	**Sn**	**14 00 11.3**	**-1.0**
MATB	**Ma-tsu**	**2.90**	**329**	*eP*	**Pn**	**13 59 43.4**	**-1.3**
KNM	**Kinmen**	**2.99**	**285**	*eP*	**Pn**	**13 59 47.0**	**+1.0**
JTJ	**Tarama**	**3.00**	**70**	*eP*	**Pn**	**13 59 46.9**	**+0.7**
JTJ				eS	**Sn**	**14 00 21.5**	**+0.5**
KNMB	**Chin-men Tao**	**3.04**	**286**	*eP*	**Pn**	**13 59 46.5**	**-0.1**
JIRB	**Irabujima**	**3.47**	**70**	*eP*	**Pn**	**13 59 53.1**	**+0.5**
AXDP	**Jialang**	**3.53**	**291**	*eP*	**Pn**	**13 59 53.1**	**-0.3**
DSXP	**Dongshan**	**3.82**	**272**	*eP*	**Pn**	**13 59 57.3**	**-0.2**
SXFK	**Yanhouchang**	**4.50**	**308**	*eP*	**Pn**	**14 00 06.2**	**-0.6**

*LVSN **16** 14:02:51.3±0.3, 58°.91N×24°.19E, h0km, ML1.6*
HEL 16 14:02:23.2±0.2, 61°.08N×30°.11E, h0km, ML1.7,
Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.66**	**302**	PG	Pg	14 02 35.3	-0.6
RUF				SG	Sg	14 02 43.3	-1.1
RUF				MSG		14 02 44.0	
	comp=Z,7.6nm,0.2s						
VJF	**Virojoki**	**1.37**	**248**	PG	Pg	14 02 47.7	-1.6
VJF				MSG		14 03 04.4	
	comp=Z,8.3nm,0.2s						
VJF				SN	Sn	14 03 09.6	+1.4
JOF	**Joensuu**	**1.93**	**17**	*eP*	Pb	14 02 58.3	-0.9
JOF	**Joensuu**	**1.93**	**17**	PG	Pn	14 02 57.8	+0.6
	baz=199						
JOF				SG	Sn	14 03 22.6	+0.4
FIA0	**FINESS Array S**	**1.98**	**282**	PG	Pn	14 02 58.1	+0.1
	baz=103						
FIA0				MSG		14 03 22.3	
	comp=Z,4.0nm,0.2s						
FIA0				SG	Sn	14 03 24.3	+0.8
KAF	**Kangasniemi**	**2.09**	**301**	PG	Pb	14 03 01.1	-0.9
KAF				MSG		14 03 25.4	
	comp=Z,8.2nm,0.2s						
KAF				SG	Sb	14 03 27.6	-0.9
PVF	**Pernaja**	**2.15**	**257**	PB	Pn	14 03 00.7	+0.4
	baz=72						
PVF				MSG		14 03 26.9	
	comp=Z,6.0nm,0.2s						
PVF				SG	Sb	14 03 29.9	-0.2
SUF	**Sumiainen**	**2.50**	**313**	PB	Pb	14 03 07.1	-1.7
SUF				MSG		14 03 36.8	
	comp=Z,2.2nm,0.2s						
SUF				SG	Sb	14 03 39.8	-0.2
NIF	**Nilsia**	**2.56**	**336**	PB	Pb	14 03 08.0	-1.9
	baz=152						
NIF				MSG		14 03 38.6	
	comp=Z,2.2nm,0.2s						
NIF				SG	Sb	14 03 41.3	-0.5
ARBE	**Arbavere**	**2.64**	**233**	*eP*	Pb	14 03 10.2	-1.0
ARBE				AML	AML	14 03 16.3	
	comp=Z,26nm,0.5s						
ARBE				AML	AML	14 03 47.4	
	comp=N,52nm,0.1s						
ARBE				AML	AML	14 03 48.7	
	comp=E,53nm,0.1s						
ARBE	**Arbavere**	**2.64**	**233**	PG	Pb	14 03 10.2	-1.0
KEF	**Keuruu**	**2.73**	**296**	*eP*	Pn	14 03 09.8	+1.5
KEF	**Keuruu**	**2.73**	**296**	PB	Pn	14 03 10.0	+1.7
KEF				MSG		14 03 43.8	
	comp=Z,1.6nm,0.2s						
KEF				SG	Sb	14 03 47.2	+0.3
NUR	**Nurmijarvi**	**2.74**	**260**	PB	Pn	14 03 10.0	+1.6
NUR				MSG		14 03 43.8	
	comp=Z,1.8nm,0.2s						
HEL5	**Espoo, Suvisaa**	**2.82**	**252**	PG	Pb	14 03 12.1	-2.3
HEL5				MSG		14 03 46.1	
	comp=Z,2.6nm,0.2s						
MEF	**Metsahovi**	**2.94**	**255**	*eP*	Pn	14 03 12.5	+1.4
MEF	**Metsahovi**	**2.94**	**255**	*eP*	Pb	14 03 14.1	-2.4
MEF				AML	AML	14 03 55.3	
	comp=N,5.3nm,0.3s						
MEF				AML	AML	14 04 02.4	
	comp=E,5.1nm,0.6s						
MEF				AML	AML	14 04 20.2	
	comp=Z,7.0nm,0.8s						
MEF	**Metsahovi**	**2.94**	**255**	PB	Pn	14 03 13.8	+2.6
MEF				MSG		14 03 49.7	
	comp=Z,2.6nm,0.2s						
MEF				SG	Sb	14 03 55.3	+2.3
VSU	**Vasula**	**3.13**	**215**	*eS*	Sn	14 03 32.6	-19
RMF	**Romuvaara**	**3.15**	**359**	PB	Pn	14 03 15.8	+1.8
RAF	**Rauma**	**4.06**	**273**	*eP*	Pn	14 03 27.7	+1.3
OUF	**Merijarvi**	**4.12**	**325**	SG	Sg	14 04 32.6	-3.0
KU2	**Taivalkoski**	**4.72**	**351**	PN	Pn	14 03 37.3	+1.7

*JMA **16** 14:12:21.3±0.0, 23°.4N±0°.1×121°.5E±0°.1, h0km, MV3.3/13, TAIWAN REGION*
*TAP **16** 14:12:22.9, 23°.42N×121°.35E, h12km, ML3.8, B*
ISC 16 14:12:23.3±0.7, 23°.41N±0°.01×121°.39E±0°.02, h17km±3km,
n118, σ1°.13/183, 7C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYUL	**Yuli**	**0.09**	**230**	⇓*iP*	**Pg**	**14 12 25.9**	**-0.9**
EYUL				S	**Sg**	**14 12 28.1**	**-0.9**
YULB	**Yu-li**	**0.09**	**262**	P	**Pg**	**14 12 25.3**	**-1.5**
YULB	**Yu-li**	**0.09**	**262**	⇑*iP*	**Pg**	**14 12 25.4**	**-1.3**
YULB				S	**Sg**	**14 12 27.1**	**-2.0**
HGSD	**Ruisui**	**0.09**	**18**	⇑*iP*	**Pg**	**14 12 26.5**	**-0.3**
HGSD				S	**Sg**	**14 12 29.3**	**+0.2**
EHYH	**Wanrong**	**0.10**	**334**	⇑*iP*	**Pg**	**14 12 25.8**	**-1.1**
EHYH				S	**Sg**	**14 12 28.1**	**-1.2**
TWF1	**Yuli**	**0.10**	**239**	⇓*iP*	**Pg**	**14 12 25.7**	**-1.2**
TWF1				S	**Sg**	**14 12 27.7**	**-1.6**
ECBN	**Changbin**	**0.10**	**148**	⇑P	**Pg**	**14 12 27.1**	**+0.2**
ECBN				S	**Sg**	**14 12 31.7**	**+2.4**
EHY	**Hungye**	**0.12**	**327**	⇑*iP*	**Pg**	**14 12 25.9**	**-1.2**
EHY				S	**Sg**	**14 12 28.1**	**-1.5**
CHKH	**Chenggong**	**0.21**	**179**	*eP*	**Pg**	**14 12 28.9**	**+0.5**
CHKH				eS	**Sg**	**14 12 33.4**	**+1.7**
FULB	**Fuli**	**0.22**	**204**	P	**Pg**	**14 12 28.7**	**+0.2**
FULB				eS	**Sg**	**14 12 34.0**	**+1.9**
EGFH	**Guangfu**	**0.27**	**7**	*eP*	**Pb**	**14 12 28.7**	**-0.9**
EGFH				eS	**Sb**	**14 12 32.9**	**-0.9**
CHKT	**Chengkung**	**0.30**	**185**	*eP*	**Pb**	**14 12 30.5**	**+0.2**
CHKT				eS	**Sb**	**14 12 37.2**	**+2.3**
EHD	**Haiduan**	**0.31**	**214**	P	**Pg**	**14 12 28.5**	**-1.4**
EHD				eS	**Sb**	**14 12 33.7**	**-1.3**
WARBT	**Fenglin Townsh**	**0.31**	**359**	⇑*iP*	**Pg**	**14 12 29.2**	**-0.8**
WARBT				eS	**Sg**	**14 12 33.8**	**-0.8**
ECS	**Chishang**	**0.35**	**207**	*eP*	**Pb**	**14 12 30.2**	**-0.8**
ECS				eS	**Sb**	**14 12 36.8**	**+0.6**
ELDTW	**Lidau**	**0.41**	**238**	⇓*iP*	**Pg**	**14 12 30.4**	**-1.3**
ELDTW				S	**Sg**	**14 12 35.8**	**-1.6**
ESL	**Shilin**	**0.41**	**5**	P	**Pg**	**14 12 31.0**	**-0.7**
SHUL	**Shoufeng**	**0.41**	**22**	*eP*	**Pb**	**14 12 32.5**	**+0.4**
EDH	**Donghe**	**0.44**	**191**	*eP*	**Pb**	**14 12 32.5**	**-0.1**
EDH				eS	**Sb**	**14 12 40.5**	**+1.8**
ALS	**Alishan**	**0.55**	**281**	⇓*iP*	**Pg**	**14 12 33.8**	**-0.6**
ALS				eS	**Sb**	**14 12 41.8**	**-0.5**
LONT	**Longtian**	**0.55**	**206**	*eP*	**Pb**	**14 12 34.0**	**-0.4**
LONT				eS	**Sb**	**14 12 42.4**	**+0.3**
SSLB	**Suanglung**	**0.55**	**314**	P	**Pg**	**14 12 33.4**	**-1.0**
SSLB	**Suanglung**	**0.55**	**314**	⇓P	**Pg**	**14 12 33.4**	**-1.0**
SSLB				eS	**Sg**	**14 12 40.4**	**-1.4**
ETM	**Tongmen**	**0.57**	**9**	P	**Pg**	**14 12 33.9**	**-0.6**
WHYT	**Xinyi Township**	**0.57**	**300**	P	**Pb**	**14 12 34.3**	**-0.6**
WHYT				S	**Sg**	**14 12 42.0**	**-0.4**
OWD	**Renai**	**0.58**	**340**	*eP*	**Pg**	**14 12 34.0**	**-0.9**
STYH	**Taoyuan**	**0.61**	**248**	*iP*	**Pg**	**14 12 34.5**	**-0.9**
STYH				S	**Sg**	**14 12 42.3**	**-1.3**
LXIB	**Xiulin Townshi**	**0.61**	**2**	P	**Pg**	**14 12 34.3**	**-1.2**
WUSB	**Renai**	**0.64**	**337**	⇓*iP*	**Pg**	**14 12 35.1**	**-0.8**
WUSB				S	**Sg**	**14 12 43.2**	**-1.2**
TWGBT	**Beinan**	**0.65**	**206**	P	**Pg**	**14 12 34.6**	**-1.5**
TWGBT	**Beinan**	**0.65**	**206**	*eP*	**Pg**	**14 12 34.4**	**-1.7**
TWGBT				eS	**Sg**	**14 12 43.6**	**-1.2**
TWG	**Pinlang**	**0.65**	**207**	*eP*	**Pg**	**14 12 34.5**	**-1.6**
TWG				eS	**Sg**	**14 12 43.5**	**-1.3**
SMLT	**Sun Moon Lake**	**0.66**	**317**	P	**Pg**	**14 12 35.6**	**-0.7**
SMLT				S	**Sg**	**14 12 44.1**	**-0.9**
CHN5	**Tsauling**	**0.68**	**286**	⇓*iP*	**Pb**	**14 12 36.6**	**-0.2**
CHN5				eS	**Sb**	**14 12 45.8**	**-0.1**
TTN	**Taitung**	**0.69**	**199**	*eP*	**Pn**	**14 12 38.4**	**+0.2**
TWD	**Chiawan**	**0.70**	**15**	*eP*	**Pb**	**14 12 36.6**	**-0.4**
TYC	**Yuchr**	**0.70**	**315**	*eP*	**Pg**	**14 12 36.2**	**-0.8**
TYC				eS	**Sg**	**14 12 45.3**	**-1.1**
TPUB	**Ta-pu**	**0.71**	**262**	P	**Pg**	**14 12 36.9**	**-0.3**
TPUB	**Ta-pu**	**0.71**	**262**	⇓*iP*	**Pb**	**14 12 36.7**	**-0.4**
TPUB				*i* S	**Sb**	**14 12 46.5**	**-0.2**
WCKO	**Fanlu**	**0.72**	**273**	*eP*	**Pb**	**14 12 37.2**	**-0.2**
WCKO				eS	**Sb**	**14 12 47.8**	**+0.7**
LDUT	**Ludao**	**0.73**	**174**	*eP*	**Pb**	**14 12 37.0**	**-0.5**
LDUT				eS	**Sn**	**14 12 49.2**	**-0.3**
WTP	**Ta-pu**	**0.73**	**258**	P	**Pb**	**14 12 37.2**	**-0.4**
WTP				eS	**Sb**	**14 12 47.2**	**-0.2**
WJS	**Zhushan**	**0.74**	**304**	*eP*	**Pb**	**14 12 38.0**	**+0.3**
WJS				eS	**Sb**	**14 12 48.8**	**+1.3**
WHF	**Hehuan Shan**	**0.75**	**351**	⇑P	**Pg**	**14 12 37.2**	**-0.8**
WHF				eS	**Sg**	**14 12 47.5**	**-0.5**
ETL	**Fush Village**	**0.78**	**16**	*eP*	**Pb**	**14 12 38.4**	**0.0**
NACB	**Ninganchiao**	**0.79**	**14**	P	**Pg**	**14 12 37.9**	**-0.8**
NACB	**Ninganchiao**	**0.79**	**14**	*eP*	**Pg**	**14 12 37.3**	**-1.4**
NACB				eS	**Sb**	**14 12 50.7**	**+1.8**
WNT	**Mingjian**	**0.80**	**306**	P	**Pn**	**14 12 39.5**	**-0.3**
WNT				eS	**Sb**	**14 12 51.3**	**+2.0**
ETLH	**Xiulin Townshi**	**0.80**	**6**	*eP*	**Pg**	**14 12 37.5**	**-1.5**
WGK	**Gukeng**	**0.81**	**290**	*eP*	**Pb**	**14 12 39.5**	**+0.6**
WGK				eS	**Sb**	**14 12 51.5**	**+1.9**
WDLH	**Douliu**	**0.83**	**290**	*eP*	**Pb**	**14 12 39.7**	**+0.4**
WDLH				eS	**Sn**	**14 12 52.6**	**+0.5**
TWK	**Hsinying**	**0.84**	**261**	P	**Pb**	**14 12 39.4**	**-0.1**
TWK				eS	**Sb**	**14 12 51.8**	**+1.3**
SNST	**Tainan City**	**0.84**	**258**	*eP*	**Pb**	**14 12 39.3**	**-0.1**
SNST				eS	**Sb**	**14 12 51.9**	**+1.4**
FUSS	**Fushou**	**0.85**	**351**	P	**Pb**	**14 12 39.2**	**-0.5**
CHN2	**Minshiung**	**0.85**	**279**	*eP*	**Pn**	**14 12 40.3**	**-0.1**
CHN2				P	**Sn**	**14 12 53.4**	**+0.9**
TWT	**Tachien**	**0.87**	**347**	*eP*	**Pb**	**14 12 39.8**	**-0.2**
TWT				eS	**Sg**	**14 12 50.6**	**-1.1**
TDCB	**Techi**	**0.87**	**346**	P	**Pg**	**14 12 39.5**	**-0.8**
TDCB				eS	**Sb**	**14 12 51.5**	**0.0**
CHY	**Chiayi**	**0.89**	**276**	P	**Pb**	**14 12 40.7**	**+0.4**
CHY				eS	**Sb**	**14 12 53.6**	**+1.7**
ECL	**Taimali**	**0.90**	**207**	*eP*	**Pg**	**14 12 39.3**	**-1.5**
SSD	**Sandimen**	**0.96**	**227**	P	**Pg**	**14 12 40.5**	**-1.4**
WHP	**Taichung City**	**0.96**	**335**	*eP*	**Pb**	**14 12 41.6**	**+0.1**
WHP				eS	**Sg**	**14 12 53.6**	**-1.0**
WTK	**Tuku**	**0.96**	**287**	*eP*	**Pb**	**14 12 41.8**	**+0.3**
WTK				eS	**Sb**	**14 12 55.0**	**+1.0**
SCST	**Cishan**	**0.97**	**238**	*eP*	**Pn**	**14 12 42.0**	**-0.1**
CHN3	**Shinhua**	**1.00**	**251**	*eS*	**Sn**	**14 12 58.5**	**+2.3**
WCHH	**Zhanghua**	**1.02**	**311**	*eP*	**Pb**	**14 12 42.4**	**0.0**
WCHH				eS	**Sn**	**14 12 57.7**	**+1.1**
NNSB	**Datong**	**1.02**	**360**	P	**Pg**	**14 12 41.3**	**-1.8**
NNSB				eS	**Sg**	**14 12 55.5**	**-1.0**
NNS	**Nan Shan**	**1.03**	**359**	P	**Pb**	**14 12 42.7**	**-0.1**
NNS				eS	**Sg**	**14 12 55.7**	**-1.2**
SHHT	**Tainan City**	**1.03**	**249**	*eP*	**Pn**	**14 12 44.1**	**+1.2**
SHHT				eS	**Sn**	**14 13 00.1**	**+3.1**
MASBT	**Mashibuluo**	**1.05**	**222**	P	**Pg**	**14 12 42.1**	**-1.6**
TWM1	**Shoushan**	**1.06**	**237**	*eP*	**Pn**	**14 12 44.7**	**+1.3**
ENA	**Nanau**	**1.07**	**17**	*eP*	**Pg**	**14 12 42.4**	**-1.6**
SGLT	**Jiouru**	**1.07**	**231**	*eP*	**Pn**	**14 12 45.5**	**+2.1**
WCHH				eS	**Sn**	**14 12 57.7**	**+1.1**
WSL	**Shuilin Townsh**	**1.08**	**276**	*eP*	**Pn**	**14 12 43.6**	**+0.1**
WSL				eS	**Sn**	**14 12 59.2**	**+1.1**
CHN8	**Yiju**	**1.09**	**267**	*eP*	**Pn**	**14 12 44.0**	**+0.3**
CHN8				eS	**Sn**	**14 13

	comp=N,29nm,0.4s							
DUG	**Dugway, Tooele**	**2.33**	**354**	Pn	Pn	14 14 34.2	+0.4	
P18A	**Preston Nutter**	**2.48**	**44**	Pn	Pn	14 14 36.0	-0.1	
R11B	**Troy Canyon, C**	**2.48**	**282**		Pn	14 14 35.8	-0.2	
S11A	**Rachel**	**2.59**	**266**	IAML		14 14 59.4		
	comp=E,36nm,0.1s							
PV10	**Paradox Valley**	**2.77**	**78**	IAML		14 15 23.1		
	comp=E,40nm,0.7s							
PV10				IAML		14 15 34.7		
	comp=N,37nm,0.9s							
PV14	**Lion Creek, Pa**	**2.78**	**79**	IAML		14 15 23.4		
	comp=N,26nm,0.7s							
PV14				IAML		14 15 23.9		
	comp=E,32nm,0.5s							
PV17	**East Wray Mesa**	**2.82**	**81**	IAML		14 15 21.0		
	comp=N,33nm,0.5s							
PV17				IAML		14 15 25.4		
	comp=E,34nm,0.9s							
PV18	**Skein Mesa, Pa**	**2.85**	**81**	IAML		14 15 24.3		
	comp=N,33nm,0.4s							
PV18				IAML		14 15 26.8		
	comp=E,34nm,0.7s							
PV16	**Nyswonger Mesa**	**2.86**	**80**	IAML		14 15 25.3		
	comp=E,28nm,0.5s							
PV16				IAML		14 15 34.9		
	comp=N,24nm,0.6s							
PV04	**Paradox Valley**	**2.88**	**78**	IAML		14 15 27.7		
	comp=N,22nm,0.5s							
PV04				IAML		14 15 28.0		
	comp=E,19nm,0.5s							
PV03	**Paradox Valley**	**2.90**	**81**	IAML		14 15 24.6		
	comp=E,24nm,0.6s							
PV03				IAML		14 15 27.2		
	comp=N,25nm,0.6s							
PV13	**Radium Mtn., P**	**2.92**	**83**	IAML		14 15 23.8		
	comp=N,30nm,1.8s							
PV13				IAML		14 15 25.0		
	comp=E,35nm,0.4s							
PV22	**Blue Mesa, Par**	**3.00**	**76**	IAML		14 15 26.8		
	comp=E,28nm,0.7s							
PV22				IAML		14 15 27.3		
	comp=N,20nm,0.7s							
PV01	**Paradox Valley**	**3.11**	**84**	IAML		14 15 30.6		
	comp=E,18nm,0.6s							
PV01				IAML		14 15 35.4		
	comp=N,15nm,0.7s							
TPNV	**Topopah Spring**	**3.13**	**254**	IAML		14 15 38.9		
	comp=N,11nm,2.7s							
TPNV				IAML		14 16 06.3		
	comp=N,6.5nm,4.5s							
W18A	**Petrified Fore**	**3.53**	**140**	IAML		14 15 50.7		
	comp=E,14nm,0.5s							
W18A				IAML		14 15 52.0		
	comp=N,20nm,0.9s							
X16A	**Lo Mia Camp, P**	**3.55**	**166**	IAML		14 15 50.4		
	comp=N,4.8nm,0.7s							
X16A				IAML		14 16 34.0		
	comp=E,4.8nm,4.0s							
TPH	**Tonopah**	**3.74**	**275**	IAML		14 15 55.9		
	comp=E,5.3nm,1.0s							
TPH				IAML		14 16 12.4		
	comp=N,6.0nm,4.5s							
X18A	**Snowflake**	**3.92**	**148**	IAML		14 16 03.4		
	comp=N,14nm,1.1s							
DSP	**Deep Springs**	**4.38**	**265**	IAML		14 15 41.9		
	comp=E,6.0nm,4.3s							
DSP				IAML		14 16 19.9		
	comp=N,4.8nm,4.3s							
NV11	**Mina Array Sit**	**4.50**	**279**	IAML		14 15 55.7		
	comp=N,5.4nm,4.5s							
NV11				IAML		14 16 14.2		
	comp=E,5.0nm,4.3s							

*IDC **16** 14:33:23.6±0.8,29.°55N×80.°69E, h0km, mb4.0/15, mbtmp4.0/18, ML4.0/3, MS3.0/2, Error ellipse: s-maj=23.9km s-min=14.8km az=45.0*
*NEIC **16** 14:33:25.8±1.0,29.°7N±0.°1×80.°74E±0.°06, h10km±1km, mb4.5/13, Error ellipse: s-maj=22.0km s-min=8.5km az=189.0*
*DMN **16** 14:33:27.8±0.0,30.°25N×80.°89E, h10km, Ml4.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NDI **16** 14:33:27.3±1.9,29.°48N×80.°60E, h10km, ML4.3, MW4.1, mb4.5(NEIC)*

ISC 16 14:33:26.3±0.5,**29.°58N**±0.°06×**80.°67E**±0.°04,**h19**km,**n65,** σ1**9**53/79,**mb4.4**/23,**1D, Nepal-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.39**	**266**	*eP*	**Pg**	**14 33 33.7**	**-1.0**
PTH				*eS*	**Sg**	**14 33 39.1**	**-1.2**
PTH				IAML		14 33 40.5	
	comp=N,12μm,0.2s						
JOSI	**Joshimath**	**1.37**	**316**	*eP*	**Pg**	**14 33 52.9**	**+0.1**
JOSI				*eS*	**Sg**	**14 34 10.9**	**+0.2**
JOSI				IAML		14 34 12.6	
	comp=E,5μm,0.6s						
JOSI				IAML		14 34 13.7	
	comp=N,9μm,0.5s						
DANN	**Dangsing**	**2.98**	**114**	Pn	**Pb**	**14 34 15.7**	**-3.2**
	baz=126,slow=0.0						
DANN				Sn	**Sn**	**14 34 50.9**	**+2.8**
	comp=N,455nm,0.4s,baz=126,slow=0.0						
KOLN	**Koldanda**	**3.15**	**124**	Pn	**Pb**	**14 34 19.6**	**-2.2**
	baz=135,slow=0.0						
KOLN				Sn	**Sb**	**14 34 57.9**	**-1.9**
	comp=N,495nm,0.7s,baz=135,slow=0.0						
SMLA	**Simla**	**3.40**	**298**	*eP*	**Pn**	**14 34 20.2**	**+2.0**
SMLA				*eS*	**Sn**	**14 35 00.4**	**+2.4**
SMLA				IAML		14 35 13.4	
	comp=N,782nm,0.3s						
SMLA				IAML		14 35 14.3	
	comp=E,776nm,0.5s						
GKN	**Gorkha**	**3.82**	**113**	Pn	**Pn**	**14 34 27.1**	**+2.8**
	baz=123,slow=0.0						
GKN				Sn	**Sn**	**14 35 10.7**	**+1.9**
	comp=E,462nm,0.4s,baz=123,slow=0.0						
DMN	**Daman**	**4.37**	**116**	Pn	**Pn**	**14 34 35.6**	**+3.7**
	baz=124,slow=0.0						
DHRM	**DHARAMSHALA**	**4.60**	**306**	*eP*	**Pn**	**14 34 36.8**	**+1.7**
DHRM				*eS*	**Sn**	**14 35 28.6**	**+0.5**
DHRM				IAML		14 35 33.6	
	comp=N,313nm,0.5s						
DHRM				IAML		14 35 33.7	
	comp=E,302nm,0.3s						
PKIN	**Phulchoki**	**4.61**	**115**	Pn	**Pn**	**14 34 37.6**	**+2.3**
	baz=123,slow=0.0						
PKIN				Sn	**Sn**	**14 35 29.9**	**+1.4**
	comp=E,132nm,0.4s,baz=123,slow=0.0						
PKI	**Pulchoki**	**4.63**	**115**	Pn	**Pn**	**14 34 37.4**	**+1.9**
	baz=123,slow=0.0						
PKI				Sn	**Sn**	**14 35 30.9**	**+2.0**
	comp=E,121nm,0.4s,baz=123,slow=0.0						
GUN	**Gumba**	**4.87**	**109**	Pn	**Pn**	**14 34 42.1**	**+3.2**
	baz=117,slow=0.0						
TSSA	**Tissa**	**5.05**	**311**	*eP*	**Pn**	**14 34 43.8**	**+2.6**
TSSA				*eS*	**Sn**	**14 35 38.6**	**-0.6**
TSSA				IAML		14 35 43.9	
	comp=E,3μm,0.2s						
TSSA				IAML		14 35 44.5	
	comp=N,5μm,0.2s						
EVN	**Everest**	**5.64**	**105**		**Pn**	**14 34 49.6**	**-0.1**
RAMN	**Ramite**	**5.85**	**115**	Pn	**Pn**	**14 34 54.2**	**+1.9**
	baz=122,slow=0.0						
RAMN				Sn	**Sn**	**14 35 59.7**	**+0.7**
	comp=N,166nm,0.4s,baz=122,slow=0.0						
ODAN	**Odare**	**6.52**	**113**	Sn	**Sn**	**14 36 14.7**	**-0.8**
	comp=N,98nm,0.5s,baz=119,slow=0.0						
NIL	**Nilore**	**7.51**	**305**		**Pn**	**14 35 14.6**	**-0.3**
KSH	**Kashi**	**10.64**	**340**	P	**Pn**	**14 35 55.0**	**-2.8**
KSH				S	Sn	14 37 46.3	-10
KSH				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KBL	**Kabul**	**11.03**	**300**		**Pn**	**14 36 03.2**	**-0.1**
GAR	**Garm**	**12.70**	**320**	Pn	**Pn**	**14 36 24.5**	**-1.5**
CHGR	**Chuyangaron**	**13.14**	**317**		**Pn**	**14 36 29.7**	**-2.3**
SIMJ	**Simiganj**	**13.23**	**316**		**Pn**	**14 36 30.4**	**-2.8**
ARSB	**Arslanbob**	**13.28**	**334**		**Pn**	**14 36 30.4**	**-3.5**
AAK	**Ala-Archa**	**13.95**	**341**	Pn	**Pn**	**14 36 41.6**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=48,slow=14,SNR=2.1						
AAK				Sn	Sn	14 39 02.8	-15
	comp=Z,0.3nm,0.3s,baz=220,slow=11,SNR=1.5						
AAK				LR	LR	14 42 40.2	
	comp=Z,68nm,18.6s,baz=150,slow=40						
	comp=Z,1.0nm,0.4s						
WMQ	**Urumqi**	**15.28**	**20**	*eP*	**Pn**	**14 36 58.8**	**-2.2**
WMQ				*sP*	*pP*	14 37 08.3	-3.3
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
KK31	**Karatay Array**	**15.76**	**332**		**Pn**	**14 37 04.8**	**-2.4**
MKAR	**Makanchi Array**	**17.23**	**4**	Pn	**Pn**	**14 37 24.0**	**-1.9**
MKAR	**Makanchi Array**	**17.23**	**4**	P	**Pn**	**14 37 24.9**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=185,slow=11,SNR=26						
MKAR				LR	LR	14 44 15.2	
	comp=Z,44nm,18.8s,baz=173,slow=38						
	comp=Z,6.5nm,0.7s						
PZH	**PanZhiHua**	**18.85**	**94**	P	**Pn**	**14 37 46.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**20.00**	**120**	P	**P**	**14 37 57.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=314,slow=8.8,SNR=4.1						
	comp=Z,0.6nm,0.5s						
LZDM	**Lanzhou Array**	**20.36**	**66**	P	Pn	14 38 02.5	-1.7
	comp=Z,12nm,0.3s,baz=242,slow=8.1,SNR=24						
	comp=Z,12nm,0.3s						
LZH	**Lanzhou**	**20.50**	**66**	*eP*	Pn	14 38 04.1	-1.6
LZH				pP	pP	14 38 09.6	+0.2
LZH				sP	sP	14 38 12.8	+1.0
LZH				pmax	pmax		
	comp=Z,11nm,1.0s						
KURBB	**Kurchatov Arra**	**21.08**	**356**	P	**P**	**14 38 09.5**	**+0.1**
	comp=Z,4.3nm,0.2s,baz=182,slow=11,SNR=38						
	comp=Z,4.3nm,0.2s						
KURK	**Kurchatov**	**21.17**	**356**		**P**	**14 38 09.1**	**-1.2**
KURK				IAmb	IAmb	14 38 11.0	
	comp=Z,11nm,0.6s						
XAN	**Xi'an**	**24.38**	**72**	⇓P	**P**	**14 38 43.8**	**+0.3**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ZALV	**Zalesovo Beam**	**24.54**	**6**	P	**P**	**14 38 43.8**	**-0.7**
ZALV	**Zalesovo Beam**	**24.54**	**6**	P	**P**	**14 38 45.2**	**+0.6**
	comp=Z,2.9nm,0.5s,baz=196,slow=9.8,SNR=14						
	comp=Z,2.9nm,0.5s						
BVAR	**Borovoye Array**	**24.61**	**345**	P	**P**	**14 38 46.1**	**+0.8**
	comp=Z,1.8nm,0.3s,baz=152,slow=11,SNR=15						
	comp=Z,1.8nm,0.3s						
AB31	**Akbulak array**	**25.20**	**327**		**P**	**14 38 51.6**	**+1.0**
ABKAR	**Akbulak array**	**25.20**	**327**	P	**P**	**14 38 51.9**	**+1.3**
SONM	**Songino Array**	**26.92**	**40**	P	**P**	**14 39 07.1**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=235,slow=6.8,SNR=1.9						
	comp=Z,0.8nm,0.5s						
HHC	**Hu-ho-hao-te**	**27.50**	**58**	*eP*	**P**	**14 39 11.3**	**-0.3**
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,4.4s						
NJ2	**Nanjing**	**32.78**	**76**	*eP*	**P**	**14 39 57.9**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BRTR	**Keskin Array B**	**39.59**	**298**	P	**P**	**14 40 57.9**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=130,slow=10,SNR=5.0						
	comp=Z,0.6nm,0.4s						
MNK	**Minsk**	**45.07**	**319**	*i* P	**P**	**14 41 40.4**	**-0.5**
	comp=E,31nm,1.0s						
MNK				*i* P	**P**	**14 41 40.4**	**-0.5**
	comp=N,22nm,1.0s						
MNK				*i* P	**P**	**14 41 40.4**	**-0.5**
	comp=Z,8.0nm,0.7s,baz=101						
MNK				*i* PP	**PP**	**14 43 25.6**	**-0.6**
MNK				*i* PPP	PPP	14 44 03.3	
MNK				*i* S	**S**	**14 48 19.6**	**+0.8**
MNK				*i* SS	**SS**	**14 51 42.8**	**+2.0**
MNK				*i* SSS	SSS	14 52 26.7	
MNK				*i* LR	LR	15 01 43.6	
MNK				*i* LRM	MLR	15 02 55.3	
	comp=Z,29nm,9.4s						
MNK				*i* LRM	MLR	15 03 02.0	
	comp=E,450nm,22.0s						
MNK				*i* LRM	MLR	15 03 08.7	
	comp=N,194nm,18.8s						
IDI	**Anoyia**	**46.90**	**292**	P	**P**	**14 41 56.0**	**+0.3**
FINES	**FINESS Array B**	**47.68**	**328**	P	**P**	**14 42 02.1**	**+0.8**
FINES	**FINESS Array B**	**47.68**	**328**	P	**P**	**14 42 02.2**	**+0.9**
	comp=N,3.2nm,0.7s,baz=118,slow=9.2,SNR=11						
	comp=N,3.2nm,0.7s						
ARCES	**ARCESS Array B**	**50.60**	**338**	P	**P**	**14 42 24.3**	**+0.8**
ARCES				IAmb	IAmb	14 43 04.7	
	comp=Z,7.9nm,1.1s						
ARCES	**ARCESS Array B**	**50.60**	**338**	P	**P**	**14 42 24.6**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=108,slow=7.8,SNR=13						
	comp=Z,1.9nm,0.6s						
HFS	**Hagfors**	**53.43**	**325**	P	**P**	**14 42 44.9**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=115,slow=10,SNR=5.8						
	comp=Z,2.2nm,0.8s						
MSSA	**Maissana**	**57.05**	**306**	P	**P**	**14 43 10.9**	**-0.3**
MSSA				IAmb	IAmb	14 43 11.1	
	comp=Z,4.7nm,0.8s						
SENIN	**Lac Senin/Sane**	**58.20**	**309**	P	**P**	**14 43 20.1**	**+0.7**
SENIN				IAmb	IAmb	14 43 20.8	
	comp=Z,2.5nm,0.6s						
EKA	**Eskdalemuir Ar**	**62.83**	**320**	P	**P**	**14 43 49.8**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=84,slow=8.4,SNR=3.8						
	comp=Z,0.3nm,0.4s						
ESDC	**Sonseca Array**	**67.96**	**304**	P	**P**	**14 44 24.8**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=55,slow=6.7,SNR=8.6						
	comp=Z,0.8nm,0.7s						
WB0	**Warramunga Arr**	**71.32**	**127**	P	**P**	**14 44 45.4**	**+0.4**
WB0				IAmb	IAmb	14 45 18.5	
	comp=Z,10.0nm,1.4s						
WRA	**Warramunga Arr**	**71.40**	**127**	P	**P**	**14 44 45.6**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=321,slow=5.9,SNR=21						
	comp=Z,0.6nm,0.5s						
WRAB	**Tennant Creek**	**71.40**	**127**	P	**P**	**14 44 45.6**	**+0.2**
WRAB				IAmb	IAmb	14 44 49.0	
	comp=Z,3.6nm,1.1s						
ASAR	**Alice Springs**	**73.62**	**130**	P	**P**	**14 44 59.0**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=316,slow=6.1,SNR=8.8						
	comp=Z,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**74.14**	**276**	P	**P**	**14 45 02.7**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=50,slow=5.4,SNR=2.5						
	comp=Z,0.4nm,0.7s						
E21K	**Kilik River**	**74.33**	**18**	P	**P**	**14 45 03.3**	**+1.1**
TOLK	**Tolik Lake Re**	**75.35**	**17**	P	**P**	**14 45 08.4**	**+0.3**
ILAR	**Eielson Array**	**78.94**	**19**	P	**P**	**14 45 29.1**	**+0.8**
	comp=Z,0.4nm,0.9s,baz=328,slow=3.2,SNR=2.9						
	comp=Z,0.4nm,0.9s						
H31M	**Peel River**	**81.17**	**14**	P	**P**	**14 45 40.4**	**0.0**
H31M				IAmb	IAmb	14 46 07.2	
	comp=Z,9.4nm,1.4s						
I30M	**Mount Dempster**	**81.23**	**15**	P	**P**	**14 45 41.0**	**+0.1**
BCAR	**Beaver Creek A**	**81.69**	**18**	P	**P**	**14 45 43.5**	**+0.3**

*NEIC **16** 14:40:49.1±0.5, 18.°0S±0.°2×178.°4W±0.°2, h583km±12km, mb4.5/17, Error ellipse: s-maj=26.3km s-min=18.6km az=130.0*
*IDC **16** 14:40:49.8±6.1, 17.°92S×178.°54W, h581km±67km, mb3.1/6, mbtmp4.0/6, Error ellipse: s-maj=53.9km s-min=26.0km az=139.0*

ISC 16 14:40:48.8±0.6,**18.°0S**±0.°1×**178.°5W**±0.°1,**h579**km,**n29,** σ0**5**57/31,**mb4.3**/15,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.30**	**274**	P	**P**	**14 42 07.0**	**-1.1**
AFI	**Afiamalu**	**7.63**	**59**	P	**P**	**14 42 43.3**	**-0.7**
HNR	**Honiara**	**22.58**	**289**	P	**P**	**14 45 06.5**	**-0.2**
THZ	**Tophouse**	**24.82**	**195**	P	**P**	**14 45 26.6**	**+0.3**
FOZ	**Fox Glacier**	**27.32**	**199**	P	**P**	**14 45 47.9**	**-0.3**
MLZ	**Mavora Lakes**	**29.50**	**199**	P	**P**	**14 46 08.0**	**+0.8**
MLZ				IAmb	IAmb	14 46 36.5	
	comp=Z,50nm,1.3s						
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**14 47 23.4**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=22,slow=9.2,SNR=3.6						
	comp=Z,2.5nm,0.8s						
WR8	**Warramunga Arr**	**44.38**	**260**	P	**P**	**14 48 08.9**	**-0.2**
WRAB	**Tennant Creek**	**44.52**	**260**	P	**P**	**14 48 10.0**	**-0.2**
WRA	**Warramunga Arr**	**44.53**	**260**	P	**P**	**14 48 10.5**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=97,slow=7.2,SNR=32						
WRA				PcP	**PcP**	**14 49 41.1**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=91,slow=3.7,SNR=7.5						
	comp=Z,0.6nm,0.5s						
AS31	**Alice Springs**	**44.69**	**254**	P	**P**	**14 48 11.3**	**-0.1**
ASAR	**Alice Springs**	**44.69**	**254**	P	**P**	**14 48 10.8**	**-0.7**
ASAR	**Alice Springs**	**44.69**	**254**	P	**P**	**14 48 12.2**	**+0.8**
	comp=Z,2.6nm,0.5s,baz=87,slow=8.9,SNR=77						
ASAR				PcP	**PcP**	**14 49 41.4**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=103,slow=3.8,SNR=8.9						
	comp=Z,2.6nm,0.5s						
TPUB	**Ta-pu**	**72.22**	**303**	P	**P**	**14 51 16.2**	**-0.2**
PETK	**Petropavlovsk-**	**73.73**	**345**	P	**P**	**14 51 24.7**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=102,slow=6.9,SNR=7.4						
	comp=Z,1.3nm,0.6s						
K15K	**Wolf Creek Mou**	**81.13**	**8**	P	**P**	**14 52 04.7**	**+0.6**
K15K				IAmb	IAmb	14 52 20.4	
	comp=Z,32nm,1.4s						
Q32M	**Nakina River**	**85.48**	**22**	P	**P**	**14 52 26.1**	**0.0**
Q32M				IAmb	IAmb	14 52 40.5	
	comp=Z,16nm,1.4s						
I23K	**Minto, Yukon-K**	**85.80**	**12**	P	**P**	**14 52 28.1**	**+1.0**
I23K				IAmb	IAmb	14 52 35.6	
	comp=Z,9.5nm,1.3s						
TXAR	**Lajitas Array**	**86.11**	**58**	P	**P**	**14 52 30.2**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=218,slow=5.6,SNR=5.9						
	comp=Z,0.8nm,0.7s						
G21K	**Allakaket**	**86.30**	**10**	P	**P**	**14 52 29.8**	**+0.3**
G21K				IAmb	IAmb	14 52 30.5	
	comp=Z,6.2nm,1.1s						
E19K	**Redstone River**	**86.62**	**8**	P	**P**	**14 52 31.2**	**+0.2**
E19K				IAmb	IAmb	14 52 57.1	
	comp=Z,12nm,1.4s						
M30M	**Minto, Yukon**	**86.73**	**18**	P	**P**	**14 52 32.0**	**+0.3**
BPMT	**Black Pine Rid**	**86.79**	**39**	P	**P**	**14 52 31.6**	**-1.0**
PDAR	**Pinedale Array**	**87.46**	**43**	P	**P**	**14 52 36.5**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=207,slow=3.0,SNR=3.8						
	comp=Z,0.5nm,0.7s						
I28M	**Miner Creek**	**88.16**	**15**	P	**P**	**14 52 38.2**	**-0.1**
I28M				IAmb	IAmb	14 53 03.9	
	comp=Z,6.7nm,1.4s						
H29M	**Whitestone**	**89.16**	**15**	P	**P**	**14 52 43.3**	**+0.5**
H29M				IAmb	IAmb	14 53 19.4	
	comp=Z,8.6nm,1.4s						
SNAA	**Sanae**	**90.53**	**179**	P	**P**	**14 52 48.5**	**-0.9**
SNAA				IAmb	IAmb	14 53 03.3	
	comp=Z,4.6nm,1.4s						
BRTR	**Keskin Array B**	**144.77**	**315**	PKP	**PKPdf**	**14 59 20.9**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=102,slow=1.3,SNR=3.8						
GERES	**GERESS Array B**	**147.66**	**345**	PKPbc	**PKPbc**	**14 59 29.2**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=37,slow=5.2,SNR=7.7						

*CATAC **16** 14:55:32.5±0.7, 13.°N±3.°×8.°9W±.°, h28km±6km, M4.0/16, MLv4.0/16, Error ellipse: s-maj=8.4km s-min=2.8km az=35.4, confirmed*
*SNET **16** 14:55:33.0±1.3, 12.°69N×88.°72W, h30km, ML3.8*
*GCG **16** 14:55:34.5±0.3, 12.°76N×88.°81W, h57km±29km, MD3.8*

ISC 16 14:55:32.2±1.9,**12.°64N**±0.°07×**88.°75W**±0.°05,**h28**km±14km, **n58,** σ0**5**3/65,**2C-6D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACA	**Pacayal**	**0.92**	**27**	*eP*	**Pn**	**14 55 49.5**	**+0.1**
PACA	**Pacayal**	**0.92**	**27**	P	**Pb**	**14 55 49.6**	**-0.1**
PACA	**Pacayal**	**0.92**	**27**	S	**Sn**	**14 56 02.1**	**+0.2**
BLLM	**Bellamira**	**0.94**	**32**	*eP*	**Pn**	**14 55 49.5**	**-0.1**
SNVI	**San Vicente**	**0.97**	**355**	*eP*	**Pn**	**14 55 49.8**	**-0.4**
UESV	**Universidad de**	**0.99**	**358**	*eP*	**Pn**	**14 55 50.3**	**0.0**
UESV	**Universidad de**	**0.99**	**358**	S	**Sb**	**14 56 03.3**	**-0.3**
UESV	**Universidad de**	**0.99**	**358**	⇓P	**Pn**	**14 55 50.4**	**0.0**
PQSS	**Presa 15 de Se**	**1.00**	**10**	*eP*	**Pn**	**14 55 50.4**	**+0.1**
CNRM	**Centro Naciona**	**1.00**	**34**	*eP*	**Pb**	**14 55 50.9**	**-0.1**
CNRM				*eS*	**Sb**	**14 56 04.4**	**+0.5**
LFRS	**El Faro**	**1.03**	**343**	*eP*	**Pn**	**14 55 50.4**	**-0.5**
LCND	**La Caada**	**1.07**	**51**	*eP*	**Pn**	**14 55 50.9**	**-0.4**
LCND	**La Caada**	**1.07**	**51**	P	**Pn**	**14 55 51.1**	**-0.2**
LCND	**La Caada**	**1.07**	**51**	S	**Sb**	**14 56 05.3**	**-0.4**
LOMA	**Loma Larga**	**1.08**	**338**	*eP*	**Pn**	**14 55 51.6**	**-0.1**
LOMA	**Loma Larga**	**1.08**	**338**	S	**Sb**	**14 56 06.8**	**+0.5**
LOMA	**Loma Larga**	**1.08**	**338**	P	**Pn**	**14 55 51.5**	**-0.1**
PAVA	**Las Pavas**	**1.08**	**350**	*eP*	**Pn**	**14 55 51.7**	**+0.1**
PAVA	**Las Pavas**	**1.08**	**350**	⇓P	**Pn**	**14 55 51.8**	**+0.1**
PAVA	**Las Pavas**	**1.08**	**350**	S	**Sn**	**14 56 05.4**	**-0.4**
CNCH	**Conchagua**	**1.09**	**54**	*eP*	**Pn**	**14 55 51.7**	**-0.1**
CNCH				*eS*	**Sb**	**14 56 08.1**	**+1.6**
CNCH	**Conchagua**	**1.09**	**54**	P	**Pn**	**14 55 52.1**	**+0.4**
LBRS	**Las Brisas**	**1.13**	**345**	*eP*	**Pn**	**14 55 52.5**	**+0.3**
LFU	**La Fuente**	**1.16**	**342**	*eS*	**Sn**	**14 56 07.7**	**+0.1**
PMON	**Piamonte**	**1.20**	**333**	*eP*	**Pn**	**14 55 53.3**	**+0.1**
PMON	**Piamonte**	**1.20**	**333**	S	**Sn**	**14 56 08.3**	**-0.3**
PMON	**Piamonte**	**1.20**	**333**	⇓P	**Pn**	**14 55 53.3**	**+0.1**
BOQS	**Boqueron**	**1.21**	**335**	*eP*	**Pn**	**14 55 53.5**	**+0.1**
JAYA	**Jayaque - finc**	**1.22**	**326**	*eP*	**Pn**	**14 55 53.5**	**0.0**
JAYA	**Jayaque - finc**	**1.22**	**326**	*i* P	**Pn**	**14 55 53.5**	**0.0**
JAYA				*i* S	**Sn**	**14 56 08.5**	**-0.7**
JAYA	**Jayaque - finc**	**1.22**	**326**	⇓P	**Pn**	**14 55 53.5**	**0.0**
CAHU	**Cacacuatique**	**1.24**	**25**	*eP*	**Pn**	**14 55 54.3**	**+0.5**
CEDA	**San Andres**	**1.32**	**331**	*eS*	**Sn**	**14 56 11.8**	**+0.3**
CEVE	**Cerro Verde**	**1.46**	**324**	*eP*	**Pn**	**14 55 57.7**	**+0.8**
SNJE	**San Jose**	**1.48**	**326**	*eP*	**Pn**	**14 55 57.7**	**+0.5**
LLGN	**La Laguna**	**1.53**	**353**	P	**Pn**	**14 55 57.8**	**0.0**
LLGN	**La Laguna**	**1.53**	**353**	S	**Sb**	**14 56 18.0**	**-1.0**
RTR	**El Retiro**	**1.53**	**325**	*eP*	**Pn**	**14 55 58.8**	**+1.1**
UNIC	**Universidad Ca**	**1.55**	**330**	S	**Sn**	**14 56 17.9**	**+0.7**
UNIC	**Universidad Ca**	**1.55**	**330**	⇓P	**Pn**	**14 55 58.7**	**+0.7**
NUBE	**Las Nubes**	**1.61**	**

P40A	**Paris**	**3.95**	**71**		Pn	15 00 34.6	-0.8
P40A				IAmb_Lg		15 01 36.9	
	comp=Z,75nm,1.2s						
SMWD	**Samnorwood**	**4.22**	**221**		Pn	15 00 38.2	-1.1
LOOK	**Love County**	**4.36**	**183**	IAmb_Lg		15 02 03.4	
	comp=Z,61nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.53**	**121**	IAmb_Lg		15 01 54.4	
	comp=Z,38nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.54**	**280**	IAmb_Lg		15 02 09.8	
	comp=Z,34nm,0.7s						
OGNE	**Ogallala**	**4.74**	**305**	IAmb_Lg		15 02 09.4	
	comp=Z,59nm,0.8s						
K30B	**Basset**	**4.79**	**335**	IAmb_Lg		15 02 06.0	
	comp=Z,48nm,0.7s						
WHAR	**Wooly Hollow**	**4.79**	**128**	IAmb_Lg		15 02 12.9	
	comp=Z,47nm,0.7s						
RTBA	**Rita Blanca**	**5.04**	**249**	IAmb_Lg		15 02 23.1	
	comp=Z,38nm,0.9s						
X40A	**Basin Creek Fa**	**5.06**	**139**	IAmb_Lg		15 02 27.9	
	comp=Z,27nm,0.9s						
FVM	**French Village**	**5.10**	**92**	IAmb_Lg		15 02 12.5	
	comp=Z,48nm,1.0s						
SLM	**Saint Louis**	**5.22**	**85**	IAmb_Lg		15 02 20.7	
	comp=Z,39nm,0.8s						
Z38A	**Mt. Pleasant**	**5.32**	**163**	IAmb_Lg		15 02 37.4	
	comp=Z,38nm,0.8s						
FW06	**Azle**	**5.40**	**186**	IAmb_Lg		15 02 32.9	
	comp=Z,27nm,0.8s						
WLAR	**White Oak Lake**	**5.57**	**146**	IAmb_Lg		15 02 32.1	
	comp=Z,24nm,0.8s						
APMT	**Aspermont**	**5.67**	**209**	IAmb_Lg		15 02 40.6	
	comp=Z,23nm,1.0s						
DKNS	**Dickens**	**5.71**	**216**	IAmb_Lg		15 02 34.4	
	comp=Z,40nm,0.7s						
CGM3	**Cape Girardeau**	**5.82**	**98**	IAmb_Lg		15 02 40.1	
	comp=Z,44nm,0.8s						
T25A	**Trinidad**	**6.09**	**261**	IAmb_Lg		15 02 47.5	
	comp=Z,42nm,0.9s						
SN07	**Snyder 07**	**6.18**	**213**	IAmb_Lg		15 02 58.9	
	comp=Z,35nm,0.8s						
I37A	**Lemond, Waseca**	**6.23**	**24**	IAmb_Lg		15 03 04.6	
	comp=Z,41nm,1.0s						
237A	**Washetta, Mont**	**6.40**	**172**	IAmb_Lg		15 03 11.8	
	comp=Z,20nm,0.9s						
MSTX	**Muleshoe**	**6.47**	**229**	IAmb_Lg		15 03 16.4	
	comp=Z,20nm,0.8s						
POST	**Post**	**6.48**	**217**	IAmb_Lg		15 03 06.9	
	comp=Z,25nm,1.1s						
JFWS	**Jewell Farm**	**6.79**	**46**	IAmb_Lg		15 03 27.7	
	comp=Z,26nm,0.8s						
OLIL	**Olney**	**6.90**	**84**	IAmb_Lg		15 03 17.9	
	comp=Z,41nm,0.8s						
OXF	**Oxford**	**7.14**	**120**	IAmb_Lg		15 03 17.6	
	comp=Z,37nm,1.2s						
BRDY	**Brady**	**7.27**	**194**	IAmb_Lg		15 03 29.8	
	comp=Z,24nm,1.1s						
SGCY	**Sterling City**	**7.31**	**210**	IAmb_Lg		15 03 34.2	
	comp=Z,32nm,0.9s						
SPMN	**Marine on St.**	**7.51**	**23**	IAmb_Lg		15 03 46.3	
	comp=Z,19nm,0.8s						
WVT	**Waverly**	**7.56**	**104**	IAmb_Lg		15 03 30.1	
	comp=Z,36nm,1.2s						
435B	**Jarrell**	**7.58**	**185**	IAmb_Lg		15 03 48.7	
	comp=Z,25nm,0.8s						
PLAL	**Pickwick Lake**	**7.84**	**113**	IAmb_Lg		15 03 36.6	
	comp=Z,15nm,0.8s						
SFIN	**Lafayette**	**7.85**	**72**	IAmb_Lg		15 03 54.1	
	comp=Z,31nm,0.8s						
T47A	**Sharon Grove**	**7.88**	**97**	IAmb_Lg		15 03 42.0	
	comp=Z,26nm,0.7s						
I42A	**Draeger Farm,**	**8.17**	**45**	IAmb_Lg		15 04 00.1	
	comp=Z,25nm,1.1s						
OZNA	**Ozona**	**8.20**	**206**	IAmb_Lg		15 04 00.1	
	comp=Z,14nm,0.8s						
JCT	**Junction City**	**8.22**	**198**	IAmb_Lg		15 04 06.6	
	comp=Z,26nm,0.7s						
H43A	**Windswept, Lux**	**9.17**	**45**	IAmb_Lg		15 04 20.0	
	comp=Z,27nm,0.9s						
MNTX	**Cornudas Mount**	**9.62**	**229**	IAmb_Lg		15 04 55.3	
	comp=Z,12nm,0.9s						
MDND	**Maddock**	**9.69**	**349**	IAmb_Lg		15 05 08.1	
	comp=Z,11nm,0.8s						
F42A	**Maple Grove Fa**	**9.84**	**39**	IAmb_Lg		15 04 43.8	
	comp=Z,17nm,1.0s						

HEL 16 15:00:15.5±0.3, 68°01N×25°37E, h0km, ML1.1, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEF	**Hetta**	**0.75**	**303**	PB	Pg	15 00 30.3	+0.4
	baz=116						
HEF				MSG		15 00 38.9	
	comp=Z,1.5nm,0.2s						
RAJF	**Raja-Jooseppi**	**1.19**	**66**	PN	Pg	15 00 38.5	+0.3
RAJF				SG	Sg	15 00 51.2	-2.4
LANU	**Lannavaara**	**1.27**	**273**	PN	Pg	15 00 39.6	-0.2
PAJU	**Pajala**	**1.32**	**222**	PG	Pg	15 00 38.7	-2.0
PAJU				SN	Sn	15 01 00.7	+1.3
VRF	**Varrio**	**1.63**	**97**	PG	Pn	15 00 45.3	-0.1
VRF				MSG		15 01 04.2	
	comp=Z,1.7nm,0.2s						
VRF				SN	Sg	15 01 08.3	+0.7
ERTU	**Ertsjaerv**	**1.92**	**222**	PG	Pn	15 00 49.9	+0.6
KIF	**Kilpisjarvi**	**1.96**	**303**	MSG		15 01 14.1	
	comp=Z,0.8nm,0.2s						
RANF	**Ranua**	**2.08**	**164**	PB	Pn	15 00 51.6	-0.1
	baz=341						
OUL	**Oulu**	**2.95**	**176**	SB	Sb	15 01 44.1	-1.3

UPP 16 15:00:35.5±0.1, 67°19N×20°67E, h0km, ML2.4, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**210**	P	Pg	15 00 37.3	+0.3
DUNU				S	Sg	15 00 38.6	+0.6
MASU	**Masugnsbyn**	**0.58**	**62**	P	Pg	15 00 46.5	-0.1
MASU				S	Sg	15 00 54.6	+0.5
RATU	**Laukkuluspa**	**0.76**	**328**	P	Pg	15 00 49.8	-0.3
RATU				S	Sg	15 01 00.4	+0.5
KUA	**Kurravaara**	**0.78**	**351**	P	Pg	15 00 50.2	-0.2
SALU	**Saltoluokta**	**0.86**	**284**	P	Pg	15 00 51.6	-0.4
SALU				S	Sg	15 01 03.3	+0.3
HARU	**Harads**	**1.04**	**173**	P	Pg	15 00 55.1	-0.3
HARU				S	Sg	15 01 08.9	+0.1
KALU	**Kalix**	**1.72**	**140**	P	Pn	15 01 06.6	+0.1
KALU				S	Sb	15 01 29.7	-0.2
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pn	15 01 06.9	+0.1
SJUU				S	Sb	15 01 30.1	-0.2

*IDC **16** 15:22:23.4±0.8, 16°.24S×173°.53W, h0km, mb4.0/9, mbtmp4.0/10, ML3.1/1, MS3.5/2, Error ellipse: s-maj=34.9km s-min=18.8km az=141.0*
*NEIC **16** 15:22:29.3±0.4, 16°.28S±0°.09×173°.5W±0°.1, h37km±6km, mb4.5/11, Error ellipse: s-maj=14.9km s-min=12.3km az=117.0*
ISC 16 15:22:28.6±0.6, 16°.3S±0°.1×173°.54W±0°.09, h35km, n31, σ0s70/24, mb4.1/15, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.95**	**35**		Pn	15 23 09.9	-3.1
NIUE	**Niue**	**4.39**	**129**		**Pn**	**15 23 33.7**	**+0.9**
RAR	**Rarotonga**	**13.90**	**113**	Pn	**Pn**	**15 25 43.0**	**-0.2**
	0.8nm,0.3s,baz=21,slow=10,SNR=1.2						
RAR				Sn	Sn	15 28 00.4	-16
	1.3nm,0.3s,baz=188,slow=4.6,SNR=2.1						
RAR				LR	LR	15 30 55.8	
	comp=Z,184nm,18.2s,baz=278,slow=37						
	7.0nm,0.6s						
ONTNC	**Ouen Toro**	**19.79**	**249**		**P**	**15 26 56.5**	**+0.5**
ONTNC				IAmb	IAmb	15 27 30.8	
	comp=Z,24nm,0.9s						
URZ	**Urewera**	**23.34**	**199**	P	**P**	**15 27 34.4**	**+0.7**
	comp=Z,8.4nm,0.6s,baz=90,slow=2.0,SNR=7.3						
	comp=Z,8.4nm,0.6s						
BKZ	**Black Stump Fm**	**24.36**	**199**	P	**P**	**15 27 43.8**	**+0.4**
BKZ				IAmb	IAmb	15 27 54.5	
	comp=Z,33nm,1.5s						
H11S2	**WAKE ISLAND Hy**	**39.70**	**330**	T	T	16 12 03.6	
	baz=149,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**39.71**	**330**	T	T	16 11 59.0	
	baz=149,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**39.71**	**330**	T	T	16 12 17.2	
	baz=149,slow=76,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**40.66**	**331**	T	T	16 13 19.1	
	baz=150,slow=76,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**40.66**	**331**	T	T	16 12 54.0	
	baz=150,slow=76,SNR=69						
H11N2	**WAKE ISLAND Hy**	**40.67**	**331**	T	T	16 12 55.6	
	baz=150,slow=76,SNR=12						
STKA	**Stephens Creek**	**43.46**	**241**	P	**P**	**15 30 28.0**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=77,slow=14,SNR=4.2						
	comp=Z,2.2nm,0.6s						
WR8	**Warramunga Arr**	**49.36**	**258**	P	**P**	**15 31 14.9**	**0.0**
WR8				IAmb	IAmb	15 31 31.6	
	comp=Z,5.4nm,1.2s						
WB0	**Warramunga Arr**	**49.48**	**258**	P	**P**	**15 31 15.8**	**-0.1**
WB0				IAmb	IAmb	15 31 56.2	
	comp=Z,4.5nm,1.1s						
WRAB	**Tennant Creek**	**49.50**	**258**	P	**P**	**15 31 15.8**	**-0.3**
WRAB				IAmb	IAmb	15 31 56.9	
	comp=Z,8.0nm,1.4s						
WRA	**Warramunga Arr**	**49.51**	**258**	P	**P**	**15 31 16.3**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=92,slow=6.7,SNR=22						
WRA				LR	LR	15 50 55.1	
	comp=Z,49nm,18.3s,baz=214,slow=35						
	comp=Z,0.5nm,0.4s						
AS31	**Alice Springs**	**49.70**	**253**	P	**P**	**15 31 17.7**	**+0.1**
ASAR	**Alice Springs**	**49.70**	**253**	P	**P**	**15 31 17.4**	**-0.2**
ASAR	**Alice Springs**	**49.70**	**253**	P	**P**	**15 31 18.1**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=90,slow=7.5,SNR=72						
	comp=Z,2.7nm,0.6s						
KNRA	**Kununurra**	**55.30**	**262**	P	**P**	**15 31 59.8**	**+0.7**
PETK	**Petropavlovsk-**	**73.47**	**342**	P	**P**	**15 33 57.6**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=160,slow=4.9,SNR=4.4						
	comp=Z,1.0nm,0.7s						
QSPA	**South Pole Qui**	**73.72**	**180**	P	**P**	**15 33 57.6**	**-1.2**
QSPA				IAmb	IAmb	15 34 00.0	
	comp=Z,2.5nm,1.1s						
NVAR	**Mina Array Bea**	**75.11**	**42**	P	**P**	**15 34 07.0**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=234,slow=11,SNR=3.9						
	comp=Z,0.5nm,0.6s						
GHO	**Glory Hole Cre**	**80.26**	**12**	P	**P**	**15 34 35.3**	**-0.2**
TXAR	**Lajitas Array**	**81.24**	**56**	P	**P**	**15 34 41.8**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=241,slow=4.9,SNR=2.2						
	comp=Z,0.2nm,0.6s						
PD31	**Pinedale Array**	**83.04**	**42**	P	**P**	**15 34 50.8**	**0.0**
PDAR	**Pinedale Array**	**83.04**	**42**	P	**P**	**15 34 50.4**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=191,slow=2.7,SNR=11						
	comp=Z,1.1nm,0.6s						
PMSA	**Palmer Station**	**83.38**	**156**	P	**P**	**15 34 50.8**	**-1.0**
PMSA				IAmb	IAmb	15 35 28.3	
	comp=Z,3.0nm,0.9s						
ILAR	**Eielson Array**	**83.38**	**11**	P	**P**	**15 34 51.1**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=214,slow=6.3,SNR=2.9						
	comp=Z,0.3nm,0.6s						
BRTR	**Keskin Array B**	**146.79**	**320**	PKPbc	**PKPdf**	**15 42 07.7**	**+2.0**
	comp=Z,0.8nm,0.9s,baz=132,slow=3.7,SNR=4.1						

IDC 16 15:28:36.2±3.3, 12°.28N×143°.57E, h0km, mb3.4/3, mbtmp3.4/3, MS3.4/1, Error ellipse: s-maj=180.2km s-min=19.7km az=124.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.82**	**44**	Pn	Pn	15 29 09.1	+0.3
	27nm,0.3s,baz=271,slow=18,SNR=8.2						
GUMO				LR	LR	15 29 24.7	
	comp=Z,84nm,21.3s,baz=202,slow=27						
GUMO				Sn	Sb	15 29 33.7	-0.1
	22nm,0.3s,baz=23,slow=21,SNR=5.6						
H11N1	**WAKE ISLAND Hy**	**23.59**	**69**	T	T	15 58 37.5	
	baz=255,slow=75						
H11N2	**WAKE ISLAND Hy**	**23.60**	**69**	T	T	15 58 30.2	
	baz=255,slow=75						
H11N3	**WAKE ISLAND Hy**	**23.61**	**69**	T	T	15 58 29.7	
	baz=255,slow=75						
WRA	**Warramunga Arr**	**33.28**	**196**	P	P	15 35 14.7	-0.9
	0.2nm,0.6s,baz=19,slow=8.8,SNR=9.1						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**36.95**	**195**	P	P	15 35 48.1	+0.8
	0.4nm,1.0s,baz=10,slow=10,SNR=6.2						
ASAR				LR	LR	15 51 30.1	
	comp=Z,55nm,18.1s,baz=106,slow=37						
	0.4nm,1.0s						
NVAR	**Mina Array Bea**	**88.73**	**51**	P	P	15 41 32.0	-0.3
	0.3nm,0.5s,baz=302,slow=6.3,SNR=2.1						
	0.3nm,0.5s						

*IDC **16** 15:36:50.6±1.7, 7°.73S×123°.44E, h242km±15km, mb3.4/4, mbtmp4.1/9, Error ellipse: s-maj=60.6km s-min=10.2km az=60.0*
*DJA **16** 15:36:52.1±0.5, 8°.3S±3°×12°.3E±°, h264km±7km, M4.0/17, mb4.1/6, MLv4.0/17*
*NEIC **16** 15:36:52.7±1.1, 7°.86S±0°.08×123°.25E±0°.09, h252km±7km, mb4.4/12, Error ellipse: s-maj=14.8km s-min=10.2km az=50.0*
ISC 16 15:36:51.8±0.5, 7°.86S±0°.05×123°.14E±0°.05, h250km, n65, σ1s25/71, mb3.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.18**	**229**		**Pn**	**15 37 29.2**	**+1.3**
MMRI	**Maumere**	**1.18**	**229**	P	**Pn**	**15 37 30.5**	**+2.6**
MMRI	**Maumere**	**1.18**	**229**	P	**Pn**	**15 37 30.2**	**+2.3**
SOEI	**Soe**	**2.19**	**150**		**Pn**	**15 37 36.0**	**-0.1**
SOEI	**Soe**	**2.19**	**150**	P	**Pn**	**15 37 38.0**	**+1.9**
SOEI	**Soe**	**2.19**	**150**	P	**Pn**	**15 37 37.7**	**+1.6**
SOEI				S	**S**	**15 38 13.1**	**+1.9**
BATI	**Baumata**	**2.39**	**168**	P	**Pn**	**15 37 38.9**	**+0.9**
	253nm,0.4s,baz=149,slow=1.5,SNR=36						
BATI				S	**S**	**15 38 13.4**	**-1.1**
	298nm,0.3s,baz=202,slow=24,SNR=16						
BATI	**Baumata**	**2.39**	**168**	P	**Pn**	**15 37 40.1**	**+2.1**
BBSI	**Bau Bau**	**2.43**	**346**	P	**Pn**	**15 37 40.4**	**+2.0**
BSSI	**Bau Bau, Buton**	**3.14**	**303**	P	**Pn**	**15 37 46.7**	**+0.9**
WSI	**Waingapu**	**3.34**	**237**	P	**Pn**	**15 37 48.7**	**+0.7**
BASI	**Baing, Sumba**	**3.45**	**227**	P	**Pn**	**15 37 48.2**	**-1.1**
BKSI	**Bulukumba**	**3.92**	**310**	P	**Pn**	**15 37 55.4**	**+0.7**
WBSI	**Waikabubak, Su**	**4.11**	**244**	P	**Pn**	**15 37 57.5**	**+0.5**
WBSI				S	**S**	**15 38 45.6**	**-3.1**
KAPI	**Kappang**	**4.40**	**310**		**Pn**	**15 38 02.1**	**+1.7**
KAPI	**Kappang**	**4.40**	**310**	P	**Pn**	**15 38 01.5**	**+1.1**
	30nm,0.6s,baz=131,slow=11,SNR=14						
BNSI	**Benjina**	**4.58**	**319**	P	**Pn**	**15 38 04.3**	**+1.8**
PLAI	**Plampang**	**5.40**	**259**	P	**Pn**	**15 38 12.4**	**-0.1**
PLAI	**Plampang**	**5.40**	**259**	P	**Pn**	**15 38 12.2**	**-0.3**
	0.4nm38nm,0.5s						
TTSI	**Tana Toraja**	**5.82**	**325**	P	**Pn**	**15 38 18.1**	**+0.4**
	0.1nm22nm,0.8s						
TWSI	**Taliwang, Sumb**	**6.26**	**262**	P	**Pn**	**15 38 22.6**	**-0.6**
	19nm,0.7s						
DRS	**Darwin Rock St**	**8.88**	**121**	P	**Pn**	**15 38 56.0**	**-0.3**
TOLI2	**Tolitoli**	**9.22**	**345**		**Pn**	**15 39 01.3**	**+0.7**
MTN	**Manton Dam**	**9.29**	**123**		**Pn**	**15 39 00.9**	**-0.6**
MTN	**Manton Dam**	**9.29**	**123**	P	**Pn**	**15 39 01.3**	**-0.2**
KNRA	**Kununurra**	**9.52**	**145**		**Pn**	**15 39 03.2**	**-1.1**
FAKI	**Fak Fak**	**10.31**	**62**	Pn	**Pn**	**15 39 13.8**	**-0.5**
FAKI	**Fak Fak**	**10.31**	**62**	P	**Pn**	**15 39 14.1**	**-0.2**
FAKI	**Fak Fak**	**10.31**	**62**	S	**S**	**15 41 08.8**	**-1.4**
KDU	**Kakadu**	**10.36**	**118**	P	**Pn**	**15 39 14.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**10.46**	**167**		**Pn**	**15 39 16.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**10.46**	**167**	P	**Pn**	**15 39 16.0**	**-0.2**
	3.7nm,0.5s,baz=345,slow=12,SNR=23						
FITZ				S	**S**	**15 41 12.5**	**-1.1**
	8.5nm,0.6s,baz=102,slow=8.2,SNR=6.9						
FITZ	**Fitzroy Crossi**	**10.46**	**167**	P	**Pn**	**15 39 16.2**	**0.0**
MBWA	**Marble Bar**	**13.63**	**194**	P	**P**	**15 39 57.8**	**+1.3**
PSA00	**Pilbara Seismi**	**14.00**	**193**		**P**	**15 40 01.8**	**+1.2**
SBUM	**Sibu**	**14.96**	**313**	P	**Pn**	**15 40 19.9**	**+2.3**
WB0	**Warramunga Arr**	**16.09**	**138**		**P**	**15 40 23.5**	**-0.2**
WB0				IAmb	IAmb	15 40 25.1	
	comp=Z,9.3nm,0.8s						
WRA	**Warramunga Arr**	**16.18**	**139**	P	**P**	**15 40 24.1**	**-0.7**
	comp=Z,4.0nm,0.4s,baz=320,slow=12,SNR=110						
WRA				S	**S**	**15 43 18.0**	**-3.6**
	comp=Z,0.7nm,0.8s,baz=322,slow=20,SNR=1.5						
WRAB	**Tennant Creek**	**16.18**	**139**	P	**P**	**15 40 24.6**	**-0.1**
WRAB				IAmb	IAmb	15 40 27.8	
	comp=Z,6.0nm,0.6s						
WR8	**Warramunga Arr**	**16.30**	**139**		**P**	**15 40 25.8**	**-0.2**
WR8				IAmb	IAmb	15 40 27.6	
	comp=Z,18nm,0.6s						
AS31	**Alice Springs**	**18.80**	**148**		**P**	**15 40 53.4**	**+0.2**
AS31				IAmb	IAmb	15 40 58.9	
	comp=Z,4.3nm,0.7s						
ASAR	**Alice Springs**	**18.80**	**148**		**P**	**15 40 53.7**	**+0.5**
ASAR	**Alice Springs**	**18.80**	**148**	P	**P**	**15 40 53.5**	**+0.4**
	comp=Z,14.7nm,0.7s,baz=333,slow=14,SNR=83						
ASAR				S	**S**	**15 44 11.8**	**-1.8**
	comp=Z,1.7nm,1.1s,baz=327,slow=18,SNR=7.6						
MEEK	**Meekatharra**	**19.16**	**192**	P	**P**	**15 40 58.6**	**+1.6**
MEEK	**Meekatharra**	**19.16**	**192**	S	**S**	**15 44 22.3**	**+1.6**
QIS	**Mount Isa**	**20.32**	**130**	P	**P**	**15 41 09.2**	**-0.2**
COEN	**Coen**	**20.57**	**109**	P	**P**	**15 41 10.9**	**-1.3**
COEN				IAmb	IAmb	15 41 53.5	
	comp=Z,12nm,1.1s						
COEN	**Coen**	**20.57**	**109**	P	**P**	**15 41 11.0**	**-1.1**
MTSU	**Mount Surprise**	**22.99**	**118**	P	**P**	**15 41 35.0**	**-0.1**
BBOO	**Buckleboo**	**27.57**	**156**	P	**P**	**15 42 15.6**	**-0.4**
BBOO	**Buckleboo**	**27.57**	**156**	P	**P**	**15 42 15.8**	**-0.2**
HTT	**Hallett**	**29.33**	**152**	P	**P**	**15 42 32.3**	**+0.6**
STKA	**Stephens Creek**	**29.43**	**147**	P	**P**	**15 42 32.6**	**+0.1**
STKA	**Stephens Creek**	**29.43**	**147**	P	**P**	**15 42 32.5**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=332,slow=7.5,SNR=7.4						
	comp=Z,1.1nm,0.3s						
STKA	**Stephens Creek**	**29.43**	**147**	P	**P**	**15 42 32.9**	**+0.4**
CMSA	**Cobar Meteorol**	**31.57**	**141**	P	**P**	**15 42 52.8**	**+1.6**
MKAR	**Makanchi Array**	**65.41**	**330**	P	**P**	**15 47 07.2**	**-0.7**
MKAR	**Makanchi Array**	**65.41**	**330**	P	**P**	**15 47 07.3**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=142,slow=6.9,SNR=10.0						
	comp=Z,0.6nm,0.4s						
MSEY	**Mahe Island**	**67.28**	**268**	P	**P**	**15 47 20.3**	**-0.1**
PEA0B	**Petropavlovsk-**	**67.45**	**22**	P	**P**	**15 47 20.2**	**-0.3**
PEA0B				IAmb	IAmb	15 47 26.3	
	comp=Z,26nm,1.5s						
PETK	**Petropavlovsk-**	**67.45**	**22**	P	**P**	**15 47 19.8**	**-0.8**
ZALV	**Zelesovo Beam**	**69.52**	**337**	P	**P**	**15 47 31.3**	**-2.0**
	comp=Z,0.6nm,0.4s,baz=139,slow=5.4,SNR=3.1						
	comp=Z,0.6nm,0.4s						
RAYN	**Ar Rayn**	**81.91**	**295**	P	**P**	**15 48 44.1**	**0.0**
QSPA	**South Pole Qui**	**82.12**	**180**	P	**P**	**15 48 45.4**	**+1.0**
QSPA	**South Pole Qui**	**82.12**	**180**	P	**P**	**15 48 45.6**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=242,slow=2.0,SNR=6.0						
	comp=Z,0.7nm,0.7s						

*IDC **16** 15:57:21.9±3.0, 9°.33S×110°.60E, h0km, mb3.3/3, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=153.2km s-min=25.9km az=47.0*
*DJA **16** 15:57:24.5±1.3, 10°.5S±5°×11°.0E±°, h10km±13km, M3.9/15, mB5.0/1, mb4.2/4, MLv3.7/15, Mw(mB)4.3/1*
ISC 16 15:57:26.0±1.3, 9°.64S±0°.09×110°.28E±0°.08, h35km, n20, σ0s95/17, mb3.1/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.69**	**32**	P	**Pn**	**15 57 51.5**	**-1.5**
UGM	**Wanagama**	**1.74**	**8**	P	**Pn**	**15 57 53.5**	**-0.2**
UGM				S	**Sn**	**15 58 15.3**	**+0.6**
WOJI	**Wonogiri, Jawa**	**1.90**	**20**	P	**Pn**	**15 57 56.0**	**0.0**
WOJI				S	**Sn**	**15 58 20.0**	**+1.3**
SMRI	**Semarang**	**2.58**	**4**	P	**Pn**	**15 58 05.4**	**+0.1**
KPJI	**Karang Pucung**	**2.66**	**330**	P	**Pn**	**15 58 06.8**	**+0.5**
GMJI	**Gumukmas**	**3.41**	**67**	P	**Pn**	**15 58 18.2**	**+1.5**
GMJI				S	**Sn**	**15 58 54.9**	**-1.0**
CNJI	**Cibinong**	**3.89**	**306**	P	**Pn**	**15 58 23.3**	**0.0**
JAGI	**Jajag, Banyuwa**	**4.00**	**73**	P	**Pn**	**15 58 25.8**	**+1.0**
TWSI	**Taliwang, Sumb**	**6.58**	**83**	P	**Pn**	**15 59 01.3**	**+1.0**
	0.2nm1µm28nm,1.1s						
PLAI	**Plampang**	**7.44**	**84**	P	**Pn**	**15 59 12.4**	**+0.2**
	41nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.11**	**121**	Pn	**Pn**	**16 01 21.2**	**-1.3**
	0.1nm,0.3s,baz=296,slow=11,SNR=2.0						
	2.1nm,0.9s						
WRA	**Warramunga Arr**	**25.38**	**117**	P	**P**	**16 02 49.4**	**-0.8**
	0.5nm,1.0s,baz=290,slow=11,SNR=8.3						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**26.52**	**125**	P	**P**	**16 03 01.2**	**+0.6**
	0.4nm,0.8s,baz=304,slow=9.1,SNR=5.5						
	0.4nm,0.8s						
H08S2	**Diego Garcia H**	**37.40**	**270**	T	T	16 44 26.0	
	baz=68,slow=76,SNR=8.3						
H08S3	**Diego Garcia H**	**37.41**	**270**	T	T	16 44 29.9	
	baz=68,slow=76,SNR=11						
H08S1	**Diego Carcia H**	**37.42**	**270**	T	T	16 44 29.9	
	baz=68,slow=76,SNR=5.5						
H04N2	**CROZET ISLANDS**	**61.45**	**222**	T	T	17 14 41.2	
	baz=71						
H04N1	**CROZET ISLANDS**	**61.46**	**222**	T	T	17 14 35.6	
	baz=71						
H04N3	**CROZET ISLANDS**	**61.47**	**222**	T	T	17 14 40.0	
	baz=71						
MKAR	**Makanchi Array**	**61.49**	**338**	P	**P**	**16 07 39.3**	**+0.1**
	0.3nm,0.6s,baz=149,slow=7.8,SNR=6.3						
	0.3nm,0.6s						

**DJA 16 16:01:37.4±0.3, 1°.5S±3°×12°.8E±°, h10km, M3

comp=E,7μm,0.4s
AF01 San Pedro de A 1.18 154 *e*P **Pn 16 05 22.4 -0.2**
AF01 eS Sn 16 05 31.6 -10
AF01 IAML 16 06 04.0
comp=Z,7μm,0.7s
PB02 IPOC Station P 1.21 298 **Pn 16 05 22.8 0.0**
PB02 IPOC Station P 1.21 298⇑ *i*P **Pn 16 05 22.8 0.0**
PB02 eS **Sn 16 05 41.6 0.0**
PB02 IAML 16 05 44.1
comp=E,8μm,0.4s
PB02 IPOC Station P 1.21 298 *e*P **Pn 16 05 22.2 -0.6**
PB02 eS **Sn 16 05 42.3 +0.7**
PB02 IAML 16 05 45.4
comp=Z,6μm,0.2s
PB05 IPOC Station P 1.65 234 **Pn 16 05 27.8 +0.1**
PB05 IPOC Station P 1.65 234⇑ *i*P **Pn 16 05 27.8 +0.1**
PB05 eS **Sn 16 05 50.3 0.0**
PB05 IAML 16 05 52.2
comp=N,1μm,0.6s
PB05 IPOC Station P 1.65 234 *e*P Pn 16 05 22.4 -5.2
PB05 *e*P 16 05 27.4
PB05 eS **Sn 16 05 51.0 +0.6**
PB05 IAML 16 05 52.2
comp=Z,1μm,0.6s
PATCX Punta Patache 1.69 309 **Pn 16 05 27.8 -0.3**
PX03 IPOC Station P 1.70 331 *e*P **Pn 16 05 27.6 -0.6**
PX03 eS **Sn 16 05 50.6 -0.7**
PX03 IAML 16 05 53.0
comp=N,5μm,0.3s
PB08 IPOC Station P 1.78 348 **Pn 16 05 29.8 +0.3**
PB08 IPOC Station P 1.78 348⇑ *i*P **Pn 16 05 29.8 +0.3**
PB08 eS **Sn 16 05 53.5 -0.1**
PB08 IAML 16 05 55.9
comp=E,3μm,0.6s
PB08 IPOC Station P 1.78 348 *e*P **Pn 16 05 29.2 -0.3**
PB08 eS **Sn 16 05 54.4 +0.8**
PB08 IAML 16 05 57.2
comp=Z,907nm,0.4s
TA01 Diego Aracena 1.88 314 **Pn 16 05 29.9 -0.4**
TA01 Diego Aracena 1.88 314 *e*P **Pn 16 05 29.9 -0.4**
TA01 eS **Sn 16 05 54.5 -0.4**
TA01 IAML 16 05 56.9
comp=E,5μm,0.3s
TA01 Diego Aracena 1.88 314 *e*P **Pn 16 05 29.9 -0.4**
TA01 eS **Sn 16 05 56.3 +1.3**
TA01 IAML 16 05 58.2
comp=Z,1μm,1.3s
HMBC Humberstone 1.93 326 **Pn 16 05 30.1 -0.9**
HMBC Humberstone 1.93 326⇑ *i*P **Pn 16 05 30.3 -0.7**
HMBC eS **Sn 16 05 55.1 -1.1**
HMBC IAML 16 06 01.3
comp=N,3μm,0.8s
HMBC Humberstone 1.93 326 *e*P **Pn 16 05 30.4 -0.7**
HMBC eS **Sn 16 05 56.5 +0.3**
HMBC IAML 16 05 57.5
comp=Z,3μm,0.4s
TA02 Huaiquique 2.07 321 *e*P **Pn 16 05 31.9 -0.7**
TA02 *i* P 16 05 31.9
TA02 eS **Sn 16 05 59.1 0.0**
TA02 IAML 16 06 03.8
comp=N,2μm,0.1s
TA02 Huaiquique 2.07 321 *e*P **Pn 16 05 33.1 +0.5**
TA02 eS **Sn 16 05 58.9 -0.2**
TA02 IAML 16 06 07.4
comp=Z,1μm,0.8s
GO01 Chusmiza 2.25 349 **Pn 16 05 35.1 -0.2**
GO01 Chusmiza 2.25 349⇑ *i*P **Pn 16 05 35.3 -0.1**
GO01 eS **Sn 16 06 03.8 -0.1**
GO01 IAML 16 06 05.8
comp=N,3μm,0.7s
GO01 Chusmiza 2.25 349 *e*P **Pn 16 05 34.8 -0.6**
GO01 eS **Sn 16 06 05.4 +1.5**
GO01 IAML 16 06 06.9
comp=Z,2μm,0.7s
PB11 IPOC Station P 2.29 338 **Pn 16 05 34.7 -0.7**
PB11 IPOC Station P 2.29 338⇑ *i*P **Pn 16 05 34.6 -0.7**
PB11 eS **Sn 16 06 03.0 -1.2**
PB11 IAML 16 06 05.2
comp=N,3μm,0.6s
PB11 IPOC Station P 2.29 338 *e*P **Pn 16 05 34.8 -0.7**
PB11 *e*P 16 05 34.9
PB11 eS **Sn 16 06 03.8 -0.4**
PB11 IAML 16 06 05.4
comp=Z,2μm,0.5s
PB10 IPOC Station P 2.32 226 **Pn 16 05 35.4 -0.4**
PB10 IPOC Station P 2.32 226 *e*P **Pn 16 05 35.7 0.0**
PB10 IAML 16 06 26.8
comp=N,601nm,0.3s
PB10 IPOC Station P 2.32 226 *e*P **Pn 16 05 35.2 -0.6**
PB10 eS **Sn 16 06 03.2 -1.5**
YJA Yavi 3.01 96 *e*P **Pn 16 05 45.3 +0.3**
YJA Yavi 3.01 96 *e*P **Pn 16 05 45.8 +0.7**
YJA eS **Sn 16 06 22.0 +0.8**
PB14 IPOC Station P 3.12 209 **Pn 16 05 45.0 -1.3**
PB14 IPOC Station P 3.12 209 *e*P **Pn 16 05 47.4 +1.1**
PB14 eS **Sn 16 06 22.7 -0.9**
PB14 IAML 16 06 34.4
comp=Z,504nm,0.3s
GO02 Mina Guanaco 3.35 193 **Pn 16 05 48.1 -1.2**
GO02 Mina Guanaco 3.35 193 *e*P **Pn 16 05 49.0 -0.3**
HJA Humahuaca 3.35 114 *e*P **Pn 16 05 49.8 +0.4**
HJA eS **Sn 16 06 34.2 +5.1**
PB16 IPOC Station P 3.61 348 **Pn 16 05 52.4 -0.7**
PB16 IPOC Station P 3.61 348⇓ *i*P **Pn 16 05 53.2 +0.1**
PB16 IAML 16 06 40.0
comp=N,267nm,0.3s
PB16 IPOC Station P 3.61 348 *e*P **Pn 16 05 52.8 -0.3**
PB16 eS **Sn 16 06 33.5 -2.1**
PB16 IAML 16 07 04.2
comp=Z,270nm,0.6s
SLA San Lorenzo 4.10 134 *e*P **Pn 16 06 00.1 +1.0**
AZAP Zapla 4.11 125 *e*P **Pn 16 05 59.1 -0.2**
AC01 Pan de Azucar 4.56 201 **Pn 16 06 03.2 -1.9**
AC01 Pan de Azucar 4.56 201 *e*P **Pn 16 06 03.2 -1.9**
AC01 eS **Sn 16 06 54.3 -3.0**
AC02 Maricunga 4.93 184 **Pn 16 06 09.8 -0.8**
AC02 Maricunga 4.93 184 *e*P **Pn 16 06 09.6 -0.9**
LPAZ La Paz 5.61 6 **Pn 16 06 20.3 +0.6**
LPAZ La Paz 5.61 6 P **Pn 16 06 18.3 -1.5**
comp=Z,4.7nm,0.3s,baz=196,slow=2.9,SNR=69
LPAZ S Sn 16 07 12.9 -10
comp=Z,16nm,0.9s,baz=179,slow=7.4,SNR=4.4
LPAZ La Paz 5.61 6 *e*P **Pn 16 06 21.1 +1.4**
GO03 Copiapo 5.84 193 **Pn 16 06 19.6 -2.7**
SIV San Ignacio 9.34 52 P Pn 16 07 04.6 -4.9
comp=Z,7.0nm,0.5s,baz=234,slow=8.7,SNR=18
SIV S Sn 16 08 34.2 -19
comp=Z,1.3nm,0.5s,baz=243,slow=16,SNR=1.1
CFA Coronel Fontan 9.69 177 P **16 07 10.5 -3.6**
comp=Z,1.9nm,0.3s,baz=20,slow=17,SNR=14
CFA S Sn 16 08 50.9 -10
comp=Z,5.9nm,0.5s,baz=140,slow=21,SNR=9.3
CPUP Villa Florida 11.32 115 P Pn 16 07 30.1 -5.9
comp=Z,1.3nm,0.7s,baz=146,slow=12,SNR=7.7
MT09 Talagante 12.00 189 Pn **Pn 16 07 44.0 -1.1**
AMBA Amambai (Brazi 12.77 97 *e*P **P 16 07 59.7 -1.4**
SALV Santo Antonio 13.71 66 *e*P **P 16 08 10.9 -0.7**
PP1B Ponte de Pedra 13.73 74 *e*P **P 16 08 10.9 -0.9**
RPRD Ribas do Rio P 14.11 87 *e*P **P 16 08 15.0 -1.0**
CZSB Cruzeiro do Su 14.59 344 P **P 16 08 22.5 +1.1**
BI02 San Fabin de 14.88 188 **Pn 16 08 21.2 -0.8**
TRCB Terra Rica 14.94 96 P **P 16 08 24.7 -0.5**
TRCB Terra Rica 14.94 96 *e*P **P 16 08 24.6 -0.5**
C2SB Chapadao do Su 15.24 81 *e*P **P 16 08 28.8 +0.2**
PDRB Porto dos Gac 15.38 50 *e*P **Pn 16 08 27.8 -0.5**
PTGB Pitanga 15.58 104 *e*P **Pn 16 08 30.1 -0.7**
ITAB Concordia 16.02 113 Pn **Pn 16 08 35.2 -1.0**
ITAB Concordia 16.02 113 *e*P **Pn 16 08 32.9 -3.3**
CPSB Cacapava Do Su 16.14 125 *e*P **Pn 16 08 32.2 -5.3**
CLDB Colider 16.55 51 *e*P **Pn 16 08 40.7 -2.1**
ARAG Araguaiana, MT 17.17 72 *e*P **P 16 08 48.4 -1.5**
ITRB Iturama 17.33 86 *e*P **Pn 16 08 50.6 -1.6**
FRTB Fartura 17.77 98 *e*P **P 16 08 53.8 -2.8**
PLCA Paso Flores 18.85 184 P **P 16 09 08.1 -0.1**
PLCA Paso Flores 18.85 184 P **P 16 09 08.1 -0.1**
comp=Z,2.6nm,0.6s,baz=6.3,slow=12,SNR=18
RCLB Rio Claro- Sao 19.66 96 *e*P **P 16 09 15.0 -2.1**
IPMB Ipameri, GO 19.69 82 *e*P **P 16 09 15.0 -2.4**
PET01 Itanhaem-SP 19.89 101 *e*P **P 16 09 15.8 -3.8**
VAO Valinhos 20.16 97 P **P 16 09 20.9 -1.7**
VAO Valinhos 20.16 97 *e*P **P 16 09 18.7 -3.9**
MACA Manacapuru-AM 20.20 24 *e*P P 16 09 12.1 -11
BDFB Brasilia 20.58 76 P **P 16 09 26.1 -1.1**
BDFB Brasilia 20.58 76 P **P 16 09 23.6 -3.5**
comp=Z,8.9nm,0.9s,baz=262,slow=13,SNR=7.1
comp=Z,8.9nm,0.9s
LL01 San Ignacio de 20.66 188 P **P 16 09 27.9 +0.3**
LL01 IAmb IAmb 16 09 31.2
comp=Z,23nm,1.0s
GO07 Milladeo Hill, 21.56 190 P **P 16 09 36.6 -0.6**
SMTB Santa Maria do 24.12 61 *e*P P 16 09 54.9 -7.4
JANB Januaria 24.13 78 *e*P **P 16 09 56.5 -5.8**
BOAV Boa Vista 25.44 19 P **P 16 10 14.2 0.0**
GUA01 Guaratinga, BA 27.80 84 *e*P **P 16 10 28.6 -6.8**
RUSC La Rusia 27.94 351 **P 16 10 37.0 -0.1**
RUSC IAmb IAmb 16 11 09.2
comp=Z,15nm,1.1s
BAUV El Baul 30.65 1 P **P 16 11 00.6 +0.1**
MG03 Isla Dawson 31.93 182 P **P 16 11 11.6 +0.2**
ESPZ Base Esperanza 42.24 172 P **P 16 12 39.4 +1.1**
ESPZ IAmb IAmb 16 12 40.0
comp=Z,10nm,0.9s
SMAI San Martin Ant 46.25 179 P **P 16 13 11.2 +1.0**
BELA Belgrano 2 58.34 172 **P 16 14 40.6 +1.3**
BELA IAmb IAmb 16 14 41.8
comp=Z,7.1nm,1.2s
VNA3 Neumayer Olymp 59.66 161⇑P **P 16 14 49.3 +0.9**
comp=Z,6.8nm,0.6s
VNA1 Neumayer--Stat 59.87 160⇑P **P 16 14 51.2 +1.4**
comp=Z,3.8nm,0.5s
VNA2 Neumayer--Watz 60.23 161⇑P **P 16 14 53.3 +0.9**
comp=Z,10nm,0.6s,baz=291,slow=5.2
TXAR Lajitas Array 61.04 325 P **P 16 14 59.7 +1.2**
TXAR Lajitas Array 61.04 325 P **P 16 14 59.6 +1.1**
comp=Z,0.4nm,0.7s,baz=160,slow=7.7,SNR=3.8
comp=Z,0.4nm,0.7s
SNAA Sanae 61.86 161⇑P **P 16 15 04.1 +0.7**
comp=Z,233nm,0.7s
SNAA Sanae 61.86 161 P **P 16 15 04.3 +0.8**
SNAA Sanae 61.86 161 P **P 16 15 03.7 +0.3**
comp=Z,7.8nm,0.6s,baz=281,slow=7.7,SNR=112
comp=Z,7.8nm,0.6s
VHRN Van Horn 62.88 325 P **P 16 15 11.9 +1.1**
TROLL Troll, Antarti 63.58 161⇑P **P 16 15 16.0 +1.1**
comp=Z,450nm,0.6s
319A Douglas 65.69 322 IAmb IAmb 16 15 32.7
comp=Z,4.4nm,0.8s
F64A Sherman 67.43 0 P **P 16 15 40.6 +0.9**
F64A IAmb IAmb 16 15 52.9
comp=Z,13nm,1.3s
E62A Clayton Lake 68.19 359 P **P 16 15 45.8 +1.4**
E62A IAmb IAmb 16 16 15.9
comp=Z,14nm,1.4s
QSPA South Pole Qui 68.30 180 P **P 16 15 48.7 +3.5**
QSPA IAmb IAmb 16 15 49.4
comp=Z,4.5nm,0.7s
QSPA South Pole Qui 68.30 180 P **P 16 15 48.1 +2.9**
comp=Z,3.8nm,0.6s,baz=342,slow=1.0,SNR=33
QSPA pP **pP 16 16 20.0 +3.0**
comp=Z,2.0nm,0.8s,baz=211,slow=1.8,SNR=2.9
comp=Z,3.8nm,0.6s
D62A Allapoint, All 68.65 360 P **P 16 15 48.0 +0.7**
SDCO Great Sand Dun 68.66 329 IAmb IAmb 16 15 51.2
comp=Z,6.6nm,1.3s
DBIC Dimbokro 68.70 73 P **P 16 15 47.6 -0.8**
DBIC IAmb IAmb 16 15 48.4
comp=Z,10nm,0.8s
DBIC Dimbokro 68.70 73 P **P 16 15 47.6 -0.8**
comp=Z,7.7nm,0.7s,baz=276,slow=6.2,SNR=10
DBIC pP **pP 16 16 20.2 -0.5**
comp=Z,4.0nm,0.7s,baz=239,slow=8.8,SNR=2.6
comp=Z,7.7nm,0.7s
PV01 Paradox Valley 70.46 328 IAmb IAmb 16 16 03.3
comp=Z,10nm,1.4s
PV23 Carpenter Ridg 70.92 328 IAmb IAmb 16 16 05.1
comp=Z,5.3nm,0.5s
KNB Kanab 71.83 324 IAmb IAmb 16 16 11.6
comp=Z,6.6nm,0.9s
P18A Preston Nutter 72.44 328 IAmb IAmb 16 16 14.5
comp=Z,5.7nm,0.7s
CCUT Cedar City 72.52 324 IAmb IAmb 16 16 15.7
comp=Z,5.5nm,0.8s
P17A Butcher Ranch, 72.57 327 IAmb IAmb 16 16 14.9
comp=Z,5.5nm,0.9s
BSUT Blindstream Ca 73.39 328 IAmb IAmb 16 16 20.1
comp=Z,5.0nm,0.9s
PSUT Pine Spring 73.50 325 IAmb IAmb 16 17 03.5
comp=Z,12nm,1.5s
PDAR Pinedale Array 74.52 330 P **P 16 16 24.6 +1.6**
comp=Z,0.5nm,0.6s,baz=143,slow=7.7,SNR=5.9
comp=Z,0.5nm,0.6s
NVAR Mina Array Bea 75.89 322 P **P 16 16 33.1 +2.2**
comp=Z,1.2nm,0.9s,baz=151,slow=6.9,SNR=5.4
NVAR pP **pP 16 17 05.5 +2.1**
comp=Z,0.8nm,0.7s,baz=161,slow=8.0,SNR=3.6
comp=Z,1.2nm,0.9s
YNE Yellowstone No 76.47 331 IAmb IAmb 16 16 37.2
comp=Z,4.5nm,0.8s
TORD Torodi Ar. Bea 77.34 70 **P 16 16 38.2 -1.0**
TORD Torodi Ar. Bea 77.34 70 P **P 16 16 37.9 -1.3**
comp=Z,2.5nm,0.7s,baz=261,slow=5.1,SNR=18
TORD pP **pP 16 17 11.2 -1.2**
comp=Z,1.3nm,0.7s,baz=265,slow=5.1,SNR=2.6
comp=Z,2.5nm,0.7s
SUR Sutherland 78.25 120 P **P 16 16 45.5 +1.2**
SUR IAmb IAmb 16 16 59.6
comp=Z,19nm,1.4s
PLID Pearl Lake 79.34 328 P **P 16 16 52.0 +2.1**
TSUM Tsumeb 79.78 107 P **P 16 16 53.3 +0.4**
TSUM IAmb IAmb 16 16 54.3
comp=Z,11nm,0.9s
BOSA Boshof 83.13 118 P **P 16 17 10.4 +0.1**
BOSA IAmb IAmb 16 17 20.5
comp=Z,6.1nm,1.2s
BOSA Boshof 83.13 118 P **P 16 17 10.0 -0.3**
comp=Z,5.2nm,0.8s,baz=260,slow=5.3,SNR=5.5
comp=Z,5.2nm,0.8s
MAW Mawson 83.91 163 P **P 16 17 14.3 +1.0**
comp=Z,2.9nm,0.6s,baz=210,slow=6.7,SNR=11
comp=Z,2.9nm,0.6s
LBTB Lobatse 84.72 115 P **P 16 17 19.1 +0.6**
LBTB IAmb IAmb 16 17 19.5
comp=Z,8.7nm,0.8s
ASAR Alice Springs 129.64 207 PKP **PKiKP 16 23 53.8 +0.1**
comp=Z,0.2nm,0.8s,baz=128,slow=3.2,SNR=4.5
WRA Warramunga Arr 132.69 210 PKP **PKiKP 16 23 59.4 -0.4**
comp=Z,0.4nm,0.7s,baz=145,slow=1.8,SNR=6.3
MKAR Makanchi Array 145.86 36 PKPbc **PKPab 16 24 23.0 -0.1**
comp=Z,1.0nm,0.7s,baz=336,slow=2.7,SNR=7.3

IDC ***16*** *16:14:08.2±0.7,31.˙66N×103.˙15E,h0km,mb4.0/15, mbtmp4.0/16,ML3.7/2,MS3.5/13,Error ellipse: s-maj=21.7km s-min=13.4km az=59.0*
MOS ***16*** *16:14:09.3±1.8,31.˙82N×103.˙48E,h13km,mb4.5/13,Error ellipse: s-maj=11.7km s-min=7.5km az=98.4*
BJI ***16*** *16:14:11.1,31.˙76N×103.˙19E,h10km,mB4.8/4,mb4.3/29, ML4.0/22,Ms3.9/24,Ms7 3.8/23*
NEIC ***16*** *16:14:11.4±1.2,31.˙78N±0.˙08×103.˙4E±0.˙1,h10km±1km, mb4.7/23,Error ellipse: s-maj=15.3km s-min=13.7km az=242.0*
ISC 16 16:14:12.2±0.4,**31.˙71N**±0.˙03×**103.˙38E**±0.˙04,**h13**km,**n103,**
σ2s**57**/102,**mb4.3**/35,**MS3.4**/14,**9C-6D,Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.86**	**157**	Pg	**Pg**	**16 14 26.8**	**-2.1**
CD2				Sg	**Sg**	**16 14 39.3**	**-0.8**
CD2				smax	smax		
	comp=N,5μm,0.7s						
CD2				smax	smax		
	comp=E,5μm,0.8s						
LZDM	**Lanzhou Array**	**4.25**	**4**	Pn	**Pn**	**16 15 16.5**	**-0.4**
	baz=164,slow=12						
LZDM				Lg	Lg	16 16 27.7	
	baz=34,slow=17						
LZH	**Lanzhou**	**4.39**	**5**	Pg	**Pb**	**16 15 31.8**	**+2.6**
LZH				Sg	**Sg**	**16 16 31.5**	**-1.6**
LZH				smax	smax		
	comp=N,160nm,1.4s						
LZH				smax	smax		
	comp=E,230nm,1.5s						
LZH				LR	LR		
	comp=N,790nm,8.9s						
LZH				LR	LR		
	comp=E,1μm,7.6s						
LZH				LR	LR		
	comp=Z,460nm,7.3s						
XAN	**Xi'an**	**5.21**	**62**	Pn	**Pn**	**16 15 31.3**	**+1.3**
XAN				Pg	**Pb**	**16 15 45.0**	**+1.7**
XAN				Sn	**Sn**	**16 16 34.5**	**+4.5**
XAN				Sg	**Sb**	**16 16 50.3**	**+4.5**
XAN				smax	smax		
	comp=N,440nm,1.0s						
XAN				smax	smax		
	comp=E,380nm,1.1s						
XAN				LR	LR		
	comp=N,610nm,5.0s						
XAN				LR	LR		
	comp=E,950nm,4.1s						
XAN				LR	LR		
	comp=Z,750nm,5.2s						
PZH	**PanZhiHua**	**5.38**	**196**	Pn	**Pn**	**16 15 30.6**	**-1.7**
PZH				Pg	**Pb**	**16 15 49.3**	**+3.2**
PZH				Sg	**Sg**	**16 17 02.1**	**-2.8**
PZH				smax	smax		
	comp=N,60nm,1.2s						
PZH				smax	smax		
	comp=E,100nm,1.0s						
ENH	**Enshi**	**5.44**	**104**		**Pn**	**16 15 32.1**	**-1.0**
KMI	**Kunming**	**6.58**	**185**	⇑Pn	**Pn**	**16 15 49.4**	**+0.4**
KMI				Sn	**Sn**	**16 17 08.3**	**+4.3**
KMI				smax	smax		
	comp=N,47nm,1.8s						
KMI				smax	smax		
	comp=E,42nm,1.6s						
KMI				LR	LR		
	comp=N,280nm,8.5s						
KMI				LR	LR		
	comp=E,270nm,9.2s						
KMI				LR	LR		
	comp=Z,240nm,15.5s						
TNCH	**TengChong**	**7.91**	**214**	P	**Pn**	**16 16 11.8**	**+4.7**
TNCH				S	**Sn**	**16 17 42.6**	**+6.0**
TNCH				pmax	pmax		
	comp=Z,17nm,1.9s						
TNCH				pmax	pmax		
	comp=Z,200nm,4.7s						
TNCH				LR	LR		
	comp=N,660nm,9.0s						
TNCH				LR	LR		
	comp=E,650nm,7.6s						
TNCH				LR	LR		
	comp=Z,300nm,11.1s						
LYN	**LuoYang**	**8.14**	**67**	*e*P	**Pn**	**16 16 09.3**	**-0.7**
LYN				S	**Sn**	**16 17 39.8**	**-2.1**
LYN				SS	**SnSn**	**16 17 56.0**	**+2.6**
LYN				pmax	pmax		
	comp=Z,21nm,0.9s						
LYN				smax	smax		
	comp=N,160nm,1.0s						
LYN				smax	smax		
	comp=E,160nm,1.1s						
LYN				LR	LR		
	comp=N,500nm,6.6s						
LYN				LR	LR		
	comp=E,620nm,6.9s						
LYN				LR	LR		
	comp=Z,980nm,11.0s						
GTA	**Gaotai**	**8.21**	**340**	*e*P	**Pn**	**16 16 16.0**	**+4.8**
GTA				sP	Pb	16 16 26.4	-8.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				LR	LR		
	comp=N,200nm,9.8s						
GTA				LR	LR		
	comp=E,440nm,12.4s						
GTA				LR	LR		
	comp=Z,260nm,11.3s						
GOMU	**GeErMu**	**8.40**	**305**	P	**Pn**	**16 16 18.1**	**+4.0**
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GULI	**GuiLin**	**8.87**	**134**	Pn	Pn	16 16 13.9	-6.2
GULI				Sn	**Sn**	**16 17 54.8**	**-5.1**
GULI				smax	smax		
	comp=N,73nm,1.4s						
GULI				smax	smax		
	comp=E,65nm,1.1s						
CNSH	**ChangSha**	**9.00**	**111**	P	**Pn**	**16 16 19.8**	**-2.1**
CNSH				S	**Sn**	**16 18 00.3**	**-2.9**
CNSH				smax	smax		
	comp=N,110nm,1.0s						
CNSH				smax	smax		
	comp=E,72nm,1.1s						
BTO	**Baotou**	**10.37**	**29**	*e*P	**Pn**	**16 16 40.6**	**-0.2**
BTO				S	**Sn**	**16 18 39.0**	**+2.0**
BTO				pmax	pmax		
	comp=E,15nm,0.5s						
BTO				LR	LR		
	comp=E,470nm,3.6s						
BTO				LR	LR		
	comp=E,720nm,5.3s						
BTO				LR	LR		
	comp=E,900nm,11.2s						
LSA	**Lhasa**	**10.71**	**262**	Pn	**Pn**	**16 16 45.8**	**0.0**
LSA	**Lhasa**	**10.71**	**262**	P	**Pn**	**16 16 45.8**	**0.0**
HNS	**HongShan**	**10.93**	**56**	⇑P	**Pn**	**16 16 51.8**	**+3.5**
HNS				S	**Sn**	**16 18 53.9**	**+3.5**
HNS				LR	LR		
	comp=E,380nm,9.9s						
HNS				LR	LR		
	comp=E,350nm,17.7s						
HHC	**Hu-ho-hao-te**	**11.26**	**34**	*e*P	**Pn**	**16 16 53.3**	**+0.4**
HHC				pmax	pmax		
	comp=E,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=E,94nm,4.5s						
HHC				LR	LR		
	comp=E,640nm,10.0s						
HHC				LR	LR		
	comp=E,380nm,6.5s						
HHC				LR	LR		
	comp=E,610nm,14.3s						
TIA	**Tai'an**	**12.27**	**65**	P	**Pn**	**16 17 04.3**	**-2.3**
TIA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NJ2	**Nanjing**	**13.16**	**84**	*e*P	**Pn**	**16 17 18.1**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CHTO	**Chiang Mai**	**13.45**	**198**		**Pn**	**16 17 26.0**	**+3.2**
CHTO	**Chiang Mai**	**13.45**	**198**	P	**Pn**	**16 17 26.0**	**+3.2**
CMAR	**Chiang Mai Arr**	**13.79**	**198**		**Pn**	**16 17 29.6**	**+2.1**
CMAR	**Chiang Mai Arr**	**13.79**	**198**	Pn	**Pn**	**16 17 26.9**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=10,slow=12,SNR=12						
CMAR	**Chiang Mai Arr**	**13.79**	**198**	P	**Pn**	**16 17 29.6**	**+2.1**
QIZ	**Qiongzhong**	**13.90**	**154**	P	**Pn**	**16 17 29.4**	**+0.3**
QIZ				S	**Sn**	**16 20 04.8**	**+1.4**
QIZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
QIZ				LR	LR		
	comp=Z,110nm,7.2s						
QIZ				LR	LR		
	comp=Z,240nm,9.1s						
QIZ				LR	LR		
	comp=Z,250nm,9.1s						
XLT	**XiLinHaoTe**	**15.76**	**36**	*e*P	**P**	**16 17 56.3**	**-1.5**
XLT				pP	pP	16 17 58.9	-3.5
XLT				PP	**sP**	**16 18 11.1**	**+6.5**
XLT				PcP	**PcP**	**16 23 00.8**	**+7.3**
XLT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XLT				LR	LR		
	comp=Z,46nm,9.7s						
XLT				LR	LR		
	comp=Z,240nm,8.5s						
XLT				LR	LR		
	comp=Z,500nm,9.7s						
SONM	**Songino Array**	**16.27**	**7**	Pn	**Pn**	**16 17 59.4**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=193,slow=6.1,SNR=6.0						
	comp=Z,2.5nm,1.0s						
ULN	**Ulaanbaatar**	**16.38**	**9**⇑	*e*P	**Pn**	**16 17 57.0**	**-5.0**
WMQ	**Urumqi**	**17.28**	**319**	*e*P	**Pn**	**16 18 08.9**	**-4.4**
WMQ				pmax	pmax		
	comp=Z,40nm,1.5s						
WMQ				LR	LR		
	comp=Z,360nm,9.9s						
WMQ				LR	LR		
	comp=Z,220nm,12.3s						
IRK	**Irkutsk**	**20.53**	**2**	*e*P	**P**	**16 18 50.6**	**+0.4**
IRK				pmax	pmax		
	comp=Z,32nm,1.4s						
KSRS	**Korea Array**	**20.98**	**67**	P	**P**	**16 18 55.0**	**-0.2**
	comp=Z,7.7nm,0.8s,baz=256,slow=9.9,SNR=23						
	comp=Z,7.7nm,0.8s						
MK31	**Makanchi Array**	**22.12**	**319**	*ce*P	**P**	**16 19 05.3**	**-2.0**

MKAR	**Makanchi Array**	**22.12**	**319**	P		**P**	**16 19 04.9**	**-2.4**
	comp=Z,4.3nm,0.8s,baz=121,slow=12,SNR=16							
MKAR				LR		LR	16 28 25.5	
	comp=Z,140nm,19.2s,baz=129,slow=39							
	comp=Z,4.3nm,0.8s							
MKAR	**Makanchi Array**	**22.12**	**319**	P		**P**	**16 19 05.0**	**-2.4**
JOW	**Kunigami**	**22.24**	**96**	LR		LR	16 28 41.1	
	comp=Z,140nm,18.4s,baz=116,slow=39							
BNX	**BinXian**	**23.29**	**46**	‖P		**P**	**16 19 20.1**	**+0.5**
BNX				pmax		pmax		
	comp=Z,17nm,0.9s							
KSH	**Kashi**	**23.54**	**297**	P		**P**	**16 19 25.3**	**+3.0**
KSH				sP		sP	16 19 30.8	+1.4
KSH				pmax		pmax		
	comp=Z,4.0nm,0.8s							
AAK	**Ala-Archa**	**25.35**	**304**			**P**	**16 19 39.5**	**+0.4**
AAK	**Ala-Archa**	**25.35**	**304**	LR		LR	16 31 19.0	
	comp=Z,128nm,21.5s,baz=101,slow=41							
AAK	**Ala-Archa**	**25.35**	**304**‖	*e*P		**P**	**16 19 40.6**	**+1.5**
AAK				pmax		pmax		
	comp=Z,8.0nm,1.1s							
HEH	**HeiHe**	**25.75**	**37**	*e*P		**P**	**16 19 42.3**	**-0.1**
HEH				pmax		pmax		
	comp=Z,9.0nm,1.3s							
ZAA0	**Zalesovo Array**	**25.91**	**335**	P		**P**	**16 19 41.6**	**-2.2**
ZALV	**Zalesovo Beam**	**25.91**	**335**			**P**	**16 19 41.5**	**-2.3**
ZALV	**Zalesovo Beam**	**25.91**	**335**	P		**P**	**16 19 41.1**	**-2.7**
	comp=Z,2.8nm,0.9s,baz=141,slow=9.6,SNR=8.6							
	comp=Z,2.8nm,0.9s							
ZALV	**Zalesovo Beam**	**25.91**	**335**	*i* P		**P**	**16 19 42.2**	**-1.6**
ZALV				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KURBB	**Kurchatov Arra**	**26.38**	**323**	P		**P**	**16 19 45.6**	**-2.5**
	comp=Z,1.4nm,0.2s,baz=128,slow=9.5,SNR=5.0							
	comp=Z,1.4nm,0.2s							
KURK	**Kurchatov**	**26.39**	**323**	P		**P**	**16 19 47.0**	**-1.2**
KURK	**Kurchatov**	**26.39**	**323**‖	*e*P		**P**	**16 19 45.9**	**-2.3**
KURK				pmax		pmax		
	comp=Z,13nm,1.8s							
ZEA	**Zeya**	**27.90**	**31**	*e*P		P	16 20 11.6	+10
ZEA				MLR		MLR		
	comp=Z,100nm,12.0s							
MAJO	**Matsushiro**	**29.14**	**71**‖	*e*P		**P**	**16 20 10.5**	**-2.5**
MAJO				pmax		pmax		
	comp=Z,8.0nm,1.4s							
MJAR	**Matsushiro Arr**	**29.14**	**71**	P		**P**	**16 20 13.5**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=270,slow=10,SNR=2.3							
	comp=Z,1.7nm,0.9s							
PALK	**Pallekele**	**32.22**	**226**	LR		LR	16 35 04.4	
	comp=Z,46nm,19.3s,baz=25,slow=39							
ASAJ	**Asahikawa**	**33.03**	**57**	LR		LR	16 35 35.3	
	comp=Z,38nm,18.2s,baz=226,slow=39							
YAK	**Yakutsk**	**34.77**	**21**	LR		LR	16 37 31.5	
	comp=Z,44nm,18.4s,baz=253,slow=40							
ARTI	**Arti**	**39.65**	**322**	LR		LR	16 39 11.9	
	comp=Z,54nm,18.6s,baz=152,slow=38							
ARTI	**Arti**	**39.65**	**322***d*	*i* P		**P**	**16 21 42.6**	**-1.0**
ARTI							16 23 11.6	
ARTI				S		**S**	**16 27 48.4**	**+2.0**
ARTI				SS		**SS**	**16 30 35.1**	**-6.3**
ARTI				pmax		pmax		
	comp=Z,6.0nm,1.0s							
MA2	**Magadan**	**41.94**	**34**	LR		LR	16 40 51.5	
	comp=Z,48nm,18.1s,baz=330,slow=38							
GUMO	**Guam**	**42.02**	**106**	LR		LR	16 40 08.5	
	comp=Z,22nm,19.8s,baz=331,slow=37							
TIXI	**Tiksi**	**42.29**	**12**	LR		LR	16 42 45.8	
	comp=Z,44nm,18.7s,baz=229,slow=40							
TIXI	**Tiksi**	**42.29**	**12**‖	*e*P		**P**	**16 22 01.3**	**-3.8**
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.1s							
SEY	**Seymchan**	**43.88**	**30**	LR		LR	16 41 59.2	
	comp=Z,126nm,18.6s,baz=226,slow=38							
PETK	**Petropavlovsk-**	**44.20**	**45**	LR		LR	16 42 54.4	
	comp=Z,51nm,18.7s,baz=268,slow=39							
KIRV	**Kirov**	**44.91**	**323**‖	*e*P		**P**	**16 22 25.7**	**-0.6**
KLMR	**Klimovskoe**	**50.22**	**325**	*e*P		P	16 23 01.2	-6.3
KLMR				pmax		pmax		
	comp=Z,22nm,1.8s							
KNRA	**Kununurra**	**53.04**	**149**	P		**P**	**16 23 28.4**	**-0.7**
KNRA				IAmb		IAmb	16 23 30.5	
	comp=Z,9.3nm,0.8s							
BR131	**Keskin Array S**	**55.90**	**299***ce*	P		**P**	**16 23 49.6**	**-0.4**
BRTR	**Keskin Array B**	**55.90**	**299**	P		**P**	**16 23 47.4**	**-2.6**
	comp=Z,0.6nm,0.8s,baz=92,slow=7.2,SNR=2.5							
	comp=Z,0.6nm,0.8s							
AKASG	**Malin Array Be**	**56.52**	**313**	P		**P**	**16 23 51.2**	**-2.8**
	comp=Z,0.7nm,0.6s,baz=70,slow=6.6,SNR=4.1							
	comp=Z,0.7nm,0.6s							
AKASG	**Malin Array Be**	**56.52**	**313***ce*	P		**P**	**16 23 56.2**	**+2.2**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.6s							
WB0	**Warramunga Arr**	**59.20**	**146**			**P**	**16 24 12.4**	**-0.7**
WRAB	**Tennant Creek**	**59.32**	**146**	P		**P**	**16 24 13.1**	**-0.9**
WRAB	**Tennant Creek**	**59.32**	**146**‖	*e*P		**P**	**16 24 13.4**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,17nm,1.0s							
WRA	**Warramunga Arr**	**59.32**	**146**			**P**	**16 24 12.1**	**-1.9**
WRA	**Warramunga Arr**	**59.32**	**146**	P		**P**	**16 24 13.1**	**-0.9**
	comp=Z,8.4nm,0.8s,baz=338,slow=7.4,SNR=46							
	comp=Z,8.4nm,0.8s							
WR8	**Warramunga Arr**	**59.41**	**146**			**P**	**16 24 13.5**	**-1.1**
ASAR	**Alice Springs**	**62.33**	**148**	P		**P**	**16 24 33.5**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=338,slow=6.7,SNR=18							
	comp=Z,3.0nm,0.8s							
C19K	**Lookout Ridge**	**63.21**	**24**	P		**P**	**16 24 39.5**	**-0.3**
NOA	**NORSAR Array B**	**63.82**	**327**	P		**P**	**16 24 42.9**	**-1.1**
	comp=Z,1.8nm,0.9s,baz=72,slow=6.1,SNR=3.7							
	comp=Z,1.8nm,0.9s							
D20K	**Etivluk River**	**64.36**	**24**	P		**P**	**16 24 46.3**	**-1.0**
MODS	**Modra-Piesok**	**64.63**	**313**	*e*P		**P**	**16 24 51.3**	**+1.8**
MODS				pmax		pmax		
	comp=Z,3.0nm,0.6s							
J16K	**Anvik River**	**64.78**	**30**	P		**P**	**16 24 49.3**	**-0.8**
ZST	**Bratislava**	**64.80**	**312**	*e*P		**P**	**16 24 51.0**	**+0.4**
ZST				pmax		pmax		
	comp=Z,2.0nm,0.6s							
K17K	**Iditarod**	**65.96**	**30**	P		**P**	**16 24 57.1**	**-0.7**
CLL	**Collm**	**66.19**	**317**	*i* P		**P**	**16 24 59.9**	**+0.4**
CLL				pmax		pmax		
	comp=Z,7.0nm,1.3s							
CLL	**Collm**	**66.19**	**317**	*i* P		**P**	**16 24 59.9**	**+0.4**
	comp=Z,7.0nm,1.3s							
D23K	**Nanushuk River**	**66.22**	**22**	P		**P**	**16 24 59.1**	**-0.3**
GERES	**GERESS Array B**	**66.68**	**314**	P		P	16 24 58.4	-4.4
	comp=Z,0.2nm,0.4s,baz=52,slow=7.4,SNR=5.7							
	comp=Z,0.2nm,0.4s							
E24K	**Your Creek**	**67.35**	**23**	P		**P**	**16 25 05.2**	**-1.4**
E24K				IAmb		IAmb	16 25 09.4	
	comp=Z,6.1nm,0.8s							
BMAR	**Burnt Mountain**	**68.96**	**23**	P		**P**	**16 25 16.4**	**-0.4**
COLA	**College**	**69.16**	**26**‖	*e*P		**P**	**16 25 14.6**	**-3.3**
COLA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
ILAR	**Eielson Array**	**69.56**	**25**	P		**P**	**16 25 17.8**	**-2.7**
	comp=Z,0.9nm,0.7s,baz=273,slow=6.3,SNR=7.2							
	comp=Z,0.9nm,0.7s							
PRP	**Porcupine Dome**	**69.66**	**24**			**P**	**16 25 20.5**	**-0.8**
PRP				IAmb		IAmb	16 25 24.3	
	comp=Z,3.9nm,0.8s							
KMBO	**Kilima Mbogo**	**70.44**	**256**	LR		LR	16 57 04.4	
	comp=Z,135nm,18.3s,baz=98,slow=37							
H27K	**Steamboat Moun**	**70.64**	**23**	IAmb		IAmb	16 25 30.2	
	comp=Z,3.1nm,0.8s							
J26L	**Joseph Creek**	**70.92**	**25**	IAmb		IAmb	16 25 31.0	
	comp=Z,4.8nm,0.8s							
SCRK	**Sand Creek**	**71.06**	**25**	IAmb		IAmb	16 25 32.1	
	comp=Z,5.6nm,0.9s							
F30M	**Barrier River**	**71.59**	**20**	P		**P**	**16 25 32.0**	**-0.9**
G30M	**tAoh Zraii Nji**	**71.87**	**21**	IAmb		IAmb	16 25 37.0	
	comp=Z,8.6nm,1.0s							
STKA	**Stephens Creek**	**72.85**	**147**	P		**P**	**16 25 38.0**	**-2.8**
	comp=Z,2.7nm,0.9s,baz=328,slow=11,SNR=4.2							
	comp=Z,2.7nm,0.9s							
H31M	**Peel River**	**73.21**	**21**	IAmb		IAmb	16 25 44.3	
	comp=Z,5.3nm,0.8s							
ESDC	**Sonseca Array**	**82.15**	**312**	P		**P**	**16 26 30.9**	**-2.1**
	comp=Z,0.5nm,0.8s,baz=62,slow=6.4,SNR=2.3							
	comp=Z,0.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**92.86**	**287**	P		**P**	**16 27 24.1**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=53,slow=5.6,SNR=2.7							
	comp=Z,0.6nm,0.7s							

*NEIC **16** 16:27:43.6±1.2,36˚11N±0˚07×143˚2E±0˚2,h10km±2km, mb4.1/4,Error ellipse: s-maj=23.2km s-min=11.5km*

az=84.0

*JMA **16** 16:27:46.7±0.3,36˚2N±0˚8×14˚3E±˚,h77km,MV3.7/29, FAR E OFF CENTRAL HONSHU*

*NIED **16** 16:27:46.7,36˚20N×143˚25E,h77km,MW3.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; Mrr-1.99; Mθθ0.28; Mφφ 1.72; Mrθ-0.19; Mθφ0.47; Mφr-0.10; Fault plane solution: $M_0$1.94000×10^{14} NP1: φs193.00000°,δ43.00000°,λ-96.00000°. NP2:φs21.00000°, δ47.00000°,λ-84.00000°.*

*IDC **16** 16:27:51.5±10.0,34˚80N×142˚06E,h0km,mb3.9/2, mbtmp3.7/3,ML2.6/1,MS3.6/3 Error ellipse: s-maj=278.3km s-min=28.5km az=49.0*

ISC 16 16:27:46.3±1.2,36˚15N±0˚05×143˚34E±0˚08,h35km,n34, σ1s05/37,mb4.0/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JHYU	**Hitachinakayam**	**2.23**	**276**	P		**Pn**	**16 28 21.3**	**+0.5**
JHYU				S		**Sn**	**16 28 47.1**	**0.0**
ONAJ	**Iwakimizuishiy**	**2.25**	**296**	P		**Pn**	**16 28 21.4**	**+0.2**
ONAJ				*e*S		**Sn**	**16 28 47.1**	**-0.6**
JHO	**Hitachi**	**2.28**	**282**	P		**Pn**	**16 28 21.6**	**+0.1**
JHO				S		**Sn**	**16 28 47.8**	**-0.5**
JIHU	**Itakohorinouch**	**2.29**	**266**	*e*P		**Pn**	**16 28 22.7**	**+1.1**
JIHU				*e*S		**Sn**	**16 28 49.7**	**+1.2**
BSO1	**Boso 1**	**2.44**	**233**	P		**Pn**	**16 28 23.3**	**+0.1**
BSO1				*e*S		**Sn**	**16 28 52.1**	**+0.6**
JMM	**Marumori**	**2.66**	**311**	Pn		**Pn**	**16 28 26.4**	**-0.2**
JOTO	**OTAMA OYAMA**	**2.79**	**301**	P		**Pn**	**16 28 29.2**	**+0.8**
JOTO				S		**Sn**	**16 29 01.0**	**0.0**
JAG	**Ashikaga**	**3.15**	**276**	P		**Pn**	**16 28 34.0**	**+0.6**
JAG				S		**Sn**	**16 29 09.3**	**-0.6**
JMK	**Ichinoseki**	**3.26**	**330**	P		**Pn**	**16 28 34.8**	**-0.2**
JMK				*e*S		**Sn**	**16 29 11.5**	**-1.0**
JOD2	**Odawara 2**	**3.57**	**257**	P		**Pn**	**16 28 40.2**	**+0.9**
JOD2				S		**Sn**	**16 29 20.6**	**+0.4**
JRY	**Ryogami san**	**3.60**	**269**	P		**Pn**	**16 28 40.3**	**+0.7**
JRY				*e*S		**Sn**	**16 29 21.1**	**+0.2**
MJAR	**Matsushiro Arr**	**4.16**	**277**	Pn		**Pn**	**16 28 48.1**	**+0.7**
	0.5nm,0.3s,baz=300,slow=24,SNR=24							
MJAR				Sn		**Sn**	**16 29 31.1**	**-3.6**
	0.3nm,0.3s,baz=218,slow=28,SNR=5.2							
MJAR				LR		LR	16 30 15.3	
	comp=Z,114nm,18.1s,baz=329,slow=40							
	2.1nm,0.3s							
MAJO	**Matsushiro**	**4.16**	**277**	Pn		**Pn**	**16 28 46.1**	**-1.2**
MJB9	**Matsu-Tunnel**	**4.16**	**277**			**Pn**	**16 28 45.7**	**-1.6**
JHJ2	**Mitsune**	**4.20**	**225**	Pn		**Pn**	**16 28 47.9**	**0.0**
JHJ2	**Mitsune**	**4.20**	**225**	P		**Pn**	**16 28 47.1**	**-0.8**
JHJ2				S		**Sn**	**16 29 32.7**	**-3.0**
JTM	**Tenmabayashi**	**4.96**	**340**	Pn		**Pn**	**16 28 58.5**	**+0.3**
JCH	**Churui**	**6.45**	**0**	*e*P		Pn	16 29 16.3	-2.4
JCH				*e*S		Sn	16 30 24.3	-6.8
H11N2	**WAKE ISLAND Hy**	**26.37**	**122**	T		T	17 00 32.8	
	baz=314,slow=75,SNR=19							
H11N1	**WAKE ISLAND Hy**	**26.38**	**122**	T		T	17 00 39.2	
	baz=314,slow=75,SNR=16							
H11N3	**WAKE ISLAND Hy**	**26.39**	**122**	T		T	17 00 35.9	
	baz=314,slow=75,SNR=20							
H11S1	**WAKE ISLAND Hy**	**27.08**	**124**	T		T	17 01 31.5	
	baz=316,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	**27.08**	**124**	T		T	17 01 30.9	
	baz=316,slow=76,SNR=8.3							
H11S2	**WAKE ISLAND Hy**	**27.10**	**124**	T		T	17 01 34.2	
	baz=316,slow=76,SNR=8.2							
WB0	**Warramunga Arr**	**56.26**	**190**	P		**P**	**16 37 23.0**	**-0.2**
WB0				IAmb		IAmb	16 38 06.3	
	comp=Z,5.9nm,1.3s							
WR8	**Warramunga Arr**	**56.43**	**190**	P		**P**	**16 37 24.0**	**-0.4**
WRA	**Warramunga Arr**	**56.44**	**190**	P		**P**	**16 37 24.0**	**-0.5**
WRA	**Warramunga Arr**	**56.44**	**190**	P		**P**	**16 37 24.4**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=12,slow=7.4,SNR=16							
	comp=Z,1.4nm,0.7s							
AS31	**Alice Springs**	**60.16**	**190**	P		**P**	**16 37 50.5**	**-0.1**
AS31				IAmb		IAmb	16 38 01.4	
	comp=Z,0.7nm,1.0s							
ASAR	**Alice Springs**	**60.16**	**190**	P		**P**	**16 37 50.3**	**-0.3**
ASAR	**Alice Springs**	**60.16**	**190**	P		**P**	**16 37 50.5**	**0.0**
	comp=Z,0.6nm,0.5s,baz=3.3,slow=7.0,SNR=20							
	comp=Z,0.6nm,0.5s							
BBOO	**Buckleboo**	**68.94**	**187**	P		**P**	**16 38 48.9**	**+1.2**
AKASG	**Malin Array Be**	**75.93**	**323**	LR		LR	17 16 24.0	
	comp=Z,53nm,18.2s,baz=124,slow=38							
MLR	**Muntele Rosu**	**81.05**	**321**	LR		LR	17 18 06.1	
	comp=Z,146nm,18.9s,baz=120,slow=37							

*IDC **16** 16:55:39.1±0.9,27˚50N×56˚52E,h0km,mb4.2/23, mbtmp4.2/29,ML4.1/6,MS3.7/33,Error ellipse: s-maj=20.3km s-min=10.3km az=179.0*

*TEH **16** 16:55:41.5,27˚66N×56˚53E,h7km±47km*

*NEIC **16** 16:55:42.0±1.9,27˚62N±0˚07×56˚34E±0˚08,h10km±1km, mb4.5/33,Error ellipse: s-maj=13.7km s-min=9.3km az=47.0*

*BGR **16** 16:55:41.5,27˚07N×56˚78E,h33km,mb4.1*

*MOS **16** 16:55:41.0±1.1,27˚57N×56˚42E,h22km,mb4.7/20,Error ellipse: s-maj=9.9km s-min=5.6km az=107.8*

*SGS **16** 16:55:42.3,27˚60N×56˚80E,h13km,Ml4.6*

*OMAN **16** 16:55:43.8±0.0,27˚56N×56˚49E,h10km,mb4.9/11, ml4.3/24, Error ellipse: s-maj=0.7km s-min=0.6km az=31.0*

*DSN **16** 16:55:43.2±0.6,27˚70N×56˚44E,h15km,mb4.9/3, ML4.2/15, Error ellipse: s-maj=13.5km s-min=5.3km az=94.0*

*THR **16** 16:55:45.3±0.0,27˚84N×56˚29E,h15km±578km,ML4.6*

ISC 16 16:55:41.1±0.7,27˚65N±0˚02×56˚49E±0˚03,h7km±4km, n298,σ1s66/308,mb4.4/67,MS3.6/37,10C-6D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
IBND	**Bandar-abas**	**0.21**	**167**	Pg		**Pg**	**16 55 46.0**	**+0.8**
IBND				Sg		**Sg**	**16 55 50.4**	**+2.4**
GENO	**Geno**	**0.38**	**228**	Pg		**Pb**	**16 55 49.6**	**-0.6**
KHNJ	**Kahnooj**	**1.12**	**74**	Pg		**Pg**	**16 56 01.1**	**-1.5**
SHME	**Shamm**	**1.62**	**191**	P		**Pg**	**16 56 12.4**	**+0.1**
	SNR=24							
SHME				S		**Sb**	**16 56 31.9**	**-0.2**
SHME	**Shamm**	**1.62**	**191**	*e*P		**Pb**	**16 56 11.0**	**-0.4**
	SNR=20							
SHME				S		**Sg**	**16 56 35.4**	**+2.1**
BANOM	**Banah**	**1.73**	**186**	P		**Pg**	**16 56 13.9**	**-0.4**
BANOM				S		**Sg**	**16 56 36.9**	**+0.2**
BANOM	**Banah**	**1.73**	**186**	*e*P		**Pb**	**16 56 12.6**	**-0.7**
	SNR=36							
LAR1	**LAR**	**1.87**	**271**	Pn		**Pb**	**16 56 16.2**	**+0.5**
NGRK	**Negar Kerman**	**2.00**	**6**	Pn		**Pb**	**16 56 17.9**	**-0.1**
UMQ	**Umm Al-Quwin**	**2.24**	**199**	P		**Pb**	**16 56 20.6**	**-1.4**
UMQ	**Umm Al-Quwin**	**2.24**	**199**	*e*P		**Pb**	**16 56 20.1**	**-1.8**
	SNR=9.1							
KBAM	**BAM**	**2.28**	**49**	Pn		**Pn**	**16 56 21.1**	**+1.8**
MASF	**Masfi**	**2.29**	**187**	P		**Pb**	**16 56 21.4**	**-1.4**
	SNR=8.1							
MASF				S		**Sb**	**16 56 49.1**	**-2.3**
MSFE	**Esma-Masafi**	**2.30**	**187**	*e*P		**Pn**	**16 56 20.8**	**+1.2**
	SNR=76							
KRBR	**Kerman**	**2.33**	**6**	Pn		**Pb**	**16 56 22.7**	**-1.0**
KRBR	**Kerman**	**2.33**	**6**	*e*PnA			16 56 22.9	
KRBR				IAML			16 57 00.7	
	comp=Z,5.4nm,1.0s							
MDH	**Madha**	**2.35**	**184**	P		**Pb**	**16 56 22.4**	**-1.5**
MDH	**Madha**	**2.35**	**184**	*e*P		**Pn**	**16 56 21.2**	**+1.0**
	SNR=20							
CHMN	**Cheshme madani**	**2.39**	**23**	Pn		**Pb**	**16 56 23.4**	**-1.2**
JHRM	**Jahrom**	**2.71**	**289**	Pn		**Pb**	**16 56 28.1**	**-1.9**
UOSS	**Minazif**	**2.71**	**185**			**Pn**	**16 56 25.6**	**+0.5**
UOSS	**Minazif**	**2.71**	**185**	P		**Pn**	**16 56 26.6**	**+1.5**
UOSS	**Minazif**	**2.71**	**185**	*e*P		**Pn**	**16 56 25.8**	**+0.7**
	SNR=24							
KHGB	**Koh Gabri**	**2.71**	**360**	Pn		**Pb**	**16 56 28.5**	**-1.6**
NAZ	**Nazwa, Dubai**	**2.75**	**196**	P		**Pb**	**16 56 28.4**	**-2.3**
NAZ				S		**Sb**	**16 57 04.4**	**-0.3**
NAZ	**Nazwa, Dubai**	**2.75**	**196**	*e*P		**Pb**	**16 56 28.2**	**-2.5**
	SNR=23							
HATD	**Hatta, Dubai**	**2.83**	**187**	P		**Pb**	**16 56 29.3**	**-2.8**
	SNR=26							
HATD	**Hatta, Dubai**	**2.83**	**187**	*e*P		**Pn**	**16 56 28.1**	**+1.2**
	SNR=28							
KRM1	**Kerman Provinc**	**2.92**	**13**	Pn		**Pn**	**16 56 30.4**	**+2.1**
LMD1	**Lamerd**	**2.97**	**265**	Pn		**Pn**	**16 56 31.6**	**+2.9**
LMD1	**Lamerd**	**2.97**	**265**	*e*Pn		**Pb**	**16 56 31.7**	**-2.6**
LMD1				IAML			16 57 40.0	
	comp=Z,7.0nm,1.0s							
ASHO	**Ashiyiah**	**2.98**	**187**	P		**Pn**	**16 56 31.1**	**+2.2**
	SNR=35							
ASHO				S		**Sn**	**16 57 05.0**	**0.0**
ASHO	**Ashiyiah**	**2.98**	**187**	*i* P		**Pn**	**16 56 30.4**	**+1.5**
	SNR=84							
FAQ	**Al Faqa, Dubai**	**3.00**	**196**	P		**Pn**	**16 56 31.6**	**+2.4**
	SNR=14							
FAQ				S		**Sn**	**16 57 06.4**	**+0.9**
FAQ	**Al Faqa, Dubai**	**3.00**	**196**	*i* P		**Pn**	**16 56 31.2**	**+2.0**
	SNR=23							
QIR1	**Qir**	**3.15**	**286**	Pn		**Pn**	**16 56 32.9**	**+1.7**
ASUD	**Al Ashush, Dub**	**3.19**	**199**	P		**Pn**	**16 56 34.6**	**+2.9**
ASUD				S		**Sn**	**16 57 11.6**	**+1.6**
ASUD	**Al Ashush, Dub**	**3.19**	**199**	P		**Pn**	**16 56 33.9**	**+2.2**
ZRDN	**Zarand Kerman**	**3.30**	**1**	Pn		**Pn**	**16 56 35.2**	**+1.7**
AJN	**Ajban**	**3.36**	**204**	P		**Pn**	**16 56 37.0**	**+2.9**
AJN				S		**Sn**	**16 57 16.0**	**+1.8**
AJN	**Ajban**	**3.36**	**204**	*i* P		**Pn**	**16 56 36.2**	**+2.2**
	SNR=6.4							
SOHO	**SOHO**	**3.50**	**179**	P		**Pn**	**16 56 38.1**	**+2.0**
ALNE	**Al Ain**	**3.64**	**191**	P		**Pn**	**16 56 39.8**	**+1.8**
	SNR=29							
ALNE				P		**Pn**	**16 56 39.8**	**+1.8**
	SNR=18							
ALNE	**Al Ain**	**3.64**	**191**	*i* P		**Pn**	**16 56 39.3**	**+1.3**
	SNR=29							
IBAF	**Bafgh**	**4.00**	**349**	Pn		**Pn**	**16 56 45.3**	**+2.2**
SHI	**Shiraz**	**4.01**	**301**	Pn		**Pn**	**16 56 45.9**	**+2.6**
IMEH	**Mehriz**	**4.07**	**337**	Pn		**Pn**	**16 56 46.4**	**+2.3**
HOQ	**Hoqain**	**4.12**	**169**	P		**Pn**	**16 56 46.4**	**+1.8**
	SNR=7.1							
JRN	**Qarnain Island**	**4.24**	**231**	P		**Pn**	**16 56 48.8**	**+2.7**
JRN				S		**Sn**	**16 57 35.4**	**-0.4**
ZHSF	**Zahedan**	**4.25**	**62**	Pn		**Pn**	**16 56 48.7**	**+2.3**
ARQ	**Araqi**	**4.30**	**180**	P		**Pn**	**16 56 49.1**	**+2.1**
	SNR=49							
BIDO	**Bidbid**	**4.37**	**160**	P		**Pn**	**16 56 48.5**	**+0.5**
BIDO				S		**Sn**	**16 57 38.2**	**-1.0**
MZWR	**Madinat Zayed**	**4.53**	**212**	P		**Pn**	**16 56 52.0**	**+1.8**
MZWR				S		**Sn**	**16 57 43.3**	**+0.1**
DSBU	**Dashti - Bushe**	**4.67**	**280**	Pn		**Pn**	**16 56 54.9**	**+2.7**
NGCH	**Negor - Chabah**	**4.75**	**118**	P		**Pn**	**16 56 55.3**	**+2.0**
NGCH				S		**Sn**	**16 57 48.2**	**-0.4**
NGCH	**Negor - Chabah**	**4.75**	**118**	Pn		**Pn**	**16 56 54.4**	**+1.2**
SMDO	**Samad**	**4.79**	**162**	P		**Pn**	**16 56 55.3**	**+1.5**
SMDO				S		**Sn**	**16 57 50.5**	**+0.9**
WSAR	**Wadi Sarin**	**4.80**	**156**	Pn		**Pn**	**16 56 54.2**	**+0.2**
	baz=342,slow=24,SNR=24							
WSAR				Sn		**Sn**	**16 57 47.9**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=172,slow=24,SNR=8.4							
WSAR	**Wadi Sarin**	**4.80**	**156**	P		**Pn**	**16 56 55.4**	**+1.5**
	SNR=13							
WSAR				S		**Sn**	**16 57 48.2**	**-1.7**
BSRN	**Basiran**	**4.87**	**27**	Pn		**Pn**	**16 56 57.8**	**+2.7**
BSRN	**Basiran**	**4.87**	**27**	*e*Pn		**Pn**	**16 56 58.9**	**+3.9**
BSRN				IAML			16 58 28.4	
	comp=Z,0.7nm,1.0s							
GHWR	**Ruwais**	**4.91**	**222**	P		**Pn**	**16 56 57.0**	**+1.7**
GHWR				S		**Sn**	**16 57 52.2**	**-0.2**
ICHK	**Chekchek**	**4.92**	**339**	Pn		**Pn**	**16 56 58.1**	**+2.4**
YZKH	**Yazd**	**5.00**	**341**	*e*PnA			16 56 59.0	
YZKH				IAML			16 58 53.0	
	comp=Z,0.3nm,1.0s							
UMZA	**Um Al Zommool**	**5.06**	**194**	P		**Pn**	**16 56 59.0**	**+1.5**
IKOO	**Kooshah**	**5.23**	**24**	Pn		**Pn**	**16 57 02.5**	**+2.4**
SHMA	**Al-Shehemyia**	**5.25**	**251**	P		**Pn**	**16 57 04.0**	**+3.9**
	SNR=22							
SHMA				S		**Sn**	**16 58 02.5**	**+1.6**
SRVN	**Saravan**	**5.26**	**91**	Pn		**Pn**	**16 57 02.1**	**+1.8**
TPRV	**Parvadeh(Tab

DOK S Sn 16 59 38.4 -1.0
IPRN Peran 9.26 339 Pn Pn **16 57 58.2 +3.0**
RQBS RQBS 9.35 271 P Pn **16 57 55.8 -0.7**
CHTH Charan 9.41 332 *e*PnA 16 58 00.3
IKRD Kardeh 9.45 15 Pn Pn **16 58 00.9 +3.0**
THKV Tehran--Karaj 9.52 331 *e*Pn Pn **16 58 02.4 +3.6**
QABG Abgarm-Qazvin 9.95 326 Pn Pn **16 58 07.7 +2.9**
DMTO DMTO 9.99 188 P Pn **16 58 05.8 +0.6**
WHFO Wadi Hawf 10.01 195 P Pn **16 58 06.0 +0.5**
SNR=34
RBK Rabkut 10.32 192 P Pn **16 58 10.2 +0.5**
ABTO Aybut 10.66 197 P Pn **16 58 13.8 -0.6**
RAYN Ar Rayn 10.73 250 Pn **16 58 12.9 -2.4**
RAYN Ar Rayn 10.73 250 *i* P Pn **16 58 13.3 -2.0**
SNR=6.5
RAYN Ar Rayn 10.73 250 P Pn **16 58 12.9 -2.4**
ZNJK Zanjan 11.15 326 *e*PnA 16 58 24.3
GRMI Germi 13.24 329 *e*PnA 16 58 54.3
GNI Garni 15.80 325 P **16 59 28.9 +0.7**
GNI IAmb IAmb 17 00 15.2
comp=Z,28nm,0.8s
GNI Garni 15.80 325 Pn Pn **16 59 26.1 +1.7**
comp=Z,2.5nm,0.3s,baz=197,slow=4.2,SNR=11
comp=Z,12nm,0.7s
GNI Garni 15.80 325 *de*P Pn **16 59 22.8 -1.5**
GAR Garm 16.16 42 P **16 59 30.8 -1.3**
GAR IAmb IAmb 16 59 41.9
comp=Z,30nm,1.1s
GAR S **17 02 43.7 +1.9**
GURO Guroymak-BITLI 16.25 316 Pn **16 59 29.0 -1.1**
GURO IAmb IAmb 16 59 37.9
comp=Z,26nm,0.9s
MARD Mardin 16.36 310 Pn **16 59 29.8 -1.7**
MAK Makhachkala 16.92 337 *e*P Pn **16 59 34.4 -4.0**
MAK *e*S Sn **17 02 42.6 -4.1**
MAK pmax pmax
comp=Z,267nm,1.8s
MAK MLR MLR
comp=Z,258nm,11.0s
ASF Jabal al Asfar 17.57 290 P Pn **16 59 44.8 -1.8**
comp=Z,0.6nm,0.3s,baz=131,slow=13,SNR=3.5
ASF S Sn **17 03 04.2 +1.7**
comp=Z,7.5nm,0.8s,baz=264,slow=9.6,SNR=3.6
ASF LR LR 17 08 18.6
comp=Z,379nm,19.0s,baz=120,slow=43
comp=Z,1.7nm,0.3s
GHAJ Ghor Haditha 18.57 286 P **16 59 55.9 -2.8**
GHAJ IAmb IAmb 17 00 17.9
comp=Z,23nm,1.0s
NCK Nalchik 18.93 330‖ *e*P **P 17 00 01.3 -1.3**
NCK pmax pmax
comp=Z,23nm,1.0s
MMAI Mount Meron Ar 18.96 292 P Pn **17 00 03.8 +0.1**
comp=Z,0.9nm,0.3s,baz=101,slow=14,SNR=6.0
MMAI LR LR 17 09 23.5
comp=Z,349nm,19.5s,baz=90,slow=43
comp=Z,1.7nm,0.6s
EIL Elat 19.00 281 P **17 00 03.9 +0.4**
comp=Z,0.3nm,0.3s,baz=56,slow=11,SNR=7.9
EIL S **S 17 03 39.9 +0.3**
comp=Z,3.2nm,0.6s,baz=67,slow=12,SNR=1.6
comp=Z,9.3nm,0.8s
KK31 Karatay Array 19.15 33 P **17 00 05.0 -0.1**
KK31 Karatay Array 19.15 33 P P **17 00 05.0 -0.1**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 19.15 33 P P **17 00 05.6 +0.5**
KKAR Karatay Array 19.15 33 P P **17 00 05.6 +0.5**
KBZ Khabaz 19.43 329 P Pn **17 00 09.6 +0.5**
comp=Z,0.2nm,0.3s,baz=131,slow=9.4,SNR=12
comp=Z,6.5nm,0.9s
KBZ Khabaz 19.43 329‖ *e*P Pn **17 00 09.3 +0.2**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
SHA1 Shidzhatmaz 19.55 329 *ce*P Pn **17 00 11.7 +0.9**
KVAR Kislovodsk Arr 19.70 329 P Pn **17 00 13.1 +0.6**
baz=74,slow=22
comp=Z,4.4nm,0.6s
KIV Kislovodsk 19.70 329 P P **17 00 08.5 -2.6**
KIV IAmb IAmb 17 00 15.2
comp=Z,25nm,0.6s
KIV Kislovodsk 19.70 329 P Pn **17 00 13.6 +1.1**
KIV Kislovodsk 19.70 329 P Pn **17 00 13.5 +1.0**
KSH Kashi 20.04 49 P P **17 00 11.1 -3.8**
KSH pP sP 17 00 20.5 +2.6
KSH pmax pmax
comp=Z,11nm,1.1s
KSH LR LR
comp=N,550nm,11.7s
KSH LR LR
comp=E,410nm,11.3s
KSH LR LR
comp=Z,450nm,15.1s
BNN Bunyan 20.51 308 P **17 00 21.0 +0.9**
ATD Arta Tunnel 20.52 221 LR LR 17 08 50.3
comp=Z,9.0nm,18.2s,baz=48,slow=39
VSLR Vesyoloye 20.63 324 *ce*P P **17 00 22.3 +1.2**
VSLR pmax pmax
comp=Z,82nm,1.3s
AAK Ala-Archa 20.92 40 P P **17 00 25.7 +1.2**
AAK Ala-Archa 20.92 40 P P **17 00 25.8 +1.4**
comp=Z,3.0nm,0.5s,baz=201,slow=6.5,SNR=6.6
AAK LR LR 17 10 03.8
comp=Z,70nm,19.8s,baz=250,slow=41
comp=Z,3.0nm,0.5s
AAK Ala-Archa 20.92 40 P P **17 00 25.5 +1.0**
AAK Ala-Archa 20.92 40 P P **17 00 25.7 +1.2**
AAK pmax pmax
comp=Z,6.0nm,0.9s
AB31 Akbulak array 21.73 6 P P **17 00 32.8 -0.2**
AB31 IAmb IAmb 17 00 42.2
comp=Z,13nm,0.7s
ABKAR Akbulak array 21.73 6 P P **17 00 32.7 -0.3**
BR131 Keskin Array S 22.43 308 P P **17 00 41.3 +0.5**
BR131 IAmb IAmb 17 00 47.6
comp=Z,14nm,0.9s
BR131 Keskin Array S 22.43 308 P P **17 00 42.8 +2.0**
SNR=11
BR131 Keskin Array S 22.43 308 *d* P P **17 00 42.2 +1.5**
BRTR Keskin Array B 22.43 308 P P **17 00 41.9 +1.1**
BRTR Keskin Array B 22.43 308 P P **17 00 41.6 +0.9**
comp=Z,5.0nm,0.7s,baz=130,slow=12,SNR=25
comp=Z,5.0nm,0.7s
AKTO Aktyubinsk 22.78 3 P P **17 00 44.5 +0.4**
comp=Z,11nm,0.8s,baz=201,slow=8.7,SNR=16
AKTO LR LR 17 11 22.2
comp=Z,310nm,18.7s,baz=232,slow=41
comp=Z,11nm,0.8s
ILGA Ilgaz 22.98 311 IAmb IAmb 17 00 55.1
comp=Z,26nm,1.4s
SIM Simferopol' **24.83 320** *e*P P **17 01 05.2 +1.2**
SIM pmax pmax
comp=Z,17nm,0.9s
FURI Furi 25.11 225 LR LR 17 12 22.0
comp=Z,260nm,18.4s,baz=44,slow=40
BELG Belogornoye 25.59 347 P P **17 01 11.5 +0.8**
comp=Z,23nm,1.0s,baz=333,slow=1.2,SNR=6.9
comp=Z,23nm,1.0s
BELG Belogornoye 25.59 347 *ce*P P **17 01 10.3 -0.4**
BELG pmax pmax
comp=Z,5.0nm,0.9s
VRH Novokhopyorsk 26.04 339 *e*P P **17 01 16.4 +1.5**
VRH pmax pmax
comp=Z,7.0nm,0.9s
VORD Divnogorie 26.68 335 *e*P P **17 01 20.9 +0.2**
VORD pmax pmax
comp=Z,8.0nm,1.0s
VSR Storozhevoye 26.93 336 *e*P P **17 01 22.1 -0.9**
VSR pmax pmax
comp=Z,5.0nm,1.1s
BVAR Borovoye Array 27.37 18 P P **17 01 27.3 +0.4**
comp=Z,4.4nm,0.7s,baz=207,slow=8.3,SNR=13
BVAR LR LR 17 14 11.6
comp=Z,170nm,19.1s,baz=208,slow=40
comp=Z,4.4nm,0.7s
MK31 Makanchi Array 27.86 40 *de*P P **17 01 31.2 -0.2**
MKAR Makanchi Array 27.86 40 P P **17 01 31.5 +0.2**
MKAR Makanchi Array 27.86 40 P P **17 01 31.4 0.0**
comp=Z,0.7nm,0.5s,baz=231,slow=8.6,SNR=8.4
MKAR LR LR 17 13 49.8
comp=Z,99nm,20.4s,baz=256,slow=39
comp=Z,0.7nm,0.5s
IDI Anoyia 27.92 294 P P **17 01 31.5 -0.5**
comp=Z,9.2nm,1.0s,baz=53,slow=10,SNR=1.3
comp=Z,9.2nm,1.0s
LPSR Galich'ya Gora 28.15 337 *e*P P **17 01 34.0 +0.1**

LPSR pmax pmax
comp=Z,5.0nm,0.9s
KURBB Kurchatov Arra 28.41 30 P P **17 01 36.5 +0.4**
comp=Z,4.3nm,0.9s,baz=229,slow=8.5,SNR=27
KURBB LR LR 17 13 35.1
comp=Z,100nm,18.6s,baz=162,slow=38
comp=Z,4.3nm,0.9s
KURK Kurchatov 28.51 30 P P **17 01 36.7 -0.4**
KURK IAmb IAmb 17 01 42.0
comp=Z,4.8nm,0.9s
KURK Kurchatov 28.51 30 P P **17 01 38.4 +1.4**
KURK Kurchatov 28.51 30‖ *e*P P **17 01 37.5 +0.4**
KURK pmax pmax
comp=Z,7.0nm,0.9s
ARTI Arti 28.75 2 P P **17 01 40.9 +1.8**
comp=Z,1.0nm,0.5s,baz=149,slow=23,SNR=1.9
ARTI LR LR 17 14 02.4
comp=Z,149nm,19.5s,baz=168,slow=38
comp=Z,1.0nm,0.5s
WMQ Urumqi 29.81 49 *e*P P **17 01 53.0 +4.2**
WMQ LR LR
comp=N,300nm,17.5s
WMQ LR LR
comp=E,280nm,15.1s
WMQ LR LR
comp=Z,210nm,24.3s
ITM Ithomi 30.54 297 P P **17 01 54.7 -0.6**
ITM IAmb IAmb 17 02 17.9
comp=Z,14nm,1.1s
PALK Pallekele 30.61 127 LR LR 17 13 02.9
comp=Z,167nm,19.8s,baz=305,slow=34
AKASG Malin Array Be 30.94 325 P P **17 01 58.0 -0.6**
comp=Z,5.5nm,0.6s,baz=134,slow=8.4,SNR=21
comp=Z,5.5nm,0.6s
AKASG Malin Array Be 30.94 325 *ce*P P **17 01 58.5 -0.1**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 30.94 325 P P **17 01 58.0 -0.5**
AKBB P **17 01 58.6 0.0**
AKBB Malin Array Si 30.94 325‖ *e*P P **17 01 58.5 0.0**
KIEV Kiev 30.94 325 P P **17 01 58.0 -0.6**
KIEV Kiev 30.94 325 P P **17 01 58.1 -0.5**
KIEV Kiev 30.94 325 P P **17 01 58.0 -0.6**
KIEV pmax pmax
comp=Z,14nm,0.8s
OBN Obninsk 31.02 338‖ *e*P P **17 01 59.9 +0.7**
OBN pmax pmax
comp=Z,40nm,1.7s
OBN MLR MLR
comp=Z,79nm,21.0s
MOS Moscow 31.19 339 *e*P P **17 02 00.2 -0.5**
KIRV Kirov 31.31 353 LR LR 17 17 21.5
comp=Z,217nm,19.3s,baz=168,slow=41
KIRV Kirov 31.31 353‖ *e*P P **17 02 02.0 +0.3**
FNA Florina 31.63 304 IAmb IAmb 17 02 07.8
comp=Z,4.4nm,0.8s
BRDH Bariadhala 32.13 91 LR LR 17 18 04.5
comp=Z,300nm,18.0s,baz=269,slow=42
ZAA0 Zalesovo Array 33.50 31 P P **17 02 21.5 +0.4**
ZAA0 P **17 02 22.0 -1.3**
ZALV Zalesovo Beam 33.50 31 P P **17 02 21.6 +0.6**
ZALV Zalesovo Beam 33.50 31 P P **17 02 20.9 -0.2**
comp=Z,7.9nm,0.5s,baz=236,slow=9.9,SNR=25
comp=Z,7.9nm,0.5s
ZALV Zalesovo Beam 33.50 31 *i* P P **17 02 22.2 +1.2**
ZALV pmax pmax
comp=Z,8.0nm,0.5s
KOLS Kolonicke sedl 33.82 318 *e*P P **17 02 27.9 +4.0**
KOLS pmax pmax
comp=Z,4.0nm,0.6s
MNK Minsk 33.98 330 *i* P P **17 02 23.2 -1.9**
comp=E,16nm,0.9s
MNK *i* P P **17 02 23.2 -1.9**
comp=N,9.0nm,0.7s
MNK *i* P P **17 02 23.2 -1.9**
comp=Z,15nm,0.8s,baz=130
MNK *i* PP PP **17 03 36.4 -5.6**
MNK *i* PPP PPP 17 03 47.6
MNK *i* S S **17 07 49.3 -1.2**
MNK *i* SS SnSn **17 09 57.0 +0.5**
MNK *i* SSS SSS 17 10 12.7
MNK *i* LQ LQ 17 12 34.8
MNK *i* LR LR 17 15 58.3
MNK *i* LRM MLR 17 16 49.6
comp=E,387nm,24.7s
MNK *i* LRM MLR 17 17 04.2
comp=N,375nm,23.5s
MNK *i* LRM MLR 17 17 10.0
comp=Z,69nm,16.4s
MNK Minsk 33.98 330 *i* P P **17 02 23.2 -1.9**
MNK *i* 17 03 36.3
MNK *i* S S **17 07 49.2 -1.2**
MNK *i* SS SnSn **17 09 56.9 +0.5**
MNK pmax pmax
comp=E,16nm,0.9s
MNK pmax pmax
comp=N,9.0nm,0.7s
MNK pmax pmax
comp=Z,15nm,0.8s
MNK MLR MLR
comp=E,387nm,25.0s
MNK MLR MLR
comp=N,375nm,23.0s
MNK MLR MLR
comp=Z,69nm,16.0s
KMBO Kilima Mbogo 34.07 216 LR LR 17 16 32.0
comp=Z,116nm,18.8s,baz=100,slow=37
CUC Castrocucco 35.67 301 IAmb IAmb 17 02 47.0
comp=Z,9.8nm,0.8s
SRO Srobarova 35.80 315 *e*P P **17 02 41.1 +0.1**
SRO pmax pmax
comp=Z,13nm,0.7s
RONA Rosalia, Austr 37.05 314 *i* P P **17 02 52.1 +0.4**
comp=Z,4.2nm,0.6s
VRAC Vranov 37.39 316 LR LR 17 21 00.3
comp=Z,88nm,18.6s,baz=118,slow=40
CONA Conrad Observa 37.40 314 *e*P P **17 02 55.0 +0.2**
comp=Z,4.1nm,0.7s
ARSA Arzberg 37.41 313 *i* P P **17 02 55.0 +0.2**
comp=Z,2.9nm,0.9s
SOKA Soboth 37.57 312 *e*P P **17 02 56.4 +0.2**
comp=Z,3.2nm,1.2s
GTA Gaotai 37.65 61 *e*P P **17 02 57.3 +0.3**
GTA sP sP 17 03 11.3 +11
GTA pmax pmax
comp=Z,7.0nm,1.6s
GTA LR LR
comp=N,130nm,14.2s
GTA LR LR
comp=E,98nm,13.8s
GTA LR LR
comp=Z,170nm,14.9s
OBKA Obir 37.85 311 *i* pP P **17 02 59.2 +0.6**
comp=Z,1.7nm,0.8s
FDMO Fiordimonte 38.14 305 IAmb IAmb 17 03 09.7
comp=Z,5.4nm,0.6s
MOA Molln 38.40 313 *i* P P **17 03 03.5 +0.3**
comp=Z,4.9nm,0.8s
BIOA Bad Ischl, Aus 38.76 313 *e*P P **17 03 06.2 0.0**
comp=Z,7.5nm,1.0s
GERES GERESS Array B 39.04 315 P P **17 03 07.8 -0.8**
comp=Z,1.1nm,0.8s,baz=120,slow=7.9,SNR=5.9
GERES PcP **PcP 17 05 19.5 +0.8**
comp=Z,0.6nm,0.6s,baz=120,slow=3.7,SNR=2.0
GERES LR LR 17 22 36.1
comp=Z,44nm,20.7s,baz=114,slow=41
comp=Z,1.1nm,0.8s
KHC Kasperske Hory 39.21 315 *ce*P P **17 03 09.8 -0.1**
KHC pmax pmax
comp=Z,12nm,1.5s
KHC Kasperske Hory 39.21 315 *e*P P **17 03 10.0 +0.1**
ABTA Abfaltersbach 39.27 311 *i* P P **17 03 10.5 -0.1**
comp=Z,4.7nm,0.7s
LESA Schwarzleotal 39.32 312 *e*P P **17 03 11.4 +0.4**
comp=Z,1.7nm,0.6s
FIA1 FINESS Array S 39.42 337 P P **17 03 11.6 +0.1**
FINES FINESS Array B 39.42 337 P P **17 03 11.5 0.0**
FINES FINESS Array B 39.42 337 P P **17 03 10.9 -0.5**
comp=Z,4.2nm,0.6s,baz=129,slow=8.9,SNR=16
FINES LR LR 17 23 15.5
comp=Z,110nm,18.7s,baz=139,slow=42
comp=Z,4.2nm,0.6s
FINES FINESS Array B 39.42 337 *i* P P **17 03 12.6 +1.1**
FINES pmax pmax
comp=Z,4.0nm,0.6s
CMAR Chiang Mai Arr 39.96 94 PcP **PcP 17 05 23.0 +1.0**
comp=Z,1.1nm,0.7s,baz=300,slow=3.2,SNR=4.9

CMAR LR LR 17 24 17.6
comp=Z,46nm,18.7s,baz=300,slow=43
WTTA Wattenberg 39.97 312 *i* pP P **17 03 16.9 +0.4**
comp=Z,14nm,0.8s
WATA Walderalm 40.03 312 *i* pP P **17 03 17.4 +0.5**
comp=Z,8.2nm,1.0s
PZH PanZhiHua 40.14 81 P P **17 03 20.8 +2.7**
CLL Collm 40.24 318 *e*P P **17 03 22.0 +3.6**
CLL Collm 40.24 318 *e*Px Px 17 03 22.0
CLL LmH 17 22 00.0
comp=N,100nm,18.0s
CLL LmH 17 22 00.0
comp=E,100nm,21.9s
SQTA Sankt Quirin 40.25 311 *i* P P **17 03 18.3 -0.4**
comp=E,14nm,0.6s
MOTA Moosalm 40.34 312 *i* P P **17 03 19.6 0.0**
comp=E,6.0nm,0.6s
FETA Feichten 40.52 311 *i* P P **17 03 20.9 -0.1**
comp=E,7.1nm,0.8s
RETA Reutte 40.60 312 *i* P P **17 03 20.4 -1.2**
comp=E,4.2nm,0.8s
LZDM Lanzhou Array 40.64 66 LR LR 17 24 13.1
comp=E,73nm,19.9s,baz=345,slow=42
FUORN Ofenpass-Fuorn 40.76 310 P P **17 03 22.6 -0.5**
FUORN **pP 17 03 25.1 -0.3**
GRF Grafenberg Arr 40.84 315 *e*P P **17 03 24.9 +1.4**
comp=E,2.8nm,0.8s,baz=112,slow=9.0
DAVA Damuels 41.15 311 *i* P P **17 03 25.8 -0.4**
comp=E,19nm,0.6s
KMI Kunming 41.33 83 P P **17 03 27.8 -0.2**
KMI pmax pmax
comp=Z,11nm,0.9s
SENIN Lac Senin/Sane 42.73 309 P P **17 03 38.7 -0.5**
SENIN **pP 17 03 41.6 +0.1**
BNI Bardonecchia 42.99 307 P P **17 03 41.4 +0.1**
BNI IAmb IAmb 17 03 56.5
comp=Z,13nm,1.5s
BNI Bardonecchia 42.99 307 P P **17 03 41.4 +0.1**
BNI pmax pmax
comp=Z,13nm,1.5s
SONM Songino Array 43.45 49 P P **17 03 44.2 -0.7**
comp=Z,0.6nm,0.4s,baz=254,slow=8.6,SNR=4.3
SONM LR LR 17 24 10.9
comp=Z,158nm,21.1s,baz=209,slow=39
comp=Z,0.6nm,0.4s
HFS Hagfors 43.49 330 P P **17 03 43.8 -1.1**
comp=Z,3.6nm,0.5s,baz=128,slow=9.6,SNR=17
comp=Z,3.6nm,0.5s
ULN Ulaanbaatar 43.89 49‖ *e*P P **17 03 49.0 +0.5**
ULN pmax pmax
comp=Z,5.0nm,1.6s
NC405 NORSAR Array S 44.82 331 P P **17 03 55.2 -0.4**
NB2 NORSAR Subarra 45.00 331 P P **17 03 56.1 -0.9**
comp=Z,2.2nm,0.8s,baz=116,slow=7.9
NOA NORSAR Array B 45.00 331 P P **17 03 55.8 -1.2**
comp=Z,3.6nm,0.8s,baz=116,slow=7.9,SNR=6.8
NOA LR LR 17 24 16.0
comp=Z,43nm,19.3s,baz=130,slow=38
comp=Z,3.6nm,0.8s
XAN Xi'an 45.07 68‖ P P **17 04 00.0 +2.0**
XAN pmax pmax
comp=Z,8.0nm,1.8s
ARCES ARCESS Array B 45.60 345 P P **17 04 02.5 +0.9**
comp=Z,2.5nm,1.0s,baz=131,slow=11,SNR=1.1
ARCES LR LR 17 27 05.6
comp=Z,115nm,18.7s,baz=140,slow=41
comp=Z,2.5nm,1.0s
HHC Hu-ho-hao-te 46.69 59 *e*P P **17 04 11.9 +1.2**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,99nm,4.5s
EKA Eskdalemuir Ar 50.58 320 P P **17 04 39.9 -0.4**
comp=Z,1.1nm,0.6s,baz=83,slow=7.9,SNR=5.3
comp=Z,1.1nm,0.6s
LSZ Lusaka 50.73 216 LR LR 17 26 04.5
comp=Z,104nm,19.6s,baz=1,slow=36
ESDC Sonseca Array 50.86 300 P P **17 04 42.5 -0.2**
comp=Z,1.2nm,0.9s,baz=77,slow=7.2,SNR=7.7
ESDC LR LR 17 27 48.3
comp=Z,45nm,19.6s,baz=87,slow=38
comp=Z,1.2nm,0.9s
TIA Tai'an 51.44 64 P P **17 04 47.1 -0.1**
MDT Midelt 52.40 292 LR LR 17 32 22.8
comp=Z,51nm,18.5s,baz=58,slow=42
TORD Torodi Ar. Bea 52.95 266 P P **17 04 57.1 -1.5**
TORD Torodi Ar. Bea 52.95 266 P P **17 04 57.9 -0.7**
comp=Z,4.1nm,0.7s,baz=60,slow=7.7,SNR=25
comp=Z,4.1nm,0.7s
NJ2 Nanjing 53.62 69 *e*P P **17 05 04.3 +1.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
SPITS Spitsbergen Ar 53.73 351 LR LR 17 31 46.5
comp=Z,53nm,19.8s,baz=126,slow=40
QNGWA Qangwa 58.04 220 P P **17 05 33.8 -1.4**
QNGWA IAmb IAmb 17 05 48.6
comp=Z,6.6nm,1.1s
BORG Borgarnes 60.17 331 LR LR 17 35 42.3
comp=Z,73nm,18.2s,baz=83,slow=40
LBTB Lobatse 60.23 212 LR LR 17 31 39.6
comp=Z,70nm,18.3s,baz=36,slow=36
TGY Tagaytay City 61.12 89 LR LR 17 35 02.5
comp=Z,215nm,20.2s,baz=242,slow=39
BOSA Boshof 63.45 211 P P **17 06 12.5 +0.6**
BOSA Boshof 63.45 211 LR LR 17 34 17.6
comp=Z,46nm,19.0s,baz=20,slow=37
BOSA Boshof 63.45 211 P P **17 06 12.5 +0.6**
BOSA pmax pmax
comp=Z,10.0nm,1.3s
KAPI Kappang 69.06 108 LR LR 17 40 52.4
comp=Z,43nm,18.1s,baz=326,slow=39
SFJD Kangerlussuaq 71.22 337 LR LR 17 38 43.6
comp=Z,31nm,19.5s,baz=43,slow=36
FRB Frobisher Bay 79.22 338 LR LR 17 44 36.4
comp=Z,41nm,18.8s,baz=80,slow=37
BPAW Bear Paw Mtn. 86.04 12 P P **17 08 23.6 +1.3**
BPAW IAmb IAmb 17 08 37.0
comp=Z,6.3nm,1.1s
ILAR Eielson Array 86.09 10 P P **17 08 21.4 -1.0**
comp=Z,0.7nm,0.9s,baz=332,slow=6.1,SNR=2.4
comp=Z,0.7nm,0.9s
J26L Joseph Creek 86.82 9 P P **17 08 26.6 +0.4**
J26L IAmb IAmb 17 08 31.2
comp=Z,6.3nm,1.2s
WRA Warramunga Arr 88.91 113 P P **17 08 35.4 -1.3**
comp=Z,1.0nm,0.8s,baz=313,slow=3.8,SNR=9.3
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 88.91 113 *i* P P **17 08 36.2 -0.5**
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 90.41 117 P P **17 08 41.9 -1.8**
comp=Z,0.6nm,0.8s,baz=303,slow=4.7,SNR=6.8
comp=Z,0.6nm,0.8s
ULM Lac du Bonnet 98.66 342 LR LR 17 56 11.4
comp=Z,17nm,21.3s,baz=325,slow=37

TEH **16** *16:58:47.6,36˚.54N×49˚.93E,h8km±21km*
THR **16** *16:58:47.7±0.0,36˚.53N×49˚.86E,h10km±4km, ML4.5*
IDC **16** *16:58:48.3±1.1,36˚.75N×49˚.77E,h0km,mb4.3/15, mbtmp4.3/20,ML3.8/5,MS3.5/4,Error ellipse: s-maj=20.8km s-min=11.8km az=12.0*
NEIC **16** *16:58:49.1±1.1,36˚.6N±0˚.1×50˚.0E±0˚.1,h10km±1km, mb4.4/14,Error ellipse: s-maj=19.8km s-min=13.4km az=156.0*
MOS **16** *16:58:49.5±1.7,36˚.92N×49˚.93E,h11km,mb4.5/10,Error ellipse: s-maj=9.8km s-min=5.5km az=105.2*
ISC 16 16:58:47.8±0.9,**36˚.55N**±0˚.03×**49˚.88E**±0˚.03,**h10**km±6km, **n132,**σ1§**83**/126,**mb4.3**/21,**MS3.6**/6,**7C-8D,Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIR1	**Jirandeh**		**0.17 338**	Pg	**Pg**	**16 58 52.6**	**+1.0**
JIR1				Sg	**Sg**	**16 58 55.6**	**+1.3**
QRS1	**Rashteghoun_ Q**		**0.30 135**	Pg	**Pg**	**16 58 53.8**	**-0.1**
QRS1				Sg	**Sg**	**16 58 57.1**	**-0.9**
IGZV	**Ghazvin**		**0.32 120**	Pg	**Pg**	**16 58 53.8**	**-0.3**
IGZV				Sg	**Sg**	**16 58 58.0**	**-0.4**
GIDE	**GILAN DEYLAMAN**	**0.38**	**3**	*e*Pg	**Pg**	**16 58 55.8**	**+0.5**
GIDE				*e*Sg	**Sb**	**16 59 02.2**	**-0.6**
GIDE				IAML		16 59 05.3	
	comp=Z,140nm,1.0s						
QABG	**Abgarm-Qazvin**	**0.87**	**196**	Pg	**Pg**	**16 59 04.0**	**-0.6**
ZNJK	**Zanjan**	**0.97**	**278**	*e*Pg	**Pg**	**16 59 06.1**	**-0.4**
ZNJK				IAML		16 59 26.2	
	comp=Z,0.0nm,1.0s						

THKV	**Tehran--Karaj**	**1.02**	**128**	*e*Pg		**Pg**	**16 59 06.9**	**-0.6**
THKV				*e*Sg		**Sg**	**16 59 20.4**	**-0.4**
THKV				IAML			16 59 21.9	
	comp=Z,25nm,1.0s							
CHTH	**Charan**	**1.19**	**122**	*e*Pg		**Pb**	**16 59 09.5**	**-1.1**
CHTH				IAML			16 59 32.1	
	comp=Z,3.1nm,1.0s							
CSN1	**Caspian**	**1.20**	**328**	Pg		**Pn**	**16 59 10.6**	**0.0**
TEHA	**Amirabad Tehra**	**1.46**	**123**	Pg		**Pb**	**16 59 15.0**	**0.0**
TEH	**Tehran**	**1.46**	**123**	Pg		**Pb**	**16 59 14.9**	**-0.3**
DAMV	**Damavand**	**1.92**	**118**	*e*PnA			16 59 22.5	
DAMV				IAML			17 00 04.9	
	comp=Z,0.0nm,1.0s							
IQOM	**Qom**	**1.96**	**150**	Pn		**Pn**	**16 59 22.4**	**+1.1**
IDMV	**Damavand**	**1.99**	**118**	Pn		**Pb**	**16 59 23.9**	**-0.4**
ASAO	**Ashtian**	**2.00**	**177**	*e*PnA			16 59 23.2	
ASAO				IAML			16 59 53.6	
	comp=Z,4.7nm,1.0s							
IPRN	**Peran**	**2.00**	**98**	Pn		**Pb**	**16 59 23.6**	**-0.9**
GAS1	**Astara - Iran**	**2.02**	**336**	Pn		**Pn**	**16 59 22.1**	**+0.2**
IVRN	**Varamin**	**2.15**	**135**	Pn		**Pn**	**16 59 25.5**	**+1.6**
ISRB	**Sarab**	**2.18**	**306**	Pn		**Pb**	**16 59 26.6**	**-0.9**
IHSH	**Hashtrud**	**2.23**	**291**	Pn		**Pn**	**16 59 26.4**	**+1.2**
GHVR	**GHOM**	**2.36**	**150**	*e*PnA			16 59 28.9	
GHVR				IAML			17 00 27.9	
	comp=Z,2.7nm,1.0s							
IALA	**Alasht**	**2.41**	**100**	Pn		**Pn**	**16 59 29.3**	**+1.8**
SNQR	**Sonqor, Kerman**	**2.49**	**228**	Pn		**Pb**	**16 59 31.3**	**-1.5**
IBZA	**Bozab**	**2.65**	**219**	Pn		**Pb**	**16 59 33.8**	**-1.7**
BDRS	**Dareh Seyedi**	**2.71**	**198**	Pn		**Pn**	**16 59 34.3**	**+2.6**
ILAS	**Lasjerd**	**2.75**	**114**	Pn		**Pb**	**16 59 35.6**	**-1.7**
GRMI	**Germi**	**2.75**	**326**	*e*PnA			16 59 33.6	
GRMI				IAML			17 00 16.3	
	comp=Z,3.9nm,1.0s							
IHRS	**Heris**	**2.87**	**309**	Pn		**Pn**	**16 59 36.0**	**+2.1**
ISFB	**Sefidab**	**2.92**	**138**	Pn		**Pn**	**16 59 36.1**	**+1.8**
QAMS	**Qamsar**	**3.07**	**156**	Pn		**Pn**	**16 59 38.1**	**+1.5**
IKIA	**Kiasar**	**3.09**	**95**	Pn		**Pn**	**16 59 38.5**	**+1.7**
KRSH	**Karshahi**	**3.16**	**144**	Pn		**Pn**	**16 59 40.4**	**+2.6**
IGLG	**Ghaloghah**	**3.18**	**90**	Pn		**Pn**	**16 59 40.4**	**+2.3**
KCHF	**Cheshme Sefid,**	**3.24**	**227**	Pn		**Pn**	**16 59 41.6**	**+2.6**
IAZR	**Azarshahr**	**3.32**	**291**	Pn		**Pn**	**16 59 42.2**	**+2.2**
MAHB	**Mahabad**	**3.37**	**275**	Pn		**Pn**	**16 59 42.9**	**+2.3**
ITBZ	**Tabriz**	**3.42**	**301**	Pn		**Pn**	**16 59 42.3**	**+1.0**
ALIB	**&Aumlli-Bayram**	**3.48**	**349**	Pn		**Pn**	**16 59 43.2**	**+1.3**
IKLH	**Kolahrood**	**3.51**	**156**	Pn		**Pn**	**16 59 45.0**	**+2.4**
GOBA	**Gobu**	**3.85**	**358**	Pn		**Pn**	**16 59 49.6**	**+2.5**
IPIR	**Pirpir**	**3.94**	**168**	Pn		**Pn**	**16 59 51.1**	**+2.4**
IMRD	**Marand**	**3.96**	**304**	Pn		**Pn**	**16 59 51.2**	**+2.4**
NDR	**Nardaran**	**4.03**	**1**	Pn		**Pn**	**16 59 50.5**	**+1.0**
IZEF	**Zefreh**	**4.16**	**150**	Pn		**Pn**	**16 59 53.6**	**+2.0**
IMND	**Minoodasht**	**4.49**	**79**	Pn		**Pn**	**16 59 56.9**	**+1.1**
MRVT	**Maraveh tapeh**	**5.08**	**76**	Pn		**Pn**	**17 00 05.3**	**+1.1**
MRVT	**Maraveh tapeh**	**5.08**	**76**	*e*PnA			17 00 06.2	
MRVT				IAML			17 01 06.9	
	comp=Z,0.4nm,1.0s							
GNI	**Garni**	**5.41**	**313**	Pn		**Pn**	**17 00 10.5**	**+1.9**
	comp=Z,2.5nm,0.3s,baz=132,slow=3.0,SNR=8.8							
GNI				Lg		Lg	17 01 34.3	
	comp=Z,5.4nm,0.3s,baz=28,slow=22,SNR=6.7							
	comp=Z,26nm,0.7s							
GNI	**Garni**	**5.41**	**313**	*ce*P		**Pn**	**17 00 11.8**	**+3.1**
GEVA	**Gevas**	**5.71**	**290**	Pn		**Pn**	**17 00 14.7**	**+1.9**
SBZV	**Sabzevar**	**6.23**	**89**	Pn		**Pn**	**17 00 22.4**	**+2.4**
ISFR	**Sfrayin**	**6.53**	**83**	Pn		**Pn**	**17 00 26.3**	**+2.1**
MAK	**Makhachkala**	**6.66**	**345**	*e*P		**Pn**	**17 00 21.4**	**-4.3**
MAK				*e*S		**Sn**	**17 01 35.6**	**-6.1**
MAK				pmax	pmax			
	comp=Z,52nm,0.4s							
MAK				MLR	MLR			
	comp=Z,155nm,11.0s							
IEMG	**Emamgholi**	**7.07**	**80**	Pn		**Pn**	**17 00 33.0**	**+1.4**
IAKL	**Akhelmad**	**7.14**	**87**	Pn		**Pn**	**17 00 35.0**	**+2.4**
IKRD	**Kardeh**	**7.75**	**85**	Pn		**Pn**	**17 00 43.8**	**+2.9**
KBZ	**Khabaz**	**8.95**	**325**	Pn		**Pn**	**17 00 59.3**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=108,slow=13,SNR=1.7							
KBZ				Sn		**Sn**	**17 02 34.8**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=62,slow=22,SNR=1.9							
	comp=Z,4.0nm,0.8s							
SHA1	**Shidzhatmaz**	**9.06**	**325**	*de*P		**Pn**	**17 01 01.1**	**+2.2**
KVAR	**Kislovodsk Nar**	**9.21**	**326**	LR		LR	17 04 26.8	
	comp=Z,263nm,18.5s,baz=58,slow=38							
SOC	**Sochi**	**10.49**	**315**	*e*P		**Pn**	**17 01 16.1**	**-2.0**
SOC				*e*			17 03 12.7	
SOC				pmax	pmax			
	comp=Z,11nm,0.7s							
SOC				MLR	MLR			
	comp=Z,188nm,18.0s							
AB31	**Akbulak array**	**14.67**	**27**	Pn		**Pn**	**17 02 10.7**	**-4.6**
AB31	**Akbulak array**	**14.67**	**27**	Pn		Pn	17 02 10.0	-5.3
	comp=Z,3.9nm,0.7s,baz=211,slow=12,SNR=26							
AB31				⇓Sn		Sn	17 04 44.7	-13
	comp=Z,1.5nm,0.3s,baz=209,slow=24,SNR=14							
ABKAR	**Akbulak array**	**14.67**	**27**	Pn		Pn	17 02 10.3	-4.9
AKTO	**Aktyubinsk**	**15.07**	**20**	⇓Pn		**Pn**	**17 02 15.6**	**-5.1**
	comp=Z,14nm,0.8s							
AKTO				⇑Sn		Sn	17 04 55.6	-12
	comp=Z,6.6nm,1.1s							
AKTO	**Aktyubinsk**	**15.07**	**20**	Pn		**Pn**	**17 02 16.9**	**-3.8**
	comp=Z,1.9nm,0.3s,baz=212,slow=12,SNR=21							
AKTO				Sn		Sn	17 04 53.6	-14
	comp=Z,0.9nm,0.3s,baz=201,slow=21,SNR=6.3							
	comp=Z,6.4nm,0.3s							
VRH	**Novokhopyorsk**	**15.77**	**341**	*e*P		**Pn**	**17 02 31.9**	**+2.0**
VRH				pmax	pmax			
	comp=Z,20nm,0.9s							
BELG	**Belogornoye**	**15.93**	**355**	Pn		**Pn**	**17 02 28.3**	**-3.5**
	comp=Z,2.9nm,0.3s,baz=2.4,slow=21,SNR=8.7							
BELG				Sn		Sn	17 05 12.7	-16
	comp=Z,2.4nm,0.3s,baz=103,slow=22,SNR=11							
BELG	**Belogornoye**	**15.93**	**355**	⇓*e*P		**Pn**	**17 02 33.4**	**+1.6**
BELG				pmax	pmax			
	comp=Z,8.0nm,0.9s							
GAR	**Garm**	**16.34**	**75**	Pn		**Pn**	**17 02 36.5**	**-0.9**
GAR				IAmb	IAmb		17 02 53.4	
	comp=Z,29nm,0.9s							
VSR	**Storozhevoye**	**16.55**	**336**	*e*P		**Pn**	**17 02 35.7**	**-4.1**
VSR				pmax	pmax			
	comp=Z,7.0nm,1.0s							
KKAR	**Karatay Array**	**17.13**	**61**	Pn		**Pn**	**17 02 46.5**	**-0.7**
KKAR	**Karatay Array**	**17.13**	**61**	P		**Pn**	**17 02 46.5**	**-0.7**
LPSR	**Galich'ya Gora**	**17.81**	**338**	*e*P		**Pn**	**17 02 53.3**	**-2.3**
LPSR				pmax	pmax			
	comp=Z,60nm,0.9s							
ARSB	**Arslanbob**	**18.58**	**68**	P		**P**	**17 03 04.7**	**-0.4**
ARSB	**Arslanbob**	**18.58**	**68**	P		**P**	**17 03 04.7**	**-0.4**
ARSB				pmax	pmax			
	comp=Z,14nm,1.2s							
AAK	**Ala-Archa**	**19.89**	**65**	P		**P**	**17 03 19.9**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=233,slow=5.7,SNR=7.1							
	comp=Z,2.7nm,0.6s							
AAK	**Ala-Archa**	**19.89**	**65**	*de*P		**Pn**	**17 03 21.5**	**+0.5**
AAK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
MLR	**Muntele Rosu**	**20.09**	**304**			Pn	17 03 23.3	-0.1
MLR				IAmb	IAmb		17 03 37.8	
	comp=Z,21nm,1.4s							
MLR	**Muntele Rosu**	**20.09**	**304**	P		**P**	**17 03 20.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=178,slow=1.6,SNR=5.9							
	comp=Z,4.0nm,0.8s							
MLR	**Muntele Rosu**	**20.09**	**304**	P		Pn	17 03 23.3	-0.1
MLR				pmax	pmax			
	comp=Z,21nm,1.4s							
IDI	**Anoyia**	**20.27**	**274**	P		Pn	17 03 25.5	0.0
IDI				IAmb	IAmb		17 03 35.0	
	comp=Z,34nm,1.1s							
IDI	**Anoyia**	**20.27**	**274**	P		**P**	**17 03 24.1**	**+0.5**
	comp=Z,20nm,1.0s,baz=78,slow=15,SNR=3.0							
	comp=Z,20nm,1.0s							
AKASG	**Malin Array Be**	**20.49**	**320**	P		**P**	**17 03 25.6**	**-0.1**
	comp=Z,6.3nm,0.8s,baz=126,slow=12,SNR=8.9							
	comp=Z,6.3nm,0.8s							
AKASG	**Malin Array Be**	**20.49**	**320**	*i* P		Pn	17 03 28.6	+0.7
AKASG				pmax	pmax			
	comp=Z,4.0nm,0.6s							
AKBB	**Malin Array Si**	**20.49**	**320**	P		Pn	17 03 27.2	-0.6
AKBB	**Malin Array Si**	**20.49**	**320**	*ce*P		Pn	17 03 28.1	+0.2
KIEV	**Kiev**	**20.49**	**320**	P		Pn	17 03 27.2	-0.7
KIEV	**Kiev**	**20.49**	**320**	P		Pn	17 03 27.2	-0.7
KIEV				pmax	pmax			
	comp=Z,8.0nm,0.8s							
ARTI	**Arti**	**20.66**	**13**	P		**P**	**17 03 27.6**	**+0.1**
ARTI	**Arti**	**20.66**	**13**	P		**P**	**17 03 27.8**	**+0.2**
	comp=Z,70nm,0.8s,baz=204,slow=9.8,SNR=69							
	comp=Z,70nm,0.8s							

ARTI	**Arti**	**20.66**	**13**	*c i*P		**P**	**17 03 27.7**	**+0.1**
ARTI							17 03 44.0	
ARTI					S	**S**	**17 07 18.8**	**+0.5**
ARTI					SS	Sn	17 07 37.0	+14
ARTI					pmax	pmax		
	comp=Z,74nm,0.8s							
OBN	**Obninsk**	**20.69**	**338**	*de*P		**P**	**17 03 28.9**	**+1.1**
OBN					pmax	pmax		
	comp=Z,33nm,1.2s							
OBN					MLR	MLR		
	comp=Z,71nm,16.0s							
KSH	**Kashi**	**20.74**	**74**	P		**P**	**17 03 27.8**	**-0.9**
KSH					sP	sP	17 03 34.3	+0.8
KSH					pmax	pmax		
	comp=Z,5.0nm,0.5s							
MOS	**Moscow**	**20.93**	**340**	*e*P		**P**	**17 03 29.9**	**-0.5**
MOS					pmax	pmax		
	comp=Z,51nm,0.9s							
BURAR	**Bucovina Array**	**21.30**	**309**	P		**P**	**17 03 35.6**	**+1.0**
BURAR					IAmb	IAmb	17 03 42.3	
	comp=Z,11nm,0.8s							
BUR08	**Bucovina Ar. S**	**21.32**	**309**	P		**P**	**17 03 35.9**	**+1.1**
BUR08					IAmb	IAmb	17 03 42.7	
	comp=Z,9.2nm,0.8s							
SVE	**Sverdlovsk**	**21.54**	**16**	*e*P		**P**	**17 03 38.3**	**+1.3**
SVE					pmax	pmax		
	comp=Z,20nm,0.9s							
BVAR	**Borovoye Array**	**21.86**	**35**	P		**P**	**17 03 41.2**	**+0.8**
	comp=Z,19nm,0.8s,baz=221,slow=8.8,SNR=20							
	comp=Z,19nm,0.8s							
KIRV	**Kirov**	**22.05**	**359**	*d i*P		**P**	**17 03 43.0**	**+0.6**
MNK	**Minsk**	**23.50**	**327**	*i* P		**P**	**17 03 56.5**	**-1.1**
	comp=E,19nm,0.8s							
MNK					*i* P	**P**	**17 03 56.5**	**-1.1**
	comp=N,17nm,0.8s							
MNK					*i* P	**P**	**17 03 56.5**	**-1.1**
	comp=Z,32nm,10.0s,baz=130							
MNK					*i* PP	sP	17 04 22.6	+20
MNK					*i* PPP	PPP	17 04 30.6	
MNK					*i* S	**S**	**17 08 10.6**	**-0.6**
MNK					*i* SS	**SnSn**	**17 08 46.8**	**-0.2**
MNK					*i* SSS	SSS	17 09 00.2	
MNK					*i* LQ	LQ	17 11 10.4	
MNK					*i* LR	LR	17 12 57.1	
MNK					*i* LRM	MLR	17 14 21.2	
	comp=N,169nm,18.9s							
MNK					*i* LRM	MLR	17 14 49.9	
	comp=Z,50nm,14.3s							
MNK					*i* LRM	MLR	17 14 53.7	
	comp=E,134nm,20.8s							
MNK	**Minsk**	**23.50**	**327**	*i* P		**P**	**17 03 56.5**	**-1.1**
MNK					*i* PPP	PPP	17 04 30.5	
MNK					*i* S	**S**	**17 08 10.6**	**-0.6**
MNK					*i* SS	**SnSn**	**17 08 46.7**	**-0.2**
MNK					*i* SSS	SSS	17 09 00.2	
MNK					pmax	pmax		
	comp=N,17nm,0.8s							
MNK					pmax	pmax		
	comp=E,19nm,0.8s							
MNK					MLR	MLR		
	comp=N,169nm,19.0s							
MNK					MLR	MLR		
	comp=Z,50nm,14.0s							
MNK					MLR	MLR		
	comp=E,134nm,21.0s							
KURBB	**Kurchatov Arra**	**24.88**	**47**	P		**P**	**17 04 12.8**	**+2.3**
	comp=E,9.1nm,0.8s,baz=251,slow=9.9,SNR=31							
	comp=E,9.1nm,0.8s							
KURK	**Kurchatov**	**24.97**	**46**	P		**P**	**17 04 11.5**	**+0.2**
KURK					IAmb	IAmb	17 04 15.1	
	comp=Z,10nm,0.8s							
KURK	**Kurchatov**	**24.97**	**46**	*ce*P		**P**	**17 04 12.6**	**+1.3**
KURK					pmax	pmax		
	comp=Z,11nm,0.9s							
KLMR	**Klimovskoe**	**25.21**	**348**	*e*P		**P**	**17 04 14.6**	**+1.2**
KLMR				*e*			17 04 48.3	
KLMR				pmax	pmax			
	comp=Z,21nm,1.1s							
MK31	**Makanchi Array**	**26.12**	**57**	*c i*P		**P**	**17 04 22.7**	**+0.8**
MKAR	**Makanchi Array**	**26.12**	**57**	P		**P**	**17 04 22.6**	**+0.8**
MKAR	**Makanchi Array**	**26.12**	**57**	P		**P**	**17 04 23.1**	**+1.3**
	comp=Z,5.1nm,0.9s,baz=249,slow=8.9,SNR=11							
	comp=Z,5.1nm,0.9s							
MKAR	**Makanchi Array**	**26.12**	**57**	P		**P**	**17 04 22.6**	**+0.8**
GERES	**GERESS Array B**	**29.02**	**306**	P		**P**	**17 04 47.9**	**0.0**
	comp=Z,0.6nm,0.5s,baz=102,slow=9.8,SNR=3.6							
	comp=Z,0.6nm,0.5s							
FINES	**FINESS Array B**	**29.07**	**336**	P		**P**	**17 04 49.5**	**+1.4**
	comp=Z,5.3nm,1.0s,baz=144,slow=7.9,SNR=1.9							
	comp=Z,5.3nm,1.0s							
KHC	**Kasperske Hory**	**29.15**	**307**	⇓*e*P		**P**	**17 04 50.2**	**+1.2**
WMQ	**Urumqi**	**29.59**	**64**	*e*P		**P**	**17 04 54.3**	**+1.3**
WMQ				pmax	pmax			
	comp=Z,56nm,0.7s							
WMQ				LR	LR			
	comp=N,290nm,15.5s							
WMQ				LR	LR			
	comp=E,260nm,15.5s							
WMQ				LR	LR			
	comp=Z,250nm,24.0s							
ZALV	**Zalesovo Beam**	**29.72**	**43**	P		**P**	**17 04 56.2**	**+2.2**
	comp=Z,1.2nm,0.5s,baz=245,slow=11,SNR=2.3							
	comp=Z,1.2nm,0.5s							
CLL	**Collm**	**30.02**	**311**	*e*Px		Px	17 05 01.0	
HFS	**Hagfors**	**33.01**	**327**	P		**P**	**17 05 23.7**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=134,slow=8.4,SNR=2.2							
	comp=Z,2.1nm,0.6s							
KEV	**Kevo**	**35.51**	**347**	P		**P**	**17 05 45.0**	**+0.7**
KEV	**Kevo**	**35.51**	**347**	P		**P**	**17 05 45.0**	**+0.7**
KEV				pmax	pmax			
	comp=Z,47nm,1.4s							
EKA	**Eskdalemuir Ar**	**40.25**	**315**	P		**P**	**17 06 25.9**	**+1.3**
	comp=Z,3.9nm,0.8s,baz=105,slow=8.4,SNR=6.9							
	comp=Z,3.9nm,0.8s							
ESDC	**Sonseca Array**	**41.95**	**291**	P		**P**	**17 06 38.2**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=66,slow=8.4,SNR=10							
	comp=Z,1.5nm,0.6s							
ULN	**Ulaanbaatar**	**42.92**	**56**	⇑*e*P		**P**	**17 06 48.9**	**+2.1**
ULN				pmax	pmax			
	comp=Z,5.0nm,1.7s							
SPITS	**Spitsbergen Ar**	**44.06**	**351**	P		**P**	**17 06 55.3**	**-0.1**
	comp=Z,14nm,0.9s,baz=103,slow=11,SNR=4.9							
	comp=Z,14nm,0.9s							
PZH	**PanZhiHua**	**44.86**	**88**	P		**P**	**17 07 03.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**46.57**	**99**	P		**P**	**17 07 19.0**	**+3.0**
	comp=Z,0.7nm,0.4s,baz=298,slow=9.3,SNR=5.0							
	comp=Z,0.7nm,0.4s							
CMAR	**Chiang Mai Arr**	**46.57**	**99**	*i* P		**P**	**17 07 20.1**	**+4.1**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**47.46**	**65**	*e*P		**P**	**17 07 21.0**	**-1.9**
HHC				pmax	pmax			
	comp=Z,20nm,0.6s							
HHC				pmax	pmax			
	comp=Z,110nm,5.7s							
KSRS	**Korea Array**	**60.54**	**63**	P		**P**	**17 08 59.7**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=279,slow=5.1,SNR=1.7							
	comp=Z,0.7nm,0.8s							
INK	**Inuvik**	**75.43**	**1**	LR		LR	17 52 58.5	
	comp=Z,21nm,18.2s,baz=354,slow=43							
F64A	**Sherman**	**80.91**	**321**	P		**P**	**17 11 03.1**	**+0.9**
Q19K	**Cape Douglas,**	**82.88**	**12**	P		**P**	**17 11 12.6**	**+0.2**
NEW	**Newport**	**94.77**	**351**	LR		LR	17 57 35.2	
	comp=Z,31nm,19.0s,baz=354,slow=37							
TKL	**Tuckaleechee C**	**96.24**	**324**	LR		LR	17 58 26.3	
	comp=Z,20nm,18.1s,baz=90,slow=37							

JMA ***16*** *17:07:34.9±0.1, 43.1°N±0.4×146.0°E±0.7, h45km, MV3.0/37, OFF NEMURO PENINSULA*
SKHL ***16*** *17:07:35.0±0.3, 43.1°N×146.1°E, h32km±2km, mb4.4/3*
ISC 16 17:07:36.5±1.4, 43.14N±0.06×145.90E±0.05, h34km±2km, n14, σ096/26, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.25**	**334**	P		**Pn**	**17 07 43.7**	**+0.3**
NEM2				S		**Sb**	**17 07 49.6**	**+1.0**
NMR	**Nemuro--Hokkai**	**0.26**	**332**	*i* P		**Pn**	**17 07 43.6**	**0.0**
NMR				*i* S		**Sb**	**17 07 49.7**	**+0.9**
JKHN	**Kushirohamanak**	**0.54**	**264**	P		**Pb**	**17 07 47.4**	**-0.3**
JKHN				*e*S		**Sb**	**17 07 56.3**	**+0.8**
GLVR	**Golovnino**	**0.66**	**336**	*i* P		**Pn**	**17 07 48.7**	**-0.7**
GLVR				AMB	AMB		17 07 49.0	
	520nm,0.2s							
GLVR				*i* S		**Sn**	**17 07 58.9**	**+0.3**
GLVR				A	A		17 07 59.3	
	1μm,0.2s							
GLVR				A	A		17 07 59.3	
	440nm,0.2s							
AKK	**Akkeshi**	**0.78**	**261**	*e*P		**Pn**	**17 07 50.4**	**-0.7**
JAK	**Akkeshi**	**0.89**	**261**	P		**Pn**	**17 07 51.9**	**-0.7**
JAK				S		**Sn**	**17 08 04.5**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**0.90**	**358**	*i* P		**Pn**	**17 07 50.6**	**-2.1**
YUK				AMB	AMB		17 07 51.6	
	190nm,0.2s							
YUK				*i* S		**Sn**	**17 08 02.8**	**-1.7**
YUK				A	A		17 08 03.3	
	490nm,0.4s							
YUK				A	A		17 08 03.3	
	650nm,0.4s							
JNSB	**Nemuroshibetsu**	**0.91**	**315**	*i* P		**Pn**	**17 07 52.3**	**-0.6**
JNSB				*e*S		**Sn**	**17 08 05.2**	**+0.4**
JNK	**Nakash**	**0.97**	**298**	P		**Pn**	**17 07 53.0**	**-0.7**
JNK				S		**Sn**	**17 08 06.1**	**-0.1**
JRA	**Rausu**	**0.98**	**325**	P		**Pn**	**17 07 53.4**	**-0.4**
JRA				*e*S		**Sn**	**17 08 07.0**	**+0.5**
SHO	**Shikotan**	**1.00**	**43**	*e*P		**Pn**	**17 07 56.2**	**+2.1**
SHO				*e*S		**Sn**	**17 08 07.3**	**+0.3**
SHO				A	A		17 08 08.1	
	120nm,0.2s							
SHO				A	A		17 08 08.1	
	200nm,0.2s							
JAR	**Ashorobuto**	**1.56**	**277**	P		**Pn**	**17 08 01.8**	**0.0**
JTKR	**Abashiri--Toko**	**1.67**	**301**	P		**Pn**	**17 08 03.8**	**+0.5**
JTKR				*e*S		**Sn**	**17 08 24.1**	**+0.6**
KUR	**Kuril'sk**	**2.53**	**33**	*e*P		**Pn**	**17 08 14.5**	**-0.6**
KUR				AMB	AMB		17 08 14.6	
	30nm,0.6s							
KUR				*e*S		**Sn**	**17 08 43.3**	**-1.5**
KUR				A	A		17 08 51.5	
	30nm,0.2s							
KUR				A	A		17 08 51.5	
	40nm,0.2s							

VIE ***16*** *17:10:11.7±1.1, 51.27N×16.26E, h0km, mb2.2/3, ml2.6/3, Error ellipse: s-maj=7.6km s-min=6.8km az=55.0 56 km WNW of Wroclaw Suspected Mining induced.*
PRU ***16*** *17:10:12.1, 51.31N×16.23E, h0km*
ISC 16 17:10:11.2±1.2, 51.31N±0.05×16.30E±0.03, h0km, n23, σ080/45, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.47**	**181**	*e*Pg		**Pg**	**17 10 20.4**	**+0.3**
KSP				*e*Sg		**Sb**	**17 10 28.2**	**-1.5**
CHVC	**Chvalec**	**0.74**	**192**	*e*PG		**Pg**	**17 10 25.6**	**+0.3**
CHVC				*e*SG		**Sb**	**17 10 36.6**	**-0.9**
	225nm,1.9s							
OSTC	**Ostas**	**0.75**	**184**	*e*PG		**Pg**	**17 10 26.1**	**+0.5**
OSTC				*e*SG		**Sb**	**17 10 37.0**	**-1.0**
	37nm,0.4s							
UPC	**Upice**	**0.82**	**193**	*e*PG		**Pg**	**17 10 27.0**	**+0.1**
UPC				*e*SG		**Sb**	**17 10 39.4**	**-0.6**
	112nm,0.4s							
DPC	**Dobruska-Polom**	**0.96**	**179**	*e*PG		**Pg**	**17 10 29.4**	**-0.1**
DPC				*e*SG		**Sb**	**17 10 43.3**	**-0.6**
	33nm,0.5s							
KRLC	**Kraliky**	**1.27**	**166**	*e*PG		**Pg**	**17 10 35.4**	**-0.1**
KRLC				*e*SG		**Sn**	**17 10 54.1**	**+0.1**
	28nm,0.3s							
PVCC	**Panska Ves**	**1.34**	**235**	*e*PG		**Pg**	**17 10 36.0**	**-1.0**
PVCC				*e*SG		**Sg**	**17 10 54.4**	**0.0**
	124nm,0.4s							
BRG	**Berggiesshubel**	**1.55**	**255**	Pg		**Pb**	**17 10 40.5**	**-0.2**
BRG				Sg		**Sg**	**17 11 01.4**	**+0.4**
BRG				Amp			17 11 01.9	
	comp=Z,28nm,0.4s							
RICC	**Richard**	**1.59**	**242**	*e*PG		**Pn**	**17 10 39.4**	**-1.2**
RICC				*e*SG		**Sn**	**17 11 01.6**	**-0.2**
	comp=Z,101nm,0.8s							
PRA	**Prague**	**1.72**	**225**	*e*PG		**Pn**	**17 10 42.9**	**+0.6**
PRA				*e*SG		**Sb**	**17 11 05.8**	**+0.1**
	comp=Z,22nm,0.7s							
MORC	**Moravsky Berou**	**1.73**	**152**	*e*PN		**Pn**	**17 10 41.3**	**-1.2**
MORC				*e*SG		**Sn**	**17 11 05.2**	**0.0**
PRU	**Pruhonice**	**1.73**	**221**	*e*PG		**Pn**	**17 10 42.5**	**0.0**
PRU				*e*SG		**Sb**	**17 11 05.9**	**-0.2**
	comp=Z,31n

ALPN	**Alpine**	**1.08**	**205**			Pg	17	14 37.5	-0.6
ALPN	**Alpine**	**1.08**	**205**	P		Pg	17	14 37.5	-0.5
ALPN				S		Sg	17	14 51.9	-0.2
CLNB	**Carlsbad**	**1.11**	**324**	S		Sn	17	14 56.0	+0.4
HTMS	**Hat Mesa**	**1.20**	**338**			Pg	17	14 39.2	-1.1
HTMS	**Hat Mesa**	**1.20**	**338**	S		Sn	17	14 58.2	+0.6
CLN7	**Carlsbad 7**	**1.21**	**331**			Pg	17	14 38.7	-1.8
SAND	**Sanderson**	**1.64**	**148**			Pn	17	14 47.1	+0.2
SAND						Sb	17	15 09.4	+0.3
SAND	**Sanderson**	**1.64**	**148**	P		Pn	17	14 47.3	+0.4
SAND				S		Sb	17	15 09.4	+0.3
VHRN	**Van Horn**	**1.70**	**251**			Pb	17	14 48.7	-0.6
VHRN						Sg	17	15 11.6	-0.5
VHRN	**Van Horn**	**1.70**	**251**	P		Pb	17	14 48.8	-0.5
VHRN				S		Sg	17	15 11.6	-0.5
OZNA	**Ozona**	**1.76**	**104**			Pn	17	14 49.3	+0.8
OZNA						Sg	17	15 13.7	-0.2
OZNA	**Ozona**	**1.76**	**104**	P		Pb	17	14 49.7	-0.5
OZNA				S		Sb	17	15 13.2	+0.6
SGCY	**Sterling City**	**1.78**	**71**			Pb	17	14 50.1	-0.4
SGCY						Sb	17	15 13.8	+0.5
SGCY	**Sterling City**	**1.78**	**71**	P		Pb	17	14 50.1	-0.5
SGCY				S		Sb	17	15 13.8	+0.5
CPRX	**Cap Rock**	**1.79**	**339**			Pb	17	14 50.1	-0.6
MNTX	**Cornudas Mount**	**1.97**	**281**			Pb	17	14 53.1	-0.5
MNTX	**Cornudas Mount**	**1.97**	**281**	P		Pb	17	14 53.3	-0.3
TX31	**Lajitas Ar. Si**	**2.07**	**193**			Pn	17	14 54.0	+1.1
TX31	**Lajitas Ar. Si**	**2.07**	**193**	P		Pn	17	14 54.1	+1.2
TXAR	**Lajitas Array**	**2.07**	**193**			Pn	17	14 54.1	+1.2
POST	**Post**	**2.19**	**38**			Pn	17	14 55.4	+1.0
POST					IAmb_Lg		17	15 29.0	
	comp=Z,25nm,0.7s								
SN07	**Snyder 07**	**2.56**	**47**			Pb	17	15 02.6	-1.1
MSTX	**Muleshoe**	**2.62**	**6**			Pb	17	15 03.4	-1.5
MSTX					IAmb_Lg		17	15 44.7	
	comp=Z,12nm,0.7s								
DRIO	**Del Rio**	**2.89**	**131**			Pn	17	15 04.9	+0.8
DKNS	**Dickens**	**2.95**	**38**			Pn	17	15 05.7	+0.7
JCT	**Junction City**	**2.98**	**106**	Pn		Pn	17	15 05.6	+0.3
APMT	**Aspermont**	**3.20**	**51**			Pn	17	15 09.6	+1.2
APMT					IAmb_Lg		17	16 07.8	
	comp=Z,15nm,0.8s								
BRDY	**Brady**	**3.52**	**90**			Pn	17	15 13.9	+1.2
BRDY					IAmb_Lg		17	16 15.4	
	comp=Z,14nm,0.8s								
AMTX	**Amarillo**	**3.72**	**19**		IAmb_Lg		17	16 22.0	
	comp=Z,15nm,0.9s								
HNDO	**Hondo**	**3.78**	**118**		IAmb_Lg		17	16 27.0	
	comp=Z,9.2nm,0.8s								
BNM	**Barren Site**	**4.06**	**314**			Pb	17	15 30.3	+0.7
121A	**Cookes Peak, D**	**4.14**	**288**	Pn		Pn	17	15 19.7	-1.7
121A					IAmb_Lg		17	16 35.6	
	comp=Z,7.4nm,0.8s								
PLPT	**Palo Pinto**	**4.32**	**69**		IAmb_Lg		17	16 44.8	
	comp=Z,14nm,1.0s								
833A	**Chaparral WMA,**	**4.43**	**132**		IAmb_Lg		17	16 47.7	
	comp=Z,7.2nm,0.8s								
SMWD	**Samnorwood**	**4.44**	**32**		IAmb_Lg		17	16 43.0	
	comp=Z,14nm,0.8s								
ANMO	**Albuquerque**	**4.54**	**323**			Pn	17	15 23.1	-3.9
WMOK	**Wichita Mounta**	**4.96**	**46**			Pn	17	15 34.4	+1.9
WMOK					IAmb_Lg		17	16 53.3	
	comp=Z,5.5nm,0.8s								
TUL3	**Leonard**	**7.61**	**51**		IAmb_Lg		17	18 13.0	
	comp=Z,5.8nm,0.7s								

*NEIC **16** 18:11:51.4±0.9,33˚.366N×0˚.010×115˚.79W±0˚.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.7km az=206.0*

*IDC **16** 18:11:52.0±1.1,33˚.47N×115˚.81W, h0km, mbtmp3.1/5, ML3.5/5, Error ellipse: s-maj=12.2km s-min=7.1km az=2.0*

*PAS **16** 18:11:51.7±1.1,33˚.362N±0˚.008×115˚.79W±0˚.01, h3km±3km, ML3.8/181, ML3.7/64(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=55.0*

ISC 16 18:11:52.3±0.8,33˚.36N±0˚.02×115˚.80W±0˚.02, h14km±6km, n92, σ0°99°/112, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOMB	**Bombay Beach**	**0.06**	**88**				**Pg**	**18 11 55.0**	**0.0**
FRK	**Frink**	**0.14**	**74**				**Pg**	**18 11 54.5**	**-1.5**
FRK							**Sg**	**18 11 56.6**	**-1.8**
SALN	**Salton City**	**0.18**	**242**				**Pg**	**18 11 55.8**	**-0.7**
ERRC	**Elmore Ranch**	**0.25**	**185**				**Pg**	**18 11 57.4**	**-0.2**
ERRC							**Sg**	**18 12 02.1**	**+0.9**
CLI2	**Calipatria 2**	**0.30**	**143**				**Pg**	**18 11 58.2**	**-0.4**
CLI2							**Sg**	**18 12 02.1**	**-0.8**
CTW	**Cottonwood Mou**	**0.32**	**349**				**Pg**	**18 11 58.3**	**-0.7**
CTW							**Sg**	**18 12 02.7**	**-0.8**
CTCC	**Cactus City**	**0.33**	**331**				**Pg**	**18 11 58.7**	**-0.5**
CTCC							**Sg**	**18 12 04.0**	**+0.1**
HAY	**Hayfield**	**0.36**	**16**				**Pg**	**18 11 59.0**	**-0.6**
HAY							**Sg**	**18 12 04.6**	**0.0**
WEMD	**Westmorland, C**	**0.37**	**151**				**Pg**	**18 11 59.8**	**-0.1**
WEMD							**Sb**	**18 12 06.1**	**-0.2**
SUP	**Superstition M**	**0.41**	**183**				**Pg**	**18 11 59.7**	**-0.8**
SUP							**Sg**	**18 12 05.5**	**-0.5**
BC3	**Big Chuckawall**	**0.41**	**45**				**Pg**	**18 11 59.7**	**-0.9**
BC3					IAML			18 12 06.1	
	comp=N,4μm,0.5s								
BC3	**Big Chuckawall**	**0.41**	**45**				**Sg**	**18 12 05.6**	**-0.7**
SWSC	**Sam W. Stewart**	**0.42**	**180**				**Pg**	**18 11 59.8**	**-0.8**
SLH	**Sleepy Hollow**	**0.42**	**246**				**Pg**	**18 12 00.2**	**-0.5**
SLH							**Sg**	**18 12 06.5**	**+0.1**
SLVP	**Salvation Pass**	**0.43**	**106**				**Pg**	**18 11 60.0**	**-1.0**
SLVP							**Sg**	**18 12 06.1**	**-0.7**
CRR	**Carrizo Plain**	**0.49**	**197**				**Pg**	**18 12 01.4**	**-0.7**
CRR							**Sb**	**18 12 10.1**	**+0.2**
IMPE	**Imperial**	**0.50**	**156**				**Pg**	**18 12 02.0**	**-0.3**
IMPE							**Sb**	**18 12 10.0**	**0.0**
COK2	**Cook Ranch 2**	**0.51**	**173**				**Pg**	**18 12 02.1**	**-0.4**
BORC	**Borrego Spring**	**0.53**	**260**				**Pg**	**18 12 01.9**	**-0.9**
BORC					IAML			18 12 11.3	
	comp=N,3μm,0.7s								
BORC	**Borrego Spring**	**0.53**	**260**				**Sg**	**18 12 09.1**	**-0.7**
PMD	**Palm Desert**	**0.56**	**301**				**Pg**	**18 12 02.2**	**-1.2**
PMD					IAML			18 12 13.2	
	comp=E,3μm,0.2s								
PMD	**Palm Desert**	**0.56**	**301**				**Sg**	**18 12 10.2**	**-0.6**
SNR	**Schaffner Ranc**	**0.58**	**149**				**Pg**	**18 12 03.3**	**-0.5**
SNR							**Sb**	**18 12 12.6**	**+0.1**
XPFO	**Pinon Flat**	**0.60**	**294**				**Sg**	**18 12 11.8**	**-0.4**
WESC	**Westside Schoo**	**0.60**	**175**				**Pg**	**18 12 03.5**	**-0.7**
WESC							**Sg**	**18 12 12.5**	**+0.3**
PFO	**Pinyon Flats O**	**0.60**	**294**				**Pg**	**18 12 03.0**	**-1.3**
PFO	**Pinyon Flats O**	**0.60**	**294**				**Sg**	**18 12 11.7**	**-0.6**
PFO	**Pinyon Flats O**	**0.60**	**294**	Pg			**Pg**	**18 12 03.1**	**-1.1**
	comp=E,303nm,0.3s,baz=111,slow=15,SNR=1350								
PFO					Lg		Lg	18 12 10.5	
	comp=E,305nm,0.3s,baz=71,slow=17,SNR=12								
DREC	**Desert Rsrch C**	**0.63**	**152**				**Pg**	**18 12 04.4**	**-0.2**
BELC	**Belle Mtn. Jos**	**0.66**	**345**				**Pg**	**18 12 04.4**	**-0.8**
BELC							**Sg**	**18 12 13.4**	**-0.6**
BELC	**Belle Mtn. Jos**	**0.66**	**345**		IAML			18 12 14.1	
	comp=E,7μm,0.6s								
BELC					IAML			18 12 16.1	
	comp=N,4μm,0.4s								
FRD	**Ford Ranch, An**	**0.69**	**281**				**Sg**	**18 12 14.3**	**-0.5**
FRD	**Ford Ranch, An**	**0.69**	**281**				**Sg**	**18 12 13.9**	**-0.8**
SNDA	**J Saunders Pla**	**0.71**	**286**				**Sg**	**18 12 14.8**	**-0.7**
SGL	**Mount Signal**	**0.71**	**175**				**Sg**	**18 12 04.9**	**-1.4**
SGL							**Sg**	**18 12 14.8**	**-0.8**
YUH	**Yuha Desert**	**0.72**	**188**	Pg			**Sg**	**18 12 04.9**	**-1.5**
YUH	**Yuha Desert**	**0.72**	**188**				**Sg**	**18 12 15.2**	**-0.7**
DNR	**Dunn Ranch,Anz**	**0.72**	**287**				**Sg**	**18 12 05.4**	**-1.1**
DNR	**Dunn Ranch,Anz**	**0.72**	**287**				**Sg**	**18 12 15.9**	**-0.1**
JUEM	**Julian Eagle M**	**0.73**	**247**				**Sg**	**18 12 15.7**	**-0.4**
MATG	**Mataguay Scout**	**0.73**	**257**				**Pg**	**18 12 05.8**	**-0.8**
MATG							**Sg**	**18 12 15.6**	**-0.6**
5053	**Calexico**	**0.74**	**159**				**Sb**	**18 12 17.5**	**+0.7**
BZNA	**Buzz No.'s Pla**	**0.74**	**280**				**Sg**	**18 12 16.1**	**-0.3**
COA	**Coachella**	**0.76**	**131**				**Pg**	**18 12 05.7**	**-1.3**
IKP	**In-Ko-Pah, Jac**	**0.76**	**200**				**Pg**	**18 12 05.7**	**-1.4**
IKP							**Sg**	**18 12 16.5**	**-0.6**
EW2	**E Wide Canyon**	**0.77**	**319**				**Sg**	**18 12 17.6**	**+0.1**
5054	**Holtville Bond**	**0.77**	**150**				**Pg**	**18 12 06.4**	**-0.9**
5054							**Sb**	**18 12 17.8**	**0.0**
UABX	**UABC, Campus M**	**0.79**	**157**				**Pg**	**18 12 06.3**	**-1.4**
UABX							**Sb**	**18 12 18.3**	**0.0**
GVDA	**Garner Valley**	**0.79**	**293**				**Pg**	**18 12 06.5**	**-1.2**
GVDA							**Sg**	**18 12 17.0**	**-1.2**
RUN	**Ruthven**	**0.79**	**119**				**Pg**	**18 12 06.2**	**-1.6**
RMX	**La Rumorosa**	**0.79**	**197**				**Pg**	**18 12 07.0**	**-0.8**
RMX							**Sg**	**18 12 18.4**	**+0.2**
CRY	**Cary Ranch**	**0.81**	**285**				**Sg**	**18 12 18.0**	**-0.8**
DEVC	**Devers**	**0.87**	**312**				**Sb**	**18 12 20.9**	**+0.2**
GLA	**Glamis**	**0.87**	**111**				**Pg**	**18 12 08.0**	**-1.2**
GLA					IAML			18 12 20.6	
	comp=N,2μm,0.6s								
GLA					IAML			18 12 21.7	
	comp=E,5μm,0.6s								
GLA	**Glamis**	**0.87**	**111**				**Sg**	**18 12 19.0**	**-1.7**
EMSC	**East Mesa**	**0.92**	**132**				**Pg**	**18 12 08.2**	**-2.0**
IRM	**Iron Mountain**	**0.96**	**34**				**Pg**	**18 12 09.5**	**-1.5**
IRM					IAML			18 12 25.5	
	comp=N,2μm,0.5s								
IRM					IAML			18 12 25.7	
	comp=E,2μm,0.5s								
POB	**Polly Butte**	**0.99**	**289**				**Pg**	**18 12 09.8**	**-1.8**
POB							**Sg**	**18 12 23.9**	**-0.7**
BAR	**Barrett**	**1.00**	**227**				**Pg**	**18 12 10.0**	**-1.6**
BAR					IAML			18 12 24.5	
	comp=E,1μm,0.6s								
BAR					IAML			18 12 24.6	
	comp=N,2μm,0.2s								
DPP	**Dos Picos Cty**	**1.02**	**250**				**Pg**	**18 12 10.1**	**-2.0**
DPP					IAML			18 12 25.4	
	comp=N,4μm,0.4s								
DPP					IAML			18 12 27.4	
	comp=E,2μm,0.5s								
CPBX	**Cerro Prieto**	**1.03**	**156**				**Pg**	**18 12 11.0**	**-1.2**
CPBX					IAML			18 12 40.8	
	comp=N,3μm,0.6s								
BLYC	**Blythe**	**1.13**	**70**				**Pg**	**18 12 12.3**	**-1.8**
BLYC					IAML			18 12 30.0	
	comp=N,1μm,0.8s								
BLYC					IAML			18 12 32.9	
	comp=E,1μm,0.6s								
CPE	**Camp Elliot**	**1.19**	**247**				**Pg**	**18 12 13.9**	**-1.4**
CBX	**Cerro Bola**	**1.27**	**215**				**Pg**	**18 12 14.0**	**-2.9**
CBX					IAML			18 12 45.5	
	comp=N,2μm,0.8s								
DANC	**Danby, Needles**	**1.32**	**15**				**Pg**	**18 12 15.9**	**-1.9**
DANC					IAML			18 12 35.7	
	comp=E,2μm,0.5s								
DANC					IAML			18 12 40.7	
	comp=N,1μm,0.4s								
TJX	**Tijuana**	**1.35**	**231**				**Pn**	**18 12 16.7**	**-0.1**
ESJX	**Sierra Juarez**	**1.36**	**185**				**Pn**	**18 12 16.7**	**-0.3**
ESJX					IAML			18 12 34.8	
	comp=E,926nm,0.3s								
ELS	**Elsinore Mount**	**1.39**	**282**				**Pn**	**18 12 17.2**	**-0.2**
CCX	**Cicese**	**1.66**	**206**				**Pn**	**18 12 21.4**	**+0.4**
CCX					IAML			18 12 48.9	
	comp=E,804nm,0.8s								
CCX					IAML			18 12 59.2	
	comp=N,580nm,0.7s								
NEE2	**Needles Airpor**	**1.71**	**35**				**Pn**	**18 12 22.2**	**+0.5**
NEE2					IAML			18 12 48.5	
	comp=N,1μm,0.3s								
NEE2					IAML			18 13 01.1	
	comp=E,1μm,0.6s								
113A	**Mohawk Valley,**	**1.81**	**109**				**Pn**	**18 12 23.1**	**+0.1**
VTX	**Valle De La Tr**	**1.96**	**180**				**Pn**	**18 12 25.4**	**+0.1**
MWC	**Mount Wilson**	**2.07**	**295**				**Pn**	**18 12 27.1**	**+0.2**
MWC					IAML			18 13 00.9	
	comp=E,371nm,0.5s								
MWC					IAML			18 13 03.6	
	comp=N,497nm,0.8s								
W13A	**Hualapai Mount**	**2.35**	**42**				**Pn**	**18 12 30.2**	**-0.5**
Y14A	**Wickenburg**	**2.40**	**75**				**Pn**	**18 12 31.3**	**0.0**
TPO	**Tropico Hills**	**2.52**	**308**				**Pn**	**18 12 33.4**	**+0.5**
OSI	**Osito Audit: C**	**2.73**	**298**				**Pb**	**18 12 41.0**	**0.0**
OSI					IAML			18 13 31.1	
	comp=E,214nm,0.6s								
OSI					IAML			18 13 44.6	
	comp=N,223nm,0.9s								
QSM	**Queen of Sheba**	**2.74**	**342**				**Pb**	**18 12 42.1**	**+1.0**
SHPR	**Sheep Range**	**3.18**	**9**				**Pn**	**18 12 42.2**	**+0.1**
WCT	**Wildcat Mounta**	**3.49**	**349**				**Pb**	**18 12 55.4**	**+1.4**
CWC	**Cottonwood Cre**	**3.60**	**329**	Pn			**Pn**	**18 12 48.3**	**+0.5**
TPNV	**Topopah Spring**	**3.60**	**354**		IAML			18 13 48.8	
	comp=N,144nm,0.6s								
TPNV					IAML			18 13 52.4	
	comp=N,142nm,1.0s								
X16A	**Lo Mia Camp, P**	**3.77**	**73**				**Pn**	**18 12 49.9**	**-0.4**
TUC	**Tucson**	**4.35**	**103**				**Pn**	**18 12 58.2**	**+0.2**
KNAB	**Kanab**	**4.38**	**33**				**Pn**	**18 12 59.1**	**+0.5**
NVAR	**Mina Array Bea**	**5.45**	**339**	Pn			**Pn**	**18 13 13.4**	**0.0**
	comp=N,0.5nm,0.3s,baz=95,slow=38,SNR=1.9								
NVAR					Lg		Lg	18 14 38.4	
	comp=N,0.4nm,0.3s,baz=326,slow=34,SNR=2.0								
	comp=N,0.4nm,0.3s								
SPR3	**Spring Creek 3**	**5.75**	**11**				**Pn**	**18 13 18.9**	**+1.4**
121A	**Cookes Peak, D**	**6.79**	**95**				**Pn**	**18 13 31.8**	**+0.1**
ELK	**Elko**	**7.38**	**3**	Pn			**Pn**	**18 13 40.1**	**+0.3**
	comp=N,0.2nm,0.3s,baz=187,slow=8.9,SNR=2.3								
ELK					Lg		Lg	18 15 37.6	
	comp=N,0.4nm,0.3s,baz=231,slow=16,SNR=3.7								
	comp=N,0.5nm,0.4s								
ANMO	**Albuquerque**	**7.90**	**76**	Pn			**Pn**	**18 13 49.0**	**+2.0**
	comp=N,0.2nm,0.3s,baz=284,slow=8.3,SNR=1.4								
ANMO					Pg		Pb	18 14 15.6	+6.4
	comp=N,0.3nm,0.3s,baz=23,slow=14,SNR=3.6								
ANMO					Lg		Lg	18 15 59.7	
	comp=N,0.2nm,0.3s,baz=252,slow=20,SNR=3.8								
	comp=N,0.6nm,0.4s								
PDAR	**Pinedale Array**	**10.60**	**26**	Pn			**Pn**	18 14 29.3	+5.4
	comp=N,0.1nm,0.3s,baz=213,slow=13,SNR=5.7								
PDAR					Lg		Lg	18 17 19.9	
	baz=344,slow=37,SNR=1.5								
	comp=N,1.1nm,0.9s								
TXAR	**Lajitas Array**	**11.12**	**108**	Pn			**Pn**	**18 14 33.9**	**+2.9**
	comp=N,0.2nm,0.3s,baz=286,slow=14,SNR=5.5								
TXAR					Lg		Lg	18 17 43.6	
	baz=287,slow=31,SNR=1.7								
	comp=N,0.2nm,0.3s								

*SJA **16** 18:39:42.9±0.8, 19˚.06S×69˚.53W, h108km±5km, ML4.4, MW4.3*

*VAO **16** 18:39:43.7±0.8, 18˚.97S×69˚.33W, h98km±6km, mb4.6*

*NEIC **16** 18:39:44.1, 19˚.05S×69˚.26W, h97km*

*GUC **16** 18:39:44.4±0.7, 19˚.06S×69˚.54W, h92km±3km, ML4.4*

*NEIC **16** 18:39:44.1±1.6, 19˚.05S±0˚.04×69˚.23W±0˚.10, h95km±6km, mb4.2/14, Mwr4.3/32, Mwr4.5(GUC), Error ellipse: s-maj=13.0km s-min=5.7km az=96.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr-2.03; Mθθ-0.76; Mφφ2.79; Mrθ1.47; Mθφ-0.57; Mφr-1.30; Fault plane solution: M0 3.23000×10^15^ NP1:φs198.77000°, δ36.07000°, λ-42.76000°. NP2:φs325.54000°, δ66.44000°, λ-118.14000°. Principal axes: T 3.3360, Plg17.0000°, Azm76.0000°; N -0.2297, Plg26.0000°, Azm338.0000°; P -3.1064, Plg59.0000°, Azm196.0000°;*

*IDC **16** 18:39:46.7±1.6, 18˚.98S×69˚.10W, h115km±14km, mb3.9/12, mbtmp4.2/16, MS2.4/1 Error ellipse: s-maj=20.3km s-min=11.2km az=90.0*

ISC 16 18:39:44.0±0.6, 19˚.02S±0˚.03×69˚.41W±0˚.05, h97km±5km, n115, σ1°56°/132, mb4.2/16, 7C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.67**	**163**				**Pn**	**18 40 02.5**	**+0.9**
GO01	**Chusmiza**	**0.67**	**163**	||i	P	**Pn**	**18 40 02.5**	**+0.9**
GO01						eS	**Sn**	**18 40 15.8**	**+1.3**
GO01					IAML			18 40 18.2	
	comp=N,9μm,0.4s								
GO01	**Chusmiza**	**0.67**	**163**			eP	**Pn**	**18 40 02.5**	**+0.9**
GO01						eS	**Sn**	**18 40 16.1**	**+1.6**
GO01					IAML			18 40 18.3	
	comp=Z,5μm,0.7s								
PB16	**IPOC Station P**	**0.69**	**352**				**Pn**	**18 40 02.3**	**+0.5**
PB16	**IPOC Station P**	**0.69**	**352**	||i	P	**Pn**	**18 40 02.8**	**+1.1**
PB16						eS	**Sn**	**18 40 16.6**	**+1.7**
PB16					IAML			18 40 17.4	
	comp=N,11μm,0.4s								
PB16	**IPOC Station P**	**0.69**	**352**			eP	**Pn**	**18 40 02.2**	**+0.4**
PB16						eS	**Sn**	**18 40 17.9**	**+2.9**
PB16					IAML			18 40 20.9	
	comp=Z,4μm,0.6s								
PX02	**IPOC Station P**	**0.75**	**274**			eP	**Pn**	**18 40 00.6**	**-1.2**
PX02						eS	**Sn**	**18 40 13.2**	**-1.9**
PX02					IAML			18 40 15.7	
	comp=N,8μm,0.3s								
PB11	**IPOC Station P**	**0.77**	**198**				**Pn**	**18 40 02.2**	**+0.1**
PB11	**IPOC Station P**	**0.77**	**198**	||i	P	**Pn**	**18 40 02.2**	**+0.1**
PB11						eS	**Sn**	**18 40 15.4**	**-0.2**
PB11					IAML			18 40 17.0	
	comp=E,29μm,0.3s								
PB11	**IPOC Station P**	**0.77**	**198**			eP	**Pn**	**18 40 02.2**	**+0.1**
PB11						eS	**Sn**	**18 40 16.1**	**+0.6**
PB11					IAML			18 40 17.4	
	comp=Z,5μm,0.1s								
HMBC	**Humberstone**	**1.33**	**200**				**Pn**	**18 40 08.1**	**-0.1**
HMBC	**Humberstone**	**1.33**	**200**	||i	P	**Pn**	**18 40 08.2**	**-0.1**
HMBC						eS	**Sn**	**18 40 25.8**	**-0.7**
HMBC					IAML			18 40 31.0	
	comp=N,9μm,0.6s								
HMBC	**Humberstone**	**1.33**	**200**			eP	**Pn**	**18 40 07.6**	**-0.6**
HMBC						eS	**Sn**	**18 40 27.4**	**+1.0**
HMBC					IAML			18 40 30.9	
	comp=Z,8μm,0.4s								
PX03	**IPOC Station P**	**1.39**	**189**			eP	**Pn**	**18 40 08.5**	**-0.4**
PX03						eS	**Sn**	**18 40 27.4**	**-0.3**
PX03					IAML			18 40 30.1	
	comp=N,10μm,0.3s								
PB18	**Visviri**	**1.43**	**357**				**Pn**	**18 40 12.3**	**+2.5**
PB18	**Visviri**	**1.43**	**357**	||i	P	**Pn**	**18 40 12.6**	**+2.8**
TA01	**Diego Aracena**	**1.70**	**205**				**Pn**	**18 40 11.9**	**-0.7**
TA01	**Diego Aracena**	**1.70**	**205**	||i	P	**Pn**	**18 40 12.3**	**-0.3**
TA01						eS	**Sn**	**18 40 33.8**	**-0.6**
TA01					IAML			18 40 38.6	
	comp=N,9μm,0.4s								
TA01	**Diego Aracena**	**1.70**	**205**			eP	**Pn**	**18 40 11.7**	**-1.0**
PATCX	**Punta Patache**	**1.92**	**201**				**Pn**	**18 40 15.2**	**-0.4**
PATCX	**Punta Patache**	**1.92**	**201**	||i	P	**Pn**	**18 40 15.4**	**-0.2**
PATCX						eS	**Sn**	**18 40 38.4**	**-1.2**
PATCX					IAML			18 40 44.6	
	comp=E,5μm,0.4s								
PATCX	**Punta Patache**	**1.92**	**201**			eP	**Pn**	**18 40 15.0**	**-0.6**
PATCX						eS	**Sn**	**18 40 38.9**	**-0.8**
PATCX					IAML			18 40 44.1	
	comp=Z,3μm,0.7s								
PB01	**IPOC Station P**	**2.01**	**182**				**Pn**	**18 40 16.6**	**-0.2**
PB01	**IPOC Station P**	**2.01**	**182**	||i	P	**Pn**	**18 40 17.0**	**+0.2**
PB01						eS	**Sn**	**18 40 42.1**	**+0.4**
PB01					IAML			18 40 48.0	
	comp=E,7μm,0.4s								
PB01	**IPOC Station P**	**2.01**	**182**			eP	**Pn**	**18 40 16.9**	**+0.2**
PB01						eS	**Sn**	**18 40 42.5**	**+0.8**
PB01					IAML			18 40 47.8	
	comp=Z,2μm,0.3s								
PB02	**IPOC Station P**	**2.33**	**191**				**Pn**	**18 40 20.8**	**-0.2**
PB02	**IPOC Station P**	**2.33**	**191**			eP	**Pn**	**18 40 21.5**	**+0.5**
PB02	**IPOC Station P**	**2.33**	**191**			eP	**Pn**	**18 40 21.7**	**+0.8**
PB09	**IPOC Station P**	**2.77**	**177**				**Pn**	**18 40 26.7**	**0.0**
PB09	**IPOC Station P**	**2.77**	**177**			eP	**Pn**	**18 40 27.6**	**+0.9**
PB09						eS	**Sn**	**18 41 00.6**	**+1.0**
PB09					IAML			18 41 08.5	
	comp=E,2μm,0.4s								
PB09	**IPOC Station P**	**2.77**	**177**			eP	**Pn**	**18 40 27.9**	**+1.2**
PB09						eS	**Sn**	**18 41 03.6**	**+4.1**
PB09					IAML			18 41 11.8	
	comp=Z,2μm,0.4s								
LPAZ	**La Paz**	**2.98**	**24**	P			**Pn**	**18 40 33.0**	**+3.0**
	comp=Z,145nm,0.3s,baz=204,slow=6.9,SNR=918								
LPAZ					S		**Sn**	**18 41 05.5**	**+0.2**
	comp=Z,40nm,0.4s,baz=121,slow=5.9,SNR=3.6								
LPAZ					LR		LR	18 41 47.8	
	comp=Z,60nm,19.1s,baz=218,slow=43								
LPAZ	**La Paz**	**2.98**	**24**			eP	**Pn**	**18 40 33.5**	**+3.5**
LPAZ	**La Paz**	**2.98**	**24**			eP	**Pn**	**18 40 28.7**	**-1.3**
PB06	**I

comp=Z,3.0nm,0.4s,baz=259,slow=6.8,SNR=7.9
comp=Z,3.0nm,0.4s

QSPA	**South Pole Qui**	**71.16**	**180**	P		**P**	**18 50 54.9**	**+2.8**
QSPA				IAmb		IAmb	18 50 55.2	

comp=Z,3.1nm,0.6s

QSPA	**South Pole Qui**	**71.16**	**180**	P		**P**	**18 50 54.8**	**+2.8**

comp=Z,2.2nm,0.5s,baz=325,slow=1.2,SNR=21
comp=Z,2.2nm,0.5s

PDAR	**Pinedale Array**	**71.74**	**330**	P		**P**	**18 50 56.2**	**+0.3**

comp=Z,0.3nm,0.4s,baz=124,slow=3.7,SNR=2.0
comp=Z,0.3nm,0.4s

ULM	**Lac du Bonnet**	**72.82**	**343**	P		**P**	**18 51 04.6**	**+2.8**

comp=Z,2.4nm,0.5s,baz=146,slow=6.5,SNR=5.9
comp=Z,2.4nm,0.5s

PLID	**Pearl Lake**	**76.59**	**328**	P		**P**	**18 51 25.1**	**+1.0**
PLID				IAmb		IAmb	18 51 25.9	

comp=Z,2.3nm,0.8s

TORD	**Torodi Ar. Bea**	**76.98**	**71**	P		**P**	**18 51 24.8**	**-1.8**
TORD				IAmb		IAmb	18 51 31.4	

comp=Z,2.5nm,0.8s

TORD	**Torodi Ar. Bea**	**76.98**	**71**	P		**P**	**18 51 25.1**	**-1.5**

comp=Z,1.5nm,0.4s,baz=252,slow=5.2,SNR=21
comp=Z,1.5nm,0.4s

VNDA	**Vanda**	**79.20**	**190**	P		**P**	**18 51 39.1**	**+1.3**

comp=Z,0.6nm,0.7s,baz=130,slow=7.6,SNR=4.0
comp=Z,0.6nm,0.7s

ESDC	**Sonseca Array**	**84.41**	**45**	P		**P**	**18 52 05.5**	**-0.2**

comp=Z,1.0nm,0.9s,baz=258,slow=5.6,SNR=6.5
comp=Z,1.0nm,0.9s

YKA	**Yellowknife Ar**	**88.70**	**341**	P		**P**	**18 52 26.6**	**+0.5**

comp=Z,2.3nm,0.7s,baz=126,slow=4.8,SNR=5.7
comp=Z,2.3nm,0.7s

ASAR	**Alice Springs**	**131.86**	**209**	PKP		**PKPdf**	**18 58 46.5**	**-0.3**

comp=Z,0.6nm,0.6s,baz=136,slow=1.7,SNR=16

WR8	**Warramunga Arr**	**134.72**	**212**	P		**PKPdf**	**18 58 52.5**	**+0.4**
WRA	**Warramunga Arr**	**134.82**	**212**	PKP		**PKPdf**	**18 58 52.3**	**0.0**

comp=Z,1.6nm,0.6s,baz=147,slow=1.8,SNR=28

WRA	**Warramunga Arr**	**134.82**	**212**	P		**PKPdf**	**18 58 52.8**	**+0.4**
WB0	**Warramunga Arr**	**134.94**	**212**	IAmb		IAmb	18 59 02.9	

comp=Z,4.5nm,1.1s

WB0	**Warramunga Arr**	**134.94**	**212**	P		**PKPdf**	**18 58 52.6**	**+0.1**
ZALV	**Zalesovo Beam**	**139.90**	**24**	PKP		**PKPdf**	**18 58 59.2**	**-1.4**

comp=Z,1.1nm,0.8s,baz=321,slow=2.9,SNR=4.4

MKAR	**Makanchi Array**	**143.87**	**34**	PKP		**PKPdf**	**18 59 07.7**	**-0.3**

comp=Z,0.3nm,0.7s,baz=357,slow=2.9,SNR=2.2

SONM	**Songino Array**	**151.06**	**6**	PKPbc		**PKPbc**	**18 59 25.9**	**+0.1**

comp=Z,2.0nm,0.5s,baz=266,slow=1.9,SNR=5.2

*SOME **16** 18:47:04.6, 40°.33N×77°.57E, h10km*
*KRNET **16** 18:47:05.9±0.1, 40°.46N×77°.50E, mb2.8*
*NNC **16** 18:47:06.1±1.2, 40°.40N×77°.54E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=7.9km s-min=7.5km az=64.0*

ISC 16 18:47:07.9±2.5, 40°.3N±0°.1×77°.47E±0°.06, h21km, n26, σ1s83/41, 16C, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JNKS	**Jany-Kuch**	**1.59**	**300**	⇑*i*	P	**Pn**	**18 47 34.5**	**-0.5**
JNKS				⇑*i*	S	**Sb**	**18 47 55.8**	**-0.5**
KDJ	**Kajisay**	**1.86**	**353**	⇑*i*	P	**Pn**	**18 47 37.5**	**-1.2**
KDJ				⇑*i*	S	**Sb**	**18 48 00.6**	**-3.7**
ULHL	**Ulahol**	**2.17**	**335**	⇑*i*	P	**Pb**	**18 47 43.3**	**-3.3**
ULHL				⇑*i*	S	**Sb**	**18 48 10.7**	**-2.5**
TNSS	**Tian-Shan**	**2.79**	**352**	Pg		**Pb**	**18 47 54.8**	**-2.4**

1.2nm,0.3s

TNSS				Lg		Lg	18 48 32.2	

5.5nm,0.7s

TNSS	**Tian-Shan**	**2.79**	**352**	*e*P		**Pb**	**18 47 55.6**	**-1.6**

0.3nm,0.0s

TNSS				*e*S		**Sb**	**18 48 32.4**	**+1.4**

2.6nm,0.2s

SATY	**Saty**	**2.87**	**14**	Pg		**Pb**	**18 47 56.3**	**-2.1**

3.6nm,0.5s

SATY				Lg		Lg	18 48 33.5	

13nm,0.5s

MDOK	**Medeo**	**2.90**	**354**	Pg		**Pb**	**18 47 57.0**	**-2.0**

3.0nm,0.5s

MDOK				Lg		Lg	18 48 35.1	

14nm,0.6s

MTBS	**Maitube**	**2.96**	**345**	Pg		**Pb**	**18 47 58.1**	**-1.8**

2.3nm,0.2s

MTBS				Lg		Lg	18 48 36.5	

15nm,0.3s

MTBS	**Maitube**	**2.96**	**345**	*e*P		**Pb**	**18 47 58.4**	**-1.4**

0.5nm,0.1s

MTBS				*e*S		**Sb**	**18 48 37.1**	**+1.6**

8.5nm,0.3s

UCH	**Uchtor**	**2.96**	**312**	⇑*i*	P	**Pn**	**18 47 55.2**	**+1.2**
UCH				⇑*i*	S	**Sn**	**18 48 31.0**	**+1.9**
KOTS	**Kotyrbulak**	**2.97**	**355**	*e*P		**Pb**	**18 47 58.4**	**-1.7**

2.2nm,0.2s

KOTS				*e*S		**Sb**	**18 48 37.0**	**+1.1**

23nm,0.6s

KST	**Kastek**	**2.99**	**338**	Pg		**Pb**	**18 47 59.3**	**-1.1**

1.4nm,0.4s

KST				Lg		Lg	18 48 38.5	

12nm,0.7s

KST	**Kastek**	**2.99**	**338**	*e*P		**Pb**	**18 47 59.2**	**-1.2**

0.3nm,0.1s

KST				*e*S		**Sb**	**18 48 38.4**	**+1.9**

10nm,0.5s

TKM2	**Tokmak 2**	**2.99**	**333**	⇑*i*	P	**Pn**	**18 47 54.8**	**+0.6**
TKM2				⇑*i*	S	**Sn**	**18 48 30.5**	**+0.9**
UZB	**Uzynbulak**	**3.10**	**22**	Pg		**Pb**	**18 48 00.0**	**-2.3**

2.9nm,0.6s

UZB				Lg		Lg	18 48 39.4	

5.1nm,0.8s

UZB	**Uzynbulak**	**3.10**	**22**	*e*P		**Pb**	**18 47 59.8**	**-2.5**

1.4nm,0.1s

UZB				*e*S		**Sb**	**18 48 39.8**	**+0.1**

3.9nm,0.3s

SHLS	**Shalkode**	**3.24**	**27**	*e*P		**Pb**	**18 48 06.2**	**+1.5**

0.9nm,0.3s

SHLS				*e*S		Sb	18 48 50.5	+6.6

9.2nm,0.3s

AAK	**Ala-Archa**	**3.25**	**318**	⇑*i*	P	**Pn**	**18 47 58.9**	**+1.2**
AAK				⇑*i*	S	**Sn**	**18 48 37.6**	**+1.7**
KPKS	**Kokpek**	**3.31**	**16**	Pg		**Pb**	**18 48 04.3**	**-1.7**

0.6nm,0.4s

KPKS				Lg		Lg	18 48 47.1	

8.0nm,0.5s

KTBS	**Karatobe**	**3.48**	**351**	Pg		**Pb**	**18 48 07.1**	**-1.7**

2.2nm,0.6s

KTBS				Lg		Lg	18 48 52.3	

17nm,0.5s

CHKK	**Chushkaly**	**3.59**	**354**	Pg		**Pb**	**18 48 08.5**	**-2.2**

1.7nm,0.3s

CHKK				Lg		Lg	18 48 56.0	

9.4nm,0.2s

CHKK	**Chushkaly**	**3.59**	**354**	*e*P		**Pb**	**18 48 09.7**	**-1.0**

0.5nm,0.1s

CHKK				*e*S		**Sb**	**18 48 56.3**	**+2.5**

9.4nm,0.2s

EKS2	**Erkin-Say**	**3.66**	**312**	⇑*i*	P	**Pn**	**18 48 04.6**	**+1.3**
EKS2				⇑*i*	S	**Sn**	**18 48 47.3**	**+1.5**
USP	**Ospenovka**	**3.72**	**324**	⇑*i*	P	**Pn**	**18 48 05.2**	**+1.1**
USP				⇑*i*	S	**Sn**	**18 48 48.2**	**+0.8**
ARXS	**Arharly**	**3.94**	**4**	Pg		**Pb**	**18 48 14.7**	**-2.0**

0.4nm,0.2s

ARXS				Lg		Lg	18 49 05.0	

4.6nm,0.5s

ARXS	**Arharly**	**3.94**	**4**	*e*P		**Pb**	**18 48 15.1**	**-1.5**
ARXS				*e*S		**Sb**	**18 49 06.0**	**+2.0**

*IDC **16** 18:49:41.7±1.2, 14°.66N×93°.31E, h0km, mb3.8/6, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=37.4km s-min=22.8km az=48.0*
*NEIC **16** 18:49:44.1±1.0, 14°.05N±0°.10×93°.6E±0°.1, h35km±1km, mb4.0/7, Error ellipse: s-maj=25.4km s-min=9.5km az=234.0*
*NDI **16** 18:49:48.7±0.7, 14°.05N×93°.59E, h35km, ML3.8, MW3.7, mb4.0(NEIC)*

ISC 16 18:49:43.9±0.7, 14°.10N±0°.06×93°.53E±0°.08, h41km, n24, σ2s67/22, mb3.8/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DGPR	**DIGLIPUR**	**1.09**	**212**	*e*P		Pn	18 50 08.6	+5.9
DGPR				*e*S		**Sn**	**18 50 21.9**	**+5.3**
DGPR				IAML			18 50 37.4	

comp=E,634nm,0.8s

CM31	**Chiang Mai Arr**	**6.76**	**49**	Pn		**Pn**	**18 51 21.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**6.76**	**49**	Pn		**Pn**	**18 51 19.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**6.76**	**49**	Pn		**Pn**	**18 51 21.5**	**+0.8**

comp=E,0.1nm,0.3s,baz=237,slow=13,SNR=3.0

CMAR					Sn	**Sn**	**18 52 37.9**	**+1.4**

comp=E,0.4nm,0.3s,baz=241,slow=32,SNR=5.3
comp=E,0.2nm,0.3s

CHTO	**Chiang Mai**	**6.99**	**47**			**Pn**	**18 51 24.1**	**+0.3**
CMBY	**CAMPBELL BAY**	**7.06**	**177**	*e*P		**Pn**	**18 51 25.9**	**+1.2**
CMBY				*e*S		**Sn**	**18 52 36.9**	**-6.8**
CMBY				IAML			18 52 44.6	

comp=E,348nm,4.0s

CMBY				IAML			18 52 57.7	

comp=N,284nm,3.6s

AZL	**Aizawl**	**9.62**	**355**	*e*S		**Sn**	**18 53 44.0**	**-2.8**
AZL				IAML			18 53 46.1	

comp=N,12nm,0.7s

AZL				IAML			18 53 47.5	

comp=E,16nm,0.9s

MDRS	**Chennai**	**12.96**	**267**	*e*S		**Sn**	**18 55 03.8**	**-4.6**
H08S3	**Diego Garcia H**	**30.04**	**225**	T		T	19 27 12.9	

baz=44

H08S2	**Diego Garcia H**	**30.05**	**225**	T		T	19 27 14.1	

baz=44

H08S1	**Diego Carcia H**	**30.06**	**225**	T		T	19 27 29.3	

baz=44

MKAR	**Makanchi Array**	**33.93**	**346**	P		**P**	**18 56 24.2**	**+1.1**
MKAR	**Makanchi Array**	**33.93**	**346**	P		**P**	**18 56 19.6**	**-3.5**

comp=E,0.2nm,0.6s,baz=160,slow=8.6,SNR=5.5
comp=E,0.2nm,0.6s

MAKZ	**Makanchi**	**34.01**	**346**	P		**P**	**18 56 25.0**	**+1.2**
MAKZ				IAmb		IAmb	18 56 26.3	

comp=Z,5.5nm,1.4s

KURBB	**Kurchatov Arra**	**38.41**	**345**	P		**P**	**18 56 59.1**	**-2.2**

comp=Z,0.6nm,0.5s,baz=166,slow=8.1,SNR=2.4
comp=Z,0.6nm,0.5s

ZAA0	**Zalesovo Array**	**40.34**	**352**	P		**P**	**18 57 17.8**	**+0.5**
ZAA0				IAmb		IAmb	18 57 20.6	

comp=Z,1.7nm,0.9s

AB31	**Akbulak array**	**44.56**	**329**	P		**P**	**18 57 52.9**	**+1.1**
AB31				IAmb		IAmb	18 57 54.3	

comp=Z,1.8nm,0.8s

ABKAR	**Akbulak array**	**44.56**	**329**	P		**P**	**18 57 52.4**	**+0.7**
ASAR	**Alice Springs**	**54.47**	**133**	P		P	18 59 14.5	+6.8

comp=Z,0.3nm,0.3s,baz=310,slow=6.7,SNR=11
comp=Z,0.3nm,0.3s

BURAR	**Bucovina Array**	**65.11**	**316**	P		**P**	**19 00 21.4**	**+0.8**
BURAR				IAmb		IAmb	19 00 23.4	

comp=Z,0.8nm,0.8s

FINES	**FINESS Array B**	**66.98**	**331**	P		**P**	**19 00 32.7**	**+0.5**
FINES	**FINESS Array B**	**66.98**	**331**	P		**P**	**19 00 32.9**	**+0.7**

comp=Z,2.5nm,0.9s,baz=95,slow=6.5,SNR=5.8
comp=Z,2.5nm,0.9s

HFS	**Hagfors**	**72.82**	**329**	P		**P**	**19 01 09.3**	**+1.2**

comp=Z,2.1nm,0.8s,baz=94,slow=6.1,SNR=1.2
comp=Z,2.1nm,0.8s

GERES	**GERESS Array B**	**72.84**	**317**	P		**P**	**19 01 10.2**	**+1.6**

comp=Z,0.5nm,0.6s,baz=86,slow=4.1,SNR=4.4
comp=Z,0.5nm,0.6s

*NEIC **16** 19:00:22.0±0.5, 19°.221N±0°.007×155°.482W±0°.009, h11km±2km, Error ellipse: s-maj=1.3km s-min=0.9km az=125.0*

HVO 16 19:00:22.0±0.7, 19°.21N±0°.01×155°.476W±0°.008, h6km±2km, ML2.8/33, ML2.8/38(NEIC), Error ellipse: s-maj=1.7km s-min=0.9km az=185.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HTC	**Hot Caves**	**0.08**	**69**			Pg	19 00 24.2	+0.3
HTC						Sg	19 00 26.1	+0.9
KHU	**Kahuku**	**0.14**	**286**			Pg	19 00 25.4	+0.5
KHU						Sg	19 00 28.1	+1.2
HPO	**Honuapo**	**0.14**	**212**			Pg	19 00 25.4	+0.5
AIN	**Ainahou**	**0.16**	**6**			Pg	19 00 26.0	+0.6
AIN				IAML			19 00 29.4	

comp=E,3μm,0.4s

AIN				IAML			19 00 31.0	

comp=N,4μm,0.1s

HLP	**Hilina Pali**	**0.18**	**61**			Pg	19 00 26.4	+0.7
HLP				IAML			19 00 30.8	

comp=N,2μm,0.4s

HLP				IAML			19 00 31.7	

comp=E,2μm,0.6s

SDHHI	**Sand Hill**	**0.25**	**44**			Pg	19 00 27.2	+0.3
SDHHI						Sg	19 00 31.4	+1.1
WRMHI	**West Rim**	**0.26**	**40**			Pg	19 00 27.4	+0.2
WRMHI						Sg	19 00 31.7	+1.2
RIM	**Rim**	**0.27**	**46**			Pg	19 00 27.4	+0.2
RIM						Sg	19 00 31.9	+1.0
KKO	**Keanakako'i**	**0.27**	**46**			Pg	19 00 27.6	+0.2
KKO						Sg	19 00 32.3	+1.2
UWE	**Uwekahuna**	**0.27**	**39**	Pg		Pg	19 00 27.4	0.0
UWE	**Uwekahuna**	**0.27**	**39**			Sb	19 00 32.8	-1.6
OBL	**Observatory Le**	**0.28**	**41**			Pg	19 00 27.6	+0.1
OBL						Sg	19 00 32.7	+1.6
UWB	**Uwekahuna Bluf**	**0.28**	**41**			Pg	19 00 27.6	0.0
UWB						Sg	19 00 32.8	+1.4
BYL	**Byron's Ledge**	**0.29**	**45**			Pg	19 00 27.7	+0.1
BYL				IAML			19 00 35.0	

comp=E,2μm,0.3s

BYL				IAML			19 00 37.6	

comp=N,1μm,0.5s

BYL	**Byron's Ledge**	**0.29**	**45**			Sg	19 00 32.8	+1.3
SBLHI	**Steaming Bluff**	**0.29**	**42**			Pg	19 00 27.8	0.0
SBLHI						Sg	19 00 32.8	+1.1
HATHI	**Halema'uma'u T**	**0.29**	**44**			Pg	19 00 27.9	+0.1
HATHI				IAML			19 00 33.3	

comp=N,2μm,0.5s

HATHI	**Halema'uma'u T**	**0.29**	**44**			Sg	19 00 32.9	+1.1
PUH	**Pauahi**	**0.29**	**56**			Pg	19 00 27.6	-0.2
PUH						Sg	19 00 32.6	+0.8
PUH	**Pauahi**	**0.29**	**56**	IAML			19 00 34.5	

comp=N,1μm,0.3s

PUH				IAML			19 00 34.7	

comp=E,1μm,0.2s

MLH	**Mauna Loa**	**0.30**	**17**			Sb	19 00 33.5	-1.6
MLH	**Mauna Loa**	**0.30**	**17**			Pg	19 00 27.9	0.0
MLH				IAML			19 00 33.6	

comp=E,1μm,0.3s

MLH				IAML			19 00 38.4	

comp=N,2μm,0.4s

MWH	**Mokuaweoweo**	**0.30**	**337**			Pg	19 00 27.8	-0.3
RSD	**Rainshed**	**0.31**	**36**			Pg	19 00 28.1	-0.1
RSD						Sg	19 00 33.4	+1.0
KNHH	**Kane Nui o Ham**	**0.34**	**60**			Pg	19 00 28.5	-0.1
ALEP	**Alea Permanent**	**0.37**	**334**			Pg	19 00 29.5	+0.3
STCH	**Steam Cracks**	**0.38**	**62**			Pg	19 00 29.1	-0.2
STCH						Sg	19 00 34.9	+0.7
STCH	**Steam Cracks**	**0.38**	**62**	IAML			19 00 35.0	

comp=N,1μm,0.5s

STCH				IAML			19 00 35.3	

comp=E,1μm,0.6s

NPOC	**North of Pu'u**	**0.39**	**62**			Pg	19 00 29.5	-0.2
NPOC						Sg	19 00 35.5	+0.7
HMH	**Humu'ula Sheep**	**0.39**	**359**			Pg	19 00 29.9	+0.2
HMH						Sg	19 00 36.4	+1.4
HMH	**Humu'ula Sheep**	**0.39**	**359**	IAML			19 00 36.5	

comp=N,2μm,0.4s

HMH				IAML			19 00 36.7	

comp=E,1μm,0.4s

JCUZ	**Jacuzzi**	**0.39**	**64**			Pg	19 00 29.6	0.0
JCUZ						Sg	19 00 35.4	+0.5
JOKA	**Jonika Flow**	**0.50**	**63**			Pg	19 00 30.9	-0.7
JOKA						Sg	19 00 38.1	0.0
CPH	**Captain Cook**	**0.50**	**304**			Pg	19 00 31.4	-0.3
POHA	**Pohakuloa**	**0.55**	**354**			Sg	19 00 40.2	+0.4
POHA	**Pohakuloa**	**0.55**	**354**			Pg	19 00 31.9	-0.7
POHA				IAML			19 00 41.8	

comp=E,599nm,0.5s

POHA				IAML			19 00 50.8	

comp=E,693nm,0.6s

HUH	**Hualalai**	**0.58**	**324**			Pg	19 00 33.0	-0.3

*ISK **16** 19:44:42.5, 38°.23N×26°.38E, h16km, ML3.3/22*
*ATH **16** 19:44:42.8, 38°.20N×26°.35E, h20km±1km, ML3.0/6, Manual Solution by A.Plessa First location: 2019/09/16 19:45:59, This location: 2019/09/16 19:53:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*THE **16** 19:44:43.3, 38°.N±2°.×2°.6E±°, h13km±8km, M2.8/8, MLh2.8/8*
*AFAD **16** 19:44:43.2, 38°.21N×26°.37E, h11km, ML3.2*

ISC 16 19:44:43.0±0.8, 38°.22N±0°.02×26°.38E±0°.02, h17km±5km, n74, σ0s38/93, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZEYE	**Izmir, Urla-Ze**	**0.10**	**81**	P		**Pg**	**19 44 46.4**	**-0.1**
ZEYE				*i*	IAML		19 44 48.0	

comp=N,3μm,0.2s

ZEYE				*i*	IAML		19 44 48.0	

comp=E,2μm,0.2s

ZEYE				S		**Sg**	**19 44 48.2**	**-0.5**
CESE	**eme**	**0.12**	**330**	Pg		**Pg**	**19 44 46.4**	**-0.4**
URLA	**Izmir**	**0.22**	**51**	Pg		**Pg**	**19 44 47.9**	**-0.2**
URLA				Sg		**Sg**	**19 44 51.9**	**+0.3**
URLA	**Izmir**	**0.22**	**51**	P		**Pg**	**19 44 48.4**	**+0.3**
URLA				S		**Sg**	**19 44 51.7**	**+0.1**
URLA				*i*	IAML		19 44 52.0	

comp=E,2μm,0.4s

URLA				*i*	IAML		19 44 53.0	

comp=N,5μm,0.2s

CHOS	**Chios island**	**0.30**	**303**	Pg		**Pg**	**19 44 49.5**	**0.0**
CHOS				Sg		**Sg**	**19 44 54.2**	**+0.2**
CHOS	**Chios island**	**0.30**	**303**	P		**Pg**	**19 44 49.8**	**+0.3**
CHOS	**Chios island**	**0.30**	**303**	P		**Pg**	**19 44 49.8**	**+0.3**
CHOS				S		**Sb**	**19 44 54.5**	**-0.3**
EAG2	**Marmaro, Chios**	**0.38**	**327**	P		**Pb**	**19 44 51.3**	**-0.1**
EAG2				S		**Sb**	**19 44 56.7**	**-0.3**
DGB	**zmir**	**0.43**	**113**	P		**Pg**	**19 44 51.6**	**-0.1**
DGB				S		**Sg**	**19 44 57.2**	**-0.5**
DGB				*i*	IAML		19 45 01.0	

comp=N,787nm,0.7s

DGB				*i*	IAML		19 45 01.0	

comp=E,880nm,0.5s

KARB	**zmir-Karabur**	**0.44**	**4**	P		**Pg**	**19 44 52.0**	**+0.1**
GMLD	**Gumuldur**	**0.45**	**109**	Pg		**Pg**	**19 44 51.7**	**-0.3**
GMLD				Sg		**Sg**	**19 44 58.2**	**0.0**
KRL1	**Karlovasi Samo**	**0.50**	**149**	P		**Pg**	**19 44 52.9**	**-0.1**
KRL1				S		**Sg**	**19 45 00.4**	**+0.7**
BLCB	**Balcova**	**0.55**	**73**	Pg		**Pg**	**19 44 53.8**	**-0.1**
BLCB				Sg		**Sg**	**19 45 01.6**	**+0.4**
BLCB	**Balcova**	**0.55**	**73**	P		**Pg**	**19 44 53.8**	**-0.1**
BLCB				S		**Sg**	**19 45 01.1**	**-0.1**
FOCM	**Foa**	**0.56**	**29**	Pg		**Pg**	**19 44 53.9**	**-0.3**
SMG	**Samos**	**0.63**	**145**	P		**Pg**	**19 44 55.5**	**+0.1**
SMG				S		**Sb**	**19 45 05.0**	**+0.8**
SMG	**Samos**	**0.63**	**145**	P		**Pg**	**19 44 55.2**	**-0.2**
SMG				S		**Sg**	**19 45 03.4**	**-0.4**
GCAM	**G?zelcaml?**	**0.85**	**127**	Pg		**Pb**	**19 44 59.3**	**-0.1**
GCAM	**G?zelcaml?**	**0.85**	**127**	P		**Pb**	**19 44 59.3**	**-0.1**
ZEDA	**zmir-Bergama**	**0.92**	**36**	P		**Pb**	**19 45 00.7**	**+0.1**
PRK	**Paraskevi**	**1.02**	**355**	P		**Pb**	**19 45 02.2**	**-0.1**
PRK				S		**Sn**	**19 45 16.6**	**-0.1**
**

n13,σ1ᵍ32/22,6D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LONA1	**Toro Cenizo, N**	**0.01**	**268**	*i* P	**Pg**	**19 46 15.9**	**-0.6**
LONA1				*e*S	**Sg**	**19 46 19.1**	**+0.5**
LONA1				IAML		19 46 19.8	
	comp=Z,2μm,0.8s						
NADR	**Nagua**	**0.03**	**194**	⇓*e*P	**Pg**	**19 46 15.6**	**-1.0**
NADR				⇓*e*S	**Sg**	**19 46 19.1**	**+0.6**
NADR				IAML		19 46 19.3	
	comp=N,5μm,0.6s						
NADR				IAML		19 46 19.6	
	comp=E,6μm,0.1s						
SMDR	**Samana, DR**	**0.63**	**98**	⇓*e*Pg	**Pg**	**19 46 24.5**	**-1.6**
SMDR				⇓*e*Sg	**Sb**	**19 46 35.4**	**+0.7**
SMDR				IAML		19 46 36.0	
	comp=E,201nm,0.7s						
SMDR				IAML		19 46 37.5	
	comp=N,171nm,0.8s						
SC01	**Santiago de lo**	**0.83**	**273**	*e*S	**Sb**	**19 46 42.3**	**+1.7**
MIDR	**Miches**	**0.85**	**117**	*e*Pg	**Pg**	**19 46 28.8**	**-1.4**
MIDR				*e*Sg	**Sb**	**19 46 42.0**	**+0.9**
MIDR				IAML		19 46 44.3	
	comp=E,97nm,0.4s						
MIDR				IAML		19 46 44.3	
	comp=N,50nm,0.2s						
MIDR				IAML		19 46 45.5	
	comp=N,43nm,0.4s						
ABDR	**Alto Bandera**	**0.93**	**233**	*e*Pg	**Pg**	**19 46 29.4**	**-2.4**
ABDR				*e*Sg	**Sg**	**19 46 43.2**	**-0.8**
ABDR				IAML		19 46 43.6	
	comp=E,141nm,0.4s						
ABDR				IAML		19 46 45.9	
	comp=N,164nm,0.3s						
BANI	**BANI**	**1.09**	**206**	*e*Pg	**Pn**	**19 46 33.0**	**-1.3**
BANI				⇓*e*Sg	**Sb**	**19 46 49.2**	**+0.9**
BANI				IAML		19 46 49.8	
	comp=E,173nm,0.3s						
BANI				IAML		19 46 52.3	
	comp=N,146nm,0.3s						
HIDR	**Higuey Centro**	**1.33**	**126**	*e*Pg	**Pn**	**19 46 37.7**	**+0.3**
HIDR				IAML		19 47 00.2	
	comp=N,227nm,0.2s						
HIDR				IAML		19 47 00.8	
	comp=E,133nm,0.2s						
LOPP1	**Punta Rusia, P**	**1.36**	**291**	*i* P	**Pn**	**19 46 36.5**	**-1.3**
LOPP1				IAML		19 46 57.9	
	comp=Z,65nm,0.8s						
SDDR	**Presa de Saban**	**1.42**	**254**	*e*Pg	**Pn**	**19 46 38.1**	**-0.6**
SDDR				⇓*e*Sg	**Sn**	**19 46 57.2**	**+0.3**
SDDR				IAML		19 47 00.3	
	comp=E,78nm,0.5s						
SDDR				IAML		19 47 00.4	
	comp=N,66nm,0.8s						
SDDR	**Presa de Saban**	**1.42**	**254**	*i* P	**Pn**	**19 46 38.0**	**-0.6**
SDDR				*e*S	**Sn**	**19 46 57.9**	**+0.9**
SDDR				IAML		19 47 00.9	
	comp=Z,57nm,0.3s						
LONE3	**El Aguacate, B**	**1.71**	**243**	*i* P	**Pn**	**19 46 43.6**	**+0.9**
LONE3				*e*S	**Sn**	**19 47 06.7**	**+2.4**
LONE3				IAML		19 47 11.4	
	comp=Z,32nm,0.4s						
PODR	**Polo**	**1.82**	**229**	*i* P	**Pn**	**19 46 45.7**	**+1.4**

IDC ***16*** *20:03:20.6±0.7,27˚56N×56˚57E,h0ᵏᵐ,mb4.0/22, mbtmp4.0/28,ML3.7/6,MS3.7/39,Error ellipse: s-maj=14.1km s-min=11.3km az=179.0*

DSN ***16*** *20:03:21.6±1.0,27˚88N×56˚48E,h15ᵏᵐ,ML4.3/11,Error ellipse: s-maj=15.8km s-min=7.5km az=78.0*

NEIC ***16*** *20:03:22.4±2.5,27˚60N±0˚07×56˚38E±0˚09,h10ᵏᵐ±1ᵏᵐ, mb4.3/41,Error ellipse: s-maj=14.2km s-min=11.5km az=54.0*

TEH ***16*** *20:03:23.2,27˚66N×56˚48E,h8ᵏᵐ±35ᵏᵐ*

THR ***16*** *20:03:24.2±0.0,27˚63N×56˚47E,h12ᵏᵐ±944ᵏᵐ,ML4.3*

OMAN ***16*** *20:03:28.8±0.1,27˚29N×56˚37E,h10ᵏᵐ,mb4.7/5, ml4.2/22,Error ellipse: s-maj=1.2km s-min=0.6km az=19.0*

ISC 16 20:03:23.6±0.4,27.64N±0.03×56.51E±0.03,h18ᵏᵐ,n218, σ1ᵍ98/216,mb4.2/46,MS3.6/41,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**0.20**	**171**	Pg	**Pg**	**20 03 27.2**	**-1.3**
IBND				Sg	**Sb**	**20 03 32.1**	**+0.6**
GENO	**Geno**	**0.38**	**231**	Pg	**Pg**	**20 03 31.2**	**-0.5**
KHNJ	**Kahnooj**	**1.10**	**74**	Pg	**Pb**	**20 03 44.3**	**+0.1**
SHME	**Shamm**	**1.62**	**192**	P	**Pn**	**20 03 53.5**	**+2.2**
	SNR=24						
SHME				S	**Sn**	**20 04 09.5**	**-2.2**
SHME	**Shamm**	**1.62**	**192**	*e*P	**Pn**	**20 03 52.6**	**+1.3**
	SNR=24						
SHME				S	**Sg**	**20 04 17.4**	**+1.4**
BANOM	**Banah**	**1.72**	**186**	P	**Pn**	**20 03 55.1**	**+2.4**
BANOM				S	**Sn**	**20 04 12.3**	**-2.0**
BANOM	**Banah**	**1.72**	**186**	*e*P	**Pn**	**20 03 54.0**	**+1.2**
	SNR=86						
BANOM				S	**Sb**	**20 04 18.8**	**+2.7**
LAR1	**LAR**	**1.89**	**271**	Pn	**Pn**	**20 03 57.1**	**+2.0**
NGRK	**Negar Kerman**	**2.00**	**6**	Pn	**Pn**	**20 03 59.0**	**+2.1**
KBAM	**BAM**	**2.27**	**49**	Pn	**Pb**	**20 04 03.2**	**-0.9**
MASF	**Masafi**	**2.29**	**188**	P	**Pn**	**20 04 03.4**	**+2.9**
MSFE	**Esma-Masafi**	**2.30**	**188**	*e*P	**Pn**	**20 04 02.3**	**+1.6**
	SNR=51						
KRBR	**Kerman**	**2.34**	**5**	Pn	**Pb**	**20 04 04.3**	**-1.1**
KRBR	**Kerman**	**2.34**	**5**	*e*Pn	**Pb**	**20 04 04.7**	**-0.8**
KRBR				IAML		20 04 54.3	
	comp=Z,4.0nm,1.0s						
MDH	**Madha**	**2.34**	**185**	P	**Pn**	**20 04 02.8**	**+1.5**
MDH	**Madha**	**2.34**	**185**	P	**Pn**	**20 04 02.1**	**+0.8**
CHMN	**Cheshme madani**	**2.39**	**22**	Pn	**Pb**	**20 04 05.6**	**-0.7**
UOSS	**Minazif**	**2.70**	**186**		**Pn**	**20 04 05.0**	**-1.2**
UOSS	**Minazif**	**2.70**	**186**	P	**Pn**	**20 04 08.7**	**+2.6**
UOSS	**Minazif**	**2.70**	**186**	*e*P	**Pn**	**20 04 07.5**	**+1.4**
	SNR=16						
KHGB	**Koh Gabri**	**2.72**	**359**	Pn	**Pn**	**20 04 09.6**	**+3.0**
JHRM	**Jahrom**	**2.73**	**289**	Pn	**Pn**	**20 04 08.8**	**+2.1**
NAZ	**Nazwa, Dubai**	**2.75**	**196**	*e*P	**Pn**	**20 04 09.2**	**+2.4**
	SNR=15						
HATD	**Hatta, Dubai**	**2.83**	**187**	P	**Pn**	**20 04 11.7**	**+3.8**
	SNR=29						
HATD	**Hatta, Dubai**	**2.83**	**187**	P	**Pn**	**20 04 10.0**	**+2.1**
KRM1	**Kerman Provinc**	**2.93**	**13**	Pn	**Pn**	**20 04 12.6**	**+3.1**
ASHO	**Ashiyiah**	**2.98**	**188**	P	**Pn**	**20 04 12.6**	**+2.7**
	SNR=27						
ASHO	**Ashiyiah**	**2.98**	**188**	*i* P	**Pn**	**20 04 12.0**	**+2.0**
	SNR=43						
LMD1	**Lamerd**	**2.98**	**265**	Pn	**Pn**	**20 04 12.7**	**+2.6**
LMD1	**Lamerd**	**2.98**	**265**	*e*Pn	**Pn**	**20 04 12.8**	**+2.7**
LMD1				IAML		20 05 45.9	
	comp=Z,4.2nm,1.0s						
FAQ	**Al Faqa, Dubai**	**3.00**	**196**	P	**Pn**	**20 04 13.1**	**+2.8**
	SNR=11						
FAQ	**Al Faqa, Dubai**	**3.00**	**196**	*i* P	**Pn**	**20 04 12.7**	**+2.4**
	SNR=11						
QIR1	**Qir**	**3.17**	**286**	Pn	**Pn**	**20 04 15.1**	**+2.4**
GHIR	**Ghir-Karzin**	**3.18**	**282**	*e*Pn	**Pn**	**20 04 16.4**	**+3.5**
GHIR				IAML		20 05 41.4	
	comp=Z,0.3nm,1.0s						
ASUD	**Al Ashush, Dub**	**3.19**	**200**	P	**Pn**	**20 04 15.8**	**+2.9**
	SNR=25						
ASUD	**Al Ashush, Dub**	**3.19**	**200**	*i* P	**Pn**	**20 04 15.6**	**+2.7**
	SNR=25						
ZRDN	**Zarand Kerman**	**3.31**	**0**	Pn	**Pn**	**20 04 17.8**	**+3.0**
AJN	**Ajban**	**3.36**	**204**	P	**Pn**	**20 04 18.0**	**+2.8**
SOHO	**SOHO**	**3.50**	**180**	P	**Pn**	**20 04 21.5**	**+4.4**
ALNE	**Al Ain**	**3.64**	**191**	P	**Pn**	**20 04 21.5**	**+2.4**
	SNR=20						
ALNE				S	**Sn**	**20 04 59.5**	**-2.1**
ALNE	**Al Ain**	**3.64**	**191**	*i* P	**Pn**	**20 04 21.0**	**+1.9**
	SNR=16						
IBAF	**Bafgh**	**4.02**	**348**	Pn	**Pn**	**20 04 26.5**	**+2.1**
SHI	**Shiraz**	**4.04**	**301**	Pn	**Pn**	**20 04 26.7**	**+2.1**
IMEH	**Mehriz**	**4.08**	**337**	Pn	**Pn**	**20 04 28.0**	**+2.6**
HOQ	**Hoqain**	**4.11**	**170**	P	**Pn**	**20 04 27.3**	**+1.7**
ZHSF	**Zahedan**	**4.23**	**61**	Pn	**Pn**	**20 04 30.5**	**+3.1**
ZHSF	**Zahedan**	**4.23**	**61**	*e*Pn	**Pn**	**20 04 30.8**	**+3.4**
ZHSF				IAML		20 05 49.5	
	comp=Z,0.4nm,1.0s						
ARQ	**Araqi**	**4.29**	**180**	P	**Pn**	**20 04 30.9**	**+2.8**
BIDO	**Bidbid**	**4.36**	**160**	P	**Pn**	**20 04 29.6**	**+0.6**
	SNR=8.7						
BIDO				S	**Sn**	**20 05 19.3**	**0.0**
MZWR	**Madinat Zayed**	**4.54**	**212**	P	**Pn**	**20 04 33.5**	**+2.1**
MZWR				S	**Sn**	**20 05 24.4**	**+0.8**
DSBU	**Dashti - Bushe**	**4.69**	**280**	Pn	**Pn**	**20 04 34.9**	**+1.3**
NGCH	**Negor - Chabah**	**4.73**	**118**	P	**Pn**	**20 04 37.0**	**+3.0**
NGCH	**Negor - Chabah**	**4.73**	**118**	Pn	**Pn**	**20 04 36.7**	**+2.6**
SMDO	**Samad**	**4.77**	**163**	P	**Pn**	**20 04 37.8**	**+3.0**
SMDO				S	**Sn**	**20 05 32.2**	**+2.4**
WSAR	**Wadi Sarin**	**4.79**	**156**	Pn	**Pn**	**20 04 34.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=339,slow=24,SNR=39						
WSAR				Sn	**Sn**	**20 05 29.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=226,slow=23,SNR=12						
WSAR	**Wadi Sarin**	**4.79**	**156**	P	**Pn**	**20 04 36.8**	**+1.9**
WSAR				S	**Sn**	**20 05 30.6**	**+0.7**
GHWR	**Ruwais**	**4.91**	**223**	P	**Pn**	**20 04 38.1**	**+1.6**
GHWR				S	**Sn**	**20 05 32.5**	**-0.5**
ICHK	**Chekchek**	**4.93**	**339**	Pn	**Pn**	**20 04 39.2**	**+2.1**
YZKH	**Yazd**	**5.01**	**341**	*i* P	**Pn**	**20 04 40.6**	**+2.5**
YZKH				IAML		20 06 37.2	
	comp=Z,0.2nm,1.0s						
UMZA	**Um Al Zommool**	**5.06**	**194**	P	**Pn**	**20 04 40.3**	**+1.7**
SRVN	**Saravan**	**5.24**	**91**	Pn	**Pn**	**20 04 44.2**	**+3.0**
SHMA	**Al-Shehemyia**	**5.27**	**252**	S	**Sn**	**20 05 43.8**	**+2.1**
TPRV	**Parvadeh(Tabas**	**5.37**	**2**	Pn	**Pn**	**20 04 45.6**	**+2.6**
MZR	**Muzera**	**5.37**	**211**	P	**Pn**	**20 04 45.9**	**+2.9**
MZR				S	**Sn**	**20 05 44.8**	**+0.5**
KLNJ	**Kolanjah**	**5.45**	**309**	Pn	**Pn**	**20 04 46.4**	**+2.1**
KLNJ	**Kolanjah**	**5.45**	**309**	*e*Pn	**Pn**	**20 04 47.8**	**+3.6**
KLNJ				IAML		20 06 56.9	
	comp=Z,0.4nm,1.0s						
JMDO	**Jabal Madar**	**5.45**	**164**	P	**Pn**	**20 04 46.5**	**+2.5**
JMDO				S	**Sn**	**20 05 49.5**	**+3.3**
IRAM	**Ramesheh**	**5.49**	**320**	Pn	**Pn**	**20 04 47.0**	**+2.4**
TRNA	**Turayna**	**5.57**	**240**	P	**Pn**	**20 04 47.2**	**+1.6**
	SNR=17						
TRNA				S	**Sn**	**20 05 50.9**	**+1.7**
SAKB	**Bahrain**	**5.59**	**254**	P	**Pn**	**20 04 48.8**	**+2.9**
SAKB				S	**Sn**	**20 05 51.6**	**+2.0**
SLWR	**Sila**	**5.61**	**232**	P	**Pn**	**20 04 47.6**	**+1.5**
SLWR				S	**Sn**	**20 05 50.2**	**0.0**
SMRA	**Abu-Samra**	**5.86**	**242**	P	**Pn**	**20 04 51.7**	**+2.0**
SMRA				S	**Sn**	**20 05 57.8**	**+1.4**
TKDS	**Koohdasht(Taba**	**5.97**	**5**	Pn	**Pn**	**20 04 54.1**	**+2.8**
TABS	**Tabas**	**6.01**	**5**	*e*Pn	Pn	20 04 56.7	+5.0
TABS				IAML		20 07 10.5	
	comp=Z,0.3nm,1.0s						
ANAR	**Anarak**	**6.03**	**337**	Pn	**Pn**	**20 04 53.2**	**+1.2**
NASN	**Na'in**	**6.05**	**329**	*e*Pn	**Pn**	**20 04 54.8**	**+2.3**
NASN				IAML		20 07 18.6	
	comp=Z,0.1nm,1.0s						
JLN	**Jalan Bani Buh**	**6.07**	**154**	P	**Pn**	**20 04 54.7**	**+2.2**
JLN				S	**Sn**	**20 05 59.7**	**-1.9**
IGAR	**Gharneh**	**6.12**	**322**	Pn	**Pn**	**20 04 55.3**	**+1.9**
TNSJ	**Nastanj**	**6.30**	**1**	Pn	**Pn**	**20 04 58.9**	**+3.1**
IZEF	**Zefreh**	**6.36**	**326**	Pn	**Pn**	**20 04 58.3**	**+1.6**
ZNGN	**Zangian**	**6.63**	**314**	Pn	**Pn**	**20 05 02.8**	**+2.3**
MHTO	**MHTO**	**6.76**	**168**	P	**Pn**	**20 05 03.5**	**+1.5**
	SNR=13						
MHTO				S	**Sn**	**20 06 18.2**	**-0.3**
SHRT	**Shahrakht**	**6.81**	**28**	*e*Pn	Pn	20 05 08.3	+5.6
SHRT				IAML		20 07 29.3	
	comp=Z,0.2nm,1.0s						
JHBN	**Jahan bin**	**6.83**	**313**	Pn	**Pn**	**20 05 05.2**	**+2.0**
IPIR	**Pirpir**	**6.99**	**317**	Pn	**Pn**	**20 05 07.2**	**+1.8**
IKLH	**Kolahrood**	**7.08**	**324**	Pn	**Pn**	**20 05 08.8**	**+2.2**
KRSH	**Karshahi**	**7.34**	**330**	Pn	**Pn**	**20 05 13.0**	**+2.9**
QAMS	**Qamsar**	**7.50**	**325**	Pn	**Pn**	**20 05 14.7**	**+2.3**
ISFB	**Sefidab**	**7.62**	**332**	Pn	**Pn**	**20 05 16.4**	**+2.5**
KHMZ	**Khomeyn**	**8.29**	**319**	*e*Pn	**Pn**	**20 05 24.9**	**+1.8**
IVRN	**Varamin**	**8.39**	**332**	Pn	**Pn**	**20 05 27.2**	**+2.8**
IQOM	**Qom**	**8.55**	**328**	Pn	**Pn**	**20 05 29.1**	**+2.8**
IFIR	**Firoozkooh**	**8.59**	**339**	Pn	**Pn**	**20 05 28.8**	**+1.5**
SBZV	**Sabzevar**	**8.77**	**6**	Pn	**Pn**	**20 05 32.2**	**+2.5**
IDMV	**Damavand**	**8.78**	**335**	Pn	**Pn**	**20 05 32.1**	**+2.1**
DOK	**Doka**	**9.25**	**194**	P	**Pn**	**20 05 36.7**	**+0.5**
DOK				S	**Sn**	**20 07 16.9**	**-2.9**
IPRN	**Peran**	**9.27**	**339**	Pn	**Pn**	**20 05 40.3**	**+3.8**
SHAO	**Shalim**	**9.61**	**185**	*i* P	**Pn**	**20 05 42.8**	**+1.7**
	SNR=5.9						
QABG	**Abgarm-Qazvin**	**9.97**	**325**	Pn	**Pn**	**20 05 48.4**	**+2.2**
DMTO	**DMTO**	**9.98**	**189**	P	**Pn**	**20 05 47.2**	**+0.9**
DMTO				S	**Sn**	**20 07 34.6**	**-3.2**
WHFO	**Wadi Hawf**	**10.00**	**195**	P	**Pn**	**20 05 47.2**	**+0.7**
	SNR=16						
WHFO				S	**Sn**	**20 07 36.1**	**-2.3**
ABTO	**Aybut**	**10.66**	**197**	P	**Pn**	**20 05 55.2**	**-0.4**
ABTO				S	**Sn**	**20 07 53.0**	**-1.6**
RAYN	**Ar Rayn**	**10.74**	**250**		**Pn**	**20 05 54.7**	**-2.0**
RAYN	**Ar Rayn**	**10.74**	**250**	P	**Pn**	**20 05 55.7**	**-1.0**
RAYN	**Ar Rayn**	**10.74**	**250**	*i* P	**Pn**	**20 05 54.9**	**-1.8**
	SNR=14						
KBL	**Kabul**	**12.75**	**54**	Pn	**Pn**	**20 06 23.7**	**-0.5**
SIMJ	**Simiganj**	**15.16**	**40**		**Pn**	**20 06 55.8**	**-1.2**
CHGR	**Chuyangaron**	**15.24**	**41**	Pn	**Pn**	**20 06 58.4**	**+0.4**
CHGR				IAmb	IAmb	20 07 08.1	
	comp=Z,18nm,1.4s						
NIL	**Nilore**	**15.60**	**63**		**Pn**	**20 07 02.6**	**0.0**
GNI	**Garni**	**15.82**	**325**		**Pn**	**20 07 06.8**	**+1.1**
GNI				IAmb	IAmb	20 07 32.0	
	comp=Z,12nm,0.8s						
GNI	**Garni**	**15.82**	**325**	Pn	**Pn**	**20 07 07.7**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=172,slow=21,SNR=3.0						
GNI				LR	LR	20 13 35.9	
	comp=Z,120nm,18.7s,baz=136,slow=39						
	comp=Z,4.4nm,0.5s						
GAR	**Garm**	**16.15**	**42**		**Pn**	**20 07 10.4**	**+0.6**
GAR				IAmb	IAmb	20 07 19.1	
	comp=Z,34nm,1.2s						
GURO	**Guroymak-BITLI**	**16.27**	**316**	P	**Pn**	**20 07 12.4**	**+1.0**
GURO				IAmb	IAmb	20 07 20.6	
	comp=Z,10nm,0.7s						
MARD	**Mardin**	**16.39**	**310**		**Pn**	**20 07 12.7**	**-0.1**
ASF	**Jabal al Asfar**	**17.59**	**290**	P	**Pn**	**20 07 29.3**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=124,slow=8.5,SNR=5.9						
ASF				S	**Sn**	**20 10 37.8**	**-5.7**
	comp=Z,2.7nm,0.8s,baz=303,slow=17,SNR=2.9						
ASF				LR	LR	20 15 59.8	
	comp=Z,312nm,19.3s,baz=123,slow=43						
	comp=Z,2.6nm,0.5s						
KOPT	**Kop Dagi**	**18.11**	**317**	Pn	**Pn**	**20 07 30.6**	**-4.0**
GAZ	**Gaziantep**	**18.83**	**305**	P	**P**	**20 07 38.1**	**-4.4**
MMAI	**Mount Meron Ar**	**18.98**	**292**	P	**P**	**20 07 45.1**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=105,slow=16,SNR=6.0						
MMAI				LR	LR	20 17 05.0	
	comp=Z,348nm,19.1s,baz=94,slow=43						
	comp=Z,3.3nm,0.7s						
EIL	**Elat**	**19.02**	**281**	P	**P**	**20 07 45.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=45,slow=8.1,SNR=7.0						
EIL				S	**S**	**20 11 21.1**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=350,slow=22,SNR=1.1						
EIL				LR	LR	20 17 15.2	
	comp=Z,366nm,19.1s,baz=166,slow=44						
	comp=Z,6.2nm,0.7s						
KK31	**Karatay Array**	**19.15**	**33**	P	**P**	**20 07 43.6**	**-2.3**
KKAR	**Karatay Array**	**19.15**	**33**		**P**	**20 07 43.0**	**-2.9**
ARSB	**Arslanbob**	**19.21**	**40**		**P**	**20 07 44.1**	**-2.6**
ARSB				IAmb	IAmb	20 08 04.2	
	comp=Z,16nm,1.3s						
KBZ	**Khabaz**	**19.45**	**329**	P	**P**	**20 07 50.3**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=164,slow=8.4,SNR=7.0						
	comp=Z,1.1nm,0.6s						
KVAR	**Kislovodsk Arr**	**19.71**	**329**	P	**P**	**20 07 51.4**	**-0.8**
	baz=45,slow=10.0						
	comp=Z,1.2nm,0.6s						
KIV	**Kislovodsk**	**19.72**	**329**		**P**	**20 07 52.1**	**-0.1**
KIV				IAmb	IAmb	20 08 05.4	
	comp=Z,12nm,0.6s						
KSH	**Kashi**	**20.03**	**49**	P	**P**	**20 07 53.1**	**-2.6**
KSH				pP	Pn	20 07 57.9	+0.4
KSH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KSH				LR	LR		
	comp=N,560nm,12.0s						
KSH				LR	LR		
	comp=E,320nm,10.7s						
KSH				LR	LR		
	comp=Z,290nm,12.4s						
ATD	**Arta Tunnel**	**20.52**	**221**	P	**P**	**20 08 00.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=306,slow=19,SNR=2.2						
ATD				LR	LR	20 16 49.2	
	comp=Z,9.9nm,18.3s,baz=44,slow=40						
BNN	**Bunyan**	**20.53**	**308**	P	**P**	**20 08 00.7**	**-0.4**
BNN				IAmb	IAmb	20 08 28.6	
	comp=Z,15nm,1.2s						
TOKA	**Tokat**	**20.82**	**313**	P	Pn	20 08 06.7	+0.1
TOKA				IAmb	IAmb	20 08 13.7	
	comp=Z,6.3nm,0.7s						
AAK	**Ala-Archa**	**20.91**	**40**	P	**P**	**20 08 06.0**	**+0.7**
AAK	**Ala-Archa**	**20.91**	**40**	P	**P**	**20 08 05.1**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=224,slow=7.7,SNR=6.9						
AAK				LR	LR	20 16 55.7	
	comp=Z,129nm,18.1s,baz=248,slow=39						
	comp=Z,2.7nm,0.6s						
AB31	**Akbulak array**	**21.74**	**6**		**P**	**20 08 13.5**	**-0.4**
AB31				IAmb	IAmb	20 08 31.1	
	comp=Z,11nm,0.8s						
ABKAR	**Akbulak array**	**21.74**	**6**		**P**	**20 08 13.4**	**-0.6**
BRTR	**Keskin Array B**	**22.45**	**308**		**P**	**20 08 22.8**	**+1.0**
BRTR	**Keskin Array B**	**22.45**	**308**	P	**P**	**20 08 23.2**	**+1.4**
	comp=Z,4.5nm,0.7s,baz=131,slow=13,SNR=27						
	comp=Z,4.5nm,0.7s						
BR131	**Keskin Array S**	**22.45**	**308**		**P**	**20 08 22.8**	**+1.0**
BR131				IAmb	IAmb	20 08 32.0	
	comp=Z,7.9nm,0.9s						
AKTO	**Aktyubinsk**	**22.79**	**2**	P	**P**	**20 08 25.8**	**+0.7**
	comp=Z,6.1nm,0.7s,baz=195,slow=7.5,SNR=16						
AKTO				LR	LR	20 18 54.3	
	comp=Z,220nm,20.0s,baz=26,slow=41						
	comp=Z,6.1nm,0.7s						
ILGA	**Ilgaz**	**23.00**	**311**	P	**P**	**20 08 24.6**	**-3.1**
ILGA				IAmb	IAmb	20 09 00.1	
	comp=Z,6.6nm,1.0s						
ANTO	**Ankara**	**23.10**	**308**	P	**P**	**20 08 27.6**	**-1.0**
ANTO				IAmb	IAmb	20 08 37.6	
	comp=Z,8.8nm,0.8s						
ELL	**Elmali**	**24.21**	**299**	P	**P**	**20 08 35.6**	**-3.8**
MDUB	**Mudurnu**	**24.47**	**308**		**P**	**20 08 39.3**	**-2.4**
FURI	**Furi**	**25.12**	**225**	LR	LR	20 19 53.8	
	comp=Z,270nm,18.2s,baz=44,slow=40						
BELG	**Belogornoye**	**25.60**	**347**	P	**P**	**20 08 52.0**	**+0.4**
	comp=Z,9.2nm,0.8s,baz=107,slow=8.7,SNR=4.4						
	comp=Z,9.2nm,0.8s						
MANT	**Manisa**	**25.71**	**302**	P	**P**	**20 08 49.0**	**-4.1**
MANT				IAmb	IAmb	20 09 30.5	
	comp=Z,5.7nm,0.8s						
BVAR	**Borovoye Array**	**27.37**	**18**	P	**P**	**20 09 08.4**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=203,slow=8.0,SNR=15						
BVAR				LR	LR	20 22 50.2	
	comp=Z,11nm,19.7s,baz=205,slow=43						
	comp=Z,2.5nm,0.6s						
MKAR	**Makanchi Array**	**27.85**	**40**	P	**P**	**20 09 09.6**	**-2.5**
MKAR	**Makanchi Array**	**27.85**	**40**	P	**P**	**20 09 11.6**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=229,slow=8.5,SNR=7.7						
MKAR				LR	LR	20 21 31.5	
	comp=Z,113nm,20.5s,baz=240,slow=39						
	comp=Z,0.4nm,0.4s						
ALN	**Alexandroupoli**	**28.28**	**306**	P	**P**	**20 09 13.2**	**-2.7**
KURBB	**Kurchatov Arra**	**28.40**	**30**	P	**P**	**20 09 16.6**	**-0.3**
	comp=Z,2.9nm,0.2s,baz=228,slow=8.6,SNR=8.5						
KURBB				LR	LR	20 20 25.2	
	comp=Z,61nm,20.5s,baz=190,slow=36						
	comp=Z,2.9nm,0.2s						
KURK	**Kurchatov**	**28.51**	**30**	P	**P**	**20 09 16.6**	**-1.2**
ARTI	**Arti**	**28.76**	**2**	P	**P**	**20 09 20.9**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=252,slow=6.4,SNR=1.8						
ARTI				LR	LR	20 21 42.6	
	comp=Z,111nm,18.1s,baz=170,slow=38						
	comp=Z,0.4nm,0.3s						
WMQ	**Urumqi**	**29.80**	**49**	*e*P	**P**	**20 09 29.6**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,56nm,1.3s						
WMQ				LR	LR		
	comp=Z,310nm,23.1s						
AKASG	**Malin Array Be**	**30.96**	**325**	P	**P**	**20 09 40.0**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=132,slow=8.2,SNR=15						
AKASG				LR	LR	20 24 52.6	
	comp=Z,75nm,20.0s,baz=141,slow=42						
	comp=Z,2.1nm,0.5s						
AKBB	**Malin Array Si**	**30.96**	**325**		**P**	**20 09 39.7**	**+0.2**
KIEV	**Kiev**	**30.96**	**325**		**P**	**20 09 39.6**	**+0.1**
KIRV	**Kirov**	**31.32**	**353**	LR	LR	20 25 03.0	
	comp=Z,170nm,18.5s,baz=170,slow=42						
FNA	**Florina**	**31.65**	**304**	IAmb	IAmb	20 09 49.3	
	comp=Z

HFS				LR	LR	20 32 56.8	
	comp=Z,62nm,20.3s,baz=130,slow=41 comp=Z,2.1nm,0.5s						
NOA	**NORSAR Array B**	**45.02**	**331**	P	**P**	**20 11 38.1**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=116,slow=7.9,SNR=5.7						
NOA				LR	LR	20 33 31.8	
	comp=Z,54nm,18.2s,baz=15,slow=40 comp=Z,1.6nm,0.8s						
ARCES	**ARCESS Array B**	**45.62**	**345**	P	**P**	**20 11 43.2**	**+0.8**
	comp=Z,4.2nm,1.2s,baz=148,slow=8.1,SNR=8.9						
ARCES				LR	LR	20 34 37.9	
	comp=Z,90nm,19.3s,baz=39,slow=41 comp=Z,4.2nm,1.2s						
TAM	**Tamanrasset**	**46.12**	**276**	P	P	20 11 43.5	-3.7
HHC	**Hu-ho-hao-te**	**46.67**	**59**	*eP*	**P**	**20 11 50.3**	**-1.1**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,70nm,4.1s						
EKA	**Eskdalemuir Ar**	**50.60**	**320**	P	**P**	**20 12 21.7**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=98,slow=7.8,SNR=1.4 comp=Z,0.2nm,0.4s						
ESDC	**Sonseca Array**	**50.88**	**300**	P	**P**	**20 12 23.6**	**0.0**
	comp=Z,0.2nm,0.4s,baz=56,slow=7.2,SNR=9.0						
ESDC				LR	LR	20 38 04.6	
	comp=Z,34nm,18.1s,baz=73,slow=41 comp=Z,0.2nm,0.4s						
MDT	**Midelt**	**52.43**	**292**	LR	LR	20 40 13.1	
	comp=Z,43nm,18.5s,baz=72,slow=42						
MD01	**Midelt array s**	**52.54**	**292**	P	**P**	**20 12 36.2**	**0.0**
TORD	**Torodi Ar. Bea**	**52.97**	**266**		**P**	**20 12 37.9**	**-1.5**
TORD	**Torodi Ar. Bea**	**52.97**	**266**	P	**P**	**20 12 39.5**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=54,slow=8.0,SNR=22						
TORD				LR	LR	20 38 06.6	
	comp=Z,180nm,18.6s,baz=360,slow=39 comp=Z,2.7nm,0.7s						
MATP	**Matopo**	**54.94**	**213**	LR	LR	20 37 02.8	
	comp=Z,90nm,18.7s,baz=45,slow=37						
TIXI	**Tiksi**	**58.47**	**21**	LR	LR	20 39 38.3	
	comp=Z,48nm,18.5s,baz=248,slow=37						
TSUM	**Tsumeb**	**59.91**	**223**	LR	LR	20 41 02.6	
	comp=Z,92nm,20.1s,baz=37,slow=38						
BORG	**Borgarnes**	**60.19**	**331**	LR	LR	20 43 41.4	
	comp=Z,40nm,19.0s,baz=68,slow=40						
LBTB	**Lobatse**	**60.23**	**212**	LR	LR	20 40 04.3	
	comp=Z,62nm,18.3s,baz=39,slow=37						
DBIC	**Dimbokro**	**61.60**	**262**	LR	LR	20 43 07.8	
	comp=Z,52nm,21.2s,baz=108,slow=39						
BOSA	**Boshof**	**63.45**	**211**	P	**P**	**20 13 51.5**	**-1.1**
	comp=Z,5.0nm,1.2s,baz=0.0,slow=8.1,SNR=1.6						
BOSA				LR	LR	20 42 41.7	
	comp=Z,51nm,18.6s,baz=7.0,slow=37 comp=Z,5.0nm,1.2s						
MJAR	**Matsushiro Arr**	**67.87**	**59**	LR	LR	20 45 54.3	
	comp=Z,35nm,19.2s,baz=316,slow=38						
SFJD	**Kangerlussuaq**	**71.23**	**337**	LR	LR	20 47 00.3	
	comp=Z,32nm,19.4s,baz=44,slow=37						
FRB	**Frobisher Bay**	**79.23**	**338**	LR	LR	20 51 08.7	
	comp=Z,23nm,21.9s,baz=338,slow=36						
SCHQ	**Schefferville**	**84.59**	**331**	LR	LR	20 53 46.1	
	comp=Z,396nm,19.9s,baz=81,slow=36						
WRA	**Warramunga Arr**	**88.89**	**113**	P	**P**	**20 16 16.4**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=306,slow=4.6,SNR=9.7 comp=Z,0.3nm,0.8s						
YKA	**Yellowknife Ar**	**89.90**	**356**	LR	LR	21 01 11.7	
	comp=Z,24nm,19.8s,baz=358,slow=39						
ASAR	**Alice Springs**	**90.39**	**117**	P	**P**	**20 16 23.6**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=316,slow=5.4,SNR=0.9 comp=Z,0.1nm,0.4s						
DLBC	**Dease Lake**	**94.08**	**3**	LR	LR	21 00 56.6	
	comp=Z,283nm,21.6s,baz=222,slow=37						
SADO	**Sadowa**	**97.35**	**330**	LR	LR	21 03 32.5	
	comp=Z,238nm,19.4s,baz=334,slow=37						

IDC 16 20:24:25.4±1.6, 39°.94N×143°.64E, h0km, mb3.4/2, mbtmp3.4/4, ML2.8/2, MS3.5/2, Error ellipse: s-maj=44.1km s-min=26.3km az=130.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**5.46**	**233**	Pn	Pn	20 25 49.0	+0.9
	0.2nm,0.3s,baz=124,slow=9.4,SNR=9.5						
MJAR				Sn	Sn	20 26 52.5	+0.9
	baz=138,slow=12 0.6nm,0.4s						
USRK	**Ussuriysk Ar.**	**9.65**	**300**	Pn	Pn	20 26 45.1	-0.4
	0.2nm,0.3s,baz=100,slow=7.9,SNR=4.0 2.9nm,0.7s						
ILAR	**Eielson Array**	**46.11**	**34**	P	P	20 32 50.9	0.0
	0.5nm,0.8s,baz=270,slow=7.3,SNR=4.4 0.5nm,0.8s						
INK	**Inuvik**	**51.00**	**28**	LR	LR	20 58 32.1	
	comp=Z,32nm,18.6s,baz=309,slow=40						
WRA	**Warramunga Arr**	**60.20**	**190**	P	P	20 34 34.8	-0.4
	0.2nm,0.6s,baz=3.7,slow=7.2,SNR=4.5 0.2nm,0.6s						
FINES	**FINESS Array B**	**67.05**	**332**	LR	LR	21 09 30.5	
	comp=Z,53nm,18.7s,baz=28,slow=40						

*IDC **16** 20:32:49.6±0.7, 56°.29N×162°.83E, h0km, mb3.9/17, mbtmp3.9/19, ML3.6/2, MS3.3/5, Error ellipse: s-maj=21.0km s-min=14.3km az=140.0*
*KRSC **16** 20:32:51.0±1.0, 56°.14N×163°.15E, h20km±8km, Ml4.6, Felt [III-IV] at HMS cape Afrika; [II-III] at cape Afrika.*
*MOS **16** 20:32:51.2±0.9, 56°.28N×163°.13E, h20km, mb4.3/1, Error ellipse: s-maj=10.1km s-min=4.8km az=59.8*
*NEIC **16** 20:32:52.0±2.0, 56°.5N±0°.1×162°.4E±0°.2, h10km±2km, mb4.3/13, Error ellipse: s-maj=26.7km s-min=15.1km az=133.0*

ISC 16 20:32:52.2±0.9, 56°.23N±0°.03×163°.00E±0°.03, h18km±3km, n123, σ1s61/149, mb4.0/24, MS3.4/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.10**	**257**	Pn	**Pg**	**20 32 56.1**	**+0.3**
KBTR	**Krutoberegovo**	**0.10**	**257**	*eP*	**Pg**	**20 32 56.2**	**+0.3**
SMKR	**Semkarok**	**0.92**	**293**	Pn	**Pb**	**20 33 09.3**	**-0.3**
SMKR				S	**Sg**	**20 33 22.7**	**+0.5**
SMKR	**Semkarok**	**0.92**	**293**	*eP*	**Pb**	**20 33 09.3**	**-0.3**
SMKR				*eS*	**Sg**	**20 33 22.8**	**+0.5**
ZLN	**Zelenaya**	**1.25**	**261**	PN	**Pb**	**20 33 15.3**	**+0.1**
ZLN	**Zelenaya**	**1.25**	**261**	*eP*	**Pb**	**20 33 15.4**	**+0.1**
CIRR	**Tsirk**	**1.27**	**266**	PN	**Pn**	**20 33 15.4**	**+0.4**
CIRR				S	**Sg**	**20 33 33.2**	**0.0**
CIRR	**Tsirk**	**1.27**	**266**	*eP*	**Pn**	**20 33 15.4**	**+0.4**
CIRR				*eS*	**Sg**	**20 33 33.2**	**0.0**
LGNR	**Loginova**	**1.30**	**264**	*eS*	**Sg**	**20 33 34.4**	**+0.1**
KLY	**Klyuchi**	**1.31**	**275**	PN	**Pn**	**20 33 13.7**	**-1.8**
KLY				S	**Sn**	**20 33 30.4**	**-2.1**
KLY	**Klyuchi**	**1.31**	**275**	*eP*	**Pn**	**20 33 13.8**	**-1.8**
KLY				*eS*	**Sn**	**20 33 30.5**	**-2.1**
BZGR	**Bezymyannyi-Gr**	**1.32**	**258**	PN	**Pn**	**20 33 16.2**	**+0.4**
BZGR				S	**Sb**	**20 33 34.3**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**1.32**	**258**	*eP*	**Pn**	**20 33 16.2**	**+0.4**
BZGR				*eS*	**Sb**	**20 33 34.4**	**+1.1**
BZP	**Bezymyannyi-Pe**	**1.42**	**258**	PN	**Pn**	**20 33 17.2**	**+0.1**
BZP				S	**Sb**	**20 33 36.8**	**+0.9**
BZP	**Bezymyannyi-Pe**	**1.42**	**258**	*eP*	**Pn**	**20 33 17.3**	**+0.1**
BZP				*eS*	**Sb**	**20 33 36.9**	**+0.9**
BZWR	**Bezymyannyi-We**	**1.43**	**260**	PN	**Pn**	**20 33 17.8**	**+0.5**
BZWR				S	**Sg**	**20 33 37.9**	**-0.5**
BZWR	**Bezymyannyi-We**	**1.43**	**260**	*eP*	**Pn**	**20 33 17.8**	**+0.5**
BZWR				*eS*	**Sg**	**20 33 37.9**	**-0.5**
BZMR	**Bezymyannaya**	**1.44**	**259**	PN	**Pn**	**20 33 17.9**	**+0.5**
BZMR				S	**Sb**	**20 33 37.9**	**+1.4**
BZMR	**Bezymyannaya**	**1.44**	**259**	*eP*	**Pn**	**20 33 18.0**	**+0.5**
BZMR				*eS*	**Sb**	**20 33 37.9**	**+1.4**
KPT	**Kopyto**	**1.58**	**261**	PN	**Pn**	**20 33 19.9**	**+0.6**
KPT				S	**Sb**	**20 33 41.4**	**+0.9**
KPT	**Kopyto**	**1.58**	**261**	*eP*	**Pn**	**20 33 20.0**	**+0.6**
KPT				*eS*	**Sb**	**20 33 41.4**	**+0.9**
KMNR	**Kamenistaya**	**1.62**	**254**	PN	**Pn**	**20 33 20.5**	**+0.6**
KMNR				S	**Sb**	**20 33 42.4**	**+0.6**
KMNR	**Kamenistaya**	**1.62**	**254**	*eP*	**Pn**	**20 33 20.6**	**+0.6**
KMNR				*eS*	**Sb**	**20 33 42.4**	**+0.6**
KOZ	**Kozyrevsk**	**1.76**	**266**	PN	**Pb**	**20 33 23.2**	**-0.6**
KOZ				S	**Sb**	**20 33 47.3**	**+1.7**
KOZ	**Kozyrevsk**	**1.76**	**266**	*eP*	**Pb**	**20 33 23.3**	**-0.6**
KOZ				*eS*	**Sb**	**20 33 47.4**	**+1.7**
TUMD	**Tumrok D**	**1.80**	**236**	PN	**Pn**	**20 33 22.9**	**+0.7**
TUMD				S	**Sb**	**20 33 47.1**	**+0.4**
TUMD	**Tumrok D**	**1.80**	**236**	*eP*	**Pn**	**20 33 22.9**	**+0.7**
TUMD				*eS*	**Sb**	**20 33 47.2**	**+0.4**
MKZ	**Mys Kozlova**	**1.83**	**204**	PN	**Pn**	**20 33 22.5**	**-0.1**
MKZ				S	**Sb**	**20 33 46.9**	**-0.6**
MKZ	**Mys Kozlova**	**1.83**	**204**	*eP*	**Pn**	**20 33 22.5**	**-0.1**
MKZ				*eS*	**Sb**	**20 33 46.9**	**-0.6**
SRDR	**Sredinnyy**	**1.83**	**274**	PN	**Pn**	**20 33 24.1**	**+1.3**
SRDR				S	**Sb**	**20 33 48.6**	**+0.8**
SRDR	**Sredinnyy**	**1.83**	**274**	*eP*	**Pn**	**20 33 24.1**	**+1.3**
SRDR				*eS*	**Sb**	**20 33 48.6**	**+0.8**
BKI	**Bering**	**1.97**	**120**	PN	**Pn**	**20 33 23.7**	**-0.8**
BKI				S	**Sn**	**20 33 48.7**	**0.0**
BKI	**Bering**	**1.97**	**120**	*eP*	**Pn**	**20 33 23.7**	**-0.8**
BKI				*eS*	**Sn**	**20 33 48.8**	**0.0**
KII	**Karymskiy**	**3.00**	**224**	PN	**Pn**	**20 33 40.3**	**+1.5**
KII	**Karymskiy**	**3.00**	**224**	*eP*	**Pn**	**20 33 40.3**	**+1.5**
OSSR	**Ossora**	**3.03**	**1**	PN	**Pn**	**20 33 40.2**	**+1.2**
OSSR	**Ossora**	**3.03**	**1**	*eP*	**Pn**	**20 33 40.3**	**+1.2**
PALN	**Palana**	**3.30**	**332**	PN	**Pb**	**20 33 49.7**	**-0.3**
PALN	**Palana**	**3.30**	**332**	*eP*	**Pb**	**20 33 49.7**	**-0.3**
SPN	**Mys Shipunski**	**3.58**	**210**	PN	**Pn**	**20 33 46.8**	**+0.1**
SPN	**Mys Shipunski**	**3.58**	**210**	*eP*	**Pn**	**20 33 46.9**	**+0.1**
SPN				*eS*	**Sn**	**20 34 27.2**	**-1.4**
NLC	**Nalytchevo**	**3.73**	**216**	PN	**Pn**	**20 33 50.4**	**+1.7**
NLC	**Nalytchevo**	**3.73**	**216**	*eP*	**Pn**	**20 33 50.4**	**+1.7**
NLC				*eS*	**Sn**	**20 34 33.7**	**+1.6**
SDLR	**Sedlovina**	**3.80**	**221**	PN	**Pn**	**20 33 51.6**	**+1.8**
SDLR	**Sedlovina**	**3.80**	**221**	*eP*	**Pn**	**20 33 51.6**	**+1.8**
KRX	**Arik**	**3.83**	**223**	PN	**Pn**	**20 33 52.3**	**+2.1**
KRX	**Arik**	**3.83**	**223**	*eP*	**Pn**	**20 33 52.4**	**+2.1**
SMAR	**Somma**	**3.84**	**221**	PN	**Pn**	**20 33 52.3**	**+1.8**
SMAR	**Somma**	**3.84**	**221**	*eP*	**Pn**	**20 33 52.4**	**+1.8**
AVH	**Avacha**	**3.87**	**221**	PN	**Pn**	**20 33 52.9**	**+2.2**
AVH	**Avacha**	**3.87**	**221**	*eP*	**Pn**	**20 33 52.9**	**+2.2**
GNL	**Ganaly**	**3.87**	**231**	PN	**Pn**	**20 33 52.6**	**+1.8**
GNL	**Ganaly**	**3.87**	**231**	*eP*	**Pn**	**20 33 52.7**	**+1.8**
UGLR	**Uglovaya**	**3.88**	**220**	PN	**Pn**	**20 33 52.8**	**+1.9**
UGLR	**Uglovaya**	**3.88**	**220**	*eP*	**Pn**	**20 33 52.9**	**+1.9**
KOK	**Koryaka**	**3.88**	**222**	PN	**Pn**	**20 33 53.9**	**+3.0**
KOK	**Koryaka**	**3.88**	**222**	*eP*	**Pn**	**20 33 54.0**	**+3.0**
DALK	**Dalny**	**4.05**	**219**	PN	**Pn**	**20 33 55.0**	**+1.9**
DALK	**Dalny**	**4.05**	**219**	*eP*	**Pn**	**20 33 55.1**	**+1.9**
PET	**Petropavlovsk**	**4.09**	**220**		**Pn**	**20 33 53.0**	**-0.7**
PET				Sn	**Sn**	**20 34 44.1**	**+3.1**
PEA0B	**Petropavlovsk-**	**4.39**	**227**		**Pn**	**20 33 60.0**	**+2.1**
PEA0B	**Petropavlovsk-**	**4.39**	**227**	PN	**Pn**	**20 33 59.9**	**+2.1**
PETK	**Petropavlovsk-**	**4.39**	**227**		**Pn**	**20 33 58.8**	**+1.0**
PETK	**Petropavlovsk-**	**4.39**	**227**	Pn	**Pn**	**20 33 59.0**	**+1.1**
	2.9nm,0.3s,baz=61,slow=17,SNR=88						
PETK				Sn	**Sn**	**20 34 51.2**	**+2.7**
	2.5nm,0.3s,baz=84,slow=21,SNR=3.7 5.8nm,0.4s						
PETK	**Petropavlovsk-**	**4.39**	**227**	PN	**Pn**	**20 33 59.0**	**+1.1**
KRMR	**Karymshinskiy**	**4.43**	**222**	PN	**Pn**	**20 34 00.8**	**+2.4**
KRMR	**Karymshinskiy**	**4.43**	**222**	*eP*	**Pn**	**20 34 00.9**	**+2.4**
TILK	**Tilichiki**	**4.54**	**20**	PN	**Pn**	**20 34 02.3**	**+2.5**
TILK	**Tilichiki**	**4.54**	**20**	*eP*	**Pn**	**20 34 02.4**	**+2.5**
GRL	**Gorelyy**	**4.68**	**220**	PN	**Pn**	**20 34 05.5**	**+3.6**
GRL	**Gorelyy**	**4.68**	**220**	*eP*	**Pn**	**20 34 05.5**	**+3.6**
MTVR	**Mutnovka**	**4.70**	**219**	PN	**Pn**	**20 34 04.9**	**+2.7**
MTVR	**Mutnovka**	**4.70**	**219**	*eP*	**Pn**	**20 34 04.9**	**+2.7**
APC	**Apacha**	**4.75**	**228**	PN	**Pn**	**20 34 07.3**	**+4.6**
APC	**Apacha**	**4.75**	**228**	*eP*	**Pn**	**20 34 07.4**	**+4.6**
ASAK	**Asacha**	**4.88**	**220**	PN	**Pn**	**20 34 07.3**	**+2.7**
ASAK	**Asacha**	**4.88**	**220**	*eP*	**Pn**	**20 34 07.3**	**+2.7**
MA2	**Magadan**	**7.33**	**302**	LR	LR	20 37 43.5	
	comp=Z,124nm,19.6s,baz=127,slow=41						
JKA	**Kamikawa-asahi**	**17.74**	**235**	Pn	**Pn**	**20 36 55.1**	**-2.9**
JKA				lAmb	lAmb	20 37 09.9	
	comp=Z,40nm,1.4s						
ASAJ	**Asahikawa**	**17.74**	**235**	P	**P**	**20 36 58.9**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=86,slow=10,SNR=7.2 comp=Z,6.7nm,0.6s						
K15K	**Wolf Creek Mou**	**18.93**	**57**	P	**Pn**	**20 37 15.1**	**+2.8**
ERM	**Erimo**	**19.16**	**230**	P	**P**	**20 37 13.7**	**-0.6**
ERM	**Erimo**	**19.16**	**230**	P	**P**	**20 37 13.7**	**-0.6**
ERM				pmax	pmax		
	comp=Z,52nm,1.1s						
S12K	**Black Hills**	**19.44**	**77**	P	**Pn**	**20 37 20.8**	**+2.2**
F19K	**Shaleruckik Mo**	**21.09**	**44**	P	**P**	**20 37 36.5**	**+1.4**
F19K				lAmb	lAmb	20 37 47.1	
	comp=Z,8.1nm,0.8s						
H19K	**Roundabout Mou**	**21.42**	**48**	P	**P**	**20 37 41.0**	**+2.3**
J19K	**Poorman**	**21.67**	**52**	P	**P**	**20 37 42.4**	**+1.0**
J19K				lAmb	lAmb	20 38 08.1	
	comp=Z,18nm,1.4s						
D20K	**Etivluk River**	**21.94**	**39**	P	**P**	**20 37 45.1**	**+0.9**
D20K				lAmb	lAmb	20 37 54.8	
	comp=Z,14nm,1.0s						
TOLK	**Toolik Lake Re**	**24.45**	**41**	P	**P**	**20 38 12.0**	**+2.4**
E24K	**Your Creek**	**24.80**	**42**	P	**P**	**20 38 14.3**	**+1.6**
E24K				lAmb	lAmb	20 38 22.4	
	comp=Z,7.5nm,0.8s						
G24K	**Hadweenzic Riv**	**25.14**	**45**	P	**P**	**20 38 17.3**	**+1.6**
G24K				lAmb	lAmb	20 38 24.1	
	comp=Z,7.4nm,0.8s						
ILAR	**Eielson Array**	**25.45**	**50**	P	**P**	**20 38 17.7**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=266,slow=8.7,SNR=8.6 comp=Z,0.9nm,0.6s						
MJAR	**Matsushiro Arr**	**25.84**	**231**	P	**P**	**20 38 21.3**	**-1.0**
	comp=Z,2.5nm,0.8s,baz=30,slow=8.6,SNR=6.2 comp=Z,2.5nm,0.8s						
BMAR	**Burnt Mountain**	**26.27**	**44**	P	**P**	**20 38 28.0**	**+2.1**
EGAK	**Eagle**	**27.88**	**49**	P	**P**	**20 38 40.2**	**-0.2**
KSRS	**Korea Array**	**30.00**	**246**	P	**P**	**20 38 58.4**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=344,slow=13,SNR=1.8 comp=Z,0.7nm,0.5s						
SONM	**Songino Array**	**34.91**	**281**	P	**P**	**20 39 42.0**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=305,slow=33,SNR=3.0 comp=Z,1.1nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**36.56**	**174**	T	T	21 18 45.4	
	baz=357,slow=76,SNR=600						
H11N3	**WAKE ISLAND Hy**	**36.58**	**174**	T	T	21 18 46.6	
	baz=357,slow=76,SNR=670						
H11N1	**WAKE ISLAND Hy**	**36.58**	**174**	T	T	21 18 48.4	
	baz=357,slow=76,SNR=440						
GTA	**Gaotai**	**43.97**	**275**	P	**P**	**20 40 57.5**	**-0.6**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SPITS	**Spitsbergen Ar**	**44.31**	**351**	P	**P**	**20 41 00.0**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=352,slow=8.7,SNR=5.6 comp=Z,2.0nm,0.5s						
KURK	**Kurchatov**	**47.54**	**301**	P	**P**	**20 41 25.5**	**-0.5**
KURBB	**Kurchatov Arra**	**47.64**	**301**	P	**P**	**20 41 25.5**	**-1.2**
	comp=Z,2.2nm,0.2s,baz=53,slow=7.8,SNR=4.4						
KURBB				LR	LR	21 02 46.1	
	comp=Z,33nm,18.0s,baz=169,slow=38 comp=Z,2.2nm,0.2s						
MKAR	**Makanchi Array**	**48.34**	**295**	P	**P**	**20 41 29.4**	**-2.9**
MKAR	**Makanchi Array**	**48.34**	**295**	P	**P**	**20 41 30.8**	**-1.5**
	comp=Z,1.2nm,0.6s,baz=57,slow=6.4,SNR=13 comp=Z,1.2nm,0.6s						
BVAR	**Borovoye Array**	**49.78**	**308**	P	**P**	**20 41 43.1**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=61,slow=6.8,SNR=3.0 comp=Z,0.6nm,0.5s						
ARTI	**Arti**	**52.33**	**317**	LR	LR	21 07 19.8	
	comp=Z,52nm,19.3s,baz=186,slow=40						
PDAR	**Pinedale Array**	**54.58**	**65**	P	**P**	**20 42 19.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=290,slow=8.2,SNR=2.0 comp=Z,0.4nm,0.4s						
KK31	**Karatay Array**	**56.84**	**299**	P	**P**	**20 42 32.9**	**-2.3**
KK31				lAmb	lAmb	20 42 34.8	
	comp=Z,3.1nm,0.8s						
KK31	**Karatay Array**	**56.84**	**299**	P	**P**	**20 42 32.9**	**-2.3**
KKAR	**Karatay Array**	**56.84**	**299**	P	**P**	**20 42 33.0**	**-2.2**
KKAR	**Karatay Array**	**56.84**	**299**	P	**P**	**20 42 33.0**	**-2.2**
FINES	**FINESS Array B**	**57.89**	**337**	P	**P**	**20 42 43.5**	**+1.1**
	comp=Z,2.4nm,1.0s,baz=27,slow=6.4,SNR=4.6 comp=Z,2.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**60.47**	**259**	P	**P**	**20 43 00.6**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=38,slow=5.9,SNR=2.3						
CMAR				LR	LR	21 14 13.1	
	comp=Z,17nm,19.3s,baz=205,slow=41 comp=Z,0.5nm,0.7s						
NOA	**NORSAR Array B**	**60.98**	**345**	P	**P**	**20 43 03.4**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=17,slow=6.6,SNR=1.8 comp=Z,0.5nm,0.5s						
AKASG	**Malin Array Be**	**66.76**	**330**	P	**P**	**20 43 41.4**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=29,slow=6.7,SNR=2.9 comp=Z,0.3nm,0.3s						
TXAR	**Lajitas Array**	**67.91**	**70**	P	**P**	**20 43 51.6**	**+2.0**
	comp=Z,1.4nm,0.6s,baz=298,slow=4.1,SNR=24 comp=Z,1.4nm,0.6s						
KAPI	**Kappang**	**70.54**	**226**	LR	LR	21 21 14.0	
	comp=Z,26nm,18.0s,baz=7.5,slow=41						
WRA	**Warramunga Arr**	**79.65**	**207**	P	**P**	**20 44 57.8**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=15,slow=6.0,SNR=2.2 comp=Z,0.4nm,0.9s						
ASAR	**Alice Springs**	**83.32**	**207**	P	**P**	**20 45 18.2**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=19,slow=4.9,SNR=5.0 comp=Z,0.4nm,0.7s						
ESDC	**Sonseca Array**	**83.82**	**350**	P	**P**	**20 45 20.2**	**0.0**
	comp=Z,0.2nm,0.5s,baz=354,slow=6.0,SNR=4.5 comp=Z,0.2nm,0.5s						
QSPA	**South Pole Qui**	**145.99**	**180**	PKPbc	**PKPbc**	**20 52 29.1**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=296,slow=2.0,SNR=9.6						

IDC 16 20:36:45.4±1.3, 1°.96N×127°.19E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=39.2km s-min=24.5km az=82.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**21.39**	**246**	P	P	20 41 35.6	+0.5
	7.6nm,0.3s,baz=79,slow=5.2,SNR=3.8 7.6nm,0.3s						
WRA	**Warramunga Arr**	**22.87**	**162**	P	P	20 41 49.1	-1.6
	0.6nm,0.6s,baz=344,slow=11,SNR=6.8 0.6nm,0.6s						
ASAR	**Alice Springs**	**26.29**	**166**	P	P	20 42 24.1	+1.2
	0.1nm,0.3s,baz=347,slow=10,SNR=2.4 0.1nm,0.3s						
PETK	**Petropavlovsk-**	**56.90**	**21**	P	P	20 46 33.2	+1.1
	1.7nm,0.5s,baz=218,slow=1.7,SNR=4.1 1.7nm,0.5s						
MKAR	**Makanchi Array**	**59.27**	**326**	P	P	20 46 47.6	-1.3
	0.3nm,0.8s,baz=121,slow=6.9,SNR=2.3 0.3nm,0.8s						

*SNET **16** 20:52:25.6±0.9, 12°.60N×88°.05W, h49km, ML3.4*
*CATAC **16** 20:52:25.5±0.5, 13°N±3°×8°8W±°, h35km±7km, M4.2/21, mb4.7/1, mB5.6/1, MLv4.0/21, Mw(mB)5.1/1, Error ellipse: s-maj=6.8km s-min=2.2km az=25.0, confirmed*
*UCR **16** 20:52:27.6±1.2, 12°.54N×87°.84W, h22km±21km, MW4.0*

ISC 16 20:52:26.0±1.7, 12°.58N±0°.05×88°.04W±0°.03, h34km±3km, n63, σ0s76/62, 1C-12D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.72**	**16**	*eP*	**Pb**	**20 52 39.7**	**-0.6**
CNCH				*eS*	**Sn**	**20 52 50.8**	**+1.0**
LCND	**La Caada**	**0.74**	**12**	*eP*	**Pb**	**20 52 39.7**	**-0.8**
LCND				*eS*	**Sn**	**20 52 51.4**	**+1.3**
LCND	**La Caada**	**0.74**	**12**	P	**Pb**	**20 52 40.0**	**-0.5**
BLLM	**Bellamira**	**0.88**	**347**	*eP*	**Pn**	**20 52 41.6**	**-0.4**
PACA	**Pacayal**	**0.92**	**343**	S	**Sn**	**20 52 55.3**	**+0.5**
PACA	**Pacayal**	**0.92**	**343**	⇑P	**Pn**	**20 52 42.4**	**-0.3**
CRIN	**San Cristobal**	**0.97**	**83**	*eP*	**Pn**	**20 52 43.4**	**0.0**
CRIN				*eS*	**Sb**	**20 52 58.2**	**+1.0**
PKGN	**Cerro Pekin**	**1.04**	**85**	⇓P	**Pn**	**20 52 43.8**	**-0.5**
PKGN				S	**Sn**	**20 52 58.3**	**+0.7**
TECO	**Alcaldia de Te**	**1.19**	**323**	*eP*	Pn	20 52 45.7	-0.6
CAHU	**Cacacuatique**	**1.19**	**352**	*eP*	**Pn**	**20 52 46.6**	**+0.1**
PLRN	**Geotermica Pol**	**1.24**	**90**	P	Pn	20 52 46.1	-0.9
PLRN				S	**Sn**	**20 53 01.9**	**-0.7**
SCLA	**Alcaldia de Sa**	**1.30**	**329**	P	**Pn**	**20 52 47.6**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.30**	**329**	S	**Sn**	**20 53 05.2**	**+1.2**
CNGA	**Al SSO del Vol**	**1.31**	**94**	P	**Pn**	**20 52 47.3**	**-0.6**
CNGA				S	**Sn**	**20 53 04.2**	**-0.1**
CNGN	**Cerro Negro**	**1.31**	**93**	*eP*	Pn	20 52 47.0	-1.0
CNGN	**Cerro Negro**	**1.31**	**93**	⇓P	Pn	20 52 47.1	-0.9
PAVA	**Las Pavas**	**1.42**	**322**	*eP*

HAGS	**Hagol**	**2.31**	**187**	P	Pn	21 00 19.3 +0.7
HAQS	**Haql**	**2.39**	**352**	P	**Pb**	**21 00 23.9 +0.2**
NUB	**Nuweibaa**	**2.41**	**346**	P	**Pn**	**21 00 20.5 +0.5**
JMOS	**Jabal al Moall**	**2.49**	**356**	P	**Pn**	**21 00 22.3 +1.3**
HBST	**Basata**	**2.58**	**349**	P	**Pn**	**21 00 23.4 +1.1**
QLABS	**Al Qalibar**	**2.61**	**63**	P	**Pn**	**21 00 24.7 +1.9**
HQLS		**2.62**	**355**	P	**Pn**	**21 00 24.3 +1.3**
HRDS	**Abu Rudays**	**2.70**	**319**	P	**Pn**	**21 00 26.1 +2.0**
GRB	**Gharib**	**2.75**	**306**	P	**Pn**	**21 00 26.3 +1.6**
EIL	**Elat**	**3.00**	**354**	P	**Pn**	**21 00 28.9 +0.8**
EIL	**Elat**	**3.00**	**354**	S	**Sn**	**21 01 03.4 -0.7**
BRNS	**Bernies**	**3.01**	**201**	P	**Pn**	**21 00 30.2 +1.9**
MBRI	**Mt Berech**	**3.12**	**354**	P	**Pn**	**21 00 30.8 +0.9**
MBRI	**Mt Berech**	**3.12**	**354**	S	**Sn**	**21 01 06.9 -0.5**
HRFI	**Mount Harif**	**3.35**	**356**	P	**Pn**	**21 00 33.8 +0.7**
HRFI	**Mount Harif**	**3.35**	**356**	S	**Sn**	**21 01 12.6 -0.3**
KRMI	**Paran Flat**	**3.46**	**352**	P	**Pn**	**21 00 36.4 +1.8**
KRMI	**Paran Flat**	**3.46**	**352**	S	**Sn**	**21 01 14.9 -0.8**
NAHD	**NAHD**	**3.67**	**219**	S	**Sn**	**21 01 20.7 0.0**
PRNI	**Paran**	**3.67**	**356**	P	**Pn**	**21 00 38.9 +1.6**
PRNI	**Paran**	**3.67**	**356**	S	**Sn**	**21 01 20.4 -0.4**
ZFRI	**Zfri**	**3.86**	**358**	P	**Pn**	**21 00 41.1 +1.1**
ZFRI	**Zfri**	**3.86**	**358**	S	**Sn**	**21 01 26.4 +1.0**
KZIT	**Kziot**	**4.29**	**349**	P	**Pn**	**21 00 47.4 +1.5**
KZIT	**Kziot**	**4.29**	**349**	S	**Sn**	**21 01 34.9 -1.1**
GHAJ	**Ghor Haditha**	**4.61**	**3**	P	**Pn**	**21 00 52.6 +2.3**
GHAJ	**Ghor Haditha**	**4.61**	**3**	S	**Sn**	**21 01 44.9 +1.0**
MSBI	**Mazada**	**4.62**	**1**	P	**Pn**	**21 00 52.9 +2.5**
MSBI	**Mazada**	**4.62**	**1**	S	**Sn**	**21 01 44.9 +0.9**
YTIR	**Yattir**	**4.67**	**358**	P	**Pn**	**21 00 53.4 +2.2**
YTIR	**Yattir**	**4.67**	**358**	S	**Sn**	**21 01 45.9 +0.4**
AMAZ	**Amatzia**	**4.85**	**356**	P	**Pn**	**21 00 55.5 +1.9**
AMAZ	**Amatzia**	**4.85**	**356**	S	**Sn**	**21 01 49.9 +0.1**
DSI	**Dead Sea**	**4.88**	**1**	P	**Pn**	**21 00 56.1 +2.2**
DSI	**Dead Sea**	**4.88**	**1**	S	**Sn**	**21 01 51.9 +1.5**
SLTI	**Sal'it**	**5.55**	**358**	P	**Pn**	**21 01 05.4 +2.2**
SLTI	**Sal'it**	**5.55**	**358**	S	**Sn**	**21 02 07.9 +0.9**
HMDT	**Nahal Hemdat**	**5.56**	**2**	P	**Pn**	**21 01 05.9 +2.6**
HMDT	**Nahal Hemdat**	**5.56**	**2**	S	**Sn**	**21 02 08.2 +0.9**
MMLI	**Mount Malkishu**	**5.74**	**1**	P	**Pn**	**21 01 08.1 +2.3**
MMLI	**Mount Malkishu**	**5.74**	**1**	S	**Sn**	**21 02 13.2 +1.4**
OFRI	**`Ofer**	**5.93**	**357**	P	**Pn**	**21 01 10.9 +2.4**
OFRI	**`Ofer**	**5.93**	**357**	S	**Sn**	**21 02 16.4 0.0**
KSHT	**Keshet**	**6.30**	**4**	P	**Pn**	**21 01 16.4 +2.9**
KSHT	**Keshet**	**6.30**	**4**	S	**Sn**	**21 02 27.2 +1.6**
MMA0B	**Mount Meron ar**	**6.32**	**1**	P	**Pn**	**21 01 16.9 +3.1**
MMA0B	**Mount Meron ar**	**6.32**	**1**	S	**Sn**	**21 02 26.7 +0.6**
MMC7	**Mount Meron ar**	**6.32**	**1**	P	**Pn**	**21 01 16.1 +2.3**
MMC7	**Mount Meron ar**	**6.32**	**1**	S	**Sn**	**21 02 26.9 +0.7**
GEM	**Giv'at Ha'Em**	**6.52**	**3**	P	**Pn**	**21 01 19.1 +2.7**
GEM	**Giv'at Ha'Em**	**6.52**	**3**	S	**Sn**	**21 02 32.0 +1.0**
NATI	**Neve Ativ**	**6.57**	**3**	P	**Pn**	**21 01 20.1 +2.9**
NATI	**Neve Ativ**	**6.57**	**3**	S	**Sn**	**21 02 33.2 +1.0**

*PRE **16** 21:24:41.0±0.9, 26°.95S×26°.78E, h2km, ML2.5*
*BGSI **16** 21:24:43.6±2.0, 26°.99S×26°.82E, h12km±63km, ML2.9*
ISC 16 21:24:41.1±1.6, 26.92S±0.03×26.74E±0.04, h7km±12km, n30, σ1§74/58, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SWZ	**Schweizer**	**1.28**	**258**	*e*P		**Pn**	**21 25 06.5**	**+1.0**
SWZ				*e*S		**Sb**	**21 25 23.9**	**+1.7**
SWZ				IAML			21 25 27.3	
	comp=Z,195nm,0.3s							
HRAO	**HartRAO**	**1.34**	**40**	*e*P		**Pg**	**21 25 06.3**	**-0.4**
HRAO				*e*S		**Sn**	**21 25 24.7**	**+0.2**
HRAO				IAML			21 25 26.9	
	comp=Z,106nm,0.4s							
SNKL	**Senekal, Frees**	**1.63**	**146**	*e*P		**Pg**	**21 25 11.8**	**-0.6**
SNKL				*e*S		**Sg**	**21 25 32.4**	**-1.2**
SNKL				IAML			21 25 37.3	
	comp=Z,114nm,0.3s							
MAKGR	**Makgori**	**2.06**	**302**	*i* P		**Pn**	**21 25 18.6**	**+2.4**
MAKGR				*i* S		**Sn**	**21 25 41.9**	**-0.3**
MAKGR				IAML			21 25 47.9	
	comp=E,359nm,0.3s							
BOSA	**Boshof**	**2.13**	**218**	*e*P		**Pn**	**21 25 19.0**	**+1.8**
BOSA				*e*S		**Sn**	**21 25 45.8**	**+1.7**
BOSA				IAML			21 25 50.2	
	comp=Z,32nm,0.4s							
LBTB	**Lobatse**	**2.16**	**331**	*e*P		**Pn**	**21 25 20.0**	**+2.4**
LBTB				*e*S		**Sn**	**21 25 47.4**	**+2.6**
LBTB				IAML			21 25 49.1	
	comp=Z,85nm,0.4s							
NWCL	**Newcastle**	**2.92**	**107**	*e*P		**Pn**	**21 25 28.9**	**+0.7**
NWCL				*e*S		**Sn**	**21 26 04.3**	**+0.7**
NWCL				IAML			21 26 11.2	
	comp=Z,28nm,0.3s							
CRLN	**Carolina, Mapu**	**3.09**	**73**	*e*P		**Pn**	**21 25 31.2**	**+0.8**
CRLN				*e*S		**Sn**	**21 26 07.9**	**+0.1**
CRLN				IAML			21 26 18.9	
	comp=Z,15nm,0.3s							
LEPH	**Lephalale, Lim**	**3.20**	**18**	*e*P		**Pn**	**21 25 32.5**	**+0.6**
LEPH				*e*S		**Sn**	**21 26 11.3**	**+0.9**
LEPH				IAML			21 26 22.8	
	comp=Z,25nm,0.3s							
SKOMA	**Sekoma**	**3.48**	**313**	*i* P		**Pn**	**21 25 37.4**	**+1.6**
SKOMA				*i* S		**Sn**	**21 26 17.3**	**-0.1**
SKOMA				IAML			21 26 43.6	
	comp=N,34nm,0.3s							
LPHEP	**Lephephe**	**3.63**	**347**	*i* P		**Pn**	**21 25 39.3**	**+1.4**
LPHEP				IAML			21 26 37.7	
	comp=E,29nm,0.3s							
PHPEN	**Phepeng**	**3.77**	**292**	*i* P		**Pn**	**21 25 41.3**	**+1.5**
PHPEN				*i* S		**Sn**	**21 26 23.7**	**-0.7**
HVD	**Gariep Dam**	**3.83**	**196**	*e*P		**Pn**	**21 25 41.6**	**+1.1**
HVD				*e*S		**Sn**	**21 26 26.0**	**+0.1**
KSTD	**Kokstad**	**4.32**	**149**	*e*P		**Pn**	**21 25 48.2**	**+0.9**
KSTD				*e*S		**Sn**	**21 26 37.0**	**-1.1**
KSTD				IAML			21 26 59.7	
	comp=Z,11nm,0.4s							
MREMI	**Moremi**	**4.38**	**9**	*i* P		**Pn**	**21 25 49.5**	**+1.3**
MREMI				*i* S		**Sn**	**21 26 38.4**	**-1.2**
MREMI				IAML			21 27 05.1	
	comp=N,81nm,0.3s							
ALKP	**Alkanpan, Nort**	**4.96**	**232**	*e*P		**Pn**	**21 25 57.8**	**+1.6**
ALKP				*e*S		**Sn**	**21 26 54.1**	**+0.2**
ALKP				IAML			21 27 16.8	
	comp=Z,15nm,0.3s							
KHWEE	**KHWEE**	**5.09**	**346**	*i* P		**Pn**	**21 25 57.9**	**0.0**
KHWEE				IAML			21 27 27.9	
	comp=E,104nm,0.2s							
KEIM	**Keimoes**	**5.41**	**250**	*e*P		**Pn**	**21 26 04.3**	**+2.1**
KEIM				*e*S		**Sn**	**21 27 05.4**	**+0.6**
KEIM				IAML			21 27 34.0	
	comp=Z,10nm,0.3s							
BFON	**Badsfontein, M**	**5.54**	**208**	*e*P		**Pn**	**21 26 06.0**	**+1.9**
BFON				*e*S		**Sn**	**21 27 07.3**	**-0.8**
BFON				IAML			21 27 44.5	
	comp=Z,8.5nm,0.4s							
GRAF	**Camdeboo Natio**	**5.68**	**200**	*e*P		**Pn**	**21 26 07.7**	**+1.6**
GRAF				*e*S		**Sn**	**21 27 09.8**	**-1.8**
GRAF				IAML			21 27 42.9	
	comp=Z,11nm,0.4s							
KGCAE	**Kacgae**	**5.77**	**314**	*i* P		**Pn**	**21 26 08.9**	**+1.6**
KGCAE				*i* S		**Sn**	**21 27 12.5**	**-1.4**
KGCAE				IAML			21 27 45.4	
	comp=N,27nm,1.6s							
BROLN	**Tlhalogang**	**5.82**	**6**	*i* P		**Pn**	**21 26 09.0**	**+1.0**
BROLN				*i* S		**Sn**	**21 27 11.0**	**-4.2**
BROLN				IAML			21 27 41.8	
	comp=E,15nm,1.3s							
BRAK	**Brakfontein**	**5.89**	**214**	*e*P		**Pn**	**21 26 10.6**	**+1.7**
BRAK				*e*S		**Sn**	**21 27 15.5**	**-1.2**
BRAK				IAML			21 27 49.6	
	comp=Z,7.4nm,0.4s							
ARMS	**Ukamas**	**6.31**	**258**	*e*P		**Pn**	**21 26 17.0**	**+2.3**
ARMS				*e*S		**Sn**	**21 27 26.8**	**-0.4**
GRHM	**Grahamstown, E**	**6.34**	**183**	*e*P		**Pn**	**21 26 15.6**	**+0.6**
GRHM				*e*S		**Sn**	**21 27 25.1**	**-2.6**
GRHM				IAML			21 28 12.7	
	comp=Z,3.0nm,0.4s							
GRAN	**Grantham**	**6.67**	**215**	*e*P		**Pn**	**21 26 21.6**	**+2.1**
GRAN				*e*S		**Sn**	**21 27 34.8**	**-1.2**
GRAN				IAML			21 28 24.0	
	comp=Z,6.3nm,0.6s							
FRAZ	**Fraserburg**	**6.81**	**222**	*e*P		**Pn**	**21 26 24.0**	**+2.4**
FRAZ				*e*S		**Sn**	**21 27 37.7**	**-1.8**
FRAZ				IAML			21 28 16.5	
	comp=Z,4.2nm,0.5s							
BUFB	**Buffelsbos**	**7.41**	**193**	*e*P		**Pn**	**21 26 30.7**	**+1.1**
BUFB				*e*S		**Sn**	**21 27 51.1**	**-2.8**
BUFB				IAML			21 28 23.2	
	comp=Z,3.7nm,0.9s							
GRTLG	**Ghanzi**	**7.49**	**317**	*i* P		**Pn**	**21 26 29.8**	**-1.1**
GRTLG				*i* S		**Sn**	**21 27 50.7**	**-5.5**
GRTLG				IAML			21 28 41.4	
	comp=N,16nm,3.4s							
CVNA	**Calvinia**	**7.60**	**232**	*e*P		**Pn**	**21 26 33.8**	**+1.4**
CVNA				*e*S		**Sn**	**21 27 57.0**	**-1.8**
CVNA				IAML			21 28 44.2	
	comp=Z,7.0nm,0.4s							

*SDD **16** 21:37:36.4±1.7, 18°.22N×71°.98W, h132km±20km, MD2.7, ML2.2, MW2.9*
OSPL 16 21:37:51.6±0.5, 18°.70N×71°.59W, h6km±25km, ML1.6, 5C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LONE3	**El Aguacate, B**	**0.16**	**126**	*i* P		Pg	21 37 54.9	+0.1
LONE3				*e*S		Sg	21 37 56.8	-0.2
LONE3				IAML			21 37 57.0	
	comp=Z,162nm,0.9s							
JIDR	**Jimani**	**0.32**	**230**	⇑*e*Pg		Pg	21 37 53.2	-4.7
JIDR				⇑*e*Sg		Sb	21 38 06.4	+1.3
JIDR				IAML			21 38 07.1	
	comp=N,42nm,0.3s							
LODU1	**El Espartillar**	**0.36**	**162**	*i* P		Pg	21 37 58.0	-0.6
LODU1				*e*S		Sg	21 38 02.9	-0.5
LODU1				IAML			21 38 04.2	
	comp=Z,33nm,0.9s							
SDDR	**Presa de Saban**	**0.40**	**46**	*e*Sg		Sb	21 38 13.6	+5.9
REDR	**Restauracion**	**0.50**	**22**	⇑*e*Pg		Pg	21 37 59.5	-1.8
REDR				⇑*e*Sg		Sn	21 38 16.8	+2.5
REDR				IAML			21 38 19.3	
	comp=N,19nm,0.2s							
PODR	**Polo**	**0.61**	**151**	⇑*e*Sg		Sg	21 38 11.0	-0.2
PODR				IAML			21 38 13.7	
	comp=N,45nm,0.4s							
PODR	**Polo**	**0.61**	**151**	*i* P		Pg	21 38 02.8	-0.6
PODR				*e*S		Sg	21 38 11.0	-0.2
LOBH	**Bahia de las A**	**0.83**	**183**	*e*S		Sg	21 38 17.7	-0.7
LOBH				IAML			21 38 18.1	
	comp=Z,42nm,2.3s							

*AZER **16** 21:47:41.7, 41°.64N×46°.43E, h7km, ml2.6*
*MOS **16** 21:47:43.0, 41°.57N×46°.59E, h16km, MPVA3.6*
*DRS **16** 21:47:44.1, 41°.62N×46°.56E, h9km*
ISC 16 21:47:44.4±0.9, 41°.59N±0°.02×46°.52E±0°.02, h10km±6km, n43, σ1§44/86, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZKTA	**Zakatala**	**0.09**	**57**	P		**Pg**	**21 47 46.9**	**0.0**
ZKTA				S		**Sg**	**21 47 49.1**	**+0.4**
TLTR	**Tlyarata**	**0.53**	**346**	*e*Pg		**Pb**	**21 47 55.1**	**-0.8**
TLTR				*e*Sg		**Sb**	**21 48 03.5**	**-0.2**
SEKA	**Sheki**	**0.63**	**127**	Pg		**Pb**	**21 47 56.0**	**-1.6**
SEKA				Sg		**Sn**	**21 48 07.2**	**-2.5**
KMKR	**Kumukh**	**0.69**	**38**	*e*Pg		**Pn**	**21 47 57.9**	**-2.5**
KMKR				*e*Sg		**Sn**	**21 48 08.7**	**-2.7**
GANJ	**Ganja**	**0.95**	**189**	P		**Pg**	**21 48 01.8**	**-1.0**
GANJ				S		**Sn**	**21 48 18.5**	**+0.9**
XNZR	**Khunzakh**	**0.96**	**8**	*e*Pg		**Pn**	**21 48 03.7**	**-0.4**
XNZR				*e*Sg		**Sn**	**21 48 17.8**	**-0.1**
URKR	**Urkarakh**	**1.01**	**55**	*e*Pg		**Pn**	**21 48 03.2**	**-1.5**
URKR				*e*Sg		**Sn**	**21 48 18.0**	**-1.1**
QZX	**Qazax, Azerbai**	**1.02**	**239**	P		**Pb**	**21 48 03.5**	**-0.6**
QZX				S		**Sn**	**21 48 18.8**	**-0.3**
GDB	**GEDABAY**	**1.04**	**214**	P		**Pg**	**21 48 03.3**	**-1.1**
GDB				S		**Sb**	**21 48 18.4**	**-0.1**
ARKR	**Arakani**	**1.07**	**19**	*e*Pg		**Pn**	**21 48 05.3**	**-0.2**
ARKR				*e*Sg		**Sn**	**21 48 21.4**	**+0.9**
BTLR	**Botlikh**	**1.10**	**348**	*e*Pg		**Pn**	**21 48 05.9**	**0.0**
BTLR				*e*Sg		**Sn**	**21 48 21.6**	**+0.5**
UNCR	**Uncukul**	**1.14**	**10**	*e*Pg		**Pn**	**21 48 06.8**	**+0.3**
UNCR				*e*Sg		**Sn**	**21 48 23.5**	**+1.3**
QBL	**Gabala**	**1.18**	**123**	P		**Pn**	**21 48 06.1**	**-0.9**
QBL				S		**Sn**	**21 48 24.2**	**+1.0**
KSMR	**Kasumkent**	**1.20**	**89**	*e*Pg		**Pn**	**21 48 06.2**	**-1.2**
KSMR				*e*Sg		**Sn**	**21 48 23.1**	**-0.6**
SGKR	**Sergokala**	**1.21**	**44**	*e*Pg		**Pn**	**21 48 07.7**	**+0.3**
SGKR				*e*Sg		**Sn**	**21 48 24.3**	**+0.3**
KRNR	**Karanay**	**1.27**	**13**	*e*Pg		**Pg**	**21 48 08.7**	**0.0**
KRNR				*e*Sg		**Sn**	**21 48 27.1**	**+1.6**
XNQ	**Khinaliq**	**1.29**	**108**	P		**Pg**	**21 48 08.3**	**-0.8**
XNQ				S		**Sn**	**21 48 29.3**	**+3.3**
QSAR	**Qusar**	**1.31**	**93**	Pn		**Pg**	**21 48 09.8**	**+0.3**
QSAR				Sn		**Sn**	**21 48 30.6**	**+4.3**
BUJR	**Buynaksk**	**1.31**	**19**	*e*Pg		**Pg**	**21 48 09.0**	**-0.5**
BUJR				*e*Sg		**Sn**	**21 48 27.8**	**+1.5**
DVE	**Vedeno**	**1.40**	**348**	*e*Pg		**Pg**	**21 48 10.6**	**-0.6**
DVE				*e*Sg		**Sg**	**21 48 30.9**	**+1.5**
BRDA	**Brd**	**1.42**	**159**	Pn		**Pg**	**21 48 10.5**	**-1.0**
BRDA				Sn		**Sg**	**21 48 32.6**	**+2.7**
DLMR	**Dylym**	**1.48**	**3**	*i* Pg		**Pg**	**21 48 12.3**	**-0.6**
DLMR				*e*Sg		**Sg**	**21 48 33.5**	**+1.5**
IML	**Ismayilli**	**1.48**	**122**	Pn		**Pg**	**21 48 11.4**	**-1.5**
IML				Sn		**Sg**	**21 48 34.0**	**+1.9**
QUBA	**Quba, Azerbaij**	**1.50**	**98**	Pn		**Pg**	**21 48 13.1**	**-0.1**
QUBA				Sn		**Sg**	**21 48 36.1**	**+3.5**
AGDM	**Agdam**	**1.54**	**163**	Pn		**Pb**	**21 48 12.3**	**-0.8**
AGDM				Sn		**Sg**	**21 48 34.9**	**+0.9**
ZRD	**Zardab**	**1.58**	**146**	Pn		**Pg**	**21 48 13.0**	**-1.6**
ZRD				Sn		**Sg**	**21 48 36.6**	**+1.5**
KDMR	**Kurdemir**	**1.75**	**133**	Pn		**Pb**	**21 48 15.6**	**-0.9**
KDMR				Sn		**Sg**	**21 48 40.0**	**-0.5**
PQL	**Pirkuli**	**1.75**	**116**	Pn		**Pb**	**21 48 15.6**	**-1.1**
PQL				Sn		**Sg**	**21 48 40.7**	**-0.1**
GUDG	**Gudauri**	**1.76**	**301**	*e*Pg		**Pg**	**21 48 18.3**	**+0.2**
GUDG				*e*Sg		**Sg**	**21 48 41.8**	**+0.9**
SIZA	**Siyzn**	**1.86**	**105**	Pn		**Pg**	**21 48 19.9**	**-0.1**
SIZA				Sn		**Sg**	**21 48 45.6**	**+1.5**
ATGJ	**Altiaghaj**	**1.96**	**111**	Pn		**Pb**	**21 48 18.1**	**-2.1**
ATGJ				Sn		**Sg**	**21 48 50.2**	**+2.8**
GNI	**Garni**	**1.97**	**224**	*e*Pg		**Pb**	**21 48 20.1**	**-0.4**
GNI				*e*Sg		**Sg**	**21 48 48.0**	**+0.2**
BLQ	**Beylaqan**	**2.03**	**157**	Pn		**Pb**	**21 48 19.3**	**-2.0**
BLQ				Sn		**Sb**	**21 48 46.4**	**-0.1**
LACR	**Lac**	**2.06**	**308**	*e*Pg		**Pb**	**21 48 21.6**	**-0.4**
LACR				*e*Sg		**Sg**	**21 48 50.0**	**-0.8**
QRD	**Qoradiz**	**2.21**	**164**	Pn		**Pb**	**21 48 22.3**	**-2.1**
QRD				Sn		**Sb**	**21 48 50.7**	**-1.2**
HYR	**Heyderabad**	**2.26**	**215**	Pn		**Pb**	**21 48 24.7**	**-0.6**
HYR				Sn		**Sb**	**21 48 54.7**	**+1.4**
AKH	**Akhalkalaki**	**2.28**	**266**	*e*Pn		**Pb**	**21 48 25.2**	**-0.6**
AKH				*e*Sn		**Sb**	**21 48 53.0**	**-1.1**
SBZ	**Shahbuz**	**2.31**	**199**	Pg		**Pb**	**21 48 24.6**	**-1.7**
SBZ				Sg		**Sb**	**21 48 56.2**	**+1.3**
ORD	**Ordubad**	**2.69**	**189**	Pg		**Pb**	**21 48 31.3**	**-1.4**
ORD				Sg		**Sb**	**21 49 07.4**	**+1.7**
GLBA	**Clilabad**	**2.75**	**148**	Pg		**Pb**	**21 48 34.1**	**+0.5**
GLBA				Sn		**Sb**	**21 49 05.5**	**-1.7**
YRD	**Yardimli**	**2.98**	**153**	Pn		**Pn**	**21 48 32.0**	**+0.2**
YRD				Sn		**Sn**	**21 49 09.2**	**+1.5**
LRK	**Lerik**	**3.26**	**154**	Pn		**Pn**	**21 48 36.1**	**+0.5**
LRK				Sn		**Sn**	**21 49 16.7**	**+2.2**
ASTR	**Astara**	**3.49**	**149**	Pn		**Pn**	**21 48 39.3**	**+0.6**
ASTR				Sn		**Sn**	**21 49 22.5**	**+2.4**

*NAO **16** 22:39:13.4, 40°.13N×16°.52E, h33km, MB3.3*
*ROM **16** 22:39:27.2±0.2, 39°.687N±0°.008×16°.00E±0°.02, h268km±1km, ML3.2/136, Error ellipse: s-maj=1.8km s-min=0.6km az=97.0*
*IDC **16** 22:39:29.5±0.8, 39°.91N×15°.78E, h272km±18km, mb3.1/5, mbtmp3.6/11, Error ellipse: s-maj=23.1km s-min=15.1km az=47.0*
ISC 16 22:39:28.1±0.7, 39°.71N±0°.05×16°.00E±0°.06, h262km±6km, n117, σ1§17/154, mb3.6/5, 4C-4D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GRIS	**Grisolia**	**0.12**	**286**	P		**Pn**	**22 40 01.8**	**+0.1**
GRIS				S		**S**	**22 40 27.5**	**-0.8**
MMN	**Mormanno**	**0.18**	**358**	P		**Pn**	**22 40 02.2**	**+0.6**
MMN				S		**S**	**22 40 28.2**	**-0.1**
MMN						AML	AML	
	comp=E,250μm,0.6s							
MMN						AML	AML	
	comp=N,410μm,1.0s							
MMN						AML	AML	
	comp=E,250μm,1.4s							
MMN						AML	AML	
	comp=E,229μm,0.4s							
MMN						AML	AML	
	comp=N,373μm,0.3s							
CET2	**Cetraro**	**0.18**	**190**	⇑P		**Pn**	**22 40 02.1**	**+0.2**
CET2				S		**S**	**22 40 27.2**	**-1.4**
CET2				AML		AML		
	comp=E,670μm,0.8s							
CET2				AML		AML		
	comp=N,1740μm,0.7s							
CET2				AML		AML		
	comp=N,1740μm,1.3s							
CET2				AML		AML		
	comp=E,653μm,0.4s							
CET2				AML		AML		
	comp=N,1596μm,0.4s							
CUC	**Castrocucco**	**0.32**	**334**	P		**Pn**	**22 40 02.4**	**+0.4**
CUC				S		**S**	**22 40 28.1**	**-0.7**
CUC				AML		AML		
	comp=E,212μm,1.4s							
CUC				AML		AML		
	comp=N,126μm,0.4s							
CUC				AML		AML		
	comp=E,212μm,1.4s							
CUC				AML		AML		
	comp=N,187μm,1.3s							
CUC				AML		AML		
	comp=E,212μm,0.6s							
CUC				AML		AML		
	comp=E,184μm,1.4s							
CUC				AML		AML		
	comp=E,181μm,0.6s							
CUC				AML		AML		
	comp=N,126μm,0.4s							
CUC				AML		AML		
	comp=E,211μm,0.6s							
CUC				AML		AML		
	comp=N,137μm,0.4s							
SALB	**San Lorenzo Be**	**0.32**	**58**	P		**Pn**	**22 40 02.8**	**+0.7**
SALB				S		**S**	**22 40 28.8**	**-0.1**
SALB				AML		AML		
	comp=E,416μm,0.3s							
SALB				AML		AML		
	comp=N,388μm,0.3s							
SALB				AML		AML		
	comp=N,389μm,0.3s							
SALB				AML		AML		
	comp=E,416μm,0.3s							
SIRI	**Monte Sirino -**	**0.48**	**348**	P		**Pn**	**22 40 03.4**	**+1.0**
SIRI				S		**S**	**22 40 29.9**	**+0.3**
SIRI				AML		AML		
	comp=E,136μm,0.3s							
SIRI				AML		AML		
	comp=N,146μm,0.3s							
SIRI				AML		AML		
	comp=N,150μm,0.3s							
SIRI				AML		AML		
	comp=E,135μm,0.3s							
SIRI				AML		AML		
	comp=N,146μm,0.3s							
SIRI				AML		AML		
	comp=E,143μm,0.3s							
SIRI				AML		AML		
	comp=E,143μm,0.3s							
SIRI				AML		AML		
	comp=N,150μm,0.3s							
SIRI				AML		AML		
	comp=E,135μm,0.3s							
SIRI				AML		AML		
	comp=N,146μm,0.3s							
CAR1	**CAROLEI**	**0.48**	**160**	P		**Pn**	**22 40 02.9**	**+0.4**
CAR1				S		**S**	**22 40 28.2**	**-1.4**
CAR1				AML		AML		
	comp=E,1260μm,1.0s							
CAR1				AML		AML		
	comp=N,1175μm,0.4s							
CAR1				AML		AML		
	comp=E,1265μm,1.0s							
CAR1				AML		AML		
	comp=N,991μm,0.4s							
CAR1				AML		AML		
	comp=E,1260μm,1.1s							
CAR1				AML		AML		
	comp=N,1180μm,0.4s							
CAR1				AML		AML		
	comp=E,1565μm,0.4s							
CAR1				AML		AML		
	comp=E,1260μm,0.9s							
CAR1				AML		AML		
	comp=N,1177μm,0.4s							
CAR1				AML		AML		
	comp=E,1569μm,0.4s							
CAR1				AML		AML		
	comp=N,993μm,0.4s							
CAR1				AML		AML		
	comp=E,1226μm,0.3s							
SPS2	**Spezzano della**	**0.49**	**147**	P		**Pn**	**22 40 03.3**	**+0.8**
SPS2				S		**S**	**22 40 29.2**	**-0.4**
SPS2				AML		AML		
	comp=N,186μm,1.0s							
SPS2				AML		AML		
	comp=E,208μm,0.5s							
SPS2				AML		AML		
	comp=E,208μm,0.5s							
SPS2				AML		AML		
	comp=N,183μm,0.7s							
ORI	**Oriolo Calabro**	**0.50**	**44**	P		**Pn**	**22 40 03.3**	**+1.0**
ORI				S		**S**	**22 40 28.4**	**-1.0**
ORI				AML		AML		
	comp=E,607μm,0.4s							
ORI				AML

comp=E,165µm,0.6s
MCEL AML AML
comp=N,501µm,0.9s
MCEL AML AML
comp=E,174µm,0.6s
SLCN Sala Consilina 0.74 338 P **Pn** **22 40 04.2 +0.9**
SLCN S **S** **22 40 31.5 +0.4**
SLCN AML AML
comp=E,158µm,0.3s
SLCN AML AML
comp=N,191µm,0.7s
SLCN AML AML
comp=N,191µm,1.3s
SLCN AML AML
comp=E,158µm,1.7s
SLCN AML AML
comp=E,158µm,0.3s
SLCN AML AML
comp=E,210µm,0.5s
SLCN AML AML
comp=N,191µm,0.7s
TIP Timpagrande 0.79 132 P **Pn** **22 40 04.7 +1.2**
TIP S **S** **22 40 31.3 -0.2**
TIP AML AML
comp=E,164µm,0.3s
TIP AML AML
comp=N,149µm,1.6s
TIP AML AML
comp=E,165µm,0.3s
TIP AML AML
comp=N,148µm,1.6s
TIP AML AML
comp=E,169µm,0.3s
TIP AML AML
comp=N,146µm,1.2s
TIP AML AML
comp=E,164µm,0.3s
TIP AML AML
comp=N,148µm,0.4s
TIP AML AML
comp=E,165µm,0.3s
TIP AML AML
comp=N,123µm,0.4s
TIP AML AML
comp=N,117µm,0.5s
TIP AML AML
comp=E,169µm,0.3s
CMPR Campora 0.81 319 P **Pn** **22 40 04.2 +0.7**
CMPR AML AML
comp=E,79µm,1.0s
CMPR AML AML
comp=N,83µm,1.1s
CMPR AML AML
comp=E,79µm,1.0s
CMPR AML AML
comp=N,83µm,1.1s
CMPR AML AML
comp=E,57µm,0.7s
LADO San Nicola del 0.87 119 P **Pn** **22 40 04.9 +1.1**
LADO S **S** **22 40 31.8 -0.2**
LADO AML AML
comp=E,26µm,0.3s
LADO AML AML
comp=N,15µm,0.3s
LADO AML AML
comp=E,26µm,0.3s
LADO AML AML
comp=N,15µm,0.3s
LADO AML AML
comp=E,26µm,0.3s
LADO AML AML
comp=N,15µm,0.3s
CAGG Caggiano 0.93 336 P **Pn** **22 40 05.2 +1.1**
CDRU Civita di Ruta 0.94 326 P **Pn** **22 40 04.8 +0.6**
GRI Girifalco 0.94 160 ⇓P **Pn** **22 40 05.5 +1.2**
GRI S **S** **22 40 32.4 -0.3**
GRI AML AML
comp=E,464µm,0.8s
GRI AML AML
comp=N,422µm,0.4s
GRI AML AML
comp=N,421µm,0.4s
GRI AML AML
comp=E,456µm,0.3s
MIGL Miglionico 0.96 21 P **Pn** **22 40 04.5 +0.4**
MIGL S **S** **22 40 32.5 -0.2**
MIGL AML AML
comp=N,1230µm,0.5s
MIGL AML AML
comp=E,491µm,0.5s
MIGL AML AML
comp=N,1229µm,0.5s
ACER Acerenza 1.08 358 P **Pn** **22 40 04.9 +0.1**
ACER S **S** **22 40 34.2 +0.3**
ACER AML AML
comp=N,87µm,0.5s
ACER AML AML
comp=E,93µm,0.4s
ACER AML AML
comp=E,93µm,1.6s
ACER AML AML
comp=N,87µm,1.5s
ACER AML AML
comp=E,94µm,0.5s
ACER AML AML
comp=N,87µm,0.5s
MATE Matera 1.08 30 P **Pn** **22 40 05.4 +0.6**
MATE S **S** **22 40 33.0 -0.8**
MATE AML AML
comp=E,286µm,0.4s
MATE AML AML
comp=N,246µm,0.7s
MATE AML AML
comp=N,246µm,0.7s
MATE AML AML
comp=E,286µm,0.5s
IST3 Stromboli F 1.09 213 P **Pn** **22 40 05.8 +0.8**
IST3 AML AML
comp=N,399µm,0.4s
IST3 AML AML
comp=E,333µm,0.5s
LTRZ Laterza 1.09 35 P **Pn** **22 40 05.1 +0.3**
LTRZ S **S** **22 40 33.0 -1.0**
LTRZ AML AML
comp=N,3900µm,1.5s
LTRZ AML AML
comp=E,154µm,0.8s
LTRZ AML AML
comp=N,3895µm,1.5s
LTRZ AML AML
comp=N,3895µm,0.5s
LTRZ AML AML
comp=E,154µm,1.2s
LTRZ AML AML
comp=N,309µm,0.9s
LTRZ AML AML
comp=E,125µm,0.8s
MRLC Muro Lucano 1.12 340 P **Pn** **22 40 05.6 +0.6**
PALZ Palazzo San Ge 1.23 359 P **Pn** **22 40 06.0 +0.3**
PALZ AML AML
comp=E,71µm,1.5s
PALZ AML AML
comp=N,84µm,0.7s
PALZ AML AML
comp=E,71µm,0.5s
PALZ AML AML
comp=E,71µm,1.5s
PALZ AML AML
comp=N,84µm,0.7s
MCRV Calabrutti - M 1.25 330 P **Pn** **22 40 06.7 +0.7**
TAR1 Taranto 1.28 50 P **Pn** **22 40 06.6 +0.6**
TAR1 S **S** **22 40 35.1 -0.8**
TAR1 AML AML
comp=N,182µm,0.5s
TAR1 AML AML
comp=E,297µm,0.4s
TAR1 AML AML
comp=E,297µm,0.4s
TAR1 AML AML
comp=N,181µm,0.5s
AMUR Altamura 1.28 21 ⇑P **Pn** **22 40 06.8 +0.8**
AMUR S **S** **22 40 35.6 -0.5**
AMUR AML AML
comp=E,56µm,1.3s
AMUR AML AML
comp=N,98µm,0.8s
AMUR AML AML
comp=N,98µm,1.2s
AMUR AML AML
comp=E,56µm,0.5s
AMUR AML AML
comp=N,97µm,0.8s
PLAC Placanica 1.30 165 P **Pn** **22 40 07.1 +0.7**
PLAC S **S** **22 40 35.9 -0.6**
PLAC AML AML
comp=E,648µm,0.4s
PLAC AML AML
comp=N,688µm,0.3s
PLAC AML AML
comp=E,756µm,0.3s
PLAC AML AML
comp=E,756µm,1.7s
PLAC AML AML
comp=N,694µm,0.4s
PLAC AML AML
comp=N,688µm,1.7s
PLAC AML AML
comp=N,694µm,0.4s
PLAC AML AML
comp=E,756µm,0.3s
PLAC AML AML
comp=N,688µm,0.3s
PLAC AML AML
comp=E,648µm,0.4s
NOCI Noci 1.35 37 ⇑P **Pn** **22 40 07.2 +0.8**
NOCI S **S** **22 40 36.0 -0.9**
NOCI AML AML
comp=N,79µm,1.6s
NOCI AML AML
comp=E,93µm,0.1s
NOCI AML AML
comp=N,79µm,0.4s
NOCI AML AML
comp=N,79µm,0.2s
NOCI AML AML
comp=E,93µm,0.1s
SNAL S. Angelo Dei 1.36 334 ⇓P **Pn** **22 40 07.4 +0.9**
SNAL AML AML
comp=N,54µm,1.1s
SNAL AML AML
comp=E,54µm,0.9s
SNAL AML AML
comp=N,54µm,0.9s
SNAL AML AML
comp=E,86µm,1.0s
SNAL AML AML
comp=E,54µm,0.9s
SNAL AML AML
comp=N,54µm,1.1s
MTMR Montemarano 1.43 328 P **Pn** **22 40 07.8 +0.7**
MTMR AML AML
comp=N,33µm,0.3s
MTMR AML AML
comp=E,37µm,0.3s
CAFE Carife 1.44 336 P **Pn** **22 40 08.3 +1.1**
CAFE AML AML
comp=E,86µm,0.5s
CAFE AML AML
comp=N,49µm,0.5s
CAFE AML AML
comp=E,86µm,0.5s
CAFE AML AML
comp=N,49µm,0.5s
CEL Celeste 1.45 183 P **Pn** **22 40 07.2 -0.2**
CEL S **S** **22 40 36.2 -2.1**
CEL AML AML
comp=E,280µm,0.9s
CEL AML AML
comp=N,258µm,0.8s
CEL AML AML
comp=N,280µm,1.5s
CEL AML AML
comp=N,258µm,0.8s
CEL AML AML
comp=E,256µm,1.6s
CEL AML AML
comp=N,280µm,0.5s
CEL AML AML
comp=E,242µm,0.3s
CEL AML AML
comp=E,251µm,0.3s
CEL AML AML
comp=N,244µm,0.3s
CEL AML AML
comp=N,251µm,0.3s
SICLA Scilla 1.47 189 P **Pn** **22 40 07.1 -0.3**
SICLA S **S** **22 40 36.4 -2.0**
SICLA AML AML
comp=E,246µm,0.3s
SICLA AML AML
comp=N,374µm,0.5s
SICLA AML AML
comp=N,374µm,0.5s
SICLA AML AML
comp=E,246µm,0.3s
MSRU Castanea 1.49 195 P **Pn** **22 40 07.2 -0.4**
MSRU S **S** **22 40 36.5 -2.3**
MSRU AML AML
comp=N,473µm,1.0s
MSRU AML AML
comp=E,430µm,0.4s
MSRU AML AML
comp=E,431µm,0.4s
MSRU AML AML
comp=N,426µm,0.3s
LLI Lipari 1.50 213 P **Pn** **22 40 08.9 +1.2**
LLI AML AML
comp=E,965µm,0.8s
LLI AML AML
comp=N,1420µm,0.7s
LLI AML AML
comp=N,1420µm,1.3s
LLI AML AML
comp=N,1423µm,0.7s
LLI AML AML
comp=E,884µm,0.4s
IVGP Vulcano Grotta 1.54 212 P **Pn** **22 40 08.8 +0.9**
VPL Vulcano Piano 1.54 211 P **Pn** **22 40 08.6 +0.6**
VPL AML AML
comp=N,183µm,0.6s
VPL AML AML
comp=E,173µm,0.9s
IFIL Filicudi I Eol 1.60 225 P **Pn** **22 40 09.0 +0.7**
IFIL AML AML
comp=N,86µm,1.2s
SOI Samo 1.64 178 ⇑P **Pn** **22 40 08.9 +0.3**
SOI S **S** **22 40 39.3 -1.4**
SOI AML AML
comp=E,135µm,0.4s
SOI AML AML
comp=N,150µm,1.2s
SOI AML AML
comp=N,150µm,0.8s
SOI AML AML
comp=E,135µm,0.4s
SOI AML AML
comp=N,139µm,0.3s
MPNC Port Mandanici 1.64 198 P **Pn** **22 40 08.3 -0.4**
MPNC S **S** **22 40 38.7 -2.1**
MPNC AML AML
comp=E,256µm,1.4s
MPNC AML AML
comp=N,330µm,0.3s
MPNC AML AML
comp=E,231µm,0.4s
MPNC AML AML
comp=N,329µm,0.2s
MESG Mesagne 1.67 58 P **Pn** **22 40 09.9 +1.1**
MTTG Motta San Giov 1.72 188 P **Pn** **22 40 09.7 +0.4**
MTTG S **S** **22 40 40.5 -1.5**
MTTG AML AML
comp=E,182µm,0.4s
MTTG AML AML
comp=N,222µm,0.5s
MTTG AML AML
comp=N,222µm,1.5s
MTTG AML AML
comp=N,222µm,0.5s
MTTG AML AML
comp=E,183µm,0.4s
IACL Alicudi 1.73 228 P **Pn** **22 40 10.2 +0.9**
VITU Vitulano (BN) 1.81 325 P **Pn** **22 40 10.6 +0.7**
NOV Novara 1.81 202 P **Pn** **22 40 10.8 +0.7**
NOV S **S** **22 40 42.5 -0.8**
NOV AML AML
comp=N,851µm,0.5s
NOV AML AML
comp=E,429µm,0.6s
NOV AML AML
comp=E,426µm,0.5s
NOV AML AML
comp=N,851µm,0.5s
AIO Antillo 1.83 199 P **Pn** **22 40 11.2 +0.9**
AIO S **S** **22 40 42.7 -1.0**
AIO AML AML
comp=E,108µm,1.3s
AIO AML AML
comp=N,97µm,0.2s
AIO AML AML
comp=E,108µm,0.7s
AIO AML AML
comp=N,97µm,1.8s
AIO AML AML
comp=N,96µm,0.2s
AIO AML AML
comp=E,101µm,0.3s
MUCR Ucria 1.88 208 P **Pn** **22 40 11.2 +0.4**
MUCR AML AML
comp=E,98µm,0.7s
MUCR AML AML
comp=N,107µm,0.6s
MUCR AML AML
comp=E,98µm,1.3s
MUCR AML AML
comp=E,86µm,0.4s
MUCR AML AML
comp=N,107µm,0.6s
ECTS Castiglione 1.95 201 P **Pn** **22 40 12.2 +1.0**
ECTS AML AML
comp=N,177µm,0.8s
ECTS AML AML
comp=E,249µm,1.4s
SACR S. Croce Del S 1.95 330 P **Pn** **22 40 11.9 +0.7**
MSAG Monte S. Angel 2.00 358 P **Pn** **22 40 12.0 +0.4**
MSFR San Fratello 2.00 214 P **Pn** **22 40 12.6 +0.9**
MSFR AML AML
comp=E,32µm,1.4s
MSFR AML AML
comp=N,30µm,0.4s
MSFR AML AML
comp=N,30µm,0.4s
MSFR AML AML
comp=E,31µm,0.4s
EPIT Pozzo Pitarron 2.03 202 P **Pn** **22 40 13.2 +1.0**
SGG Gregorio Mates 2.08 324 P **Pn** **22 40 13.1 +0.8**
SGG AML AML
comp=E,37µm,0.6s
SGG AML AML
comp=E,37µm,1.4s
SGG AML AML
comp=N,32µm,1.6s
SGG AML AML
comp=E,37µm,0.6s
SGG AML AML
comp=N,30µm,0.4s
EPZF Pizzo Felice 2.08 206 P **Pn** **22 40 14.3 +1.8**
VAGA Valle Agricola 2.17 322 P **Pn** **22 40 13.8 +0.8**
ENIC Nicolosi 2.21 201 P **Pn** **22 40 15.6 +1.9**
ENIC AML AML
comp=E,262µm,1.0s
ENIC AML AML
comp=N,331µm,0.6s
ENIC AML AML
comp=E,262µm,1.0s
ENIC AML AML
comp=N,331µm,1.4s
ENIC AML AML
comp=N,331µm,0.6s
ENIC AML AML
comp=E,262µm,1.0s
PLLN Pollina 2.24 221 P **Pn** **22 40 14.9 +1.0**
ESML S. M. di Licod 2.27 203 P **Pn** **22 40 15.0 +0.9**
GALF Gagliano Caste 2.29 210 P **Pn** **22 40 15.9 +1.6**
GALF AML AML
comp=N,162µm,0.4s
GALF AML AML
comp=E,231µm,0.5s
GIB Gibilmanna 2.31 222 P **Pn** **22 40 15.1 +0.6**
CSLB Castelbuono 2.33 221 P **Pn** **22 40 15.1 +0.5**
PETRA Petralia Sopra 2.38 219 P **Pn** **22 40 16.1 +0.8**
CAGR Agira 2.39 210 P **Pn** **22 40 17.1 +1.9**
HAGA Augusta 2.51 196 P **Pn** **22 40 15.9 -0.5**
HAGA AML AML
comp=N,64µm,0.5s
HAGA AML AML
comp=E,69µm,0.4s
HAGA AML AML
comp=N,64µm,1.5s
HAGA AML AML
comp=N,49µm,0.2s
HAGA AML AML
comp=E,47µm,0.3s
HLNI Lentini 2.52 201 P **Pn** **22 40 16.2 -0.3**
HLNI S **S** **22 40 52.9 -1.8**
HLNI AML AML
comp=E,58µm,0.7s
HLNI AML AML
comp=N,57µm,0.5s
HLNI AML AML
comp=E,58µm,1.3s
HLNI AML AML
comp=N,55µm,0.1s
HLNI AML AML
comp=E,47µm,0.3s
AGST Augusta-Monte 2.52 194 P **Pn** **22 40 15.7 -0.8**
AGST S **S** **22 40 52.3 -2.5**
AGST AML AML
comp=E,92µm,0.2s
AGST AML AML
comp=N,128µm,0.2s
VAE Valguarnera 2.55 210 P **Pn** **22 40 19.3 +2.5**
comp=N,5.1nm,0.3s,baz=132,slow=14,SNR=9.7
VAE S **S** **22 41 01.4 +5.9**
comp=N,3.6nm,0.3s,baz=356,slow=21,SNR=1.3
ALJA Alia 2.63 223 P **Pn** **22 40 19.2 +1.6**
ALJA AML AML
comp=N,47µm,1.5s
ALJA AML AML
comp=E,49µm,1.5s
ALJA AML AML
comp=N,47µm,0.5s
ALJA AML AML
comp=E,44µm,1.6s
ALJA AML AML
comp=N,47µm,0.7s
SSY Sortino 2.65 196 P **Pn** **22 40 17.1 -0.7**
SSY AML AML
comp=N,298µm,1.5s
SSY AML AML
comp=E,144µm,0.6s
SSY AML AML
comp=N,296µm,0.1s
SSY AML AML
comp=E,115µm,0.1s
CPTP Pietraperzia 2.71 213 P **Pn** **22 40 20.8 +2.4**
CPTP AML AML
comp=E,82µm,1.0s
CPTP AML AML
comp=N,134µm,1.6s
CPTP AML AML
comp=N,133µm,1.6s
CPTP AML AML
comp=E,82µm,1.0s
RAFF Raffo Rosso 2.79 208 P **Pn** **22 40 20.3 +1.1**
RAFF AML AML
comp=N,51µm,1.2s
RAFF AML AML
comp=E,50µm,0.8s
RAFF AML AML
comp=N,45µm,0.8s
RAFF AML AML
comp=E,50µm,0.8s
CLTA Licata 3.01 213 P **Pn** **22 40 23.0 +1.5**
CLTA AML AML
comp=E,30µm,1.5s
CLTA AML AML
comp=E,30µm,0.5s
CLTA AML AML
comp=N,52µm,0.6s
CLTA AML AML
comp=N,52µm,0.6s

CLTA					AML	AML			
	comp=E,28µm,0.7s								
ISPIC	**ISPICA**	**3.05**	**197**	P		**Pn**	**22 40 22.0**	**+0.1**
ISPIC				S		**S**	**22 41 04.6**	**0.0**
ISPIC				AML	AML			
	comp=N,49µm,0.6s								
ISPIC				AML	AML				
	comp=E,454µm,1.4s								
HPAC	**Pachino**	**3.09**	**193**	P		**Pn**	**22 40 22.2**	**-0.1**
HPAC				AML	AML				
	comp=E,71µm,0.6s								
HPAC				AML	AML				
	comp=N,87µm,1.2s								
CROCE	**Santa Croce Ca**	**3.09**	**202**	⇓P		**Pn**	**22 40 23.0**	**+0.7**
CROCE				AML	AML				
	comp=E,47µm,0.8s								
CROCE				AML	AML				
	comp=N,57µm,0.7s								
CROCE				AML	AML				
	comp=N,57µm,1.3s								
CROCE				AML	AML				
	comp=N,43µm,0.3s								
OBKA	**Obir**	**6.88**	**352**	*i* Pn		**Pn**	**22 41 08.1**	**+0.8**
	comp=N,2.4nm,0.6s								
OBKA	**Obir**	**6.88**	**352**	*e*Pn		**Pn**	**22 41 07.4**	**+0.1**
	comp=N,2.5nm,0.8s								
SOKA	**Soboth**	**7.00**	**355**	*i* Pn		**Pn**	**22 41 08.7**	**-0.2**
	comp=N,1.3nm,0.5s								
ABTA	**Abfaltersbach**	**7.48**	**341**	*i* Pn		**Pn**	**22 41 15.1**	**+0.3**
	comp=N,2.6nm,0.5s								
KBA	**Koelnbreinsper**	**7.62**	**346**	*i* Pn		**Pn**	**22 41 17.9**	**+1.3**
	comp=N,3.0nm,0.6s								
RONA	**Rosalia, Austr**	**7.99**	**1**	*i* Pn		**Pn**	**22 41 21.8**	**+0.6**
	comp=N,3.1nm,0.9s								
BIOA	**Bad Ischl, Aus**	**8.16**	**349**	*i* Pn		**Pn**	**22 41 23.1**	**-0.2**
	comp=N,2.0nm,0.6s								
WTTA	**Wattenberg**	**8.19**	**339**	*i* Pn		**Pn**	**22 41 25.4**	**+1.6**
	comp=N,1.6nm,0.5s								
WTTA	**Wattenberg**	**8.19**	**339**	*e*Pn		**Pn**	**22 41 25.6**	**+1.8**
	comp=N,2.2nm,0.6s								
CONA	**Conrad Observa**	**8.22**	**359**	*i* Pn		**Pn**	**22 41 24.6**	**+0.6**
	comp=N,1.3nm,0.7s								
MOA	**Molln**	**8.23**	**352**	*i* Pn		**Pn**	**22 41 24.7**	**+0.5**
	comp=N,1.9nm,0.6s								
MOA	**Molln**	**8.23**	**352**	*e*Pn		**Pn**	**22 41 24.7**	**+0.5**
	comp=N,4.2nm,1.1s								
FETA	**Feichten**	**8.25**	**334**	*i* Pn		**Pn**	**22 41 24.7**	**+0.1**
	comp=N,3.3nm,0.7s								
WATA	**Walderalm**	**8.27**	**339**	*e*Pn		**Pn**	**22 41 24.7**	**-0.1**
	comp=N,2.8nm,0.6s								
SQTA	**Sankt Quirin**	**8.28**	**337**	*i* Pn		**Pn**	**22 41 24.2**	**-0.7**
	comp=N,1.2nm,0.4s								
RJOB	**Jochberg**	**8.35**	**345**	*e*Pn		**Pn**	**22 41 27.1**	**+1.4**
	comp=N,2.6nm,0.6s								
DAVOX	**Davos/Dischmat**	**8.36**	**330**	P		**Pn**	**22 41 25.3**	**-0.7**
	comp=N,1.2nm,0.5s,baz=197,slow=8.5,SNR=6.7								
MOTA	**Moosalm**	**8.42**	**337**	*i* Pn		**Pn**	**22 41 26.2**	**-0.5**
	comp=N,4.1nm,1.3s								
ZUGS	**Zugspitze, Sch**	**8.52**	**336**	*e*Pn		**Pn**	**22 41 28.7**	**+0.6**
RETA	**Reutte**	**8.65**	**336**	*i* Pn		**Pn**	**22 41 29.7**	**+0.2**
	comp=N,3.3nm,0.8s								
DAVA	**Damuels**	**8.78**	**332**	*i* Pn		**Pn**	**22 41 31.2**	**0.0**
	comp=N,2.4nm,0.6s								
DAVA	**Damuels**	**8.78**	**332**	*e*Pn		**Pn**	**22 41 31.2**	**0.0**
	comp=N,2.9nm,0.7s								
BE1	**Monatshausen**	**8.89**	**339**	*e*Pn		**Pn**	**22 41 32.6**	**+0.1**
	comp=N,10.0nm,0.7s								
UBR	**Ueberruh**	**9.04**	**334**	*e*Pn		**Pn**	**22 41 34.0**	**-0.3**
	comp=N,5.4nm,0.7s								
GEC2	**GERESS Array S**	**9.28**	**351**	*e*Pn		**Pn**	**22 41 37.0**	**-0.4**
	comp=N,3.2nm,0.6s								
GERES	**GERESS Array B**	**9.28**	**351**	P		**Pn**	**22 41 37.4**	**-0.1**
	comp=N,3.0nm,0.6s,baz=167,slow=12,SNR=25								
GRF	**Grafenberg Arr**	**10.54**	**343**	*e*Pn		**Pn**	**22 41 52.1**	**-1.0**
BRTR	**Keskin Array B**	**13.59**	**84**	P		**P**	**22 42 34.6**	**+3.0**
	comp=N,0.7nm,0.5s,baz=272,slow=11,SNR=6.3								
ESDC	**Sonseca Array**	**15.37**	**276**	P		**Pn**	**22 42 53.8**	**+1.6**
	comp=N,0.7nm,0.4s,baz=75,slow=11,SNR=16								
MMAI	**Mount Meron Ar**	**16.98**	**107**	P		**P**	**22 43 11.9**	**+3.0**
	comp=N,0.9nm,0.4s,baz=302,slow=10,SNR=6.3								
EKA	**Eskdalemuir Ar**	**20.18**	**327**	P		**P**	**22 43 40.7**	**-2.2**
	comp=N,0.2nm,0.3s,baz=148,slow=11,SNR=4.8								
HFS	**Hagfors**	**20.50**	**357**	P		**P**	**22 43 43.5**	**-2.7**
	comp=N,3.6nm,0.6s,baz=186,slow=9.8,SNR=15								
	comp=N,3.6nm,0.6s								
NB2	**NORSAR Subarra**	**21.56**	**354**	P		**P**	**22 43 55.7**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=169,slow=11								
NOA	**NORSAR Array B**	**21.56**	**354**	P		**P**	**22 43 55.8**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=165,slow=10,SNR=4.8								
	comp=Z,0.6nm,0.6s								
FINES	**FINESS Array B**	**22.63**	**13**	P		**P**	**22 44 06.1**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=181,slow=8.9,SNR=9.6								
	comp=Z,1.5nm,0.5s								
ARCES	**ARCESS Array B**	**30.31**	**7**	P		**P**	**22 45 13.7**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=192,slow=8.5,SNR=5.0								
	comp=Z,1.6nm,0.9s								
MKAR	**Makanchi Array**	**47.51**	**59**	P		**P**	**22 47 37.9**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=283,slow=6.8,SNR=7.8								
	comp=Z,0.3nm,0.3s								
SCHQ	**Schefferville**	**54.92**	**315**	P		**P**	**22 48 30.6**	**-1.0**
	comp=Z,14nm,0.3s,baz=61,slow=6.2,SNR=6.3								

ROM ***16*** *22:53:12.0±0.3,44°.995N×0°.005×15°.13E×0°.02,h8km±2km, ML3.0/40,Error ellipse: s-maj=1.0km s-min=0.8km az=264.0*
BEO ***16*** *22:53:13.8±0.3,45°.09N×15°.14E, h9km±2km,ML2.7/16*
RHSSO ***16*** *22:53:13.0±0.3,45°.07N×15°.10E, h5km±2km,ML2.8/9*
PDG ***16*** *22:53:13.0±0.7,45°.04N×15°.07E,h14km±2km, ML3.1/8, Error ellipse: s-maj=1.6km s-min=1.7km az=0.0*
VIE ***16*** *22:53:15.1±0.5,45°.17N×14°.99E,h6km±1km,mb2.3/18, ml2.6/18,Error ellipse: s-maj=3.0km s-min=2.0km az=163.0 49 km ESE of Rijeka*
PRU ***16*** *22:53:16.5,45°.16N×14°.66E,h12km*
ISC 16 22:53:12.7±1.0,**45°.04N**±0°.01×**15°.09E**±0°.01,**h8**km±8km, **n130,σ0s87/215,5C-2D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABC	**Rab**	**0.36**	**217**	*e*Pg	**Pg**	**22 53 19.6**	**-0.2**
RABC				Sg	**Sg**	**22 53 24.7**	**+0.2**
PLIT	**Plitvice**	**0.41**	**113**	*i* Pg	**Pg**	**22 53 20.8**	**+0.1**
PLIT				Sg	**Sg**	**22 53 26.4**	**+0.2**
BOJS	**Bojanci**	**0.48**	**14**	⇓*i* Pg	**Pg**	**22 53 22.2**	**+0.3**
BOJS				*e*Sg	**Sg**	**22 53 29.3**	**+1.0**
BOJS				IAML		22 53 31.7	
	comp=Z,128nm,0.1s						
BOJS	**Bojanci**	**0.48**	**14**	*e*Pg	**Pg**	**22 53 22.1**	**+0.1**
BOJS				*e*Sg	**Sg**	**22 53 28.9**	**+0.6**
BOJS	**Bojanci**	**0.48**	**14**	P	**Pg**	**22 53 22.3**	**+0.3**
BOJS				S	**Sb**	**22 53 30.0**	**-0.6**
NVLJ	**Novalja**	**0.50**	**198**	*e*Pg	**Pg**	**22 53 21.9**	**-0.4**
NVLJ				Sg	**Sg**	**22 53 29.3**	**+0.4**
RIY	**Rijeka**	**0.52**	**304**	*i* Pg	**Pg**	**22 53 22.4**	**-0.2**
RIY				Sg	**Sg**	**22 53 30.5**	**+1.1**
RIY	**Rijeka**	**0.52**	**304**	*e*Pg	**Pg**	**22 53 22.2**	**-0.4**
RIY				*e*Sg	**Sg**	**22 53 30.1**	**+0.7**
GBRS	**Gornja Briga**	**0.53**	**338**	⇓*i* Pg	**Pg**	**22 53 22.9**	**0.0**
GBRS				*i* Sg	**Sb**	**22 53 31.4**	**-0.6**
GBRS				IAML		22 53 32.5	
	comp=Z,88nm,0.2s						
OZLJ	**Ozalj**	**0.64**	**25**	*e*Pg	**Pg**	**22 53 24.9**	**0.0**
OZLJ				*e*Sg	**Sg**	**22 53 32.4**	**-0.8**
OZLJ	**Ozalj**	**0.64**	**25**	*e*Pg	**Pb**	**22 53 25.4**	**-0.6**
OZLJ				Sg	**Sg**	**22 53 32.6**	**-0.6**
KNDS	**Knezji Dol**	**0.70**	**315**	*i* Pg	**Pg**	**22 53 25.7**	**-0.5**
KNDS				*e*Sg	**Sb**	**22 53 36.5**	**-0.5**
KNDS				IAML		22 53 39.2	
	comp=Z,84nm,0.2s						
UDBI	**Udbina**	**0.70**	**136**	*e*Pg	**Pg**	**22 53 26.0**	**-0.2**
UDBI				Sg	**Sg**	**22 53 34.5**	**-0.8**
VIRC	**Vir**	**0.75**	**182**	*i* Pg	**Pg**	**22 53 26.1**	**-0.9**
VIRC				Sg	**Sg**	**22 53 37.4**	**+0.6**
VISS	**Visnje**	**0.78**	**347**	*i* Pg	**Pg**	**22 53 27.3**	**-0.5**
VISS				IAML		22 53 39.9	
	comp=Z,87nm,0.2s						
CRES	**Cresnjevec Ost**	**0.83**	**18**	*i* Pg	**Pb**	**22 53 29.0**	**-0.4**
CRES				IAML		22 53 43.8	
	comp=Z,57nm,0.1s						
CEY	**Cerknica**	**0.84**	**327**	*e*Pg	**Pg**	**22 53 28.1**	**-0.8**
CEY				*e*Sg	**Sb**	**22 53 41.7**	**+0.7**
GCIS	**Gornji Cirnik**	**0.91**	**24**	*i* Pg	**Pb**	**22 53 30.4**	**-0.3**
SKDS	**Skadanscina**	**0.91**	**304**	*e*Pg	**Pg**	**22 53 29.9**	**-0.3**
SKDS				*e*Sg	**Sb**	**22 53 43.4**	**+0.3**
BRJN	**Brijuni**	**0.96**	**262**	⇑*i* Pg	**Pg**	**22 53 30.3**	**-0.8**
BRJN				*e*Sg	**Sg**	**22 53 43.8**	**+0.3**
BRJN	**Brijuni**	**0.96**	**262**	*e*Pg	**Pg**	**22 53 31.2**	**+0.1**
BRJN				Sg	**Sb**	**22 53 44.2**	**-0.1**
ZAG	**Zagreb**	**1.01**	**38**	*e*Pg	**Pb**	**22 53 32.6**	**+0.2**
ZAG				Sg	**Sb**	**22 53 45.7**	**-0.2**
DUGI	**Dugi Otok**	**1.05**	**181**	*e*Pg	**Pg**	**22 53 31.6**	**-1.1**
DUGI				Sg	**Sg**	**22 53 46.6**	**+0.3**
PTJ	**Puntijarka**	**1.07**	**35**	*e*Pg	**Pg**	**22 53 33.2**	**0.0**
PTJ				Sg	**Sg**	**22 53 46.8**	**-0.2**
LJU	**Ljubljana**	**1.08**	**339**	*e*Pg	**Pg**	**22 53 33.4**	**0.0**
LJU				*e*Sg	**Sb**	**22 53 48.3**	**+0.4**
LJU	**Ljubljana**	**1.08**	**339**	P	**Pb**	**22 53 33.9**	**+0.2**
LJU				S	**Sb**	**22 53 48.3**	**+0.4**
VNDS	**Vrh nad Dolski**	**1.10**	**346**	*i* Pg	**Pb**	**22 53 33.8**	**-0.1**
TRI	**Trieste**	**1.15**	**306**	P	**Pb**	**22 53 35.0**	**+0.2**
TRI				S	**Sn**	**22 53 51.3**	**+0.3**
TRI				AML	AML		
	comp=E,107µm,0.4s						
TRI				AML	AML		
	comp=N,99µm,0.5s						
TRI				AML	AML		
	comp=N,315µm,0.3s						
TRI				AML	AML		
	comp=E,324µm,0.4s						
TRI				AML	AML		
	comp=N,315µm,0.3s						
TRI				AML	AML		
	comp=E,324µm,0.4s						
MORI	**Morici**	**1.25**	**159**	*e*Pg	**Pn**	**22 53 35.6**	**-0.9**
MORI				Sg	**Sb**	**22 53 52.2**	**-0.6**
VOJS	**Vojsko**	**1.30**	**320**	*e*Pg	**Pn**	**22 53 36.5**	**-0.8**
VOJS				*i*		22 53 38.0	
VOJS				*i* Sg	**Sn**	**22 53 56.8**	**+1.8**
VOJS				IAML		22 53 58.8	
	comp=Z,65nm,0.2s						
MOSL	**Moslavina**	**1.31**	**63**	*e*Pg	**Pn**	**22 53 36.3**	**-1.0**
MOSL				*e*Sg	**Sb**	**22 53 54.2**	**-0.3**
MOSL	**Moslavina**	**1.31**	**63**	*e*Pg	**Pn**	**22 53 37.0**	**-0.2**
MOSL				Sg	**Sb**	**22 53 53.9**	**-0.6**
LOBO	**Lobor**	**1.31**	**31**	*e*Pg	**Pn**	**22 53 37.4**	**0.0**
LOBO				Sg	**Sn**	**22 53 55.0**	**0.0**
KIJV	**Kijevo**	**1.40**	**137**	⇑*i* Pg	**Pn**	**22 53 37.9**	**-0.6**
KIJV				*e*Sg	**Sg**	**22 53 58.3**	**+0.7**
KIJV	**Kijevo**	**1.40**	**137**	*e*Pn	**Pb**	**22 53 39.1**	**+0.1**
KIJV				Sg	**Sg**	**22 53 58.0**	**+0.4**
SABO	**M.te Sabotino**	**1.41**	**312**	P	**Pb**	**22 53 39.1**	**-0.1**
SABO				S	**Sg**	**22 53 59.0**	**+1.1**
SABO				AML	AML		
	comp=E,956µm,0.2s						
SABO				AML	AML		
	comp=N,732µm,0.3s						
SABO				AML	AML		
	comp=E,229µm,0.2s						
SABO				AML	AML		
	comp=N,210µm,0.3s						
SABO				AML	AML		
	comp=N,2890µm,0.5s						
SABO				AML	AML		
	comp=E,592µm,0.6s						
SABO				AML	AML		
	comp=E,2265µm,0.6s						
SABO				AML	AML		
	comp=N,756µm,0.5s						
SABO				AML	AML		
	comp=E,592µm,1.4s						
SABO				AML	AML		
	comp=N,755µm,0.5s						
SABO				AML	AML		
	comp=E,2118µm,0.6s						
ZIRJ	**Zirje**	**1.44**	**164**	*e*Pg	**Pn**	**22 53 39.1**	**+0.1**
ZIRJ				Sg	**Sb**	**22 53 58.4**	**+0.2**
KALN	**Kalnik**	**1.45**	**41**	*e*Pg	**Pb**	**22 53 39.9**	**-0.1**
KALN				Sg	**Sg**	**22 53 59.0**	**-0.4**
BLY	**Banja Luka**	**1.52**	**100**	⇑*i* Pn	**Pn**	**22 53 40.0**	**-0.1**
BLY				*e*Sn	**Sb**	**22 54 00.7**	**+0.2**
BLY	**Banja Luka**	**1.52**	**100**	*e*Pg	**Pn**	**22 53 40.0**	**-0.1**
BLY				*e*Sg	**Sn**	**22 53 59.7**	**-0.4**
BLY	**Banja Luka**	**1.52**	**100**	P	**Pn**	**22 53 40.0**	**-0.1**
OBKA	**Obir**	**1.52**	**346**	*e*Pn	**Pb**	**22 53 41.1**	**0.0**
	comp=E,29nm,0.3s,SNR=48						
OBKA				*e*Sg	**Sg**	**22 54 01.1**	**-0.3**
	comp=E,42nm,0.2s						
DRE	**Drenchia**	**1.52**	**319**	P	**Pb**	**22 53 41.0**	**-0.2**
DRE				S	**Sg**	**22 54 02.2**	**+0.6**
SOKA	**Soboth**	**1.64**	**359**	*i* Pn	**Pn**	**22 53 42.1**	**+0.2**
	comp=E,5.2nm,0.3s,SNR=8.9						
SOKA				*e*Sg	**Sg**	**22 54 05.4**	**0.0**
	comp=E,10nm,0.3s						
VINO	**Villanova**	**1.76**	**314**	P	**Pn**	**22 53 43.9**	**+0.4**
VINO				AML	AML		
	comp=E,249µm,0.5s						
VINO				AML	AML		
	comp=N,317µm,0.8s						
VINO				AML	AML		
	comp=E,288µm,0.6s						
VINO				AML	AML		
	comp=E,287µm,0.6s						
VINO				AML	AML		
	comp=N,317µm,0.8s						
BAD	**Bernadia**	**1.76**	**313**	P	**Pn**	**22 53 44.0**	**+0.4**
BAD				S	**Sb**	**22 54 07.4**	**-0.2**
AOI	**Ancona**	**1.83**	**216**	P	**Pn**	**22 53 44.4**	**-0.1**
AOI				S	**Sn**	**22 54 08.4**	**+0.5**
GEPF	**Gemona**	**1.84**	**313**	P	**Pn**	**22 53 45.0**	**+0.4**
GEPF				S	**Sb**	**22 54 09.9**	**+0.1**
GEPF				AML	AML		
	comp=N,251µm,0.9s						
GEPF				AML	AML		
	comp=E,327µm,0.5s						
GEPF				AML	AML		
	comp=N,276µm,0.5s						
GEPF				AML	AML		
	comp=E,327µm,0.5s						
GEPF				AML	AML		
	comp=N,277µm,0.5s						
BEHE	**Becsehely**	**1.85**	**39**	*e*Pn	**Pn**	**22 53 45.1**	**+0.3**
BEHE				*e*Sn	**Sn**	**22 54 08.9**	**+0.5**
ACOM	**Acomizza, Ital**	**1.87**	**324**	P	**Pn**	**22 53 45.1**	**-0.1**
ACOM				S	**Sn**	**22 54 09.6**	**+0.6**
ACOM				AML	AML		
	comp=N,328µm,0.7s						
ACOM				AML	AML		
	comp=E,322µm,0.9s						
ACOM				AML	AML		
	comp=E,320µm,0.9s						
ACOM				AML	AML		
	comp=E,322µm,1.1s						
ACOM				AML	AML		
	comp=N,316µm,0.5s						
ACOM				AML	AML		
	comp=E,300µm,0.7s						
ACOM				AML	AML		
	comp=N,316µm,0.6s						
ACOM				AML	AML		
	comp=N,316µm,0.5s						
ACOM				AML	AML		
	comp=E,277µm,0.7s						
SENI	**Senigallia**	**1.88**	**226**	P	**Pn**	**22 53 45.4**	**+0.2**
SENI				S	**Sn**	**22 54 08.7**	**-0.4**
MYKA	**Terra Mystica**	**1.89**	**328**	*e*Pn	**Pb**	**22 53 46.6**	**-0.8**
	comp=E,8.1nm,0.2s,SNR=7.7						
MYKA				*e*Sg	**Sg**	**22 54 12.8**	**-0.4**
	comp=E,19nm,0.3s						
MPRI	**Monte Prat**	**1.90**	**310**	P	**Pn**	**22 53 46.0**	**+0.5**
MPRI				AML	AML		
	comp=E,161µm,0.4s						
MPRI				AML	AML		
	comp=N,183µm,1.2s						
MPRI				AML	AML		
	comp=E,222µm,0.4s						
MPRI				AML	AML		
	comp=N,236µm,1.2s						
MPRI				AML	AML		
	comp=N,226µm,1.1s						
MPRI				AML	AML		
	comp=N,290µm,1.1s						
MPRI				AML	AML		
	comp=E,246µm,0.4s						
MPRI				AML	AML		
	comp=N,226µm,0.9s						
MPRI				AML	AML		
	comp=N,290µm,0.9s						
MPRI				AML	AML		
	comp=E,180µm,0.4s						
MPRI				AML	AML		
	comp=E,180µm,0.4s						
MPRI				AML	AML		
	comp=N,276µm,0.6s						
MPRI				AML	AML		
	comp=E,247µm,0.4s						
MPRI				AML	AML		
	comp=N,201µm,0.4s						
DST2	**Trieste**	**1.94**	**309**	P	**Pn**	**22 53 46.3**	**+0.4**
PESA	**Pesaro**	**1.95**	**236**	P	**Pn**	**22 53 46.1**	**+0.1**
FUSE	**Fusea**	**2.01**	**314**	P	**Pn**	**22 53 47.1**	**+0.2**
PLRO	**Paularo**	**2.03**	**319**	P	**Pn**	**22 53 48.0**	**+0.7**
STAL	**STALIGIAL**	**2.07**	**307**	P	**Pn**	**22 53 47.8**	**0.0**
STAL				AML	AML		
	comp=N,374µm,0.6s						
STAL				AML	AML		
	comp=N,259µm,1.3s						
STAL				AML	AML		
	comp=E,282µm,0.7s						
STAL				AML	AML		
	comp=E,304µm,0.3s						
STAL				AML	AML		
	comp=N,374µm,1.4s						
STAL				AML	AML		
	comp=N,259µm,0.7s						
STAL				AML	AML		
	comp=N,324µm,0.3s						
STAL				AML	AML		
	comp=E,304µm,0.3s						
STAL				AML	AML		
	comp=N,235µm,0.2s						
STAL				AML	AML		
	comp=E,263µm,0.3s						
CLUD	**Cludinico**	**2.10**	**313**	P	**Pn**	**22 53 48.3**	**+0.1**
CLUD				S	**Sn**	**22 54 15.7**	**+1.3**
CLUD				AML	AML		
	comp=E,248µm,1.0s						
CLUD				AML	AML		
	comp=N,172µm,0.6s						
CLUD				AML	AML		
	comp=N,154µm,0.7s						
CLUD				AML	AML		
	comp=E,248µm,1.0s						
CLUD				AML	AML		
	comp=E,230µm,1.0s						
CLUD				AML	AML		
	comp=N,154µm,1.3s						
CLUD				AML	AML		
	comp=N,172µm,1.4s						
CLUD				AML	AML		
	comp=E,230µm,1.0s						
CLUD				AML	AML		
	comp=N,153µm,0.7s						
CLUD				AML	AML		
	comp=E,248µm,1.1s						
CLUD				AML	AML		
	comp=N,172µm,0.6s						
CAE	**Caneva**	**2.10**	**298**	P	**Pn**	**22 53 48.5**	**+0.3**
ZOU	**Zoufplan**	**2.12**	**316**	P	**Pn**	**22 53 49.2**	**+0.6**
ZOU				S	**Sb**	**22 54 16.9**	**-1.1**
ZOU				AML	AML		
	comp=E,187µm,0.5s						
ZOU				AML	AML		
	comp=N,195µm,0.9s						
ZOU				AML	AML		
	comp=E,198µm,0.6s						
ZOU				AML	AML		
	comp=N,189µm,0.9s						
ZOU				AML	AML		
	comp=N,195µm,1.1s						
ZOU				AML	AML		
	comp=E,187µm,1.5s						
ZOU				AML	AML		
	comp=E,198µm,1.4s						
ZOU				AML	AML		
	comp=N,189µm,1.1s						
ZOU				AML	AML		
	comp=E,187µm,0.5s						
ZOU				AML	AML		
	comp=E,198µm,0.6s						
ZOU				AML	AML		
	comp=N,189µm,0.9s						
ZOU				AML	AML		
	comp=N,195µm,0.9s						
RICI	**Ricice**	**2.13**	**136**	*e*Pn	**Pb**	**22 53 50.3**	**-1.3**
RICI				Sn	**Sb**	**22 54 17.7**	**-0.5**
CING	**Cingoli**	**2.15**	**220**	P	**Pn**	**22 53 48.0**	**-0.9**
ARVD	**Arcevia**	**2.18**	**226**	P	**Pn**	**22 53 48.9**	**-0.4**
ARSA	**Arzberg**	**2.23**	**8**	*e*Pn	**Pn**	**22 53 50.1**	**+0.1**
	comp=N,1.9nm,0.3s						
ARSA				*e*Sg	**Sg**	**22 54 26.5**	**+2.1**
	comp=N,4.2nm,0.3s						
ARSA	**Arzberg**	**2.23**	**8**	*e*Pn	**Pn**	**22 53 49.6**	**-0.4**
MAKA	**Makarska**	**2.24**	**141**	*e*Pn	**Pb**	**22 53 52.0**	**-1.3**
MAKA				Sn	**Sn**	**22 54 19.4**	**+1.6**
FVI	**Forni Avoltri**	**2.24**	**315**	P	**Pn**	**22 53 50.6**	**+0.5**
FVI				AML	AML		
	comp=E,153µm,1.3s						
FVI				AML	AML		
	comp=E,153µm,0.7s						
FVI				AML	AML		
	comp=N,163µm,0.5s						
FVI				AML	AML		
	comp=E,134µm,0.5s						
FVI				AML	AML		
	comp=N,163µm,0.5s						
CIMO	**Cimolais**	**2.25**	**305**	P	**Pn**	**22 53 50.0**	**-0.3**
CIMO				S	**Sn**	**22 54 20.1**	**+1.9**
CIMO				AML	AML		
	comp=E,50µm,1.2s						
CIMO				AML	AML		
	comp=N,59µm,0.5s						
CIMO				AML	AML		
	comp=N,59µm,1.5s						
CIMO				AML	AML		
	comp=E,55µm,0.5s						
CIMO				AML	AML		
	comp=N,59µm,0.5s						
CIMO				AML	AML		
	comp=E,42µm,0.5s						
CIMO				AML	AML		
	comp=N,67µm,0.6s						
MNTT	**Montottone**	**2.25**	**209**	P	**Pn**	**22 53 50.3**	**0.0**
SNTG	**Esanatoglia**	**2.36**	**222**	P	**Pn**	**22 53 51.1**	**-0.6**
SNTG				S	**Sn**	**22 54 21.3**	**+0.4**
MF5	**Montefalcone A**	**2.36**	**210**	P	**Pn**	**22 53 51.5**	**-0.4**
KBA	**Koelnbreinsper**	**2.37**	**330**	*e*Pn	**Pn**	**22 53 53.4**	**+1.3**
	comp=N,0.5nm,0.1s						
KBA				*i* Sn	**Sn**	**22 54 20.7**	**-0.7**
	comp=N,3.5nm,0.3s						
MML1	**Montelago di S**	**2.46**	**219**	P	**Pn**	**22 53 52.7**	**-0.4**
FDMO	**Fiordimonte**	**2.47**	**216**	P	**Pn**	**22 53 52.4**	**-0.8**
ABTA	**Abfaltersbach**	**2.48**	**314**	*e*Pn	**Pn**	**22 53 54.2**	**+0.7**
	comp=N,1.8nm,0.2s,SNR=10						
ABTA				*e*Sg	**Sg**	**22 54 32.2**	**-0.1**
	comp=N,16nm,0.4s						
MC2	**Monte Cornacci**	**2.53**	**213**	P	**Pn**	**22 53 53.5**	**-0.7**
CESI	**CESI - Serrava**	**2.57**	**219**	P	**Pn**	**22 53 54.0**	**-0.7**
LSTV	**Lastovo**	**2.62**	**150**	*e*Pn	**Pn**	**22 53 55.8**	**+0.6**
LSTV				Sn	**Sn**	**22 54 28.1**	**+0.9**
NRCA	**Norcia**	**2.63**	**214**	P	**Pn**	**22 53 54.7**	**-0.7**
SMA1	**SAN MARTINO**	**2.72**	**208**	P	**Pn**	**22 53 56.0**	**-0.7**
MORH	**Mrgy, Hungar**	**2.76**	**64**	*e*Pn	**Pn**	**22 53 57.7**	**+0.5**
MORH				*e*Sn	**Sn**	**22 54 30.9**	**+0.3**
MORH	**Mrgy, Hungar**	**2.76**	**64**	*e*Pn	**P

	comp=N,1.8nm,0.2s,SNR=10							
CONA				*i* Sn	**Sn**	22 54 35.5	+0.2	
	comp=N,2.1nm,0.2s							
KLINJ	**Klinje**	**3.14**	**125**	*e*Pn	**Pn**	22 54 03.6	+1.1	
KLINJ				*e*Sn	**Sn**	22 54 40.7	+0.5	
TEKS	**Tekeris**	**3.20**	**97**	*e*Pn	**Pn**	22 54 03.6	+0.3	
DBRK	**Dubrovnik**	**3.24**	**136**	*e*Pn	**Pn**	22 54 05.1	+1.3	
DBRK				Sn	**Sn**	22 54 43.5	+0.9	
WTTA	**Wattenberg**	**3.27**	**314**	*i* Pn	**Pn**	22 54 05.8	+1.4	
	comp=N,3.8nm,0.2s,SNR=14							
WTTA				*i* Sn	**Sn**	22 54 42.6	-1.0	
	comp=N,6.9nm,0.4s							
BRY	**Bratogost**	**3.28**	**129**	*e*Pn	**Pn**	22 54 05.7	+1.2	
BRY				*i* Sn	**Sn**	22 54 45.0	+1.2	
BBLS	**Lazi&#263i**	**3.31**	**109**	*e*Pn	**Pn**	22 54 05.4	+0.6	
TREB	**Trebinje**	**3.31**	**133**	*e*Pn	**Pn**	22 54 05.6	+0.8	
TREB				*e*Sn	**Sn**	22 54 45.0	+0.7	
TREB	**Trebinje**	**3.31**	**133**	*e*Pn	**Pn**	22 54 06.6	+1.8	
FRGS	**Fruska Gora**	**3.35**	**86**	*e*Pn	**Pn**	22 54 05.6	+0.3	
WATA	**Walderalm**	**3.35**	**315**	*i* Pn	**Pn**	22 54 06.9	+1.4	
	comp=N,3.8nm,0.2s,SNR=11							
WATA				*i* Sn	**Sn**	22 54 46.3	+0.8	
	comp=N,2.8nm,0.2s							
RUDO	**Rudo**	**3.38**	**113**	⇑*i* Pn	**Pn**	22 54 06.3	+0.5	
RUDO				*e*Sn	**Sn**	22 54 46.4	+0.2	
SQTA	**Sankt Quirin**	**3.47**	**310**	*i* Pn	**Pn**	22 54 09.2	+2.1	
	comp=N,2.7nm,0.2s,SNR=5.6							
SQTA				*i* Sn	**Sn**	22 54 49.0	+0.6	
	comp=N,4.8nm,0.3s							
HCY	**Herceg Novi**	**3.58**	**135**	⇑*i* Pn	**Pn**	22 54 09.8	+1.3	
HCY				*i* Sn	**Sn**	22 54 52.1	+1.2	
MOTA	**Moosalm**	**3.60**	**311**	*i* Pn	**Pn**	22 54 10.6	+1.7	
	comp=N,1.2nm,0.2s							
MOTA				*i* Sn	**Sn**	22 54 52.4	+0.7	
	comp=N,3.8nm,0.3s							
FETA	**Feichten**	**3.63**	**305**	*i* Pn	**Pn**	22 54 10.8	+1.6	
	comp=N,0.8nm,0.3s							
FETA				*e*Pg	**Pg**	22 54 21.3	-0.9	
	comp=N,3.7nm,0.3s							
FETA				*e*Sg	**Sg**	22 55 09.4	+0.3	
	comp=N,3.8nm,0.3s							
CKRC	**Cesky Krumlov**	**3.82**	**352**	*e*SN	**Sn**	22 54 55.5	-1.4	
RETA	**Reutte**	**3.87**	**311**	*i* Pn	**Pn**	22 54 13.8	+1.2	
	comp=N,1.0nm,0.2s							
RETA				*e*Sn	**Sn**	22 54 58.5	+0.2	
	comp=N,1.8nm,0.2s							
KOME	**Kolasin**	**3.87**	**123**	*e*Pn	**Pn**	22 54 13.7	+1.1	
KOME				*i* Sn	**Sn**	22 54 59.4	+1.1	
TRUS	**Trudelj**	**3.88**	**100**	*e*Pn	**Pn**	22 54 13.4	+0.8	
BUM	**Brajici-Budva**	**3.89**	**133**	*e*Pn	**Pn**	22 54 14.0	+1.2	
BUM				*i* Sn	**Sn**	22 54 59.6	+1.0	
SJES	**Sjenica**	**3.94**	**115**	*e*Pn	**Pn**	22 54 15.0	+1.5	
PDG	**Podgorica**	**3.99**	**129**	*e*Pn	**Pn**	22 54 15.8	+1.7	
PDG	**Podgorica**	**3.99**	**129**	*e*Pn	**Pn**	22 54 15.5	+1.4	
PDG				*i* Sn	**Sn**	22 55 02.1	+1.1	
IVA	**Berane**	**4.09**	**120**	*e*Pn	**Pn**	22 54 16.9	+1.3	
IVA				*i* Sn	**Sn**	22 55 04.5	+0.8	
DRME	**Dracevica, Mon**	**4.12**	**132**	*e*Pn	**Pn**	22 54 16.9	+1.0	
DRME	**Dracevica, Mon**	**4.12**	**132**	*e*Pn	**Pn**	22 54 17.3	+1.4	
DRME				*i* Sn	**Sn**	22 55 05.3	+1.0	
KRUC	**Moravsky**	**4.12**	**12**	*e*PN	**Pn**	22 54 16.0	+0.1	
GRUS	**Gruza**	**4.19**	**104**	*e*Pn	**Pn**	22 54 17.1	+0.2	
KHC	**Kasperske Hory**	**4.22**	**346**	*e*PN	**Pn**	22 54 17.9	+0.6	
KHC				*e*SN	**Sn**	22 55 05.4	-1.4	
DAVA	**Damuels**	**4.26**	**304**	*i* Pn	**Pn**	22 54 18.6	+0.7	
	comp=N,0.5nm,0.2s							
ULC	**Ulcinj**	**4.31**	**134**	*e*Pn	**Pn**	22 54 20.0	+1.4	
ULC				*i* Sn	**Sn**	22 55 09.9	+0.9	
VRSS	**Vrsac**	**4.42**	**87**	*e*Pn	**Pn**	22 54 19.2	-0.8	
ZVC	**Zvikov**	**4.44**	**352**	*e*PN	**Pn**	22 54 21.0	+0.6	
ZVC				*e*SN	**Sn**	22 55 10.0	-2.2	
SELS	**Selova**	**4.71**	**111**	*e*Pn	**Pn**	22 54 25.2	+1.2	
MDVR	**Moldovita**	**4.71**	**91**	*e*Pn	**Pn**	22 54 25.3	+1.2	
PRU	**Pruhonice**	**4.97**	**356**	*e*PN	**Pn**	22 54 29.9	+2.4	
PRU				*e*SN	**Sn**	22 55 22.0	-3.1	
CLL	**Collm**	**6.43**	**348**	*e*Sg	**Sg**	22 56 36.0	-2.8	

ATH 16 22:56:15.1, 39°00N×20°67E, h20km, ML1.9/6, Manual Solution by K.Orfanogiannaki First location: 2019/09/16 22:57:16, This location: 2019/09/17 04:53:41 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSLK	**Tsoukalades, L**	**0.18**	**183**	P	Pb	22 56 20.2	-0.2
LKD2	**Lefkada island**	**0.21**	**182**	P	Pb	22 56 20.6	-0.1
LKD2				S	Sb	22 56 24.6	0.0
PRGA	**Parga**	**0.35**	**324**	P	Pb	22 56 22.8	+0.2
EVGI	**Lefkada island**	**0.38**	**181**	P	Pb	22 56 23.3	+0.2
EVGI				S	Sb	22 56 28.9	+0.4
FSK	**Fiskardo**	**0.55**	**189**	P	Pb	22 56 25.9	-0.2
FSK				S	Sb	22 56 33.7	+0.2
TETR	**Tetrakomo, Epi**	**0.58**	**54**	P	Pb	22 56 26.8	0.0
TETR				S	Sb	22 56 35.0	+0.3
JAN	**Janina**	**0.67**	**12**	P	Pb	22 56 28.6	+0.5
PVO	**Paravola**	**0.78**	**120**	P	Pb	22 56 30.1	+0.2
PVO				S	Sn	22 56 41.0	-0.9
VLS	**Valsamata**	**0.83**	**184**	P	Pb	22 56 30.5	-0.2
EVR	**Evrytania**	**0.90**	**95**	P	Pb	22 56 32.2	+0.2
AXS	**Araxos**	**0.98**	**145**	P	Pn	22 56 33.5	-0.1
ANX	**Ano Chora**	**1.06**	**112**	P	Pn	22 56 35.2	+0.3
RLS	**Riolos of Patr**	**1.13**	**146**	P	Pb	22 56 36.0	0.0
MAKR	**Makrakomi, Fth**	**1.14**	**89**	P	Pb	22 56 36.2	0.0
KLV	**Kalavryta, Ach**	**1.51**	**129**	P	Pb	22 56 41.8	-0.6

*VIE **16** 22:57:56.7±0.8, 45°07N×15°13E, h2km±4km, mb1.6/3, ml1.8/3, Error ellipse: s-maj=4.6km s-min=3.0km az=165.0*
57 km SW of Karlovac

RHSSO 16 22:57:57.1±0.3, 45°04N×15°11E, h6km±3km, ML1.7/7, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABC	**Rab**	**0.37**	**218**	*e*Pg	Pg	22 58 03.1	-1.2
RABC				Sg	Sg	22 58 08.4	-0.7
PLIT	**Plitvice**	**0.40**	**114**	*e*Pg	Pg	22 58 04.2	-0.7
PLIT				Sg	Sg	22 58 09.9	-0.2
NVLJ	**Novalja**	**0.51**	**199**	*e*Pg	Pg	22 58 05.4	-1.4
NVLJ				Sg	Sg	22 58 12.6	-0.8
RIY	**Rijeka**	**0.52**	**303**	*e*Pg	Pg	22 58 05.9	-1.2
RIY				Sg	Sg	22 58 13.2	-0.8
OZLJ	**Ozalj**	**0.63**	**24**	⇑*i*Pg	Pg	22 58 09.1	-0.1
OZLJ				*e*Sg	Sg	22 58 17.5	+0.1
OZLJ	**Ozalj**	**0.63**	**24**	*e*Pg	Pg	22 58 09.1	-0.1
OZLJ				Sg	Sg	22 58 17.7	+0.3
UDBI	**Udbina**	**0.70**	**137**	*e*Pg	Pg	22 58 09.7	-0.7
UDBI				Sg	Sg	22 58 18.1	-1.4
VIRC	**Vir**	**0.75**	**183**	*e*Pg	Pg	22 58 09.7	-1.7
VIRC				Sg	Sg	22 58 20.2	-1.0
BRJN	**Brijuni**	**0.97**	**262**	⇑*i*Pg	Pg	22 58 14.9	-0.8
BRJN				*e*Sg	Sg	22 58 27.4	-0.9
BRJN	**Brijuni**	**0.97**	**262**	*e*Pg	Pg	22 58 14.7	-1.1
BRJN				Sg	Sg	22 58 27.4	-0.9
DUGI	**Dugi Otok**	**1.05**	**182**	*e*Pg	Pg	22 58 15.3	-1.9
DUGI				Sg	Sg	22 58 30.2	-0.6
MORI	**Morici**	**1.25**	**160**	*e*Pg	Pg	22 58 20.0	-1.1
MORI				Sg	Sg	22 58 36.4	-0.9
MOSL	**Moslavina**	**1.30**	**63**	*e*Pg	Pn	22 58 20.7	-1.1
MOSL				*e*Sg	Sg	22 58 37.7	-1.1
MOSL	**Moslavina**	**1.30**	**63**	*e*Pg	Pn	22 58 20.7	-1.1
MOSL				Sg	Sg	22 58 38.2	-0.5
KIJV	**Kijevo**	**1.39**	**138**	*e*Pg	Pn	22 58 21.9	-1.2
KIJV				*e*Sg	Sg	22 58 41.8	0.0
KIJV	**Kijevo**	**1.39**	**138**	*e*Pg	Pn	22 58 22.3	-0.8
KIJV				Sg	Sb	22 58 41.5	-0.1
ZIRJ	**Zirje**	**1.44**	**164**	*e*Pg	Pn	22 58 22.8	-0.9
ZIRJ				Sg	Sb	22 58 41.9	-1.0
BLY	**Banja Luka**	**1.51**	**100**	*e*Pn	Pn	22 58 24.1	-0.6
BLY				*e*Sn	Sn	22 58 44.7	0.0
OBKA	**Obir**	**1.52**	**345**	*e*Pn	Pn	22 58 24.8	-0.1
	1.4nm,0.3s						
OBKA				*e*Sg	Sb	22 58 45.5	+0.2
	2.6nm,0.2s						
SOKA	**Soboth**	**1.64**	**358**	*i* Pn	Pn	22 58 26.2	-0.4
	0.2nm,0.1s						
SOKA				*e*Sg	Sb	22 58 48.8	+0.1
	0.6nm,0.2s						
BEHE	**Becsehely**	**1.85**	**39**	*e*Sn	Sn	22 58 53.4	+0.3
MYKA	**Terra Mystica**	**1.89**	**328**	*e*Sn	Sb	22 58 55.3	-0.7
	0.6nm,0.1s						
RICI	**Ricice**	**2.12**	**136**	*e*Pn	Pn	22 58 33.8	+0.5
RICI				Sn	Sn	22 59 01.1	+1.2
MAKA	**Makarska**	**2.23**	**141**	Sn	Sn	22 59 03.4	+0.9
MORH	**Mrgy, Hungar**	**2.75**	**63**	*e*Pn	Pn	22 58 42.4	+0.7
MORH				*e*Sn	Sn	22 59 14.9	-0.3

*TEH **16** 22:58:06.4, 28°73N×57°83E, h8km±32km*
*DSN **16** 22:58:08.8±1.0, 28°92N×57°47E, h15km, ML2.9/7, Error ellipse: s-maj=26.6km s-min=8.3km az=107.0*
*OMAN **16** 22:58:12.2±1.6, 28°40N×57°68E, h10km, mb4.3/6, ml3.1/15, Error ellipse: s-maj=13.3km s-min=7.9km az=25.0*

ISC 16 22:58:06.8±1.0, 28°74N±0°03×57°83E±0°05, h10km, n58, σ2s18/76, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBAM	**BAM**	**0.68**	**54**	Pg	**Pg**	22 58 20.2	+0.3
KHNJ	**Kahnooj**	**0.79**	**188**	Pg	**Pg**	22 58 21.6	-0.5
CHMN	**Cheshme madani**	**1.15**	**347**	Pg	**Pg**	22 58 28.4	-0.5
NGRK	**Negar Kerman**	**1.32**	**314**	Pg	**Pn**	22 58 30.7	-1.0
KRBR	**Kerman**	**1.55**	**323**	Pg	**Pn**	22 58 35.2	+0.4
IBND	**Bandar-abas**	**1.72**	**222**	Pg	**Pn**	22 58 38.5	+1.8
KRM1	**Kerman Provinc**	**1.83**	**345**	Pn	**Pn**	22 58 40.0	+1.6
GENO	**Geno**	**1.98**	**228**	Pn	**Pn**	22 58 42.2	+1.7
KHGB	**Koh Gabri**	**2.02**	**325**	Pn	**Pn**	22 58 42.9	+1.9
ZRDN	**Zarand Kerman**	**2.49**	**333**	Pn	**Pn**	22 58 50.2	+2.6
ZHSF	**Zahedan**	**2.72**	**71**	Pn	**Pn**	22 58 52.6	+1.9
SHME	**Shamm**	**3.07**	**210**	P	**Pn**	22 58 57.4	+2.1
	SNR=6.2						
SHME				S	**Sn**	22 59 30.8	-1.3
SHME	**Shamm**	**3.07**	**210**	P	**Pn**	22 58 56.3	+1.0
SHME				S	**Sn**	22 59 34.9	+2.8
BANOM	**Banah**	**3.12**	**206**	P	**Pn**	22 58 58.3	+2.3
BANOM				S	**Sn**	22 59 32.5	-0.8
BANOM	**Banah**	**3.12**	**206**	P	**Pn**	22 58 57.5	+1.5
BANOM				S	**Sn**	22 59 36.7	+3.4
NHDN	**Nehbandan**	**3.27**	**35**	Pn	**Pn**	22 59 00.4	+2.1
BSRN	**Basiran**	**3.41**	**19**	Pn	**Pn**	22 59 02.0	+1.9
IBAF	**Bafgh**	**3.46**	**326**	Pn	**Pn**	22 59 03.0	+2.2
MASF	**Masafi**	**3.67**	**204**	P	**Pn**	22 59 06.3	+2.7
MASF				S	**Sn**	22 59 42.8	-4.1
MSFE	**Esma-Masafi**	**3.68**	**204**	P	**Pn**	22 59 06.3	+2.5
MDH	**Madha**	**3.69**	**202**	P	**Pn**	22 59 06.3	+2.5
MDH				S	**Sn**	22 59 45.9	-1.4
IKOO	**Kooshah**	**3.81**	**15**	Pn	**Pn**	22 59 07.9	+2.1
IMEH	**Mehriz**	**3.84**	**314**	Pn	**Pn**	22 59 08.2	+1.9
UOSS	**Minazif**	**4.04**	**201**	P	**Pn**	22 59 10.4	+1.6
HATD	**Hatta, Dubai**	**4.18**	**202**	P	**Pn**	22 59 11.0	+0.3
NAZ	**Nazwa, Dubai**	**4.21**	**208**	P	**Pn**	22 59 11.2	+0.3
NAZ				S	**Sn**	23 00 00.8	+0.6
QIR1	**Qir**	**4.22**	**268**	Pn	**Pn**	22 59 13.3	+2.1
SRVN	**Saravan**	**4.25**	**107**	Pn	**Pn**	22 59 14.2	+2.5
ASHO	**Ashiyiah**	**4.33**	**202**	P	**Pn**	22 59 16.1	+3.3
	SNR=7.7						
ASHO	**Ashiyiah**	**4.33**	**202**	P	**Pn**	22 59 15.9	+3.1
IDAH	**Dahanechah**	**4.36**	**23**	Pn	**Pn**	22 59 15.5	+2.2
TPRV	**Parvadeh(Tabas**	**4.39**	**347**	Pn	**Pn**	22 59 15.9	+2.3
FAQ	**Al Faqa, Dubai**	**4.45**	**207**	P	**Pn**	22 59 16.5	+2.2
NGCH	**Negor - Chabah**	**4.47**	**138**	Pn	**Pn**	22 59 15.8	+1.2
ASUD	**Al Ashush, Dub**	**4.67**	**209**	P	**Pn**	22 59 20.0	+2.7
	SNR=17						
ASUD				S	**Sn**	23 00 11.3	-0.2
ASUD	**Al Ashush, Dub**	**4.67**	**209**	P	**Pn**	22 59 19.9	+2.6
SOHO	**SOHO**	**4.73**	**195**	P	**Pn**	22 59 18.1	0.0
SOHO				S	**Sn**	23 00 09.2	-3.8
AFRZ	**Afriz**	**4.78**	**12**	Pn	**Pn**	22 59 21.2	+2.2
AJN	**Ajban**	**4.87**	**212**	P	**Pn**	22 59 22.1	+1.9
AJN				S	**Sn**	23 00 16.5	-0.1
TKDS	**Koohdasht(Taba**	**4.90**	**353**	Pn	**Pn**	22 59 23.5	+2.9
ALNE	**Al Ain**	**5.02**	**202**	P	**Pn**	22 59 25.3	+3.2
BIDO	**Bidbid**	**5.20**	**177**	P	**Pn**	22 59 25.4	+0.7
BIDO				S	**Sn**	23 00 20.1	-4.6
SHRT	**Shahrakht**	**5.33**	**23**	Pn	**Pn**	22 59 29.2	+2.7
ARQ	**Araqi**	**5.50**	**193**	P	**Pn**	22 59 31.2	+2.4
	SNR=15						
ARQ				S	**Sn**	23 00 28.7	-3.5
WSAR	**Wadi Sarin**	**5.52**	**172**	P	**Pn**	22 59 30.1	+1.0
	SNR=15						
WSAR				S	**Sn**	23 00 30.6	-2.0
SMDO	**Samad**	**5.66**	**178**	P	**Pn**	22 59 32.4	+1.4
SMDO				S	**Sn**	23 00 33.9	-2.3
ANAR	**Anarak**	**5.67**	**323**	Pn	**Pn**	22 59 33.2	+2.0
KLNJ	**Kolanjah**	**5.87**	**294**	Pn	**Pn**	22 59 36.6	+2.4
MZWR	**Madinat Zayed**	**6.09**	**216**	P	**Pn**	22 59 38.1	+1.2
TAPT	**Tabas- Tapeh t**	**6.16**	**355**	Pn	**Pn**	22 59 40.4	+2.5
JMDO	**Jabal Madar**	**6.34**	**178**	P	**Pn**	22 59 42.2	+1.8
	SNR=13						
JMDO				S	**Sn**	23 00 52.4	-0.6
JLN	**Jalan Bani Buh**	**6.71**	**167**	P	**Pn**	22 59 45.6	+0.2
JLN				S	**Sn**	23 00 58.7	-3.3
SHMA	**Al-Shehemyia**	**6.75**	**246**	P	**Pn**	22 59 47.0	+1.1
	SNR=10						
MZR	**Muzera**	**6.92**	**215**	P	**Pn**	22 59 50.2	+1.9
SAKB	**Bahrain**	**7.04**	**249**	P	**Pn**	22 59 49.2	-0.7
TRNA	**Turayna**	**7.13**	**238**	P	**Pn**	22 59 50.6	-0.5
	SNR=13						
TRNA				S	**Sn**	23 01 08.5	-3.8
SMRA	**Abu-Samra**	**7.42**	**239**	P	**Pn**	22 59 55.1	0.0
SMRA				S	**Sn**	23 01 15.7	-3.6
MHTO	**MHTO**	**7.72**	**179**	P	**Pn**	22 59 59.9	+0.7

*PDG **16** 23:44:00.8±0.9, 44°62N×14°72E, h8km±3km, ML3.1/6, Error ellipse: s-maj=2.4km s-min=3.8km az=0.0*
*ROM **16** 23:44:01.1±0.3, 44°807N±0°007×15°11E±0°02, h5km±1km, ML3.0/25, Error ellipse: s-maj=0.9km s-min=0.9km az=84.0*
*PRU **16** 23:44:02.6, 44°89N×15°09E, h0km*
*RHSSO **16** 23:44:02.9±0.3, 44°88N×15°12E, h6km±2km, ML2.7/8*
*BEO **16** 23:44:02.9±0.4, 44°87N×15°14E, h8km±3km, ML2.6/15*
*VIE **16** 23:44:02.4±0.5, 44°89N×15°17E, h4km, mb2.4/17, ml2.6/19, Error ellipse: s-maj=3.5km s-min=2.4km az=149.0 73 km SSW of Karlovac*

ISC 16 23:44:02.1±1.1, 44°87N±0°01×15°11E±0°02, h3km±9km, n106, σ0s96/186, 4C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABC	**Rab**	**0.26**	**244**	*e*Pg	**Pg**	23 44 07.0	0.0
RABC				Sg	**Sg**	23 44 11.0	+0.6
NVLJ	**Novalja**	**0.35**	**209**	*e*Pg	**Pg**	23 44 08.3	-0.4
NVLJ				Sg	**Sg**	23 44 13.7	+0.5
PLIT	**Plitvice**	**0.37**	**88**	*e*Pg	**Pg**	23 44 09.4	+0.2
PLIT				Sg	**Sg**	23 44 14.7	+0.7
VIRC	**Vir**	**0.57**	**184**	*e*Pg	**Pg**	23 44 12.4	-0.7
VIRC				Sg	**Sg**	23 44 20.4	-0.2
UDBI	**Udbina**	**0.58**	**126**	*i* Pg	**Pg**	23 44 13.7	+0.5
UDBI				Sg	**Sg**	23 44 20.8	+0.1
RIY	**Rijeka**	**0.64**	**316**	*e*Pg	**Pg**	23 44 13.7	-0.6
RIY				Sg	**Sg**	23 44 23.3	+0.7
RIY	**Rijeka**	**0.64**	**316**	*e*Pg	**Pg**	23 44 13.8	-0.6
RIY				*e*Sg	**Sg**	23 44 23.6	+1.0
BOJS	**Bojanci**	**0.65**	**9**	*i* Pg	**Pg**	23 44 14.5	0.0
BOJS				*e*Sg	**Sg**	23 44 23.6	+0.7
BOJS				IAML		23 44 27.7	
	comp=Z,20nm,0.1s						
BOJS	**Bojanci**	**0.65**	**9**	*e*Pg	**Pg**	23 44 14.7	+0.2
BOJS				*e*Sg	**Sg**	23 44 23.7	+0.8
GBRS	**Gornja Briga**	**0.70**	**343**	*i* Pg	**Pg**	23 44 15.3	-0.1
GBRS				*i* Sg	**Sg**	23 44 25.5	+0.9
GBRS				IAML		23 44 28.5	
	comp=Z,74nm,0.2s						
OZLJ	**Ozalj**	**0.79**	**19**	⇓*i*Pg	**Pg**	23 44 17.4	+0.1
OZLJ				*e*Sg	**Sg**	23 44 28.5	+0.9
OZLJ	**Ozalj**	**0.79**	**19**	*e*Pg	**Pg**	23 44 17.4	+0.1
OZLJ				Sg	**Sg**	23 44 27.5	-0.1
KNDS	**Knezji Dol**	**0.84**	**322**	*i* Pg	**Pg**	23 44 17.4	-0.8
KNDS				IAML		23 44 36.8	
	comp=Z,69nm,0.3s						
DUGI	**Dugi Otok**	**0.88**	**182**	*i* Pg	**Pg**	23 44 18.0	-0.8
DUGI				Sg	**Sg**	23 44 30.8	+0.6
VISS	**Visnje**	**0.96**	**349**	*i* Pg	**Pg**	23 44 19.8	-0.6
BRJN	**Brijuni**	**0.96**	**273**	⇑*i*Pg	**Pg**	23 44 19.7	-0.9
BRJN				*e*Sg	**Sg**	23 44 33.8	+0.7
BRJN	**Brijuni**	**0.96**	**273**	*e*Pg	**Pg**	23 44 21.0	+0.4
BRJN				Sg	**Sg**	23 44 33.9	+0.8
CRES	**Cresnjevec Ost**	**0.99**	**14**	*i* Pg	**Pg**	23 44 20.8	-0.3
CRES				IAML		23 44 38.7	
	comp=Z,38nm,0.3s						
CEY	**Cerknica**	**1.00**	**331**	*e*Pg	**Pg**	23 44 20.5	-0.7
CEY				*e*Sg	**Sb**	23 44 35.9	+0.4
SKDS	**Skadanscina**	**1.03**	**312**	*e*Pg	**Pg**	23 44 21.4	-0.4
SKDS				*e*Sg	**Sb**	23 44 36.7	+0.2
MORI	**Morici**	**1.09**	**156**	*e*Pg	**Pg**	23 44 23.4	+0.4
MORI				Sg	**Sg**	23 44 37.6	+0.5
LEGS	**Legarje**	**1.09**	**8**	*i* Pg	**Pg**	23 44 23.0	-0.1
ZAG	**Zagreb**	**1.14**	**33**	*e*Pg	**Pg**	23 44 23.9	-0.2
ZAG				Sg	**Sg**	23 44 38.9	0.0
PTJ	**Puntijarka**	**1.21**	**30**	*e*Pg	**Pg**	23 44 24.9	-0.4
PTJ				Sg	**Sb**	23 44 41.4	-0.2
LJU	**Ljubljana**	**1.25**	**341**	*e*Pg	**Pg**	23 44 26.0	0.0
LJU				*e*Sg	**Sn**	23 44 43.8	0.0
LJU	**Ljubljana**	**1.25**	**341**	P	**Pg**	23 44 25.8	-0.2
LJU				S	**Sn**	23 44 43.7	0.0
KIJV	**Kijevo**	**1.27**	**132**	⇑*i*Pg	**Pn**	23 44 25.5	-1.2
KIJV				*e*Sg	**Sb**	23 44 43.5	+0.2
KIJV	**Kijevo**	**1.27**	**132**	*e*Pg	**Pn**	23 44 26.4	-0.2
KIJV				Sg	**Sb**	23 44 43.5	+0.2
TRI	**Trieste**	**1.27**	**312**	P	**Pn**	23 44 26.2	-0.5
TRI				S	**Sn**	23 44 44.0	-0.2
TRI				AML	AML		
	comp=E,116µm,0.8s						
TRI				AML	AML		
	comp=N,102µm,0.6s						
TRI				AML	AML		
	comp=E,116µm,1.2s						
TRI				AML	AML		
	comp=N,318µm,0.3s						
TRI				AML	AML		
	comp=E,251µm,0.3s						
ZIRJ	**Zirje**	**1.27**	**162**	*e*Pg	**Pn**	23 44 25.9	-0.8
ZIRJ				Sg	**Sg**	23 44 43.4	+0.5
MOSL	**Moslavina**	**1.38**	**57**	*e*Pg	**Pn**	23 44 27.1	-1.2
MOSL				*e*Sg	**Sb**	23 44 45.8	-0.9
MOSL	**Moslavina**	**1.38**	**57**	*e*Pn	**Pn**	23 44 27.9	-0.4
MOSL				Sg	**Sb**	23 44 46.4	-0.3
LOBO	**Lobor**	**1.46**	**27**	*e*Pn	**Pn**	23 44 28.7	-0.6
LOBO				Sn	**Sg**	23 44 50.0	+1.1
BLY	**Banja Luka**	**1.48**	**94**	⇑*i*Pg	**Pn**	23 44 28.6	-1.0
BLY				*e*Sg	**Sg**	23 44 49.8	+0.1
BLY	**Banja Luka**	**1.48**	**94**	*e*Pg	**Pn**	23 44 28.8	-0.9
BLY				*e*Sg	**Sn**	23 44 49.3	-0.2
BLY	**Banja Luka**	**1.48**	**94**	P	**Pn**	23 44 28.6	-1.0
SABO	**M.te Sabotino**	**1.54**	**317**	⇑P	**Pn**	23 44 30.2	-0.3
SABO				S	**Sg**	23 44 51.9	+0.4
SABO				AML	AML		
	comp=E,638µm,0.7s						
SABO				AML	AML		
	comp=E,160µm,0.7s						
SABO				AML	AML		
	comp=N,159µm,0.5s						
SABO				AML	AML		
	comp=E,638µm,1.3s						
SABO				AML	AML		
	comp=E,160µm,1.3s						
SABO				AML	AML		
	comp=N,596µm,0.6s						
SABO				AML	AML		
	comp=N,1270µm,0.3s						
SABO				AML	AML		
	comp=E,364µm,0.3s						
SABO				AML	AML		
	comp=N,363µm,0.3s						
SABO				AML	AML		
	comp=E,1385µm,0.3s						
KALN	**Kalnik**	**1.58**	**36**	*e*Pn	**Pb**	23 44 31.6	-0.3
KALN				Sn	**Sb**	23 44 52.3	-0.1
DRE	**Drenchia**	**1.66**	**322**	P	**Pn**	23 44 32.2	0.0
D

STAL				AML	AML			
	comp=E,202μm,0.6s							
STAL				AML	AML			
	comp=N,182μm,0.3s							
STAL				AML	AML			
	comp=E,208μm,0.8s							
STAL				AML	AML			
	comp=N,297μm,0.7s							
STAL				AML	AML			
	comp=N,231μm,0.3s							
STAL				AML	AML			
	comp=E,182μm,0.4s							
STAL				AML	AML			
	comp=N,183μm,0.3s							
STAL				AML	AML			
	comp=E,212μm,0.3s							
CLUD	**Cludinico**	**2.23**	**316**	P	**Pn**	**23 44 39.4**	**-0.5**	
SNTG	**Esanatoglia**	**2.24**	**225**	P	**Pn**	**23 44 40.0**	**-0.2**	
SNTG				S	**Sn**	**23 45 06.8**	**-1.5**	
ZOU	**Zoufplan**	**2.26**	**319**	P	**Pn**	**23 44 40.3**	**-0.2**	
ZOU				AML	AML			
	comp=N,103μm,1.6s							
ZOU				AML	AML			
	comp=E,188μm,0.9s							
ZOU				AML	AML			
	comp=N,103μm,0.4s							
ZOU				AML	AML			
	comp=E,178μm,0.9s							
ZOU				AML	AML			
	comp=N,95μm,0.9s							
ZOU				AML	AML			
	comp=E,188μm,0.9s							
ARSA	**Arzberg**	**2.40**	**7**	*e*Pn	**Pn**	**23 44 42.1**	**-0.2**	
	comp=E,0.3nm,0.1s							
ARSA				*i* Sn	**Sn**	**23 45 11.7**	**-0.6**	
	comp=E,2.6nm,0.3s							
ARSA	**Arzberg**	**2.40**	**7**	*e*Pn	**Pn**	**23 44 42.0**	**-0.3**	
LSTV	**Lastovo**	**2.46**	**148**	*e*Pn	**Pn**	**23 44 42.9**	**-0.2**	
LSTV				Sn	**Sn**	**23 45 13.4**	**-0.3**	
KBA	**Koelnbreinsper**	**2.53**	**332**	*e*Pg	**Pg**	**23 44 49.7**	**-0.9**	
	comp=E,3.3nm,0.4s							
KBA				*i* Sn	**Sb**	**23 45 18.5**	**-1.3**	
	comp=E,4.4nm,0.4s							
ABTA	**Abfaltersbach**	**2.61**	**317**	*e*Pn	**Pn**	**23 44 45.1**	**-0.2**	
	comp=E,6.0nm,0.4s,SNR=8.8							
ABTA				*e*Sn	**Sn**	**23 45 19.5**	**+1.9**	
	comp=E,6.6nm,0.4s							
MORH	**Mrgy, Hungar**	**2.83**	**60**	*e*Pn	**Pn**	**23 44 48.6**	**+0.5**	
MORH				*e*Sn	**Sn**	**23 45 22.5**	**-0.2**	
MORH	**Mrgy, Hungar**	**2.83**	**60**	*e*Pn	**Pn**	**23 44 46.8**	**-1.3**	
RONA	**Rosalia, Austr**	**2.95**	**16**	*e*Pn	**Pn**	**23 44 50.5**	**+0.6**	
	comp=E,2.2nm,0.2s,SNR=13							
RONA				*e*Sn	**Sn**	**23 45 25.4**	**-0.4**	
	comp=E,1.6nm,0.2s							
BIOA	**Bad Ischl, Aus**	**3.00**	**341**	*e*Pn	**Pn**	**23 44 51.7**	**+1.1**	
	comp=E,1.8nm,0.3s							
BIOA				*e*Sn	**Sn**	**23 45 29.8**	**+2.7**	
	comp=E,3.1nm,0.3s							
KLINJ	**Klinje**	**3.03**	**123**	*e*Pn	**Pn**	**23 44 51.2**	**+0.2**	
KLINJ				*e*Sn	**Sn**	**23 45 27.5**	**-0.3**	
MOA	**Molln**	**3.04**	**349**	*i* Pn	**Pn**	**23 44 52.0**	**+0.9**	
	comp=E,1.9nm,0.2s,SNR=6.8							
MOA				*i* Sn	**Sn**	**23 45 28.4**	**+0.4**	
	comp=E,3.0nm,0.3s							
MOA	**Molln**	**3.04**	**349**	*e*Pn	**Pn**	**23 44 51.6**	**+0.5**	
MOA				*e*Sn	**Sn**	**23 45 26.7**	**-1.3**	
LESA	**Schwarzleotal**	**3.07**	**327**	*i* Pn	**Pn**	**23 44 52.2**	**+0.7**	
	comp=E,4.8nm,0.4s,SNR=7.7							
LESA				*e*Sn	**Sn**	**23 45 31.7**	**+3.0**	
	comp=E,3.0nm,0.3s							
CONA	**Conrad Observa**	**3.11**	**9**	*i* Pn	**Pn**	**23 44 52.4**	**+0.3**	
	comp=E,1.0nm,0.1s,SNR=12							
CONA				*i* Sn	**Sn**	**23 45 30.2**	**+0.5**	
	comp=E,1.5nm,0.3s							
DBRK	**Dubrovnik**	**3.11**	**134**	*e*Pn	**Pn**	**23 44 52.8**	**+0.8**	
DBRK				Sn	**Sn**	**23 45 29.6**	**0.0**	
BRY	**Bratogost**	**3.16**	**127**	*e*Pn	**Pn**	**23 44 53.5**	**+0.6**	
BRY				*i* Sn	**Sn**	**23 45 32.9**	**+1.7**	
TEKS	**Tekeris**	**3.17**	**94**	*e*Pn	**Pn**	**23 44 52.6**	**-0.2**	
TEKS				*e*Sn	**Sn**	**23 45 30.1**	**-1.0**	
TREB	**Trebinje**	**3.18**	**131**	*e*Pn	**Pn**	**23 44 53.7**	**+0.7**	
TREB				*e*Sn	**Sn**	**23 45 31.5**	**+0.1**	
BBLS	**Lazi&#263i**	**3.24**	**106**	*e*Pn	**Pn**	**23 44 54.3**	**+0.4**	
RUDO	**Rudo**	**3.31**	**111**	*e*Pn	**Pn**	**23 44 55.0**	**+0.2**	
RUDO				*e*Sn	**Sn**	**23 45 33.9**	**-0.7**	
FRGS	**Fruska Gora**	**3.35**	**83**	*e*Pn	**Pn**	**23 44 55.3**	**0.0**	
WTTA	**Wattenberg**	**3.40**	**316**	*i* Pn	**Pn**	**23 44 56.6**	**+0.4**	
	comp=E,1.8nm,0.2s							
WTTA				*e*Sn	**Sn**	**23 45 40.0**	**+2.8**	
	comp=E,4.6nm,0.5s							
HCY	**Herceg Novi**	**3.45**	**133**	*e*Pn	**Pn**	**23 44 56.8**	**+0.1**	
HCY				*i* Sn	**Sn**	**23 45 38.9**	**+0.9**	
SQTA	**Sankt Quirin**	**3.59**	**312**	*i* Pn	**Pn**	**23 45 00.1**	**+1.4**	
	comp=E,2.1nm,0.3s,SNR=5.3							
SQTA				*i* Pg	**Pg**	**23 45 09.9**	**-1.1**	
	comp=E,4.6nm,0.3s							
SQTA				*i* Sn	**Sn**	**23 45 43.3**	**+1.6**	
	comp=E,2.6nm,0.3s							
MOTA	**Moosalm**	**3.73**	**313**	*i* Pn	**Pn**	**23 45 01.4**	**+0.7**	
	comp=E,0.5nm,0.2s							
MOTA				*i* Sn	**Sn**	**23 45 47.7**	**+2.5**	
	comp=E,1.0nm,0.2s							
FETA	**Feichten**	**3.74**	**307**	*i* Pn	**Pn**	**23 45 01.4**	**+0.6**	
	comp=E,0.3nm,0.1s							
FETA				*i* Sn	**Sn**	**23 45 47.6**	**+2.2**	
	comp=E,2.0nm,0.5s							
BUM	**Brajici-Budva**	**3.76**	**132**	*e*Pn	**Pn**	**23 45 01.4**	**+0.4**	
BUM				*i* Sn	**Sn**	**23 45 46.7**	**+0.9**	
KOME	**Kolasin**	**3.77**	**121**	*e*Pn	**Pn**	**23 45 01.4**	**+0.2**	
KOME	**Kolasin**	**3.77**	**121**	⇓*i*Pn	**Pn**	**23 45 02.3**	**+1.1**	
KOME				*i* Sn	**Sn**	**23 45 48.6**	**+2.5**	
TRUS	**Trudelj**	**3.84**	**98**	*e*Pn	**Pn**	**23 45 01.9**	**-0.2**	
SJES	**Sjenica**	**3.86**	**113**	*e*Pn	**Pn**	**23 45 03.0**	**+0.6**	
PDG	**Podgorica**	**3.87**	**128**	*e*Pn	**Pn**	**23 45 01.5**	**-1.0**	
PDG	**Podgorica**	**3.87**	**128**	*e*Pn	**Pn**	**23 45 03.1**	**+0.6**	
PDG				*i* Sn	**Sn**	**23 45 50.0**	**+1.6**	
BERNI	**Berninapass**	**3.89**	**295**	AML	AML			
	comp=E,11μm,0.7s							
BERNI				AML	AML			
	comp=N,10μm,1.5s							
BERNI				AML	AML			
	comp=E,11μm,1.3s							
CKRC	**Cesky Krumlov**	**3.99**	**352**	*e*PN	**Pn**	**23 45 03.7**	**-0.5**	
CKRC				*e*SN	**Sn**	**23 45 49.6**	**-1.9**	
IVA	**Berane**	**3.99**	**118**	*e*Pn	**Pn**	**23 45 05.6**	**+1.4**	
IVA				*i* Sn	**Sn**	**23 45 54.3**	**+2.7**	
DRME	**Dracevica, Mon**	**4.00**	**131**	*e*Pn	**Pn**	**23 45 04.2**	**0.0**	
DRME				*i* Sn	**Sn**	**23 45 52.5**	**+1.0**	
RETA	**Reutte**	**4.00**	**313**	*i* Pn	**Pn**	**23 45 05.0**	**+0.7**	
	comp=E,0.8nm,0.2s							
RETA				*i* Sn	**Sn**	**23 45 54.1**	**+2.4**	
	comp=E,1.8nm,0.4s							
GRUS	**Gruza**	**4.14**	**102**	*e*Pn	**Pn**	**23 45 06.0**	**-0.1**	
ULC	**Ulcinj**	**4.18**	**132**	*e*Pn	**Pn**	**23 45 07.1**	**+0.3**	
ULC				*i* Sn	**Sn**	**23 45 56.9**	**+0.7**	
KRUC	**Moravsky**	**4.29**	**11**	*e*PN	**Pn**	**23 45 08.1**	**-0.1**	
DAVA	**Damuels**	**4.37**	**306**	*i* Pn	**Pn**	**23 45 10.2**	**+0.7**	
	comp=E,0.5nm,0.2s							
DAVA				*i* Sn	**Sn**	**23 46 04.0**	**+3.1**	
	comp=E,1.9nm,0.3s							
KHC	**Kasperske Hory**	**4.39**	**347**	*e*PN	**Pn**	**23 45 09.8**	**+0.1**	
KHC				*e*SN	**Sn**	**23 45 59.3**	**-2.1**	
ZVC	**Zvikov**	**4.62**	**353**	*e*PN	**Pn**	**23 45 13.1**	**+0.4**	
ZVC				*e*SN	**Sn**	**23 46 04.3**	**-2.5**	
SELS	**Selova**	**4.64**	**109**	*e*Pn	**Pn**	**23 45 13.4**	**+0.4**	
KUBS	**Kucevo**	**4.71**	**93**	*e*Pn	**Pn**	**23 45 13.4**	**-0.6**	
PRU	**Pruhonice**	**5.14**	**356**	*e*SN	**Sn**	**23 46 16.2**	**-3.5**	

*IDC **16** 23:45:15.6±3.7,16°.48S×174°.54W,h198km±3.2km, mb3.9/16,mbtmp4.4/17,Error ellipse: s-maj=18.4km s-min=10.8km az=110.0*
*NEIC **16** 23:45:15.4±1.8,16°.44S±0°.09×174°.32W±0°.08, h193km±8km,mb4.9/21,Error ellipse: s-maj=12.9km s-min=11.2km az=218.0*
*NEIC **16** 23:45:28.9±1.3,17°.2S±0°.2×176°.1W±0°.1,h205km±10km, mb4.7/19,Error ellipse: s-maj=21.7km s-min=15.6km az=181.0*

ISC 16 23:45:15.5±0.4,**16°.50S**±0°.06×**174°.36W**±0°.07,**h200**km, **n171**,σ1**°.22**/170,**mb4.6**/40,**25C-28D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
AFI	**Afiamalu**	**3.58**	**44**		**Pn**	**23**	**46**	**11.7**	**-0.6**
AFI				Sn	**Sn**	**23**	**46**	**52.6**	**-4.2**
FUTU	**Fugatoga**	**4.23**	**300**	Pn	**Pn**	**23**	**46**	**20.8**	**+0.6**
FUTU	**Fugatoga**	**4.23**	**300**	Pn	**Pn**	**23**	**46**	**24.1**	**+3.9**
NIUE	**Niue**	**4.94**	**122**	Pn	**Pn**	**23**	**46**	**29.7**	**+0.5**
NIUE				Sn	**Sn**	**23**	**47**	**26.2**	**-1.1**
DZM	**Mont Dzumac**	**18.94**	**250**	P	**P**	**23**	**49**	**19.3**	**-2.5**
	12nm,0.7s,baz=90,slow=20								
MXZ	**Matakaoa Point**	**21.96**	**196**	P	**P**	**23**	**49**	**55.2**	**+1.9**
URZ	**Urewera**	**22.94**	**197**	P	**P**	**23**	**50**	**01.5**	**-0.8**
	28nm,0.5s,baz=348,slow=1.6,SNR=29								
URZ				S	**S**	**23**	**53**	**56.1**	**-1.0**
	10nm,0.9s,baz=170,slow=20,SNR=2.4								
	28nm,0.5s								
THZ	**Tophouse**	**27.46**	**201**	P	**P**	**23**	**50**	**43.9**	**+0.9**
THZ	**Tophouse**	**27.46**	**201**	P	**P**	**23**	**50**	**43.9**	**+0.9**
THZ				IAmb	IAmb	23	50	58.7	
	comp=Z,8.1nm,0.8s								
EIDS	**Eidsvold**	**33.38**	**249**	P	**P**	**23**	**51**	**33.8**	**-1.4**
ARMA	**Armidale**	**33.99**	**240**	P	**P**	**23**	**51**	**39.7**	**-0.8**
ARMA	**Armidale**	**33.99**	**240**	P	**P**	**23**	**51**	**39.4**	**-1.1**
ARMA				IAmb	IAmb	23	51	40.1	
	comp=Z,15nm,0.9s								
CTAO	**Charters Tower**	**37.51**	**258**	P	**P**	**23**	**52**	**10.1**	**-0.4**
CTAO	**Charters Tower**	**37.51**	**258**	P	**P**	**23**	**52**	**08.0**	**-2.5**
CTAO				IAmb	IAmb	23	52	16.5	
	comp=Z,4.4nm,1.1s								
CAN	**Canberra**	**37.63**	**233**	P	**P**	**23**	**52**	**11.1**	**-0.3**
CAN	**Canberra**	**37.63**	**233**	P	**P**	**23**	**52**	**10.6**	**-0.7**
CAN				IAmb	IAmb	23	52	11.9	
	comp=Z,22nm,1.0s								
COEN	**Coen**	**41.00**	**268**	P	**P**	**23**	**52**	**37.4**	**-2.0**
TOO	**Toolangi**	**41.06**	**231**	P	**P**	**23**	**52**	**38.4**	**-1.3**
STKA	**Stephens Creek**	**42.69**	**241**		**P**	**23**	**52**	**52.0**	**-0.9**
STKA	**Stephens Creek**	**42.69**	**241**	P	**P**	**23**	**52**	**52.2**	**-0.7**
	comp=Z,19nm,0.8s,baz=91,slow=9.6,SNR=30								
	comp=Z,19nm,0.8s								
BBOO	**Buckleboo**	**47.47**	**240**	P	**P**	**23**	**53**	**29.2**	**-1.3**
BBOO				IAmb	IAmb	23	53	29.7	
	comp=Z,16nm,0.6s								
WRA	**Warramunga Arr**	**48.70**	**258**	P	**P**	**23**	**53**	**38.4**	**-1.7**
	comp=Z,2.8nm,0.7s,baz=95,slow=7.2,SNR=53								
WRA				PcP	**PcP**	**23**	**55**	**01.7**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=88,slow=3.6,SNR=2.6								
	comp=Z,2.8nm,0.7s								
AS31	**Alice Springs**	**48.90**	**253**		**P**	**23**	**53**	**40.2**	**-1.4**
ASAR	**Alice Springs**	**48.90**	**253**		**P**	**23**	**53**	**40.3**	**-1.3**
ASAR	**Alice Springs**	**48.90**	**253**	P	**P**	**23**	**53**	**40.2**	**-1.4**
	comp=Z,21nm,0.6s,baz=86,slow=8.5,SNR=180								
	comp=Z,21nm,0.6s								
KNRA	**Kununurra**	**54.49**	**262**	P	**P**	**23**	**54**	**22.6**	**-0.5**
KNRA				IAmb	IAmb	23	54	22.9	
	comp=Z,12nm,1.1s								
DRV	**Dumont d'Urvil**	**58.26**	**200**	P	**P**	**23**	**54**	**48.7**	**0.0**
SOEI	**Soe**	**59.96**	**268**	P	**P**	**23**	**55**	**02.3**	**+0.8**
PSA00	**Pilbara Seismi**	**62.01**	**254**		**P**	**23**	**55**	**14.0**	**-1.0**
PSA00				IAmb	IAmb	23	55	14.7	
	comp=Z,18nm,0.6s								
MBWA	**Marble Bar**	**62.17**	**254**	P	**P**	**23**	**55**	**15.2**	**-1.0**
MBWA				IAmb	IAmb	23	55	15.8	
	comp=Z,16nm,0.8s								
MBWA	**Marble Bar**	**62.17**	**254**	P	**P**	**23**	**55**	**15.1**	**-1.0**
VNDA	**Vanda**	**62.20**	**186**	P	**P**	**23**	**55**	**16.4**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=358,slow=6.2,SNR=6.1								
	comp=Z,1.0nm,0.7s								
VNDA	**Vanda**	**62.20**	**186**	P	**P**	**23**	**55**	**16.2**	**+0.9**
NWAO	**Narrogin (SRO)**	**63.28**	**241**	P	**P**	**23**	**55**	**22.1**	**-1.1**
NWAO				IAmb	IAmb	23	55	33.0	
	comp=Z,12nm,1.1s								
MORW	**Morawa**	**64.58**	**245**	P	**P**	**23**	**55**	**30.7**	**-1.1**
MORW				IAmb	IAmb	23	55	37.6	
	comp=Z,4.5nm,1.0s								
TOLI2	**Tolitoli**	**66.29**	**279**	P	**P**	**23**	**55**	**45.7**	**+2.7**
TOLI2				IAmb	IAmb	23	55	46.7	
	comp=Z,7.4nm,0.6s								
GIRL	**Giralia**	**67.00**	**252**	P	**P**	**23**	**55**	**47.9**	**+0.6**
CCD	**Concordia, Ant**	**67.18**	**194**	P	**P**	**23**	**55**	**48.1**	**0.0**
CCD				PcP	**PcP**	**23**	**56**	**12.9**	**-1.6**
MJAR	**Matsushiro Arr**	**69.18**	**321**	P	**P**	**23**	**56**	**00.7**	**+0.1**
	comp=Z,1.2nm,0.2s,baz=154,slow=5.2,SNR=4.5								
	comp=Z,1.2nm,0.2s								
PETK	**Petropavlovsk-**	**73.39**	**343**	P	**P**	**23**	**56**	**25.1**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=120,slow=8.8,SNR=4.5								
	comp=Z,2.0nm,0.5s								
QSPA	**South Pole Qui**	**73.55**	**180**	P	**P**	**23**	**56**	**27.9**	**+1.5**
	comp=Z,2.8nm,0.7s,baz=304,slow=1.0,SNR=12								
	comp=Z,2.8nm,0.7s								
NVAR	**Mina Array Bea**	**75.76**	**42**	P	**P**	**23**	**56**	**40.5**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=220,slow=5.8,SNR=3.9								
	comp=Z,1.3nm,0.7s								
KSRS	**Korea Array**	**76.30**	**316**	P	**P**	**23**	**56**	**42.8**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=135,slow=5.1,SNR=5.2								
	comp=Z,1.5nm,0.8s								
RED	**Redoubt Volcan**	**78.60**	**11**	P	**P**	**23**	**56**	**56.3**	**+1.5**
RED				IAmb	IAmb	23	57	00.4	
	comp=Z,24nm,1.4s								
B04A	**Port Angeles**	**78.64**	**32**	P	**P**	**23**	**56**	**57.0**	**+1.9**
B04A				IAmb	IAmb	23	59	33.5	
	comp=Z,71nm,2.0s								
NJ2	**Nanjing**	**80.09**	**308**	*e*P	P	23	57	13.4	+10
NJ2				pmax	pmax				
	comp=Z,11nm,0.5s								
MFID	**Camas Ranch**	**80.12**	**39**	P	P	23	57	24.0	+21
MFID				IAmb	IAmb	23	57	25.5	
	comp=Z,27nm,0.9s								
TXAR	**Lajitas Array**	**81.99**	**56**	P	**P**	**23**	**57**	**14.1**	**+0.6**
	comp=Z,0.6nm,1.0s,baz=226,slow=6.7,SNR=4.2								
	comp=Z,0.6nm,1.0s								
SEY	**Seymchan**	**83.34**	**345**	P	**P**	**23**	**57**	**19.5**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=145,slow=3.5,SNR=6.0								
	comp=Z,1.7nm,0.3s								
CCB	**Clear Creek Bu**	**83.41**	**11**	P	**P**	**23**	**57**	**19.8**	**-0.1**
PDAR	**Pinedale Array**	**83.69**	**42**	P	**P**	**23**	**57**	**22.3**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=202,slow=2.9,SNR=6.6								
	comp=Z,0.7nm,0.6s								
ILAR	**Eielson Array**	**83.70**	**11**	P	**P**	**23**	**57**	**20.9**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=226,slow=6.3,SNR=9.3								
	comp=Z,0.5nm,0.5s								
EGAK	**Eagle**	**84.90**	**14**	P	**P**	**23**	**57**	**27.9**	**+0.4**
EGAK				IAmb	IAmb	23	58	34.6	
	comp=Z,31nm,2.0s								
G23K	**Bananza Creek**	**84.92**	**9**	P	**P**	**23**	**57**	**28.1**	**+0.5**
G23K				IAmb	IAmb	23	59	37.2	
	comp=Z,24nm,1.8s								
K29M	**Barlow Dome**	**84.99**	**15**	P	**P**	**23**	**57**	**27.9**	**-0.2**
FYU	**Fort Yukon**	**85.61**	**11**	P	**P**	**23**	**57**	**32.5**	**+1.6**
FYU				IAmb	IAmb	23	58	21.4	
	comp=Z,61nm,2.0s								
I28M	**Miner Creek**	**85.74**	**14**	P	**P**	**23**	**57**	**31.7**	**0.0**
I28M				IAmb	IAmb	00	00	00.9	
	comp=Z,28nm,2.0s								
J30M	**Hart River**	**85.89**	**15**	P	**P**	**23**	**57**	**32.6**	**0.0**
J30M				IAmb	IAmb	23	59	35.6	
	comp=Z,30nm,2.0s								
D20K	**Etivluk River**	**85.93**	**6**	P	**P**	**23**	**57**	**32.8**	**+0.3**
E22K	**Anaktuvuk Pass**	**85.97**	**8**	P	**P**	**23**	**57**	**33.8**	**+1.1**
E22K				IAmb	IAmb	23	57	58.6	
	comp=Z,38nm,1.9s								
C19K	**Lookout Ridge**	**86.02**	**5**	P	**P**	**23**	**57**	**33.2**	**+0.2**
I30M	**Mount Dempster**	**86.40**	**15**	P	**P**	**23**	**57**	**35.2**	**+0.2**
MAW	**Mawson**	**86.46**	**199**	P	**P**	**23**	**57**	**35.0**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=154,slow=3.7,SNR=17								
	comp=Z,2.3nm,0.6s								
BMAR	**Burnt Mountain**	**86.50**	**11**	P	**P**	**23**	**57**	**36.7**	**+1.3**
D22K	**Ayikyak River**	**86.56**	**8**	P	**P**	**23**	**57**	**36.3**	**+0.8**
D22K				IAmb	IAmb	00	00	39.0	
	comp=Z,42nm,1.8s								
D23K	**Nanushuk River**	**86.90**	**8**	P	**P**	**23**	**57**	**34.0**	**-3.2**
D23K				IAmb	IAmb	23	58	37.2	
	comp=Z,41nm,1.7s								
E25K	**Arctic Village**	**86.93**	**10**	P	**P**	**23**	**57**	**38.3**	**+0.9**
E25K				IAmb	IAmb	23	58	24.9	
	comp=Z,35nm,1.9s								
XAN	**Xi'an**	**88.52**	**306**	⇓P	P	23	57	51.1	+5.4
XAN				pmax	pmax				
	comp=Z,4.0nm,0.6s								
HHC	**Hu-ho-hao-te**	**89.09**	**313**	*e*P	P	23	57	58.8	+10
PZH	**PanZhiHua**	**91.94**	**297**	P	P	23	58	09.1	+7.2
CMAR	**Chiang Mai Arr**	**92.08**	**289**	P	**P**	**23**	**58**	**03.8**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=92,slow=3.1,SNR=8.5								
	comp=Z,1.8nm,0.3s								
WMQ	**Urumqi**	**106.90**	**311**	Pdif	**Pdif**	**23**	**59**	**09.8**	**+1.1**
WMQ				LR	LR				
	comp=Z,140nm,24.1s								
BVAR	**Borovoye Array**	**118.17**	**322**	PKP	**PKPdf**	**00**	**03**	**37.8**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=83,slow=2.3,SNR=8.3								
ARCES	**ARCESS Array B**	**125.56**	**352**	PKP	**PKPdf**	**00**	**03**	**51.7**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=4.1,slow=1.7,SNR=9.3								
FINES	**FINESS Array B**	**132.80**	**347**	PKP	**PKPdf**	**00**	**04**	**06.2**	**0.0**
	comp=Z,0.8nm,0.5s,baz=31,slow=3.3,SNR=10								
KWP	**Kalwaria Pacla**	**144.17**	**341**	*e*PKP	**PKPab**	**00**	**04**	**25.4**	**-0.2**
OJC	**Ojcow**	**144.47**	**344**	*e*PKP	**PKPab**	**00**	**04**	**26.6**	**-0.2**
KSP	**Ksiaz**	**144.69**	**348**	*e*PKP	PKPbc	00	04	27.6	0.0
CLL	**Collm**	**144.78**	**352**		**PKPab**	**00**	**04**	**27.2**	**-0.6**
CLL	**Collm**	**144.78**	**352**	*i* PKPbc	**PKPab**	**00**	**04**	**27.4**	**-0.4**
	comp=Z,6.0nm,0.7s								
CLL				*i* (PKiKP)		00	04	30.0	
	comp=Z,6.0nm,0.8s								
OSTC	**Ostas**	**144.97**	**348**	*e*PKP	**PKPab**	**00**	**04**	**28.6**	**-0.1**
BURAR	**Bucovina Array**	**145.02**	**337**	⇓P	**PKPbc**	**00**	**04**	**28.9**	**0.0**
UPC	**Upice**	**145.06**	**348**	*e*PKP	**PKPab**	**00**	**04**	**29.1**	**+0.1**
BRG	**Berggiesshubel**	**145.06**	**351**	*e*PKP	**PKiKP**	**00**	**04**	**30.9**	**-2.0**
BRG				Amp		00	04	31.5	
	comp=Z,3.5nm,0.7s								
BRG	**Berggiesshubel**	**145.06**	**351**	P	**PKiKP**	**00**	**04**	**33.9**	**+1.0**
BRG				Amp		00	04	35.4	
	comp=Z,2.3nm,0.8s								
NIE	**Niedzica**	**145.07**	**343**	*e*PKP	**PKPab**	**00**	**04**	**29.3**	**+0.3**
DPC	**Dobruska-Polom**	**145.15**	**348**	*e*PKP	**PKPab**	**00**	**04**	**29.7**	**+0.3**
BIZ	**Bicaz**	**145.23**	**335**	⇓P	**PKPdf**	**00**	**04**	**23.1**	**-6.3**
STEB	**Steborice**	**145.23**	**346**	*e*PKP	**PKPab**	**00**	**04**	**29.6**	**0.0**
VLDR	**Vladesti**	**145.25**	**332**	⇑P	**PKPdf**	**00**	**04**	**28.7**	**-0.6**
VARL	**Varlezi**	**145.31**	**332**	⇓P	**PKPab**	**00**	**04**	**30.1**	**+0.1**
KRLC	**Kraliky**	**145.31**	**347**	*e*PKP	**PKPbc**	**00**	**04**	**29.7**	**0.0**
TESR	**Tescani**	**145.35**	**334**	⇓P	**PKPdf**	**00**	**04**	**29.6**	**0.0**
GHRR		**145.38**	**333**	⇑P	**PKPab**	**00**	**04**	**30.6**	**+0.3**
TLCR		**145.41**	**331**	⇑P	**PKPdf**	**00**	**04**	**29.4**	**-0.2**
SCTR	**Scanteiesti**	**145.42**	**332**	⇑P	**PKPab**	**00**	**04**	**30.3**	**-0.2**
MORC	**Moravsky Berou**	**145.43**	**346**	*e*PKP	**PKPab**	**00**	**04**	**30.3**	**-0.2**
IZVR	**Izvoarele**	**145.62**	**332**	⇓P	**PKPab**	**00**	**04**	**31.1**	**-0.1**
JURR	**Jurilovca**	**145.69**	**330**	⇑P	**PKPdf**	**00**	**04**	**30.3**	**+0.1**
CFR	**Carcaliu**	**145.73**	**331**	⇑P	**PKiKP**	**00**	**04**	**33.8**	**-0.5**
ARCR	**ARCALIA**	**145.79**	**337**	⇑P	**PKPbc**	**00**	**04**	**30.9**	**-0.2**
PRU	**Pruhonice**	**145.82**	**350**	*e*PKP	**PKPbc**	**00**	**04**	**30.9**	**-0.2**
VRI	**Vrincioaia**	**145.82**	**333**	⇑P	**PKPbc**	**00**	**04**	**31.6**	**+0.3**
TPGR	**Topolog**	**145.84**	**331**	⇑P	**PKPbc**	**00**	**04**	**31.6**	**+0.2**
PLOR	**Plostina**	**145.87**	**333**	⇓P	**PKPbc**	**00**	**04**	**31.3**	**-0.2**
TURR	**Turia**	**145.97**	**334**	⇑P	**PKPab**	**00**	**04**	**32.4**	**-0.2**
BSTI	**Sart Tilman**	**146.00**	**0**	*d*PKP	**PKPbc**	**00**	**04**	**31.8**	**+0.2**
OZUR		**146.04**	**335**	⇑P	**PKPbc**	**00**	**04**	**32.3**	**+0.3**
COVR	**Voineasa-Covas**	**146.06**	**334**	⇑P	**PKPbc**	**00**	**04**	**31.8**	**-0.3**
VRAC	**Vranov**	**146.08**	**347**	*e*PKP	**PKPdf**	**00**	**04**	**31.2**	**+0.5**
VRAC	**Vranov**

KBAM	**BAM**	**2.25**	**48**	Pn	**Pb**	**23 54 38.5**	**-1.2**
MASF	**Masafi**	**2.29**	**188**	P	**Pn**	**23 54 38.3**	**+1.4**
	SNR=26						
MASF				S	**Sn**	**23 55 07.3**	**+2.1**
MSFE	**Esma-Masafi**	**2.31**	**188**	*eP*	**Pn**	**23 54 37.9**	**+0.8**
	SNR=26						
KRBR	**Kerman**	**2.33**	**5**	Pn	**Pn**	**23 54 39.7**	**+2.1**
MDH	**Madha**	**2.35**	**185**	P	**Pn**	**23 54 39.4**	**+1.8**
MDH				S	**Sn**	**23 55 06.6**	**0.0**
MDH	**Madha**	**2.35**	**185**	P	**Pn**	**23 54 39.4**	**+1.8**
CHMN	**Cheshme madani**	**2.37**	**22**	Pn	**Pn**	**23 54 40.6**	**+2.3**
UOSS	**Minazif**	**2.71**	**186**	P	**Pn**	**23 54 44.5**	**+1.9**
UOSS				S	**Sn**	**23 55 18.5**	**+3.1**
UOSS	**Minazif**	**2.71**	**186**	P	**Pn**	**23 54 43.0**	**+0.5**
KHGB	**Koh Gabri**	**2.71**	**359**	Pn	**Pn**	**23 54 44.9**	**+2.1**
JHRM	**Jahrom**	**2.74**	**289**	Pn	**Pn**	**23 54 44.9**	**+1.8**
NAZ	**Nazwa, Dubai**	**2.76**	**197**	P	**Pn**	**23 54 45.1**	**+1.8**
NAZ				S	**Sn**	**23 55 18.9**	**+2.2**
NAZ	**Nazwa, Dubai**	**2.76**	**197**	P	**Pn**	**23 54 44.6**	**+1.3**
HATD	**Hatta, Dubai**	**2.84**	**187**	P	**Pn**	**23 54 46.9**	**+2.6**
HATD	**Hatta, Dubai**	**2.84**	**187**	P	**Pn**	**23 54 46.5**	**+2.3**
KRM1	**Kerman Provinc**	**2.92**	**13**	Pn	**Pn**	**23 54 47.7**	**+2.1**
ASHO	**Ashiyiah**	**2.98**	**188**	P	**Pn**	**23 54 47.6**	**+1.3**
	SNR=13						
ASHO				S	**Sn**	**23 55 21.0**	**-1.3**
ASHO	**Ashiyiah**	**2.98**	**188**	*i* P	**Pn**	**23 54 48.0**	**+1.6**
	SNR=13						
FAQ	**Al Faqa, Dubai**	**3.01**	**196**	P	**Pn**	**23 54 48.2**	**+1.5**
FAQ				S	**Sn**	**23 55 24.1**	**+1.2**
FAQ	**Al Faqa, Dubai**	**3.01**	**196**	P	**Pn**	**23 54 47.9**	**+1.2**
QIR1	**Qir**	**3.19**	**286**	Pn	**Pn**	**23 54 50.9**	**+1.7**
ASUD	**Al Ashush, Dub**	**3.20**	**200**	P	**Pn**	**23 54 51.1**	**+1.8**
	SNR=18						
ASUD				S	**Sn**	**23 55 27.2**	**-0.3**
ASUD	**Al Ashush, Dub**	**3.20**	**200**	*i* P	**Pn**	**23 54 50.8**	**+1.6**
	SNR=18						
ZRDN	**Zarand Kerman**	**3.31**	**0**	Pn	**Pn**	**23 54 52.9**	**+2.0**
SOHO	**SOHO**	**3.50**	**180**	P	**Pn**	**23 54 55.0**	**+1.6**
ALNE	**Al Ain**	**3.65**	**191**	P	**Pn**	**23 54 56.6**	**+1.1**
ALNE	**Al Ain**	**3.65**	**191**	P	**Pn**	**23 54 55.9**	**+0.4**
IBAF	**Bafgh**	**4.01**	**348**	Pn	**Pn**	**23 55 02.5**	**+1.9**
IMEH	**Mehriz**	**4.08**	**336**	Pn	**Pn**	**23 55 03.2**	**+1.6**
ARQ	**Araqi**	**4.30**	**180**	P	**Pn**	**23 55 06.1**	**+1.8**
BIDO	**Bidbid**	**4.36**	**160**	P	**Pn**	**23 55 05.3**	**+0.1**
BIDO				S	**Sn**	**23 55 54.8**	**-1.3**
DSBU	**Dashti - Bushe**	**4.71**	**280**	Pn	**Pn**	**23 55 11.8**	**+1.7**
NGCH	**Negor - Chabah**	**4.72**	**118**	P	**Pn**	**23 55 10.4**	**+0.3**
NGCH				S	**Sn**	**23 56 04.9**	**0.0**
NGCH	**Negor - Chabah**	**4.72**	**118**	Pn	**Pn**	**23 55 11.5**	**+1.4**
SMDO	**Samad**	**4.78**	**163**	P	**Pn**	**23 55 12.4**	**+1.4**
SMDO				S	**Sn**	**23 56 07.6**	**+1.1**
WSAR	**Wadi Sarin**	**4.79**	**156**	P	**Pn**	**23 55 11.4**	**+0.3**
WSAR				S	**Sn**	**23 56 08.7**	**+2.0**
NHDN	**Nehbandan**	**4.83**	**39**	Pn	**Pn**	**23 55 14.4**	**+2.6**
BSRN	**Basiran**	**4.86**	**27**	Pn	**Pn**	**23 55 15.4**	**+3.2**
SRVN	**Saravan**	**5.22**	**91**	Pn	**Pn**	**23 55 19.5**	**+2.4**
SHMA	**Al-Shehemyia**	**5.29**	**252**	P	**Pn**	**23 55 21.2**	**+3.2**
SHMA				S	**Sn**	**23 56 20.1**	**+1.2**
MZR	**Muzera**	**5.39**	**211**	P	**Pn**	**23 55 20.8**	**+1.4**
JMDO	**Jabal Madar**	**5.45**	**164**	P	**Pn**	**23 55 21.2**	**+1.0**
KLNJ	**Kolanjah**	**5.46**	**309**	Pn	**Pn**	**23 55 22.1**	**+1.5**
IRAM	**Ramesheh**	**5.49**	**320**	Pn	**Pn**	**23 55 22.5**	**+1.5**
TRNA	**Turayna**	**5.59**	**240**	S	**Sn**	**23 56 26.7**	**+0.3**
SMRA	**Abu-Samra**	**5.89**	**242**	P	**Pn**	**23 55 26.9**	**+0.8**
	SNR=5.6						
SMRA				S	**Sn**	**23 56 35.0**	**+1.3**
	SNR=8.6						
ANAR	**Anarak**	**6.03**	**337**	Pn	**Pn**	**23 55 30.2**	**+2.0**
JLN	**Jalan Bani Buh**	**6.07**	**154**	P	**Pn**	**23 55 29.7**	**+1.0**
JLN				S	**Sn**	**23 56 39.4**	**+1.0**
IGAR	**Gharneh**	**6.13**	**322**	Pn	**Pn**	**23 55 31.0**	**+1.2**
IZEF	**Zefreh**	**6.36**	**326**	Pn	**Pn**	**23 55 34.5**	**+1.5**
ZNGN	**Zangian**	**6.64**	**313**	Pn	**Pn**	**23 55 38.5**	**+1.7**
MHTO	**MHTO**	**6.76**	**169**	P	**Pn**	**23 55 38.7**	**+0.4**
MHTO				S	**Sn**	**23 56 57.0**	**+1.6**
JHBN	**Jahan bin**	**6.83**	**313**	Pn	**Pn**	**23 55 40.7**	**+1.2**
IPIR	**Pirpir**	**7.00**	**317**	Pn	**Pn**	**23 55 43.3**	**+1.5**
QAMS	**Qamsar**	**7.50**	**325**	Pn	**Pn**	**23 55 50.0**	**+1.3**
ISFB	**Sefidab**	**7.62**	**332**	Pn	**Pn**	**23 55 51.9**	**+1.8**
DOK	**Doka**	**9.26**	**194**	P	**Pn**	**23 56 12.4**	**-0.1**
WHFO	**Wadi Hawf**	**10.02**	**195**	P	**Pn**	**23 56 23.1**	**+0.2**
ABTO	**Aybut**	**10.67**	**197**	P	**Pn**	**23 56 30.3**	**-1.7**
RAYN	**Ar Rayn**	**10.77**	**250**	P	**Pn**	**23 56 31.8**	**-1.4**
RAYN	**Ar Rayn**	**10.77**	**250**	*i* P	**Pn**	**23 56 30.6**	**-2.6**
	SNR=6.5						
BRTR	**Keskin Array B**	**22.46**	**308**	P	**P**	**23 58 58.1**	**-0.3**
	0.6nm,0.6s,baz=116,slow=11,SNR=5.7 0.6nm,0.6s						
BVAR	**Borovoye Array**	**27.36**	**18**	P	**P**	**23 59 45.4**	**+1.3**
	0.7nm,0.5s,baz=206,slow=9.1,SNR=3.7 0.7nm,0.5s						
MKAR	**Makanchi Array**	**27.83**	**40**	P	**P**	**23 59 48.9**	**+0.5**
	0.1nm,0.3s,baz=237,slow=10,SNR=1.2 0.1nm,0.3s						
PALK	**Pallekele**	**30.58**	**127**	LR	LR	00 11 19.9	
	comp=Z,32nm,19.0s,baz=10,slow=34						
AKASG	**Malin Array Be**	**30.96**	**325**	P	**P**	**00 00 15.6**	**-0.4**
	0.4nm,0.5s,baz=132,slow=8.6,SNR=1.9 0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**33.48**	**31**	P	**P**	**00 00 37.7**	**-0.4**
	0.7nm,0.5s,baz=221,slow=9.1,SNR=3.8 0.7nm,0.5s						
FINES	**FINESS Array B**	**39.44**	**337**	P	**P**	**00 01 29.2**	**+0.4**
	1.1nm,0.8s,baz=137,slow=8.6,SNR=4.0 1.1nm,0.8s						
WTTA	**Wattenberg**	**40.00**	**312**	*i* P	**P**	**00 01 33.4**	**-0.6**
	1.6nm,0.5s						
SQTA	**Sankt Quirin**	**40.28**	**311**	*i* P	**P**	**00 01 35.4**	**-0.8**
	1.7nm,0.4s						
MOTA	**Moosalm**	**40.37**	**312**	*i* P	**P**	**00 01 35.3**	**-1.8**
	0.9nm,0.5s						
FETA	**Feichten**	**40.55**	**311**	*i* P	**P**	**00 01 37.3**	**-1.2**
	0.8nm,0.5s						
DAVA	**Damuels**	**41.17**	**311**	*i* P	**P**	**00 01 42.3**	**-1.4**
	3.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**52.99**	**266**	P	**P**	**00 03 14.8**	**-1.4**
	0.6nm,0.8s,baz=61,slow=7.6,SNR=6.3 0.6nm,0.8s						

DJA 17 00:25:30.1±0.2,1°S±2°×12°9E±°,h10km,M3.9/10,mB5.9/1, mb4.4/3,MLv3.7/10,Mw(mB)5.5/1,MwMwp4.5/1, Mwp4.9/1,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.07**	**326**	P	Pn	00 26 04.3	-0.7
TNTI				S	Sb	00 26 32.4	-1.3
MSAI	**Masohi**	**2.41**	**171**	P	Pn	00 26 10.4	+0.8
MSAI				S	Sb	00 26 41.6	-1.9
NLAI	**Namlea**	**2.69**	**212**	P	Pn	00 26 13.4	-0.1
NLAI				S	Sn	00 26 45.9	-0.2
SWI	**Sorong**	**2.72**	**88**	P	Pn	00 26 13.4	-0.5
SANI	**Sanana**	**2.77**	**247**	P	Pn	00 26 14.0	-0.6
SANI				S	Sn	00 26 48.0	-0.2
FAKI	**Fak Fak**	**4.19**	**118**	P	Pn	00 26 32.0	-2.1
APSI	**Ampana**	**6.89**	**270**	P	Pn	00 27 10.6	-0.7
	28nm,0.5s						
SPSI	**Sidrap Palu**	**9.26**	**251**	P	Pn	00 27 46.1	+2.3

DJA 17 00:53:50.9±0.3,0°S±3°×12°3E±°,h68km±7km,M4.0/13, mB4.8/1,mb3.9/2,MLv4.1/13,Mw(mB)4.0/1
IDC 17 00:53:55.3±7.1,0.44S×122.50E,h142km±68km,mb2.9/3, mbtmp3.5/5,Error ellipse: s-maj=68.4km s-min=22.2km az=56.0
ISC 17 00:53:50.1±0.9,0.27S±0.06×122.91E±0.05,h100km,n14, σ1s43/19,mb2.8/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.78**	**190**	P	**Pn**	**00 54 06.9**	**-1.4**
LUWI				S	**Sn**	**00 54 19.7**	**-2.2**
MRSI	**Marisa**	**1.22**	**307**	P	**Pn**	**00 54 11.7**	**-1.4**
MRSI				S	**Sn**	**00 54 28.1**	**-2.3**
KMSI	**Cibinong**	**1.36**	**52**	P	**Pn**	**00 54 14.6**	**-0.1**
KMSI				S	**Sn**	**00 54 33.8**	**+0.5**
APSI	**Ampana**	**1.41**	**243**	P	**Pn**	**00 54 14.9**	**-0.4**
PCI	**Palu**	**3.14**	**258**	P	**Pn**	**00 54 37.8**	**0.0**
SANI	**Sanana**	**3.55**	**120**	P	**Pn**	**00 54 41.1**	**-2.2**
TTSI	**Tana Toraja**	**4.14**	**228**	P	**Pn**	**00 54 51.6**	**+0.3**
SPSI	**Sidrap Palu**	**4.83**	**220**	P	**Pn**	**00 55 01.4**	**+0.8**
BNSI	**Bone**	**4.97**	**214**	P	**Pn**	**00 55 03.3**	**+0.8**
KAPI	**Kappang**	**5.67**	**214**	P	**Pn**	**00 55 12.4**	**+0.4**
	8.7nm,0.3s,baz=344,slow=7.4,SNR=9.3						
KAPI				S	**Sn**	**00 56 13.5**	**-2.3**
	12nm,0.4s,baz=229,slow=21,SNR=11						
FITZ	**Fitzroy Crossi**	**17.92**	**172**	P	**Pn**	**00 57 53.9**	**+0.9**
	2.0nm,1.0s,baz=338,slow=11,SNR=1.4						
WRA	**Warramunga Arr**	**22.53**	**151**	P	**P**	**00 58 43.5**	**+1.5**
	0.4nm,0.7s,baz=334,slow=9.9,SNR=4.7 0.4nm,0.7s						
ASAR	**Alice Springs**	**25.59**	**156**	P	**P**	**00 59 12.0**	**+1.8**
	0.1nm,0.3s,baz=330,slow=9.3,SNR=1.2						
ASAR				PcP	**PcP**	**01 02 38.8**	**-0.2**
	0.2nm,0.6s,baz=348,slow=3.0,SNR=1.8 0.1nm,0.3s						
MKAR	**Makanchi Array**	**58.80**	**328**	P	**P**	**01 03 38.3**	**+0.3**
	0.3nm,0.3s,baz=122,slow=8.8,SNR=7.3 0.3nm,0.3s						

IDC 17 00:54:42.4±1.9,14.52N×93.49W,h0km,mb3.8/5, mbtmp3.7/8,ML3.4/3,MS3.4/2,Error ellipse: s-maj=44.2km s-min=25.8km az=28.0
MEX 17 00:54:45.3±0.8,14.30N×93.80W,h25km±53km,MD4.1
GCG 17 00:54:46.4±1.2,14.40N×93.49W,h13km±24km,MD4.4, ML4.3
ISC 17 00:54:39.4±1.9,14.32N±0.06×93.81W±0.04,h4km±11km, n39,σ2s79/50,mb3.9/5,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.49**	**22**	*i* P	**Pg**	**00 55 08.2**	**+0.3**
PCIG				*eS*	**Sg**	**00 55 26.3**	**-0.9**
THIG		**1.60**	**68**	*eP*	**Pg**	**00 55 09.9**	**-0.2**
THIG		**1.60**	**68**	*i* P	**Pb**	**00 55 09.2**	**-0.3**
THIG				*eS*	**Sn**	**00 55 24.4**	**-5.2**
PATR	**El Naranjo**	**1.71**	**62**	*eP*	**Pb**	**00 55 11.1**	**-0.6**
SMCA	**Catarina**	**1.76**	**72**	*eP*	**Pb**	**00 55 11.4**	**-0.8**
PAVE	**Pavencul**	**1.80**	**61**	*eP*	**Pb**	**00 55 12.8**	**-0.2**
PAVE				*eS*	**Sn**	**00 55 33.2**	**-1.6**
CHUJ	**Union Juarez**	**1.81**	**65**	*eP*	**Pb**	**00 55 12.6**	**-0.7**
CHUJ				*eS*	**Sn**	**00 55 32.2**	**-2.9**
RTAL	**Retalhuleu**	**2.06**	**84**	*eP*	**Pb**	**00 55 16.4**	**-0.9**
RTAL				*eS*	**Sn**	**00 55 40.1**	**-0.7**
CCIG	**Comitan**	**2.53**	**39**	*eP*	**Pb**	**00 55 25.0**	**-0.5**
CCIG	**Comitan**	**2.53**	**39**	*i* P	**Pb**	**00 55 25.1**	**-0.3**
TGIG		**2.53**	**15**	*eP*	**Pb**	**00 55 24.1**	**-1.3**
TGIG				*eS*	**Sb**	**00 55 55.3**	**-1.7**
TGIG		**2.53**	**15**	*i* P	**Pb**	**00 55 24.5**	**-0.9**
TGIG				*i S*	**Sb**	**00 55 55.7**	**-1.2**
HUIG	**Huatulco**	**2.65**	**303**	*eP*	**Pn**	**00 55 22.3**	**-0.6**
HUIG				*eS*	**Sn**	**00 55 49.9**	**-5.5**
CMIG	**Matias Romero**	**2.94**	**340**	Pn	**Pb**	**00 55 29.0**	**-3.4**
	6.2nm,0.3s,baz=171,slow=11,SNR=32						
CMIG				Sn	**Sn**	**00 56 02.8**	**+0.1**
	16nm,0.3s,baz=246,slow=19,SNR=7.1						
CMIG				LR	LR	00 56 20.9	
	comp=Z,71nm,18.0s,baz=183,slow=34 12nm,0.3s						
CMIG	**Matias Romero**	**2.94**	**340**	*eP*	**Pn**	**00 55 27.8**	**+0.9**
CMIG				*eS*	**Sn**	**00 55 59.8**	**-3.0**
FG8	**Yepocapa, Chim**	**3.15**	**91**	*i* P	**Pn**	**00 55 26.4**	**-3.5**
FG16	**Alotenango, Sa**	**3.20**	**90**	*i* P	**Pn**	**00 55 28.1**	**-2.5**
FG16				*eS*	**Sn**	**00 56 00.4**	**-8.8**
FG16				IAML		00 56 11.9	
	comp=N,1μm,0.3s						
PEIG	**Puerto Escondi**	**3.63**	**298**	*eP*	**Pn**	**00 55 36.6**	**+0.2**
PEIG				*eS*	**Sn**	**00 56 13.3**	**-6.4**
NEUV	**Arroyo Zacate**	**3.88**	**331**	*eP*	**Pn**	**00 55 39.3**	**-0.5**
NEUV				*eS*	**Sn**	**00 56 21.4**	**-4.4**
NUBE	**Las Nubes**	**3.93**	**96**	*eP*	**Pn**	**00 55 42.3**	**+1.7**
NUBE				*i S*	**Sn**	**00 56 25.7**	**-1.6**
JAYA	**Jayaque - finc**	**4.28**	**98**	*eP*	**Pn**	**00 55 47.3**	**+1.8**
YOIG	**Yosondua**	**4.40**	**305**	*eP*	**Pn**	**00 55 47.3**	**+0.1**
YOIG				*eS*	**Sn**	**00 56 37.0**	**-2.0**
PETF	**Flores**	**4.59**	**55**	*i* P	**Pn**	**00 55 52.9**	**+3.3**
TXIG	**Tlaxiaco**	**4.80**	**308**	*eP*	**Pn**	**00 55 55.2**	**+2.5**
TXIG				*e*		00 56 44.4	
TOIG	**Toxpalan**	**4.89**	**321**	*eP*	Pn	00 55 58.3	+4.6
TOIG				*eS*	**Sn**	**00 56 48.5**	**-2.4**
HLIG	**Huajuapan de L**	**5.19**	**313**	*eP*	**Pn**	**00 56 01.5**	**+3.5**
HLIG				*e*		00 56 49.2	
FTIG	**Fresnillo de T**	**5.48**	**311**	*eP*	Pn	00 56 05.6	+3.7
FTIG				*e*		00 57 01.9	
TLIG	**Tlapa**	**5.60**	**306**	*eP*	**Pn**	**00 56 06.5**	**+2.9**
TLIG				*e*		00 57 03.8	
TEIG	**Tepich**	**7.90**	**41**	Pn	**Pn**	**00 56 33.8**	**-1.3**
	baz=130,slow=24,SNR=1.6						
TEIG				Sn	**Sn**	**00 58 02.1**	**-2.8**
	baz=310,slow=24,SNR=1.7						
JTS	**Las Juntas de**	**9.53**	**114**	Pn	**Pn**	**00 56 59.8**	**+2.2**
	comp=N,0.6nm,0.3s,baz=46,slow=15,SNR=6.2 comp=N,1.9nm,0.5s						
TXAR	**Lajitas Array**	**17.50**	**330**	P	**P**	**00 58 49.6**	**+3.9**
	baz=158,slow=13,SNR=7.7 comp=N,1.0nm,1.0s						
TKL	**Tuckaleechee C**	**23.08**	**21**	LR	LR	01 08 34.4	
	comp=N,30nm,21.5s,baz=184,slow=36						
PDAR	**Pinedale Array**	**31.43**	**337**	P	P	01 01 07.1	+5.1
	comp=Z,2nm,0.4s,baz=132,slow=11,SNR=1.8 comp=N,0.2nm,0.4s						
NVAR	**Mina Array Bea**	**32.34**	**322**	P	P	01 01 13.9	+3.9
	comp=N,0.7nm,0.6s,baz=125,slow=6.6,SNR=3.8 comp=N,0.7nm,0.6s						
ILAR	**Eielson Array**	**61.86**	**337**	P	**P**	**01 05 01.9**	**+2.4**
	comp=N,0.7nm,0.8s,baz=141,slow=4.2,SNR=7.4 comp=N,0.7nm,0.8s						
EKA	**Eskdalemuir Ar**	**78.73**	**36**	P	**P**	**01 06 43.9**	**+1.0**
	comp=N,1.2nm,0.7s,baz=286,slow=4.0,SNR=3.9 comp=N,1.2nm,0.7s						
ARCES	**ARCESS Array B**	**86.38**	**18**	P	**P**	**01 07 24.8**	**+2.2**
	comp=N,3.1nm,0.9s,baz=316,slow=6.3,SNR=2.0 comp=N,3.1nm,0.9s						
FINES	**FINESS Array B**	**90.94**	**25**	LR	LR	01 49 40.3	
	comp=N,57nm,18.8s,baz=352,slow=36						
CMAR	**Chiang Mai Arr**	**145.09**	**339**	PKPbc	**PKiKP**	**01 14 21.2**	**-1.7**
	comp=N,0.6nm,0.3s,baz=25,slow=2.8,SNR=5.2						

NEIC 17 01:01:15.1±1.1,46.95N±0.06×153.1E±0.1,h35km±2km, mb4.7/12,Error ellipse: s-maj=16.9km s-min=9.6km az=99.0
IDC 17 01:01:17.7±3.2,46.88N×153.14E,h64km±28km,mb3.6/10, mbtmp3.9/12,ML3.4/2,MS2.7/1,Error ellipse: s-maj=28.5km s-min=21.3km az=143.0
SKHL 17 01:01:17.4±0.1,47.30N×152.50E,h100km±9km,mb4.9/5, msha5.6/5
ISC 17 01:01:16.5±0.8,46.9N±0.1×153.1E±0.1,h56km,n46, σ1s60/45,mb4.3/14,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.99**	**248**	*eP*	**Pn**	**01 02 15.7**	**+0.7**
KUR				AMB	AMB	01 02 16.3	
	80nm,0.3s						
KUR				*eS*	**Sn**	**01 02 57.0**	**-3.5**
KUR				A	A	01 03 08.3	
	230nm,0.4s						
KUR				A	A	01 03 08.3	
	110nm,0.4s						
SKR	**Severo-Kuril's**	**4.30**	**27**	*eP*	**Pn**	**01 02 18.8**	**-0.5**
SKR				AMB	AMB	01 02 24.4	
	70nm,0.7s						
SKR				*eS*	**Sn**	**01 03 04.9**	**-3.3**
SKR				A	A	01 03 23.3	
	100nm,0.5s						
SKR				A	A	01 03 23.3	
	100nm,0.5s						
PAU	**Pauzhetka**	**5.20**	**27**	*eP*	**Pn**	**01 02 31.8**	**+0.1**
PAU				AMB	AMB	01 02 34.9	
	20nm,0.4s						
PAU				*eS*	**Sn**	**01 03 26.9**	**-3.4**
PAU				A	A	01 03 32.1	
	60nm,0.3s						
PAU				A	A	01 03 32.1	
	50nm,0.3s						
SHO	**Shikotan**	**5.33**	**238**	*eP*	**Pn**	**01 02 34.6**	**+1.1**
SHO				AMB	AMB	01 02 40.3	
	50nm,0.7s						
SHO				*eS*	**Sn**	**01 03 33.5**	**-0.1**
SHO				A	A	01 03 53.6	
	140nm,0.5s						
SHO				A	A	01 03 53.6	
	120nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.82**	**243**	*eP*	**Pn**	**01 02 40.3**	**+0.1**
YUK				AMB	AMB	01 02 43.8	
	150nm,0.7s						
YUK				*eS*	**Sn**	**01 03 42.8**	**-2.7**
YUK				A	A	01 03 55.2	
	260nm,0.7s						
YUK				A	A	01 03 55.2	
	200nm,0.7s						
NMR	**Nemuro--Hokkai**	**6.28**	**239**	*eP*	**Pn**	**01 02 43.6**	**-2.8**
NMR				*eS*	**Sn**	**01 03 53.7**	**-3.0**
PEA0B	**Petropavlovsk-**	**6.91**	**24**	Pn	**Pn**	**01 02 55.2**	**+0.2**
PETK	**Petropavlovsk-**	**6.91**	**24**	Pn	**Pn**	**01 02 54.8**	**-0.2**
PETK	**Petropavlovsk-**	**6.91**	**24**	P	**Pn**	**01 02 55.9**	**+0.8**
	0.6nm,0.3s,baz=197,slow=14,SNR=7.2 2.2nm,0.8s						
AKK	**Akkeshi**	**7.01**	**240**	*eS*	**Sn**	**01 04 10.1**	**-4.5**
JKA	**Kamikawa-asahi**	**7.87**	**253**		**Pn**	**01 03 10.1**	**+2.0**
ASAJ	**Asahikawa**	**7.87**	**253**	P	**Pn**	**01 03 09.7**	**+1.4**
	1.1nm,0.3s,baz=103,slow=18,SNR=3.8 29nm,1.0s						
ERM	**Erimo**	**8.60**	**239**	Pn	**Pn**	**01 03 17.5**	**-0.8**
MJAR	**Matsushiro Arr**	**15.14**	**232**	LR	LR	01 10 46.7	
	comp=Z,29nm,19.2s,baz=348,slow=38						
KSRS	**Korea Array**	**20.82**	**252**	P	**P**	**01 05 55.0**	**+1.9**
	1.2nm,0.6s,baz=49,slow=10.0,SNR=2.9 1.2nm,0.6s						
M11K	**Mekoryuk**	**27.16**	**45**	P	**P**	**01 06 53.5**	**-0.7**
BJT	**Baijiatuan**	**27.47**	**269**	P	**P**	**01 06 58.5**	**+1.2**
BJT				IAmb	IAmb	01 07 01.2	
	comp=Z,4.9nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**29.34**	**153**	T	T	01 38 41.8	
	baz=340,slow=76,SNR=94						
H11N1	**WAKE ISLAND Hy**	**29.36**	**153**	T	T	01 38 42.7	
	baz=340,slow=76,SNR=75						
H11N3	**WAKE ISLAND Hy**	**29.36**	**153**	T	T	01 38 40.4	
	baz=340,slow=76,SNR=60						
H11S1	**WAKE ISLAND Hy**	**30.43**	**154**	T	T	01 39 52.3	
	baz=340,slow=76,SNR=113						
H11S3	**WAKE ISLAND Hy**	**30.44**	**154**	T	T	01 39 56.7	
	baz=340,slow=76,SNR=86						
H11S2	**WAKE ISLAND Hy**	**30.45**	**154**	T	T	01 39 56.0	
	baz=340,slow=76,SNR=90						
M16K	**Timber Creek**	**30.77**	**45**	P	**P**	**01 07 25.1**	**-1.1**
D20K	**Etivluk River**	**33.14**	**31**	P	**P**	**01 07 47.2**	**+0.3**
D20K				IAmb	IAmb	01 07 53.5	
	comp=Z,19nm,1.5s						
B20K	**Meade River**	**33.32**	**29**	P	**P**	**01 07 49.1**	**+0.7**
B20K				IAmb	IAmb	01 07 59.8	
	comp=Z,18nm,1.2s						
D22K	**Ayikyak River**	**34.57**	**31**	P	**P**	**01 08 00.1**	**+0.8**
MKAR	**Makanchi Array**	**46.87**	**297**	P	**P**	**01 09 41.1**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=61,slow=7.1,SNR=1.8 comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**47.37**	**303**	P	**P**	**01 09 46.6**	**+2.0**
	comp=Z,0.6nm,0.2s,baz=72,slow=8.7,SNR=2.8 comp=Z,0.6nm,0.2s						
AB31	**Akbulak array**	**58.33**	**310**	P	**P**	**01 11 04.7**	**-0.7**
ABKAR	**Akbulak array**	**58.33**	**310**	P	**P**	**01 11 04.5**	**-1.0**
FINES	**FINESS Array B**	**63.92**	**335**	P	**P**	**01 11 43.3**	**+0.3**
FINES	**FINESS Array B**	**63.92**	**335**	P	**P**	**01 11 42.5**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=28,slow=6.5,SNR=14 comp=Z,1.0nm,0.5s						
NC303	**NORSAR Array S**	**67.90**	**341**	P	**P**	**01 12 09.1**	**+0.4**
NC405	**NORSAR Array S**	**67.92**	**341**	P	**P**	**01 12 09.5**	**+0.7**
NC405				IAmb	IAmb	01 12 16.6	
	comp=Z,6.5nm,1.1s						
NC204	**NORSAR Array S**	**67.99**	**341**	P	**P**	**01 12 10.1**	**+0.9**
NB201	**NORSAR Array S**	**68.07**	**341**	P	**P**	**01 12 10.1**	**+0.3**
NB201				IAmb	IAmb	01 12 10.2	
	comp=Z,18nm,1.2s						
NB2	**NORSAR Subarra**	**68.10**	**341**	P	**P**	**01 12 10.2**	**+0.3**
	comp=Z,12nm,1.2s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.10**	**341**	P	**P**	**01 12 10.8**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=30,slow=6.6,SNR=5.7 comp=Z,1.2nm,0.6s						
HFS	**Hagfors**	**68.33**	**339**	P	**P**	**01 12 11.7**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=49,slow=6.7,SNR=13 comp=Z,2.9nm,0.6s						
WB0	**Warramunga Arr**	**68.45**	**199**	P	**P**	**01 12 13.5**	**+1.1**
AKASG	**Malin Array Be**	**71.43**	**326**	P	**P**	**01 12 30.2**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=34,slow=6.6,SNR=4.4 comp=Z,0.8nm,0.4s						
ASAR	**Alice Springs**	**72.32**	**198**	P	**P**	**01 12 35.8**	**-0.2**
	comp

SKT IAML 01 10 15.9
comp=N,150µm,0.6s
SKT Skwentna 0.39 310 P Pn 01 10 06.7 -0.4
baz=126,SNR=1000
SKT S Sn **01 10 15.4 -0.6**
baz=126
STLK Strandline Lak 0.51 243 Pn 01 10 07.6 -0.5
STLK Sn Sn **01 10 16.9 -0.9**
STLK IAML 01 10 18.1
comp=N,126µm,0.4s
FIS Fire Island 0.67 151 Pn 01 10 10.3 +0.6
SPCG Spurr Capps GI 0.70 231 Pn 01 10 09.8 -0.3
SPCG Sn **01 10 21.2 -0.1**
CUT Chulitna 0.74 23 Pn 01 10 10.7 +0.3
CUT Sn Sn **01 10 22.5 +0.6**
CUT Chulitna 0.74 23 P **Pn 01 10 10.6 +0.2**
baz=202,SNR=1000
CUT S Sn **01 10 23.0 +1.1**
baz=202
SPU Mount Spurr 0.78 226 Pn 01 10 10.7 -0.3
SPU Sn Sn **01 10 22.8 -0.2**
SPCN Chakachatna No 0.80 231 Pn 01 10 11.3 +0.1
N20K Mount Spurr 0.83 230 P **Pn 01 10 11.1 -0.5**
baz=50
N20K S Sn **01 10 23.6 -0.2**
baz=50
SPCR Spurr Chakacha 0.83 230 Pn 01 10 11.0 -0.5
SPCR Sn **01 10 23.5 -0.3**
SPCR Spurr Chakacha 0.83 230 Pn 01 10 10.9 -0.6
SPCR Sn **01 10 23.6 -0.3**
SPCR Spurr Chakacha 0.83 230 P **Pn 01 10 11.1 -0.5**
baz=50,SNR=1000
SPCR S Sn **01 10 23.4 -0.4**
baz=50
SPBG Spurr Blockage 0.85 237 Pn 01 10 12.0 +0.1
RC01 Rabbit Creek A 0.85 139 Pn 01 10 11.6 -0.2
RC01 Sn Sn **01 10 24.2 -0.1**
RC01 IAML 01 10 26.8
comp=N,67µm,0.4s
RC01 IAML 01 10 27.3
comp=E,79µm,0.5s
RC01 Rabbit Creek A 0.85 139 P **Pn 01 10 11.3 -0.5**
baz=322,SNR=1000
PMR Palmer 0.85 99 Pn 01 10 11.4 -0.3
PMR Sn Sn **01 10 23.9 -0.4**
PMR IAML 01 10 25.5
comp=E,104µm,0.4s
PMR IAML 01 10 26.6
comp=N,90µm,0.4s
PMR Palmer 0.85 99 P **Pn 01 10 11.4 -0.3**
PMR Palmer 0.85 99 S **Sn 01 10 24.6 +0.4**
PMR Palmer 0.85 99 P **Pn 01 10 11.4 -0.3**
baz=281,SNR=1000
PMR S Sn **01 10 24.3 0.0**
baz=281
CKL Chakachamna La 0.88 233 Pn 01 10 11.7 -0.4
GHO Glory Hole Cre 0.94 87 Pn 01 10 13.0 +0.1
GHO Sn Sn **01 10 26.1 -0.1**
CAPN Captain Cook N 0.97 187 Pn 01 10 14.4 +1.2
CAPN Sn Sn **01 10 27.6 +0.8**
CAPN Captain Cook N 0.97 187 P **Pn 01 10 14.5 +1.3**
baz=8.9,SNR=422
M20K Styx River 1.07 279 Pn 01 10 14.5 0.0
M20K Sn **01 10 29.6 +0.5**
M20K Styx River 1.07 279 IAML 01 10 30.6
comp=N,93µm,0.6s
M20K IAML 01 10 31.1
comp=E,78µm,0.5s
M20K Styx River 1.07 279 P **Pn 01 10 14.7 +0.2**
baz=97
M20K S Sn **01 10 29.6 +0.5**
baz=97
KNK Knik Glacier 1.21 104 Pn 01 10 16.0 -0.2
KNK Knik Glacier 1.21 104 P **Pn 01 10 16.1 -0.2**
baz=287,SNR=1000
SLKM Skilak Lake 1.27 165 Pn 01 10 16.3 -0.7
PPLA Purkeypile 1.31 333 Pn 01 10 17.6 -0.1
PPLA IAML 01 10 35.8
comp=N,46µm,1.3s
PPLA IAML 01 10 37.4
comp=E,42µm,1.1s
PPLA Purkeypile 1.31 333 Sn 01 10 34.8 +0.1
PPLA Purkeypile 1.31 333 P **Pn 01 10 17.8 +0.1**
baz=151,SNR=1000
PPLA S Sn **01 10 35.0 +0.3**
baz=151
RDT Redoubt 1.37 213 Pn 01 10 18.3 -0.1
O22K Cooper Landing 1.38 155 Pn 01 10 18.2 -0.1
O22K Cooper Landing 1.38 155 P **Pn 01 10 17.8 -0.5**
baz=337,SNR=744
DFR Drift River 1.44 218 Pn 01 10 19.2 0.0
DFR Sn **01 10 37.8 +0.4**
WAT7 Susitna Watana 1.46 40 Pn 01 10 19.9 +0.3
RDJH Redoubt Jeurge 1.47 220 Pn 01 10 19.9 +0.2
M23K Glacier View 1.51 86 P **Pn 01 10 19.8 -0.3**
baz=269,SNR=1000
PWL Port Wells 1.52 124 Pn 01 10 19.7 -0.4
PWL Port Wells 1.52 124 IAML 01 10 40.2
comp=N,51µm,0.5s
PWL IAML 01 10 46.1
comp=E,53µm,0.4s
PWL Port Wells 1.52 124 P **Pn 01 10 19.6 -0.6**
baz=307,SNR=1000
PWL S Sn **01 10 39.0 -0.3**
baz=307
NCT North Crescent 1.53 221 Pn 01 10 20.7 +0.3
WAT1 Susitna Watana 1.56 44 Pn 01 10 21.3 +0.6
WAT1 Susitna Watana 1.56 44 P **Pn 01 10 21.0 +0.3**
baz=225
WAT1 S Sn **01 10 40.5 +0.3**
baz=225
RDSO Redoubt South 1.56 216 Pn 01 10 21.0 +0.1
RDWB Redoubt West 1.56 218 Pn 01 10 21.2 +0.3
L20K Farewell, AK 1.59 299 Pn 01 10 21.3 +0.1
L20K Farewell, AK 1.59 299 P **Pn 01 10 21.1 0.0**
baz=116,SNR=1000
L20K S Sn **01 10 41.3 +0.3**
baz=116
RED Redoubt Volcan 1.60 215 Pn 01 10 21.6 +0.2
SCM Sheep Creek Mo 1.70 85 Pn 01 10 22.7 0.0
SCM Sheep Creek Mo 1.70 85 IAML 01 10 51.9
comp=N,51µm,1.1s
SCM Sheep Creek Mo 1.70 85 P **Pn 01 10 22.7 0.0**
SCM Sheep Creek Mo 1.70 85 P **Pn 01 10 22.5 -0.1**
baz=268,SNR=1000
WAT6 Susitna Watana 1.71 59 Pn 01 10 23.0 +0.1
WAT6 Susitna Watana 1.71 59 P **Pn 01 10 22.8 -0.1**
baz=241,SNR=1000
WAT6 S Sn **01 10 43.8 -0.2**
baz=241
TRF Thorofare Moun 1.75 9 Pn 01 10 23.8 +0.4
TRF Thorofare Moun 1.75 9 IAML 01 10 47.4
comp=E,25µm,1.1s
TRF IAML 01 10 47.4
comp=N,27µm,0.7s
TRF Thorofare Moun 1.75 9 P **Pn 01 10 23.8 +0.4**
baz=189,SNR=1000
SEW Seward 1.78 156 Pn 01 10 24.2 +0.6
SEW IAML 01 10 45.5
comp=E,21µm,0.5s
SEW Seward 1.78 156 P **Pn 01 10 22.7 -0.9**
baz=338,SNR=480
SEW S Sn **01 10 44.2 -1.1**
baz=338
KTH Kantishna Hill 1.83 360 Pn 01 10 24.9 +0.5
O20K Slope Mountain 1.86 208 P **Pn 01 10 25.1 +0.4**
baz=27,SNR=402
L19K White Mountain 1.92 285 Pn 01 10 25.8 +0.2
L19K IAML 01 10 50.4
comp=E,20µm,0.7s
L19K White Mountain 1.92 285 P **Pn 01 10 25.9 +0.4**
baz=102,SNR=1000
RND Reindeer 1.93 28 Pn 01 10 26.1 +0.4
RND Reindeer 1.93 28 P **Pn 01 10 26.1 +0.4**
N19K Bonanza Creek 1.96 244 Pn 01 10 26.2 +0.1
N19K Bonanza Creek 1.96 244 P **Pn 01 10 26.3 +0.1**
baz=61,SNR=668
BRSE Bradley Lake S 2.00 178 Pn 01 10 27.1 +0.4
BRSE Bradley Lake S 2.00 178 P **Pn 01 10 25.9 -0.7**
baz=359,SNR=297
GLI Glacier Island 2.02 113 Pn 01 10 25.9 -1.0
GLI Glacier Island 2.02 113 IAML 01 10 51.4
comp=N,32µm,0.4s
GLI IAML 01 10 52.7
comp=E,33µm,0.4s
GLI Glacier Island 2.02 113 P **Pn 01 10 25.7 -1.3**
baz=297,SNR=1000
ILSW Iliamna Southw 2.07 213 Pn 01 10 27.8 +0.1
ILS Iliamna Low So 2.07 212 Pn 01 10 28.1 +0.5
HOM Homer 2.11 190 Pn 01 10 28.7 +0.6
HOM Homer 2.11 190 P **Pn 01 10 28.6 +0.6**
baz=11,SNR=122
DHY Denali Highway 2.12 49 Pn 01 10 28.9 +0.5
DHY Denali Highway 2.12 49 IAML 01 11 08.2
comp=E,20µm,1.4s
DHY IAML 01 11 08.5
comp=N,16µm,1.0s
DHY Denali Highway 2.12 49 P **Pn 01 10 28.6 +0.2**
baz=232,SNR=647
K20K Telida 2.20 319 Pn 01 10 29.7 +0.4
K20K Telida 2.20 319 IAML 01 11 02.5
comp=N,16µm,0.8s
K20K Telida 2.20 319 P **Pn 01 10 29.6 +0.4**
baz=136,SNR=1000
MCK McKinley 2.20 23 Pn 01 10 29.8 +0.4
MCK McKinley 2.20 23 IAML 01 10 59.6
comp=N,16µm,0.8s
MCK McKinley 2.20 23 P **Pn 01 10 29.8 +0.4**
MCK McKinley 2.20 23 P **Pn 01 10 29.7 +0.4**
baz=204,SNR=1000
CNPM China Poot 2.22 184 Pn 01 10 29.6 0.0
CNPM China Poot 2.22 184 IAML 01 11 02.5
comp=E,21µm,0.5s
CNPM IAML 01 11 03.3
comp=N,26µm,0.5s
CHUM Lake Minchumin 2.25 344 Pn 01 10 30.6 +0.6
CHUM Lake Minchumin 2.25 344 P **Pn 01 10 30.6 +0.6**
baz=162,SNR=1000
CHUM S Sn **01 10 56.7 -0.1**
baz=162
M24K Tolsona, Glenn 2.27 78 Pn 01 10 30.7 +0.5
M24K Tolsona, Glenn 2.27 78 P **Pn 01 10 31.1 +0.9**
baz=262,SNR=1000
O19K Port Alsworth 2.27 229 IAML 01 11 29.9
comp=N,19µm,0.4s
O19K IAML 01 11 41.5
comp=E,17µm,0.4s
O19K Port Alsworth 2.27 229 P **Pn 01 10 30.3 +0.1**
baz=46,SNR=443
FID Port Fidalgo 2.35 113 Pn 01 10 30.2 -1.2
FID Port Fidalgo 2.35 113 IAML 01 11 00.1
comp=E,27µm,0.4s
FID IAML 01 11 00.6
comp=N,28µm,0.3s
M18K Stony River 2.37 266 Pn 01 10 31.3 -0.2
M18K Stony River 2.37 266 P **Pn 01 10 31.4 -0.1**
baz=82,SNR=744
M18K S Sn **01 10 59.3 -0.2**
baz=82
BPAW Bear Paw Mtn. 2.38 359 Pn 01 10 31.9 +0.2
BPAW Bear Paw Mtn. 2.38 359 IAML 01 11 00.9
comp=N,13µm,0.8s
BPAW IAML 01 11 03.7
comp=E,15µm,0.6s
BPAW Bear Paw Mtn. 2.38 359 P **Pn 01 10 31.5 -0.2**
baz=178,SNR=1000
P19K Oil Pt 2.38 210 Pn 01 10 32.2 +0.4
P19K IAML 01 11 07.0
comp=E,14µm,0.6s
P19K IAML 01 11 24.2
comp=N,12µm,0.5s
P19K Oil Pt 2.38 210 P **Pn 01 10 32.6 +0.9**
baz=28,SNR=275
KLU Klutina 2.39 94 Pn 01 10 31.5 -0.4
KLU Klutina 2.39 94 IAML 01 11 01.9
comp=N,25µm,0.3s
KLU IAML 01 11 10.4
comp=E,16µm,0.5s
KLU Klutina 2.39 94 P **Pn 01 10 31.3 -0.6**
baz=278,SNR=1000
HIN Hinchinbrook I 2.52 120 Pn 01 10 33.1 -0.6
HIN Hinchinbrook I 2.52 120 IAML 01 11 04.1
comp=E,19µm,0.5s
HIN IAML 01 11 04.3
comp=N,22µm,0.5s
BWN Browne 2.54 14 Pn 01 10 34.6 +0.9
DIV Divide 2.54 102 Pn 01 10 33.3 -0.6
DIV Divide 2.54 102 IAML 01 11 04.9
comp=E,15µm,0.5s
DIV IAML 01 11 14.1
comp=N,16µm,0.4s
N18K Kilae Creek 2.64 249 Pn 01 10 34.9 -0.3
N18K Kilae Creek 2.64 249 P **Pn 01 10 34.9 -0.3**
baz=64,SNR=454
AGU Augustine-Summ 2.69 209 Pn 01 10 36.4 +0.4
EYAK Cordova Ski Ar 2.76 113 Pn 01 10 35.2 -1.7
EYAK Cordova Ski Ar 2.76 113 P **Pn 01 10 35.5 -1.3**
baz=298,SNR=51
L18K Granite Mounta 2.78 283 Pn 01 10 37.0 -0.1
L18K Granite Mounta 2.78 283 IAML 01 11 32.0
comp=N,10µm,1.1s
L18K Granite Mounta 2.78 283 P **Pn 01 10 37.1 0.0**
baz=97,SNR=1000
L18K S Sn **01 11 09.8 +0.3**
baz=97
HARP HAARP 2.78 74 Pn 01 10 37.9 +0.7
HARP HAARP 2.78 74 P **Pn 01 10 38.1 +0.9**
baz=258,SNR=1000
PAX Paxson 2.82 61 Pn 01 10 38.1 +0.4
PAX IAML 01 11 13.4
comp=E,8µm,0.4s
PAX IAML 01 11 13.5
comp=N,13µm,0.9s
PAX Paxson 2.82 61 P **Pn 01 10 38.1 +0.4**
PAX Paxson 2.82 61 P **Pn 01 10 38.4 +0.7**
baz=246,SNR=1000
J20K Nowinta River 2.87 330 Pn 01 10 38.6 +0.3
J20K IAML 01 11 13.1
comp=E,17µm,0.5s
J20K Nowinta River 2.87 330 P **Pn 01 10 38.5 +0.3**
baz=147,SNR=1000
J20K S Sn **01 11 10.9 -0.8**
baz=147
NEA2 Nenana 2.99 15 Pn 01 10 39.8 -0.2
NEA2 Nenana 2.99 15 P **Pn 01 10 39.7 -0.2**
baz=196,SNR=819
N25K Chitina, Valde 3.01 90 Pn 01 10 40.2 -0.1
N25K Chitina, Valde 3.01 90 IAML 01 11 16.4
comp=E,8µm,0.3s
N25K IAML 01 11 26.9
comp=N,11µm,0.5s
N25K Chitina, Valde 3.01 90 P **Pn 01 10 40.0 -0.2**
baz=275,SNR=407
WRH Wood River Hil 3.03 24 Pn 01 10 40.7 +0.2
BMRM Bremner River 3.13 101 Pn 01 10 42.3 +0.5
BMRM Bremner River 3.13 101 IAML 01 11 34.2
comp=E,7µm,0.4s
BMRM IAML 01 11 34.8
comp=N,12µm,0.4s
BMRM Bremner River 3.13 101 P **Pn 01 10 40.8 -1.1**
baz=287,SNR=100
Q19K Cape Douglas, 3.13 207 Pn 01 10 42.4 +0.5
Q19K Cape Douglas, 3.13 207 IAML 01 11 40.3
comp=N,8µm,0.8s
Q19K IAML 01 11 53.4
comp=E,13µm,1.1s
Q19K Cape Douglas, 3.13 207 P **Pn 01 10 42.6 +0.7**
baz=25,SNR=162
J19K Poorman 3.14 318 Pn 01 10 42.3 +0.3
J19K Poorman 3.14 318 IAML 01 11 19.4
comp=N,9µm,0.8s
J19K IAML 01 11 36.0
comp=E,11µm,1.1s
J19K Poorman 3.14 318 P **Pn 01 10 42.2 +0.3**
baz=134,SNR=1000
K24K Donnelly Dome 3.14 46 Pn 01 10 43.8 +1.8
K24K Donnelly Dome 3.14 46 P **Pn 01 10 44.0 +2.0**
baz=230,SNR=1000
M17K Holitna River 3.15 267 Pn 01 10 42.2 +0.1
M17K Holitna River 3.15 267 IAML 01 11 18.5
comp=E,13µm,1.0s
M17K IAML 01 11 37.9
comp=N,10µm,1.5s
M17K Holitna River 3.15 267 P **Pn 01 10 41.9 -0.2**
baz=81,SNR=730
M17K S Sn **01 11 17.5 -1.0**
baz=81
P18K Big Mountain, 3.18 224 P **Pn 01 10 42.7 +0.2**
baz=41,SNR=49
WASW Wrangell South 3.20 84 Pn 01 10 43.0 0.0
J18K Innoko River 3.20 305 Pn 01 10 43.2 +0.4
comp=N,6µm,0.8s
J18K Innoko River 3.20 305 P **Pn 01 10 43.3 +0.4**
baz=120,SNR=1000
Q23K Middleton Isla 3.22 134 Pn 01 10 43.5 +0.5
Q23K Middleton Isla 3.22 134 P **Pn 01 10 42.0 -1.1**
baz=318,SNR=8.6
SYI Shuyak Island 3.22 194 Pn 01 10 43.5 +0.4
SYI Shuyak Island 3.22 194 IAML 01 11 31.4
comp=N,6µm,0.5s
Q20K Shuyak Island 3.22 194 P **Pn 01 10 43.5 +0.4**
baz=13,SNR=78
HDA Harding Lake 3.23 32 Pn 01 10 42.8 -0.4
HDA Harding Lake 3.23 32 P **Pn 01 10 43.3 +0.1**
baz=215,SNR=682
CCB Clear Creek Bu 3.24 24 Pn 01 10 43.6 +0.2
CCB Clear Creek Bu 3.24 24 IAML 01 11 41.5
comp=E,7µm,1.0s
N17K Nushagak Hills 3.28 251 P **Pn 01 10 43.8 -0.2**
baz=66,SNR=180
MLY Manley 3.31 1 Pn 01 10 44.4 0.0
MLY Manley 3.31 1 IAML 01 11 23.8
comp=N,6µm,0.8s
MLY Manley 3.31 1 P **Pn 01 10 44.0 -0.3**
baz=181,SNR=845
GLB Gilahina Butte 3.40 92 Pn 01 10 44.8 -0.8
GLB IAML 01 11 39.5
comp=N,5µm,0.9s
RIDG Independent Ri 3.44 51 Pn 01 10 46.3 +0.2
RIDG Independent Ri 3.44 51 P **Pn 01 10 47.2 +1.1**
baz=236,SNR=370
COLA College 3.44 22 Pn 01 10 46.0 0.0
COLA IAML 01 12 02.8
comp=N,9µm,0.5s
COLA College 3.44 22 P **Pn 01 10 46.1 0.0**
COLA College 3.44 22*d i* P **Pn 01 10 45.9 -0.1**
COLA pmax pmax
comp=Z,719nm,0.9s
COLA College 3.44 22 P **Pn 01 10 46.1 0.0**
baz=204
I53US FAIRBANKS INFR 3.44 22 P **Pn 01 10 46.9 +0.9**
baz=194,slow=25,SNR=1.2
I53US I I 01 23 50.0
baz=217,slow=309,SNR=0.8
I20K Naaghedeneel 3.48 334 Pn 01 10 46.9 +0.5
I20K Naaghedeneel 3.48 334 P **Pn 01 10 47.0 +0.5**
baz=150,SNR=251
I20K S Sn **01 11 25.9 -0.5**
baz=150
L17K Donlin 3.52 280 P **Pn 01 10 47.2 0.0**
baz=93,SNR=764
ILAR Eielson Array 3.55 29 Pn 01 10 47.7 +0.2
ILAR Eielson Array 3.55 29 P **Pn 01 10 48.0 +0.5**
comp=Z,313nm,0.3s,baz=215,slow=13,SNR=1581
ILAR S Sn **01 11 29.2 +0.9**
comp=Z,750nm,0.7s,baz=209,slow=20,SNR=4.3
ILAR LR LR 01 12 25.5
comp=Z,2µm,20.9s,baz=292,slow=43
ILAR ScP **ScP 01 21 38.7 -1.4**
comp=Z,1.5nm,0.8s,baz=266,slow=2.7,SNR=4.6
MENT Mentasta 3.56 67 IAML 01 11 43.8
comp=N,10µm,0.8s
IL17 Eielson Array 3.58 29 Pn 01 10 48.0 +0.1
K17K Iditarod 3.60 289 Pn 01 10 48.3 0.0
K17K IAML 01 11 57.8
comp=N,8µm,1.4s
K17K IAML 01 12 02.1
comp=E,6µm,1.0s
K17K Iditarod 3.60 289 P **Pn 01 10 48.6 +0.3**
baz=102,SNR=1000
VRDI Verde Repeater 3.61 95 Pn 01 10 47.1 -1.4
O17K Koliganek Bris 3.62 240 P **Pn 01 10 48.7 +0.2**
baz=55,SNR=550
KAIM Kayak Island 3.65 117 Pn 01 10 48.9 -0.1
KAIM IAML 01 11 36.7
comp=N,4µm,0.4s
KAIM Kayak Island 3.65 117 P **Pn 01 10 47.3 -1.7**
baz=303
DOT Dot Lake 3.69 56 Pn 01 10 49.6 +0.1
KAHC Katmai Hardscr 3.71 215 Pn 01 10 50.2 +0.3
Q18K Katmai Hardscr 3.71 215 P **Pn 01 10 50.3 +0.4**
baz=32,SNR=96
POKR Poker Plat Res 3.74 23 Pn 01 10 50.4 +0.3
POKR Poker Plat Res 3.74 23 IAML 01 12 00.1
comp=E,4µm,1.4s
POKR Poker Plat Res 3.74 23 P **Pn 01 10 50.5 +0.3**
baz=206,SNR=140
P17K Kvichak River 3.74 230 P **Pn 01 10 51.0 +0.9**
baz=45,SNR=345
BERG Berg Lake 3.75 108 Pn 01 10 50.3 0.0
L26K Log Cabin Wild 3.75 66 Pn 01 10 50.9 +0.6
L26K IAML 01 11 52.7
comp=E,7µm,0.4s
L26K IAML 01 12 11.8
comp=N,7µm,0.5s
L26K Log Cabin Wild 3.75 66 P **Pn 01 10 51.0 +0.8**
baz=253,SNR=287
M26K Nabesna, AK 3.78 76 Pn 01 10 50.9 +0.2
M26K Nabesna, AK 3.78 76 IAML 01 11 57.4
comp=N,4µm,0.8s
M26K IAML 01 11 57.7
comp=E,5µm,1.1s
M26K Nabesna, AK 3.78 76 P **Pn 01 10 50.8 +0.1**
baz=263,SNR=238
MCARA McCarthy VSAT 3.78 92 P **Pn 01 10 50.8 0.0**
baz=279,SNR=84
J25K Salcha River, 3.83 38 IAML 01 11 44.5
comp=E,6µm,0.7s
J25K IAML 01 12 05.2
comp=N,4µm,1.0s
J25K Salcha River, 3.83 38 P **Pn 01 10 51.5 +0.1**
baz=223,SNR=1000
SUCK Suckling Hills 3.85 112 Pn 01 10 52.4 +0.6
SUCK Suckling Hills 3.85 112 IAML 01 11 53.6
comp=N,5µm,0.5s
SUCK IAML 01 12 03.9
comp=E,4µm,1.3s
SCRK Sand Creek 3.89 52 Pn 01 10 52.5 +0.2
SCRK Sand Creek 3.89 52 IAML 01 11 46.4
comp=E,4µm,0.7s
SCRK IAML 01 11 46.4
comp=N,4µm,1.0s
SCRK Sand Creek 3.89 52 P **Pn 01 10 52.3 +0.1**
baz=237,SNR=364
CRQE Cirque 3.90 101 P **Pn 01 10 51.8 -0.6**
baz=288,SNR=53
M16K Timber Creek 3.94 263 Pn 01 10 53.0 0.0
M16K Timber Creek 3.94 263 IAML 01 12 08.0
comp=E,3µm,1.5s
M16K IAML 01 12 10.2
comp=N,3µm,1.4s
M16K Timber Creek 3.94 263 P **Pn 01 10 52.8 -0.2**
baz=76,SNR=132
TGL Tana Glacier 4.02 101 IAML 01 11 57.6
comp=N,7µm,1.0s
N16K Nishlik Lake 4.02 255 P **Pn 01 10 53.9 -0.1**
baz=68,SNR=101
H21K Melozitna Rive 4.03 349 Pn 01 10 54.4 +0.3
H21K Melozitna Rive 4.03 349 IAML 01 11 41.1
comp=N,3µm,0.6s
H21K Melozitna Rive 4.03 349 P **Pn 01 10 54.1 0.0**
baz=167,SNR=581
H21K S Sn **01 11 37.8 -2.2**
baz=167
BGLC Bering Glacier 4.05 110 Pn 01 10 54.5 +0.1
BGLC Bering Glacier 4.05 110 P **Pn 01 10 53.5 -0.8**
baz=297
KDAK Kodiak Island 4.05 193 Pn 01 10 54.6 +0.2
KDAK IAML 01 11 56.1
comp=N,3µm,0.7s
KDAK IAML 01 11 56.3
comp=N,3µm,0.8s
KDAK Kodiak Island 4.05 193 P **Pn 01 10 53.3 -1.1**
comp=N,66nm,0.4s,baz=23,slow=6.8,SNR=86
KDAK S Sn **01 11 36.3 -4.3**
comp=N,729nm,0.5s,baz=7.9,slow=12,SNR=3.8
KDAK Kodiak Island 4.05 193*de* P **Pn 01 10 54.1 -0.3**
KDAK pmax pmax
comp=Z,87nm,0.4s
KDAK Kodiak Island 4.05 193 P **Pn 01 10 53.3 -1.1**
baz=12
GCSA Galena City Sc 4.06 321 P **Pn 01 10 54.9 +0.5**
baz=135,SNR=201
L16K Owhat River 4.08 273 Pn 01 10 54.8 0.0
L16K Owhat River 4.08 273 P **Pn 01 10 54.7 0.0**
baz=86,SNR=472
KABU Katmai Buttres 4.11 214 Pn 01 10 55.8 +0.5

WAX	**Waxell Ridge**	**4.11**	**105**	IAML			01 12 02.3	
	comp=E,6µm,1.5s							
J17K	**VABM Dome**	**4.14**	**297**			**Pn**	**01 10 55.6**	**+0.1**
J17K				IAML			01 12 23.7	
	comp=N,4µm,1.2s							
J17K				IAML			01 12 25.3	
	comp=E,3µm,1.0s							
J17K	**VABM Dome**	**4.14**	**297**	P		**Pn**	**01 10 55.5**	**-0.1**
	baz=110,SNR=784							
J17K				S		**Sn**	**01 11 40.8**	**-1.8**
	baz=110							
O16K	**Kokwok River B**	**4.14**	**242**	P		**Pn**	**01 10 55.8**	**+0.2**
	baz=56,SNR=154							
H20K	**Anotleneega Mo**	**4.17**	**337**	P		**Pn**	**01 10 56.5**	**+0.4**
	baz=153,SNR=458							
ACHA	**Angle Creek He**	**4.17**	**214**			**Pn**	**01 10 56.5**	**+0.3**
H22K	**Ishtalitna Cre**	**4.18**	**357**	P		**Pn**	**01 10 56.3**	**+0.1**
	baz=176							
H22K				S		**Sn**	**01 11 41.2**	**-2.5**
	baz=176							
KIAG	**Kiagna River**	**4.19**	**97**			**Pn**	**01 10 55.5**	**-1.0**
Q16K	**King Salmon**	**4.20**	**226**			**Pn**	**01 10 56.9**	**+0.5**
Q16K	**King Salmon**	**4.20**	**226**	P		**Pn**	**01 10 57.2**	**+0.8**
	baz=41,SNR=55							
SNH	**Sunshine Point**	**4.23**	**108**	IAML			01 12 12.2	
	comp=N,3µm,1.3s							
SNH				IAML			01 12 12.6	
	comp=E,3µm,0.9s							
ANCK	**Angle Creek**	**4.23**	**215**			**Pn**	**01 10 57.3**	**+0.4**
Q17K	**Contact Creek**	**4.29**	**218**	P		**Pn**	**01 10 58.3**	**+0.5**
	baz=34,SNR=71							
M27K	**Edge Creek, AK**	**4.29**	**78**	IAML			01 12 12.3	
	comp=E,3µm,1.3s							
M27K				IAML			01 12 20.1	
	comp=N,4µm,1.0s							
M27K	**Edge Creek, AK**	**4.29**	**78**	P		**Pn**	**01 10 58.1**	**+0.3**
	baz=266,SNR=202							
ISLE	**Juniper Island**	**4.30**	**102**			**Pn**	**01 10 57.8**	**-0.1**
ISLE	**Juniper Island**	**4.30**	**102**	IAML			01 12 13.1	
	comp=N,5µm,1.3s							
ISLE				IAML			01 12 21.6	
	comp=E,4µm,1.0s							
H24K	**Noodor Dome**	**4.33**	**17**	IAML			01 12 18.9	
	comp=E,2µm,1.3s							
H24K	**Noodor Dome**	**4.33**	**17**	P		**Pn**	**01 10 58.1**	**-0.1**
	baz=199,SNR=563							
J26L	**Joseph Creek**	**4.34**	**47**	IAML			01 11 58.0	
	comp=E,4µm,0.3s							
J26L	**Joseph Creek**	**4.34**	**47**	P		**Pn**	**01 10 58.8**	**+0.4**
	baz=233,SNR=526							
L27K	**Beaver Creek,**	**4.43**	**68**			**Pn**	**01 10 59.9**	**+0.4**
L27K	**Beaver Creek,**	**4.43**	**68**	P		**Pn**	**01 10 59.7**	**+0.2**
	baz=256							
P16K	**Nushagak River**	**4.44**	**236**	P		**Pn**	**01 11 00.7**	**+1.0**
	baz=50,SNR=209							
BCAR	**Beaver Creek A**	**4.45**	**68**			**Pn**	**01 11 00.2**	**+0.4**
BAGL	**Bagley Icefiel**	**4.45**	**102**			**Pn**	**01 10 59.9**	**+0.1**
IMAR	**Indian Mountai**	**4.45**	**345**			**Pn**	**01 10 60.0**	**+0.1**
PRP	**Porcupine Dome**	**4.49**	**30**	IAML			01 12 24.8	
	comp=E,3µm,1.0s							
PRP				IAML			01 12 30.9	
	comp=N,4µm,1.0s							
PRP	**Porcupine Dome**	**4.49**	**30**	P		**Pn**	**01 11 00.6**	**+0.1**
	baz=214,SNR=1000							
BARN	**Barnard Glacie**	**4.49**	**95**	IAML			01 12 20.8	
	comp=E,3µm,0.5s							
GRNC	**Granite Creek**	**4.53**	**99**	IAML			01 11 54.5	
	comp=E,2µm,0.4s							
GRNC				IAML			01 12 23.5	
	comp=N,3µm,0.6s							
H19K	**Roundabout Mou**	**4.54**	**329**			**Pn**	**01 11 01.5**	**+0.4**
H19K	**Roundabout Mou**	**4.54**	**329**	IAML			01 12 04.9	
	comp=N,3µm,1.0s							
H19K				IAML			01 12 26.2	
	comp=E,4µm,1.4s							
H19K	**Roundabout Mou**	**4.54**	**329**	P		**Pn**	**01 11 01.5**	**+0.4**
	baz=144							
H19K				S		**Sn**	**01 11 50.3**	**-2.2**
	baz=144							
R18K	**Karluk**	**4.55**	**205**			**Pn**	**01 11 01.5**	**+0.3**
R18K	**Karluk**	**4.55**	**205**	IAML			01 11 56.5	
	comp=E,3µm,0.5s							
R18K				IAML			01 11 57.1	
	comp=N,3µm,0.5s							
R18K	**Karluk**	**4.55**	**205**	P		**Pn**	**01 11 01.5**	**+0.3**
	baz=22							
MESA	**MESA**	**4.63**	**106**	IAML			01 11 58.9	
	comp=E,4µm,0.4s							
MESA	**MESA**	**4.63**	**106**	P		**Pn**	**01 11 01.2**	**-1.3**
	baz=294,SNR=48							
K27K	**Chicken**	**4.65**	**56**	IAML			01 12 26.9	
	comp=E,2µm,1.5s							
K27K				IAML			01 12 27.7	
	comp=N,3µm,1.5s							
K27K	**Chicken**	**4.65**	**56**	P		**Pn**	**01 11 02.5**	**0.0**
	baz=244,SNR=306							
YAH	**Yahtse**	**4.66**	**103**	IAML			01 11 59.2	
	comp=E,2µm,0.8s							
YAH				IAML			01 12 20.1	
	comp=N,3µm,0.9s							
CTG	**Chitna Glacier**	**4.67**	**95**	P		**Pn**	**01 11 03.0**	**+0.1**
	baz=284,SNR=55							
OHAK	**Old Harbor**	**4.69**	**196**			**Pn**	**01 11 02.2**	**-0.8**
OHAK	**Old Harbor**	**4.69**	**196**	P		**Pn**	**01 11 03.2**	**+0.2**
OHAK	**Old Harbor**	**4.69**	**196**	P		**Pn**	**01 11 01.9**	**-1.1**
	baz=14,SNR=26							
N15K	**Kwethluk River**	**4.75**	**255**	IAML			01 12 30.5	
	comp=N,3µm,1.5s							
N15K				IAML			01 12 39.8	
	comp=E,3µm,1.3s							
N15K	**Kwethluk River**	**4.75**	**255**	P		**Pn**	**01 11 03.9**	**-0.1**
	baz=67,SNR=62							
J16K	**Anvik River**	**4.76**	**293**			**Pn**	**01 11 04.0**	**0.0**
J16K	**Anvik River**	**4.76**	**293**	IAML			01 12 41.2	
	comp=N,2µm,1.4s							
J16K	**Anvik River**	**4.76**	**293**	P		**Pn**	**01 11 04.3**	**+0.3**
	baz=105,SNR=498							
BVCY	**Beaver Creek**	**4.77**	**77**	P		**Pn**	**01 11 04.9**	**+0.7**
	baz=266,SNR=229							
H18K	**Honhosa River**	**4.80**	**319**	IAML			01 12 32.4	
	comp=E,2µm,1.5s							
H18K				IAML			01 12 37.9	
	comp=N,2µm,1.4s							
H18K	**Honhosa River**	**4.80**	**319**	P		**Pn**	**01 11 05.2**	**+0.7**
	baz=132,SNR=529							
PLK5	**Peulik 5**	**4.81**	**221**			**Pn**	**01 11 05.0**	**+0.4**
M15K	**Kasigluk River**	**4.85**	**262**	P		**Pn**	**01 11 05.0**	**-0.2**
	baz=73,SNR=59							
LOGN	**Logan Glacier**	**4.86**	**96**	Pn		**Pn**	**01 11 04.6**	**-1.0**
LOGN				IAML			01 12 02.3	
	comp=E,2µm,0.7s							
LOGN				IAML			01 12 29.6	
	comp=N,2µm,0.6s							
PLK1	**Peulik 1**	**4.88**	**219**			**Pn**	**01 11 05.6**	**-0.2**
TABL	**Table Mountain**	**4.91**	**101**			**Pn**	**01 11 05.8**	**-0.5**
TABL				IAML			01 12 40.3	
	comp=N,2µm,1.1s							
TABL				IAML			01 12 41.8	
	comp=E,2µm,1.3s							
G21K	**Allakaket**	**4.94**	**348**	P		**Pn**	**01 11 06.9**	**+0.4**
	baz=165,SNR=303							
PLK4	**Peulik 4**	**4.96**	**216**	IAML			01 12 08.5	
	comp=E,2µm,1.4s							
PLK4				IAML			01 12 38.0	
	comp=N,2µm,1.5s							
R17L	**Mt. Peulik Vol**	**4.96**	**216**	P		**Pn**	**01 11 07.5**	**+0.7**
	baz=32							
YUK3	**Moose Creek**	**4.96**	**85**	P		**Pn**	**01 11 06.9**	**-0.1**
	baz=274,SNR=515							
I26K	**Coal Creek Min**	**4.99**	**41**	P		**Pn**	**01 11 07.7**	**+0.6**
	baz=227							
I17K	**Unalakleet**	**4.99**	**300**			**Pn**	**01 11 06.7**	**-0.5**
I17K				IAML			01 12 06.5	
	comp=E,3µm,1.0s							
I17K	**Unalakleet**	**4.99**	**300**	P		**Pn**	**01 11 07.8**	**+0.7**
	baz=111,SNR=285							
G23K	**Bananza Creek**	**5.01**	**4**	IAML			01 12 03.0	
	comp=E,1µm,0.9s							
G23K				IAML			01 12 06.2	
	comp=N,2µm,0.8s							
G23K	**Bananza Creek**	**5.01**	**4**	P		**Pn**	**01 11 07.9**	**+0.3**
	baz=184,SNR=638							
G23K				S		**Sn**	**01 12 02.1**	**-1.9**
	baz=184							
PLBL	**Peulik Blue Cr**	**5.03**	**219**			**Pn**	**01 11 08.3**	**+0.4**
L15K	**Ungalak Mounta**	**5.04**	**274**	P		**Pn**	**01 11 07.8**	**0.0**
	baz=85,SNR=110							
K15K	**Wolf Creek Mou**	**5.04**	**281**	P		**Pn**	**01 11 08.3**	**+0.4**
	baz=92,SNR=351							
H25L	**Birch Creek**	**5.07**	**24**	P		**Pn**	**01 11 08.7**	**+0.4**
	baz=208,SNR=506							
O15K	**Ungalikthiuk R**	**5.11**	**244**	P		**Pn**	**01 11 09.4**	**+0.6**
	baz=56,SNR=40							
H17K	**Granite Mounta**	**5.18**	**312**	P		**Pn**	**01 11 10.6**	**+0.9**
	baz=124,SNR=539							
SAMH	**Samovar Hills**	**5.19**	**104**			**Pn**	**01 11 10.0**	**0.0**
G19K	**Purcell Mounta**	**5.20**	**331**	IAML			01 12 10.1	
	comp=N,1µm,0.9s							
G19K				IAML			01 12 21.6	
	comp=E,2µm,0.8s							
G19K	**Purcell Mounta**	**5.20**	**331**	P		**Pn**	**01 11 10.2**	**+0.2**
	baz=145,SNR=167							
G24K	**Hadweenzic Riv**	**5.21**	**15**			**Pn**	**01 11 10.3**	**+0.1**
G24K	**Hadweenzic Riv**	**5.21**	**15**	IAML			01 12 51.7	
	comp=E,2µm,1.4s							
G24K				IAML			01 12 59.3	
	comp=N,1µm,1.0s							
G24K	**Hadweenzic Riv**	**5.21**	**15**	P		**Pn**	**01 11 10.1**	**0.0**
	baz=198,SNR=353							
G22K	**Bettles**	**5.22**	**357**			**Pn**	**01 11 10.9**	**+0.6**
G22K	**Bettles**	**5.22**	**357**	P		**Pn**	**01 11 10.4**	**+0.2**
	baz=176							
O28M	**Mount Upton**	**5.26**	**96**			**Pn**	**01 11 11.0**	**-0.1**
O28M	**Mount Upton**	**5.26**	**96**	IAML			01 12 12.9	
	comp=N,1µm,0.5s							
O28M	**Mount Upton**	**5.26**	**96**	P		**Pn**	**01 11 10.9**	**-0.3**
	baz=285,SNR=179							
YUK8	**Steele Glacier**	**5.35**	**90**			**Pn**	**01 11 12.4**	**+0.1**
YUK8	**Steele Glacier**	**5.35**	**90**	P		**Pn**	**01 11 12.5**	**+0.1**
	baz=280,SNR=67							
EGAK	**Eagle**	**5.35**	**51**			**Pn**	**01 11 12.6**	**+0.5**
EGAK	**Eagle**	**5.35**	**51**	P		**Pn**	**01 11 12.2**	**0.0**
	baz=240,SNR=148							
R16K	**Pilot Point**	**5.38**	**222**	P		**Pn**	**01 11 12.9**	**+0.5**
	baz=36							
G18K	**Tagawik**	**5.41**	**324**	P		**Pn**	**01 11 13.3**	**+0.4**
	baz=137,SNR=442							
M14K	**Bethel**	**5.43**	**264**	P		**Pn**	**01 11 13.4**	**+0.2**
	baz=75,SNR=94							
PCA	**Pinnacle**	**5.44**	**103**			**Pn**	**01 11 13.2**	**-0.3**
PINM	**Pinnacle**	**5.45**	**103**	P		**Pn**	**01 11 13.0**	**-0.5**
	baz=292,SNR=34							
SII	**Sitkinak Islan**	**5.46**	**200**	P		**Pn**	**01 11 13.9**	**+0.3**
	baz=17,SNR=13							
G25K	**Bearman Lake**	**5.47**	**20**	P		**Pn**	**01 11 13.7**	**0.0**
	baz=204,SNR=385							
COLD	**Coldfoot**	**5.53**	**3**			**Pn**	**01 11 15.1**	**+0.6**
COLD	**Coldfoot**	**5.53**	**3**	P		**Pn**	**01 11 14.7**	**+0.2**
	baz=183,SNR=332							
N14K	**Kuskokwak Cree**	**5.58**	**256**			**Pn**	**01 11 15.6**	**+0.4**
N14K	**Kuskokwak Cree**	**5.58**	**256**	P		**Pn**	**01 11 15.6**	**+0.4**
	baz=66,SNR=37							
F21K	**Alatna River**	**5.62**	**350**			**Pn**	**01 11 16.5**	**+0.7**
F21K	**Alatna River**	**5.62**	**350**	P		**Pn**	**01 11 16.5**	**+0.7**
	baz=167,SNR=350							
L14K	**Kuk Creek**	**5.65**	**271**	P		**Pn**	**01 11 16.8**	**+0.6**
	baz=81,SNR=256							
I27K	**Kandik River**	**5.67**	**43**	P		**Pn**	**01 11 16.9**	**+0.4**
	baz=231,SNR=168							
O14K	**Tigyukauivet M**	**5.69**	**249**			**Pn**	**01 11 16.9**	**+0.1**
O14K	**Tigyukauivet M**	**5.69**	**249**	P		**Pn**	**01 11 17.3**	**+0.5**
	baz=60,SNR=10							
F20K	**Avaraart Lake**	**5.73**	**341**			**Pn**	**01 11 18.0**	**+0.7**
F20K	**Avaraart Lake**	**5.73**	**341**	P		**Pn**	**01 11 18.3**	**+1.0**
	baz=156							
DAWY	**Dawson**	**5.76**	**61**			**Pn**	**01 11 18.0**	**+0.3**
DAWY	**Dawson**	**5.76**	**61**	P		**Pn**	**01 11 17.9**	**+0.2**
	baz=251,SNR=158							
G17K	**Kiwalik Mounta**	**5.76**	**315**			**Pn**	**01 11 18.1**	**+0.4**
G17K	**Kiwalik Mounta**	**5.76**	**315**	P		**Pn**	**01 11 18.1**	**+0.4**
	baz=126,SNR=164							
F22K	**John River**	**5.83**	**355**	P		**Pn**	**01 11 19.1**	**+0.5**
	baz=174							
YUK4	**Talbot Arm**	**5.87**	**88**	P		**Pn**	**01 11 19.4**	**0.0**
	baz=278,SNR=87							
M29M	**Somme Creek**	**5.89**	**78**	P		**Pn**	**01 11 20.0**	**+0.5**
	baz=268,SNR=342							
H16K	**Elim**	**5.90**	**305**	P		**Pn**	**01 11 19.7**	**+0.1**
	baz=114,SNR=122							
F19K	**Shaleruckik Mo**	**5.93**	**333**	P		**Pn**	**01 11 20.3**	**+0.3**
	baz=146,SNR=115							
F19K				S		**Sn**	**01 12 24.6**	**-1.7**
	baz=146							
F24K	**Squaw Lake**	**5.95**	**11**	P		**Pn**	**01 11 20.4**	**+0.1**
	baz=194,SNR=111							
J14K	**Nanvaranak Lak**	**6.00**	**285**	P		**Pn**	**01 11 21.2**	**+0.2**
	baz=94,SNR=154							
PNL	**Peninsula**	**6.01**	**105**	P		**Pn**	**01 11 20.2**	**-1.1**
	baz=295,SNR=9.7							
G26K	**Porcupine Rive**	**6.08**	**27**	P		**Pn**	**01 11 22.1**	**+0.1**
	baz=214,SNR=561							
YUK6	**Outpost Mounta**	**6.08**	**92**	P		**Pn**	**01 11 21.9**	**-0.5**
	baz=283,SNR=46							
L29M	**L29M**	**6.09**	**71**	P		**Pn**	**01 11 22.9**	**+0.6**
	baz=263,SNR=86							
H27K	**Steamboat Moun**	**6.11**	**38**	P		**Pn**	**01 11 22.7**	**+0.2**
	baz=226,SNR=478							
I28M	**Miner Creek**	**6.15**	**48**	P		**Pn**	**01 11 23.2**	**+0.2**
	baz=238,SNR=207							
O29M	**Mount Kennedy**	**6.16**	**98**	P		**Pn**	**01 11 22.7**	**-0.6**
	baz=289,SNR=42							
M13K	**Dall Lake**	**6.19**	**263**			**Pn**	**01 11 23.4**	**-0.1**
M13K	**Dall Lake**	**6.19**	**263**	P		**Pn**	**01 11 23.8**	**+0.3**
	baz=72,SNR=24							
F18K	**Selawik**	**6.20**	**326**			**Pn**	**01 11 24.4**	**+0.6**
F18K	**Selawik**	**6.20**	**326**	P		**Pn**	**01 11 24.2**	**+0.6**
	baz=138,SNR=69							
G16K	**Koyuk River**	**6.29**	**311**	P		**Pn**	**01 11 25.4**	**+0.4**
	baz=120,SNR=76							
F25K	**Christian Rive**	**6.30**	**19**	P		**Pn**	**01 11 25.1**	**0.0**
	baz=203,SNR=239							
BMAR	**Burnt Mountain**	**6.33**	**23**			**Pn**	**01 11 26.0**	**+0.5**
E19K	**Redstone River**	**6.36**	**337**	P		**Pn**	**01 11 26.3**	**+0.4**
	baz=151,SNR=296							
E19K				S		**Sn**	**01 12 35.8**	**-1.1**
	baz=151							
J29N	**Klondike Camp**	**6.37**	**59**	P		**Pn**	**01 11 26.1**	**0.0**
	baz=250,SNR=31							
E23K	**Chandalar**	**6.38**	**4**	P		**Pn**	**01 11 26.6**	**+0.5**
	baz=185,SNR=223							
E23K				S		**Sn**	**01 12 36.3**	**-1.2**
	baz=185							
CHIR	**Chirikof Islan**	**6.42**	**205**	P		**Pn**	**01 11 26.6**	**0.0**
	baz=21							
E22K	**Anaktuvuk Pass**	**6.44**	**357**	P		**Pn**	**01 11 27.5**	**+0.5**
	baz=176,SNR=142							
E24K	**Your Creek**	**6.45**	**8**	P		**Pn**	**01 11 27.5**	**+0.3**
	baz=190							
G27K	**Doyon Strip**	**6.49**	**34**	P		**Pn**	**01 11 28.0**	**+0.4**
	baz=222,SNR=605							
K29M	**Barlow Dome**	**6.49**	**65**	P		**Pn**	**01 11 27.9**	**+0.1**
	baz=257,SNR=77							
K13K	**Kwak Mount**	**6.52**	**278**	P		**Pn**	**01 11 28.2**	**+0.2**
	baz=86,SNR=54							
HYT	**Haines Junctio**	**6.52**	**92**	P		**Pn**	**01 11 27.8**	**-0.4**
	baz=284,SNR=53							
F17K	**Baldwin Pennin**	**6.55**	**321**			**Pn**	**01 11 29.1**	**+0.8**
F17K	**Baldwin Pennin**	**6.55**	**321**	P		**Pn**	**01 11 29.2**	**+0.8**
	baz=131,SNR=86							
N30M	**Aishikik Lake**	**6.60**	**86**	P		**Pn**	**01 11 28.1**	**-1.0**
	baz=278,SNR=220							
F26K	**Sheenjek River**	**6.64**	**23**	P		**Pn**	**01 11 30.0**	**+0.2**
	baz=209,SNR=210							
M30M	**Minto, Yukon**	**6.66**	**77**	P		**Pn**	**01 11 30.0**	**-0.1**
	baz=269,SNR=45							
CHGN	**Chignik**	**6.68**	**219**	P		**Pn**	**01 11 30.3**	**0.0**
	baz=32							
I29M	**Ogilvie Camp,**	**6.70**	**52**			**Pn**	**01 11 30.7**	**+0.2**
I29M	**Ogilvie Camp,**	**6.70**	**52**	P		**Pn**	**01 11 30.2**	**-0.3**
	baz=243,SNR=204							
G15K	**Niukluk**	**6.75**	**305**	P		**Pn**	**01 11 31.5**	**+0.3**
	baz=113,SNR=54							
P29M	**Windy Craggy**	**6.80**	**102**	P		**Pn**	**01 11 31.5**	**-0.4**
	baz=294,SNR=39							
E25K	**Arctic Village**	**6.80**	**17**	P		**Pn**	**01 11 32.0**	**+0.1**
	baz=202,SNR=128							
E21K	**Killik River**	**6.86**	**350**	P		**Pn**	**01 11 33.3**	**+0.6**
	baz=167							
E20K	**Nigu River**	**6.92**	**343**	P		**Pn**	**01 11 34.5**	**+0.9**
	baz=158,SNR=62							
TOLK	**Toolik Lake Re**	**6.96**	**4**	P		**Pn**	**01 11 35.3**	**+1.1**
	baz=185,SNR=171							
TOLK				S		**Sn**	**01 12 53.1**	**+1.4**
	baz=185							
P30M	**Million Dollar**	**6.98**	**97**	P		**Pn**	**01 11 34.0**	**-0.4**
	baz=290							
S14K	**Fog Glacier**	**7.05**	**223**	P		**Pn**	**01 11 35.6**	**+0.2**
	baz=36,SNR=11							
VNFG	**Fog Glacier, M**	**7.05**	**223**			**Pn**	**01 11 36.1**	**+0.7**
E18K	**Tukpahlearik C**	**7.07**	**328**	P		**Pn**	**01 11 36.3**	**+0.8**
	baz=139,SNR=91							
H29M	**Whitestone**	**7.11**	**45**	P		**Pn**	**01 11 35.8**	**-0.3**
	baz=236,SNR=32							
ANM	**Nome**	**7.14**	**300**			**Pn**	**01 11 37.5**	**+0.9**
ANM	**Nome**	**7.14**	**300**	P		**Pn**	**01 11 37.5**	**+0.9**
ANM	**Nome**	**7.14**	**300**	P		**Pn**	**01 11 37.2**	**+0.7**
	baz=107,SNR=19							
E17K	**Hotham Inlet**	**7.15**	**323**	P		**Pn**	**01 11 36.9**	**+0.3**
	baz=133,SNR=123							
MAYO	**Mayo, Yukon**	**7.16**	**68**	P		**Pn**	**01 11 37.2**	**+0.4**
	baz=262,SNR=13							
J30M	**Hart River**	**7.18**	**60**			**Pn**	**01 11 37.7**	**+0.5**
J30M	**Hart River**	**7.18**	**60**	P		**Pn**	**01 11 37.7**	**+0.5**
	baz=253,SNR=132							
O30N	**Mendenhall**	**7.21**	**91**	P		**Pn**	**01 11 36.5**	**-1.0**
	baz=284,SNR=26							
N31M	**Braeburn, Yuko**	**7.21**	**85**	P		**Pn**	**01 11 37.3**	**-0.3**
	baz=279,SNR=39							
D22K	**Ayikyak River**	**7.22**	**355**			**Pn**	**01 11 39.1**	**+1.5**
D22K	**Ayikyak River**	**7.22**	**355**	P		**Pn**	**01 11 38.6**	**+1.0**
	baz=173,SNR=70							
D23K	**Nanushuk River**	**7.27**	**1**			**Pn**	**01 11 39.5**	**+1.2**
D23K	**Nanushuk River**	**7.27**	**1**	P		**Pn**	**01 11 39.0**	**+0.8**
	baz=181,SNR=148							
F15K	**North Star Dit**	**7.28**	**309**	P		**Pn**	**01 11 38.9**	**+0.4**
	baz=117,SNR=54							
I30M	**Mount Dempster**	**7.38**	**55**	P		**Pn**	**01 11 39.5**	**-0.4**
	baz=248,SNR=101							
D20K	**Etivluk River**	**7.41**	**344**			**Pn**	**01 11 40.7**	**+0.6**
D20K	**Etivluk River**	**7.41**	**344**	P		**Pn**	**01 11 41.1**	**+0.9**
	baz=158,SNR=70							
D19K	**Kuna River**	**7.43**	**339**	P		**Pn**	**01 11 41.7**	**+1.2**
	baz=152,SNR=47							
D24K	**Happy Valley**	**7.50**	**6**			**Pn**	**01 11 42.3**	**+0.8**
D24K	**Happy Valley**	**7.50**	**6**	P		**Pn**	**01 11 42.2**	**+0.8**
	baz=187,SNR=46							
PLBC	**Pleasant Camp**	**7.51**	**101**	P		**Pn**	**01 11 40.5**	**-1.0**
	baz=294,SNR=16							
M11K	**Mekoryuk**	**7.55**	**266**			**Pn**	**01 11 42.3**	**+0.3**
M11K	**Mekoryuk**	**7.55**	**266**	P		**Pn**	**01 11 42.2**	**+0.2**
	baz=73,SNR=9.3							
F28M	**Old Crow**	**7.55**	**34**			**Pn**	**01 11 42.8**	**+0.6**
F28M	**Old Crow**	**7.55**	**34**	P		**Pn**	**01 11 42.1**	**-0.1**
	baz=224,SNR=337							
E27K	**Coleen River**	**7.58**	**27**			**Pn**	**01 11 43.0**	**+0.5**
E27K	**Coleen River**	**7.58**	**27**	P		**Pn**	**01 11 42.4**	**-0.1**
	baz=216,SNR=136							
G29M	**Pine Creek**	**7.62**	**41**	P		**Pn**	**01 11 42.8**	**-0.4**
	baz=233,SNR=128							
C21K	**Knifeblade Rid**	**7.63**	**349**			**Pn**	**01 11 44.4**	**+1.2**
C21K	**Knifeblade Rid**	**7.63**	**349**	P		**Pn**	**01 11 43.8**	**+0.6**
	baz=166,SNR=85							
EPYK	**Eagle Plains**	**7.75**	**47**			**Pn**	**01 11 44.0**	**-1.0**
EPYK	**Eagle Plains**	**7.75**	**47**	P		**Pn**	**01 11 44.2**	**-0.8**
	baz=240,SNR=76							
M31M	**Drury Creek, Y**	**7.79**	**79**			**Pn**	**01 11 45.3**	**-0.1**
M31M	**Drury Creek, Y**	**7.79**	**79**	P		**Pn**	**01 11 45.3**	**-0.1**
	baz=274,SNR=21							
WHY	**Whitehorse**	**7.81**	**91**			**Pn**	**01 11 44.8**	**-1.0**
WHY	**Whitehorse**	**7.81**	**91**	P		**Pn**	**01 11 44.8**	**-1.0**
	baz=285,SNR=28							
F14K	**Arctic Creek**	**7.83**	**305**	P		**Pn**	**01 11 46.2**	**+0.4**
	baz=111,SNR=57							
D25K	**Kavik River**	**7.85**	**12**	P		**Pn**	**01 11 47.1**	**+0.9**
	baz=196							
D17K	**Noatak River**	**7.93**	**324**	P		**Pn**	**01 11 47.7**	**+0.5**
	baz=133,SNR=20							
SKAG	**Skagway**	**7.99**	**100**			**Pn**	**01 11 47.0**	**-1.2**
SKAG	**Skagway**	**7.99**	**100**	P		**Pn**	**01 11 47.4**	**-0.8**
SKAG	**Skagway**	**7.99**	**100**	S		**Sn**	**01 13 14.1**	**-2.7**
SKAG	**Skagway**	**7.99**	**100**	P		**Pn**	**01 11 47.3**	**-0.8**
	baz=293,SNR=30							
B21K	**Ikpikpuk River**	**8.07**	**351**	P		**Pn**	**01 11 49.5**	**+0.3**
	baz=167							
C24K	**Franklin Bluff**	**8.07**	**5**	P		**Pn**	**01 11 49.9**	**+0.7**
	baz=187							
SDPT	**Sand Point**	**8.12**	**222**			**Pn**	**01 11 50.1**	**+0.2**
SDPT	**Sand Point**	**8.12**	**222**	P		**Pn**	**01 11 50.3**	**+0.4**
SDPT	**Sand Point**	**8.12**	**222**	P		**Pn**	**01 11 49.7**	**-0.2**
	baz=34,SNR=10							
RDOG	**Red Dog Mine**	**8.13**	**326**			**Pn**	**01 11 51.2**	**+1.2**
RDOG	**Red Dog Mine**	**8.13**	**326**	P		**Pn**	**01 11 51.3**	**+1.2**
	baz=135,SN

MMPY Sheldon Lake, 9.22 76 P Pn 01 12 05.3 +0.3
baz=273,SNR=21
F31M Tsiigehtchic 9.31 45 P Pn 01 12 05.3 -0.8
baz=240,SNR=37
A19K Wainwright 9.45 338 P Pn 01 12 07.9 0.0
baz=149
A22K Sinclair Lake 9.45 352 P Pn 01 12 08.5 +0.5
baz=168
FALS False Pass 9.52 229 Pn 01 12 08.9 -0.1
FALS False Pass 9.52 229 P Pn 01 12 09.0 -0.1
baz=39
Q32M Nakina River 9.63 98 P Pn 01 12 10.0 -0.8
baz=295,SNR=18
ISNN Isanotski Nort 9.67 230 Pn 01 12 10.9 -0.2
INK Inuvik 9.84 41 P Pn 01 12 13.1 -0.2
comp=N,144nm,0.9s,baz=236,slow=15,SNR=76
INK S Sn 01 14 02.7 +0.9
comp=N,40nm,0.7s,baz=290,slow=12,SNR=1.1
INK LR LR 01 16 33.4
comp=N,2µm,19.4s,baz=226,slow=41
INK Inuvik 9.84 41 P Pn 01 12 12.7 -0.6
baz=236,SNR=73
A21K Barrow 9.89 349 P Pn 01 12 13.9 -0.1
baz=164
R33M Jennings River 10.08 95 Pn 01 12 15.9 -0.8
R33M Jennings River 10.08 95 P Pn 01 12 16.4 -0.4
baz=292,SNR=22
S34M Telegraph Cree 10.64 102 Pn 01 12 23.4 -1.0
S34M Telegraph Cree 10.64 102 P Pn 01 12 23.8 -0.5
baz=300,SNR=12
TGTN Hyland Airport 10.75 81 P Pn 01 12 25.5 -0.3
baz=281,SNR=15
U33K Whale Pass 10.75 114 Pn 01 12 25.3 -0.5
U33K Whale Pass 10.75 114 P Pn 01 12 25.1 -0.7
baz=309
SPIA Saint Paul Isl 10.84 254 Pn 01 12 27.9 +1.0
SPIA Saint Paul Isl 10.84 254 P Pn 01 12 29.3 +2.4
SPIA Saint Paul Isl 10.84 254 P Pn 01 12 27.2 +0.3
baz=57,SNR=5.9
WTLY Watson Lake, Y 10.86 89 P Pn 01 12 25.6 -1.8
baz=288
WRAK Wrangell Islan 10.91 111 Pn 01 12 27.2 -0.7
WRAK Wrangell Islan 10.91 111 P Pn 01 12 26.7 -1.2
baz=307
DLBC Dease Lake 10.92 98 P Pn 01 12 27.7 -0.4
comp=N,95nm,0.4s,baz=297,slow=9.4,SNR=31
DLBC S Sn 01 14 22.1 -6.3
comp=N,112nm,0.4s,baz=234,slow=19,SNR=1.6
DLBC LR LR 01 17 17.5
comp=N,20µm,21.1s,baz=278,slow=40
DLBC Dease Lake 10.92 98 P Pn 01 12 26.8 -1.3
baz=296,SNR=7.6
AKUT Akutan 10.95 233 Pn Pn 01 12 26.9 -1.6
AKUT Akutan 10.95 233 P Pn 01 12 29.0 +0.5
LVA Lava Point 11.03 233 Pn Pn 01 12 29.9 +0.2
CRAG Craig 11.17 116 Pn Pn 01 12 30.4 -1.1
CRAG Craig 11.17 116 P Pn 01 12 29.6 -1.9
baz=312
UNV Unalaska Valle 11.45 233 Pn 01 12 35.2 -0.2
UNV Unalaska Valle 11.45 233 P Pn 01 12 34.7 -0.6
baz=40
MSW Makushin Switc 11.51 234 Pn 01 12 35.7 -0.4
T35M Bob Quinn 11.54 105 Pn 01 12 35.4 -1.1
T35M Bob Quinn 11.54 105 P Pn 01 12 35.0 -1.6
baz=303,SNR=10
V35K Ketchikan 11.91 114 Pn Pn 01 12 41.0 -0.7
V35K Ketchikan 11.91 114 P Pn 01 12 40.6 -1.0
baz=310
LIRD Liard River Hi 12.39 90 P Pn 01 12 47.2 -0.9
baz=292
WRGLY Wrigley 12.73 71 Pn 01 12 53.0 +0.3
WRGLY Wrigley 12.73 71 P Pn 01 12 51.9 -0.8
baz=276,SNR=6.5
TOAD Toad River Com 13.01 91 P Pn 01 12 56.9 +0.3
baz=294,SNR=9.8
KOTAN Kotaneelee Air 13.11 85 P Pn 01 12 58.0 +0.2
baz=289
A36M Sachs Harbour 14.24 33 Pn 01 13 10.7 -1.8
A36M Sachs Harbour 14.24 33 P Pn 01 13 12.4 -0.1
baz=237,SNR=40
BBB Bella Bella 15.59 117 P Pn 01 13 30.4 +0.3
comp=N,47nm,1.0s,baz=264,slow=7.8,SNR=4.9
BBB S Sn 01 16 16.8 -4.9
comp=N,8.9nm,0.5s,baz=119,slow=22,SNR=9.5
BBB LR LR 01 19 19.3
comp=N,519nm,22.0s,baz=310,slow=36
ATKA Atka Island 15.80 243 P Pn 01 13 33.5 +0.8
YKAW3 Yellowknife Wh 16.84 71 P Pn 01 13 45.3 -0.3
YKA Yellowknife Ar 16.86 71 P Pn 01 13 44.4 -1.4
YKA Yellowknife Ar 16.86 71 P Pn 01 13 46.0 +0.1
comp=N,37nm,0.8s,baz=286,slow=10,SNR=51
YKA LR LR 01 20 47.4
comp=N,882nm,21.9s,baz=282,slow=38
YKA Yellowknife Ar 16.86 71 *ce*P Pn 01 13 46.2 +0.4
YKA pmax pmax
comp=Z,74nm,0.9s
ADK Adak 17.10 247 P 01 13 49.1 -0.4
ADK Adak 17.10 247 P P 01 13 51.1 +1.6
ADK Adak 17.10 247 P P 01 13 49.2 -0.4
CBB Campbell River 18.35 118 P Pn 01 14 04.8 +0.7
BILL Bilibino 18.89 308 *e*P Pn 01 14 10.3 -0.1
BILL pmax pmax
comp=Z,65nm,1.4s
OZB Mount Ozzard 19.12 120 P Pn 01 14 13.1 -0.3
A04D Lummi Island 20.48 117 IAmb IAmb 01 14 33.0
comp=Z,157nm,1.0s
SHEM Shemya Is, Ala 20.73 260 LR LR 01 21 59.0
comp=Z,697nm,21.2s,baz=90,slow=35
GNW Green Mountain 21.33 119 P P 01 14 37.4 +1.8
E03A Lebam 21.84 122 IAmb IAmb 01 14 46.6
comp=Z,255nm,1.0s
D05A Enumclaw 21.97 118 IAmb IAmb 01 14 47.7
comp=Z,374nm,1.1s
B08A Colville Reser 22.21 113 IAmb IAmb 01 14 49.5
comp=Z,168nm,1.2s
F04D Rainier, OR 22.44 121 IAmb IAmb 01 14 52.3
comp=Z,161nm,1.2s
NEW Newport 23.26 110 IAmb IAmb 01 14 60.0
comp=Z,146nm,1.1s
RES Resolute Bay 23.29 34 LR LR 01 24 27.0
comp=Z,543nm,19.3s,baz=275,slow=38
G04A Mulino 23.37 122 IAmb IAmb 01 15 01.7
comp=Z,245nm,0.9s
E07A Sunnyside 23.37 116 IAmb IAmb 01 15 00.9
comp=Z,157nm,1.0s
COR Corvallis 23.55 124 P P 01 15 00.6 +2.1
COR IAmb IAmb 01 15 03.8
comp=Z,226nm,1.4s
COR Corvallis 23.55 124 P P 01 15 00.6 +2.1
COR pmax pmax
comp=Z,226nm,1.4s
HOOD Mount Hood Mea 23.61 121 IAmb IAmb 01 15 02.3
comp=Z,167nm,0.9s
F07A Phinny Hill Vi 23.87 117 IAmb IAmb 01 15 05.5
comp=Z,155nm,1.1s
BUCK Buck Mountain 24.00 124 IAmb IAmb 01 15 07.8
comp=Z,163nm,1.2s
BLKN Baker Lake 24.38 60 P P 01 15 06.6 +0.8
I05D Terrebonne, OR 24.54 122 IAmb IAmb 01 15 10.8
comp=Z,132nm,1.1s
LNOR Lincton Mounta 24.59 115 P P 01 15 08.2 +0.3
KEBM Edson Butte 24.61 128 IAmb IAmb 01 15 13.0
comp=Z,268nm,1.2s
J04A Umpqua Nationa 25.15 124 P P 01 15 15.1 +1.8
J04A IAmb IAmb 01 15 19.0
comp=Z,287nm,1.2s
J04A PcP 01 18 45.8 +0.5
PINE Pine Mountain 25.16 122 IAmb IAmb 01 15 17.0
comp=Z,135nm,1.1s
J05D Fort Rock, OR 25.46 123 P P 01 15 17.7 +1.7
J05D PcP 01 18 46.7 +0.8
SEY Seymchan 25.64 298 P P 01 15 18.0 +0.7
comp=Z,16nm,0.9s,baz=106,slow=9.7,SNR=12
SEY LR LR 01 26 22.4
comp=Z,621nm,18.4s,baz=75,slow=39
comp=Z,16nm,0.9s
SEY Seymchan 25.64 298 *e*P P 01 15 17.6 +0.3
SEY pmax pmax
comp=Z,11nm,0.7s
K04D Chiloquin, OR 25.81 124 IAmb IAmb 01 15 22.8
comp=Z,155nm,1.2s
K05A Summer Lake 26.07 123 IAmb IAmb 01 15 25.5
comp=Z,118nm,1.1s
FFC Flin Flon 26.13 83 P P 01 15 22.0 +0.2
FFC Flin Flon 26.13 83 P P 01 15 22.0 +0.2
FFC pmax pmax
comp=Z,63nm,1.1s
PLID Pearl Lake 26.19 113 P P 01 15 23.4 +0.7
YBH Yreka Blue Hor 26.20 127 P P 01 15 24.7 +2.1
YBH Yreka Blue Hor 26.20 127 LR LR 01 24 08.6
comp=Z,20nm,19.0s,baz=322,slow=32
YBH Yreka Blue Hor 26.20 127 P P 01 15 24.7 +2.1
YBH pmax pmax
comp=Z,48nm,1.1s
KRPM Rodgers 26.21 129 IAmb IAmb 01 15 30.6
comp=Z,259nm,1.7s
M02C Callahan 26.44 127 P P 01 15 26.9 +2.2
J08A Circle Bar Ran 26.53 119 P P 01 15 27.1 +1.6
J08A PcP 01 18 49.1 +0.9
KHMM Horse Mountain 26.56 129 P P 01 15 28.4 +2.4
KMPM Mount Pierce 26.82 130 P P 01 15 30.0 +1.8
N02D Trinity Center 26.86 128 P P 01 15 30.7 +2.2
DLMT Dillon 27.49 109 PcP 01 18 50.8 +0.2
FCC Fort Churchill 27.58 70 P P 01 15 35.8 +1.1
FCC IAmb IAmb 01 15 36.9
comp=Z,139nm,0.9s
FCC Fort Churchill 27.58 70 P P 01 15 35.8 +1.1
FCC pmax pmax
comp=Z,139nm,0.9s
O03E Paynes Creek 27.79 127 IAmb IAmb 01 15 39.7
comp=Z,93nm,1.1s
MA2 Magadan 27.85 292 LR LR 01 27 59.1
comp=Z,596nm,19.2s,baz=86,slow=39
PET Petropavlovsk 27.88 275 *e*P P 01 15 36.7 -0.7
PET *e*S S 01 20 12.5 -2.8
PET pmax pmax
comp=Z,100nm,15.9s
PET MLR MLR
comp=Z,300nm,16.0s
PET MLR MLR
comp=Z,500nm,18.0s
ILON Igloolik, Nuna 28.04 45 P P 01 15 39.6 +0.9
ILON IAmb IAmb 01 15 41.0
comp=Z,200nm,1.0s
PEA0B Petropavlovsk- 28.28 276 *e*P P 01 15 39.2 -1.8
PETK Petropavlovsk- 28.28 276 P P 01 15 42.9 +1.9
comp=Z,4.4nm,0.8s,baz=63,slow=10,SNR=4.8
PETK ScP ScP 01 22 25.5 -0.8
comp=Z,18nm,1.0s,baz=81,slow=9.6,SNR=12
PETK LR LR 01 27 55.2
comp=Z,286nm,20.3s,baz=52,slow=38
comp=Z,4.4nm,0.8s
RLMT Red Lodge 29.19 105 IAmb IAmb 01 15 52.8
comp=Z,121nm,0.9s
AFDM Forest Hills D 29.27 127 P P 01 15 51.1 +1.1
AFDM PcP 01 18 55.4 +0.5
LAO LASA Array 29.43 100 IAmb IAmb 01 15 54.4
comp=Z,160nm,1.1s
LOHW Long Hollow 29.75 109 P P 01 15 54.9 +0.5
ELK Elko 30.04 118 IAmb IAmb 01 16 00.6
comp=Z,66nm,1.0s
WAKR Walker 30.25 126 P P 01 15 59.7 +0.9
HVU Hansel Valley 30.25 114 IAmb IAmb 01 16 02.1
comp=Z,75nm,1.1s
TIXI Tiksi 30.72 322 P P 01 16 03.4 +1.0
TIXI PcP 01 18 58.1 0.0
TIXI Tiksi 30.72 322 LR LR 01 30 45.3
comp=Z,411nm,18.5s,baz=88,slow=41
TIXI Tiksi 30.72 322 *e*P P 01 16 02.8 +0.5
TIXI pmax pmax
comp=Z,16nm,1.3s
NVAR Mina Array Bea 30.75 124 P P 01 16 05.0 +1.6
NVAR PcP 01 18 59.8 +0.7
NVAR Mina Array Bea 30.75 124 P P 01 16 05.6 +2.3
comp=Z,34nm,1.0s,baz=309,slow=8.2,SNR=60
NVAR pP pP 01 16 22.6 +2.0
comp=Z,8.3nm,0.6s,baz=318,slow=9.0,SNR=5.1
NVAR PcP PcP 01 19 00.0 +1.0
comp=Z,6.5nm,0.8s,baz=270,slow=2.5,SNR=7.1
NVAR LR LR 01 26 42.1
comp=Z,395nm,21.8s,baz=280,slow=33
comp=Z,34nm,1.0s
NV11 Mina Array Sit 30.81 124 IAmb IAmb 01 16 07.3
comp=Z,73nm,1.1s
PD31 Pinedale Array 30.89 109 P P 01 16 05.7 +1.3
PDAR Pinedale Array 30.89 109 P P 01 16 05.5 +1.0
PDAR Pinedale Array 30.89 109 P P 01 16 06.2 +1.8
comp=Z,12nm,0.5s,baz=316,slow=6.2,SNR=66
PDAR PcP PcP 01 18 59.4 0.0
comp=Z,4.1nm,0.8s,baz=2.4,slow=0.6,SNR=4.0
PDAR ScP ScP 01 22 35.0 -0.3
comp=Z,0.7nm,0.6s,baz=340,slow=1.3,SNR=2.4
PDAR LR LR 01 29 03.8
comp=Z,405nm,21.1s,baz=334,slow=37
comp=Z,12nm,0.5s
TCUT Toone Canyon 31.39 113 P P 01 16 10.1 +1.2
TCUT IAmb IAmb 01 16 12.0
comp=Z,71nm,0.9s
TPH Tonopah 31.49 123 IAmb IAmb 01 16 13.1
comp=Z,82nm,1.0s
MDND Maddock 31.73 92 IAmb IAmb 01 16 15.1
comp=Z,132nm,1.2s
PMPB Monarch Peak 31.75 130 IAmb IAmb 01 16 35.0
comp=Z,74nm,1.2s
HULI Fort Hunter Li 31.76 130 P P 01 16 13.7 +1.7
DSP Deep Springs 31.80 125 IAmb IAmb 01 16 16.4
comp=Z,64nm,1.1s
ULM Lac du Bonnet 31.85 86 P P 01 16 13.2 +0.7
comp=Z,52nm,0.8s,baz=306,slow=8.3,SNR=86
ULM PcP PcP 01 19 01.6 +0.1
comp=Z,17nm,0.8s,baz=312,slow=4.0,SNR=5.9
ULM LR LR 01 29 36.1
comp=Z,946nm,18.4s,baz=316,slow=37
comp=Z,52nm,0.8s
SPR3 Spring Creek 3 31.88 118 P P 01 16 15.7 +2.4
SPR3 PcP 01 19 03.5 +1.3
R11B Troy Canyon, C 31.92 121 IAmb IAmb 01 16 16.5
comp=Z,62nm,1.0s
BSUT Blindstream Ca 32.14 113 IAmb IAmb 01 16 18.8
comp=Z,84nm,0.9s
MPU Maple Canyon 32.19 114 P P 01 16 16.9 +1.0
RAMR Ramage Ranch 32.24 130 IAmb IAmb 01 16 20.0
comp=Z,67nm,1.1s
K22A Casper 32.36 105 IAmb IAmb 01 16 19.6
comp=Z,80nm,1.0s
RSSD Black Hills 32.38 101 P P 01 16 18.8 +1.3
RSSD IAmb IAmb 01 16 20.3
comp=Z,163nm,1.2s
RSSD Black Hills 32.38 101 P P 01 16 18.8 +1.3
RSSD pmax pmax
comp=Z,163nm,1.2s
RSSD Black Hills 32.38 101 P P 01 16 19.1 +1.6
RSSD PcP PcP 01 19 03.3 0.0
S11A Rachel 32.45 122 IAmb IAmb 01 16 23.4
comp=Z,90nm,1.0s
PSUT Pine Spring 32.48 118 P P 01 16 19.3 +0.9
PSUT IAmb IAmb 01 16 21.7
comp=Z,73nm,1.3s
VES Vestal, Richgr 32.72 128 P P 01 16 21.6 +1.4
VES IAmb IAmb 01 16 23.3
comp=Z,108nm,1.4s
NEEM North Greenlan 32.83 23 *i* P P 01 16 21.6 +0.4
NEEM IAmb IAmb 01 16 22.2
comp=Z,240nm,1.2s
PRN Pahroc Range 32.94 121 P P 01 16 24.0 +1.6
PRN PcP 01 19 06.3 +1.4
KULLO Kullorsuaq 32.95 29 *i* P P 01 16 22.4 +0.6
KULLO IAmb IAmb 01 16 23.4
comp=Z,94nm,1.0s
TMUT Trail Mountain 32.97 114 P P 01 16 23.7 +0.9
TCRU Three Creeks R 33.01 117 IAmb IAmb 01 16 26.6
comp=Z,54nm,0.9s
FURC Furnace Creek, 33.02 124 IAmb IAmb 01 16 26.6
comp=Z,74nm,1.0s
P18A Preston Nutter 33.11 113 P P 01 16 25.2 +1.2
P18A IAmb IAmb 01 16 57.8
comp=Z,65nm,0.5s
MPMC Manual Prospec 33.14 125 P P 01 16 26.0 +1.8
MPMC PcP 01 19 06.5 +0.9
AGMN Agassiz Nation 33.20 88 IAmb IAmb 01 16 26.4
comp=Z,71nm,0.8s
EPLO Experimental L 33.26 85 IAmb IAmb 01 16 26.7
comp=Z,68nm,1.2s
Q16A Castle Valley 33.30 115 P P 01 16 27.1 +1.6
Q16A IAmb IAmb 01 16 28.9
comp=Z,123nm,1.2s
GWY Greenwater Val 33.35 124 IAmb IAmb 01 16 29.3
comp=Z,118nm,1.7s
QSM Queen of Sheba 33.46 125 P P 01 16 28.4 +1.6
QSM IAmb IAmb 01 16 30.4
comp=Z,93nm,1.1s
CCUT Cedar City 33.51 119 IAmb IAmb 01 16 30.8
comp=Z,65nm,1.0s
LRMC Laurel Mtn Rad 33.57 126 P P 01 16 28.9 +1.1
LRMC IAmb IAmb 01 16 31.1
comp=Z,54nm,1.0s
O20A White River Ci 33.59 110 IAmb IAmb 01 16 30.6
comp=Z,35nm,0.7s
SZCU Shurtz Canyon 33.59 118 IAmb IAmb 01 16 31.3
comp=Z,104nm,1.1s
MTPU Mount Pierson 33.60 117 IAmb IAmb 01 16 32.1
comp=Z,86nm,1.5s
CCCA Chr Cany lake 33.65 126 IAmb IAmb 01 16 32.0
comp=Z,63nm,0.9s
HAYD Hayden 33.72 109 IAmb IAmb 01 16 32.1
comp=Z,75nm,1.0s
SHOC Shoshone, Teco 33.75 124 IAmb IAmb 01 16 32.9
comp=Z,58nm,1.1s
LCMT Little Creek M 34.02 119 P P 01 16 33.6 +1.9
LCMT IAmb IAmb 01 16 35.2
comp=Z,75nm,1.1s
LCMT PcP 01 19 09.4 +1.4
PKCU Pink Cliffs 34.05 118 IAmb IAmb 01 16 36.0
comp=Z,104nm,1.6s
UPNV Upernavik 34.13 32 *i* P P 01 16 32.5 +0.3
UPNV IAmb IAmb 01 16 33.6
comp=Z,52nm,1.0s
KNB Kanab 34.19 119 IAmb IAmb 01 16 36.9
comp=Z,105nm,1.0s
HMU Henry Mountain 34.30 115 P P 01 16 35.3 +1.0
HMU IAmb IAmb 01 16 37.2
comp=Z,105nm,1.5s
MTPC Mountain Pass 34.40 123 IAmb IAmb 01 16 38.8
comp=Z,98nm,1.1s
V12A Nelson 34.47 122 IAmb IAmb 01 16 39.4
comp=Z,91nm,1.1s
SUSD Miller 34.53 96 IAmb IAmb 01 16 39.9
comp=Z,82nm,0.8s
MWC Mount Wilson 34.54 128 IAmb IAmb 01 16 39.8
comp=Z,52nm,1.3s
PV21 Cone Mtn., Par 34.55 113 P P 01 16 37.2 +0.7
PV21 IAmb IAmb 01 16 38.9
comp=Z,45nm,1.0s
PV22 Blue Mesa, Par 34.65 112 IAmb IAmb 01 16 39.8
comp=Z,93nm,1.1s
BFSC Mount Baldy Ra 34.67 127 IAmb IAmb 01 16 41.0
comp=Z,76nm,1.3s
PV10 Paradox Valley 34.67 113 IAmb IAmb 01 16 40.8
comp=Z,112nm,1.1s
PV14 Lion Creek, Pa 34.69 113 IAmb IAmb 01 17 06.2
comp=Z,51nm,1.0s
PV04 Paradox Valley 34.72 113 P P 01 16 38.7 +0.8
PV04 IAmb IAmb 01 16 40.5
comp=Z,56nm,0.9s
PV20 West Nyswonger 34.74 113 IAmb IAmb 01 16 40.6
comp=Z,136nm,1.1s
PV19 Morning Glory 34.76 113 IAmb IAmb 01 16 40.7
comp=Z,73nm,0.8s
F33A 5 Mile Ranch, 34.76 92 IAmb IAmb 01 16 39.9
comp=Z,93nm,1.4s
PV16 Nyswonger Mesa 34.78 113 P P 01 16 38.9 +0.5
PV16 IAmb IAmb 01 16 41.0
comp=Z,79nm,1.2s
PV17 East Wray Mesa 34.79 113 IAmb IAmb 01 16 41.0
comp=Z,72nm,1.0s
PV07 Paradox Valley 34.80 112 IAmb IAmb 01 16 40.9
comp=Z,106nm,1.3s
NOR Nord 34.81 11 *i* P P 01 16 37.7 -0.2
NOR IAmb IAmb 01 16 39.0
comp=Z,77nm,1.3s
PV11 David Mesa, Pa 34.81 113 IAmb IAmb 01 16 41.3
comp=Z,117nm,1.2s
PV12 Saucer Basin, 34.83 113 IAmb IAmb 01 16 41.5
comp=Z,136nm,1.4s
PV18 Skein Mesa, Pa 34.84 113 P P 01 16 40.0 +1.0
PV03 Paradox Valley 34.86 113 IAmb IAmb 01 16 41.5
comp=Z,43nm,0.9s
PV05 Paradox Valley 34.90 113 IAmb IAmb 01 16 42.0
comp=Z,116nm,1.1s
PV02 Paradox Valley 34.95 113 P P 01 16 40.4 +0.5
PV15 Paradox Valley 34.95 112 IAmb IAmb 01 16 42.2
comp=Z,143nm,1.4s
PV13 Radium Mtn., P 34.95 113 IAmb IAmb 01 16 42.6
comp=Z,122nm,1.0s
PV01 Paradox Valley 35.08 112 IAmb IAmb 01 16 43.6
comp=Z,80nm,0.9s
DANC Danby, Needles 35.21 124 IAmb IAmb 01 16 45.6
comp=Z,107nm,1.3s
YAK Yakutsk 35.24 307 P P 01 16 43.3 +1.5
comp=Z,75nm,0.8s,baz=219,slow=6.5,SNR=11
YAK LR LR 01 32 30.0
comp=Z,777nm,19.2s,baz=48,slow=38
comp=Z,75nm,0.8s
YAK Yakutsk 35.24 307 *e*P P 01 16 41.0 -0.8
YAK *e*PP pP 01 16 59.4 +0.2
YAK *e* 01 18 01.1
YAK *e* 01 19 10.6
YAK *e*S S 01 22 07.1 -2.6
YAK *e*SS sS 01 22 40.0 +0.5
YAK *e* 01 26 48.7
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,17nm,1.4s
YAK pmax pmax
comp=Z,344nm,3.1s
YAK pmax pmax
comp=E,93nm,2.5s
YAK pmax pmax
comp=N,327nm,2.8s
YAK smax smax
comp=N,172nm,3.0s
YAK smax smax
comp=E,147nm,2.8s
FRB Frobisher Bay 35.33 50 LR LR 01 31 26.9
comp=E,474nm,18.7s,baz=301,slow=37
NEE2 Needles Airpor 35.40 123 IAmb IAmb 01 16 46.7
comp=Z,80nm,1.0s
W13A Hualapai Mount 35.40 122 P P 01 16 45.5 +1.7
W13A IAmb IAmb 01 16 47.3
comp=Z,52nm,1.1s
W13A PcP 01 19 13.1 +1.0
EYMN Ely 35.52 85 P P 01 16 45.3 +0.9
NUUG Nuugaatsiaq 35.58 33 *i* P P 01 16 45.2 +0.6
NUUG IAmb IAmb 01 16 46.3
comp=Z,104nm,1.2s
PMD Palm Desert 35.69 126 IAmb IAmb 01 16 48.6
comp=Z,43nm,1.1s
PFO Pinyon Flats O 35.69 126 P P 01 16 47.0 +0.9
PFO Pinyon Flats O 35.69 126 LR LR 01 30 02.0
comp=Z,371nm,19.8s,baz=352,slow=34
PFO Pinyon Flats O 35.69 126 *d* P P 01 16 47.7 +1.6
PFO pmax pmax
comp=Z,49nm,1.0s
IRM Iron Mountain 35.72 124 P P 01 16 47.9 +1.6
IRM IAmb IAmb 01 16 49.9
comp=Z,73nm,1.1s
OGNE Ogallala 35.77 103 IAmb IAmb 01 16 49.3
comp=Z,129nm,1.3s
MVCO Mesa Verde 35.88 113 IAmb IAmb 01 16 50.2
comp=Z,50nm,1.1s
NIAQ Niaqornat 35.91 34 *i* P P 01 16 48.4 +1.0
TBO Thunder Bay 36.01 82 P P 01 16 49.0 +0.4
DPP Dos Picos Cty 36.05 127 IAmb IAmb 01 16 52.4
comp=Z,53nm,1.1s
CPE Camp Elliot 36.08 127 IAmb IAmb 01 16 52.8
comp=Z,54nm,1.1s
ECSD EROS Data Cent 36.17 94 IAmb IAmb 01 16 51.7
comp=Z,93nm,1.1s
BLYC Blythe 36.32 123 IAmb IAmb 01 16 54.8
comp=Z,99nm,1.1s
SAATT Saattut 36.43 33 *i* P P 01 16 52.3 +0.4
SAATT IAmb IAmb 01 16 53.9
comp=Z,100nm,1.1s
E38A The Farm, Brul 36.45 87 IAmb IAmb 01 16 53.9
comp=Z,123nm,1.2s
YUH Yuha Desert 36.75 126 P P 01 16 56.9 +1.9
CBX Cerro Bola 36.76 127 IAmb IAmb 01 16 58.6
comp=Z,101nm,1.1s
SDCO Great Sand Dun 36.77 109 IAmb IAmb 01 16 58.6
comp=Z,48nm,1.1s
Y14A Wickenburg 36.77 121 IAmb IAmb 01 16 58.8
comp=Z,65nm,1.1s
TYV Tymovskoe 36.79 284 *e*P P 01 16 51.3 -3.9
TYV pmax pmax
comp=Z,100nm,2.5s
TYV pmax pmax

comp=Z,13nm,1.3s
TYV MLR MLR
comp=Z,300nm,19.0s
GLA Glamis 36.82 124 IAmb IAmb 01 16 58.9
comp=Z,70nm,1.1s
SPMN Marine on St. 36.87 89 P **P 01 16 57.3 +1.3**
SPMN IAmb IAmb 01 16 58.2
comp=Z,111nm,1.1s
GDH Godhavn 36.88 36 *i* P **P 01 16 56.9 +1.2**
GDH IAmb IAmb 01 16 57.7
comp=Z,101nm,1.0s
X16A Lo Mia Camp, P 37.00 119 IAmb IAmb 01 17 00.9
comp=Z,46nm,1.0s
KSCO Kaye Shedlock' 37.04 105 IAmb IAmb 01 17 00.3
comp=Z,63nm,0.7s
CCX Cicese 37.16 128 IAmb IAmb 01 17 01.7
comp=Z,75nm,1.4s
ESJX Sierra Juarez 37.31 127 P **P 01 17 01.8 +1.8**
113A Mohawk Valley, 37.49 123 IAmb IAmb 01 17 04.4
comp=Z,50nm,1.1s
X18A Snowflake 37.53 117 IAmb IAmb 01 17 05.2
comp=Z,84nm,1.0s
ILULI Ilulissat 37.58 35 *i* P **P 01 17 01.5 -0.1**
ILULI IAmb IAmb 01 17 02.8
comp=Z,60nm,1.4s
L34A Svendsen Farm, 37.63 96 IAmb IAmb 01 17 04.4
comp=Z,136nm,1.1s
VTX Valle De La Tr 37.92 127 IAmb IAmb 01 17 08.5
comp=Z,92nm,1.9s
G40A Rib Lake 38.08 87 IAmb IAmb 01 17 07.9
comp=Z,80nm,1.0s
SUMG Summit 38.39 27 *i* P **P 01 17 09.0 +0.1**
SUMG IAmb IAmb 01 17 11.2
comp=Z,44nm,0.8s
DAG Danmarks Havn 38.55 16 *i* P **P 01 17 09.8 +0.1**
DAG IAmb IAmb 01 17 10.3
comp=Z,156nm,0.9s
214A Organ Pipe Nat 38.58 123 P **P 01 17 12.3 +1.8**
214A IAmb IAmb 01 17 14.0
comp=Z,67nm,1.1s
PIX Pinacate 38.67 124 IAmb IAmb 01 17 14.5
comp=Z,81nm,1.1s
ANMO Albuquerque 38.68 113 P **P 01 17 13.2 +1.6**
ANMO Albuquerque 38.68 113 LR LR 01 34 40.1
comp=Z,272nm,19.5s,baz=60,slow=38
ANMO Albuquerque 38.68 113 *de*P **P 01 17 13.1 +1.6**
ANMO pmax pmax
comp=Z,40nm,1.3s
F42A Maple Grove Fa 38.69 85 IAmb IAmb 01 17 13.8
comp=Z,83nm,0.9s
KUQ Kuujjuaa 38.89 57 P **P 01 17 13.3 +0.5**
KUQ IAmb IAmb 01 17 14.1
comp=Z,110nm,1.0s
I40A Norwalk 38.90 89 IAmb IAmb 01 17 15.2
comp=Z,48nm,0.7s
TUC Tucson 39.10 120 P **P 01 17 17.0 +2.1**
TUC Tucson 39.10 120 P **P 01 17 17.0 +2.1**
TUC pmax pmax
comp=Z,48nm,1.2s
LENM Lemitar 39.11 114 P **P 01 17 16.8 +1.7**
LENM PcP **PcP 01 19 24.4 +1.0**
SFJD Kangerlussuaq 39.17 38 P **P 01 17 16.3 +1.3**
SFJD Kangerlussuaq 39.17 38 LR LR 01 33 31.0
comp=Z,213nm,21.1s,baz=310,slow=36
SFJD Kangerlussuaq 39.17 38 P **P 01 17 16.3 +1.3**
SFJD pmax pmax
comp=Z,142nm,0.9s
SFJD Kangerlussuaq 39.17 38 *i* P **P 01 17 16.2 +1.3**
SFJD IAmb IAmb 01 17 16.9
comp=Z,148nm,0.9s
SFJD Kangerlussuaq 39.17 38 P **P 01 17 15.8 +0.8**
SFJD pP **pP 01 17 34.0 +1.4**
SCIA State Center 39.18 93 IAmb IAmb 01 17 17.5
comp=Z,99nm,1.1s
SBM South Baldy 39.18 115 P **P 01 17 18.1 +2.1**
KBS Kingsbay 39.21 5 P **P 01 17 16.2 +1.0**
KBS IAmb IAmb 01 17 17.1
comp=Z,46nm,0.9s
KBS Kingsbay 39.21 5 *e*P **P 01 17 14.9 -0.2**
KBS Kingsbay 39.21 5 *ce*P **P 01 17 16.1 +0.9**
KBS pmax pmax
comp=Z,79nm,1.7s
KBS Kingsbay 39.21 5 *i* P **P 01 17 16.4 +1.3**
Y22D IRIS PASSCAL I 39.21 114 P **P 01 17 17.5 +1.6**
Y22D IAmb IAmb 01 17 19.5
comp=Z,132nm,1.3s
Y22D IRIS PASSCAL I 39.21 114 P **P 01 17 16.6 +0.7**
baz=329
Y22A Socorro 39.31 114 P **P 01 17 18.3 +1.5**
Y22A IAmb IAmb 01 17 20.1
comp=Z,79nm,1.1s
YSS Yuzhno-Sakhali 39.51 280 *e*P **P 01 17 21.3 +3.2**
YSS *e**SP **sP 01 17 44.4 0.0**
YSS *e* 01 18 49.8
YSS *e*S **S 01 23 18.5 +3.8**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS pmax pmax
comp=Z,100nm,3.9s
YSS MLR MLR
comp=N,400nm,15.0s
YSS MLR MLR
comp=E,400nm,15.0s
YSS MLR MLR
comp=Z,600nm,15.0s
DUN6 Lazy B Ranch 39.59 118 IAmb IAmb 01 17 22.0
comp=Z,96nm,0.7s
GRNR Gornyy 39.70 288 *e*P P 01 17 14.5 -5.2
GRNR MLR MLR
comp=E,450nm,19.0s
GRNR MLR MLR
comp=N,410nm,20.0s
GRNR MLR MLR
comp=Z,280nm,20.0s
I42A Draeger Farm, 39.72 87 IAmb IAmb 01 17 21.9
comp=Z,65nm,1.0s
JFWS Jewell Farm 39.82 89 P **P 01 17 20.6 0.0**
JFWS IAmb IAmb 01 17 22.0
comp=Z,92nm,0.9s
JFWS Jewell Farm 39.82 89 P **P 01 17 20.7 0.0**
JFWS pmax pmax
comp=Z,93nm,1.0s
N38A Joes South For 40.03 94 IAmb IAmb 01 17 23.9
comp=Z,85nm,1.0s
E46A Sault Ste Mari 40.05 81 P **P 01 17 23.2 +0.6**
E46A IAmb IAmb 01 17 24.4
comp=Z,77nm,0.9s
E46A PcP **PcP 01 19 26.3 +0.3**
SPA0 Spitsbergen Ar 40.11 4 *e*P **P 01 17 21.3 -1.5**
SPITS Spitsbergen Ar 40.11 4 P **P 01 17 22.2 -0.5**
comp=Z,15nm,0.5s,baz=19,slow=6.2,SNR=36
SPITS PcP **PcP 01 19 25.5 -0.1**
comp=Z,22nm,1.0s,baz=64,slow=3.8,SNR=7.2
comp=Z,15nm,0.5s
SPITS Spitsbergen Ar 40.11 4 P **P 01 17 22.7 -0.1**
SPITS 01 19 25.5
SPITS pmax pmax
comp=Z,148nm,1.2s
SPB2 Spitsbergen Ar 40.12 4 IAmb IAmb 01 17 23.7
comp=Z,108nm,1.1s
121A Cookes Peak, D 40.16 116 IAmb IAmb 01 17 27.4
comp=Z,67nm,1.1s
DBG Daneborg 40.38 19 *i* P **P 01 17 25.3 +0.4**
DBG IAmb IAmb 01 17 25.6
comp=Z,107nm,0.9s
319A Douglas 40.53 119 P **P 01 17 28.9 +2.0**
319A IAmb IAmb 01 17 30.3
comp=Z,87nm,1.1s
KAN08 Anthony NE Sta 40.64 102 IAmb IAmb 01 17 29.4
comp=Z,120nm,1.0s
NUUK Nuuk 40.77 41 *i* P **P 01 17 30.0 +1.8**
NUUK IAmb IAmb 01 17 30.6
comp=Z,123nm,1.0s
DY2G Dye2 40.78 36 *i* P **P 01 17 29.1 +0.5**
DY2G IAmb IAmb 01 17 32.9
comp=Z,68nm,1.1s
L42A Oliver, Polo 40.79 90 IAmb IAmb 01 17 30.0
comp=Z,90nm,0.9s
P38A Dawn 40.81 96 P **P 01 17 29.3 +0.5**
P38A IAmb IAmb 01 17 30.4
comp=Z,69nm,0.9s
KAN14 Manchester OK 40.86 102 IAmb IAmb 01 17 31.1
comp=Z,105nm,1.2s
OK038 West end E0370 40.89 104 IAmb IAmb 01 17 31.7
comp=Z,92nm,0.9s
K43A Burlington 40.89 88 IAmb IAmb 01 17 31.1
comp=Z,121nm,1.1s
ELIS Ellis County 40.92 105 P **P 01 17 31.0 +1.2**
ELIS IAmb IAmb 01 17 32.3
comp=Z,108nm,1.2s
N41A Harden Midland 41.23 92 P **P 01 17 32.5 +0.2**
N41A IAmb IAmb 01 17 34.3
comp=Z,124nm,1.1s
CPRX Cap Rock 41.44 112 P **P 01 17 35.1 +0.9**
L44A Lake County Fo 41.49 88 IAmb IAmb 01 17 36.2
comp=Z,150nm,1.1s
T35A Sooner Cattle 41.57 101 P **P 01 17 35.7 +0.5**
P40A Paris 41.59 94 IAmb IAmb 01 17 36.6
comp=Z,89nm,1.1s
ZEA Zeya 41.63 298 *e*P **P 01 17 34.6 -0.8**
ZEA pmax pmax
comp=Z,30nm,0.9s
ZEA MLR MLR
comp=E,300nm,21.0s
ZEA MLR MLR
comp=N,300nm,20.0s
ZEA MLR MLR
comp=Z,500nm,20.0s
ASAJ Asahikawa 41.69 277 LR LR 01 35 00.1
comp=Z,268nm,21.0s,baz=6.0,slow=36
SCHQ Schefferville 41.77 60 P **P 01 17 37.4 +0.7**
comp=Z,671nm,0.8s,baz=318,slow=6.9,SNR=81
SCHQ LR LR 01 35 33.2
comp=Z,3um,20.3s,baz=320,slow=37
OK048 Pawnee Station 41.78 102 IAmb IAmb 01 17 38.5
comp=Z,134nm,1.1s
HQIL Hanson Quary C 41.81 88 P **P 01 17 37.6 +0.5**
HQIL IAmb IAmb 01 17 38.8
comp=Z,154nm,1.3s
HSIG 41.92 123 IAmb IAmb 01 17 41.3
comp=Z,86nm,1.1s
M44A Midewin, Midew 42.04 89 P **P 01 17 39.9 +0.9**
M44A IAmb IAmb 01 17 40.5
comp=Z,143nm,1.0s
OK029 Liberty Lake 42.05 103 P **P 01 17 39.2 +0.1**
QUOK Quay 42.09 102 IAmb IAmb 01 17 40.8
comp=Z,115nm,1.1s
J47A Sunmer 42.15 84 P **P 01 17 40.4 +0.5**
J47A IAmb IAmb 01 17 41.9
comp=Z,106nm,1.3s
OK052 Battle Ridge R 42.19 102 IAmb IAmb 01 17 41.6
comp=Z,140nm,1.1s
DKNS Dickens 42.22 108 IAmb IAmb 01 17 42.6
comp=Z,73nm,0.9s
WMOK Wichita Mounta 42.30 105 IAmb IAmb 01 17 43.4
comp=Z,115nm,1.0s
L46A Eue Claire 42.39 87 IAmb IAmb 01 17 43.6
comp=Z,139nm,1.1s
DEOK Depew 42.45 102 IAmb IAmb 01 17 43.9
comp=Z,162nm,1.1s
POST Post 42.46 109 P **P 01 17 43.1 +0.6**
POST IAmb IAmb 01 17 44.8
comp=Z,153nm,0.9s
R40A Maddies Statio 42.47 96 IAmb IAmb 01 17 43.4
comp=Z,66nm,0.9s
I49A Point Hope 42.56 82 IAmb IAmb 01 17 45.3
comp=Z,142nm,1.3s
P43A Skaggs, Pawnee 42.70 92 IAmb IAmb 01 17 45.5
comp=Z,90nm,1.1s
SN07 Snyder 07 42.72 109 IAmb IAmb 01 17 46.5
comp=Z,77nm,0.9s
TUL3 Leonard 42.73 101 IAmb IAmb 01 17 46.1
comp=Z,125nm,1.1s
ODSA Odessa 42.79 111 IAmb IAmb 01 17 47.6
comp=Z,70nm,1.0s
X34A Smith Ranch, M 42.85 104 IAmb IAmb 01 17 48.0
comp=Z,113nm,1.6s
VHRN Van Horn 42.87 115 IAmb IAmb 01 17 49.5
comp=Z,157nm,1.1s
APMT Aspermont 42.87 108 IAmb IAmb 01 17 47.3
comp=Z,70nm,1.1s
RLO Rose Lookout 42.88 100 IAmb IAmb 01 17 47.1
comp=Z,170nm,1.2s
U38A Gravette 42.95 99 IAmb IAmb 01 17 47.2
comp=Z,94nm,1.0s
BUKO Buck Lake 43.04 78 IAmb IAmb 01 17 48.6
comp=Z,164nm,1.0s
CCM Cathedral Cave 43.14 95 P **P 01 17 47.1 -0.8**
CCM Cathedral Cave 43.14 95 P **P 01 17 47.1 -0.8**
CCM pmax pmax
comp=Z,45nm,1.0s
CCM Cathedral Cave 43.14 95 P **P 01 17 46.9 -1.0**
CCM sP **sP 01 18 13.5 -0.6**
CCM PcP **PcP 01 19 35.9 -0.3**
SLM Saint Louis 43.16 93 IAmb IAmb 01 17 49.4
comp=Z,117nm,1.1s
WTFS Witchita Falls 43.26 106 IAmb IAmb 01 17 50.8
comp=Z,61nm,0.8s
SFIN Lafayette 43.28 89 IAmb IAmb 01 17 50.6
comp=Z,61nm,0.9s
SCO Scoresbysund 43.31 22 *i* P **P 01 17 49.9 +1.1**
SCO IAmb IAmb 01 17 52.1
comp=Z,37nm,1.1s
MGMO Mountain Grove 43.38 97 IAmb IAmb 01 17 50.6
comp=Z,120nm,1.0s
AAM Ann Arbor 43.42 84 P **P 01 17 50.5 +0.4**
AAM IAmb IAmb 01 17 51.7
comp=Z,53nm,0.5s
AAM Ann Arbor 43.42 84 P **P 01 17 50.5 +0.4**
AAM pmax pmax
comp=Z,53nm,0.5s
ISOG Isortoq, Green 43.48 34 *i* P **P 01 17 50.1 -0.1**
ISOG IAmb IAmb 01 17 50.8
comp=Z,77nm,0.9s
Q44A Meyer Farm, Va 43.52 92 IAmb IAmb 01 17 52.2
comp=Z,114nm,1.0s
K50A Casco 43.55 83 IAmb IAmb 01 17 53.1
comp=Z,103nm,1.1s
FVM French Village 43.58 94 P **P 01 17 51.3 -0.1**
FVM IAmb IAmb 01 17 52.7
comp=Z,67nm,1.0s
FVM French Village 43.58 94 P **P 01 17 51.3 -0.1**
FVM pmax pmax
comp=Z,67nm,1.0s
SGCY Sterling City 43.60 110 IAmb IAmb 01 17 53.8
comp=Z,118nm,1.1s
LOOK Love County 43.66 104 IAmb IAmb 01 17 54.2
comp=Z,99nm,1.1s
SADO Sadowa 43.66 78 IAmb IAmb 01 17 53.4
comp=Z,121nm,1.1s
SADO Sadowa 43.66 78 LR LR 01 36 02.2
comp=Z,5µm,20.5s,baz=332,slow=36
ABTX Abilene, Hawle 43.67 108 IAmb IAmb 01 17 54.8
comp=Z,63nm,1.0s
ANGG Ammassalik, Gr 43.78 33 P **P 01 17 52.3 -0.4**
ANGG IAmb IAmb 01 17 53.4
comp=Z,120nm,0.9s
ANGG Ammassalik, Gr 43.78 33 *i* P **P 01 17 52.5 -0.1**
ANGG IAmb IAmb 01 17 53.1
comp=Z,136nm,1.0s
ALPN Alpine 43.81 114 P **P 01 17 53.8 +0.3**
P46A Rosedale 43.82 90 P **P 01 17 53.4 +0.1**
P46A IAmb IAmb 01 17 54.9
comp=Z,108nm,0.8s
BJO1 Bjornoya 43.86 4 *e*P **P 01 17 50.9 -2.3**
BOD Bodaibo 43.93 310 *e*P **P 01 17 52.8 -1.1**
BOD pmax pmax
comp=Z,38nm,1.8s
IVI Ivigtut 44.05 43 IAmb IAmb 01 17 57.1
comp=Z,65nm,0.9s
IVI Ivigtut 44.05 43 *i* P **P 01 17 56.0 +1.1**
IVI IAmb IAmb 01 17 56.9
comp=Z,65nm,0.9s
IVI Ivigtut 44.05 43 P **P 01 17 55.4 +0.5**
HEH HeiHe 44.07 294 *e*P **P 01 17 53.4 -1.8**
HEH pmax pmax
comp=Z,25nm,1.0s
OLIL Olney 44.09 91 IAmb IAmb 01 17 57.0
comp=Z,147nm,0.9s
PLPT Palo Pinto 44.12 106 IAmb IAmb 01 17 57.6
comp=Z,83nm,1.0s
Z35A Perchaven, San 44.17 105 IAmb IAmb 01 17 58.1
comp=Z,135nm,1.1s
N49A Columbus Grove 44.24 86 IAmb IAmb 01 17 58.1
comp=Z,114nm,1.0s
FW06 Azle 44.33 105 IAmb IAmb 01 17 59.5
comp=Z,109nm,1.4s
S44A Carbondale 44.37 93 P **P 01 17 57.6 -0.2**
S44A IAmb IAmb 01 17 59.1
comp=Z,102nm,1.0s
S44A PcP **PP 01 19 42.5 +0.3**
SIUC Southern Illin 44.37 93 IAmb IAmb 01 17 59.1
comp=Z,148nm,1.1s
M50A Fremont 44.41 85 IAmb IAmb 01 17 59.7
comp=Z,61nm,1.0s
OZNA Ozona 44.45 110 IAmb IAmb 01 18 00.7
comp=Z,118nm,1.2s
BLO Bloomington 44.50 90 IAmb IAmb 01 17 60.0
comp=Z,91nm,0.9s
PBMO Poplar Bluff 44.55 95 P **P 01 17 59.1 -0.1**
DELO Deloro Mine 44.56 78 P **P 01 17 59.7 +0.5**
DELO IAmb IAmb 01 18 00.9
comp=Z,97nm,1.0s
TX31 Lajitas Ar. Si 44.69 114 IAmb IAmb 01 18 03.6
comp=Z,82nm,1.1s
TXAR Lajitas Array 44.69 114 P **P 01 18 01.7 +1.2**
TXAR PcP **PcP 01 19 41.7 0.0**
TXAR Lajitas Array 44.69 114 P **P 01 18 02.5 +2.0**
comp=Z,33nm,0.9s,baz=317,slow=6.3,SNR=313
TXAR LR LR 01 39 04.0
comp=Z,156nm,21.6s,baz=336,slow=39
comp=Z,33nm,0.9s
O49A Covington 44.74 87 IAmb IAmb 01 18 01.8
comp=Z,122nm,1.2s
LCAR Lake Charles 44.78 97 P **P 01 17 59.9 -1.1**
LCAR PcP **PcP 01 19 41.5 -0.3**
LCAR IAmb IAmb 01 19 42.9
comp=Z,50nm,0.9s
P48A Milroy 44.79 88 IAmb IAmb 01 18 01.7
comp=Z,75nm,1.0s
SAND Sanderson 44.83 112 IAmb IAmb 01 18 04.2
comp=Z,88nm,1.2s
LDAQ Lac Daran 44.88 70 IAmb IAmb 01 18 03.5
comp=Z,134nm,1.0s
MIAR Mount Ida 44.88 100 IAmb IAmb 01 18 03.3
comp=Z,72nm,1.1s
FW13 Cleburne 44.91 106 IAmb IAmb 01 18 04.1
comp=Z,80nm,0.9s
PARMO Parma 44.96 95 IAmb IAmb 01 19 43.9
comp=Z,87nm,0.8s
NRS Narsarsuaq 44.97 41 *i* P **P 01 18 02.6 +0.5**
NRS IAmb IAmb 01 18 03.7
comp=Z,84nm,0.9s
BRDY Brady 45.09 108 IAmb IAmb 01 18 05.5
comp=Z,67nm,1.0s
WHTX Lake Whitney, 45.20 106 IAmb IAmb 01 18 06.3
comp=Z,106nm,1.1s
WBO Williamsburg 45.28 75 IAmb IAmb 01 18 06.0
comp=Z,138nm,1.0s
Z38A Mt. Pleasant 45.28 102 IAmb IAmb 01 18 06.9
comp=Z,43nm,0.8s
ERPA Erie 45.30 82 IAmb IAmb 01 18 07.0
comp=Z,78nm,1.1s
PECO Prince Edward 45.30 78 IAmb IAmb 01 18 06.5
comp=Z,85nm,1.2s
HICK Hickman 45.31 94 IAmb IAmb 01 18 07.7
comp=Z,158nm,1.1s
ACSO Alum Creek Sta 45.35 86 IAmb IAmb 01 18 07.0
comp=Z,125nm,1.0s
WCI Wyandotte Cave 45.35 90 P **P 01 18 05.5 -0.1**
WCI IAmb IAmb 01 18 06.8
comp=Z,88nm,1.1s
WCI Wyandotte Cave 45.35 90 P **P 01 18 05.5 -0.1**
WCI pmax pmax
comp=Z,88nm,1.1s
WCI Wyandotte Cave 45.35 90 P **P 01 18 05.4 -0.1**
WCI PcP **PcP 01 19 43.8 0.0**
J55A Hilton 45.43 79 IAmb IAmb 01 18 07.6
comp=Z,109nm,1.0s
LMQ La Malbaie 45.60 69 IAmb IAmb 01 18 08.8
comp=Z,135nm,1.0s
WLAR White Oak Lake 45.80 100 IAmb IAmb 01 18 10.9
comp=Z,103nm,1.2s
R49A Shelbyville 45.84 89 IAmb IAmb 01 18 10.3
comp=Z,66nm,1.2s
LONY Lake Ozonia 45.89 75 IAmb IAmb 01 18 10.6
comp=Z,85nm,1.1s
P51A Williamsport 45.90 86 IAmb IAmb 01 18 11.0
comp=Z,101nm,1.2s
HPIG 45.93 118 IAmb IAmb 01 18 13.5
comp=Z,86nm,1.2s
DRIO Del Rio 45.95 111 IAmb IAmb 01 18 12.3
comp=Z,110nm,0.9s
T47A Sharon Grove 45.96 92 IAmb IAmb 01 18 12.8
comp=Z,49nm,0.9s
435B Jarrell 46.16 107 IAmb IAmb 01 18 14.3
comp=Z,92nm,1.0s
J57A Williamstown 46.17 77 IAmb IAmb 01 18 13.1
comp=Z,94nm,1.0s
O53A New Philadelph 46.17 84 IAmb IAmb 01 18 13.3
comp=Z,74nm,1.0s
FRNY Flat Rock 46.18 74 IAmb IAmb 01 18 12.6
comp=Z,115nm,1.0s
R50A Paris 46.25 89 IAmb IAmb 01 18 13.8
comp=Z,86nm,1.1s
Z41A Richland Creek 46.30 100 IAmb IAmb 01 18 14.1
comp=Z,99nm,1.1s
WVT Waverly 46.31 93 P **P 01 18 13.3 +0.2**
WVT IAmb IAmb 01 18 14.7
comp=Z,73nm,1.1s
WVT Waverly 46.31 93 P **P 01 18 13.3 +0.2**
WVT pmax pmax
comp=Z,73nm,1.1s
WVT Waverly 46.31 93 P **P 01 18 13.4 +0.4**
WVT pP **pP 01 18 32.2 +1.1**
HNDO Hondo 46.46 110 IAmb IAmb 01 18 16.6
comp=Z,74nm,1.0s
NCB Newcomb 46.55 75 IAmb IAmb 01 18 16.2
comp=Z,86nm,1.1s
USRK Usuriysk Ar. 46.58 285 P **P 01 18 16.8 +1.6**
comp=Z,2.3nm,0.6s,baz=62,slow=6.7,SNR=2.3
NATX Nacogdoches 46.68 103 IAmb IAmb 01 18 18.2
comp=Z,113nm,1.1s
J59A Piesco 46.81 76 IAmb IAmb 01 18 17.9
comp=Z,57nm,1.0s
VT1 Waterbury 46.95 74 IAmb IAmb 01 18 19.1
comp=Z,79nm,1.0s
CLTN Cedars of Leba 47.05 92 IAmb IAmb 01 18 20.9
comp=Z,84nm,1.0s
SLBS Sierra La Lagu 47.09 125 P **P 01 18 20.8 +1.4**
V48A Smith Brothers 47.10 93 IAmb IAmb 01 18 21.1
comp=Z,121nm,1.1s
SNAG San Augustine 47.11 103 IAmb IAmb 01 18 21.4
comp=Z,84nm,1.1s
ACCN Adirondack Com 47.26 75 IAmb IAmb 01 18 21.6
comp=Z,55nm,0.9s
MCWV Mont Chateau 47.29 84 IAmb IAmb 01 18 22.3
comp=Z,97nm,0.8s
MDJ Mudanjiang 47.35 287 P P 01 18 28.3 +7.2
MDJ pmax pmax
comp=Z,18nm,1.1s
LBNH Lisbon 47.40 73 IAmb IAmb 01 18 23.0
comp=Z,82nm,0.9s
SSPA Standing Stone 47.44 81 P **P 01 18 22.4 +0.5**
SSPA Standing Stone 47.44 81 P **P 01 18 22.3 +0.5**
SSPA PcP **PcP 01 19 50.7 -0.4**
BNX BinXian 47.48 290 ↓P **P 01 18 21.3 -0.8**
BNX pmax pmax
comp=Z,14nm,1.0s
H62A Milan 47.49 73 IAmb IAmb 01 18 23.7
comp=Z,100nm,0.9s
HNH Hanover 47.65 74 IAmb IAmb 01 18 25.0
comp=Z,77nm,1.0s
HKT Hockley 47.67 106 P **P 01 18 24.8 +1.2**
HKT IAmb IAmb 01 18 26.5
comp=Z,132nm,1.3s
HKT Hockley 47.67 106 P **P 01 18 24.8 +1.2**
HKT pmax pmax
comp=Z,132nm,1.3s
BATG Bathurst New B 47.68 67 IAmb IAmb 01 18 25.2
comp=Z,66nm,0.9s
735A Kenedy 47.70 109 IAmb IAmb 01 18 29.1
comp=Z,59nm,0.9s
TRY Troy 47.77 76 IAmb IAmb 01 18 25.6
comp=Z,49nm,0.9s
J61A Chester 47.80 75 IAmb IAmb 01 18 26.1
comp=Z,94nm,1.2s
SWET Sewanee 47.95 92 IAmb IAmb 01 18 27.2
comp=Z,112nm,1.2s
X48A Hartselle 48.04 94 IAmb IAmb 01 18 27.9
comp=Z,74nm,1.0s
HIA Hailar 48.09 298 P **P 01 18 26.6 -0.2**
HIA Hailar 48.09 298 P **P 01 18 26.7 -0.2**
HIA pmax pmax
comp=Z,28nm,1.1s
I63A Otisfield 48.16 73 P **P 01 18 27.8 +0.5**
I63A IAmb IAmb 01 18 29.0
comp=Z,69nm,1.0s
WVL Waterville 48.18 71 IAmb IAmb 01 18 28.8
comp=Z,82nm,1.1s

W50A Signal Mountai 48.26 92 IAmb IAmb 01 18 29.9
comp=Z,95nm,1.2s
CPCT Cooper Cave 48.43 91 IAmb IAmb 01 18 31.0
comp=Z,94nm,1.1s
VADS Vadso 48.43 360 *eP* **P** **01 18 26.9 -2.2**
L61B Northampton 48.45 76 IAmb IAmb 01 18 30.8
comp=Z,51nm,1.2s
CIT Chita 48.47 305 *eP* **P** **01 18 29.4 -0.4**
CIT *e* 01 18 54.8
CIT *e* 01 20 28.8
CIT *e* 01 21 20.6
CIT pmax pmax
comp=Z,78nm,2.4s
TKL Tuckaleechee C 48.62 90 P **P** **01 18 31.6 +0.6**
comp=Z,76nm,0.8s,baz=302,slow=0.2,SNR=78
TKL LR LR 01 39 42.7
comp=Z,1μm,19.9s,baz=334,slow=37
comp=Z,76nm,0.8s
TRO Tromso 48.72 5 *eP* **P** **01 18 30.1 -1.2**
HBVL Hebbronville 48.85 111 P **P** **01 18 35.2 +2.4**
JETT Jettan, Norway 48.85 4 *eP* **P** **01 18 31.7 -0.7**
SDMD Soldier's Deli 48.90 81 P **P** **01 18 34.1 +1.0**
HRV Adam Dziewonsk 48.92 75 P **P** **01 18 33.5 +0.4**
HRV IAmb IAmb 01 18 34.6
comp=Z,64nm,1.1s
HRV Adam Dziewonsk 48.92 75 P **P** **01 18 33.6 +0.4**
HRV pmax pmax
comp=Z,64nm,1.2s
HRV Adam Dziewonsk 48.92 75 P **P** **01 18 33.1 -0.1**
HRV PcP **PcP** **01 19 57.0 +0.6**
BRNJ Basking Ridge 48.96 78 P **P** **01 18 34.0 +0.5**
BLA Blacksburg 48.96 86 P **P** **01 18 34.1 +0.5**
BLA Blacksburg 48.96 86 P **P** **01 18 34.1 +0.5**
BLA pmax pmax
comp=Z,166nm,1.1s
ARA0 ARCESS Array S 48.99 2 *eP* **P** **01 18 31.7 -1.7**
ARCES ARCESS Array B 48.99 2 P **P** **01 18 32.2 -1.3**
ARCES IAmb IAmb 01 19 57.0
comp=Z,40nm,1.0s
ARCES ARCESS Array B 48.99 2 P **P** **01 18 32.7 -0.7**
comp=Z,19nm,0.9s,baz=349,slow=5.9,SNR=23
ARCES PcP **PcP** **01 19 56.3 +0.1**
comp=Z,23nm,0.8s,baz=350,slow=3.7,SNR=11
ARCES LR LR 01 41 51.9
comp=Z,75nm,18.3s,baz=7.0,slow=39
comp=Z,19nm,0.9s
W52A Murphy 49.00 91 P **P** **01 18 34.7 +0.7**
GGN Saint George 49.01 69 P **P** **01 18 34.3 +0.4**
PAL Palisades 49.01 78 P **P** **01 18 34.1 +0.2**
PAL Palisades 49.01 78 P **P** **01 18 34.1 +0.2**
PAL pmax pmax
comp=Z,102nm,0.9s
WSPT Westport, CT 49.15 77 IAmb IAmb 01 18 36.0
comp=Z,83nm,1.0s
CPNY Central Park 49.16 78 P **P** **01 18 35.3 +0.3**
UCCT U. Connecticut 49.17 76 IAmb IAmb 01 18 36.4
comp=Z,76nm,1.0s
S57A Dark Hollow, R 49.22 84 IAmb IAmb 01 18 37.5
comp=Z,117nm,1.3s
LRAL Lakeview Retre 49.23 95 IAmb IAmb 01 18 36.8
comp=Z,41nm,0.9s
KTK1 Kautokeino 49.48 3 *eP* **P** **01 18 35.7 -1.4**
BG3 Lake Jocassee 49.56 90 IAmb IAmb 01 18 40.0
comp=Z,97nm,1.0s
T57A Hurt 49.69 85 IAmb IAmb 01 18 40.4
comp=Z,82nm,1.0s
L64A Middleborough 49.70 75 IAmb IAmb 01 18 40.1
comp=Z,34nm,1.0s
MAJO Matsushiro 49.70 274⇑ *eP* **P** **01 18 38.8 -0.4**
MAJO pmax pmax
comp=Z,6.0nm,0.9s
MJAR Matsushiro Arr 49.70 274 P **P** **01 18 37.9 -1.3**
comp=Z,1.0nm,0.3s,baz=17,slow=8.1,SNR=2.3
MJAR ScP **ScP** **01 23 46.6 -1.4**
comp=Z,1.2nm,0.5s,baz=329,slow=4.4,SNR=5.1
MJAR LR LR 01 40 57.3
comp=Z,159nm,20.8s,baz=30,slow=38
comp=Z,1.0nm,0.3s
CN2 Changchun 49.86 290 P **P** **01 18 39.3 -1.1**
CN2 S **S** **01 25 41.8 -2.7**
CN2 pmax pmax
comp=Z,30nm,0.8s
LOF Lofoten 49.94 8 *eP* **P** **01 18 40.7 +0.1**
PAULI Pauline 50.23 89 P **P** **01 18 43.3 0.0**
STEI Steigen 50.24 7 *eP* **P** **01 18 42.4 -0.5**
R61A Willards 50.47 81 P **P** **01 18 46.5 +1.5**
GOGA Godfrey 50.59 92 IAmb IAmb 01 18 46.8
comp=Z,39nm,1.0s
LVZ Lovozero 50.60 357 *ceP* **P** **01 18 45.3 -0.4**
LVZ pmax pmax
comp=Z,64nm,1.7s
V58A Windy Hill, Pi 50.72 86 IAmb IAmb 01 18 48.5
comp=Z,85nm,1.0s
FAUS Fauske 50.79 7 *eP* **P** **01 18 46.4 -0.7**
JGF Kuroka 50.86 274 P **P** **01 18 50.1 +2.0**
JGF IAmb IAmb 01 19 08.4
comp=Z,41nm,1.2s
ZAIG Zacatecas 50.91 117 IAmb IAmb 01 18 51.7
comp=Z,72nm,1.2s
APA Apatity 50.96 358⇓ *iP* **P** **01 18 45.9 -2.4**
APA *i* 01 20 02.5
APA *e* 01 20 41.1
APA *eS* **S** **01 25 55.2 -3.9**
APA *i* SS **SS** **01 29 28.7 -5.1**
APA pmax pmax
comp=Z,37nm,0.9s
APA MLR MLR
comp=Z,987nm,5.0s
VAGH Vaagaholmen 51.31 8 *eP* **P** **01 18 49.4 -1.6**
KONS Konsvik 51.53 8 *eP* **P** **01 18 51.2 -1.4**
STOK Stokkvaagen 51.69 8 *eP* **P** **01 18 53.0 -0.8**
IRK Irkutsk 51.79 311 *eP* P 01 18 44.8 -10
IRK pmax pmax
comp=Z,59nm,1.3s
451A Vernon 51.82 96 P **P** **01 18 55.9 +0.7**
LEIR Leirfjorden 51.92 8 *eP* **P** **01 18 54.7 -0.8**
MOR8 Moi Rana 51.94 8 *eP* **P** **01 18 53.0 -2.7**
SJUU Sjulsmark 52.95 4 *eP* **P** **01 19 01.8 -1.2**
NSS Namsos 53.40 9 *eP* **P** **01 19 05.6 -0.8**
456A Hilliard 53.50 92 P **P** **01 19 08.6 +1.0**
JRQG Juriquilla Cam 53.64 116 IAmb IAmb 01 19 11.8
comp=Z,57nm,1.1s
ZAK Zakamensk 53.67 310 *eP* **P** **01 19 08.1 -0.6**
ZAK pmax pmax
comp=Z,7.0nm,1.7s
KSRS Korea Array 53.80 283 P **P** **01 19 09.4 -0.3**
comp=Z,5.8nm,0.7s,baz=31,slow=6.7,SNR=16
KSRS pP **pP** **01 19 28.5 +0.2**
comp=Z,5.3nm,0.6s,baz=35,slow=5.8,SNR=4.1
KSRS ScP **ScP** **01 24 05.3 -0.4**
comp=Z,8.3nm,1.1s,baz=44,slow=4.5,SNR=11
comp=Z,5.8nm,0.7s
XLT XiLinHaoTe 53.88 297 *eP* **P** **01 19 09.8 -0.5**
XLT pmax pmax
comp=Z,8.0nm,0.7s
XLT LR LR
comp=Z,36nm,20.3s
XLT LR LR
comp=Z,270nm,13.8s
XLT LR LR
comp=Z,270nm,16.0s
ULN Ulaanbaatar 54.32 306 P **P** **01 19 13.8 +0.2**
ULN Ulaanbaatar 54.32 306 *ceP* **P** **01 19 13.8 +0.2**
ULN pmax pmax
comp=Z,11nm,0.8s
656A Willston 54.39 94 P **P** **01 19 14.6 +0.5**
656A IAmb IAmb 01 19 15.4
comp=Z,97nm,1.1s
SONM Songino Array 54.60 306 P **P** **01 19 15.8 +0.2**
SONM Songino Array 54.60 306 P **P** **01 19 16.4 +0.8**
comp=Z,14nm,0.8s,baz=37,slow=7.0,SNR=54
SONM ScP **ScP** **01 24 08.0 -1.3**
comp=Z,14nm,1.3s,baz=58,slow=1.4,SNR=12
SONM LR LR 01 44 02.1
comp=Z,493nm,19.2s,baz=36,slow=38
comp=Z,14nm,0.8s
MOL Molde 54.94 12 *eP* **P** **01 19 16.6 -1.1**
AKN Aaknes 55.27 12 *eP* **P** **01 19 19.2 -0.9**
DL2 Dalian 55.50 289 *eP* **P** **01 19 22.6 +0.6**
DL2 S **S** **01 27 03.1 +1.7**
DL2 pmax pmax
comp=Z,49nm,1.2s
DL2 pmax pmax
comp=Z,320nm,4.2s
DL2 LR LR
comp=Z,220nm,15.5s
DL2 LR LR
comp=Z,340nm,11.6s
DL2 LR LR
comp=Z,380nm,16.2s
DOMB Dombas 55.61 11 *eP* **P** **01 19 21.3 -1.2**
JOF Joensuu 55.66 359 *eP* **P** **01 19 21.9 -0.9**
SUE Sulen 56.13 14 *eP* **P** **01 19 24.5 -1.6**
HYA Hoyanger 56.18 13 *eP* **P** **01 19 26.6 +0.1**
KEF Keuruu 56.38 2 *eP* **P** **01 19 26.8 -1.1**
NC204 NORSAR Array S 56.52 11 IAmb IAmb 01 19 29.2
comp=Z,53nm,1.0s
ZAA0 Zalesovo Array 56.58 324 P **P** **01 19 28.4 -1.1**
ZALV Zalesovo Beam 56.58 324 P **P** **01 19 29.1 -0.3**
ZALV Zalesovo Beam 56.58 324 P **P** **01 19 28.5 -0.9**
comp=Z,20nm,0.7s,baz=27,slow=7.0,SNR=27
ZALV ScP **ScP** **01 24 17.3 -0.3**
comp=Z,5.4nm,0.9s,baz=23,slow=4.8,SNR=8.5
ZALV LR LR 01 47 04.4
comp=Z,320nm,19.1s,baz=22,slow=40
comp=Z,20nm,0.7s
ZALV Zalesovo Beam 56.58 324 *i* P **P** **01 19 28.7 -0.8**
ZALV pmax pmax
comp=Z,20nm,0.7s
NC303 NORSAR Array S 56.62 10 IAmb IAmb 01 19 30.0
comp=Z,49nm,0.9s
ASK Askoy 56.74 14 *eP* **P** **01 19 29.3 -1.2**
NC405 NORSAR Array S 56.76 10 IAmb IAmb 01 19 30.9
comp=Z,51nm,0.8s
NBO00 NORSAR Array S 56.76 11 IAmb IAmb 01 19 30.4
comp=Z,41nm,1.0s
NB201 NORSAR Array S 56.79 10 P **P** **01 19 30.5 -0.4**
NB201 IAmb IAmb 01 19 31.1
comp=Z,48nm,0.8s
NB2 NORSAR Subarra 56.79 10 P **P** **01 19 29.7 -1.2**
comp=Z,49nm,0.9s,baz=350,slow=6.9
NB2 NORSAR Subarra 56.79 10 P **P** **01 19 29.7 -1.2**
comp=Z,49nm,0.9s,baz=350,slow=6.9
NOA NORSAR Array B 56.79 10 P **P** **01 19 30.2 -0.7**
comp=Z,28nm,0.8s,baz=350,slow=7.0,SNR=76
NOA PcP **PcP** **01 20 25.0 -0.9**
comp=Z,4.6nm,0.8s,baz=341,slow=3.3,SNR=5.4
NOA LR LR 01 46 23.3
comp=Z,41nm,19.4s,baz=340,slow=39
comp=Z,28nm,0.8s
SKAR Skarslia 56.87 12 *eP* **P** **01 19 30.9 -0.7**
NAO01 NORSAR Array S 56.95 11 IAmb IAmb 01 19 32.2
comp=Z,39nm,0.9s
BJI Beijing 56.99 294 P **P** **01 19 32.5 0.0**
BJI pmax pmax
comp=Z,5.0nm,1.0s
NC602 NORSAR Array S 57.12 10 *eP* **P** **01 19 31.9 -1.3**
FINES FINESS Array B 57.12 2 P **P** **01 19 32.5 -0.7**
comp=Z,32nm,0.8s,baz=2.7,slow=8.0,SNR=52
FINES ScP **ScP** **01 24 18.9 -1.0**
comp=Z,13nm,0.9s,baz=349,slow=1.9,SNR=9.1
FINES PKP2bc 01 49 31.5
comp=Z,13nm,1.2s,baz=174,slow=4.2,SNR=5.2
comp=Z,32nm,0.8s
TLIG Tlapa 57.23 116 P **P** **01 19 35.7 +1.0**
TLIG IAmb IAmb 01 19 38.0
comp=Z,43nm,1.0s
RAF Rauma 57.44 4 *eP* **P** **01 19 34.4 -1.0**
KLMR Klimovskoe 57.48 354 *eP* **P** **01 19 33.2 -2.5**
KLMR *e* 01 21 41.5
KLMR pmax pmax
comp=Z,131nm,1.2s
HFS Hagfors 57.88 9 P **P** **01 19 37.7 -0.9**
comp=Z,54nm,0.8s,baz=4.3,slow=5.9,SNR=45
HFS pP **pP** **01 19 57.4 +0.1**
comp=Z,3.7nm,0.4s,baz=35,slow=5.4,SNR=1.9
comp=Z,54nm,0.8s
BLS5 Blasjo 57.91 13 *eP* **P** **01 19 36.7 -2.2**
KONO Kongsberg 58.02 12 P **P** **01 19 39.4 -0.1**
KONO IAmb IAmb 01 19 39.7
comp=Z,35nm,0.9s
KONO Kongsberg 58.02 12 *eP* **P** **01 19 38.8 -0.7**
KONO Kongsberg 58.02 12⇑ *eP* **P** **01 19 39.4 -0.1**
KONO pmax pmax
comp=Z,123nm,2.5s
HHC Hu-ho-hao-te 58.29 298 *eP* **P** **01 19 41.9 0.0**
HHC S **S** **01 27 37.1 -1.3**
HHC pmax pmax
comp=Z,17nm,1.1s
HHC pmax pmax
comp=Z,98nm,4.3s
HHC LR LR
comp=Z,300nm,16.0s
HHC LR LR
comp=Z,240nm,15.1s
HHC LR LR
comp=Z,360nm,16.8s
MEF Metsahovi 58.32 3 *eP* **P** **01 19 41.3 -0.3**
UPP Uppsala 58.42 7 *eP* **P** **01 19 41.7 -0.5**
STRU Stroemstad 58.77 11 *i* P **P** **01 19 44.2 -0.5**
KIRV Kirov 58.98 348 LR LR 01 47 33.0
comp=Z,105nm,19.8s,baz=20,slow=38
KIRV Kirov 58.98 348 *deP* **P** **01 19 45.6 -0.6**
SNART Snartemo 59.06 13 *i* P **P** **01 19 46.8 0.0**
ARBE Arbavere 59.14 2 *eP* **P** **01 19 46.9 -0.4**
BTO Baotou 59.14 299 *eP* **P** **01 19 46.5 -1.3**
BTO sP **pP** **01 20 09.6 +3.1**
BTO PP **PP** **01 22 02.8 +4.2**
BTO S **S** **01 27 47.8 -1.6**
BTO pmax pmax
comp=Z,23nm,0.5s
BTO pmax pmax
comp=Z,250nm,5.9s
BTO LR LR
comp=Z,730nm,9.4s
BTO LR LR
comp=Z,430nm,13.0s
BTO LR LR
comp=Z,870nm,16.3s
CMIG Matias Romero 59.24 113 LR LR 01 45 12.3
comp=Z,91nm,19.6s,baz=340,slow=36
HOMB Homborsund 59.27 12 *i* P **P** **01 19 47.9 -0.3**
TEIG Tepich 59.48 105 P **P** **01 19 49.6 -0.6**
TEIG IAmb IAmb 01 19 51.2
comp=Z,86nm,1.2s
TEIG Tepich 59.48 105 P **P** **01 19 50.0 -0.2**
TEIG pP **pP** **01 20 09.2 +0.3**
TEIG sP **sP** **01 20 16.6 -0.4**
SOR Soroa 59.73 98 IAmb IAmb 01 19 52.5
comp=Z,52nm,1.3s
TJOU Tjoern 59.80 11 *i* P **P** **01 19 51.3 -0.6**
HNS HongShan 59.81 293⇑ P **P** **01 19 52.1 -0.2**
HNS S **S** **01 27 56.0 -1.8**
HNS pmax pmax
comp=Z,13nm,1.0s
HNS LR LR
comp=Z,190nm,13.9s
HNS LR LR
comp=Z,310nm,13.1s
HNS LR LR
comp=Z,270nm,15.9s
ARTI Arti 60.01 342 P **P** **01 19 52.4 -0.9**
ARTI Arti 60.01 342 LR LR 01 47 04.0
comp=Z,162nm,21.9s,baz=24,slow=37
ARTI Arti 60.01 342 P **P** **01 19 52.4 -0.9**
ARTI pmax pmax
comp=Z,57nm,0.6s
VSU Vasula 60.12 1 *eP* **P** **01 19 53.0 -1.0**
VSU Vasula 60.12 1 *ceP* **P** **01 19 52.9 -1.2**
VSU pmax pmax
comp=Z,109nm,0.8s
BORU Boraas 60.29 10 *i* P **P** **01 19 54.6 -0.6**
BBSR BB Station 60.31 76 P **P** **01 19 54.6 -1.1**
BBSR IAmb IAmb 01 19 55.9
comp=Z,58nm,1.1s
ONAU Onsala 60.45 11 *i* P **P** **01 19 55.3 -1.0**
EKA Eskdalemuir Ar 60.55 21 P **P** **01 19 57.0 -0.1**
comp=Z,54nm,0.7s,baz=339,slow=5.4,SNR=98
EKA pP **pP** **01 20 16.7 +0.9**
comp=Z,5.3nm,0.4s,baz=328,slow=5.3,SNR=3.8
comp=Z,54nm,0.7s
ESK Eskdalemuir 60.56 21 P **P** **01 19 57.2 +0.1**
ESK Eskdalemuir 60.56 21 P **P** **01 19 57.2 +0.1**
ESK pmax pmax
comp=Z,94nm,0.9s
ESK Eskdalemuir 60.56 21 P **P** **01 19 57.0 0.0**
SLIT Slitere, Latvi 60.86 4 *eP* **P** **01 19 58.7 -0.3**
FABU Falkenberg 60.91 10 *i* P **P** **01 19 58.8 -0.7**
BVA0 Borovoye Array 61.00 333 *i* P **P** **01 19 59.1 -1.1**
BVAR Borovoye Array 61.00 333 P **P** **01 19 59.2 -0.9**
comp=Z,18nm,0.8s,baz=28,slow=7.2,SNR=30
BVAR pP **pP** **01 20 18.1 -0.9**
comp=Z,14nm,0.6s,baz=36,slow=5.8,SNR=5.6
BVAR ScP **ScP** **01 24 37.0 -0.3**
comp=Z,3.8nm,0.9s,baz=48,slow=2.1,SNR=6.2
BVAR PKPPKP P'P'df 01 49 11.9 -8.3
comp=Z,2.5nm,1.0s,baz=210,slow=8.6,SNR=4.1
BVAR LR LR 01 51 29.8
comp=Z,262nm,19.5s,baz=26,slow=41
comp=Z,18nm,0.8s
MUD Monsted U'grnd 61.12 12 *i* P **P** **01 20 00.9 0.0**
MUD IAmb IAmb 01 20 01.8
comp=Z,53nm,1.0s
KURK Kurchatov 61.16 326 P **P** **01 20 00.5 -0.7**
KURK Kurchatov 61.16 326 *ceP* **P** **01 20 00.4 -0.8**
KURK pmax pmax
comp=Z,35nm,1.7s
KURBB Kurchatov Arra 61.27 327 P **P** **01 20 01.0 -0.9**
comp=Z,6.3nm,0.5s,baz=29,slow=6.7,SNR=44
KURBB pP **pP** **01 20 20.4 -0.3**
comp=Z,8.2nm,0.5s,baz=29,slow=6.8,SNR=6.9
KURBB PcP **PcP** **01 20 43.3 -0.5**
comp=Z,9.3nm,0.8s,baz=28,slow=5.6,SNR=6.3
KURBB ScP **ScP** **01 24 37.5 -1.0**
comp=Z,5.3nm,1.0s,baz=24,slow=4.5,SNR=9.9
KURBB PKP2bc 01 49 21.2
comp=Z,0.1nm,0.4s,baz=65,slow=9.6,SNR=4.3
KURBB LR LR 01 50 03.6
comp=Z,170nm,20.0s,baz=180,slow=39
comp=Z,6.3nm,0.5s
KURBB Kurchatov Arra 61.27 327 P **P** **01 20 00.0 -2.0**
DEL Delary 61.53 10 *i* P **P** **01 20 03.2 -0.5**
BJUU Bjuv 61.86 10 *i* P **P** **01 20 05.3 -0.6**
SSRD Sdr. Stenderup 62.13 12 *i* P **P** **01 20 07.9 +0.2**
COP Copenhagen 62.19 11 *i* P **P** **01 20 06.6 -1.5**
COP IAmb IAmb 01 20 08.6
comp=Z,140nm,0.8s
LUNU Lund 62.33 10 *i* P **P** **01 20 08.6 -0.4**
ZSN Zaisan 62.35 321 *eP* **P** **01 20 09.7 +0.4**
comp=Z,13nm,0.6s
ZSN Zaisan 62.35 321 *eP* **P** **01 20 09.7 +0.4**
ZSN pmax pmax
comp=Z,13nm,0.6s
NJ2 Nanjing 62.44 287 *eP* **P** **01 20 09.6 -0.5**
NJ2 pmax pmax
comp=Z,18nm,0.5s
JOW Kunigami 62.44 276 LR LR 01 47 20.1
comp=Z,69nm,21.4s,baz=45,slow=36
MOS Moscow 62.68 355 *eP* **P** **01 20 10.5 -0.8**
MOS *e* 01 20 29.7
MOS *e* 01 20 53.1
MOS *eS* **S** **01 28 32.9 -0.7**
MOS *e* 01 29 50.7
MOS pmax pmax
comp=Z,86nm,1.2s
MOS pmax pmax
comp=N,49nm,0.8s
BSD Bornholm Skovb 62.96 9 *eP* **P** **01 20 13.3 +0.1**
BSD Bornholm Skovb 62.96 9 *i* P **P** **01 20 13.0 -0.2**
BSD IAmb IAmb 01 20 14.0
comp=Z,58nm,0.9s
ISAL Salakas 63.01 2 *eP* **P** **01 20 14.1 +0.6**
PABE Paberze 63.03 3 *eP* **P** **01 20 13.8 +0.2**
LYN LuoYang 63.19 293 P **P** **01 20 14.8 -0.2**
LYN sP pP 01 20 36.0 +2.1
LYN S **S** **01 28 40.8 +0.2**
LYN pmax pmax
comp=Z,53nm,0.8s
LYN LR LR
comp=Z,330nm,13.9s
LYN LR LR
comp=Z,330nm,17.1s
LYN LR LR
comp=Z,430nm,18.0s
BRZS Berezniki 63.32 330 *eP* **P** **01 20 16.6 +0.8**
BRZS Berezniki 63.32 330 *eP* **P** **01 20 16.5 +0.8**
OBN Obninsk 63.35 355 *c* *iP* **P** **01 20 15.4 -0.4**
OBN *i* *PP **pP** **01 20 32.9 -1.7**
OBN *i* 01 20 56.7
OBN *i* 01 22 33.1
OBN pmax pmax
comp=Z,127nm,1.3s
OBN MLR MLR
comp=Z,61nm,16.0s
OBN Obninsk 63.35 355 P **P** **01 20 15.3 -0.4**
OBN pP **pP** **01 20 35.1 +0.4**
MK31 Makanchi Array 63.71 322 *deP* **P** **01 20 19.8 +1.5**
MKAR Makanchi Array 63.71 322 P **P** **01 20 17.6 -0.8**
comp=Z,11nm,0.7s,baz=30,slow=6.0,SNR=35
MKAR PKP2bc 01 49 18.6
comp=Z,1.2nm,0.9s,baz=254,slow=0.9,SNR=4.0
MKAR LR LR 01 50 36.0
comp=Z,237nm,20.9s,baz=17,slow=38
comp=Z,11nm,0.7s
MKAR Makanchi Array 63.71 322 *ceP* **P** **01 20 18.2 -0.1**
MKAR pmax pmax
comp=Z,11nm,0.7s
MAKZ Makanchi 63.78 322 P **P** **01 20 17.8 -1.0**
MNK Minsk 64.11 1 *i* P **P** **01 20 20.7 -0.1**
MNK *i* 01 20 55.4
MNK *i* 01 22 42.7
MNK *i* PPP PPP 01 24 14.1
MNK *i* S **S** **01 28 52.7 +1.3**
MNK *i* PS **PnS** **01 29 08.7 -10**
MNK pmax pmax
comp=Z,67nm,0.7s
MNK pmax pmax
comp=E,35nm,0.7s
MNK pmax pmax
comp=N,13nm,0.7s
MNK MLR MLR
comp=E,305nm,19.0s
MNK MLR MLR
comp=Z,61nm,16.0s
GTA Gaotai 64.26 306 P **P** **01 20 22.0 -0.2**
GTA pP pP 01 20 40.3 -0.9
GTA S **S** **01 28 52.9 -1.2**
GTA pmax pmax
comp=Z,25nm,1.4s
GTA pmax pmax
comp=Z,200nm,7.7s
GTA LR LR
comp=Z,500nm,18.9s
GTA LR LR
comp=Z,270nm,19.6s
GTA LR LR
comp=Z,750nm,18.9s
SUW Suwalki 64.50 4 *eP* **P** **01 20 22.7 -0.7**
SUW Suwalki 64.50 4 *eP* **P** **01 20 23.2 -0.2**
WMQ Urumqi 64.71 317 *eP* **P** **01 20 28.9 +3.9**
GORT1 Trebel 64.75 12 *eP* **P** **01 20 25.2 +0.2**
comp=Z,49nm,1.1s,baz=351,slow=6.4
RETH Rethem/Aller, 64.80 13 *eP* **P** **01 20 25.3 0.0**
comp=Z,38nm,1.1s,baz=351,slow=6.4
GKP Gorka Klasztor 64.96 8 *eP* **P** **01 20 26.5 +0.2**
GKP Gorka Klasztor 64.96 8 *eP* **P** **01 20 26.6 +0.3**
IBBN Ibbenburen 65.05 14 *eP* **P** **01 20 27.0 +0.1**
comp=Z,90nm,0.9s,baz=351,slow=6.4
XAN Xi'an 65.16 296⇓ *jP* **P** **01 20 26.3 -1.7**
XAN pmax pmax
comp=Z,11nm,1.0s
XAN pmax pmax
comp=Z,250nm,4.6s
BELG Belogornoye 65.27 348 *dP* **P** **01 20 27.3 -1.0**
BELG pmax pmax
comp=Z,18nm,0.9s
TGUH Tegucigalpa,Un 65.32 107 IAmb IAmb 01 20 33.5
comp=Z,85nm,1.1s
FLTG Flechtingen 65.40 12 *eP* **P** **01 20 28.5 -0.7**
comp=Z,54nm,1.1s,baz=351,slow=6.4
RUE Ruedersdorf 65.48 10 *eP* **P** **01 20 30.4 +0.6**
RUE Ruedersdorf 65.48 10 *eP* **P** **01 20 30.1 +0.4**
comp=Z,158nm,0.9s,baz=351,slow=6.4
LZH Lanzhou 65.53 301 *eP* **P** **01 20 29.9 -0.6**
LZH pP pP 01 20 48.5 -1.0
LZH pmax pmax
comp=Z,40nm,1.6s
LZH LR LR
comp=Z,610nm,17.5s
LZH LR LR
comp=Z,410nm,16.5s
LZH LR LR
comp=Z,900nm,16.2s
ASSE Asse, Remlinge 65.54 12 *eP* **P** **01 20 29.9 -0.1**
comp=Z,65nm,1.1s,baz=351,slow=6.4
LZDM Lanzhou Array 65.70 301 P **P** **01 20 31.6 -0.3**
comp=Z,1.8nm,0.3s,baz=207,slow=0.3,SNR=6.1

LZDM LR LR 01 51 37.3
comp=Z,573nm,19.6s,baz=250,slow=38
comp=Z,1.8nm,0.3s
LPSR Galich'ya Gora 65.75 353 *e*P **P 01 20 29.3 -2.1**
LPSR pmax pmax
comp=Z,40nm,0.9s
CLZ Clausthal 65.80 13 *e*P **P 01 20 32.1 +0.2**
comp=Z,107nm,0.9s,baz=351,slow=6.4
AKTO Aktyubinsk 65.82 340 LR LR 01 52 14.2
comp=Z,80nm,20.7s,baz=54,slow=39
AKTO Aktyubinsk 65.82 340 P **P 01 20 30.0 -2.0**
BUG Bochum--Univer 65.84 15 *e*P **P 01 20 31.7 -0.3**
comp=Z,80nm,0.8s,baz=351,slow=6.4
GTBY Guantanamo Bay 65.92 93 P **P 01 20 33.6 +0.6**
GTBY IAmb IAmb 01 20 33.6
comp=Z,46nm,1.0s
GUMO Guam 66.01 253 LR LR 01 47 12.5
comp=Z,105nm,20.8s,baz=58,slow=34
GTTG Gottingen 66.05 13 *e*P **P 01 20 34.0 +0.6**
comp=Z,140nm,0.9s,baz=351,slow=6.4
UCC Uccle 66.09 17 IAmb IAmb 01 20 34.5
comp=Z,42nm,1.0s
UCC Uccle 66.09 17 *d*P **P 01 20 33.5 -0.2**
comp=Z,26nm,1.0s
KASTN Kahler Asten 66.21 14 *e*P **P 01 20 34.4 -0.1**
comp=Z,35nm,1.0s,baz=351,slow=6.4
R9F13 Warsaw-Wawer 66.22 5 *e*P **P 01 20 34.5 +0.1**
BEBN Eben Emael 66.27 16 *d*P **P 01 20 34.8 0.0**
comp=Z,36nm,0.9s
TDK Taldyqorghan 66.45 324 *e*P **P 01 20 36.5 +0.4**
comp=Z,15nm,0.7s
TDK Taldyqorghan 66.45 324 *e*P **P 01 20 36.5 +0.4**
TDK pmax pmax
comp=Z,15nm,0.7s
BSTI Sart Tilman 66.47 16 *d*P **P 01 20 36.2 +0.2**
comp=Z,17nm,0.9s
MEM Membach 66.50 16 *d*P **P 01 20 36.2 -0.1**
comp=Z,43nm,1.1s
BTNL Ternell 66.54 16 *d*P **P 01 20 36.4 -0.2**
comp=Z,37nm,1.1s
NEUB Neuenburg 66.56 12 *e*P **P 01 20 36.5 -0.1**
comp=Z,120nm,1.0s,baz=351,slow=6.4
CLL Collm 66.58 11 IAmb IAmb 01 20 37.6
comp=Z,52nm,0.9s
CLL Collm 66.58 11 ⇓ *i*P **P 01 20 36.4 -0.4**
CLL pmax pmax
comp=Z,72nm,1.1s
CLL Collm 66.58 11 *e*P **P 01 20 36.3 -0.4**
comp=Z,60nm,1.0s,baz=351,slow=6.4
CLL Collm 66.58 11 ⇓ *i*P **P 01 20 36.4 -0.4**
comp=Z,72nm,1.1s
CLL *e*PcP **PcP 01 21 07.0 +1.4**
CLL *e*PP **PP 01 23 05.0 +1.6**
CLL *ex* x 01 37 06.0
BEL Belsk 66.59 6 *e*P **P 01 20 37.4 +0.5**
BCLA Clavier 66.59 16 *d*P **P 01 20 36.8 -0.1**
comp=Z,18nm,1.2s
BGES Gesves 66.60 16 *d*P **P 01 20 36.5 -0.4**
comp=Z,22nm,0.9s
BMRD Maredsous 66.63 17 *d*P **P 01 20 37.1 0.0**
comp=Z,46nm,1.0s
AB31 Akbulak array 66.64 339 *i*P **P 01 20 35.6 -1.6**
VORR Voronezh 66.66 353 *e*P **P 01 20 34.0 -3.3**
VORR pmax pmax
comp=Z,30nm,0.9s
BHOU Houvegnez 66.75 16 *d*P **P 01 20 37.8 -0.1**
comp=Z,10nm,1.0s
UBBA Unterbreizbach 66.77 13 *e*P **P 01 20 37.3 -0.5**
comp=Z,21nm,0.9s,baz=351,slow=6.4
DOU Dourbes 66.81 17 *d*P **P 01 20 38.1 -0.2**
comp=Z,32nm,1.0s
RCHB Rochefort 66.84 16 *d*P **P 01 20 38.1 -0.4**
comp=Z,42nm,1.0s
VRH Novokhopyorsk 66.97 351 *e*P **P 01 20 35.7 -3.5**
VRH pmax pmax
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 67.09 10 *i*P **P 01 20 42.4 +2.3**
BRG Amp 01 20 43.4
comp=Z,61nm,1.0s
BRG Berggiesshubel 67.09 10 P P 01 20 48.8 +8.7
BRG Amp 01 20 49.3
comp=Z,15nm,0.9s
BRG Berggiesshubel 67.09 10 S **S 01 29 31.0 +3.0**
MOX Moxa 67.10 12 *e*P **P 01 20 40.1 -0.1**
comp=Z,96nm,0.9s,baz=351,slow=6.4
MOX *e*L L 01 49 31.2
comp=Z,88nm,18.9s
VSR Storozhevoye 67.11 353 *e*P **P 01 20 37.2 -3.0**
VSR pmax pmax
comp=Z,20nm,0.9s
BILN Bilwi Airport 67.12 103 P **P 01 20 42.2 +1.6**
BILN IAmb IAmb 01 20 43.3
comp=Z,278nm,1.2s
TNS Taunus Mts 67.18 14 *e*P **P 01 20 40.6 -0.1**
comp=Z,41nm,0.8s,baz=351,slow=6.4
KSP Ksiaz 67.31 9 *e*P **P 01 20 41.6 +0.2**
PLN Plauen 67.31 12 *e*P **P 01 20 41.4 -0.1**
comp=Z,23nm,0.9s,baz=351,slow=6.4
VORD Divnogorie 67.36 353 *e*P **P 01 20 39.1 -2.6**
VORD pmax pmax
comp=Z,30nm,0.9s
TANN Tannenbergstha 67.41 11 *e*P **P 01 20 42.2 0.0**
comp=Z,64nm,1.1s,baz=351,slow=6.4
WLF Walferdange 67.44 16 IAmb IAmb 01 20 44.0
comp=Z,79nm,0.9s
WLF Walferdange 67.44 16 *d*P **P 01 20 42.5 +0.3**
comp=Z,54nm,1.1s
WLF Walferdange 67.44 16 *e*P **P 01 20 42.6 +0.3**
comp=Z,92nm,1.0s,baz=351,slow=6.4
MGAN Managua 67.47 107 P **P 01 20 43.4 +0.6**
MGAN IAmb IAmb 01 21 25.4
comp=Z,102nm,1.1s
PVCC Panska Ves 67.49 10 *e*P **P 01 20 43.0 +0.4**
PVCC Panska Ves 67.49 10 *e*P **P 01 20 43.0 +0.4**
CHVC Chvalec 67.55 9 *e*P **P 01 20 43.3 +0.3**
CHVC Chvalec 67.55 9 *e*P **P 01 20 43.3 +0.3**
OSTC Ostas 67.59 9 *e*P **P 01 20 43.1 -0.1**
OSTC Ostas 67.59 9 *e*P **P 01 20 43.1 -0.1**
UPC Upice 67.62 9 *e*P **P 01 20 43.9 +0.5**
UPC Upice 67.62 9 *e*P **P 01 20 43.9 +0.5**
PDGK Podgornoye 67.68 323 P **P 01 20 43.9 -0.2**
DPC Dobruska-Polom 67.80 9 *e*P **P 01 20 45.3 +0.7**
DPC Dobruska-Polom 67.80 9 *e*P **P 01 20 45.3 +0.7**
MANZ Manzenberg 67.80 12 *e*P **P 01 20 44.5 -0.1**
comp=Z,12nm,1.1s,baz=351,slow=6.4
SHLS Shalkode 67.84 323 *e*P **P 01 20 45.0 -0.1**
comp=Z,13nm,0.6s
SHLS Shalkode 67.84 323 *e*P **P 01 20 45.0 -0.1**
SHLS pmax pmax
comp=Z,13nm,0.6s
AKASG Malin Array Be 67.92 360 P **P 01 20 44.5 -0.8**
AKASG IAmb IAmb 01 20 45.5
comp=Z,75nm,0.8s
AKASG Malin Array Be 67.92 360 P **P 01 20 44.6 -0.6**
comp=Z,48nm,0.7s,baz=2.0,slow=6.1,SNR=184
AKASG pP **pP 01 21 04.1 -0.2**
comp=Z,12nm,0.4s,baz=4.1,slow=6.4,SNR=6.1
comp=Z,48nm,0.7s
AKASG Malin Array Be 67.92 360 *ce*P **P 01 20 44.4 -0.8**
AKASG pmax pmax
comp=Z,49nm,0.7s
AKBB Malin Array Si 67.92 360 IAmb IAmb 01 20 45.5
comp=Z,83nm,0.8s
AKBB Malin Array Si 67.92 360 *de*P **P 01 20 44.1 -1.1**
KIEV Kiev 67.92 360 P **P 01 20 44.8 -0.4**
KIEV IAmb IAmb 01 20 45.5
comp=Z,74nm,0.8s
KIEV Kiev 67.92 360 ⇑P **P 01 20 44.8 -0.4**
KIEV Kiev 67.92 360 P **P 01 20 44.8 -0.4**
KIEV Kiev 67.92 360 P **P 01 20 44.4 -0.9**
KIEV pP **pP 01 21 04.2 -0.1**
PRA Prague 67.93 10 *e*P **P 01 20 45.8 +0.5**
PRA Prague 67.93 10 *e*P **P 01 20 45.8 +0.5**
UZB Uzynbulak 67.98 323 *e*P **P 01 20 46.5 +0.5**
UZB Uzynbulak 67.98 323 *e*P **P 01 20 46.5 +0.5**
GRA1 Grafenberg Arr 68.01 12 IAmb IAmb 01 20 47.3
comp=Z,49nm,0.9s
GRF Grafenberg Arr 68.01 12 *e*P **P 01 20 46.1 +0.2**
comp=Z,48nm,0.9s,baz=351,slow=6.4
GRF *e*L L 01 49 21.4
comp=Z,82nm,21.6s
GRFO Grafenberg 68.01 12 P **P 01 20 46.7 +0.8**
GRFO IAmb IAmb 01 20 47.3
comp=Z,47nm,0.9s
GRFO Grafenberg 68.01 12 P **P 01 20 46.7 +0.8**
PRU Pruhonice 68.02 10 *e*P **P 01 20 46.3 +0.4**
PRU Pruhonice 68.02 10 *e*P **P 01 20 46.3 +0.4**
ROTZ Rotzenmuhle 68.03 12 *e*P **P 01 20 46.1 +0.1**
comp=Z,15nm,0.9s,baz=351,slow=6.4
KRLC Kraliky 68.11 9 *e*P **P 01 20 46.8 +0.3**
KRLC Kraliky 68.11 9 *e*P **P 01 20 46.8 +0.3**
ACON Acoyapa 68.12 106 P **P 01 20 45.2 -1.8**
ACON IAmb IAmb 01 20 46.5
comp=Z,54nm,1.1s
OJC Ojcow 68.15 6 *e*P **P 01 20 46.6 -0.2**
OJC Ojcow 68.15 6 P **P 01 20 46.3 -0.4**
OJC Ojcow 68.15 6 P **P 01 20 46.3 -0.4**
SATY Saty 68.24 323 *e*P **P 01 20 48.3 +0.7**
SATY Saty 68.24 323 *e*P **P 01 20 48.3 +0.7**
STEB Steborice 68.31 8 *e*P **P 01 20 48.0 +0.2**
ESPN Las Esperanzas 68.32 105 P **P 01 20 48.0 -0.3**
OKC Ostrava-Krasne 68.44 8 *e*P **P 01 20 48.9 +0.4**
OKC Ostrava-Krasne 68.44 8 *e*P **P 01 20 48.9 +0.4**
MORC Moravsky Berou 68.46 8 P **P 01 20 48.2 -0.5**
MORC IAmb IAmb 01 20 49.9
comp=Z,41nm,0.9s
MORC Moravsky Berou 68.46 8 *e*P **P 01 20 48.6 -0.1**
MORC Moravsky Berou 68.46 8 ⇑P **P 01 20 49.1 +0.4**
MORC Moravsky Berou 68.46 8 P **P 01 20 49.1 +0.4**
CLF Chambon-Foret 68.49 19 P **P 01 20 49.3 +0.4**
CLF pP **pP 01 21 08.7 +0.7**
AAA Alma-Ata 68.52 324 *e*P **P 01 20 50.2 +0.9**
comp=Z,14nm,0.5s
AAA Alma-Ata 68.52 324 *e*P **P 01 20 50.1 +0.9**
AAA pmax pmax
comp=Z,14nm,0.5s
MDOK Medeo 68.53 324 *e*P **P 01 20 50.1 +0.7**
MDOK Medeo 68.53 324 *e*P **P 01 20 50.1 +0.7**
ZVC Zvikov 68.54 10 *e*P **P 01 20 49.6 +0.4**
PRVC Isla de Provid 68.64 102 P **P 01 20 50.5 +0.3**
TNSS Tian-Shan 68.67 324 *e*P **P 01 20 51.1 +0.5**
TNSS Tian-Shan 68.67 324 *e*P **P 01 20 51.1 +0.5**
STU Stuttgart 68.69 14 P **P 01 20 50.7 +0.5**
STU Stuttgart 68.69 14 P **P 01 20 50.7 +0.5**
STU pmax pmax
comp=Z,34nm,1.0s
STU Stuttgart 68.69 14 *e*P **P 01 20 50.1 0.0**
comp=Z,85nm,1.0s,baz=351,slow=6.4
WET Wettzell 68.71 11 *e*P **P 01 20 50.6 +0.3**
comp=Z,64nm,1.1s,baz=351,slow=6.4
TREC Trest 68.79 10 *e*P **P 01 20 51.0 +0.2**
TREC Trest 68.79 10 *e*P **P 01 20 51.0 +0.2**
KHC Kasperske Hory 68.79 11 *de*P **P 01 20 51.3 +0.5**
KHC pmax pmax
comp=Z,100nm,1.3s
KHC Kasperske Hory 68.79 11 *e*P **P 01 20 51.4 +0.6**
KHC epP **pP 01 21 11.4 +1.4**
VRAC Vranov 68.86 9 LR LR 01 53 09.5
comp=Z,29nm,18.4s,baz=359,slow=38
VRAC Vranov 68.86 9 *e*P **P 01 20 51.3 +0.1**
VRAC Vranov 68.86 9 ⇑P **P 01 20 52.0 +0.8**
VRAC Vranov 68.86 9 P **P 01 20 51.9 +0.8**
KWP Kalwaria Pacla 68.87 4 *e*P **P 01 20 51.4 +0.1**
MAUC Maruska 68.89 8 *e*P **P 01 20 51.8 +0.4**
SGDS Sogindy 68.91 326 *e*P **P 01 20 52.7 +1.0**
NIE Niedzica 68.98 6 *e*P **P 01 20 52.3 +0.3**
GOMU GeErMu 68.98 308 P **P 01 20 52.8 +0.2**
GOMU pP pP 01 21 10.8 -0.9
GOMU S **S 01 29 51.6 -0.1**
GOMU pmax pmax
comp=Z,16nm,0.9s
GOMU pmax pmax
comp=Z,140nm,4.8s
GOMU LR LR
comp=Z,240nm,18.1s
GOMU LR LR
comp=Z,160nm,20.8s
GOMU LR LR
comp=Z,340nm,18.9s
ECH Echery 69.00 16 P **P 01 20 52.3 +0.2**
ECH IAmb IAmb 01 20 53.3
comp=Z,54nm,0.9s
ECH Echery 69.00 16 P **P 01 20 52.3 +0.2**
ECH pmax pmax
comp=Z,54nm,0.9s
BFO Black Forest 69.03 15 P **P 01 20 52.3 0.0**
BFO IAmb IAmb 01 20 53.3
comp=Z,48nm,1.1s
BFO Black Forest 69.03 15 P **P 01 20 52.3 0.0**
BFO pmax pmax
comp=Z,49nm,1.1s
BFO Black Forest 69.03 15 *e*P **P 01 20 52.2 0.0**
comp=Z,51nm,1.1s,baz=351,slow=6.4
BFO Black Forest 69.03 15 P **P 01 20 51.9 -0.4**
GEC2 GERESS Array S 69.08 11 *e*P **P 01 20 52.7 0.0**
comp=Z,43nm,1.0s,baz=351,slow=6.4
GERES GERESS Array B 69.08 11 P **P 01 20 53.1 +0.4**
comp=Z,20nm,0.8s,baz=347,slow=4.7,SNR=134
GERES PKP2bc 01 48 59.0
comp=Z,0.8nm,0.8s,baz=180,slow=2.0,SNR=6.7
comp=Z,20nm,0.8s
KRUC Moravsky 69.09 9 *e*P **P 01 20 52.6 0.0**
CKRC Cesky Krumlov 69.16 10 *e*P **P 01 20 53.3 +0.2**
CKRC Cesky Krumlov 69.16 10 *e*P **P 01 20 53.3 +0.2**
LANS Liptovska Anna 69.20 7 *e*P **P 01 20 54.3 +1.0**
LANS pmax pmax
comp=Z,32nm,1.0s
JAVC Velka Javorina 69.38 8 *e*P **P 01 20 55.5 +1.0**
FUR Furstenfeldbru 69.52 13 *e*P **P 01 20 55.3 0.0**
comp=Z,101nm,0.9s,baz=351,slow=6.4
KOLS Kolonicke sedl 69.55 5 *e*P **P 01 20 55.6 +0.1**
KOLS pmax pmax
comp=Z,37nm,1.1s
JTS Las Juntas de 69.69 107 LR LR 01 55 13.5
comp=Z,79nm,21.4s,baz=336,slow=39
AAK Ala-Archa 69.71 326 P **P 01 20 59.0 +2.3**
AAK Ala-Archa 69.71 326 LR LR 01 56 36.0
comp=Z,178nm,18.1s,baz=20,slow=40
AAK Ala-Archa 69.71 326 *ce*P **P 01 20 56.7 0.0**
AAK pmax pmax
comp=Z,22nm,1.0s
UBR Ueberruh 69.87 14 *e*P **P 01 20 57.7 +0.1**
comp=Z,50nm,0.9s,baz=351,slow=6.4
KECS Kecovo 69.92 6 *e*P **P 01 20 58.5 +0.8**
KECS pmax pmax
comp=Z,49nm,0.9s
CD2 Chengdu 70.05 298 P **P 01 20 59.5 +0.7**
CD2 pmax pmax
comp=Z,30nm,0.4s
RJOB Jochberg 70.10 12 *e*P **P 01 20 59.8 +0.9**
comp=Z,58nm,0.8s,baz=351,slow=6.4
MOA Molln 70.12 11 *i*P **P 01 20 59.0 0.0**
comp=Z,41nm,1.4s,SNR=26
RETA Rennte 70.14 13 *i*P **P 01 20 59.3 +0.1**
comp=Z,43nm,1.3s,SNR=18
CONA Conrad Observa 70.17 9 *i*P **P 01 20 59.8 +0.4**
comp=Z,74nm,1.2s,SNR=50
BIOA Bad Ischl, Aus 70.22 11 *i*P **P 01 20 59.5 -0.1**
comp=Z,30nm,0.9s,SNR=26
DAVA Damuels 70.24 14 *i*P **P 01 20 59.9 0.0**
comp=Z,23nm,1.0s,SNR=11
DZA Taraz 70.29 328 *e*P **P 01 21 00.8 +0.7**
comp=Z,7.1nm,0.5s
DZA Taraz 70.29 328 *e*P **P 01 21 00.8 +0.7**
DZA pmax pmax
comp=Z,7.0nm,0.5s
KK31 Karatay Array 70.29 329 *i*P **P 01 20 59.3 -0.8**
KKAR Karatay Array 70.29 329 P **P 01 21 01.4 +1.3**
KKAR Karatay Array 70.29 329 P **P 01 21 01.4 +1.3**
MOTA Moosalm 70.31 13 *i*P **P 01 21 00.4 0.0**
comp=Z,72nm,1.4s,SNR=38
WATA Walderalm 70.37 13 *i*P **P 01 21 00.9 +0.2**
comp=Z,88nm,1.0s,SNR=51
LESA Schwarzleotal 70.40 12 *i*P **P 01 21 00.9 +0.1**
comp=Z,56nm,0.9s,SNR=31
RONA Rosalia, Austr 70.44 9 *i*P **P 01 21 01.3 +0.3**
comp=Z,28nm,0.9s,SNR=29
SQTA Sankt Quirin 70.45 13 *i*P **P 01 21 01.4 +0.3**
comp=Z,107nm,0.9s,SNR=66
WTTA Wattenberg 70.45 13 *i*P **P 01 21 01.3 +0.1**
comp=Z,78nm,0.8s,SNR=68
PSZ Piszkesteto 70.45 7 IAmb IAmb 01 21 02.8
comp=Z,62nm,1.0s
PSZ Piszkesteto 70.45 7 ⇑P **P 01 21 02.1 +1.0**
PSZ Piszkesteto 70.45 7 *e*P **P 01 21 01.6 +0.6**
PSZ Piszkesteto 70.45 7 P **P 01 21 02.0 +1.0**
SRO Srobarova 70.46 8 *e*P **P 01 21 02.0 +1.0**
SRO pmax pmax
comp=Z,36nm,1.0s
SORM Soroca 70.48 1 ⇑P **P 01 21 00.7 -0.5**
SORM Soroca 70.48 1 P **P 01 21 00.6 -0.5**
BRLS Boroldav 70.52 330 *e*P **P 01 21 03.1 +1.5**
BRLS Boroldav 70.52 330 *e*P **P 01 21 03.0 +1.5**
FETA Feichten 70.59 13 *i*P **P 01 21 02.4 +0.3**
comp=Z,64nm,1.0s,SNR=45
KBA Koelnbreinsper 70.80 11 *i*P **P 01 21 04.0 +0.6**
comp=Z,137nm,0.9s,SNR=88
ARSA Arzberg 70.82 10 *i*P **P 01 21 03.7 +0.4**
comp=Z,34nm,1.0s,SNR=17
SENIN Lac Senin/Sane 70.83 16 IAmb IAmb 01 21 05.1
comp=Z,39nm,0.9s
BMR Baia Mare 70.85 4 ⇑P **P 01 21 04.2 +0.7**
BMR Baia Mare 70.85 4 P **P 01 21 04.1 +0.7**
TAOE Nuku Hiva Isla 70.87 169 *e*LR LR 01 42 37.9
comp=Z,233nm,31.2s
FUORN Ofenpass-Fuorn 70.94 14 IAmb IAmb 01 21 06.1
comp=Z,64nm,1.0s
BURAR Bucovina Array 70.96 3 P **P 01 21 04.3 +0.1**
BURAR Bucovina Array 70.96 3 ⇑P **P 01 21 04.3 +0.1**
BURAR Bucovina Array 70.96 3 P **P 01 21 04.2 0.0**
TUE Stuetta 70.98 14 IAmb IAmb 01 21 06.3
comp=Z,59nm,0.8s
ABTA Abfaltersbach 71.05 12 *i*P **P 01 21 04.7 -0.1**
comp=Z,29nm,1.2s,SNR=18
BSZH Besenyszg 71.09 6 ⇑P **P 01 21 05.5 +0.7**
MYKA Terra Mystica 71.27 11 *i*P **P 01 21 05.9 -0.2**
comp=Z,33nm,1.0s,SNR=20
SOKA Soboth 71.35 10 *i*P **P 01 21 06.5 0.0**
comp=Z,33nm,1.0s,SNR=35
MESR Meseseni 71.36 4 ⇓P **P 01 21 07.3 +0.9**
PERS Pernice 71.40 10 *i*P **P 01 21 06.8 0.0**
ARCR ARCALIA 71.47 3 ⇑P **P 01 21 08.0 +0.9**
OBKA Obir 71.47 11 *i*P **P 01 21 07.4 +0.1**
comp=Z,162nm,0.9s,SNR=134
SSB Saint Sauveur 71.51 18 P **P 01 21 07.6 +0.1**
BEHE Becsehely 71.69 9 *e*P **P 01 21 08.9 +0.4**
MILM Milestii Mici 71.70 0 ⇑P **P 01 21 07.0 -1.6**
MILM Milestii Mici 71.70 0 P **P 01 21 06.9 -1.6**
DRGR 71.71 5 ⇑P **P 01 21 08.1 -0.6**
DRGR 71.71 5 P **P 01 21 08.1 -0.6**
SJG San Juan 71.75 86 P **P 01 21 09.1 -0.1**
comp=Z,15nm,0.8s,baz=46,slow=2.9,SNR=4.5
SJG LR LR 01 54 16.9
comp=Z,135nm,20.0s,baz=348,slow=37
comp=Z,15nm,0.8s
MARR Marisel-Cluj 71.84 4 ⇑P **P 01 21 09.6 +0.1**
SABO M.te Sabotino 71.92 11 IAmb IAmb 01 21 10.3
comp=Z,51nm,0.9s
LJU Ljubljana 71.94 11 *i*P **P 01 21 09.6 -0.4**
VASR Vaslui 71.97 1 ⇑P **P 01 21 09.9 -0.3**
BNI Bardonecchia 72.04 17 IAmb IAmb 01 21 13.1
comp=Z,72nm,1.0s
BRU2 Volcan 72.05 105 IAmb IAmb 01 21 12.9
comp=Z,53nm,1.0s
MORH Mrgy, Hungar 72.08 8 *e*P **P 01 21 10.3 -0.5**
MORH Mrgy, Hungar 72.08 8 ⇑P **P 01 21 11.0 +0.2**
PURM Purcari 72.09 359 ⇑P **P 01 21 10.5 -0.4**
TESR Tescani 72.09 2 ⇑P **P 01 21 10.6 -0.3**
SIRR Siria 72.19 5 ⇑P **P 01 21 11.9 +0.4**
KSH Kashi 72.21 324 P P 01 21 16.8 +4.9
KSH PcP pP 01 21 32.9 +1.8
KSH pmax pmax
comp=Z,16nm,0.9s
ONER Baraj Valea Uz 72.26 2 ⇑P **P 01 21 12.6 +0.6**
PGAV Gavieira, Arco 72.32 28 *e*P **P 01 21 13.3 +0.9**
PGAV *i* IAmb IAmb 01 21 15.1
comp=Z,133nm,1.6s
TEOL Teolo 72.34 13 IAmb IAmb 01 21 13.2
comp=Z,119nm,1.0s
BIR Birlad 72.35 1 ⇓P **P 01 21 12.7 +0.2**
BIR Birlad 72.35 1 P **P 01 21 12.6 +0.2**
OZLJ Ozalj 72.44 10 *e*P **P 01 21 12.6 -0.3**
OZUR 72.49 2 ⇑P **P 01 21 14.0 +0.6**
BOSR Bodos 72.51 3 ⇑P **P 01 21 14.1 +0.7**
BOJS Bojanci 72.53 10 *i*P **P 01 21 13.1 -0.5**
TURR Turia 72.54 2 ⇑P **P 01 21 14.2 +0.6**
MOSL Moslavina 72.54 9 *e*P **P 01 21 13.1 -0.5**
DOPR Dopca 72.61 3 ⇑P **P 01 21 14.6 +0.6**
PCAB Cabril 72.62 28 *e*P **P 01 21 15.4 +1.2**
PCAB *i* IAmb IAmb 01 21 16.8
comp=Z,81nm,1.5s
SURR Surduc 72.72 5 ⇓P **P 01 21 14.8 +0.2**
PANC Panciu 72.74 1 ⇓P **P 01 21 14.6 -0.1**
VRI Vrincioaia 72.74 2 ⇑P **P 01 21 15.1 +0.3**
VRI Vrincioaia 72.74 2 P **P 01 21 15.0 +0.3**
COVR Voineasa-Covas 72.75 2 ⇑P **P 01 21 15.6 +0.7**
PLOR Plostina 72.75 2 ⇑P **P 01 21 14.4 -0.5**
PLOR Plostina 72.75 2 P **P 01 21 14.3 -0.5**
VLDR Vladesti 72.77 1 ⇑P **P 01 21 14.8 -0.1**
PRMA PARMA 72.78 14 IAmb IAmb 01 21 16.6
comp=Z,65nm,1.1s
PBRG Braganca 72.81 27 *e*P **P 01 21 16.1 +0.8**
PBRG *i* IAmb IAmb 01 21 18.1
comp=Z,78nm,1.5s
BZS Buzias 72.83 5 ⇑P **P 01 21 15.4 +0.1**
BZS Buzias 72.83 5 P **P 01 21 15.4 +0.1**
DOBI Odobesti 72.84 2 ⇓P **P 01 21 16.2 +0.8**
TNR Turnu Rosu 72.90 4 ⇓P **P 01 21 15.8 0.0**
TNR Turnu Rosu 72.90 4 P **P 01 21 15.7 0.0**
POLO Lamas de Olo 72.99 28 *e*P **P 01 21 17.5 +1.1**
POLO *i* IAmb IAmb 01 21 19.1
comp=Z,53nm,1.5s
BRJN Brijuni 72.99 11 *e*P P 01 21 11.2 -5.0
BANR Banloc 73.05 6 ⇑P **P 01 21 17.3 +0.8**
NEGRR Negrea 73.08 1 ⇑P **P 01 21 17.0 +0.3**
LOT Lotru 73.09 4 ⇑P **P 01 21 16.4 -0.5**
MLR Muntele Rosu 73.10 2 IAmb IAmb 01 21 19.5
comp=Z,80nm,1.8s
MLR Muntele Rosu 73.10 2 ⇑P **P 01 21 16.6 -0.5**
MLR Muntele Rosu 73.10 2 P **P 01 21 16.5 -0.5**
PVRL Vila Real 73.10 28 *e*P **P 01 21 17.9 +0.8**
PVRL *i* IAmb IAmb 01 21 19.6
comp=Z,128nm,1.6s
GZR Gura Zlata 73.11 5 ⇓P **P 01 21 17.0 0.0**
GZR Gura Zlata 73.11 5 P **P 01 21 17.0 0.0**
ARR Arges 73.19 3 ⇑P **P 01 21 17.9 +0.4**
MVO Moncorvo 73.36 28 *e*P **P 01 21 19.2 +0.6**
TLCR 73.44 0 ⇑P **P 01 21 18.8 -0.1**
TLCR 73.44 0 P **P 01 21 18.7 -0.1**
BLY Banja Luka 73.44 9 *e*P **P 01 21 18.4 -0.5**
BLY Banja Luka 73.44 9 ⇑P **P 01 21 18.8 0.0**
CFR Carcaliu 73.44 1 ⇑P **P 01 21 18.8 0.0**
CFR Carcaliu 73.44 1 P **P 01 21 18.8 0.0**
PVIS Viseu 73.59 28 *e*P **P 01 21 20.5 +0.5**
SIM Simferopol' 73.59 356 *e*P **P 01 21 17.6 -2.2**
SIM *e* 01 21 35.0
SIM *e* 01 24 04.0
SIM *e*S **SKiKP 01 30 39.0 -3.2**
SIM pmax pmax
comp=Z,50nm,1.3s
SIM MLR MLR
comp=Z,2µm,21.6s
HERR Herculane 73.60 5 ⇑P **P 01 21 19.7 -0.1**
CEST Esterri de Car 73.61 21 IAmb IAmb 01 21 21.7
comp=Z,49nm,1.2s
MDVR Moldovita 73.67 5 ⇑P **P 01 21 20.3 0.0**
TPGR Topolog 73.76 1 ⇑P **P 01 21 20.6 -0.2**
JURR Jurilovca 73.86 0 ⇑P **P 01 21 19.8 -1.5**
SULR 73.92 2 ⇑P **P 01 21 21.2 -0.4**
HARR Harsova 73.93 1 ⇑P **P 01 21 21.6 -0.1**
HARR Harsova 73.93 1 P **P 01 21 21.6 -0.1**
COI Coimbra 73.96 29 IAmb IAmb 01 21 23.4
comp=Z,124nm,1.1s
COI Coimbra 73.96 29 *e*P **P 01 21 22.3 +0.3**
COI *i* IAmb IAmb 01 21 24.2
comp=Z,179nm,1.6s
MTE Manteigas 73.98 28 IAmb IAmb 01 21 24.0
comp=Z,120nm,1.0s
MTE Manteigas 73.98 28 *e*P **P 01 21 22.9 +0.7**
MTE *i* IAmb IAmb 01 21 24.1
comp=Z,148nm,1.1s
MTE Manteigas 73.98 28 *e*P **P 01 21 22.8 +0.6**
TLBR Topalu 74.07 1 ⇓P **P 01 21 22.6 0.0**
PCAS Casmilo, Conde 74.09 29 *e*P **P 01 21 23.7 +0.9**
PCAS *i* IAmb IAmb 01 21 25.4
comp=Z,179nm,1.5s
KVAR Kislovodsk Arr 74.09 350 LR LR 01 58 06.6
comp=Z,44nm,18.9s,baz=286,slow=39
KIV Kislovodsk 74.09 350 P **P 01 21 22.7 -0.1**
KIV IAmb IAmb 01 21 23.4
comp=Z,51nm,0.8s
KIV Kislovodsk 74.09 350 ⇓P **P 01 21 22.8 -0.1**
KIV Kislovodsk 74.09 350 *e*P **P 01 21 22.1 -0.8**
KIV *e*S **S 01 30 47.4 -2.3**

KIV pmax pmax
comp=Z,49nm,1.1s
KIV MLR MLR
comp=Z,55nm,18.0s
KIJV Kijevo 74.12 9 *eP* **P 01 21 21.8 -1.1**
LEHL Lehliu 74.13 2 ⇓P **P 01 21 22.8 -0.1**
TIRR Tirgusor 74.16 1 IAmb IAmb 01 21 23.9
comp=Z,41nm,1.0s
TIRR Tirgusor 74.16 1 ⇓P **P 01 21 23.1 0.0**
TIRR Tirgusor 74.16 1 P **P 01 21 23.1 0.0**
GAR Garm 74.21 328 IAmb IAmb 01 21 52.3
comp=Z,66nm,1.2s
KBZ Khabaz 74.30 350 P **P 01 21 24.2 +0.4**
comp=Z,20nm,0.9s,baz=340,slow=5.2,SNR=43
KBZ LR LR 01 58 49.7
comp=Z,58nm,18.6s,baz=5.0,slow=40
comp=Z,20nm,0.9s
KBZ Khabaz 74.30 350*d iP* **P 01 21 23.5 -0.4**
KBZ pmax pmax
comp=Z,24nm,0.9s
SHA1 Shidzhatmaz 74.31 350*d iP* **P 01 21 24.0 -0.3**
NCK Nalchik 74.47 349*ce*P **P 01 21 25.6 +0.6**
NCK pmax pmax
comp=Z,59nm,0.9s
BAIL Bailesti 74.50 4 ⇑P **P 01 21 25.0 -0.1**
ICOR Ion Corvin 74.50 1 ⇑P **P 01 21 25.7 +0.6**
MURB Monte Urbino 74.50 12 IAmb IAmb 01 21 28.2
comp=Z,88nm,1.0s
URIC Uribia, Colomb 74.52 94 P **P 01 21 25.7 +0.2**
comp=Z,920nmcomp=Z,77nm,1.4s
PCBR Castelo Branco 74.53 28 *eP* **P 01 21 25.7 +0.4**
PCBR *i* IAmb IAmb 01 21 26.9
comp=Z,96nm,1.3s
PSBE So Bento 74.53 30 *eP* **P 01 21 26.1 +0.7**
PSBE *i* IAmb IAmb 01 21 27.2
comp=Z,106nm,1.4s
PSARD Sardoal 74.60 29 *eP* **P 01 21 26.0 +0.2**
PSARD *i* IAmb IAmb 01 21 27.4
comp=Z,116nm,1.1s
MAK Makhachkala 74.60 346*c iP* **P 01 21 28.3 +2.6**
MAK *e**PP **pP 01 21 44.3 -0.7**
MAK *e**SP **sP 01 21 50.6 -2.4**
MAK *e* 01 24 11.9
MAK *e*PPP PPP 01 26 06.9
MAK *e*S **S 01 31 00.8 +5.7**
MAK *e**SS **SKSac 01 31 25.4 -1.7**
MAK *e*SS **SS 01 35 47.3 +5.3**
MAK pmax pmax
comp=Z,186nm,1.0s
SOC Sochi 74.69 352 *eP* **P 01 21 24.1 -2.1**
SOC *e* 01 24 10.5
SOC *e*PPP PPP 01 25 58.1
SOC *e*S **S 01 30 53.8 -2.3**
SOC *e*SS **SS 01 35 48.5 +5.1**
SOC pmax pmax
comp=Z,28nm,0.8s
CRJC Cerrejon, Guaj 74.69 95 P **P 01 21 25.0 -1.7**
comp=Z,2µmcomp=Z,735nmcomp=Z,68nm,1.3s
RUDO Rudo 74.71 7 *eP* **P 01 21 26.7 +0.4**
PZH PanZhiHua 74.75 298 P **P 01 21 26.3 -0.7**
PZH pmax pmax
comp=Z,30nm,0.9s
GUMA Gualdo di Mace 74.78 12 IAmb IAmb 01 21 39.7
comp=Z,51nm,0.9s
FDMO Fiordimonte 74.78 12 IAmb IAmb 01 21 28.1
comp=Z,43nm,1.0s
CASP Castiglione de 74.79 14 IAmb IAmb 01 21 27.6
comp=Z,54nm,1.2s
BOVS Bovan 74.81 6 ⇓P **P 01 21 26.8 -0.1**
CHGR Chuyangaron 74.82 329 IAmb IAmb 01 21 31.7
comp=Z,82nm,0.9s
SIMJ Simiganj 74.86 329 P **P 01 21 27.6 +0.1**
SIMJ IAmb IAmb 01 21 57.1
comp=Z,54nm,1.1s
PMRV Marv??o 74.94 28 *eP* **P 01 21 27.6 -0.1**
PMRV *i* IAmb IAmb 01 21 29.9
comp=Z,70nm,1.6s
PMAFR Mafra 74.95 30 *eP* **P 01 21 28.4 +0.6**
PMAFR *i* IAmb IAmb 01 21 29.3
comp=Z,309nm,1.0s
NRCA Norcia 74.98 12 IAmb IAmb 01 21 29.4
comp=Z,66nm,1.2s
ARGC Ariguani, Magd 75.06 97 P **P 01 21 24.6 -4.1**
comp=Z,2µmcomp=Z,76nm,1.1s
PMTG Montargil 75.09 29 *eP* **P 01 21 28.9 +0.3**
PMTG *i* IAmb IAmb 01 21 29.9
comp=Z,83nm,1.3s
UPM Unac-Piva 75.09 8 ⇑*iP* **P 01 21 27.7 -1.1**
KLINJ Klinje 75.11 8 *eP* **P 01 21 26.4 -2.3**
PARRA Arraiolos 75.14 30 *eP* **P 01 21 30.1 +1.2**
PARRA *i* IAmb IAmb 01 21 31.4
comp=Z,71nm,1.4s
PLVB Pleven 75.17 3 ⇑P **P 01 21 28.2 -0.7**
LIS Lisbon 75.20 30 *eP* **P 01 21 29.6 +0.4**
LIS IAmb IAmb 01 21 31.1
comp=Z,130nm,0.9s
LIS Lisbon 75.20 30 *eP* **P 01 21 30.0 +0.8**
LIS *i* IAmb IAmb 01 21 31.0
comp=Z,184nm,1.2s
LIS Lisbon 75.20 30 *eP* **P 01 21 29.6 +0.4**
BRY Bratogost 75.37 8 ⇑*iP* **P 01 21 29.1 -1.2**
PESTR Estremoz 75.43 29 IAmb IAmb 01 21 31.9
comp=Z,76nm,1.1s
PESTR Estremoz 75.43 29 *eP* **P 01 21 30.4 -0.2**
PESTR *i* IAmb IAmb 01 21 32.0
comp=Z,87nm,1.3s
ESBB Sonseca Array 75.45 26 IAmb IAmb 01 21 32.4
comp=Z,79nm,1.1s
ESDC Sonseca Array 75.45 26 P **P 01 21 31.1 +0.4**
ESDC IAmb IAmb 01 21 32.4
comp=Z,82nm,1.1s
ESDC Sonseca Array 75.45 26 P **P 01 21 31.2 +0.5**
comp=Z,49nm,1.0s,baz=341,slow=5.5,SNR=274
ESDC LR LR 01 56 37.6
comp=Z,83nm,20.9s,baz=345,slow=37
comp=Z,49nm,1.0s
KOME Kolasin 75.48 7 ⇓*iP* **P 01 21 30.2 -0.7**
IVA Berane 75.48 7 ⇓*iP* **P 01 21 29.3 -1.6**
NKME Niksic 75.53 8 ⇑*iP* **P 01 21 30.1 -1.0**
TREB Trebinje 75.54 8 *eP* **P 01 21 30.1 -1.0**
EVO Evora 75.65 29 *eP* **P 01 21 32.2 +0.4**
EVO *i* IAmb IAmb 01 21 33.4
comp=Z,108nm,1.3s
ELND Elena 75.66 2 ⇑P **P 01 21 31.1 -0.7**
APAC Apartado, Choc 75.67 100 P **P 01 21 32.6 +0.4**
comp=Z,1µmcomp=Z,155nm,1.1s
PTAC Punta Ardita, 75.75 102 P **P 01 21 31.4 -1.2**
comp=Z,116nm,0.9s
HCY Herceg Novi 75.82 8 ⇓*iP* **P 01 21 31.7 -1.0**
PDG Podgorica 75.88 8 ⇑P **P 01 21 32.4 -0.6**
PDG Podgorica 75.88 8 ⇓*iP* **P 01 21 32.3 -0.7**
BUM Brajici-Budva 75.99 8 ⇓*iP* **P 01 21 32.9 -0.9**
DRME Dracevica, Mon 76.12 8 ⇓*iP* **P 01 21 33.9 -0.5**
LSA Lhasa 76.15 308 P **P 01 21 32.8 -2.6**
PBEJ Beja 76.17 29 *eP* **P 01 21 35.0 +0.3**
PBEJ *i* IAmb IAmb 01 21 36.3
comp=Z,54nm,1.3s
PBAR Barrancos 76.22 29 *eP* **P 01 21 35.5 +0.5**
PBAR *i* IAmb IAmb 01 21 37.4
comp=Z,150nm,1.5s
MESJ Messejana 76.26 30 *eP* **P 01 21 35.4 +0.1**
MESJ IAmb IAmb 01 21 36.5
comp=Z,42nm,1.0s
MESJ Messejana 76.26 30 *eP* **P 01 21 35.7 +0.4**
MESJ *i* IAmb IAmb 01 21 36.9
comp=Z,56nm,1.2s
MESJ Messejana 76.26 30 *eP* **P 01 21 35.4 +0.1**
UREC San Jos de Ur 76.29 99 P **P 01 21 31.8 -3.9**
comp=Z,451nmcomp=Z,31nm,1.3s
ULC Ulcinj 76.35 8 ⇓*iP* **P 01 21 34.8 -0.9**
PTEO Sao Teotonio 76.42 30 *eP* **P 01 21 36.3 +0.1**
PTEO *i* IAmb IAmb 01 21 37.9
comp=Z,114nm,1.2s
SKO Skopje 76.46 6 *i* P **P 01 21 36.4 0.0**
PCVE Castro Verde 76.50 30 *eP* **P 01 21 37.2 +0.5**
PCVE *i* IAmb IAmb 01 21 38.3
comp=Z,47nm,1.4s
DBBC Dabeiba 76.61 100 P **P 01 21 35.6 -2.0**
MORF Marmelete 76.67 30 *eP* **P 01 21 37.8 +0.1**
MORF IAmb IAmb 01 21 39.4
comp=Z,95nm,0.9s
MORF Marmelete 76.67 30 *eP* **P 01 21 38.2 +0.6**
MORF *i* IAmb IAmb 01 21 39.3
comp=Z,128nm,1.1s
MORF Marmelete 76.67 30 *eP* **P 01 21 37.8 +0.1**

PFVI Vila Bisbo 76.79 30 *eP* **P 01 21 38.8 +0.6**
PFVI *i* IAmb IAmb 01 21 40.0
comp=Z,134nm,1.1s
PVAQ Vaqueiros 76.80 29 *eP* **P 01 21 39.3 +1.0**
PVAQ *i* IAmb IAmb 01 21 40.2
comp=Z,126nm,1.3s
ZARC Zaragoza, Cauc 76.83 99 P P 01 21 29.9 -8.9
comp=Z,4µmcomp=Z,85nm,1.1s
PBDV Barranco-do-Ve 76.90 30 *eP* **P 01 21 39.8 +0.8**
PBDV *i* IAmb IAmb 01 21 41.1
comp=Z,146nm,1.2s
OCAC Ocana 76.91 97 P **P 01 21 39.4 0.0**
comp=Z,2µmcomp=Z,151nm,1.0s
PAOL Paolisi 76.91 11 IAmb IAmb 01 21 39.6
comp=Z,66nm,1.5s
CTYL Yalikoy Yolu 77.14 1 ⇑P **P 01 21 40.4 +0.3**
VAY Valandovo 77.16 5 *i* P **P 01 21 40.0 -0.2**
OHR Ohrid 77.29 6 *i* P **P 01 21 40.9 -0.2**
KLYT Kilyos 77.37 0 ⇑P **P 01 21 41.6 +0.2**
TNCH TengChong 77.40 300 P **P 01 21 40.8 -1.3**
TNCH S **S 01 31 23.8 -3.0**
TNCH pmax pmax
comp=Z,240nm,4.1s
RDO Rodhopi 77.43 3 IAmb IAmb 01 21 43.1
comp=Z,50nm,1.0s
MATE Matera 77.47 10 ⇑P **P 01 21 42.2 +0.2**
MATE Matera 77.47 10 *eP* **P 01 21 41.8 -0.2**
SDV Santo Domingo 77.61 94 P **P 01 21 43.8 +0.4**
SDV IAmb IAmb 01 21 44.8
comp=Z,95nm,1.1s
SDV Santo Domingo 77.61 94 P **P 01 21 44.0 +0.6**
comp=Z,42nm,0.8s,baz=349,slow=3.2,SNR=35
SDV LR LR 01 58 32.5
comp=Z,159nm,19.6s,baz=312,slow=38
comp=Z,42nm,0.8s
SDV Santo Domingo 77.61 94 *eP* **P 01 21 43.5 +0.1**
SDV Santo Domingo 77.61 94 P **P 01 21 44.3 +0.9**
comp=Z,1µmcomp=Z,77nm,1.0s
FNA Florina 77.64 6 IAmb IAmb 01 21 43.6
comp=Z,45nm,1.1s
HELC Santa Helena 77.66 100 P **P 01 21 42.8 -1.0**
comp=Z,539nmcomp=Z,41nm,1.1s
GNI Garni 77.68 348 P **P 01 21 44.2 +0.7**
GNI Garni 77.68 348 LR LR 02 01 16.0
comp=Z,50nm,18.7s,baz=15,slow=40
GNI Garni 77.68 348*de*P **P 01 21 44.1 +0.7**
GNI pmax pmax
comp=Z,43nm,1.7s
ALN Alexandroupoli 77.69 2 IAmb IAmb 01 21 44.3
comp=Z,67nm,0.9s
QIZ Qiongzhong 77.73 287 P **P 01 21 45.8 +2.0**
QIZ sP **sP 01 22 07.5 -3.8**
QIZ S **S 01 31 36.9 +6.8**
QIZ LR LR
comp=Z,190nm,23.7s
QIZ LR LR
comp=Z,270nm,21.0s
QIZ LR LR
comp=Z,270nm,34.1s
SAHE Sakarya_HENDEK 77.76 359 ⇑P **P 01 21 43.7 +0.1**
BRJC Barrancabermej 77.81 98 P **P 01 21 41.6 -2.6**
comp=Z,2µmcomp=Z,131nm,0.9s
PTBC PUERTO BERRIO, 77.86 99 P **P 01 21 42.8 -1.7**
comp=Z,830nmcomp=Z,78nm,0.9s
VSL Villasalto 77.86 15 IAmb IAmb 01 21 45.4
comp=Z,41nm,1.1s
CAVK Edirne/Enez-Ca 77.90 2 ⇑P **P 01 21 44.7 +0.3**
PAMC Pamplona, Colo 77.98 97 P **P 01 21 44.3 -1.5**
CART Cartagena 78.06 24 IAmb IAmb 01 21 46.5
comp=Z,57nm,1.1s
MDUB Mudurnu 78.13 358 IAmb IAmb 01 21 50.5
comp=Z,76nm,1.0s
BAND Balkesir-Ban 78.26 1 ⇑P **P 01 21 46.7 +0.3**
SLVN Son La 78.36 293 P **P 01 21 47.5 +0.2**
LIT Litokhoron 78.38 5 IAmb IAmb 01 21 47.7
comp=Z,40nm,0.9s
BARC Barichara 78.41 98 P **P 01 21 46.9 -0.9**
NORC Norcasia 78.52 100 P **P 01 21 46.9 -1.3**
comp=Z,1µmcomp=Z,160nm,1.0s
GUY2C Guyana, Caldas 78.58 100 P **P 01 21 46.6 -2.5**
comp=Z,548nmcomp=Z,58nm,1.1s
PMPST Porto Santo, M 78.62 38 *eP* **P 01 21 49.3 +0.7**
PMPST *i* IAmb IAmb 01 21 49.8
comp=Z,141nm,1.1s
PMPS Porto Santo 78.64 38 *eP* **P 01 21 49.3 +0.7**
PMPS *i* IAmb IAmb 01 21 50.0
comp=Z,87nm,1.1s
ANTO Ankara 78.70 357 P **P 01 21 49.1 +0.1**
ANTO IAmb IAmb 01 21 50.3
comp=Z,54nm,0.8s
ANTO Ankara 78.70 357 ⇑P **P 01 21 49.6 +0.6**
ANTO Ankara 78.70 357 P **P 01 21 49.6 +0.6**
KBL Kabul 78.75 327 P **P 01 21 52.1 +2.6**
KBL Kabul 78.75 327 P **P 01 21 52.1 +2.6**
KBL pmax pmax
comp=Z,8.0nm,1.0s
EZN Ezine 78.77 2 ⇑P **P 01 21 49.0 -0.2**
PMAR Madeira 78.79 38 *eP* **P 01 21 51.2 +1.5**
PMAR *i* IAmb IAmb 01 21 51.8
comp=Z,105nm,1.2s
SPBC San Pablo de B 78.81 99 P **P 01 21 45.4 -4.5**
comp=Z,866nmcomp=Z,89nm,1.4s
BR131 Keskin Array S 78.83 356*d iP* **P 01 21 49.3 -0.4**
BRTR Keskin Array B 78.83 356 P **P 01 21 49.5 -0.2**
BRTR Keskin Array B 78.83 356 P **P 01 21 49.6 -0.1**
comp=Z,15nm,0.9s,baz=22,slow=3.2,SNR=79
BRTR PKKPbc **PKKPbc 01 40 40.5 +0.9**
comp=Z,1.5nm,1.1s,baz=160,slow=4.6,SNR=4.5
comp=Z,15nm,0.9s
FUL Funchal 78.86 38 *eP* **P 01 21 50.7 +0.9**
FUL *i* IAmb IAmb 01 21 51.9
comp=Z,116nm,1.9s
TIP Timpagrande 78.94 10 ⇑P **P 01 21 50.1 -0.2**
PPT Papeete 79.04 179 LR LR 01 51 33.7
comp=Z,148nm,19.2s,baz=353,slow=32
PPT2 Papeete2 79.06 179 *e*LR LR 01 46 24.9
comp=Z,196nm,35.5s
PPT2 *e*LR LR 01 46 25.9
comp=Z,194nm,23.8s
RUSC La Rusia 79.07 98 P **P 01 21 49.2 -2.6**
comp=Z,3µmcomp=Z,235nm,1.3s
ANIL Santa Ana 79.21 101 P **P 01 21 50.0 -2.3**
YOTC Yotoco, Valle 79.21 102 P **P 01 21 51.1 -1.0**
comp=Z,766nmcomp=Z,62nm,1.2s
PCRV Puerto La Cruz 79.34 88 LR LR 01 56 48.0
comp=Z,83nm,21.9s,slow=35
ROSC El Rosal 79.41 100 IAmb IAmb 01 21 55.2
comp=Z,107nm,1.2s
ROSC El Rosal 79.41 100 P **P 01 21 54.2 +0.7**
comp=Z,59nm,1.1s,baz=42,slow=1.4,SNR=28
ROSC LR LR 02 00 38.9
comp=Z,168nm,19.5s,baz=334,slow=38
comp=Z,59nm,1.1s
ROSC El Rosal 79.41 100 P **P 01 21 54.1 +0.7**
comp=Z,815nmcomp=Z,76nm,1.2s
KIRS Kirsehir-Merke 79.41 356 ⇑P **P 01 21 53.3 +0.4**
EKMS Oued Kramis 79.60 23 P **P 01 21 56.9 +3.1**
BNN Bunyan 79.61 355 IAmb IAmb 01 21 55.4
comp=Z,45nm,0.9s
GEVA Gevas 79.66 349 IAmb IAmb 01 21 56.5
comp=Z,42nm,0.9s
ABKD Sidi Amar 79.69 22 P **P 01 21 54.4 +0.1**
ABKD P **PcP 01 21 55.3 -6.6**
JAMC Jamundi, Valle 79.73 102 P **P 01 21 53.8 -1.2**
comp=Z,1µmcomp=Z,99nm,1.2s
EBNR Beni Rached 79.79 22 P **P 01 21 56.2 +1.3**
ORTC Ortega, Tolima 79.79 101 P **P 01 21 54.5 -0.6**
comp=Z,901nmcomp=Z,95nm,1.0s
CVER Cruz Verde, Cu 79.80 100 P **P 01 21 54.9 -0.8**
ATKB Taksebt 79.86 20 P **P 01 21 55.2 0.0**
EARB Arib 79.86 22 P **P 01 21 55.3 0.0**
EHRZ Djelida 79.98 22 P **P 01 21 56.1 +0.2**
CBOS Bilal Ibnou Ra 80.09 18 P **P 01 21 56.6 +0.2**
MANT Manisa 80.12 0 IAmb IAmb 01 21 57.4
comp=Z,41nm,0.9s
CTCHA Tamokra 80.19 20 P **P 01 21 57.0 0.0**
EDDR Deurdeur 80.19 22 P **P 01 21 55.3 -1.8**
OLHC Oulhaca 80.23 25 P **P 01 21 57.6 +0.3**
ADJB Djebel Djouab 80.25 21 P **P 01 21 57.7 +0.2**
CBHR Beni Haroun da 80.31 18 P **P 01 21 57.9 +0.3**
POPC Popayan, Colom 80.33 103 P **P 01 21 55.3 -3.0**
comp=Z,658nmcomp=Z,58nm,1.1s
VILC Villavicencio, 80.34 99 P **P 01 21 56.8 -1.4**
comp=Z,352nmcomp=Z,44nm,0.9s
ODJA Bouhanifia 80.41 24 P **P 01 21 58.4 +0.2**

CBOGS Bougous 80.48 17 P **P 01 21 59.2 +0.7**
BBAC Balboa, Cauca 80.52 104 P **P 01 21 58.7 -0.6**
comp=Z,460nmcomp=Z,36nm,0.9s
HNR Honiara 80.56 229 LR LR 01 52 30.6
comp=Z,54nm,21.2s,baz=5.0,slow=32
EBGR Bougara 80.57 22 P **P 01 21 59.4 +0.3**
CBST Bordj Sabath 80.58 18 P **P 01 21 59.7 +0.5**
COAT Oued Athmania 80.63 19 P **P 01 22 00.2 +0.7**
CASM Ain Smara 80.64 18 P P 01 21 53.6 -5.9
ABRIN Birine 80.72 21 P **P 01 21 59.7 -0.2**
OBBL Beni Bahdel 80.74 25 P **P 01 22 00.4 +0.3**
DAV Davao City (W) 80.75 268 LR LR 01 55 09.3
comp=Z,54nm,21.5s,baz=168,slow=34
BETC Betania 80.78 102 P **P 01 21 58.7 -1.7**
ISP Isparta 80.79 359 IAmb IAmb 01 22 00.7
comp=Z,60nm,0.9s
ISP Isparta 80.79 359*d iP* **P 01 21 59.6 -0.7**
ISP pmax pmax
comp=Z,48nm,0.9s
AVE Averroes 80.79 30 P **P 01 22 00.9 +0.6**
CSGS Sigus 80.80 18 P **P 01 22 00.7 +0.3**
CTEI Djebel Teioual 80.82 18 P **P 01 22 00.8 +0.3**
MARD Mardin 80.84 351 P **P 01 22 01.1 +0.5**
MARD IAmb IAmb 01 22 02.2
comp=Z,87nm,0.8s
CRUC La Cruz 81.05 103 P **P 01 21 59.8 -2.5**
comp=Z,1µm,2.9s
GCUF Volcan Galeras 81.17 104 P **P 01 22 01.3 -1.8**
comp=Z,20nm,1.5s
EADEB Ain Deheb 81.19 23 P **P 01 22 02.1 -0.4**
CMBC Cumbal 81.20 105 P **P 01 22 00.6 -2.6**
GAZ Gaziantep 81.22 353 P **P 01 22 02.9 +0.3**
EZEK Zmalet El Emir 81.31 22 P **P 01 22 02.5 -0.6**
PAC1 Pacto, Paraso 81.35 106 P **P 01 21 59.1 -4.5**
comp=Z,53nm,0.7s
TULM Tulcn-Chalpat 81.42 105 P **P 01 22 04.0 -0.4**
comp=Z,160nm,1.1s
CUSE Cuicocha Este 81.50 105 P **P 01 22 04.4 -0.3**
comp=Z,71nm,1.3s
CKTS El Kantara 81.53 19 P **P 01 22 04.8 +0.6**
OTAV Otavalo 81.53 105 P **P 01 22 05.1 +0.1**
OTAV Otavalo 81.53 105 P **P 01 22 05.6 +0.7**
OTAV Otavalo 81.53 105 *eP* **P 01 22 04.0 -0.9**
OTAV Otavalo 81.53 105 P **P 01 22 02.8 -2.1**
comp=Z,599nmcomp=Z,30nm,1.9s
KEST Kesra 81.56 16 P **P 01 22 04.8 +0.4**
KEST IAmb IAmb 01 22 05.8
comp=Z,61nm,1.0s
KEST Kesra 81.56 16 P **P 01 22 05.0 +0.5**
comp=Z,50nm,1.0s,baz=323,slow=2.3,SNR=53
KEST pP **pP 01 22 25.5 +1.5**
comp=Z,8.4nm,0.5s,baz=309,slow=4.2,SNR=3.3
KEST LR LR 02 01 36.3
comp=Z,80nm,20.3s,baz=23,slow=38
comp=Z,50nm,1.0s
FLOC Florencia 81.64 102 P **P 01 22 05.0 0.0**
FLOC IAmb IAmb 01 22 06.2
comp=Z,116nm,1.1s
FLOC Florencia 81.64 102 P **P 01 22 03.2 -1.8**
comp=Z,1µmcomp=Z,96nm,1.2s
BONI La Bonita 81.77 105 P **P 01 22 05.1 -0.8**
comp=Z,863nmcomp=Z,60nm,1.1s
MD01 Midelt array s 81.82 28 P **P 01 22 06.8 +0.8**
MD31 MD31 81.82 28 P **P 01 22 06.5 +0.6**
MD31 IAmb IAmb 01 22 07.9
comp=Z,74nm,0.9s
EASA Ain Sidi Ali 81.87 23 P **P 01 22 06.3 +0.2**
MDT Midelt 81.91 28 LR LR 01 59 59.6
comp=Z,42nm,19.5s,baz=5.5,slow=37
MACC Macarena, Meta 81.99 100 P **P 01 22 03.6 -3.2**
comp=Z,46nm,1.0s
PPLP Puerto Lpez 82.05 108 P **P 01 22 06.2 -0.9**
comp=Z,1µmcomp=Z,115nm,1.1s
JAY Jayapura 82.14 250 LR LR 01 53 20.8
comp=Z,94nm,21.9s,baz=13,slow=32
BRDH Bariadhala 82.28 304 LR LR 02 03 02.6
comp=Z,316nm,19.7s,baz=26,slow=39
AKAS Kas 82.38 360 IAmb IAmb 01 22 08.8
comp=Z,68nm,1.1s
ARG Arkhangelos 82.39 1 IAmb IAmb 01 22 08.2
comp=Z,85nm,0.8s
CNGR Negrine 82.54 18 P **P 01 22 09.6 +0.1**
PIAT Ana Tenorio 82.71 106 P **P 01 22 08.9 -2.1**
comp=Z,610nmcomp=Z,48nm,1.1s
RAR Rarotonga 82.96 188 LR LR 01 56 08.3
comp=Z,218nm,18.1s,baz=274,slow=33
CMAR Chiang Mai Arr 83.05 296 P **P 01 22 12.3 +0.1**
CMAR Chiang Mai Arr 83.05 296 P **P 01 22 11.9 -0.4**
comp=Z,1.2nm,0.4s,baz=3.8,slow=6.0,SNR=14
CMAR LR LR 02 02 50.1
comp=Z,154nm,20.1s,baz=25,slow=38
comp=Z,1.2nm,0.4s
CMAR Chiang Mai Arr 83.05 296 P **P 01 22 12.4 +0.1**
PTLC Puerto Leguiza 83.28 102 P **P 01 22 13.1 -0.4**
comp=Z,2µmcomp=Z,174nm,1.2s
COHC Cochancay 83.56 107 P **P 01 22 12.7 -2.2**
comp=Z,573nmcomp=Z,47nm,1.3s
TBI Tubuai 84.79 179 *e*LR LR 01 49 07.1
comp=Z,801nm,27.8s
MCRA Macar, Loja 84.93 109 P **P 01 22 18.0 -3.9**
comp=Z,36nm,1.4s
MMAI Mount Meron Ar 85.45 355 P **P 01 22 23.8 -0.6**
comp=Z,11nm,0.9s,baz=331,slow=5.1,SNR=13
MMAI LR LR 02 06 57.7
comp=Z,34nm,19.8s,baz=336,slow=40
comp=Z,11nm,0.9s
PMG Port Moresby 85.52 241 LR LR 01 55 34.3
comp=Z,165nm,19.2s,baz=34,slow=32
ASF Jabal al Asfar 86.22 353 LR LR 02 05 26.0
comp=Z,26nm,21.7s,baz=54,slow=39
SGC2 Sao Gabriel da 87.24 95 P **P 01 22 30.1 -3.1**
comp=Z,849nmcomp=Z,55nm,1.4s
ATAH Atahualpa 88.08 109 LR LR 02 04 50.3
comp=Z,66nm,21.0s,baz=13,slow=37
BOAV Boa Vista 88.09 89 P **P 01 22 37.8 +0.5**
BOAV IAmb IAmb 01 22 38.5
comp=Z,62nm,1.1s
BOAV Boa Vista 88.09 89 *eP* **P 01 22 37.1 -0.1**
BOAV Boa Vista 88.09 89 P **P 01 22 35.4 -1.9**
MDP Montagnes des 89.45 80 P **P 01 22 43.8 0.0**
comp=Z,28nm,1.0s,baz=323,slow=6.1,SNR=8.1
MDP LR LR 02 02 56.2
comp=Z,52nm,20.5s,baz=334,slow=36
comp=Z,28nm,1.0s
DZM Mont Dzumac 90.22 219 *e*LR LR 01 51 44.6
comp=Z,272nm,27.9s
DZM Mont Dzumac 90.22 219 LR LR 02 00 27.3
comp=Z,42nm,18.1s,baz=26,slow=34
CZSB Cruzeiro do Su 91.20 104 P **P 01 22 51.6 -0.2**
CZSB Cruzeiro do Su 91.20 104 *eP* **P 01 22 51.1 -0.7**
TEFE Tefe 91.29 95 *eP* **P 01 22 52.0 -0.2**
MACA Manacapuru-AM 92.86 91 P **P 01 22 58.9 -0.6**
MACA Manacapuru-AM 92.86 91 *eP* **P 01 22 58.9 -0.6**
SACV Santiago Islan 93.04 50 P **P 01 23 02.5 +2.1**
NNA Nana 93.07 110 LR LR 02 06 56.5
comp=Z,70nm,20.2s,baz=326,slow=37
RAYN Ar Rayn 94.03 345 P **P 01 23 05.0 +0.2**
RAYN IAmb IAmb 01 23 06.1
comp=Z,17nm,0.9s
RAYN Ar Rayn 94.03 345 P **P 01 23 05.1 +0.2**
RAYN pmax pmax
comp=Z,17nm,0.9s
KAPI Kappang 94.07 267 P **P 01 23 04.5 -0.5**
KAPI Kappang 94.07 267 LR LR 01 59 40.8
comp=Z,26nm,21.8s,baz=48,slow=32
KAPI Kappang 94.07 267 P **P 01 23 04.5 -0.5**
KAPI pmax pmax
comp=Z,14nm,1.1s
RPN Rapa Nui 94.67 144 P **P 01 23 09.9 +2.5**
RPN Rapa Nui 94.67 144 LR LR 01 55 53.5
comp=Z,99nm,21.9s,baz=62,slow=29
RPN Rapa Nui 94.67 144 P **P 01 23 09.9 +2.5**
RPN pmax pmax
comp=Z,329nm,1.3s
CTAO Charters Tower 95.51 237 P **P 01 23 12.9 +1.5**
CTAO Charters Tower 95.51 237 P **P 01 23 13.0 +1.5**
CTAO pmax pmax
comp=Z,8.0nm,1.1s
ITTB Itaituba 96.27 88 *eP* **P 01 23 13.9 -1.3**
BATI Baumata 96.75 261 LR LR 02 09 01.3
comp=Z,83nm,18.7s,baz=103,slow=37
PSI Prapat 96.97 289 LR LR 02 12 20.5
comp=Z,161nm,18.7s,baz=9.5,slow=39
EIDS Eidsvold 98.43 231 P Pdif 01 23 26.7 +2.2
EIDS IAmb IAmb 01 26 34.5
comp=Z,50nm,1.9s

NPGB	**Novo Progresso**	**98.79**	**88**	*eP*		**P**		**01 23 25.3**	**-1.1**
LPAZ	**La Paz**	**100.81**	**104**	P		**Pdif**		**01 23 34.4**	**-1.7**
	comp=Z,1.9nm,0.7s,baz=12,slow=14,SNR=11								
LPAZ	**La Paz**	**100.81**	**104**	*eP*		**Pdif**		**01 23 33.5**	**-2.5**
CLDB	**Colider**	**101.91**	**91**	*eP*		**Pdif**		**01 23 40.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**102.29**	**27**	PP		PP		01 27 42.4	-12
	comp=Z,1.9nm,1.2s,baz=353,slow=6.2,SNR=2.9								
TORD				PKKPbc		**PKKPbc**		**01 39 41.7**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=115,slow=2.6,SNR=6.6								
PB02	**IPOC Station P**	**104.39**	**108**	Pdif		**Pdif**		**01 23 51.7**	**+0.5**
AMBA	**Amambai (Brazi**	**112.69**	**96**	*eP*		**Pdif**		**01 24 28.0**	**-0.1**
KMBO	**Kilima Mbogo**	**119.23**	**351**	PKP		**PKPdf**		**01 28 35.1**	**-0.7**
	comp=Z,4.1nm,0.8s,baz=43,slow=4.9,SNR=7.0								
KMBO				pPKP		**pPKPdf**		**01 28 56.2**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=204,slow=15,SNR=2.6								
PLCA	**Paso Flores**	**120.73**	**119**	PKP		**PKPdf**		**01 28 37.0**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=278,slow=1.4,SNR=5.4								
LL01	**San Ignacio de**	**121.34**	**122**			**PKiKP**		**01 28 41.6**	**+2.9**
TSUM	**Tsumeb**	**136.75**	**16**			**PKPdf**		**01 29 08.8**	**+0.1**
GRTLG	**Ghanzi**	**139.29**	**11**	*i* P		PKPpre		01 29 05.4	
GRTLG	**Ghanzi**	**139.29**	**11**	*i* P		PKPpre		01 29 03.5	
KHWEE	**KHWEE**	**140.16**	**5**	*i* P		PKPpre		01 29 07.9	
KOOLE	**Kule**	**140.80**	**13**	*i* P		PKPpre		01 29 08.6	
KOOLE	**Kule**	**140.80**	**13**	*i* P		PKPpre		01 29 09.1	
KGCAE	**Kacgae**	**140.86**	**10**	*i* P		PKPpre		01 29 08.9	
KGCAE	**Kacgae**	**140.86**	**10**	*i* P		PKPpre		01 29 08.3	
PMSA	**Palmer Station**	**141.57**	**136**	PKhKP		PKPpre		01 29 10.8	
	comp=Z,3.2nm,0.6s,baz=294,slow=2.8,SNR=5.3								
PMSA				PKP		**PKPdf**		**01 29 15.6**	**-0.3**
	comp=Z,11nm,0.9s,baz=3.8,slow=2.3,SNR=8.0								
PMSA				SKP				01 32 45.4	
	comp=Z,8.5nm,1.0s,baz=299,slow=3.1,SNR=5.0								
PMSA	**Palmer Station**	**141.57**	**136**	*eP*		**PKPdf**		**01 29 16.3**	**+0.5**
LPHEP	**Lephephe**	**141.59**	**5**	*i* P		PKPpre		01 29 07.7	
VNDA	**Vanda**	**142.00**	**195**			PKPpre		01 29 12.4	
VNDA	**Vanda**	**142.00**	**195**	PKhKP		PKPpre		01 29 11.5	
	comp=Z,1.9nm,0.9s,baz=333,slow=3.5,SNR=8.4								
VNDA				SKPbc		**SKPbc**		**01 32 46.6**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=350,slow=4.8,SNR=3.6								
VNDA	**Vanda**	**142.00**	**195**	PKIKP		PKPpre		01 29 12.4	
LKGWB	**Lokgwabe**	**142.01**	**12**	⇑*i*P		PKPpre		01 29 07.7	
SKOMA	**Sekoma**	**142.63**	**8**	*i* P		PKPpre		01 29 14.9	
SKOMA	**Sekoma**	**142.63**	**8**	*i* P		PKPpre		01 29 14.3	
PHPEN	**Phepeng**	**143.51**	**10**	*i* P		PKPab		01 29 16.7	-0.5
MAKGR	**Makgori**	**143.97**	**7**	*i* P		PKPab		01 29 18.9	-0.1
POGA	**Pongola**	**145.57**	**356**			**PKPbc**		**01 29 24.3**	**-0.2**
CASY	**Casey**	**146.40**	**226**			**PKPbc**		**01 29 25.1**	**-0.6**
BOSA	**Boshof**	**146.78**	**6**	PKPbc		**PKPbc**		**01 29 27.8**	**-0.4**
	comp=Z,44nm,0.9s,baz=5.8,slow=2.2,SNR=60								
BOSA				pPKPbc		pPKPbc		01 29 48.6	-0.1
	comp=Z,47nm,1.0s,baz=348,slow=2.0,SNR=5.9								
SUR	**Sutherland**	**150.15**	**14**	PKPdf		**PKPdf**		**01 29 33.9**	**+2.1**
QSPA	**South Pole Qui**	**151.54**	**180**	PKP		**PKPdf**		**01 29 31.2**	**-1.4**
	comp=Z,8.5nm,1.0s,baz=238,slow=0.6,SNR=11								
QSPA				PKPbc		**PKiKP**		**01 29 41.0**	**+1.7**
	comp=Z,80nm,1.0s,baz=296,slow=0.2,SNR=75								
QSPA				pPKPbc		**pPKPbc**		**01 30 00.1**	**+0.5**
	comp=Z,39nm,0.6s,baz=328,slow=1.8,SNR=5.3								
VNA3	**Neumayer Olymp**	**162.21**	**138**	⇓P		**PKPdf**		**01 29 41.1**	**-5.0**
	comp=Z,3.3nm,0.9s								
VNA3				⇑PKPab		**PKPab**		**01 30 32.4**	**-1.3**
	comp=Z,17nm,0.8s								
VNA1	**Neumayer--Stat**	**162.79**	**137**	⇓PKPab		**PKPab**		**01 30 35.6**	**-0.5**
	comp=Z,19nm,1.0s								
VNA2	**Neumayer--Watz**	**163.01**	**138**	⇓P		**PKPdf**		**01 29 39.7**	**-7.1**
	comp=Z,2.4nm,0.8s,baz=280,slow=1.4								
VNA2				⇑PKPab		**PKPab**		**01 30 36.8**	**-0.3**
	comp=Z,10nm,0.9s,baz=258,slow=22								
SNAA	**Sanae**	**164.16**	**142**	⇓P		PKPdf		01 29 39.4	-8.6
	comp=Z,48nm,0.9s								
SNAA				⇑PKPab		**PKPab**		**01 30 41.7**	**-0.6**
	comp=Z,151nm,1.2s								
SNAA	**Sanae**	**164.16**	**142**			**PKPab**		**01 30 41.7**	**-0.6**
SNAA	**Sanae**	**164.16**	**142**	PKP		**PKPdf**		**01 29 43.6**	**-4.4**
	comp=Z,2.0nm,0.9s,baz=105,slow=2.5,SNR=7.5								
SNAA				PKPab		**PKPab**		**01 30 41.4**	**-0.9**
	comp=Z,7.1nm,1.0s,baz=227,slow=5.2,SNR=11								
SNAA	**Sanae**	**164.16**	**142**	PKP2		**PKPab**		**01 30 41.7**	**-0.6**
TROLL	**Troll, Antarti**	**165.51**	**146**	⇓P		PKPdf		01 29 39.3	-10
	comp=Z,29nm,0.5s								
TROLL				⇑PKPab		**PKPab**		**01 30 47.4**	**-0.9**
	comp=Z,628nm,1.2s								
SYO	**Syowa Base**	**171.50**	**206**	⇑*es*PKPdf		sPKPdf		01 30 22.2	+0.7

*ATH **17** 01:34:25.2, 37.45N×20.77E, h11km±3km, ML2.8/7, Manual Solution by I.Dede First location: 2019/09/17 01:36:02, This location: 2019/09/17 08:56:27 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

*THE **17** 01:34:26.2, 38°N±2°×2°1E±°, h17km±1km, M2.6/11, MLh2.6/11*

ISC 17 01:34:25.4±1.5, 37°50N±0.07×20°80E±0.05, h17km±6km, n22, σ0°67/37, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.17**	**4**	P	**Pg**	**01 34 29.8**	**+0.1**
KRI1				S	**Sg**	**01 34 32.7**	**0.0**
LTHK	**Lithakia**	**0.21**	**8**	P	**Pg**	**01 34 30.4**	**0.0**
LTHK				S	**Sg**	**01 34 33.8**	**-0.1**
LTHK	**Lithakia**	**0.21**	**8**	P	**Pg**	**01 34 30.5**	**0.0**
LTHK				S	**Sg**	**01 34 34.2**	**+0.3**
KYPS	**Kipseli, Zakin**	**0.32**	**3**	P	**Pg**	**01 34 32.6**	**+0.4**
KYPS				S	**Sb**	**01 34 38.4**	**+0.8**
ORTH	**Orthonies,Zaky**	**0.36**	**347**	P	**Pg**	**01 34 32.8**	**-0.2**
ORTH				S	**Sg**	**01 34 38.1**	**0.0**
ORTH	**Orthonies,Zaky**	**0.36**	**347**	P	**Pg**	**01 34 33.0**	**0.0**
ORTH				S	**Sg**	**01 34 38.6**	**+0.5**
CLEM	**Kyllini,Ilia,G**	**0.47**	**34**	P	**Pg**	**01 34 35.4**	**+0.2**
CLEM				S	**Sb**	**01 34 42.3**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.58**	**358**	P	**Pg**	**01 34 36.8**	**-0.1**
RTZL				S	**Sb**	**01 34 45.4**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.64**	**344**	P	**Pg**	**01 34 37.8**	**-0.2**
PSDA				S	**Sb**	**01 34 47.6**	**+0.9**
VLS	**Valsamata**	**0.70**	**346**	P	**Pg**	**01 34 38.5**	**-0.6**
VLS				S	**Sg**	**01 34 47.8**	**-0.6**
VLS	**Valsamata**	**0.70**	**346**	P	**Pg**	**01 34 39.1**	**0.0**
VLS				S	**Sb**	**01 34 49.7**	**+1.2**
ARG2	**Argostoli**	**0.72**	**340**	P	**Pg**	**01 34 39.4**	**-0.2**
RLS	**Riolos of Patr**	**0.77**	**43**	P	**Pg**	**01 34 39.7**	**-0.7**
RLS	**Riolos of Patr**	**0.77**	**43**	P	**Pg**	**01 34 40.0**	**-0.4**
RLS				S	**Sb**	**01 34 51.1**	**+0.7**
DMLN	**Damoulianata-K**	**0.81**	**336**	P	**Pg**	**01 34 40.9**	**-0.4**
DMLN	**Damoulianata-K**	**0.81**	**336**	P	**Pb**	**01 34 41.9**	**+0.8**
DMLN				S	**Sn**	**01 34 53.9**	**+0.1**
DRO	**Drossia**	**0.85**	**58**	P	**Pg**	**01 34 41.3**	**-0.7**
DRO	**Drossia**	**0.85**	**58**	P	**Pg**	**01 34 41.9**	**-0.3**
DRO				S	**Sb**	**01 34 54.4**	**+1.5**
ITM	**Ithomi**	**0.95**	**109**	P	**Pb**	**01 34 43.7**	**+0.3**
ITM				S	**Sb**	**01 34 56.5**	**+0.8**
KLV	**Kalavryta, Ach**	**1.20**	**63**	P	**Pn**	**01 34 47.7**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.22**	**356**	P	**Pn**	**01 34 47.2**	**-0.4**
LKD2	**Lefkada island**	**1.29**	**355**	P	**Pn**	**01 34 46.6**	**-2.1**

CATAC 17 01:49:41.6±0.5, 11°N±2°×8°7W±°, h11km±3km, M3.5/25, MLv3.5/25, Error ellipse: s-maj=5.7km s-min=3.3km az=60.6, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NADN	**Granada**	**0.99**	**44**	P	Pb	01 50 00.8	0.0
NADN				S	Sb	01 50 14.4	+0.6
NANN	**Nandasmo**	**1.08**	**33**	S	Sb	01 50 17.0	+0.4
NANN	**Nandasmo**	**1.08**	**33**	P	Pb	01 50 02.1	-0.3
MAS3	**AI N del Volca**	**1.12**	**29**	P	Pb	01 50 02.4	-0.8
MAS3				S	Sg	01 50 18.2	+0.2
JAPN	**AI SSO del Vol**	**1.14**	**64**	P	Pb	01 50 02.9	-0.5
COPN	**Copaltepe**	**1.15**	**7**	P	Pb	01 50 02.3	-1.2
ABCN	**Banco Central**	**1.16**	**21**	P	Pb	01 50 02.9	-0.8
UNAN	**Cigeo UNAN**	**1.16**	**23**	P	Pb	01 50 03.4	-0.4
UNAN				S	Sb	01 50 18.4	-0.5
SAPS	**Ciudad Sandino**	**1.17**	**16**	P	Pb	01 50 03.5	-0.5
SAPS	**Ciudad Sandino**	**1.17**	**16**	S	Sg	01 50 19.6	+0.1
MORN	**AI O del Volca**	**1.18**	**64**	P	Pb	01 50 03.6	-0.4
MORN				S	Sg	01 50 19.9	+0.3
OMEN	**AI SSO del Vol**	**1.18**	**66**	P	Pb	01 50 03.2	-0.9
ALLN	**Telcor Managua**	**1.20**	**22**	P	Pn	01 50 03.9	-0.5
CONN	**Concepcion**	**1.20**	**64**	P	Pn	01 50 03.8	-0.7
CONN				S	Sb	01 50 20.2	+0.1
MGAN	**Managua**	**1.20**	**23**	P	Pn	01 50 04.3	-0.1
ELI1	**Hacienda Flor**	**1.22**	**108**	S	Sb	01 50 20.6	+0.1
ELI1	**Hacienda Flor**	**1.22**	**108**	P	Pn	01 50 04.0	-0.7
APQ2	**Apoyeque**	**1.22**	**19**	P	Pn	01 50 04.2	-0.6
AMTN	**Mateare**	**1.23**	**14**	P	Pn	01 50 04.1	-0.7
AERN	**Aeropuerto Man**	**1.23**	**26**	P	Pn	01 50 04.6	-0.3
WILN	**Americas 2**	**1.24**	**25**	P	Pn	01 50 04.2	-0.7
APQ3	**Volcan Apoyequ**	**1.28**	**16**	P	Pn	01 50 04.8	-0.8
MOM2	**El Cardon**	**1.42**	**10**	P	Pn	01 50 07.1	-0.2
MOM2				S	Sn	01 50 25.2	-0.9
CNGN	**Cerro Negro**	**1.46**	**1**	P	Pn	01 50 07.4	-0.6
CNGN	**Cerro Negro**	**1.46**	**1**	S	Sb	01 50 27.5	0.0
PLRN	**Geotermica Pol**	**1.54**	**359**	P	Pn	01 50 09.0	-0.1
CMARA	**Lajas Hojancha**	**1.63**	**128**	P	Pn	01 50 10.0	-0.3
INDI	**Punta indio, G**	**1.67**	**134**	P	Pn	01 50 10.4	-0.4
CRIN	**San Cristobal**	**1.69**	**349**	P	Pn	01 50 10.7	-0.5
CRIN	**San Cristobal**	**1.69**	**349**	S	Sn	01 50 33.1	+0.3
ACON	**Acoyapa**	**1.79**	**58**	P	Pn	01 50 12.1	-0.3
JTS	**Las Juntas de**	**1.90**	**113**	P	Pn	01 50 14.4	+0.4
JTS				S	Sn	01 50 38.4	+0.5
RCPN	**Sur Rio San Ju**	**2.56**	**14**	P	Pn	01 50 23.4	+0.2
PANCS	**Alcalda de**	**3.51**	**317**	P	Pn	01 50 36.0	-0.2

IDC 17 02:11:19.0±2.0, 5.78N×122.22E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=240.9km s-min=27.0km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.21**	**155**	P	P	02 17 12.9	-0.8
	0.4nm,0.6s,baz=333,slow=11,SNR=5.5 0.4nm,0.6s						
ASAR	**Alice Springs**	**31.41**	**159**	P	P	02 17 43.0	+0.9
	0.3nm,0.3s,baz=344,slow=6.5,SNR=5.0 0.3nm,0.3s						
MKAR	**Makanchi Array**	**53.35**	**327**	P	P	02 20 40.1	-0.1
	0.4nm,0.5s,baz=120,slow=6.7,SNR=5.8 0.4nm,0.5s						

IDC 17 02:36:46.5±11.0, 6.68S×130.84E, h92km±121km, mb3.0/1, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=71.2km s-min=46.1km az=41.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.43**	**204**	P	Pn	02 39 39.1	-1.0
	0.2nm,0.3s,baz=30,slow=11,SNR=14						
FITZ				S	Sn	02 41 57.6	+0.8
	1.1nm,0.3s,baz=188,slow=20,SNR=6.7 0.5nm,0.3s						
WRA	**Warramunga Arr**	**13.61**	**166**	P	Pn	02 39 55.4	-0.4
	0.1nm,0.3s,baz=343,slow=13,SNR=2.3						
WRA				S	Sn	02 42 26.4	+0.8
	0.4nm,0.5s,baz=355,slow=20,SNR=3.2 0.3nm,0.7s						
ASAR	**Alice Springs**	**17.14**	**170**	P	P	02 40 42.0	+1.3
	0.1nm,0.3s,baz=356,slow=11,SNR=3.2						
ASAR				S	Sn	02 43 51.3	+0.3
	0.6nm,0.8s,baz=3.2,slow=22,SNR=2.9 0.4nm,0.3s						
MKAR	**Makanchi Array**	**68.42**	**326**	P	P	02 47 38.6	0.0
	0.1nm,0.4s,baz=114,slow=8.5,SNR=1.5 0.1nm,0.4s						

*CATAC **17** 02:44:22.7±0.2, 11°N±1°×8°3W±°, h3km, M3.5/21, MLv3.5/21, Error ellipse: s-maj=3.5km s-min=2.5km az=75.6, confirmed*

*UCR **17** 02:44:23.2±0.8, 10.57N×83.52W, h6km±3km, MW3.7, Fault plane solution: NP1:φs=276.73000°, δ37.70000°, λ20.29000°.*

ISC 17 02:44:21.7±1.2, 10.63N±0.02×83.48W±0.03, h11km±10km, n98, σ0.72/107, 3C-22D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CARI	**Cariari**	**0.36**	**224**	⇓*eP*	**Pb**	**02 44 30.4**	**+0.3**
CARI				*eS*	**Sb**	**02 44 35.5**	**-0.3**
PILE	**Guapiles**	**0.51**	**217**	⇓*eP*	**Pb**	**02 44 33.0**	**+0.4**
PILE				*eS*	**Sb**	**02 44 39.8**	**-0.2**
IRES	**Siquirres**	**0.53**	**183**	*eP*	**Pb**	**02 44 33.5**	**+0.5**
LCOCO	**El Coco**	**0.54**	**188**	*eP*	**Pb**	**02 44 33.5**	**+0.3**
LCOCO				*eS*	**Sb**	**02 44 41.3**	**+0.2**
RESJ	**San Isidro (Tu**	**0.61**	**195**	⇓*eP*	**Pb**	**02 44 34.9**	**+0.4**
RESJ				*eS*	**Sb**	**02 44 43.2**	**+0.1**
ABRB	**Las Abras (San**	**0.66**	**201**	⇓*eP*	**Pb**	**02 44 35.4**	**+0.1**
ABRB				*eS*	**Sb**	**02 44 44.1**	**-0.4**
CVTR	**Volcan Turrial**	**0.66**	**205**	⇓*eP*	**Pb**	**02 44 35.3**	**-0.2**
VTR0	**Volcan Turrial**	**0.66**	**205**	⇓*eP*	**Pb**	**02 44 35.4**	**-0.1**
CVTV	**Tajo**	**0.67**	**203**	⇓*eP*	**Pb**	**02 44 35.5**	**-0.2**
CVTQ	**Turrialba Volc**	**0.68**	**205**	⇓*eP*	**Pb**	**02 44 35.7**	**0.0**
VERB	**Verbena**	**0.71**	**197**	⇓*eP*	**Pb**	**02 44 36.2**	**0.0**
VICA	**Volcano Irazu**	**0.73**	**209**	⇓*eP*	**Pb**	**02 44 36.5**	**-0.2**
RAFA	**San Farael, Vo**	**0.74**	**206**	⇓*eP*	**Pb**	**02 44 36.5**	**-0.2**
TURIB	**Turrialba**	**0.74**	**196**	*eP*	**Pb**	**02 44 36.5**	**-0.1**
TURIB				*eS*	**Sg**	**02 44 46.0**	**+0.2**
VERH	**Veragua Rainfo**	**0.75**	**158**	⇑*eP*	**Pb**	**02 44 37.2**	**+0.4**
VERH				*eS*	**Sb**	**02 44 47.4**	**+0.3**
CVIMO	**Finca Echandi**	**0.75**	**217**	*eP*	**Pb**	**02 44 36.7**	**-0.2**
ARTO	**Ro Cuarto**	**0.78**	**249**	*eP*	**Pb**	**02 44 37.4**	**+0.2**
ITAL	**Pital**	**0.80**	**258**	*eP*	**Pb**	**02 44 38.1**	**+0.5**
CORON	**Coronado**	**0.83**	**218**	*eP*	**Pb**	**02 44 38.3**	**+0.1**
VPS5	**V. Poas**	**0.86**	**240**	*eP*	**Pb**	**02 44 38.9**	**+0.2**
VPS8	**V Poas**	**0.87**	**239**	*eP*	**Pb**	**02 44 39.0**	**0.0**
HDC	**Heredia**	**0.88**	**225**	⇓*eP*	**Pb**	**02 44 38.9**	**-0.1**
COVE	**Coope Vega, Sa**	**0.91**	**276**	S	**Sn**	**02 44 52.8**	**-0.7**
COVE	**Coope Vega, Sa**	**0.91**	**276**	P	**Pn**	**02 44 40.8**	**+0.4**
VPL2	**V. Platanar**	**0.94**	**250**	⇓*eP*	**Pn**	**02 44 40.6**	**-0.4**
VPL1	**V. Platanar**	**0.94**	**247**	⇓*eP*	**Pn**	**02 44 40.5**	**+0.3**
BELE	**Belen**	**0.95**	**227**	⇓*eP*	**Pb**	**02 44 40.2**	**0.0**
LAES	**El Progreso Va**	**0.96**	**154**	⇑*eP*	**Pn**	**02 44 40.7**	**-0.4**
TCS1	**Tacares**	**0.99**	**234**	P	**Pn**	**02 44 41.4**	**-0.2**
ZARE	**Zarcero**	**1.00**	**244**	*eP*	**Pb**	**02 44 41.3**	**+0.2**
LCR2	**La Lucha 2**	**1.02**	**211**	P	**Pg**	**02 44 41.2**	**-0.1**
LCR2	**La Lucha 2**	**1.02**	**211**	S	**Sb**	**02 44 55.2**	**+0.3**
ACOS	**Acosta**	**1.06**	**219**	*eP*	**Pb**	**02 44 41.6**	**-0.6**
BUS1	**Rivas**	**1.10**	**194**	⇓*eP*	**Pb**	**02 44 42.3**	**-0.7**
PIEC	**Cerro El Cedra**	**1.10**	**205**	⇓*eP*	**Pb**	**02 44 42.3**	**-0.6**
CEUA	**Cerro Uatsi, L**	**1.13**	**152**	*eP*	**Pg**	**02 44 44.2**	**+0.7**
SOCE	**Pocosol**	**1.14**	**258**	*eP*	**Pg**	**02 44 44.0**	**+0.2**
SOCE	**Pocosol**	**1.14**	**258**	S	**Sn**	**02 44 59.3**	**0.0**
SOCE	**Pocosol**	**1.14**	**258**	P	**Pg**	**02 44 44.3**	**+0.5**
FORC	**Fortuna**	**1.18**	**262**	*eP*	**Pg**	**02 44 44.7**	**+0.3**
VACR	**Volcan Arenal**	**1.19**	**263**	*eP*	**Pg**	**02 44 44.8**	**+0.2**
REZ	**Monterrey de S**	**1.20**	**265**	*eP*	**Pg**	**02 44 45.3**	**+0.5**
CEDE	**Laguna Cedeo**	**1.21**	**264**	*eP*	**Pg**	**02 44 45.4**	**+0.4**
PICV	**PH. Pirrs**	**1.22**	**215**	*eP*	**Pn**	**02 44 45.0**	**-0.7**
ARE1	**Arenal 1**	**1.23**	**262**	⇓*eP*	**Pg**	**02 44 45.6**	**+0.3**
VARE2	**V. Arenal**	**1.23**	**262**	⇓*eP*	**Pg**	**02 44 45.6**	**+0.2**
SAJE	**San Jernim**	**1.27**	**181**	*eP*	**Pn**	**02 44 45.0**	**-0.5**
TABAC	**Tabacon**	**1.27**	**264**	*eP*	**Pg**	**02 44 46.2**	**+0.1**
PAR1A	**Puntarenas Pro**	**1.27**	**217**	*eP*	**Pb**	**02 44 45.8**	**+0.1**
RGM0	**Gandoca**	**1.34**	**140**	P	**Pb**	**02 44 46.7**	**-0.1**
QUEP	**Quepos**	**1.36**	**210**	S	**Sg**	**02 45 05.5**	**-0.2**
QUEP	**Quepos**	**1.36**	**210**	P	**Pb**	**02 44 47.4**	**+0.2**
DRK0	**Durika**	**1.37**	**170**	⇑*eP*	**Pn**	**02 44 46.8**	**-0.2**
DRK0	**Durika**	**1.37**	**170**	P	**Pn**	**02 44 47.0**	**0.0**
DRK0	**Durika**	**1.37**	**170**	S	**Sb**	**02 45 04.7**	**-0.4**
QUEB	**Quebradon, Cot**	**1.39**	**270**	⇓*eP*	**Pb**	**02 44 48.0**	**+0.3**
BLUN	**Bluefields**	**1.40**	**348**	P	**Pg**	**02 44 48.5**	**-0.2**
CHIK	**Chiripa**	**1.42**	**263**	*eP*	**Pb**	**02 44 48.3**	**+0.2**
EDPE	**Pejibaye, P**	**1.46**	**184**	*eP*	**Pb**	**02 44 48.6**	**-0.3**
TENO	**El Achiote**	**1.47**	**273**	*eP*	**Pg**	**02 44 50.0**	**0.0**
JTS	**Las Juntas de**	**1.48**	**257**	*eP*	**Pb**	**02 44 49.1**	**-0.2**
JTS	**Las Juntas de**	**1.48**	**257**	P	**Pb**	**02 44 49.7**	**+0.4**
JTS				S	**Sg**	**02 45 09.5**	**-0.1**
TIMP	**Tierras Morena**	**1.51**	**269**	*eP*	**Pb**	**02 44 49.7**	**-0.1**
OCHAL	**Ojochal**	**1.53**	**186**	S	**Sb**	**02 45 09.9**	**+0.5**
OCHAL	**Ojochal**	**1.53**	**186**	P	**Pg**	**02 44 50.5**	**-0.5**
INVE	**Universidad In**	**1.56**	**265**	*eP*	**Pb**	**02 44 50.7**	**+0.1**
MOTZ	**Rio Naranjo**	**1.57**	**272**	*eP*	**Pg**	**02 44 51.3**	**-0.5**
CORNA	**Casa Canada**	**1.59**	**15**	*eP*	**Pg**	**02 44 51.6**	**-0.8**
VMAR	**Armenia, Volca**	**1.62**	**277**	⇓*eP*	**Pb**	**02 44 51.8**	**+0.3**
EDP2	**Potrero Grande**	**1.63**	**169**	*eP*	**Pb**	**02 44 51.5**	**-0.2**
CUI	**Cuipilapa**	**1.66**	**271**	*eP*	**Pb**	**02 44 52.3**	**+0.1**
MESS	**Mesas**	**1.69**	**274**	*eP*	**Pb**	**02 44 52.7**	**-0.1**
COLC	**Colonia**	**1.69**	**272**	*eP*	**Pb**	**02 44 53.0**	**+0.1**
ESPN	**Las Esperanzas**	**1.75**	**333**	⇓*eP*	**Pg**	**02 44 54.6**	**-0.8**
ESPN	**Las Esperanzas**	**1.75**	**333**	P	**Pb**	**02 44 54.3**	**+0.4**
ALCO	**Alturas Coton,**	**1.78**	**159**	*eP*	**Pn**	**02 44 53.3**	**+0.7**
VRLE	**La Escondida,**	**1.86**	**275**	*eP*	**Pb**	**02 44 55.5**	**-0.2**
BRU2	**Volcan**	**1.98**	**157**	S	**Sb**	**02 45 22.2**	**-0.4**
BRU2	**Volcan**	**1.98**	**157**	P	**Pb**	**02 44 57.0**	**-0.9**
EDAD	**Golfito**	**1.98**	**171**	*eP*	**Pn**	**02 44 55.4**	**+0.1**
CMARA	**Lajas Hojancha**	**2.00**	**253**	S	**Sb**	**02 45 24.0**	**+0.8**
CMARA	**Lajas Hojancha**	**2.00**	**253**	P	**Pb**	**02 44 57.7**	**-0.5**
ELI1	**Hacienda Flor**	**2.04**	**271**	P	**Pb**	**02 44 58.1**	**-0.6**
CDITO	**Canoas**	**2.12**	**164**	P	**Pb**	**02 44 58.7**	**-1.5**
INDI	**Punta indio, G**	**2.13**	**249**	P	**Pb**	**02 44 59.8**	**-0.5**
INDI	**Punta indio, G**	**2.13**	**249**	S	**Sb**	**02 45 27.0**	**+0.3**
ACON	**Acoyapa**	**2.13**	**309**	*eP*	**Pn**	**02 44 57.6**	**+0.3**
ACON	**Acoyapa**	**2.13**	**309**	P	**Pb**	**02 44 59.5**	**-0.8**
ACON	**Acoyapa**	**2.13**	**309**	S	**Sb**	**02 45 27.7**	**+1.0**
RBALA	**Bur**	**2.17**	**143**	*eP*	**Pn**	**02 44 58.9**	**+1.1**
PIRO	**Carate, Puerto**	**2.21**	**176**	P	**Pn**	**02 44 59.0**	**+0.7**
OMEN	**AI SSO del Vol**	**2.28**	**293**	P	**Pb**	**02 45 01.9**	**-1.0**
CONN	**Concepcion**	**2.30**	**294**	P	**Pb**	**02 45 02.2**	**-1.0**
MORN	**AI O del Volca**	**2.32**	**293**	P	**Pb**	**02 45 02.4**	**-1.1**
MORN				S	**Sb**	**02 45 32.5**	**+0.3**
NANN	**Nandasmo**	**2.90**	**297**	P	**Pn**	**02 45 10.1**	**+2.3**
MATN	**Matagalpa**	**3.31**	**314**	P	**Pn**	**02 45 15.7**	**+2.1**
MATN	**Matagalpa**	**3.31**	**314**	S	**Sb**	**02 45 56.8**	**-4.1**
PRVC	**Isla de Provid**	**3.43**	**37**	P	**Pn**	**02 45 17.2**	**+2.1**

*SDD **17** 03:06:15.4±2.6, 19.61N×71.22W, h31km±13km, MD2.7, ML2.0, MW3.8*

*OSPL **17** 03:06:16.1±1.1, 19.63N×71.24W, h10km±19km, ML1.7*

ISC 17 03:06:15.0±1.0, 19.64N±0.04×71.23W±0.04, h25km±8km, n11, σ1.27/21, 8C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MADR	**Mao Valverde**	**0.15**	**122**	⇓*eP*g	**Pb**	**03 06 18.8**

ABDR	**Alto Bandera**	**0.92**	**220**	⇓*e*Pg	**Pg**	**03 36 14.7**	**-1.6**
ABDR				IAML		03 36 28.6	
	comp=N,24nm,0.2s						
ABDR				⇑*e*Sg	**Sg**	**03 36 28.6**	**+0.1**
HATOM	**Hato Mayor del**	**0.94**	**141**	⇑*e*Pg	**Pb**	**03 36 16.6**	**+0.2**
HATOM				IAML		03 36 29.4	
	comp=N,13nm,2.2s						
HATOM				⇓*e*Sg	**Sb**	**03 36 31.1**	**+2.5**
MIDR	**Miches**	**1.05**	**121**	⇓*e*Pg	**Pb**	**03 36 18.4**	**+0.2**
MIDR				⇑*e*Sg	**Sb**	**03 36 34.8**	**+3.0**
MIDR				IAML		03 36 35.1	
	comp=N,13nm,1.0s						
LOPP1	**Punta Rusia, P**	**1.17**	**286**	*i* P	**Pn**	**03 36 19.6**	**-0.5**
LOPP1				*e*S	**Sn**	**03 36 34.7**	**-0.9**
LOPP1				IAML		03 36 37.8	
	comp=Z,39nm,1.0s						
SDDR	**Presa de Saban**	**1.32**	**246**	*i* P	**Pg**	**03 36 24.1**	**+0.1**
SDDR				IAML		03 36 42.7	
	comp=Z,18nm,0.6s						
REDR	**Restauracion**	**1.36**	**255**	⇓*e*Pg	**Pg**	**03 36 26.1**	**+1.5**
REDR				⇑*e*Sg	**Sg**	**03 36 46.4**	**+4.1**
REDR				IAML		03 36 46.9	
	comp=N,29nm,0.2s						
LONE3	**El Aguacate, B**	**1.65**	**236**	*i* P	**Pb**	**03 36 27.6**	**-0.9**
LONE3				*e*S	**Sb**	**03 36 50.4**	**+1.3**
LONE3				IAML		03 36 54.5	
	comp=Z,11nm,1.9s						
PODR	**Polo**	**1.81**	**222**	*i* P	**Pb**	**03 36 30.9**	**-0.4**
LODU1	**El Espartillar**	**1.81**	**230**	*i* P	**Pb**	**03 36 31.3**	**+0.1**
LODU1				IAML		03 36 58.8	
	comp=Z,27nm,2.9s						
JIDR	**Jimani**	**2.02**	**240**	⇑*e*Pg	**Pb**	**03 36 34.1**	**-0.7**
JIDR				⇓*e*Sg	**Sg**	**03 37 01.8**	**-1.8**
JIDR				IAML		03 37 02.9	
	comp=N,26nm,0.7s						
LOBH	**Bahia de las A**	**2.27**	**223**	*i* P	**Pb**	**03 36 38.2**	**-0.7**
LOBH				IAML		03 37 19.4	
	comp=Z,30nm,1.1s						

DJA 17 03:59:34.1±0.6,**8˚S**±7˚×**12˚3E**±˚, **h228**km±8km, **M3.7**/9, **mb4.1**/3, **MLv3.5**/9, **Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.08**	**205**	P	Pn	04 00 06.8	-0.5
EDFI	**Ende, Flores**	**1.47**	**222**	P	Pn	04 00 10.4	+0.1
SOEI	**Soe**	**2.61**	**143**	P	Pn	04 00 21.0	-0.1
BKSI	**Bulukumba**	**3.44**	**312**	P	Pn	04 00 29.7	-0.7
WBSI	**Waikabubak, Su**	**3.81**	**239**	P	Pn	04 00 34.1	-0.7
PLAI	**Plampang**	**5.00**	**256**	P	Pn	04 00 49.7	+0.4
	0.2nm25nm,0.5s						
TWSI	**Taliwang, Sumb**	**5.85**	**259**	P	Pn	04 00 59.7	-0.2
	20nm,2.3s						

*IDC **17** 04:08:10.2±1.2,28˚.10N×84˚.12E, h0km, mb3.9/10, mbtmp3.9/13, ML4.1/3, MS3.3/5, Error ellipse: s-maj=43.7km s-min=17.6km az=57.0*
*DMN **17** 04:08:12.6±0.0,28˚.22N×84˚.49E, h2km, Ml4.6/6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NDI **17** 04:08:14.4±2.0,28˚.36N×84˚.70E, h6km±12km, ML4.3, MW4.4*

ISC 17 04:08:11.8±1.2,**28˚.25N**±0˚.05×**84˚.48E**±0˚.03, **h4**km±9km, **n37**,σ1°**69**/50, **mb3.9**/10, **MS3.5**/4, **Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**0.28**	**150**	Pg	**Pg**	**04 08 17.8**	**+0.5**
	baz=148,slow=0.0						
GKN				Sg	**Sg**	**04 08 21.5**	**+0.5**
	60µm,0.3s,baz=148,slow=0.0						
DANN	**Dangsing**	**0.64**	**279**	Pg	**Pb**	**04 08 25.2**	**-0.6**
	baz=282,slow=0.0						
DANN				Sg	**Sg**	**04 08 32.8**	**+0.2**
	8µm,0.3s,baz=282,slow=0.0						
KKN	**Kakani**	**0.84**	**122**	Pg	**Pg**	**04 08 28.5**	**+0.5**
	baz=120,slow=0.0						
KKN				Sg	**Sg**	**04 08 38.3**	**-0.6**
	1µm,0.3s,baz=120,slow=0.0						
DMN	**Daman**	**0.84**	**139**	Pg	**Pg**	**04 08 28.2**	**+0.2**
	baz=138,slow=0.0						
DMN				Sg	**Sg**	**04 08 39.5**	**+0.5**
	3µm,0.7s,baz=138,slow=0.0						
KOLN	**Koldanda**	**0.91**	**239**	Pg	**Pg**	**04 08 30.2**	**+0.9**
	baz=240,slow=0.0						
KOLN				Sg	**Sg**	**04 08 40.8**	**-0.3**
	2µm,0.3s,baz=240,slow=0.0						
PKIN	**Phulchoki**	**1.05**	**129**	Pg	**Pg**	**04 08 32.7**	**+0.7**
	baz=128,slow=0.0						
PKIN				Sg	**Sg**	**04 08 45.4**	**-0.3**
	1µm,0.2s,baz=128,slow=0.0						
PKI	**Pulchoki**	**1.06**	**129**	Pg	**Pg**	**04 08 32.1**	**-0.1**
	baz=128,slow=0.0						
PKI				Sg	**Sg**	**04 08 45.5**	**-0.6**
	1µm,0.3s,baz=128,slow=0.0						
GUN	**Gumba**	**1.28**	**105**	Pg	**Pn**	**04 08 36.8**	**0.0**
	baz=104,slow=0.0						
GUN				Sg	**Sb**	**04 08 53.7**	**0.0**
	1µm,0.3s,baz=104,slow=0.0						
RAMN	**Ramite**	**2.28**	**124**	Pn	**Pn**	**04 08 51.4**	**+0.9**
	baz=123,slow=0.0						
RAMN	**Ramite**	**2.28**	**124**	Pg	**Pb**	**04 08 53.1**	**-0.7**
	baz=123,slow=0.0						
RAMN				Sg	**Sb**	**04 09 23.1**	**+0.7**
	974nm,0.4s,baz=123,slow=0.0						
HRYA	**Harraiya (Bast**	**2.28**	**231**	*e*P	**Pg**	**04 08 56.7**	**+1.1**
HRYA				*e*S	**Sg**	**04 09 25.3**	**+0.1**
ODAN	**Odare**	**2.93**	**117**	Sg	**Sb**	**04 09 43.9**	**+2.8**
	940nm,0.4s,baz=117,slow=0.0						
GAYA	**Gaya**	**3.50**	**169**	*e*P	**Pb**	**04 09 11.3**	**-2.9**
GAYA				*e*S	**Sn**	**04 09 51.0**	**+2.2**
GAYA				IAML		04 10 00.6	
	comp=N,13µm,0.2s						
GAYA				IAML		04 10 00.6	
	comp=E,12µm,0.3s						
ALBI	**Allahabad**	**3.77**	**220**	*e*P	**Pb**	**04 09 16.4**	**-2.6**
LGTI	**Lohaghat**	**3.90**	**289**	*e*P	**Pb**	**04 09 19.5**	**-1.7**
LGTI				*e*S	**Sb**	**04 10 06.5**	**-2.3**
LGTI				IAML		04 10 23.3	
	comp=E,290nm,0.7s						
LGTI				IAML		04 10 24.4	
	comp=N,397nm,0.4s						
PTH	**Pithoragarh**	**3.96**	**290**	*e*P	**Pn**	**04 09 16.9**	**+3.5**
PTH				*e*S	**Sn**	**04 10 04.9**	**+4.5**
BOK	**Bokaro**	**4.61**	**164**	*e*P	**Pn**	**04 09 25.3**	**+3.0**
BOK				*e*S	**Sn**	**04 10 17.4**	**+1.1**
JOSI	**Joshimath**	**4.87**	**299**	*e*P	Pn	04 09 30.4	+4.3
JOSI				*e*S	**Sn**	**04 10 25.3**	**+2.2**
JOSI				IAML		04 10 45.5	
	comp=N,281nm,0.5s						
JOSI				IAML		04 10 47.2	
	comp=E,349nm,0.9s						
KLP	**Kalpa**	**6.32**	**303**	*e*P	**Pn**	**04 09 48.9**	**+2.8**
KLP				*e*S	**Sn**	**04 10 58.5**	**-0.4**
KLP				IAML		04 11 08.8	
	comp=E,154nm,0.6s						
DHRM	**DHARAMSHALA**	**8.12**	**301**	*e*P	**Pn**	**04 10 12.0**	**+1.3**
DHRM				*e*S	**Sn**	**04 11 40.4**	**-2.7**
DHRM				IAML		04 11 41.1	
	comp=E,151nm,0.5s						
DHRM				IAML		04 11 43.7	
	comp=N,116nm,0.5s						
KSH	**Kashi**	**13.27**	**330**	P	**Pn**	**04 11 18.3**	**-2.8**
KSH				pmax	pmax		
	comp=Z,15nm,0.5s						
CMAR	**Chiang Mai Arr**	**16.46**	**123**	Pn	**P**	**04 12 06.3**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=310,slow=13,SNR=2.0						
	comp=Z,1.4nm,0.3s						
AAK	**Ala-Archa**	**16.48**	**333**	Pn	**Pn**	**04 12 03.0**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=184,slow=13,SNR=1.6						
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**18.59**	**355**	P	**P**	**04 12 29.0**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=167,slow=11,SNR=8.8						
MKAR				LR	LR	04 20 02.0	
	comp=Z,20nm,19.8s,baz=114,slow=38						
	comp=Z,1.8nm,0.7s						
KURBB	**Kurchatov Arra**	**22.80**	**350**	P	**P**	**04 13 15.2**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=172,slow=10.0,SNR=11						
KURBB				LR	LR	04 23 26.1	
	comp=Z,76nm,20.8s,baz=175,slow=40						
	comp=Z,1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**25.68**	**0**	P	**P**	**04 13 43.2**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=190,slow=7.5,SNR=5.9						
	comp=Z,1.1nm,0.4s						

SONM	**Songino Array**	**25.93**	**35**	P	**P**	**04 13 47.7**	**+2.5**
	comp=Z,0.7nm,0.4s,baz=243,slow=6.3,SNR=3.1						
	comp=Z,0.7nm,0.4s						
TIXI	**Tiksi**	**49.74**	**17**	LR	LR	04 41 28.8	
	comp=Z,26nm,19.0s,baz=313,slow=40						
FINES	**FINESS Array B**	**50.58**	**328**	P	**P**	**04 17 10.3**	**-1.0**
	comp=Z,2.9nm,0.8s,baz=128,slow=5.6,SNR=8.2						
	comp=Z,2.9nm,0.8s						
ARCES	**ARCESS Array B**	**53.08**	**338**	P	**P**	**04 17 29.1**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=108,slow=7.2,SNR=1.7						
	comp=Z,2.4nm,0.8s						
HFS	**Hagfors**	**56.43**	**325**	P	**P**	**04 17 53.5**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=99,slow=7.7,SNR=7.8						
	comp=Z,2.2nm,0.6s						
NOA	**NORSAR Array B**	**57.66**	**327**	P	**P**	**04 18 00.9**	**-2.2**
	comp=Z,0.6nm,0.7s,baz=79,slow=7.2,SNR=2.2						
	comp=Z,0.6nm,0.7s						
WRA	**Warramunga Arr**	**67.95**	**129**	P	**P**	**04 19 11.9**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=323,slow=6.4,SNR=4.7						
	comp=Z,0.7nm,0.7s						
ASAR	**Alice Springs**	**70.23**	**132**	P	**P**	**04 19 26.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=315,slow=6.0,SNR=6.5						
	comp=Z,0.7nm,0.6s						
LBTB	**Lobatse**	**77.54**	**233**	LR	LR	04 51 57.0	
	comp=Z,39nm,19.8s,baz=330,slow=34						
ILAR	**Eielson Array**	**79.09**	**20**	P	**P**	**04 20 16.9**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=295,slow=2.6,SNR=3.2						
	comp=Z,0.3nm,0.7s						
BOSA	**Boshof**	**80.06**	**230**	LR	LR	04 50 37.6	
	comp=Z,39nm,21.4s,baz=198,slow=32						

*UCR **17** 04:17:02.4±1.1, 11˚.80N×87˚.29W, h54km±38km, MW3.7*
*CATAC **17** 04:17:03.6±0.6, 12˚.N±3˚×8˚.7W±˚, h26km±3km, M3.5/25, MLv3.5/25, Error ellipse: s-maj=7.2km s-min=3.1km az=28.3, confirmed*

ISC 17 04:17:03.6±1.6,**11˚.81N**±0˚.05×**87˚.23W**±0˚.04, **h26**km±13km, **n48**,σ0°**65**/56, **3D**, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.73**	**59**	⇓*i*P	**Pb**	**04 17 17.3**	**-0.3**
COPN				*e*S	**Sn**	**04 17 28.4**	**-0.2**
COPN	**Copaltepe**	**0.73**	**59**	P	**Pb**	**04 17 18.0**	**+0.3**
ALEN	**Leon**	**0.74**	**28**	P	**Pb**	**04 17 18.0**	**+0.1**
MACN	**El Madrono**	**0.85**	**40**	P	**Pn**	**04 17 19.6**	**-0.4**
CNGN	**Cerro Negro**	**0.86**	**37**	*e*P	**Pn**	**04 17 19.5**	**-0.6**
CNGN				*e*S	**Sb**	**04 17 31.3**	**+0.1**
CNGN	**Cerro Negro**	**0.86**	**37**	P	**Pn**	**04 17 19.6**	**-0.5**
CNGN	**Cerro Negro**	**0.86**	**37**	S	**Sn**	**04 17 32.3**	**+0.3**
SAPS	**Ciudad Sandino**	**0.89**	**66**	S	**Sn**	**04 17 32.6**	**+0.2**
SAPS	**Ciudad Sandino**	**0.89**	**66**	P	**Pn**	**04 17 20.3**	**-0.1**
AMTN	**Mateare**	**0.89**	**61**	P	**Pn**	**04 17 20.3**	**-0.2**
AMTN	**Mateare**	**0.89**	**61**	S	**Sn**	**04 17 32.8**	**+0.2**
PKGN	**Cerro Pekin**	**0.89**	**16**	P	**Pn**	**04 17 20.0**	**-0.5**
PLRN	**Geotermica Pol**	**0.90**	**30**	P	**Pn**	**04 17 20.1**	**-0.5**
CRIN	**San Cristobal**	**0.91**	**11**	P	**Pb**	**04 17 20.7**	**-0.1**
CRIN	**San Cristobal**	**0.91**	**11**	S	**Sn**	**04 17 33.5**	**+0.4**
APQ3	**Volcan Apoyequ**	**0.96**	**61**	P	**Pn**	**04 17 21.4**	**0.0**
APQ3				S	**Sb**	**04 17 34.5**	**+0.5**
MOM2	**El Cardon**	**0.96**	**49**	S	**Sb**	**04 17 34.4**	**+0.4**
APQ2	**Apoyeque**	**0.97**	**66**	P	**Pn**	**04 17 21.3**	**-0.2**
UNAN	**Cigeo UNAN**	**0.99**	**72**	P	**Pn**	**04 17 21.7**	**-0.1**
UNAN				S	**Sn**	**04 17 35.1**	**+0.2**
MGAN	**Managua**	**1.02**	**71**	⇓*e*P	**Pn**	**04 17 22.0**	**-0.3**
MGAN				*e*S	**Sn**	**04 17 35.8**	**+0.1**
MGAN	**Managua**	**1.02**	**71**	P	**Pn**	**04 17 22.2**	**-0.1**
MAS3	**Al N del Volca**	**1.05**	**78**	P	**Pn**	**04 17 22.7**	**-0.1**
WILN	**Americas 2**	**1.08**	**71**	P	**Pn**	**04 17 22.9**	**-0.2**
WILN				S	**Sn**	**04 17 37.6**	**+0.4**
NANN	**Nandasmo**	**1.09**	**83**	P	**Pn**	**04 17 23.1**	**-0.1**
NANN	**Nandasmo**	**1.09**	**83**	S	**Sb**	**04 17 38.3**	**+0.5**
NADN	**Granada**	**1.18**	**93**	*e*P	**Pn**	**04 17 23.9**	**-0.5**
JAPN	**Al SSO del Vol**	**1.55**	**100**	⇓*i*P	**Pn**	**04 17 26.6**	**-2.9**
MORN	**Al O del Volca**	**1.57**	**99**	P	**Pn**	**04 17 29.9**	**0.0**
MORN				S	**Sn**	**04 17 49.8**	**+0.4**
CNCH	**Conchagua**	**1.57**	**338**	P	**Pn**	**04 17 29.7**	**-0.3**
CNCH	**Conchagua**	**1.57**	**338**	S	**Sb**	**04 17 50.3**	**-1.4**
CONN	**Concepcion**	**1.59**	**99**	P	**Pn**	**04 17 30.0**	**-0.1**
CONN				S	**Sn**	**04 17 50.1**	**+0.3**
LCND	**La Caada**	**1.63**	**337**	P	**Pn**	**04 17 30.3**	**-0.3**
MATN	**Matagalpa**	**1.69**	**49**	P	**Pn**	**04 17 30.7**	**-1.0**
CNRM	**Centro Naciona**	**1.90**	**331**	P	**Pn**	**04 17 31.0**	**-0.3**
PACA	**Pacayal**	**1.97**	**327**	P	**Pn**	**04 17 35.4**	**0.0**
PACA	**Pacayal**	**1.97**	**327**	S	**Sn**	**04 17 59.5**	**+0.1**
ACON	**Acoyapa**	**2.02**	**85**	*e*P	**Pn**	**04 17 34.9**	**-1.1**
ACON	**Acoyapa**	**2.02**	**85**	P	**Pn**	**04 17 35.8**	**-0.2**
RCVN	**Varillal2**	**2.04**	**30**	P	**Pn**	**04 17 36.8**	**+0.4**
RCPN	**Sur Rio San Ju**	**2.04**	**33**	P	**Pn**	**04 17 36.2**	**-0.1**
LAPC	**Finca la Perla**	**2.04**	**120**	*e*P	**Pn**	**04 17 35.0**	**-1.3**
VRLE	**La Escondida,**	**2.09**	**119**	*e*P	**Pn**	**04 17 37.1**	**0.0**
TGUH	**Tegucigalpa,Un**	**2.24**	**359**	P	**Pn**	**04 17 39.1**	**0.0**
CUI	**Cuipilapa**	**2.33**	**119**	*e*P	**Pn**	**04 17 41.6**	**+1.4**
JUD3	**Juan Diaz 3**	**2.33**	**134**	*e*P	**Pn**	**04 17 40.5**	**+0.2**
SCLA	**Alcaldia de Sa**	**2.38**	**322**	P	**Pn**	**04 17 41.7**	**+0.7**
SCLA	**Alcaldia de Sa**	**2.38**	**322**	S	**Sn**	**04 18 10.0**	**+0.5**
JUNT	**Juntas**	**2.70**	**124**	*e*P	**Pn**	**04 17 44.5**	**-0.9**

*NEIC **17** 04:19:29.4±1.2, 16˚.35S×167˚.04E±0˚.09, h26km±5km, mb4.5/17, Error ellipse: s-maj=12.9km s-min=8.1km az=68.0*
*NOU **17** 04:19:31.8, 16˚.38S×167˚.70E, h27km, ML4.9/10, Vanuatu Islands*
*IDC **17** 04:19:31.2±3.3, 16˚.58S×167˚.30E, h0km, mb4.4/5, mbtmp4.3/6, ML4.1/1, MS3.4/5, Error ellipse: s-maj=62.6km s-min=31.3km az=49.0*

ISC 17 04:19:30.8±0.7,**16˚.35S**±0˚.05×**167˚.9E**±0˚.1, **h35**km, **n33**, σ1°**39**/33, **mb4.4**/12, **MS3.5**/4, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.13**	**323**		**Pn**	**04 19 50.0**	**-0.1**
SANVU				Sn	**Sn**	**04 20 05.0**	**+0.7**
SANVU	**Saraoutou**	**1.13**	**323**	P	**Pn**	**04 19 49.9**	**-0.1**
SANVU	**Saraoutou**	**1.13**	**323**	S	**Sn**	**04 20 05.0**	**+0.7**
DVP	**Devils Point**	**1.39**	**169**	P	**Pn**	**04 19 56.2**	**+2.5**
DZM	**Mont Dzumac**	**5.85**	**193**	Pn	**Pn**	**04 20 54.7**	**-0.5**
	5.7nm,0.3s,baz=77,slow=13,SNR=50						
DZM				Sn	**Sn**	**04 21 57.7**	**-3.4**
	2.3nm,0.3s,baz=106,slow=23,SNR=4.4						
DZM				LR	LR	04 22 45.6	
	comp=Z,218nm,18.7s,baz=42,slow=35						
	12nm,0.3s						
ONTNC	**Ouen Toro**	**6.08**	**193**		**Pn**	**04 20 57.2**	**-1.0**
OUENC	**Ouen Island, N**	**6.12**	**189**	P	**Pn**	**04 20 59.9**	**+1.2**
PINNC	**Pines Island,**	**6.24**	**184**	Pn	**Pn**	**04 21 00.8**	**+0.4**
CTAO	**Charters Tower**	**20.89**	**256**	P	**P**	**04 24 11.2**	**+1.0**
BSWZ	**Blackbirch Sta**	**25.79**	**170**	P	**P**	**04 24 56.6**	**-1.9**
STKA	**Stephens Creek**	**28.45**	**232**	P	**P**	**04 25 23.7**	**+1.2**
STKA				IAmb	IAmb	04 25 24.8	
	comp=Z,20nm,1.1s						
STKA	**Stephens Creek**	**28.45**	**232**	P	**P**	**04 25 23.5**	**+1.0**
	comp=Z,3.6nm,0.8s,baz=74,slow=10,SNR=5.8						
	comp=Z,3.6nm,0.8s						
WR8	**Warramunga Arr**	**31.91**	**258**	P	**P**	**04 25 51.9**	**-1.5**
WB0	**Warramunga Arr**	**32.01**	**259**	P	**P**	**04 25 53.8**	**-0.4**
WB0				IAmb	IAmb	04 25 55.1	
	comp=Z,3.2nm,0.8s						
WB2	**Warramunga Arr**	**32.05**	**258**	P	**P**	**04 25 54.0**	**-0.6**
WB2				IAmb	IAmb	04 26 19.9	
	comp=Z,9.2nm,1.4s						
WRA	**Warramunga Arr**	**32.06**	**258**	P	**P**	**04 25 54.2**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=90,slow=9.3,SNR=14						
WRA				LR	LR	04 37 10.8	
	comp=Z,67nm,19.0s,baz=126,slow=34						
	comp=Z,1.5nm,0.8s						
AS31	**Alice Springs**	**32.70**	**252**	P	**P**	**04 26 00.2**	**0.0**
ASAR	**Alice Springs**	**32.71**	**252**	P	**P**	**04 26 00.3**	**+0.1**
	comp=Z,7.8nm,0.7s,baz=78,slow=9.0,SNR=67						
ASAR				LR	LR	04 38 38.6	
	comp=Z,93nm,18.4s,baz=112,slow=36						
	comp=Z,7.8nm,0.7s						
KNRA	**Kununurra**	**37.59**	**265**	P	**P**	**04 26 42.4**	**0.0**
KNRA				IAmb	IAmb	04 26 50.6	
	comp=Z,7.6nm,0.9s						
FORT	**Forrest**	**39.02**	**241**	P	**P**	**04 26 54.7**	**+0.5**
FORT				IAmb	IAmb	04 27 35.1	
	comp=Z,9.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.34**	**261**	P	**P**	**04 27 05.4**	**0.0**
FITZ	**Fitzroy Crossi**	**40.34**	**261**	P	**P**	**04 27 05.7**	**+0.3**
	comp=Z,5.3nm,0.7s,baz=92,slow=7.3,SNR=18						
FITZ				LR	LR	04 42 56.4	
	comp=Z,94nm,18.7s,baz=176,slow=35						
	comp=Z,5.3nm,0.7s						
VNDA	**Vanda**	**61.26**	**181**	P	P	04 29 36.8	-5.2
VNDA				IAmb	IAmb	04 30 12.9	
	comp=Z,3.6nm,1.4s						
SBA	**Scott Base**	**61.52**	**180**	P	**P**	**04 29 43.6**	**-0.2**
SBA				IAmb	IAmb	04 30 21.9	
	comp=Z,4.7nm,1.4s						
CASY	**Casey**	**62.27**	**203**	P	**P**	**04 29 48.9**	**0.0**
CASY				IAmb	IAmb	04 30 11.8	
	comp=Z,5.1nm,1.1s						
MNAI	**Manna**	**64.76**	**273**	P	**P**	**04 30 05.6**	**-0.7**
QSPA	**South Pole Qui**	**73.68**	**180**	P	**P**	**04 31 01.9**	**+1.1**
QSPA				IAmb	IAmb	04 31 08.2	
	comp=Z,4.8nm,1.1s						
QSPA	**South Pole Qui**	**73.68**	**180**	P	**P**	**04 31 05.4**	**+4.5**
	comp=Z,3.0nm,1.0s,baz=17,slow=1.4,SNR=5.8						
	comp=Z,3.0nm,1.0s						
S12K	**Black Hills**	**76.12**	**17**	P	**P**	**04 31 14.2**	**-0.6**
VA02	**Isla de Pascua**	**76.33**	**115**	P	**P**	**04 31 15.2**	**-1.5**
SLKM	**Skilak Lake**	**83.65**	**19**	P	**P**	**04 31 55.5**	**0.0**
YAK	**Yakutsk**	**83.75**	**343**	LR	LR	05 04 24.5	
	comp=Z,19nm,20.8s,baz=312,slow=32						
JCC	**Jacoby Creek,**	**84.84**	**45**	P	**P**	**04 32 00.5**	**-1.3**

*RHSSO **17** 04:43:56.9±1.0, 42˚.08N×19˚.61E, h7km±3km, ML2.4/3*
*BEO **17** 04:43:57.4±0.3, 42˚.12N×19˚.62E, h5km±2km, ML2.1/14*
*PDG **17** 04:43:57.1±0.1, 42˚.12N×19˚.54E, h19km, MD2.6/2, ML2.5/10, Error ellipse: s-maj=0.1km s-min=0.2km az=0.0*

ISC 17 04:43:57.4±1.0,**42˚.12N**±0˚.03×**19˚.58E**±0˚.02, **h9**km±8km, **n39**,σ0°**65**/69, **2C**, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.30**	**238**	⇑*i*Pg	**Pg**	**04 44 03.0**	**-0.3**
ULC				*i* Sg	**Sg**	**04 44 08.0**	**+0.7**
DRME	**Dracevica, Mon**	**0.30**	**282**	*e*Pg	**Pg**	**04 44 03.1**	**-0.3**
DRME				*e*Sg	**Sg**	**04 44 08.1**	**+0.7**
DRME	**Dracevica, Mon**	**0.30**	**282**	*e*Pg	**Pg**	**04 44 03.1**	**-0.3**
DRME				*i* Sg	**Sg**	**04 44 08.2**	**+0.8**
PDG	**Podgorica**	**0.39**	**322**	*e*Pg	**Pg**	**04 44 04.7**	**-0.3**
PDG				*e*Sg	**Sg**	**04 44 10.9**	**+0.7**
PDG	**Podgorica**	**0.39**	**322**	*e*Pg	**Pg**	**04 44 04.8**	**-0.3**
PDG				*i* Sg	**Sg**	**04 44 11.3**	**+1.1**
BUM	**Brajici-Budva**	**0.54**	**289**	*e*Pg	**Pg**	**04 44 07.2**	**-0.7**
BUM				*i* Sg	**Sg**	**04 44 15.7**	**+0.7**
PVY	**Plav**	**0.55**	**31**	*e*Pg	**Pg**	**04 44 08.1**	**+0.1**
PVY				*i* Sg	**Sb**	**04 44 17.3**	**+0.1**
KOME	**Kolasin**	**0.73**	**356**	*e*Pn	**Pg**	**04 44 11.0**	**-0.4**
KOME				*e*Sg	**Sb**	**04 44 21.8**	**-0.6**
KOME	**Kolasin**	**0.73**	**356**	⇑*i*Pg	**Pg**	**04 44 11.0**	**-0.4**
KOME				*i* Sg	**Sb**	**04 44 22.9**	**+0.5**
BEY	**Berane**	**0.78**	**17**	*e*Pg	**Pg**	**04 44 12.2**	**-0.3**
IVA	**Berane**	**0.78**	**17**	*e*Pg	**Pg**	**04 44 12.2**	**-0.3**
IVA				*i* Sg	**Sb**	**04 44 25.0**	**+1.0**
NKME	**Niksic**	**0.79**	**324**	*e*Pg	**Pg**	**04 44 11.6**	**-1.1**
NKME				*i* Sg	**Sb**	**04 44 24.5**	**+0.3**
HCY	**Herceg Novi**	**0.87**	**292**	*e*Pg	**Pg**	**04 44 12.9**	**-1.2**
HCY				*i* Sg	**Sb**	**04 44 26.5**	**+0.2**
TREB	**Trebinje**	**1.09**	**303**	*e*Pg	**Pg**	**04 44 17.0**	**-1.3**
TREB				*e*Sg	**Sg**	**04 44 32.5**	**+0.1**
TREB	**Trebinje**	**1.09**	**303**	*e*Pg	**Pg**	**04 44 17.2**	**-1.1**
TREB				*e*Sg	**Sn**	**04 44 34.0**	**+0.1**
BRY	**Bratogost**	**1.09**	**316**	*e*Pg	**Pg**	**04 44 17.4**	**-1.0**
BRY				*i* Sg	**Sn**	**04 44 34.5**	**+0.2**
SJES	**Sjenica**	**1.17**	**14**	*e*Pg	**Pg**	**04 44 19.2**	**-0.7**
SJES				*e*Sg	**Sg**	**04 44 35.0**	**-0.2**
KLINJ	**Klinje**	**1.28**	**325**	*e*Pg	**Pn**	**04 44 20.5**	**-1.0**
KLINJ				*e*Sg	**Sn**	**04 44 39.3**	**+0.5**
OHR	**Ohrid**	**1.36**	**138**	*i* Pn	**Pg**	**04 44 23.9**	**+0.4**
RUDO	**Rudo**	**1.50**	**354**	*e*Pn	**Pb**	**04 44 25.1**	**-0.3**

JAMC	**Jamundi, Valle**	**5.04 224**	P	Pn	04 57 21.6	+2.0
	3.1nm,1.3s					
JAMC			S	Sn	04 58 19.4	+2.1
	3.1nm,1.3s					
POPC	**Popayan, Colom**	**5.54 220**	P	Pn	04 57 28.3	+2.0
	2.6nm,1.9s					
POPC			S	Sn	04 58 28.8	-0.5
	2.6nm,1.9s					
FLOC	**Florencia**	**5.80 206**	P	Pn	04 57 28.4	-1.1
	3.4nm,1.0s					
FLOC			S	Sn	04 58 34.6	-0.6
	3.4nm,1.0s					
BBAC	**Balboa, Cauca**	**6.31 221**	P	Pn	04 57 36.7	+0.3
BBAC			S	Sn	04 58 46.3	-1.3

IDC ***17*** *05:00:05.5±1.9, 9°.30S×125°.40E, h0km, mb3.7/1, mbtmp3.8/4, ML3.6/3, MS2.8/3, Error ellipse: s-maj=31.4km s-min=28.8km az=59.0*
DJA ***17*** *05:00:12.1±1.1, 9°.5S±4°×12°.5E±°, h12km±4km, M3.3/5, MLv3.3/5*
ISC 17 05:00:06.3±1.2, 9°.54S±0°.09×125°.32E±0°.06, h10km, n10, σ2.9 31/15, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.06 259**		P	**Pn**	**05 00 28.8**	**+1.4**
SOEI				S	**Sb**	**05 00 40.6**	**-0.3**
BATI	**Baumata**	**1.76 248**		Pn	**Pg**	**05 00 40.2**	**+0.1**
	21nm,0.3s,baz=157,slow=3.6,SNR=6.5						
BATI				Sn	**Sg**	**05 01 04.1**	**+1.1**
	22nm,0.3s,baz=326,slow=3.7,SNR=4.2						
BATI	**Baumata**	**1.76 248**		P	**Pb**	**05 00 38.2**	**-0.6**
BATI				S	**Sg**	**05 01 02.2**	**-0.8**
EDFI	**Ende, Flores**	**3.67 282**		P	**Pn**	**05 01 04.4**	**+1.1**
EDFI				S	**Sn**	**05 01 44.1**	**-2.6**
FITZ	**Fitzroy Crossi**	**8.51 178**		Pn	**Pn**	**05 02 13.0**	**+3.3**
	0.4nm,0.3s,baz=1.2,slow=12,SNR=34						
FITZ				Sn	**Sn**	**05 03 45.5**	**-0.4**
	1.3nm,0.3s,baz=208,slow=5.7,SNR=10.0						
FITZ				LR	LR	05 06 04.3	
	comp=Z,58nm,20.9s,baz=184,slow=41						
	2.8nm,0.6s						
WRA	**Warramunga Arr**	**13.52 141**		Pn	**Pn**	**05 03 21.2**	**+2.9**
	0.3nm,0.3s,baz=319,slow=13,SNR=22						
WRA				Sn	**Sn**	**05 05 44.1**	**-4.6**
	0.1nm,0.3s,baz=322,slow=24,SNR=2.9						
WRA				LR	LR	05 08 43.8	
	comp=Z,39nm,20.2s,baz=60,slow=38						
	2.8nm,0.8s						
ASAR	**Alice Springs**	**16.26 151**		Pn	**P**	**05 03 57.5**	**-0.5**
	0.3nm,0.3s,baz=322,slow=12,SNR=18						
ASAR				Sn	**Sn**	**05 06 52.4**	**-3.2**
	0.1nm,0.3s,baz=319,slow=21,SNR=3.1						
	0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**38.10 317**		LR	LR	05 27 00.5	
	comp=Z,15nm,19.1s,baz=205,slow=42						
MKAR	**Makanchi Array**	**67.93 330**		P	**P**	**05 11 05.1**	**-0.2**
	0.5nm,0.6s,baz=140,slow=8.1,SNR=3.2						
	0.5nm,0.6s						
VNDA	**Vanda**	**70.54 172**		P	P	05 11 27.4	+6.4
	0.4nm,0.5s,baz=318,slow=8.7,SNR=7.3						

FUNV ***17*** *05:15:59.5, 10°.92N×69°.37W, h25km, MW3.8*
RSNC ***17*** *05:16:01.0±0.6, 11°.5±°×7°.0W±°, h80km±21km, M3.4, mB3.9, mb4.0, ML3.1, Mw(mB)2.9, MwMwp5.0, Mwp5.2*
ISC 17 05:15:56.5±1.3, 10°.97N±0°.07×69°.43W±0°.03, h17km±11km, n34, σ2.9 08/55, 2C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACV	**Jacura**	**0.60**	**79**	↑eP	**Pg**	**05 16 08.5**	**0.0**
JACV				eS	**Sg**	**05 16 17.0**	**+0.5**
JACV	**Jacura**	**0.60**	**79**	↑eP	**Pg**	**05 16 08.2**	**-0.2**
JACV				eS	**Sn**	**05 16 19.6**	**-0.1**
BENV	**Beln**	**2.06 119**		eP	**Pn**	**05 16 32.1**	**+1.6**
BENV				eS	**Sn**	**05 16 55.6**	**-0.2**
BENV	**Beln**	**2.06 119**		eP	**Pn**	**05 16 32.1**	**+1.6**
BENV				eS	**Sn**	**05 16 55.2**	**-0.6**
SDV	**Santo Domingo**	**2.39 210**		P	**Pb**	**05 16 37.4**	**-1.7**
SDV				S	**Sn**	**05 17 05.4**	**+1.4**
BAUV	**El Baul**	**2.44 146**		eP	**Pn**	**05 16 36.7**	**+1.1**
BAUV				eS	**Sn**	**05 17 04.8**	**-0.2**
BAUV	**El Baul**	**2.44 146**		eP	**Pn**	**05 16 36.5**	**+0.9**
BAUV				eS	**Sn**	**05 17 03.3**	**-1.7**
TACV	**Tcata**	**2.51 109**		eP	**Pn**	**05 16 36.5**	**0.0**
TACV				eS	**Sn**	**05 17 06.0**	**-0.8**
FUNV	**FUNVISIS**	**2.62 101**		eP	**Pn**	**05 16 37.2**	**-1.0**
FUNV				eS	**Sn**	**05 17 08.2**	**-1.6**
FUNV	**FUNVISIS**	**2.62 101**		eP	**Pn**	**05 16 38.5**	**+0.3**
FUNV				eS	**Sn**	**05 17 06.7**	**-3.0**
MCQV	**Machiques**	**3.19 254**		eP	**Pn**	**05 16 47.7**	**+1.9**
MCQV				eS	**Sn**	**05 17 24.5**	**+1.0**
MCQV	**Machiques**	**3.19 254**		eP	**Pn**	**05 16 47.2**	**+1.3**
MCQV				eS	**Sn**	**05 17 23.9**	**+0.4**
CAPV	**Capacho**	**4.20 223**		eP	**Pn**	**05 17 01.0**	**+1.0**
CAPV				eS	**Sn**	**05 17 48.3**	**-0.5**
CAPV	**Capacho**	**4.20 223**		eP	**Pn**	**05 17 01.3**	**+1.4**
CAPV				eS	**Sn**	**05 17 44.9**	**-3.9**
CACV	**CAICARA DEL OR**	**4.43 140**		eP	Pn	05 17 08.1	+5.1
CACV				eS	**Sn**	**05 18 00.2**	**+6.1**
CACV	**CAICARA DEL OR**	**4.43 140**		eP	Pn	05 17 08.4	+5.5
CACV				eS	**Sn**	**05 17 58.6**	**+4.5**
OCAC	**Ocana**	**4.70 235**		P	**Pn**	**05 17 07.8**	**+1.0**
OCAC				S	**Sn**	**05 18 02.7**	**+1.7**
PCRV	**Puerto La Cruz**	**4.78 99**		eP	**Pn**	**05 17 08.0**	**+0.1**
PCRV				eS	**Sn**	**05 17 59.8**	**-3.2**
PCRV	**Puerto La Cruz**	**4.78 99**		eP	**Pn**	**05 17 08.6**	**+0.8**
PCRV				eS	**Sn**	**05 17 59.2**	**-3.7**
PAMC	**Pamplona, Colo**	**4.84 222**		P	**Pn**	**05 17 10.2**	**+1.2**
PAMC				S	**Sn**	**05 18 05.0**	**0.0**
ARGC	**Ariguani, Magd**	**4.86 257**		P	**Pn**	**05 17 09.6**	**+0.7**
BARC	**Barichara**	**5.71 221**		P	**Pn**	**05 17 23.6**	**+2.7**
BARC				S	**Sb**	**05 18 45.2**	**+0.9**
SJCC	**San Jacinto, C**	**5.75 260**		P	**Pn**	**05 17 22.4**	**+1.2**
	24nm,1.1s						
RUSC	**La Rusia**	**6.21 216**		P	**Pn**	**05 17 28.8**	**+1.0**
	14nm,1.0s						
PTBC	**PUERTO BERRIO,**	**6.64 229**		P	**Pn**	**05 17 32.7**	**-0.6**
	103nm4.5nm,0.7s						
PTBC				S	**Sn**	**05 18 43.4**	**-5.3**
	103nm4.5nm,0.7s						
SPBC	**San Pablo de B**	**7.00 221**		P	**Pn**	**05 17 39.1**	**+0.7**
	12nm,0.5s						
SPBC				S	**Sn**	**05 18 55.3**	**-2.4**
	12nm,0.5s						
NORC	**Norcasia**	**7.60 225**		P	**Pn**	**05 17 47.6**	**+0.9**
	5µm8.6nm,0.9s						
NORC				S	**Sn**	**05 19 10.6**	**-1.9**
	5µm8.6nm,0.9s						
HELC	**Santa Helena**	**7.67 232**		P	**Pn**	**05 17 49.9**	**+2.0**
	8.3nm,0.7s						
APAC	**Apartado, Choc**	**7.68 247**		P	Pn	05 17 54.7	+7.0
	12nm,0.8s						
GUY2C	**Guyana, Caldas**	**8.19 226**		P	**Pn**	**05 17 57.1**	**+2.0**
	16nm,0.6s						
CBOC	**Ciudad Bolivar**	**8.25 233**		P	**Pn**	**05 17 57.4**	**+1.7**
	6.2nm,1.1s						
ANIL	**Santa Ana**	**8.74 223**		P	**Pn**	**05 18 05.3**	**+2.8**
URMC	**La Uribe, Meta**	**9.11 213**		P	**Pn**	**05 18 08.7**	**+1.4**
	8.2nm,0.9s						
MACC	**Macarena, Meta**	**9.80 207**		P	**Pn**	**05 18 14.2**	**-2.6**

IDC ***17*** *05:34:40.9±1.7, 0°.79S×123°.51E, h0km, mb3.6/3, mbtmp3.8/4, ML4.4/1, MS3.0/4, Error ellipse: s-maj=39.7km s-min=27.6km az=67.0*
DJA ***17*** *05:34:43.2±0.5, 1°.5±2°×12°.3E±°, h17km±4km, M4.4/16, mB4.5/1, mb4.5/6, MLv4.3/16, Mw(mB)3.7/1*
ISC 17 05:34:41.4±1.0, 0.71S±0°.07×123.42E±0.04, h10km, n19, σ1.9 60/22, mb3.6/3, MS3.0/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.73 243**		P	**Pg**	**05 34 55.1**	**-0.4**
LUWI				S	**Sg**	**05 35 04.6**	**-0.4**
KMSI	**Cibinong**	**1.39 24**		P	**Pn**	**05 35 05.9**	**-1.0**
APSI	**Ampana**	**1.78 263**		P	**Pb**	**05 35 13.2**	**-0.9**
MRSI	**Marisa**	**1.89 308**		P	**Pn**	**05 35 11.3**	**-2.4**
SANI	**Sanana**	**2.90 117**		P	**Pn**	**05 35 27.1**	**-0.5**
SANI				S	**Sn**	**05 36 01.0**	**-1.5**
PCI	**Palu**	**3.59 267**		P	**Pn**	**05 35 40.0**	**+2.9**
TTSI	**Tana Toraja**	**4.28 237**		P	**Pn**	**05 35 47.2**	**+0.5**
TTSI				S	**Sn**	**05 36 34.0**	**-2.7**
NLAI	**Namlea**	**4.46 124**		P	**Pn**	**05 35 51.3**	**+2.2**
SPSI	**Sidrap Palu**	**4.88 228**		P	**Pn**	**05 35 55.9**	**+1.1**
SPSI				S	**Sn**	**05 36 50.5**	**-0.9**
BNSI	**Bone**	**4.94 222**		P	**Pn**	**05 35 56.3**	**+0.6**
KAPI	**Kappang**	**5.63 220**		Pn	**Pn**	**05 36 07.3**	**+2.0**
	10.0nm,0.3s,baz=5.8,slow=4.9,SNR=14						
KAPI				Sn	**Sn**	**05 37 09.6**	**-0.4**
	3.3nm,0.3s,baz=139,slow=19,SNR=1.5						
KAPI				LR	LR	05 38 17.2	
	comp=Z,83nm,19.6s,baz=48,slow=38						
	28nm,0.3s						
BKSI	**Bulukumba**	**5.64 216**		P	**Pn**	**05 36 07.1**	**+1.7**
	0.1nm19nm,0.5s						
BSSI	**Bau Bau, Buton**	**6.14 208**		P	**Pn**	**05 36 14.4**	**+2.1**
EDFI	**Ende, Flores**	**8.17 192**		P	**Pn**	**05 36 40.9**	**+0.6**
WRA	**Warramunga Arr**	**21.91 151**		P	**P**	**05 39 34.3**	**-0.7**
	2.3nm,0.8s,baz=329,slow=10.0,SNR=19						
	2.3nm,0.8s						
PSI	**Prapat**	**24.73 278**		LR	LR	05 51 45.9	
	comp=Z,44nm,18.9s,baz=70,slow=41						
ASAR	**Alice Springs**	**24.99 157**		P	**P**	**05 40 05.8**	**+0.3**
	1.3nm,0.5s,baz=326,slow=7.4,SNR=16						
ASAR				LR	LR	05 50 05.7	
	comp=Z,24nm,19.2s,baz=96,slow=37						
	1.3nm,0.5s						
SONM	**Songino Array**	**50.57 345**		LR	LR	06 06 12.8	
	comp=Z,25nm,18.1s,baz=72,slow=37						
MKAR	**Makanchi Array**	**59.43 328**		P	**P**	**05 44 46.0**	**+1.6**
	0.2nm,0.5s,baz=120,slow=8.7,SNR=1.8						
	0.2nm,0.5s						

IDC ***17*** *05:51:02.1±0.9, 47°.83S×13°.69W, h0km, mb4.0/6, mbtmp4.0/6, MS3.6/24, Error ellipse: s-maj=58.7km s-min=21.1km az=82.0*
ISC 17 05:51:03.5±0.8, 47°.8S±0°.1×13°.8W±0°.3, h10km, n34, σ0.9 80/13, mb4.0/8, MS3.7/24, 5C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**23.05 175**		↑P	**P**	**05 56 08.4**	**-0.1**
	comp=Z,2.0nm,0.7s						
VNA2	**Neumayer--Watz**	**23.37 175**		↑P	**P**	**05 56 11.0**	**-0.8**
	comp=Z,2.7nm,0.7s,baz=349,slow=10						
VNA3	**Neumayer Olymp**	**23.57 177**		↑P	**P**	**05 56 12.5**	**-1.3**
	comp=Z,8.8nm,0.7s						
SNAA	**Sanae**	**24.46 172**		↑P	**P**	**05 56 21.8**	**-0.5**
	comp=Z,57nm,0.9s						
SNAA	**Sanae**	**24.46 172**		P	**P**	**05 56 21.9**	**-0.3**
	comp=Z,3.2nm,1.1s,baz=335,slow=11,SNR=7.1						
SNAA				LR	LR	06 03 44.7	
	comp=Z,61nm,20.7s,baz=64,slow=31						
	comp=Z,3.2nm,1.1s						
TROLL	**Troll, Antarti**	**25.41 168**		↑P	**P**	**05 56 31.6**	**+0.7**
	comp=Z,92nm,0.7s						
PMSA	**Palmer Station**	**31.55 219**		LR	LR	06 07 45.1	
	comp=Z,94nm,21.9s,baz=83,slow=32						
CPUP	**Villa Florida**	**40.15 287**		LR	LR	06 13 41.0	
	comp=Z,9.3nm,19.0s,baz=28,slow=34						
QSPA	**South Pole Qui**	**42.43 180**		P	**P**	**05 58 59.4**	**+1.3**
	comp=Z,5.3nm,0.8s,baz=216,slow=4.0,SNR=5.8						
QSPA				LR	LR	06 14 17.8	
	comp=Z,68nm,22.0s,baz=212,slow=33						
	comp=Z,5.3nm,0.8s						
BDFB	**Brasilia**	**42.71 307**		P	**P**	**05 59 00.8**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=108,slow=11,SNR=3.3						
BDFB				LR	LR	06 13 55.4	
	comp=Z,73nm,18.7s,baz=140,slow=32						
	comp=Z,2.9nm,0.8s						
H04S2	**CROZET ISLANDS**	**43.30 114**		T	T	06 45 52.7	
	baz=241						
H04S3	**CROZET ISLANDS**	**43.30 114**		T	T	06 45 49.2	
	baz=241						
H04S1	**CROZET ISLANDS**	**43.31 114**		T	T	06 45 52.1	
	baz=241,SNR=4.9						
MATP	**Matopo**	**43.63 66**		LR	LR	06 15 36.9	
	comp=Z,34nm,18.8s,baz=180,slow=34						
RCBR	**Riachuelo**	**45.92 329**		LR	LR	06 14 13.1	
	comp=Z,21nm,19.9s,baz=92,slow=30						
SIV	**San Ignacio**	**50.06 293**		LR	LR	06 19 31.6	
	comp=Z,54nm,18.5s,baz=113,slow=34						
LPAZ	**La Paz**	**54.32 286**		LR	LR	06 22 33.5	
	comp=Z,19nm,21.4s,baz=126,slow=35						
DBIC	**Dimbokro**	**54.83 11**		LR	LR	06 18 17.6	
	comp=Z,61nm,20.0s,baz=188,slow=30						
VNDA	**Vanda**	**54.90 179**		P	**P**	**06 00 32.8**	**-0.8**
	comp=Z,0.5nm,0.2s,baz=89,slow=10,SNR=10						
VNDA				LR	LR	06 21 55.3	
	comp=Z,99nm,20.2s,baz=162,slow=34						
	comp=Z,0.5nm,0.2s						
TORD	**Torodi Ar. Bea**	**62.25 17**		P	**P**	**06 01 25.5**	**0.0**
	comp=Z,0.4nm,0.7s,baz=197,slow=7.8,SNR=2.1						
	comp=Z,0.4nm,0.7s						
MDP	**Montagnes des**	**62.77 315**		LR	LR	06 24 35.1	
	comp=Z,43nm,19.8s,baz=132,slow=32						
FURI	**Furi**	**73.02 55**		LR	LR	06 32 30.7	
	comp=Z,51nm,18.1s,baz=182,slow=34						
PCRV	**Puerto La Cruz**	**73.19 307**		LR	LR	06 32 00.5	
	comp=Z,77nm,21.0s,slow=34						
ROSC	**El Rosal**	**74.43 296**		LR	LR	06 34 14.6	
	comp=Z,50nm,18.4s,baz=246,slow=35						
SDV	**Santo Domingo**	**75.47 301**		LR	LR	06 35 06.3	
	comp=Z,45nm,18.1s,baz=196,slow=35						
SJG	**San Juan**	**80.61 310**		LR	LR	06 36 50.8	
	comp=Z,30nm,18.1s,baz=134,slow=34						
MDT	**Midelt**	**80.70 8**		LR	LR	06 34 13.5	
	comp=Z,34nm,20.3s,baz=204,slow=32						
KEST	**Kesra**	**85.72 19**		LR	LR	06 37 57.7	
	comp=Z,30nm,18.7s,baz=313,slow=33						
ESDC	**Sonseca Array**	**87.56 8**		P	**P**	**06 03 50.9**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=178,slow=3.9,SNR=2.6						
ESDC				LR	LR	06 38 01.8	
	comp=Z,38nm,19.2s,baz=188,slow=32						
	comp=Z,0.6nm,0.9s						
EIL	**Elat**	**88.69 41**		LR	LR	06 40 57.7	
	comp=Z,43nm,19.1s,baz=2.0,slow=34						
RPZ	**Rata Peaks**	**88.74 184**		LR	LR	06 39 21.9	
	comp=Z,146nm,20.9s,baz=318,slow=33						
ASF	**Jabal al Asfar**	**91.69 41**		LR	LR	06 43 12.7	
	comp=Z,20nm,19.1s,baz=246,slow=34						
DAVOX	**Davos/Dischmat**	**96.47 16**		LR	LR	06 44 36.3	
	comp=Z,29nm,18.7s,baz=260,slow=33						
ILAR	**Eielson Array**	**149.87 321**		PKP	**PKPdf**	**06 10 48.5**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=17,slow=1.9,SNR=9.2						
ILAR				PKPbc	**PKiKP**	**06 10 53.1**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=358,slow=2.0,SNR=7.6						

SOME ***17*** *05:55:52.3, 40°.45N×77°.60E, h10km*
KRNET ***17*** *05:55:52.6±0.1, 40°.46N×77°.54E, mb3.8*
NNC ***17*** *05:55:55.5±3.6, 40°.65N×77°.60E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=31.4km s-min=10.5km az=166.0*
ISC 17 05:55:49.7±2.3, 40°.2N±0°.1×77°.72E±0°.05, h5km±13km, n34, σ1.9 31/58, 15C-16D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.52**	**3**	↓eP	**Pn**	**05 56 16.9**	**-1.0**
TARG				↓eS	**Sn**	**05 56 34.6**	**-3.6**
JNKS	**Jany-Kuch**	**1.78**	**299**	↑eP	**Pn**	**05 56 21.6**	**+0.2**
JNKS				↑eS	**Sn**	**05 56 42.8**	**-1.7**
ULHL	**Ulahol**	**2.32 332**		P	**Sb**	**05 57 00.1**	**-0.9**
	SNR=8.5						
ULHL	**Ulahol**	**2.32 332**		↓eP	**Pn**	**05 56 29.9**	**+1.2**
ULHL				↓eS	**Sn**	**05 56 57.1**	**-0.6**
PRZ	**Przheval'sk**	**2.33**	**13**	↑eP	**Pb**	**05 56 31.4**	**-0.9**
PRZ				↑eS	**Sb**	**05 56 59.6**	**-1.8**
TNSS	**Tian-Shan**	**2.88 349**		eP	**Pb**	**05 56 41.8**	**0.0**
	6.2nm,0.2s						
TNSS				eS	**Sb**	**05 57 17.8**	**+0.3**
	92nm,0.5s						
KOTS	**Kotyrbulak**	**3.05 352**		eP	**Pb**	**05 56 44.9**	**+0.3**
	8.3nm,0.3s						
KOTS				eS	**Sb**	**05 57 22.8**	**+0.5**
	303nm,0.4s						
AAA	**Alma-Ata**	**3.06 349**		eP	**Pb**	**05 56 45.6**	**+1.0**
	81nm,0.3s						
AAA				eS	**Sb**	**05 57 24.0**	**+1.9**
	37nm,0.5s						
MTBS	**Maitube**	**3.07 342**		eP	**Pb**	**05 56 45.4**	**+0.5**
	19nm,0.2s						
MTBS				eS	**Sb**	**05 57 23.3**	**+0.6**
	153nm,0.6s						
UZB	**Uzynbulak**	**3.09**	**18**	eP	**Pb**	**05 56 45.9**	**+0.6**
	16nm,0.3s						
UZB				eS	**Sb**	**05 57 24.3**	**+0.9**
	78nm,0.7s						
KST	**Kastek**	**3.12 336**		eP	**Pb**	**05 56 45.5**	**-0.2**
	9.9nm,0.4s						
KST				eS	**Sb**	**05 57 23.7**	**-0.4**
	96nm,0.4s						
TKM2	**Tokmak 2**	**3.14 330**		P	**Pb**	**05 56 46.6**	**+0.6**
	SNR=23						
TKM2	**Tokmak 2**	**3.14 330**		↓eP	**Pn**	**05 56 41.3**	**+1.3**
TKM2				↓eS	**Sn**	**05 57 16.9**	**-1.1**
UCH	**Uchtor**	**3.15 311**		P	**Pb**	**05 56 44.2**	**-2.2**
	SNR=19						
UCH	**Uchtor**	**3.15 311**		↑eP	**Pn**	**05 56 41.9**	**+1.6**
UCH				↑eS	**Sn**	**05 57 17.8**	**-0.6**
KBK	**Karagaybulak**	**3.21 320**		P	**Pb**	**05 56 47.7**	**+0.5**
	SNR=14						
KBK	**Karagaybulak**	**3.21 320**		↑eP	**Pn**	**05 56 42.4**	**+1.5**
KBK				↑eS	**Sn**	**05 57 18.7**	**-0.9**
SHLS	**Shalkode**	**3.22**	**23**	eP	**Pg**	**05 56 51.3**	**-0.1**
	21nm,0.4s						
SHLS				eS	**Sg**	**05 57 33.8**	**+0.7**
	98nm,0.6s						
PDGK	**Podgornoye**	**3.39**	**22**	↓Pg	**Pb**	**05 56 50.8**	**+0.5**
	25nm,0.6s						
PDGK				↑Lg	Lg	05 57 34.0	
	137nm,0.6s						
AAK	**Ala-Archa**	**3.43 316**		P	**Pb**	**05 56 51.4**	**+0.5**
	SNR=9.2						
AAK	**Ala-Archa**	**3.43 316**		↑Pg	**Pb**	**05 56 50.7**	**-0.2**
	3.4nm,0.4s						
AAK				↓Lg	Lg	05 57 33.0	
	48nm,0.7s						
AAK	**Ala-Archa**	**3.43 316**		↑eP	**Pn**	**05 56 45.4**	**+1.5**
AAK				↑eS	**Sn**	**05 57 24.1**	**-0.9**
FRU1	**Bishkek**	**3.48 319**		↓eP	**Pn**	**05 56 46.3**	**+1.8**
FRU1				↓eS	**Sn**	**05 57 25.6**	**-0.5**
CHMS	**Chumysh**	**3.56 322**		P	**Pb**	**05 56 53.8**	**+0.6**
	SNR=14						
CHMS	**Chumysh**	**3.56 322**		↓eP	**Pn**	**05 56 47.1**	**+1.5**
CHMS				↓eS	**Sn**	**05 57 26.9**	**-1.2**
CHKK	**Chushkaly**	**3.68 352**		eP	**Pb**	**05 56 55.8**	**+0.6**
	26nm,0.7s						
CHKK				eS	**Sb**	**05 57 41.3**	**+1.2**
	180nm,0.4s						
KUU	**Kurty**	**3.82 345**		eP	**Pb**	**05 56 57.7**	**+0.2**
	4.0nm,0.1s						
KUU				eS	**Sb**	**05 57 44.6**	**+0.5**
	67nm,0.9s						
EKS2	**Erkin-Say**	**3.84 311**		↓eP	**Pn**	**05 56 51.2**	**+1.6**
EKS2				↓eS	**Sn**	**05 57 34.2**	**-0.9**
USP	**Ospenovka**	**3.89 323**		P	**Pb**	**05 56 59.3**	**+0.6**
	SNR=41						
USP	**Ospenovka**	**3.89 323**		↑eP	**Pn**	**05 56 51.6**	**+1.5**
USP				↑eS	**Sn**	**05 57 34.7**	**-1.4**
ARXS	**Arharly**	**4.00**	**1**	eP	**Pb**	**05 57 01.4**	**+0.8**
ARXS				eS	**Sb**	**05 57 51.4**	**+2.1**
MRKS	**Merke**	**4.22 308**		eP	**Pb**	**05 57 05.8**	**+1.4**
	2.9nm,0.2s						
MRKS				eS	**Sb**	**05 57 58.4**	**+2.8**
	17nm,0.4s						
KK31	**Karatay Array**	**6.12 301**		↑Pg	**Pg**	**05 57 44.4**	**-2.4**
	1.9nm,0.6s,baz=124,slow=18,SNR=14						
KK31				Lg	Lg	05 58 59.7	
	1.7nm,0.5s,baz=113,slow=29,SNR=4.8						
MK31	**Makanchi Array**	**7.37**	**25**	Pn	**Pn**	**05 57 39.5**	**+1.6**
	0.3nm,0.3s,baz=203,slow=14,SNR=11						
MK31				↓Sn	**Sn**	**05 59 00.2**	**-1.7**
	0.6nm,0.5s						
MK31				↓Lg	Lg	05 59 36.4	
	2.4nm,0.6s						

IDC 17 05:58:45.8±19.0, 24°.88S×73°.06E, h0km, mb3.7/3, mbtmp3.7/3, MS3.8/4, Error ellipse: s-maj=630.8km s-min=44.0km az=49.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**17.14 358**		T	T	06 19 50.7	
	baz=190,slow=76,SNR=17						
H08S1	**Diego Carcia H**	**17.14 358**		T	T	06 19 50.8	
	baz=190,slow=76,SNR=17						
H08S3	**Diego Garcia H**	**17.16 358**		T	T	06 19 50.7	
	baz=190,slow=76,SNR=34						
CMAR	**Chiang Mai Arr**	**49.91 33**		LR	LR	06 25 28.9	
	comp=Z,26nm,18.9s,baz=215,slow=32						
BRDH	**Bariadhala**	**50.60 22**		LR	LR	06 29 51.1	
	comp=Z,64nm,18.1s,baz=172,slow=37						
ASAR	**Alice Springs**	**55.06 102**		P	P	06 08 19.6	-0.1
	0.6nm,0.6s,baz=251,slow=7.0,SNR=9.3						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**56.47 98**		P	P	06 08 29.9	+0.1
	0.4nm,0.6s,baz=256,slow=7.6,SNR=3.0						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**71.82 7**		P	P	06 10 10.1	0.0
	1.3nm,1.1s,baz=206,slow=6.3,SNR=3.5						
	1.3nm,1.1s						
KVAR	**Kislovodsk Arr**	**73.94 338**		LR	LR	06 39 35.2	
	comp=Z,193nm,20.9s,baz=80,slow=33						
FINES	**FINESS Array B**	**93.96 339**		LR	LR	06 53 51.3	
	comp=Z,49nm,18.0s,baz=236,slow=35						

**IDC 17 05:59:19.6±2.6, 8°.42N×93°.74E, h0km, mb3.6/3, mbtmp3.7/4, ML4.2/1, MS3.2/4, Error ellipse: s-maj=82.9km s-min=32.2

LONE3	**El Aguacate, B**	**1.06**	**194**	*i* P	**Pb**	**06 13 05.0**	**-0.9**
LONE3				*e*S	**Sb**	**06 13 19.4**	**+0.1**
LONE3				IAML		06 13 19.9	
	comp=Z,7.8nm,1.2s						
JIDR	**Jimani**	**1.30**	**209**	*e*Pg	**Pn**	**06 13 09.7**	**+0.4**
JIDR				*e*Sg	**Sn**	**06 13 26.3**	**+0.2**
PODR	**Polo**	**1.46**	**184**	*e*Pg	**Pn**	**06 13 10.4**	**-1.3**
PODR				*e*Sg	**Sn**	**06 13 30.0**	**-0.4**
HATOM	**Hato Mayor del**	**1.90**	**116**	*e*Pg	**Pn**	**06 13 18.6**	**+1.0**
HATOM				*e*Sg	**Sb**	**06 13 44.7**	**+1.1**

ASRS ***17*** *06:25:31.0±1.2, 54°.13N×86°.38E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 17 06:25:34.5±2.9, 54°.13N×86°.42E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=23.4km s-min=14.5km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**260**	I	I	06 32 20.0	
	baz=79,slow=320,SNR=0.6						
ZALV	**Zalesovo Beam**	**0.96**	**260**	Pg	Pg	06 25 51.7	-1.2
	1.1nm,0.3s,baz=81,slow=16,SNR=7.3						
ZALV				Lg	Lg	06 26 06.6	
	1.7nm,0.3s,baz=77,slow=25,SNR=7.8						
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	06 27 05.3	+1.3
	0.1nm,0.3s,baz=54,slow=13,SNR=4.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.80**	**201**	Pn	Pn	06 27 30.1	+0.9
	0.1nm,0.3s,baz=24,slow=14,SNR=5.8						
	0.2nm,0.3s						

IDC 17 06:26:22.8±1.7, 2°.79N×127°.34E, h0km, mb3.8/4, mbtmp3.8/4, MS2.7/1, Error ellipse: s-maj=137.3km s-min=22.0km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**20.38**	**57**	LR	LR	06 37 57.0	
	comp=Z,22nm,21.4s,baz=191,slow=34						
WRA	**Warramunga Arr**	**23.61**	**163**	P	P	06 31 35.8	+0.1
	1.6nm,0.7s,baz=343,slow=10,SNR=17						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**27.06**	**167**	P	P	06 32 06.7	-0.6
	0.2nm,0.3s,baz=355,slow=8.1,SNR=5.8						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**58.67**	**325**	P	P	06 36 22.4	+0.3
	0.5nm,0.5s,baz=111,slow=7.9,SNR=4.3						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**62.85**	**327**	P	P	06 36 50.6	+0.1
	0.9nm,0.2s,baz=133,slow=6.3,SNR=4.6						
	0.9nm,0.2s						

DJA 17 06:42:52.0±0.3, 1°.S±2°×12°.9E±°, h10km, M3.9/9, mb4.2/2, MLv3.7/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.18**	**324**	P	Pn	06 43 28.1	-0.2
TNTI				S	Sb	06 43 58.6	0.0
MSAI	**Masohi**	**2.36**	**173**	P	Pn	06 43 31.0	+0.2
MSAI				S	Sb	06 44 03.1	-0.6
SWI	**Sorong**	**2.60**	**87**	P	Pn	06 43 33.8	-0.4
NLAI	**Namlea**	**2.72**	**215**	P	Pn	06 43 36.3	+0.5
NLAI				S	Sn	06 44 08.4	-0.5
SANI	**Sanana**	**2.87**	**248**	P	Pn	06 43 36.8	-1.1
FAKI	**Fak Fak**	**4.07**	**118**	P	Pn	06 43 53.5	-0.8
APSI	**Ampana**	**7.01**	**271**	P	Pn	06 44 33.5	-1.3
	21nm,0.8s						

NEIC ***17*** *06:44:43.2±0.7, 36°.93N±0°.01×97°.473W±0°.009, h5km±5km, mb_Lg3.0/109, ML3.3/24, ML3.4/46, Error ellipse: s-maj=2.0km s-min=0.8km az=163.0*

NEIC 17 06:44:43.2±0.7, 36°.92N±0°.02×97°.48W±0°.02, h6km±5km, Error ellipse: s-maj=2.7km s-min=1.5km az=207.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.09**	**2**	Pg		06 44 45.8	+0.4
KAN13				Sg		06 44 47.4	+0.6
BLOK	**Blackwell**	**0.27**	**127**	Pg		06 44 49.0	+0.5
GC02	**Grant County #**	**0.31**	**257**	Pg		06 44 49.8	+0.5
KAN01	**Argonia South**	**0.32**	**316**	Pg		06 44 50.0	+0.4
KAN01				IAML		06 44 54.7	
	comp=N,5μm,0.2s						
KAN14	**Manchester OK**	**0.39**	**275**	Pg		06 44 51.2	+0.4
KAN14				Sg		06 44 56.5	+0.6
KAN14				IAML		06 44 56.8	
	comp=N,4μm,0.1s						
KAN08	**Anthony NE Sta**	**0.50**	**308**	Pg		06 44 53.3	+0.5
KAN08				Sg		06 45 00.2	+0.9
KAN08				IAML		06 45 01.8	
	comp=N,3μm,0.4s						
CROK	**Carrier**	**0.58**	**224**	Pg		06 44 54.8	+0.4
CROK				Sg		06 45 02.8	+0.8
OK048	**Pawnee Station**	**0.67**	**139**	Pg		06 44 56.3	+0.3
OK048				IAML		06 45 05.4	
	comp=N,1μm,0.3s						
OK051	**E0350 and S346**	**0.67**	**129**	Pg		06 44 56.2	+0.2
OK051				IAML		06 45 07.0	
	comp=N,2μm,0.2s						
OK051				IAML		06 45 10.6	
	comp=N,2μm,0.2s						
QUOK	**Quay**	**0.97**	**140**	Pg		06 45 01.9	0.0
QUOK				Sg		06 45 14.7	+0.1
QUOK				IAML		06 45 21.0	
	comp=E,1μm,0.3s						
QUOK				IAML		06 45 23.1	
	comp=N,1μm,0.2s						
OK052	**Battle Ridge R**	**1.08**	**149**	Pg		06 45 03.7	-0.2
OK038	**West end E0370**	**1.11**	**247**	Pg		06 45 04.2	-0.2
OK029	**Liberty Lake**	**1.12**	**179**	Pg		06 45 04.6	-0.2
NOKA	**Waynoka**	**1.20**	**257**	IAML		06 45 27.5	
	comp=E,738nm,0.2s						
NOKA				IAML		06 45 29.9	
	comp=N,854nm,0.2s						
DEOK	**Depew**	**1.34**	**143**	IAML		06 45 29.5	
	comp=N,858nm,0.2s						
CSTR	**Hydro, Custer**	**1.60**	**218**	Pb		06 45 13.2	-0.1
FNO	**Franklin**	**1.66**	**178**	Pb		06 45 13.7	-0.6
TUL3	**Leonard**	**1.70**	**126**	Pb		06 45 14.1	-0.7
ELIS	**Ellis County**	**1.78**	**242**	Pb		06 45 15.7	-0.6
R32A	**Long Quarter,**	**1.79**	**327**	Pb		06 45 16.1	-0.4
RLO	**Rose Lookout**	**2.12**	**110**	Pn		06 45 20.3	+1.1
KSU1	**Kansas State U**	**2.28**	**17**	IAmb_Lg		06 46 00.9	
	comp=Z,67nm,0.9s						
X34A	**Smith Ranch, M**	**2.33**	**187**	Pb		06 45 24.6	-1.1
WMOK	**Wichita Mounta**	**2.42**	**206**	Pn	Pn	06 45 24.5	+1.1
U38A	**Gravette**	**2.54**	**100**	Pn	Pn	06 45 26.2	+1.3
CBKS	**Cedar Bluff**	**2.60**	**317**	Pn	Pn	06 45 27.1	+1.2
SMWD	**Samnorwood**	**2.88**	**232**	Pn	Pn	06 45 31.0	+1.3
HHAR	**Hobbs**	**2.92**	**102**	Pn	Pn	06 45 31.4	+1.2
LOOK	**Love County**	**2.93**	**175**	IAmb_Lg		06 46 21.4	
	comp=Z,34nm,0.8s						
WTFS	**Witchita Falls**	**3.25**	**195**	Pn	Pn	06 45 36.7	+1.9
AMTX	**Amarillo**	**3.97**	**240**	Pn	Pn	06 45 46.3	+1.5
AMTX				IAmb_Lg		06 46 58.4	
	comp=Z,44nm,0.8s						
P38A	**Dawn**	**4.12**	**48**	IAmb_Lg		06 46 56.8	
	comp=Z,58nm,0.8s						
MGMO	**Mountain Grove**	**4.18**	**85**	IAmb_Lg		06 46 57.3	
	comp=Z,34nm,0.8s						
N35A	**Tabor**	**4.19**	**19**	Pn		06 45 48.0	+0.4
Z38A	**Mt. Pleasant**	**4.19**	**150**	IAmb_Lg		06 47 07.3	
	comp=Z,41nm,0.7s						
RTBA	**Rita Blanca**	**4.25**	**265**	Pn		06 45 50.0	+1.3
R40A	**Maddies Statio**	**4.36**	**70**	Pn		06 45 50.7	+0.7
FCAR	**Ozark Folk Cen**	**4.44**	**102**	IAmb_Lg		06 47 02.6	
	comp=Z,53nm,0.7s						
X40A	**Basin Creek Fa**	**4.50**	**121**	Pn		06 45 52.7	+0.8
X40A				IAmb_Lg		06 47 14.9	
	comp=Z,38nm,0.7s						
WHAR	**Wooly Hollow**	**4.51**	**110**	IAmb_Lg		06 47 07.6	
	comp=Z,47nm,0.7s						
BGNE	**Belgrade**	**4.51**	**354**	Pn	Pn	06 45 52.4	+0.3
BGNE				IAmb_Lg		06 47 17.8	
	comp=Z,41nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.57**	**299**	Pn	Pn	06 45 54.4	+1.3
KSCO				IAmb_Lg		06 47 21.0	
	comp=Z,40nm,0.7s						
ABTX	**Abilene, Hawle**	**4.64**	**203**	IAmb_Lg		06 47 11.5	
	comp=Z,28nm,0.9s						
SN07	**Snyder 07**	**4.74**	**217**	IAmb_Lg		06 47 23.6	
	comp=Z,27nm,0.9s						
WLAR	**White Oak Lake**	**4.81**	**131**	IAmb_Lg		06 47 29.1	
	comp=Z,32nm,0.9s						
WHTX	**Lake Whitney,**	**4.92**	**180**	Pn	Pn	06 45 58.5	+0.8
P40A	**Paris**	**5.01**	**57**	IAmb_Lg		06 47 27.9	
	comp=Z,39nm,0.9s						
POST	**Post**	**5.07**	**222**	IAmb_Lg		06 47 32.1	
	comp=Z,18nm,0.8s						
CCM	**Cathedral Cave**	**5.09**	**75**		Pn	06 46 00.8	+0.8
CCM	**Cathedral Cave**	**5.09**	**75**	IAmb_Lg		06 47 29.7	
	comp=Z,27nm,0.9s						
237A	**Washetta, Mont**	**5.10**	**164**	IAmb_Lg		06 47 37.7	
	comp=Z,20nm,1.1s						
MSTX	**Muleshoe**	**5.23**	**237**	Pn	Pn	06 46 03.5	+1.5
CCAR	**Cane Creek**	**5.54**	**121**	IAmb_Lg		06 47 43.3	
	comp=Z,28nm,0.8s						
T25A	**Trinidad**	**5.55**	**274**	IAmb_Lg		06 47 44.7	
	comp=Z,28nm,0.7s						
NATX	**Nacogdoches**	**5.65**	**155**	IAmb_Lg		06 47 46.6	
	comp=Z,21nm,0.8s						
PBMO	**Poplar Bluff**	**5.66**	**89**	IAmb_Lg		06 47 52.1	
	comp=Z,25nm,0.7s						
BRDY	**Brady**	**5.76**	**193**	IAmb_Lg		06 47 53.1	
	comp=Z,17nm,0.7s						
SGCY	**Sterling City**	**5.83**	**212**	IAmb_Lg		06 48 04.2	
	comp=Z,31nm,0.9s						
K30B	**Basset**	**5.97**	**345**	IAmb_Lg		06 47 58.0	
	comp=Z,32nm,0.7s						
SLM	**Saint Louis**	**5.99**	**71**	IAmb_Lg		06 47 51.2	
	comp=Z,15nm,0.8s						
435B	**Jarrell**	**6.12**	**181**	IAmb_Lg		06 47 58.6	
	comp=Z,19nm,0.8s						
CGM3	**Cape Girardeau**	**6.26**	**84**	IAmb_Lg		06 48 11.1	
	comp=Z,19nm,0.9s						
Q24A	**Divide**	**6.39**	**291**	IAmb_Lg		06 48 09.1	
	comp=Z,20nm,0.9s						
143A	**Socs Landing,**	**6.53**	**128**	IAmb_Lg		06 48 20.4	
	comp=Z,24nm,0.8s						
S44A	**Carbondale**	**6.60**	**81**	IAmb_Lg		06 48 15.2	
	comp=Z,23nm,0.7s						
SIUC	**Southern Illin**	**6.63**	**81**	IAmb_Lg		06 48 16.1	
	comp=Z,27nm,0.8s						
OZNA	**Ozona**	**6.71**	**208**	IAmb_Lg		06 48 32.8	
	comp=Z,24nm,1.3s						
JCT	**Junction City**	**6.71**	**197**	IAmb_Lg		06 48 31.2	
	comp=Z,25nm,0.8s						
ECSD	**EROS Data Cent**	**6.84**	**5**		Pn	06 46 23.6	-0.5
ECSD	**EROS Data Cent**	**6.84**	**5**	IAmb_Lg		06 48 21.1	
	comp=Z,18nm,1.2s						
Q44A	**Meyer Farm, Va**	**6.98**	**71**	IAmb_Lg		06 48 31.5	
	comp=Z,24nm,0.9s						
L40A	**Anamosa**	**7.05**	**41**	IAmb_Lg		06 48 28.5	
	comp=Z,29nm,0.8s						
Y45A	**Yeager Farm, C**	**7.16**	**113**	IAmb_Lg		06 48 35.1	
	comp=Z,24nm,0.8s						
HDIL	**Hopedale**	**7.36**	**58**	IAmb_Lg		06 48 38.8	
	comp=Z,28nm,0.7s						
OLIL	**Olney**	**7.64**	**73**	IAmb_Lg		06 48 52.5	
	comp=Z,23nm,1.0s						
I37A	**Lemond, Waseca**	**7.74**	**22**	IAmb_Lg		06 48 53.3	
	comp=Z,18nm,0.7s						
USIN	**University of**	**7.88**	**79**	IAmb_Lg		06 49 06.1	
	comp=Z,17nm,0.8s						
DRIO	**Del Rio**	**7.93**	**200**	IAmb_Lg		06 48 56.8	
	comp=Z,10nm,0.8s						
SAND	**Sanderson**	**7.96**	**210**	IAmb_Lg		06 49 10.6	
	comp=Z,12nm,1.0s						
JFWS	**Jewell Farm**	**8.16**	**41**	IAmb_Lg		06 49 02.8	
	comp=Z,24nm,0.8s						
Y22D	**IRIS PASSCAL I**	**8.21**	**253**	IAmb_Lg		06 49 20.7	
	comp=Z,22nm,0.8s						
HAYD	**Hayden**	**8.44**	**298**	IAmb_Lg		06 49 19.4	
	comp=Z,14nm,1.1s						
Z47A	**Carrollton**	**8.56**	**113**	IAmb_Lg		06 49 24.0	
	comp=Z,18nm,1.1s						
I40A	**Norwalk**	**8.71**	**35**	IAmb_Lg		06 49 19.2	
	comp=Z,18nm,1.0s						
RSSD	**Black Hills**	**8.75**	**327**	IAmb_Lg		06 49 35.2	
	comp=Z,9.9nm,0.9s						
F33A	**5 Mile Ranch,**	**8.95**	**5**	IAmb_Lg		06 49 31.8	
	comp=Z,11nm,1.2s						
G40A	**Rib Lake**	**9.98**	**31**	IAmb_Lg		06 50 02.4	
	comp=Z,7.7nm,0.9s						

RSNC ***17*** *07:02:26.9±0.3, 5°.N±2°×8°.3W±°, h0km, M4.2, mB4.9, mb4.5, ML2.9, Mw(mB)4.2*
UPA ***17*** *07:02:28.9±0.9, 5°.48N×82°.52W, h22km±16km, ML3.9, MW4.2*
UCR ***17*** *07:02:30.5±1.4, 5°.50N×82°.79W, h35km±999km, MW3.7*

ISC 17 07:02:28.6±1.1, 5°.34N±0°.05×82°.82W±0°.06, h35km, n89, σ1°.88/106, 2C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPC	**Malpelo**	**1.79**	**138**	P	**Pn**	**07 02 55.4**	**-1.7**
MAPC				S	**Sn**	**07 03 15.3**	**-3.4**
CACAO	**El Cacao, Vera**	**2.79**	**44**	*e*P	**Pn**	**07 03 08.0**	**-2.7**
CACAO				*e*P	**Pn**	**07 03 08.5**	**-2.3**
CACAO				*e*S	**Sn**	**07 03 37.1**	**-6.0**
PTPM	**Petroterminale**	**2.85**	**359**	*e*P	**Pn**	**07 03 10.1**	**-1.5**
PTPM				*e*S	**Sn**	**07 03 42.9**	**-1.8**
LOCO3	**Loma Colorada,**	**3.08**	**7**	*e*P	**Pn**	**07 03 13.7**	**-1.1**
PIRO	**Carate, Puerto**	**3.09**	**350**	*e*P	**Pn**	**07 03 14.6**	**-0.3**
PIRO				*e*S	**Sn**	**07 03 50.4**	**-0.3**
PIRO	**Carate, Puerto**	**3.09**	**350**	P	Pn	07 03 31.0	+16
DVD	**David**	**3.10**	**7**	*e*P	**Pn**	**07 03 14.1**	**-0.9**
DVD				*e*P	**Pn**	**07 03 14.2**	**-0.9**
DVD				*e*S	**Sn**	**07 03 49.6**	**-1.3**
PSOM3	**Paja de Sombre**	**3.36**	**8**	*e*P	**Pn**	**07 03 17.8**	**-1.0**
BQSF3	**Alto Boquete,**	**3.40**	**6**	*e*P	**Pn**	**07 03 18.3**	**-1.1**
BQSF3				*e*S	**Sn**	**07 03 58.5**	**-0.1**
BRU2	**Volcan**	**3.44**	**2**	*i*P	**Pn**	**07 03 19.1**	**-0.7**
BRU2				AMP		07 03 19.6	
	comp=Z,295nm,0.3s						
BRU2				*e*S	**Sn**	**07 03 57.7**	**-1.7**
BRU2	**Volcan**	**3.44**	**2**	P	**Pn**	**07 03 19.4**	**-0.4**
BRU2	**Volcan**	**3.44**	**2**	S	Sn	07 03 36.3	-23
LNBQ3	**Los Naranjos,**	**3.45**	**6**	*e*P	**Pn**	**07 03 18.9**	**-1.2**
BC3P	**Paso Ancho**	**3.46**	**3**	*e*P	**Pn**	**07 03 20.1**	**-0.2**
RBALA	**Bur**	**3.58**	**11**	*e*P	**Pn**	**07 03 21.3**	**-0.4**
ALCO	**Alturas Coton,**	**3.59**	**360**	*i*P	**Pn**	**07 03 20.8**	**-1.2**
OCHAL	**Ojochal**	**3.82**	**348**	S	Sn	07 03 51.5	-17
OCHAL	**Ojochal**	**3.82**	**348**	P	**Pn**	**07 03 28.5**	**+3.5**
DRK0	**Durika**	**3.92**	**354**	*e*P	**Pn**	**07 03 26.4**	**-0.2**
DRK0	**Durika**	**3.92**	**354**	*e*P	**Pn**	**07 03 26.1**	**-0.5**
DRK0	**Durika**	**3.92**	**354**	P	**Pn**	**07 03 23.7**	**-2.9**
SAJE	**San Jernim**	**4.04**	**350**	*e*P	**Pn**	**07 03 27.8**	**-0.4**
CEUA	**Cerro Uatsi, L**	**4.26**	**358**	*e*P	**Pn**	**07 03 32.8**	**+1.7**
CEUA				*e*S	**Sn**	**07 04 23.4**	**+3.8**
QUEP	**Quepos**	**4.28**	**342**	S	Sn	07 04 01.2	-19
QUEP	**Quepos**	**4.28**	**342**	P	**Pn**	**07 03 33.6**	**+2.3**
BUS1	**Rivas**	**4.29**	**348**	*e*P	**Pn**	**07 03 31.7**	**-0.1**
BUS1				*e*S	**Sn**	**07 04 19.7**	**-1.2**
LAES	**El Progreso Va**	**4.40**	**357**	*e*P	**Pn**	**07 03 25.3**	**-7.7**
RAZU	**San Marcos de**	**4.46**	**345**	*e*P	**Pn**	**07 03 34.0**	**+0.1**
LCR2	**La Lucha 2**	**4.53**	**345**	P	**Pn**	**07 03 32.2**	**-2.7**
VERH	**Veragua Rainfo**	**4.57**	**355**	*e*P	**Pn**	**07 03 36.2**	**+0.8**
REPA	**Paraso**	**4.58**	**347**	*e*P	**Pn**	**07 03 36.9**	**+1.3**
ACOS	**Acosta**	**4.62**	**343**	*i*P	**Pn**	**07 03 35.7**	**-0.5**
ACOS				*e*S	**Sn**	**07 04 27.0**	**-1.8**
PCAYA	**Pacayas**	**4.65**	**348**	*e*P	**Pn**	**07 03 37.4**	**+0.7**
RAFA	**San Farael, Vo**	**4.69**	**348**	*e*P	**Pn**	**07 03 38.0**	**+0.6**
CVTV	**Turrialba Volc**	**4.73**	**349**	*e*P	**Pn**	**07 03 38.3**	**+0.6**
VICA	**Volcano Irazu**	**4.73**	**348**	*e*P	**Pn**	**07 03 39.0**	**+1.2**
CVTQ	**Turrialba Volc**	**4.73**	**349**	*e*P	**Pn**	**07 03 38.4**	**+0.6**
SJS3	**Mercedes San J**	**4.73**	**345**	*e*P	**Pn**	**07 03 38.7**	**+1.0**
VTR0	**Volcan Turrial**	**4.74**	**349**	*e*P	**Pn**	**07 03 38.7**	**+0.6**
VTR0				*e*S	**Sn**	**07 04 32.3**	**+0.2**
SANTA	**Santa Ana**	**4.76**	**344**	*e*P	**Pn**	**07 03 38.4**	**+0.4**
SANTA				*e*S	**Sn**	**07 04 30.0**	**-2.1**
IRES	**Siquirres**	**4.78**	**352**	*e*P	**Pn**	**07 03 39.6**	**+1.5**
DOMI	**Santo Domingo**	**4.78**	**345**	*e*P	**Pn**	**07 03 38.7**	**+0.3**
CBL1	**Cabuya**	**4.79**	**332**	*e*P	**Pn**	**07 03 38.0**	**-0.3**
BELE	**Belen**	**4.80**	**344**	*e*P	**Pn**	**07 03 38.7**	**0.0**
HEME	**Heredia, Merce**	**4.81**	**344**	*e*P	**Pn**	**07 03 40.4**	**+1.7**
BCIP	**Isla Barro Col**	**4.82**	**38**	*e*P	**Pn**	**07 03 38.9**	**+0.1**
BCIP	**Isla Barro Col**	**4.82**	**38**	P	**Pn**	**07 03 38.7**	**0.0**
BCIP	**Isla Barro Col**	**4.82**	**38**	P	**Pn**	**07 03 37.5**	**-1.2**
BCIP				S	**Sn**	**07 04 29.5**	**-3.8**
ATEO	**Atenas**	**4.86**	**342**	*e*P	**Pn**	**07 03 39.4**	**-0.1**
TCS1	**Tacares**	**4.90**	**343**	P	**Pn**	**07 03 35.9**	**-4.0**
PALD	**Palmares**	**4.95**	**341**	*e*P	**Pn**	**07 03 41.2**	**+0.6**
ZARE	**Zarcero**	**5.06**	**342**	*e*P	**Pn**	**07 03 42.8**	**+0.5**
CAZU	**Cerro Azul, Pa**	**5.14**	**41**	*e*P	**Pn**	**07 03 42.1**	**-1.2**
NYURE	**Nandayure**	**5.22**	**333**	*e*P	**Pn**	**07 03 45.0**	**+0.8**
INDI	**Punta índio, G**	**5.23**	**330**	P	Pn	07 03 52.3	+8.0
CMARA	**Lajas Hojancha**	**5.32**	**331**	P	Pn	07 03 51.2	+5.5
SOCE	**Pocosol**	**5.32**	**341**	*e*P	**Pn**	**07 03 46.7**	**+1.0**
SOCE	**Pocosol**	**5.32**	**341**	P	**Pn**	**07 03 41.5**	**-4.2**
MTEVE	**Monteverde**	**5.33**	**338**	*e*P	**Pn**	**07 03 47.1**	**+1.1**
JUNT	**Juntas**	**5.35**	**337**	*e*P	**Pn**	**07 03 46.8**	**+0.7**
JTS	**Las Juntas de**	**5.36**	**337**	*e*P	**Pn**	**07 03 48.3**	**+2.1**
JTS				*e*S	**Sn**	**07 04 46.9**	**+0.3**
JTS	**Las Juntas de**	**5.36**	**337**	*e*P	**Pn**	**07 03 46.9**	**+0.7**
JTS	**Las Juntas de**	**5.36**	**337**	P	**Pn**	**07 03 46.5**	**+0.4**
JTS	**Las Juntas de**	**5.36**	**337**	P	**Pn**	**07 03 46.0**	**-0.1**
	comp=Z,24nm,0.8s						
JTS				S	**Sn**	**07 04 46.5**	**-0.1**
	comp=Z,24nm,0.8s						
ARE1	**Arenal 1**	**5.43**	**340**	*e*P	**Pn**	**07 03 48.5**	**+1.4**
JUD3	**Juan Diaz 3**	**5.50**	**331**	*e*P	**Pn**	**07 03 48.8**	**+0.6**
TILA	**Tilaran**	**5.53**	**337**	*e*P	**Pn**	**07 03 49.2**	**+0.7**
COVE	**Coope Vega, Sa**	**5.57**	**344**	P	Pn	07 03 39.8	-9.3
ELI1	**Hacienda Flor**	**5.93**	**333**	P	**Pn**	**07 03 54.7**	**+0.8**
BBAC	**Balboa, Cauca**	**6.46**	**120**	P	**Pn**	**07 04 02.2**	**+0.7**
	comp=Z,863nmcomp=Z,43nm,0.4s						
BBAC				S	**Sn**	**07 05 11.1**	**-3.1**
	comp=Z,863nmcomp=Z,43nm,0.4s						
JAMC	**Jamundi, Valle**	**6.48**	**109**	P	**Pn**	**07 04 01.8**	**0.0**
	comp=Z,812nmcomp=Z,21nm,0.4s						
JAMC				S	**Sn**	**07 05 11.6**	**-3.1**
	comp=Z,812nmcomp=Z,21nm,0.4s						
YOTC	**Yotoco, Valle**	**6.59**	**102**	P	**Pn**	**07 04 04.3**	**+1.1**
	comp=Z,491nmcomp=Z,30nm,0.5s						
YOTC				S	**Sn**	**07 05 15.2**	**-2.1**
	comp=Z,491nmcomp=Z,30nm,0.5s						
CUSE	**Cuicocha Este**	**6.67**	**138**	P	**Pn**	**07 04 05.3**	**+0.7**
APAC	**Apartado, Choc**	**6.70**	**67**	P	**Pn**	**07 04 07.8**	**+3.2**
	comp=Z,40nm,0.5s						
APAC				S	**Sn**	**07 05 21.8**	**+2.0**
	comp=Z,40nm,0.5s						
POPC	**Popayan, Colom**	**6.73**	**114**	P	**Pn**	**07 04 05.7**	**+0.5**
POPC				S	**Sn**	**07 05 17.3**	**-3.5**
GCUF	**Volcan Galeras**	**6.82**	**127**	P	**Pn**	**07 04 08.8**	**+2.1**
	comp=Z,547nmcomp=Z,16nm,0.5s						
GCUF				S	**Sn**	**07 05 20.5**	**-3.0**
	comp=Z,547nmcomp=Z,16nm,0.5s						
CRUC	**La Cruz**	**6.95**	**122**	P	**Pn**	**07 04 12.4**	**+4.0**
ACON	**Acoyapa**	**6.99**	**341**	P	Pn	07 03 57.6	-11
PPLP	**Puerto Lpez**	**7.14**	**163**	P	**Pn**	**07 04 12.4**	**+1.8**
	comp=Z,22nm,1.1s						
PPLP				S	**Sn**	**07 05 29.6**	**-1.0**
	comp=Z,22nm,1.1s						
HELC	**Santa Helena**	**7.30**	**83**	P	**Pn**	**07 04 13.0**	**-0.2**
	comp=Z,8.0nm,1.0s						
HELC				S	**Sn**	**07 05 35.5**	**+0.4**
	comp=Z,8.0nm,1.0s						
GUY2C	**Guyana, Caldas**	**7.42**	**91**	P	**Pn**	**07 04 17.7**	**+2.7**
	comp=Z,6.6nm,0.7s						
GUY2C				S	**Sn**	**07 05 38.5**	**+0.2**
	comp=Z,6.6nm,0.7s						
ANIL	**Santa Ana**	**7.44**	**96**	P	**Pn**	**07 04 16.5**	**+1.5**
ANIL				S	**Sn**	**07 05 39.1**	**+0.8**
BOAB	**BOACO BROADBAN**	**7.60**	**338**	P	Pn	07 04 07.5	-9.5
ORTC	**Ortega, Tolima**	**7.68**	**100**	P	**Pn**	**07 04 21.0**	**+2.9**
	comp=Z,20nm,0.6s						
FLOC	**Florencia**	**8.07**	**117**	P	**Pn**	**07 04 25.8**	**+2.4**
PRAC	**Prado**	**8.07**	**101**	P	**Pn**	**07 04 25.8**	**+2.3**
	comp=Z,16nm,0.5s						
PTBC	**PUERTO BERRIO,**	**8.40**	**81**	P	**Pn**	**07 04 30.9**	**+2.9**
	comp=Z,71nmcomp=Z,5.6nm,0.7s						
URMC	**La Uribe, Meta**	**8.67**	**104**	P	**Pn**	**07 04 34.9**	**+3.2**
	comp=Z,6.7nm,0.7s						
MACC	**Macarena, Meta**	**9.50**	**109**	P	**Pn**	**07 04 46.1**	**+3.1**

SNET ***17*** *07:14:07.6±0.8, 13°.07N×89°.06W, h48km, ML3.1*
CATAC ***17*** *07:14:07.8±0.6, 13°.N±4°×8°.9W±°, h29km±4km, M3.1/19, M

LLNJ	Naranjito	0.12	187	⇓	iP	Pn	07 16 36.1	-0.3	CEDE	Laguna Cedeo	1.08	326	⇑	eP	Pn	07 16 47.9	-0.2	GLG1	Gilan-e-Gharb	3.37	299		Pn	Pn	07 29 14.3	+1.3
LLNJ					eS	Sn	07 16 42.7	+1.4	CEDE					eS	Sn	07 17 03.5	+1.6	ANAR	Anarak	3.65	78		Pn	Pn	07 29 19.1	+2.2
PIEC	Cerro El Cedra	0.13	76	⇓	iP	Pn	07 16 36.2	-0.6	JUNT	Juntas	1.10	309	⇓	iP	Pn	07 16 47.9	-0.4	KBD	Kabd	3.66	205		P	Pn	07 29 20.1	+3.1
PIEC					eS	Sn	07 16 42.8	+0.7	JTS	Las Juntas de	1.10	309	⇓	iP	Pn	07 16 47.6	-0.7	KBD					S	Sn	07 30 03.1	+3.5
PAR1A	Puntarenas Pro	0.17	272	⇓	eP	Pn	07 16 36.4	-0.2	JTS					eS	Sn	07 17 03.6	+1.2	QRS1	Rashteghoun_ Q	3.84	8		Pn	Pn	07 29 20.6	+1.1
LCR2	La Lucha 2	0.17	28		P	Pn	07 16 36.2	-0.8	JTS	Las Juntas de	1.10	309	⇓	eP	Pn	07 16 47.6	-0.7	ICHK	Chekchek	4.19	92		Pn	Pn	07 29 26.9	+2.5
QUEP	Quepos	0.18	206	⇓	iP	Pn	07 16 36.2	-0.5	JTS					eS	Sn	07 17 02.6	+0.1	BHD	Baghdad	4.34	281		ePn	Pn	07 29 26.0	-0.2
QUEP					eS	Sn	07 16 42.6	+0.6	JTS	Las Juntas de	1.10	309		P	Pn	07 16 47.7	-0.7	BHD					eS	Sn	07 30 17.0	+0.8
QUEP	Quepos	0.18	206		P	Pn	07 16 36.2	-0.5	JTS					S	Sn	07 17 02.5	+0.1	DSBU	Dashti - Bushe	4.42	159		Pn	Pn	07 29 30.9	+3.4
SVQ2	Quepos	0.18	207	⇓	iP	Pn	07 16 36.2	-0.6	REZ	Monterrey de S	1.11	327		eP	Pn	07 16 48.3	-0.2	IMEH	Mehriz	4.52	103		Pn	Pn	07 29 31.3	+2.4
SVQ2					eS	Sn	07 16 42.4	+0.5	REZ					eS	Sn	07 17 04.5	+1.9	IBAF	Bafgh	5.27	99		Pn	Pn	07 29 41.8	+2.7
ACOS	Acosta	0.22	339	⇓	iP	Pn	07 16 36.6	-0.7	TABAC	Tabacon	1.12	323	⇑	eP	Pn	07 16 48.7	0.0	TPRV	Parvadeh(Tabas	6.11	83		Pn	Pn	07 29 52.1	+1.6
ACOS					eS	Sn	07 16 43.1	+0.3	TABAC					eS	Sn	07 17 05.5	+2.4	TKDS	Koohdasht(Taba	6.52	78		Pn	Pn	07 29 58.1	+1.8
AMPA	Desamparados	0.30	4	⇑	iP	Pn	07 16 37.3	-0.8	CEUA	Cerro Uatsi, L	1.13	88		eP	Pn	07 16 48.7	0.0	SHMA	Al-Shehemyia	6.77	168		P	Pn	07 30 01.8	+2.2
AMPA					eS	Sn	07 16 44.4	+0.2	COVE	Coope Vega, Sa	1.17	345		P	Pn	07 16 48.2	-1.0	SHMA					S	Sn	07 31 16.7	+0.6
TAGO	Cartago	0.32	30	⇑	iP	Pn	07 16 37.6	-0.6	COVE	Coope Vega, Sa	1.17	345		S	Sn	07 17 03.5	-0.4	SMRA	Abu-Samra	7.84	171		S	Sn	07 31 43.3	+0.8
TAGO					eS	Sn	07 16 45.0	+0.5	CHIK	Chiripa	1.17	316		eP	Pn	07 16 49.3	-0.1	TRNA	Turayna	7.91	168		P	Pn	07 30 16.6	+1.4
REPA	Paraso	0.32	42	⇑	iP	Pn	07 16 37.6	-0.6	NYURE	Nandayure	1.22	289	⇓	eP	Pn	07 16 48.8	-1.1	TRNA					S	Sn	07 31 44.2	+0.1
REPA					eS	Sn	07 16 44.9	+0.5	TILA	Tilaran	1.23	315	⇑	eP	Pn	07 16 49.9	-0.2	BSRN	Basiran	8.21	91		Pn	Pn	07 30 21.6	+2.1
TRIO	Tres Rios	0.33	16	⇑	iP	Pn	07 16 37.4	-0.9	TILA					eS	Sn	07 17 06.1	+0.5	SLWR	Sila	8.64	166		P	Pn	07 30 27.2	+1.8
TRIO					eS	Sn	07 16 44.8	+0.2	CNAS	Canas	1.30	310		eP	Pn	07 16 52.4	+1.4	SLWR					S	Sn	07 32 02.0	-0.3
BUS1	Rivas	0.34	96	⇑	eP	Pn	07 16 37.8	-0.9	QUEB	Quebradon, Cot	1.30	322		eP	Pn	07 16 51.0	-0.1	SHME	Shamm	8.69	136		P	Pn	07 30 27.3	+1.3
PURI	Puriscal	0.34	319	⇓	eP	Pn	07 16 37.7	-0.7	EDAD	Golfito	1.30	136	⇓	iP	Pn	07 16 50.3	-0.8	SHME					S	Sn	07 32 02.3	-1.2
PURI					eS	Sn	07 16 45.1	+0.3	EDAD					eS	Sn	07 17 06.0	-1.3	BANOM	Banah	8.88	136		P	Pn	07 30 29.0	+0.4
CENT	San Jose	0.34	1		eP	Pn	07 16 38.7	+0.3	INVE	Universidad In	1.30	313		eP	Pn	07 16 50.6	-0.5	BANOM					S	Sn	07 32 07.6	-0.6
CENT					eS	Sn	07 16 46.6	+1.8	FITO	Golfito	1.33	136		eP	Pn	07 16 50.4	-1.0	MASF	Masafi	9.22	139		P	Pn	07 30 34.0	+0.6
ECI	Escuela Centro	0.35	6	⇑	eP	Pn	07 16 37.9	-0.6	VITO	San Vito	1.34	125		eP	Pn	07 16 51.2	-0.5	MASF					S	Sn	07 32 15.0	-1.7
ECI					eS	Sn	07 16 45.6	+0.7	VITO					eS	Sn	07 17 09.1	+0.6	NAZ	Nazwa, Dubai	9.27	143		P	Pn	07 30 34.5	+0.6
SJS3	Mercedes San J	0.35	6	⇑	eP	Pn	07 16 37.9	-0.6	TIMP	Tierras Morena	1.35	317	⇑	eP	Pn	07 16 51.4	-0.4	AJN	Ajban	9.30	147		P	Pn	07 30 34.7	+0.4
SJS3					eS	Sn	07 16 45.9	+0.9	TIMP					eS	Sn	07 17 09.9	+1.4	MDH	Madha	9.36	139		P	Pn	07 30 35.5	+0.4
MEXI	Barrio Mexico	0.35	0	⇑	iP	Pn	07 16 38.0	-0.6	CMARA	Lajas Hojancha	1.39	288		P	Pn	07 16 50.7	-1.6	MDH					S	Sn	07 32 18.6	-1.3
MEXI					eS	Sn	07 16 45.8	+0.3	CMARA	Lajas Hojancha	1.39	288		S	Sn	07 17 08.9	-0.5	ASUD	Al Ashush, Dub	9.40	145		P	Pn	07 30 37.6	+1.9
SANTA	Santa Ana	0.35	344	⇓	eP	Pn	07 16 37.6	-1.0	ALCO	Alturas Coton,	1.39	117	⇓	iP	Pn	07 16 51.3	-1.1	ASUD					S	Sn	07 32 19.8	-1.2
SANTA					eS	Sn	07 16 45.1	+0.1	ALCO					eS	Sn	07 17 09.2	-0.5	UOSS	Minazif	9.59	140		P	Pn	07 30 39.2	+0.9
LUPE	Guadalupe	0.36	5	⇑	eP	Pn	07 16 38.0	-0.6	PIRO	Carate, Puerto	1.39	148		iP	Pn	07 16 51.2	-1.0	UOSS					S	Sn	07 32 23.4	-2.2
LUPE					eS	Sn	07 16 45.7	+0.6	PIRO					iS	Sn	07 17 11.4	+2.0	RAYN	Ar Rayn	9.62	202		P	Pn	07 30 38.9	+0.1
TIBA	Tibas	0.37	2	⇑	iP	Pn	07 16 38.3	-0.5	PIRO	Carate, Puerto	1.39	148		eP	Pn	07 16 51.1	-1.2	RAYN					S	Sn	07 32 25.5	-0.9
TIBA					eS	Sn	07 16 46.1	+0.7	PIRO	Carate, Puerto	1.39	148		P	Pn	07 16 51.4	-0.9	HATD	Hatta, Dubai	9.64	141		P	Pn	07 30 40.1	+1.0
CORON	Coronado	0.39	12	⇑	iP	Pn	07 16 38.6	-0.5	TENO	El Achiote	1.41	322		eP	Pn	07 16 52.3	-0.3	HATD					S	Sn	07 32 24.7	-2.2
DOMI	Santo Domingo	0.39	359	⇑	iP	Pn	07 16 38.5	-0.5	TENO					eS	Sn	07 17 11.7	+1.6	ASHO	Ashiyiah	9.72	142		P	Pn	07 30 40.4	+0.2
DOMI					eS	Sn	07 16 46.6	+0.8	INDI	Punta indio, G	1.42	281		P	Pn	07 16 50.7	-2.0		SNR=8.3								
BELE	Belen	0.40	345	⇓	eP	Pn	07 16 38.2	-0.9	INDI	Punta indio, G	1.42	281		S	Sn	07 17 09.4	-0.9	ASHO					S	Sn	07 32 27.2	-1.6
BELE					eS	Sn	07 16 45.9	0.0	RSRNO	Rio Sereno	1.43	122		eP	Pn	07 16 52.1	-0.8	MZR	Muzera	10.12	158		P	Pn	07 30 46.2	+0.5
HEME	Heredia, Merce	0.41	353		eP	Pn	07 16 39.7	+0.5	PLVR	Palo Verde	1.46	301		eP	Pn	07 16 52.2	-1.1		SNR=13								
HEME					eS	Sn	07 16 47.6	+1.6	RGM0	Gandoca	1.46	90		P	Pn	07 16 52.2	-1.0	MZR					S	Sn	07 32 37.0	-1.7
PCAYA	Pacayas	0.42	40	⇑	eP	Pn	07 16 38.6	-0.9	MOTZ	Rio Naranjo	1.46	318		eP	Pn	07 16 53.2	0.0	SOHO	SOHO	10.42	142		S	Sn	07 32 43.7	-2.2
PCAYA					eS	Sn	07 16 46.9	+0.3	NELY	Ciudad Neily	1.46	130		eP	Pn	07 16 53.4	+0.2	ASF	Jabal al Asfar	10.63	271		Pn	Pn	07 30 52.0	-0.7
VINA	Juan Vinas	0.45	48	⇑	eP	Pn	07 16 38.8	-0.9	CUI	Cuipilapa	1.50	315	⇑	eP	Pn	07 16 53.5	-0.3		comp=N,5.7nm,0.4s,baz=123,slow=16,SNR=8.4								
VINA					eS	Sn	07 16 47.2	+0.1	COLC	Colonia	1.53	314		eP	Pn	07 16 53.8	-0.5	ASF					Sn	Sn	07 32 46.6	-4.6
CVIMO	Finca Echandi	0.45	18	⇑	iP	Pn	07 16 39.2	-0.6	JUD3	Juan Diaz 3	1.54	292	⇑	iP	Pn	07 16 53.2	-1.2		comp=N,0.7nm,0.3s,baz=299,slow=13,SNR=2.1								
CVIMO					eS	Sn	07 16 48.2	+0.9	HORNC	Hornillas	1.55	316		eP	Pn	07 16 54.0	-0.6	WSAR	Wadi Sarin	12.29	136		Pn	Pn	07 31 15.2	-0.2
RAFA	San Farael, Vo	0.46	37		eP	Pn	07 16 39.0	-0.9	CDITO	Canoas	1.57	130		P	Pn	07 16 53.9	-0.8		baz=322,slow=19,SNR=8.5								
RAFA					eS	Sn	07 16 47.4	0.0	MESS	Mesas	1.58	316		eP	Pn	07 16 54.6	-0.3	WSAR	Wadi Sarin	12.29	136		P	Pn	07 31 16.0	+0.7
VICA	Volcano Irazu	0.46	31	⇑	eP	Pn	07 16 39.4	-0.7	VMAR	Armenia, Volca	1.58	320	⇑	eP	Pn	07 16 54.8	-0.1	NGCH	Negor - Chabah	12.46	122		P	Pn	07 31 16.5	-1.1
VICA					eS	Sn	07 16 48.3	+0.6	VMAR					eS	Sn	07 17 15.5	+1.3	JLN	Jalan Bani Buh	13.59	137		P	Pn	07 31 33.1	+0.1
ZEDO	Perez Zeledon	0.46	120	⇑	eP	Pn	07 16 39.0	-0.7	BRU2	Volcan	1.59	120	⇓	iP	Pn	07 16 54.2	-0.9	MHTO	MHTO	13.76	144		P	Pn	07 31 36.2	+0.8
ZEDO					eS	Sn	07 16 46.6	-0.5	BRU2					iS	Sn	07 17 15.2	+0.6	DOK	Doka	14.47	162		P	Pn	07 31 44.0	-1.1
ATEO	Atenas	0.48	323	⇓	iP	Pn	07 16 39.1	-1.0	BRU2	Volcan	1.59	120	⇓	eP	Pn	07 16 54.2	-0.9		SNR=12								
ATEO					eS	Sn	07 16 47.5	-0.2	BRU2					eS	Sn	07 17 15.6	+1.1	DQM	DQM	14.47	148		P	Pn	07 31 45.4	+0.2
TCS1	Tacares	0.50	335		P	Pn	07 16 39.6	-0.7	BRU2	Volcan	1.59	120		P	Pn	07 16 54.2	-0.9	WHFO	Wadi Hawf	15.05	164		P	Pn	07 31 51.0	-1.9
TURIB	Turrialba	0.51	51	⇑	iP	Pn	07 16 39.1	-1.2	BRU2	Volcan	1.59	120		S	Sn	07 17 14.0	-0.6		SNR=8.3								
TURIB					eS	Sn	07 16 47.8	-0.4	CNI2	El Empalme, Bo	1.60	96		iP	Pn	07 16 53.8	-1.3	ABTO	Aybut	15.49	166		P	Pn	07 31 56.3	-2.5
POAS	San Pedro de P	0.51	342		eP	Pn	07 16 40.0	-0.4	CNI2					iS	Sn	07 17 14.6	-0.1	DMTO	DMTO	15.55	160		P	Pn	07 31 58.0	-1.5
POAS					eS	Sn	07 16 49.4	+1.1	TBS2		1.62	119		eP	Pn	07 16 54.8	-0.7	DMTO					P	Pn	07 31 58.0	-1.5
CVTQ	Turrialba Volc	0.52	37	⇑	eP	Pn	07 16 39.9	-0.9	SACU	Santa Cruz	1.62	294		eP	Pn	07 16 54.3	-1.1		SNR=12								
CVTQ					eS	Sn	07 16 49.0	+0.1	GPS2	Hotel Rincn d	1.70	313		eP	Pn	07 16 56.6	0.0	IDI	Anoyia	20.57	284		P	P	07 33 00.2	+1.2
VERB	Verbena	0.52	48	⇑	iP	Pn	07 16 39.7	-0.9	GPS3	Bodega del ICE	1.71	313		eP	Pn	07 16 56.8	-0.7		comp=N,4.5nm,0.3s,baz=67,slow=13,SNR=10								
VERB					eS	Sn	07 16 49.0	+0.4	VRLE	La Escondida,	1.73	314		eP	Pn	07 16 56.4	-0.7		comp=N,4.5nm,0.3s								
BITO	Garabito Jaco	0.53	273		eP	Pn	07 16 40.0	-0.5	LESP3	La Esperanza,	1.74	132		eP	Pn	07 16 58.2	+1.2	AKASG	Malin Array Be	23.51	327		P	P	07 33 30.5	+0.6
BITO					eS	Sn	07 16 49.5	+0.9	LESP3					eS	Sn	07 17 21.1	+3.1		comp=N,0.3nm,0.4s,baz=142,slow=8.9,SNR=4.1								
CVTV	Tajo	0.53	39	⇑	eP	Pn	07 16 40.1	-0.8	VORI	VORI	1.74	315		eP	Pn	07 16 57.2	-0.1		comp=N,0.3nm,0.4s								
CVTV					eS	Sn	07 16 49.4	+0.3	ALIBA	Liberia Airpor	1.75	305		eP	Pn	07 16 56.9	-0.2	BVAR	Borovoye Array	25.44	30		P	P	07 33 48.6	+0.9
GREC	Grecia	0.53	335	⇑	eP	Pn	07 16 41.2	+0.5	LAPC	Finca la Perla	1.77	312		eP	Pn	07 16 56.5	-0.9		comp=N,0.8nm,0.6s,baz=241,slow=5.7,SNR=3.4								
GREC					eS	Sn	07 16 50.8	+2.0	BUAI	Buenos Aires	1.77	316		eP	Pn	07 16 59.0	+1.4		comp=N,0.8nm,0.6s								
VTR0	Volcan Turrial	0.53	37		eP	Pn	07 16 40.0	-1.0	PEJA	Penjamo Buenos	1.77	317		eP	Pn	07 16 56.9	-0.6	MKAR	Makanchi Array	28.78	51		P	P	07 34 19.5	+1.7
VTR0					eS	Sn	07 16 49.5	+0.2	BQTLY	Boquete Panama	1.81	117		eP	Pn	07 16 57.1	-1.0		comp=N,1.4nm,0.9s,baz=244,slow=8.9,SNR=6.6								
CVTR	Volcan Turrial	0.54	37	⇑	eP	Pn	07 16 40.0	-1.0	PTAR3	Potrerillos Ar	1.81	119		eP	Pn	07 16 58.4	+0.4		comp=N,1.4nm,0.9s								
CVTR					eS	Sn	07 16 50.0	+0.6	PTAR3					iS	Sn	07 17 20.0	+0.2	GERES	GERESS Array B	31.29	312		P	P	07 34 39.6	-0.5
OROT	Orotina	0.54	306		eP	Pn	07 16 39.6	-1.1	LNBQ3	Los Naranjos,	1.81	116	⇓	eP	Pn	07 16 57.9	-0.2		comp=N,0.3nm,0.3s,baz=108,slow=11,SNR=1.8								
OROT					eS	Sn	07 16 48.5	-0.3	LNBQ3					iS	Sn	07 17 20.3	+0.4		comp=N,0.3nm,0.3s								
ABRB	Las Abras (San	0.55	41	⇑	iP	Pn	07 16 40.3	-0.8	PTPM	Petroterminale	1.82	139	⇑	iP	Pn	07 16 59.4	+1.4	FINES	FINESS Array B	32.67	339		P	P	07 34 50.9	-1.0
ABRB					eS	Sn	07 16 49.8	+0.3	PTPM					iS	Sn	07 17 23.5	+3.5		comp=N,0.6nm,0.4s,baz=159,slow=8.5,SNR=3.7								
SARCI	Sarchi	0.56	333		eP	Pn	07 16 40.5	-0.6	DAP26	falda E V. Bar	1.83	116		eP	Pn	07 16 56.8	-1.6		comp=N,0.6nm,0.4s								
PALD	Palmares	0.57	323	⇓	iP	Pn	07 16 40.1	-1.1	WILLF	Boquete	1.83	117	⇑	iP	Pn	07 16 57.4	-1.0	ZALV	Zalesovo Beam	32.98	39		P	P	07 34 55.4	+0.7
PALD					eS	Sn	07 16 48.8	-0.3	BQSF3	Alto Boquete,	1.84	117		eP	Pn	07 16 58.6	+0.1		comp=N,0.7nm,0.3s,baz=254,slow=11,SNR=3.2								
NARAN	Naranjo de Ala	0.58	330		eP	Pn	07 16 40.6	-0.7	BQSF3					iS	Sn	07 17 22.2	+1.6		comp=N,0.7nm,0.3s								
NARAN					eS	Sn	07 16 50.5	+0.6	PSOM3	Paja de Sombre	1.96	117		eP	Pn	07 16 59.5	-0.6	HFS	Hagfors	36.27	330		P	P	07 35 22.3	-0.7
VPS8	V Poas	0.60	345	⇑	iP	Pn	07 16 41.4	-0.5	DVD	David	1.98	125		eP	Pn	07 17 01.0	+0.6		comp=N,1.4nm,0.6s,baz=116,slow=10,SNR=5.3								
VPS8					eS	Sn	07 16 51.5	+0.7	DVD					iS	Sn	07 17 25.6	+1.7		comp=N,1.4nm,0.6s								
VPS5	V. Poas	0.61	346	⇑	iP	Pn	07 16 41.3	-0.7	PBNVO	Pueblo Nuevo,	2.00	110		eP	Pn	07 16 59.8	-0.8	TORD	Torodi Ar. Bea	47.62	258		P	P	07 36 57.5	+1.3
VPS5					eS	Sn	07 16 51.5	+0.4	LOCO3	Loma Colorada,	2.02	125		eP	Pn	07 17 01.2	+0.3		comp=N,0.3nm,0.4s,baz=52,slow=9.1,SNR=3.2								
RESJ	San Isidro (Tu	0.62	45	⇑	iP	Pn	07 16 41.1	-0.7	LOCO3					iS	Sn	07 17 26.6	+1.6		comp=N,0.3nm,0.4s								
RESJ					eS	Sn	07 16 51.2	+0.4	CHGR2	Aguacate	2.02	109		eP	Pn	07 17 00.2	-0.7	ILAR	Eielson Array	82.19	7		P	P	07 40 41.0	+0.5
SAJE	San Jernim	0.62	113		eP	Pn	07 16 40.6	-1.2	CHGR2					iS	Sn	07 17 26.3	+1.3		comp=N,0.2nm,0.7s,baz=319,slow=4.2,SNR=4.1								
SAJE					eS	Sn	07 16 50.7	-0.2	LOMA3	Las Lomas, Chi	2.03	124		eP	Pn	07 17 00.5	-0.6		comp=N,0.2nm,0.7s								
RAMO	San Ramon	0.62	323		eP	Pn	07 16 40.8	-1.1	LOMA3					iS	Sn	07 17 24.6	-0.6										
RAMO					eS	Sn	07 16 51.0	+0.2	PEDE3	Pedregal, Chir	2.03	126		eP	Pn	07 17 00.3	-0.8										
OCHAL	Ojochal	0.66	138		S	Sn	07 16 52.2	+0.7	PEDE3					iS	Sn	07 17 26.8	+1.5										
OCHAL	Ojochal	0.66	138		P	Pn	07 16 41.2	-1.0	RBALA	Bur	2.04	110		eP	Pn	07 16 60.0	-1.1										
ZARE	Zarcero	0.66	333	⇑	eP	Pn	07 16 42.1	-0.5	CGUAY	Guayabal, Coch	2.05	123		eP	Pn	07 17 01.1	-0.2										
ZARE					eS	Sn	07 16 52.8	+0.8	CHIR3	Chiriqui UPA,	2.10	124		eP	Pn	07 17 02.4	+0.4										
EDPE	Pejibaye, P	0.67	130	⇑	eP	Pn	07 16 41.8	-0.6	LCRUZ	La Cruz	2.12	314		eP	Pn	07 17 02.8	0.0										
EDPE					eS	Sn	07 16 52.2	+0.5	BLUN	Bluefields	2.42	7		P	Pn	07 17 05.2	-1.2										
PILE	Guapiles	0.69	25	⇑	iP	Pn	07 16 42.1	-0.6	OMEN	Al SSO del Vol	2.44	322		P	Pn	07 17 05.6	-1.1										
PILE					eS	Sn	07 16 53.3	+1.0	MORN	Al O del Volca	2.48	322		P	Pn	07 17 06.1	-1.1										
ARZA	Esparza	0.70	305	⇑	eP	Pn	07 16 41.9	-0.9	ACON	Acoyapa	2.59	336	⇑	iP	Pn	07 17 07.0	-1.7										
ARZA					eS	Sn	07 16 52.9	+0.4	ACON					eS	Sn	07 17 38.4	-0.7										
RVLA	Villa Bonita	0.71	44		eP	Pn	07 16 42.4	-0.6	ACON	Acoyapa	2.59	336		P	Pn	07 17 07.3	-1.4										
RVLA					eS	Sn	07 16 53.6	+0.8	ESPN	Las Esperanzas	2.60	355		eP	Pn	07 16 59.6	-9.2										
LCOCO	El Coco	0.71	47	⇑	eP	Pn	07 16 42.2	-0.8	BOAB	BOACO BROADBAN	2.24	332		P	Pn	07 17 16.6	-1.0										
LCOCO					eS	Sn	07 16 53.4	+0.4	GMAL	Guarumal, Vera	3.35	123		iP	Pn	07 17 19.1	-0.2										
ROBF	Roble, Puntare	0.75	301		eP	Pn	07 16 42.7	-0.8	CACAO	El Cacao, Vera	3.89	125		eP	Pn	07 17 27.7	+1.1										
ROBF					eS	Sn	07 16 54.6	+0.9	BCIP	Isla Barro Col	4.21	95		eP	Pn	07 17 30.3	-0.7										
ARTO	Ro Cuarto	0.76	350	⇑	iP	Pn	07 16 42.9	-0.8																						
ARTO					eS	Sn	07 16 54.4	+0.3																						
IRES	Siquirres	0.76	49	⇑	iP	Pn	07 16 43.0	-0.7																						
IRES					eS	Sn	07 16 54.7	+0.7																						
VPL2	V. Platanar	0.77	338	⇑	eP	Pn	07 16 43.3	-0.6																						
VPL2					eS	Sn	07 16 55.1	+0.6																						
QUEU	Ciudad Quesada	0.80	335	⇑	iP	Pn	07 16 43.4	0.0																						
QUEU					eS	Sn	07 16 56.4	+1.2																						
CARI	Cariari	0.84	24	⇑	iP	Pn	07 16 44.1	-0.7																						
CARI					eS	Sn	07 16 57.4	+1.4																						
BURE	Buenos Aires	0.85	119		eP	Pn	07 16 43.9	-0.9																						
BURE					eS	Sn	07 16 56.1	-0.1																						
SARA	Sarapiqu	0.86	4	⇑	eP	Pn	07 16 44.0	-0.9																						
PAQE	Paquera	0.87	285		eP	Pn	07 16 43.8	-1.3																						
ITAL	Pital	0.88	348	⇑	iP	Pn	07 16 44.6	-0.6																						
ITAL					eS	Sn	07 16 57.7	+0.9																						
TAAN	Batan	0.88	56	⇑	iP	Pn	07 16 44.7	-0.6																						
TAAN					eS	Sn	07 16 58.2	+1.3																						
PANP	Palmar Norte	0.88	135		eP	Pn	07 16 44.6	-0.7																						
DRK0	Durika	0.89	111	⇓	iP	Pn	07 16 44.3	-1.3																						
DRK0					iS	Sn	07 16 56.6	-0.8																						
DRK0	Durika	0.89	111	⇓	eP	Pn	07 16 44.2	-1.3																						
DRK0					eS	Sn	07 16 56.8	-0.7																						
DRK0	Durika	0.89	111		P	Pn	07 16 44.4	-1.2																						
VERH	Veragua Rainfo	0.94	69		eP	Pn	07 16 45.2	-1.0																						
VERH					eS	Sn	07 16 58.4	-0.1																						
SOCE	Pocosol	0.95	326	⇑	eP	Pn	07 16 45.8	-0.5																						
SOCE					eS	Sn	07 17 00.1	+1.5																						
SOCE	Pocosol	0.95	326		S	Sn	07 16 59.1	+0.5																						
SOCE	Pocosol	0.95	326		P	Pn	07 16 45.6	-0.6																						
CBL1	Cabuya	0.99	270	⇓	iP	Pn	07 16 45.0	-1.8																						
CBL1					eS	Sn	07 16 58.5	-1.2																						
MTEVE	Monteverde	1.03	315	⇑	eP	Pn	07 16 46.

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
	8.8nm,0.2s							
AAK				⇑S		Sg	07 54 30.4	+0.8
	30nm,0.2s							
AAK	**Ala-Archa**	**1.66**	**30**	⇑P		Pg	07 54 07.8	-0.3
	1.1nm,0.3s							
AAK				⇓S		Sg	07 54 29.6	-0.1
	8.6nm,0.5s							
AAK	**Ala-Archa**	**1.66**	**30**	⇑eP		Pn	07 54 05.9	+0.1
AAK				⇑eS		Sn	07 54 26.6	-0.7
TRKS	**Terek-Say**	**1.72**	**282**	⇑eP		Pn	07 54 06.4	-0.2
TRKS				⇑eS		Sn	07 54 27.7	-1.1
JNKS	**Jany-Kuch**	**1.72**	**94**	⇑eP		Pn	07 54 06.8	0.0
JNKS				⇑eS		Sn	07 54 28.2	-0.8
KBK	**Karagaybulak**	**1.86**	**38**	⇑P		Pb	07 54 11.5	+0.8
	6.7nm,0.1s							
KBK				⇓S		Sg	07 54 37.4	+1.2
	93nm,0.4s							
KBK	**Karagaybulak**	**1.86**	**38**	⇑eP		Pn	07 54 08.8	+0.1
KBK				⇑eS		Sn	07 54 31.7	-0.8
CHMS	**Chumysh**	**2.06**	**29**	⇓eP		Pn	07 54 11.3	0.0
CHMS				⇓eS		Sn	07 54 36.3	-0.9
USP	**Ospenovka**	**2.22**	**22**	⇓P		Pb	07 54 17.0	+0.2
	7.2nm,0.3s							
USP				⇓S		Sg	07 54 47.6	-0.1
	39nm,0.3s							
USP	**Ospenovka**	**2.22**	**22**	⇑eP		Pn	07 54 13.7	+0.2
USP				⇑eS		Sn	07 54 40.1	-1.0
TKM2	**Tokmak 2**	**2.38**	**43**	⇑P		Pb	07 54 19.0	-0.6
	13nm,0.4s							
TKM2				⇑S		Sg	07 54 51.1	-1.7
	8.8nm,0.2s							
TKM2	**Tokmak 2**	**2.38**	**43**	⇓eP		Pn	07 54 15.9	+0.1
TKM2				⇓eS		Sn	07 54 44.1	-1.1
ULHL	**Ulahol**	**2.38**	**63**	⇑eP		Pn	07 54 15.9	+0.1
ULHL				⇑eS		Sn	07 54 44.1	-1.1
KST	**Kastek**	**2.66**	**45**	*eP*		Pb	07 54 25.6	+1.4
	1.3nm,0.2s							
KST				*eS*		Sg	07 55 01.2	-0.5
	22nm,0.4s							
KK31	**Karatay Array**	**2.86**	**313**	⇓Pg		Pb	07 54 27.4	-0.1
	2.3nm,0.3s,baz=126,slow=16,SNR=19							
KK31				⇓Lg		Lg	07 55 04.7	
	5.5nm,0.3s,baz=133,slow=27,SNR=10.0							
MTBS	**Maitube**	**2.97**	**49**	*eP*		Pb	07 54 31.2	+1.7
	0.6nm,0.1s							
MTBS				*eS*		Sg	07 55 10.7	-1.2
	8.4nm,0.3s							
KDJ	**Kajisay**	**2.99**	**71**	⇓eP		Pn	07 54 24.5	+0.3
KDJ				⇓eS		Sn	07 54 58.9	-1.4
BRLS	**Boroldaу**	**3.21**	**306**	*eP*		Pb	07 54 34.0	+0.5
	3.5nm,0.3s							
BRLS				*eS*		Sb	07 55 15.4	+2.7
	22nm,0.3s							
TNSS	**Tian-Shan**	**3.22**	**54**	*eP*		Pg	07 54 36.7	-1.4
	0.1nm,0.1s							
TNSS				*eS*		Sg	07 55 20.1	+0.2
	3.5nm,0.5s							
KOTS	**Kotyrbulak**	**3.44**	**53**	*eP*		Pb	07 54 39.9	+2.5
	0.7nm,0.1s							
KOTS				*eS*		Sg	07 55 25.5	-1.1
	18nm,0.6s							
KUU	**Kurty**	**3.46**	**38**	*eP*		Pb	07 54 40.0	+2.1
	3.9nm,0.1s							
KUU				*eS*		Sg	07 55 25.8	-1.8
	48nm,0.6s							
CHKK	**Chushkaly**	**3.76**	**44**	*eP*		Pb	07 54 45.8	+2.9
	4.4nm,0.4s							
CHKK				*eS*		Sg	07 55 36.0	-1.0
	9.1nm,0.4s							
ARXS	**Arharly**	**4.45**	**46**	*eP*		Pb	07 54 58.0	+3.4
ARXS				*eS*		Sg	07 55 56.5	-2.6

AEIC ***17*** *08:05:44.8±1.0, 54°.89N±0°.06×160°.39W±0°.05, h33km±7km, Error ellipse: s-maj=8.3km s-min=3.6km az=197.0*

NEIC 17 08:05:44.8±1.0, 54°.89N±0°.05×160°.39W±0°.05, h29km±10km, ML3.1/12, ML2.9(AEIC), Error ellipse: s-maj=7.9km s-min=3.3km az=193.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.46**	**354**			Pb	08 05 55.0	+0.4
SDPT						Sn	08 06 02.3	-0.4
SDPT	**Sand Point**	**0.46**	**354**	IAML			08 06 02.6	
	comp=N,566nm,0.3s							
SDPT				IAML			08 06 03.0	
	comp=E,569nm,0.6s							
CNBA	**Chernabura Isl**	**0.47**	**99**			Pn	08 05 55.2	-0.3
CNBA						Sn	08 06 02.6	-0.2
CNBA	**Chernabura Isl**	**0.47**	**99**	IAML			08 06 03.0	
	comp=N,795nm,0.3s							
CNBA				IAML			08 06 03.3	
	comp=E,946nm,0.2s							
DOL	**Dolgoi Island**	**0.89**	**287**			Pn	08 06 01.0	-0.4
DOL						Sb	08 06 12.7	-0.5
PVV	**Pavlof Volcano**	**0.94**	**302**			Pn	08 06 01.8	-0.2
PS1A	**Pavlof South-1**	**0.94**	**305**			Pn	08 06 02.0	-0.1
PS1A						Sn	08 06 14.4	-0.1
PS4A	**Pavlof South-4**	**0.96**	**299**			Pn	08 06 02.1	-0.2
PS4A						Sb	08 06 15.2	+0.1
HAG	**Hague Volcano**	**0.97**	**297**			Pn	08 06 02.6	+0.1
DT1	**Dutton Round H**	**1.11**	**282**			Pn	08 06 04.2	-0.2
S12K	**Black Hills**	**1.25**	**311**			Pn	08 06 06.2	-0.2
S12K				IAML			08 06 23.0	
	comp=N,392nm,0.3s							
VNFG	**Fog Glacier, M**	**1.47**	**18**			Pn	08 06 09.8	+0.3
VNFG	**Fog Glacier, M**	**1.47**	**18**	IAML			08 06 34.6	
	comp=N,257nm,1.0s							
VNFG				IAML			08 06 37.2	
	comp=E,206nm,0.6s							
FALS	**False Pass**	**1.75**	**270**			Sn	08 06 35.7	+1.2
FALS	**False Pass**	**1.75**	**270**		Pn	Pn	08 06 13.5	+0.3
CHGN	**Chignik**	**1.80**	**38**			Pn	08 06 14.6	+0.7
CHGN	**Chignik**	**1.80**	**38**	IAML			08 06 40.7	
	comp=E,220nm,0.3s							
ANPB	**Aniakchak Plen**	**2.25**	**31**			Pn	08 06 20.4	+0.2
AZAC	**Aniakchak**	**2.35**	**30**			Pn	08 06 21.6	+0.1
ANNE	**Aniakchak Nort**	**2.41**	**32**			Pn	08 06 22.5	+0.2
AKMO	**Akutan Morgan**	**3.38**	**259**			Pn	08 06 36.4	+0.9
PLK4	**Peulik 4**	**3.55**	**38**			Pn	08 06 38.9	+0.9
PLK1	**Peulik 1**	**3.60**	**34**			Pn	08 06 39.3	+0.8
PLK5	**Peulik 5**	**3.67**	**31**			Pn	08 06 40.2	+0.7
MSW	**Makushin Switc**	**3.86**	**258**			Pn	08 06 42.2	0.0
CNTC	**Contact Creek**	**4.20**	**35**			Pn	08 06 47.1	+0.2
ANCK	**Angle Creek**	**4.28**	**37**			Pn	08 06 48.3	+0.3
Q16K	**King Salmon**	**4.31**	**27**			Pn	08 06 48.6	+0.3
P16K	**Nushagak River**	**4.35**	**17**	Pn		Pn	08 06 49.0	+0.2
O14K	**Tigyukauivet M**	**4.40**	**354**			Pn	08 06 49.1	-0.4
OHAK	**Old Harbor**	**4.61**	**57**			Pn	08 06 51.7	-0.8
KDAK	**Kodiak Island**	**5.22**	**53**	Pn		Pn	08 07 01.2	+0.4
HIN	**Hinchinbrook I**	**9.26**	**48**	Pn		Pn	08 07 55.9	-0.3
SCM	**Sheep Creek Mo**	**9.76**	**39**	Pn		Pn	08 08 01.9	-1.1
KLU	**Klutina**	**10.09**	**43**	Pn		Pn	08 08 06.9	-0.7
IMAR	**Indian Mountai**	**11.59**	**14**	Pn		Pn	08 08 27.9	-0.2

IDC ***17*** *08:25:52.7±0.6, 25°.14S×179°.20W, h402km±5km, mb4.3/21, mbtmp5.0/23, Error ellipse: s-maj=9.3km s-min=8.6km az=122.0*

MOS ***17*** *08:25:52.3±0.9, 25°.16S×179°.22W, h404km, mb4.9/17, Error ellipse: s-maj=12.8km s-min=9.5km az=122.9*

NEIC ***17*** *08:25:53.1±1.8, 25°.22S±0°.06×179°.1W±0°.1, h400km±5km, mb4.9/291, Error ellipse: s-maj=18.1km s-min=5.0km az=67.0*

NOU ***17*** *08:25:53.3, 25°.28S×178°.91W, h420km, mb4.9/65, South of Fiji Islands*

GCMT ***17*** *08:25:54.1±0.3, 25°.35S±0°.04×179°.13W±0°.03, h400km±2km, MW5.1/77, Moment Tensor Solution. s77,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-5.54±.20; Mθθ1.45±.34; Mϕϕ4.08±.33; Mrθ-1.27±.38; Mθϕ1.32±.34; Mϕr-0.93±.40; Best double couple: M05.30900×10^16 NP1:ϕs196.00000°, δ38.00000°, λ-101.00000°. NP2:ϕs30.00000°, δ53.00000°, λ-82.00000°. Principal axes: T 4.8050, Plg8.0000°, Azm114.0000°; N 0.9970, Plg7.0000°, Azm205.0000°; P -5.8120, Plg80.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 17 08:25:52.1±0.3, 25°.23S±0°.04×178°.99W±0°.04, h402km±3km, h402km:pP-P, n982, σ1§19/959, mb4.9/186, 56C-57D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.11**	**167**	P		**P**	**08 27 06.1**	**+1.1**
RIZ				S		**S**	**08 28 01.2**	**-3.4**
RAO	**Raoul Island**	**4.12**	**167**	P		**P**	**08 27 06.2**	**+1.1**
	3μm,0.3s,baz=348,slow=1.0,SNR=35							
RAO				S		**S**	**08 28 01.5**	**-3.2**
	3μm,0.2s,baz=70,slow=23,SNR=19							
RAO	**Raoul Island**	**4.12**	**167**	P		**P**	**08 27 06.3**	**+1.2**
RAO	**Raoul Island**	**4.12**	**167**	P		**P**	**08 27 06.2**	**+1.2**
RAO				S		**S**	**08 28 01.1**	**-3.6**
GLKZ	**Green Lake**	**4.12**	**167**	P		**P**	**08 27 05.7**	**+0.5**
GLKZ				S		**S**	**08 28 00.9**	**-4.0**
LKBA	**Tubou, Lakemba**	**6.97**	**1**	P		**P**	**08 27 36.2**	**+0.1**
MSVF	**Nonsavu**	**7.96**	**339**			**P**	**08 27 47.4**	**+0.2**
MSVF	**Nonsavu**	**7.96**	**339**	P		**P**	**08 27 47.5**	**+0.3**
MSVF	**Nonsavu**	**7.96**	**339**	S		**S**	**08 29 23.3**	**+2.7**
MSVF	**Nonsavu**	**7.96**	**339**	*i* P		**P**	**08 27 47.0**	**-0.2**
NIUE	**Niue**	**10.40**	**56**	P		**P**	**08 28 12.9**	**-1.2**
OUZ	**Omahuta**	**11.83**	**211**	P		**P**	**08 28 32.2**	**+2.4**
GRZ	**Great Barrier**	**11.97**	**202**	P		**P**	**08 28 33.0**	**+1.8**
WCZ	**Waipu Caves**	**12.11**	**207**	P		**P**	**08 28 35.1**	**+2.3**
INH	**Isangel**	**12.24**	**295**	P		**P**	**08 28 35.4**	**+1.0**
KUZ	**Kuaotunu**	**12.33**	**200**	P		**P**	**08 28 37.7**	**+2.5**
KUZ	**Kuaotunu**	**12.33**	**200**	P		**P**	**08 28 37.1**	**+1.9**
MXZ	**Matakaoa Point**	**12.50**	**190**	P		**P**	**08 28 38.3**	**+1.2**
MXZ	**Matakaoa Point**	**12.50**	**190**	P		**P**	**08 28 37.8**	**+0.7**
MXZ				S		**S**	**08 30 48.5**	**-5.0**
PINNC	**Pines Island,**	**12.67**	**279**	P		**P**	**08 28 41.8**	**+2.6**
WMGZ	**Waiomatatini S**	**12.74**	**189**	P		**P**	**08 28 38.0**	**-1.7**
WMGZ				S		**S**	**08 30 53.1**	**-5.1**
HAZ	**Te Kaha**	**12.78**	**192**	P		**P**	**08 28 39.6**	**-0.5**
HAZ				S		**S**	**08 30 56.0**	**-3.2**
PKGZ	**Pakihiroa**	**12.84**	**190**	P		**P**	**08 28 40.7**	**-0.1**
PKGZ				S		**S**	**08 30 56.7**	**-3.6**
RUGZ	**Raukumara Rang**	**13.00**	**192**	P		**P**	**08 28 42.8**	**+0.1**
PUZ	**Puketiti**	**13.01**	**190**	P		**P**	**08 28 40.7**	**-2.0**
PUZ				S		**S**	**08 30 57.9**	**-5.9**
WHRZ	**Whale Island**	**13.04**	**194**	P		**P**	**08 28 45.6**	**+2.6**
TGRZ	**Tauranga**	**13.10**	**197**	P		**P**	**08 28 45.5**	**+2.0**
OPRZ	**Ohinepanea**	**13.13**	**196**	P		**P**	**08 28 45.2**	**+1.3**
TWGZ	**Tauwhareparae**	**13.16**	**191**	P		**P**	**08 28 45.5**	**+1.1**
OUENC	**Ouen Island, N**	**13.26**	**279**	P		**P**	**08 28 47.7**	**+2.0**
TOZ	**Tahuroa Road**	**13.31**	**199**	P		**P**	**08 28 48.0**	**+2.1**
KARZ	**Kaharoa**	**13.37**	**196**	P		**P**	**08 28 49.3**	**+2.6**
MWZ	**Matawai**	**13.39**	**192**	P		**P**	**08 28 46.1**	**-0.8**
URZ	**Urewera**	**13.40**	**193**	P		**P**	**08 28 46.2**	**-0.7**
	119nm,0.5s,baz=359,slow=2.9,SNR=75							
URZ				S		**S**	**08 31 09.0**	**-2.5**
	253nm,0.6s,baz=59,slow=23,SNR=31							
URZ	**Urewera**	**13.40**	**193**	P		**P**	**08 28 46.0**	**-0.9**
URZ	**Urewera**	**13.40**	**193**	S		**S**	**08 31 11.5**	**-0.1**
URZ	**Urewera**	**13.40**	**193**	P		**P**	**08 28 45.6**	**-1.3**
CNGZ	**Carnagh Statio**	**13.42**	**190**	P		**P**	**08 28 46.3**	**-0.8**
OMRZ	**Omania**	**13.42**	**196**	P		**P**	**08 28 50.0**	**+2.8**
TKGZ	**Te Karaka**	**13.44**	**191**	P		**P**	**08 28 45.4**	**-1.9**
NGRZ	**Ngongotaha**	**13.46**	**197**	P		**P**	**08 28 50.7**	**+3.0**
UTU	**Utuhina**	**13.53**	**196**	P		**P**	**08 28 51.4**	**+3.0**
HLRZ	**Highlands Stat**	**13.57**	**196**	P		**P**	**08 28 51.0**	**+2.2**
RAGZ	**Rawiri**	**13.57**	**192**	P		**P**	**08 28 48.0**	**+0.1**
RRRZ	**Republican Roa**	**13.61**	**195**	P		**P**	**08 28 50.6**	**+1.3**
ONTNC	**Ouen Toro**	**13.64**	**279**	P		**P**	**08 28 52.7**	**+2.9**
HSRZ	**Hossack Road**	**13.65**	**196**	P		**P**	**08 28 52.5**	**+2.9**
MUGZ	**Murupara**	**13.68**	**194**	P		**P**	**08 28 50.1**	**0.0**
RIGZ	**Rimuhau**	**13.71**	**191**	P		**P**	**08 28 50.0**	**-0.4**
DZM	**Mont Dzumac**	**13.71**	**280**	*eP*		**P**	**08 28 52.5**	**+1.8**
	485nm,0.8s							
DZM				*eS*		**S**	**08 31 23.3**	**+4.9**
	126nm,1.3s							
DZM	**Mont Dzumac**	**13.71**	**280**	P		**P**	**08 28 53.4**	**+2.7**
	247nm,0.7s,baz=89,slow=15,SNR=76							
DZM	**Mont Dzumac**	**13.71**	**280**	P		**P**	**08 28 52.9**	**+2.2**
HRRZ	**Handcock Road**	**13.71**	**196**	P		**P**	**08 28 51.9**	**+1.5**
GRRZ	**Galatos Road**	**13.72**	**196**	P		**P**	**08 28 52.9**	**+2.4**
RTZ	**Ruatahuna**	**13.77**	**193**	P		**P**	**08 28 50.2**	**-0.8**
PRRZ	**Plateau Road**	**13.79**	**195**	P		**P**	**08 28 52.0**	**+0.8**
TLZ	**Tolley Road**	**13.86**	**198**	P		**P**	**08 28 53.8**	**+1.9**
SNGZ	**Shannon Statio**	**13.86**	**192**	P		**P**	**08 28 52.5**	**+0.6**
ALRZ	**Allen Road**	**13.86**	**195**	P		**P**	**08 28 52.5**	**+0.5**
WPRZ	**Whakapapatarin**	**13.87**	**196**	P		**P**	**08 28 54.3**	**+2.2**
PRGZ	**Paritu Road**	**13.90**	**190**	P		**P**	**08 28 52.3**	**-0.1**
KUTZ	**Kaahu Road**	**13.93**	**197**	P		**P**	**08 28 55.7**	**+3.0**
MTHZ	**Maungataniwha**	**14.03**	**194**	P		**P**	**08 28 53.3**	**-0.6**
KNZ	**Kokohu**	**14.03**	**191**	P		**P**	**08 28 53.1**	**-0.7**
RAHZ	**Arahi**	**14.04**	**193**	P		**P**	**08 28 53.0**	**-0.9**
DVP	**Devils Point**	**14.07**	**300**	P		**P**	**08 28 56.4**	**+1.9**
MRHZ	**Matea Rd**	**14.10**	**195**	P		**P**	**08 28 53.2**	**-1.5**
MHGZ	**Mahia Peninsul**	**14.12**	**190**	P		**P**	**08 28 55.8**	**+1.0**
WHHZ	**Waihua**	**14.16**	**192**	P		**P**	**08 28 56.0**	**+0.7**
HIZ	**Hauiti**	**14.23**	**200**	P		**P**	**08 28 58.3**	**+2.3**
HIZ	**Hauiti**	**14.23**	**200**	P		**P**	**08 28 57.9**	**+2.0**
NMHZ	**Naumai**	**14.27**	**193**	P		**P**	**08 28 55.3**	**-1.2**
RATZ	**Rangitukua**	**14.29**	**197**	P		**P**	**08 28 56.2**	**-0.5**
ARHZ	**Aropaoanui**	**14.39**	**193**	P		**P**	**08 28 57.6**	**-0.1**
BKZ	**Black Stump Fm**	**14.40**	**194**	P		**P**	**08 28 58.3**	**+0.4**
BKZ	**Black Stump Fm**	**14.40**	**194**	S		**S**	**08 31 30.8**	**-0.9**
BKZ	**Black Stump Fm**	**14.40**	**194**	P		**P**	**08 28 55.7**	**-2.2**
ETVZ	**East Tongariro**	**14.56**	**197**	P		**P**	**08 28 59.6**	**-0.1**
NNVZ	**North Ngauruho**	**14.58**	**197**	P		**P**	**08 28 59.1**	**-0.9**
MCHZ	**McNeill Hill**	**14.63**	**193**	P		**P**	**08 28 58.1**	**-2.2**
NGZ	**Ngauruhoe**	**14.63**	**197**	P		**P**	**08 28 59.8**	**-0.7**
SNVZ	**South Ngauruho**	**14.63**	**197**	P		**P**	**08 29 00.4**	**-0.1**
KWHZ	**Kaweka Forest**	**14.67**	**194**	P		**P**	**08 29 00.3**	**-0.5**
COVZ	**Chateau Observ**	**14.67**	**197**	P		**P**	**08 29 01.9**	**+1.0**
TUVZ	**Tukino**	**14.70**	**197**	P		**P**	**08 28 59.3**	**-2.0**
MAVZ	**Matarangi**	**14.73**	**197**	P		**P**	**08 29 02.4**	**+0.7**
WHVZ	**Whangaehu Hut**	**14.73**	**197**	P		**P**	**08 29 02.2**	**-1.5**
CKHZ	**Cape Kidnapper**	**14.76**	**192**	P		**P**	**08 29 01.5**	**-0.2**
WNVZ	**Wahianoa**	**14.77**	**197**	P		**P**	**08 29 00.3**	**-1.7**
PKVZ	**Pokaka**	**14.80**	**197**	P		**P**	**08 29 01.0**	**-1.3**
MOVZ	**Moawhango**	**14.81**	**196**	P		**P**	**08 29 00.7**	**-1.6**
VRZ	**Vera Road**	**14.82**	**199**	P		**P**	**08 29 03.8**	**+1.4**
KRHZ	**Kereru**	**14.89**	**194**	P		**P**	**08 29 02.1**	**-1.0**
KAHZ	**Kahuranaki**	**14.93**	**192**	P		**P**	**08 29 02.4**	**-1.2**
NEZ	**North Egmont**	**15.16**	**201**	P		**P**	**08 29 08.2**	**+2.1**
PXZ	**Pawanui**	**15.16**	**192**	P		**P**	**08 29 04.2**	**-1.9**
PNHZ	**Pukenui**	**15.18**	**194**	P		**P**	**08 29 04.0**	**-2.4**
LREZ	**Lake Rotokare**	**15.23**	**200**	P		**P**	**08 29 09.1**	**+2.3**
WPHZ	**Waipukurau**	**15.28**	**193**	P		**P**	**08 29 07.6**	**+0.2**
TSZ	**Takapari Road**	**15.38**	**195**	P		**P**	**08 29 06.0**	**-2.4**
BFZ	**Birch Farm**	**15.91**	**193**	P		**P**	**08 29 10.5**	**-3.7**
MRZ	**Mangatainoka R**	**16.04**	**195**	P		**P**	**08 29 12.6**	**-2.9**
KOUNC	**Koumac, New Ca**	**16.09**	**283**	P		**P**	**08 29 18.4**	**+2.0**
SANVU	**Saraoutou**	**16.18**	**304**	P		**P**	**08 29 19.4**	**+2.0**
QRZ	**Quartz Range**	**17.08**	**202**	P		**P**	**08 29 25.2**	**-1.0**
QRZ	**Quartz Range**	**17.08**	**202**	P		**P**	**08 29 25.7**	**-0.9**
NNZ	**Nelson**	**17.16**	**200**	P		**P**	**08 29 24.7**	**-2.7**
THZ	**Tophouse**	**17.80**	**200**	P		**P**	**08 29 32.8**	**-1.5**
RAR	**Rarotonga**	**18.11**	**81**	P		**P**	**08 29 38.3**	**+0.6**
	24nm,0.8s,baz=240,slow=16,SNR=3.8							
DSZ	**Denniston Nort**	**18.15**	**203**	P		**P**	**08 29 36.6**	**-1.4**
KHZ	**Kahutara**	**18.21**	**198**	P		**P**	**08 29 36.6**	**-2.0**
GVZ	**Greta Valley S**	**18.86**	**198**	P		**P**	**08 29 42.2**	**-3.2**
LTZ	**Lake Taylor**	**18.92**	**200**	P		**P**	**08 29 44.1**	**-2.0**
INZ	**Inchbonnie**	**19.14**	**202**	P		**P**	**08 29 45.5**	**-2.6**
OXZ	**Oxford**	**19.49**	**200**	P		**P**	**08 29 49.1**	**-2.4**
MQZ	**McQueen's Vall**	**19.65**	**198**	P		**P**	**08 29 51.5**	**-1.5**
WVZ	**Waitaha Valley**	**19.69**	**203**	P		**P**	**08 29 51.2**	**-2.2**
RPZ	**Rata Peaks**	**20.15**	**201**	P		**P**	**08 29 56.5**	**-1.1**
	24nm,0.6s,baz=1.9,slow=4.1,SNR=16							
RPZ				S		**S**	**08 33 15.4**	**-2.7**
	23nm,0.9s,baz=98,slow=14,SNR=3.1							
	24nm,0.6s							
RPZ	**Rata Peaks**	**20.15**	**201**	P		**P**	**08 29 55.9**	**-1.7**
FOZ	**Fox Glacier**	**20.42**	**204**	P		**P**	**08 29 58.5**	**-1.5**
TMZ	**Timaru**	**20.76**	**201**	P		**P**	**08 30 01.8**	**-1.4**
LBZ	**Lake Benmore**	**21.04**	**202**	P		**P**	**08 30 03.3**	**-2.4**
JCZ	**Jackson Bay**	**21.27**	**205**	P		**P**	**08 30 06.9**	**-1.0**
WKZ	**Wanaka**	**21.83**	**203**	P		**P**	**08 30 10.6**	**-2.3**
EAZ	**Earnscleugh**	**22.08**	**202**	P		**P**	**08 30 13.7**	**-1.4**
HURO	**Huro Makira**	**23.33**	**306**	P		**P**	**08 30 27.9**	**+1.1**
ALEG	**Aligegeo Malai**	**25.35**	**307**	P		**P**	**08 30 44.4**	**-0.5**
HNR	**Honiara**	**25.45**	**304**	P		**P**	**08 30 44.6**	**-1.2**
	217nm,0.8s,baz=249,slow=1.6,SNR=6.1							
	217nm,0.8s							
HNR	**Honiara**	**25.45**	**304**	P		**P**	**08 30 47.3**	**+1.5**
TATA	**Tatamba Isabel**	**26.25**	**306**	P		**P**	**08 30 51.6**	**-1.3**
TATA	**Tatamba Isabel**	**26.25**	**306**	S		**S**	**08 34 54.7**	**-0.8**
ARMA	**Armidale**	**26.45**	**252**	P		**P**	**08 30 55.5**	**+0.8**
ARMA					IAmb	IAmb	08 30 57.3	
	comp=Z,23nm,0.7s							

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**26.96**	**92**	*eS*		**S**	**08 35 07.1**	**+0.6**
	comp=Z,570nm,36.0s							
TBI				*es*S		**ScP**	**08 37 10.7**	**+0.5**
	comp=Z,2μm,29.2s							
EIDS	**Eidsvold**	**27.03**	**263**	P		**P**	**08 31 00.7**	**+1.0**
EIDS	**Eidsvold**	**27.03**	**263**	S		**S**	**08 35 09.1**	**+1.4**
PPT2	**Papeete2**	**28.38**	**80**	*eS*		**S**	**08 35 26.3**	**-2.7**
	comp=Z,141nm,23.2s							
PPT2				*es*S		sS	08 37 45.7	+2.7
	comp=Z,228nm,29.2s							
CMSA	**Cobar Meteorol**	**31.60**	**250**	P		**P**	**08 31 40.4**	**+0.7**
TV1H	**Townsville Har**	**32.16**	**274**	P		**P**	**08 31 45.3**	**+0.7**
CTA	**Charters Tower**	**32.42**	**272**	P		**P**	**08 31 47.0**	**+0.2**
CTA	**Charters Tower**	**32.42**	**272**	S		**S**	**08 36 32.5**	**+0.9**
CTAO	**Charters Tower**	**32.42**	**272**			**P**	**08 31 46.6**	**-0.2**
CTAO					IAmb	IAmb	08 31 48.9	
	comp=Z,52nm,0.9s							
CTAO	**Charters Tower**	**32.42**	**272**	P		**P**	**08 31 47.0**	**+0.2**
CTAO	**Charters Tower**	**32.42**	**272**	S		**S**	**08 36 32.4**	**+0.9**
CTAO	**Charters Tower**	**32.42**	**272**	P		**P**	**08 31 46.6**	**-0.2**
CTAO					pmax	pmax		
	comp=Z,52nm,1.0s							
CTAO	**Charters Tower**	**32.42**	**272**	P		**P**	**08 31 46.8**	**0.0**
QLP	**Quilpie**	**33.03**	**260**	P		**P**	**08 31 52.8**	**+0.8**
QLP	**Quilpie**	**33.03**	**260**	S		**S**	**08 36 41.0**	**+0.2**
XMAS	**Kiritimati**	**34.23**	**41**	P		**P**	**08 32 02.0**	**-0.2**
MTSU	**Mount Surprise**	**34.74**	**274**	P		**P**	**08 32 07.1**	**+0.5**
MTSU	**Mount Surprise**	**34.74**	**274**	S		**S**	**08 37 08.1**	**+1.1**
STKA	**Stephens Creek**	**35.10**	**250**			**P**	**08 32 08.9**	**-0.6**
STKA					IAmb	IAmb	08 32 11.1	
	comp=Z,60nm,0.8s							
STKA	**Stephens Creek**	**35.10**	**250**	P		**P**	**08 32 09.4**	**-0.1**
	comp=Z,8.7nm,0.6s,baz=98,slow=12,SNR=31							
STKA				PcP		**PcP**	**08 34 30.7**	**0.0**
	comp=Z,11nm,0.6s,baz=105,slow=5.8,SNR=8.8							
STKA				S		**S**	**08 37 10.0**	**-2.2**
	comp=Z,7.9nm,0.8s,baz=268,slow=17,SNR=9.5							
	comp=Z,8.7nm,0.6s							
STKA	**Stephens Creek**	**35.10**	**250**	P		**P**	**08 32 09.4**	**-0.1**
STKA	**Stephens Creek**	**35.10**	**250**	S		**S**	**08 37 12.2**	**0.0**
PMG	**Port Moresby**	**35.80**	**290**			**P**	**08 32 16.1**	**+0.5**
PMG					IAmb	IAmb	08 32 16.9	
	comp=Z,67nm,0.8s							
PMG	**Port Moresby**	**35.80**	**290**	P		**P**	**08 32 15.4**	**-0.2**
	comp=Z,59nm,0.8s,baz=109,slow=6.2,SNR=13							
	comp=Z,59nm,0.8s							
PMG	**Port Moresby**	**35.80**	**290**	P		**P**	**08 32 16.5**	**+0.9**
**

comp=Z,39nm,0.8s
KIWB **Kanaga Island** 76.77 1 P P 08 37 00.7 +0.5
ADK **Adak** 76.81 1 P P 08 36 60.0 -0.4
MAW **Mawson** 76.82 200 P P 08 37 01.3 +0.9
comp=Z,25nm,0.6s,baz=134,slow=5.8,SNR=167
comp=Z,25nm,0.6s
PMSA **Palmer Station** 77.33 157 P P 08 37 04.3 +1.0
PMSA **Palmer Station** 77.33 157 P P 08 37 04.2 +1.0
TJN **Taejon** 79.46 319 *i* P P 08 37 16.2 +1.0
YSS **Yuzhno-Sakhali** 79.73 334 P P 08 37 16.2 -0.1
YSS **Yuzhno-Sakhali** 79.73 334 *e*P P 08 37 17.6 +1.3
YSS *e**SP **sP** 08 39 27.1 -0.6
YSS *e* 08 40 23.9
YSS *e*S **S** 08 46 49.4 +4.7
YSS pmax pmax
comp=Z,30nm,0.7s
KSRS **Korea Array** 79.85 320 P P 08 37 17.7 +0.5
comp=Z,7.1nm,0.7s,baz=134,slow=5.8,SNR=29
comp=Z,7.1nm,0.7s
KSAR **Wonju Array Be** 79.87 320 P P 08 37 17.9 +0.6
KSAR **Wonju Array Be** 79.87 320 P P 08 37 17.9 +0.6
PEA0B **Petropavlovsk-** 80.61 346 P P 08 37 21.2 +0.3
PEA0B **Petropavlovsk-** 80.61 346 P P 08 37 21.2 +0.3
PEA0B pmax pmax
comp=Z,42nm,1.1s
PETK **Petropavlovsk-** 80.61 346 P P 08 37 20.9 +0.1
PETK **Petropavlovsk-** 80.61 346 P P 08 37 20.4 -0.4
comp=Z,25nm,0.9s,baz=144,slow=6.7,SNR=23
comp=Z,25nm,0.9s
FALS **False Pass** 80.88 9 P P 08 37 22.6 +0.4
baz=194
CHNA **Chernabura Isl** 81.46 11 P P 08 37 25.3 0.0
baz=198
SDPT **Sand Point** 81.81 11 P P 08 37 26.8 -0.2
baz=197
PSTR **Posyet** 81.87 325 *i* P P 08 37 25.7 -1.9
S12K **Black Hills** 81.90 10 P P 08 37 27.7 +0.2
baz=196
SYO **Syowa Base** 81.93 193 ⇓*e*P P 08 37 27.4 -0.2
SYO **Syowa Base** 81.93 193 ⇑*e*PcP PcP 08 37 32.2 +0.2
SAO **San Andreas Ge** 82.09 43 IAmb IAmb 08 37 31.8
comp=Z,20nm,1.1s
NJ2 **Nanjing** 82.22 311 *e*P P 08 37 31.8 +2.1
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
USRK **Ussuriysk Ar.** 82.38 327 P P 08 37 30.9 +0.7
comp=Z,18nm,0.9s,baz=138,slow=3.2,SNR=18
comp=Z,18nm,0.9s
CVS **Carmenet Viney** 82.49 41 IAmb IAmb 08 37 33.0
comp=Z,25nm,0.9s
HOPS **Hopland Field** 82.54 41 IAmb IAmb 08 37 34.1
comp=Z,28nm,1.1s
VTX **Valle De La Tr** 82.57 50 IAmb IAmb 08 37 34.6
comp=Z,29nm,1.3s
PASC **Pasadena Art C** 82.58 47 IAmb IAmb 08 37 33.9
comp=Z,21nm,1.0s
GDXM **Geysers** 82.59 41 P P 08 37 34.1 +2.6
MTOS **Mt Oso, Westle** 82.63 43 P 08 37 33.4 +1.7
MTOS IAmb IAmb 08 37 34.7
comp=Z,27nm,1.0s
SLBS **Sierra La Lagu** 82.67 60 P 08 37 34.0 +1.7
SLBS IAmb IAmb 08 37 35.0
comp=Z,26nm,1.1s
SLBS **Sierra La Lagu** 82.67 60 P P 08 37 34.0 +1.7
SLBS pP **pP** 08 39 02.9 +0.2
KCPM **Cahto Peak** 82.70 40 IAmb IAmb 08 37 35.1
comp=Z,22nm,1.0s
DPP **Dos Picos Cty** 82.71 48 IAmb IAmb 08 37 34.8
comp=Z,21nm,1.0s
ELS **Elsinore Mount** 82.77 48 IAmb IAmb 08 37 35.3
comp=Z,18nm,1.1s
ESJX **Sierra Juarez** 82.81 50 IAmb IAmb 08 37 36.2
comp=Z,32nm,1.3s
S14K **Fog Glacier** 82.86 11 P P 08 37 32.8 +0.3
baz=198
KMPM **Mount Pierce** 82.87 39 P 08 37 34.5 +1.5
BFSC **Mount Baldy Ra** 82.97 47 IAmb IAmb 08 37 36.2
comp=Z,51nm,1.7s
KMRM **Mail Ridge** 82.98 39 P 08 37 36.0 +2.5
TYV **Tymovskoe** 82.98 337 *e*P P 08 37 32.0 -1.1
TYV pmax pmax
comp=Z,100nm,3.7s
TYV pmax pmax
comp=Z,14nm,1.0s
TROLL **Troll, Antarti** 83.01 180 ⇓P P 08 37 33.6 +0.2
comp=Z,2µm,0.7s
TROLL ⇓pP **pwP** 08 39 05.9 -0.1
CHGN **Chignik** 83.07 11 P P 08 37 33.6 +0.2
baz=199
CHIR **Chirikof Islan** 83.16 13 P P 08 37 34.1 +0.2
baz=201
YUH **Yuha Desert** 83.20 49 IAmb IAmb 08 37 37.6
comp=Z,30nm,1.4s
BORC **Borrego Spring** 83.22 48 IAmb IAmb 08 37 37.7
comp=Z,27nm,1.1s
DNR **Dunn Ranch,Anz** 83.25 48 IAmb IAmb 08 37 38.2
comp=Z,31nm,1.2s
ISA **Isabella, Lake** 83.29 46 IAmb IAmb 08 37 38.0
comp=Z,41nm,1.3s
SNAA **Sanae** 83.32 179 ⇓P P 08 37 34.6 -0.2
comp=Z,289nm,1.0s
SNAA ⇑pP **pwP** 08 39 08.5 +0.9
SNAA **Sanae** 83.32 179 P P 08 37 35.1 +0.2
SNAA IAmb IAmb 08 37 35.9
comp=Z,20nm,1.1s
SNAA **Sanae** 83.32 179 P P 08 37 35.0 +0.2
comp=Z,12nm,0.9s,baz=200,slow=5.6,SNR=40
SNAA pP **pwP** 08 39 08.2 +0.7
comp=Z,4.2nm,0.9s,baz=200,slow=3.5,SNR=4.0
comp=Z,12nm,0.9s
SNAA **Sanae** 83.32 179 *ce*P P 08 37 34.8 0.0
SNAA pmax pmax
comp=Z,22nm,1.2s
PFO **Pinyon Flats O** 83.40 48 P 08 37 37.7 +1.9
PFO IAmb IAmb 08 37 38.7
comp=Z,20nm,1.2s
PFO **Pinyon Flats O** 83.40 48 P P 08 37 37.7 +1.9
PFO pmax pmax
comp=Z,20nm,1.2s
PFO **Pinyon Flats O** 83.40 48 P P 08 37 37.1 +1.3
BUCR **Buckhorn Ranch** 83.47 43 IAmb IAmb 08 37 38.4
comp=Z,18nm,1.0s
VNA3 **Neumayer Olymp** 83.50 177 ⇓P P 08 37 35.4 -0.2
comp=Z,94nm,0.7s
VNA3 ⇑pP **pwP** 08 39 09.6 +0.9
CMB **Columbia Colle** 83.55 43 IAmb IAmb 08 37 38.8
comp=Z,23nm,0.9s
LRMC **Laurel Mtn Rad** 83.69 46 IAmb IAmb 08 37 40.0
comp=Z,34nm,1.3s
ORV **Oroville** 83.84 41 IAmb IAmb 08 37 40.2
comp=Z,17nm,1.0s
MDJ **Mudanjiang** 83.88 326 P P 08 37 38.9 +1.1
MDJ pmax pmax
comp=Z,26nm,0.7s
MDJ **Mudanjiang** 83.88 326 P P 08 37 37.4 -0.4
VNA2 **Neumayer--Watz** 83.92 177 ⇓P P 08 37 37.6 -0.2
comp=Z,38nm,0.6s,baz=178,slow=4.6
VNA2 ⇑pP **pwP** 08 39 12.0 +1.0
baz=76,slow=31
BELC **Belle Mtn. Jos** 83.94 48 IAmb IAmb 08 37 41.5
comp=Z,25nm,1.0s
NVL **N'lazarevskaya** 83.96 184 *e*P P 08 37 51.5 +14
NVL *e*PPP PPP 08 43 03.1
NVL *e*S **S** 08 47 33.1 +6.2
NVL pmax pmax
comp=Z,11nm,1.0s
NVL smax smax
comp=N,133nm,8.2s
N02D **Trinity Center** 84.05 39 IAmb IAmb 08 37 42.1
comp=Z,33nm,1.1s
BC3 **Big Chuckawall** 84.10 49 IAmb IAmb 08 37 42.6
comp=Z,45nm,1.6s
O03E **Paynes Creek** 84.13 40 P P 08 37 40.6 +1.3
VNA1 **Neumayer--Stat** 84.16 177 ⇓P P 08 37 39.0 +0.1
comp=Z,52nm,0.9s
VNA1 ⇑pP **pwP** 08 39 12.8 +0.6
GLA **Glamis** 84.19 49 IAmb IAmb 08 37 43.0
comp=Z,31nm,1.1s
M02C **Callahan** 84.24 39 IAmb IAmb 08 37 43.1
comp=Z,31nm,1.1s
WAKR **Walker** 84.42 43 IAmb IAmb 08 37 43.8
comp=Z,34nm,1.2s
WHN **Wuhan** 84.54 307 P P 08 37 42.1 +0.7
WHN pmax pmax
comp=Z,44nm,0.8s
IRM **Iron Mountain** 84.60 48 IAmb IAmb 08 37 44.9
comp=Z,33nm,1.2s
DSP **Deep Springs** 84.65 44 IAmb IAmb 08 37 45.3
comp=Z,24nm,1.3s
R17L **Mt. Peulik Vol** 84.71 12 P P 08 37 41.9 +0.3
baz=201
BEKR **Beckworth** 84.71 41 IAmb IAmb 08 37 44.7
comp=Z,45nm,1.8s
HSIG 84.72 55 IAmb IAmb 08 37 44.9
comp=Z,14nm,0.9s
113A **Mohawk Valley,** 84.76 50 IAmb IAmb 08 37 45.5
comp=Z,21nm,1.3s
GWY **Greenwater Val** 84.77 46 IAmb IAmb 08 37 44.9
comp=Z,22nm,1.3s
BLYC **Blythe** 84.79 49 IAmb IAmb 08 37 45.7
comp=Z,15nm,1.1s
LHV **Little Huntoon** 84.85 43 IAmb IAmb 08 37 45.6
comp=Z,29nm,1.2s
OHAK **Old Harbor** 84.94 14 P P 08 37 43.2 +0.5
baz=203
R18K **Karluk** 85.02 13 P P 08 37 43.4 +0.3
baz=202
GMN **Gold Mountain** 85.06 45 IAmb IAmb 08 37 46.4
comp=Z,38nm,1.8s
RYN **Ryan** 85.06 43 IAmb IAmb 08 37 46.6
comp=Z,39nm,1.7s
NVAR **Mina Array Bea** 85.08 43 P P 08 37 45.4 +1.2
comp=Z,6.5nm,0.8s,baz=221,slow=7.8,SNR=39
NVAR pP **pwP** 08 39 17.5 -0.3
comp=Z,1.3nm,0.9s,baz=258,slow=4.6,SNR=3.5
NVAR PKPPKP **P'P'df** 09 03 57.9 +4.3
comp=Z,0.6nm,0.8s,baz=266,slow=0.7,SNR=4.3
comp=Z,6.5nm,0.8s
MTPC **Mountain Pass** 85.10 47 IAmb IAmb 08 37 47.1
comp=Z,17nm,1.0s
WCT **Wildcat Mounta** 85.16 46 IAmb IAmb 08 37 47.0
comp=Z,29nm,1.6s
NV11 **Mina Array Sit** 85.17 43 IAmb IAmb 08 37 46.9
comp=Z,33nm,1.5s
PAHR **Pah Rah Range** 85.20 42 IAmb IAmb 08 37 47.0
comp=Z,21nm,1.2s
Q17K **Contact Creek** 85.39 12 P P 08 37 45.1 0.0
baz=201
O14K **Tigyukauivet M** 85.44 9 P P 08 37 45.4 +0.3
baz=196
TPNV **Topopah Spring** 85.50 46 IAmb IAmb 08 37 48.7
comp=Z,14nm,0.8s
CN2 **Changchun** 85.50 323 P P 08 37 46.3 +0.5
CN2 pmax pmax
comp=Z,20nm,1.4s
TPH **Tonopah** 85.54 44 IAmb IAmb 08 37 48.7
comp=Z,19nm,0.9s
O15K **Ungalikthiuk R** 85.58 10 P P 08 37 45.6 -0.2
baz=197
KDAK **Kodiak Island** 85.61 14 P P 08 37 46.0 0.0
baz=204
Q16K **King Salmon** 85.64 11 P P 08 37 46.2 +0.1
baz=200
V12A **Nelson** 85.70 47 IAmb IAmb 08 37 49.9
comp=Z,19nm,1.3s
P16K **Nushagak River** 85.74 11 P P 08 37 46.7 +0.2
baz=199
BNX **BinXian** 85.77 326 ⇑P P 08 37 47.3 +0.2
BNX pmax pmax
comp=Z,20nm,0.8s
TIA **Tai'an** 85.81 313 P P 08 37 48.4 +0.9
TIA pmax pmax
comp=Z,32nm,1.0s
Q18K **Katmai Hardscr** 85.92 12 P P 08 37 47.6 0.0
baz=202
M11K **Mekoryuk** 85.95 6 P P 08 37 48.0 +0.4
baz=192
N14K **Kuskokwak Cree** 86.03 9 P P 08 37 48.2 +0.3
baz=196,SNR=6.6
P17K **Kvichak River** 86.16 11 P P 08 37 48.4 -0.2
baz=200,SNR=7.6
K05A **Summer Lake** 86.21 39 IAmb IAmb 08 37 52.5
comp=Z,22nm,1.1s
S11A **Rachel** 86.23 45 IAmb IAmb 08 37 52.0
comp=Z,17nm,0.9s
O16K **Kokwok River B** 86.25 10 IAmb IAmb 08 37 49.7
comp=Z,22nm,1.1s
O16K **Kokwok River B** 86.25 10 P P 08 37 48.7 -0.4
baz=199,SNR=5.4
M13K **Dall Lake** 86.29 8 P P 08 37 49.1 -0.1
baz=194
J05D **Fort Rock, OR** 86.38 38 IAmb IAmb 08 37 53.1
comp=Z,19nm,1.0s
Q20K **Shuyak Island** 86.41 14 P P 08 37 49.7 -0.1
baz=204
Q19K **Cape Douglas,** 86.44 13 P P 08 37 49.7 -0.3
baz=203
N15K **Kwethluk River** 86.49 9 P P 08 37 50.1 -0.1
baz=197,SNR=12
PRN **Pahroc Range** 86.54 46 IAmb IAmb 08 37 54.1
comp=Z,24nm,1.0s
P18K **Big Mountain,** 86.57 12 P P 08 37 50.5 -0.1
baz=202,SNR=5.5
O17K **Koliganek Bris** 86.59 11 P P 08 37 50.7 0.0
baz=200
TUC **Tucson** 86.61 52 P 08 37 53.8 +2.2
TUC IAmb IAmb 08 37 55.0
comp=Z,19nm,0.9s
TUC **Tucson** 86.61 52 P P 08 37 53.8 +2.2
TUC pmax pmax
comp=Z,19nm,0.9s
PLCA **Paso Flores** 86.68 134 P P 08 37 53.8 +1.9
comp=Z,6.3nm,0.8s,baz=216,slow=6.2,SNR=14
comp=Z,6.3nm,0.8s
M14K **Bethel** 86.79 8 P P 08 37 51.8 +0.3
baz=196
PINE **Pine Mountain** 86.87 38 P 08 37 54.6 +1.9
M15K **Kasigluk River** 86.91 9 P P 08 37 52.3 +0.2
baz=197
N16K **Nishlik Lake** 86.98 10 P P 08 37 53.5 +0.9
baz=198,SNR=9.3
I05D **Terrebonne, OR** 87.00 37 IAmb IAmb 08 37 55.7
comp=Z,30nm,1.1s
P19K **Oil Pt** 87.20 13 P P 08 37 53.9 +0.3
baz=203
L14K **Kuka Creek** 87.27 8 P P 08 37 54.3 +0.4
baz=195
X16A **Lo Mia Camp, P** 87.29 50 IAmb IAmb 08 37 58.1
comp=Z,18nm,1.1s
N17K **Nushagak Hills** 87.29 11 P P 08 37 54.0 +0.1
baz=200
WVOR **Wild Horse Val** 87.33 40 IAmb IAmb 08 37 57.3
comp=Z,16nm,1.1s
M16K **Timber Creek** 87.48 10 IAmb IAmb 08 37 57.3
comp=Z,25nm,1.1s
M16K **Timber Creek** 87.48 10 P P 08 37 55.9 +1.1
baz=198
O19K **Port Alsworth** 87.49 12 P P 08 37 54.9 +0.1
baz=202,SNR=12
HOM **Homer** 87.53 14 P P 08 37 55.6 +0.5
baz=205
K13K **Kusilvak Mount** 87.62 7 P P 08 37 55.7 +0.3
baz=193
N18K **Kilae Creek** 87.65 11 P P 08 37 55.6 -0.1
baz=201
O20K **Slope Mountain** 87.71 13 P P 08 37 56.0 -0.1
baz=204
CCUT **Cedar City** 87.72 46 IAmb IAmb 08 37 59.9
comp=Z,15nm,1.0s
L15K **Ungalak Mounta** 87.75 8 P P 08 37 56.3 +0.2
baz=196
KNB **Kanab** 87.78 47 IAmb IAmb 08 38 00.1
comp=Z,20nm,1.1s
BRSE **Bradley Lake S** 87.80 14 P P 08 37 56.7 +0.3
baz=206
ENH **Enshi** 87.95 305 P P 08 37 57.9 0.0
PSUT **Pine Spring** 87.96 45 P P 08 37 59.3 +1.3
J08A **Circle Bar Ran** 87.99 39 IAmb IAmb 08 38 00.4
comp=Z,33nm,1.2s
N19K **Bonanza Creek** 88.03 12 IAmb IAmb 08 37 58.3
comp=Z,24nm,1.1s
N19K **Bonanza Creek** 88.03 12 P P 08 37 57.6 0.0
baz=202,SNR=5.6
L16K **Owhat River** 88.06 9 IAmb IAmb 08 37 59.4
comp=Z,25nm,1.1s
L16K **Owhat River** 88.06 9 P P 08 37 58.4 +0.9
baz=198,SNR=6.6
M17K **Holitna River** 88.07 10 P P 08 37 58.9 +1.2
baz=200,SNR=5.8
HNS **HongShan** 88.08 313 ⇓P P 08 37 59.3 +1.1
HNS pmax pmax
comp=Z,17nm,1.1s
LON **Longmire** 88.30 35 IAmb IAmb 08 38 01.2
comp=Z,16nm,0.8s
GNW **Green Mountain** 88.31 34 IAmb IAmb 08 38 01.7
comp=Z,26nm,0.9s
K15K **Wolf Creek Mou** 88.34 8 IAmb IAmb 08 38 01.0
comp=Z,27nm,1.1s
K15K **Wolf Creek Mou** 88.34 8 P P 08 37 59.8 +0.9
baz=196
SEW **Seward** 88.41 14 P P 08 37 59.7 +0.5
baz=207
M18K **Stony River** 88.42 11 P P 08 37 59.8 +0.5
baz=201,SNR=6.8
D05A **Enumclaw** 88.49 35 P P 08 38 01.2 +1.2
L17K **Donlin** 88.64 10 P P 08 38 01.2 +1.0
baz=199,SNR=5.7
CAPN **Captain Cook N** 88.64 13 P P 08 38 00.8 +0.6
baz=205
O22K **Cooper Landing** 88.69 14 P P 08 38 00.3 -0.2
baz=206
PGC **Sidney** 88.71 33 IAmb IAmb 08 38 03.4
comp=Z,24nm,0.9s
CBB **Campbell River** 88.72 31 IAmb IAmb 08 38 03.7
comp=Z,32nm,1.2s
F07A **Phinny Hill Vi** 88.76 37 IAmb IAmb 08 38 03.7
comp=Z,25nm,1.1s
MTPU **Mount Pierson** 88.77 47 IAmb IAmb 08 38 05.3
comp=Z,19nm,0.9s
SPCR **Spurr Chakacha** 88.82 13 P P 08 38 01.7 +0.4
baz=204
HEH **HeiHe** 88.86 329 *e*P P 08 38 01.8 +0.2
HEH pmax pmax
comp=Z,14nm,0.8s
121A **Cookes Peak, D** 88.88 53 IAmb IAmb 08 38 05.7
comp=Z,21nm,1.1s
L18K **Granite Mounta** 88.97 10 IAmb IAmb 08 38 03.2
comp=Z,14nm,0.9s
L18K **Granite Mounta** 88.97 10 P P 08 38 02.5 +0.8
baz=200
MXC **Moxie City** 88.99 36 IAmb IAmb 08 38 04.8
comp=Z,21nm,0.9s
STLK **Strandline Lak** 89.17 13 IAmb IAmb 08 38 03.1
comp=Z,15nm,0.9s
K17K **Iditarod** 89.19 9 P P 08 38 02.9 +0.1
baz=199
E07A **Sunnyside** 89.21 36 P P 08 38 04.7 +1.3
LTY **Liberty** 89.22 35 IAmb IAmb 08 38 05.5
comp=Z,16nm,0.9s
RC01 **Rabbit Creek A** 89.23 14 P P 08 38 03.5 +0.5
RC01 **Rabbit Creek A** 89.23 14 P P 08 38 03.4 +0.3
baz=206,SNR=6.8
L19K **White Mountain** 89.24 11 P P 08 38 03.9 +0.8
baz=202,SNR=16
M20K **Styx River** 89.27 12 IAmb IAmb 08 38 03.9
comp=Z,16nm,1.1s
M20K **Styx River** 89.27 12 P P 08 38 03.3 0.0
baz=203
PWL **Port Wells** 89.33 14 P P 08 38 04.0 +0.5
baz=208,SNR=8.2
SUA **Susitna One** 89.36 13 P P 08 38 04.2 +0.4
SUA **Susitna One** 89.36 13 P P 08 38 04.2 +0.4
baz=206,SNR=11
CRAG **Craig** 89.39 24 P P 08 38 04.7 +0.8
baz=221
J16K **Anvik River** 89.41 8 P P 08 38 04.6 +0.7
baz=197
EPT **El Paso** 89.43 54 IAmb IAmb 08 38 07.7
comp=Z,35nm,1.3s
KAIM **Kayak Island** 89.47 17 P P 08 38 04.8 +0.6
baz=211
BMO **Blue Mountains** 89.57 39 IAmb IAmb 08 38 07.2
comp=Z,46nm,1.9s
E08A **Dider Farm, El** 89.60 37 IAmb IAmb 08 38 07.5
comp=Z,20nm,1.1s
GLI **Glacier Island** 89.64 15 P P 08 38 05.3 +0.3
baz=209,SNR=6.3
SKT **Skwentna** 89.67 13 P P 08 38 04.9 -0.2
baz=205
EYAK **Cordova Ski Ar** 89.67 16 IAmb IAmb 08 38 06.5
comp=Z,16nm,0.7s
EYAK **Cordova Ski Ar** 89.67 16 P P 08 38 04.8 -0.3
EYAK **Cordova Ski Ar** 89.67 16 P P 08 38 05.6 +0.5
baz=210
L20K **Farewell, AK** 89.69 11 P P 08 38 05.7 +0.5
baz=203,SNR=5.2
J17K **VABM Dome** 89.73 9 IAmb IAmb 08 38 07.1
comp=Z,16nm,0.9s
J17K **VABM Dome** 89.73 9 P P 08 38 05.8 +0.5
baz=198
M22K **Willow** 89.75 13 P P 08 38 05.6 +0.2
baz=206,SNR=5.3
KNK **Knik Glacier** 89.80 14 IAmb IAmb 08 38 07.2
comp=Z,24nm,1.0s
KNK **Knik Glacier** 89.80 14 P P 08 38 06.0 +0.3
baz=208
PMR **Palmer** 89.81 14 P P 08 38 05.8 +0.1
PMR **Palmer** 89.81 14 P P 08 38 05.3 -0.4
PMR **Palmer** 89.81 14 P P 08 38 05.8 +0.1
PMR pmax pmax
comp=Z,49nm,1.5s
PMR **Palmer** 89.81 14 P P 08 38 06.3 +0.6
baz=207,SNR=6.8
SIT **Sitka** 89.84 22 P P 08 38 06.3 +0.3
baz=219
V35K **Ketchikan** 89.85 25 P P 08 38 06.3 +0.3
baz=222
U33K **Whale Pass** 89.89 24 P P 08 38 07.3 +1.1
baz=221
Q16A **Castle Valley** 89.92 46 IAmb IAmb 08 38 10.3
comp=Z,46nm,1.8s
BGLC **Bering Glacier** 89.93 17 P P 08 38 05.7 -0.6
baz=212
I17K **Unalakleet** 89.98 8 P P 08 38 06.0 -0.4
baz=197
D08A **Wollman Farm,** 90.03 36 IAmb IAmb 08 38 09.6
comp=Z,23nm,0.9s
E09A **Wood Farm, Sta** 90.11 37 P 08 38 08.8 +1.3
E09A IAmb IAmb 08 38 09.6
comp=Z,23nm,1.1s
J18K **Innoko River** 90.14 10 IAmb IAmb 08 38 08.7
comp=Z,21nm,0.9s
J18K **Innoko River** 90.14 10 P P 08 38 08.1 +0.8
baz=200
S31K **Pelican** 90.25 21 P P 08 38 08.6 +0.8
baz=218
XAN **Xi'an** 90.28 308 ⇓P P 08 38 09.4 +0.7
XAN pmax pmax
comp=Z,29nm,0.8s
XAN pmax pmax
comp=Z,250nm,4.7s
M23K **Glacier View** 90.30 14 P P 08 38 08.3 +0.2
baz=208
CUT **Chulitna** 90.31 13 P P 08 38 08.3 +0.3
baz=206
BMRM **Bremner River** 90.32 16 P P 08 38 08.7 +0.5
baz=211,SNR=6.6
MESA **MESA** 90.34 18 P P 08 38 08.6 +0.1
baz=213
TX31 **Lajitas Ar. Si** 90.36 58 IAmb IAmb 08 38 12.0
comp=Z,16nm,1.2s
TXAR **Lajitas Array** 90.36 58 P P 08 38 10.7 +1.4
TXAR **Lajitas Array** 90.36 58 P P 08 38 10.9 +1.7
comp=Z,4.3nm,0.9s,baz=212,slow=6.7,SNR=51
TXAR pP **pwP** 08 39 43.2 -0.5
comp=Z,0.2nm,0.7s,baz=249,slow=5.1,SNR=1.8
TXAR PKKPbc **PKKPbc** 08 55 36.8 +0.8
comp=Z,0.5nm,0.7s,baz=87,slow=4.2,SNR=7.8
comp=Z,4.3nm,0.9s
PPLA **Purkeypile** 90.38 12 P P 08 38 08.8 +0.3
baz=204
WRAK **Wrangell Islan** 90.40 24 P P 08 38 09.2 +0.7
baz=221
SCM **Sheep Creek Mo** 90.43 14 P P 08 38 09.2 +0.5
baz=208,SNR=6.8
SRU **San Rafael Swe** 90.45 46 IAmb IAmb 08 38 11.8
comp=Z,23nm,1.0s
KLU **Klutina** 90.45 15 P P 08 38 09.3 +0.4
baz=210
PLID **Pearl Lake** 90.45 39 IAmb IAmb 08 38 11.5
comp=Z,26nm,1.2s
K20K **Telida** 90.47 11 IAmb IAmb 08 38 10.1
comp=Z,19nm,1.1s
K20K **Telida** 90.47 11 P P 08 38 09.3 +0.5
baz=202,SNR=8.7
HVU **Hansel Valley** 90.47 43 IAmb IAmb 08 38 11.9
comp=Z,14nm,0.9s
HLID **Hailey** 90.49 41 IAmb IAmb 08 38 12.2
comp=Z,18nm,0.9s
P17A **Butcher Ranch,** 90.50 46 IAmb IAmb 08 38 12.3
comp=Z,21nm,1.2s
CTU **Camp Tracy** 90.51 45 IAmb IAmb 08 38 11.9

	comp=Z,15nm,0.9s								
CRQE	Cirque	90.52	17	P		P	08 38 09.7	+0.5	
	baz=212								
H16K	Elim	90.52	7	P		P	08 38 09.7	+0.7	
	baz=195								
PNL	Peninsula	90.64	19	P		P	08 38 10.4	+0.7	
	baz=215								
G15K	Niukluk	90.68	6	P		P	08 38 10.4	+0.7	
	baz=194								
KMI	Kunming	90.69	297	P		P	08 38 11.6	+0.6	
KMI				pmax		pmax			
	comp=Z,13nm,0.8s								
PINM	Pinnacle	90.74	18	P		P	08 38 10.8	+0.6	
	baz=215								
LLLB	Lillooet	90.77	32	IAmb		IAmb	08 38 12.5		
	comp=Z,12nm,1.0s								
J19K	Poorman	90.81	10	IAmb		IAmb	08 39 26.6		
	comp=Z,45nm,1.9s								
J19K	Poorman	90.81	10	P		P	08 38 11.0	+0.7	
	baz=201								
CMAR	Chiang Mai Arr	90.84	290	P		P	08 38 12.5	+0.9	
CMAR	Chiang Mai Arr	90.84	290	P		P	08 38 13.1	+1.5	
	comp=Z,4.8nm,0.8s,baz=136,slow=3.3,SNR=30								
CMAR				PP		PP	08 41 50.2	-4.1	
	comp=Z,0.6nm,0.3s,baz=115,slow=5.1,SNR=1.3								
	comp=Z,4.8nm,0.8s								
CMAR	Chiang Mai Arr	90.84	290	*ce*P		P	08 38 13.3	+1.7	
CMAR				pmax		pmax			
	comp=Z,5.0nm,0.8s								
GRNC	Granite Creek	90.86	17	IAmb		IAmb	08 38 13.1		
	comp=Z,18nm,1.0s								
N25K	Chitina, Valde	90.87	16	P		P	08 38 11.4	+0.6	
	baz=211,SNR=6.8								
ALPN	Alpine	90.88	57	IAmb		IAmb	08 38 13.9		
	comp=Z,12nm,0.9s								
XLT	XiLinHaoTe	90.89	319	*e*P		P	08 38 11.8	+0.5	
XLT				pP		pwP	08 39 48.3	+1.8	
XLT				pmax		pmax			
	comp=Z,14nm,0.5s								
TNA	Tin City	90.90	5	P		P	08 38 11.6	+1.0	
	baz=190								
GLB	Gilahina Butte	90.92	16	IAmb		IAmb	08 38 12.1		
	comp=Z,26nm,1.2s								
M24K	Tolsona, Glenn	90.93	15	P		P	08 38 11.4	+0.4	
	baz=210								
F14K	Arctic Creek	90.94	5	P		P	08 38 11.4	+0.6	
	baz=192								
WAT6	Susitna Watana	91.00	14	P		P	08 38 11.7	+0.3	
	baz=208								
CHTO	Chiang Mai	91.00	290			P	08 38 13.7	+1.4	
CHTO				IAmb		IAmb	08 38 14.3		
	comp=Z,12nm,0.8s								
CHTO	Chiang Mai	91.00	290	P		P	08 38 12.6	+0.3	
CHTO	Chiang Mai	91.00	290	P		P	08 38 13.7	+1.4	
CHTO				pmax		pmax			
	comp=Z,12nm,0.9s								
PV10	Paradox Valley	91.04	48	IAmb		IAmb	08 38 17.0		
	comp=Z,9.7nm,0.9s								
PV19	Morning Glory	91.04	48	IAmb		IAmb	08 38 14.4		
	comp=Z,16nm,1.2s								
WAT1	Susitna Watana	91.04	13	P		P	08 38 12.0	+0.5	
	baz=207								
PV18	Skein Mesa, Pa	91.06	48	IAmb		IAmb	08 38 14.4		
	comp=Z,18nm,1.2s								
ANMO	Albuquerque	91.06	52	*i* P		P	08 38 13.5	+1.1	
ANMO				pmax		pmax			
	comp=Z,9.0nm,1.0s								
R32K	Eaglecrest	91.06	22	P		P	08 38 12.0	+0.4	
	baz=219								
MCARA	McCarthy VSAT	91.07	16	P		P	08 38 12.0	+0.4	
	baz=212								
H17K	Granite Mounta	91.09	8	P		P	08 38 11.9	+0.3	
	baz=197								
PV23	Carpenter Ridg	91.10	48	IAmb		IAmb	08 38 14.7		
	comp=Z,9.2nm,0.8s								
P29M	Windy Craggy	91.10	20	P		P	08 38 12.2	+0.4	
	baz=217								
CTG	Chitna Glacier	91.16	17	P		P	08 38 12.7	+0.5	
	baz=214								
J20K	Nowinta River	91.22	11	IAmb		IAmb	08 38 13.6		
	comp=Z,19nm,1.4s								
J20K	Nowinta River	91.22	11	P		P	08 38 12.5	+0.4	
	baz=202								
G16K	Koyuk River	91.24	7	P		P	08 38 12.6	+0.3	
	baz=195								
TRF	Thorofare Moun	91.25	12	IAmb		IAmb	08 38 14.2		
	comp=Z,20nm,0.9s								
TRF	Thorofare Moun	91.25	12	P		P	08 38 12.2	-0.4	
	baz=206,SNR=8.5								
CHUM	Lake Minchumin	91.26	11	P		P	08 38 12.1	-0.3	
	baz=204								
O28M	Mount Upton	91.32	18	P		P	08 38 13.1	0.0	
	baz=215								
F15K	North Star Dit	91.32	6	P		P	08 38 12.8	+0.1	
	baz=193								
GCSA	Galena City Sc	91.32	9	P		P	08 38 13.0	+0.4	
	baz=200								
PLBC	Pleasant Camp	91.39	20	P		P	08 38 13.4	+0.3	
	baz=218								
HARP	HAARP	91.42	15	P		P	08 38 13.4	+0.2	
	baz=210								
H18K	Honhosa River	91.50	9	P		P	08 38 13.6	+0.1	
	baz=199								
DHY	Denali Highway	91.51	14	IAmb		IAmb	08 41 25.5		
	comp=Z,32nm,1.8s								
DHY	Denali Highway	91.51	14	P		P	08 38 13.6	-0.2	
	baz=208								
G17K	Kiwalik Mounta	91.54	8	P		P	08 38 13.9	+0.2	
	baz=197								
T35M	Bob Quinn	91.59	24	P		P	08 38 14.2	+0.1	
	baz=223								
BPAW	Bear Paw Mtn.	91.70	12	P		P	08 38 14.4	-0.1	
	baz=205								
SKAG	Skagway	91.72	21	P		P	08 38 14.9	+0.4	
	baz=219								
P30M	Million Dollar	91.73	20	P		P	08 38 15.1	+0.3	
	baz=217								
I20K	Naaghedeneel	91.74	10	P		P	08 38 15.0	+0.5	
	baz=202								
MCK	McKinley	91.77	13	P		P	08 38 15.2	+0.4	
	baz=207								
PAX	Paxson	91.84	15	P		P	08 38 15.7	+0.5	
	baz=210								
YUK8	Steele Glacier	91.86	18	P		P	08 38 16.3	+0.7	
	baz=215								
M26K	Nabesna, AK	91.94	16	P		P	08 38 16.4	+0.7	
	baz=212								
S34M	Telegraph Cree	91.96	23	P		P	08 38 16.6	+0.9	
	baz=222								
YUK6	Outpost Mounta	91.98	19	P		P	08 38 16.2	+0.2	
	baz=216								
HHC	Hu-ho-hao-te	92.01	315	*e*P		P	08 38 18.9	+2.3	
HHC				pmax		pmax			
	comp=Z,7.0nm,0.7s								
HHC				pmax		pmax			
	comp=Z,130nm,4.5s								
AHID	Auburn Hatcher	92.05	43	IAmb		IAmb	08 38 19.3		
	comp=Z,16nm,1.0s								
YUK3	Moose Creek	92.08	17	P		P	08 38 17.2	+0.7	
	baz=214,SNR=10								
H19K	Roundabout Mou	92.12	9	P		P	08 38 17.1	+0.8	
	baz=200								
PZH	PanZhiHua	92.12	298	P		P	08 38 17.5	+0.1	
HYT	Haines Junctio	92.13	19	P		P	08 38 17.2	+0.6	
	baz=217								
G18K	Tagagawik	92.17	8	P		P	08 38 17.0	+0.4	
	baz=198								
M27K	Edge Creek, AK	92.19	16	IAmb		IAmb	08 38 18.8		
	comp=Z,13nm,0.8s								
M27K	Edge Creek, AK	92.19	16	P		P	08 38 17.6	+0.7	
	baz=213,SNR=7.8								
YUK4	Talbot Arm	92.22	18	P		P	08 38 17.8	+0.7	
	baz=216								
MENT	Mentasta	92.23	15	P		P	08 38 17.9	+0.9	
MENT				IAmb		IAmb	08 38 18.5		
	comp=Z,11nm,0.8s								
MENT	Mentasta	92.23	15	P		P	08 38 16.6	-0.3	
H20K	Anotleneega Mo	92.32	10	P		P	08 38 17.8	+0.5	
	baz=202								
P32M	Atlin	92.34	21	P		P	08 38 18.0	+0.5	
	baz=220								
Q32M	Nakina River	92.34	22	P		P	08 38 18.2	+0.4	
	baz=221								
L26K	Log Cabin Wild	92.39	15	IAmb		IAmb	08 38 19.2		
	comp=Z,12nm,1.1s								
L26K	Log Cabin Wild	92.39	15	P		P	08 38 18.4	+0.7	
	baz=212,SNR=6.7								
BVCY	Beaver Creek	92.50	17	P		P	08 38 19.0	+0.8	
	baz=214,SNR=5.9								
K24K	Donnelly Dome	92.50	14	P		P	08 38 19.1	+0.9	
	baz=210,SNR=8.4								
O30N	Mendenhall	92.51	20	P		P	08 38 18.7	+0.4	
	baz=218								
NEA2	Nenana	92.51	12	P		P	08 38 17.8	-0.4	
	baz=207								
TPAW	Teton Pass	92.54	43	IAmb		IAmb	08 38 21.6		
	comp=Z,10.0nm,1.0s								
MLY	Manley	92.59	12	P		P	08 38 18.0	-0.6	
	baz=206								
WRH	Wood River Hil	92.60	13	IAmb		IAmb	08 38 19.3		
	comp=Z,10nm,0.8s								
G19K	Purcell Mounta	92.61	9	P		P	08 38 17.8	-0.8	
	baz=200								
SNOW	Snow King Moun	92.64	43	IAmb		IAmb	08 38 22.1		
	comp=Z,14nm,0.9s								
RIDG	Independent Ri	92.65	14	P		P	08 38 18.8	-0.1	
	baz=211								
F18K	Selawik	92.72	8	P		P	08 38 19.0	0.0	
	baz=198								
DLBC	Dease Lake	92.74	23	P		P	08 38 19.3	-0.2	
	baz=223								
DRIO	Del Rio	92.75	59	IAmb		IAmb	08 38 22.0		
	comp=Z,12nm,1.1s								
DOT	Dot Lake	92.75	15	P		P	08 38 19.6	+0.2	
DOT				IAmb		IAmb	08 38 20.6		
	comp=Z,9.4nm,0.8s								
N30M	Aishikik Lake	92.76	19	P		P	08 38 19.5	0.0	
	baz=217								
HDA	Harding Lake	92.78	13	P		P	08 38 19.5	+0.1	
	baz=209								
L27K	Beaver Creek,	92.79	16	P		P	08 38 20.1	+0.6	
	baz=213								
H21K	Melozitna Rive	92.81	11	IAmb		IAmb	08 39 46.8		
	comp=Z,21nm,1.9s								
H21K	Melozitna Rive	92.81	11	P		P	08 38 19.8	+0.3	
	baz=204								
CCB	Clear Creek Bu	92.81	13	IAmb		IAmb	08 38 20.0		
	comp=Z,17nm,1.4s								
E17K	Hotham Inlet	92.94	7	P		P	08 38 20.2	+0.2	
	baz=196								
COLA	College	93.01	13	P		P	08 38 20.4	0.0	
COLA	College	93.01	13	P		P	08 38 20.4	0.0	
COLA	College	93.01	13	*i* P		P	08 38 19.9	-0.5	
COLA				pmax		pmax			
	comp=Z,8.0nm,0.9s								
COLA	College	93.01	13	P		P	08 38 20.5	+0.1	
	baz=208								
PD31	Pinedale Array	93.01	44	IAmb		IAmb	08 38 22.9		
	comp=Z,7.8nm,0.9s								
PDAR	Pinedale Array	93.01	44	P		P	08 38 22.1	+0.8	
PDAR	Pinedale Array	93.01	44	P		P	08 38 21.8	+0.4	
	comp=Z,5.2nm,0.9s,baz=201,slow=2.9,SNR=42								
PDAR				pP		pwP	08 39 55.8	-0.8	
	comp=Z,1.0nm,0.9s,baz=215,slow=1.8,SNR=5.6								
PDAR				PP		PP	08 42 10.6	-0.5	
	comp=Z,0.2nm,0.6s,baz=246,slow=14,SNR=4.7								
	comp=Z,5.2nm,0.9s								
SCRK	Sand Creek	93.05	15	P		P	08 38 20.9	+0.1	
	baz=211								
P33M	Teslin, Yukon	93.11	21	P		P	08 38 21.4	+0.3	
	baz=221								
IL31		93.11	13	IAmb		IAmb	08 38 26.8		
	comp=Z,25nm,2.0s								
ILAR	Eielson Array	93.11	13	P		P	08 38 20.6	-0.3	
	comp=Z,4.4nm,1.0s,baz=222,slow=4.8,SNR=24								
ILAR				PP		PP	08 42 06.5	-4.5	
	comp=Z,1.3nm,1.0s,baz=217,slow=7.9,SNR=4.1								
ILAR				PKiKP		PKiKP	08 43 04.2	-1.0	
	comp=Z,0.4nm,1.0s,baz=325,slow=4.3,SNR=5.8								
	comp=Z,4.4nm,1.0s								
ILAR	Eielson Array	93.11	13	P		P	08 38 20.7	-0.2	
R33M	Jennings River	93.12	22	P		P	08 38 21.2	0.0	
	baz=222								
YHL	Hebgen Lake	93.14	41	IAmb		IAmb	08 38 27.0		
	comp=Z,9.0nm,1.0s								
M29M	Somme Creek	93.16	18	P		P	08 38 21.5	+0.2	
	baz=216								
N31M	Braeburn, Yuko	93.17	19	P		P	08 38 21.0	-0.3	
	baz=218								
F19K	Shaleruckik Mo	93.17	8	P		P	08 38 21.7	+0.6	
	baz=199								
H22K	Ishtalitna Cre	93.27	11	P		P	08 38 22.1	+0.5	
	baz=205								
J25K	Salcha River,	93.29	14	P		P	08 38 22.3	+0.5	
	baz=210								
E18K	Tukpahlearik C	93.39	7	P		P	08 38 22.6	+0.4	
	baz=197								
D17K	Noatak River	93.41	6	P		P	08 38 22.9	+0.7	
	baz=194								
G21K	Allakaket	93.49	10	P		P	08 38 22.9	+0.3	
	baz=203								
SGCY	Sterling City	93.51	56	IAmb		IAmb	08 38 24.6		
	comp=Z,6.7nm,0.9s								
K27K	Chicken	93.55	15	P		P	08 38 23.9	+1.0	
	baz=213								
J26L	Joseph Creek	93.60	15	P		P	08 38 24.0	+0.8	
	baz=212								
BILL	Bilibino	93.63	354	*i* P		P	08 38 23.0	-0.2	
BILL				pmax		pmax			
	comp=Z,13nm,1.0s								
F20K	Avaraart Lake	93.65	9	P		P	08 38 23.7	+0.4	
	baz=201								
M30M	Minto, Yukon	93.73	18	IAmb		IAmb	08 38 26.1		
	comp=Z,7.0nm,0.8s								
M30M	Minto, Yukon	93.73	18	P		P	08 38 24.5	+0.6	
	baz=218								
N32M	Quiet Lake	93.74	20	P		P	08 38 24.6	+0.7	
	baz=221								
RDOG	Red Dog Mine	93.77	6	P		P	08 38 24.6	+0.8	
	baz=195								
C16K	Lisburne Hills	93.78	5	P		P	08 38 23.5	-0.3	
	baz=192								
L29M	L29M	93.79	17	IAmb		IAmb	08 38 26.1		
	comp=Z,18nm,1.3s								
L29M	L29M	93.79	17	P		P	08 38 25.0	+0.8	
	baz=216,SNR=5.2								
E19K	Redstone River	93.83	8	P		P	08 38 24.7	+0.5	
	baz=200								
H24K	Noodor Dome	93.86	12	P		P	08 38 25.0	+0.7	
	baz=208								
YNE	Yellowstone No	93.92	42	IAmb		IAmb	08 38 29.1		
	comp=Z,7.4nm,1.0s								
PRP	Porcupine Dome	94.05	13	IAmb		IAmb	08 38 28.0		
	comp=Z,7.4nm,1.1s								
PRP	Porcupine Dome	94.05	13	P		P	08 38 25.8	+0.4	
	baz=210								
M31M	Drury Creek, Y	94.14	19	P		P	08 38 25.9	+0.2	
	baz=220								
F21K	Alatna River	94.14	10	P		P	08 38 26.0	+0.3	
	baz=203								
C17K	DeLong Mountai	94.16	6	P		P	08 38 26.1	+0.5	
	baz=194								
G22K	Bettles	94.18	11	P		P	08 38 26.1	+0.4	
	baz=205								
DAWY	Dawson	94.24	16	P		P	08 38 26.4	+0.2	
DAWY				IAmb		IAmb	08 38 27.8		
	comp=Z,7.8nm,1.0s								
DAWY	Dawson	94.24	16	P		P	08 38 26.6	+0.5	
	baz=215								
G23K	Bananza Creek	94.24	11	P		P	08 38 26.6	+0.5	
	baz=206								
I26K	Coal Creek Min	94.38	14	P		P	08 38 27.2	+0.5	
	baz=212								
EGAK	Eagle	94.39	15	P		P	08 38 26.7	-0.1	
EGAK				IAmb		IAmb	08 38 28.1		
	comp=Z,13nm,0.9s								
EGAK	Eagle	94.39	15	P		P	08 38 27.2	+0.4	
	baz=214								
C18K	Utukok River	94.52	6	P		P	08 38 27.8	+0.5	
	baz=196								
K29M	Barlow Dome	94.55	17	P		P	08 38 28.1	+0.5	
	baz=217								
H25L	Birch Creek	94.64	13	P		P	08 38 28.7	+0.9	
	baz=210								
COLD	Coldfoot	94.68	11	P		P	08 38 28.8	+0.8	
	baz=206								
D19K	Kuna River	94.71	8	P		P	08 38 28.8	+0.6	
	baz=199								
TOAD	Toad River Com	94.81	25	P		P	08 38 29.2	+0.3	
	baz=227								
BRDY	Brady	94.84	58	IAmb		IAmb	08 38 31.1		
	comp=Z,12nm,1.5s								
ABTX	Abilene, Hawle	94.95	56	IAmb		IAmb	08 38 31.8		
	comp=Z,11nm,1.1s								
I27K	Kandik River	94.98	15	P		P	08 38 29.8	+0.3	
	baz=214								
G25K	Bearman Lake	95.02	12	P		P	08 38 29.9	+0.4	
	baz=210								
D20K	Etivluk River	95.10	8	P		P	08 38 30.6	+0.7	
	baz=200								
C19K	Lookout Ridge	95.12	7	P		P	08 38 30.6	+0.5	
	baz=198								
B18K	Kokolik River	95.15	6	P		P	08 38 30.4	+0.3	
	baz=196								
E21K	Killik River	95.20	9	P		P	08 38 30.4	0.0	
	baz=203								
E22K	Anaktuvuk Pass	95.24	10	P		P	08 38 30.7	0.0	
	baz=205								
I28M	Miner Creek	95.24	15	IAmb		IAmb	08 38 34.4		
	comp=Z,13nm,1.3s								
I28M	Miner Creek	95.24	15	P		P	08 38 31.0	+0.2	
	baz=215								
F24K	Squaw Lake	95.34	12	P		P	08 38 31.4	+0.3	
	baz=208								
MMPY	Sheldon Lake,	95.41	20	P		P	08 38 31.7	+0.2	
	baz=222								
J30M	Hart River	95.45	17	P		P	08 38 32.0	+0.2	
	baz=218								
H27K	Steamboat Moun	95.52	14	IAmb		IAmb	08 38 34.1		
	comp=Z,8.5nm,1.1s								
H27K	Steamboat Moun	95.52	14	P		P	08 38 32.2	+0.3	
	baz=214								
E23K	Chandalar	95.53	11	P		P	08 38 32.0	+0.1	
	baz=207								
I29M	Ogilvie Camp,	95.57	16	P		P	08 38 32.4	+0.3	
	baz=216								
G26K	Porcupine Rive	95.64	13	IAmb		IAmb	08 38 37.0		
	comp=Z,17nm,1.6s								
G26K	Porcupine Rive	95.64	13	P		P	08 38 32.3	-0.1	
	baz=212								
C21K	Knifeblade Rid	95.75	8	P		P	08 38 32.6	-0.2	
	baz=202								
D22K	Ayikyak River	95.79	9	P		P	08 38 32.8	-0.3	
	baz=204								
F25K	Christian Rive	95.83	12	P		P	08 38 32.8	-0.5	
	baz=210								
I30M	Mount Dempster	95.95	17	P		P	08 38 33.7	-0.2	
	baz=218								
G27K	Doyon Strip	95.98	14	P		P	08 38 33.8	-0.2	
	baz=214								
PLPT	Palo Pinto	96.03	57	IAmb		IAmb	08 38 37.5		
	comp=Z,8.9nm,1.2s								
TOLK	Toolik Lake Re	96.06	10	P		P	08 38 33.8	-0.5	
	baz=207								
KOTAN	Kotaneelee Air	96.12	24	P		P	08 38 34.1	-0.6	
	baz=228								
YAK	Yakutsk	96.15	338	*i* P		P	08 38 34.2	-0.5	
YAK				pmax		pmax			
	comp=Z,21nm,0.5s								
D23K	Nanushuk River	96.17	10	P		P	08 38 33.9	-0.9	
	baz=206								
B21K	Ikpikpuk River	96.21	8	P		P	08 38 33.8	-1.1	
	baz=202								
F26K	Sheenjek River	96.21	13	P		P	08 38 34.7	-0.3	
	baz=211								
H29M	Whitestone	96.25	15	P		P	08 38 34.7	-0.5	
	baz=216								
B20K	Meade River	96.26	7	P		P	08 38 35.1	0.0	
	baz=200								
E25K	Arctic Village	96.30	12	P		P	08 38 35.6	+0.2	
	baz=210								
D24K	Happy Valley	96.64	10	P		P	08 38 37.2	+0.3	
	baz=207								
EPYK	Eagle Plains	96.77	16	P		P	08 38 37.5	-0.1	
	baz=218								
G29M	Pine Creek	96.89	15	P		P	08 38 38.3	+0.2	
	baz=217								
C23K	Itkillik River	96.97	10	P		P	08 38 38.8	+0.4	
	baz=206								
B22K	Teshekpuk Lake	97.03	8	P		Pdif	08 38 39.2	+0.6	
	baz=203								
F28M	Old Crow	97.04	14	P		Pdif	08 38 39.5	+0.8	
	baz=215								
E27K	Coleen River	97.14	13	P		Pdif	08 38 39.9	+0.7	
	baz=214								
C24K	Franklin Bluff	97.16	10	P		Pdif	08 38 39.6	+0.4	
	baz=208								
G30M	tAoh Zraii Nji	97.38	16	P		Pdif	08 38 40.9	+0.6	
	baz=218								
A21K	Barrow	97.56	7	P		Pdif	08 38 41.4	+0.5	
	baz=200								
G31M	Satah River	97.81	16	P		Pdif	08 38 42.5	+0.3	
	baz=220								
E28M	Babbage River	97.92	14	P		Pdif	08 38 43.4	+0.8	
	baz=216								
C27K	Jago River	97.94	12	P		P	08 38 43.5	+0.8	
	baz=212								
F30M	Barrier River	97.97	15	P		P	08 38 43.5	+0.6	
	baz=219								
C26K	Camden Bay	97.98	11	P		P	08 38 43.5	+0.7	
	baz=211								
E29M	Blow River	98.10	14	P		P	08 38 43.7	+0.3	
	baz=217								
D27M	Malcolm River	98.15	13	P		P	08 38 44.3	+0.6	
	baz=214								
ULN	Ulaanbaatar	98.33	319	*ce*P		P	08 38 45.3	+0.2	
ULN				pmax		pmax			
	comp=Z,5.0nm,1.7s								
F31M	Tsiigehtchic	98.35	16	P		P	08 38 45.3	+0.8	
	baz=221								
D28M	Stokes Point	98.68	13	P		P	08 38 46.9	+1.0	
	baz=216								
SONM	Songino Array	98.71	319	P		Pdif	08 38 46.5	-0.2	
	comp=Z,1.0nm,0.8s,baz=131,slow=4.0,SNR=4.3								
SONM				pP		pwP	08 40 23.1	+0.9	
	comp=Z,1.6nm,1.1s,baz=90,slow=1.4,SNR=3.6								
SONM				PP		PP	08 42 49.6	-4.8	
	comp=Z,0.2nm,0.4s,baz=128,slow=9.3,SNR=3.6								
	comp=Z,1.0nm,0.8s								
ZALV	Zalesovo Beam	113.56	320	PKiKP		PKiKP	08 43 41.6	-1.2	
	comp=Z,4.5nm,0.8s,baz=168,slow=1.6,SNR=13								
MKAR	Makanchi Array	113.73	312	PKiKP		PKiKP	08 43 42.4	-1.1	
	comp=Z,6.1nm,0.8s,baz=67,slow=3.2,SNR=32								
MKAR				SKP			08 46 48.3		
	comp=Z,0.9nm,0.7s,baz=90,slow=1.9,SNR=4.2								
MKAR				PKKPbc		PKKPbc	08 54 28.6	+0.1	
	comp=Z,0.8nm,0.6s,baz=280,slow=6.5,SNR=6.6								
TARG	Taragay, Kyrgy	115.85	306			PKPdf	08 43 48.2	0.0	
TARG	Taragay, Kyrgy	115.85	306	PKIKP		PKPdf	08 43 48.2	0.0	
KSH	Kashi	116.77	303	PKP		PKPdf	08 43 48.3	-1.4	
KSH				pmax		pmax			
	comp=Z,5.0nm,0.6s								
KURK	Kurchatov	116.79	316			PKPdf	08 43 48.5	-0.7	
KURK	Kurchatov	116.79	316	PKIKP		PKPdf	08 43 48.5	-0.7	
KURBB	Kurchatov Arra	116.84	316	PKP		PKPdf	08 43 48.2	-1.0	
	comp=Z,7.7nm,0.7s,baz=101,slow=2.0,SNR=18								
KURBB				PP		PP	08 45 03.6	-1.5	
	comp=Z,0.5nm,0.3s,baz=96,slow=6.4,SNR=4.1								
KURBB				PKKPbc		PKKPbc	08 54 17.7	-0.1	

UOSS Minazif 130.32 282 **PKPdf** 08 44 15.7 -0.3
LSZ Lusaka 131.80 216 **PKPdf** 08 44 19.2 0.0
LSZ Lusaka 131.80 216 PKIKP **PKPdf** 08 44 19.2 0.0
HAMF Hammerfest 132.72 350 *e*P **PKPdf** 08 44 18.7 -0.4
TSUM Tsumeb 132.98 202 **PKPdf** 08 44 22.0 +0.6
ARA0 ARCESS Array S 133.37 348 *e*P **PKPdf** 08 44 20.0 -0.4
ARCES ARCESS Array B 133.37 348 PKhKP PKPpre 08 44 12.8
comp=Z,3.5nm,0.9s,baz=86,slow=1.6,SNR=6.3
ARCES PKP **PKPdf** 08 44 19.9 -0.4
comp=Z,13nm,0.7s,baz=11,slow=0.6,SNR=20
ARCES SKP 08 47 18.9
comp=Z,13nm,1.2s,baz=38,slow=4.6,SNR=5.3
TRO Tromso 134.33 351 *e*P **PKPdf** 08 44 21.9 -0.2
KLMR Klimovskoe 135.78 334 *e*PKIKP **PKPdf** 08 44 20.5 -4.5
KLMR pmax pmax
comp=Z,21nm,1.3s
KMBO Kilima Mbogo 136.22 239 PKP **PKiKP** 08 44 28.8 -0.7
comp=Z,1.8nm,0.4s,baz=169,slow=2.9,SNR=4.8
KMBO SKPbc **SKPbc** 08 47 22.5 +1.2
comp=Z,1.8nm,0.3s,baz=51,slow=4.8,SNR=6.3
KMBO Kilima Mbogo 136.22 239*c* *i*PKIKP **PKiKP** 08 44 31.0 +1.5
KMBO pmax pmax
comp=Z,2.0nm,0.4s
LOF Lofoten 136.41 353 *e*P **PKPdf** 08 44 25.5 -0.5
FAUS Fauske 136.93 352 *e*P **PKPdf** 08 44 27.4 +0.4
RAYN Ar Rayn 139.57 277 **PKPdf** 08 44 32.1 -1.1
RAYN Ar Rayn 139.57 277 PKIKP **PKPdf** 08 44 32.2 -1.1
FINES FINESS Array B 140.00 342 PKhKP PKPpre 08 44 24.2
comp=Z,4.4nm,0.6s,baz=62,slow=0.9,SNR=11
FINES PKP **PKPdf** 08 44 31.7 -1.0
comp=Z,10nm,0.8s,baz=106,slow=4.2,SNR=12
FINES SKPab **SKPab** 08 47 38.8 -3.5
comp=Z,6.1nm,0.8s,baz=92,slow=4.4,SNR=8.7
FINES FINESS Array B 140.00 342*c* *i*PKIKP **PKiKP** 08 44 34.7 -0.6
FINES pmax pmax
comp=Z,11nm,0.8s
OBN Obninsk 140.38 328 *i* PKIKP **PKPdf** 08 44 33.9 +0.3
OBN pmax pmax
comp=Z,12nm,1.1s
KBZ Khabaz 141.33 309 PKP **PKiKP** 08 44 37.6 -1.0
comp=Z,5.0nm,0.8s,baz=138,slow=6.8,SNR=7.2
KIV Kislovodsk 141.42 310 *e*PKIKP **PKiKP** 08 44 37.9 -1.1
KIV pmax pmax
comp=Z,10.0nm,1.1s
MBAR Mbarara 141.44 233*c* *i*PKIKP **PKiKP** 08 44 41.1 +1.1
MBAR pmax pmax
comp=Z,3.0nm,0.2s
ERBR Yeremizino-Bor 142.40 313 *i* PKIKP **PKPdf** 08 44 37.1 -0.5
ERBR pmax pmax
comp=Z,28nm,0.8s
DOMB Dombas 142.80 354 *e*P **PKPdf** 08 44 32.9 -4.9
AKN Aaknes 142.85 355 *e*P **PKPdf** 08 44 35.0 -2.8
NB2 NORSAR Subarra 143.53 352 PKP PKPab 08 44 36.5 -0.6
comp=Z,50nm,0.8s,baz=15,slow=3.5
NB2 NORSAR Subarra 143.53 352 PKP PKPab 08 44 36.5 -0.6
comp=Z,50nm,0.8s,baz=15,slow=3.5
NOA NORSAR Array B 143.53 352 PKP PKPab 08 44 36.7 -0.4
comp=Z,38nm,0.8s,baz=15,slow=5.0,SNR=70
NC602 NORSAR Array S 143.78 351 *e*P PKPab 08 44 37.0 -1.0
HYA Hoyanger 143.91 356 *e*P PKPab 08 44 37.7 -0.7
HFS Hagfors 144.03 349 PKP PKPbc 08 44 38.2 -0.7
comp=Z,69nm,0.6s,baz=64,slow=3.4,SNR=174
SUE Sulen 144.10 357 *e*P PKPbc 08 44 38.6 -0.5
SKAR Skarslia 144.22 354 *e*P PKPbc 08 44 39.3 -0.2
MNK Minsk 144.64 333 *i* PKIKP **PKPab** **08 44 41.5 +0.1**
MNK *i* 08 46 21.5
MNK *i* 08 48 04.1
MNK *i* SS SS 09 06 19.7 +3.3
MNK pmax pmax
comp=N,42nm,0.9s
MNK pmax pmax
comp=E,50nm,1.0s
MNK pmax pmax
comp=Z,241nm,0.9s
ASK Askoy 144.65 356 *e*P PKPbc 08 44 40.3 -0.5
OSL Oslo 144.66 352 *e*P PKPbc 08 44 40.3 -0.6
ANN Anapa 144.74 313 *i* PKIKP PKPbc 08 44 41.3 -0.4
ANN pmax pmax
comp=Z,118nm,0.9s
BER Bergen 144.74 356 *e*P PKPbc 08 44 40.5 -0.7
KONO Kongsberg 145.09 352 **PKPdf** **08 44 42.0 +0.2**
KONO Kongsberg 145.09 352 *e*P **PKPdf** **08 44 41.2 -0.6**
KONO Kongsberg 145.09 352 ⇑PKIKP **PKPdf** **08 44 41.8 0.0**
ODD1 Odda 145.12 355 *e*P **PKPdf** **08 44 41.8 -0.1**
STRU Stroemstad 145.47 351 *i* P **PKPbc** **08 44 43.0 -0.4**
BLS5 Blasjo 145.62 355 *e*P **PKPdf** **08 44 43.2 +0.4**
KMY Karmoy 145.91 356 *e*P **PKPbc** **08 44 44.0 -0.7**
TJOU Tjoern 146.36 350 *i* P **PKPdf** **08 44 44.9 +0.9**
BORU Boraas 146.55 349 *i* P **PKPbc** **08 44 45.8 -0.8**
HOMB Homborsund 146.56 353 *e*P **PKPbc** **08 44 45.5 -1.1**
HOMB Homborsund 146.56 353 *i* P **PKPbc** **08 44 45.5 -1.1**
AKASG Malin Array Be 146.58 327 **PKPbc** **08 44 46.0 -0.9**
AKASG Malin Array Be 146.58 327 PKPbc **PKPbc** **08 44 45.9 -1.0**
comp=Z,21nm,0.6s,baz=45,slow=3.8,SNR=106
KIEV Kiev 146.60 327 **PKPbc** **08 44 46.0 -0.9**
KIEV Kiev 146.60 327 ⇓P **PKPbc** **08 44 46.4 -0.5**
KIEV Kiev 146.60 327 ⇓PKIKP **PKPbc** **08 44 46.4 -0.5**
SNART Snartemo 146.63 354 *e*P **PKPbc** **08 44 46.5 -0.2**
SNART Snartemo 146.63 354 *i* P **PKPbc** **08 44 46.6 -0.2**
SIM Simferopol' 146.85 315 *e*PKP2 **PKPbc** **08 44 47.7 -0.1**
SIM pmax pmax
comp=Z,66nm,0.7s
SUW Suwalki 146.85 336 *e*PKP **PKPbc** **08 44 47.3 -0.2**
ONAU Onsala 146.92 349 *i* P **PKPbc** **08 44 47.0 -0.6**
FABU Falkenberg 147.16 348 *i* P **PKPbc** **08 44 47.4 -0.8**
DEL Delary 147.43 347 *i* P **PKPbc** **08 44 48.3 -0.6**
MCD Coleburn Disti 147.53 4 *e*P **PKPbc** **08 44 48.6 -0.6**
KPL Plockton 147.57 7 *e*P **PKPbc** **08 44 49.0 -0.3**
BNN Bunyan 147.70 303 **PKPdf** **08 44 46.9 -0.2**
BJUU Bjuv 147.97 347 *i* P **PKPbc** **08 44 49.4 -1.0**
BZK Bozkurt 148.10 310 ⇓P **PKPbc** **08 44 51.6 +0.5**
DRUM Mains of Drumt 148.25 4 *e*P **PKPbc** **08 44 50.2 -0.8**
LUNU Lund 148.29 347 *i* P **PKPbc** **08 44 50.8 -0.5**
BSD Bornholm Skovb 148.44 345 *i* P **PKPbc** **08 44 51.1 -0.5**
SORM Soroca 148.62 324 ⇓P **PKPbc** **08 44 52.1 -0.2**
SORM Soroca 148.62 324 ⇓PKP2 **PKPbc** **08 44 52.1 -0.2**
INVG Invergeldie, C 148.62 5 *e*P **PKPbc** **08 44 51.8 -0.2**
LAWE Loch Awe, Argy 148.66 7 *e*P **PKPbc** **08 44 51.7 -0.4**
CIDE Kastamonu/Cide 148.86 310 ⇑P **PKPbc** **08 44 53.3 +0.2**
MMAI Mount Meron Ar 149.07 293 PKPbc **PKiKP** **08 44 54.7 -0.3**
comp=Z,42nm,0.6s,baz=75,slow=3.8,SNR=66
MMAI pPKPbc **pPKPab** **08 46 31.8 -1.6**
comp=Z,9.2nm,0.8s,baz=27,slow=0.6,SNR=2.2
KIRS Kirsehir-Merke 149.08 305 ⇓P **PKPbc** **08 44 53.8 -0.1**
BRTR Keskin Array B 149.10 306 PKP **PKPdf** **08 44 48.5 -0.8**
comp=Z,14nm,0.7s,baz=160,slow=3.9,SNR=22
BRTR PKPbc **PKPbc** **08 44 53.4 -0.6**
comp=Z,14nm,0.7s,baz=138,slow=3.5,SNR=44
ESY Stoneypath 149.23 4 *e*P **PKPbc** **08 44 52.9 -0.7**
GKP Gorka Klasztor 149.46 341 *e*PKP **PKiKP** **08 44 54.8 -0.2**
BEL Belsk 149.46 336 *e*PKP **PKPbc** **08 44 54.5 +0.3**
IDGL Inch Island, C 149.54 10 PKP **PKPbc** **08 44 54.2 -0.1**
ANTO Ankara 149.68 307 ⇑P **PKPbc** **08 44 55.5 +0.2**
ANTO Ankara 149.68 307 ⇑PKHKP PKPpre 08 44 55.5
EKA Eskdalemuir Ar 149.78 5 PKPbc **PKPbc** **08 44 54.4 -0.5**
comp=Z,11nm,0.8s,baz=324,slow=2.3,SNR=18
ESK Eskdalemuir 149.79 5 *e*P **PKPbc** **08 44 53.7 -1.2**
VASR Vaslui 149.81 322 ⇑P **PKiKP** **08 44 55.7 -0.3**
NEWG New Galloway 149.90 6 *e*P **PKPbc** **08 44 54.5 -0.7**
TLCR 150.03 319 ⇑P **PKPbc** **08 44 56.1 +0.3**
TLCR 150.03 319 ⇑PKHKP PKPpre 08 44 56.1
GAL1 Galloway 150.10 7 *e*P **PKPbc** **08 44 55.2 -0.4**
SCTR Scanteiesti 150.25 320 ⇑P **PKiKP** **08 44 56.7 -0.2**
EDMD Edmundbyers 150.35 3 *e*P **PKPbc** **08 44 56.0 -0.3**
GHRR 150.36 321 ⇓P **PKiKP** **08 44 57.4 +0.2**
KWP Kalwaria Pacla 150.37 331 *e*PKP **PKPbc** **08 44 56.8 +0.3**
CFR Carcaliu 150.44 319 ⇓P **PKPbc** **08 44 56.9 +0.1**
CFR Carcaliu 150.44 319 ⇓PKIKP **PKPbc** **08 44 56.9 +0.1**
TPGR Topolog 150.44 318 ⇓P **PKiKP** **08 44 57.2 -0.2**
TESR Tescani 150.52 323 ⇓P **PKPbc** **08 44 56.9 0.0**
KESW Keswick, Cumbr 150.52 5 *e*P **PKPbc** **08 44 56.4 -0.3**
BURAR Bucovina Array 150.58 326 PKPbc **PKiKP** **08 44 58.0 +0.3**
BURAR Bucovina Array 150.58 326 ⇓P **PKPbc** **08 44 57.4 +0.2**
BURAR Bucovina Array 150.58 326 ⇓PKIKP **PKPbc** **08 44 57.4 +0.2**
TIRR Tirgusor 150.66 318 **PKPbc** **08 44 56.8 -0.5**
TIRR Tirgusor 150.66 318 ⇓P **PKPbc** **08 44 57.5 +0.2**
TIRR Tirgusor 150.66 318 PKIKP **PKPbc** **08 44 56.8 -0.5**
SAHE Sakarya_HENDEK 150.71 309 ⇓P **PKPbc** **08 44 57.3 -0.3**
IOMK Kirk Michael 150.71 7 *e*P **PKPbc** **08 44 56.6 -0.5**
ILTH Belurgan, Co L 150.72 9 PKP **PKPbc** **08 44 56.6 -0.5**
ONER Baraj Valea Uz 150.77 323 ⇓P **PKiKP** **08 44 58.3 +0.3**
IGLA Glengowla, Co 150.79 13 PKP **PKPbc** **08 44 57.0 -0.3**
IGLA Glengowla, Co 150.79 13 *e*P **PKPbc** **08 44 56.9 -0.4**

MFTR Murfatlar 150.80 317 ⇑P **PKiKP** **08 44 58.3 +0.2**
HARR Harsova 150.82 319 ⇑P **PKPbc** **08 44 57.7 0.0**
HARR Harsova 150.82 319 ⇑PKIKP **PKPbc** **08 44 57.7 0.0**
VRI Vrincioaia 150.86 321 ⇑P **PKPbc** **08 44 57.9 +0.1**
VRI Vrincioaia 150.86 321 ⇑PKIKP **PKPbc** **08 44 57.9 +0.1**
MANR Mangalia 150.88 316 ⇑P **PKiKP** **08 44 58.7 +0.4**
PLOR Plostina 150.91 322 ⇓P **PKPbc** **08 44 57.8 -0.2**
PLOR Plostina 150.91 322 ⇓PKIKP **PKPbc** **08 44 57.8 -0.2**
BISRR Bisoca 151.06 321 ⇑P **PKiKP** **08 44 58.7 0.0**
KOLS Kolonicke sedl 151.08 330 *e*PKIKP **PKiKP** **08 44 59.0 +0.4**
KOLS *e* 08 45 07.0
RUE Ruedersdorf 151.12 344 *e*PKPbc **PKiKP** **08 44 58.5 0.0**
baz=20,slow=2.0
OJC Ojcow 151.13 335 *e*PKP **PKiKP** **08 44 58.6 -0.1**
COVR Voineasa-Covas 151.17 322 ⇑P **PKPbc** **08 44 57.7 -0.8**
GORT1 Trebel 151.21 347 *e*PKPbc **PKiKP** **08 44 58.8 +0.2**
baz=20,slow=2.0
BOSR Bodos 151.33 323 ⇓P **PKiKP** **08 44 59.9 +0.7**
ISR Istrita 151.40 320 ⇑P **PKPbc** **08 44 59.1 0.0**
ISR Istrita 151.40 320 ⇑PKIKP **PKPbc** **08 44 59.1 0.0**
SILT Sile 151.43 311 ⇑P **PKiKP** **08 44 59.4 -0.1**
DSB Dublin 151.48 9 PKP **PKPbc** **08 44 58.4 -0.5**
MLR Muntele Rosu 151.52 322 ⇓P **PKPbc** **08 44 59.1 -0.4**
MLR Muntele Rosu 151.52 322 ⇓PKIKP **PKPbc** **08 44 59.1 -0.4**
DOPR Dopca 151.54 323 ⇓P **PKPbc** **08 44 59.4 +0.1**
NIE Niedzica 151.56 333 *e*PKP **PKiKP** **08 45 00.3 +0.7**
WPS Cemaes, Angles 151.57 7 *e*P **PKPbc** **08 44 58.2 -0.8**
WME Mynydd Eilian 151.59 7 *e*P **PKPbc** **08 44 58.3 -0.8**
WLF1 Llynfaes 151.69 7 *e*P **PKPbc** **08 44 58.9 -0.4**
RETH Rethem/Aller, 151.82 349 *e*PKPbc **PKiKP** **08 44 59.9 +0.1**
baz=20,slow=2.0
RETH *e*PKPab **PKPab** **08 45 10.1 -0.3**
baz=19,slow=4.3
FLTG Flechtingen 151.85 347 *e*PKPdf **PKPdf** **08 44 52.3 -0.6**
baz=28,slow=1.2
FLTG *e*PKPbc **PKPbc** **08 44 59.6 -0.1**
baz=20,slow=2.0
FLTG *e*PKPab **PKPab** **08 45 10.0 -0.5**
baz=19,slow=4.3
KSP Ksiaz 151.85 339 *e*PKP **PKiKP** **08 45 00.5 +0.4**
VAL Valentia 151.99 15 PKP **PKPbc** **08 44 59.5 -0.5**
CJR Cluj-Napoca 152.01 326 ⇓P **PKPbc** **08 44 59.6 -0.8**
CJR Cluj-Napoca 152.01 326 ⇓PKIKP **PKPbc** **08 44 59.6 -0.8**
LANS Liptovska Anna 152.11 334 *e*PKIKP **PKiKP** **08 45 02.6 +1.9**
STEB Steborice 152.12 337⇑*e*PKP **PKPbc** **08 45 00.6 +0.1**
OSTC Ostas 152.13 339 *e*PKIKP **PKiKP** **08 45 01.1 +0.4**
OSTC Ostas 152.13 339⇑*e*PKP **PKiKP** **08 45 01.1 +0.4**
CHVC Chvalec 152.15 339 *e*PKIKP **PKiKP** **08 45 00.8 0.0**
CHVC Chvalec 152.15 339⇑*e*PKP **PKiKP** **08 45 00.8 0.0**
ASSE Asse, Remlinge 152.15 347 *e*PKPbc **PKiKP** **08 45 00.8 +0.2**
baz=20,slow=2.0
LLW Llanuwchllyn 152.20 6 *e*P **PKPbc** **08 44 59.8 -0.7**
FOEL Foel Wylfa 152.20 5 *e*P **PKPbc** **08 45 00.1 -0.5**
KECS Kecovo 152.20 332 *e*PKIKP **PKPbc** **08 44 59.4 -1.3**
KECS *e* 08 45 09.2
UPC Upice 152.24 339 *e*PKIKP **PKPbc** **08 45 00.8 +0.1**
UPC Upice 152.24 339⇑*e*PKP **PKPbc** **08 45 00.8 +0.1**
IWEX Carrickbyrne, 152.26 10 PKP **PKPbc** **08 45 00.7 0.0**
DPC Dobruska-Polom 152.27 339 *e*PKIKP **PKiKP** **08 45 01.1 +0.1**
DPC *e* 08 45 13.3
DPC Dobruska-Polom 152.27 339⇑*e*PKP **PKiKP** **08 45 01.1 +0.1**
DPC *e*PKPAB **PKPab** **08 45 13.3 +0.8**
MARR Marisel-Cluj 152.28 326 ⇑P **PKiKP** **08 45 01.2 0.0**
ARR Arges 152.33 323 ⇓P **PKiKP** **08 45 02.1 +0.7**
MORC Moravsky Berou 152.33 337 *e*PKP **PKPdf** **08 44 53.9 +0.1**
MORC *e* 08 45 01.0
MORC *e* 08 45 13.2
MORC Moravsky Berou 152.33 337 ⇑P **PKiKP** **08 45 01.2 0.0**
MORC Moravsky Berou 152.33 337 ⇑PKIKP **PKiKP** **08 45 01.2 0.0**
KRLC Kraliky 152.35 338 *e*PKIKP **PKiKP** **08 45 01.3 +0.1**
KRLC *e* 08 45 13.2
KRLC Kraliky 152.35 338⇑*e*PKP **PKiKP** **08 45 01.3 +0.1**
KRLC *e*PKPAB **PKPab** **08 45 13.2 +0.3**
CLL Collm 152.39 344⇓*e*PKIKP **PKPdf** **08 44 53.0 -0.8**
CLL *i* 08 45 12.9
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL pmax pmax
comp=Z,67nm,0.8s
CLL pmax pmax
comp=Z,20nm,1.0s
CLL Collm 152.39 344 *e*PKPbc **PKPbc** **08 45 01.1 +0.1**
baz=20,slow=2.0
CLL *e*PKPab **PKPab** **08 45 12.7 -0.3**
baz=19,slow=4.3
CLL Collm 152.39 344 *e*PKPdf **PKPdf** **08 44 53.0 -0.8**
comp=Z,8.0nm,1.0s
CLL ⇓*i*PKPbc **PKPbc** **08 45 01.1 +0.1**
comp=Z,67nm,0.8s
CLL *i* PKPab **PKPab** **08 45 12.9 0.0**
comp=Z,20nm,1.0s
CLL *i* pPKPbc **pPKPbc** **08 46 40.8 +2.4**
CLL *i* SKPdf **SKPdf** **08 47 46.9 -1.3**
CLL *i* x x 08 48 40.6
DRGR 152.40 327 ⇓P **PKPbc** **08 45 00.4 -0.9**
DRGR 152.40 327 ⇓PKIKP **PKPbc** **08 45 00.4 -0.9**
IBBN Ibbenburen 152.48 351 *e*PKPbc **PKPbc** **08 45 01.0 -0.2**
baz=20,slow=2.0
IBBN *e*PKPab **PKPab** **08 45 13.1 -0.1**
baz=19,slow=4.3
CLZ Clausthal 152.49 347 *e*PKPdf **PKPdf** **08 44 53.7 -0.3**
baz=28,slow=1.2
CLZ *e*PKPbc **PKiKP** **08 45 01.5 +0.1**
baz=20,slow=2.0
BRG Berggiesshubel 152.53 342⇓*e*PKPf 08 44 56.8
BRG Amp 08 44 57.4
comp=Z,7.3nm,1.0s
BRG ⇑PKP **PKiKP** **08 45 03.9 +2.4**
BRG Amp 08 45 04.8
comp=Z,31nm,0.9s
BRG Berggiesshubel 152.53 342 P **PKPab** **08 45 10.2 -3.3**
BRG Amp 08 45 11.1
comp=Z,8.0nm,0.8s
BRG Berggiesshubel 152.53 342 P **PKPab** **08 45 16.0 +2.5**
BRG Amp 08 45 16.7
comp=Z,15nm,1.0s
BRG pPKP **pPKPab** **08 46 43.4 -3.7**
BRG Amp 08 46 44.9
comp=Z,6.7nm,1.0s
MAUC Maruska 152.57 336⇑*e*PKP **PKiKP** **08 45 02.2 +0.5**
HLM1 Long Mynd 152.59 5 *e*P **PKPbc** **08 45 00.8 -0.6**
PVCC Panska Ves 152.66 341 *e*PKIKP **PKiKP** **08 45 02.3 +0.5**
PVCC Panska Ves 152.66 341⇑*e*PKP **PKiKP** **08 45 02.3 +0.5**
LOT Lotru 152.75 323 ⇑P **PKPbc** **08 45 01.1 -1.1**
NEUB Neuenburg 152.78 345 *e*PKPbc **PKiKP** **08 45 02.1 +0.1**
baz=20,slow=2.0
NEUB *e*PKPab **PKPab** **08 45 14.9 +0.3**
baz=19,slow=4.3
BAND Balkesir-Ban 152.83 310 ⇓P **PKPbc** **08 45 01.7 -0.6**
GTTG Gottingen 152.85 348 *e*PKPdf **PKPdf** **08 44 54.0 -0.4**
baz=28,slow=1.2
GTTG *e*PKPab **PKPab** **08 45 14.7 -0.2**
baz=19,slow=4.3
PSZ Piszkesteto 152.89 331 ⇑P **PKiKP** **08 45 02.4 0.0**
PSZ Piszkesteto 152.89 331 ⇑PKIKP **PKiKP** **08 45 02.4 0.0**
ELND Elena 153.03 317 ⇑P **PKiKP** **08 45 02.8 0.0**
JAVC Velka Javorina 153.05 335 *e*PKP **PKPdf** **08 44 56.1 +1.2**
JAVC *e* 08 45 04.1
JAVC *e* 08 45 17.2
VRAC Vranov 153.06 337 *e*PKP **PKPdf** **08 44 54.7 -0.2**
VRAC *e* 08 45 02.5
VRAC *e* 08 45 16.5
MCH1 Michaelchurch 153.10 5 *e*P **PKPbc** **08 45 01.9 -0.7**
AKAS Kas 153.18 301 **PKPbc** **08 45 00.5 -2.9**
MONM Monmouth 153.28 5 *e*P **PKPbc** **08 45 02.3 -0.6**
SIRR Siria 153.29 327 ⇓P **PKiKP** **08 45 03.4 +0.2**
GZR Gura Zlata 153.31 324 ⇑P **PKPbc** **08 45 02.6 -0.7**
GZR Gura Zlata 153.31 324 ⇑PKIKP **PKPbc** **08 45 02.6 -0.7**
KRUC Moravsky 153.34 337 *e*PKP **PKPdf** **08 44 55.1 -0.1**
KRUC *e* 08 45 03.3
KRUC *e* 08 45 17.4
MOX Moxa 153.34 345 *e*PKPdf **PKPdf** **08 44 55.0 -0.2**
baz=28,slow=1.2
MOX *e*PKPbc **PKiKP** **08 45 03.2 0.0**
baz=20,slow=2.0
MOX *e*PKPab **PKPab** **08 45 16.8 -0.2**
baz=19,slow=4.3
TANN Tannenbergstha 153.35 344 *e*PKPdf **PKPdf** **08 44 55.0 -0.3**
baz=28,slow=1.2
TANN *e*PKPbc **PKPbc** **08 45 02.9 -0.3**
baz=20,slow=2.0
TANN *e*PKPab **PKPab** **08 45 17.3 +0.2**
baz=19,slow=4.3

PLN Plauen 153.36 344 *e*PKPdf **PKPdf** **08 44 54.9 -0.4**
baz=28,slow=1.2
PLN *e*PKPbc **PKPbc** **08 45 03.1 0.0**
baz=20,slow=2.0
PLN *e*PKPab **PKPab** **08 45 17.0 -0.1**
baz=19,slow=4.3
SURR Surduc 153.41 326 ⇓P **PKPbc** **08 45 03.1 -0.3**
KASTN Kahler Asten 153.46 350 *e*PKPbc **PKiKP** **08 45 03.5 +0.1**
baz=20,slow=2.0
PLVB Pleven 153.53 319 ⇓P **PKiKP** **08 45 04.0 +0.2**
UBBA Unterbreizbach 153.53 347 *e*PKPdf **PKPdf** **08 44 55.2 -0.1**
baz=28,slow=1.2
UBBA *e*PKPbc **PKPbc** **08 45 03.4 0.0**
baz=20,slow=2.0
MODS Modra-Piesok 153.59 335 *e*PKIKP **PKPdf** **08 44 58.2 +2.5**
BZS Buzias 153.76 326 ⇓P **PKPbc** **08 45 03.9 -0.3**
BZS Buzias 153.76 326 ⇓PKIKP **PKPbc** **08 45 03.9 -0.3**
ZST Bratislava 153.81 335 *e*PKIKP **PKPdf** **08 44 56.5 +0.6**
MANZ Manzenberg 153.83 344 *e*PKPdf **PKPdf** **08 44 55.6 -0.3**
baz=28,slow=1.2
MANZ *e*PKPbc **PKPbc** **08 45 03.8 -0.4**
baz=20,slow=2.0
MANZ *e*PKPab **PKPab** **08 45 18.9 -0.2**
baz=19,slow=4.3
HERR Herculane 153.85 324 ⇑P **PKPbc** **08 45 04.0 -0.3**
ROTZ Rotzenmuhle 154.01 343 *e*PKPdf **PKPdf** **08 44 55.9 -0.3**
baz=28,slow=1.2
ROTZ *e*PKPbc **PKPbc** **08 45 04.3 -0.3**
baz=20,slow=2.0
ROTZ *e*PKPab **PKPab** **08 45 19.7 -0.2**
baz=19,slow=4.3
KHC Kasperske Hory 154.20 341 *e*PKIKP **PKPdf** **08 44 56.7 +0.2**
KHC *e* 08 45 20.5
KHC Kasperske Hory 154.20 341 *e*PKPDF **PKPdf** **08 44 56.7 +0.2**
KHC ⇑*e*PKP **PKiKP** **08 45 05.2 +0.1**
KHC *e*PKPAB **PKPab** **08 45 20.5 -0.3**
EZN Ezine 154.28 311 ⇑P **PKPbc** **08 45 04.5 -1.0**
EZN Ezine 154.28 311 ⇑PKIKP **PKPbc** **08 45 04.5 -1.0**
MDVR Moldovita 154.28 325 ⇑P **PKiKP** **08 45 05.4 0.0**
GRF Grafenberg Arr 154.32 345 *e*PKPab **PKPab** **08 45 21.5 +0.3**
baz=19,slow=4.3
MEM Membach 154.37 353 *d*PKP **PKPab** **08 45 21.1 -0.3**
BTNL Ternell 154.38 352 *d*PKPbc **PKiKP** **08 45 05.2 -0.2**
BTNL *d*PKP **PKPab** **08 45 21.6 +0.1**
WET Wettzell 154.39 342 *e*PKPdf **PKPdf** **08 44 56.1 -0.7**
baz=28,slow=1.2
WET *e*PKPab **PKPab** **08 45 21.6 0.0**
baz=19,slow=4.3
TNS Taunus Mts 154.40 349 *e*PKPdf **PKPdf** **08 44 56.8 0.0**
baz=28,slow=1.2
GEC2 GERESS Array S 154.42 340 *e*PKPdf **PKPdf** **08 44 56.1 -0.8**
baz=28,slow=1.2
GEC2 *e*PKPbc **PKiKP** **08 45 05.5 -0.1**
baz=20,slow=2.0
GEC2 *e*PKPab **PKPab** **08 45 21.8 0.0**
baz=19,slow=4.3
GERES GERESS Array B 154.42 340 PKP **PKPdf** **08 44 56.4 -0.5**
comp=Z,2.2nm,0.8s,baz=29,slow=3.0,SNR=8.8
GERES PKPbc **PKiKP** **08 45 05.5 -0.1**
comp=Z,4.2nm,0.8s,baz=58,slow=3.3,SNR=11
GERES PKPab **PKPab** **08 45 20.2 -1.6**
comp=Z,2.7nm,0.7s,baz=24,slow=3.6,SNR=5.3
CONA Conrad Observa 154.49 336 *i* PKP **PKPdf** **08 44 56.7 -0.3**
comp=Z,4.7nm,0.9s
CONA *i* PKP **PKPbc** **08 45 06.2 +0.5**
comp=Z,12nm,1.1s
CONA *i* PKP **PKPab** **08 45 23.0 +0.9**
comp=Z,17nm,0.8s
RONA Rosalia, Austr 154.52 336 *i* PKP **PKPdf** **08 44 56.6 -0.4**
comp=Z,8.3nm,1.2s
RONA *i* PKP **PKPbc** **08 45 06.2 +0.4**
comp=Z,9.7nm,0.7s
RONA *i* PKP **PKPab** **08 45 23.1 +0.9**
comp=Z,16nm,0.8s
BHOU Houvegnez 154.62 353 *d*P **PKPab** **08 45 22.6 +0.2**
BCLA Clavier 154.64 354 *d*PKP **PKPab** **08 45 22.1 -0.4**
BGES Gesves 154.69 354 *d*PKP **PKPab** **08 45 22.1 -0.6**
MORH Mrgy, Hungar 154.75 330 ⇓P **PKiKP** **08 45 06.1 -0.1**
BMRD Maredsous 154.80 354 *d*PKP **PKPab** **08 45 22.6 -0.6**
RCHB Rochefort 154.91 354 *d*PKP **PKPab** **08 45 23.1 -0.5**
DOU Dourbes 155.02 355 *d*PKP **PKPab** **08 45 23.4 -0.8**
BOVS Bovan 155.05 323 ⇓P PKPdf 08 45 05.8 +8.0
MOA Molln 155.11 338 *i* PKP **PKPdf** **08 44 57.1 -0.7**
comp=Z,6.4nm,1.2s
MOA *i* PKP **PKPab** **08 45 25.2 +0.5**
comp=Z,14nm,1.4s
ARSA Arzberg 155.19 336 *i* PKP **PKPdf** **08 44 56.9 -1.0**
comp=Z,2.9nm,0.7s
ARSA *i* PKP **PKPab** **08 45 25.4 +0.4**
comp=Z,8.7nm,1.0s
WLF Walferdange 155.28 352 *d*PKP **PKPab** **08 45 25.5 +0.2**
WLF Walferdange 155.28 352 *e*PKPab **PKPab** **08 45 25.2 -0.1**
baz=19,slow=4.3
BIOA Bad Ischl, Aus 155.46 339 *i* PKP **PKPdf** **08 44 57.7 -0.5**
comp=Z,2.8nm,0.5s
BIOA *i* PKP **PKPab** **08 45 26.7 +0.6**
comp=Z,27nm,1.2s,SNR=5.8
RJOB Jochberg 155.68 340 *e*PKPab **PKPab** **08 45 27.6 +0.4**
baz=19,slow=4.3
FUR Furstenfeldbru 155.72 343 *e*PKPab **PKPab** **08 45 27.6 +0.3**
baz=19,slow=4.3
SOKA Soboth 155.85 336 *i* PKP **PKPdf** **08 44 58.3 -0.6**
comp=Z,4.6nm,0.9s
SOKA *i* PKP **PKPab** **08 45 28.0 +0.1**
comp=Z,18nm,1.1s,SNR=5.6
PERS Pernice 155.85 336 *e*PKPdf **PKPdf** **08 44 58.0 -0.9**
PERS *i* PKPdif PKPab 08 45 08.1 -20
PERS *i* PKPab PKPab 08 45 27.8 -0.2
LESA Schwarzleotal 156.00 340 *i* PKP **PKPdf** **08 44 58.4 -0.7**
comp=Z,6.1nm,0.7s
LESA *i* PKP **PKPab** **08 45 29.1 +0.6**
comp=Z,18nm,1.0s
OBKA Obir 156.17 336 *i* PKP **PKPdf** **08 44 58.1 -1.3**
comp=Z,2.4nm,0.7s
OBKA *i* PKP **PKPab** **08 45 28.7 -0.7**
comp=Z,7.9nm,0.7s
BFO Black Forest 156.24 348 **PKPab** **08 45 29.4 -0.1**
BFO Black Forest 156.24 348 PKP2 **PKPab** **08 45 29.4 -0.1**
BFO Black Forest 156.24 348 *e*PKPab **PKPab** **08 45 28.8 -0.7**
baz=19,slow=4.3
MYKA Terra Mystica 156.38 338 *i* PKP **PKPdf** **08 44 58.4 -1.1**
comp=Z,3.2nm,0.9s
MYKA *i* PKP **PKPab** **08 45 29.9 -0.4**
comp=Z,11nm,0.9s
WATA Walderalm 156.40 342 *i* PKP **PKPdf** **08 44 58.9 -0.8**
comp=Z,7.2nm,1.1s
WATA *i* PKP **PKPab** **08 45 30.8 +0.4**
comp=Z,12nm,0.8s
WTTA Wattenberg 156.45 342 *i* PKP **PKPdf** **08 44 59.4 -0.4**
comp=Z,5.3nm,1.0s
WTTA *i* PKP **PKPab** **08 45 31.1 +0.5**
comp=Z,31nm,1.6s
UBR Ueberruh 156.47 344 *e*PKPdf **PKPdf** **08 44 58.7 -0.9**
baz=28,slow=1.2
RETA Reutte 156.48 343 *i* PKP **PKPdf** **08 44 59.3 -0.4**
comp=Z,2.2nm,0.6s
RETA *i* PKP **PKPab** **08 45 31.2 +0.5**
comp=Z,17nm,1.0s
MOTA Moosalm 156.52 343 *i* PKP **PKPdf** **08 44 59.1 -0.7**
comp=Z,7.3nm,1.1s
MOTA *i* PKP **PKPab** **08 45 31.2 +0.3**
comp=Z,21nm,1.1s
SQTA Sankt Quirin 156.61 342 *i* PKP **PKPdf** **08 44 59.4 -0.4**
comp=Z,3.7nm,0.6s
SQTA *i* PKP **PKPab** **08 45 31.7 +0.5

PGAV	**Gavieira, Arco**	**161.63**	**22**	*e*PKPdf	**PKPdf**	**08 45 05.7**	**-0.1**
MVO	**Moncorvo**	**162.76**	**21**	*e*PKPdf	**PKPdf**	**08 45 07.9**	**+1.0**
MVO				*e*PKPab	**PKPab**	**08 45 58.6**	**+0.3**
PVIS	**Viseu**	**162.87**	**24**	*e*PKPdf	**PKPdf**	**08 45 07.6**	**+0.6**
PVIS				*e*PKPab	**PKPab**	**08 45 59.2**	**+0.5**
PCAS	**Casmilo, Conde**	**163.21**	**26**	*e*PKPab	**PKPab**	**08 46 00.5**	**+0.3**
MTE	**Manteigas**	**163.27**	**23**		**PKPdf**	**08 45 07.9**	**+0.5**
MTE	**Manteigas**	**163.27**	**23**	*e*PKPdf	**PKPdf**	**08 45 08.2**	**+0.7**
PSARD	**Sardoal**	**163.73**	**26**	*e*PKPdf	**PKPdf**	**08 45 08.7**	**+0.8**
PSARD				*e*PKPab	**PKPab**	**08 46 02.5**	**0.0**
PCBR	**Castelo Branco**	**163.79**	**24**	*e*PKPdf	**PKPdf**	**08 45 08.7**	**+0.9**
PCBR				*e*PKPab	**PKPab**	**08 46 03.0**	**+0.3**
PARRA	**Arraiolos**	**164.02**	**30**	*e*PKPdf	**PKPdf**	**08 45 09.3**	**+1.2**
PARRA				*e*PKPab	**PKPab**	**08 46 05.5**	**+1.8**
PMTG	**Montargil**	**164.16**	**27**	*e*PKPab	**PKPab**	**08 46 04.3**	**0.0**
PMRV	**Marv??o**	**164.18**	**25**	*e*PKPdf	**PKPdf**	**08 45 09.0**	**+0.7**
PMRV				*e*PKPab	**PKPab**	**08 46 04.3**	**-0.2**
PESTR	**Estremoz**	**164.59**	**26**	*e*PKPdf	**PKPdf**	**08 45 08.1**	**-0.5**
PESTR				*e*PKPab	**PKPab**	**08 46 06.4**	**+0.2**
EVO	**Evora**	**164.70**	**28**	*e*PKPdf	**PKPdf**	**08 45 09.8**	**+1.1**
EVO				*e*PKPab	**PKPab**	**08 46 07.0**	**+0.2**
ESDC	**Sonseca Array**	**165.01**	**15**	PKP	**PKPdf**	**08 45 08.7**	**-0.3**
	comp=Z,1.4nm,1.2s,baz=315,slow=0.4,SNR=4.7						
ESDC				PKPab	**PKPab**	**08 46 07.3**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=348,slow=4.3,SNR=8.8						
ESDC				PP	**PP**	**08 49 55.0**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=0.0,slow=3.0,SNR=4.8						
MESJ	**Messejana**	**165.19**	**30**	*e*PKPdf	**PKPdf**	**08 45 09.9**	**+0.8**
MESJ	**Messejana**	**165.19**	**30**	*e*PKPdf	**PKPdf**	**08 45 09.7**	**+0.6**
PBEJ	**Beja**	**165.19**	**28**	*e*PKPdf	**PKPdf**	**08 45 09.7**	**+0.6**
PTEO	**Sao Teotonio**	**165.19**	**32**	*e*PKPdf	**PKPdf**	**08 45 10.2**	**+1.1**
PBAR	**Barrancos**	**165.40**	**26**	*e*PKPdf	**PKPdf**	**08 45 10.0**	**+0.7**
PBAR				*e*PKPab	**PKPab**	**08 46 10.4**	**+0.6**
MORF	**Marmelete**	**165.42**	**32**	*e*PKPdf	**PKPdf**	**08 45 10.2**	**+0.8**
MORF	**Marmelete**	**165.42**	**32**		**PKPdf**	**08 45 10.6**	**+1.2**
MORF	**Marmelete**	**165.42**	**32**	*e*PKPdf	**PKPdf**	**08 45 10.5**	**+1.1**
MORF				*e*PKPab	**PKPab**	**08 46 10.4**	**+0.4**
MORF	**Marmelete**	**165.42**	**32**	PKIKP	**PKPdf**	**08 45 10.6**	**+1.2**
PCVE	**Castro Verde**	**165.44**	**30**	*e*PKPdf	**PKPdf**	**08 45 10.3**	**+1.0**
PFVI	**Vila Bisbo**	**165.47**	**33**	*e*PKPdf	**PKPdf**	**08 45 10.6**	**+1.2**
PBDV	**Barranco-do-Ve**	**165.81**	**30**	*e*PKPdf	**PKPdf**	**08 45 10.9**	**+1.3**
KEST	**Kesra**	**167.31**	**328**	PKP	**PKPdf**	**08 45 11.3**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=283,slow=6.7,SNR=4.2						
KEST				PKPab	**PKPab**	**08 46 18.3**	**-0.2**
	comp=Z,5.9nm,1.0s,baz=36,slow=10,SNR=3.7						
TORD	**Torodi Ar. Bea**	**167.96**	**183**		**PKPdf**	**08 45 11.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**167.96**	**183**	PKP	**PKPdf**	**08 45 11.1**	**-0.8**
	comp=Z,7.0nm,0.9s,baz=337,slow=2.3,SNR=27						
TORD				PKPab	**PKPab**	**08 46 21.6**	**+0.1**
	comp=Z,5.3nm,0.7s,baz=174,slow=4.0,SNR=21						
TORD				SKP		08 47 56.5	
	comp=Z,3.5nm,0.9s,baz=142,slow=2.3,SNR=7.8						
TORD				PP	**PP**	**08 50 10.2**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=128,slow=4.9,SNR=3.8						
MD01	**Midelt array s**	**170.88**	**32**		**PKPab**	**08 46 35.7**	**+1.2**

WEL 17 08:26:03.6±0.9, 34.5°S×15.5°E×18.0 km±2.4, 2 92 km±17 km, mB 4.0/1, ML 4.0/7, MLv 4.1/14, Mw(mB) 3.1/1, Error ellipse: s-maj=35.2 km s-min=9.9 km az=120.1, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.73**	**203**	P	Pn	08 27 04.3	-2.0
WMGZ	**Waiomatatini S**	**3.93**	**201**	P	Pn	08 27 08.3	-0.3
WMGZ				S	S	08 28 01.1	+0.5
HAZ	**Te Kaha**	**4.09**	**207**	P	Pn	08 27 09.4	-0.8
HAZ				S	S	08 28 03.8	+0.1
PUZ	**Puketiti**	**4.21**	**201**	P	Pn	08 27 09.6	-2.2
PUZ				S	S	08 28 05.7	-0.6
RUGZ	**Raukumara Rang**	**4.31**	**207**	P	Pn	08 27 13.2	+0.3
RUGZ				S	S	08 28 08.8	+0.3
TWGZ	**Tauwhareparae**	**4.40**	**203**	P	Pn	08 27 14.0	+0.2
TWGZ				S	S	08 28 10.9	+0.9
CNGZ	**Carnagh Statio**	**4.61**	**199**	P	Pn	08 27 15.3	-0.9
TKGZ	**Te Karaka**	**4.68**	**203**	P	Pn	08 27 17.4	+0.4
TKGZ				S	S	08 28 16.6	+0.8
MWZ	**Matawai**	**4.69**	**206**	P	Pn	08 27 17.5	+0.3
MWZ				S	S	08 28 16.3	0.0
OPRZ	**Ohinepanea**	**4.71**	**217**	P	Pn	08 27 16.5	-0.9
URZ	**Urewera**	**4.79**	**210**	P	Pn	08 27 17.5	-0.8
URZ				S	S	08 28 17.9	-0.3
RAGZ	**Rawiri**	**4.88**	**206**	P	Pn	08 27 20.6	+1.2
RIGZ	**Rimuhau**	**4.95**	**202**	P	Pn	08 27 20.8	+0.6
RIGZ				S	S	08 28 20.5	-1.1
PRGZ	**Paritu Road**	**5.11**	**200**	P	Pn	08 27 22.9	+0.9
PRGZ				S	S	08 28 23.9	-1.2
RTZ	**Ruatahuna**	**5.15**	**209**	P	Pn	08 27 21.1	-1.4
RTZ				S	S	08 28 27.5	+1.6
SNGZ	**Shannon Statio**	**5.16**	**205**	P	Pn	08 27 24.3	+1.7
SNGZ				S	S	08 28 23.9	-2.2
KNZ	**Kokohu**	**5.26**	**202**	P	Pn	08 27 24.0	+0.2
KNZ				S	S	08 28 26.1	-2.2
MHGZ	**Mahia Peninsul**	**5.32**	**199**	P	Pn	08 27 23.9	-0.6
RAHZ	**Arahi**	**5.37**	**207**	P	Pn	08 27 26.8	+1.7
RAHZ				S	S	08 28 32.5	+2.0
MTHZ	**Maungataniwha**	**5.41**	**209**	P	Pn	08 27 27.5	+1.9
MTHZ				S	S	08 28 33.9	+2.5
WHHZ	**Waihua**	**5.46**	**205**	P	Pn	08 27 27.4	+1.3
WHHZ				S	S	08 28 34.1	+1.6
MRHZ	**Matea Rd**	**5.57**	**212**	P	Pn	08 27 29.2	+1.7
MRHZ				S	S	08 28 37.7	+2.7
NMHZ	**Naumai**	**5.63**	**208**	P	Pn	08 27 30.0	+1.7
NMHZ				S	S	08 28 37.8	+1.4
ARHZ	**Aropaoanui**	**5.71**	**205**	P	Pn	08 27 31.2	+2.1
BKZ	**Black Stump Fm**	**5.81**	**209**	P	Pn	08 27 31.6	+1.2
BKZ				S	S	08 28 39.8	-0.5
CKHZ	**Cape Kidnapper**	**6.03**	**203**	P	Pn	08 27 34.0	+1.1
CKHZ				S	S	08 28 47.3	+2.3
KAHZ	**Kahuranaki**	**6.22**	**204**	P	Pn	08 27 35.6	+0.3
KAHZ				S	S	08 28 49.8	+0.5
KRHZ	**Kereru**	**6.27**	**208**	P	Pn	08 27 35.7	-0.2
KRHZ				S	S	08 28 52.3	+1.9
PNHZ	**Pukenui**	**6.57**	**208**	P	Pn	08 27 40.0	+0.5
PNHZ				S	S	08 28 59.0	+2.0
TSZ	**Takapari Road**	**6.79**	**208**	P	Pn	08 27 42.8	+0.6
BFZ	**Birch Farm**	**7.23**	**204**	P	Pn	08 27 48.3	+0.7
BFZ				S	S	08 29 13.9	+2.3
MRZ	**Mangatainoka R**	**7.46**	**208**	P	Pn	08 27 50.2	-0.1

SOME 17 08:40:09.2, 44.78N×81.95E, h20 km
NNC 17 08:40:09.7±1.8, 44.70N×82.02E, h0 km, mb3.3, mpv2.8, Error ellipse: s-maj=28.9 km s-min=4.1 km az=117.0, Suspected Mining explosion.
ISC 17 08:40:08.4±2.0, 44.62N±0.09×82.0E±0.1, h0 km, n7, σ0.56/13, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.19**	**5**	Pn	**Pn**	**08 40 46.6**	**+0.5**
	4.9nm,0.4s,baz=185,slow=15,SNR=99						
MK31				⇑Sn	**Sn**	**08 41 14.1**	**+0.3**
	1.5nm,0.3s,baz=182,slow=15,SNR=15						
MAKZ	**Makanchi**	**2.19**	**359**	Pn	**Pn**	**08 40 45.4**	**-0.8**
	2.6nm,0.3s						
MAKZ				Sn	**Sn**	**08 41 14.2**	**+0.2**
	8.0nm,0.7s						
PDGK	**Podgornoye**	**2.24**	**236**	⇓Pn	**Pb**	**08 40 49.2**	**-0.7**
	2.0nm,0.5s						
PDGK				⇓Sn	**Sb**	**08 41 18.7**	**+0.5**
	4.9nm,0.6s						
SHLS	**Shalkode**	**2.36**	**233**	*e*P	**Pn**	**08 40 49.1**	**+0.6**
	4.2nm,0.2s						
SHLS				*e*S	**Sn**	**08 41 17.5**	**-0.8**
	18nm,0.3s						
UZB	**Uzynbulak**	**2.62**	**237**	*e*P	**Pb**	**08 40 56.4**	**-0.1**
	1.2nm,0.1s						
UZB				*e*S	**Sb**	**08 41 29.8**	**+0.5**
	2.2nm,0.3s						
ARXS	**Arharly**	**3.04**	**264**	*e*P	**Pb**	**08 41 03.1**	**-0.3**
ARXS				*e*S	**Sb**	**08 41 41.4**	**+0.2**
KURBB	**Kurchatov Arra**	**6.46**	**340**	⇑Pg	**Pn**	**08 41 44.9**	**+0.2**
	1.4nm,0.5s,baz=299,slow=17						
KURBB				⇓Lg	Lg	08 42 14.1	
	7.4nm,0.6s,baz=307,slow=29						

IPEC 17 08:42:03.9±0.1, 49.98N×18.61E, h1 km, ML 1.8/4, Error ellipse: s-maj=1.6 km s-min=0.7 km az=171.0

PRU 17 08:42:05.4, 49.96N×18.55E, h0 km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.29**	**245**	*e*PG	Pg	08 42 10.7	-0.2
OKC				*e*SG	Sg	08 42 15.6	+1.0
	29nm,0.4s						
STEB	**Steborice**	**0.50**	**267**	*e*PG	Pg	08 42 14.5	-0.5
STEB				*e*SG	Sg	08 42 22.2	+0.7
	28nm,0.5s						
MORC	**Moravsky Berou**	**0.68**	**255**	*e*Pg	Pg	08 42 17.3	-1.1
	baz=73						
MORC				*e*Sg	Sg	08 42 26.3	-0.8
	29nm,0.4s,baz=73						
MORC	**Moravsky Berou**	**0.68**	**255**	*e*PG	Pg	08 42 17.4	-1.0
MORC				*e*SG	Sg	08 42 26.4	-0.7
OJC	**Ojcow**	**0.84**	**72**	*e*Pg	Pg	08 42 19.1	-2.5
OJC				*e*Sg	Sg	08 42 30.6	-1.9
KRLC	**Kraliky**	**1.15**	**276**	*e*PG	Pg	08 42 26.1	-1.3
KRLC				*e*SG	Sg	08 42 41.1	-1.1
	17nm,0.4s						
JAVC	**Velka Javorina**	**1.24**	**208**	*e*Pg	Pg	08 42 28.3	-0.9
	baz=28						
NIE	**Niedzica**	**1.26**	**115**	*e*Pg	Pg	08 42 28.1	-1.5
NIE				*e*Sg	Sb	08 42 47.2	+0.4
VRAC	**Vranov**	**1.43**	**244**	*e*Pg	Pn	08 42 30.6	-2.0
	baz=62						
VRAC				*e*Sg	Sg	08 42 49.9	-1.4
	9.4nm,0.3s,baz=62						
VRAC	**Vranov**	**1.43**	**244**	*e*PG	Pn	08 42 30.7	-1.9
VRAC				*e*SG	Sg	08 42 50.0	-1.3
DPC	**Dobruska-Polom**	**1.48**	**286**	*e*PG	Pn	08 42 31.9	-1.5
DPC				*e*SG	Sg	08 42 51.9	-1.2
	7.8nm,0.4s						
OSTC	**Ostas**	**1.61**	**293**	*e*SG	Sn	08 42 56.5	-0.2
KRUC	**Moravsky**	**1.67**	**238**	*e*Pn	Pn	08 42 34.3	-1.6
	baz=57						
KRUC				*e*Sg	Sn	08 42 57.3	-0.6
	7.3nm,0.3s,baz=57						
KRUC	**Moravsky**	**1.67**	**238**	*e*PN	Pn	08 42 34.4	-1.5
KRUC				*e*SG	Sn	08 42 57.4	-0.5
CHVC	**Chvalec**	**1.72**	**292**	*e*PG	Pn	08 42 36.8	+0.2
KHC	**Kasperske Hory**	**3.34**	**258**	*e*SG	Sg	08 43 50.8	-1.9

VIE 17 08:42:24.2±0.3, 47.63N×13.69E, h0 km, mb 0.6/2, ml 1.1/2, Error ellipse: s-maj=2.2 km s-min=2.0 km az=111.0 6 km ESE of Bad Goisern Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIOA	**Bad Ischl, Aus**	**0.07**	**332**	*i* Pg	Pg	08 42 25.2	-0.4
	9.5nm,0.1s						
BIOA				*i* Sg	Sg	08 42 26.7	+0.1
	166nm,0.3s						
MOA	**Molln**	**0.45**	**60**	*i* Sg	Sg	08 42 39.7	+1.1
	0.7nm,0.1s						

AEIC 17 08:51:12.1±0.7, 53.8N×160.1×165.8W±0.1, h58 km±8 km, Error ellipse: s-maj=17.2 km s-min=4.7 km az=154.0
NEIC 17 08:51:11.7±1.0, 53.69N±0.08×165.7W±0.1, h58 km±14 km, ML 2.8/10, ML 2.3(AEIC), Error ellipse: s-maj=13.7 km s-min=4.6 km az=144.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKBBA	**Akutan Broad B**	**0.43**	**342**		Pn	08 51 22.9	0.0
AKBBA					Sn	08 51 30.5	-0.4
AKMO	**Akutan Morgan**	**0.44**	**336**		Pn	08 51 23.0	+0.1
AKMO					Sn	08 51 31.3	+0.2
AKSA	**Akutan Strait**	**0.45**	**1**		Pn	08 51 23.1	+0.1
AKSA					Sn	08 51 31.4	+0.3
AKUT	**Akutan**	**0.45**	**355**		Pn	08 51 23.0	0.0
AKUT					Sn	08 51 30.6	-0.5
AKUT				IAML		08 51 31.7	
	comp=E,964nm,0.2s						
AKUT				IAML		08 51 31.7	
	comp=N,402nm,0.1s						
AKRB	**Akutan Reef Bi**	**0.49**	**335**		Pn	08 51 23.3	-0.1
AKRB					Sn	08 51 31.8	-0.1
AKLV	**Akutan Long Va**	**0.50**	**343**		Pn	08 51 23.2	-0.3
LVA	**Lava Point**	**0.51**	**338**		Pn	08 51 23.5	-0.2
LVA					Sn	08 51 31.7	-0.7
AKGG	**Akutan Green G**	**0.54**	**342**		Pn	08 51 23.7	-0.2
AKGG					Sn	08 51 32.8	-0.1
MNAT	**Makushin Natee**	**0.61**	**289**		Pn	08 51 24.8	0.0
MREP	**Makushin Rep't**	**0.63**	**282**		Pn	08 51 25.2	+0.2
MSW	**Makushin Switc**	**0.68**	**290**		Pn	08 51 25.6	0.0
MSW					Sn	08 51 35.9	+0.3
MAPS	**Pakushin South**	**0.74**	**280**		Pn	08 51 26.1	-0.2
OKTU	**Okmok Mt. Tuli**	**1.43**	**259**		Pn	08 51 35.2	-0.2
OKRE	**Okmok R'deer P**	**1.47**	**265**		Pn	08 51 35.5	-0.4
FALS	**False Pass**	**1.78**	**48**	Pn	Pn	08 51 40.7	+0.5
FALS				Sn	Sn	08 52 02.4	+0.7
DT1	**Dutton Round H**	**2.46**	**53**		Pn	08 51 50.1	+0.7
DOL	**Dolgoi Island**	**2.68**	**55**		Pn	08 51 53.3	+0.8
S12K	**Black Hills**	**2.93**	**45**	Pn	Pn	08 51 55.8	0.0
S12K				IAML		08 52 23.6	
	comp=N,34nm,1.3s						
S12K				IAML		08 52 59.6	
	comp=E,32nm,1.4s						
SDPT	**Sand Point**	**3.48**	**59**	Pn	Pn	08 52 04.3	+1.1
SDPT				IAML		08 53 07.1	
	comp=N,17nm,1.0s						
SDPT				IAML		08 53 47.4	
	comp=E,20nm,1.3s						
P16K	**Nushagak River**	**6.86**	**36**	Pn	Pn	08 52 49.5	0.0
N15K	**Kwethluk River**	**7.19**	**23**	Pn	Pn	08 52 54.3	+0.3
OHAK	**Old Harbor**	**7.90**	**58**	Pn	Pn	08 53 02.1	-1.6
KDAK	**Kodiak Island**	**8.46**	**56**	Pn	Pn	08 53 10.1	-1.4

IDC 17 08:54:28.1±24.0, 25.06S×177.23W, h148 km±222 km, mb 3.6/3, mbtmp 4.0/4, ML 4.1/1, MS 3.3/4, Error ellipse: s-maj=148.8 km s-min=89.3 km az=13.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.01**	**199**	P	Pn	08 57 41.0	+1.0
	0.8nm,0.3s,baz=36,slow=19,SNR=6.2						
URZ				S	Sn	09 00 12.9	-2.3
	8.9nm,0.9s,baz=158,slow=19,SNR=2.0						
	2.2nm,0.4s						
PMG	**Port Moresby**	**37.26**	**288**	LR	LR	09 12 28.0	
	comp=Z,26nm,21.0s,baz=226,slow=29						
ASAR	**Alice Springs**	**44.34**	**261**	P	P	09 02 23.9	+0.2
	1.7nm,1.0s,baz=101,slow=8.2,SNR=10						
ASAR				LR	LR	09 21 47.5	
	comp=Z,82nm,18.4s,baz=136,slow=37						
	1.7nm,1.0s						
WRA	**Warramunga Arr**	**44.85**	**266**	P	P	09 02 27.5	-0.3
	0.8nm,0.8s,baz=104,slow=7.8,SNR=14						
	0.8nm,0.8s						
KAPI	**Kappang**	**63.48**	**277**	LR	LR	09 32 40.1	
	comp=Z,20nm,18.4s,baz=38,slow=36						
CMAR	**Chiang Mai Arr**	**92.29**	**289**	P	P	09 07 21.6	-0.3
	0.8nm,0.4s,baz=114,slow=4.2,SNR=8.0						
CMAR				LR	LR	09 49 28.2	
	comp=Z,15nm,18.2s,baz=205,slow=36						
	0.8nm,0.4s						

CATAC 17 09:15:53.9±0.8, 8.7°N±4.4°×8.3°W±5.2°, h6 km±2 km, M3.6/9, MLv3.6/9, Error ellipse: s-maj=8.7 km s-min=5.9 km az=165.3, confirmed
UPA 17 09:15:54.8±1.3, 8.09N±0.07×82.99W±0.03, h27 km±8 km,
n36, σ1.03/52, 2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.16**	**43**	*e*P	**Pb**	**09 15 59.4**	**-0.1**
LESP3	**La Esperanza,**	**0.37**	**32**	⇓*e*P	**Pb**	**09 16 02.1**	**-0.2**
LESP3				*e*S	**Sn**	**09 16 09.1**	**-0.9**
PIRO	**Carate, Puerto**	**0.47**	**312**	*e*P	**Pb**	**09 16 03.5**	**-0.4**
PIRO				*e*S	**Sb**	**09 16 08.8**	**-1.6**
PIRO	**Carate, Puerto**	**0.47**	**312**	P	**Pb**	**09 16 03.5**	**-0.4**
PIRO	**Carate, Puerto**	**0.47**	**312**	S	**Sb**	**09 16 10.3**	**-0.2**
CDITO	**Canoas**	**0.49**	**13**	S	**Sn**	**09 16 12.2**	**-0.9**
CDITO	**Canoas**	**0.49**	**13**	P	**Pb**	**09 16 04.2**	**-0.2**
BAGA3	**Bagala, Chiriq**	**0.59**	**51**	*e*P	**Pn**	**09 16 06.5**	**-0.3**
PEDE3	**Pedregal, Chir**	**0.63**	**62**	*e*P	**Pb**	**09 16 06.4**	**-0.2**
PEDE3				*e*S	**Sb**	**09 16 14.7**	**-0.4**
DVD	**David**	**0.63**	**57**	*e*P	**Pb**	**09 16 06.8**	**+0.2**
DVD				*e*P	**Pn**	**09 16 07.0**	**-0.3**
DVD				*e*S	**Sb**	**09 16 15.4**	**+0.3**
DVD				*e*S	**Sn**	**09 16 16.0**	**-0.5**
LOCO3	**Loma Colorada,**	**0.65**	**60**	*e*P	**Pb**	**09 16 06.9**	**0.0**
LOCO3				*e*S	**Sn**	**09 16 16.4**	**-0.4**
LOMA3	**Las Lomas, Chi**	**0.68**	**60**	*e*P	**Pn**	**09 16 07.8**	**-0.2**
BRU2	**Volcan**	**0.76**	**23**	⇓*e*P	**Pb**	**09 16 08.9**	**+0.1**
BRU2				*e*S	**Sn**	**09 16 20.2**	**+0.3**
BRU2	**Volcan**	**0.76**	**23**	P	**Pb**	**09 16 08.9**	**+0.1**
PTAR3	**Potrerillos Ar**	**0.77**	**39**	*e*P	**Pn**	**09 16 09.5**	**+0.2**
PTAR3				*e*S	**Sn**	**09 16 19.9**	**-0.2**
BC3P	**Paso Ancho**	**0.81**	**27**	*e*P	**Pb**	**09 16 09.5**	**-0.2**
BC3P				*e*S	**Sn**	**09 16 22.0**	**+0.7**
BQSF3	**Alto Boquete,**	**0.85**	**40**	*e*P	**Pb**	**09 16 10.1**	**-0.3**
BQSF3				*e*S	**Sn**	**09 16 22.0**	**0.0**
LNBQ3	**Los Naranjos,**	**0.88**	**38**	*e*P	**Pn**	**09 16 10.9**	**0.0**
LNBQ3				*e*S	**Sn**	**09 16 22.9**	**0.0**
PSOM3	**Paja de Sombre**	**0.89**	**48**	*e*P	**Pn**	**09 16 10.6**	**-0.2**
PSOM3				*e*S	**Sb**	**09 16 22.0**	**-0.3**
CHGR2	**Aguacate**	**1.19**	**45**	*e*P	**Pn**	**09 16 14.3**	**-0.6**
DRK0	**Durika**	**1.19**	**348**	*e*P	**Pn**	**09 16 15.5**	**+0.3**
DRK0				*e*S	**Sb**	**09 16 32.7**	**+1.4**
DRK0	**Durika**	**1.19**	**348**	P	**Pn**	**09 16 15.6**	**+0.3**
OCHAL	**Ojochal**	**1.20**	**327**	P	**Pn**	**09 16 15.4**	**+0.4**
OCHAL	**Ojochal**	**1.20**	**327**	S	**Sb**	**09 16 32.4**	**+1.2**
CNI2	**El Empalme, Bo**	**1.42**	**21**	*e*P	**Pn**	**09 16 18.2**	**+0.1**
CNI2				*e*S	**Sb**	**09 16 38.4**	**+0.8**
RGM0	**Gandoca**	**1.54**	**14**	P	**Pb**	**09 16 21.4**	**-0.5**
RGM0	**Gandoca**	**1.54**	**14**	S	**Sb**	**09 16 43.4**	**+2.4**
GMAL	**Guarumal, Vera**	**1.77**	**100**	*e*P	**Pn**	**09 16 23.7**	**+0.8**
QUEP	**Quepos**	**1.77**	**319**	S	**Sb**	**09 16 48.3**	**+0.6**
QUEP	**Quepos**	**1.77**	**319**	P	**Pn**	**09 16 24.5**	**+1.6**
LCR2	**La Lucha 2**	**1.93**	**329**	P	**Pb**	**09 16 27.5**	**-1.2**
LCR2	**La Lucha 2**	**1.93**	**329**	S	**Sb**	**09 16 52.3**	**-0.1**
SOCE	**Pocosol**	**2.79**	**325**	P	**Pb**	**09 16 40.7**	**-2.6**
SOCE	**Pocosol**	**2.79**	**325**	S	**Sb**	**09 17 13.9**	**-3.2**
JTS	**Las Juntas de**	**2.92**	**319**	*e*P	**Pn**	**09 16 41.7**	**+2.8**
JTS				*e*S	**Sn**	**09 17 13.8**	**+0.7**
CMARA	**Lajas Hojancha**	**3.08**	**309**	P	**Pn**	**09 16 42.6**	**+1.6**

SJA 17 09:17:45.8±0.7, 20.69S×67.41W, h222 km±5 km, ML 4.6, MW 4.2
IDC 17 09:17:47.9±1.0, 20.56S×67.18W, h190 km±8 km, mb3.9/14, mbtmp4.5/20, MS3.0/3, Error ellipse: s-maj=13.0 km s-min=8.9 km az=65.0
VAO 17 09:17:47.3±0.5, 20.65S×67.44W, h207 km±5 km, mb 4.6
NEIC 17 09:17:47.9±1.9, 20.71S±0.06×67.31W±0.08, h186 km±5 km, mb 4.5/157, Mwr 4.3(GUC), Error ellipse: s-maj=10.7 km s-min=7.9 km az=72.0
GUC 17 09:17:48.5±0.8, 20.71S×67.67W, h210 km±7 km, ML 4.9
SCB 17 09:17:48.5±1.8, 20.78S×67.41W, h188 km±14 km, ML 4.7/3, Error ellipse: s-maj=5.7 km s-min=4.8 km az=0.0
ISC 17 09:17:47.6±0.5, 20.69S±0.03×67.34W±0.03, h191 km±5 km, n267, σ1.36/247, mb 4.5/80, 11C-5D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.69**	**110**	Pg	**Pn**	**09 18 25.0**	**+2.2**
MOCB				Sg	**Sn**	**09 18 50.5**	**+0.5**
MOCB				Sg		09 18 51.6	
MOCB				IAML		09 18 57.5	
	4μm,0.4s						
PB08	**IPOC Station P**	**1.79**	**288**		**Pn**	**09 18 24.6**	**+1.0**
PB08	**IPOC Station P**	**1.79**	**288**	⇑*i*P	**Pn**	**09 18 24.7**	**+1.0**
PB08				*e*S	**Sn**	**09 18 52.2**	**+0.6**
PB08	**IPOC Station P**	**1.79**	**288**	*e*P	**Pn**	**09 18 24.7**	**+1.0**
PB08				*e*S	**Sn**	**09 18 52.7**	**+1.1**
PB08	**IPOC Station P**	**1.79**	**288**	Pg	**Pn**	**09 18 24.9**	**+1.2**
GO01	**Chusmiza**	**2.02**	**300**		**Pn**	**09 18 27.0**	**+0.9**
GO01	**Chusmiza**	**2.02**	**300**	*e*P	**Pn**	**09 18 26.4**	**+0.2**
GO01	**Chusmiza**	**2.02**	**300**	Pg	**Pn**	**09 18 27.2**	**+1.0**
PB01	**IPOC Station P**	**2.04**	**260**		**Pn**	**09 18 26.1**	**+0.2**
PB01	**IPOC Station P**	**2.04**	**260**	⇑*i*P	**Pn**	**09 18 26.0**	**+0.2**
PB01				*i* S	**Sn**	**09 18 54.9**	**-0.8**
PB01				IAML		09 18 56.7	
	comp=N,4μ

PB06 IAML 09 19 14.5
comp=Z,1µm,0.4s
PB06 IPOC Station P 2.88 226 Pg **Pn** **09 18 36.3 +0.7**
HJA Humahuaca 3.08 145 *eP* **Pn** **09 18 40.3 +2.2**
HJA *eS* **Sn** **09 19 19.1 +1.4**
HJA IAML 09 19 20.0
comp=Z,1µm,0.5s
PB16 IPOC Station P 3.11 319 **Pn** **09 18 40.3 +1.5**
PB16 IPOC Station P 3.11 319⇑*iP* **Pn** **09 18 40.1 +1.5**
PB16 *eS* **Sn** **09 19 20.3 +1.8**
PB16 IPOC Station P 3.11 319 *eP* **Pn** **09 18 40.2 +1.5**
PB16 IPOC Station P 3.11 319 Pg **Pn** **09 18 40.1 +1.5**
PB05 IPOC Station P 3.42 231 **Pn** **09 18 41.9 -0.1**
PB05 IPOC Station P 3.42 231⇑*iP* **Pn** **09 18 41.7 -0.3**
PB05 IPOC Station P 3.42 231 *eP* **Pn** **09 18 41.7 -0.3**
PB05 *eS* **Sn** **09 19 22.3 -2.3**
PB05 IAML 09 19 26.0
comp=Z,905nm,0.4s
PB18 Visviri 3.69 326 **Pn** **09 18 48.1 +2.4**
BBOJ La Paz, Jacaqu 3.78 348 Pg **Pn** **09 18 49.2 +2.3**
SOEJ Jacaque 3.78 348 Pg **Pn** **09 18 49.6 +2.7**
BBOE La Paz, Chanca 3.91 351 Pg **Pn** **09 18 50.7 +2.2**
PB10 IPOC Station P 4.09 226 **Pn** **09 18 49.4 -0.8**
PB10 IPOC Station P 4.09 226 *eP* **Pn** **09 18 49.7 -0.5**
PB10 *eS* **Sn** **09 19 34.5 -5.0**
PB10 IAML 09 19 37.2
comp=Z,345nm,0.4s
AZAP Zapla 4.10 150 *eP* **Pn** **09 18 51.1 +0.5**
AZAP *eS* **Sn** **09 19 39.3 -0.6**
AZAP IAML 09 19 41.3
comp=Z,1µm,0.8s
SLA San Lorenzo 4.36 157 *eP* **Pn** **09 18 55.1 +1.4**
SLA *eS* **Sn** **09 19 44.1 -1.6**
ALOL LOMAS DE OLMED 4.40 136 *eP* **Pn** **09 18 54.5 +0.4**
ALOL *eS* **Sn** **09 19 43.7 -2.8**
LPAZ La Paz 4.44 350 **Pn** **09 18 56.7 +1.4**
LPAZ La Paz 4.44 350 P **Pn** **09 18 56.2 +0.9**
comp=Z,126nm,0.5s,baz=149,slow=4.9,SNR=25.1
LPAZ S **Sn** **09 19 46.8 -1.6**
comp=Z,36nm,0.6s,baz=334,slow=19,SNR=1.2
LPAZ La Paz 4.44 350 *eP* **Pn** **09 18 56.6 +1.2**
LPAZ La Paz 4.44 350 Pg **Pn** **09 18 56.7 +1.4**
LPAZ La Paz 4.44 350 *eP* **Pn** **09 18 56.9 +1.6**
BBOB La Paz, Bander 4.59 350 Pg **Pn** **09 18 58.3 +1.2**
PB14 IPOC Station P 4.83 215 Pg **Pn** **09 18 59.1 -0.8**
GO02 Mina Guanaco 4.91 205 **Pn** **09 19 00.6 -0.3**
GO02 Mina Guanaco 4.91 205 *eP* **Pn** **09 19 00.2 -0.7**
GO02 *eS* **Sn** **09 19 55.0 -3.6**
GO02 IAML 09 19 59.8
comp=Z,508nm,0.5s
GO02 Mina Guanaco 4.91 205 Pg **Pn** **09 18 59.9 -1.0**
AC01 Pan de Azucar 6.20 208 **Pn** **09 19 15.4 -1.9**
AC01 Maricunga 6.33 195 **Pn** **09 19 19.2 -0.3**
GO03 Copiapo 7.36 200 **Pn** **09 19 30.5 -2.1**
SIV San Ignacio 7.57 53 P **Pn** **09 19 33.8 -1.5**
comp=Z,176nm,0.5s,baz=246,slow=11,SNR=28.5
SIV S **Sn** **09 20 56.6 -4.2**
comp=Z,19nm,0.7s,baz=295,slow=18,SNR=8.7
MURT Porto Murtinho 9.13 98 *eP* **Pn** **09 19 54.3 -1.4**
PTLB Pontes e Lacer 9.38 58 **Pn** **09 19 58.8 -0.2**
PTLB Pontes e Lacer 9.38 58 *eP* **Pn** **09 19 58.2 -0.8**
CO01 Juntas del Tor 9.57 195 **Pn** **09 20 00.9 -0.7**
VILB Vilhena 10.29 43 **Pn** **09 20 11.2 +0.4**
VILB Vilhena 10.29 43 *eP* **Pn** **09 20 11.4 +0.5**
CPUP Villa Florida 10.76 123 **Pn** **09 20 16.3 -0.6**
CPUP Villa Florida 10.76 123 P **Pn** **09 20 15.7 -1.2**
comp=Z,3.5nm,0.6s,baz=167,slow=11,SNR=20.0
CFA Coronel Fontan 10.90 184 P **Pn** **09 20 17.6 -1.0**
comp=Z,3.0nm,0.3s,baz=49,slow=22,SNR=27.1
CFA S **Sn** **09 22 11.4 -8.5**
comp=Z,6.5nm,0.5s,baz=186,slow=21,SNR=9.2
AQDB Aquidauana 10.91 91 **Pn** **09 20 19.8 +1.1**
AQDB Aquidauana 10.91 91 *eP* **Pn** **09 20 20.0 +1.2**
AQDB *eS* **S** **09 22 23.1 +2.3**
SJPY San Joaquin 11.21 115 *eP* **Pn** **09 20 22.4 -0.2**
AMBA Amambai (Brazi 11.69 103 *eP* **Pn** **09 20 29.2 +0.5**
SALV Santo Antonio 12.04 69 *eP* **Pn** **09 20 33.5 +0.2**
PP1B Ponte de Pedra 12.17 77 *eP* **Pn** **09 20 34.5 -0.5**
NNA Nana 12.56 312 Pn **Pn** **09 20 39.8 -0.3**
NNA Nana 12.56 312 P **Pn** **09 20 39.5 -0.5**
comp=Z,10nm,0.3s,baz=147,slow=14,SNR=6.5
RPRD Ribas do Rio P 12.78 91 *eP* **P** **09 20 43.7 -2.8**
MT08 Bocatoma Ro 12.93 190 P **Pn** **09 20 45.6 +1.1**
PSAL Palomas, Salto 13.55 142 *eP* **P** **09 20 52.9 -2.0**
PDRB Porto dos Gac 13.61 50 *eP* **Pn** **09 20 53.0 -0.1**
TRCB Terra Rica 13.83 101 *eP* **P** **09 20 56.4 -1.7**
CZSB Cruzeiro do Su 13.89 337 *eP* Pn 09 20 51.0 -5.6
BO01 Tunca 14.04 193 **Pn** **09 20 59.0 +0.7**
BO02 Sierra Bellavi 14.37 191 **Pn** **09 21 02.6 +0.1**
PTGB Pitanga 14.65 109 *eP* **P** **09 21 06.5 -0.9**
CLDB Colider 14.78 50 *eP* **P** **09 21 07.2 -1.5**
LDASE Londrina, Braz 15.28 103 *eP* **P** **09 21 13.8 -0.5**
ITAB Concordia 15.35 118 P **P** **09 21 15.4 +0.5**
ITAB Concordia 15.35 118 *eP* **P** **09 21 15.0 +0.2**
ARAG Araguaiana, MT 15.56 74 *eP* **P** **09 21 16.3 -1.1**
CPSB Cacapava Do Su 15.83 130 *eP* **P** **09 21 19.7 -0.4**
ITRB Iturama 15.97 89 *eP* **P** **09 21 22.3 +0.4**
PLTB Pedras Altas 16.52 135 **Pn** **09 21 27.3 -1.3**
PLTB IAmb IAmb 09 21 29.6
comp=Z,26nm,0.9s
PLTB Pedras Altas 16.52 135 *eP* **Pn** **09 21 27.3 -1.3**
FRTB Fartura 16.70 102 *eP* **Pn** **09 21 30.3 -0.5**
ATAH Atahualpa 17.21 320 P **P** **09 21 36.3 +0.4**
comp=Z,6.8nm,0.8s,baz=146,slow=15,SNR=5.8
CNLB Canela 17.22 123 *eP* **P** **09 21 34.8 -0.8**
TEFE Tefe 17.28 9 *eP* **P** **09 21 34.3 -1.9**
BB19B Bebedouro 17.59 95 *eP* **Pn** **09 21 40.2 -1.2**
SNDB Serra Nova Dou 17.66 63 *eP* **Pn** **09 21 40.4 -1.9**
NPGB Novo Progresso 17.85 42 *eP* **P** **09 21 42.0 -0.5**
IPMB Ipameri, GO 18.25 85 *eP* **Pn** **09 21 47.3 -1.9**
RCLB Rio Claro- Sao 18.51 99 *eP* **P** **09 21 49.4 -0.3**
MACA Manacapuru-AM 18.59 21 P **P** **09 21 49.8 -0.7**
MACA Manacapuru-AM 18.59 21 *eP* **P** **09 21 50.1 -0.4**
SPB Sao Paulo 18.67 103 *eP* **P** **09 21 51.1 -0.2**
PET01 Itanhaem-SP 18.88 105 *eP* **P** **09 21 52.6 -1.1**
BDFB Brasilia 19.04 78 **Pn** **09 21 55.9 -2.6**
BDFB Brasilia 19.04 78 P **P** **09 21 55.3 -0.2**
comp=Z,15nm,0.6s,baz=256,slow=12,SNR=20.0
VAO Valinhos 19.05 101 P **P** **09 21 55.1 -0.5**
VAO Valinhos 19.05 101 *eP* **P** **09 21 55.1 -0.5**
ITTB Itaituba 19.77 36 *eP* **P** **09 22 02.3 -0.9**
PMNB Patos De Minas 19.81 87 *eP* **P** **09 22 03.4 -0.4**
LR05 Currie 19.88 191 **P** **09 22 05.2 +1.0**
PLCA Paso Flores 20.16 187 P **P** **09 22 07.7 +0.4**
PLCA IAmb IAmb 09 22 11.7
comp=Z,16nm,1.1s
PLCA Paso Flores 20.16 187 P **P** **09 22 08.3 +0.9**
comp=Z,11nm,0.9s,baz=6.8,slow=10,SNR=17.0
comp=Z,11nm,0.9s
PLCA Paso Flores 20.16 187 *eP* **P** **09 22 07.7 +0.4**
PARB Paraibuna 20.31 101 *eP* **P** **09 22 08.1 -1.0**
SLP01 Ubatuba-SP 20.73 101 *eP* **P** **09 22 12.6 -1.0**
BSCB Bom Sucesso 21.09 95 *eP* **P** **09 22 16.3 -1.1**
COHC Cochancay 21.52 326 **P** **09 22 22.9 +1.1**
MAN01 Angra dos Reis 21.81 100 *eP* **P** **09 22 23.2 -1.6**
LL01 San Ignacio de 22.04 190 P **P** **09 22 27.3 +0.6**
LL01 IAmb IAmb 09 22 27.9
comp=Z,9.6nm,0.7s
VAS01 Vassouras-RJ 22.29 98 *eP* **P** **09 22 28.4 -1.0**
PRPB Paraupebas 22.30 52 *eP* **P** **09 22 28.1 -1.4**
SMTB Santa Maria do 22.40 61 *eP* **P** **09 22 29.8 -0.6**
DIAM Diamantina, MG 22.44 88 *eP* **P** **09 22 30.1 -0.8**
JANB Januaria 22.61 79 *eP* **P** **09 22 31.7 -0.7**
LL02 Futaleuf 22.75 189 P **P** **09 22 33.6 +0.2**
LL02 IAmb IAmb 09 22 35.6
comp=Z,13nm,1.0s
SDBA SAO DESIDERIO 23.01 73 *eP* **P** **09 22 35.0 -1.1**
DUB01 Friburgo-RJ 23.29 98 *eP* **P** **09 22 37.5 -0.9**
OTAV Otavalo 23.47 331 *eP* **P** **09 22 38.3 -2.3**
FLOC Florencia 23.59 339 **P** **09 22 40.6 -0.6**
FLOC IAmb IAmb 09 22 42.2
comp=Z,8.9nm,0.7s
BOAV Boa Vista 23.90 17 *eP* **P** **09 22 42.8 -1.2**
CAM01 Campos-RJ 23.96 97 *eP* **P** **09 22 43.6 -0.9**
SJMB Sao Joao De Ma 24.70 90 *eP* **P** **09 22 49.9 -1.4**
RIB01 Linhares ES 25.35 92 *eP* **P** **09 22 55.8 -1.3**
ROSC El Rosal 26.28 344 LR LR 09 34 39.4
comp=Z,48nm,18.1s,baz=285,slow=39.0
GUA01 Guaratinga, BA 26.39 86 *eP* **P** **09 23 05.5 -1.1**
RUSC La Rusia 27.01 347 **P** **09 23 10.5 -2.1**
RUSC IAmb IAmb 09 23 14.1
comp=Z,7.6nm,0.9s

MDP Montagnes des 29.42 31 LR LR 09 35 32.1
comp=Z,33nm,21.8s,baz=272,slow=36.0
BAUV El Baul 29.46 359 P **P** **09 23 32.9 -0.8**
EFI East Falkland 31.76 169 P **P** **09 23 54.7 +1.1**
NBAN Anadia - AL 31.86 75 *eP* **P** **09 23 53.5 -1.4**
MG03 Isla Dawson 33.19 183 P **P** **09 24 07.3 +1.4**
RCBR Riachuelo 33.88 69 LR LR 09 38 29.4
comp=Z,17nm,20.3s,baz=188,slow=37.0
JTS Las Juntas de 35.32 329 P **P** **09 24 26.3 +1.5**
JTS IAmb IAmb 09 24 37.9
comp=Z,23nm,1.4s
SIUN Universidad Ur 38.24 332 IAmb IAmb 09 24 51.5
comp=Z,5.4nm,0.8s
CELP Cerrillos 38.53 1 P **P** **09 24 50.9 -0.8**
PMSA Palmer Station 44.12 178 P **P** **09 25 38.5 +1.9**
comp=Z,2.0nm,0.8s,baz=21,slow=9.7,SNR=4.5
comp=Z,2.0nm,0.8s
TEIG Tepich 45.53 332 P **P** **09 25 48.7 +0.4**
TEIG IAmb IAmb 09 25 49.0
comp=Z,15nm,0.9s
CMIG Matias Romero 46.26 322 P **P** **09 25 54.6 +0.5**
comp=Z,8.8nm,0.9s,baz=130,slow=7.2,SNR=6.0
comp=Z,8.8nm,0.9s
SMAI San Martin Ant 47.43 180 P **P** **09 26 04.7 +2.3**
ZAIG Zacatecas 55.20 320 **P** **09 27 01.9 +0.8**
ZAIG IAmb IAmb 09 27 03.5
comp=Z,9.7nm,0.8s
X48A Hartselle 57.95 341 **P** **09 27 19.6 -0.3**
X48A IAmb IAmb 09 27 20.0
comp=Z,8.1nm,0.9s
SWET Sewanee 58.33 342 IAmb IAmb 09 27 22.5
comp=Z,9.1nm,0.7s
V48A Smith Brothers 59.08 342 IAmb IAmb 09 27 27.8
comp=Z,11nm,0.8s
DRIO Del Rio 59.26 326 **P** **09 27 29.3 +0.3**
CLTN Cedars of Leba 59.27 342 IAmb IAmb 09 27 29.0
comp=Z,5.2nm,0.7s
BELA Belgrano 2 59.35 172 P **P** **09 27 29.4 +0.3**
JCT Junction City 59.69 328 IAmb IAmb 09 27 34.5
comp=Z,5.8nm,0.8s
T50A Nancy 59.73 344 IAmb IAmb 09 27 31.8
comp=Z,6.6nm,0.8s
WVT Waverly 59.75 341 P **P** **09 27 31.4 -0.9**
BRDY Brady 59.95 329 **P** **09 27 33.6 -0.1**
BRDY IAmb IAmb 09 27 34.4
comp=Z,5.2nm,0.7s
HPIG 60.17 320 IAmb IAmb 09 27 37.0
comp=Z,6.5nm,0.5s
VNA3 Neumayer Olymp 60.37 162 ⇓P **P** **09 27 36.5 +0.4**
comp=Z,0.9nm,0.3s
SAND Sanderson 60.47 325 IAmb IAmb 09 27 38.7
comp=Z,10nm,1.1s
VNA1 Neumayer--Stat 60.56 161 ⇓P **P** **09 27 38.6 +1.3**
comp=Z,2.4nm,0.6s
OZNA Ozona 60.72 327 **P** **09 27 39.1 0.0**
OZNA IAmb IAmb 09 27 40.2
comp=Z,13nm,1.2s
TXAR Lajitas Array 60.83 324 P **P** **09 27 39.9 0.0**
comp=Z,1.8nm,0.6s,baz=153,slow=8.3,SNR=32.0
comp=Z,1.8nm,0.6s
VNA2 Neumayer--Watz 60.93 161 ⇓P **P** **09 27 41.0 +1.1**
comp=Z,4.5nm,0.8s,baz=291,slow=7.2
FCAR Ozark Folk Cen 60.97 337 **P** **09 27 39.7 -0.8**
WCI Wyandotte Cave 61.25 343 P **P** **09 27 40.6 -1.8**
CGM3 Cape Girardeau 61.39 340 IAmb IAmb 09 27 43.3
comp=Z,12nm,0.9s
MNHN Monahans 61.90 326 IAmb IAmb 09 27 48.0
comp=Z,8.4nm,0.7s
APMT Aspermont 62.16 329 IAmb IAmb 09 27 49.1
comp=Z,5.6nm,0.7s
SNAA Sanae 62.57 161 ⇓P **P** **09 27 52.1 +1.2**
comp=Z,45nm,0.8s
SNAA Sanae 62.57 161 P **P** **09 27 51.7 +0.8**
SNAA Sanae 62.57 161 P **P** **09 27 51.7 +0.8**
comp=Z,1.1nm,0.6s,baz=284,slow=9.6,SNR=6.4
comp=Z,1.1nm,0.6s
CCM Cathedral Cave 62.61 339 **P** **09 27 51.0 -0.4**
VHRN Van Horn 62.67 324 IAmb IAmb 09 27 52.8
comp=Z,6.4nm,0.6s
BINY Binghamton 63.08 353 IAmb IAmb 09 27 55.4
comp=Z,7.5nm,0.8s
SMWD Samnorwood 63.67 330 IAmb IAmb 09 27 59.3
comp=Z,7.5nm,0.7s
P40A Paris 64.20 339 IAmb IAmb 09 28 02.0
comp=Z,8.6nm,0.9s
TROLL Troll, Antarti 64.28 161 ⇓P **P** **09 28 03.7 +1.5**
comp=Z,208nm,0.6s
P38A Dawn 64.80 338 IAmb IAmb 09 28 05.9
comp=Z,7.3nm,0.8s
HSIG 64.90 318 **P** **09 28 07.6 +1.0**
HSIG IAmb IAmb 09 28 08.6
comp=Z,7.9nm,1.0s
121A Cookes Peak, D 65.55 323 IAmb IAmb 09 28 13.3
comp=Z,9.0nm,1.0s
L40A Anamosa 66.23 341 IAmb IAmb 09 28 15.4
comp=Z,12nm,1.0s
JFWS Jewell Farm 66.72 342 IAmb IAmb 09 28 18.1
comp=Z,10nm,0.9s
DBIC Dimbokro 67.10 73 P **P** **09 28 20.3 -0.7**
DBIC Dimbokro 67.10 73 P **P** **09 28 19.6 -1.4**
comp=Z,4.4nm,0.6s,baz=246,slow=4.0,SNR=7.0
comp=Z,4.4nm,0.6s
TUC Tucson 67.12 321 P **P** **09 28 22.1 +1.2**
W18A Petrified Fore 68.55 324 IAmb IAmb 09 28 31.9
comp=Z,5.6nm,0.9s
X16A Lo Mia Camp, P 69.01 322 IAmb IAmb 09 28 35.2
comp=Z,5.4nm,0.9s
MVCO Mesa Verde 69.43 326 IAmb IAmb 09 28 37.3
comp=Z,6.6nm,1.1s
QSPA South Pole Qui 69.50 180 P **P** **09 28 35.5 +0.3**
QSPA South Pole Qui 69.50 180 P **P** **09 28 36.4 +1.3**
comp=Z,3.1nm,0.7s,baz=166,slow=1.4,SNR=17.0
comp=Z,3.1nm,0.7s
WUAZ Wupatki 69.76 323 IAmb IAmb 09 28 39.9
comp=Z,11nm,0.9s
PV22 Blue Mesa, Par 70.58 327 IAmb IAmb 09 28 44.3
comp=Z,11nm,1.4s
BC3 Big Chuckawall 70.87 319 P **P** **09 28 45.7 +1.8**
BC3 IAmb IAmb 09 28 46.3
comp=Z,4.7nm,0.8s
HMU Henry Mountain 71.17 325 IAmb IAmb 09 28 49.0
comp=Z,7.0nm,0.7s
O20A White River Ci 71.52 328 IAmb IAmb 09 28 49.9
comp=Z,6.3nm,0.9s
SRU San Rafael Swe 71.91 326 IAmb IAmb 09 28 52.1
comp=Z,8.9nm,0.7s
Q16A Castle Valley 72.11 325 IAmb IAmb 09 28 53.9
comp=Z,5.0nm,0.7s
P18A Preston Nutter 72.15 326 IAmb IAmb 09 28 54.0
comp=Z,8.8nm,0.7s
CCUT Cedar City 72.33 323 IAmb IAmb 09 28 55.8
comp=Z,8.4nm,0.8s
BSUT Blindstream Ca 73.09 327 IAmb IAmb 09 28 59.6
comp=Z,6.8nm,0.7s
AGMN Agassiz Nation 73.27 341 IAmb IAmb 09 28 58.3
comp=Z,9.3nm,0.8s
CCCA Chr Cany lake 73.29 319 IAmb IAmb 09 29 00.8
comp=Z,11nm,1.0s
PSUT Pine Spring 73.30 324 IAmb IAmb 09 29 00.9
comp=Z,4.9nm,0.7s
JLU Jordanelle 73.49 326 IAmb IAmb 09 29 01.7
comp=Z,6.5nm,0.7s
FURC Furnace Creek, 73.61 320 IAmb IAmb 09 29 02.7
comp=Z,8.5nm,1.0s
EPLO Experimental L 73.87 343 IAmb IAmb 09 29 01.2
comp=Z,8.0nm,0.7s
PDAR Pinedale Array 74.16 329 P **P** **09 29 03.5 +0.2**
comp=Z,1.0nm,0.6s,baz=123,slow=8.7,SNR=13.0
comp=Z,1.0nm,0.6s
HWUT Hardware Ranch 74.29 327 IAmb IAmb 09 29 07.0
comp=Z,6.6nm,0.8s
VES Vestal, Richgr 74.56 319 IAmb IAmb 09 29 07.8
comp=Z,10.0nm,0.8s
AHID Auburn Hatcher 74.91 328 IAmb IAmb 09 29 09.4
comp=Z,5.7nm,0.8s
ULM Lac du Bonnet 75.00 341 P **P** **09 29 07.1 -0.6**
comp=Z,7.2nm,0.5s,baz=150,slow=7.3,SNR=21.0
comp=Z,7.2nm,0.5s
TORD Torodi Ar. Bea 75.70 70 P **P** **09 29 10.3 -2.2**
TORD Torodi Ar. Bea 75.70 70 P **P** **09 29 11.2 -1.2**
comp=Z,3.9nm,0.4s,baz=254,slow=5.6,SNR=33.0
comp=Z,3.9nm,0.4s
NVAR Mina Array Bea 75.78 321 P **P** **09 29 13.9 +1.3**
comp=Z,1.3nm,0.7s,baz=136,slow=4.7,SNR=13.0
comp=Z,1.3nm,0.7s
LHV Little Huntoon 75.78 321 IAmb IAmb 09 29 15.1
comp=Z,16nm,1.5s
YNE Yellowstone No 76.06 330 IAmb IAmb 09 29 16.3
comp=Z,12nm,0.8s
YMR Madison River 76.26 330 IAmb IAmb 09 29 18.2
comp=Z,11nm,1.1s
HLID Hailey 77.15 327 IAmb IAmb 09 29 23.0
comp=Z,7.2nm,0.7s
WELL Weller Preserv 77.23 320 P **P** **09 29 21.7 +1.1**
PAHR Pah Rah Range 77.25 321 IAmb IAmb 09 29 23.4
comp=Z,12nm,0.8s
MFID Camas Ranch 77.78 326 IAmb IAmb 09 29 26.4
comp=Z,9.5nm,1.4s
VNDA Vanda 77.89 190 P **P** **09 29 25.4 +1.8**
VNDA Vanda 77.89 190 P **P** **09 29 26.1 +2.4**
comp=Z,1.3nm,0.8s,baz=117,slow=5.1,SNR=8.9
comp=Z,1.3nm,0.8s
PLID Pearl Lake 79.04 327 IAmb IAmb 09 29 32.6
comp=Z,7.4nm,0.7s
O03E Paynes Creek 79.05 321 IAmb IAmb 09 29 31.6
comp=Z,5.9nm,0.8s
BMO Blue Mountains 79.54 326 IAmb IAmb 09 29 35.4
comp=Z,7.1nm,0.9s
YBH Yreka Blue Hor 80.48 321 P **P** **09 29 38.2 -0.1**
comp=Z,0.1nm,0.9s,baz=126,slow=1.5,SNR=6.7
PINE Pine Mountain 80.78 324 IAmb IAmb 09 29 42.1
comp=Z,7.5nm,0.8s
HAWA Hanford 81.73 326 IAmb IAmb 09 29 46.9
comp=Z,8.3nm,0.9s
D08A Wollman Farm, 81.87 327 IAmb IAmb 09 29 48.1
comp=Z,10nm,1.4s
BOSA Boshof 82.53 118 P **P** **09 29 49.5 -0.1**
comp=Z,2.6nm,0.8s,baz=243,slow=4.5,SNR=3.4
comp=Z,2.6nm,0.8s
YKA Yellowknife Ar 90.92 340 P **P** **09 30 29.1 0.0**
comp=Z,7.9nm,0.8s,baz=130,slow=3.8,SNR=15
comp=Z,7.9nm,0.8s
CASY Casey 93.28 179 P **P** **09 30 40.6 +0.5**
CASY IAmb IAmb 09 30 48.7
comp=Z,8.6nm,1.4s
AB31 Akbulak array 129.57 43 PKPdf **PKiKP** **09 36 35.3 +1.0**
ABKAR Akbulak array 129.57 43 PKPdf **PKiKP** **09 36 35.3 +1.0**
ASAR Alice Springs 131.29 206 PKP **PKPdf** **09 36 38.1 +0.4**
comp=Z,0.9nm,0.6s,baz=147,slow=2.1,SNR=15.0
ASAR SKPbc **SKPbc** **09 39 45.0 +0.2**
comp=Z,1.0nm,0.7s,baz=146,slow=3.4,SNR=11.0
WRA Warramunga Arr 134.38 209 PKP **PKPdf** **09 36 44.1 +0.5**
comp=Z,1.8nm,0.7s,baz=152,slow=1.8,SNR=17.0
WRA SKPbc **SKPbc** **09 39 55.3 -0.2**
comp=Z,3.2nm,0.9s,baz=149,slow=3.0,SNR=20.0
KURBB Kurchatov Arra 139.86 34 PKP **PKPdf** **09 36 52.1 -0.6**
comp=Z,0.4nm,0.5s,baz=327,slow=3.3,SNR=2.3
ZALV Zalesovo Beam 140.60 26 PKP **PKPdf** **09 36 54.3 +0.4**
comp=Z,1.0nm,0.5s,baz=280,slow=0.9,SNR=5.5
ZALV SKPbc **SKPbc** **09 40 12.1 -0.2**
comp=Z,0.5nm,0.4s,baz=336,slow=3.3,SNR=4.0
MKAR Makanchi Array 144.12 36 PKP PKPbc 09 36 59.5 +0.4
comp=Z,3.2nm,0.8s,baz=317,slow=2.4,SNR=18.0
MKAR SKPbc **SKPbc** **09 40 22.1 +0.8**
comp=Z,1.0nm,0.8s,baz=350,slow=2.8,SNR=5.2
USRK Ussuriysk Ar. 151.58 330 PKPbc **PKiKP** **09 37 19.7 +0.3**
comp=Z,3.0nm,0.6s,baz=53,slow=1.8,SNR=4.9
SONM Songino Array 152.45 9 PKPbc **PKiKP** **09 37 21.6 +0.3**
SONM Songino Array 152.45 9 PKPbc **PKiKP** **09 37 21.8 +0.4**
comp=Z,2.3nm,0.7s,baz=360,slow=2.4,SNR=8.1
MJAR Matsushiro Arr 152.69 311 PKPbc **PKPbc** **09 37 22.1 +0.3**
comp=Z,1.5nm,0.7s,baz=87,slow=1.9,SNR=4.5
MJAR PKPab **PKPab** **09 37 33.2 -0.1**
comp=Z,3.1nm,1.0s,baz=46,slow=2.9,SNR=5.3

IDC ***17*** *09:18:34.9±5.1, 27.4°N×112.2°W, h0km, mbtmp3.1/4, ML3.4/3, Error ellipse: s-maj=65.5km s-min=18.4km az=17.0.*
MEX ***17*** *09:18:42.4±0.7, 27.86°N×111.91°W, h5km, MD4.2*
ISC 17 09:18:38.4±1.3,**27.91N**±0.03°×**112.00W**±0.03, **h5**km±11km, **n23,** σ=**2.9**10/41,**2C-3D, Baja California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.62**	**200**	*eP*	**Pn**	**09 18 53.6**	**-0.4**
SRIG				*eS*	**Sn**	**09 19 02.8**	**-1.5**
SRIG	**Santa Rosalia**	**0.62**	**200**	*eP*	**Pn**	**09 18 53.4**	**-0.5**
SRIG				*eS*	**Sn**	**09 19 02.5**	**-1.8**
SFQB	**San Francisqui**	**0.91**	**303**⇑	*eP*	**Pn**	**09 18 57.6**	**-0.3**
SFQB				*eS*	**Sn**	**09 19 10.3**	**-1.0**
SFQB				⇓*e*		09 19 12.6	
SFQB				IAML		09 19 12.6	
	comp=N,896nm,0.3s						
BKIRB	**Bahia Kino**	**0.94**	**360**⇓	*eP*	**Pn**	**09 18 58.2**	**-0.2**
BKIRB				*eS*	**Sn**	**09 19 10.7**	**-1.6**
GUYB	**Guaymas**	**1.00**	**90**	*eP*	**Pg**	**09 18 58.0**	**+0.4**
GUYB				*eS*	**Sg**	**09 19 10.9**	**+0.3**
GUYB				⇑*e*		09 19 19.6	
GUYB				IAML		09 19 19.6	
	comp=E,1µm,0.6s						
GUYB	**Guaymas**	**1.00**	**90**	*eP*	**Pg**	**09 18 57.8**	**+0.2**
GUYB				*eS*	**Sb**	**09 19 11.6**	**0.0**
SNIRB	**San Nicol¡s**	**1.42**	**163**	*eP*	**Pn**	**09 19 04.5**	**-0.4**
HSIG		**1.44**	**40**	*eP*	**Pb**	**09 19 05.1**	**-0.8**
HSIG				*eS*	**Sg**	**09 19 24.7**	**-0.2**
BAHB	**Baha de los**	**1.72**	**307**	*eP*	**Pb**	**09 19 09.1**	**-1.4**
BAHB				*eS*	**Sb**	**09 19 30.5**	**-2.0**
BAHB				⇓*e*		09 19 39.3	
BAHB	**Baha de los**	**1.72**	**307**	*eP*	**Pb**	**09 19 09.1**	**-1.4**
BAHB				*eS*	**Sg**	**09 19 33.9**	**+0.1**
NE74	**Guerrero Negro**	**1.78**	**274**	*eP*	**Pb**	**09 19 10.7**	**-1.0**
NE77	**Loreto B.C.S**	**1.97**	**163**	*eP*	**Pn**	**09 19 12.3**	**-0.2**
PLIB	**Puerto Liberta**	**2.09**	**343**	*eP*	**Pb**	**09 19 14.7**	**-2.2**
PLIB				*eS*	**Sn**	**09 19 39.2**	**-1.4**
LAPR	**La Primavera**	**2.60**	**354**	*eP*	**Pn**	**09 19 21.5**	**+0.3**
LAPR				*eS*	**Sn**	**09 19 51.6**	**-1.6**
NZIG	**Nacozari, Sono**	**3.26**	**40**	*eP*	**Pn**	**09 19 30.9**	**+0.5**
NZIG				*eP*	**Pb**	**09 19 34.1**	**-2.8**
NZIG				*eS*	**Sn**	**09 20 06.3**	**-3.4**
NZIG				*eS*	**Sb**	**09 20 09.8**	**-7.1**
CSIG	**Choix**	**3.40**	**108**	*eP*	**Pn**	**09 19 31.1**	**-1.1**
CSIG				*eS*	**Sn**	**09 20 10.8**	**-2.2**
SPIG	**San Pedro Mart**	**4.35**	**317**	*eP*	**Pn**	**09 19 56.5**	**+0.9**
SPIG				*eS*	**Sb**	**09 20 47.7**	**-0.8**
TUC	**Tucson**	**4.51**	**13**	*eP*	**Pn**	**09 19 48.8**	**+1.3**
TUC				*eS*	**Sn**	**09 20 41.9**	**+1.4**
TXAR	**Lajitas Array**	**7.46**	**77**	Pn	**Pn**	**09 20 30.0**	**+1.9**
	comp=N,0.2nm,0.3s,baz=248,slow=13,SNR=21.0						
TXAR				Sn	**Sn**	**09 21 58.2**	**+5.0**
	comp=N,0.2nm,0.3s,baz=355,slow=13,SNR=5.0						
TXAR				Lg	Lg	09 22 35.8	
	comp=N,0.2nm,0.3s,baz=253,slow=32,SNR=6.8						
	comp=N,0.2nm,0.3s						
ANMO	**Albuquerque**	**8.46**	**33**	Pn	Pn	09 20 45.7	+3.8
	comp=N,0.1nm,0.3s,baz=212,slow=9.5,SNR=3.1						
ANMO				Lg	Lg	09 23 07.8	
	comp=N,0.3nm,0.3s,baz=82,slow=8.6,SNR=8.7						
	comp=N,0.3nm,0.4s						
NVAR	**Mina Array Bea**	**11.74**	**335**	Pn	**Pn**	**09 21 29.6**	**+2.7**
	comp=N,0.2nm,0.6s,baz=150,slow=11,SNR=1.8						
PDAR	**Pinedale Array**	**14.96**	**7**	Pn	**P**	**09 22 20.1**	**+3.6**
	baz=172,slow=12,SNR=6.1						
	comp=N,0.6nm,0.8s						

IDC ***17*** *09:22:06.3±1.6, 35.32°N×138.91°E, h0km, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=50.5km s-min=14.1km az=73.0*
JMA ***17*** *09:22:09.9±0.1, 35.5°N±0.1°×139.1°E±0.2, h14km, MV3.0/20, EASTERN YAMANASHI PREF*
JMA Felt II J1 at EASTERN YAMANASHI PREF .
ISC 17 09:22:08.7±1.0,**35.50N**±0.03°×**139.09E**±0.05, **h23**km±7km, **n19,** σ=**0.38**/**21,7D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSGW	**Sagamiharawaka**	**0.14**	**41**	*i* P	**Pb**	**09 22 13.7**	**+0.2**
JSGW				S	**Sb**	**09 22 16.7**	**0.0**
JOD2	**Odawara 2**	**0.23**	**181**⇓	*i* P	**Pb**	**09 22 14.7**	**+0.1**
JOD2				⇓S	**Sb**	**09 22 18.5**	**-0.1**
JYN	**Shimob**	**0.45**	**271**	*i* P	**Pb**	**09 22 18.1**

JRY	**Ryogami san**	**0.54**	**343**	⇓*i* P	**Pb**	**09 22 20.0**	**+0.3**
JRY				⇓S	**Sb**	**09 22 27.2**	**+0.1**
JIZS	**Izushimoda**	**0.80**	**193**	P	**Pb**	**09 22 24.1**	**+0.2**
JIZS				S	**Sb**	**09 22 34.8**	**+0.6**
JIM2	**Oshima 3**	**0.82**	**160**	P	**Pb**	**09 22 24.5**	**+0.2**
SHZ3	**Shizuoka 3**	**0.84**	**240**	*i* P	**Pn**	**09 22 25.3**	**+0.1**
SHZ3				S	**Sn**	**09 22 36.6**	**-0.3**
JNT	**Takato**	**0.86**	**296**	⇓*i* P	**Pb**	**09 22 25.5**	**+0.3**
JNT				⇓S	**Sb**	**09 22 36.8**	**+0.5**
JAG	**Ashikaga**	**0.97**	**17**	⇓*i* P	**Pb**	**09 22 27.3**	**+0.4**
MJAR	**Matsushiro Arr**	**1.27**	**326**	Pg	**Pb**	**09 22 32.0**	**+0.1**
	6.2nm,0.3s,baz=154,slow=16,SNR=378						
MJAR				Lg	Lg	09 22 48.4	
	4.6nm,0.3s,baz=137,slow=44,SNR=8.5						
H11N2	**WAKE ISLAND Hy**	**29.08**	**115**	T	T	09 58 40.0	
	baz=308						
H11N1	**WAKE ISLAND Hy**	**29.09**	**115**	T	T	09 58 23.9	
	baz=308						
H11N3	**WAKE ISLAND Hy**	**29.10**	**115**	T	T	09 58 40.5	
	baz=308						
H11S3	**WAKE ISLAND Hy**	**29.71**	**118**	T	T	09 59 22.8	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**29.71**	**117**	T	T	09 59 12.1	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**29.73**	**117**	T	T	09 59 31.1	
	baz=312						
WRA	**Warramunga Arr**	**55.32**	**185**	P	**P**	**09 31 40.5**	**-0.1**
	0.3nm,0.9s,baz=1.8,slow=7.2,SNR=4.8						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**59.04**	**186**	P	**P**	**09 32 06.3**	**-0.6**
	0.2nm,0.7s,baz=345,slow=8.2,SNR=4.8						
	0.2nm,0.7s						

*SJA **17** 09:22:37.5±0.7,34.°68S×72.°14W,h20km±2km,ML3.5, MW3.5*
*GUC **17** 09:22:38.8±0.7,34.°85S×72.°03W,h47km±2km,ML3.6*

ISC 17 09:22:39.7±1.1,34.81S±0.03×72.12W±0.06,h29km±7km, n46,σ1ş56/67,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO05	**Hualane**	**0.25**	**141**	*e*P		**Pb**		**09 22 46.1**	**-0.4**
GO05				*e*S		**Sb**		**09 22 51.7**	**+0.5**
GO05	**Hualane**	**0.25**	**141**	*e*P		**Pb**		**09 22 45.8**	**-0.7**
GO05				*e*S		**Sb**		**09 22 51.8**	**+0.6**
GO05					IAML			09 22 52.0	
	comp=Z,11μm,0.3s								
BO03	**Pichilemu**	**0.34**	**23**	⇑*e*P		**Pb**		**09 22 47.9**	**+0.2**
BO03				*e*S		**Sn**		**09 22 54.4**	**-0.2**
BO03					IAML			09 22 55.1	
	comp=N,8μm,0.1s								
BO01	**Tunca**	**0.95**	**64**	*e*P		**Pn**		**09 22 55.3**	**-1.8**
BO01				*e*S		**Sb**		**09 23 07.8**	**-2.1**
BO01					IAML			09 23 09.1	
	comp=N,2μm,0.1s								
BO01	**Tunca**	**0.95**	**64**	*e*P		**Pn**		**09 22 55.3**	**-1.8**
BO01				*e*S		**Sb**		**09 23 08.2**	**-1.7**
BO01					IAML			09 23 09.6	
	comp=Z,2μm,0.8s								
BO02	**Sierra Bellavi**	**1.10**	**89**	⇓*e*P		**Pn**		**09 22 57.7**	**-1.6**
BO02				*e*S		**Sn**		**09 23 11.6**	**-2.0**
BO02	**Sierra Bellavi**	**1.10**	**89**	*e*P		**Pn**		**09 22 57.4**	**-1.9**
BO02				*e*S		**Sn**		**09 23 12.7**	**-0.9**
BO02					IAML			09 23 12.8	
	comp=Z,8μm,0.1s								
MT01	**Popeta**	**1.19**	**38**	*e*P		**Pn**		**09 22 58.9**	**-1.5**
MT01	**Popeta**	**1.19**	**38**	*e*P		**Pn**		**09 22 58.8**	**-1.5**
MT01				*e*S		**Sn**		**09 23 14.1**	**-1.5**
MT01					IAML			09 23 19.2	
	comp=Z,829nm,0.7s								
MT09	**Talagante**	**1.40**	**43**	*e*P		**Pn**		**09 23 02.4**	**-0.9**
MT09					IAML			09 23 23.8	
	comp=N,3μm,0.1s								
BO04	**La Punta**	**1.50**	**57**	*e*P		**Pn**		**09 23 03.5**	**-1.1**
BO04				*e*S		**Sn**		**09 23 22.4**	**-0.9**
BO04					IAML			09 23 24.6	
	comp=E,2μm,0.2s								
MT02	**Curacav**	**1.75**	**28**	*e*P		Pn		09 23 01.9	-6.2
MT02				*e*S		**Sn**		**09 23 29.8**	**+0.3**
MT02					IAML			09 23 38.1	
	comp=Z,294nm,0.7s								
MT05	**Renca**	**1.82**	**39**	*e*P		**Pn**		**09 23 08.6**	**-0.5**
MT05					IAML			09 23 36.4	
	comp=E,960nm,0.3s								
MT05	**Renca**	**1.82**	**39**	*e*P		**Pn**		**09 23 08.7**	**-0.5**
MT05				*e*S		**Sn**		**09 23 29.5**	**-1.8**
MT05					IAML			09 23 40.8	
	comp=Z,298nm,0.3s								
VA01	**Torpederas**	**1.83**	**13**	*e*S		Sn		09 23 11.4	-20
VA01					IAML			09 23 40.4	
	comp=Z,108nm,0.4s								
LMEL	**Las Melosas**	**1.86**	**59**	*e*P		**Pn**		**09 23 09.2**	**-0.5**
LMEL					IAML			09 23 36.3	
	comp=N,1μm,0.2s								
LMEL	**Las Melosas**	**1.86**	**59**	*e*P		**Pn**		**09 23 09.5**	**-0.2**
LMEL				*e*S		**Sn**		**09 23 34.3**	**+2.0**
LMEL					IAML			09 23 35.5	
	comp=Z,686nm,0.1s								
MT13	**San Alfonso**	**1.86**	**56**	*e*P		**Pn**		**09 23 09.6**	**-0.1**
MT13					IAML			09 23 36.7	
	comp=N,651nm,0.2s								
MT13	**San Alfonso**	**1.86**	**56**	*e*P		**Pn**		**09 23 09.6**	**-0.1**
MT13				*e*S		**Sn**		**09 23 33.4**	**+1.2**
MT13					IAML			09 23 35.0	
	comp=Z,491nm,0.2s								
MT03	**Universidad Ad**	**1.88**	**46**	*e*P		**Pn**		**09 23 09.5**	**-0.4**
MT03				*e*S		**Sn**		**09 23 32.4**	**-0.2**
MT03					IAML			09 23 37.7	
	comp=N,1μm,0.2s								
MT03	**Universidad Ad**	**1.88**	**46**	*e*P		**Pn**		**09 23 09.3**	**-0.6**
MT03				*e*S		**Sn**		**09 23 33.6**	**+0.9**
MT03					IAML			09 23 40.1	
	comp=Z,802nm,0.1s								
MT14	**Cerro Cal¡n**	**1.93**	**43**	*e*P		**Pn**		**09 23 10.1**	**-0.6**
MT14					IAML			09 23 41.5	
	comp=E,894nm,0.4s								
BI02	**San Fabin de**	**1.97**	**160**	*e*P		**Pn**		**09 23 09.9**	**-1.4**
BI02	**San Fabin de**	**1.97**	**160**	*e*P		**Pn**		**09 23 09.3**	**-1.9**
BI02				*e*S		**Sb**		**09 23 38.5**	**-0.7**
BI02					IAML			09 23 42.6	
	comp=Z,154nm,0.3s								
MT10	**Hacienda Santa**	**2.02**	**41**	*e*P		**Pn**		**09 23 11.1**	**-0.9**
MT10					IAML			09 23 42.2	
	comp=E,1μm,0.3s								
PEL	**Peldehue**	**2.05**	**36**	*e*P		**Pn**		**09 23 12.1**	**-0.2**
PEL					IAML			09 23 46.4	
	comp=N,405nm,0.2s								
PEL	**Peldehue**	**2.05**	**36**	*e*P		**Pn**		**09 23 12.1**	**-0.2**
PEL				*e*S		**Sn**		**09 23 35.6**	**-1.3**
PEL					IAML			09 23 45.1	
	comp=Z,295nm,0.6s								
ROC1	**El Roble**	**2.05**	**27**	*e*P		Pn		09 22 55.2	-17
ROCH	**El Roble**	**2.06**	**27**	*e*P		**Pn**		**09 23 11.6**	**-0.9**
ROCH					IAML			09 23 44.2	
	comp=N,649nm,0.4s								
BI05	**Punta Hualpn**	**2.12**	**204**	*e*P		**Pn**		**09 23 12.6**	**-0.6**
BI05					IAML			09 23 47.8	
	comp=N,507nm,0.3s								
FCH	**Farellones**	**2.12**	**46**	*e*P		**Pn**		**09 23 13.7**	**+0.2**
FCH					IAML			09 23 44.5	
	comp=E,590nm,0.2s								
MT04	**Ro Olivares**	**2.16**	**50**	*e*P		**Pn**		**09 23 13.7**	**-0.3**
MT04				*e*S		**Sn**		**09 23 42.0**	**+2.0**
MT04					IAML			09 23 45.3	
	comp=Z,216nm,0.5s								
MT08	**Bocatoma Ro**	**2.22**	**53**	*e*P		**Pn**		**09 23 15.4**	**+0.7**
MT08				*e*S		**Sn**		**09 23 44.3**	**+3.0**
MT08					IAML			09 23 50.0	
	comp=Z,209nm,0.2s								
EDS3	**Malargue**	**2.42**	**114**	*e*P		**Pb**		**09 23 21.5**	**-1.3**
EDS3				*e*S		**Sn**		**09 23 45.9**	**-0.4**
VA03	**San Esteban**	**2.43**	**33**	*e*P		**Pn**		**09 23 16.7**	**-0.8**
VA03	**San Esteban**	**2.43**	**33**	*e*P		**Pn**		**09 23 16.0**	**-1.5**
VA03				*e*S		**Sb**		**09 23 56.3**	**+4.1**
VA03					IAML			09 24 03.3	
	comp=Z,258nm,0.7s								
RFA	**San Rafael**	**3.01**	**90**	*e*P		**Pn**		**09 23 27.5**	**+2.0**
RFA				*e*S		**Sb**		**09 24 07.7**	**-1.3**
CANA	**Caviahue**	**3.19**	**165**	*e*P		**Pn**		**09 23 31.6**	**+3.6**
CANA				*e*S		**Sb**		**09 24 16.1**	**+1.9**
AAGR	**Agrelo**	**3.23**	**59**	*e*P		**Pn**		**09 23 31.0**	**+2.4**
AVIZ	**Vizcacheras**	**3.28**	**67**	*e*P		**Pn**		**09 23 32.0**	**+2.9**
AVIZ				*e*S		Sn		09 23 51.6	-16
ARCO	**CERRO ARCO**	**3.30**	**54**	*e*P		**Pn**		**09 23 31.9**	**+2.3**
ARCO					IAML			09 24 31.4	
	comp=Z,56nm,1.4s								
ASAL	**Salagasta**	**3.52**	**52**	*e*S		**Sb**		**09 24 27.4**	**+3.6**
ASAL					IAML			09 24 35.2	
	comp=Z,0.0nm,3.1s								
CO02	**Combarbal**	**3.72**	**15**	*e*P		**Pn**		**09 23 33.7**	**-1.6**
CO02					IAML			09 24 37.9	
	comp=Z,93nm,0.7s								
CO03	**El Pedregal**	**4.14**	**17**	*e*P		**Pn**		**09 23 40.4**	**-0.7**
CO03				*e*S		**Sn**		**09 24 27.8**	**-0.8**
CO03					IAML			09 24 29.6	
	comp=Z,33nm,0.2s								
GO04	**Tololo Observa**	**4.76**	**14**	*e*P		**Pn**		**09 23 48.3**	**-1.4**
GO04					IAML			09 25 14.7	
	comp=Z,72nm,0.7s								
GO06	**Curarrehue**	**4.79**	**174**	*e*P		**Pn**		**09 23 50.4**	**+0.4**
GO06					IAML			09 25 28.0	
	comp=Z,10nm,2.5s								

SJA 17 09:31:01.1±0.8,27.°94S×66.°58W,h185km±4km,ML3.6, MW3.6,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**0.84**	**126**	*e*P		Pn		09 31 29.1	+0.8
CYA				*e*S		Sn		09 31 48.6	-0.7
AANI	**Anillaco**	**0.92**	**200**	*e*P		Pn		09 31 29.3	+0.4
AANI					IAML			09 31 53.2	
	comp=Z,279nm,0.3s								
ACLC	**CERRO LA CRUZ**	**1.52**	**193**	*e*P		Pn		09 31 34.5	+0.7
VCA	**Vinchina**	**1.64**	**241**	*e*P		Pn		09 31 35.3	+0.3
VCA				*e*S		Sn		09 32 01.3	0.0
VCA					IAML			09 32 03.8	
	comp=Z,746nm,0.3s								
FSA	**Cafayete**	**1.90**	**16**	*e*P		Pn		09 31 38.4	+0.7
FSA				*e*S		Sn		09 31 59.8	-6.3
AGUA	**GUANDACOL**	**2.28**	**227**	*e*P		Pn		09 31 42.0	+0.3
AGUA				*e*S		Sn		09 32 13.9	+0.6
AGUA					IAML			09 32 18.4	
	comp=Z,211nm,0.6s								
APLL	**PUNTA DE LOS L**	**2.44**	**179**	*e*P		Pn		09 31 44.3	+0.8
APLL				*e*S		Sn		09 32 16.3	-0.4
AC02	**Maricunga**	**2.52**	**295**	*e*P		Pn		09 31 45.6	+0.8
AC02				*e*S		Sn		09 32 28.9	+10
AVFE	**Valle Fertil**	**2.81**	**196**	*e*P		Pn		09 31 48.3	+0.5
AVFE				*e*S		Sn		09 32 23.5	-0.9
AVFE					IAML			09 32 26.2	
	comp=Z,113nm,0.2s								
ACDV	**Cuesta del Vie**	**3.15**	**224**	*e*P		Pn		09 31 52.4	+0.6
ACDV				*e*S		Sn		09 32 31.9	+0.2
ACDV					IAML			09 32 34.4	
	comp=Z,42nm,0.4s								
ACHE	**Chepes**	**3.21**	**181**	*e*P		Pn		09 31 53.7	+1.0
ACHE				*e*S		Sn		09 32 32.1	-0.9
GO03	**Copiapo**	**3.26**	**275**	*e*P		Pn		09 31 52.6	-0.6
GO03				*e*S		Sn		09 32 30.2	-3.7
GO03					IAML			09 32 31.0	
	comp=Z,421nm,0.2s								
SLA	**San Lorenzo**	**3.35**	**17**	*e*P		Pn		09 31 56.6	+2.2
SLA				*e*S		Sn		09 32 31.0	-5.1
AROD	**Rodeo**	**3.37**	**228**	*e*P		Pn		09 31 55.4	+0.6
AROD				*e*S		Sn		09 32 37.3	+0.6
ACCO	**Cerro Coronel**	**3.42**	**219**	*e*P		Pn		09 31 55.7	+0.3
ACCO				*e*S		Sn		09 32 38.2	+0.3
CO01	**Juntas del Tor**	**3.69**	**236**	*e*P		Pn		09 31 59.7	+1.0
CO01				*e*P				09 31 59.8	
CO01				*e*S		Sn		09 32 40.1	-3.6
CO01					IAML			09 32 45.7	
	comp=Z,40nm,0.8s								
LCO	**Las Campanas**	**3.79**	**253**	*e*P		Pn		09 31 59.6	-0.3
LCO				*e*S		Sn		09 32 43.3	-2.6
TCA	**Tanti**	**3.80**	**153**	*e*P		Pn		09 32 01.1	+1.2
TCA				*e*S		Sn		09 32 45.9	-0.1
TCA					IAML			09 32 46.5	
	comp=Z,92nm,0.4s								
CFA	**Coronel Fontan**	**3.93**	**201**	*e*P		Pn		09 32 01.7	+0.3
CFA				*e*S		Sn		09 32 47.0	-1.8
AZAP	**Zapla**	**3.94**	**20**	*e*P		Pn		09 32 03.3	+1.4
AZAP					IAML			09 33 37.7	
	comp=Z,36nm,2.5s								
AC04	**Llanos de Chal**	**3.98**	**265**	*e*P		Pn		09 32 00.9	-1.3
AC04				*e*S		Sn		09 32 44.1	-5.8
AC04					IAML			09 32 46.5	
	comp=Z,84nm,0.3s								
AC01	**Pan de Azucar**	**4.01**	**296**	*e*P		Pn		09 32 01.3	-1.2
AC01				*e*S		Sn		09 32 45.8	-4.8
AC01					IAML			09 32 52.2	
	comp=Z,42nm,0.8s								
GO04	**Tololo Observa**	**4.31**	**238**	*e*P		Pn		09 32 05.9	-0.7
GO04				*e*S		Sn		09 32 56.6	-1.3
GO04					IAML			09 33 00.7	
	comp=Z,112nm,0.5s								
RTLS	**Leoncito**	**4.51**	**211**	*e*P		Pn		09 32 09.5	+0.3
RTLS				*e*S		Sn		09 33 01.7	-0.8
RTLS					IAML			09 33 06.6	
	comp=Z,79nm,0.3s								
MRA	**San Martin**	**4.52**	**171**	*e*S		Sn		09 32 49.0	-14
MRA					IAML			09 33 17.3	
	comp=Z,47nm,0.4s								
CO03	**El Pedregal**	**4.61**	**230**	*e*P		Pn		09 32 10.0	-0.1
CO03				*e*S		Sn		09 33 04.8	+0.4
CO03					IAML			09 33 05.8	
	comp=Z,40nm,0.2s								
ASAL	**Salagasta**	**5.03**	**202**	*e*S		Sn		09 33 13.4	-0.8
CO02	**Combarbal**	**5.04**	**229**		IAML			09 33 23.8	
	comp=Z,33nm,1.2s								
ARCO	**CERRO ARCO**	**5.29**	**202**	*e*S		Sn		09 33 18.6	-1.8

GCG 17 09:31:20.0±0.7,15.°37N×90.°76W,h9km±31km,MD3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MTO3	**Montecristo**	**1.66**	**125**	*i* P		Pn		09 31 49.3	-0.2
JAYA	**Jayaque - finc**	**2.12**	**143**	*e*P		Pn		09 31 55.5	-0.4
JAYA				*e*S		Sn		09 32 21.1	-1.4

*SNET **17** 10:03:24.7±1.0,13.°47N×90.°11W,h56km,ML3.4*
*CATAC **17** 10:03:24.9±0.5,13.°N±4.°×9.°0W±.°,h33km±3km,M3.6/21, MLv3.6/21,Error ellipse: s-maj=8.5km s-min=4.1km az=23.4,confirmed*
*GCG **17** 10:03:25.6±1.0,13.°53N×90.°11W,h42km±17km,MD4.0, ML4.0,MW3.2*

ISC 17 10:03:26.8±1.9,13.°49N±0.°09×90.°03W±0.°07,h49km±13km, n53,σ1ş23/61,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.35**	**3**	P		**Pn**		**10 03 35.4**	**-1.0**
NUBE	**Las Nubes**	**0.47**	**31**	*e*P		**Pn**		**10 03 37.2**	**-0.7**
NUBE				*e*S		**Sn**		**10 03 46.3**	**+0.4**
NUBE	**Las Nubes**	**0.47**	**31**	*i* P		**Pn**		**10 03 37.2**	**-0.7**
NUBE				*i* S		**Sn**		**10 03 45.5**	**-0.4**
NUBE	**Las Nubes**	**0.47**	**31**	P		**Pn**		**10 03 37.2**	**-0.7**
CEVE	**Cerro Verde**	**0.52**	**50**	*i* P		**Pn**		**10 03 38.1**	**-0.4**
CEVE				*e*S		**Sn**		**10 03 48.2**	**+1.3**
CEVE	**Cerro Verde**	**0.52**	**50**	P		**Pn**		**10 03 38.2**	**-0.4**
LOAL	**Lomas de Alarc**	**0.56**	**26**	S		**Sn**		**10 03 48.7**	**+1.3**
LOAL	**Lomas de Alarc**	**0.56**	**26**	P		**Pn**		**10 03 38.4**	**-0.4**
JAYA	**Jayaque - finc**	**0.59**	**74**	*e*P		**Pn**		**10 03 38.5**	**-0.8**
JAYA				*e*S		**Sn**		**10 03 48.7**	**+0.4**
JAYA	**Jayaque - finc**	**0.59**	**74**	*i* P		**Pn**		**10 03 38.5**	**-0.8**
JAYA				*i* S		**Sn**		**10 03 47.9**	**-0.4**
JAYA					IAML			10 03 52.5	
	comp=N,8μm,0.3s								
JAYA	**Jayaque - finc**	**0.59**	**74**	P		**Pn**		**10 03 38.6**	**-0.8**
JAYA	**Jayaque - finc**	**0.59**	**74**	S		**Sn**		**10 03 49.2**	**+0.9**
UNIC	**Universidad Ca**	**0.68**	**44**	P		**Pn**		**10 03 39.4**	**-0.9**
UNIC	**Universidad Ca**	**0.68**	**44**	S		**Sn**		**10 03 50.8**	**+0.7**
CEDA	**San Andres**	**0.69**	**64**	S		**Sn**		**10 03 51.7**	**+1.3**
CEDA	**San Andres**	**0.69**	**64**	P		**Pn**		**10 03 39.9**	**-0.6**
LALI	**Alcalda de L**	**0.69**	**90**	*e*P		**Pn**		**10 03 39.4**	**-1.1**
LALI				*e*S		**Sn**		**10 03 50.4**	**+0.1**
LALI	**Alcalda de L**	**0.69**	**90**	*i* P		**Pn**		**10 03 39.3**	**-1.1**
LALI	**Alcalda de L**	**0.69**	**90**	P		**Pn**		**10 03 39.6**	**-0.8**
PMON	**Piamonte**	**0.73**	**73**	*e*P		**Pn**		**10 03 40.6**	**-0.5**
PMON				*e*S		**Sn**		**10 03 52.4**	**+1.0**
PMON	**Piamonte**	**0.73**	**73**	P		**Pn**		**10 03 40.5**	**-0.5**
BOQS	**Boqueron**	**0.77**	**72**	*e*P		**Pn**		**10 03 41.3**	**-0.4**
UEES	**Universidad Ev**	**0.80**	**74**	S		**Sn**		**10 03 54.0**	**+0.9**
UEES	**Universidad Ev**	**0.80**	**74**	P		**Pn**		**10 03 41.4**	**-0.6**
UTEC	**Universidad Te**	**0.83**	**76**	S		**Sn**		**10 03 54.4**	**+0.6**
UTEC	**Universidad Te**	**0.83**	**76**	P		**Pn**		**10 03 41.9**	**-0.5**
PANCS	**Alcalda de**	**0.84**	**82**	P		**Pn**		**10 03 41.7**	**-0.8**
PANCS	**Alcalda de**	**0.84**	**82**	S		**Sn**		**10 03 53.8**	**-0.1**
LOMA	**Loma Larga**	**0.85**	**80**	*e*P		**Pn**		**10 03 42.1**	**-0.5**
LOMA				*e*S		**Sn**		**10 03 55.2**	**+0.9**
LOMA	**Loma Larga**	**0.85**	**80**	P		**Pn**		**10 03 42.2**	**-0.5**
LOMA	**Loma Larga**	**0.85**	**80**	S		**Sn**		**10 03 54.9**	**+0.6**
IGN	**Direccin Gen**	**0.87**	**75**	S		**Sn**		**10 03 55.5**	**+0.9**
IGN	**Direccin Gen**	**0.87**	**75**	P		**Pn**		**10 03 42.1**	**-0.7**
UDBS	**Universidad Do**	**0.88**	**75**	P		**Pn**		**10 03 42.4**	**-0.6**
UDBS	**Universidad Do**	**0.88**	**75**	S		**Sn**		**10 03 56.0**	**+1.1**
JUAM	**Asuncion Mita**	**0.90**	**21**	*i* P		**Pn**		**10 03 42.0**	**-1.2**
JUAM				*i* S		**Sn**		**10 03 55.0**	**-0.2**
FG16	**Alotenango, Sa**	**0.90**	**329**	*i* P		Pn		10 03 46.4	+3.0
FG16				*i* S		**Sn**		**10 04 01.9**	**+6.4**
FG8	**Yepocapa, Chim**	**0.92**	**326**	*i* P		Pn		10 03 46.5	+3.0
PAVA	**Las Pavas**	**1.09**	**78**	*e*P		**Pn**		**10 03 45.3**	**-0.5**
PAVA	**Las Pavas**	**1.09**	**78**	P		**Pn**		**10 03 45.3**	**-0.5**
MTO3	**Montecristo**	**1.11**	**36**	*i* P		**Pn**		**10 03 45.2**	**-1.1**
MTO3	**Montecristo**	**1.11**	**36**	P		**Pn**		**10 03 45.1**	**-1.1**
ESSG	**Sabana Grande**	**1.18**	**319**	*i* S		**Sn**		**10 03 59.1**	**-2.9**
TECO	**Alcaldia de Te**	**1.22**	**88**	P		**Pn**		**10 03 46.9**	**-0.6**
TECO	**Alcaldia de Te**	**1.22**	**88**	S		**Sn**		**10 04 03.7**	**+0.8**
UESV	**Universidad de**	**1.22**	**83**	S		**Sn**		**10 04 04.4**	**+1.4**
UESV	**Universidad de**	**1.22**	**83**	P		**Pn**		**10 03 46.1**	**-1.4**
LLGN	**La Laguna**	**1.25**	**58**	P		**Pn**		**10 03 46.7**	**-1.3**
ESQI	**Esquipulas**	**1.25**	**32**	P		**Pn**		**10 03 47.2**	**-0.9**
SCLA	**Alcaldia de Sa**	**1.29**	**81**	P		**Pn**		**10 03 48.0**	**-0.5**
PACA	**Pacayal**	**1.66**	**91**	*e*P		**Pn**		**10 03 54.4**	**+0.5**
PACA	**Pacayal**	**1.66**	**91**	P		**Pn**		**10 03 53.4**	**-0.3**
CNCH	**Conchagua**	**2.15**	**96**	P		**Pn**		**10 03 59.9**	**-0.4**

DJA 17 10:27:24.9±1.4,6.°S±4.°×10.°1E±.°,h11km±11km,M4.3/10, mB5.7/2,mb4.5/5,MLv4.1/10,Mw(mB)5.2/2,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.16**	**43**	P		Pn		10 28 00.4	-0.5
LHSI	**Lahat**	**2.94**	**44**	P		Pn		10 28 11.6	0.0
MDSI	**Maura Dua**	**3.06**	**62**	P		Pn		10 28 13.5	+0.3
CGJI	**Cibinong**	**4.24**	**99**	P		Pn		10 28 29.9	+0.4
PDSI	**Padang**	**5.12**	**349**	P		Pn		10 28 41.6	0.0
	0.3nm6μm20nm,0.4s								
CNJI	**Cibinong**	**5.77**	**104**	P		Pn		10 28 50.3	-0.2
	0.1nm33nm,1.1s								
MNSI	**Mandailing Nat**	**6.97**	**344**	P		Pn		10 29 07.0	-0.1

*IDC **17** 10:30:06.8±2.4,0.°49N×125.°31E,h60km±21km,mb4.1/22, mbtmp4.4/24,ML3.7/2,MS3.3/18,Error ellipse: s-maj=19.6km s-min=10.8km az=80.0*
*NEIC **17** 10:30:06.8±2.0,0.°41N±0.°06×125.°51E±0.°06,h55km±7km, mb4.7/37,Error ellipse: s-maj=9.5km s-min=9.0km az=59.0*
*DJA **17** 10:30:08.4±0.5,0.°N±1.°×12.°5E±.°,h39km±13km,M4.6/21, mb4.8/16,mB5.0/6,MLv4.7/21,Mw(mB)4.4/6*

ISC 17 10:30:08.1±0.3,0.°39N±0.°04×125.°49E±0.°04,h73km,n120, σ1ş42/120,mb4.5/43,1D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.52**	**277**	P		**Pn**		**10 30 31.2**	**-2.3**
KMSI				S		**Sn**		**10 30 50.2**	**-2.4**
TNTI	**Ternate**	**1.91**	**79**			**Pn**		**10 30 36.7**	**-2.0**
TNTI	**Ternate**	**1.91**	**79**	P		**Pn**		**10 30 39.4**	**+0.7**
TNTI	**Ternate**	**1.91**	**79**	P		**Pn**		**10 30 39.1**	**+0.4**
TNTI				S		**Sn**		**10 31 03.0**	**+1.0**
SANI	**Sanana**	**2.47**	**168**	P		**Pn**		**10 30 44.2**	**-2.1**
SANI	**Sanana**	**2.47**	**168**	P		**Pn**		**10 30 44.1**	**-2.2**
LUWI	**Luwuk**	**3.07**	**242**			**Pn**		**10 30 56.1**	**+1.8**
LUWI	**Luwuk**	**3.07**	**242**	P		**Pn**		**10 30 57.0**	**+2.7**
LUWI	**Luwuk**	**3.07**	**242**	P

ASAR	**Alice Springs**	**25.27**	**162**	P	**P**	**10 35 28.7**	**+0.9**
	comp=Z,9.3nm,0.8s,baz=345,slow=12,SNR=70						
ASAR				PcP	**PcP**	**10 39 00.6**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=351,slow=2.4,SNR=10						
ASAR				S	**S**	**10 39 48.3**	**-0.2**
	comp=Z,1.3nm,1.0s,baz=349,slow=22,SNR=4.6						
ASAR				ScP	**ScP**	**10 42 33.8**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=333,slow=2.3,SNR=4.3						
ASAR				LR	LR	10 48 10.0	
	comp=Z,46nm,18.6s,baz=136,slow=43						
	comp=Z,9.3nm,0.8s						
PSI	**Prapat**	**26.66**	**275**	LR	LR	10 47 18.9	
	comp=Z,74nm,18.5s,baz=102,slow=39						
CMAR	**Chiang Mai Arr**	**31.66**	**306**	P	**P**	**10 36 23.7**	**-1.0**
CMAR	**Chiang Mai Arr**	**31.66**	**306**	P	**P**	**10 36 23.5**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=138,slow=8.0,SNR=12						
CMAR				LR	LR	10 50 39.7	
	comp=Z,24nm,18.1s,baz=120,slow=39						
	comp=Z,1.6nm,0.8s						
CHTO	**Chiang Mai**	**31.84**	**307**	P	**P**	**10 36 25.5**	**-0.9**
CHTO				IAmb	IAmb	10 36 26.6	
	comp=Z,6.3nm,0.7s						
NJ2	**Nanjing**	**32.11**	**349**	*e*P	**P**	**10 36 30.0**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PZH	**PanZhiHua**	**34.59**	**321**	P	**P**	**10 36 53.3**	**+2.9**
STKA	**Stephens Creek**	**35.53**	**156**	P	**P**	**10 36 59.4**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=330,slow=6.8,SNR=5.6						
	comp=Z,1.2nm,0.3s						
KSRS	**Korea Array**	**36.95**	**3**	P	**P**	**10 37 10.4**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=182,slow=9.9,SNR=11						
	comp=Z,2.7nm,0.8s						
MJAR	**Matsushiro Arr**	**37.85**	**17**	P	**P**	**10 37 17.4**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=198,slow=12,SNR=9.3						
	comp=Z,4.0nm,0.8s						
BRDH	**Bariadhala**	**39.68**	**306**	LR	LR	10 54 15.6	
	comp=Z,43nm,21.9s,baz=133,slow=37						
HHC	**Hu-ho-hao-te**	**42.21**	**344**	*e*P	**P**	**10 37 57.6**	**+3.5**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,89nm,5.0s						
USRK	**Ussuriysk Ar.**	**44.00**	**7**	P	**P**	**10 38 08.0**	**-0.3**
	comp=Z,3.5nm,0.6s,baz=190,slow=6.3,SNR=8.8						
	comp=Z,3.5nm,0.6s						
BNX	**BinXian**	**45.19**	**2**	⇓P	**P**	**10 38 18.6**	**+0.8**
BNX				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA	**Gaotai**	**45.37**	**332**	P	**P**	**10 38 19.5**	**0.0**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
EVN	**Everest**	**46.07**	**310**		**P**	**10 38 25.5**	**-0.3**
HEH	**HeiHe**	**49.70**	**2**	*e*P	**P**	**10 38 52.8**	**+0.1**
HEH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SONM	**Songino Array**	**50.08**	**343**	P	**P**	**10 38 55.1**	**-0.7**
SONM	**Songino Array**	**50.08**	**343**	P	**P**	**10 38 54.7**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=157,slow=8.2,SNR=5.5						
SONM				PcP	**PcP**	**10 40 14.4**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=173,slow=3.8,SNR=1.9						
SONM				LR	LR	11 01 18.4	
	comp=Z,45nm,19.9s,baz=180,slow=38						
	comp=Z,1.4nm,0.6s						
WMQ	**Urumqi**	**54.79**	**327**	*e*P	**P**	**10 39 32.8**	**+2.2**
PETK	**Petropavlovsk-**	**58.97**	**22**	P	**P**	**10 40 01.1**	**+1.2**
	comp=Z,7.3nm,0.9s,baz=218,slow=6.9,SNR=9.6						
PETK				LR	LR	11 09 40.0	
	comp=Z,17nm,18.4s,baz=214,slow=40						
	comp=Z,7.3nm,0.9s						
TARG	**Taragay, Kyrgy**	**59.44**	**320**	P	**P**	**10 40 04.3**	**+0.3**
TARG				IAmb	IAmb	10 40 24.1	
	comp=Z,2.8nm,1.0s						
MK31	**Makanchi Array**	**59.62**	**327**	P	**P**	**10 40 03.5**	**-1.1**
MK31				IAmb	IAmb	10 40 06.0	
	comp=Z,5.5nm,0.8s						
MKAR	**Makanchi Array**	**59.62**	**327**	P	**P**	**10 40 03.4**	**-1.2**
MKAR	**Makanchi Array**	**59.62**	**327**	P	**P**	**10 40 03.2**	**-1.3**
	comp=Z,5.5nm,0.4s,baz=123,slow=8.4,SNR=35						
MKAR				PcP	**PcP**	**10 40 50.9**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=117,slow=4.5,SNR=4.9						
MKAR				LR	LR	11 06 16.8	
	comp=Z,36nm,20.9s,baz=160,slow=36						
	comp=Z,5.5nm,0.4s						
MAKZ	**Makanchi**	**59.80**	**327**	P	**P**	**10 40 04.8**	**-1.0**
YAK	**Yakutsk**	**61.57**	**2**		**P**	**10 40 17.7**	**+0.3**
KBL	**Kabul**	**62.61**	**309**		**P**	**10 40 25.1**	**-0.2**
KBL				IAmb	IAmb	10 40 25.9	
	comp=Z,10nm,0.8s						
ZAA0	**Zalesovo Array**	**63.01**	**334**		**P**	**10 40 26.9**	**-0.4**
ZAA0				IAmb	IAmb	10 40 28.6	
	comp=Z,5.7nm,1.0s						
ZALV	**Zalesovo Beam**	**63.01**	**334**		**P**	**10 40 25.6**	**-1.7**
ZALV	**Zalesovo Beam**	**63.01**	**334**	P	**P**	**10 40 25.3**	**-2.0**
	comp=Z,3.4nm,0.6s,baz=118,slow=4.7,SNR=12						
ZALV				LR	LR	11 07 09.0	
	comp=Z,22nm,21.5s,baz=60,slow=35						
	comp=Z,3.4nm,0.6s						
KURBB	**Kurchatov Arra**	**63.90**	**329**	P	**P**	**10 40 31.6**	**-1.6**
	comp=Z,6.2nm,0.5s,baz=129,slow=6.2,SNR=31						
	comp=Z,6.2nm,0.5s						
KURK	**Kurchatov**	**63.91**	**329**		**P**	**10 40 32.1**	**-1.1**
CHGR	**Chuyangaron**	**64.01**	**314**	IAmb	IAmb	10 40 34.6	
	comp=Z,9.1nm,0.7s						
SIMJ	**Simiganj**	**64.12**	**313**		**P**	**10 40 34.5**	**-0.6**
SIMJ				IAmb	IAmb	10 40 35.9	
	comp=Z,9.3nm,1.2s						
KKAR	**Karatay Array**	**64.86**	**319**		**P**	**10 40 38.6**	**-1.1**
BVAR	**Borovoye Array**	**69.45**	**328**	P	**P**	**10 41 07.0**	**-1.6**
	comp=Z,2.7nm,0.6s,baz=131,slow=8.1,SNR=9.3						
	comp=Z,2.7nm,0.6s						
ABKAR	**Akbulak array**	**73.96**	**322**	P	**P**	**10 41 34.5**	**-1.1**
AKTO	**Aktyubinsk**	**75.51**	**322**	LR	LR	11 16 14.1	
	comp=Z,20nm,21.4s,baz=40,slow=37						
ARTI	**Arti**	**77.17**	**328**	LR	LR	11 17 12.3	
	comp=Z,24nm,19.7s,baz=172,slow=37						
VNDA	**Vanda**	**80.30**	**172**	P	**P**	**10 42 11.4**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=315,slow=4.3,SNR=2.0						
	comp=Z,0.5nm,0.8s						
SDPT	**Sand Point**	**80.64**	**34**	P	**P**	**10 42 13.8**	**+1.0**
M14K	**Bethel**	**81.19**	**28**	P	**P**	**10 42 17.4**	**+1.8**
M14K				IAmb	IAmb	10 43 00.2	
	comp=Z,21nm,1.2s						
CHGN	**Chignik**	**81.98**	**33**	P	**P**	**10 42 21.0**	**+1.1**
GNI	**Garni**	**82.67**	**310**	LR	LR	11 24 36.8	
	comp=Z,18nm,20.2s,baz=242,slow=40						
H17K	**Granite Mounta**	**83.15**	**24**	P	**P**	**10 42 28.4**	**+2.5**
H17K				IAmb	IAmb	10 42 29.3	
	comp=Z,20nm,1.3s						
E18K	**Tukpahlearik C**	**83.50**	**22**	IAmb	IAmb	10 42 30.9	
	comp=Z,11nm,0.8s						
OHAK	**Old Harbor**	**84.91**	**33**	P	**P**	**10 42 36.8**	**+1.8**
OHAK				IAmb	IAmb	10 42 54.7	
	comp=Z,9.4nm,1.2s						
KIBK	**Kibwezi**	**87.46**	**268**	P	**P**	**10 42 49.3**	**+0.7**
KIBK				IAmb	IAmb	10 42 50.4	
	comp=Z,6.6nm,0.9s						
KMBO	**Kilima Mbogo**	**88.25**	**269**	P	**P**	**10 42 53.0**	**+0.5**
	comp=Z,5.2nm,0.7s,baz=86,slow=5.0,SNR=8.4						
	comp=Z,5.2nm,0.7s						
ASF	**Jabal al Asfar**	**88.60**	**302**	LR	LR	11 27 38.2	
	comp=Z,11nm,21.2s,baz=127,slow=39						
ILAR	**Eielson Array**	**88.63**	**25**	P	**P**	**10 42 52.5**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=246,slow=4.6,SNR=8.5						
	comp=Z,0.3nm,0.5s						
MMAI	**Mount Meron Ar**	**89.86**	**303**	P	**P**	**10 42 57.7**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=107,slow=5.0,SNR=2.0						
	comp=Z,0.4nm,0.3s						
QSPA	**South Pole Qui**	**90.32**	**180**		**P**	**10 43 02.3**	**+1.4**
QSPA				IAmb	IAmb	10 43 05.8	
	comp=Z,3.2nm,1.4s						
QSPA	**South Pole Qui**	**90.32**	**180**	P	**P**	**10 43 03.3**	**+2.3**
	comp=Z,0.9nm,0.7s,baz=336,slow=2.7,SNR=9.6						
	comp=Z,0.9nm,0.7s						
ARCES	**ARCESS Array B**	**93.13**	**340**	P	**P**	**10 43 12.2**	**-1.6**
	comp=Z,3.5nm,0.9s,baz=69,slow=6.6,SNR=5.0						
ARCES				LR	LR	11 27 44.9	
	comp=Z,10nm,21.8s,baz=71,slow=37						
	comp=Z,3.5nm,0.9s						
SPITS	**Spitsbergen Ar**	**93.49**	**349**	P	**P**	**10 43 13.7**	**-1.6**
	comp=Z,5.0nm,0.8s,baz=68,slow=12,SNR=1.7						
	comp=Z,5.0nm,0.8s						
AKASG	**Malin Array Be**	**93.68**	**321**	P	**P**	**10 43 14.5**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=78,slow=4.3,SNR=2.2						
	comp=Z,0.3nm,0.3s						
FINES	**FINESS Array B**	**94.17**	**332**	P	**P**	**10 43 17.0**	**-1.7**
	comp=Z,2.6nm,1.0s,baz=76,slow=8.0,SNR=3.7						
	comp=Z,2.6nm,1.0s						
MLR	**Muntele Rosu**	**96.42**	**316**	LR	LR	11 32 11.2	
	comp=Z,10.0nm,19.8s,baz=60,slow=39						
MATP	**Matopo**	**96.69**	**250**	LR	LR	11 25 59.2	
	comp=Z,24nm,18.1s,baz=82,slow=35						
TORD	**Torodi Ar. Bea**	**122.70**	**286**	PKP	**PKPdf**	**10 48 56.7**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=94,slow=1.7,SNR=4.6						
TXAR	**Lajitas Array**	**124.59**	**53**	PKP	**PKiKP**	**10 49 01.3**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=328,slow=1.9,SNR=4.8						

IDC ***17*** *10:35:15.6±3.4,23°.18N×110°.73W,h0km,mb3.2/1, mbtmp3.0/3,ML4.2/1,Error ellipse: s-maj=63.8km s-min=20.3km az=125.0*

MEX ***17*** *10:35:18.5±0.7,23°.33N×110°.87W,h10km,MD3.9*

ISC 17 10:35:18.4±1.8,23°.4N±0°.1×110°.80W±0°.07,h10km,n16, σ1s38/15,Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.82**	**33**	Pg	**Pg**	**10 35 34.0**	**-0.2**
	124nm,0.3s,baz=203,slow=5.5,SNR=75						
LPIG				Lg	Lg	10 35 49.1	
	147nm,0.3s,baz=132,slow=11,SNR=9.9						
LPIG	**La Paz**	**0.82**	**33**	*e*P	**Pg**	**10 35 34.0**	**-0.2**
LPIG				*e*S	**Sg**	**10 35 45.0**	**+0.1**
SLBS	**Sierra La Lagu**	**0.83**	**71**	*e*P	**Pg**	**10 35 33.1**	**-1.3**
SLBS				*e*S	**Sg**	**10 35 45.8**	**+0.6**
TSIG	**Topolobambo**	**2.70**	**36**	*e*S	**Sn**	**10 36 34.5**	**-0.2**
SSIG	**Sanalona**	**3.62**	**67**	*e*P	**Pn**	**10 36 13.2**	**-1.4**
SSIG				*e*S	**Sn**	**10 36 55.5**	**-2.0**
CSIG	**Choix**	**4.05**	**32**	*e*P	**Pn**	**10 36 20.8**	**+0.3**
CSIG				*i* S	**Sn**	**10 37 06.2**	**-1.8**
SRIG	**Santa Rosalia**	**4.10**	**342**	*e*P	**Pn**	**10 36 19.6**	**-1.6**
H06N1	**SOCORRO T-PHAS**	**4.54**	**182**	T	T	10 40 48.6	
	SNR=16						
H06E1	**SOCORRO T-PHAS**	**4.61**	**182**	T	T	10 40 46.4	
PDIG	**Papasquiaro**	**5.19**	**71**	*e*P	**Pn**	**10 36 37.5**	**+1.1**
TXAR	**Lajitas Array**	**8.69**	**46**	Pn	**Pn**	**10 37 26.4**	**+2.0**
	0.4nm,0.4s,baz=232,slow=14,SNR=1.8						
PDAR	**Pinedale Array**	**19.33**	**3**	P	**P**	**10 39 46.0**	**+1.9**
	0.1nm,0.3s,baz=165,slow=12,SNR=3.9						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**47.53**	**340**	P	**P**	**10 43 54.1**	**+0.5**
	0.2nm,0.6s,baz=150,slow=7.3,SNR=5.1						
	0.2nm,0.6s						
H03N2	**Juan Fernandez**	**64.18**	**151**	T	T	11 55 16.1	
	baz=329,slow=77,SNR=47						
H03N1	**Juan Fernandez**	**64.19**	**151**	T	T	11 55 17.4	
	baz=329,slow=77,SNR=70						
H03N3	**Juan Fernandez**	**64.19**	**151**	T	T	11 55 16.4	
	baz=329,slow=77,SNR=68						

DJA 17 10:54:57.9±0.2,7°S±4°×112°9E±°,h169km±6km,M4.3/12, mb4.2/12,mB4.8/2,MLv4.4/9,Mw(mB)4.0/2,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.34**	**110**	P	Pn	10 55 38.7	+0.6
FAKI	**Fak Fak**	**5.29**	**37**	P	Pn	10 56 13.0	-2.5
	0.2nm35nm,1.3s						
SOEI	**Soe**	**5.40**	**242**	P	Pn	10 56 17.4	+0.4
	0.3nm2µm72nm,0.7s						
KMPI	**Kaimana, Papua**	**5.79**	**53**	P	Pn	10 56 21.8	-0.2
BATI	**Baumata**	**6.14**	**240**	P	Pn	10 56 27.2	+0.5
	0.4nm91nm,0.6s						
EDFI	**Ende, Flores**	**7.48**	**258**	P	Pn	10 56 46.1	+1.6
WBSI	**Waikabubak, Su**	**9.89**	**255**	P	Pn	10 57 15.9	-0.4
	26nm,1.1s						
TWSI	**Taliwang, Sumb**	**12.18**	**262**	P	Pn	10 57 44.8	-1.2
	27nm,1.0s						

IDC ***17*** *11:04:15.6±4.5,36°.28N×70°.79E,h170km±42km,mb3.6/10, mbtmp4.2/15,MS3.0/2,Error ellipse: s-maj=30.1km s-min=16.3km az=31.0*

NNC ***17*** *11:04:17.6±5.0,36°.93N×70°.18E,h0km,mb4.5,mpv4.2, Error ellipse: s-maj=40.4km s-min=30.6km az=164.0*

MOS ***17*** *11:04:18.3±1.0,36°.48N×70°.73E,h201km,mb4.2/8,Error ellipse: s-maj=13.7km s-min=6.5km az=88.0*

NEIC ***17*** *11:04:19.5±1.3,36°.51N±0°.05×70°.68E±0°.09,h199km±4km, mb4.2/14,Error ellipse: s-maj=11.0km s-min=7.5km az=108.0*

ISC 17 11:04:19.7±0.5,36°.52N±0°.05×70°.69E±0°.06,h204km,n95, σ1s71/96,mb4.1/19,10C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.39**	**215**		**Pn**	**11 05 01.7**	**-1.2**
KBL	**Kabul**	**2.39**	**215**	PN	**Pn**	**11 05 01.7**	**-1.2**
CHGR	**Chuyangaron**	**2.46**	**331**		**Pn**	**11 05 03.0**	**-0.5**
CHGR	**Chuyangaron**	**2.46**	**331**	PN	**Pn**	**11 05 03.0**	**-0.5**
GAR	**Garm**	**2.50**	**353**		**Pn**	**11 05 03.7**	**-0.2**
SIMJ	**Simiganj**	**2.52**	**328**		**Pn**	**11 05 03.8**	**-0.4**
NIL	**Nilore**	**3.55**	**143**		**Pn**	**11 05 15.4**	**-0.8**
NIL	**Nilore**	**3.55**	**143**	PN	**Pn**	**11 05 15.4**	**-0.8**
ARSB	**Arslanbob**	**5.12**	**20**		**Pn**	**11 05 35.0**	**-0.8**
ARSB	**Arslanbob**	**5.12**	**20**	PN	**Pn**	**11 05 35.0**	**-0.8**
KSH	**Kashi**	**5.13**	**53**	Pn	Pn	11 05 30.8	-5.2
KSH				Sn	S	11 06 23.8	-12
KSH				smax	smax		
	comp=N,260nm,0.5s						
KSH				smax	smax		
	comp=E,150nm,0.5s						
DHRM	**DHARAMSHALA**	**6.29**	**131**	*e*P	Pn	11 05 44.9	-6.3
DHRM				*e*S	S	11 06 51.1	-12
DHRM				IAML		11 07 00.2	
	comp=E,555nm,0.6s						
DHRM				IAML		11 07 01.5	
	comp=N,379nm,0.6s						
UCH	**Uchtor**	**6.42**	**26**	P	**Pn**	**11 05 52.4**	**-0.5**
	SNR=116						
KK31	**Karatay Array**	**6.58**	**359**		**Pn**	**11 05 54.0**	**-0.4**
KK31	**Karatay Array**	**6.58**	**359**	P	**Pn**	**11 05 51.6**	**-2.9**
	comp=N,15nm,0.3s,baz=164,slow=11,SNR=146						
KK31				⇑S	**S**	**11 07 04.2**	**-5.2**
	comp=N,86nm,0.5s,baz=225,slow=84,SNR=7.5						
KK31	**Karatay Array**	**6.58**	**359**	PN	**Pn**	**11 05 54.0**	**-0.4**
KKAR	**Karatay Array**	**6.58**	**359**		**Pn**	**11 05 54.0**	**-0.4**
KKAR	**Karatay Array**	**6.58**	**359**	PN	**Pn**	**11 05 54.1**	**-0.4**
EKS2	**Erkin-Say**	**6.58**	**20**	P	**Pn**	**11 05 54.2**	**-0.4**
	SNR=59						
AAK	**Ala-Archa**	**6.78**	**24**	P	**Pn**	**11 05 57.0**	**-0.3**
	SNR=45						
AAK	**Ala-Archa**	**6.78**	**24**		**Pn**	**11 05 56.9**	**-0.3**
AAK	**Ala-Archa**	**6.78**	**24**	⇓P	**Pn**	**11 05 56.8**	**-0.5**
	comp=N,3.3nm,0.3s						
AAK				⇑S	**S**	**11 07 11.1**	**-3.3**
	comp=N,48nm,0.6s						
AAK	**Ala-Archa**	**6.78**	**24**	P	**Pn**	**11 05 56.5**	**-0.7**
	comp=N,29nm,0.3s,baz=191,slow=6.4,SNR=74						
AAK				S	**S**	**11 07 12.1**	**-2.3**
	comp=N,47nm,0.4s,baz=355,slow=20,SNR=38						
AAK	**Ala-Archa**	**6.78**	**24**	*ce*PN	**Pn**	**11 05 56.9**	**-0.3**
AAK				pmax	pmax		
	comp=Z,12nm,0.4s						
KBK	**Karagaybulak**	**6.96**	**27**	P	**Pn**	**11 05 59.5**	**0.0**
	SNR=9.0						
BHK	**Bhakra**	**6.96**	**135**	*e*S	**S**	**11 07 13.8**	**-4.9**
BHK				IAML		11 07 14.7	
	comp=E,114nm,0.3s						
BHK				IAML		11 07 16.7	
	comp=N,205nm,0.3s						
ULHL	**Ulahol**	**7.15**	**35**	P	**Pn**	**11 06 01.9**	**-0.2**
	SNR=6.4						
CHMS	**Chumysh**	**7.19**	**25**	P	**Pn**	**11 06 02.2**	**-0.2**
	SNR=9.4						
USP	**Ospenovka**	**7.35**	**22**	P	**Pn**	**11 06 03.6**	**-0.9**
	SNR=32						
TKM2	**Tokmak 2**	**7.43**	**29**	P	**Pn**	**11 06 05.2**	**-0.4**
	SNR=92						
TARG	**Taragay, Kyrgy**	**7.59**	**45**		**Pn**	**11 06 06.6**	**-1.4**
TARG	**Taragay, Kyrgy**	**7.59**	**45**	PN	**Pn**	**11 06 06.6**	**-1.4**
SMLA	**Simla**	**7.61**	**133**	*e*P	Pn	11 06 02.1	-5.9
SMLA				*e*S	S	11 07 20.9	-13
SMLA				IAML		11 07 28.3	
	comp=E,88nm,0.4s						
SMLA				IAML		11 07 28.6	
	comp=N,124nm,0.3s						
KLP	**Kalpa**	**8.00**	**126**	*e*P	Pn	11 06 07.5	-5.9
KLP				*e*S	S	11 07 29.5	-14
KLP				IAML		11 07 39.6	
	comp=N,113nm,0.7s						
KLP				IAML		11 07 40.8	
	comp=E,131nm,0.7s						
MK31	**Makanchi Array**	**13.42**	**37**	Pn	**Pn**	**11 07 21.7**	**-0.6**
MK31	**Makanchi Array**	**13.42**	**37**	*ce*P	**Pn**	**11 07 22.2**	**0.0**
MKAR	**Makanchi Array**	**13.42**	**37**		**Pn**	**11 07 21.6**	**-0.7**
MKAR	**Makanchi Array**	**13.42**	**37**	P	**Pn**	**11 07 21.4**	**-0.8**
	comp=E,3.1nm,0.7s,baz=220,slow=9.1,SNR=17						
MKAR	**Makanchi Array**	**13.42**	**37**	*ce*P	**Pn**	**11 07 21.8**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WMQ	**Urumqi**	**14.89**	**55**	*e*P	**P**	**11 07 41.0**	**-0.1**
WMQ				LR	LR		
	comp=Z,490nm,18.7s						
AB31	**Akbulak array**	**14.95**	**332**		**Pn**	**11 07 40.6**	**-0.4**
AB31	**Akbulak array**	**14.95**	**332**	P	**Pn**	**11 07 40.5**	**-0.4**
	comp=Z,5.3nm,0.7s,baz=144,slow=11,SNR=59						
AB31				⇑S	**S**	**11 10 21.6**	**-5.0**
	comp=Z,2.9nm,0.6s,baz=129,slow=24,SNR=5.2						
AB31	**Akbulak array**	**14.95**	**332**	P	**Pn**	**11 07 40.5**	**-0.4**
AB31				S	**S**	**11 10 21.6**	**-5.0**
ABKAR	**Akbulak Array**	**14.95**	**332**		**Pn**	**11 07 40.6**	**-0.3**
KURBB	**Kurchatov Arra**	**15.19**	**19**	P	**Pn**	**11 07 42.6**	**-1.3**
	comp=Z,2.1nm,0.2s,baz=208,slow=12,SNR=9.0						
KURK	**Kurchatov**	**15.29**	**19**	*ce*P	**Pn**	**11 07 44.0**	**-1.1**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
BVA0	**Borovoye Array**	**16.51**	**359**	⇑P	**Pn**	**11 08 04.2**	**+4.5**
	comp=Z,3.4nm,0.5s,baz=158,slow=9.8,SNR=22						
BVA0	**Borovoye Array**	**16.51**	**359**	P	**Pn**	**11 08 04.2**	**+4.5**
BVAR	**Borovoye Array**	**16.51**	**359**	P	**Pn**	**11 07 59.7**	**0.0**
	comp=Z,4.4nm,0.3s,baz=172,slow=11,SNR=25						
BVAR				S	**S**	**11 11 01.5**	**+0.6**
	comp=Z,2.0nm,0.4s,baz=160,slow=22,SNR=5.2						
AKTO	**Aktyubinsk**	**16.64**	**331**	⇓P	**Pn**	**11 08 03.7**	**+2.4**
	comp=Z,15nm,1.0s						
AKTO				⇓S	**S**	**11 11 04.0**	**+0.4**
	comp=Z,4.9nm,0.9s						
AKTO	**Aktyubinsk**	**16.64**	**331**	P	**Pn**	**11 08 02.0**	**+0.6**
	comp=Z,15nm,0.6s,baz=140,slow=8.8,SNR=34						
AKTO	**Aktyubinsk**	**16.64**	**331**	P	**Pn**	**11 08 02.0**	**+0.6**
ZAA0	**Zalesovo Array**	**20.00**	**25**		**P**	**11 08 36.7**	**+0.1**
ZALV	**Zalesovo Beam**	**20.00**	**25**	P	**P**	**11 08 37.0**	**+0.5**
	comp=Z,9.8nm,0.5s,baz=221,slow=11,SNR=42						
	comp=Z,9.8nm,0.5s						
ZALV	**Zalesovo Beam**	**20.00**	**25**	*i* P	**P**	**11 08 37.2**	**+0.6**
ZALV				pmax	pmax		
	comp=Z,10.0nm,0.4s						
SHL	**Shillong**	**21.14**	**115**	P	**P**	**11 08 50.1**	**+0.9**
SHL				IAmb	IAmb	11 08 51.5	
	comp=Z,11nm,1.1s						
SHL	**Shillong**	**21.14**	**115**	P	**P**	**11 08 50.1**	**+0.9**
SHL				pmax	pmax		
	comp=Z,11nm,1.1s						
ARTI	**Arti**	**21.54**	**341**	P	**P**	**11 08 54.9**	**+2.1**
	comp=Z,4.4nm,0.6s,baz=151,slow=10.0,SNR=5.0						
	comp=Z,4.4nm,0.6s						
RAYN	**Ar Rayn**	**25.28**	**246**		**P**	**11 09 28.1**	**+0.6**
RAYN	**Ar Rayn**	**25.28**	**246**	P	**P**	**11 09 28.1**	**+0.6**
RAYN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PZH	**PanZhiHua**	**28.19**	**102**	P	**P**	**11 09 54.8**	**+1.3**
MMAI	**Mount Meron Ar**	**29.10**	**274**	LR	LR	11 23 07.3	
	comp=Z,40nm,18.4s,baz=112,slow=39						
HHC	**Hu-ho-hao-te**	**31.99**	**70**	*e*P	**P**	**11 10 28.3**	**+1.5**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,160nm,5.2s						
AKASG	**Malin Array Be**	**32.74**	**309**	LR	LR	11 26 13.8	
	comp=Z,20nm,18.5s,baz=48,slow=40						
FINES	**FINESS Array B**	**37.33**	**326**	P	**P**	**11 11 13.9**	**+1.9**
FINES	**FINESS Array B**	**37.33**	**326**	P	**P**	**11 11 13.0**	**+0.9**
	comp=Z,2.2nm,0.9s,baz=112,slow=8.6,SNR=3.9						
	comp=Z,2.2nm,0.9s						
FINES	**FINESS Array B**	**37.33**	**326**	*i* P	**P**	**11 11 14.0**	**+1.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**41.03**	**338**	P	**P**	**11 11 43.8**	**+1.2**
	comp=Z,3.4nm,1.0s,baz=111,slow=6.6,SNR=4.8						
	comp=Z,3.4nm,1.0s						
HFS	**Hagfors**	**42.90**	**322**	P	**P**	**11 11 58.7**	**+0.9**
	comp=Z,3.5nm,0.8s,baz=81,slow=9.6,SNR=4.1						
	comp=Z,3.5nm,0.8s						
NOA	**NORSAR Array B**	**44.22**	**323**	P	**P**	**11 12 09.1**	**+0.7**
	comp=Z,0.5nm,0.

PKGZ	**Pakihiroa**	**5.41 193**	P		Pn	11 06 56.0	+4.4	
PKGZ			S		**S**	**11 08 00.8**	**+1.2**	
WCZ	**Waipu Caves**	**5.51 231**	P		Pn	11 06 56.8	+4.1	
PUZ	**Puketiti**	**5.58 191**	P		Pn	11 06 57.7	+4.3	
PUZ			S		**S**	**11 08 02.3**	**-0.8**	
RUGZ	**Raukumara Rang**	**5.59 196**	P		**Pn**	**11 06 56.9**	**+3.2**	
RUGZ			S		**S**	**11 08 01.8**	**-1.7**	
OUZ	**Omahuta**	**5.67 241**	P		**Pn**	**11 06 56.8**	**+2.4**	
TWGZ	**Tauwhareparae**	**5.73 193**	P		Pn	11 07 00.0	+4.9	
TWGZ			S		**S**	**11 08 08.7**	**+2.5**	
OPRZ	**Ohinepanea**	**5.81 205**	P		Pn	11 07 01.1	+5.1	
MWZ	**Matawai**	**5.98 196**	P		**Pn**	**11 07 00.8**	**+2.8**	
MWZ			S		**S**	**11 08 11.3**	**-0.1**	
TKGZ	**Te Karaka**	**6.01 194**	P		**Pn**	**11 07 01.1**	**+2.9**	
TKGZ			S		**S**	**11 08 09.8**	**-2.1**	
URZ	**Urewera**	**6.02 199**	P		**Pn**	**11 07 00.3**	**+1.9**	
	19nm,0.3s,baz=315,slow=4.3,SNR=151							
URZ			S		**S**	**11 08 12.7**	**+0.6**	
	18nm,0.3s,baz=67,slow=23,SNR=12							
URZ	**Urewera**	**6.02 199**	P		**Pn**	**11 07 01.0**	**+2.7**	
URZ	**Urewera**	**6.02 199**	P		**Pn**	**11 07 00.2**	**+1.9**	
URZ			S		**S**	**11 08 11.5**	**-0.5**	
TOZ	**Tahuroa Road**	**6.14 212**	P		Pn	11 07 05.2	+5.4	
RAGZ	**Rawiri**	**6.16 196**	P		**Pn**	**11 07 03.6**	**+3.5**	
RAGZ			S		**S**	**11 08 14.9**	**-0.4**	
HLRZ	**Highlands Stat**	**6.25 204**	P		Pn	11 07 05.6	+4.5	
RIGZ	**Rimuhau**	**6.29 194**	P		**Pn**	**11 07 03.9**	**+2.4**	
RIGZ			S		**S**	**11 08 19.0**	**+1.2**	
RTZ	**Ruatahuna**	**6.39 199**	P		**Pn**	**11 07 05.7**	**+3.0**	
RTZ			S		**S**	**11 08 19.1**	**-0.9**	
SNGZ	**Shannon Statio**	**6.45 196**	P		**Pn**	**11 07 06.5**	**+3.1**	
SNGZ			S		**S**	**11 08 23.1**	**+1.9**	
PRRZ	**Plateau Road**	**6.46 203**	P		**Pn**	**11 07 06.7**	**+3.2**	
PRGZ	**Paritu Road**	**6.47 192**	S		**S**	**11 08 22.2**	**+0.4**	
ALRZ	**Allen Road**	**6.53 203**	P		**Pn**	**11 07 07.6**	**+3.3**	
KNZ	**Kokohu**	**6.61 193**	P		**Pn**	**11 07 08.5**	**+3.3**	
KNZ			S		**S**	**11 08 24.2**	**-0.3**	
TLZ	**Tolley Road**	**6.63 209**	P		Pn	11 07 10.1	+4.7	
MHGZ	**Mahia Peninsul**	**6.70 192**	S		**S**	**11 08 29.1**	**+2.7**	
BKZ	**Black Stump Fm**	**7.04 200**	P		**Pn**	**11 07 12.0**	**+1.8**	
BKZ	**Black Stump Fm**	**7.04 200**	P		**Pn**	**11 07 11.5**	**+1.3**	
BKZ			S		**S**	**11 08 31.9**	**-1.9**	
HIZ	**Hauiti**	**7.08 212**	P		Pn	11 07 16.4	+5.8	
HIZ	**Hauiti**	**7.08 212**	P		Pn	11 07 15.7	+5.1	
NGZ	**Ngauruhoe**	**7.34 205**	P		**Pn**	**11 07 15.8**	**+1.9**	
VRZ	**Vera Road**	**7.63 210**	P		**Pn**	**11 07 19.9**	**+2.9**	
PWZ	**Pawanui**	**7.75 196**	P		**Pn**	**11 07 18.9**	**+1.4**	
PXZ	**Pawanui**	**7.75 196**	P		**Pn**	**11 07 18.9**	**+0.3**	
PXZ			S		**S**	**11 08 45.8**	**-3.3**	
TSZ	**Takapari Road**	**8.02 201**	P		**Pn**	**11 07 21.8**	**+0.1**	
TSZ			S		**S**	**11 08 52.2**	**-2.7**	
WAZ	**Wanganui**	**8.07 206**	P		**Pn**	**11 07 23.1**	**+0.7**	
KHEZ	**Kahui Hut**	**8.09 213**	P		**P**	**11 07 27.4**	**+1.8**	
BFZ	**Birch Farm**	**8.52 198**	P		**Pn**	**11 07 28.0**	**+0.3**	
BFZ	**Birch Farm**	**8.52 198**	P		**Pn**	**11 07 27.9**	**+0.3**	
BFZ			S		**S**	**11 09 01.0**	**-4.8**	
MRZ	**Mangatainoka R**	**8.69 201**	P		**Pn**	**11 07 28.5**	**-1.1**	
MRZ			S		**S**	**11 09 03.6**	**-5.8**	
SNZO	**South Karori**	**9.55 203**	P		**Pn**	**11 07 39.6**	**-0.3**	
KHZ	**Kahutara**	**10.93 205**	P		**Pn**	**11 07 55.4**	**-0.9**	
RPZ	**Rata Peaks**	**12.99 209**	P		**P**	**11 08 20.0**	**+0.2**	
	6.6nm,0.4s,baz=31,slow=5.9,SNR=2.2							
ODZ	**Otahua Downs**	**14.26 207**	P		**P**	**11 08 35.6**	**+1.8**	
JCZ	**Jackson Bay**	**14.26 213**	P		**Pn**	**11 08 36.3**	**+0.6**	
ASAR	**Alice Springs**	**41.04 271**	P		**P**	**11 12 35.7**	**-2.5**	
	0.4nm,0.3s,baz=107,slow=7.8,SNR=17							
	0.4nm,0.3s							
WRA	**Warramunga Arr**	**42.24 276**	P		**P**	**11 12 45.0**	**-2.8**	
	1.8nm,0.3s,baz=156,slow=7.9,SNR=76							
	1.8nm,0.3s							
QSPA	**South Pole Qui**	**57.52 180**	P		**P**	**11 14 42.9**	**+1.9**	
	1.7nm,1.2s,baz=345,slow=12,SNR=5.6							
	1.7nm,1.2s							
FINES	**FINESS Array B**	**146.44 337**	PKPbc		**PKPdf**	**11 24 22.8**	**-2.2**	
	0.6nm,0.5s,baz=29,slow=3.2,SNR=4.5							

*GCG **17** 11:12:44.5±0.9, 13°.66N×91°.74W, h19km±4km, MD4.0, ML3.7*
*MEX **17** 11:12:44.7±0.3, 13°.70N×92°.19W, h15km, MD3.9*
ISC 17 11:12:42.8±1.8, **13°.66N**±0°.10×**91°.94W**±0°.05, **h37**km, **n16, σ2s07/28, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.89**	**15**	*eP*		**Pn**	**11 12 59.6**	**+0.8**
RTAL				*eS*		**Sn**	**11 13 11.4**	**+0.8**
THIG		**1.28**	**346**	*eP*		**Pn**	**11 13 03.0**	**-1.2**
THIG				*eS*		**Sn**	**11 13 17.7**	**-2.4**
ESSG	**Sabana Grande**	**1.29**	**56**	*i P*		**Pn**	**11 13 04.9**	**+0.4**
ESSG				*i S*		**Sn**	**11 13 20.8**	**+0.3**
CHUJ	**Union Juarez**	**1.44**	**353**	*eP*		**Pn**	**11 13 06.0**	**-0.5**
CHUJ				*eS*		**Sn**	**11 13 22.8**	**-1.5**
FG8	**Yepocapa, Chim**	**1.46**	**66**	*i P*		**Pn**	**11 13 04.6**	**-2.3**
PATR	**El Naranjo**	**1.48**	**349**	*i P*		**Pn**	**11 13 06.5**	**-0.6**
PATR				*eS*		**Sn**	**11 13 23.6**	**-1.7**
FG16	**Alotenango, Sa**	**1.51**	**66**	*i P*		**Pn**	**11 13 06.0**	**-1.6**
FG16				*i S*		**Sn**	**11 13 22.6**	**-3.6**
FG16				IAML			11 13 25.8	
	comp=E,4µm,0.2s							
PAVE	**Pavencul**	**1.54**	**351**	*eP*		**Pn**	**11 13 07.8**	**-0.2**
PAVE				*eS*		**Sn**	**11 13 25.4**	**-1.5**
QUIS	**Sacapulas**	**1.82**	**27**	*i P*		**Pn**	**11 13 14.0**	**+2.3**
QUIS				*i S*		**Sn**	**11 13 37.2**	**+3.6**
NUBE	**Las Nubes**	**2.11**	**83**	*i P*		**Pn**	**11 13 17.2**	**+1.5**
NUBE				*i S*		**Sn**	**11 13 41.0**	**+0.2**
CCIG	**Comitan**	**2.62**	**356**	*eP*		**Pn**	**11 13 24.8**	**+2.1**
CCIG				*eS*		**Sn**	**11 13 53.2**	**-0.1**
TGIG		**3.31**	**340**	*eP*		**Pn**	**11 13 33.7**	**+1.6**
TGIG				*eS*		**Sn**	**11 14 07.1**	**-3.1**
CMIG	**Matias Romero**	**4.44**	**321**	*eP*		**Pn**	**11 13 50.6**	**+2.9**
NEUV	**Arroyo Zacate**	**5.49**	**318**	*eP*		**Pn**	**11 14 04.2**	**+2.1**
NEUV				*eS*		**Sn**	**11 14 60.0**	**-3.9**
YOIG	**Yosondua**	**6.28**	**301**	*eP*		**Pn**	**11 14 14.4**	**+1.3**
TXIG	**Tlaxiaco**	**6.66**	**303**	*eP*		**Pn**	**11 14 20.2**	**+1.7**

MEX 17 11:14:06.1±0.6, **16°.90N×95°.34W, h97**km±8km, **MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.47**	**67**	*eP*		**Pn**	11 14 20.2	-1.2
CMIG				*eS*		**Sn**	11 14 30.9	-2.0
CMIG	**Matias Romero**	**0.47**	**67**	*eS*		**Sn**	11 14 31.1	-1.8
NEUV	**Arroyo Zacate**	**0.92**	**331**	*eP*		**Pn**	11 14 24.0	-1.4
NEUV				*eS*		**Sn**	11 14 38.5	-1.5
VHO	**Vista Hermosa**	**1.34**	**277**	*eS*		**Sn**	11 14 47.1	-1.8
HUIG	**Huatulco**	**1.35**	**213**	*eP*		**Pn**	11 14 28.9	-1.4
HUIG				*eS*		**Sn**	11 14 47.6	-1.1
PEIG	**Puerto Escondi**	**1.95**	**243**	*eP*		**Pn**	11 14 34.5	-3.5
PEIG				*eS*		**Sn**	11 14 58.9	-3.4
TOIG	**Toxpalan**	**2.03**	**306**	*eP*		**Pn**	11 14 37.5	-1.6
TOIG				*eS*		**Sn**	11 15 02.4	-1.8
YOIG	**Yosondua**	**2.11**	**269**	*eP*		**Pn**	11 14 40.0	-0.3
YOIG				*eS*		**Sn**	11 15 02.5	-3.9
TXIG	**Tlaxiaco**	**2.35**	**279**	*eP*		**Pn**	11 14 43.8	+0.4
TXIG				*eS*		**Sn**	11 15 08.6	-3.3

WEL 17 11:15:43.6±1.0, **35°S**±10°×**177°W**±1°, **h12**km, **M3.5**/6, **ML3.9**/12, **MLv3.5**/6, **Error ellipse: s-maj=20.3km s-min=7.3km az=124.2, confirmed, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.17**	**223**	P		Pn	11 16 33.6	+0.3
MXZ				S		Sn	11 17 11.9	+0.9
WMGZ	**Waiomatatini S**	**3.30**	**219**	P		Pn	11 16 35.2	+0.1
WMGZ				S		Sn	11 17 14.6	+0.4
PKGZ	**Pakihiroa**	**3.51**	**222**	P		Pn	11 16 38.2	+0.2
PKGZ				S		Sn	11 17 21.7	+2.2
PUZ	**Puketiti**	**3.57**	**218**	P		Pn	11 16 38.5	-0.4
PUZ				S		Sn	11 17 21.3	+0.4
HAZ	**Te Kaha**	**3.60**	**226**	P		Pn	11 16 39.5	+0.3
HAZ				S		Sn	11 17 24.4	+2.7
TWGZ	**Tauwhareparae**	**3.79**	**220**	P		Pn	11 16 42.5	+0.6
TWGZ				S		Sn	11 17 28.4	+1.9
RUGZ	**Raukumara Rang**	**3.81**	**224**	P		Pn	11 16 41.9	-0.2
RUGZ				S		Sn	11 17 28.6	+1.7
TKGZ	**Te Karaka**	**4.06**	**218**	S		Sn	11 17 33.5	+0.6
MWZ	**Matawai**	**4.15**	**222**	P		Pn	11 16 46.0	-0.8
MWZ				S		Sn	11 17 36.7	+1.4
RIGZ	**Rimuhau**	**4.31**	**217**	P		Pn	11 16 48.2	-0.7
RIGZ				S		Sn	11 17 40.3	+1.1
RAGZ	**Rawiri**	**4.33**	**221**	P		Pn	11 16 49.2	0.0
RAGZ				S		Sn	11 17 39.0	-0.7
URZ	**Urewera**	**4.33**	**226**	P		Pn	11 16 48.9	-0.4
URZ				S		Sn	11 17 40.1	+0.4
PRGZ	**Paritu Road**	**4.42**	**214**	P		Pn	11 16 51.8	+1.3
KUZ	**Kuaotunu**	**4.55**	**250**	P		Pn	11 16 52.1	-0.2
SNGZ	**Shannon Statio**	**4.58**	**219**	S		Sn	11 17 45.7	-0.1
MHGZ	**Mahia Peninsul**	**4.60**	**212**	P		Pn	11 16 52.5	-0.4
MTHZ	**Maungataniwha**	**4.90**	**222**	P		Pn	11 16 57.2	+0.1
MTHZ				S		Sn	11 17 54.7	+1.1
WIAZ	**Waiheke Island**	**5.02**	**251**	P		Pn	11 16 58.0	-0.7
MKAZ	**Moumakai**	**5.09**	**247**	P		Pn	11 16 60.0	+0.3
BKZ	**Black Stump Fm**	**5.31**	**222**	P		Pn	11 17 02.5	-0.2
BKZ				S		Sn	11 18 02.4	-1.5

*HEL **17** 11:29:35.4±0.1, 63°.99N×28°.11E, h0km, ML1.6, Suspected explosion*
UPP 17 11:29:36.2±2.3, **63°.90N×27°.87E, h0**km, **ML1.6, Presumed earthquake, Finland**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.51**	**183**	PG		Pg	11 29 45.6	-0.3
NIF				SG		Sb	11 29 54.3	-1.6
NIF				MSG			11 29 54.9	
	comp=Z,6.6nm,0.2s							
RMF	**Romuvaara**	**0.96**	**70**	PG		Pg	11 29 50.8	-3.8
RMF				MSG			11 30 01.3	
	comp=Z,6.8nm,0.2s							
RMF				SB		Sg	11 30 01.4	-5.6
SUF	**Sumiainen**	**1.42**	**214**	PG		Pn	11 30 03.1	-0.1
SUF				MSG			11 30 21.8	
	comp=Z,2.7nm,0.2s							
SUF				SN		Sn	11 30 25.2	+2.8
OUF	**Merijarvi**	**1.46**	**290**	PG		Pn	11 30 02.7	-1.0
OUF				MSG			11 30 21.3	
	comp=Z,3.8nm,0.2s							
OUF				SN		Sg	11 30 22.6	-0.3
OUL	**Oulu**	**1.47**	**325**	PN		Pn	11 30 02.0	-1.9
OUL				SN		Sn	11 30 24.1	+0.4
OBF4	**Vikkela, Lumij**	**1.52**	**309**	PG		Pn	11 30 03.3	-1.2
OBF4				MSG			11 30 21.8	
	comp=Z,2.8nm,0.2s							
OBF4				SN		Sn	11 30 25.2	+0.3
OBF0	**Syolatti, Pyha**	**1.70**	**292**	PG		Pn	11 30 07.0	-0.1
OBF0				MSG			11 30 28.0	
	comp=Z,5.0nm,0.2s							
OBF0				SN		Sb	11 30 30.3	+0.2
KU1	**Kurvinen**	**1.82**	**23**	PG		Pn	11 30 05.9	-2.9
KU1				SN		Sn	11 30 28.8	-3.8
KU2	**Taivalkoski**	**1.83**	**5**	PN		Pn	11 30 06.3	-2.5
JOF	**Joensuu**	**1.83**	**121**	PG		Pn	11 30 07.3	-1.6
	baz=312							
JOF				SG		Sn	11 30 31.0	-1.8
KAF	**Kangasniemi**	**1.93**	**202**	PG		Pb	11 30 12.0	-0.2
KAF				MSG			11 30 36.3	
	comp=Z,5.7nm,0.2s							
KAF				SG		Sg	11 30 38.9	+0.8
OBF8	**Ulkokalla**	**1.99**	**285**	PN		Pn	11 30 10.1	-0.9
OBF8				MSG			11 30 36.8	
	comp=Z,2.3nm,0.2s							
OBF8				SG		Sg	11 30 40.4	+0.3
MSF	**Maaselka**	**2.08**	**13**	PG		Pn	11 30 10.0	-2.3
	baz=189							
MSF				SG		Sn	11 30 36.2	-2.7
KEF	**Keuruu**	**2.21**	**220**	PB		Pb	11 30 16.8	-0.2
KEF				MSG			11 30 44.9	
	comp=Z,5.0nm,0.2s							
KEF				SB		Sg	11 30 46.7	-0.4
KU6	**Riekki**	**2.30**	**21**	PG		Pn	11 30 14.1	-1.2
KU6				MSG			11 30 39.9	
	comp=Z,3.1nm,0.2s							
KU6				SG		Sn	11 30 42.3	-2.1
OLKF	**Oulanka, Finla**	**2.52**	**14**	PG		Pn	11 30 17.8	-0.5
OLKF				MSG			11 30 46.4	
	comp=Z,2.1nm,0.2s							
OLKF				SG		Sn	11 30 49.3	-0.3
RUF	**Ruokolahti**	**2.53**	**168**	PB		Pb	11 30 21.0	-1.4
	baz=348							
RUF				MSG			11 30 52.1	
	comp=Z,2.7nm,0.2s							
RUF				SB		Sb	11 30 54.3	+0.3
FIA0	**FINESS Array S**	**2.60**	**199**	PB		Pb	11 30 21.9	-1.7
FIA0				MSG			11 30 55.5	
	comp=Z,1.9nm,0.2s							
FIA0				SB		Sb	11 30 57.5	+1.5
TOF	**Tornio**	**2.66**	**327**	PB		Pn	11 30 19.6	-0.6
TOF				MSG			11 30 53.1	
	comp=Z,0.8nm,0.2s							
KALU	**Kalix**	**2.75**	**318**	P		Pn	11 30 21.7	+0.1
KALU				S		Sn	11 30 55.4	0.0
KALU	**Kalix**	**2.75**	**318**	PB		Pn	11 30 22.2	+0.6
SJUU	**Sjulsmark**	**3.14**	**304**	P		Pn	11 30 27.0	+0.2
ODEU	**Stanfors**	**3.18**	**283**	P		Pn	11 30 26.6	-0.7
ODEU				S		Sn	11 31 06.6	+0.8
UMAU	**Umeaa**	**3.18**	**273**	P		Pn	11 30 27.8	+0.4
UMAU	**Umeaa**	**3.18**	**273**	PN		Pn	11 30 27.9	+0.5
UMAU				SG		Sg	11 31 16.2	-2.0
ERTU	**Ertsjaerv**	**3.58**	**321**	P		Pn	11 30 32.7	-0.2
ERTU	**Ertsjaerv**	**3.58**	**321**	PN		Pn	11 30 32.7	-0.2
PAJU	**Pajala**	**3.71**	**330**	P		Pn	11 30 34.4	-0.4
PAJU				S		Sn	11 31 18.2	-0.9
NUR	**Nurmijarvi**	**3.72**	**205**	PB		Pb	11 30 40.1	-2.6
HEMU	**Hemsoen**	**4.61**	**259**	SG		Sg	11 32 02.7	-1.3
SALU	**Saltoluokta**	**5.22**	**316**	P		Pn	11 30 54.9	-0.5

IDC 17 11:37:47.3±2.3, **14°.99S×177°.94W, h0**km, **mb3.6**/5, **mbtmp3.6**/5, **Error ellipse: s-maj=133.5km s-min=27.1km az=150.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.67**	**257**	P		P	11 46 10.5	+0.3
	0.1nm,0.3s,baz=90,slow=7.7,SNR=14							
	0.1nm,0.3s							
ASAR	**Alice Springs**	**46.07**	**252**	P		P	11 46 12.9	-0.5
	1.3nm,0.6s,baz=87,slow=8.3,SNR=34							
	1.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**54.00**	**258**	P		P	11 47 13.7	0.0
	1.4nm,0.8s,baz=96,slow=10,SNR=2.0							
	1.4nm,0.8s							
ILAR	**Eielson Array**	**82.96**	**13**	P		P	11 50 13.6	-0.3
	0.5nm,0.9s,baz=226,slow=5.4,SNR=5.4							
	0.5nm,0.9s							
TXAR	**Lajitas Array**	**84.06**	**58**	P		P	11 50 20.8	+0.4
	0.2nm,0.7s,baz=254,slow=4.4,SNR=3.1							
	0.2nm,0.7s							

*IDC **17** 11:58:00.1±0.9, 55°.98S×26°.53W, h0km, mb3.9/5, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=42.1km s-min=21.3km az=73.0*
*NEIC **17** 11:58:06.1±1.6, 56°.1S±0°.1×26°.3W±0°.1, h35km±2km, mb4.3/14, Error ellipse: s-maj=20.2km s-min=10.8km az=165.0*
ISC 17 11:58:05.5±0.6, **56°.1S**±0°.1×**26°.4W**±0°.1, **h35**km, **n34, σ0s71/31, mb4.2**/10, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.06**	**283**	Pn		**Pn**	**11 59 33.4**	**+0.9**
SNAA	**Sanae**	**18.55**	**157**	P		**Pn**	**12 02 19.1**	**-0.2**
SNAA	**Sanae**	**18.55**	**157**	P		**Pn**	**12 02 19.4**	**+0.1**
	0.2nm,0.3s,baz=302,slow=13,SNR=6.5							
	0.5nm,0.4s							
PMSA	**Palmer Station**	**20.24**	**229**	P		**P**	**12 02 37.3**	**+0.1**
BELA	**Belgrano 2**	**22.11**	**185**	P		**P**	**12 02 55.6**	**-1.6**
BELA				IAmb		IAmb	12 03 00.1	
	comp=Z,3.7nm,0.5s							
TRQA	**Tornquist**	**29.75**	**292**	P		**P**	**12 04 08.5**	**+0.1**
TRQA				IAmb		IAmb	12 04 14.5	
	comp=Z,5.9nm,1.2s							
PLTB	**Pedras Altas**	**30.85**	**311**	P		**P**	**12 04 17.4**	**-0.7**
QSPA	**South Pole Qui**	**34.19**	**180**	P		**P**	**12 04 47.8**	**+0.5**
QSPA				IAmb		IAmb	12 05 07.4	
	comp=Z,2.2nm,0.8s							
QSPA	**South Pole Qui**	**34.19**	**180**	P		**P**	**12 04 48.5**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=244,slow=0.7,SNR=24							
	comp=Z,1.4nm,0.5s							

MAW	**Mawson**	**39.87**	**143**	P		**P**	**12 05 35.8**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=236,slow=11,SNR=1.7							
	comp=Z,0.9nm,0.7s							
GRHM	**Grahamstown, E**	**42.56**	**80**	P		**P**	**12 05 57.5**	**-0.2**
GRHM				IAmb		IAmb	12 05 57.7	
	comp=Z,17nm,1.1s							
GO02	**Mina Guanaco**	**43.90**	**297**	P		**P**	**12 06 08.6**	**-0.3**
SBA	**Scott Base**	**46.10**	**184**	P		**P**	**12 06 25.3**	**-0.1**
SBA				IAmb		IAmb	12 06 42.4	
	comp=Z,2.4nm,1.4s							
VNDA	**Vanda**	**46.59**	**182**	P		**P**	**12 06 29.8**	**+0.6**
VNDA	**Vanda**	**46.59**	**182**	P		**P**	**12 06 28.9**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=187,slow=8.6,SNR=6.6							
	comp=Z,0.9nm,0.8s							
PB03	**IPOC Station P**	**46.59**	**299**	P		**P**	**12 06 29.5**	**-0.6**
GO01	**Chusmiza**	**48.34**	**301**	P		**P**	**12 06 43.9**	**-0.1**
GO01				IAmb		IAmb	12 06 46.0	
	comp=Z,4.6nm,0.9s							
H10N1	**ASCENSION HYDR**	**49.00**	**16**	T		T	13 00 33.9	
	baz=188							
H10N3	**ASCENSION HYDR**	**49.00**	**16**	T		T	13 00 45.7	
	baz=188,slow=74							
H10N2	**ASCENSION HYDR**	**49.01**	**16**	T		T	13 00 45.3	
	baz=188,slow=74							
PB16	**IPOC Station P**	**49.63**	**302**	P		**P**	**12 06 54.1**	**+0.1**
PB16				IAmb		IAmb	12 07 05.0	
	comp=Z,5.3nm,1.1s							
LPAZ	**La Paz**	**50.76**	**304**	P		**P**	**12 07 02.7**	**0.0**
LPAZ				IAmb		IAmb	12 07 05.6	
	comp=Z,2.1nm,0.6s							
LPAZ	**La Paz**	**50.76**	**304**	P		**P**	**12 07 02.2**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=153,slow=3.6,SNR=7.5							
	comp=Z,1.9nm,0.5s							
TORD	**Torodi Ar. Bea**	**72.84**	**29**	P		**P**	**12 09 31.5**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=203,slow=5.4,SNR=2.6							
	comp=Z,0.5nm,0.5s							
EMPR	**Esperanza - Ma**	**81.60**	**322**	P		**P**	**12 10 20.2**	**+0.7**
FINES	**FINESS Array B**	**124.18**	**27**	PKP		**PKPdf**	**12 16 58.0**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=222,slow=1.9,SNR=3.4							
L29M	**L29M**	**146.29**	**310**			**PKPab**	**12 17 41.0**	**-0.7**
TABL	**Table Mountain**	**146.66**	**305**	PKPdf		**PKPbc**	**12 17 41.6**	**-0.7**
G30M	**tAoh Zraii Nji**	**146.72**	**318**	PKPdf		**PKPbc**	**12 17 41.5**	**-0.5**
F30M	**Barrier River**	**146.73**	**319**	PKPdf		**PKPbc**	**12 17 41.4**	**-0.6**
EPYK	**Eagle Plains**	**146.74**	**316**	PKPdf		**PKPbc**	**12 17 41.7**	**-0.4**
DAWY	**Dawson**	**147.14**	**312**	PKPdf		**PKPbc**	**12 17 42.5**	**-0.8**
SONM	**Songino Array**	**150.27**	**86**	PKPbc		**PKPbc**	**12 17 51.5**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=214,slow=1.6,SNR=2.7							
ILAR	**Eielson Array**	**150.46**	**312**	PKPbc		**PKPbc**	**12 17 50.5**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=123,slow=2.1,SNR=15							

DJA 17 12:08:58.8±1.6, **12°S**±16°×**118°E**±°, **h10**km, **M3.9**/9, **mb4.1**/2, **MLv3.8**/9, **South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.42**	**35**	P		Pn	12 09 38.4	-0.1
WBSI				S		Sn	12 10 04.3	-3.9
PLAI	**Plampang**	**2.81**	**355**	P		Pn	12 09 43.6	-0.3
PLAI				S		Sn	12 10 09.4	-8.5
TWSI	**Taliwang, Sumb**	**3.10**	**339**	P		Pn	12 09 47.7	-0.1
TWSI				S		Sn	12 10 16.4	-8.5
SRBI	**Singaraja**	**4.48**	**322**	P		Pn	12 10 07.3	+0.5
EDFI	**Ende, Flores**	**4.64**	**52**	P		Pn	12 10 08.9	-0.2
EDFI				S		Sn	12 10 55.9	-7.2
JAGI	**Jajag, Banyuwa**	**4.93**	**309**	P		Pn	12 10 11.9	-1.2
GMJI	**Gumukmas**	**5.60**	**306**	P		Pn	12 10 22.0	-0.3
	0.3nm21nm,1.1s							

*DJA **17** 12:17:40.7±0.8, 3°S±15°×13°1E±°, h30km±6km, M3.3/5, MLv3.3/5*
*IDC **17** 12:17:49.1±2.5, 4°.16S×131°.39E, h0km, mb3.3/1, mbtmp3.5/4, ML3.1/3, MS2.7/1, Error ellipse: s-maj=97.2km s-min=27.1km az=79.0*
ISC 17 12:17:49.3±0.9, **4°.15S**±0°.07×**132°.1E**±0°.2, **h35**km, **n7, σ3s26/9, Irian Jaya region**

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

ARGC				S		**Sb**	**12 38 42.1**	**-1.8**
OCAC	**Ocana**	**1.36**	**197**	P		**Pn**	**12 38 26.5**	**+0.3**
OCAC				S		**Sb**	**12 38 43.6**	**-0.5**
CRJC	**Cerrejon, Guaj**	**1.47**	**1**	P		**Pg**	**12 38 29.6**	**-0.5**
CRJC				S		**Sg**	**12 38 49.1**	**-0.1**
CAPV	**Capacho**	**1.77**	**160**	*e*P		**Pb**	**12 38 34.8**	**+0.9**
CAPV				*e*S		**Sn**	**12 38 54.9**	**+0.7**
PAMC	**Pamplona, Colo**	**2.20**	**174**	P		**Pb**	**12 38 41.9**	**+0.4**
PAMC				S		**Sn**	**12 39 08.0**	**+2.8**
SJCC	**San Jacinto, C**	**2.26**	**279**	P		**Pn**	**12 38 39.9**	**+1.3**
SJCC				S		**Sn**	**12 39 07.6**	**+1.3**
URIC	**Uribia, Colomb**	**2.33**	**23**	P		**Pn**	**12 38 39.8**	**+0.3**
URIC				S		**Sb**	**12 39 12.5**	**+0.5**
BRJC	**Barrancabermej**	**2.68**	**198**	P		**Pb**	**12 38 49.4**	**0.0**
BRJC				S		**Sn**	**12 39 15.6**	**-0.9**
ZARC	**Zaragoza, Cauc**	**2.80**	**224**	P		**Pn**	**12 38 46.5**	**+0.5**
ZARC				S		**Sn**	**12 39 16.3**	**-3.2**
BARC	**Barichara**	**2.94**	**185**	P		**Pn**	**12 38 49.3**	**+1.2**
PTBC	**PUERTO BERRIO,**	**3.35**	**207**	P		**Pn**	**12 38 52.8**	**-0.8**
PTBC				S		**Sn**	**12 39 32.9**	**-0.2**
RUSC	**La Rusia**	**3.63**	**183**	P		**Pn**	**12 38 57.9**	**+0.1**
RUSC				S		**Sn**	**12 39 43.1**	**+2.5**
BAUV	**El Baul**	**4.84**	**97**	*e*P		**Pn**	**12 39 14.7**	**+0.6**
BAUV				*e*S		**Sn**	**12 40 04.5**	**-5.5**
BENV	**Beln**	**5.25**	**85**	*e*P		**Pn**	**12 39 20.7**	**+0.9**
BENV				*e*S		**Sn**	**12 40 13.6**	**-6.6**
TACV	**Tcata**	**5.83**	**84**	*e*P		**Pn**	**12 39 28.7**	**+1.0**
TACV				*e*S		Sn	12 40 25.6	-8.7
CACV	**CAICARA DEL OR**	**6.60**	**107**	*e*P		Pn	12 39 45.3	+7.0
CACV				*e*S		**Sn**	**12 40 56.6**	**+3.4**

NEIC ***17*** *12:38:28.6±0.9, 12°.7S±0°.1×167°.2E±0°.2, h222km±8km, mb4.3/27, Error ellipse: s-maj=26.2km s-min=15.8km az=96.0*
IDC ***17*** *12:38:30.5±3.3, 12°.62S×166°.95E, h240km±30km, mb3.7/16, mbtmp4.2/17, Error ellipse: s-maj=18.6km s-min=14.4km az=77.0*
ISC 17 12:38:28.1±0.5,**12°.61S**±0°.07×**167°.1E**±0°.1,**h220km**,**n57,** σ0**98**/61,**mb4.2**/29,**2C, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.82**	**178**	Pn	**Pn**	**12 39 16.0**	**-0.7**
DZM	**Mont Dzumac**	**9.43**	**184**	Pn	**Pn**	**12 40 37.7**	**-2.1**
DZM	**Mont Dzumac**	**9.43**	**184**	P	**Pn**	**12 40 43.0**	**+3.1**
	3.5nm,0.5s,baz=306,slow=21,SNR=14						
DZM				S	**S**	**12 42 26.8**	**+0.9**
	10nm,1.1s,baz=347,slow=14,SNR=2.0						
ARMA	**Armidale**	**22.78**	**217**	P	**P**	**12 43 13.0**	**+1.0**
COEN	**Coen**	**23.33**	**264**	P	**P**	**12 43 17.8**	**+0.9**
COEN				IAmb	IAmb	12 43 44.3	
	comp=Z,8.3nm,1.1s						
INKA	**Innaminka**	**28.87**	**235**		**P**	**12 44 06.8**	**+0.4**
INKA				IAmb	IAmb	12 44 08.6	
	comp=Z,8.6nm,1.4s						
STKA	**Stephens Creek**	**30.28**	**227**	P	**P**	**12 44 19.6**	**+0.8**
STKA	**Stephens Creek**	**30.28**	**227**	P	**P**	**12 44 19.0**	**+0.2**
	comp=Z,4.4nm,0.6s,baz=52,slow=8.0,SNR=12						
STKA				PcP	**PcP**	**12 47 13.8**	**0.0**
	comp=Z,1.5nm,0.6s,baz=18,slow=5.7,SNR=3.2						
	comp=Z,4.4nm,0.6s						
TOO	**Toolangi**	**31.48**	**214**	P	**P**	**12 44 29.8**	**+0.5**
TOO				IAmb	IAmb	12 45 12.6	
	comp=Z,8.5nm,1.4s						
WB0	**Warramunga Arr**	**32.17**	**253**	P	**P**	**12 44 34.5**	**-1.1**
WB0				IAmb	IAmb	12 44 35.0	
	comp=Z,3.7nm,0.8s						
WRA	**Warramunga Arr**	**32.24**	**253**	P	**P**	**12 44 35.3**	**-0.9**
WRA	**Warramunga Arr**	**32.24**	**253**	P	**P**	**12 44 34.5**	**-1.7**
	comp=Z,2.3nm,0.8s,baz=86,slow=9.2,SNR=25						
WRA				PcP	**PcP**	**12 47 17.3**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=72,slow=2.5,SNR=1.9						
	comp=Z,2.3nm,0.8s						
AS31	**Alice Springs**	**33.33**	**246**	P	**P**	**12 44 44.6**	**-1.0**
ASAR	**Alice Springs**	**33.33**	**246**	P	**P**	**12 44 44.3**	**-1.3**
	comp=Z,2.4nm,0.6s,baz=72,slow=9.3,SNR=40						
ASAR				PcP	**PcP**	**12 47 20.8**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=70,slow=2.2,SNR=5.5						
	comp=Z,2.4nm,0.6s						
BBOO	**Buckleboo**	**34.78**	**230**	P	**P**	**12 44 58.0**	**0.0**
FORT	**Forrest**	**40.27**	**237**	P	**P**	**12 45 44.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**40.29**	**257**	P	**P**	**12 45 44.3**	**0.0**
JGF	**Kuroka**	**55.60**	**331**	P	**P**	**12 47 41.5**	**+0.4**
JGF				IAmb	IAmb	12 48 17.0	
	comp=Z,8.3nm,1.1s						
JMN	**Monobe**	**55.90**	**327**	P	**P**	**12 47 43.9**	**+0.6**
MJAR	**Matsushiro Arr**	**55.97**	**332**	P	**P**	**12 47 42.9**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=134,slow=7.0,SNR=5.4						
	comp=Z,1.7nm,0.7s						
VNDA	**Vanda**	**64.96**	**181**	P	**P**	**12 48 44.2**	**+0.4**
VNDA				IAmb	IAmb	12 48 45.5	
	comp=Z,3.0nm,0.9s						
VNDA	**Vanda**	**64.96**	**181**	P	**P**	**12 48 43.8**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=348,slow=5.9,SNR=12						
	comp=Z,2.3nm,0.8s						
SBA	**Scott Base**	**65.24**	**180**	P	**P**	**12 48 46.7**	**+1.1**
SBA				IAmb	IAmb	12 48 48.1	
	comp=Z,6.9nm,0.9s						
CASY	**Casey**	**65.42**	**202**	P	**P**	**12 48 46.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**73.95**	**294**	P	**P**	**12 49 40.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**73.95**	**294**	P	**P**	**12 49 40.8**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=121,slow=4.3,SNR=14						
	comp=Z,2.3nm,0.7s						
QSPA	**South Pole Qui**	**77.40**	**180**	P	**P**	**12 49 58.6**	**-0.1**
QSPA				IAmb	IAmb	12 50 02.3	
	comp=Z,5.8nm,1.1s						
QSPA	**South Pole Qui**	**77.40**	**180**	P	**P**	**12 50 00.0**	**+1.3**
	comp=Z,3.3nm,0.8s,baz=35,slow=7.2,SNR=27						
	comp=Z,3.3nm,0.8s						
M16K	**Timber Creek**	**78.17**	**16**	P	**P**	**12 50 03.2**	**+0.5**
M16K				IAmb	IAmb	12 50 23.3	
	comp=Z,5.4nm,1.2s						
SONM	**Songino Array**	**80.71**	**323**	P	**P**	**12 50 17.8**	**+0.9**
SONM	**Songino Array**	**80.71**	**323**	P	**P**	**12 50 17.0**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=130,slow=2.3,SNR=4.3						
	comp=Z,0.6nm,0.6s						
J20K	**Nowinta River**	**82.04**	**16**	P	**P**	**12 50 24.1**	**+0.8**
J20K				IAmb	IAmb	12 50 31.4	
	comp=Z,8.8nm,1.5s						
SCM	**Sheep Creek Mo**	**82.34**	**20**	P	**P**	**12 50 25.7**	**+0.7**
SCM				IAmb	IAmb	12 50 36.7	
	comp=Z,15nm,1.4s						
RND	**Reindeer**	**82.99**	**18**	P	**P**	**12 50 28.6**	**+0.3**
RND				IAmb	IAmb	12 50 46.9	
	comp=Z,8.2nm,1.5s						
IMAR	**Indian Mountai**	**83.57**	**15**	P	**P**	**12 50 32.1**	**+1.0**
MAW	**Mawson**	**83.78**	**202**	P	**P**	**12 50 32.1**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=104,slow=7.6,SNR=7.9						
	comp=Z,2.5nm,0.9s						
E19K	**Redstone River**	**83.94**	**13**	P	**P**	**12 50 33.9**	**+0.9**
E19K				IAmb	IAmb	12 50 35.6	
	comp=Z,3.5nm,0.8s						
CCB	**Clear Creek Bu**	**84.21**	**18**	P	**P**	**12 50 34.3**	**-0.1**
IL31		**84.57**	**18**	P	**P**	**12 50 36.2**	**+0.1**
ILAR	**Eielson Array**	**84.57**	**18**	P	**P**	**12 50 36.5**	**+0.3**
ILAR	**Eielson Array**	**84.57**	**18**	P	**P**	**12 50 35.7**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=233,slow=6.2,SNR=23						
	comp=Z,2.0nm,0.8s						
BCAR	**Beaver Creek A**	**85.07**	**21**	P	**P**	**12 50 39.2**	**+0.5**
NVAR	**Mina Array Bea**	**86.02**	**49**	P	**P**	**12 50 45.1**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=217,slow=7.1,SNR=6.0						
	comp=Z,0.7nm,0.8s						
BELA	**Belgrano 2**	**88.83**	**176**	P	**P**	**12 50 56.3**	**-0.5**
BELA				IAmb	IAmb	12 50 57.2	
	comp=Z,5.2nm,1.1s						
TXAR	**Lajitas Array**	**95.41**	**61**	P	**P**	**12 51 28.2**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=216,slow=6.2,SNR=3.9						
	comp=Z,0.3nm,0.7s						
MKAR	**Makanchi Array**	**95.57**	**317**	P	**P**	**12 51 28.5**	**+0.2**
MKAR	**Makanchi Array**	**95.57**	**317**	P	**P**	**12 51 28.3**	**0.0**
	comp=Z,1.8nm,0.8s,baz=101,slow=6.3,SNR=10						
	comp=Z,1.8nm,0.8s						
ZALV	**Zalesovo Beam**	**95.60**	**324**	P	**P**	**12 51 27.4**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=118,slow=4.1,SNR=4.5						
	comp=Z,0.9nm,0.6s						
SNAA	**Sanae**	**95.64**	**183**	⇑P	**P**	**12 51 27.0**	**-1.3**
	comp=Z,21nm,0.7s						
SNAA	**Sanae**	**95.64**	**183**	P	**P**	**12 51 27.5**	**-0.8**
SNAA				IAmb	IAmb	12 51 29.5	
	comp=Z,2.2nm,1.0s						
SNAA	**Sanae**	**95.64**	**183**	P	**P**	**12 51 27.1**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=189,slow=8.5,SNR=6.4						
	comp=Z,1.3nm,0.9s						
VNA3	**Neumayer Olymp**	**96.32**	**181**	P	**P**	**12 51 30.1**	**-1.2**
	comp=Z,2.3nm,0.5s						
VNA2	**Neumayer--Watz**	**96.58**	**182**	⇑P	**P**	**12 51 30.6**	**-1.9**
	comp=Z,1.6nm,0.4s,baz=185,slow=3.2						
KURBB	**Kurchatov Arra**	**98.73**	**320**	P	Pdif	12 51 41.3	-1.1
	comp=Z,0.2nm,0.6s,baz=107,slow=3.1,SNR=2.5						
	comp=Z,0.2nm,0.6s						
ARCES	**ARCESS Array B**	**118.17**	**346**	PKP	**PKPdf**	**12 56 47.1**	**-1.3**
	comp=Z,1.4nm,0.6s,baz=29,slow=2.8,SNR=7.3						
ESDC	**Sonseca Array**	**151.91**	**345**	PKPbc	**PKPbc**	**12 57 57.0**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=12,slow=2.6,SNR=9.6						
ESDC				PKPab	**PKPab**	**12 58 08.1**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=10,slow=4.2,SNR=10.0						
TORD	**Torodi Ar. Bea**	**165.76**	**274**	PKPab	**PKPab**	**12 59 07.2**	**-0.9**
	comp=Z,1.2nm,0.9s,baz=75,slow=5.1,SNR=4.7						

FUNV ***17*** *12:40:48.1, 8°.52N×71°.31W, h5km, MW3.4*
RSNC ***17*** *12:40:53.7±0.0, 9°N±66°×7°2W±6°6, h200km±107km, M2.5, ML2.4*
ISC 17 12:40:40.0±1.0,**8°.68N**±0°.06×**71°.04W**±0°.03,**h8**km,**n7,** σ1**69**/14,**Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.50**	**237**	*e*P	**Pg**	**12 41 09.6**	**+0.7**
CAPV				*e*S	**Sn**	**12 41 26.2**	**-1.2**
CRJC	**Cerrejon, Guaj**	**2.95**	**322**	P	**Pb**	**12 41 34.0**	**+1.0**
CRJC				S	**Sb**	**12 42 09.2**	**-0.1**
BAUV	**El Baul**	**2.97**	**85**	*e*P	**Pg**	**12 41 39.4**	**+2.3**
BAUV				*e*S	**Sg**	**12 42 16.8**	**+1.1**
URIC	**Uribia, Colomb**	**3.15**	**343**	P	**Pb**	**12 41 36.6**	**+0.3**
URIC				S	**Sb**	**12 42 14.4**	**-0.4**
BENV	**Beln**	**3.63**	**69**	*e*P	**Pg**	**12 41 49.1**	**-0.5**
BENV				*e*S	**Sg**	**12 42 33.6**	**-3.0**
TACV	**Tcata**	**4.21**	**70**	*e*P	**Pb**	**12 41 56.1**	**+1.5**
TACV				*e*S	**Sb**	**12 42 46.2**	**+0.5**
CACV	**CAICARA DEL OR**	**4.59**	**104**	*e*P	**Pg**	**12 42 07.8**	**-0.2**
CACV				*e*S	**Sg**	**12 43 04.5**	**-3.1**

SSNC ***17*** *12:46:46.4±1.8, 19°.34N×70°.64W, h0km±999km, MD3.6, ML1.9*
OSPL ***17*** *12:46:49.2±1.2, 19°.12N×70°.66W, h0km±6km, ML2.5*
SDD ***17*** *12:46:49.3±1.6, 19°.17N×70°.68W, h31km±7km, MD3.0, ML2.9, MW3.1*
ISC 17 12:46:48.6±0.9,**19°.17N**±0°.03×**70°.69W**±0°.02,**h32**km±7km, **n29,** σ1**50**/53,**2D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.26**	**351**	*e*Pg	**Pb**	**12 46 55.5**	**-0.3**
SC01				*e*Sg	**Sb**	**12 47 00.7**	**+0.1**
SC01				IAML		12 47 03.8	
	comp=N,374nm,0.4s						
SC01	**Santiago de lo**	**0.26**	**351**	*i* P	**Pb**	**12 46 56.0**	**+0.3**
ABDR	**Alto Bandera**	**0.36**	**171**	*e*Pg	**Pb**	**12 46 56.8**	**-0.6**
ABDR				*e*Sg	**Sb**	**12 47 03.5**	**+0.1**
ABDR				IAML		12 47 04.5	
	comp=N,1μm,0.2s						
SFDR	**San Fco. de Ma**	**0.43**	**75**	*e*Pg	**Pb**	**12 46 58.2**	**0.0**
SFDR				*e*Sg	**Sb**	**12 47 04.8**	**+0.1**
SFDR				IAML		12 47 08.0	
	comp=N,2μm,0.1s						
SDDR	**Presa de Saban**	**0.60**	**252**	*e*P	**Pb**	**12 47 00.1**	**-0.7**
SDDR				*e*S	**Sb**	**12 47 09.0**	**-0.2**
SDDR				IAML		12 47 11.7	
	comp=N,56nm,0.1s						
SDDR				IAML		12 47 11.8	
	comp=N,54nm,0.1s						
SDDR	**Presa de Saban**	**0.60**	**252**	*e*Pg	**Pb**	**12 47 00.3**	**-0.5**
SDDR				*e*Sg	**Sb**	**12 47 09.3**	**+0.2**
SDDR				IAML		12 47 15.7	
	comp=N,205nm,0.3s						
SDDR	**Presa de Saban**	**0.60**	**252**	*i* P	**Pb**	**12 47 00.1**	**-0.7**
SDDR				*e*S	**Sb**	**12 47 08.6**	**-0.6**
SDDR				IAML		12 47 12.3	
	comp=Z,210nm,0.5s						
REDR	**Restauracion**	**0.67**	**270**	*e*Pg	**Pn**	**12 47 05.0**	**+3.0**
REDR				*e*Sg	**Sn**	**12 47 18.4**	**+7.1**
REDR				IAML		12 47 19.1	
	comp=N,1μm,0.1s						
LUDR	**Luperon**	**0.76**	**341**	*e*Pg	**Pn**	**12 47 03.7**	**+0.5**
LUDR				*e*Sg	**Sb**	**12 47 13.6**	**+0.1**
LOPP1	**Punta Rusia, P**	**0.83**	**325**	*i* P	**Pn**	**12 47 04.3**	**+0.1**
LOPP1				*e*S	**Sb**	**12 47 16.7**	**+1.1**
LOPP1				IAML		12 47 20.9	
	comp=Z,109nm,0.3s						
BANI	**BANI**	**0.83**	**158**	*e*Pg	**Pn**	**12 47 04.0**	**-0.4**
BANI				IAML		12 47 19.0	
	comp=N,627nm,0.2s						
LONE3	**El Aguacate, B**	**0.92**	**232**	*i* P	**Pn**	**12 47 05.5**	**-0.1**
LONE3				*e*S	**Sn**	**12 47 17.9**	**+0.1**
LONE3				IAML		12 47 19.9	
	comp=Z,168nm,0.3s						
NEDR	**Neiba UASD**	**0.97**	**225**	*e*Pg	**Pn**	**12 47 06.5**	**+0.4**
NEDR				*e*Sg	**Sn**	**12 47 19.8**	**+0.9**
NEDR				IAML		12 47 21.0	
	comp=N,192nm,0.5s						
SDD	**Santo Domingo**	**1.02**	**134**	*e*Pg	**Pn**	**12 47 06.0**	**-0.7**
SDD				*e*Sg	**Sn**	**12 47 18.9**	**-1.1**
SDD	**Santo Domingo**	**1.02**	**134**	*i* P	**Pn**	**12 47 06.2**	**-0.6**
SDD				*e*S	**Sn**	**12 47 19.3**	**-0.7**
LODU1	**El Espartillar**	**1.10**	**223**	*i* P	**Pn**	**12 47 08.5**	**+0.6**
LODU1				IAML		12 47 25.8	
	comp=Z,145nm,0.4s						
PODR	**Polo**	**1.15**	**210**	⇓*e*Pg	**Pn**	**12 47 08.9**	**+0.2**
PODR				*e*Sg	**Sn**	**12 47 24.6**	**+1.1**
PODR				IAML		12 47 31.0	
	comp=N,106nm,0.3s						
PODR	**Polo**	**1.15**	**210**	*i* P	**Pn**	**12 47 08.8**	**0.0**
JIDR	**Jimani**	**1.29**	**239**	*e*Pg	**Pn**	**12 47 11.1**	**+0.6**
JIDR				*e*Sg	**Sb**	**12 47 29.1**	**+0.4**
JIDR				IAML		12 47 30.0	
	comp=N,272nm,0.4s						
SMDR	**Samana, DR**	**1.42**	**85**	*e*Pg	**Pn**	**12 47 12.8**	**+0.5**
SMDR				*e*Sg	**Sn**	**12 47 31.1**	**+1.2**
SMDR				IAML		12 47 34.7	
	comp=N,98nm,0.6s						
LOVI	**El Cajuil, Ovi**	**1.51**	**205**	*i* P	**Pn**	**12 47 14.9**	**+1.4**
LOVI				*e*S	**Sn**	**12 47 34.2**	**+2.0**
LOVI				IAML		12 47 40.5	
	comp=Z,54nm,1.0s						
MIDR	**Miches**	**1.56**	**97**	*e*Pg	**Pn**	**12 47 15.5**	**+1.3**
MIDR				*e*Sg	**Sb**	**12 47 35.2**	**-1.0**
MIDR				IAML		12 47 38.3	
	comp=N,46nm,0.3s						
LOBH	**Bahia de las A**	**1.58**	**215**	*i* P	**Pn**	**12 47 15.9**	**+1.4**
LOBH				IAML		12 47 43.3	
	comp=Z,50nm,0.9s						
HIDR	**Higuey Centro**	**1.95**	**107**	*e*Pg	**Pn**	**12 47 20.4**	**+0.8**
HIDR				*e*Sg	**Sn**	**12 47 44.9**	**+1.8**
HIDR				IAML		12 47 47.2	
	comp=N,563nm,0.2s						
MASC	**Masc**	**3.49**	**287**	*e*P	**Pn**	**12 47 40.0**	**-0.6**
MASC				*e*S	**Sn**	**12 48 19.6**	**-1.3**
MASC				IAML		12 48 24.1	
	comp=N,1.2nm,0.1s						
MASC				IAML		12 48 24.2	
	comp=E,1.7nm,0.1s						
QMBU	**Quimbuelo**	**4.02**	**285**	*e*P	**Pn**	**12 47 45.7**	**-2.4**
QMBU				*e*S	**Sn**	**12 48 32.0**	**-2.2**
QMBU				IAML		12 48 37.2	
	comp=N,1.4nm,0.1s						
QMBU				IAML		12 48 37.7	
	comp=E,1.5nm,0.3s						
QMBU				IAML		12 48 57.2	
	comp=Z,1.0nm,0.2s						
GTBY	**Guantanamo Bay**	**4.24**	**281**	*e*P	**Pn**	**12 47 51.5**	**+0.4**
GTBY				*e*S	**Sn**	**12 48 37.1**	**-2.4**
GTBY				IAML		12 48 43.2	
	comp=Z,0.7nm,0.2s						
GTBY				IAML		12 48 43.4	
	comp=Z,0.6nm,0.1s						
RCC	**Rio Carpintero**	**4.79**	**281**	*e*P	**Pn**	**12 47 57.7**	**-1.0**
RCC				*e*S	**Sn**	**12 48 52.0**	**-1.2**
RCC				IAML		12 48 56.6	
	comp=N,0.3nm,0.2s						
RCC				IAML		12 48 56.6	
	comp=E,0.3nm,0.2s						
PINC	**Pinares de May**	**4.98**	**286**	*e*P	**Pn**	**12 48 00.7**	**-0.5**
PINC				*e*S	**Sn**	**12 48 55.6**	**-2.1**
PINC				IAML		12 48 57.3	
	comp=E,1.0nm,0.1s						

BEO ***17*** *12:49:02.0±0.2, 42°.73N×20°.34E, h1km±1km, ML2.3/22*
RHSSO ***17*** *12:49:02.7±0.9, 42°.81N×20°.33E, h6km±3km, ML2.8/3*
PDG ***17*** *12:49:03.1±0.1, 42°.72N×20°.21E, h12km, MD2.8/2, ML2.8/9, Error ellipse: s-maj=0.1km s-min=0.3km az=0.0*
ISC 17 12:49:00.6±1.0,**42.74N**±0°.02×**20.34E**±0°.02,**h9**km±9km, **n53,** σ0**96**/95,**13C-4D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.32**	**242**	*e*Pg	**Pb**	**12 49 07.7**	**-0.9**
PVY				*e*Sg	**Sg**	**12 49 11.3**	**+0.2**
PVY	**Plav**	**0.32**	**242**	*e*Pg	**Pb**	**12 49 07.6**	**-1.0**
PVY				*i* Sg	**Sg**	**12 49 11.6**	**+0.5**
BEY	**Berane**	**0.35**	**292**	*e*Pg	**Pb**	**12 49 08.6**	**-0.6**
BEY				*e*Sg	**Sg**	**12 49 13.1**	**+0.8**
IVA	**Berane**	**0.35**	**292**	⇑*i*Pg	**Pb**	**12 49 08.5**	**-0.6**
IVA				*i* Sg	**Sb**	**12 49 13.4**	**-1.5**
SJES	**Sjenica**	**0.58**	**333**	*e*Pg	**Pb**	**12 49 13.0**	**-0.2**
SJES				*e*Sg	**Sb**	**12 49 20.8**	**-0.8**
KOME	**Kolasin**	**0.61**	**280**	*e*Pg	**Pb**	**12 49 12.9**	**-0.7**
KOME				*e*Sg	**Sg**	**12 49 20.9**	**+0.3**
KOME	**Kolasin**	**0.61**	**280**	⇓*i*Pg	**Pb**	**12 49 13.0**	**-0.7**
KOME				*i* Sg	**Sb**	**12 49 21.5**	**-1.0**
SELS	**Selova**	**0.75**	**50**	*e*Pg	**Pb**	**12 49 15.9**	**0.0**
SELS				*e*Sg	**Sb**	**12 49 27.1**	**+0.9**
IVAS	**Ivanjica**	**0.85**	**351**	*e*Pg	**Pb**	**12 49 17.3**	**-0.3**
IVAS				*e*Sg	**Sb**	**12 49 28.8**	**-0.3**
PDG	**Podgorica**	**0.86**	**249**	*e*Pg	**Pb**	**12 49 16.7**	**-0.4**
PDG				*e*Sg	**Sb**	**12 49 28.7**	**-0.6**
PDG	**Podgorica**	**0.86**	**249**	*e*Pg	**Pb**	**12 49 17.2**	**-0.5**
PDG				*i* Sg	**Sb**	**12 49 29.2**	**-0.1**
GOCS	**Kraljevo Serbi**	**0.91**	**25**	*e*Pg	**Pb**	**12 49 18.9**	**+0.2**
GOCS				*e*Sg	**Sb**	**12 49 31.6**	**+0.6**
DRME	**Dracevica, Mon**	**1.02**	**237**	*e*Pg	**Pn**	**12 49 20.4**	**-0.7**
DRME				*e*Sg	**Sn**	**12 49 34.8**	**-0.8**
DRME	**Dracevica, Mon**	**1.02**	**237**	*e*Pg	**Pn**	**12 49 20.2**	**-0.9**
DRME				*i* Sg	**Sn**	**12 49 34.8**	**-0.8**
NKME	**Niksic**	**1.02**	**272**	*e*Pg	**Pb**	**12 49 20.2**	**-0.3**
NKME				*i* Sg	**Sn**	**12 49 34.8**	**-0.9**
BARS	**Barje**	**1.09**	**86**	*e*Pg	**Pn**	**12 49 22.5**	**+0.3**
BARS				*e*Sg	**Sn**	**12 49 37.2**	**-0.2**
SKO	**Skopje**	**1.12**	**133**	*i* Pn	**Pn**	**12 49 23.4**	**+0.8**
ULC	**Ulcinj**	**1.12**	**227**	*e*Pg	**Pn**	**12 49 22.4**	**-0.2**
ULC				*i* Sg	**Sn**	**12 49 38.6**	**+0.4**
RUDO	**Rudo**	**1.13**	**321**	⇑*i*Pg	**Pg**	**12 49 21.7**	**-0.7**
RUDO				*e*Sg	**Sg**	**12 49 36.7**	**-0.2**
RUDO	**Rudo**	**1.13**	**321**	*e*Pg	**Pg**	**12 49 21.8**	**-0.5**
RUDO				*e*Sg	**Sn**	**12 49 38.0**	**-0.3**
BUM	**Brajici-Budva**	**1.16**	**248**	⇑*i*Pg	**Pn**	**12 49 22.7**	**-0.4**
BUM				*i* Sg	**Sn**	**12 49 39.3**	**+0.2**
GRUS	**Gruza**	**1.18**	**13**	*e*Pg	**Pn**	**12 49 24.0**	**+0.6**
GRUS				*e*Sg	**Sn**	**12 49 40.1**	**+0.5**
BBLS	**Lazi&#263i**	**1.31**	**329**	*e*Pg	**Pg**	**12 49 26.2**	**+0.3**
BBLS				*e*Sg	**Sn**	**12 49 45.2**	**+2.2**
BRY	**Bratogost**	**1.33**	**278**	⇓*i*Pg	**Pg**	**12 49 26.1**	**-0.1**
BRY				*i* Sg	**Sn**	**12 49 45.6**	**+2.0**
BOVS	**Bovan**	**1.34**	**48**	*e*Pg	**Pg**	**12 49 26.7**	**+0.3**
BOVS				*e*Sg	**Sg**	**12 49 44.4**	**+0.6**
KLINJ	**Klinje**	**1.36**	**289**	*e*Pg	**Pg**	**12 49 26.7**	**0.0**
KLINJ				*e*Sg	**Sg**	**12 49 45.1**	**+0.8**
DIVS	**Divibare**	**1.38**	**350**	*e*Pg	**Pg**	**12 49 27.4**	**+0.3**
DIVS				*e*Sg	**Sg**	**12 49 46.1**	**+1.1**
HCY	**Herceg Novi**	**1.39**	**258**	*e*Pg	**Pg**	**12 49 27.1**	**-0.2**
HCY				*i* Sg	**Sg**	**12 49 47.4**	**+2.0**
TREB	**Trebinje**	**1.47**	**270**	⇑*i*Pg	**Pg**	**12 49 28.5**	**-0.2**
TREB				*e*Sg	**Sg**	**12 49 49.0**	**+1.3**
TREB	**Trebinje**	**1.47**	**270**	*e*Pg	**Pg**	**12 49 28.7**	**0.0**
TREB				*e*Sg	**Sg**	**12 49 50.4**	**+2.7**
TRUS	**Trudelj**	**1.48**	**2**	*e*Pg	**Pg**	**12 49 28.9**	**-0.2**
TRUS				*e*Sg	**Sg**	**12 49 48.8**	**+0.5**
BOSS	**Bosilegrad**	**1.60

H11N2	**WAKE ISLAND Hy**	**28.37**	**125**	T	T	13 48 40.2		
	baz=317,slow=75,SNR=99							
H11N1	**WAKE ISLAND Hy**	**28.38**	**125**	T	T	13 48 40.9		
	baz=317,slow=75,SNR=77							
H11N3	**WAKE ISLAND Hy**	**28.39**	**125**	T	T	13 48 41.5		
	baz=317,slow=75,SNR=105							
H11S1	**WAKE ISLAND Hy**	**29.14**	**127**	T	T	13 49 34.6		
	baz=318,slow=76,SNR=40							
H11S3	**WAKE ISLAND Hy**	**29.15**	**127**	T	T	13 49 41.6		
	baz=318,slow=76,SNR=50							
H11S2	**WAKE ISLAND Hy**	**29.16**	**127**	T	T	13 49 35.8		
	baz=318,slow=76,SNR=34							
ZALV	**Zalesovo Beam**	**41.42**	**311**	P	**P**	**13 19 59.6**	**-2.6**	
	0.3nm,0.3s,baz=104,slow=9.1,SNR=2.0							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**43.94**	**301**	P	**P**	**13 20 21.7**	**-1.2**	
	0.4nm,0.6s,baz=80,slow=9.5,SNR=3.9							
	0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**45.64**	**307**	P	**P**	**13 20 34.8**	**-1.4**	
	3.8nm,0.2s,baz=80,slow=8.5,SNR=4.3							
BVAR	**Borovoye Array**	**50.07**	**311**	P	**P**	**13 21 09.0**	**-1.7**	
	0.5nm,0.5s,baz=51,slow=7.7,SNR=2.5							
	0.5nm,0.5s							
WRA	**Warramunga Arr**	**58.76**	**189**	P	**P**	**13 22 15.3**	**+1.3**	
	0.4nm,1.1s,baz=8.6,slow=6.6,SNR=1.7							
	0.4nm,1.1s							

*AEIC **17** 13:16:51.3±0.5,52.°22N±0.°09×165.°57W±0.°07,h4km±8km, Error ellipse: s-maj=13.9km s-min=2.2km az=154.0*

NEIC 17 13:16:50.8±0.6,**52.°27N**±0.°03×**165.°59W**±0.°04,**h10**km±2km, **ML3.3**/16,**ML3.3**(AEIC),**Error ellipse: s-maj=5.7km s-min=4.1km az=145.0,South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**1.67**	**341**		Pn	13 17 19.5	-0.5
UNV				IAML		13 17 45.2	
	comp=E,225nm,0.3s						
UNV				IAML		13 17 48.1	
	comp=N,251nm,0.3s						
UNV	**Unalaska Valle**	**1.67**	**341**		Sn	13 17 41.3	-0.2
MREP	**Makushin Rep't**	**1.69**	**336**		Pn	13 17 20.4	-0.1
MGOD	**Makushin Gods**	**1.71**	**334**		Pn	13 17 20.6	0.0
MAPS	**Pakushin South**	**1.74**	**333**		Pn	13 17 21.1	0.0
MNAT	**Makushin Natee**	**1.75**	**338**		Pn	13 17 21.0	-0.1
MSW	**Makushin Switc**	**1.80**	**337**		Pn	13 17 21.8	0.0
MSW					Sb	13 17 46.6	+0.3
ZRO	**Akutan Zero**	**1.84**	**353**		Pn	13 17 22.4	0.0
ZRO					Sb	13 17 47.2	-0.3
AKMO	**Akutan Morgan**	**1.84**	**352**		Pn	13 17 22.7	+0.3
AKBBA	**Akutan Broad B**	**1.84**	**354**		Pn	13 17 22.6	+0.2
AKBBA					Sb	13 17 47.5	-0.1
OKTU	**Okmok Mt. Tuli**	**1.86**	**308**		Pn	13 17 22.7	+0.1
AKSA	**Akutan Strait**	**1.87**	**358**		Pn	13 17 22.5	-0.3
AKUT	**Akutan**	**1.87**	**357**	Pn	Pn	13 17 22.8	0.0
AKV	**Akutan Volcano**	**1.87**	**353**		Pn	13 17 23.0	+0.1
AKRB	**Akutan Reef Bi**	**1.89**	**351**		Sb	13 17 48.5	-0.3
OKSP	**Okmok Steeple**	**1.91**	**302**		Pn	13 17 23.3	-0.1
LVA	**Lava Point**	**1.91**	**352**		Pn	13 17 23.3	-0.1
LVA				IAML		13 18 04.3	
	comp=E,206nm,0.5s						
OKCE	**Okmok Cone E**	**1.94**	**308**		Pn	13 17 24.2	+0.4
SSLS	**Shishaldin Sou**	**2.62**	**21**		Pn	13 17 32.9	-0.4
FALS	**False Pass**	**2.90**	**26**		Sn	13 18 13.2	+1.5
FALS	**False Pass**	**2.90**	**26**		Pn	13 17 36.6	-0.3
FALS	**False Pass**	**2.90**	**26**	P	Pn	13 17 37.0	+0.1
FALS	**False Pass**	**2.90**	**26**	S	Sn	13 18 13.3	+1.6
DT1	**Dutton Round H**	**3.46**	**33**		Pn	13 17 44.3	-0.3
DOL	**Dolgoi Island**	**3.64**	**36**		Pn	13 17 46.6	-0.4
HAG	**Hague Volcano**	**3.76**	**34**		Pn	13 17 49.2	+0.5
PS1A	**Pavlof South-1**	**3.90**	**34**		Pn	13 17 51.1	+0.5
S12K	**Black Hills**	**4.02**	**30**		Pn	13 17 52.8	+0.4
S12K	**Black Hills**	**4.02**	**30**	IAML		13 18 47.5	
	comp=E,32nm,1.0s						
S12K				IAML		13 19 14.2	
	comp=N,24nm,1.2s						
SDPT	**Sand Point**	**4.33**	**42**		Pn	13 17 56.2	-0.3
SDPT				IAML		13 18 51.4	
	comp=N,45nm,1.1s						
SDPT				IAML		13 18 56.6	
	comp=E,38nm,1.2s						
SDPT	**Sand Point**	**4.33**	**42**	P	Pn	13 17 56.4	-0.1
SDPT	**Sand Point**	**4.33**	**42**	S	Sn	13 18 46.0	-0.9
CNBA	**Chernabura Isl**	**4.40**	**52**		Pn	13 17 56.5	-1.1
CHNA	**Chernabura Isl**	**4.40**	**52**	P	Pn	13 17 56.6	-1.0
ATKA	**Atka Island**	**5.29**	**273**		Pn	13 18 09.2	-0.5
ATKA	**Atka Island**	**5.29**	**273**	IAML		13 19 16.6	
	comp=N,25nm,0.9s						
ATKA	**Atka Island**	**5.29**	**273**	P	Pn	13 18 09.0	-0.7
CHGN	**Chignik**	**5.83**	**43**		Pn	13 18 16.8	-0.3
GSCK	**Great Sitkin C**	**6.51**	**272**		Pn	13 18 28.0	-0.8
ETKA	**Kagalaska Isla**	**6.68**	**271**		Pn	13 18 28.0	-0.9
ADK	**Adak**	**6.85**	**271**		Pn	13 18 30.5	-0.7
ADK	**Adak**	**6.85**	**271**	P	Pn	13 18 30.6	-0.5
ADK	**Adak**	**6.85**	**271**	S	Sn	13 19 48.5	-0.6
CHIR	**Chirikof Islan**	**6.86**	**55**		Pn	13 18 29.9	-1.4
CHIR	**Chirikof Islan**	**6.86**	**55**	P	Pn	13 18 30.2	-1.2
KIWB	**Kanaga Island**	**7.14**	**271**	Pn	Pn	13 18 35.1	-0.1
KIMD	**Kanaga Island**	**7.20**	**271**		Pn	13 18 35.6	-0.4
PLK4	**Peulik 4**	**7.55**	**41**		Pn	13 18 40.8	-0.1
PLK3	**Peulik 3**	**7.63**	**41**		Pn	13 18 41.6	-0.3
O15K	**Ungalikthiuk R**	**7.65**	**23**		Pn	13 18 42.6	+0.5
SII	**Sitkinak Islan**	**7.92**	**53**	P	Pn	13 18 44.8	-1.1
CNTC	**Contact Creek**	**8.17**	**39**		Pn	13 18 48.7	-0.7
ANCK	**Angle Creek**	**8.28**	**40**		Pn	13 18 50.1	-0.7
OHAK	**Old Harbor**	**8.67**	**50**	P	Pn	13 18 55.0	-1.1

*JMA **17** 13:17:33.8±0.1,33.°2N±0.°4×14.°1E±.°, h50km±4km, MV3.7/33,E OFF HACHIJOJIMA ISLAND*

*NIED **17** 13:17:33.8,33.°20N×140.°86E, h50km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr3.42; Mθθ-0.12; Mϕϕ-3.30; Mrθ0.32; Mθϕ-0.75; Mϕr1.61; Fault plane solution: M0 3.81000×10^14^ NP1: ϕs193.00000°,δ32.00000°,λ91.00000°. NP2:ϕs12.00000°, δ58.00000°,λ89.00000°.*

*NEIC **17** 13:17:34.1±1.5,33.°18N±0.°09×140.°78E±0.°09, h52km±9km, mb4.5/11 Error ellipse: s-maj=13.8km s-min=8.9km az=149.0*

*IDC **17** 13:17:34.3±2.0,33.°17N×140.°72E, h56km±16km, mb3.5/11, mbtmp3.8/12,ML2.9/1,MS3.2/1,Error ellipse: s-maj=26.3km s-min=12.1km az=83.0*

ISC 17 13:17:34.0±1.4,**33.°17N**±0.°05×**140.°84E**±0.°08,**h55**km±12km, **n61**,σ1§**19**/73,**mb4.1**/18,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.86**	**267**		**Pn**	**13 17 50.1**	**+0.2**
JHJ2	**Mitsune**	**0.86**	**267**	P	**Pn**	**13 17 50.2**	**+0.2**
JHJ2	**Mitsune**	**0.86**	**267**	P	**Pn**	**13 17 50.2**	**+0.2**
JHJ2				eS	**Sn**	**13 18 01.9**	**+0.1**
JHCJ	**Hachijojimakas**	**0.88**	**264**	P	**Pn**	**13 17 50.3**	**0.0**
JHJ	**Hachijo jima 2**	**0.89**	**267**	P	**Pn**	**13 17 50.3**	**-0.1**
	648nm,0.3s,baz=150,slow=23,SNR=95						
JHJ				S	**Sn**	**13 18 01.1**	**-1.3**
	899nm,0.3s,baz=147,slow=23,SNR=22						
JAOM	**Aogashimamukai**	**1.15**	**233**	P	**Pn**	**13 17 54.2**	**+0.4**
JAOM				eS	**Sn**	**13 18 08.8**	**+0.2**
JMKN	**Mikurajimanish**	**1.27**	**305**	P	**Pn**	**13 17 55.5**	**0.0**
JMKN				eS	**Sn**	**13 18 10.7**	**-0.8**
JMYK	**Miyake Tsubota**	**1.40**	**310**	P	**Pn**	**13 17 57.8**	**+0.6**
JMYK				eS	**Sn**	**13 18 14.9**	**+0.3**
BSO1	**Boso 1**	**1.48**	**4**	P	**Pn**	**13 17 58.0**	**+0.2**
BSO3	**Boso 3**	**1.65**	**350**	P	**Pn**	**13 18 00.5**	**+0.1**
BSO3				S	**Sn**	**13 18 21.0**	**+0.6**
BSO4	**Boso 4**	**1.86**	**347**	P	**Pn**	**13 18 03.9**	**+0.5**
BSO4				eS	**Sn**	**13 18 26.3**	**+0.5**
JIM2	**Oshima 3**	**1.94**	**323**	P	**Pn**	**13 18 04.9**	**+0.3**
JIM2				S	**Sn**	**13 18 26.3**	**-1.5**
JIZS	**Izushimoda**	**2.25**	**314**	P	**Pn**	**13 18 09.6**	**+0.9**
JIZS				eS	**Sn**	**13 18 33.5**	**-1.9**
JOD2	**Odawara 2**	**2.55**	**326**	P	**Pn**	**13 18 13.3**	**+0.5**
JOD2				S	**Sn**	**13 18 41.4**	**-1.3**
TK02	**Tokai 2**	**2.69**	**288**	P	**Pn**	**13 18 16.0**	**+1.4**
SHZ3	**Shizuoka 3**	**2.89**	**312**	P	**Pn**	**13 18 19.6**	**+2.0**
SHZ3				eS	**Sn**	**13 18 53.9**	**+2.8**
JYN	**Shimob**	**3.00**	**321**	P	**Pn**	**13 18 20.9**	**+1.8**
JYN				eS	**Sn**	**13 18 56.8**	**+2.9**
JGF	**Kuroka**	**3.77**	**311**		**Pn**	**13 18 31.9**	**+2.3**
JGF	**Kuroka**	**3.77**	**311**	P	**Pn**	**13 18 32.1**	**+2.5**
INU	**Inuyama**	**3.84**	**306**	Pn	**Pn**	**13 18 33.0**	**+2.5**
INU	**Inuyama**	**3.84**	**306**	P	**Pn**	**13 18 33.5**	**+2.9**
MJAR	**Matsushiro Arr**	**4.00**	**328**		**Pn**	**13 18 33.4**	**+0.6**
MJAR	**Matsushiro Arr**	**4.00**	**328**	P	**Pn**	**13 18 33.6**	**+0.9**
	0.8nm,0.3s,baz=169,slow=13,SNR=23						
MJAR				S	**Sn**	**13 19 17.0**	**-1.4**
	11nm,0.6s,baz=125,slow=15,SNR=8.2						
	4.9nm,0.4s						
MAJO	**Matsushiro**	**4.00**	**328**		**Pn**	**13 18 34.4**	**+1.6**
MAJO	**Matsushiro**	**4.00**	**328**	P	**Pn**	**13 18 34.6**	**+1.8**
JMM	**Marumori**	**4.69**	**360**		**Pn**	**13 18 42.1**	**0.0**
JMM	**Marumori**	**4.69**	**360**	P	**Pn**	**13 18 42.0**	**-0.1**
JMN	**Monobe**	**5.85**	**277**	Pn	**Pn**	**13 18 59.2**	**+1.1**
JTM	**Tenmabayashi**	**7.61**	**1**	Pn	**Pn**	**13 19 21.8**	**-0.3**
JTM	**Tenmabayashi**	**7.61**	**1**	P	**Pn**	**13 19 21.5**	**-0.6**
ERM	**Erimo**	**9.02**	**11**	Pn	**Pn**	**13 19 40.8**	**-0.6**
ASAJ	**Asahikawa**	**11.02**	**7**	P	**Pn**	**13 20 06.8**	**-1.9**
	5.8nm,0.8s,baz=183,slow=29,SNR=1.6						
KSAR	**Wonju Array Be**	**11.41**	**296**	Pn	**Pn**	**13 20 12.2**	**-2.0**
TATO	**Taipei**	**18.77**	**249**	P	**P**	**13 21 47.7**	**-0.8**
TGY	**Tagaytay City**	**26.23**	**228**	LR	LR	13 31 04.8	
	comp=Z,57nm,21.5s,baz=150,slow=31						
SONM	**Songino Array**	**29.73**	**310**	P	**P**	**13 23 34.9**	**-0.1**
	0.3nm,0.4s,baz=107,slow=4.8,SNR=3.7						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**45.87**	**305**	P	**P**	**13 25 50.1**	**-0.6**
MKAR	**Makanchi Array**	**45.87**	**305**	P	**P**	**13 25 50.3**	**-0.4**
	0.4nm,0.5s,baz=79,slow=9.8,SNR=5.0						
	0.4nm,0.5s						
MTN	**Manton Dam**	**46.68**	**193**	P	**P**	**13 25 57.6**	**+0.3**
KURBB	**Kurchatov Arra**	**48.09**	**311**	P	**P**	**13 26 07.5**	**-0.4**
	0.6nm,0.4s,baz=89,slow=7.7,SNR=4.2						
	0.6nm,0.4s						
TARG	**Taragay, Kyrgy**	**49.78**	**299**	P	**P**	**13 26 20.1**	**-1.4**
TARG				IAmb	IAmb	13 26 32.2	
	comp=Z,3.9nm,1.1s						
K20K	**Telida**	**49.81**	**32**	P	**P**	**13 26 23.2**	**+2.3**
K20K				IAmb	IAmb	13 26 53.6	
	comp=Z,5.5nm,1.4s						
KNRA	**Kununurra**	**49.92**	**195**	P	**P**	**13 26 22.4**	**+0.2**
KNRA				IAmb	IAmb	13 26 31.1	
	comp=Z,15nm,1.5s						
IMAR	**Indian Mountai**	**50.23**	**29**	P	**P**	**13 26 25.0**	**+0.9**
BVAR	**Borovoye Array**	**52.88**	**314**	P	**P**	**13 26 44.1**	**0.0**
	comp=Z,0.5nm,0.5s,baz=77,slow=7.6,SNR=2.1						
	comp=Z,0.5nm,0.5s						
WB0	**Warramunga Arr**	**53.00**	**188**	P	**P**	**13 26 45.0**	**-0.2**
WB0				IAmb	IAmb	13 26 45.7	
	comp=Z,3.8nm,0.6s						
ILAR	**Eielson Array**	**53.03**	**31**	P	**P**	**13 26 45.5**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=266,slow=5.8,SNR=2.6						
	comp=Z,0.3nm,0.8s						
WRAB	**Tennant Creek**	**53.17**	**188**	P	**P**	**13 26 46.1**	**-0.3**
WRAB				IAmb	IAmb	13 26 50.0	
	comp=Z,4.2nm,1.2s						
WR8	**Warramunga Arr**	**53.17**	**187**	P	**P**	**13 26 46.4**	**-0.1**
WR8				IAmb	IAmb	13 26 46.9	
	comp=Z,5.3nm,0.6s						
WRA	**Warramunga Arr**	**53.18**	**188**	P	**P**	**13 26 46.2**	**-0.3**
WRA	**Warramunga Arr**	**53.18**	**188**	P	**P**	**13 26 46.5**	**0.0**
	comp=Z,2.5nm,0.5s,baz=3.6,slow=7.5,SNR=106						
	comp=Z,2.5nm,0.5s						
AS31	**Alice Springs**	**56.90**	**188**	P	**P**	**13 27 13.4**	**+0.1**
ASAR	**Alice Springs**	**56.90**	**188**	P	**P**	**13 27 13.4**	**0.0**
ASAR	**Alice Springs**	**56.90**	**188**	P	**P**	**13 27 13.7**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=15,slow=12,SNR=28						
	comp=Z,0.8nm,0.4s						
AB31	**Akbulak array**	**60.11**	**312**	P	**P**	**13 27 34.8**	**-0.7**
AB31				IAmb	IAmb	13 27 35.8	
	comp=Z,1.2nm,0.6s						
ABKAR	**Akbulak array**	**60.11**	**312**	P	**P**	**13 27 34.8**	**-0.7**
FINES	**FINESS Array B**	**72.02**	**333**	P	**P**	**13 28 51.9**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=62,slow=4.8,SNR=3.6						
	comp=Z,2.5nm,0.9s						
AKASG	**Malin Array Be**	**77.07**	**323**	P	**P**	**13 29 20.6**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=54,slow=5.7,SNR=1.5						
	comp=Z,0.5nm,0.4s						
PDAR	**Pinedale Array**	**80.72**	**45**	P	**P**	**13 29 40.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=314,slow=3.5,SNR=1.5						
	comp=Z,0.1nm,0.3s						
TXAR	**Lajitas Array**	**92.85**	**52**	P	**P**	**13 30 42.6**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=318,slow=1.7,SNR=4.2						
	comp=Z,0.3nm,0.7s						
LPAZ	**La Paz**	**148.92**	**64**	PKPbc	**PKPbc**	**13 37 16.1**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=278,slow=5.5,SNR=4.0						

*AZER **17** 13:18:35.5,41.°94N×48.°97E, h62km, ml3.1*
*DRS **17** 13:18:36.4,42.°18N×49.°16E, h24km*
*MOS **17** 13:18:37.3,42.°00N×49.°03E, h21km, MPVA3.6*

ISC 17 13:18:39.0±1.5,**41.°80N**±0.°04×**48.°95E**±0.°05,**h67**km±9km, **n35**,σ1§**75**/62,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.52**	**297**	ePg	**Pn**	**13 18 49.9**	**-1.9**
DRN				eSg	**Sn**	**13 18 58.6**	**-2.4**
QUBA	**Quba, Azerbaij**	**0.56**	**218**	P	**Pn**	**13 18 50.9**	**-1.3**
QUBA				S	**Sn**	**13 19 03.9**	**+2.0**
QSAR	**Qusar**	**0.59**	**241**	P	**Pn**	**13 18 51.2**	**-1.3**
QSAR				S	**Sn**	**13 19 03.2**	**+0.8**
KSMR	**Kasumkent**	**0.65**	**253**	ePg	**Pn**	**13 18 52.2**	**-1.0**
KSMR				eSg	**Sn**	**13 19 04.5**	**+0.9**
SIZA	**Siyzn**	**0.72**	**183**	P	**Pn**	**13 18 52.5**	**-1.6**
SIZA				S	**Sn**	**13 19 06.4**	**+1.3**
XNQ	**Khinaliq**	**0.88**	**225**	P	**Pn**	**13 18 55.4**	**-0.6**
XNQ				S	**Sn**	**13 19 10.1**	**+1.5**
ATGJ	**Altiaghaj**	**0.94**	**181**	P	**Pn**	**13 18 56.4**	**-0.3**
ATGJ				S	**Sn**	**13 19 11.9**	**+2.2**
PQL	**Pirkuli**	**1.05**	**195**	P	**Pn**	**13 18 57.2**	**-0.9**
PQL				S	**Sn**	**13 19 14.2**	**+1.9**
URKR	**Urkarakh**	**1.05**	**291**	ePg	**Pn**	**13 18 57.5**	**-0.6**
URKR				eSg	**Sn**	**13 19 13.2**	**+0.9**
IML	**Ismayilli**	**1.16**	**210**	P	**Pn**	**13 18 59.2**	**-0.3**
IML				S	**Sn**	**13 19 17.0**	**+2.3**
SGKR	**Sergokala**	**1.17**	**305**	ePg	**Pn**	**13 18 59.0**	**-0.5**
SGKR				eSg	**Sn**	**13 19 14.8**	**0.0**
QBL	**Gabala**	**1.20**	**225**	P	**Pn**	**13 18 59.9**	**-0.1**
QBL				S	**Sn**	**13 19 17.4**	**+1.8**
GBS	**Qobustan**	**1.26**	**180**	Pn	**Pn**	**13 19 01.4**	**+0.6**
GBS				Sn	**Sn**	**13 19 20.8**	**+3.6**
KMKR	**Kumukh**	**1.42**	**284**	ePg	**Pn**	**13 19 04.0**	**+1.0**
KMKR				eSg	**Sn**	**13 19 24.0**	**+2.9**
SEKA	**Sheki**	**1.44**	**246**	Pg	**Pn**	**13 19 03.7**	**+0.5**
SEKA				Sg	**Sn**	**13 19 24.4**	**+3.0**
NDR	**Nardaran**	**1.45**	**147**	Pn	**Pn**	**13 19 02.1**	**-1.1**
NDR				Sn	**Sn**	**13 19 23.6**	**+2.4**
GOBA	**Gobu**	**1.52**	**157**	Pn	**Pn**	**13 19 04.6**	**+0.5**
ARKR	**Arakani**	**1.66**	**300**	ePg	Pn	13 19 06.8	+0.7
ARKR				eSg	**Sn**	**13 19 28.8**	**+2.2**
BUJR	**Buynaksk**	**1.71**	**307**	ePg	**Pn**	**13 19 03.4**	**-3.3**
BUJR				eSg	**Sn**	**13 19 29.0**	**+1.4**
MNGR	**Mingechevir, A**	**1.74**	**235**	Pn	**Pn**	**13 19 07.8**	**+0.7**
MNGR				Sn	**Sn**	**13 19 29.7**	**+1.3**
XNZR	**Khunzakh**	**1.83**	**295**	ePg	**Pn**	**13 19 08.4**	**-0.1**
XNZR				eSg	**Sn**	**13 19 31.7**	**+1.0**
KRNR	**Karanay**	**1.83**	**305**	ePg	Pn	13 19 09.3	+0.8
KRNR				eSg	**Sn**	**13 19 31.6**	**+0.9**
UNCR	**Uncukul**	**1.84**	**300**	ePg	Pn	13 19 09.9	+1.4
UNCR				eSg	**Sn**	**13 19 33.6**	**+2.7**
TLTR	**Tlyarata**	**1.96**	**280**	ePg	Pn	13 19 11.4	+1.1
TLTR				eSg	**Sn**	**13 19 37.3**	**+3.4**
AGDM	**Agdam**	**2.19**	**220**	Pn	**Pn**	**13 19 12.1**	**-1.1**
AGDM				Sn	**Sn**	**13 19 39.5**	**+0.2**
BTLR	**Botlikh**	**2.20**	**294**	ePg	Pn	13 19 17.9	+4.5
BTLR				eSg	**Sn**	**13 19 42.1**	**+2.4**
GANJ	**Ganja**	**2.29**	**241**	Pn	**Pn**	**13 19 13.3**	**-1.3**
GANJ				Sn	**Sn**	**13 19 40.8**	**-1.0**
BLQ	**Beylaqan**	**2.33**	**207**	Pn	**Pn**	**13 19 15.7**	**+0.6**
BLQ				Sn	**Sn**	**13 19 41.7**	**-1.0**
DVE	**Vedeno**	**2.39**	**300**	ePn	Pn	13 19 18.8	+2.8
DVE				eSn	**Sn**	**13 19 46.5**	**+2.2**
GDB	**GEDABAY**	**2.64**	**247**	Pn	**Pn**	**13 19 18.0**	**-1.5**
GDB				Sn	**Sn**	**13 19 49.1**	**-1.4**
QRD	**Qoradiz**	**2.65**	**209**	Pn	**Pn**	**13 19 18.6**	**-0.8**
QRD				Sn	**Sn**	**13 19 48.8**	**-1.6**
YRD	**Yardimli**	**2.93**	**191**	Pn	**Pn**	**13 19 21.1**	**-2.4**
YRD				Sn	**Sn**	**13 19 54.8**	**-2.8**
LRK	**Lerik**	**3.19**	**189**	Pn	**Pn**	**13 19 26.7**	**-0.2**
LRK				Sn	**Sn**	**13 20 01.9**	**-2.0**
ASTR	**Astara**	**3.24**	**182**	Pn	**Pn**	**13 19 29.3**	**+1.9**
ASTR				Sn	**Sn**	**13 20 02.1**	**-2.7**
ORD	**Ordubad**	**3.65**	**219**	Pn	**Pn**	**13 19 33.1**	**-0.1**
ORD				Sn	**Sn**	**13 20 14.0**	**-1.0**

*KRNET **17** 13:19:49.5±0.1,41.°83N×78.°31E, h13km, mb2.5*
*SOME **17** 13:19:49.5,41.°83N×78.°27E, h5km*

ISC 17 13:19:48.8±1.6,**41.°71N**±0.°06×**78.°21E**±0.°04,**h5**km±12km, **n19**,σ1§**67**/38,**16C-4D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.30**	**274**	↑eP	**Pb**	**13 19 57.1**	**+0.1**
TARG				↑eS	**Sb**	**13 20 02.7**	**+0.3**
PRZ	**Przheval'sk**	**0.79**	**10**	↑eP	**Pg**	**13 20 02.4**	**-1.5**
PRZ				↑eS	**Sg**	**13 20 11.8**	**-2.3**
KDJ	**Kajisay**	**0.88**	**299**	↑eP	**Pb**	**13 20 06.3**	**-0.3**
KDJ				↑eS	**Sg**	**13 20 18.6**	**+1.6**
UZB	**Uzynbulak**	**1.56**	**22**	eP	**Pb**	**13 20 16.7**	**-1.5**
	0.9nm,0.1s						
UZB				eS	**Sn**	**13 20 36.0**	**-2.1**
	4.7nm,0.1s						
ULHL	**Ulahol**	**1.56**	**291**	↓eP	**Pg**	**13 20 19.1**	**+0.4**
ULHL				↓eS	**Sg**	**13 20 40.7**	**+1.7**
TNSS	**Tian-Shan**	**1.62**	**325**	eP	**Pg**	**13 20 19.7**	**-0.2**
	1.4nm,0.1s						
TNSS				eS	**Sb**	**13 20 41.6**	**+1.1**
	10nm,0.2s						
SHLS	**Shalkode**	**1.72**	**32**	eP	**Pg**	**13 20 23.2**	**+1.5**
	2.7nm,0.1s						
SHLS				eS	**Sg**	**13 20 47.3**	**+3.3**
	27nm,0.3s						
KOTS	**Kotyrbulak**	**1.73**	**332**	eP	**Pg**	**13 20 21.3**	**-0.6**
	5.9nm,0.2s						
KOTS				eS	**Sb**	**13 20 44.1**	**+1.0**
	38nm,0.2s						
MTBS	**Maitube**	**1.94**	**318**	eP	**Pg**	**13 20 25.6**	**-0.3**
	5.0nm,0.1s						
MTBS				eS	**Sb**	**13 20 51.3**	**+2.1**
	37nm,0.2s						
JNKS	**Jany-Kuch**	**2.03**	**252**	↑eP	**Pg**	**13 20 27.8**	**+0.1**
JNKS				↑eS	**Sg**	**13 20 55.8**	**+1.8**
KST	**Kastek**	**2.13**	**309**	eP	**Pg**	**13 20 29.3**	**-0.3**
	3.1nm,0.1s						
KST				eS	**Sg**	**13 20 57.8**	**+0.5**
	30nm,0.2s						
TKM2	**Tokmak 2**	**2.29**	**303**	↑eP	**Pb**	**13 20 29.9**	**-0.7**
TKM2				↑eS	**Sb**	**13 20 59.4**	**+0.1**
CHKK	**Chushkaly**	**2.33**	**338**	eP	**Pb**	**13 20 31.5**	**+0.3**
	2.7nm,0.1s						
CHKK				eS	**Sb**	**13 21 01.6**	**+1.4**
	20nm,0.3s						
ARXS	**Arharly**	**2.52**	**354**	eP	**Pb**	**13 20 34.3**	**-0.3**
ARXS				eS	**Sb**	**13 21 06.4**	**+0.5**
KUU	**Kurty**	**2.58**	**328**	eP	**Pg**	**13 20 36.6**	**-1.6**
	3.4nm,0.0s						
KUU				eS	**Sb**	**13 21 10.2**	**+2.6**
	10nm,0.1s						
KBK	**Karagaybulak**	**2.60**	**292**	↑eP	**Pb**	**13 20 34.5**	**-1.5**
KBK				↑eS	**Sb**	**13 21 07.5**	**-0.9**
UCH	**Uchtor**	**2.80**	**282**	↓eP	**Pb**	**13 20 37.8**	**-1.8**
UCH				↓eS	**Sb**	**13 21 13.2**	**-1.3**
AAK	**Ala-Archa**	**2.91**	**290**	↑eP	**Pb**	**13 20 38.9**	**-2.4**
AAK				↑eS	**Sb**	**13 21 15.1**	**-2.2**
USP	**Ospenovka**	**3.15**	**301**	↑eP	**Pb**	**13 20 41.8**	**-3.6**
USP				↑eS	**Sn**	**13 21 20.0**	**+2.8**

IDC 17 13:21:10.3±7.3,**31.°54S×179.°77E,h499**km±99km,**mb2.7**/3, **mbtmp3.7**/4,**Error ellipse: s-maj=111.3km s-min=45.7km az=3.0,Kermadec Islands region**

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

ISC 17 13:51:32.7±0.2, 36°21N±0'.04×33°.95W±0'.04, h10km, n1092, σ1826/782, mb5.3/445, MS4.9/103, 36C-17D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**4.80**	**59**	*eP*	**Pn**	**13 52 43.5**	**-1.7**
PICO	**Pico**	**4.96**	**61**	*eP*	**Pn**	**13 52 45.0**	**-2.3**
PID	**Ribeirinha**	**5.15**	**63**	*eP*	**Pn**	**13 52 48.3**	**-1.7**
ROSA	**Rosais**	**5.18**	**59**	*eP*	**Pn**	**13 52 49.0**	**-1.4**
CMLA	**Cha da Macela**	**6.92**	**75**	Pn	**Pn**	**13 53 13.0**	**-1.2**
CMLA	**Cha da Macela**	**6.92**	**75**	*eP*	**Pn**	**13 53 12.2**	**-2.0**
CMLA	**Cha da Macela**	**6.92**	**75**	P	**Pn**	**13 53 13.0**	**-1.2**
PCALD	**Caldeiras da R**	**6.95**	**74**	*eP*	**Pn**	**13 53 12.1**	**-2.6**
PGRON	**Lagoa das Cont**	**7.04**	**75**	*eP*	**Pn**	**13 53 13.8**	**-2.0**
PSMN	**Pico do Norte,**	**7.19**	**81**	*eP*	**Pn**	**13 53 15.2**	**-2.7**
PSMN				*eT*	T	13 59 56.1	
BART	**Pico Bartolome**	**7.20**	**75**	*eP*	**Pn**	**13 53 15.2**	**-2.9**
PMOZ	**Porto Moniz, M**	**14.22**	**99**	P	**Pn**	**13 54 53.1**	**-1.2**
PMOZ	**Porto Moniz, M**	**14.22**	**99**	Pn	**Pn**	**13 54 54.7**	**+0.4**
PMOZ	**Porto Moniz, M**	**14.22**	**99**	*eP*	**Pn**	**13 54 55.9**	**+1.6**
PMOZ	209nm,1.1s			*i* IAmb	IAmb	13 55 05.9	
PMOZ				*eS*	**Sn**	**13 57 27.4**	**-4.8**
PMOZ				*eLR*	LR	13 57 49.5	
PMOZ	5μm,20.0s			*i* IAMs_20	IAMs_20	13 59 06.7	
PMAR	**Madeira**	**14.48**	**99**	*eP*	**P**	**13 55 01.7**	**-3.0**
PMAR	229nm,1.4s			*i* IAmb	IAmb	13 55 09.1	
PMPST	**Porto Santo, M**	**14.84**	**97**	*eP*	**Pn**	**13 55 00.9**	**-1.7**
PMPST	218nm,1.5s			*i* IAmb	IAmb	13 55 12.6	
PMPS	**Porto Santo**	**14.84**	**97**	*eP*	**Pn**	**13 55 00.4**	**-2.2**
PMPS	142nm,1.6s			*i* IAmb	IAmb	13 55 12.6	
EOSO	**Osorio**	**17.55**	**112**	P	**Pn**	**13 55 35.4**	**-2.2**
PMAFR	**Mafra**	**19.73**	**75**	P	**P**	**13 56 01.8**	**-0.6**
PMAFR	**Mafra**	**19.73**	**75**	*eP*	**P**	**13 56 02.5**	**0.0**
PMAFR	111nm,1.6s			*i* IAmb	IAmb	13 56 07.4	
LIS	**Lisbon**	**19.83**	**75**	*eP*	**P**	**13 56 03.2**	**-0.4**
LIS	comp=N,9μm,21.7s			IAMs_20	IAMs_20	14 00 21.2	
LIS	**Lisbon**	**19.83**	**75**	*eP*	**Pn**	**13 56 06.1**	**+1.0**
LIS	comp=N,144nm,1.1s			*i* IAmb	IAmb	13 56 10.4	
LIS	**Lisbon**	**19.83**	**75**	*eP*	**P**	**13 56 03.2**	**-0.4**
PARRA	**Arraiolos**	**19.92**	**75**	*eP*	**Pn**	**13 56 11.8**	**+5.6**
PARRA	comp=N,94nm,1.6s			*i* IAmb	IAmb	13 56 17.7	
PSBE	**So Bento**	**20.11**	**73**	*eP*	Pn	13 56 08.3	-0.2
PSBE	comp=N,65nm,1.5s			*i* IAmb	IAmb	13 56 13.9	
PFVI	**Vila Bisbo**	**20.16**	**80**	P	**P**	**13 56 06.9**	**-0.3**
PFVI	**Vila Bisbo**	**20.16**	**80**	P	**P**	**13 56 07.9**	**+0.7**
PFVI	**Vila Bisbo**	**20.16**	**80**	*eP*	**P**	**13 56 07.0**	**-0.2**
PFVI	comp=N,51nm,1.3s			*i* IAmb	IAmb	13 56 32.4	
PTEO	**Sao Teotonio**	**20.21**	**79**	*eP*	**P**	**13 56 07.5**	**-0.2**
PTEO	comp=N,85nm,1.7s			*i* IAmb	IAmb	13 56 30.7	
MORF	**Marmelete**	**20.29**	**79**	*eP*	**P**	**13 56 08.4**	**-0.2**
MORF	comp=N,8μm,26.0s			IAMs_20	IAMs_20	14 00 31.7	
MORF	**Marmelete**	**20.29**	**79**	P	**P**	**13 56 08.2**	**-0.4**
MORF	**Marmelete**	**20.29**	**79**	*eP*	**P**	**13 56 08.3**	**-0.2**
MORF	comp=N,66nm,1.7s			*i* IAmb	IAmb	13 56 31.3	
MORF	**Marmelete**	**20.29**	**79**	*eP*	**P**	**13 56 08.4**	**-0.2**
PCAS	**Casmilo, Conde**	**20.36**	**71**	*eP*	**P**	**13 56 09.4**	**0.0**
PCAS	comp=N,71nm,1.7s			*i* IAmb	IAmb	13 56 49.9	
COI	**Coimbra**	**20.44**	**71**		**P**	**13 56 10.1**	**-0.1**
COI	**Coimbra**	**20.44**	**71**	*eP*	**P**	**13 56 10.7**	**+0.6**
COI	comp=N,114nm,1.6s			*i* IAmb	IAmb	13 56 15.4	
COI	**Coimbra**	**20.44**	**71**	P	**P**	**13 56 10.1**	**-0.1**
COI	comp=Z,83nm,1.3s			pmax	pmax		
PMTG	**Montargil**	**20.55**	**74**	*eP*	**P**	**13 56 11.3**	**-0.2**
PMTG	comp=Z,176nm,1.6s			*i* IAmb	IAmb	13 56 16.2	
MESJ	**Messejana**	**20.59**	**78**	*eP*	**P**	**13 56 11.7**	**-0.2**
MESJ	comp=N,6μm,38.6s			IAMs_20	IAMs_20	14 00 21.4	
MESJ	**Messejana**	**20.59**	**78**	P	**P**	**13 56 11.5**	**-0.4**
MESJ	**Messejana**	**20.59**	**78**	*eP*	**P**	**13 56 11.8**	**0.0**
MESJ	comp=N,121nm,1.8s			*i* IAmb	IAmb	13 56 16.0	
MESJ	**Messejana**	**20.59**	**78**	*eP*	**P**	**13 56 11.7**	**-0.2**
PSARD	**Sardoal**	**20.61**	**73**	*eP*	**P**	**13 56 11.7**	**-0.3**
PSARD	comp=N,147nm,1.5s			*i* IAmb	IAmb	13 56 16.8	
PGAV	**Gavieira, Arco**	**20.71**	**66**	*eP*	**P**	**13 56 13.1**	**-0.1**
PGAV	comp=N,84nm,1.6s			*i* IAmb	IAmb	13 56 17.9	
PGAV				*eS*	Sn	14 00 10.3	+1.1
PGAV				*eLR*	LR	14 00 50.9	
PGAV	comp=N,1μm,18.0s			*i* IAMs_20	IAMs_20	14 02 29.0	
EVO	**Evora**	**20.72**	**76**	P	**P**	**13 56 10.6**	**-2.7**
EVO	**Evora**	**20.72**	**76**	*eP*	**P**	**13 56 12.4**	**-0.9**
EVO	comp=N,59nm,1.3s			*i* IAmb	IAmb	13 56 17.9	
PCVE	**Castro Verde**	**20.75**	**78**	P	**P**	**13 56 13.0**	**-0.5**
PCVE	**Castro Verde**	**20.75**	**78**	*eP*	**P**	**13 56 13.7**	**+0.1**
PCAB	**Cabril**	**20.86**	**67**	*eP*	**P**	**13 56 15.1**	**+0.4**
PCAB	comp=N,87nm,1.6s			*i* IAmb	IAmb	13 56 19.0	
PBEJ	**Beja**	**20.86**	**77**	*eP*	**P**	**13 56 14.1**	**-0.7**
PBEJ	comp=N,54nm,1.6s			*i* IAmb	IAmb	13 56 28.1	
PVIS	**Viseu**	**20.86**	**70**	*eP*	**P**	**13 56 14.6**	**-0.2**
PBDV	**Barranco-do-Ve**	**20.86**	**79**	P	**P**	**13 56 14.8**	**0.0**
PBDV	**Barranco-do-Ve**	**20.86**	**79**	*eP*	**P**	**13 56 14.5**	**-0.4**
PBDV	comp=N,129nm,1.7s			*i* IAmb	IAmb	13 56 20.3	
POLO	**Lamas de Olo**	**20.99**	**68**	*eP*	**P**	**13 56 16.3**	**0.0**
POLO	comp=N,27nm,1.5s			*i* IAmb	IAmb	13 56 19.6	
PVAQ	**Vaqueiros**	**21.02**	**79**	P	**P**	**13 56 16.2**	**-0.3**
PVAQ	**Vaqueiros**	**21.02**	**79**	*eP*	**P**	**13 56 16.4**	**-0.1**
PVAQ	comp=N,57nm,1.7s			*i* IAmb	IAmb	13 56 41.4	
PVAQ				*eS*	**S**	**14 00 13.6**	**+3.0**
PVAQ				*eLR*	LR	14 01 14.8	
PVAQ	comp=N,4μm,20.0s			*i* IAMs_20	IAMs_20	14 02 32.5	
PVRL	**Vila Real**	**21.04**	**68**	*eP*	**P**	**13 56 17.6**	**+0.9**
PVRL	comp=N,68nm,1.7s			*i* IAmb	IAmb	13 56 20.1	
PESTR	**Estremoz**	**21.05**	**75**	P	**P**	**13 56 15.5**	**-1.3**
PESTR	**Estremoz**	**21.05**	**75**		**P**	**13 56 15.8**	**-1.0**
PESTR	**Estremoz**	**21.05**	**75**	*eP*	**P**	**13 56 16.3**	**-0.6**
PESTR	comp=N,61nm,1.5s			*i* IAmb	IAmb	13 56 19.7	
MTE	**Manteigas**	**21.11**	**71**		**P**	**13 56 16.9**	**-0.6**
MTE	**Manteigas**	**21.11**	**71**	*eP*	**P**	**13 56 17.2**	**-0.4**
MTE	comp=N,85nm,1.4s			*i* IAmb	IAmb	13 56 23.8	
MTE				*eS*	**S**	**14 00 14.3**	**+1.9**
MTE				*eLR*	LR	14 01 19.7	
MTE	comp=N,2μm,20.0s			*i* IAMs_20	IAMs_20	14 02 26.8	
PCBR	**Castelo Branco**	**21.14**	**72**	*eP*	**P**	**13 56 17.5**	**-0.3**
PCBR	comp=N,71nm,1.5s			*i* IAmb	IAmb	13 56 23.0	
EGRO	**El Granado**	**21.20**	**79**	P	**P**	**13 56 17.9**	**-0.5**
PMRV	**Marv??o**	**21.20**	**73**	*eP*	**P**	**13 56 19.9**	**+1.5**
PMRV				*eS*	Sn	14 00 18.0	-2.9
PMRV				*eLR*	LR	14 01 14.8	
PMRV	comp=N,3μm,20.0s			*i* IAMs_20	IAMs_20	14 02 39.4	
EBAD	**Badajoz**	**21.50**	**75**	P	**P**	**13 56 20.0**	**-1.6**
PBAR	**Barrancos**	**21.50**	**77**	P	**P**	**13 56 20.0**	**-1.6**
PBAR	**Barrancos**	**21.50**	**77**	*eP*	**P**	**13 56 20.1**	**-1.6**
PBAR	comp=N,52nm,1.5s			*i* IAmb	IAmb	13 56 29.0	
MVO	**Moncorvo**	**21.55**	**69**	*eP*	**P**	**13 56 22.4**	**+0.1**
MVO	comp=N,100nm,1.9s			*i* IAmb	IAmb	13 56 25.8	
MVO				*eS*	Sn	14 00 25.7	-3.7
MVO				*eLR*	LR	14 01 34.5	
MVO	comp=N,1μm,18.0s			*i* IAMs_20	IAMs_20	14 03 12.8	
DRLN	**Deer Lake**	**21.55**	**315**	P	**P**	**13 56 21.5**	**-0.6**
EMIN	**Mina Concepcio**	**21.82**	**78**	P	**P**	**13 56 23.6**	**-1.5**
PBRG	**Braganca**	**21.82**	**67**	*eP*	**P**	**13 56 25.1**	**0.0**
PBRG	comp=N,103nm,1.5s			*i* IAmb	IAmb	13 56 29.5	
ECAL	**Calabor**	**21.84**	**67**	P	**P**	**13 56 28.0**	**+2.6**
AVE	**Averroes**	**21.97**	**90**	P	**P**	**13 56 26.2**	**-0.6**
AVE	**Averroes**	**21.97**	**90**	P	**P**	**13 56 27.7**	**+0.9**
RTC	**Rabat Centre**	**22.25**	**88**	P	**P**	**13 56 31.2**	**+1.4**
CNIL	**Coyal**	**22.46**	**81**	P	**P**	**13 56 35.6**	**+3.7**
ESPR	**Espera**	**22.55**	**80**	P	**P**	**13 56 32.7**	**-0.3**
GBN	**Guysborough**	**22.70**	**302**		**P**	**13 56 33.4**	**-1.0**
ECAB	**El Cabril**	**22.79**	**77**	P	**P**	**13 56 35.1**	**-0.3**
TIO	**Tiouine**	**22.82**	**96**	P	**P**	**13 56 36.4**	**+0.4**
VAL	**Valentia**	**23.02**	**40**	P	**P**	**13 56 38.4**	**+0.6**
VAL	**Valentia**	**23.02**	**40**	P	**P**	**13 56 39.0**	**+1.3**
ECEU	**Ceuta**	**23.07**	**82**	P	**P**	**13 56 39.2**	**+0.8**
CEU	**Ceuta**	**23.07**	**82**	P	**P**	**13 56 39.4**	**+0.9**
SACV	**Santiago Islan**	**23.09**	**154**	P	**P**	**13 56 40.4**	**+1.7**
EADA	**Adamuz**	**23.44**	**76**	P	**P**	**13 56 41.8**	**-0.4**
ESDC	**Sonseca Array**	**23.85**	**73**	P	**P**	**13 56 45.5**	**-0.7**
ESDC	**Sonseca Array**	**23.85**	**73**	P	**P**	**13 56 45.9**	**-0.3**
ESDC	comp=N,27nm,1.1s,baz=273,slow=8.0,SNR=70			LR	LR	14 03 55.8	
ESBB	**Sonseca Array**	**23.85**	**73**	P	**P**	**13 56 45.4**	**-0.8**
HAL	**Halifax**	**23.98**	**300**	P	**P**	**13 56 46.6**	**-0.7**
HAL	comp=Z,108nm,1.2s			IAmb	IAmb	13 56 55.9	
HAL	**Halifax**	**23.98**	**300**	P	**P**	**13 56 46.6**	**-0.7**
HAL	comp=Z,108nm,1.2s			pmax	pmax		
MD01	**Midelt array s**	**24.24**	**89**	P	**P**	**13 56 49.5**	**-0.5**
MD31	**MD31**	**24.24**	**89**	P	**P**	**13 56 49.4**	**-0.5**
IGLA	**Glenzowla, Co**	**24.30**	**37**	P	**P**	**13 56 50.4**	**+0.2**
MDT	**Midelt**	**24.37**	**89**	P	**P**	**13 56 50.9**	**-0.3**
MDT	comp=Z,15nm,1.0s,baz=295,slow=9.9,SNR=18			LR	LR	14 04 22.6	
LMN	**Caledonia Moun**	**25.05**	**302**		**P**	**13 56 56.6**	**-0.5**
LMN	comp=Z,114nm,1.1s			IAmb	IAmb	13 56 59.0	
ILTH	**Belurgan, Co L**	**26.14**	**38**	P	**P**	**13 57 06.4**	**-0.4**
IDGL	**Inch Island, C**	**26.15**	**36**	P	**P**	**13 57 09.2**	**+2.3**
BATG	**Bathurst New B**	**26.21**	**305**		**P**	**13 57 06.4**	**-1.1**
BATG	comp=Z,194nm,1.8s			IAmb	IAmb	13 57 36.1	
GGN	**Saint George**	**26.34**	**300**	P	**P**	**13 57 08.1**	**-0.7**
IVI	**Ivigtut**	**26.59**	**345**	*i* P	**P**	**13 57 11.4**	**+0.6**
IVI	comp=Z,63nm,1.3s			IAmb	IAmb	13 57 21.7	
EMMW	**East Machias**	**26.72**	**299**		**P**	**13 57 11.6**	**-0.5**
G65A	**Princeton**	**26.86**	**300**		**P**	**13 57 12.9**	**-0.4**
F64A	**Sherman**	**27.50**	**301**	P	**P**	**13 57 18.8**	**-0.4**
F64A	comp=Z,110nm,1.2s			IAmb	IAmb	13 57 24.3	
PKME	**Peaks-Kenny Pk**	**28.08**	**300**	P	**P**	**13 57 23.0**	**-1.4**
PKME	comp=Z,51nm,1.2s			IAmb	IAmb	13 57 57.4	
WVL	**Waterville**	**28.27**	**298**	IAmb	IAmb	13 57 28.2	
EKA	**Eskdalemuir Ar**	**28.40**	**38**	P	**P**	**13 57 26.2**	**-0.8**
E62A	**Clayton Lake**	**28.41**	**303**		**P**	**13 57 26.4**	**-0.9**
E62A	comp=Z,113nm,1.8s			IAmb	IAmb	13 57 28.3	
I63A	**Otisfield**	**28.89**	**297**	IAmb	IAmb	13 57 38.9	
G62A	**West of Eustis**	**28.94**	**299**	IAmb	IAmb	13 57 34.2	
LMQ	**La Malbaie**	**29.10**	**304**	IAmb	IAmb	13 57 34.1	
SCHQ	**Schefferville**	**29.23**	**320**	P	**P**	**13 57 33.4**	**-1.1**
SCHQ	comp=Z,335nm,1.2s,baz=112,slow=11,SNR=7.3			LR	LR	14 08 11.0	
BORG	**Borgarnes**	**29.56**	**11**	LR	LR	14 05 59.6	
LDAQ	**Lac Daran**	**29.78**	**305**	IAmb	IAmb	13 57 41.1	
NUUK	**Nuuk**	**30.00**	**344**	*i* P	**P**	**13 57 40.3**	**-0.9**
NUUK	comp=Z,76nm,1.2s			IAmb	IAmb	13 57 43.2	
K62A	**Royalston**	**30.07**	**294**	IAmb	IAmb	13 57 44.9	
J61A	**Chester**	**30.30**	**296**	IAmb	IAmb	13 57 46.5	
VT1	**Waterbury**	**30.47**	**298**	IAmb	IAmb	13 58 27.0	
FRNY	**Flat Rock**	**31.08**	**298**	IAmb	IAmb	13 57 52.5	
ACCN	**Adirondack Com**	**31.12**	**296**	IAmb	IAmb	13 57 53.5	
TRY	**Troy**	**31.13**	**294**	IAmb	IAmb	13 57 53.8	
DY2G	**Dye2**	**31.14**	**350**	*eP*	**P**	**13 57 49.8**	**-1.7**
DY2G	comp=Z,59nm,1.4s			IAmb	IAmb	13 57 52.5	
KUQ	**Kuujjuaa**	**31.52**	**325**	P	**P**	**13 57 54.0**	**-0.7**
KUQ	comp=Z,44nm,0.9s			IAmb	IAmb	13 57 56.7	
J59A	**Piesco**	**31.73**	**296**	IAmb	IAmb	13 57 58.8	
BNI	**Bardonecchia**	**31.79**	**61**	P	**P**	**13 57 56.5**	**-0.9**
BNI	**Bardonecchia**	**31.79**	**61**	P	**P**	**13 57 56.5**	**-0.9**
BNI	comp=Z,15nm,1.4s			pmax	pmax		
L59A	**Walton**	**32.16**	**293**	IAmb	IAmb	13 58 13.4	
WBO	**Williamsburg**	**32.28**	**299**	IAmb	IAmb	13 58 04.9	
SFJD	**Kangerlussuaq**	**32.29**	**348**	P	**P**	**13 57 59.4**	**-1.9**
SFJD	**Kangerlussuaq**	**32.29**	**348**	LR	LR	14 08 06.6	
SFJD	**Kangerlussuaq**	**32.29**	**348**	P	**P**	**13 57 59.4**	**-1.9**
SFJD	comp=Z,2nm,1.2s			pmax	pmax		
SFJD	**Kangerlussuaq**	**32.29**	**348**	*eP*	**P**	**13 57 59.6**	**-1.7**
SFJD	comp=Z,22nm,1.1s			IAmb	IAmb	13 58 01.0	
KSPA	**Keystone Colle**	**32.75**	**292**	IAmb	IAmb	13 58 07.5	
J57A	**Williamstown**	**32.81**	**296**	IAmb	IAmb	13 58 07.9	
PECO	**Prince Edward**	**33.52**	**297**	IAmb	IAmb	13 58 14.9	
SJG	**San Juan**	**33.63**	**246**	LR	LR	14 09 43.8	
VLDQ	**Val d'Or**	**33.93**	**304**	IAmb	IAmb	13 58 18.6	
DAVOX	**Davos/Dischmat**	**34.08**	**58**	P	**P**	**13 58 16.8**	**-0.8**
DAVOX	comp=Z,6.4nm,0.9s,baz=274,slow=12,SNR=6.7			LR	LR	14 10 40.7	
DAVA	**Damuels**	**34.10**	**57**	*i* pP	**P**	**13 58 19.0**	**+1.4**
J55A	**Hilton**	**34.15**	**296**	IAmb	IAmb	13 58 21.4	
ILULI	**Ilulissat**	**34.38**	**349**	P	**P**	**13 58 18.6**	**-0.9**
ILULI	comp=Z,74nm,1.4s			IAmb	IAmb	13 58 20.2	
ILULI	**Ilulissat**	**34.38**	**349**	P	**P**	**13 58 18.6**	**-0.9**
ILULI	comp=Z,74nm,1.4s			pmax	pmax		
MEDO	**Medina**	**34.62**	**295**	IAmb	IAmb	13 58 24.6	
FRB	**Frobisher Bay**	**34.62**	**334**	LR	LR	14 09 11.0	
FETA	**Feichten**	**34.67**	**58**	*eP*	**P**	**13 58 24.1**	**+1.6**
RETA	**Reutte**	**34.71**	**57**	*eP*	**P**	**13 58 21.7**	**-1.1**
KEST	**Kesra**	**34.83**	**78**	P	**P**	**13 58 22.9**	**-1.0**
SCO	**Scoresbysund**	**34.93**	**7**	*i* P	**P**	**13 58 27.3**	**+3.0**
SCO	comp=Z,62nm,1.0s			IAmb	IAmb	13 58 29.0	
MOTA	**Moosalm**	**34.94**	**57**	*i* pP	**P**	**13 58 25.3**	**+0.5**
SQTA	**Sankt Quirin**	**35.01**	**57**	*i* pP	**P**	**13 58 26.0**	**+0.6**
SADO	**Sadowa**	**35.03**	**298**	IAmb	IAmb	13 58 27.6	
SADO	**Sadowa**	**35.03**	**298**	LR	LR	14 12 56.1	
GRF	**Grafenberg Arr**	**35.16**	**53**	*eP*	**P**	**13 58 25.0**	**-1.5**
WTTA	**Wattenberg**	**35.30**	**57**	*i* pP	**P**	**13 58 28.3**	**+0.3**
MDP	**Montagnes des**	**35.41**	**213**	LR	LR	14 10 18.1	
PAOC	**Oil Creek Stat**	**35.67**	**293**	IAmb	IAmb	13 58 34.0	
ABTA	**Abfaltersbach**	**35.89**	**58**	*i* P	**P**	**13 58 33.0**	**0.0**
LESA	**Schwarzleotal**	**36.01**	**57**	*ep*P	**P**	**13 58 34.8**	**+0.8**
T57A	**Hurt**	**36.11**	**285**	IAmb	IAmb	13 58 38.2	
CLL	**Collm**	**36.45**	**51**	*eP*	**P**	**13 58 39.0**	**+1.4**
CLL				*i*		13 58 42.9	
CLL				*eS*	**S**	**14 04 22.0**	**+2.9**
CLL	comp=Z,15nm,1.3s			pmax	pmax		
CLL	comp=Z,1μm,19.5s			MLR	MLR		
CLL	**Collm**	**36.45**	**51**	*eP*	**P**	**13 58 39.0**	**+1.4**
CLL	comp=Z,15nm,1.3s			*i* x	x	13 58 42.9	
CLL	comp=Z,19nm,1.3s			*eS*	**S**	**14 04 22.0**	**+2.9**
CLL				*eSS*	**SS**	**14 07 00.0**	**+2.0**
CLL	comp=Z,1μm,19.5s			LmV		14 11 00.0	
CLL	comp=N,800nm,19.7s			Lm	MLR	14 12 00.0	
CLL	comp=E,700nm,18.5s			Lm	MLR	14 12 00.0	
KBA	**Koelnbreinsper**	**36.46**	**58**	*i* pP	**P**	**13 58 38.4**	**+0.5**
SUMG	**Summit**	**36.51**	**358**	IAmb	IAmb	13 58 38.8	
SUMG	**Summit**	**36.51**	**358**	*i* P	**P**	**13 58 37.0**	**-1.3**
SUMG	comp=Z,59nm,1.2s			IAmb	IAmb	13 58 39.8	
GUMA	**Gualdo di Mace**	**36.66**	**64**	IAmb	IAmb	13 58 44.3	
KHC	**Kasperske Hory**	**36.66**	**54**	*ceP*	**P**	**13 58 39.2**	**-0.3**
KHC	comp=Z,1.0nm,0.4s			pmax	pmax		
KHC	**Kasperske Hory**	**36.66**	**54**	*eP*	**P**	**13 58 39.5**	**0.0**
KHC				*eS*	**S**	**14 04 29.4**	**+6.9**
KHC	comp=Z,600nm,14.0s			AMS	AMS	14 16 20.0	
BIOA	**Bad Ischl, Aus**	**36.66**	**57**	*ep*P	**P**	**13 58 39.9**	**+0.4**
MYKA	**Terra Mystica**	**36.67**	**58**	*ep*P	**P**	**13 58 40.1**	**+0.5**
GERES	**GERESS Array B**	**36.73**	**55**	P	**P**	**13 58 39.2**	**-1.0**
GERES	comp=Z,454nm,19.3s,baz=268,slow=35			LR	LR	14 12 55.3	
CADS	**Cadrg**	**36.75**	**59**	*eP*	**P**	**13 58 40.0**	**-0.2**
NUUG	**Nuugaatsiaq**	**36.80**	**350**	*i* P	**P**	**13 58 42.2**	**+2.0**
NUUG	comp=Z,132nm,1.3s			IAmb	IAmb	13 58 42.5	
M52A	**Chesterland**	**36.92**	**293**	IAmb	IAmb	13 58 44.6	
BRG	**Berggiesshubel**	**37.00**	**51**	*eP*	**P**	**13 58 44.9**	**+2.6**
BRG	comp=Z,7.0nm,1.0s			Amp		13 58 48.1	
BRG	**Berggiesshubel**	**37.00**	**51**	Amp		13 58 54.1	
BRG	**Berggiesshubel**	**37.00**	**51**	P	P	13 58 52.4	+10
SDDR	**Presa de Saban**	**37.00**	**252**	P	**P**	**13 58 42.2**	**-0.4**
O53A	**New Philadelph**	**37.00**	**291**	IAmb	IAmb	13 58 45.8	
RICC	**Richard**	**37.07**	**52**	AMS	AMS	14 12 30.0	
ZVC	**Zvikov**	**37.08**	**54**	AMS	AMS	14 12 30.0	
MOA	**Molln**	**37.09**	**56**	*eP*	**P**	**13 58 42.4**	**-0.7**
CKRC	**Cesky Krumlov**	**37.13**	**55**	*eS*	**S**	**14 04 31.2**	**+1.5**
CKRC	comp=Z,900nm,11.8s			AMS	AMS	14 12 40.0	
CEY	**Cerknica**	**37.24**	**60**	*eP*	**P**	**13 58 44.7**	**+0.2**
PRA	**Prague**	**37.26**	**53**	AMS	AMS	14 13 20.0	
OBKA	**Obir**	**37.30**	**59**	*i* P	**P**	**13 58 44.8**	**-0.2**
PRU	**Pruhonice**	**37.33**	**53**	*eS*	**S**	**14 04 36.6**	**+4.0**
PRU	comp=Z,900nm,13.4s			AMS	AMS	14 13 20.0	
JMIC	**Jan Mayen**	**37.34**	**13**	LR	LR	14 10 05.7	
PVCC	**Panska Ves**	**37.37**	**52**	AMS	AMS	14 11 20.0	
O52A	**Adamsville**	**37.49**	**291**	IAmb	IAmb	13 58 54.1	
S54A	**Dingess, Beckl**	**37.54**	**287**	IAmb	IAmb	13 58 54.4	
SOKA	**Soboth**	**37.63**	**58**	*eP*	**P**	**13 58 46.7**	**-1.1**
NB2	**NORSAR Subarra**	**37.69**	**34**	P	**P**	**13 58 48.2**	**+0.2**
NB2	**NORSAR Subarra**	**37.69**	**34**	P	**P**	**13 58 48.2**	**+0.2**
NOA	**NORSAR Array B**	**37.69**	**34**	P	**P**	**13 58 47.7**	**-0.4**
NOA	comp=Z,517nm,18.5s,baz=250,slow=33			LR	LR	14 12 08.2	
I49A	**Point Hope**	**37.72**	**297**	IAmb	IAmb	13 58 50.1	
NC303	**NORSAR Array S**	**37.82**	**34**	P	**P**	**13 58 47.0**	**-2.1**
ARSA	**Arzberg**	**37.95**	**57**	*eP*	**P**	**13 58 49.2**	**-1.2**
PCRV	**Puerto La Cruz**	**38.01**	**235**	LR	LR	14 12 09.1	
CONA	**Conrad Observa**	**38.16**	**56**	*eP*	**P**	**13 58 52.1**	**-0.2**
U54A	**Nelsons Funny**	**38.23**	**285**	IAmb	IAmb	13 58 56.1	
UPC	**Upice**	**38.29**	**52**	*eP*	**P**	**13 58 53.9**	**+0.7**
UPC	comp=Z,1μm,16.4s			MLR	MLR		
UPC	**Upice**	**38.29**	**52**	*eP*	**P**	**13 58 53.9**	**+0.7**
UPC	comp=Z,1μm,16.4s			AMS	AMS	14 13 10.0	
CHVC	**Chvalec**	**38.32**	**52**	AMS	AMS	14 13 10.0	
VAE	**Valguarnera**	**38.39**	**73**	P	**P**	**13 58 54.0**	**-0.3**
VAE	comp=Z,5.2nm,0.4s,baz=260,slow=7.8,SNR=4.5			LR	LR	14 11 47.5	
RAFF	**Raffo Rosso**	**38.41**	**74**	IAmb	IAmb	13 58 58.8	
OSTC	**Ostas**	**38.42**	**52**	*eP*	**P**	**13 58 55.2**	**+0.8**
OSTC	comp=Z,1μm,15.1s			MLR	MLR		
OSTC	**Ostas**	**38.42**	**52**	*eP*	**P**	**13 58 55.2**	**+0.8**
OSTC	comp=Z,1μm,15.1s			AMS	AMS	14 15 10.0	
RONA	**Rosalia, Austr**	**38.46**	**57**	*eP*	**P**	**13 58 54.2**	**-0.5**
DPC	**Dobruska-Polom**	**38.48**	**52**	*eP*	**P**	**13 58 55.6**	**+0.7**
DPC	comp=Z,800nm,15.4s			MLR	MLR		
DPC	**Dobruska-Polom**	**38.48**	**52**	*eP*	**P**	**13 58 55.6**	**+0.7**
DPC	comp=Z,800nm,15.4s			AMS	AMS	14 13 30.0	
KRUC	**Moravsky**	**38.51**	**54**	*eP*	**P**	**13 58 54.5**	**-0.6**
HFS	**Hagfors**	**38.56**	**36**	P	**P**	**13 58 55.1**	**-0.3**
HFS	comp=Z,11nm,1.1s,baz=236,slow=11,SNR=4.5			LR	LR	14 12 55.5	
E46A	**Sault Ste Mari**	**38.59**	**301**	IAmb	IAmb	13 58 57.2	
VRAC	**Vranov**	**38.64**	**54**	P	**P**	**13 58 56.7**	**+0.5**
VRAC	comp=Z,311nm,18.6s,baz=259,slow=33			LR	LR	14 12 41.8	

comp=Z,2.4nm,0.4s
VRAC Vranov 38.64 54 *e*P **P 13 58 55.4 -0.8**
KRLC Kraliky 38.77 53 AMS AMS 14 13 00.0
comp=Z,800nm,16.5s
CUC Castrocucco 38.94 69 IAmb IAmb 13 59 02.8
comp=Z,83nm,1.3s
MORC Moravsky Berou 39.26 53 *e*P **P 13 59 01.4 0.0**
MORC Moravsky Berou 39.26 53 ⇑P **P 13 59 02.5 +1.1**
MORC Moravsky Berou 39.26 53 ⇑P **P 13 59 02.5 +1.1**
TOA0 Torodi Ar. Sit 39.36 116 P **P 13 59 05.5 +3.0**
SNR=5.4
TORD Torodi Ar. Bea 39.36 116 P **P 13 59 02.6 0.0**
TORD Torodi Ar. Bea 39.36 116 P **P 13 59 02.5 -0.1**
comp=Z,111nm,1.2s,baz=323,slow=8.6,SNR=32
TORD LR LR 14 14 22.4
comp=Z,2µm,19.0s,baz=314,slow=35
comp=Z,111nm,1.2s
O49A Covington 39.37 292 IAmb IAmb 13 59 05.7
comp=Z,66nm,1.2s
DBIC Dimbokro 39.66 131 P **P 13 59 01.5 -3.5**
DBIC Dimbokro 39.66 131 P **P 13 59 04.5 -0.5**
comp=Z,30nm,1.1s,baz=341,slow=8.3,SNR=7.6
DBIC LR LR 14 14 07.0
comp=Z,4µm,19.0s,baz=342,slow=34
comp=Z,30nm,1.1s
TKL Tuckaleechee C 39.98 284 LR LR 14 12 26.6
comp=Z,2µm,21.9s,baz=74,slow=31
L46A Eue Claire 40.50 295 IAmb IAmb 13 59 13.6
comp=Z,89nm,1.2s
LANS Liptovska Anna 40.53 54 *e*P **P 13 59 15.3 +3.4**
LANS pmax pmax
comp=Z,7.0nm,1.2s
PSZ Piszkesteto 40.87 56 ⇑P **P 13 59 15.2 +0.4**
PSZ Piszkesteto 40.87 56 ⇑P **P 13 59 15.2 +0.4**
BAUV El Baul 41.19 237 P **P 13 59 18.5 +0.9**
H43A Windswept, Lux 41.20 299 IAmb IAmb 13 59 19.5
comp=Z,72nm,1.4s
DAG Danmarks Havn 41.23 5 *i* P **P 13 59 17.6 +0.3**
DAG IAmb IAmb 13 59 21.6
comp=Z,57nm,1.4s
F42A Maple Grove Fa 41.30 301 IAmb IAmb 13 59 20.0
comp=Z,104nm,1.6s
L44A Lake County Fo 41.66 295 IAmb IAmb 13 59 24.3
comp=Z,69nm,1.3s
BOAV Boa Vista 41.66 222 *e*P **P 13 59 22.4 +0.9**
BOAV Boa Vista 41.66 222 P **P 13 59 20.5 -1.0**
comp=Z,20nm,1.4s
SWET Sewanee 41.80 285 IAmb IAmb 13 59 26.2
comp=Z,152nm,1.9s
RCBR Riachuelo 41.86 183 P **P 13 59 23.5 +0.4**
RCBR Riachuelo 41.86 183 LR LR 14 13 05.3
comp=Z,380nm,19.4s,baz=5.0,slow=31
RCBR Riachuelo 41.86 183 P **P 13 59 23.5 +0.4**
RCBR pmax pmax
comp=Z,32nm,1.2s
K43A Burlington 41.87 296 IAmb IAmb 13 59 25.1
comp=Z,69nm,1.4s
NEEM North Greenlan 42.01 354 *i* P **P 13 59 23.8 -0.2**
NEEM IAmb IAmb 13 59 30.1
comp=Z,20nm,1.1s
URIC Uribia, Colomb 42.07 244 P **P 13 59 23.0 -1.9**
comp=Z,458nmcomp=Z,19nm,1.1s
BZS Buzias 42.27 59 ⇑P **P 13 59 27.2 +0.9**
BZS Buzias 42.27 59 ⇑P **P 13 59 27.2 +0.9**
MTDJ Mount Denham 42.30 257 P P 13 59 20.5 -6.4
comp=Z,55nm,1.3s
KOLS Kolonicke sedl 42.38 54 *e*P **P 13 59 29.0 +1.9**
KOLS pmax pmax
comp=Z,8.0nm,1.0s
USIN University of 42.39 289 IAmb IAmb 13 59 34.6
comp=Z,79nm,1.2s
OLIL Olney 42.52 290 IAmb IAmb 13 59 35.3
comp=Z,53nm,1.0s
SURR Surduc 42.61 59 ⇑P **P 13 59 29.7 +0.7**
BOVS Bovan 42.63 62 ⇓P **P 13 59 30.0 +0.8**
WVT Waverly 43.01 287 P **P 13 59 31.6 -0.8**
WVT Waverly 43.01 287 P **P 13 59 31.6 -0.8**
WVT pmax pmax
comp=Z,74nm,1.8s
SDV Santo Domingo 43.02 240 P **P 13 59 33.7 +0.8**
SDV Santo Domingo 43.02 240 LR LR 14 15 29.2
comp=Z,341nm,21.2s,baz=62,slow=33
SDV Santo Domingo 43.02 240 *e*P **P 13 59 34.6 +1.8**
SDV Santo Domingo 43.02 240 P **P 13 59 30.6 -2.2**
comp=Z,32nm,0.9s
GZR Gura Zlata 43.11 60 ⇑P **P 13 59 33.8 +0.6**
GZR Gura Zlata 43.11 60 ⇑P **P 13 59 33.8 +0.6**
CRJC Cerrejon, Guaj 43.17 244 P **P 13 59 32.8 -1.1**
comp=Z,932nmcomp=Z,30nm,1.0s
MARR Marisel-Cluj 43.17 58 ⇓P **P 13 59 35.0 +1.3**
JFWS Jewell Farm 43.22 297 IAmb IAmb 13 59 36.4
comp=Z,92nm,1.7s
PABE Paberze 43.27 45 IAmb IAmb 13 59 41.8
comp=Z,103nm,1.3s
I40A Norwalk 43.31 298 IAmb IAmb 13 59 38.0
comp=Z,57nm,1.3s
E38A The Farm, Brul 43.55 302 IAmb IAmb 13 59 39.3
comp=Z,65nm,1.2s
SIUC Southern Illin 43.64 289 IAmb IAmb 13 59 45.0
comp=Z,74nm,1.0s
S44A Carbondale 43.67 289 IAmb IAmb 13 59 45.1
comp=Z,70nm,1.0s
VTS Vitosha 43.92 63 P **P 13 59 40.1 +0.3**
KKB Krupnik 44.00 65 P **P 13 59 41.6 +1.3**
Z47A Carrollton 44.11 283 IAmb IAmb 13 59 44.4
comp=Z,32nm,0.8s
TNR Turnu Rosu 44.11 59 ⇓P **P 13 59 41.6 +0.4**
TNR Turnu Rosu 44.11 59 ⇓P **P 13 59 41.6 +0.4**
N41A Harden Midland 44.12 294 IAmb IAmb 13 59 48.0
comp=Z,72nm,0.9s
ITM Ithomi 44.25 71 IAmb IAmb 13 59 49.8
comp=Z,74nm,1.5s
ARR Arges 44.41 59 ⇑P **P 13 59 44.6 +1.0**
BURAR Bucovina Array 44.47 56 P **P 13 59 43.3 -0.9**
BURAR Bucovina Array 44.47 56 ⇓P **P 13 59 44.6 +0.5**
BURAR Bucovina Array 44.47 56 ⇓P **P 13 59 44.6 +0.5**
FVM French Village 44.49 290 IAmb IAmb 13 59 50.8
comp=Z,31nm,0.9s
MMB Musomishta 44.52 65 P **P 13 59 45.9 +1.4**
FCC Fort Churchill 44.61 320 IAmb IAmb 13 59 47.8
comp=Z,33nm,1.0s
PGB Panagyurishte 44.62 63 P **P 13 59 46.3 +1.0**
EPLO Experimental L 44.63 307 IAmb IAmb 13 59 47.0
comp=Z,59nm,1.5s
VOIR 44.69 59 ⇓P **P 13 59 46.4 +0.5**
VOIR 44.69 59 ⇓P **P 13 59 46.4 +0.5**
PRPB Parauapebas 44.71 203 *e*P **P 13 59 47.4 +1.2**
FINES FINESS Array B 44.77 36 P **P 13 59 45.0 -1.1**
comp=Z,4.8nm,0.8s,baz=238,slow=3.6,SNR=9.5
FINES LR LR 14 16 08.7
comp=Z,1µm,21.8s,baz=271,slow=33
comp=Z,4.8nm,0.8s
PBMO Poplar Bluff 44.83 288 IAmb IAmb 13 59 53.8
comp=Z,69nm,1.1s
DOPR Dopca 44.83 58 ⇓P **P 13 59 47.6 +0.7**
NACGM Naroch 44.89 46 *e*P **P 13 59 46.4 -0.7**
VSU Vasula 44.89 40 *ce*P **P 13 59 46.7 -0.4**
VSU pmax pmax
comp=Z,56nm,1.3s
CCM Cathedral Cave 45.09 290 P **P 13 59 48.5 -0.5**
CCM IAmb IAmb 13 59 52.0
comp=Z,46nm,1.6s
CCM Cathedral Cave 45.09 290 P **P 13 59 48.5 -0.5**
CCM pmax pmax
comp=Z,47nm,1.6s
RZN Rozhen 45.21 64 P **P 13 59 51.2 +1.0**
ITTB Itaituba 45.23 211 *e*P **P 13 59 51.5 +1.2**
I37A Lemond, Waseca 45.26 299 IAmb IAmb 13 59 52.7
comp=Z,35nm,1.2s
P40A Paris 45.30 293 IAmb IAmb 13 59 57.2
comp=Z,43nm,1.0s
MLR Muntele Rosu 45.30 59 IAmb IAmb 14 00 12.0
comp=Z,95nm,1.9s
MLR Muntele Rosu 45.30 59 P **P 13 59 49.7 -1.1**
comp=Z,9.7nm,1.0s,baz=322,slow=4.2,SNR=7.2
comp=Z,9.7nm,1.0s
MLR Muntele Rosu 45.30 59 ⇑P **P 13 59 50.4 -0.4**
MLR Muntele Rosu 45.30 59 ⇑P **P 13 59 50.4 -0.4**
COVR Voineasa-Covas 45.42 58 ⇓P **P 13 59 52.4 +0.8**
MNK Minsk 45.54 46 *i* P **P 13 59 49.7 -2.7**
comp=E,22nm,0.8s
MNK *i* P **P 13 59 49.7 -2.7**
comp=N,24nm,0.8s
MNK *i* P **P 13 59 49.7 -2.7**
comp=Z,23nm,0.8s,baz=273
MNK *i* PcP PcP 14 00 55.7 -35
MNK *i* PP PP 14 01 15.2 -23
MNK *i* PPP PPP 14 01 59.2
MNK *i* S **S 14 06 30.9 -3.3**
MNK *i* SS **SS 14 10 06.6 +9.1**
MNK Minsk 45.54 46 *i* P **P 13 59 49.7 -2.7**
MNK *i* S **S 14 06 30.9 -3.3**
MNK pmax pmax
comp=N,24nm,0.8s
MNK pmax pmax
comp=Z,23nm,0.8s
MNK pmax pmax
comp=E,22nm,0.8s
MNK MLR MLR
comp=Z,961nm,14.0s
MNK MLR MLR
comp=E,717nm,17.0s
KDZ Kurdzhali 45.66 64 P **P 13 59 54.5 +1.0**
PLOR Plostina 45.72 58 ⇓P **P 13 59 54.7 +0.7**
PLOR Plostina 45.72 58 ⇓P **P 13 59 54.7 +0.7**
ELND Elena 45.76 62 ⇓P **P 13 59 54.8 +0.5**
R40A Maddies Statio 45.80 291 IAmb IAmb 14 00 00.8
comp=Z,37nm,1.1s
RDO Rodhopi 45.92 65 IAmb IAmb 14 00 03.1
comp=Z,28nm,1.1s
NOR Nord 45.94 3 *i* P **P 13 59 55.6 +0.3**
NOR IAmb IAmb 13 59 58.4
comp=Z,47nm,1.6s
ULM Lac du Bonnet 45.95 308 P **P 13 59 54.9 -0.8**
comp=Z,11nm,1.0s,baz=75,slow=9.3,SNR=10
ULM PP **PP 14 01 43.4 +0.3**
comp=Z,4.8nm,0.9s,baz=72,slow=10.0,SNR=5.4
ULM LR LR 14 18 58.8
comp=Z,5µm,18.8s,baz=84,slow=36
comp=Z,11nm,1.0s
ARCES ARCESS Array B 45.96 25 P **P 13 59 54.7 -0.8**
ARCES IAmb IAmb 13 59 57.5
comp=Z,56nm,1.1s
ARCES ARCESS Array B 45.96 25 P **P 13 59 54.8 -0.8**
comp=Z,41nm,1.0s,baz=264,slow=4.9,SNR=27
ARCES LR LR 14 17 12.5
comp=Z,586nm,18.3s,baz=265,slow=34
comp=Z,41nm,1.0s
BLKN Baker Lake 46.01 328 P **P 13 59 55.3 -0.5**
BLKN IAmb IAmb 13 59 57.5
comp=Z,30nm,1.0s
MGMO Mountain Grove 46.12 289 IAmb IAmb 14 00 03.6
comp=Z,32nm,1.1s
AGMN Agassiz Nation 46.20 305 IAmb IAmb 13 59 59.1
comp=Z,27nm,1.0s
JMB Yambol 46.32 63 P **P 13 59 59.2 +0.5**
P38A Dawn 46.38 293 IAmb IAmb 14 00 05.7
comp=Z,47nm,1.1s
MACA Manacapuru-AM 46.45 218 *e*P **P 14 00 01.4 +1.5**
KEV Kevo 46.52 25 P **P 13 59 59.8 -0.1**
KEV IAmb IAmb 14 00 01.3
comp=Z,53nm,1.2s
KEV Kevo 46.52 25 P **P 13 59 59.8 -0.1**
KEV pmax pmax
comp=Z,53nm,1.2s
SMTB Santa Maria do 46.63 199 *e*P **P 14 00 02.2 +0.8**
KIEV Kiev 46.67 51 P **P 13 59 59.7 -1.7**
KIEV IAmb IAmb 14 00 07.5
comp=Z,31nm,1.1s
KIEV Kiev 46.67 51 ⇑P **P 14 00 01.0 -0.4**
KIEV Kiev 46.67 51 P **P 14 00 01.6 +0.2**
KIEV Kiev 46.67 51 ⇑P **P 14 00 01.0 -0.4**
AKASG Malin Array Be 46.68 51 P **P 14 00 00.8 -0.6**
comp=Z,4.7nm,0.7s,baz=274,slow=8.0,SNR=21
AKASG LR LR 14 18 55.5
comp=Z,730nm,18.7s,baz=268,slow=35
comp=Z,4.7nm,0.7s
AKBB Malin Array Si 46.68 51 *ce*P **P 14 00 01.2 -0.2**
comp=Z,38nm,1.1s
AKBB Malin Array Si 46.68 51 *ce*P **P 14 00 01.2 -0.2**
AKBB pmax pmax
comp=Z,41nm,1.1s
KBS Kingsbay 46.69 11 *i* P **P 14 00 02.3 +1.2**
KBS pmax pmax
comp=Z,24nm,0.9s
WHAR Wooly Hollow 46.72 287 IAmb IAmb 14 00 08.2
comp=Z,27nm,1.1s
HARR Harsova 46.83 60 ⇑P **P 14 00 02.1 -0.6**
HARR Harsova 46.83 60 ⇑P **P 14 00 02.1 -0.6**
EZN Ezine 46.84 66 ⇓P **P 14 00 03.5 +0.7**
EZN Ezine 46.84 66 ⇓P **P 14 00 03.5 +0.7**
CFR Carcaliu 46.88 59 ⇑P **P 14 00 02.2 -0.8**
CFR Carcaliu 46.88 59 ⇑P **P 14 00 02.2 -0.8**
UALR University of 46.93 286 IAmb IAmb 14 00 09.5
comp=Z,47nm,1.1s
SPITS Spitsbergen Ar 47.00 13 P **P 14 00 03.9 +0.4**
comp=Z,28nm,0.9s,baz=182,slow=10.0,SNR=5.8
SPITS LR LR 14 14 36.5
comp=Z,1µm,20.9s,baz=234,slow=30
comp=Z,28nm,0.9s
SPITS Spitsbergen Ar 47.00 13 P **P 14 00 03.4 -0.2**
SPITS pmax pmax
comp=Z,57nm,1.1s
IDI Anoyia 47.11 73 P **P 14 00 04.9 -0.1**
IDI Anoyia 47.11 73 P **P 14 00 05.2 +0.1**
comp=Z,20nm,1.2s,baz=295,slow=6.6,SNR=9.1
IDI LR LR 14 17 15.9
comp=Z,260nm,20.8s,baz=294,slow=33
comp=Z,20nm,1.2s
TIRR Tirgusor 47.22 60 ⇑P **P 14 00 06.8 +1.1**
TIRR Tirgusor 47.22 60 ⇑P **P 14 00 06.8 +1.1**
X40A Basin Creek Fa 47.41 286 IAmb IAmb 14 00 13.7
comp=Z,40nm,1.1s
NPGB Novo Progresso 47.50 209 *e*P **P 14 00 08.7 +0.6**
RES Resolute Bay 47.82 342 LR LR 14 17 12.7
comp=Z,2µm,19.1s,baz=110,slow=32
ROSC El Rosal 48.45 240 P **P 14 00 15.6 -0.4**
comp=Z,5.9nm,0.4s,baz=46,slow=11,SNR=4.4
ROSC LR LR 14 18 32.2
comp=Z,756nm,21.7s,baz=53,slow=33
comp=Z,5.9nm,0.4s
APA Apatity 48.50 28 ⇓*i*P **P 14 00 12.2 -3.1**
APA *e* 14 01 37.4
APA *e* 14 02 11.6
APA *i* S **S 14 07 16.7 +0.6**
APA *e*SS **SS 14 10 44.7 -0.7**
APA pmax pmax
comp=Z,17nm,1.1s
MANT Manisa 48.89 68 IAmb IAmb 14 00 26.2
comp=Z,52nm,1.3s
GUY2C Guyana, Caldas 48.91 241 P **P 14 00 19.3 -0.4**
comp=Z,746nmcomp=Z,69nm,1.1s
FFC Flin Flon 49.11 315 P **P 14 00 20.0 -0.2**
FFC IAmb IAmb 14 00 22.5
comp=Z,55nm,1.3s
FFC Flin Flon 49.11 315 P **P 14 00 20.0 -0.2**
FFC pmax pmax
comp=Z,55nm,1.3s
SDBA SAO DESIDERIO 49.45 194 *e*P **P 14 00 23.6 +0.4**
DEOK Depew 49.77 289 IAmb IAmb 14 00 31.6
comp=Z,67nm,1.4s
OK051 E0350 and S346 49.81 290 IAmb IAmb 14 00 27.4
comp=Z,43nm,1.0s
OK052 Battle Ridge R 49.95 290 IAmb IAmb 14 00 28.4
comp=Z,77nm,1.3s
K30B Basset 49.98 299 IAmb IAmb 14 00 29.1
comp=Z,43nm,1.0s
MACC Macarena, Meta 50.07 237 P **P 14 00 27.2 -0.8**
comp=Z,748nmcomp=Z,41nm,1.3s
KAN01 Argonia South 50.29 291 IAmb IAmb 14 00 35.9
comp=Z,52nm,1.1s
KAN08 Anthony NE Sta 50.42 291 IAmb IAmb 14 00 36.5
comp=Z,56nm,1.1s
OBN Obninsk 50.48 45 P **P 14 00 30.1 -0.4**
OBN Obninsk 50.48 45 LR LR 14 22 03.7
comp=Z,975nm,18.1s,baz=215,slow=36
OBN Obninsk 50.48 45 *c i*P **P 14 00 30.7 +0.2**
OBN *i* 14 01 49.1
OBN pmax pmax
comp=Z,77nm,1.0s
OBN MLR MLR
comp=Z,928nm,17.0s
OK029 Liberty Lake 50.52 289 IAmb IAmb 14 00 33.0
comp=Z,40nm,1.0s
R32A Long Quarter, 50.59 293 IAmb IAmb 14 00 37.5
comp=Z,56nm,1.0s
SNDB Serra Nova Dou 50.65 202 *e*P **P 14 00 33.0 +0.7**
CROK Carrier 50.68 291 IAmb IAmb 14 00 34.2
comp=Z,69nm,1.1s
LOOK Love County 50.95 287 IAmb IAmb 14 00 41.3
comp=Z,54nm,1.0s
MOS Moscow 50.98 44 *e*P **P 14 00 31.4 -2.9**
MOS pmax pmax
comp=Z,39nm,0.9s
CLDB Colider 51.16 208 *e*P **P 14 00 36.8 +0.7**
X34A Smith Ranch, M 51.23 288 IAmb IAmb 14 00 39.0
comp=Z,40nm,1.0s
Z35A Perchaven, San 51.25 286 IAmb IAmb 14 00 43.1
comp=Z,56nm,1.0s
KLMR Klimovskoe 51.28 37 *e*P **P 14 00 34.0 -2.5**
KLMR *e* 14 01 48.7
KLMR pmax pmax
comp=Z,38nm,1.4s
HKT Hockley 51.47 282 *i* P **P 14 00 39.9 +1.6**
HKT pmax pmax
comp=Z,14nm,1.0s
CMC01 Camacan, BA 51.56 187 *e*P **P 14 00 40.2 +1.1**
ANTO Ankara 51.59 64 P **P 14 00 39.4 +0.1**
ANTO P **P 14 00 39.4 +0.1**
DGMT Dagmar 51.62 307 IAmb IAmb 14 00 41.9
comp=Z,48nm,1.2s
FW06 Azle 51.62 286 IAmb IAmb 14 00 42.0
comp=Z,86nm,1.4s
POPC Popayan, Colom 51.73 240 P **P 14 00 40.4 -0.3**
comp=Z,18nm,0.8s
FW13 Cleburne 51.77 285 IAmb IAmb 14 00 47.4
comp=Z,34nm,0.9s
EDA Edea 51.83 118 P **P 14 00 41.8 +0.5**
EDA IAmb IAmb 14 00 46.1
comp=Z,43nm,1.2s
JANB Januaria 51.92 193 *e*P **P 14 00 41.8 0.0**
WTFS Witchita Falls 52.03 287 IAmb IAmb 14 00 44.4
comp=Z,37nm,1.1s
PDRB Porto dos Gac 52.20 209 *e*P **P 14 00 44.7 +0.8**
OGNE Ogallala 52.22 297 IAmb IAmb 14 00 49.5
comp=Z,41nm,1.1s
BR131 Keskin Array S 52.25 64 P **P 14 00 45.3 +1.0**
SNR=6.3
BRTR Keskin Array B 52.25 64 P **P 14 00 43.4 -0.9**
BRTR Keskin Array B 52.25 64 P **P 14 00 44.0 -0.3**
comp=Z,3.6nm,1.0s,baz=269,slow=5.5,SNR=15
comp=Z,3.6nm,1.0s
BRTR Keskin Array B 52.25 64 *i* P **P 14 00 46.2 +1.9**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
LPSR Galich'ya Gora 52.31 47 *e*P **P 14 00 43.4 -0.9**
LPSR pmax pmax
comp=Z,50nm,1.0s
BBAC Balboa, Cauca 52.49 240 P **P 14 00 46.1 -0.3**
comp=Z,911nmcomp=Z,68nm,0.7s
RSSD Black Hills 52.67 302 P **P 14 00 47.0 -0.4**
RSSD Black Hills 52.67 302 P **P 14 00 47.0 -0.4**
RSSD pmax pmax
comp=Z,9.0nm,1.1s
VORR Voronezh 52.69 49 *e*P **P 14 00 45.5 -1.6**
VORR pmax pmax
comp=Z,30nm,0.9s
JTS Las Juntas de 52.75 254 LR LR 14 19 19.0
comp=Z,860nm,21.7s,baz=42,slow=32
VSR Storozhevoye 52.77 49 *e*P **P 14 00 45.6 -2.2**
VSR pmax pmax
comp=Z,8.0nm,1.0s
SMWD Samnorwood 52.89 290 IAmb IAmb 14 00 51.0
comp=Z,41nm,1.1s
VORD Divnogorie 52.91 49 *e*P **P 14 00 47.1 -1.7**
VORD pmax pmax
comp=Z,20nm,0.9s
BDFB Brasilia 53.26 197 P **P 14 00 51.5 -0.3**
BDFB IAmb IAmb 14 00 54.3
comp=Z,62nm,1.6s
BDFB Brasilia 53.26 197 P **P 14 00 52.2 +0.5**
comp=Z,8.3nm,0.8s,baz=24,slow=9.4,SNR=7.9
BDFB LR LR 14 19 57.7
comp=Z,1µm,21.5s,baz=17,slow=32
comp=Z,8.3nm,0.8s
BDFB Brasilia 53.26 197 P **P 14 00 51.5 -0.3**
BDFB pmax pmax
comp=Z,62nm,1.6s
KSCO Kaye Shedlock' 53.28 295 IAmb IAmb 14 00 58.5
comp=Z,47nm,1.2s
ANN Anapa 53.35 57 *e*P P 14 00 46.2 -6.0
ANN pmax pmax
comp=Z,47nm,0.9s
ANN MLR MLR
comp=Z,426nm,15.0s
ANN MLR MLR
comp=E,383nm,14.0s
ANN MLR MLR
comp=N,538nm,15.0s
ABTX Abilene, Hawle 53.38 287 IAmb IAmb 14 00 54.3
comp=Z,37nm,1.2s
LAO LASA Array 53.41 305 IAmb IAmb 14 00 55.9
comp=Z,62nm,1.1s
BRDY Brady 53.41 285 IAmb IAmb 14 00 59.4
comp=Z,50nm,1.0s
APMT Aspermont 53.47 288 IAmb IAmb 14 00 59.8
comp=Z,33nm,1.0s
BONI La Bonita 53.81 239 P **P 14 00 55.8 -0.4**
comp=Z,2µmcomp=Z,42nm,1.1s
MTO3 Montecristo 53.83 261 P **P 14 00 55.4 -0.9**
DKNS Dickens 53.96 288 IAmb IAmb 14 01 03.2
comp=Z,33nm,1.0s
RTBA Rita Blanca 54.28 292 IAmb IAmb 14 01 01.7
comp=Z,46nm,1.5s
ARAG Araguaiana, MT 54.33 201 *e*P **P 14 00 60.0 +0.5**
YKAW1 Yellowknife Wh 54.36 326 P **P 14 00 57.4 -1.8**
YKAW1 IAmb IAmb 14 01 00.6
comp=Z,49nm,1.2s
HNDO Hondo 54.37 283 IAmb IAmb 14 01 07.3
comp=Z,25nm,1.0s
JCT Junction City 54.38 284 IAmb IAmb 14 01 06.5
comp=Z,50nm,1.0s
YKA Yellowknife Ar 54.41 326 P **P 14 00 58.8 -0.8**
YKA Yellowknife Ar 54.41 326 P **P 14 00 59.4 -0.3**
comp=Z,17nm,1.1s,baz=74,slow=7.3,SNR=17
YKA PcP **PcP 14 02 01.0 -2.2**
comp=Z,3.8nm,0.9s,baz=77,slow=3.9,SNR=4.0
YKA LR LR 14 23 17.2
comp=Z,2µm,19.0s,baz=74,slow=35
comp=Z,17nm,1.1s
YKA Yellowknife Ar 54.41 326 *i* P **P 14 01 00.1 +0.5**
YKA pmax pmax
comp=Z,17nm,1.1s
OTAV Otavalo 54.60 239 P **P 14 01 02.4 +0.2**
OTAV IAmb IAmb 14 01 04.7
comp=Z,59nm,1.5s
OTAV Otavalo 54.60 239 P **P 14 01 02.4 +0.2**
OTAV pmax pmax
comp=Z,59nm,1.5s
OTAV Otavalo 54.60 239 *e*P **P 14 01 02.7 +0.6**
OTAV Otavalo 54.60 239 P **P 14 01 00.5 -1.7**
POST Post 54.64 288 IAmb IAmb 14 01 08.4
comp=Z,45nm,1.1s
VILB Vilhena 54.82 212 *e*P **P 14 01 04.5 +1.3**
K22A Casper 54.85 301 IAmb IAmb 14 01 09.1
comp=Z,44nm,1.2s
DIAM Diamantina, MG 54.99 191 *e*P **P 14 01 04.9 +0.5**
SJMB Sao Joao De Ma 55.04 188 *e*P **P 14 01 05.0 +0.4**
ERBR Yeremizino-Bor 55.13 55 *e*P **P 14 01 05.0 -0.1**
ERBR pmax pmax
comp=Z,14nm,0.6s
ERBR MLR MLR
comp=Z,579nm,16.0s
ISCO Idaho Springs 55.18 297 IAmb IAmb 14 01 09.3
comp=Z,65nm,2.0s
OZNA Ozona 55.23 285 IAmb IAmb 14 01 08.3
comp=Z,33nm,1.0s
MSTX Muleshoe 55.25 289 IAmb IAmb 14 01 08.8
comp=Z,75nm,1.7s
SOC Sochi 55.30 58 *e*P **P 14 01 06.5 +0.2**
SOC *e* 14 03 11.0
SOC *e*PPP PPP 14 04 32.7
SOC *e*S **S 14 08 51.2 +1.0**
SOC *e*SS **SS 14 12 38.3 +4.2**
SOC *e*SSS SSS 14 14 38.1
SOC MLR MLR
comp=Z,212nm,16.0s
DRIO Del Rio 55.46 283 IAmb IAmb 14 01 14.2
comp=Z,25nm,1.0s
RIB01 Linhares ES 55.56 187 *e*P **P 14 01 08.6 +0.2**
IPMB Ipameri, GO 55.56 197 *e*P **P 14 01 08.7 +0.2**
PMNB Patos De Minas 55.72 194 *e*P **P 14 01 10.2 +0.6**
SALV Santo Antonio 55.76 206 *e*P **P 14 01 10.2 +0.3**
ODSA Odessa 55.83 287 IAmb IAmb 14 01 12.9
comp=Z,29nm,1.2s
RLMT Red Lodge 55.91 304 IAmb IAmb 14 01 17.9
comp=Z,78nm,1.6s
MMAI Mount Meron Ar 56.04 71 P **P 14 01 11.5 -0.5**

comp=Z,0.4nm,0.2s,baz=268,slow=4.3,SNR=1.7
MMAI LR LR 14 25 33.7
comp=Z,301nm,19.9s,baz=280,slow=36
comp=Z,0.4nm,0.2s
HAYD Hayden 56.10 298 IAmb IAmb 14 01 15.4
comp=Z,31nm,1.3s
MNHN Monahans 56.32 287 IAmb IAmb 14 01 20.4
comp=Z,31nm,0.9s
A36M Sachs Harbour 56.41 338 P **P** **14 01 13.8 0.0**
baz=76
SAND Sanderson 56.41 285 IAmb IAmb 14 01 21.1
comp=Z,25nm,0.9s
YMP Mirror Lake Pl 56.63 304 IAmb IAmb 14 01 19.5
comp=Z,54nm,1.1s
PTLB Pontes e Lacer 56.63 209 *e*P **P** **14 01 17.2 +1.2**
KIRV Kirov 56.63 39 LR LR 14 24 15.8
comp=Z,1μm,19.2s,baz=287,slow=35
KIRV Kirov 56.63 39*c**e*P **P** **14 01 15.2 -0.4**
CMIG Matias Romero 56.80 267 LR LR 14 22 04.3
comp=Z,577nm,21.5s,baz=55,slow=32
CZSB Cruzeiro do Su 56.88 228 IAmb IAmb 14 01 18.6
comp=Z,37nm,0.9s
CZSB Cruzeiro do Su 56.88 228 *e*P **P** **14 01 17.0 -0.9**
GHAJ Ghor Haditha 56.88 73 IAmb IAmb 14 01 27.4
comp=Z,40nm,1.0s
PD31 Pinedale Array 56.91 302 IAmb IAmb 14 01 20.5
comp=Z,59nm,1.4s
PDAR Pinedale Array 56.91 302 P **P** **14 01 17.2 -1.0**
PDAR Pinedale Array 56.91 302 P **P** **14 01 17.5 -0.7**
comp=Z,11nm,0.9s,baz=74,slow=6.3,SNR=47
PDAR LR LR 14 25 33.1
comp=Z,2μm,18.9s,baz=62,slow=36
comp=Z,11nm,0.9s
O20A White River Ci 56.94 298 IAmb IAmb 14 01 32.2
comp=Z,40nm,1.2s
PP1B Ponte de Pedra 57.07 204 *e*P **P** **14 01 19.9 +0.8**
PECS Pecos 57.16 287 IAmb IAmb 14 01 34.2
comp=Z,34nm,1.5s
KIV Kislovodsk 57.19 57 P **P** **14 01 21.7 +1.7**
KIV Kislovodsk 57.19 57 *e*P **P** **14 01 20.0 0.0**
KIV *e*S **S** **14 09 15.4 -0.2**
KIV *e*SS **SS** **14 12 59.9 -4.2**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,216nm,17.0s
SHA1 Shidzhatmaz 57.25 57 *i*P **P** **14 01 20.9 +0.3**
BOZ Bozeman (W) 57.32 305 IAmb IAmb 14 01 23.7
comp=Z,39nm,1.2s
YHB Horse Butte 57.32 304 IAmb IAmb 14 01 24.4
comp=Z,40nm,1.1s
KBZ Khabaz 57.41 57 P **P** **14 01 21.5 +0.1**
comp=Z,6.2nm,0.9s,baz=310,slow=7.1,SNR=7.3
comp=Z,6.2nm,0.9s
KBZ Khabaz 57.41 57*c**e*P **P** **14 01 22.1 +0.7**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
SNOW Snow King Moun 57.48 303 IAmb IAmb 14 01 30.1
comp=Z,46nm,1.1s
ASF Jabal al Asfar 57.54 72 LR LR 14 26 51.1
comp=Z,149nm,18.2s,baz=323,slow=37
TPAW Teton Pass 57.60 303 IAmb IAmb 14 01 25.4
comp=Z,26nm,1.1s
ANMO Albuquerque 57.65 292 P **P** **14 01 23.1 -0.4**
ANMO Albuquerque 57.65 292 LR LR 14 23 49.7
comp=Z,4μm,21.5s,baz=158,slow=34
ANMO Albuquerque 57.65 292*c**e*P **P** **14 01 25.2 +1.7**
ANMO pmax pmax
comp=Z,14nm,1.3s
BSCB Bom Sucesso 57.81 192 *e*P **P** **14 01 24.2 -0.2**
TXAR Lajitas Array 57.89 285 P **P** **14 01 25.2 0.0**
TXAR Lajitas Array 57.89 285 P **P** **14 01 25.5 +0.4**
comp=Z,13nm,1.0s,baz=90,slow=5.4,SNR=61
TXAR LR LR 14 23 48.3
comp=Z,992nm,21.7s,baz=56,slow=34
comp=Z,13nm,1.0s
SIV San Ignacio 57.91 211 P **P** **14 01 25.9 +0.8**
comp=Z,17nm,0.8s,baz=37,slow=6.5,SNR=74
SIV LR LR 14 24 46.8
comp=Z,508nm,19.0s,baz=59,slow=34
comp=Z,17nm,0.8s
DLMT Dillon 58.03 305 IAmb IAmb 14 01 29.1
comp=Z,62nm,1.1s
PV21 Cone Mtn., Par 58.06 297 IAmb IAmb 14 01 29.2
comp=Z,26nm,1.1s
PV23 Carpenter Ridg 58.13 297 IAmb IAmb 14 01 45.6
comp=Z,24nm,1.1s
PV18 Skein Mesa, Pa 58.14 296 IAmb IAmb 14 02 00.6
comp=Z,40nm,1.6s
WRGLY Wrigley 58.16 328 P **P** **14 01 26.9 +0.6**
baz=72,SNR=13
CAM01 Campos-RJ 58.18 188 *e*P **P** **14 01 26.8 -0.1**
MVCO Mesa Verde 58.25 295 IAmb IAmb 14 01 31.2
comp=Z,35nm,1.1s
VHRN Van Horn 58.28 287 IAmb IAmb 14 01 36.0
comp=Z,30nm,1.0s
Y22A Socorro 58.45 291 IAmb IAmb 14 01 36.4
comp=Z,23nm,1.1s
DUB01 Friburgo-RJ 58.52 189 *e*P **P** **14 01 30.0 +0.6**
P18A Preston Nutter 58.56 298 IAmb IAmb 14 01 32.2
comp=Z,17nm,0.8s
HWUT Hardware Ranch 58.72 301 IAmb IAmb 14 01 33.1
comp=Z,26nm,1.0s
TCUT Toone Canyon 58.80 300 IAmb IAmb 14 01 41.2
comp=Z,29nm,1.1s
VAS01 Vassouras-RJ 58.86 190 *e*P **P** **14 01 32.1 +0.4**
SRU San Rafael Swe 58.96 298 IAmb IAmb 14 01 38.9
comp=Z,25nm,1.2s
JLU Jordanelle 59.03 300 IAmb IAmb 14 01 35.6
comp=Z,40nm,0.9s
TMUT Trail Mountain 59.37 298 IAmb IAmb 14 01 38.9
comp=Z,43nm,1.3s
KOTAN Kotaneelee Air 59.44 324 P **P** **14 01 35.8 +0.5**
baz=70,SNR=11
HVU Hansel Valley 59.49 302 IAmb IAmb 14 01 38.5
comp=Z,48nm,1.2s
121A Cookes Peak, D 59.67 290 IAmb IAmb 14 02 11.1
comp=Z,29nm,1.3s
RCLB Rio Claro- Sao 59.71 195 *e*P **P** **14 01 38.0 +0.4**
NEW Newport 59.88 310 IAmb IAmb 14 01 41.0
comp=Z,37nm,1.0s
NEW Newport 59.88 310 LR LR 14 27 33.0
comp=Z,4μm,18.7s,baz=68,slow=36
BGU Big Grassy Mou 60.01 301 IAmb IAmb 14 01 42.6
comp=Z,47nm,1.2s
AQDB Aquidauana 60.02 204 IAmb IAmb 14 01 42.0
comp=Z,36nm,1.0s
GNI Garni 60.05 60 LR LR 14 29 10.4
comp=Z,204nm,19.1s,baz=274,slow=38
GNI Garni 60.05 60 P **P** **14 01 41.2 +1.2**
SLP01 Ubatuba-SP 60.15 192 *e*P **P** **14 01 41.4 +0.7**
VAO Valinhos 60.17 194 P **P** **14 01 41.7 +0.9**
VAO Valinhos 60.17 194 *e*P **P** **14 01 42.0 +1.2**
INK Inuvik 60.26 335 LR LR 14 25 15.2
comp=Z,3μm,18.3s,baz=65,slow=34
INK Inuvik 60.26 335 P **P** **14 01 41.1 +0.3**
baz=67,SNR=18
TOAD Toad River Com 60.46 323 P **P** **14 01 42.9 +0.5**
baz=68,SNR=5.4
TCRU Three Creeks R 60.53 298 IAmb IAmb 14 01 46.7
comp=Z,39nm,1.2s
LIRD Liard River Hi 60.66 324 P **P** **14 01 44.5 +0.8**
baz=68
F31M Tsiigehtchic 60.69 334 P **P** **14 01 44.1 +0.4**
baz=66,SNR=20
MAK Makhachkala 60.82 56 *e*P P 14 01 39.3 -5.7
MAK *e* 14 03 57.0
MAK *e*S S 14 09 52.6 -10
MAK *e*SS **SS** **14 14 02.0 +1.2**
MAK *e*SSS SSS 14 16 37.1
MAK pmax pmax
comp=Z,101nm,1.0s
MAK MLR MLR
comp=Z,835nm,17.0s
TGTN Hyland Airport 60.85 327 P **P** **14 01 45.8 +0.7**
baz=67,SNR=14
PKCU Pink Cliffs 60.92 297 IAmb IAmb 14 01 48.9
comp=Z,31nm,1.0s
WUAZ Wupatki 61.06 295 IAmb IAmb 14 01 50.6
comp=Z,35nm,1.1s
G31M Satah River 61.09 334 P **P** **14 01 47.1 +0.6**
baz=65,SNR=9.0
TRCB Terra Rica 61.29 200 *e*P **P** **14 01 49.0 +0.7**
319A Douglas 61.32 289 IAmb IAmb 14 02 03.0
comp=Z,41nm,1.4s
F30M Barrier River 61.33 335 P **P** **14 01 48.9 +0.8**
baz=64,SNR=19

LPAZ La Paz 61.41 218 P **P** **14 01 51.0 +1.1**
comp=Z,50nm,0.9s,baz=21,slow=6.1,SNR=107
LPAZ LR LR 14 26 20.3
comp=Z,780nm,19.4s,baz=29,slow=34
comp=Z,50nm,0.9s
LPAZ La Paz 61.41 218 *e*P **P** **14 01 50.1 +0.1**
SZCU Shurtz Canyon 61.42 297 IAmb IAmb 14 01 52.4
comp=Z,31nm,1.1s
KNB Kanab 61.48 297 IAmb IAmb 14 01 52.0
comp=Z,27nm,1.2s
LNOR Lincton Mounta 61.54 308 IAmb IAmb 14 01 52.3
comp=Z,35nm,1.3s
D28M Stokes Point 61.54 337 P **P** **14 01 50.3 +0.9**
baz=63
H31M Peel River 61.59 333 IAmb IAmb 14 01 56.2
comp=Z,27nm,1.0s
H31M Peel River 61.59 333 P **P** **14 01 50.9 +0.9**
baz=65,SNR=15
X16A Lo Mia Camp, P 61.59 293 IAmb IAmb 14 01 55.2
comp=Z,24nm,1.4s
ELK Elko 61.61 301 IAmb IAmb 14 01 53.4
comp=Z,22nm,1.3s
ELK Elko 61.61 301 LR LR 14 28 44.0
comp=Z,3μm,18.4s,baz=67,slow=36
CCUT Cedar City 61.64 297 IAmb IAmb 14 01 54.8
comp=Z,52nm,1.4s
WTLY Watson Lake, Y 61.65 325 IAmb IAmb 14 01 53.9
comp=Z,64nm,1.6s
WTLY Watson Lake, Y 61.65 325 P **P** **14 01 51.2 +0.8**
baz=66
E29M Blow River 61.70 336 IAmb IAmb 14 01 52.4
comp=Z,28nm,1.1s
E29M Blow River 61.70 336 P **P** **14 01 51.1 +0.5**
baz=63,SNR=13
MMPY Sheldon Lake, 61.71 329 IAmb IAmb 14 01 54.6
comp=Z,34nm,1.4s
MMPY Sheldon Lake, 61.71 329 P **P** **14 01 51.5 +0.6**
baz=66,SNR=8.2
SPR3 Spring Creek 3 61.71 299 IAmb IAmb 14 01 55.7
comp=Z,44nm,1.2s
MURT Porto Murtinho 61.76 205 *e*P **P** **14 01 51.0 -0.5**
G30M tAoh Zraii Nji 61.76 334 P **P** **14 01 51.7 +0.6**
baz=64,SNR=12
YPT Yellepit 61.90 308 IAmb IAmb 14 01 54.3
comp=Z,34nm,1.2s
ARTI Arti 61.93 39 P **P** **14 01 51.6 -0.8**
ARTI IAmb IAmb 14 01 54.8
comp=Z,30nm,1.1s
ARTI Arti 61.93 39 LR LR 14 27 49.4
comp=Z,1μm,18.9s,baz=296,slow=35
ARTI Arti 61.93 39*c* *i*P **P** **14 01 52.7 +0.3**
ARTI pmax pmax
comp=Z,35nm,1.2s
ARTI MLR MLR
comp=Z,1μm,17.0s
WAH2 Wahluke Slope 61.99 309 IAmb IAmb 14 01 55.1
comp=Z,38nm,1.0s
TUC Tucson 62.04 291 P **P** **14 01 54.1 +0.5**
TUC Tucson 62.04 291 P **P** **14 01 54.1 +0.5**
TUC pmax pmax
comp=Z,16nm,1.5s
AMBA Amambai (Brazi 62.09 202 *e*P **P** **14 01 54.5 +0.7**
HAWA Hanford 62.12 309 IAmb IAmb 14 01 56.8
comp=Z,28nm,1.1s
E28M Babbage River 62.13 336 IAmb IAmb 14 01 55.2
comp=Z,22nm,0.9s
E28M Babbage River 62.13 336 P **P** **14 01 54.1 +0.6**
baz=62,SNR=9.1
EPYK Eagle Plains 62.21 334 P **P** **14 01 55.0 +0.9**
baz=63,SNR=12
D27M Malcolm River 62.28 337 P **P** **14 01 55.4 +0.8**
baz=61,SNR=14
G29M Pine Creek 62.42 334 P **P** **14 01 56.4 +0.9**
baz=62,SNR=12
LTY Liberty 62.47 310 IAmb IAmb 14 01 57.4
comp=Z,43nm,1.2s
I30M Mount Dempster 62.61 332 IAmb IAmb 14 01 59.2
comp=Z,24nm,1.1s
I30M Mount Dempster 62.61 332 P **P** **14 01 57.6 +0.7**
baz=63,SNR=14
J08A Circle Bar Ran 62.70 305 IAmb IAmb 14 02 02.9
comp=Z,32nm,1.0s
NNA Nana 62.72 229 LR LR 14 28 22.8
comp=Z,298nm,19.4s,baz=22,slow=35
F28M Old Crow 62.72 336 P **P** **14 01 57.9 +0.4**
baz=61,SNR=30
H29M Whitestone 62.87 334 P **P** **14 01 59.3 +0.8**
baz=62,SNR=15
J30M Hart River 62.89 332 IAmb IAmb 14 02 02.3
comp=Z,43nm,1.2s
J30M Hart River 62.89 332 P **P** **14 01 59.7 +0.9**
baz=62,SNR=22
DLBC Dease Lake 62.92 324 LR LR 14 28 43.1
comp=Z,16μm,18.4s,baz=43,slow=36
DLBC Dease Lake 62.92 324 P **P** **14 01 59.3 +0.3**
baz=64
C27K Jago River 62.92 338 P **P** **14 01 59.5 +0.7**
baz=59,SNR=15
R33M Jennings River 62.95 325 IAmb IAmb 14 02 02.5
comp=Z,48nm,1.4s
R33M Jennings River 62.95 325 P **P** **14 01 59.7 +0.4**
baz=64,SNR=9.3
Y14A Wickenburg 62.97 294 IAmb IAmb 14 02 03.3
comp=Z,19nm,1.2s
E27K Coleen River 63.00 336 P **P** **14 01 60.0 +0.6**
baz=60,SNR=21
W13A Hualapai Mount 63.09 295 IAmb IAmb 14 02 04.6
comp=Z,29nm,1.2s
N32M Quiet Lake 63.12 328 P **P** **14 02 01.3 +1.0**
baz=63
C26K Camden Bay 63.12 339 P **P** **14 02 01.1 +1.1**
baz=58
MAYO Mayo, Yukon 63.17 331 P **P** **14 02 01.8 +1.3**
baz=62,SNR=9.0
M31M Drury Creek, Y 63.20 329 P **P** **14 02 02.3 +1.5**
baz=63
I29M Ogilvie Camp, 63.26 333 P **P** **14 02 02.1 +1.0**
baz=61
G06A Carlson Farm, 63.30 308 IAmb IAmb 14 02 04.2
comp=Z,29nm,1.2s
P33M Teslin, Yukon 63.42 327 IAmb IAmb 14 02 06.3
comp=Z,30nm,1.3s
P33M Teslin, Yukon 63.42 327 P **P** **14 02 03.2 +0.8**
baz=63,SNR=8.0
V12A Nelson 63.51 296 IAmb IAmb 14 02 06.8
comp=Z,40nm,1.3s
T35M Bob Quinn 63.66 323 P **P** **14 02 04.4 +0.5**
baz=64
S34M Telegraph Cree 63.68 324 P **P** **14 02 04.7 +0.8**
baz=63
K29M Barlow Dome 63.69 331 P **P** **14 02 04.7 +0.6**
baz=61,SNR=32
G27K Doyon Strip 63.72 335 IAmb IAmb 14 02 06.8
comp=Z,37nm,1.1s
G27K Doyon Strip 63.72 335 P **P** **14 02 04.6 +0.4**
baz=59,SNR=30
Q32M Nakina River 63.74 325 P **P** **14 02 04.6 0.0**
baz=63
I28M Miner Creek 63.81 333 IAmb IAmb 14 02 07.1
comp=Z,30nm,1.0s
I28M Miner Creek 63.81 333 P **P** **14 02 05.5 +0.6**
baz=60,SNR=20
D25K Kavik River 63.88 339 IAmb IAmb 14 02 06.9
comp=Z,29nm,1.1s
D25K Kavik River 63.88 339 P **P** **14 02 05.3 +0.2**
baz=56,SNR=10
TPNV Topopah Spring 63.97 298 IAmb IAmb 14 02 13.7
comp=Z,22nm,1.2s
H27K Steamboat Moun 63.98 335 IAmb IAmb 14 02 08.6
comp=Z,23nm,0.9s
H27K Steamboat Moun 63.98 335 P **P** **14 02 06.5 +0.6**
baz=59,SNR=23
M30M Minto, Yukon 64.02 330 IAmb IAmb 14 02 09.1
comp=Z,24nm,1.1s
M30M Minto, Yukon 64.02 330 P **P** **14 02 07.5 +1.3**
baz=61,SNR=13
113A Mohawk Valley, 64.07 293 IAmb IAmb 14 02 10.3
comp=Z,20nm,1.1s
F26K Sheenjek River 64.08 337 P **P** **14 02 07.6 +1.0**
baz=58,SNR=21
P32M Atlin 64.11 326 IAmb IAmb 14 03 22.0
comp=Z,38nm,1.6s
P32M Atlin 64.11 326 P **P** **14 02 08.0 +1.1**
baz=62
N31M Braeburn, Yuko 64.12 329 P **P** **14 02 08.0 +1.1**
baz=62,SNR=9.6
WHY Whitehorse 64.13 327 P **P** **14 02 08.4 +1.4**
baz=62,SNR=12

MTPC Mountain Pass 64.13 296 IAmb IAmb 14 02 10.9
comp=Z,24nm,0.9s
TPH Tonopah 64.15 299 IAmb IAmb 14 02 10.2
comp=Z,45nm,1.2s
BLYC Blythe 64.17 294 IAmb IAmb 14 02 11.2
comp=Z,29nm,1.1s
AKTO Aktyubinsk 64.25 45 LR LR 14 29 11.4
comp=Z,1μm,19.9s,baz=270,slow=35
L29M L29M 64.29 331 P **P** **14 02 09.2 +1.2**
baz=60,SNR=57
E25K Arctic Village 64.30 337 P **P** **14 02 09.3 +1.3**
baz=56,SNR=22
DAWY Dawson 64.30 332 P **P** **14 02 09.3 +1.3**
baz=60,SNR=34
C24K Franklin Bluff 64.33 339 P **P** **14 02 09.3 +1.3**
baz=54
I27K Kandik River 64.33 334 P **P** **14 02 09.3 +1.1**
baz=59,SNR=13
G26K Porcupine Rive 64.37 336 P **P** **14 02 09.4 +1.1**
baz=57,SNR=23
BMAR Burnt Mountain 64.37 336 P **P** **14 02 07.3 -1.1**
O30N Mendenhall 64.60 328 IAmb IAmb 14 02 12.8
comp=Z,31nm,1.2s
O30N Mendenhall 64.60 328 P **P** **14 02 11.3 +1.3**
baz=61,SNR=11
EGAK Eagle 64.60 333 IAmb IAmb 14 02 12.8
comp=Z,35nm,1.2s
EGAK Eagle 64.60 333 P **P** **14 02 11.2 +1.3**
baz=59,SNR=13
GWY Greenwater Val 64.62 297 IAmb IAmb 14 02 14.8
comp=Z,42nm,1.2s
F25K Christian Rive 64.62 337 P **P** **14 02 11.3 +1.3**
baz=56,SNR=36
FURC Furnace Creek, 64.63 298 IAmb IAmb 14 02 14.0
comp=Z,29nm,1.1s
NV11 Mina Array Sit 64.64 300 IAmb IAmb 14 02 13.0
comp=Z,27nm,1.1s
N30M Aishikik Lake 64.68 329 IAmb IAmb 14 02 14.2
comp=Z,36nm,1.1s
N30M Aishikik Lake 64.68 329 P **P** **14 02 12.2 +1.6**
baz=60,SNR=12
D24K Happy Valley 64.69 339 P **P** **14 02 11.6 +1.2**
baz=54
BBB Bella Bella 64.70 317 LR LR 14 29 19.6
comp=Z,3μm,21.1s,baz=66,slow=35
GLA Glamis 64.72 294 IAmb IAmb 14 02 14.8
comp=Z,38nm,1.1s
NVAR Mina Array Bea 64.75 300 P **P** **14 02 11.2 -0.5**
NVAR Mina Array Bea 64.75 300 P **P** **14 02 12.2 +0.6**
comp=Z,13nm,1.0s,baz=73,slow=6.4,SNR=52
NVAR LR LR 14 31 04.1
comp=Z,2μm,18.2s,baz=52,slow=37
comp=Z,13nm,1.0s
M29M Somma Creek 64.76 330 P **P** **14 02 12.8 +1.7**
baz=60,SNR=24
C23K Itkillik River 64.79 340 P **P** **14 02 12.7 +1.6**
baz=53,SNR=10
GO01 Chusmiza 64.81 217 IAmb IAmb 14 02 13.4
comp=Z,26nm,0.9s
SKAG Skagway 64.90 326 IAmb IAmb 14 02 33.2
comp=Z,42nm,1.7s
SKAG Skagway 64.90 326 P **P** **14 02 13.3 +1.4**
baz=61
BC3 Big Chuckawall 64.90 294 IAmb IAmb 14 02 15.8
comp=Z,32nm,1.3s
PAHR Pah Rah Range 64.92 302 IAmb IAmb 14 02 15.1
comp=Z,34nm,1.1s
WRAK Wrangell Islan 64.95 323 P **P** **14 02 13.9 +1.6**
baz=62
I26K Coal Creek Min 65.04 334 P **P** **14 02 14.0 +1.3**
baz=57
V35K Ketchikan 65.10 321 P **P** **14 02 14.4 +1.1**
baz=62
HYT Haines Junctio 65.17 328 IAmb IAmb 14 02 23.9
comp=Z,51nm,1.8s
HYT Haines Junctio 65.17 328 P **P** **14 02 15.3 +1.4**
baz=60
A22K Sinclair Lake 65.21 342 P **P** **14 02 14.9 +1.1**
baz=50
TOLK Toolik Lake Re 65.22 339 IAmb IAmb 14 02 16.6
comp=Z,39nm,1.1s
TOLK Toolik Lake Re 65.22 339 P **P** **14 02 14.8 +0.9**
baz=53,SNR=11
E24K Your Creek 65.23 338 P **P** **14 02 15.2 +1.2**
baz=54,SNR=30
G25K Bearman Lake 65.23 336 P **P** **14 02 15.6 +1.6**
baz=56,SNR=34
B22K Teshekpuk Lake 65.24 341 P **P** **14 02 15.4 +1.4**
baz=51
P30M Million Dollar 65.29 328 P **P** **14 02 16.4 +1.9**
baz=60
K27K Chicken 65.33 333 P **P** **14 02 16.2 +1.5**
baz=58
D23K Nanushuk River 65.34 339 IAmb IAmb 14 02 17.8
comp=Z,24nm,0.9s
D23K Nanushuk River 65.34 339 P **P** **14 02 16.3 +1.6**
baz=52,SNR=5.6
PLBC Pleasant Camp 65.36 327 P **P** **14 02 16.7 +1.8**
baz=60
F24K Squaw Lake 65.37 337 IAmb IAmb 14 02 18.0
comp=Z,28nm,1.1s
F24K Squaw Lake 65.37 337 P **P** **14 02 16.4 +1.4**
baz=54,SNR=19
YUK4 Talbot Arm 65.39 329 P **P** **14 02 16.1 +0.8**
baz=59,SNR=13
H25L Birch Creek 65.42 336 P **P** **14 02 16.6 +1.4**
baz=56,SNR=12
YUK6 Outpost Mounta 65.47 329 P **P** **14 02 17.7 +1.7**
baz=59,SNR=12
BEKR Beckworth 65.51 302 IAmb IAmb 14 02 18.9
comp=Z,36nm,1.1s
E23K Chandalar 65.58 338 P **P** **14 02 17.8 +1.5**
baz=53,SNR=6.0
PMD Palm Desert 65.59 295 IAmb IAmb 14 02 20.4
comp=Z,37nm,1.1s
LPIG La Paz 65.60 283 LR LR 14 31 13.3
comp=Z,713nm,18.2s,baz=45,slow=36
R31K City Hall, Gus 65.60 326 P **P** **14 02 17.8 +1.3**
baz=60
J26L Joseph Creek 65.62 333 IAmb IAmb 14 02 19.9
comp=Z,21nm,1.2s
J26L Joseph Creek 65.62 333 P **P** **14 02 17.6 +0.9**
baz=57,SNR=14
PFO Pinyon Flats O 65.67 295 P **P** **14 02 18.0 +0.5**
PFO IAmb IAmb 14 02 21.2
comp=Z,34nm,1.1s
PFO Pinyon Flats O 65.67 295 LR LR 14 30 49.7
comp=Z,2μm,19.0s,baz=58,slow=36
PFO Pinyon Flats O 65.67 295 P **P** **14 02 18.0 +0.5**
PFO pmax pmax
comp=Z,34nm,1.2s
HMBC Humberstone 65.67 217 IAmb IAmb 14 02 17.6
comp=Z,34nm,0.9s
LRMC Laurel Mtn Rad 65.67 297 IAmb IAmb 14 02 21.5
comp=Z,38nm,1.8s
G24K Hadweenzic Riv 65.72 336 P **P** **14 02 18.6 +1.5**
baz=54,SNR=45
YUH Yuha Desert 65.73 294 IAmb IAmb 14 02 21.4
comp=Z,19nm,1.1s
BVCY Beaver Creek 65.73 331 P **P** **14 02 18.6 +1.3**
baz=58,SNR=22
BCAR Beaver Creek A 65.74 332 P **P** **14 02 17.7 +0.2**
PRP Porcupine Dome 65.75 335 P **P** **14 02 18.3 +0.8**
baz=56,SNR=31
L27K Beaver Creek, 65.76 332 P **P** **14 02 18.6 +1.1**
baz=58
CRAG Craig 65.79 322 P **P** **14 02 19.4 +1.7**
baz=61
BORC Borrego Spring 65.80 294 IAmb IAmb 14 02 21.8
comp=Z,27nm,1.2s
P29M Windy Craggy 65.88 327 IAmb IAmb 14 02 21.4
comp=Z,30nm,1.1s
P29M Windy Craggy 65.88 327 P **P** **14 02 19.4 +1.1**
baz=59
YUK8 Steele Glacier 65.88 329 P **P** **14 02 19.9 +1.3**
baz=58
O29M Mount Kennedy 65.89 328 IAmb IAmb 14 02 21.9
comp=Z,19nm,1.1s
O29M Mount Kennedy 65.89 328 P **P** **14 02 19.7 +1.1**
baz=59
ABKAR Akbulak array 65.90 46 P **P** **14 02 17.6 -1.0**
YUK3 Moose Creek 65.91 330 P **P** **14 02 20.1 +1.4**
baz=58,SNR=27
D22K Ayikyak River 65.96 340 P **P** **14 02 19.9 +1.2**
baz=51,SNR=16
CPUP Villa Florida 66.00 203 P **P** **14 02 19.2 -0.1**
comp=Z,3.4nm,0.9s,baz=232,slow=6.4,SNR=14
CPUP LR LR 14 29 56.9

comp=Z,64nm,19.6s,baz=251,slow=35
comp=Z,3.4nm,0.9s
B21K **Ikpikpuk River** 66.02 341 IAmb IAmb 14 02 24.4
comp=Z,41nm,1.1s
B21K **Ikpikpuk River** 66.02 341 P **P** **14 02 20.2 +1.3**
baz=50
S31K **Pelican** 66.05 325 P **P** **14 02 20.8 +1.5**
baz=60
ESJX **Sierra Juarez** 66.05 293 IAmb IAmb 14 02 23.7
comp=Z,20nm,1.2s
SCRK **Sand Creek** 66.07 333 IAmb IAmb 14 02 23.0
comp=Z,30nm,1.0s
SCRK **Sand Creek** 66.07 333 P **P** **14 02 20.8 +1.2**
baz=56,SNR=23
SIT **Sitka** 66.08 324 P **P** **14 02 20.7 +1.1**
baz=60
ISA **Isabella, Lake** 66.16 298 IAmb IAmb 14 02 24.1
comp=Z,26nm,1.2s
M27K **Edge Creek, AK** 66.16 331 P **P** **14 02 21.4 +1.1**
baz=57,SNR=40
E22K **Anaktuvuk Pass** 66.19 339 IAmb IAmb 14 02 22.9
comp=Z,27nm,1.1s
E22K **Anaktuvuk Pass** 66.19 339 P **P** **14 02 21.0 +0.9**
baz=51,SNR=12
J25K **Salcha River,** 66.21 334 IAmb IAmb 14 02 22.8
comp=Z,25nm,1.0s
J25K **Salcha River,** 66.21 334 P **P** **14 02 21.8 +1.3**
baz=55,SNR=19
YBH **Yreka Blue Hor** 66.22 305 LR LR 14 30 43.9
comp=Z,202nm,20.6s,baz=71,slow=36
VTX **Valle De La Tr** 66.23 292 IAmb IAmb 14 02 33.5
comp=Z,24nm,1.2s
BFSC **Mount Baldy Ra** 66.24 296 IAmb IAmb 14 02 24.2
comp=Z,18nm,1.0s
COLD **Coldfoot** 66.26 338 IAmb IAmb 14 02 23.3
comp=Z,29nm,1.0s
COLD **Coldfoot** 66.26 338 P **P** **14 02 21.8 +1.2**
baz=52,SNR=21
BAR **Barrett** 66.27 294 IAmb IAmb 14 02 24.7
comp=Z,27nm,1.1s
O28M **Mount Upton** 66.33 329 IAmb IAmb 14 02 25.1
comp=Z,39nm,1.2s
O28M **Mount Upton** 66.33 329 P **P** **14 02 22.7 +1.2**
baz=58,SNR=9.9
TPO **Tropico Hills** 66.35 297 IAmb IAmb 14 02 30.2
comp=Z,32nm,1.4s
H24K **Noodor Dome** 66.36 336 P **P** **14 02 22.1 +0.8**
baz=54,SNR=27
L26K **Log Cabin Wild** 66.36 332 IAmb IAmb 14 02 24.3
comp=Z,32nm,1.1s
L26K **Log Cabin Wild** 66.36 332 P **P** **14 02 22.6 +1.2**
baz=56,SNR=20
C21K **Knifeblade Rid** 66.37 340 P **P** **14 02 22.4 +1.2**
baz=49,SNR=5.8
CMB **Columbia Colle** 66.38 301 IAmb IAmb 14 02 25.6
comp=Z,56nm,1.8s
B20K **Meade River** 66.42 342 P **P** **14 02 21.6 0.0**
baz=48,SNR=5.6
WELL **Weller Preserv** 66.43 301 IAmb IAmb 14 02 25.6
comp=Z,32nm,1.2s
ORV **Oroville** 66.43 303 IAmb IAmb 14 02 24.4
comp=Z,24nm,1.1s
CBX **Cerro Bola** 66.44 294 IAmb IAmb 14 02 25.8
comp=Z,38nm,1.2s
RIDG **Independent Ri** 66.52 333 P **P** **14 02 23.0 +0.6**
baz=55,SNR=30
G23K **Bananza Creek** 66.52 337 IAmb IAmb 14 02 25.7
comp=Z,33nm,0.9s
G23K **Bananza Creek** 66.52 337 P **P** **14 02 22.5 +0.1**
baz=52,SNR=29
MWC **Mount Wilson** 66.54 296 IAmb IAmb 14 02 26.8
comp=Z,50nm,1.4s
MENT **Mentasta** 66.55 332 IAmb IAmb 14 02 25.4
comp=Z,21nm,1.0s
M26K **Nabesna, AK** 66.57 331 IAmb IAmb 14 02 49.8
comp=Z,23nm,1.4s
M26K **Nabesna, AK** 66.57 331 P **P** **14 02 23.7 +0.9**
baz=56
L02F **Cave Junction** 66.61 306 IAmb IAmb 14 02 25.0
comp=Z,29nm,1.0s
E21K **Killik River** 66.61 340 IAmb IAmb 14 02 24.9
comp=Z,33nm,1.1s
E21K **Killik River** 66.61 340 P **P** **14 02 23.4 +0.5**
baz=50,SNR=11
POKR **Poker Plat Res** 66.63 335 IAmb IAmb 14 02 26.3
comp=Z,29nm,1.1s
POKR **Poker Plat Res** 66.63 335 P **P** **14 02 24.0 +0.9**
baz=54,SNR=5.4
IL31 66.65 335 IAmb IAmb 14 02 25.4
comp=Z,19nm,1.1s
ILAR **Eielson Array** 66.65 335 P **P** **14 02 23.3 +0.1**
ILAR **Eielson Array** 66.65 335 P **P** **14 02 23.5 +0.3**
comp=Z,7.8nm,0.8s,baz=47,slow=4.7,SNR=60
ILAR LR LR 14 28 57.0
comp=Z,1µm,18.1s,baz=52,slow=34
comp=Z,7.8nm,0.8s
ILAR **Eielson Array** 66.65 335 P **P** **14 02 23.3 +0.1**
PASC **Pasadena Art C** 66.66 296 IAmb IAmb 14 02 26.5
comp=Z,36nm,1.4s
F22K **John River** 66.69 338 P **P** **14 02 24.5 +1.1**
baz=51,SNR=12
CTG **Chitna Glacier** 66.70 330 P **P** **14 02 25.2 +1.5**
baz=57,SNR=13
SUTB **Sutter Butte** 66.78 302 IAmb IAmb 14 02 26.1
comp=Z,30nm,1.1s
K24K **Donnelly Dome** 66.82 333 P **P** **14 02 25.8 +1.5**
baz=55,SNR=12
G22K **Bettles** 66.85 338 P **P** **14 02 25.0 +0.6**
baz=51
HDA **Harding Lake** 66.88 334 IAmb IAmb 14 02 27.5
comp=Z,31nm,0.9s
HDA **Harding Lake** 66.88 334 P **P** **14 02 25.4 +0.8**
baz=54,SNR=30
COLA **College** 66.92 335 P **P** **14 02 24.2 -0.6**
COLA IAmb IAmb 14 02 27.1
comp=Z,20nm,1.2s
COLA **College** 66.92 335 *i* P **P** **14 02 25.3 +0.5**
COLA pmax pmax
comp=Z,11nm,0.9s
COLA **College** 66.92 335 P **P** **14 02 25.9 +1.1**
baz=53
GRNC **Granite Creek** 67.00 329 IAmb IAmb 14 02 29.3
comp=Z,40nm,1.1s
CCB **Clear Creek Bu** 67.04 335 IAmb IAmb 14 02 28.3
comp=Z,34nm,1.0s
MCARA **McCarthy VSAT** 67.15 330 P **P** **14 02 27.6 +1.2**
baz=56,SNR=8.5
D20K **Etivluk River** 67.16 341 P **P** **14 02 27.5 +1.1**
baz=48
KBD **Kabd** 67.17 70 P **P** **14 02 27.0 0.0**
PAX **Paxson** 67.19 333 IAmb IAmb 14 02 29.4
comp=Z,31nm,1.0s
PAX **Paxson** 67.19 333 P **P** **14 02 27.9 +1.1**
baz=55,SNR=21
A19K **Wainwright** 67.25 343 P **P** **14 02 28.3 +1.5**
baz=44
F21K **Alatna River** 67.26 338 IAmb IAmb 14 02 29.9
comp=Z,40nm,1.2s
F21K **Alatna River** 67.26 338 P **P** **14 02 28.0 +0.9**
baz=50,SNR=11
E20K **Nigu River** 67.35 340 P **P** **14 02 28.8 +1.2**
baz=48,SNR=16
MESA **MESA** 67.38 329 P **P** **14 02 28.8 +0.6**
baz=56
MNRC **McLaughlin Min** 67.40 302 IAmb IAmb 14 02 45.3
comp=Z,41nm,1.2s
HARP **HAARP** 67.40 332 P **P** **14 02 28.9 +0.8**
baz=55
GLB **Gilahina Butte** 67.43 331 IAmb IAmb 14 02 30.9
comp=Z,23nm,1.0s
H22K **Ishtalitna Cre** 67.46 337 P **P** **14 02 29.5 +1.1**
baz=51,SNR=22
NEA2 **Nenana** 67.51 335 P **P** **14 02 29.8 +1.2**
baz=52,SNR=6.9
CRQE **Cirque** 67.53 330 P **P** **14 02 30.1 +1.1**
baz=56,SNR=11
N25K **Chitina, Valde** 67.65 331 P **P** **14 02 31.1 +1.5**
baz=55,SNR=7.9
C19K **Lookout Ridge** 67.67 342 IAmb IAmb 14 02 32.8
comp=Z,25nm,0.8s
C19K **Lookout Ridge** 67.67 342 P **P** **14 02 30.8 +1.2**
baz=45
CVS **Carmenet Viney** 67.67 302 IAmb IAmb 14 02 33.1
comp=Z,28nm,1.1s
GDXM **Geysers** 67.67 302 IAmb IAmb 14 02 33.8
comp=Z,36nm,1.3s
D19K **Kuna River** 67.71 341 P **P** **14 02 31.0 +1.2**
baz=46
G21K **Allakaket** 67.73 338 IAmb IAmb 14 02 32.7
comp=Z,24nm,0.9s
G21K **Allakaket** 67.73 338 P **P** **14 02 31.2 +1.2**
baz=49,SNR=17
MLY **Manley** 67.80 336 IAmb IAmb 14 02 32.9
comp=Z,27nm,1.0s
MLY **Manley** 67.80 336 P **P** **14 02 31.4 +0.9**
baz=51,SNR=20
DHY **Denali Highway** 67.83 333 IAmb IAmb 14 02 33.6
comp=Z,24nm,1.0s
DHY **Denali Highway** 67.83 333 P **P** **14 02 31.9 +1.0**
baz=53,SNR=11
M24K **Tolsona, Glenn** 67.96 332 P **P** **14 02 32.8 +1.2**
baz=54,SNR=10
BGLC **Bering Glacier** 67.97 329 P **P** **14 02 33.2 +1.7**
baz=55
MCK **McKinley** 67.99 334 IAmb IAmb 14 02 34.0
comp=Z,36nm,1.2s
MCK **McKinley** 67.99 334 P **P** **14 02 32.9 +1.2**
baz=52,SNR=11
BMRM **Bremner River** 68.02 331 P **P** **14 02 32.9 +0.9**
baz=55,SNR=16
B18K **Kokolik River** 68.03 342 P **P** **14 02 32.7 +0.9**
baz=43
F20K **Avaraart Lake** 68.03 339 IAmb IAmb 14 02 34.2
comp=Z,25nm,1.0s
F20K **Avaraart Lake** 68.03 339 P **P** **14 02 32.8 +0.9**
baz=48,SNR=15
H21K **Melozitna Rive** 68.07 337 P **P** **14 02 33.3 +1.2**
baz=50
IMAR **Indian Mountai** 68.15 338 P **P** **14 02 32.3 -0.3**
RND **Reindeer** 68.16 334 IAmb IAmb 14 02 34.9
comp=Z,23nm,1.1s
E19K **Redstone River** 68.19 340 P **P** **14 02 33.8 +0.9**
baz=47
KLU **Klutina** 68.23 331 P **P** **14 02 34.4 +1.1**
baz=54,SNR=15
WAT6 **Susitna Watana** 68.26 333 P **P** **14 02 34.6 +1.0**
baz=53,SNR=32
RAYN **Ar Rayn** 68.33 76 P **P** **14 02 33.4 -1.1**
RAYN **Ar Rayn** 68.33 76 P **P** **14 02 34.5 0.0**
RAYN **Ar Rayn** 68.33 76 P **P** **14 02 34.5 0.0**
RAYN **Ar Rayn** 68.33 76 P **P** **14 02 33.4 -1.1**
RAYN pmax pmax
comp=Z,8.0nm,1.1s
DIV **Divide** 68.38 331 IAmb IAmb 14 02 37.2
comp=Z,32nm,1.0s
C18K **Utukok River** 68.40 342 P **P** **14 02 35.4 +1.2**
baz=44
WAT1 **Susitna Watana** 68.41 333 P **P** **14 02 35.6 +1.3**
baz=52
BPAW **Bear Paw Mtn.** 68.47 335 IAmb IAmb 14 02 36.8
comp=Z,35nm,1.0s
BPAW **Bear Paw Mtn.** 68.47 335 P **P** **14 02 35.2 +0.5**
baz=51,SNR=19
KAIM **Kayak Island** 68.55 330 P **P** **14 02 35.4 +0.2**
baz=54
SCM **Sheep Creek Mo** 68.56 332 IAmb IAmb 14 02 37.7
comp=Z,20nm,1.0s
SCM **Sheep Creek Mo** 68.56 332 P **P** **14 02 35.7 +0.3**
baz=53
TRF **Thorofare Moun** 68.64 334 IAmb IAmb 14 02 38.1
comp=Z,42nm,1.1s
TRF **Thorofare Moun** 68.64 334 P **P** **14 02 36.3 +0.3**
baz=51,SNR=11
EYAK **Cordova Ski Ar** 68.72 330 P **P** **14 02 36.6 +0.4**
baz=54
M23K **Glacier View** 68.74 332 P **P** **14 02 36.9 +0.5**
baz=52
F19K **Shaleruckik Mo** 68.77 339 IAmb IAmb 14 02 38.5
comp=Z,22nm,1.1s
F19K **Shaleruckik Mo** 68.77 339 P **P** **14 02 37.0 +0.5**
baz=46,SNR=9.2
H20K **Anotelenega Mo** 68.83 337 P **P** **14 02 37.9 +1.0**
baz=48,SNR=20
C17K **DeLong Mountai** 69.03 342 P **P** **14 02 39.0 +0.9**
baz=42,SNR=5.6
G19K **Purcell Mounta** 69.05 339 IAmb IAmb 14 02 41.4
comp=Z,22nm,1.0s
G19K **Purcell Mounta** 69.05 339 P **P** **14 02 39.1 +0.8**
baz=46,SNR=12
GLI **Glacier Island** 69.05 331 P **P** **14 02 39.2 +0.9**
baz=53
CHUM **Lake Minchumin** 69.06 335 P **P** **14 02 38.8 +0.5**
baz=50,SNR=23
E18K **Tukpahlearik C** 69.14 341 P **P** **14 02 39.6 +0.8**
baz=44
I20K **Naaghedeneel** 69.17 337 P **P** **14 02 39.4 +0.5**
baz=48,SNR=10
GHO **Glory Hole Cre** 69.20 333 IAmb IAmb 14 02 42.1
comp=Z,26nm,0.9s
KNK **Knik Glacier** 69.25 332 P **P** **14 02 40.6 +1.0**
baz=52,SNR=18
RDOG **Red Dog Mine** 69.27 342 IAmb IAmb 14 02 42.4
comp=Z,23nm,1.0s
RDOG **Red Dog Mine** 69.27 342 P **P** **14 02 40.7 +1.1**
baz=42
H19K **Roundabout Mou** 69.28 338 IAmb IAmb 14 02 42.6
comp=Z,22nm,0.9s
H19K **Roundabout Mou** 69.28 338 P **P** **14 02 40.2 +0.6**
baz=47,SNR=15
CUT **Chulitna** 69.30 333 P **P** **14 02 40.7 +0.9**
baz=51,SNR=7.7
PMR **Palmer** 69.39 332 P **P** **14 02 41.4 +1.0**
baz=51,SNR=16
F18K **Selawik** 69.47 340 P **P** **14 02 42.0 +1.2**
baz=44,SNR=11
J20K **Nowinta River** 69.47 336 P **P** **14 02 41.5 +0.6**
baz=48,SNR=33
PWL **Port Wells** 69.54 332 P **P** **14 02 42.3 +0.9**
baz=52,SNR=22
D17K **Noatak River** 69.58 342 P **P** **14 02 41.9 +0.5**
baz=42
BVAR **Borovoye Array** 69.65 39 P **P** **14 02 42.4 +0.2**
comp=Z,6.8nm,1.1s,baz=267,slow=5.3,SNR=11
BVAR LR LR 14 32 23.9
comp=Z,626nm,18.1s,baz=306,slow=35
comp=Z,6.8nm,1.1s
M22K **Willow** 69.65 333 P **P** **14 02 42.6 +0.6**
baz=51
PPLA **Purkeypile** 69.66 335 IAmb IAmb 14 03 06.5
comp=Z,36nm,1.2s
PPLA **Purkeypile** 69.66 335 P **P** **14 02 42.5 +0.3**
baz=49
G18K **Tagagawik** 69.68 339 IAmb IAmb 14 02 45.2
comp=Z,46nm,1.7s
G18K **Tagagawik** 69.68 339 P **P** **14 02 42.9 +0.7**
baz=45,SNR=6.7
C16K **Lisburne Hills** 69.71 343 IAmb IAmb 14 02 44.6
comp=Z,34nm,1.0s
C16K **Lisburne Hills** 69.71 343 P **P** **14 02 42.8 +0.6**
baz=40,SNR=6.2
E17K **Hotham Inlet** 69.71 341 P **P** **14 02 42.9 +0.6**
baz=43
RC01 **Rabbit Creek A** 69.93 332 P **P** **14 02 44.3 +0.5**
baz=51
GCSA **Galena City Sc** 69.96 337 P **P** **14 02 44.8 +1.0**
baz=45
K20K **Telida** 70.00 335 P **P** **14 02 44.5 +0.4**
baz=48,SNR=5.3
SKT **Skwentna** 70.02 334 IAmb IAmb 14 02 48.0
comp=Z,36nm,1.0s
SKT **Skwentna** 70.02 334 P **P** **14 02 45.2 +0.8**
baz=50,SNR=18
F17K **Baldwin Pennin** 70.03 340 P **P** **14 02 44.6 +0.4**
baz=43
SUA **Susitna One** 70.07 333 P **P** **14 02 45.3 +0.5**
baz=50
J19K **Poorman** 70.08 336 IAmb IAmb 14 02 46.8
comp=Z,20nm,1.1s
J19K **Poorman** 70.08 336 P **P** **14 02 45.3 +0.6**
baz=47,SNR=7.3
H18K **Honhosa River** 70.12 338 IAmb IAmb 14 02 47.6
comp=Z,26nm,1.2s
H18K **Honhosa River** 70.12 338 P **P** **14 02 45.7 +0.8**
baz=45
MBAR **Mbarara** 70.15 106 P **P** **14 02 46.0 -0.1**
MBAR **Mbarara** 70.15 106 *i* P **P** **14 02 47.5 +1.5**
MBAR pmax pmax
comp=Z,14nm,1.3s
O22K **Cooper Landing** 70.31 332 P **P** **14 02 46.8 +0.7**
baz=50
SEW **Seward** 70.45 331 P **P** **14 02 47.4 +0.5**
baz=51
L20K **Farewell, AK** 70.52 335 P **P** **14 02 47.9 +0.5**
baz=48,SNR=22
G17K **Kiwalik Mounta** 70.54 339 P **P** **14 02 48.1 +0.7**
baz=43,SNR=6.1
M20K **Styx River** 70.66 334 P **P** **14 02 49.0 +0.7**
baz=48,SNR=21
H17K **Granite Mounta** 70.74 339 IAmb IAmb 14 02 51.8
comp=Z,25nm,0.9s
H17K **Granite Mounta** 70.74 339 P **P** **14 02 49.6 +0.9**
baz=44,SNR=7.7
J18K **Innoko River** 70.80 336 IAmb IAmb 14 02 51.5
comp=Z,31nm,1.0s
J18K **Innoko River** 70.80 336 P **P** **14 02 49.9 +0.9**
baz=46,SNR=18
L19K **White Mountain** 71.06 335 IAmb IAmb 14 02 52.7
comp=Z,23nm,1.0s
L19K **White Mountain** 71.06 335 P **P** **14 02 51.5 +0.8**
baz=47,SNR=9.2
G16K **Koyuk River** 71.11 340 IAmb IAmb 14 02 53.6
comp=Z,25nm,1.1s
G16K **Koyuk River** 71.11 340 P **P** **14 02 52.1 +1.2**
baz=42
BRSE **Bradley Lake S** 71.18 331 P **P** **14 02 52.9 +1.4**
baz=50
LODK **Lodwar** 71.33 100 P **P** **14 02 53.5 +0.3**
LODK IAmb IAmb 14 02 58.1
comp=Z,39nm,1.6s
LODK **Lodwar** 71.33 100 P **P** **14 02 55.5 +2.4**
SNR=9.7
F15K **North Star Dit** 71.50 341 IAmb IAmb 14 02 56.8
comp=Z,41nm,1.0s
F15K **North Star Dit** 71.50 341 P **P** **14 02 54.2 +0.9**
baz=40,SNR=7.6
HOM **Homer** 71.58 332 P **P** **14 02 55.2 +1.4**
baz=49
J17K **VABM Dome** 71.60 337 P **P** **14 02 55.2 +1.3**
baz=44,SNR=6.5
H16K **Elim** 71.64 339 P **P** **14 02 55.4 +1.3**
baz=42
L18K **Granite Mounta** 71.66 335 IAmb IAmb 14 02 57.4
comp=Z,24nm,1.1s
L18K **Granite Mounta** 71.66 335 P **P** **14 02 55.7 +1.5**
baz=46,SNR=8.1
O20K **Slope Mountain** 71.67 332 P **P** **14 02 55.7 +1.3**
baz=48
I17K **Unalakleet** 71.74 338 P **P** **14 02 56.0 +1.3**
baz=43
TIXI **Tiksi** 71.75 6 P **P** **14 02 53.0 -1.6**
TIXI IAmb IAmb 14 02 57.5
comp=Z,29nm,1.0s
TIXI **Tiksi** 71.75 6 LR LR 14 31 44.6
comp=Z,354nm,20.0s,baz=7.5,slow=34
TIXI **Tiksi** 71.75 6 *ce* P **P** **14 02 56.2 +1.6**
TIXI pmax pmax
comp=Z,31nm,0.9s
K17K **Iditarod** 71.84 336 IAmb IAmb 14 02 58.7
comp=Z,31nm,1.1s
K17K **Iditarod** 71.84 336 P **P** **14 02 56.5 +1.1**
baz=44,SNR=6.9
N19K **Bonanza Creek** 71.86 334 IAmb IAmb 14 02 57.2
comp=Z,29nm,1.4s
N19K **Bonanza Creek** 71.86 334 P **P** **14 02 56.6 +1.0**
baz=47
M18K **Stony River** 71.87 335 P **P** **14 02 56.5 +1.0**
baz=46,SNR=14
G15K **Niukluk** 71.88 340 P **P** **14 02 56.8 +1.3**
baz=40,SNR=7.0
ILSW **Iliamna Southw** 71.93 333 IAmb IAmb 14 04 21.9
comp=Z,85nm,1.9s
GO03 **Copiapo** 72.09 214 IAmb IAmb 14 02 59.1
comp=Z,44nm,1.0s
F14K **Arctic Creek** 72.12 341 P **P** **14 02 57.9 +0.9**
baz=39
J16K **Anvik River** 72.15 338 P **P** **14 02 58.3 +1.1**
baz=43
P19K **Oil Pt** 72.19 332 P **P** **14 02 58.7 +1.1**
baz=48
O19K **Port Alsworth** 72.22 333 IAmb IAmb 14 02 59.6
comp=Z,25nm,1.0s
O19K **Port Alsworth** 72.22 333 P **P** **14 02 58.7 +1.1**
baz=47,SNR=5.1
L17K **Donlin** 72.25 336 P **P** **14 02 58.8 +1.0**
baz=44
N18K **Kilae Creek** 72.45 334 P **P** **14 02 59.9 +0.8**
baz=46
M17K **Holitna River** 72.49 335 P **P** **14 03 00.4 +1.2**
baz=45
BRZS **Berezniki** 72.55 40 *eP* **P** **14 02 59.7 -0.2**
BRZS **Berezniki** 72.55 40 *eP* **P** **14 02 59.7 -0.2**
Q20K **Shuyak Island** 72.57 331 P **P** **14 03 00.7 +1.0**
baz=48
ATD **Arta Tunnel** 72.67 88 LR LR 14 35 48.0
comp=Z,26nm,18.1s,baz=306,slow=37
Q19K **Cape Douglas,** 72.83 332 P **P** **14 03 02.4 +1.0**
baz=47
L16K **Owhat River** 72.94 336 IAmb IAmb 14 03 05.3
comp=Z,22nm,1.1s
L16K **Owhat River** 72.94 336 P **P** **14 03 03.0 +1.0**
baz=43,SNR=6.6
N17K **Nushagak Hills** 73.02 334 P **P** **14 03 03.6 +1.2**
baz=45
P18K **Big Mountain,** 73.11 333 IAmb IAmb 14 03 04.2
comp=Z,19nm,0.9s
P18K **Big Mountain,** 73.11 333 P **P** **14 03 03.6 +0.5**
baz=46,SNR=5.1
K15K **Wolf Creek Mou** 73.17 337 P **P** **14 03 04.5 +1.2**
baz=42
KDAK **Kodiak Island** 73.20 331 LR LR 14 35 25.4
comp=Z,2µm,18.2s,baz=60,slow=36
KDAK **Kodiak Island** 73.20 331 P **P** **14 03 04.8 +1.4**
baz=48
M16K **Timber Creek** 73.27 335 IAmb IAmb 14 03 07.8
comp=Z,26nm,1.1s
M16K **Timber Creek** 73.27 335 P **P** **14 03 04.9 +0.9**
baz=44,SNR=5.9
J14K **Nanvaranak Lak** 73.45 338 P **P** **14 03 05.6 +0.8**
baz=40
O17K **Koliganek Bris** 73.52 334 P **P** **14 03 06.2 +0.8**
baz=45
Q18K **Katmai Hardscr** 73.55 332 P **P** **14 03 06.6 +0.9**
baz=46,SNR=7.7
TSUM **Tsumeb** 73.55 130 LR LR 14 29 59.8
comp=Z,1µm,20.9s,baz=328,slow=31
N16K **Nishlik Lake** 73.61 335 P **P** **14 03 07.2 +1.3**
baz=44,SNR=11
L15K **Ungalak Mounta** 73.62 337 P **P** **14 03 07.4 +1.5**
baz=42
OHAK **Old Harbor** 73.86 330 P **P** **14 03 08.5 +1.2**
baz=47
O16K **Kokwok River B** 74.01 334 P **P** **14 03 09.4 +1.2**
baz=44
R18K **Karluk** 74.08 331 P **P** **14 03 09.9 +1.2**
baz=46
CO01 **Juntas del Tor** 74.08 212 IAmb IAmb 14 03 11.9
comp=Z,28nm,0.9s
M15K **Kasigluk River** 74.09 336 P **P** **14 03 09.7 +1.0**
baz=42
Q16K **King Salmon** 74.14 333 P **P** **14 03 10.2 +1.3**
baz=45
Q17K **Contact Creek** 74.14 332 P **P** **14 03 10.3 +1.1**
baz=45
L14K **Kuka Creek** 74.25 337 P **P** **14 03 10.8 +1.2**
baz=41,SNR=16
N15K **Kwethluk River** 74.28 335 IAmb IAmb 14 03 15.5
comp=Z,82nm,1.9s
N15K **Kwethluk River** 74.28 335 P **P** **14 03 11.4 +1.6**
baz=43
P16K **Nushagak River** 74.37 334 P **P** **14 03 11.2 +0.8**
baz=44
K13K **Kusilvak Mount** 74.41 338 IAmb IAmb 14 03 14.2
comp=Z,35nm,0.9s
K13K **Kusilvak Mount** 74.41 338 P **P** **14 03 11.5 +1.0**
baz=39
M14K **Bethel** 74.47 336 P **P** **14 03 12.2 +1.3**
baz=41,SNR=9.8
GO04 **Tololo Observa** 74.56 213 IAmb IAmb 14 03 13.8
comp=Z,35nm,0.9s
SII **Sitkinak Islan** 74.67 330 P **P** **14 03 13.6 +1.4**
baz=46
MZWR **Madinat Zayed** 74.71 72 P **P** **14 03 13.2 +0.3**
MZWR P **P** **14 03 13.2 +0.3**
CFA **Coronel Fontan** 74.73 210 P **P** **14 03 12.7 0.0**
comp=Z,9.8nm,0.9s,baz=24,slow=5.3,SNR=22
comp=Z,9.8nm,0.9s
R17L **Mt. Peulik Vol** 74.77 332 P **P** **14 03 14.1 +1.3**
baz=45
O15K **Ungalikthiuk R** 74.92 334 IAmb IAmb 14 03 19.4
comp=Z,35nm,0.9s
O15K **Ungalikthiuk R** 74.92 334 P **P** **14 03 14.8 +1.3**
baz=43,SNR=6.8
BILL **Bilibino** 74.96 352 *ce* P **P** **14 03 15.6 +2.0**
BILL pmax pmax

comp=Z,6.0nm,1.0s
N14K Kuskokwak Cree 75.00 336 P P 14 03 15.5 +1.6
baz=41,SNR=5.5
BRLS Borolday 75.01 47 *e*P **P 14 03 14.0 -0.4**
BRLS Borolday 75.01 47 *e*P **P 14 03 14.0 -0.4**
KURK Kurchatov 75.12 37 P **P 14 03 13.0 -1.8**
KURK Kurchatov 75.12 37 P **P 14 03 13.8 -1.1**
KURK P **P 14 03 13.8 -1.1**
KURK Kurchatov 75.12 37 *ce*P **P 14 03 14.4 -0.5**
KURK pmax pmax
comp=Z,24nm,1.3s
KURBB Kurchatov Arra 75.14 38 P **P 14 03 14.7 -0.3**
comp=Z,12nm,0.9s,baz=312,slow=6.2,SNR=63
KURBB LR LR 14 35 18.1
comp=Z,748nm,19.5s,baz=186,slow=35
comp=Z,12nm,0.9s
M13K Dall Lake 75.17 337 P **P 14 03 16.4 +1.5**
baz=40
SHME Shamm 75.18 69 P **P 14 03 15.6 -0.1**
SHME P **P 14 03 15.6 -0.1**
SHME S **S 14 12 55.3 +0.7**
SHME S **S 14 12 55.3 +0.7**
R16K Pilot Point 75.28 332 P **P 14 03 17.2 +1.6**
baz=44
ASUD Al Ashush, Dub 75.35 70 P **P 14 03 17.3 +0.7**
ASUD P **P 14 03 17.3 +0.7**
O14K Tigyukauivet M 75.36 335 P **P 14 03 17.2 +1.1**
baz=42
BANOM Banah 75.37 69 P **P 14 03 16.5 -0.3**
BANOM P **P 14 03 16.5 -0.3**
BANOM S **S 14 12 54.0 -2.8**
BANOM S **S 14 12 54.0 -2.8**
BANOM Banah 75.37 69 *i*P **P 14 03 15.7 -1.1**
SNR=6.6
KKAR Karatay Array 75.37 47 P **P 14 03 15.5 -1.0**
KKAR Karatay Array 75.37 47 P **P 14 03 15.5 -1.0**
XAUDM Khaudum 75.46 126 P **P 14 03 17.7 +0.4**
XAUDM IAmb IAmb 14 03 19.8
comp=Z,34nm,1.1s
MASF Masafi 75.57 69 P **P 14 03 17.2 -0.7**
SNR=7.6
MASF P **P 14 03 17.2 -0.7**
SNR=7.6
KMBO Kilima Mbogo 75.58 102 P **P 14 03 18.4 +0.1**
comp=Z,7.9nm,0.9s,baz=303,slow=5.2,SNR=11
KMBO LR LR 14 35 48.5
comp=Z,750nm,21.2s,baz=284,slow=35
comp=Z,7.9nm,0.9s
KMBO Kilima Mbogo 75.58 102 *i*P **P 14 03 20.2 +1.9**
H09W1 TRISTAN DA CUN 75.65 162 T T 15 26 11.7
SNR=5.7
MDH Madha 75.71 69 P **P 14 03 19.0 +0.3**
SNR=5.5
CHIR Chirikof Islan 75.76 330 P **P 14 03 19.6 +1.1**
baz=45
UOSS Minazif 75.83 69 P **P 14 03 18.3 -1.1**
UOSS IAmb IAmb 14 03 20.0
comp=Z,29nm,1.1s
UOSS Minazif 75.83 69 P **P 14 03 19.0 -0.4**
UOSS P **P 14 03 19.0 -0.4**
UOSS Minazif 75.83 69 *i*P **P 14 03 18.4 -1.1**
SNR=11
HATD Hatta, Dubai 75.85 70 P **P 14 03 20.0 +0.5**
SNR=12
HATD Hatta, Dubai 75.85 70 *i*P **P 14 03 19.0 -0.5**
SNR=6.8
ZALV Zalesovo Beam 75.86 32 P **P 14 03 17.9 -1.1**
ZALV Zalesovo Beam 75.86 32 P **P 14 03 18.7 -0.3**
comp=Z,2.8nm,0.8s,baz=316,slow=4.1,SNR=11
ZALV LR LR 14 35 42.5
comp=Z,676nm,22.0s,baz=310,slow=35
comp=Z,2.8nm,0.8s
ASHO Ashiyiah 75.87 70 P **P 14 03 20.1 +0.4**
SNR=7.8
ASHO P **P 14 03 20.1 +0.4**
SNR=7.8
ASHO Ashiyiah 75.87 70 *i*P **P 14 03 18.6 -1.1**
SNR=6.4
ALNE Al Ain 75.98 70 P **P 14 03 20.4 +0.1**
SNR=6.1
M11K Mekoryuk 76.09 338 P **P 14 03 20.8 +0.7**
baz=38
BTLS Baital 76.25 44 *e*P **P 14 03 21.4 0.0**
BTLS Baital 76.25 44 *e*P **P 14 03 21.4 0.0**
CHGN Chignik 76.51 332 P **P 14 03 23.1 +0.4**
baz=43
SOHO SOHO 76.53 70 P **P 14 03 23.0 -0.3**
SOHO P **P 14 03 23.0 -0.3**
SOHO SOHO 76.53 70 *i*P **P 14 03 23.0 -0.3**
SNR=6.7
KIBK Kibwezi 76.94 103 IAmb IAmb 14 03 29.6
comp=Z,24nm,1.1s
KIBK Kibwezi 76.94 103 P **P 14 03 28.1 +2.2**
S14K Fog Glacier 76.95 332 P **P 14 03 25.7 +0.4**
baz=42
SIMJ Simiganj 77.06 52 P **P 14 03 25.3 -1.1**
CHGR Chuyangaron 77.16 51 IAmb IAmb 14 03 28.0
comp=Z,55nm,1.4s
MT03 Universidad Ad 77.31 211 P **P 14 03 28.3 +0.8**
MT02 Curacav 77.36 211 P **P 14 03 28.0 +0.4**
MT02 IAmb IAmb 14 03 29.5
comp=Z,42nm,1.0s
HOQ Hoqain 77.43 70 P **P 14 03 29.0 +0.5**
SNR=7.6
HOQ P **P 14 03 29.0 +0.5**
SNR=7.6
SGDS Sogindy 77.56 45 *e*P **P 14 03 28.6 -0.3**
GAR Garm 77.68 51 IAmb IAmb 14 03 36.8
comp=Z,47nm,1.2s
DOK Doka 77.74 76 P **P 14 03 29.8 -0.4**
ABTO Aybut 77.79 77 P **P 14 03 30.7 +0.1**
LSZ Lusaka 77.83 119 P **P 14 03 30.9 +0.1**
LSZ IAmb IAmb 14 03 33.3
comp=Z,29nm,1.2s
LSZ Lusaka 77.83 119 LR LR 14 35 46.3
comp=Z,2μm,21.8s,baz=318,slow=34
LSZ Lusaka 77.83 119 P **P 14 03 30.9 +0.1**
LSZ pmax pmax
comp=Z,29nm,1.2s
WHFO Wadi Hawf 77.85 77 P **P 14 03 30.8 -0.1**
AAK Ala-Archa 77.99 46 LR LR 14 36 56.7
comp=Z,757nm,21.7s,baz=323,slow=35
AAK Ala-Archa 77.99 46 *ce*P **P 14 03 32.5 +1.1**
AAK Ala-Archa 77.99 46 *ce*P **P 14 03 32.9 +1.4**
AAK pmax pmax
comp=Z,9.0nm,1.3s
KOOLE Kule 77.99 130 IAmb IAmb 14 03 39.8
comp=Z,34nm,1.4s
SDPT Sand Point 78.00 332 P **P 14 03 31.8 +0.7**
baz=42
BIDO Bidbid 78.08 70 P **P 14 03 33.0 +0.9**
SNR=7.7
SMDO Samad 78.28 70 P **P 14 03 33.5 +0.2**
BO02 Sierra Bellavi 78.54 210 IAmb IAmb 14 03 36.2
comp=Z,38nm,1.1s
TDK Taldyqorghan 78.68 42 *e*P **P 14 03 34.8 -0.3**
comp=Z,6.2nm,0.5s
TDK Taldyqorghan 78.68 42 *e*P **P 14 03 34.8 -0.3**
TDK pmax pmax
comp=Z,6.0nm,0.5s
AAA Alma-Ata 79.01 44 *e*P **P 14 03 36.8 -0.3**
comp=Z,10nm,0.6s
AAA Alma-Ata 79.01 44 *e*P **P 14 03 36.7 -0.3**
AAA pmax pmax
comp=Z,10.0nm,0.6s
MDOK Medeo 79.11 44 *e*P **P 14 03 37.1 -0.6**
MDOK Medeo 79.11 44 *e*P **P 14 03 37.1 -0.6**
TNSS Tian-Shan 79.14 44 *e*P **P 14 03 37.4 -0.8**
TNSS Tian-Shan 79.14 44 *e*P **P 14 03 37.3 -0.8**
KGCAE Kacgae 79.15 129 *i*P **P 14 03 39.0 +1.1**
KGCAE Kacgae 79.15 129 IAmb IAmb 14 03 40.8
comp=Z,82nm,1.6s
MK31 Makanchi Array 79.53 39 *ce*P **P 14 03 39.6 -0.1**
MKAR Makanchi Array 79.53 39 P **P 14 03 39.0 -0.7**
MKAR Makanchi Array 79.53 39 P **P 14 03 39.3 -0.4**
comp=Z,12nm,0.9s,baz=304,slow=2.7,SNR=52
MKAR PKKPbc **PKKPbc 14 22 26.5 -0.9**
comp=Z,0.1nm,0.4s,baz=74,slow=5.2,SNR=4.4
MKAR LR LR 14 38 17.1
comp=Z,687nm,19.1s,baz=304,slow=35
comp=Z,12nm,0.9s
MKAR Makanchi Array 79.53 39 P **P 14 03 39.0 -0.7**
JLN Jalan Bani Buh 79.83 70 P **P 14 03 41.5 -0.2**
SATY Saty 79.94 44 *e*P **P 14 03 41.7 -0.4**
SATY Saty 79.94 44 *e*P **P 14 03 41.7 -0.4**
SOOWA Sowa 80.12 124 *i*P **P 14 03 44.7 +1.5**

P08K Saint George I 80.18 337 P **P 14 03 41.3 -1.6**
baz=35
UZB Uzynbulak 80.22 43 *e*P **P 14 03 43.3 -0.5**
UZB Uzynbulak 80.22 43 *e*P **P 14 03 43.2 -0.5**
BI02 San Fabin de 80.36 210 IAmb IAmb 14 03 45.8
comp=Z,36nm,1.2s
ZSN Zaisan 80.36 37 *e*P **P 14 03 43.9 -0.4**
ZSN Zaisan 80.36 37 *e*P **P 14 03 43.8 -0.4**
SHLS Shalkode 80.46 43 *e*P **P 14 03 45.9 +0.9**
comp=Z,17nm,0.9s
SHLS Shalkode 80.46 43 *e*P **P 14 03 45.8 +0.9**
SHLS pmax pmax
comp=Z,17nm,0.9s
TARG Taragay, Kyrgy 80.46 45 IAmb IAmb 14 03 56.4
comp=Z,44nm,1.6s
KSH Kashi 80.82 47 P **P 14 03 47.8 +0.9**
KSH pmax pmax
comp=Z,24nm,1.3s
KSH pmax pmax
comp=Z,120nm,3.5s
KSH LR LR
comp=Z,610nm,20.6s
KSH LR LR
comp=Z,490nm,19.2s
KSH LR LR
comp=Z,950nm,21.3s
SEY Seymchan 81.06 357 LR LR 14 36 22.7
comp=Z,851nm,21.8s,baz=8.5,slow=33
SEY Seymchan 81.06 357 *ce*P **P 14 03 49.9 +2.3**
SEY pmax pmax
comp=Z,10.0nm,1.0s
KDWAN Kaudwane 81.09 127 *i*P **P 14 03 49.2 +0.8**
YAK Yakutsk 81.20 8 P **P 14 03 48.1 -0.2**
YAK IAmb IAmb 14 03 50.4
comp=Z,36nm,1.0s
YAK Yakutsk 81.20 8 LR LR 14 36 34.0
comp=Z,391nm,21.1s,baz=354,slow=33
YAK Yakutsk 81.20 8 *e*P **P 14 03 48.8 +0.5**
YAK *e* 14 03 52.7
YAK *eS* **S 14 13 58.9 +0.8**
YAK pmax pmax
comp=Z,37nm,1.0s
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,195nm,3.5s
YAK pmax pmax
comp=N,182nm,3.4s
YAK pmax pmax
comp=E,108nm,3.5s
YAK smax smax
comp=E,56nm,2.8s
YAK smax smax
comp=N,220nm,3.2s
YAK MLR MLR
comp=Z,458nm,19.0s
YAK MLR MLR
comp=N,244nm,17.0s
YAK MLR MLR
comp=E,47nm,17.0s
BROLN Tlhalogang 81.24 124 *i*P **P 14 03 49.9 +0.7**
UNV Unalaska Valle 81.39 334 P **P 14 03 48.5 -1.0**
baz=37
SKOMA Sekoma 81.44 129 *i*P **P 14 03 50.7 +0.6**
MATP Matopo 81.56 123 LR LR 14 36 58.4
comp=E,2μm,22.0s,baz=306,slow=33
LPHEP Lephephe 81.85 127 *i*P **P 14 03 53.3 +0.9**
LPHEP Lephephe 81.85 127 IAmb IAmb 14 03 54.4
comp=Z,38nm,1.1s
MREMI Moremi 82.33 125 IAmb IAmb 14 03 56.8
comp=Z,32nm,1.2s
BOD Bodaibo 82.53 17 *e*P **P 14 03 54.4 -1.0**
BOD pmax pmax
comp=Z,52nm,1.2s
NIL Nilore 82.83 53 P **P 14 03 56.7 -0.8**
NIL Nilore 82.83 53 P **P 14 03 56.7 -0.8**
NIL pmax pmax
comp=Z,11nm,0.9s
LBTB Lobatse 82.85 128 P **P 14 03 57.8 +0.2**
LBTB IAmb IAmb 14 04 01.9
comp=Z,33nm,1.7s
LBTB Lobatse 82.85 128 LR LR 14 35 55.9
comp=Z,1μm,21.6s,baz=316,slow=32
LBTB Lobatse 82.85 128 P **P 14 03 57.8 +0.2**
LBTB pmax pmax
comp=Z,33nm,1.7s
PLCA Paso Flores 83.62 207 P **P 14 04 00.9 -0.2**
PLCA Paso Flores 83.62 207 P **P 14 04 01.3 +0.1**
comp=Z,13nm,1.0s,baz=42,slow=5.1,SNR=13
PLCA LR LR 14 40 26.6
comp=Z,313nm,20.6s,baz=52,slow=35
comp=Z,13nm,1.0s
PLCA Paso Flores 83.62 207 *e*P **P 14 04 01.2 +0.1**
LR05 Currie 83.73 208 IAmb IAmb 14 04 02.5
comp=Z,30nm,1.1s
WMQ Urumqi 84.33 38 *e*P **P 14 04 05.8 +0.7**
WMQ sP pwP 14 04 11.9 +0.8
WMQ pmax pmax
comp=Z,46nm,0.7s
WMQ LR LR
comp=Z,1μm,19.3s
WMQ LR LR
comp=Z,780nm,22.7s
WMQ LR LR
comp=Z,630nm,19.3s
MA2 Magadan 84.48 358 LR LR 14 38 21.7
comp=Z,770nm,22.0s,baz=13,slow=33
BOSA Boshof 85.19 131 P **P 14 04 09.8 +0.3**
BOSA IAmb IAmb 14 04 11.6
comp=Z,35nm,1.2s
BOSA Boshof 85.19 131 P **P 14 04 09.9 +0.3**
comp=Z,13nm,1.1s,baz=322,slow=4.5,SNR=12
BOSA LR LR 14 41 02.7
comp=Z,488nm,18.1s,baz=324,slow=35
comp=Z,13nm,1.1s
BOSA Boshof 85.19 131 P **P 14 04 09.8 +0.3**
BOSA pmax pmax
comp=Z,35nm,1.3s
LL01 San Ignacio de 85.75 208 IAmb IAmb 14 04 13.0
comp=Z,44nm,1.4s
ZAK Zakamensk 85.88 26 *e*P **P 14 04 11.9 -0.9**
ZAK pmax pmax
comp=Z,14nm,1.5s
SHEM Shemya Is, Ala 88.12 343 LR LR 14 42 57.6
comp=Z,222nm,19.1s,baz=68,slow=35
SONM Songino Array 89.13 25 P **P 14 04 28.1 -0.4**
comp=Z,2.6nm,0.9s,baz=293,slow=3.8,SNR=11
SONM PP **PP 14 07 58.2 +0.5**
comp=Z,0.5nm,0.8s,baz=337,slow=3.4,SNR=3.6
SONM LR LR 14 45 33.8
comp=Z,274nm,18.7s,baz=357,slow=36
comp=Z,2.6nm,0.9s
ULN Ulaanbaatar 89.33 25 *ce*P **P 14 04 29.6 +0.1**
ULN pmax pmax
comp=Z,14nm,2.5s
PET Petropavlovsk 90.46 352 *e*P **P 14 04 33.2 -1.2**
PET *e* 14 15 03.5
PET *eS* **S 14 15 26.0 -3.2**
PET *eSS* **SS 14 21 30.2 +2.4**
PET MLR MLR
comp=Z,400nm,17.0s
PET MLR MLR
comp=Z,300nm,17.0s
PETK Petropavlovsk- 90.47 353 LR LR 14 42 59.1
comp=Z,632nm,21.9s,baz=15,slow=34
HEH HeiHe 92.34 12 *e*P **P 14 04 46.6 +3.4**
HEH pmax pmax
comp=Z,7.0nm,1.2s
GTA Gaotai 93.52 34 P **P 14 04 48.0 -1.1**
GTA pP sP 14 04 53.1 +0.7
GTA PP **PP 14 08 31.5 -1.1**
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA LR LR
comp=Z,180nm,20.4s
GTA LR LR
comp=Z,390nm,19.6s
GTA LR LR
comp=Z,510nm,21.1s
OPO Ambohidratompo 93.90 110 LR LR 14 47 09.5
comp=Z,714nm,19.2s,baz=174,slow=36
RPN Rapa Nui 94.87 240 LR LR 14 41 19.3
comp=Z,125nm,21.8s,baz=58,slow=32
EVN Everest 95.26 50 IAmb IAmb 14 05 05.2
comp=Z,16nm,1.4s

BTO Baotou 96.70 27 *e*P **P 14 05 01.4 -2.1**
BTO pP **pP 14 05 06.3 +0.3**
BTO PP **PP 14 08 54.6 -2.5**
BTO S **S 14 16 20.8 -4.3**
BTO pmax pmax
comp=Z,14nm,0.5s
BTO pmax pmax
comp=Z,200nm,4.2s
BTO LR LR
comp=Z,730nm,14.5s
BTO LR LR
comp=Z,440nm,11.0s
BTO LR LR
comp=Z,610nm,19.5s
HHC Hu-ho-hao-te 97.03 26 *e*P **P 14 05 03.3 -1.7**
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,150nm,5.6s
HHC LR LR
comp=Z,390nm,16.7s
HHC LR LR
comp=Z,230nm,15.7s
HHC LR LR
comp=Z,560nm,16.0s
LZH Lanzhou 98.06 33 *e*P Pdif 14 05 10.4 +0.5
LZH sP pwP 14 05 16.3 +0.4
LZH pmax pmax
comp=Z,26nm,1.0s
LZH LR LR
comp=Z,430nm,15.5s
LZH LR LR
comp=Z,380nm,15.6s
LZH LR LR
comp=Z,640nm,15.2s
LZDM Lanzhou Array 98.11 34 LR LR 14 51 02.7
comp=Z,248nm,18.4s,baz=305,slow=36
ASAJ Asahikawa 99.98 3 LR LR 14 49 48.5
comp=Z,231nm,19.2s,baz=16,slow=35
XAN Xi'an 101.99 31 ⇑P **Pdif 14 05 21.5 -5.7**
XAN pmax pmax
comp=Z,3.0nm,0.6s
XAN pmax pmax
comp=Z,220nm,5.1s
CD2 Chengdu 102.33 36 *e*P **Pdif 14 05 27.0 -1.8**
PMSA Palmer Station 103.39 193 *e*P **Pdif 14 05 32.4 +0.1**
TAOE Nuku Hiva Isla 108.23 272 *e*LR LR 14 41 43.5
comp=Z,573nm,35.7s
CMAR Chiang Mai Arr 109.72 48 PP **PP 14 10 34.2 -0.8**
comp=Z,1.4nm,1.0s,baz=310,slow=7.4,SNR=5.9
QIZ Qiongzhong 115.26 38 PKP **PKPdf 14 10 21.0 +6.0**
QIZ PP **PP 14 11 12.0 -2.4**
QIZ Qiongzhong 115.26 38 SS SS 14 27 12.1 +0.6
QIZ AMB AMB
comp=Z,160nm,6.1s
QIZ LR LR
comp=N,310nm,17.8s
QIZ LR LR
comp=E,260nm,14.4s
QIZ LR LR
comp=Z,380nm,16.7s
SYO Syowa Base 117.78 157 ||*ep*Pdiff pPdif 14 06 41.8 +3.1
PPT2 Papeete2 120.68 270 *e*LR LR 14 47 24.5
comp=Z,345nm,25.8s
PPT2 *e*LR LR 14 47 31.7
comp=Z,512nm,25.5s
TBI Tubuai 123.50 264 *e*LR LR 14 48 45.1
comp=Z,3μm,34.2s
MAW Mawson 125.46 152 PKP **PKiKP 14 10 33.5 +0.1**
comp=Z,3.2nm,0.8s,baz=294,slow=6.0,SNR=7.6
QSPA South Pole Qui 126.10 180 PKP **PKiKP 14 10 35.9 +1.2**
comp=Z,11nm,1.0s,baz=228,slow=1.2,SNR=22
VNDA Vanda 138.02 185 PKP **PKiKP 14 10 57.9 -0.6**
comp=Z,7.0nm,1.0s,baz=255,slow=3.0,SNR=25
EDFI Ende, Flores 144.80 45 PKP **PKPab 14 11 08.9 -0.6**
SMPI Sarmi 145.28 13 PKP **PKPbc 14 11 10.7 -0.3**
GENI Genyem 146.11 11 PKP **PKPbc 14 11 14.1 +0.5**
SOEI Soe 147.06 42 PKP **PKPbc 14 11 17.2 +0.7**
DZM Mont Dzumac 157.35 303 *e*LR LR 15 04 22.2
comp=Z,1μm,22.4s

*IDC **17** 13:58:26.4±1.9,8˚.50S×121˚.52E, h0km, mb3.2/1, mbtmp3.3/5, ML2.9/4, Error ellipse: s-maj=109.7km s-min=24.1km az=56.0*
*DJA **17** 13:58:28.4±0.3, 8˚S±2˚×12˚2E±˚, h10km, M3.8/13, mB5.0/1, mb4.1/2, MLv3.7/13, Mw(mB)4.3/1*
ISC 17 13:58:26.8±0.8, **8˚.04S**±0˚.04×**122˚.33E**±0˚.07, **h10**km, **n15,** σ1§**19**/19, **Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.60**	**188**	P	**Pb**	**Pb**	**13 58 39.8**	**+0.4**
MMRI				S	**Sb**	**Sb**	**13 58 48.0**	**+0.1**
EDFI	**Ende, Flores**	**0.95**	**222**	P	**Pg**	**Pg**	**13 58 44.6**	**-0.5**
EDFI				S	**Sg**	**Sg**	**13 58 56.5**	**-0.9**
BATI	**Baumata** 7.3nm,0.3s,baz=265,slow=13,SNR=1.9 22nm,0.4s	**2.53**	**149**	Pn	**Pb**	**Pb**	**13 59 12.7**	**+0.4**
BBSI	**Bau Bau**	**2.55**	**5**	P	**Pb**	**Pb**	**13 59 12.4**	**-0.2**
WSI	**Waingapu**	**2.58**	**231**	P	**Pn**	**Pn**	**13 59 08.9**	**+0.3**
WSI				S	**Sn**	**Sn**	**13 59 40.5**	**+0.5**
BSSI	**Bau Bau, Buton**	**2.62**	**316**	P	**Pn**	**Pn**	**13 59 09.8**	**+0.6**
BASI	**Baing, Sumba**	**2.77**	**218**	P	**Pn**	**Pn**	**13 59 13.1**	**+1.8**
WBSI	**Waikabubak, Su**	**3.31**	**241**	P	**Pn**	**Pn**	**13 59 19.6**	**+0.9**
BKSI	**Bulukumba**	**3.48**	**321**	P	**Pn**	**Pn**	**13 59 20.6**	**-0.4**
PLAI	**Plampang**	**4.57**	**260**	P	**Pn**	**Pn**	**13 59 35.7**	**-0.3**
TWSI	**Taliwang, Sumb** 17nm,0.8s	**5.43**	**262**	P	**Pn**	**Pn**	**13 59 47.3**	**-0.6**
FITZ	**Fitzroy Crossi** baz=360,slow=13,SNR=2.3	**10.51**	**162**	Pn	**Pn**	**Pn**	**14 00 58.0**	**+0.4**
FITZ	0.1nm,0.3s,baz=338,slow=19,SNR=2.7 1.7nm,0.9s			Sn	**Sn**	**Sn**	**14 02 51.7**	**-3.7**
WRA	**Warramunga Arr** baz=312,slow=12,SNR=2.0 0.2nm,0.7s	**16.59**	**137**	Pn	**P**	**P**	**14 02 21.9**	**-0.3**
ASAR	**Alice Springs** baz=324,slow=12,SNR=6.6 0.5nm,0.7s	**19.10**	**146**	P	**Pn**	**Pn**	**14 02 51.2**	**+0.5**
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=130,slow=6.2,SNR=1.6 0.2nm,0.7s	**65.17**	**331**	P	**P**	**P**	**14 09 09.4**	**+1.3**

*DJA **17** 14:04:25.9±0.4, 8˚S±6˚×12˚8E±˚, h150km±16km, M4.3/8, mB5.1/1, mb4.1/6, MLv4.4/8, Mw(mB)4.5/1*
ISC 17 14:04:27.3±0.9, **7˚.69S**±0˚.09×**128˚.16E**±0˚.06, **h142**km, **n21,** σ**2**§**21**/21, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.13**	**96**	P	**Pn**	**Pn**	**14 05 16.1**	**+0.2**
SAUI	**Saumlaki**	**3.13**	**96**	S	**Sn**	**Sn**	**14 05 54.1**	**+0.5**
SAUI	**Saumlaki**	**3.13**	**96**	P	**Pn**	**Pn**	**14 05 14.2**	**-1.7**
SOEI	**Soe**	**4.36**	**242**	P	**Pn**	**Pn**	**14 05 32.7**	**+0.5**
SOEI	**Soe**	**4.36**	**242**	S	**Sn**	**Sn**	**14 06 22.2**	**-0.5**
SOEI	**Soe**	**4.36**	**242**	P	**Pn**	**Pn**	**14 05 32.2**	**0.0**
BATI	**Baumata** 0.5nm40nm,1.0s	**5.10**	**240**	P	**Pn**	**Pn**	**14 05 41.6**	**-0.3**
DRS	**Darwin Rock St**	**5.43**	**150**	P	**Pn**	**Pn**	**14 05 46.3**	**0.0**
DRS	**Darwin Rock St**	**5.43**	**150**	S	**Sn**	**Sn**	**14 06 44.3**	**-3.8**
FAKI	**Fak Fak** 0.2nm40nm,1.2s	**6.24**	**41**	P	**Pn**	**Pn**	**14 05 54.4**	**-2.8**
EDFI	**Ende, Flores** 7.0nm,1.3s	**6.49**	**260**	P	**Pn**	**Pn**	**14 05 59.7**	**-0.9**
KDU	**Kakadu**	**6.54**	**140**	P	**Pn**	**Pn**	**14 06 00.2**	**-0.9**
KDU	**Kakadu**	**6.54**	**140**	S	**Sn**	**Sn**	**14 07 09.9**	**-4.6**
SWI	**Sorong** 0.1nm2μm22nm,1.0s	**7.45**	**25**	P	**Pn**	**Pn**	**14 06 11.3**	**-2.1**
WBSI	**Waikabubak, Su** 23nm,0.9s	**8.88**	**257**	P	**Pn**	**Pn**	**14 06 31.8**	**-0.8**
PLAI	**Plampang**	**10.34**	**263**	P	**Pn**	**Pn**	**14 06 51.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**10.64**	**193**	P	**Pn**	**Pn**	**14 06 55.3**	**-0.6**
COEN	**Coen**	**16.01**	**114**	P	**P**	**P**	**14 08 07.5**	**+2.2**
QIS	**Mount Isa**	**16.93**	**140**	P	**Pn**	**Pn**	**14 08 17.3**	**+1.5**
QLP	**Quilpie**	**24.22**	**143**	P	**P**	**P**	**14 09 35.2**	**+4.3**
CMSA	**Cobar Meteorol**	**28.82**	**148**	P	**P**	**P**	**14 10 14.9**	**+2.7**

*MOS **17** 14:10:18.7±0.8, 11˚.00S×166˚.34E, h158km, mb5.0/22, Error ellipse: s-maj=10.0km s-min=8.1km az=132.1*
*BJI **17** 14:10:19.6, 10˚.49S×166˚.41E, h151km, mB5.1/14, mb5.1/67*

NEIC ***17*** *14:10:19.9±1.2, 11˚.05S±0˚.07×166˚.42E±0˚.09, h153km±6km, mb5.1/361, Error ellipse: s-maj=12.7km s-min=9.9km az=99.0*

GCMT ***17*** *14:10:19.9±0.2, 11˚.10S±0˚.02×166˚.31E±0˚.02, h159km±2km, MW5.0/121, Moment Tensor Solution. s36,c41; s121,c158; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.02±.11; Mθθ-0.26±.16; Mϕϕ-3.75±.16; Mrθ1.12±.12; Mθϕ1.73±.14; Mϕr-1.61±.13; Best double couple: Mo4.67600×10¹⁶ NP1:ϕs344.00000°, δ33.00000°, λ100.00000°. NP2:ϕs152.00000°, δ57.00000°, λ83.00000°. Principal axes: T 4.4750, Plg77.0000°, Azm42.0000°; N 0.4090, Plg6.0000°, Azm155.0000°; P -4.8770, Plg12.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***17*** *14:10:20.8±0.6, 11˚.08S×166˚.34E, h165km±4km, mb4.6/29, mbtmp5.0/32, MS4.0/6 Error ellipse: s-maj=10.1km s-min=7.9km az=115.0*

NOU ***17*** *14:10:20.1, 11˚.00S×166˚.37E, h147km, mb5.1/77, Santa Cruz Islands*

ISC 17 14:10:19.7±0.3, 11˚.04S±0˚.04×166˚.43E±0˚.04, h158km±2km, h159km:pP-P, n780, σ0=98/680, mb5.1/242, 22C-2D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**0.63**	**306**	P	**Pn**	**14 10 41.1**	**-1.6**
LUES	**Luesalemba Tem**	**0.63**	**306**	S	**Sn**	**14 10 58.4**	**-1.8**
SANVU	**Saraoutou**	**4.45**	**170**	Pn	**Pn**	**14 11 25.4**	**-0.7**
SANVU	**Saraoutou**	**4.45**	**170**	P	**Pn**	**14 11 25.7**	**-0.3**
SANVU	**Saraoutou**	**4.45**	**170**	S	**Sn**	**14 12 17.3**	**-0.5**
HURO	**Huro Makira**	**4.48**	**277**	P	**Pn**	**14 11 24.4**	**-2.1**
ALEG	**Aligegeo Malai**	**6.08**	**291**	P	**Pn**	**14 11 47.3**	**-0.3**
ALEG	**Aligegeo Malai**	**6.08**	**291**	S	**Sn**	**14 12 56.6**	**0.0**
NGOA	**Tingoa Renbel**	**6.26**	**265**	P	**Pn**	**14 11 48.5**	**-1.5**
NGOA	**Tingoa Renbel**	**6.26**	**265**	S	**Sn**	**14 12 59.0**	**-1.8**
HNR	**Honiara**	**6.57**	**283**		**Pn**	**14 11 54.3**	**+0.1**
HNR	**Honiara** 574nm,0.7s,baz=160,slow=1.7,SNR=47	**6.57**	**283**	P	**Pn**	**14 11 54.6**	**+0.5**
HNR	85nm,0.5s,baz=90,slow=20,SNR=0.7			S	**Sn**	**14 13 09.8**	**+1.6**
HNR	**Honiara**	**6.57**	**283**	P	**Pn**	**14 11 54.8**	**+0.7**
SAVO	**Savo Central**	**6.78**	**285**	P	**Pn**	**14 11 57.1**	**+0.2**
TATA	**Tatamba Isabel**	**7.04**	**291**	P	**Pn**	**14 12 00.0**	**-0.3**
TATA	**Tatamba Isabel**	**7.04**	**291**	S	**Sn**	**14 13 20.7**	**+1.3**
KOUNC	**Koumac, New Ca**	**9.68**	**192**	P	**Pn**	**14 12 37.7**	**+2.3**
KOUNC	**Koumac, New Ca**	**9.68**	**192**	S	**Sn**	**14 14 24.7**	**+1.9**
DZM	**Mont Dzumac** 113nm,0.8s	**10.97**	**180**	*e*P	**Pn**	**14 12 52.3**	**-0.2**
DZM	272nm,34.5s			*e*LR	LR	14 15 22.2	
DZM	**Mont Dzumac** 38nm,0.4s,baz=314,slow=10,SNR=166	**10.97**	**180**	P	**Pn**	**14 12 53.7**	**+1.2**
DZM	baz=0.0,slow=20			S	**Sn**	**14 14 52.2**	**-1.8**
DZM	**Mont Dzumac**	**10.97**	**180**	P	**Pn**	**14 12 54.6**	**+2.1**
ONTNC	**Ouen Toro**	**11.21**	**180**		**Pn**	**14 12 55.2**	**-0.2**
ONTNC					**Sn**	**14 14 59.6**	**+0.1**
ONTNC	**Ouen Toro**	**11.21**	**180**	P	**Pn**	**14 12 58.0**	**+2.5**
OUENC	**Ouen Island, N**	**11.32**	**178**	P	**Pn**	**14 12 59.9**	**+2.9**
OUENC	**Ouen Island, N**	**11.32**	**178**	S	**Sn**	**14 15 04.3**	**+1.9**
PINNC	**Pines Island,**	**11.55**	**175**		**Pn**	**14 12 59.9**	**0.0**
MSVF	**Nonsavu**	**13.08**	**122**	Pn	**Pn**	**14 13 19.8**	**0.0**
MSVF	**Nonsavu**	**13.08**	**122**	P	**Pn**	**14 13 23.4**	**-0.7**
MSVF	**Nonsavu**	**13.08**	**122**	P	**Pn**	**14 13 19.8**	**0.0**
TARA	**Tarawa**	**13.90**	**28**	Pn	**Pn**	**14 13 30.6**	**+0.4**
TARA					**S**	**14 16 10.8**	**-2.0**
TARA	**Tarawa**	**13.90**	**28**	P	**Pn**	**14 13 31.2**	**+1.0**
DGTI	**Dogotuki**	**13.95**	**113**	P	**P**	**14 13 32.8**	**-1.0**
PMG	**Port Moresby**	**19.03**	**273**		**P**	**14 14 29.4**	**-0.4**
PMG	**Port Moresby** 60nm,1.1s,baz=70,slow=6.1,SNR=4.7	**19.03**	**273**	P	**Pn**	**14 14 31.2**	**-1.0**
PMG	**Port Moresby**	**19.03**	**273**	P	**Pn**	**14 14 32.3**	**0.0**
PMG	**Port Moresby**	**19.03**	**273**	P	**Pn**	**14 14 32.4**	**+0.1**
PMG	**Port Moresby**	**19.03**	**273**	*i* P	**P**	**14 14 30.3**	**+0.6**
GD1S	**Gladstone Soft**	**19.32**	**227**	P	**Pn**	**14 14 34.2**	**-1.3**
PATS	**Pohnpei**	**19.51**	**335**	P	**P**	**14 14 35.4**	**+0.5**
EIDS	**Eidsvold**	**20.36**	**223**		**P**	**14 14 44.6**	**+0.7**
EIDS	**Eidsvold**	**20.36**	**223**	P	**P**	**14 14 44.7**	**+0.7**
TV1H	**Townsville Har**	**20.62**	**244**	P	**P**	**14 14 47.7**	**+0.9**
MANU	**Manus Island**	**20.92**	**294**	P	**P**	**14 14 50.1**	**+0.1**
CTA	**Charters Tower**	**21.39**	**243**	P	**P**	**14 14 55.0**	**-0.1**
CTAO	**Charters Tower**	**21.39**	**243**		**P**	**14 14 54.9**	**-0.2**
CTAO	**Charters Tower**	**21.39**	**243**	P	**P**	**14 14 54.9**	**-0.2**
CTAO	**Charters Tower**	**21.39**	**243**	P	**P**	**14 14 54.9**	**-0.2**
AFI	**Afiamalu**	**21.47**	**100**	P	**P**	**14 14 57.6**	**+1.6**
MTSU	**Mount Surprise**	**22.52**	**249**	P	**P**	**14 15 07.1**	**+0.7**
COEN	**Coen**	**22.88**	**260**	P	**P**	**14 15 09.3**	**-0.5**
COEN					**pP**	**14 15 35.9**	**-2.2**
COEN	**Coen**	**22.88**	**260**	P	**P**	**14 15 11.2**	**+1.4**
OUZ	**Omahuta**	**24.94**	**166**	P	**P**	**14 15 29.5**	**+1.2**
QLP	**Quilpie**	**26.02**	**230**	P	**P**	**14 15 39.8**	**+1.6**
KUZ	**Kuaotunu**	**26.94**	**163**	P	**P**	**14 15 47.2**	**+0.9**
QIS	**Mount Isa**	**27.45**	**247**	P	**P**	**14 15 51.3**	**+0.2**
TOZ	**Tahuroa Road**	**27.80**	**164**	P	**P**	**14 15 54.9**	**+1.0**
OPRZ	**Ohinepanea**	**28.20**	**163**	P	**P**	**14 15 58.6**	**+1.1**
MARZ	**Manawahe**	**28.36**	**163**	P	**P**	**14 16 00.4**	**+1.4**
OMRZ	**Omania**	**28.39**	**163**	P	**P**	**14 16 01.6**	**+1.4**
HAZ	**Te Kahis**	**28.49**	**161**	P	**P**	**14 16 01.1**	**+1.0**
GRRZ	**Galatos Road**	**28.55**	**164**	P	**P**	**14 16 04.0**	**+3.4**
RRRZ	**Republican Roa**	**28.65**	**163**	P	**P**	**14 16 03.3**	**+1.8**
URZ	**Urewera**	**28.75**	**162**	P	**P**	**14 16 03.0**	**+0.7**
URZ	**Urewera**	**28.75**	**162**	P	**P**	**14 16 02.2**	**-0.1**
ALRZ	**Allen Road**	**28.81**	**164**	P	**P**	**14 16 05.1**	**+2.1**
PUZ	**Puketiti**	**28.93**	**160**	P	**P**	**14 16 02.0**	**-2.0**
SMPI	**Sarmi** 52nm,1.2s	**28.94**	**286**	P	**P**	**14 16 04.3**	**0.0**
TWGZ	**Tauwhareparae**	**28.94**	**161**	P	**P**	**14 16 03.8**	**-0.3**
MWZ	**Matawai**	**28.94**	**162**	P	**P**	**14 16 04.1**	**-0.1**
RTZ	**Ruatahuna**	**29.04**	**163**	P	**P**	**14 16 04.7**	**-0.3**
RTZ	**Ruatahuna**	**29.04**	**163**	P	**P**	**14 16 04.9**	**-0.1**
TKGZ	**Te Karaka**	**29.14**	**161**	P	**P**	**14 16 05.3**	**-0.5**
NGZ	**Ngauruhoe**	**29.19**	**162**	P	**P**	**14 16 08.3**	**+1.9**
INKA	**Innaminka**	**29.27**	**232**	P	**P**	**14 16 07.3**	**+0.2**
SNGZ	**Shannon Statio**	**29.30**	**162**	P	**P**	**14 16 07.1**	**-0.2**
H11S2	**WAKE ISLAND Hy** baz=181,slow=76,SNR=41	**29.34**	**1**	T	T	14 46 55.3	
H11S3	**WAKE ISLAND Hy** baz=181,slow=76,SNR=30	**29.34**	**1**	T	T	14 46 55.6	
H11S1	**WAKE ISLAND Hy** baz=181,slow=76,SNR=31	**29.36**	**1**	T	T	14 46 57.8	
BKZ	**Black Stump Fm**	**29.41**	**164**	P	**P**	**14 16 08.6**	**+0.3**
BKZ	**Black Stump Fm**	**29.41**	**164**	P	**P**	**14 16 09.0**	**+0.7**
BKZ	**Black Stump Fm**	**29.41**	**164**	P	**P**	**14 16 08.5**	**+0.2**
TSZ	**Takapari Road**	**30.12**	**165**	P	**P**	**14 16 14.1**	**-0.3**
PXZ	**Pawanui**	**30.32**	**164**	P	**P**	**14 16 15.4**	**-0.8**
H11N1	**WAKE ISLAND Hy** baz=182,slow=76,SNR=33	**30.56**	**1**	T	T	14 48 26.9	
H11N3	**WAKE ISLAND Hy** baz=182,slow=76,SNR=16	**30.56**	**1**	T	T	14 48 26.6	
H11N2	**WAKE ISLAND Hy** baz=182,slow=76,SNR=14	**30.58**	**1**	T	T	14 48 28.3	
MRZ	**Mangatainoka R**	**30.59**	**166**	P	**P**	**14 16 18.7**	**+0.1**
MRZ	**Mangatainoka R**	**30.59**	**166**	P	**P**	**14 16 18.3**	**-0.4**
NNZ	**Nelson**	**30.68**	**170**	P	**P**	**14 16 20.8**	**+1.5**
BFZ	**Birch Farm**	**30.77**	**165**	P	**P**	**14 16 18.7**	**-1.6**
STKA	**Stephens Creek**	**30.91**	**224**	P	**P**	**14 16 21.6**	**+0.1**
STKA					**PcP**	**14 19 14.9**	**+0.6**
STKA	**Stephens Creek** 13nm,0.8s,baz=38,slow=9.0,SNR=20	**30.91**	**224**	P	**P**	**14 16 22.4**	**+0.9**
STKA	4.1nm,0.8s,baz=61,slow=11,SNR=2.3			pP	**pP**	**14 16 56.5**	**+3.8**
STKA	9.7nm,1.0s,baz=75,slow=1.9,SNR=4.8			PcP	**PcP**	**14 19 14.3**	**0.0**
STKA	comp=Z,170nm,18.5s,baz=31,slow=36 13nm,0.8s			LR	LR	14 28 45.0	
STKA	**Stephens Creek**	**30.91**	**224**	P	**P**	**14 16 22.7**	**+1.2**
THZ	**Tophouse**	**31.13**	**171**	P	**P**	**14 16 23.1**	**-0.3**
THZ	comp=Z,37nm,0.8s			IAmb	IAmb	14 16 26.1	
THZ	**Tophouse**	**31.13**	**171**	P	**P**	**14 16 23.1**	**-0.3**
INZ	**Inchbonnie**	**31.87**	**173**	P	**P**	**14 16 29.9**	**+0.1**
KHZ	**Kahutara**	**31.87**	**170**	P	**P**	**14 16 28.7**	**-1.1**
WB0	**Warramunga Arr** comp=Z,24nm,0.8s	**32.03**	**250**	IAmb	IAmb	14 16 34.8	
LTZ	**Lake Taylor**	**32.03**	**172**	P	**P**	**14 16 31.2**	**-0.1**
LTZ	**Lake Taylor**	**32.03**	**172**	P	**P**	**14 16 31.1**	**-0.1**
WRAB	**Tennant Creek**	**32.10**	**250**	P	**P**	**14 16 31.2**	**-0.9**
WRAB	**Tennant Creek**	**32.10**	**250**	*i* P	**P**	**14 16 31.5**	**-0.7**
WRAB	comp=Z,11nm,0.8s			pmax	pmax		
WB1	**Warramunga Ar.**	**32.11**	**250**	P	**P**	**14 16 31.8**	**-0.4**
WRA	**Warramunga Arr**	**32.11**	**250**	P	**P**	**14 16 29.8**	**-2.4**
WRA	**Warramunga Arr** comp=Z,13nm,0.8s,baz=84,slow=9.3,SNR=62	**32.11**	**250**	P	**P**	**14 16 31.7**	**-0.6**
WRA	comp=Z,12nm,0.8s,baz=80,slow=9.2,SNR=6.4			pP	**pP**	**14 17 06.9**	**+2.9**
WRA	comp=Z,6.1nm,0.8s,baz=77,slow=3.3,SNR=15			PcP	**PcP**	**14 19 18.0**	**+0.2**
WRA	comp=Z,7.4nm,1.2s,baz=80,slow=16,SNR=11			S	**S**	**14 21 30.4**	**-2.8**
WRA	comp=Z,1.3nm,0.8s,baz=84,slow=3.6,SNR=5.6			ScP	**ScP**	**14 22 48.8**	**+2.0**
WRA	comp=Z,1.1nm,0.9s,baz=347,slow=0.5,SNR=8.5			PKiKP	**PKiKP**	**14 26 44.9**	**-1.0**
WRA	comp=Z,132nm,18.1s,baz=64,slow=37 comp=Z,13nm,0.8s			LR	LR	14 30 00.4	
OXZ	**Oxford**	**32.54**	**172**	P	**P**	**14 16 35.2**	**-0.4**
OXZ	**Oxford**	**32.54**	**172**	P	**P**	**14 16 35.2**	**-0.4**
JCZ	**Jackson Bay**	**32.98**	**177**	P	**P**	**14 16 40.0**	**+0.4**
MQZ	**McQueen's Vall**	**32.99**	**172**	P	**P**	**14 16 39.7**	**+0.1**
LBZ	**Lake Benmore**	**33.39**	**175**	P	**P**	**14 16 42.1**	**-0.9**
ASAR	**Alice Springs**	**33.39**	**244**	P	**P**	**14 16 42.0**	**-1.4**
ASAR	**Alice Springs** comp=Z,5.0nm,0.9s,baz=65,slow=9.9,SNR=40	**33.39**	**244**	P	**P**	**14 16 42.3**	**-1.1**
ASAR	comp=Z,7.9nm,0.9s,baz=76,slow=9.7,SNR=6.3			pP	**pP**	**14 17 17.2**	**+1.9**
ASAR	comp=Z,8.7nm,0.8s,baz=73,slow=2.8,SNR=18			PcP	**PcP**	**14 19 21.5**	**+0.1**
ASAR	comp=Z,1.1nm,1.0s,baz=74,slow=15,SNR=4.9			S	**S**	**14 21 50.9**	**-2.1**
ASAR	comp=Z,1.8nm,0.9s,baz=76,slow=3.5,SNR=5.8			ScP	**ScP**	**14 22 53.1**	**+1.9**
ASAR	comp=Z,0.4nm,0.8s,baz=98,slow=2.4,SNR=6.8			PKiKP	**PKiKP**	**14 26 45.5**	**-1.3**
ASAR	comp=Z,0.2nm,0.4s,baz=338,slow=3.0,SNR=7.0 comp=Z,5.0nm,0.9s			PKPPKP		14 50 06.2	
HTT	**Hallett**	**33.64**	**224**	P	**P**	**14 16 46.8**	**+1.3**
WKZ	**Wanaka**	**33.74**	**177**	P	**P**	**14 16 46.9**	**+0.8**
RAR	**Rarotonga** comp=Z,127nm,18.4s,baz=284,slow=33	**33.94**	**112**	LR	LR	14 29 00.2	
ODZ	**Otahua Downs**	**34.08**	**175**	P	**P**	**14 16 48.7**	**-0.3**
EAZ	**Earnscleugh**	**34.16**	**176**	P	**P**	**14 16 49.3**	**-0.4**
BBOO	**Buckleboo**	**35.32**	**227**	P	**P**	**14 17 00.0**	**+0.2**
BBOO	comp=Z,23nm,0.7s			IAmb	IAmb	14 17 03.1	
BBOO	**Buckleboo**	**35.32**	**227**	P	**P**	**14 17 00.5**	**+0.6**
NLAI	**Namlea** comp=Z,49nm,1.1s	**39.74**	**278**	P	**P**	**14 17 37.2**	**0.0**
FITZ	**Fitzroy Crossi**	**40.03**	**255**	P	**P**	**14 17 39.5**	**0.0**
PPT2	**Papeete2** comp=Z,153nm,44.0s	**43.05**	**104**	*e*LR	LR	14 30 11.7	
PPT2	comp=Z,178nm,22.5s			*e*LR	LR	14 30 14.0	
TBI	**Tubuai** comp=Z,834nm,23.0s	**43.72**	**112**	*e*S	**S**	**14 24 24.4**	**-3.4**
TBI	comp=Z,1µm,26.2s			*e*LR	LR	14 30 29.2	
EDFI	**Ende, Flores** comp=Z,15nm,1.0s	**44.10**	**269**	P	**P**	**14 18 11.7**	**-1.0**
PSA00	**Pilbara Seismi**	**45.76**	**251**	P	**P**	**14 18 25.7**	**0.0**
PSA00	**Pilbara Seismi** comp=Z,27nm,1.0s	**45.76**	**251**	IAmb	IAmb	14 18 27.1	
PSA00	**Pilbara Seismi**	**45.76**	**251**	P	**P**	**14 18 26.5**	**+0.8**
MBWA	**Marble Bar**	**45.83**	**251**	P	**P**	**14 18 26.2**	**0.0**
MBWA	**Marble Bar**	**45.83**	**251**	P	**P**	**14 18 27.1**	**+0.9**
MBWA	**Marble Bar**	**45.83**	**251**	P	**P**	**14 18 26.5**	**+0.3**
MBWA				PcP	**PcP**	**14 20 00.8**	**-0.2**
BNSI	**Bone** comp=Z,31nm,1.0s	**46.33**	**274**	P	**P**	**14 18 30.8**	**+0.7**
KAPI	**Kappang**	**46.56**	**274**	PcP	**PcP**	**14 20 04.1**	**+0.4**
PCI	**Palu** comp=Z,79nm,1.0s	**47.34**	**279**	P	**P**	**14 18 39.1**	**+1.0**
MEEK	**Meekatharra**	**47.55**	**244**	P	**P**	**14 18 40.9**	**+1.3**
HMH	**Humu'ula Sheep**	**48.32**	**51**	P	**P**	**14 18 47.4**	**+1.6**
POHA	**Pohakuloa**	**48.37**	**51**	P	**P**	**14 18 47.2**	**+1.1**
POHA	**Pohakuloa**	**48.37**	**51**	P	**P**	**14 18 48.3**	**+2.2**
STCH	**Steam Cracks**	**48.47**	**52**	P	**P**	**14 18 47.9**	**+1.2**
NWAO	**Narrogin (SRO)**	**50.02**	**236**	P	**P**	**14 18 58.4**	**+0.1**
NWAO	comp=Z,21nm,0.8s			IAmb	IAmb	14 19 01.5	
NWAO	**Narrogin (SRO)** comp=Z,21nm,0.8s	**50.02**	**236**	P	**P**	**14 18 58.4**	**+0.1**
NWAO				pmax	pmax		
MORW	**Morawa**	**50.21**	**241**	P	**P**	**14 18 60.0**	**+0.2**
MORW	**Morawa**	**50.21**	**241**	P	**P**	**14 19 00.1**	**+0.3**
MYLDM	**Lahad Datu**	**50.35**	**286**	P	**P**	**14 19 01.4**	**+0.5**
MYLDM	comp=Z,31nm,1.1s			IAmb	IAmb	14 19 04.4	
MYLDM	**Lahad Datu**	**50.35**	**286**	P	**P**	**14 19 02.5**	**+1.6**
MUN	**Mundaring**	**50.65**	**238**	P	**P**	**14 19 03.6**	**+0.6**
KKM	**Kota Kinabalu**	**52.78**	**286**	P	**P**	**14 19 18.6**	**-0.6**
KKM	**Kota Kinabalu**	**52.78**	**286**	P	**P**	**14 19 20.4**	**+1.3**
JMN	**Monobe**	**54.23**	**326**	P	**P**	**14 19 29.2**	**-0.1**
JMN	**Monobe**	**54.23**	**326**	P	**P**	**14 19 30.3**	**+1.1**
MJAR	**Matsushiro Arr**	**54.27**	**332**	P	**P**	**14 19 28.4**	**-1.0**
MJAR	**Matsushiro Arr** comp=Z,11nm,1.0s,baz=156,slow=7.8,SNR=16	**54.27**	**332**	P	**P**	**14 19 28.3**	**-1.2**
MJAR	**Matsushiro Arr** comp=Z,11nm,1.0s	**54.27**	**332**	P	**P**	**14 19 28.5**	**-1.0**
MJAR	comp=Z,13nm,1.1s			pmax	pmax		
MAJO	**Matsushiro**	**54.27**	**332**	P	**P**	**14 19 28.2**	**-1.3**
MAJO	**Matsushiro**	**54.27**	**332**	P	**P**	**14 19 29.4**	**-0.1**
MAJO	**Matsushiro**	**54.27**	**332**	*i* P	**P**	**14 19 28.9**	**-0.6**
MAJO	comp=Z,17nm,1.0s			pmax	pmax		
MAJO	**Matsushiro**	**54.27**	**332**	P	**P**	**14 19 28.9**	**-0.6**
MAJO				pP	**pP**	**14 20 04.4**	**-1.2**
SBUM	**Sibu**	**55.56**	**281**	P	**P**	**14 19 38.8**	**-0.3**
SBUM	**Sibu**	**55.56**	**281**	P	**P**	**14 19 40.7**	**+1.6**
STKI	**Sintang**	**55.69**	**278**	P	**P**	**14 19 40.7**	**+0.6**
KSM	**Kuching**	**57.16**	**279**	P	**P**	**14 19 50.5**	**0.0**
LEM	**Lembang** comp=Z,46nm,0.6s,baz=15,slow=7.3,SNR=10	**58.17**	**269**	P	**P**	**14 19 57.4**	**-0.4**
LEM	**Lembang** comp=Z,46nm,0.6s	**58.17**	**269**	P	**P**	**14 19 57.8**	**0.0**
DRV	**Dumont d'Urvil**	**58.35**	**192**	P	**P**	**14 19 57.6**	**-0.2**
DRV				pP	**pP**	**14 20 32.4**	**-1.8**
ASAJ	**Asahikawa** comp=Z,34nm,0.8s,baz=224,slow=5.5,SNR=20 comp=Z,34nm,0.8s	**59.01**	**340**	P	**P**	**14 20 03.4**	**+0.6**
KSRS	**Korea Array** comp=Z,6.3nm,0.7s,baz=136,slow=7.2,SNR=30	**60.25**	**325**	P	**P**	**14 20 11.5**	**+0.2**
KSRS	comp=Z,3.0nm,0.8s,baz=145,slow=5.4,SNR=4.4 comp=Z,6.3nm,0.7s			pP	**PcP**	**14 20 53.3**	**-1.8**
KSAR	**Wonju Array Be**	**60.26**	**325**	P	**P**	**14 20 10.8**	**-0.6**
KSAR	**Wonju Array Be**	**60.26**	**325**	P	**P**	**14 20 10.8**	**-0.6**
YSS	**Yuzhno-Sakhali**	**61.48**	**342**	P	**P**	**14 20 20.1**	**+0.6**
YSS	**Yuzhno-Sakhali**	**61.48**	**342**	P	**P**	**14 20 21.2**	**+1.7**
YSS	**Yuzhno-Sakhali**	**61.48**	**342**	*e*P	**P**	**14 20 20.3**	**+0.8**
YSS				*e*		14 21 00.4	
YSS				*e*S	**S**	**14 28 27.0**	**-1.2**
YSS				*e*SS	**SS**	**14 32 30.4**	**-2.0**
YSS	comp=Z,30nm,1.2s			pmax	pmax		
YSS	comp=Z,100nm,4.0s			pmax	pmax		
YSS	comp=Z,600nm,17.0s			MLR	MLR		
YSS	comp=N,700nm,15.0s			MLR	MLR		
YSS	comp=E,400nm,18.0s			MLR	MLR		
NJ2	**Nanjing**	**62.48**	**315**	⇓P	**P**	**14 20 27.3**	**+0.8**
NJ2				pP	**pP**	**14 21 03.0**	**-0.4**
NJ2	comp=E,33nm,0.9s			pmax	pmax		
USRK	**Ussuriysk Ar.** comp=E,19nm,1.0s,baz=131,slow=5.8,SNR=23 comp=E,19nm,1.0s	**63.24**	**333**	P	**P**	**14 20 32.4**	**+1.1**
MYKOM	**Kota Tinggi**	**63.51**	**278**	P	**P**	**14 20 33.6**	**0.0**
MYKOM	comp=Z,30nm,1.2s			IAmb	IAmb	14 20 35.0	
SHEM	**Shemya Is, Ala** comp=Z,75nm,0.7s,baz=135,slow=1.4,SNR=5.0 comp=Z,75nm,0.7s	**63.85**	**5**	P	**P**	**14 20 35.5**	**+0.5**
PEA0B	**Petropavlovsk-**	**64.32**	**354**	*ce*P	**P**	**14 20 38.9**	**+0.8**
PETK	**Petropavlovsk-**	**64.32**	**354**	P	**P**	**14 20 38.5**	**+0.4**
PETK	**Petropavlovsk-**	**64.32**	**354**	P	**P**	**14 20 39.1**	**+1.0**
	comp=Z,18nm,0.9s,baz=162,slow=7.8,SNR=14 comp=Z,18nm,0.9s						
MDJ	**Mudanjiang**	**64.66**	**332**	P	**P**	**14 20 41.3**	**+0.8**
MDJ	comp=Z,32nm,1.2s			pmax	pmax		
MDJ	**Mudanjiang**	**64.66**	**332**	P	**P**	**14 20 41.7**	**+1.2**
TYV	**Tymovskoe**	**65.02**	**344**	*e*P	**P**	**14 20 42.8**	**+0.1**
TYV				*e*		14 29 08.7	
TYV	comp=Z,8.0nm,0.8s			pmax	pmax		
TYV	comp=Z,100nm,4.5s			pmax	pmax		
GULI	**GuiLin**	**65.46**	**304**	P	**P**	**14 20 49.4**	**+3.3**
GULI	comp=Z,35nm,1.2s			pmax	pmax		
TIA	**Tai'an**	**66.06**	**318**	P	**P**	**14 20 49.4**	**-0.3**
TIA				PcP	**PcP**	**14 21 19.9**	**+1.0**
TIA	comp=Z,19nm,1.1s			pmax	pmax		
TIA	comp=Z,290nm,22.7s			LR	LR		
TIA	comp=Z,400nm,18.5s			LR	LR		
TIA	comp=Z,680nm,22.8s			LR	LR		
CN2	**Changchun**	**66.08**	**329**	P	**P**	**14 20 50.0**	**+0.4**
CN2				S	**S**	**14 29 24.1**	**-1.1**
CN2	comp=Z,30nm,0.8s			pmax	pmax		
PPI	**Padang Panjang** comp=Z,47nm,1.2s	**66.40**	**274**	P	**P**	**14 20 52.5**	**+0.2**
VNDA	**Vanda**	**66.51**	**181**	P	**P**	**14 20 51.6**	**-0.3**
VNDA	**Vanda** comp=Z,6.5nm,0.9s,baz=336,slow=7.0,SNR=26	**66.51**	**181**	P	**P**	**14 20 51.8**	**-0.1**
VNDA	**Vanda** comp=Z,6.5nm,0.9s	**66.51**	**181**	P	**P**	**14 20 52.0**	**+0.1**
VNDA				sP	**sP**	**14 21 45.9**	**-0.3**
BNX	**BinXian**	**66.52**	**331**	⇑P	**P**	**14 20 52.4**	**0.0**
BNX	comp=Z,22nm,0.7s			pmax	pmax		
CASY	**Casey**	**66.63**	**201**	P	**P**	**14 20 52.2**	**-0.6**
SBA	**Scott Base**	**66.81**	**180**	P	**P**	**14 20 54.5**	**+0.7**
SBA	comp=Z,20nm,0.9s			IAmb	IAmb	14 20 55.9	
SBA	**Scott Base**	**66.81**	**180**	P	**P**	**14 20 54.5**	**+0.7**
SBA	comp=Z,20nm,0.9s			pmax	pmax		
GRNR	**Gornyy**	**66.86**	**340**	⇑*i*P	**P**	**14 20 55.0**	**+0.5**
GRNR	comp=Z,20nm,1.0s			pmax	pmax		
IPM	**Ipoh**	**66.88**	**280**	P	**P**	**14 20 55.1**	**-0.3**
IPM	comp=Z,33nm,1.0s			IAmb	IAmb	14 20 56.6	
IPM	**Ipoh**	**66.88**	**280**	P	**P**	**14 20 56.8**	**+1.4**
LYN	**LuoYang**	**68.32**	**314**	P	**P**	**14 21 04.4**	**+0.4**
LYN	comp=Z,71nm,0.8s			pmax	pmax		
LYN	comp=Z,620nm,13.4s			LR	LR		
LYN	comp=Z,390nm,14.5s			LR	LR		
LYN	comp=Z,780nm,15.9s			LR	LR		
HNS	**HongShan**	**68.33**	**318**	⇑P	**P**	**14 21 04.5**	**+0.6**
HNS	comp=Z,28nm,1.2s			pmax	pmax		
HNS	comp=Z,410nm,16.6s			LR	LR		
HNS	comp=Z,440nm,14.8s			LR	LR		
ENH	**Enshi**	**68.41**	**309**	P	**P**	**14 21 05.9**	**+1.2**
PSI	**Prapat**	**68.53**	**277**	P	**P**	**14 21 04.8**	**+1.1**
BJT	**Baijiatuan**	**68.89**	**321**	P	**P**	**14 21 08.8**	**+1.4**
BJI	**Beijing**	**68.90**	**321**	P	**P**	**14 21 07.8**	**+0.4**
BJI	comp=Z,10.0nm,0.8s			pmax	pmax		
GYA	**Guiyang**	**68.97**	**304**	⇑P	**P**	**14 21 08.3**	**0.0**
GYA	comp=Z,35nm,0.9s			pmax	pmax		
SLVN	**Son La** comp=Z,28nm,1.4s	**69.30**	**298**	IAmb	IAmb	14 21 12.4	
SLVN	**Son La**	**69.30**	**298**	P	**P**	**14 21 11.3**	**+0.9**
SURA	**Surathani**	**69.40**	**284**	P	**P**	**14 21 12.5**	**+1.5**
GSI	**Gunungsitoli**	**69.52**	**276**	P	**P**	**14 21 11.4**	**-0.5**
GSI	**Gunungsitoli**	**69.52**	**276**	P	**P**	**14 21 13.4**	**+1.5**
GSI	**Gunungsitoli**	**69.52**	**276**	P	**P**	**14 21 11.3**	**-0.6**
KCSI	**Kotacane, Aceh** comp=Z,11nm,0.8s	**69.81**	**278**	P	**P**	**14 21 11.7**	**-1.9**
HEH	**HeiHe**	**69.89**	**335**	*e*P	**P**	**14 21 13.5**	**+0.2**
HEH	comp=Z,33nm,0.9s			pmax	pmax		
TIY	**Taiyuan**	**70.01**	**317**	*e*P	**P**	**14 21 15.8**	**+1.4**
XAN	**Xi'an**	**70.61**	**312**	⇑P	**P**	**14 21 18.4**	**+0.3**
XAN				S	**S**	**14 30 20.4**	**+1.1**
XAN	comp=Z,69nm,0.8s			pmax	pmax		
XAN	comp=Z,250nm,4.1s			pmax	pmax		
XAN	comp=Z,410nm,15.5s			LR	LR		
XAN	comp=Z,450nm,14.1s			LR	LR		
XAN	comp=Z,920nm

comp=Z,54nm,1.1s
BTO pmax pmax
comp=Z,220nm,4.1s
BTO LR LR
comp=Z,990nm,15.3s
BTO LR LR
comp=Z,650nm,14.9s
BTO LR LR
comp=Z,700nm,14.5s
CD2 Chengdu 73.13 307 P **P** **14 21 33.8 +0.6**
CD2 S **S** **14 30 45.5 -2.8**
CD2 pmax pmax
comp=Z,60nm,0.8s
CD2 LR LR
comp=Z,410nm,16.2s
CD2 LR LR
comp=Z,850nm,19.2s
CHGN Chignik 73.17 20 P **P** **14 21 31.9 -0.9**
baz=216
CHIR Chirikof Islan 73.75 21 P **P** **14 21 35.1 -1.1**
baz=219
M11K Mekoryuk 74.46 14 P **P** **14 21 39.5 -0.7**
baz=208
SEY Seymchan 74.54 353 P **P** **14 21 40.9 +0.3**
comp=Z,7.4nm,0.8s,baz=168,slow=6.3,SNR=19
comp=Z,7.4nm,0.8s
SEY Seymchan 74.54 353 *ce* P **P** **14 21 40.3 -0.3**
SEY pmax pmax
comp=Z,5.0nm,0.6s
O14K Tigyukauivet M 74.74 17 P **P** **14 21 41.3 -0.5**
baz=213
SII Sitkinak Islan 74.83 21 P **P** **14 21 41.4 -1.1**
baz=220
R17L Mt. Peulik Vol 74.92 20 P **P** **14 21 41.7 -1.2**
baz=218
O15K Ungalikthiuk R 75.09 17 P **P** **14 21 42.9 -0.9**
baz=214
M13K Dall Lake 75.18 15 P **P** **14 21 43.7 -0.6**
baz=211
N14K Kuskokwak Cree 75.19 16 P **P** **14 21 44.0 -0.4**
baz=212
TNCH TengChong 75.23 300 ⇑P **P** **14 21 46.5 +0.8**
TNCH sP sP 14 22 40.5 -0.8
TNCH pmax pmax
comp=Z,46nm,0.7s
LZH Lanzhou 75.25 312 *e* P **P** **14 21 47.3 +1.8**
LZH pP pP 14 22 23.3 -0.8
LZH pmax pmax
comp=Z,100nm,1.6s
LZDM Lanzhou Array 75.30 312 P **P** **14 21 47.4 +1.4**
comp=Z,27nm,0.8s,baz=134,slow=6.4,SNR=14
comp=Z,27nm,0.8s
R18K Karluk 75.51 21 P **P** **14 21 45.5 -0.7**
baz=220
P16K Nushagak River 75.52 18 P **P** **14 21 45.4 -0.9**
baz=216,SNR=6.3
Q17K Contact Creek 75.57 19 P **P** **14 21 45.8 -1.0**
baz=218,SNR=10
Q16K King Salmon 75.65 19 P **P** **14 21 46.2 -0.8**
baz=217,SNR=6.0
OHAK Old Harbor 75.66 21 P **P** **14 21 46.6 -0.5**
baz=221
ACHA Angle Creek He 75.71 20 IAmb IAmb 14 21 49.8
comp=Z,16nm,0.6s
M14K Bethel 75.82 15 IAmb IAmb 14 21 50.0
comp=Z,38nm,0.9s
M14K Bethel 75.82 15 P **P** **14 21 47.5 -0.5**
baz=212
N15K Kwethluk River 75.84 17 IAmb IAmb 14 21 50.4
comp=Z,59nm,1.1s
N15K Kwethluk River 75.84 17 P **P** **14 21 47.4 -0.7**
baz=214,SNR=9.7
O16K Kokwok River B 75.94 18 P **P** **14 21 48.7 0.0**
baz=216
M15K Kasigluk River 76.11 16 P **P** **14 21 49.8 +0.1**
baz=213,SNR=7.9
P17K Kvichak River 76.13 19 P **P** **14 21 49.6 -0.2**
baz=218
L14K Kuka Creek 76.14 15 P **P** **14 21 49.7 -0.1**
baz=211,SNR=5.1
Q18K Katmai Hardscr 76.16 20 P **P** **14 21 50.2 +0.1**
baz=219,SNR=22
K13K Kusilvak Mount 76.18 14 P **P** **14 21 49.7 -0.3**
baz=209
KDAK Kodiak Island 76.33 21 P **P** **14 21 51.0 +0.1**
baz=222
O17K Koliganek Bris 76.39 18 P **P** **14 21 50.8 -0.4**
baz=217,SNR=12
N16K Nishlik Lake 76.46 17 P **P** **14 21 51.5 -0.2**
baz=215,SNR=13
P18K Big Mountain, 76.67 19 P **P** **14 21 52.9 0.0**
baz=219,SNR=32
L15K Ungalak Mounta 76.73 15 P **P** **14 21 53.5 +0.3**
baz=212,SNR=6.3
Q19K Cape Douglas, 76.83 20 P **P** **14 21 53.6 -0.2**
baz=220,SNR=11
M16K Timber Creek 76.86 17 P **P** **14 21 55.0 +1.1**
baz=215,SNR=28
N17K Nushagak Hills 76.97 18 IAmb IAmb 14 21 56.6
comp=Z,34nm,1.2s
N17K Nushagak Hills 76.97 18 P **P** **14 21 54.9 +0.5**
baz=217,SNR=6.4
Q20K Shuyak Island 77.02 21 P **P** **14 21 55.5 +0.8**
baz=222
J14K Nanvaranak Lak 77.15 14 P **P** **14 21 56.1 +0.7**
baz=210
K15K Wolf Creek Mou 77.24 15 IAmb IAmb 14 21 57.9
comp=Z,42nm,0.9s
K15K Wolf Creek Mou 77.24 15 P **P** **14 21 56.2 +0.2**
baz=212,SNR=8.8
L16K Owhat River 77.29 16 IAmb IAmb 14 21 58.2
comp=Z,29nm,0.9s
L16K Owhat River 77.29 16 P **P** **14 21 57.2 +1.0**
baz=214,SNR=8.5
N18K Kilae Creek 77.48 18 P **P** **14 21 57.8 +0.5**
baz=218,SNR=8.2
CIT Chita 77.49 330 *e* P **P** **14 21 58.2 +0.6**
CIT *e* 14 22 09.8
CIT *e* 14 22 33.4
CIT *e* 14 24 57.2
CIT pmax pmax
comp=Z,113nm,1.3s
P19K Oil Pt 77.52 20 P **P** **14 21 57.7 +0.1**
baz=221,SNR=7.8
O19K Port Alsworth 77.58 19 IAmb IAmb 14 21 59.1
comp=Z,56nm,1.3s
O19K Port Alsworth 77.58 19 P **P** **14 21 57.5 -0.4**
baz=220,SNR=7.0
M17K Holitna River 77.60 17 IAmb IAmb 14 22 02.5
comp=Z,40nm,0.9s
M17K Holitna River 77.60 17 P **P** **14 21 58.4 +0.5**
baz=216,SNR=12
ILSW Iliamna Southw 77.80 19 IAmb IAmb 14 22 00.6
comp=Z,56nm,1.0s
L17K Donlin 77.95 16 P **P** **14 22 01.0 +1.0**
baz=215,SNR=18
N19K Bonanza Creek 78.01 18 P **P** **14 22 00.9 +0.5**
baz=219
O20K Slope Mountain 78.05 20 P **P** **14 22 01.3 +0.8**
baz=221
HOM Homer 78.06 20 P **P** **14 22 00.9 +0.4**
baz=222
M18K Stony River 78.14 17 P **P** **14 22 01.2 +0.3**
baz=218,SNR=25
YAK Yakutsk 78.28 343 P **P** **14 22 01.6 -0.1**
YAK Yakutsk 78.28 343 P **P** **14 22 01.8 +0.2**
comp=Z,44nm,0.6s,baz=61,slow=1.0,SNR=23
comp=Z,44nm,0.6s
YAK Yakutsk 78.28 343 *c i* P **P** **14 22 01.4 -0.3**
YAK *e* *PP **pP** **14 22 39.4 -0.5**
YAK *e* 14 24 56.7
YAK *e* PPP PPP 14 26 50.0
YAK *e* S **S** **14 31 45.1 +1.7**
YAK *e* *SS **sS** **14 32 48.2 -1.1**
YAK pmax pmax
comp=Z,38nm,0.9s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=Z,76nm,2.0s
YAK pmax pmax
comp=N,99nm,2.7s
YAK pmax pmax
comp=E,70nm,3.3s
YAK smax smax
comp=E,116nm,3.7s
YAK smax smax
comp=N,150nm,3.8s
J16K Anvik River 78.31 15 P **P** **14 22 02.4 +0.5**
baz=213,SNR=12
ANM Nome 78.34 12 P **P** **14 22 02.1 +0.1**
baz=208
BRSE Bradley Lake S 78.43 21 P **P** **14 22 03.5 +0.9**
baz=223,SNR=7.1
K17K Iditarod 78.43 16 P **P** **14 22 03.6 +1.0**
baz=215,SNR=16
L18K Granite Mounta 78.47 17 P **P** **14 22 03.6 +0.9**
baz=217,SNR=36
ULN Ulaanbaatar 78.69 324 P **P** **14 22 04.8 +0.3**
ULN IAmb IAmb 14 22 06.4
comp=Z,42nm,1.1s
ULN Ulaanbaatar 78.69 324 *ce* P **P** **14 22 05.2 +0.7**
ULN *i* *PP **pP** **14 22 42.2 -0.8**
ULN pmax pmax
comp=Z,47nm,1.1s
ULN Ulaanbaatar 78.69 324 P **P** **14 22 05.1 +0.7**
J17K VABM Dome 78.79 15 IAmb IAmb 14 22 07.0
comp=Z,42nm,0.9s
J17K VABM Dome 78.79 15 P **P** **14 22 05.4 +0.9**
baz=214,SNR=15
I17K Unalakleet 78.80 14 P **P** **14 22 05.3 +0.8**
baz=213
BILL Bilibino 78.87 360 P **P** **14 22 04.9 +0.1**
BILL IAmb IAmb 14 22 06.5
comp=Z,52nm,1.1s
BILL Bilibino 78.87 360 *ce* P **P** **14 22 04.8 0.0**
BILL pmax pmax
comp=Z,55nm,1.1s
F14K Arctic Creek 78.96 11 P **P** **14 22 05.6 +0.2**
baz=207
L19K White Mountain 78.97 17 IAmb IAmb 14 22 07.8
comp=Z,39nm,0.8s
L19K White Mountain 78.97 17 P **P** **14 22 06.2 +0.6**
baz=219,SNR=24
QSPA South Pole Qui 78.97 180 P **P** **14 22 07.0 +1.2**
QSPA South Pole Qui 78.97 180 P **P** **14 22 06.7 +1.0**
comp=Z,11nm,0.9s,baz=358,slow=0.7,SNR=24
QSPA pP **pP** **14 22 46.4 +1.9**
comp=Z,8.4nm,0.9s,baz=6.0,slow=4.0,SNR=3.9
comp=Z,11nm,0.9s
G15K Niukluk 79.00 12 P **P** **14 22 06.7 +1.1**
baz=210
SPCR Spurr Chakacha 79.03 19 P **P** **14 22 06.2 +0.3**
baz=221
CAPN Captain Cook N 79.05 20 P **P** **14 22 06.6 +0.7**
baz=222
SONM Songino Array 79.06 324 P **P** **14 22 06.4 0.0**
SONM Songino Array 79.06 324 P **P** **14 22 07.0 +0.5**
comp=Z,12nm,1.0s,baz=137,slow=5.2,SNR=42
SONM pP **pwP** **14 22 46.4 -0.8**
comp=Z,3.0nm,0.8s,baz=135,slow=4.5,SNR=2.0
comp=Z,12nm,1.0s
H16K Elim 79.08 13 P **P** **14 22 06.5 +0.5**
baz=211
SEW Seward 79.14 21 IAmb IAmb 14 22 08.3
comp=Z,27nm,0.8s
SEW Seward 79.14 21 P **P** **14 22 06.9 +0.5**
baz=224,SNR=6.3
M20K Styx River 79.25 18 P **P** **14 22 07.7 +0.5**
baz=220,SNR=9.0
O22K Cooper Landing 79.32 20 P **P** **14 22 08.0 +0.6**
baz=224,SNR=8.4
J18K Innoko River 79.46 16 P **P** **14 22 08.8 +0.7**
baz=217
L20K Farewell, AK 79.49 18 P **P** **14 22 08.5 +0.2**
baz=220,SNR=25
F15K North Star Dit 79.50 12 P **P** **14 22 08.5 +0.2**
baz=209
GTA Gaotai 79.53 314 P **P** **14 22 10.8 +1.5**
GTA pP pP 14 22 48.0 -0.2
GTA pmax pmax
comp=Z,45nm,1.2s
SUA Susitna One 79.69 19 IAmb IAmb 14 22 12.9
comp=Z,34nm,1.0s
SUA Susitna One 79.69 19 P **P** **14 22 10.3 +0.7**
baz=223
G16K Koyuk River 79.70 13 IAmb IAmb 14 22 11.7
comp=Z,30nm,0.8s
G16K Koyuk River 79.70 13 P **P** **14 22 09.1 -0.2**
baz=211,SNR=7.6
RC01 Rabbit Creek A 79.75 20 IAmb IAmb 14 22 11.3
comp=Z,58nm,1.4s
RC01 Rabbit Creek A 79.75 20 P **P** **14 22 09.2 -0.5**
baz=224,SNR=5.6
Q23K Middleton Isla 79.79 22 P **P** **14 22 09.6 -0.4**
baz=227
SKT Skwentna 79.83 19 P **P** **14 22 09.4 -0.8**
baz=222
H17K Granite Mounta 79.86 14 IAmb IAmb 14 22 12.5
comp=Z,27nm,0.9s
H17K Granite Mounta 79.86 14 P **P** **14 22 10.2 -0.1**
baz=214,SNR=9.1
PWL Port Wells 80.07 21 P **P** **14 22 11.9 +0.4**
baz=225,SNR=18
M22K Willow 80.11 19 P **P** **14 22 12.1 +0.5**
baz=223
K20K Telida 80.11 17 P **P** **14 22 12.2 +0.5**
baz=219,SNR=8.1
G17K Kiwalik Mounta 80.17 13 P **P** **14 22 12.3 +0.5**
baz=224,SNR=6.5
J19K Poorman 80.18 16 IAmb IAmb 14 22 14.4
comp=Z,23nm,0.9s
J19K Poorman 80.18 16 P **P** **14 22 12.7 +0.7**
baz=218,SNR=16
PPLA Purkeypile 80.31 18 P **P** **14 22 13.8 +0.9**
baz=221
PMR Palmer 80.32 20 IAmb IAmb 14 22 14.1
comp=Z,34nm,1.2s
PMR Palmer 80.32 20 P **P** **14 22 14.6 +1.9**
PMR Palmer 80.32 20 P **P** **14 22 13.7 +0.9**
baz=224,SNR=7.6
H18K Honhosa River 80.41 14 P **P** **14 22 14.1 +0.9**
baz=215
KNK Knik Glacier 80.42 20 IAmb IAmb 14 22 15.0
comp=Z,94nm,1.6s
KNK Knik Glacier 80.42 20 P **P** **14 22 14.1 +0.8**
baz=225,SNR=10
GCSA Galena City Sc 80.45 15 P **P** **14 22 13.7 +0.3**
baz=216
GLI Glacier Island 80.51 21 IAmb IAmb 14 22 16.5
comp=Z,40nm,0.8s
GLI Glacier Island 80.51 21 P **P** **14 22 14.3 +0.4**
baz=226
GHO Glory Hole Cre 80.52 20 IAmb IAmb 14 22 17.1
comp=Z,28nm,1.0s
CUT Chulitna 80.54 19 IAmb IAmb 14 22 15.3
comp=Z,25nm,0.8s
CUT Chulitna 80.54 19 P **P** **14 22 14.3 +0.4**
baz=223
J20K Nowinta River 80.73 16 P **P** **14 22 15.2 +0.3**
baz=219,SNR=12
EYAK Cordova Ski Ar 80.77 22 IAmb IAmb 14 22 16.8
comp=Z,34nm,1.0s
EYAK Cordova Ski Ar 80.77 22 P **P** **14 22 16.3 +1.1**
EYAK Cordova Ski Ar 80.77 22 P **P** **14 22 15.3 +0.2**
baz=227,SNR=6.2
F17K Baldwin Pennin 80.83 13 IAmb IAmb 14 22 17.8
comp=Z,47nm,0.8s
F17K Baldwin Pennin 80.83 13 P **P** **14 22 15.9 +0.5**
baz=212,SNR=6.5
KAIM Kayak Island 80.85 23 P **P** **14 22 16.8 +1.2**
baz=229
M23K Glacier View 80.94 20 P **P** **14 22 16.7 +0.6**
baz=226,SNR=6.3
G18K Tagagawik 80.96 14 IAmb IAmb 14 22 17.9
comp=Z,28nm,0.9s
G18K Tagagawik 80.96 14 P **P** **14 22 15.9 -0.2**
baz=215,SNR=16
CHUM Lake Minchumin 81.02 17 P **P** **14 22 16.4 0.0**
baz=221
RAGM Ragged Mountai 81.06 22 IAmb IAmb 14 22 34.5
comp=Z,37nm,1.2s
SCM Sheep Creek Mo 81.10 20 P **P** **14 22 16.8 -0.3**
baz=226,SNR=17
SHL Shillong 81.10 298 IAmb IAmb 14 22 19.3
comp=Z,53nm,1.0s
I20K Naaghedeneel 81.12 16 P **P** **14 22 16.9 0.0**
baz=219
HMT Hamilton 81.18 22 IAmb IAmb 14 22 19.3
comp=Z,34nm,0.8s
KTH Kantishna Hill 81.19 18 IAmb IAmb 14 22 19.9
comp=Z,28nm,0.9s
H19K Roundabout Mou 81.19 15 P **P** **14 22 17.2 -0.1**
baz=217,SNR=11
E17K Hotham Inlet 81.26 12 P **P** **14 22 17.7 0.0**
baz=212,SNR=26
TRF Thorofare Moun 81.30 18 IAmb IAmb 14 22 20.3
comp=Z,21nm,0.8s
TRF Thorofare Moun 81.30 18 P **P** **14 22 18.3 +0.1**
baz=223,SNR=6.6
F18K Selawik 81.31 13 P **P** **14 22 18.4 +0.5**
baz=214,SNR=12
KLU Klutina 81.35 21 IAmb IAmb 14 22 20.1
comp=Z,35nm,0.9s
KLU Klutina 81.35 21 P **P** **14 22 18.7 +0.3**
baz=227,SNR=11
WAT1 Susitna Watana 81.40 19 P **P** **14 22 18.8 +0.2**
baz=225
BGLC Bering Glacier 81.41 23 P **P** **14 22 19.2 +0.6**
baz=230
BMRM Bremner River 81.47 22 IAmb IAmb 14 22 20.6
comp=Z,29nm,0.9s
BMRM Bremner River 81.47 22 P **P** **14 22 19.4 +0.4**
baz=228,SNR=6.7
WAT6 Susitna Watana 81.48 20 P **P** **14 22 19.1 -0.1**
baz=225,SNR=23
G19K Purcell Mounta 81.53 14 IAmb IAmb 14 22 21.3
comp=Z,26nm,0.9s
G19K Purcell Mounta 81.53 14 P **P** **14 22 19.6 +0.5**
baz=216,SNR=15
D17K Noatak River 81.54 11 P **P** **14 22 19.6 +0.5**
baz=210,SNR=6.8
H20K Anotleneega Mo 81.56 15 P **P** **14 22 19.9 +0.6**
baz=218,SNR=13
BPAW Bear Paw Mtn. 81.57 17 P **P** **14 22 19.7 +0.3**
baz=222,SNR=5.5
C16K Lisburne Hills 81.63 10 P **P** **14 22 20.5 +1.0**
baz=208
M24K Toisona, Glenn 81.68 20 P **P** **14 22 21.0 +0.9**
baz=227,SNR=17
RND Reindeer 81.71 19 IAmb IAmb 14 22 23.7
comp=Z,26nm,0.8s
WAX Waxell Ridge 81.78 23 IAmb IAmb 14 22 22.2
comp=Z,38nm,0.7s
E18K Tukpahlearik C 81.80 12 IAmb IAmb 14 22 22.8
comp=Z,39nm,0.8s
E18K Tukpahlearik C 81.80 12 P **P** **14 22 21.3 +0.8**
baz=213,SNR=15
RDOG Red Dog Mine 81.88 11 IAmb IAmb 14 22 23.1
comp=Z,52nm,1.2s
RDOG Red Dog Mine 81.88 11 P **P** **14 22 21.8 +0.8**
baz=210,SNR=7.1
CRQE Cirque 81.89 22 P **P** **14 22 22.2 +1.0**
baz=230,SNR=10
N25K Chitina, Valde 81.90 21 P **P** **14 22 21.9 +0.7**
baz=228,SNR=25
MCK McKinley 81.92 18 IAmb IAmb 14 22 24.3
comp=Z,32nm,0.9s
MCK McKinley 81.92 18 P **P** **14 22 21.4 +0.1**
baz=224,SNR=15
F19K Shaleruckik Mo 81.93 14 IAmb IAmb 14 22 23.1
comp=Z,40nm,1.1s
F19K Shaleruckik Mo 81.93 14 P **P** **14 22 21.7 +0.6**
baz=215,SNR=23
KMPM Mount Pierce 81.94 46 IAmb IAmb 14 22 24.8
comp=Z,32nm,1.1s
DHY Denali Highway 81.95 19 P **P** **14 22 22.2 +0.7**
baz=226,SNR=10
MESA MESA 81.96 23 P **P** **14 22 22.5 +0.8**
baz=231
TGL Tana Glacier 81.99 23 IAmb IAmb 14 22 23.6
comp=Z,36nm,1.0s
GOMU GeErMu 82.03 309 P **P** **14 22 22.1 -0.8**
GOMU pmax pmax
comp=Z,12nm,1.1s
GOMU LR LR
comp=Z,410nm,17.2s
GOMU LR LR
comp=Z,320nm,19.3s
GOMU LR LR
comp=Z,610nm,17.6s
KCPM Cahto Peak 82.05 47 IAmb IAmb 14 22 25.2
comp=Z,36nm,0.9s
GLB Gilahina Butte 82.07 22 IAmb IAmb 14 22 23.8
comp=Z,36nm,0.8s
ISLE Juniper Island 82.08 23 IAmb IAmb 14 22 24.1
comp=Z,50nm,1.0s
ZAK Zakamensk 82.08 325 *e* P **P** **14 22 21.3 -1.2**
ZAK pmax pmax
comp=Z,24nm,1.1s
YAH Yahtse 82.15 23 IAmb IAmb 14 22 24.9
comp=Z,45nm,1.2s
KMRM Mail Ridge 82.16 47 IAmb IAmb 14 22 25.9
comp=Z,34nm,0.9s
HOPS Hopland Field 82.17 48 P **P** **14 22 24.2 +1.1**
HOPS IAmb IAmb 14 22 25.6
comp=Z,54nm,1.3s
C17K DeLong Mountai 82.20 11 P **P** **14 22 23.7 +1.1**
baz=210
HARP HAARP 82.23 21 P **P** **14 22 23.4 +0.5**
baz=228,SNR=7.9
H21K Melozitna Rive 82.24 16 P **P** **14 22 24.0 +1.2**
baz=220
IMAR Indian Mountai 82.24 15 P **P** **14 22 23.5 +0.7**
GDXM Geysers 82.31 48 IAmb IAmb 14 22 26.6
comp=Z,39nm,1.0s
MCARA McCarthy VSAT 82.32 22 IAmb IAmb 14 22 25.2
comp=Z,24nm,0.9s
MCARA McCarthy VSAT 82.32 22 P **P** **14 22 24.0 +0.6**
baz=230,SNR=7.2
MLY Manley 82.34 17 P **P** **14 22 24.0 +0.6**
baz=222,SNR=18
GRNC Granite Creek 82.38 23 IAmb IAmb 14 22 25.8
comp=Z,33nm,1.0s
KHMM Horse Mountain 82.38 46 P **P** **14 22 25.8 +1.5**
KHMM IAmb IAmb 14 22 26.8
comp=Z,23nm,0.8s
CVS Carmenet Viney 82.39 49 IAmb IAmb 14 22 26.3
comp=Z,46nm,1.4s
NEA2 Nenana 82.50 18 P **P** **14 22 23.9 -0.3**
baz=224,SNR=14
PAX Paxson 82.51 20 P **P** **14 22 24.7 +0.3**
baz=227,SNR=6.0
E19K Redstone River 82.56 13 IAmb IAmb 14 22 27.6
comp=Z,30nm,0.7s
E19K Redstone River 82.56 13 P **P** **14 22 25.4 +0.9**
baz=216
PINM Pinnacle 82.58 24 P **P** **14 22 25.3 +0.5**
baz=232,SNR=7.8
F20K Avaraart Lake 82.58 14 IAmb IAmb 14 22 26.8
comp=Z,50nm,1.6s
F20K Avaraart Lake 82.58 14 P **P** **14 22 25.4 +0.8**
baz=217,SNR=16
SCZ Santa Cruz 82.59 51 IAmb IAmb 14 22 27.6
comp=Z,58nm,1.6s
MNRC McLaughlin Min 82.59 48 IAmb IAmb 14 22 28.1
comp=Z,40nm,1.1s
PNL Peninsula 82.66 25 P **P** **14 22 25.7 +0.5**
baz=233
CTG Chitna Glacier 82.69 23 P **P** **14 22 26.0 +0.5**
baz=231,SNR=20
G21K Allakaket 82.71 15 P **P** **14 22 25.7 +0.5**
baz=220,SNR=9.8
WRH Wood River Hil 82.71 18 IAmb IAmb 14 22 26.7
comp=Z,41nm,0.9s
C18K Utukok River 82.72 11 IAmb IAmb 14 22 27.2
comp=Z,38nm,1.0s
C18K Utukok River 82.72 11 P **P** **14 22 26.0 +0.6**
baz=212,SNR=9.0
LOGN Logan Glacier 82.73 23 IAmb IAmb 14 22 27.5
comp=Z,42nm,0.9s
BCPM Bancas Point 82.73 24 IAmb IAmb 14 25 07.8
comp=Z,50nm,1.0s
O02D Mt. Diablo Mer 82.80 47 IAmb IAmb 14 22 29.3
comp=Z,27nm,0.8s
H22K Ishtalitna Cre 82.80 16 P **P** **14 22 26.6 +0.8**
baz=222,SNR=22
PMPB Monarch Peak 82.92 51 IAmb IAmb 14 22 29.9
comp=Z,20nm,0.9s
CCB Clear Creek Bu 82.92 18 IAmb IAmb 14 22 27.5
comp=Z,27nm,0.7s
SIT Sitka 82.94 28 P **P** **14 22 27.2 +0.7**
baz=237
MTOS Mt Oso, Westle 82.95 50 IAmb IAmb 14 22 29.8
comp=Z,28nm,1.1s
K24K Donnelly Dome 82.98 19 P **P** **14 22 27.6 +0.9**
baz=227,SNR=17
M26K Nabesna, AK 82.99 21 P **P** **14 22 27.8 +1.0**
baz=230,SNR=42
O28M Mount Upton 83.01 23 IAmb IAmb 14 22 29.2
comp=Z,39nm,0.9s
O28M Mount Upton 83.01 23 P **P** **14 22 27.2 -0.1**

baz=232,SNR=14
HDA Harding Lake 83.02 19 P P 14 22 27.2 +0.3
baz=226,SNR=84
S31K Pelican 83.02 27 IAmb IAmb 14 22 29.6
comp=Z,47nm,1.1s
S31K Pelican 83.02 27 P P 14 22 27.5 +0.5
baz=236
COLA College 83.07 18 P P 14 22 27.2 +0.2
COLA College 83.07 18 *i* P P 14 22 27.3 +0.2
COLA pmax pmax
comp=Z,51nm,0.8s
COLA College 83.07 18 P P 14 22 27.2 +0.2
baz=225
MENT Mentasta 83.09 21 IAmb IAmb 14 22 29.4
comp=Z,47nm,1.0s
MENT Mentasta 83.09 21 P P 14 22 29.0 +1.7
K02D Willamette Mer 83.10 44 IAmb IAmb 14 22 30.3
comp=Z,26nm,0.9s
M02C Callahan 83.19 46 IAmb IAmb 14 22 31.2
comp=Z,22nm,0.9s
SUTB Sutter Butte 83.19 48 IAmb IAmb 14 22 30.2
comp=Z,53nm,1.2s
D19K Kuna River 83.22 12 P P 14 22 28.6 +0.7
baz=215
B18K Kokolik River 83.22 11 P P 14 22 28.2 +0.4
baz=211
RIDG Independent Ri 83.24 20 P P 14 22 28.9 +0.8
baz=228,SNR=41
F21K Alatna River 83.27 15 P P 14 22 28.8 +0.7
baz=220,SNR=9.1
L26K Log Cabin Wild 83.27 21 P P 14 22 29.0 +0.7
baz=229,SNR=23
ILAR Eielson Array 83.29 18 P P 14 22 27.8 -0.5
ILAR Eielson Array 83.29 18 P P 14 22 28.2 -0.1
comp=Z,9.9nm,0.6s,baz=258,slow=5.1,SNR=175
ILAR PKKPbc **PKKPbc** 14 40 46.9 -4.1
comp=Z,0.2nm,0.6s,baz=16,slow=3.5,SNR=4.9
comp=Z,9.9nm,0.6s
P29M Windy Craggy 83.32 25 IAmb IAmb 14 22 30.4
comp=Z,30nm,0.8s
P29M Windy Craggy 83.32 25 P P 14 22 29.5 +0.9
baz=235,SNR=5.2
M27K Edge Creek, AK 83.36 22 P P 14 22 29.7 +0.8
baz=231,SNR=26
POKR Poker Plat Res 83.37 18 IAmb IAmb 14 22 29.4
comp=Z,28nm,0.8s
POKR Poker Plat Res 83.37 18 P P 14 22 28.6 -0.1
baz=225,SNR=7.3
O29M Mount Kennedy 83.37 24 P P 14 22 29.9 +0.9
baz=234
YBH Yreka Blue Hor 83.41 45 IAmb IAmb 14 22 32.2
comp=Z,26nm,1.0s
C19K Lookout Ridge 83.42 12 P P 14 22 29.5 +0.6
baz=214,SNR=11
E20K Nigu River 83.45 13 P P 14 22 29.9 +0.8
baz=217,SNR=15
U33K Whale Pass 83.48 29 P P 14 22 30.1 +0.7
baz=239
YUK8 Steele Glacier 83.49 23 P P 14 22 30.2 +0.5
baz=233,SNR=18
R31K City Hall, Gus 83.49 27 P P 14 22 30.4 +1.0
baz=237
YUK3 Moose Creek 83.52 22 P P 14 22 30.5 +0.7
baz=232,SNR=13
G22K Bettles 83.54 15 P P 14 22 29.9 +0.5
baz=221
J25K Salcha River, 83.66 19 P P 14 22 30.9 +0.7
baz=227,SNR=70
SCRK Sand Creek 83.68 20 P P 14 22 31.4 +1.0
baz=229,SNR=62
D20K Etivluk River 83.72 13 P P 14 22 31.3 +0.9
baz=216
H24K Noodor Dome 83.75 17 P P 14 22 31.5 +0.9
baz=225
BVCY Beaver Creek 83.77 22 P P 14 22 31.5 +0.7
baz=232,SNR=11
G23K Bananza Creek 83.78 16 IAmb IAmb 14 22 33.0
comp=Z,20nm,0.8s
G23K Bananza Creek 83.78 16 P P 14 22 31.6 +0.8
baz=223,SNR=17
PLBC Pleasant Camp 83.80 26 P P 14 22 31.5 +0.6
baz=236,SNR=11
F22K John River 83.81 15 P P 14 22 32.3 +1.4
baz=221,SNR=5.2
V35K Ketchikan 83.82 30 P P 14 22 32.0 +0.9
baz=241
L27K Beaver Creek, 83.83 21 P P 14 22 32.4 +1.3
baz=231
YUK6 Outpost Mounta 83.83 24 P P 14 22 32.6 +1.2
baz=234
BCAR Beaver Creek A 83.84 21 P P 14 22 31.8 +0.6
BUCR Buckhorn Ranch 83.89 50 IAmb IAmb 14 22 34.1
comp=Z,32nm,1.3s
P30M Million Dollar 83.92 25 P P 14 22 32.8 +1.2
baz=236
R32K Eaglecrest 83.96 27 IAmb IAmb 14 25 18.1
comp=Z,80nm,1.9s
R32K Eaglecrest 83.96 27 P P 14 22 32.9 +1.1
baz=238
YUK4 Talbot Arm 83.96 23 P P 14 22 32.9 +0.9
baz=234,SNR=8.4
BESE Bessie Mountai 83.97 27 IAmb IAmb 14 22 34.0
comp=Z,22nm,0.9s
HATC Hat Creek Radi 83.97 47 IAmb IAmb 14 22 34.8
comp=Z,42nm,0.9s
WRAK Wrangell Islan 84.00 29 IAmb IAmb 14 22 33.8
comp=Z,30nm,0.8s
WRAK Wrangell Islan 84.00 29 P P 14 22 32.7 +0.7
baz=240
A19K Wainwright 84.07 11 P P 14 22 33.0 +0.9
baz=212
E21K Killik River 84.10 14 IAmb IAmb 14 22 34.4
comp=Z,15nm,0.8s
E21K Killik River 84.10 14 P P 14 22 33.3 +1.0
baz=219,SNR=8.2
HYT Haines Junctio 84.11 24 IAmb IAmb 14 22 34.4
comp=Z,21nm,0.8s
HYT Haines Junctio 84.11 24 P P 14 22 33.4 +0.7
baz=235,SNR=11
COLD Coldfoot 84.11 16 P P 14 22 33.1 +0.7
baz=223
J26L Joseph Creek 84.17 19 IAmb IAmb 14 22 35.1
comp=Z,41nm,1.2s
J26L Joseph Creek 84.17 19 P P 14 22 33.3 +0.5
baz=229,SNR=21
PRP Porcupine Dome 84.23 18 P P 14 22 33.7 +0.5
baz=227
SKAG Skagway 84.24 26 P P 14 22 34.9 +1.7
SKAG Skagway 84.24 26 P P 14 22 33.7 +0.5
baz=237
K27K Chicken 84.36 20 P P 14 22 35.3 +1.6
baz=230
E22K Anaktuvuk Pass 84.38 15 P P 14 22 34.7 +0.9
baz=221
BEKR Beckworth 84.45 48 IAmb IAmb 14 22 36.5
comp=Z,16nm,0.7s
G24K Hadweenzic Riv 84.47 17 IAmb IAmb 14 22 36.9
comp=Z,45nm,0.9s
G24K Hadweenzic Riv 84.47 17 P P 14 22 35.0 +0.7
baz=225,SNR=36
C21K Knifeblade Rid 84.47 13 P P 14 22 35.2 +1.0
baz=218,SNR=5.9
TPO Tropico Hills 84.50 53 IAmb IAmb 14 22 37.7
comp=Z,52nm,1.3s
N30M Aishikik Lake 84.64 24 P P 14 22 36.1 +0.8
baz=235
O30N Mendenhall 84.65 25 P P 14 22 35.5 +0.3
baz=236,SNR=9.7
H25L Birch Creek 84.65 18 P P 14 22 35.6 +0.5
baz=227
B20K Meade River 84.66 12 P P 14 22 35.5 +0.5
baz=216
M29M Somme Creek 84.68 23 P P 14 22 36.9 +1.4
baz=234,SNR=5.6
WAKR Walker 84.69 49 IAmb IAmb 14 22 38.8
comp=Z,63nm,1.5s
D22K Ayikyak River 84.74 14 P P 14 22 37.1 +1.5
baz=220,SNR=7.6
BFSC Mount Baldy Ra 84.76 54 IAmb IAmb 14 22 38.5
comp=Z,40nm,1.3s
I26K Coal Creek Min 84.83 19 P P 14 22 37.4 +1.4
baz=229
E23K Chandalar 84.87 15 P P 14 22 37.9 +1.6
baz=223,SNR=8.9
B21K Ikpikpuk River 84.88 13 P P 14 22 37.2 +1.0
baz=218,SNR=5.6
G25K Bearman Lake 84.91 17 P P 14 22 37.3 +0.9
baz=227,SNR=15
F24K Squaw Lake 84.94 16 P P 14 22 38.3 +1.7
baz=225,SNR=10.0
DPP Dos Picos Cty 84.97 55 IAmb IAmb 14 25 10.4
comp=Z,15nm,0.6s
J05D Fort Rock, OR 84.98 44 IAmb IAmb 14 22 39.9
comp=Z,49nm,1.2s
MAW Mawson 84.98 202 P P 14 22 36.9 +0.1
comp=Z,9.3nm,0.8s,baz=107,slow=6.1,SNR=27
MAW LR LR 14 55 47.3
comp=Z,306nm,18.1s,baz=293,slow=32
comp=Z,9.3nm,0.8s
P32M Atlin 85.01 26 P P 14 22 37.8 +0.6
baz=238
K05A Summer Lake 85.02 45 IAmb IAmb 14 22 40.2
comp=Z,42nm,1.1s
FYU Fort Yukon 85.03 17 P P 14 22 37.6 +0.7
FYU IAmb IAmb 14 22 39.2
comp=Z,22nm,1.0s
WHY Whitehorse 85.08 25 P P 14 22 37.0 -0.6
WHY Whitehorse 85.08 25 P P 14 22 37.7 +0.1
baz=237
LRMC Laurel Mtn Rad 85.10 53 IAmb IAmb 14 22 40.6
comp=Z,23nm,1.1s
PAHR Pah Rah Range 85.11 48 IAmb IAmb 14 22 40.4
comp=Z,49nm,1.5s
EGAK Eagle 85.14 20 P P 14 22 38.5 +0.9
baz=231,SNR=41
N31M Braeburn, Yuko 85.17 24 IAmb IAmb 14 22 39.6
comp=Z,23nm,0.9s
N31M Braeburn, Yuko 85.17 24 P P 14 22 38.6 +0.7
baz=236
E24K Your Creek 85.18 15 P P 14 22 38.7 +0.9
baz=224
L29M L29M 85.19 22 IAmb IAmb 14 22 40.6
comp=Z,21nm,0.9s
L29M L29M 85.19 22 P P 14 22 38.8 +0.8
baz=234,SNR=14
I05D Terrebonne, OR 85.27 43 IAmb IAmb 14 22 40.9
comp=Z,22nm,0.9s
D23K Nanushuk River 85.28 14 IAmb IAmb 14 22 41.3
comp=Z,32nm,0.8s
D23K Nanushuk River 85.28 14 P P 14 22 38.9 +0.6
baz=222,SNR=10
WSHM Spangler Hills 85.28 53 IAmb IAmb 14 22 41.4
comp=Z,36nm,1.3s
T35M Bob Quinn 85.29 29 P P 14 22 39.0 +0.5
baz=242
LHV Little Huntoon 85.30 50 IAmb IAmb 14 22 41.7
comp=Z,39nm,1.3s
DAWY Dawson 85.31 21 IAmb IAmb 14 22 40.5
comp=Z,22nm,0.9s
DAWY Dawson 85.31 21 P P 14 22 39.3 +0.8
baz=233,SNR=23
TOLK Toolik Lake Re 85.31 15 P P 14 22 39.8 +1.3
baz=223
Q32M Nakina River 85.32 27 P P 14 22 40.0 +1.1
baz=240
S34M Telegraph Cree 85.32 28 IAmb IAmb 14 22 40.6
comp=Z,16nm,0.8s
S34M Telegraph Cree 85.32 28 P P 14 22 39.8 +1.2
baz=241,SNR=5.3
PINE Pine Mountain 85.35 44 IAmb IAmb 14 22 41.8
comp=Z,23nm,0.9s
CCCA Cany lake 85.36 53 IAmb IAmb 14 22 42.0
comp=Z,44nm,1.0s
M30M Minto, Yukon 85.39 23 P P 14 22 39.9 +1.0
baz=235,SNR=6.3
RYN Ryan 85.41 49 IAmb IAmb 14 22 41.9
comp=Z,38nm,1.5s
DSP Deep Springs 85.44 51 IAmb IAmb 14 22 42.2
comp=Z,22nm,0.9s
BORC Borrego Spring 85.47 55 IAmb IAmb 14 22 42.2
comp=Z,21nm,1.2s
VTX Valle De La Tr 85.47 57 IAmb IAmb 14 22 42.8
comp=Z,28nm,1.3s
NVAR Mina Array Bea 85.51 50 P P 14 22 40.5 +0.1
NVAR Mina Array Bea 85.51 50 P P 14 22 41.8 +1.4
comp=Z,15nm,1.0s,baz=235,slow=8.2,SNR=41
NVAR pP **pwP** 14 23 22.7 +0.3
comp=Z,3.1nm,0.7s,baz=229,slow=8.1,SNR=3.5
NVAR LR LR 14 54 18.2
comp=Z,76nm,20.0s,baz=154,slow=31
comp=Z,15nm,1.0s
I27K Kandik River 85.51 19 P P 14 22 40.4 +0.9
baz=231,SNR=28
PFO Pinyon Flats O 85.53 55 P P 14 22 41.0 +0.6
PFO Pinyon Flats O 85.53 55 P P 14 22 41.0 +0.6
PFO pmax pmax
comp=Z,27nm,1.4s
PFO Pinyon Flats O 85.53 55 P P 14 22 41.4 +0.9
PFO sP **sP** 14 23 35.2 -0.4
F25K Christian Rive 85.61 17 IAmb IAmb 14 22 42.8
comp=Z,55nm,0.9s
F25K Christian Rive 85.61 17 P P 14 22 41.2 +1.3
baz=227,SNR=14
NV11 Mina Array Sit 85.62 50 IAmb IAmb 14 22 43.0
comp=Z,36nm,1.2s
B22K Teshekpuk Lake 85.70 13 P P 14 22 41.1 +0.9
baz=219
G26K Porcupine Rive 85.71 18 P P 14 22 41.9 +1.5
baz=229,SNR=62
P33M Teslin, Yukon 85.72 26 P P 14 22 41.6 +0.9
baz=239
BMAR Burnt Mountain 85.80 17 P P 14 22 41.7 +0.9
K29M Barlow Dome 85.84 22 P P 14 22 41.8 +0.5
baz=235,SNR=12
H27K Steamboat Moun 85.94 19 IAmb IAmb 14 22 44.0
comp=Z,21nm,1.0s
H27K Steamboat Moun 85.94 19 P P 14 22 43.0 +1.4
baz=231,SNR=13
C23K Itkillik River 85.94 14 IAmb IAmb 14 22 44.3
comp=Z,44nm,1.0s
C23K Itkillik River 85.94 14 P P 14 22 41.6 +0.1
baz=222,SNR=5.6
J29N Klondike Camp 85.95 21 P P 14 22 42.9 +1.2
baz=234
I28M Miner Creek 85.96 20 IAmb IAmb 14 22 43.5
comp=Z,16nm,0.7s
I28M Miner Creek 85.96 20 P P 14 22 42.0 +0.2
baz=232,SNR=13
E25K Arctic Village 85.99 16 P P 14 22 43.1 +1.3
baz=227
BELC Belle Mtn. Jos 86.01 54 IAmb IAmb 14 22 45.1
comp=Z,59nm,1.3s
FURC Furnace Creek, 86.02 52 IAmb IAmb 14 22 44.9
comp=Z,25nm,0.9s
DLBC Dease Lake 86.09 28 P P 14 22 43.7 +1.2
baz=242
N32M Quiet Lake 86.09 25 P P 14 22 43.2 +0.8
baz=239
F26K Sheenjek River 86.10 17 P P 14 22 43.8 +1.4
baz=228,SNR=7.0
M31M Drury Creek, Y 86.11 24 P P 14 22 42.7 +0.2
baz=238
R33M Jennings River 86.12 27 P P 14 22 43.3 +0.6
baz=241
TIXI Tiksi 86.21 349 P P 14 22 43.2 +0.5
comp=Z,2.5nm,0.4s,baz=215,slow=3.7,SNR=5.9
comp=Z,2.5nm,0.4s
TIXI Tiksi 86.21 349 *ce* P P 14 22 42.7 0.0
TIXI pmax pmax
comp=Z,25nm,1.4s
G27K Doyon Strip 86.26 18 P P 14 22 44.6 +1.4
baz=231,SNR=11
WCT Wildcat Mounta 86.30 52 IAmb IAmb 14 22 46.4
comp=Z,28nm,1.4s
MAYO Mayo, Yukon 86.30 22 IAmb IAmb 14 25 20.9
comp=Z,28nm,0.7s
MAYO Mayo, Yukon 86.30 22 P P 14 22 44.2 +0.8
baz=236,SNR=5.1
C24K Franklin Bluff 86.31 14 P P 14 22 44.4 +1.2
baz=224
BC3 Big Chuckawall 86.35 55 IAmb IAmb 14 22 47.1
comp=Z,34nm,1.5s
I29M Ogilvie Camp, 86.46 20 P P 14 22 44.9 +0.8
baz=234
WVOR Wild Horse Val 86.50 46 IAmb IAmb 14 22 47.4
comp=Z,21nm,1.1s
J30M Hart River 86.69 21 P P 14 22 46.2 +0.8
baz=236
IRM Iron Mountain 86.73 54 IAmb IAmb 14 22 48.8
comp=Z,39nm,1.2s
J08A Circle Bar Ran 86.90 45 IAmb IAmb 14 22 49.0
comp=Z,28nm,1.1s
H29M Whitestone 86.94 19 P P 14 22 47.4 +1.0
baz=234
E07A Sunnyside 87.00 42 IAmb IAmb 14 22 49.3
comp=Z,25nm,0.9s
I30M Mount Dempster 87.04 21 IAmb IAmb 14 22 48.7
comp=Z,13nm,0.8s
I30M Mount Dempster 87.04 21 P P 14 22 46.9 -0.2
baz=236,SNR=17
BLYC Blythe 87.12 55 IAmb IAmb 14 22 50.6
comp=Z,22nm,0.9s
E27K Coleen River 87.16 17 IAmb IAmb 14 22 50.3
comp=Z,32nm,0.9s
E27K Coleen River 87.16 17 P P 14 22 49.1 +1.7
baz=231,SNR=11
HAWA Hanford 87.16 42 IAmb IAmb 14 22 50.1
comp=Z,15nm,0.9s
G08A Pilot Rock 87.18 43 IAmb IAmb 14 22 50.2
comp=Z,22nm,1.1s
WAH2 Wahluke Slope 87.26 41 IAmb IAmb 14 22 49.9
comp=Z,17nm,1.1s
F28M Old Crow 87.31 18 P P 14 22 49.4 +1.2
baz=232,SNR=8.1
C26K Camden Bay 87.39 15 P P 14 22 49.8 +1.3
baz=228
WTLY Watson Lake, Y 87.43 27 P P 14 22 49.6 +0.7
baz=243
G29M Pine Creek 87.47 19 IAmb IAmb 14 22 51.2
comp=Z,24nm,0.9s
G29M Pine Creek 87.47 19 P P 14 22 50.0 +1.0
baz=234,SNR=10
E08A Dider Farm, El 87.50 42 IAmb IAmb 14 22 51.8
comp=Z,24nm,1.0s
C27K Jago River 87.51 16 P P 14 22 49.8 +0.7
baz=229
EPYK Eagle Plains 87.58 20 IAmb IAmb 14 22 51.6
comp=Z,19nm,0.8s
EPYK Eagle Plains 87.58 20 P P 14 22 50.5 +1.0
baz=235,SNR=8.4
MMPY Sheldon Lake, 87.58 24 P P 14 22 50.0 +0.3
baz=240
D08A Wollman Farm, 87.77 41 IAmb IAmb 14 22 52.4
comp=Z,15nm,1.1s
W13A Hualapai Mount 87.98 54 IAmb IAmb 14 22 54.9
comp=Z,42nm,1.5s
D27M Malcolm River 88.00 16 P P 14 22 53.0 +1.5
baz=231,SNR=7.7
E28M Babbage River 88.02 17 IAmb IAmb 14 22 54.3
comp=Z,13nm,1.0s
E28M Babbage River 88.02 17 P P 14 22 52.1 +0.6
baz=233,SNR=6.0
H31M Peel River 88.07 21 P P 14 22 52.5 +0.7
baz=238
G30M tAoh Zraii Nji 88.08 19 IAmb IAmb 14 22 54.4
comp=Z,21nm,1.0s
G30M tAoh Zraii Nji 88.08 19 P P 14 22 52.2 +0.3
baz=236,SNR=9.9
TGTN Hyland Airport 88.30 26 P P 14 22 53.9 +0.9
baz=243
E29M Blow River 88.37 18 P P 14 22 53.5 +0.3
baz=234
Y14A Wickenburg 88.39 55 IAmb IAmb 14 22 56.6
comp=Z,20nm,1.4s
F30M Barrier River 88.58 19 P P 14 22 55.4 +1.2
baz=236
SPR3 Spring Creek 3 88.65 50 IAmb IAmb 14 22 57.7
comp=Z,22nm,1.1s
G31M Satah River 88.69 20 P P 14 22 55.4 +0.8
baz=238
PSUT Pine Spring 88.89 51 IAmb IAmb 14 22 58.8
comp=Z,12nm,0.9s
LCMT Little Creek M 88.97 52 IAmb IAmb 14 22 59.4
comp=Z,21nm,0.9s
CCUT Cedar City 89.01 52 IAmb IAmb 14 22 60.0
comp=Z,21nm,0.9s
F31M Tsiigehtchic 89.15 19 P P 14 22 57.5 +0.8
baz=238
SZCU Shurtz Canyon 89.24 52 IAmb IAmb 14 23 00.8
comp=Z,18nm,1.0s
WMQ Urumqi 89.56 315 *e* P P 14 23 00.8 +1.4
WMQ LR LR
comp=Z,750nm,15.5s
WMQ LR LR
comp=Z,800nm,16.7s
WMQ LR LR
comp=Z,640nm,22.1s
X16A Lo Mia Camp, P 89.77 55 IAmb IAmb 14 23 03.5
comp=Z,14nm,0.8s
HLID Hailey 89.79 46 IAmb IAmb 14 23 03.1
comp=Z,14nm,1.0s
PKCU Pink Cliffs 89.80 52 IAmb IAmb 14 23 04.3
comp=Z,31nm,1.0s
MTPU Mount Pierson 90.04 51 IAmb IAmb 14 23 05.3
comp=Z,22nm,0.8s
BGU Big Grassy Mou 90.11 48 IAmb IAmb 14 23 04.3
comp=Z,14nm,0.9s
319A Douglas 90.86 58 IAmb IAmb 14 23 08.6
comp=Z,14nm,0.9s
X18A Snowflake 90.99 55 IAmb IAmb 14 23 09.0
comp=Z,11nm,0.9s
CTU Camp Tracy 91.00 49 IAmb IAmb 14 23 08.4
comp=Z,15nm,0.8s
JLU Jordanelle 91.20 49 IAmb IAmb 14 23 09.6
comp=Z,16nm,1.1s
TCUT Toone Canyon 91.35 48 IAmb IAmb 14 23 10.2
comp=Z,23nm,1.1s
BSUT Blindstream Ca 91.69 49 IAmb IAmb 14 23 11.9
comp=Z,12nm,0.9s
SYO Syowa Base 91.99 197 ⇑ *e* P P 14 23 10.4 +0.3
121A Cookes Peak, D 92.34 57 IAmb IAmb 14 23 15.2
comp=Z,8.3nm,0.8s
PV20 West Nyswonger 92.58 52 IAmb IAmb 14 23 17.1
comp=Z,10nm,0.8s
PV22 Blue Mesa, Par 92.75 51 IAmb IAmb 14 23 17.4
comp=Z,6.8nm,0.8s
PDAR Pinedale Array 93.06 47 P P 14 23 15.7 -0.2
PDAR Pinedale Array 93.06 47 P P 14 23 16.9 +1.0
comp=Z,4.0nm,0.9s,baz=238,slow=2.8,SNR=11
PDAR PKKPbc **PKKPdf** 14 40 24.1 -0.2
comp=Z,0.6nm,0.6s,baz=98,slow=7.6,SNR=4.5
comp=Z,4.0nm,0.9s
YNE Yellowstone No 93.21 45 IAmb IAmb 14 25 20.1
comp=Z,8.2nm,0.7s
ANMO Albuquerque 93.89 55 *ce* P P 14 23 21.2 +1.4
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ZAA0 Zalesovo Array 93.94 324 IAmb IAmb 14 23 19.4
comp=Z,16nm,0.9s
ZALV Zalesovo Beam 93.94 324 P P 14 23 17.7 -1.6
ZALV Zalesovo Beam 93.94 324 P P 14 23 18.8 -0.5
comp=Z,10nm,0.7s,baz=112,slow=4.6,SNR=41
comp=Z,10nm,0.7s
ZALV Zalesovo Beam 93.94 324 *i* P P 14 23 18.6 -0.7
ZALV pmax pmax
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 93.97 317 *ce* P P 14 23 19.8 +0.1
MKAR Makanchi Array 93.97 317 P P 14 23 19.5 -0.2
MKAR Makanchi Array 93.97 317 P P 14 23 19.7 0.0
comp=Z,20nm,0.8s,baz=98,slow=6.2,SNR=150
MKAR pP **pP** 14 23 59.5 -0.1
comp=Z,3.9nm,0.8s,baz=102,slow=5.9,SNR=3.3
MKAR PKiKP **PKiKP** 14 28 02.9 -0.5
comp=Z,0.7nm,0.7s,baz=64,slow=2.8,SNR=4.1
MKAR PKKPbc **PKKPdf** 14 40 21.1 -1.4
comp=Z,1.6nm,0.8s,baz=271,slow=1.9,SNR=12
comp=Z,20nm,0.8s
YKA Yellowknife Ar 94.66 27 P P 14 23 21.6 -0.8
comp=Z,3.3nm,0.7s,baz=322,slow=6.9,SNR=8.6
comp=Z,3.3nm,0.7s
YKA Yellowknife Ar 94.66 27 *i* P P 14 23 21.5 -0.8
YKA pmax pmax
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 95.24 61 P P 14 23 26.9 +0.9
comp=Z,1.0nm,0.6s,baz=231,slow=4.8,SNR=12
TXAR PP **PP** 14 27 18.8 +0.5
comp=Z,0.4nm,0.9s,baz=244,slow=7.8,SNR=6.7
comp=Z,1.0nm,0.6s
TROLL Troll, Antarti 96.45 185 ⇑ P P 14 23 29.5 -1.2
comp=Z,192nm,0.7s
KDJ Kajisay 96.75 311 IAmb IAmb 14 23 33.2
comp=Z,4.9nm,1.0s
KURK Kurchatov 97.06 320 P P 14 23 32.6 -0.9
KURK Kurchatov 97.06 320 *ce* P P 14 23 33.1 -0.5
KURK pmax pmax
comp=Z,13nm,1.5s
KURBB Kurchatov Arra 97.10 320 P P 14 23 32.1 -1.6
comp=Z,1.8nm,0.2s,baz=100,slow=3.6,SNR=9.6
KURBB PKKPbc **PKKPbc** 14 40 13.4 -1.8
comp=Z,1.0nm,0.7s,baz=285,slow=3.2,SNR=8.7
comp=Z,1.8nm,0.2s
SNAA Sanae 97.17 183 ⇑ P P 14 23 32.2 -1.6
comp=Z,35nm,0.7s
SNAA Sanae 97.17 183 P P 14 23 32.5 -1.3

comp=Z,2.1nm,0.9s,baz=197,slow=5.0,SNR=13
SNAA PKiKP **PKiKP** 14 28 08.1 -0.4
comp=Z,0.8nm,0.8s,baz=230,slow=4.5,SNR=2.2
comp=Z,2.1nm,0.9s
VNA3 Neumayer Olymp 97.87 181 ⇓P **P** 14 23 35.2 -1.7
comp=Z,3.3nm,0.7s
VNA2 Neumayer--Watz 98.12 182 ⇑P **P** 14 23 36.4 -1.6
comp=Z,1.8nm,0.6s,baz=166,slow=4.8
VNA1 Neumayer--Stat 98.42 182 ⇑P **P** 14 23 38.2 -1.2
comp=Z,2.8nm,0.9s
AAK Ala-Arcna 98.79 312 LR LR 15 08 22.9
comp=Z,93nm,20.1s,baz=309,slow=35
AAK Ala-Arcna 98.79 312 *ce*P Pdif 14 23 41.9 +0.1
AAK pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 102.35 322 P **Pdif** 14 23 56.5 -0.7
comp=Z,2.4nm,0.8s,baz=104,slow=4.7,SNR=10
ARA0 ARCESS Array S 116.49 346 *e*PKPdf **PKPdf** 14 28 44.1 -0.1
ARCES ARCESS Array B 116.49 346 PKP **PKPdf** 14 28 44.0 -0.2
comp=Z,7.3nm,0.6s,baz=76,slow=1.6,SNR=31
KLMR Klimovskoe 117.03 334 *e*PKiKP **PKPdf** 14 28 41.6 -3.8
KLMR pmax pmax
comp=Z,12nm,1.1s
KTK1 Kautokeino 117.43 346 *e*PKPdf **PKPdf** 14 28 45.1 -0.9
TRO Tromso 117.91 348 *e*PKPdf **PKiKP** 14 28 47.0 +0.2
LPAZ La Paz 119.59 116 PKP **PKPdf** 14 28 51.6 -0.9
comp=Z,1.2nm,0.6s,baz=313,slow=1.6,SNR=5.2
SCHQ Schefferville 119.65 32 PKP **PKPdf** 14 28 50.2 -0.5
comp=Z,35nm,0.8s,baz=196,slow=0.6,SNR=4.4
SCHQ PKKPbc **PKKPab** 14 39 02.5 -1.0
comp=Z,41nm,0.7s,baz=248,slow=16,SNR=4.5
STEI Steigen 120.08 348 *e*PKPdf **PKPdf** 14 28 50.6 -0.5
FAUS Fauske 120.53 347 *e*PKPdf **PKPdf** 14 28 51.4 -0.5
KIV Kislovodsk 121.69 315 *e*PKIKP **PKPdf** 14 28 53.2 -1.9
KIV pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 122.01 339 PKP **PKPdf** 14 28 54.8 -0.2
comp=Z,3.8nm,0.6s,baz=22,slow=2.9,SNR=19
CPUP Villa Florida 123.54 132 PKP **PKPdf** 14 28 58.8 -0.2
comp=Z,1.1nm,0.7s,baz=108,slow=0.9,SNR=5.8
NSS Namsos 123.68 347 *e*PKPdf **PKPdf** 14 28 57.7 -0.4
BOSA Boshof 125.58 223 PKP **PKPdf** 14 29 03.2 +0.2
comp=Z,7.5nm,0.7s,baz=114,slow=1.6,SNR=17
MNK Minsk 125.71 332 *i* PKiKP **PKPdf** 14 29 02.0 -0.3
MNK *i* 14 29 41.7
MNK *i* 14 29 59.2
MNK *i* 14 30 55.7
MNK *i* 14 35 58.9
MNK *i* PS **PS** 14 40 59.1 -1.0
MNK *i* SS SS 14 47 45.3 +2.2
MNK pmax pmax
comp=N,16nm,0.8s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=E,13nm,0.8s
NB2 NORSAR Subarra126.86 345 PKPdf **PKPdf** 14 29 04.4 0.0
comp=Z,10nm,1.1s,baz=31,slow=1.9
NB2 NORSAR Subarra126.86 345 PKPdf **PKPdf** 14 29 04.4 0.0
comp=Z,10nm,1.1s,baz=31,slow=1.9
NOA NORSAR Array B 126.86 345 PKP **PKPdf** 14 29 04.2 -0.2
comp=Z,3.7nm,0.7s,baz=34,slow=2.0,SNR=14
NOA SKKPbc SKKPbc 14 42 13.8 -0.2
comp=Z,1.0nm,0.8s,baz=227,slow=3.8,SNR=3.5
HFS Hagfors 126.97 343 PKP **PKPdf** 14 29 04.4 -0.1
comp=Z,4.9nm,0.8s,baz=333,slow=0.3,SNR=5.5
NC602 NORSAR Array S 127.04 345 *e*PKPdf **PKPdf** 14 29 04.8 +0.1
AKASG Malin Array Be 127.22 327 PKP **PKPdf** 14 29 05.1 -0.2
comp=Z,1.5nm,0.6s,baz=53,slow=2.1,SNR=7.6
KMBO Kilima Mbogo 128.05 260 PKP **PKPdf** 14 29 08.5 +0.2
comp=Z,1.4nm,0.4s,baz=110,slow=2.3,SNR=4.7
MMAI Mount Meron Ar 130.13 304 PKP **PiKiKP** 14 29 12.4 +0.1
comp=Z,0.4nm,0.3s,baz=87,slow=4.9,SNR=2.1
LKGWB Lokgwabe 131.26 224 PKPpre 14 28 59.0
KOLS Kolonicke sedl 131.89 329 *e*PKiKP **PKiKP** 14 29 15.6 +0.3
MORC Moravsky Berou 133.61 332 *e*PKiKP **PKiKP** 14 29 18.3 -0.5
JAVC Velka Javorina 134.20 331 *e*PKiKP **PKiKP** 14 29 19.7 -0.3
BRG Berggiesshubel 134.33 336 *e*PKP **PKiKP** 14 29 21.2 +1.1
BRG Amp 14 29 22.3
comp=Z,4.1nm,0.7s
CLL Collm 134.36 337 *i* PKiKP **PKiKP** 14 29 20.3 +0.1
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 134.36 337 *i* PKPdf **PKiKP** 14 29 20.3 +0.1
comp=Z,6.0nm,0.8s
CLL LmV 17 16 00.0
comp=Z,400nm,19.1s
KRUC Moravsky 134.64 332 *e*PKiKP **PKPdf** 14 29 19.8 +0.4
MODS Modra-Piesok 134.73 331 *e*PKiKP **PKiKP** 14 29 21.6 +0.5
EKA Eskdalemuir Ar 135.06 352 PKP **PKPdf** 14 29 19.3 -0.7
comp=Z,0.9nm,0.5s,baz=27,slow=2.0,SNR=2.5
RONA Rosalia, Austr 135.67 331 *e*PKP **PKPdf** 14 29 21.9 +0.5
comp=Z,2.9nm,0.6s
CONA Conrad Observa 135.71 332 *e*PKP **PKPdf** 14 29 22.0 +0.5
comp=Z,3.1nm,0.6s
GERES GERESS Array B 135.99 334 PKP **PKPdf** 14 29 21.6 -0.5
comp=Z,2.4nm,0.7s,baz=101,slow=1.4,SNR=7.1
ARSA Arzberg 136.36 331 *i* PKP **PKPdf** 14 29 22.7 0.0
comp=Z,6.0nm,1.4s
MOA Molln 136.49 333 *i* PKP **PKPdf** 14 29 23.1 +0.1
comp=Z,4.6nm,0.8s
BDFB Brasilia 136.81 127 PKP **PKPdf** 14 29 23.9 -0.7
comp=Z,1.5nm,0.3s,baz=334,slow=2.1,SNR=3.8
SOKA Soboth 137.00 331 *i* PKP **PKPdf** 14 29 24.0 0.0
comp=Z,4.6nm,1.0s
OBKA Obir 137.35 331 *i* PKP **PKPdf** 14 29 24.6 -0.1
comp=Z,1.2nm,0.5s
LESA Schwarzleotal 137.52 334 *i* PKP **PKPdf** 14 29 25.2 +0.2
comp=Z,4.7nm,0.7s
MYKA Terra Mystica 137.69 332 *i* PKP **PKPdf** 14 29 25.1 -0.1
comp=Z,2.4nm,0.6s
WATA Walderalm 138.06 334 *i* PKP **PKPdf** 14 29 26.5 +0.4
comp=Z,5.7nm,0.7s
WTTA Wattenberg 138.09 334 *i* PKP **PKPdf** 14 29 25.8 -0.3
comp=Z,5.1nm,0.7s
ABTA Abfaltersbach 138.11 333 *e*PKP **PKPdf** 14 29 25.4 -0.7
comp=Z,3.4nm,0.6s
MOTA Moosalm 138.25 335 *i* PKP **PKPdf** 14 29 26.9 +0.5
comp=Z,5.0nm,0.8s
RETA Reutte 138.28 335 *i* PKP **PKPdf** 14 29 26.9 +0.6
comp=Z,4.8nm,1.1s
FETA Feichten 138.67 335 *i* PKP **PKPdf** 14 29 27.9 +0.7
comp=Z,10nm,1.0s
FUORN Ofenpass-Fuorn 139.18 335 PKPpre 14 29 21.3
TUE Stuetta 139.68 335 PKPpre 14 29 23.8
BNI Bardonecchia 141.91 337 PKPpre 14 29 29.1
BNI Bardonecchia 141.91 337 PKiKP **PKPdf** 14 29 29.1 -4.0
CEL Celeste 142.20 321 PKPpre 14 29 29.7
KEST Kesra 147.81 324 PKPbc **PKPbc** 14 29 47.0 +0.5
comp=Z,34nm,0.9s,baz=312,slow=2.0,SNR=21
PBRG Braganca 148.77 350 *e*PKPbc **PKPbc** 14 29 49.1 +0.4
PGAV Gavieira, Arco 148.84 352 *e*PKPbc **PKPbc** 14 29 49.4 +0.4
PCAB Cabril 149.06 352 *e*PKPbc **PKPbc** 14 29 50.0 +0.5
POLO Lamas de Olo 149.36 351 *e*PKPbc **PiKiP** 14 29 51.0 -0.4
PVRL Vila Real 149.44 351 *e*PKPbc **PiKiP** 14 29 51.2 -0.3
MVO Moncorvo 149.44 350 *e*PKPbc **PiKiP** 14 29 51.3 -0.3
PTO Porto 149.70 353 *e*PKPbc **PKPbc** 14 29 51.1 +0.2
PVIS Viseu 150.02 351 *e*PKPbc **PiKiP** 14 29 52.4 -0.3
ESDC Sonseca Array 150.23 345 PKP **PKPdf** 14 29 47.5 +0.4
comp=Z,1.5nm,0.9s,baz=4.2,slow=2.9,SNR=9.2
ESDC PKPbc **PKPbc** 14 29 52.7 +0.3
comp=Z,7.2nm,0.8s,baz=13,slow=2.5,SNR=33
MTE Manteigas 150.27 351 *e*PKPdf **PKPdf** 14 29 48.1 +0.9
MTE *e*PKPbc **PiKiP** 14 29 53.3 +0.1
COI Coimbra 150.59 352 *e*PKPbc **PiKiP** 14 29 53.5 -0.3
PCAS Casmilo, Conde 150.75 352 *e*PKPbc **PiKiP** 14 29 54.0 -0.2
PCBR Castelo Branco 150.81 350 *e*PKPdf **PKPdf** 14 29 48.6 +0.6
PCBR *e*PKPbc **PiKiP** 14 29 54.0 -0.3
PSARD Sardoal 151.15 351 *e*PKPdf **PKPdf** 14 29 48.7 +0.1
PSARD *e*PKPbc **PiKiP** 14 29 55.0 0.0
PMRV Marv??o 151.19 350 *e*PKPdf **PKPdf** 14 29 48.9 +0.3
PMRV *e*PKPbc **PiKiP** 14 29 55.0 -0.2
PMTG Montargil 151.68 351 *e*PKPdf **PKPdf** 14 29 49.4 +0.1
PMTG *e*PKPbc **PKPbc** 14 29 55.8 +0.1
PMTG *e*PKPab **PKPab** 14 30 05.9 +1.0
PESTR Estremoz 151.78 350 *e*PKPbc **PKPbc** 14 29 56.0 0.0
PESTR *e*PKPab **PKPab** 14 30 06.7 +1.3
PMAFR Mafra 151.94 353 *e*PKPbc **PKPbc** 14 29 56.4 +0.1
PMAFR *e*PKPab **PKPab** 14 30 06.9 +0.9
PARRA Arraiolos 152.04 352 *e*PKPdf **PKPdf** 14 29 50.0 +0.1
PARRA *e*PKPbc **PKPbc** 14 29 56.2 -0.3
PARRA *e*PKPab **PKPab** 14 30 07.1 +0.7
EVO Evora 152.17 351 *e*PKPbc **PiKiP** 14 29 57.3 +0.1
PBAR Barrancos 152.35 349 *e*PKPdf **PKPdf** 14 29 49.9 -0.4
PBAR *e*PKPbc **PiKiP** 14 29 57.7 +0.2
PBAR *e*PKPab **PKPab** 14 30 09.2 +1.4
PBEJ Beja 152.64 350 *e*PKPbc **PiKiP** 14 29 58.5 +0.4
PBEJ *e*PKPab **PKPab** 14 30 10.8 +1.9
MESJ Messejana 152.88 351 *e*PKPdf **PKPdf** 14 29 52.4 +1.3
MESJ *e*PKPbc **PiKiP** 14 29 59.3 +0.6
MESJ *e*PKPab **PKPab** 14 30 11.6 +1.6
PCVE Castro Verde 153.06 350 *e*PKPdf **PKPdf** 14 29 52.7 +1.3
PCVE *e*PKPbc **PiKiP** 14 29 59.5 +0.5
PCVE *e*PKPab **PKPab** 14 30 12.4 +1.7
PVAQ Vaqueiros 153.22 350 *e*PKPbc **PKPbc** 14 29 59.2 0.0
PVAQ *e*PKPab **PKPab** 14 30 12.6 +1.1
PBDV Barranco-do-Ve 153.42 350 *e*PKPdf **PKPdf** 14 29 50.7 -1.3
MORF Marmelete 153.47 351 *e*PKPbc **PiKiP** 14 30 00.4 +0.5
MORF *e*PKPab **PKPab** 14 30 14.2 +1.6
PFVI Vila Bisbo 153.67 351 *e*PKPbc **PiKiP** 14 30 01.2 +0.9
PFVI *e*PKPab **PKPab** 14 30 15.0 +1.6
TORD Torodi Ar. Bea 164.92 280 PKP **PKPdf** 14 30 05.5 -0.4
comp=Z,3.8nm,1.0s,baz=16,slow=2.3,SNR=15
TORD PKPab **PKPab** 14 31 02.9 -0.1
comp=Z,3.7nm,1.0s,baz=56,slow=5.9,SNR=8.9

DJA ***17*** *14:22:54.8±0.7, 1°S±2°×12°8E±°, h10km±5km, M3.9/13, mB5.0/2, mb4.2/3, MLv3.7/13, Mw(mB)4.4/2*
IDC ***17*** *14:24:27.2±12.0, 7°.77S×129°.74E, h245km±138km, mb2.6/1, mbtmp3.4/4, Error ellipse: s-maj=105.6km s-min=54.2km az=36.0*
ISC 17 14:22:53.7±1.3, **0°.83S**±0°.07×**128°.26E**±0°.07, **h10**km, **n14, σ1s51/17, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.82**	**331**	P	**Pn**	**14 23 26.0**	**+0.9**
SANI	**Sanana**	**2.58**	**242**	P	**Pn**	**14 23 34.9**	**-0.6**
SANI				S	**Sn**	**14 24 05.7**	**-1.3**
MSAI	**Masohi**	**2.59**	**165**	P	**Pn**	**14 23 38.0**	**+2.3**
MSAI				S	**Sn**	**14 24 08.7**	**+1.4**
NLAI	**Namlea**	**2.66**	**206**	P	**Pn**	**14 23 37.1**	**+0.4**
NLAI				S	**Sn**	**14 24 08.4**	**-0.7**
AAI	**Ambon**	**2.84**	**181**	P	**Pn**	**14 23 40.1**	**+0.9**
SWI	**Sorong**	**3.00**	**91**	P	**Pn**	**14 23 40.9**	**-0.4**
FAKI	**Fak Fak**	**4.50**	**118**	P	**Pn**	**14 24 00.8**	**-1.1**
LUWI	**Luwuk**	**5.49**	**268**	P	**Pn**	**14 24 15.7**	**0.0**
	0.3nm42nm,0.8s						
APSI	**Ampana**	**6.61**	**269**	P	**Pn**	**14 24 32.1**	**+1.1**
TTSI	**Tana Toraja**	**8.72**	**255**	P	**Pn**	**14 25 01.9**	**+1.9**
SPSI	**Sidrap Palu**	**9.04**	**250**	P	**Pn**	**14 25 06.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**17.36**	**188**	P	**P**	**14 26 58.7**	**+1.1**
	1.0nm,0.8s,baz=34,slow=7.3,SNR=0.9						
WRA	**Warramunga Arr**	**19.91**	**163**	P	**P**	**14 27 22.9**	**-2.8**
	0.9nm,0.7s,baz=343,slow=13,SNR=8.5						
ASAR	**Alice Springs**	**23.36**	**167**	P	**P**	**14 28 01.1**	**-1.4**
	0.4nm,0.5s,baz=343,slow=11,SNR=12						

IDC ***17*** *14:36:50.7±2.8, 8°.46S×119°.87E, h144km±18km, mb3.6/3, mbtmp3.8/6, Error ellipse: s-maj=44.0km s-min=20.2km az=47.0*
NEIC ***17*** *14:36:51.0±2.0, 8°.4S±0°.2×119°.8E±0°.1, h150km±15km, mb4.4/8, Error ellipse: s-maj=25.4km s-min=11.7km az=203.0*
ISC 17 14:36:52.2±1.3, **8°.50S**±0°.09×**120°.1E**±0°.1, **h150**km, **n18, σ2s18/21, mb4.6/3, Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.90**	**116**	P	**Pn**	**14 37 53.5**	**+2.3**
	12nm,0.4s,baz=258,slow=1.5,SNR=7.6						
BATI				S	**Sn**	**14 38 40.8**	**+3.9**
	21nm,0.4s,baz=24,slow=3.1,SNR=4.1						
JAGI	**Jajag, Banyuwa**	**5.89**	**270**	Pn	Pn	14 38 11.8	-5.7
FITZ	**Fitzroy Crossi**	**10.95**	**151**	Pn	**Pn**	**14 39 27.1**	**+2.4**
FITZ	**Fitzroy Crossi**	**10.95**	**151**	P	**Pn**	**14 39 27.3**	**+2.5**
	0.9nm,0.4s,baz=318,slow=12,SNR=13						
FITZ				S	**Sn**	**14 41 25.6**	**-0.3**
	1.3nm,0.3s,baz=190,slow=22,SNR=13						
KNRA	**Kununurra**	**11.06**	**131**	Pn	**Pn**	**14 39 28.1**	**+1.8**
FAKI	**Fak Fak**	**13.29**	**66**	Pn	**Pn**	**14 39 54.0**	**-1.1**
WB0	**Warramunga Arr**	**17.80**	**131**	P	**P**	**14 40 49.1**	**-0.2**
WB0				IAmb	IAmb	14 41 20.8	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**17.86**	**131**	P	**P**	**14 40 49.2**	**-0.9**
WRA	**Warramunga Arr**	**17.86**	**131**	P	**Pn**	**14 40 51.0**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=304,slow=12,SNR=23						
WRA				S	**Sn**	**14 44 10.0**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=336,slow=9.3,SNR=1.9						
WR8	**Warramunga Arr**	**17.99**	**131**	P	**P**	**14 40 51.6**	**+0.1**
WR8				IAmb	IAmb	14 41 17.6	
	comp=Z,8.5nm,1.4s						
AS31	**Alice Springs**	**20.05**	**140**	P	**P**	**14 41 14.8**	**+1.0**
ASAR	**Alice Springs**	**20.05**	**140**	P	**P**	**14 41 15.0**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=314,slow=9.5,SNR=33						
ASAR				S	**Sn**	**14 44 58.0**	**-6.3**
	comp=Z,0.4nm,1.1s,baz=322,slow=24,SNR=1.2						
	comp=Z,1.4nm,0.5s						
BBOO	**Buckleboo**	**28.34**	**151**	P	**P**	**14 42 32.1**	**0.0**
BBOO				IAmb	IAmb	14 42 45.0	
	comp=Z,15nm,1.2s						
STKA	**Stephens Creek**	**30.66**	**142**	P	**P**	**14 42 52.1**	**-0.5**
STKA				IAmb	IAmb	14 43 05.4	
	comp=Z,40nm,1.4s						
STKA	**Stephens Creek**	**30.66**	**142**	P	**P**	**14 42 51.8**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=306,slow=15,SNR=12						
	comp=Z,1.4nm,0.3s						
SHEM	**Shemya Is, Ala**	**76.28**	**30**	P	**P**	**14 48 23.6**	**-0.5**
SMY	**Shemya**	**76.28**	**30**	P	**P**	**14 48 23.7**	**-0.5**
ILAR	**Eielson Array**	**98.91**	**26**	P	**P**	**14 50 15.3**	**+0.3**
	comp=Z,0.3nm,1.0s,baz=218,slow=6.9,SNR=2.5						
	comp=Z,0.3nm,1.0s						

NEIC ***17*** *14:37:58.4±1.5, 0°.28N±0°.07×122°.24E±0°.08, h148km±6km, mb4.5/17, Error ellipse: s-maj=13.8km s-min=8.9km az=54.0*
IDC ***17*** *14:37:59.2±6.2, 0°.29N×122°.47E, h163km±58km, mb3.6/10, mbtmp4.0/10, Error ellipse: s-maj=66.1km s-min=12.1km az=62.0*
DJA ***17*** *14:38:00.0±0.3, 0°.N±2°×12°2E±°, h112km±5km, M4.4/18, mB4.9/3, mb4.5/8, MLv4.3/18, Mw(mB)4.2/3*
ISC 17 14:37:58.3±0.5, **0°.30N**±0°.05×**122°.36E**±0°.05, **h150**km, **n64, σ1s52/66, mb4.4/24, 1C, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.45**	**292**	P	**Pn**	**14 38 17.3**	**-2.1**
MRSI				S	**Sn**	**14 38 31.9**	**-3.5**
APSI	**Ampana**	**1.40**	**210**	P	**Pn**	**14 38 25.9**	**-1.0**
LUWI	**Luwuk**	**1.40**	**163**	Pn	**Pn**	**14 38 26.6**	**-0.2**
LUWI	**Luwuk**	**1.40**	**163**	P	**Pn**	**14 38 26.7**	**-0.2**
LUWI	**Luwuk**	**1.40**	**163**	P	**Pn**	**14 38 26.6**	**-0.2**
LUWI				S	**Sn**	**14 38 47.2**	**-1.6**
KMSI	**Cibinong**	**1.65**	**81**	P	**Pn**	**14 38 31.1**	**+1.6**
TOLI2	**Tolitoli**	**1.77**	**297**		**Pn**	**14 38 28.9**	**-1.9**
TOLI2	**Tolitoli**	**1.77**	**297**	P	**Pn**	**14 38 28.9**	**-1.9**
TOLI2	**Tolitoli**	**1.77**	**297**	S	**Sn**	**14 38 52.6**	**-3.1**
PCI	**Palu**	**2.79**	**244**	P	**Pn**	**14 38 41.3**	**-1.8**
TTSI	**Tana Toraja**	**4.18**	**217**	P	**Pn**	**14 39 01.0**	**0.0**
KDI	**Kendari**	**4.24**	**176**	P	**Pn**	**14 39 02.8**	**+1.0**
SANI	**Sanana**	**4.32**	**123**	P	**Pn**	**14 39 01.5**	**-1.3**
SANI	**Sanana**	**4.32**	**123**	P	**Pn**	**14 39 01.6**	**-1.3**
SGSI	**Sangihe**	**4.62**	**43**	P	**Pn**	**14 39 06.8**	**0.0**
SPSI	**Sidrap Palu**	**4.97**	**211**	P	**Pn**	**14 39 14.8**	**+3.5**
TNTI	**Ternate**	**5.03**	**85**	Pn	**Pn**	**14 39 12.3**	**0.0**
TNTI	**Ternate**	**5.03**	**85**	P	**Pn**	**14 39 12.8**	**+0.6**
TNTI	**Ternate**	**5.03**	**85**	S	**Sn**	**14 40 07.7**	**-2.1**
NLAI	**Namlea**	**5.91**	**127**	P	**Pn**	**14 39 24.7**	**+0.9**
	1µm52nm,0.9s						
MYLDM	**Lahad Datu**	**6.19**	**322**		**Pn**	**14 39 30.3**	**+2.7**
MYLDM	**Lahad Datu**	**6.19**	**322**	P	**Pn**	**14 39 30.4**	**+2.8**
KKM	**Kota Kinabalu**	**8.37**	**313**	P	Pn	14 40 01.9	+5.1
BNDI	**Bandanaira**	**8.94**	**123**	P	**Pn**	**14 40 06.0**	**+1.7**
SOEI	**Soe**	**10.17**	**169**	P	Pn	14 40 27.8	+7.0
FAKI	**Fak Fak**	**10.40**	**108**	Pn	**Pn**	**14 40 23.4**	**-0.2**
JAGI	**Jajag, Banyuwa**	**11.95**	**223**	P	**P**	**14 40 53.1**	**+2.4**
KULM	**Kulim**	**22.23**	**283**	P	**P**	**14 42 40.4**	**-2.6**
KULM				IAmb	IAmb	14 43 12.2	
	comp=Z,26nm,1.4s						
TPUB	**Ta-pu**	**22.92**	**356**	P	**P**	**14 42 50.5**	**+1.0**
TPUB				IAmb	IAmb	14 43 09.1	
	comp=Z,37nm,1.1s						
WRA	**Warramunga Arr**	**23.30**	**150**	P	**P**	**14 42 52.6**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=328,slow=11,SNR=9.7						
WRA				PcP	**PcP**	**14 46 35.1**	**-0.9**
	comp=Z,0.3nm,0.9s,baz=319,slow=3.3,SNR=1.9						
	comp=Z,0.6nm,0.6s						
SSLB	**Suanglung**	**23.38**	**357**	P	**P**	**14 42 55.0**	**+1.3**
WR8	**Warramunga Arr**	**23.39**	**150**	P	**P**	**14 42 53.7**	**-0.1**
COEN	**Coen**	**25.02**	**125**	P	**P**	**14 43 09.2**	**+0.6**
COEN				IAmb	IAmb	14 43 43.4	
	comp=Z,13nm,1.2s						
ASAR	**Alice Springs**	**26.34**	**156**	P	**P**	**14 43 19.3**	**-1.2**
ASAR	**Alice Springs**	**26.34**	**156**	P	**P**	**14 43 20.0**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=345,slow=14,SNR=4.7						
ASAR				PcP	**PcP**	**14 46 41.9**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=321,slow=2.4,SNR=9.4						
	comp=Z,0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.23**	**309**	P	**P**	**14 43 47.0**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=133,slow=7.0,SNR=9.2						
	comp=Z,0.8nm,0.6s						
MORW	**Morawa**	**29.82**	**191**	P	**P**	**14 43 50.3**	**-1.1**
MORW				IAmb	IAmb	14 43 51.0	
	comp=Z,12nm,1.0s						
CTAO	**Charters Tower**	**30.96**	**132**	P	**P**	**14 44 00.8**	**-0.7**
CTAO				IAmb	IAmb	14 44 23.3	
	comp=Z,9.4nm,1.4s						
NJ2	**Nanjing**	**31.75**	**354**	*e*P	**P**	**14 44 10.4**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
PZH	**PanZhiHua**	**32.75**	**324**	P	**P**	**14 44 19.0**	**+1.8**
NWAO	**Narrogin (SRO)**	**33.41**	**188**	P	**P**	**14 44 22.1**	**-0.6**
BBOO	**Buckleboo**	**35.38**	**160**	P	**P**	**14 44 39.2**	**-0.5**
BBOO				IAmb	IAmb	14 44 55.9	
	comp=Z,19nm,1.4s						
XAN	**Xi'an**	**35.84**	**341**	⇑P	**P**	**14 44 47.5**	**+3.8**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
STKA	**Stephens Creek**	**36.83**	**152**	P	**P**	**14 44 49.7**	**-2.3**
	comp=Z,1.2nm,0.6s,baz=310,slow=7.9,SNR=1.8						
	comp=Z,1.2nm,0.6s						
HHC	**Hu-ho-hao-te**	**41.53**	**348**	*e*P	**P**	**14 45 31.1**	**0.0**
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,75nm,4.1s						
CAN	**Canberra**	**43.29**	**148**	P	**P**	**14 45 46.8**	**+1.4**
EVN	**Everest**	**43.76**	**312**		**P**	**14 45 50.1**	**+0.2**
GTA	**Gaotai**	**44.04**	**335**	*e*P	**P**	**14 45 53.1**	**+1.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SONM	**Songino Array**	**49.33**	**346**	P	**P**	**14 46 32.8**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=170,slow=8.3,SNR=7.6						
	comp=Z,3.9nm,0.7s						
WMQ	**Urumqi**	**53.20**	**329**	*e*P	P	14 46 55.6	-5.6
WMQ				pmax	pmax		
	comp=Z,71nm,0.7s						
WMQ				LR	LR		
	comp=N,750nm,15.1s						
WMQ				LR	LR		
	comp=E,770nm,13.5s						
WMQ				LR	LR		
	comp=Z,630nm,19.9s						
MKAR	**Makanchi Array**	**58.02**	**329**		**P**	**14 47 35.4**	**-0.1**
MKAR	**Makanchi Array**	**58.02**	**329**	P	**P**	**14 47 35.9**	**+0.4**
	comp=Z,3.7nm,0.3s,baz=126,slow=8.4,SNR=100						
MKAR				PcP	**PcP**	**14 48 24.8**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=148,slow=4.2,SNR=4.4						
	comp=Z,3.7nm,0.3s						
KBL	**Kabul**	**60.25**	**310**	P	**P**	**14 47 50.5**	**-0.8**
GAR	**Garm**	**61.14**	**315**	P	**P**	**14 47 56.6**	**-0.5**
GAR				IAmb	IAmb	14 47 59.2	
	comp=Z,7.7nm,1.0s						
ZALV	**Zalesovo Beam**	**61.77**	**336**	P	**P**	**14 48 00.2**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=111,slow=6.5,SNR=4.0						
	comp=Z,0.6nm,0.4s						
SIMJ	**Simiganj**	**61.92**	**315**	P	**P**	**14 48 01.5**	**-0.9**
KURBB	**Kurchatov Arra**	**62.38**	**330**	P	**P**	**14 48 04.5**	**-0.5**
	comp=Z,2.0nm,0.2s,baz=117,slow=5.2,SNR=12						
	comp=Z,2.0nm,0.2s						
KURK	**Kurchatov**	**62.39**	**330**		**P**	**14 48 03.9**	**-1.2**
KURK				IAmb	IAmb	14 48 05.6	
	comp=Z,4.9nm,0.6s						
KKAR	**Karatay Array**	**62.87**	**320**	P	**P**	**14 48 08.0**	**-0.4**
BVAR	**Borovoye Array**	**67.89**	**329**	P	**P**	**14 48 40.2**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=128,slow=9.6,SNR=4.9						
	comp=Z,0.8nm,0.5s						
ABKAR	**Akbulak array**	**72.10**	**322**	P	**P**	**14 49 05.4**	**-0.9**
VNDA	**Vanda**	**80.64**	**172**	P	**P**	**14 49 53.3**	**-0.6**
VNDA	**Vanda**	**80.64**	**172**	P	**P**	**14 49 53.5**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=303,slow=6.9,SNR=4.8						
	comp=Z,0.9nm,0.8s						
H19K	**Roundabout Mou**	**86.07**	**24**	P	**P**	**14 50 22.8**	**+0.9**
H19K				IAmb	IAmb	14 50 44.6	
	comp=Z,9.0nm,1.4s						

TIF ***17*** *14:48:48.1, 36°.85N×52°.09E, h12km±1km*
TEH ***17*** *14:48:48.8, 36°.81N×52°.12E, h15km±30km*
ISC 17 14:48:49.6±0.9, **36°.81N**±0°.04×**52°.13E**±0°.04, **h10**km, **n47, σ0s98/52, 3C-1D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPRN	**Peran**	**0.59**	**163**	Pg	**Pg**	**14 49 01.0**	**-0.2**
IPRN				Sg	**Sg**	**14 49 09.2**	**+0.2**
IALA	**Alasht**	**0.91**	**143**	Pg	**Pg**	**14 49 06.7**	**-0.6**
TEHA	**Amirabad Tehra**	**1.22**	**210**	Pg	**Pn**	**14 49 12.4**	**-0.5**
**

*WEL **17** 15:10:29.1±0.2,41.˚S±1.˚×17.˚5E±.˚, h5km, M3.2/60, ML3.5/46, MLv3.2/60, Error ellipse: s-maj=2.3km s-min=1.9km az=93.4, confirmed*

ISC 17 15:10:28.8±1.2, **40.55S**±0.02×**174.61E**±0.02, **h2**km±11km, **n127,** σ0.59/136, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIW	**Kapiti Island**	**0.39**	**144**	P	**Pg**	**15 10 36.4**	**+0.2**
KIW				S	**Sg**	**15 10 41.0**	**-0.1**
OTKS	**Otaki School**	**0.45**	**117**	P	**Pg**	**15 10 37.6**	**+0.1**
OTKS				S	**Sg**	**15 10 43.6**	**+0.3**
PAPS	**Paraparaumu Pr**	**0.47**	**141**	P	**Pg**	**15 10 38.0**	**+0.2**
FXBS	**Foxton Beach S**	**0.47**	**80**	P	**Pg**	**15 10 38.1**	**+0.2**
FXBS				S	**Sg**	**15 10 45.0**	**+0.9**
OGWZ	**Otaki Gorge**	**0.50**	**122**	P	**Pg**	**15 10 38.6**	**+0.2**
HOCS	**Levin Horowhen**	**0.51**	**98**	P	**Pg**	**15 10 38.6**	**0.0**
DUWZ	**D'Urville Isla**	**0.58**	**244**	P	**Pg**	**15 10 40.1**	**+0.1**
POKS	**Katoa Kinderga**	**0.60**	**164**	P	**Pg**	**15 10 40.4**	**+0.1**
PWES	**Porirua West**	**0.60**	**165**	P	**Pg**	**15 10 40.4**	**+0.1**
POLS	**Porirua Librar**	**0.61**	**164**	P	**Pg**	**15 10 40.5**	**+0.1**
OHWZ	**Ohakea**	**0.64**	**58**	P	**Pg**	**15 10 41.1**	**+0.2**
OHWZ				S	**Sg**	**15 10 49.7**	**+0.6**
CAW	**Cannon Point**	**0.66**	**149**	P	**Pg**	**15 10 41.5**	**+0.2**
MKBS	**Makara Bunker**	**0.68**	**175**	P	**Pg**	**15 10 41.7**	**-0.1**
LHBS	**Lower Hutt Nor**	**0.68**	**162**	P	**Pg**	**15 10 41.9**	**+0.1**
TAIT	**Taita Central**	**0.68**	**158**	P	**Pg**	**15 10 41.9**	**+0.1**
BMTS	**Belmont**	**0.68**	**160**	P	**Pg**	**15 10 42.0**	**+0.1**
PTOS	**Petone Overbri**	**0.70**	**165**	P	**Pg**	**15 10 42.2**	**0.0**
NEWS	**Newlands**	**0.70**	**167**	P	**Pg**	**15 10 42.2**	**0.0**
TCW	**Tory Channel**	**0.71**	**201**	P	**Pg**	**15 10 41.9**	**-0.5**
MRZ	**Mangatainoka R**	**0.74**	**99**	P	**Pg**	**15 10 43.0**	**0.0**
WEL	**Wellington**	**0.74**	**171**	P	**Pg**	**15 10 43.0**	**0.0**
SNZO	**South Karori**	**0.76**	**175**	P	**Pg**	**15 10 43.0**	**-0.4**
SNZO	**South Karori**	**0.76**	**175**	S	**Sg**	**15 10 53.3**	**0.0**
HOWZ	**Holdsworth Sta**	**0.77**	**117**	P	**Pg**	**15 10 43.7**	**+0.2**
WAZ	**Wanganui**	**0.84**	**20**	P	**Pg**	**15 10 44.7**	**-0.2**
BHW	**Baring Head**	**0.88**	**167**	P	**Pg**	**15 10 45.6**	**-0.1**
POWZ	**Post Office Ro**	**0.89**	**80**	P	**Pg**	**15 10 45.7**	**-0.2**
POWZ				S	**Sg**	**15 10 57.8**	**+0.3**
MTW	**Mount Morrison**	**0.91**	**132**	P	**Pg**	**15 10 46.6**	**+0.4**
MTW				S	**Sb**	**15 10 59.3**	**-0.5**
HAVS	**Havelock**	**0.96**	**221**	S	**Sb**	**15 11 00.9**	**-0.4**
MSWZ	**Moikau Station**	**0.99**	**151**	P	**Pb**	**15 10 48.3**	**-0.4**
TIWZ	**Tintock**	**0.99**	**104**	P	**Pg**	**15 10 48.1**	**+0.3**
TUWZ	**Tuamarina**	**1.02**	**210**	P	**Pg**	**15 10 48.3**	**0.0**
PRWZ	**Pori Road**	**1.03**	**91**	P	**Pg**	**15 10 49.0**	**+0.4**
PAWZ	**Paruwai Farm**	**1.03**	**144**	P	**Pb**	**15 10 49.1**	**-0.4**
PAWZ				S	**Sb**	**15 11 03.0**	**-0.5**
LREZ	**Lake Rotokare**	**1.10**	**351**	P	**Pg**	**15 10 50.0**	**+0.2**
LREZ				S	**Sb**	**15 11 06.0**	**+0.7**
TMWZ	**Te Maipa**	**1.12**	**120**	P	**Pb**	**15 10 50.7**	**-0.1**
TMWZ				S	**Sb**	**15 11 06.0**	**+0.1**
PLWZ	**Palliser**	**1.13**	**155**	P	**Pb**	**15 10 50.8**	**-0.2**
TSZ	**Takapari Road**	**1.14**	**65**	P	**Pg**	**15 10 49.9**	**-0.8**
NNZ	**Nelson**	**1.15**	**234**	P	**Pg**	**15 10 49.9**	**-0.9**
SDNS	**Seddon**	**1.17**	**198**	P	**Pg**	**15 10 51.3**	**+0.1**
TRWZ	**Traveller**	**1.18**	**137**	P	**Pb**	**15 10 51.9**	**+0.1**
DVHZ	**Dannevirke**	**1.21**	**79**	P	**Pg**	**15 10 51.6**	**-0.3**
CMWZ	**Cape Campbell**	**1.24**	**194**	P	**Pn**	**15 10 53.4**	**+0.3**
BFZ	**Birch Farm**	**1.25**	**97**	P	**Pg**	**15 10 52.6**	**-0.2**
BFZ	**Birch Farm**	**1.25**	**97**	P	**Sn**	**15 11 10.3**	**-0.4**
BFZ	**Birch Farm**	**1.25**	**97**	P	**Pg**	**15 10 52.5**	**-0.2**
PREZ	**Palmer Road**	**1.25**	**344**	P	**Pg**	**15 10 52.7**	**-0.1**
CPWZ	**Castlepoint**	**1.26**	**107**	P	**Pb**	**15 10 53.3**	**+0.1**
NMEZ	**Namu Road**	**1.27**	**333**	P	**Pg**	**15 10 53.2**	**+0.1**
BSWZ	**Blackbirch Sta**	**1.29**	**205**	P	**Pg**	**15 10 52.9**	**-0.7**
KHEZ	**Kahui Hut**	**1.33**	**340**	P	**Pg**	**15 10 54.2**	**-0.1**
KHEZ	**Kahui Hut**	**1.33**	**340**	S	**Sn**	**15 11 13.9**	**+1.0**
KHEZ	**Kahui Hut**	**1.33**	**340**	P	**Pg**	**15 10 53.9**	**-0.4**
MTVZ	**Mangateitei**	**1.34**	**30**	P	**Pg**	**15 10 53.0**	**-1.3**
NEZ	**North Egmont**	**1.34**	**343**	P	**Pg**	**15 10 54.0**	**-0.4**
TKNZ	**Takaka Hill**	**1.34**	**248**	P	**Pg**	**15 10 53.6**	**-0.9**
MOTS	**Motueka DOC wo**	**1.35**	**244**	P	**Pg**	**15 10 54.0**	**-0.6**
PNHZ	**Pukenui**	**1.37**	**63**	P	**Pg**	**15 10 53.8**	**-1.2**
DREZ	**Durham Road**	**1.40**	**347**	P	**Pn**	**15 10 55.1**	**-0.2**
NBEZ	**Newall Road No**	**1.40**	**336**	P	**Pg**	**15 10 55.7**	**+0.1**
ANWZ	**Angora Road**	**1.42**	**87**	P	**Pn**	**15 10 54.9**	**-0.7**
VRZ	**Vera Road**	**1.43**	**5**	P	**Pn**	**15 10 55.1**	**+0.6**
WNVZ	**Wahianoa**	**1.44**	**32**	P	**Pn**	**15 10 54.7**	**-1.3**
PKE	**Pukeiti**	**1.44**	**340**	P	**Pn**	**15 10 55.6**	**-0.3**
MOVZ	**Moawhango**	**1.44**	**38**	P	**Pn**	**15 10 54.7**	**-1.3**
TRVZ	**Turoa**	**1.44**	**30**	P	**Pn**	**15 10 54.8**	**-1.3**
WHVZ	**Whangaehu Hut**	**1.47**	**31**	P	**Pn**	**15 10 55.3**	**-1.3**
MAVZ	**Matarangi**	**1.47**	**30**	P	**Pn**	**15 10 56.2**	**-0.5**
WPHZ	**Waipukurau**	**1.48**	**71**	P	**Pn**	**15 10 56.1**	**-0.3**
TUVZ	**Tukino**	**1.51**	**32**	P	**Pn**	**15 10 56.7**	**-0.3**
COVZ	**Chateau Observ**	**1.52**	**28**	P	**Pn**	**15 10 56.1**	**-1.0**
NGZ	**Ngauruhoe**	**1.57**	**29**	P	**Pb**	**15 10 58.3**	**-0.3**
PRHZ	**Porangahau**	**1.57**	**80**	P	**Pn**	**15 10 57.1**	**-0.6**
SNVZ	**South Ngauruho**	**1.57**	**30**	P	**Pn**	**15 10 57.4**	**-0.5**
OTVZ	**Oturere**	**1.60**	**31**	P	**Pn**	**15 10 57.5**	**-0.8**
TWVZ	**Taurewa**	**1.61**	**24**	P	**Pn**	**15 10 57.8**	**-0.5**
QRZ	**Quartz Range**	**1.61**	**259**	P	**Pn**	**15 10 58.2**	**0.0**
QRZ	**Quartz Range**	**1.61**	**259**	S	**Sb**	**15 11 20.1**	**+0.1**
QRZ	**Quartz Range**	**1.61**	**259**	P	**Pn**	**15 10 58.3**	**0.0**
NNVZ	**North Ngauruho**	**1.61**	**29**	P	**Pn**	**15 10 57.8**	**-0.6**
WTVZ	**West Tongariro**	**1.62**	**28**	P	**Pn**	**15 10 57.6**	**-0.9**
KRHZ	**Kereru**	**1.62**	**57**	P	**Pn**	**15 10 58.6**	**+0.1**
MRNZ	**Matariki Terra**	**1.64**	**238**	P	**Pn**	**15 10 58.9**	**+0.2**
ETVZ	**East Tongariro**	**1.65**	**31**	P	**Pn**	**15 10 58.6**	**-0.2**
KRVZ	**Karewarewa**	**1.65**	**29**	P	**Pn**	**15 10 58.2**	**-0.8**
TMVZ	**Te Maari**	**1.66**	**31**	P	**Pn**	**15 10 59.0**	**0.0**
NTVZ	**North Tongarir**	**1.66**	**30**	P	**Pn**	**15 10 59.3**	**+0.2**
THZ	**Tophouse**	**1.77**	**226**	P	**Pn**	**15 11 00.3**	**-0.2**
KATZ	**Kakaramea**	**1.78**	**28**	P	**Pn**	**15 11 01.5**	**+0.8**
KWHZ	**Kaweka Forest**	**1.79**	**52**	P	**Pn**	**15 11 01.0**	**+0.2**
PXZ	**Pawanui**	**1.80**	**74**	P	**Pn**	**15 11 00.2**	**-0.6**
RITZ	**Rihia Road**	**1.84**	**32**	P	**Pb**	**15 11 03.1**	**-0.1**
KAHZ	**Kahuranaki**	**1.89**	**67**	P	**Pn**	**15 11 01.5**	**-0.7**
RATZ	**Rangitukua**	**1.90**	**28**	P	**Pn**	**15 11 03.4**	**+1.0**
MCHZ	**McNeill Hill**	**1.94**	**56**	P	**Pn**	**15 11 05.5**	**+0.5**
BKZ	**Black Stump Fm**	**2.04**	**47**	P	**Pn**	**15 11 03.9**	**+0.2**
BKZ	**Black Stump Fm**	**2.00**	**47**	P	**Pn**	**15 11 04.0**	**+0.3**
WATZ	**Wairara**	**2.03**	**26**	P	**Pb**	**15 11 05.7**	**-0.7**
KHZ	**Kahutara**	**2.03**	**203**	P	**Pn**	**15 11 04.5**	**+0.4**
HIZ	**Hauiti**	**2.04**	**5**	P	**Pn**	**15 11 04.2**	**+0.1**
HIZ	**Hauiti**	**2.04**	**5**	S	**Sn**	**15 11 30.8**	**+0.5**
HIZ	**Hauiti**	**2.04**	**5**	P	**Pn**	**15 11 04.3**	**+0.1**
MRHZ	**Matea Rd**	**2.21**	**40**	P	**Pn**	**15 11 06.9**	**+0.4**
NMHZ	**Naumai**	**2.23**	**50**	P	**Pn**	**15 11 06.9**	**+0.2**
KUTZ	**Kaahu Road**	**2.26**	**25**	P	**Pb**	**15 11 09.7**	**-0.6**
TLZ	**Tolley Road**	**2.33**	**18**	P	**Pn**	**15 11 09.8**	**+1.6**
ALRZ	**Allen Road**	**2.39**	**35**	P	**Pn**	**15 11 10.2**	**+1.1**
MTHZ	**Maungataniwha**	**2.41**	**46**	P	**Pn**	**15 11 09.2**	**-0.2**
DSZ	**Denniston Nort**	**2.44**	**240**	P	**Pn**	**15 11 11.2**	**+1.5**
PRRZ	**Plateau Road**	**2.47**	**34**	P	**Pn**	**15 11 10.9**	**+0.9**
RAHZ	**Arahi**	**2.51**	**50**	P	**Pn**	**15 11 10.2**	**-0.4**
GVZ	**Greta Valley S**	**2.69**	**206**	P	**Pn**	**15 11 12.6**	**-0.5**
LTZ	**Lake Taylor**	**2.84**	**217**	P	**Pn**	**15 11 15.4**	**+0.2**
TOZ	**Tahuroa Road**	**2.90**	**14**	P	**Pn**	**15 11 15.7**	**-0.2**
URZ	**Urewera**	**3.00**	**41**	P	**Pn**	**15 11 18.4**	**+1.1**
URZ	**Urewera**	**3.00**	**41**	P	**Pn**	**15 11 18.8**	**+1.5**
MWZ	**Matawai**	**3.16**	**47**	P	**Pn**	**15 11 18.3**	**-1.3**
INZ	**Inchbonnie**	**3.22**	**226**	P	**Pn**	**15 11 20.9**	**+0.5**
MKAZ	**Moumakai**	**3.47**	**7**	P	**Pn**	**15 11 23.9**	**+0.1**
AWAZ	**Awhitu Peninsu**	**3.48**	**0**	P	**Pn**	**15 11 24.3**	**+0.4**
RUGZ	**Raukumara Rang**	**3.51**	**44**	P	**Pn**	**15 11 24.2**	**-0.2**
ETAZ	**East Tamaki Re**	**3.60**	**4**	P	**Pn**	**15 11 25.8**	**+0.2**
WIAZ	**Waiheke Island**	**3.77**	**6**	P	**Pn**	**15 11 28.5**	**+0.6**
RVAZ	**Riverhead Bore**	**3.77**	**360**	P	**Pn**	**15 11 28.5**	**+0.5**
WCZ	**Waipu Caves**	**4.61**	**357**	P	**Pn**	**15 11 39.4**	**0.0**
TMZ	**Timaru**	**4.67**	**214**	P	**Pn**	**15 11 39.5**	**-0.8**
JCZ	**Jackson Bay**	**5.57**	**229**	P	**Pn**	**15 11 54.0**	**+1.1**

*IDC **17** 15:21:51.1±2.8,24.˚06S×179.˚31W, h222km±26km, mb3.5/4, mbtmp4.0/4, Error ellipse: s-maj=42.6km s-min=23.0km az=175.0*

ISC 17 15:21:48.0±1.4, **24.0S**±0.3×**179.3W**±0.2, **h200**km, **n7,** σ0.995/10, **mb3.8/4, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.30**	**248**	P	**P**	**15 28 24.7**	**+0.6**
	0.6nm,0.2s,baz=97,slow=7.9,SNR=2.9 0.6nm,0.2s						
ASAR	**Alice Springs**	**42.66**	**261**	P	**P**	**15 29 25.8**	**+0.5**
	1.3nm,0.5s,baz=103,slow=7.3,SNR=57						
ASAR				PcP	**PcP**	**15 31 11.9**	**-1.6**
	0.3nm,0.9s,baz=102,slow=3.8,SNR=1.8						
ASAR				S	**S**	**15 35 33.4**	**-0.1**
	0.4nm,0.4s,baz=95,slow=8.3,SNR=17 1.3nm,0.5s						
WRA	**Warramunga Arr**	**43.05**	**266**	P	**P**	**15 29 29.3**	**+0.9**
	2.1nm,0.4s,baz=101,slow=8.1,SNR=82						
WRA				S	**S**	**15 35 37.8**	**-1.3**
	0.2nm,0.3s,baz=99,slow=7.7,SNR=16 2.1nm,0.4s						
QSPA	**South Pole Qui**	**66.11**	**180**	P	**P**	**15 32 13.4**	**-0.1**
	0.8nm,1.0s,baz=19,slow=4.1,SNR=1.4 0.8nm,1.0s						
HFS	**Hagfors**	**142.75**	**349**	PKP	**PKPdf**	**15 40 57.5**	**+0.6**
	1.8nm,0.5s,baz=30,slow=3.5,SNR=7.5						
BRTR	**Keskin Array B**	**148.14**	**307**	PKPbc	**PKPbc**	**15 41 10.5**	**+0.1**
	0.2nm,0.4s,baz=58,slow=3.6,SNR=1.9						
MMAI	**Mount Meron Ar**	**148.33**	**294**	PKPbc	**PKiKP**	**15 41 12.3**	**-0.3**
	0.7nm,0.3s,baz=104,slow=6.1,SNR=2.1						

*DSN **17** 15:25:45.3±0.9,27.˚15N×56.˚07E, h15km, ML3.1/11, Error ellipse: s-maj=19.5km s-min=7.5km az=78.0*
*TEH **17** 15:25:45.7,26.˚88N×55.˚62E, h7km±34km*
*OMAN **17** 15:25:46.7±0.7,27.˚00N×55.˚66E, h11km±5km, ml3.2/20, Error ellipse: s-maj=4.3km s-min=3.1km az=30.0*

ISC 17 15:25:47.2±1.4, **26.96N**±0.03×**55.67E**±0.04, **h6**km±11km, **n58,** σ1.01/78, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENO	**Geno**	**0.63**	**45**	Pg	**Pb**	**15 25 59.6**	**-1.1**
IBND	**Bandar-abas**	**0.92**	**57**	Pg	**Pb**	**15 26 05.0**	**-0.5**
SHME	**Shamm**	**1.00**	**155**	P	**Pb**	**15 26 06.5**	**-0.3**
SHME				S	**Sn**	**15 26 21.9**	**-0.2**
SHME	**Shamm** SNR=13	**1.00**	**155**	*eP*	**Pg**	**15 26 06.0**	**-0.4**
SHME				S	**Sb**	**15 26 21.3**	**+1.1**
BANOM	**Banah**	**1.17**	**151**	P	**Pg**	**15 26 09.2**	**-0.6**
BANOM				S	**Sb**	**15 26 26.3**	**+0.9**
BANOM	**Banah** SNR=160	**1.17**	**151**	*eP*	**Pg**	**15 26 08.4**	**-1.3**
LAR1	**LAR**	**1.35**	**302**	Pg	**Pb**	**15 26 12.0**	**-1.0**
UMQ	**Umm Al-Quwin**	**1.43**	**180**	P	**Pg**	**15 26 14.0**	**-0.6**
UMQ				S	**Sg**	**15 26 35.3**	**+2.2**
UMQ	**Umm Al-Quwin**	**1.43**	**180**	P	**Pg**	**15 26 14.5**	**-0.1**
MASF	**Masafi** SNR=8.4	**1.64**	**164**	P	**Pn**	**15 26 16.6**	**0.0**
MASF				S	**Sn**	**15 26 38.5**	**+0.6**
MSFE	**Esma-Masafi** SNR=8.6	**1.65**	**164**	*eP*	**Pn**	**15 26 16.3**	**-0.4**
MDH	**Madha** SNR=9.7	**1.75**	**161**	P	**Pn**	**15 26 17.9**	**-0.1**
MDH				S	**Sb**	**15 26 42.2**	**+0.4**
MDH	**Madha** SNR=24	**1.75**	**161**	*eP*	**Pn**	**15 26 17.4**	**-0.6**
NAZ	**Nazwa, Dubai**	**1.96**	**180**	P	**Pn**	**15 26 20.1**	**-0.9**
NAZ	**Nazwa, Dubai**	**1.96**	**180**	P	**Pn**	**15 26 21.2**	**+0.2**
KHNJ	**Kahnooj**	**2.06**	**61**	Pn	**Pb**	**15 26 24.0**	**-1.0**
UOSS	**Minazif**	**2.06**	**166**	P	**Pn**	**15 26 22.2**	**-0.1**
UOSS				S	**Sn**	**15 26 48.4**	**+0.1**
UOSS	**Minazif**	**2.06**	**166**	Pn	**Pn**	**15 26 22.0**	**-0.4**
UOSS	**Minazif** SNR=12	**2.06**	**166**	*eP*	**Pn**	**15 26 21.1**	**-1.2**
HATD	**Hatta, Dubai**	**2.16**	**169**	P	**Pn**	**15 26 24.1**	**+0.3**
HATD				S	**Sn**	**15 26 49.8**	**-1.1**
HATD	**Hatta, Dubai** SNR=15	**2.16**	**169**	*eP*	**Pn**	**15 26 23.5**	**-0.3**
FAQ	**Al Faqa, Dubai**	**2.20**	**182**	P	**Pn**	**15 26 22.6**	**-1.7**
FAQ				S	**Sn**	**15 26 52.5**	**+0.7**
JASK	**Jask - Hormozg**	**2.25**	**118**	P	**Pn**	**15 26 24.8**	**-0.2**
JASK				S	**Sn**	**15 26 54.1**	**+1.1**
JASK	**Jask - Hormozg**	**2.25**	**118**	Pn	**Pn**	**15 26 24.7**	**-0.2**
ASHO	**Ashiyiah** SNR=33	**2.29**	**171**	P	**Pn**	**15 26 25.8**	**+0.3**
ASHO				S	**Sn**	**15 26 55.1**	**+1.0**
ASHO	**Ashiyiah** SNR=33	**2.29**	**171**	*eP*	**Pn**	**15 26 25.5**	**0.0**
ASUD	**Al Ashush, Dub**	**2.34**	**188**	P	**Pn**	**15 26 27.3**	**+1.1**
AJN	**Ajban**	**2.46**	**195**	P	**Pn**	**15 26 27.4**	**-0.5**
AJN				S	**Sn**	**15 26 56.4**	**-1.9**
ALNE	**Al Ain**	**2.89**	**179**	P	**Pn**	**15 26 33.6**	**-0.1**
ALNE				S	**Sn**	**15 27 08.8**	**0.0**
SOHO	**SOHO**	**2.92**	**164**	P	**Pn**	**15 26 33.0**	**-1.1**
SOHO				S	**Sn**	**15 27 09.9**	**+0.4**
SOHO	**SOHO**	**2.92**	**164**	P	**Pn**	**15 26 32.3**	**-1.8**
KRBR	**Kerman**	**3.16**	**17**	Pn	**Pn**	**15 26 39.8**	**+2.0**
KBAM	**BAM**	**3.28**	**48**	Pn	**Pn**	**15 26 41.1**	**+1.9**
CHMN	**Cheshme madani**	**3.33**	**29**	Pn	**Pn**	**15 26 42.2**	**+2.1**
KHGB	**Koh Gabri**	**3.48**	**12**	Pn	**Pn**	**15 26 43.5**	**+1.4**
MZWR	**Madinat Zayed**	**3.57**	**207**	P	**Pn**	**15 26 45.1**	**+2.0**
MZWR				S	**Sn**	**15 27 25.5**	**-0.1**
HOQ	**Hoqain**	**3.67**	**156**	P	**Pn**	**15 26 45.4**	**+0.8**
ARQ	**Araqi** SNR=9.0	**3.69**	**168**	P	**Pn**	**15 26 44.2**	**-0.6**
ARQ				S	**Sn**	**15 27 28.8**	**+0.3**
KRM1	**Kerman Provinc**	**3.80**	**21**	Pn	**Pn**	**15 26 48.4**	**+1.9**
UMZA	**Um Al Zommool**	**4.25**	**186**	P	**Pn**	**15 26 51.8**	**-0.6**
UMZA				S	**Sn**	**15 27 42.0**	**+0.4**
MZR	**Muzera**	**4.41**	**207**	P	**Pn**	**15 26 55.2**	**+0.5**
MZR				S	**Sn**	**15 27 46.8**	**+0.4**
SMDO	**Samad**	**4.44**	**150**	P	**Pn**	**15 26 54.7**	**-0.5**
SMDO				S	**Sn**	**15 27 47.9**	**+0.6**
IMEH	**Mehriz**	**4.51**	**348**	Pn	**Pn**	**15 26 57.5**	**+1.2**
WSAR	**Wadi Sarin**	**4.57**	**143**	P	**Pn**	**15 26 56.2**	**-0.7**
TRNA	**Turayna**	**4.58**	**242**	P	**Pn**	**15 26 56.8**	**-0.3**
TRNA				S	**Sn**	**15 27 50.3**	**-0.4**
IBAF	**Bafgh**	**4.62**	**359**	Pn	**Pn**	**15 26 59.3**	**+1.6**
JMDO	**Jabal Madar**	**5.08**	**154**	P	**Pn**	**15 27 04.8**	**+0.9**
ICHK	**Chekchek**	**5.38**	**349**	Pn	**Pn**	**15 27 09.8**	**+1.5**
KLNJ	**Kolanjah**	**5.39**	**319**	Pn	**Pn**	**15 27 08.8**	**+0.4**
IRAM	**Rameshеh**	**5.62**	**330**	Pn	**Pn**	**15 27 12.9**	**+1.4**
JLN	**Jalan Bani Buh**	**5.87**	**144**	P	**Pn**	**15 27 14.2**	**-0.6**
MHTO	**MHTO**	**6.30**	**160**	P	**Pn**	**15 27 20.0**	**-0.7**
ANAR	**Anarak**	**6.43**	**345**	Pn	**Pn**	**15 27 23.5**	**+0.9**
KRSH	**Karshahi**	**7.62**	**337**	Pn	**Pn**	**15 27 40.3**	**+1.3**
DOK	**Doka**	**8.42**	**190**	P	**Pn**	**15 27 48.9**	**-0.8**
WHFO	**Wadi Hawf**	**9.16**	**191**	P	**Pn**	**15 27 59.3**	**-0.7**
WHFO				P		15 27 59.4	
ABTO	**Aybut**	**9.81**	**193**	P	**Pn**	**15 28 07.9**	**-0.9**
AAK	**Ala-Archa**	**21.92**	**40**	P	**P**	**15 30 39.9**	**-1.5**

IDC 17 15:27:13.2±6.9, **5.57S**×**152.26E**, **h52**km±60km, **mb3.3/4, mbtmp3.7/5, ML1.7/1, Error ellipse: s-maj=75.9km s-min=33.7km az=124.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.33**	**233**	P	Pn	**15 28 45.6**	**+1.6**
	1.0nm,0.3s,baz=60,slow=6.1,SNR=5.0						
PMG				S	Sn	15 29 55.3	+0.3
	11nm,0.3s,baz=20,slow=16,SNR=8.0 14nm,0.7s						
WRA	**Warramunga Arr**	**22.53**	**229**	P	P	15 32 08.4	-0.5
	0.6nm,0.7s,baz=53,slow=9.6,SNR=8.0 0.6nm,0.7s						
ASAR	**Alice Springs**	**25.22**	**223**	P	P	15 32 34.4	0.0
	0.4nm,0.4s,baz=58,slow=9.2,SNR=17 0.4nm,0.4s						
MKAR	**Makanchi Array**	**80.55**	**319**	P	P	15 39 20.0	-0.1
	0.3nm,0.8s,baz=92,slow=7.3,SNR=2.0 0.3nm,0.8s						
ILAR	**Eielson Array**	**83.07**	**22**	P	P	15 39 33.1	+0.2
	1.1nm,0.6s,baz=246,slow=5.6,SNR=16 1.1nm,0.6s						

NNC 17 15:29:18.4±6.6, **37.82N**×**71.70E**, **h0**km, **mb3.8, mpv3.5, 3C-1D, Error ellipse: s-maj=50.7km s-min=40.3km az=170.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.27**	**23**	⇓P	Pn	15 30 38.4	-0.1
	0.7nm,0.5s						
AAK				⇑S	Sn	15 31 40.4	+0.4
	2.4nm,0.5s						
KK31	**Karatay Array**	**5.36**	**351**	P	Pn	15 30 41.3	+1.7
	11nm,0.4s,baz=163,slow=9.8,SNR=60						
KK31				S	Sn	15 31 44.0	+2.0
	2.7nm,0.2s,baz=158,slow=19,SNR=13						
AB31	**Akbulak array**	**14.24**	**327**	⇑P	Pn	15 32 37.5	-3.7
	0.4nm,0.3s,baz=134,slow=15,SNR=38						
AB31				⇑S	Sn	15 35 17.6	-2.2
	0.2nm,0.3s,baz=133,slow=24,SNR=5.8						

*CATAC **17** 15:43:25.0±0.6, 13.˚7N×88.˚9W±.˚, h28km±3km, M3.2/13, MLv3.2/13, Error ellipse: s-maj=8.4km s-min=4.1km az=15.0, confirmed*
*SNET **17** 15:43:26.0±0.6, 13.˚11N×88.˚87W, h64km±23km, ML3.1*

ISC 17 15:43:24.6±2.2, **12.9N**±0.1×**88.97W**±0.05, **h55**km, **n42,** σ0.37/46, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TECO	**Alcaldia de Te**	**0.63**	**17**	*eP*	**Pn**	**15 43 37.5**	**-0.3**
TECO				*eS*	**Sn**	**15 43 46.6**	**-0.7**
TECO	**Alcaldia de Te**	**0.63**	**17**	P	**Pn**	**15 43 37.3**	**-0.5**
LALI	**Alcalda de L**	**0.65**	**328**	P	**Pn**	**15 43 37.6**	**-0.4**
LALI	**Alcalda de L**	**0.65**	**328**	S	**Sn**	**15 43 47.3**	**-0.4**
LFRS	**El Faro**	**0.69**	**353**	*eP*	**Pn**	**15 43 38.7**	**0.0**
LFRS				*eS*	**Sn**	**15 43 48.8**	**-0.1**
PANCS	**Alcalda de**	**0.71**	**343**	S	**Sn**	**15 43 48.1**	**-1.0**
UESV	**Universidad de**	**0.72**	**14**	P	**Pn**	**15 43 38.7**	**-0.2**
UESV	**Universidad de**	**0.72**	**14**	S	**Sn**	**15 43 49.4**	**0.0**
LOMA	**Loma Larga**	**0.74**	**345**	*eP*	**Pn**	**15 43 39.4**	**+0.1**
LOMA	**Loma Larga**	**0.74**	**345**	P	**Pn**	**15 43 39.1**	**-0.1**
LOMA	**Loma Larga**	**0.74**	**345**	S	**Sn**	**15 43 49.6**	**-0.2**
PAVA	**Las Pavas**	**0.78**	**2**	*eP*	**Pn**	**15 43 39.8**	**0.0**
PAVA	**Las Pavas**	**0.78**	**2**	P	**Pn**	**15 43 39.7**	**0.0**
PAVA	**Las Pavas**	**0.78**	**2**	S	**Sn**	**15 43 50.8**	**0.0**
PQSS	**Presa 15 de Se**	**0.80**	**30**	S	**Sn**	**15 43 51.1**	**+0.2**
PQSS	**Presa 15 de Se**	**0.80**	**30**	P	**Pn**	**15 43 40.3**	**+0.4**
SCLA	**Alcaldia de Sa**	**0.80**	**17**	*eP*	**Pn**	**15 43 40.2**	**+0.3**
SCLA				*eS*	**Sn**	**15 43 51.6**	**+0.4**
SCLA	**Alcaldia de Sa**	**0.80**	**17**	P	**Pn**	**15 43 40.3**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.80**	**17**	S	**Sn**	**15 43 51.0**	**-0.2**
LBRS	**Las Brisas**	**0.81**	**355**	*eP*	**Pn**	**15 43 40.4**	**+0.4**
LFU	**La Fuente**	**0.83**	**350**	*eP*	**Pn**	**15 43 40.4**	**+0.1**
PACA	**Pacayal**	**0.83**	**50**	*eP*	**Pn**	**15 43 40.5**	**+0.1**
PACA				*eS*	**Sn**	**15 43 52.1**	**+0.3**
PACA	**Pacayal**	**0.83**	**50**	P	**Pn**	**15 43 40.3**	**-0.1**
PMON	**Piamonte**	**0.85**	**337**	P	**Pn**	**15 43 40.3**	**-0.3**
PMON	**Piamonte**	**0.85**	**337**	S	**Sn**	**15 43 51.7**	**-0.6**
JAYA	**Jay

HLID	**Hailey**	**80.60**	**39**		**P**		**16 03 27.2**	**+1.2**
HLID				IAmb	IAmb		16 03 27.9	
	comp=Z,6.5nm,1.4s							
NJ2	**Nanjing**	**80.75**	**307**	*e*P	**P**		**16 03 26.6**	**-0.3**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
VHRN	**Van Horn**	**80.94**	**54**		**P**		**16 03 29.6**	**+1.5**
VHRN				IAmb	IAmb		16 03 30.4	
	comp=Z,5.5nm,0.8s							
TXAR	**Lajitas Array**	**81.36**	**56**	P	**P**		**16 03 31.9**	**+1.6**
	comp=Z,1.2nm,0.9s,baz=224,slow=7.0,SNR=11							
	comp=Z,1.2nm,0.9s							
PV13	**Radium Mtn., P**	**81.45**	**46**	IAmb	IAmb		16 03 39.4	
	comp=Z,5.5nm,0.9s							
ALPN	**Alpine**	**81.81**	**55**	IAmb	IAmb		16 03 34.9	
	comp=Z,3.7nm,0.8s							
J20K	**Nowinta River**	**81.86**	**8**	IAmb	IAmb		16 03 33.6	
	comp=Z,8.9nm,1.1s							
MCK	**McKinley**	**82.27**	**11**		**P**		**16 03 34.5**	**+0.3**
MCK				IAmb	IAmb		16 03 35.2	
	comp=Z,11nm,1.1s							
WRH	**Wood River Hil**	**83.10**	**11**	IAmb	IAmb		16 03 39.5	
	comp=Z,9.5nm,1.2s							
PD31	**Pinedale Array**	**83.21**	**42**	IAmb	IAmb		16 03 41.1	
	comp=Z,3.8nm,0.8s							
PDAR	**Pinedale Array**	**83.21**	**42**	P	**P**		**16 03 40.2**	**+0.4**
	comp=Z,3.6nm,0.7s,baz=219,slow=3.5,SNR=12							
	comp=Z,3.6nm,0.7s							
YHL	**Hebgen Lake**	**83.25**	**39**		**P**		**16 03 41.2**	**+1.1**
ILAR	**Eielson Array**	**83.60**	**11**	P	**P**		**16 03 40.6**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=228,slow=6.0,SNR=8.2							
	comp=Z,0.9nm,0.8s							
J26L	**Joseph Creek**	**84.01**	**13**	IAmb	IAmb		16 03 44.8	
	comp=Z,7.3nm,1.4s							
XAN	**Xi'an**	**89.19**	**306**	P	**P**		**16 04 09.3**	**+0.1**
XAN				pmax	pmax			
	comp=Z,4.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**89.71**	**313**	*e*P	**P**		**16 04 12.1**	**+0.5**
TROLL	**Troll, Antarti**	**91.62**	**179**	⇑P	**P**		**16 04 19.4**	**-0.5**
	comp=Z,49nm,0.9s							
SNAA	**Sanae**	**91.77**	**177**	⇓P	**P**		**16 04 18.7**	**-1.9**
	comp=Z,22nm,1.0s							
VNA2	**Neumayer--Watz**	**92.22**	**175**	⇑P	**P**		**16 04 22.7**	**0.0**
	comp=Z,1.1nm,0.7s,baz=255,slow=2.8							
VNA1	**Neumayer--Stat**	**92.42**	**175**	⇑P	**P**		**16 04 23.5**	**0.0**
	comp=Z,3.1nm,1.0s							
PZH	**PanZhiHua**	**92.67**	**297**	P	**P**		**16 04 25.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**92.85**	**288**	P	**P**		**16 04 26.4**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=102,slow=6.7,SNR=4.0							
	comp=Z,0.3nm,0.3s							
WMQ	**Urumqi**	**107.53**	**311**	Pdif	**Pdif**		**16 05 31.3**	**-0.6**
WMQ				LR	LR			
	comp=N,550nm,24.1s							
WMQ				LR	LR			
	comp=E,250nm,24.3s							
WMQ				LR	LR			
	comp=Z,210nm,22.7s							
AKASG	**Malin Array Be**	**141.34**	**337**	PKP	**PKPdf**		**16 10 43.9**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=45,slow=0.7,SNR=1.6							
BRTR	**Keskin Array B**	**146.95**	**320**	PKPbc	**PKPbc**		**16 10 55.4**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=72,slow=4.7,SNR=6.7							
GERES	**GERESS Array B**	**147.25**	**351**	PKPbc	**PKPdf**		**16 10 54.9**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=24,slow=3.5,SNR=1.5							

IDC ***17*** *15:51:26.8±0.9, 0˚.61N×30˚.31E, h0km, mb3.7/8, mbtmp3.8/10, ML4.1/2, MS3.3/3, Error ellipse: s-maj=21.5km s-min=17.8km az=60.0*

ISC 17 15:51:28.2±0.8, 0.6N±0.1×30.3E±0.1, h10km, n13, σ0$50/10, mb3.7/6, MS3.2/3, Uganda

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**7.20**	**104**	Pn	**Pn**	**15 53 13.0**	**-0.8**
	0.9nm,0.3s,baz=275,slow=14,SNR=13						
KMBO				Sn	**Sn**	**15 54 36.0**	**+0.2**
	2.0nm,0.3s,baz=259,slow=16,SNR=3.1						
KMBO				Lg	Lg	15 55 10.7	
	4.3nm,0.3s,baz=209,slow=20,SNR=10						
	5.8nm,0.6s						
LSZ	**Lusaka**	**15.91**	**187**	Pn	**Pn**	**15 55 12.6**	**+0.1**
	0.5nm,0.3s,baz=84,slow=7.7,SNR=1.5						
LSZ				Lg	Lg	15 59 49.9	
	0.5nm,0.3s,baz=295,slow=18,SNR=5.8						
	1.3nm,0.3s						
MATP	**Matopo**	**20.97**	**185**	P	Pn	15 56 13.1	-1.2
	2.7nm,0.8s,baz=5.3,slow=12,SNR=6.6						
	2.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**30.93**	**295**	P	**P**	**15 57 44.8**	**-0.7**
	0.9nm,0.8s,baz=95,slow=7.7,SNR=6.4						
	0.9nm,0.8s						
MMAI	**Mount Meron Ar**	**32.60**	**8**	LR	LR	16 10 08.2	
	comp=Z,42nm,19.4s,baz=154,slow=34						
DBIC	**Dimbokro**	**35.55**	**281**	LR	LR	16 12 16.2	
	comp=Z,36nm,18.2s,baz=182,slow=35						
BRTR	**Keskin Array B**	**39.06**	**4**	P	**P**	**15 58 55.9**	**+0.3**
	0.3nm,0.5s,baz=180,slow=8.6,SNR=6.1						
	0.3nm,0.5s						
GNI	**Garni**	**41.51**	**17**	LR	LR	16 17 10.2	
	comp=Z,49nm,19.1s,baz=338,slow=37						
ESDC	**Sonseca Array**	**49.86**	**325**	P	**P**	**16 00 21.6**	**-0.1**
	1.1nm,0.9s,baz=132,slow=6.7,SNR=7.5						
	1.1nm,0.9s						
FINES	**FINESS Array B**	**60.77**	**358**	P	**P**	**16 01 40.1**	**+0.2**
	0.9nm,0.7s,baz=179,slow=5.6,SNR=1.2						
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**64.41**	**32**	P	**P**	**16 02 04.6**	**+0.1**
	0.4nm,0.8s,baz=236,slow=7.3,SNR=2.8						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**64.52**	**37**	P	**P**	**16 02 05.7**	**+0.4**
	0.3nm,0.7s,baz=243,slow=8.0,SNR=4.0						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**90.63**	**180**	P	**P**	**16 04 31.3**	**+0.6**
	1.3nm,0.7s,baz=243,slow=1.1,SNR=8.5						
	1.3nm,0.7s						

WEL 17 15:54:60.0±0.9, 33˚S±5˚×17˚9E±1˚0, h12km, mB4.8/6, ML4.3/22, MLv4.2/15, Mw(mB)4.0/6, Error ellipse: s-maj=13.1km s-min=5.8km az=83.0, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.41**	**188**	P	Pn	15 56 09.7	+3.0
MXZ				S	Sn	15 56 58.1	+0.1
KUZ	**Kuaotunu**	**4.48**	**217**	P	Pn	15 56 11.3	+3.6
WMGZ	**Waiomatatini S**	**4.66**	**186**	P	Pn	15 56 10.0	-0.1
WMGZ				S	Sn	15 57 04.6	+0.5
HAZ	**Te Kaha**	**4.68**	**192**	P	Pn	15 56 11.9	+1.5
HAZ				S	Sn	15 57 09.3	+4.7
PKGZ	**Pakihiroa**	**4.74**	**189**	P	Pn	15 56 11.8	+0.5
PKGZ				S	Sn	15 57 08.5	+2.7
WCZ	**Waipu Caves**	**4.75**	**233**	P	Pn	15 56 09.7	-1.7
WIAZ	**Waiheke Island**	**4.83**	**221**	P	Pn	15 56 13.9	+1.5
RUGZ	**Raukumara Rang**	**4.90**	**193**	P	Pn	15 56 14.7	+1.2
RUGZ				S	Sn	15 57 13.9	+3.6
PUZ	**Puketiti**	**4.92**	**187**	P	Pn	15 56 12.3	-1.5
PUZ				S	Sn	15 57 10.4	-0.2
MBAZ	**Motutapu North**	**4.94**	**222**	P	Pn	15 56 14.8	+0.9
OUZ	**Omahuta**	**4.95**	**244**	P	Pn	15 56 09.5	-4.6
MKAZ	**Moumakai**	**5.04**	**218**	P	Pn	15 56 16.5	+1.2
ETAZ	**East Tamaki Re**	**5.05**	**221**	P	Pn	15 56 16.7	+1.2
TWGZ	**Tauwhareparae**	**5.06**	**190**	P	Pn	15 56 17.8	+2.2
TWGZ				S	Sn	15 57 15.8	+1.8
WTAZ	**Waiatarua**	**5.24**	**223**	P	Pn	15 56 17.8	-0.3
MWZ	**Matawai**	**5.29**	**193**	P	Pn	15 56 17.6	-1.2
MWZ				S	Sn	15 57 21.0	+1.4
AWAZ	**Awhitu Peninsu**	**5.29**	**222**	P	Pn	15 56 18.9	+0.1
URZ	**Urewera**	**5.30**	**197**	P	Pn	15 56 19.6	+0.6
URZ	**Urewera**	**5.30**	**197**	P	Pn	15 56 19.3	+0.3
URZ				S	Sn	15 57 22.7	+2.7
CNGZ	**Carnagh Statio**	**5.33**	**187**	P	Pn	15 56 22.2	+2.8
TKGZ	**Te Karaka**	**5.34**	**190**	P	Pn	15 56 17.1	-2.3
TKGZ				S	Sn	15 57 22.2	+1.4
RAGZ	**Rawiri**	**5.46**	**194**	P	Pn	15 56 21.1	-0.1
RIGZ	**Rimuhau**	**5.61**	**190**	P	Pn	15 56 22.6	-0.6
RIGZ				S	Sn	15 57 26.7	-0.9
RTZ	**Ruatahuna**	**5.67**	**197**	P	Pn	15 56 24.6	+0.4
RTZ				S	Sn	15 57 29.1	-0.2
RTZ	**Ruatahuna**	**5.67**	**197**		Pn	15 56 24.8	+0.6
SNGZ	**Shannon Statio**	**5.76**	**193**	P	Pn	15 56 24.2	-1.1
SNGZ				S	Sn	15 57 32.2	+1.0
PRGZ	**Paritu Road**	**5.81**	**189**	P	Pn	15 56 27.8	+1.9
PRGZ				S	Sn	15 57 29.3	-3.2
MTHZ	**Maungataniwha**	**5.93**	**197**	P	Pn	15 56 25.9	-1.8
MTHZ				S	Sn	15 57 36.6	+1.0
RAHZ	**Arahi**	**5.94**	**195**	P	Pn	15 56 25.1	-2.6
RAHZ				S	Sn	15 57 37.1	+1.4
MHGZ	**Mahia Peninsul**	**6.03**	**188**	P	Pn	15 56 26.3	-2.7
MHGZ				S	Sn	15 57 32.8	-5.1
NMHZ	**Naumai**	**6.17**	**196**	P	Pn	15 56 29.7	-1.3
NMHZ				S	Sn	15 57 43.6	+2.1
ARHZ	**Aropaoanui**	**6.29**	**195**	P	Pn	15 56 30.7	-1.8
ARHZ				S	Sn	15 57 46.0	+1.6
HIZ	**Hauiti**	**6.31**	**211**	P	Pn	15 56 29.6	-3.3
BKZ	**Black Stump Fm**	**6.32**	**198**	P	Pn	15 56 28.4	-4.6
BKZ				S	Sn	15 57 45.8	+0.7
MCHZ	**McNeill Hill**	**6.53**	**196**	P	Pn	15 56 32.3	-3.5
MCHZ				S	Sn	15 57 51.1	+0.9
SNVZ	**South Ngauruho**	**6.59**	**204**	P	Pn	15 56 31.5	-5.4
TUVZ	**Tukino**	**6.66**	**203**	P	Pn	15 56 30.8	-6.9
WHVZ	**Whangaehu Hut**	**6.70**	**204**	P	Pn	15 56 32.7	-5.7
WNVZ	**Wahianoa**	**6.73**	**203**	P	Pn	15 56 31.3	-7.5
MOVZ	**Moawhango**	**6.76**	**202**	P	Pn	15 56 34.2	-4.8
KRHZ	**Kereru**	**6.80**	**198**	P	Pn	15 56 33.4	-6.1
KRHZ				S	Sn	15 57 55.6	-1.3
KAHZ	**Kahuranaki**	**6.83**	**194**	P	Pn	15 56 31.4	-8.5
KAHZ				S	Sn	15 57 56.7	-0.9
PNHZ	**Pukenui**	**7.10**	**198**	P	Pn	15 56 38.1	-5.5
PNHZ				S	Sn	15 58 01.3	-3.0

WEL 17 15:57:26.0±1.0, 33˚S±6˚×17˚8E±2˚1, h12km, mB4.7/6, ML4.2/16, MLv4.0/8, Mw(mB)4.0/6, Error ellipse: s-maj=27.8km s-min=7.4km az=91.4, confirmed, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.35**	**176**	P	Pn	15 58 32.5	+0.7
MXZ				S	Sn	15 59 24.9	+2.4
MKAZ	**Moumakai**	**4.51**	**210**	P	Pb	15 58 42.8	-2.3
HAZ	**Te Kaha**	**4.54**	**182**	P	Pn	15 58 35.9	+1.4
HAZ				S	Sn	15 59 30.8	+3.7
WMGZ	**Waiomatatini S**	**4.61**	**176**	P	Pn	15 58 35.1	-0.3
WMGZ				S	Sn	15 59 30.4	+1.4
PKGZ	**Pakihiroa**	**4.64**	**179**	P	Pn	15 58 37.3	+1.4
PKGZ				S	Sn	15 59 31.0	+1.2
RUGZ	**Raukumara Rang**	**4.75**	**183**	P	Pn	15 58 38.1	+0.6
RUGZ				S	Sn	15 59 33.3	+0.8
PUZ	**Puketiti**	**4.85**	**177**	P	Pn	15 58 38.3	-0.6
PUZ				S	Sn	15 59 35.4	+0.4
TWGZ	**Tauwhareparae**	**4.95**	**180**	P	Pn	15 58 40.0	-0.2
TWGZ				S	Sn	15 59 38.3	+0.8
URZ	**Urewera**	**5.08**	**188**	P	Pn	15 58 42.8	+0.8
URZ				S	Sn	15 59 43.1	+2.5
MWZ	**Matawai**	**5.12**	**184**	P	Pn	15 58 42.9	+0.3
MWZ				S	Sn	15 59 42.0	+0.4
TKGZ	**Te Karaka**	**5.22**	**181**	P	Pn	15 58 42.9	-0.9
TKGZ				S	Sn	15 59 42.6	-1.2
CNGZ	**Carnagh Statio**	**5.26**	**178**	P	Pn	15 58 43.8	-0.7
RAGZ	**Rawiri**	**5.29**	**185**	P	Pn	15 58 45.3	+0.3
MUGZ	**Murupara**	**5.34**	**190**	P	Pn	15 58 47.0	+1.5
RTZ	**Ruatahuna**	**5.45**	**188**	P	Pn	15 58 47.1	0.0
RTZ				S	Sn	15 59 52.1	+2.3
RIGZ	**Rimuhau**	**5.48**	**182**	P	Pn	15 58 45.1	-2.5
RIGZ				S	Sn	15 59 50.0	-0.6
KUTZ	**Kaahu Road**	**5.54**	**198**	P	Pn	15 58 52.7	+4.4
SNGZ	**Shannon Statio**	**5.58**	**185**	P	Pn	15 58 47.8	-1.0
SNGZ				S	Sn	15 59 53.6	+0.7
PRGZ	**Paritu Road**	**5.70**	**181**	P	Pn	15 58 49.4	-1.1
MTHZ	**Maungataniwha**	**5.70**	**189**	P	Pn	15 58 50.0	-0.5
MTHZ				S	Sn	15 59 55.2	-0.7
RAHZ	**Arahi**	**5.74**	**187**	P	Pn	15 58 50.1	-0.9
RAHZ				S	Sn	15 59 56.2	-0.6
MRHZ	**Matea Rd**	**5.75**	**192**	P	Pn	15 58 51.6	+0.4
HIZ	**Hauiti**	**5.86**	**205**	P	Pn	15 58 58.7	+6.1
MHGZ	**Mahia Peninsul**	**5.93**	**180**	P	Pn	15 58 49.9	-3.6
NMHZ	**Naumai**	**5.95**	**189**	P	Pn	15 58 53.0	-0.9
NMHZ				S	Sn	16 00 02.4	+0.4
BKZ	**Black Stump Fm**	**6.06**	**191**	P	Pn	15 58 54.3	-1.2
BKZ				S	Sn	16 00 04.3	-0.4
ARHZ	**Aropaoanui**	**6.09**	**187**	P	Pn	15 58 54.3	-1.5
ARHZ				S	Sn	16 00 04.0	-1.4
OTVZ	**Oturere**	**6.22**	**197**	P	Pn	15 58 58.7	+0.9
SNVZ	**South Ngauruho**	**6.25**	**197**	P	Pn	15 58 59.0	+0.8
TUVZ	**Tukino**	**6.32**	**197**	P	Pn	15 58 59.2	+0.1
WHVZ	**Whangaehu Hut**	**6.35**	**197**	P	Pn	15 58 59.8	+0.1
WNVZ	**Wahianoa**	**6.39**	**197**	P	Pn	15 59 00.0	-0.1
PKVZ	**Pokaka**	**6.42**	**198**	P	Pn	15 59 01.2	+0.8
MOVZ	**Moawhango**	**6.43**	**195**	P	Pn	15 58 59.6	-1.0
KRHZ	**Kereru**	**6.54**	**191**	P	Pn	15 58 59.8	-2.3
KAHZ	**Kahuranaki**	**6.63**	**187**	P	Pn	15 58 59.2	-4.0
PNHZ	**Pukenui**	**6.84**	**191**	P	Pn	15 59 02.8	-3.3

ROM 17 16:02:18.0±0.2, 44˚37N±0˚02×7˚43E±0˚03, h9km±2km, ML1.0/16, 2C-1D, Error ellipse: s-maj=2.8km s-min=0.5km az=232.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENR	**Entracque**	**0.14**	**183**	P	Pg	16 02 21.8	+0.5
ENR				S	Sg	16 02 23.8	+0.3
ENR				AML	AML		
	comp=E,1275μm,0.1s						
ENR				AML	AML		
	comp=N,470μm,0.2s						
ENR				AML	AML		
	comp=E,232μm,0.1s						
ENR				AML	AML		
	comp=N,89μm,0.2s						
PZZ	**Stroppo**	**0.26**	**301**	⇓P	Pb	16 02 24.4	-0.6
PZZ				S	Sb	16 02 28.5	-1.2
PZZ				AML	AML		
	comp=E,182μm,1.1s						
PZZ				AML	AML		
	comp=N,256μm,0.3s						
PZZ				AML	AML		
	comp=E,29μm,0.2s						
PZZ				AML	AML		
	comp=N,29μm,0.5s						
GBOS	**Grotte di Boss**	**0.32**	**114**	P	Pb	16 02 25.5	-0.5
GBOS				S	Sb	16 02 30.0	-1.3
GBOS				AML	AML		
	comp=E,87μm,0.1s						
GBOS				AML	AML		
	comp=N,276μm,0.5s						
GBOS				AML	AML		
	comp=E,14μm,0.1s						
GBOS				AML	AML		
	comp=N,45μm,0.7s						
BHB	**Bricherasio**	**0.48**	**346**	⇑P	Pg	16 02 28.0	+0.5
BHB				S	Sg	16 02 34.4	+0.6
BHB				AML	AML		
	comp=E,51μm,0.3s						
BHB				AML	AML		
	comp=N,48μm,0.1s						
BHB				AML	AML		
	comp=E,12μm,0.5s						
BHB				AML	AML		
	comp=N,19μm,0.8s						
RORO	**Rocca Rossa**	**0.53**	**119**	⇑P	Pb	16 02 29.0	-0.3
RORO				S	Sb	16 02 36.3	-0.8
RORO				AML	AML		
	comp=E,76μm,1.0s						
RORO				AML	AML		
	comp=N,11μm,0.6s						
IMI	**Imperia**	**0.57**	**144**	P	Pg	16 02 29.5	+0.5
IMI				S	Sb	16 02 37.5	-0.9
IMI				AML	AML		
	comp=E,115μm,0.1s						
IMI				AML	AML		
	comp=N,130μm,0.9s						
IMI				AML	AML		
	comp=E,115μm,0.1s						
CANO	**Canova, Maglio**	**0.60**	**106**	P	Pb	16 02 30.6	-0.1
CANO				AML	AML		
	comp=N,50μm,0.3s						
CANO				AML	AML		
	comp=E,63μm,1.4s						
RRL	**Rocca Remolon**	**0.71**	**320**	P	Pb	16 02 32.7	-0.1
RSP	**Reno Superiore**	**0.79**	**351**	P	Pg	16 02 32.4	-0.7
RSP				AML	AML		
	comp=E,7μm,3.4s						
RSP				AML	AML		
	comp=N,9μm,2.0s						
RSP				AML	AML		
	comp=E,20μm,1.1s						
RSP				AML	AML		
	comp=N,42μm,3.0s						

IDC ***17*** *16:03:19.4±0.5, 3˚.26S×146˚.96E, h0km, mb4.6/20, mbtmp4.7/24, ML3.9/4, MS4.4/47, Error ellipse: s-maj=17.3km s-min=9.9km az=91.0*

BJI ***17*** *16:03:19.5, 3˚.22S×147˚.22E, h18km, mB5.4/26, mb4.9/67, Ms5.0/63, Ms7 4.8/61*

MOS ***17*** *16:03:19.3±0.8, 3˚.25S×146˚.92E, h10km, mb5.2/29, MS4.5/4, Error ellipse: s-maj=9.9km s-min=5.9km az=108.8*

NEIC ***17*** *16:03:20.8±1.7, 3˚.18S±0˚.03×147˚.02E±0˚.07, h10km±1km, mb5.2/149, Mww5.2/23, Error ellipse: s-maj=11.6km s-min=4.8km az=104.0*

NEIC ***17*** *16:03:21, 3˚.17S×147˚.02E, h12km*

NEIC ***17*** *16:03:21, 3˚.07S×147˚.12E, h12km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^16 Nm; Mrr-1.35; Mθθ 2.21; Mφφ -0.86; Mrθ 0.91; Mrφ 8.13; Mθφ 1.04; Fault plane solution: Mo 8.47000×10^16 NP1: φ 95.62000°, δ 83.29000°, λ 3.79000°. NP2: φ 5.17000°, δ 86.23000°, λ 173.28000°. Principal axes: T 9.1250, Plg 7.0000°, Azm 320.0000°; N -1.5217, Plg 82.0000°, Azm 156.0000°; P -7.6033, Plg 2.0000°, Azm 51.0000°;*

DJA ***17*** *16:03:23.9±0.5, 3˚S±2˚×14˚7E±˚, h19km±3km, M5.1/77, mb5.2/77, mB5.5/36, MLv5.4/4, Mw(mB)5.0/36, MwMwp4.9/6, Mwp5.2/6*

GCMT ***17*** *16:03:24.8±0.1, 3˚.26S±0˚.01×146˚.96E±0˚.01, h13km, MW5.2/144, Moment Tensor Solution. s103,c163; s144,c269; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr-1.35±.13; Mθθ 3.04±.13; Mφφ -1.69±.14; Mrθ 0.12±.27; Mrφ 9.03±.12; Mθr-0.01±.27; Best double couple: Mo 9.33500×10^16 NP1: φ 7.00000°, δ 89.00000°, λ -180.00000°. NP2: φ 277.00000°, δ 90.00000°, λ -1.00000°. Principal axes: T 10.0100, Plg 0.0000°, Azm 322.0000°; N -1.3500, Plg 89.0000°, Azm 88.0000°; P -8.6600, Plg 1.0000°, Azm 232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 16:03:22.4±0.6, 3˚.28S±0˚.03×147˚.00E±0˚.04, h17km±3km, h18km: pP-P, n425, σ1$88/361, mb5.1/162, MS4.6/73, 11C-5D, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**1.28**	**17**		**Pn**	**16 03 42.7**	**-2.8**
RABL	**Rabaul**	**5.24**	**100**		**Pn**	**16 04 38.1**	**-1.9**
PMG	**Port Moresby**	**6.09**	**178**		**Pn**	**16 04 50.7**	**-1.0**
PMG	**Port Moresby**	**6.09**	**178**	Pn	**Pn**	**16 04 52.0**	**+0.3**
	24nm,0.3s,baz=34,slow=5.3,SNR=97						
PMG				Sn	**Sn**	**16 06 02.9**	**+1.8**
	baz=146,slow=16						
	297nm,0.7s						
PMG	**Port Moresby**	**6.09**	**178**	P	**Pn**	**16 04 52.2**	**+0.5**
JAY	**Jayapura**	**6.33**	**277**	Pn	**Pn**	**16 04 53.5**	**-1.5**
	2.2nm,0.3s,baz=105,slow=3.5,SNR=13						
JAY				Sn	**Sn**	**16 06 05.2**	**-1.7**
	baz=54,slow=20						
JAY				LR	LR	16 06 33.6	
	comp=Z,1μm,19.9s,baz=60,slow=31						
	132nm,1.0s						
JAY	**Jayapura**	**6.33**	**277**	P	**Pn**	**16 04 56.2**	**+1.2**
	0.5nm140nm,1.0s						
GENI	**Genyem**	**6.85**	**276**	P	**Pn**	**16 05 04.5**	**+2.3**
GENI	**Genyem**	**6.85**	**276**	P	**Pn**	**16 05 03.9**	**+1.7**
	1.4nm3μm394nm,1.2s						
SMPI	**Sarmi**	**8.38**	**279**	P	**Pn**	**16 05 25.6**	**+2.5**
	3μm3μm328nm,1.2s						
SRPI	**Serui, Papua**	**10.84**	**277**	P	**Pn**	**16 05 59.1**	**+2.3**
	2μm36nm,0.9s						
BAKI	**Biak**	**11.08**	**281**	P	**Pn**	**16 06 01.7**	**+1.6**
	2μm127nm,1.0s						
COEN	**Coen**	**11.26**	**199**	P	**Pn**	**16 06 02.2**	**-0.5**
	comp=Z,112nm,0.8s						
COEN	**Coen**	**11.26**	**199**		**Pn**	**16 06 02.8**	**+0.1**
COEN	**Coen**	**11.26**	**199**	P	**Pn**	**16 06 03.9**	**+1.2**
RKPI	**Ransiki, Papua**	**12.93**	**278**	P	**Pn**	**16 06 25.1**	**-0.4**
	comp=Z,1μmcomp=Z,100nm,1.4s						
TATA	**Tatamba Isabel**	**13.71**	**112**	P	**P**	**16 06 44.6**	**-0.2**
SAVO	**Savo Central**	**14.01**	**115**	P	**P**	**16 06 47.2**	**-0.9**
HNR	**Honiara**	**14.24**	**116**		**Pn**	**16 06 40.5**	**-2.9**
HNR	**Honiara**	**14.24**	**116**	Pn	**Pn**	**16 06 44.4**	**+0.9**
	comp=Z,2.9nm,0.3s,baz=213,slow=6.2,SNR=3.9						
HNR				LR	LR	16 12 15.8	
	comp=Z,2μm,19.5s,baz=284,slow=38						
	comp=Z,52nm,0.9s						
HNR	**Honiara**	**14.24**	**116**	P	**P**	**16 06 51.0**	**+0.3**
ALEG	**Aligegeo Malai**	**14.67**	**112**	P	**P**	**16 06 55.7**	**+0.3**
FAKI	**Fak Fak**	**14.73**	**271**		**Pn**	**16 06 47.3**	**-2.9**
FAKI	**Fak Fak**	**14.73**	**271**	P	**Pn**	**16 06 51.9**	**+1.8**
FAKI	**Fak Fak**	**14.73**	**271**	P	**Pn**	**16 06 49.8**	**-0.3**
	comp=Z,1μmcomp=Z,123nm,1.6s						
MTSU	**Mount Surprise**	**15.00**	**190**	P	**Pn**	**16 06 53.7**	**-0.1**
	comp=Z,76nm,0.9s						
MTSU	**Mount Surprise**	**15.00**	**190**	P	**Pn**	**16 06 55.3**	**+1.6**
PATS	**Pohnpei**	**15.12**	**48**	P	**Pn**	**16 06 55.4**	**+0.1**
PATS	**Pohnpei**	**15.12**	**48**	P	**Pn**	**16 07 03.1**	**+2.7**
NGOA	**Tingoa Renbel**	**15.34**	**123**	P	**Pn**	**16 07 00.1**	**+1.9**
TV1H	**Townsville Har**	**15.89**	**181**	P	**P**	**16 07 07.3**	**-1.6**
SWI	**Sorong**	**15.91**	**278**	P	**Pn**	**16 07 06.8**	**+1.2**
	comp=Z,2μmcomp=Z,183nm,1.1s						
HURO	**Huro Makira**	**16.42**	**117**	P

KNRA **Kununurra** 21.77 234 P **P** 16 08 13.3 -0.2
comp=Z,284nm,1.1s
KNRA **Kununurra** 21.77 234 P **P** 16 08 11.6 -1.9
EIDS **Eidsvold** 22.31 170 P **P** 16 08 18.1 -1.1
comp=Z,132nm,1.1s
EIDS **Eidsvold** 22.31 170 P **P** 16 08 18.7 -0.5
EIDS IAmb IAmb 16 08 26.9
comp=Z,82nm,0.8s
EIDS **Eidsvold** 22.31 170 P **P** 16 08 20.6 +1.4
SANVU **Saraoutou** 23.29 123 P **P** 16 08 28.0 -1.4
SANVU **Saraoutou** 23.29 123 P **P** 16 08 31.6 +2.1
KMSI **Cibinong** 23.32 279 P **P** 16 08 31.3 +1.4
QLP **Quilpie** 23.32 186 P **P** 16 08 29.9 +0.2
comp=Z,225nm,1.0s
QLP **Quilpie** 23.32 186 P **P** 16 08 33.2 +3.4
SOEI **Soe** 23.47 253 P **P** 16 08 29.9 -1.7
SOEI **Soe** 23.47 253 P **P** 16 08 32.7 +1.2
SOEI **Soe** 23.47 253 P **P** 16 08 32.0 +0.5
DAV **Davao City (W)** 23.72 296 LR LR 16 17 50.8
comp=Z,1µm,18.3s,baz=101,slow=37
AS31 **Alice Springs** 23.90 211 P **P** 16 08 35.4 0.0
comp=Z,39nm,0.8s
ASAR **Alice Springs** 23.90 211 P **P** 16 08 35.0 -0.5
ASAR **Alice Springs** 23.90 211 P **P** 16 08 35.3 -0.1
comp=Z,75nm,0.8s,baz=49,slow=8.6,SNR=753
comp=Z,75nm,0.8s
ASAR **Alice Springs** 23.90 211 P **P** 16 08 35.0 -0.5
BATI **Baumata** 24.16 252 LR LR 16 20 35.2
comp=Z,947nm,18.1s,baz=80,slow=43
BATI **Baumata** 24.16 252 P **P** 16 08 37.0 -1.0
comp=Z,2µmcomp=Z,226nm,1.1s
LUWI **Luwuk** 24.31 275 P **P** 16 08 43.1 +3.8
LUWI **Luwuk** 24.31 275 P **P** 16 08 39.4 +0.1
BBSI **Bau Bau** 24.45 264 P **P** 16 08 42.7 +2.0
comp=Z,2µmcomp=Z,146nm,1.3s
TW1H **Toowoomba 1 Ha** 24.60 169 P **P** 16 08 46.6 +4.7
MRSI **Marisa** 25.32 278 P **P** 16 08 48.5 0.0
comp=Z,1µmcomp=Z,166nm,1.0s
APSI **Ampana** 25.44 275 P **P** 16 08 51.6 +2.0
FITZ **Fitzroy Crossi** 25.59 233 P **P** 16 08 49.2 -1.6
comp=Z,24nm,1.0s
FITZ **Fitzroy Crossi** 25.59 233 LR LR 16 19 31.8
comp=Z,3µm,19.5s,baz=54,slow=38
FITZ **Fitzroy Crossi** 25.59 233 P **P** 16 08 49.9 -1.0
EDFI **Ende, Flores** 25.74 257 P **P** 16 08 49.4 -3.0
comp=Z,41nm,0.9s
DZM **Mont Dzumac** 26.56 136 *e*P **P** 16 08 58.5 -1.3
comp=Z,156nm,1.1s
DZM *e*S **S** 16 13 32.1 -1.7
comp=Z,663nm,24.1s
DZM *e*LR LR 16 15 36.6
comp=Z,5µm,23.1s
DZM **Mont Dzumac** 26.56 136 P **P** 16 08 58.7 -1.1
DZM IAmb IAmb 16 09 28.3
comp=Z,54nm,0.8s
DZM **Mont Dzumac** 26.56 136 P **P** 16 09 00.1 +0.3
comp=Z,68nm,1.0s,baz=116,slow=24,SNR=19
comp=Z,68nm,1.0s
DZM **Mont Dzumac** 26.56 136 P **P** 16 09 01.5 +1.7
TOLI2 **Tolitoli** 26.56 279 P **P** 16 08 59.2 -0.6
TOLI2 IAmb IAmb 16 09 07.7
comp=Z,61nm,0.9s
TOLI2 **Tolitoli** 26.56 279 P **P** 16 09 02.3 +2.5
ONTNC **Ouen Toro** 26.72 137 P **P** 16 09 01.5 +0.4
ONTNC **Ouen Toro** 26.72 137 P **P** 16 09 05.9 +4.8
comp=Z,75nm,1.2s
BNSI **Bone** 26.85 267 P **P** 16 09 03.6 +1.2
comp=Z,73nm,1.1s
BKSI **Bulukumba** 26.87 265 P **P** 16 09 01.6 -1.0
comp=Z,24nm,0.8s
TTSI **Tana Toraja** 27.14 270 P **P** 16 09 07.7 +2.7
comp=Z,41nm,1.2s
SPSI **Sidrap Pali** 27.18 268 P **P** 16 09 06.7 +1.3
comp=Z,34nm,1.5s
KAPI **Kappang** 27.23 265 P **P** 16 09 05.7 -0.1
KAPI **Kappang** 27.23 265 LR LR 16 20 32.3
comp=Z,315nm,21.2s,baz=91,slow=38
KAPI **Kappang** 27.23 265 P **P** 16 09 07.7 +1.9
KAPI **Kappang** 27.23 265 P **P** 16 09 05.7 -0.1
KAPI pmax pmax
comp=Z,40nm,1.2s
PCI **Palu** 27.24 274 P **P** 16 09 06.0 +0.1
WSI **Waingapu** 27.26 255 P **P** 16 09 07.9 +1.8
ARMA **Armidale** 27.35 171 P **P** 16 09 05.9 -0.9
comp=Z,41nm,0.9s
ARMA **Armidale** 27.35 171 P **P** 16 09 06.7 -0.1
ARMA **Armidale** 27.35 171 P **P** 16 09 08.2 +1.4
CMSA **Cobar Meteorol** 28.14 182 P **P** 16 09 13.0 -0.7
comp=Z,31nm,1.3s
CMSA **Cobar Meteorol** 28.14 182 P **P** 16 09 16.0 +2.3
WRKA **Warakurna** 28.15 218 P **P** 16 09 12.5 -1.4
comp=Z,17nm,0.8s
STKA **Stephens Creek** 28.90 190 P **P** 16 09 22.1 +1.6
STKA **Stephens Creek** 28.90 190 P **P** 16 09 20.3 -0.2
STKA **Stephens Creek** 28.90 190 P **P** 16 09 19.1 -1.4
comp=Z,2.9nm,1.0s,baz=348,slow=7.9,SNR=10.0
STKA LR LR 16 21 02.8
comp=Z,1µm,20.8s,baz=7.2,slow=37
comp=Z,2.9nm,1.0s
STKA **Stephens Creek** 28.90 190 P **P** 16 09 23.1 +2.6
STKA **Stephens Creek** 28.90 190 P **P** 16 09 20.3 -0.2
STKA pmax pmax
comp=Z,116nm,1.1s
H11S3 **WAKE ISLAND Hy** 29.05 41 T T 16 39 53.3
baz=222,slow=75,SNR=36
H11S2 **WAKE ISLAND Hy** 29.06 41 T T 16 40 01.2
baz=222,slow=75,SNR=29
H11S1 **WAKE ISLAND Hy** 29.07 41 T T 16 39 55.1
baz=222,slow=75,SNR=25
MYLDM **Lahad Datu** 29.68 286 P **P** 16 09 24.9 -2.7
MYLDM **Lahad Datu** 29.68 286 P **P** 16 09 29.6 +2.0
H11N1 **WAKE ISLAND Hy** 30.07 40 T T 16 41 04.8
baz=221,slow=76,SNR=4.0
H11N3 **WAKE ISLAND Hy** 30.09 40 T T 16 41 07.6
baz=221,slow=76,SNR=8.0
H11N2 **WAKE ISLAND Hy** 30.09 40 T T 16 41 10.7
baz=221,slow=76,SNR=6.6
WHYH **Whyalla** 30.89 196 P **P** 16 09 41.5 +3.4
HTT **Hallett** 30.93 193 P **P** 16 09 39.0 +0.4
comp=Z,6.7nm,1.1s
HTT **Hallett** 30.93 193 P **P** 16 09 42.2 +3.6
BBOO **Buckleboo** 31.12 198 P **P** 16 09 38.7 -1.5
comp=Z,24nm,0.8s
BBOO **Buckleboo** 31.12 198 IAmb IAmb 16 10 05.8
comp=Z,56nm,1.5s
BBOO **Buckleboo** 31.12 198 P **P** 16 09 42.5 +2.4
MBWA **Marble Bar** 31.93 234 P **P** 16 09 46.8 -0.6
comp=Z,20nm,1.1s
MBWA **Marble Bar** 31.93 234 P **P** 16 09 49.2 +1.8
PSAC2 **Pilbara Seismi** 31.99 233 P **P** 16 09 46.8 -1.2
comp=Z,25nm,1.0s
PSA00 **Pilbara Seismi** 32.04 233 P **P** 16 09 48.0 -0.4
comp=Z,28nm,1.1s
PSA00 **Pilbara Seismi** 32.04 233 P **P** 16 09 47.2 -1.2
PSA00 **Pilbara Seismi** 32.04 233 IAmb IAmb 16 09 52.8
comp=Z,24nm,0.9s
PSA00 **Pilbara Seismi** 32.04 233 P **P** 16 09 47.2 -1.2
PSAB3 **Pilbara Seismi** 32.05 233 P **P** 16 09 46.9 -1.6
comp=Z,26nm,1.2s
PSAC1 **Pilbara Seismi** 32.05 233 P **P** 16 09 48.8 +0.3
comp=Z,22nm,0.8s
KKM **Kota Kinabalu** 32.10 287 P **P** 16 09 47.0 -2.2
KKM **Kota Kinabalu** 32.10 287 P **P** 16 09 52.4 +3.2
MSVF **Nonsavu** 33.66 117 P **P** 16 10 04.5 +1.8
ARPS **Mount Arapiles** 33.67 187 P **P** 16 10 02.8 +0.4
comp=Z,13nm,1.0s
TOO **Toolangi** 34.16 182 P **P** 16 10 05.4 -1.3
comp=Z,11nm,1.2s
TOO **Toolangi** 34.16 182 P **P** 16 10 06.8 +0.1
TOO **Toolangi** 34.16 182 P **P** 16 10 06.8 +0.1
TOO pmax pmax
comp=Z,17nm,1.3s
BRAT **Ballarat** 34.23 184 P **P** 16 10 10.0 +2.8
JOW **Kunigami** 34.97 330 LR LR 16 21 23.4
comp=Z,2µm,21.9s,baz=142,slow=31
SBUM **Sibu** 35.22 279 P **P** 16 10 14.8 -1.4
SBUM **Sibu** 35.22 279 P **P** 16 10 19.5 +3.3
MEEK **Meekatharra** 35.76 227 P **P** 16 10 20.3 -0.4
YULB **Yu-li** 36.47 318 P **P** 16 10 29.2 +2.4
NACB **Ninganchiao** 36.81 319 IAmb IAmb 16 10 36.5
comp=Z,54nm,1.0s
NACB **Ninganchiao** 36.81 319 P **P** 16 10 31.7 +2.0
JHJ **Hachijo jima 2** 36.84 350 LR LR 16 22 54.6
comp=Z,686nm,21.3s,baz=138,slow=32
KSM **Kuching** 36.98 277 P **P** 16 10 31.6 +0.4

YHNB **Yeheng** 37.30 320 P **P** 16 10 32.6 -1.4
YHNB **Yeheng** 37.30 320 P **P** 16 10 37.5 +3.6
KPJI **Karang Pucung** 38.10 262 P **P** 16 10 40.1 -0.7
comp=Z,44nm,1.1s
MORW **Morawa** 39.02 226 IAmb IAmb 16 10 55.0
comp=Z,58nm,1.1s
MORW **Morawa** 39.02 226 P **P** 16 10 47.6 -0.7
JNU **Nakatsue** 39.28 338 P **P** 16 10 48.5 -2.0
LEM **Lembang** 39.37 263 LR LR 16 28 43.1
comp=Z,189nm,19.4s,baz=98,slow=39
LEM **Lembang** 39.37 263 P **P** 16 10 51.1 -0.6
comp=Z,37nm,1.7s
BBJI **Bungbulang** 39.38 262 P **P** 16 10 53.3 +1.7
comp=Z,36nm,0.9s
BLDU **Ballidu** 39.47 223 P **P** 16 10 51.5 -0.5
INU **Inuyama** 39.55 347 P **P** 16 10 57.8 +5.3
JGF **Kuroka** 39.72 348 P **P** 16 10 50.9 -3.1
JGF **Kuroka** 39.72 348 P **P** 16 10 58.8 +4.8
MJAR **Matsushiro Arr** 40.45 349 P **P** 16 10 58.0 -2.1
MJAR **Matsushiro Arr** 40.45 349 P **P** 16 10 58.8 -1.3
comp=Z,6.6nm,0.9s,baz=159,slow=8.8,SNR=11
MJAR PcP **PcP** 16 13 02.5 -0.4
comp=Z,4.9nm,0.8s,baz=161,slow=3.8,SNR=5.4
comp=Z,6.6nm,0.9s
MAJO **Matsushiro** 40.45 349 P **P** 16 10 58.0 -2.1
MAJO IAmb IAmb 16 11 05.0
comp=Z,104nm,1.6s
MAJO **Matsushiro** 40.45 349 P **P** 16 11 04.0 +3.9
MAJO **Matsushiro** 40.45 349 *i* P **P** 16 10 58.4 -1.7
MAJO pmax pmax
comp=Z,63nm,1.6s
MJB9 **Matsu-Tunnel** 40.46 349 P **P** 16 10 58.0 -2.1
MJB9 IAmb IAmb 16 11 06.0
comp=Z,99nm,1.6s
NWAO **Narrogin (SRO)** 40.57 220 P **P** 16 11 00.1 -1.1
NWAO **Narrogin (SRO)** 40.57 220 LR LR 16 29 10.6
comp=Z,1µm,19.0s,baz=53,slow=38
NWAO **Narrogin (SRO)** 40.57 220 P **P** 16 11 04.2 +3.1
NWAO **Narrogin (SRO)** 40.57 220 P **P** 16 11 00.1 -1.1
NWAO pmax pmax
comp=Z,37nm,1.1s
MUN **Mundaring** 40.64 222 P **P** 16 11 03.2 +1.5
MTKN **Mount Kenneth** 40.90 222 P **P** 16 11 06.5 +2.6
JSD **Sado** 41.90 350 P **P** 16 11 14.5 +2.6
SSE **Sheshan** 42.11 326 P **P** 16 11 13.9 +0.1
SSE S **S** 16 17 32.8 0.0
SSE pmax pmax
comp=Z,14nm,1.0s
SSE LR LR
comp=Z,420nm,22.7s
SSE LR LR
comp=Z,390nm,23.9s
MDSI **Maura Dua** 42.73 267 P **P** 16 11 17.0 -2.1
comp=Z,27nm,1.0s
QIZ **Qiongzhong** 42.74 303 IAmb IAmb 16 11 24.7
comp=Z,88nm,1.3s
QIZ **Qiongzhong** 42.74 303 P **P** 16 11 18.8 -0.3
QIZ PcP **PcP** 16 13 10.8 +0.1
QIZ S **S** 16 17 45.6 +3.1
QIZ pmax pmax
comp=Z,44nm,0.9s
QIZ LR LR
comp=Z,370nm,13.9s
QIZ LR LR
comp=Z,610nm,20.0s
QIZ LR LR
comp=Z,920nm,22.5s
QIZ **Qiongzhong** 42.74 303 P **P** 16 11 22.8 +3.7
TJN **Taejon** 43.50 337 P **P** 16 11 26.8 +1.8
TJN **Taejon** 43.50 337 *i* P **P** 16 11 24.5 -0.5
NJ2 **Nanjing** 44.15 325 ⇑P **P** 16 11 32.8 +2.6
NJ2 pP **pP** 16 11 35.3 +0.2
NJ2 sP **pwP** 16 11 40.6 +3.3
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 pmax pmax
comp=Z,330nm,4.9s
NJ2 LR LR
comp=Z,770nm,17.7s
NJ2 LR LR
comp=Z,540nm,17.7s
NJ2 LR LR
comp=Z,1µm,20.6s
KSRS **Korea Array** 44.23 338 P **P** 16 11 29.8 -1.1
comp=Z,8.1nm,0.9s,baz=154,slow=9.8,SNR=16
comp=Z,8.1nm,0.9s
KSAR **Wonju Array Be** 44.24 338 **P** 16 11 29.2 -1.6
KSAR **Wonju Array Be** 44.24 338 P **P** 16 11 29.2 -1.6
URZ **Urewera** 44.37 146 LR LR 16 28 31.0
comp=Z,1µm,19.5s,baz=308,slow=34
RTZ **Ruatahuna** 44.54 146 P **P** 16 11 33.1 -0.4
RTZ IAmb IAmb 16 11 50.5
comp=Z,40nm,0.8s
MASI **Maura Aman, Be** 44.68 269 P **P** 16 11 33.3 -1.6
comp=Z,122nm,1.4s
JCZ **Jackson Bay** 44.96 158 P **P** 16 11 40.3 +3.6
TUWZ **Tuamarina** 45.03 151 P **P** 16 11 38.3 +1.1
CNSH **ChangSha** 45.30 316 P **P** 16 11 40.8 +1.3
CNSH pmax pmax
comp=Z,26nm,1.3s
CNSH LR LR
comp=Z,860nm,24.2s
CNSH LR LR
comp=Z,1µm,24.7s
CNSH LR LR
comp=Z,2µm,22.9s
RPZ **Rata Peaks** 45.56 156 LR LR 16 28 21.6
comp=Z,1µm,21.8s,baz=324,slow=33
WHN **Wuhan** 45.85 320 P **P** 16 11 45.3 +1.5
WHN sP **pwP** 16 11 53.6 +2.7
WHN pmax pmax
comp=Z,84nm,1.3s
WHN LR LR
comp=Z,3µm,25.4s
BKNI **Bangkinang** 46.07 274 P **P** 16 11 44.9 -1.0
IPM **Ipoh** 46.58 279 P **P** 16 11 48.8 -1.1
IPM IAmb IAmb 16 11 56.3
comp=Z,24nm,0.9s
IPM **Ipoh** 46.58 279 P **P** 16 11 51.8 +1.9
PPI **Padang Panjang** 46.65 272 P **P** 16 11 48.6 -1.9
comp=Z,44nm,1.2s
KULM **Kulim** 47.07 280 IAmb IAmb 16 11 58.1
comp=Z,22nm,1.0s
KULM **Kulim** 47.07 280 P **P** 16 11 55.6 +1.9
MNSI **Mandailing Nat** 47.57 274 P **P** 16 11 55.8 -1.8
comp=Z,20nm,1.2s
TIA **Tai'an** 48.18 327 P **P** 16 12 01.4 -0.6
TIA pmax pmax
comp=Z,18nm,0.9s
TIA LR LR
comp=Z,670nm,24.5s
TIA LR LR
comp=Z,810nm,19.6s
TIA LR LR
comp=Z,1µm,23.5s
PSI **Prapat** 48.43 277 LR LR 16 34 25.4
comp=Z,279nm,18.7s,baz=112,slow=39
PSI **Prapat** 48.43 277 P **P** 16 12 06.9 +2.5
SLVN **Son La** 48.76 302 P **P** 16 12 07.3 +0.5
SLVN IAmb IAmb 16 12 13.0
comp=Z,23nm,1.2s
SLVN **Son La** 48.76 302 P **P** 16 12 08.6 +1.8
ENH **Enshi** 48.95 316 IAmb IAmb 16 12 23.5
comp=Z,59nm,1.7s
ENH **Enshi** 48.95 316 P **P** 16 12 08.9 +0.8
USRK **Ussuriysk Ar.** 49.15 346 P **P** 16 12 08.6 -0.6
comp=Z,6.3nm,0.8s,baz=162,slow=6.7,SNR=15
comp=Z,6.3nm,0.8s
GSI **Gunungsitoli** 49.61 274 P **P** 16 12 11.5 -1.9
GSI **Gunungsitoli** 49.61 274 P **P** 16 12 16.2 +2.9
KCSI **Kotacane, Aceh** 49.66 277 P **P** 16 12 11.7 -2.0
comp=Z,15nm,1.2s
YSS **Yuzhno-Sakhali** 50.16 356 P **P** 16 12 16.1 -0.8
YSS IAmb IAmb 16 12 32.2
comp=Z,32nm,1.1s
YSS **Yuzhno-Sakhali** 50.16 356 P P 16 12 22.1 +5.2
YSS **Yuzhno-Sakhali** 50.16 356 *e*P **P** 16 12 17.4 +0.5
YSS *e*S **S** 16 19 30.2 +2.3
YSS *e* 16 19 38.2
YSS pmax pmax
comp=Z,20nm,1.1s
YSS pmax pmax
comp=Z,100nm,3.1s
YSS MLR MLR
comp=Z,400nm,19.0s

YSS MLR MLR
comp=N,300nm,20.0s
MDJ **Mudanjiang** 50.16 344 P **P** 16 12 15.3 -1.7
MDJ S **S** 16 19 29.5 +1.5
MDJ ScS **ScS** 16 21 57.8 -10
MDJ pmax pmax
comp=N,12nm,1.6s
MDJ LR LR
comp=N,250nm,9.7s
MDJ LR LR
comp=N,430nm,18.4s
MDJ LR LR
comp=N,450nm,23.8s
MDJ **Mudanjiang** 50.16 344 P **P** 16 12 20.8 +3.8
HNS **HongShan** 50.37 326 ⇑P **P** 16 12 18.6 -0.1
HNS pmax pmax
comp=N,19nm,0.9s
HNS LR LR
comp=N,440nm,18.7s
HNS LR LR
comp=N,740nm,20.3s
HNS LR LR
comp=N,1µm,20.8s
CN2 **Changchun** 50.71 340 P **P** 16 12 21.0 -0.2
CN2 PP **PP** 16 14 18.0 +0.6
CN2 pmax pmax
comp=N,10.0nm,1.2s
CN2 LR LR
comp=N,690nm,17.0s
CN2 LR LR
comp=N,410nm,17.0s
CN2 LR LR
comp=N,740nm,17.0s
KMI **Kunming** 51.38 306 ⇑P **P** 16 12 27.9 +1.1
KMI SS **SS** 16 23 20.6 -1.5
KMI pmax pmax
comp=N,21nm,0.8s
KMI pmax pmax
comp=N,230nm,4.3s
KMI LR LR
comp=N,290nm,15.3s
KMI LR LR
comp=N,470nm,18.1s
KMI LR LR
comp=N,650nm,21.8s
XAN **Xi'an** 51.61 319 ⇓P **P** 16 12 27.1 -1.1
XAN pP pP 16 12 32.0 -1.1
XAN S **S** 16 19 49.3 +0.7
XAN pmax pmax
comp=N,39nm,1.0s
XAN pmax pmax
comp=N,330nm,4.1s
XAN LR LR
comp=N,600nm,15.8s
XAN LR LR
comp=N,470nm,13.7s
XAN LR LR
comp=N,860nm,16.8s
BNX **BinXian** 51.82 343 ⇓P **P** 16 12 29.3 -0.1
BNX pP **pP** 16 12 32.9 -1.5
BNX S **S** 16 19 53.0 +2.1
BNX sS **pS** 16 19 57.0 +0.1
BNX pmax pmax
comp=N,33nm,1.1s
BNX pmax pmax
comp=N,220nm,4.3s
BNX LR LR
comp=N,470nm,15.2s
BNX LR LR
comp=N,290nm,19.0s
BNX LR LR
comp=N,670nm,21.7s
CM31 **Chiang Mai Arr** 52.01 296 **P** 16 12 31.2 -0.1
CM31 IAmb IAmb 16 12 37.6
comp=Z,37nm,0.9s
CMAR **Chiang Mai Arr** 52.01 296 **P** 16 12 31.7 +0.4
CMAR **Chiang Mai Arr** 52.01 296 P **P** 16 12 32.1 +0.8
comp=Z,11nm,0.9s,baz=115,slow=5.7,SNR=64
CMAR LR LR 16 32 58.3
comp=Z,69nm,21.1s,baz=115,slow=34
comp=Z,11nm,0.9s
CMAR **Chiang Mai Arr** 52.01 296 P **P** 16 12 31.7 +0.4
CHTO **Chiang Mai** 52.12 297 P **P** 16 12 32.1 -0.1
CHTO IAmb IAmb 16 12 38.2
comp=Z,42nm,1.3s
CHTO **Chiang Mai** 52.12 297 P **P** 16 12 33.0 +0.8
CHTO **Chiang Mai** 52.12 297 P **P** 16 12 32.1 -0.1
CHTO pmax pmax
comp=Z,42nm,1.3s
PZH **PanZhiHua** 52.80 307 P **P** 16 12 37.3 +0.1
PZH S **S** 16 20 07.8 +2.5
PZH SS **SS** 16 23 41.8 -2.6
PZH LR LR
comp=Z,370nm,17.3s
PZH LR LR
comp=Z,330nm,17.5s
PZH LR LR
comp=Z,540nm,22.2s
CD2 **Chengdu** 53.41 313 P **P** 16 12 41.8 +0.2
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 LR LR
comp=Z,740nm,17.7s
CD2 LR LR
comp=Z,780nm,15.2s
CD2 LR LR
comp=Z,810nm,22.0s
KLR **Kul'dur** 53.95 348 LR LR 16 33 17.2
comp=Z,192nm,20.9s,baz=191,slow=33
TYV **Tymovskoe** 54.06 357 *e*P P 16 12 50.7 +4.9
TYV *e*S **S** 16 20 29.8 +8.5
TYV pmax pmax
comp=Z,7.0nm,1.3s
TYV pmax pmax
comp=Z,200nm,3.6s
TYV smax smax
comp=N,100nm,5.0s
TYV smax smax
comp=E,200nm,5.0s
HHC **Hu-ho-hao-te** 54.54 327 SS **S** 16 20 32.8 +4.3
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,93nm,4.5s
HHC **Hu-ho-hao-te** 54.54 327 *e*P **P** 16 12 50.0 +0.3
HHC SS **SS** 16 24 13.4 +2.0
HHC pmax pmax
comp=Z,24nm,0.6s
HHC pmax pmax
comp=Z,150nm,4.0s
HHC LR LR
comp=Z,380nm,21.0s
HHC LR LR
comp=Z,600nm,20.2s
HHC LR LR
comp=Z,940nm,21.0s
XLT **XiLinHaoTe** 54.55 333 *e*P **P** 16 12 49.6 -0.1
XLT pmax pmax
comp=Z,13nm,1.0s
XLT LR LR
comp=Z,56nm,15.9s
XLT LR LR
comp=Z,320nm,16.5s
XLT LR LR
comp=Z,860nm,19.0s
GRNR **Gornyy** 54.60 352 *e*P **P** 16 12 49.9 +0.1
RAR **Rarotonga** 54.69 114 LR LR 16 31 53.5
comp=Z,148nm,21.8s,baz=277,slow=31
TNCH **TengChong** 54.79 304 P **P** 16 12 51.1 -0.8
TNCH S **S** 16 20 27.1 -5.4
TNCH pmax pmax
comp=Z,22nm,1.2s
TNCH pmax pmax
comp=Z,140nm,3.6s
TNCH LR LR
comp=Z,250nm,15.4s
TNCH LR LR
comp=Z,310nm,15.2s
TNCH LR LR
comp=Z,480nm,20.3s
BTO **Baotou** 55.22 326 *e*P **P** 16 12 51.3 -3.3
BTO PP **PP** 16 14 57.3 -1.0
BTO S **S** 16 20 33.1 -4.4
BTO SS **SS** 16 24 15.9 -6.2
BTO pmax pmax
comp=Z,12nm,0.6s

BTO pmax pmax
comp=Z,250nm,6.1s
BTO LR LR
comp=Z,1μm,18.5s
BTO LR LR
comp=Z,720nm,11.2s
BTO LR LR
comp=Z,650nm,15.4s
XMAS Kiritimati 55.79 85 P P 16 13 04.5 +5.4
HEH HeiHe 55.92 345 *e*P **P** **16 12 58.8 -0.6**
HEH pmax pmax
comp=Z,22nm,1.2s
HEH pmax pmax
comp=Z,160nm,4.2s
HEH LR LR
comp=Z,320nm,20.4s
HEH LR LR
comp=Z,420nm,22.2s
HEH LR LR
comp=Z,630nm,24.7s
LZH Lanzhou 56.17 318 *e*P **P** **16 13 03.0 +1.3**
LZH sP pwP 16 13 10.8 +2.0
LZH S **S** **16 20 53.3 +2.7**
LZH pmax pmax
comp=Z,38nm,1.4s
LZH LR LR
comp=Z,470nm,14.3s
LZH LR LR
comp=Z,620nm,15.6s
LZH LR LR
comp=Z,840nm,14.9s
LZDM Lanzhou Array 56.20 318 P **P** **16 13 03.0 +1.0**
comp=Z,5.0nm,0.5s,baz=142,slow=7.5,SNR=4.3
LZDM LR LR 16 37 18.6
comp=Z,416nm,18.6s,baz=65,slow=36
comp=Z,5.0nm,0.5s
PETK Petropavlovsk- 56.90 8 P **P** **16 13 06.2 -0.1**
comp=Z,3.4nm,0.7s,baz=134,slow=6.2,SNR=5.6
PETK LR LR 16 38 05.1
comp=Z,148nm,18.3s,baz=187,slow=37
comp=Z,3.4nm,0.7s
PET Petropavlovsk 56.95 8 *e*P P 16 13 12.5 +5.9
PET *e*S **S** **16 21 07.9 +8.1**
PET MLR MLR
comp=Z,300nm,15.0s
PET MLR MLR
comp=Z,400nm,17.0s
HIA Hailar 57.42 339 IAmb IAmb 16 13 15.5
comp=Z,19nm,1.0s
HIA Hailar 57.42 339 P **P** **16 13 11.4 +1.3**
BRDH Bariadhala 59.84 298 LR LR 16 41 35.0
comp=Z,149nm,18.2s,baz=112,slow=38
SHL Shillong 60.57 302 P **P** **16 13 31.0 -1.6**
SHL IAmb IAmb 16 13 37.6
comp=Z,18nm,0.8s
SHL Shillong 60.57 302 P **P** **16 13 31.0 -1.6**
SHL pmax pmax
comp=Z,19nm,0.8s
GTA Gaotai 60.67 319 P **P** **16 13 34.3 +1.3**
GTA pP pP 16 13 37.6 -0.4
GTA S **S** **16 21 52.6 +3.5**
GTA sS sS 16 22 02.0 +4.6
GTA SS **SS** **16 25 50.0 +2.0**
GTA pmax pmax
comp=Z,14nm,1.5s
GTA LR LR
comp=Z,210nm,19.3s
GTA LR LR
comp=Z,320nm,16.4s
GTA LR LR
comp=Z,460nm,21.1s
ULN Ulaanbaatar 61.74 331 P **P** **16 13 39.6 -0.5**
ULN IAmb IAmb 16 13 46.3
comp=Z,30nm,1.1s
ULN Ulaanbaatar 61.74 331 *c e*P **P** **16 13 40.9 +0.8**
ULN pmax pmax
comp=Z,30nm,1.2s
CIT Chita 61.96 337 *e*P **P** **16 13 41.6 +0.3**
CIT *e* 16 14 21.4
CIT *e* 16 17 24.6
CIT pmax pmax
comp=Z,63nm,1.5s
SONM Songino Array 62.05 330 P **P** **16 13 41.9 -0.2**
SONM Songino Array 62.05 330 P **P** **16 13 42.2 +0.1**
comp=Z,5.8nm,0.7s,baz=146,slow=6.2,SNR=26
SONM LR LR 16 39 13.7
comp=Z,662nm,21.1s,baz=126,slow=35
SONM PKP2bc 16 42 57.4
comp=Z,1.8nm,1.1s,baz=277,slow=2.3,SNR=6.2
comp=Z,5.8nm,0.7s
SONM Songino Array 62.05 330 P **P** **16 13 41.9 -0.2**
SONM pmax pmax
comp=Z,12nm,1.0s
GOMU GeErMu 62.50 314 P **P** **16 13 45.8 +0.1**
GOMU S **S** **16 22 12.8 -0.1**
GOMU SS **SS** **16 26 15.4 -1.8**
GOMU pmax pmax
comp=Z,130nm,5.1s
GOMU LR LR
comp=Z,240nm,19.8s
GOMU LR LR
comp=Z,520nm,21.1s
GOMU LR LR
comp=Z,820nm,21.2s
MA2 Magadan 62.73 2 LR LR 16 44 00.1
comp=Z,177nm,18.1s,baz=187,slow=39
PPT Papeete 63.70 108 LR LR 16 37 57.3
comp=Z,229nm,20.1s,baz=292,slow=33
PPT2 Papeete2 63.70 108 *e*LQ LQ 16 30 03.2
comp=Z,1μm,24.2s
PPT2 *e*LR LR 16 32 46.8
comp=Z,302nm,22.2s
PPT2 *e*LR LR 16 32 52.2
comp=Z,360nm,28.2s
TBI Tubuai 64.46 114 *e*S **S** **16 22 37.8 +0.9**
comp=Z,906nm,30.5s
TBI *e*LQ LQ 16 30 31.1
comp=Z,6μm,35.2s
TBI *e*LR LR 16 33 13.4
comp=Z,1μm,36.8s
TBI *e*LR LR 16 33 17.1
comp=Z,6μm,34.5s
ZAK Zakamensk 65.27 331 *e*P **P** **16 14 02.7 -0.6**
ZAK pmax pmax
comp=Z,31nm,1.2s
IRK Irkutsk 66.03 333 *e*P **P** **16 14 08.8 +0.7**
IRK pmax pmax
comp=Z,44nm,1.7s
SEY Seymchan 66.16 3 LR LR 16 40 30.9
comp=Z,174nm,21.4s,baz=182,slow=34
SEY Seymchan 66.16 3 ⇑ *i*P **P** **16 14 07.8 -0.8**
SEY pmax pmax
comp=Z,7.0nm,0.9s
YAK Yakutsk 66.47 351 **P** **16 14 09.8 -0.8**
YAK Yakutsk 66.47 351 *c i*P **P** **16 14 09.3 -1.3**
YAK *e**PP **pP** **16 14 12.9 -2.8**
YAK *e* 16 14 36.0
YAK *e*S **S** **16 23 00.4 +0.3**
YAK *e*SS **SS** **16 27 19.2 +2.0**
YAK pmax pmax
comp=Z,17nm,1.2s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,83nm,3.0s
YAK pmax pmax
comp=E,52nm,2.5s
YAK pmax pmax
comp=N,82nm,3.2s
YAK smax smax
comp=E,107nm,2.9s
YAK smax smax
comp=N,83nm,3.1s
YAK MLR MLR
comp=Z,216nm,18.0s
YAK MLR MLR
comp=N,184nm,20.0s
PALK Palekele 66.98 279 LR LR 16 46 01.3
comp=N,69nm,18.0s,baz=98,slow=38
MOY Mondy 67.20 331 *e*P **P** **16 14 16.3 +0.6**
MOY pmax pmax
comp=Z,42nm,1.4s
CASY Casey 67.87 195 **P** **16 14 18.5 -1.0**
CASY IAmb IAmb 16 14 40.0
comp=Z,14nm,1.0s

HYB Hyderabad 70.53 290 *e*P **P** **16 14 35.7 -1.3**
WMQ Urumqi 70.75 319 *e*P **P** **16 14 39.4 +1.5**
WMQ sP pwP 16 14 46.5 +1.4
WMQ pmax pmax
comp=Z,27nm,1.5s
WMQ pmax pmax
comp=Z,230nm,4.7s
WMQ LR LR
comp=Z,490nm,21.5s
WMQ LR LR
comp=Z,250nm,22.9s
WMQ LR LR
comp=Z,210nm,22.9s
BILL Bilibino 72.43 7 *i* P **P** **16 14 46.9 -0.5**
BILL pmax pmax
comp=Z,16nm,1.1s
TAOE Nuku Hiva Isla 72.57 98 *e*S **S** **16 24 09.4 -4.6**
comp=Z,139nm,31.5s
TAOE Nuku Hiva Isla 72.57 98 *e*LR LR 16 36 52.9
comp=Z,237nm,22.6s
ZSN Zaisan 74.03 321 *e*P **P** **16 14 57.5 +0.1**
ZSN Zaisan 74.03 321 *e*P **P** **16 14 57.4 +0.1**
VNDA Vanda 74.61 177 P **P** **16 14 59.8 -0.4**
VNDA Vanda 74.61 177 P **P** **16 15 00.1 0.0**
comp=Z,5.7nm,0.8s,baz=328,slow=6.4,SNR=15
VNDA LR LR 16 45 44.5
comp=Z,326nm,19.0s,baz=348,slow=34
comp=Z,5.7nm,0.8s
SBA Scott Base 75.25 176 **P** **16 15 03.9 +0.1**
SBA IAmb IAmb 16 15 21.7
comp=Z,38nm,1.6s
SBA Scott Base 75.25 176 P **P** **16 15 03.9 +0.1**
SBA pmax pmax
comp=Z,38nm,1.7s
MKAR Makanchi Array 75.41 320 **P** **16 15 04.5 -0.8**
MKAR Makanchi Array 75.41 320 P **P** **16 15 05.4 0.0**
comp=Z,8.4nm,0.9s,baz=101,slow=7.2,SNR=32
MKAR LR LR 16 47 54.8
comp=Z,479nm,19.9s,baz=84,slow=36
comp=Z,8.4nm,0.9s
TIXI Tiksi 75.72 354 *i* P **P** **16 15 07.2 +0.7**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
SHLS Shalkode 76.08 316 *e*P **P** **16 15 07.9 -1.6**
comp=Z,17nm,1.0s
SHLS Shalkode 76.08 316 *e*P **P** **16 15 07.8 -1.6**
SHLS pmax pmax
comp=Z,17nm,1.0s
UZB Uzynbulak 76.39 316 *e*P **P** **16 15 11.2 0.0**
comp=Z,17nm,0.9s
UZB Uzynbulak 76.39 316 *e*P **P** **16 15 11.2 0.0**
UZB pmax pmax
comp=Z,17nm,0.9s
ZALV Zalesovo Beam 76.72 328 **P** **16 15 11.1 -1.5**
ZALV Zalesovo Beam 76.72 328 P **P** **16 15 11.4 -1.2**
comp=Z,4.7nm,0.7s,baz=110,slow=5.8,SNR=21
ZALV LR LR 16 47 19.4
comp=Z,398nm,21.7s,baz=142,slow=34
comp=Z,4.7nm,0.7s
SATY Saty 76.79 316 *e*P **P** **16 15 13.6 +0.1**
comp=Z,13nm,1.1s
SATY Saty 76.79 316 *e*P **P** **16 15 13.5 +0.1**
SATY pmax pmax
comp=Z,13nm,1.1s
TDK Taldyqorghan 77.38 317 *e*P **P** **16 15 16.6 0.0**
comp=Z,11nm,0.7s
TDK Taldyqorghan 77.38 317 *e*P **P** **16 15 16.5 0.0**
TDK pmax pmax
comp=Z,11nm,0.7s
KDAK Kodiak Island 77.52 28 LR LR 16 45 07.8
comp=Z,206nm,20.2s,baz=232,slow=32
KSH Kashi 77.58 311 P **P** **16 15 19.6 +1.7**
KSH pP pP 16 15 23.8 +0.7
KSH S **S** **16 25 11.0 +2.0**
KSH pmax pmax
comp=Z,14nm,1.2s
KSH LR LR
comp=Z,290nm,19.9s
KSH LR LR
comp=Z,390nm,18.6s
KSH LR LR
comp=Z,430nm,18.6s
MDOK Medeo 77.77 315 *e*P **P** **16 15 18.9 -0.1**
MDOK Medeo 77.77 315 *e*P **P** **16 15 18.8 -0.2**
TNSS Tian-Shan 77.81 315 *e*P **P** **16 15 19.2 -0.3**
TNSS Tian-Shan 77.81 315 *e*P **P** **16 15 19.2 -0.3**
AAA Alma-Ata 77.88 315 *e*P **P** **16 15 19.5 +0.1**
comp=Z,16nm,0.7s
AAA Alma-Ata 77.88 315 *e*P **P** **16 15 19.5 +0.1**
AAA pmax pmax
comp=Z,15nm,0.7s
H17K Granite Mounta 78.23 20 IAmb IAmb 16 15 35.4
comp=Z,21nm,1.1s
NIL Nilore 78.36 305 **P** **16 15 21.6 -0.7**
NIL Nilore 78.36 305 P **P** **16 15 21.6 -0.7**
NIL pmax pmax
comp=Z,45nm,0.8s
TKM2 Tokmak 2 78.73 315 P **P** **16 15 24.9 +0.5**
SNR=6.9
KURK Kurchatov 79.04 323 **P** **16 15 24.5 -1.1**
KURK IAmb IAmb 16 15 30.6
comp=Z,22nm,1.1s
KURK Kurchatov 79.04 323 P **P** **16 15 25.1 -0.5**
KURBB Kurchatov Arra 79.07 323 P **P** **16 15 25.1 -0.6**
comp=Z,7.3nm,1.0s,baz=107,slow=4.9,SNR=46
KURBB LR LR 16 49 26.1
comp=Z,377nm,21.2s,baz=156,slow=35
comp=Z,7.3nm,1.0s
KBK Karagaybulak 79.12 314 P **P** **16 15 26.9 +0.5**
SNR=6.4
RDOG Red Dog Mine 79.16 17 IAmb IAmb 16 15 44.8
comp=Z,23nm,1.0s
M20K Styx River 79.20 25 IAmb IAmb 16 15 43.5
comp=Z,21nm,1.1s
UCH Uchtor 79.33 314 P **P** **16 15 28.9 +1.0**
SNR=23
CHMS Chumysh 79.35 315 P **P** **16 15 27.5 0.0**
SNR=10
AAK Ala-Archa 79.44 314 P **P** **16 15 29.1 +0.8**
SNR=6.9
AAK Ala-Archa 79.44 314 **P** **16 15 27.9 -0.3**
AAK Ala-Archa 79.44 314 LR LR 16 50 14.1
comp=Z,637nm,21.5s,baz=100,slow=35
AAK Ala-Archa 79.44 314 *c e*P **P** **16 15 28.9 +0.7**
AAK pmax pmax
comp=Z,19nm,1.3s
K20K Telida 79.54 23 IAmb IAmb 16 15 50.4
comp=Z,36nm,1.6s
SGDS Sogindy 79.55 315 *e*P **P** **16 15 28.6 -0.1**
USP Ospenovka 79.60 315 P **P** **16 15 29.2 +0.3**
SNR=16
H19K Roundabout Mou 79.77 21 IAmb IAmb 16 15 38.1
comp=Z,27nm,1.4s
J20K Nowinta River 79.92 22 IAmb IAmb 16 15 40.5
comp=Z,45nm,1.6s
EKS2 Erkin-Say 79.96 314 P **P** **16 15 30.9 -0.1**
SNR=16
BTLS Baital 80.36 317 ⇑ *i*P **P** **16 15 33.0 0.0**
BTLS Baital 80.36 317 *c i*P **P** **16 15 32.9 0.0**
E19K Redstone River 80.55 19 IAmb IAmb 16 15 47.8
comp=Z,41nm,1.4s
PWL Port Wells 80.82 27 IAmb IAmb 16 15 51.6
comp=Z,44nm,1.3s
IMAR Indian Mountai 80.96 21 P **P** **16 15 35.4 -0.3**
D20K Etivluk River 81.43 18 IAmb IAmb 16 15 52.2
comp=Z,35nm,1.4s
RND Reindeer 81.65 24 IAmb IAmb 16 15 53.1
comp=Z,18nm,0.8s
MCK McKinley 81.75 24 IAmb IAmb 16 15 54.8
comp=Z,20nm,1.0s
DZA Taraz 81.77 314 *e*P **P** **16 15 40.5 -0.1**
comp=Z,6.7nm,0.7s
DZA Taraz 81.77 314 *e*P **P** **16 15 40.4 -0.1**
DZA pmax pmax
comp=Z,7.0nm,0.7s
E21K Killik River 82.12 19 IAmb IAmb 16 16 02.0
comp=Z,22nm,1.0s
DHY Denali Highway 82.12 25 IAmb IAmb 16 15 58.2
comp=Z,18nm,1.0s
KLU Klutina 82.14 26 IAmb IAmb 16 15 59.2
comp=Z,23nm,1.2s
WRH Wood River Hil 82.40 23 IAmb IAmb 16 15 59.0
comp=Z,22nm,1.0s
KKAR Karatay Array 82.40 314 **P** **16 15 43.1 -0.7**
KKAR Karatay Array 82.40 314 P **P** **16 15 43.1 -0.7**
BRZS Berezniki 82.48 321 *e*P **P** **16 15 43.8 -0.3**

BRZS Berezniki 82.48 321 *e*P **P** **16 15 43.7 -0.3**
CCB Clear Creek Bu 82.58 23 IAmb IAmb 16 15 59.2
comp=Z,17nm,1.2s
E22K Anaktuvuk Pass 82.67 19 IAmb IAmb 16 16 08.0
comp=Z,21nm,1.1s
BRLS Borolday 82.87 314 ⇑ *i*P **P** **16 15 46.5 +0.3**
BRLS Borolday 82.87 314 *c i*P **P** **16 15 46.5 +0.3**
CHM Chimkent 82.91 313 *e*P **P** **16 15 46.5 +0.1**
comp=Z,7.1nm,0.5s
CHM Chimkent 82.91 313 *e*P **P** **16 15 46.5 +0.1**
CHM pmax pmax
comp=Z,7.0nm,0.5s
IL31 83.00 23 IAmb IAmb 16 16 02.0
comp=Z,14nm,0.9s
ILAR Eielson Array 83.00 23 **P** **16 15 45.0 -1.4**
ILAR Eielson Array 83.00 23 P **P** **16 15 45.5 -0.8**
comp=Z,4.1nm,0.9s,baz=253,slow=4.9,SNR=29
ILAR LR LR 16 47 49.6
comp=Z,177nm,21.9s,baz=256,slow=32
comp=Z,4.1nm,0.9s
GLB Gilahina Butte 83.07 27 IAmb IAmb 16 16 03.2
comp=Z,22nm,1.3s
E23K Chandalar 83.37 20 IAmb IAmb 16 16 07.6
comp=Z,19nm,1.1s
RIDG Independent Ri 83.43 25 IAmb IAmb 16 16 05.8
comp=Z,13nm,1.0s
J25K Salcha River, 83.54 24 IAmb IAmb 16 16 03.7
comp=Z,18nm,0.9s
G24K Hadweenzic Riv 83.55 21 IAmb IAmb 16 16 06.7
comp=Z,14nm,1.0s
DOT Dot Lake 83.73 25 IAmb IAmb 16 16 06.9
comp=Z,17nm,1.0s
F24K Squaw Lake 83.73 21 IAmb IAmb 16 16 05.6
comp=Z,19nm,1.0s
CTGM Chitina Glacie 84.05 28 IAmb IAmb 16 16 09.4
comp=Z,16nm,0.9s
M27K Edge Creek, AK 84.24 26 IAmb IAmb 16 16 10.3
comp=Z,11nm,0.9s
FYU Fort Yukon 84.32 22 IAmb IAmb 16 16 10.3
comp=Z,20nm,1.1s
F25K Christian Rive 84.56 21 IAmb IAmb 16 16 06.5
comp=Z,17nm,1.4s
BVAR Borovoye Array 84.58 324 P **P** **16 15 53.8 -0.9**
comp=Z,6.8nm,0.7s,baz=103,slow=6.7,SNR=27
BVAR LR LR 16 53 52.9
comp=Z,195nm,21.0s,baz=87,slow=36
comp=Z,6.8nm,0.7s
MAW Mawson 84.74 203 P **P** **16 15 55.6 +0.3**
comp=Z,0.7nm,0.6s,baz=91,slow=7.9,SNR=2.0
MAW LR LR 16 53 51.6
comp=Z,125nm,18.1s,baz=86,slow=36
comp=Z,0.7nm,0.6s
BMAR Burnt Mountain 84.87 21 **P** **16 15 56.7 +0.7**
D25K Kavik River 84.97 19 IAmb IAmb 16 16 05.0
comp=Z,14nm,1.1s
G26K Porcupine Rive 84.99 22 IAmb IAmb 16 16 15.0
comp=Z,19nm,1.0s
F26K Sheenjek River 85.12 21 IAmb IAmb 16 16 13.9
comp=Z,17nm,1.2s
EGAK Eagle 85.30 24 IAmb IAmb 16 16 14.5
comp=Z,22nm,1.2s
H27K Steamboat Moun 85.60 23 IAmb IAmb 16 16 21.2
comp=Z,26nm,1.4s
HYT Haines Junctio 85.81 28 IAmb IAmb 16 16 18.0
comp=Z,17nm,1.1s
DAWY Dawson 85.82 25 IAmb IAmb 16 16 17.7
comp=Z,28nm,1.2s
E27K Coleen River 86.20 21 IAmb IAmb 16 16 24.2
comp=Z,34nm,1.6s
K29M Barlow Dome 86.56 25 IAmb IAmb 16 16 21.6
comp=Z,30nm,1.2s
I29M Ogilvie Camp, 86.62 24 IAmb IAmb 16 16 14.3
comp=Z,16nm,1.2s
QSPA South Pole Qui 86.67 180 P **P** **16 16 05.5 +0.4**
comp=Z,3.8nm,1.2s,baz=331,slow=1.3,SNR=16
QSPA LR LR 16 55 30.9
comp=Z,330nm,18.5s,baz=4.0,slow=36
comp=Z,3.8nm,1.2s
D27M Malcolm River 86.75 20 IAmb IAmb 16 16 14.5
comp=Z,22nm,1.1s
E28M Babbage River 87.05 21 IAmb IAmb 16 16 15.2
comp=Z,16nm,1.1s
G29M Pine Creek 87.14 22 IAmb IAmb 16 16 24.0
comp=Z,25nm,1.1s
J30M Hart River 87.24 25 IAmb IAmb 16 16 21.2
comp=Z,14nm,1.0s
I30M Mount Dempster 87.37 24 P **P** **16 16 06.1 -2.3**
I30M IAmb IAmb 16 16 31.6
comp=Z,19nm,1.4s
G30M tAoh Zrail Nji 87.85 23 IAmb IAmb 16 16 28.9
comp=Z,20nm,1.2s
DLBC Dease Lake 89.09 31 LR LR 16 48 19.0
comp=Z,3μm,21.8s,baz=251,slow=30
INK Inuvik 89.14 21 LR LR 16 52 01.4
comp=Z,312nm,21.3s,baz=238,slow=33
BBB Bella Bella 89.43 38 LR LR 16 48 55.7
comp=Z,441nm,20.6s,baz=257,slow=31
AB31 Akbulak array 90.53 319 IAmb IAmb 16 16 30.2
comp=Z,12nm,1.1s
ABKAR Akbulak array 90.53 319 **P** **16 16 21.8 -1.7**
AKTO Aktyubinsk 91.85 320 LR LR 16 57 40.2
comp=Z,442nm,20.4s,baz=50,slow=36
ARTI Arti 91.93 326 LR LR 16 57 18.3
comp=Z,394nm,21.9s,baz=81,slow=35
ARTI Arti 91.93 326 *d i*P **P** **16 16 27.8 -2.1**
ARTI 16 20 06.0
ARTI S **SKSac** **16 27 00.1 -2.0**
ARTI SS **SS** **16 33 32.7 -6.4**
ARTI pmax pmax
comp=Z,6.0nm,1.1s
ARTI MLR MLR
comp=Z,411nm,19.0s
YBH Yreka Blue Hor 92.38 49 LR LR 16 49 46.2
comp=Z,29nm,21.3s,baz=282,slow=30
SYO Syowa Base 93.13 200 ‖ *e*sP sP 16 16 42.0 -0.2
NVAR Mina Array Bea 95.70 52 P **P** **16 16 47.3 -0.7**
comp=Z,0.3nm,0.6s,baz=287,slow=4.3,SNR=2.2
NVAR LR LR 16 52 47.3
comp=Z,346nm,20.6s,baz=270,slow=31
comp=Z,0.3nm,0.6s
NEW Newport 96.35 42 LR LR 16 54 11.4
comp=Z,160nm,19.2s,baz=280,slow=32
KIRV Kirov 96.74 328 LR LR 17 01 03.3
comp=Z,875nm,20.4s,baz=89,slow=36
YKA Yellowknife Ar 96.78 28 P **P** **16 16 52.2 +0.3**
comp=Z,2.7nm,0.9s,baz=289,slow=5.3,SNR=3.0
YKA LR LR 16 58 45.7
comp=Z,172nm,19.9s,baz=294,slow=34
comp=Z,2.7nm,0.9s
PFO Pinyon Flats O 97.25 57 LR LR 16 52 56.1
comp=Z,317nm,20.7s,baz=248,slow=31
KLMR Klimovskoe 101.32 332 *e*P **Pdif** **16 17 11.8 -0.5**
KLMR *e* 16 21 20.9
KLMR pmax pmax
comp=Z,13nm,1.3s
KLMR MLR MLR
comp=Z,773nm,17.0s
TXAR Lajitas Array 108.44 60 PKKP 16 33 16.4
comp=Z,0.3nm,0.7s,baz=126,slow=6.4,SNR=3.6
GERES GERESS Array B 119.66 326 PKP **PKPdf** **16 22 11.0 -0.7**
comp=Z,0.6nm,0.7s,baz=87,slow=5.2,SNR=2.1
GERES GERESS Array B 119.66 326 PKIKP **PKPdf** **16 22 11.0 -0.7**
PLCA Paso Flores 124.38 146 PKP **PKiKP** **16 22 21.3 0.0**
comp=Z,2.5nm,1.0s,baz=262,slow=1.4,SNR=3.2
KEST Kesra 129.30 315 PKP **PKPdf** **16 22 30.1 -0.5**
comp=Z,2.7nm,0.4s,baz=27,slow=5.2,SNR=11
LPAZ La Paz 140.21 120 PKhKP PKPpre 16 22 44.1
comp=Z,3.3nm,1.1s,baz=262,slow=0.7,SNR=5.5
CPUP Villa Florida 142.31 143 PKP **PKPdf** **16 22 53.6 -1.3**
comp=Z,0.7nm,0.8s,baz=100,slow=3.2,SNR=2.8
TORD Torodi Ar. Bea 144.33 288 PKP **PKPab** **16 22 56.6 -0.1**
comp=Z,11nm,0.8s,baz=50,slow=4.0,SNR=20
DBIC Dimbokro 151.76 278 PKPbc **PKPbc** **16 23 15.9 -1.4**
comp=Z,13nm,0.9s,baz=159,slow=1.7,SNR=6.7
BDFB Brasilia 156.04 142 PKPab **PKPab** **16 23 44.4 +0.2**
comp=Z,3.0nm,0.3s,baz=247,slow=4.7,SNR=3.8

IDC 17 16:11:52.0±4.4, 21.00S×170.92E, h134km±37km, mb3.2/3, mbtmp3.5/4, Error ellipse: s-maj=216.2km s-min=34.3km az=166.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.30**	**255**	P	Pn	16 12 55.3	-0.6
	4.3nm,0.3s,baz=90,slow=20,SNR=151						
DZM				S	Sn	16 13 46.3	+0.7
	16nm,0.3s,baz=316,slow=22,SNR=22						

WRA	**Warramunga Arr**	**34.24**	**265**	P		P	16 18 25.3	-0.1
	0.2nm,0.5s,baz=97,slow=7.8,SNR=10							
	0.2nm,0.5s							
ASAR	**Alice Springs**	**34.28**	**259**	P		P	16 18 25.4	-0.3
	0.4nm,0.8s,baz=89,slow=9.3,SNR=7.0							
	0.4nm,0.8s							
TXAR	**Lajitas Array**	**96.22**	**61**	P		P	16 25 05.5	+0.1
	0.2nm,0.6s,baz=206,slow=5.5,SNR=4.7							
	0.2nm,0.6s							

IDC ***17*** *16:35:52.8±1.4, 1°.62S×122°.75E, h0km, mb3.3/4, mbtmp3.5/5, ML4.0/1, Error ellipse: s-maj=51.6km s-min=21.6km az=58.0*

DJA ***17*** *16:35:54.0±1.1,2°.S±3°×12°.3E±°, h19km±11km, M4.0/13, mb3.9/2, MLv4.0/13*

ISC 17 16:35:56.8±0.9, 1°.82S±0°.04×122°.74E±0°.06, h35km, n19, σ1s71/21, mb3.4/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.78**	**3**	P	**Pn**	**16 36 10.0**	**-1.2**
LUWI				S	**Sn**	**16 36 21.2**	**-0.4**
APSI	**Ampana**	**1.41**	**310**	P	**Pn**	**16 36 18.4**	**-1.6**
KDI	**Kendari**	**2.12**	**183**	P	**Pn**	**16 36 27.5**	**-2.3**
MRSI	**Marisa**	**2.42**	**341**	P	**Pn**	**16 36 32.9**	**-0.9**
KMSI	**Cibinong**	**2.69**	**28**	P	**Pn**	**16 36 34.6**	**-2.9**
PCI	**Palu**	**3.04**	**287**	P	**Pn**	**16 36 41.9**	**-0.5**
TTSI	**Tana Toraja**	**3.16**	**247**	P	**Pn**	**16 36 41.5**	**-2.5**
SANI	**Sanana**	**3.26**	**94**	P	**Pn**	**16 36 44.2**	**-1.2**
BBSI	**Bau Bau**	**3.65**	**183**	P	**Pn**	**16 36 48.9**	**-1.8**
SPSI	**Sidrap Palu**	**3.65**	**234**	P	**Pn**	**16 36 49.3**	**-1.4**
BNSI	**Bone**	**3.67**	**226**	P	**Pn**	**16 36 49.4**	**-1.6**
BKSI	**Bulukumba**	**4.35**	**217**	P	**Pn**	**16 36 59.1**	**-1.3**
KAPI	**Kappang**	**4.35**	**223**	Pn	**Pn**	**16 37 00.4**	**0.0**
	7.5nm,0.3s,baz=355,slow=14,SNR=5.9							
KAPI				Sn	**Sn**	**16 37 48.9**	**-1.0**
	9.3nm,0.3s,baz=147,slow=21,SNR=6.4							
	19nm,0.3s							
BSSI	**Bau Bau, Buton**	**4.84**	**207**	P	**Pn**	**16 37 06.7**	**-0.5**
EDFI	**Ende, Flores**	**6.96**	**189**	P	**Pn**	**16 37 35.6**	**-0.8**
WRA	**Warramunga Arr**	**21.29**	**149**	P	**P**	**16 40 42.9**	**+2.5**
	0.4nm,0.5s,baz=336,slow=10,SNR=10							
	0.4nm,0.5s							
ASAR	**Alice Springs**	**24.26**	**154**	P	**P**	**16 41 13.7**	**+2.9**
	0.4nm,0.6s,baz=337,slow=9.1,SNR=16							
	0.4nm,0.6s							
CMAR	**Chiang Mai Arr**	**30.89**	**312**	P	**P**	**16 42 10.2**	**0.0**
	0.5nm,0.5s,baz=128,slow=8.8,SNR=7.9							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**60.02**	**329**	P	**P**	**16 46 00.5**	**+0.4**
	0.3nm,0.6s,baz=146,slow=8.0,SNR=2.7							
	0.3nm,0.6s							

IDC ***17*** *16:52:50.6±1.1, 10°.82S×164°.35E, h0km, mb4.2/9, mbtmp4.3/11, ML5.0/2, MS3.5/6, Error ellipse: s-maj=30.4km s-min=22.5km az=96.0*

NEIC ***17*** *16:52:51.3±1.6, 10°.75S±0°.06×164°.59E±0°.09, h10km±1km, mb4.4/15, Error ellipse: s-maj=15.1km s-min=9.9km az=101.0*

NOU ***17*** *16:52:56.1, 10°.79S×164°.73E, h52km, mb5.3/28, Santa Cruz Islands Region*

ISC 17 16:52:54.2±0.5, 10°.88S±0°.06×164°.67E±0°.05, h29km, n66, σ1s78/60, mb4.2/16, MS3.5/5, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**1.25**	**80**	P	**Pn**	**16 53 15.7**	**0.0**
LUES	**Luesalemba Tem**	**1.25**	**80**	S	**Sn**	**16 53 31.5**	**0.0**
HNR	**Honiara**	**4.87**	**287**	Pn	**Pn**	**16 54 02.9**	**-2.7**
HNR	**Honiara**	**4.87**	**287**	Pn	**Pn**	**16 54 02.5**	**-3.0**
	65nm,0.3s,baz=17,slow=3.5,SNR=21						
HNR				Sn	**Sn**	**16 55 01.6**	**+0.7**
	35nm,0.3s,baz=357,slow=23,SNR=7.0						
HNR				LR	LR	16 56 02.8	
	comp=Z,503nm,20.7s,baz=112,slow=42						
	81nm,0.4s						
HNR	**Honiara**	**4.87**	**287**	P	**Pn**	**16 54 07.8**	**+2.3**
HNR	**Honiara**	**4.87**	**287**	S	**Sn**	**16 55 02.8**	**+1.9**
SAVO	**Savo Central**	**5.08**	**289**	P	**Pn**	**16 54 10.8**	**+2.3**
SAVO	**Savo Central**	**5.08**	**289**	S	**Sn**	**16 55 08.4**	**+2.1**
SANVU	**Saraoutou**	**5.17**	**152**		**Pn**	**16 54 10.8**	**+1.2**
SANVU	**Saraoutou**	**5.17**	**152**	P	**Pn**	**16 54 11.3**	**+1.7**
SANVU	**Saraoutou**	**5.17**	**152**	S	**Sn**	**16 55 10.1**	**+1.8**
TATA	**Tatamba Isabel**	**5.40**	**297**	P	**Pn**	**16 54 14.4**	**+1.5**
TATA	**Tatamba Isabel**	**5.40**	**297**	S	**Sn**	**16 55 15.9**	**+1.8**
DVP	**Devils Point**	**7.61**	**154**	P	**Pn**	**16 54 45.3**	**+2.1**
KOUNC	**Koumac, New Ca**	**9.62**	**182**	P	**Pn**	**16 55 13.2**	**+2.4**
DZM	**Mont Dzumac**	**11.26**	**172**	Pn	**Pn**	**16 55 35.0**	**+1.7**
	10.0nm,0.3s,baz=330,slow=10.0,SNR=176						
DZM				Sn	**Sn**	**16 57 33.4**	**-4.9**
	baz=90,slow=21						
	24nm,0.4s						
DZM	**Mont Dzumac**	**11.26**	**172**	P	**Pn**	**16 55 35.4**	**+2.1**
ONTNC	**Ouen Toro**	**11.49**	**172**		**Pn**	**16 55 35.9**	**-0.5**
ONTNC	**Ouen Toro**	**11.49**	**172**	P	**Pn**	**16 55 40.1**	**+3.7**
OUENC	**Ouen Island, N**	**11.66**	**170**	P	**Pn**	**16 55 41.6**	**+2.9**
PINNC	**Pines Island,**	**11.96**	**168**	Pn	**Pn**	**16 55 44.7**	**+1.8**
PINNC	**Pines Island,**	**11.96**	**168**	P	**Pn**	**16 55 45.9**	**+2.5**
MSVF	**Nonsavu**	**14.64**	**119**	Pn	**Pn**	**16 56 19.9**	**+0.3**
FUTU	**Fugatoga**	**17.14**	**103**	P	**Pn**	**16 56 51.8**	**0.0**
PMG	**Port Moresby**	**17.30**	**273**	LR	LR	17 03 21.0	
	comp=Z,205nm,19.0s,baz=90,slow=37						
PATS	**Pohnpei**	**18.70**	**340**	P	**Pn**	**16 57 09.8**	**-1.2**
MANU	**Manus Island**	**19.29**	**296**		**P**	**16 57 13.9**	**-3.1**
MANU				IAmb	IAmb	16 57 19.0	
	comp=Z,21nm,0.9s						
EIDS	**Eidsvold**	**19.32**	**220**	Pn	**Pn**	**16 57 18.3**	**-0.1**
EIDS				IAmb	IAmb	16 57 20.9	
	comp=Z,9.2nm,0.8s						
CTAO	**Charters Tower**	**19.95**	**240**		**P**	**16 57 23.3**	**-0.9**
CTAO				IAmb	IAmb	16 57 26.4	
	comp=Z,17nm,0.9s						
CTAO	**Charters Tower**	**19.95**	**240**	P	**Pn**	**16 57 25.2**	**-0.8**
COEN	**Coen**	**21.21**	**259**	P	**P**	**16 57 37.5**	**-0.4**
ARMA	**Armidale**	**22.91**	**210**	P	**P**	**16 57 55.3**	**-0.7**
ARMA				IAmb	IAmb	16 58 09.9	
	comp=Z,19nm,1.1s						
CMSA	**Cobar Meteorol**	**27.03**	**218**	P	**P**	**16 58 34.9**	**+0.8**
INKA	**Innaminka**	**28.03**	**230**	P	**P**	**16 58 43.5**	**+0.4**
INKA				IAmb	IAmb	16 58 46.7	
	comp=Z,9.8nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**29.26**	**4**	T	T	17 29 22.5	
	baz=184,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**29.26**	**4**	T	T	17 29 14.8	
	baz=184,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**29.27**	**4**	T	T	17 29 17.2	
	baz=184,slow=76,SNR=38						
STKA	**Stephens Creek**	**29.84**	**222**	P	**P**	**16 58 57.2**	**-1.9**
STKA	**Stephens Creek**	**29.84**	**222**	P	**P**	**16 58 57.2**	**-1.9**
	comp=Z,2.7nm,0.7s,baz=43,slow=12,SNR=6.9						
STKA				LR	LR	17 10 05.4	
	comp=Z,118nm,18.2s,baz=28,slow=35						
	comp=Z,2.7nm,0.7s						
WR8	**Warramunga Arr**	**30.40**	**249**	P	**P**	**16 59 02.5**	**-1.7**
WR8				IAmb	IAmb	16 59 03.4	
	comp=Z,3.1nm,0.8s						
WB0	**Warramunga Arr**	**30.46**	**249**	P	**P**	**16 59 02.8**	**-2.0**
WB0				IAmb	IAmb	16 59 04.0	
	comp=Z,7.3nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**30.48**	**4**	T	T	17 30 54.1	
	baz=183,slow=76,SNR=40						
H11N3	**WAKE ISLAND Hy**	**30.49**	**4**	T	T	17 30 55.2	
	baz=183,slow=76,SNR=24						
H11N2	**WAKE ISLAND Hy**	**30.50**	**4**	T	T	17 30 47.3	
	baz=183,slow=76,SNR=26						
WRA	**Warramunga Arr**	**30.55**	**249**	P	**P**	**16 59 03.9**	**-1.6**
	comp=Z,2.1nm,0.5s,baz=80,slow=9.0,SNR=26						
WRA				LR	LR	17 11 31.1	
	comp=Z,108nm,18.5s,baz=42,slow=37						
	comp=Z,2.1nm,0.5s						
GUMO	**Guam**	**31.26**	**321**	LR	LR	17 09 45.9	
	comp=Z,62nm,21.4s,baz=150,slow=33						
TOO	**Toolangi**	**31.67**	**210**	P	**P**	**16 59 15.5**	**+0.2**
TOO				IAmb	IAmb	16 59 17.8	
	comp=Z,9.7nm,1.5s						
AS31	**Alice Springs**	**31.92**	**242**	P	**P**	**16 59 15.6**	**-2.0**
ASAR	**Alice Springs**	**31.92**	**242**	P	**P**	**16 59 15.4**	**-2.2**
ASAR	**Alice Springs**	**31.92**	**242**	P	**P**	**16 59 15.7**	**-1.9**
	comp=Z,1.6nm,0.6s,baz=63,slow=10,SNR=49						
ASAR				LR	LR	17 10 26.5	
	comp=Z,84nm,21.1s,baz=96,slow=33						
	comp=Z,1.6nm,0.6s						

HTT	**Hallett**	**32.57**	**222**	P		**P**	**16 59 23.6**	**+0.4**
BBOO	**Buckleboo**	**34.17**	**226**	P		**P**	**16 59 37.4**	**+0.2**
BBOO	**Buckleboo**	**34.17**	**226**	P		**P**	**16 59 37.4**	**+0.2**
KNRA	**Kununurra**	**35.24**	**258**	P		**P**	**16 59 44.6**	**-1.9**
FITZ	**Fitzroy Crossi**	**38.40**	**255**	P		**P**	**17 00 11.8**	**-1.6**
FITZ	**Fitzroy Crossi**	**38.40**	**255**	P		**P**	**17 00 12.1**	**-1.3**
HHC	**Hu-ho-hao-te**	**71.03**	**320**	*eP*		**P**	**17 04 10.0**	**+0.3**
HHC					pmax	pmax		
	comp=Z,13nm,0.7s							
HHC					pmax	pmax		
	comp=Z,95nm,3.6s							
CMAR	**Chiang Mai Arr**	**71.08**	**294**	P		**P**	**17 04 09.7**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=120,slow=4.7,SNR=7.4							
	comp=Z,0.8nm,0.6s							
PZH	**PanZhiHua**	**71.50**	**303**	P		**P**	**17 04 12.9**	**+0.1**
SONM	**Songino Array**	**77.91**	**324**	P		**P**	**17 04 49.6**	**0.0**
	comp=Z,1.1nm,0.8s,baz=139,slow=6.1,SNR=6.0							
	comp=Z,1.1nm,0.8s							
GTA	**Gaotai**	**78.19**	**314**	*eP*		**P**	**17 04 52.6**	**+1.3**
GTA					pmax	pmax		
	comp=Z,6.0nm,0.9s							
QSPA	**South Pole Qui**	**79.12**	**180**	P		**P**	**17 04 58.1**	**+2.1**
	comp=Z,2.0nm,0.9s,baz=307,slow=1.1,SNR=7.2							
	comp=Z,2.0nm,0.9s							
ILAR	**Eielson Array**	**83.70**	**19**	P		**P**	**17 05 21.1**	**+1.1**
	comp=Z,0.9nm,1.0s,baz=227,slow=5.8,SNR=4.1							
	comp=Z,0.9nm,1.0s							
WMQ	**Urumqi**	**88.23**	**315**	*eP*		**P**	**17 05 43.1**	**+0.1**
WMQ					LR	LR		
	comp=Z,200nm,23.1s							
MKAR	**Makanchi Array**	**92.68**	**317**	P		**P**	**17 06 02.7**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=96,slow=6.5,SNR=16							
	comp=Z,1.6nm,0.7s							
ZALV	**Zalesovo Beam**	**92.81**	**324**	P		**P**	**17 06 03.0**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=108,slow=3.2,SNR=3.6							
	comp=Z,0.4nm,0.4s							

CATAC ***17*** *17:11:33.4±0.4, 12°.N±2°×8°.8W±°, h13km±2km, M4.0/17, MLv4.0/17, Error ellipse: s-maj=5.0km s-min=2.0km az=30.3, confirmed*

SNET ***17*** *17:11:34.0±1.1, 12°.30N×88°.04W, h9km±9km, ML4.3*

NEIC ***17*** *17:11:35.7±1.3, 12°.39N±0°.08×87°.87W±0°.06, h33km±11km, mb4.4/21, Error ellipse: s-maj=12.2km s-min=7.3km az=208.0*

IDC ***17*** *17:11:39.5±2.8, 12°.27N×87°.73W, h90km±33km, mb3.6/5, mbtmp3.9/6, MS3.4/3, Error ellipse: s-maj=56.1km s-min=21.3km az=47.0*

ISC 17 17:11:35.8±1.2, 12°.26N±0°.05×87°.96W±0°.04, h50km±12km, n121, σ1s25/131, mb4.2/15, 2C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.99**	**64**		**Pn**	**17 11 53.2**	**-0.2**
CRIN	**San Cristobal**	**0.99**	**64**	P	**Pn**	**17 11 53.4**	**0.0**
CRIN	**San Cristobal**	**0.99**	**64**	S	**Sn**	**17 12 08.6**	**+2.3**
CNCH	**Conchagua**	**1.02**	**7**	*eP*	**Pn**	**17 11 52.8**	**-1.0**
CNCH				*eS*	**Sn**	**17 12 07.7**	**+0.5**
CNCH	**Conchagua**	**1.02**	**7**	S	**Sn**	**17 12 08.4**	**+1.2**
CNCH	**Conchagua**	**1.02**	**7**	⇓P	**Pn**	**17 11 52.9**	**-1.0**
PKGN	**Cerro Pekin**	**1.04**	**67**	P	**Pn**	**17 11 53.6**	**-0.5**
PKGN				S	**Sn**	**17 12 07.9**	**+0.4**
LCND	**La Caada**	**1.04**	**3**	*eP*	**Pn**	**17 11 53.2**	**-0.9**
LCND				*eS*	**Sn**	**17 12 08.9**	**+1.2**
LCND	**La Caada**	**1.04**	**3**	P	**Pn**	**17 11 53.2**	**-0.9**
ALEN	**Leon**	**1.08**	**79**	P	**Pn**	**17 11 53.2**	**-1.4**
ALEN	**Leon**	**1.08**	**79**	S	**Sn**	**17 12 07.9**	**-0.7**
HERN	**Volcan Telica**	**1.15**	**72**		**Pn**	**17 11 54.7**	**-0.9**
PLRN	**Geotermica Pol**	**1.20**	**74**	P	**Pn**	**17 11 55.2**	**-1.1**
PLRN				S	**Sn**	**17 12 09.6**	**-2.0**
BLLM	**Bellamira**	**1.21**	**347**	*eP*	**Pn**	**17 11 55.2**	**-1.2**
CNRM	**Centro Naciona**	**1.22**	**350**	P	**Pn**	**17 11 56.5**	**-0.1**
CNRM	**Centro Naciona**	**1.22**	**350**	S	**Sn**	**17 12 13.9**	**+1.8**
CNGA	**Al SSO del Vol**	**1.25**	**79**	P	**Pn**	**17 11 56.9**	**0.0**
CNGN	**Cerro Negro**	**1.25**	**79**		**Pn**	**17 11 56.4**	**-0.5**
CNGN	**Cerro Negro**	**1.25**	**79**	P	**Pn**	**17 11 57.2**	**+0.2**
PACA	**Pacayal**	**1.25**	**343**	*eP*	**Pn**	**17 11 56.1**	**-1.0**
PACA	**Pacayal**	**1.25**	**343**	S	**Sn**	**17 12 14.3**	**+1.3**
PACA	**Pacayal**	**1.25**	**343**	⇑P	**Pn**	**17 11 56.3**	**-0.8**
ILCN	**San Idelfonso**	**1.27**	**75**	P	**Pn**	**17 11 56.5**	**-0.6**
COPN	**Copaltepe**	**1.34**	**93**	⇑P	**Pn**	**17 11 56.3**	**-1.8**
MOM2	**El Cardon**	**1.45**	**83**	P	**Pn**	**17 11 58.7**	**-0.9**
MOM2				S	**Sn**	**17 12 18.7**	**+1.3**
TECO	**Alcaldia de Te**	**1.50**	**328**	*eP*	**Pn**	**17 11 59.3**	**-1.1**
SAPS	**Ciudad Sandino**	**1.52**	**93**	P	**Pn**	**17 12 00.2**	**-0.4**
APQ3	**Volcan Apoyequ**	**1.55**	**89**	P	**Pn**	**17 12 00.3**	**-0.7**
APQ3				S	**Sn**	**17 12 20.8**	**+0.8**
UESV	**Universidad de**	**1.59**	**329**	*eP*	**Pn**	**17 12 00.7**	**-0.9**
UESV	**Universidad de**	**1.59**	**329**	P	**Pn**	**17 12 00.4**	**-1.2**
UESV	**Universidad de**	**1.59**	**329**	S	**Sn**	**17 12 19.8**	**-1.2**
SCLA	**Alcaldia de Sa**	**1.62**	**332**	*eP*	**Pn**	**17 12 01.2**	**-0.8**
SCLA	**Alcaldia de Sa**	**1.62**	**332**	P	**Pn**	**17 12 01.0**	**-1.0**
UNAN	**Cigeo UNAN**	**1.65**	**95**	P	**Pn**	**17 12 02.3**	**-0.1**
UNAN				S	**Sn**	**17 12 23.6**	**+1.1**
R4DEC	**Barrio San Lui**	**1.67**	**94**	S	**Sn**	**17 12 24.7**	**+1.7**
MGAN	**Managua**	**1.67**	**94**		**Pn**	**17 12 01.9**	**-0.8**
MGAN	**Managua**	**1.67**	**94**	S	**Sn**	**17 12 24.4**	**+1.4**
LFRS	**El Faro**	**1.73**	**322**	*eP*	**Pn**	**17 12 01.9**	**-1.7**
WILN	**Americas 2**	**1.73**	**93**	P	**Pn**	**17 12 03.3**	**-0.2**
WILN				S	**Sn**	**17 12 25.8**	**+1.4**
PAVA	**Las Pavas**	**1.73**	**327**	*eP*	**Pn**	**17 12 03.3**	**-0.3**
MAS3	**Al N del Volca**	**1.76**	**98**	P	**Pn**	**17 12 03.6**	**-0.2**
MAS3				S	**Sn**	**17 12 25.8**	**+0.7**
LALI	**Alcalda de L**	**1.81**	**313**	S	**Sn**	**17 12 24.8**	**-1.4**
LBRS	**Las Brisas**	**1.81**	**324**	*eP*	**Pn**	**17 12 03.9**	**-0.8**
LOMA	**Loma Larga**	**1.81**	**319**	*eP*	**Pn**	**17 12 04.3**	**-0.5**
LOMA	**Loma Larga**	**1.81**	**319**	S	**Sn**	**17 12 28.0**	**+1.3**
NANN	**Nandasmo**	**1.82**	**100**	P	**Pn**	**17 12 05.9**	**+1.1**
NANN	**Nandasmo**	**1.82**	**100**	S	**Sn**	**17 12 29.4**	**+2.7**
IGN	**Direccin Gen**	**1.87**	**321**	P	**Pn**	**17 12 08.1**	**+2.6**
IGN	**Direccin Gen**	**1.87**	**321**	S	**Sn**	**17 12 29.2**	**+1.3**
TGUH	**Tegucigalpa,Un**	**1.91**	**20**		**Pn**	**17 12 05.5**	**-0.5**
TGUH	**Tegucigalpa,Un**	**1.91**	**20**	P	**Pn**	**17 12 07.0**	**+1.0**
TGUH				S	**Sn**	**17 12 32.4**	**+3.5**
UEES	**Universidad Ev**	**1.91**	**319**	S	**Sn**	**17 12 31.2**	**+2.2**
UEES	**Universidad Ev**	**1.91**	**319**	P	**Pn**	**17 12 07.3**	**+1.2**
NADN	**Granada**	**1.95**	**105**	P	**Pn**	**17 12 06.2**	**-0.3**
NADN				S	**Sn**	**17 12 29.4**	**-0.4**
BOQS	**Boqueron**	**1.95**	**319**	*eP*	**Pn**	**17 12 06.1**	**-0.6**
PMON	**Piamonte**	**1.96**	**318**	*eP*	**Pn**	**17 12 06.1**	**-0.6**
PMON	**Piamonte**	**1.96**	**318**	P	**Pn**	**17 12 07.8**	**+1.1**
OCON	**Estacion meteo**	**1.98**	**46**	P	**Pn**	**17 12 07.3**	**+0.3**
JAYA	**Jayaque - finc**	**2.01**	**314**	*eP*	**Pn**	**17 12 05.9**	**-1.5**
JAYA	**Jayaque - finc**	**2.01**	**314**	*i P*	**Pn**	**17 12 06.2**	**-1.3**
MATN	**Matagalpa**	**2.09**	**71**	P	**Pn**	**17 12 08.3**	**-0.2**
LLGN	**La Laguna**	**2.12**	**333**	*eP*	**Pn**	**17 12 09.2**	**+0.3**
LLGN	**La Laguna**	**2.12**	**333**	S	**Sn**	**17 12 37.0**	**+2.9**
LLGN	**La Laguna**	**2.12**	**333**	P	**Pn**	**17 12 08.7**	**-0.3**
RCVN	**Varillal2**	**2.16**	**52**	P	**Pn**	**17 12 09.8**	**+0.2**
RCVN	**Varillal2**	**2.16**	**52**	S	**Sn**	**17 12 38.2**	**+2.9**
RCPN	**Sur Rio San Ju**	**2.21**	**55**	P	**Pn**	**17 12 10.4**	**+0.3**
BOAB	**BOACO BROADBAN**	**2.24**	**85**		**Pn**	**17 12 09.4**	**-1.1**
SNJE	**San Jose**	**2.27**	**315**	*eP*	**Pn**	**17 12 10.5**	**-0.5**
JAPN	**Al SSO del Vol**	**2.34**	**108**	P	**Pn**	**17 12 10.3**	**-1.6**
MORN	**Al O del Volca**	**2.37**	**107**	P	**Pn**	**17 12 12.6**	**+0.4**
CONN	**Concepcion**	**2.38**	**107**	P	**Pn**	**17 12 13.8**	**+1.4**
OMEN	**Al SSO del Vol**	**2.40**	**108**	P	**Pn**	**17 12 09.8**	**-2.9**
NUBE	**Las Nubes**	**2.41**	**313**	*eP*	**Pn**	**17 12 12.6**	**-0.4**
NUBE	**Las Nubes**	**2.41**	**313**	*i P*	**Pn**	**17 12 12.6**	**-0.4**
NUBE	**Las Nubes**	**2.41**	**313**	P	**Pn**	**17 12 12.3**	**-0.6**
MTO3	**Montecristo**	**2.53**	**327**		**Pn**	**17 12 13.7**	**-0.9**
MTO3	**Montecristo**	**2.53**	**327**	*eP*	**Pn**	**17 12 14.6**	**0.0**
MTO3	**Montecristo**	**2.53**	**327**	P	**Pn**	**17 12 14.4**	**-0.2**
FAME	**Alcaldia de Sa**	**2.55**	**308**	P	**Pn**	**17 12 16.0**	**+1.3**
ESQI	**Esquipulas**	**2.65**	**330**		**Pn**	**17 12 15.0**	**-1.2**
ACON	**Acoyapa**	**2.74**	**96**		**Pn**	**17 12 15.9**	**-1.3**
JUD3	**Juan Diaz 3**	**3.15**	**131**	Pn	**Pn**	**17 12 22.5**	**-0.6**
SIUN	**Universidad Ur**	**3.42**	**65**		**Pn**	**17 12 23.6**	**-3.0**
JTS	**Las Juntas de**	**3.54**	**123**		**Pn**	**17 12 28.4**	**+0.1**
JTS	**Las Juntas de**	**3.54**	**123**	P	**Pn**	**17 12 29.8**	**+1.5**
	7.1nm,0.3s,baz=273,slow=10,SNR=10						
JTS				S	**Sn**	**17 13 09.4**	**+0.5**
	27nm,0.5s,baz=169,slow=22,SNR=4.9						
JTS				LR	LR	17 13 39.1	
	comp=Z,226nm,18.1s,baz=290,slow=36						
ESPN	**Las Esperanzas**	**3.57**	**91**		**Pn**	**17 12 26.3**	**-2.4**
RTAL	**Retalhuleu**	**4.28**	**302**	Pn	**Pn**	**17 12 38.2**	**-0.3**
PIRO	**Carate, Puerto**	**5.95**	**130**		**Pn**	**17 13 03.0**	**+1.7**
TEIG	**Tepich**	**7.93**	**358**	Pn	**Pn**	**17 13 29.0**	**+0.5**
TEIG	**Tepich**	**7.93**	**358**	P	**Pn**	**17 13 32.1**	**+3.6**
	0.1nm,0.6s,baz=313,slow=24,SNR=1.2						
HBVL	**Hebbronville**	**17.83**	**327**	P	**P**	**17 15 40.7**	**+0.1**
250A	**Grady**	**19.68**	**4**	P	**P**	**17 15 58.6**	**-2.3**
250A				IAmb	IAmb	17 16 00.5	
	comp=Z,18nm,0.6s						
DRIO	**Del Rio**	**20.75**	**327**	P	**P**	**17 16 11.4**	**-1.1**
ATAH	**Atahualpa**	**21.49**	**153**	LR	LR	17 23 05.1	
	comp=Z,154nm,21.5s,baz=324,slow=32						
BRDY	**Brady**	**21.50**	**333**		**P**	**17 16 20.0**	**-0.6**
OZNA	**Ozona**	**22.21**	**329**	P	**P**	**17 16 28.0**	**-0.2**
OZNA				IAmb	IAmb	17 16 32.6	
	comp=Z,11nm,1.2s						
TXAR	**Lajitas Array**	**22.41**	**322**		**P**	**17 16 30.1**	**-0.3**
TXAR	**Lajitas Array**	**22.41**	**322**	P	**P**	**17 16 32.2**	**+1.7**
	comp=Z,7.9nm,0.7s,baz=141,slow=8.7,SNR=64						
	comp=Z,7.9nm,0.7s						
TX31	**Lajitas Ar. Si**	**22.41**	**322**		**P**	**17 16 30.0**	**-0.4**
TX31				IAmb	IAmb	17 16 34.2	
	comp=Z,8.0nm,0.8s						
MIAR	**Mount Ida**	**22.77**	**348**		**P**	**17 16 34.2**	**+0.2**
MIAR				IAmb	IAmb	17 16 38.3	
	comp=Z,11nm,0.7s						
SGCY	**Sterling City**	**23.01**	**330**	P	**P**	**17 16 35.8**	**-0.9**
SGCY				IAmb	IAmb	17 16 40.3	
	comp=Z,10nm,0.9s						
ALPN	**Alpine**	**23.15**	**324**		**P**	**17 16 38.6**	**+0.5**
ALPN				IAmb	IAmb	17 16 42.3	
	comp=Z,6.5nm,0.9s						
MNHN	**Monahans**	**23.39**	**327**	P	**P**	**17 16 40.5**	**+0.1**
MNHN				IAmb	IAmb	17 16 45.4	
	comp=Z,15nm,0.8s						
POST	**Post**	**24.14**	**331**		**P**	**17 16 45.5**	**-1.8**
DKNS	**Dickens**	**24.38**	**333**	P	**P**	**17 16 49.9**	**+0.4**
DKNS				IAmb	IAmb	17 16 52.9	
	comp=Z,16nm,0.9s						
WMOK	**Wichita Mounta**	**24.44**	**338**	P	**P**	**17 16 49.1**	**-0.8**
MNTX	**Cornudas Mount**	**25.14**	**323**	P	**P**	**17 16 57.6**	**+1.3**
SMWD	**Samnorwood**	**25.32**	**336**		**P**	**17 16 57.9**	**-0.1**
MSTX	**Muleshoe**	**25.48**	**330**		**P**	**17 16 59.5**	**0.0**
AMTX	**Amarillo**	**25.74**	**333**		**P**	**17 17 01.6**	**-0.2**
AMTX				IAmb	IAmb	17 17 08.1	
	comp=Z,8.7nm,0.9s						
CCM	**Cathedral Cave**	**25.86**	**354**	P	**P**	**17 17 02.2**	**-0.5**
CCM				IAmb	IAmb	17 17 04.6	
	comp=Z,4.4nm,0.7s						
NOKA	**Waynoka**	**26.20**	**340**	P	**P**	**17 17 05.9**	**0.0**
BNM	**Barren Site**	**27.64**	**325**	P	**P**	**17 17 17.4**	**-1.7**
SBM	**South Baldy**	**27.83**	**324**	P	**P**	**17 17 21.5**	**+0.5**
PDAR	**Pinedale Array**	**35.71**	**332**	P	**P**	**17 18 30.5**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=124,slow=7.9,SNR=6.7						
	comp=Z,0.6nm,0.3s						
NVAR	**Mina Array Bea**	**37.

ASAR			S	S	17 40 55.5	-6.7	
	comp=Z,0.6nm,0.9s,baz=97,slow=14,SNR=4.2						
	comp=Z,26nm,0.7s						
FORT	**Forrest**	51.80 245	P	P	17 35 01.9	+0.6	
FORT			IAmb	IAmb	17 35 32.0		
	comp=Z,11nm,1.1s						
KNRA	**Kununurra**	52.86 264	P	P	17 35 09.3	0.0	
KNRA			IAmb	IAmb	17 35 10.5		
	comp=Z,9.2nm,0.8s						
FITZ	**Fitzroy Crossi**	55.31 261	P	P	17 35 27.3	+0.3	
FITZ	**Fitzroy Crossi**	55.31 261	P	P	17 35 27.3	+0.3	
	comp=Z,2.8nm,0.7s,baz=106,slow=7.4,SNR=9.9						
	comp=Z,2.8nm,0.7s						
SOEI	**Soe**	58.56 270	P	P	17 35 51.1	+1.0	
TNTI	**Ternate**	59.13 283	P	P	17 35 52.6	-1.3	
SBA	**Scott Base**	59.50 184	P	P	17 35 56.8	+1.4	
VNDA	**Vanda**	59.58 186	P	P	17 35 55.9	-0.1	
	comp=Z,0.8nm,0.8s,baz=25,slow=6.7,SNR=4.3						
	comp=Z,0.8nm,0.8s						
LUWI	**Luwuk**	62.74 279	P	P	17 36 19.0	+0.8	
MJAR	**Matsushiro Arr**	70.28 322	P	P	17 37 06.2	+0.6	
MJAR	**Matsushiro Arr**	70.28 322	P	P	17 37 06.6	+1.0	
	comp=Z,3.6nm,0.7s,baz=153,slow=6.2,SNR=8.3						
	comp=Z,3.6nm,0.7s						
MAJO	**Matsushiro**	70.29 322	P	P	17 37 06.8	+1.1	
QSPA	**South Pole Qui**	71.06 180	P	P	17 37 10.8	+0.7	
QSPA			IAmb	IAmb	17 37 14.8		
	comp=Z,11nm,1.5s						
QSPA	**South Pole Qui**	71.06 180	P	P	17 37 11.2	+1.2	
	comp=Z,2.8nm,0.7s,baz=28,slow=1.2,SNR=15						
	comp=Z,2.8nm,0.7s						
KKM	**Kota Kinabalu**	71.42 283	P	P	17 37 12.9	-0.1	
SSLB	**Suanglung**	74.92 302	P	P	17 37 32.3	-1.0	
PETK	**Petropavlovsk-**	75.39 344	P	P	17 37 36.9	+1.6	
	comp=Z,2.1nm,0.9s,baz=160,slow=6.1,SNR=1.7						
	comp=Z,2.1nm,0.9s						
NVAR	**Mina Array Bea**	78.52 43	P	P	17 37 53.9	+0.5	
	comp=Z,1.1nm,0.8s,baz=221,slow=9.2,SNR=5.6						
	comp=Z,1.1nm,0.8s						
SMAI	**San Martin Ant**	79.25 159	P	P	17 37 56.1	-0.5	
SMAI			IAmb	IAmb	17 37 57.0		
	comp=Z,3.9nm,0.8s						
BELA	**Belgrano 2**	80.76 172	P	P	17 38 03.0	-1.6	
K15K	**Wolf Creek Mou**	81.81 7	P	P	17 38 11.3	+1.2	
K15K			IAmb	IAmb	17 38 43.8		
	comp=Z,12nm,1.3s						
TXAR	**Lajitas Array**	84.50 57	P	P	17 38 25.8	+1.0	
	comp=Z,0.8nm,0.8s,baz=215,slow=8.0,SNR=6.8						
	comp=Z,0.8nm,0.8s						
H03S2	**Juan Fernandez**	85.10 124	T	T	19 11 13.5		
	baz=249,slow=75,SNR=3.9						
H03S1	**Juan Fernandez**	85.12 124	T	T	19 11 29.5		
	baz=249,slow=75,SNR=4.1						
H03S3	**Juan Fernandez**	85.12 124	T	T	19 11 23.0		
	baz=249,slow=75,SNR=4.5						
CCB	**Clear Creek Bu**	86.12 12	P	P	17 38 31.8	-0.1	
PLCA	**Paso Flores**	88.77 133	P	P	17 38 44.5	-0.9	
PLCA			IAmb	IAmb	17 39 04.1		
	comp=Z,7.2nm,1.4s						
I30M	**Mount Dempster**	89.17 16	P	P	17 38 46.4	-0.2	
I30M			IAmb	IAmb	17 39 21.4		
	comp=Z,8.0nm,1.5s						
TROLL	**Troll, Antarti**	89.21 179 ⇑P		P	17 38 44.9	-2.0	
	comp=Z,61nm,0.5s						
SNAA	**Sanae**	89.43 178 ⇑P		P	17 38 46.4	-1.4	
	comp=Z,32nm,0.8s						
SNAA	**Sanae**	89.43 178	P	P	17 38 46.5	-1.3	
SNAA	**Sanae**	89.43 178	P	P	17 38 46.4	-1.4	
	comp=Z,0.9nm,0.7s,baz=291,slow=2.1,SNR=4.4						
	comp=Z,0.9nm,0.7s						
VNA3	**Neumayer Olymp**	89.47 176 ⇑P		P	17 38 46.3	-1.8	
	comp=Z,5.5nm,0.8s						
H29M	**Whitestone**	89.49 14	P	P	17 38 47.7	-0.2	
VNA2	**Neumayer--Watz**	89.94 176 ⇑P		P	17 38 47.8	-2.3	
	comp=Z,3.7nm,0.9s,baz=169,slow=4.0						
VNA1	**Neumayer--Stat**	90.16 176 ⇑P		P	17 38 50.4	-0.7	
	comp=Z,5.5nm,1.0s						
CMAR	**Chiang Mai Arr**	91.59 289	P	P	17 39 00.2	+1.4	
	comp=Z,0.4nm,0.5s,baz=119,slow=2.7,SNR=4.1						
	comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	96.01 319	P	P	17 39 20.4	+1.8	
	comp=Z,0.3nm,0.4s,baz=127,slow=3.8,SNR=1.9						
	comp=Z,0.3nm,0.4s						

IDC 17 17:30:12.5±7.4, 18°18S×179°81W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=323.3km s-min=40.0km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	43.27	260	P	P	17 38 16.1	-0.1
	1.4nm,0.7s,baz=94,slow=8.6,SNR=11						
	1.4nm,0.7s						
ASAR	**Alice Springs**	43.44	255	P	P	17 38 17.4	-0.1
	3.3nm,0.8s,baz=87,slow=8.5,SNR=19						
	3.3nm,0.8s						
ILAR	**Eielson Array**	86.45	13	P	P	17 42 56.6	0.0
	0.3nm,0.7s,baz=219,slow=6.2,SNR=3.2						
	0.3nm,0.7s						

IDC 17 18:02:16.9±1.1, 14°17S×177°69W, h0km, mb3.8/5, mbtmp3.8/5, MS3.6/12, Error ellipse: s-maj=53.4km s-min=27.9km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	16.99	240	LR	LR	18 11 43.7	
	comp=Z,330nm,20.5s,baz=75,slow=33						
HNR	**Honiara**	22.39	280	LR	LR	18 14 05.7	
	comp=Z,49nm,18.0s,baz=78,slow=32						
PMG	**Port Moresby**	34.71	274	LR	LR	18 21 02.7	
	comp=Z,61nm,20.1s,baz=100,slow=32						
H11S2	**WAKE ISLAND Hy**	35.92	334	T	T	18 47 59.5	
	baz=148,slow=78,SNR=76						
H11S3	**WAKE ISLAND Hy**	35.93	334	T	T	18 48 00.4	
	baz=148,slow=78,SNR=100						
H11S1	**WAKE ISLAND Hy**	35.94	334	T	T	18 48 00.8	
	baz=148,slow=78,SNR=32						
H11N3	**WAKE ISLAND Hy**	36.93	335	T	T	18 49 15.7	
	baz=154,slow=76,SNR=110						
H11N1	**WAKE ISLAND Hy**	36.93	335	T	T	18 49 16.0	
	baz=154,slow=76,SNR=136						
H11N2	**WAKE ISLAND Hy**	36.95	335	T	T	18 49 17.2	
	baz=154,slow=76,SNR=136						
STKA	**Stephens Creek**	41.12	238	LR	LR	18 25 41.0	
	comp=Z,107nm,18.6s,baz=31,slow=34						
WRA	**Warramunga Arr**	46.10	256	P	P	18 10 43.2	0.0
	0.6nm,1.0s,baz=85,slow=8.9,SNR=3.3						
	0.6nm,1.0s						
ASAR	**Alice Springs**	46.57	251	P	P	18 10 46.9	-0.1
	3.0nm,0.8s,baz=85,slow=8.3,SNR=22						
ASAR				LR	LR	18 28 30.0	
	comp=Z,65nm,18.8s,baz=122,slow=34						
	3.0nm,0.8s						
SHEM	**Shemya Is, Ala**	67.00	355	LR	LR	18 38 25.5	
	comp=Z,33nm,20.1s,baz=169,slow=32						
ASAJ	**Asahikawa**	68.37	330	LR	LR	18 39 10.2	
	comp=Z,31nm,18.7s,baz=118,slow=32						
PFO	**Pinyon Flats O**	75.19	49	LR	LR	18 40 16.2	
	comp=Z,59nm,18.2s,baz=225,slow=30						
QSPA	**South Pole Qui**	75.86	180	P	P	18 14 04.6	-0.5
	1.2nm,1.0s,baz=332,slow=5.2,SNR=2.2						
	1.2nm,1.0s						
LPIG	**La Paz**	75.99	60	LR	LR	18 43 23.5	
	comp=Z,37nm,18.2s,baz=235,slow=32						
ILAR	**Eielson Array**	82.11	13	P	P	18 14 39.6	+0.6
	0.5nm,0.8s,baz=214,slow=6.4,SNR=4.6						
	0.5nm,0.8s						
TXAR	**Lajitas Array**	83.42	58	P	P	18 14 46.6	-0.2
	0.7nm,0.8s,baz=212,slow=4.4,SNR=6.8						
TXAR				LR	LR	18 44 58.0	
	comp=Z,37nm,18.0s,baz=225,slow=31						
	0.7nm,0.8s						
PDAR	**Pinedale Array**	84.18	43	LR	LR	18 48 24.1	
	comp=Z,25nm,18.5s,baz=252,slow=33						
H03S2	**Juan Fernandez**	89.32	125	T	T	19 55 38.9	
	baz=247,slow=75,SNR=17						
H03S1	**Juan Fernandez**	89.33	125	T	T	19 55 38.3	
	baz=247,slow=75,SNR=20						
H03S3	**Juan Fernandez**	89.34	125	T	T	19 55 39.0	
	baz=247,slow=75,SNR=18						
TIXI	**Tiksi**	92.74	345	LR	LR	18 55 59.6	
	comp=Z,24nm,19.4s,baz=16,slow=35						

IDC 17 18:16:24.5±7.3, 22°45N×143°35E, h101km±64km, mb3.2/8, mbtmp3.6/9, ML2.8/1, Error ellipse: s-maj=72.8km s-min=17.4km az=75.0

ISC 17 18:16:25.3±1.6, 22°6N±0°2×143°6E±0°5, h118km, n10, σ0s97/10, mb3.5/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	14.71	343	P	Pn	18 19 46.3	-1.2
	baz=154,slow=9.3,SNR=4.7						
	1.6nm,0.9s						
KSRS	**Korea Array**	20.10	321	P	P	18 20 50.0	+0.5
	0.8nm,0.6s,baz=144,slow=9.7,SNR=8.1						
	0.8nm,0.6s						
SONM	**Songino Array**	38.95	320	P	P	18 23 41.2	+1.3
	0.3nm,0.4s,baz=111,slow=6.3,SNR=2.0						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	43.21	193	P	P	18 24 14.6	-0.2
	0.2nm,0.2s,baz=11,slow=8.7,SNR=11						
	0.2nm,0.2s						
ASAR	**Alice Springs**	46.91	192	P	P	18 24 42.9	-1.2
	0.1nm,0.3s,baz=13,slow=11,SNR=4.8						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	53.80	321	P	P	18 25 35.2	-0.4
	0.2nm,0.3s,baz=117,slow=8.3,SNR=1.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	54.43	312	P	P	18 25 40.2	-0.2
	0.4nm,0.5s,baz=102,slow=7.2,SNR=5.4						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	57.19	317	P	P	18 25 59.9	0.0
	0.6nm,0.6s,baz=92,slow=7.8,SNR=8.5						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	62.30	319	P	P	18 26 34.8	0.0
	0.6nm,0.5s,baz=95,slow=7.4,SNR=4.1						
	0.6nm,0.5s						
PLCA	**Paso Flores**	146.00	130	PKPbc	PKPbc	18 35 52.8	+1.3
	0.7nm,0.6s,baz=217,slow=4.8,SNR=3.5						

IDC 17 18:17:43.0±2.4, 38°85N×74°59E, h0km, mb3.9/5, mbtmp3.6/11, ML2.8/6, Error ellipse: s-maj=40.8km s-min=21.2km az=126.0

SOME 17 18:17:44.6, 39°22N×74°47E, h5km

NNC 17 18:17:51.2±6.3, 39°43N×74°28E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=59.1km s-min=29.5km az=13.0

ISC 17 18:17:46.8±1.2, 39°25N±0°08×74°70E±0°05, h10km, n31, σ2s05/45, mb4.0/3, 3C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	2.98	357	P	Pb	18 18 38.9	-1.3
	SNR=23						
ULHL	**Ulahol**	3.21	21	P	Pg	18 18 47.2	-1.2
	SNR=12						
AAK	**Ala-Archa**	3.39	357	P	Pb	18 18 46.8	-0.3
	SNR=7.2						
AAK	**Ala-Archa**	3.39	357	⇑Pn	Pb	18 18 46.0	-1.0
	16nm,0.9s						
AAK				⇓Lg	Lg	18 19 36.1	
	42nm,0.9s						
AAK	**Ala-Archa**	3.39	357	Pn	Pb	18 18 45.6	-1.4
	2.2nm,0.3s,baz=185,slow=11,SNR=11						
AAK				Sn	Sg	18 19 33.7	-1.9
	2.9nm,0.3s,baz=300,slow=16,SNR=9.0						
	4.0nm,0.3s						
KBK	**Karagaybulak**	3.41	3	P	Pb	18 18 47.5	+0.1
	SNR=19						
EKS2	**Erkin-Say**	3.48	349	P	Pb	18 18 48.3	-0.2
	SNR=5.2						
MRKS	**Merke**	3.66	343	*e*P	Pb	18 18 53.6	+1.9
	21nm,0.3s						
MRKS				*e*S	Sg	18 19 43.2	-1.2
	23nm,0.5s						
TKM2	**Tomak 2**	3.73	10	P	Pb	18 18 52.4	-0.5
	SNR=17						
KST	**Kastek**	3.91	14	*e*P	Pb	18 18 56.8	+0.9
	5.5nm,0.2s						
KST				*e*S	Sg	18 19 48.8	-3.5
	37nm,0.7s						
USP	**Ospenovka**	4.01	358	P	Pg	18 19 02.0	-1.7
	SNR=6.7						
MTBS	**Maitube**	4.09	18	*e*P	Pg	18 19 04.1	-1.1
	5.6nm,0.3s						
MTBS				*e*S	Sg	18 20 01.2	+3.0
	34nm,0.9s						
TNSS	**Tian-Shan**	4.15	23	*e*P	Pg	18 19 04.3	-1.9
	4.8nm,0.6s						
TNSS				*e*S	Sg	18 20 01.7	+1.7
	8.7nm,0.9s						
KOTS	**Kotyrbulak**	4.38	24	*e*P	Pg	18 19 08.4	-2.3
	7.3nm,0.5s						
KOTS				*e*S	Sg	18 20 08.8	+1.5
	35nm,0.9s						
KUU	**Kurty**	4.80	14	*e*P	Pg	18 19 16.1	-2.6
KUU				*e*S	Sg	18 20 22.1	+1.2
CHKK	**Chushkaly**	4.91	20	*e*P	Pg	18 19 18.4	-2.4
	5.5nm,0.4s						
CHKK				*e*S	Sg	18 20 26.0	+1.6
	13nm,0.5s						
KK31	**Karatay Array**	4.98	322	⇓Pn	Pn	18 19 03.3	+1.7
	1.0nm,0.3s,baz=130,slow=12,SNR=31						
KK31				⇑Pg	Pb	18 19 16.3	+2.2
	6.3nm,0.5s,baz=140,slow=16,SNR=12						
KK31				⇑Sn	Sn	18 19 56.2	-3.0
	2.4nm,0.5s						
KK31				⇓Lg	Lg	18 20 16.3	
	20nm,1.0s						
UZB	**Uzynbulak**	5.08	39	*e*P	Pg	18 19 20.1	-4.0
	1.0nm,0.1s						
UZB				*e*S	Sg	18 20 28.6	-1.2
	12nm,0.7s						
BRLS	**Borolday**	5.26	317	*e*P	Pb	18 19 17.9	-1.1
	2.0nm,0.3s						
BRLS				*e*S	Sb	18 20 25.0	+2.8
	6.0nm,0.4s						
PDGK	**Podgornoye**	5.44	40	⇓Pn	Pn	18 19 11.6	+3.5
	2.9nm,0.9s						
PDGK				⇓Pg	Pg	18 19 29.2	-1.8
	6.2nm,0.5s						
PDGK				⇓Lg	Lg	18 20 44.7	
	16nm,0.8s						
ARXS	**Arharly**	5.48	24	*e*P	Pg	18 19 27.7	-4.1
ARXS				*e*S	Sg	18 20 41.5	-1.3
MKAR	**Makanchi Array**	9.36	34	Pn	Pn	18 20 05.3	+3.5
	0.1nm,0.3s,baz=217,slow=13,SNR=4.3						
MKAR				Lg	Lg	18 22 44.1	
	baz=216,slow=25,SNR=1.4						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	11.69	12	Pn	Pn	18 20 36.7	+3.1
	baz=192,slow=12,SNR=2.1						
KURBB				Lg	Lg	18 23 55.9	
	baz=202,slow=29,SNR=4.1						
	0.1nm,0.6s						
BVAR	**Borovoye Array**	14.09	349	Pn	Pn	18 21 06.8	+0.4
	baz=143,slow=15,SNR=3.6						
	0.4nm,0.4s						
AKTO	**Aktyubinsk**	16.24	319	Pn	Pn	18 21 34.8	-0.1
	0.2nm,0.3s,baz=116,slow=11,SNR=1.9						
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	16.24	22	Pn	P	18 21 38.9	+0.9
	0.1nm,0.3s,baz=200,slow=12,SNR=1.8						
	0.4nm,0.6s						
ARTI	**Arti**	20.25	333	P	P	18 22 22.8	+0.7
	2.4nm,0.6s,baz=153,slow=9.0,SNR=5.4						
	2.4nm,0.6s						
FINES	**FINESS Array B**	36.94	323	P	P	18 24 54.7	-0.9
	1.9nm,0.9s,baz=97,slow=7.9,SNR=7.2						
	1.9nm,0.9s						
ARCES	**ARCESS Array B**	39.79	335	P	P	18 25 19.2	-0.4
	4.5nm,1.1s,baz=92,slow=7.3,SNR=5.9						
	4.5nm,1.1s						
HFS	**Hagfors**	42.78	320	P	P	18 25 43.6	-0.6
	2.4nm,0.9s,baz=82,slow=12,SNR=1.4						
	2.4nm,0.9s						
TORD	**Torodi Ar. Bea**	68.68	270	P	P	18 28 49.1	-1.7
	0.2nm,0.4s,baz=53,slow=5.7,SNR=2.0						
	0.2nm,0.4s						

IDC 17 18:25:32.1±5.9, 4°79S×133°63E, h0km, mb3.2/1, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=334.8km s-min=33.7km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	15.07	177	Pn	Pn	18 29 05.2	-1.3
	0.1nm,0.3s,baz=356,slow=13,SNR=5.6						
WRA				Sn	Sn	18 31 52.0	-2.4
	baz=4.3,slow=36,SNR=2.2						
	0.3nm,0.6s						
ASAR	**Alice Springs**	18.77	179	P	Pn	18 29 53.5	+0.2
	0.1nm,0.3s,baz=3.5,slow=12,SNR=6.3						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	68.44	325	P	P	18 36 36.0	0.0
	0.1nm,0.4s,baz=130,slow=5.8,SNR=1.7						
	0.1nm,0.4s						

NEIC 17 18:45:27.5±0.9, 4°11N±0°07×125°9E±0°1, h139km±8km, mb4.6/69, Error ellipse: s-maj=14.6km s-min=10.1km az=79.0

IDC 17 18:45:29.6±1.2, 3°96N×125°61E, h152km±11km, mb4.2/19, mbtmp4.6/22, MS3.0/2, Error ellipse: s-maj=22.6km s-min=8.4km az=74.0

DJA 17 18:45:30.3±0.2, 4°N±2°×12°6E±°, h136km±3km, M4.6/18, mB5.0/6, mb4.5/18, MLv4.8/17, Mw(mB)4.4/6

ISC 17 18:45:28.7±0.6, 3°98N±0°04×125°88E±0°05, h149km±6km, n154, σ1s67/170, mb4.5/54, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	0.46	230	P	Pn	18 45 51.0	+1.2
SGSI				S	Sn	18 46 06.1	+0.3
DAV	**Davao City (W)**	3.08	354		Pn	18 46 12.7	-4.4
DAV				Sn	Sn	18 46 51.2	-3.4
DAV	**Davao City (W)**	3.08	354	P	Pn	18 46 19.2	+2.1
	174nm,0.3s,baz=293,slow=11,SNR=2.3						
DAV				S	Sn	18 46 55.7	+1.1
	222nm,0.3s,baz=136,slow=19,SNR=4.4						
DAV				LR	LR	18 47 50.5	
	comp=Z,129nm,19.4s,baz=119,slow=46						
TNTI	**Ternate**	3.52	155		Pn	18 46 23.1	+0.5
TNTI				Sn	Sn	18 47 00.9	-3.7
TNTI	**Ternate**	3.52	155	P	Pn	18 46 23.8	+1.1
TNTI	**Ternate**	3.52	155	S	Sn	18 47 01.3	-3.2
TNTI	**Ternate**	3.52	155	P	Pn	18 46 23.7	+1.1
TNTI				S	Sn	18 47 03.0	-1.5
KMSI	**Cibinong**	3.88	209	P	Pn	18 46 30.1	+2.7
MRSI	**Marisa**	5.26	229	P	Pn	18 46 48.1	+2.6
	827nm63nm,0.5s						
TOLI2	**Tolitoli**	5.84	241		Pn	18 46 53.3	0.0
TOLI2				Sn	Sn	18 47 55.8	-3.6
TOLI2	**Tolitoli**	5.84	241	P	Pn	18 46 55.4	+2.1
LUWI	**Luwuk**	5.88	212	Pn	Pn	18 46 54.6	+0.8
LUWI	**Luwuk**	5.88	212	P	Pn	18 46 56.4	+2.6
	0.5nm50nm,1.1s						
SANI	**Sanana**	5.99	179	P	Pn	18 46 54.2	-1.1
SANI	**Sanana**	5.99	179	S	Sn	18 47 56.5	-6.6
SANI	**Sanana**	5.99	179	P	Pn	18 46 54.1	-1.2
APSI	**Ampana**	6.44	221	P	Pn	18 47 05.8	+4.4
	0.3nm57nm,1.1s						
SWI	**Sorong**	7.21	132	P	P	18 47 12.7	+1.0
	0.2nm41nm,0.8s						
NLAI	**Namlea**	7.28	170	P	Pn	18 47 12.6	+0.1
	96nm,1.0s						
MYLDM	**Lahad Datu**	7.46	279		Pn	18 47 16.3	+1.4
MYLDM	**Lahad Datu**	7.46	279	P	Pn	18 47 21.1	+6.2
AAI	**Ambon**	7.96	163	P	Pn	18 47 20.9	-0.7
	73nm,0.7s						
TTSI	**Tana Toraja**	9.24	221	P	Pn	18 47 40.3	+1.5
FAKI	**Fak Fak**	9.35	137	Pn	Pn	18 47 39.4	-0.8
FAKI	**Fak Fak**	9.35	137	P	Pn	18 47 41.8	+1.6
	55nm,1.2s						
KKM	**Kota Kinabalu**	9.85	282	Pn	Pn	18 47 48.3	+1.4
BBSI	**Bau Bau**	9.97	199	P	Pn	18 47 50.5	+2.1
	33nm,1.2s						
EDFI	**Ende, Flores**	13.32	198	P	P	18 48 35.9	-0.6
SBUM	**Sibu**	13.73	264		P	18 48 40.5	-0.5
SBUM	**Sibu**	13.73	264	P	P	18 48 44.8	+3.9
SOEI	**Soe**	13.74	187		P	18 48 40.6	-0.6
SOEI	**Soe**	13.74	187	P	Pn	18 48 38.8	+1.2
	23nm,1.0s						
BATI	**Baumata**	14.27	189	P	Pn	18 48 44.1	0.0
	18nm,0.9s,baz=184,slow=21,SNR=1.8						
WBSI	**Waikabubak, Su**	15.00	206	P	Pn	18 48 54.0	+0.7
	43nm,1.0s						
PLAI	**Plampang**	15.07	212	P	P	18 48 58.4	+2.5
	33nm,1.2s						
GENI	**Genyem**	15.70	114	P	P	18 49 07.4	+4.6
KSM	**Kuching**	15.75	261		Pn	18 49 02.1	-0.5
KSM				IAmb	IAmb	18 49 07.5	
	comp=Z,19nm,0.9s						
KSM	**Kuching**	15.75	261	P	P	18 49 06.8	+3.3
JAY	**Jayapura**	16.16	113	P	P	18 49 11.2	+3.2
	comp=Z,22nm,0.9s,baz=240,slow=4.8,SNR=7.8						
JAY	**Jayapura**	16.16	113	P	P	18 49 08.9	+0.9
	comp=Z,21nm,0.8s						
JAGI	**Jajag, Banyuwa**	17.03	223	P	P	18 49 16.6	-0.9
JAGI				IAmb	IAmb	18 49 58.5	
	comp=Z,25nm,1.1s						
JAGI	**Jajag, Banyuwa**	17.03	223	P	Pn	18 49 19.9	+1.8
	comp=Z,24nm,1.5s						
MTN	**Manton Dam**	17.51	163		P	18 49 22.9	+0.1
KDU	**Kakadu**	17.81	159	P	Pn	18 49 28.2	+0.8
TWG	**Pinlang**	19.30	346	P	P	18 49 40.1	-2.1
TWG				IAmb	IAmb	18 50 15.5	
	comp=Z,46nm,1.4s						
KNRA	**Kununurra**	19.74	172	P	P	18 49 47.1	+0.1
KNRA				IAmb	IAmb	18 49 53.6	
	comp=Z,17nm,1.1s						
YULB	**Yu-li**	19.80	347	P	P	18 49 44.6	-3.1
YULB				IAmb	IAmb	18 50 03.2	
	comp=Z,45nm,1.3s						
TPUB	**Ta-pu**	19.87	346	P	P	18 49 46.0	-2.4
SSLB	**Suanglung**	20.26	347	P	P	18 49 50.0	-2.6
SSLB				IAmb	IAmb	18 49 54.0	
	comp=Z,43nm,1.3s						
NACB	**Ninganchiao**	20.50	349	P	P	18 49 53.2	-1.8
NACB				IAmb	IAmb	18 50 35.3	
	comp=Z,34nm,1.1s						
YHNB	**Yeheng**	21.02	349	P	P	18 49 59.4	-1.4
YHNB				IAmb	IAmb	18 50 37.1	
	comp=Z,38nm,1.2s						
FITZ	**Fitzroy Crossi**	21.94	181		P	18 50 10.9	+0.4
FITZ	**Fitzroy Crossi**	21.94	181	P	P	18 50 10.8	+0.3
	comp=Z,7.6nm,0.4s,baz=14,slow=9.7,SNR=88						
	comp=Z,7.6nm,0.4s						
MANU	**Manus Island**	22.29	105	P	P	18 50 14.7	+0.6
JOW	**Kunigami**	22.84	6	P	P	18 50

comp=Z,3.8nm,0.7s
KS19 Wonju Array Si 33.41 3 P P 18 51 53.9 +0.8
KS19 IAmb IAmb 18 51 57.6
comp=Z,9.0nm,0.8s
XAN Xi'an 33.82 334 ⇓P P **18 51 53.5 -3.3**
XAN pP pP 18 52 18.8 -10
XAN pmax pmax
comp=Z,14nm,0.8s
INKA Innaminka 34.64 156 P P 18 52 04.8 +0.9
JMM Marumori 36.38 20 P P 18 52 18.5 -0.1
BBOO Buckleboo 37.84 166 P P 18 52 32.4 +1.4
BBOO IAmb IAmb 18 52 33.1
comp=Z,11nm,0.8s
LZH Lanzhou 37.86 330 *eP* **P 18 52 32.3 +0.9**
LZH pP pP 18 52 42.6 -20
LZH pmax pmax
comp=Z,31nm,1.2s
EIDS Eidsvold 38.07 141 P P 18 52 33.4 +0.4
EIDS IAmb IAmb 18 52 34.8
comp=Z,9.6nm,0.8s
STKA Stephens Creek 38.67 158 P 18 52 39.1 +1.2
STKA Stephens Creek 38.67 158 P **P 18 52 39.7 +1.8**
comp=Z,5.0nm,0.3s,baz=347,slow=8.1,SNR=19
comp=Z,5.0nm,0.3s
HHC Hu-ho-hao-te 38.90 343 *eP* **P 18 52 41.9 +2.0**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,70nm,5.1s
SHL Shillong 39.05 307 P P 18 52 39.7 -1.8
USRK Ussuriysk Ar. 40.41 7 P **P 18 52 53.4 +1.2**
comp=Z,6.2nm,0.6s,baz=195,slow=7.8,SNR=10
comp=Z,6.2nm,0.6s
MDJ Mudanjiang 40.60 4 P P 18 52 55.4 +1.7
MDJ pmax pmax
comp=Z,24nm,1.2s
H11S3 WAKE ISLAND Hy 42.41 67 T T 19 39 09.0
baz=253
H11S1 WAKE ISLAND Hy 42.42 67 T T 19 39 17.9
baz=253
H11S2 WAKE ISLAND Hy 42.42 67 T T 19 39 06.3
baz=253
GTA Gaotai 42.45 330 P P 18 53 10.1 +1.0
GTA PcP **PcP 18 55 00.8 +1.4**
GTA pmax pmax
comp=Z,7.0nm,1.2s
JKA Kamikawa-asahi 42.60 18 P P 18 53 10.6 +0.5
JKA IAmb IAmb 18 53 34.6
comp=Z,18nm,1.2s
H11N1 WAKE ISLAND Hy 42.91 65 T T 19 39 38.8
baz=255,slow=75,SNR=9.9
H11N2 WAKE ISLAND Hy 42.92 65 T T 19 39 36.9
baz=255,slow=75,SNR=8.0
H11N3 WAKE ISLAND Hy 42.93 65 T T 19 39 40.8
baz=255,slow=75,SNR=8.8
EVN Everest 44.16 307 P P 18 53 21.7 -2.0
CAN Canberra 44.72 153 P P 18 53 28.3 +1.1
TOO Toolangi 45.19 158 P P 18 53 31.0 +0.2
HEH HeiHe 46.13 1 *eP* **P 18 53 38.5 +0.6**
HEH pmax pmax
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 46.62 343 P P 18 53 41.8 -0.3
ULN PcP **PcP 18 55 14.7 +1.1**
SONM Songino Array 46.80 342 P P 18 53 43.2 -0.2
SONM PcP **PcP 18 55 14.3 +0.1**
SONM Songino Array 46.80 342 P P 18 53 43.8 +0.4
comp=Z,3.3nm,0.9s,baz=164,slow=8.0,SNR=15
SONM PcP **PcP 18 55 15.0 +0.9**
comp=Z,1.6nm,0.6s,baz=159,slow=4.0,SNR=6.6
comp=Z,3.3nm,0.9s
WMQ Urumqi 52.04 325 *eP* **P 18 54 25.3 +2.2**
PEA0B Petropavlovsk- 55.52 23 P **P 18 54 48.9 +0.7**
PETK Petropavlovsk- 55.52 23 P **P 18 54 50.4 +2.2**
comp=Z,1.9nm,0.4s,baz=230,slow=11,SNR=3.0
comp=Z,1.9nm,0.4s
MKAR Makanchi Array 56.87 326 P P 18 54 57.6 -0.3
MKAR PcP **PcP 18 55 51.1 -0.6**
MKAR Makanchi Array 56.87 326 P P 18 54 58.2 +0.2
comp=Z,2.2nm,0.4s,baz=119,slow=7.5,SNR=44
MKAR PcP **PcP 18 55 52.4 +0.6**
comp=Z,7.2nm,0.7s,baz=118,slow=4.0,SNR=25
comp=Z,2.2nm,0.4s
PRZ Przheval'sk 56.97 319 P P 18 54 59.1 +0.2
PRZ IAmb IAmb 18 55 01.2
comp=Z,14nm,1.2s
NIL Nilore 57.10 308 P P 18 55 00.2 +0.4
NIL IAmb IAmb 18 55 01.4
comp=Z,14nm,1.2s
KSH Kashi 57.27 315 P P 18 55 02.3 +1.3
KSH pmax pmax
comp=Z,4.0nm,1.1s
KDJ Kajisay 57.60 319 P P 18 55 03.3 0.0
KDJ IAmb IAmb 18 55 04.8
comp=Z,4.4nm,0.7s
YAK Yakutsk 57.99 2 P P 18 55 06.2 +0.9
ZAA0 Zalesovo Array 59.98 333 P P 18 55 17.1 -2.2
ZAA0 IAmb IAmb 18 55 20.2
comp=Z,5.1nm,1.0s
ZALV Zalesovo Beam 59.98 333 P P 18 55 17.7 -1.6
ZALV PcP **PcP 18 56 02.6 -1.3**
ZALV Zalesovo Beam 59.98 333 P P 18 55 18.5 -0.8
comp=Z,1.6nm,0.4s,baz=116,slow=6.8,SNR=14
ZALV PcP **PcP 18 56 03.0 -0.9**
comp=Z,0.9nm,0.4s,baz=90,slow=1.5,SNR=5.6
ZALV LR LR 19 22 32.1
comp=Z,20nm,20.7s,baz=58,slow=37
comp=Z,1.6nm,0.4s
ARSB Arslanbob 60.09 316 P P 18 55 19.4 -1.1
ARSB IAmb IAmb 18 55 21.9
comp=Z,6.5nm,1.2s
ARSB PcP **PcP 18 56 04.5 -0.3**
KBL Kabul 60.70 308 P P 18 55 23.4 -1.5
KBL IAmb IAmb 18 55 25.3
comp=Z,8.1nm,1.1s
KURBB Kurchatov Arra 61.07 328 P P 18 55 26.3 -0.4
comp=Z,7.3nm,0.8s,baz=123,slow=6.4,SNR=48
KURBB PcP **PcP 18 56 08.5 +0.2**
comp=Z,2.1nm,0.8s,baz=111,slow=5.2,SNR=6.3
comp=Z,7.3nm,0.8s
KURK Kurchatov 61.08 328 P P 18 55 25.7 -1.1
GAR Garm 61.13 313 P P 18 55 26.3 -1.3
SIMJ Simiganj 61.98 312 P P 18 55 32.5 -0.8
SIMJ IAmb IAmb 18 55 34.6
comp=Z,6.5nm,1.1s
LBZ Lake Benmore 62.37 146 P P 18 55 37.0 +1.4
KK31 Karatay Array 62.47 317 P P 18 55 35.1 -1.2
KK31 IAmb IAmb 18 55 37.1
comp=Z,6.9nm,1.4s
KKAR Karatay Array 62.47 317 P P 18 55 35.5 -0.8
RAO Raoul Island 63.16 126 P P 18 55 41.1 0.0
KHZ Kahutara 63.18 142 P P 18 55 40.9 0.0
BKZ Black Stump Fm 63.34 138 P P 18 55 43.1 +1.0
RTZ Ruatahuna 63.39 137 P P 18 55 42.5 0.0
BVAR Borovoye Array 66.65 327 P P 18 56 02.0 -1.2
comp=Z,4.7nm,0.8s,baz=126,slow=7.5,SNR=15
BVAR PcP **PcP 18 56 31.3 0.0**
comp=Z,3.2nm,0.7s,baz=111,slow=3.3,SNR=6.8
comp=Z,4.7nm,0.8s
TIXI Tiksi 67.61 1 P P 18 56 09.2 +0.4
TIXI IAmb IAmb 18 56 11.0
comp=Z,8.1nm,0.8s
AB31 Akbulak array 71.42 321 P P 18 56 31.7 -1.0
AB31 PcP **PcP 18 56 50.2 -1.3**
ABKAR Akbulak array 71.42 321 P P 18 56 32.0 -0.8
ABKAR PcP **PcP 18 56 50.0 -1.5**
G19K Purcell Mounta 81.14 24 P P 18 57 26.3 -0.9
G19K IAmb IAmb 18 57 31.1
comp=Z,8.3nm,1.1s
H19K Roundabout Mou 81.29 24 P P 18 57 29.5 +1.5
H19K IAmb IAmb 18 57 31.6
comp=Z,8.1nm,1.1s
E19K Redstone River 81.32 22 P P 18 57 30.3 +2.1
E19K IAmb IAmb 18 57 33.9
comp=Z,9.0nm,1.0s
J20K Nowinta River 82.06 26 P P 18 57 34.2 +2.0
J20K IAmb IAmb 18 57 36.0
comp=Z,8.2nm,1.1s
SUA Susitna One 83.35 29 IAmb IAmb 18 57 41.8
comp=Z,10nm,0.8s
MLY Manley 83.61 25 P P 18 57 39.7 -0.5
MLY IAmb IAmb 18 57 43.2
comp=Z,4.8nm,0.8s
COLD Coldfoot 83.99 23 P P 18 57 43.7 +1.7
COLD IAmb IAmb 18 57 45.6
comp=Z,7.8nm,0.9s
G23K Bananza Creek 84.02 23 P P 18 57 41.3 -1.0
G23K IAmb IAmb 18 57 45.5
comp=Z,8.6nm,1.1s
E23K Chandalar 84.27 22 P **P 18 57 44.9 +1.4**
E23K IAmb IAmb 18 57 47.2
comp=Z,7.5nm,0.8s
NEA2 Nenana 84.30 26 P P 18 57 45.2 +1.6
ILAR Eielson Array 85.24 25 P P 18 57 48.1 -0.2
comp=Z,0.4nm,0.8s,baz=255,slow=5.5,SNR=2.5
BR131 Keskin Array S 89.21 310 P P 18 58 07.2 -1.0
BRTR Keskin Array B 89.21 310 P P 18 58 06.7 -1.4
comp=Z,1.4nm,0.8s,baz=101,slow=4.6,SNR=8.2
comp=Z,1.4nm,0.8s
ARCES ARCESS Array B 89.92 340 P P 18 58 10.3 -0.3
comp=Z,6.8nm,0.7s,baz=83,slow=5.7,SNR=17
comp=Z,6.8nm,0.7s
SPITS Spitsbergen Ar 90.07 349 P P 18 58 12.0 +0.8
comp=Z,1.2nm,0.3s,baz=102,slow=8.1,SNR=14
comp=Z,1.2nm,0.3s
FINES FINESS Array B 91.21 332 P P 18 58 16.1 -0.6
comp=Z,2.6nm,0.8s,baz=82,slow=5.6,SNR=7.0
comp=Z,2.6nm,0.8s
HFS Hagfors 97.40 332 P P 18 58 44.4 -0.7
comp=Z,3.8nm,0.8s,baz=125,slow=4.4,SNR=8.6
comp=Z,3.8nm,0.8s
NB2 NORSAR Subarra 98.19 333 P P 18 58 47.5 -1.2
comp=Z,1.8nm,0.7s,baz=65,slow=4.6
NB2 NORSAR Subarra 98.19 333 P P 18 58 47.5 -1.2
comp=Z,1.8nm,0.7s,baz=65,slow=4.6
NOA NORSAR Array B 98.19 333 P P 18 58 47.2 -1.5
comp=Z,3.0nm,0.8s,baz=67,slow=4.5,SNR=8.7
comp=Z,3.0nm,0.8s
TORD Torodi Ar. Bea 122.04 288 PKP **PKPdf 19 04 06.8 +0.2**
comp=Z,0.4nm,0.3s,baz=55,slow=1.8,SNR=14

ISK ***17*** *18:47:14.0,38˚.18N×26˚.37E,h10km,ML2.8/22*
AFAD ***17*** *18:47:14.7,38˚.20N×26˚.38E,h1km,ML2.9*
ATH ***17*** *18:47:14.9,38˚.20N×26˚.33E,h19km±2km,ML2.8/4, Manual Solution by M.Koligiri First location: 2019/09/17 18:48:36, This location: 2019/09/17 20:00:16 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
THE ***17*** *18:47:15.0,38˚.1˚×2˚.6E±˚,h14km±2km,M2.5/14, MLh2.5/14*
ISC 17 18:47:14.7±0.8,38˚.21N±0˚.02×26˚.38E±0˚.02,h15km±5km, n57,σ0°52/76,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZEYE	**Izmir, Urla-Ze**	**0.10**	**74**	P	**Pg**	**18 47 17.8**	**-0.3**
ZEYE				S	**Sg**	**18 47 19.9**	**-0.4**
ZEYE				*i* IAML		18 47 20.0	
	comp=N,7μm,0.2s						
ZEYE				*i* IAML		18 47 20.0	
	comp=E,6μm,0.2s						
CESE	**eme**	**0.14**	**332**	Pg	**Pg**	**18 47 18.1**	**-0.4**
CESE				Sg	**Sg**	**18 47 20.8**	**-0.1**
URLA	**Izmir**	**0.23**	**49**	Pg	**Pg**	**18 47 19.8**	**-0.1**
URLA				Sg	**Sg**	**18 47 24.0**	**+0.7**
URLA	**Izmir**	**0.23**	**49**	P	**Pg**	**18 47 19.9**	**+0.1**
URLA				S	**Sg**	**18 47 23.5**	**+0.2**
URLA				*i* IAML		18 47 24.0	
	comp=E,4μm,0.5s						
CHOS	**Chios island**	**0.31**	**305**	Pg	**Pg**	**18 47 21.5**	**+0.2**
CHOS				Sg	**Sg**	**18 47 26.2**	**+0.5**
CHOS	**Chios island**	**0.31**	**305**	P	**Pg**	**18 47 21.6**	**+0.4**
CHOS				S	**Sg**	**18 47 26.4**	**+0.7**
CHOS	**Chios island**	**0.31**	**305**	P	**Pg**	**18 47 21.6**	**+0.4**
CHOS				S	**Sg**	**18 47 26.0**	**+0.3**
EAG2	**Marmaro, Chios**	**0.40**	**327**	P	**Pg**	**18 47 23.1**	**+0.4**
EAG2				S	**Sg**	**18 47 28.4**	**+0.2**
DGB	**zmir**	**0.43**	**112**	P	**Pg**	**18 47 23.3**	**0.0**
GMLD	**Gumuldur**	**0.44**	**107**	Pg	**Pg**	**18 47 22.8**	**-0.8**
KARB	**zmir-Karabur**	**0.45**	**3**	P	**Pg**	**18 47 23.8**	**0.0**
KRL1	**Karlovasi Samo**	**0.49**	**148**	P	**Pb**	**18 47 25.0**	**0.0**
BLCB	**Balcova**	**0.55**	**71**	Pg	**Pg**	**18 47 25.4**	**-0.2**
BLCB				Sg	**Sg**	**18 47 33.7**	**+0.8**
BLCB	**Balcova**	**0.55**	**71**	P	**Pg**	**18 47 25.5**	**-0.1**
BLCB				S	**Sg**	**18 47 33.7**	**+0.8**
FOCM	**Foa**	**0.57**	**29**	Pg	**Pg**	**18 47 25.8**	**-0.2**
SMG	**Samos**	**0.62**	**144**	P	**Pg**	**18 47 26.9**	**+0.1**
SMG				S	**Sb**	**18 47 36.0**	**+0.3**
SMG	**Samos**	**0.62**	**144**	P	**Pg**	**18 47 27.0**	**+0.1**
SMG				S	**Sb**	**18 47 35.8**	**+0.1**
GCAM	**G?zelcaml?**	**0.85**	**127**	Pg	**Pg**	**18 47 30.5**	**-0.7**
GCAM	**G?zelcaml?**	**0.85**	**127**	P	**Pg**	**18 47 31.0**	**-0.2**
GCAM				S	**Sb**	**18 47 42.9**	**+0.7**
GCAM				*i* IAML		18 47 45.0	
	comp=N,582nm,0.5s						
IZMD	**zmir-Dikili-**	**0.88**	**29**	P	**Pg**	**18 47 31.5**	**-0.4**
DDIM	**Aydin, Didim**	**1.02**	**138**	P	**Pn**	**18 47 34.7**	**+0.4**
DDIM				S	**Sg**	**18 47 47.6**	**0.0**
DDIM				*i* IAML		18 47 50.0	
	comp=N,249nm,0.4s						
DDIM				*i* IAML		18 47 50.0	
	comp=E,246nm,0.7s						
PRK	**Paraskevi**	**1.04**	**355**	P	**Pb**	**18 47 34.1**	**-0.2**
PRK				S	**Sb**	**18 47 48.3**	**+0.6**
DIDI	**Didim-Aydin**	**1.08**	**140**	Pg	**Pb**	**18 47 34.7**	**-0.3**
SIGR	**SIGRI**	**1.08**	**338**	Pn	**Pb**	**18 47 34.9**	**-0.2**
SIGR	**SIGRI**	**1.08**	**338**	P	**Pb**	**18 47 34.7**	**-0.3**
SIGR				S	**Sb**	**18 47 49.1**	**+0.1**
SIGR	**SIGRI**	**1.08**	**338**	P	**Pb**	**18 47 34.8**	**-0.3**
AYVA	**Ayvalik**	**1.12**	**12**	P	**Pb**	**18 47 35.6**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.22**	**102**	Pn	**Pn**	**18 47 37.2**	**-0.1**
IZMR	**zmir-demi**	**1.24**	**93**	P	**Pn**	**18 47 37.8**	**+0.3**
IZMR				S	**Sb**	**18 47 53.1**	**-0.5**
GPNR	**Gulpinar-Canak**	**1.26**	**351**	Pn	**Pb**	**18 47 38.7**	**+0.6**
KOCA	**Canakkale, Ayv**	**1.30**	**352**	P	**Pn**	**18 47 38.4**	**0.0**
GOMA	**Golmarmara-Man**	**1.30**	**67**	Pn	**Pb**	**18 47 39.3**	**+0.4**
AYDN	**Tasoluk**	**1.31**	**114**	P	**Pn**	**18 47 38.8**	**+0.4**
SOMA	**Soma-Manisa**	**1.31**	**43**	Pn	**Pb**	**18 47 39.5**	**+0.5**
AKHS	**Akhisar**	**1.31**	**59**	P	**Pn**	**18 47 38.9**	**+0.5**
ODEM	**Odemis-Izmir**	**1.34**	**87**	Pn	**Pn**	**18 47 39.1**	**+0.2**
BUHA	**Balikesir, Bur**	**1.40**	**23**	P	**Pn**	**18 47 38.9**	**-0.8**
YAYO	**Edremit-Balk**	**1.50**	**21**	Pn	**Pb**	**18 47 42.2**	**0.0**
NAZL	**Nazilli-Aydin**	**1.53**	**99**	Pn	**Pn**	**18 47 41.9**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**1.53**	**5**	P	**Pn**	**18 47 40.7**	**-0.8**
KARY	**Karystos**	**1.54**	**264**	P	**Pn**	**18 47 41.4**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.56**	**42**	P	**Pn**	**18 47 41.1**	**-0.9**
GORD	**Gordes-Manisa**	**1.57**	**63**	Pn	**Pn**	**18 47 43.1**	**+1.0**
KIRA	**zmir-Kiraz**	**1.59**	**90**	P	**Pn**	**18 47 42.5**	**+0.1**
EZN	**Ezine**	**1.61**	**359**	Pn	**Pn**	**18 47 43.8**	**+1.2**
EZN	**Ezine**	**1.61**	**359**	P	**Pn**	**18 47 42.7**	**+0.1**
EZN				S	**Sn**	**18 48 03.3**	**+0.2**
BOZC	**Bozcaada**	**1.65**	**351**	Pn	**Pb**	**18 47 44.6**	**-0.2**
DAT	**Datca**	**1.76**	**147**	P	**Pn**	**18 47 44.9**	**+0.2**
KYMI	**Kymi, Euboea I**	**1.84**	**284**	P	**Pn**	**18 47 46.2**	**+0.4**
CANM	**Can-anakkale**	**1.87**	**16**	Pn	**Pn**	**18 47 47.5**	**+1.3**
LIA	**Limnos Island**	**1.93**	**331**	P	**Pn**	**18 47 46.9**	**0.0**
LIA				S	**Sn**	**18 48 09.2**	**-1.6**
LIA	**Limnos Island**	**1.93**	**331**	P	**Pn**	**18 47 46.9**	**0.0**
DION	**Dionisos Attik**	**1.93**	**267**	P	**Pn**	**18 47 47.3**	**+0.3**
SNT5	**Nea Kammeni, S**	**1.97**	**204**	P	**Pn**	**18 47 47.3**	**-0.2**
GADA	**Gvkgeada**	**2.01**	**349**	P	**Pn**	**18 47 47.2**	**-0.9**
SMTH	**Samothraki Isl**	**2.35**	**344**	P	**Pn**	**18 47 52.3**	**-0.5**
ALN	**Alexandroupoli**	**2.69**	**355**	P	**Pn**	**18 47 56.6**	**-0.8**

FUNV ***17*** *19:07:47.7,9˚.45N×72˚.91W,h5km,MW3.2*
RSNC ***17*** *19:07:50.8±0.0,10˚.N±3˚.×7˚.3W±˚,h22km±4km,M1.9,ML1.9*
ISC 17 19:07:45.7±1.5,9.57N±0˚.03×72.96W±0˚.04,h11km±13km, n11,σ2°08/21,Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQV	**Machiques**	**0.64**	**41**	*eP*	**Pn**	**19 08 00.7**	**0.0**
MCQV				*eS*	**Sn**	**19 08 11.2**	**+0.4**
ARGC	**Ariguani, Magd**	**1.30**	**283**	P	**Pg**	**19 08 10.9**	**+0.3**
ARGC				S	**Sb**	**19 08 26.9**	**+0.2**
OCAC	**Ocana**	**1.36**	**195**	P	**Pn**	**19 08 10.7**	**-0.1**
OCAC				S	**Sb**	**19 08 28.1**	**-0.7**
CRJC	**Cerrejon, Guaj**	**1.45**	**3**	P	**Pg**	**19 08 13.4**	**-0.1**
CRJC				S	**Sg**	**19 08 33.2**	**+0.8**
CAPV	**Capacho**	**1.81**	**159**	*eP*	**Pn**	**19 08 17.5**	**+0.6**
CAPV				*eS*	**Sn**	**19 08 40.2**	**+0.3**
SJCC	**San Jacinto, C**	**2.21**	**279**	P	**Pb**	**19 08 25.0**	**-0.7**
SJCC				S	**Sb**	**19 08 53.1**	**+0.1**
PAMC	**Pamplona, Colo**	**2.23**	**173**	P	**Pb**	**19 08 25.3**	**-0.9**
PAMC				S	**Sb**	**19 08 53.9**	**-0.1**
URIC	**Uribia, Colomb**	**2.33**	**24**	P	**Pb**	**19 08 26.5**	**-1.2**
URIC				S	**Sb**	**19 08 57.5**	**+1.1**
BAUV	**El Baul**	**4.90**	**97**	*eP*	**Pn**	**19 08 59.4**	**+0.1**
BAUV				*eS*	**Sn**	**19 09 53.0**	**-3.0**
BENV	**Beln**	**5.30**	**85**	*eP*	**Pn**	**19 09 05.4**	**+0.5**
BENV				*eS*	**Sn**	**19 10 02.6**	**-3.5**
CACV	**CAICARA DEL OR**	**6.66**	**107**	*eP*	Pn	19 09 29.6	+6.1
CACV				*eS*	**Sn**	**19 10 46.1**	**+6.8**

GCG ***17*** *19:11:41.7±1.2,14˚.42N×92˚.02W,h76km±9km,MD4.2, ML4.7*
SNET ***17*** *19:11:41.2±2.6,14˚.51N×92˚.07W,h73km,ML4.8*
NEIC ***17*** *19:11:42.3±2.0,14˚.45N±0˚.08×91˚.96W±0˚.07,h74km±6km, mb4.5/121,Mwr4.6/13,Md4.7/99(MEX),Error ellipse: s-maj=12.8km s-min=7.8km az=211.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.98; $M_{\theta\theta}$2.53; $M_{\phi\phi}$-3.51; $M_{r\theta}$8.47; $M_{\theta\phi}$2.77; $M_{\phi r}$-2.42; Fault plane solution: $M_0$9.75000×10^{15} NP1:ϕ_s16.35000°, δ25.20000°, λ174.50000°. NP2:ϕ_s111.33000°, δ87.66000°, λ64.90000°. Principal axes: T 10.2716, Plg42.0000°, Azm358.0000°; N -1.1358, Plg25.0000°, Azm112.0000°; P -9.1358, Plg38.0000°, Azm224.0000°;*
MEX ***17*** *19:11:42.5±1.2,14.37N×91.98W,h78km±9km,MD4.7*
CATAC ***17*** *19:11:42.6±0.9,14˚.N±7˚×.9˚2W±˚,h41km±8km,M4.9/13, MLv4.9/13,Error ellipse: s-maj=17.9km s-min=10.8km az=47.7,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.13; $M_{\theta\theta}$-1.72; $M_{\phi\phi}$1.59; $M_{r\theta}$6.94; $M_{\theta\phi}$-0.16; $M_{\phi r}$-4.18; Fault plane solution: $M_0$8.26712×10^{15} NP1: ϕ_s121.86772°, δ88.67307°, λ100.81399°. NP2: ϕ_s218.78016°, δ10.89414°, λ7.03804°. Principal axes: T 7.9753, Plg45.2950°, Azm42.7385°; N 0.5556, Plg10.8111°, Azm301.6143°; P -8.5309, Plg42.6867°, Azm201.4698°; confirmed*
NEIC ***17*** *19:11:42.4, 14˚.47N×91˚.96W,h74km*
IDC ***17*** *19:11:48.5±2.6, 14˚.69N×91˚.48W,h136km±22km,mb3.7/6, mbtmp4.2/8,MS3.5/20,Error ellipse: s-maj=26.8km s-min=13.8km az=62.0*
ISC 17 19:11:42.3±0.7,14˚.48N±0˚.05×91˚.92W±0˚.04,h82km±6km, n275,σ2°29/314,mb4.5/47,Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.22**	**79**		**Pn**	**19 11 53.6**	**-0.8**
RTAL				Sn	**Sn**	**19 12 01.1**	**-2.2**
RTAL	**Retalhuleu**	**0.22**	**79**	*eP*	**Pn**	**19 11 53.6**	**-0.8**
RTAL				*eS*	**Sn**	**19 12 01.9**	**-1.4**
RTAL	**Retalhuleu**	**0.22**	**79**	P	**Pn**	**19 11 53.7**	**-0.7**
RTAL				S	**Sn**	**19 12 02.6**	**-0.7**
SMCA	**Catarina**	**0.40**	**338**	*i* P	**Pn**	**19 11 54.7**	**-0.7**
SMCA				*i* S	**Sn**	**19 12 04.0**	**-1.1**
SMCA				IAML		19 12 08.5	
	comp=Z,21μm,0.3s						
THIG		**0.54**	**322**		**Pn**	**19 11 56.1**	**-0.4**
THIG					**Sn**	**19 12 06.6**	**-0.4**
THIG		**0.54**	**322**	*eP*	**Pn**	**19 11 56.1**	**-0.4**
THIG				*eS*	**Sn**	**19 12 06.6**	**-0.4**
THIG		**0.54**	**322**	*eP*	**Pn**	**19 11 56.2**	**-0.4**
THIG				*i* S	**Sn**	**19 12 06.9**	**-0.1**
THIG				IAML		19 12 10.2	
	comp=Z,44μm,0.4s						
QUEO	**Labor Ovalle**	**0.55**	**45**	*eP*	**Pn**	**19 11 57.6**	**+0.7**
QUEO				*i* S	**Sn**	**19 12 09.7**	**+1.9**
QUEO				IAML		19 12 17.6	
	comp=Z,36μm,0.8s						
SOKI	**Kika Raxquin**	**0.60**	**56**	*i* P	**Pn**	**19 11 58.1**	**+0.5**
SOKI				IAML		19 12 13.4	
	comp=Z,10μm,1.0s						
CHUJ	**Union Juarez**	**0.63**	**343**	*eP*	**Pn**	**19 11 56.7**	**-1.0**
CHUJ				*eS*	**Sn**	**19 12 08.2**	**-0.9**
PATR	**El Naranjo**	**0.70**	**334**		**Pn**	**19 11 57.4**	**-1.0**
PATR					**Sn**	**19 12 09.2**	**-1.0**
PATR	**El Naranjo**	**0.70**	**334**	*eP*	**Pn**	**19 11 57.4**	**-1.0**
PATR				*i* S	**Sn**	**19 12 09.2**	**-1.0**
PAVE	**Pavencul**	**0.75**	**341**		**Pn**	**19 11 58.2**	**-0.6**
PAVE					**Sn**	**19 12 10.6**	**-0.5**
PAVE	**Pavencul**	**0.75**	**341**	*eP*	**Pn**	**19 11 58.2**	**-0.6**
PAVE				*eS*	**Sn**	**19 12 10.6**	**-0.5**
ESSG	**Sabana Grande**	**1.06**	**95**	*i* P	**Pn**	**19 12 02.7**	**+0.5**
ESSG				*i* S	**Sn**	**19 12 18.2**	**+1.0**
ESSG				IAML		19 12 21.1	
	comp=Z,8μm,0.3s						
QUIS	**Sacapulas**	**1.13**	**45**	*i* P	**Pn**	**19 12 04.9**	**+1.7**
QUIS				*i* S	**Sn**	**19 12 20.0**	**+1.2**
QUIS				IAML		19 12 25.7	
	comp=Z,5μm,0.6s						
FG8	**Yepocapa, Chim**	**1.33**	**99**	*i* P	Pn	19 12 01.5	-4.2
FG8				*i* S	**Sn**	**19 12 16.7**	**-6.6**
GCG4	**OSOP**	**1.35**	**85**	*i* P	**Pn**	**19 12 07.7**	**+1.9**
GCG4				*i* S	**Sn**	**19 12 27.7**	**+4.1**
FG16	**Alotenango, Sa**	**1.38**	**99**	*eP*	**Pn**	**19 12 02.5**	**-3.9**
FG16				*i* S	**Sn**	**19 12 18.5**	**-5.9**
FG16				IAML		19 12 19.9	
	comp=Z,25μm,0.6s						
ESSJ	**San Jos, E**	**1.65**	**123**	*eP*	Pn	19 12 04.6	-5.1
PCIG		**1.75**	**314**		**Pn**	**19 12 10.5**	**-0.3**
PCIG					**Sn**	**19 12 31.6**	**-0.9**
PCIG		**1.75**	**314**	*eP*	**Pn**	**19 12 10.5**	**-0.3**
PCIG				*eS*	**Sn**	**19 12 31.6**	**-0.9**
CCIG	**Comitan**	**1.80**	**353**		**Pn**	**19 12 13.1**	**+1.3**
CCIG				Sn	**Sn**	**19 12 30.4**	**-3.7**
CCIG	**Comitan**	**1.80**	**353**	*eP*	**Pn**	**19 12 13.2**	**+1.4**
CCIG				*eS*	**Sn**	**19 12 36.7**	**+2.6**
CCIG	**Comitan**	**1.80**	**353**	*i* P	**Pn**	**19 12 13.6**	**+1.8**
FAME	**Alcaldia de Sa**	**1.95**	**109**	P	**Pn**	**19 12 14.4**	**+0.8**
LOAL	**Lomas de Alarc**	**2.13**	**103**	*eP*	**Pn**	**19 12 18.7**	**+2.7**
LOAL	**Lomas de Alarc**	**2.13**	**103**	P	**Pn**	**19 12 18.1**	**+2.1**
NUBE	**Las Nubes**	**2.15**	**105**	*eP*	**Pn**	**19 12 17.9**	**+1.5**
NUBE				*eS*	**Sn**	**19 12 44.1**	**+1.6**
NUBE	**Las Nubes**	**2.15**	**105**	P	**Pn**	**19 12 18.0**	**+1.6**
CEVE	**Cerro Verde**	**2.32**	**106**	*eP*	**Pn**	**19 12 21.1**	**+2.4**
CEVE	**Cerro Verde**	**2.32**	**106**	P	**Pn**	**19 12 21.2**	**+2.4**
MTO3	**Montecristo**	**2.48**	**92**		**Pn**	**19 12 21.3**	**+0.5**
MTO3	**Montecristo**	**2.48**	**92**	*eP*	**Pn**	**19 12 22.0**	**+1.1**
MTO3	**Montecristo**	**2.48**	**92**	*i* P	**Pn**	**19 12 22.2**	**+1.3**
MTO3	**Montecristo**	**2.48**	**92**	P	**Pn**	**19 12 22.1**	**+1.3**
ESQI	**Esquipulas**	**2.50**	**88**		**Pn**	**19 12 21.5**	**+0.6**
ESQI	**Esquipulas**	**2.50**	**88**	P	Pn	19 12 31.4	+10
JAYA	**Jayaque - finc**	**2.54**	**109**	P	**Pn**	**19 12 23.0**	**+1.4**
TGBT	**Tuxtla Gutierr**	**2.54**	**334**		**Pn**	**19 12 20.5**	**-1.0**
TGBT					**Sn**	**19 12 51.9**	**+0.3**
TGBT	**Tuxtla Gutierr**	**2.54**	**334**	*eP*	**Pn**	**19 12 20.5**	**-1.0**
TGBT				*eS*	**Sn**	**19 12 51.9**	**+0.3**
TGIG		**2.56**	**333**		**Pn**	**19 12 20.9**	**-0.9**
TGIG					**Sn**	**19 12 52.9**	**+0.8**
TGIG		**2.56**	**333**	*eP*	**Pn**	**19

CRIN	**San Cristobal**	**5.06**	**110**	Pn		**Pn**	**19 12 56.5**	**+0.8**
PEIG	**Puerto Escondi**	**5.27**	**287**			**Pn**	**19 12 57.0**	**-1.5**
PEIG						**Sn**	**19 13 51.0**	**-6.9**
PEIG	**Puerto Escondi**	**5.27**	**287**	*eP*		**Pn**	**19 12 57.0**	**-1.5**
PEIG				*eS*		**Sn**	**19 13 51.0**	**-6.9**
OXLC	**Oaxaca**	**5.27**	**300**			**Sn**	**19 13 54.9**	**-3.4**
OXLC	**Oaxaca**	**5.27**	**300**	*eS*		**Sn**	**19 13 54.9**	**-3.4**
OXBJ	**Oaxaca**	**5.29**	**300**			**Sn**	**19 13 58.0**	**-0.8**
OXBJ	**Oaxaca**	**5.29**	**300**	*eS*		**Sn**	**19 13 58.0**	**-0.8**
OXIG	**Oaxaca**	**5.30**	**300**			**Pn**	**19 13 00.6**	**+1.4**
VHO	**Vista Hermosa**	**5.30**	**300**	*eP*		**Pn**	**19 13 00.6**	**+1.4**
VHO				*eS*		**Sn**	**19 13 56.1**	**-3.0**
CNGN	**Cerro Negro**	**5.45**	**111**			**Pn**	**19 13 00.7**	**-0.4**
YOIG	**Yosondua**	**5.91**	**294**			**Pn**	**19 13 08.6**	**+1.0**
YOIG						**Sn**	**19 14 14.3**	**+0.3**
YOIG	**Yosondua**	**5.91**	**294**	*eP*		**Pn**	**19 13 08.6**	**+1.0**
YOIG				*eS*		**Sn**	**19 14 14.3**	**+0.3**
MGAN	**Managua**	**5.99**	**112**	Pn		**Pn**	**19 13 07.2**	**-1.2**
TOIG	**Toxpalan**	**6.11**	**307**			**Pn**	**19 13 10.5**	**+0.4**
TOIG						**Sn**	**19 14 18.5**	**-0.1**
TOIG	**Toxpalan**	**6.11**	**307**	*eP*		**Pn**	**19 13 10.5**	**+0.4**
TOIG				*eS*		**Sn**	**19 14 18.5**	**-0.1**
TXIG	**Tlaxiaco**	**6.26**	**297**			**Pn**	**19 13 13.2**	**+0.8**
TXIG						**Sn**	**19 14 17.0**	**-5.7**
TXIG	**Tlaxiaco**	**6.26**	**297**	*eP*		**Pn**	**19 13 13.2**	**+0.8**
TXIG				*eS*		**Sn**	**19 14 17.0**	**-5.7**
BOAB	**BOACO BROADBAN**	**6.41**	**108**			**Pn**	**19 13 14.6**	**+0.4**
TPIG	**Tehuac#an**	**6.53**	**308**			**Pn**	**19 13 16.7**	**+0.9**
TPIG						**Sn**	**19 14 34.0**	**+5.0**
TPIG	**Tehuac#an**	**6.53**	**308**	*eP*		**Pn**	**19 13 16.7**	**+0.9**
TPIG				*eS*		**Sn**	**19 14 34.0**	**+5.0**
HLIG	**Huajuapan de L**	**6.56**	**301**			**Pn**	**19 13 15.8**	**-0.5**
HLIG						**Sn**	**19 14 30.3**	**+0.5**
HLIG	**Huajuapan de L**	**6.56**	**301**	*eP*		**Pn**	**19 13 15.8**	**-0.5**
HLIG				*eS*		**Sn**	**19 14 30.3**	**+0.5**
TEIG	**Tepich**	**6.69**	**31**			**Pn**	**19 13 18.0**	**+0.1**
TEIG	**Tepich**	**6.69**	**31**	P		**Pn**	**19 13 19.1**	**+1.3**
	baz=129,slow=24,SNR=135							
TEIG				S		**Sn**	**19 14 30.2**	**-2.4**
	baz=311,slow=24,SNR=22							
LVIG	**Laguna Verde**	**6.76**	**321**	*eP*		**Pn**	**19 13 18.3**	**-0.5**
LVIG				*eS*		**Sn**	**19 14 26.8**	**-7.5**
MYIG	**Merida**	**6.77**	**18**	*eP*		**Pn**	**19 13 17.9**	**-1.1**
MYIG				*eS*		**Sn**	**19 14 30.6**	**-3.9**
FTIG	**Fresnillo de T**	**6.87**	**301**			**Pn**	**19 13 22.1**	**+1.5**
FTIG						**Sn**	**19 14 33.7**	**-3.6**
FTIG	**Fresnillo de T**	**6.87**	**301**	*eP*		**Pn**	**19 13 22.1**	**+1.5**
FTIG				*eS*		**Sn**	**19 14 33.7**	**-3.6**
SIUN	**Universidad Ur**	**6.97**	**95**			**Pn**	**19 13 23.1**	**+1.3**
ACON	**Acoyapa**	**7.03**	**110**			**Pn**	**19 13 21.2**	**-1.4**
TLIG	**Tlapa**	**7.09**	**296**			**Pn**	**19 13 25.2**	**+1.8**
TLIG	**Tlapa**	**7.09**	**296**	*eP*		**Pn**	**19 13 24.1**	**+0.6**
TLIG				*eS*		**Sn**	**19 14 40.6**	**-2.0**
CRIG	**Cruz Grande**	**7.30**	**289**			**Pn**	**19 13 26.0**	**-0.2**
CRIG						**Sn**	**19 14 46.0**	**-1.7**
CRIG	**Cruz Grande**	**7.30**	**289**	*eP*		**Pn**	**19 13 26.0**	**-0.2**
CRIG				*eS*		**Sn**	**19 14 46.0**	**-1.7**
ESPN	**Las Esperanzas**	**7.76**	**106**			**Pn**	**19 13 32.7**	**+0.2**
PPCL	**Tochimilco**	**7.78**	**305**	*eP*		**Pn**	**19 13 35.9**	**+2.8**
PPCL				*eS*		**Sn**	**19 15 03.4**	**+3.6**
PPSX	**Xalitzintla**	**7.79**	**307**	*eP*		**Pn**	**19 13 35.7**	**+2.4**
PPSX				*eS*		**Sn**	**19 14 57.5**	**-2.7**
PPPT	**Popocatepetl**	**7.82**	**306**	*eP*		**Pn**	**19 13 34.7**	**+0.9**
PPPT				*eS*		**Sn**	**19 14 57.2**	**-3.9**
DAIG	**Los Arroyos**	**7.86**	**290**			**Pn**	**19 13 33.3**	**-0.6**
DAIG						**Sn**	**19 14 53.0**	**-8.3**
DAIG	**Los Arroyos**	**7.86**	**290**	*eP*		**Pn**	**19 13 33.3**	**-0.6**
DAIG				*eS*		**Sn**	**19 14 53.0**	**-8.3**
PBPN	**Popocatepetl**	**7.86**	**306**	*eP*		**Pn**	**19 13 35.3**	**+0.9**
PBPN				*eS*		**Sn**	**19 15 01.3**	**-0.8**
PBXN	**Popocatepetl**	**7.87**	**306**	*eP*		**Pn**	**19 13 36.1**	**+1.6**
PBXN				*eS*		**Sn**	**19 14 57.5**	**-4.7**
PPM	**Popocatepetl**	**7.88**	**306**	*eP*		**Pn**	**19 13 38.2**	**+3.7**
PPM				*eS*		**Sn**	**19 15 01.1**	**-1.3**
PPIG	**Popocatepetl**	**7.88**	**306**			**Pn**	**19 13 38.2**	**+3.6**
PPIG						**Sn**	**19 15 01.1**	**-1.4**
JTS	**Las Juntas de**	**7.98**	**121**			**Pn**	**19 13 36.4**	**+0.8**
JTS	**Las Juntas de**	**7.98**	**121**	P		**Pn**	**19 13 38.3**	**+2.7**
	comp=Z,10nm,0.3s,baz=277,slow=10,SNR=7.4							
JTS				S		**Sn**	**19 15 04.6**	**+0.2**
	comp=Z,5.8nm,0.4s,baz=236,slow=19,SNR=1.1							
AMVM	**AMECAMECA**	**8.04**	**306**			**Sn**	**19 15 06.7**	**+0.6**
AMVM	**AMECAMECA**	**8.04**	**306**	*eS*		**Sn**	**19 15 06.7**	**+0.6**
YAIG	**Yautepec**	**8.12**	**303**			**Pn**	**19 13 39.9**	**+2.3**
YAIG						**Sn**	**19 15 05.4**	**-2.4**
YAIG	**Yautepec**	**8.12**	**303**	*eP*		**Pn**	**19 13 39.9**	**+2.3**
YAIG				*eS*		**Sn**	**19 15 05.4**	**-2.4**
MEIG	**Mezcala**	**8.15**	**296**			**Pn**	**19 13 39.7**	**+1.7**
MEIG						**Sn**	**19 15 03.4**	**-5.2**
MEIG	**Mezcala**	**8.15**	**296**	*eP*		**Pn**	**19 13 39.7**	**+1.7**
MEIG				*eS*		**Sn**	**19 15 03.4**	**-5.2**
XCVM	**Xochimilco**	**8.36**	**306**			**Sn**	**19 15 19.2**	**+5.2**
XCVM	**Xochimilco**	**8.36**	**306**	*eS*		**Sn**	**19 15 19.2**	**+5.2**
TLVM	**San Miguel Top**	**8.37**	**305**			**Sn**	**19 15 06.8**	**-7.4**
TLVM	**San Miguel Top**	**8.37**	**305**	*eS*		**Sn**	**19 15 06.8**	**-7.4**
CAIG	**El Cayaco**	**8.43**	**289**			**Pn**	**19 13 41.5**	**-0.2**
CAIG						**Sn**	**19 15 18.1**	**+2.8**
CAIG	**El Cayaco**	**8.43**	**289**	*eP*		**Pn**	**19 13 41.5**	**-0.2**
CAIG				*eS*		**Sn**	**19 15 18.1**	**+2.8**
MAVM	**Malinalco, Edo**	**8.51**	**303**			**Sn**	**19 15 16.7**	**-0.9**
MAVM	**Malinalco, Edo**	**8.51**	**303**	*eS*		**Sn**	**19 15 16.7**	**-0.9**
AOVM	**Tlapan**	**8.53**	**305**			**Pn**	**19 13 41.7**	**-1.8**
AOVM						**Sn**	**19 15 13.7**	**-4.8**
AOVM	**Tlapan**	**8.53**	**305**	*eP*		**Pn**	**19 13 41.7**	**-1.8**
AOVM				*eS*		**Sn**	**19 15 13.7**	**-4.8**
PTVM	**Pico Tres Padr**	**8.55**	**307**			**Sn**	**19 15 19.3**	**+0.7**
PTVM	**Pico Tres Padr**	**8.55**	**307**	*eS*		**Sn**	**19 15 19.3**	**+0.7**
ZUVM	**ZUMPANGO**	**8.66**	**309**			**Sn**	**19 15 21.2**	**-0.1**
ZUVM	**ZUMPANGO**	**8.66**	**309**	*eS*		**Sn**	**19 15 21.2**	**-0.1**
TOVM	**TOLUCA**	**8.83**	**304**			**Sn**	**19 15 25.3**	**-0.2**
TOVM	**TOLUCA**	**8.83**	**304**	*eS*		**Sn**	**19 15 25.3**	**-0.2**
ARIG	**Puente Sto Nin**	**8.93**	**296**			**Pn**	**19 13 48.9**	**+0.4**
ARIG						**Sn**	**19 15 24.8**	**-2.6**
ARIG	**Puente Sto Nin**	**8.93**	**296**	*eP*		**Pn**	**19 13 48.9**	**+0.4**
ARIG				*eS*		**Sn**	**19 15 24.8**	**-2.6**
JRQG	**Juriquilla Cam**	**10.21**	**308**	Pn		**Pn**	**19 14 06.4**	**+0.1**
MOIG	**Morelia**	**10.26**	**302**	Pn		**Pn**	**19 14 08.8**	**+2.0**
PIRO	**Carate, Puerto**	**10.36**	**125**			**Pn**	**19 14 08.5**	**+0.5**
BRU2	**Volcan**	**10.66**	**121**	Pn		**Pn**	**19 14 13.3**	**+1.0**
GTIG	**Gomez Farias**	**10.95**	**322**			**Pn**	**19 14 13.2**	**-2.9**
GTIG						**Sn**	**19 16 13.0**	**-3.9**
GTIG	**Gomez Farias**	**10.95**	**322**	*eP*		**Pn**	**19 14 13.2**	**-2.9**
GTIG				*eS*		**Sn**	**19 16 13.0**	**-3.9**
MMIG	**Aquila**	**11.60**	**291**			Pn	19 14 17.7	-7.1
MMIG	**Aquila**	**11.60**	**291**	*eP*		Pn	19 14 17.7	-7.1
SOR	**Soroa**	**11.81**	**44**			**Pn**	**19 14 27.4**	**-0.3**
MNGA	**Volcan de Coli**	**12.24**	**295**	*eP*		**Pn**	**19 14 36.9**	**+3.1**
MNGA				*eS*		**Sn**	**19 16 46.6**	**-1.9**
INCO	**Volcan de Coli**	**12.25**	**296**	*eP*		**Pn**	**19 14 38.4**	**+4.4**
SOMAC	**Volcano de Col**	**12.27**	**296**	*eP*		**Pn**	**19 14 37.4**	**+3.1**
SOMAC				*eS*		**Sn**	**19 16 51.2**	**+1.7**
CEGR	**Campo Tres**	**12.42**	**295**	*eP*		**Pn**	**19 14 39.1**	**+2.9**
CEGR				*eS*		**Sn**	**19 16 50.5**	**-2.4**
LNIG	**Linares**	**12.56**	**327**	*eP*		**Pn**	**19 14 40.3**	**+2.5**
LNIG				*eS*		**Sn**	**19 16 50.4**	**-5.5**
ZAIG	**Zacatecas**	**13.02**	**311**			**Pn**	**19 14 45.3**	**+0.9**
061Z	**Ochoppi**	**15.32**	**41**	Pn		**Pn**	**19 15 12.6**	**-1.4**
833A	**Chaparral WMA,**	**15.42**	**334**			**Pn**	**19 15 14.5**	**-0.7**
553A	**Crawfordville**	**17.09**	**23**	P		**Pn**	**19 15 36.3**	**+0.4**
656A	**Willston**	**17.17**	**29**			**Pn**	**19 15 37.9**	**+1.0**
656A				IAmb	IAmb		19 15 42.7	
	comp=Z,40nm,0.9s							
NMDO	**Nuevo Mundo**	**17.24**	**67**	P		**Pn**	**19 15 38.7**	**+0.8**
NMDO				IAmb	IAmb		19 16 11.5	
	comp=Z,25nm,1.4s							
NATX	**Nacogdoches**	**17.38**	**352**	P		**P**	**19 15 41.0**	**+1.3**
NATX				IAmb	IAmb		19 16 07.8	
	comp=Z,20nm,0.8s							
SAND	**Sanderson**	**18.05**	**330**			**Pn**	**19 15 48.1**	**+0.4**
352A	**Blakely**	**18.09**	**20**	P		**P**	**19 15 48.2**	**+0.8**
352A				IAmb	IAmb		19 15 51.5	
	comp=Z,51nm,1.1s							
250A	**Grady**	**18.16**	**16**	P		**P**	**19 15 49.4**	**+1.1**
250A				IAmb	IAmb		19 15 51.8	
	comp=Z,64nm,1.3s							
TXAR	**Lajitas Array**	**18.34**	**326**	P		**Pn**	**19 15 52.8**	**+1.5**
	comp=Z,6.2nm,0.9s,baz=155,slow=10,SNR=40							
TX31	**Lajitas Ar. Si**	**18.34**	**326**	P		**Pn**	**19 15 52.5**	**+1.2**
FW13	**Cleburne**	**18.48**	**345**	P		**P**	**19 15 52.4**	**+0.6**
FW13				IAmb	IAmb		19 15 53.7	
	comp=Z,20nm,1.0s							
TIGA	**Tifton**	**18.52**	**23**	P		**P**	**19 15 52.8**	**+0.6**
Z41A	**Richland Creek**	**18.71**	**358**	P		**P**	**19 15 54.8**	**+0.6**
Z47A	**Carrollton**	**18.96**	**10**	P		**P**	**19 15 57.6**	**+0.6**
Z47A				IAmb	IAmb		19 16 00.2	
	comp=Z,22nm,0.7s							
LRAL	**Lakeview Retre**	**19.00**	**13**			**P**	**19 15 58.2**	**+0.7**
LRAL				IAmb	IAmb		19 16 03.3	
	comp=Z,35nm,1.3s							
ALPN	**Alpine**	**19.14**	**328**			**P**	**19 16 00.4**	**+1.1**
WLAR	**White Oak Lake**	**19.15**	**357**	P		**P**	**19 15 59.0**	**-0.1**
WLAR				IAmb	IAmb		19 16 19.9	
	comp=Z,59nm,1.3s							
PLPT	**Palo Pinto**	**19.15**	**343**			**P**	**19 15 59.9**	**+0.8**
152A	**Waverly Hall**	**19.26**	**19**	P		**P**	**19 16 01.3**	**+1.0**
152A				IAmb	IAmb		19 16 06.0	
	comp=Z,37nm,1.3s							
SLBS	**Sierra La Lagu**	**19.32**	**301**	P		**Pn**	**19 16 03.7**	**+0.7**
Z35A	**Perchaven, San**	**19.38**	**346**	P		**P**	**19 16 02.4**	**+0.8**
Z35A				IAmb	IAmb		19 16 04.1	
	comp=Z,21nm,1.0s							
ABTX	**Abilene, Hawle**	**19.38**	**340**			**P**	**19 16 02.0**	**+0.4**
MNHN	**Monahans**	**19.50**	**331**	P		**P**	**19 16 04.3**	**+1.3**
154A	**Montrose**	**19.75**	**22**	P		**P**	**19 16 06.2**	**+0.5**
Y49A	**Blount Mountai**	**19.93**	**14**	P		**P**	**19 16 07.5**	**0.0**
Y49A				IAmb	IAmb		19 16 32.1	
	comp=Z,20nm,1.3s							
X40A	**Basin Creek Fa**	**19.93**	**358**	P		**P**	**19 16 07.0**	**-0.6**
MIAR	**Mount Ida**	**20.03**	**356**	P		**P**	**19 16 08.2**	**-0.5**
MIAR				IAmb	IAmb		19 16 36.7	
	comp=Z,28nm,1.1s							
PECS	**Pecos**	**20.06**	**329**	P		**P**	**19 16 09.0**	**-0.1**
APMT	**Aspermont**	**20.18**	**340**			**P**	**19 16 10.3**	**0.0**
VHRN	**Van Horn**	**20.18**	**326**			**P**	**19 16 11.8**	**+1.2**
SN07	**Snyder 07**	**20.24**	**338**	P		**P**	**19 16 12.0**	**+1.0**
X48A	**Hartselle**	**20.36**	**12**	P		**P**	**19 16 11.4**	**-0.8**
POST	**Post**	**20.45**	**336**	P		**P**	**19 16 12.9**	**-0.3**
POST				IAmb	IAmb		19 16 42.6	
	comp=Z,18nm,1.1s							
FLOC	**Florencia**	**20.56**	**127**	P		**P**	**19 16 15.1**	**+0.5**
FLOC				IAmb	IAmb		19 17 01.3	
	comp=Z,42nm,1.1s							
Y52A	**Lilburn**	**20.57**	**19**	P		**P**	**19 16 13.8**	**-0.7**
Y52A				IAmb	IAmb		19 16 35.6	
	comp=Z,24nm,1.1s							
FPAL	**Fort Paine**	**20.77**	**15**	P		**P**	**19 16 15.6**	**-1.0**
FPAL				IAmb	IAmb		19 16 45.3	
	comp=Z,42nm,1.4s							
DKNS	**Dickens**	**20.77**	**338**	P		**P**	**19 16 16.1**	**-0.6**
WMOK	**Wichita Mounta**	**21.10**	**344**	P		**P**	**19 16 18.8**	**-1.4**
FCAR	**Ozark Folk Cen**	**21.32**	**360**	P		**P**	**19 16 21.9**	**-0.6**
SWET	**Sewanee**	**21.34**	**14**	P		**P**	**19 16 21.9**	**-0.9**
SWET				IAmb	IAmb		19 16 51.1	
	comp=Z,27nm,1.0s							
V48A	**Smith Brothers**	**21.66**	**11**	P		**P**	**19 16 25.3**	**-0.8**
V48A				IAmb	IAmb		19 16 27.9	
	comp=Z,16nm,1.1s							
HHAR	**Hobbs**	**21.78**	**356**	P		**P**	**19 16 26.9**	**-0.5**
SMWD	**Samnorwood**	**21.86**	**341**	P		**P**	**19 16 28.1**	**-0.2**
SMWD				IAmb	IAmb		19 16 52.8	
	comp=Z,18nm,0.6s							
CPCT	**Cooper Cave**	**21.91**	**16**	P		**P**	**19 16 28.2**	**-0.6**
CPCT				IAmb	IAmb		19 16 49.1	
	comp=Z,33nm,1.3s							
QUOK	**Quay**	**22.02**	**350**	P		**P**	**19 16 28.9**	**-1.1**
PBMO	**Poplar Bluff**	**22.24**	**3**	P		**P**	**19 16 30.4**	**-1.9**
PBMO				IAmb	IAmb		19 17 02.8	
	comp=Z,10nm,0.8s							
TKL	**Tuckaleechee C**	**22.32**	**18**	P		**P**	**19 16 32.3**	**-0.9**
TKL				IAmb	IAmb		19 17 02.1	
	comp=Z,18nm,1.1s							
TKL	**Tuckaleechee C**	**22.32**	**18**	P		**P**	**19 16 33.4**	**+0.2**
	comp=Z,4.5nm,0.7s,baz=185,slow=8.8,SNR=5.8							
TKL				LR	LR		19 26 27.4	
	comp=Z,166nm,19.6s,baz=210,slow=40							
	comp=Z,4.5nm,0.7s							
U49A	**Red Boiling Sp**	**22.61**	**13**	P		**P**	**19 16 35.5**	**-0.9**
U49A				IAmb	IAmb		19 17 05.7	
	comp=Z,26nm,1.2s							
V53A	**Saluda**	**22.63**	**20**	P		**P**	**19 16 35.1**	**-1.5**
V53A				IAmb	IAmb		19 16 58.8	
	comp=Z,35nm,1.3s							
KMSC	**Kings Mountain**	**22.67**	**23**	P		**P**	**19 16 35.1**	**-1.9**
KMSC				IAmb	IAmb		19 16 59.5	
	comp=Z,18nm,0.8s							
T47A	**Sharon Grove**	**22.82**	**10**	P		**P**	**19 16 37.0**	**-1.5**
T47A				IAmb	IAmb		19 16 38.5	
	comp=Z,32nm,1.0s							
S39A	**Bolivar**	**23.15**	**357**	IAmb	IAmb		19 17 09.6	
	comp=Z,17nm,1.0s							
SIUC	**Southern Illin**	**23.26**	**5**	P		**P**	**19 16 41.2**	**-1.5**
CRNM	**Carthage**	**23.57**	**328**	P		**P**	**19 16 45.4**	**-0.5**
BNM	**Barren Site**	**23.67**	**328**	P		**P**	**19 16 46.9**	**+0.1**
Y22A	**Socorro**	**23.68**	**327**	IAmb	IAmb		19 16 51.0	
	comp=Z,22nm,1.2s							
R40A	**Maddies Statio**	**23.71**	**359**	P		**P**	**19 16 46.5**	**-0.4**
R40A				IAmb	IAmb		19 17 14.2	
	comp=Z,20nm,1.1s							
RTBA	**Rita Blanca**	**23.91**	**338**	P		**P**	**19 16 48.3**	**-0.5**
RTBA				IAmb	IAmb		19 16 50.2	
	comp=Z,12nm,0.8s							
WCI	**Wyandotte Cave**	**24.17**	**11**	P		**P**	**19 16 49.8**	**-1.1**
WCI				IAmb	IAmb		19 17 18.6	
	comp=Z,18nm,0.8s							
ANMO	**Albuquerque**	**24.22**	**330**	P		**P**	**19 16 51.8**	**+0.2**
SJG	**San Juan**	**24.99**	**78**	LR	LR		19 25 53.3	
	comp=Z,84nm,19.5s,baz=206,slow=34							
Q51A	**Peebles**	**25.59**	**16**	P		**P**	**19 17 02.5**	**-1.3**
Q51A				IAmb	IAmb		19 17 32.9	
	comp=Z,15nm,0.8s							
PCRV	**Puerto La Cruz**	**26.98**	**96**	LR	LR		19 28 10.5	
	comp=Z,44nm,21.3s,slow=37							
MVCO	**Mesa Verde**	**27.02**	**330**	P		**P**	**19 17 16.7**	**-0.4**
BC3	**Big Chuckawall**	**28.62**	**316**	P		**P**	**19 17 32.5**	**+1.3**
BC3				IAmb	IAmb		19 17 34.7	
	comp=Z,17nm,1.4s							
BORC	**Borrego Spring**	**29.05**	**314**	P		**P**	**19 17 35.2**	**+0.3**
BORC				IAmb	IAmb		19 17 55.4	
	comp=Z,9.3nm,1.0s							
PFO	**Pinyon Flats O**	**29.28**	**315**	LR	LR		19 29 01.0	
	comp=Z,86nm,19.7s,baz=65,slow=35							
V12A	**Nelson**	**29.50**	**320**	P		**P**	**19 17 40.2**	**+1.2**
V12A				IAmb	IAmb		19 17 42.5	
	comp=Z,12nm,0.9s							
CCUT	**Cedar City**	**29.84**	**324**	IAmb	IAmb		19 17 46.1	
	comp=Z,111nm,1.1s							
QSM	**Queen of Sheba**	**30.93**	**318**	IAmb	IAmb		19 17 57.4	
	comp=Z,4.6nm,0.6s							
MPMC	**Manual Prospec**	**31.39**	**318**	P		**P**	**19 17 56.8**	**+1.0**
MPMC				IAmb	IAmb		19 17 59.1	
	comp=Z,6.7nm,1.0s							
SPR3	**Spring Creek 3**	**31.40**	**325**	IAmb	IAmb		19 17 58.9	
	comp=Z,7.6nm,1.1s							
PDAR	**Pinedale Array**	**32.02**	**335**	LR	LR		19 32 23.1	
	comp=Z,24nm,20.0s,baz=92,slow=39							
NV11	**Mina Array Sit**	**33.26**	**321**	IAmb	IAmb		19 18 16.1	
	comp=Z,12nm,1.0s							
NVAR	**Mina Array Bea**	**33.35**	**321**	P		**P**	**19 18 15.0**	**+2.2**
NVAR	**Mina Array Bea**	**33.35**	**321**	P		**P**	**19 18 15.3**	**+2.4**
	comp=Z,8.5nm,0.8s,baz=133,slow=8.8,SNR=46							
NVAR				PcP		**PcP**	**19 20 53.3**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=81,slow=3.6,SNR=3.6							
NVAR				LR	LR		19 32 36.1	
	comp=Z,57nm,18.8s,baz=184,slow=37							
	comp=Z,8.5nm,0.8s							
LHV	**Little Huntoon**	**33.36**	**320**	IAmb	IAmb		19 18 17.1	
	comp=Z,9.3nm,0.9s							
EYMN	**Ely**	**33.37**	**1**	P		**P**	**19 18 14.1**	**+1.5**
RYN	**Ryan**	**33.61**	**321**	IAmb	IAmb		19 18 18.8	
	comp=Z,6.3nm,1.0s							
WAKR	**Walker**	**34.10**	**320**	P		**P**	**19 18 20.3**	**+1.0**
WAKR				IAmb	IAmb		19 18 23.5	
	comp=Z,7.8nm,1.3s							
HLID	**Hailey**	**34.79**	**331**	IAmb	IAmb		19 18 28.6	
	comp=Z,5.2nm,1.1s							
MFID	**Camas Ranch**	**35.37**	**329**	P		**P**	**19 18 30.1**	**0.0**
MFID				IAmb	IAmb		19 18 34.1	
	comp=Z,4.6nm,0.8s							
BEKR	**Beckworth**	**35.49**	**321**	IAmb	IAmb		19 18 35.0	
	comp=Z,4.8nm,0.9s							
ULM	**Lac du Bonnet**	**35.81**	**356**	LR	LR		19 35 20.7	
	comp=Z,42nm,19.8s,baz=148,slow=40							
YBH	**Yreka Blue Hor**	**38.04**	**322**	LR	LR		19 36 06.2	
	comp=Z,4.7nm,18.2s,baz=124,slow=38							
LPAZ	**La Paz**	**38.56**	**142**	P		**P**	**19 18 58.3**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=301,slow=8.5,SNR=5.4							
	comp=Z,1.6nm,0.8s							
BBB	**Bella Bella**	**47.38**	**330**	LR	LR		19 43 05.1	
	comp=Z,28nm,18.5s,baz=222,slow=40							
FRB	**Frobisher Bay**	**51.83**	**13**	LR	LR		19 44 38.4	
	comp=Z,83nm,18.6s,baz=186,slow=38							
CPUP	**Villa Florida**	**52.70**	**140**	LR	LR		19 42 59.1	
	comp=Z,13nm,18.0s,baz=80,slow=36							
M29M	**Somme Creek**	**58.00**	**337**	P		**P**	**19 21 27.0**	**+0.6**
PLCA	**Paso Flores**	**58.40**	**161**	LR	LR		19 41 14.5	
	comp=Z,31nm,20.4s,baz=243,slow=30							
SFJD	**Kangerlussuaq**	**59.03**	**18**	LR	LR		19 47 41.7	
	comp=Z,76nm,20.1s,baz=200,slow=37							
L27K	**Beaver Creek,**	**59.64**	**336**	P		**P**	**19 21 38.3**	**+0.6**
L27K				IAmb	IAmb		19 21 39.6	
	comp=Z,4.0nm,0.8s							
INK	**Inuvik**	**60.00**	**343**	LR	LR		19 50 14.1	
	comp=Z,25nm,19.6s,baz=258,slow=38							
N25K	**Chitina, Valde**	**60.06**	**334**	P		**P**	**19 21 42.0**	**+1.4**
RES	**Resolute Bay**	**60.22**	**359**	LR	LR		19 51 08.3	
	comp=Z,56nm,18.2s,baz=42,slow=39							
DOT	**Dot Lake**	**60.81**	**336**	IAmb	IAmb		19 21 47.6	
	comp=Z,5.3nm,0.9s							
J26L	**Joseph Creek**	**61.04**	**337**	P		**P**	**19 21 48.1**	**+0.9**
HDA	**Harding Lake**	**62.29**	**336**	IAmb	IAmb		19 22 05.7	
	comp=Z,5.4nm,1.4s							
IL31		**62.43**	**337**	IAmb	IAmb		19 21 58.5	
	comp=Z,7.2nm,1.1s							
ILAR	**Eielson Array**	**62.43**	**337**			**P**	**19 21 56.5**	**+0.1**
ILAR	**Eielson Array**	**62.43**	**337**	P		**P**	**19 21 55.8**	**-0.7**
	comp=Z,5.6nm,1.1s,baz=130,slow=4.9,SNR=29							
	comp=Z,5.6nm,1.1s							
MCK	**McKinley**	**62.79**	**335**	P		**P**	**19 21 59.1**	**+0.2**
SPU	**Mount Spurr**	**63.19**	**332**	IAmb	IAmb		19 22 03.2	
	comp=Z,7.0nm,0.9s							
TRF	**Thorofare Moun**	**63.24**	**335**			**P**	**19 22 02.3**	**+0.2**
H24K	**Noodor Dome**	**63.28**	**338**	P		**P**	**19 22 02.5**	**+0.3**
H24K				IAmb	IAmb		19 22 03.7	
	comp=Z,7.9nm,1.0s							
M20K	**Styx River**	**63.91**	**332**	IAmb	IAmb		19 22 07.3	
	comp=Z,6.9nm,0.9s							
MLY	**Manley**	**64.03**	**336**			**P**	**19 22 07.1**	**0.0**
J20K	**Nowinta River**	**65.10**	**335**	IAmb	IAmb		19 22 15.1	
	comp=Z,5.9nm,0.9s							
PPT	**Papeete**	**65.

comp=E,1µm,0.3s
AF01 San Pedro de A 1.56 167 *e*P Pn 19 22 52.7 -1.5
AF01 eS Sn 19 23 15.3 -1.4
AF01 IAML 19 23 36.4
comp=Z,647nm,1.1s
PB06 IPOC Station P 1.59 216 Pn 19 22 55.2 +0.9
PB06 Sn Sn 19 23 16.9 -0.1
PB06 IPOC Station P 1.59 216 ⇑ *i*P Pn 19 22 55.3 +0.9
PB06 eS Sn 19 23 17.2 +0.3
PB06 IAML 19 23 18.0
comp=N,3µm,0.2s
PB06 IPOC Station P 1.59 216 *e*P Pn 19 22 55.3 +0.9
PB06 eS Sn 19 23 17.8 +0.8
PB06 IAML 19 23 18.1
comp=Z,1µm,0.4s
PATCX Punta Patache 1.60 292 Pn 19 22 54.9 +0.5
PATCX Sn Sn 19 23 16.0 -1.1
PATCX Punta Patache 1.60 292 ⇑ *i*P Pn 19 22 54.9 +0.5
PATCX eS Sn 19 23 16.4 -0.8
PATCX IAML 19 23 18.6
comp=E,5µm,0.4s
PATCX Punta Patache 1.60 292 *e*P Pn 19 22 54.4 -0.1
PATCX eS Sn 19 23 17.4 +0.3
PATCX IAML 19 23 18.5
comp=Z,2µm,0.5s
HMBC Humberstone 1.69 312 Pn 19 22 55.4 0.0
HMBC Sn 19 23 17.3 -1.5
HMBC Humberstone 1.69 312 ⇑ *i*P Pn 19 22 55.4 0.0
HMBC eS Sn 19 23 17.7 -1.1
HMBC IAML 19 23 19.6
comp=N,4µm,0.5s
HMBC Humberstone 1.69 312 *e*P Pn 19 22 55.4 0.0
HMBC eS Sn 19 23 18.4 -0.5
HMBC IAML 19 23 19.1
comp=Z,3µm,0.4s
TA01 Diego Aracena 1.74 299 Pn 19 22 56.0 +0.1
TA01 Sn Sn 19 23 18.3 -1.4
TA01 Diego Aracena 1.74 299 ⇑ *i*P Pn 19 22 56.0 +0.1
TA01 eS Sn 19 23 18.5 -1.2
TA01 IAML 19 23 19.8
comp=N,3µm,0.4s
TA01 Diego Aracena 1.74 299 *e*P Pn 19 22 55.5 -0.4
TA01 eS Sn 19 23 18.6 -1.1
TA01 IAML 19 23 19.6
comp=Z,1µm,0.6s
GO01 Chusmiza 1.84 341 Pn 19 22 58.3 +0.6
GO01 Sn Sn 19 23 22.4 -0.3
GO01 Chusmiza 1.84 341 ⇓ *i*P Pn 19 22 58.3 +0.6
GO01 eS Sn 19 23 22.4 -0.3
GO01 IAML 19 23 25.8
comp=N,1µm,0.2s
GO01 Chusmiza 1.84 341 *e*P Pn 19 22 58.5 +0.9
GO01 eS Sn 19 23 24.1 +1.4
GO01 IAML 19 23 25.6
comp=Z,486nm,0.3s
TA02 Huaiquique 1.86 308 *e*P Pn 19 22 57.4 0.0
TA02 eS Sn 19 23 21.1 -1.2
TA02 IAML 19 23 22.4
comp=N,2µm,0.4s
TA02 Huaiquique 1.86 308 *e*P Pn 19 22 57.3 0.0
TA02 eS Sn 19 23 22.5 +0.2
TA02 IAML 19 23 26.1
comp=Z,810nm,0.2s
PB11 IPOC Station P 1.95 328 Pn 19 22 58.5 0.0
PB11 Sn Sn 19 23 23.5 -0.9
PB11 IPOC Station P 1.95 328 ⇑ *i*P Pn 19 22 58.7 +0.2
PB11 eS Sn 19 23 23.8 -0.6
PB11 IAML 19 23 25.9
comp=E,2µm,0.4s
PB11 IPOC Station P 1.95 328 *e*P Pn 19 22 58.2 -0.4
PB11 eS Sn 19 23 24.2 -0.2
PB11 IAML 19 23 28.2
comp=Z,850nm,0.6s
PB05 IPOC Station P 2.09 227 Pn 19 23 00.5 +0.3
PB05 Sn Sn 19 23 25.9 -1.5
PB05 IPOC Station P 2.09 227 ⇑ *i*P Pn 19 23 00.7 +0.5
PB05 IAML 19 23 35.1
comp=E,1µm,0.1s
PB05 IPOC Station P 2.09 227 *e*P Pn 19 23 00.1 0.0
PB05 eS Sn 19 23 27.2 -0.1
PB10 IPOC Station P 2.78 221 Pn 19 23 08.4 -0.3
PB10 Sn Sn 19 23 37.6 -5.1
PB10 IPOC Station P 2.78 221 *e*P Pn 19 23 09.5 +0.8
PB10 IPOC Station P 2.78 221 *e*P Pn 19 23 09.4 +0.6
PB10 eS Sn 19 23 40.3 -2.4
YJA Yavi 2.93 105 *e*P Pn 19 23 04.0 -7.0
YJA eS Sn 19 23 46.0 -0.6
PB16 IPOC Station P 3.20 344 Pn 19 23 16.3 +1.6
PB16 IPOC Station P 3.20 344 *e*P Pn 19 23 16.3 +1.5
HJA Humahuaca 3.41 122 *e*P Pn 19 23 15.3 +2.0
SALTA 3.46 144 *e*P Pn 19 23 36.4 +18
SALTA IAML 19 24 34.4
comp=Z,131nm,0.1s
PB14 IPOC Station P 3.62 208 Pn 19 23 19.8 0.0
PB14 IPOC Station P 3.62 208 *e*P Pn 19 23 11.3 -8.5
PB14 *e*P 19 23 20.4
PB14 eS Sn **19 24 01.1 -1.4**
PB14 IAML 19 24 08.1
comp=Z,149nm,0.3s
GO02 Mina Guanaco 3.84 194 Pn 19 23 23.1 +0.3
GO02 Mina Guanaco 3.84 194 *e*P Pn 19 23 23.1 +0.3
GO02 eS Sn 19 24 07.8 -0.1
GO02 IAML 19 24 09.0
comp=Z,226nm,0.4s
PB18 Visviri 3.91 347 Pn Pn 19 23 24.0 0.0
AC01 Pan de Azucar 5.06 201 Pn Pn 19 23 38.0 -0.8
LPAZ La Paz 5.12 5 Pn 19 23 41.8 +1.7
LPAZ La Paz 5.12 5 P Pn 19 23 43.3 +3.1
comp=Z,3.2nm,0.4s,baz=195,slow=7.7,SNR=12
LPAZ S Sn **19 24 35.5 -3.3**
comp=Z,4.4nm,0.5s,baz=324,slow=3.9,SNR=3.9
AC02 Maricunga 5.42 185 Pn 19 23 44.5 +0.6
GO03 Copiapo 6.33 194 Pn Pn 19 23 53.4 -2.4
AC04 Llanos de Chal 7.13 198 Pn Pn 19 24 03.3 -3.1
LCO Las Campanas 7.80 194 Pn Pn 19 24 12.4 -3.3
CO01 Juntas del Tor 8.63 189 Pn Pn 19 24 21.4 -2.8
SIV San Ignacio 8.91 54 P Pn 19 24 28.3 -2.2
comp=Z,14nm,0.7s,baz=238,slow=12,SNR=58
SIV S Sn 19 25 59.0 -10
comp=Z,1.9nm,0.8s,baz=312,slow=19,SNR=3.1
GO04 Tololo Observa 8.95 193 Pn Pn 19 24 28.4 -2.7
CO03 El Pedregal 9.57 191 Pn Pn 19 24 36.3 -3.0
CO06 Fray Jorge 9.62 196 Pn Pn 19 24 37.1 -2.7
CO02 Combarbal 9.98 192 Pn Pn 19 24 42.3 -2.6
PTLB Pontes e Lacer 10.73 58 Pn 19 24 52.2 -2.6
CPUP Villa Florida 11.37 118 P Pn 19 25 02.7 -0.5
comp=Z,0.7nm,0.9s,baz=3,9,slow=17,SNR=3.6
MT02 Curacav 12.01 190 Pn Pn **19 25 10.6 -1.0**
MT09 Talagante 12.49 189 Pn Pn 19 25 17.6 -0.4
BO04 La Punta 12.65 188 Pn 19 25 20.4 +0.4
AMBA Amambai (Brazi 12.66 99 *e*P P 19 25 23.9 -2.2
BO01 Tunca 13.11 189 Pn Pn 19 25 24.3 -1.6
SALV Santo Antonio 13.37 68 *e*P P 19 25 35.1 +1.2
PP1B Ponte de Pedra 13.44 76 *e*P P 19 25 37.1 +2.3
PSAL Palomas, Salto 13.74 137 *e*P Pn 19 25 27.2 -6.7
TRCB Terra Rica 14.82 98 Pn Pn 19 25 47.2 -0.5
TRCB Terra Rica 14.82 98 *e*P P 19 25 52.6 +2.5
PDRB Porto dos Gac 14.95 51 *e*P P 19 25 53.3 +1.8
ITAB Concordia 16.05 114 Pn Pn 19 26 02.3 -0.5
ITAB IAmb IAmb 19 26 26.0
comp=Z,24nm,1.3s
CLDB Colider 16.12 51 *e*P P 19 26 05.3 +0.8
ARAG Araguaiana, MT 16.86 73 *e*P Pn 19 26 16.5 +3.7
FRTB Fartura 17.67 100 *e*P P 19 26 21.7 +0.2
BB19B Bebedouro 18.68 93 *e*P Pn 19 26 34.6 0.0
SNDB Serra Nova Dou 19.00 63 *e*P Pn 19 26 37.2 -1.1
NPGB Novo Progresso 19.16 44 *e*P Pn 19 26 39.7 -0.4
PLCA Paso Flores 19.33 185 P Pn 19 26 41.1 -0.9
PLCA Paso Flores 19.33 185 P Pn 19 26 43.5 +1.6
comp=Z,4.0nm,0.9s,baz=352,slow=9.2,SNR=7.9
IPMB Ipameri, GO 19.46 83 *e*P Pn 19 26 42.6 -1.1
MACA Manacapuru-AM 19.70 24 P P 19 26 44.0 +0.4
MACA Manacapuru-AM 19.70 24 *e*P P 19 26 41.5 -2.2
VAO Valinhos 20.05 99 P P 19 26 47.9 +0.4
VAO IAmb IAmb 19 26 49.7
comp=Z,22nm,0.9s
VAO Valinhos 20.05 99 *e*P P 19 26 47.9 +0.4
BDFB Brasilia 20.30 77 P P 19 26 50.5 +0.2
BDFB IAmb IAmb 19 26 55.0
comp=Z,6.7nm,0.5s
BDFB Brasilia 20.30 77 P P 19 26 50.7 +0.5
comp=Z,5.9nm,0.4s,baz=258,slow=9.9,SNR=11

PMNB Patos De Minas 20.98 86 *e*P P 19 26 58.7 +1.1
ITTB Itaituba 21.03 38 *e*P P 19 26 57.6 -0.4
BSCB Bom Sucesso 22.18 93 *e*P P 19 27 08.5 -1.6
PRPB Parauapebas 23.64 53 *e*P P 19 27 23.1 -0.8
SMTB Santa Maria do 23.74 61 *e*P P 19 27 24.4 -0.4
MAL2 Monte Alegre, 23.83 38 P P 19 27 25.2 -0.4
JANB Januaria 23.86 79 *e*P P 19 27 25.8 -0.2
SDBA SAO DESIDERIO 24.31 72 *e*P P 19 27 29.5 -0.5
BOAV Boa Vista 24.94 19 P P 19 27 35.7 +0.1
BOAV IAmb IAmb 19 28 00.5
comp=Z,9.0nm,1.5s
MG03 Isla Dawson 32.41 182 P P **19 28 42.0 +0.5**
SNAA Sanae 62.25 161 P P 19 32 32.5 +0.7
SNAA IAmb IAmb 19 32 59.9
comp=Z,4.8nm,1.5s
SNAA Sanae 62.25 161 P P **19 32 35.3 +3.5**
comp=Z,0.8nm,0.6s,baz=268,slow=7.1,SNR=8.1
comp=Z,0.8nm,0.6s
QSPA South Pole Qui 68.77 180 P P 19 33 19.3 +5.3
comp=Z,1.1nm,0.5s,baz=285,slow=0.8,SNR=13
comp=Z,1.1nm,0.5s
TORD Torodi Ar. Bea 77.02 70 P P **19 34 03.9 +0.6**
comp=Z,2.1nm,0.5s,baz=259,slow=5.2,SNR=28
comp=Z,2.1nm,0.5s
ASAR Alice Springs 130.13 207 PKP **PKiKP 19 41 22.4 +2.0**
comp=Z,0.5nm,1.1s,baz=130,slow=1.4,SNR=4.2
WRA Warramunga Arr 133.19 210 PKP **PKiKP 19 41 28.7 +2.2**
comp=Z,0.4nm,0.6s,baz=167,slow=1.9,SNR=6.0
MKAR Makanchi Array 145.38 36 PKPbc **PKiKP 19 41 50.0 -0.6**
comp=Z,0.4nm,0.7s,baz=317,slow=3.8,SNR=3.6

NAO ***17*** *19:29:24.4,31.˚75N×48.˚53E,h33km,MB3.8*
ISN ***17*** *19:29:52.4±0.9,35.˚40N×46.˚40E,h10km±12km,ML4.4*
IDC ***17*** *19:29:54.6±0.6,35.˚41N×46.˚22E,h0km,mb4.3/22, mbtmp4.3/32,ML4.4/8,MS3.4/21,Error ellipse: s-maj=13.3km s-min=10.7km az=163.0*
TEH ***17*** *19:29:54.2,35.˚31N×46.˚28E,h5km*
MOS ***17*** *19:29:55.2±1.5,35.˚26N×46.˚28E,h21km,mb4.6/26,Error ellipse: s-maj=6.5km s-min=3.9km az=117.7*
NEIC ***17*** *19:29:56.4±1.9,35.˚33N±0.˚06×46.˚23E±0.˚04,h16km±3km, mb4.6/102,Error ellipse: s-maj=9.0km s-min=5.1km az=189.0*
GII ***17*** *19:29:58.9±0.0,34.˚95N×46.˚36E,h10km,confirmed*
ISC 17 19:29:55.4±0.3**,35.˚23N**±0.˚03×**46.˚30E**±0.˚03,**h10km**,**n476,** σ1ŝ**80**/472,**mb4.6**/121,**MS3.5**/19,**41C-20D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Derash**	**0.53**	**172**	Pg	**Pb**	**19 30 07.6**	**+0.7**
IGHG	**Ghaleghazi**	**0.92**	**166**	Pg	**Pn**	**19 30 14.8**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.13**	**147**	Pg	**Pn**	**19 30 18.6**	**+1.2**
SNQR	**Sonqor, Kerman**	**1.15**	**108**	Pg	**Pb**	**19 30 16.8**	**-0.7**
GLG1	**Gilan-e-Gharb**	**1.15**	**196**	Pg	**Pn**	**19 30 19.9**	**+2.2**
GLG1				Sg	**Sn**	**19 30 39.3**	**+5.7**
IBZA	**Bozab**	**1.49**	**120**	Pg	**Pb**	**19 30 23.7**	**+0.4**
MAHB	**Mahabad**	**1.61**	**343**	Pg	**Pn**	**19 30 22.2**	**-1.8**
NGD1	**Naghade .Az. G**	**1.86**	**338**	Pg	**Pn**	**19 30 27.4**	**-0.1**
HGHA	**Hamedan- Ghaye**	**2.11**	**82**	Pn	**Pn**	**19 30 32.1**	**+1.2**
IBDR	**Badra**	**2.13**	**188**	*e*Pn	**Pb**	**19 30 33.0**	**-1.1**
IBDR				*e*Sn	**Sg**	**19 31 04.0**	**+0.1**
IBDR				AML	AML	19 31 21.4	
	comp=N,2µm,0.5s						
IBDR				AML	AML	19 31 21.5	
	comp=E,2µm,0.6s						
IHSH	**Hashtrud**	**2.22**	**20**	Pn	**Pn**	**19 30 33.3**	**+0.7**
HAGD	**Aghdareh**	**2.37**	**99**	Pn	**Pn**	**19 30 36.8**	**+2.3**
IAZR	**Azarshahr**	**2.46**	**354**	Pn	**Pn**	**19 30 36.7**	**+0.8**
BDRS	**Dareh Seyedi**	**2.48**	**120**	Pn	**Pb**	**19 30 39.1**	**-1.1**
BHD	**Baghdad**	**2.52**	**220**	*e*Pn	**Pb**	**19 30 39.0**	**-1.7**
BHD				*e*Sn	**Sb**	**19 31 13.0**	**+1.3**
BHD				AML	AML	19 31 23.1	
	comp=E,5µm,0.7s						
QABG	**Abgarm-Qazvin**	**2.72**	**79**	Pn	**Pn**	**19 30 41.6**	**+2.2**
MSL	**Mosul**	**2.85**	**295**	*e*Pn	**Pn**	**19 30 41.0**	**+0.1**
MSL				*e*Sn	**Sn**	**19 31 16.0**	**+0.8**
ITBZ	**Tabriz**	**3.00**	**358**	Pn	**Pn**	**19 30 43.4**	**+0.2**
ISHB	**Shabestar**	**3.10**	**350**	Pn	**Pn**	**19 30 44.6**	**0.0**
IHRS	**Heris**	**3.14**	**11**	Pn	**Pn**	**19 30 46.5**	**+1.3**
JIR1	**Jirandeh**	**3.20**	**61**	Pn	**Pn**	**19 30 47.5**	**+1.6**
QRS1	**Rashteghoun_ Q**	**3.32**	**69**	Pn	**Pn**	**19 30 49.4**	**+1.9**
RAFI	**Al-Rafai**	**3.50**	**183**	*e*Pn	**Pn**	**19 30 53.0**	**+3.2**
RAFI				*e*Pn	**Sb**	**19 31 38.0**	**-1.9**
IMRD	**Marand**	**3.52**	**352**	Pn	**Pn**	**19 30 51.4**	**+1.1**
GAS1	**Astara - Iran**	**3.76**	**32**	Pn	**Pn**	**19 30 54.6**	**+1.3**
GRMI	**Germi**	**3.80**	**19**	Pn	**Pn**	**19 30 55.1**	**+1.0**
SIRN	**Sirnak**	**3.87**	**307**	Pn	**Pn**	**19 30 56.5**	**+1.4**
IQOM	**Qom**	**3.93**	**94**	Pn	**Pn**	**19 30 58.6**	**+2.5**
GEVA	**Gevas**	**4.03**	**321**	Pn	**Pn**	**19 30 57.8**	**+0.4**
IVRN	**Varamin**	**4.46**	**91**	Pn	**Pn**	**19 31 05.6**	**+2.5**
QAMS	**Qamsar**	**4.46**	**108**	Pn	**Pn**	**19 31 06.2**	**+2.8**
SRTM	**Siirt_Merkez**	**4.47**	**309**	Pn	**Pn**	**19 31 04.0**	**+0.6**
IPIR	**Pirpir**	**4.58**	**122**	Pn	**Pn**	**19 31 08.1**	**+3.1**
IDMV	**Damavand**	**4.70**	**84**	Pn	**Pn**	**19 31 08.8**	**+2.2**
JHBN	**Jahan bin**	**4.71**	**128**	Pn	**Pn**	**19 31 09.5**	**+2.8**
IKLH	**Kolahrood**	**4.77**	**112**	Pn	**Pn**	**19 31 10.8**	**+3.3**
GURO	**Guroymak-BITLI**	**4.77**	**315**		**Pn**	**19 31 06.4**	**-1.0**
GURO	**Guroymak-BITLI**	**4.77**	**315**	Pn	**Pn**	**19 31 08.0**	**+0.6**
ZNGN	**Zangian**	**4.90**	**128**	Pn	**Pn**	**19 31 12.4**	**+3.0**
MARD	**Mardin**	**4.92**	**297**		**Pn**	**19 31 10.1**	**+0.5**
ISFB	**Sefidab**	**4.96**	**98**	Pn	**Pn**	**19 31 12.4**	**+2.3**
KRSH	**Karshahi**	**4.97**	**103**	Pn	**Pn**	**19 31 12.9**	**+2.6**
GNI	**Garni**	**5.07**	**346**		**Pn**	**19 31 09.7**	**-1.9**
GNI	**Garni**	**5.07**	**346**	Pn	**Pn**	**19 31 12.5**	**+0.9**
	comp=E,1.9nm,0.3s,baz=267,slow=1.4,SNR=6.0						
GNI				Lg	Lg	19 32 29.8	
	comp=E,1.5nm,0.3s,baz=29,slow=15,SNR=4.8						
	comp=E,6.2nm,0.4s						
GNI	**Garni**	**5.07**	**346**	P	Pb	19 31 18.4	-5.9
GNI	**Garni**	**5.07**	**346**	Pn	**Pn**	**19 31 15.5**	**+3.9**
GNI	**Garni**	**5.07**	**346**	P	**Pn**	**19 31 09.7**	**-1.9**
IFIR	**Firoozkooh**	**5.29**	**84**	Pn	**Pn**	**19 31 16.9**	**+2.2**
IBRJ	**Brojen**	**5.30**	**127**	Pn	**Pn**	**19 31 17.5**	**+2.6**
ILAS	**Lasjerd**	**5.45**	**86**	Pn	**Pn**	**19 31 19.2**	**+2.4**
IZEF	**Zefreh**	**5.52**	**113**	Pn	**Pn**	**19 31 20.8**	**+3.0**
IGAR	**Gharneh**	**5.54**	**119**	Pn	**Pn**	**19 31 21.3**	**+3.1**
KLNJ	**Kolanjah**	**6.11**	**132**	Pn	**Pn**	**19 31 28.7**	**+2.6**
IRAM	**Ramesheh**	**6.12**	**122**	Pn	**Pn**	**19 31 28.9**	**+2.9**
ANAR	**Anarak**	**6.48**	**106**	Pn	**Pn**	**19 31 33.9**	**+3.0**
KOPT	**Kop Dagi**	**6.64**	**318**	Pn	**Pn**	**19 31 31.0**	**-2.3**
GAZ	**Gaziantep**	**7.60**	**287**		**Pn**	**19 31 44.7**	**-1.6**
MAK	**Makhachkala**	**7.78**	**7**	*c* *i*P	**Pn**	**19 31 46.3**	**-2.4**
MAK				*e*S	**Sn**	**19 33 14.9**	**-1.9**
MAK				pmax	pmax		
	comp=Z,242nm,1.6s						
MAK				MLR	MLR		
	comp=Z,587nm,13.0s						
IMEH	**Mehriz**	**7.94**	**116**	Pn	**Pn**	**19 31 53.3**	**+2.2**
DSBU	**Dashti - Bushe**	**8.04**	**147**	Pn	**Pn**	**19 31 55.2**	**+2.9**
ASF	**Jabal al Asfar**	**8.40**	**251**	Pn	**Pn**	**19 31 59.4**	**+2.0**
	comp=Z,9.1nm,0.3s,baz=91,slow=6.3,SNR=46						
ASF				Sn	**Sn**	**19 33 32.8**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=53,slow=1.3,SNR=3.1						
ASF				LR	LR	19 36 01.0	
	comp=Z,280nm,20.6s,baz=105,slow=44						
	comp=Z,21nm,0.3s						
NEUR	**Neytrino**	**8.50**	**342**	*i* P	**Pn**	**19 31 58.1**	**-0.6**
HWQ	**Hawqa**	**8.57**	**267**	*e*P	**Pn**	**19 32 02.1**	**+2.4**
TNSJ	**Nastanj**	**8.59**	**95**	Pn	**Pn**	**19 32 02.4**	**+2.4**
BHL	**Bhannes**	**8.88**	**265**	*e*P	**Pn**	**19 32 06.7**	**+2.9**
TPRV	**Parvadeh(Tabas**	**8.88**	**101**	Pn	**Pn**	**19 32 06.3**	**+2.3**
KBZ	**Khabaz**	**8.89**	**344**	Pn	**Pn**	**19 32 04.8**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=157,slow=10,SNR=5.0						
TAPT	**Tabas- Tapeh t**	**8.91**	**89**	Pn	**Pn**	**19 32 06.3**	**+1.9**
SHA1	**Shidzhatmaz**	**8.96**	**343**	*i* P	**Pn**	**19 32 05.4**	**+0.4**
NATI	**Neve Ativ**	**8.96**	**260**	P	**Pn**	**19 32 08.8**	**+3.9**
KSHT	**Keshet**	**8.98**	**259**	P	**Pn**	**19 32 08.0**	**+2.8**
GEM	**Giv'at Ha'Em**	**9.04**	**260**	P	**Pn**	**19 32 09.5**	**+3.6**
TKDS	**Koohdasht(Taba**	**9.09**	**97**	Pn	**Pn**	**19 32 09.5**	**+2.8**
BNN	**Bunyan**	**9.11**	**296**		**Pn**	**19 32 04.8**	**-2.2**
KVAR	**Kislovodsk Arr**	**9.15**	**343**	LR	LR	19 35 23.0	
	comp=Z,149nm,20.8s,baz=54,slow=37						
KIV	**Kislovodsk**	**9.15**	**343**	Pn	**Pn**	**19 32 05.8**	**-1.8**
KIV	**Kislovodsk**	**9.15**	**343**	*e*P	**Pn**	**19 32 08.1**	**+0.5**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,59nm,12.0s						
MMAI	**Mount Meron Ar**	**9.30**	**259**	Pn	**Pn**	**19 32 11.1**	**+1.5**
	comp=Z,4.7nm,0.3s,baz=83,slow=15,SNR=24						

MMAI Sn **Sn** **19 33 52.1 -2.2**
baz=45,slow=55
MMAI LR LR 19 36 27.2
comp=Z,211nm,20.3s,baz=56,slow=42
comp=Z,3.4nm,0.4s
MMC7 Mount Meron ar 9.31 259 P Pn **19 32 12.9 +3.2**
HNTI Hanita 9.46 260 P Pn **19 32 15.8 +3.9**
BLGI Bet Lehem HaGe 9.55 258 P Pn **19 32 17.5 +4.5**
SOC Sochi 9.78 331 *e*P Pn **19 32 13.0 -3.0**
SOC *e* 19 34 02.0
SOC pmax pmax
comp=Z,11nm,0.7s
SOC MLR MLR
comp=Z,452nm,14.0s
GHAJ Ghor Haditha 9.80 250 Pn **19 32 17.7 +1.4**
GHAJ Ghor Haditha 9.80 250 P Pn **19 32 19.3 +2.9**
DSI Dead Sea 9.83 251 P Pn **19 32 19.3 +2.5**
SLTI Sal'it 9.84 256 P Pn **19 32 20.5 +3.6**
SAKB Bahrain 9.91 157 P Pn **19 32 19.4 +1.5**
SAKB S Sn **19 34 07.2 -2.0**
IPAY Payeh 10.38 80 Pn Pn **19 32 27.1 +2.5**
ZFRI Zfri 10.44 247 P Pn **19 32 28.5 +3.3**
KIRS Kirsehir-Merke 10.62 295 ⇑ P Pn 19 32 34.4 +6.7
CSS Mathiatis 10.63 272 Pn **19 32 26.7 -1.1**
HRFI Mount Harif 10.81 245 P Pn **19 32 33.0 +2.7**
KRMI Paran Flat 11.00 246 P Pn **19 32 35.3 +2.4**
BR131 Keskin Array S 11.02 298 Pn **19 32 31.3 -1.8**
BR131 Keskin Array S 11.02 298 P Pn 19 32 39.3 +6.1
PKPbc=8.0
BR131 Keskin Array S 11.02 298 P Pn **19 32 31.3 -1.8**
BRTR Keskin Array B 11.02 298 Pn **19 32 31.9 -1.3**
BRTR Keskin Array B 11.02 298 Pn Pn **19 32 33.7 +0.5**
comp=Z,0.2nm,0.3s,baz=126,slow=13,SNR=28
BRTR Keskin Array B 11.02 298 *i* P Pn 19 32 38.5 +5.3
BRTR pmax pmax
comp=Z,6.0nm,0.8s
EIL Elat 11.07 243 Pn Pn **19 32 35.3 +1.5**
comp=Z,1.9nm,0.3s,baz=113,slow=6.4,SNR=8.6
EIL Lg Lg 19 35 41.9
comp=Z,0.7nm,0.3s,baz=86,slow=16,SNR=4.5
EIL LR LR 19 37 35.9
comp=Z,202nm,21.2s,baz=168,slow=42
comp=Z,4.1nm,0.4s
EIL Elat 11.07 243 P Pn **19 32 37.2 +3.4**
SMRA Abu-Samra 11.15 158 P Pn **19 32 35.5 +0.5**
SMRA S Sn **19 32 37.6 -2.1**
TRNA Turayna 11.29 157 P Pn **19 32 37.6 +0.9**
SNR=6.9
TRNA S Sn **19 34 40.7 -2.2**
ILGA Ilgaz 11.49 304 Pn **19 32 38.0 -1.7**
ANTO Ankara 11.68 297 Pn **19 32 41.6 -0.6**
ANTO Ankara 11.68 297 P Pn 19 32 48.1 +6.0
ANTO Ankara 11.68 297 P Pn **19 32 41.6 -0.6**
RAYN Ar Rayn 11.68 184 Pn Pn **19 32 41.9 -0.3**
RAYN Ar Rayn 11.68 184 P Pn **19 32 42.8 +0.5**
RAYN S Sn **19 34 51.4 -1.4**
RAYN Ar Rayn 11.68 184 *i* Pn Pn **19 32 42.5 +0.2**
SNR=9.1
RAYN Ar Rayn 11.68 184 P Pn **19 32 41.9 -0.3**
SHME Shamm 12.46 135 P Pn **19 32 52.8 0.0**
SHME S Sn **19 35 07.5 -4.2**
SHME Shamm 12.46 135 Pn Pn **19 32 51.9 -0.9**
GHWR Ruwais 12.59 151 P Pn **19 32 56.0 +1.4**
GHWR S Sn **19 35 12.3 -2.6**
BANOM Banah 12.65 134 P Pn **19 32 55.2 -0.2**
BANOM S Sn **19 35 13.0 -3.4**
BANOM Banah 12.65 134 *i* Pn Pn **19 32 54.3 -1.1**
SNR=28
ISP Isparta 12.96 286 Pn Pn **19 32 59.3 -0.4**
ISP Isparta 12.96 286 P Pn **19 32 59.3 -0.4**
MASF Masafi 12.99 136 P Pn **19 32 59.9 -0.2**
SNR=8.3
MASF S Sn **19 35 21.4 -3.4**
MSFE Esma-Masafi 13.00 136 *i* Pn Pn **19 32 59.6 -0.7**
SNR=6.3
AJN Ajban 13.02 142 P Pn **19 33 02.0 +1.6**
SNR=7.2
AJN S Sn **19 35 22.5 -2.8**
AJN Ajban 13.02 142 *i* Pn Pn **19 33 01.4 +1.0**
SNR=11
NAZ Nazwa, Dubai 13.02 139 P Pn **19 33 01.1 +0.6**
SNR=9.1
NAZ Nazwa, Dubai 13.02 139 *i* Pn Pn **19 33 00.6 +0.2**
SNR=7.8
MDUB Mudurnu 13.03 298 Pn Pn **19 32 59.2 -1.5**
MDH Madha 13.12 136 P Pn **19 33 02.0 +0.1**
SNR=9.5
MDH S Sn **19 35 24.7 -3.3**
MDH Madha 13.12 136 *i* Pn Pn **19 33 01.2 -0.8**
SNR=18
ASUD Al Ashush, Dub 13.14 141 P Pn **19 33 03.5 +1.4**
SNR=5.4
ASUD S Sn **19 35 25.2 -3.1**
ASUD Al Ashush, Dub 13.14 141 *i* Pn Pn **19 33 03.0 +0.9**
SNR=7.2
FAQ Al Faqa, Dubai 13.18 140 P Pn **19 33 02.9 +0.3**
MZWR Madinat Zayed 13.19 148 P Pn **19 33 04.3 +1.6**
MZWR S Sn **19 35 26.5 -2.9**
UOSS Minazif 13.35 137 Pn **19 33 04.0 -0.9**
UOSS Minazif 13.35 137 P Pn **19 33 04.3 -0.7**
UOSS S Sn **19 35 30.0 -3.5**
UOSS Minazif 13.35 137 *i* Pn Pn **19 33 03.6 -1.4**
SNR=13
ELL Elmali 13.36 281 Pn Pn **19 33 06.2 +0.9**
ELL Elmali 13.36 281 P Pn **19 33 06.2 +0.9**
HATD Hatta, Dubai 13.40 138 P Pn **19 33 07.0 +1.2**
SNR=11
HATD S Sn **19 35 30.6 -4.3**
HATD Hatta, Dubai 13.40 138 *i* Pn Pn **19 33 05.6 -0.1**
SNR=11
ASHO Ashiyiah 13.48 139 P Pn **19 33 06.8 0.0**
SNR=11
ASHO S Sn **19 35 32.4 -4.3**
ASHO Ashiyiah 13.48 139 *i* Pn Pn **19 33 05.4 -1.4**
SNR=33
AKAS Kas 13.60 279 Pn Pn **19 33 08.8 +0.3**
JASK Jask - Hormozg 13.64 130 P Pn **19 33 09.3 +0.4**
MZR Muzera 13.69 151 P Pn **19 33 10.4 +0.7**
SNR=18
MZR S Sn **19 35 39.2 -2.7**
MZR Muzera 13.69 151 *i* Pn Pn **19 33 10.0 +0.3**
SNR=6.8
ALNE Al Ain 13.82 141 P Pn **19 33 11.5 0.0**
SNR=8.4
ALNE S Sn **19 35 40.0 -5.1**
ALNE Al Ain 13.82 141 *i* Pn Pn **19 33 10.8 -0.7**
SNR=26
SOHO SOHO 14.18 138 P Pn **19 33 15.3 -0.9**
SOHO S Sn **19 35 49.3 -4.3**
SOHO SOHO 14.18 138 *i* Pn Pn **19 33 14.4 -1.9**
SNR=9.7
MANT Manisa 14.57 288 Pn **19 33 22.4 +0.5**
UMZA Um Al Zommool 14.67 146 P Pn **19 33 22.5 -0.6**
UMZA S Sn **19 36 00.1 -5.6**
ARG Arkhangelos 14.80 279 Pn Pn **19 33 24.7 -0.1**
ARG Arkhangelos 14.80 279 P Pn **19 33 24.7 -0.1**
ARQ Araqi 14.81 140 P Pn **19 33 24.0 -1.1**
SNR=9.4
HOQ Hoqain 15.04 138 P Pn **19 33 28.6 +0.5**
HOQ P Pn **19 33 28.6 +0.5**
BIDO Bidbid 15.55 135 P Pn **19 33 34.0 -0.8**
BIDO P Pn **19 33 34.0 -0.8**
KARP Karpathos 15.62 277 Pn **19 33 33.8 -1.9**
SMDO Samad 15.87 137 P Pn **19 33 37.5 -1.5**
SMDO P Pn **19 33 37.5 -1.5**
WSAR Wadi Sarin 16.06 135 Pn Pn **19 33 40.5 -0.9**
baz=268,slow=24,SNR=14
WSAR Sn **Sn** **19 36 32.4 -7.1**
baz=128,slow=19,SNR=2.0
WSAR Wadi Sarin 16.06 135 P Pn **19 33 40.9 -0.4**
JMDO Jabal Madar 16.45 138 P Pn **19 33 45.2 -1.1**
EZN Ezine 16.49 292 ⇓ P P **19 33 51.8 +2.4**
EZN Ezine 16.49 292 ⇓ P Pn **19 33 51.8 +2.4**
VORD Divnogorie 16.53 344 *e*P Pn **19 33 48.5 +1.3**
VORD pmax pmax
comp=Z,10.0nm,0.6s
TPGR Topolog 16.70 311

CFR	**Carcaliu**	**17.04**	**311**	⇑P		**P**		**19 33 56.1**	**+0.7**		
CFR	**Carcaliu**	**17.04**	**311**	⇑P		**P**		**19 33 56.1**	**+0.7**		
BELG	**Belogornoye**	**17.19**	**3**	P		**Pn**		**19 33 52.3**	**-3.2**		
	comp=Z,0.5nm,0.3s,baz=351,slow=10,SNR=6.9										
	comp=Z,9.9nm,0.7s										
AB31	**Akbulak array**	**17.24**	**31**			**Pn**		**19 33 54.6**	**-1.5**		
ABKAR	**Akbulak array**	**17.24**	**31**	P		**Pn**		**19 33 54.8**	**-1.4**		
RDO	**Rodhopi**	**17.34**	**296**			**Pn**		**19 33 55.1**	**-2.5**		
RDO					IAmb	IAmb		19 34 02.9			
	comp=Z,44nm,1.3s										
JLN	**Jalan Bani Buh**	**17.35**	**135**	P		**Pn**		**19 33 56.9**	**-0.9**		
JLN				P		**Pn**		**19 33 56.9**	**-0.9**		
AKTO	**Aktyubinsk**	**17.43**	**26**	P		**Pn**		**19 33 57.2**	**-1.3**		
	comp=Z,0.6nm,0.3s,baz=222,slow=8.6,SNR=23										
AKTO					LR	LR		19 42 23.4			
	comp=Z,69nm,18.3s,baz=181,slow=43										
	comp=Z,2.8nm,0.6s										
IDI	**Anoyia**	**17.49**	**276**			**Pn**		**19 33 60.0**	**+0.5**		
IDI					IAmb	IAmb		19 34 05.7			
	comp=Z,30nm,0.7s										
IDI	**Anoyia**	**17.49**	**276**	P		**Pn**		**19 33 59.0**	**-0.5**		
	comp=Z,23nm,0.6s,baz=82,slow=12,SNR=40										
MHTO	**MHTO**	**17.50**	**141**	P		**Pn**		**19 33 59.2**	**-0.5**		
	SNR=7.4										
MHTO					S	**Sn**		**19 37 08.5**	**-6.0**		
ELND	**Elena**	**17.60**	**302**	⇑P		**P**		**19 34 04.0**	**+2.3**		
DOK	**Doka**	**17.94**	**155**	P		**Pn**		**19 34 03.8**	**-1.2**		
DOK				P		**Pn**		**19 34 03.8**	**-1.2**		
DOK				S		**Sn**		**19 37 19.7**	**-5.5**		
DOK				S		**Sn**		**19 37 19.7**	**-5.5**		
DQM	**DQM**	**18.18**	**144**	P		**Pn**		**19 34 07.4**	**-0.6**		
PLOR	**Plostina**	**18.27**	**311**	⇑P		**P**		**19 34 11.1**	**+1.9**		
PLOR	**Plostina**	**18.27**	**311**	⇑P		**P**		**19 34 11.1**	**+1.9**		
SIMJ	**Simiganj**	**18.46**	**73**			**P**		**19 34 11.1**	**-0.3**		
WHFO	**Wadi Hawf**	**18.47**	**157**	P		**P**		**19 34 10.2**	**-1.3**		
WHFO				P		**P**		**19 34 10.2**	**-1.3**		
SORM	**Soroca**	**18.55**	**320**	⇑P		**P**		**19 34 12.2**	**+0.1**		
SORM	**Soroca**	**18.55**	**320**	⇑P		**P**		**19 34 12.2**	**+0.1**		
COVR	**Voineasa-Covas**	**18.55**	**311**	⇑P		**Pn**		**19 34 14.2**	**+1.8**		
MLR	**Muntele Rosu**	**18.55**	**310**			**P**		**19 34 10.4**	**-1.9**		
MLR	**Muntele Rosu**	**18.55**	**310**	P		**P**		**19 34 12.5**	**+0.2**		
	comp=Z,0.7nm,0.3s,baz=354,slow=4.9,SNR=11										
	comp=Z,6.6nm,1.0s										
MLR	**Muntele Rosu**	**18.55**	**310**	⇓P		**Pn**		**19 34 14.9**	**+2.4**		
MLR	**Muntele Rosu**	**18.55**	**310**	P		**P**		**19 34 10.4**	**-1.9**		
MLR					pmax	pmax					
	comp=Z,20nm,0.9s										
CHGR	**Chuyangaron**	**18.58**	**73**			**P**		**19 34 12.5**	**-0.2**		
CHGR					IAmb	IAmb		19 34 19.1			
	comp=Z,28nm,1.0s										
CHGR	**Chuyangaron**	**18.58**	**73**	P		**P**		**19 34 12.5**	**-0.2**		
CHGR					pmax	pmax					
	comp=Z,28nm,1.0s										
TESR	**Tescani**	**18.60**	**313**	⇑P		**Pn**		**19 34 13.5**	**+0.5**		
KBL	**Kabul**	**18.67**	**86**	P		**P**		**19 34 13.5**	**-0.3**		
KBL	**Kabul**	**18.67**	**86**	P		**P**		**19 34 13.5**	**-0.3**		
KBL					pmax	pmax					
	comp=Z,12nm,1.2s										
ABTO	**Aybut**	**18.86**	**159**	P		**P**		**19 34 15.3**	**-0.5**		
OZUR		**18.92**	**311**	⇓P		**Pn**		**19 34 17.1**	**+0.2**		
RBK	**Rabkut**	**19.00**	**156**	P		**P**		**19 34 16.7**	**-0.7**		
RBK				S		**Sn**		**19 37 47.8**	**-3.1**		
SHAO	**Shalim**	**19.03**	**152**	P		**P**		**19 34 17.8**	**+0.1**		
SHAO	**Shalim**	**19.03**	**152**	*i* P		**P**		**19 34 17.3**	**-0.4**		
	SNR=27										
DMTO	**DMTO**	**19.06**	**154**	P		**P**		**19 34 18.3**	**+0.3**		
DMTO				P		**P**		**19 34 18.3**	**+0.3**		
VOIR		**19.09**	**309**	⇓P		**Pn**		**19 34 20.3**	**+1.3**		
VOIR		**19.09**	**309**	⇓P		**Pn**		**19 34 20.3**	**+1.3**		
DOPR	**Dopca**	**19.11**	**310**	⇓P		**Pn**		**19 34 20.4**	**+1.2**		
BIZ	**Bicaz**	**19.14**	**314**	⇓P		**Pn**		**19 34 19.4**	**-0.1**		
ARR	**Arges**	**19.33**	**308**	⇓P		**Pn**		**19 34 22.4**	**+0.6**		
LIT	**Litokhoron**	**19.45**	**292**			**P**		**19 34 19.1**	**-3.0**		
LIT					IAmb	IAmb		19 34 24.5			
	comp=Z,42nm,0.9s										
LIT	**Litokhoron**	**19.45**	**292**	P		**P**		**19 34 19.1**	**-3.0**		
LIT					pmax	pmax					
	comp=Z,42nm,0.9s										
GAR	**Garm**	**19.50**	**72**			**P**		**19 34 22.2**	**-0.6**		
GAR					IAmb	IAmb		19 34 30.1			
	comp=Z,21nm,0.7s										
VAY	**Valandovo**	**19.57**	**295**	*i* P		**Pn**		**19 34 24.9**	**+0.1**		
ITM	**Ithomi**	**19.76**	**283**			**P**		**19 34 23.8**	**-1.7**		
AKASG	**Malin Array Be**	**19.81**	**327**	P		**P**		**19 34 23.6**	**-2.3**		
AKASG	**Malin Array Be**	**19.81**	**327**	P		**P**		**19 34 24.9**	**-1.0**		
	comp=Z,1.2nm,0.3s,baz=138,slow=11,SNR=19										
AKASG					LR	LR		19 43 29.1			
	comp=Z,172nm,18.8s,baz=145,slow=42										
	comp=Z,11nm,0.9s										
AKASG	**Malin Array Be**	**19.81**	**327**	*e*P		**P**		**19 34 25.7**	**-0.2**		
AKASG					pmax	pmax					
	comp=Z,1.0nm,0.3s										
AKBB	**Malin Array Si**	**19.81**	**327**			**P**		**19 34 23.8**	**-2.1**		
AKBB					IAmb	IAmb		19 34 29.2			
	comp=Z,27nm,1.2s										
AKBB	**Malin Array Si**	**19.81**	**327**	P		**P**		**19 34 23.8**	**-2.1**		
AKBB					pmax	pmax					
	comp=Z,27nm,1.2s										
KIEV	**Kiev**	**19.81**	**327**			**P**		**19 34 24.7**	**-1.2**		
KIEV	**Kiev**	**19.81**	**327**	P		**P**		**19 34 24.7**	**-1.2**		
KIEV					pmax	pmax					
	comp=Z,24nm,1.2s										
MDB	**Medias**	**19.82**	**310**	⇑P		**Pn**		**19 34 28.1**	**+0.5**		
MDB	**Medias**	**19.82**	**310**	⇑P		**Pn**		**19 34 28.1**	**+0.5**		
LOT	**Lotru**	**19.92**	**308**	⇓P		**Pn**		**19 34 28.6**	**-0.4**		
BURAR	**Bucovina Array**	**20.00**	**315**			**P**		**19 34 26.4**	**-1.8**		
BUR08	**Bucovina Ar. S**	**20.03**	**315**			**P**		**19 34 26.7**	**-1.8**		
ARCR	**ARCALIA**	**20.26**	**312**	⇑P		Pn		19 34 32.5	-0.3		
KK31	**Karatay Array**	**20.31**	**60**			**P**		**19 34 32.1**	**+0.7**		
KK31	**Karatay Array**	**20.31**	**60**	P		**P**		**19 34 32.1**	**+0.7**		
KK31					pmax	pmax					
	comp=Z,12nm,1.0s										
KKAR	**Karatay Array**	**20.31**	**60**			**P**		**19 34 31.9**	**+0.5**		
KKAR	**Karatay Array**	**20.31**	**60**	P		**P**		**19 34 31.9**	**+0.5**		
FNA	**Florina**	**20.38**	**293**			**P**		**19 34 31.2**	**-1.1**		
FNA	**Florina**	**20.38**	**293**	P		**P**		**19 34 31.2**	**-1.1**		
FNA					pmax	pmax					
	comp=Z,13nm,0.8s										
SKO	**Skopje**	**20.52**	**297**	*i* P		Pn		19 34 35.5	-0.5		
GZR	**Gura Zlata**	**20.55**	**307**	⇓P		**P**		**19 34 34.7**	**+0.6**		
GZR	**Gura Zlata**	**20.55**	**307**	⇓P		**P**		**19 34 34.7**	**+0.6**		
CJR	**Cluj-Napoca**	**20.55**	**311**	⇑P		Pn		19 34 35.7	-0.6		
CJR	**Cluj-Napoca**	**20.55**	**311**	⇑P		Pn		19 34 35.7	-0.6		
HERR	**Herculane**	**20.61**	**305**	⇑P		**P**		**19 34 35.9**	**+1.3**		
BOVS	**Bovan**	**20.72**	**301**	⇓P		**P**		**19 34 37.1**	**+1.3**		
MARR	**Marisel-Cluj**	**20.83**	**310**	⇓P		Pn		19 34 38.8	-0.9		
OBN	**Obninsk**	**21.00**	**344**			**P**		**19 34 36.9**	**-1.9**		
OBN	**Obninsk**	**21.00**	**344**	P		**P**		**19 34 37.9**	**-0.9**		
	comp=Z,17nm,0.4s,baz=105,slow=8.0,SNR=8.9										
	comp=Z,17nm,0.4s										
OBN	**Obninsk**	**21.00**	**344**	*e*P		**P**		**19 34 38.2**	**-0.6**		
OBN				*i*				19 34 46.5			
OBN				*i*				19 34 57.5			
OBN					pmax	pmax					
	comp=Z,93nm,1.5s										
OBN					MLR	MLR					
	comp=Z,139nm,17.0s										
BMR	**Baia Mare**	**21.05**	**313**	⇓P		**P**		**19 34 41.0**	**+1.6**		
BMR	**Baia Mare**	**21.05**	**313**	⇓P		**P**		**19 34 41.0**	**+1.6**		
SURR	**Surduc**	**21.11**	**307**	⇑P		**P**		**19 34 40.5**	**+0.4**		
DRGR		**21.14**	**310**	⇑P		**P**		**19 34 41.3**	**+0.9**		
DRGR		**21.14**	**310**	⇑P		**P**		**19 34 41.3**	**+0.9**		
MESR	**Meseseni**	**21.14**	**311**	⇑P		**P**		**19 34 42.2**	**+1.8**		
MOS	**Moscow**	**21.36**	**346**	*e*P		**P**		**19 34 42.9**	**+0.2**		
MOS				*e*				19 35 03.7			
MOS				*e*S		**S**		**19 38 40.9**	**+1.2**		
MOS					pmax	pmax					
	comp=Z,36nm,1.0s										
BZS	**Buzias**	**21.39**	**307**	⇑P		**P**		**19 34 43.3**	**+0.2**		
BZS	**Buzias**	**21.39**	**307**	⇑P		**P**		**19 34 43.3**	**+0.2**		
KEK	**Kerkira**	**21.47**	**290**			**P**		**19 34 43.3**	**-0.7**		
SIRR	**Siria**	**21.60**	**308**	⇓P		**P**		**19 34 46.6**	**+1.3**		
ARSB	**Arslanbob**	**21.77**	**66**			**P**		**19 34 48.0**	**+0.6**		
ARSB					IAmb	IAmb		19 34 59.5			
	comp=Z,19nm,1.1s										
ARSB	**Arslanbob**	**21.77**	**66**	P		**P**		**19 34 48.0**	**+0.6**		
ARSB					pmax	pmax					
	comp=Z,19nm,1.1s										
PDG	**Podgorica**	**22.20**	**297**			**P**		**19 34 49.5**	**-2.4**		
PDG					IAmb	IAmb		19 34 57.0			
	comp=Z,12nm,0.8s										
PDG	**Podgorica**	**22.20**	**297**	⇑P		**P**		**19 34 52.5**	**+0.7**		
NIL	**Nilore**	**22.26**	**86**	P		**P**		**19 34 54.2**	**+1.7**		
NIL	**Nilore**	**22.26**	**86**	P		**P**		**19 34 54.3**	**+1.7**		
NIL					pmax	pmax					
	comp=Z,9.0nm,1.0s										
RUDO	**Rudo**	**22.36**	**300**	*e*P		**P**		**19 34 53.2**	**-0.3**		
KOLS	**Kolonicke sedl**	**22.37**	**315**	*e*P		**P**		**19 34 55.2**	**+1.6**		
KOLS				*e*				19 35 04.5			
KOLS					pmax	pmax					
	comp=Z,16nm,1.1s										
KWP	**Kalwaria Pacla**	**22.47**	**317**	*e*P		**P**		**19 34 55.8**	**+1.1**		
ARTI	**Arti**	**22.71**	**18**			**P**		**19 34 57.0**	**-0.2**		
ARTI	**Arti**	**22.71**	**18**	LR		LR		19 46 20.3			
	comp=Z,69nm,20.1s,baz=202,slow=44										
ARTI	**Arti**	**22.71**	**18**	*d* iP		**P**		**19 34 58.5**	**+1.3**		
ARTI								19 35 20.9			
ARTI					SS	**SnSn**		**19 39 36.1**	**+0.7**		
ARTI					pmax	pmax					
	comp=Z,19nm,1.7s										
KLINJ	**Klinje**	**22.82**	**299**	*e*P		**P**		**19 34 59.0**	**+0.4**		
TREB	**Trebinje**	**22.91**	**297**	*e*P		**P**		**19 35 00.0**	**+0.6**		
AAK	**Ala-Archa**	**23.08**	**63**	LR		LR		19 46 49.7			
	comp=Z,96nm,19.9s,baz=274,slow=44										
AAK	**Ala-Archa**	**23.08**	**63**	*i* P		**P**		**19 35 00.1**	**-1.2**		
AAK					pmax	pmax					
	comp=Z,5.0nm,0.9s										
MNK	**Minsk**	**23.15**	**332**	*i* P		**P**		**19 35 01.0**	**-0.7**		
	comp=E,9.0nm,0.7s,baz=138										
MNK					*i* P	**P**		**19 35 01.0**	**-0.7**		
	comp=N,13nm,0.7s										
MNK					*i* P	**P**		**19 35 01.0**	**-0.7**		
	comp=Z,13nm,0.7s										
MNK					*i* PP	**PnPn**		**19 35 26.3**	**-0.6**		
MNK					*i* S	**S**		**19 39 12.5**	**-0.6**		
MNK					*i* SS	**SnSn**		**19 39 48.2**	**+2.2**		
MNK					*i* LQ	LQ		19 43 10.3			
MNK					*i* LR	LR		19 43 56.1			
MNK					*i* LRM	MLR		19 44 52.4			
	comp=N,67nm,15.6s										
MNK					*i* LRM	MLR		19 45 04.1			
	comp=Z,66nm,15.7s										
MNK					*i* LRM	MLR		19 45 55.5			
	comp=E,88nm,16.1s										
MNK	**Minsk**	**23.15**	**332**	*d* iP		**P**		**19 35 01.0**	**-0.7**		
KECS	**Kecovo**	**23.22**	**313**	*e*P		**P**		**19 35 06.0**	**+3.5**		
KECS					pmax	pmax					
	comp=Z,18nm,1.1s										
PSZ	**Piszkesteto**	**23.34**	**311**			**P**		**19 35 01.1**	**-2.8**		
PSZ	**Piszkesteto**	**23.34**	**311**	⇑P		**P**		**19 35 04.3**	**+0.4**		
PSZ	**Piszkesteto**	**23.34**	**311**	⇑P		**P**		**19 35 04.3**	**+0.4**		
KIRV	**Kirov**	**23.46**	**4**	LR		LR		19 45 57.6			
	comp=Z,161nm,18.0s,baz=189,slow=41										
KIRV	**Kirov**	**23.46**	**4**	*i* P		**P**		**19 35 04.4**	**-0.4**		
MORH	**Mrgy, Hungar**	**23.55**	**306**	⇑*i*P		**P**		**19 35 05.7**	**-0.1**		
MORH	**Mrgy, Hungar**	**23.55**	**306**	⇑P		**P**		**19 35 05.4**	**-0.3**		
SVE	**Sverdlovsk**	**23.69**	**20**	*e*P		**P**		**19 35 10.3**	**+3.2**		
SVE					pmax	pmax					
	comp=Z,27nm,1.8s										
NIE	**Niedzica**	**23.74**	**315**	*e*P		**P**		**19 35 09.1**	**+1.4**		
TIP	**Timpagrande**	**23.81**	**288**	P		**P**		**19 35 06.4**	**-2.1**		
NACGM	**Naroch**	**23.88**	**332**	*e*P		**P**		**19 35 09.6**	**+0.8**		
	comp=Z,21nm,0.9s,baz=138										
MATE	**Matera**	**23.90**	**292**	⇑P		**P**		**19 35 08.3**	**-0.9**		
KSH	**Kashi**	**23.91**	**71**	P		**P**		**19 35 09.3**	**-0.3**		
KSH					pP	sP		19 35 15.8	+1.4		
KSH					pmax	pmax					
	comp=Z,6.0nm,0.6s										
KSH					LR	LR					
	comp=N,99nm,11.0s										
KSH					LR	LR					
	comp=E,160nm,9.2s										
KSH					LR	LR					
	comp=Z,180nm,12.2s										
LANS	**Liptovska Anna**	**24.11**	**313**	*e*P		**P**		**19 35 12.3**	**+1.1**		
LANS					pmax	pmax					
	comp=Z,4.0nm,0.7s										
BOOM	**Boomskoye usch**	**24.11**	**64**	P		**P**		**19 35 05.3**	**-6.2**		
BOOM	**Boomskoye usch**	**24.11**	**64**	P		**P**		**19 35 05.3**	**-6.2**		
BOOM					pmax	pmax					
	comp=Z,5.0nm,0.8s										
BLY	**Banja Luka**	**24.14**	**302**	⇑*i*P		**P**		**19 35 11.1**	**-0.4**		
BLY	**Banja Luka**	**24.14**	**302**	⇑P		**P**		**19 35 11.3**	**-0.2**		
SRO	**Srobarova**	**24.29**	**310**	*e*P		**P**		**19 35 17.4**	**+4.6**		
SRO					pmax	pmax					
	comp=Z,21nm,0.7s										
OJC	**Ojcow**	**24.39**	**316**	*e*P		**P**		**19 35 14.4**	**+0.6**		
OJC	**Ojcow**	**24.39**	**316**			**P**		**19 35 11.9**	**-1.9**		
OJC	**Ojcow**	**24.39**	**316**	P		**P**		**19 35 11.9**	**-1.9**		
ACER	**Acerenza**	**24.48**	**292**			**P**		**19 35 12.2**	**-2.6**		
CEL	**Celeste**	**24.50**	**286**	P		**P**		**19 35 12.4**	**-2.5**		
CEL					IAmb	IAmb		19 35 25.4			
	comp=Z,14nm,0.7s										
KIJV	**Kijevo**	**24.54**	**300**	⇑*i*P		**P**		**19 35 14.7**	**-0.4**		
CUC	**Castrocucco**	**24.55**	**290**	IAmb		IAmb		19 35 18.5			
	comp=Z,30nm,1.2s										
BVAR	**Bovoye Array**	**24.62**	**36**	P		**P**		**19 35 16.5**	**+0.7**		
	comp=Z,2.6nm,0.6s,baz=236,slow=9.3,SNR=9.6										
	comp=Z,2.6nm,0.6s										
MOSL	**Moslavina**	**24.64**	**304**	⇑*i*P		**P**		**19 35 16.4**	**+0.3**		
SGRT	**San Giovanni R**	**24.71**	**294**	P		**P**		**19 35 15.0**	**-1.8**		
SGRT					IAmb	IAmb		19 35 18.0			
	comp=Z,16nm,0.7s										
SUW	**Suwalki**	**24.78**	**326**	*e*P		**P**		**19 35 18.4**	**+1.3**		
SUW	**Suwalki**	**24.78**	**326**	P		**P**		**19 35 15.4**	**-1.8**		
SUW	**Suwalki**	**24.78**	**326**	P		**P**		**19 35 15.4**	**-1.8**		
BEHE	**Becsehely**	**24.86**	**306**	IAmb		IAmb		19 35 22.2			
	comp=Z,7.2nm,0.7s										
BEHE	**Becsehely**	**24.86**	**306**	*e*P		**P**		**19 35 19.0**	**+1.0**		
KDJ	**Kajisay**	**24.98**	**65**	P		**P**		**19 35 17.4**	**-2.0**		
KDJ	**Kajisay**	**24.98**	**65**	P		**P**		**19 35 17.4**	**-2.0**		
KDJ					pmax	pmax					
	comp=Z,6.0nm,0.8s										
JAVC	**Velka Javorina**	**25.07**	**312**	*e*P		**P**		**19 35 20.9**	**+0.9**		
MODS	**Modra-Piesok**	**25.14**	**310**	*e*P		**P**		**19 35 21.5**	**+1.0**		
MODS					pmax	pmax					
	comp=Z,29nm,1.1s										
MAUC	**Maruska**	**25.18**	**313**	*e*P		**P**		**19 35 22.1**	**+1.2**		
ZST	**Bratislava**	**25.19**	**310**	*e*P		**P**		**19 35 23.0**	**+2.1**		
ZST					pmax	pmax					
	comp=Z,9.0nm,0.8s										
KOGS	**Kog**	**25.20**	**306**	*i* P		**P**		**19 35 22.0**	**+0.9**		
PABE	**Paberze**	**25.44**	**330**	P		**P**		**19 35 22.1**	**-1.0**		
STEB	**Steborice**	**25.44**	**314**	*e*P		**P**		**19 35 23.8**	**+0.6**		
MORC	**Moravsky Berou**	**25.51**	**314**			**P**		**19 35 23.6**	**-0.4**		
MORC					IAmb	IAmb		19 35 27.4			
	comp=Z,16nm,1.0s										
MORC	**Moravsky Berou**	**25.51**	**314**	*e*P		**P**		**19 35 23.5**	**-0.4**		
MORC	**Moravsky Berou**	**25.51**	**314**	⇑P		**P**		**19 35 23.2**	**-0.8**		
MORC	**Moravsky Berou**	**25.51**	**314**	⇑P		**P**		**19 35 23.2**	**-0.8**		
OZLJ	**Ozalj**	**25.52**	**303**	⇑*i*P		**P**		**19 35 24.8**	**+0.8**		
RONA	**Rosalina, Austr**	**25.54**	**308**	*i* P		**P**		**19 35 25.0**	**+0.9**		
	comp=Z,34nm,0.8s,SNR=8.8										
PAOL	**Paolisi**	**25.54**	**293**	P		**P**		**19 35 22.5**	**-1.8**		
BOJS	**Bojanci**	**25.64**	**303**	*i* P		**P**		**19 35 26.1**	**+0.9**		
CONA	**Conrad Observa**	**25.89**	**309**	*i* P		**P**		**19 35 28.0**	**+0.7**		
	comp=Z,43nm,0.9s,SNR=21										
VRAC	**Vranov**	**25.90**	**312**	LR		LR		19 47 49.2			
	comp=Z,34nm,19.1s,baz=157,slow=42										
VRAC	**Vranov**	**25.90**	**312**	*e*P		**P**		**19 35 27.5**	**+0.1**		
VRAC	**Vranov**	**25.90**	**312**	⇑P		**P**		**19 35 26.0**	**-1.4**		
VRAC	**Vranov**	**25.90**	**312**	⇑P		**P**		**19 35 26.0**	**-1.4**		
ARSA	**Arzberg**	**25.90**	**307**	IAmb		IAmb		19 35 31.6			
	comp=Z,29nm,1.4s										
ARSA	**Arzberg**	**25.90**	**307**	*i* P		**P**		**19 35 28.6**	**+1.2**		
	comp=Z,16nm,1.1s										
KRUC	**Moravsky**	**25.93**	**311**	*e*P		**P**		**19 35 28.0**	**+0.3**		
KLMR	**Klimovskoe**	**26.02**	**352**	*e*P		**P**		**19 35 29.9**	**+1.6**		
KLMR					pmax	pmax					
	comp=Z,34nm,1.9s										
SOKA	**Soboth**	**26.07**	**306**	*i* P		**P**		**19 35 29.5**	**+0.4**		
	comp=Z,7.3nm,1.1s,SNR=10										
INTR	**Introdacqua**	**26.10**	**295**			**P**		**19 35 28.1**	**-1.3**		
INTR					IAmb	IAmb		19 36 00.8			
	comp=Z,15nm,1.1s										
OBKA	**Obir**	**26.35**	**305**	*i* P		**P**		**19 35 32.2**	**+0.6**		
	comp=Z,6.4nm,1.1s										
DPC	**Dobruska-Polom**	**26.46**	**314**	*e*P		**P**		**19 35 33.9**	**+1.4**		
DPC	**Dobruska-Polom**	**26.46**	**314**	*e*P		**P**		**19 35 33.9**	**+1.4**		
CAMP	**Campotosto**	**26.50**	**296**	P		**P**		**19 35 30.7**	**-2.4**		
JAVS	**Javornik**	**26.54**	**304**	*e*P		**P**		**19 35 33.7**	**+0.4**		
BRJN	**Brijuni**	**26.57**	**301**	⇑*i*P		**P**		**19 35 33.2**	**-0.3**		
VSU	**Vasula**	**26.62**	**337**	*ce*P		**P**		**19 35 32.4**	**-1.4**		
VSU					pmax	pmax					
	comp=Z,59nm,1.3s										
CHVC	**Chvalec**	**26.71**	**314**	*e*P		**P**		**19 35 35.0**	**+0.2**		
CHVC	**Chvalec**	**26.71**	**314**	*e*P		**P**		**19 35 35.0**	**+0.2**		
NRCA	**Norcia**	**26.75**	**297**	P		**P**		**19 35 33.2**	**-2.0**		
NRCA					IAmb	IAmb		19 35 39.4			
	comp=Z,13nm,0.8s										
FDMO	**Fiordimonte**	**26.79**	**297**	IAmb		IAmb		19 35 37.2			
	comp=Z,11nm,0.8s										
SABO	**M.te Sabotino**	**26.88**	**304**	IAmb		IAmb		19 35 40.8			
	comp=Z,15nm,0.8s										
MOA	**Molln**	**26.89**	**308**	*i* P		**P**		**19 35 36.8**	**+0.4**		
	comp=Z,8.5nm,0.6s,SNR=9.2										
MYKA	**Terra Mystica**	**26.99**	**305**	*i* pP		**P**		**19 35 40.2**	**+2.9**		
	comp=Z,3.2nm,0.6s										
CESX	**Cesi**	**27.12**	**296**	IAmb		IAmb		19 35 42.3			
	comp=Z,12nm,0.8s										
CKRC	**Cesky Krumlov**	**27.15**	**310**	*e*P		**P**		**19 35 38.8**	**+0.1**		
CKRC	**Cesky Krumlov**	**27.15**	**310**	*e*P		**P**		**19 35 38.8**	**+0.1**		
MURB	**Monte Urbino**	**27.22**	**297**	IAmb		IAmb		19 35 42.5			
	comp=Z,14nm,0.7s										
BIOA	**Bad Ischl, Aus**	**27.25**	**307**	*i* P		**P**		**19 35 40.2**	**+0.5**		
	comp=Z,10nm,1.0s,SNR=6.9										
KBA	**Koelnbreinsper**	**27.29**	**306**	*i* P		**P**		**19 35 40.9**	**+0.7**		
	comp=Z,13nm,0.6s										
ZVC	**Zvikov**	**27.42**	**311**	*e*P		**P**		**19 35 41.5**	**+0.4**		
GERES	**GERESS Array B**	**27.54**	**310**	P		**P**		**19 35 41.8**	**-0.5**		
	comp=Z,2.1nm,0.5s,baz=109,slow=8.8,SNR=16										
	comp=Z,2.1nm,0.5s										
GERES	**GERESS Array B**	**27.54**	**310**	*e*P		**P**		**19 35 42.4**	**+0.1**		
GERES					pmax	pmax					
	comp=Z,2.0nm,0.5s										
STAL	**STALIGIAL**	**27.54**	**304**	P		**P**		**19 35 41.3**	**-1.0**		
STAL					IAmb	IAmb		19 35 45.8			
	comp=Z,9.0nm,1.1s										
KHC	**Kasperske Hory**	**27.70**	**310**	*ce*P		**P**		**19 35 43.3**	**-0.4**		
KHC					pmax	pmax					

PESTR	**Estremoz**	**42.65**	**291**			**P**		**19 37 50.1 -2.0**
PESTR				IAmb		IAmb		19 37 52.9
	comp=Z,12nm,0.8s							
PESTR	**Estremoz**	**42.65**	**291**	*eP*		**P**		**19 37 52.4 +0.3**
PESTR				*i* IAmb		IAmb		19 37 53.1
	comp=Z,15nm,1.0s							
PSARD	**Sardoal**	**42.93**	**293**	*eP*		**P**		**19 37 54.8 +0.5**
PSARD				*i* IAmb		IAmb		19 37 57.9
	comp=Z,17nm,1.6s							
EVO	**Evora**	**43.05**	**291**	*eP*		**P**		**19 37 55.4 +0.1**
PBEJ	**Beja**	**43.05**	**290**	*eP*		**P**		**19 37 56.0 +0.6**
PVAQ	**Vaqueiros**	**43.08**	**289**	*eP*		**P**		**19 37 55.9 +0.3**
PVAQ				*i* IAmb		IAmb		19 37 58.7
	comp=Z,37nm,1.6s							
PCAS	**Casmilo, Conde**	**43.09**	**293**	*eP*		**P**		**19 37 55.9 +0.2**
PCAS				*i* IAmb		IAmb		19 38 00.9
	comp=Z,16nm,2.4s							
PMTG	**Montargil**	**43.09**	**292**	*eP*		**P**		**19 37 56.0 +0.3**
PMTG				*i* IAmb		IAmb		19 37 58.1
	comp=Z,14nm,1.5s							
PCVE	**Castro Verde**	**43.28**	**290**	*eP*		**P**		**19 37 57.4 +0.2**
PCVE				*i* IAmb		IAmb		19 37 58.5
	comp=Z,14nm,1.1s							
PBDV	**Barranco-do-Ve**	**43.29**	**289**	*eP*		**P**		**19 37 58.3 +1.0**
PBDV				*i* IAmb		IAmb		19 38 05.8
	comp=Z,32nm,1.5s							
PARRA	**Arraiolos**	**43.77**	**292**	*eP*		P		19 37 55.1 -6.0
PARRA				*i* IAmb		IAmb		19 37 55.4
	comp=Z,7.5nm,2.1s							
PTEO	**Sao Teotonio**	**43.83**	**290**	*eP*		**P**		**19 37 58.8 -2.8**
PTEO				*i* IAmb		IAmb		19 37 59.4
	comp=Z,21nm,1.4s							
SPITS	**Spitsbergen Ar**	**44.91**	**352**	P		**P**		**19 38 10.4 +0.6**
	comp=Z,10nm,0.9s,baz=132,slow=8.0,SNR=6.3							
	comp=Z,10nm,0.9s							
SONM	**Songino Array**	**45.63**	**55**	P		**P**		**19 38 16.8 +0.8**
	comp=Z,0.5nm,0.5s,baz=282,slow=9.0,SNR=4.1							
	comp=Z,0.5nm,0.5s							
SONM	**Songino Array**	**45.63**	**55**	*eP*		P		19 38 21.0 +5.0
SONM				pmax		pmax		
	comp=Z,1.0nm,0.4s							
TORD	**Torodi Ar. Bea**	**45.77**	**253**			**P**		**19 38 17.1 -0.2**
TORD	**Torodi Ar. Bea**	**45.77**	**253**	P		**P**		**19 38 18.1 +0.7**
	comp=Z,1.1nm,0.6s,baz=45,slow=9.6,SNR=7.4							
	comp=Z,1.1nm,0.6s							
PZH	**PanZhiHua**	**47.85**	**84**	P		**P**		**19 38 34.8 +1.1**
CHTO	**Chiang Mai**	**49.11**	**95**			**P**		**19 38 44.7 +1.4**
CHTO				IAmb		IAmb		19 38 47.1
	comp=Z,7.9nm,1.2s							
CHTO	**Chiang Mai**	**49.11**	**95**	P		**P**		**19 38 44.7 +1.4**
CHTO				pmax		pmax		
	comp=Z,8.0nm,1.3s							
CMAR	**Chiang Mai Arr**	**49.29**	**96**	P		**P**		**19 38 44.9 +0.1**
	comp=Z,1.8nm,0.7s,baz=298,slow=8.2,SNR=10							
CMAR				LR		LR		20 05 03.0
	comp=Z,33nm,19.0s,baz=285,slow=43							
	comp=Z,1.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**49.29**	**96**	*eP*		**P**		**19 38 47.3 +2.6**
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
HHC	**Hu-ho-hao-te**	**50.65**	**63**	*eP*		**P**		**19 38 54.8 -0.1**
HHC				pmax		pmax		
	comp=Z,11nm,0.6s							
HHC				pmax		pmax		
	comp=Z,110nm,4.1s							
XAN	**Xi'an**	**50.76**	**72**	P		**P**		**19 38 56.9 +1.1**
XAN				pmax		pmax		
	comp=Z,8.0nm,0.8s							
SLVN	**Son La**	**51.93**	**89**	P		**P**		**19 39 04.8 +0.1**
SLVN				IAmb		IAmb		19 39 10.5
	comp=Z,9.1nm,1.2s							
DBIC	**Dimbokro**	**54.81**	**251**	P		**P**		**19 39 26.2 +0.4**
	comp=Z,2.5nm,0.5s,baz=71,slow=7.5,SNR=5.7							
DBIC				LR		LR		20 04 56.7
	comp=Z,40nm,20.0s,baz=310,slow=38							
	comp=Z,2.5nm,0.5s							
SUMG	**Summit**	**55.24**	**339**			**P**		**19 39 27.3 -1.4**
SUMG				IAmb		IAmb		19 39 31.8
	comp=Z,9.9nm,1.1s							
SUMG	**Summit**	**55.24**	**339**	P		**P**		**19 39 27.3 -1.4**
SUMG				pmax		pmax		
	comp=Z,10.0nm,1.1s							
PSI	**Prapat**	**58.38**	**111**	LR		LR		20 08 58.9
	comp=Z,34nm,18.3s,baz=308,slow=40							
NJ2	**Nanjing**	**59.22**	**71**	*eP*		**P**		**19 39 58.1 +1.2**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
SFJD	**Kangerlussuaq**	**60.71**	**333**	LR		LR		20 07 06.7
	comp=Z,52nm,18.2s,baz=81,slow=37							
LBTB	**Lobatse**	**63.04**	**201**	LR		LR		20 09 17.3
	comp=Z,56nm,18.1s,baz=186,slow=37							
USRK	**Ussuriysk Ar.**	**63.69**	**53**	P		**P**		**19 40 27.1 +0.2**
	comp=Z,2.8nm,0.6s,baz=292,slow=5.8,SNR=7.2							
	comp=Z,2.8nm,0.6s							
KSRS	**Korea Array**	**63.73**	**61**	P		**P**		**19 40 27.8 +0.5**
	comp=Z,3.3nm,0.6s,baz=289,slow=6.5,SNR=12							
	comp=Z,3.3nm,0.6s							
BOSA	**Boshof**	**66.53**	**200**	P		**P**		**19 40 47.8 +2.2**
	comp=Z,2.2nm,0.6s,baz=5.8,slow=5.1,SNR=8.8							
	comp=Z,2.2nm,0.6s							
FRB	**Frobisher Bay**	**68.82**	**334**	LR		LR		20 10 09.3
	comp=Z,60nm,18.9s,baz=61,slow=35							
YSS	**Yuzhno-Sakhali**	**69.19**	**47**	*eP*		P		19 41 08.0 +5.9
YSS				pmax		pmax		
	comp=Z,10.0nm,1.2s							
ASAJ	**Asahikawa**	**70.51**	**49**	LR		LR		20 14 28.1
	comp=Z,43nm,18.0s,baz=2.0,slow=38							
SCHQ	**Schefferville**	**73.61**	**326**	P		**P**		**19 41 28.5 -0.2**
	comp=Z,48nm,0.8s,baz=47,slow=7.1,SNR=4.4							
PETK	**Petropavlovsk-**	**73.86**	**36**	LR		LR		20 15 48.2
	comp=Z,25nm,19.3s,baz=79,slow=37							
E18K	**Tukpahlearik C**	**75.66**	**10**	P		**P**		**19 41 39.4 -1.0**
E22K	**Anaktuvuk Pass**	**76.06**	**7**	P		**P**		**19 41 42.2 -0.5**
E22K				IAmb		IAmb		19 41 46.8
	comp=Z,4.8nm,0.8s							
F19K	**Shaleruckik Mo**	**76.61**	**10**	IAmb		IAmb		19 41 49.5
	comp=Z,11nm,1.4s							
F20K	**Avaraart Lake**	**76.67**	**9**	IAmb		IAmb		19 41 50.3
	comp=Z,5.1nm,0.8s							
F21K	**Alatna River**	**76.77**	**8**	IAmb		IAmb		19 41 51.3
	comp=Z,10nm,1.4s							
G19K	**Purcell Mounta**	**77.35**	**10**			**P**		**19 41 49.1 -0.9**
G21K	**Allakaket**	**77.44**	**8**	IAmb		IAmb		19 41 53.4
	comp=Z,6.6nm,0.8s							
G26K	**Porcupine Rive**	**77.85**	**4**	IAmb		IAmb		19 41 56.3
	comp=Z,5.7nm,0.8s							
G27K	**Doyon Strip**	**78.10**	**3**	IAmb		IAmb		19 41 57.7
	comp=Z,3.1nm,0.8s							
G31M	**Satah River**	**78.17**	**0**			**P**		**19 41 54.5 0.0**
G31M				IAmb		IAmb		19 41 56.8
	comp=Z,7.9nm,0.9s							
H27K	**Steamboat Moun**	**78.69**	**3**	IAmb		IAmb		19 42 02.3
	comp=Z,3.8nm,0.9s							
I28M	**Miner Creek**	**79.54**	**3**	IAmb		IAmb		19 42 06.0
	comp=Z,3.6nm,0.8s							
J20K	**Nowinta River**	**79.62**	**9**			**P**		**19 42 02.7 +0.2**
ILAR	**Eielson Array**	**79.80**	**6**	P		**P**		**19 42 03.5 0.0**
	comp=Z,0.9nm,0.7s,baz=322,slow=3.7,SNR=10							
	comp=Z,0.9nm,0.7s							
I30M	**Mount Dempster**	**79.86**	**1**			**P**		**19 42 04.0 +0.1**
BPAW	**Bear Paw Mtn.**	**80.06**	**8**	IAmb		IAmb		19 42 09.2
	comp=Z,6.9nm,0.9s							
J30M	**Hart River**	**80.51**	**1**			**P**		**19 42 07.5 0.0**
J30M				IAmb		IAmb		19 42 12.0
	comp=Z,7.6nm,1.2s							
SCRK	**Sand Creek**	**80.80**	**5**	IAmb		IAmb		19 42 12.2
	comp=Z,4.2nm,0.7s							
DOT	**Dot Lake**	**81.12**	**5**	P		**P**		**19 42 09.9 -0.7**
DOT				IAmb		IAmb		19 42 16.1
	comp=Z,4.6nm,1.0s							
KLU	**Klutina**	**83.11**	**6**	P		**P**		**19 42 21.5 +0.3**
ULM	**Lac du Bonnet**	**88.56**	**337**	LR		LR		20 25 24.3
	comp=Z,38nm,19.5s,baz=145,slow=38							

*IDC **17** 19:31:03.6±2.8,43˙.10N×105˙.19W,h0km,mb4.1/1, mbtmp3.8/3,ML3.4/2,Error ellipse: s-maj=60.2km s-min=9.9km az=157.0*
*NEIC **17** 19:31:04.7±2.0,43˙.57N±0˙.06×105˙.4W±0˙.1,h0km±1km, ML3.2/58,Error ellipse: s-maj=16.4km s-min=2.9km az=54.0*

ISC 17 19:31:02.4±0.9,43˚.74N±0˙.05×105˚.79W±0˙.04,h0km,n35, σ2s48/33,Wyoming

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

K22A	**Casper**	**1.21**	**207**			**Pn**		**19 31 29.2 +2.4**
RSSD	**Black Hills**	**1.32**	**73**			**Pg**		**19 31 26.4 -1.3**
RLMT	**Red Lodge**	**2.85**	**300**			**Pg**		**19 31 57.8 +0.8**
RLMT					IAML			19 33 04.6
	51nm,1.9s							
BW06	**Boulder Array**	**2.92**	**252**	Pn		**Pg**		**19 31 56.8 -1.6**
PD31	**Pinedale Array**	**2.92**	**252**			**Pg**		**19 31 58.5 +0.1**
PDAR	**Pinedale Array**	**2.92**	**252**			**Pg**		**19 31 58.2 -0.1**
PDAR	**Pinedale Array**	**2.92**	**252**	Pn		**Pg**		**19 31 59.0 +0.7**
	4.3nm,0.3s,baz=67,slow=18,SNR=14							
PDAR					Lg	Lg		19 32 44.2
	7.9nm,0.3s,baz=73,slow=32,SNR=6.3							
	2.6nm,0.3s							
LAO	**LASA Array**	**2.96**	**354**			**Pg**		**19 31 57.3 -1.9**
LAO					IAML			19 33 01.0
	84nm,0.9s							
YNE	**Yellowstone No**	**3.28**	**294**			**Pb**		**19 31 58.6 -3.0**
YNE					IAML			19 32 40.9
	comp=E,43nm,1.8s							
YNE					IAML			19 33 11.8
	comp=N,42nm,0.8s							
YMP	**Mirror Lake Pl**	**3.29**	**289**			**Pb**		**19 31 59.3 -2.6**
YMP					IAML			19 33 15.5
	comp=E,61nm,0.9s							
HAYD	**Hayden**	**3.40**	**199**	Pn		**Pn**		**19 32 00.1 +3.3**
HAYD					IAML			19 33 08.8
	comp=N,42nm,0.9s							
HAYD					IAML			19 33 23.1
	comp=E,33nm,1.2s							
LOHW	**Long Hollow**	**3.50**	**270**			**Pb**		**19 32 02.2 -3.1**
H17A	**Grant Village**	**3.51**	**282**			**Pb**		**19 32 02.2 -3.4**
H17A					IAML			19 33 55.4
	comp=N,44nm,0.1s							
H17A					IAML			19 34 26.7
	comp=E,46nm,0.1s							
SNOW	**Snow King Moun**	**3.62**	**267**			**Pb**		**19 32 03.5 -3.8**
SNOW					IAML			19 33 17.1
	comp=E,36nm,0.8s							
SNOW					IAML			19 33 37.0
	comp=E,41nm,1.2s							
YNR	**Norris Junctio**	**3.65**	**287**	Pn		**Pb**		**19 32 04.2 -3.7**
YPP	**Pitchstone Pla**	**3.66**	**280**			**Pb**		**19 32 06.0 -2.1**
YPP					IAML			19 32 36.3
	comp=E,22nm,1.9s							
YFT	**Old Faithful**	**3.71**	**283**			**Pb**		**19 32 07.1 -1.8**
YFT					IAML			19 32 36.2
	comp=E,29nm,1.1s							
YFT					IAML			19 33 22.4
	comp=N,19nm,4.3s							
TPAW	**Teton Pass**	**3.76**	**268**	Pn		**Pb**		**19 32 05.8 -4.0**
TPAW					IAML			19 33 35.4
	comp=N,19nm,1.0s							
TPAW					IAML			19 33 42.1
	comp=N,30nm,2.4s							
YHH	**Holmes Hill**	**3.79**	**288**			**Pb**		**19 32 06.3 -3.9**
ISCO	**Idaho Springs**	**3.94**	**178**			**Pn**		**19 32 05.7 +1.3**
AHID	**Auburn Hatcher**	**4.00**	**258**			**Pb**		**19 32 10.1 -3.7**
AHID					IAML			19 32 42.4
	comp=N,24nm,1.4s							
AHID					IAML			19 33 32.0
	comp=N,34nm,0.8s							
YHB	**Horse Butte**	**4.01**	**286**			**Pb**		**19 32 12.1 -2.0**
YHB					IAML			19 33 41.1
	comp=E,18nm,1.0s							
YHB					IAML			19 33 41.2
	comp=N,20nm,1.1s							
YHL	**Hebgen Lake**	**4.03**	**288**			Pb		19 32 08.9 -5.5
YHL					IAML			19 33 36.4
	comp=E,18nm,1.4s							
YHL					IAML			19 33 38.8
	comp=N,21nm,1.2s							
O20A	**White River Ci**	**4.04**	**208**	Pn		**Pn**		**19 32 08.2 +2.5**
BOZ	**Bozeman (W)**	**4.56**	**296**			**Pn**		**19 32 16.1 +3.3**
BOZ					IAML			19 34 56.6
	comp=N,12nm,3.4s							
BOZ					IAML			19 35 23.1
	comp=N,17nm,4.5s							
E28A	**Huff**	**4.58**	**50**			**Pn**		**19 32 12.5 -0.5**
DGMT	**Dagmar**	**4.86**	**13**			**Pn**		**19 32 16.0 -0.8**
P18A	**Preston Nutter**	**5.29**	**221**			**Pn**		**19 32 22.9 -0.1**
PV23	**Carpenter Ridg**	**5.82**	**206**			**Pn**		**19 32 29.2 -0.9**
SRU	**San Rafael Swe**	**5.83**	**219**			**Pn**		**19 32 30.9 +0.6**
PV16	**Nyswonger Mesa**	**5.92**	**205**			**Pn**		**19 32 31.7 +0.3**
MDND	**Maddock**	**5.96**	**44**			**Pn**		**19 32 32.8 +0.9**
I56US	**NEWPORT INFRAS**	**9.09**	**304**	I		I		20 34 30.0
	baz=114,slow=324,SNR=2.8							
ULM	**Lac du Bonnet**	**9.39**	**43**	Pn		**Pn**		**19 33 21.5 +2.6**
	comp=N,0.7nm,0.3s,baz=232,slow=11,SNR=5.0							
ULM					Lg	Lg		19 35 56.7
	comp=N,0.2nm,0.3s,baz=308,slow=18,SNR=2.0							
	comp=N,2.4nm,0.4s							
ARCES	**ARCESS Array B**	**61.53**	**17**	P		**P**		**19 41 23.7 +3.1**
	comp=N,2.0nm,0.8s,baz=321,slow=8.5,SNR=1.2							
	comp=N,2.0nm,0.8s							

IDC 17 19:37:30.5±3.0,31˚.61S×177˚.59W,h0km,mb4.0/2, mbtmp4.0/4,ML3.4/2,MS2.9/1,Error ellipse: s-maj=70.1km s-min=27.6km az=113.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.37**	**353**	Pn		Pn		19 38 11.2 +0.6
	18nm,0.3s,baz=107,slow=19,SNR=1.4							
RAO					Sn	Sn		19 38 34.9 -5.5
	130nm,0.3s,baz=84,slow=21,SNR=5.1							
	64nm,0.3s							
URZ	**Urewera**	**7.93**	**212**	Pn		Pn		19 39 26.9 -0.1
	0.3nm,0.3s,baz=126,slow=19,SNR=2.4							
URZ					Sn	Sn		19 40 56.1 -1.4
	0.5nm,0.3s,baz=15,slow=16,SNR=1.2							
	16nm,1.1s							
RAR	**Rarotonga**	**19.00**	**61**	LR		LR		19 46 41.5
	comp=Z,35nm,20.9s,baz=120,slow=29							
ASAR	**Alice Springs**	**43.40**	**268**	P		P		19 45 35.4 +0.2
	1.1nm,0.6s,baz=105,slow=7.7,SNR=24							
	1.1nm,0.6s							
WRA	**Warramunga Arr**	**44.50**	**273**	P		P		19 45 43.9 -0.1
	1.8nm,0.6s,baz=111,slow=8.0,SNR=24							
	1.8nm,0.6s							
FINES	**FINESS Array B**	**146.40**	**340**	PKPbc		PKPdf		19 57 11.4 0.0
	1.9nm,0.7s,baz=46,slow=4.0,SNR=7.2							

*RHSSO **17** 19:53:37.4±0.3,44˙.24N×17˙.90E,h7km±3km,ML2.2/8*
*PDG **17** 19:53:37.3±0.3,44˙.40N×18˙.06E,h11km±1km,ML2.7/7, Error ellipse: s-maj=2.9km s-min=4.1km az=0.0*
*BEO **17** 19:53:38.0±0.3,44˙.28N×17˙.87E,h7km±2km,ML2.2/13*

ISC 17 19:53:36.8±1.1,44˚.26N±0˙.02×17˚.89E±0˙.02,h1km±10km, n48,σ1s03/88,5C-3D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.70**	**314**	⇑*i*	Pg	**Pg**		**19 53 51.0 +0.7**
BLY					eSg	**Sb**		**19 54 01.0 -1.0**
BLY	**Banja Luka**	**0.70**	**314**	*eP*		**Pg**		**19 53 51.3 +1.0**
BLY					eSg	**Sg**		**19 54 00.8 +1.4**
RICI	**Ricice**	**0.94**	**216**	*eP*		**Pg**		**19 53 54.2 -0.6**
RICI					Sg	**Sg**		**19 54 07.0 0.0**
KIJV	**Kijevo**	**1.10**	**257**	⇓*i*	Pg	**Pg**		**19 53 57.5 -0.3**
KIJV					eSg	**Sg**		**19 54 12.3 +0.2**
KIJV	**Kijevo**	**1.10**	**257**	*eP*		**Pg**		**19 53 57.5 -0.3**
KIJV					Sg	**Sg**		**19 54 11.5 -0.5**
MAKA	**Makarska**	**1.16**	**213**	*eP*		**Pg**		**19 53 57.9 -1.1**
MAKA					Sg	**Sg**		**19 54 13.9 -0.1**
BBLS	**Lazi&#263i**	**1.16**	**109**	*eP*		**Pg**		**19 53 59.2 +0.1**
BBLS					eSg	**Sb**		**19 54 15.4 +0.1**
KLINJ	**Klinje**	**1.20**	**155**	*eP*		**Pg**		**19 53 59.0 -0.8**
KLINJ					eSg	**Sg**		**19 54 14.4 -1.0**
TEKS	**Tekeris**	**1.21**	**76**	*eP*		**Pg**		**19 54 00.0 0.0**
TEKS					eSg	**Sn**		**19 54 17.4 -0.6**
RUDO	**Rudo**	**1.25**	**120**	⇑*i*	Pg	**Pn**		**19 53 59.9 -1.5**
RUDO					eSg	**Sg**		**19 54 16.5 -0.4**
RUDO	**Rudo**	**1.25**	**120**	*eP*		**Pn**		**19 54 00.2 -1.2**
RUDO					eSg	**Sb**		**19 54 17.8 +0.1**
UPM	**Unac-Piva**	**1.29**	**145**	*eP*		**Pn**		**19 54 00.1 -2.0**
UPM					eSg	**Sn**		**19 54 22.5 +2.4**
BRY	**Bratogost**	**1.44**	**161**	⇓*i*	Pg	**Pn**		**19 54 02.7 -1.4**
BRY					*i* Sg	**Sg**		**19 54 28.4 +5.4**
DIVS	**Divibare**	**1.52**	**95**	*eP*		**Sg**		**19 54 27.5 +1.8**
MOSL	**Moslavina**	**1.57**	**330**	⇑*i*	Pn	**Pn**		**19 54 05.7 -0.2**
MOSL					eSn	**Sg**		**19 54 27.3 -0.1**
MOSL	**Moslavina**	**1.57**	**330**	*eP*		**Pn**		**19 54 05.9 0.0**
MOSL					Sg	**Sb**		**19 54 26.6 -0.6**

TREB	**Trebinje**	**1.58**	**168**	*eP*		**Pn**		**19 54 05.7 -0.2**
TREB				*eS*	n	**Sn**		**19 54 26.5 -0.5**
TREB	**Trebinje**	**1.58**	**168**	*eP*		**Pn**		**19 54 05.9 0.0**
TREB				*eS*	n	**Sb**		**19 54 27.9 +0.7**
DBRK	**Dubrovnik**	**1.60**	**173**	*eP*	g	**Pn**		**19 54 06.2 -0.1**
DBRK				Sg		**Sn**		**19 54 27.8 +0.2**
MORI	**Morici**	**1.62**	**257**	*eP*	n	**Pn**		**19 54 06.7 +0.2**
MORI				Sn		**Sg**		**19 54 30.2 +1.3**
FRGS	**Fruska Gora**	**1.64**	**56**	*eP*	g	**Pb**		**19 54 07.6 -0.2**
FRGS				*eS*	g	**Sg**		**19 54 29.8 +0.4**
LSTV	**Lastovo**	**1.66**	**206**	*eP*	n	**Pn**		**19 54 06.8 -0.3**
LSTV				Sg		**Sb**		**19 54 29.9 +0.4**
ZIRJ	**Zirje**	**1.73**	**250**	*eP*	n	**Pb**		**19 54 09.2 -0.2**
ZIRJ				Sn		**Sg**		**19 54 32.8 +0.4**
PLIT	**Plitvice**	**1.73**	**292**	*eP*	n	**Pn**		**19 54 08.4 +0.3**
PLIT				Sg		**Sb**		**19 54 31.5 -0.3**
IVAS	**Ivanjica**	**1.77**	**112**	*eP*	n	**Pb**		**19 54 10.1 0.0**
IVAS				*eS*	n	**Sb**		**19 54 32.9 0.0**
TRUS	**Trudelj**	**1.81**	**90**	*eP*	n	**Pb**		**19 54 10.2 -0.5**
TRUS				*eS*	n	**Sb**		**19 54 33.4 -0.5**
SJES	**Sjenica**	**1.81**	**123**	*eP*	n	**Pb**		**19 54 10.4 -0.4**
SJES				*eS*	n	**Sb**		**19 54 33.4 -0.6**
KOME	**Kolasin**	**1.84**	**139**	*eP*	n	**Pn**		**19 54 10.2 +0.6**
KOME	**Kolasin**	**1.84**	**139**	⇓*i*	Pn	**Pn**		**19 54 10.2 +0.6**
KOME				*eS*	n	**Sg**		**19 54 36.1 +0.2**
IVA	**Berane**	**2.01**	**133**	*eP*	n	**Pn**		**19 54 12.3 +0.3**
IVA				*i*	Sn	**Sg**		**19 54 41.0 -0.4**
MORH	**Mrgy, Hungar**	**2.03**	**15**	*eP*	n	**Pn**		**19 54 12.0 -0.1**
MORH				*eS*	n	**Sn**		**19 54 37.6 -0.4**
MORH	**Mrgy, Hungar**	**2.03**	**15**	*eP*	n	**Pn**		**19 54 11.7 -0.4**
VIRC	**Vir**	**2.04**	**272**	*eP*	n	**Pb**		**19 54 13.6 -1.0**
VIRC				Sn		**Sb**		**19 54 39.9 -0.5**
DUGI	**Dugi Otok**	**2.06**	**263**	*eP*	n	**Pb**		**19 54 14.1 -0.9**
DUGI				Sn		**Sb**		**19 54 41.2 +0.2**
GRUS	**Gruza**	**2.07**	**99**	*eP*	n	**Pn**		**19 54 13.5 +0.8**
PDG	**Podgorica**	**2.08**	**151**	*eP*	n	**Pn**		**19 54 14.0 +1.2**
PDG				*eS*	n	**Sb**		**19 54 43.2 +1.5**
BUM	**Brajici-Budva**	**2.09**	**159**	⇑*i*	Pn	**Pb**		**19 54 15.1 -0.5**
BUM				*eS*	n	**Sg**		**19 54 43.8 -0.2**
KALN	**Kalnik**	**2.13**	**332**	*eP*	n	**Pn**		**19 54 13.4 -0.1**
KALN				Sn		**Sb**		**19 54 41.5 -1.7**
NVLJ	**Novalja**	**2.18**	**279**	*eP*	n	**Pn**		**19 54 15.1 +0.9**
NVLJ				Sn		**Sb**		**19 54 44.1 -0.5**
OZLJ	**Ozalj**	**2.19**	**309**	*eP*	n	**Pn**		**19 54 14.7 +0.4**
BOJS	**Bojanci**	**2.25**	**304**	*eP*	n	**Pn**		**19 54 15.2 0.0**
GOCS	**Kraljevo Serbi**	**2.27**	**107**	*eP*	n	**Pn**		**19 54 15.3 -0.2**
GOCS				*eS*	n	**Sn**		**19 54 43.5 -0.6**
RABC	**Rab**	**2.28**	**284**	*eP*	n	**Pn**		**19 54 17.1 +1.6**
RABC				Sn		**Sn**		**19 54 45.3 +1.1**
DRME	**Dracevica, Mon**	**2.28**	**155**	*eP*	n	**Pn**		**19 54 17.2 +1.6**
DRME	**Dracevica, Mon**	**2.28**	**155**	*eP*	n	**Pb**		**19 54 17.4 -1.3**
DRME				*eS*	n	**Sb**		**19 54 48.1 +0.7**
BEHE	**Becsehely**	**2.35**	**341**	⇑*i*	Pn	**Pn**		**19 54 16.9 +0.4**
BEHE				*eS*	n	**Sn**		**19 54 45.9 0.0**
ULC	**Ulcinj**	**2.50**	**156**	*eP*	n	**Pn**		**19 54 20.6 +2.0**
ULC				*i*	Sn	**Sb**		**19 54 52.5 -1.3**
SELS	**Selova**	**2.56**	**113**	*eP*	n	**Pn**		**19 54 19.7 +0.2**

*BGSI **17** 20:25:17.8±2.3,24˚.36S×31˚.69E,h0km±110km,ML3.5*
*PRE **17** 20:25:29.5±0.8,23˚.97S×30˚.43E,h5km,ML2.7*

ISC 17 20:25:29.9±0.8,24˚.01S±0˙.04×30˚.41E±0˙.04,h10km,n35, σ2s39/64,2C,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOED	**Hoedspruit, Li**	**0.63**	**130**	*eP*		**Pg**		**20 25 41.6 -0.6**
HOED				*eS*		**Sg**		**20 25 50.6 +0.2**
HOED					IAML			20 25 50.8
	comp=Z,678nm,0.5s							
MOPA	**Mopani**	**1.03**	**62**	*eP*		**Pg**		**20 25 48.8 -1.0**
MOPA				*eS*		**Sg**		**20 26 02.0 -1.2**
MOPA					IAML			20 26 04.6
	comp=Z,976nm,0.3s							
MUSN	**Musina, Limpop**	**1.78**	**343**	*eP*		**Pn**		**20 26 01.7 +0.8**
MUSN				*eS*		**Sn**		**20 26 24.4 +0.8**
MUSN					IAML			20 26 27.3
	comp=Z,118nm,0.4s							
CRLN	**Carolina, Mapu**	**2.01**	**190**	*eP*		**Pn**		**20 26 05.9 +1.

KEIM					IAML			20 29 49.4
	comp=Z,2.2nm,0.6s							
GRAF	**Camdeboo Natio**	**9.76**	**211**	*eP*		**Pn**	**20 27 52.9**	**+2.4**
GRAF				*eS*		**Sn**	**20 29 37.0**	**-3.1**
GRAF					IAML		20 29 47.9	
	comp=Z,1.3nm,0.5s							
BFON	**Badsfontein, M**	**9.77**	**216**	*eP*		**Pn**	**20 27 52.2**	**+1.4**
BFON				*eS*		**Sn**	**20 29 36.9**	**-3.8**
BFON					IAML		20 29 44.7	
	comp=Z,1.9nm,0.5s							
BRAK	**Brakfontein**	**10.20**	**219**	*eP*		**Pn**	**20 27 58.3**	**+1.7**
BRAK				*eS*		**Sn**	**20 29 47.4**	**-3.7**
BRAK					IAML		20 29 51.8	
	comp=Z,1.5nm,0.3s							
ARMS	**Ukamas**	**10.40**	**245**	*eP*		**Pn**	**20 28 00.6**	**+1.3**
ARMS				*eS*		**Sn**	**20 29 51.7**	**-4.3**
GRAN	**Grantham**	**11.00**	**219**	*eP*		**Pn**	**20 28 09.6**	**+2.1**
GRAN				*eS*		**Sn**	**20 30 06.5**	**-4.2**
GRAN					IAML		20 30 26.4	
	comp=Z,1.4nm,0.3s							
FRAZ	**Fraserburg**	**11.20**	**223**	*eP*		**Pn**	**20 28 12.0**	**+1.7**
FRAZ				*eS*		**Sn**	**20 30 12.2**	**-3.5**
FRAZ					IAML		20 30 25.0	
	comp=Z,1.5nm,0.3s							
MERW	**Merweville**	**11.65**	**220**	*eP*		**Pn**	**20 28 18.2**	**+1.8**
MERW				*eS*		**Sn**	**20 30 21.6**	**-5.0**
MERW					IAML		20 30 42.8	
	comp=Z,1.8nm,0.5s							
SUR	**Sutherland**	**11.88**	**223**	*eP*		**Pn**	**20 28 21.5**	**+1.9**
SUR				*eS*		**Sn**	**20 30 27.8**	**-4.6**
SUR					IAML		20 30 42.5	
	comp=Z,1.6nm,0.8s							
CVNA	**Calvinia**	**12.01**	**229**	*eP*		**Pn**	**20 28 23.0**	**+1.7**
CVNA				*eS*		**Sn**	**20 30 30.9**	**-4.5**
CVNA					IAML		20 30 39.6	
	comp=Z,1.7nm,0.5s							

*SJA **17**21:04:13.4±0.7,32.00S×71.80W,h54km±12km,ML3.6, MW3.8*
*GUC **17**21:04:14.6±0.9,32.02S×71.59W,h40km±2km,ML3.6*
ISC 17 21:04:11.8±1.5,**32.00S**±0.02×**71.71W**±0.06,**h8**km±11km, **n58**,σ1s**34**/76,**5D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO04	**Los Peladeros**	**0.63**	**94**	*eP*	**Pb**	**21 04 25.7**	**+0.4**
CO04				*eS*	**Sb**	**21 04 33.9**	**-0.5**
CO04				IAML		21 04 34.3	
	comp=E,9μm,0.2s						
VA06	**Catapilco**	**0.66**	**148**	⇓*iP*	**Pb**	**21 04 26.6**	**+1.0**
VA06				*eS*	**Sb**	**21 04 35.3**	**+0.4**
VA06				IAML		21 04 35.8	
	comp=E,8μm,0.2s						
CO02	**Combarbal**	**1.00**	**37**	*eP*	**Pb**	**21 04 31.7**	**+0.1**
CO02				*eS*	**Sg**	**21 04 44.4**	**+0.2**
CO02	**Combarbal**	**1.00**	**37**	*eP*	**Pb**	**21 04 31.7**	**+0.1**
CO02				IAML		21 04 48.2	
	comp=Z,3μm,0.2s						
VA01	**Torpederas**	**1.02**	**177**	*eP*	**Pn**	**21 04 32.8**	**+0.3**
VA01				*eS*	**Sb**	**21 04 45.9**	**+0.6**
VA01				IAML		21 04 49.0	
	comp=N,1μm,0.1s						
VA01	**Torpederas**	**1.02**	**177**	*eP*	**Pn**	**21 04 33.0**	**+0.5**
VA01				IAML		21 04 49.5	
	comp=Z,505nm,0.5s						
ROCH	**El Roble**	**1.13**	**149**	⇓*iP*	**Pg**	**21 04 33.7**	**+0.1**
ROCH				*eS*	**Sg**	**21 04 48.5**	**+0.1**
ROCH				IAML		21 04 51.2	
	comp=N,1μm,0.5s						
ROC1	**El Roble**	**1.13**	**149**	*eP*	Pg	21 04 28.2	-5.4
VA03	**San Esteban**	**1.24**	**128**	*eP*	**Pg**	**21 04 35.1**	**-0.6**
VA03				*eS*	**Sg**	**21 04 51.1**	**-0.7**
VA03				IAML		21 04 55.2	
	comp=E,3μm,0.2s						
VA03	**San Esteban**	**1.24**	**128**	*eP*	Pg	21 04 16.8	-19
VA03				IAML		21 04 56.0	
	comp=Z,2μm,0.3s						
CO06	**Fray Jorge**	**1.33**	**3**	*eS*	**Sb**	**21 04 54.3**	**+0.1**
CO06				IAML		21 04 57.0	
	comp=E,1μm,0.5s						
MT02	**Curacav**	**1.34**	**159**	*eP*	**Pn**	**21 04 37.0**	**+0.1**
MT02				*eS*	**Sb**	**21 04 54.2**	**-0.5**
MT02	**Curacav**	**1.34**	**159**	*eP*	**Pn**	**21 04 36.9**	**0.0**
PEL	**Peldehue**	**1.43**	**143**	*eP*	**Pn**	**21 04 37.8**	**-0.4**
PEL				*eS*	**Sb**	**21 04 56.3**	**-0.9**
PEL				IAML		21 04 58.6	
	comp=N,1μm,0.3s						
PEL	**Peldehue**	**1.43**	**143**	*eP*	**Pn**	**21 04 38.0**	**-0.3**
PEL				*eS*	**Sg**	**21 04 58.4**	**+0.5**
PEL				IAML		21 04 59.8	
	comp=Z,539nm,0.5s						
CO03	**El Pedregal**	**1.45**	**37**	*eP*	**Pn**	**21 04 38.9**	**+0.4**
CO03				*eS*	**Sb**	**21 04 58.0**	**0.0**
CO03				IAML		21 04 59.0	
	comp=E,3μm,0.3s						
CO03	**El Pedregal**	**1.45**	**37**	*eP*	**Pn**	**21 04 37.6**	**-0.9**
CO03				IAML		21 04 59.2	
	comp=Z,979nm,0.2s						
MT10	**Hacienda Santa**	**1.61**	**142**	*eP*	**Pn**	**21 04 41.1**	**+0.4**
MT10				*eS*	**Sn**	**21 05 01.2**	**-0.5**
MT10				IAML		21 05 04.1	
	comp=N,2μm,0.2s						
MT05	**Renca**	**1.61**	**150**	*eP*	**Pn**	**21 04 41.5**	**+0.8**
MT05				*eS*	**Sn**	**21 05 01.3**	**-0.4**
MT05				IAML		21 05 04.8	
	comp=E,2μm,0.2s						
MT05	**Renca**	**1.61**	**150**	*eP*	**Pn**	**21 04 41.5**	**+0.8**
MT05				IAML		21 05 04.0	
	comp=Z,420nm,0.6s						
MT14	**Cerro Cal¡n**	**1.71**	**145**	⇓*iP*	**Pn**	**21 04 42.8**	**+0.7**
MT14				*eS*	**Sn**	**21 05 03.9**	**-0.2**
MT14				IAML		21 05 07.2	
	comp=E,2μm,0.4s						
MT16	**CCHEN**	**1.74**	**145**	⇓*iP*	**Pn**	**21 04 43.2**	**+0.7**
MT16				*eS*	**Sn**	**21 05 04.2**	**-0.7**
MT16				IAML		21 05 07.5	
	comp=N,635nm,0.2s						
FCH	**Farellones**	**1.78**	**138**	⇓*iP*	**Pn**	**21 04 43.8**	**+0.5**
FCH				*eS*	**Sn**	**21 05 06.1**	**-0.2**
FCH				IAML		21 05 09.2	
	comp=E,662nm,0.3s						
MT03	**Universidad Ad**	**1.80**	**146**	*eP*	**Pn**	**21 04 44.1**	**+0.8**
MT03				*eS*	**Sn**	**21 05 06.1**	**-0.3**
MT03				IAML		21 05 08.9	
	comp=N,1μm,0.2s						
MT03	**Universidad Ad**	**1.80**	**146**	*eP*	**Pn**	**21 04 44.4**	**+1.0**
MT03				IAML		21 05 15.9	
	comp=Z,838nm,0.7s						
MT09	**Talagante**	**1.87**	**161**	*eP*	**Pn**	**21 04 45.3**	**+0.9**
MT09				*eS*	**Sn**	**21 05 09.0**	**+0.7**
MT09				IAML		21 05 12.7	
	comp=E,626nm,0.3s						
MT15	**Las Vizcachas**	**1.89**	**148**	*eP*	**Pn**	**21 04 45.0**	**+0.5**
MT15				*eS*	**Sn**	**21 05 07.8**	**-0.8**
MT15				IAML		21 05 11.2	
	comp=E,1μm,0.2s						
MT01	**Popeta**	**1.90**	**168**	*eP*	**Pn**	**21 04 45.4**	**+0.8**
MT01				*eS*	**Sn**	**21 05 09.7**	**+1.0**
MT01				IAML		21 05 16.6	
	comp=E,428nm,0.5s						
MT01	**Popeta**	**1.90**	**168**	*eP*	**Pn**	**21 04 45.6**	**+1.1**
MT01				IAML		21 05 16.9	
	comp=Z,307nm,0.3s						
MT04	**Ro Olivares**	**1.93**	**137**	*eP*	**Pn**	**21 04 45.9**	**+0.6**
MT04				*eS*	**Sn**	**21 05 09.8**	**0.0**
MT04				IAML		21 05 12.2	
	comp=E,488nm,0.5s						
MT04	**Ro Olivares**	**1.93**	**137**	*eP*	**Pn**	**21 04 46.3**	**+1.1**
MT04				*eS*	**Sn**	**21 05 10.8**	**+1.0**
MT04				IAML		21 05 21.8	
	comp=Z,213nm,0.3s						
MT12	**Pirque**	**1.98**	**151**	*eP*	**Pn**	**21 04 46.6**	**+0.8**
MT12				*eS*	**Sn**	**21 05 10.4**	**-0.5**
MT12				IAML		21 05 18.6	
	comp=N,1μm,0.4s						
GO04	**Tololo Observa**	**1.99**	**23**	*eP*	**Pn**	**21 04 46.6**	**+0.6**
GO04				IAML		21 05 16.4	
	comp=Z,2μm,0.5s						
MT08	**Bocatoma Ro**	**2.03**	**136**	IAML		21 05 20.7	
	comp=N,537nm,0.4s						
MT08	**Bocatoma Ro**	**2.03**	**136**	*eP*	**Pb**	**21 04 48.3**	**-0.8**
MT08				*eS*	**Sn**	**21 05 08.9**	**-3.3**
MT08				IAML		21 05 19.7	
	comp=Z,193nm,0.3s						
RTLS	**Leoncito**	**2.06**	**85**	*eP*	**Pb**	**21 04 49.5**	**-0.2**
RTLS				IAML		21 05 18.2	
	comp=Z,1μm,0.7s						
MT13	**San Alfonso**	**2.11**	**146**	IAML		21 05 17.4	
	comp=E,640nm,0.4s						
MT13	**San Alfonso**	**2.11**	**146**	*eP*	**Pn**	**21 04 48.9**	**+1.2**
MT13				*eS*	**Sn**	**21 05 08.5**	**-5.6**
MT13				IAML		21 05 26.1	
	comp=Z,313nm,0.5s						
LMEL	**Las Melosas**	**2.23**	**146**	IAML		21 05 25.2	
	comp=N,650nm,0.2s						
LMEL	**Las Melosas**	**2.23**	**146**	*eP*	**Pn**	**21 04 50.6**	**+1.3**
LMEL				*eS*	**Sb**	**21 05 19.7**	**-0.8**
LMEL				IAML		21 05 26.5	
	comp=Z,374nm,0.7s						
BO01	**Tunca**	**2.44**	**168**	*eP*	**Pn**	**21 04 53.2**	**+1.2**
BO01				IAML		21 05 34.4	
	comp=Z,125nm,0.5s						
CO01	**Juntas del Tor**	**2.45**	**35**	IAML		21 05 29.1	
	comp=N,342nm,0.3s						
CO01	**Juntas del Tor**	**2.45**	**35**	*eP*	**Pn**	**21 04 54.4**	**+2.0**
CO01				IAML		21 05 28.4	
	comp=Z,310nm,0.3s						
ARCO	**CERRO ARCO**	**2.50**	**110**	*eP*	**Pb**	**21 04 57.4**	**+0.4**
ARCO				IAML		21 05 33.7	
	comp=Z,152nm,0.8s						
ASAL	**Salagasta**	**2.51**	**104**	*eP*	**Pb**	**21 04 57.2**	**0.0**
ZON	**Zonda**	**2.62**	**81**	*eP*	Pn	21 04 40.6	-14
ZON				IAML		21 05 09.9	
	comp=Z,164nm,0.5s						
AROD	**Rodeo**	**2.65**	**47**	*eP*	**Pb**	**21 04 58.5**	**-1.4**
AAGR	**Agrelo**	**2.66**	**115**	*eP*	**Pb**	**21 04 59.5**	**-0.4**
AAGR				IAML		21 05 40.8	
	comp=Z,125nm,0.3s						
ACCO	**Cerro Coronel**	**2.67**	**59**	*eP*	**Pb**	**21 04 59.0**	**-1.2**
SJA	**San Juan**	**2.73**	**81**	*eP*	**Pb**	**21 05 01.7**	**+0.7**
SJA				IAML		21 05 47.1	
	comp=Z,104nm,0.4s						
BO02	**Sierra Bellavi**	**2.89**	**165**	*eP*	**Pn**	**21 04 59.3**	**+1.1**
BO02				IAML		21 05 48.9	
	comp=Z,178nm,0.7s						
CFA	**Coronel Fontan**	**2.98**	**83**	*eP*	**Pn**	**21 05 01.9**	**+2.3**
LCO	**Las Campanas**	**3.11**	**17**	*eP*	**Pn**	**21 05 02.7**	**+1.2**
LCO				IAML		21 05 47.9	
	comp=Z,291nm,0.3s						
AGUA	**GUANDACOL**	**3.74**	**49**	*eP*	**Pb**	**21 05 14.5**	**-3.7**
AGUA				IAML		21 06 08.8	
	comp=Z,154nm,0.3s						
AVFE	**Valle Fertil**	**3.88**	**71**	*eP*	**Pn**	**21 05 14.7**	**+2.7**
AVFE				IAML		21 06 08.6	
	comp=Z,111nm,0.4s						
ACHE	**Chepes**	**4.39**	**80**	*eP*	**Pn**	**21 05 21.4**	**+2.4**
VCA	**Vinchina**	**4.45**	**44**	*eP*	**Pn**	**21 05 23.8**	**+4.0**
MRA	**San Martin**	**5.10**	**96**	*eP*	**Pn**	**21 05 30.1**	**+1.4**
MRA				IAML		21 06 58.3	
	comp=Z,50nm,0.7s						

*DJA **17**21:06:19.6±0.2,8.3S×13.6E±°,h97km±10km,M4.5/16, mb4.2/12,mB5.5/4,MLv4.5/16,Mw(mB)4.9/4*
*IDC **17**21:06:20.8±5.8,8.31S×126.09E,h138km±66km,mb3.2/3, mbtmp4.0/6,Error ellipse: s-maj=68.0km s-min=21.7km az=38.0*
ISC 17 21:06:20.6±0.6,**8.25S**±0.06×**126.14E**±0.05,**h150**km,**n41**, σ1s**99**/44,**mb3.5**/3,**Timor region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.38**	**231**	P	**Pn**	**21 06 59.0**	**-1.4**
SOEI	**Soe**	**2.38**	**231**	P	**Pn**	**21 06 58.7**	**-1.7**
BATI	**Baumata**	**3.12**	**231**	P	**Pn**	**21 07 08.7**	**-0.9**
	1μm,0.5s,baz=96,slow=1.5,SNR=158						
BATI				S	**Sn**	**21 07 45.6**	**-1.9**
	140nm,0.3s,baz=204,slow=22,SNR=8.7						
BATI	**Baumata**	**3.12**	**231**	P	**Pn**	**21 07 08.3**	**-1.3**
BATI				S	**Sn**	**21 07 45.8**	**-1.7**
MMRI	**Maumere**	**3.88**	**264**	P	**Pn**	**21 07 17.8**	**-1.5**
MMRI	**Maumere**	**3.88**	**264**	S	**Sn**	**21 08 03.3**	**-1.6**
MMRI	**Maumere**	**3.88**	**264**	P	**Pn**	**21 07 17.6**	**-1.7**
MMRI				S	**Sn**	**21 08 02.1**	**-2.8**
EDFI	**Ende, Flores**	**4.43**	**263**	P	**Pn**	**21 07 25.3**	**-1.3**
BBSI	**Bau Bau**	**4.48**	**308**	P	**Pn**	**21 07 24.9**	**-2.4**
AAI	**Ambon**	**4.97**	**24**	P	**Pn**	**21 07 31.1**	**-2.7**
SAUI	**Saumlaki**	**5.12**	**87**	P	**Pn**	**21 07 33.8**	**-1.8**
WSI	**Waingapu**	**5.94**	**256**	P	**Pn**	**21 07 43.9**	**-2.7**
BSSI	**Bau Bau, Buton**	**5.98**	**290**	P	**Pn**	**21 07 45.6**	**-1.6**
	0.4nm67nm,2.4s						
DRS	**Darwin Rock St**	**6.26**	**132**	P	**Pn**	**21 07 49.8**	**-1.0**
DRS	**Darwin Rock St**	**6.26**	**132**	S	**Sn**	**21 08 58.8**	**-2.7**
BKSI	**Bulukumba**	**6.64**	**296**	P	**Pn**	**21 07 53.7**	**-2.3**
	0.1nm21nm,1.3s						
MTN	**Manton Dam**	**6.70**	**133**	P	**Pn**	**21 07 57.5**	**+0.7**
MTN	**Manton Dam**	**6.70**	**133**	S	**Sn**	**21 09 09.4**	**-2.7**
WBSI	**Waikabubak, Su**	**6.81**	**258**	P	**Pn**	**21 07 56.5**	**-1.7**
	0.2nm27nm,0.8s						
BNSI	**Bone**	**7.11**	**302**	P	**Pn**	**21 08 01.4**	**-0.8**
	0.1nm30nm,0.8s						
KDU	**Kakadu**	**7.63**	**126**	P	**Pn**	**21 08 08.9**	**-0.2**
KDU	**Kakadu**	**7.63**	**126**	S	**Sn**	**21 09 31.7**	**-2.7**
LUWI	**Luwuk**	**7.91**	**335**	P	**Pn**	**21 08 11.0**	**-1.9**
	0.2nm37nm,1.1s						
FAKI	**Fak Fak**	**8.06**	**49**	P	**Pn**	**21 08 13.6**	**-1.4**
FAKI	**Fak Fak**	**8.06**	**49**	S	**Sn**	**21 09 43.9**	**-0.9**
FAKI	**Fak Fak**	**8.06**	**49**	P	**Pn**	**21 08 13.8**	**-1.2**
	58nm,1.5s						
PLAI	**Plampang**	**8.29**	**265**	P	**Pn**	**21 08 17.1**	**-0.9**
PLAI	**Plampang**	**8.29**	**265**	P	**Pn**	**21 08 15.2**	**-2.8**
	22nm,1.3s						
TWSI	**Taliwang, Sumb**	**9.17**	**266**	P	**Pn**	**21 08 27.1**	**-2.6**
	11nm,0.9s						
FITZ	**Fitzroy Crossi**	**9.80**	**183**	P	**Pn**	**21 08 37.0**	**-1.1**
	14nm,0.4s,baz=353,slow=12,SNR=114						
FITZ				S	Sn	21 10 16.6	-10
	6.7nm,0.3s,baz=348,slow=5.8,SNR=4.6						
TOLI2	**Tolitoli**	**10.72**	**330**	P	**Pn**	**21 08 52.5**	**+2.2**
WRA	**Warramunga Arr**	**14.08**	**147**	P	**Pn**	**21 09 32.7**	**-0.9**
	4.1nm,0.4s,baz=316,slow=14,SNR=113						
WRA				S	Sn	21 11 56.6	-13
	11nm,0.7s,baz=323,slow=23,SNR=8.8						
MBWA	**Marble Bar**	**14.25**	**205**	P	**P**	**21 09 39.3**	**+0.7**
PSA00	**Pilbara Seismi**	**14.57**	**204**	P	**P**	**21 09 43.7**	**+1.6**
ASAR	**Alice Springs**	**17.04**	**155**	P	**Pn**	**21 10 11.8**	**+1.6**
	4.6nm,0.6s,baz=335,slow=12,SNR=50						
ASAR				S	S	21 13 08.0	-12
	6.6nm,0.6s,baz=320,slow=21,SNR=12						
COEN	**Coen**	**17.65**	**110**	P	**Pn**	**21 10 20.4**	**+3.0**
QIS	**Mount Isa**	**17.86**	**135**	P	**Pn**	**21 10 23.7**	**+3.7**
MEEK	**Meekatharra**	**19.63**	**200**	P	**Pn**	**21 10 43.3**	**+2.6**
CMAR	**Chiang Mai Arr**	**37.74**	**315**	P	**P**	**21 13 23.6**	**+1.3**
	0.7nm,0.8s,baz=141,slow=8.1,SNR=7.0						
	0.7nm,0.8s						
SONM	**Songino Array**	**58.51**	**345**	P	**P**	**21 16 02.3**	**+1.1**
	0.3nm,0.5s,baz=141,slow=4.8,SNR=2.8						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**67.24**	**329**	P	**P**	**21 17 00.8**	**+2.0**
	0.3nm,0.4s,baz=130,slow=6.8,SNR=10						
	0.3nm,0.4s						

IDC 17 21:14:37.6±6.7,**21.18S**×**178.51E**,**h650**km±75km,**mb2.7**/3, **mbtmp3.8**/4,**Error ellipse: s-maj=249.7km s-min=41.3km az=161.0**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.26**	**263**	P	P	21 17 09.1	-0.4
	6.2nm,0.8s,baz=95,slow=19,SNR=2.2						
ASAR	**Alice Springs**	**41.18**	**258**	P	P	21 21 27.9	-0.7
	0.4nm,0.5s,baz=93,slow=6.8,SNR=5.5						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**41.27**	**264**	P	P	21 21 29.9	+0.6
	1.0nm,0.4s,baz=98,slow=7.3,SNR=10						
	1.0nm,0.4s						
TXAR	**Lajitas Array**	**90.18**	**59**	P	P	21 26 31.1	0.0
	0.3nm,0.7s,baz=235,slow=4.1,SNR=3.5						
	0.3nm,0.7s						
HFS	**Hagfors**	**139.61**	**348**	PKP	PKPdf	21 32 52.9	+0.3
	3.5nm,1.0s,baz=66,slow=3.5,SNR=6.6						

*JSO **17**21:16:30.3±0.0,31.99N×35.21E,h1km±1km,M2.0/18, MLv2.0/18,MLv2.0/18*
Gll 17 21:16:29.8±0.0,**31.984N**±0.001×**35.223E**±0.001,
h2km,**Mws2.0**,**confirmed**,**Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SALP	**Salfit**	**0.09**	**343**	P	Pg	21 16 32.3	+0.7
SALP				S	Sg	21 16 34.1	+1.3
SALP	**Salfit**	**0.09**	**343**	P	Pg	21 16 32.2	+0.6
ARIL	**Ariel Universi**	**0.12**	**355**	P	Pg	21 16 32.8	+0.6
ARIL	**Ariel Universi**	**0.12**	**355**	S	Sg	21 16 35.4	+1.6
YITV	**Yitav**	**0.17**	**102**	P	Pg	21 16 33.5	+0.4
MEFR	**Maale Efrayim**	**0.18**	**61**	P	Pg	21 16 33.6	+0.4
MEFR	**Maale Efrayim**	**0.18**	**61**	S	Sg	21 16 37.4	+1.9
PZL	**Pazael**	**0.20**	**73**	P	Pg	21 16 37.8	+4.2
UJAP	**Al Uja**	**0.21**	**99**	P	Pg	21 16 34.7	+0.9
UJAP	**Al Uja**	**0.21**	**99**	P	Pg	21 16 34.6	+0.8
JER	**Jerusalem**	**0.21**	**186**	P	Pg	21 16 34.4	+0.5
JER	**Jerusalem**	**0.21**	**186**	S	Sg	21 16 38.3	+1.6
VJRH	**Vered Jericho**	**0.24**	**131**	P	Pg	21 16 35.3	+0.9
SLMZ	**Shlomzion**	**0.26**	**63**	P	Pg	21 16 35.6	+0.8
SLMZ	**Shlomzion**	**0.26**	**63**	S	Sb	21 16 40.1	-2.0
HMRA	**Hamra**	**0.28**	**40**	P	Pg	21 16 36.3	+1.1
HMRA	**Hamra**	**0.28**	**40**	S	Sb	21 16 40.9	-1.9
SLTI	**Sal'it**	**0.30**	**329**	P	Pg	21 16 35.7	+0.1
SLTI	**Sal'it**	**0.30**	**329**	P	Pb	21 16 37.0	-0.9
SLTI	**Sal'it**	**0.30**	**329**	S	Sb	21 16 41.8	-1.5
RGMN	**Argaman**	**0.31**	**54**	P	Pg	21 16 36.5	+0.7
HMDT	**Nahal Hemdat**	**0.37**	**44**	P	Pg	21 16 37.5	+0.5
HMDT	**Nahal Hemdat**	**0.37**	**44**	P	Pg	21 16 37.5	+0.5
HMDT	**Nahal Hemdat**	**0.37**	**44**	S	Sb	21 16 44.3	-1.1
DSI	**Dead Sea**	**0.43**	**162**	P	Pg	21 16 38.6	+0.5
DSI	**Dead Sea**	**0.43**	**162**	P	Pg	21 16 38.6	+0.4
DSI	**Dead Sea**	**0.43**	**162**	S	Sb	21 16 45.7	-1.4
MEHL	**Mehola**	**0.46**	**33**	P	Pg	21 16 38.9	+0.4
MEHL	**Mehola**	**0.46**	**33**	S	Sb	21 16 46.8	-1.0
QRNJ	**Al-Qirein**	**0.46**	**40**	P	Pg	21 16 39.3	+0.7
MMLI	**Mount Malkishu**	**0.48**	**20**	P	Pg	21 16 39.5	+0.4
MMLI	**Mount Malkishu**	**0.48**	**20**	P	Pg	21 16 39.7	+0.6
MMLI	**Mount Malkishu**	**0.48**	**20**	S	Sb	21 16 47.9	-0.8
AMAZ	**Amatzia**	**0.52**	**210**	P	Pg	21 16 40.5	+0.7
AMAZ	**Amatzia**	**0.52**	**210**	P	Pb	21 16 40.8	-0.9
AMAZ	**Amatzia**	**0.52**	**210**	S	Sb	21 16 49.5	-0.2
GNNR	**Gan-Ner**	**0.55**	**10**	P	Pb	21 16 42.3	+0.1
GNNR	**Gan-Ner**	**0.55**	**10**	S	Sb	21 16 50.1	-0.5
YTIR	**Yattir**	**0.63**	**188**	P	Pg	21 16 42.4	+0.6
YTIR	**Yattir**	**0.63**	**188**	P	Pg	21 16 42.6	+0.8
YTIR	**Yattir**	**0.63**	**188**	S	Sb	21 16 52.6	-0.2
MLDT	**Moledet**	**0.63**	**17**	P	Pg	21 16 42.4	+0.5
OFRI	**`Ofer**	**0.67**	**342**	P	Pb	21 16 43.9	-0.3
OFRI	**`Ofer**	**0.67**	**342**	S	Sb	21 16 53.9	0.0
MSBI	**Mazada**	**0.68**	**170**	P	Pg	21 16 43.0	+0.2
MSBI	**Mazada**	**0.68**	**170**	P	Pb	21 16 43.6	-0.7
GHAJ	**Ghor Haditha**	**0.74**	**157**	P	Pg	21 16 44.6	+0.6
GHAJ	**Ghor Haditha**	**0.74**	**157**	P	Pb	21 16 45.2	-0.2
LISJ	**El Lisan**	**0.77**	**163**	P	Pb	21 16 45.3	-0.6
MMA0B	**Mount Meron ar**	**1.04**	**8**	P	Pg	21 16 50.0	+0.3
MMA0B	**Mount Meron ar**	**1.04**	**8**	S	Sb	21 17 05.1	+0.4
MMC7	**Mount Meron ar**	**1.04**	**8**	P	Pg	21 16 50.1	+0.2
KSHT	**Keshet**	**1.11**	**26**	P	Pb	21 16 51.8	0.0
KSHT	**Keshet**	**1.11**	**26**	S	Sb	21 17 07.4	+0.6
IDAN	**Idan**	**1.15**	**178**	P	Pg	21 16 52.0	+0.2
GEM	**Giv'at Ha'Em**	**1.28**	**17**	P	Pn	21 16 54.9	+0.2
KZIT	**Kziot**	**1.28**	**213**	P	Pg	21 16 54.3	-0.1
KZIT	**Kziot**	**1.28**	**213**	P	Pb	21 16 54.6	-0.1
KZIT	**Kziot**	**1.28**	**213**	S	Sn	21 17 12.5	-0.1
NATI	**Neve Ativ**	**1.35**	**19**	P	Pn	21 16 55.3	-0.3
NATI	**Neve Ativ**	**1.35**	**19**	S	Sn	21 17 14.2	+0.1
ZFRI	**Zfri**	**1.43**	**182**	P	Pn	21 16 56.2	-0.5
ZFRI	**Zfri**	**1.43**	**182**	P	Pn	21 16 56.2	-0.5
ZFRI	**Zfri**	**1.43**	**182**	S	Sn	21 17 16.2	+0.2
PRNI	**Paran**	**1.64**	**187**	P	Pn	21 16 59.4	-0.3
PRNI	**Paran**	**1.64**	**187**	P	Pn	21 16 59.8	+0.1
PRNI	**Paran**	**1.64**	**187**	S	Sb	21 17 21.8	-0.1
HRFI	**Mount Harif**	**1.95**	**185**	P	Pn	21 17 04.0	+0.1
MBRI	**Mt Berech**	**2.20**	**187**	P	Pn	21 17 07.1	-0.3

IDC 17 21:40:29.0±4.2,**8.89S**×**158.55E**,**h0**km,**mb3.9**/3, **mbtmp3.9**/3,**Error ellipse: s-maj=96.7km s-min=13.9km az=7.0**,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.48**	**111**	Pn	Pb	21 40 57.9	+0.4
	104nm,0.3s,baz=243,slow=4.8,SNR=63						
HNR				Lg

comp=N,651nm,0.4s
AKGG Akutan Green G 0.69 315 Pn 21 51 20.6 -0.2
UNV Unalaska Valle 0.80 280 Pn 21 51 22.4 0.0
UNV Sn Sn 21 51 32.0 -1.3
UNV IAML 21 51 34.0
comp=N,536nm,0.4s
WEBT Westdahl Beart 0.91 15 Sn 21 51 36.4 +0.6
MSW Makushin Switc 0.98 282 Pn 21 51 24.5 -0.3
MSW Sn 21 51 37.3 -0.2
MGOD Makushin Gods 1.02 275 Pn 21 51 25.4 +0.1
MAPS Pakushin South 1.06 276 Pn 21 51 25.8 0.0
SSLS Shishaldin Sou 1.21 34 Pn 21 51 27.7 -0.2
ISNN Isanotski Nort 1.38 36 Pn 21 51 31.0 +0.7
FALS False Pass 1.53 41 Pn Pn 21 51 32.5 +0.2
FALS Sn Sn 21 51 52.9 +1.9
OKTU Okmok Mt. Tuli 1.75 260 Pn 21 51 36.3 +1.0
DT1 Dutton Round H 2.19 49 Pn 21 51 41.4 +0.2
NIKH Nikolski High 2.33 253 Pn Pn 21 51 43.5 +0.2
NIKH Sn Sn 21 52 12.0 +1.3
NIKH IAML 21 52 27.1
comp=E,80nm,1.0s
NIKH IAML 21 52 27.4
comp=N,91nm,0.9s
S12K Black Hills 2.68 41 Pn 21 51 47.6 -0.4
S12K Sn Sn 21 52 18.8 -0.5
S12K IAML 21 52 41.7
comp=N,52nm,1.1s
SDPT Sand Point 3.18 57 Pn 21 51 54.9 0.0
SDPT Sn Sn 21 52 30.5 -1.0
SDPT IAML 21 52 46.2
comp=E,41nm,1.0s
SDPT IAML 21 52 48.8
comp=N,38nm,1.1s
CHGN Chignik 4.67 54 Pn Pn 21 52 15.4 +0.2
O14K Tigyukauivet M 5.96 20 Pn Pn 21 52 33.2 +0.3
O15K Ungalikthiuk R 6.22 26 Pn Pn 21 52 36.4 -0.2
N14K Kuskokwak Cree 6.51 16 Pn Pn 21 52 40.3 -0.1
N15K Kwethluk River 7.04 21 Pn Pn 21 52 47.6 -0.1
O16K Kokwok River B 7.06 31 Pn Pn 21 52 47.8 -0.2
OHAK Old Harbor 7.61 58 Pn Pn 21 52 53.5 -2.0
N17K Nushagak Hills 8.08 29 Pn Pn 21 53 01.4 -0.7
Q19K Cape Douglas, 8.26 46 Pn Pn 21 53 04.2 -0.3
L16K Owhat River 8.57 18 Pn Pn 21 53 08.1 -0.6
N19K Bonanza Creek 9.16 35 Pn Pn 21 53 17.3 +0.4
CNPM China Poot 9.62 47 Pn Pn 21 53 21.6 -1.5
M20K Styx River 10.38 33 Pn Pn 21 53 34.4 +0.8

NEIC ***17*** *22:02:36.5±1.0,55°.1N±0°.1×163°.4W±0°.1, h172km±7km, Error ellipse: s-maj=18.4km s-min=9.2km az=149.0*
AEIC 17 22:02:37.9±1.0, 55°.2N±0°.1×163°.6W±0°.2, h165km±6km, ML2.7, ML2.8/18(NEIC), **Error ellipse: s-maj=18.8km s-min=8.7km az=145.0, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.37**	**167**	Pn	Pn	22 02 58.3	-2.0
SSLS	**Shishaldin Sou**	**0.56**	**206**		Pn	22 03 00.4	-0.9
DT1	**Dutton Round H**	**0.75**	**98**		Pn	22 03 01.1	-1.1
HAG	**Hague Volcano**	**0.96**	**83**		Pn	22 03 03.5	-0.2
PS4A	**Pavlof South-4**	**0.99**	**82**		Pn	22 03 03.6	-0.3
S12K	**Black Hills**	**0.99**	**60**		Pn	22 03 03.2	-0.8
S12K					Sn	22 03 23.7	-0.3
PS1A	**Pavlof South-1**	**1.06**	**78**		Pn	22 03 04.3	-0.2
AKUT	**Akutan**	**1.68**	**231**	Pn	Pn	22 03 09.2	-1.2
AKUT				IAML		22 03 49.0	
	comp=E,45nm,1.0s						
AKUT				IAML		22 04 23.4	
	comp=N,31nm,1.2s						
AKLV	**Akutan Long Va**	**1.74**	**234**		Pn	22 03 10.0	-1.1
AKBBA	**Akutan Broad B**	**1.77**	**232**		Pn	22 03 11.1	-0.3
SDPT	**Sand Point**	**1.77**	**84**		Pn	22 03 08.9	-2.4
SDPT					Sn	22 03 35.0	-2.1
SDPT				IAML		22 03 36.1	
	comp=N,72nm,1.2s						
SDPT				IAML		22 03 44.5	
	comp=E,51nm,1.2s						
ZRO	**Akutan Zero**	**1.80**	**232**		Pn	22 03 11.2	-0.5
UNV	**Unalaska Valle**	**2.19**	**232**	Pn	Pn	22 03 15.1	-1.0
MNAT	**Makushin Natee**	**2.25**	**235**		Pn	22 03 15.7	-1.1
MSW	**Makushin Switc**	**2.28**	**236**		Pn	22 03 16.2	-0.9
CNBA	**Chernabura Isl**	**2.33**	**98**	Pn	Pn	22 03 16.0	-1.5
CNBA				IAML		22 03 48.4	
	comp=N,45nm,1.1s						
CNBA				IAML		22 03 54.1	
	comp=E,29nm,1.1s						
MGOD	**Makushin Gods**	**2.40**	**235**		Pn	22 03 17.8	-0.7
CHGN	**Chignik**	**3.11**	**67**	Pn	Pn	22 03 26.4	-0.6
CHGN				IAML		22 04 06.8	
	comp=N,25nm,0.1s						
CHGN				IAML		22 04 06.9	
	comp=E,47nm,0.1s						
OKTU	**Okmok Mt. Tuli**	**3.20**	**237**		Pn	22 03 27.8	-0.6
O15K	**Ungalikthiuk R**	**4.46**	**26**	Pn	Pn	22 03 43.7	-0.7
O15K				IAML		22 05 20.8	
	comp=N,11nm,1.1s						
O15K				IAML		22 06 34.1	
	comp=E,6.0nm,1.1s						
CHIR	**Chirikof Islan**	**4.56**	**79**		Pn	22 03 43.3	-2.3
PLK3	**Peulik 3**	**4.75**	**56**		Pn	22 03 47.8	-0.3
SII	**Sitkinak Islan**	**5.45**	**72**	Pn	Pn	22 03 56.0	-1.4
R18K	**Karluk**	**5.58**	**61**		Pn	22 03 57.6	-1.4
OHAK	**Old Harbor**	**6.08**	**66**		Pn	22 04 03.1	-2.5
Q19K	**Cape Douglas,**	**6.56**	**51**		Pn	22 04 11.6	-0.4
KDAK	**Kodiak Island**	**6.60**	**63**		Pn	22 04 10.6	-1.9
SYI	**Shuyak Island**	**7.00**	**56**		Pn	22 04 16.6	-1.1
CNPM	**China Poot**	**7.94**	**52**	Pn	Pn	22 04 29.2	-1.0
GLI	**Glacier Island**	**10.39**	**50**	Pn	Pn	22 05 01.6	-1.0
HIN	**Hinchinbrook I**	**10.46**	**53**	Pn	Pn	22 05 02.4	-1.2
SCM	**Sheep Creek Mo**	**10.75**	**45**	Pn	Pn	22 05 06.2	-1.1

NEIC ***17*** *22:38:45.6±2.0,35°.14N±0°.02×95°.35W±0°.02, h5km±1km, mb_Lg2.2/9, ML2.3/5, ML2.6/12, Error ellipse: s-maj=3.0km s-min=2.8km az=144.0*
NEIC 17 22:38:45.4±1.9, 35°.13N±0°.02×95°.35W±0°.02, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.7km az=147.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	**Leonard**	**0.85**	**335**		Pg	22 39 01.9	+0.1
TUL3				Sg	Sg	22 39 13.2	+0.2
RLO	**Rose Lookout**	**1.06**	**14**		Pg	22 39 05.5	-0.3
RLO				Sg	Sg	22 39 20.0	+0.4
RLO				IAML		22 39 25.3	
	comp=N,190nm,0.2s						
DEOK	**Depew**	**1.17**	**307**		Pg	22 39 07.8	-0.1
DEOK				Sg	Sg	22 39 23.2	0.0
DEOK				IAML		22 39 25.3	
	comp=E,95nm,0.2s						
DEOK				IAML		22 39 27.9	
	comp=N,133nm,0.3s						
OK052	**Battle Ridge R**	**1.46**	**306**		Pn	22 39 12.6	+0.1
OK052					Sg	22 39 32.3	-0.2
QUOK	**Quay**	**1.52**	**313**		Pn	22 39 13.3	+0.1
QUOK					Sg	22 39 34.3	+0.1
U38A	**Gravette**	**1.52**	**31**		Pn	22 39 13.6	+0.3
U38A					Sb	22 39 33.7	0.0
MIAR	**Mount Ida**	**1.57**	**111**		Pn	22 39 14.2	+0.2
MIAR					Sg	22 39 36.1	+0.1
HHAR	**Hobbs**	**1.62**	**45**		Pb	22 39 15.5	-0.4
HHAR					Sb	22 39 36.8	+0.1
FNO	**Franklin**	**1.68**	**275**		Pb	22 39 16.3	-0.6
FNO				IAmb_Lg		22 39 37.7	
	comp=Z,7.2nm,0.8s						
FNO					Sg	22 39 39.2	-0.4
OKCFA	**Oklahoma City**	**1.74**	**280**		Pb	22 39 17.6	-0.3
OKCFA					Sb	22 39 40.5	+0.4
OK048	**Pawnee Station**	**1.82**	**315**		Pn	22 39 17.9	+0.5
OK051	**E0350 and S346**	**1.82**	**319**		Pn	22 39 17.7	+0.2
OK029	**Liberty Lake**	**1.84**	**292**	Pn	Pn	22 39 17.3	-0.4
OK029					Sb	22 39 43.7	+0.7
LOOK	**Love County**	**1.89**	**233**	Pn	Pn	22 39 19.0	+0.6
Z38A	**Mt. Pleasant**	**1.89**	**171**	Pn	Pn	22 39 18.7	+0.3
Z38A					Sb	22 39 45.3	+0.9
T35A	**Sooner Cattle**	**2.01**	**332**		Pn	22 39 20.6	+0.5
X40A	**Basin Creek Fa**	**2.17**	**107**		Pb	22 39 23.8	-1.4
Z35A	**Perchaven, San**	**2.39**	**222**		Pn	22 39 25.6	+0.3
WHAR	**Wooly Hollow**	**2.51**	**86**		Pn	22 39 27.4	+0.5
CROK	**Carrier**	**2.54**	**303**	IAmb_Lg		22 40 09.4	
	comp=Z,10nm,0.8s						
FCAR	**Ozark Folk Cen**	**2.74**	**73**		Pn	22 39 30.7	+0.7
P38A	**Dawn**	**4.71**	**17**	IAmb_Lg		22 41 26.2	
	comp=Z,6.3nm,1.1s						
SN07	**Snyder 07**	**5.03**	**248**	IAmb_Lg		22 41 32.4	
	comp=Z,2.4nm,0.9s						
P40A	**Paris**	**5.12**	**30**	IAmb_Lg		22 41 25.1	
	comp=Z,5.2nm,0.9s						

IDC 17 22:55:21.0±1.1, 13°.52N×121°.30E, h0km, mb3.4/7, mbtmp3.4/7, MS3.2/3, Error ellipse: s-maj=56.8km s-min=9.6km az=61.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.68**	**329**	Pg	Pg	22 55 32.5	-1.5
	217nm,0.3s,baz=205,slow=23,SNR=10						
TGY				Lg	Lg	22 55 43.4	
	778nm,0.3s,baz=247,slow=7.7,SNR=9.4						
CMAR	**Chiang Mai Arr**	**22.04**	**286**	P	P	23 00 17.4	0.0
	0.7nm,0.3s,baz=99,slow=9.8,SNR=11						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**35.65**	**159**	P	P	23 02 19.9	-1.1
	0.4nm,0.5s,baz=338,slow=8.5,SNR=4.6						
	0.4nm,0.5s						
SONM	**Songino Array**	**36.39**	**343**	P	P	23 02 26.6	-0.7
	0.3nm,0.7s,baz=165,slow=5.4,SNR=5.5						
SONM				LR	LR	23 19 29.1	
	comp=Z,24nm,18.1s,baz=91,slow=40						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**38.96**	**161**	P	P	23 02 48.3	-0.8
	0.4nm,0.7s,baz=340,slow=8.9,SNR=8.1						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**46.52**	**323**	P	P	23 03 51.5	+1.2
	0.1nm,0.3s,baz=121,slow=8.1,SNR=2.5						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**49.48**	**332**	LR	LR	23 24 60.0	
	comp=Z,14nm,18.0s,baz=30,slow=36						
KURBB	**Kurchatov Arra**	**50.66**	**326**	P	P	23 04 23.3	+1.3
	0.2nm,0.2s,baz=122,slow=8.0,SNR=6.6						
	0.2nm,0.2s						
BVAR	**Borovoye Array**	**56.25**	**326**	P	P	23 05 04.8	+1.7
	0.4nm,0.5s,baz=131,slow=8.3,SNR=5.1						
	0.4nm,0.5s						
AKTO	**Aktyubinsk**	**62.73**	**320**	LR	LR	23 34 01.5	
	comp=Z,32nm,18.5s,baz=147,slow=37						

IDC ***17*** *22:58:27.6±0.6, 55°.06S×30°.77W, h0km, mb4.2/8, mbtmp4.2/9, ML4.2/1, MS3.6/13, Error ellipse: s-maj=24.5km s-min=17.5km az=70.0*
NEIC ***17*** *22:58:29.8±1.6, 55°.03S±0°.08×31°.0W±0°.1, h10km±1km, mb4.7/32, Error ellipse: s-maj=16.8km s-min=3.9km az=145.0*
ISC 17 22:58:29.1±0.5, 55°.02S±0°.08×31°.00W±0°.08, h10km, n69, σ0s86/60, mb4.6/20, MS3.6/12, 5C, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.27**	**281**		**Pn**	**22 59 19.3**	**-1.0**
VNA1	**Neumayer--Stat**	**18.59**	**156**	⇑P	**Pn**	**23 02 48.4**	**+2.1**
	comp=Z,19nm,1.1s						
VNA3	**Neumayer Olymp**	**18.72**	**158**	⇑P	**P**	**23 02 46.7**	**-0.7**
	comp=Z,16nm,0.8s						
VNA2	**Neumayer--Watz**	**18.99**	**156**	⇑P	**P**	**23 02 49.7**	**-0.7**
	comp=Z,8.0nm,0.7s,baz=304,slow=12						
PMSA	**Palmer Station**	**19.00**	**226**	P	**P**	**23 02 50.5**	**0.0**
PMSA	**Palmer Station**	**19.00**	**226**	P	**P**	**23 02 49.5**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=63,slow=11,SNR=10						
PMSA				LR	LR	23 08 14.2	
	comp=Z,105nm,21.3s,baz=72,slow=31						
	comp=Z,3.9nm,0.8s						
SNAA	**Sanae**	**20.58**	**155**	⇑P	**P**	**23 03 06.8**	**-1.0**
	comp=Z,194nm,0.7s						
SNAA	**Sanae**	**20.58**	**155**	P	**P**	**23 03 07.0**	**-0.8**
SNAA	**Sanae**	**20.58**	**155**	P	**P**	**23 03 06.4**	**-1.4**
	comp=Z,13nm,1.0s,baz=305,slow=13,SNR=22						
	comp=Z,13nm,1.0s						
SMAI	**San Martin Ant**	**21.20**	**218**	P	**P**	**23 03 15.2**	**+0.8**
TROLL	**Troll, Antarti**	**22.15**	**153**	⇑P	**P**	**23 03 25.1**	**+0.4**
	comp=Z,324nm,0.8s						
MG02	**Cerro Sombrero**	**22.45**	**260**	P	**P**	**23 03 28.8**	**+0.9**
BELA	**Belgrano 2**	**23.00**	**182**	P	**P**	**23 03 32.9**	**-0.6**
MG05	**Puerto Natales**	**24.73**	**260**	P	**P**	**23 03 49.5**	**-0.8**
TRQA	**Tornquist**	**26.92**	**296**	P	**P**	**23 04 09.3**	**-0.9**
TRQA				IAmb	IAmb	23 04 37.6	
	comp=Z,16nm,1.5s						
PLCA	**Paso Flores**	**29.68**	**282**	P	**P**	**23 04 33.8**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=112,slow=9.6,SNR=2.9						
PLCA				LR	LR	23 16 21.5	
	comp=Z,85nm,19.1s,baz=174,slow=36						
CPUP	**Villa Florida**	**34.52**	**315**	P	**P**	**23 05 17.8**	**+0.4**
CPUP	**Villa Florida**	**34.52**	**315**	P	**P**	**23 05 17.4**	**0.0**
	comp=Z,0.8nm,0.7s,baz=26,slow=9.6,SNR=6.2						
CPUP				LR	LR	23 21 01.2	
	comp=Z,18nm,18.2s,baz=35,slow=39						
	comp=Z,0.8nm,0.7s						
BO04	**La Punta**	**34.56**	**291**	P	**P**	**23 05 17.8**	**+0.1**
BO04				IAmb	IAmb	23 05 22.2	
	comp=Z,19nm,1.3s						
MT09	**Talagante**	**34.92**	**291**	P	**P**	**23 05 20.4**	**-0.6**
MT09				IAmb	IAmb	23 05 46.7	
	comp=Z,33nm,1.4s						
MT01	**Popeta**	**35.00**	**290**	P	**P**	**23 05 20.6**	**-0.8**
MT01				IAmb	IAmb	23 05 44.5	
	comp=Z,26nm,1.3s						
QSPA	**South Pole Qui**	**35.24**	**180**	P	**P**	**23 05 24.6**	**+1.2**
QSPA				IAmb	IAmb	23 05 49.5	
	comp=Z,17nm,1.4s						
QSPA	**South Pole Qui**	**35.24**	**180**	P	**P**	**23 05 24.6**	**+1.2**
	comp=Z,5.7nm,1.1s,baz=188,slow=2.9,SNR=9.1						
QSPA				LR	LR	23 20 07.6	
	comp=Z,114nm,18.1s,baz=18,slow=37						
	comp=Z,5.7nm,1.1s						
MT02	**Curacav**	**35.40**	**291**	P	**P**	**23 05 25.4**	**+0.5**
VA03	**San Esteban**	**35.47**	**292**	P	**P**	**23 05 25.1**	**-0.4**
VA06	**Catapilco**	**36.02**	**292**	P	**P**	**23 05 30.0**	**-0.2**
CO02	**Combarbal**	**36.92**	**294**	P	**P**	**23 05 38.5**	**+0.5**
BDFB	**Brasilia**	**41.44**	**335**	LR	LR	23 24 21.9	
	comp=Z,50nm,18.0s,baz=83,slow=37						
MAW	**Mawson**	**42.25**	**145**	P	**P**	**23 06 20.1**	**-1.8**
	comp=Z,2.8nm,0.8s,baz=208,slow=8.6,SNR=5.8						
	comp=Z,2.8nm,0.8s						
GRHM	**Grahamstown, E**	**45.05**	**86**	P	**P**	**23 06 45.3**	**+0.5**
PTLB	**Pontes e Lacer**	**45.08**	**320**	P	**P**	**23 06 45.8**	**+0.7**
PTLB				IAmb	IAmb	23 06 51.5	
	comp=Z,7.0nm,0.9s						
GO01	**Chusmiza**	**45.57**	**305**	P	**P**	**23 06 50.4**	**+0.7**
GO01				IAmb	IAmb	23 06 56.0	
	comp=Z,14nm,1.1s						
VNDA	**Vanda**	**47.48**	**184**	P	**P**	**23 07 04.9**	**+1.5**
VNDA	**Vanda**	**47.48**	**184**	P	**P**	**23 07 03.1**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=185,slow=5.0,SNR=8.9						
	comp=Z,1.5nm,0.8s						
VILB	**Vilhena**	**47.77**	**320**		**P**	**23 07 06.7**	**+0.4**
BOSA	**Boshof**	**47.88**	**80**	P	**P**	**23 07 06.7**	**-0.5**
BOSA	**Boshof**	**47.88**	**80**	P	**P**	**23 07 05.8**	**-1.4**
	comp=Z,2.8nm,0.9s,baz=174,slow=5.3,SNR=4.5						
BOSA				LR	LR	23 25 32.0	
	comp=Z,48nm,18.1s,baz=191,slow=34						
	comp=Z,2.8nm,0.9s						
LPAZ	**La Paz**	**48.02**	**309**	P	**P**	**23 07 10.1**	**+1.1**
LPAZ				IAmb	IAmb	23 07 18.4	
	comp=Z,7.4nm,0.7s						
LPAZ	**La Paz**	**48.02**	**309**	P	**P**	**23 07 10.6**	**+1.6**
	comp=Z,5.2nm,0.5s,baz=129,slow=4.4,SNR=25						
	comp=Z,5.2nm,0.5s						
KOOLE	**Kule**	**49.45**	**71**	P	**P**	**23 07 19.4**	**-0.1**
KOOLE				IAmb	IAmb	23 07 20.5	
	comp=Z,9.1nm,0.8s						
KGCAE	**Kacgae**	**50.66**	**73**	P	**P**	**23 07 28.5**	**-0.1**
KGCAE				IAmb	IAmb	23 07 46.4	
	comp=Z,12nm,1.1s						
LBTB	**Lobatse**	**50.84**	**78**	P	**P**	**23 07 31.5**	**+1.6**
LBTB				IAmb	IAmb	23 07 35.2	
	comp=Z,5.4nm,0.9s						
GRTLG	**Ghanzi**	**51.32**	**71**	P	**P**	**23 07 33.5**	**-0.1**
GRTLG				IAmb	IAmb	23 07 39.8	
	comp=Z,9.4nm,1.4s						
POGA	**Pongola**	**52.52**	**85**	P	**P**	**23 07 43.0**	**+0.7**
POGA				IAmb	IAmb	23 08 07.4	
	comp=Z,18nm,1.1s						
MREMI	**Moremi**	**53.80**	**77**	P	**P**	**23 07 51.9**	**0.0**
MREMI				IAmb	IAmb	23 08 05.1	
	comp=Z,7.5nm,0.6s						
LSZ	**Lusaka**	**60.08**	**73**	LR	LR	23 32 46.2	
	comp=Z,70nm,18.8s,baz=172,slow=34						
BOAV	**Boa Vista**	**62.17**	**326**	P	**P**	**23 08 50.8**	**+0.3**
BOAV				IAmb	IAmb	23 08 57.9	
	comp=Z,4.2nm,1.1s						
MDP	**Montagnes des**	**62.55**	**336**	LR	LR	23 34 24.7	
	comp=Z,28nm,21.2s,baz=155,slow=34						
DBIC	**Dimbokro**	**65.22**	**29**	LR	LR	23 30 52.0	
	comp=Z,39nm,18.4s,baz=190,slow=30						
SDV	**Santo Domingo**	**71.77**	**318**	LR	LR	23 44 28.0	
	comp=Z,31nm,18.2s,baz=84,slow=38						
TORD	**Torodi Ar. Bea**	**73.30**	**33**	P	**P**	**23 10 01.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**73.30**	**33**	P	**P**	**23 10 00.6**	**0.0**
	comp=Z,1.1nm,0.8s,baz=201,slow=5.5,SNR=6.8						
	comp=Z,1.1nm,0.8s						
MDT	**Midelt**	**90.37**	**22**	LR	LR	23 45 37.7	
	comp=Z,50nm,21.4s,baz=221,slow=31						
KEST	**Kesra**	**96.79**	**32**	LR	LR	23 51 21.4	
	comp=Z,66nm,20.1s,baz=342,slow=33						
ESDC	**Sonseca Array**	**97.12**	**21**	LR	LR	23 52 10.0	
	comp=Z,47nm,18.6s,baz=184,slow=33						
FINES	**FINESS Array B**	**124.51**	**29**	PKP	**PKiKP**	**23 17 27.4**	**+0.2**
	comp=Z,3.7nm,0.9s,baz=184,slow=3.7,SNR=9.2						
CMAR	**Chiang Mai Arr**	**127.46**	**114**	PKP	**PKPdf**	**23 17 33.9**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=225,slow=1.2,SNR=4.0						
ARCES	**ARCESS Array B**	**130.81**	**23**	PKP	**PKiKP**	**23 17 39.6**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=236,slow=0.9,SNR=5.9						
BVAR	**Borovoye Array**	**136.07**	**59**	PKP	**PKiKP**	**23 17 50.3**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=273,slow=2.6,SNR=4.1						
KURBB	**Kurchatov Arra**	**138.84**	**66**	PKP	**PKPdf**	**23 17 52.6**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=244,slow=3.7,SNR=2.2						
ZALV	**Zalesovo Beam**	**143.87**	**64**	PKP	PKPbc	23 18 01.6	+0.5
	comp=Z,1.5nm,0.6s,baz=248,slow=1.6,SNR=6.7						
H29M	**Whitestone**	**144.78**	**318**		**PKPab**	**23 18 03.9**	**+0.4**
I28M	**Miner Creek**	**145.17**	**316**		**PKPab**	**23 18 05.4**	**+0.3**
BCAR	**Beaver Creek A**	**145.17**	**312**		**PKPbc**	**23 18 05.0**	**0.0**
DOT	**Dot Lake**	**146.33**	**312**	PKPdf	**PKPbc**	**23 18 08.8**	**+0.2**
ILAR	**Eielson Array**	**147.82**	**314**	PKPbc	**PKPbc**	**23 18 12.8**	**+0.1**
	comp=Z,3.7nm,0.8s,baz=134,slow=2.1,SNR=22						
N19K	**Bonanza Creek**	**150.26**	**304**		**PKPbc**	**23 18 17.9**	**-1.2**
IMAR	**Indian Mountai**	**150.86**	**315**		**PKiKP**	**23 18 20.9**	**+0.1**
SONM	**Songino Array**	**152.84**	**87**	PKPbc	**PKPbc**	**23 18 24.8**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=220,slow=2.9,SNR=7.7						

IDC ***17*** *23:30:53.8±1.7,2°.14S×122°.56E, h0km, mb4.1/4, mbtmp4.1/6, MLb3.5/2, MS2.7/3, Error ellipse: s-maj=38.4km s-min=23.9km az=48.0*
DJA ***17*** *23:30:54.1±0.3,2°.2S±2°.2×12°.3E±°, h10km, M4.3/14, mb4.5/2, MLv4.2/14*
ISC 17 23:30:57.2±0.9, 2°.03S±0°.04×122°.59E±0°.06, h35km, n19, σ1s22/22, mb4.1/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.00**	**10**	P	**Pn**	**23 31 13.5**	**-1.3**
LUWI				S	**Sn**	**23 31 27.7**	**+0.1**
APSI	**Ampana**	**1.46**	**320**	P	**Pn**	**23 31 19.2**	**-1.9**
MRSI	**Marisa**	**2.58**	**345**	P	**Pn**	**23 31 35.5**	**-1.0**
MRSI				S	**Sn**	**23 32 06.0**	**-0.6**
TTSI	**Tana Toraja**	**2.95**	**250**	P	**Pn**	**23 31 40.5**	**-1.1**
TTSI				S	**Sn**	**23 32 13.3**	**-2.5**
PCI	**Palu**	**2.97**	**292**	P	**Pn**	**23 31 43.1**	**+1.1**
SANI	**Sanana**	**3.39**	**90**	P	**Pn**	**23 31 47.0**	**-0.7**
SPSI	**Sidrap Palu**	**3.41**	**236**	P	**Pn**	**23 31 48.0**	**0.0**
BNSI	**Bone**	**3.42**	**226**	P	**Pn**	**23 31 47.5**	**-0.6**
BBSI	**Bau Bau**	**3.43**	**180**	P	**Pn**	**23 31 48.2**	**-0.1**
BKSI	**Bulukumba**	**4.09**	**217**	P	**Pn**	**23 31 56.7**	**-0.7**
KAPI	**Kappang**	**4.10**	**224**	Pn	**Pn**	**23 31 57.5**	**0.0**
	12nm,0.3s,baz=27,slow=3.8,SNR=17						
KAPI				Sn	**Sn**	**23 32 43.6**	**-0.6**
	10nm,0.3s,baz=220,slow=23,SNR=7.7						
KAPI				LR	LR	23 33 56.5	
	comp=Z,76nm,18.8s,baz=69,slow=46						
	35nm,0.4s						
BSSI	**Bau Bau, Buton**	**4.59**	**207**	P	**Pn**	**23 32 03.8**	**-0.4**
EDFI	**Ende, Flores**	**6.74**	**188**	P	**Pn**	**23 32 32.8**	**-1.0**
	0.1nm12nm,0.7s						
FITZ	**Fitzroy Crossi**	**16.25**	**170**	Pn	**Pn**	**23 34 41.7**	**-1.2**
	0.1nm,0.3s,baz=336,slow=8.1,SNR=4.8						
	3.1nm,0.9s						
WRA	**Warramunga Arr**	**21.18**	**148**	P	**P**	**23 35 40.6**	**+0.8**
	6.0nm,1.0s,baz=327,slow=9.6,SNR=17						
	6.0nm,1.0s						
ASAR	**Alice Springs**	**24.14**	**154**	P	**P**	**23 36 11.6**	**+1.4**
	3.0nm,0.6s,baz=336,slow=8.5,SNR=36						
	3.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.92**	**312**	P	**P**	**23 37 13.4**	**+2.4**
	1.3nm,0.3s,baz=135,slow=6.9,SNR=4.8						
CMAR				LR	LR	23 50 28.5	
	comp=Z,13nm,18.8s,baz=160,slow=38						
	1.3nm,0.3s						
STKA	**Stephens Creek**	**34.67**	**151**	P	**P**	**23 37 43.2**	**-0.5**
	2.8nm,0.8s,baz=343,slow=6.9,SNR=4.3						
	2.8nm,0.8s						
JHJ	**Hachijo jima 2**	**38.55**	**23**	LR	LR	23 53 36.4	
	comp=Z,14nm,20.9s,baz=93,slow=35						

RSNC ***17*** *23:38:31.7±0.0,8°.N±4°.×7°.3W±°, h4km±4km, M1.9, ML1.9*
FUNV ***17*** *23:38:32.1,7°.93N×72°.44W, h3km, MW2.9*
ISC 17 23:38:29.4±1.5, 7°.89N±0°.06×72°.49W±0°.03, h14km±13km, n9, σ0s79/18, 1D, Northern Colombia

| Code | Station Name | Δ°

UNAN	**Cigeo UNAN**	**1.06**	**27**	P	Pn	00 21 28.9	0.0		
UNAN				S	Sn	00 21 43.4	-0.1		
MGAN	**Managua**	**1.11**	**28**	P	Pb	00 21 29.2	-0.2		
MGAN	**Managua**	**1.11**	**28**	S	Sb	00 21 43.8	+0.2		
R4DEC	**Barrio San Lui**	**1.11**	**27**	P	Pb	00 21 29.3	-0.1		
JAPN	**Al SSO del Vol**	**1.13**	**71**	P	Pb	00 21 27.3	-2.5		
WILN	**Americas 2**	**1.15**	**30**	P	Pn	00 21 29.6	-0.5		
WILN				S	Sb	00 21 45.0	+0.3		
MORN	**Al O del Volca**	**1.17**	**71**	P	Pb	00 21 30.4	0.0		
APQ3	**Volcan Apoyequ**	**1.17**	**20**	P	Pn	00 21 30.2	-0.2		
OMEN	**Al SSO del Vol**	**1.17**	**73**	P	Pn	00 21 27.3	-3.2		
CONN	**Concepcion**	**1.19**	**70**	P	Pn	00 21 30.7	0.0		
CONN				S	Sg	00 21 47.5	+0.4		
MOM2	**El Cardon**	**1.30**	**12**	P	Pn	00 21 31.8	-0.4		
MOM2				S	Sb	00 21 48.9	-0.3		
CNGA	**Al SSO del Vol**	**1.33**	**3**	P	Pn	00 21 32.0	-0.6		
CNGN	**Cerro Negro**	**1.33**	**3**	P	Pn	00 21 32.3	-0.3		
TELN	**Telica**	**1.44**	**358**	P	Pn	00 21 32.5	-1.6		
PKGN	**Cerro Pekin**	**1.51**	**352**	P	Pn	00 21 34.6	-0.5		
PKGN				S	Sn	00 21 54.3	-0.3		
BOAB	**BOACO BROADBAN**	**.68**	**40**	S	Sn	00 21 57.2	-1.4		
BOAB	**BOACO BROADBAN**	**.68**	**40**	P	Pn	00 21 37.1	-0.2		
MATN	**Matagalpa**	**1.94**	**25**	P	Pn	00 21 40.0	-1.1		
JTS	**Las Juntas de**	**1.98**	**116**	P	Pb	00 21 45.1	+0.7		

IDC ***18*** *00:35:57.2±0.8, 18°.72S×172°.25W, h0km, mb3.9/11, mbtmp4.0/12, ML3.6/1, MS3.4/5, Error ellipse: s-maj=31.9km s-min=19.2km az=156.0*

ISC 18 00:35:58.5±0.7, 18°.7S±0°.2×172°.3W±0°.1, h10km, n23, σ1s07/13, mb3.8/10, MS3.4/3, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**11.68**	**205**	LR	LR	00 42 46.4	
	comp=Z,160nm,21.2s,baz=127,slow=35						
RAR	**Rarotonga**	**11.98**	**104**	**Pn**	**Pn**	**00 38 48.7**	**-0.8**
	3.7nm,0.3s,baz=265,slow=15,SNR=7.0						
RAR				LR	LR	00 42 26.7	
	comp=Z,53nm,20.1s,baz=249,slow=32						
	13nm,0.4s						
DZM	**Mont Dzumac**	**20.24**	**257**	P	Pn	00 40 35.5	-0.7
	5.1nm,0.6s,baz=101,slow=18,SNR=6.5						
DZM				LR	LR	00 46 43.9	
	comp=Z,103nm,18.4s,baz=106,slow=32						
	5.1nm,0.6s						
PPT	**Papeete**	**21.57**	**91**	LR	LR	00 46 40.0	
	comp=Z,154nm,18.6s,baz=216,slow=30						
H11S2	**WAKE ISLAND Hy**	**42.38**	**330**	T	T	01 29 29.1	
	baz=151						
H11S3	**WAKE ISLAND Hy**	**42.39**	**330**	T	T	01 29 37.9	
	baz=151						
H11S1	**WAKE ISLAND Hy**	**42.40**	**330**	T	T	01 29 38.9	
	baz=151						
H11N3	**WAKE ISLAND Hy**	**43.34**	**331**	T	T	01 30 13.4	
	baz=150						
H11N1	**WAKE ISLAND Hy**	**43.35**	**331**	T	T	01 30 18.3	
	baz=150						
H11N2	**WAKE ISLAND Hy**	**43.36**	**331**	T	T	01 30 14.5	
	baz=150						
STKA	**Stephens Creek**	**43.43**	**243**	P	**P**	**00 44 01.3**	**-0.5**
	2.0nm,0.9s,baz=108,slow=2.3,SNR=2.1						
	2.0nm,0.9s						
ASAR	**Alice Springs**	**50.21**	**254**	P	**P**	**00 44 55.2**	**+0.2**
	9.1nm,0.8s,baz=95,slow=8.0,SNR=58						
	9.1nm,0.8s						
WRA	**Warramunga Arr**	**50.24**	**259**	P	**P**	**00 44 54.6**	**-0.6**
	4.1nm,0.8s,baz=94,slow=8.6,SNR=25						
	4.1nm,0.8s						
QSPA	**South Pole Qui**	**71.33**	**180**	P	**P**	**00 47 19.5**	**+1.1**
	0.3nm,0.6s,baz=340,slow=5.3,SNR=3.0						
	0.3nm,0.6s						
MJAR	**Matsushiro Arr**	**72.19**	**320**	P	**P**	**00 47 24.6**	**+0.8**
	0.5nm,0.2s,baz=100,slow=6.7,SNR=1.1						
	0.5nm,0.2s						
NVAR	**Mina Array Bea**	**76.09**	**41**	P	**P**	**00 47 47.9**	**+1.1**
	0.4nm,0.7s,baz=242,slow=8.2,SNR=2.1						
	0.4nm,0.7s						
TXAR	**Lajitas Array**	**81.57**	**55**	P	**P**	**00 48 18.5**	**+1.5**
	0.1nm,0.5s,baz=287,slow=1.0,SNR=2.0						
	0.1nm,0.5s						
NEW	**Newport**	**82.85**	**34**	LR	LR	01 19 03.7	
	comp=Z,44nm,18.2s,baz=193,slow=31						
PDAR	**Pinedale Array**	**84.02**	**41**	P	**P**	**00 48 28.6**	**-1.0**
	0.9nm,0.3s,baz=226,slow=4.7,SNR=1.8						
	0.9nm,0.3s						
ILAR	**Eielson Array**	**85.49**	**11**	P	**P**	**00 48 35.2**	**-1.0**
	0.1nm,0.4s,baz=226,slow=6.4,SNR=1.3						
	0.1nm,0.4s						
SNAA	**Sanae**	**89.53**	**177**	P	**P**	**00 48 56.0**	**+0.1**
	0.4nm,0.8s,baz=156,slow=4.9,SNR=1.3						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**121.17**	**321**	PKP	**PKPdf**	**00 54 49.9**	**-1.6**
	0.4nm,0.5s,baz=90,slow=3.2,SNR=2.4						
BRTR	**Keskin Array B**	**149.40**	**319**	PKPbc	**PKiKP**	**00 55 49.5**	**0.0**
	1.0nm,0.8s,baz=125,slow=2.6,SNR=6.0						

CATAC 18 01:23:17.6±0.8, 11°N±4°×87°W±°, h20km±4km, M2.6/9, MLv2.6/9, Error ellipse: s-maj=10.1km s-min=6.0km az=33.9, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NANN	**Nandasmo**	**0.92**	**41**	P	Pn	01 23 36.3	+0.9
NANN	**Nandasmo**	**0.92**	**41**	S	Sn	01 23 49.0	+1.0
COPN	**Copaltepe**	**0.94**	**9**	P	Pb	01 23 34.3	-0.9
MORN	**Al O del Volca**	**1.12**	**74**	P	Pb	01 23 38.2	0.0
MORN				S	Sb	01 23 51.7	-0.6
CONN	**Concepcion**	**1.14**	**74**	P	Pn	01 23 38.4	0.0
CONN				S	Sn	01 23 54.8	+1.3
MOM2	**El Cardon**	**1.21**	**12**	P	Pn	01 23 39.3	-0.1
CNGA	**Al SSO del Vol**	**1.24**	**2**	P	Pn	01 23 39.4	-0.5
CNGN	**Cerro Negro**	**1.25**	**2**	P	Pn	01 23 39.5	-0.4
CNGN	**Cerro Negro**	**1.25**	**2**	S	Sn	01 23 57.2	+1.0
PKGN	**Cerro Pekin**	**1.44**	**351**	P	Pn	01 23 42.3	-0.1
BOAB	**BOACO BROADBAN**	**.60**	**41**	P	Pn	01 23 44.2	-0.4
BOAB	**BOACO BROADBAN**	**.60**	**41**	S	Sb	01 24 05.5	-0.7

SJA ***18*** *01:29:09.3±0.8, 33°.27S×70°.45W, h98km±2km, ML3.7, MW3.7*
GUC ***18*** *01:29:10.6±0.7, 33°.24S×70°.44W, h98km±1km, ML3.8*
NEIC ***18*** *01:29:11.0±1.1, 33°.28S±0°.02×70°.43W±0°.06, h90km±3km, ML3.9/50, ML3.8(GUC), Error ellipse: s-maj=7.2km s-min=2.3km az=106.0*

ISC 18 01:29:11.0±1.2, 33°.26S±0°.03×70°.46W±0°.03, h91km±5km, n89, σ0s93/133, 5C-15D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MT10	**Hacienda Santa**	**0.07**	**257**	*i*P	**Pn**	**01 29 23.5**	**-0.5**
MT10				*i* S	**Sn**	**01 29 33.7**	**0.0**
MT10				IAML		01 29 37.8	
	comp=E,6μm,0.3s						
MT14	**Cerro Cal¡n**	**0.15**	**205**	⇓*i*P	**Pn**	**01 29 23.9**	**-0.2**
MT14				*i* S	**Sn**	**01 29 34.5**	**+0.7**
FCH	**Farellones**	**0.16**	**116**	⇓*i*P	**Pn**	**01 29 23.7**	**-0.7**
FCH				*i* S	**Sn**	**01 29 34.0**	**-0.4**
FCH				IAML		01 29 34.5	
	comp=N,5μm,0.1s						
MT16	**CCHEN**	**0.18**	**198**	Pn	**Pn**	**01 29 23.9**	**-0.2**
MT16				Sn	**Sn**	**01 29 34.2**	**+0.3**
MT16				IAML		01 29 34.9	
	comp=E,4μm,0.3s						
MT16				IAML		01 29 35.3	
	comp=N,4μm,0.2s						
MT16	**CCHEN**	**0.18**	**198**	⇓*i*P	**Pn**	**01 29 24.0**	**-0.2**
MT16				*i* S	**Sn**	**01 29 34.1**	**+0.3**
MT16				IAML		01 29 35.4	
	comp=N,6μm,0.6s						
PEL	**Peldehue**	**0.22**	**301**	Pn	**Pn**	**01 29 23.7**	**-0.6**
PEL				IAML		01 29 34.9	
	comp=E,3μm,0.5s						
PEL	**Peldehue**	**0.22**	**301**	*i* P	**Pn**	**01 29 23.7**	**-0.6**
PEL				*i* S	**Sn**	**01 29 34.1**	**-0.1**
PEL				IAML		01 29 35.9	
	comp=E,4μm,0.4s						
PEL	**Peldehue**	**0.22**	**301**	*e*P	**Pn**	**01 29 23.6**	**-0.6**
PEL				*e*S	**Sn**	**01 29 35.0**	**+0.8**
PEL				IAML		01 29 35.5	
	comp=Z,2μm,0.4s						
MT03	**Universidad Ad**	**0.24**	**190**	Sn	**Sn**	**01 29 34.4**	**0.0**
MT03	**Universidad Ad**	**0.24**	**190**	⇓*i*P	**Pn**	**01 29 24.2**	**-0.3**
MT03				*i* S	**Sn**	**01 29 34.6**	**+0.2**
MT03	**Universidad Ad**	**0.24**	**190**	*e*P	**Pn**	**01 29 24.1**	**-0.4**
MT03				*e*S	**Sn**	**01 29 35.0**	**+0.6**
MT05	**Renca**	**0.27**	**240**	Pn	**Pn**	**01 29 24.5**	**-0.1**
MT05				Sn	**Sn**	**01 29 34.9**	**+0.4**
MT05	**Renca**	**0.27**	**240**	⇓*i*P	**Pn**	**01 29 24.4**	**-0.1**
MT05				*i* S	**Sn**	**01 29 35.0**	**+0.4**
MT05				IAML		01 29 36.1	
	comp=E,14μm,0.3s						
MT05	**Renca**	**0.27**	**240**	*e*P	**Pn**	**01 29 24.4**	**-0.1**
MT05				*e*S	**Sn**	**01 29 35.3**	**+0.8**
MT05				IAML		01 29 37.1	
	comp=Z,4μm,0.1s						
MT04	**Ro Olivares**	**0.31**	**119**	⇓*i*P	**Pn**	**01 29 24.2**	**-0.7**
MT04				*i* S	**Sn**	**01 29 35.3**	**+0.1**
MT04	**Ro Olivares**	**0.31**	**119**	*e*P	**Pn**	**01 29 24.0**	**-0.9**
MT04				*e*S	**Sn**	**01 29 35.5**	**+0.3**
MT04				IAML		01 29 36.1	
	comp=Z,1μm,0.2s						
MT15	**Las Vizcachas**	**0.34**	**187**	⇓*i*P	**Pn**	**01 29 24.6**	**-0.3**
MT15				*i* S	**Sn**	**01 29 35.5**	**+0.3**
MT08	**Bocatoma Ro**	**0.41**	**117**	Pn	**Pn**	**01 29 24.8**	**-0.7**
MT08	**Bocatoma Ro**	**0.41**	**117**	⇓*i*P	**Pn**	**01 29 25.1**	**-0.4**
MT08				*i* S	**Sn**	**01 29 36.4**	**+0.1**
MT08	**Bocatoma Ro**	**0.41**	**117**	*e*P	**Pn**	**01 29 25.1**	**-0.4**
MT12	**Pirque**	**0.48**	**189**	*i* P	**Pn**	**01 29 25.5**	**-0.3**
MT12				*i* S	**Sn**	**01 29 37.3**	**+0.5**
MT12				IAML		01 29 38.2	
	comp=E,10μm,0.3s						
VA03	**San Esteban**	**0.50**	**351**	Pn	**Pn**	**01 29 25.5**	**-0.4**
VA03				IAML		01 29 38.0	
	comp=E,5μm,0.2s						
VA03	**San Esteban**	**0.50**	**351**	⇓*i*P	**Pn**	**01 29 25.6**	**-0.4**
VA03				*i* S	**Sn**	**01 29 37.3**	**+0.2**
VA03				IAML		01 29 38.3	
	comp=N,4μm,0.4s						
VA03	**San Esteban**	**0.50**	**351**	*e*P	**Pn**	**01 29 25.6**	**-0.4**
VA03				*e*S	**Sn**	**01 29 38.0**	**+0.9**
VA03				IAML		01 29 38.6	
	comp=Z,2μm,0.1s						
MT13	**San Alfonso**	**0.51**	**164**	Pn	**Pn**	**01 29 25.6**	**-0.4**
MT13				IAML		01 29 39.0	
	comp=E,5μm,0.3s						
MT13	**San Alfonso**	**0.51**	**164**	⇓*i*P	**Pn**	**01 29 25.8**	**-0.3**
MT13				*i* S	**Sn**	**01 29 37.5**	**+0.3**
MT13				IAML		01 29 38.9	
	comp=N,5μm,0.3s						
MT13	**San Alfonso**	**0.51**	**164**	*e*P	**Pn**	**01 29 25.9**	**-0.1**
MT13				*e*S	**Sn**	**01 29 37.6**	**+0.3**
MT13				IAML		01 29 41.6	
	comp=Z,2μm,0.1s						
ROCH	**El Roble**	**0.55**	**301**	⇓*i*P	**Pn**	**01 29 26.4**	**-0.1**
ROCH				*i* S	**Sn**	**01 29 38.5**	**+0.5**
ROCH				IAML		01 29 42.1	
	comp=N,4μm,0.3s						
ROC1	**El Roble**	**0.55**	**301**	*e*P	Pn	01 29 20.9	-5.6
ROC1				*e*S	**Sn**	**01 29 38.8**	**+0.8**
MT02	**Curacav**	**0.57**	**270**	Pn	**Pn**	**01 29 26.4**	**0.0**
MT02				IAML		01 29 39.4	
	comp=E,3μm,0.2s						
MT02	**Curacav**	**0.57**	**270**	⇑*i*P	**Pn**	**01 29 26.4**	**0.0**
MT02				*i* S	**Sn**	**01 29 38.3**	**+0.4**
MT02	**Curacav**	**0.57**	**270**	*e*P	**Pn**	**01 29 25.7**	**-0.8**
MT02				*e*S	**Sn**	**01 29 38.9**	**+1.0**
MT02				IAML		01 29 40.7	
	comp=Z,1μm,0.2s						
LMEL	**Las Melosas**	**0.63**	**160**	Pn	**Pn**	**01 29 26.6**	**-0.5**
LMEL				IAML		01 29 41.5	
	comp=N,4μm,0.2s						
LMEL				IAML		01 29 43.5	
	comp=E,4μm,0.1s						
LMEL	**Las Melosas**	**0.63**	**160**	⇓*i*P	**Pn**	**01 29 26.8**	**-0.4**
LMEL				*i* S	**Sn**	**01 29 39.6**	**+0.5**
LMEL				IAML		01 29 43.4	
	comp=E,4μm,0.1s						
LMEL	**Las Melosas**	**0.63**	**160**	*e*P	**Pn**	**01 29 27.0**	**-0.1**
LMEL				*e*S	**Sn**	**01 29 40.2**	**+1.1**
LMEL				IAML		01 29 44.0	
	comp=Z,1μm,0.1s						
MT09	**Talagante**	**0.68**	**220**	Pn	**Pn**	**01 29 27.5**	**-0.2**
MT09				Sn	**Sn**	**01 29 40.3**	**+0.3**
MT09	**Talagante**	**0.68**	**220**	⇑*i*P	**Pn**	**01 29 27.4**	**-0.2**
MT09				*e*S	**Sn**	**01 29 40.4**	**+0.4**
BO04	**La Punta**	**0.74**	**190**	Pn	**Pn**	**01 29 27.8**	**-0.3**
BO04				Sn	**Sn**	**01 29 41.0**	**+0.1**
BO04				IAML		01 29 42.3	
	comp=N,4μm,0.2s						
BO04	**La Punta**	**0.74**	**190**	⇑*i*P	**Pn**	**01 29 27.9**	**-0.3**
BO04				*i* S	**Sn**	**01 29 41.2**	**+0.4**
MT01	**Popeta**	**0.90**	**227**	Pn	**Pn**	**01 29 29.3**	**-0.4**
MT01				IAML		01 29 44.4	
	comp=N,2μm,0.1s						
MT01				IAML		01 29 45.3	
	comp=E,2μm,0.2s						
MT01	**Popeta**	**0.90**	**227**	⇑*i*P	**Pn**	**01 29 29.3**	**-0.4**
MT01				*i* S	**Sn**	**01 29 43.8**	**+0.2**
MT01				IAML		01 29 45.3	
	comp=E,2μm,0.1s						
VA06	**Catapilco**	**0.99**	**314**	Pn	**Pn**	**01 29 30.3**	**-0.3**
VA06				IAML		01 29 46.8	
	comp=N,2μm,0.3s						
VA06				IAML		01 29 47.6	
	comp=E,2μm,0.3s						
VA06	**Catapilco**	**0.99**	**314**	⇓*i*P	**Pn**	**01 29 30.3**	**-0.3**
VA06				*i* S	**Sn**	**01 29 45.2**	**-0.2**
VA06				IAML		01 29 47.8	
	comp=E,2μm,0.4s						
VA01	**Torpederas**	**1.02**	**283**	Pn	**Pn**	**01 29 31.5**	**+0.5**
VA01				IAML		01 29 51.7	
	comp=E,2μm,0.1s						
VA01				IAML		01 29 53.9	
	comp=N,2μm,0.1s						
VA01	**Torpederas**	**1.02**	**283**	*i* P	**Pn**	**01 29 32.2**	**+1.2**
VA01				IAML		01 29 51.6	
	comp=E,2μm,0.1s						
VA01	**Torpederas**	**1.02**	**283**	*e*P	**Pn**	**01 29 31.7**	**+0.7**
VA01				IAML		01 29 50.6	
	comp=Z,525nm,0.4s						
BO01	**Tunca**	**1.25**	**205**	Pn	**Pn**	**01 29 33.4**	**-0.3**
BO01	**Tunca**	**1.25**	**205**	*e*P	**Pn**	**01 29 33.4**	**-0.3**
BO01				*e*S	**Sn**	**01 29 52.0**	**+1.2**
BO01				IAML		01 29 53.3	
	comp=Z,669nm,0.1s						
CO04	**Los Peladeros**	**1.29**	**340**	⇓*i*P	**Pn**	**01 29 34.2**	**-0.2**
CO04				*i* S	**Sn**	**01 29 52.0**	**-0.1**
CO04				IAML		01 29 58.3	
	comp=N,2μm,0.1s						
ARCO	**CERRO ARCO**	**1.35**	**72**	*e*P	**Pn**	**01 29 34.9**	**-0.2**
AAGR	**Agrelo**	**1.38**	**83**	*e*P	**Pn**	**01 29 35.3**	**-0.1**
AAGR				*e*P		01 29 35.3	
AAGR				*e*S	**Sn**	**01 29 54.7**	**+0.9**
ASAL	**Salagasta**	**1.52**	**64**	*e*P	**Pn**	**01 29 37.1**	**-0.1**
ASAL				*e*S	**Sn**	**01 30 01.2**	**+4.3**
BO02	**Sierra Bellavi**	**1.55**	**190**	Pn	**Pn**	**01 29 38.0**	**+0.4**
BO02	**Sierra Bellavi**	**1.55**	**190**	⇑*i*P	**Pn**	**01 29 37.9**	**+0.3**
BO02				*i* S	**Sn**	**01 29 58.5**	**+0.8**
BO02				IAML		01 30 00.3	
	comp=N,2μm,0.2s						
BO02	**Sierra Bellavi**	**1.55**	**190**	*e*P	**Pn**	**01 29 37.9**	**+0.3**
BO02				*e*S	**Sn**	**01 29 59.7**	**+2.0**
BO02				IAML		01 30 04.1	
	comp=Z,1μm,0.1s						
RTLS	**Leoncito**	**1.75**	**34**	*e*P	**Pn**	**01 29 40.9**	**+0.5**
RTLS				*e*S	**Sn**	**01 30 06.1**	**+3.4**
RTLS				IAML		01 30 06.4	
	comp=Z,867nm,0.5s						
BO03	**Pichilemu**	**1.76**	**225**	*i* P	**Pn**	**01 29 39.9**	**-0.2**
CO01	**Combarbal**	**2.10**	**347**	Pn	**Pn**	**01 29 44.5**	**-0.2**
CO02	**Combarbal**	**2.10**	**347**	*i* P	**Pn**	**01 29 44.2**	**-0.6**
CO02	**Combarbal**	**2.10**	**347**	*e*P	**Pn**	**01 29 44.3**	**-0.4**
CO02				*e*S	**Sn**	**01 30 11.8**	**+1.4**
CO02				IAML		01 30 16.1	
	comp=Z,456nm,0.1s						
GO05	**Hualane**	**2.13**	**215**	*e*P	**Pn**	**01 29 44.5**	**-0.5**
GO05				*e*S	**Sn**	**01 30 10.0**	**-1.0**
GO05				IAML		01 30 18.8	
	comp=Z,255nm,0.2s						
RFA	**San Rafael**	**2.24**	**133**	*e*P	**Pn**	**01 29 45.3**	**-1.2**
ZON	**Zonda**	**2.28**	**42**	Pn	**Pn**	**01 29 46.6**	**-0.4**
ZON	**Zonda**	**2.28**	**42**	*e*P	**Pn**	**01 29 46.2**	**-0.8**
SJA	**San Juan**	**2.36**	**43**	*e*P	**Pn**	**01 29 48.4**	**+0.4**
SJA				*e*S	**Sn**	**01 30 18.3**	**+2.0**
SJA				IAML		01 30 21.7	
	comp=Z,142nm,0.2s						
CO03	**El Pedregal**	**2.42**	**355**	Pn	**Pn**	**01 29 49.1**	**+0.2**
CO03				IAML		01 30 24.3	
	comp=E,773nm,0.1s						
CO03	**El Pedregal**	**2.42**	**355**	*i* P	**Pn**	**01 29 49.3**	**+0.3**
CO03				*i* S	**Sn**	**01 30 17.4**	**-0.5**
CO03				IAML		01 30 23.8	
	comp=N,970nm,0.3s						
CO03	**El Pedregal**	**2.42**	**355**	*e*P	**Pn**	**01 29 49.1**	**+0.2**
CO03				*e*S	**Sn**	**01 30 18.6**	**+0.6**
CO03				IAML		01 30 21.3	
	comp=Z,380nm,0.2s						
CFA	**Coronel Fontan**	**2.50**	**49**	*e*P	**Pn**	**01 29 49.3**	**-0.7**
CFA				*e*S	**Sn**	**01 30 19.8**	**0.0**
CO06	**Fray Jorge**	**2.76**	**338**	Pn	**Pn**	**01 29 53.3**	**-0.1**
CO06				IAML		01 30 36.8	
	comp=E,484nm,0.3s						
CO06				IAML		01 30 39.4	
	comp=N,362nm,0.2s						
ACCO	**Cerro Coronel**	**2.91**	**24**	*e*P	**Pn**	**01 29 55.9**	**+0.1**
ACAN	**Cantantal**	**2.92**	**71**	*e*P	**Pn**	**01 29 53.9**	**-1.8**
ACAN				IAML		01 30 34.6	
	comp=Z,484nm,0.4s						
GO04	**Tololo Observa**	**3.09**	**355**	IAML		01 30 43.5	
	comp=Z,283nm,0.2s						
ACDV	**Cuesta del Vie**	**3.28**	**21**	*e*P	**Pn**	**01 30 01.5**	**+0.9**
ACDV				IAML		01 30 50.5	
	comp=Z,61nm,0.3s						
CO01	**Juntas del Tor**	**3.29**	**6**	Pn	**Pn**	**01 30 00.8**	**+0.1**
CO05	**La Serena**	**3.40**	**348**	Pn	**Pn**	**01 30 02.8**	**+0.8**
CO05				IAML		01 30 57.7	
	comp=E,367nm,0.6s						
CO05				IAML		01 30 58.5	
	comp=N,299nm,0.8s						
BI02	**San Fabin de**	**3.46**	**191**	Pn	**Pn**	**01 30 02.8**	**-0.1**
ACHE	**Chepes**	**3.84**	**58**	*e*P	**Pn**	**01 30 07.0**	**-1.0**
AGUA	**GUANDACOL**	**4.12**	**25**	*e*S	**Sn**	**01 30 57.8**	**-1.1**
AGUA				*e*S	**Sn**	**01 30 57.8**	**-1.1**
AGUA				IAML		01 31 16.9	
	comp=Z,79nm,0.4s						
AGUA				IAML		01 31 16.9	
	comp=Z,79nm,0.4s						
BI05	**Punta Hualpn**	**4.14**	**212**	Pn	**Pn**	**01 30 09.9**	**-2.0**
BI05				IAML		01 31 02.5	
	comp=E,124nm,0.3s						
BI05				IAML		01 31 17.0	
	comp=N,127nm,0.5s						
LCO	**Las Campanas**	**4.24**	**357**	Pn	**Pn**	**01 30 12.0**	**-1.6**
LCO				IAML		01 31 17.6	
	comp=N,172nm,0.2s						
LCO				IAML		01 31 18.9	
	comp=N,164nm,0.3s						
LCO	**Las Campanas**	**4.24**	**357**	*e*S	**Sn**	**01 31 01.5**	**-0.6**
LCO				IAML		01 31 14.8	
	comp=Z,188nm,0.2s						
ACLC	**CERRO LA CRUZ**	**4.86**	**39**	*e*P	**Pn**	**01 30 19.9**	**-2.0**
ACLC				IAML		01 31 41.8	
	comp=Z,23nm,0.4s						
VCA	**Vinchina**	**4.90**	**24**	IAML		01 31 23.1	
	comp=Z,60nm,0.5s						
GO03	**Copiapo**	**5.65**	**2**	Pn	**Pn**	**01 30 31.6**	**-1.1**
AC02	**Maricunga**	**6.50**	**11**	Pn	**Pn**	**01 30 44.4**	**-0.2**
AC01	**Pan de Azucar**	**7.09**	**359**	Pn	**Pn**	**01 30 47.9**	**-4.3**
PB05	**IPOC Station P**	**10.37**	**1**	Pn	**Pn**	**01 31 39.5**	**+2.5**
PB06	**IPOC Station P**	**10.54**	**4**	Pn	**Pn**	**01 31 40.0**	**+0.6**

ISK ***18*** *01:40:14.8, 37°.54N×26°.85E, h2km, ML2.6/17*
ATH ***18*** *01:40:14.5, 37°.54N×26°.92E, h15km±1km, ML2.7/4, Manual Solution by F.Xalaris First location: 2019/09/18 01:41:37, This location: 2019/09/18 05:21:11 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
THE ***18*** *01:40:16.1, 38°N±12°×27°E±1°1, h13km±13km, M2.6/6, MLh2.6/6*
AFAD ***18*** *01:40:16.1, 37°.60N×26°.92E, h8km±3km, ML2.4*

ISC 18 01:40:14.4±0.9, 37°.52N±0°.02×26°.88E±0°.02, h16km±6km, n42, σ0s68/63, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.20**	**349**	P	**Pg**	**01 40 19.2**	**+0.1**
SMG				S	**Sg**	**01 40 22.5**	**+0.1**
SMG	**Samos**	**0.20**	**349**	P	**Pg**	**01 40 19.0**	**-0.1**
SMG				S	**Sg**	**01 40 22.1**	**-0.3**
DDIM	**Aydin, Didim**	**0.29**	**102**	P	**Pb**	**01 40 22.2**	**+1.0**
DDIM				S	**Sb**	**01 40 26.3**	**+0.5**
DDIM				*i* IAML		01 40 28.0	
	comp=E,254nm,0.4s						
KRL1	**Karlovasi Samo**	**0.31**	**333**	P	**Pg**	**01 40 21.1**	**0.0**
KRL1				S	**Sg**	**01 40 25.4**	**-0.1**
DIDI	**Didim-Aydin**	**0.32**	**116**	Pg	**Pb**	**01 40 22.8**	**+1.1**
DIDI				Sg	**Sn**	**01 40 28.4**	**-2.2**
GCAM	**G?zelcaml?**	**0.33**	**56**	Pg	**Pb**	**01 40 22.6**	**+0.6**
GCAM				Sg	**Sb**	**01 40 28.1**	**+1.0**
GCAM	**G?zelcaml?**	**0.33**	**56**	P	**Pb**	**01 40 22.1**	**+0.1**
GCAM				S	**Sb**	**01 40 27.9**	**+0.8**
GCAM				*i* IAML		01 40 28.0	
	comp=N,885nm,0.2s						
YKAV	**Yalikavak-Bodr**	**0.50**	**141**

DION	Dionisos Attik	2.40	284	P	Pn	01 40 53.0 -0.1
KSL	Kastellorizon	2.56	121	P	Pb	01 40 58.1 -1.8

*THE **18** 01:40:31.5, 36°N±15°×2°7E±1°2, h3km±13km, M2.9/5, MLh2.9/5*

ATH 18 01:40:31.1, 36°02N×27°27E, h11km±2km, ML3.1/3, Manual Solution by A.Papageorgiou First location: 2019/09/18 01:42:53, This location: 2019/09/18 05:36:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.47	191	P	Pg	01 40 40.5	+0.1
KARP				S	Sg	01 40 47.5	+0.8
KARP	Karpathos	0.47	191	P	Pg	01 40 40.5	+0.1
KARP				S	Sg	01 40 47.1	+0.4
RGE1	Gennadi, Rhode	0.54	89	P	Pg	01 40 41.6	0.0
RGE1				S	Sg	01 40 48.9	+0.3
YAZI	Mula-Datşa- comp=E,399nm,0.3s	0.68	12	*i* IAML		01 40 58.0	
YAZI	Mula-Datşa-	0.68	12	P	Pn	01 40 46.0	-0.7
YAZI	Mula-Datşa-	0.68	12	S	Sb	01 40 54.5	+0.1
ARG	Arkhangelos	0.72	74	Pn	Pb	01 40 45.4	-0.3
ARG	Arkhangelos	0.72	74	P	Pg	01 40 45.3	+0.3
ARG				S	Sb	01 40 55.6	0.0
ARG	Arkhangelos	0.72	74	P	Pg	01 40 44.8	-0.3
ARG				S	Sg	01 40 54.3	-0.2
RODB	Rodos	0.88	60	P	Pg	01 40 48.2	+0.1
RODB				S	Sb	01 41 00.5	+0.3
ASTA	Astypalaia	0.91	306	P	Pg	01 40 48.6	-0.1
ASTA				S	Sb	01 41 01.0	0.0
TURN	Turunc comp=E,324nm,0.3s	1.09	46	*i* IAML		01 41 10.0	
TURN	Turunc	1.09	46	P	Pn	01 40 52.2	-0.1
TURN	Turunc	1.09	46	S	Sb	01 41 05.9	-0.4
TURN	Turunc comp=N,306nm,0.6s	1.09	46	*i* IAML		01 41 09.0	
ZKR	Zakros	1.24	224	P	Pb	01 40 54.7	+0.1
ZKR	Zakros	1.24	224	P	Pn	01 40 54.2	-0.2
ZKR				S	Sn	01 41 11.2	+0.1
SIT2	Siteia	1.25	230	P	Pb	01 40 54.6	0.0
SIT2				S	Sg	01 41 11.7	+0.5
NPS	Neapolis	1.54	241	P	Pn	01 40 58.3	-0.2
KSL	Kastellorizon	1.88	85	P	Pb	01 41 04.9	-0.5
KSL				S	Sb	01 41 29.4	+0.5
IDI	Anoyia	2.07	250	P	Pn	01 41 06.4	+0.5
IDI				S	Sb	01 41 33.2	-1.3

*NEIC **18** 01:42:20.8±1.1, 17°.95S±0°.08×172°.1W±0°.1, h10km±2km, mb4.6/19, Error ellipse: s-maj=23.6km s-min=4.3km az=56.0*

*IDC **18** 01:42:21.6±0.7, 18°.56S×172°.26W, h0km, mb4.0/9, mbtmp4.2/10, ML3.7/1, MS3.4/6, Error ellipse: s-maj=33.9km s-min=18.9km az=160.0*

ISC 18 01:42:21.3±0.6, 18°08S±0°.09×172°21W±0°.08, h10km, n53, σ1§31/36, mb4.5/17, MS3.3/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	2.38	115	Pn	Pn	01 42 58.7	-1.7
AFI	Afiamalu	4.17	6	Pn	Pn	01 43 22.7	-2.4
RAR	Rarotonga	12.12	107	Pn	Pn	01 45 11.7	-2.5
RAR	Rarotonga comp=4.3nm,0.3s,baz=267,slow=8.9,SNR=6.6	12.12	107	Pn	Pn	01 45 12.9	-1.3
RAR				LR	LR	01 48 35.7	
PINNC	Pines Island, comp=E,179nm,18.4s,baz=222,slow=31	19.60	253	P	P	01 46 50.2	+0.3
PINNC	38nm,0.7s			IAmb	IAmb	01 46 52.8	
DZM	comp=E,25nm,0.8s Mont Dzumac	20.44	255	P	P	01 46 59.6	+0.4
DZM	Mont Dzumac comp=E,7.6nm,0.6s,baz=73,slow=18,SNR=9.5	20.44	255	P	P	01 46 59.6	+0.4
DZM				LR	LR	01 53 24.9	
PPT	comp=E,148nm,20.0s,baz=22,slow=33 Papeete	21.55	92	LR	LR	01 53 09.3	
TOZ	comp=E,7.6nm,0.6s comp=E,87nm,19.9s,baz=276,slow=30 Tahuroa Road	22.35	206	P	P	01 47 19.2	-0.2
RTZ	Ruatahuna	22.53	203	P	P	01 47 21.8	+0.3
RTZ	comp=E,40nm,1.5s			IAmb	IAmb	01 47 27.8	
BKZ	Black Stump Fm	23.19	203	P	P	01 47 27.6	-0.8
BKZ	comp=E,24nm,1.2s			IAmb	IAmb	01 47 44.8	
MRZ	Mangatainoka R	24.84	203	P	P	01 47 44.9	+1.0
MRZ	comp=E,28nm,1.3s			IAmb	IAmb	01 48 11.8	
TUWZ	Tuamarina	26.12	204	P	P	01 47 55.8	+0.3
HNR	Honiara comp=E,50nm,19.0s,baz=9.0,slow=33	28.35	284	LR	LR	01 57 48.3	
ARMA	Armidale	35.04	243	P	P	01 49 14.5	-0.1
ARMA	comp=E,12nm,1.1s			IAmb	IAmb	01 49 14.9	
CTAO	Charters Tower	39.24	260	P	P	01 49 49.4	-0.9
CTAO	comp=E,8.4nm,0.7s			IAmb	IAmb	01 49 52.2	
H11S2	WAKE ISLAND Hy baz=147,slow=75,SNR=6.1	41.84	329	T	T	02 35 56.7	
H11S3	WAKE ISLAND Hy baz=147,slow=75,SNR=5.2	41.85	329	T	T	02 36 01.1	
H11S1	WAKE ISLAND Hy baz=147,slow=75,SNR=3.6	41.86	329	T	T	02 35 58.3	
H11N3	WAKE ISLAND Hy baz=154	42.80	330	T	T	02 36 40.7	
H11N1	WAKE ISLAND Hy baz=154	42.80	330	T	T	02 36 37.2	
H11N2	WAKE ISLAND Hy baz=154	42.81	330	T	T	02 36 41.7	
STKA	Stephens Creek	43.76	243	P	P	01 50 27.4	+0.1
STKA	Stephens Creek comp=E,2.9nm,0.8s,baz=57,slow=8.9,SNR=4.5 comp=E,2.9nm,0.8s	43.76	243	P	P	01 50 25.2	-2.0
BBOO	Buckleboo	48.51	242	P	P	01 51 04.1	-0.6
BBOO	comp=E,9.5nm,1.1s			IAmb	IAmb	01 51 07.2	
WR8	Warramunga Arr	50.25	259	P	P	01 51 17.2	-0.9
WR8	comp=E,3.6nm,0.8s			IAmb	IAmb	01 51 29.7	
WB0	Warramunga Arr	50.37	259	P	P	01 51 18.5	-0.6
WRA	Warramunga Arr	50.40	259	P	P	01 51 18.6	-0.7
WRA	Warramunga Arr comp=E,6.1nm,0.7s,baz=94,slow=8.5,SNR=54 comp=E,6.1nm,0.7s	50.40	259	P	P	01 51 18.9	-0.4
AS31	Alice Springs	50.42	254	P	P	01 51 19.6	+0.1
AS31	comp=E,4.7nm,0.8s			IAmb	IAmb	01 51 21.7	
ASAR	Alice Springs	50.42	254	P	P	01 51 19.6	+0.1
ASAR	Alice Springs comp=E,16nm,0.7s,baz=86,slow=8.6,SNR=107 comp=E,16nm,0.7s	50.42	254	P	P	01 51 19.8	+0.3
MTN	Manton Dam	54.69	267	P	P	01 51 51.0	-0.2
FORT	Forrest	55.27	245	P	P	01 51 53.0	-2.2
FORT	comp=E,6.1nm,0.9s			IAmb	IAmb	01 52 04.1	
KNRA	Kununurra	56.34	263	P	P	01 52 03.7	+0.7
FITZ	Fitzroy Crossi	58.81	259	P	P	01 52 21.3	+0.9
QSPA	South Pole Qui	71.98	180	P	P	01 53 47.9	+2.8
QSPA	comp=E,4.9nm,1.4s			IAmb	IAmb	01 53 49.0	
QSPA	South Pole Qui comp=E,1.2nm,1.0s,baz=45,slow=2.9,SNR=1.9 comp=E,1.2nm,1.0s	71.98	180	P	P	01 53 45.4	+0.3
NVAR	Mina Array Bea comp=E,2.0,2nm,0.7s,baz=251,slow=5.7,SNR=1.9 comp=E,2.0,2nm,0.7s	75.57	41	P	P	01 54 09.7	+3.1
TXAR	Lajitas Array comp=E,2.0,2nm,0.8s,baz=234,slow=5.0,SNR=2.0 comp=E,2.0,2nm,0.8s	81.17	55	P	P	01 54 40.4	+2.7
NEW	Newport comp=E,25nm,18.8s,baz=230,slow=33	82.28	34	LR	LR	02 27 47.6	
H03S2	Juan Fernandez baz=250,slow=75,SNR=5.3	82.78	123	T	T	03 25 40.4	
H03S1	Juan Fernandez baz=250,slow=75,SNR=5.2	82.79	123	T	T	03 25 37.9	
H03S3	Juan Fernandez baz=250,slow=75,SNR=4.1	82.80	123	T	T	03 25 41.2	
H03N2	Juan Fernandez baz=249	82.89	123	T	T	03 25 43.8	
H03N3	Juan Fernandez baz=249	82.89	123	T	T	03 25 45.5	
H03N1	Juan Fernandez baz=249	82.91	123	T	T	03 25 44.9	
PDAR	Pinedale Array comp=Z,0.6nm,0.7s,baz=215,slow=1.8,SNR=4.8 comp=Z,0.6nm,0.7s	83.50	41	P	P	01 54 53.8	+4.0
CMIG	Matias Romero comp=E,23nm,19.7s,baz=182,slow=32	83.71	70	LR	LR	02 26 58.1	
SNAA	Sanae comp=Z,0.6nm,0.8s,baz=231,slow=6.5,SNR=5.3 comp=Z,0.6nm,0.8s	90.18	177	P	P	01 55 21.9	+0.2
BRTR	Keskin Array B comp=Z,1.9nm,0.8s,baz=122,slow=1.8,SNR=12	148.94	319	PKPbc	PKPab	02 02 13.7	-0.2
GERES	GERESS Array B comp=Z,0.4nm,0.6s,baz=339,slow=5.2,SNR=4.5	148.94	352	PKPbc	PKPab	02 02 13.6	0.0
TORD	Torodi Ar. Bea comp=Z,0.7nm,1.0s,baz=242,slow=3.1,SNR=2.9	172.35	129	PKPab	PKPab	02 03 55.5	-0.2

*IDC **18** 01:53:33.9±1.3, 33°.43N×76°.00E, h0km, mb3.6/5, mbtmp3.6/8, ML3.3/3, Error ellipse: s-maj=35.6km s-min=22.8km az=61.0*

ISC 18 01:53:37.9±1.1, 33°.5N±0°.1×76°.0E±0°.2, h26km, n8, σ1§11/8, mb3.5/4, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array 0.2nm,0.3s,baz=200,slow=11,SNR=7.1 0.4nm,0.3s	14.10	18	Pn	Pn	01 56 55.6	-0.3
KURBB	Kurchatov Arra 0.1nm,0.3s,baz=196,slow=9.5,SNR=2.4 0.5nm,0.2s	17.20	5	P	Pn	01 57 35.7	-0.5
BVAR	Borovoye Array 0.1nm,0.3s,baz=165,slow=12,SNR=12 3.4nm,0.7s	19.92	350	P	Pn	01 58 08.6	-0.6
ZALV	Zalesovo Beam 0.4nm,0.3s,baz=202,slow=6.2,SNR=2.8 0.4nm,0.3s	21.36	14	P	P	01 58 24.1	+1.1
CMAR	Chiang Mai Arr 0.7nm,0.3s,baz=305,slow=8.7,SNR=4.0 0.7nm,0.3s	25.40	120	P	P	01 59 01.7	-1.6
FINES	FINESS Array B 3.6nm,0.9s,baz=116,slow=8.7,SNR=5.7 3.6nm,0.9s	42.24	327	P	P	02 01 28.6	0.0
TORD	Torodi Ar. Bea 0.2nm,0.7s,baz=55,slow=4.8,SNR=2.2 0.2nm,0.7s	69.88	273	P	P	02 04 46.7	-0.2
WRA	Warramunga Arr 0.2nm,0.7s,baz=316,slow=5.8,SNR=1.4 0.2nm,0.7s	76.91	125	P	P	02 05 29.4	+1.3

*IDC **18** 01:58:16.3±1.0, 2°.48N×95°.72E, h0km, mb4.0/9, mbtmp4.1/12, ML3.4/2, MS3.0/2, Error ellipse: s-maj=26.1km s-min=18.5km az=58.0*

*DJA **18** 01:58:20.4±0.9, 2°N±4°×9°6E±°, h22km±4km, M3.8/6, MLv3.8/6*

ISC 18 01:58:20.1±0.9, 2°46N±0°.06×95°78E±0°.07, h25km, n28, σ0§85/21, mb4.1/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.55	95	P	Pb	01 58 31.4	+0.2
SNSI				S	Sb	01 58 38.8	0.0
MLSI	Meulaboh, Aceh	1.90	19	P	Pn	01 58 51.6	+0.6
MLSI				S	Sn	01 59 15.4	+1.3
GSI	Gunungsitoli	2.13	122	P	Pn	01 58 54.7	+0.6
GSI				S	Sn	01 59 18.5	-1.4
KCSI	Kotacane, Aceh	2.26	62	P	Pn	01 58 56.1	+0.3
KCSI				S	Sn	01 59 22.4	-0.5
PSI	Prapat 2.4nm,0.3s,baz=296,slow=7.7,SNR=8.6	3.16	84	Pn	Pn	01 59 09.0	+0.5
PSI	2.3nm,0.3s,baz=301,slow=21,SNR=3.9			Sn	Sn	01 59 44.2	-1.3
PSI				LR	LR	02 00 18.2	
LEM	comp=Z,114nm,18.5s,baz=270,slow=38 6.6nm,0.3s Lembang 15nm,0.4s,baz=305,slow=19,SNR=1.9	14.99	128	Pn	Pn	02 01 52.6	+1.9
LEM				LR	LR	02 07 31.9	
CMAR	comp=Z,114nm,18.6s,baz=291,slow=37 Chiang Mai Arr 0.1nm,0.3s,baz=200,slow=11,SNR=10 1.4nm,0.4s	16.20	11	Pn	Pn	02 02 05.4	-0.8
H08S2	Diego Garcia H baz=67,slow=75,SNR=92	25.30	246	T	T	02 29 55.0	
H08S3	Diego Garcia H baz=67,slow=75,SNR=172	25.30	246	T	T	02 30 01.5	
H08S1	Diego Carcia H baz=67,slow=75,SNR=32	25.32	246	T	T	02 30 05.3	
LZDM	Lanzhou Array 0.7nm,0.3s,baz=128,slow=6.1,SNR=1.6 0.7nm,0.3s	34.13	11	P	P	02 05 02.2	-1.2
H01W3	Cape Leeuwin H baz=333,slow=76,SNR=71	40.95	157	T	T	02 49 39.2	
H01W2	Cape Leeuwin H baz=333,slow=76,SNR=87	40.96	157	T	T	02 49 38.0	
H01W1	Cape Leeuwin H baz=333,slow=76,SNR=71	40.97	157	T	T	02 49 42.3	
WRA	Warramunga Arr 0.4nm,0.6s,baz=298,slow=9.5,SNR=6.0 0.4nm,0.6s	43.91	122	P	P	02 06 25.3	+0.1
ASAR	Alice Springs 0.3nm,0.3s,baz=311,slow=9.4,SNR=2.2 0.3nm,0.3s	45.29	127	P	P	02 06 36.2	0.0
MKAR	Makanchi Array 1.4nm,0.5s,baz=162,slow=8.2,SNR=13 1.4nm,0.5s	45.70	347	P	P	02 06 39.0	0.0
SONM	Songino Array 1.3nm,0.6s,baz=188,slow=8.7,SNR=5.4 1.3nm,0.6s	46.12	10	P	P	02 06 42.1	-0.4
KURBB	Kurchatov Arra 2.2nm,0.2s,baz=166,slow=6.7,SNR=4.6 2.2nm,0.2s	50.16	346	P	P	02 07 14.0	+0.5
ZALV	Zalesovo Beam 1.3nm,0.5s,baz=170,slow=9.0,SNR=6.7 1.3nm,0.5s	52.11	352	P	P	02 07 27.5	-0.5
OPO	Ambohidratompo 1.2nm,0.2s,baz=72,slow=20,SNR=10 1.2nm,0.2s	52.16	244	P	P	02 07 28.9	-0.3
BVAR	Borovoye Array 1.4nm,0.6s,baz=155,slow=11,SNR=5.5 1.4nm,0.6s	54.61	341	P	P	02 07 46.2	-0.2
H04N2	CROZET ISLANDS baz=52,slow=75,SNR=307	62.02	213	T	T	03 16 08.5	
H04N1	CROZET ISLANDS baz=52,slow=75,SNR=319	62.03	213	T	T	03 16 04.4	
H04N3	CROZET ISLANDS baz=52,slow=75,SNR=303	62.04	213	T	T	03 16 05.3	
H04S1	CROZET ISLANDS baz=50,slow=75,SNR=65	62.39	212	T	T	03 16 37.0	
H04S3	CROZET ISLANDS baz=50,slow=75,SNR=125	62.40	212	T	T	03 16 36.6	
H04S2	CROZET ISLANDS baz=50,slow=75,SNR=80	62.40	212	T	T	03 16 31.4	

*NOU **18** 02:04:35.3, 17°.48S×167°.88E, h11km, MLv4.3/13, Vanuatu Islands*

*IDC **18** 02:04:36.7±14.0, 17°.62S×167°.22E, h0km, mb3.7/3, mbtmp3.7/4, ML3.5/1, MS3.5/1, Error ellipse: s-maj=240.2km s-min=39.2km az=69.0*

ISC 18 02:04:34.0±0.9, 17°48S±0°.06×167°72E±0°.07, h10km, n11, σ1§34/12, mb3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	0.51	119	P	Pg	02 04 44.0	0.0
DVP	Devils Point	0.51	119	S	Sg	02 04 50.9	+0.2
SANVU	Saraoutou	2.08	346	P	Pb	02 05 11.4	-0.5
SANVU	Saraoutou	2.08	346	S	Sb	02 05 37.9	+0.1
INH	Isangel	2.53	145	P	Pn	02 05 15.4	+0.2
DZM	Mont Dzumac 2.2nm,0.3s,baz=44,slow=18,SNR=16	4.72	194	Pn	Pn	02 05 45.9	+0.5
DZM				Sn	Sn	02 06 37.6	-2.7
DZM	2.9nm,0.3s,baz=338,slow=19,SNR=12 6.5nm,0.4s Mont Dzumac	4.72	194	P	Pn	02 05 46.6	+1.2
OUENC	Ouen Island, N	4.98	189	P	Pn	02 05 50.8	+1.9
STKA	Stephens Creek 0.8nm,0.3s,baz=49,slow=11,SNR=1.5 0.8nm,0.3s	27.63	234	P	P	02 10 23.2	+1.3
WRA	Warramunga Arr 0.4nm,0.8s,baz=88,slow=8.7,SNR=5.0 0.4nm,0.8s	31.68	260	P	P	02 10 56.7	-1.3
ASAR	Alice Springs 0.8nm,0.6s,baz=82,slow=8.5,SNR=8.5	32.20	253	P	P	02 11 02.8	+0.3
ASAR	comp=Z,90nm,19.2s,baz=129,slow=35 0.8nm,0.6s			LR	LR	02 23 05.4	

*IDC **18** 02:06:57.3±1.3, 13°.06N×145°.80E, h0km, mb3.7/6, mbtmp3.7/6, MS3.3/3, Error ellipse: s-maj=30.7km s-min=20.3km az=57.0*

ISC 18 02:07:02.6±1.1, 13°0N±0°.2×145°8E±0°.2, h35km, n9, σ0§63/8, mb3.6/6, MS3.3/3, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam 54nm,0.3s,baz=149,slow=9.5,SNR=31	1.02	302	Pn	Pn	02 07 20.1	-0.4
GUMO				Sn	Sn	02 07 33.6	+0.1
WRA	86nm,0.3s,baz=209,slow=19,SNR=8.7 Warramunga Arr 0.4nm,0.6s,baz=19,slow=9.0,SNR=7.8 0.4nm,0.6s	34.65	199	P	P	02 13 48.6	-0.2
ASAR	Alice Springs 0.2nm,0.5s,baz=8.8,slow=7.1,SNR=1.9 0.2nm,0.5s	38.28	198	P	P	02 14 20.0	+0.2
CMAR	Chiang Mai Arr 0.8nm,0.3s,baz=85,slow=8.0,SNR=1.6	45.28	283	P	P	02 15 16.8	-0.4
CMAR				LR	LR	02 35 11.8	
SONM	comp=Z,12nm,18.1s,baz=205,slow=37 0.8nm,0.3s Songino Array comp=Z,34nm,19.1s,baz=134,slow=36	47.68	325	LR	LR	02 35 51.1	
RAO	Raoul Island comp=Z,68nm,19.2s,baz=262,slow=35	54.75	141	LR	LR	02 38 36.0	
MKAR	Makanchi Array 0.3nm,0.6s,baz=97,slow=7.7,SNR=2.1 0.3nm,0.6s	62.48	316	P	P	02 17 23.6	+1.0
ILAR	Eielson Array 0.3nm,0.6s,baz=259,slow=5.7,SNR=3.2 0.3nm,0.6s	68.69	25	P	P	02 18 01.7	-0.6
FINES	FINESS Array B 2.3nm,0.9s,baz=350,slow=5.6,SNR=1.8 2.3nm,0.9s	92.02	335	P	P	02 20 08.1	+0.4

*JMA **18** 02:19:03.8±0.2, 30°.0N±2°×13°9E±°, h469km, MV3.7/18, NEAR TORISHIMA IS*

*IDC **18** 02:19:06.6±2.4, 30°.47N×138°.71E, h438km±29km, mb3.2/8, mbtmp4.0/9, Error ellipse: s-maj=39.2km s-min=13.8km az=74.0*

ISC 18 02:19:06.0±0.8, 30°44N±0°.08×139°01E±0°.10, h450km, n21, σ1§34/24, mb3.5/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	2.71	14	*e*P	P	02 20 10.8	0.0
JHJ2	Mitsune	2.75	14	P	P	02 20 12.0	+1.0
JMKN	Mikurajimanish	3.47	8	*e*P	P	02 20 17.1	+0.6
TK02	Tokai 2	3.65	343	P	P	02 20 19.4	+1.7
CBIJ	Chichi jima	4.35	139	P	P	02 20 23.9	-0.4
CBIJ				*e*S	S	02 21 25.4	-2.6
JTNC	Tanabenakahech	4.43	320	*e*P	P	02 20 26.8	+1.9
BSO1	Boso 1	4.52	21	*e*P	P	02 20 26.1	+1.1
BSO1				*e*S	S	02 21 29.8	+0.2
JOD2	Odawara 2	4.81	1	P	P	02 20 28.4	0.0
JRY	Ryogami san	5.56	359	P	P	02 20 36.1	+0.4
JRY				*e*S	S	02 21 46.7	-2.4
JTO	Tosashimizu	5.81	296	*e*P	P	02 20 37.2	-1.1
MJAR	Matsushiro Arr 2.9nm,0.3s,baz=174,slow=12,SNR=6.0	6.12	354	P	P	02 20 41.0	-0.3
JSJ	Shimokoshiki	8.07	281	*e*P	P	02 21 00.5	-1.5
JMK	Ichinoseki	8.68	12	*e*S	S	02 22 47.2	-2.1
CMAR	Chiang Mai Arr 1.1nm,0.3s,baz=59,slow=6.8,SNR=5.5 1.1nm,0.3s	38.19	261	P	P	02 25 45.0	-0.8
MKAR	Makanchi Array 0.3nm,0.5s,baz=85,slow=9.7,SNR=3.5 0.3nm,0.5s	46.22	307	P	P	02 26 48.8	-0.2
KURBB	Kurchatov Arra 0.5nm,0.5s,baz=94,slow=7.6,SNR=5.2 0.5nm,0.5s	48.72	312	P	P	02 27 07.7	-0.2
WRA	Warramunga Arr 2.0nm,0.4s,baz=2.1,slow=7.7,SNR=49 2.0nm,0.4s	50.30	186	P	P	02 27 21.2	+1.4
BVAR	Borovoye Array 0.4nm,0.3s,baz=96,slow=8.5,SNR=2.5 0.4nm,0.3s	53.70	316	P	P	02 27 44.1	-0.1
ASAR	Alice Springs 0.9nm,0.5s,baz=17,slow=12,SNR=20 0.9nm,0.5s	54.02	186	P	P	02 27 48.3	+1.5
FINES	FINESS Array B 2.5nm,1.0s,baz=96,slow=5.7,SNR=3.9 2.5nm,1.0s	73.71	333	P	P	02 29 54.1	+1.6
HFS	Hagfors 4.3nm,1.0s,baz=55,slow=5.5,SNR=4.1 4.3nm,1.0s	79.25	335	P	P	02 30 23.5	+0.4

*UCR **18** 02:38:21.9±1.2, 8°.34N×82°.79W, h30km±3km, MW3.6*

*UPA **18** 02:38:22.2±0.7, 8°.38N×82°.80W, h30km±3km*

*CATAC **18** 02:38:22.3±0.6, 8°N±3°×8°3W±°, h16km±2km, M3.4/8, MLv3.4/8, Error ellipse: s-maj=7.4km s-min=4.9km az=159.4, confirmed*

ISC 18 02:38:22.3±1.0, 8°37N±0°.03×82°80W±0°.02, h32km±7km, n69, σ0§90/78, 6D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	La Esperanza,	0.04	12	*e*P	Pb	02 38 27.4	-0.3
ARIEL	Armuelles	0.10	213	*e*P	Pn	02 38 28.4	+0.6
LPPC	Paso Canoas	0.17	346	*e*P	Pb	02 38 28.1	-0.4
PTPM	Petroterminale	0.18	206	*e*P	Pb	02 38 28.4	-0.2
CDITO	Canoas	0.21	340	P	Pb	02 38 28.6	-0.3
CDITO	Canoas	0.21	340	S	Sn	02 38 33.9	+0.1
LMNES	Limones	0.28	193	||*i*P	Pb	02 38 29.3	-0.4
LMNES	Limones	0.28	193	*e*P	Pb	02 38 29.3	-0.4
BAGA3	Bagala, Chiriq	0.28	70	*e*P	Pn	02 38 29.9	-0.4
DMCAL	E. de Neily	0.30	1	*e*P	Pb	02 38 29.8	-0.2
NELY	Ciudad Neily	0.31	332	*e*P	Pb	02 38 29.7	-0.4
NELY				*e*S	Sn	02 38 36.1	-0.2
DVD	David	0.35	79	*e*P	Pb	02 38 30.4	-0.3
PEDE3	Pedregal, Chir	0.37	88	*e*P	Pb	02 38 30.5	-0.4
LOCO3	Loma Colorada,	0.38	84	*e*P	Pb	02 38 30.8	-0.3
JEFFS	S de V. Baru	0.39	41	*e*P	Pb	02 38 31.2	-0.1
LOMA3	Las Lomas, Chi	0.41	82	*e*P	Pb	02 38 31.1	-0.4
CLLRA	Cordillera,	0.41	26	||*i*P	Pb	02 38 31.4	-0.3
CLLRA				*e*S	Sb	02 38 37.7	-0.3
BRU2	Volcan	0.43	14	*e*P	Pb	02 38 31.6	-0.4
BRU2				*e*P	Pn	02 38 31.8	-0.8
BRU2				*e*S	Sn	02 38 39.2	-0.2
BRU2	Volcan	0.43	14	*e*P	Pb	02 38 31.5	-0.4
BRU2	Volcan	0.43	14	P	Pb	02 38 31.6	-0.4
FITO	Golfito	0.43	306	*e*P	Pb	02 38 30.5	-1.3
BANCO	falda S V. Bar	0.43	38	*e*P	Pb	02 38 31.7	-0.3
PTAR3	Potrerillos Ar	0.44	43	*e*P	Pb	02 38 31.9	-0.1
TBS2		0.44	18	*e*P	Pb	02 38 32.6	-0.1
RSRNO	Rio Sereno	0.45	352	*e*S	Sn	02 38 39.8	0.0
CGUAY	Guayabal, Coch	0.45	79	||*i*P	Pb	02 38 31.5	-0.6
CGUAY	Guayabal, Coch	0.45	79	*e*P	Pb	02 38 31.5	-0.6
EDAD	Golfito	0.46	307	*e*P	Pb	02 38 31.1	-1.2
EDAD				*e*S	Sb	02 38 38.6	-0.5
CHIR3	Chiriqui UPA,	0.46	87	*e*P	Pb	02 38 31.8	-0.5
VITO	San Vito	0.48	339	*e*P	Pn	02 38 32.6	-0.5
BC3P	Paso Ancho	0.48	23	*e*P	Pb	02 38 32.4	-0.3
BQTLY	Boquete Panama	0.51	41	||*i*P	Pb	02 38 32.6	-0.5
BQTLY				*e*S	Sn	02 38 40.6	-0.7
BQSF3	Alto Boquete,	0.52	44	*e*P	Pb	02 38 32.7	-0.5
PIRO	Carate, Puerto	0.53	274	*e*P	Pb	02 38 32.7	-0.8
PIRO	Carate, Puerto	0.53	274	*e*P	Pb	02 38 32.4	-1.0
PIRO	Carate, Puerto	0.53	274	S	Sb	02 38 40.9	-0.1
PIRO	Carate, Puerto	0.53	274	P	Pb	02 38 32.6	-0.8
LNBQ3	Los Naranjos,	0.55	40	*e*P	Pb	02 38 33.0	-0.7
DAP26	falda E V. Bar	0.56	42	*e*P	Pb	02 38 33.0	-0.9
PSOM3	Paja de Sombre	0.56	56	*e*P	Pb	02 38 33.2	-0.7
ALCO	Alturas Coton,	0.58	356	*e*P	Pb	02 38 33.2	-1.0
ALCO				*e*S	Sn	02 38 42.8	-0.2
RBALA	Bur	0.81	52	||*i*P	Pn	02 38 37.0	-0.7
RBALA				*e*S	Sn	02 38 48.4	-0.2
RBALA	Bur	0.81	52	*e*P	Pn	02 38 36.9	-0.7

DRK0	Durika	0.99	333	P		Pn	02 38 39.6	-0.7
DRK0	Durika	0.99	333	S		Sb	02 38 53.3	-0.6
KKNTU	Kakintº	1.08	65	⇓*i*P		Pn	02 38 40.5	-0.9
KKNTU	Kakintº	1.08	65	*e*P		Pn	02 38 40.5	-0.9
EDPE	Pejibaye, P	1.09	316	*e*P		Pn	02 38 41.4	-0.1
OCHAL	Ojochal	1.11	311	P		Pn	02 38 41.1	-0.5
OCHAL	Ojochal	1.11	311	S		Sn	02 38 56.2	+0.3
SAJE	San Jernim	1.20	324	*e*P		Pn	02 38 42.4	-0.7
CVEJO	Cerro Viej	1.21	95	*e*P		Pn	02 38 42.2	-0.9
RGM0	Gandoca	1.23	9	S		Sb	02 39 03.9	+3.5
CEUA	Cerro Uatsi, L	1.25	354	*e*P		Pb	02 38 45.8	+0.3
VERH	Veragua Rainfo	1.59	346	*e*P		Pn	02 38 49.3	+0.9
GMAL	Guarumal, Vera	1.66	111	*e*P		Pn	02 38 48.8	-0.5
QUEP	Quepos	1.71	308	S		Sb	02 39 13.3	-1.1
LCR2	La Lucha 2	1.81	319	P		Pn	02 38 52.6	+1.0
LCR2	La Lucha 2	1.81	319	S		Sb	02 39 16.3	-1.1
RESJ	San Isidro (Tu	1.85	333	*e*P		Pn	02 38 53.4	+1.5
ABRB	Las Abras (San	1.86	331	*e*P		Pn	02 38 53.6	+1.4
JTS	Las Juntas de	2.86	312	P		Pn	02 39 08.2	+2.5
JTS				S		Sn	02 39 40.8	+1.7
BCIP	Isla Barro Col	3.03	75	P		Pn	02 39 11.0	+2.9
INDI	Punta indio, G	3.06	299	P		Pn	02 39 09.1	+0.6
INDI	Punta indio, G	3.06	299	S		Sn	02 39 44.1	+0.1

IDC ***18*** *02:49:37.9±3.0, 11°.21S×163°.97E, h0km, mb4.1/5, mbtmp4.1/5, MS3.4/4, Error ellipse: s-maj=65.5km s-min=47.6km az=33.0*

NOU ***18*** *02:49:41.9, 11°.17S×164°.08E, h35km, MLv4.6/11, Santa Cruz Islands Region*

ISC 18 02:49:41.7±0.9, 11°.2S±0°.1×164°.08E±0°.05, h29km, n20, σ0s79/16, mb4.2/5, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUES	Luesalemba Tem	1.88	74	P		Pn	Pn	02 50 11.0	-0.9
LUES	Luesalemba Tem	1.88	74	S		Sn	Sn	02 50 34.6	-0.1
HURO	Huro Makira	2.26	289	P		Pn	Pn	02 50 16.2	-0.8
HURO	Huro Makira	2.26	289	S		Sn	Sn	02 50 42.5	-1.4
ALEG	Aligegeo Malai	4.12	306	P		Pn	Pn	02 50 42.0	-0.7
ALEG	Aligegeo Malai	4.12	306	S		Sn	Sn	02 51 30.7	+0.7
HNR	Honiara	4.43	293	LR		LR	LR	02 52 33.6	
	comp=Z,164nm,19.4s,baz=13,slow=40								
SAVO	Savo Central	4.66	296	P		Pn	Pn	02 50 51.1	+0.9
SAVO	Savo Central	4.66	296	S		Sn	Sn	02 51 44.2	+0.8
TATA	Tatamba Isabel	5.05	303	P		Pn	Pn	02 50 55.5	0.0
TATA	Tatamba Isabel	5.05	303	S		Sn	Sn	02 51 53.1	+0.1
SANVU	Saraoutou	5.21	145	P		Pn	Pn	02 50 58.3	+0.7
DZM	Mont Dzumac	11.05	168	LR		LR	LR	02 55 44.5	
	comp=Z,152nm,21.0s,baz=38,slow=33								
URZ	Urewera	29.36	159	LR		LR	LR	03 06 49.2	
	comp=Z,85nm,18.9s,baz=345,slow=35								
WRA	Warramunga Arr	29.89	249	P		P	P	02 55 46.7	-0.5
	3.0nm,0.6s,baz=79,slow=9.1,SNR=13								
	3.0nm,0.6s								
ASAR	Alice Springs	31.26	243	P		P	P	02 55 59.1	-0.2
	0.7nm,0.5s,baz=63,slow=9.9,SNR=9.1								
	0.7nm,0.5s								
FITZ	Fitzroy Crossi	37.76	255	P		P	P	02 56 54.7	-0.7
	4.4nm,0.7s,baz=92,slow=8.9,SNR=4.1								
	4.4nm,0.7s								
TGY	Tagaytay City	49.61	299	LR		LR	LR	03 21 03.1	
	comp=Z,98nm,18.5s,baz=38,slow=38								
CMAR	Chiang Mai Arr	70.67	294	P		P	P	03 00 56.1	+0.9
	0.7nm,0.3s,baz=122,slow=6.8,SNR=2.1								
	0.7nm,0.3s								
QSPA	South Pole Qui	78.81	180	P		P	P	03 01 42.2	+0.5
	0.3nm,0.3s,baz=72,slow=3.2,SNR=1.2								
	0.3nm,0.3s								

IDC 18 02:49:49.4±7.9, 7°.73S×129°.16E, h117km±85km, mb3.2/1, mbtmp3.7/5, ML3.6/4, MS3.5/1, Error ellipse: s-maj=73.1km s-min=26.1km az=30.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.96	245	P		Pn	Pn	02 51 15.7	+0.3
	5.5nm,0.3s,baz=64,slow=17,SNR=1.5								
BATI				S		Sn	Sn	02 52 23.3	+0.9
	22nm,0.4s,baz=18,slow=9.6,SNR=1.7								
	15nm,0.3s								
FITZ	Fitzroy Crossi	10.87	198	P		Pn	Pn	02 52 20.3	-1.3
	0.4nm,0.3s,baz=19,slow=11,SNR=24								
FITZ				S		Sn	Sn	02 54 15.2	-6.1
	3.9nm,0.3s,baz=36,slow=19,SNR=9.6								
	1.1nm,0.3s								
WRA	Warramunga Arr	13.14	158	P		Pn	Pn	02 52 50.9	-0.8
	0.3nm,0.3s,baz=336,slow=12,SNR=12								
WRA				S		Sn	Sn	02 55 11.2	-5.3
	2.0nm,0.6s,baz=329,slow=22,SNR=8.9								
	0.6nm,0.5s								
ASAR	Alice Springs	16.49	165	P		P	P	02 53 35.9	+1.4
	0.1nm,0.3s,baz=336,slow=10,SNR=6.0								
ASAR				S		Sn	Sn	02 56 34.1	-3.3
	0.3nm,0.4s,baz=321,slow=16,SNR=1.6								
	0.5nm,0.6s								
JOW	Kunigami	34.36	359	LR		LR	LR	03 12 12.9	
	comp=Z,78nm,18.7s,baz=188,slow=39								
MKAR	Makanchi Array	68.38	327	P		P	P	03 00 38.4	+0.1
	0.3nm,0.5s,baz=115,slow=6.5,SNR=2.5								
	0.3nm,0.5s								

NIED ***18*** *02:54:25.5, 44°.16N×148°.02E, h0km, MW5.0, Moment Tension Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr1.24; Mθθ-0.73; Mφφ-0.51; Mrθ1.64; Mθφ-1.01; Mφr2.37; Fault plane solution: M₀3.23000×10¹⁶ NP1: φs247.00000°, δ15.00000°, λ120.00000°. NP2: φs35.00000°, δ77.00000°, λ82.00000°.*

JMA ***18*** *02:54:25.5±0.3, 44°N±1°.1×14°.8E±°, h0km, MD5.3/38, MV6.0/38, SE OFF ETOROFU*

JMA Felt I J1 at SE OFF ETOROFU .

BJI ***18*** *02:54:25.0, 44°.46N×148°.28E, h68km, mB5.1/36, mb5.4/76, Ms4.5/65, Ms7 4.3/66*

BGR ***18*** *02:54:26.3, 44°.84N×148°.36E, h33km, mb5.2, Ms4.3*

SKHL ***18*** *02:54:26.3±0.5, 44°.40N×148°.40E, h65km±5km, mb6.1/11, mbv5.5/3*

MOS ***18*** *02:54:26.7±0.9, 44°.52N×148°.11E, h69km, mb5.5/63, MS4.5/15, Error ellipse: s-maj=6.0km s-min=4.3km az=109.4*

MOS Felt (IV-V) at Gornyy, Goryachiye Klyuchi, (IV) at Kuril'sk, Reydovo, (II) at Yuzhno-Kuril'sk, Goryachiy Plyazh, Malokuril'skoye.

IDC ***18*** *02:54:28.5±1.5, 44°.60N×148°.11E, h70km±12km, mb5.0/33, mbtmp5.2/39, MS4.1/63, Error ellipse: s-maj=10.7km s-min=8.2km az=136.0*

NEIC ***18*** *02:54:28.2±1.4, 44°.55N±0°.07×148°.1E±0°.1, h66km±4km, mb5.3/838, Mww5.0/17, Error ellipse: s-maj=12.2km s-min=9.5km az=125.0*

NEIC ***18*** *02:54:28.3, 44°.15N×148°.34E, h70km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10¹⁶Nm; Mrr2.88; Mθθ-0.97; Mφφ-1.91; Mrθ0.26; Mθφ-1.47; Mφr1.74; Fault plane solution: M₀3.42000×10¹⁶ NP1: φs229.38000°, δ32.46000°, λ113.08000°. NP2: φs22.59000°, δ60.41000°, λ76.00000°. Principal axes: T 3.4539, Plg71.0000°, Azm261.0000°; N -0.0716, Plg12.0000°, Azm30.0000°; P -3.3822, Plg14.0000°, Azm123.0000°;*

NEIC ***18*** *02:54:28.3, 44°.55N×148°.06E, h70km*

GCMT ***18*** *02:54:28.5±0.2, 44°.52N±0°.01×148°.31E±0°.02, h59km±1km, MW5.0/128, Moment Tensor Solution. s94,c125; s128,c201; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.92±.12; Mθθ-1.44±.09; Mφφ-2.48±.09; Mrθ0.31±.07; Mθφ-2.80±.07; Mφr1.91±.07; Best double couple: M₀4.80400×10¹⁶ NP1:φs235.00000°, δ37.00000°, λ115.00000°. NP2:φs26.00000°, δ57.00000°, λ73.00000°. Principal axes: T 4.4870, Plg72.0000°, Azm253.0000°; N 0.6340, Plg14.0000°, Azm35.0000°; P -5.1210, Plg11.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 02:54:27.3±0.3, 44°.48N±0°.03×148°.15E±0°.03, h63km±2km, h63km:pP-P, n1602, σ1s22/1320, mb5.3/605, 96C-45D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.78	345	*d*PN		Pn	Pn	02 54 41.2	-1.5
KUR				*i* S		Sn	Sn	02 54 52.8	-1.3
KUR				pmax	pmax				
	comp=Z,34μm,0.5s								
KUR				pmax	pmax				
	comp=N,12μm,0.8s								
KUR				pmax	pmax				
	comp=E,9μm,0.2s								
KUR				smax	smax				
	comp=E,154μm,0.4s								
KUR				smax	smax				
	comp=N,95μm,0.3s								
KUR				smax	smax				
	comp=E,284μm,1.5s								
KUR				smax	smax				
	comp=N,222μm,1.0s								
KUR	Kuril'sk	0.78	345	*i* P		Pn	Pn	02 54 42.3	-0.4
KUR				AMB	AMB			02 54 42.9	
	comp=N,56μm,0.5s								
KUR				*i* S		Sn	Sn	02 54 53.9	-0.2
KUR				A	A			02 54 54.3	
	comp=N,132μm,0.4s								
KUR				A	A			02 54 54.3	
	comp=N,208μm,0.4s								
KUR				A	A			02 54 57.1	
	comp=N,222μm,2.0s								
KUR				A	A			02 54 57.1	
	comp=N,284μm,2.0s								
SHO	Shikotan	1.13	238	*i* P		Pn	Pn	02 54 50.3	+3.2
SHO				AMB	AMB			02 54 51.0	
	comp=N,5μm,0.4s								
SHO				*i* S		Sn	Sn	02 55 03.8	+1.9
SHO				A	A			02 55 04.7	
	comp=N,28μm,0.3s								
SHO				A	A			02 55 04.7	
	comp=N,53μm,0.3s								
YUK	Yuzh-Kuril'sk	1.70	256	*d i*PN		Pn	Pn	02 54 54.6	-0.2
YUK				*e*S		Sn	Sn	02 55 16.6	+1.0
YUK				pmax	pmax				
	comp=Z,13μm,0.3s								
YUK				pmax	pmax				
	comp=N,4μm,0.2s								
YUK				pmax	pmax				
	comp=E,3μm,0.1s								
YUK				smax	smax				
	comp=E,51μm,0.6s								
YUK				smax	smax				
	comp=N,18μm,0.2s								
YUK	Yuzh-Kuril'sk	1.70	256	*e*P		Pn	Pn	02 54 54.6	-0.2
YUK				AMB	AMB			02 54 56.3	
	comp=N,17μm,0.4s								
YUK				*e*S		Sn	Sn	02 55 16.0	+0.4
YUK				A	A			02 55 19.8	
	comp=N,18μm,0.4s								
YUK				A	A			02 55 19.8	
	comp=N,51μm,0.4s								
NMR	Nemuro--Hokkai	2.07	238	⇓*i*PN		Pn	Pn	02 54 58.4	-1.4
NMR				*i* S		Sn	Sn	02 55 22.2	-2.3
NMR	Nemuro--Hokkai	2.07	238	*i* P		Pn	Pn	02 54 58.4	-1.4
NMR				*i* S		Sn	Sn	02 55 22.2	-2.3
RUSJ	Misakicho	2.12	261	⇓*i*PN		Pn	Pn	02 55 01.1	+0.7
RUSJ				*i* S		Sn	Sn	02 55 28.5	+2.9
JRA	Rausu	2.24	257	P		Pn	Pn	02 55 02.9	+0.8
JRA				*e*S		Sn	Sn	02 55 29.8	+1.1
JRA	Rausu	2.24	257	A		A	A	02 55 02.9	
	comp=N,44nm,1.4s,comp=E,30nm,1.2s								
JNSB	Nemuroshibetsu	2.37	254	P		Pn	Pn	02 55 04.5	+0.6
JNSB				*e*S		Sn	Sn	02 55 32.4	+0.6
JNSB	Nemuroshibetsu	2.37	254	A		A	A	02 55 04.5	
	comp=N,49nm,3.2s,comp=E,50nm,1.2s								
JKHN	Kushirohamanak	2.58	238	P		Pn	Pn	02 55 05.8	-0.8
JKHN				*e*S		Sn	Sn	02 55 35.0	-1.8
JKHN	Kushirohamanak	2.58	238	A		A	A	02 55 05.8	
	comp=N,25nm,0.6s,comp=E,22nm,1.3s								
JNK	Nakash	2.63	251	P		Pn	Pn	02 55 07.8	+0.4
JNK				*e*S		Sn	Sn	02 55 38.1	0.0
JNK	Nakash	2.63	251	A		A	A	02 55 07.8	
	comp=N,15nm,0.6s,comp=E,16nm,1.0s								
AKK	Akkeshi	2.81	240	*i* P		Pn	Pn	02 55 08.6	-1.2
JAK	Akkeshi	2.91	241	P		Pn	Pn	02 55 10.4	-0.7
JAK				*e*S		Sn	Sn	02 55 42.4	-2.5
JAK	Akkeshi	2.91	241	A		A	A	02 55 10.4	
	comp=N,22nm,1.2s,comp=E,28nm,1.1s								
JTKR	Abashiri--Toko	3.09	262	P		Pn	Pn	02 55 14.5	+0.9
JAR	Ashorobuto	3.38	251	P		Pn	Pn	02 55 18.7	+1.1
JAR				*e*S		Sn	Sn	02 55 57.6	+1.2
JAR	Ashorobuto	3.38	251	A		A	A	02 55 18.7	
	comp=N,17nm,0.7s,comp=E,29nm,0.7s								
JOB	Onbets	3.50	245	P		Pn	Pn	02 55 19.6	+0.3
JOB				*e*S		Sn	Sn	02 55 58.6	-0.9
JOB	Onbets	3.50	245	A		A	A	02 55 19.6	
	comp=N,20nm,2.3s,comp=E,22nm,1.6s								
JKK2	Kamakawa 2	3.93	263	P		Pn	Pn	02 55 26.8	+1.6
JCH	Churui	3.95	243	*e*P		Pn	Pn	02 55 24.6	-0.8
JCH				*e*S		Sn	Sn	02 56 10.1	-0.3
JCH	Churui	3.95	243	A		A	A	02 55 24.6	
	comp=N,48nm,0.8s,comp=E,21nm,0.6s								
JSE	Soyaes	4.00	279	P		Pn	Pn	02 55 27.5	+1.5
JKA	Kamikawa-asahi	4.00	267			Pn	Pn	02 55 27.6	+1.5
ASAJ	Asahikawa	4.00	267	P		Pn	Pn	02 55 28.0	+1.9
	comp=E,318nm,0.5s,baz=113,slow=15,SNR=98								
ASAJ				S		Sn	Sn	02 56 13.4	+1.7
	comp=E,512nm,0.6s,baz=104,slow=22,SNR=3.6								
ASAJ				LR		LR	LR	02 57 09.3	
	comp=E,5μm,21.6s,baz=140,slow=40								
JTHR	Tokachihiroo	4.16	240	A		A	A	02 55 28.7	
	comp=N,18nm,1.7s,comp=E,22nm,2.4s								
JFR	Furan	4.23	254	A		A	A	02 55 30.7	
	comp=N,7.0nm,0.7s,comp=E,7.0nm,0.7s								
ERM	Erimo	4.40	238	Pn		Pn	Pn	02 55 32.6	+1.1
ERM	Erimo	4.40	238	P		Pn	Pn	02 55 32.4	+0.9
ERM	Erimo	4.40	238	PN		Pn	Pn	02 55 32.6	+1.1
JEM	Erimo	4.40	238	P		Pn	Pn	02 55 33.8	+2.3
JEM	Erimo	4.40	238	A		A	A	02 55 32.0	
	comp=N,25nm,1.1s,comp=E,20nm,2.7s								
JNBK	Urakawa-nobuka	4.50	243	*e*P		Pn	Pn	02 55 32.7	-0.3
JNBK	Urakawa-nobuka	4.50	243	A		A	A	02 55 32.7	
	comp=N,46nm,1.0s,comp=E,78nm,1.2s								
JSS	Shosan	4.51	271	*e*P		Pn	Pn	02 55 36.2	+3.1
YSS	Yuzhno-Sakhali	4.52	305	Pn		Pn	Pn	02 55 34.2	+1.1
YSS	Yuzhno-Sakhali	4.52	305	P		Pn	Pn	02 55 34.7	+1.6
YSS	Yuzhno-Sakhali	4.52	305	S		Sn	Sn	02 56 29.5	+5.2
YSS	Yuzhno-Sakhali	4.52	305	*c i*PN		Pn	Pn	02 55 34.4	+1.3
YSS				*e*S		Sn	Sn	02 56 25.9	+1.6
YSS				pmax	pmax				
	comp=Z,1μm,0.7s								
YSS				pmax	pmax				
	comp=Z,900nm,2.9s								
YSS				smax	smax				
	comp=N,710nm,0.7s								
YSS				smax	smax				
	comp=E,750nm,0.9s								
YSS				MLR	MLR				
	comp=Z,4μm,18.0s								
YSS				MLR	MLR				
	comp=E,3μm,18.0s								
YSS	Yuzhno-Sakhali	4.52	305	*e*P		Pn	Pn	02 55 34.8	+1.6
YSS				AMB	AMB			02 55 34.9	
	comp=E,1μm,0.4s								
YSS				AMB	AMB			02 55 35.9	
	comp=E,900nm,3.0s								
YSS				*e*S		Sn	Sn	02 56 28.1	+3.8
JWK2	Keihoku	4.52	283	P		Pn	Pn	02 55 36.1	+2.9
JBT2	Biratori 2	4.53	250	A		A	A	02 55 34.6	
	comp=N,8.0nm,3.7s,comp=E,5.0nm,1.2s								
JSHD	Hidakashinhida	4.62	245	A		A	A	02 55 35.6	
	comp=N,34nm,2.1s,comp=E,48nm,1.1s								
JHR	Hokuryu	4.68	263	P		Pn	Pn	02 55 38.5	+3.1
JIAM	Iburiatsuma	4.89	250	A		A	A	02 55 39.7	
	comp=N,28nm,1.2s,comp=E,20nm,0.7s								
JISS	Ishikarishitsu	5.01	258	A		A	A	02 55 42.0	
	comp=N,13nm,1.8s,comp=E,27nm,3.8s								
JRBN	Rebuntou	5.12	283	*e*P		Pn	Pn	02 55 43.2	+1.9
JEW	Eniwo	5.13	254	*e*P		Pn	Pn	02 55 44.2	+2.7
JEW	Eniwo	5.13	254	A		A	A	02 55 44.2	
	comp=N,12nm,2.1s,comp=E,11nm,1.9s								
JKB	Kayabe	5.81	246	A		A	A	02 55 52.3	
	comp=N,16nm,2.0s,comp=E,11nm,1.4s								
JAHD	Aomorihigashid	5.95	240	A		A	A	02 55 53.8	
	comp=N,32nm,1.3s,comp=E,26nm,0.9s								
JOT	Ohata	6.06	242	*i* P		Pn	Pn	02 55 53.8	-0.4
JOT	Ohata	6.06	242	A		A	A	02 55 53.8	
	comp=N,8.0nm,1.5s,comp=E,5.0nm,2.1s								
UGL	Uglegorsk	6.21	320	*e*PN		Pn	Pn	02 55 57.6	+1.3
UGL				*e*S		Sn	Sn	02 57 05.7	-0.2
UGL				smax	smax				
	comp=N,300nm,0.7s								
UGL				smax	smax				
	comp=E,400nm,0.7s								
UGL	Uglegorsk	6.21	320	*e*P		Pn	Pn	02 55 58.4	+2.1
UGL				AMB	AMB			02 56 03.1	
	comp=E,1μm,0.9s								
UGL				*e*S		Sn	Sn	02 57 08.6	+2.7
JTM	Tenmabayashi	6.39	237	Pn		Pn	Pn	02 55 57.5	-1.3
JTM	Tenmabayashi	6.39	237	P		Pn	Pn	02 55 58.1	-0.7
JTM	Tenmabayashi	6.39	237	S		Sn	Sn	02 57 09.0	-1.4
JSI2	Shiura 2	6.64	242	A		A	A	02 56 03.6	
	comp=N,7.0nm,1.9s,comp=E,6.0nm,2.2s								
TYV	Tymovskoe	7.38	332	*e*PN		Pn	Pn	02 56 15.3	+3.0
TYV				*e*S		Sn	Sn	02 57 40.8	+6.2
TYV				pmax	pmax				
	comp=Z,200nm,0.8s								
TYV				pmax	pmax				
	comp=Z,286nm,3.4s								
TYV				smax	smax				
	comp=N,39nm,0.9s								
TYV				smax	smax				
	comp=E,80nm,0.9s								
TYV				smax	smax				
	comp=N,100nm,3.5s								
TYV				smax	smax				
	comp=E,200nm,3.5s								
TYV				MLR	MLR				
	comp=N,1μm,17.0s								
TYV				MLR	MLR				
	comp=Z,1μm,19.0s								
TYV	Tymovskoe	7.38	332	*e*P		Pn	Pn	02 56 14.7	+2.4
TYV				AMB	AMB			02 56 17.1	
	comp=Z,260nm,0.8s								
TYV				AMB	AMB			02 56 20.1	
	comp=Z,300nm,3.4s								
TYV				*e*S		Sn	Sn	02 57 37.0	+2.4
SKR	Severo-Kuril's	8.21	38	*e*PN		Pn	Pn	02 56 25.5	+1.8
SKR				*e*S		Sn	Sn	02 58 01.2	+6.3
SKR				pmax	pmax				
	comp=Z,221nm,0.5s								
SKR				pmax	pmax				
	comp=Z,600nm,5.9s								
SKR				smax	smax				
	comp=N,415nm,0.6s								
SKR				smax	smax				
	comp=E,411nm,0.8s								
SKR				MLR	MLR				
	comp=Z,1μm,13.0s								
SKR	Severo-Kuril's	8.21	38	*e*P		Pn	Pn	02 56 24.8	+1.1
SKR				AMB	AMB			02 56 29.0	
	comp=Z,600nm,5.9s								
SKR				AMB	AMB			02 56 30.6	
	comp=Z,300nm,0.9s								
SKR				*e*S		Sn	Sn	02 57 52.5	-2.4
SKR				A	A			02 58 14.5	
	comp=Z,420nm,0.7s								
SKR				A	A			02 58 14.5	
	comp=Z,410nm,0.7s								
TEY	Ternei	8.24	278	⇑*e*PN		Pn	Pn	02 56 27.9	+3.9
TEY				pmax	pmax				
	comp=N,20nm,0.9s								
TEY				pmax	pmax				
	comp=E,60nm,0.9s								
TEY				pmax	pmax				
	comp=Z,60nm,0.9s								
TEY	Ternei	8.24	278	*e*P		Pn	Pn	02 56 27.9	+3.9
JMM	Marumori	8.62	223	Pn		Pn	Pn	02 56 25.9	-3.5
JMM	Marumori	8.62	223	P		Pn	Pn	02 56 26.8	-2.5
JMM	Marumori	8.62	223	S		Sn	Sn	02 57 57.4	-7.6
PAU	Pauzhetka	9.09	37	*e*P		Pn	Pn	02 56 36.2	+0.6
PAU				AMB	AMB			02 56 54.5	
	comp=Z,190nm,0.4s								
PAU				*e*S		Sn	Sn	02 58 13.5	-2.7
OKH	Okha	9.70	341	*e*P		Pn	Pn	02 56 39.8	-4.2
OKH				AMB	AMB			02 56 42.3	
	comp=Z,720nm,0.5s								
OKH				*e*S		Sn	Sn	02 58 28.4	-2.8
JSD	Sado	9.84	233	P		Pn	Pn	02 56 44.9	-1.0
NKL	Nikolayevsk	9.97	333	*e*PN		Pn	Pn	02 56 48.0	+0.3
NKL				pmax	pmax				
	comp=N,355nm,1.1s								
NKL				pmax	pmax				
	comp=E,1μm,1.1s								
NKL				pmax	pmax				
	comp=Z,1μm,1.1s								
NKL	Nikolayevsk	9.97	333	*e*P		Pn	Pn	02 56 50.3	+2.6
NKL				AMB	AMB			02 56 51.1	
	comp=Z,1μm,0.6s								
NKL				*e*S		Sn	Sn	02 58 38.2	+0.3
GRNR	Gornyy	10.11	313	⇑*i*PN		Pn	Pn	02 56 53.7	+4.1
GRNR				pmax	pmax				
	comp=Z,110nm,0.8s								
GRNR				MLR	MLR				
	comp=E,960nm,16.0s								
GRNR				MLR	MLR				
	comp=Z,860nm,17.0s								
PEA0B	Petropavlovsk-	10.68	33	Pn		Pn	Pn	02 56 58.8	+1.4
PEA0B	Petropavlovsk-	10.68	33	PN		Pn	Pn	02 56 58.8	+1.4
PETK	Petropavlovsk-	10.68	33	Pn		Pn	Pn	02 56 57.6	+0.3
PETK	Petropavlovsk-	10.68	33	P		Pn	Pn	02 56 58.3	+1.0
	comp=Z,19nm,0.5s,baz=195,slow=9.6,SNR=33								
PETK				S		Sn	Sn	02 58 54.1	-1.1
	comp=Z,7.8nm,0.8s,baz=255,slow=31,SNR=0.8								
PETK				LR		LR	LR	03 01 35.8	
	comp=Z,734nm,18.5s,baz=220,slow=40								
PETK				PcP		PcP	PcP	03 02 55.1	+0.3
	comp=Z,5.2nm,0.7s,baz=146,slow=2.8,SNR=4.6								
MJB9	Matsu-Tunnel	10.95	227	Pn		Pn	Pn	02 57 00.7	-0.5
MAJO	Matsushiro	10.95	227	Pn		Pn	Pn	02 56 59.5	-1.7
MAJO	Matsushiro	10.95	227	P		Pn	Pn	02 57 00.0	-1.2
MAJO	Matsushiro	10.95	227	*c i*PN		Pn	Pn	02 56 59.5	-1.7
MJAR	Matsushiro Arr	10.95	227	Pn		Pn	Pn	02 56 59.2	-2.0
MJAR	Matsushiro Arr	10.95	227	P		Pn	Pn	02 56 59.9	-1.2
	comp=Z,57nm,0.8s,baz=27,slow=13,SNR=107								
MJAR				S		Sn	Sn

HEH pmax pmax
comp=Z,92nm,0.6s
HEH pmax pmax
comp=Z,340nm,6.1s
HEH LR LR
comp=Z,680nm,20.6s
HEH LR LR
comp=Z,1µm,23.2s
HEH LR LR
comp=Z,2µm,22.9s
MA2 Magadan 15.20 5 Pn **Pn 02 57 59.0 +1.1**
MA2 Magadan 15.20 5 P **Pn 02 57 57.6 -0.3**
comp=Z,12nm,0.6s,baz=168,slow=8.7,SNR=7.5
MA2 LR LR 03 03 58.8
comp=Z,585nm,18.1s,baz=188,slow=38
MA2 Magadan 15.20 5*ce*P **Pn 02 57 58.8 +0.8**
MA2 pmax pmax
comp=Z,80nm,2.5s
MA2 Magadan 15.20 5 *e*P **Pn 02 57 58.8 +0.8**
JMN Monobe 15.40 231 P **Pn 02 57 59.1 -1.6**
CN2 Changchun 16.31 276 *e*P **Pn 02 58 11.5 -0.6**
CN2 *e*S **Sn 03 01 09.3 -2.8**
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,800nm,15.6s
CN2 LR LR
comp=Z,800nm,15.6s
CN2 LR LR
comp=Z,800nm,18.6s
ZEA Zeya 16.47 312 *e*P **P 02 58 15.2 -0.6**
ZEA pmax pmax
comp=E,40nm,0.8s
ZEA pmax pmax
comp=N,40nm,1.0s
ZEA pmax pmax
comp=Z,80nm,1.0s
ZEA pmax pmax
comp=Z,300nm,4.2s
ZEA MLR MLR
comp=E,600nm,17.0s
ZEA MLR MLR
comp=Z,500nm,17.0s
ZEA Zeya 16.47 312 *e*P **P 02 58 15.2 -0.6**
KSRS Korea Array 16.79 252 P **Pn 02 58 16.8 -1.3**
comp=Z,26nm,0.8s,baz=60,slow=12,SNR=30
KSRS PcP **PcP 03 03 03.9 +1.0**
comp=Z,6.1nm,0.8s,baz=20,slow=0.8,SNR=9.6
KS19 Wonju Array Si 16.80 253 Pn **Pn 02 58 16.6 -1.8**
KSAR Wonju Array Be 16.82 252 Pn **Pn 02 58 15.8 -2.7**
KSAR Wonju Array Be 16.82 252 P **Pn 02 58 15.8 -2.7**
JTU Tsushima 17.52 242 P **P 02 58 28.9 +1.4**
JNU Nakatsue 17.56 236 **Pn 02 58 27.9 +0.1**
JNU IAmb IAmb 02 58 31.9
comp=Z,166nm,0.8s
INCN Inchon 17.66 254 **P 02 58 29.7 +0.7**
INCN Inchon 17.66 254 P **P 02 58 29.9 +0.9**
INCN Inchon 17.66 254 P **P 02 58 29.7 +0.7**
INCN pmax pmax
comp=Z,94nm,0.9s
TJN Taejon 17.74 250 **Pn 02 58 29.8 -0.1**
TJN Taejon 17.74 250 *i* P **P 02 58 30.0 +0.1**
SNY Shenyang 18.11 270 ⇓P **Pn 02 58 35.3 +1.1**
SNY S **Sn 03 01 53.6 -1.9**
SNY pmax pmax
comp=Z,79nm,0.8s
SNY LR LR
comp=Z,330nm,14.0s
SNY LR LR
comp=Z,680nm,18.2s
SNY LR LR
comp=Z,860nm,20.1s
SEY Seymchan 18.65 6 P **P 02 58 39.1 -0.6**
comp=Z,11nm,0.4s,baz=179,slow=8.6,SNR=42
SEY S **Sn 03 02 03.2 -5.1**
comp=Z,1.2nm,0.4s,baz=197,slow=18,SNR=1.4
SEY LR LR 03 05 41.1
comp=Z,713nm,20.3s,baz=182,slow=36
SEY Seymchan 18.65 6*ce*P **P 02 58 38.4 -1.3**
SEY pmax pmax
comp=Z,46nm,1.3s
SHEM Shemya Is, Ala 18.96 55 P **Pn 02 58 43.9 -0.5**
comp=Z,17nm,0.5s,baz=294,slow=21,SNR=2.1
SHEM S **S 03 02 07.3 -7.6**
comp=Z,44nm,0.9s,baz=275,slow=22,SNR=2.1
SHEM LR LR 03 05 39.9
comp=Z,184nm,20.1s,baz=286,slow=36
HIA Hailar 19.94 294 P **P 02 58 53.9 0.0**
HIA Hailar 19.94 294 P **P 02 58 53.9 0.0**
HIA pmax pmax
comp=Z,28nm,0.9s
DL2 Dalian 20.53 264 P **P 02 59 01.1 +0.8**
DL2 pP **pP 02 59 14.5 +0.7**
DL2 pmax pmax
comp=Z,140nm,1.0s
DL2 pmax pmax
comp=Z,710nm,5.1s
DL2 LR LR
comp=Z,720nm,14.7s
DL2 LR LR
comp=Z,580nm,16.1s
DL2 LR LR
comp=Z,520nm,15.3s
YAK Yakutsk 20.63 335 P **P 02 58 59.1 -2.0**
YAK IAmb IAmb 02 59 07.9
comp=Z,226nm,1.1s
YAK Yakutsk 20.63 335 P **P 02 58 58.9 -2.2**
comp=Z,44nm,0.3s,baz=124,slow=3.8,SNR=15
YAK S **S 03 02 39.6 -8.3**
comp=Z,15nm,0.4s,baz=144,slow=19,SNR=1.3
YAK LR LR 03 07 19.3
comp=Z,1µm,20.1s,baz=133,slow=38
comp=Z,44nm,0.3s
YAK Yakutsk 20.63 335 *e*P **P 02 58 58.9 -2.2**
YAK *e*S **S 03 02 45.7 -2.2**
YAK *e*SS **SnSn 03 03 06.8 -4.6**
YAK pmax pmax
comp=Z,96nm,0.9s
YAK pmax pmax
comp=N,18nm,1.0s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK pmax pmax
comp=Z,224nm,1.7s
YAK pmax pmax
comp=E,161nm,1.9s
YAK pmax pmax
comp=N,149nm,1.9s
YAK smax smax
comp=E,194nm,2.1s
YAK smax smax
comp=N,79nm,2.2s
YAK MLR MLR
comp=Z,1µm,25.0s
YAK MLR MLR
comp=N,554nm,21.0s
YAK MLR MLR
comp=E,515nm,26.0s
XLT XiLinHaoTe 22.93 280 *e*P **P 02 59 24.3 -1.7**
XLT S **S 03 03 30.4 -0.7**
XLT pmax pmax
comp=E,53nm,1.1s
XLT pmax pmax
comp=E,240nm,3.6s
XLT LR LR
comp=E,540nm,15.7s
XLT LR LR
comp=E,570nm,24.2s
JOW Kunigami 23.79 229 P **P 02 59 34.2 0.0**
JOW IAmb IAmb 02 59 36.8
comp=Z,137nm,1.0s
JOW Kunigami 23.79 229 P **P 02 59 33.9 -0.2**
comp=Z,73nm,0.7s,baz=15,slow=9.1,SNR=7.9
comp=Z,73nm,0.7s
JOW Kunigami 23.79 229 P **P 02 59 36.8 +2.7**
BJI Beijing 23.99 271 P **P 02 59 35.9 +0.1**
BJI pP **pP 02 59 51.0 +0.1**
BJI sP **sP 02 59 59.9 +1.4**
BJI S **S 03 03 46.6 -1.5**
BJI pmax pmax
comp=Z,66nm,0.7s
BJI pmax pmax
comp=Z,210nm,3.6s
BJI LR LR
comp=Z,170nm,15.8s
BJI LR LR
comp=Z,270nm,18.3s
BJI LR LR
comp=Z,390nm,20.4s
BJT Baijiatuau 24.00 271 P **P 02 59 35.7 -0.3**
BJT IAmb IAmb 02 59 38.2
comp=Z,92nm,0.7s
BJT Baijiatuau 24.00 271 P **P 02 59 35.7 -0.3**
BJT pmax pmax
comp=Z,92nm,0.7s
BOD Bodaibo 24.92 315 *e*P **P 02 59 42.1 -2.0**
BOD pmax pmax
comp=Z,33nm,1.4s
TIA Tai'an 24.93 261 P **P 02 59 45.0 +0.5**
TIA S **S 03 03 58.5 -4.9**
TIA pmax pmax
comp=Z,180nm,0.8s
TIA pmax pmax
comp=Z,320nm,3.9s
TIA LR LR
comp=Z,320nm,14.7s
TIA LR LR
comp=Z,470nm,23.5s
TIA LR LR
comp=Z,650nm,24.5s
BILL Bilibino 25.46 16 *i* P **P 02 59 47.0 -2.0**
BILL pmax pmax
comp=Z,11nm,0.7s
NJ2 Nanjing 25.98 251 ⇑P **P 02 59 54.8 +0.8**
NJ2 pP **pP 03 00 11.6 +2.3**
NJ2 pmax pmax
comp=Z,38nm,0.9s
NJ2 pmax pmax
comp=Z,390nm,4.3s
NJ2 LR LR
comp=Z,750nm,17.1s
NJ2 LR LR
comp=Z,630nm,14.2s
NJ2 LR LR
comp=Z,710nm,18.5s
HNS HongShan 26.10 266 ⇑P **P 02 59 55.8 +0.8**
HNS S **S 03 04 22.3 +0.5**
HNS pmax pmax
comp=Z,95nm,0.8s
HNS LR LR
comp=Z,310nm,14.6s
HNS LR LR
comp=Z,290nm,15.3s
HNS LR LR
comp=Z,380nm,16.9s
HHC Hu-ho-hao-te 27.00 275 *e*P **P 03 00 04.1 +0.8**
HHC pP pP 03 00 20.8 +2.3
HHC S **S 03 04 37.5 +1.3**
HHC sS sS 03 05 03.8 +1.4
HHC pmax pmax
comp=Z,28nm,0.7s
HHC pmax pmax
comp=Z,190nm,5.3s
HHC LR LR
comp=Z,290nm,16.0s
HHC LR LR
comp=Z,500nm,15.3s
HHC LR LR
comp=Z,780nm,15.3s
TIY Taiyuan 27.59 268 P **P 03 00 09.8 +1.3**
TIY pmax pmax
comp=Z,67nm,0.7s
TIY LR LR
comp=Z,160nm,13.1s
TIY LR LR
comp=Z,370nm,25.4s
TIY LR LR
comp=Z,470nm,24.1s
BTO Baotou 28.18 276 *e*P **P 03 00 14.3 +0.5**
BTO pP **pP 03 00 28.6 -0.6**
BTO PP **PnPn 03 01 07.6 +2.8**
BTO S **S 03 04 57.3 +2.5**
BTO pmax pmax
comp=Z,29nm,0.9s
BTO pmax pmax
comp=Z,540nm,4.4s
BTO LR LR
comp=Z,550nm,6.8s
BTO LR LR
comp=Z,1µm,14.2s
BTO LR LR
comp=Z,1µm,16.6s
ULN Ulaanbaatar 28.42 292 P **P 03 00 15.8 -0.2**
ULN **PcP 03 03 26.6 0.0**
ULN Ulaanbaatar 28.42 292 P **P 03 00 16.2 +0.3**
ULN Ulaanbaatar 28.42 292*ce*P **P 03 00 14.9 -1.0**
ULN pmax pmax
comp=Z,37nm,1.0s
TIXI Tiksi 28.80 347 LR LR 03 12 55.3
comp=Z,202nm,18.1s,baz=176,slow=39
SONM Songino Array 28.86 292 P **P 03 00 19.9 +0.1**
SONM Songino Array 28.86 292 P **P 03 00 19.9 +0.1**
comp=Z,25nm,0.9s,baz=83,slow=8.2,SNR=59
SONM PcP **PcP 03 03 27.4 -0.4**
comp=Z,6.7nm,0.8s,baz=140,slow=3.7,SNR=5.6
SONM LR LR 03 12 47.9
comp=Z,816nm,20.8s,baz=93,slow=38
comp=Z,25nm,0.9s
P08K Saint George I 29.01 50 P **P 03 00 21.3 +0.5**
baz=264
LYN LuoYang 29.06 262 ⇑P **P 03 00 22.3 +0.8**
LYN S **S 03 05 12.8 +4.4**
LYN sS sS 03 05 37.4 +2.7
LYN pmax pmax
comp=Z,110nm,0.7s
LYN LR LR
comp=Z,300nm,11.7s
LYN LR LR
comp=Z,240nm,12.0s
LYN LR LR
comp=Z,320nm,13.1s
H11N2 WAKE ISLAND Hy 29.20 142 T T 03 31 21.7
baz=332,slow=76,SNR=1408
H11N1 WAKE ISLAND Hy 29.22 142 T T 03 31 04.5
baz=332,slow=76,SNR=2923
H11N3 WAKE ISLAND Hy 29.22 142 T T 03 31 04.6
baz=332,slow=76,SNR=3665
NIKH Nikolski High 29.22 58 P **P 03 00 23.1 +0.3**
baz=271
NACB Ninganchiao 29.64 236 P **P 03 00 27.9 +1.2**
NACB IAmb IAmb 03 00 41.8
comp=Z,166nm,2.0s
GAMB Gambell 29.70 35 P **P 03 00 27.0 +0.2**
baz=249
WHN Wuhan 29.97 254 ⇑P **P 03 00 30.0 +0.4**
WHN LR LR
comp=Z,840nm,14.4s
H11S1 WAKE ISLAND Hy 30.20 143 T T 03 32 24.1
baz=333,slow=76,SNR=3886
H11S3 WAKE ISLAND Hy 30.20 143 T T 03 32 25.0
baz=333,slow=76,SNR=2924
H11S2 WAKE ISLAND Hy 30.21 143 T T 03 32 22.5
baz=333,slow=76,SNR=5294
YULB Yu-li 30.41 235 P **P 03 00 34.4 +0.9**
ZAK Zakamensk 30.55 297 *e*P **P 03 00 33.1 -1.6**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
UNV Unalaska Valle 30.62 56 P **P 03 00 35.2 +0.1**
baz=271
TPUB Ta-pu 30.87 236 P **P 03 00 38.1 +0.4**
TPUB Ta-pu 30.87 236 P **P 03 00 38.6 +1.0**
GUMO Guam 30.91 186 LR LR 03 11 20.8
comp=Z,98nm,21.9s,baz=26,slow=33
M11K Mekoryuk 31.29 43 P **P 03 00 41.1 +0.2**
baz=260
XAN Xi'an 31.84 265 ⇑P **P 03 00 46.1 0.0**
XAN pmax pmax
comp=Z,100nm,0.8s
XAN pmax pmax
comp=Z,250nm,4.0s
XAN LR LR
comp=Z,310nm,7.2s
XAN LR LR
comp=Z,370nm,14.4s
XAN LR LR
comp=Z,510nm,16.5s
TNA Tin City 31.85 33 P **P 03 00 46.1 +0.3**
TNA IAmb IAmb 03 01 01.6
comp=Z,36nm,1.1s
TNA Tin City 31.85 33 P **P 03 00 46.0 +0.3**
baz=250
K13K Kusilvak Mount 32.30 40 P **P 03 00 51.0 +1.2**
K13K IAmb IAmb 03 00 52.6
comp=Z,62nm,1.6s
K13K Kusilvak Mount 32.30 40 P **P 03 00 50.3 +0.5**
baz=260
CNSH ChangSha 32.40 252 P **P 03 00 51.4 +0.4**
CNSH pmax pmax
comp=Z,51nm,0.7s
FALS False Pass 32.40 54 P **P 03 00 51.3 +0.6**
baz=272
F14K Arctic Creek 32.45 34 P **P 03 00 51.6 +0.6**
baz=252
ANM Nome 32.58 36 P **P 03 00 52.6 +0.5**
baz=255
M13K Dall Lake 32.69 43 P **P 03 00 54.0 +0.9**
baz=263
J14K Nanvaranak Lak 32.96 39 P **P 03 00 56.3 +0.8**
baz=259
L14K Kuka Creek 33.13 42 P **P 03 00 58.0 +1.0**
L14K IAmb IAmb 03 00 59.2
comp=Z,32nm,0.8s
L14K Kuka Creek 33.13 42 P **P 03 00 57.7 +0.7**
baz=262,SNR=5.6
S12K Black Hills 33.15 52 P **P 03 00 58.1 +0.7**
baz=272
F15K North Star Dit 33.19 34 P **P 03 00 58.3 +0.8**
baz=254
G15K Niukluk 33.24 35 P **P 03 00 58.8 +0.8**
baz=256
M14K Bethel 33.41 43 P **P 03 01 00.3 +0.8**
M14K **PcP 03 03 40.5 +1.2**
M14K Bethel 33.41 43 P **P 03 01 00.5 +1.0**
baz=264,SNR=6.2
N14K Kuskokwak Cree 33.47 45 IAmb IAmb 03 01 02.0
comp=Z,49nm,0.9s
N14K Kuskokwak Cree 33.47 45 P **P 03 01 00.4 +0.4**
baz=266
ENH Enshi 33.51 258 P **P 03 00 59.9 -0.8**
ENH IAmb IAmb 03 01 05.2
comp=Z,38nm,0.7s
ENH **PcP 03 03 40.8 +0.5**
ENH Enshi 33.51 258 P **P 03 00 59.9 -0.8**
ENH pP **pP 03 01 15.1 -1.1**
O14K Tigyukauivet M 33.64 46 P **P 03 01 02.4 +0.9**
O14K IAmb IAmb 03 01 03.5
comp=Z,39nm,0.8s
O14K Tigyukauivet M 33.64 46 P **P 03 01 01.9 +0.5**
baz=267
L15K Ungalak Mounta 33.75 41 P **P 03 01 02.9 +0.5**
baz=263
C16K Lisburne Hills 33.75 29 IAmb IAmb 03 01 02.7
comp=Z,34nm,0.9s
C16K Lisburne Hills 33.75 29 P **P 03 01 01.9 -0.5**
baz=249,SNR=7.3
K15K Wolf Creek Mou 33.81 40 P **P 03 01 03.4 +0.5**
baz=262
H16K Elim 33.91 36 P **P 03 01 04.2 +0.4**
baz=258
G16K Koyuk River 34.03 35 IAmb IAmb 03 01 44.3
comp=Z,64nm,1.7s
G16K Koyuk River 34.03 35 P **P 03 01 05.0 +0.3**
baz=257
M15K Kasigluk River 34.03 43 P **P 03 01 05.8 +1.0**
baz=265,SNR=24
SDPT Sand Point 34.07 53 P **P 03 01 05.8 +0.5**
baz=273
N15K Kwethluk River 34.28 44 P **P 03 01 08.0 +0.9**
baz=267,SNR=12
D17K Noatak River 34.36 31 P **P 03 01 07.8 +0.1**
baz=253,SNR=9.8
J16K Anvik River 34.37 39 IAmb IAmb 03 01 22.9
comp=Z,48nm,1.6s
J16K Anvik River 34.37 39 P **P 03 01 08.5 +0.7**
baz=262
O15K Ungalikthiuk R 34.38 46 IAmb IAmb 03 01 09.7
comp=Z,49nm,0.8s
O15K Ungalikthiuk R 34.38 46 P **P 03 01 08.3 +0.5**
baz=268,SNR=5.5
I17K Unalakleet 34.43 38 P **P 03 01 08.8 +0.5**
I17K IAmb IAmb 03 01 11.0
comp=Z,26nm,0.8s
I17K Unalakleet 34.43 38 P **P 03 01 08.7 +0.5**
baz=261
LZH Lanzhou 34.47 272 ⇑P **P 03 01 10.4 +1.2**
LZH pP pP 03 01 26.8 +2.1
LZH sP sP 03 01 38.3 +6.2
LZH pmax pmax
comp=Z,170nm,4.8s
LZH LR LR
comp=Z,2µm,16.2s
LZH LR LR
comp=Z,760nm,17.2s
LZH LR LR
comp=Z,610nm,17.9s
RDOG Red Dog Mine 34.54 30 P **P 03 01 09.0 -0.2**
baz=252
S14K Fog Glacier 34.54 51 P **P 03 01 09.5 0.0**
baz=273
C17K DeLong Mountai 34.57 29 P **P 03 01 09.4 -0.1**
baz=252,SNR=7.5
CHNA Chernabura Isl 34.61 54 P **P 03 01 10.1 +0.2**
baz=275
LZDM Lanzhou Array 34.64 271 P **P 03 01 12.0 +1.2**
comp=Z,100nm,0.7s,baz=120,slow=2.4,SNR=112
LZDM PcP **PcP 03 03 44.4 +0.6**
comp=Z,5.9nm,0.4s,baz=27,slow=0.3,SNR=4.3
LZDM LR LR 03 15 55.2
comp=Z,396nm,20.6s,baz=40,slow=37
comp=Z,100nm,0.7s
E17K Hotham Inlet 34.66 32 P **P 03 01 10.6 +0.4**
baz=255,SNR=14
L16K Owhat River 34.70 42 IAmb IAmb 03 01 12.3
comp=Z,36nm,1.0s
L16K Owhat River 34.70 42 P **P 03 01 11.3 +0.6**
baz=265,SNR=11
F17K Baldwin Pennin 34.72 33 P **P 03 01 11.0 +0.3**
baz=256,SNR=10
G17K Kiwalik Mounta 34.75 35 P **P 03 01 11.7 +0.7**
baz=258,SNR=15
M16K Timber Creek 34.90 43 P **P 03 01 12.6 +0.2**
M16K IAmb IAmb 03 01 14.3
comp=Z,46nm,0.8s
M16K PcP **PcP 03 03 44.9 +1.2**
M16K Timber Creek 34.90 43 P **P 03 01 13.2 +0.8**
baz=266,SNR=12
H17K Granite Mounta 34.94 36 P **P 03 01 13.3 +0.6**
baz=260
N16K Nishlik Lake 34.96 44 P **P 03 01 14.1 +1.2**
baz=267,SNR=21
J17K VABM Dome 35.07 39 IAmb IAmb 03 01 16.0
comp=Z,34nm,0.9s
J17K VABM Dome 35.07 39 P **P 03 01 15.0 +1.2**
baz=263,SNR=11
E18K Tukpahlearik C 35.20 31 P **P 03 01 15.4 +0.5**
baz=256
O16K Kokwok River B 35.27 45 P **P 03 01 16.3 +0.7**
O16K IAmb IAmb 03 01 17.4
comp=Z,22nm,0.8s
O16K PcP **PcP 03 03 45.7 +1.0**
O16K Kokwok River B 35.27 45 P **P 03 01 16.4 +0.9**
baz=269,SNR=5.7
L17K Donlin 35.30 41 P **P 03 01 16.9 +1.1**
baz=265,SNR=15
P16K Nushagak River 35.32 46 P **P 03 01 17.0 +1.1**
baz=270
C18K Utukok River 35.32 29 P **P 03 01 15.7 -0.4**
C18K IAmb IAmb 03 01 16.5
comp=Z,44nm,0.8s
C18K Utukok River 35.32 29 P **P 03 01 15.6 -0.4**
baz=253,SNR=17
B18K Kokolik River 35.33 28 P **P 03 01 16.1 +0.1**
baz=252,SNR=5.5
K17K Iditarod 35.35 40 P **P 03 01 17.1 +0.9**
K17K IAmb IAmb 03 01 18.4
comp=Z,33nm,0.8s
K17K Iditarod 35.35 40 P **P 03 01 17.4 +1.2**
baz=265,SNR=12
F18K Selawik 35.38 33 P **P 03 01 17.1 +0.7**
baz=258,SNR=8.0
R16K Pilot Point 35.57 49 P **P 03 01 18.7 +0.5**
baz=273
H18K Honhosa River 35.63 36 IAmb IAmb 03 01 33.5
comp=Z,44nm,0.8s
H18K Honhosa River 35.63 36 P **P 03 01 19.1 +0.5**
baz=261,SNR=17
G18K Tagagawik 35.63 34 P **P 03 01 19.1 +0.5**
baz=260,SNR=29
M17K Holitna River 35.66 42 P **P 03 01 20.4 +1.5**

baz=267,SNR=21
N17K Nushagak Hills 35.74 44 IAmb IAmb 03 01 21.8
comp=Z,35nm,0.8s
N17K Nushagak Hills 35.74 44 P **P** **03 01 20.9 +1.3**
baz=269,SNR=11
O17K Koliganek Bris 35.78 45 P **P** **03 01 21.1 +1.2**
baz=270,SNR=16
A19K Wainwright 35.84 27 P **P** **03 01 20.3 +0.1**
baz=251
GTA Gaotai 35.88 279 P **P** **03 01 22.1 +0.8**
GTA pP pP 03 01 37.3 +0.4
GTA PcP **PcP** **03 03 48.8 +1.6**
GTA S **S** **03 06 54.8 +0.1**
GTA PcS **PcS** **03 07 36.0 +1.3**
GTA pmax pmax
comp=Z,65nm,1.2s
GTA LR LR
comp=Z,320nm,13.8s
GTA LR LR
comp=Z,210nm,13.1s
GTA LR LR
comp=Z,390nm,14.5s
C19K Lookout Ridge 36.01 29 P **P** **03 01 21.9 0.0**
baz=254,SNR=15
GULI GuiLin 36.02 251 P **P** **03 01 24.6 +2.2**
GULI pmax pmax
comp=Z,38nm,1.3s
L18K Granite Mounta 36.05 41 IAmb IAmb 03 01 24.7
comp=Z,27nm,0.8s
L18K Granite Mounta 36.05 41 P **P** **03 01 23.5 +1.3**
baz=267,SNR=16
P17K Kvichak River 36.12 46 P **P** **03 01 23.8 +1.0**
baz=271
J18K Innoko River 36.13 39 IAmb IAmb 03 01 24.7
comp=Z,35nm,0.9s
J18K Innoko River 36.13 39 P **P** **03 01 23.7 +0.8**
baz=265,SNR=20
F19K Shaleruckik Mo 36.15 33 P **P** **03 01 22.5 -0.5**
F19K IAmb IAmb 03 01 25.2
comp=Z,26nm,0.7s
F19K Shaleruckik Mo 36.15 33 P **P** **03 01 23.0 -0.1**
baz=259,SNR=21
GCSA Galena City Sc 36.20 36 P **P** **03 01 23.4 0.0**
baz=263,SNR=5.6
G19K Purcell Mounta 36.31 34 IAmb IAmb 03 01 26.2
comp=Z,25nm,0.8s
G19K Purcell Mounta 36.31 34 P **P** **03 01 24.4 0.0**
baz=261,SNR=18
D19K Kuna River 36.37 30 IAmb IAmb 03 01 31.5
comp=Z,52nm,0.8s
D19K Kuna River 36.37 30 P **P** **03 01 24.9 -0.1**
baz=257,SNR=16
N18K Kilae Creek 36.39 43 P **P** **03 01 26.5 +1.4**
baz=270,SNR=16
M18K Stony River 36.43 42 P **P** **03 01 26.7 +1.2**
baz=269,SNR=9.5
Q17K Contact Creek 36.44 48 P **P** **03 01 26.6 +0.9**
baz=273
H19K Roundabout Mou 36.48 35 P **P** **03 01 26.1 +0.4**
baz=262,SNR=51
E19K Redstone River 36.48 32 IAmb IAmb 03 01 40.3
comp=Z,47nm,0.8s
E19K Redstone River 36.48 32 P **P** **03 01 26.1 +0.2**
baz=259,SNR=22
J19K Poorman 36.66 38 IAmb IAmb 03 01 29.5
comp=Z,56nm,0.9s
J19K Poorman 36.66 38 P **P** **03 01 28.0 +0.6**
baz=265,SNR=36
P18K Big Mountain, 36.73 46 IAmb IAmb 03 01 30.5
comp=Z,59nm,1.1s
P18K Big Mountain, 36.73 46 P **P** **03 01 29.0 +0.8**
baz=272,SNR=5.5
Q18K Katmai Hardscr 36.88 47 P **P** **03 01 29.5 +0.1**
baz=273
L19K White Mountain 36.91 41 P **P** **03 01 30.4 +0.8**
L19K IAmb IAmb 03 01 34.3
comp=Z,57nm,1.9s
L19K White Mountain 36.91 41 P **P** **03 01 30.8 +1.2**
baz=269
D20K Etivluk River 36.96 30 IAmb IAmb 03 01 33.7
comp=Z,63nm,1.0s
D20K Etivluk River 36.96 30 P **P** **03 01 30.0 +0.1**
baz=258,SNR=22
F20K Avaraart Lake 36.99 33 P **P** **03 01 30.3 +0.2**
baz=261
E20K Nigu River 37.02 31 P **P** **03 01 30.4 -0.1**
baz=259,SNR=15
B20K Meade River 37.07 28 P **P** **03 01 30.3 -0.4**
baz=256
N19K Bonanza Creek 37.08 43 IAmb IAmb 03 01 33.4
comp=Z,34nm,0.9s
N19K Bonanza Creek 37.08 43 P **P** **03 01 32.3 +1.2**
baz=271,SNR=17
H20K Anotlenenega Mo 37.12 35 P **P** **03 01 31.8 +0.5**
baz=264,SNR=22
O19K Port Alsworth 37.17 44 P **P** **03 01 32.4 +0.7**
O19K IAmb IAmb 03 01 35.7
comp=Z,22nm,0.8s
O19K Port Alsworth 37.17 44 P **P** **03 01 32.6 +0.9**
baz=272
CD2 Chengdu 37.20 264 P **P** **03 01 32.8 +0.4**
I20K Naaghedeneel 37.23 37 IAmb IAmb 03 01 49.1
comp=Z,33nm,0.9s
I20K Naaghedeneel 37.23 37 P **P** **03 01 32.6 +0.4**
baz=265
R18K Karluk 37.25 49 P **P** **03 01 32.8 +0.4**
baz=275
K20K Telida 37.31 39 P **P** **03 01 33.9 +1.0**
K20K IAmb IAmb 03 01 35.0
comp=Z,38nm,1.2s
K20K **PcP** **03 03 52.4 +1.5**
K20K Telida 37.31 39 P **P** **03 01 33.7 +0.8**
baz=268
J20K Nowinta River 37.32 38 IAmb IAmb 03 01 35.0
comp=Z,42nm,0.9s
J20K Nowinta River 37.32 38 P **P** **03 01 33.7 +0.7**
baz=267,SNR=25
L20K Farewell, AK 37.37 40 P **P** **03 01 34.4 +0.9**
baz=269,SNR=11
Q19K Cape Douglas, 37.57 46 P **P** **03 01 35.0 -0.2**
Q19K IAmb IAmb 03 01 36.1
comp=Z,39nm,0.8s
Q19K Cape Douglas, 37.57 46 P **P** **03 01 35.2 0.0**
baz=274
A21K Barrow 37.58 26 P **P** **03 01 34.3 -0.7**
baz=255
IMAR Indian Mountai 37.64 35 P **P** **03 01 36.1 +0.5**
IMAR PcP **PcP** **03 03 51.9 +0.1**
C21K Knifeblade Rid 37.70 29 P **P** **03 01 36.5 +0.3**
baz=259,SNR=7.0
M20K Styx River 37.72 41 IAmb IAmb 03 01 39.0
comp=Z,21nm,0.7s
M20K Styx River 37.72 41 P **P** **03 01 38.0 +1.5**
baz=270
G21K Allakaket 37.79 34 P **P** **03 01 37.4 +0.5**
baz=264,SNR=36
GYA Guiyang 37.80 256 ⇑P **P** **03 01 37.6 0.0**
GYA pmax pmax
comp=Z,68nm,1.0s
B21K Ikpikpuk River 37.84 29 P **P** **03 01 37.5 +0.2**
baz=259
E21K Killik River 37.86 31 IAmb IAmb 03 01 51.9
comp=Z,21nm,0.8s
E21K Killik River 37.86 31 P **P** **03 01 37.6 0.0**
baz=261
F21K Alatna River 37.88 33 P **P** **03 01 38.1 +0.4**
baz=263
OHAK Old Harbor 37.91 49 P **P** **03 01 37.9 -0.1**
OHAK Old Harbor 37.91 49 P **P** **03 01 38.1 +0.1**
baz=276
RED Redoubt Volcan 37.93 44 IAmb IAmb 03 01 40.6
comp=Z,49nm,1.0s
H21K Melozitna Rive 38.00 35 IAmb IAmb 03 01 41.1
comp=Z,33nm,0.8s
H21K Melozitna Rive 38.00 35 P **P** **03 01 39.1 +0.4**
baz=266,SNR=22
A22K Sinclair Lake 38.02 26 P **P** **03 01 38.4 -0.4**
baz=257
CHUM Lake Minchumin 38.12 38 P **P** **03 01 40.8 +1.1**
baz=269,SNR=8.0
PPLA Purkeypile 38.16 40 P **P** **03 01 41.0 +0.7**
PPLA Purkeypile 38.16 40 P **P** **03 01 41.8 +1.5**
baz=270,SNR=16
SPCR Spurr Chakacha 38.18 43 P **P** **03 01 41.9 +1.5**
baz=272,SNR=9.8
N20K Mount Spurr 38.18 43 P **P** **03 01 41.7 +1.3**
baz=272

KDAK Kodiak Island 38.23 48 P **P** **03 01 40.2 -0.5**
KDAK IAmb IAmb 03 01 41.7
comp=Z,41nm,0.8s
KDAK Kodiak Island 38.23 48 P **P** **03 01 40.2 -0.5**
KDAK pmax pmax
comp=Z,41nm,0.8s
KDAK Kodiak Island 38.23 48 P **P** **03 01 40.4 -0.3**
baz=276
KDAK Kodiak Island 38.23 48 P **P** **03 01 40.7 0.0**
Q20K Shyak Island 38.24 47 P **P** **03 01 40.6 -0.2**
baz=275,SNR=5.3
SYI Shuyak Island 38.25 47 IAmb IAmb 03 01 42.4
comp=Z,52nm,0.8s
SPU Mount Spurr 38.25 43 IAmb IAmb 03 01 43.8
comp=Z,39nm,1.2s
I21K Tanana 38.31 36 IAmb IAmb 03 01 56.2
comp=Z,25nm,0.8s
I21K Tanana 38.31 36 P **P** **03 01 42.4 +1.1**
baz=267
STLK Strandline Lak 38.35 42 IAmb IAmb 03 01 43.9
comp=Z,19nm,0.7s
B22K Teshekpuk Lake 38.38 28 IAmb IAmb 03 01 42.4
comp=Z,48nm,0.9s
B22K Teshekpuk Lake 38.38 28 P **P** **03 01 41.2 -0.7**
baz=259
D22K Ayikyak River 38.40 30 IAmb IAmb 03 01 56.2
comp=Z,36nm,1.1s
D22K Ayikyak River 38.40 30 P **P** **03 01 42.2 +0.1**
baz=262,SNR=7.3
F22K John River 38.41 32 P **P** **03 01 42.4 +0.2**
baz=264
SKT Skwentna 38.48 41 P **P** **03 01 43.6 +0.9**
SKT PcP **PcP** **03 03 53.7 -0.8**
SKT Skwentna 38.48 41 P **P** **03 01 43.5 +0.7**
baz=272,SNR=6.2
PATS Pohnpei 38.53 164 P **P** **03 01 40.9 -2.8**
HOM Homer 38.54 45 P **P** **03 01 43.8 +0.4**
baz=275
H22K Ishtalitna Cre 38.60 35 P **P** **03 01 44.8 +1.0**
baz=267,SNR=15
E22K Anaktuvuk Pass 38.62 31 IAmb IAmb 03 01 46.1
comp=Z,37nm,0.7s
E22K Anaktuvuk Pass 38.62 31 P **P** **03 01 44.1 +0.1**
baz=264
G22K Bettles 38.62 33 P **P** **03 01 43.9 0.0**
baz=266,SNR=16
BPAW Bear Paw Mtn. 38.70 38 P **P** **03 01 45.7 +1.0**
baz=270,SNR=13
CNPM China Poot 38.76 45 IAmb IAmb 03 01 46.9
comp=Z,23nm,0.8s
MLY Manley 38.83 36 P **P** **03 01 46.5 +0.8**
MLY IAmb IAmb 03 01 47.9
comp=Z,17nm,0.6s
MLY PcP **PcP** **03 03 56.4 +0.8**
MLY Manley 38.83 36 P **P** **03 01 46.6 +0.8**
baz=269,SNR=16
SUA Susitna One 38.87 42 P **P** **03 01 46.0 -0.2**
SUA IAmb IAmb 03 01 49.8
comp=Z,18nm,0.5s
SUA PcP **PcP** **03 03 56.2 +0.3**
SUA Susitna One 38.87 42 P **P** **03 01 46.2 0.0**
baz=273,SNR=12
BRLK Bradley Lake 38.92 45 IAmb IAmb 03 01 49.1
comp=Z,32nm,0.6s
BRSE Bradley Lake S 38.99 45 P **P** **03 01 47.4 +0.2**
baz=275,SNR=6.0
TRF Thorofare Moun 39.02 39 P **P** **03 01 47.8 +0.3**
baz=271,SNR=8.9
CUT Chulitna 39.05 41 IAmb IAmb 03 01 48.7
comp=Z,34nm,0.8s
CUT Chulitna 39.05 41 P **P** **03 01 47.5 -0.1**
baz=272,SNR=7.2
D23K Nanushuk River 39.12 30 P **P** **03 01 48.4 +0.3**
baz=264
COLD Coldfoot 39.15 33 P **P** **03 01 48.7 +0.4**
baz=266,SNR=10
M22K Willow 39.15 42 P **P** **03 01 47.9 -0.5**
baz=273
G23K Bananza Creek 39.19 34 P **P** **03 01 48.8 +0.1**
G23K IAmb IAmb 03 01 50.9
comp=Z,32nm,0.9s
G23K Bananza Creek 39.19 34 P **P** **03 01 49.0 +0.2**
baz=267,SNR=9.8
C23K Itkillik River 39.25 29 IAmb IAmb 03 01 50.2
comp=Z,57nm,0.9s
C23K Itkillik River 39.25 29 P **P** **03 01 49.0 -0.1**
baz=263,SNR=11
RC01 Rabbit Creek A 39.38 43 IAmb IAmb 03 01 51.5
comp=Z,30nm,0.7s
RC01 Rabbit Creek A 39.38 43 P **P** **03 01 50.7 +0.3**
baz=274,SNR=7.0
E23K Chandalar 39.43 32 IAmb IAmb 03 02 05.4
comp=Z,36nm,0.8s
E23K Chandalar 39.43 32 P **P** **03 01 51.0 +0.3**
baz=266,SNR=12
O22K Cooper Landing 39.44 44 P **P** **03 01 50.8 0.0**
baz=275
TOLK Toolik Lake Re 39.49 31 P **P** **03 01 50.7 -0.5**
TOLK IAmb IAmb 03 01 53.3
comp=Z,26nm,0.8s
TOLK Toolik Lake Re 39.49 31 P **P** **03 01 51.2 0.0**
baz=265,SNR=7.4
NEA2 Nenana 39.54 37 IAmb IAmb 03 01 54.2
comp=Z,38nm,0.7s
NEA2 Nenana 39.54 37 P **P** **03 01 52.0 +0.4**
baz=271,SNR=48
SEW Seward 39.60 44 IAmb IAmb 03 02 01.6
comp=Z,27nm,1.0s
SEW Seward 39.60 44 P **P** **03 01 52.1 -0.1**
baz=276
MCK McKinley 39.62 38 IAmb IAmb 03 01 55.3
comp=Z,43nm,0.9s
MCK McKinley 39.62 38 P **P** **03 01 52.7 +0.4**
baz=272,SNR=28
PMR Palmer 39.63 42 P **P** **03 01 52.3 0.0**
baz=274,SNR=6.7
RND Reindeer 39.66 39 IAmb IAmb 03 01 53.8
comp=Z,32nm,0.8s
GHO Glory Hole Cre 39.72 41 IAmb IAmb 03 01 54.6
comp=Z,33nm,0.8s
D24K Happy Valley 39.81 30 IAmb IAmb 03 02 08.0
comp=Z,41nm,0.7s
D24K Happy Valley 39.81 30 P **P** **03 01 53.7 0.0**
baz=265
WAT1 Susitna Watana 39.83 40 P **P** **03 01 54.0 -0.1**
baz=273
E24K Your Creek 39.86 32 P **P** **03 01 54.7 +0.5**
baz=267
C24K Franklin Bluff 39.90 29 P **P** **03 01 54.6 +0.1**
baz=265
WRH Wood River Hil 39.97 37 P **P** **03 01 55.2 0.0**
KNK Knik Glacier 39.97 42 P **P** **03 01 55.8 +0.5**
baz=275,SNR=16
H24K Nodor Dome 40.04 35 P **P** **03 01 56.6 +0.8**
baz=270,SNR=6.6
COLA College 40.06 37 P **P** **03 01 56.4 +0.6**
COLA College 40.06 37 P **P** **03 01 57.5 +1.6**
COLA College 40.06 37*c i* P **P** **03 01 56.8 +0.9**
COLA pmax pmax
comp=Z,57nm,0.8s
COLA College 40.06 37 P **P** **03 01 56.5 +0.6**
baz=271
COLA College 40.06 37 P **P** **03 01 56.5 +0.6**
F24K Squaw Lake 40.06 32 P **P** **03 01 56.3 +0.4**
baz=268,SNR=6.9
PWL Port Wells 40.08 43 IAmb IAmb 03 01 57.2
comp=Z,28nm,0.6s
PWL Port Wells 40.08 43 P **P** **03 01 56.0 -0.1**
baz=276,SNR=11
CCB Clear Creek Bu 40.08 37 P **P** **03 01 56.1 0.0**
G24K Hadweenzic Riv 40.20 34 IAmb IAmb 03 01 60.0
comp=Z,64nm,1.1s
G24K Hadweenzic Riv 40.20 34 P **P** **03 01 58.0 +0.9**
baz=268,SNR=23
WAT6 Susitna Watana 40.22 40 P **P** **03 01 57.5 0.0**
baz=274,SNR=16
POKR Poker Plat Res 40.23 36 P **P** **03 01 58.1 +0.8**
baz=272,SNR=26
M23K Glacier View 40.29 41 P **P** **03 01 57.9 0.0**
baz=275,SNR=13
DHY Denali Highway 40.35 39 P **P** **03 01 58.2 -0.3**
DHY IAmb IAmb 03 01 59.7
comp=Z,30nm,0.6s
DHY Denali Highway 40.35 39 P **P** **03 01 58.5 -0.1**
baz=274,SNR=33
HDA Harding Lake 40.46 37 IAmb IAmb 03 02 00.7
comp=Z,40nm,0.8s

HDA Harding Lake 40.46 37 P **P** **03 01 59.1 -0.2**
baz=273,SNR=48
SCM Sheep Creek Mo 40.47 41 IAmb IAmb 03 02 02.2
comp=Z,68nm,1.3s
SCM Sheep Creek Mo 40.47 41 P **P** **03 01 59.9 +0.5**
baz=276,SNR=13
IL31 40.47 37 IAmb IAmb 03 02 01.1
comp=Z,27nm,0.9s
ILAR Eielson Array 40.47 37 P **P** **03 01 58.6 -0.7**
ILAR Eielson Array 40.47 37 P **P** **03 01 59.5 +0.2**
comp=Z,11nm,0.6s,baz=276,slow=8.7,SNR=4.4
ILAR PcP **PcP** **03 03 60.0 -0.8**
comp=Z,1.6nm,0.4s,baz=292,slow=3.4,SNR=6.0
ILAR ScP **ScP** **03 07 43.0 -1.4**
comp=Z,1.3nm,0.9s,baz=273,slow=3.6,SNR=5.0
ILAR LR LR 03 19 04.5
comp=Z,112nm,20.7s,baz=254,slow=36
comp=Z,11nm,0.6s
GLI Glacier Island 40.68 43 P **P** **03 02 01.0 -0.1**
baz=277
D25K Kavik River 40.69 30 IAmb IAmb 03 02 15.1
comp=Z,41nm,0.8s
D25K Kavik River 40.69 30 P **P** **03 02 00.9 -0.3**
baz=268
QIZ Qiongzhong 40.74 244 P **P** **03 02 00.5 -1.5**
QIZ S **S** **03 08 04.0 -3.9**
QIZ LR LR
comp=Z,240nm,21.0s
QIZ LR LR
comp=Z,270nm,12.9s
QIZ LR LR
comp=Z,290nm,28.4s
G25K Bearman Lake 40.75 34 P **P** **03 02 02.2 +0.7**
baz=271,SNR=9.1
GOMU GeErMu 40.86 277 P **P** **03 02 03.8 +0.5**
GOMU S **S** **03 08 08.6 -1.6**
GOMU pmax pmax
comp=Z,57nm,0.8s
GOMU LR LR
comp=Z,410nm,18.8s
GOMU LR LR
comp=Z,360nm,18.0s
GOMU LR LR
comp=Z,620nm,18.3s
H25L Birch Creek 40.87 34 P **P** **03 02 03.5 +1.0**
baz=272,SNR=10
F25K Christian Rive 40.92 32 P **P** **03 02 03.8 +0.7**
baz=270,SNR=5.7
E25K Arctic Village 40.95 32 P **P** **03 02 03.9 +0.7**
baz=270
M24K Tolsona, Glenn 40.99 41 P **P** **03 02 04.6 +0.9**
baz=276,SNR=18
FID Port Fidalgo 41.00 43 IAmb IAmb 03 02 04.9
comp=Z,55nm,1.3s
K24K Donnelly Dome 41.01 38 P **P** **03 02 03.7 -0.1**
baz=274,SNR=37
PRP Porcupine Dome 41.02 36 IAmb IAmb 03 02 06.3
comp=Z,34nm,0.8s
PRP Porcupine Dome 41.02 36 P **P** **03 02 04.4 +0.4**
baz=273,SNR=16
FYU Fort Yukon 41.10 34 IAmb IAmb 03 02 07.0
comp=Z,58nm,0.7s
J25K Salcha River, 41.13 37 P **P** **03 02 03.8 -1.1**
baz=274,SNR=18
ZAA0 Zalesovo Array 41.14 307 P **P** **03 02 04.5 -0.4**
ZALV Zalesovo Beam 41.14 307 P **P** **03 02 04.5 -0.4**
ZALV Zalesovo Beam 41.14 307 P **P** **03 02 05.4 +0.5**
comp=Z,5.5nm,0.4s,baz=76,slow=7.8,SNR=30
ZALV PcP **PcP** **03 04 03.3 +0.2**
comp=Z,50nm,0.5s,baz=82,slow=2.9,SNR=49
ZALV ScP **ScP** **03 07 46.9 -0.4**
comp=Z,2.8nm,0.7s,baz=90,slow=4.4,SNR=5.6
ZALV LR LR 03 20 15.8
comp=Z,377nm,18.3s,baz=73,slow=38
comp=Z,5.5nm,0.4s
KLU Klutina 41.17 42 P **P** **03 02 05.4 +0.1**
KLU IAmb IAmb 03 02 07.1
comp=Z,58nm,1.1s
KLU Klutina 41.17 42 P **P** **03 02 06.2 +1.0**
baz=277,SNR=25
PZH PanZhiHua 41.22 260 P **P** **03 02 06.3 +0.3**
PZH pmax pmax
comp=Z,80nm,0.9s
PAX Paxson 41.22 39 P **P** **03 02 06.3 +0.7**
baz=276,SNR=19
C26K Camden Bay 41.23 29 P **P** **03 02 06.2 +0.8**
baz=268
DIV Divide 41.29 42 **P** **03 02 06.6 +0.4**
DIV IAmb IAmb 03 02 08.0
comp=Z,67nm,1.3s
BMAR Burnt Mountain 41.33 33 P **P** **03 02 06.8 +0.4**
KMI Kunming 41.38 258 ⇑P **P** **03 02 08.3 +0.8**
KMI pP pP 03 02 21.9 -1.5
KMI pmax pmax
comp=Z,110nm,1.1s
KMI LR LR
comp=Z,220nm,13.9s
KMI LR LR
comp=Z,190nm,16.2s
KMI LR LR
comp=Z,290nm,16.6s
EYAK Cordova Ski Ar 41.38 43 P **P** **03 02 08.2 +1.4**
EYAK Cordova Ski Ar 41.38 43 P **P** **03 02 07.3 +0.5**
baz=278
HARP HAARP 41.43 40 P **P** **03 02 08.4 +1.1**
baz=277,SNR=18
RIDG Independent Ri 41.43 38 IAmb IAmb 03 02 09.2
comp=Z,46nm,0.9s
RIDG Independent Ri 41.43 38 P **P** **03 02 06.9 -0.4**
baz=275,SNR=35
F26K Sheenjek River 41.49 32 P **P** **03 02 08.1 +0.4**
F26K Sheenjek River 41.49 32 P **P** **03 02 08.3 +0.6**
baz=272,SNR=8.5
C27K Jago River 41.64 29 IAmb IAmb 03 02 23.8
comp=Z,34nm,0.8s
C27K Jago River 41.64 29 P **P** **03 02 09.2 +0.4**
baz=270,SNR=20
G26K Porcupine Rive 41.66 33 IAmb IAmb 03 02 12.2
comp=Z,48nm,1.1s
G26K Porcupine Rive 41.66 33 P **P** **03 02 10.3 +1.3**
baz=273,SNR=16
DOT Dot Lake 41.79 38 IAmb IAmb 03 02 11.2
comp=Z,26nm,0.7s
N25K Chitina, Valde 41.79 41 IAmb IAmb 03 02 12.5
comp=Z,59nm,1.6s
N25K Chitina, Valde 41.79 41 P **P** **03 02 11.1 +0.8**
baz=278,SNR=9.1
SCRK Sand Creek 41.79 38 IAmb IAmb 03 02 11.7
comp=Z,40nm,0.9s
SCRK Sand Creek 41.79 38 P **P** **03 02 10.2 -0.1**
baz=276,SNR=51
BMRM Bremner River 41.88 42 IAmb IAmb 03 02 14.3
comp=Z,37nm,0.8s
BMRM Bremner River 41.88 42 P **P** **03 02 11.8 +0.9**
baz=279,SNR=16
J26L Joseph Creek 41.92 37 P **P** **03 02 11.6 +0.3**
baz=276,SNR=18
RAGM Ragged Mountai 41.93 43 IAmb IAmb 03 02 14.3
comp=Z,46nm,1.2s
MENT Mentasta 42.02 39 IAmb IAmb 03 02 16.0
comp=Z,23nm,0.6s
KAIM Kayak Island 42.13 44 P **P** **03 02 13.5 +0.6**
baz=280
L26K Log Cabin Wild 42.18 39 IAmb IAmb 03 02 16.2
comp=Z,65nm,1.1s
L26K Log Cabin Wild 42.18 39 P **P** **03 02 14.5 +1.2**
baz=277,SNR=46
VRDI Verde Repeater 42.39 42 P **P** **03 02 15.5 +0.2**
M26K Nabesna, AK 42.42 40 P **P** **03 02 17.1 +1.6**
baz=278,SNR=74
E27K Coleen River 42.44 31 P **P** **03 02 15.9 +0.5**
baz=273,SNR=9.1
WMQ Urumqi 42.50 291 *e*P **P** **03 02 18.0 +1.7**
WMQ sP sP 03 02 38.3 -1.2
WMQ pmax pmax
comp=Z,59nm,1.3s
WMQ LR LR
comp=Z,520nm,17.7s
WMQ LR LR
comp=Z,440nm,19.1s
WMQ LR LR
comp=Z,550nm,20.5s
G27K Doyon Strip 42.51 33 P **P** **03 02 17.1 +1.1**
baz=275,SNR=6.4
MCARA McCarthy VSAT 42.57 42 IAmb IAmb 03 02 19.2
comp=Z,83nm,1.5s
MCARA McCarthy VSAT 42.57 42 P **P** **03 02 17.6 +1.1**
baz=280,SNR=13

H27K Steamboat Moun 42.61 34 IAmb IAmb 03 02 19.6
comp=Z,34nm,0.9s
H27K Steamboat Moun 42.61 34 P **P** **03 02 18.4 +1.5**
baz=275,SNR=20
D27M Malcolm River 42.61 30 P **P** **03 02 17.2 +0.3**
baz=273
K27K Chicken 42.62 38 P **P** **03 02 17.8 +0.9**
baz=277
I27K Kandik River 42.63 35 P **P** **03 02 17.2 +0.2**
baz=276
CRQE Cirque 42.64 43 P **P** **03 02 18.4 +1.1**
baz=280,SNR=33
TGL Tana Glacier 42.77 42 IAmb IAmb 03 02 20.6
comp=Z,30nm,0.9s
WAX Waxell Ridge 42.81 43 IAmb IAmb 03 02 20.6
comp=Z,50nm,0.6s
L27K Beaver Creek, 42.86 39 P **P** **03 02 20.5 +1.6**
baz=279
SNH Sunshine Point 42.87 43 IAmb IAmb 03 02 21.9
comp=Z,54nm,0.9s
BCAR Beaver Creek A 42.88 39 P **P** **03 02 20.3 +1.2**
EGAK Eagle 42.92 36 IAmb IAmb 03 02 20.5
comp=Z,41nm,0.8s
EGAK Eagle 42.92 36 P **P** **03 02 19.4 +0.1**
baz=277,SNR=38
M27K Edge Creek, AK 42.95 40 IAmb IAmb 03 02 22.8
comp=Z,54nm,0.8s
M27K Edge Creek, AK 42.95 40 P **P** **03 02 21.3 +1.6**
baz=279,SNR=45
ZSN Zaisan 43.01 297 *eP* **P** **03 02 20.5 +0.2**
ZSN Zaisan 43.01 297 *eP* **P** **03 02 20.5 +0.2**
ISLE Juniper Island 43.03 43 IAmb IAmb 03 02 22.4
comp=Z,39nm,0.9s
SLVN Son La 43.06 252 IAmb IAmb 03 02 23.6
comp=Z,66nm,1.1s
F28M Old Crow 43.13 32 P **P** **03 02 22.2 +1.2**
baz=275,SNR=14
E28M Babbage River 43.17 31 P **P** **03 02 22.1 +0.8**
baz=275,SNR=12
BARN Barnard Glacie 43.27 42 IAmb IAmb 03 02 24.8
comp=Z,57nm,1.1s
GRNC Granite Creek 43.29 42 IAmb IAmb 03 02 24.8
comp=Z,62nm,0.8s
MESA MESA 43.30 43 IAmb IAmb 03 02 27.1
comp=Z,36nm,0.8s
MESA MESA 43.30 43 P **P** **03 02 24.0 +1.3**
baz=282,SNR=5.7
I28M Miner Creek 43.35 35 IAmb IAmb 03 02 25.0
comp=Z,48nm,0.7s
I28M Miner Creek 43.35 35 P **P** **03 02 23.8 +0.9**
baz=278,SNR=48
YAH Yahtse 43.37 43 IAmb IAmb 03 02 25.6
comp=Z,56nm,0.9s
BVCY Beaver Creek 43.41 40 P **P** **03 02 24.6 +1.3**
baz=280,SNR=18
CTG Chitna Glacier 43.45 42 P **P** **03 02 24.9 +1.1**
baz=281,SNR=26
CTGM Chitina Glacie 43.45 42 IAmb IAmb 03 02 26.1
comp=Z,91nm,1.2s
LOGN Logan Glacier 43.63 42 IAmb IAmb 03 02 27.9
comp=Z,53nm,1.3s
TABL Table Mountain 43.65 43 IAmb IAmb 03 02 27.4
comp=Z,41nm,0.8s
YUK3 Moose Creek 43.71 41 P **P** **03 02 26.9 +1.0**
baz=281,SNR=24
DAWY Dawson 43.78 37 P **P** **03 02 26.7 +0.3**
DAWY Dawson 43.78 37 P **P** **03 02 26.8 +0.5**
baz=280,SNR=16
E29M Blow River 43.79 31 IAmb IAmb 03 02 29.2
comp=Z,33nm,0.8s
E29M Blow River 43.79 31 P **P** **03 02 27.2 +0.9**
baz=276,SNR=22
H29M Whitestone 43.88 34 IAmb IAmb 03 02 30.0
comp=Z,28nm,0.8s
H29M Whitestone 43.88 34 P **P** **03 02 28.1 +1.1**
baz=278,SNR=15
G29M Pine Creek 43.92 33 IAmb IAmb 03 02 30.7
comp=Z,52nm,0.9s
G29M Pine Creek 43.92 33 P **P** **03 02 28.4 +1.1**
baz=278,SNR=17
I29M Ogilvie Camp, 44.03 35 P **P** **03 02 29.2 +0.9**
baz=279,SNR=57
O28M Mount Upton 44.04 42 P **P** **03 02 29.5 +0.8**
baz=282,SNR=13
YUK8 Steele Glacier 44.13 41 P **P** **03 02 30.5 +1.1**
baz=282,SNR=8.2
PINM Pinnacle 44.15 43 P **P** **03 02 30.5 +1.1**
baz=283,SNR=5.2
J29N Klondike Camp 44.22 37 P **P** **03 02 30.9 +1.0**
baz=280
TNCH TengChong 44.40 261 ⇑P **P** **03 02 33.0 +1.1**
TNCH pP pP 03 02 49.4 +1.5
TNCH S **S** **03 09 01.8 -0.3**
TNCH SS **SS** **03 12 15.6 -7.3**
TNCH pmax pmax
comp=Z,360nm,1.9s
BCPM Bancas Point 44.49 43 P **P** **03 02 32.7 +0.8**
M29M Somme Creek 44.49 39 P **P** **03 02 33.8 +1.7**
baz=282,SNR=18
L29M L29M 44.51 39 IAmb IAmb 03 02 35.0
comp=Z,45nm,0.7s
L29M L29M 44.51 39 P **P** **03 02 34.1 +1.9**
baz=282,SNR=47
EPYK Eagle Plains 44.52 34 IAmb IAmb 03 02 34.9
comp=Z,78nm,1.0s
EPYK Eagle Plains 44.52 34 P **P** **03 02 33.2 +1.1**
baz=279,SNR=26
G30M tAoh Zraii Nji 44.61 33 IAmb IAmb 03 02 35.0
comp=Z,41nm,0.8s
G30M tAoh Zraii Nji 44.61 33 P **P** **03 02 33.7 +0.8**
baz=279,SNR=21
K29M Barlow Dome 44.63 37 IAmb IAmb 03 02 36.2
comp=Z,34nm,0.9s
K29M Barlow Dome 44.63 37 P **P** **03 02 34.4 +1.2**
baz=281,SNR=38
YUK4 Talbot Arm 44.65 41 P **P** **03 02 34.8 +1.3**
baz=283,SNR=14
PNL Peninsula 44.67 43 P **P** **03 02 34.0 +0.6**
PNL Peninsula 44.67 43 P **P** **03 02 34.2 +0.8**
baz=284
F30M Barrier River 44.68 32 IAmb IAmb 03 02 49.6
comp=Z,64nm,0.9s
F30M Barrier River 44.68 32 P **P** **03 02 34.8 +1.4**
baz=279,SNR=15
I30M Mount Dempster 44.86 35 P **P** **03 02 36.0 +1.1**
baz=281,SNR=78
YUK6 Outpost Mounta 44.87 42 P **P** **03 02 36.3 +1.1**
baz=284
MKAR Makanchi Array 44.89 297 P **P** **03 02 35.2 -0.1**
MKAR Makanchi Array 44.89 297 P **P** **03 02 35.5 +0.1**
comp=Z,47nm,0.8s,baz=80,slow=8.5,SNR=132
MKAR PcP **PcP** **03 04 16.4 +0.5**
comp=Z,26nm,0.6s,baz=68,slow=4.8,SNR=21
MKAR LR LR 03 22 43.0
comp=Z,1µm,18.6s,baz=56,slow=38
comp=Z,47nm,0.8s
MKAR Makanchi Array 44.89 297 *i* P **P** **03 02 35.5 +0.1**
MKAR pmax pmax
comp=Z,48nm,0.8s
O29M Mount Kennedy 44.92 42 P **P** **03 02 36.6 +1.1**
baz=284
J30M Hart River 45.00 36 IAmb IAmb 03 02 38.2
comp=Z,24nm,0.7s
J30M Hart River 45.00 36 P **P** **03 02 37.2 +1.0**
baz=282,SNR=37
MAKZ Makanchi 45.08 297 P **P** **03 02 37.1 +0.2**
M30M Minto, Yukon 45.22 39 IAmb IAmb 03 02 40.6
comp=Z,32nm,0.9s
M30M Minto, Yukon 45.22 39 P **P** **03 02 39.6 +1.8**
baz=283,SNR=28
HYT Haines Junctio 45.31 42 P **P** **03 02 40.5 +1.9**
baz=284,SNR=94
N30M Aishikik Lake 45.35 41 P **P** **03 02 40.2 +1.3**
baz=284,SNR=11
G31M Satah River 45.38 33 IAmb IAmb 03 02 53.6
comp=Z,27nm,0.7s
G31M Satah River 45.38 33 P **P** **03 02 39.2 +0.3**
baz=281,SNR=13
INK Inuvik 45.41 31 IAmb IAmb 03 02 41.7
comp=Z,18nm,0.7s
INK Inuvik 45.41 31 LR LR 03 24 49.9
comp=Z,153nm,19.9s,baz=272,slow=40
INK Inuvik 45.41 31 P **P** **03 02 39.5 +0.4**
baz=280,SNR=16
F31M Tsiigehtchic 45.49 32 IAmb IAmb 03 04 18.7
comp=Z,24nm,0.8s
F31M Tsiigehtchic 45.49 32 P **P** **03 02 40.1 +0.4**
baz=281,SNR=11

P29M Windy Craggy 45.50 43 P **P** **03 02 41.9 +1.9**
baz=285,SNR=41
H31M Peel River 45.57 34 IAmb IAmb 03 02 43.4
comp=Z,66nm,1.3s
H31M Peel River 45.57 34 P **P** **03 02 41.5 +0.9**
baz=282,SNR=19
KURK Kurchatov 45.72 304 P **P** **03 02 41.1 -0.8**
KURK IAmb IAmb 03 04 19.8
comp=Z,33nm,0.6s
KURK Kurchatov 45.72 304 P **P** **03 02 42.3 +0.5**
KURK Kurchatov 45.72 304 *ce*P **P** **03 02 41.6 -0.2**
KURK pmax pmax
comp=Z,28nm,0.8s
KURK Kurchatov 45.72 304 *eP* **P** **03 02 41.6 -0.2**
KURK Kurchatov 45.72 304 P **P** **03 02 42.1 +0.3**
KURK sP **sP** **03 03 05.2 0.0**
KURK PcP **PcP** **03 04 19.1 +0.5**
P30M Million Dollar 45.75 42 P **P** **03 02 44.3 +2.3**
baz=285,SNR=32
KURBB Kurchatov Arra 45.81 304 P **P** **03 02 42.3 -0.2**
comp=Z,21nm,0.6s,baz=71,slow=8.4,SNR=8.6
KURBB PcP **PcP** **03 04 19.4 +0.4**
comp=Z,32nm,0.7s,baz=74,slow=3.5,SNR=32
KURBB LR LR 03 23 03.7
comp=Z,327nm,19.4s,baz=181,slow=38
comp=Z,21nm,0.6s
N31M Braeburn, Yuko 45.95 40 P **P** **03 02 45.7 +2.1**
baz=285,SNR=32
O30N Mendenhall 45.99 41 P **P** **03 02 45.5 +1.6**
baz=285,SNR=9.4
PLBC Pleasant Camp 46.22 43 P **P** **03 02 47.5 +1.9**
baz=286,SNR=11
MANU Manus Island 46.32 181 P **P** **03 02 47.1 +0.2**
M31M Drury Creek, Y 46.40 39 IAmb IAmb 03 02 49.6
comp=Z,48nm,0.8s
M31M Drury Creek, Y 46.40 39 P **P** **03 02 48.8 +1.7**
baz=285,SNR=48
WHY Whitehorse 46.59 41 IAmb IAmb 03 02 51.4
comp=Z,58nm,0.9s
WHY Whitehorse 46.59 41 P **P** **03 02 50.5 +1.8**
baz=286,SNR=16
SKAG Skagway 46.72 43 P **P** **03 02 51.2 +1.7**
baz=287
LSA Lhasa 46.89 272 IAmb IAmb 03 02 54.4
comp=Z,65nm,1.1s
LSA Lhasa 46.89 272 P **P** **03 02 50.3 -1.5**
LSA S **S** **03 09 39.1 +0.7**
LSA LR LR
comp=Z,160nm,23.0s
LSA LR LR
comp=Z,360nm,24.8s
BESE Bessie Mountai 47.22 44 P **P** **03 02 54.6 +1.0**
JAY Jayapura 47.26 190 LR LR 03 20 40.1
comp=Z,64nm,21.5s,baz=7.5,slow=33
N32M Quiet Lake 47.29 40 IAmb IAmb 03 02 56.1
comp=Z,26nm,0.8s
N32M Quiet Lake 47.29 40 P **P** **03 02 55.2 +1.1**
baz=287
P32M Atlin 47.47 43 P **P** **03 02 56.8 +1.4**
baz=288,SNR=7.0
SIT Sitka 47.47 46 P **P** **03 02 57.3 +1.9**
baz=289
R32K Eaglecrest 47.49 44 IAmb IAmb 03 02 58.5
comp=Z,24nm,0.7s
R32K Eaglecrest 47.49 44 P **P** **03 02 57.3 +1.8**
baz=289,SNR=11
MMPY Sheldon Lake, 47.68 38 IAmb IAmb 03 03 00.4
comp=Z,34nm,0.9s
MMPY Sheldon Lake, 47.68 38 P **P** **03 02 58.7 +1.6**
baz=287,SNR=21
P33M Teslin, Yukon 47.70 42 IAmb IAmb 03 03 00.1
comp=Z,50nm,0.9s
P33M Teslin, Yukon 47.70 42 P **P** **03 02 59.1 +1.8**
baz=288,SNR=41
TDK Taldyqorghan 48.09 297 *eP* **P** **03 03 00.8 +0.3**
comp=Z,22nm,0.6s
TDK Taldyqorghan 48.09 297 *eP* **P** **03 03 00.8 +0.3**
TDK pmax pmax
comp=Z,22nm,0.6s
CHTO Chiang Mai 48.17 254 P **P** **03 03 01.3 -0.1**
CHTO Chiang Mai 48.17 254 P **P** **03 03 02.7 +1.4**
CHTO Chiang Mai 48.17 254 P **P** **03 03 02.5 +1.1**
CHTO Chiang Mai 48.17 254 P **P** **03 03 01.3 -0.1**
CHTO pmax pmax
comp=Z,97nm,0.8s
CHTO Chiang Mai 48.17 254 P **P** **03 03 02.5 +1.1**
CHTO pP **pP** **03 03 18.0 +0.5**
SHLS Shalkode 48.22 294 *eP* **P** **03 02 59.6 -2.0**
comp=Z,7.7nm,0.4s
SHLS Shalkode 48.22 294 *eP* **P** **03 02 59.6 -2.0**
SHLS pmax pmax
comp=Z,8.0nm,0.4s
Q32M Nakina River 48.37 43 P **P** **03 03 04.1 +1.5**
baz=290,SNR=6.5
CM31 Chiang Mai Arr 48.42 254 IAmb IAmb 03 03 05.5
comp=Z,44nm,0.8s
CM31 Chiang Mai Arr 48.42 254 P **P** **03 03 04.8 +1.6**
SNR=14
CMAR Chiang Mai Ar 48.42 254 P **P** **03 03 04.1 +0.8**
CMAR Chiang Mai Ar 48.42 254 P **P** **03 03 04.5 +1.3**
comp=Z,28nm,0.8s,baz=39,slow=7.4,SNR=159
CMAR PcP **PcP** **03 04 30.1 +1.3**
comp=Z,3.5nm,0.7s,baz=26,slow=1.3,SNR=5.4
CMAR LR LR 03 25 01.1
comp=Z,226nm,18.8s,baz=40,slow=38
comp=Z,28nm,0.8s
UZB Uzynbulak 48.51 294 *eP* **P** **03 03 03.9 0.0**
comp=Z,18nm,0.9s
UZB Uzynbulak 48.51 294 *eP* **P** **03 03 03.8 0.0**
UZB pmax pmax
comp=Z,18nm,0.9s
SHL Shillong 48.80 267 P **P** **03 03 06.5 +0.3**
SNR=31
R33M Jennings River 48.86 42 IAmb IAmb 03 03 09.3
comp=Z,25nm,0.8s
R33M Jennings River 48.86 42 P **P** **03 03 08.3 +2.1**
baz=290,SNR=19
U33K Whale Pass 48.94 47 IAmb IAmb 03 03 09.6
comp=Z,37nm,1.1s
U33K Whale Pass 48.94 47 P **P** **03 03 08.8 +2.1**
baz=292
SATY Saty 48.95 294 *eP* **P** **03 03 07.4 +0.1**
comp=Z,14nm,0.8s
SATY Saty 48.95 294 *eP* **P** **03 03 07.3 +0.1**
SATY pmax pmax
comp=Z,14nm,0.8s
CRAG Craig 49.18 48 P **P** **03 03 10.5 +1.9**
baz=292
WRAK Wrangell Islan 49.23 46 IAmb IAmb 03 03 12.2
comp=Z,36nm,1.1s
WRAK Wrangell Islan 49.23 46 P **P** **03 03 11.1 +2.1**
baz=292,SNR=7.0
FAKI Fak Fak 49.29 201 P **P** **03 03 10.1 +0.2**
S34M Telegraph Cree 49.30 44 IAmb IAmb 03 03 12.6
comp=Z,17nm,0.8s
S34M Telegraph Cree 49.30 44 P **P** **03 03 11.5 +2.0**
baz=291,SNR=9.7
TGTN Hyland Airport 49.37 39 P **P** **03 03 11.6 +1.5**
baz=290,SNR=20
CHKK Chushkaly 49.51 296 *eP* **P** **03 03 11.6 +0.2**
CHKK Chushkaly 49.51 296 *eP* **P** **03 03 11.5 +0.2**
BRZS Berezniki 49.52 305 *eP* **P** **03 03 11.6 +0.2**
BRZS Berezniki 49.52 305 *eP* **P** **03 03 11.5 +0.2**
BVAR Borovoye Array 49.60 309 P **P** **03 03 12.8 +0.9**
comp=Z,4.6nm,0.4s,baz=47,slow=8.7,SNR=16
BVAR PcP **PcP** **03 04 33.0 +0.5**
comp=Z,21nm,0.5s,baz=60,slow=3.6,SNR=16
BVAR ScP **ScP** **03 08 21.4 -0.9**
comp=Z,1.3nm,0.5s,baz=45,slow=4.4,SNR=3.6
BVAR LR LR 03 25 47.5
comp=Z,493nm,18.4s,baz=78,slow=38
comp=Z,4.6nm,0.4s
MRSI Marisa 49.61 215 P **P** **03 03 13.1 +0.8**
comp=Z,2µmcomp=Z,139nm,1.0s
WTLY Watson Lake, Y 49.63 41 IAmb IAmb 03 03 14.5
comp=Z,20nm,0.8s
WTLY Watson Lake, Y 49.63 41 P **P** **03 03 13.5 +1.4**
baz=291,SNR=12
DLBC Dease Lake 49.65 43 LR LR 03 27 20.9
comp=Z,498nm,18.4s,baz=260,slow=40
DLBC Dease Lake 49.65 43 P **P** **03 03 14.6 +2.3**
baz=292,SNR=14
MDOK Medeo 49.79 295 *eP* **P** **03 03 13.7 +0.1**
MDOK Medeo 49.79 295 *eP* **P** **03 03 13.6 0.0**
AAA Alma-Ata 49.85 295 *eP* **P** **03 03 14.2 +0.1**
comp=Z,13nm,0.4s
AAA Alma-Ata 49.85 295 *eP* **P** **03 03 14.1 +0.1**

AAA pmax pmax
comp=Z,13nm,0.4s
AAA Alma-Ata 49.85 295 *eP* **P** **03 03 14.1 +0.1**
KUU Kurty 49.91 296 *eP* **P** **03 03 14.5 +0.1**
KUU Kurty 49.91 296 *eP* **P** **03 03 14.5 +0.1**
TNSS Tian-Shan 49.91 295 *eP* **P** **03 03 14.8 -0.1**
TNSS Tian-Shan 49.91 295 *eP* **P** **03 03 14.7 -0.1**
V35K Ketchikan 50.03 47 P **P** **03 03 17.1 +2.0**
baz=293
T35M Bob Quinn 50.09 45 P **P** **03 03 17.6 +2.1**
baz=293,SNR=19
KDJ Kajisay 50.19 294 IAmb IAmb 03 03 18.9
comp=Z,34nm,0.7s
SANI Sanana 50.38 209 P **P** **03 03 18.0 -0.1**
comp=Z,139nm,0.9s
U35K Hyder 50.63 46 P **P** **03 03 21.6 +2.1**
baz=294
ULHL Ulahol 50.74 294 P **P** **03 03 22.1 +1.2**
SNR=20
BRDH Bariadhala 50.76 264 LR LR 03 25 23.3
comp=Z,107nm,19.4s,baz=84,slow=36
WRGLY Wrigley 50.83 36 IAmb IAmb 03 03 23.4
comp=Z,50nm,1.0s
WRGLY Wrigley 50.83 36 P **P** **03 03 22.4 +1.5**
baz=293,SNR=12
BTLS Baital 50.84 298 *eP* **P** **03 03 21.3 0.0**
BTLS Baital 50.84 298 *eP* **P** **03 03 21.3 0.0**
TKM2 Tokmak 2 50.84 295 P **P** **03 03 22.2 +0.6**
SNR=11
APSI Ampana 50.98 215 P **P** **03 03 24.7 +2.0**
comp=Z,77nm,1.2s
LIRD Liard River Hi 51.16 41 P **P** **03 03 24.8 +1.2**
baz=294
SGDS Sogindy 51.21 296 *eP* **P** **03 03 24.4 +0.1**
USP Ospenovka 51.39 296 P **P** **03 03 26.4 +0.8**
SNR=31
KBK Karagaybulak 51.39 295 P **P** **03 03 26.7 +0.9**
SNR=15
AAK Ala-Archa 51.69 296 P **P** **03 03 28.7 +0.7**
SNR=7.4
AAK Ala-Archa 51.69 296 P **P** **03 03 28.4 +0.5**
AAK IAmb IAmb 03 03 29.5
comp=Z,16nm,0.8s
AAK Ala-Archa 51.69 296 LR LR 03 27 31.5
comp=Z,232nm,19.9s,baz=70,slow=38
AAK Ala-Archa 51.69 296 P **P** **03 03 28.8 +0.9**
AAK Ala-Archa 51.69 296 *i* P **P** **03 03 28.7 +0.7**
SNR=8.0
AAK Ala-Archa 51.69 296 *ce*P **P** **03 03 28.5 +0.5**
AAK pmax pmax
comp=Z,20nm,0.9s
AAK Ala-Archa 51.69 296 *eP* **P** **03 03 28.5 +0.5**
AAK Ala-Archa 51.69 296 P **P** **03 03 28.5 +0.5**
TOAD Toad River Com 51.80 41 P **P** **03 03 30.2 +1.8**
baz=295,SNR=22
KOTAN Kotaneelee Air 51.81 40 P **P** **03 03 29.8 +1.4**
baz=295,SNR=5.2
UCH Uchtor 51.88 295 P **P** **03 03 30.9 +1.2**
SNR=14
EKS2 Erkin-Say 52.14 296 P **P** **03 03 32.0 +0.7**
SNR=21
KSH Kashi 52.27 291 P **P** **03 03 36.3 +4.1**
KSH sP sP 03 04 04.8 +9.0
KSH PcP **PcP** **03 04 46.1 +3.3**
KSH pmax pmax
comp=Z,36nm,1.0s
KSH LR LR
comp=Z,440nm,17.9s
KSH LR LR
comp=Z,360nm,17.2s
KSH LR LR
comp=Z,530nm,23.4s
SBUM Sibu 52.50 228 P **P** **03 03 34.5 +0.5**
SVE Sverdlovsk 53.10 317 *eP* **P** **03 03 38.3 +0.3**
SVE pmax pmax
comp=Z,28nm,0.9s
SVE MLR MLR
comp=Z,545nm,20.0s
BBB Bella Bella 53.25 50 LR LR 03 28 27.6
comp=Z,36nm,18.1s,baz=279,slow=38
PMG Port Moresby 53.84 181 LR LR 03 23 07.3
comp=Z,88nm,21.9s,baz=324,slow=32
NOR Nord 53.91 357 *i* P **P** **03 03 43.3 -0.3**
NOR IAmb IAmb 03 03 44.6
comp=Z,5.1nm,0.6s
KK31 Karatay Array 54.01 298 IAmb IAmb 03 03 46.0
comp=Z,20nm,0.8s
KKAR Karatay Array 54.01 298 P **P** **03 03 44.6 -0.2**
KKAR Karatay Array 54.01 298 P **P** **03 03 44.6 -0.2**
RES Resolute Bay 54.06 17 LR LR 03 29 54.6
comp=Z,167nm,20.5s,baz=352,slow=39
KBS Kingsbay 54.19 351 P **P** **03 03 45.9 +0.3**
KBS Kingsbay 54.19 351 *ce*P **P** **03 03 45.9 +0.3**
KBS pmax pmax
comp=Z,34nm,0.6s
KBS Kingsbay 54.19 351 *i* P **P** **03 03 46.2 +0.6**
SPITS Spitsbergen Ar 54.20 349 P **P** **03 03 45.6 -0.2**
comp=Z,2.5nm,0.5s,baz=66,slow=8.3,SNR=14
SPITS PcP **PcP** **03 04 49.4 0.0**
comp=Z,9.7nm,0.6s,baz=99,slow=5.4,SNR=10
SPITS LR LR 03 29 10.1
comp=Z,135nm,19.7s,baz=54,slow=38
ARTI Arti 54.41 317 P **P** **03 03 46.6 -0.9**
ARTI IAmb IAmb 03 03 48.5
comp=Z,51nm,1.0s
ARTI Arti 54.41 317 LR LR 03 29 26.9
comp=Z,572nm,18.6s,baz=58,slow=39
ARTI Arti 54.41 317 *c i*P **P** **03 03 44.7 -2.8**
ARTI *PP **pP** **03 04 01.3 -2.7**
ARTI 03 04 49.2
ARTI S **S** **03 11 17.3 -3.7**
ARTI pmax pmax
comp=Z,32nm,0.9s
ARTI MLR MLR
comp=Z,531nm,18.0s
BRLS Borolday 54.47 298 *eP* **P** **03 03 50.0 +1.8**
BRLS Borolday 54.47 298 *eP* **P** **03 03 50.0 +1.8**
HNR Honiara 54.71 166 LR LR 03 30 16.6
comp=Z,82nm,18.0s,baz=342,slow=39
YKAW3 Yellowknife Wh 54.76 34 IAmb IAmb 03 03 51.6
comp=Z,48nm,1.1s
YKA Yellowknife Ar 54.80 34 P **P** **03 03 50.3 +0.1**
YKA Yellowknife Ar 54.80 34 P **P** **03 03 50.1 -0.1**
comp=Z,25nm,0.7s,baz=302,slow=7.6,SNR=44
YKA PcP **PcP** **03 04 52.2 +0.4**
comp=Z,0.8nm,0.4s,baz=309,slow=3.9,SNR=4.1
comp=Z,25nm,0.7s
YKAW1 Yellowknife Wh 54.85 34 IAmb IAmb 03 03 52.2
comp=Z,32nm,0.7s
STKI Sintang 54.90 227 P **P** **03 03 53.1 +1.5**
CHM Chimkent 54.98 297 *eP* **P** **03 03 52.0 +0.1**
comp=Z,25nm,0.7s
CHM Chimkent 54.98 297 *eP* **P** **03 03 52.0 +0.1**
CHM pmax pmax
comp=Z,25nm,0.7s
KAPI Kappang 55.48 215 P **P** **03 03 56.0 +0.3**
KAPI IAmb IAmb 03 03 56.9
comp=Z,19nm,0.8s
KAPI Kappang 55.48 215 P **P** **03 03 56.0 +0.3**
KAPI pmax pmax
comp=Z,19nm,0.8s
KAPI Kappang 55.48 215 P **P** **03 03 56.3 +0.6**
KULM Kulim 56.94 241 P **P** **03 04 07.6 +1.5**
TULEG Thule 56.99 10 *i* P **P** **03 04 04.3 -1.3**
TULEG IAmb IAmb 03 04 09.6
comp=Z,105nm,1.3s
ABKAR Akbulak array 57.17 309 P **P** **03 04 06.5 -0.8**
NIL Nilore 57.27 287 P **P** **03 04 08.6 +0.3**
NIL Nilore 57.27 287 P **P** **03 04 09.7 +1.4**
NIL Nilore 57.27 287 P **P** **03 04 08.6 +0.3**
NIL pmax pmax
comp=Z,152nm,0.7s
SIMJ Simiganj 57.32 294 P **P** **03 04 08.5 -0.2**
SIMJ Simiganj 57.32 294 P **P** **03 04 09.1 +0.3**
SIMJ sP **sP** **03 04 31.9 -0.6**
IPM Ipoh 57.33 240 IAmb IAmb 03 04 10.1
comp=Z,19nm,0.7s
LLLB Lilooet 57.42 49 IAmb IAmb 03 04 11.1
comp=Z,25nm,0.9s
VADS Vadso 57.44 339 *eP* **P** **03 04 06.0 -3.0**
KIRV Kirov 57.46 322 LR LR 03 30 50.1
comp=Z,471nm,20.6s,baz=49,slow=38
KIRV Kirov 57.46 322 *ce*P **P** **03 04 09.8 +0.6**
AKTO Aktyubinsk 57.61 311 LR LR 03 30 46.2
comp=Z,304nm,19.6s,baz=61,slow=38
MYKOM Kota Tinggi 57.74 236 IAmb IAmb 03 04 14.5

NEEM **North Greenlan** 57.76 5 *i* P P 03 04 10.1 -1.4
NEEM IAmb IAmb 03 04 11.8
comp=Z,26nm,0.8s
APA **Apatity** 58.01 336 ||| *eP* P 03 04 12.0 -1.0
APA pmax pmax
comp=Z,11nm,1.1s
APA MLR MLR
comp=Z,939nm,4.4s
NLWA **Neilton Lookou** 58.03 53 IAmb IAmb 03 04 15.9
comp=Z,28nm,0.8s
EDFI **Ende, Flores** 58.13 211 P P 03 04 14.2 -0.3
COEN **Coen** 58.33 186 P P 03 04 15.1 -0.6
comp=Z,34nm,0.9s
COEN **Coen** 58.33 186 P P 03 04 16.8 +1.0
COEN IAmb IAmb 03 04 18.2
comp=Z,27nm,0.8s
COEN **Coen** 58.33 186 P P 03 04 14.7 -1.1
HAMF **Hammerfest** 58.45 341 *eP* P 03 04 12.1 -3.9
KDU **Kakadu** 58.65 198 P P 03 04 17.8 -0.2
comp=Z,67nm,0.9s
DAG **Danmarks Havn** 58.74 356 *i* P P 03 04 16.9 -1.0
DAG IAmb IAmb 03 04 20.4
comp=Z,6.1nm,0.7s
ARA0 **ARCESS Array S** 58.81 340 *eP* P 03 04 18.9 +0.3
ARCES **ARCESS Array B** 58.81 340 P P 03 04 16.4 -2.2
comp=Z,4.6nm,0.4s,baz=50,slow=7.4,SNR=61
ARCES PcP PcP 03 05 07.7 +0.2
comp=Z,7.3nm,0.6s,baz=65,slow=4.9,SNR=13
ARCES LR LR 03 33 24.5
comp=Z,248nm,20.1s,baz=44,slow=40
comp=Z,4.6nm,0.4s
MTN **Manton Dam** 59.11 199 P P 03 04 21.6 +0.5
comp=Z,127nm,1.0s
MTN **Manton Dam** 59.11 199 P P 03 04 21.5 +0.3
TPI **Tanjungpandan** 59.31 229 P P 03 04 24.1 +1.5
comp=Z,99nm,1.1s
KBL **Kabul** 59.62 290 P P 03 04 23.9 -1.0
KBL **Kabul** 59.62 290 P P 03 04 24.4 -0.5
SNR=24
KBL **Kabul** 59.62 290 P P 03 04 23.9 -1.0
KBL pmax pmax
comp=Z,79nm,0.9s
PPBI **Pangkal Pinang** 59.65 231 P P 03 04 26.9 +1.9
KTK1 **Kautokeino** 59.75 340 *eP* P 03 04 24.0 -1.1
LTY **Liberty** 59.92 52 IAmb IAmb 03 04 28.2
comp=Z,12nm,0.8s
PSI **Prapat** 59.94 241 P P 03 04 27.7 +0.5
PSI pmax pmax
comp=Z,35nm,0.9s
JETT **Jettan, Norway** 60.02 341 *eP* P 03 04 26.0 -0.9
KULLO **Kullorsuaq** 60.02 8 *i* P P 03 04 24.4 -2.3
KULLO IAmb IAmb 03 04 25.8
comp=Z,28nm,0.6s
RPSI **Rantau Prapat** 60.02 241 P P 03 04 27.7 +0.1
RPSI IAmb IAmb 03 04 29.8
comp=Z,35nm,0.9s
B08A **Colville Reser** 60.05 50 IAmb IAmb 03 04 29.1
comp=Z,21nm,0.8s
SRBI **Singaraja** 60.17 218 P P 03 04 29.6 +1.1
comp=Z,139nm,1.1s
KLMR **Klimovskoe** 60.20 328 *eP* P 03 04 21.2 -7.0
KLMR *e**PP pP 03 04 38.7 -6.2
KLMR *e* 03 05 09.6
KLMR pmax pmax
comp=Z,20nm,1.2s
KLMR MLR MLR
comp=Z,338nm,14.0s
TRO **Tromso** 60.29 342 *eP* P 03 04 27.7 -1.0
BLKN **Baker Lake** 60.50 27 P P 03 04 29.9 -0.2
H04A **Detroit Lake** 60.51 55 IAmb IAmb 03 04 33.4
comp=Z,32nm,1.1s
MXC **Moxie City** 60.52 52 IAmb IAmb 03 04 32.9
comp=Z,20nm,0.8s
BKNI **Bangkinang** 60.58 237 P P 03 04 33.2 +1.8
E07A **Sunnyside** 60.78 52 P P 03 04 33.1 +0.7
E07A IAmb IAmb 03 04 34.7
comp=Z,26nm,1.0s
WAH2 **Wahluke Slope** 60.83 52 IAmb IAmb 03 04 34.5
comp=Z,18nm,0.8s
D08A **Wollman Farm,** 61.02 51 IAmb IAmb 03 04 35.7
comp=Z,14nm,0.7s
HAWA **Hanford** 61.06 52 IAmb IAmb 03 04 36.4
comp=Z,19nm,0.9s
I05D **Terrebonne, OR** 61.20 55 IAmb IAmb 03 04 57.3
comp=Z,51nm,1.6s
E08A **Dider Farm, El** 61.27 52 IAmb IAmb 03 04 37.6
comp=Z,21nm,0.9s
NEW **Newport** 61.31 49 IAmb IAmb 03 04 38.3
comp=Z,31nm,0.9s
NEW **Newport** 61.31 49 LR LR 03 30 37.2
comp=Z,21nm,21.8s,baz=304,slow=35
SMRI **Semarang** 61.51 224 P P 03 04 37.4 -0.3
SMRI **Semarang** 61.51 224 P P 03 04 39.1 +1.4
YPT **Yellepit** 61.58 52 IAmb IAmb 03 04 40.0
comp=Z,23nm,0.9s
PPI **Padang Panjang** 61.59 237 P P 03 04 40.9 +2.7
comp=Z,23nm,1.1s
PINE **Pine Mountain** 61.75 55 IAmb IAmb 03 04 41.9
comp=Z,26nm,0.8s
UPNV **Upernavik** 61.82 8 *i* P P 03 04 38.0 -1.0
UPNV IAmb IAmb 03 04 38.3
comp=Z,36nm,0.9s
BELG **Belogornoye** 61.86 317 *d* *i* P P 03 04 39.3 -0.2
BELG pmax pmax
comp=Z,12nm,0.9s
J05D **Fort Rock, OR** 61.88 56 IAmb IAmb 03 04 42.6
comp=Z,16nm,0.9s
YBH **Yreka Blue Hor** 61.90 58 P P 03 04 41.1 +0.9
YBH **Yreka Blue Hor** 61.90 58 P P 03 04 41.1 +0.9
YBH pmax pmax
comp=Z,10.0nm,0.9s
G08A **Pilot Rock** 62.02 53 P P 03 04 41.5 +0.5
N02D **Trinity Center** 62.34 59 P P 03 04 44.7 +1.6
N02D IAmb IAmb 03 04 45.6
comp=Z,16nm,0.7s
K05A **Summer Lake** 62.41 56 IAmb IAmb 03 05 08.7
comp=Z,28nm,1.0s
MTSU **Mount Surprise** 62.41 184 P P 03 04 44.3 +0.8
comp=Z,15nm,0.8s
KNRA **Kununurra** 62.42 201 P P 03 04 43.7 +0.1
comp=Z,22nm,1.1s
STEI **Steigen** 62.47 342 *eP* P 03 04 41.8 -1.5
KPJI **Karang Pucung** 62.51 225 P P 03 04 44.8 +0.5
comp=Z,100nm,0.9s
MDSI **Maura Dua** 62.65 231 P P 03 04 46.2 +0.9
comp=Z,24nm,1.0s
LOF **Lofoten** 62.67 343 *eP* P 03 04 43.6 -1.1
LEM **Lembang** 62.75 227 P P 03 04 45.9 -0.2
comp=Z,112nm,0.8s,baz=50,slow=11,SNR=15
comp=Z,112nm,0.8s
FAUS **Fauske** 62.90 341 *eP* P 03 04 46.1 -0.1
SUMG **Summit** 63.16 2 IAmb IAmb 03 04 49.4
comp=Z,30nm,0.8s
SUMG **Summit** 63.16 2 *i* P P 03 04 47.6 -0.8
SUMG IAmb IAmb 03 04 49.1
comp=Z,29nm,0.8s
MNAI **Manna** 63.24 232 P P 03 04 50.2 +1.0
BBJI **Bungbulang** 63.27 226 P P 03 04 48.5 -1.0
NUUG **Nuugaatsiaq** 63.29 7 *i* P P 03 04 49.4 +0.6
NUUG IAmb IAmb 03 04 50.7
comp=Z,97nm,1.3s
O03E **Paynes Creek** 63.30 59 IAmb IAmb 03 04 51.1
comp=Z,25nm,1.0s
HYB **Hyderabad** 63.51 269 *eP* P 03 04 51.2 +0.1
HYB IVmB_BB 03 04 51.4
comp=Z,1µm,0.6s
JMIC **Jan Mayen** 63.62 352 LR LR 03 33 11.7
comp=Z,44nm,18.8s,baz=46,slow=37
PLID **Pearl Lake** 63.82 52 IAmb IAmb 03 04 54.2
comp=Z,15nm,0.6s
VAGH **Vaagaholmen** 63.89 342 *eP* P 03 04 51.9 -0.9
MSO **Missoula** 63.90 49 IAmb IAmb 03 04 55.2
comp=Z,36nm,0.9s
NIAQ **Niaqornat** 63.97 8 *i* P P 03 04 52.7 -0.5
NIAQ IAmb IAmb 03 04 57.7
comp=Z,209nm,1.4s
MOR8 **Moi Rana** 64.08 341 *eP* P 03 04 51.9 -2.2
KONS **Konsvik** 64.12 342 *eP* P 03 04 54.8 +0.5
SAATT **Saattut** 64.14 7 *i* P P 03 04 53.2 -1.1
SAATT IAmb IAmb 03 04 54.2
comp=Z,52nm,0.7s
CTAO **Charters Tower** 64.27 182 P P 03 04 56.1 +0.3
CTAO **Charters Tower** 64.27 182 P P 03 04 56.1 +0.3
CTAO pmax pmax
comp=Z,13nm,0.8s

CTAO **Charters Tower** 64.27 182 P P 03 04 56.4 +0.6
STOK **Stokkvaagen** 64.28 342 *eP* P 03 04 53.8 -1.5
MOS **Moscow** 64.28 324 *eP* P 03 04 56.2 +0.6
RUSS **Russell Ranch** 64.31 60 IAmb IAmb 03 04 58.9
comp=Z,34nm,0.8s
BEKR **Beckworth** 64.44 59 IAmb IAmb 03 04 58.8
comp=Z,18nm,0.8s
LEIR **Leirfjorden** 64.44 341 *eP* P 03 04 55.7 -0.7
FINES **FINESS Array B** 64.55 333 P P 03 04 54.6 -2.6
FINES **FINESS Array B** 64.55 333 P P 03 04 55.0 -2.2
comp=Z,18nm,0.5s,baz=39,slow=6.8,SNR=79
FINES PcP PcP 03 05 30.2 -0.6
comp=Z,12nm,0.5s,baz=77,slow=4.3,SNR=7.1
FINES LR LR 03 35 00.3
comp=Z,251nm,21.0s,baz=42,slow=38
comp=Z,18nm,0.5s
FFC **Flin Flon** 64.69 37 P P 03 04 58.3 +0.1
FFC **Flin Flon** 64.69 37 P P 03 04 58.3 +0.1
FFC pmax pmax
comp=Z,93nm,1.0s
FFC **Flin Flon** 64.69 37 P P 03 04 59.0 +0.8
FCC **Fort Churchill** 65.03 31 P P 03 04 59.6 -0.8
FCC **Fort Churchill** 65.03 31 P P 03 04 59.6 -0.8
FCC pmax pmax
comp=Z,45nm,0.6s
OBN **Obninsk** 65.15 324 P P 03 05 00.3 -0.8
OBN **Obninsk** 65.15 324 LR LR 03 35 48.4
comp=Z,312nm,19.6s,baz=249,slow=38
OBN **Obninsk** 65.15 324 *de*P P 03 05 00.6 -0.6
OBN *e**SP sP 03 05 27.7 +2.5
OBN *e* 03 05 31.1
OBN 03 07 35.0
OBN S S 03 13 44.0 +5.1
OBN *e**SS sS 03 14 22.0 +15
OBN pmax pmax
comp=Z,30nm,0.8s
OBN MLR MLR
comp=Z,280nm,17.0s
OBN **Obninsk** 65.15 324 *eP* P 03 05 00.6 -0.6
WB0 **Warramunga Arr** 65.16 194 IAmb IAmb 03 05 02.8
comp=Z,47nm,0.9s
QIS **Mount Isa** 65.19 189 P P 03 05 01.9 +0.1
WR8 **Warramunga Arr** 65.32 194 IAmb IAmb 03 05 03.8
comp=Z,36nm,1.0s
WRAB **Tennant Creek** 65.33 194 P P 03 05 02.6 -0.1
WRAB IAmb IAmb 03 05 03.9
comp=Z,37nm,0.9s
WRAB **Tennant Creek** 65.33 194 *c* *i* P P 03 05 02.9 +0.2
WRAB pmax pmax
comp=Z,43nm,0.9s
WRA **Warramunga Arr** 65.34 194 P P 03 05 02.0 -0.7
WRA **Warramunga Arr** 65.34 194 P P 03 05 02.9 +0.1
comp=Z,26nm,0.8s,baz=14,slow=6.7,SNR=137
WRA PKPPKP P'P'df 03 33 44.6 +5.5
comp=Z,1.6nm,0.7s,baz=198,slow=2.4,SNR=13
comp=Z,26nm,0.8s
WRA **Warramunga Arr** 65.34 194 *i* P P 03 05 02.9 +0.1
WRA pmax pmax
comp=Z,27nm,0.8s
VRH **Novokhopyorsk** 65.46 318 *eP* P 03 05 00.8 -2.4
VRH pmax pmax
comp=Z,30nm,0.8s
GDH **Godhavn** 65.46 8 *i* P P 03 05 00.7 -2.2
GDH IAmb IAmb 03 05 02.6
comp=Z,18nm,0.7s
FITZ **Fitzroy Crossi** 65.58 204 P P 03 05 04.8 +0.5
comp=Z,6.4nm,1.1s
FITZ **Fitzroy Crossi** 65.58 204 P P 03 05 05.1 +0.8
ILULI **Ilulissat** 65.73 7 *i* P P 03 05 03.4 -1.4
ILULI IAmb IAmb 03 05 04.5
comp=Z,20nm,0.7s
LPSR **Galich'ya Gora** 65.82 321 *eP* P 03 05 03.4 -2.2
LPSR pmax pmax
comp=Z,40nm,0.8s
BOZ **Bozeman (W)** 65.92 49 IAmb IAmb 03 05 08.6
comp=Z,43nm,1.0s
NSS **Namsos** 66.03 341 *eP* P 03 05 05.4 -1.3
VORR **Voronezh** 66.32 320 *eP* P 03 05 07.0 -1.8
VORR pmax pmax
comp=Z,20nm,0.9s
RYN **Ryan** 66.33 59 IAmb IAmb 03 05 11.2
comp=Z,17nm,0.8s
LHV **Little Huntoon** 66.57 59 IAmb IAmb 03 05 13.3
comp=Z,37nm,0.9s
NVAR **Mina Array Bea** 66.58 59 P P 03 05 11.8 +0.8
NVAR **Mina Array Bea** 66.58 59 P P 03 05 12.1 +1.1
comp=Z,19nm,0.8s,baz=292,slow=6.9,SNR=130
comp=Z,19nm,0.8s
YHL **Hebgen Lake** 66.64 50 IAmb IAmb 03 05 13.5
comp=Z,18nm,0.8s
VSR **Storozhevoye** 66.65 320 *eP* P 03 05 09.5 -1.4
VSR pmax pmax
comp=Z,20nm,0.8s
YHB **Horse Butte** 66.70 50 IAmb IAmb 03 05 13.8
comp=Z,23nm,0.9s
VORD **Divnogorie** 66.76 319 *eP* P 03 05 09.7 -1.9
VORD pmax pmax
comp=Z,20nm,0.8s
YMR **Madison River** 66.88 50 IAmb IAmb 03 05 15.0
comp=Z,20nm,0.9s
YFT **Old Faithful** 67.09 50 P P 03 05 16.1 +1.9
YFT IAmb IAmb 03 05 18.4
comp=Z,20nm,0.9s
H17A **Grant Village** 67.27 50 IAmb IAmb 03 05 19.0
comp=Z,29nm,1.0s
DSP **Deep Springs** 67.45 59 IAmb IAmb 03 05 18.7
comp=Z,21nm,0.9s
TPH **Tonopah** 67.47 58 IAmb IAmb 03 05 18.4
comp=Z,24nm,0.8s
RLMT **Red Lodge** 67.50 48 IAmb IAmb 03 05 44.9
comp=Z,14nm,0.5s
TPAW **Teton Pass** 67.65 51 IAmb IAmb 03 05 20.5
comp=Z,27nm,0.8s
LOHW **Long Hollow** 67.76 50 IAmb IAmb 03 05 21.0
comp=Z,72nm,1.9s
SNOW **Snow King Moun** 67.77 51 IAmb IAmb 03 05 21.1
comp=Z,27nm,1.2s
MAK **Makhachkala** 67.85 309 *eP* P 03 05 16.9 -1.7
MAK *e**PP pP 03 05 35.4 -0.2
MAK *e**SP sP 03 05 42.9 +0.2
MAK *e* 03 07 44.6
MAK *e*PPP PPP 03 09 22.4
MAK *e*S S 03 14 10.1 -1.8
MAK *e**SS sS 03 14 40.7 +0.4
MAK *e*SS SS 03 18 33.5 -0.2
MAK pmax pmax
comp=Z,86nm,0.9s
MAK MLR MLR
comp=Z,186nm,18.0s
SFJD **Kangerlussuaq** 67.94 8 P P 03 05 17.5 -1.3
SFJD IAmb IAmb 03 05 19.0
comp=Z,17nm,0.7s
SFJD **Kangerlussuaq** 67.94 8 LR LR 03 35 51.9
comp=Z,135nm,21.3s,baz=344,slow=37
SFJD **Kangerlussuaq** 67.94 8 P P 03 05 17.5 -1.3
SFJD pmax pmax
comp=Z,17nm,0.7s
SFJD **Kangerlussuaq** 67.94 8 *i* P P 03 05 18.2 -0.6
SFJD IAmb IAmb 03 05 18.8
comp=Z,16nm,0.7s
CWC **Cottonwood Cre** 67.98 60 IAmb IAmb 03 07 05.3
comp=Z,26nm,0.5s
LAO **LASA Array** 68.06 46 IAmb IAmb 03 05 22.2
comp=Z,38nm,0.8s
FRB **Frobisher Bay** 68.28 17 LR LR 03 38 13.9
comp=Z,100nm,19.0s,baz=319,slow=38
DZM **Mont Dzumac** 68.31 162 *e*SS SS 03 18 47.5 +4.8
comp=Z,132nm,34.0s
DZM *e*LR LR 03 25 59.4
comp=Z,152nm,28.1s
S11A **Rachel** 68.64 58 IAmb IAmb 03 05 25.9
comp=Z,30nm,0.7s
FURC **Furnace Creek,** 68.71 60 IAmb IAmb 03 05 26.1
comp=Z,48nm,0.8s
MOL **Molde** 68.74 342 *eP* P 03 05 22.6 -1.3
TPNV **Topopah Spring** 68.78 59 IAmb IAmb 03 05 26.7
comp=Z,21nm,0.9s
DY2G **Dye2** 68.83 6 *i* P P 03 05 24.0 -0.7
DY2G IAmb IAmb 03 05 25.2
comp=Z,24nm,0.7s
DOMB **Dombas** 68.84 341 *eP* P 03 05 23.3 -1.3
GOF **Gofitskoye** 68.88 313 *ce*P P 03 05 26.0 +0.9
PALK **Pallekele** 68.89 259 P P 03 05 25.6 0.0
PALK IAmb IAmb 03 05 26.9
comp=Z,44nm,0.9s
PALK **Pallekele** 68.89 259 LR LR 03 36 49.8

comp=Z,56nm,21.0s,baz=45,slow=37
PALK **Pallekele** 68.89 259 P P 03 05 26.0 +0.5
PALK **Pallekele** 68.89 259 P P 03 05 25.6 0.0
PALK pmax pmax
comp=Z,45nm,1.0s
PALK **Pallekele** 68.89 259 P P 03 05 25.9 +0.3
PDAR **Pinedale Array** 68.89 50 P P 03 05 25.8 +0.3
PDAR **Pinedale Array** 68.89 50 P P 03 05 26.0 +0.5
comp=Z,11nm,0.7s,baz=262,slow=1.8,SNR=102
PDAR PKPPKP P'P'df 03 33 30.4 -11
comp=Z,0.9nm,0.9s,baz=130,slow=2.3,SNR=4.2
PDAR LR LR 03 35 43.5
comp=Z,14nm,20.6s,baz=312,slow=36
comp=Z,11nm,0.7s
NC303 **NORSAR Array S** 68.98 339 IAmb IAmb 03 05 26.3
comp=Z,51nm,1.4s
GWY **Greenwater Val** 69.01 60 IAmb IAmb 03 05 27.9
comp=Z,23nm,0.7s
QSM **Queen of Sheba** 69.03 60 IAmb IAmb 03 05 27.9
comp=Z,25nm,0.9s
AS31 **Alice Springs** 69.05 194 P P 03 05 26.6 +0.4
ASAR **Alice Springs** 69.06 194 P P 03 05 26.8 +0.5
ASAR **Alice Springs** 69.06 194 P P 03 05 27.3 +1.0
comp=Z,18nm,0.7s,baz=12,slow=6.3,SNR=140
ASAR PKP2bc 03 33 36.5
comp=Z,4.1nm,0.9s,baz=181,slow=2.9,SNR=21
ASAR LR LR 03 33 45.7
comp=Z,50nm,21.9s,baz=11,slow=34
comp=Z,18nm,0.7s
NC204 **NORSAR Array S** 69.09 340 IAmb IAmb 03 05 27.0
comp=Z,31nm,1.1s
MNK **Minsk** 69.10 327 *i* P P 03 05 26.9 +0.7
MNK *i* *PP pP 03 05 43.2 -0.1
MNK *i* 03 07 58.1
MNK *i* PPP PPP 03 09 41.6
MNK *i* S S 03 14 28.3 +1.9
MNK *i* *SS sS 03 14 56.1 +0.7
MNK *i* SS SS 03 18 54.2 +1.8
MNK pmax pmax
comp=N,4.0nm,0.5s
MNK pmax pmax
comp=E,17nm,1.0s
MNK pmax pmax
comp=Z,37nm,0.8s
MNK MLR MLR
comp=N,223nm,19.0s
MNK MLR MLR
comp=Z,471nm,21.0s
MNK MLR MLR
comp=E,310nm,21.0s
NB201 **NORSAR Array S** 69.15 339 IAmb IAmb 03 05 27.4
comp=Z,81nm,1.3s
NB2 **NORSAR Subarra** 69.18 339 P P 03 05 25.2 -1.5
comp=Z,8.5nm,0.6s,baz=30,slow=6.2
NB2 **NORSAR Subarra** 69.18 339 P P 03 05 25.2 -1.5
comp=Z,8.5nm,0.6s,baz=30,slow=6.2
NOA **NORSAR Array B** 69.18 339 P P 03 05 25.4 -1.3
comp=Z,7.4nm,0.5s,baz=30,slow=6.5,SNR=24
NOA LR LR 03 38 53.4
comp=Z,191nm,21.7s,baz=25,slow=39
comp=Z,7.4nm,0.5s
AKN **Aaknes** 69.20 342 *eP* P 03 05 25.7 -1.1
HFS **Hagfors** 69.29 338 P P 03 05 26.0 -1.3
comp=Z,8.4nm,0.3s,baz=36,slow=5.0,SNR=81
HFS LR LR 03 38 19.6
comp=Z,144nm,21.5s,baz=35,slow=38
comp=Z,8.4nm,0.3s
NBO00 **NORSAR Array S** 69.30 339 IAmb IAmb 03 06 01.0
comp=Z,77nm,1.8s
NC602 **NORSAR Array S** 69.36 339 *eP* P 03 05 24.7 -3.0
EIDS **Eidsvold** 69.56 177 P P 03 05 31.0 +1.7
comp=Z,27nm,1.5s
NCK **Nalchik** 69.64 311 *i* P P 03 05 30.2 +0.4
NCK pmax pmax
comp=Z,17nm,0.8s
ERBR **Yeremizino-Bor** 69.76 315 *eP* P 03 05 30.3 -0.2
ERBR *eS* S 03 14 34.0 -0.5
ERBR pmax pmax
comp=Z,46nm,0.8s
PABE **Paberze** 69.79 330 IAmb IAmb 03 05 32.5
comp=Z,39nm,0.9s
KVAR **Kislovodsk Arr** 69.81 312 LR LR 03 39 30.0
comp=Z,385nm,21.6s,baz=288,slow=39
KIV **Kislovodsk** 69.81 312 P P 03 05 31.5 +0.5
KIV **Kislovodsk** 69.81 312 P P 03 05 32.2 +1.3
KIV **Kislovodsk** 69.81 312 ||| P P 03 05 32.8 +1.8
KIV **Kislovodsk** 69.81 312 *i* P P 03 05 31.7 +0.7
SNR=5.6
KIV **Kislovodsk** 69.81 312 *eP* P 03 05 31.6 +0.7
KIV pmax pmax
comp=Z,57nm,1.0s
KIV MLR MLR
comp=Z,381nm,17.0s
KIV **Kislovodsk** 69.81 312 P P 03 05 31.5 +0.5
KIV pP pP 03 05 49.1 +1.1
KIV PcP PcP 03 05 53.0 -0.2
KBZ **Khabaz** 69.85 312 P P 03 05 31.9 +0.9
comp=Z,32nm,0.7s,baz=78,slow=3.5,SNR=62
KBZ LR LR 03 40 31.6
comp=Z,624nm,19.1s,baz=44,slow=40
comp=Z,32nm,0.7s
KBZ **Khabaz** 69.85 312 *ce*P P 03 05 32.3 +1.3
KBZ pmax pmax
comp=Z,33nm,0.8s
SHA1 **Shidzhatmaz** 69.97 312 *i* P P 03 05 32.6 +0.5
ISOG **Isortoq, Green** 70.17 3 *i* P P 03 05 31.7 -0.9
ISOG IAmb IAmb 03 05 35.1
comp=Z,44nm,1.1s
SKAR **Skarslia** 70.21 340 *eP* P 03 05 31.7 -1.4
HYA **Hoyanger** 70.28 342 *eP* P 03 05 33.4 0.0
MBWA **Marble Bar** 70.30 208 P P 03 05 33.8 -0.1
comp=Z,39nm,1.0s
MBWA **Marble Bar** 70.30 208 P P 03 05 33.8 -0.1
MBWA IAmb IAmb 03 05 35.0
comp=Z,23nm,0.7s
MBWA **Marble Bar** 70.30 208 P P 03 05 34.5 +0.6
ULM **Lac du Bonnet** 70.48 38 P P 03 05 34.4 -0.4
comp=Z,21nm,0.5s,baz=313,slow=6.3,SNR=43
comp=Z,21nm,0.5s
NUUK **Nuuk** 70.55 9 *i* P P 03 05 34.4 -0.6
NUUK IAmb IAmb 03 05 36.3
comp=Z,73nm,0.9s
PSAC2 **Pilbara Seismi** 70.62 208 P P 03 05 36.5 +0.7
comp=Z,47nm,0.8s
RMQ **Roma** 70.62 179 P P 03 05 36.4 +0.6
comp=Z,54nm,1.5s
PSA00 **Pilbara Seismi** 70.64 208 P P 03 05 36.3 +0.3
PSA00 **Pilbara Seismi** 70.64 208 P P 03 05 36.5 +0.5
NGCH **Negor - Chabah** 70.66 287 P P 03 05 37.5 +1.2
SUE **Sulen** 70.70 342 *eP* P 03 05 34.6 -1.2
SRU **San Rafael Swe** 70.77 54 IAmb IAmb 03 05 38.7
comp=Z,30nm,0.9s
KONO **Kongsberg** 70.79 339 *eP* P 03 05 36.8 +0.3
QLP **Quilpie** 70.81 184 P P 03 05 37.6 +0.8
comp=Z,42nm,1.3s
PFO **Pinyon Flats O** 70.82 62 P P 03 05 37.4 +0.1
PFO **Pinyon Flats O** 70.82 62 LR LR 03 31 04.1
comp=Z,55nm,21.6s,baz=266,slow=31
PFO **Pinyon Flats O** 70.82 62 P P 03 05 37.4 +0.1
PFO pmax pmax
comp=Z,8.0nm,1.0s
STRU **Stroemstad** 70.91 338 *i* P P 03 05 37.2 0.0
RSSD **Black Hills** 70.93 47 P P 03 05 38.1 +0.1
RSSD IAmb IAmb 03 05 39.3
comp=Z,40nm,1.2s
RSSD **Black Hills** 70.93 47 P P 03 05 38.1 +0.1
RSSD pmax pmax
comp=Z,40nm,1.3s
RSSD **Black Hills** 70.93 47 P P 03 05 38.3 +0.4
ASK **Askoy** 71.11 342 *eP* P 03 05 38.3 -0.2
GNI **Garni** 71.26 308 P P 03 05 40.7 +0.8
GNI IAmb IAmb 03 05 49.3
comp=Z,38nm,1.0s
GNI **Garni** 71.26 308 LR LR 03 40 19.8
comp=Z,194nm,18.8s,baz=51,slow=39
GNI **Garni** 71.26 308 P P 03 05 42.0 +2.1
GNI **Garni** 71.26 308 P P 03 05 41.9 +2.0
GNI **Garni** 71.26 308 *ce*P P 03 05 41.8 +1.8
GNI pmax pmax
comp=Z,45nm,1.3s
GNI **Garni** 71.26 308 P P 03 05 41.4 +1.4
GNI pP pP 03 05 57.7 +0.6
AKASG **Malin Array Be** 71.42 324 P P 03 05 40.0 -0.4
AKASG IAmb IAmb 03 05 41.7
comp=Z,19nm,0.8s
AKASG **Malin Array Be** 71.42 324 P P 03 05 39.3 -1.2

comp=Z,10nm,0.4s,baz=39,slow=6.0,SNR=89
AKASG LR LR 03 40 52.9
comp=Z,119nm,21.0s,baz=56,slow=39
comp=Z,10nm,0.4s
AKASG Malin Array Be 71.42 324 *i* P **P 03 05 39.7 -0.7**
AKASG pmax pmax
comp=Z,15nm,0.5s
AKBB Malin Array Si 71.42 324 IAmb IAmb 03 05 41.7
comp=Z,26nm,0.7s
KIEV Kiev 71.43 324 P **P 03 05 39.5 -1.0**
KIEV IAmb IAmb 03 05 41.8
comp=Z,24nm,0.7s
KIEV Kiev 71.43 324 ⇑P **P 03 05 40.0 -0.5**
KIEV Kiev 71.43 324 *i* P **P 03 05 39.0 -1.5**
SNR=19
KIEV Kiev 71.43 324 ⇑P **P 03 05 40.0 -0.5**
HMU Henry Mountain 71.43 55 IAmb IAmb 03 05 42.8
comp=Z,32nm,0.7s
WRKA Warakurna 71.52 199 P **P 03 05 42.2 +0.9**
comp=Z,14nm,1.0s
CBX Cerro Bola 71.54 63 IAmb IAmb 03 07 14.3
comp=Z,42nm,1.5s
SOC Sochi 71.63 313 *e*P **P 03 05 40.5 -1.4**
SOC *e* 03 08 19.2
SOC *e*PPP PPP 03 10 08.9
SOC *e*S **S 03 14 55.9 -0.3**
SOC *e*SS **SS 03 19 33.8 +2.1**
TJOU Tjoern 71.65 337 *i* P **P 03 05 41.3 -0.4**
BORU Boraas 71.67 337 *i* P **P 03 05 41.0 -0.9**
EPLO Experimental L 71.84 37 P **P 03 05 42.6 -0.5**
AGMN Agassiz Nation 71.92 39 IAmb IAmb 03 05 44.4
comp=Z,51nm,1.1s
ANN Anapa 71.94 316 *e*P **P 03 05 43.9 +0.2**
ANN *e**PP **pP 03 05 58.7 -2.1**
ANN *e*S **S 03 15 01.6 +1.9**
ANN pmax pmax
comp=Z,150nm,1.4s
PV21 Cone Mtn., Par 72.04 53 IAmb IAmb 03 05 46.4
comp=Z,21nm,0.7s
PV23 Carpenter Ridg 72.09 54 P **P 03 05 45.0 -0.1**
PV23 IAmb IAmb 03 05 46.3
comp=Z,25nm,0.7s
ONAU Onsala 72.11 337 *i* P **P 03 05 43.5 -1.0**
PV14 Lion Creek, Pa 72.14 54 IAmb IAmb 03 05 46.8
comp=Z,20nm,0.7s
PV20 West Nyswonger 72.19 54 IAmb IAmb 03 05 47.2
comp=Z,38nm,0.7s
PV04 Paradox Valley 72.19 54 IAmb IAmb 03 05 47.3
comp=Z,17nm,0.7s
GLA Glamis 72.21 61 IAmb IAmb 03 05 46.9
comp=Z,16nm,0.7s
FABU Falkenberg 72.22 336 *e*P **P 03 05 44.5 -0.6**
PV17 East Wray Mesa 72.24 54 IAmb IAmb 03 05 47.5
comp=Z,42nm,0.7s
PV16 Nyswonger Mesa 72.24 54 IAmb IAmb 03 05 47.6
comp=Z,19nm,0.7s
HOMB Homborsund 72.27 339 *e*P **P 03 05 46.7 +1.2**
PV11 David Mesa, Pa 72.28 54 IAmb IAmb 03 05 48.9
comp=Z,26nm,0.6s
PV05 Paradox Valley 72.29 54 P **P 03 05 46.7 +0.5**
PV05 IAmb IAmb 03 05 48.1
comp=Z,27nm,0.7s
PV12 Saucer Basin, 72.30 54 IAmb IAmb 03 05 50.2
comp=Z,26nm,0.6s
PV03 Paradox Valley 72.32 54 IAmb IAmb 03 05 47.9
comp=Z,18nm,0.6s
DEL Delary 72.33 335 *i* P **P 03 05 45.0 -0.8**
PV13 Radium Mtn., P 72.40 54 IAmb IAmb 03 05 48.6
comp=Z,28nm,0.6s
SNART Snartemo 72.54 340 *i* P **P 03 05 47.0 -0.1**
JASK Jask - Hormozg 72.56 289 P **P 03 05 49.3 +1.6**
LRW Lerwick 72.76 344 *e*P **P 03 05 48.2 -0.1**
BJUU Bjuv 72.92 336 *i* P **P 03 05 49.1 -0.3**
ISCO Idaho Springs 73.08 51 P **P 03 05 51.3 +0.3**
ISCO Idaho Springs 73.08 51 P **P 03 05 51.3 +0.3**
ISCO pmax pmax
comp=Z,10.0nm,0.8s
BSD Bornholm Skovb 73.16 334 *i* P **P 03 05 50.3 -0.4**
BSD IAmb IAmb 03 05 50.6
comp=Z,45nm,1.0s
LUNU Lund 73.17 335 *i* P **P 03 05 50.4 -0.4**
KUQ Kuujjuuaa 73.35 19 IAmb IAmb 03 05 53.4
comp=Z,43nm,1.5s
COP Copenhagen 73.43 336 *i* P **P 03 05 52.5 +0.2**
COP IAmb IAmb 03 05 52.7
comp=Z,98nm,0.8s
SIM Simferopol' 73.47 317 *e*P **P 03 05 50.2 -2.6**
SIM *e* 03 06 07.0
SIM pmax pmax
comp=Z,67nm,1.4s
SIM MLR MLR
comp=Z,300nm,18.5s
F33A 5 Mile Ranch, 73.54 41 IAmb IAmb 03 05 54.3
comp=Z,59nm,1.0s
BANOM Banah 73.57 290 *i* P **P 03 05 54.2 +0.4**
SNR=50
SHME Shamm 73.60 290 P **P 03 05 54.4 +0.5**
SNR=14
SHME Shamm 73.60 290 *i* P **P 03 05 54.1 +0.2**
SNR=37
KOPT Kop Dagi 73.71 310 IAmb IAmb 03 05 58.8
comp=Z,22nm,0.8s
SORM Soroca 73.73 323 ⇑P **P 03 05 53.8 -0.4**
SORM Soroca 73.73 323 ⇑P **P 03 05 53.8 -0.4**
WSAR Wadi Sarin 73.77 287 P **P 03 05 56.2 +1.3**
IVI Ivigtut 73.84 8 IAmb IAmb 03 05 55.3
comp=Z,54nm,0.7s
IVI Ivigtut 73.84 8 *i* P **P 03 05 54.0 -0.6**
IVI IAmb IAmb 03 05 55.2
comp=Z,59nm,0.8s
BIDO Bidbid 73.93 287 P **P 03 05 58.0 +2.1**
SNR=7.8
WBK Wadi Bani Khal 73.95 286 P **P 03 05 57.9 +1.9**
JLN Jalan Bani Buh 73.96 285 P **P 03 05 57.4 +1.4**
MDH Madha 73.99 290 P **P 03 05 55.7 -0.4**
MASF Masafi 74.03 290 P **P 03 05 57.1 +0.7**
SNR=7.2
MSFE Esma-Masafi 74.04 290 *i* P **P 03 05 56.9 +0.4**
SNR=15
EYMN Ely 74.12 37 IAmb IAmb 03 05 57.4
comp=Z,51nm,1.1s
NRS Narsarsuaq 74.14 7 *i* P **P 03 05 56.6 +0.3**
NRS IAmb IAmb 03 05 57.8
comp=Z,26nm,0.8s
UOSS Minazif 74.29 290 P **P 03 05 57.6 -0.3**
UOSS Minazif 74.29 290 P **P 03 05 58.2 +0.3**
UOSS Minazif 74.29 290 *i* P **P 03 05 58.0 +0.1**
SNR=8.7
SMDO Samad 74.29 287 P **P 03 05 59.0 +0.9**
KIS Kishinev 74.39 322 *e*P **P 03 05 57.0 -1.1**
comp=Z,100nm,3.8s
KIS *e*L L 03 39 14.0
KIS LRM MLR 03 39 51.0
comp=Z,200nm,23.0s
KIS Kishinev 74.39 322 *e*P **P 03 05 57.0 -1.1**
KIS pmax pmax
comp=Z,100nm,3.8s
KIS MLR MLR
comp=Z,200nm,23.0s
HATD Hatta, Dubai 74.42 289 P **P 03 05 59.5 +0.8**
SNR=17
HATD Hatta, Dubai 74.42 289 *i* P **P 03 05 58.8 +0.2**
SNR=29
MILM Milestii Mici 74.46 322 ⇑P **P 03 05 57.4 -1.1**
MILM Milestii Mici 74.46 322 *i* P **P 03 05 57.0 -1.5**
comp=Z,70nm,1.2s
MILM *e*L L 03 38 01.0
MILM LRM MLR 03 40 54.0
comp=Z,400nm,19.0s
MILM Milestii Mici 74.46 322 ⇑P **P 03 05 57.4 -1.1**
ASHO Ashiyiah 74.56 289 P **P 03 06 00.0 +0.5**
ASHO Ashiyiah 74.56 289 *i* P **P 03 06 00.0 +0.5**
SNR=8.0
HMDM Hanimaadhoo 74.56 264 P **P 03 06 01.1 +1.5**
ARMA Armidale 74.60 177 P **P 03 06 01.9 +2.4**
comp=Z,46nm,2.3s
SOHO SOHO 74.61 289 P **P 03 06 00.3 +0.5**
SOHO SOHO 74.61 289 *i* P **P 03 05 60.0 +0.2**
SNR=17
NAZ Nazwa, Dubai 74.62 290 P **P 03 06 00.4 +0.5**
SNR=10
NAZ Nazwa, Dubai 74.62 290 *i* P **P 03 05 59.9 0.0**
SNR=15
JMDO Jabal Madar 74.71 286 P **P 03 06 01.3 +0.9**
SNR=6.3
FAQ Al Faqa, Dubai 74.83 290 P **P 03 06 01.3 +0.3**
SNR=13
FAQ Al Faqa, Dubai 74.83 290 *i* P **P 03 06 01.1 +0.1**
SNR=9.7
KWP Kalwaria Pacla 74.90 327 *e*P **P 03 06 01.8 +0.7**
ECSD EROS Data Cent 74.94 43 IAmb IAmb 03 06 02.5
comp=Z,42nm,0.9s
BSY Bisya 75.08 287 P **P 03 06 03.6 +1.0**
SNR=5.5
ASUD Al Ashush, Dub 75.09 290 P **P 03 06 03.4 +0.9**
SNR=16
ASUD Al Ashush, Dub 75.09 290 *i* P **P 03 06 02.7 +0.2**
SNR=22
ARQ Araqi 75.15 288 P **P 03 06 03.9 +1.0**
SNR=5.6
ALNE Al Ain 75.19 289 P **P 03 06 03.9 +0.8**
SNR=17
ALNE Al Ain 75.19 289 *i* P **P 03 06 03.5 +0.3**
SNR=13
TUC Tucson 75.22 59 P **P 03 06 03.5 +0.2**
TUC Tucson 75.22 59 P **P 03 06 03.5 +0.2**
TUC pmax pmax
comp=Z,8.0nm,0.9s
KSCO Kaye Shedlock' 75.28 50 IAmb IAmb 03 06 05.0
comp=Z,53nm,1.6s
AJN Ajban 75.36 290 P **P 03 06 04.3 +0.2**
SNR=5.5
AJN Ajban 75.36 290 P **P 03 06 04.2 +0.2**
BUR08 Bucovina Ar. S 75.46 324 IAmb IAmb 03 06 05.3
comp=Z,15nm,0.6s
BURAR Bucovina Array 75.47 324 P **P 03 06 04.0 -0.5**
BURAR IAmb IAmb 03 06 05.7
comp=Z,17nm,0.6s
BURAR Bucovina Array 75.47 324 ⇑P **P 03 06 04.4 -0.1**
BURAR Bucovina Array 75.47 324 ⇑P **P 03 06 04.4 -0.1**
OJC Ojcow 75.53 329 *e*P **P 03 06 04.1 -0.6**
MCD Coleburn Disti 75.54 345 *e*P **P 03 06 03.9 -0.7**
VLDR Vladesti 75.61 321 ⇑P **P 03 06 05.7 +0.6**
SPMN Marine on St. 75.62 40 IAmb IAmb 03 06 06.1
comp=Z,51nm,1.0s
KOLS Kolonicke sedl 75.63 327 *e*P **P 03 06 05.5 +0.3**
KOLS pmax pmax
comp=Z,12nm,0.7s
LEWI Lewis, Hebride 75.65 347 *e*P **P 03 06 04.7 -0.5**
LEWI IAmb IAmb 03 06 05.5
comp=Z,38nm,0.8s
CMSA Cobar Meteorol 75.69 182 P **P 03 06 07.4 +1.9**
comp=Z,46nm,1.7s
TESR Tescani 75.72 323 ⇓P **P 03 06 06.1 +0.3**
MHTO MHTO 75.73 285 P **P 03 06 07.6 +1.3**
SNR=16
TLCR 75.78 321 ⇑P **P 03 06 06.1 0.0**
TLCR 75.78 321 ⇑P **P 03 06 06.1 0.0**
BGNE Belgrade 75.90 45 IAmb IAmb 03 06 08.3
comp=Z,69nm,1.1s
ANMO Albuquerque 75.99 55 P **P 03 06 07.9 +0.1**
ANMO Albuquerque 75.99 55 LR LR 03 36 46.5
comp=Z,28nm,21.9s,baz=52,slow=33
ANMO Albuquerque 75.99 55 *i* P **P 03 06 08.1 +0.3**
ANMO pmax pmax
comp=Z,5.0nm,0.8s
PANC Panciu 76.00 322 ⇓P **P 03 06 07.8 +0.5**
NIE Niedzica 76.00 328 *e*P **P 03 06 07.5 +0.1**
GORT1 Trebel 76.08 335 *e*P **P 03 06 07.8 +0.2**
comp=Z,14nm,0.8s,baz=30,slow=5.5
DUN6 Lazy B Ranch 76.09 58 IAmb IAmb 03 06 10.3
comp=Z,37nm,0.8s
CFR Carcaliu 76.09 321 ⇑P **P 03 06 07.9 0.0**
CFR Carcaliu 76.09 321 ⇑P **P 03 06 07.9 0.0**
KPL Plockton 76.21 346 *e*P **P 03 06 08.3 0.0**
KPL IAmb IAmb 03 06 08.9
comp=Z,57nm,0.6s
TPGR Topolog 76.21 321 ⇑P **P 03 06 08.9 +0.3**
STKA Stephens Creek 76.22 186 P **P 03 06 10.0 +1.4**
comp=Z,149nm,0.8s
STKA Stephens Creek 76.22 186 P **P 03 06 10.0 +1.4**
comp=Z,20nm,0.7s,baz=349,slow=7.1,SNR=37
comp=Z,20nm,0.7s
PLOR Plostina 76.23 322 ⇑P **P 03 06 08.4 -0.4**
PLOR Plostina 76.23 322 ⇑P **P 03 06 08.4 -0.4**
KSP Ksiaz 76.28 331 *e*P **P 03 06 08.6 -0.3**
TURR Turia 76.35 323 ⇑P **P 03 06 10.4 +1.0**
OZUR 76.42 323 ⇑P **P 03 06 10.5 +0.6**
COVR Voineasa-Covas 76.43 322 ⇑P **P 03 06 10.3 +0.4**
UMZA Um Al Zommool 76.49 288 P **P 03 06 10.7 +0.1**
STEB Steborice 76.51 330 *e*P **P 03 06 10.3 +0.1**
TIRR Tirgusor 76.52 320 ⇑P **P 03 06 11.0 +0.7**
TIRR Tirgusor 76.52 320 ⇑P **P 03 06 11.0 +0.7**
LANS Liptovska Anna 76.53 328 *e*P **P 03 06 11.7 +1.3**
LANS pmax pmax
comp=Z,13nm,1.1s
OSTC Ostas 76.55 331 *e*P **P 03 06 10.7 +0.2**
OSTC Ostas 76.55 331 *e*P **P 03 06 10.7 +0.2**
HARR Harsova 76.56 321 ⇑P **P 03 06 11.4 +0.8**
HARR Harsova 76.56 321 ⇑P **P 03 06 11.4 +0.8**
CHVC Chvalec 76.58 331 *e*P **P 03 06 10.8 +0.2**
CHVC Chvalec 76.58 331 *e*P **P 03 06 10.8 +0.2**
TLBR Topalu 76.62 321 ⇓P **P 03 06 12.1 +1.2**
UPC Upice 76.66 331 *e*P **P 03 06 11.5 +0.4**
UPC MLR MLR
comp=Z,300nm,19.3s
UPC Upice 76.66 331 *e*P **P 03 06 11.5 +0.4**
UPC AMS AMS 03 42 40.0
comp=Z,300nm,19.3s
FLTG Flechtingen 76.67 334 *e*P **P 03 06 10.2 -0.8**
comp=Z,20nm,0.5s,baz=30,slow=5.5
DPC Dobruska-Polom 76.69 331 *e*P **P 03 06 11.6 +0.3**
DPC Dobruska-Polom 76.69 331 *e*P **P 03 06 11.6 +0.3**
DOPR Dopca 76.69 323 ⇓P **P 03 06 12.2 +0.8**
SCHQ Schefferville 76.69 20 P **P 03 06 10.1 -1.0**
SCHQ Schefferville 76.69 20 P **P 03 06 11.3 +0.1**
comp=Z,140nm,0.6s,baz=345,slow=5.3,SNR=34
SCHQ LR LR 03 45 19.5
comp=Z,1µm,18.8s,baz=330,slow=40
comp=Z,140nm,0.6s
MORC Moravsky Berou 76.73 330 *e*P **P 03 06 11.8 +0.3**
MORC Moravsky Berou 76.73 330 ⇑P **P 03 06 11.4 -0.1**
MORC Moravsky Berou 76.73 330 ⇑P **P 03 06 11.4 -0.1**
DQM DQM 76.74 285 P **P 03 06 12.5 +0.6**
G40A Rib Lake 76.75 38 IAmb IAmb 03 06 12.4
comp=Z,40nm,0.8s
INVG Invergeldie, C 76.78 345 *e*P **P 03 06 11.1 -0.5**
319A Douglas 76.79 59 IAmb IAmb 03 06 14.2
comp=Z,27nm,0.8s
MLR Munte Rosu 76.82 322 IAmb IAmb 03 06 14.1
comp=Z,39nm,1.3s
MLR Muntele Rosu 76.82 322 LR LR 03 42 57.9
comp=Z,332nm,20.0s,baz=68,slow=38
MLR Muntele Rosu 76.82 322 ⇑P **P 03 06 12.3 +0.1**
MLR Muntele Rosu 76.82 322 ⇑P **P 03 06 12.3 +0.1**
ISR Istrita 76.85 322 ⇓P **P 03 06 13.0 +0.7**
ISR Istrita 76.85 322 ⇓P **P 03 06 13.0 +0.7**
RETH Rethem/Aller, 76.89 336 *e*P **P 03 06 12.0 -0.2**
comp=Z,25nm,1.1s,baz=30,slow=5.5
MAUC Maruska 76.97 329 *e*P **P 03 06 13.0 +0.2**
KBD Kabd 77.00 298 P **P 03 06 13.9 +0.6**
CLL Collm 77.00 333 IAmb IAmb 03 06 13.4
comp=Z,31nm,0.6s
CLL Collm 77.00 333 *i* P **P 03 06 12.4 -0.5**
CLL *e**PP **pP 03 06 29.0 -1.3**
CLL pmax pmax
comp=Z,55nm,1.2s
CLL Collm 77.00 333 *e*P **P 03 06 12.1 -0.8**
comp=Z,29nm,0.6s,baz=30,slow=5.5
CLL Collm 77.00 333 *i* P **P 03 06 12.4 -0.5**
comp=Z,55nm,1.2s
CLL *i* PcP **PcP 03 06 24.0 +0.3**
CLL Lm MLR 03 44 00.0
comp=Z,200nm,18.7s
ASSE Asse, Remlinge 77.02 335 *e*P **P 03 06 12.7 -0.3**
comp=Z,21nm,1.0s,baz=30,slow=5.5
BNN Bunyan 77.05 312 IAmb IAmb 03 06 15.5
comp=Z,30nm,0.8s
BRG Berggiesshubel 77.06 332 *e*P **P 03 06 15.2 +1.9**
BRG Amp 03 06 16.9
comp=Z,6.5nm,0.8s
ICOR Ion Corvin 77.06 320 ⇑P **P 03 06 14.1 +0.7**
FORT Forrest 77.11 198 IAmb IAmb 03 06 15.8
comp=Z,35nm,0.7s
PVCC Panska Ves 77.14 332 *e*P **P 03 06 13.8 +0.1**
PVCC MLR MLR
comp=Z,400nm,17.4s
PVCC Panska Ves 77.14 332 *e*P **P 03 06 13.8 +0.1**
PVCC AMS AMS 03 43 50.0
comp=Z,400nm,17.4s
SHMA Al-Shehemyia 77.16 294 P **P 03 06 14.4 +0.2**
SNR=5.8
GHWR Ruwais 77.18 291 P **P 03 06 14.4 0.0**
LAWE Loch Awe, Argy 77.19 345 *e*P **P 03 06 13.8 -0.1**
LAWE IAmb IAmb 03 06 14.3
comp=Z,25nm,0.8s
VOIR 77.26 323 ⇓P **P 03 06 15.2 +0.6**
VOIR 77.26 323 ⇓P **P 03 06 15.2 +0.6**
F42A Maple Grove Fa 77.27 37 IAmb IAmb 03 06 15.6
comp=Z,41nm,0.8s
SAKB Bahrain 77.36 294 P **P 03 06 15.4 0.0**
CLZ Clausthal 77.36 335 *e*P **P 03 06 15.0 0.0**
comp=Z,22nm,0.6s,baz=30,slow=5.5
PSZ Piszkesteto 77.38 327 ⇓P **P 03 06 15.6 +0.4**
PSZ Piszkesteto 77.38 327 ⇓P **P 03 06 15.6 +0.4**
MZR Muzera 77.43 290 P **P 03 06 16.3 +0.4**
SNR=16
MZR Muzera 77.43 290 *i* P **P 03 06 15.8 0.0**
SNR=32
PGBU Glenifferbraes 77.44 345 *e*P **P 03 06 15.1 -0.2**
PGBU IAmb IAmb 03 06 16.2
comp=Z,84nm,0.8s
JAVC Velka Javorina 77.44 329 *e*P **P 03 06 16.6 +1.0**
VRAC Vranov 77.46 330 LR LR 03 43 31.2
comp=Z,213nm,19.2s,baz=32,slow=38
VRAC Vranov 77.46 330 *e*P **P 03 06 16.0 +0.4**
VRAC Vranov 77.46 330 ⇑P **P 03 06 15.7 +0.1**
VRAC Vranov 77.46 330 ⇑P **P 03 06 15.7 +0.1**
NEUB Neuenburg 77.48 334 *e*P **P 03 06 15.1 -0.5**
comp=Z,24nm,0.7s,baz=30,slow=5.5
ARR Arges 77.49 323 ⇓P **P 03 06 16.4 +0.5**
GAZ Gaziantep 77.54 310 IAmb IAmb 03 06 18.7
comp=Z,33nm,1.1s
BR131 Keskin Array S 77.56 314 IAmb IAmb 03 06 17.9
comp=Z,22nm,0.8s
BR131 Keskin Array S 77.56 314 P **P 03 06 16.9 +0.4**
SNR=12
BRTR Keskin Array B 77.56 314 P **P 03 06 16.0 -0.5**
BRTR Keskin Array B 77.56 314 P **P 03 06 16.8 +0.3**
comp=Z,14nm,0.8s,baz=85,slow=3.4,SNR=92
comp=Z,14nm,0.8s
PRA Prague 77.58 332 *e*P **P 03 06 16.5 +0.3**
PRA MLR MLR
comp=Z,400nm,21.9s
PRA Prague 77.58 332 *e*P **P 03 06 16.5 +0.3**
PRA AMS AMS 03 43 50.0
comp=Z,400nm,21.9s
PRU Pruhonice 77.61 331 *e*P **P 03 06 16.5 +0.1**
PRU MLR MLR
comp=Z,400nm,17.3s
PRU Pruhonice 77.61 331 *e*P **P 03 06 16.5 +0.1**
PRU AMS AMS 03 43 50.0
comp=Z,400nm,17.3s
EKA Eskdalemuir Ar 77.63 344 P **P 03 06 16.2 -0.2**
comp=Z,11nm,0.4s,baz=18,slow=5.1,SNR=152
comp=Z,11nm,0.4s
ESK Eskdalemuir 77.66 344 P **P 03 06 16.3 -0.2**
ESK IAmb IAmb 03 06 17.3
comp=Z,24nm,0.7s
ESK Eskdalemuir 77.66 344 *e*P **P 03 06 16.4 -0.2**
ESK IAmb IAmb 03 06 16.7
comp=Z,24nm,0.6s
ESK Eskdalemuir 77.66 344 P **P 03 06 16.3 -0.2**
ESK pmax pmax
comp=Z,24nm,0.7s
BBOO Buckleboo 77.71 190 P **P 03 06 18.0 +1.1**
comp=Z,43nm,0.8s
BBOO Buckleboo 77.71 190 IAmb IAmb 03 06 19.1
comp=Z,23nm,0.8s
IBBN Ibbenburen 77.73 336 *e*P **P 03 06 16.4 -0.5**
comp=Z,36nm,0.7s,baz=30,slow=5.5
KRUC Moravsky 77.74 330 *e*P **P 03 06 17.4 +0.3**
GTTG Gottingen 77.75 335 *e*P **P 03 06 16.9 -0.2**
comp=Z,34nm,1.0s,baz=30,slow=5.5
SMOL Smolenice 77.82 329 *e*P **P 03 06 18.1 +0.5**
SMOL pmax pmax
comp=Z,15nm,1.3s
KIRS Kirsehir-Merke 77.86 313 ⇓P **P 03 06 19.8 +1.7**
TREC Trest 77.87 330 *e*P **P 03 06 18.1 +0.2**
TREC MLR MLR
comp=Z,300nm,24.0s
TREC Trest 77.87 330 *e*P **P 03 06 18.1 +0.2**
TREC AMS AMS 03 43 30.0
comp=Z,300nm,24.0s
ANTO Ankara 77.88 315 P **P 03 06 18.6 +0.4**
ANTO Ankara 77.88 315 P **P 03 06 19.2 +1.0**
ANTO Ankara 77.88 315 ⇑P **P 03 06 19.2 +1.0**
ANTO Ankara 77.88 315 ⇑P **P 03 06 19.2 +1.0**
SLWR Sila 77.90 292 P **P 03 06 18.5 0.0**
TANN Tannenbergstha 77.94 333 *e*P **P 03 06 17.8 -0.5**
comp=Z,5.6nm,0.8s,baz=30,slow=5.5
PLN Plauen 77.98 333 *e*P **P 03 06 18.0 -0.4**
comp=Z,3.7nm,0.7s,baz=30,slow=5.5
MODS Modra-Piesok 77.99 329 *e*P **P 03 06 19.5 +0.9**
MODS pmax pmax
comp=Z,31nm,1.1s
SMRA Abu-Samra 78.01 293 P **P 03 06 19.0 0.0**
SNR=11
MOX Moxa 78.02 333 *e*P **P 03 06 18.2 -0.5**
comp=Z,12nm,0.7s,baz=30,slow=5.5
MOX *e*L L 03 44 59.0
comp=Z,185nm,18.2s
SIRR Siria 78.02 325 ⇓P **P 03 06 18.1 -0.6**
NEWG New Galloway 78.05 344 *e*P **P 03 06 18.1 -0.5**
SRO Srobarova 78.07 328 *e*P **P 03 06 20.1 +1.1**
SRO pmax pmax
comp=Z,41nm,1.2s
ZVC Zvikov 78.19 331 *e*P **P 03 06 20.1 +0.5**
ZVC AMS AMS 03 44 10.0
comp=Z,300nm,21.1s
LOZB Loznitsa 78.19 321 ⇑P **P 03 06 20.5 +0.7**
SURR Surduc 78.24 325 ⇓P **P 03 06 19.8 -0.1**
GZR Gura Zlata 78.26 324 ⇑P **P 03 06 19.4 -0.8**
GZR Gura Zlata 78.26 324 ⇑P **P 03 06 19.4 -0.8**
KESW Keswick, Cumbr 78.32 343 *e*P **P 03 06 20.4 +0.2**
KESW IAmb IAmb 03 06 21.1
comp=Z,65nm,1.0s
E46A Sault Ste Mari 78.37 34 IAmb IAmb 03 06 21.9
comp=Z,27nm,1.1s
UBBA Unterbreizbach 78.37 334 *e*P **P 03 06 20.5 0.0**
comp=Z,11nm,0.6s,baz=30,slow=5.5
GAL1 Galloway 78.38 344 *e*P **P 03 06 20.2 -0.3**
GAL1 IAmb IAmb 03 06 21.0
comp=Z,32nm,0.7s
I42A Draeger Farm, 78.41 38 IAmb IAmb 03 06 21.7
comp=Z,50nm,0.9s
MANZ Manzenberg 78.42 333 *e*P **P 03 06 20.5 -0.4**
comp=Z,2.3nm,0.7s,baz=30,slow=5.5
CLGH Coghis, Cushen 78.43 345 *e*P **P 03 06 20.6 -0.3**
KASTN Kahler Asten 78.52 335 *e*P **P 03 06 21.1 -0.3**
comp=Z,21nm,0.9s,baz=30,slow=5.5
SZH Strazhitsa 78.56 321 *i* P **P 03 06 21.6 -0.2**
BZS Buzias 78.56 325 ⇑P **P 03 06 22.2 +0.5**
BZS Buzias 78.56 325 ⇑P **P 03 06 22.2 +0.5**
JFWS Jewell Farm 78.57 40 IAmb IAmb 03 06 22.1
comp=Z,19nm,0.8s
ROTZ Rotzenmuhle 78.58 333 *e*P **P 03 06 21.7 -0.1**
comp=Z,3.5nm,0.8s,baz=30,slow=5.5
HPK Haverah Park 78.59 342 *e*P **P 03 06 21.9 +0.2**
HPK IAmb IAmb 03 06 22.6
comp=Z,78nm,0.6s
BUG Bochum--Univer 78.64 336 *e*P **P 03 06 21.5 -0.5**
comp=Z,18nm,0.7s,baz=30,slow=5.5
KHC Kasperske Hory 78.67 331 *e*P **P 03 06 22.7 +0.4**
KHC pmax pmax
comp=Z,42nm,0.8s
KHC Kasperske Hory 78.67 331 *e*P **P 03 06 22.6 +0.3**
KHC AMS AMS 03 44 30.0
comp=Z,400nm,19.1s
CKRC Cesky Krumlov 78.68 331 *e*P **P 03 06 22.5 +0.1**
CKRC Cesky Krumlov 78.68 331 *e*P **P 03 06 22.5 +0.1**
IDGL Inch Island, C 78.69 346 *e*P **P 03 06 22.0 -0.2**
IDGL Inch Island, C 78.69 346 P **P 03 06 22.1 -0.2**
L40A Anamosa 78.79 41 IAmb IAmb 03 06 23.6
comp=Z,51nm,0.9s
HERR Herculane 78.82 324 ⇑P **P 03 06 22.6 -0.6**
ELND Elena 78.87 321 ⇑P **P 03 06 23.0 -0.4**
GEC2 GERESS Array S 78.87 331 *e*P **P 03 06 22.9 -0.6**
comp=Z,13nm,0.6s,baz=30,slow=5.5
GERES GERESS Array B 78.87 331 P **P 03 06 23.4 -0.2**
comp=Z,12nm,0.7s,baz=38,slow=6.8,SNR=65
GERES LR LR 03 45 00.1
comp=Z,265nm,19.5s,baz=28,slow=38
comp=Z,12nm,0.7s
CONA Conrad Observa 78.88 330 *i* P **P 03 06 23.7 +0.1**
comp=Z,19nm,0.7s,SNR=12

WET Wettzell 78.89 332 eP P 03 06 23.5 0.0
comp=Z,38nm,1.1s,baz=30,slow=5.5
RONA Rosalia, Austr 78.92 329 i P P 03 06 24.2 +0.5
comp=Z,24nm,0.8s,SNR=11
IOMK Kirk Michael 78.92 344 eP P 03 06 23.3 -0.2
IOMK IAmb IAmb 03 06 23.6
comp=Z,11nm,0.8s
GRA1 Grafenberg Arr 78.97 333 IAmb IAmb 03 06 25.3
comp=Z,55nm,0.9s
GRF Grafenberg Arr 78.97 333 eP P 03 06 23.9 0.0
comp=Z,59nm,0.9s,baz=30,slow=5.5
GRF eL L 03 43 33.9
comp=Z,103nm,20.8s
GRFO Grafenberg 78.97 333 P P 03 06 24.3 +0.4
GRFO IAmb IAmb 03 06 25.2
comp=Z,54nm,0.9s
GRFO Grafenberg 78.97 333 P P 03 06 24.3 +0.4
PLVB Pleven 79.07 322 ⇓P P 03 06 23.9 -0.7
LBWR Ladybower, Pea 79.14 342 eP P 03 06 24.9 +0.2
LBWR IAmb IAmb 03 06 26.6
comp=Z,92nm,0.9s
MDVR Moldovita 79.20 324 ⇑P P 03 06 24.4 -1.0
OK038 West end E0370 79.23 49 IAmb IAmb 03 06 27.0
comp=Z,37nm,1.1s
KAN01 Argonia South 79.26 48 IAmb IAmb 03 06 26.5
comp=Z,96nm,1.5s
MORH Mrgy, Hungar 79.27 327⇑i P P 03 06 24.8 -0.8
MORH Mrgy, Hungar 79.27 327 ⇑P P 03 06 24.6 -0.9
VALD Valchedram 79.34 323 i P P 03 06 26.5 +0.5
SHAO Shalim 79.36 285 P P 03 06 27.2 +0.7
SHAO Shalim 79.36 285 i P P 03 06 26.9 +0.4
SNR=20
TNS Taunus Mts 79.37 335 eP P 03 06 25.8 -0.4
comp=Z,29nm,1.0s,baz=30,slow=5.5
SMWD Samnorwood 79.42 51 IAmb IAmb 03 06 28.4
comp=Z,26nm,0.8s
ILTH Belurgan, Co L 79.48 345 P P 03 06 26.2 -0.3
MPEP Malo Peshtene 79.48 322 P P 03 06 27.0 +0.2
MOA Molln 79.52 330 i P P 03 06 26.9 -0.1
comp=Z,12nm,0.8s,SNR=6.3
L42A Oliver, Polo 79.55 40 IAmb IAmb 03 06 27.5
comp=Z,44nm,0.8s
P38A Dawn 79.56 44 IAmb IAmb 03 06 28.4
comp=Z,39nm,0.8s
ARSA Arzberg 79.58 329 eP P 03 06 27.5 +0.2
comp=Z,20nm,1.3s
K43A Burlington 79.60 39 P P 03 06 26.9 -0.6
K43A IAmb IAmb 03 06 28.0
comp=Z,43nm,0.8s
CROK Carrier 79.62 49 IAmb IAmb 03 06 28.9
comp=Z,35nm,0.7s
BEBN Eben Emael 79.67 337 dP P 03 06 27.6 -0.1
comp=Z,69nm,0.6s
DIM Dimitrovgrad 79.70 320 P P 03 06 28.6 +0.6
ELMS Elmsett, Ipswi 79.72 340 eP P 03 06 28.2 +0.3
ELMS IAmb IAmb 03 06 29.2
comp=Z,196nm,1.3s
BTNL Ternell 79.73 337 dP P 03 06 27.8 -0.2
comp=Z,15nm,0.8s
MEM Membach 79.74 337 dP P 03 06 27.8 -0.2
comp=Z,26nm,0.9s
BEHE Becsehely 79.77 328 eP P 03 06 24.7 -3.6
BAND Balkesir-Ban 79.84 318 ⇓P P 03 06 29.3 +0.5
BIOA Bad Ischl, Aus 79.88 331 eP P 03 06 29.0 +0.1
comp=Z,34nm,1.3s,SNR=20
BSTI Sart Tilman 79.89 337 dP P 03 06 29.1 +0.2
comp=Z,9.0nm,0.5s
FOEL Foel Wylfa 79.93 343 eP P 03 06 29.3 +0.2
FOEL IAmb IAmb 03 06 30.6
comp=Z,64nm,1.0s
PGB Panagyurishte 79.96 321 i P P 03 06 29.5 0.0
BHOU Houvegnez 79.97 336 dP P 03 06 29.5 +0.1
comp=Z,17nm,0.8s
DOK Doka 79.98 286 P P 03 06 30.3 +0.4
DMTO DMTO 80.03 285 P P 03 06 30.4 +0.2
UCC Uccle 80.03 338 dP P 03 06 28.9 -0.7
LLW Llanuwychllyn 80.07 343 eP P 03 06 29.8 0.0
T35A Sooner Cattle 80.09 47 IAmb IAmb 03 06 31.4
comp=Z,46nm,1.0s
BCLA Clavier 80.11 337 dP P 03 06 28.6 -1.5
comp=Z,25nm,0.8s
RJOB Jochberg 80.13 331 eP P 03 06 30.3 0.0
comp=Z,20nm,0.8s,baz=30,slow=5.5
BOVS Bovan 80.13 324 ⇑P P 03 06 29.3 -1.0
BGES Gesves 80.20 337 dP P 03 06 30.3 -0.3
comp=Z,27nm,0.8s
HLM1 Long Mynd 80.21 343 eP P 03 06 30.7 +0.1
HLM1 IAmb IAmb 03 06 31.3
comp=Z,43nm,1.1s
DSB Dublin 80.23 345 P P 03 06 30.6 0.0
DSB Dublin 80.23 345 eP P 03 06 30.5 -0.2
DSB IAmb IAmb 03 06 31.2
comp=Z,66nm,1.4s
OK051 E0350 and 0346 80.23 48 IAmb IAmb 03 06 32.2
comp=Z,23nm,0.8s
OK048 Pawnee Station 80.24 48 IAmb IAmb 03 06 32.3
comp=Z,31nm,0.8s
SOKA Soboth 80.24 329 i P P 03 06 30.9 0.0
comp=Z,31nm,0.9s,SNR=15
PERS Pernice 80.25 329 i P P 03 06 30.9 -0.1
GROS Grobnik 80.25 329 i P P 03 06 30.7 -0.3
FUR Furstenfeldbru 80.28 332 eP P 03 06 30.9 -0.1
comp=Z,54nm,1.0s,baz=30,slow=5.5
VTS Vitosha 80.29 322 i P P 03 06 31.9 +0.5
RZN Rozhen 80.36 321 P P 03 06 32.2 +0.4
P40A Paris 80.36 43 IAmb IAmb 03 06 32.9
comp=Z,47nm,0.8s
BMRD Maredsous 80.37 337 dP P 03 06 31.3 -0.1
comp=Z,35nm,0.9s
RCHB Rochefort 80.37 337 dP P 03 06 30.1 -1.4
comp=Z,18nm,1.0s
ALN Alexandroupoli 80.39 319 IAmb IAmb 03 06 33.1
comp=Z,36nm,1.0s
STU Stuttgart 80.42 334 IAmb IAmb 03 06 32.7
comp=Z,33nm,0.8s
STU Stuttgart 80.42 334 eP P 03 06 31.3 -0.4
comp=Z,80nm,0.8s,baz=30,slow=5.5
RDO Rodhopi 80.43 320 IAmb IAmb 03 06 33.5
comp=Z,62nm,1.0s
OK029 Liberty Lake 80.43 49 IAmb IAmb 03 06 33.5
comp=Z,33nm,0.7s
LESA Schwarzleotal 80.44 331 i P P 03 06 32.2 +0.2
comp=Z,40nm,1.0s,SNR=24
CAVK Edirne/Enez-Ca 80.49 319 ⇑P P 03 06 33.5 +1.2
MOSL Moslavina 80.50 328⇑i P P 03 06 31.3 -1.0
KBA Koelnbreinsper 80.51 331 eP P 03 06 32.4 -0.1
comp=Z,24nm,0.5s,SNR=20
WLF Walferdange 80.55 336 IAmb IAmb 03 06 37.0
comp=Z,29nm,1.0s
WLF Walferdange 80.55 336 dP P 03 06 31.6 -0.9
comp=Z,18nm,0.9s
QUOK Quay 80.55 48 IAmb IAmb 03 06 34.1
comp=Z,34nm,1.3s
OBKA Obir 80.56 330 i P P 03 06 32.4 -0.4
comp=Z,15nm,0.7s,SNR=9.0
GOLS Golise 80.59 329 i P P 03 06 32.5 -0.3
ISP Isparta 80.59 315 IAmb IAmb 03 06 34.6
comp=Z,41nm,0.7s
ISP Isparta 80.59 315ceP P 03 06 34.0 +1.0
ISP pmax pmax
comp=Z,40nm,0.8s
IGLA Glengowla, Co 80.59 347 P P 03 06 32.1 -0.5
IGLA Glengowla, Co 80.59 347 eP P 03 06 32.0 -0.5
IGLA IAmb IAmb 03 06 32.8
comp=Z,34nm,0.8s
DOU Dourbes 80.60 337 dP P 03 06 32.4 -0.3
comp=Z,13nm,1.1s
OK052 Battle Ridge R 80.63 48 IAmb IAmb 03 06 34.5
comp=Z,21nm,0.8s
RBK Rabkut 80.69 285 P P 03 06 34.0 +0.2
J47A Sunmer 80.70 36 P P 03 06 33.1 -0.3
J47A IAmb IAmb 03 06 34.8
comp=Z,55nm,1.0s
WHFO Wadi Hawf 80.71 286 P P 03 06 33.9 0.0
MCH1 Michaelchurch 80.73 342 eP P 03 06 33.4 +0.1
MCH1 IAmb IAmb 03 06 34.1
comp=Z,45nm,0.7s
STRD Stroud 80.75 342 eP P 03 06 33.6 +0.1
STRD IAmb IAmb 03 06 35.7
comp=Z,66nm,0.8s
LEGS Legarje 80.75 329 i P P 03 06 33.2 -0.4
PDKS Podkum 80.78 329 i P P 03 06 33.3 -0.5
MYKA Terra Mystica 80.78 330 i P P 03 06 33.2 -0.6
comp=Z,9.9nm,0.6s,SNR=9.4
RAR Rarotonga 80.83 132 LR LR 03 42 26.0
comp=Z,72nm,19.0s,baz=308,slow=36

MONM Monmouth 80.83 342 eP P 03 06 34.0 +0.1
MONM IAmb IAmb 03 06 34.7
comp=Z,53nm,0.9s
FNO Franklin 80.86 49 IAmb IAmb 03 06 36.0
comp=Z,45nm,0.8s
WATA Walderalm 80.89 332 eP P 03 06 34.7 +0.1
comp=Z,24nm,0.5s,SNR=24
SWN1 Swindon 80.91 342 eP P 03 06 34.8 +0.4
SWN1 IAmb IAmb 03 06 35.4
comp=Z,132nm,0.7s
MMB Musomishta 80.92 321 i P P 03 06 34.9 +0.2
WTTA Wattenberg 80.94 332 i P P 03 06 35.0 +0.2
comp=Z,28nm,0.4s,SNR=25
KKB Krupnik 80.96 322 i P P 03 06 35.3 +0.5
WOL Wolverton 80.97 341 eP P 03 06 34.6 -0.1
WOL IAmb IAmb 03 06 35.2
comp=Z,72nm,0.8s
OZLJ Ozalj 80.98 329⇑i P P 03 06 34.2 -0.6
RETA Reutte 81.04 332 eP P 03 06 35.2 0.0
comp=Z,35nm,1.0s,SNR=13
MOTA Moosalm 81.05 332 i P P 03 06 35.3 0.0
comp=Z,74nm,1.1s,SNR=43
BLY Banja Luka 81.06 327⇑i P P 03 06 34.4 -0.8
BLY Banja Luka 81.06 327 ⇑P P 03 06 34.4 -0.8
BFO Black Forest 81.08 334 P P 03 06 34.9 -0.5
BFO IAmb IAmb 03 06 36.0
comp=Z,26nm,0.9s
BFO Black Forest 81.08 334 P P 03 06 34.9 -0.5
BFO pmax pmax
comp=Z,26nm,0.9s
BFO Black Forest 81.08 334 eP P 03 06 34.8 -0.5
comp=Z,26nm,0.9s,baz=30,slow=5.5
ABTA Abfaltersbach 81.08 331 eP P 03 06 34.6 -0.9
comp=Z,5.8nm,0.6s,SNR=12
UBR Ueberruh 81.08 333 eP P 03 06 34.9 -0.5
comp=Z,12nm,0.8s,baz=30,slow=5.5
EZN Ezine 81.10 319 ⇑P P 03 06 35.4 -0.1
EZN Ezine 81.10 319 ⇑P P 03 06 35.4 -0.1
SQTA Sankt Quirin 81.12 332 eP P 03 06 35.9 +0.2
comp=Z,42nm,0.9s,SNR=22
RUDO Rudo 81.12 325 eP P 03 06 34.8 -0.8
IWEX Carrickbyrne, 81.13 345 P P 03 06 35.6 +0.1
IWEX Carrickbyrne, 81.13 345 eP P 03 06 35.8 +0.3
IWEX IAmb IAmb 03 06 36.4
comp=Z,62nm,0.8s
RSBS Rosebush, Pemb 81.14 343 eP P 03 06 35.2 -0.3
RSBS IAmb IAmb 03 06 37.0
comp=Z,37nm,0.9s
S39A Bolivar 81.15 45 IAmb IAmb 03 06 36.3
comp=Z,31nm,0.9s
R40A Maddies Statio 81.21 44 IAmb IAmb 03 06 37.1
comp=Z,40nm,0.9s
TUL3 Leonard 81.23 48 IAmb IAmb 03 06 37.5
comp=Z,19nm,0.7s
ASF Jabal al Asfar 81.38 307 LR LR 03 49 16.5
comp=Z,126nm,18.1s,baz=75,slow=40
ABTO Aybut 81.42 286 P P 03 06 37.8 +0.2
STAL STALIGIAL 81.43 331 IAmb IAmb 03 06 36.8
comp=Z,37nm,1.2s
RLO Rose Lookout 81.44 47 P P 03 06 37.7 +0.2
RLO IAmb IAmb 03 06 38.6
comp=Z,24nm,1.0s
FETA Feichten 81.45 332 i P P 03 06 37.5 -0.1
comp=Z,19nm,0.8s,SNR=14
DAVA Damuels 81.50 333 eP P 03 06 37.7 -0.1
comp=Z,36nm,0.8s,SNR=12
IVA Berane 81.52 324⇑i P P 03 06 37.6 -0.2
TRI Trieste 81.53 330 IAmb IAmb 03 06 37.4
comp=Z,35nm,1.1s
ECH Echery 81.54 335 IAmb IAmb 03 06 38.5
comp=Z,25nm,0.8s
SKO Skopje 81.60 323 i P P 03 06 38.8 +0.7
MMAI Mount Meron Ar 81.60 308 P P 03 06 39.6 +1.2
comp=Z,51nm,0.5s,baz=38,slow=5.8,SNR=124
MMAI LR LR 03 47 37.6
comp=Z,161nm,19.1s,baz=14,slow=39
comp=Z,51nm,0.5s
VAY Valandovo 81.63 322 i P P 03 06 38.3 0.0
TX31 Lajitas Ar. Si 81.65 57 IAmb IAmb 03 06 40.4
comp=Z,21nm,0.7s
TXAR Lajitas Array 81.65 57 P P 03 06 38.7 -0.1
TXAR Lajitas Array 81.65 57 P P 03 06 39.4 +0.6
comp=Z,17nm,0.6s,baz=296,slow=4.0,SNR=329
TXAR PKKPbc PKKPbc 03 25 11.4 +2.9
comp=Z,1.2nm,0.8s,baz=146,slow=5.9,SNR=15
comp=Z,17nm,0.6s
LDAQ Lac Daran 81.65 26 IAmb IAmb 03 06 39.2
comp=Z,29nm,0.9s
UPM Unac-Piva 81.65 325⇓i P P 03 06 37.7 -1.0
KOME Kolasin 81.69 325⇑i P P 03 06 38.3 -0.5
SADO Sadowa 81.71 32 LR LR 03 46 03.7
comp=Z,805nm,18.9s,baz=334,slow=38
CCM Cathedral Cave 81.90 43 P P 03 06 39.5 -0.3
CCM Cathedral Cave 81.90 43 P P 03 06 39.5 -0.3
CCM pmax pmax
comp=Z,57nm,0.9s
HHAR Hobbs 81.92 46 IAmb IAmb 03 06 40.7
comp=Z,17nm,0.7s
LOOK Love County 81.93 50 IAmb IAmb 03 06 41.4
comp=Z,24nm,0.9s
DAVOX Davos/Dischmat 81.95 332 LR LR 03 46 46.6
comp=Z,24nm,19.6s,baz=36,slow=38
FUORN Ofenpass-Fuorn 81.96 332 IAmb IAmb 03 06 41.7
comp=Z,48nm,1.0s
AAM Ann Arbor 81.96 36 IAmb IAmb 03 06 41.3
comp=Z,29nm,0.7s
KIJV Kijevo 81.98 327⇑i P P 03 06 39.6 -0.6
CTI Castel Tesino 81.99 331 IAmb IAmb 03 06 40.0
comp=Z,33nm,1.1s
NKME Niksic 82.00 325⇓i P P 03 06 39.4 -0.9
K50A Casco 82.00 35 IAmb IAmb 03 06 41.4
comp=Z,40nm,1.1s
NWAO Narrogin (SRO) 82.02 206 P P 03 06 40.6 +0.4
NWAO Narrogin (SRO) 82.02 206 P P 03 06 41.0 +0.8
comp=Z,54nm,0.8s,baz=19,slow=5.8,SNR=20
comp=Z,54nm,0.8s
NWAO Narrogin (SRO) 82.02 206 P P 03 06 41.0 +0.8
BRY Bratogost 82.05 325⇓i P P 03 06 39.7 -1.0
MGMO Mountain Grove 82.09 45 IAmb IAmb 03 06 41.6
comp=Z,19nm,0.8s
TRQ Mont Tremblant 82.11 28 IAmb IAmb 03 06 41.5
comp=Z,58nm,1.1s
PDG Podgorica 82.15 324 ⇓P P 03 06 40.4 -0.6
PDG Podgorica 82.15 324⇑i P P 03 06 40.5 -0.5
VAL Valentia 82.16 347 P P 03 06 41.0 +0.1
BRJN Brijuni 82.22 329⇑i P P 03 06 39.9 -1.4
AKAS Kas 82.28 314 IAmb IAmb 03 06 54.1
comp=Z,41nm,0.7s
TREB Trebinje 82.28 325⇑i P P 03 06 40.4 -1.4
LMQ La Malbaie 82.30 25 IAmb IAmb 03 06 42.6
comp=Z,48nm,1.1s
RAYN Ar Rayn 82.34 295 P P 03 06 42.8 +0.4
RAYN IAmb IAmb 03 06 44.0
comp=Z,22nm,0.7s
RAYN Ar Rayn 82.34 295 P P 03 06 43.3 +0.9
RAYN Ar Rayn 82.34 295 i P P 03 06 43.0 +0.5
SNR=32
RAYN Ar Rayn 82.34 295 ⇑P P 03 06 42.8 +0.4
FVM French Village 82.36 43 IAmb IAmb 03 06 43.4
comp=Z,27nm,0.8s
DRME Dracevica, Mon 82.38 324⇑i P P 03 06 42.0 -0.3
Z35A Perchaven, San 82.39 50 IAmb IAmb 03 06 44.0
comp=Z,25nm,0.8s
TUE Stuetta 82.39 333 IAmb IAmb 03 06 43.6
comp=Z,32nm,0.8s
DYA Yadsworthy 82.40 342 eP P 03 06 42.0 -0.2
DYA IAmb IAmb 03 06 42.9
comp=Z,62nm,1.1s
BUM Brajici-Budva 82.41 325⇑i P P 03 06 41.7 -0.8
SBD Saint Breward 82.44 343 eP P 03 06 42.4 0.0
HCY Herceg Novi 82.45 325⇑i P P 03 06 41.9 -0.7
DELO Deloro Mine 82.49 31 IAmb IAmb 03 06 43.4
comp=Z,32nm,1.0s
ULC Ulcinj 82.54 324⇑i P P 03 06 42.5 -0.6
OHR Ohrid 82.58 323 i P P 03 06 43.4 +0.1
TEOL Teolo 82.58 331 IAmb IAmb 03 06 43.7
comp=Z,32nm,0.7s
FNA Florina 82.59 322 IAmb IAmb 03 06 44.0
comp=Z,37nm,0.8s
TIR Tirane 82.78 323 P P 03 06 43.9 -0.4
TIR Tirane 82.78 323 ⇓P P 03 06 44.7 +0.3
TIR Tirane 82.78 323 ⇓P P 03 06 44.7 +0.3
N49A Columbus Grove 82.87 37 IAmb IAmb 03 06 45.9
comp=Z,59nm,1.1s
OLIL Olney 82.88 41 IAmb IAmb 03 06 46.2
comp=Z,39nm,0.8s

CCA1 Carnmenellis 82.91 343 eP P 03 06 44.6 -0.3
CCA1 IAmb IAmb 03 06 45.5
comp=Z,64nm,0.9s
WBO Williamsburg 82.92 29 IAmb IAmb 03 06 45.4
comp=Z,26nm,0.9s
BRDY Brady 82.94 53 IAmb IAmb 03 06 47.2
comp=Z,49nm,1.8s
O48B Farmland 82.99 38 IAmb IAmb 03 06 45.8
comp=Z,35nm,0.7s
MNTQ Montreal, Queb 83.06 28 IAmb IAmb 03 06 46.4
comp=Z,41nm,1.0s
JCT Junction City 83.08 54 IAmb IAmb 03 06 47.6
comp=Z,36nm,1.4s
D62A Allapoint, All 83.11 25 IAmb IAmb 03 06 46.8
comp=Z,27nm,0.9s
FCAR Ozark Folk Cen 83.15 45 P P 03 06 46.1 -0.2
FCAR IAmb IAmb 03 06 47.0
comp=Z,28nm,0.7s
SENIN Lac Senin/Sane 83.15 334 IAmb IAmb 03 06 49.2
comp=Z,17nm,0.8s
PECO Prince Edward 83.22 31 IAmb IAmb 03 06 47.1
comp=Z,24nm,0.7s
BLO Bloomington 83.25 40 IAmb IAmb 03 06 47.9
comp=Z,30nm,0.7s
CGM3 Cape Girardeau 83.27 43 IAmb IAmb 03 06 48.1
comp=Z,26nm,1.1s
PBMO Poplar Bluff 83.30 44 IAmb IAmb 03 06 48.5
comp=Z,52nm,1.2s
MEDO Medina 83.33 32 IAmb IAmb 03 06 48.1
comp=Z,42nm,0.9s
E62A Clayton Lake 83.38 25 IAmb IAmb 03 06 48.1
comp=Z,32nm,0.8s
TAOE Nuku Hiva Isla 83.38 109 eLR LR 03 32 58.8
comp=Z,308nm,24.7s
O49A Covington 83.41 38 IAmb IAmb 03 06 48.6
comp=Z,33nm,1.0s
MIAR Mount Ida 83.44 47 P P 03 06 48.0 +0.1
MIAR IAmb IAmb 03 06 49.3
comp=Z,35nm,0.8s
MIAR Mount Ida 83.44 47 P P 03 06 48.0 +0.1
MIAR pmax pmax
comp=Z,35nm,0.8s
J55A Hilton 83.49 32 IAmb IAmb 03 06 48.6
comp=Z,36nm,0.9s
LCAR Lake Charles 83.50 45 IAmb IAmb 03 06 49.0
comp=Z,54nm,1.8s
P48A Milroy 83.52 39 IAmb IAmb 03 06 49.0
comp=Z,31nm,0.7s
WHAR Wooly Hollow 83.53 46 IAmb IAmb 03 06 49.4
comp=Z,37nm,0.8s
ERPA Erie 83.62 34 IAmb IAmb 03 06 49.5
comp=Z,31nm,0.6s
N51A Ashland 83.64 36 IAmb IAmb 03 06 49.7
comp=Z,31nm,0.7s
Z38A Mt. Pleasant 83.68 49 IAmb IAmb 03 06 50.5
comp=Z,30nm,1.0s
ZCCA Zocca 83.70 331 IAmb IAmb 03 07 13.4
comp=Z,34nm,1.1s
PPT Papeete 83.79 122 LR LR 03 44 43.5
comp=Z,74nm,18.7s,baz=346,slow=36
PPT2 Papeete2 83.80 122 eSS SS 03 22 32.8 -4.4
comp=Z,85nm,23.8s
PPT2 Papeete2 83.80 122 eLR LR 03 33 07.2
comp=Z,577nm,30.8s
PPT2 eLR LR 03 33 16.5
comp=Z,294nm,29.2s
MMNY Mt. Morris Dam 83.91 32 IAmb IAmb 03 06 50.8
comp=Z,42nm,0.8s
GUMA Gualdo di Mace 83.96 328 P P 03 06 49.5 -1.0
J57A Williamstown 84.04 31 IAmb IAmb 03 06 51.4
comp=Z,50nm,1.5s
WCI Wyandotte Cave 84.12 40 P P 03 06 50.7 -0.6
WCI Wyandotte Cave 84.12 40 P P 03 06 50.7 -0.6
WCI pmax pmax
comp=Z,50nm,0.8s
SGRT San Giovanni R 84.14 326 IAmb IAmb 03 06 51.8
comp=Z,20nm,0.8s
NCB Newcomb 84.19 29 IAmb IAmb 03 06 52.3
comp=Z,23nm,0.9s
MSSA Maissana 84.23 332 IAmb IAmb 03 06 52.6
comp=Z,30nm,1.0s
OSSC Osservatorio P 84.32 330 IAmb IAmb 03 06 52.7
comp=Z,53nm,1.1s
WLAR White Oak Lake 84.35 47 IAmb IAmb 03 06 54.1
comp=Z,46nm,1.0s
EIL Elat 84.35 306 LR LR 03 51 00.4
comp=Z,166nm,18.7s,baz=346,slow=40
VT1 Waterbury 84.38 28 IAmb IAmb 03 06 53.6
comp=Z,36nm,0.8s
N53A Lisbon 84.38 35 P P 03 06 52.5 0.0
F64A Sherman 84.41 25 IAmb IAmb 03 06 53.5
comp=Z,30nm,1.1s
K57A Scipio Center 84.44 31 IAmb IAmb 03 06 53.4
comp=Z,20nm,0.9s
BNI Bardonecchia 84.52 334 IAmb IAmb 03 06 58.3
comp=Z,19nm,0.7s
J59A Piesco 84.53 30 IAmb IAmb 03 06 53.9
comp=Z,32nm,0.7s
O52A Adamsville 84.54 36 IAmb IAmb 03 06 54.5
comp=Z,37nm,0.8s
P51A Williamsport 84.54 37 IAmb IAmb 03 06 54.2
comp=Z,35nm,0.8s
R49A Shelbyville 84.58 39 IAmb IAmb 03 06 55.0
comp=Z,19nm,0.6s
CESX Cesi 84.63 329 IAmb IAmb 03 06 54.2
comp=Z,42nm,1.1s
INTR Introdacqua 84.64 328 IAmb IAmb 03 06 55.0
comp=Z,39nm,0.8s
PKME Peaks-Kenny Pk 84.67 26 IAmb IAmb 03 06 55.3
comp=Z,36nm,1.1s
MATE Matera 84.69 325 ⇑P P 03 06 53.8 -0.3
H62A Milan 84.69 27 P P 03 06 54.2 +0.1
LBNH Lisbon 84.74 28 IAmb IAmb 03 06 55.8
comp=Z,18nm,0.7s
P52A Corning 84.82 37 IAmb IAmb 03 06 55.1
comp=Z,22nm,0.7s
ACCN Adirondack Com 84.90 29 IAmb IAmb 03 06 56.0
comp=Z,33nm,0.9s
R50A Paris 84.97 39 IAmb IAmb 03 06 57.0
comp=Z,35nm,1.0s
SSB Saint Sauveur 84.97 335 IAmb IAmb 03 06 56.8
comp=Z,18nm,0.7s
WVT Waverly 85.09 42 P P 03 06 56.5 +0.3
WVT IAmb IAmb 03 06 57.5
comp=Z,27nm,0.8s
WVT Waverly 85.09 42 P P 03 06 56.5 +0.3
WVT pmax pmax
comp=Z,27nm,0.8s
HNH Hanover 85.09 28 IAmb IAmb 03 06 57.5
comp=Z,33nm,0.9s
BINY Binghamton 85.09 31 IAmb IAmb 03 06 56.6
comp=Z,16nm,0.7s
WVL Waterville 85.18 26 IAmb IAmb 03 06 57.8
comp=Z,29nm,0.9s
EF04 Eagle Ford 04 85.19 53 IAmb IAmb 03 06 58.5
comp=Z,26nm,0.6s
PAOL Paolisi 85.22 327 IAmb IAmb 03 06 56.9
comp=Z,22nm,1.1s
G65A Princeton 85.25 24 IAmb IAmb 03 06 58.1
comp=Z,30nm,0.9s
P53A Whipple 85.25 36 IAmb IAmb 03 06 58.1
comp=Z,39nm,0.7s
I62A Tamworth 85.26 27 IAmb IAmb 03 06 58.3
comp=Z,41nm,1.3s
J61A Chester 85.32 29 IAmb IAmb 03 06 58.6
comp=Z,31nm,0.7s
Q52A Bidwell 85.32 37 P P 03 06 57.1 -0.2
Q52A IAmb IAmb 03 06 58.4
comp=Z,32nm,1.0s
TRY Troy 85.47 30 IAmb IAmb 03 06 59.0
comp=Z,17nm,0.7s
CUC Castrocucco 85.61 325 IAmb IAmb 03 06 58.3
comp=Z,19nm,1.1s
SSPA Standing Stone 85.71 33 P P 03 06 59.4 +0.2
SSPA IAmb IAmb 03 07 00.5
comp=Z,30nm,0.8s
KSPA Keystone Colle 85.73 31 IAmb IAmb 03 07 00.2
comp=Z,26nm,0.7s
CLTN Cedars of Leba 85.83 41 IAmb IAmb 03 07 01.4
comp=Z,21nm,0.8s
V48A Smith Brothers 85.89 42 IAmb IAmb 03 07 01.4
comp=Z,28nm,0.9s
PLAL Pickwick Lake 85.89 43 IAmb IAmb 03 07 00.7
comp=Z,15nm,0.6s
TIP Timpagrande 85.90 324 IAmb IAmb 03 07 01.2
comp=Z,39nm,1.1s
TIP Timpagrande 85.90 324 ⇓P P 03 06 59.7 -0.6
K62A Royalston 86.03 29 IAmb IAmb 03 07 02.2

	comp=Z,26nm,0.9s							
HRV	**Adam Dziewonsk**	**86.40**	**28**	P		**P**	**03 07 01.8**	**-0.8**
HRV				IAmb		IAmb	03 07 04.2	
	comp=Z,27nm,0.9s							
HRV	**Adam Dziewonsk**	**86.40**	**28**	P		**P**	**03 07 01.8**	**-0.8**
HRV				pmax		pmax		
	comp=Z,27nm,1.0s							
URZ	**Urewera**	**86.42**	**158**	LR		LR	03 42 18.6	
	comp=Z,65nm,19.0s,baz=301,slow=33							
Q56A	**Snyder Ridge,**	**86.55**	**35**	IAmb		IAmb	03 07 04.8	
	comp=Z,31nm,0.8s							
P57A	**Homestead Farm**	**86.65**	**34**	IAmb		IAmb	03 07 05.2	
	comp=Z,17nm,0.8s							
X48A	**Hartselle**	**86.82**	**43**	IAmb		IAmb	03 07 05.4	
	comp=Z,13nm,0.8s							
PAL	**Palisades**	**86.90**	**31**	IAmb		IAmb	03 07 06.2	
	comp=Z,26nm,0.7s							
W50A	**Signal Mountai**	**87.04**	**41**	IAmb		IAmb	03 07 07.0	
	comp=Z,24nm,0.8s							
CEL	**Celeste**	**87.04**	**324**	IAmb		IAmb	03 07 05.9	
	comp=Z,14nm,0.6s							
CPNY	**Central Park**	**87.07**	**31**	P		**P**	**03 07 05.7**	**-0.1**
CPNY				IAmb		IAmb	03 07 06.7	
	comp=Z,34nm,1.0s							
L64A	**Middleborough**	**87.15**	**28**	IAmb		IAmb	03 07 07.6	
	comp=Z,29nm,0.9s							
SDMD	**Soldier's Deli**	**87.17**	**33**	IAmb		IAmb	03 07 07.6	
	comp=Z,16nm,0.8s							
Z47A	**Carrollton**	**87.32**	**44**	IAmb		IAmb	03 07 08.5	
	comp=Z,24nm,0.8s							
TKL	**Tuckaleechee C**	**87.38**	**40**	LR		LR	03 47 38.8	
	comp=Z,54nm,20.2s,baz=336,slow=36							
FPAL	**Fort Paine**	**87.44**	**42**	IAmb		IAmb	03 07 08.9	
	comp=Z,13nm,0.9s							
Y49A	**Blount Mountai**	**87.61**	**43**	IAmb		IAmb	03 07 09.6	
	comp=Z,26nm,0.9s							
S57A	**Dark Hollow, R**	**87.73**	**36**	IAmb		IAmb	03 07 10.8	
	comp=Z,32nm,0.9s							
W52A	**Murphy**	**87.78**	**40**	P		**P**	**03 07 09.4**	**0.0**
W52A				IAmb		IAmb	03 07 10.8	
	comp=Z,13nm,0.7s							
V53A	**Saluda**	**87.81**	**39**	IAmb		IAmb	03 07 10.5	
	comp=Z,12nm,0.9s							
R58B	**Mineral**	**88.00**	**35**	IAmb		IAmb	03 07 11.8	
	comp=Z,20nm,0.9s							
T57A	**Hurt**	**88.25**	**36**	IAmb		IAmb	03 07 13.0	
	comp=Z,33nm,1.0s							
TBI	**Tubuai**	**88.30**	**125**	*e*LR		LR	03 35 14.5	
	comp=Z,1µm,27.5s							
TBI				*e*LR		LR	03 35 21.4	
	comp=Z,645nm,27.0s							
VAE	**Valguarnera**	**88.32**	**325**	LR		LR	03 51 17.0	
	comp=Z,170nm,18.6s,baz=98,slow=39							
U56A	**King**	**88.32**	**37**	IAmb		IAmb	03 07 13.3	
	comp=Z,24nm,0.9s							
CEST	**Esterri de Car**	**88.39**	**336**	IAmb		IAmb	03 07 14.6	
	comp=Z,30nm,0.8s							
RAFF	**Raffo Rosso**	**88.56**	**325**	IAmb		IAmb	03 07 14.2	
	comp=Z,23nm,0.7s							
KMSC	**Kings Mountain**	**88.91**	**39**	P		**P**	**03 07 14.4**	**-0.4**
HODGE	**Hodges**	**89.26**	**40**	IAmb		IAmb	03 07 18.0	
	comp=Z,22nm,0.9s							
GOGA	**Godfrey**	**89.38**	**41**	IAmb		IAmb	03 07 18.6	
	comp=Z,25nm,1.4s							
152A	**Waverly Hall**	**89.39**	**42**	IAmb		IAmb	03 07 18.0	
	comp=Z,15nm,0.8s							
BIRD	**Birdtown, Kers**	**89.72**	**38**	IAmb		IAmb	03 07 19.9	
	comp=Z,23nm,0.9s							
PGAV	**Gavieira, Arco**	**91.38**	**343**	*e*P		**P**	**03 07 25.7**	**-0.6**
POLO	**Lamas de Olo**	**91.84**	**342**	*e*P		**P**	**03 07 27.4**	**-1.1**
KEST	**Kesra**	**91.85**	**328**	P		**P**	**03 07 28.2**	**-0.3**
	comp=Z,10nm,0.5s,baz=109,slow=1.0,SNR=9.4							
KEST				LR		LR	03 52 21.9	
	comp=Z,276nm,21.5s,baz=39,slow=38							
	comp=Z,10nm,0.5s							
KEST	**Kesra**	**91.85**	**328**	P		**P**	**03 07 28.5**	**-0.1**
MVO	**Moncorvo**	**91.87**	**342**	*e*P		**P**	**03 07 27.3**	**-1.2**
PVRL	**Vila Real**	**91.92**	**342**	*e*P		**P**	**03 07 27.7**	**-1.0**
PTO	**Porto**	**92.25**	**343**	*e*P		**P**	**03 07 28.2**	**-2.0**
PVIS	**Viseu**	**92.50**	**342**	*e*P		**P**	**03 07 29.5**	**-1.9**
ESBB	**Sonseca Array**	**92.54**	**339**	IAmb		IAmb	03 07 32.5	
	comp=Z,6.2nm,0.7s							
ESDC	**Sonseca Array**	**92.54**	**339**	P		**P**	**03 07 30.3**	**-1.3**
ESDC	**Sonseca Array**	**92.54**	**339**	P		**P**	**03 07 30.8**	**-0.8**
	comp=Z,7.2nm,0.7s,baz=16,slow=4.3,SNR=70							
ESDC				LR		LR	03 53 28.5	
	comp=Z,162nm,21.6s,baz=31,slow=38							
	comp=Z,7.2nm,0.7s							
ATD	**Arta Tunnel**	**92.67**	**289**	LR		LR	03 54 53.3	
	comp=Z,8.1nm,18.8s,baz=154,slow=39							
MTE	**Manteigas**	**92.72**	**342**	IAmb		IAmb	03 07 32.2	
	comp=Z,11nm,0.9s							
MTE	**Manteigas**	**92.72**	**342**	*e*P		**P**	**03 07 31.4**	**-1.0**
MTE				*i* IAMs_20		IAMs_20	03 53 44.1	
	comp=Z,128nm,20.0s							
COI	**Coimbra**	**93.10**	**342**	*e*P		**P**	**03 07 32.3**	**-1.7**
PCBR	**Castelo Branco**	**93.24**	**341**	*e*P		P	03 07 29.3	-5.4
PCAS	**Casmilo, Conde**	**93.26**	**342**	*e*P		**P**	**03 07 33.5**	**-1.4**
PMRV	**Marv??o**	**93.61**	**341**	*e*P		**P**	**03 07 36.1**	**-0.4**
PMRV				*i* IAMs_20		IAMs_20	03 53 55.6	
	comp=Z,108nm,22.0s							
PSARD	**Sardoal**	**93.62**	**342**	*e*P		**P**	**03 07 36.3**	**-0.2**
PSBE	**So Bento**	**93.84**	**342**	*e*P		**P**	**03 07 36.2**	**-1.4**
PESTR	**Estremoz**	**94.19**	**341**	*e*P		**P**	**03 07 37.8**	**-1.4**
PARRA	**Arraiolos**	**94.57**	**342**	*e*P		**P**	**03 07 38.3**	**-2.6**
EVO	**Evora**	**94.61**	**341**	*e*P		**P**	**03 07 40.2**	**-0.8**
PBAR	**Barrancos**	**94.72**	**341**	*e*P		**P**	**03 07 40.1**	**-1.4**
MESJ	**Messejana**	**95.32**	**341**	*e*P		**P**	**03 07 43.1**	**-1.2**
MESJ				IAmb		IAmb	03 07 44.4	
	comp=Z,6.0nm,0.8s							
MESJ	**Messejana**	**95.32**	**341**	*e*P		**P**	**03 07 43.1**	**-1.2**
MESJ				*i* IAmb		IAmb	03 07 44.4	
	comp=Z,15nm,1.7s							
MESJ	**Messejana**	**95.32**	**341**	*e*P		**P**	**03 07 43.1**	**-1.2**
PVAQ	**Vaqueiros**	**95.62**	**341**	*e*P		**P**	**03 07 44.9**	**-0.8**
PVAQ				*i* IAMs_20		IAMs_20	03 58 03.0	
	comp=Z,90nm,20.0s							
PTEO	**Sao Teotonio**	**95.71**	**342**	*e*P		**P**	**03 07 45.2**	**-1.0**
PTEO				*i* IAmb		IAmb	03 07 48.1	
	comp=Z,16nm,1.8s							
MORF	**Marmelete**	**95.93**	**342**	*e*P		**P**	**03 07 46.5**	**-0.7**
CMIG	**Matias Romero**	**96.11**	**59**	LR		LR	03 50 22.7	
	comp=Z,23nm,19.6s,baz=341,slow=35							
PFVI	**Vila Bisbo**	**96.13**	**342**	*e*P		**P**	**03 07 47.2**	**-0.8**
MD01	**Midelt array s**	**99.16**	**337**	P		**Pdif**	**03 08 00.6**	**-1.3**
MDT	**Midelt**	**99.17**	**337**	LR		LR	03 57 56.0	
	comp=Z,58nm,21.9s,baz=28,slow=38							
TORD	**Torodi Ar. Bea**	**115.05**	**324**	PKP		**PKiKP**	**03 13 00.4**	**-1.1**
	comp=Z,2.7nm,0.7s,baz=360,slow=2.6,SNR=5.4							
BAUV	**El Baul**	**117.58**	**41**			**PKPdf**	**03 13 05.0**	**-1.4**
LSZ	**Lusaka**	**121.86**	**280**			**PKPdf**	**03 13 14.5**	**-0.1**
LSZ	**Lusaka**	**121.86**	**280**	PKIKP		**PKPdf**	**03 13 14.5**	**-0.1**
VNDA	**Vanda**	**122.02**	**177**			**PKPdf**	**03 13 12.6**	**-0.4**
VNDA	**Vanda**	**122.02**	**177**	PKP		**PKiKP**	**03 13 13.0**	**-0.1**
	comp=Z,4.5nm,0.8s,baz=316,slow=3.9,SNR=30							
VNDA				PKKPbc		**PKKPbc**	**03 23 11.1**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=216,slow=6.2,SNR=8.7							
VNDA	**Vanda**	**122.02**	**177**	PKIKP		**PKPdf**	**03 13 12.6**	**-0.4**
DBIC	**Dimbokro**	**123.58**	**327**			**PKPdf**	**03 13 17.2**	**-0.7**
DBIC	**Dimbokro**	**123.58**	**327**	PKP		**PKPdf**	**03 13 17.4**	**-0.5**
	comp=Z,17nm,0.8s,baz=22,slow=2.6,SNR=10							
BROLN	**Tlhalogang**	**126.32**	**276**	*i* P		**PKiKP**	**03 13 23.4**	**-0.1**
BOAV	**Boa Vista**	**126.77**	**37**			**PKPdf**	**03 13 23.5**	**-0.5**
SOOWA	**Sowa**	**126.77**	**277**	*i* P		**PKiKP**	**03 13 25.1**	**+0.8**
MAW	**Mawson**	**128.49**	**209**	PKP		**PKiKP**	**03 13 26.0**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=28,slow=1.9,SNR=4.4							
LPHEP	**Lephephe**	**128.81**	**274**	*i* P		**PKiKP**	**03 13 29.1**	**+0.7**
CZSB	**Cruzeiro do Su**	**129.04**	**57**	*e*P		**PKPdf**	**03 13 28.2**	**-0.1**
KDWAN	**Kaudwane**	**129.68**	**275**	*i* P		**PKiKP**	**03 13 30.8**	**+0.7**
TEFE	**Tefe**	**130.03**	**45**	*e*P		**PKPdf**	**03 13 30.4**	**+0.1**
SKOMA	**Sekoma**	**130.90**	**275**	*e*P		**PKiKP**	**03 13 32.8**	**+0.2**
KGCAE	**Kacgae**	**131.09**	**278**	*i* P		**PKiKP**	**03 13 32.8**	**-0.2**
KGCAE	**Kacgae**	**131.09**	**278**			**PKPdf**	**03 13 32.5**	**+0.4**
MACA	**Manacapuru-AM**	**131.64**	**40**	*e*P		**PKPdf**	**03 13 33.1**	**-0.1**
BOSA	**Boshof**	**132.41**	**269**	PKP		**PKPdf**	**03 13 34.0**	**-0.4**
	comp=Z,2.1nm,0.5s,baz=117,slow=1.9,SNR=12							
BOSA				PP		**PP**	**03 15 57.1**	**-1.6**
	comp=Z,3.4nm,0.9s,baz=85,slow=8.2,SNR=3.0							
BOSA	**Boshof**	**132.41**	**269**	PKIKP		**PKPdf**	**03 13 34.0**	**-0.4**
QSPA	**South Pole Qui**	**134.21**	**180**			**PKiKP**	**03 13 38.0**	**+0.1**
QSPA	**South Pole Qui**	**134.21**	**180**	PKhKP		PKPpre	03 13 24.9	
	comp=Z,0.8nm,0.6s,baz=266,slow=0.6,SNR=5.3							
QSPA				PKP		**PKiKP**	**03 13 37.6**	**-0.3**
	comp=Z,4.7nm,0.6s,baz=321,slow=2.6,SNR=17							
QSPA				PP		**PP**	**03 16 08.2**	**-1.0**
	comp=Z,3.5nm,1.2s,baz=331,slow=3.7,SNR=4.0							

NPGB	**Novo Progresso**	**137.45**	**36**	*e*P		**PKPdf**	**03 13 44.4**	**+0.2**
LPAZ	**La Paz**	**138.49**	**59**	PKhKP		PKPpre	03 13 35.6	
	comp=Z,0.6nm,0.4s,baz=293,slow=7.7,SNR=4.7							
LPAZ				PKP		**PKPdf**	**03 13 47.0**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=8.7,slow=3.7,SNR=17							
LPAZ	**La Paz**	**138.49**	**59**	*e*P		**PKPdf**	**03 13 46.8**	**+0.1**
SMTB	**Santa Maria do**	**141.98**	**26**	*e*P		**PKPdf**	**03 13 51.2**	**-1.1**
H03N2	**Juan Fernandez**	**142.24**	**90**	T		T	05 52 51.0	
	baz=303							
H03N3	**Juan Fernandez**	**142.25**	**90**	T		T	05 53 01.3	
	baz=303,slow=74							
H03N1	**Juan Fernandez**	**142.25**	**90**	T		T	05 52 48.6	
	baz=303,slow=74							
PTLB	**Pontes e Lacer**	**142.97**	**47**	*e*P		**PKPdf**	**03 13 53.5**	**-0.5**
SNDB	**Serra Nova Dou**	**143.56**	**33**	*e*P		**PKPdf**	**03 13 54.4**	**-0.7**
AC04	**Llanos de Chal**	**144.86**	**76**	*e*P		**PKPdf**	**03 13 56.8**	**-0.2**
AC04				IAML			03 14 39.3	
	comp=Z,23nm,2.7s							
GO03	**Copiapo**	**145.06**	**74**	*e*P		**PKPdf**	**03 13 57.6**	**+0.2**
GO03				IAML			03 15 13.5	
	comp=Z,19nm,4.1s							
NBAN	**Anadia - AL**	**145.11**	**8**	*e*P		**PKPbc**	**03 13 57.2**	**-0.2**
LCO	**Las Campanas**	**145.61**	**77**	*e*P		**PKPab**	**03 13 59.6**	**+0.3**
LCO				IAML			03 15 10.6	
	comp=Z,33nm,2.8s							
GO04	**Tololo Observa**	**146.23**	**78**	*e*P		**PKPbc**	**03 14 00.5**	**-0.3**
GO04				IAML			03 15 07.8	
	comp=Z,28nm,1.9s							
CO01	**Juntas del Tor**	**146.61**	**77**	*e*P		**PKPab**	**03 14 03.1**	**0.0**
CO01				IAML			03 15 18.6	
	comp=Z,9.4nm,3.4s							
CO03	**El Pedregal**	**146.70**	**79**			**PKPbc**	**03 14 01.3**	**-0.7**
CO03	**El Pedregal**	**146.70**	**79**	*e*P		**PKPbc**	**03 14 01.5**	**-0.4**
CO03				IAML			03 15 35.7	
	comp=Z,15nm,3.2s							
PP1B	**Ponte de Pedra**	**146.95**	**43**	*e*P		**PKPbc**	**03 14 02.0**	**-0.9**
AROD	**Rodeo**	**147.16**	**77**	*e*P		**PKPbc**	**03 14 02.9**	**-0.6**
VCA	**Vinchina**	**147.17**	**74**	*e*P		**PKPab**	**03 14 05.1**	**-0.1**
VCA				IAML			03 14 52.8	
	comp=Z,19nm,2.8s							
ACDV	**Cuesta del Vie**	**147.41**	**77**	*e*P		**PKPbc**	**03 14 03.0**	**-1.1**
ACDV				IAML			03 15 25.3	
	comp=Z,16nm,3.1s							
AGUA	**GUANDACOL**	**147.43**	**75**	*e*P		**PKPbc**	**03 14 03.2**	**-0.8**
AGUA				IAML			03 15 15.5	
	comp=Z,24nm,3.5s							
ACCO	**Cerro Coronel**	**147.69**	**77**	*e*P		**PKPdf**	**03 14 03.1**	**+1.0**
TROLL	**Troll, Antarti**	**147.92**	**199**	⇑P		**PKPdf**	**03 13 58.0**	**-3.0**
	comp=Z,2µm,0.7s							
BDFB	**Brasilia**	**148.16**	**31**			**PKPdf**	**03 14 02.9**	**-0.1**
BDFB	**Brasilia**	**148.16**	**31**	PKP		**PKPdf**	**03 14 03.1**	**+0.1**
	comp=Z,27nm,0.8s,baz=301,slow=2.2,SNR=28							
BDFB				PKPbc		**PKPbc**	**03 14 06.5**	**+0.2**
	comp=Z,27nm,0.8s,baz=270,slow=1.4,SNR=22							
BDFB	**Brasilia**	**148.16**	**31**	PKIKP		**PKPdf**	**03 14 02.9**	**-0.1**
RTLS	**Leoncito**	**148.22**	**79**	*e*P		**PKPdf**	**03 14 04.6**	**+1.7**
RTLS				IAML			03 15 41.7	
	comp=Z,24nm,3.3s							
ACLC	**CERRO LA CRUZ**	**148.46**	**74**	*e*P		**PKPbc**	**03 14 06.3**	**-0.6**
ZON	**Zonda**	**148.51**	**78**	*e*P		**PKPbc**	**03 14 07.5**	**+0.7**
CYA	**Choya**	**148.62**	**71**	*e*P		**PKPbc**	**03 14 07.7**	**+0.6**
CYA				IAML			03 15 28.2	
	comp=Z,5.0nm,1.9s							
JANB	**Januaria**	**148.82**	**24**	*e*P		**PKPdf**	**03 14 04.1**	**+0.1**
AVFE	**Valle Fertil**	**148.85**	**76**	*e*P		**PKPbc**	**03 14 06.5**	**-1.2**
AVFE				IAML			03 15 21.8	
	comp=Z,7.5nm,3.1s							
CFA	**Coronel Fontan**	**148.85**	**78**	*e*P		**PKPbc**	**03 14 07.5**	**-0.2**
ASAL	**Salagasta**	**148.99**	**80**	*e*P		**PKiKP**	**03 14 08.7**	**-0.6**
APLL	**PUNTA DE LOS L**	**149.34**	**75**	*e*P		**PKPbc**	**03 14 08.7**	**-0.2**
SNAA	**Sanae**	**149.37**	**198**	⇑P		**PKPdf**	**03 13 60.0**	**-3.3**
	comp=Z,358nm,0.9s							
SNAA	**Sanae**	**149.37**	**198**			**PKPbc**	**03 14 07.5**	**-0.2**
SNAA	**Sanae**	**149.37**	**198**	PKP		**PKPdf**	**03 14 03.0**	**-0.2**
	comp=Z,13nm,0.8s,baz=170,slow=3.6,SNR=33							
SNAA				PKPbc		**PKPbc**	**03 14 07.9**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=146,slow=2.7,SNR=7.0							
ACHE	**Chepes**	**149.70**	**76**	*e*P		**PKPbc**	**03 14 09.2**	**-0.7**
RPRD	**Ribas do Rio P**	**149.98**	**44**	*e*P		**PKPdf**	**03 14 06.7**	**+1.0**
SMAI	**San Martin Ant**	**150.04**	**154**	PKPbc		**PKPbc**	**03 14 09.6**	**+0.3**
IPMB	**Ipameri, GO**	**150.23**	**33**	*e*P		**PKPdf**	**03 14 06.9**	**+0.6**
CMC01	**Camacan, BA**	**150.25**	**15**	*e*P		**PKPdf**	**03 14 07.0**	**+0.8**
VNA2	**Neumayer--Watz**	**150.89**	**196**	⇑P		**PKPdf**	**03 14 03.9**	**-1.6**
	comp=Z,3.4nm,0.8s,baz=112,slow=2.1							
VNA3	**Neumayer Olymp**	**151.06**	**195**	⇑P		**PKPdf**	**03 14 06.2**	**+0.3**
	comp=Z,300nm,0.8s							
VNA1	**Neumayer--Stat**	**151.28**	**196**	⇑P		**PKPdf**	**03 14 06.3**	**+0.1**
	comp=Z,34nm,1.0s							
AMBA	**Amambai (Brazi**	**151.32**	**49**	*e*P		**PKPdf**	**03 14 08.6**	**+0.9**
GUAQ1	**Guaratinga, BA**	**151.39**	**16**	*e*P		**PKPdf**	**03 14 08.3**	**+0.3**
PMNB	**Patos De Minas**	**151.40**	**30**	*e*P		**PKPdf**	**03 14 08.8**	**+0.7**
PLCA	**Paso Flores**	**151.45**	**96**	PKPbc		**PKPbc**	**03 14 13.4**	**-0.2**
PLCA	**Paso Flores**	**151.45**	**96**	PKP		**PKPdf**	**03 14 07.3**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=265,slow=7.0,SNR=6.4							
PLCA				PKPbc		**PKiKP**	**03 14 14.2**	**+0.1**
	comp=Z,18nm,0.6s,baz=270,slow=2.6,SNR=94							
PLCA	**Paso Flores**	**151.45**	**96**	*e*P		**PKPdf**	**03 14 07.2**	**-0.2**
DIAM	**Diamantina, MG**	**152.08**	**25**	*e*P		**PKPdf**	**03 14 08.5**	**-0.6**
SJPY	**San Joaquin**	**152.34**	**53**	*e*P		**PKPdf**	**03 14 09.9**	**+0.7**
CPUP	**Villa Florida**	**152.62**	**57**	PKP		**PKPdf**	**03 14 09.7**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=235,slow=2.9,SNR=6.1							
CPUP				PKPbc		**PKPbc**	**03 14 16.3**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=225,slow=7.3,SNR=17							
CPUP				PKPab		**PKPab**	**03 14 27.4**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=295,slow=1.2,SNR=9.6							
SJMB	**Sao Joao De Ma**	**153.14**	**20**	*e*P		**PKPdf**	**03 14 11.3**	**+0.8**
RIB01	**Linhares ES**	**153.91**	**19**	*e*P		**PKPdf**	**03 14 10.6**	**-1.0**
BSCB	**Bom Sucesso**	**154.25**	**29**	*e*P		**PKPdf**	**03 14 12.9**	**+0.8**
PTGB	**Pitanga**	**154.33**	**46**	*e*P		**PKPdf**	**03 14 12.6**	**+0.4**

DJA 18 03:12:24.5±1.0, 0°N±9°×12°3E±°, h166km±11km, M4.1/6, mb4.7/2, MLv3.7/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.78**	**277**	P		Pn	03 12 49.7	+0.5
LUWI	**Luwuk**	**1.41**	**177**	P		Pn	03 12 55.2	+0.7
APSI	**Ampana**	**1.66**	**220**	P		Pn	03 12 57.1	+0.1
PCI	**Palu**	**3.14**	**246**	P		Pn	03 13 13.8	-0.5
TTSI	**Tana Toraja**	**4.46**	**220**	P		Pn	03 13 32.0	+0.8
AAI	**Ambon**	**6.81**	**126**	P		Pn	03 14 01.9	-0.2
	36nm,0.7s							
BASI	**Baing, Sumba**	**10.74**	**191**	P		Pn	03 14 54.3	+0.3

*NEIC **18** 03:15:56.1±1.7, 17°.9S±0°.1×178°.5W±0°.1, h650km±9km, mb4.4/61, Error ellipse: s-maj=21.0km s-min=14.9km az=119.0*

*IDC **18** 03:15:58.9±2.8, 17°.83S×178°.62W, h680km±34km, mb3.4/13, mbtmp4.4/14, Error ellipse: s-maj=14.1km s-min=11.5km az=137.0*

ISC 18 03:15:56.2±0.4, 17.83S±0°.08×178.56W±0°.08, h650km, n86, σ0s89/90, mb4.3/45, 5C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.23**	**271**	P	**P**	**03 17 21.5**	**+0.6**
MSVF				S	**S**	**03 18 26.1**	**-3.7**
FUTU	**Fugatoga**	**3.52**	**7**	P	**P**	**03 17 20.6**	**-1.9**
DZM	**Mont Dzumac**	**14.72**	**251**	P	**P**	**03 18 59.4**	**-0.6**
DZM	**Mont Dzumac**	**14.72**	**251**	P	**P**	**03 19 01.9**	**+1.9**
	8.7nm,1.0s,baz=81,slow=17,SNR=2.7						
QRZ	**Quartz Range**	**24.17**	**197**	P	**P**	**03 20 24.6**	**0.0**
TKNZ	**Takaka Hill**	**24.25**	**196**	P	**P**	**03 20 24.2**	**-1.1**
GVZ	**Greta Valley S**	**26.06**	**194**	P	**P**	**03 20 40.3**	**-0.9**
FOZ	**Fox Glacier**	**27.45**	**199**	P	**P**	**03 20 52.0**	**-1.2**
MLZ	**Mavora Lakes**	**29.63**	**199**	P	**P**	**03 21 11.8**	**-0.3**
CTAO	**Charters Tower**	**33.32**	**260**	P	**P**	**03 21 44.3**	**+0.7**
CAN	**Canberra**	**33.64**	**232**	P	**P**	**03 21 45.6**	**-0.5**
COEN	**Coen**	**36.96**	**270**	P	**P**	**03 22 15.8**	**+2.2**
COEN				IAmb	IAmb	03 22 30.7	
	comp=Z,14nm,1.3s						
WAKE	**Wake Island**	**39.64**	**338**	P	**P**	**03 22 35.8**	**+1.0**
BBOO	**Buckleboo**	**43.32**	**241**	P	**P**	**03 23 04.4**	**+0.8**
BBOO				IAmb	IAmb	03 23 30.7	
	comp=Z,25nm,1.4s						
MLH	**Mauna Loa**	**43.51**	**33**	P	**P**	**03 23 05.8**	**+0.3**
KNHH	**Kane Nui o Ham**	**43.53**	**33**	P	**P**	**03 23 05.8**	**+0.3**
HMH	**Humu'ula Sheep**	**43.55**	**32**	P	**P**	**03 23 06.2**	**+0.4**
STCH	**Steam Cracks**	**43.56**	**33**	P	**P**	**03 23 05.6**	**0.0**
KEKH	**Kekaha**	**43.66**	**26**	P	**P**	**03 23 05.8**	**-0.5**
JOKA	**Jonika Flow**	**43.66**	**33**	P	**P**	**03 23 06.4**	**0.0**

WR8	**Warramunga Arr**	**44.35**	**259**	P		**P**	**03 23 12.8**	**+1.0**
WB0	**Warramunga Arr**	**44.47**	**260**	P		**P**	**03 23 13.6**	**+0.9**
WRA	**Warramunga Arr**	**44.51**	**259**	P		**P**	**03 23 13.5**	**+0.6**
WRA	**Warramunga Arr**	**44.51**	**259**	P		**P**	**03 23 13.6**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=95,slow=7.5,SNR=6.6							
WRA				PcP		**PcP**	**03 24 41.8**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=96,slow=3.2,SNR=3.6							
WRA				S		**S**	**03 29 01.2**	**-2.2**
	comp=Z,0.3nm,0.7s,baz=97,slow=14,SNR=2.3							
	comp=Z,0.8nm,0.4s							
ASAR	**Alice Springs**	**44.67**	**254**	P		**P**	**03 23 15.1**	**+0.9**
	comp=Z,2.1nm,0.5s,baz=89,slow=7.3,SNR=26							
ASAR				PcP		**PcP**	**03 24 42.3**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=99,slow=4.0,SNR=5.2							
ASAR				S		**S**	**03 29 05.7**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=88,slow=16,SNR=8.9							
	comp=Z,2.1nm,0.5s							
FORT	**Forrest**	**49.91**	**245**	P		**P**	**03 23 53.2**	**+0.3**
KNRA	**Kununurra**	**50.35**	**264**	P		**P**	**03 23 54.7**	**-1.7**
FITZ	**Fitzroy Crossi**	**52.90**	**261**	P		**P**	**03 24 14.0**	**-0.5**
SBA	**Scott Base**	**60.49**	**184**			**P**	**03 25 06.1**	**+1.1**
VNDA	**Vanda**	**60.51**	**185**			**P**	**03 25 05.3**	**+0.1**
VNDA	**Vanda**	**60.51**	**185**	P		**P**	**03 25 05.7**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=15,slow=7.7,SNR=18							
	comp=Z,1.2nm,0.4s							
CASY	**Casey**	**66.15**	**205**			**P**	**03 25 39.9**	**-1.2**
MJAR	**Matsushiro Arr**	**67.76**	**323**	P		**P**	**03 25 51.2**	**-0.2**
MJAR	**Matsushiro Arr**	**67.76**	**323**	P		**P**	**03 25 51.9**	**+0.5**
	comp=Z,4.5nm,0.6s,baz=145,slow=5.9,SNR=11							
	comp=Z,4.5nm,0.6s							
UNV	**Unalaska Valle**	**72.13**	**7**	P		**P**	**03 26 16.0**	**-0.7**
QSPA	**South Pole Qui**	**72.23**	**180**	P		**P**	**03 26 18.1**	**+0.7**
QSPA				IAmb		IAmb	03 26 20.2	
	comp=Z,14nm,0.8s							
QSPA	**South Pole Qui**	**72.23**	**180

NEIC ***18*** *03:17:43.1±1.3,23.˚9S±0.˚1×179.˚8W±0.˚1, h446km±4km, mb4.3/51, Error ellipse: s-maj=19.7km s-min=16.6km az=169.0*

IDC ***18*** *03:17:46.8±1.4,23.˚86S×179.˚85W, h493km±16km, mb3.6/14, mbtmp4.4/16, Error ellipse: s-maj=17.2km s-min=14.8km az=162.0*

ISC 18 03:17:48.6±0.5, 24.˚07S±0.˚06×179.˚79W±0.˚09, h518km, n109, σ1§73/126, mb4.3/37, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.42**	**162**	P	**P**	**03 19 20.3**	**0.0**
	105nm,0.4s,baz=30,slow=20,SNR=2.3						
RAO				S	**S**	**03 20 34.6**	**-0.7**
	212nm,0.3s,baz=268,slow=23,SNR=4.4						
GLKZ	**Green Lake**	**5.43**	**162**	P	**P**	**03 19 20.2**	**-0.2**
GLKZ				S	**S**	**03 20 29.6**	**-5.9**
DZM	**Mont Dzumac**	**12.83**	**276**	P	**P**	**03 20 37.3**	**+1.3**
	7.5nm,0.7s,baz=110,slow=19,SNR=4.2						
KUZ	**Kuaotunu**	**13.21**	**196**	P	**P**	**03 20 40.7**	**+1.1**
WIAZ	**Waiheke Island**	**13.41**	**198**	P	**P**	**03 20 43.6**	**+1.8**
MKAZ	**Moumakai**	**13.70**	**197**	P	**P**	**03 20 42.5**	**-2.2**
WMGZ	**Waiomatatini S**	**13.79**	**186**	S	**S**	**03 23 13.3**	**+1.6**
HAZ	**Te Kaha**	**13.80**	**188**	S	**S**	**03 23 13.9**	**+2.0**
AWAZ	**Awhitu Peninsu**	**13.80**	**199**	P	**P**	**03 20 46.2**	**+0.3**
RUGZ	**Raukumara Rang**	**14.02**	**188**	S	**S**	**03 23 14.0**	**-2.4**
PUZ	**Puketiti**	**14.06**	**186**	P	**P**	**03 20 48.5**	**0.0**
PUZ				S	**S**	**03 23 18.0**	**+1.1**
TWGZ	**Tauwhareparae**	**14.19**	**187**	P	**P**	**03 20 52.2**	**+2.2**
TWGZ				S	**S**	**03 23 18.2**	**-1.3**
URZ	**Urewera**	**14.39**	**190**	P	**P**	**03 20 50.8**	**-1.2**
	10.0nm,0.5s,baz=70,slow=12,SNR=7.7						
URZ				S	**S**	**03 23 21.2**	**-2.1**
	22nm,0.6s,baz=62,slow=22,SNR=16						
MWZ	**Matawai**	**14.40**	**189**	P	**P**	**03 20 53.4**	**+1.2**
MWZ				S	**S**	**03 23 21.3**	**-2.2**
RAGZ	**Rawiri**	**14.58**	**189**	S	**S**	**03 23 25.0**	**-1.9**
MUGZ	**Murupara**	**14.66**	**191**	P	**P**	**03 20 58.0**	**+3.1**
RUGZ	**Rimuhau**	**14.74**	**188**	P	**P**	**03 20 55.8**	**+0.1**
RIGZ				S	**S**	**03 23 31.3**	**+1.4**
RTZ	**Ruatahuna**	**14.76**	**190**	P	**P**	**03 20 54.4**	**-1.6**
TLZ	**Tolley Road**	**14.76**	**195**	P	**P**	**03 20 59.4**	**+3.5**
SNGZ	**Shannon Statio**	**14.87**	**189**	S	**S**	**03 23 27.7**	**-4.7**
PRGZ	**Paritu Road**	**14.94**	**187**	S	**S**	**03 23 29.4**	**-4.4**
MTHZ	**Maungataniwha**	**15.01**	**190**	P	**S**	**03 20 58.2**	**-0.4**
MTHZ				S	**S**	**03 23 33.7**	**-1.5**
HIZ	**Hauiti**	**15.10**	**196**	P	**P**	**03 21 04.0**	**+4.5**
BKZ	**Black Stump Fm**	**15.38**	**191**	P	**P**	**03 21 02.0**	**-0.4**
BKZ				IAmb	IAmb	03 21 07.1	
	comp=Z,9.2nm,0.9s						
BKZ	**Black Stump Fm**	**15.38**	**191**	P	**P**	**03 21 03.7**	**+1.3**
BKZ				S	**S**	**03 23 39.8**	**-2.2**
TMVZ	**Te Maari**	**15.48**	**193**	P	**P**	**03 21 04.7**	**+1.2**
ETVZ	**East Tongariro**	**15.50**	**193**	P	**P**	**03 21 04.7**	**+1.0**
ETVZ				S	**S**	**03 23 44.7**	**+0.3**
OTVZ	**Oturere**	**15.53**	**193**	P	**P**	**03 21 03.1**	**-1.0**
OTVZ				S	**S**	**03 23 45.9**	**+0.8**
COVZ	**Chateau Observ**	**15.59**	**194**	P	**P**	**03 21 10.0**	**+5.3**
KWHZ	**Kaweka Forest**	**15.64**	**191**	P	**P**	**03 21 07.5**	**+2.4**
KWHZ				S	**S**	**03 23 44.9**	**-2.0**
WHVZ	**Whangaehu Hut**	**15.66**	**193**	P	**P**	**03 21 06.6**	**+1.1**
VRZ	**Vera Road**	**15.70**	**196**	P	**P**	**03 21 09.6**	**+3.9**
WNVZ	**Wahianoa**	**15.70**	**193**	P	**P**	**03 21 06.6**	**+0.7**
WNVZ				S	**S**	**03 23 46.3**	**-2.0**
PNHZ	**Pukenui**	**16.15**	**191**	S	**S**	**03 23 53.7**	**-2.3**
PXZ	**Pawanui**	**16.16**	**189**	P	**P**	**03 21 09.4**	**-1.0**
PXZ				S	**S**	**03 23 55.3**	**-0.8**
NMEZ	**Namu Road**	**16.21**	**198**	P	**P**	**03 21 10.5**	**-0.4**
MRZ	**Mangatainoka R**	**16.99**	**192**	P	**P**	**03 21 15.9**	**-2.8**
MRZ				IAmb	IAmb	03 21 53.7	
	comp=Z,27nm,1.4s						
MRZ	**Mangatainoka R**	**16.99**	**192**	P	**P**	**03 21 18.2**	**-0.4**
MRZ				S	**S**	**03 24 07.1**	**-3.2**
OGWZ	**Otaki Gorge**	**17.23**	**193**	P	**P**	**03 21 19.7**	**-1.1**
OGWZ				S	**S**	**03 24 10.0**	**-4.0**
LTZ	**Lake Taylor**	**19.78**	**197**		**P**	**03 21 43.3**	**-0.9**
CTAO	**Charters Tower**	**31.67**	**270**		**P**	**03 23 29.5**	**+0.1**
PMG	**Port Moresby**	**34.73**	**289**		**P**	**03 23 53.8**	**-1.5**
STKA	**Stephens Creek**	**34.84**	**248**		**P**	**03 23 56.5**	**+0.4**
STKA	**Stephens Creek**	**34.84**	**248**	P	**P**	**03 23 56.3**	**+0.2**
	comp=Z,7.9nm,0.8s,baz=105,slow=7.6,SNR=9.6						
	comp=Z,7.9nm,0.8s						
AS31	**Alice Springs**	**42.20**	**261**		**P**	**03 24 55.5**	**-0.5**
AS31				IAmb	IAmb	03 24 56.8	
	comp=Z,6.1nm,0.6s						
ASAR	**Alice Springs**	**42.20**	**261**	P	**P**	**03 24 55.7**	**-0.3**
	comp=Z,16nm,0.7s,baz=95,slow=7.9,SNR=68						
ASAR				ScP	**ScP**	**03 29 41.1**	**+1.6**
	comp=Z,3.9nm,0.9s,baz=110,slow=4.0,SNR=16						
	comp=Z,16nm,0.7s						
WR8	**Warramunga Arr**	**42.44**	**266**		**P**	**03 24 56.8**	**-1.1**
WRAB	**Tennant Creek**	**42.58**	**266**	P	**P**	**03 24 57.9**	**-1.1**
WB0	**Warramunga Arr**	**42.58**	**267**		**P**	**03 24 58.0**	**-1.0**
WRA	**Warramunga Arr**	**42.59**	**266**		**P**	**03 24 57.8**	**-1.3**
WRA	**Warramunga Arr**	**42.59**	**266**	P	**P**	**03 24 58.0**	**-1.0**
	comp=Z,31nm,0.7s,baz=103,slow=8.1,SNR=108						
WRA				ScP	**ScP**	**03 29 43.4**	**+2.3**
	comp=Z,3.6nm,0.9s,baz=98,slow=4.2,SNR=11						
	comp=Z,31nm,0.7s						
FORT	**Forrest**	**46.43**	**250**	P	**P**	**03 25 27.7**	**-0.9**
MTN	**Manton Dam**	**47.66**	**274**		**P**	**03 25 36.9**	**-1.2**
MTN				IAmb	IAmb	03 25 37.2	
	comp=Z,9.9nm,0.7s						
KNRA	**Kununurra**	**48.88**	**270**		**P**	**03 25 46.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**51.01**	**266**		**P**	**03 26 02.6**	**-0.2**
SBA	**Scott Base**	**54.22**	**183**	P	**P**	**03 26 27.4**	**+2.6**
VNDA	**Vanda**	**54.23**	**185**	P	**P**	**03 26 26.8**	**+1.9**
VNDA	**Vanda**	**54.23**	**185**	P	**P**	**03 26 26.3**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=359,slow=5.9,SNR=3.9						
	comp=Z,0.8nm,0.6s						
PSA00	**Pilbara Seismi**	**55.32**	**260**	P	**P**	**03 26 31.8**	**-1.7**
PSA00	**Pilbara Seismi**	**55.32**	**260**	P	**P**	**03 26 32.1**	**-1.3**
PSA00				IAmb	IAmb	03 26 33.5	
	comp=Z,22nm,1.4s						
MBWA	**Marble Bar**	**55.53**	**260**	P	**P**	**03 26 34.1**	**-0.8**
MBWA				IAmb	IAmb	03 26 35.0	
	comp=Z,14nm,0.9s						
MORW	**Morawa**	**57.00**	**250**	P	**P**	**03 26 44.7**	**-0.3**
MORW				IAmb	IAmb	03 26 45.2	
	comp=Z,15nm,0.7s						
CASY	**Casey**	**60.04**	**206**	P	**P**	**03 27 05.1**	**+0.3**
QSPA	**South Pole Qui**	**66.01**	**180**	P	**P**	**03 27 47.0**	**+3.5**
QSPA	**South Pole Qui**	**66.01**	**180**	P	**P**	**03 27 46.8**	**+3.4**
	comp=Z,2.1nm,0.7s,baz=76,slow=1.0,SNR=3.6						
	comp=Z,2.1nm,0.7s						
MJAR	**Matsushiro Arr**	**72.14**	**326**	P	**P**	**03 28 18.7**	**-1.9**
	comp=Z,1.1nm,0.6s,baz=140,slow=7.5,SNR=2.3						
	comp=Z,1.1nm,0.6s						
MAW	**Mawson**	**77.66**	**200**	P	**P**	**03 28 52.0**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=119,slow=13,SNR=2.3						
	comp=Z,1.9nm,0.7s						
KSRS	**Korea Array**	**78.50**	**320**	P	**P**	**03 28 56.0**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=150,slow=5.2,SNR=3.1						
	comp=Z,1.3nm,0.7s						
USRK	**Ussuriysk Ar.**	**81.01**	**327**	P	**P**	**03 29 09.6**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=132,slow=8.7,SNR=2.5						
	comp=Z,2.6nm,0.6s						
BUCR	**Buckhorn Ranch**	**83.12**	**44**		**P**	**03 29 19.2**	**-0.9**
CMB	**Columbia Colle**	**83.19**	**43**		**P**	**03 29 20.2**	**-0.2**
CMB				IAmb	IAmb	03 29 21.2	
	comp=Z,5.1nm,0.9s						
BELC	**Belle Mtn. Jos**	**83.71**	**49**		**P**	**03 29 23.7**	**+0.6**
BELC				IAmb	IAmb	03 29 24.0	
	comp=Z,3.6nm,0.8s						
WAKR	**Walker**	**84.07**	**43**		**P**	**03 29 25.1**	**+0.2**
WAKR				IAmb	IAmb	03 29 26.2	
	comp=Z,4.4nm,1.0s						
IRM	**Iron Mountain**	**84.38**	**49**		**P**	**03 29 25.7**	**-0.6**
IRM				IAmb	IAmb	03 29 28.1	
	comp=Z,8.7nm,1.2s						
LHV	**Little Huntoon**	**84.51**	**44**	P	**P**	**03 29 26.7**	**0.0**
LHV				IAmb	IAmb	03 29 28.1	
	comp=Z,6.5nm,1.2s						
113A	**Mohawk Valley,**	**84.58**	**51**	P	**P**	**03 29 26.0**	**-1.2**
NVAR	**Mina Array Bea**	**84.74**	**44**	P	**P**	**03 29 28.2**	**0.0**
	comp=Z,1.2nm,0.8s,baz=224,slow=7.2,SNR=9.1						
	comp=Z,1.2nm,0.8s						
TPH	**Tonopah**	**85.22**	**45**	P	**P**	**03 29 30.8**	**+0.2**
PRN	**Pahroc Range**	**86.26**	**46**	P	**P**	**03 29 34.5**	**-0.9**
PRN				IAmb	IAmb	03 29 36.9	
	comp=Z,3.8nm,0.9s						
TUC	**Tucson**	**86.47**	**52**		**P**	**03 29 36.7**	**+0.2**
TUC				IAmb	IAmb	03 29 38.6	
	comp=Z,5.7nm,0.8s						
319A	**Douglas**	**87.09**	**54**		**P**	**03 29 39.5**	**0.0**
319A				IAmb	IAmb	03 29 41.2	
	comp=Z,7.2nm,1.0s						
X16A	**Lo Mia Camp, P**	**87.10**	**50**	P	**P**	**03 29 39.5**	**-0.1**
CCUT	**Cedar City**	**87.46**	**47**	P	**P**	**03 29 41.6**	**+0.4**
J08A	**Circle Bar Ran**	**87.56**	**40**		**P**	**03 29 41.4**	**0.0**
J08A				IAmb	IAmb	03 29 42.5	
	comp=Z,10nm,1.2s						
X18A	**Snowflake**	**88.21**	**51**	P	**P**	**03 29 43.3**	**-1.4**
X18A				IAmb	IAmb	03 29 46.1	
	comp=Z,2.9nm,0.7s						
G08A	**Pilot Rock**	**88.44**	**38**		**P**	**03 29 45.7**	**+0.2**
G08A				IAmb	IAmb	03 29 47.2	
	comp=Z,11nm,1.3s						
MFID	**Camas Ranch**	**89.16**	**41**		**P**	**03 29 47.9**	**-1.0**
MFID				IAmb	IAmb	03 29 49.9	
	comp=Z,4.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**89.76**	**290**	P	**P**	**03 29 52.8**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=134,slow=3.3,SNR=9.4						
	comp=Z,1.2nm,0.3s						
TMUT	**Trail Mountain**	**89.82**	**46**		**P**	**03 29 52.5**	**+0.3**
Y22A	**Socorro**	**90.06**	**53**	P	**P**	**03 29 53.2**	**-0.1**
Y22A				IAmb	IAmb	03 29 54.6	
	comp=Z,4.4nm,1.1s						
SRU	**San Rafael Swe**	**90.18**	**47**	P	**P**	**03 29 54.3**	**+0.5**
SRU				IAmb	IAmb	03 30 32.6	
	comp=Z,5.2nm,0.7s						
TX31	**Lajitas Ar. Si**	**90.36**	**58**	P	**P**	**03 29 55.1**	**+0.4**
TX31				IAmb	IAmb	03 29 56.3	
	comp=Z,2.6nm,0.8s						
TXAR	**Lajitas Array**	**90.36**	**58**	P	**P**	**03 29 55.5**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=213,slow=6.6,SNR=34						
	comp=Z,2.3nm,0.7s						
BSUT	**Blindstream Ca**	**90.76**	**45**	P	**P**	**03 29 57.0**	**+0.4**
HWUT	**Hardware Ranch**	**90.80**	**44**	P	**P**	**03 29 56.2**	**-0.4**
HWUT				IAmb	IAmb	03 29 56.9	
	comp=Z,2.5nm,0.7s						
ALPN	**Alpine**	**90.86**	**57**	P	**P**	**03 29 57.1**	**+0.1**
ALPN				IAmb	IAmb	03 29 57.8	
	comp=Z,2.9nm,0.8s						
ANMO	**Albuquerque**	**90.91**	**52**	P	**P**	**03 29 57.4**	**+0.1**
ANMO				IAmb	IAmb	03 29 58.9	
	comp=Z,7.5nm,1.5s						
ILAR	**Eielson Array**	**92.15**	**13**	P	**P**	**03 30 00.8**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=231,slow=5.7,SNR=2.2						
	comp=Z,0.2nm,0.7s						
PDAR	**Pinedale Array**	**92.68**	**44**	P	**P**	**03 30 04.9**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=220,slow=3.4,SNR=6.9						
	comp=Z,0.7nm,0.7s						
DRIO	**Del Rio**	**92.78**	**59**	P	**P**	**03 30 05.9**	**+0.2**
G62A	**West of Eustis**	**120.00**	**50**	PKPdf	**PKiKP**	**03 35 41.3**	**+1.0**
HFS	**Hagfors**	**142.75**	**349**	PKhKP	PKPpre	03 36 18.0	
	comp=Z,11nm,1.2s,baz=60,slow=5.7,SNR=9.8						
BZK	**Bozkurt**	**146.80**	**311**	PKPdf	**PKPdf**	**03 36 31.0**	**+1.3**
BRTR	**Keskin Array B**	**147.83**	**307**	PKPab	**PKPab**	**03 36 39.0**	**-0.9**
BRTR	**Keskin Array B**	**147.83**	**307**	PKPbc	**PKPbc**	**03 36 35.0**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=86,slow=3.8,SNR=6.5						
MMAI	**Mount Meron Ar**	**147.94**	**294**	PKPbc	**PKPbc**	**03 36 36.2**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=66,slow=11,SNR=2.1						
EKA	**Eskdalemuir Ar**	**148.68**	**4**	PKPbc	**PKPbc**	**03 36 35.5**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=12,slow=2.8,SNR=1.9						
ESDC	**Sonseca Array**	**164.05**	**12**	PKPab	**PKPab**	**03 37 47.9**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=351,slow=4.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**169.04**	**188**	PKPab	**PKPab**	**03 38 10.9**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=183,slow=2.1,SNR=1.5						

NNC ***18*** *03:21:37.8±10.0,37.˚45N×71.˚13E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=78.8km s-min=69.1km az=176.0*

ISC 18 03:21:35.9±3.6, 37.˚1N±0.˚2×71.˚0E±0.˚2, h50km, n11, σ1§06/13, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**5.81**	**27**	P	**Pn**	**03 23 01.1**	**+1.1**
	SNR=12						
EKS2	**Erkin-Say**	**5.97**	**20**	P	**Pn**	**03 23 03.1**	**+1.3**
	SNR=10						
BRLS	**Borolday**	**6.01**	**352**	Pg	**Pn**	**03 23 01.5**	**-0.8**
	3.1nm,0.2s						
BRLS				Lg	Lg	03 24 06.4	
	6.1nm,0.3s						
KK31	**Karatay Array**	**6.03**	**357**	P	**Pn**	**03 23 03.4**	**+0.8**
	2.8nm,0.3s,baz=175,slow=12,SNR=52						
KK31				⇓S	**Sn**	**03 24 11.1**	**+0.9**
	9.2nm,0.5s,baz=180,slow=20						
AAK	**Ala-Archa**	**6.17**	**25**	P	**Pn**	**03 23 05.5**	**+1.0**
	SNR=11						
AAK	**Ala-Archa**	**6.17**	**25**	⇑P	**Pn**	**03 23 05.4**	**+0.8**
	1.8nm,0.3s						
AAK				⇑S	**Sn**	**03 24 12.1**	**-1.6**
	8.2nm,0.9s						
CHMS	**Chumysh**	**6.58**	**25**	P	**Pn**	**03 23 10.9**	**+0.9**
	SNR=6.9						
USP	**Ospenovka**	**6.74**	**22**	P	**Pn**	**03 23 12.6**	**+0.4**
	SNR=7.8						
KST	**Kastek**	**7.07**	**31**	Pg	**Pn**	**03 23 17.3**	**+0.4**
	4.4nm,0.5s						
KST				Lg	Lg	03 24 34.8	
	2.5nm,0.3s						
MK31	**Makanchi Array**	**12.83**	**37**	⇑P	**Pn**	**03 24 35.3**	**-0.1**
	1.4nm,0.7s,baz=224,slow=16,SNR=5.0						
AB31	**Akbulak array**	**14.58**	**330**	P	**Pn**	**03 24 58.4**	**-0.7**
	0.4nm,0.4s,baz=142,slow=13,SNR=24						

WEL 18 03:46:30.0±0.8, 33.˚5S±18.˚3×18.˚0W±3.˚0, h371km±22km, M3.7/14, mB4.4/14, ML4.6/7, MLv4.2/14, Mw(mB)3.5/14, Error ellipse: s-maj=43.9km s-min=11.1km az=118.6, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**5.10**	**197**	P	Pn	03 47 49.9	-1.7
WMGZ				S	S	03 48 59.8	+2.1
HAZ	**Te Kaha**	**5.21**	**202**	P	Pn	03 47 53.9	+1.1
HAZ				S	S	03 48 57.3	-2.7
RUGZ	**Raukumara Rang**	**5.44**	**202**	P	Pn	03 47 55.2	-0.2
RUGZ				S	S	03 49 02.8	-1.9
TWGZ	**Tauwhareparae**	**5.55**	**199**	P	Pn	03 47 51.5	-5.0
TWGZ				S	S	03 49 07.5	+0.7
CNGZ	**Carnagh Statio**	**5.78**	**196**	P	Pn	03 47 58.4	-0.6
MWZ	**Matawai**	**5.82**	**202**	P	Pn	03 47 56.0	-3.5
MWZ				S	S	03 49 13.5	+1.2
URZ	**Urewera**	**5.89**	**205**	P	Pn	03 48 00.5	+0.2
URZ				S	S	03 49 09.5	-4.1
RAGZ	**Rawiri**	**6.01**	**202**	P	Pn	03 48 02.8	+1.1
RAGZ				S	S	03 49 18.1	+1.9
RIGZ	**Rimuhau**	**6.10**	**199**	P	Pn	03 48 03.9	+1.2
RIGZ				S	S	03 49 18.6	+0.6
MHGZ	**Mahia Peninsul**	**6.49**	**196**	P	Pn	03 48 05.6	-1.4
RAHZ	**Arahi**	**6.50**	**202**	P	Pn	03 48 08.4	+1.4
RAHZ				S	S	03 49 28.3	+2.2
MTHZ	**Maungataniwha**	**6.52**	**204**	P	Pn	03 48 07.3	0.0
MTHZ				S	S	03 49 29.4	+2.8
WHHZ	**Waihua**	**6.60**	**201**	P	P	03 48 09.8	+0.6
MRHZ	**Matea Rd**	**6.66**	**207**	P	Pn	03 48 08.8	-0.1
NMHZ	**Naumai**	**6.75**	**203**	P	Pn	03 48 09.7	-0.3
NMHZ				S	S	03 49 31.9	+0.4
ARHZ	**Aropaoanui**	**6.84**	**202**	P	P	03 48 12.1	0.0
ARHZ				S	S	03 49 35.5	+2.3
KWHZ	**Kaweka Forest**	**7.17**	**204**	P	Pn	03 48 14.6	-0.3
KWHZ				S	S	03 49 40.6	+0.1
NTVZ	**North Tongarir**	**7.18**	**210**	P	P	03 48 15.9	-0.1
TMVZ	**Te Maari**	**7.18**	**210**	P	P	03 48 15.8	-0.3
ETVZ	**East Tongariro**	**7.20**	**209**	P	P	03 48 15.9	-0.4
SNVZ	**South Ngauruho**	**7.27**	**210**	P	P	03 48 16.6	-0.5
NGZ	**Ngauruhoe**	**7.27**	**210**	P	Pn	03 48 15.0	-1.2
TUVZ	**Tukino**	**7.33**	**209**	P	Pn	03 48 16.7	-0.1
KAHZ	**Kahuranaki**	**7.36**	**201**	P	Pn	03 48 17.2	+0.2
KAHZ				S	S	03 49 45.1	+0.7
WHVZ	**Whangaehu Hut**	**7.37**	**209**	P	Pn	03 48 17.2	-0.2
KRHZ	**Kereru**	**7.39**	**204**	P	Pn	03 48 17.1	-0.2
KRHZ				S	S	03 49 43.1	-1.8
WNVZ	**Wahianoa**	**7.40**	**209**	P	Pn	03 48 17.4	-0.2
WNVZ				S	S	03 49 46.5	+1.1
PNHZ	**Pukenui**	**7.69**	**204**	P	Pn	03 48 20.3	-0.5
PNHZ				S	S	03 49 49.7	-1.6
WPHZ	**Waipukurau**	**7.75**	**202**	P	P	03 48 22.4	0.0
WPHZ				S	S	03 49 50.9	-1.6
PRHZ	**Porangahau**	**7.87**	**201**	P	P	03 48 23.4	-0.4
WAZ	**Wanganui**	**8.02**	**210**	P	Pn	03 48 23.3	-1.3
DVHZ	**Dannevirke**	**8.05**	**203**	P	Pn	03 48 24.5	-0.4

IDC ***18*** *03:58:48.5±0.5, 0.˚61S×127.˚90E, h0km, mb4.6/23, mbtmp4.6/24, ML4.1/1, MS3.7/38, Error ellipse: s-maj=23.3km s-min=10.7km az=75.0*

MOS ***18*** *03:58:51.6±0.9, 0.˚56S×127.˚87E, h33km, mb5.1/28, Error ellipse: s-maj=10.5km s-min=6.2km az=116.2*

BJI ***18*** *03:58:51.5, 0.˚90S×128.˚30E, h49km, mB5.1/16, mb5.0/59, Ms4.6/7, Ms7 4.3/5*

GCMT ***18*** *03:58:52.6±0.3, 0.˚57S±0.˚02×127.˚95E±0.˚02, h19km±1km, MW4.8/85, Moment Tensor Solution. s17,c19; s85,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.23±.11; $M_{\theta\theta}$1.92±.09; $M_{\phi\phi}$-1.69±.09; $M_{r\theta}$0.56±.17; $M_{r\phi}$0.04±.07; $M_{\theta\phi}$1.33±.26; Best double couple: M_o2.29400×10^{16} NP1:ϕ_s130.00000°, δ55.00000°, λ-11.00000°. NP2: ϕ_s226.00000°, δ81.00000°, λ-145.00000°. Principal axes: T 2.0990, Plg17.0000°, Azm353.0000°; N 0.3960, Plg54.0000°, Azm239.0000°; P -2.4900, Plg31.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***18*** *03:58:52.8±0.3, 1.˚S±2.˚×12.˚8E±.˚, h21km±2km, M5.2/80, mb5.2/80, mB5.7/30, MLv5.2/25, Mw(mB)5.2/30, MwMwp4.5/1, Mwp4.9/1*

NEIC ***18*** *03:58:53.6±1.7, 0.˚60S±0.˚06×128.˚00E±0.˚06, h32km±5km, mb5.1/105, Error ellipse: s-maj=9.7km s-min=7.8km az=53.0*

ISC 18 03:58:54.0±0.3, 0.˚62S±0.˚04×128.˚03E±0.˚04, h35km, n382, σ1§47/337, mb5.0/119, MS3.7/39, 14C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.53**	**334**		**Pn**	**03 59 17.8**	**-1.0**
TNTI	**Ternate**	**1.53**	**334**	P	**Pn**	**03 59 18.2**	**-0.6**
TNTI	**Ternate**	**1.53**	**334**	S	**Sn**	**03 59 40.3**	**+2.8**
TNTI	**Ternate**	**1.53**	**334**	P	**Pn**	**03 59 17.8**	**-1.0**
SANI	**Sanana**	**2.49**	**235**	P	**Pn**	**03 59 30.3**	**-1.7**
SANI	**Sanana**	**2.49**	**235**	S	**Sn**	**04 00 05.0**	**+3.8**
SANI	**Sanana**	**2.49**	**235**	P	**Pn**	**03 59 30.4**	**-1.6**
NLAI	**Namlea**	**2.77**	**200**	P	**Pn**	**03 59 35.5**	**-0.3**
MSAI	**Masohi**	**2.86**	**162**	P	**Pn**	**03 59 38.8**	**+1.7**
AAI	**Ambon**	**3.06**	**177**	P	**Pn**	**03 59 41.0**	**+1.2**
SWI	**Sorong**	**3.24**	**94**	P	**Pn**	**03 59 42.9**	**+0.6**
KMSI	**Cibinong**	**4.22**	**286**	P	**Pn**	**03 59 54.8**	**-1.0**
BNDI	**Bandanaira**	**4.31**	**154**	P	**Pn**	**03 59 57.5**	**+0.5**
BNDI	**Bandanaira**	**4.31**	**154**	P	**Pn**	**03 59 58.8**	**+1.8**
FAKI	**Fak Fak**	**4.80**	**119**		**Pn**	**04 00 03.8**	**0.0**
FAKI	**Fak Fak**	**4.80**	**119**	P	**Pn**	**04 00 03.6**	**-0.2**
FAKI	**Fak Fak**	**4.80**	**119**	P	**Pn**	**04 00 03.5**	**-0.2**
SGSI	**Sangihe**	**4.95**	**330**	P	**Pn**	**04 00 05.0**	**-0.9**
LUWI	**Luwuk**	**5.28**	**265**		**Pn**	**04 00 09.7**	**-0.6**
LUWI	**Luwuk**	**5.28**	**265**	P	**Pn**	**04 00 12.3**	**+2.0**
LUWI	**Luwuk**	**5.28**	**265**	P	**Pn**	**04 00 10.3**	**0.0**
MRSI	**Marisa**	**6.19**	**280**	P	**Pn**	**04 00 21.1**	**-1.8**
	0.9nm2µm202nm,0.6s						
RKPI	**Ransiki, Papua**	**6.21**	**98**	P	**Pn**	**04 00 24.2**	**+1.0**
	1.1nm12µm189nm,0.9s						
KDI	**Kendari**	**6.34**	**238**	P	**Pn**	**04 00 25.8**	**+0.8**
APSI	**Ampana**	**6.39**	**267**	P	**Pn**	**04 00 24.7**	**-0.9**
KMPI	**Kaimana, Papua**	**6.43**	**118**	P	**Pn**	**04 00 28.2**	**+2.0**
	1.1nm2µm302nm,0.8s						
BBSI	**Bau Bau**	**7.29**	**228**	P	**Pn**	**04 00 39.5**	**+1.5**
	0.6nm190nm,0.9s						
TOLI2	**Tolitoli**	**7.45**	**283**		**Pn**	**04 00 39.3**	**-0.9**
TOLI2	**Tolitoli**	**7.45**	**283**

comp=Z,43nm,0.8s
WRAB Tennant Creek 20.17 163 P **P** **04 03 24.0 -1.6**
WRAB IAmb IAmb 04 03 29.8
comp=Z,63nm,0.8s
WRAB Tennant Creek 20.17 163*c i*P **P** **04 03 23.8 -1.8**
WRAB pmax pmax
comp=Z,74nm,0.9s
WRA Warramunga Arr 20.18 163 **P** **04 03 23.4 -2.3**
WRA Warramunga Arr 20.18 163 P **P** **04 03 23.9 -1.8**
comp=Z,15nm,0.7s,baz=347,slow=13,SNR=26
WRA S **S** **04 07 03.0 -7.4**
comp=Z,2.5nm,0.9s,baz=345,slow=22,SNR=2.7
WRA LR LR 04 11 49.7
comp=Z,324nm,20.1s,baz=360,slow=39
comp=Z,15nm,0.7s
WRA Warramunga Arr 20.18 163 *i* P **P** **04 03 21.6 -4.0**
WRA pmax pmax
comp=Z,18nm,1.0s
KPJI Karang Pucung 20.18 250 P **P** **04 03 26.8 +1.1**
comp=Z,2µmcomp=Z,200nm,1.0s
WR8 Warramunga Arr 20.24 162 **P** **04 03 24.1 -2.3**
TPI Tanjungpandan 20.48 264 P **P** **04 03 29.0 0.0**
comp=Z,89nm,0.8s
PMG Port Moresby 20.94 115 **P** **04 03 33.4 -0.6**
PMG IAmb IAmb 04 03 40.4
comp=Z,90nm,1.0s
PMG Port Moresby 20.94 115 P **P** **04 03 34.1 +0.1**
comp=Z,28nm,0.9s,baz=293,slow=7.9,SNR=5.5
PMG LR LR 04 15 01.7
comp=Z,336nm,18.4s,baz=300,slow=46
comp=Z,28nm,0.9s
PMG Port Moresby 20.94 115 P **P** **04 03 34.8 +0.8**
PMG Port Moresby 20.94 115*ce*P **P** **04 03 34.7 +0.8**
PMG pmax pmax
comp=Z,161nm,1.7s
LEM Lembang 21.27 253 P **P** **04 03 39.3 +1.6**
comp=Z,63nm,0.6s,baz=81,slow=6.5,SNR=9.8
LEM LR LR 04 13 16.0
comp=Z,261nm,18.7s,baz=252,slow=41
LEM Lembang 21.27 253 P **P** **04 03 40.0 +2.3**
comp=Z,94nm,0.8s
BBJI Bungbulang 21.43 251 P **P** **04 03 41.3 +2.0**
CNJI Cibinong 21.88 252 P **P** **04 03 44.6 +0.6**
comp=Z,50nm,1.0s
PPBI Pangkal Pinang 21.94 266 P **P** **04 03 45.4 +0.7**
MBWA Marble Bar 21.97 201 P **P** **04 03 45.1 +0.2**
comp=Z,60nm,1.1s
MBWA Marble Bar 21.97 201 P **P** **04 03 43.6 -1.3**
MBWA IAmb IAmb 04 03 55.7
comp=Z,48nm,0.9s
MBWA Marble Bar 21.97 201 P **P** **04 03 47.1 +2.2**
DBJI Dramaga 22.04 254 P **P** **04 03 48.1 +2.4**
PSAC2 Pilbara Seismi 22.28 200 P **P** **04 03 47.8 -0.4**
comp=Z,40nm,1.3s
PSAC1 Pilbara Seismi 22.29 201 P **P** **04 03 45.9 -2.5**
PSA00 Pilbara Seismi 22.31 200 P **P** **04 03 48.0 -0.6**
comp=Z,41nm,1.1s
PSA00 Pilbara Seismi 22.31 200 P **P** **04 03 47.8 -0.8**
PSA00 Pilbara Seismi 22.31 200 P **P** **04 03 47.5 -1.0**
PSA00 IAmb IAmb 04 03 52.2
comp=Z,24nm,1.1s
PSA00 Pilbara Seismi 22.31 200 P **P** **04 03 48.3 -0.3**
SBJI Serang 22.53 255 P **P** **04 03 52.6 +1.6**
comp=Z,186nm,1.0s
QIS Mount Isa 22.82 151 P **P** **04 03 53.8 -0.3**
comp=Z,61nm,1.1s
QIS Mount Isa 22.82 151 P **P** **04 03 53.5 -0.6**
CGJI Cibinong 23.07 255 P **P** **04 03 57.2 +0.6**
comp=Z,4µmcomp=Z,147nm,1.0s
DSRI Dabo 23.45 270 P **P** **04 03 59.9 -0.6**
comp=Z,55nm,1.0s
KLI Kotabumi 23.52 259 P **P** **04 04 02.2 +1.0**
AS31 Alice Springs 23.61 166 **P** **04 04 01.1 -0.8**
ASAR Alice Springs 23.61 166 **P** **04 04 00.6 -1.4**
ASAR Alice Springs 23.61 166 P **P** **04 04 00.9 -1.0**
comp=Z,27nm,0.8s,baz=340,slow=8.3,SNR=52
ASAR S **S** **04 08 14.5 +0.2**
comp=Z,5.8nm,0.9s,baz=349,slow=21,SNR=7.1
comp=Z,27nm,0.8s
ASAR Alice Springs 23.61 166 P **P** **04 04 00.6 -1.4**
MTSU Mount Surprise 23.65 138 P **P** **04 04 03.2 +0.9**
comp=Z,17nm,0.8s
MTSU Mount Surprise 23.65 138 P **P** **04 04 03.2 +0.9**
KASI Kota Agung 23.99 258 P **P** **04 04 06.5 +0.9**
comp=Z,994nmcomp=Z,149nm,0.9s
MDSI Maura Dua 24.13 260 P **P** **04 04 07.1 +0.2**
comp=Z,1µmcomp=Z,174nm,0.9s
TWGBT Beinan 24.25 344 P **P** **04 04 06.3 -1.6**
TWG Pinlang 24.26 344 P **P** **04 04 06.3 -1.6**
WRKA Warakurna 24.28 179 P **P** **04 04 08.0 -0.2**
comp=Z,32nm,1.0s
MYKOM Kota Tinggi 24.30 276 **P** **04 04 08.0 -0.4**
MYKOM IAmb IAmb 04 04 16.4
comp=Z,141nm,1.7s
MYKOM Kota Tinggi 24.30 276 P **P** **04 04 09.2 +0.8**
LWLI Liwa 24.33 259 P **P** **04 04 10.2 +1.3**
LHSI Lahat 24.69 262 P **P** **04 04 12.9 +0.9**
comp=Z,2µmcomp=Z,109nm,0.9s
TPUB Ta-pu 24.84 344 **P** **04 04 11.7 -1.5**
TPUB Ta-pu 24.84 344 P **P** **04 04 13.6 +0.4**
SSLB Suanglung 25.21 345 **P** **04 04 16.2 -0.4**
SSLB IAmb IAmb 04 04 27.7
comp=Z,77nm,0.9s
SSLB Suanglung 25.21 345 P **P** **04 04 18.4 +1.8**
KSI Kapahiang 25.60 263 P **P** **04 04 21.4 +1.1**
MASI Maura Aman, Be 25.90 264 P **P** **04 04 24.2 +1.2**
YHNB Yeheng 25.95 346 P **P** **04 04 23.5 +0.2**
YHNB Yeheng 25.95 346 P **P** **04 04 25.2 +1.9**
TV1H Townsville Har 26.11 136 P **P** **04 04 26.8 +2.0**
CTAO Charters Tower 26.32 138 **P** **04 04 26.9 +0.3**
CTAO IAmb IAmb 04 04 31.0
comp=Z,39nm,0.9s
CTAO Charters Tower 26.32 138 P **P** **04 04 28.7 +2.0**
CTAO Charters Tower 26.32 138 P **P** **04 04 27.0 +0.3**
CTAO pmax pmax
comp=Z,39nm,1.0s
QIZ Qiongzhong 26.46 318 P **P** **04 04 27.8 -0.1**
QIZ S **S** **04 09 02.1 +2.4**
QIZ pmax pmax
comp=Z,22nm,1.6s
QIZ LR LR
comp=Z,230nm,16.1s
QIZ LR LR
comp=Z,270nm,18.2s
BKNI Bangkinang 27.01 272 P **P** **04 04 34.9 +1.9**
JOW Kunigami 27.29 0 LR LR 04 15 29.5
comp=Z,222nm,20.9s,baz=316,slow=37
MEEK Meekatharra 27.41 199 P **P** **04 04 38.6 +2.1**
IPM Ipoh 27.45 281 **P** **04 04 35.7 -1.3**
IPM Ipoh 27.45 281 P **P** **04 04 39.6 +2.6**
PDSI Padang 27.57 269 P **P** **04 04 38.1 0.0**
comp=Z,24nm,0.7s
PPI Padang Panjang 27.63 270 P **P** **04 04 38.5 -0.1**
comp=Z,27nm,1.3s
KULM Kulim 27.97 282 P **P** **04 04 44.5 +2.9**
RPSI Rantau Prapat 29.28 277 **P** **04 04 52.0 -1.3**
RPSI IAmb IAmb 04 05 00.2
comp=Z,28nm,0.8s
PSI Prapat 29.29 277 P **P** **04 04 52.9 -0.6**
PSI Prapat 29.29 277 P **P** **04 04 52.0 -1.5**
PSI pmax pmax
comp=Z,28nm,0.8s
QLP Quilpie 30.16 150 P **P** **04 05 02.2 +1.3**
KCSI Kotacane, Aceh 30.52 278 P **P** **04 05 02.8 -1.5**
comp=Z,14nm,1.2s
MLSI Meulaboh, Aceh 31.97 279 P **P** **04 05 16.4 -0.6**
comp=Z,97nm,1.2s
SLVN Son La 32.12 314 P **P** **04 05 18.6 +0.3**
BBOO Buckleboo 32.91 167 **P** **04 05 24.3 -0.7**
BBOO Buckleboo 32.91 167 P **P** **04 05 25.4 +0.4**
HNR Honiara 32.95 106 LR LR 04 21 20.9
comp=Z,145nm,19.5s,baz=224,slow=41
WHYH Whyalla 33.47 165 P **P** **04 05 30.6 +0.7**
WHN Wuhan 33.61 338 ⇑P **P** **04 05 32.6 +1.5**
WHN pP **pP** **04 05 43.5 +2.2**
WHN pmax pmax
comp=Z,180nm,1.1s
NJ2 Nanjing 33.63 346 *e*P **P** **04 05 32.6 +1.3**
NJ2 pmax pmax
comp=Z,15nm,0.7s
STKA Stephens Creek 33.63 159 **P** **04 05 31.5 +0.1**
STKA Stephens Creek 33.63 159 P **P** **04 05 31.4 0.0**
comp=Z,18nm,0.8s,baz=331,slow=8.2,SNR=28
STKA LR LR 04 22 36.5
comp=Z,222nm,18.2s,baz=341,slow=42
comp=Z,18nm,0.8s
STKA Stephens Creek 33.63 159 P **P** **04 05 32.0 +0.7**
NWAO Narrogin (SRO) 33.71 196 LR LR 04 19 24.3
comp=Z,102nm,19.7s,baz=36,slow=37
HTT Hallett 34.21 164 P **P** **04 05 37.3 +0.9**
CMAR Chiang Mai Arr 34.30 305 **P** **04 05 35.9 -1.4**
CMAR Chiang Mai Arr 34.30 305 P **P** **04 05 37.2 -0.1**
comp=Z,1.0nm,0.4s,baz=124,slow=7.2,SNR=14
CMAR LR LR 04 21 06.6
comp=Z,54nm,20.0s,baz=120,slow=39
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 34.30 305 *i* P **P** **04 05 37.5 +0.2**
CMAR pmax pmax
comp=Z,3.0nm,1.0s
CHTO Chiang Mai 34.48 306 P **P** **04 05 38.3 -0.6**
CHTO Chiang Mai 34.48 306 P **P** **04 05 39.6 +0.7**
CHTO Chiang Mai 34.48 306 P **P** **04 05 38.3 -0.6**
CHTO pmax pmax
comp=Z,15nm,1.2s
JMN Monobe 34.60 9 P **P** **04 05 40.1 +0.4**
JMN IAmb IAmb 04 05 43.2
comp=Z,36nm,0.9s
JMN Monobe 34.60 9 P **P** **04 05 41.0 +1.2**
CMSA Cobar Meteorol 35.00 153 P **P** **04 05 44.3 +1.1**
KMI Kunming 35.41 318 P **P** **04 05 48.4 +1.3**
KMI sP sP 04 06 01.8 +0.4
KMI pmax pmax
comp=Z,19nm,0.5s
ENH Enshi 35.43 332 IAmb IAmb 04 06 00.5
comp=Z,30nm,0.9s
ENH Enshi 35.43 332 P **P** **04 05 47.5 +0.6**
INU Inuyama 36.75 12 **P** **04 05 57.7 -0.4**
INU Inuyama 36.75 12 P **P** **04 05 59.2 +1.1**
PZH PanZhiHua 37.00 319 P **P** **04 06 02.3 +1.8**
JGF Kuroka 37.07 13 **P** **04 06 00.8 0.0**
JGF IAmb IAmb 04 06 11.5
comp=Z,27nm,1.0s
JGF PcP **PcP** **04 08 17.7 -3.4**
JGF Kuroka 37.07 13 P **P** **04 06 01.6 +0.7**
KSRS Korea Array 37.88 360 P **P** **04 06 07.9 +0.3**
comp=Z,6.5nm,0.9s,baz=182,slow=10,SNR=16
KSRS LR LR 04 21 50.4
comp=Z,45µm,21.1s,baz=180,slow=36
comp=Z,6.5nm,0.9s
LYN LuoYang 37.90 339 P **P** **04 06 08.5 +0.6**
LYN pmax pmax
comp=Z,43nm,0.8s
MAJO Matsushiro 38.16 13 P **P** **04 06 08.8 -1.3**
MAJO IAmb IAmb 04 06 11.7
comp=Z,32nm,0.8s
MAJO Matsushiro 38.16 13 P **P** **04 06 09.8 -0.3**
MAJO Matsushiro 38.16 13*c i*P **P** **04 06 09.6 -0.4**
MAJO pmax pmax
comp=Z,33nm,0.8s
MAJO Matsushiro 38.16 13 P **P** **04 06 09.7 -0.4**
MJAR Matsushiro Arr 38.16 13 **P** **04 06 08.5 -1.6**
MJAR IAmb IAmb 04 06 11.7
comp=Z,25nm,0.9s
MJAR Matsushiro Arr 38.16 13 P **P** **04 06 09.6 -0.4**
comp=Z,16nm,0.6s,baz=194,slow=10,SNR=38
MJAR LR LR 04 21 29.0
comp=Z,144nm,19.1s,baz=208,slow=36
comp=Z,16nm,0.6s
MJAR Matsushiro Arr 38.16 13 P **P** **04 06 08.5 -1.6**
MJAR pmax pmax
comp=Z,25nm,0.9s
MJB9 Matsu-Tunnel 38.16 13 IAmb IAmb 04 06 12.7
comp=Z,31nm,0.8s
XAN Xi'an 38.86 334 ⇓P **P** **04 06 15.1 -1.0**
XAN pP pP 04 06 25.8 -0.5
XAN S **S** **04 12 11.1 -0.8**
XAN pmax pmax
comp=Z,40nm,1.2s
XAN pmax pmax
comp=Z,350nm,4.7s
XAN LR LR
comp=Z,250nm,4.8s
XAN LR LR
comp=Z,330nm,5.5s
XAN LR LR
comp=Z,160nm,5.2s
CD2 Chengdu 38.92 326 P **P** **04 06 16.8 +0.2**
CD2 pmax pmax
comp=Z,30nm,0.5s
BRAT Ballarat 39.57 160 P **P** **04 06 23.9 +2.1**
JSD Sado 39.60 13 P **P** **04 06 22.2 +0.1**
HNS HongShan 39.78 343 ⇓P **P** **04 06 23.8 +0.2**
HNS pmax pmax
comp=Z,19nm,0.8s
JMM Marumori 40.06 16 P **P** **04 06 26.2 +0.2**
JMM Marumori 40.06 16 P **P** **04 06 27.2 +1.3**
TOO Toolangi 40.15 158 **P** **04 06 27.1 +0.5**
TOO Toolangi 40.15 158 P **P** **04 06 27.2 +0.5**
TOO pmax pmax
comp=Z,8.0nm,1.1s
TIY Taiyuan 40.77 341 P **P** **04 06 32.6 +0.7**
TIY pmax pmax
comp=Z,35nm,0.5s
BJT Baijiatuau 41.87 346 P **P** **04 06 40.0 -0.7**
BJT Baijiatuau 41.87 346 P **P** **04 06 40.1 -0.7**
BJT pmax pmax
comp=Z,19nm,1.0s
BJI Beijing 41.89 346 P **P** **04 06 40.3 -0.6**
LZDM Lanzhou Array 42.86 331 P **P** **04 06 47.6 -1.7**
comp=Z,3.1nm,0.3s,baz=176,slow=10.0,SNR=11
LZDM LR LR 04 26 03.7
comp=Z,89nm,19.0s,baz=150,slow=38
comp=Z,3.1nm,0.3s
TJM Tennabayashi 42.88 15 P **P** **04 06 48.9 -0.1**
LZH Lanzhou 42.90 331 *e*P **P** **04 06 50.5 +1.1**
LZH pP pP 04 06 58.8 -1.0
LZH pmax pmax
comp=Z,45nm,1.3s
DZM Mont Dzumac 43.05 122 *e*P **P** **04 06 49.3 -1.5**
comp=Z,70nm,1.4s
DZM *e*S S 04 13 02.1 -13
comp=Z,114nm,24.1s
DZM *e*LR LR 04 18 49.3
comp=Z,183nm,24.9s
DZM Mont Dzumac 43.05 122 P **P** **04 06 50.4 -0.4**
DZM IAmb IAmb 04 06 54.4
comp=Z,50nm,1.4s
DZM Mont Dzumac 43.05 122 P **P** **04 06 51.6 +0.8**
SHL Shillong 43.55 309 P **P** **04 06 53.3 -1.6**
SHL IAmb IAmb 04 06 55.2
comp=Z,23nm,0.7s
SHL Shillong 43.55 309 P **P** **04 06 53.3 -1.6**
SHL pmax pmax
comp=Z,23nm,0.7s
HHC Hu-ho-hao-te 43.90 342 *e*P **P** **04 06 58.1 +0.7**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,140nm,4.2s
BTO Baotou 44.18 340 *e*P **P** **04 07 04.0 +4.3**
BTO pP **pP** **04 07 13.0 +3.0**
BTO pmax pmax
comp=Z,26nm,0.5s
BTO pmax pmax
comp=Z,160nm,3.7s
BTO LR LR
comp=Z,130nm,5.0s
BTO LR LR
comp=Z,140nm,3.4s
BTO LR LR
comp=Z,240nm,4.8s
USRK Ussuriysk Ar. 44.76 4 P **P** **04 07 04.5 +0.5**
comp=Z,11nm,0.6s,baz=183,slow=7.0,SNR=13
comp=Z,11nm,0.6s
MDJ Mudanjiang 45.06 2 IAmb IAmb 04 07 08.1
comp=Z,23nm,1.0s
MDJ Mudanjiang 45.06 2 P **P** **04 07 06.9 +0.5**
MDJ sS sS 04 14 05.8 +5.6
MDJ pmax pmax
comp=Z,29nm,1.2s
MDJ LR LR
comp=Z,230nm,15.1s
MDJ LR LR
comp=Z,280nm,14.5s
XLT XiLinHaoTe 45.59 348 *e*P **P** **04 07 10.3 -0.5**
XLT pP pP 04 07 21.9 +0.7
XLT sP sP 04 07 26.3 +0.9
XLT pmax pmax
comp=Z,15nm,0.9s
XLT pmax pmax
comp=Z,130nm,5.2s
LSA Lhasa 46.32 314 P **P** **04 07 16.6 -0.6**
LSA IAmb IAmb 04 07 27.8
comp=Z,24nm,0.8s
LSA Lhasa 46.32 314 P **P** **04 07 16.3 -0.9**
LSA pmax pmax
comp=Z,24nm,0.8s
LSA Lhasa 46.32 314 P **P** **04 07 16.6 -0.6**
LSA pmax pmax
comp=Z,24nm,0.8s
ASAJ Asahikawa 46.40 14 P **P** **04 07 17.8 +0.8**
comp=Z,24nm,1.0s,baz=222,slow=11,SNR=5.5
ASAJ LR LR 04 28 04.5
comp=Z,113nm,18.0s,baz=182,slow=38
comp=Z,24nm,1.0s
ASAJ Asahikawa 46.40 14 P **P** **04 07 16.8 -0.2**
ASAJ pmax pmax
comp=Z,86nm,1.4s
JKA Kamikawa-asahi 46.40 14 P **P** **04 07 16.8 -0.2**
GTA Gaotai 47.48 330 P **P** **04 07 26.3 +0.6**
GTA pmax pmax
comp=Z,10.0nm,1.4s
PALK Pallekele 47.85 280 LR LR 04 28 32.4
comp=Z,90nm,20.3s,baz=98,slow=37
GOMU GeErMu 47.90 323 P **P** **04 07 30.3 +0.9**
GOMU pmax pmax
comp=Z,4.0nm,0.4s
EVN Everest 48.67 309 **P** **04 07 35.1 -0.6**
YSS Yuzhno-Sakhali 49.10 13 *e*P **P** **04 07 36.1 -1.8**
YSS pmax pmax
comp=Z,30nm,0.6s
HEH HeiHe 50.68 359 *e*P **P** **04 07 49.3 -0.5**
HEH pmax pmax
comp=Z,15nm,1.1s
ULN Ulaanbaatar 51.62 342 P **P** **04 07 56.4 -0.8**
ULN IAmb IAmb 04 07 58.3
comp=Z,16nm,0.8s
ULN Ulaanbaatar 51.62 342*ce*P **P** **04 07 57.1 -0.1**
ULN pmax pmax
comp=Z,20nm,0.9s
ULN Ulaanbaatar 51.62 342 P **P** **04 07 57.2 0.0**
GRNR Gornyy 51.69 7⇑*i*P **P** **04 07 58.5 +1.1**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
SONM Songino Array 51.80 342 **P** **04 07 57.6 -0.9**
SONM Songino Array 51.80 342 P **P** **04 07 58.2 -0.3**
comp=Z,8.0nm,0.8s,baz=156,slow=8.5,SNR=24
comp=Z,8.0nm,0.8s
SONM Songino Array 51.80 342 P **P** **04 07 57.6 -0.9**
SONM pmax pmax
comp=Z,9.0nm,0.9s
HYB Hyderabad 51.89 293 *e*P **P** **04 07 58.5 -1.1**
TYV Tymovskoe 52.78 12 *e*P **P** **04 08 06.4 +0.9**
TYV pmax pmax
comp=Z,8.0nm,0.8s
TYV pmax pmax
comp=Z,100nm,4.6s
ZEA Zeya 54.17 359 *e*P **P** **04 08 15.2 -0.5**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZAK Zakamensk 55.03 341 *e*P **P** **04 08 20.4 -1.7**
ZAK pmax pmax
comp=Z,6.0nm,1.5s
WMQ Urumqi 57.02 326 *e*P **P** **04 08 37.5 +1.0**
WMQ LR LR
comp=Z,150nm,20.1s
BKZ Black Stump Fm 58.52 137 **P** **04 08 46.5 -0.5**
BKZ IAmb IAmb 04 09 17.8
comp=Z,43nm,1.5s
URZ Urewera 58.52 136 LR LR 04 35 24.1
comp=Z,98nm,18.8s,baz=292,slow=38
RTZ Ruatahuna 58.60 136 IAmb IAmb 04 08 50.0
comp=Z,23nm,1.0s
PETK Petropavlovsk- 58.98 20 **P** **04 08 49.8 -0.1**
PETK Petropavlovsk- 58.98 20 P **P** **04 08 50.7 +0.7**
comp=Z,8.5nm,0.8s,baz=189,slow=5.9,SNR=6.2
PETK LR LR 04 32 30.1
comp=Z,45nm,21.8s,baz=194,slow=34
comp=Z,8.5nm,0.8s
PETK Petropavlovsk- 58.98 20 P **P** **04 08 49.8 -0.1**
ZSN Zaisan 60.84 328 *e*P **P** **04 09 01.7 -1.2**
ZSN Zaisan 60.84 328 *e*P **P** **04 09 01.6 -1.2**
SHLS Shalkode 61.52 321 *e*P **P** **04 09 04.4 -3.2**
SHLS Shalkode 61.52 321 *e*P **P** **04 09 04.4 -3.2**
UZB Uzynbulak 61.78 321 *e*P **P** **04 09 08.6 -1.0**
UZB Uzynbulak 61.78 321 *e*P **P** **04 09 08.5 -1.0**
MKAR Makanchi Array 61.85 326 **P** **04 09 09.1 -0.6**
MKAR Makanchi Array 61.85 326 P **P** **04 09 08.9 -0.8**
comp=Z,4.2nm,0.6s,baz=114,slow=8.0,SNR=29
MKAR LR LR 04 38 02.7
comp=Z,63nm,18.8s,baz=112,slow=38
comp=Z,4.2nm,0.6s
MKAR Makanchi Array 61.85 326*ce*P **P** **04 09 08.8 -0.9**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
KSH Kashi 62.04 316 P **P** **04 09 15.8 +4.5**
KSH sP sP 04 09 28.3 +2.1
KSH pmax pmax
comp=Z,7.0nm,0.8s
SATY Saty 62.13 321 *e*P **P** **04 09 10.2 -1.6**
comp=Z,8.7nm,0.7s
SATY Saty 62.13 321 *e*P **P** **04 09 10.2 -1.6**
SATY pmax pmax
comp=Z,9.0nm,0.7s
YAK Yakutsk 62.49 1 **P** **04 09 13.8 +0.1**
YAK Yakutsk 62.49 1 LR LR 04 35 37.5
comp=Z,41nm,21.3s,baz=179,slow=35
YAK Yakutsk 62.49 1*ce*P **P** **04 09 14.4 +0.8**
YAK pmax pmax
comp=Z,84nm,0.7s
YAK Yakutsk 62.49 1 P **P** **04 09 14.0 +0.4**
MA2 Magadan 62.60 13 **P** **04 09 14.6 +0.2**
MA2 Magadan 62.60 13 LR LR 04 37 01.4
comp=Z,26nm,18.7s,baz=172,slow=37
MA2 Magadan 62.60 13 P **P** **04 09 16.7 +2.3**
MA2 Magadan 62.60 13*ce*P **P** **04 09 15.9 +1.5**
MA2 pmax pmax
comp=Z,35nm,1.0s
MDOK Medeo 63.04 320 *e*P **P** **04 09 16.7 -1.2**
MDOK Medeo 63.04 320 *e*P **P** **04 09 16.6 -1.3**
TNSS Tian-Shan 63.04 320 *e*P **P** **04 09 16.6 -1.6**
TNSS Tian-Shan 63.04 320 *e*P **P** **04 09 16.6 -1.6**
AAK Ala-Archa 64.45 319 LR LR 04 39 50.3
comp=Z,62nm,22.0s,baz=110,slow=38
AAK Ala-Archa 64.45 319 *i* P **P** **04 09 25.8 -1.4**
AAK pmax pmax
comp=Z,8.0nm,1.4s
ZAA0 Zalesovo Array 65.03 333 P **P** **04 09 28.6 -1.9**
ZALV Zalesovo Beam 65.03 333 P **P** **04 09 29.0 -1.5**
ZALV Zalesovo Beam 65.03 333 P **P** **04 09 28.5 -2.0**
comp=Z,1.1nm,0.5s,baz=90,slow=4.6,SNR=7.9
ZALV LR LR 04 40 46.0
comp=Z,30nm,20.4s,baz=98,slow=39
comp=Z,1.1nm,0.5s
ZALV Zalesovo Beam 65.03 333 *i* P **P** **04 09 29.0 -1.5**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
SHEM Shemya Is, Ala 65.58 29 LR LR 04 37 26.6
comp=Z,31nm,18.4s,baz=287,slow=35
GAR Garm 65.83 314 P **P** **04 09 34.7 -1.5**
GAR IAmb IAmb 04 09 52.4
comp=Z,22nm,0.9s
BTLS Baital 65.84 321 *e*P **P** **04 09 34.7 -1.3**
BTLS Baital 65.84 321 *e*P **P** **04 09 34.6 -1.3**
SEY Seymchan 65.97 12 LR LR 04 37 56.9
comp=Z,26nm,20.9s,baz=271,slow=36
SEY Seymchan 65.97 12*ce*P **P** **04 09 37.0 +0.6**
SEY pmax pmax
comp=Z,13nm,0.9s
KURBB Kurchatov Arra 66.08 328 P **P** **04 09 36.3 -1.1**
comp=Z,4.7nm,0.6s,baz=127,slow=5.9,SNR=36
comp=Z,4.7nm,0.6s
KURK Kurchatov 66.09 328 **P** **04 09 36.2 -1.1**
KURK IAmb IAmb 04 09 47.5
comp=Z,18nm,0.8s
KURK Kurchatov 66.09 328*ce*P **P** **04 09 36.3 -1.1**
KURK pmax pmax
comp=Z,19nm,0.9s
KURK Kurchatov 66.09 328 P **P** **04 09 36.4 -1.0**
DRV Dumont d'Urvil 66.46 175 P **P** **04 09 39.5 0.0**
DZA Taraz 66.66 318 *e*P **P** **04 09 39.9 -1.5**
DZA Taraz 66.66 318 *e*P **P** **04 09 39.8 -1.5**
CASY Casey 66.70 188 **P** **04 09 40.3 -0.7**
KK31 Karatay Array 67.29 318 **P** **04 09 44.3 -1.0**
KK31 Karatay Array 67.29 318 P **P** **04 09 44.3 -1.0**
KK31 pmax pmax

	comp=Z,9.0nm,1.1s							
KKAR	**Karatay Array**	**67.29**	**318**			**P**		**04 09 43.8**	**-1.5**
KKAR	**Karatay Array**	**67.29**	**318**	P		**P**		**04 09 43.8**	**-1.5**
CHM	**Chimkent**	**67.60**	**317**	*eP*		**P**		**04 09 46.2**	**-1.0**
	comp=Z,19nm,1.0s								
CHM	**Chimkent**	**67.60**	**317**	*eP*		**P**		**04 09 46.2**	**-1.0**
CHM				pmax		pmax			
	comp=Z,19nm,1.0s								
BRLS	**Borolday**	**67.72**	**318**	*eP*		**P**		**04 09 46.8**	**-1.3**
BRLS	**Borolday**	**67.72**	**318**	*eP*		**P**		**04 09 46.7**	**-1.3**
BRZS	**Berezniki**	**68.97**	**325**	*eP*		**P**		**04 09 54.6**	**-1.1**
BRZS	**Berezniki**	**68.97**	**325**	*eP*		**P**		**04 09 54.6**	**-1.1**
BVAR	**Borovoye Array**	**71.65**	**327**	P		**P**		**04 10 10.9**	**-1.1**
	comp=Z,3.5nm,0.7s,baz=129,slow=8.4,SNR=14								
BVAR				LR		LR		04 42 50.9	
	comp=Z,35nm,21.8s,baz=122,slow=37								
	comp=Z,3.5nm,0.7s								
BVAR	**Borovoye Array**	**71.65**	**327**	P		**P**		**04 10 11.0**	**-1.1**
TIXI	**Tiksi**	**72.15**	**0**	LR		LR		04 43 03.1	
	comp=Z,41nm,21.9s,baz=196,slow=37								
CCD	**Concordia, Ant**	**74.45**	**181**	P		**P**		**04 10 29.4**	**+0.7**
ABKAR	**Akbulak array**	**76.32**	**321**			**P**		**04 10 38.0**	**-1.4**
AKTO	**Aktyubinsk**	**77.86**	**322**	LR		LR		04 48 17.7	
	comp=Z,46nm,21.6s,baz=34,slow=38								
VNDA	**Vanda**	**78.98**	**173**			**P**		**04 10 53.8**	**0.0**
VNDA	**Vanda**	**78.98**	**173**	P		**P**		**04 10 53.7**	**0.0**
	comp=Z,5.6nm,0.8s,baz=316,slow=6.6,SNR=33								
VNDA				LR		LR		04 46 11.3	
	comp=Z,90nm,18.9s,baz=332,slow=36								
	comp=Z,5.6nm,0.8s								
VNDA	**Vanda**	**78.98**	**173**	P		**P**		**04 10 53.8**	**0.0**
VNDA				PcP		**PcP**		**04 11 02.1**	**-0.1**
ARTI	**Arti**	**79.36**	**328**	LR		LR		04 47 33.6	
	comp=Z,35nm,20.9s,baz=106,slow=37								
ARTI	**Arti**	**79.36**	**328**	P		P		04 11 06.2	+10
SBA	**Scott Base**	**79.88**	**172**			**P**		**04 10 58.9**	**+0.3**
SBA	**Scott Base**	**79.88**	**172**	P		**P**		**04 10 58.9**	**+0.3**
SBA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
MAW	**Mawson**	**80.17**	**201**	P		**P**		**04 11 01.9**	**+1.6**
	comp=Z,3.4nm,0.8s,baz=48,slow=8.1,SNR=4.7								
	comp=Z,3.4nm,0.8s								
PPT2	**Papeete2**	**82.56**	**108**	*eS*		S		04 21 09.8	-20
	comp=Z,2μm,32.0s								
PPT2	**Papeete2**	**82.56**	**108**	*eLR*		LR		04 37 05.1	
	comp=Z,114nm,24.0s								
TBI	**Tubuai**	**82.88**	**113**	*eLR*		LR		04 37 09.3	
	comp=Z,1μm,31.2s								
TBI				*e*LR		LR		04 37 21.9	
	comp=Z,945nm,29.8s								
J17K	**VABM Dome**	**82.94**	**26**	IAmb		IAmb		04 11 26.6	
	comp=Z,31nm,1.1s								
H17K	**Granite Mounta**	**83.02**	**24**	IAmb		IAmb		04 11 23.7	
	comp=Z,26nm,1.1s								
RAYN	**Ar Rayn**	**83.39**	**294**			**P**		**04 11 17.1**	**-1.2**
RAYN	**Ar Rayn**	**83.39**	**294**	P		**P**		**04 11 17.1**	**-1.2**
RAYN				pmax		pmax			
	comp=Z,6.0nm,1.0s								
L18K	**Granite Mounta**	**83.71**	**27**	IAmb		IAmb		04 11 28.6	
	comp=Z,18nm,0.8s								
J18K	**Innoko River**	**83.98**	**26**	IAmb		IAmb		04 11 29.4	
	comp=Z,13nm,0.9s								
G19K	**Purcell Munta**	**84.47**	**23**	IAmb		IAmb		04 11 26.6	
	comp=Z,19nm,1.4s								
L19K	**White Mountain**	**84.54**	**27**	IAmb		IAmb		04 11 31.3	
	comp=Z,21nm,1.1s								
KIRV	**Kirov**	**84.59**	**329**	*ceP*		**P**		**04 11 24.0**	**+0.5**
E19K	**Redstone River**	**84.74**	**22**	IAmb		IAmb		04 11 48.4	
	comp=Z,8.3nm,0.8s								
KDAK	**Kodiak Island**	**84.86**	**32**	LR		LR		04 43 25.9	
	comp=Z,46nm,20.9s,baz=239,slow=32								
SUA	**Susitna One**	**86.33**	**28**	IAmb		IAmb		04 11 41.6	
	comp=Z,11nm,0.8s								
E22K	**Anaktuvuk Pass**	**86.90**	**22**	IAmb		IAmb		04 11 42.1	
	comp=Z,17nm,1.2s								
KIV	**Kislovodsk**	**87.06**	**314**	*eP*		**P**		**04 11 33.2**	**-3.1**
KIV				pmax		pmax			
	comp=Z,5.0nm,1.1s								
G23K	**Bananza Creek**	**87.37**	**23**	IAmb		IAmb		04 11 46.2	
	comp=Z,8.5nm,1.1s								
RND	**Reindeer**	**87.45**	**27**	IAmb		IAmb		04 11 45.6	
	comp=Z,11nm,0.9s								
E23K	**Chandalar**	**87.70**	**22**	IAmb		IAmb		04 11 47.7	
	comp=Z,8.8nm,0.9s								
CCB	**Clear Creek Bu**	**88.04**	**25**	IAmb		IAmb		04 11 47.7	
	comp=Z,8.9nm,1.0s								
DHY	**Denali Highway**	**88.09**	**27**	IAmb		IAmb		04 11 49.2	
	comp=Z,6.4nm,0.9s								
ILAR	**Eielson Array**	**88.45**	**25**	P		**P**		**04 11 41.6**	**-0.7**
	comp=Z,1.1nm,1.0s,baz=250,slow=4.7,SNR=10								
	comp=Z,1.1nm,1.0s								
DIV	**Divide**	**88.69**	**29**	IAmb		IAmb		04 11 51.8	
	comp=Z,11nm,1.0s								
SYO	**Syowa Base**	**88.87**	**201⇑**	*eP*		**P**		**04 11 44.2**	**0.0**
SYO	**Syowa Base**	**88.87**	**201⇑**	*e*PcP		**PcP**		**04 11 47.0**	**+1.3**
RIDG	**Independent Ri**	**89.27**	**26**	IAmb		IAmb		04 11 53.8	
	comp=Z,8.7nm,0.8s								
QSPA	**South Pole Qui**	**89.32**	**180**	P		**P**		**04 11 47.0**	**+0.4**
QSPA				IAmb		IAmb		04 11 55.4	
	comp=Z,8.1nm,0.9s								
QSPA	**South Pole Qui**	**89.32**	**180**	P		**P**		**04 11 47.7**	**+1.1**
	comp=Z,6.2nm,0.9s,baz=312,slow=1.7,SNR=14								
QSPA				LR		LR		04 50 15.7	
	comp=Z,85nm,20.6s,baz=7.5,slow=35								
	comp=Z,6.2nm,0.9s								
QSPA	**South Pole Qui**	**89.32**	**180**	P		**P**		**04 11 48.8**	**+2.2**
DOT	**Dot Lake**	**89.61**	**26**	IAmb		IAmb		04 11 55.6	
	comp=Z,5.0nm,0.7s								
J26L	**Joseph Creek**	**89.86**	**26**	IAmb		IAmb		04 11 57.2	
	comp=Z,8.1nm,0.8s								
L27K	**Beaver Creek,**	**90.61**	**27**	IAmb		IAmb		04 12 01.2	
	comp=Z,4.6nm,0.7s								
BCAR	**Beaver Creek A**	**90.63**	**27**	P		**P**		**04 11 53.4**	**+0.8**
EGAK	**Eagle**	**90.90**	**25**	IAmb		IAmb		04 12 02.5	
	comp=Z,28nm,1.9s								
I28M	**Miner Creek**	**91.41**	**25**	IAmb		IAmb		04 12 03.4	
	comp=Z,12nm,0.9s								
DAWY	**Dawson**	**91.68**	**26**	P		**P**		**04 11 58.4**	**+0.9**
DAWY				IAmb		IAmb		04 12 04.5	
	comp=Z,7.9nm,0.9s								
I29M	**Ogilvie Camp,**	**92.09**	**25**	IAmb		IAmb		04 12 06.1	
	comp=Z,7.9nm,0.9s								
M29M	**Somme Creek**	**92.17**	**28**	IAmb		IAmb		04 12 09.4	
	comp=Z,6.1nm,1.1s								
L29M	**L29M**	**92.29**	**27**	IAmb		IAmb		04 12 09.5	
	comp=Z,8.9nm,1.0s								
N30M	**Aishikik Lake**	**92.88**	**29**	IAmb		IAmb		04 12 13.4	
	comp=Z,6.0nm,0.9s								
J30M	**Hart River**	**92.98**	**25**	IAmb		IAmb		04 12 12.1	
	comp=Z,7.9nm,1.1s								
INK	**Inuvik**	**93.70**	**22**	LR		LR		04 57 08.5	
	comp=Z,14nm,19.4s,baz=217,slow=37								
BRTR	**Keskin Array B**	**93.78**	**310**	P		**P**		**04 12 08.7**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=94,slow=5.4,SNR=3.6								
	comp=Z,0.5nm,0.8s								
ARCES	**ARCESS Array B**	**94.95**	**340**	P		**P**		**04 12 11.3**	**-1.1**
	comp=Z,4.2nm,1.0s,baz=55,slow=4.6,SNR=4.3								
	comp=Z,4.2nm,1.0s								
SPITS	**Spitsbergen Ar**	**94.97**	**349**	LR		LR		05 01 32.8	
	comp=Z,37nm,19.2s,baz=60,slow=40								
AKASG	**Malin Array Be**	**96.06**	**321**	LR		LR		05 00 33.6	
	comp=Z,24nm,18.2s,baz=54,slow=39								
FINES	**FINESS Array B**	**96.25**	**332**	P		**P**		**04 12 16.3**	**-2.2**
	comp=Z,1.8nm,0.9s,baz=157,slow=23,SNR=2.0								
FINES				LR		LR		05 02 17.7	
	comp=Z,32nm,18.0s,baz=60,slow=40								
	comp=Z,1.8nm,0.9s								
DLBC	**Dease Lake**	**96.77**	**31**	LR		LR		04 57 59.6	
	comp=Z,184nm,18.2s,baz=230,slow=37								
MATP	**Matopo**	**98.72**	**249**	LR		LR		04 49 32.1	
	comp=Z,24nm,22.0s,baz=194,slow=31								
MLR	**Muntele Rosu**	**98.91**	**316**	LR		LR		05 03 23.3	
	comp=Z,45nm,21.4s,baz=222,slow=39								
TXAR	**Lajitas Array**	**123.12**	**55**	PKP		**PKiKP**		**04 17 49.2**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=215,slow=1.5,SNR=4.0								
TORD	**Torodi Ar. Bea**	**125.42**	**286**	PKP		**PKPdf**		**04 17 52.1**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=71,slow=2.3,SNR=7.1								
BOAB	**BOACO BROADBAND**	**~~144.58~~**	**69**			**PKPab**		**04 18 27.0**	**+0.6**
CPUP	**Villa Florida**	**152.72**	**169**	PKPbc		**PKPbc**		**04 18 48.3**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=278,slow=2.3,SNR=4.1								
LPAZ	**La Paz**	**156.84**	**137**	PKPab		**PKPab**		**04 19 17.4**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=178,slow=4.4,SNR=4.4								
ROSC	**El Rosal**	**157.29**	**79**	PKPab		**PKPab**		**04 19 19.4**	**+0.3**
	comp=Z,3.1nm,0.4s,baz=219,slow=13,SNR=1.7								

*IDC **18** 04:21:20.7±1.6,24.˚20S×66.˚94W,h155km±16km,mb2.9/6,*

mbtmp3.6/11,Error ellipse: s-maj=24.0km s-min=11.4km az=99.0

*SJA **18** 04:21:21.6±0.6,24.˚20S×67.˚18W,h190km±5km,ML3.4, MW3.5*

*GUC **18** 04:21:23.3±0.7,24.˚19S×67.˚44W,h206km±6km,ML3.6*

ISC 18 04:21:22.5±0.7,24.˚18S±0.˚04×67.˚22W±0.˚04,h180km±7km, n50,σ1ş74/79,mb3.2/4,3C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SALTA		**0.80**	**94**	*eP*		**Pn**	**04 21 49.5**	**0.0**
SALTA				*e*S		Sn	04 22 29.1	+19
AF01	**San Pedro de A**	**1.50**	**324**	*eP*		**Pn**	**04 21 56.6**	**+1.8**
AF01				*e*S		**Sn**	**04 22 21.7**	**+1.9**
AF01	**San Pedro de A**	**1.50**	**324**	*eP*		**Pn**	**04 21 55.5**	**+0.6**
AF01				*e*S		**Sn**	**04 22 22.2**	**+2.4**
SLA	**San Lorenzo**	**1.66**	**110**	*eP*		**Pn**	**04 21 56.5**	**+0.3**
HJA	**Humahuaca**	**1.92**	**60**	*eP*		**Pn**	**04 22 00.1**	**+0.9**
AZAP	**Zapla**	**1.97**	**92**	*eP*		**Pn**	**04 21 59.4**	**-0.1**
FSA	**Cafayete**	**2.23**	**150**	*eP*		**Pn**	**04 22 02.3**	**0.0**
FSA				*e*S		**Sn**	**04 22 32.6**	**-0.7**
GO02	**Mina Guanaco**	**2.37**	**245**	*i*P		**Pn**	**04 22 04.6**	**+0.6**
GO02				*i* S		**Sn**	**04 22 36.3**	**0.0**
GO02				IAML			04 22 37.2	
	comp=N,327nm,0.2s							
GO02	**Mina Guanaco**	**2.37**	**245**	*eP*		**Pn**	**04 22 04.6**	**+0.6**
GO02				IAML			04 22 38.6	
	comp=Z,173nm,0.3s							
YJA	**Yavi**	**2.53**	**39**	*eP*		**Pn**	**04 22 07.8**	**+1.7**
YJA				*e*S		**Sn**	**04 22 40.7**	**+0.8**
PB06	**IPOC Station P**	**2.61**	**304⇑**	*i*P		**Pn**	**04 22 07.6**	**+0.9**
PB06				*i* S		**Sn**	**04 22 40.6**	**-0.4**
PB06				IAML			04 22 43.6	
	comp=E,136nm,0.1s							
PB06	**IPOC Station P**	**2.61**	**304**	*eP*		**Pn**	**04 22 07.5**	**+0.9**
PB06				*e*S		**Sn**	**04 22 41.3**	**+0.3**
PB06				IAML			04 22 46.3	
	comp=Z,63nm,0.3s							
PB09	**IPOC Station P**	**3.01**	**321⇓**	*i*P		**Pn**	**04 22 13.1**	**+1.6**
PB09				*i* S		**Sn**	**04 22 50.1**	**+0.4**
PB09				IAML			04 22 51.1	
	comp=N,106nm,0.4s							
PB09	**IPOC Station P**	**3.01**	**321**	*eP*		**Pn**	**04 22 13.0**	**+1.4**
PB09				IAML			04 22 56.3	
	comp=Z,69nm,1.0s							
PB05	**IPOC Station P**	**3.04**	**295**	*i* P		**Pn**	**04 22 12.2**	**+0.4**
PB05				*i* S		**Sn**	**04 22 48.5**	**-1.6**
PB05				IAML			04 22 53.0	
	comp=E,52nm,0.4s							
PB05	**IPOC Station P**	**3.04**	**295**	*eP*		**Pn**	**04 22 12.2**	**+0.4**
PB05				IAML			04 22 52.0	
	comp=Z,60nm,1.7s							
PB10	**IPOC Station P**	**3.12**	**282**	*i* P		**Pn**	**04 22 13.3**	**+0.6**
PB10				*i* S		**Sn**	**04 22 49.6**	**-2.2**
PB10				IAML			04 22 54.6	
	comp=E,67nm,0.6s							
PB10	**IPOC Station P**	**3.12**	**282**	*eP*		**Pn**	**04 22 13.7**	**+1.0**
PB10				*e*S		**Sn**	**04 22 51.7**	**-0.1**
PB10				IAML			04 22 55.5	
	comp=Z,50nm,0.3s							
PB03	**IPOC Station P**	**3.15**	**312**	*eP*		**Pn**	**04 22 13.7**	**+0.5**
PB03				*i* S		**Sn**	**04 22 51.5**	**-1.1**
PB03				IAML			04 22 55.9	
	comp=N,79nm,0.5s							
PB03	**IPOC Station P**	**3.15**	**312**	*eP*		**Pn**	**04 22 13.9**	**+0.7**
PB03				*e*S		**Sn**	**04 22 52.5**	**-0.1**
PB03				IAML			04 22 56.5	
	comp=Z,71nm,0.4s							
AC02	**Maricunga**	**3.16**	**213**	*i* P		**Pn**	**04 22 13.9**	**+0.3**
AC02	**Maricunga**	**3.16**	**213**	*eP*		**Pn**	**04 22 14.0**	**+0.4**
AC02				*e*S		**Sn**	**04 22 56.4**	**+2.9**
AC01	**Pan de Azucar**	**3.64**	**237⇑**	*i*P		**Pn**	**04 22 18.0**	**-1.0**
AC01				*i* S		**Sn**	**04 23 00.1**	**-3.1**
PB01	**IPOC Station P**	**3.76**	**326**	*eP*		**Pn**	**04 22 20.7**	**0.0**
PB01				*i* S		**Sn**	**04 23 04.1**	**-2.0**
PB01	**IPOC Station P**	**3.76**	**326**	*eP*		**Pn**	**04 22 20.9**	**+0.2**
PB01				*e*S		**Sn**	**04 23 04.4**	**-1.7**
PB01				IAML			04 23 06.9	
	comp=Z,52nm,0.4s							
PB02	**IPOC Station P**	**3.77**	**318**	*i* P		**Pn**	**04 22 20.9**	**+0.1**
PB02				*e*S		**Sn**	**04 23 05.0**	**-1.4**
PB02	**IPOC Station P**	**3.77**	**318**	*eP*		**Pn**	**04 22 21.2**	**+0.3**
PB02				*e*S		**Sn**	**04 23 04.7**	**-1.6**
PB02				IAML			04 23 07.6	
	comp=Z,135nm,0.3s							
PATCX	**Punta Patache**	**4.30**	**320**	*eP*		**Pn**	**04 22 27.6**	**0.0**
PATCX				*e*S		**Sn**	**04 23 16.4**	**-2.1**
PATCX	**Punta Patache**	**4.30**	**320**	*eP*		**Pn**	**04 22 28.0**	**+0.4**
PATCX				*e*S		**Sn**	**04 23 12.2**	**-6.4**
GO03	**Copiapo**	**4.36**	**218**	*eP*		**Pn**	**04 22 26.8**	**-1.4**
GO03				*e*S		**Sn**	**04 23 12.9**	**-2.8**
PB08	**IPOC Station P**	**4.40**	**336⇓**	*i*P		**Pn**	**04 22 29.8**	**+0.7**
PB08				*i* S		**Sn**	**04 23 19.9**	**-1.3**
PB08	**IPOC Station P**	**4.40**	**336**	*eP*		**Pn**	**04 22 30.0**	**+0.9**
PB08				*e*S		**Sn**	**04 23 20.8**	**-0.4**
PB08				IAML			04 23 22.4	
	comp=Z,24nm,3.8s							
CYA	**Choya**	**4.43**	**164**	*eP*		**Pn**	**04 22 28.9**	**-0.3**
CYA				IAML			04 23 21.7	
	comp=Z,16nm,4.0s							
VCA	**Vinchina**	**4.63**	**191**	*eP*		**Pn**	**04 22 32.6**	**+0.8**
VCA				IAML			04 23 29.9	
	comp=Z,31nm,4.3s							
PB11	**IPOC Station P**	**4.94**	**332**	*eP*		**Pn**	**04 22 34.7**	**-1.2**
PB11				*e*S		**Sn**	**04 23 30.9**	**-2.6**
PB11				IAML			04 23 31.6	
	comp=Z,26nm,0.4s							
ACLC	**CERRO LA CRUZ**	**5.24**	**177**	*eP*		**Pn**	**04 22 39.1**	**-0.6**
AGUA	**GUANDACOL**	**5.41**	**192**	*eP*		**Pn**	**04 22 41.3**	**-0.6**
AGUA				*e*S		**Sn**	**04 23 46.2**	**+1.9**
AGUA				IAML			04 24 08.9	
	comp=Z,22nm,2.9s							
CFA	**Coronel Fontan**	**7.46**	**187**	P		**Pn**	**04 23 07.4**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=50,slow=20,SNR=23							
CFA				S		**Sn**	**04 24 27.9**	**-4.7**
	comp=Z,0.7nm,0.3s,baz=198,slow=23,SNR=6.2							
LPAZ	**La Paz**	**7.89**	**354**	P		**Pn**	**04 23 15.6**	**+0.5**
	comp=Z,7.7nm,0.3s,baz=157,slow=5.7,SNR=112							
LPAZ				S		**Sn**	**04 24 42.6**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=330,slow=20,SNR=2.2							
SIV	**San Ignacio**	**9.98**	**36**	P		**Pn**	**04 23 39.5**	**-2.5**
	comp=Z,3.0nm,0.4s,baz=218,slow=7.7,SNR=22							
SIV				S		**Sn**	**04 25 26.8**	**-6.3**
	comp=Z,0.8nm,0.6s,baz=243,slow=23,SNR=2.3							
PLCA	**Paso Flores**	**16.75**	**189**	P		P	**04 25 06.6**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=11,slow=11,SNR=5.5							
BDFB	**Brasilia**	**19.94**	**68**	P		**P**	**04 25 39.0**	**-1.9**
	comp=Z,5.8nm,0.7s,baz=247,slow=9.2,SNR=8.5							
SNAA	**Sanae**	**59.25**	**161**	P		**P**	**04 31 05.0**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=274,slow=15,SNR=1.0							
	comp=Z,0.4nm,0.9s							
TXAR	**Lajitas Array**	**63.70**	**325**	P		**P**	**04 31 36.6**	**+1.6**
	comp=Z,0.2nm,0.8s,baz=158,slow=3.6,SNR=2.3							
	comp=Z,0.2nm,0.8s							
QSPA	**South Pole Qui**	**66.03**	**180**	P		**P**	**04 31 51.2**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=84,slow=1.4,SNR=5.2							
	comp=Z,0.8nm,0.8s							
VNDA	**Vanda**	**74.49**	**190**	P		**P**	**04 32 42.0**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=266,slow=0.7,SNR=9.4							
	comp=Z,0.5nm,0.9s							
TORD	**Torodi Ar. Bea**	**76.82**	**69**	P		**P**	**04 32 54.1**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=262,slow=5.2,SNR=4.2							
	comp=Z,0.2nm,0.5s							
PDAR	**Pinedale Array**	**77.20**	**329**	P		**P**	**04 32 58.6**	**+1.9**
	baz=73,slow=3.2,SNR=1.1							
WRA	**Warramunga Arr**	**131.38**	**207**	PKP		**PKiKP**	**04 40 15.3**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=170,slow=1.6,SNR=5.1							
MKAR	**Makanchi Array**	**146.79**	**40**	PKPbc		**PKPdf**	**04 40 41.8**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=322,slow=3.7,SNR=3.5							

*SKO **18** 04:42:25.7,41.˚86N×19.˚43E,h79km*

*RHSSO **18** 04:42:30.4±0.9,41.˚71N×19.˚70E,h7km,ML2.9/6*

*BEO **18** 04:42:31.1±0.3,41.˚80N×19.˚76E,h13km±2km,ML2.5/20*

*PDG **18** 04:42:32.0±0.2,41.˚87N×19.˚72E,h11km±1km,MD2.9/1, ML2.8/11,Error ellipse: s-maj=1.0km s-min=1.1km az=0.0*

ISC 18 04:42:31.4±1.1,41.86N±0.˚03×19.75E±0.˚02,h12km±9km, n46,σ1ş05/82,6C-2D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ULC	**Ulcinj**	**0.39**	**285**	*i*Pg		**Pb**	**04 42 39.3**	**-0.9**
ULC				*e*Sg		**Sb**	**04 42 46.0**	**-0.2**
DRME	**Dracevica, Mon**	**0.53**	**308**	*e*Pg		**Pg**	**04 42 41.6**	**-0.1**
DRME				*e*Sg		**Sn**	**04 42 52.1**	**-1.5**
DRME	**Dracevica, Mon**	**0.53**	**308⇑**	*i*Pg		**Pg**	**04 42 41.6**	**-0.1**
DRME				*e*Sg		**Sn**	**04 42 51.4**	**-2.2**
PDG	**Podgorica**	**0.67**	**327**	*e*Pg		**Pg**	**04 42 44.2**	**-0.3**
PDG				*e*Sg		**Sn**	**04 42 56.0**	**-1.1**
PDG	**Podgorica**	**0.67**	**327⇑**	*i*Pg		**Pg**	**04 42 44.2**	**-0.3**
PDG				*e*Sg		**Sn**	**04 42 56.1**	**-1.1**
PVY	**Plav**	**0.75**	**12**	*e*Pg		**Pg**	**04 42 44.8**	**-1.1**
PVY	**Plav**	**0.75**	**12**	*i*Pg		**Pb**	**04 42 46.1**	**-0.3**
PVY				*e*Sg		**Sb**	**04 42 57.4**	**+0.7**
BUM	**Brajici-Budva**	**0.77**	**305⇑**	*i*Pg		**Pb**	**04 42 46.0**	**-0.8**
BUM				*e*Sg		**Sn**	**04 42 59.9**	**+0.2**
KOME	**Kolasin**	**1.00**	**350**	*e*Pg		**Pn**	**04 42 50.7**	**-0.7**
KOME	**Kolasin**	**1.00**	**350**	*i*Pg		**Pg**	**04 42 50.5**	**-0.2**
KOME				*e*Sg		**Sn**	**04 43 06.0**	**+0.5**
BEY	**Berane**	**1.01**	**6**	*e*Pg		**Pb**	**04 42 50.5**	**-0.5**
BEY				*e*Sg		**Sn**	**04 43 06.4**	**+0.6**
IVA	**Berane**	**1.01**	**6**	*e*Pg		**Pb**	**04 42 50.7**	**-0.3**
IVA				*i* Sg		**Sn**	**04 43 08.2**	**+2.4**
NKME	**Niksic**	**1.08**	**327⇑**	*i*Pg		**Pb**	**04 42 51.4**	**-0.6**
NKME				*e*Sg		**Sn**	**04 43 08.6**	**+1.3**
OHR	**Ohrid**	**1.09**	**133**	*i* Pg		**Pb**	**04 42 51.2**	**-1.1**
OHR				*i* Sg		**Sn**	**04 43 07.4**	**-0.2**
HCY	**Herceg Novi**	**1.10**	**302⇑**	*i*Pg		**Pb**	**04 42 51.6**	**-0.7**
HCY				*e*Sg		**Sn**	**04 43 09.2**	**+1.5**
SKO	**Skopje**	**1.27**	**85**	*i* Pg		**Pn**	**04 42 54.8**	**-0.2**
SKO				*i* Sg		**Sg**	**04 43 14.0**	**+1.6**
TREB	**Trebinje**	**1.34**	**310**	*e*Pg		**Pg**	**04 42 56.3**	**-0.9**
TREB				*e*Sg		**Sg**	**04 43 14.8**	**+0.2**
TREB	**Trebinje**	**1.34**	**310**	*e*Pg		**Pb**	**04 42 55.8**	**-0.7**
TREB				*e*Sg		**Sg**	**04 43 15.9**	**+1.3**
BRY	**Bratogost**	**1.37**	**320**	*e*Pg		**Pg**	**04 42 56.9**	**-0.8**
BRY				*i* Sg		**Sg**	**04 43 18.7**	**+3.2**
SJES	**Sjenica**	**1.41**	**7**	*e*Pg		**Pb**	**04 42 57.4**	**-0.3**
SJES				*e*Sg		**Sg**	**04 43 17.0**	**+0.3**
UPM	**Unac-Piva**	**1.48**	**335**	*e*Pg		**Pb**	**04 42 58.8**	**-0.1**
UPM				*i* Sg		**Sg**	**04 43 21.6**	**+2.7**
KLINJ	**Klinje**	**1.56**	**327**	*e*Pn		**Pb**	**04 42 59.3**	**-1.0**
KLINJ				*e*Sn		**Sg**	**04 43 22.3**	**+0.6**
FNA	**Florina**	**1.64**	**131**	*i* Pg		**Pn**	**04 43 00.5**	**+0.5**
FNA				*i* Sg		**Sb**	**04 43 23.1**	**+1.0**
FNA	**Florina**	**1.64**	**131**	*e*Pg		**Pn**	**04 42 59.9**	**-0.2**
FNA				*e*Sg		**Sb**	**04 43 22.2**	**+0.1**
SELS	**Selova**	**1.69**	**36**	*e*Pg		**Pb**	**04 43 01.5**	**-1.0**
SELS				*e*Sg		**Sg**	**04 43 26.5**	**+0.6**
IVAS	**Ivanjica**	**1.74**	**10**	*e*Pn		**Pb**	**04 43 02.4**	**-0.9**
IVAS				*e*Sn		**Sn**	**04 43 24.0**	**+0.4**
RUDO	**Rudo**	**1.77**	**351**	*e*Pn		**Pb**	**04 43 03.8**	**-0.1**
RUDO				*e*Sn		**Sg**	**04 43 27.6**	**-0.9**

RSRNO eS Sn 04 59 27.1 +1.1
RSRNO Rio Sereno 1.01 185⇓ eP Pn 04 59 10.9 -1.0
PCAYA Pacayas 1.02 275 eP Pg 04 59 10.1 -1.6
BC3P Paso Ancho 1.02 171 eP Pb 04 59 10.9 -0.6
BC3P Paso Ancho 1.02 171 eP Pb 04 59 10.8 -0.8
BC3P eS Sn 04 59 24.7 -1.8
VITO San Vito 1.02 191 eP Pn 04 59 11.0 -1.0
RAFA San Farael, Vo 1.03 277 eP Pg 04 59 10.2 -1.5
EDPE Pejibaye, P 1.03 230⇓ eP Pg 04 59 10.2 -1.6
BRU2 Volcan 1.04 175 Pb 04 59 11.0 -0.8
BRU2 Sn 04 59 25.8 -0.9
BRU2 Volcan 1.04 175⇑ iP Pn 04 59 11.2 -1.1
BRU2 Volcan 1.04 175 eP Pn 04 59 11.1 -1.1
BRU2 eS Sn 04 59 25.0 -1.6
BRU2 Volcan 1.04 175⇓ eP Pn 04 59 11.0 -0.8
BRU2 Volcan 1.04 175 S Sn 04 59 25.2 -1.5
BRU2 Volcan 1.04 175 ⇓P Pb 04 59 11.0 -0.8
TBS2 1.04 173⇑ eP Pg 04 59 10.1 -1.9
TBS2 eS Sg 04 59 23.3 -2.3
TBS2 1.04 173 eP Pg 04 59 10.2 -1.8
VICA Volcano Irazu 1.06 278⇑ eP Pg 04 59 10.6 -1.8
PILE Guapiles 1.07 291⇓ eP Pb 04 59 10.8 -1.4
REPA Paraso 1.07 270⇓ eP Pg 04 59 10.9 -1.8
CARI Cariari 1.08 299⇓ eP Pb 04 59 11.0 -1.5
CHGR2 Aguacate 1.09 145 eP Pg 04 59 12.1 -0.8
CHGR2 eS Sn 04 59 26.6 -1.2
LNBQ3 Los Naranjos, 1.09 162 eP Pb 04 59 11.8 -0.9
CLLRA Cordillera, 1.09 171⇑ eP Pn 04 59 12.2 -0.9
CLLRA eS Sn 04 59 27.6 -0.5
DAP26 falda E V. Bar 1.10 161 eP Pg 04 59 11.7 -1.4
PANP Palmar Norte 1.10 218⇓ eP Pn 04 59 12.4 -0.5
PBNV0 Pueblo Nuevo, 1.10 148⇑ eP Pb 04 59 12.0 -0.8
BQTLY Boquete Panama 1.11 164 eP Pg 04 59 12.2 -1.1
BQTLY eS Sn 04 59 27.5 -1.1
BQTLY Boquete Panama 1.11 164⇓ eP Pb 04 59 12.1 -1.0
OCHAL Ojochal 1.12 230 S Sn 04 59 27.6 -1.1
OCHAL Ojochal 1.12 230 ⇓P Pn 04 59 12.4 -0.9
WILLF Boquete 1.13 163⇓ eP Pb 04 59 12.2 -1.1
TAGO Cartago 1.13 272⇓ eP Pb 04 59 11.8 -1.6
RBALA Bur 1.13 147⇑ eP Pb 04 59 12.1 -1.2
RBALA eS Sn 04 59 27.7 -1.1
RBALA Bur 1.13 147⇑ eP Pb 04 59 12.0 -1.3
BANCO falda S V. Bar 1.13 167⇓ eP Pg 04 59 12.6 -1.2
BQSF3 Alto Boquete, 1.14 163 eP Pg 04 59 12.7 -1.1
BQSF3 eS Sn 04 59 28.0 -1.1
DMCAL E. de Neily 1.16 181⇓ eP Pn 04 59 13.5 -0.3
CVIMO Finca Echandi 1.16 280⇓ eP Pb 04 59 12.5 -1.5
PTAR3 Potrerillos Ar 1.17 166 eP Pn 04 59 13.4 -0.6
JEFFS S de V. Baru 1.18 160 eP Pn 04 59 13.4 -0.7
PIEC Cerro El Cedra 1.18 260⇓ eP Pb 04 59 12.4 -1.9
NELY Ciudad Neily 1.19 188⇓ eP Pn 04 59 13.9 -0.2
TRIO Tres Rios 1.20 274 eP Pb 04 59 12.8 -1.8
LCR2 La Lucha 2 1.21 266 eS Sb 04 59 27.9 -2.6
LCR2 La Lucha 2 1.21 266 eP Pb 04 59 13.1 -1.7
LCR2 eS Sb 04 59 28.2 -2.3
LCR2 La Lucha 2 1.21 266 P Pb 04 59 13.1 -1.7
CORON Coronado 1.22 277⇓ eP Pb 04 59 13.6 -1.2
PSOM3 Paja de Sombre 1.23 158 eP Pn 04 59 14.2 -0.6
EDAD Golfito 1.23 198⇓ eP Pn 04 59 13.9 -0.9
PITB Pirrs, San 1.24 262⇓ eP Pb 04 59 13.5 -1.8
RAZU San Marcos de 1.24 262⇓ eP Pb 04 59 13.5 -1.8
CDITO Canoas 1.25 184 S Sn 04 59 33.2 +1.4
CDITO Canoas 1.25 184 ⇓P Pg 04 59 15.0 -1.0
FITO Golfito 1.26 197⇓ eP Pb 04 59 14.2 -1.2
ECI Escuela Centro 1.26 275 eP Pn 04 59 14.0 -1.3
SJS3 Mercedes San J 1.26 275⇓ eP Pn 04 59 14.2 -1.1
SJS Escuela Geolog 1.26 275⇓ eP Pn 04 59 14.2 -1.4
AMPA Desamparados 1.27 166 eP Pn 04 59 13.7 -1.7
TIBA Tibas 1.28 276 eP Pn 04 59 14.6 -1.1
CENT San Jose 1.29 274 eP Pn 04 59 15.2 -0.4
LPPC Paso Canoas 1.29 183 eP Pg 04 59 15.4 -1.4
DOMI Santo Domingo 1.30 277⇓ eP Pn 04 59 15.1 -0.8
HDC Heredia 1.33 277 Pn 04 59 15.2 -1.0
HDC Sn Sb 04 59 32.0 -1.7
HDC Heredia 1.33 277⇑ eP Pn 04 59 15.0 -1.2
HDC Heredia 1.33 277 eP Pn 04 59 15.2 -1.0
HDC eS Sb 04 59 32.2 -1.5
HEME Heredia, Merce 1.35 277 eP Pb 04 59 16.6 -0.5
LLNJ Naranjito 1.35 255⇓ eP Pn 04 59 15.9 -0.5
ACOS Acosta 1.37 269⇓ eP Pn 04 59 15.4 -1.3
SARA Sarapiqu 1.37 297⇓ eP Pn 04 59 15.2 -1.5
KKNTU Kakint[2] 1.38 136⇓ eP Pn 04 59 16.3 -0.5
KKNTU eS Sg 04 59 35.0 -1.2
KKNTU Kakint[2] 1.38 136 eP Pn 04 59 15.9 -0.9
BAGA3 Bagala, Chiriq 1.39 170 eP Pg 04 59 17.7 -0.7
SANTA Santa Ana 1.39 274 eP Pn 04 59 15.8 -1.3
BELE Belen 1.40 276 eP Pn 04 59 16.1 -1.0
PICV PH. Pirrs 1.41 262⇓ eP Pn 04 59 16.1 -1.2
LESP3 La Esperanza, 1.42 180 eP Pg 04 59 17.7 -1.5
QUEP Quepos 1.42 254⇓ eP Pn 04 59 16.4 -1.0
QUEP Quepos 1.42 254 ⇓P Pn 04 59 16.7 -0.7
DVD David 1.43 167 eP Pg 04 59 18.1 -1.2
SVQ2 Quepos 1.43 254⇓ eP Pn 04 59 16.6 -0.9
CGUAY Guayabal, Coch 1.43 163⇑ eP Pb 04 59 17.6 -0.7
CGUAY eS Sg 04 59 37.8 -0.2
CGUAY Guayabal, Coch 1.43 163 eP Pb 04 59 17.5 -0.9
LOMA3 Las Lomas, Chi 1.44 165 eP Pg 04 59 18.5 -1.1
LOCO3 Loma Colorada, 1.46 166 eP Pg 04 59 18.6 -1.3
POAS San Pedro de P 1.46 280 eP Pn 04 59 17.8 -0.3
PAR1A Puntarenas Pro 1.47 261⇓ eP Pn 04 59 17.6 -0.5
VPS5 V. Poas 1.48 284 eP Pn 04 59 17.3 -1.1
PEDE3 Pedregal, Chir 1.48 166 eP Pg 04 59 19.0 -1.4
VPS8 V Poas 1.48 284 eP Pn 04 59 17.4 -1.1
CHIR3 Chiriqui UPA, 1.50 163⇑ iP Sg 04 59 19.1 -1.5
CHIR3 eS Sg 04 59 38.5 -1.6
CHIR3 Chiriqui UPA, 1.50 163 eP Pg 04 59 19.2 -1.5
ARTO Ro Cuarto 1.50 290⇑ eP Pn 04 59 17.3 -1.3
PURI Puriscal 1.51 271⇓ eP Pn 04 59 18.1 -0.6
TCS1 Tacares 1.51 278⇑ eP Pn 04 59 18.1 -0.6
TCS1 Tacares 1.51 278 ⇑P Pn 04 59 18.3 -0.5
PIRO Carate, Puerto 1.52 201 Pb 04 59 18.2 -1.7
PIRO Sn Sg 04 59 38.0 -3.0
PIRO Carate, Puerto 1.52 201⇓ eP Pb 04 59 18.4 -1.7
PIRO eS Sg 04 59 39.7 -1.3
PIRO Carate, Puerto 1.52 201 eP Pb 04 59 18.5 -1.5
PIRO eS Sg 04 59 39.0 -2.0
PIRO Carate, Puerto 1.52 201⇓ eP Pb 04 59 18.3 -1.7
PIRO Carate, Puerto 1.52 201 S Sg 04 59 38.9 -2.1
PIRO Carate, Puerto 1.52 201 ⇓P Pb 04 59 18.3 -1.7
GREC Grecia 1.53 279 eP Pn 04 59 18.3 -0.6
ARIEL Armuelles 1.54 183 eP Pg 04 59 20.6 -0.8
SARCI Sarchi 1.57 280 eP Pn 04 59 19.3 -0.1
ATEO Atenas 1.59 275 eP Pn 04 59 19.1 -0.6
ITAL Pital 1.59 293⇑ eP Pn 04 59 18.5 -1.3
NARAN Naranjo de Ala 1.60 280 eP Pn 04 59 19.8 -0.2
PTPM Petroterminale 1.62 184 eP Pb 04 59 20.9 -0.7
ZARE Zarcero 1.63 283⇑ eP Pn 04 59 20.0 -0.4
PALD Palmares 1.65 278⇑ eP Pn 04 59 19.9 -0.7
VPL2 V. Platanar 1.65 287⇑ eP Pn 04 59 19.7 -1.0
RAMO San Ramon 1.68 279 eP Pn 04 59 20.7 -0.5
QUEU Ciudad Quesada 1.70 287 eP Pn 04 59 21.1 -0.2
LMNES Limones 1.72 183⇓ eP Pb 04 59 22.4 -1.0
LMNES eS Sg 04 59 44.6 -2.8
LMNES Limones 1.72 183⇓ eP Pb 04 59 22.4 -1.0
COVE Coope Vega, Sa 1.82 299 ⇑P Pn 04 59 21.6 -1.3
BITO Garabito Jaco 1.83 263 eP Pn 04 59 22.9 -0.1
ARZA Esparza 1.87 275 eP Pn 04 59 23.4 -0.2
NANC3 Nancito, Chiri 1.89 147 eP Pb 04 59 25.0 -1.3
SOCE Pocosol 1.89 287 Pn 04 59 23.3 -0.6
SOCE Sn Sn 04 59 47.7 0.0
SOCE Pocosol 1.89 287⇑ eP Pn 04 59 23.3 -0.6
SOCE Pocosol 1.89 287 ⇑P Pn 04 59 23.3 -0.6
ROBF Roble, Puntare 1.94 275 eP Pn 04 59 24.7 +0.2
CVEJO Cerro Viej 1.97 143⇑ eP Pn 04 59 25.2 +0.3
FORC Fortuna 1.97 289 eP Pn 04 59 24.3 -0.6
VACR Volcan Arenal 1.98 289⇑ eP Pn 04 59 24.1 -0.9
CEDE Laguna Cedeo 2.00 289⇑ eP Pn 04 59 24.9 -0.6
ARE1 Arenal 1 2.01 288⇑ eP Pn 04 59 24.8 -0.7
VARE2 V. Arenal 2.01 288⇑ eP Pn 04 59 24.8 -0.8
REZ Monterrey de S 2.01 290 eP Pn 04 59 25.4 -0.2
ENAS Puntarenas 2.03 274 eP Pn 04 59 26.2 +0.5
TABAC Tabacon 2.07 289 eP Pn 04 59 26.6 +0.3
MTEVE Monteverde 2.08 284 eP Pn 04 59 26.3 -0.2
PAQE Paquera 2.12 270 eP Pn 04 59 27.0 -0.1
CHIK Chiripa 2.18 286 eP Pn 04 59 28.5 +0.5
JTS Las Juntas de 2.19 282 Pn 04 59 27.6 -0.4
JTS Las Juntas de 2.19 282 Pn Pn 04 59 28.1 +0.1
736nm,0.3s,baz=78,slow=20,SNR=732
JTS Sn Sb 04 59 56.9 -1.5
2µm,0.3s,baz=282,slow=18,SNR=29
JTS LR LR 05 00 07.5
comp=Z,654nm,18.5s,baz=99,slow=37
JTS Las Juntas de 2.19 282 eP Pn 04 59 27.9 -0.1
JTS eS Sb 04 59 56.8 -1.6
JTS Las Juntas de 2.19 282⇓ eP Pn 04 59 27.4 -0.6
JTS Las Juntas de 2.19 282 ⇑P Pn 04 59 28.0 -0.1
JUNT Juntas 2.19 282 eP Pn 04 59 27.9 -0.2
QUEB Quebradon, Cot 2.23 291 eP Pn 04 59 27.8 -0.8
TILA Tilaran 2.25 287 eP Pn 04 59 28.1 -0.3
CBL1 Cabuya 2.29 264⇓ eP Pn 04 59 29.2 -0.2
MESA3 La Mesa, Verag 2.30 137 eP Pn 04 59 30.5 +1.0
TIMP Tierras Morena 2.33 289 eP Pn 04 59 29.4 -0.6
TENO El Achiote 2.33 292 eP Pn 04 59 29.7 -0.2
CORNA Casa Canada 2.34 354⇑ eP Pn 04 59 29.0 -1.0
INVE Universidad In 2.34 286 eP Pn 04 59 30.2 +0.1
CNAS Canas 2.35 285 eP Pb 04 59 32.5 -1.6
MOTZ Rio Naranjo 2.41 291 eP Pn 04 59 31.8 +0.8
RSUS3 Rio de Jesus, 2.44 139 eP Pn 04 59 32.5 +1.1
NYURE Nandayure 2.44 274 eP Pn 04 59 31.8 +0.4
STIA3 Santiago, Vera 2.48 134 eP Pn 04 59 33.1 +1.1
CUI Cuipilapa 2.49 289 eP Pn 04 59 31.1 -1.0
VMAR Armenia, Volca 2.50 293 eP Pn 04 59 31.3 -1.0
HORNC Hornillas 2.52 291 eP Pn 04 59 32.6 0.0
COLC Colonia 2.53 289 eP Pn 04 59 31.9 -0.7
MESS Mesas 2.54 291 eP Pn 04 59 32.9 0.0
GMAL Guarumal, Vera 2.56 143 eP Pn 04 59 33.5 +0.4
PLVR Palo Verde 2.58 282 eP Pn 04 59 34.7 +1.1
CRIS3 El Cristo, Coc 2.65 126 eP Pn 04 59 35.6 +1.3
INDI Punta indio, G 2.69 271 S Sb 05 00 12.3 -0.3
INDI Punta indio, G 2.69 271 P Pn 04 59 35.1 +0.3
GPS2 Hotel Rincn d 2.69 290 eP Pn 04 59 34.7 -0.3
GPS1 Guardaparques 2.70 291 eP Pn 04 59 36.1 +1.1
GPS3 Bodega del ICE 2.71 290 eP Pn 04 59 36.4 +1.3
PEJA Penjamo Buenos 2.71 293 eP Pn 04 59 35.4 +0.2
VRLE La Escondida, 2.72 291 eP Pn 04 59 34.7 -0.7
BUAI Buenos Aires 2.72 293 eP Pn 04 59 34.6 -0.7
JUD3 Juan Diaz 3 2.74 277 eP Pn 04 59 36.2 +0.6
ESPN Las Esperanzas 2.78 328 Pn Pn 04 59 35.3 -0.8
ESPN Las Esperanzas 2.78 328⇑ eP Pn 04 59 35.0 -1.2
ESPN Las Esperanzas 2.78 328 P Pn 04 59 35.6 -0.5
ESPN Las Esperanzas 2.78 328 P Pn 04 59 35.1 -1.0
SACU Santa Cruz 2.80 279 eP Pn 04 59 37.6 +1.2
MARI3 Mariato, Verag 2.80 141 eP Pn 04 59 37.8 +1.5
ALIBA Liberia Airpor 2.83 286 eP Pb 04 59 39.7 -2.5
ELI1 Hacienda Flor 2.85 287 eP Pb 04 59 40.0 -2.6
ELI1 Hacienda Flor 2.85 287 P Pb 04 59 40.4 -2.2
PESE3 Pese, Herrera 2.87 132 eP Pn 04 59 39.1 +1.8
SAIC Isla e San And 2.88 21 P Pn 04 59 37.1 -0.4
BCIP Isla Barro Col 2.98 103 Pn 04 59 38.9 +0.1
BCIP Isla Barro Col 2.98 103 eP Pn 04 59 39.2 +0.4
BCIP Isla Barro Col 2.98 103 eP Pn 04 59 38.8 +0.1
BCIP eS Sn 05 00 12.3 -2.0
BCIP Isla Barro Col 2.98 103⇑ eP Pn 04 59 38.6 -0.2
BCIP Isla Barro Col 2.98 103 ⇓P Pn 04 59 38.9 +0.1
BCIP Isla Barro Col 2.98 103 P Pn 04 59 38.6 -0.2
BCIP S Sn 05 00 12.0 -2.3
CHIT3 Chitre 2.99 128 eP Pn 04 59 39.5 +0.5
ZANG Zanguenga, Cho 3.00 107 eP Pn 04 59 39.4 +0.3
ZANG Zanguenga, Cho 3.00 107 eP Pn 04 59 39.0 -0.1
LCRUZ La Cruz 3.07 294 eP Pn 04 59 39.0 -1.1
GAMB1 Gamboa 3.11 103 eP Pn 04 59 40.9 +0.3
GAMB1 Gamboa 3.11 103 eP Pn 04 59 40.7 +0.1
GAMB1 eS Sn 05 00 15.9 -1.7
CACAO El Cacao, Vera 3.12 142 eP Pn 04 59 42.8 +2.1
CHOR3 La Chorrera 3.12 107 eP Pn 04 59 41.6 +0.9
ACON Acoyapa 3.17 312 Pn 04 59 40.1 -1.3
ACON Acoyapa 3.17 312⇑ eP Pn 04 59 39.4 -2.0
ACON Acoyapa 3.17 312 P Pn 04 59 39.8 -1.7
ACON Acoyapa 3.17 312 P Pn 04 59 39.1 -2.3
ARRA3 Arrajian, Pana 3.20 105 eP Pn 04 59 42.8 +1.0
ARRA3 Arrajian, Pana 3.20 105 eP Pn 04 59 42.6 +0.8
AZU Azuero 3.20 129 eP Pn 04 59 42.3 +0.4
AZU Azuero 3.20 129 eP Pb 04 59 46.0 -2.5
OMEN AI SSO del Vol 3.26 301 ⇓P Pn 04 59 38.7 -4.0
CONN Concepcion 3.29 302 ⇓P Pn 04 59 42.5 -0.6
MORN AI O del Volca 3.29 301 ⇓P Pn 04 59 42.7 -0.5
JAPN AI SSO del Vol 3.31 301 eP Pn 04 59 39.7 -3.7
JAPN AI SSO del Vol 3.31 301 P Pn 04 59 39.6 -3.8
UPA Univ. de Panam 3.31 105 eP Pn 04 59 44.2 +0.8
FLAM Flamenco Islan 3.33 106 eP Pn 04 59 44.1 +1.5
TOSH3 Tonosi 3.34 136 eP Pn 04 59 46.2 +2.4
CAZU Cerro Azul, Pa 3.38 100 eP Pn 04 59 44.2 -0.2
PCRI3 Pocri, Los San 3.40 129 eP Pn 04 59 48.1 +3.4
ACHO3 Achotines, Los 3.52 133 eP Pb 04 59 52.0 -2.0
PEDA3 Pedasi 3.56 130 eP Pn 04 59 46.7 -0.1
PRVC Isla de Provid 3.78 21 Pn 04 59 50.4 +0.4
PRVC Isla de Provid 3.78 21 ⇓ iP Pn 04 59 51.5 +1.7
PRVC eS Sn 05 00 31.7 -2.6
PRVC Isla de Provid 3.78 21 eP Pn 04 59 51.6 +1.7
PRVC Isla de Provid 3.78 21 eP Pn 04 59 51.0 +1.1
PRVC Isla de Provid 3.78 21 ⇑P Pn 04 59 49.6 -0.3
PRVC Isla de Provid 3.78 21 P Pn 04 59 50.0 +0.1
BOAB BOACO BROADBAN 3.85 313 Pn 04 59 50.1 -0.6
BOAB BOACO BROADBAN 3.85 313 ⇑P Pn 04 59 49.9 -0.9
NANN Nandasmo 3.89 303 P Pn 04 59 52.2 +0.8
MASN Masaya 3.94 303 P Pb 05 00 01.6 +0.2
MAS3 AI N del Volca 3.98 303 P Pb 05 00 00.8 -1.2
WILN Americas 2 4.07 305 P Pb 05 00 01.4 -2.1
MGAN Managua 4.11 304 Pb 05 00 53.7 -0.7
MGAN Managua 4.11 304 P Pb 05 00 04.8 +0.7
MGAN Managua 4.11 304 P Pn 04 59 54.9 +0.5
UNAN Cigeo UNAN 4.11 304 P Pn 04 59 58.1 +3.7
R4DEC Barrio San Lui 4.11 304 P Pb 05 00 03.1 -1.1
APQ2 Apoyeque 4.20 304 P Pn 04 59 57.6 +1.9
BILN Bilwi Airport 4.23 352 Pn 04 59 55.7 -0.3
BILN Bilwi Airport 4.23 352⇑ eP Pn 04 59 55.5 -0.5
BILN Bilwi Airport 4.23 352 P Pn 04 59 56.1 0.0
SAPS Ciudad Sandino 4.25 303 P Pn 04 59 56.3 -0.1
APQ3 Volcan Apoyequ 4.28 305 P Pn 04 59 56.3 -0.5
SIUN Universidad Ur 4.33 333 Pn 04 59 56.3 -1.1
MATN Matagalpa 4.36 315 P Pn 04 59 57.2 -0.7
COPN Copaltepe 4.41 302 eP Pn 04 59 57.2 -1.4
COPN Copaltepe 4.41 302 P Pn 04 59 57.0 -1.5
MOM2 El Cardon 4.46 306 P Pn 04 59 58.9 -0.4
TOTI Torti 4.50 101 eP Pn 05 01 01.8 +2.1
RNCC Cayo Roncador, 4.56 35 P Pn 05 00 01.0 +0.5
CNGA AI SSO del Vol 4.67 305 P Pn 05 00 03.4 +1.3
CNGN Cerro Negro 4.67 305 Pn 05 00 02.6 +0.4
CNGN Cerro Negro 4.67 305 eP Pn 05 00 03.2 +1.0
CNGN Cerro Negro 4.67 305 P Pn 05 00 03.6 +1.5
CNGN Cerro Negro 4.67 305 P Pn 05 00 03.2 +1.0
RCPN Sur Rio San Ju 4.90 319 P Pn 05 00 05.7 +0.3
PKGN Cerro Pekin 4.99 305 P Pn 05 00 07.4 +0.9
RCVN Varillal2 5.01 318 P Pn 05 00 06.9 0.0
RCVN Varillal2 5.01 318 S Sn 05 01 05.0 +0.2
SERC Banco Serrana, 5.02 28 P Pn 05 00 02.6 -4.2
OCON Estacion meteo 5.23 317 P Pn 05 00 10.6 +0.7
CNCH Conchagua 6.02 305 P Pn 05 00 24.8 +4.0
TGUH Tegucigalpa,Un 6.08 314 Pn 05 00 21.2 -0.4
TGUH Tegucigalpa,Un 6.08 314 P Pn 05 00 22.0 +0.4
TGUH Tegucigalpa,Un 6.08 314 P Pn 05 00 21.3 -0.4
7µm74.8nm,0.9s
SOLC Bahia Solano 6.41 124 P Pn 05 00 28.9 +2.9
APAC Apartado, Choc 6.42 107 P Pn 05 00 29.1 +2.9
1µm147nm,0.6s
PACA Pacayal 6.52 304 P Pn 05 00 30.0 +2.2
TECO Alcaldia de Te 6.94 303 P Pn 05 00 34.9 +1.6
SCLA Alcaldia de Sa 6.98 304 P Pn 05 00 35.1 +1.1
DBBC Dabeiba 7.07 113 P Pn 05 00 36.7 +1.5
UREC San Jos de Ur 7.45 106 eP Pn 05 00 43.3 +2.9
UREC San Jos de Ur 7.45 106 P Pn 05 00 41.8 +1.4
847nm40nm,0.6s
PMON Piamonte 7.47 302 P Pn 05 00 40.2 -0.5
SJCC San Jacinto, C 7.49 89 eP Pn 05 00 42.5 +1.6
SJCC eS Sn 05 02 01.3 -4.5
SJCC San Jacinto, C 7.49 89 P Pn 05 00 42.8 +1.9
SJCC S Sn 05 02 03.1 -2.7
SJCC San Jacinto, C 7.49 89 P Pn 05 00 41.8 +0.9
3µm133nm,0.5s
JAYA Jayaque - finc 7.56 301 P Pn 05 00 43.4 +1.5
CEVE Cerro Verde 7.79 301 P Pn 05 00 49.1 +3.9
MTO3 Montecristo 7.88 306 Pn 05 00 47.1 +0.7
MTO3 Montecristo 7.88 306 P Pn 05 00 46.8 +0.4
NUBE Las Nubes 7.96 301 P Pn 05 00 50.8 +3.3
HELC Santa Helena 8.04 116 eP Pn 05 00 52.1 +3.4
HELC Santa Helena 8.04 116 P Pn 05 00 50.6 +1.8
HELC Santa Helena 8.04 116 P Pn 05 00 49.7 +1.0
19nm,0.7s
ARGC Ariguani, Magd 8.41 89 P Pn 05 00 55.4 +1.9
73nm,0.5s
SMRC Santa Marta, M 8.52 80 Pn 05 00 54.4 -0.5
SMRC Santa Marta, M 8.52 80 P Pn 05 00 54.1 -0.9
180nm,0.5s
YOTC Yotoco, Valle 8.63 132 P Pn 05 00 58.2 +1.5
14nm,1.0s
GUY2C Guyana, Caldas 8.66 121 P Pn 05 01 01.0 +3.7
29nm,0.7s
PTBC PUERTO BERRIO, 8.86 111 P Pn 05 01 00.5 +0.8
141nm10nm,0.7s
POPC Popayan, Colom 9.45 140 P Pn 05 01 09.9 +1.9
306nm18nm,0.9s
OCAC Ocana 9.47 99 P Pn 05 01 08.4 +0.1
833nm89nm,0.6s
BBAC Balboa, Cauca 9.51 144 P Pn 05 01 11.1 +2.3
31nm,0.9s
ORTC Ortega, Tolima 9.51 128 P Pn 05 01 12.1 +3.4
493nm24nm,1.0s
SPBC San Pablo de B 9.57 115 P Pn 05 01 13.3 +3.7
16nm,1.0s
ROSC El Rosal 9.74 120 Pn Pn 05 01 13.6 +1.4
ROSC El Rosal 9.74 120 Pn Pn 05 01 14.1 +1.9
0.4nm,0.3s,baz=134,slow=23,SNR=1.5
ROSC LR LR 05 05 42.9
comp=Z,654nm,20.1s,baz=350,slow=42
4.1nm,0.6s
ROSC El Rosal 9.74 120 P Pn 05 01 26.7 +15
MTDJ Mount Denham 9.77 31 Pn Pn 05 01 14.5 +2.2
MTDJ Mount Denham 9.77 31 eP Pn 05 01 14.8 +2.6
MTDJ Mount Denham 9.77 31 P Pn 05 01 14.8 +2.6
MTDJ Mount Denham 9.77 31 P Pn 05 01 14.0 +1.7
39nm,1.2s
CRJC Cerrejon, Guaj 9.80 82 P Pn 05 01 10.6 -2.1
689nm36nm,0.6s
PETF Flores 9.85 316 Pn 05 01 13.8 +0.5
PRAC Prado 9.91 127 P Pn 05 01 14.6 +0.4
PRAC Prado 9.91 127 P Pn 05 01 17.2 +3.0
17nm,1.0s
BARC Barichara 10.03 108 P Pn 05 01 17.7 +1.8
HUEH Huehuetenango 10.11 304 Pn Pn 05 01 17.4 +0.4
GCUF Volcan Galeras 10.11 147 P Pn 05 01 21.6 +4.3
44nm,1.3s
PAMC Pamplona, Colo 10.27 103 P Pn 05 01 21.5 +2.0
TULM Tulcn-Chalpat 10.33 151 P Pn 05 01 23.5 +3.2
442nm49nm,1.2s
RUSC La Rusia 10.37 111 Pn 05 01 21.9 +1.0
RUSC La Rusia 10.37 111 P Pn 05 01 21.8 +1.0
RUSC La Rusia 10.37 111 P Pn 05 01 21.6 +0.8
21nm,1.1s
OTAV Otavalo 10.46 155 P Pn 05 01 21.8 -0.2
OTAV Otavalo 10.46 155 eP Pn 05 01 22.3 +0.2
OTAV Otavalo 10.46 155 P Pn 05 01 25.4 +3.4
13nm,0.9s
URMC La Uribe, Meta 10.60 128 P Pn 05 01 23.1 -0.5
17nm,1.2s
VILC Villavicencio, 10.66 122 P Pn 05 01 27.9 +3.4
412nm46nm,0.6s
BONI La Bonita 10.68 150 P Pn 05 01 36.4 +11
URIC Uribia, Colomb 10.76 79 P Pn 05 01 23.8 -1.9
523nm27nm,0.6s
URI Uribia 10.76 79 P Pn 05 01 24.7 -1.1
URI S Sn 05 03 20.0 -6.2
FLOC Florencia 10.83 139 Pn Pn 05 01 28.1 +1.3
FLOC Florencia 10.83 139 P Pn 05 01 29.0 +2.2
FLOC Florencia 10.83 139 P Pn 05 01 29.7 +2.9
34nm,1.3s
CCIG Comitan 11.14 306 P Pn 05 01 30.9 -0.2
PPLP Puerto Lpez 11.48 170 P Pn 05 01 40.5 +4.9
29nm,1.1s
LMGC Las Mercedes 11.60 28 eP Pn 05 01 38.9 +1.7
TEIG Tepich 11.62 333 Pn Pn 05 01 37.8 +0.4
TEIG Tepich 11.62 333 Pn Pn 05 01 36.6 -0.8
baz=309,slow=24,SNR=1.8
TEIG Sn Sn 05 03 46.7 -0.4
baz=312,slow=24,SNR=2.1
TEIG Tepich 11.62 333 P Pn 05 01 37.9 +0.4
TEIG Tepich 11.62 333 P Pn 05 01 37.3 -0.1
37nm,0.9s
MACC Macarena, Meta 11.71 130 P Pn 05 01 40.5 +1.7
17nm,1.2s
SDV Santo Domingo 12.02 93 Pn 05 01 42.8 -0.4
SDV Santo Domingo 12.02 93 Pn Pn 05 01 44.2 +1.1
1.1nm,0.3s,baz=262,slow=8.5,SNR=5.0
SDV Sn Sn 05 03 51.4 -6.0
11nm,0.3s,baz=343,slow=15,SNR=10
SDV LR LR 05 08 22.9
comp=Z,349nm,18.4s,baz=259,slow=47
5.5nm,0.3s
SDV Santo Domingo 12.02 93 eP Pn 05 01 43.8 +0.5
SDV Santo Domingo 12.02 93 P Pn 05 01 44.3 +1.1
60nm,0.7s
MARV5 Santiago de Cu 12.09 33 eP Pn 05 01 47.7 +3.7
RCC Rio Carpintero 12.20 33 eP Pn 05 01 47.8 +2.4
GTBY Guantanamo Bay 12.47 36 eP Pn 05 01 55.6 +6.4
GTBY Guantanamo Bay 12.47 36 P Pn 05 01 50.9 +1.8
16nm,0.6s
MGV Manicaragua 12.50 12⇓ eP Pn 05 01 50.6 +1.1
PINC Pinares de May 12.55 32 eP Pn 05 01 53.3 +3.1
COHC Cochancay 12.71 164 P Pn 05 01 57.2 +4.7
18nm,0.8s
HLGC Holguin 12.76 30⇓ eP Pn 05 01 57.0 +4.0
QMBU Quimbuelo 12.86 36 eP Pn 05 01 58.3 +3.9
SOR Soroa 12.89 359 Pn 05 01 56.8 +1.9
SOR Soroa 12.89 359 eP Pn 05 01 55.6 +0.7
MASC Masc 13.18 38 eP Pn 05 02 01.3 +2.4
CAMR Camarioca 13.22 6 Pn Pn 05 02 02.3 +2.9
CAMR Camarioca 13.22 6 eP Pn 05 02 03.3 +3.9
CMIG Matias Romero 13.80 303 Pn 05 02 06.1 -1.3
CMIG Matias Romero 13.80 303 Pn Pn 05 02 06.1 -1.3
2.2nm,0.6s,baz=124,slow=13,SNR=5.9
SDDR Presa de Saban 14.37 49 Pn Pn 05 02 15.1 0.0
MCRA Macar, Loja 14.39 169 P P 05 02 26.5 +4.1
21nm,1.0s
BAUV El Baul 14.57 92 Pn 05 02 16.1 -1.8
ATAH Atahualpa 17.41 165 LR LR 05 09 03.8
comp=Z,340nm,20.5s,baz=0.6,slow=35
PCRV Puerto La Cruz 17.87 87 P Pn 05 03 00.9 +0.5
6.8nm,0.7s,baz=222,slow=5.9,SNR=12
PCRV S Sn 05 06 12.8 -6.9
5.1nm,0.8s,baz=203,slow=21,SNR=1.6
PCRV LR LR 05 12 31.0
comp=Z,526nm,18.1s,slow=46
SJG San Juan 18.10 61 Pn Pn 05 03 02.3 -0.9
SJG San Juan 18.10 61 P Pn 05 03 03.2 0.0
8.8nm,0.7s,baz=245,slow=10,SNR=3.7
SJG LR LR 05 08 49.3
comp=Z,258nm,21.2s,baz=253,slow=33
SJG San Juan 18.10 61 P P 05 03 04.9 +1.4
13nm,0.9s
SGC2 Sao Gabriel da 18.59 121 P Pn 05 03 09.9 +0.7
CZSB Cruzeiro do Su 20.13 150 P Pn 05 03 26.8 -0.8
CZSB Cruzeiro do Su 20.13 150 eP Pn 05 03 26.4 -1.2
451A Vernon 20.86 353 P P 05 03 34.5 +0.9
TIGA Tifton 21.51 358 P P 05 03 41.1 +0.5
TIGA IAmb IAmb 05 03 44.1
comp=Z,63nm,1.2s
BRAL Brewton 21.60 350 P P 05 03 41.8 +0.3
BRAL IAmb IAmb 05 03 48.0
comp=Z,53nm,0.9s
352A Blakely 21.63 355 P P 05 03 43.1 +1.2
352A IAmb IAmb 05 03 45.5
comp=Z,58nm,1.0s
TEFE Tefe 22.41 125 eP P 05 03 51.3 +0.8
BOAV Boa Vista 23.32 107 P 05 03 59.9 0.0
**BOAV Boa Vista 23.32 107 eP P

PLAL	**Pickwick Lake**	**25.50**	**350**		**P**	**05 04 21.1**	**+1.2**
PLAL				IAmb	IAmb	05 04 24.2	
	comp=Z,25nm,1.0s						
MACA	**Manacapuru-AM**	**25.52**	**119**	P	**P**	**05 04 20.8**	**+0.4**
MACA	**Manacapuru-AM**	**25.52**	**119**	*eP*	**P**	**05 04 21.1**	**+0.7**
CPCT	**Cooper Cave**	**25.55**	**357**	P	**P**	**05 04 22.0**	**+1.6**
CPCT				IAmb	IAmb	05 04 25.2	
	comp=Z,33nm,0.9s						
TKL	**Tuckaleechee C**	**25.72**	**358**	LR	LR	05 15 04.2	
	comp=Z,429nm,18.6s,baz=182,slow=38						
UALR	**University of**	**26.32**	**342**	IAmb	IAmb	05 04 29.1	
	comp=Z,23nm,0.9s						
MIAR	**Mount Ida**	**26.51**	**340**	IAmb	IAmb	05 04 45.6	
	comp=Z,16nm,1.1s						
WHAR	**Wooly Hollow**	**26.79**	**343**	IAmb	IAmb	05 04 33.2	
	comp=Z,32nm,0.8s						
Z35A	**Perchaven, San**	**26.92**	**332**	IAmb	IAmb	05 04 37.2	
	comp=Z,18nm,0.8s						
PLPT	**Palo Pinto**	**26.99**	**330**	IAmb	IAmb	05 04 41.9	
	comp=Z,29nm,1.3s						
FCAR	**Ozark Folk Cen**	**27.30**	**343**	IAmb	IAmb	05 04 37.6	
	comp=Z,22nm,0.9s						
T47A	**Sharon Grove**	**27.32**	**352**	IAmb	IAmb	05 04 38.6	
	comp=Z,20nm,1.2s						
TXAR	**Lajitas Array**	**27.54**	**318**	P	**P**	**05 04 38.2**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=131,slow=9.4,SNR=10.0						
TXAR				LR	LR	05 17 48.8	
	comp=Z,75nm,21.2s,baz=118,slow=42						
	comp=Z,1.0nm,0.8s						
CGM3	**Cape Girardeau**	**28.04**	**348**	IAmb	IAmb	05 04 44.8	
	comp=Z,15nm,1.0s						
R50A	**Paris**	**28.36**	**357**	IAmb	IAmb	05 04 48.5	
	comp=Z,20nm,1.1s						
R49A	**Shelbyville**	**28.42**	**356**	IAmb	IAmb	05 04 48.5	
	comp=Z,18nm,0.8s						
WCI	**Wyandotte Cave**	**28.45**	**354**	P	**P**	**05 04 47.2**	**+0.7**
WCI				IAmb	IAmb	05 04 48.7	
	comp=Z,16nm,0.8s						
FVM	**French Village**	**28.86**	**347**	IAmb	IAmb	05 04 52.1	
	comp=Z,15nm,1.2s						
OK052	**Battle Ridge R**	**29.00**	**336**	IAmb	IAmb	05 04 52.1	
	comp=Z,11nm,0.9s						
CCM	**Cathedral Cave**	**29.12**	**346**		**P**	**05 04 52.7**	**+0.3**
CCM				IAmb	IAmb	05 04 53.8	
	comp=Z,16nm,0.8s						
OLIL	**Olney**	**29.17**	**351**	IAmb	IAmb	05 04 55.0	
	comp=Z,33nm,1.2s						
BLO	**Bloomington**	**29.41**	**354**	IAmb	IAmb	05 04 57.0	
	comp=Z,12nm,0.8s						
P52A	**Corning**	**29.68**	**1**	IAmb	IAmb	05 05 00.2	
	comp=Z,24nm,0.9s						
LPAZ	**La Paz**	**29.73**	**151**	P	**P**	**05 04 59.8**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=292,slow=0.9,SNR=2.0						
	comp=Z,0.5nm,0.7s						
LPIG	**La Paz**	**29.83**	**302**	LR	LR	05 18 08.9	
	comp=Z,94nm,20.3s,baz=124,slow=39						
O52A	**Adamsville**	**30.17**	**1**	IAmb	IAmb	05 05 04.6	
	comp=Z,19nm,1.2s						
MDP	**Montagnes des**	**30.24**	**97**	LR	LR	05 17 35.6	
	comp=Z,68nm,20.3s,baz=294,slow=37						
ITTB	**Itaituba**	**30.41**	**116**	*eP*	**P**	**05 05 04.8**	**+0.6**
SSPA	**Standing Stone**	**30.98**	**7**	P	**P**	**05 05 10.3**	**+1.4**
SSPA				IAmb	IAmb	05 05 12.4	
	comp=Z,22nm,1.2s						
NPGB	**Novo Progresso**	**32.05**	**121**	*eP*	**P**	**05 05 19.0**	**+0.4**
RTBA	**Rita Blanca**	**32.08**	**329**	IAmb	IAmb	05 05 33.1	
	comp=Z,8.6nm,0.8s						
ANMO	**Albuquerque**	**33.05**	**323**	P	**P**	**05 05 27.2**	**-0.2**
ANMO	**Albuquerque**	**33.05**	**323**	LR	LR	05 20 31.9	
	comp=Z,83nm,20.0s,baz=248,slow=40						
SIV	**San Ignacio**	**33.47**	**140**	LR	LR	05 20 16.2	
	comp=Z,160nm,18.8s,baz=307,slow=38						
PDRB	**Porto dos Gac**	**33.53**	**129**	*eP*	**P**	**05 05 32.0**	**+0.4**
CLDB	**Colider**	**33.81**	**127**	*eP*	**P**	**05 05 34.5**	**+0.5**
PTLB	**Pontes e Lacer**	**34.34**	**137**	*eP*	**P**	**05 05 39.2**	**+0.6**
PV02	**Paradox Valley**	**36.63**	**325**	IAmb	IAmb	05 06 15.7	
	comp=Z,30nm,1.6s						
TRQ	**Mont Tremblant**	**36.94**	**10**	P	**P**	**05 06 01.7**	**+1.0**
SALV	**Santo Antonio**	**37.05**	**133**	*eP*	**P**	**05 06 02.4**	**+0.5**
RSSD	**Black Hills**	**38.81**	**335**	P	**P**	**05 06 16.6**	**-0.1**
PFO	**Pinyon Flats O**	**38.94**	**313**	LR	LR	05 23 51.2	
	comp=Z,150nm,19.6s,baz=95,slow=39						
LMQ	**La Malbaie**	**39.04**	**13**	IAmb	IAmb	05 06 21.4	
	comp=Z,21nm,1.0s						
E28A	**Huff**	**39.67**	**341**	IAmb	IAmb	05 06 24.3	
	comp=Z,16nm,0.8s						
PDAR	**Pinedale Array**	**40.30**	**329**	P	**P**	**05 06 28.1**	**-1.1**
	comp=Z,1.3nm,1.0s,baz=144,slow=10,SNR=8.2						
PDAR				LR	LR	05 25 21.8	
	comp=Z,72nm,21.9s,baz=118,slow=40						
	comp=Z,1.3nm,1.0s						
MDND	**Maddock**	**40.47**	**343**		**P**	**05 06 29.9**	**-0.3**
HWUT	**Hardware Ranch**	**40.54**	**326**		**P**	**05 06 30.4**	**-0.7**
ULM	**Lac du Bonnet**	**41.73**	**347**	LR	LR	05 25 18.2	
	comp=Z,110nm,18.6s,baz=149,slow=38						
TPH	**Tonopah**	**41.79**	**318**	P	**P**	**05 06 40.6**	**-0.9**
ELK	**Elko**	**42.09**	**323**	LR	LR	05 28 24.4	
	comp=Z,120nm,18.3s,baz=137,slow=42						
DGMT	**Dagmar**	**42.51**	**339**		**P**	**05 06 46.9**	**-0.1**
DGMT				IAmb	IAmb	05 06 56.2	
	comp=Z,23nm,0.8s						
NVAR	**Mina Array Bea**	**42.70**	**318**	P	**P**	**05 06 46.9**	**-2.0**
	comp=Z,1.3nm,0.7s,baz=128,slow=6.6,SNR=14						
NVAR				LR	LR	05 27 24.2	
	comp=Z,104nm,19.5s,baz=133,slow=40						
	comp=Z,1.3nm,0.7s						
BDFB	**Brasilia**	**42.73**	**126**	P	**P**	**05 06 49.8**	**+0.5**
	comp=Z,4.0nm,0.9s,baz=222,slow=9.7,SNR=4.3						
BDFB				LR	LR	05 26 21.6	
	comp=Z,209nm,19.2s,baz=317,slow=39						
	comp=Z,4.0nm,0.9s						
CPUP	**Villa Florida**	**43.63**	**146**	LR	LR	05 26 54.7	
	comp=Z,31nm,18.2s,baz=172,slow=38						
IPMB	**Ipameri, GO**	**43.92**	**129**	*eP*	**P**	**05 06 58.2**	**-0.6**
RPN	**Rapa Nui**	**44.87**	**214**	LR	LR	05 21 55.2	
	comp=Z,192nm,19.8s,baz=63,slow=31						
WVOR	**Wild Horse Val**	**45.14**	**322**	IAmb	IAmb	05 07 18.7	
	comp=Z,24nm,1.7s						
FRTB	**Fartura**	**46.29**	**136**	*eP*	**P**	**05 07 18.3**	**+0.8**
YBH	**Yreka Blue Hor**	**47.30**	**319**	LR	LR	05 29 51.3	
	comp=Z,13nm,20.1s,baz=128,slow=39						
FFC	**Flin Flon**	**47.31**	**345**	P	**P**	**05 07 24.6**	**-0.4**
FFC				IAmb	IAmb	05 07 25.6	
	comp=Z,7.6nm,1.0s						
NEW	**Newport**	**47.94**	**329**	LR	LR	05 29 38.0	
	comp=Z,109nm,21.7s,baz=126,slow=39						
RCBR	**Riachuelo**	**49.22**	**106**	LR	LR	05 30 52.4	
	comp=Z,85nm,18.1s,baz=36,slow=39						
PLCA	**Paso Flores**	**51.56**	**168**	P	**P**	**05 07 58.0**	**+0.2**
PLCA	**Paso Flores**	**51.56**	**168**	P	**P**	**05 07 57.5**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=307,slow=8.9,SNR=5.8						
	comp=Z,3.1nm,0.9s						
PLCA	**Paso Flores**	**51.56**	**168**	*eP*	**P**	**05 07 58.4**	**+0.6**
FRB	**Frobisher Bay**	**54.77**	**8**	LR	LR	05 32 06.5	
	comp=Z,267nm,18.8s,baz=195,slow=36						
BBB	**Bella Bella**	**55.93**	**328**	LR	LR	05 35 55.4	
	comp=Z,98nm,18.1s,baz=108,slow=40						
YKA	**Yellowknife Ar**	**57.38**	**343**	P	**P**	**05 08 39.8**	**+0.1**
	comp=Z,4.1nm,0.9s,baz=136,slow=6.9,SNR=6.1						
YKA				LR	LR	05 34 14.0	
	comp=Z,91nm,19.6s,baz=138,slow=37						
	comp=Z,4.1nm,0.9s						
SFJD	**Kangerlussuaq**	**61.06**	**14**	LR	LR	05 36 13.6	
	comp=Z,155nm,19.2s,baz=217,slow=37						
RES	**Resolute Bay**	**65.19**	**356**	LR	LR	05 39 22.2	
	comp=Z,267nm,18.2s,baz=168,slow=37						
INK	**Inuvik**	**67.09**	**342**	P	**P**	**05 09 45.2**	**+0.5**
INK				IAmb	IAmb	05 09 46.8	
	comp=Z,12nm,1.3s						
INK	**Inuvik**	**67.09**	**342**	LR	LR	05 41 37.6	
	comp=Z,75nm,18.0s,baz=108,slow=38						
DOT	**Dot Lake**	**68.71**	**335**	P	**P**	**05 09 56.0**	**+1.0**
BORG	**Borgarnes**	**69.19**	**24**	LR	LR	05 39 56.6	
	comp=Z,58nm,18.8s,baz=257,slow=36						
J25K	**Salcha River,**	**69.59**	**336**	IAmb	IAmb	05 10 06.8	
	comp=Z,8.9nm,1.4s						
ILAR	**Eielson Array**	**70.26**	**336**	P	**P**	**05 10 04.8**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=136,slow=4.5,SNR=6.8						
ILAR				LR	LR	05 44 14.8	
	comp=Z,80nm,18.2s,baz=98,slow=39						
	comp=Z,0.9nm,0.8s						
RND	**Reindeer**	**70.65**	**334**	P	**P**	**05 10 07.5**	**+0.5**
KDAK	**Kodiak Island**	**71.00**	**328**	LR	LR	05 43 29.5	
	comp=Z,66nm,18.4s,baz=95,slow=38						
PPT	**Papeete**	**71.37**	**248**	LR	LR	05 34 48.4	
	comp=Z,156nm,18.2s,baz=189,slow=30						
MLY	**Manley**	**71.91**	**336**		**P**	**05 10 15.3**	**+0.7**
ESDC	**Sonseca Array**	**75.20**	**52**		**P**	**05 10 35.6**	**+1.1**
ESDC	**Sonseca Array**	**75.20**	**52**	P	**P**	**05 10 35.6**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=283,slow=6.1,SNR=11						
ESDC				LR	LR	05 37 48.3	
	comp=Z,45nm,21.8s,baz=223,slow=31						
	comp=Z,1.1nm,0.7s						
PMSA	**Palmer Station**	**75.72**	**172**	*eP*	**P**	**05 10 37.5**	**+0.8**
EKA	**Eskdalemuir Ar**	**76.07**	**35**	P	**P**	**05 10 39.4**	**+0.3**
EKA	**Eskdalemuir Ar**	**76.07**	**35**	P	**P**	**05 10 39.4**	**+0.3**
	comp=Z,7nm,0.7s,baz=265,slow=5.8,SNR=2.0						
	comp=Z,0.7nm,0.7s						
SPITS	**Spitsbergen Ar**	**82.32**	**12**	LR	LR	05 49 09.9	
	comp=Z,139nm,19.3s,baz=280,slow=37						
TORD	**Torodi Ar. Bea**	**82.48**	**78**	P	**P**	**05 11 15.7**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=343,slow=4.6,SNR=3.6						
	comp=Z,0.4nm,0.8s						
NOA	**NORSAR Array B**	**83.41**	**29**	LR	LR	05 46 32.3	
	comp=Z,35nm,20.3s,baz=270,slow=34						
DAVOX	**Davos/Dischmat**	**84.73**	**44**	LR	LR	05 45 24.8	
	comp=Z,34nm,18.6s,baz=263,slow=33						
HFS	**Hagfors**	**84.76**	**30**	LR	LR	05 44 24.1	
	comp=Z,37nm,21.8s,baz=292,slow=32						
GERES	**GERESS Array B**	**86.91**	**41**	LR	LR	05 43 43.4	
	comp=Z,50nm,21.9s,baz=268,slow=31						
ARCES	**ARCESS Array B**	**87.13**	**20**	LR	LR	05 47 05.6	
	comp=Z,37nm,21.6s,baz=313,slow=33						
VRAC	**Vranov**	**88.67**	**40**	LR	LR	05 48 13.0	
	comp=Z,57nm,18.3s,baz=274,slow=33						
VAE	**Valguarnera**	**89.73**	**52**	LR	LR	05 45 56.9	
	comp=Z,53nm,19.6s,baz=316,slow=32						
FINES	**FINESS Array B**	**90.24**	**27**	LR	LR	05 50 20.0	
	comp=Z,38nm,18.3s,baz=330,slow=34						
MLR	**Muntele Rosu**	**95.85**	**42**	LR	LR	05 57 28.0	
	comp=Z,26nm,18.2s,baz=252,slow=37						
AKASG	**Malin Array Be**	**95.96**	**36**	LR	LR	05 52 30.4	
	comp=Z,61nm,20.0s,baz=245,slow=34						
TIXI	**Tiksi**	**96.02**	**350**	LR	LR	05 58 52.2	
	comp=Z,77nm,19.2s,baz=19,slow=38						
SEY	**Seymchan**	**96.12**	**338**	LR	LR	05 59 58.4	
	comp=Z,35nm,19.0s,baz=79,slow=38						
MA2	**Magadan**	**98.74**	**336**	LR	LR	06 00 04.7	
	comp=Z,37nm,21.9s,baz=92,slow=37						
PETK	**Petropavlovsk-**	**99.06**	**328**	LR	LR	06 02 03.9	
	comp=Z,20nm,18.1s,baz=85,slow=38						
WMQ	**Urumqi**	**125.90**	**9**	*e*PKP	**PKPdf**	**05 17 51.9**	**-2.1**
WMQ				LR	LR		
	comp=Z,110nm,23.7s						
HHC	**Hu-ho-hao-te**	**127.86**	**346**	*eP*	**PKPdf**	**05 17 55.4**	**-2.5**
NJ2	**Nanjing**	**133.50**	**334**	*eP*	**PKiKP**	**05 18 09.8**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ASAR	**Alice Springs**	**142.41**	**244**	PKP	**PKPdf**	**05 18 23.7**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=94,slow=3.3,SNR=4.3						
WRA	**Warramunga Arr**	**142.83**	**250**	PKP	**PKPdf**	**05 18 26.1**	**0.0**
	comp=Z,1.0nm,0.5s,baz=95,slow=2.8,SNR=5.2						
PZH	**PanZhiHua**	**143.62**	**353**	P	PKPbc	05 18 26.3	+1.5
CMAR	**Chiang Mai Arr**	**151.84**	**357**	PKPbc	**PKPbc**	**05 18 46.9**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=334,slow=2.8,SNR=13						
CMAR				PKPab	**sPKPbc**	**05 18 54.2**	**+0.8**
	comp=Z,4.3nm,0.9s,baz=334,slow=3.2,SNR=9.4						

TRN 18 05:14:13.9, 16.66N×61.79W, h108km, MD3.6, South of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHSZ	**Broadband at M**	**0.39**	**177**	*eP*		Pn	05 14 31.0	+1.1
DHSZ				*eS*		Sn	05 14 43.0	+1.2
ATGZ	**Broadband at L**	**0.57**	**174**	*eP*		Pn	05 14 32.6	+1.5
ATGZ				*eS*		Sn	05 14 45.9	+2.0
MMLZ	**Guadeloupe Bro**	**0.63**	**170**	*eP*		Pn	05 14 32.9	+1.4
MMLZ				*eS*		Sn	05 14 47.4	+2.8
DSDZ	**La Diserade, G**	**0.77**	**117**	*eP*		Pn	05 14 34.2	+1.5
DSDZ				*eS*		Sn	05 14 47.9	+1.0
TBG	**Guadaloupe-3**	**0.82**	**171**	*eP*		Pn	05 14 34.5	+1.4
TBG				*eS*		Sn	05 14 49.1	+1.5
ANWB	**Willy Bob**	**1.00**	**360**	*eP*		Pn	05 14 36.5	+1.6
ANWB				*eS*		Sn	05 14 52.6	+1.8
SKI	**Saint Kitts**	**1.13**	**306**	*eP*		Pn	05 14 37.6	+1.3
SKI				*eS*		Sn	05 14 54.3	+0.9
DWS	**Wesley**	**1.18**	**157**	*eP*		Pn	05 14 38.2	+1.3
DWS				*eS*		Sn	05 14 55.1	+0.9
DSLB	**Salisbury**	**1.27**	**164**	*eP*		Pn	05 14 39.4	+1.4
DSLB				*eS*		Sn	05 14 57.9	+1.8
MDN	**Morne-Daniel**	**1.39**	**164**	*eP*		Pn	05 14 40.9	+1.6
MDN				*eS*		Sn	05 15 01.0	+2.4
BIM	**Bigot**	**2.24**	**162**	*eP*		Pn	05 14 50.9	+0.9
BIM				*eS*		Sn	05 15 18.3	+0.7
SLBI	**Saint Lucia, B**	**2.74**	**163**	*eS*		Sn	05 15 29.6	+0.4

*DJA **18** 05:17:13.3±0.8, 9°S±5°×11°8E±°, h25km±5km, M3.9/6, MLv3.9/6*
*IDC **18** 05:17:18.8±4.5, 9°21S×118°31E, h140km±38km, mb3.3/3, mbtmp3.7/6, Error ellipse: s-maj=51.7km s-min=11.5km az=56.0*

ISC 18 05:17:09.3±0.9, 9°64S±0°07×117°76E±0°05, h35km, n12, σ3$44/18, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.81**	**1**	P		**Pn**	**05 17 25.7**	**+1.5**
PLAI				S		**Sn**	**05 17 35.4**	**+0.4**
TWSI	**Taliwang, Sumb**	**1.25**	**316**	P		**Pn**	**05 17 32.7**	**+2.5**
WBSI	**Waikabubak, Su**	**1.61**	**90**	P		**Pn**	**05 17 39.9**	**+4.6**
SRBI	**Singaraja**	**2.95**	**301**	P		**Pn**	**05 17 57.7**	**+4.0**
SRBI				S		**Sn**	**05 18 30.2**	**+2.3**
EDFI	**Ende, Flores**	**3.98**	**77**	P		**Pn**	**05 18 12.0**	**+4.0**
EDFI				S		**Sn**	**05 18 58.0**	**+4.5**
KAPI	**Kappang**	**5.00**	**23**	P		**Pn**	**05 18 23.5**	**+1.6**
	9.6nm,0.3s,baz=198,slow=9.4,SNR=8.2						
KAPI				S		**Sn**	**05 19 16.4**	**-2.2**
	32nm,0.3s,baz=332,slow=21,SNR=12						
BATI	**Baumata**	**5.84**	**96**	P		**Pn**	**05 18 35.4**	**+1.9**
	21nm,0.4s,baz=292,slow=19,SNR=1.4						
BATI				S		**Sn**	**05 19 37.8**	**-1.6**
	15nm,0.3s,baz=74,slow=24,SNR=1.3						
FITZ	**Fitzroy Crossi**	**11.37**	**139**	P		**Pn**	**05 19 50.9**	**+1.7**
	2.0nm,0.4s,baz=318,slow=12,SNR=18						
FITZ				S		**Sn**	**05 21 49.5**	**-5.5**
	1.9nm,0.4s,baz=233,slow=18,SNR=4.5						
WRA	**Warramunga Arr**	**19.00**	**124**	P		**P**	**05 21 28.5**	**+0.3**
	0.3nm,0.3s,baz=297,slow=13,SNR=6.0						
WRA				S		Sn	05 24 46.6	-14
	0.3nm,0.7s,baz=293,slow=21,SNR=1.3						
ASAR	**Alice Springs**	**20.80**	**134**	P		**P**	**05 21 49.8**	**+2.1**
	1.3nm,0.8s,baz=318,slow=11,SNR=13						
ASAR				S		**S**	**05 25 32.5**	**-5.5**
	0.2nm,0.3s,baz=310,slow=23,SNR=1.2						
	1.3nm,0.8s						
MKAR	**Makanchi Array**	**64.48**	**334**	P		**P**	**05 27 39.5**	**-2.8**
	0.2nm,0.3s,baz=134,slow=7.3,SNR=5.7						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**69.21**	**340**	P		P	05 28 08.0	-4.3
	0.5nm,0.3s,baz=150,slow=4.7,SNR=3.5						
	0.5nm,0.3s						

TRN 18 05:25:33.3, 17.72N×62.30W, h8km, MD4.3, North-west of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**0.49**	**95**	*eP*		Pb	05 25 45.4	+1.2
ANWB				*eS*		Sb	05 25 53.0	+1.4
SKI	**Saint Kitts**	**0.56**	**228**	*eP*		Pn	05 25 48.2	+0.5
SKI				*eS*		Sn	05 25 56.9	-0.4
SKOC	**St. Kitts, UWI**	**0.59**	**224**	*eP*		Pn	05 25 47.3	-0.7
SKOC				*eS*		Sn	05 25 56.2	-1.5
DHSZ	**Broadband at M**	**1.52**	**160**	*eP*		Pg	05 26 03.2	+0.6
ATGZ	**Broadband at L**	**1.70**	**161**	*eP*		Pb	05 26 05.3	+0.5
ATGZ				*eS*		Sg	05 26 29.0	+0.9
MMLZ	**Guadeloupe Bro**	**1.77**	**160**	*eP*		Pb	05 26 06.3	+0.3
MMLZ				*eS*		Sg	05 26 30.9	+0.6
DSDZ	**La Diserade, G**	**1.83**	**140**	*eP*		Pb	05 26 06.5	-0.5
DSDZ				*eS*		Sb	05 26 30.3	+0.2
TBG	**Guadaloupe-3**	**1.96**	**161**	*eP*		Pb	05 26 08.8	-0.4
TBG				*eS*		Sb	05 26 35.0	+1.2
DWS	**Wesley**	**2.34**	**156**	*eP*		Pb	05 26 14.9	-0.8
DWS				*eS*		Sb	05 26 44.1	-0.6
DSLB	**Salisbury**	**2.42**	**159**	*eP*		Pb	05 26 16.0	-1.1
DSLB				*eS*		Sb	05 26 45.2	-1.9
MDN	**Morne-Daniel**	**2.54**	**160**	*eP*		Pb	05 26 17.6	-1.6
DLPL	**La Plaine**	**2.58**	**157**	*eP*		Pb	05 26 18.5	-1.3
DLPL				*eS*		Sb	05 26 50.9	-0.8
ILAM	**Ilet Lapin Mar**	**3.23**	**155**	*eP*		Pn	05 26 26.3	+1.9
BIM	**Bigot**	**3.40**	**159**	*eP*		Pn	05 26 29.2	+2.6
SJG	**San Juan**	**3.68**	**277**	*eP*		Pn	05 26 33.5	+2.9
SJG				*eS*		Sn	05 27 15.8	+1.6
SLBI	**Saint Lucia, B**	**3.89**	**161**	*eP*		Pn	05 26 35.8	+2.4
SLBI				*eS*		Sn	05 27 21.4	+2.1
AOPR	**Arecibo Observ**	**4.28**	**279**	*eP*		Pn	05 26 41.5	+2.6
AOPR				*eS*		Sn	05 27 31.3	+2.2
SVB	**Belmont**	**4.53**	**167**	*eP*		Pn	05 26 44.7	+2.4
GRGR	**Grenville**	**5.59**	**173**	*eP*		Pn	05 26 59.4	+2.6
TRN	**Trinidad (W)**	**7.08**	**173**	*eP*		Pn	05 27 20.4	+3.1
PCRV	**Puerto La Cruz**	**7.83**	**197**	*eP*		Pn	05 27 30.7	+3.1
BAUV	**El Baul**	**10.35**	**213**	*eP*		Pn	05 28 06.3	+4.1

NOU 18 05:29:15.9, 14.86S×167.31E, h102km, ML4.2/, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.59**	**190**	P		Pn	05 29 34.4	+1.8
SANVU	**Saraoutou**	**0.59**	**190**	S		Sn	05 29 47.7	+2.6
DVP	**Devils Point**	**2.97**	**164**	P		Pn	05 30 00.8	-0.5
YATNC	**Mamie plateau,**	**7.17**	**183**	P		Pn	05 30 57.6	-0.6
OUENC	**Ouen Island, N**	**7.53**	**183**	P		Pn	05 31 03.8	+0.8

*IDC **18** 05:35:00.6±2.1, 15°44S×166°28E, h0km, mb3.6/3, mbtmp3.6/4, ML3.5/1, MS3.3/2, Error ellipse: s-maj=49.1km s-min=38.7km az=42.0*
*NOU **18** 05:35:03.3, 15°39S×167°23E, h23km, mb4.3/10, Vanuatu Islands*

ISC 18 05:35:02.0±1.2, 15°4S±0°1×166°93E±0°09, h28km, n13, σ2$65/12, mb3.5/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.26**	**98**	P		**Pb**	**05 35 07.6**	**-1.2**
SANVU	**Saraoutou**	**0.26**	**98**	S		**Sb**	**05 35 12.0**	**-1.4**
DVP	**Devils Point**	**2.60**	**153**	P		**Pn**	**05 35 42.6**	**+0.4**
YATNC	**Mamie plateau,**	**6.61**	**180**	P		**Pn**	**05 36 38.1**	**+0.7**
DZM	**Mont Dzumac**	**6.64**	**184**	Pn		**Pn**	**05 36 37.3**	**-0.6**
	1.0nm,0.3s,baz=355,slow=8.4,SNR=33						
DZM				Sn		**Sn**	**05 37 50.2**	**-2.6**
	baz=316,slow=19						
	3.2nm,0.3s						
OUENC	**Ouen Island, N**	**6.97**	**181**	P		**Pn**	**05 36 45.3**	**+2.9**
PINNC	**Pines Island,**	**7.18**	**176**	P		**Pn**	**05 36 48.2**	**+3.0**
HNR	**Honiara**	**9.04**	**310**	LR	LR	05 40 30.6	
	comp=Z,102nm,19.3s,baz=190,slow=38						
WRA	**Warramunga Arr**	**31.35**	**257**	P		**P**	**05 41 18.2**	**-2.3**
	0.3nm,0.8s,baz=88,slow=8.9,SNR=5.6						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**32.13**	**250**	P		**P**	**05 41 24.1**	**-3.3**
	0.4nm,0.6s,baz=75,slow=8.6,SNR=6.5						
	0.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**39.57**	**260**	LR	LR	05 57 55.4	
	comp=Z,96nm,20.7s,baz=150,slow=35						
QSPA	**South Pole Qui**	**74.62**	**180**	P		**P**	**05 46 42.5**	**+3.9**
	1.4nm,0.9s,baz=1.3,slow=1.9,SNR=4.3						
	1.4nm,0.9s						
ARCES	**ARCESS Array B**	**120.82**	**345**	PKP		**PKiKP**	**05 53 53.0**	**+1.9**
	2.1nm,0.8s,baz=50,slow=2.9,SNR=4.3						

*IDC **18** 05:36:20.9±2.2, 19°39S×70°28W, h60km±20km, mb3.5/9, mbtmp3.8/14, ML3.7/5, MS2.5/2, Error ellipse: s-maj=20.3km s-min=17.2km az=67.0*
*NEIC **18** 05:36:23.8±2.6, 19°22S±0°04×70°28W±0°07, h73km±12km, mb4.2/11, ML4.5(GUC), Error ellipse: s-maj=10.5km s-min=3.1km az=66.0*
*GUC **18** 05:36:24.3±0.7, 19°14S×70°23W, h71km±3km, ML4.5*
*VAO **18** 05:36:35.8±1.6, 18°78S×69°20W, h125km±7km, mb4.3*

**ISC 18 05:36:22.7±0.6, 19°18S±0°03×70°21

comp=N,0.1nm,0.4s
MT02 Curacav 14.05 183 Pn **Pn 05 39 39.1 +0.9**
SALV Santo Antonio 14.22 79 *eP* **Pn 05 39 38.8 -1.7**
SJPY San Joaquin 14.30 116 *eP* **P 05 39 44.8 -1.7**
PP1B Ponte de Pedra 14.64 86 *eP* **Pn 05 39 45.0 -1.0**
PDRB Porto dos Gac 15.01 62 *eP* **Pn 05 39 48.7 -2.1**
BO02 Sierra Bellavi 15.56 182 **Pn 05 39 59.3 +1.5**
CLDB Colider 16.18 61 *eP* **Pn 05 40 03.4 -2.1**
H03N1 Juan Fernandez 16.19 207 P **P 05 40 08.0 +0.8**
baz=109,slow=14,SNR=15
H03N1 T T 05 56 34.3
baz=32,slow=72,SNR=20
H03N2 Juan Fernandez 16.20 207 T T 05 56 34.4
baz=32,slow=72,SNR=20
H03N3 Juan Fernandez 16.21 207 T T 05 56 33.4
baz=32,slow=72,SNR=16
TEFE Tefe 16.50 20 *eP* **P 05 40 11.4 +0.4**
H03S1 Juan Fernandez 16.54 206 P **P 05 40 12.9 +1.9**
TRCB Terra Rica 16.80 105 Pn **Pn 05 40 13.9 +0.5**
PTGB Pitanga 17.71 111 *eP* **Pn 05 40 26.7 +2.3**
ITAB Concordia 18.44 119 P **P 05 40 33.1 +0.8**
ITAB IAmb IAmb 05 40 50.0
comp=Z,11nm,0.8s
MACA Manacapuru-AM 18.44 31 **P 05 40 31.9 -0.6**
MACA IAmb IAmb 05 40 33.8
comp=Z,20nm,0.7s
MACA Manacapuru-AM 18.44 31 *eP* **P 05 40 31.5 -1.0**
NPGB Novo Progresso 18.81 52 *eP* **P 05 40 34.2 -2.3**
PLTB Pedras Altas 19.51 133 P **P 05 40 44.3 +0.4**
PLTB IAmb IAmb 05 41 03.0
comp=Z,19nm,1.4s
SNDB Serra Nova Dou 19.57 71 *eP* **P 05 40 43.3 -1.4**
FRTB Fartura 19.68 106 *eP* **P 05 40 44.3 -1.7**
TRQA Tornquist 20.13 161 P **P 05 40 51.7 +1.0**
TRQA IAmb IAmb 05 41 25.1
comp=Z,16nm,1.4s
ITTB Itaituba 20.41 46 *eP* **P 05 40 52.1 -1.7**
BB19B Bebedouro 20.45 99 *eP* **P 05 40 54.3 0.0**
IPMB Ipameri, GO 20.89 90 *eP* **P 05 40 59.1 0.0**
FLOC Florencia 21.31 345 P **P 05 41 04.1 +0.5**
FLOC IAmb IAmb 05 41 08.0
comp=Z,12nm,1.1s
BDFB Brasilia 21.47 84 **P 05 41 07.4 +2.0**
BDFB Brasilia 21.47 84 P **P 05 41 06.0 +0.7**
comp=Z,5.2nm,0.4s,baz=255,slow=6.6,SNR=20
comp=Z,5.2nm,0.4s
PLCA Paso Flores 21.48 181 P **P 05 41 02.9 -2.3**
comp=Z,0.9nm,0.8s,baz=73,slow=20,SNR=1.2
comp=Z,0.9nm,0.8s
PMNB Patos De Minas 22.50 92 *eP* **P 05 41 14.9 -1.6**
MAL2 Monte Alegre, 23.18 45 P **P 05 41 23.7 +0.5**
BOAV Boa Vista 23.46 25 P **P 05 41 26.0 +0.2**
BOAV IAmb IAmb 05 41 43.6
comp=Z,11nm,1.4s
SMTB Santa Maria do 24.19 68 *eP* **P 05 41 31.1 -1.4**
RUSC La Rusia 25.07 353 P **P 05 41 41.1 +0.2**
RUSC IAmb IAmb 05 41 42.4
comp=Z,7.1nm,0.7s
DIAM Diamantina, MG 25.14 92 *eP* **P 05 41 41.9 +0.7**
SDBA SAO DESIDERIO 25.25 78 *eP* **P 05 41 41.4 -0.7**
BAUV El Baul 28.02 5 P **P 05 42 06.7 -0.2**
NBAN Anadia - AL 34.14 79 *eP* **P 05 43 00.8 0.0**
TXAR Lajitas Array 58.03 325 P **P 05 46 08.9 +0.7**
comp=Z,0.2nm,0.6s,baz=147,slow=7.4,SNR=1.8
comp=Z,0.2nm,0.6s
DBIC Dimbokro 69.28 75 P **P 05 47 23.1 +0.6**
comp=Z,2.2nm,0.7s,baz=271,slow=4.8,SNR=7.8
comp=Z,2.2nm,0.7s
PDAR Pinedale Array 71.50 331 P **P 05 47 36.2 +0.6**
comp=Z,0.2nm,0.5s,baz=126,slow=9.3,SNR=3.9
comp=Z,0.2nm,0.5s
ULM Lac du Bonnet 72.75 343 P **P 05 47 42.4 -0.2**
comp=Z,1.9nm,0.6s,baz=146,slow=8.8,SNR=3.1
comp=Z,1.9nm,0.6s
NVAR Mina Array Bea 72.92 322 P **P 05 47 45.5 +1.2**
comp=Z,0.7nm,0.8s,baz=155,slow=7.3,SNR=3.8
comp=Z,0.7nm,0.8s
TORD Torodi Ar. Bea 77.75 71 P **P 05 48 12.7 +0.5**
comp=Z,0.7nm,0.4s,baz=252,slow=5.1,SNR=12
comp=Z,0.7nm,0.4s
VNDA Vanda 78.91 190 P **P 05 48 16.3 -1.2**
comp=Z,0.3nm,0.3s,baz=85,slow=12,SNR=13
comp=Z,0.3nm,0.3s
H11S2 WAKE ISLAND Hyl 26.34 279 T T 08 14 34.8
baz=101,slow=75,SNR=191
H11S1 WAKE ISLAND Hyl 26.35 279 T T 08 14 35.2
baz=101,slow=75,SNR=136
H11S3 WAKE ISLAND Hyl 26.36 279 T T 08 14 31.5
baz=101,slow=75,SNR=149
H11N3 WAKE ISLAND Hyl 26.36 281 T T 08 14 38.4
baz=100,slow=75,SNR=119
H11N2 WAKE ISLAND Hyl 26.38 281 T T 08 14 39.5
baz=100,slow=75,SNR=139
H11N1 WAKE ISLAND Hyl 26.38 281 T T 08 14 40.4
baz=100,slow=75,SNR=64
WRA Warramunga Arr 134.27 213 PKP **PKPdf 05 55 33.0 +0.2**
comp=Z,0.3nm,0.7s,baz=156,slow=2.1,SNR=2.4
SONM Songino Array 151.28 5 PKPbc **PKiKP 05 56 08.8 +0.5**
comp=Z,1.2nm,1.0s,baz=42,slow=2.3,SNR=4.3

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*CATAC **18** 05:45:43.7±0.7, 14°N±4°×9°1W±°, h1km, M3.0/6, MLv3.0/6, Error ellipse: s-maj=10.3km s-min=4.3km az=34.1, confirmed*
*GCG **18** 05:45:44.5±1.6, 13°.56N×91°.30W, h28km±10km, MD3.9*
*SNET **18** 05:45:45.7±1.9, 13°.57N×91°.22W, h26km, ML3.1*
ISC 18 05:45:43.2±2.5, 13°.51N±0°.10×91°.20W±0°.07, h11km±13km, n22, σ0°76/27, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
ESSG	**Sabana Grande**	**0.93**	**22**	*i* P		**Pg**	**05 46 02.0**	**+0.7**
ESSG				*i* S		**Sn**	**05 46 15.7**	**-0.1**
FG8	**Yepocapa, Chim**	**0.96**	**40**	*i* P		**Pb**	**05 46 01.1**	**-0.9**
FG16	**Alotenango, Sa**	**1.00**	**41**	*i* P		**Pb**	**05 46 02.6**	**-0.2**
RTAL	**Retalhuleu**	**1.11**	**334**	P		**Pb**	**05 46 04.2**	**-0.4**
FAME	**Alcaldia de Sa**	**1.19**	**74**	P		**Pb**	**05 46 06.0**	**+0.1**
SOKI	**Kika Raxquin**	**1.31**	**351**	*i* S		**Sb**	**05 46 24.9**	**-0.3**
NUBE	**Las Nubes**	**1.43**	**74**	*i* P		**Pb**	**05 46 09.8**	**-0.2**
NUBE				*i* S		**Sg**	**05 46 29.4**	**+0.1**
NUBE	**Las Nubes**	**1.43**	**74**	S		**Sb**	**05 46 28.1**	**-0.2**
NUBE	**Las Nubes**	**1.43**	**74**	P		**Pb**	**05 46 09.8**	**-0.2**
CEVE	**Cerro Verde**	**1.56**	**78**	*eP*		**Pb**	**05 46 12.2**	**-0.1**
CEVE				*eS*		**Sg**	**05 46 33.6**	**+0.1**
JAYA	**Jayaque - finc**	**1.70**	**85**	*eP*		**Pb**	**05 46 14.0**	**-0.7**
JAYA				*eS*		**Sg**	**05 46 37.9**	**-0.2**
JAYA	**Jayaque - finc**	**1.70**	**85**	*i* P		**Pn**	**05 46 13.2**	**+0.1**
JAYA				*i* S		**Sb**	**05 46 37.0**	**+0.8**
JAYA	**Jayaque - finc**	**1.70**	**85**	S		**Sb**	**05 46 36.7**	**+0.5**
JAYA	**Jayaque - finc**	**1.70**	**85**	P		**Pn**	**05 46 13.8**	**+0.8**
PMON	**Piamonte**	**1.84**	**84**	P		**Pb**	**05 46 16.4**	**-0.6**
PMON	**Piamonte**	**1.84**	**84**	S		**Sb**	**05 46 40.5**	**+0.4**
LOMA	**Loma Larga**	**1.97**	**86**	*eP*		**Pb**	**05 46 18.8**	**-0.5**
MTO3	**Montecristo**	**1.99**	**64**	*i* P		**Pb**	**05 46 19.7**	**+0.1**
MTO3				*e*			05 46 19.7	
MTO3	**Montecristo**	**1.99**	**64**	S		**Sg**	**05 46 45.5**	**-1.7**
MTO3	**Montecristo**	**1.99**	**64**	P		**Pb**	**05 46 18.7**	**-0.8**
TECO	**Alcaldia de Te**	**2.35**	**89**	P		**Pb**	**05 46 23.9**	**-1.7**
SCLA	**Alcaldia de Sa**	**2.41**	**85**	P		**Pb**	**05 46 25.2**	**-1.4**

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*IDC **18** 06:22:46.0±0.5, 3°.80S×151°.31E, h0km, mb4.4/22, mbtmp4.4/23, ML2.4/1, MS4.4/22, Error ellipse: s-maj=19.9km s-min=12.2km az=94.0*
*MOS **18** 06:22:46.6±0.9, 3°.75S×151°.35E, h11km, mb5.0/18, Error ellipse: s-maj=11.5km s-min=7.7km az=95.7*
*BJI **18** 06:22:47.7, 3°.76S×151°.80E, h16km, mB5.2/15, mb4.8/38, Ms4.9/23, Ms7 4.7/24*
*NEIC **18** 06:22:48.5, 3°.86S×151°.50E, h12km*
*NEIC **18** 06:22:48.6±1.8, 3°.86S±0°.09×151°.50E±0°.07, h10km±1km, mb5.1/134, Mww5.2/15, Error ellipse: s-maj=16.6km s-min=8.4km az=33.0*
*NEIC **18** 06:22:48.5, 3°.66S×151°.50E, h12km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10^16Nm; Mrr=2.52; Mθθ 7.86; Mϕϕ -5.34; Mrθ -0.16; Mθϕ 0.93; Mϕr 0.40; Fault plane solution: M0 7.02000×10^16 NP1: ϕs=221.21000°, δ83.97000°, λ-174.94000°. NP2: ϕs=130.68000°, δ84.96000°, λ-6.05000°. Principal axes: T 7.9235, Plg1.0000°, Azm176.0000°; N -2.4622, Plg82.0000°, Azm271.0000°; P -5.4613, Plg8.0000°, Azm86.0000°;*

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*GCMT **18** 06:22:50.6±0.1, 3°.71S±0°.01×151°.40E±0°.01, h12km, MW5.2/144, Moment Tensor Solution. s92, c132; s144, c248; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.14±.01; Mθθ 0.91±.01; Mϕϕ -0.77±.01; Mrθ -0.07±.03; Mθϕ 0.33±.01; Mϕr -0.02±.03; Best double couple: M0 0.90500×10^17 NP1: ϕs 304.00000°, δ87.00000°, λ 2.00000°. NP2: ϕs 214.00000°, δ88.00000°, λ 177.00000°. Principal axes: T 0.9760, Plg4.0000°, Azm169.0000°; N -0.1420, Plg86.0000°, Azm359.0000°; P -0.8340, Plg1.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **18** 06:22:52.5±2.9, 4°S±14°×15°2E±2°2, h48km±15km, M4.9/13, mB5.3/6, mb4.9/13, MLv5.0/1, Mw(mB)4.7/6*
ISC 18 06:22:49.8±0.3, 3°.92S±0°.05×151°.53E±0°.05, h21km, n259, σ1s68/191, mb5.0/115, MS4.5/29, 6C-2D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
RABL	**Rabaul**	**0.69**	**113**			**Pb**	**06 23 02.0**	**-1.1**
MANU	**Manus Island**	**4.56**	**294**			**Pn**	**06 23 55.5**	**-2.0**
PMG	**Port Moresby**	**6.97**	**218**			**Pn**	**06 24 30.8**	**+0.1**
PMG	**Port Moresby**	**6.97**	**218**	Pn		**Pn**	**06 24 30.3**	**-0.4**
	3.8nm,0.3s,baz=18,slow=6.7,SNR=9.8							
PMG				Sn		**Sn**	**06 25 47.7**	**-1.6**
	0.7nm,0.3s,baz=3.5,slow=20,SNR=0.5							
PMG				LR		LR	06 26 45.0	
	comp=Z,2μm,20.6s,baz=28,slow=34							
	36nm,0.7s							
PMG	**Port Moresby**	**6.97**	**218**	P		**Pn**	**06 24 33.3**	**+2.6**
PMG	**Port Moresby**	**6.97**	**218**	P		**Pn**	**06 24 33.4**	**+2.7**
PMG	**Port Moresby**	**6.97**	**218**	*i* P		**Pn**	**06 24 31.6**	**+0.9**
PMG				pmax		pmax		
	comp=Z,124nm,0.8s							
HNR	**Honiara**	**9.99**	**124**	LR		LR	06 29 34.0	
	comp=Z,4μm,19.5s,baz=294,slow=40							
JAY	**Jayapura**	**10.90**	**277**	LR		LR	06 28 56.4	
	comp=Z,6μm,18.4s,baz=69,slow=35							
GENI	**Genyem**	**11.42**	**276**	P		**Pn**	**06 25 34.2**	**+2.4**
	comp=Z,60nm,1.7s							
SMPI	**Sarmi**	**12.94**	**278**	P		**Pn**	**06 25 55.2**	**+2.6**
MTSU	**Mount Surprise**	**15.79**	**206**	P		**P**	**06 26 34.0**	**-0.8**
TV1H	**Townsville Har**	**15.93**	**196**	P		**P**	**06 26 36.2**	**-0.1**
CTA	**Charters Tower**	**16.87**	**197**	P		**P**	**06 26 48.3**	**+1.5**
	comp=Z,1.8nm,2.3s							
CTA	**Charters Tower**	**16.87**	**197**	P		**P**	**06 26 48.3**	**+1.5**
CTAO	**Charters Tower**	**16.87**	**197**	P		**P**	**06 26 47.7**	**+0.9**
CTAO	**Charters Tower**	**16.87**	**197**	P		**P**	**06 26 48.2**	**+1.5**
CTAO	**Charters Tower**	**16.87**	**197**	P		**P**	**06 26 47.7**	**+0.9**
CTAO				pmax		pmax		
	comp=Z,128nm,1.5s							
RKPI	**Ransiki, Papua**	**17.50**	**277**	P		**Pn**	**06 26 52.6**	**0.0**
GUMO	**Guam**	**18.61**	**339**	LR		LR	06 34 22.4	
	comp=Z,375nm,19.5s,baz=155,slow=38							
GD1S	**Gladstone Soft**	**19.81**	**181**	P		**Pn**	**06 27 23.0**	**+2.4**
QIS	**Mount Isa**	**20.20**	**214**	P		**P**	**06 27 23.8**	**+0.4**
	comp=Z,30nm,0.9s							
QIS	**Mount Isa**	**20.20**	**214**	P		**P**	**06 27 24.7**	**+1.3**
SWI	**Sorong**	**20.48**	**278**	P		**P**	**06 27 26.2**	**-0.2**
	comp=Z,1μmcomp=Z,73nm,1.4s							
KDU	**Kakadu**	**20.75**	**244**	P		**P**	**06 27 27.4**	**-2.0**
	comp=Z,87nm,1.1s							
KDU	**Kakadu**	**20.75**	**244**	P		**P**	**06 27 29.7**	**+0.3**
EIDS	**Eidsvold**	**21.33**	**181**	P		**P**	**06 27 37.4**	**+1.8**
	comp=Z,66nm,1.4s							
EIDS	**Eidsvold**	**21.33**	**181**			**P**	**06 27 37.1**	**+1.6**
EIDS				LR		LR	06 27 44.1	
	comp=Z,153nm,1.5s							
EIDS	**Eidsvold**	**21.33**	**181**	P		**P**	**06 27 39.1**	**+3.6**
MTN	**Manton Dam**	**22.02**	**245**	P		**P**	**06 27 42.9**	**-0.2**
MTN	**Manton Dam**	**22.02**	**245**			**P**	**06 27 43.1**	**0.0**
MTN	**Manton Dam**	**22.02**	**245**	P		**P**	**06 27 43.4**	**+0.4**
DRS	**Darwin Rock St**	**22.08**	**246**	P		**P**	**06 27 44.7**	**+1.0**
MSAI	**Masohi**	**22.56**	**271**	P		P	06 28 08.3	+19
WB0	**Warramunga Arr**	**22.96**	**225**			**P**	**06 27 52.8**	**-0.2**
WR8	**Warramunga Arr**	**23.01**	**225**			**P**	**06 27 53.0**	**-0.6**
WRAB	**Tennant Creek**	**23.10**	**225**	P		**P**	**06 27 52.9**	**-1.6**
WRAB				IAmb		IAmb	06 28 07.6	
	comp=Z,82nm,1.8s							
WRAB	**Tennant Creek**	**23.10**	**225**	*i* P		**P**	**06 27 52.8**	**-1.7**
WRAB				pmax		pmax		
	comp=Z,31nm,1.4s							
WRA	**Warramunga Arr**	**23.12**	**225**	P		**P**	**06 27 53.9**	**-0.7**
WRA	**Warramunga Arr**	**23.12**	**225**	P		**P**	**06 27 52.8**	**-1.9**
	comp=Z,14nm,1.0s,baz=50,slow=9.4,SNR=36							
	comp=Z,14nm,1.0s							
WRA	**Warramunga Arr**	**23.12**	**225**	*i* P		**P**	**06 27 51.7**	**-2.9**
WRA				pmax		pmax		
	comp=Z,15nm,1.0s							
DZM	**Mont Dzumac**	**23.13**	**143**	*eP*		**P**	**06 27 55.7**	**+0.9**
	comp=Z,264nm,1.1s							
DZM				*eS*		**S**	**06 32 05.7**	**+0.5**
	comp=Z,536nm,24.2s							
DZM				*eLR*		LR	06 33 32.1	
	comp=Z,5μm,24.9s							
DZM	**Mont Dzumac**	**23.13**	**143**			**P**	**06 27 56.0**	**+1.3**
DZM	**Mont Dzumac**	**23.13**	**143**	P		**P**	**06 27 57.0**	**+2.2**
	comp=Z,64nm,0.9s,baz=266,slow=5.4,SNR=28							
	comp=Z,64nm,0.9s							
AAI	**Ambon**	**23.28**	**270**	P		**P**	**06 27 58.1**	**+1.7**
	comp=Z,106nm,1.1s							
ONTNC	**Ouen Toro**	**23.31**	**143**			**P**	**06 27 57.5**	**+0.9**
ONTNC	**Ouen Toro**	**23.31**	**143**	P		P	06 28 05.8	+9.3
QLP	**Quilpie**	**23.59**	**197**	P		**P**	**06 27 59.5**	**+0.3**
	comp=Z,152nm,1.6s							
QLP	**Quilpie**	**23.59**	**197**	P		**P**	**06 28 00.9**	**+1.7**
OUENC	**Ouen Island, N**	**23.63**	**142**	P		P	06 28 08.2	+8.6
PINNC	**Pines Island,**	**24.14**	**142**			**P**	**06 28 05.2**	**+0.7**
PINNC	**Pines Island,**	**24.14**	**142**	P		P	06 28 13.4	+8.9
NLAI	**Namlea**	**24.39**	**271**	P		**P**	**06 28 07.3**	**+0.4**
KNRA	**Kununurra**	**25.26**	**241**	P		**P**	**06 28 14.3**	**-0.4**
	comp=Z,17nm,1.0s							
KNRA	**Kununurra**	**25.26**	**241**	P		**P**	**06 28 15.0**	**+0.3**
INKA	**Innaminka**	**25.82**	**202**	P		**P**	**06 28 19.7**	**-0.1**
AS31	**Alice Springs**	**25.98**	**219**	P		**P**	**06 28 20.9**	**-0.4**
ASAR	**Alice Springs**	**25.98**	**219**	P		**P**	**06 28 21.2**	**-0.1**
ASAR	**Alice Springs**	**25.98**	**219**	P		**P**	**06 28 20.2**	**-1.1**
	comp=Z,12nm,0.9s,baz=51,slow=8.7,SNR=37							
	comp=Z,12nm,0.9s							
ASAR	**Alice Springs**	**25.98**	**219**	P		**P**	**06 28 21.2**	**-0.1**
SOEI	**Soe**	**27.67**	**256**	P		**P**	**06 28 38.6**	**+1.9**
DAV	**Davao City (W)**	**28.11**	**293**	LR		LR	06 39 20.6	
	comp=Z,560nm,18.0s,baz=139,slow=36							
BATI	**Baumata**	**28.34**	**256**	LR		LR	06 42 20.0	
	comp=Z,1μm,19.2s,baz=90,slow=42							
FITZ	**Fitzroy Crossi**	**28.99**	**239**	P		**P**	**06 28 47.8**	**-0.5**
	comp=Z,5.6nm,1.3s							
FITZ	**Fitzroy Crossi**	**28.99**	**239**	P		**P**	**06 28 46.8**	**-1.5**
	comp=Z,37nm,1.2s,baz=76,slow=9.5,SNR=12							
	comp=Z,37nm,1.2s							
FITZ	**Fitzroy Crossi**	**28.99**	**239**	P		**P**	**06 28 49.1**	**+0.8**
STKA	**Stephens Creek**	**29.33**	**197**	P		**P**	**06 28 49.8**	**-1.4**
	comp=Z,45nm,0.8s							
STKA	**Stephens Creek**	**29.33**	**197**	P		**P**	**06 28 50.7**	**-0.5**
STKA				IAmb		IAmb	06 28 53.0	
	comp=Z,37nm,0.8s							
STKA	**Stephens Creek**	**29.33**	**197**	P		**P**	**06 28 50.9**	**-0.3**
	comp=Z,7.5nm,0.8s,baz=8.1,slow=14,SNR=11							
STKA				LR		LR	06 40 30.1	
	comp=Z,884nm,18.7s,baz=13,slow=36							
	comp=Z,7.5nm,0.8s							
STKA	**Stephens Creek**	**29.33**	**197**	*i* P		**P**	**06 28 50.5**	**-0.7**
WRKA	**Warakurna**	**30.66**	**225**	P		**P**	**06 29 01.3**	**-1.8**
	comp=Z,6.5nm,1.5s							
HTT	**Hallett**	**31.63**	**200**	P		**P**	**06 29 11.3**	**-0.2**
MBWA	**Marble Bar**	**35.33**	**238**	P		**P**	**06 29 42.5**	**-1.3**
	comp=Z,16nm,1.8s							
PSAC2	**Pilbara Seismi**	**35.35**	**238**	P		P	06 29 37.0	-7.1
PSA00	**Pilbara Seismi**	**35.41**	**238**	P		P	06 29 37.3	-7.2
PSAB3	**Pilbara Seismi**	**35.41**	**238**	P		P	06 29 36.7	-7.9
PSAC1	**Pilbara Seismi**	**35.42**	**238**	P		P	06 29 36.5	-8.1
KKM	**Kota Kinabalu**	**36.63**	**286**	P		**P**	**06 29 52.0**	**-3.1**
JOW	**Kunigami**	**37.95**	**325**	LR		LR	06 42 28.5	
	comp=Z,699nm,20.5s,baz=140,slow=31							
JHJ	**Hachijo jima 2**	**38.48**	**344**	LR		LR	06 45 35.9	
	comp=Z,401nm,18.4s,baz=182,slow=36							
MEEK	**Meekatharra**	**38.74**	**231**	P		**P**	**06 30 12.0**	**-0.9**
	comp=Z,25nm,1.6s							
SBUM	**Sibu**	**39.79**	**279**	P		**P**	**06 30 20.5**	**-1.3**
RTZ	**Ruatahuna**	**41.59**	**150**	P		**P**	**06 30 38.2**	**+1.8**
RTZ				IAmb		IAmb	06 30 53.1	
	comp=Z,23nm,0.8s							
JNU	**Nakatsue**	**41.71**	**334**	P		**P**	**06 30 37.2**	**-0.1**
JNU				IAmb		IAmb	06 30 49.1	
	comp=Z,55nm,1.2s							
MJAR	**Matsushiro Arr**	**42.13**	**344**	P		**P**	**06 30 38.9**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=162,slow=10.0,SNR=4.4							
MJAR				LR		LR	06 46 49.1	
	comp=Z,460nm,20.2s,baz=170,slow=34							
	comp=Z,0.6nm,0.3s							
TCW	**Tory Channel**	**42.37**	**154**	P		**P**	**06 30 43.3**	**+0.7**
LEM	**Lembang**	**43.80**	**264**	LR		LR	06 50 55.9	
	comp=Z,302nm,21.8s,baz=14,slow=39							
KSRS	**Korea Array**	**46.65**	**334**	P		**P**	**06 31 15.3**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=155,slow=7.6,SNR=8.2							
	comp=Z,0.8nm,0.4s							
QIZ	**Qiongzhong**	**46.93**	**301**	P		**P**	**06 31 19.3**	**0.0**
QIZ				S		**S**	**06 38 11.5**	**+1.8**
QIZ				LR		LR		
	comp=Z,510nm,25.5s							
QIZ				LR		LR		
	comp=Z,280nm,18.4s							
QIZ				LR		LR		
	comp=Z,470nm,29.2s							
NJ2	**Nanjing**	**47.37**	**321**	*eP*		**P**	**06 31 22.6**	**+0.1**
NJ2				S		**S**	**06 38 18.0**	**+2.5**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
NJ2				LR		LR		
	comp=Z,1μm,24.0s							
NJ2				LR		LR		
	comp=Z,1μm,17.5s							
NJ2				LR		LR		
	comp=Z,790nm,20.4s							
ASAJ	**Asahikawa**	**48.49**	**351**	LR		LR	06 49 48.9	
	comp=Z,318nm,21.1s,baz=190,slow=34							
DL2	**Dalian**	**50.78**	**330**	P		**P**	**06 31 47.4**	**-1.1**
DL2				pmax		pmax		
	comp=Z,16nm,0.8s							
DL2				pmax		pmax		
	comp=Z,390nm,4.3s							
DL2				LR		LR		
	comp=Z,600nm,16.6s							
DL2				LR		LR		
	comp=Z,830nm,16.9s							
DL2				LR		LR		
	comp=Z,340nm,12.8s							
USRK	**Ussuriysk Ar.**	**51.02**	**342**	P		**P**	**06 31 48.1**	**-2.1**
	comp=Z,3.3nm,0.6s,baz=183,slow=9.5,SNR=4.2							
	comp=Z,3.3nm,0.6s							
HNS	**HongShan**	**53.49**	**324**	⇑P		**P**	**06 32 12.6**	**+3.9**
HNS				pmax		pmax		
	comp=Z,10.0nm,1.2s							
BNX	**BinXian**	**53.90**	**339**	⇑P		**P**	**06 32 11.1**	**-0.5**
BNX				pmax		pmax		
	comp=Z,9.0nm,1.0s							
XAN	**Xi'an**	**55.12**	**317**	⇓P		**P**	**06 32 18.9**	**-1.8**
XAN				pP		pP	06 32 25.6	-1.2
XAN				S		**S**	**06 39 59.1**	**-3.6**
XAN				pmax		pmax		
	comp=Z,11nm,0.9s							
XAN				pmax		pmax		
	comp=Z,280nm,4.9s							
XAN				LR		LR		
	comp=Z,520nm,15.8s							
XAN				LR		LR		
	comp=Z,400nm,19.2s							
XAN				LR		LR		
	comp=Z,740nm,19.2s							
CMAR	**Chiang Mai Arr**	**56.36**	**295**	P		**P**	**06 32 29.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**56.36**	**295**	P		**P**	**06 32 27.6**	**-2.2**
	comp=Z,6.4nm,0.9s,baz=114,slow=5.5,SNR=26							
	comp=Z,6.4nm,0.9s							
CMAR	**Chiang Mai Arr**	**56.36**	**295**	*i* P		**P**	**06 32 30.3**	**+0.4**
CMAR				pmax		pmax		
	comp=Z,7.0nm,0.9s							
CHTO	**Chiang Mai**	**56.47**	**296**	P		**P**	**06 32 30.1**	**-0.5**
CHTO				IAmb		IAmb	06 32 37.8	
	comp=Z,35nm,1.6s							
CHTO	**Chiang Mai**	**56.47**	**296**	P		**P**	**06 32 30.1**	**-0.5**
CHTO				pmax		pmax		
	comp=Z,35nm,1.7s							
PZH	**PanZhiHua**	**56.83**	**305**	P		**P**	**06 32 35.3**	**+2.0**
PET	**Petropavlovsk**	**57.05**	**5**	*eP*		**P**	**06 32 38.0**	**+3.9**
PET				*eS*		**S**	**06 40 27.4**	**-0.2**
PET				pmax		pmax		
	comp=Z,16nm,0.8s							
PET				MLR		MLR		
	comp=Z,200nm,16.0s							
PETK	**Petropavlovsk-**	**57.06**	**4**	P		**P**	**06 32 32.9**	**-1.3**
	comp=Z,7.3nm,0.7s,baz=185,slow=7.4,SNR=7.0							
PETK				LR		LR	06 51 52.5	
	comp=Z,512nm,21.5s,baz=187,slow=31							
	comp=Z,7.3nm,0.7s							
CD2	**Chengdu**	**57.21**	**311**	*eP*		**P**	**06 32 35.6**	**-0.1**
CD2				S		**S**	**06 40 30.8**	**+0.2**
CD2				pmax		pmax		
	comp=Z,330nm,5.6s							
CD2				LR		LR		
	comp=Z,540nm,17.7s							
CD2				LR		LR		
	comp=Z,670nm,19.2s							
XLT	**XiLinHaoTe**	**57.28**	**330**	*eP*		**P**	**06 32 40.1**	**+4.1**
XLT				pmax		pmax		
	comp=Z,11nm,1.0s							
XLT				pmax		pmax		
	comp=Z,200nm,5.4s							
XLT				LR		LR		
	comp=Z,330nm,18.3s							
XLT				LR		LR		
	comp=Z,400nm,22.7s							
HHC	**Hu-ho-hao-te**	**57.60**	**325**	*eP*		**P**	**06 32 41.1**	**+2.7**
HHC				sP		pwP	06 32 50.8	+3.8
HHC				S		**S**	**06 40 30.9**	**-4.7**
HHC				sS		sS	06 40 47.0	+1.6
HHC				pmax		pmax		
	comp=Z,10.0nm,0.8s							
HHC				pmax		pmax		
	comp=Z,130nm,4.7s							
HHC				LR		LR		
	comp=Z,300nm,17.6s							
HHC				LR	

	comp=Z,10.0nm,0.9s								
MA2	**Magadan**	**63.30**	**360**	*i*	P		**P**	**06 33 15.6**	**-1.3**
MA2					pmax		pmax		
	comp=Z,42nm,2.2s								
GTA	**Gaotai**	**64.16**	**317**	*eP*			**P**	**06 33 24.3**	**+1.2**
GTA					pP		pP	06 33 29.9	+0.6
GTA					S		**S**	**06 42 02.4**	**+3.1**
GTA					pmax		pmax		
	comp=Z,5.0nm,1.5s								
GTA					LR		LR		
	comp=Z,170nm,17.1s								
GTA					LR		LR		
	comp=Z,290nm,21.1s								
GTA					LR		LR		
	comp=Z,440nm,19.3s								
ULN	**Ulaanbaatar**	**64.59**	**329**	*ceP*			**P**	**06 33 24.8**	**-1.0**
ULN					pmax		pmax		
	comp=Z,23nm,2.5s								
SHL	**Shillong**	**64.77**	**301**	P			**P**	**06 33 26.4**	**-1.0**
SHL					IAmb		IAmb	06 33 35.5	
	comp=Z,13nm,0.9s								
SHL	**Shillong**	**64.77**	**301**	P			**P**	**06 33 26.4**	**-1.0**
SHL					pmax		pmax		
	comp=Z,13nm,0.9s								
SONM	**Songino Array**	**64.91**	**328**	P			**P**	**06 33 27.0**	**-0.8**
SONM	**Songino Array**	**64.91**	**328**	P			**P**	**06 33 25.9**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=155,slow=4.6,SNR=11								
SONM					LR		LR	06 59 53.8	
	comp=Z,468nm,21.9s,baz=142,slow=34								
	comp=Z,0.8nm,0.7s								
SONM	**Songino Array**	**64.91**	**328**	P			**P**	**06 33 27.0**	**-0.8**
SONM					pmax		pmax		
	comp=Z,9.0nm,1.2s								
SEY	**Seymchan**	**66.67**	**0**	LR			LR	07 02 57.3	
	comp=Z,207nm,19.6s,baz=198,slow=36								
SEY	**Seymchan**	**66.67**	**0**	*i* P			**P**	**06 33 38.4**	**-0.3**
SEY					pmax		pmax		
	comp=Z,39nm,3.3s								
YAK	**Yakutsk**	**67.87**	**349**	LR			LR	07 01 18.4	
	comp=Z,248nm,21.9s,baz=172,slow=34								
YAK	**Yakutsk**	**67.87**	**349**	*i* P			**P**	**06 33 45.2**	**-1.1**
YAK					pmax		pmax		
	comp=Z,51nm,0.8s								
TAOE	**Nuku Hiva Isla**	**68.00**	**98**	*eP*			**P**	**06 33 45.8**	**-2.4**
	comp=Z,162nm,25.4s								
TAOE	**Nuku Hiva Isla**	**68.00**	**98**	*e*SS			SS	06 47 10.9	+1.4
	comp=Z,177nm,25.7s								
TAOE				*e*LR			LR	06 54 23.1	
	comp=Z,816nm,26.1s								
ZAK	**Zakamensk**	**68.09**	**329**	*eP*			**P**	**06 33 47.2**	**-0.9**
ZAK					pmax		pmax		
	comp=Z,20nm,1.4s								
CASY	**Casey**	**68.48**	**197**				**P**	**06 33 49.8**	**-0.4**
CASY					IAmb		IAmb	06 33 57.6	
	comp=Z,15nm,0.9s								
EVN	**Everest**	**69.80**	**302**				**P**	**06 33 57.3**	**-2.5**
EVN					IAmb		IAmb	06 34 07.0	
	comp=Z,14nm,1.0s								
RKT	**Rikitea**	**73.30**	**113**	*e*LR			LR	06 56 39.8	
	comp=Z,8μm,39.5s								
VNDA	**Vanda**	**73.75**	**178**	P			**P**	**06 34 21.8**	**-0.1**
VNDA	**Vanda**	**73.75**	**178**	P			**P**	**06 34 22.1**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=340,slow=6.8,SNR=9.7								
	comp=Z,0.8nm,0.6s								
VNDA	**Vanda**	**73.75**	**178**	P			**P**	**06 34 21.8**	**-0.1**
VNDA					pmax		pmax		
	comp=Z,13nm,1.6s								
WMQ	**Urumqi**	**74.24**	**318**	*eP*			**P**	**06 34 27.8**	**+2.3**
WMQ					LR		LR		
	comp=Z,260nm,21.9s								
HYB	**Hyderabad**	**75.01**	**289**	*eP*			**P**	**06 34 29.8**	**-0.5**
M16K	**Timber Creek**	**75.16**	**23**		IAmb		IAmb	06 34 39.7	
	comp=Z,23nm,0.9s								
K17K	**Iditarod**	**76.45**	**21**		IAmb		IAmb	06 34 47.3	
	comp=Z,26nm,1.1s								
J17K	**VABM Dome**	**76.60**	**21**				**P**	**06 34 39.5**	**+1.0**
J17K					IAmb		IAmb	06 34 48.2	
	comp=Z,19nm,0.9s								
L18K	**Granite Mounta**	**76.75**	**22**				**P**	**06 34 41.1**	**+1.7**
L18K					IAmb		IAmb	06 34 44.6	
	comp=Z,28nm,1.2s								
H17K	**Granite Mounta**	**77.30**	**19**		IAmb		IAmb	06 34 51.4	
	comp=Z,20nm,0.8s								
ZSN	**Zaisan**	**77.39**	**320**	*eP*			**P**	**06 34 42.6**	**-0.7**
ZSN	**Zaisan**	**77.39**	**320**	*eP*			**P**	**06 34 42.6**	**-0.7**
L19K	**White Mountain**	**77.43**	**23**		IAmb		IAmb	06 34 50.6	
	comp=Z,16nm,0.8s								
J18K	**Innoko River**	**77.48**	**21**		IAmb		IAmb	06 34 52.5	
	comp=Z,12nm,0.9s								
F17K	**Baldwin Pennin**	**77.87**	**18**		IAmb		IAmb	06 34 54.8	
	comp=Z,20nm,0.8s								
M20K	**Styx River**	**77.94**	**23**		IAmb		IAmb	06 34 53.5	
	comp=Z,14nm,0.9s								
J19K	**Poorman**	**78.19**	**21**		IAmb		IAmb	06 34 55.4	
	comp=Z,23nm,1.3s								
G18K	**Tagagawik**	**78.32**	**19**		IAmb		IAmb	06 34 56.5	
	comp=Z,16nm,0.8s								
RDOG	**Red Dog Mine**	**78.48**	**16**		IAmb		IAmb	06 34 57.7	
	comp=Z,23nm,0.9s								
E18K	**Tukpahlearik C**	**78.71**	**17**		IAmb		IAmb	06 34 58.9	
	comp=Z,16nm,1.0s								
H19K	**Roundabout Mou**	**78.81**	**20**		IAmb		IAmb	06 34 59.6	
	comp=Z,13nm,0.8s								
MK31	**Makanchi Array**	**78.83**	**319**	*ceP*			**P**	**06 34 50.2**	**-1.2**
MKAR	**Makanchi Array**	**78.83**	**319**	P			**P**	**06 34 51.1**	**-0.2**
MKAR	**Makanchi Array**	**78.83**	**319**	P			**P**	**06 34 50.8**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=96,slow=5.2,SNR=3.8								
	comp=Z,0.7nm,0.7s								
MKAR	**Makanchi Array**	**78.83**	**319**	*i* P			**P**	**06 34 50.7**	**-0.7**
MKAR					pmax		pmax		
	comp=Z,1.0nm,0.7s								
G19K	**Purcell Mounta**	**78.98**	**19**		IAmb		IAmb	06 35 01.0	
	comp=Z,17nm,0.9s								
F19K	**Shaleruckik Mo**	**79.19**	**18**		IAmb		IAmb	06 35 01.5	
	comp=Z,16nm,0.8s								
PMR	**Palmer**	**79.42**	**25**		IAmb		IAmb	06 35 01.2	
	comp=Z,34nm,1.6s								
KNK	**Knik Glacier**	**79.61**	**25**		IAmb		IAmb	06 35 02.7	
	comp=Z,36nm,1.3s								
KTH	**Kantishna Hill**	**79.69**	**23**		IAmb		IAmb	06 35 02.2	
	comp=Z,57nm,2.0s								
SHLS	**Shalkode**	**79.72**	**315**	*eP*			**P**	**06 34 53.5**	**-2.9**
SHLS	**Shalkode**	**79.72**	**315**	*eP*			**P**	**06 34 53.5**	**-2.9**
ZAA0	**Zalesovo Array**	**79.72**	**327**				**P**	**06 34 56.2**	**+0.2**
ZALV	**Zalesovo Beam**	**79.72**	**327**	P			**P**	**06 34 55.5**	**-0.5**
ZALV	**Zalesovo Beam**	**79.72**	**327**	P			**P**	**06 34 53.7**	**-2.3**
	comp=Z,2.0nm,0.8s,baz=108,slow=4.8,SNR=7.0								
	comp=Z,2.0nm,0.8s								
ZALV	**Zalesovo Beam**	**79.72**	**327**	*i* P			**P**	**06 34 59.9**	**+3.9**
ZALV					pmax		pmax		
	comp=Z,3.0nm,0.8s								
IMAR	**Indian Mountai**	**79.99**	**20**	P			**P**	**06 34 57.1**	**-0.1**
UZB	**Uzynbulak**	**80.03**	**315**	*eP*			**P**	**06 34 56.1**	**-2.0**
UZB	**Uzynbulak**	**80.03**	**315**	*eP*			**P**	**06 34 56.9**	**-1.2**
D19K	**Kuna River**	**80.12**	**17**		IAmb		IAmb	06 35 11.9	
	comp=Z,19nm,0.9s								
I21K	**Tanana**	**80.16**	**21**		IAmb		IAmb	06 35 06.1	
	comp=Z,25nm,1.1s								
G21K	**Allakaket**	**80.37**	**19**		IAmb		IAmb	06 35 14.4	
	comp=Z,28nm,1.8s								
RND	**Reindeer**	**80.42**	**23**		IAmb		IAmb	06 35 08.1	
	comp=Z,18nm,0.8s								
SATY	**Saty**	**80.44**	**315**	*eP*			**P**	**06 34 59.2**	**-1.2**
SATY	**Saty**	**80.44**	**315**	*eP*			**P**	**06 34 59.1**	**-1.2**
MCK	**McKinley**	**80.55**	**23**		IAmb		IAmb	06 35 06.1	
	comp=Z,24nm,0.9s								
KLU	**Klutina**	**80.73**	**26**		IAmb		IAmb	06 35 09.1	
	comp=Z,42nm,1.3s								
DHY	**Denali Highway**	**80.85**	**24**		IAmb		IAmb	06 35 18.0	
	comp=Z,12nm,0.8s								
NEA2	**Nenana**	**80.92**	**22**		IAmb		IAmb	06 35 08.0	
	comp=Z,18nm,1.2s								
TDK	**Taldyqorghan**	**80.93**	**317**	*eP*			**P**	**06 35 02.1**	**-0.7**
	comp=Z,7.4nm,0.4s								
TDK	**Taldyqorghan**	**80.93**	**317**	*eP*			**P**	**06 35 02.0**	**-0.7**
TDK					pmax		pmax		
	comp=Z,7.0nm,0.4s								
N25K	**Chitina, Valde**	**81.35**	**26**		IAmb		IAmb	06 35 12.6	
	comp=Z,17nm,1.1s								
KSH	**Kashi**	**81.41**	**311**	P			**P**	**06 35 07.3**	**+1.8**
KSH					pP		pP	06 35 12.4	+0.6
KSH					pmax		pmax		
	comp=Z,9.0nm,0.9s								
MDOK	**Medeo**	**81.43**	**315**	*eP*			**P**	**06 35 04.7**	**-0.9**
MDOK	**Medeo**	**81.43**	**315**	*eP*			**P**	**06 35 04.7**	**-0.9**
COLA	**College**	**81.52**	**22**	P			**P**	**06 35 05.0**	**-0.3**
COLA					IAmb		IAmb	06 35 12.6	
	comp=Z,14nm,0.8s								
COLA	**College**	**81.52**	**22**	*i* P			**P**	**06 35 05.3**	**0.0**
COLA					pmax		pmax		
	comp=Z,14nm,0.8s								
AAA	**Alma-Ata**	**81.53**	**315**	*eP*			**P**	**06 35 05.2**	**-0.9**
AAA	**Alma-Ata**	**81.53**	**315**	*eP*			**P**	**06 35 05.1**	**-0.9**
PAX	**Paxson**	**81.58**	**24**		IAmb		IAmb	06 35 13.0	
	comp=Z,22nm,1.6s								
CRQM	**Cirque**	**81.65**	**27**		IAmb		IAmb	06 35 15.2	
	comp=Z,22nm,1.0s								
E22K	**Anaktuvuk Pass**	**81.81**	**18**		IAmb		IAmb	06 35 13.9	
	comp=Z,40nm,1.9s								
K24K	**Donnelly Dome**	**81.82**	**23**		IAmb		IAmb	06 35 16.5	
	comp=Z,14nm,0.8s								
ILAR	**Eielson Array**	**81.83**	**22**				**P**	**06 35 07.2**	**+0.1**
ILAR	**Eielson Array**	**81.83**	**22**	P			**P**	**06 35 05.9**	**-1.2**
	comp=Z,6.5nm,0.7s,baz=247,slow=5.3,SNR=25								
	comp=Z,6.5nm,0.7s								
ILAR	**Eielson Array**	**81.83**	**22**	P			**P**	**06 35 07.2**	**+0.1**
RIDG	**Independent Ri**	**82.17**	**24**		IAmb		IAmb	06 35 16.8	
	comp=Z,20nm,1.0s								
KURK	**Kurchatov**	**82.30**	**322**	*ceP*			**P**	**06 35 09.3**	**-0.5**
KURK					pmax		pmax		
	comp=Z,11nm,1.7s								
KURBB	**Kurchatov Arra**	**82.33**	**322**	P			**P**	**06 35 07.8**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=108,slow=4.3,SNR=4.5								
	comp=Z,0.3nm,0.4s								
E23K	**Chandalar**	**82.47**	**19**	P			**P**	**06 35 12.2**	**+1.7**
E23K					IAmb		IAmb	06 35 17.7	
	comp=Z,17nm,1.4s								
CTGM	**Chitina Glacie**	**82.54**	**27**		IAmb		IAmb	06 35 19.5	
	comp=Z,20nm,1.0s								
D23K	**Nanushuk River**	**82.61**	**18**		IAmb		IAmb	06 35 20.3	
	comp=Z,13nm,0.9s								
SCRK	**Sand Creek**	**82.61**	**24**		IAmb		IAmb	06 35 18.6	
	comp=Z,24nm,1.6s								
F24K	**Squaw Lake**	**82.78**	**20**		IAmb		IAmb	06 35 21.5	
	comp=Z,9.5nm,0.8s								
L27K	**Beaver Creek,**	**83.13**	**25**		IAmb		IAmb	06 35 21.8	
	comp=Z,27nm,1.4s								
AAK	**Ala-Archa**	**83.15**	**314**	*ceP*			**P**	**06 35 13.3**	**-1.3**
AAK					pmax		pmax		
	comp=Z,5.0nm,0.7s								
BCAR	**Beaver Creek A**	**83.15**	**25**	P			**P**	**06 35 15.3**	**+1.3**
SGDS	**Sogindy**	**83.22**	**314**	*eP*			**P**	**06 35 13.8**	**-1.0**
	comp=Z,10nm,1.1s								
BMAR	**Burnt Mountain**	**83.87**	**20**				**P**	**06 35 19.8**	**+2.2**
BTLS	**Baital**	**83.95**	**316**	*eP*			**P**	**06 35 17.6**	**-1.0**
BTLS	**Baital**	**83.95**	**316**	*eP*			**P**	**06 35 17.5**	**-1.0**
ARSB	**Arslanbob**	**84.00**	**312**		IAmb		IAmb	06 35 26.8	
	comp=Z,21nm,1.2s								
EGAK	**Eagle**	**84.06**	**23**		IAmb		IAmb	06 35 25.5	
	comp=Z,14nm,1.1s								
D25K	**Kavik River**	**84.13**	**18**		IAmb		IAmb	06 35 45.7	
	comp=Z,11nm,1.2s								
M29M	**Somme Creek**	**84.35**	**26**		IAmb		IAmb	06 35 28.8	
	comp=Z,10.0nm,1.0s								
DAWY	**Dawson**	**84.51**	**24**	P			**P**	**06 35 22.6**	**+1.6**
DAWY					IAmb		IAmb	06 35 29.0	
	comp=Z,17nm,1.2s								
G27K	**Doyon Strip**	**84.65**	**21**		IAmb		IAmb	06 35 29.7	
	comp=Z,26nm,1.9s								
L29M	**L29M**	**84.72**	**25**		IAmb		IAmb	06 35 30.3	
	comp=Z,15nm,1.1s								
M30M	**Minto, Yukon**	**85.12**	**26**		IAmb		IAmb	06 35 32.2	
	comp=Z,20nm,1.4s								
K29M	**Barlow Dome**	**85.21**	**25**		IAmb		IAmb	06 35 33.4	
	comp=Z,20nm,1.1s								
TRKS	**Terek-Say**	**85.40**	**312**	P			**P**	**06 35 24.8**	**-1.3**
DZA	**Taraz**	**85.48**	**313**	*eP*			**P**	**06 35 25.3**	**-1.1**
DZA	**Taraz**	**85.48**	**313**	*eP*			**P**	**06 35 25.2**	**-1.1**
BRZS	**Berezniki**	**85.83**	**321**	*eP*			**P**	**06 35 27.3**	**-0.6**
BRZS	**Berezniki**	**85.83**	**321**	*eP*			**P**	**06 35 27.3**	**-0.6**
J30M	**Hart River**	**85.94**	**24**		IAmb		IAmb	06 35 36.9	
	comp=Z,20nm,1.0s								
QSPA	**South Pole Qui**	**86.03**	**180**	P			**P**	**06 35 27.9**	**-0.8**
QSPA	**South Pole Qui**	**86.03**	**180**	P			**P**	**06 35 28.8**	**+0.2**
	comp=Z,5.3nm,1.1s,baz=329,slow=1.2,SNR=17								
QSPA					LR		LR	07 12 40.9	
	comp=Z,131nm,19.2s,baz=28,slow=35								
	comp=Z,5.3nm,1.1s								
E28M	**Babbage River**	**86.08**	**20**		IAmb		IAmb	06 35 37.3	
	comp=Z,9.6nm,0.9s								
M31M	**Drury Creek, Y**	**86.08**	**27**		IAmb		IAmb	06 35 36.4	
	comp=Z,32nm,1.6s								
KKAR	**Karatay Array**	**86.11**	**314**				**P**	**06 35 28.6**	**-0.8**
KKAR	**Karatay Array**	**86.11**	**314**	P			**P**	**06 35 28.6**	**-0.8**
I30M	**Mount Dempster**	**86.12**	**24**		IAmb		IAmb	06 35 36.7	
	comp=Z,34nm,1.6s								
P33M	**Teslin, Yukon**	**86.30**	**29**		IAmb		IAmb	06 35 37.8	
	comp=Z,13nm,1.2s								
N32M	**Quiet Lake**	**86.41**	**28**		IAmb		IAmb	06 35 39.0	
	comp=Z,16nm,1.0s								
BRLS	**Boroldoy**	**86.59**	**313**	*eP*			**P**	**06 35 31.4**	**-0.4**
BRLS	**Boroldoy**	**86.59**	**313**	*eP*			**P**	**06 35 31.4**	**-0.4**
SIMJ	**Simiganj**	**86.59**	**309**				**P**	**06 35 31.6**	**-0.5**
S34M	**Telegraph Cree**	**86.60**	**31**		IAmb		IAmb	06 35 44.2	
	comp=Z,18nm,1.2s								
T35M	**Bob Quinn**	**86.87**	**32**		IAmb		IAmb	06 35 41.1	
	comp=Z,32nm,1.0s								
R33M	**Jennings River**	**87.01**	**30**		IAmb		IAmb	06 35 41.9	
	comp=Z,14nm,1.1s								
BVAR	**Borovoye Array**	**87.78**	**323**	P			**P**	**06 35 35.8**	**-1.5**
	comp=Z,2.7nm,0.8s,baz=138,slow=7.2,SNR=3.8								
	comp=Z,2.7nm,0.8s								
INK	**Inuvik**	**88.09**	**21**		IAmb		IAmb	06 35 41.9	
	comp=Z,13nm,1.3s								
INK	**Inuvik**	**88.09**	**21**		LR		LR	07 14 60.0	
	comp=Z,158nm,18.4s,baz=260,slow=36								
NVAR	**Mina Array Bea**	**92.54**	**52**	P			**P**	**06 36 00.3**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=256,slow=5.1,SNR=4.0								
	comp=Z,0.2nm,0.6s								
PFO	**Pinyon Flats O**	**93.82**	**57**		LR		LR	07 10 10.0	
	comp=Z,299nm,21.8s,baz=229,slow=30								
SYO	**Syowa Base**	**94.07**	**200**	*eP*	cP		**PcP**	**06 36 08.2**	**+1.5**
YKA	**Yellowknife Ar**	**95.24**	**28**	P			**P**	**06 36 11.9**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=269,slow=4.6,SNR=3.9								
	comp=Z,1.5nm,0.7s								
LPIG	**La Paz**	**99.03**	**66**		LR		LR	07 15 54.6	
	comp=Z,575nm,19.0s,baz=268,slow=32								
PDAR	**Pinedale Array**	**99.19**	**47**	P			**Pdif**	**06 36 30.9**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=267,slow=5.9,SNR=4.7								
	comp=Z,0.3nm,0.6s								
RES	**Resolute Bay**	**99.88**	**14**		LR		LR	07 18 54.4	
	comp=Z,121nm,21.2s,baz=294,slow=34								
KLMR	**Klimovskoe**	**104.02**	**332**	*eP*			**Pdif**	**06 36 47.3**	**-3.8**
KLMR					pmax		pmax		
	comp=Z,6.0nm,1.0s								
PETF	**Flores**	**118.48**	**73**				**PKiKP**	**06 41 37.4**	**+0.4**
GERES	**GERESS Array B**	**122.65**	**328**	PKP			**PKPdf**	**06 41 44.1**	**-0.1**
	comp=Z,0.4nm,0.2s,baz=45,slow=0.6,SNR=4.6								
TRCB	**Terra Rica**	**144.47**	**139**				PKPbc	06 42 24.2	+0.2
TORD	**Torodi Ar. Bea**	**148.83**	**289**	PKPbc			**PKPbc**	**06 42 36.6**	**-0.3**
	comp=Z,9.5nm,1.1s,baz=48,slow=3.2,SNR=16								
BDFB	**Brasilia**	**152.58**	**136**	PKPbc			**PKPbc**	**06 42 45.9**	**0.0**
	comp=Z,11nm,0.9s,baz=263,slow=1.6,SNR=5.7								

IDC ***18*** *06:25:55.9±0.5, 6.65S×154.34E, h0km, mb4.6/20, mbtmp4.6/23, ML3.8/3, MS4.5/1, Error ellipse: s-maj=15.2km s-min=12.3km az=113.0*

MOS ***18*** *06:25:56.4±1.1, 6.60S×154.45E, h12km, mb5.1/14, Error ellipse: s-maj=9.4km s-min=8.8km az=106.1*

NEIC ***18*** *06:25:58.7±1.4, 6.59S±0.08×154.25E±0.08, h10km±1km, mb5.1/137, Error ellipse: s-maj=15.4km s-min=11.4km az=38.0*

BJI ***18*** *06:26:01.3, 6.05S×154.88E, h39km, mB5.3/17, mb5.0/46, Ms4.9/20, Ms7 4.6/21*

GCMT ***18*** *06:26:01.0±0.2, 6.83S±0.02×154.37E±0.02, h19km, MW5.1/80, Moment Tensor Solution. s50,c61; s80,c104; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 4.31±.23; Mθθ -2.66±.17; Mϕϕ -1.65±.15; Mrθ 3.73±.42; Mϕθ 1.73±.12; Mϕr -1.16±.39; Best double couple: M0 5.67600×10^16 NP1: ϕs 316.00000°, δ25.00000°, λ110.00000°. NP2: ϕs 114.00000°, δ67.00000°, λ81.00000°. Principal axes: T 5.9490, Plg67.0000°, Azm8.0000°; N -0.5470, Plg8.0000°, Azm118.0000°; P -5.4020, Plg21.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***18*** *06:26:06.9±1.0, 7.75S±6.15°×4E±1°, h78km±9km, M5.1/13, mB5.8/2, mb4.6/13, MLv5.3/1, Mw(mB)5.3/2, MwMwp5.3/3, Mwp5.5/3*

ISC 18 06:25:57.7±0.3, 6.59S±0.05×154.37E±0.05, h10km, n204, σ1945/175, mb5.1/104, MS4.8/11, 4C-11D,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.24**	**317**				**Pn**	**06 26 48.0**	**-0.7**
TATA	**Tatamba Isabel**	**5.68**	**109**			P	**Pn**	**06 27 24.5**	**+2.3**
HNR	**Honiara**	**6.20**	**117**			Pn	**Pn**	**06 27 31.4**	**+2.0**
HNR	**Honiara**	**6.20**	**117**			Pn	**Pn**	**06 27 27.7**	**-1.7**
	13nm,0.3s,baz=94,slow=10.0,SNR=1.5								
HNR						Sn	**Sn**	**06 28 40.1**	**-0.4**
	16nm,0.3s,baz=136,slow=11,SNR=2.5								
	88nm,0.6s								
ALEG	**Aligegeo Malai**	**6.63**	**109**			P	**Pn**	**06 27 37.8**	**+2.5**
PMG	**Port Moresby**	**7.67**	**248**				**Pn**	**06 27 48.2**	**-1.4**
PMG	**Port Moresby**	**7.67**	**248**			Pn	**Pn**	**06 27 49.2**	**-0.4**
	12nm,0.3s,baz=43,slow=9.4,SNR=10								
PMG						Sn	**Sn**	**06 29 18.9**	**+2.3**
	2.6nm,0.3s,baz=81,slow=22,SNR=10								
	17nm,0.5s								
PMG	**Port Moresby**	**7.67**	**248**			P	**Pn**	**06 27 52.6**	**+3.0**
PMG	**Port Moresby**	**7.67**	**248**	↓	*i* P		Pn	06 27 54.2	+4.6
PATS	**Pohnpei**	**13.91**	**17**			Pn	**Pn**	**06 29 13.0**	**-2.0**
SANVU	**Saraoutou**	**15.36**	**126**			Pn	**Pn**	**06 29 34.3**	**-0.4**
SANVU						IAmb	IAmb	06 29 41.5	
	comp=Z,197nm,1.8s								
CTA	**Charters Tower**	**15.56**	**210**			P	**Pn**	**06 29 39.2**	**+1.8**
CTAO	**Charters Tower**	**15.56**	**210**				**Pn**	**06 29 36.8**	**-0.6**
CTAO	**Charters Tower**	**15.56**	**210**			P	**Pn**	**06 29 36.8**	**-0.6**
CTAO						pmax	pmax		
	comp=Z,57nm,1.1s								
EIDS	**Eidsvold**	**18.94**	**189**				**P**	**06 30 15.1**	**-3.9**
DZM	**Mont Dzumac**	**19.31**	**144**				**P**	**06 30 21.1**	**-2.1**
DZM	**Mont Dzumac**	**19.31**	**144**			P	**P**	**06 30 21.8**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=334,slow=11,SNR=5.4								
	comp=Z,15nm,0.9s								
DZM	**Mont Dzumac**	**19.31**	**144**			P	**P**	**06 30 26.2**	**+2.0**
ONTNC	**Ouen Toro**	**19.50**	**144**			P	**P**	**06 30 23.6**	**-1.5**
QIS	**Mount Isa**	**19.94**	**224**			P	**Pn**	**06 30 30.9**	**-0.8**
TARA	**Tarawa**	**20.13**	**68**			P	**P**	**06 30 31.7**	**-0.4**
TARA						IAmb	IAmb	06 30 48.3	
	comp=Z,147nm,1.2s								
QLP	**Quilpie**	**22.10**	**205**			P	**P**	**06 30 54.5**	**+1.2**
WB0	**Warramunga Arr**	**23.41**	**234**				**P**	**06 31 05.7**	**-1.4**
WB0						IAmb	IAmb	06 31 08.9	
	comp=Z,79nm,1.3s								
WR8	**Warramunga Arr**	**23.42**	**234**				**P**	**06 31 06.1**	**-1.2**
WR8						IAmb	IAmb	06 31 09.0	
	comp=Z,50nm,1.1s								
WRAB	**Tennant Creek**	**23.53**	**234**			P	**P**	**06 31 07.2**	**-1.1**
WRAB						IAmb	IAmb	06 31 09.9	
	comp=Z,70nm,1.3s								
WRAB	**Tennant Creek**	**23.53**	**234**	↓	*i* P		**P**	**06 31 07.6**	**-0.7**
WRAB						pmax	pmax		
	comp=Z,58nm,1.2s								
WRA	**Warramunga Arr**	**23.54**	**234**			P	**P**	**06 31 06.9**	**-1.6**
WRA	**Warramunga Arr**	**23.54**	**234**			P	**P**	**06 31 07.7**	**-0.8**
	comp=Z,27nm,0.9s,baz=51,slow=9.0,SNR=34								
WRA						PcP	**PcP**	**06 34 54.1**	**0.0**
	comp=Z,0.8nm,0.5s,baz=55,slow=2.7,SNR=1.0								
WRA						S	**S**	**06 35 21.4**	**-1.3**
	comp=Z,1.5nm,1.0s,baz=57,slow=16,SNR=5.2								
WRA						LR	LR	06 41 05.0	
	comp=Z,1μm,18.0s,baz=44,slow=39								
	comp=Z,27nm,0.9s								
WRA	**Warramunga Arr**	**23.54**	**234**	*i*	P		**P**	**06 31 07.6**	**-0.9**
WRA						pmax	pmax		
	comp=Z,21nm,0.8s								
MTN	**Manton Dam**	**23.72**	**253**				**P**	**06 31 09.3**	**-0.9**
INKA	**Innaminka**	**24.69**	**210**				**P**	**06 31 17.9**

CMAR	Chiang Mai Arr	60.05	296	P		P	06 36 04.3	-1.1	
	comp=Z,0.8nm,0.3s,baz=112,slow=5.0,SNR=15								
	comp=Z,0.8nm,0.3s								
CMAR	Chiang Mai Arr	60.05	296	P		P	06 36 05.0	-0.4	
CHTO	Chiang Mai	60.17	296	P		P	06 36 04.1	-2.1	
CHTO				IAmb		IAmb	06 36 21.2		
	comp=Z,19nm,1.2s								
CHTO	Chiang Mai	60.17	296	P		P	06 36 04.1	-2.1	
CHTO				pmax		pmax			
	comp=Z,19nm,1.3s								
PZH	PanZhiHua	60.67	305	P		P	06 36 13.4	+3.7	
XLT	XiLinHaoTe	60.99	329	eP		P	06 36 11.3	-0.2	
XLT				pP		pwP	06 36 19.0	-1.8	
XLT				sP		sP	06 36 25.3	+12	
XLT				pmax		pmax			
	comp=Z,13nm,0.5s								
XLT				LR		LR			
	comp=Z,220nm,14.4s								
XLT				LR		LR			
	comp=Z,220nm,16.7s								
CD2	Chengdu	61.08	311	P		P	06 36 14.6	+2.3	
HHC	Hu-ho-hao-te	61.40	324	eP		P	06 36 18.6	+4.2	
HHC				S		S	06 44 33.8	-1.7	
HHC				SS		SS	06 48 31.3	-5.2	
HHC				pmax		pmax			
	comp=Z,26nm,0.6s								
HHC				pmax		pmax			
	comp=Z,73nm,5.0s								
HHC				LR		LR			
	comp=Z,150nm,15.3s								
HHC				LR		LR			
	comp=Z,290nm,16.8s								
HHC				LR		LR			
	comp=Z,400nm,16.1s								
BTO	Baotou	62.16	323	eP		P	06 36 25.6	+6.1	
BTO				PP		PP	06 38 40.0	+3.6	
BTO				pmax		pmax			
	comp=Z,15nm,0.6s								
BTO				pmax		pmax			
	comp=Z,330nm,4.3s								
BTO				LR		LR			
	comp=Z,480nm,10.8s								
BTO				LR		LR			
	comp=Z,280nm,10.7s								
BTO				LR		LR			
	comp=Z,570nm,12.0s								
LZH	Lanzhou	63.59	316	eP		P	06 36 31.5	+2.3	
LZH				sP		pwP	06 36 42.0	+3.5	
LZH				pmax		pmax			
	comp=Z,41nm,1.3s								
LZH				pmax		pmax			
	comp=Z,190nm,4.1s								
LZH				LR		LR			
	comp=Z,430nm,14.1s								
LZH				LR		LR			
	comp=Z,320nm,14.4s								
LZH				LR		LR			
	comp=Z,380nm,14.4s								
LZDM	Lanzhou Array	63.63	316	P		P	06 36 30.5	+0.9	
	comp=Z,6.8nm,0.6s,baz=122,slow=7.2,SNR=12								
	comp=Z,6.8nm,0.6s								
ZEA	Zeya	64.31	343	eP		P	06 36 33.3	0.0	
GTA	Gaotai	68.02	317	P		P	06 36 59.5	+1.8	
GTA				S		S	06 45 57.6	+0.3	
GTA				pmax		pmax			
	comp=Z,30nm,1.4s								
GTA				pmax		pmax			
	comp=Z,190nm,5.2s								
ULN	Ulaanbaatar	68.33	328	↓ iP		P	06 37 00.5	+1.0	
ULN				i *PP		PcP	06 37 21.2	-3.8	
ULN				pmax		pmax			
	comp=Z,3.0nm,1.1s								
SHL	Shillong	68.56	301			P	06 37 01.3	-0.1	
SHL	Shillong	68.56	301	P		P	06 37 01.3	-0.1	
SHL				pmax		pmax			
	comp=Z,41nm,1.2s								
SONM	Songino Array	68.66	327			P	06 37 01.7	+0.2	
SONM	Songino Array	68.66	327	P		P	06 37 01.1	-0.4	
	comp=Z,2.0nm,0.6s,baz=130,slow=5.0,SNR=6.3								
	comp=Z,2.0nm,0.6s								
SONM	Songino Array	68.66	327	P		P	06 37 01.7	+0.2	
SONM				pmax		pmax			
	comp=Z,14nm,1.4s								
GOMU	GeErMu	70.11	312	P		P	06 37 12.5	+1.5	
GOMU				S		S	06 46 17.8	-4.9	
GOMU				pmax		pmax			
	comp=Z,3.0nm,1.0s								
GOMU				LR		LR			
	comp=Z,950nm,16.0s								
GOMU				LR		LR			
	comp=Z,720nm,16.8s								
GOMU				LR		LR			
	comp=Z,290nm,16.1s								
VNDA	Vanda	71.00	178	P		P	06 37 16.3	+1.0	
VNDA	Vanda	71.00	178	P		P	06 37 15.4	+0.2	
	comp=Z,1.9nm,0.9s,baz=319,slow=7.1,SNR=5.5								
	comp=Z,1.9nm,0.9s								
YAK	Yakutsk	71.03	348	↓ iP		P	06 37 15.3	-0.3	
YAK				i *PP		PcP	06 37 38.6	+2.8	
YAK				pmax		pmax			
	comp=Z,14nm,1.1s								
ZAK	Zakamensk	71.83	328	eP		P	06 37 20.7	-0.1	
ZAK				pmax		pmax			
	comp=Z,12nm,1.5s								
EVN	Everest	73.60	302	P		P	06 37 31.9	-0.5	
EVN				IAmb		IAmb	06 37 48.8		
	comp=Z,34nm,1.3s								
M16K	Timber Creek	76.56	21	IAmb		IAmb	06 37 49.3		
	comp=Z,25nm,1.1s								
WMQ	Urumqi	78.11	317	eP		P	06 37 59.9	+2.7	
WMQ				LR		LR			
	comp=Z,290nm,23.8s								
HYB	Hyderabad	78.55	289	i P		P	06 37 59.6	-0.5	
ZSN	Zaisan	81.24	320	eP		P	06 38 14.2	+0.1	
ZSN	Zaisan	81.24	320	eP		P	06 38 14.2	+0.1	
IMAR	Indian Mountai	81.55	19	P		P	06 38 14.7	-0.6	
MCK	McKinley	81.92	22	IAmb		IAmb	06 38 29.2		
	comp=Z,12nm,1.0s								
KLU	Klutina	81.93	25	IAmb		IAmb	06 38 18.4		
	comp=Z,22nm,1.3s								
MK31	Makanchi Array	82.69	319	d iP		P	06 38 22.4	+0.6	
MKAR	Makanchi Array	82.69	319			P	06 38 21.8	0.0	
MKAR	Makanchi Array	82.69	319	P		P	06 38 22.0	+0.2	
	comp=Z,3.8nm,0.4s,baz=96,slow=7.3,SNR=38								
	comp=Z,3.8nm,0.4s								
MKAR	Makanchi Array	82.69	319	eP		P	06 38 22.6	+0.8	
MKAR				pmax		pmax			
	comp=Z,4.0nm,0.4s								
GLB	Gilahina Butte	82.79	25	IAmb		IAmb	06 39 11.2		
	comp=Z,16nm,1.3s								
ILAR	Eielson Array	83.23	22	P		P	06 38 22.8	-1.3	
	comp=Z,2.4nm,0.9s,baz=246,slow=5.1,SNR=9.7								
	comp=Z,2.4nm,0.9s								
QSPA	South Pole Qui	83.38	180	P		P	06 38 26.1	+1.0	
QSPA	South Pole Qui	83.38	180	P		P	06 38 25.1	0.0	
	comp=Z,9.0nm,1.0s,baz=347,slow=3.6,SNR=7.6								
	comp=Z,9.0nm,1.0s								
ZAA0	Zalesovo Array	83.50	326			P	06 38 26.4	+0.7	
ZALV	Zalesovo Beam	83.50	326			P	06 38 24.4	-1.3	
ZALV	Zalesovo Beam	83.50	326	P		P	06 38 25.9	+0.2	
	comp=Z,2.4nm,0.5s,baz=110,slow=6.2,SNR=8.4								
	comp=Z,2.4nm,0.5s								
SHLS	Shalkode	83.59	315	eP		P	06 38 25.2	-1.5	
	comp=Z,14nm,1.2s								
SHLS	Shalkode	83.59	315	eP		P	06 38 25.1	-1.5	
SHLS				pmax		pmax			
	comp=Z,14nm,1.2s								
J25K	Salcha River,	83.71	22	IAmb		IAmb	06 38 26.7		
	comp=Z,10nm,1.1s								
DOT	Dot Lake	83.74	23	IAmb		IAmb	06 38 27.2		
	comp=Z,14nm,1.2s								
UZB	Uzynbulak	83.90	315	eP		P	06 38 28.2	-0.1	
	comp=Z,11nm,1.3s								
UZB	Uzynbulak	83.90	315	eP		P	06 38 28.1	-0.1	
UZB				pmax		pmax			
	comp=Z,11nm,1.3s								
SATY	Saty	84.32	314	eP		P	06 38 30.4	+0.1	
	comp=Z,13nm,1.3s								
SATY	Saty	84.32	314	eP		P	06 38 30.4	+0.1	
SATY				pmax		pmax			
	comp=Z,13nm,1.3s								
BCAR	Beaver Creek A	84.38	24	P		P	06 38 30.2	+0.1	
TARG	Taragay, Kyrgy	84.42	313	IAmb		IAmb	06 38 46.4		
	comp=Z,17nm,1.2s								
MAW	Mawson	84.53	203	P		P	06 38 29.7	-1.0	
	comp=Z,1.8nm,0.4s,baz=124,slow=3.3,SNR=4.7								
	comp=Z,1.8nm,0.4s								
K27K	Chicken	84.70	23	IAmb		IAmb	06 38 32.2		
	comp=Z,22nm,1.6s								
TDK	Taldyqorghan	84.80	316	eP		P	06 38 32.8	+0.1	
	comp=Z,1.1nm,0.6s								
TDK	Taldyqorghan	84.80	316	eP		P	06 38 32.7	+0.1	
TDK				pmax		pmax			
	comp=Z,7.0nm,0.6s								
KSH	Kashi	85.28	311	P		P	06 38 38.3	+3.0	
KSH				S		SKSac	06 48 58.6	-2.1	
KSH				pmax		pmax			
	comp=Z,19nm,1.1s								
KSH				pmax		pmax			
	comp=Z,130nm,4.3s								
HYT	Haines Junctio	85.30	27	IAmb		IAmb	06 39 20.8		
	comp=Z,18nm,1.4s								
MDOK	Medeo	85.31	314	eP		P	06 38 35.5	+0.1	
MDOK	Medeo	85.31	314	eP		P	06 38 35.5	+0.1	
TNSS	Tian-Shan	85.35	314	eP		P	06 38 35.5	-0.4	
TNSS	Tian-Shan	85.35	314	eP		P	06 38 35.5	-0.4	
EGAK	Eagle	85.39	23	P		P	06 38 35.3	+0.3	
AAA	Alma-Ata	85.41	314	eP		P	06 38 35.9	+0.1	
AAA	Alma-Ata	85.41	314	eP		P	06 38 35.9	+0.1	
G26K	Porcupine Rive	85.42	20	IAmb		IAmb	06 38 36.5		
	comp=Z,12nm,1.0s								
DAWY	Dawson	85.78	24	IAmb		IAmb	06 40 27.5		
	comp=Z,24nm,1.8s								
L29M	L29M	85.91	25	IAmb		IAmb	06 40 41.0		
	comp=Z,36nm,2.0s								
KURK	Kurchatov	86.13	322			P	06 38 38.5	-0.5	
KURK	Kurchatov	86.13	322	↓ iP		P	06 38 38.7	-0.3	
KURK				pmax		pmax			
	comp=Z,9.0nm,1.2s								
KURBB	Kurchatov Arra	86.16	322	P		P	06 38 38.9	-0.3	
	comp=Z,1.0nm,0.5s,baz=94,slow=5.3,SNR=8.7								
	comp=Z,1.0nm,0.5s								
NIL	Nilore	86.27	304			P	06 38 40.7	+0.5	
NIL				IAmb		IAmb	06 38 41.6		
	comp=Z,24nm,1.2s								
NIL	Nilore	86.27	304	P		P	06 38 40.7	+0.5	
NIL				pmax		pmax			
	comp=Z,24nm,1.3s								
N31M	Braeburn, Yuko	86.32	27	IAmb		IAmb	06 38 56.0		
	comp=Z,34nm,1.6s								
K29M	Barlow Dome	86.45	24	IAmb		IAmb	06 38 56.0		
	comp=Z,14nm,1.1s								
E27K	Coleen River	86.74	20	P		P	06 38 41.9	+0.2	
E27K				IAmb		IAmb	06 38 42.9		
	comp=Z,11nm,1.1s								
SGDS	Sogindy	87.09	314	eP		P	06 38 44.0	0.0	
	comp=Z,8.6nm,1.1s								
J30M	Hart River	87.21	24	IAmb		IAmb	06 38 58.5		
	comp=Z,11nm,1.2s								
I30M	Mount Dempster	87.43	23			P	06 38 45.1	-0.1	
G29M	Pine Creek	87.45	21	IAmb		IAmb	06 38 46.5		
	comp=Z,16nm,1.2s								
EPYK	Eagle Plains	87.72	22	IAmb		IAmb	06 38 47.3		
	comp=Z,8.4nm,0.8s								
BTLS	Baital	87.82	316	eP		P	06 38 47.4	0.0	
BTLS	Baital	87.82	316	eP		P	06 38 47.4	0.0	
TRKS	Terek-Say	89.28	312	P		P	06 38 55.6	+1.0	
KKAR	Karatay Array	89.99	313			P	06 38 57.3	-0.4	
KKAR	Karatay Array	89.99	313	P		P	06 38 57.3	-0.4	
SIMJ	Simiganj	90.46	309			P	06 38 59.6	-0.5	
SIMJ				IAmb		IAmb	06 39 05.5		
	comp=Z,16nm,1.6s								
CHM	Chimkent	90.53	312	eP		P	06 39 00.4	+0.1	
CHM	Chimkent	90.53	312	eP		P	06 39 00.4	+0.1	
BEKR	Beckworth	90.56	50	IAmb		IAmb	06 39 02.5		
	comp=Z,14nm,1.3s								
WAKR	Walker	91.09	52	IAmb		IAmb	06 39 05.0		
	comp=Z,14nm,1.3s								
PAHR	Pah Rah Range	91.28	50	IAmb		IAmb	06 39 06.6		
	comp=Z,11nm,1.2s								
ISA	Isabella, Lake	91.49	54	IAmb		IAmb	06 39 06.5		
	comp=Z,9.2nm,1.2s								
BVAR	Borovoye Array	91.60	323	P		P	06 39 03.8	-1.2	
	comp=Z,1.3nm,0.5s,baz=76,slow=6.1,SNR=6.0								
	comp=Z,1.3nm,0.5s								
LHV	Little Huntoon	91.78	52	IAmb		IAmb	06 39 08.8		
	comp=Z,16nm,1.0s								
RYN	Ryan	91.81	52	IAmb		IAmb	06 39 08.7		
	comp=Z,13nm,1.1s								
CWC	Cottonwood Cre	91.90	54	IAmb		IAmb	06 39 08.7		
	comp=Z,15nm,1.4s								
NVAR	Mina Array Bea	91.96	52	P		P	06 39 07.6	+0.4	
NVAR	Mina Array Bea	91.96	52	P		P	06 39 07.0	-0.3	
	comp=Z,11nm,1.0s,baz=252,slow=6.2,SNR=47								
	comp=Z,11nm,1.0s								
LRMC	Laurel Mtn Rad	92.11	55	IAmb		IAmb	06 39 10.0		
	comp=Z,16nm,1.1s								
MPMC	Manual Prospec	92.33	54	IAmb		IAmb	06 39 10.9		
	comp=Z,15nm,1.3s								
DPP	Dos Picos Cty	92.45	57	IAmb		IAmb	06 39 11.5		
	comp=Z,17nm,1.3s								
SYO	Syowa Base	92.50	199	ep		pP	06 39 12.6	+2.7	
TPH	Tonopah	92.77	52	IAmb		IAmb	06 39 12.5		
	comp=Z,14nm,1.1s								
QSM	Queen of Sheba	92.82	54	IAmb		IAmb	06 39 12.7		
	comp=Z,15nm,1.2s								
BORC	Borrego Spring	92.91	57	IAmb		IAmb	06 39 14.2		
	comp=Z,11nm,1.3s								
PFO	Pinyon Flats O	92.91	57			P	06 39 12.0	+0.3	
PFO				IAmb		IAmb	06 39 13.6		
	comp=Z,14nm,1.2s								
PFO	Pinyon Flats O	92.91	57	↓ iP		P	06 39 12.5	+0.9	
PFO				pmax		pmax			
	comp=Z,22nm,1.2s								
PMD	Palm Desert	92.98	57	IAmb		IAmb	06 39 13.6		
	comp=Z,14nm,1.2s								
E09A	Wood Farm, Sta	93.00	44	IAmb		IAmb	06 39 12.2		
	comp=Z,12nm,1.3s								
GWY	Greenwater Val	93.01	54	IAmb		IAmb	06 39 13.7		
	comp=Z,13nm,1.3s								
WCT	Wildcat Mounta	93.10	53	IAmb		IAmb	06 39 14.2		
	comp=Z,17nm,1.3s								
BMO	Blue Mountains	93.41	45	IAmb		IAmb	06 39 14.1		
	comp=Z,8.4nm,1.4s								
TPNV	Topopah Spring	93.42	53	IAmb		IAmb	06 39 15.8		
	comp=Z,18nm,1.2s								
BC3	Big Chuckawall	93.75	57	P		P	06 39 16.4	+0.9	
BC3				IAmb		IAmb	06 39 17.7		
	comp=Z,17nm,1.3s								
S11A	Rachel	93.88	53	IAmb		IAmb	06 40 05.1		
	comp=Z,19nm,1.4s								
R11B	Troy Canyon, C	94.08	52	IAmb		IAmb	06 39 19.3		
	comp=Z,13nm,1.3s								
V12A	Nelson	94.43	55	IAmb		IAmb	06 39 20.5		
	comp=Z,7.5nm,1.1s								
W13A	Hualapai Mount	95.17	55	IAmb		IAmb	06 39 24.1		
	comp=Z,7.9nm,1.2s								
CCUT	Cedar City	95.77	53			P	06 39 25.9	+1.1	
CCUT				IAmb		IAmb	06 39 37.9		
	comp=Z,11nm,1.5s								
LCMT	Little Creek M	95.82	54	IAmb		IAmb	06 39 27.1		
	comp=Z,19nm,1.6s								
SZCU	Shurtz Canyon	95.99	53	IAmb		IAmb	06 39 27.9		
	comp=Z,11nm,1.5s								
KNB	Kanab	96.16	54			P	06 39 27.4	+0.9	
KNB				IAmb		IAmb	06 39 30.4		
	comp=Z,12nm,1.3s								
KNB	Kanab	96.16	54	P		P	06 39 27.4	+0.9	
KNB				pmax		pmax			
	comp=Z,12nm,1.3s								
CTU	Camp Tracy	97.19	50	IAmb		IAmb	06 39 38.0		
	comp=Z,5.9nm,0.7s								
PDAR	Pinedale Array	98.89	48	P		P	06 39 38.0	-0.8	
	comp=Z,0.9nm,0.9s,baz=286,slow=5.2,SNR=5.8								
	comp=Z,0.9nm,0.9s								
OBN	Obninsk	111.07	327	P		Pdif	06 40 33.5	+1.2	
FNA	Florina	126.06	317	PKIKP		PKPdf	06 45 00.3	-0.5	
GERES	GERESS Array B	126.39	329	PKP		PKPdf	06 45 01.1	-0.1	
	comp=Z,0.3nm,0.4s,baz=54,slow=30,SNR=4.2								
EKA	Eskdalemuir Ar	128.18	344	PKP		PKPdf	06 45 04.6	+0.3	
	comp=Z,0.6nm,0.5s,baz=32,slow=2.5,SNR=3.9								
LPAZ	La Paz	132.19	119	PKP		PKPdf	06 45 13.3	-0.4	
	comp=Z,1.8nm,0.9s,baz=333,slow=2.0,SNR=4.9								
RUSC	La Rusia	132.84	88			PKPdf	06 45 13.4	-1.5	
CPUP	Villa Florida	135.09	138	PKP		PKPdf	06 45 18.6	+0.4	
	comp=Z,0.4nm,0.8s,baz=60,slow=3.5,SNR=3.5								
ESDC	Sonseca Array	141.73	333	PKP		PKPdf	06 45 29.7	-0.4	
	comp=Z,0.7nm,0.3s,baz=348,slow=2.0,SNR=4.7								
BOAV	Boa Vista	144.98	95			PKPbc	06 45 34.6	-1.1	
MESJ	Messejana	145.10	336			PKPbc	06 45 34.4	-1.0	
MESJ	Messejana	145.10	336	PKIKP		PKPbc	06 45 34.4	-1.0	
TAM	Tamanrasset	145.95	302	PKP2		PKPab	06 45 40.6	+1.4	
MD01	Midelt array s	147.44	326	PKPbc		PKPdf	06 45 41.2	+0.9	
BDFB	Brasilia	148.70	135	PKPbc		PKPbc	06 45 45.8	-0.7	
	comp=Z,5.7nm,0.8s,baz=290,slow=0.8,SNR=5.8								
TORD	Torodi Ar. Bea	152.32	286	PKP		PKPdf	06 45 48.3	0.0	
	comp=Z,1.0nm,0.9s,baz=26,slow=2.5,SNR=3.9								
TORD				PKPbc		PKPbc	06 45 55.1	0.0	
	comp=Z,5.4nm,0.7s,baz=46,slow=2.6,SNR=18								

GCG 18 06:41:33.3±1.0, 13°55.N×91°30.W, h30km±77km, MD3.7, ML2.6, MW2.5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	Sabana Grande	0.95	29	eP	Pn	06 41 50.6	-0.1
ESSG				eS	Sb	06 42 04.4	+0.9
FG8	Yepocapa, Chim	1.01	45	eP	Pn	06 41 51.1	-0.5
FG16	Alotenango, Sa	1.05	47	eP	Pn	06 41 51.7	-0.6
	comp=Z,173nm,0.1s						
FG16				IAML		06 42 09.7	
	comp=Z,173nm,0.1s						
NUBE	Las Nubes	1.52	76	eP	Pn	06 41 58.4	-0.2
NUBE				eS	Sn	06 42 18.0	+0.5
JAYA	Jayaque - finc	1.80	86	eP	Pn	06 42 02.6	0.0
JAYA				eS	Sn	06 42 25.6	+1.1
MTO3	Montecristo	2.06	66	eP	Pn	06 42 07.2	+1.0

IDC ***18*** *06:44:42.0±1.2, 5°91S×130°55E, h0km, mb4.0/4, mbtmp4.0/7, ML4.0/3, Error ellipse: s-maj=79.3km s-min=22.1km az=74.0*

ISC 18 06:44:53.4±0.9, 6°45S±0°06×130°4E±0°2, h100km, n13, σ2s52/14, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.97	346	P	Pn	06 45 28.9	+3.3
FAKI	Fak Fak	3.98	28	P	Pn	06 45 51.9	-0.4
DRS	Darwin Rock St	5.96	175	P	Pn	06 46 24.9	+5.7
MTN	Manton Dam	6.40	173	P	Pn	06 46 30.6	+5.5
KDU	Kakadu	6.53	162	P	Pn	06 46 31.1	+4.2
FITZ	Fitzroy Crossi	12.46	201	Pn	Pn	06 47 48.2	+0.9
	1.9nm,0.3s,baz=26,slow=12,SNR=69						
FITZ				Sn	Sn	06 50 02.9	-1.5
	1.2nm,0.3s,baz=240,slow=18,SNR=6.7						
	4.5nm,0.2s						
WRA	Warramunga Arr	13.95	164	Pn	Pn	06 48 07.7	+0.9
	0.4nm,0.3s,baz=331,slow=14,SNR=11						
WRA				Sn	Sn	06 50 37.4	-3.1
	1.2nm,0.3s,baz=332,slow=23,SNR=10						
	0.4nm,0.4s						
ASAR	Alice Springs	17.45	169	P	Pn	06 48 54.2	+3.7
	0.5nm,0.3s,baz=353,slow=11,SNR=23						
ASAR				S	Sn	06 52 04.0	-0.9
	0.9nm,0.5s,baz=360,slow=28,SNR=7.1						
	1.4nm,0.4s						
SONM	Songino Array	58.04	341	P	P	06 54 35.5	-0.6
	0.7nm,0.6s,baz=159,slow=4.3,SNR=2.6						
	0.7nm,0.6s						
MKAR	Makanchi Array	67.97	327	P	P	06 55 41.7	0.0
	3.0nm,0.7s,baz=113,slow=8.5,SNR=21						
	3.0nm,0.7s						
ZALV	Zalesovo Beam	71.26	334	P	P	06 55 59.2	-2.5
	0.6nm,0.5s,baz=145,slow=5.3,SNR=2.2						
	0.6nm,0.5s						
KURBB	Kurchatov Arra	72.24	328	P	P	06 56 05.8	-1.9
	1.0nm,0.6s,baz=130,slow=4.5,SNR=7.0						
	1.0nm,0.6s						
LPAZ	La Paz	150.92	141	PKPbc	PKiKP	07 04 38.7	+1.9
	3.5nm,0.7s,baz=303,slow=7.8,SNR=19						

CATAC ***18*** *06:53:46.0±0.5, 12°N±3°×8°8W±°, h36km±6km, M3.1/15, MLv3.1/15, Error ellipse: s-maj=7.5km s-min=2.4km az=26.5, confirmed*

SNET ***18*** *06:53:47.0±1.1, 12°49N×87°96W, h49km±963km, ML2.4*

ISC 18 06:53:45.5±2.0, 12°40N±0°07×87°99W±0°04, h32km±17km, n33, σ0s55/42, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.89	10	eP	Pn	06 54 01.7	-0.2
CNCH				eS	Sn	06 54 14.4	+0.6
CNCH	Conchagua	0.89	10	P	Pn	06 54 02.0	+0.1
CNCH	Conchagua	0.89	10	S	Sn	06 54 13.6	-0.1
LCND	La Caada	0.91	6	eP	Pn	06 54 01.9	-0.2
LCND				eS	Sn	06 54 14.2	0.0
LCND				IAML		06 54 16.7	
	comp=Z,109nm,0.3s						
LCND	La Caada	0.91	6	P	Pn	06 54 02.1	-0.1
CRIN	San Cristobal	0.97	72	P	Pn	06 54 03.7	+0.8
CRIN	San Cristobal	0.97	72	S	Sn	06 54 16.1	+0.5
PKGN	Cerro Pekin	1.03	74	P	Pn	06 54 03.8	+0.1
PKGN				S	Sn	06 54 17.4	+0.4
PACA	Pacayal	1.12	343	eP	Pb	06 54 06.3	-0.1
PACA				eS	Sn	06 54 19.7	+0.3
PACA	Pacayal	1.12	343	P	Pn	06 54 05.4	+0.4
PACA	Pacayal	1.12	343	S	Sn	06 54 19.0	-0.4
HERN	Volcan Telica	1.16	79	S	Sn	06 54 20.3	+0.1
HERN	Volcan Telica	1.16	79	P	Pn	06 54 05.0	-0.5
HOYN	Al Sur del Vol	1.16	80	P	Pn	06 54 05.8	+0.3
HOYN				S	Sn	06 54 20.1	-0.2
CNGA	Al SSO del Vol	1.27	85	P	Pn	06 54 06.6	-0.4
CNGA				S	Sn	06 54 21.8	-1.1
CNGN	Cerro Negro	1.27	85	S	Sn	06 54 24.4	+1.4
CNGN	Cerro Negro	1.27	85	P	Pn	06 54 07.6	+0.6
COPN	Copaltepe	1.39	99	P	Pn	06 54 07.6	-1.0
UESV	Universidad de	1.46	328	P	Pn	06 54 09.7	0.0
UESV	Universidad de	1.46	328	S	Sn	06 54 27.0	-0.6
MOM2	El Cardon	1.47	88	P	Pn	06 54 09.9	+0.1
MOM2				S	Sn	06 54 28.0	0.0
SCLA	Alcaldia de Sa	1.48	331	P	Pn	06 54 10.7

couple: M_S3.97500×10^{17} NP1:ϕ_s168.00000°, δ22.00000°, λ68.00000°. NP2:ϕ_s12.00000°, δ69.00000°, λ99.00000°. Principal axes: T 3.8320, Plg65.0000°, Azm296.0000°; N 0.2880, Plg8.0000°, Azm189.0000°; P -4.1170, Plg24.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

IDC ***18*** *07:01:06.8±0.9, 5.40N×126.19E, h78$^{km}\pm$7^{km}, mb4.7/34, mbtmp5.1/38, MS4.8/69 Error ellipse: s-maj=14.3km s-min=6.6km az=77.0*

ISC 18 07:01:03.3±0.5, 5.39N±0.03×126.43E±0.04, h44$^{km}\pm$3^{km}, h46^{km}:pP-P, n1121, σ1960/953, mb5.3/235, MS5.0/254, 27C-15D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.88**	**333**		**Pn**	**07 01 34.1**	**+1.2**
DAV	**Davao City (W)**	**1.88**	**333**	P	**Pn**	**07 01 34.5**	**+1.6**
	3μm,0.5s,baz=127,slow=1.6,SNR=25						
DAV				S	**Sn**	**07 01 58.3**	**+3.0**
	9μm,0.5s,baz=81,slow=23,SNR=8.7						
DAV	**Davao City (W)**	**1.88**	**333**	P	**Pn**	**07 01 34.3**	**+1.4**
DAV	**Davao City (W)**	**1.88**	**333**	P	**Pn**	**07 01 31.0**	**-1.9**
SGSI	**Sangihe**	**1.91**	**208**	P	**Pn**	**07 01 33.0**	**-0.4**
TNTI	**Ternate**	**4.68**	**168**		**Pn**	**07 02 12.5**	**+1.1**
TNTI	**Ternate**	**4.68**	**168**	P	**Pn**	**07 02 12.8**	**+1.4**
TNTI	**Ternate**	**4.68**	**168**	P	**Pn**	**07 02 11.9**	**+0.5**
KMSI	**Cibinong**	**5.37**	**207**	P	**Pn**	**07 02 22.7**	**+1.8**
MRSI	**Marisa**	**6.62**	**223**	P	**Pn**	**07 02 39.0**	**+0.9**
TOLI2	**Tolitoli**	**7.06**	**233**	P	**Pn**	**07 02 43.2**	**-0.9**
TOLI2	**Tolitoli**	**7.06**	**233**	S	**Sn**	**07 04 04.8**	**+1.7**
LUWI	**Luwuk**	**7.36**	**210**		**Pn**	**07 02 51.3**	**+3.1**
LUWI	**Luwuk**	**7.36**	**210**	P	**Pn**	**07 02 52.2**	**+4.0**
LUWI	**Luwuk**	**7.36**	**210**	P	**Pn**	**07 02 51.6**	**+3.4**
SANI	**Sanana**	**7.40**	**183**	P	**Pn**	**07 02 47.6**	**-1.2**
SANI	**Sanana**	**7.40**	**183**	S	**Sn**	**07 04 09.2**	**-2.3**
SANI	**Sanana**	**7.40**	**183**	P	**Pn**	**07 02 46.7**	**-2.1**
	1.5nm6μm269nm,0.9s						
SWI	**Sorong**	**7.86**	**142**	P	**Pn**	**07 02 53.3**	**-1.8**
	20μm3μm205nm,0.7s						
MYLDM	**Lahad Datu**	**7.90**	**269**		**Pn**	**07 02 57.9**	**+2.2**
MYLDM	**Lahad Datu**	**7.90**	**269**	P	**Pn**	**07 02 58.9**	**+3.2**
MYLDM	**Lahad Datu**	**7.90**	**269**	S	**Sn**	**07 04 29.6**	**+5.8**
NLAI	**Namlea**	**8.59**	**176**	P	**Pn**	**07 03 05.3**	**+0.1**
AAI	**Ambon**	**9.18**	**169**	P	**Pn**	**07 03 15.8**	**+2.6**
	10μm4μm313nm,0.8s						
KDI	**Kendari**	**10.03**	**202**	P	**Pn**	**07 03 26.4**	**+1.5**
FAKI	**Fak Fak**	**10.09**	**145**		**Pn**	**07 03 24.9**	**-0.8**
FAKI	**Fak Fak**	**10.09**	**145**	P	**Pn**	**07 03 26.8**	**+1.1**
FAKI	**Fak Fak**	**10.09**	**145**	P	**Pn**	**07 03 27.0**	**+1.3**
	14μm3μm172nm,1.1s						
KKM	**Kota Kinabalu**	**10.19**	**274**		**Pn**	**07 03 29.1**	**+2.0**
KKM	**Kota Kinabalu**	**10.19**	**274**	P	**Pn**	**07 03 31.4**	**+4.3**
TGY	**Tagaytay City**	**10.21**	**328**	P	**Pn**	**07 03 28.1**	**+0.7**
	155nm,0.3s,baz=208,slow=11,SNR=1.8						
RKPI	**Ransiki, Papua**	**10.33**	**131**	P	**Pn**	**07 03 32.7**	**+3.7**
	16μm294nm,1.2s						
TTSI	**Tana Toraja**	**10.67**	**218**	P	**Pn**	**07 03 36.1**	**+2.5**
	7μm3μm200nm,0.9s						
SPSI	**Sidrap Palu**	**11.43**	**216**	P	**Pn**	**07 03 45.5**	**+1.5**
	3μm110nm,0.9s						
BNSI	**Bone**	**11.59**	**213**	P	**Pn**	**07 03 48.0**	**+1.8**
	7μm3μm141nm,0.9s						
BAKI	**Biak**	**11.66**	**124**	P	**Pn**	**07 03 47.7**	**+0.5**
KAPI	**Kappang**	**12.30**	**213**		**Pn**	**07 03 56.9**	**+1.0**
KAPI	**Kappang**	**12.30**	**213**	P	**Pn**	**07 03 56.6**	**+0.7**
	36nm,0.6s,baz=15,slow=8.5,SNR=19						
KAPI				S	**Sn**	**07 06 08.4**	**-3.2**
	9.0nm,0.6s,baz=60,slow=19,SNR=0.8						
KAPI				LR	LR	07 09 36.9	
	comp=Z,9μm,19.2s,baz=44,slow=42						
KAPI	**Kappang**	**12.30**	**213**	P	**Pn**	**07 03 59.1**	**+3.2**
KAPI	**Kappang**	**12.30**	**213**	P	**Pn**	**07 03 56.9**	**+1.0**
SBUM	**Sibu**	**14.47**	**259**		**P**	**07 04 29.4**	**-1.9**
SBUM	**Sibu**	**14.47**	**259**	P	**P**	**07 04 29.8**	**-1.5**
EDFI	**Ende, Flores**	**14.82**	**199**	P	**Pn**	**07 04 30.7**	**+0.5**
	156nm,0.8s						
SOEI	**Soe**	**15.20**	**188**		**Pn**	**07 04 36.0**	**+0.8**
SOEI	**Soe**	**15.20**	**188**	P	**Pn**	**07 04 36.0**	**+0.8**
SOEI	**Soe**	**15.20**	**188**	P	**P**	**07 04 39.4**	**-0.1**
	5μm319nm,0.8s						
BATI	**Baumata**	**15.73**	**190**	P	**Pn**	**07 04 43.4**	**+1.3**
	163nm,0.8s,baz=259,slow=1.8,SNR=11						
BATI				S	**Sn**	**07 07 35.0**	**-0.4**
	40nm,0.4s,baz=326,slow=5.1,SNR=1.1						
BATI				LR	LR	07 11 36.3	
	comp=Z,3μm,21.7s,baz=349,slow=40						
GENI	**Genyem**	**15.85**	**120**	P	**Pn**	**07 04 43.0**	**-0.4**
	7μm214nm,1.1s						
JAY	**Jayapura**	**16.27**	**118**	P	**P**	**07 04 52.9**	**+1.4**
	17nm,0.8s,baz=182,slow=9.0,SNR=4.1						
JAY				LR	LR	07 11 00.9	
	comp=Z,7μm,21.6s,baz=312,slow=36						
JAY	**Jayapura**	**16.27**	**118**	P	**Pn**	**07 04 49.1**	**+0.2**
WBSI	**Waikabubak, Su**	**16.50**	**205**	P	**P**	**07 04 55.0**	**+1.2**
	3μm272nm,0.9s						
PLAI	**Plampang**	**16.55**	**211**	P	**Pn**	**07 04 53.0**	**+0.7**
KSM	**Kuching**	**16.55**	**257**		**P**	**07 04 56.1**	**+1.6**
KSM	**Kuching**	**16.55**	**257**	P	**P**	**07 04 55.5**	**+1.0**
TWSI	**Taliwang, Sumb**	**16.96**	**214**	P	**P**	**07 04 59.2**	**+0.3**
	2μm205nm,1.2s						
KMMI	**Kalianget**	**17.53**	**225**	P	**P**	**07 05 07.5**	**+2.2**
	7μm150nm,1.0s						
DRS	**Darwin Rock St**	**18.25**	**166**	P	**P**	**07 05 12.1**	**-1.1**
JAGI	**Jajag, Banyuwa**	**18.42**	**222**		**Pn**	**07 05 16.2**	**+0.7**
JAGI	**Jajag, Banyuwa**	**18.42**	**222**	P	**Pn**	**07 05 17.3**	**+1.8**
YULB	**Yu-li**	**18.57**	**345**	P	**Pn**	**07 05 17.2**	**-0.1**
TPUB	**Ta-pu**	**18.67**	**343**	P	**P**	**07 05 17.9**	**+0.1**
TPUB	**Ta-pu**	**18.67**	**343**	P	**P**	**07 05 16.9**	**-0.9**
MTN	**Manton Dam**	**18.70**	**166**	P	**P**	**07 05 15.9**	**-2.2**
	comp=Z,0.0nmcomp=Z,137nm,1.1s						
MTN	**Manton Dam**	**18.70**	**166**	P	**P**	**07 05 16.6**	**-1.6**
MTN				IAmb	IAmb	07 05 22.6	
	comp=Z,214nm,1.3s						
MTN	**Manton Dam**	**18.70**	**166**	P	**P**	**07 05 16.6**	**-1.6**
GMJI	**Gumukmas**	**18.76**	**224**	P	**Pn**	**07 05 22.0**	**+2.4**
	comp=Z,72nm,0.8s						
KDU	**Kakadu**	**18.93**	**162**	P	**P**	**07 05 18.7**	**-2.0**
	comp=Z,0.0nmcomp=Z,120nm,1.1s						
KDU	**Kakadu**	**18.93**	**162**	P	**P**	**07 05 19.3**	**-1.4**
SSLB	**Suanglung**	**19.04**	**344**	P	**P**	**07 05 22.2**	**+0.4**
SSLB	**Suanglung**	**19.04**	**344**	P	**P**	**07 05 22.3**	**+0.4**
NGJI	**Ngawi**	**19.59**	**230**	P	**Pn**	**07 05 32.3**	**+2.8**
	comp=Z,168nm,1.1s						
YHNB	**Yeheng**	**19.78**	**346**	P	**P**	**07 05 30.4**	**+0.5**
YHNB	**Yeheng**	**19.78**	**346**	P	**Pn**	**07 05 33.3**	**+1.6**
GUMO	**Guam**	**19.91**	**65**	P	**Pn**	**07 05 33.7**	**+0.4**
	comp=Z,82nm,0.9s,baz=127,slow=14,SNR=2.2						
GUMO				LR	LR	07 12 01.7	
	comp=Z,5μm,21.0s,baz=224,slow=32						
	comp=Z,82nm,0.9s						
SMRI	**Semarang**	**20.18**	**232**	P	Pn	07 05 36.0	-0.6
TPI	**Tanjungpandan**	**20.43**	**247**	P	Pn	07 05 38.5	-0.9
	comp=Z,8μmcomp=Z,106nm,0.9s						
KNMB	**Chin-men Tao**	**20.48**	**339**	P	**P**	**07 05 37.0**	**-0.6**
KNMB				IAmb	IAmb	07 05 48.2	
	comp=Z,168nm,0.9s						
HKPS	**Hong Kong Po S**	**20.57**	**326**	P	**P**	**07 05 38.3**	**-0.2**
HKPS	**Hong Kong Po S**	**20.57**	**326**	IAMs_20	IAMs_20	07 14 18.1	
	comp=Z,6μm,19.0s						
HKPS	**Hong Kong Po S**	**20.57**	**326**	P	Pn	07 05 40.1	-1.0
QZH	**Quanzhou**	**20.85**	**340**	P	**P**	**07 05 41.8**	**+0.3**
QZH				S	**S**	**07 09 30.3**	**-1.4**
QZH				pmax	pmax		
	comp=Z,2μm,12.4s						
QZH				LR	LR		
	comp=Z,4μm,7.6s						
QZH				LR	LR		
	comp=Z,6μm,8.3s						
QZH				LR	LR		
	comp=Z,6μm,21.9s						
KNRA	**Kununurra**	**21.05**	**174**	P	**P**	**07 05 43.3**	**-0.4**
	comp=Z,375nm,0.7s						
QIZ	**Qiongzhong**	**21.11**	**311**	IAmb	IAmb	07 05 52.0	
	comp=Z,137nm,1.3s						
QIZ	**Qiongzhong**	**21.11**	**311**	IAMs_20	IAMs_20	07 12 49.9	
	comp=Z,7μm,21.0s						
QIZ	**Qiongzhong**	**21.11**	**311**	P	**P**	**07 05 45.1**	**+0.8**
QIZ				pmax	pmax		
	comp=Z,31nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,1μm,11.7s						
QIZ				LR	LR		
	comp=Z,3μm,18.1s						
QIZ				LR	LR		
	comp=Z,3μm,20.1s						
QIZ				LR	LR		
	comp=Z,7μm,21.1s						
QIZ	**Qiongzhong**	**21.11**	**311**	P	**P**	**07 05 47.9**	**+3.6**
JOW	**Kunigami**	**21.40**	**5**	P	**P**	**07 05 48.2**	**+0.8**
JOW				IAmb	IAmb	07 05 58.6	
	comp=Z,138nm,1.0s						
JOW	**Kunigami**	**21.40**	**5**	P	**P**	**07 05 47.8**	**+0.5**
	comp=Z,30nm,0.7s,baz=198,slow=10,SNR=8.9						
JOW				LR	LR	07 16 15.4	
	comp=Z,2μm,18.0s,baz=130,slow=42						
	comp=Z,30nm,0.7s						
JOW	**Kunigami**	**21.40**	**5**	P	**P**	**07 05 50.7**	**+3.3**
KPJI	**Karang Pucung**	**21.55**	**234**	P	**P**	**07 05 55.0**	**+5.9**
	comp=Z,3μmcomp=Z,131nm,1.0s						
GZH	**Guangzhou**	**21.66**	**326**	P	**P**	**07 05 53.6**	**+3.4**
GZH				LR	LR		
	comp=Z,3μm,16.9s						
GZH				LR	LR		
	comp=Z,5μm,18.6s						
GZH				LR	LR		
	comp=Z,8μm,17.3s						
MANU	**Manus Island**	**22.18**	**109**	P	**P**	**07 05 55.0**	**-0.9**
LEM	**Lembang**	**22.36**	**237**	P	**P**	**07 05 56.7**	**-1.2**
	comp=Z,23nm,0.6s,baz=87,slow=13,SNR=5.8						
LEM				LR	LR	07 16 49.6	
	comp=Z,3μm,18.6s,baz=38,slow=43						
	comp=Z,23nm,0.6s						
LEM	**Lembang**	**22.36**	**237**	P	**P**	**07 06 01.4**	**+3.5**
	comp=Z,3μmcomp=Z,102nm,1.0s						
BBJI	**Bungbulang**	**22.67**	**236**	P	**P**	**07 06 03.9**	**+2.7**
MYKOM	**Kota Tinggi**	**22.82**	**262**	P	**P**	**07 06 03.6**	**+0.9**
MYKOM	**Kota Tinggi**	**22.82**	**262**	P	**P**	**07 06 04.5**	**+1.8**
BTDF	**Bukit Timah Da**	**22.97**	**261**	P	**P**	**07 06 06.8**	**+2.6**
FITZ	**Fitzroy Crossi**	**23.35**	**182**	P	**P**	**07 06 06.2**	**-1.7**
FITZ	**Fitzroy Crossi**	**23.35**	**182**	LR	LR	07 17 53.1	
	comp=Z,1μm,18.3s,baz=3.0,slow=43						
FITZ	**Fitzroy Crossi**	**23.35**	**182**	P	**P**	**07 06 06.9**	**-1.0**
KLI	**Kotabumi**	**23.83**	**245**	P	**P**	**07 06 16.2**	**+3.6**
	comp=Z,5μmcomp=Z,5μmcomp=Z,210nm,0.9s						
KASI	**Kota Agung**	**24.44**	**244**	P	**P**	**07 06 21.5**	**+3.4**
	comp=Z,3μmcomp=Z,105nm,1.1s						
GULI	**GuiLin**	**25.08**	**324**	P	**P**	**07 06 25.6**	**+1.8**
GULI				S	**S**	**07 10 49.6**	**+4.1**
GULI				pmax	pmax		
	comp=Z,19nm,0.7s						
GULI				LR	LR		
	comp=Z,2μm,15.2s						
GULI				LR	LR		
	comp=Z,4μm,9.8s						
GULI				LR	LR		
	comp=Z,5μm,17.5s						
IPM	**Ipoh**	**25.33**	**269**		**P**	**07 06 26.7**	**+0.5**
IPM				IAmb	IAmb	07 06 31.8	
	comp=Z,174nm,1.4s						
IPM	**Ipoh**	**25.33**	**269**	P	**P**	**07 06 28.5**	**+2.2**
PMG	**Port Moresby**	**25.35**	**125**	*i* P	**P**	**07 06 23.7**	**-2.7**
PMG				pmax	pmax		
	comp=Z,20nm,0.9s						
COEN	**Coen**	**25.41**	**139**	P	**P**	**07 06 26.2**	**-0.7**
COEN	**Coen**	**25.41**	**139**	P	**P**	**07 06 26.8**	**-0.1**
KULM	**Kulim**	**25.67**	**271**	IAmb	IAmb	07 06 33.5	
	comp=Z,92nm,1.1s						
KULM	**Kulim**	**25.67**	**271**	P	**P**	**07 06 32.9**	**+3.6**
CNSH	**ChangSha**	**26.05**	**332**	P	**P**	**07 06 32.1**	**-0.5**
CNSH				S	**S**	**07 11 01.3**	**+0.6**
CNSH				LR	LR		
	comp=Z,4μm,19.7s						
CNSH				LR	LR		
	comp=Z,4μm,20.5s						
CNSH				LR	LR		
	comp=Z,8μm,25.5s						
SSE	**Sheshan**	**26.05**	**350**	P	**P**	**07 06 31.3**	**-1.2**
SSE				S	**S**	**07 11 02.3**	**+1.7**
SSE				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SSE				pmax	pmax		
	comp=Z,570nm,4.5s						
SSE				LR	LR		
	comp=Z,1μm,18.2s						
SSE				LR	LR		
	comp=Z,720nm,18.2s						
JCJ	**Chichijima**	**26.30**	**33**	P	**P**	**07 06 37.3**	**+2.4**
WRAB	**Tennant Creek**	**26.34**	**163**	P	**P**	**07 06 34.8**	**-0.5**
WRAB	**Tennant Creek**	**26.34**	**163**	*i* P	**P**	**07 06 33.5**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,208nm,1.4s						
WRA	**Warramunga Arr**	**26.34**	**163**	P	**P**	**07 06 35.6**	**+0.2**
	comp=Z,46nm,0.7s,baz=343,slow=9.9,SNR=92						
WRA				S	**S**	**07 11 06.0**	**+0.4**
	comp=Z,12nm,1.2s,baz=333,slow=18,SNR=6.6						
WRA				ScP	**ScP**	**07 13 33.2**	**-3.9**
	comp=Z,7.8nm,0.8s,baz=339,slow=3.0,SNR=9.6						
WRA				LR	LR	07 18 23.0	
	comp=Z,3μm,22.0s,baz=342,slow=39						
	comp=Z,46nm,0.7s						
WR8	**Warramunga Arr**	**26.40**	**163**	IAmb	IAmb	07 07 05.8	
	comp=Z,102nm,0.9s						
SURA	**Surathani**	**26.84**	**280**	P	**P**	**07 06 40.3**	**+0.4**
SLVN	**Son La**	**26.98**	**308**		**P**	**07 06 42.2**	**+1.0**
SLVN				IAMs_20	IAMs_20	07 16 26.7	
	comp=Z,4μm,22.0s						
SLVN	**Son La**	**26.98**	**308**	P	**P**	**07 06 42.6**	**+1.4**
MBWA	**Marble Bar**	**27.19**	**194**	P	**P**	**07 06 42.0**	**-0.9**
MBWA				IAmb	IAmb	07 07 07.2	
	comp=Z,79nm,0.9s						
MBWA	**Marble Bar**	**27.19**	**194**	P	**P**	**07 06 42.1**	**-0.8**
NJ2	**Nanjing**	**27.46**	**346**	*e*P	**P**	**07 06 47.5**	**+2.3**
NJ2				pP	**pP**	**07 06 54.8**	**-1.4**
NJ2				S	**S**	**07 11 28.9**	**+6.0**
NJ2				pmax	pmax		
	comp=Z,41nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,980nm,7.6s						
NJ2				LR	LR		
	comp=Z,2μm,18.9s						
NJ2				LR	LR		
	comp=Z,2μm,20.4s						
NJ2				LR	LR		
	comp=Z,2μm,19.9s						
WHN	**Wuhan**	**27.49**	**337**	P	**P**	**07 06 46.6**	**+1.1**
WHN				pP	**pP**	**07 06 55.0**	**-1.4**
WHN				S	**S**	**07 11 27.0**	**+3.6**
WHN				pmax	pmax		
	comp=Z,230nm,1.3s						
WHN				LR	LR		
	comp=Z,32μm,29.2s						
WHN				LR	LR		
	comp=Z,17μm,20.5s						
WHN				LR	LR		
	comp=Z,19μm,22.6s						
PSI	**Prapat**	**27.55**	**266**	LR	LR	07 20 24.4	
	comp=Z,1μm,19.1s,baz=78,slow=42						
PSI	**Prapat**	**27.55**	**266**	P	**P**	**07 06 46.8**	**+0.3**
PSI	**Prapat**	**27.55**	**266**	P	**P**	**07 06 46.8**	**+0.3**
PSI				pmax	pmax		
	comp=Z,35nm,0.9s						
PSI				MLR	MLR		
	comp=Z,2μm,22.0s						
PSA00	**Pilbara Seismi**	**27.56**	**193**	P	**P**	**07 06 44.9**	**-1.3**
PSA00				IAmb	IAmb	07 06 47.5	
	comp=Z,59nm,0.8s						
PSA00	**Pilbara Seismi**	**27.56**	**193**	IAmb	IAmb	07 06 47.5	
	comp=Z,112nm,0.8s						
PSA00	**Pilbara Seismi**	**27.56**	**193**	P	**P**	**07 06 45.8**	**-0.4**
RPSI	**Rantau Prapat**	**27.57**	**266**	P	**P**	**07 06 46.8**	**+0.4**
JNU	**Nakatsue**	**27.91**	**8**	IAmb	IAmb	07 06 58.7	
	comp=Z,48nm,1.0s						
JNU	**Nakatsue**	**27.91**	**8**	P	**P**	**07 06 49.3**	**0.0**
KCSI	**Kotacane, Aceh**	**28.63**	**267**	P	**P**	**07 06 57.4**	**+1.4**
	comp=Z,3μmcomp=Z,770nmcomp=Z,51nm,1.1s						
QIS	**Mount Isa**	**28.85**	**154**	P	**P**	**07 06 57.6**	**-0.2**
JMN	**Monobe**	**29.04**	**13**	IAmb	IAmb	07 07 37.0	
	comp=Z,61nm,1.2s						
GSI	**Gunungsitoli**	**29.09**	**263**	P	**P**	**07 07 01.7**	**+1.7**
MTSU	**Mount Surprise**	**29.29**	**143**	P	**P**	**07 07 02.7**	**+1.0**
ENH	**Enshi**	**29.46**	**329**	P	**P**	**07 07 02.4**	**-0.8**
ENH				IAmb	IAmb	07 07 04.0	
	comp=Z,48nm,0.7s						
ENH				IAMs_20	IAMs_20	07 20 14.4	
	comp=Z,5μm,19.0s						
ENH	**Enshi**	**29.46**	**329**	P	**P**	**07 07 02.7**	**-0.4**
ASAR	**Alice Springs**	**29.78**	**166**	P	**P**	**07 07 05.4**	**-0.7**
ASAR	**Alice Springs**	**29.78**	**166**	P	**P**	**07 07 05.8**	**-0.2**
	comp=Z,6.5nm,0.6s,baz=340,slow=6.7,SNR=102						
ASAR				PcP	**PcP**	**07 10 09.9**	**+0.9**
	comp=Z,7.3nm,0.5s,baz=354,slow=2.2,SNR=7.9						
ASAR				S	**S**	**07 12 01.1**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=354,slow=5.3,SNR=1.5						
ASAR				ScP	**ScP**	**07 13 46.0**	**-1.7**
	comp=Z,9.9nm,0.8s,baz=347,slow=2.7,SNR=16						
	comp=Z,6.5nm,0.6s						
CM31	**Chiang Mai Arr**	**29.81**	**298**	P	**P**	**07 07 06.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**29.81**	**298**	P	**P**	**07 07 06.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**29.81**	**298**	P	**P**	**07 07 04.6**	**-1.7**
	comp=Z,5.1nm,0.7s,baz=117,slow=7.1,SNR=24						
CMAR				PcP	**PcP**	**07 10 09.9**	**+0.7**
	comp=Z,4.2nm,0.7s,baz=112,slow=1.9,SNR=8.1						
CMAR				ScP	**ScP**	**07 13 44.7**	**-3.2**
	comp=Z,6.3nm,0.9s,baz=132,slow=1.3,SNR=16						
CMAR				LR	LR	07 19 25.2	
	comp=Z,3μm,18.4s,baz=115,slow=37						
	comp=Z,5.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.81**	**298**	P	**P**	**07 07 06.0**	**-0.4**
CHTO	**Chiang Mai**	**29.94**	**299**		**P**	**07 07 07.0**	**-0.5**
CHTO				IAMs_20	IAMs_20	07 19 18.6	
	comp=Z,3μm,19.0s						
CHTO	**Chiang Mai**	**29.94**	**299**	P	**P**	**07 07 06.0**	**-1.5**
CHTO	**Chiang Mai**	**29.94**	**299**	P	**P**	**07 07 07.0**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,19nm,0.9s						
CHTO				MLR	MLR		
	comp=Z,3μm,19.0s						
KMI	**Kunming**	**30.02**	**313**	⇑P	**P**	**07 07 09.0**	**+0.6**
KMI				PP	**PnPn**	**07 08 04.3**	**-2.2**
KMI				S	**S**	**07 12 04.5**	**+0.6**
KMI				pmax	pmax		
	comp=Z,43nm,0.7s						
KMI				pmax	pmax		
	comp=Z,600nm,8.1s						
KMI				LR	LR		
	comp=Z,1μm,20.0s						
KMI				LR	LR		
	comp=Z,3μm,23.2s						
KMI				LR	LR		
	comp=Z,5μm,26.2s						
JHJ	**Hachijo jima 2**	**30.27**	**23**	LR	LR	07 19 45.7	
	comp=Z,1μm,19.6s,baz=214,slow=37						
TJN	**Taejon**	**30.86**	**1**	*e*P	**P**	**07 07 14.2**	**-1.1**
JSG	**Sagara**	**31.11**	**19**	IAMs_20	IAMs_20	07 17 39.4	
	comp=Z,3μm,22.0s						
PZH	**PanZhiHua**	**31.57**	**314**	P	P	07 07 27.5	+5.6
PZH				PP	**PP**	**07 08 32.5**	**-1.3**
PZH				S	**S**	**07 12 30.8**	**+2.9**
PZH				pmax	pmax		
	comp=Z,30nm,0.6s						
PZH				pmax	pmax		
	comp=Z,430nm,6.7s						
PZH				LR	LR		
	comp=N,2μm,19.0s						
PZH				LR	LR		
	comp=E,2μm,20.4s						
PZH				LR	LR		
	comp=Z,4μm,20.1s						
TV1H	**Townsville Har**	**31.65**	**141**	P	**P**	**07 07 23.3**	**+0.7**
LYN	**LuoYang**	**31.77**	**338**	P	**P**	**07 07 23.0**	**-0.4**
LYN				S	**S**	**07 12 34.0**	**+3.4**
LYN				ScS	**ScS**	**07 17 53.4**	**+1.1**
LYN				pmax	pmax		
	comp=Z,35nm,0.9s						
LYN				pmax	pmax		
	comp=Z,840nm,5.3s						
LYN				LR	LR		
	comp=Z,4μm,22.0s						
LYN				LR	LR		
	comp=Z,2μm,18.9s						
LYN				LR	LR		
	comp=Z,7μm,22.3s						
TIA	**Tai'an**	**31.85**	**346**	P	**P**	**07 07 23.4**	**-0.7**
TIA				S	**S**	**07 12 33.3**	**+1.5**
TIA				pmax	pmax		
	comp=Z,28nm,0.8s						
TIA				pmax	pmax		
	comp=Z,580nm,9.8s						
TIA				LR	LR		
	comp=Z,2μm,19.0s						
TIA				LR	LR		
	comp=Z,1μm,19.0s						
TIA				LR	LR		
	comp=Z,3μm,20.6s						
KSAR	**Wonju Array Be**	**31.93**	**2**	P	**P**	**07 07 25.7**	**+0.9**
KSAR	**Wonju Array Be**	**31.93**	**2**	P	**P**	**07 07 25.7**	**+0.9**
KSRS	**Korea Array**	**31.95**	**2**	P	**P**	**07 07 24.9**	**+0.1**
	comp=Z,8.2nm,0.5s,baz=190,slow=9.0,SNR=22						
KSRS				PcP	**PcP**	**07 10 15.0**	**+0.5**
	comp=Z,6.7nm,0.7s,baz=187,slow=2.4,SNR=10						
KSRS				ScP	**ScP**	**07 13 52.2**	**-2.4**
	comp=Z,3.4nm,0.9s,baz=216,slow=3.2,SNR=5.7						
	comp=Z,8.2nm,0.5s						
KSRS	**Korea Array**	**31.95**	**2**	P	**P**	**07 07 25.0**	**+0.1**
CTA	**Charters Tower**	**31.95**	**143**	LR	LR	07 21 34.4	
	comp=Z,60nm,19.5s,baz=316,slow=38						
CTAO	**Charters Tower**	**31.95**	**143**	P	**P**	**07 07 25.3**	**+0.1**
CTAO	**Charters Tower**	**31.95**	**143**	P	**P**	**07 07 25.3**	**+0.1**
CTAO	**Charters Tower**	**31.95**	**143**	P	**P**	**07 07 25.3**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,70nm,1.1s						
CTAO				MLR	MLR		
	comp=Z,3μm,21.0s						
MEEK	**Meekatharra**	**32.72**	**193**	P	**P**	**07 07 31.1**	**-0.8**
XAN	**Xi'an**	**32.82**	**333**	⇓P	**P**	**07 07 31.5**	**-1.2**
XAN				pP	pP	07 07 40.3	-3.6
XAN				PP	**PnPn**	**07 08 42.1**	**-0.2**

HNS					LR	LR				
	comp=Z,2µm,17.1s									
DL2	**Dalian**	**33.65**	**353**	⇑*i*P		**P**	**07 07 40.8**	**+1.0**
DL2					S	**S**	**07 13 00.3**	**+0.6**
DL2					pmax	pmax		
	comp=Z,160nm,0.8s							
DL2					pmax	pmax		
	comp=Z,810nm,3.5s							
DL2					LR	LR		
	comp=Z,1µm,23.7s							
DL2					LR	LR		
	comp=Z,2µm,22.7s							
DL2					LR	LR		
	comp=Z,2µm,21.0s							
TIY	**Taiyuan**	**34.62**	**340**		P	**P**	**07 07 49.5**	**+1.2**
TIY					pP	**pP**	**07 07 57.3**	**-2.1**
TIY					PP	**PP**	**07 09 08.0**	**+0.6**
TIY					S	**S**	**07 13 16.0**	**+1.1**
TIY					pmax	pmax		
	comp=Z,38nm,0.8s							
TIY					pmax	pmax		
	comp=Z,340nm,4.2s							
TIY					LR	LR		
	comp=Z,1µm,18.5s							
TIY					LR	LR		
	comp=Z,1µm,21.3s							
TIY					LR	LR		
	comp=Z,2µm,21.3s							
JMM	**Marumori**	**34.88**	**20**		P	**P**	**07 07 50.5**	**0.0**
MORW	**Morawa**	**35.69**	**196**		IAmb	IAmb	07 07 59.0	
	comp=Z,37nm,0.8s							
MORW	**Morawa**	**35.69**	**196**		P	**P**	**07 07 56.7**	**-0.8**
BJT	**Baijiatuau**	**35.70**	**346**		P	**P**	**07 07 57.5**	**0.0**
BJI	**Beijing**	**35.72**	**346**		P	**P**	**07 07 57.5**	**-0.1**
BJI					pP	**pP**	**07 08 05.9**	**-2.9**
BJI					S	**S**	**07 13 33.5**	**+2.0**
BJI					ScP	**ScP**	**07 14 09.9**	**+2.1**
BJI					pmax	pmax		
	comp=Z,41nm,0.8s							
BJI					pmax	pmax		
	comp=Z,240nm,6.7s							
BJI					LR	LR		
	comp=Z,560nm,19.0s							
BJI					LR	LR		
	comp=Z,500nm,20.1s							
BJI					LR	LR		
	comp=Z,830nm,20.2s							
INKA	**Innaminka**	**35.72**	**158**		P	**P**	**07 07 58.2**	**+0.4**
INKA					IAmb	IAmb	07 07 59.4	
	comp=Z,50nm,1.4s							
FORT	**Forrest**	**35.99**	**178**		IAmb	IAmb	07 08 00.9	
	comp=Z,43nm,0.7s							
QLP	**Quilpie**	**36.16**	**152**		P	**P**	**07 08 01.3**	**-0.3**
SNY	**Shenyang**	**36.38**	**356**	⇑P		**P**	**07 08 04.4**	**+1.2**
SNY					S	**S**	**07 13 43.3**	**+1.8**
SNY					pmax	pmax		
	comp=Z,130nm,0.7s							
SNY					LR	LR		
	comp=Z,1µm,19.4s							
SNY					LR	LR		
	comp=Z,510nm,17.1s							
SNY					LR	LR		
	comp=Z,1µm,18.5s							
HNR	**Honiara**	**36.50**	**114**		LR	LR	07 21 44.3	
	comp=Z,2µm,21.9s,baz=292,slow=34							
LZDM	**Lanzhou Array**	**36.91**	**329**		P	**P**	**07 08 07.8**	**-0.6**
	comp=Z,5.5nm,0.4s,baz=152,slow=9.8,SNR=9.7							
LZDM					PcP	**PcP**	**07 10 29.6**	**+0.3**
	comp=Z,4.8nm,0.5s,baz=193,slow=4.6,SNR=4.0							
LZDM					LR	LR	07 25 10.6	
	comp=Z,3µm,19.1s,baz=120,slow=39							
	comp=Z,5.5nm,0.4s							
LZH	**Lanzhou**	**36.94**	**329**	*e*P		**P**	**07 08 10.0**	**+1.6**
LZH					pP	pP	07 08 19.3	-0.4
LZH					sP	pwP	07 08 23.1	+0.7
LZH					S	**S**	**07 13 55.3**	**+4.7**
LZH					SS	**SnSn**	**07 16 29.4**	**+3.1**
LZH					pmax	pmax		
	comp=Z,79nm,1.3s							
LZH					pmax	pmax		
	comp=Z,590nm,3.4s							
LZH					LR	LR		
	comp=Z,3µm,15.5s							
LZH					LR	LR		
	comp=Z,4µm,15.8s							
LZH					LR	LR		
	comp=Z,6µm,16.5s							
BLDU	**Ballidu**	**36.99**	**194**		P	**P**	**07 08 07.9**	**-0.7**
BRDH	**Bariadhala**	**37.73**	**301**		LR	LR	07 25 02.3	
	comp=Z,2µm,19.0s,baz=140,slow=38							
HHC	**Hu-ho-hao-te**	**37.74**	**341**	*e*P		**P**	**07 08 15.3**	**+0.3**
HHC					sP	pP	07 08 26.4	+0.2
HHC					PP	**PnPn**	**07 09 44.3**	**+1.0**
HHC					S	**S**	**07 14 06.1**	**+3.5**
HHC					SS	**SnSn**	**07 16 40.4**	**-5.1**
HHC					ScS	**ScS**	**07 18 26.0**	**+1.7**
HHC					pmax	pmax		
	comp=Z,30nm,0.8s							
HHC					pmax	pmax		
	comp=Z,380nm,4.8s							
HHC					LR	LR		
	comp=Z,1µm,17.9s							
HHC					LR	LR		
	comp=Z,630nm,16.8s							
HHC					LR	LR		
	comp=Z,2µm,16.0s							
BTO	**Baotou**	**38.04**	**340**	*e*P		**P**	**07 08 18.4**	**+0.9**
BTO					PP	**PnPn**	**07 09 47.6**	**+0.8**
BTO					S	**S**	**07 14 10.8**	**+3.7**
BTO					SS	**SS**	**07 16 55.9**	**+1.1**
BTO					pmax	pmax		
	comp=Z,21nm,0.8s							
BTO					pmax	pmax		
	comp=Z,760nm,5.1s							
BTO					LR	LR		
	comp=Z,2µm,19.4s							
BTO					LR	LR		
	comp=Z,1µm,17.8s							
BTO					LR	LR		
	comp=Z,5µm,20.0s							
CN2	**Changchun**	**38.27**	**359**	*e*P		**P**	**07 08 18.8**	**-0.5**
CN2					PP	**PnPn**	**07 09 50.0**	**+0.6**
CN2					*e*S	**S**	**07 14 11.4**	**+1.1**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
CN2					pmax	pmax		
	comp=Z,400nm,5.5s							
CN2					LR	LR		
	comp=Z,2µm,17.0s							
CN2					LR	LR		
	comp=Z,700nm,17.0s							
CN2					LR	LR		
	comp=Z,1µm,18.6s							
MUN	**Mundaring**	**38.41**	**194**		P	**P**	**07 08 20.2**	**-0.4**
EIDS	**Eidsvold**	**38.84**	**143**		IAmb	IAmb	07 08 25.1	
	comp=Z,50nm,0.8s							
EIDS					IAMs_20	IAMs_20	07 25 34.7	
	comp=Z,3µm,20.0s							
EIDS	**Eidsvold**	**38.84**	**143**		P	**P**	**07 08 23.9**	**-0.4**
USRK	**Ussuriysk Ar.**	**38.96**	**6**		P	**P**	**07 08 25.9**	**+0.7**
	comp=Z,41nm,0.7s,baz=187,slow=7.0,SNR=43							
	comp=Z,41nm,0.7s							
BBOO	**Buckleboo**	**39.07**	**167**		IAmb	IAmb	07 08 39.7	
	comp=Z,131nm,1.4s							
BBOO	**Buckleboo**	**39.07**	**167**		P	**P**	**07 08 26.1**	**-0.1**
NWAO	**Narrogin (SRO)**	**39.09**	**192**		P	**P**	**07 08 25.9**	**-0.3**
NWAO					IAmb	IAmb	07 08 27.5	
	comp=Z,63nm,0.8s							
NWAO	**Narrogin (SRO)**	**39.09**	**192**		LR	LR	07 26 42.3	
	comp=Z,695nm,19.5s,baz=34,slow=39							
NWAO	**Narrogin (SRO)**	**39.09**	**192**		P	**P**	**07 08 26.4**	**+0.1**
NWAO	**Narrogin (SRO)**	**39.09**	**192**		P	**P**	**07 08 26.7**	**+0.4**
NWAO	**Narrogin (SRO)**	**39.09**	**192**		P	**P**	**07 08 26.0**	**-0.3**
NWAO					pmax	pmax		
	comp=Z,63nm,0.9s							
MDJ	**Mudanjiang**	**39.17**	**4**		IAmb	IAmb	07 08 37.4	
	comp=Z,95nm,1.0s							
MDJ	**Mudanjiang**	**39.17**	**4**		P	**P**	**07 08 27.5**	**+0.7**
MDJ					S	**S**	**07 14 24.8**	**+0.9**
MDJ					pmax	pmax		
	comp=Z,89nm,0.8s							
MDJ					LR	LR		
	comp=Z,1µm,22.5s							
MDJ					LR	LR		
	comp=Z,1µm,21.6s							
MDJ					LR	LR		
	comp=Z,2µm,19.2s							
MDJ	**Mudanjiang**	**39.17**	**4**		P	**P**	**07 08 27.9**	**+1.1**
XLT	**XiLinHaoTe**	**39.43**	**348**	*e*P		**P**	**07 08 29.3**	**+0.2**
XLT					ScP	**ScP**	**07 14 23.6**	**+1.7**
XLT					S	**S**	**07 14 27.8**	**-0.1**
XLT					pmax	pmax		
	comp=Z,94nm,0.8s							
XLT					pmax	pmax		
	comp=Z,660nm,4.8s							
XLT					LR	LR		
	comp=Z,1µm,16.6s							
XLT					LR	LR		
	comp=Z,1µm,19.7s							
WHYH	**Whyalla**	**39.65**	**165**		P	**P**	**07 08 31.6**	**+0.7**
STKA	**Stephens Creek**	**39.77**	**160**		P	**P**	**07 08 32.4**	**+0.4**
	comp=Z,30nm,0.5s,baz=339,slow=8.3,SNR=40							
STKA					LR	LR	07 27 20.8	
	comp=Z,1µm,19.5s,baz=328,slow=40							
	comp=Z,30nm,0.5s							
STKA	**Stephens Creek**	**39.77**	**160**		P	**P**	**07 08 32.1**	**+0.1**
STKA	**Stephens Creek**	**39.77**	**160**	*i*	P	**P**	**07 08 30.4**	**-1.6**
BNX	**BinXian**	**40.20**	**1**	⇑P		**P**	**07 08 37.3**	**+1.9**
BNX					S	**S**	**07 14 43.5**	**+4.2**
BNX					pmax	pmax		
	comp=Z,50nm,0.7s							
BNX					pmax	pmax		
	comp=Z,370nm,6.0s							
BNX					LR	LR		
	comp=Z,2µm,18.4s							
BNX					LR	LR		
	comp=Z,1µm,17.3s							
BNX					LR	LR		
	comp=Z,2µm,20.6s							
HTT	**Hallett**	**40.38**	**164**		P	**P**	**07 08 37.5**	**+0.4**
TW1H	**Toowoomba 1 Ha**	**40.99**	**144**		P	**P**	**07 08 43.7**	**+1.4**
CMSA	**Cobar Meteorol**	**41.06**	**155**		P	**P**	**07 08 42.6**	**-0.1**
ASAJ	**Asahikawa**	**41.11**	**18**		LR	LR	07 24 32.7	
	comp=Z,1µm,21.7s,baz=216,slow=34							
ASAJ	**Asahikawa**	**41.11**	**18**		P	**P**	**07 08 43.7**	**+0.8**
ASAJ					pmax	pmax		
	comp=Z,194nm,1.8s							
ASAJ					MLR	MLR		
	comp=Z,2µm,20.0s							
JKA	**Kamikawa-asahi**	**41.11**	**18**			**P**	**07 08 43.7**	**+0.8**
LSA	**Lhasa**	**41.14**	**310**		P	**P**	**07 08 42.4**	**-1.6**
LSA					LR	LR		
	comp=Z,2µm,20.8s							
H11S3	**WAKE ISLAND Hy**	**41.37**	**68**		T	T	07 52 39.6	
	baz=257,slow=75,SNR=59							
H11S1	**WAKE ISLAND Hy**	**41.38**	**68**		T	T	07 52 41.3	
	baz=257,slow=75,SNR=55							
H11S2	**WAKE ISLAND Hy**	**41.38**	**68**		T	T	07 52 40.3	
	baz=257,slow=75,SNR=62							
GTA	**Gaotai**	**41.53**	**328**		P	**P**	**07 08 46.3**	**-0.4**
GTA					PcP	**PcP**	**07 10 44.4**	**+0.8**
GTA					ScP	**ScP**	**07 14 31.3**	**+1.0**
GTA					S	**S**	**07 15 03.4**	**+3.8**
GTA					SS	**SS**	**07 18 06.3**	**+0.7**
GTA					ScS	**ScS**	**07 18 47.4**	**+0.6**
GTA					pmax	pmax		
	comp=Z,11nm,1.2s							
GTA					pmax	pmax		
	comp=Z,320nm,8.7s							
GTA					LR	LR		
	comp=Z,2µm,17.8s							
GTA					LR	LR		
	comp=Z,2µm,17.5s							
GTA					LR	LR		
	comp=Z,4µm,16.4s							
H11N1	**WAKE ISLAND Hy**	**41.84**	**66**		T	T	07 53 19.5	
	baz=255,slow=75,SNR=171							
H11N2	**WAKE ISLAND Hy**	**41.85**	**66**		T	T	07 53 16.2	
	baz=255,slow=75,SNR=80							
H11N3	**WAKE ISLAND Hy**	**41.86**	**66**		T	T	07 53 20.8	
	baz=255,slow=75,SNR=117							
GOMU	**GeErMu**	**42.22**	**321**		P	**P**	**07 08 52.1**	**-0.5**
GOMU					PP	**PP**	**07 10 29.5**	**-1.4**
GOMU					S	**S**	**07 15 12.8**	**+2.6**
GOMU					pmax	pmax		
	comp=Z,7.0nm,0.7s							
GOMU					LR	LR		
	comp=Z,1µm,19.8s							
GOMU					LR	LR		
	comp=Z,2µm,19.0s							
GOMU					LR	LR		
	comp=Z,3µm,19.8s							
GC1S	**Gold Coast 1 S**	**42.36**	**143**		P	**P**	**07 08 55.6**	**+2.3**
ARMA	**Armidale**	**43.01**	**147**		P	**P**	**07 08 59.2**	**+0.5**
ARMA					IAmb	IAmb	07 09 00.5	
	comp=Z,79nm,1.0s							
ARMA	**Armidale**	**43.01**	**147**		P	**P**	**07 08 59.1**	**+0.4**
YSS	**Yuzhno-Sakhali**	**43.74**	**16**		P	**P**	**07 09 05.1**	**+0.9**
YSS	**Yuzhno-Sakhali**	**43.74**	**16**	*e*P		**P**	**07 09 03.9**	**-0.3**
YSS					*e*S	**S**	**07 15 32.0**	**+0.5**
YSS					*e*SS	**ScS**	**07 18 59.7**	**-0.1**
YSS					pmax	pmax		
	comp=Z,30nm,0.8s							
YSS					MLR	MLR		
	comp=Z,900nm,13.0s							
YSS					MLR	MLR		
	comp=N,700nm,14.0s							
YSS					MLR	MLR		
	comp=E,700nm,14.0s							
EVN	**Everest**	**43.78**	**305**			**P**	**07 09 05.4**	**-0.3**
EVN					IAmb	IAmb	07 09 11.4	
	comp=Z,48nm,0.6s							
HIA	**Hailar**	**44.09**	**354**		P	**P**	**07 09 08.0**	**+0.9**
HIA	**Hailar**	**44.09**	**354**	*i*	P	**P**	**07 09 05.7**	**-1.4**
HIA					pmax	pmax		
	comp=Z,102nm,1.7s							
HEH	**HeiHe**	**44.72**	**1**	*e*P		**P**	**07 09 12.0**	**0.0**
HEH					S	**S**	**07 15 44.3**	**-1.4**
HEH					SS	**ScS**	**07 19 03.3**	**-2.6**
HEH					pmax	pmax		
	comp=Z,41nm,0.7s							
HEH					pmax	pmax		
	comp=Z,580nm,5.4s							
HEH					LR	LR		
	comp=Z,650nm,19.3s							
HEH					LR	LR		
	comp=Z,1µm,16.5s							
HEH					LR	LR		
	comp=Z,2µm,19.4s							
SANVU	**Saraoutou**	**45.38**	**118**		IAMs_20	IAMs_20	07 26 57.1	
	comp=Z,2µm,22.0s							
ULN	**Ulaanbaatar**	**45.46**	**342**		P	**P**	**07 09 18.1**	**-0.1**
ULN					IAmb	IAmb	07 09 28.9	
	comp=Z,55nm,1.1s							
ULN	**Ulaanbaatar**	**45.46**	**342**	*ce*P		**P**	**07 09 17.9**	**-0.3**
ULN					pmax	pmax		
	comp=Z,35nm,1.0s							
PALK	**Pallekele**	**45.48**	**275**		LR	LR	07 30 02.4	
	comp=Z,996nm,20.3s,baz=97,slow=38							
SONM	**Songino Array**	**45.64**	**341**			**P**	**07 09 19.1**	**-0.4**
SONM					IAmb	IAmb	07 09 34.2	
	comp=Z,35nm,1.2s							
SONM	**Songino Array**	**45.64**	**341**		P	**P**	**07 09 19.2**	**-0.4**
	comp=Z,13nm,0.9s,baz=158,slow=9.0,SNR=34							
SONM					PcP	**PcP**	**07 10 57.4**	**+0.2**
	comp=Z,18nm,0.7s,baz=165,slow=3.9,SNR=9.9							
SONM					LR	LR	07 30 37.7	
	comp=Z,2µm,21.0s,baz=154,slow=39							
	comp=Z,13nm,0.9s							
CAN	**Canberra**	**45.72**	**154**		P	**P**	**07 09 20.1**	**-0.2**
CAN	**Canberra**	**45.72**	**154**		P	**P**	**07 09 21.1**	**+0.8**
CAN	**Canberra**	**45.72**	**154**		P	**P**	**07 09 20.1**	**-0.2**
CAN					pmax	pmax		
	comp=Z,169nm,1.5s							
BRAT	**Ballarat**	**45.72**	**161**		P	**P**	**07 09 22.0**	**+1.9**
CNB	**Canberra Magne**	**45.87**	**154**		P	**P**	**07 09 22.5**	**+1.0**
GRNR	**Gornyy**	**46.00**	**9**	⇓*i*P		**P**	**07 09 23.4**	**+1.2**
GRNR					pmax	pmax		
	comp=Z,7.0nm,1.0s							
GRNR					MLR	MLR		
	comp=E,480nm,20.0s							
GRNR					MLR	MLR		
	comp=N,490nm,17.0s							
GRNR					MLR	MLR		
	comp=Z,690nm,16.0s							
TOO	**Toolangi**	**46.28**	**159**			**P**	**07 09 25.7**	**+1.1**
TOO					IAmb	IAmb	07 09 28.2	
	comp=Z,67nm,1.6s							
TOO	**Toolangi**	**46.28**	**159**		P	**P**	**07 09 25.7**	**+1.1**
TOO					pmax	pmax		
	comp=Z,67nm,1.6s							
TARA	**Tarawa**	**46.57**	**93**		IAMs_20	IAMs_20	07 24 53.6	
	comp=Z,3µm,21.0s							
TYV	**Tymovskoe**	**47.31**	**14**	*e*P		**P**	**07 09 34.4**	**+1.9**
TYV					*e*S	**S**	**07 16 25.2**	**+2.3**
TYV					pmax	pmax		
	comp=Z,7.0nm,0.8s							
TYV					pmax	pmax		
	comp=Z,200nm,3.7s							
TYV					smax	smax		
	comp=N,300nm,6.0s							
TYV					smax	smax		
	comp=E,700nm,6.0s							
CIT	**Chita**	**47.70**	**349**	*e*P		**P**	**07 09 35.8**	**+0.3**
CIT					*e*		07 09 53.6	
CIT					*e*		07 11 03.8	
CIT					*e*		07 11 28.0	
CIT					*e*		07 16 30.4	
CIT					pmax	pmax		
	comp=Z,156nm,1.9s							
DZM	**Mont Dzumac**	**47.74**	**126**	*e*P		P	07 09 21.9	-14
	comp=Z,162nm,27.6s							
DZM					*e*S	**S**	**07 16 28.6**	**-1.3**
	comp=Z,2µm,30.6s							
DZM					*e*SS	**SS**	**07 20 02.6**	**+3.7**
	comp=Z,1µm,32.5s							
DZM					*e*LQ	LQ	07 20 57.7	
	comp=Z,2µm,32.8s							
DZM					*e*LR	LR	07 23 08.1	
	comp=Z,5µm,28.4s							
DZM	**Mont Dzumac**	**47.74**	**126**		IAMs_20	IAMs_20	07 30 09.9	
	comp=Z,2µm,20.0s							
DZM	**Mont Dzumac**	**47.74**	**126**		LR	LR	07 30 11.2	
	comp=Z,1µm,21.4s,baz=316,slow=36							
ZEA	**Zeya**	**48.21**	**1**	*e*P		**P**	**07 09 40.1**	**+0.8**
ZEA				*e*			07 19 28.3	
ZEA					pmax	pmax		
	comp=Z,20nm,0.7s							
ZEA					MLR	MLR		
	comp=E,400nm,16.0s							
ZEA					MLR	MLR		
	comp=N,500nm,17.0s							
ZEA					MLR	MLR		
	comp=Z,600nm,16.0s							
HYB	**Hyderabad**	**48.30**	**288**	*e*P		**P**	**07 09 41.2**	**+0.5**
HYB				*es*P		**pP**	**07 09 51.5**	**-0.7**
HYB				*e*PcP		**PcP**	**07 11 08.1**	**+0.9**
HYB				*e*PP		**PP**	**07 11 34.3**	**+0.8**
HYB				*e*S		**S**	**07 16 40.4**	**+2.5**
PINNC	**Pines Island,**	**48.81**	**126**		IAMs_20	IAMs_20	07 28 31.4	
	comp=Z,2µm,22.0s							
ZAK	**Zakamensk**	**48.87**	**340**	*e*P		**P**	**07 09 42.3**	**-2.4**
ZAK					pmax	pmax		
	comp=Z,26nm,1.4s							
IRK	**Irkutsk**	**50.17**	**342**	*e*P		**P**	**07 09 51.0**	**-3.4**
IRK					pmax	pmax		
	comp=Z,111nm,2.0s							
CORO	**Coronation Par**	**50.32**	**160**		P	**P**	**07 09 55.9**	**+0.3**
MOY	**Mondy**	**50.73**	**340**	*e*P		**P**	**07 10 00.2**	**+1.4**
MOY					pmax	pmax		
	comp=Z,127nm,2.1s							
WMQ	**Urumqi**	**51.21**	**324**	*e*P		**P**	**07 10 05.3**	**+2.8**
WMQ					LR	LR		
	comp=Z,3µm,19.3s							
WMQ					LR	LR		
	comp=Z,2µm,18.1s							
WMQ					LR	LR		
	comp=Z,3µm,24.3s							
TAU	**Tasmania Unive**	**51.67**	**160**			**P**	**07 10 06.6**	**+0.8**
TAU	**Tasmania Unive**	**51.67**	**160**		P	**P**	**07 10 07.5**	**+1.7**
TAU	**Tasmania Unive**	**51.67**	**160**		P	**P**	**07 10 06.6**	**+0.8**
TAU					pmax	pmax		
	comp=Z,368nm,1.9s							
BOD	**Bodaibo**	**53.19**	**352**	*e*P		**P**	**07 10 17.2**	**+0.4**
BOD					pmax	pmax		
	comp=Z,119nm,1.1s							
PEA0B	**Petropavlovsk-**	**54.02**	**23**		IAmb	IAmb	07 10 49.8	
	comp=Z,37nm,0.9s							
PEA0B	**Petropavlovsk-**	**54.02**	**23**	*i*	P	**P**	**07 10 22.0**	**-1.0**
PETK	**Petropavlovsk-**	**54.02**	**23**			**P**	**07 10 23.5**	**+0.5**
PETK	**Petropavlovsk-**	**54.02**	**23**		P	**P**	**07 10 23.3**	**+0.3**
	comp=Z,13nm,0.8s,baz=197,slow=4.6,SNR=11							
PETK					LR	LR	07 31 56.0	
	comp=Z,691nm,21.8s,baz=223,slow=34							
	comp=Z,13nm,0.8s							
PETK	**Petropavlovsk-**	**54.02**	**23**		P	**P**	**07 10 23.5**	**+0.5**
PET	**Petropavlovsk**	**54.33**	**23**	*e*P		**P**	**07 10 29.1**	**+3.9**
PET					*e*S	**S**	**07 18 00.4**	**+0.4**
PET					MLR	MLR		
	comp=Z,600nm,20.0s							
ZSN	**Zaisan**	**54.97**	**327**	*e*P		**P**	**07 10 28.6**	**-1.5**
ZSN	**Zaisan**	**54.97**	**327**	*e*P		**P**	**07 10 28.5**	**-1.5**
MSVF	**Nonsavu**	**55.88**	**116**		P	**P**	**07 10 37.4**	**+0.3**
MSVF					IAmb	IAmb	07 10 40.0	
	comp=Z,37nm,0.9s							
MSVF	**Nonsavu**	**55.88**	**116**		IAMs_20	IAMs_20	07 31 22.7	
	comp=Z,2µm,20.0s							
MSVF	**Nonsavu**	**55.88**	**116**		P	**P**	**07 10 38.3**	**+1.2**
MSVF	**Nonsavu**	**55.88**	**116**		P	**P**	**07 10 37.4**	**+0.3**
MSVF					pmax	pmax		
	comp=Z,37nm,1.0s							
SHLS	**Shalkode**	**55.89**	**320**	*e*P		**P**	**07 10 33.5**	**-3.5**
	comp=Z,30nm,0.8s							
SHLS	**Shalkode**	**55.89**	**320**	*e*P		**P**	**07 10 33.4**	**-3.5**
SHLS					pmax	pmax		
	comp=Z,30nm,0.8s							
PDGK	**Podgornoye**	**55.96**	**320**		P	**P**	**07 10 35.2**	**-2.2**
MK31	**Makanchi Array**	**56.04**	**325**	*e*P		**P**	**07 10 36.2**	**-1.5**
MKAR	**Makanchi Array**	**56.04**	**325**		P	**P**	**07 10 36.5**	**-1.2**
MKAR	**Makanchi Array**	**56.04**	**325**		P	**P**	**07 10 36.3**	**-1.4**
	comp=Z,27nm,0.5s,baz=123,slow=7.8,SNR=200							
MKAR					PcP	**PcP**	**07 11 35.7**	**+0.1**
	comp=Z,12nm,0.8s,baz=117,slow=4.6,SNR=3.7							
MKAR					ScP	**ScP**	**07 15 27.5**	**-3.9**
	comp=Z,3.7nm,0.8s,baz=116,slow=5.5,SNR=5.2							
MKAR					LR	LR	07 35 22.5	
	comp=Z,3µm,21.7s,baz=106,slow=37							
MKAR					PKP2bc		07 40 49.3	
	comp=Z,2.0nm,1.2s,baz=0.0,slow=1.2,SNR=3.6							
MKAR					PKP2ab		07 41 05.6	
	comp=Z,0.8nm,1.0s,baz=176,slow=4.9,SNR=3.5							
	comp=Z,27nm,0.5s							
MKAR	**Makanchi Array**	**56.04**	**325**		P	**P**	**07 10 36.5**	**-1.2**
UZB	**Uzynbulak**	**56.17**	**320**	*e*P		**P**	**07 10 37.4**	**-1.5**
	comp=Z,28nm,1.0s							
UZB	**Uzynbulak**	**56.17**	**320**	*e*P		**P**	**07 10 37.4**	**-1.5**
UZB					pmax	pmax		
	comp=Z,28nm,1.0s							
MAKZ	**Makanchi**	**56.23**	**325**		P	P	07 10 32.4	-6.7
PRZ	**Przheval'sk**	**56.27**	**319**		IAMs_20	IAMs_20	07 36 47.0	
	comp=Z,2µm,22.0s							
TARG	**Taragay, Kyrgy**	**56.33**	**318**			**P**	**07 10 39.9**	**-0.5**
TARG					IAmb	IAmb	07 10 51.0	
	comp=Z,46nm,1.2s							
TARG	**Taragay, Kyrgy**	**56.33**	**318**		P	**P**	**07 10 39.9**	**-0.5**
TARG					pmax	pmax		
	comp=Z,46nm,1.2s							
TARG					MLR	MLR		
	comp=Z,4µm,22.0s							
SATY	**Saty**	**56.53**	**319**	*e*P		**P**	**07 10 40.0**	**-1.5**
	comp=Z,33nm,0.8s							
SATY	**Saty**	**56.53**	**319**	*e*P		**P**	**07 10 39.9**	**-1.5**
SATY					pmax	pmax		
	comp=Z,33nm,0.8s							
YAK	**Yakutsk**	**56.57**	**2**			**P**	**07 10 41.6**	**+0.5**
YAK	**Yakutsk**	**56.57**	**2**		P	**P**	**07 10 41.4**	**+0.2**
	comp=Z,264nm,0.8s,baz=105,slow=0.2,SNR=38							
YAK					LR	LR	07 37 29.0	
	comp=Z,590nm,18.8s,baz=182,slow=39							
YAK	**Yakutsk**	**56.57**	**2**	*ce*P		**P**	**07 10 40.7**	**-0.5**
YAK					pmax	pmax		
	comp=Z,281nm,0.

comp=Z,127nm,1.2s
NIL MLR MLR
comp=Z,1µm,22.0s
KDJ Kajisay 56.92 318 IAmb IAmb 07 10 45.2
comp=Z,33nm,0.7s
MA2 Magadan 57.18 14 **P** **07 10 46.2 +0.6**
MA2 IAmb IAmb 07 11 12.4
comp=Z,63nm,1.5s
MA2 Magadan 57.18 14 LR LR 07 37 38.0
comp=Z,322nm,18.8s,baz=210,slow=38
MA2 Magadan 57.18 14 P **P** **07 10 46.2 +0.6**
MA2 Magadan 57.18 14 P **P** **07 10 46.2 +0.6**
MA2 pmax pmax
comp=Z,63nm,1.5s
MA2 MLR MLR
comp=Z,800nm,20.0s
TDK Taldyqorghan 57.44 321 *e*P **P** **07 10 46.3 -1.5**
comp=Z,37nm,0.9s
TDK Taldyqorghan 57.44 321 *e*P **P** **07 10 46.2 -1.5**
TDK pmax pmax
comp=Z,37nm,0.9s
MDOK Medeo 57.47 319 *e*P **P** **07 10 46.7 -1.4**
MDOK Medeo 57.47 319 *e*P **P** **07 10 46.7 -1.4**
TNSS Tian-Shan 57.48 319 *e*P **P** **07 10 46.6 -1.9**
TNSS Tian-Shan 57.48 319 *e*P **P** **07 10 46.5 -1.9**
AAA Alma-Ata 57.57 319 *e*P **P** **07 10 47.3 -1.4**
comp=Z,26nm,0.7s
AAA Alma-Ata 57.57 319 *e*P **P** **07 10 47.3 -1.4**
AAA pmax pmax
comp=Z,26nm,0.7s
ULHL Ulahol 57.60 318 P **P** **07 10 48.2 -1.0**
SNR=21
BOOM Boomskoye usch 57.91 318 IAMs_20 IAMs_20 07 37 46.1
comp=Z,1µm,22.0s
KUU Kurty 58.25 319 *e*P **P** **07 10 52.0 -1.5**
comp=Z,22nm,0.6s
KUU Kurty 58.25 319 *e*P **P** **07 10 51.9 -1.5**
KUU pmax pmax
comp=Z,22nm,0.6s
TKM2 Tokmak 2 58.32 318 P **P** **07 10 53.4 -0.8**
SNR=9.4
KBK Karagaybulak 58.65 317 P **P** **07 10 55.5 -0.9**
SNR=13
UCH Uchtor 58.77 317 P **P** **07 10 57.0 -0.5**
SNR=61
FRU1 Bishkek 58.92 318 IAMs_20 IAMs_20 07 39 37.0
comp=Z,1µm,20.0s
AAK Ala-Archa 58.94 317 P **P** **07 10 56.0 -2.5**
SNR=8.7
AAK Ala-Archa 58.94 317 **P** **07 10 58.0 -0.4**
AAK IAmb IAmb 07 11 00.1
comp=Z,19nm,0.8s
AAK Ala-Archa 58.94 317 IAMs_20 IAMs_20 07 40 48.5
comp=Z,1µm,19.0s
AAK Ala-Archa 58.94 317 LR LR 07 40 10.3
comp=Z,854nm,18.7s,baz=94,slow=40
AAK Ala-Archa 58.94 317 P **P** **07 10 58.0 -0.4**
AAK pmax pmax
comp=Z,19nm,0.8s
AAK MLR MLR
comp=Z,1µm,19.0s
ZAA0 Zalesovo Array 58.99 333 IAmb IAmb 07 11 11.2
comp=Z,30nm,1.1s
ZALV Zalesovo Beam 58.99 333 P **P** **07 10 56.2 -2.1**
comp=Z,11nm,0.6s,baz=122,slow=6.7,SNR=31
ZALV LR LR 07 38 00.9
comp=Z,864nm,21.5s,baz=134,slow=38
ZALV PKP2bc 07 40 40.0
comp=Z,1.8nm,0.7s,baz=300,slow=2.9,SNR=5.8
comp=Z,11nm,0.6s
SGDS Sogindy 59.18 318 *e*P **P** **07 10 58.6 -1.4**
USP Ospenovka 59.20 318 P **P** **07 10 58.8 -1.2**
SNR=32
EKS2 Erkin-Say 59.44 317 P **P** **07 11 00.9 -1.0**
SNR=31
KURBB Kurchatov Arra 60.20 327 P **P** **07 11 05.1 -1.6**
comp=Z,33nm,0.6s,baz=123,slow=6.6,SNR=355
KURBB LR LR 07 38 28.2
comp=Z,1µm,20.6s,baz=136,slow=37
KURBB PKPPKP **P'P'df** **07 40 29.0 -2.5**
comp=Z,0.2nm,0.3s,baz=277,slow=3.3,SNR=4.5
KURBB PKP2bc 07 40 41.0
comp=Z,0.3nm,0.4s,baz=300,slow=3.5,SNR=5.1
comp=Z,33nm,0.6s
KURBB Kurchatov Arra 60.20 327 P **P** **07 11 04.7 -2.0**
KURK Kurchatov 60.20 327 P **P** **07 11 05.3 -1.4**
KURK Kurchatov 60.20 327 IAMs_20 IAMs_20 07 38 06.0
comp=Z,1µm,22.0s
KURK Kurchatov 60.20 327 P **P** **07 11 05.3 -1.4**
KURK pmax pmax
comp=Z,52nm,0.6s
KURK MLR MLR
comp=Z,2µm,22.0s
BTLS Baital 60.23 320 *e*P **P** **07 11 05.2 -1.8**
comp=Z,14nm,0.8s
BTLS Baital 60.23 320 *e*P **P** **07 11 05.2 -1.8**
BTLS pmax pmax
comp=Z,14nm,0.8s
KBL Kabul 60.29 307 **P** **07 11 06.7 -1.3**
KBL IAmb IAmb 07 11 36.1
comp=Z,43nm,1.2s
KBL Kabul 60.29 307 P **P** **07 11 06.7 -1.3**
KBL pmax pmax
comp=Z,43nm,1.2s
SEY Seymchan 60.50 13 LR LR 07 39 11.6
comp=Z,420nm,19.1s,baz=206,slow=38
SEY Seymchan 60.50 13 *e*P **P** **07 11 08.2 -0.3**
SEY pmax pmax
comp=Z,24nm,1.2s
DZA Taraz 61.19 317 *e*P **P** **07 11 12.1 -1.7**
comp=Z,22nm,1.1s
DZA Taraz 61.19 317 *e*P **P** **07 11 12.0 -1.7**
DZA pmax pmax
comp=Z,22nm,1.1s
SHEM Shemya Is, Ala 61.20 31 LR LR 07 32 50.0
comp=Z,420nm,21.4s,baz=258,slow=31
SIMJ Simiganj 61.46 311 P **P** **07 11 14.4 -1.4**
SIMJ IAMs_20 IAMs_20 07 39 15.7
comp=Z,1µm,22.0s
KK31 Karatay Array 61.83 317 *i* P **P** **07 11 16.1 -1.9**
KKAR Karatay Array 61.83 317 P **P** **07 11 16.5 -1.5**
KKAR Karatay Array 61.83 317 P **P** **07 11 16.5 -1.5**
CHM Chimkent 62.19 315 *e*P **P** **07 11 19.0 -1.5**
comp=Z,11nm,0.8s
CHM Chimkent 62.19 315 *e*P **P** **07 11 18.9 -1.5**
CHM pmax pmax
comp=Z,11nm,0.8s
JCZ Jackson Bay 62.24 147 P **P** **07 11 22.3 +1.5**
BRLS Borolday 62.27 316 *e*P **P** **07 11 19.4 -1.5**
BRLS Borolday 62.27 316 *e*P **P** **07 11 19.4 -1.5**
TOZ Tahuroa Road 62.59 138 P **P** **07 11 23.9 +0.9**
TOZ IAmb IAmb 07 11 25.0
comp=Z,46nm,1.3s
BRZS Berezniki 63.18 324 *e*P **P** **07 11 25.5 -1.4**
BRZS Berezniki 63.18 324 *e*P **P** **07 11 25.4 -1.4**
RPZ Rata Peaks 63.28 145 P **P** **07 11 27.9 +0.3**
RPZ Rata Peaks 63.28 145 LR LR 07 40 54.7
comp=Z,1µm,18.9s,baz=295,slow=38
RAO Raoul Island 63.54 126 LR LR 07 38 56.9
comp=Z,177nm,20.2s,baz=290,slow=36
URZ Urewera 63.95 137 LR LR 07 37 41.7
comp=Z,2µm,22.0s,baz=310,slow=34
BKZ Black Stump Fm 64.01 138 **P** **07 11 32.6 +0.1**
BKZ Black Stump Fm 64.01 138 P **P** **07 11 32.3 -0.2**
RTZ Ruatahuna 64.05 138 IAMs_20 IAMs_20 07 37 24.6
comp=Z,2µm,22.0s
BHW Baring Head 64.19 141 IAMs_20 IAMs_20 07 38 16.4
comp=Z,1µm,18.0s
MXZ Matakaoa Point 64.41 136 IAMs_20 IAMs_20 07 37 58.3
comp=Z,2µm,20.0s
BVA0 Borovoye Array 65.78 327 *i* P **P** **07 11 41.8 -2.0**
BVAR Borovoye Array 65.78 327 P **P** **07 11 42.4 -1.3**
comp=Z,27nm,0.7s,baz=120,slow=8.8,SNR=101
BVAR PKP2bc 07 40 25.1
comp=Z,0.3nm,0.3s,baz=262,slow=4.5,SNR=3.8
BVAR LR LR 07 42 54.8
comp=Z,1µm,20.1s,baz=114,slow=38
comp=Z,27nm,0.7s
TIXI Tiksi 66.20 1 **P** **07 11 46.9 +0.8**
TIXI Tiksi 66.20 1 IAMs_20 IAMs_20 07 40 03.6
comp=Z,1µm,22.0s
TIXI Tiksi 66.20 1 LR LR 07 44 34.1
comp=Z,709nm,18.1s,baz=199,slow=39
TIXI Tiksi 66.20 1 P **P** **07 11 46.9 +0.8**
TIXI pmax pmax
comp=Z,39nm,0.8s

NIKH Nikolski High 70.64 35 P **P** **07 12 13.8 -0.4**
baz=252
AB31 Akbulak array 70.69 320 IAmb IAmb 07 12 28.8
comp=Z,23nm,0.8s
AB31 Akbulak array 70.69 320 *i* P **P** **07 12 12.4 -2.2**
ABKAR Akbulak array 70.69 320 **P** **07 12 12.7 -1.8**
SPIA Saint Paul Isl 71.24 31 P **P** **07 12 18.2 +0.5**
baz=250
P08K Saint George I 71.40 32 P **P** **07 12 19.2 +0.5**
baz=251
AKTO Aktyubinsk 72.19 321 LR LR 07 47 25.2
comp=Z,2µm,19.1s,baz=86,slow=39
UNV Unalaska Valle 72.24 35 P **P** **07 12 24.2 +0.4**
baz=254
SVE Sverdlovsk 72.40 328 *e*P **P** **07 12 23.2 -1.5**
SVE *e*S **S** **07 21 44.9 -0.3**
SVE pmax pmax
comp=Z,94nm,1.4s
SVE MLR MLR
comp=Z,1µm,19.0s
CASY Casey 72.42 187 **P** **07 12 25.8 +1.3**
CASY IAmb IAmb 07 12 51.0
comp=Z,21nm,0.8s
GAMB Gambell 73.01 24 P **P** **07 12 28.4 +0.2**
baz=246
ARTI Arti 73.47 327 IAMs_20 IAMs_20 07 47 25.1
comp=Z,1µm,21.0s
ARTI Arti 73.47 327 P **P** **07 12 28.8 -2.3**
comp=Z,19nm,0.8s,baz=108,slow=2.7,SNR=14
ARTI LR LR 07 47 36.7
comp=Z,1µm,21.6s,baz=109,slow=38
comp=Z,19nm,0.8s
ARTI Arti 73.47 327 *c i* P **P** **07 12 29.0 -2.1**
ARTI 07 12 45.6
ARTI S **S** **07 21 57.1 -0.3**
ARTI 07 22 32.5
ARTI SS **SS** **07 26 31.9 -8.5**
ARTI pmax pmax
comp=Z,26nm,1.0s
ARTI MLR MLR
comp=Z,1µm,20.0s
M11K Mekoryuk 74.26 28 P **P** **07 12 35.6 0.0**
baz=253
S12K Black Hills 75.19 34 P **P** **07 12 41.3 +0.2**
baz=258
M13K Dall Lake 75.63 29 P **P** **07 12 43.4 -0.1**
baz=255
F14K Arctic Creek 75.79 23 P **P** **07 12 44.9 +0.6**
baz=251
ANM Nome 75.89 24 P **P** **07 12 45.1 +0.2**
baz=252
SDPT Sand Point 76.00 34 P **P** **07 12 45.2 -0.5**
baz=259
J14K Nanvaranak Lak 76.15 26 P **P** **07 12 46.3 0.0**
baz=254
L14K Kuka Creek 76.18 28 P **P** **07 12 46.7 +0.1**
baz=256
N14K Kuskokwak Cree 76.32 30 P **P** **07 12 48.0 +0.5**
baz=257
M14K Bethel 76.38 29 P **P** **07 12 47.5 -0.2**
baz=256
O14K Tigyukauivet M 76.38 30 P **P** **07 12 47.7 -0.1**
baz=257
CHNA Chernabura Isl 76.41 35 P **P** **07 12 47.9 -0.1**
baz=260
F15K North Star Dit 76.52 23 P **P** **07 12 48.9 +0.3**
baz=253
G15K Niukluk 76.56 24 P **P** **07 12 49.2 +0.4**
baz=253
S14K Fog Glacier 76.69 33 P **P** **07 12 49.7 0.0**
baz=260
L15K Ungalak Mounta 76.82 28 P **P** **07 12 51.0 +0.8**
baz=256
K15K Wolf Creek Mou 76.94 27 P **P** **07 12 51.5 +0.6**
baz=256
RAR Rarotonga 76.95 113 LR LR 07 40 11.3
comp=Z,295nm,21.0s,baz=275,slow=30
M15K Kasigluk River 76.97 29 P **P** **07 12 51.7 +0.5**
baz=258
C16K Lisburne Hills 77.05 21 P **P** **07 12 52.2 +0.8**
baz=251
O15K Ungalikthiuk R 77.09 30 P **P** **07 12 52.5 +0.7**
baz=259
N15K Kwethluk River 77.15 29 P **P** **07 12 52.8 +0.6**
baz=258
H16K Elim 77.21 25 P **P** **07 12 53.2 +0.9**
baz=255
CHGN Chignik 77.31 34 P **P** **07 12 54.0 +0.9**
baz=260
G16K Koyuk River 77.35 24 P **P** **07 12 53.4 +0.2**
baz=255
J16K Anvik River 77.58 26 P **P** **07 12 54.6 +0.1**
baz=257
I17K Unalakleet 77.68 26 P **P** **07 12 55.5 +0.5**
baz=257
D17K Noatak River 77.69 22 P **P** **07 12 54.9 -0.2**
baz=254
L16K Owhat River 77.76 28 IAmb IAmb 07 13 21.5
comp=Z,78nm,1.9s
L16K Owhat River 77.76 28 P **P** **07 12 55.6 +0.1**
baz=258
RDOG Red Dog Mine 77.86 21 P **P** **07 12 56.4 +0.5**
baz=254
N16K Nishlik Lake 77.86 29 P **P** **07 12 56.2 +0.1**
baz=259
M16K Timber Creek 77.87 29 IAmb IAmb 07 13 18.0
comp=Z,82nm,1.6s
M16K Timber Creek 77.87 29 P **P** **07 12 56.4 +0.3**
baz=259
C17K DeLong Mountai 77.88 21 P **P** **07 12 56.5 +0.4**
baz=254
R16K Pilot Point 77.97 32 P **P** **07 12 56.3 -0.5**
baz=261
AKT Akhty 77.99 311 *e*P **P** **07 12 56.5 -0.9**
AKT *e* 07 13 06.0
AKT *e* 07 15 51.7
AKT *e*PPP PPP 07 17 45.5
AKT pmax pmax
comp=Z,15nm,0.6s
AKT MLR MLR
comp=Z,1µm,26.0s
P16K Nushagak River 77.99 31 P **P** **07 12 56.7 -0.1**
baz=260
E17K Hotham Inlet 78.00 22 P **P** **07 12 56.8 0.0**
baz=255
O16K Kokwok River B 78.04 30 P **P** **07 12 57.1 0.0**
baz=260
F17K Baldwin Pennin 78.06 23 P **P** **07 12 57.0 -0.1**
baz=256
G17K Kiwalik Mounta 78.07 24 P **P** **07 12 57.5 +0.3**
baz=256
H17K Granite Mounta 78.25 25 IAmb IAmb 07 13 36.7
comp=Z,33nm,1.4s
H17K Granite Mounta 78.25 25 P **P** **07 12 58.3 +0.1**
baz=257
MAK Makhachkala 78.25 313 *d i* P **P** **07 12 55.2 -3.4**
MAK *e* 07 15 53.9
MAK *e*PPP PPP 07 17 39.5
MAK *e*S **S** **07 22 48.8 -1.7**
MAK *e*SS **SS** **07 27 49.7 -3.6**
MAK *e*SSS SSS 07 31 09.2
MAK pmax pmax
comp=Z,215nm,1.1s
MAK MLR MLR
comp=Z,858nm,17.0s
J17K VABM Dome 78.28 26 P **P** **07 12 58.0 -0.3**
baz=258
L17K Donlin 78.39 28 P **P** **07 12 58.7 -0.3**
baz=259
K17K Iditarod 78.50 27 IAmb IAmb 07 13 29.6
comp=Z,20nm,0.8s
K17K Iditarod 78.50 27 P **P** **07 12 59.3 -0.3**
baz=259
E18K Tukpahlearik C 78.54 22 P **P** **07 12 59.9 +0.1**
baz=256
O17K Koliganek Bris 78.56 30 P **P** **07 13 00.2 +0.2**
baz=261
B18K Kokolik River 78.60 20 P **P** **07 13 00.9 +0.9**
baz=255
Q16K King Salmon 78.62 31 P **P** **07 13 00.5 +0.2**
baz=262
R17L Mt. Peulik Vol 78.63 32 P **P** **07 13 00.8 +0.3**
baz=262
C18K Utukok River 78.63 21 IAmb IAmb 07 13 54.1
comp=Z,42nm,1.4s
C18K Utukok River 78.63 21 P **P** **07 13 00.5 +0.2**
baz=255

N17K Nushagak Hills 78.64 29 P **P** **07 13 00.8 +0.3**
baz=261
KIRV Kirov 78.66 329 P **P** **07 12 59.1 -1.5**
comp=Z,76nm,0.8s,baz=223,slow=0.6,SNR=13
KIRV LR LR 07 50 23.2
comp=Z,2µm,21.9s,baz=96,slow=38
comp=Z,76nm,0.8s
M17K Holitna River 78.66 28 P **P** **07 13 01.0 +0.5**
baz=260
F18K Selawik 78.72 23 P **P** **07 13 01.4 +0.7**
baz=257
CHIR Chirikof Islan 78.80 34 P **P** **07 13 01.4 +0.1**
baz=263
P17K Kvichak River 78.81 31 P **P** **07 13 01.0 -0.3**
baz=262
BELG Belogornoye 78.92 322 LR LR 07 49 29.2
comp=Z,945nm,21.9s,baz=126,slow=37
BELG Belogornoye 78.92 322 *i* P **P** **07 12 59.7 -2.4**
BELG pmax pmax
comp=Z,12nm,1.0s
H18K Honhosa River 78.93 25 P **P** **07 13 02.0 0.0**
baz=259
G18K Tagagawik 78.96 24 P **P** **07 13 02.3 +0.1**
baz=258
Q17K Contact Creek 78.96 32 P **P** **07 13 02.2 -0.2**
baz=262
A19K Wainwright 79.06 19 P **P** **07 13 03.0 +0.5**
baz=255
L18K Granite Mounta 79.15 28 IAmb IAmb 07 13 31.8
comp=Z,29nm,1.2s
L18K Granite Mounta 79.15 28 P **P** **07 13 03.0 -0.2**
baz=261
N18K Kilae Creek 79.30 29 P **P** **07 13 04.1 +0.1**
baz=262
C19K Lookout Ridge 79.30 21 P **P** **07 13 04.4 +0.4**
baz=257
J18K Innoko River 79.34 26 P **P** **07 13 04.7 +0.5**
baz=260
M18K Stony River 79.44 28 P **P** **07 13 04.8 0.0**
baz=262
P18K Big Mountain, 79.45 31 P **P** **07 13 04.9 0.0**
baz=263
Q18K Katmai Hardscr 79.47 31 P **P** **07 13 05.4 +0.2**
baz=263
GCSA Galena City Sc 79.48 25 P **P** **07 13 05.4 +0.5**
baz=260
F19K Shaleruckik Mo 79.50 23 P **P** **07 13 05.3 +0.3**
baz=259
RAYN Ar Rayn 79.57 293 **P** **07 13 04.6 -1.7**
RAYN Ar Rayn 79.57 293 P **P** **07 13 04.6 -1.7**
RAYN pmax pmax
comp=Z,11nm,0.7s
R18K Karluk 79.64 33 P **P** **07 13 05.7 -0.2**
baz=264
G19K Purcell Mounta 79.64 24 IAmb IAmb 07 13 34.1
comp=Z,33nm,1.2s
G19K Purcell Mounta 79.64 24 P **P** **07 13 06.2 +0.4**
baz=260
SII Sitkinak Islan 79.68 34 P **P** **07 13 06.3 +0.1**
baz=264
D19K Kuna River 79.69 21 P **P** **07 13 06.3 +0.3**
D19K IAmb IAmb 07 13 33.6
comp=Z,46nm,1.4s
D19K Kuna River 79.69 21 P **P** **07 13 06.6 +0.5**
baz=258
H19K Roundabout Mou 79.79 24 IAmb IAmb 07 13 33.2
comp=Z,22nm,0.8s
H19K IAMs_20 IAMs_20 07 46 26.8
comp=Z,642nm,21.0s
H19K Roundabout Mou 79.79 24 P **P** **07 13 07.3 +0.7**
baz=260
E19K Redstone River 79.82 22 IAmb IAmb 07 13 18.3
comp=Z,44nm,1.2s
E19K Redstone River 79.82 22 P **P** **07 13 06.9 +0.2**
baz=259
J19K Poorman 79.90 26 P **P** **07 13 07.7 +0.4**
baz=261
L19K White Mountain 79.99 28 IAmb IAmb 07 13 31.9
comp=Z,50nm,1.8s
L19K White Mountain 79.99 28 P **P** **07 13 07.9 +0.1**
baz=262
N19K Bonanza Creek 80.00 29 P **P** **07 13 07.8 -0.1**
baz=263
O19K Port Alsworth 80.00 30 P **P** **07 13 08.1 +0.2**
baz=263
GNI Garni 80.20 310 LR LR 07 53 02.4
comp=Z,358nm,21.5s,baz=90,slow=39
GNI Garni 80.20 310 *i* P **P** **07 13 08.7 -0.9**
GNI pmax pmax
comp=Z,57nm,2.3s
Q19K Cape Douglas, 80.21 31 P **P** **07 13 08.6 -0.5**
baz=264
OHAK Old Harbor 80.23 33 P **P** **07 13 09.2 +0.1**
baz=265
D20K Etivluk River 80.28 21 IAmb IAmb 07 13 29.1
comp=Z,30nm,1.1s
D20K Etivluk River 80.28 21 P **P** **07 13 09.9 +0.6**
baz=260
B20K Meade River 80.33 20 P **P** **07 13 10.4 +1.0**
baz=259
F20K Avaraart Lake 80.33 23 IAmb IAmb 07 13 37.9
comp=Z,36nm,1.4s
F20K Avaraart Lake 80.33 23 P **P** **07 13 09.5 +0.1**
baz=261
E20K Nigu River 80.35 22 P **P** **07 13 10.7 +1.0**
baz=260
H20K Anotleneega Mo 80.43 25 P **P** **07 13 10.6 +0.5**
baz=262
L20K Farewell, AK 80.48 28 P **P** **07 13 10.9 +0.4**
baz=263
P19K Oil Pt 80.49 30 P **P** **07 13 11.3 +0.8**
baz=264
K20K Telida 80.50 27 P **P** **07 13 11.0 +0.5**
baz=263
I20K Naaghedeneel 80.50 25 IAmb IAmb 07 13 39.3
comp=Z,44nm,1.0s
I20K Naaghedeneel 80.50 25 P **P** **07 13 10.1 -0.3**
baz=262
J20K Nowinta River 80.57 26 P **P** **07 13 11.2 +0.4**
baz=263
KDAK Kodiak Island 80.66 32 P **P** **07 13 11.8 +0.4**
KDAK Kodiak Island 80.66 32 IAMs_20 IAMs_20 07 48 28.2
comp=Z,768nm,21.0s
KDAK Kodiak Island 80.66 32 LR LR 07 47 29.3
comp=Z,323nm,20.0s,baz=245,slow=34
KDAK Kodiak Island 80.66 32 P **P** **07 13 11.8 +0.4**
KDAK pmax pmax
comp=Z,174nm,1.8s
KDAK MLR MLR
comp=Z,800nm,21.0s
KDAK Kodiak Island 80.66 32 P **P** **07 13 11.5 +0.1**
baz=265
A21K Barrow 80.75 19 P **P** **07 13 11.1 -0.6**
baz=259
M20K Styx River 80.77 28 IAmb IAmb 07 13 40.7
comp=Z,37nm,1.1s
M20K Styx River 80.77 28 P **P** **07 13 11.7 -0.4**
baz=264
Q20K Shuyak Island 80.83 32 P **P** **07 13 12.4 +0.1**
baz=265
SYI Shuyak Island 80.83 32 IAMs_20 IAMs_20 07 44 30.6
comp=Z,1µm,22.0s
IMAR Indian Mountai 80.96 24 P **P** **07 13 13.4 +0.5**
C21K Knifeblade Rid 81.00 21 P **P** **07 13 13.2 +0.1**
baz=261
G21K Allakaket 81.12 24 IAmb IAmb 07 13 34.6
comp=Z,27nm,1.1s
G21K Allakaket 81.12 24 P **P** **07 13 13.4 -0.3**
baz=263
B21K Ikpikpuk River 81.13 20 IAmb IAmb 07 13 34.1
comp=Z,26nm,0.7s
B21K IAMs_20 IAMs_20 07 55 08.2
comp=Z,584nm,20.0s
B21K Ikpikpuk River 81.13 20 P **P** **07 13 14.1 +0.4**
baz=261
SPCR Spurr Chakacha 81.14 29 P **P** **07 13 13.8 -0.3**
baz=265
E21K Killik River 81.19 22 IAmb IAmb 07 13 25.4
comp=Z,24nm,1.0s
E21K Killik River 81.19 22 P **P** **07 13 14.2 0.0**
baz=262
F21K Alatna River 81.22 23 P **P** **07 13 14.1 -0.2**
baz=263
A22K Sinclair Lake 81.22 19 P **P** **07 13 13.7 -0.5**
baz=261
HOM Homer 81.30 31 P **P** **07 13 15.1 +0.4**
baz=266
PPLA Purkeypile 81.30 27 IAmb IAmb 07 13 38.1

comp=Z,31nm,1.2s
PPLA Purkeypile 81.30 27 P P 07 13 15.5 +0.5
baz=265
H21K Melozitna Rive 81.31 24 P P 07 13 15.2 +0.4
baz=264
CHUM Lake Minchumin 81.34 26 P P 07 13 15.1 +0.2
baz=264
SKT Skwentna 81.53 28 P P 07 13 16.0 -0.1
baz=265
GOF Gofitskoye 81.55 315 *ce*P P 07 13 16.4 0.0
OPO Ambohidratompo 81.56 250 P P 07 13 16.0 -1.2
comp=Z,9.8nm,0.9s,baz=82,slow=8.5,SNR=8.1
comp=Z,9.8nm,0.9s
ABPO Ambohimpanom 81.59 250 P 07 13 18.1 +0.7
ABPO Ambohimpanom 81.59 250 P P 07 13 18.1 +0.7
ABPO pmax pmax
comp=Z,15nm,1.0s
I21K Tanana 81.60 25 IAmb IAmb 07 13 27.8
comp=Z,28nm,0.9s
I21K Tanana 81.60 25 P P 07 13 16.2 -0.1
baz=264
CAPN Captain Cook N 81.62 29 P P 07 13 16.1 -0.3
baz=266
KBZ Khabaz 81.63 313 P P 07 13 16.3 -0.6
comp=Z,3.2nm,0.6s,baz=157,slow=7.1,SNR=7.9
KBZ LR LR 07 54 21.3
comp=Z,628nm,19.8s,baz=74,slow=39
comp=Z,3.2nm,0.6s
KBZ Khabaz 81.63 313 *i* P P 07 13 15.5 -1.4
KBZ pmax pmax
comp=Z,34nm,2.3s
B22K Teshekpuk Lake 81.64 20 IAmb IAmb 07 13 26.2
comp=Z,24nm,0.8s
B22K Teshekpuk Lake 81.64 20 P P 07 13 15.6 -0.8
baz=262
D22K Ayikyak River 81.72 21 P P 07 13 17.0 +0.1
baz=263
F22K John River 81.75 23 P P 07 13 17.7 +0.6
baz=264
BRSE Bradley Lake S 81.76 31 P P 07 13 17.6 +0.3
baz=266
KIV Kislovodsk 81.79 314 IAMs_20 IAMs_20 07 55 31.0
comp=Z,789nm,19.0s
KIV Kislovodsk 81.79 314 *e*P P 07 13 16.5 -1.4
KIV pmax pmax
comp=Z,10.0nm,0.9s
KIV MLR MLR
comp=Z,419nm,19.0s
SHA1 Shidzhatmaz 81.81 313 *i* P P 07 13 16.7 -1.5
SUA Susitna One 81.86 29 IAmb IAmb 07 13 31.5
comp=Z,36nm,0.8s
SUA Susitna One 81.86 29 P P 07 13 18.1 +0.1
baz=266
H22K Ishtalitna Cre 81.92 24 P P 07 13 18.2 +0.2
baz=265
BPAW Bear Paw Mtn. 81.94 26 IAmb IAmb 07 13 31.1
comp=Z,32nm,1.0s
BPAW Bear Paw Mtn. 81.94 26 P P 07 13 17.5 -0.7
baz=266
E22K Anaktuvuk Pass 81.95 22 IAmb IAmb 07 13 29.7
comp=Z,24nm,0.9s
E22K Anaktuvuk Pass 81.95 22 P P 07 13 18.4 +0.2
baz=264,SNR=13
G22K Bettles 81.96 23 P P 07 13 17.7 -0.4
baz=265
SLKM Skilak Lake 82.06 30 IAmb IAmb 07 13 46.0
comp=Z,23nm,0.9s
MLY Manley 82.11 25 IAmb IAmb 07 13 47.4
comp=Z,26nm,1.1s
MLY Manley 82.11 25 P P 07 13 18.7 -0.4
baz=266,SNR=6.5
CUT Chulitna 82.15 28 P P 07 13 19.3 +0.1
baz=266
M22K Willow 82.18 28 P P 07 13 19.9 +0.6
baz=267
TRF Thorofare Moun 82.20 27 IAmb IAmb 07 13 30.1
comp=Z,29nm,1.0s
TRF IAMs_20 IAMs_20 07 45 57.6
comp=Z,711nm,21.0s
TRF Thorofare Moun 82.20 27 P P 07 13 19.9 +0.1
baz=266
GURO Guroymak-BITLI 82.30 308 IAmb IAmb 07 13 52.9
comp=Z,33nm,1.0s
O22K Cooper Landing 82.31 30 P P 07 13 20.8 +0.8
baz=267
RC01 Rabbit Creek A 82.33 29 P P 07 13 20.6 +0.4
baz=267
SEW Seward 82.42 30 P P 07 13 21.0 +0.3
baz=268
VOI Vohitsoka 82.43 247 P 07 13 21.1 -0.6
VOI IAmb IAmb 07 13 43.5
comp=Z,20nm,0.9s
D23K Nanushuk River 82.45 21 P P 07 13 20.8 +0.1
baz=265
COLD Coldfoot 82.49 23 P P 07 13 21.2 +0.2
baz=266,SNR=18
VRH Novokhopyorsk 82.52 321 *e*P P 07 13 18.4 -3.0
VRH pmax pmax
comp=Z,20nm,0.8s
G23K Bananza Creek 82.53 23 IAmb IAmb 07 13 34.1
comp=Z,24nm,1.1s
G23K Bananza Creek 82.53 23 P P 07 13 21.9 +0.7
baz=266,SNR=18
C23K Itkillik River 82.54 20 IAmb IAmb 07 13 32.4
comp=Z,36nm,1.0s
C23K Itkillik River 82.54 20 P P 07 13 21.7 +0.5
baz=265
PMR Palmer 82.64 29 P P 07 13 20.8 -1.0
PMR Palmer 82.64 29 P P 07 13 22.1 +0.3
baz=268
ATD Arta Tunnel 82.67 281 LR LR 07 50 55.1
comp=Z,5.2nm,19.1s,baz=88,slow=36
E23K Chandalar 82.77 22 IAmb IAmb 07 13 43.0
comp=Z,30nm,0.9s
E23K Chandalar 82.77 22 P P 07 13 23.0 +0.5
baz=266
NEA2 Nenana 82.80 26 IAmb IAmb 07 13 33.6
comp=Z,24nm,1.0s
NEA2 Nenana 82.80 26 P P 07 13 22.9 +0.2
baz=267,SNR=9.0
MCK McKinley 82.82 27 P P 07 13 23.2 +0.4
baz=268,SNR=19
TOLK Toolik Lake Re 82.82 22 IAmb IAmb 07 13 52.5
comp=Z,18nm,0.8s
TOLK Toolik Lake Re 82.82 22 P P 07 13 23.0 +0.3
baz=266,SNR=5.9
RND Reindeer 82.84 27 IAmb IAmb 07 13 41.4
comp=Z,21nm,0.9s
RND IAMs_20 IAMs_20 07 51 09.5
comp=Z,563nm,20.0s
KNK Knik Glacier 82.96 29 IAmb IAmb 07 13 51.4
comp=Z,43nm,1.2s
KNK Knik Glacier 82.96 29 P P 07 13 22.8 -0.7
baz=268
WAT1 Susitna Watana 82.96 27 P P 07 13 23.5 0.0
baz=268
PWL Port Wells 83.00 29 P P 07 13 24.0 +0.2
baz=268
D24K Happy Valley 83.12 21 IAmb IAmb 07 13 44.5
comp=Z,36nm,0.9s
D24K Happy Valley 83.12 21 P P 07 13 24.7 +0.5
baz=267,SNR=6.8
E24K Your Creek 83.19 22 IAmb IAmb 07 13 54.0
comp=Z,19nm,1.0s
E24K Your Creek 83.19 22 P P 07 13 25.4 +0.7
baz=267
C24K Franklin Bluff 83.20 20 IAMs_20 IAMs_20 07 50 32.4
comp=Z,610nm,21.0s
C24K Franklin Bluff 83.20 20 P P 07 13 24.7 +0.2
baz=267
WRH Wood River Hil 83.22 26 IAmb IAmb 07 13 35.0
comp=Z,29nm,1.0s
MARD Mardin 83.31 307 IAmb IAmb 07 13 46.1
comp=Z,17nm,0.7s
M23K Glacier View 83.32 28 P P 07 13 25.4 0.0
baz=269
WAT6 Susitna Watana 83.33 28 P P 07 13 25.3 -0.3
baz=269
COLA College 83.33 25 P P 07 13 27.3 +2.0
COLA IAmb IAmb 07 13 34.5
comp=Z,31nm,1.1s
COLA College 83.33 25 P P 07 13 25.9 +0.6
COLA College 83.33 25 ⇑P P 07 13 26.0 +0.6
COLA College 83.33 25 P P 07 13 25.6 +0.3
baz=268
CCB Clear Creek Bu 83.35 26 IAmb IAmb 07 13 52.5
comp=Z,46nm,1.3s
CCB IAMs_20 IAMs_20 07 47 03.8
comp=Z,591nm,22.0s
H24K Noodor Dome 83.35 24 IAmb IAmb 07 13 55.1
comp=Z,37nm,1.1s
H24K Noodor Dome 83.35 24 P P 07 13 25.5 0.0
baz=268,SNR=13
F24K Squaw Lake 83.40 23 P P 07 13 26.2 +0.5
baz=268,SNR=5.9
KOPT Kop Dagi 83.46 310 IAmb IAmb 07 13 59.3
comp=Z,39nm,1.1s
DHY Denali Highway 83.50 27 P P 07 13 26.3 -0.1
baz=269
SCM Sheep Creek Mo 83.51 28 P P 07 13 26.3 -0.1
baz=269
POKR Poker Plat Res 83.52 25 P P 07 13 26.5 +0.2
baz=269
G24K Hadweenzic Riv 83.54 24 IAmb IAmb 07 13 55.3
comp=Z,37nm,1.1s
G24K Hadweenzic Riv 83.54 24 P P 07 13 26.5 +0.2
baz=268,SNR=11
GLI Glacier Island 83.61 29 P P 07 13 27.2 +0.3
baz=269
HDA Harding Lake 83.71 26 IAmb IAmb 07 13 36.3
comp=Z,21nm,0.9s
HDA IAMs_20 IAMs_20 07 48 47.5
comp=Z,684nm,21.0s
HDA Harding Lake 83.71 26 P P 07 13 28.0 +0.7
baz=269,SNR=11
ILAR Eielson Array 83.75 25 P 07 13 28.0 +0.5
ILAR Eielson Array 83.75 25 P P 07 13 26.6 -0.9
comp=Z,3.7nm,0.9s,baz=251,slow=5.0,SNR=28
ILAR LR LR 07 46 16.5
comp=Z,159nm,21.7s,baz=239,slow=32
comp=Z,3.7nm,0.9s
ILAR Eielson Array 83.75 25 P P 07 13 28.0 +0.5
KLMR Klimovskoe 83.83 331 *e*P P 07 13 21.8 -6.1
KLMR pmax pmax
comp=Z,120nm,1.3s
KLMR MLR MLR
comp=Z,1μm,21.0s
HIN Hinchinbrook I 83.90 30 IAMs_20 IAMs_20 07 47 14.5
comp=Z,1μm,22.0s
SOC Sochi 83.94 313 *e*P P 07 13 23.2 -5.7
SOC *e* 07 16 42.5
SOC *e*PPP PPP 07 18 31.3
SOC *e*S **S 07 23 41.4 -8.3**
SOC *e*SS **SS 07 29 12.7 -5.5**
SOC *e*SSS SSS 07 32 46.5
Q23K Middleton Isla 83.98 31 P P 07 13 29.6 +0.8
baz=270
D25K Kavik River 84.00 21 IAmb IAmb 07 13 48.6
comp=Z,28nm,1.1s
D25K Kavik River 84.00 21 P P 07 13 28.6 -0.2
baz=269
M24K Tolsona, Glenn 84.05 28 P P 07 13 28.8 -0.4
baz=270
G25K Bearman Lake 84.08 23 P P 07 13 29.7 +0.5
baz=270
VSR Storozhevoye 84.12 321 *e*P P 07 13 26.4 -3.3
VSR pmax pmax
comp=Z,10.0nm,0.9s
KLU Klutina 84.18 29 IAmb IAmb 07 14 15.7
comp=Z,34nm,1.2s
KLU Klutina 84.18 29 P P 07 13 29.6 -0.2
baz=270
H25L Birch Creek 84.20 24 P P 07 13 30.2 +0.5
baz=270,SNR=9.8
K24K Donnelly Dome 84.23 26 IAMs_20 IAMs_20 07 48 50.0
comp=Z,44nm,20.0s
K24K Donnelly Dome 84.23 26 P P 07 13 30.6 +0.6
baz=270
LPSR Galich'ya Gora 84.24 322 *e*P P 07 13 27.0 -3.2
LPSR pmax pmax
comp=Z,30nm,0.9s
F25K Christian Rive 84.26 23 IAmb IAmb 07 13 42.1
comp=Z,26nm,1.2s
F25K Christian Rive 84.26 23 P P 07 13 30.1 0.0
baz=270
EYAK Cordova Ski Ar 84.27 30 IAMs_20 IAMs_20 07 50 07.3
comp=Z,885nm,22.0s
EYAK Cordova Ski Ar 84.27 30 P P 07 13 30.2 0.0
baz=271
E25K Arctic Village 84.29 22 P P 07 13 30.6 +0.4
baz=270
PRP Porcupine Dome 84.32 25 IAmb IAmb 07 14 00.4
comp=Z,26nm,1.7s
PRP IAMs_20 IAMs_20 07 50 45.6
comp=Z,611nm,21.0s
PRP Porcupine Dome 84.32 25 P P 07 13 30.7 +0.2
baz=270
PAX Paxson 84.37 27 IAmb IAmb 07 14 03.0
comp=Z,25nm,1.2s
PAX IAMs_20 IAMs_20 07 46 58.0
comp=Z,700nm,22.0s
PAX Paxson 84.37 27 P P 07 13 30.4 -0.4
baz=271
J25K Salcha River, 84.40 26 IAMs_20 IAMs_20 07 49 17.6
comp=Z,630nm,21.0s
J25K Salcha River, 84.40 26 P P 07 13 31.0 +0.1
baz=271,SNR=9.0
C26K Camden Bay 84.52 20 P P 07 13 31.6 +0.4
baz=270
HARP HAARP 84.53 28 P P 07 13 31.6 +0.1
baz=271
RIDG Independent Ri 84.64 27 P P 07 13 32.1 0.0
baz=271
BMAR Burnt Mountain 84.67 23 P 07 13 33.4 +1.2
RAGM Ragged Mountai 84.81 30 IAMs_20 IAMs_20 07 47 03.5
comp=Z,927nm,21.0s
N25K Chitina, Valde 84.81 29 IAmb IAmb 07 14 05.9
comp=Z,21nm,1.1s
N25K Chitina, Valde 84.81 29 P P 07 13 33.0 0.0
baz=272
BMRM Bremner River 84.83 29 IAMs_20 IAMs_20 07 48 11.9
comp=Z,753nm,22.0s
BMRM Bremner River 84.83 29 P P 07 13 33.5 +0.4
baz=272
F26K Sheenjek River 84.83 23 IAmb IAmb 07 13 52.6
comp=Z,21nm,1.2s
F26K Sheenjek River 84.83 23 P P 07 13 33.2 +0.2
baz=271,SNR=6.9
MOS Moscow 84.92 325 *e*P P 07 13 31.3 -2.2
MOS *e* 07 16 49.0
MOS *e*S **SKSac 07 23 52.8 -1.6**
MOS pmax pmax
comp=Z,52nm,0.6s
C27K Jago River 84.94 21 IAmb IAmb 07 14 02.3
comp=Z,32nm,1.0s
C27K Jago River 84.94 21 P P 07 13 34.2 +0.8
baz=272
KAIM Kayak Island 84.95 30 P P 07 13 34.0 +0.3
baz=272
DOT Dot Lake 84.99 27 IAmb IAmb 07 13 52.8
comp=Z,19nm,1.2s
DOT IAMs_20 IAMs_20 07 52 59.2
comp=Z,551nm,21.0s
G26K Porcupine Rive 85.00 23 P P 07 13 33.9 +0.2
baz=272,SNR=9.6
SCRK Sand Creek 85.02 26 IAMs_20 IAMs_20 07 47 26.9
comp=Z,584nm,22.0s
SCRK Sand Creek 85.02 26 P P 07 13 34.0 -0.1
baz=272
HMT Hamilton 85.02 30 IAMs_20 IAMs_20 07 46 58.0
comp=Z,997nm,22.0s
VNDA Vanda 85.10 173 P 07 13 34.2 +0.2
VNDA IAmb IAmb 07 13 47.1
comp=Z,14nm,0.9s
VNDA Vanda 85.10 173 P P 07 13 33.6 -0.4
comp=Z,5.8nm,0.8s,baz=313,slow=5.9,SNR=29
VNDA LR LR 07 51 21.4
comp=Z,816nm,21.5s,baz=345,slow=35
comp=Z,5.8nm,0.8s
VNDA Vanda 85.10 173 P P 07 13 34.2 +0.2
VNDA pmax pmax
comp=Z,14nm,0.9s
MENT Mentasta 85.17 27 IAmb IAmb 07 14 14.9
comp=Z,15nm,1.0s
MENT IAMs_20 IAMs_20 07 50 03.1
comp=Z,655nm,22.0s
MENT Mentasta 85.17 27 P P 07 13 35.5 +0.7
J26L Joseph Creek 85.18 26 P P 07 13 35.3 +0.4
baz=272,SNR=6.5
GLB Gilahina Butte 85.19 29 IAmb IAmb 07 13 54.2
comp=Z,34nm,1.1s
GLB IAMs_20 IAMs_20 07 48 40.6
comp=Z,767nm,22.0s
MAW Mawson 85.20 200 P P 07 13 33.8 -0.8
comp=Z,7.6nm,0.9s,baz=65,slow=7.7,SNR=6.8
MAW LR LR 07 48 30.4
comp=Z,302nm,20.7s,baz=70,slow=33
comp=Z,7.6nm,0.9s
BERG Berg Lake 85.29 30 IAMs_20 IAMs_20 07 47 31.3
comp=Z,910nm,22.0s
L26K Log Cabin Wild 85.34 27 P P 07 13 35.5 -0.1
baz=273
VRDI Verde Repeater 85.38 29 IAMs_20 IAMs_20 07 48 07.4
comp=Z,591nm,22.0s
M26K Nabesna, AK 85.53 28 IAmb IAmb 07 14 04.7
comp=Z,19nm,1.2s
M26K IAMs_20 IAMs_20 07 48 36.6
comp=Z,594nm,22.0s
M26K Nabesna, AK 85.53 28 P P 07 13 36.5 -0.1
baz=273
OBN Obninsk 85.54 325 IAMs_20 IAMs_20 07 54 55.1
comp=Z,910nm,21.0s
OBN Obninsk 85.54 325 LR LR 07 54 48.2
comp=Z,765nm,18.7s,baz=32,slow=38
OBN Obninsk 85.54 325 ⇑P P 07 13 35.6 -1.1
OBN Obninsk 85.54 325 *c i*P P 07 13 34.8 -1.9
OBN *e*PS **PnS 07 24 56.6 -9.3**
OBN pmax pmax
comp=Z,52nm,0.9s
OBN MLR MLR
comp=Z,697nm,18.0s
OBN Obninsk 85.54 325 P P 07 13 34.8 -1.9
comp=Z,1μmcomp=Z,87nm,1.2s
CRQM Cirque 85.55 30 IAmb IAmb 07 13 56.3
comp=Z,33nm,1.0s
MCARA McCarthy VSAT 85.57 29 P P 07 13 36.6 -0.1
baz=273
CRQE Cirque 85.57 30 P P 07 13 37.1 +0.1
baz=273
TGL Tana Glacier 85.70 29 IAmb IAmb 07 14 11.7
comp=Z,27nm,1.0s
WAX Waxell Ridge 85.71 30 IAmb IAmb 07 13 57.1
comp=Z,24nm,0.8s
LVZ Lovozero 85.72 338 ⇑P P 07 13 35.9 -1.5
E27K Coleen River 85.78 22 P P 07 13 38.0 +0.3
baz=274
G27K Doyon Strip 85.84 23 P P 07 13 38.2 +0.2
baz=274
K27K Chicken 85.85 26 IAmb IAmb 07 14 07.9
comp=Z,30nm,1.2s
K27K IAMs_20 IAMs_20 07 47 50.7
comp=Z,702nm,22.0s
K27K Chicken 85.85 26 P P 07 13 38.4 +0.3
baz=274
PPT Papeete 85.90 108 LR LR 07 44 22.8
comp=Z,457nm,20.5s,baz=288,slow=30
PPT2 Papeete2 85.91 108 *e*P P 07 13 40.6 +1.3
comp=Z,85nm,25.0s
PPT2 Papeete2 85.91 108 *e*S **SKSac 07 24 04.1 +1.8**
comp=Z,571nm,26.8s
PPT2 *e*SS **SS 07 29 45.4 -3.3**
comp=Z,588nm,28.0s
PPT2 *e*LQ LQ 07 37 03.5
comp=Z,4μm,42.8s
PPT2 *e*LR LR 07 40 34.3
comp=Z,2μm,28.0s
PPT2 *e*LR LR 07 40 45.5
comp=Z,2μm,26.0s
D27M Malcolm River 85.93 21 P P 07 13 38.7 +0.2
baz=274
H27K Steamboat Moun 85.94 24 IAmb IAmb 07 13 50.4
comp=Z,26nm,1.4s
H27K IAMs_20 IAMs_20 07 49 55.2
comp=Z,601nm,22.0s
H27K Steamboat Moun 85.94 24 P P 07 13 39.0 +0.5
baz=274
I27K Kandik River 85.94 25 P P 07 13 38.8 +0.2
baz=274
ISLE Juniper Island 85.95 30 IAmb IAmb 07 14 00.6
comp=Z,28nm,1.0s
ISLE IAMs_20 IAMs_20 07 47 30.7
comp=Z,946nm,22.0s
SBA Scott Base 86.01 172 P 07 13 40.3 +1.8
SBA Scott Base 86.01 172 P P 07 13 40.3 +1.8
SBA pmax pmax
comp=Z,11nm,1.0s
L27K Beaver Creek, 86.03 27 IAmb IAmb 07 14 06.8
comp=Z,51nm,1.9s
L27K Beaver Creek, 86.03 27 P P 07 13 39.3 +0.3
baz=273
BCAR Beaver Creek A 86.05 27 P P 07 13 40.3 +1.1
M27K Edge Creek, AK 86.06 28 IAMs_20 IAMs_20 07 54 32.4
comp=Z,587nm,21.0s
M27K Edge Creek, AK 86.06 28 P P 07 13 39.1 -0.2
baz=274,SNR=7.0
GAZ Gaziantep 86.16 307 IAmb IAmb 07 14 10.1
comp=Z,35nm,1.1s
MESA MESA 86.17 30 P P 07 13 39.9 -0.1
baz=274
EGAK Eagle 86.20 25 IAmb IAmb 07 14 13.4
comp=Z,54nm,1.9s
EGAK Eagle 86.20 25 P P 07 13 40.2 +0.4
baz=274
APA Apatity 86.22 337 ⇓ *i*P P 07 13 38.5 -1.3
APA *i* 07 16 57.5
APA *i* S **S 07 24 09.9 -1.4**
APA pmax pmax
comp=Z,16nm,1.0s
APA MLR MLR
comp=Z,3μm,22.9s
GRNC Granite Creek 86.23 29 IAmb IAmb 07 14 12.1
comp=Z,24nm,1.0s
GRNC IAMs_20 IAMs_20 07 48 15.1
comp=Z,1μm,22.0s
BARN Barnard Glacie 86.25 29 IAmb IAmb 07 13 59.8
comp=Z,21nm,1.0s
BARN IAMs_20 IAMs_20 07 47 45.7
comp=Z,613nm,22.0s
YAH Yahtse 86.26 30 IAMs_20 IAMs_20 07 48 44.9
comp=Z,918nm,21.0s
CTG Chitna Glacier 86.42 29 P P 07 13 41.1 0.0
baz=274
CTGM Chitina Glacie 86.42 29 IAmb IAmb 07 14 01.2
comp=Z,39nm,1.2s
CTGM IAMs_20 IAMs_20 07 47 49.0
comp=Z,731nm,22.0s
F28M Old Crow 86.47 23 IAmb IAmb 07 14 22.0
comp=Z,12nm,0.8s
F28M Old Crow 86.47 23 P P 07 13 41.4 +0.3
baz=275
E28M Babbage River 86.50 22 IAMs_20 IAMs_20 07 58 10.1
comp=Z,576nm,19.0s
E28M Babbage River 86.50 22 P P 07 13 41.6 +0.4
baz=276
BVCY Beaver Creek 86.52 28 P P 07 13 41.6 +0.2
baz=275
TABL Table Mountain 86.56 30 IAmb IAmb 07 14 14.5
comp=Z,27nm,0.9s
TABL IAMs_20 IAMs_20 07 47 33.9
comp=Z,1μm,22.0s
LOGN Logan Glacier 86.59 29 IAMs_20 IAMs_20 07 49 01.6
comp=Z,688nm,22.0s
I28M Miner Creek 86.65 25 IAmb IAmb 07 14 02.0
comp=Z,17nm,0.8s
I28M IAMs_20 IAMs_20 07 50 04.2
comp=Z,564nm,22.0s
I28M Miner Creek 86.65 25 P P 07 13 42.6 +0.5
baz=275
TBI Tubuai 86.72 114 *e*S **SKSac 07 24 13.0 +6.0**
comp=Z,3μm,31.5s
TBI *e*SS **SS 07 29 55.6 -4.7**
comp=Z,3μm,30.2s
TBI *e*LQ LQ 07 37 35.3
comp=Z,4μm,38.8s
TBI *e*LR LR 07 41 01.6
comp=Z,2μm,26.8s
TBI *e*LR LR 07 41 01.8
comp=Z,9μm,26.8s
YUK3 Moose Creek 86.77 28 P P 07 13 42.7 -0.2
baz=275
ASF Jabal al Asfar 86.77 302 LR LR 07 57 47.1
comp=Z,330nm,21.4s,baz=106,slow=39
FURI Furi 86.97 279 IAMs_20 IAMs_20 07 49 48.1
comp=Z,836nm,22.0s
O28M Mount Upton 86.99 29 IAMs_20 IAMs_20 07 48 37.3
comp=Z,1μm,22.0s
O28M Mount Upton 86.99 29 P P 07 13 44.1 0.0
baz=276
DAWY Dawson 87.03 26 P P 07 13 44.6 +0.7
DAWY IAmb IAmb 07 14 32.5
comp=Z,35nm,1.9s
DAWY Dawson 87.03 26 P P 07 13 44.9 +1.0
baz=276
PINM Pinnacle 87.03 30 P P 07 13 44.9 +0.8

baz=276
E29M Blow River 87.12 22 P **P** 07 13 44.9 +0.7
baz=277
YUK8 Steele Glacier 87.15 29 P **P** 07 13 44.9 +0.1
baz=276
H29M Whitestone 87.21 24 IAmb IAmb 07 14 04.9
comp=Z,52nm,1.9s
H29M Whitestone 87.21 24 P **P** 07 13 45.2 +0.5
baz=277
G29M Pine Creek 87.26 23 IAmb IAmb 07 14 04.3
comp=Z,22nm,0.9s
G29M Pine Creek 87.26 23 P **P** 07 13 45.6 +0.6
baz=277
I29M Ogilvie Camp, 87.34 25 P **P** 07 13 46.0 +0.6
baz=277
J29N Klondike Camp 87.49 26 IAMs_20 IAMs_20 07 51 05.4
comp=Z,695nm,22.0s
PNL Peninsula 87.50 30 P **P** 07 13 46.3 +0.1
baz=276
M29M Somme Creek 87.63 28 P **P** 07 13 47.4 +0.5
baz=277
L29M L29M 87.70 27 P **P** 07 13 47.8 +0.6
baz=277
O29M Mount Kennedy 87.84 30 P **P** 07 13 48.3 +0.3
baz=277
EPYK Eagle Plains 87.85 24 IAmb IAmb 07 14 06.2
comp=Z,33nm,1.4s
EPYK Eagle Plains 87.85 24 P **P** 07 13 48.1 +0.2
baz=278
YUK6 Outpost Mounta 87.86 29 P **P** 07 13 48.3 +0.1
baz=277
K29M Barlow Dome 87.87 26 P **P** 07 13 48.5 +0.4
baz=278
G30M tAoh Zraii Nji 87.96 23 P **P** 07 13 48.9 +0.6
baz=279
MMAI Mount Meron Ar 87.96 303 P **P** 07 13 48.4 -0.7
comp=Z,0.5nm,0.3s,baz=141,slow=2.9,SNR=1.4
MMAI LR LR 07 57 30.2
comp=Z,517nm,21.4s,baz=66,slow=39
comp=Z,0.5nm,0.3s
F30M Barrier River 88.02 22 IAmb IAmb 07 14 06.6
comp=Z,15nm,0.9s
F30M Barrier River 88.02 22 P **P** 07 13 49.7 +1.1
baz=279
I30M Mount Dempster 88.16 25 IAMs_20 IAMs_20 07 53 27.1
comp=Z,666nm,21.0s
I30M Mount Dempster 88.16 25 P **P** 07 13 50.2 +0.8
baz=279
J30M Hart River 88.28 25 IAMs_20 IAMs_20 07 56 06.3
comp=Z,492nm,20.0s
J30M Hart River 88.28 25 P **P** 07 13 50.3 +0.3
baz=279
HYT Haines Junctio 88.30 29 P **P** 07 13 50.7 +0.5
baz=278
P29M Windy Craggy 88.34 30 IAMs_20 IAMs_20 07 47 53.0
comp=Z,890nm,22.0s
P29M Windy Craggy 88.34 30 P **P** 07 13 50.7 +0.4
baz=278
M30M Minto, Yukon 88.38 27 P **P** 07 13 51.0 +0.6
baz=278
N30M Aishikik Lake 88.41 29 IAMs_20 IAMs_20 07 48 42.6
comp=Z,660nm,22.0s
N30M Aishikik Lake 88.41 29 P **P** 07 13 50.8 +0.2
baz=278
KIRS Kirsehir-Merke 88.59 309 ⇑P **P** 07 13 49.6 -2.4
MAYO Mayo, Yukon 88.63 26 P **P** 07 13 51.9 +0.4
baz=279
EIL Elat 88.65 300 LR LR 08 00 47.7
comp=Z,345nm,18.8s,baz=145,slow=40
P30M Million Dollar 88.66 30 P **P** 07 13 52.2 +0.4
baz=278
G31M Satah River 88.72 23 P **P** 07 13 52.2 +0.3
baz=280
INK Inuvik 88.74 21 LR LR 07 57 13.0
comp=Z,298nm,19.9s,baz=260,slow=38
INK Inuvik 88.74 21 P **P** 07 13 52.6 +0.7
baz=281
BR104 Keskin Array S 88.74 310 P **P** 07 13 52.4 -0.3
comp=Z,60nmcomp=Z,8.6nm,0.9s
BR131 Keskin Array S 88.74 310 IAmb IAmb 07 14 21.4
comp=Z,12nm,0.9s
BR131 Keskin Array S 88.74 310 *i* P **P** 07 13 50.0 -2.8
BRTR Keskin Array B 88.74 310 **P** 07 13 51.0 -1.7
BRTR Keskin Array B 88.74 310 P **P** 07 13 51.3 -1.4
comp=Z,3.4nm,0.8s,baz=92,slow=5.3,SNR=14
BRTR LR LR 08 01 13.5
comp=Z,281nm,19.2s,baz=130,slow=41
comp=Z,3.4nm,0.8s
ARA0 ARCESS Array S 88.80 340 *e*P **P** 07 13 51.1 -1.1
ARA0 *e*SKSac **SKSac** 07 24 23.2 +5.3
ARCES ARCESS Array B 88.80 340 **P** 07 13 51.3 -0.9
ARCES ARCESS Array B 88.80 340 P **P** 07 13 51.1 -1.1
comp=Z,38nm,0.7s,baz=77,slow=5.4,SNR=80
ARCES LR LR 07 58 16.0
comp=Z,626nm,18.9s,baz=85,slow=39
comp=Z,38nm,0.7s
ARCES ARCESS Array B 88.80 340 P **P** 07 13 51.3 -0.9
ARCES pmax pmax
comp=Z,45nm,0.8s
SPA0 Spitsbergen Ar 88.81 349 *e*P **P** 07 13 51.8 -0.3
SPA0 *e*SKSac **SKSac** 07 24 20.5 +2.8
SPITS Spitsbergen Ar 88.81 349 P **P** 07 13 51.3 -0.8
comp=Z,35nm,0.7s,baz=93,slow=10,SNR=26
SPITS LR LR 08 00 35.9
comp=Z,524nm,18.1s,baz=56,slow=40
comp=Z,35nm,0.7s
SPITS Spitsbergen Ar 88.81 349 P **P** 07 13 52.0 -0.1
SPITS pmax pmax
comp=Z,47nm,0.9s
F31M Tsiigehtchic 88.83 22 IAmb IAmb 07 14 16.8
comp=Z,38nm,1.6s
F31M IAMs_20 IAMs_20 07 52 15.6
comp=Z,605nm,22.0s
F31M Tsiigehtchic 88.83 22 P **P** 07 13 52.9 +0.6
baz=281
H31M Peel River 88.90 24 P **P** 07 13 53.0 +0.2
baz=280
O30N Mendenhall 88.99 29 P **P** 07 13 52.9 -0.4
baz=279
N31M Braeburn, Yuko 89.02 28 IAmb IAmb 07 14 12.7
comp=Z,22nm,1.3s
N31M IAMs_20 IAMs_20 07 50 23.9
comp=Z,873nm,22.0s
N31M Braeburn, Yuko 89.02 28 P **P** 07 13 53.8 +0.3
baz=279
PLBC Pleasant Camp 89.06 30 P **P** 07 13 53.2 -0.4
baz=279
HAMF Hammerfest 89.16 341 *e*P **P** 07 13 53.4 -0.4
HAMF IAmb IAmb 07 13 53.6
comp=Z,55nm,0.7s
HAMF *e*SKSac **SKSac** 07 24 23.1 +3.2
KMBO Kilima Mbogo 89.29 269 LR LR 07 55 02.3
comp=Z,128nm,18.5s,baz=110,slow=36
KBS Kingsbay 89.33 350 *e*P **P** 07 13 55.6 +1.1
KBS IAmb IAmb 07 13 58.8
comp=Z,219nm,2.2s
KBS *e*SKSac **SKSac** 07 24 24.6 +3.9
S31K Pelican 89.36 32 P **P** 07 13 55.0 0.0
baz=279
M31M Drury Creek, Y 89.55 28 IAMs_20 IAMs_20 07 51 01.7
comp=Z,881nm,22.0s
M31M Drury Creek, Y 89.55 28 P **P** 07 13 56.9 +1.0
baz=280
R31K City Hall, Gus 89.55 31 P **P** 07 13 56.6 +0.8
baz=279
SKAG Skagway 89.58 30 P **P** 07 13 56.7 +0.7
baz=280
WHY Whitehorse 89.59 29 P **P** 07 13 56.8 +0.5
baz=280
KTK1 Kautokeino 89.71 339 *e*P **P** 07 13 55.6 -0.9
KTK1 IAmb IAmb 07 13 56.6
comp=Z,25nm,0.7s
KTK1 *e*SKSac **SKSac** 07 24 27.4 +4.2
SIT Sitka 89.99 33 P **P** 07 13 58.8 +0.9
baz=280
R32K Eaglecrest 90.20 31 P **P** 07 13 59.1 +0.1
baz=280
FINES FINESS Array B 90.24 332 **P** 07 13 57.6 -1.4
FINES FINESS Array B 90.24 332 P **P** 07 13 57.5 -1.6
comp=Z,14nm,0.8s,baz=89,slow=5.6,SNR=35
FINES LR LR 07 58 04.2
comp=Z,2µm,20.3s,baz=83,slow=38
comp=Z,14nm,0.8s
FINES FINESS Array B 90.24 332 P **P** 07 13 57.7 -1.4
N32M Quiet Lake 90.36 28 IAmb IAmb 07 14 45.9
comp=Z,15nm,0.8s
N32M Quiet Lake 90.36 28 P **P** 07 13 60.0 +0.2
baz=282

P32M Atlin 90.37 30 IAMs_20 IAMs_20 07 49 15.5
comp=Z,1µm,22.0s
P32M Atlin 90.37 30 P **P** 07 13 59.8 0.0
baz=281
AK09 Malin Array Si 90.40 321 P **P** 07 13 58.4 -1.7
AK08 Malin Array Si 90.42 321 P **P** 07 13 58.5 -1.6
AK10 Malin Array Si 90.43 321 P **P** 07 13 58.5 -1.7
AKASG Malin Array Be 90.43 321 P **P** 07 13 58.8 -1.4
AKASG Malin Array Be 90.43 321 P **P** 07 13 58.2 -2.0
comp=Z,3.9nm,0.7s,baz=67,slow=4.9,SNR=10
AKASG LR LR 07 56 43.2
comp=Z,835nm,21.5s,baz=68,slow=37
comp=Z,3.9nm,0.7s
AKASG Malin Array Be 90.43 321 P **P** 07 13 58.8 -1.4
AKASG pmax pmax
comp=Z,16nm,1.4s
AKBB Malin Array Si 90.43 321 *i* P **P** 07 13 57.1 -3.1
AKBB pmax pmax
comp=Z,17nm,1.4s
AKBB Malin Array Si 90.43 321 P **P** 07 13 58.2 -2.0
AK01 Malin Array Si 90.44 321 P **P** 07 13 58.1 -2.1
KIEV Kiev 90.44 321 **P** 07 13 59.4 -0.8
KIEV Kiev 90.44 321 IAMs_20 IAMs_20 07 56 31.7
comp=Z,1µm,22.0s
KIEV Kiev 90.44 321 ⇑P **P** 07 13 57.3 -3.0
KIEV Kiev 90.44 321 P **P** 07 13 59.4 -0.8
KIEV pmax pmax
comp=Z,10.0nm,0.9s
KIEV MLR MLR
comp=Z,1µm,22.0s
KIEV Kiev 90.44 321 P **P** 07 13 58.1 -2.1
comp=Z,39nm,1.1s
AK02 Malin Array Si 90.45 321 P **P** 07 13 58.1 -2.2
A36M Sachs Harbour 90.50 17 P **P** 07 14 00.9 +0.9
baz=289
JETT Jettan, Norway 90.53 340 *e*P **P** 07 13 59.1 -1.3
MNK Minsk 90.61 325 *i* P **P** 07 13 59.1 -1.8
MNK *i* 07 17 33.3
MNK *i* PPP PPP 07 19 33.6
MNK *i* S **SKSac** 07 24 27.6 -1.3
MNK *i* SS **SS** 07 30 47.7 -7.2
MNK pmax pmax
comp=N,14nm,1.1s
MNK pmax pmax
comp=E,15nm,0.7s
MNK pmax pmax
comp=Z,34nm,0.7s
MNK MLR MLR
comp=N,432nm,21.0s
MNK MLR MLR
comp=Z,365nm,16.0s
MNK MLR MLR
comp=E,342nm,18.0s
P33M Teslin, Yukon 90.68 29 P **P** 07 14 02.0 +0.7
baz=282
MMPY Sheldon Lake, 90.88 27 P **P** 07 14 02.6 +0.5
baz=283
TRO Tromso 91.00 340 *e*SKSac **SKSac** 07 24 32.0 +1.4
NACGM Naroch 91.16 325 *e*P **P** 07 13 59.7 -3.8
comp=Z,14nm,0.8s,baz=79
Q32M Nakina River 91.22 31 P **P** 07 14 04.2 +0.2
baz=282
MI28 Mi28,Pidlybu 91.36 321 P **P** 07 14 02.5 -2.0
U33K Whale Pass 91.37 33 P **P** 07 14 04.4 0.0
baz=282
NOR Nord 91.42 355 *i* P **P** 07 14 03.5 -0.7
NOR IAmb IAmb 07 14 09.1
comp=Z,15nm,1.1s
LUBAR Lubar, Ukraine 91.48 320 P **P** 07 14 03.1 -2.0
CRAG Craig 91.50 34 P **P** 07 14 05.0 0.0
baz=282
WRAK Wrangell Islan 91.73 33 P **P** 07 14 06.6 +0.6
baz=282
R33M Jennings River 91.78 30 P **P** 07 14 06.9 +0.4
baz=284
TIRR Tirgusor 91.97 315 IAMs_20 IAMs_20 07 59 59.2
comp=Z,651nm,21.0s
S34M Telegraph Cree 92.04 31 P **P** 07 14 07.8 +0.3
baz=283
RNPP5 Staryi Chortor 92.41 322 P **P** 07 14 07.2 -2.2
DLBC Dease Lake 92.48 31 LR LR 07 50 32.1
comp=Z,8µm,21.9s,baz=258,slow=32
DLBC Dease Lake 92.48 31 P **P** 07 14 09.6 0.0
baz=284
TGTN Hyland Airport 92.52 28 P **P** 07 14 10.4 +0.6
baz=286
WTLY Watson Lake, Y 92.66 29 IAmb IAmb 07 14 40.0
comp=Z,15nm,1.3s
WTLY Watson Lake, Y 92.66 29 P **P** 07 14 10.5 +0.1
baz=285
T35M Bob Quinn 92.72 32 P **P** 07 14 11.1 +0.3
baz=284
TESR Tescani 92.83 317 ⇓P **P** 07 14 10.1 -1.3
TESR Tescani 92.83 317 P **P** 07 14 09.4 -2.0
comp=Z,14nm,1.1s
STEI Steigen 92.85 339 *e*P **P** 07 14 10.1 -0.9
VRI Vrincioaia 92.90 316 ⇓P **P** 07 14 11.5 -0.3
VRI Vrincioaia 92.90 316 ⇓P **P** 07 14 11.5 -0.3
VRI Vrincioaia 92.90 316 P **P** 07 14 11.1 -0.7
comp=Z,26nm,1.2s
PLOR5 Plostina Array 92.95 316 P **P** 07 14 11.2 -0.8
PLOR Plostina 92.95 316 ⇑P **P** 07 14 11.6 -0.5
PLOR Plostina 92.95 316 ⇑P **P** 07 14 11.6 -0.5
FAUS Fauske 93.03 339 *e*P **P** 07 14 10.2 -1.7
U35K Hyder 93.11 33 P **P** 07 14 12.5 +0.1
baz=284
NEHR Nehoiu 93.28 316 ⇑P **P** 07 14 12.4 -1.2
LOF Lofoten 93.36 340 *e*P **P** 07 14 12.2 -1.2
SUW Suwalki 93.41 325 *e*P **P** 07 14 11.8 -2.0
SUW Suwalki 93.41 325 IAMs_20 IAMs_20 08 00 15.9
comp=Z,878nm,20.0s
MLR Muntele Rosu 93.51 316 IAMs_20 IAMs_20 08 01 50.8
comp=Z,638nm,21.0s
MLR Muntele Rosu 93.51 316 LR LR 08 02 02.1
comp=Z,628nm,20.9s,baz=73,slow=39
MLR Muntele Rosu 93.51 316 ⇑P **P** 07 14 13.9 -0.9
MLR Muntele Rosu 93.51 316 ⇑P **P** 07 14 13.9 -0.9
BURAR Bucovina Array 93.58 318 P **P** 07 14 14.1 -0.9
BURAR Bucovina Array 93.58 318 ⇓P **P** 07 14 13.5 -1.5
BURAR Bucovina Array 93.58 318 ⇓P **P** 07 14 13.5 -1.5
MOR8 Moi Rana 93.80 338 *e*P **P** 07 14 13.2 -2.2
SYO Syowa Base 93.85 201 ⇑*e*P **P** 07 14 18.2 +2.7
SYO Syowa Base 93.85 201 ⇑*e*pP pP 07 14 25.6 -2.0
WRGLY Wrigley 94.12 25 P **P** 07 14 17.4 +0.4
baz=290
LIRD Liard River Hi 94.17 29 P **P** 07 14 18.1 +0.8
baz=288
TAOE Nuku Hiva Isla 94.18 98 *e*S **S** 07 25 26.6 -0.4
comp=Z,539nm,29.0s
TAOE *e*SS **SS** 07 31 51.4 +2.6
comp=Z,345nm,32.6s
TAOE Nuku Hiva Isla 94.18 98 *e*LR LR 07 44 28.9
comp=Z,3µm,25.5s
EZN Ezine 94.31 311 ⇓P **P** 07 14 18.0 -0.3
EZN Ezine 94.31 311 ⇓P **P** 07 14 18.0 -0.3
KARP Karpathos 94.41 306 IAMs_20 IAMs_20 08 05 42.3
comp=Z,445nm,19.0s
ARR Arges 94.44 316 ⇓P P 07 14 25.8 +6.8
TOAD Toad River Com 94.77 30 P **P** 07 14 20.8 +0.6
baz=288
BBB Bella Bella 95.16 37 LR LR 07 48 44.1
comp=Z,189nm,21.9s,baz=280,slow=30
MARR Marisel-Cluj 95.18 318 ⇑P **P** 07 14 21.4 -1.0
KOLS Kolonicke sedl 95.19 320 *i* P **P** 07 14 22.7 +0.5
QSPA South Pole Qui 95.28 180 P **P** 07 14 24.2 +1.8
QSPA IAmb IAmb 07 14 52.5
comp=Z,16nm,1.3s
QSPA South Pole Qui 95.28 180 P **P** 07 14 21.4 -1.0
comp=Z,4.7nm,0.8s,baz=334,slow=2.0,SNR=15
comp=Z,4.7nm,0.8s
DAG Danmarks Havn 95.58 352 *i* P **P** 07 14 21.8 -1.6
DAG IAmb IAmb 07 14 27.6
comp=Z,19nm,1.0s
GZR Gura Zlata 95.71 317 ⇑P P 07 14 17.9 -6.9
GZR Gura Zlata 95.71 317 ⇑P P 07 14 17.9 -6.8
SURR Surduc 96.07 317 ⇓P **P** 07 14 25.3 -1.0
RES Resolute Bay 96.25 10 LR LR 07 58 52.7
comp=Z,264nm,21.7s,baz=2.5,slow=36
IDI Anoyia 96.28 306 LR LR 08 03 49.2
comp=Z,205nm,21.3s,baz=96,slow=39
HFS Hagfors 96.42 332 P **P** 07 14 25.7 -1.9
comp=Z,5.7nm,0.7s,baz=92,slow=4.5,SNR=13
HFS LR LR 08 01 45.0
comp=Z,918nm,19.8s,baz=69,slow=38
comp=Z,5.7nm,0.7s
MDVR Moldovita 96.59 316 ⇑P **P** 07 14 25.1 -3.6

BOVS Bovan 96.87 315 ⇑P **P** 07 14 33.8 +3.9
NC602 NORSAR Array S 97.16 333 *e*SKSac **SKSac** 07 25 04.7 +0.2
NC602 IAMs_20 IAMs_20 07 27 46.4
comp=Z,728nm,4.4s
NB2 NORSAR Subarra 97.18 334 P **P** 07 14 28.6 -2.4
comp=Z,12nm,0.8s,baz=65,slow=4.6
NB2 NORSAR Subarra 97.18 334 P **P** 07 14 28.6 -2.4
comp=Z,12nm,0.8s,baz=65,slow=4.6
NOA NORSAR Array B 97.18 334 P **P** 07 14 28.4 -2.6
comp=Z,5.8nm,0.7s,baz=65,slow=4.6,SNR=20
NOA LR LR 08 02 35.2
comp=Z,1µm,22.0s,baz=65,slow=38
comp=Z,5.8nm,0.7s
NEEM North Greenlan 97.27 359 *i* P **P** 07 14 30.7 -0.8
NEEM IAmb IAmb 07 14 38.0
comp=Z,16nm,0.7s
DBG Daneborg 97.85 351 *i* P **P** 07 14 33.0 -0.8
DBG IAmb IAmb 07 14 38.8
comp=Z,16nm,0.9s
MORC Moravsky Berou 97.93 322 IAMs_20 IAMs_20 08 03 19.1
comp=Z,579nm,20.0s
YKA Yellowknife Ar 98.12 24 LR LR 08 02 23.9
comp=Z,276nm,20.1s,baz=288,slow=37
JMIC Jan Mayen 98.19 346 LR LR 08 03 39.0
comp=Z,542nm,20.9s,baz=47,slow=38
KSP Ksiaz 98.35 323 *e*P **P** 07 14 36.2 -0.2
KONO Kongsberg 98.50 333 *e*SKSac **SKSac** 07 25 14.8 +3.5
VRAC Vranov 98.66 321 LR LR 08 01 48.1
comp=Z,572nm,21.7s,baz=68,slow=37
PDG Podgorica 98.92 314 IAMs_20 IAMs_20 08 04 29.0
comp=Z,669nm,21.0s
MATP Matopo 99.28 250 P **Pdif** 07 14 39.8 -1.7
comp=Z,0.9nm,0.7s,baz=80,slow=3.0,SNR=6.3
MATP LR LR 07 55 48.0
comp=Z,240nm,20.6s,baz=72,slow=33
comp=Z,0.9nm,0.7s
LSZ Lusaka 99.33 255 IAMs_20 IAMs_20 07 56 25.1
comp=Z,837nm,21.0s
LSZ Lusaka 99.33 255 P **Pdif** 07 14 39.5 -2.3
comp=Z,1.1nm,0.4s,baz=113,slow=15,SNR=1.5
LSZ LR LR 07 56 47.4
comp=Z,740nm,21.3s,baz=110,slow=34
comp=Z,1.1nm,0.4s
BRG Berggiesshubel 99.74 324 ⇓*e*Pif 07 14 43.7
BRG Amp 07 14 46.7
comp=Z,6.9nm,0.8s
RKT Rikitea 99.98 112 *e*LR LR 07 47 20.1
comp=Z,10µm,38.8s
CLL Collm 100.13 324 *es*Pdif **Pdif** 07 14 55.0 +11
CLL LmV 08 03 00.0
comp=Z,900nm,21.1s
GEC2 GERESS Array S 100.61 322 IAMs_20 IAMs_20 08 02 46.7
comp=Z,533nm,20.0s
GERES GERESS Array B 100.61 322 P **Pdif** 07 14 44.9 -1.8
comp=Z,1.4nm,0.7s,baz=57,slow=4.9,SNR=7.9
TRI Trieste 101.67 319 IAMs_20 IAMs_20 08 05 00.5
comp=Z,762nm,21.0s
SABO M.te Sabotino 101.69 319 IAMs_20 IAMs_20 08 04 49.2
comp=Z,638nm,22.0s
KHBM Hayfork Bally 101.70 47 IAMs_20 IAMs_20 07 53 54.0
comp=Z,613nm,20.0s
CUC Castrocucco 102.10 313 IAMs_20 IAMs_20 08 08 26.3
comp=Z,456nm,20.0s
STAL STALIGIAL 102.17 319 IAMs_20 IAMs_20 08 08 43.4
comp=Z,622nm,21.0s
FDMO Fiordimonte 103.05 316 IAMs_20 IAMs_20 08 08 07.0
comp=Z,641nm,22.0s
SUTB Sutter Butte 103.19 48 IAMs_20 IAMs_20 07 51 13.5
comp=Z,785nm,22.0s
ORV Oroville 103.30 47 IAMs_20 IAMs_20 07 51 44.3
comp=Z,690nm,22.0s
CESX Cesi 103.55 316 IAMs_20 IAMs_20 08 08 27.1
comp=Z,746nm,20.0s
OSSC Osservatorio P 104.14 317 IAMs_20 IAMs_20 08 10 25.5
comp=Z,607nm,19.0s
WELL Weller Preserv 104.23 48 IAMs_20 IAMs_20 07 52 04.0
comp=Z,803nm,22.0s
TUE Stuetta 104.24 321 IAMs_20 IAMs_20 08 06 40.7
comp=Z,779nm,20.0s
SCZ Santa Cruz 104.30 50 IAMs_20 IAMs_20 07 50 54.9
comp=Z,619nm,19.0s
BMO Blue Mountains 104.35 41 IAMs_20 IAMs_20 07 53 33.4
comp=Z,554nm,22.0s
CMB Columbia Colle 104.61 49 IAMs_20 IAMs_20 07 52 56.1
comp=Z,706nm,20.0s
WLF Walferdange 104.79 325 IAMs_20 IAMs_20 08 05 53.9
comp=Z,814nm,21.0s
BUCR Buckhorn Ranch 104.91 49 IAMs_20 IAMs_20 07 53 58.9
comp=Z,550nm,22.0s
MSSA Maissana 104.99 318 IAMs_20 IAMs_20 08 09 11.9
comp=Z,521nm,21.0s
PLID Pearl Lake 105.11 41 IAMs_20 IAMs_20 07 56 21.4
comp=Z,444nm,19.0s
TROLL Troll, Antarti 105.14 195 ⇑Pdiff **Pdif** 07 15 10.9 +4.5
comp=Z,38nm,0.4s
SENIN Lac Senin/Sane 105.57 321 IAMs_20 IAMs_20 08 09 47.9
comp=Z,550nm,19.0s
MFID Camas Ranch 105.89 42 IAMs_20 IAMs_20 07 54 39.4
comp=Z,560nm,21.0s
NVAR Mina Array Bea 106.02 48 Pdiff **Pdif** 07 15 11.3 +0.1
comp=Z,0.9nm,0.7s,baz=301,slow=5.3,SNR=4.6
NVAR PKiKP **PKiKP** 07 19 22.5 -0.8
comp=Z,0.6nm,0.7s,baz=248,slow=1.6,SNR=3.5
NVAR PKKPbc **PKKPbc** 07 30 45.5 -1.1
comp=Z,0.3nm,0.7s,baz=92,slow=3.6,SNR=3.6
NVAR PKKPab **PKKPab** 07 31 01.4 -1.6
comp=Z,0.8nm,0.7s,baz=128,slow=4.3,SNR=7.1
EKA Eskdalemuir Ar 106.62 333 Pdiff **Pdif** 07 15 12.4 -0.8
comp=Z,0.1nm,0.3s,baz=110,slow=10,SNR=1.3
EKA PKKPbc **PKKPbc** 07 30 42.5 -2.5
comp=Z,0.5nm,0.4s,baz=243,slow=4.0,SNR=4.8
CWC Cottonwood Cre 106.88 50 IAMs_20 IAMs_20 07 55 57.2
comp=Z,653nm,20.0s
DLMT Dillon 107.16 39 IAMs_20 IAMs_20 08 10 44.7
comp=Z,371nm,21.0s
ELK Elko 107.36 44 IAMs_20 IAMs_20 08 03 46.4
comp=Z,477nm,22.0s
MPMC Manual Prospec 107.46 50 IAMs_20 IAMs_20 07 57 46.6
comp=Z,658nm,20.0s
EGMT Eagleton 107.63 36 IAMs_20 IAMs_20 07 58 60.0
comp=Z,422nm,21.0s
FFC Flin Flon 107.90 27 IAMs_20 IAMs_20 07 59 49.2
comp=Z,605nm,22.0s
KEST Kesra 108.34 310 IAMs_20 IAMs_20 08 11 21.8
comp=Z,551nm,21.0s
SNOW Snow King Moun 109.20 40 IAMs_20 IAMs_20 08 03 52.9
comp=Z,453nm,19.0s
LOHW Long Hollow 109.23 40 IAMs_20 IAMs_20 07 56 11.5
comp=Z,719nm,22.0s
AHID Auburn Hatcher 109.30 41 IAMs_20 IAMs_20 07 58 36.4
comp=Z,610nm,21.0s
DSB Dublin 109.39 332 IAMs_20 IAMs_20 08 09 01.6
comp=Z,593nm,20.0s
HWUT Hardware Ranch 109.51 42 IAMs_20 IAMs_20 07 58 45.2
comp=Z,602nm,20.0s
TSUM Tsumeb 109.54 252 IAMs_20 IAMs_20 08 02 23.4
comp=Z,423nm,21.0s
BC3 Big Chuckawall 109.87 51 IAMs_20 IAMs_20 07 58 03.6
comp=Z,570nm,18.0s
IRM Iron Mountain 109.93 51 IAMs_20 IAMs_20 07 56 38.1
comp=Z,558nm,21.0s
PDAR Pinedale Array 110.31 41 PKiKP **PKiKP** 07 19 30.2 -0.9
comp=Z,0.3nm,0.5s,baz=124,slow=2.0,SNR=5.7
PDAR PKKPab **PKKPab** 07 30 40.8 -3.2
comp=Z,1.1nm,0.7s,baz=112,slow=7.0,SNR=9.5
CORI Orista 110.92 319 IAMs_20 IAMs_20 07 59 46.0
comp=E,458nm,22.0s
CEST Esterri de Car 111.14 320 IAMs_20 IAMs_20 08 12 45.5
comp=Z,398nm,20.0s
WUAZ Wupatki 112.26 48 IAMs_20 IAMs_20 08 01 07.5
comp=Z,675nm,20.0s
K22A Casper 112.31 40 IAMs_20 IAMs_20 08 07 10.8
comp=Z,382nm,20.0s
ULM Lac du Bonnet 113.65 28 PKiKP **PKiKP** 07 19 36.1 -0.9
comp=Z,2.3nm,0.7s,baz=203,slow=2.4,SNR=5.1
ISCO Idaho Springs 114.35 42 IAMs_20 IAMs_20 08 01 07.2
comp=Z,665nm,22.0s
AGMN Agassiz Nation 114.98 30 IAMs_20 IAMs_20 08 02 56.7
comp=Z,483nm,20.0s
Q24A Divide 115.08 42 IAMs_20 IAMs_20 08 00 10.3
comp=Z,386nm,22.0s
CART Cartagena 115.09 316 IAMs_20 IAMs_20 08 17 17.8
comp=Z,390nm,21.0s
ESBB Sonseca Array 116.02 319 IAMs_20 IAMs_20 08 14 11.7
comp=Z,479nm,20.0s
ESDC Sonseca Array 116.02 319 IAMs_20 IAMs_20 08 13 57.6
comp=Z,541nm,21.0s
ESDC Sonseca Array 116.02 319 PP **PP** 07 20 44.4 -1.8

comp=Z,2.2nm,1.2s,baz=44,slow=6.4,SNR=4.8
ESDC PKKPbc **PKKPbc 07 30 13.8 +0.1**
comp=Z,1.1nm,1.0s,baz=292,slow=3.2,SNR=5.7
OGNE Ogallala 116.06 39 IAMs_20 IAMs_20 08 02 19.0
comp=Z,412nm,20.0s
ANMO Albuquerque 116.12 47 PKiKP 07 19 43.0 +0.5
ANMO Albuquerque 116.12 47 IAMs_20 IAMs_20 08 00 22.7
comp=Z,523nm,20.0s
ANMO Albuquerque 116.12 47 PKIKP **PKiKP 07 19 43.0 +0.5**
Y22D IRIS PASSCAL I 116.19 48 IAMs_20 IAMs_20 08 07 25.5
comp=Z,530nm,20.0s
PGAV Gavieira, Arco 117.40 323 *e*PP **PP 07 21 02.6 +6.9**
PGAV *e*LQ LQ 07 58 40.7
PGAV *e*LR LR 08 00 56.9
PGAV *i* IAMs_20 IAMs_20 08 13 48.6
comp=Z,449nm,20.0s
EPT El Paso 117.53 50 IAMs_20 IAMs_20 08 06 56.3
comp=Z,585nm,21.0s
MTE Manteigas 117.89 322 IAMs_20 IAMs_20 08 16 24.9
comp=Z,453nm,19.0s
MTE Manteigas 117.89 322 *e*PP **PP 07 21 06.2 +7.0**
MTE *e*LQ LQ 07 56 05.0
MTE *e*LR LR 08 01 29.3
MTE *i* IAMs_20 IAMs_20 08 14 12.7
comp=Z,442nm,24.0s
PMRV Marv??o 118.36 321 *e*PP PP 07 21 14.5 +12
PMRV *i* IAMs_20 IAMs_20 08 11 48.1
comp=Z,297nm,22.0s
MNTX Cornudas Mount 118.42 50 IAMs_20 IAMs_20 08 04 14.7
comp=Z,570nm,19.0s
PESTR Estremoz 118.81 320 IAMs_20 IAMs_20 08 18 25.4
comp=Z,454nm,20.0s
SCHQ Schefferville 118.99 9 PKP **PKPdf 07 19 46.3 -0.8**
comp=Z,71nm,0.5s,baz=260,slow=4.2,SNR=22
MSTX Muleshoe 119.26 46 IAMs_20 IAMs_20 08 05 09.6
comp=Z,443nm,20.0s
PVAQ Vaqueiros 119.73 319 *e*PP PP 07 21 19.7 +7.8
PVAQ *e*LQ LQ 07 57 09.8
PVAQ *e*LR LR 08 03 52.0
PVAQ *i* IAMs_20 IAMs_20 08 16 41.9
comp=Z,378nm,22.0s
G40A Rib Lake 119.88 29 IAMs_20 IAMs_20 08 14 26.2
comp=Z,549nm,22.0s
F42A Maple Grove Fa 120.49 27 IAMs_20 IAMs_20 08 10 12.2
comp=Z,504nm,22.0s
KSU1 Kansas State U 120.51 38 IAMs_20 IAMs_20 08 05 54.7
comp=Z,501nm,21.0s
TXAR Lajitas Array 120.81 51 PKP **PKPdf 07 19 51.6 0.0**
comp=Z,1.0nm,0.7s,baz=194,slow=0.4,SNR=17
TXAR SKP 07 23 16.7
comp=Z,0.5nm,0.7s,baz=0.9,slow=2.2,SNR=3.5
TXAR PKKPbc **PKKPbc 07 29 55.5 -0.7**
comp=Z,1.1nm,0.8s,baz=130,slow=5.8,SNR=12
OK048 Pawnee Station 121.91 41 PKPdf 07 19 52.5 -0.8
TORD Torodi Ar. Bea 122.11 289 PKPdf 07 19 51.7 -2.6
TORD Torodi Ar. Bea 122.11 289 PKP **PKPdf 07 19 52.7 -1.5**
comp=Z,4.9nm,0.7s,baz=34,slow=2.9,SNR=27
TORD SKP 07 23 18.6
comp=Z,2.0nm,0.9s,baz=89,slow=7.4,SNR=4.2
TORD PKKPab **PKKPbc 07 29 50.9 +0.1**
comp=Z,1.4nm,1.0s,baz=271,slow=3.0,SNR=4.1
ABTX Abilene, Hawle 122.20 46 IAMs_20 IAMs_20 08 07 39.3
comp=Z,564nm,21.0s
OK052 Battle Ridge R 122.25 41 IAMs_20 IAMs_20 08 06 27.3
comp=Z,606nm,21.0s
Z35A Perchaven, San 123.49 44 IAMs_20 IAMs_20 08 12 32.3
comp=Z,535nm,20.0s
WHTX Lake Whitney, 124.09 45 IAMs_20 IAMs_20 08 11 02.5
comp=Z,392nm,20.0s
CCM Cathedral Cave 124.39 36 PKPdf 07 19 57.9 -0.1
CCM Cathedral Cave 124.39 36 PKIKP **PKPdf 07 19 57.9 -0.1**
DELO Deloro Mine 125.82 21 IAMs_20 IAMs_20 08 09 54.6
comp=Z,569nm,21.0s
MEDO Medina 126.67 23 IAMs_20 IAMs_20 08 18 13.3
comp=Z,517nm,22.0s
ERPA Erie 126.95 24 IAMs_20 IAMs_20 08 10 00.6
comp=Z,381nm,22.0s
WVT Waverly 127.69 35 PKPdf 07 20 04.7 +0.3
WVT Waverly 127.69 35 PKIKP **PKPdf 07 20 04.7 +0.3**
OXF Oxford 127.87 38 IAMs_20 IAMs_20 08 06 02.7
comp=Z,460nm,21.0s
PMOZ Porto Moniz, M 128.66 320 *i* IAMs_20 IAMs_20 08 19 57.4
comp=Z,367nm,22.0s
SSPA Standing Stone 129.05 24 PKPdf 07 20 07.1 +0.3
DBIC Dimbokro 129.93 283 PKP **PKPdf 07 20 07.6 -1.6**
comp=Z,4.9nm,0.7s,baz=45,slow=0.5,SNR=6.2
TGUH Tegucigalpa,Un 141.38 60 IAMs_20 IAMs_20 08 17 30.2
comp=Z,530nm,22.0s
PLCA Paso Flores 141.65 159 PKPdf 07 20 31.2 +0.9
PLCA Paso Flores 141.65 159 PKP **PKPdf 07 20 29.8 -0.6**
comp=Z,6.1nm,1.0s,baz=314,slow=3.8,SNR=7.0
PLCA Paso Flores 141.65 159 *e*P **PKPdf 07 20 31.5 +1.1**
MGV Manicaragua 142.38 43 *e*P **PKPdf 07 20 32.8 +0.7**
LAPC Finca la Perla 144.45 63 *e*P PKPbc 07 20 34.8 +0.3
BUAI Buenos Aires 144.49 63 *e*P **PKPab 07 20 32.5 -1.9**
GPS2 Hotel Rincn d 144.53 63 *e*P **PKPdf 07 20 35.9 -0.3**
JUD3 Juan Diaz 3 144.61 64 *e*P **PKPdf 07 20 36.4 +0.1**
MESS Mesas 144.67 63 *e*P **PKPab 07 20 33.2 -1.9**
COLC Colonia 144.70 63 *e*P **PKPdf 07 20 36.0 -0.4**
HORNC Hornillas 144.70 63 *e*P PKPbc 07 20 35.9 +0.5
PLVR Palo Verde 144.70 64 *e*P **PKPdf 07 20 36.9 +0.4**
VMAR Armenia, Volca 144.71 63 *e*P PKPbc 07 20 35.6 +0.3
CUI Cuipilapa 144.73 63 *e*P PKPbc 07 20 35.7 +0.3
MOTZ Rio Naranjo 144.80 63 *e*P PKPbc 07 20 35.7 0.0
ESPN Las Esperanzas 144.80 60 *e*P **PKPab 07 20 34.1 -1.3**
TENO El Achiote 144.88 63 *e*P PKPbc 07 20 36.0 +0.1
TIMP Tierras Morena 144.90 63 *e*P PKPbc 07 20 36.0 +0.1
NYURE Nandayure 144.93 64 *e*P **PKPdf 07 20 37.3 +0.5**
JUNT Juntas 145.08 64 *e*P **PKPbc 07 20 36.4 -0.1**
JTS Las Juntas de 145.08 64 *e*P **PKPab 07 20 36.6 0.0**
ARE1 Arenal 1 145.21 63 *e*P **PKPbc 07 20 35.5 -1.5**
VARE2 V. Arenal 145.21 63 *e*P **PKPbc 07 20 34.6 -2.4**
CEDE Laguna Cedeo 145.22 63 *e*P **PKPbc 07 20 36.5 -0.5**
VACR Volcan Arenal 145.25 63 *e*P **PKPdf 07 20 37.6 +0.3**
FORC Fortuna 145.25 63 *e*P **PKPdf 07 20 37.5 +0.1**
SOCE Pocosol 145.34 63 *e*P **PKPbc 07 20 37.3 -0.1**
LMGC Las Mercedes 145.78 42 *e*P **PKPbc 07 20 38.6 +0.1**
HLGC Holguin 145.80 40 *e*P **PKPab 07 20 39.1 0.0**
HDC Heredia 145.95 63 *e*P **PKPdf 07 20 36.2 -2.4**
ACOS Acosta 145.99 64 *e*P **PKPab 07 20 41.1 +1.0**
ECI Escuela Centro 146.03 63 *e*P **PKPab 07 20 41.2 +0.9**
PICV PH. Pirrs 146.03 64 *e*P **PKPab 07 20 41.2 +1.0**
AMPA Desamparados 146.04 64 *e*P **PKPab 07 20 40.2 0.0**
CVIMO Finca Echandi 146.09 63 *e*P **PKPab 07 20 40.6 +0.1**
TRIO Tres Rios 146.09 63 *e*P **PKPab 07 20 41.5 +1.0**
RAZU San Marcos de 146.17 64 *e*P **PKPab 07 20 41.7 +0.8**
TAGO Cartago 146.17 63 *e*P **PKPab 07 20 42.0 +1.2**
VICA Volcano Irazu 146.19 63 *e*P **PKPab 07 20 42.4 +1.2**
RAFA San Farael, Vo 146.24 63 *e*P **PKiKP 07 20 42.8 -0.9**
REPA Paraso 146.24 63 *e*P **PKPab 07 20 42.0 +1.0**
PIEC Cerro El Cedra 146.25 64 *e*P **PKPab 07 20 41.5 +0.3**
PCAYA Pacayas 146.25 63 *e*P **PKPab 07 20 41.3 +0.1**
CVTQ Turrialba Volc 146.25 63 *e*P **PKPbc 07 20 40.6 0.0**
VTR0 Volcan Turrial 146.25 63 *e*P **PKPbc 07 20 40.8 +0.1**
PINC Pinares de May 146.27 40 *e*P **PKPbc 07 20 39.9 -0.1**
CVTV Tajo 146.27 63 *e*P **PKPbc 07 20 41.0 +0.4**
ABRB Las Abras (San 146.30 63 *e*P **PKiKP 07 20 43.0 -0.7**
VINA Juan Vinas 146.32 63 *e*P **PKPab 07 20 42.0 +0.7**
TURIB Turrialba 146.37 63 *e*P **PKPab 07 20 42.4 +0.9**
BUS1 Rivas 146.46 64 *e*P **PKPbc 07 20 41.1 -0.2**
MARVS Santiago de Cu 146.55 40 *e*P **PKPbc 07 20 40.7 -0.1**
TRQA Tornquist 146.59 168 PKPab 07 20 41.1 -0.4
TRQA Tornquist 146.59 168 PKP2 **PKPab 07 20 41.1 -0.4**
ZEDO Perez Zeledon 146.60 64 *e*P **PKiKP 07 20 43.7 -0.4**
MOAC Moa 146.66 38 *e*P **PKPab 07 20 41.9 -0.3**
BO02 Sierra Bellavi 146.69 154 *i* P **PKPab 07 20 42.7 +0.6**
RCC Rio Carpintero 146.69 40 *e*P **PKPbc 07 20 40.7 -0.5**
MTDJ Mount Denham 146.69 45 IAMs_20 IAMs_20 08 18 41.0
comp=Z,398nm,21.0s
EDPE Pejibaye, P 146.79 64 *e*P **PKiKP 07 20 44.1 -0.3**
VERH Veragua Rainfo 146.80 63 *e*P **PKPbc 07 20 41.5 -0.3**
BO01 Tunca 146.89 153 PKPbc 07 20 41.7 +0.3
QMBU Quimbuelo 147.10 39 *e*P **PKPbc 07 20 43.0 +0.5**
GTBY Guantanamo Bay 147.11 40 *e*P **PKPbc 07 20 41.9 -0.5**
PIRO Carate, Puerto 147.31 65 *e*P **PKPab 07 20 44.7 -0.3**
MASC Masc 147.47 38 *e*P **PKPbc 07 20 44.2 +0.8**
ALCO Alturas Coton, 147.53 64 *e*P **PKPbc 07 20 44.1 +0.1**
RFA San Rafael 147.68 157 *i* P **PKPbc 07 20 44.0 +0.3**
DMCAL E. de Neily 147.69 65 *e*P **PKiKP 07 20 46.1 -0.3**
BRU2 Volcan 147.73 64 *e*P **PKPbc 07 20 45.0 +0.4**
BANCO falda S V. Bar 147.91 64 *e*P **PKiKP 07 20 46.6 -0.4**
BQTLY Boquete Panama 147.95 64 *e*P **PKPbc 07 20 45.9 +0.8**
VA03 San Esteban 148.49 152 *i* P **PKiKP 07 20 46.9 -0.6**

CO02 Combarbal 149.54 150 *i* P **PKPbc 07 20 49.2 +0.5**
RTLS Leoncito 149.87 153 *i* P **PKiKP 07 20 50.2 -0.5**
CO03 El Pedregal 150.00 150 *i* P **PKPbc 07 20 49.6 -0.1**
BCIP Isla Barro Col 150.09 61 *e*P **PKPdf 07 20 47.6 +2.3**
ACAN Cantantal 150.37 156 *i* P **PKPbc 07 20 50.3 -0.3**
CAZU Cerro Azul, Pa 150.43 61 *e*P **PKiKP 07 20 51.9 -0.2**
CFA Coronel Fontan 150.51 154 PKP **PKPdf 07 20 44.9 -0.7**
comp=Z,18nm,0.7s,baz=197,slow=1.5,SNR=14
CFA PKPbc **PKPbc 07 20 50.5 -0.5**
comp=Z,19nm,0.6s,baz=235,slow=2.6,SNR=45
CFA Coronel Fontan 150.51 154 *i* P **PKPbc 07 20 50.6 -0.3**
ACCO Cerro Coronel 151.00 152 *i* P **PKiKP 07 20 53.8 +0.7**
AROD Rodeo 151.15 151 *i* P **PKiKP 07 20 53.8 +0.4**
ACDV Cuesta del Vie 151.32 151 *i* P **PKiKP 07 20 54.2 +0.6**
ACHE Chepes 151.56 156 *i* P **PKiKP 07 20 54.0 0.0**
AVFE Valle Fertil 151.67 154 *i* P **PKiKP 07 20 54.9 +0.8**
AGUA GUANDACOL 152.19 151 *i* P **PKiKP 07 20 55.7 +0.5**
PDPR Patillas Dam, 153.70 28 PKPbc 07 20 58.4 0.0
PLTB Pedras Altas 153.76 180 PKiKP 07 20 58.8 +0.5
OTAV Otavalo 154.53 78 PKPbc 07 20 59.3 -1.7
OTAV Otavalo 154.53 78 PKIKP **PKPbc 07 20 59.3 -1.7**
OTAV Otavalo 154.53 78 *e*P **PKPdf 07 20 52.9 +0.3**
ATAH Atahualpa 155.26 95 PKP **PKPdf 07 20 52.5 -1.0**
comp=Z,4.6nm,0.9s,baz=86,slow=18,SNR=2.1
ROSC El Rosal 156.92 64 PKP **PKPdf 07 20 56.1 +0.5**
comp=Z,3.7nm,0.4s,baz=338,slow=3.0,SNR=4.5
SDV Santo Domingo 157.85 50 IAMs_20 IAMs_20 08 31 39.5
comp=Z,328nm,20.0s
SDV Santo Domingo 157.85 50 *e*P **PKPdf 07 20 56.2 -0.3**
CPUP Villa Florida 158.87 171 PKP **PKPdf 07 20 58.1 +0.9**
comp=Z,0.7nm,0.6s,baz=344,slow=2.0,SNR=5.5
CPUP PKPab **PKPab 07 21 33.2 +0.3**
comp=Z,1.9nm,1.0s,baz=62,slow=4.3,SNR=6.7
BAUV El Baul 159.73 45 PKPdf 07 20 57.6 -0.9
CZSB Cruzeiro do Su 160.85 98 *e*P **PKPdf 07 21 00.0 +0.3**
LPAZ La Paz 162.07 128 PKP **PKPdf 07 21 02.2 +0.5**
comp=Z,2.9nm,0.8s,baz=28,slow=1.7,SNR=8.6
LPAZ PKPab **PKPab 07 21 49.4 +1.2**
comp=Z,6.3nm,0.8s,baz=266,slow=1.6,SNR=6.2
LPAZ La Paz 162.07 128 *e*P **PKPdf 07 21 02.1 +0.4**
SIV San Ignacio 167.14 146 PKP **PKPdf 07 21 05.9 +0.5**
comp=Z,3.6nm,0.8s,baz=148,slow=1.8,SNR=20
SIV PKPab **PKPab 07 22 08.0 -1.6**
comp=Z,4.7nm,0.8s,baz=228,slow=5.4,SNR=5.6
PP1B Ponte de Pedra 167.79 174 *e*P **PKPdf 07 21 06.7 +0.9**
BDFB Brasilia 168.44 208 PKP **PKPdf 07 21 06.1 -0.3**
comp=Z,3.8nm,0.8s,baz=89,slow=5.3,SNR=4.5
BDFB PKPab **PKPab 07 22 14.8 -0.6**
comp=Z,4.7nm,0.7s,baz=204,slow=12,SNR=3.5
PTLB Pontes e Lacer 168.60 152 PKPab 07 22 16.3 +0.4
PTLB Pontes e Lacer 168.60 152 *e*P **PKPdf 07 21 06.3 -0.1**
TEFE Tefe 168.81 81 *e*P **PKPdf 07 21 06.7 +0.1**
BOAV Boa Vista 169.61 42 PKPdf 07 21 06.1 -1.0
BOAV Boa Vista 169.61 42 *e*P **PKPdf 07 21 06.7 -0.4**
VILB Vilhena 170.03 139 *e*P **PKPdf 07 21 06.7 -0.6**
SMTB Santa Maria do 173.14 239 *e*P **PKPdf 07 21 09.2 +0.3**
PRPB Parauapebas 176.19 258 *e*P **PKPdf 07 21 09.7 -0.2**
ITTB Itaituba 177.62 65 *e*P **PKPdf 07 21 08.0 -2.1**

*FCIAR **18** 07:05:24.0, 77.°72N×8.°41E, h10km, station OMEGA has station magnitude of 4.10 station ZFI2 has station magnitude of 4.20*
*KOLA **18** 07:05:24.4, 77.°74N×9.°07E, h0km, ML2.3, Greenland sea*
BER 18 07:05:24.9±2.2, 77.°74N×8.°05E, h10km, mb(Pn)3.4, Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
BRBA	**Barentsburg A**	**1.34**	**73**	*e*P		Pn	07 05 48.3	-1.2
BRBB	**Barentsburg B**	**1.34**	**72**	P		Pn	07 05 47.7	-1.9
BRBB				S		Sb	07 06 01.0	-6.3
BRBB	**Barentsburg B**	**1.34**	**72**	P		Pn	07 05 48.1	-1.5
BRBB				S		Sb	07 06 02.3	-5.0
BRBB	**Barentsburg B**	**1.34**	**72**	*e*P		Pn	07 05 48.1	-1.5
BRBB				*e*S		Sb	07 06 04.4	-2.9
KBS	**Kingsbay**	**1.43**	**32**	P		Pn	07 05 49.8	-1.0
KBS				S		Sn	07 06 04.8	-4.8
KBS	**Kingsbay**	**1.43**	**32**	P		Pn	07 05 48.8	-2.1
KBS				S		Sn	07 06 05.2	-4.4
KBS	**Kingsbay**	**1.43**	**32**	*e*P		Pn	07 05 48.9	-1.9
KBS				*e*S		Sn	07 06 05.1	-4.5
KBS				IAML			07 06 10.2	
comp=Z,42nm,0.4s								
SPA0	**Spitsbergen Ar**	**1.80**	**72**	*e*P		Pn	07 05 54.8	-1.1
SPA0				*e*S		Sn	07 06 16.6	-2.1
SPA0	**Spitsbergen Ar**	**1.80**	**72**	*e*P		Pn	07 05 55.6	-0.3
SPA0				*e*S		Sn	07 06 17.3	-1.4
SPA0				IAML			07 06 19.8	
comp=Z,51nm,0.7s								
SPITS	**Spitsbergen Ar**	**1.80**	**72**	P		Pn	07 05 54.8	-1.1
SPITS				S		Sn	07 06 17.1	-1.7
SPITS	**Spitsbergen Ar**	**1.80**	**72**	P		Pn	07 05 54.3	-1.6
SPITS				S		Sn	07 06 17.2	-1.6
HSPB	**Hornsund (broa**	**1.81**	**111**	P		Pn	07 05 53.1	-2.8
HSPB				S		Sn	07 06 13.3	-5.6
HSPB	**Hornsund (broa**	**1.81**	**111**	P		Pn	07 05 53.5	-2.4
HSPB				S		Sn	07 06 14.3	-4.5
HSPB	**Hornsund (broa**	**1.81**	**111**	*e*P		Pn	07 05 52.4	-3.6
HSPB				*e*S		Sn	07 06 14.3	-4.6
HSPB	**Hornsund (broa**	**1.81**	**111**	*e*P		Pn	07 05 53.7	-2.3
HSPB				*e*S		Sn	07 06 14.6	-4.2
HSPB				IAML			07 06 16.6	
comp=Z,17nm,0.4s								
ZFI2	**Zemlya Franca-**	**7.83**	**49**	*e*P		Pn	07 07 17.0	-1.7
ZFI2				*e*S		Sn	07 08 40.1	-7.0
comp=Z,64nm,1.6s								
OMEGA	**Omega**	**7.85**	**49**	*e*P		Pn	07 07 17.0	-1.8
OMEGA				*e*S		Sn	07 08 40.1	-7.3
comp=Z,58nm,2.5s								

NOU 18 07:07:35.8, 15.°24S×167.°51E, h103km, MLv4.8/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.36**	**235**	P		Pn	07 07 52.3	+1.3
DVP	**Devils Point**	**2.56**	**165**	P		Pn	07 08 15.9	+0.2
YATNC	**Mamie plateau,**	**6.81**	**185**	P		Pn	07 09 12.1	-1.0
DZM	**Mont Dzumac**	**6.87**	**188**	P		Pn	07 09 14.0	0.0
ONTNC	**Ouen Toro**	**7.10**	**188**	P		Pn	07 09 17.4	+0.3
OUENC	**Ouen Island, N**	**7.17**	**185**	P		Pn	07 09 18.4	+0.4
PINNC	**Pines Island,**	**7.33**	**180**	P		Pn	07 09 20.6	+0.4

DJA 18 07:12:42.5±0.6, 9.°3S×112.°4E±°, h98km±5km, M4.0/8, mb4.2/4, MLv3.9/8, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SOEI	**Soe**	**1.05**	**192**	P		Pn	07 13 04.4	+0.9
SOEI				S		Sn	07 13 19.8	+0.5
BATI	**Baumata**	**1.69**	**209**	P		Pn	07 13 11.5	+0.4
BATI				S		Sn	07 13 33.1	+0.4
MMRI	**Maumere**	**2.23**	**272**	P		Pn	07 13 18.4	+0.4
EDFI	**Ende, Flores**	**2.77**	**269**	P		Pn	07 13 26.1	+0.9
WBSI	**Waikabubak, Su**	**5.12**	**259**	P		Pn	07 13 56.0	-0.9
0.2nm4nm,1.4s								
PLAI	**Plampang**	**6.64**	**269**	P		Pn	07 14 16.7	-0.8
0.2nm35nm,0.9s								
TWSI	**Taliwang, Sumb**	**7.52**	**269**	P		Pn	07 14 28.6	-0.9
0.1nm21nm,1.3s								

DJA 18 07:20:59.8±1.2, 2.°5S×112.°3E±°, h14km±10km, M4.2/13, mb4.4/2, MLv4.1/13, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.99**	**14**	P		Pb	07 21 18.6	-0.1
LUWI				S		Sn	07 21 33.3	+0.2
APSI	**Ampana**	**1.41**	**321**	P		Pn	07 21 24.1	-1.0
APSI				S		Sn	07 21 42.7	-0.7
MRSI	**Marisa**	**2.54**	**346**	P		Pn	07 21 40.0	-0.7
TTSI	**Tana Toraja**	**2.91**	**249**	P		Pn	07 21 45.8	+0.1
TTSI				S		Sn	07 22 18.7	-1.7
PCI	**Palu**	**2.92**	**292**	P		Pn	07 21 47.1	+1.3
SPSI	**Sidrap Palu**	**3.38**	**235**	P		Pn	07 21 52.8	+0.6
BNSI	**Bone**	**3.40**	**226**	P		Pn	07 21 52.4	0.0
SANI	**Sanana**	**3.45**	**91**	P		Pn	07 21 52.0	-1.1
BSSI	**Bau Bau, Buton**	**4.59**	**206**	P		Pn	07 22 09.1	+0.3
EDFI	**Ende, Flores**	**6.75**	**187**	P		Pn	07 22 38.2	-0.4
0.1nm14nm,0.7s								

NNC 18 07:24:08.9±4.0, 37.°98N×72.°65E, h0km, mb4.7, mpv4.3, 2C-1D, Error ellipse: s-maj=32.6km s-min=27.2km az=11.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
MRKS	**Merke**	**4.78**	**5**	Lg		Lg	07 26 18.8	
124nm,0.4s								
AAK	**Ala-Archa**	**4.86**	**16**	⇑Pn		Pn	07 25 23.1	-0.4
4.5nm,0.5s								
AAK				⇑Sn		Sn	07 26 22.9	+2.3
18nm,0.7s								
DZA	**Taraz**	**5.01**	**349**	Lg		Lg	07 26 21.4	
222nm,0.5s								
CHMS	**Chumysh**	**5.26**	**17**	Pg		Pn	07 25 20.0	-8.9
218nm,0.3s								
KK31	**Karatay Array**	**5.37**	**343**	Pn		Pn	07 25 31.6	+1.2
5.4nm,0.4s,baz=156,slow=11,SNR=27								
KK31				⇓Sn		Sn	07 26 32.9	-0.1
20nm,0.3s,baz=158,slow=20								
MTBS	**Maitube**	**5.90**	**28**	P		Pn	07 25 36.9	-0.7
14nm,0.5s								
KOTS	**Kotyrbulak**	**6.25**	**31**	P		Pn	07 25 42.3	-0.3
12nm,0.7s								
AB31	**Akbulak array**	**14.53**	**325**	P		Pn	07 27 34.2	-1.5
3.3nm,0.5s,baz=134,slow=12,SNR=77								

*SCB **18** 07:27:09.6±2.2, 15.°43S×73.°93W, h15km±999km, Error ellipse: s-maj=181.7km s-min=58.1km az=2.0*
*IDC **18** 07:27:33.5±2.0, 14.°27S×71.°95W, h84km±42km, mb3.3/4, mbtmp3.6/7, Error ellipse: s-maj=178.2km s-min=14.4km az=24.0*
ISC 18 07:27:26.9±0.9, 15.°98S±0.°09×72.°99W±0.°10, h82km, n23, σ1=98/21, mb3.5/3, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
PB16	**IPOC Station P**	**4.06**	**126**	P		Pn	**07 28 29.4**	**+2.1**
BBOD	**La Paz, Gloria**	**4.26**	**99**	P		Pn	**07 28 32.1**	**+2.1**
BBOB	**La Paz, Bander**	**4.67**	**93**	P		Pn	**07 28 36.5**	**+1.1**
LPAZ	**La Paz**	**4.67**	**94**	P		Pn	**07 28 36.8**	**+1.2**
4.6nm,0.4s,baz=255,slow=9.2,SNR=58								
LPAZ	**La Paz**	**4.67**	**94**	P		Pn	**07 28 36.9**	**+1.2**
BBOJ	**La Paz, Jacaqu**	**4.70**	**103**	P		Pn	**07 28 38.6**	**+2.7**
SOEJ	**Jacaque**	**4.70**	**103**	P		Pn	**07 28 38.7**	**+2.8**
BBOE	**La Paz, Chanca**	**4.87**	**100**	P		Pn	**07 28 40.9**	**+2.6**
PB11	**IPOC Station P**	**4.92**	**140**	P		Pn	**07 28 39.5**	**+1.0**
GO01	**Chusmiza**	**5.14**	**136**	P		Pn	**07 28 43.4**	**+1.5**
NNA	**Nana**	**5.46**	**316**	P		Pn	07 28 50.8	+5.0
4.7nm,0.4s,baz=160,slow=12,SNR=4.8								
NNA				S		**Sn**	**07 29 49.5**	**+2.2**
12nm,0.3s,baz=209,slow=19,SNR=5.8								
SOEO	**Opoqueri**	**5.50**	**119**	P		Pn	07 28 51.7	+4.9
PB08	**IPOC Station P**	**5.51**	**139**	P		Pn	**07 28 48.1**	**+1.3**
PB01	**IPOC Station P**	**6.03**	**147**	P		Pn	**07 28 54.5**	**+0.9**
PB09	**IPOC Station P**	**6.78**	**149**	P		Pn	**07 29 06.1**	**+2.1**
SOET	**ToroToro**	**7.18**	**108**	P		Pn	**07 29 10.7**	**+1.1**
PB06	**IPOC Station P**	**7.42**	**155**	P		Pn	**07 29 13.9**	**+1.2**
MOCB	**Mochara**	**8.71**	**128**	P		Pn	**07 29 32.9**	**+2.3**
SIV	**San Ignacio**	**11.46**	**92**	P		Pn	07 30 02.0	-5.7
1.4nm,0.7s,baz=281,slow=9.4,SNR=9.0								
TXAR	**Lajitas Array**	**53.92**	**327**	P		**P**	**07 36 42.2**	**-0.1**
0.4nm,0.5s,baz=151,slow=9.0,SNR=9.9								
0.4nm,0.5s								
PDAR	**Pinedale Array**	**67.44**	**332**	P		**P**	**07 38 14.7**	**+0.6**
0.3nm,0.7s,baz=173,slow=3.0,SNR=3.1								
0.3nm,0.7s								
TORD	**Torodi Ar. Bea**	**79.30**	**73**	P		**P**	**07 39 21.0**	**-3.1**
0.8nm,0.8s,baz=260,slow=5.2,SNR=3.1								
0.8nm,0.8s								
ESDC	**Sonseca Array**	**84.74**	**46**	P		**P**	**07 39 50.5**	**-1.7**
0.2nm,0.4s,baz=246,slow=5.0,SNR=2.7								
0.2nm,0.4s								

*TAP **18** 07:32:50.0, 24.°33N×122.°98E, h57km, ML3.1, D*
*JMA **18** 07:32:50.3±0.1, 24.°4N±2.°×123.°0E±0.°5, h58km±1km, MV2.6/11, NW OFF ISHIGAKIJIMA IS*
ISC 18 07:32:50.6±1.2, 24.°30N±0.°04×122.°99E±0.°02, h56km±7km, n80, σ1=01/149, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.16**	**8**	P		Pn	**07 32 58.9**	**-0.5**
YOJ	**Yonaguni jima**	**0.16**	**8**	P		Pn	07 33 04.0	+4.6
YOJ	**Yonaguni jima**	**0.16**	**8**	*i* P		Pn	**07 32 59.0**	**-0.4**
YOJ				*i* S		Sn	**07 33 05.5**	**-0.2**
YOJ	**Yonaguni jima**	**0.16**	**8**	P		Pn	**07 32 59.0**	**-0.4**
YOJ				S		Sn	**07 33 05.3**	**-0.4**
EOS3	**EOS3**	**0.61**	**269**	*i* P		Pn	**07 33 03.8**	**+0.5**
EOS3				*i* S		Sn	**07 33 14.2**	**+1.5**
EOS4	**EOS4**	**0.64**	**254**	*e*P		Pn	**07 33 04.5**	**+1.0**
EOS4				*e*S		Sn	**07 33 15.1**	**+2.3**
IRIF	**Iriomote-Funau**	**0.68**	**87**	P		Pn	**07 33 04.2**	**-0.1**
IRIF				S		Sn	**07 33 14.5**	**+0.1**
EOS2	**EOS2**	**0.70**	**280**	*e*P		Pn	**07 33 04.6**	**+0.1**
EOS2				*e*S		Sn	**07 33 15.5**	**+0.9**
HATJ	**Hateruma jima**	**0.79**	**108**	P		Pn	**07 33 06.2**	**+0.4**
HATJ				S		Sn	**07 33 17.3**	**+0.5**
JKRS	**Kuro-shima**	**0.94**	**94**	P		Pn	**07 33 08.1**	**+0.4**
JKRS				S		Sn	**07 33 21.1**	**+0.9**
JIJ	**Ishigaki jima**	**1.06**	**86**	P		Pn	**07 33 09.1**	**-0.2**
JIJ				S		Sn	**07 33 22

NSK			S	Sn	07 33 35.1	+0.6
YM01	**YM01**	**1.54 303**	*i* P	Pn	07 33 16.3	+0.5
YM01			*i* S	Sn	07 33 33.8	-1.0
EGFH	**Guangfu**	**1.56 246**	*i* P	Pn	07 33 15.3	-0.8
EGFH			*i* S	Sn	07 33 34.7	-0.5
WARBT	**Fenglin Townsh**	**1.57 249**	*i* P	Pn	07 33 15.4	-0.8
WARBT			S	Sn	07 33 34.5	-1.0
WHF	**Hehuan Shan**	**1.58 265**	*i* P	Pn	07 33 16.3	-0.3
WHF			*i* S	Sn	07 33 35.4	-0.8
FUSS	**Fushou**	**1.59 268**	P	Pn	07 33 16.3	-0.4
FUSS			*e*S	Sn	07 33 34.4	-1.9
JTJ	**Tarama**	**1.60 77**	P	Pn	07 33 16.7	+0.1
JTJ			*e*S	Sn	07 33 36.0	-0.1
HGSD	**Ruisui**	**1.64 241**	*i* P	Pn	07 33 16.2	-0.9
HGSD			*i* S	Sn	07 33 36.2	-1.0
TWT	**Tachien**	**1.65 269**	*i* P	Pn	07 33 18.1	+0.6
TWT			*e*S	Sn	07 33 38.5	+0.8
TDCB	**Techi**	**1.67 269**	*i* P	Pn	07 33 18.0	+0.3
TDCB			*i* S	Sn	07 33 37.8	-0.3
OWD	**Renai**	**1.69 259**	*i* P	Pn	07 33 17.0	-0.9
OWD			*i* S	Sn	07 33 36.6	-1.9
EHYH	**Wanrong**	**1.70 242**	*i* P	Pn	07 33 17.6	-0.4
EHYH			*i* S	Sn	07 33 38.3	-0.4
EHY	**Hungye**	**1.72 243**	*i* P	Pn	07 33 17.4	-0.8
EHY			*i* S	Sn	07 33 37.2	-1.8
NFF	**Wufeng Townshi**	**1.73 281**	*i* P	Pn	07 33 18.9	+0.5
NFF			*i* S	Sn	07 33 40.5	+1.0
WUSB	**Renai**	**1.73 260**	*i* P	Pn	07 33 19.0	+0.5
WUSB			*e*S	Sn	07 33 38.8	-0.9
YULB	**Yu-li**	**1.79 240**	P	Pn	07 33 18.7	-0.5
YULB	**Yu-li**	**1.79 240**	*i* P	Pn	07 33 18.7	-0.5
YULB			*e*S	Sn	07 33 40.5	-0.4
TWF1	**Yuli**	**1.81 239**	*i* P	Pn	07 33 19.3	-0.2
TWF1			*i* S	Sn	07 33 40.4	-1.0
LIOB	**Emei**	**1.83 281**	*i* P	Pn	07 33 20.6	+0.9
LIOB			*e*S	Sn	07 33 43.3	+1.5
WHP	**Taichung City**	**1.86 270**	*i* P	Pn	07 33 21.4	+1.2
WHP			*i* S	Sn	07 33 42.3	-0.4
FULB	**Fuli**	**1.90 235**	*i* P	Pn	07 33 19.6	-1.1
FULB			*i* S	Sn	07 33 42.8	-0.7
WCS	**Beigang Elemen**	**1.91 263**	*i* P	Pn	07 33 21.6	+0.8
WCS			*e*S	Sn	07 33 43.6	-0.1
SSLB	**Suanglung**	**1.93 255**	P	Pn	07 33 21.3	+0.2
SSLB	**Suanglung**	**1.93 255**	*i* P	Pn	07 33 21.1	0.0
SSLB			*e*S	Sn	07 33 43.3	-0.9
SMLT	**Sun Moon Lake**	**1.95 258**	*i* P	Pn	07 33 22.1	+0.6
SMLT			*i* S	Sn	07 33 45.3	+0.4
EHD	**Haiduan**	**1.99 235**	*i* P	Pn	07 33 21.5	-0.4
EHD			*i* S	Sn	07 33 44.5	-1.3
EDH	**Donghe**	**2.03 230**	*i* P	Pn	07 33 20.5	-2.0
EDH			*i* S	Sn	07 33 44.0	-2.7
ALS	**Alishan**	**2.15 249**	*i* P	Pn	07 33 24.3	0.0
ALS			*e*S	Sn	07 33 51.3	+1.4
CHN5	**Tsauling**	**2.23 252**	*i* P	Pn	07 33 26.5	+1.3
CHN5			*i* S	Sn	07 33 53.1	+1.5
TWGBT	**Beinan**	**2.29 230**	P	Pn	07 33 25.8	-0.2
TWGBT			*e*S	Sn	07 33 52.1	-0.9
TWG	**Pinlang**	**2.29 230**	P	Pn	07 33 25.3	-0.7
TWG			S	Sn	07 33 51.4	-1.7
STYH	**Taoyuan**	**2.32 241**	*i* P	Pn	07 33 27.0	+0.6
STYH			*i* S	Sn	07 33 54.4	+0.7
WCKO	**Fanlu**	**2.34 249**	*i* P	Pn	07 33 28.3	+1.6
WCKO			*i* S	Sn	07 33 56.5	+2.2
TPUB	**Ta-pu**	**2.38 246**	P	Pn	07 33 28.4	+1.2
TPUB	**Ta-pu**	**2.38 246**	S	Sn	07 33 56.9	+1.7
TPUB	**Ta-pu**	**2.38 246**	*i* P	Pn	07 33 28.9	+1.7
TPUB			*i* S	Sn	07 33 57.5	+2.3
WTP	**Ta-pu**	**2.41 245**	*i* P	Pn	07 33 29.2	+1.5
WTP			*i* S	Sn	07 33 57.7	+1.5
TWK	**Hsinying**	**2.51 246**	*i* P	Pn	07 33 30.8	+1.7
TWK			*i* S	Sn	07 34 00.8	+2.3
SSD	**Sandimen**	**2.66 235**	*i* P	Pn	07 33 32.0	+1.0
SSD			*e*S	Sn	07 34 00.9	-1.2
MASBT	**Mashibuluo**	**2.74 233**	P	Pn	07 33 31.9	-0.3
MASBT			*e*S	Sn	07 34 04.8	+0.7

NOU 18 07:44:43.7, 16°.74S × 167°.53E, h2km, MLv4.7/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.16**	**147**	P	Pb	07 45 06.4	-0.2
SANVU	**Saraoutou**	**1.32**	**346**	P	Pg	07 45 08.0	-1.1
YATNC	**Mamie plateau,**	**5.33**	**186**	P	Pn	07 46 03.5	-0.8
LUES	**Luesalemba Tem**	**6.24**	**345**	P	Pn	07 46 17.3	+0.4

IDC 18 07:49:01.6±1.7, 5°.41N × 126°.03E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=152.7km s-min=27.7km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.48**	**162**	P	P	07 54 41.6	+0.8
	0.7nm,0.7s,baz=343,slow=10,SNR=8.8						
WRA				PcP	PcP	07 58 05.4	-0.8
	0.4nm,0.7s,baz=331,slow=3.1,SNR=2.1 0.7nm,0.7s						
ASAR	**Alice Springs**	**29.90**	**165**	P	P	07 55 10.7	-0.7
	0.3nm,0.5s,baz=340,slow=6.7,SNR=5.9						
ASAR				PcP	PcP	07 58 14.3	-0.3
	0.3nm,0.6s,baz=334,slow=2.5,SNR=3.1 0.3nm,0.5s						
MKAR	**Makanchi Array**	**55.79**	**325**	P	P	07 58 40.6	0.0
	0.4nm,0.5s,baz=117,slow=7.4,SNR=4.2 0.4nm,0.5s						

*SNET **18** 07:54:09.8±0.8, 13°.47N × 88°.50W, h7km, ML2.5*
*CATAC **18** 07:54:10.1±0.3, 13°.N±3°.× 8°.9W±°, h5km±1km, M2.5/13, MLv2.5/13, Error ellipse: s-maj=6.8km s-min=2.0km az=16.6, confirmed*
ISC 18 07:54:10.3±0.9, 13°.48N±0°.06 × 88°.50W±0°.03, h15km±6km, n34, σ0s48/39, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQSS	**Presa 15 de Se**	**0.15**	**337**	*e*P	**Pg**	**07 54 13.8**	**-0.4**
PQSS				*e*S	**Sg**	**07 54 16.9**	**+0.1**
PQSS	**Presa 15 de Se**	**0.15**	**337**	P	**Pg**	**07 54 14.2**	**-0.1**
PACA	**Pacayal**	**0.17**	**95**	*e*P	**Pg**	**07 54 14.4**	**-0.2**
PACA				*e*S	**Sg**	**07 54 17.5**	**0.0**
PACA	**Pacayal**	**0.17**	**95**	P	**Pg**	**07 54 14.3**	**-0.2**
TECO	**Alcaldia de Te**	**0.28**	**281**	*e*P	**Pg**	**07 54 15.8**	**-0.5**
TECO				*e*S	**Sg**	**07 54 20.0**	**-0.3**
TECO	**Alcaldia de Te**	**0.28**	**281**	P	**Pg**	**07 54 15.8**	**-0.5**
TECO	**Alcaldia de Te**	**0.28**	**281**	S	**Sg**	**07 54 19.7**	**-0.6**
SCLA	**Alcaldia de Sa**	**0.31**	**314**	*e*P	**Pg**	**07 54 16.9**	**0.0**
SCLA	**Alcaldia de Sa**	**0.31**	**314**	P	**Pg**	**07 54 16.7**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.31**	**314**	S	**Sg**	**07 54 21.8**	**+0.5**
CNRM	**Centro Naciona**	**0.32**	**92**	S	**Sg**	**07 54 22.1**	**+0.7**
UESV	**Universidad de**	**0.32**	**298**	*e*P	**Pg**	**07 54 16.8**	**-0.2**
UESV	**Universidad de**	**0.32**	**298**	P	**Pg**	**07 54 16.7**	**-0.2**
UESV	**Universidad de**	**0.32**	**298**	S	**Sg**	**07 54 21.8**	**+0.3**
PAVA	**Las Pavas**	**0.48**	**298**	*e*P	**Pg**	**07 54 19.9**	**-0.1**
PAVA	**Las Pavas**	**0.48**	**298**	P	**Pg**	**07 54 19.8**	**-0.1**
PAVA	**Las Pavas**	**0.48**	**298**	S	**Sg**	**07 54 25.7**	**-0.8**
LFRS	**El Faro**	**0.57**	**284**	*e*P	**Pg**	**07 54 21.5**	**0.0**
LCND	**La Caada**	**0.62**	**106**	*e*P	**Pg**	**07 54 22.2**	**-0.2**
LCND				*e*S	**Sb**	**07 54 31.8**	**+0.4**
LCND	**La Caada**	**0.62**	**106**	P	**Pg**	**07 54 21.9**	**-0.5**
LOMA	**Loma Larga**	**0.67**	**284**	P	**Pg**	**07 54 23.4**	**-0.2**
CNCH	**Conchagua**	**0.68**	**108**	*e*P	**Pg**	**07 54 23.3**	**-0.3**
CNCH	**Conchagua**	**0.68**	**108**	S	**Sg**	**07 54 32.4**	**-0.3**
CNCH	**Conchagua**	**0.68**	**108**	P	**Pg**	**07 54 23.5**	**-0.1**
UEES	**Universidad Ev**	**0.76**	**288**	P	**Pg**	**07 54 25.0**	**-0.1**
PIC2	**El Picacho**	**0.78**	**289**	*e*P	**Pb**	**07 54 25.8**	**0.0**
PMON	**Piamonte**	**0.83**	**286**	P	**Pg**	**07 54 25.7**	**-0.7**
PMON	**Piamonte**	**0.83**	**286**	S	**Sb**	**07 54 38.3**	**+0.8**
JAYA	**Jayaque - finc**	**0.94**	**281**	P	**Pg**	**07 54 28.0**	**-0.6**
MTO3	**Montecristo**	**1.24**	**317**	S	**Sg**	**07 54 49.9**	**-0.5**
MTO3	**Montecristo**	**1.24**	**317**	P	**Pg**	**07 54 33.5**	**-0.8**
NUBE	**Las Nubes**	**1.31**	**289**	P	**Pn**	**07 54 34.4**	**+0.1**
NUBE	**Las Nubes**	**1.31**	**289**	S	**Sb**	**07 54 52.8**	**+1.2**
TGUH	**Tegucigalpa,Un**	**1.32**	**64**	P	**Pn**	**07 54 34.3**	**-0.1**
TGUH				S	**Sg**	**07 54 52.1**	**-0.9**

*IDC **18** 08:10:05.4±3.7, 53°.62N × 87°.96E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=37.4km s-min=19.7km az=48.0*
ASRS 18 08:10:04.0±1.5, 53°.59N × 88°.02E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.93**	**282**	I	I	08 22 40.0	
	baz=98,slow=329,SNR=3.9						
ZALV	**Zalesovo Beam**	**1.93**	**282**	Pn	Pb	08 10 39.4	-0.7
	1.2nm,0.3s,baz=99,slow=14,SNR=13						
ZALV				Lg	Lg	08 11 05.5	
	3.0nm,0.3s,baz=106,slow=26,SNR=16						
KURBB	**Kurchatov Arra**	**6.56**	**247**	Pn	Pn	08 11 42.6	+1.0
	baz=61,slow=14,SNR=3.1 0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.73**	**211**	Pn	Pn	08 12 00.7	+2.9
	0.1nm,0.3s,baz=28,slow=12,SNR=1.9 0.2nm,0.3s						

*ASRS **18** 08:11:24.0±0.7, 49°.71N × 81°.60E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **18** 08:11:28.3±1.9, 49°.77N × 81°.65E, h0km, mbtmp2.7/1, ML1.7/1, Error ellipse: s-maj=24.5km s-min=10.9km az=52.0*
ISC 18 08:11:21.3±1.3, 50°.06N±0°.05 × 82°.31E±0°.06, h0km, n8, σ0s65/11, 6C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.45**	**287**	⇑Pn	**Pg**	**08 12 07.9**	**-0.3**
	3.9nm,0.8s						
KURK				⇓Sn	**Sb**	**08 12 37.5**	**+0.7**
	35nm,1.8s						
KURBB	**Kurchatov Arra**	**2.48**	**285**	⇑Pn	**Pg**	**08 12 08.1**	**-0.7**
	13nm,0.8s						
KURBB				⇓Sn	**Sb**	**08 12 37.8**	**-0.1**
	26nm,0.8s						
KURBB	**Kurchatov Arra**	**2.48**	**285**	Pg	**Pb**	**08 12 07.2**	**+0.4**
	0.2nm,0.3s,baz=112,slow=18,SNR=22						
KURBB				Lg	Lg	08 12 38.6	
	0.4nm,0.3s,baz=108,slow=30,SNR=16						
MAKZ	**Makanchi**	**3.26**	**184**	⇑Pn	**Pb**	**08 12 19.3**	**-0.7**
	3.8nm,1.2s						
MAKZ				⇑Sn	**Sb**	**08 13 00.4**	**+0.2**
	7.1nm,0.7s						
MK31	**Makanchi Array**	**3.27**	**180**	⇑Pn	**Pb**	**08 12 20.0**	**-0.1**
	0.2nm,0.2s,baz=355,slow=14,SNR=14						
MK31				⇑Sn	**Sb**	**08 13 00.8**	**+0.4**
	2.5nm,0.5s,baz=358,slow=24						
MKAR	**Makanchi Array**	**3.27**	**180**	Pg	**Pb**	**08 12 21.2**	**+1.1**
	0.3nm,0.3s,baz=354,slow=14,SNR=5.0						
MKAR				Lg	Lg	08 13 00.7	
	0.4nm,0.3s,baz=355,slow=26,SNR=11						
ZALV	**Zalesovo Beam**	**4.20**	**21**	Pn	**Pg**	**08 12 41.3**	**-0.3**
	0.2nm,0.3s,baz=205,slow=12,SNR=1.4						
ZALV				Lg	Lg	08 13 52.0	
	0.5nm,0.3s,baz=192,slow=27,SNR=5.3 0.4nm,0.3s						
I46RU	**ZALESOVO INFRA**	**4.20**	**21**	I	I	08 40 10.0	
	baz=204,slow=311,SNR=1.3						

*IDC **18** 08:27:29.8±1.2, 60°.84N × 179°.55E, h0km, mb3.5/8, mbtmp3.4/9, ML2.5/1, MS3.3/4, Error ellipse: s-maj=40.4km s-min=18.9km az=179.0*
*NERS **18** 08:27:41.9, 62°.55N × 179°.10W, h0km*
ISC 18 08:27:31.2±1.0, 61°.0N±0°.1 × 179°.64E±0°.09, h10km, n16, σ1s38/13, mb3.5/7, Bering Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDR	**Anadyr'**	**3.86**	**346**	*e*Pg	**Pn**	**08 28 30.9**	**+0.4**
ANDR				Pgmax		08 28 31.7	
	40nm,0.2s						
ANDR				*e*S	**Sn**	**08 29 14.3**	**-1.5**
ANDR				Sgmax		08 29 27.9	
	100nm,0.7s						
PVDR	**Provideniya**	**4.74**	**41**	*e*P	Pn	08 28 33.9	-8.7
PVDR				Pgmax		08 28 42.3	
	60nm,0.4s						
PVDR				*e*S	**Pg**	**08 29 03.0**	**+1.1**
PVDR				*e*Sg	Sn	08 29 24.2	-13
PVDR				Sgmax		08 29 53.8	
	280nm,0.6s						
SHEM	**Shemya Is, Ala**	**8.84**	**202**	LR	LR	08 33 09.1	
	comp=Z,115nm,18.3s,baz=146,slow=39						
SEY	**Seymchan**	**12.92**	**290**	LR	LR	08 35 45.2	
	comp=Z,88nm,19.4s,baz=217,slow=38						
ILAR	**Eielson Array**	**15.59**	**62**	Pn	**Pn**	**08 31 08.5**	**-2.2**
	baz=268,slow=13,SNR=1.4 0.1nm,0.6s						
ILAR	**Eielson Array**	**15.59**	**62**	*e*P	**Pn**	**08 31 08.5**	**-2.2**
INK	**Inuvik**	**20.83**	**50**	P	**P**	**08 32 12.3**	**-0.1**
	2.5nm,1.0s,baz=278,slow=9.8,SNR=3.7 2.5nm,1.0s						
TIXI	**Tiksi**	**22.18**	**319**	LR	LR	08 40 58.1	
	comp=Z,84nm,20.6s,baz=342,slow=36						
YAK	**Yakutsk**	**23.37**	**295**	LR	LR	08 43 03.6	
	comp=Z,124nm,20.4s,baz=14,slow=40						
MJAR	**Matsushiro Arr**	**35.73**	**246**	P	**P**	**08 34 28.7**	**-1.0**
	0.9nm,0.8s,baz=27,slow=6.5,SNR=6.4 0.9nm,0.8s						
NVAR	**Mina Array Bea**	**43.95**	**92**	P	**P**	**08 35 39.4**	**+1.0**
	0.2nm,0.6s,baz=330,slow=9.0,SNR=3.6 0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**47.14**	**307**	P	**P**	**08 36 04.5**	**+1.5**
	0.5nm,0.5s,baz=59,slow=8.6,SNR=1.9 0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**52.16**	**308**	P	**P**	**08 36 42.0**	**+0.7**
	0.3nm,0.6s,baz=34,slow=7.8,SNR=6.9 0.3nm,0.6s						
BVAR	**Borovoye Array**	**53.20**	**315**	P	**P**	**08 36 50.1**	**+1.1**
	1.1nm,0.6s,baz=41,slow=9.5,SNR=4.9 1.1nm,0.6s						
MKAR	**Makanchi Array**	**53.72**	**302**	P	**P**	**08 36 52.7**	**-0.3**
	0.3nm,0.6s,baz=46,slow=8.4,SNR=1.7 0.3nm,0.6s						
TXAR	**Lajitas Array**	**58.43**	**86**	P	**P**	**08 37 26.9**	**0.0**
	0.3nm,0.8s,baz=325,slow=7.0,SNR=2.2 0.3nm,0.8s						

*ASRS **18** 08:40:13.0±1.8, 54°.72N × 83°.73E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 18 08:40:14.4±1.8, 54°.63N × 83°.75E, h0km, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=18.5km s-min=10.0km az=19.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**137**	I	I	08 45 30.0	
	0.2nm,0.9s,baz=318,slow=317,SNR=0.9						
ZALV	**Zalesovo Beam**	**0.93**	**137**	Pg	Pg	08 40 30.6	-1.4
	2.2nm,0.3s,baz=329,slow=18,SNR=16						
ZALV				Lg	Lg	08 40 46.5	
	5.5nm,0.3s,baz=328,slow=29,SNR=21						
KURBB	**Kurchatov Arra**	**5.12**	**221**	Pn	Pn	08 41 32.0	-0.3
	0.1nm,0.3s,baz=40,slow=14,SNR=5.5						
KURBB				Lg	Lg	08 42 55.3	
	0.1nm,0.3s,baz=41,slow=30,SNR=5.0 0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.90**	**187**	Pn	Pn	08 42 10.8	+0.4
	0.1nm,0.3s,baz=8.4,slow=12,SNR=4.3						
MKAR				Lg	Lg	08 44 25.8	
	0.1nm,0.3s,baz=4.5,slow=27,SNR=3.1 0.3nm,0.5s						
BVAR	**Borovoye Array**	**8.07**	**264**	Pn	Pn	08 42 12.3	-0.4
	0.1nm,0.3s,baz=68,slow=12,SNR=5.2 1.2nm,0.4s						

*NOU **18** 08:48:08.3, 16°.93S × 178°.24W, h642km, MLv3.7/4, Fiji Islands Region*
*IDC **18** 08:48:15.4±2.2, 17°.30S × 178°.73W, h527km±23km, mb3.4/12, mbtmp4.3/13, Error ellipse: s-maj=22.6km s-min=14.4km az=138.0*
*NEIC **18** 08:48:16.9±1.7, 17°.6S±0°.2 × 178°.6W±0°.1, h534km±7km, mb4.6/30, Error ellipse: s-maj=24.1km s-min=15.8km az=166.0*
ISC 18 08:48:16.6±0.5, 17°.54S±0°.07 × 178°.54W±0°.08, h547km, n86, σ1s55/85, mb4.5/32, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.74**	**201**	P	**P**	**08 49 24.4**	**+2.5**
TAVE	**Taveuni**	**1.55**	**302**	P	**P**	**08 49 25.1**	**+0.9**
DGTI	**Dogotuki**	**2.06**	**307**	P	**P**	**08 49 26.4**	**+0.1**
MSVF	**Nonsavu**	**3.26**	**266**		**P**	**08 49 34.3**	**+1.2**
MSVF	**Nonsavu**	**3.26**	**266**	P	**P**	**08 49 34.5**	**+1.4**
AFI	**Afiamalu**	**7.45**	**62**	P	**P**	**08 50 06.0**	**-2.9**
AFI	**Afiamalu**	**7.45**	**62**	P	**P**	**08 50 05.4**	**-3.5**
NIUE	**Niue**	**8.32**	**102**	P	**P**	**08 50 14.9**	**-2.5**
GLKZ	**Green Lake**	**11.68**	**177**	P	**P**	**08 50 49.4**	**-2.3**
GLKZ				S	**S**	**08 53 04.6**	**+5.3**
SANVU	**Saraoutou**	**13.83**	**277**	P	**P**	**08 51 15.2**	**+1.1**
PINNC	**Pines Island,**	**14.10**	**247**	P	**P**	**08 51 16.1**	**-0.6**
DZM	**Mont Dzumac**	**14.83**	**250**		**P**	**08 51 23.3**	**-1.2**
DZM	**Mont Dzumac**	**14.83**	**250**	P	**P**	**08 51 22.8**	**-1.7**
	14nm,0.6s,baz=75,slow=14,SNR=15						
ONTNC	**Ouen Toro**	**14.88**	**249**	P	**P**	**08 51 24.4**	**-0.5**
OUZ	**Omahuta**	**18.95**	**200**	P	**P**	**08 52 04.5**	**+1.4**
GRZ	**Great Barrier**	**19.38**	**195**	P	**P**	**08 52 07.9**	**+0.9**
WCZ	**Waipu Caves**	**19.38**	**198**	P	**P**	**08 52 09.1**	**+2.1**
HAZ	**Te Kaha**	**20.40**	**188**	P	**P**	**08 52 14.8**	**-1.4**
PUZ	**Puketiti**	**20.65**	**187**	P	**P**	**08 52 19.6**	**+1.1**
URZ	**Urewera**	**20.99**	**190**	P	**P**	**08 52 19.4**	**-2.2**
	7.9nm,0.8s,baz=339,slow=8.5,SNR=2.1						
URZ	**Urewera**	**20.99**	**190**	P	**P**	**08 52 19.4**	**-2.2**
MWZ	**Matawai**	**21.00**	**189**	P	**P**	**08 52 20.6**	**-1.1**
TSZ	**Takapari Road**	**22.94**	**191**	P	**P**	**08 52 38.8**	**-0.2**
MRZ	**Mangatainoka R**	**23.59**	**191**	P	**P**	**08 52 44.6**	**-0.2**
THZ	**Tophouse**	**25.23**	**195**	P	**P**	**08 52 58.8**	**-0.6**
THZ				S	**S**	**08 56 42.3**	**-4.2**
LTZ	**Lake Taylor**	**26.35**	**195**	P	**P**	**08 53 07.8**	**-1.4**
FOZ	**Fox Glacier**	**27.72**	**198**	P	**P**	**08 53 20.0**	**-1.2**
JCZ	**Jackson Bay**	**28.53**	**199**	P	**P**	**08 53 27.2**	**-1.1**
WKZ	**Wanaka**	**29.14**	**198**	P	**P**	**08 53 32.1**	**-1.5**
EIDS	**Eidsvold**	**29.28**	**249**		**P**	**08 53 34.4**	**-0.6**
EIDS				IAmb	IAmb	08 53 35.0	
	comp=Z,13nm,0.7s						
EAZ	**Earnscleugh**	**29.42**	**198**	P	**P**	**08 53 34.9**	**-1.0**
MLZ	**Mavora Lakes**	**29.90**	**199**	P	**P**	**08 53 39.7**	**-0.4**
ARMA	**Armidale**	**30.02**	**239**	P	**P**	**08 53 41.8**	**+0.3**
ARMA				IAmb	IAmb	08 53 42.6	
	comp=Z,18nm,0.7s						
WHZ	**Wether Hill Ro**	**30.43**	**199**	P	**P**	**08 53 44.6**	**0.0**
CTAO	**Charters Tower**	**33.38**	**260**		**P**	**08 54 09.3**	**-1.0**
CTAO				IAmb	IAmb	08 54 10.3	
	comp=Z,14nm,0.9s						
CAN	**Canberra**	**33.83**	**232**	P	**P**	**08 54 13.6**	**-0.2**
PMG	**Port Moresby**	**34.27**	**279**		**P**	**08 54 18.2**	**+0.4**
MANU	**Manus Island**	**36.85**	**291**		**P**	**08 54 39.1**	**0.0**
MANU				IAmb	IAmb	08 54 40.4	
	comp=Z,30nm,1.0s						
COEN	**Coen**	**36.98**	**270**		**P**	**08 54 40.0**	**-0.1**
TOO	**Toolangi**	**37.30**	**230**		**P**	**08 54 42.8**	**+0.2**
TOO				IAmb	IAmb	08 54 43.7	
	comp=Z,11nm,0.9s						
STKA	**Stephens Creek**	**38.70**	**241**		**P**	**08 54 53.6**	**-0.3**
STKA	**Stephens Creek**	**38.70**	**241**	P	**P**	**08 54 54.1**	**+0.2**
	comp=Z,14nm,0.5s,baz=91,slow=10,SNR=53 comp=Z,14nm,0.5s						
INKA	**Innaminka**	**38.77**	**247**		**P**	**08 54 54.2**	**-0.3**
INKA				IAmb	IAmb	08 54 55.8	
	comp=Z,7.6nm,0.8s						
BBOO	**Buckleboo**	**43.47**	**241**	P	**P**	**08 55 31.8**	**-0.1**
WR8	**Warramunga Arr**	**44.42**	**259**	P	**P**	**08 55 38.1**	**-1.2**
WR8				IAmb	IAmb	08 55 39.0	
	comp=Z,16nm,1.1s						
WB0	**Warramunga Arr**	**44.54**	**259**	P	**P**	**08 55 39.1**	**-1.2**
WB0				IAmb	IAmb	08 55 39.8	
	comp=Z,15nm,1.0s						
WRAB	**Tennant Creek**	**44.57**	**259**	P	**P**	**08 55 39.3**	**-1.1**
WRAB				IAmb	IAmb	08 55 39.9	
	comp=Z,10nm,0.7s						
WRA	**Warramunga Arr**	**44.58**	**259**		**P**	**08 55 39.1**	**-1.4**
WRA	**Warramunga Arr**	**44.58**	**259**	P	**P**	**08 55 38.9**	**-1.6**
	comp=Z,6.5nm,0.5s,baz=98,slow=6.9,SNR=210						
WRA				PcP	**PcP**	**08 57 11.0**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=96,slow=3.4,SNR=5.2						
WRA				ScP	**ScP**	**09 00 13.8**	**+1.7**
	comp=Z,1.4nm,0.9s,baz=86,slow=4.0,SNR=5.4 comp=Z,6.5nm,0.5s						
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**08 55 41.5**	**-0.5**
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**08 55 41.3**	**-0.7**
	comp=Z,73nm,0.6s,baz=88,slow=8.1,SNR=1178						
ASAR				PcP	**PcP**	**08 57 12.1**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=97,slow=3.7,SNR=5.2						
ASAR				ScP	**ScP**	**09 00 14.7**	**+1.9**
	comp=Z,0.9nm,0.9s,baz=106,slow=3.3,SNR=4.7						
MTN	**Manton Dam**	**48.68**	**268**	IAmb	IAmb	08 56 11.2	
	comp=Z,18nm,0.8s						
FORT	**Forrest**	**50.05**	**244**	IAmb	IAmb	08 56 21.2	
	comp=Z,17nm,0.7s						
KNRA	**Kununurra**	**50.40**	**264**	IAmb	IAmb	08 56 24.1	
	comp=Z,21nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.96**	**260**	P	**P**	**08 56 42.3**	**-0.4**
SOEI	**Soe**	**55.95**	**270**	IAmb	IAmb	08 57 05.6	
	comp=Z,42nm,0.8s						
PSA00	**Pilbara Seismi**	**57.88**	**255**	P	**P**	**08 57 15.6**	**-1.2**

SSNC ***18*** *08:58:58.1±1.3, 19.°78N×76.°25W, h9km±7km, MD3.2, ML2.6*

OSPL ***18*** *08:58:58.1±0.8, 19.°85N×76.°30W, h13km±6km, ML2.4*
JSN ***18*** *08:59:00.5±1.0, 19.°67N×76.°31W, h15km±556km, MD4.0*

ISC 18 08:58:55.8±1.3**, 19.°76N**±0.°04×**76.°23W**±0.°03**, h10**km±10km**, n17**, σ1§07/30**, 2C-1D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARVS	**Santiago de Cu**	**0.39**	**52**	*eP*	**Pb**	**08 59 05.1**	**+0.3**
MARVS				*eS*	**Sb**	**08 59 09.8**	**-1.0**
RCC	**Rio Carpintero**	**0.55**	**65**	*eP*	**Pb**	**08 59 08.2**	**+0.6**
RCC				*eS*	**Sb**	**08 59 15.8**	**+0.3**
RCC	comp=E,150nm,0.1s			IAML		08 59 18.3	
RCC	comp=N,104nm,0.1s			IAML		08 59 18.4	
LMGC	**Las Mercedes**	**0.79**	**293**	*eP*	**Pg**	**08 59 11.3**	**+0.1**
LMGC				*eS*	**Sg**	**08 59 21.2**	**-0.4**
LMGC	comp=E,331nm,0.1s			IAML		08 59 23.7	
LMGC	comp=N,284nm,0.1s			IAML		08 59 23.8	
PINC	**Pinares de May**	**0.83**	**29**	*eP*	**Pg**	**08 59 11.2**	**-0.7**
PINC				*eS*	**Sb**	**08 59 22.9**	**-0.7**
PINC	comp=N,356nm,0.1s			IAML		08 59 24.0	
PINC	comp=E,512nm,0.2s			IAML		08 59 24.0	
GTBY	**Guantanamo Bay**	**1.06**	**81**	*eP*	**Pn**	**08 59 17.6**	**+0.9**
GTBY				*eS*	**Sg**	**08 59 30.7**	**+0.6**
GTBY	comp=E,200nm,0.1s			IAML		08 59 34.3	
GTBY	comp=E,210nm,0.2s			IAML		08 59 34.5	
GTBY	**Guantanamo Bay**	**1.06**	**81**	*i* P	**Pn**	**08 59 17.7**	**+0.9**
GTBY				*eS*	**Sn**	**08 59 32.3**	**+0.7**
GTBY	comp=Z,194nm,0.2s			IAML		08 59 34.6	
HLGC	**Holguin**	**1.14**	**8**	*eP*	**Pb**	**08 59 17.0**	**-0.6**
HLGC				*eS*	**Sb**	**08 59 31.3**	**-1.2**
HLGC	comp=E,316nm,0.3s			IAML		08 59 35.4	
HLGC	comp=N,235nm,0.3s			IAML		08 59 35.6	
QMBU	**Quimbuelo**	**1.40**	**71**	*eP*	**Pn**	**08 59 21.1**	**-0.3**
QMBU				*eS*	**Sn**	**08 59 38.3**	**-1.6**
QMBU	comp=N,177nm,0.2s			IAML		08 59 41.7	
QMBU	comp=E,114nm,0.2s			IAML		08 59 42.4	
STH	**Stony Hill**	**1.76**	**198**	*i* P	**Pn**	**08 59 27.6**	**+1.2**
HOJ	**Hope**	**1.81**	**196**	*i* P	**Pb**	**08 59 28.7**	**-0.4**
MASC	**Masc**	**1.92**	**77**	*eP*	**Pn**	**08 59 29.0**	**+0.4**
MASC				*eS*	**Sn**	**08 59 53.0**	**+0.2**
MASC	comp=N,22nm,0.1s			IAML		08 59 59.6	
MASC	comp=E,28nm,0.1s			IAML		08 59 59.7	
MASC	**Masc**	**1.92**	**77**	*i* P	**Pn**	**08 59 29.2**	**+0.7**
MASC				*eS*	**Sn**	**08 59 53.3**	**+0.5**
MASC	comp=Z,31nm,0.4s			IAML		09 00 01.2	
MTDJ	**Mount Denham**	**1.96**	**219**‖	*eP*	**Pn**	**08 59 30.1**	**+0.8**
MTDJ				*eS*	**Sn**	**08 59 51.3**	**-2.7**
MTDJ	comp=Z,52nm,0.4s			IAML		08 59 55.5	
MTDJ	comp=Z,16nm,0.3s			IAML		08 59 55.8	
MTDJ	**Mount Denham**	**1.96**	**219**‖	*i* P	**Pn**	**08 59 30.4**	**+1.1**
MTDJ	**Mount Denham**	**1.96**	**219**	*i* P	**Pn**	**08 59 30.3**	**+1.1**
MTDJ				*eS*	**Sn**	**08 59 53.0**	**-1.0**
MTDJ	comp=Z,20nm,1.8s			IAML		08 59 56.5	
MCJ	**Malvern**	**2.29**	**217**‖	*i* P	**Pn**	**08 59 35.2**	**+1.5**
MGV	**Manicaragua**	**4.22**	**304**	*eP*	**Pn**	**09 00 02.0**	**+1.9**
MGV				*eS*	**Sn**	**09 00 50.0**	**+0.6**

IDC ***18*** *09:30:59.2±3.6, 61.°41N×30.°05E, h0km, mbtmp3.6/1, ML2.3/1, Error ellipse: s-maj=37.0km s-min=15.4km az=125.0*

HEL ***18*** *09:31:00.2±0.3, 61.°55N×30.°15E, h0km, ML1.7, Explosion*

ISC 18 09:30:58.8±1.5**, 61.°47N**±0.°06×**30.°25E**±0.°07**, h0**km**, n20, σ1§96/32, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.62**	**266**	PG	**Pg**	**09 31 11.2**	**+0.4**
RUF	baz=79			SG	**Sg**	**09 31 18.5**	**-0.3**
RUF	comp=Z,7.4nm,0.2s			MSG		09 31 19.1	
JOF	**Joensuu**	**1.54**	**19**	PG	**Pn**	**09 31 26.9**	**-0.5**
JOF	baz=198			SG	**Sn**	**09 31 47.0**	**-1.0**
VJF	**Virojoki**	**1.61**	**236**	PG	**Pn**	**09 31 29.4**	**+1.0**
VJF	comp=Z,7.0nm,0.2s			MSG		09 31 48.7	
VJF				SN	**Sg**	**09 31 51.0**	**+0.5**
KAF	**Kangasniemi**	**1.98**	**291**	PG	**Pn**	**09 31 35.1**	**+1.6**
KAF	comp=Z,4.9nm,0.2s			MSG		09 31 57.0	
KAF				SG	**Sn**	**09 31 59.6**	**+0.6**
FIA0	**FINESS Array S**	**2.00**	**271**	PG	**Pn**	**09 31 35.0**	**+1.2**
FIA0	baz=81			MSG		09 31 58.5	
FIA0	comp=Z,4.3nm,0.2s			SG	**Sg**	**09 32 01.5**	**-1.5**
FINES	**FINESS Array B**	**2.00**	**271**	Pn	**Pn**	**09 31 35.4**	**+1.6**
FINES	comp=Z,0.7nm,0.3s,baz=87,slow=16,SNR=26			Sn	**Sg**	**09 32 01.9**	**-1.1**
NIF	**Nilsia**	**2.23**	**331**	PG	**Pn**	**09 31 38.2**	**+1.2**
NIF	baz=144			MSG		09 32 03.7	
NIF	comp=Z,4.6nm,0.2s			SG	**Sn**	**09 32 06.8**	**+1.6**
SUF	**Sumiainen**	**2.30**	**305**	PG	**Pn**	**09 31 40.1**	**+2.2**
SUF	comp=Z,4.8nm,0.2s			MSG		09 32 05.8	
SUF				SG	**Sb**	**09 32 09.3**	**-0.7**
PVF	**Pernaja**	**2.33**	**248**	PG	**Pb**	**09 31 41.0**	**-0.6**
PVF	comp=Z,2.1nm,0.2s			MSG		09 32 08.9	
PVF				SG	**Sb**	**09 32 10.2**	**-0.7**
KEF	**Keuruu**	**2.65**	**288**	PG	**Pn**	**09 31 45.4**	**+2.8**
KEF	baz=106			MSG		09 32 16.4	
KEF	comp=Z,3.7nm,0.2s			SG	**Sb**	**09 32 18.4**	**-1.6**
RMF	**Romuvaara**	**2.76**	**357**	PB	**Pn**	**09 31 46.0**	**+1.7**
RMF	comp=Z,1.7nm,0.2s			MSG		09 32 19.2	
RMF				SG	**Sn**	**09 32 20.8**	**+2.6**
NUR	**Nurmijarvi**	**2.89**	**253**	MSG	**Sb**	**09 32 24.7**	**-2.4**
NUR	comp=Z,1.3nm,0.2s			SB	**Sb**	**09 32 24.7**	**-2.4**
MEF	**Metsahovi**	**3.13**	**249**	SB	**Sn**	**09 32 30.1**	**+2.8**
MEF	comp=Z,1.9nm,0.2s			MSG		09 32 31.7	
OUF	**Merijarvi**	**3.85**	**321**	SG	**Sb**	**09 32 54.2**	**-0.3**
KU1	**Kurvinen**	**4.12**	**356**	PN	**Pn**	**09 32 02.9**	**0.0**
MSF	**Maaselka**	**4.49**	**354**	SG	**Sb**	**09 33 14.8**	**+1.8**
KU6	**Riekki**	**4.57**	**358**	SG	**Sb**	**09 33 19.0**	**+3.6**
RANF	**Ranua**	**4.81**	**343**	SB	**Sb**	**09 33 19.6**	**-2.7**
I43RU	**DUBNA INFRASON**	**5.96**	**140**	I	I	10 07 10.0	
ARCES	**ARCESS Array B**	**8.33**	**348**	Pn	**Pn**	**09 32 59.2**	**-1.4**
ARCES	baz=159,slow=13,SNR=1.5			Sn	**Sn**	**09 34 30.5**	**-4.8**
ARCES	comp=Z,0.1nm,0.3s,baz=163,slow=22,SNR=1.5			Lg	Lg	09 35 13.4	
	comp=Z,0.2nm,0.3s,baz=159,slow=31,SNR=5.5 comp=Z,4.2nm,1.1s						

IDC ***18*** *09:43:28.8±1.8, 56.°46N×163.°92E, h0km, mb3.5/3, mbtmp3.4/4, ML2.6/1, MS3.1/3, Error ellipse: s-maj=191.9km s-min=21.5km az=144.0*

KRSC ***18*** *09:43:29.0±1.5, 56.°21N×164.°41E, h52km±20km, Ml4.2*

ISC 18 09:43:28.2±1.5**, 56.°20N**±0.°04×**164.°43E**±0.°04**, h2**km±10km**, n47, σ1§84/63, mb3.7/3, MS3.0/3, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.90**	**271**	*eP*	**Pg**	**09 43 45.3**	**-0.1**
KBTR				*eS*	**Sg**	**09 43 56.5**	**-0.6**
KBG	**Krutoberegovo**	**0.97**	**274**	*eP*	**Pg**	**09 43 46.5**	**-0.2**
KBG				*eS*	**Sg**	**09 43 58.5**	**-0.7**
BKI	**Bering**	**1.33**	**138**	*eP*	**Pg**	**09 43 53.0**	**-0.6**
BKI				*eS*	**Sb**	**09 44 10.8**	**-0.3**
SMKR	**Semkarok**	**1.69**	**284**	*eP*	**Pn**	**09 43 58.9**	**+0.1**
SMKR				*eS*	**Sn**	**09 44 19.0**	**-2.0**
BDR	**Baidarnaya**	**1.83**	**283**	*eS*	**Sn**	**09 44 23.5**	**-0.9**
ZLN	**Zelenaya**	**2.04**	**266**	*eP*	**Pn**	**09 44 04.4**	**+0.8**
ZLN				*eS*	**Sn**	**09 44 29.6**	**-0.1**
CIRR	**Tsirk**	**2.06**	**269**	*eP*	**Pn**	**09 44 04.6**	**+0.6**
LGNR	**Loginova**	**2.10**	**268**	*eP*	**Pn**	**09 44 05.4**	**+0.9**
LGNR				*eS*	**Sn**	**09 44 30.6**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**2.11**	**264**	*eP*	**Pn**	**09 44 05.1**	**+0.5**
BZGR				*eS*	**Sn**	**09 44 29.5**	**-1.9**
KLY	**Klyuchi**	**2.11**	**275**	*eP*	**Pn**	**09 44 03.2**	**-1.3**
KLY				*eS*	**Sn**	**09 44 27.1**	**-4.2**
BZP	**Bezymyannyi-Pe**	**2.20**	**264**	*eP*	**Pn**	**09 44 06.3**	**+0.4**
BZP				*eS*	**Sn**	**09 44 29.6**	**-4.2**
BZWR	**Bezymyannyi-We**	**2.22**	**265**	*eP*	**Pn**	**09 44 07.2**	**+1.1**
BZWR				*eS*	**Sn**	**09 44 33.1**	**-1.0**
BZMR	**Bezymyannaya**	**2.23**	**265**	*eP*	**Pn**	**09 44 06.9**	**+0.7**
BZMR				*eS*	**Sn**	**09 44 31.9**	**-2.4**
MKZ	**Mys Kozlova**	**2.26**	**224**	*eP*	**Pn**	**09 44 06.0**	**-0.5**
MKZ				*eS*	**Sn**	**09 44 31.2**	**-3.6**
KIRR	**Kirishev**	**2.31**	**266**	*eP*	**Pn**	**09 44 07.9**	**+0.6**
KIRR				*eS*	**Sn**	**09 44 35.3**	**-1.0**
KPT	**Kopyto**	**2.37**	**266**	*eP*	**Pn**	**09 44 09.3**	**+1.2**
KPT				*eS*	**Sn**	**09 44 35.2**	**-2.6**
KMNR	**Kamenistaya**	**2.40**	**261**	*eP*	**Pn**	**09 44 09.8**	**+1.3**
TUMD	**Tumrok D**	**2.49**	**248**	*eP*	**Pn**	**09 44 10.8**	**+1.1**
TUMD				*eS*	**Sn**	**09 44 38.1**	**-2.6**
KOZ	**Kozyrevsk**	**2.56**	**269**	*eP*	**Pn**	**09 44 12.2**	**+1.6**
KOZ				*eS*	**Sn**	**09 44 43.0**	**+0.8**
SRDR	**Sredinnyy**	**2.63**	**274**	*eP*	**Pn**	**09 44 12.9**	**+1.2**
SRDR				*eS*	**Sn**	**09 44 44.1**	**-0.2**
OSSR	**Ossora**	**3.15**	**347**	*eP*	**Pn**	**09 44 17.9**	**-0.7**
OSSR				*eS*	**Sn**	**09 44 52.4**	**-4.3**
ESO	**Esso**	**3.23**	**267**	*eP*	**Pn**	**09 44 21.4**	**+1.6**
PALN	**Palana**	**3.76**	**322**	*eP*	**Pn**	**09 44 28.4**	**+1.4**
SPN	**Mys Shipunski**	**4.03**	**221**	*eS*	**Sn**	**09 45 13.2**	**-5.3**
NLC	**Nalytchevo**	**4.24**	**226**	*eS*	**Sn**	**09 45 20.7**	**-2.8**
SDLR	**Sedlovina**	**4.35**	**230**	*eP*	**Pn**	**09 44 36.3**	**+1.0**
SDLR				*eS*	**Sn**	**09 45 23.9**	**-2.7**
TILK	**Tilichiki**	**4.35**	**11**	*eS*	**Sn**	**09 45 24.3**	**-2.1**
KRX	**Arik**	**4.39**	**232**	*eP*	**Pn**	**09 44 37.0**	**+1.1**
SMAR	**Somma**	**4.39**	**230**	*eP*	**Pn**	**09 44 36.8**	**+0.7**
AVH	**Avacha**	**4.42**	**231**	*eP*	**Pn**	**09 44 37.2**	**+0.9**
UGLR	**Uglovaya**	**4.42**	**230**	*eP*	**Pn**	**09 44 37.6**	**+1.2**
KOK	**Koryaka**	**4.45**	**231**	*eP*	**Pn**	**09 44 38.2**	**+1.5**
GNL	**Ganaly**	**4.51**	**239**	*eP*	**Pn**	**09 44 39.1**	**+1.6**
PET	**Petropavlovsk**	**4.63**	**229**	*eP*	**Pn**	**09 44 39.9**	**+0.9**
KRMR	**Karymshinskiy**	**4.99**	**230**	*eP*	**Pn**	**09 44 45.7**	**+1.8**
KRMR				*eS*	**Sn**	**09 45 41.2**	**-1.0**
PETK	**Petropavlovsk-** 1.1nm,0.3s,baz=82,slow=15,SNR=16	**4.99**	**234**	Pn	**Pn**	**09 44 44.6**	**+0.6**
PETK	baz=302,slow=17 1.3nm,0.3s			Sn	**Sn**	**09 45 41.4**	**-0.8**
GRL	**Goreliy**	**5.21**	**228**	*eP*	**Pn**	**09 44 49.3**	**+2.1**
MTVR	**Mutnovka**	**5.22**	**227**	*eP*	**Pn**	**09 44 48.3**	**+1.1**
ASAK	**Asacha**	**5.41**	**228**	*eP*	**Pn**	**09 44 52.0**	**+2.2**
ILAR	**Eielson Array** 0.4nm,0.9s,baz=270,slow=8.7,SNR=4.2	**24.85**	**50**	P	**P**	**09 48 53.1**	**+1.5**
ILAR	comp=Z,32nm,18.1s,baz=312,slow=41 0.4nm,0.9s			LR	LR	10 00 34.1	
MJAR	**Matsushiro Arr** 0.9nm,0.5s,baz=35,slow=9.1,SNR=3.0 0.9nm,0.5s	**26.45**	**233**	P	**P**	**09 49 06.5**	**+0.2**
H11N2	**WAKE ISLAND Hy** baz=357,slow=76,SNR=831	**36.46**	**176**	T	T	10 29 31.7	
H11N3	**WAKE ISLAND Hy** baz=357,slow=76,SNR=514	**36.48**	**176**	T	T	10 29 32.8	
H11N1	**WAKE ISLAND Hy** baz=357,slow=76,SNR=429	**36.48**	**176**	T	T	10 29 29.5	
ARTI	**Arti** comp=Z,24nm,19.8s,baz=180,slow=40	**52.90**	**318**	LR	LR	10 18 25.4	
CMAR	**Chiang Mai Arr** comp=Z,11nm,21.1s,baz=350,slow=40	**61.25**	**260**	LR	LR	10 24 36.2	
TXAR	**Lajitas Array** 0.4nm,0.8s,baz=325,slow=7.0,SNR=5.2 0.4nm,0.8s	**67.17**	**71**	P	**P**	**09 54 25.6**	**+2.0**

DJA 18 09:56:23.8±0.3**, 3.°S**±5.°×**13.°7E**±.°**, h95**km±8km**, M4.3**/11**, mB5.3/2, mb4.3/5, MLv4.3/11, Mw(mB)4.7/2, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.21**	**336**	P	Pn	09 56 44.1	-2.2
BAKI	**Biak**	**1.88**	**341**	P	Pn	09 56 55.0	+0.3
SMPI	**Sarmi**	**2.21**	**64**	P	Pn	09 56 59.5	+0.6
RKPI	**Ransiki, Papua**	**2.94**	**300**	P	Pn	09 57 08.9	+0.3
KMPI	**Kaimana, Papua**	**3.10**	**257**	P	Pn	09 57 11.4	+0.7
GENI	**Genyem**	**3.46**	**84**	P	Pn	09 57 15.7	+0.1
JAY	**Jayapura**	**4.00**	**83**	P	Pn	09 57 22.3	-0.6
FAKI	**Fak Fak**	**4.48**	**271**	P	Pn	09 57 28.4	-1.0
SWI	**Sorong**	**5.86**	**291**	P	Pn	09 57 48.2	0.0

IDC ***18*** *09:59:42.4±2.6, 64.°59N×31.°60E, h0km, mbtmp3.2/4, ML2.4/4, Error ellipse: s-maj=34.9km s-min=9.2km az=101.0*

HEL ***18*** *09:59:42.8±0.2, 64.°66N×30.°78E, h0km, ML2.1, Suspected explosion*

UPP ***18*** *09:59:44.9±2.3, 64.°54N×30.°53E, h0km, ML2.1, Presumed earthquake*

KOLA ***18*** *09:59:46.3, 64.°74N×30.°97E, h0km, ML2.4, Error ellipse: s-maj=15.1km s-min=7.8km az=160.0, Kostomuksha, Karelia*

ISC 18 09:59:43.0±0.9**, 64.°66N**±0.°02×**30.°70E**±0.°04**, h0**km**, n48, σ1§90/74, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.56**	**217**	PG	**Pg**	**09 59 53.5**	**-0.2**
RMF	comp=Z,28nm,0.2s			MSG		10 00 01.2	
RMF				SG	**Sb**	**10 00 04.3**	**+0.1**
KU1	**Kurvinen**	**1.03**	**332**	PG	**Pg**	**10 00 01.7**	**-1.0**
KU1				SB	**Sg**	**10 00 16.0**	**+0.1**
KU6	**Riekki**	**1.41**	**346**	PG	**Pn**	**10 00 08.5**	**-1.4**
KU6	baz=166			MSG		10 00 25.6	
KU6	comp=Z,17nm,0.2s			SN	**Sb**	**10 00 28.9**	**+0.3**
MSF	**Maaselka**	**1.43**	**332**	PG	**Pn**	**10 00 09.2**	**-1.1**
MSF	baz=148			SN	**Sg**	**10 00 29.0**	**0.0**
KU2	**Taivalkoski**	**1.48**	**316**	PG	**Pn**	**10 00 09.8**	**-1.1**
KU2	baz=135			SN	**Sg**	**10 00 30.6**	**+0.1**
OLKF	**Oulanka, Finla**	**1.75**	**343**	PG	**Pn**	**10 00 14.6**	**-0.1**
OLKF	comp=Z,14nm,0.2s			MSG		10 00 35.4	
OLKF				SN	**Sg**	**10 00 39.2**	**0.0**
JOF	**Joensuu**	**1.77**	**171**	PG	**Pn**	**10 00 14.3**	**-0.6**
JOF				SG	**Sg**	**10 00 40.2**	**+0.2**
NIF	**Nilsia**	**1.80**	**226**	PG	**Pn**	**10 00 15.4**	**+0.1**
NIF	comp=Z,15nm,0.2s			MSG		10 00 37.2	
OUL	**Oulu** baz=95	**2.09**	**284**	PG	**Pn**	**10 00 20.7**	**+1.4**
OUL				SG	**Sb**	**10 00 48.9**	**+0.6**
RANF	**Ranua**	**2.13**	**311**	PG	**Pn**	**10 00 21.1**	**+1.3**
RANF				SG	**Sb**	**10 00 49.8**	**+0.4**
KVDA	**Kovda**	**2.23**	**23**	P	**Pb**	**10 00 22.6**	**-1.5**
KVDA				S	**Sn**	**10 00 48.9**	**-0.4**
OBF4	**Vikkela, Lumij** baz=96	**2.41**	**276**	PG	**Pn**	**10 00 25.5**	**+1.9**
OBF4	comp=Z,11nm,0.2s			MSG		10 00 54.8	
OBF4				SG	**Sb**	**10 00 58.4**	**+1.2**
OUF	**Merijarvi** baz=80	**2.60**	**266**	PB	**Pn**	**10 00 27.0**	**+0.8**
OUF	comp=Z,18nm,0.2s			MSG		10 01 00.5	
OUF				SG	**Sb**	**10 01 03.9**	**+1.0**
OBF0	**Syolatti, Pyha**	**2.79**	**269**	PG	**Pb**	**10 00 31.9**	**-1.8**
OBF0	comp=Z,9.4nm,0.2s			MSG		10 01 06.0	
SUF	**Sumiainen**	**2.81**	**228**	PB	**Pb**	**10 00 32.3**	**-1.8**
SUF	comp=Z,4.3nm,0.2s			MSG		10 01 06.2	
TOF	**Tornio**	**3.02**	**301**	PG	**Pb**	**10 00 36.8**	**-0.9**
TOF	comp=Z,4.3nm,0.2s			MSG		10 01 12.4	
TOF				SG	**Sb**	**10 01 15.0**	**-0.1**
APA0	**Apatity Array**	**3.10**	**16**	P	**Pn**	**10 00 34.4**	**+1.3**
APA0				S	**Sn**	**10 01 09.9**	**-0.9**
APA	**Apatity**	**3.12**	**19**	S	**Sn**	**10 01 12.2**	**+0.9**
VRF	**Varrio**	**3.13**	**352**	PB	**Pb**	**10 00 36.8**	**-2.7**
VRF	comp=Z,4.2nm,0.2s			MSG		10 01 15.0	
OBF8	**Ulkokalla**	**3.16**	**267**	PB	**Pn**	**10 00 36.4**	**+2.5**
KAF	**Kangasniemi**	**3.23**	**220**	PG	**Pb**	**10 00 40.4**	**-0.9**
KALU	**Kalix**	**3.31**	**295**	P	**Pn**	**10 00 37.0**	**+1.0**
KALU	**Kalix**	**3.31**	**295**	PG	**Pb**	**10 00 41.0**	**-1.6**
KALU				SG	**Sb**	**10 01 26.6**	**+3.2**
LVZ	**Lovozero**	**3.62**	**24**	S	**Sn**	**10 01 22.7**	**-1.0**
LVZ	**Lovozero**	**3.62**	**24**	PB	**Pn**	**10 00 43.2**	**+2.9**
KEF	**Keuruu** baz=45	**3.63**	**229**	PB	**Pn**	**10 00 43.3**	**+2.9**
KEF				SB	**Sn**	**10 01 27.3**	**+3.5**
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=32,slow=13,SNR=10	**3.86**	**215**	Pn	**Pn**	**10 00 43.9**	**+0.4**
FINES	comp=Z,0.9nm,0.3s,baz=42,slow=23,SNR=5.0 comp=Z,0.5nm,0.3s			Lg	Lg	10 01 46.2	
PAJU	**Pajala** baz=128	**3.92**	**311**	PB	**Pn**	**10 00 48.2**	**+3.9**
SJUU	**Sjulsmark**	**3.94**	**287**	P	**Pn**	**10 00 46.2**	**+1.6**
SJUU				S	**Sn**	**10 01 35.9**	**+4.4**
RAJF	**Raja-Jooseppi**	**3.94**	**347**	PN	**Pn**	**10 00 46.0**	**+1.3**
ERTU	**Ertsjaerv**	**4.01**	**302**	P	**Pn**	**10 00 46.8**	**+1.2**
ERTU				S	**Sn**	**10 01 27.4**	**-5.8**
ERTU	**Ertsjaerv**	**4.01**	**302**	PG	**Pb**	**10 00 55.6**	**+1.1**
ERTU				SG	**Sb**	**10 01 47.7**	**+4.3**
ODEU	**Stanfors**	**4.32**	**271**	P	**Pn**	**10 00 49.0**	**-0.8**
ODEU				S	**Sn**	**10 01 44.3**	**+3.5**
HARU	**Harads**	**4.33**	**295**	P	**Pn**	**10 00 51.4**	**+1.3**
UMAU	**Umeaa**	**4.44**	**264**	P	**Pn**	**10 00 50.9**	**-0.6**
UMAU	**Umeaa** baz=72	**4.44**	**264**	PN	**Pn**	**10 00 50.9**	**-0.6**
UMAU				SG	**Sg**	**10 02 01.8**	**-3.7**
HEF	**Hetta**	**4.70**	**326**	PG	**Pb**	**10 01 08.2**	**+2.1**
DUNU	**Dundret**	**4.83**	**305**	P	**Pn**	**10 00 58.7**	**+1.8**
HUSU	**Husum**	**5.22**	**261**	P	**Pn**	**10 01 03.8**	**+1.6**
HUSU				S	**Sn**	**10 02 00.5**	**-2.7**
ARCES	**ARCESS Array B** comp=Z,0.2nm,0.3s,baz=155,slow=14,SNR=23	**5.29**	**340**	Pn	**Pn**	**10 01 03.3**	**0.0**
ARCES	comp=Z,0.3nm,0.3s,baz=151,slow=18,SNR=5.3			Sn	**Sn**	**10 02 02.7**	**-2.2**
ARCES	comp=Z,0.5nm,0.3s,baz=146,slow=29,SNR=5.6 comp=Z,0.5nm,0.2s			Lg	Lg	10 02 32.4	
ARCES	**ARCESS Array B**	**5.29**	**340**	P	**Pn**	**10 01 03.5**	**+0.2**
ARCES				S	**Sn**	**10 02 03.0**	**-1.9**
BREU	**Bredtraesk**	**5.34**	**267**	P	**Pn**	**10 01 04.8**	**+0.9**
BREU				S	**Sn**	**10 02 05.8**	**-0.1**
RATU	**Laukkuluspa**	**5.50**	**310**	P	**Pn**	**10 01 08.2**	**+2.2**
VADS	**Vadso**	**5.51**	**355**	S	**Sn**	**10 02 09.2**	**-0.8**
SOLU	**Sollefteaa**	**6.09**	**263**	P	**Pn**	**10 01 11.8**	**-2.3**
SOLU				S	**Sn**	**10 02 22.4**	**-2.0**
FAUS	**Fauske**	**6.84**	**300**	S	**Sn**	**10 02 42.7**	**-0.2**
HFS	**Hagfors** comp=Z,0.3nm,0.3s,baz=55,slow=12,SNR=7.0 comp=Z,1.0nm,0.5s	**9.09**	**248**	Pn	**Pn**	**10 01 56.6**	**+1.2**
NOA	**NORSAR Array B** baz=59,slow=14,SNR=4.0 comp=Z,1.4nm,1.0s	**9.60**	**257**	Pn	**Pn**	**10 02 03.7**	**+1.3**

NEIC ***18*** *10:06:08.9±0.8, 30.°6S±0.°1×178.°2W±0.°2, h35km±2km, mb4.2/15, Error ellipse: s-maj=29.4km s-min=17.9km az=96.0*

IDC ***18*** *10:06:10.8±2.1, 30.°41S×178.°12W, h64km±17km, mb4.1/6, mbtmp4.4/6, Error ellipse: s-maj=27.8km s-min=18.3km az=129.0*

ISC 18 10:06:08.4±0.6**, 30.°70S**±0.°06×**178.°1W**±0.°1**, h46**km**, n57, σ2§25/52, mb4.3/18, 4C, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.45**	**8**	P	**Pn**	**10 06 30.6**	**-1.5**
GLKZ				S	**Sn**	**10 06 46.2**	**-3.7**
RAO	**Raoul Island**	**1.46**	**8**		**Pn**	**10 06 31.2**	**-1.1**
RAO	**Raoul Island** 593nm,0.3s,baz=31,slow=23,SNR=20	**1.46**	**8**	P	**Pn**	**10 06 31.4**	**-0.9**
RAO	2µm,0.3s,baz=80,slow=23,SNR=15			S	**Sn**	**10 06 46.4**	**-3.8**
MXZ	**Matakaoa Point**	**7.45**	**202**	P	**Pn**	**10 07 51.7**	**-2.8**
HAZ	**Te Kaha**	**7.80**	**205**	P	**Pn**	**10 07 56.6**	**-2.7**
PUZ	**Puketiti**	**7.93**	**201**	P	**Pn**	**10 07 57.6**	**-3.5**
WCZ	**Waipu Caves**	**8.17**	**228**	P	Pn	10 08 11.7	+7.4
OUZ	**Omahuta**	**8.28**	**235**	P	Pn	10 08 12.4	+6.6
URZ	**Urewera** 6.5nm,0.8s,baz=272,slow=5.4,SNR=15	**8.50**	**206**	P	Pn	10 08 04.9	-3.8
URZ	11nm,0.3s,baz=189,slow=21,SNR=17			S	**Sn**	**10 09 38.1**	**-5.2**
SNGZ	**Shannon Statio**	**8.88**	**204**	P	Pn	10 08 10.2	-3.8
SNGZ				S	**Sn**	**10 09 48.8**	**-3.9**
MHGZ	**Mahia Peninsul**	**9.03**	**200**	P	Pn	10 08 10.9	-5.3
MHGZ				S	Sn	10 09 48.6	-7.8
NMHZ	**Naumai**	**9.35**	**205**	P	Pn	10 08 15.9	-4.6
NMHZ				S	**Sn**	**10 10 01.1**	**-3.1**
ARHZ	**Aropaoanui**	**9.43**	**204**	P	Pn	10 08 16.0	-5.5
ARHZ				S	**Sn**	**10 10 02.4**	**-3.7**
MCHZ	**McNeill Hill**	**9.69**	**204**	P	Pn	10 08 20.9	-4.3
MCHZ				S	**Sn**	**10 10 09.7**	**-2.9**
KWHZ	**Kaweka Forest**	**9.78**	**206**	P	Pn	10 08 21.2	-5.1
KWHZ				S	**Sn**	**10 10 09.9**	**-4.9**
NGZ	**Ngauruhoe**	**9.89**	**210**	S	**Sn**	**10 10 15.2**	**-2.5**
KRHZ	**Kereru**	**9.99**	**205**	P	Pn	10 08 23.1	-6.1
KRHZ				S	Sn	10 10 12.7	-7.1
WNVZ	**Wahianoa**	**10.02**	**209**	P	**Pn**	**10 08 30.6**	**+0.9**
WNVZ				P

KNRA	**Kununurra**	**50.61**	275	P	**P**	**10 15 03.4**	**+0.4**
KNRA				IAmb	IAmb	10 15 14.2	
	comp=Z,9.1nm,1.1s						
QSPA	**South Pole Qui**	**59.41**	180	P	**P**	**10 16 09.5**	**+3.5**
QSPA	**South Pole Qui**	**59.41**	180	P	**P**	**10 16 08.4**	**+2.4**
	comp=Z,2.6nm,0.7s,baz=18,slow=0.9,SNR=21						
	comp=Z,2.6nm,0.7s						
TROLL	**Troll, Antarti**	**77.57**	180	P	**P**	**10 17 59.8**	**+0.6**
SNAA	**Sanae**	**77.86**	178	⇑P	**P**	**10 18 01.0**	**+0.3**
	comp=Z,24nm,0.4s						
VNA3	**Neumayer Olymp**	**78.01**	176	⇑P	**P**	**10 18 01.7**	**+0.2**
	comp=Z,4.6nm,0.5s						
VNA2	**Neumayer--Watz**	**78.44**	177	⇑P	**P**	**10 18 04.3**	**+0.5**
	comp=Z,5.3nm,0.6s,baz=166,slow=5.0						
VNA1	**Neumayer--Stat**	**78.68**	177	⇑P	**P**	**10 18 05.8**	**+0.6**
	comp=Z,2.8nm,0.6s						
H03S2	**Juan Fernandez**	**80.40**	124	T	T	11 47 16.0	
	baz=238,slow=74,SNR=33						
H03S1	**Juan Fernandez**	**80.41**	124	T	T	11 47 25.6	
	baz=238,slow=74,SNR=13						
H03S3	**Juan Fernandez**	**80.42**	124	T	T	11 47 21.1	
	baz=238,slow=74,SNR=32						
PETK	**Petropavlovsk-**	**86.07**	346	P	**P**	**10 18 43.3**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=160,slow=5.4,SNR=5.3						
	comp=Z,1.9nm,0.6s						
NVAR	**Mina Array Bea**	**88.54**	43	P	**P**	**10 18 57.3**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=229,slow=8.7,SNR=6.0						
	comp=Z,0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**121.21**	314	PKP	**PKPdf**	**10 24 54.2**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=109,slow=1.8,SNR=8.1						
BVAR	**Borovoye Array**	**126.54**	316	PKP	**PKPdf**	**10 25 04.8**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=111,slow=2.0,SNR=4.5						
ARCES	**ARCESS Array B**	**138.86**	348	PKP	**PKPdf**	**10 25 27.5**	**-1.2**
	comp=Z,3.3nm,1.0s,baz=64,slow=2.1,SNR=3.6						
FINES	**FINESS Array B**	**145.39**	340	PKPbc	**PKPbc**	**10 25 39.4**	**-1.0**
	comp=Z,7.2nm,0.5s,baz=56,slow=3.8,SNR=53						
HFS	**Hagfors**	**149.51**	348	PKPbc	**PKPbc**	**10 25 50.8**	**-1.0**
	comp=Z,4.0nm,0.7s,baz=64,slow=3.4,SNR=7.8						
AKASG	**Malin Array Be**	**151.47**	322	PKPbc	**PKPbc**	**10 25 55.6**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=51,slow=3.1,SNR=5.0						
MMAI	**Mount Meron Ar**	**151.49**	283	PKPbc	**PKPbc**	**10 25 57.5**	**-0.1**
	comp=Z,2.5nm,0.4s,baz=94,slow=5.0,SNR=4.7						
BRTR	**Keskin Array B**	**152.64**	298	PKPbc	**PKPbc**	**10 25 59.5**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=142,slow=6.3,SNR=4.4						

TEH ***18*** *10:06:25.9, 32°.61N×46°.71E, h24km±47km*
ISN ***18*** *10:06:26.0±0.4, 32°.60N×46°.68E, h7km±2km, ML2.7*

ISC 18 10:06:27.1±1.2, 32°.61N±0°.05×46.77E±0°.06, h20km, n10, σ1§42/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.87**	305	*e*Pg	**Pb**	**10 06 42.0**	**-1.4**
IBDR				*e*Sg	**Sb**	**10 06 53.0**	**-1.6**
IBDR				AML	AML	10 06 59.1	
	comp=N,190nm,0.3s						
IBDR				AML	AML	10 07 00.1	
	comp=E,156nm,0.8s						
RAFI	**Al-Rafai**	**1.04**	212	*e*Pg	**Pb**	**10 06 45.3**	**-1.1**
RAFI				*e*Sg	**Sb**	**10 06 59.5**	**-0.2**
ILBA	**Ilam Banvizeh**	**1.12**	335	Pg	**Pb**	**10 06 46.5**	**-1.2**
GLG1	**Gilan-e-Gharb**	**1.66**	335	Pg	**Pb**	**10 06 55.9**	**-1.2**
IDOB	**Doab**	**1.66**	45	Sg	**Pn**	**10 06 55.6**	**+0.3**
IGHG	**Ghaleghazi**	**1.72**	354	Pg	**Pb**	**10 06 57.5**	**-0.7**
IDHR	**Dehrash**	**2.11**	351	Pn	**Pn**	**10 07 01.4**	**0.0**
BHD	**Baghdad**	**2.12**	289	*e*Pn	**Pn**	**10 07 02.5**	**+1.2**
BHD				*e*Sn	**Sb**	**10 07 29.5**	**-1.0**
BHD				AML	AML	10 07 46.8	
	comp=E,210nm,0.4s						
BDRS	**Dareh Seyedi**	**2.22**	52	Pn	**Pn**	**10 07 03.9**	**+0.9**
IKRK	**Kirkuk**	**3.44**	325	*e*Pn	**Pn**	**10 07 21.5**	**+2.0**
IKRK				*e*Sn	**Sn**	**10 08 02.0**	**+2.3**

NEIC 18 10:20:56.8±0.9, 37°.057N±0°.009×104°.96W±0°.01, h5km±1km, ML1.2/10, Error ellipse: s-maj=2.9km s-min=2.1km az=129.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T25A	**Trinidad**	**0.44**	79	Pg	Pg	10 21 06.0	+0.6
T25A				Sg	Sg	10 21 12.0	+0.8
SDCO	**Great Sand Dun**	**0.81**	328	Pg	Pg	10 21 12.2	-0.2
SDCO				Sg	Sg	10 21 23.0	0.0
S22A	**4UR Ranch, Cre**	**1.64**	295		Pn	10 21 26.5	-0.1
RTBA	**Rita Blanca**	**1.89**	108	Pn	Pn	10 21 29.5	-0.3

NOU ***18*** *10:29:33.1, 10°.84S×164°.97E, h2km, MLv4.9/13, Santa Cruz Islands Region*
IDC ***18*** *10:29:38.4±3.3, 10°.70S×164°.90E, h84km±26km, mb3.7/8, mbtmp4.1/10, MS3.2/2, Error ellipse: s-maj=29.4km s-min=17.0km az=56.0*

ISC 18 10:29:34.3±0.7, 10°.63S±0°.08×165°.11E±0°.05, h46km, n28, σ2§16/25, mb4.1/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUES	**Luesalemba Tem**	**0.80**	92	P	**Pn**	**10 29 51.1**	**+1.9**
LUES	**Luesalemba Tem**	**0.80**	92	S	**Sn**	**10 30 04.2**	**+4.2**
HURO	**Huro Makira**	**3.15**	273	P	**Pn**	**10 30 21.8**	**+0.3**
ALEG	**Aligegeo Malai**	**4.73**	293	P	**Pn**	**10 30 43.9**	**+0.7**
NGOA	**Tingoa Renbel**	**5.04**	259	P	**Pn**	**10 30 46.5**	**-0.9**
HNR	**Honiara**	**5.22**	283	P	**Pn**	**10 30 52.2**	**+2.3**
	476nm,0.6s,baz=160,slow=1.3,SNR=13						
HNR				S	**Sn**	**10 31 49.2**	**+0.4**
	167nm,0.3s,baz=136,slow=10,SNR=5.7						
HNR				LR	LR	10 33 08.1	
	comp=Z,184nm,18.8s,baz=100,slow=42						
HNR	**Honiara**	**5.22**	283	P	**Pn**	**10 30 52.2**	**+2.3**
HNR	**Honiara**	**5.22**	283	S	**Sn**	**10 31 51.4**	**+2.6**
SAVO	**Savo Central**	**5.42**	285	P	**Pn**	**10 30 54.8**	**+2.1**
SAVO	**Savo Central**	**5.42**	285	S	**Sn**	**10 31 57.7**	**+3.9**
TATA	**Tatamba Isabel**	**5.68**	293	P	**Pn**	**10 30 57.4**	**+1.1**
DVP	**Devils Point**	**7.66**	157	P	**Pn**	**10 31 22.9**	**-0.5**
DZM	**Mont Dzumac**	**11.45**	174	P	**Pn**	**10 32 19.1**	**+3.8**
	3.7nm,0.6s,baz=30,slow=7.8,SNR=19						
DZM				S	**Sn**	**10 34 21.6**	**-0.4**
	2.4nm,0.4s,baz=274,slow=23,SNR=2.1						
PMG	**Port Moresby**	**17.72**	272	LR	LR	10 39 21.2	
	comp=Z,113nm,20.0s,baz=152,slow=33						
H11S2	**WAKE ISLAND Hy**	**28.98**	3	T	T	11 05 48.7	
	baz=184,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy**	**28.98**	3	T	T	11 05 51.9	
	baz=184,slow=76,SNR=26						
H11S1	**WAKE ISLAND Hy**	**29.00**	3	T	T	11 05 50.5	
	baz=184,slow=76,SNR=31						
H11N1	**WAKE ISLAND Hy**	**30.20**	3	T	T	11 07 34.9	
	baz=183,slow=76,SNR=37						
H11N3	**WAKE ISLAND Hy**	**30.21**	3	T	T	11 07 28.0	
	baz=183,slow=76,SNR=32						
H11N2	**WAKE ISLAND Hy**	**30.22**	3	T	T	11 07 28.9	
	baz=183,slow=76,SNR=27						
WRA	**Warramunga Arr**	**31.04**	249	P	**P**	**10 35 45.0**	**-3.1**
	0.3nm,0.7s,baz=79,slow=8.5,SNR=1.8						
WRA				PcP	**PcP**	**10 38 42.0**	**-1.3**
	0.2nm,0.6s,baz=68,slow=2.7,SNR=2.3						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**32.42**	242	P	**P**	**10 35 57.4**	**-2.9**
	0.3nm,0.6s,baz=63,slow=10,SNR=9.8						
ASAR				PcP	**PcP**	**10 38 45.5**	**-1.4**
	0.3nm,0.5s,baz=52,slow=2.4,SNR=5.4						
	0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**71.37**	294	P	**P**	**10 40 50.2**	**+0.2**
	1.1nm,0.3s,baz=134,slow=4.4,SNR=5.5						
	1.1nm,0.3s						
SONM	**Songino Array**	**77.96**	324	P	**P**	**10 41 27.4**	**-0.4**
	1.2nm,0.7s,baz=144,slow=6.0,SNR=5.8						
	1.2nm,0.7s						
QSPA	**South Pole Qui**	**79.37**	180	P	**P**	**10 41 36.0**	**+0.7**
	3.5nm,1.1s,baz=49,slow=1.0,SNR=7.3						
	3.5nm,1.1s						
ILAR	**Eielson Array**	**83.32**	19	P	**P**	**10 41 55.0**	**-1.0**
	0.8nm,0.9s,baz=255,slow=4.9,SNR=7.0						
	0.8nm,0.9s						
MKAR	**Makanchi Array**	**92.79**	317	P	**P**	**10 42 40.9**	**-1.1**
	1.6nm,0.7s,baz=91,slow=6.2,SNR=12						
	1.6nm,0.7s						
ZALV	**Zalesovo Beam**	**92.85**	324	P	**P**	**10 42 40.6**	**-1.5**
	0.8nm,0.5s,baz=152,slow=6.7,SNR=3.9						
	0.8nm,0.5s						

HEL ***18*** *10:37:20.2±0.2, 67°.67N×33°.69E, h0km, ML1.6, Suspected explosion*

KOLA 18 10:37:22.5, 67°.68N×33°.97E, h0km, ML2.0, Error ellipse: s-maj=2.9km s-min=1.6km az=140.0, Khibiny Massif, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.24**	242	P	Pg	10 37 26.4	-0.7
APA				S	Sg	10 37 30.2	-0.1
LVZ	**Lovozero**	**0.34**	50	P	Pg	10 37 28.1	-0.8
LVZ				S	Sg	10 37 33.2	-0.2
LVZ	**Lovozero**	**0.34**	50	PG	Pg	10 37 28.2	-0.7
LVZ				SG	Sg	10 37 33.5	+0.2
APA0	**Apatity Array**	**0.38**	259	P	Pg	10 37 29.1	-0.7
APA0				S	Sg	10 37 34.3	-0.4
KVDA	**Kovda**	**1.08**	204	P	Pg	10 37 41.4	-1.9
KVDA				S	Sg	10 37 56.7	-0.6
VRF	**Varrio**	**1.66**	274	PG	Pn	10 37 48.5	-4.4
	baz=90						
VRF				MSG		10 38 06.9	
	comp=Z,4.4nm,0.2s						
VRF				SN	Sn	10 38 10.2	-4.8
OLKF	**Oulanka, Finla**	**2.26**	235	PG	Pn	10 37 58.9	-2.1
OLKF				MSG		10 38 24.2	
	comp=Z,2.9nm,0.2s						
RAJF	**Raja-Jooseppi**	**2.27**	293	PB	Pn	10 37 57.8	-3.4
RAJF				SG	Sn	10 38 28.0	-1.8
KU1	**Kurvinen**	**2.76**	222	PG	Pn	10 38 08.0	+0.1
VADS	**Vadso**	**2.96**	328	P	Pn	10 38 11.5	+0.8
VADS				S	Sn	10 38 47.1	+0.2
KEV	**Kevo**	**3.28**	313	PB	Pn	10 38 15.7	+0.6
KEV				SG	Sb	10 39 00.3	-1.7
KEV	**Kevo**	**3.28**	313	PN	Pn	10 38 15.7	+0.6
KEV				SG	Sb	10 39 00.3	-1.7
ARA0	**ARCESS Array S**	**3.62**	305	PB	Pn	10 38 19.6	0.0
ARA0				SB	Sn	10 39 03.6	+0.6
ARA0	**ARCESS Array S**	**3.62**	305	PN	Pn	10 38 19.6	0.0
ARA0				SB	Sn	10 39 03.6	+0.6
ARCES	**ARCESS Array B**	**3.62**	305	P	Pn	10 38 18.8	-0.9
ARCES				S	Sn	10 39 00.8	-2.2

HEL 18 10:37:28.9±0.6, 67°.85N×33°.12E, h0km, ML1.6, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**1.34**	267	PG	Pg	10 37 53.2	-1.3
VRF				MSG		10 38 09.3	
	comp=Z,4.4nm,0.2s						
RAJF	**Raja-Jooseppi**	**1.90**	291	PG	Pn	10 38 03.1	+0.5
OLKF	**Oulanka, Finla**	**2.12**	225	SN	Sn	10 38 31.4	-1.0
OLKF				MSG		10 38 31.6	
	comp=Z,2.9nm,0.2s						
KU6	**Riekki**	**2.23**	216	SN	Sn	10 38 34.1	-1.2
KU6				MSG		10 38 35.0	
	comp=Z,2.0nm,0.2s						
MSF	**Maaselka**	**2.53**	221	PN	Pn	10 38 11.6	+0.5
MSF				SB	Sn	10 38 43.8	+1.2
RANF	**Ranua**	**3.10**	236	PN	Pn	10 38 19.2	+0.2
RANF				SB	Sb	10 39 01.9	-1.2
PAJU	**Pajala**	**3.94**	263	PG	Pb	10 38 40.6	+1.4
KIF	**Kilpisjarvi**	**4.69**	290	PN	Pn	10 38 39.3	-1.5

IDC ***18*** *10:41:57.4±0.7, 5°.38N×126°.22E, h0km, mb4.1/12, mbtmp4.1/12, MS3.3/18, Error ellipse: s-maj=70.1km s-min=13.3km az=69.0*
DJA ***18*** *10:42:02.8±0.5, 5°.N±4°×12°.6E±°, h10km, M4.3/7, mb4.3/3, MLv4.4/7*
NEIC ***18*** *10:42:07.6±1.8, 5°.44N±0°.08×126°.3E±0°.1, h71km±6km, mb4.2/17, Error ellipse: s-maj=18.4km s-min=10.7km az=80.0*

ISC 18 10:42:03.4±0.5, 5°.48N±0°.05×126°.4E±0°.1, h35km, n61, σ1§18/46, mb4.2/21, MS3.4/16, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.77**	334	Pn	**Pn**	**10 42 35.1**	**+3.6**
DAV	**Davao City (W)**	**1.77**	334	Pn	**Pn**	**10 42 29.7**	**-1.8**
	100nm,0.3s,baz=253,slow=14,SNR=5.2						
DAV				Sn	**Sn**	**10 42 54.7**	**+1.9**
	95nm,0.3s,baz=79,slow=23,SNR=6.1						
DAV				LR	LR	10 43 30.8	
	comp=Z,910nm,20.4s,baz=161,slow=52						
SGSI	**Sangihe**	**1.97**	205	P	**Pn**	**10 42 34.9**	**+0.6**
SGSI				S	**Sn**	**10 42 58.9**	**+1.2**
TOLI2	**Tolitoli**	**7.07**	232		**Pn**	**10 43 45.3**	**+0.9**
SANI	**Sanana**	**7.49**	183	P	**Pn**	**10 43 50.1**	**0.0**
MYLDM	**Lahad Datu**	**7.85**	268	Pn	**Pn**	**10 43 55.0**	**-0.1**
FAKI	**Fak Fak**	**10.20**	145	Pn	**Pn**	**10 44 30.5**	**+3.2**
SBUM	**Sibu**	**14.44**	259		**Pn**	**10 45 27.3**	**+2.0**
JAY	**Jayapura**	**16.37**	119	LR	LR	10 51 53.4	
	comp=Z,39nm,18.6s,baz=39,slow=36						
GUMO	**Guam**	**19.93**	65	LR	LR	10 53 04.0	
	comp=Z,61nm,21.5s,baz=210,slow=33						
KNRA	**Kununurra**	**21.15**	174	P	**P**	**10 46 46.2**	**+0.6**
KNRA				IAmb	IAmb	10 47 05.0	
	comp=Z,15nm,1.0s						
FITZ	**Fitzroy Crossi**	**23.44**	182	P	**P**	**10 47 10.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**23.44**	182	LR	LR	10 57 53.0	
	comp=Z,114nm,18.8s,baz=150,slow=41						
PMG	**Port Moresby**	**25.45**	125	LR	LR	10 59 27.1	
	comp=Z,94nm,18.9s,baz=260,slow=41						
COEN	**Coen**	**25.51**	139	P	**P**	**10 47 28.1**	**-0.7**
COEN				IAmb	IAmb	10 47 50.7	
	comp=Z,7.5nm,1.1s						
WB0	**Warramunga Arr**	**26.30**	163	P	**P**	**10 47 36.7**	**+0.8**
WB0				IAmb	IAmb	10 47 52.7	
	comp=Z,9.1nm,1.1s						
WRAB	**Tennant Creek**	**26.44**	163	P	**P**	**10 47 37.2**	**+0.1**
WRAB				IAmb	IAmb	10 48 02.8	
	comp=Z,3.2nm,0.7s						
WRA	**Warramunga Arr**	**26.45**	163	P	**P**	**10 47 36.7**	**-0.5**
WRA	**Warramunga Arr**	**26.45**	163	P	**P**	**10 47 36.2**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=344,slow=10,SNR=16						
WRA				PcP	**PcP**	**10 51 00.8**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=336,slow=2.7,SNR=1.3						
WRA				ScP	**ScP**	**10 54 40.3**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=343,slow=2.8,SNR=1.8						
	comp=Z,1.2nm,0.6s						
WR8	**Warramunga Arr**	**26.51**	163	P	**P**	**10 47 38.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**29.71**	298	LR	LR	11 00 06.5	
	comp=Z,29nm,18.7s,baz=85,slow=37						
AS31	**Alice Springs**	**29.88**	166		**P**	**10 48 08.3**	**+0.4**
ASAR	**Alice Springs**	**29.88**	166	P	**P**	**10 48 08.4**	**+0.5**
ASAR	**Alice Springs**	**29.88**	166	P	**P**	**10 48 07.1**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=344,slow=6.8,SNR=11						
ASAR				PcP	**PcP**	**10 51 09.8**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=346,slow=2.8,SNR=5.8						
ASAR				ScP	**ScP**	**10 54 51.2**	**+1.1**
	comp=Z,0.4nm,1.0s,baz=345,slow=3.5,SNR=4.8						
	comp=Z,0.3nm,0.5s						
MJAR	**Matsushiro Arr**	**32.77**	18	LR	LR	11 00 01.0	
	comp=Z,37nm,21.2s,baz=196,slow=33						
FORT	**Forrest**	**36.09**	178	P	**P**	**10 49 01.9**	**0.0**
FORT				IAmb	IAmb	10 49 20.2	
	comp=Z,6.6nm,1.1s						
HNR	**Honiara**	**36.59**	114	LR	LR	11 03 47.7	
	comp=Z,80nm,19.0s,baz=8.0,slow=36						
BBOO	**Buckleboo**	**39.17**	167	P	**P**	**10 49 26.5**	**-1.5**
BBOO				IAmb	IAmb	10 49 41.4	
	comp=Z,5.9nm,1.1s						
STKA	**Stephens Creek**	**39.88**	160	P	**P**	**10 49 33.9**	**0.0**
STKA	**Stephens Creek**	**39.88**	160	P	**P**	**10 49 33.5**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=340,slow=11,SNR=5.3						
	comp=Z,1.1nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**41.39**	68	T	T	11 33 44.7	
	baz=257,slow=75,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**41.40**	68	T	T	11 33 41.3	
	baz=257,slow=75,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**41.40**	68	T	T	11 33 43.8	
	baz=257,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**41.86**	67	T	T	11 34 20.0	
	baz=255,slow=75,SNR=16						
H11N2	**WAKE ISLAND Hy**	**41.87**	66	T	T	11 34 19.1	
	baz=255,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**41.88**	67	T	T	11 34 20.6	
	baz=255,slow=75,SNR=11						
SONM	**Songino Array**	**45.54**	341	P	**P**	**10 50 19.7**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=169,slow=8.8,SNR=4.0						
SONM				LR	LR	11 11 04.9	
	comp=Z,39nm,18.6s,baz=140,slow=38						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**55.93**	325	P	**P**	**10 51 38.4**	**+0.4**
MKAR	**Makanchi Array**	**55.93**	325	P	**P**	**10 51 38.0**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=117,slow=7.6,SNR=42						
MKAR				LR	LR	11 16 22.3	
	comp=Z,40nm,21.8s,baz=69,slow=37						
	comp=Z,2.2nm,0.4s						
KDJ	**Kajisay**	**56.82**	318	P	**P**	**10 51 44.1**	**-0.6**
MA2	**Magadan**	**57.11**	14	LR	LR	11 17 42.9	
	comp=Z,12nm,19.1s,baz=170,slow=38						
AAK	**Ala-Archa**	**58.84**	317	LR	LR	11 19 39.9	
	comp=Z,31nm,20.2s,baz=100,slow=38						
ZALV	**Zalesovo Beam**	**58.88**	333	P	**P**	**10 51 58.0**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=140,slow=8.4,SNR=3.7						
ZALV				LR	LR	11 19 38.1	
	comp=Z,22nm,19.7s,baz=127,slow=38						
	comp=Z,0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**60.09**	327	P	**P**	**10 52 06.5**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=129,slow=6.0,SNR=7.6						
	comp=Z,0.9nm,0.3s						
KURK	**Kurchatov**	**60.09**	327	P	**P**	**10 52 06.1**	**-0.9**
GAR	**Garm**	**60.49**	312	P	**P**	**10 52 09.2**	**-1.0**
RAO	**Raoul Island**	**63.64**	126	LR	LR	11 19 27.0	
	comp=Z,68nm,18.0s,baz=94,slow=35						
BVAR	**Borovoye Array**	**65.67**	327	P	**P**	**10 52 43.3**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=129,slow=8.4,SNR=4.2						
	comp=Z,0.5nm,0.3s						
TIXI	**Tiksi**	**66.11**	1	LR	LR	11 21 34.1	
	comp=Z,28nm,21.9s,baz=198,slow=36						
AB31	**Akbulak array**	**70.58**	320	P	**P**	**10 53 13.4**	**-1.6**
AB31				IAmb	IAmb	10 53 28.3	
	comp=Z,2.8nm,1.1s						
ABKAR	**Akbulak array**	**70.58**	320	P	**P**	**10 53 13.3**	**-1.8**
AKTO	**Aktyubinsk**	**72.08**	321	LR	LR	11 28 24.2	
	comp=Z,38nm,18.3s,baz=29,slow=39						
CASY	**Casey**	**72.50**	187	P	**P**	**10 53 25.4**	**-0.8**
CASY				IAmb	IAmb	10 53 43.8	
	comp=Z,2.6nm,1.0s						
D19K	**Kuna River**	**79.63**	21	P	**P**	**10 54 07.1**	**+0.2**
D19K				IAmb	IAmb	10 54 13.6	
	comp=Z,5.4nm,1.0s						
KDAK	**Kodiak Island**	**80.61**	32	LR	LR	11 24 45.7	
	comp=Z,16nm,20.9s,baz=197,slow=32						
KBZ	**Khabaz**	**81.53**	313	LR	LR	11 33 43.6	
	comp=Z,14nm,19.1s,baz=322,slow=38						
ILAR	**Eielson Array**	**83.69**	25	P	**P**	**10 54 29.0**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=257,slow=4.8,SNR=5.1						
	comp=Z,0.4nm,0.9s						
ARCES	**ARCESS Array B**	**88.70**	340	P	**P**	**10 54 52.4**	**-0.5**
	comp=Z,4.5nm,1.0s,baz=78,slow=4.8,SNR=6.6						
	comp=Z,4.5nm,1.0s						
SPITS	**Spitsbergen Ar**	**88.71**	349	P	**P**	**10 54 52.7**	**-0.1**
	comp=Z,6.6nm,0.8s,baz=70,slow=12,SNR=2.2						
	comp=Z,6.6nm,0.8s						
FINES	**FINESS Array B**	**90.14**	332	P	**P**	**10 54 58.3**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=68,slow=5.9,SNR=8.3						
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**97.08**	334	LR	LR	11 43 34.8	
	comp=Z,20nm,19.4s,baz=270,slow=38						

SJA ***18*** *10:45:18.3±0.7, 19°.88S×69°.23W, h106km±3km, ML3.8, MW3.8*
GUC ***18*** *10:45:20.5±0.7, 19°.95S×69°.19W, h101km±2km, ML3.5*
IDC ***18*** *10:45:23.1±5.6, 19°.60S×68°.91W, h134km±45km, mb3.4/1, mbtmp4.0/3, Error ellipse: s-maj=56.1km s-min=43.3km az=35.0*

ISC 18 10:45:19.2±0.9, 19°.89S±0°.04×69°.21W±0°.06, h102km±6km, n37, σ1§38/52, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO01	**Chusmiza**	**0.22**	3	*e*P	**Pn**	**10 45 35.0**	**+0.6**
GO01				*e*S	**Sn**	**10 45 46.4**	**+0.7**
GO01	**Chusmiza**	**0.22**	3	*e*P	**Pn**	**10 45 34.7**	**+0.3**
GO01				*e*S	**Sn**	**10 45 46.7**	**+1.0**
GO01				IAML		10 45 47.3	
	comp=Z,2μm,0.1s						
PB08	**IPOC Station P**	**0.26**	169	*e*P	**Pn**	**10 45 34.9**	**+0.3**
PB08				*i* S	**Sn**	**10 45 46.0**	**+0.3**
PB08				IAML		10 45 48.2	
	comp=E,3μm,0.2s						
PB08	**IPOC Station P**	**0.26**	169	*e*P	**Pn**	**10 45 34.8**	**+0.3**
PB08				*e*S	**Sn**	**10 45 46.7**	**+0.9**
PB08				IAML		10 45 48.1	
	comp=Z,2μm,0.3s						
PB11	**IPOC Station P**	**0.44**	286	*e*P	**Pn**	**10 45 35.6**	**+0.5**
PB11				*i* S	**Sn**	**10 45 47.4**	**+0.5**
PB11	**IPOC Station P**	**0.44**	286	*e*P	**Pn**	**10 45 34.8**	**-

comp=Z,16nm,0.6s,baz=257,slow=9.9,SNR=103
TORD Torodi Ar. Bea 77.08 71 P **P** **10 57 00.6 -1.3**
comp=Z,0.3nm,0.4s,baz=254,slow=5.3,SNR=5.3
comp=Z,0.3nm,0.4s
H11S2 WAKE ISLAND Hyl 27.38 278 T T 13 23 54.7
baz=101,slow=74,SNR=21
H11S1 WAKE ISLAND Hyl 27.39 278 T T 13 23 55.3
baz=101,slow=74,SNR=7.9
H11S3 WAKE ISLAND Hyl 27.40 278 T T 13 23 56.1
baz=101,slow=74,SNR=18
ASAR Alice Springs 131.20 209 PKP **PKiKP** **11 04 19.9 -1.1**
comp=Z,0.3nm,0.9s,baz=146,slow=1.8,SNR=1.8
WRA Warramunga Arr 134.19 212 PKP **PKiKP** **11 04 25.5 -1.6**
comp=Z,0.4nm,1.0s,baz=170,slow=1.6,SNR=5.7

HEL 18 10:59:23.6±0.2, 67.16N×20.66E, h0km, ML1.2, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ERTU	**Ertsjaerv**	**0.86**	**134**	PG		Pg	10 59 38.9	-1.1
ERTU				SB		Sg	10 59 50.9	-0.1
PAJU	**Pajala**	**0.97**	**97**	PB		Pb	10 59 43.8	+0.5
PAJU				SB		Sg	10 59 54.4	-0.3
LANU	**Lannavaara**	**1.03**	**29**	PG		Pg	10 59 42.3	-1.0
LANU				SB		Sg	10 59 56.0	-0.6
HEF	**Hetta**	**1.70**	**41**	PG		Pn	10 59 54.2	-0.3
HEF				MSG			11 00 14.1	
	comp=Z,1.3nm,0.2s							
HEF				SG		Sn	11 00 15.6	-1.2
TOF	**Tornio**	**1.82**	**125**	PG		Pn	10 59 56.5	+0.4
TOF				MSG			11 00 18.0	
	comp=Z,0.9nm,0.2s							
TOF				SG		Sb	11 00 20.9	-0.1
KIF	**Kilpisjarvi**	**1.86**	**2**	PG		Pn	10 59 57.4	+0.9
KIF				MSG			11 00 20.1	
	comp=Z,2.7nm,0.2s							
KIF				SG		Sg	11 00 22.6	-0.5
KTK1	**Kautokeino**	**2.10**	**26**	SG		Sb	11 00 28.4	-0.6
RANF	**Ranua**	**2.70**	**112**	PN		Pn	11 00 06.1	-2.2
OBF4	**Vikkela, Lumij**	**2.97**	**140**	PG		Pb	11 00 16.3	-1.1
OBF4				MSG			11 00 50.9	
	comp=Z,0.5nm,0.2s							
OUL	**Oulu**	**2.98**	**132**	PB		Pn	11 00 13.0	+1.0
ARA0	**ARCESS Array S**	**2.99**	**35**	SG		Sb	11 00 53.3	-1.3
OUF	**Merijarvi**	**3.27**	**147**	PN		Pn	11 00 16.0	+0.1
KU2	**Taivalkoski**	**3.37**	**112**	PB		Pn	11 00 19.7	+2.3
MSF	**Maaselka**	**3.58**	**107**	PG		Pb	11 00 26.4	-1.3
KU6	**Riekki**	**3.85**	**103**	PG		Pb	11 00 32.6	+0.2
HUSU	**Husum**	**3.88**	**190**	PG		Pb	11 00 32.8	0.0
HUSU	**Husum**	**3.88**	**190**	PN		Pb	11 00 32.8	0.0

HEL 18 10:59:29.9±0.1, 64.11N×28.15E, h0km, ML1.4, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIF	**Nilsia**	**0.74**	**192**	PG		Pg	10 59 43.3	-0.8
NIF				SG		Sg	10 59 52.5	-1.1
NIF				MSG			10 59 53.0	
	comp=Z,2.4nm,0.2s							
RMF	**Romuvaara**	**0.79**	**81**	PB		Pg	10 59 45.0	+0.1
RMF				MSG			10 59 54.5	
	comp=Z,2.5nm,0.2s							
RMF				SB		Sg	10 59 55.3	+0.1
OUL	**Oulu**	**1.38**	**316**	PN		Pg	10 59 55.2	-1.1
OBF4	**Vikkela, Lumij**	**1.50**	**299**	PG		Pn	10 59 57.2	-0.8
OBF4				MSG			11 00 14.7	
	comp=Z,1.7nm,0.2s							
OUF	**Merijarvi**	**1.52**	**281**	PG		Pn	10 59 56.7	-1.5
OUF				MSG			11 00 15.3	
	comp=Z,4.9nm,0.2s							
KU1	**Kurvinen**	**1.58**	**22**	PG		Pn	10 59 58.6	-0.5
KU1				SN		Sn	11 00 19.3	-0.9
KU2	**Taivalkoski**	**1.61**	**1**	PN		Pn	10 59 59.2	-0.3
SUF	**Sumiainen**	**1.66**	**214**	PN		Pn	10 59 60.0	-0.3
SUF				MSG			11 00 19.7	
	comp=Z,1.1nm,0.2s							
SUF				SN		Sn	11 00 21.9	-0.3
OBF0	**Syolatti, Pyha**	**1.75**	**285**	PN		Pn	11 00 01.7	+0.2
OBF0				MSG			11 00 22.0	
	comp=Z,3.7nm,0.2s							
OBF0				SG		Sn	11 00 22.9	-1.4
MSF	**Maaselka**	**1.85**	**11**	PG		Pn	11 00 02.8	0.0
	baz=193							
JOF	**Joensuu**	**1.86**	**129**	PG		Pn	11 00 03.2	+0.3
	baz=311							
JOF				SG		Sb	11 00 27.8	-0.6
RANF	**Ranua**	**2.00**	**344**	PG		Pn	11 00 05.5	+0.7
	baz=166							
RANF				SG		Sb	11 00 31.6	-0.9
KU6	**Riekki**	**2.06**	**20**	PG		Pn	11 00 06.8	+1.1
	baz=206							
KU6				MSG			11 00 31.1	
	comp=Z,1.5nm,0.2s							
OBF8	**Ulkokalla**	**2.07**	**278**	MSG			11 00 31.3	
	comp=Z,1.4nm,0.2s							
OBF8				SG		Sb	11 00 33.4	-1.0
KAF	**Kangasniemi**	**2.17**	**204**	MSG			11 00 34.4	
	comp=Z,2.9nm,0.2s							
KAF				SG		Sb	11 00 36.8	-0.7
OLKF	**Oulanka, Finla**	**2.28**	**13**	PG		Pb	11 00 11.2	-0.7
OLKF				MSG			11 00 37.3	
	comp=Z,1.2nm,0.2s							
OLKF				SG		Sb	11 00 39.2	-1.4
KEF	**Keuruu**	**2.46**	**219**	PG		Pn	11 00 12.7	+1.6
	baz=31							
KEF				MSG			11 00 42.5	
	comp=Z,2.9nm,0.2s							
KEF				SG		Sb	11 00 43.9	-1.6
KALU	**Kalix**	**2.69**	**313**	PG		Pb	11 00 19.3	+0.5
FIA0	**FINESS Array S**	**2.84**	**201**	PB		Pn	11 00 18.4	+2.0
FIA0				MSG			11 00 53.6	
	comp=Z,0.9nm,0.2s							
FIA0				SG		Sb	11 00 54.9	-1.8
HEMU	**Hemsoen**	**4.77**	**257**	SG		Sg	11 01 57.6	-5.4

*IDC **18** 11:08:04.3±0.7, 57.50S×25.84W, h0km, mb4.1/7, mbtmp4.1/9, ML3.9/2, MS3.1/3, Error ellipse: s-maj=25.6km s-min=18.7km az=85.0*
*NEIC **18** 11:08:11.7±1.0, 57.7S±0.1×26.0W±0.2, h53km±7km, mb4.3/24, Error ellipse: s-maj=18.6km s-min=15.4km az=220.0*

ISC 18 11:08:12.7±0.5, 57.61S±0.08×26.01W±0.10, h65km, n46, σ0 s70/41, mb4.2/14, 4C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.11**	**157**	⇑P		**Pn**	**11 11 41.7**	**-0.2**
	comp=Z,11nm,0.7s							
VNA3	**Neumayer Olymp**	**15.30**	**160**	⇑P		**Pn**	**11 11 43.5**	**-1.0**
	comp=Z,8.7nm,0.6s							
VNA3				⇓S		Sn	11 14 16.0	-17
VNA2	**Neumayer--Watz**	**15.50**	**157**	⇑P		**Pn**	**11 11 46.3**	**-0.7**
	comp=Z,1.4nm,0.2s,baz=322,slow=14							
SNAA	**Sanae**	**17.05**	**155**	⇑P		**Pn**	**11 12 06.6**	**+0.1**
	comp=Z,88nm,0.5s							
SNAA	**Sanae**	**17.05**	**155**	P		**Pn**	**11 12 06.3**	**-0.1**
SNAA	**Sanae**	**17.05**	**155**	P		**Pn**	**11 12 05.1**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=320,slow=14,SNR=8.5							
	comp=Z,3.1nm,0.7s							
PMSA	**Palmer Station**	**19.42**	**233**	P		**P**	**11 12 32.2**	**-1.0**
PMSA				IAmb		IAmb	11 12 40.3	
	comp=Z,27nm,1.2s							
PMSA	**Palmer Station**	**19.42**	**233**	P		**P**	**11 12 33.8**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=60,slow=7.1,SNR=5.4							
	comp=Z,4.9nm,0.7s							
BELA	**Belgrano 2**	**20.58**	**185**	P		**P**	**11 12 45.0**	**-0.7**
GO09	**Cerro Castillo**	**27.23**	**263**	P		**P**	**11 13 50.0**	**-0.2**
PLTB	**Pedras Altas**	**32.02**	**312**	P		**P**	**11 14 32.6**	**-0.1**
QSPA	**South Pole Qui**	**32.64**	**180**	P		**P**	**11 14 38.5**	**+0.4**
QSPA				IAmb		IAmb	11 14 42.2	
	comp=Z,3.3nm,0.6s							
QSPA	**South Pole Qui**	**32.64**	**180**	P		**P**	**11 14 39.5**	**+1.4**
	comp=Z,2.6nm,0.5s,baz=340,slow=1.1,SNR=61							
	comp=Z,2.6nm,0.5s							
PLCA	**Paso Flores**	**32.93**	**281**	P		**P**	**11 14 40.1**	**-0.6**
PLCA				IAmb		IAmb	11 14 48.4	
	comp=Z,3.5nm,1.0s							
PLCA	**Paso Flores**	**32.93**	**281**	P		**P**	**11 14 41.2**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=152,slow=9.2,SNR=3.5							
PLCA				LR		LR	11 27 52.4	
	comp=Z,24nm,19.7s,baz=190,slow=36							
	comp=Z,1.6nm,0.7s							
CPUP	**Villa Florida**	**38.33**	**311**	P		**P**	**11 15 28.1**	**+1.2**
CPUP	**Villa Florida**	**38.33**	**311**	P		**P**	**11 15 27.0**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=12,slow=7.9,SNR=4.3							
	comp=Z,0.6nm,0.5s							
MT09	**Talagante**	**38.42**	**289**	P		**P**	**11 15 27.4**	**-0.5**
MT09				IAmb		IAmb	11 15 33.5	
	comp=Z,5.8nm,1.1s							
MT02	**Curacav**	**38.90**	**289**	P		**P**	**11 15 31.5**	**-0.2**
CO02	**Combarbal**	**40.48**	**291**	P		**P**	**11 15 44.9**	**-0.1**
CO03	**El Pedregal**	**40.62**	**292**	P		**P**	**11 15 46.1**	**0.0**
CO03				IAmb		IAmb	11 15 49.4	
	comp=Z,7.2nm,1.1s							
CO01	**Juntas del Tor**	**41.02**	**293**	P		**P**	**11 15 49.7**	**+0.1**
AC04	**Llanos de Chal**	**42.96**	**294**	P		**P**	**11 16 06.2**	**+1.1**
AQDB	**Aquidauana**	**42.99**	**317**	P		**P**	**11 16 05.9**	**+0.5**
AQDB				IAmb		IAmb	11 16 06.9	
	comp=Z,3.9nm,1.0s							
SBA	**Scott Base**	**44.57**	**184**	P		**P**	**11 16 19.3**	**+1.8**
VNDA	**Vanda**	**45.05**	**182**	P		**P**	**11 16 21.7**	**+0.4**
VNDA	**Vanda**	**45.05**	**182**	P		**P**	**11 16 21.6**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=183,slow=7.4,SNR=15							
	comp=Z,1.1nm,0.6s							
BOSA	**Boshof**	**45.76**	**73**	P		**P**	**11 16 27.6**	**0.0**
BOSA				IAmb		IAmb	11 16 55.3	
	comp=Z,4.9nm,0.8s							
BOSA	**Boshof**	**45.76**	**73**	LR		LR	11 31 10.7	
	comp=Z,26nm,21.5s,baz=206,slow=30							
H04S2	**CROZET ISLANDS**	**46.34**	**112**	T		T	12 07 03.9	
	baz=224,slow=75,SNR=6.2							
H04S3	**CROZET ISLANDS**	**46.35**	**112**	T		T	12 07 04.3	
	baz=224,slow=75,SNR=6.3							
H04S1	**CROZET ISLANDS**	**46.36**	**112**	T		T	12 07 08.1	
	baz=224,slow=75,SNR=5.1							
PTLB	**Pontes e Lacer**	**48.87**	**316**	P		**P**	**11 16 51.6**	**0.0**
LBTB	**Lobatse**	**48.87**	**71**	LR		LR	11 33 25.7	
	comp=Z,21nm,21.7s,baz=185,slow=31							
TSUM	**Tsumeb**	**49.91**	**58**	P		**P**	**11 16 59.6**	**-0.2**
TSUM				IAmb		IAmb	11 17 25.3	
	comp=Z,4.7nm,1.1s							
LPAZ	**La Paz**	**51.80**	**305**	P		**P**	**11 17 14.2**	**-0.3**
LPAZ				IAmb		IAmb	11 17 16.0	
	comp=Z,3.0nm,0.9s							
LPAZ	**La Paz**	**51.80**	**305**	P		**P**	**11 17 14.3**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=190,slow=4.2,SNR=8.1							
	comp=Z,2.2nm,0.8s							
CASY	**Casey**	**52.22**	**159**	P		**P**	**11 17 16.2**	**-0.1**
CASY				IAmb		IAmb	11 17 17.4	
	comp=Z,2.4nm,0.9s							
BOAV	**Boa Vista**	**65.91**	**322**	P		**P**	**11 18 51.0**	**-0.6**
BOAV				IAmb		IAmb	11 19 09.4	
	comp=Z,3.1nm,1.1s							
DBIC	**Dimbokro**	**66.33**	**23**	P		**P**	**11 18 54.7**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=173,slow=6.3,SNR=1.3							
	comp=Z,2.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**74.11**	**28**	P		**P**	**11 19 42.4**	**+0.7**
TORD				IAmb		IAmb	11 19 43.3	
	comp=Z,1.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**74.11**	**28**	P		**P**	**11 19 42.2**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=197,slow=5.9,SNR=17							
	comp=Z,2.6nm,0.6s							
FINES	**FINESS Array B**	**125.46**	**28**	PKP		**PKPdf**	**11 27 04.4**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=185,slow=6.9,SNR=6.2							
ARCES	**ARCESS Array B**	**132.15**	**22**	PKP		**PKPdf**	**11 27 16.8**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=222,slow=3.6,SNR=4.4							
SONM	**Songino Array**	**150.15**	**88**	PKPbc		**PKPbc**	**11 27 54.0**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=212,slow=0.6,SNR=3.9							
ILAR	**Eielson Array**	**151.62**	**309**	PKPbc		**PKPbc**	**11 27 57.3**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=143,slow=1.1,SNR=18							

*IDC **18** 11:23:22.0±0.8, 9.30N×83.90W, h0km, mb3.8/11, mbtmp4.0/16, ML3.8/5, MS3.8/25, Error ellipse: s-maj=25.7km s-min=13.1km az=40.0*
*UPA **18** 11:23:24.9±1.4, 9.22N×84.15W, h7km±5km, MW4.8*
*UCR **18** 11:23:26.6±1.1, 9.27N×84.12W, h34km±1km, MW5.2, Fault plane solution: NP1:ϕs270.03000°, δ84.28000°, λ8.22000°.*
*CATAC **18** 11:23:26.7±0.3, 9°N±2°×8°4W±°, h18km±1km, M5.0/54, mB5.5/11, mb5.1/11, MLv5.0/54, Mw(mB)4.9/11, Error ellipse: s-maj=5.2km s-min=2.0km az=26.9, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr3.86; Mθθ-2.87; Mϕϕ-0.99; Mrθ0.39; Mθϕ6.47; Mϕr-4.03; Fault plane solution: M08.38642×10^15 NP1: ϕs165.49829°, δ71.01776°, λ136.69363°. NP2: ϕs272.54340°, δ49.56389°, λ25.30002°. Principal axes: T 7.3029, Plg43.5220°, Azm120.7031°; N 1.8560, Plg43.4818°, Azm326.4589°; P -9.1590, Plg13.2161°, Azm223.5902°; confirmed*
*NEIC **18** 11:23:28.4±1.5, 9.46N±0.05×84.01W±0.06, h48km±7km, mb4.6/19 Error ellipse: s-maj=11.1km s-min=3.2km az=49.0*
*GCMT **18** 11:23:31.4±0.4, 9.32N±0.02×84.03W±0.03, h40km±1km, MW4.8/63, Moment Tensor Solution. s21,c24; s63,c84; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr0.61±.16; Mθθ-0.67±.10; Mϕϕ0.05±.11; Mrθ-0.55±.08; Mθϕ1.68±.07; Mϕr-0.43±.09; Best double couple: M01.91700×10^16 NP1:ϕs170.00000°, δ67.00000°, λ160.00000°. NP2: ϕs268.00000°, δ72.00000°, λ25.00000°. Principal axes: T 1.8000, Plg30.0000°, Azm130.0000°; N 0.2340, Plg60.0000°, Azm302.0000°; P -2.0340, Plg4.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 11:23:26.2±0.8, 9.25N±0.03×84.10W±0.03, h32km±5km, n404, σ1s55/418, mb4.5/19, MS3.7/20, 95C-47D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
QUEP	**Quepos**	**0.19**	**341**	⇑eP		**Pn**	**11 23 32.3**	**-0.4**
QUEP				eS		Sb	11 23 37.2	+0.4
QUEP	**Quepos**	**0.19**	**341**	⇑P		**Pn**	**11 23 32.5**	**-0.3**
SVQ2	**Quepos**	**0.19**	**340**	⇑eP		**Pn**	**11 23 32.4**	**-0.4**
LLNJ	**Naranjito**	**0.22**	**1**	eP		**Pn**	**11 23 32.9**	**-0.3**
LLNJ				eS		Sn	11 23 38.1	+0.4
PAR1A	**Puntarenas Pro**	**0.37**	**336**	⇑eP		**Pn**	**11 23 35.0**	**+0.1**
PAR1A				eS		Sb	11 23 42.2	+1.5
PICV	**PH. Pirrs**	**0.38**	**346**	⇑eP		**Pb**	**11 23 34.9**	**-0.1**
PICV				eS		Sb	11 23 41.7	+0.7
PIEC	**Cerro El Cedra**	**0.39**	**21**	eP		**Pb**	**11 23 35.2**	**-0.1**
RAZU	**San Marcos de**	**0.41**	**11**	⇓eP		**Pb**	**11 23 35.6**	**+0.1**
RAZU				eS		Sb	11 23 42.6	+0.7
PITB	**Pirrs, San**	**0.41**	**11**	⇓eP		**Pb**	**11 23 35.6**	**+0.1**
PITB				eS		Sb	11 23 42.9	+1.0
ZEDO	**Perez Zeledon**	**0.43**	**76**	⇓eP		**Pb**	**11 23 35.5**	**-0.2**
BUS1	**Rivas**	**0.46**	**50**	⇓eP		**Pb**	**11 23 36.1**	**-0.3**
OCHAL	**Ojochal**	**0.48**	**109**	S		**Sb**	**11 23 44.2**	**+0.8**
OCHAL	**Ojochal**	**0.48**	**109**	⇑P		**Pb**	**11 23 36.4**	**0.0**
LCR2	**La Lucha 2**	**0.49**	**11**			**Pb**	**11 23 36.6**	**-0.2**
LCR2						**Sb**	**11 23 44.1**	**0.0**
LCR2	**La Lucha 2**	**0.49**	**11**	eP		**Pb**	**11 23 37.7**	**+0.9**
LCR2	**La Lucha 2**	**0.49**	**11**	eP		**Pb**	**11 23 36.4**	**-0.4**
LCR2				eS		Sb	11 23 44.1	0.0
LCR2	**La Lucha 2**	**0.49**	**11**	P		**Pb**	**11 23 36.6**	**-0.2**
EDPE	**Pejibaye, P**	**0.53**	**100**	⇑eP		**Pn**	**11 23 37.2**	**-0.4**
ACOS	**Acosta**	**0.54**	**354**	⇑eP		**Pn**	**11 23 37.1**	**-0.7**
ACOS				eS		Sb	11 23 45.2	-0.1
SAJE	**San Jernim**	**0.59**	**81**	⇓eP		**Pn**	**11 23 38.1**	**-0.4**
REPA	**Paraso**	**0.61**	**22**	⇓eP		**Pn**	**11 23 38.3**	**-0.5**
PURI	**Puriscal**	**0.62**	**341**	⇑eP		**Pn**	**11 23 38.5**	**-0.4**
BITO	**Garabito Jaco**	**0.63**	**305**	eP		**Pn**	**11 23 38.5**	**-0.3**
BITO				eS		Sn	11 23 48.3	+0.6
TAGO	**Cartago**	**0.63**	**16**	⇓eP		**Pn**	**11 23 38.6**	**-0.5**
AMPA	**Desamparados**	**0.64**	**4**	⇓eP		**Pn**	**11 23 38.6**	**-0.6**
TRIO	**Tres Rios**	**0.66**	**9**	⇓eP		**Pn**	**11 23 38.7**	**-0.6**
CENT	**San Jose**	**0.67**	**2**	⇓eP		**Pn**	**11 23 40.2**	**+0.6**
SANTA	**Santa Ana**	**0.68**	**353**	⇓eP		**Pn**	**11 23 39.1**	**-0.5**
SJS3	**Mercedes San J**	**0.68**	**4**	⇓eP		**Pn**	**11 23 39.5**	**-0.2**
ECI	**Escuela Centro**	**0.68**	**4**	⇓eP		**Pn**	**11 23 39.4**	**-0.3**
SJS	**Escuela Geolog**	**0.68**	**4**	eP		**Pn**	**11 23 39.2**	**-0.5**
MEXI	**Barrio Mexico**	**0.68**	**1**	eP		**Pn**	**11 23 39.5**	**-0.2**
PANP	**Palmar Norte**	**0.70**	**115**	⇓eP		**Pn**	**11 23 39.8**	**0.0**
TIBA	**Tibas**	**0.70**	**2**	eP		**Pn**	**11 23 40.1**	**+0.1**
PCAYA	**Pacayas**	**0.72**	**24**	⇓eP		**Pn**	**11 23 40.0**	**-0.3**
CORON	**Coronado**	**0.72**	**8**	⇓eP		**Pn**	**11 23 40.4**	**+0.1**
BELE	**Belen**	**0.72**	**353**	⇑eP		**Pn**	**11 23 39.9**	**-0.4**
DOMI	**Santo Domingo**	**0.72**	**1**	⇓eP		**Pn**	**11 23 40.1**	**-0.1**
VINA	**Juan Vinas**	**0.73**	**29**	⇓eP		**Pn**	**11 23 40.2**	**-0.2**
HEME	**Heredia, Merce**	**0.74**	**357**	eP		**Pn**	**11 23 41.4**	**+0.9**
HDC	**Heredia**	**0.74**	**359**			**Pn**	**11 23 40.5**	**0.0**
HDC						Sn	11 23 50.5	-0.3
HDC	**Heredia**	**0.74**	**359**	⇓eP		**Pn**	**11 23 40.4**	**-0.2**
HDC	**Heredia**	**0.74**	**359**	eP		**Pn**	**11 23 40.6**	**0.0**
RAFA	**San Farael, Vo**	**0.76**	**22**	⇓eP		**Pn**	**11 23 40.8**	**-0.1**
BURE	**Buenos Aires**	**0.76**	**96**	⇑eP		**Pn**	**11 23 40.7**	**0.0**
TURIB	**Turrialba**	**0.77**	**32**	⇓eP		**Pn**	**11 23 40.6**	**-0.2**
VICA	**Volcano Irazu**	**0.77**	**19**	⇓eP		**Pn**	**11 23 40.9**	**-0.3**
ATEO	**Atenas**	**0.77**	**339**	⇑eP		**Pn**	**11 23 40.6**	**-0.3**
CVIMO	**Finca Echandi**	**0.78**	**12**	⇓eP		**Pn**	**11 23 41.1**	**0.0**
VERB	**Verbena**	**0.80**	**30**	⇓eP		**Pn**	**11 23 41.3**	**0.0**
TCS1	**Tacares**	**0.81**	**346**	⇑eP		**Pn**	**11 23 41.4**	**0.0**
TCS1	**Tacares**	**0.81**	**346**	⇑P		**Pn**	**11 23 41.5**	**+0.1**
CVTQ	**Turrialba Volc**	**0.82**	**24**	⇓eP		**Pn**	**11 23 41.7**	**0.0**
CVTV	**Tajo**	**0.82**	**25**	⇓eP		**Pn**	**11 23 41.9**	**+0.1**
POAS	**San Pedro de P**	**0.83**	**350**	⇑eP		**Pn**	**11 23 42.1**	**+0.3**
VTR0	**Volcan Turrial**	**0.83**	**24**	⇓eP		**Pn**	**11 23 42.1**	**+0.1**
CVTR	**Volcan Turrial**	**0.83**	**24**	⇓eP		**Pn**	**11 23 41.9**	**-0.1**
ABRB	**Las Abras (San**	**0.84**	**27**	⇓eP		**Pn**	**11 23 42.2**	**+0.2**
GREC	**Grecia**	**0.84**	**346**	eP		**Pn**	**11 23 42.8**	**+0.9**
DRK0	**Durika**	**0.85**	**89**	⇑iP		**Pn**	**11 23 42.0**	**0.0**
DRK0				eS		Sn	11 23 54.4	+0.9
DRK0	**Durika**	**0.85**	**89**	⇑eP		**Pn**	**11 23 42.0**	**0.0**
DRK0	**Durika**	**0.85**	**89**	⇑P		**Pn**	**11 23 42.0**	**0.0**
PALD	**Palmares**	**0.86**	**338**	eP		**Pn**	**11 23 41.9**	**-0.2**
SARCI	**Sarchi**	**0.86**	**344**	eP		**Pn**	**11 23 42.5**	**+0.3**
NARAN	**Naranjo de Ala**	**0.88**	**342**	eP		**Pn**	**11 23 42.7**	**+0.3**
RESJ	**San Isidro (Tu**	**0.89**	**30**	⇓eP		**Pn**	**11 23 43.0**	**+0.4**
RAMO	**San Ramon**	**0.90**	**332**	⇑eP		**Pn**	**11 23 42.7**	**-0.1**
ARZA	**Esparza**	**0.92**	**323**	⇑eP		**Pn**	**11 23 42.5**	**-0.3**
VPS8	**V Poas**	**0.93**	**352**	eP		**Pn**	**11 23 43.7**	**+0.4**
VPS5	**V. Poas**	**0.94**	**352**	eP		**Pn**	**11 23 43.8**	**+0.4**
EDP2	**Potrero Grande**	**0.94**	**104**	⇑eP		**Pn**	**11 23 44.0**	**+0.7**
ROBF	**Roble, Puntare**	**0.95**	**319**	⇑eP		**Pn**	**11 23 43.2**	**-0.1**
ZARE	**Zarcero**	**0.97**	**343**	eP		**Pn**	**11 23 44.1**	**+0.4**
LCOCO	**El Coco**	**0.98**	**33**	⇓eP		**Pn**	**11 23 44.3**	**+0.5**
RVLA	**Villa Bonita**	**0.99**	**31**	⇓eP		**Pn**	**11 23 44.5**	**+0.7**
PAQE	**Paquera**	**0.99**	**304**	⇑eP		**Pn**	**11 23 43.2**	**-0.6**
PILE	**Guapiles**	**1.00**	**18**	⇓eP		**Pn**	**11 23 44.8**	**+0.7**
ENAS	**Puntarenas**	**1.02**	**315**	⇑eP		**Pn**	**11 23 44.2**	**0.0**
IRES	**Siquirres**	**1.02**	**35**	⇓eP		**Pn**	**11 23 45.0**	**+0.7**
CBL1	**Cabuya**	**1.03**	**289**	⇑eP		**Pn**	**11 23 43.5**	**-0.9**
VPL2	**V. Platanar**	**1.08**	**345**	⇑eP		**Pn**	**11 23 45.7**	**+0.5**
ARTO	**Ro Cuarto**	**1.09**	**354**	⇓eP		**Pn**	**11 23 45.6**	**+0.4**
EDAD	**Golfito**	**1.10**	**123**	⇑eP		**Pn**	**11 23 45.3**	**-0.1**
QUEU	**Ciudad Quesada**	**1.11**	**343**	⇑eP		**Pn**	**11 23 46.8**	**+1.2**
TAAN	**Batan**	**1.11**	**42**	eP		**Pn**	**11 23 46.5**	**+1.0**
VERH	**Veragua Rainfo**	**1.12**	**53**	⇓eP		**Pn**	**11 23 46.5**	**+0.9**
FITO	**Golfito**	**1.13**	**124**	⇑eP		**Pn**	**11 23 46.1**	**+0.5**
LAES	**El Progreso Va**	**1.16**	**64**	⇓eP		**Pn**	**11 23 47.2**	**+1.1**
CARI	**Cariari**	**1.16**	**18**	⇓eP		**Pn**	**11 23 47.1**	**+0.9**
SARA	**Sarapiqu**	**1.19**	**4**	eP		**Pn**	**11 23 47.0**	**+0.4**
VITO	**San Vito**	**1.20**	**111**	eP		**Pn**	**11 23 47.8**	**+1.0**
ITAL	**Pital**	**1.20**	**352**	eP		**Pn**	**11 23 47.3**	**+0.5**
CEUA	**Cerro Uatsi, L**	**1.20**	**72**	⇓eP		**Pn**	**11 23 49.0**	**+2.2**
SOCE	**Pocosol**	**1.23**	**336**			**Pn**	**11 23 48.1**	**+0.9**
SOCE	**Pocosol**	**1.23**	**336**	⇑eP		**Pn**	**11 23 47.9**	**+0.7**
SOCE	**Pocosol**	**1.23**	**336**	S		**Sb**	**11 24 05.3**	**+0.7**
SOCE	**Pocosol**	**1.23**	**336**	⇑P		**Pn**

CHIR3 **Chiriqui UPA,** 1.95 116⇑ *iP* Pn 11 23 58.0 +1.0
CHIR3 *eS* Sn 11 24 23.6 +3.2
RBALA **Bur** 1.96 101⇑ *eP* Pn 11 23 58.0 +0.8
VRLE **La Escondida,** 1.97 321 *eP* Pn 11 23 57.7 +0.4
VORI **VORI** 1.98 322 *eP* Pn 11 23 58.7 +1.1
ELI1 **Hacienda Flor** 1.99 314 *eP* Pn 11 23 58.6 +1.1
ELI1 **Hacienda Flor** 1.99 314 P Pn 11 23 58.8 +1.3
LAPC **Finca la Perla** 1.99 319⇑ *eP* Pn 11 23 58.0 +0.3
BUAI **Buenos Aires** 2.02 323⇑ *eP* Pn 11 23 58.5 +0.5
PEJA **Penjamo Buenos** 2.02 324 *eP* Pn 11 23 58.7 +0.7
KKNTU **Kakint**[2] 2.31 100⇑ *eP* Pn 11 24 03.1 +1.2
LCRUZ **La Cruz** 2.36 320 *eP* Pn 11 24 03.3 +0.7
OMEN **Al SSO del Vol** 2.70 326 P Pn 11 24 08.6 +1.3
JAPN **Al SSO del Vol** 2.74 326 *eP* Pn 11 24 08.2 +0.3
JAPN **Al SSO del Vol** 2.74 326 P Pn 11 24 08.8 +0.9
MORN **Al O del Volca** 2.74 326 P Pn 11 24 09.2 +1.3
CONN **Concepcion** 2.74 327 ⇑P Pn 11 24 11.8 +3.9
ACON **Acoyapa** 2.90 339 Pn 11 24 10.2 +0.1
ACON **Acoyapa** 2.90 339⇑ *eP* Pn 11 24 10.1 +0.1
ACON **Acoyapa** 2.90 339 ⇑P Pn 11 24 10.2 +0.1
ACON **Acoyapa** 2.90 339 P Pn 11 24 10.0 -0.1
ESPN **Las Esperanzas** 2.93 356⇓ *eP* Pn 11 24 11.4 +0.9
ESPN **Las Esperanzas** 2.93 356 P Pn 11 24 11.9 +1.3
ESPN **Las Esperanzas** 2.93 356 P Pn 11 24 11.3 +0.8
ESPN S Sb 11 24 53.6 +0.5
CORNA **Casa Canada** 3.08 20 *eP* Pn 11 24 13.4 +0.8
NANN **Nandasmo** 3.33 324 ⇓P Pn 11 24 20.3 +4.3
BOAB **BOACO BROADBAN**3.53 334 Pn 11 24 19.1 +0.4
BOAB **BOACO BROADBAN**3.53 334 ⇑P Pn 11 24 19.3 +0.6
WILN **Americas 2** 3.54 325 P Pn 11 24 21.1 +2.1
UNAN **Cigeo UNAN** 3.55 323 P Pn 11 24 22.5 +3.4
MGAN **Managua** 3.56 324 Pn 11 24 20.1 +0.8
MGAN **Managua** 3.56 324 P Pn 11 24 21.1 +1.9
MGAN **Managua** 3.56 324 P Pb 11 24 26.7 -1.9
R4DEC **Barrio San Lui** 3.57 324 P Pn 11 24 21.4 +2.1
SAPS **Ciudad Sandino** 3.68 322 P Pn 11 24 22.6 +1.8
APQ3 **Volcan Apoyequ** 3.73 324 P Pn 11 24 23.4 +1.8
COPN **Copaltepe** 3.80 320 *eP* Pn 11 24 22.3 -0.2
COPN **Copaltepe** 3.80 320 ⇓P Pn 11 24 22.5 0.0
MOM2 **El Cardon** 3.93 324 P Pn 11 24 26.0 +1.6
SAIC **Isla e San And** 4.02 36 P Pn 11 24 26.3 +0.8
MATN **Matagalpa** 4.07 334 ⇑P Pn 11 24 25.9 -0.4
CNGA **Al SSO del Vol** 4.11 322 P Pn 11 24 28.8 +2.1
CNGN **Cerro Negro** 4.11 322 Pn 11 24 28.6 +1.8
CNGN **Cerro Negro** 4.11 322 P Pn 11 24 29.6 +2.8
CNGN **Cerro Negro** 4.11 322 P Pn 11 24 30.0 +3.2
ILCN **San Idelfonso** 4.17 323 P Pn 11 24 30.3 +2.6
ZANG **Zanguenga, Cho** 4.19 94⇓ *eP* Pn 11 24 29.3 +1.4
BCIP **Isla Barro Col** 4.21 91 Pn 11 24 29.8 +1.6
BCIP **Isla Barro Col** 4.21 91 *eP* Pn 11 24 29.3 +1.2
BCIP **Isla Barro Col** 4.21 91 ⇑P Pn 11 24 29.4 +1.2
BCIP S Sn 11 25 18.0 +1.7
BCIP **Isla Barro Col** 4.21 91 P Pn 11 24 29.6 +1.4
HOYN **Al Sur del Vol** 4.27 321 P Pn 11 24 31.3 +2.3
HERN **Volcan Telica** 4.28 321 Pn 11 24 30.2 +1.1
HERN **Volcan Telica** 4.28 321 P Pn 11 24 31.4 +2.2
QUEN **Al S del Volca** 4.28 321 P Pn 11 24 30.9 +1.8
PKGN **Cerro Pekin** 4.41 321 P Pn 11 24 33.8 +2.8
CRIN **San Cristobal** 4.48 320 Pn 11 24 32.5 +0.5
CRIN **San Cristobal** 4.48 320 P Pn 11 24 34.2 +2.3
CRIN **San Cristobal** 4.48 320 P Pn 11 24 35.8 +3.8
SIUN **Universidad Ur** 4.48 352 Pn 11 24 31.2 -0.7
CAZU **Cerro Azul, Pa** 4.63 90 *eP* Pn 11 24 35.2 +1.1
RCPN **Sur Rio San Ju** 4.67 335 P Pn 11 24 37.4 +2.8
RCVN **Varillal2** 4.77 335 S Sn 11 25 33.0 +2.9
RCVN **Varillal2** 4.77 335 ⇓P Pn 11 24 38.7 +2.8
BILN **Bilwi Airport** 4.82 8 Pn 11 24 34.8 -1.7
BILN **Bilwi Airport** 4.82 8 *eP* Pn 11 24 37.5 +1.0
BILN **Bilwi Airport** 4.82 8 ⇓P Pn 11 24 37.7 +1.2
PRVC **Isla de Provid** 4.90 33 Pn 11 24 36.0 -1.7
PRVC **Isla de Provid** 4.90 33 ⇓P Pn 11 24 38.3 +0.7
PRVC **Isla de Provid** 4.90 33 P Pn 11 24 37.7 +0.1
OCON **Estacion meteo** 4.93 332 P Pn 11 24 39.2 +1.0
OCON S Sn 11 25 39.1 +4.9
CNCH **Conchagua** 5.42 318 P Pn 11 24 48.1 +3.2
CNCH **Conchagua** 5.42 318 S Sn 11 25 46.7 +0.5
LCND **La Caada** 5.48 318 P Pn 11 24 48.5 +2.9
TGUH **Tegucigalpa,Un** 5.69 327 Pn Pn 11 24 48.7 +0.1
TGUH **Tegucigalpa,Un** 5.69 327 P Pn 11 24 50.5 +1.8
TGUH **Tegucigalpa,Un** 5.69 327 P Pn 11 24 52.4 +3.7
2µm191nm,1.1s
MAPC **Malpelo** 5.78 154 P Pb 11 25 02.6 -3.6
3µm65nm,0.8s
PACA **Pacayal** 5.89 316 P Pn 11 24 55.3 +4.0
SERC **Banco Serrana,** 6.20 36 P Pn 11 24 55.1 -0.3
3µm176nm,0.6s
TECO **Alcaldia de Te** 6.26 313 P Pn 11 24 58.1 +1.8
UESV **Universidad de** 6.33 314 P Pn 11 24 59.6 +2.3
SCLA **Alcaldia de Sa** 6.33 315 P Pn 11 25 00.3 +2.9
PTAC **Punta Ardita,** 6.57 108 P Pn 11 24 58.8 -1.8
LOMA **Loma Larga** 6.61 312 P Pn 11 25 04.4 +3.1
PMON **Piamonte** 6.76 311 P Pn 11 25 06.3 +2.9
LLGN **La Laguna** 6.80 316 P Pn 11 25 06.0 +2.1
CEVE **Cerro Verde** 7.07 311 P Pn 11 25 10.3 +2.7
NUBE **Las Nubes** 7.23 310 P Pn 11 25 12.2 +2.5
MTO3 **Montecristo** 7.25 315 Pn 11 25 10.6 +0.4
MTO3 **Montecristo** 7.25 315 P Pn 11 25 12.3 +2.1
SOLC **Bahia Solano** 7.28 114 P Pn 11 25 12.4 +2.0
APAC **Apartado, Choc** 7.56 100 P Pn 11 25 17.5 +3.3
2µm113nm,1.1s
DBBC **Dabeiba** 8.12 105 P Pn 11 25 24.3 +2.3
UREC **San Jos de Ur** 8.61 99 P Pn 11 25 31.2 +2.6
CBOC **Ciudad Bolivar** 8.70 112 P Pn 11 25 30.9 +0.9
33nm,1.3s
SJCC **San Jacinto, C** 8.82 85 ⇑P Pn 11 25 34.0 +2.4
SJCC **San Jacinto, C** 8.82 85 P Pn 11 25 33.1 +1.5
2µm86nm,1.5s
HELC **Santa Helena** 9.03 109 ⇑P Pn 11 25 37.8 +3.2
HELC **Santa Helena** 9.03 109 P Pn 11 25 37.0 +2.4
832nm62nm,1.4s
YOTC **Yotoco, Valle** 9.31 124 P Pn 11 25 39.7 +1.3
661nm42nm,1.0s
HUEH **Huehuetenango** 9.41 311 Pn 11 25 39.4 -0.4
PETF **Flores** 9.46 324 Pn Pn 11 25 39.5 -0.7
GUY2C **Guyana, Caldas** 9.55 114 P Pn 11 25 43.9 +2.0
937nm93nm,0.9s
ARGC **Ariguani, Magd** 9.74 86 P Pn 11 25 46.0 +1.9
62nm,0.6s
NORC **Norcasia** 9.86 111 P Pn 11 25 48.7 +2.8
404nm23nm,1.3s
BBAC **Balboa, Cauca** 9.91 136 P Pn 11 25 47.2 +0.6
667nm77nm,1.0s
SMRC **Santa Marta, M** 9.91 78 Pn 11 25 45.3 -1.1
SMRC **Santa Marta, M** 9.91 78 P Pn 11 25 46.1 -0.3
34nm,0.4s
PTBC **PUERTO BERRIO,** 9.93 105 P Pn 11 25 48.4 +1.7
163nm16nm,0.8s
POPC **Popayan, Colom** 9.95 132 P Pn 11 25 48.8 +1.6
721nm76nm,1.1s
ORTC **Ortega, Tolima** 10.27 121 P Pn 11 25 53.7 +2.2
717nm56nm,1.0s
GCUF **Volcan Galeras** 10.43 139 P Pn 11 25 57.0 +2.9
807nm59nm,0.9s
BRJC **Barrancabermej** 10.50 102 P Pn 11 25 57.8 +3.2
4µm111nm,1.5s
SPBC **San Pablo de B** 10.57 109 P Pn 11 25 59.0 +3.4
1µm60nm,1.4s
OTAV **Otavalo** 10.58 148 Pn 11 25 58.7 +2.6
OTAV **Otavalo** 10.58 148 *eP* Pn 11 25 59.9 +3.8
OTAV **Otavalo** 10.58 148 P Pn 11 25 57.7 +1.7
22nm,1.6s
ROSC **El Rosal** 10.65 114 Pn 11 25 57.7 +0.8
ROSC **El Rosal** 10.65 114 Pn Pn 11 25 55.4 -1.6
1.7nm,0.3s,baz=333,slow=14,SNR=18
ROSC LR LR 11 29 46.3
comp=Z,649nm,21.5s,baz=279,slow=37
4.5nm,0.4s
ROSC **El Rosal** 10.65 114 P Pn 11 25 59.3 +2.3
918nm60nm,1.4s
PRAC **Prado** 10.68 120 P Pn 11 26 00.6 +3.5
50nm,1.1s
OCAC **Ocana** 10.71 95 P Pn 11 25 59.3 +1.8
740nm65nm,0.8s
BONI **La Bonita** 10.92 143 P Pn 11 26 05.8 +5.3
817nm78nm,1.0s
MTDJ **Mount Denham** 10.96 35 *eP* Pn 11 26 03.1 +2.2
MTDJ **Mount Denham** 10.96 35 P Pn 11 26 04.4 +3.4
41nm,1.3s
CVER **Cruz Verde, Cu** 11.01 115 P Pn 11 26 04.6 +2.7
BARC **Barichara** 11.13 103 P Pn 11 26 06.0 +2.5
CRJC **Cerrejon, Guaj** 11.19 80 P Pn 11 26 04.3 +0.3
26nm,0.8s

PPLP **Puerto Lpez** 11.23 163 P Pn 11 26 07.0 +2.4
39nm,1.0s
FLOC **Florencia** 11.35 132 Pn 11 26 07.7 +1.6
FLOC **Florencia** 11.35 132 P Pn 11 26 09.4 +3.2
27nm,1.7s
URMC **La Uribe, Meta** 11.36 121 P Pn 11 26 07.9 +1.5
47nm,1.3s
RUSC **La Rusia** 11.42 106 Pn 11 26 09.2 +1.5
RUSC **La Rusia** 11.42 106 P Pn 11 26 10.5 +2.9
558nm47nm,1.1s
PAMC **Pamplona, Colo** 11.44 99 P Pn 11 26 11.1 +3.2
VILC **Villavicencio,** 11.53 116 P Pn 11 26 14.0 +5.2
638nm64nm,0.8s
PIAT **Ana Tenorio** 11.73 150 P Pn 11 26 17.8 +6.1
32nm,1.2s
URIC **Uribia, Colomb** 12.15 77 P Pn 11 26 16.9 -0.3
15nm,0.6s
MACC **Macarena, Meta** 12.40 124 P Pn 11 26 24.4 +3.8
24nm,0.9s
COHC **Cochancay** 12.61 157 Pn 11 26 25.8 +2.4
COHC **Cochancay** 12.61 157 P Pn 11 26 26.6 +3.2
17nm,0.8s
LMGC **Las Mercedes** 12.75 32 *eP* Pn 11 26 27.5 +2.2
PTLC **Puerto Leguiza** 12.93 134 P Pn 11 26 32.5 +4.6
1µm34nm,1.2s
CMIG **Matias Romero** 13.07 308 Pn Pn 11 26 30.2 +0.6
1.5nm,0.3s,baz=145,slow=8.9,SNR=17
CMIG LR LR 11 31 50.6
comp=Z,374nm,20.7s,baz=139,slow=38
4.0nm,0.4s
MARVS **Santiago de Cu** 13.30 36 *eP* Pn 11 26 35.3 +2.5
SDV **Santo Domingo** 13.31 91 Pn 11 26 33.6 +0.4
SDV **Santo Domingo** 13.31 91 Pn Pn 11 26 29.9 -3.2
2.1nm,0.3s,baz=272,slow=10,SNR=10
SDV Sn Sn 11 28 57.0 -3.1
1.8nm,0.3s,baz=40,slow=21,SNR=3.7
SDV LR LR 11 32 51.0
comp=Z,253nm,20.1s,baz=272,slow=43
4.6nm,0.4s
SDV **Santo Domingo** 13.31 91 *eP* Pn 11 26 34.5 +1.4
SDV **Santo Domingo** 13.31 91 P Pn 11 26 35.7 +2.6
34nm,0.9s
MGV **Manicaragua** 13.38 17 *eP* Pn 11 26 38.2 +4.3
RCC **Rio Carpintero** 13.42 36 *eP* Pn 11 26 35.8 +1.4
SOR **Soroa** 13.50 4 Pn Pn 11 26 32.1 -3.5
GTBY **Guantanamo Bay** 13.71 38 Pn 11 26 37.5 -1.0
GTBY **Guantanamo Bay** 13.71 38 *eP* Pn 11 26 41.3 +2.8
GTBY **Guantanamo Bay** 13.71 38 P Pn 11 26 40.2 +1.7
38nm,1.3s
PINC **Pinares de May** 13.75 35 *eP* Pn 11 26 42.4 +3.4
HLGC **Holguin** 13.93 33 *eP* Pn 11 26 43.7 +2.3
QMBU **Quimbuelo** 14.10 38 *eP* Pn 11 26 46.0 +2.2
MCRA **Macar, Loja** 14.15 163 P P 11 26 53.6 +1.9
BAUV **El Baul** 15.86 90 Pn 11 27 07.6 +0.4
ATAH **Atahualpa** 17.25 161 LR LR 11 33 18.0
comp=Z,501nm,21.5s,baz=326,slow=35
PCRV **Puerto La Cruz** 19.21 86 P P 11 27 47.3 -0.4
1.4nm,0.3s,baz=232,slow=6.4,SNR=5.8
PCRV LR LR 11 37 13.5
comp=Z,337nm,19.5s,slow=44
10nm,1.1s
SJG **San Juan** 19.52 61 P P 11 27 50.3 -0.8
1.0nm,0.3s,baz=276,slow=3.1,SNR=4.3
SJG LR LR 11 34 17.8
comp=Z,337nm,21.2s,baz=228,slow=34
5.8nm,0.3s
CZSB **Cruzeiro do Su** 20.34 146 P P 11 28 00.5 +0.5
CZSB IAmb IAmb 11 28 04.0
comp=Z,39nm,1.0s
CZSB **Cruzeiro do Su** 20.34 146 *eP* P 11 28 01.3 +1.4
ZAIG **Zacatecas** 22.22 309 P P 11 28 19.5 -1.0
250A **Grady** 22.70 355 P P 11 28 22.1 -3.0
250A IAmb IAmb 11 28 39.9
comp=Z,29nm,1.2s
TEFE **Tefe** 23.18 122 *eP* P 11 28 30.1 -0.2
VBMS **Vicksburg** 23.61 346 P P 11 28 31.8 -2.5
VBMS IAmb IAmb 11 28 49.0
comp=Z,14nm,0.8s
BOAV **Boa Vista** 24.41 105 P P 11 28 40.9 -1.2
BOAV IAmb IAmb 11 28 44.1
comp=Z,20nm,1.2s
BOAV **Boa Vista** 24.41 105 *eP* P 11 28 41.2 -0.8
TKL **Tuckaleechee C** 26.28 1 LR LR 11 39 22.7
comp=Z,204nm,19.4s,baz=182,slow=37
MACA **Manacapuru-AM** 26.40 117 P P 11 28 59.9 -0.2
MACA **Manacapuru-AM** 26.40 117 *eP* P 11 29 00.7 +0.6
TXAR **Lajitas Array** 27.12 320 P P 11 29 09.1 +2.6
comp=Z,0.3nm,0.5s,baz=145,slow=9.2,SNR=11
comp=Z,0.3nm,0.5s
LPAZ **La Paz** 29.90 148 P P 11 29 32.6 +0.7
comp=Z,1.3nm,0.8s,baz=349,slow=12,SNR=3.5
LPAZ LR LR 11 42 23.5
comp=Z,308nm,22.0s,baz=304,slow=38
comp=Z,1.3nm,0.8s
ITTB **Itaituba** 31.35 114 *eP* P 11 29 44.9 +0.8
VILB **Vilhena** 32.41 133 *eP* P 11 29 54.0 +0.6
ANMO **Albuquerque** 32.74 325 LR LR 11 46 06.9
comp=Z,85nm,19.4s,baz=224,slow=42
NPGB **Novo Progresso** 32.90 119 *eP* P 11 29 57.8 0.0
PDRB **Porto dos Gac** 34.21 127 *eP* P 11 30 08.8 -0.4
CLDB **Colider** 34.54 125 *eP* P 11 30 11.4 -0.6
PTLB **Pontes e Lacer** 34.84 135 *eP* P 11 30 14.9 +0.3
ECSD **EROS Data Cent** 36.04 345 P 11 30 23.3 -1.2
ECSD IAmb IAmb 11 30 33.9
comp=Z,12nm,1.4s
PFO **Pinyon Flats O** 38.38 314 LR LR 11 48 56.3
comp=Z,70nm,18.3s,baz=97,slow=40
AC02 **Maricunga** 38.71 158 P 11 30 48.3 +0.4
AC02 IAmb IAmb 11 30 51.8
comp=Z,17nm,1.1s
SNDB **Serra Nova Dou** 38.84 122 *eP* P 11 30 48.7 +0.1
JLU **Jordanelle** 39.54 327 P P 11 30 51.4 -3.0
JLU IAmb IAmb 11 30 52.8
comp=Z,3.0nm,0.4s
PDAR **Pinedale Array** 40.14 331 P P 11 31 00.9 +1.5
comp=Z,0.1nm,0.4s,baz=131,slow=10,SNR=1.8
PDAR LR LR 11 50 18.6
comp=Z,34nm,19.5s,baz=128,slow=40
comp=Z,0.1nm,0.4s
ARAG **Araguaiana, MT** 40.47 128 *eP* P 11 31 01.4 -0.8
SMTB **Santa Maria do** 40.57 115 *eP* P 11 31 03.7 +0.6
ELK **Elko** 41.77 324 LR LR 11 49 36.5
comp=Z,85nm,21.2s,baz=130,slow=38
ULM **Lac du Bonnet** 42.02 349 P P 11 31 15.9 +1.4
comp=Z,1.4nm,0.5s,baz=176,slow=7.5,SNR=6.8
ULM LR LR 11 49 16.5
comp=Z,94nm,20.2s,baz=158,slow=37
comp=Z,1.4nm,0.5s
NVAR **Mina Array Bea** 42.26 319 P P 11 31 19.8 +2.9
comp=Z,0.2nm,0.4s,baz=142,slow=5.5,SNR=4.0
NVAR LR LR 11 50 49.8
comp=Z,132nm,18.2s,baz=134,slow=39
comp=Z,0.2nm,0.4s
AMBA **Amambai (Brazi** 42.84 139 *eP* P 11 31 21.8 +0.3
BDFB **Brasilia** 43.47 124 P P 11 31 26.9 +0.1
comp=Z,1.9nm,0.4s,baz=324,slow=14,SNR=3.6
comp=Z,1.9nm,0.4s
SJPY **San Joaquin** 43.63 142 *eP* P 11 31 28.5 +0.7
RPN **Rapa Nui** 43.66 213 LR LR 11 45 03.1
comp=Z,141nm,19.1s,baz=77,slow=30
MT08 **Bocatoma Ro** 44.53 163 P 11 31 38.1 +2.9
YBH **Yreka Blue Hor** 46.90 320 LR LR 11 55 37.8
comp=Z,7.6nm,18.3s,baz=121,slow=41
NEW **Newport** 47.78 331 LR LR 11 55 20.4
comp=Z,63nm,18.6s,baz=130,slow=40
DIAM **Diamantina, MG** 48.39 125 *eP* P 11 32 05.9 +0.3
VAO **Valinhos** 48.47 132 *eP* P 11 32 05.8 -0.3
RCBR **Riachuelo** 50.32 105 LR LR 11 55 07.9
comp=Z,68nm,18.3s,baz=268,slow=38
PLCA **Paso Flores** 51.29 167 P P 11 32 28.2 +1.0
PLCA **Paso Flores** 51.29 167 P P 11 32 27.3 +0.1
comp=Z,8.7nm,0.9s,baz=340,slow=9.7,SNR=13
comp=Z,8.7nm,0.9s
PLCA **Paso Flores** 51.29 167 *eP* P 11 32 26.8 -0.5
RIB01 **Linhares ES** 51.58 124 *eP* P 11 32 29.8 +0.1
CAM01 **Campos-RJ** 51.84 127 *eP* P 11 32 29.5 -2.1
FRB **Frobisher Bay** 55.53 8 LR LR 11 56 04.6
comp=Z,188nm,20.4s,baz=170,slow=35
BBB **Bella Bella** 55.73 329 LR LR 11 59 19.0
comp=Z,66nm,18.2s,baz=108,slow=39
DLBC **Dease Lake** 60.19 334 LR LR 12 03 51.2
comp=Z,495nm,19.6s,baz=92,slow=40
SFJD **Kangerlussuaq** 61.93 14 LR LR 12 01 36.6
comp=Z,96nm,18.0s,baz=214,slow=37
RES **Resolute Bay** 65.69 357 LR LR 12 03 26.0
comp=Z,76nm,18.0s,baz=348,slow=37

F28M **Old Crow** 68.88 340 P P 11 34 27.7 +0.2
SUMG **Summit** 68.89 13 P P 11 34 26.7 -1.1
SUMG IAmb IAmb 11 34 29.4
comp=Z,7.3nm,0.8s
RIDG **Independent Ri** 69.04 335 P P 11 34 27.9 -0.6
RIDG IAmb IAmb 11 34 44.5
comp=Z,7.3nm,0.8s
ILAR **Eielson Array** 70.25 336 P P 11 34 36.5 +0.6
comp=Z,0.2nm,0.6s,baz=114,slow=7.3,SNR=6.0
ILAR LR LR 12 11 53.2
comp=Z,40nm,18.4s,baz=54,slow=41
comp=Z,0.2nm,0.6s
KDAK **Kodiak Island** 70.80 328 LR LR 12 10 19.4
comp=Z,51nm,18.3s,baz=73,slow=40
K20K **Telida** 72.84 334 P P 11 34 52.1 +0.6
ESDC **Sonseca Array** 76.58 51 P P 11 35 12.2 -1.6
ESDC **Sonseca Array** 76.58 51 P P 11 35 13.1 -0.7
comp=Z,1.5nm,0.7s,baz=282,slow=5.5,SNR=10
comp=Z,1.5nm,0.7s
JMIC **Jan Mayen** 76.62 19 LR LR 12 08 04.1
comp=Z,29nm,20.6s,baz=82,slow=35
EKA **Eskdalemuir Ar** 77.30 35 P P 11 35 16.0 -1.4
comp=Z,0.6nm,0.5s,baz=253,slow=4.6,SNR=4.2
comp=Z,0.6nm,0.5s
SMAI **San Martin Ant** 78.14 174 P P 11 35 22.8 +1.2
SMAI IAmb IAmb 11 35 24.3
comp=Z,7.9nm,1.1s
TORD **Torodi Ar. Bea** 83.88 78 P P 11 35 52.9 -0.6
comp=Z,1.1nm,1.0s,baz=331,slow=8.8,SNR=4.4
comp=Z,1.1nm,1.0s
HHC **Hu-ho-hao-te** 128.09 345 *eP* PKPdf 11 42 30.0 +0.4
NJ2 **Nanjing** 133.43 333 *eP* PKPdf 11 42 39.1 -0.7
NJ2 pmax pmax
comp=Z,18nm,0.7s
ASAR **Alice Springs** 140.98 244 PKP PKPdf 11 42 53.1 -0.9
comp=Z,0.2nm,0.5s,baz=92,slow=2.5,SNR=4.1
WRA **Warramunga Arr** 141.40 250 PKP PKPdf 11 42 55.1 +0.3
comp=Z,0.2nm,0.5s,baz=100,slow=3.0,SNR=6.5
CMAR **Chiang Mai Arr** 152.30 354 PKPab PKPab 11 43 29.1 -0.4
comp=Z,0.8nm,0.5s,baz=326,slow=3.9,SNR=5.7

*IDC **18** 11:30:46.0±0.8, 0.°49N×26.°37W, h0km, mb4.1/16, mbtmp4.2/16, MS3.8/30, Error ellipse: s-maj=33.9km s-min=16.2km az=149.0*
*NEIC **18** 11:30:48.2±1.3, 0.°6N±0.°1×26.°6W±0.°1, h10km±1km, mb4.5/22, Error ellipse: s-maj=30.5km s-min=3.6km az=132.0*
*GCMT **18** 11:30:55.2±0.3, 1.°09N±0.°02×26.°76W±0.°02, h22km±1km, MW4.8/98, Moment Tensor Solution. s28,c31; s98,c127; Duration: 0 Moment tensor: Scale 10[16]Nm; Mrr-0.14±.10; Mθθ0.47±.09; Mϕϕ-0.34±.09; Mrθ-0.09±.14; Mrϕ-2.27±.09; Mθϕ-0.46±.14; Best double couple: Mo2.35500×10[16] NP1:ϕs85.00000°, δ79.00000°, λ-176.00000°. NP2: ϕs354.00000°, δ86.00000°, λ-11.00000°. Principal axes: T 2.3930, Plg5.0000°; Azm40.0000°; N -0.0780, Plg78.0000°, Azm155.0000°; P -2.3160, Plg11.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 11:30:47.3±0.6, 0.°7N±0.°1×26.°7W±0.°1, h10km, n73, σ1§15/45, mb4.4/23, MS3.8/29, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
RCBR	**Riachuelo**	11.27	235	Pn	**Pn**	11 33 27.5	-1.1
RCBR	**Riachuelo**	11.27	235	Pn	**Pn**	11 33 27.2	-1.4
	1.1nm,0.3s,baz=62,slow=19,SNR=31						
RCBR				Sn	Sn	11 35 21.3	-13
	0.1nm,0.3s,baz=65,slow=23,SNR=1.3						
RCBR				LR	LR	11 36 43.7	
	comp=Z,299nm,21.6s,baz=68,slow=31						
SACV	**Santiago Islan**	14.53	12		**Pn**	11 34 10.6	-2.7
H10N3	**ASCENSION HYDR**	14.76	125	T	T	11 49 27.8	
	baz=304,slow=74,SNR=53						
H10N2	**ASCENSION HYDR**	14.77	125	T	T	11 49 38.4	
	baz=304,slow=74,SNR=47						
H10N1	**ASCENSION HYDR**	14.78	125	T	T	11 49 29.4	
	baz=304,slow=74,SNR=45						
H10S3	**ASCENSION HYDR**	15.29	129	T	T	11 50 20.0	
	baz=274,slow=74,SNR=63						
H10S2	**ASCENSION HYDR**	15.30	129	T	T	11 50 16.5	
	baz=306,slow=74,SNR=62						
DBIC	**Dimbokro**	22.54	74	P	**P**	11 35 48.5	+0.7
DBIC				IAmb	IAmb	11 35 56.4	
	comp=Z,18nm,1.1s						
DBIC	**Dimbokro**	22.54	74	P	**P**	11 35 46.9	-0.9
	comp=Z,12nm,0.9s,baz=269,slow=10,SNR=6.7						
	comp=Z,12nm,0.9s						
BDFB	**Brasilia**	26.61	232	P	**P**	11 36 27.8	+1.4
	comp=Z,2.1nm,0.4s,baz=90,slow=9.1,SNR=4.0						
BDFB				LR	LR	11 45 54.9	
	comp=Z,461nm,19.8s,baz=22,slow=34						
	comp=Z,2.1nm,0.4s						
TORD	**Torodi Ar. Bea**	30.70	65		**P**	11 37 02.7	+0.1
TORD				IAmb	IAmb	11 37 04.4	
	comp=Z,5.6nm,1.0s						
TORD	**Torodi Ar. Bea**	30.70	65	P	**P**	11 37 02.4	-0.3
	comp=Z,7.9nm,0.9s,baz=258,slow=8.5,SNR=26						
TORD				LR	LR	11 48 03.1	
	comp=Z,180nm,19.0s,baz=243,slow=34						
	comp=Z,7.9nm,0.9s						
AVE	**Averroes**	37.16	27	P	**P**	11 37 59.6	+1.0
SIV	**San Ignacio**	37.80	243	LR	LR	11 52 25.5	
	comp=Z,134nm,20.6s,baz=108,slow=34						
MD31	**MD31**	38.09	31	P	**P**	11 38 07.4	+0.8
MD01	**Midelt array s**	38.09	31	P	**P**	11 38 07.8	+1.1
MDT	**Midelt**	38.12	31	LR	LR	11 52 51.3	
	comp=Z,159nm,19.5s,baz=248,slow=35						
PCRV	**Puerto La Cruz**	38.94	285	LR	LR	11 55 00.6	
	comp=Z,44nm,18.5s,slow=37						
CPUP	**Villa Florida**	39.94	226	LR	LR	11 54 37.9	
	comp=Z,99nm,18.6s,baz=260,slow=36						
SJG	**San Juan**	42.50	296	LR	LR	11 53 29.8	
	comp=Z,40nm,18.1s,baz=118,slow=32						
ESDC	**Sonseca Array**	44.00	25		**P**	11 38 56.2	+1.0
ESDC	**Sonseca Array**	44.00	25	P	**P**	11 38 55.3	+0.1
	comp=Z,2.2nm,0.9s,baz=222,slow=9.0,SNR=15						
	comp=Z,2.2nm,0.9s						
ESBB	**Sonseca Array**	44.00	25	P	**P**	11 38 55.5	+0.4
LPAZ	**La Paz**	44.26	246	P	**P**	11 38 57.7	-0.5
LPAZ				IAmb	IAmb	11 39 01.0	
	comp=Z,6.0nm,0.9s						
LPAZ	**La Paz**	44.26	246	P	**P**	11 38 59.7	+1.5
	comp=Z,5.1nm,0.8s,baz=53,slow=5.3,SNR=4.2						
LPAZ				LR	LR	11 56 54.2	
	comp=Z,136nm,19.0s,baz=60,slow=35						
	comp=Z,5.1nm,0.8s						
SDV	**Santo Domingo**	44.55	282	LR	LR	11 55 29.7	
	comp=Z,73nm,19.6s,baz=66,slow=33						
ROSC	**El Rosal**	47.79	276	LR	LR	11 58 48.8	
	comp=Z,97nm,18.1s,baz=112,slow=35						
KEST	**Kesra**	48.33	40	P	**P**	11 39 29.6	+0.3
	comp=Z,4.3nm,0.7s,baz=256,slow=4.2,SNR=4.3						
	comp=Z,4.3nm,0.7s						
CFA	**Coronel Fontan**	50.79	227	LR	LR	12 01 40.2	
	comp=Z,134nm,18.4s,baz=245,slow=36						
VAE	**Valguarnera**	52.64	41	LR	LR	12 03 42.9	
	comp=Z,263nm,18.1s,baz=292,slow=38						
COHC	**Cochancay**	52.69	266		**P**	11 40 02.4	-0.2
CO06	**Fray Jorge**	52.88	230	P	**P**	11 40 03.2	-0.6
CUC	**Castrocucco**	54.97	39		**P**	11 40 18.9	0.0
EKB	**Eskdalemuir**	57.76	16	P	**P**	11 40 40.0	+1.6
EKB				IAmb	IAmb	11 40 44.2	
	comp=Z,5.5nm,1.1s						
EKA	**Eskdalemuir Ar**	57.76	16	P	**P**	11 40 38.3	-0.2
	comp=Z,1.4nm,0.7s,baz=208,slow=6.3,SNR=5.9						
	comp=Z,1.4nm,0.7s						
FNA	**Florina**	58.98	41		**P**	11 40 46.6	-0.8
GERES	**GERESS Array B**	59.20	30	P	**P**	11 40 48.6	-0.2
	comp=Z,0.4nm,0.3s,baz=248,slow=9.9,SNR=6.0						
	comp=Z,0.4nm,0.3s						
SCHQ	**Schefferville**	63.17	335	LR	LR	12 04 23.5	
	comp=Z,460nm,20.9s,baz=154,slow=32						
TKL	**Tuckaleechee C**	63.34	310	LR	LR	12 03 11.8	
	comp=Z,50nm,21.5s,baz=139,slow=31						
SADO	**Sadowa**	63.79	321	LR	LR	12 02 35.7	
	comp=Z,601nm,20.0s,baz=122,slow=30						
BORG	**Borgarnes**	64.06	3	LR	LR	12 02 34.4	
	comp=Z,46nm,19.7s,baz=186,slow=30						
MLR	**Muntele Rosu**	64.19	38	LR	LR	12 10 06.6	
	comp=Z,110nm,19.8s,baz=252,slow=37						
EIL	**Elat**	65.19	57	LR	LR	12 08 34.7	
	comp=Z,131nm,20.9s,baz

MMAI	**Mount Meron Ar**	**66.42**	**54**	LR	LR	12 12 19.3		
	comp=Z,41nm,19.0s,baz=266,slow=38							
HFS	**Hagfors**	**66.96**	**21**	P	**P**	**11 41 40.5**	**+0.5**	
	comp=Z,4.7nm,0.9s,baz=108,slow=3.3,SNR=3.6							
	comp=Z,4.7nm,0.9s							
BR131	**Keskin Array S**	**67.07**	**47**	P	**P**	**11 41 41.5**	**+0.2**	
BR131				IAmb	IAmb	11 41 52.1		
	comp=Z,4.4nm,1.1s							
BRTR	**Keskin Array B**	**67.07**	**47**	P	**P**	**11 41 41.9**	**+0.5**	
BRTR	**Keskin Array B**	**67.07**	**47**	P	**P**	**11 41 41.2**	**-0.1**	
	comp=Z,1.2nm,0.6s,baz=224,slow=5.2,SNR=7.7							
	comp=Z,1.2nm,0.6s							
ASF	**Jabal al Asfar**	**67.43**	**55**	LR	LR	12 12 54.9		
	comp=Z,44nm,18.4s,baz=247,slow=38							
AKASG	**Malin Array Be**	**68.56**	**34**	P	**P**	**11 41 50.7**	**+0.5**	
	comp=Z,0.9nm,0.6s,baz=243,slow=6.7,SNR=5.6							
	comp=Z,0.9nm,0.6s							
FINES	**FINESS Array B**	**72.48**	**24**	P	**P**	**11 42 14.5**	**+0.6**	
	comp=Z,4.2nm,0.8s,baz=130,slow=7.7,SNR=4.7							
FINES				LR	LR	12 11 41.8		
	comp=Z,84nm,21.6s,baz=240,slow=34							
	comp=Z,4.2nm,0.8s							
RAYN	**Ar Rayn**	**73.39**	**66**		**P**	**11 42 20.2**	**0.0**	
RAYN				IAmb	IAmb	11 42 31.9		
	comp=Z,4.6nm,0.9s							
KBZ	**Khabaz**	**74.86**	**45**	P	**P**	**11 42 27.8**	**-0.6**	
	comp=Z,1.7nm,0.6s,baz=266,slow=2.4,SNR=4.8							
	comp=Z,1.7nm,0.6s							
ULM	**Lac du Bonnet**	**76.32**	**322**	LR	LR	12 10 21.8		
	comp=Z,57nm,20.4s,baz=134,slow=31							
SAND	**Sanderson**	**77.10**	**300**		**P**	**11 42 41.0**	**-0.5**	
SAND				IAmb	IAmb	11 42 52.3		
	comp=Z,2.5nm,0.8s							
TXAR	**Lajitas Array**	**78.36**	**300**	P	**P**	**11 42 51.4**	**+2.7**	
	comp=Z,1.1nm,0.9s,baz=120,slow=7.4,SNR=9.5							
	comp=Z,1.1nm,0.9s							
VHRN	**Van Horn**	**79.64**	**301**		**P**	**11 42 56.1**	**+0.4**	
VHRN				IAmb	IAmb	11 43 07.7		
	comp=Z,4.9nm,0.9s							
MNTX	**Cornudas Mount**	**80.07**	**302**	P	**P**	**11 42 58.9**	**+1.1**	
ANMO	**Albuquerque**	**81.27**	**305**	LR	LR	12 13 52.7		
	comp=Z,74nm,21.3s,baz=232,slow=32							
PDAR	**Pinedale Array**	**84.34**	**313**	P	**P**	**11 43 24.2**	**+3.9**	
	comp=Z,0.3nm,0.7s,baz=79,slow=7.9,SNR=3.5							
PDAR				LR	LR	12 15 36.5		
	comp=Z,37nm,19.1s,baz=110,slow=32							
	comp=Z,0.3nm,0.7s							
YNE	**Yellowstone No**	**84.83**	**315**	P	**P**	**11 43 22.5**	**-0.2**	
WUAZ	**Wupatki**	**85.32**	**305**	P	**P**	**11 43 25.9**	**+0.6**	
X16A	**Lo Mia Camp, P**	**85.33**	**304**		**P**	**11 43 24.7**	**-0.7**	
X16A				IAmb	IAmb	11 43 53.2		
	comp=Z,2.5nm,1.1s							
ARTI	**Arti**	**86.69**	**34**	LR	LR	12 24 48.6		
	comp=Z,52nm,18.1s,baz=78,slow=37							
CCUT	**Cedar City**	**86.99**	**307**		**P**	**11 43 33.9**	**+0.4**	
CCUT				IAmb	IAmb	11 43 46.3		
	comp=Z,3.5nm,1.1s							
AB31	**Akbulak array**	**87.27**	**41**	P	**P**	**11 43 34.9**	**+0.5**	
AB31				IAmb	IAmb	11 43 37.2		
	comp=Z,2.5nm,0.9s							
ABKAR	**Akbulak array**	**87.27**	**41**	P	**P**	**11 43 33.8**	**-0.6**	
YKA	**Yellowknife Ar**	**88.47**	**332**	LR	LR	12 18 52.7		
	comp=Z,57nm,20.4s,baz=98,slow=32							
PFO	**Pinyon Flats O**	**89.48**	**303**	LR	LR	12 18 08.2		
	comp=Z,36nm,19.6s,baz=218,slow=32							
NEW	**Newport**	**89.83**	**318**	LR	LR	12 17 30.4		
	comp=Z,33nm,20.4s,baz=169,slow=31							
NVAR	**Mina Array Bea**	**90.90**	**308**	P	**P**	**11 43 52.9**	**+0.9**	
	comp=Z,0.1nm,0.4s,baz=75,slow=5.6,SNR=2.4							
NVAR				LR	LR	12 19 58.5		
	comp=Z,30nm,20.6s,baz=102,slow=32							
	comp=Z,0.1nm,0.4s							
ASAR	**Alice Springs**	**150.35**	**142**	PKPbc	**PKPbc**	**11 50 38.1**	**-1.8**	
	comp=Z,0.4nm,0.4s,baz=198,slow=2.6,SNR=12							

*IDC **18** 11:44:48.0±1.3,2˚.67N×124˚.86E,h0km,mb4.2/5, mbtmp4.2/5, Error ellipse: s-maj=114.1km s-min=18.6km az=67.0*
*DJA **18** 11:45:17.0±0.5,2˚N±4˚×12˚5E±˚,h226km±5km,M3.9/14, mb4.0/5,MLv3.9/14*
ISC 18 11:45:15.3±1.0,2˚22N±0˚.08×124˚67E±0˚.09,h250km,n12, σ0998/12,mb3.9/4,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.69**	**30**	P	**Pn**		**11 45 55.2**	**0.0**
SGSI				S	**S**		**11 46 26.4**	**-0.2**
TNTI	**Ternate**	**3.06**	**118**	P	**Pn**		**11 46 09.7**	**+1.2**
MRSI	**Marisa**	**3.23**	**238**	P	**Pn**		**11 46 11.4**	**+1.0**
LUWI	**Luwuk**	**3.76**	**210**	P	**Pn**		**11 46 17.2**	**+0.8**
SANI	**Sanana**	**4.44**	**163**	P	**Pn**		**11 46 23.0**	**-1.5**
NLAI	**Namlea**	**5.94**	**156**	P	**Pn**		**11 46 42.8**	**0.0**
	29nm,0.8s							
MSAI	**Masohi**	**6.98**	**142**	P	**Pn**		**11 46 57.3**	**+1.5**
FITZ	**Fitzroy Crossi**	**20.21**	**177**	P	**P**		**11 49 31.1**	**-0.7**
	3.6nm,0.3s,baz=3.3,slow=12,SNR=66							
	3.6nm,0.3s							
WRA	**Warramunga Arr**	**23.98**	**157**	P	**P**		**11 50 08.2**	**+0.6**
	2.2nm,0.5s,baz=333,slow=11,SNR=49							
	2.2nm,0.5s							
STKA	**Stephens Creek**	**37.53**	**156**	P	**P**		**11 52 05.3**	**-0.4**
	1.2nm,0.4s,baz=338,slow=9.7,SNR=4.5							
	1.2nm,0.4s							
MKAR	**Makanchi Array**	**57.65**	**327**	P	**P**		**11 54 39.4**	**-0.3**
	1.9nm,0.4s,baz=123,slow=7.8,SNR=36							
	1.9nm,0.4s							
KURBB	**Kurchatov Arra**	**61.92**	**329**	P	P		11 55 06.4	-2.2
	1.2nm,0.5s,baz=127,slow=6.7,SNR=16							
	1.2nm,0.5s							

*IDC **18** 11:54:57.0±0.5,54˚.10S×7˚.91E,h0km,mb4.8/17, mbtmp4.9/18,ML4.8/1,MS4.5/47,Error ellipse: s-maj=17.8km s-min=14.0km az=78.0*
*MOS **18** 11:54:57.3±1.4,54˚.17S×7˚.85E,h10km,mb5.3/14, MS4.7/4,Error ellipse: s-maj=23.4km s-min=10.4km az=81.8*
*NEIC **18** 11:54:58.9±0.9,54˚.20S±0˚.10×7˚.9E±0˚.2,h10km±1km, mb5.4/79,Ms_20 4.9/62,Mww5.2/14,Error ellipse: s-maj=18.7km s-min=16.2km az=118.0*
*NEIC **18** 11:54:59,54˚.20S×8˚.41E,h20km,Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^16^Nm; Mrr=8.69; Mθθ4.40; Mϕϕ4.29; Mrθ-0.81; Mθϕ-3.00; Mϕr4.73; Fault plane solution: Mo9.41000×10^16^ NP1: ϕs=304.41000°,δ32.89000°,λ-111.87000°. NP2: ϕs=149.96000°,δ59.74000°,λ-76.46000°. Principal axes: T 8.2949, Plg14.0000°, Azm230.0000°; N 1.9325, Plg12.0000°, Azm323.0000°; P -10.2274, Plg72.0000°, Azm92.0000°;*
*NEIC **18** 11:54:59,54˚.20S×7˚.90E,h20km*
*GCMT **18** 11:55:00.9±0.1,54˚.25S±0˚.01×8˚.20E±0˚.02,h12km, MW5.2/137,Moment Tensor Solution. s70,c100; s137,c237; Duration: 1s0 Moment tensor: Scale 10^16^ Nm; Mrr-6.10±.12; Mθθ2.99±.12; Mϕϕ3.11±.11; Mrθ-2.60±.34; Mθϕ-4.62±.10; Mϕr-2.41±.33; Best double couple: Mo7.85600×10^16^ NP1:ϕs341.00000°,δ51.00000°, λ-52.00000°. NP2:ϕs110.00000°,δ52.00000°, λ-127.00000°. Principal axes: T 7.6710, Plg1.0000°, Azm225.0000°; N 0.3700, Plg29.0000°, Azm135.0000°; P -8.0410, Plg61.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 11:54:58.8±0.3,54˚.18S±0˚.06×7˚.86E±0˚.07,h10km,n317, σ1922/234,mb5.3/60,MS4.8/81,11C-1D,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**18.02**	**197**	⇑P		**Pn**	**11 59 08.0**	**-0.9**
	comp=Z,183nm,1.1s							
TROLL	**Troll, Antarti**	**18.04**	**185**	⇑P		**Pn**	**11 59 09.3**	**-0.1**
	comp=Z,7μm,0.7s							
VNA2	**Neumayer--Watz**	**18.11**	**196**	⇑P		**Pn**	**11 59 08.0**	**-2.0**
	comp=Z,84nm,0.9s,baz=14,slow=14							
SNAA	**Sanae**	**18.16**	**191**	⇑P		**Pn**	**11 59 09.5**	**-1.2**
	comp=Z,5μm,0.8s							
SNAA	**Sanae**	**18.16**	**191**			**Pn**	**11 59 09.5**	**-1.2**
SNAA						IAmb	IAmb	11 59 13.0
	comp=Z,342nm,1.0s							
SNAA	**Sanae**	**18.16**	**191**	P		**Pn**	**11 59 10.7**	**0.0**
	comp=Z,2.8nm,0.3s,baz=15,slow=11,SNR=247							
SNAA						LR	LR	12 04 50.1
	comp=Z,3μm,18.9s,baz=42,slow=32							
	comp=Z,239nm,0.9s							
SNAA	**Sanae**	**18.16**	**191**	*ce*P		**Pn**	**11 59 09.0**	**-1.7**
SNAA						pmax	pmax	
	comp=Z,447nm,1.3s							
VNA3	**Neumayer Olymp**	**18.77**	**198**	⇑P		**P**	**11 59 16.3**	**-1.3**
	comp=Z,131nm,0.7s							
SYO	**Syowa Base**	**20.80**	**148**	*i*Pn		**P**	**11 59 38.8**	**-1.0**
SYO	**Syowa Base**	**20.80**	**148**	*i*pP		**P**	**11 59 39.8**	**0.0**
SYO	**Syowa Base**	**20.80**	**148**	⇑pP		Pn	11 59 44.3	+2.1
SUR	**Sutherland**	**23.67**	**28**	P		**P**	**12 00 10.4**	**-0.2**
SUR	**Sutherland**	**23.67**	**28**	P		**P**	**12 00 10.8**	**+0.2**
SUR				S		**S**	**12 04 20.5**	**-4.8**
BELA	**Belgrano 2**	**28.07**	**198**	P		**P**	**12 00 49.2**	**-0.7**
BOSA	**Boshof**	**28.53**	**33**	P		**P**	**12 00 52.1**	**-2.4**
	comp=Z,4.6nm,1.0s,baz=193,slow=5.5,SNR=5.5							
BOSA				LR		LR	12 10 15.4	
	comp=Z,2μm,20.0s,baz=196,slow=32							
	comp=Z,4.6nm,1.0s							
H04S2	**CROZET ISLANDS**	**28.55**	**93**	T		T	12 31 09.9	
	baz=238,slow=76,SNR=65							
H04S3	**CROZET ISLANDS**	**28.55**	**93**	T		T	12 31 11.3	
	baz=238,slow=76,SNR=73							
H04S1	**CROZET ISLANDS**	**28.57**	**93**	T		T	12 31 17.6	
	baz=238,slow=76,SNR=70							
MAW	**Mawson**	**28.79**	**139**	P		**P**	**12 00 56.2**	**-0.1**
	comp=Z,13nm,1.1s,baz=274,slow=11,SNR=9.8							
MAW				LR		LR	12 11 54.6	
	comp=Z,443nm,18.3s,baz=278,slow=35							
	comp=Z,13nm,1.1s							
H04N3	**CROZET ISLANDS**	**28.84**	**92**	T		T	12 31 28.3	
	baz=240,slow=76,SNR=5.5							
H04N1	**CROZET ISLANDS**	**28.85**	**92**	T		T	12 31 25.8	
	baz=240,slow=76,SNR=4.9							
H04N2	**CROZET ISLANDS**	**28.86**	**92**	T		T	12 31 36.0	
	baz=240,slow=76,SNR=7.2							
PHPEN	**Phepeng**	**30.77**	**27**	P		**P**	**12 01 14.4**	**0.0**
MAKGR	**Makgori**	**31.00**	**31**	P		**P**	**12 01 15.8**	**-0.7**
LBTB	**Lobatse**	**31.99**	**31**	P		**P**	**12 01 24.9**	**-0.2**
LBTB	**Lobatse**	**31.99**	**31**	LR		LR	12 12 20.0	
	comp=Z,1μm,19.8s,baz=194,slow=33							
LBTB	**Lobatse**	**31.99**	**31**	P		**P**	**12 01 24.9**	**-0.2**
LBTB				pmax		pmax		
	comp=Z,36nm,1.7s							
POGA	**Pongola**	**32.02**	**43**	P		**P**	**12 01 24.7**	**-0.6**
WIN	**Windhoek**	**32.33**	**16**	IAms_20		IAms_20	12 11 41.9	
	comp=Z,2μm,20.0s							
KOOLE	**Kule**	**32.51**	**21**	P		**P**	**12 01 29.3**	**-0.4**
KGCAE	**Kacgae**	**33.10**	**25**			**P**	**12 01 34.5**	**-0.4**
ESPZ	**Base Esperanza**	**33.40**	**228**	P		**P**	**12 01 37.4**	**+0.4**
ESPZ				IAmb		IAmb	12 01 49.2	
	comp=Z,74nm,1.5s							
LPHEP	**Lephephe**	**33.62**	**31**			**P**	**12 01 38.0**	**-1.4**
LPHEP				IAmb		IAmb	12 01 47.9	
	comp=Z,43nm,1.4s							
GRTLG	**Ghanzi**	**34.31**	**22**	P		**P**	**12 01 45.2**	**-0.2**
GRTLG				IAmb		IAmb	12 01 54.2	
	comp=Z,72nm,1.2s							
KHWEE	**KHWEE**	**34.84**	**29**	P		**P**	**12 01 48.8**	**-1.1**
MREMI	**Moremi**	**34.86**	**33**	P		**P**	**12 01 49.7**	**-0.4**
MREMI				IAmb		IAmb	12 01 58.5	
	comp=Z,59nm,1.4s							
TSUM	**Tsumeb**	**35.71**	**16**			**P**	**12 01 56.8**	**-0.7**
TSUM	**Tsumeb**	**35.71**	**16**	IAms_20		IAms_20	12 13 28.4	
	comp=Z,2μm,21.0s							
TSUM	**Tsumeb**	**35.71**	**16**	LR		LR	12 13 59.0	
	comp=Z,1μm,19.8s,baz=147,slow=32							
PMSA	**Palmer Station**	**35.98**	**224**	P		**P**	**12 01 59.4**	**+0.2**
PMSA				IAmb		IAmb	12 02 01.2	
	comp=Z,58nm,1.0s							
PMSA	**Palmer Statin**	**35.98**	**224**	LR		LR	12 13 25.8	
	comp=Z,1μm,21.4s,baz=90,slow=31							
PMSA	**Palmer Station**	**35.98**	**224**	*e*P		**P**	**12 01 59.7**	**+0.5**
QSPA	**South Pole Qui**	**36.05**	**180**	P		**P**	**12 01 60.0**	**-0.1**
QSPA	**South Pole Qui**	**36.05**	**180**	P		**P**	**12 02 00.9**	**+0.8**
	comp=Z,27nm,1.0s,baz=235,slow=2.7,SNR=85							
	comp=Z,27nm,1.0s							
SMAI	**San Martin Ant**	**36.17**	**218**	P		**P**	**12 02 01.3**	**+0.5**
PHDHD	**Phuduhudu**	**36.24**	**27**	P		**P**	**12 02 01.8**	**-0.3**
GMARE	**Gumare**	**36.43**	**23**	P		**P**	**12 02 03.0**	**-0.6**
GMARE				IAmb		IAmb	12 02 12.7	
	comp=Z,120nm,1.3s							
XAUDM	**Khaudum**	**37.06**	**22**	P		**P**	**12 02 08.9**	**-0.2**
XAUDM				IAmb		IAmb	12 02 18.5	
	comp=Z,69nm,1.2s							
MATP	**Matopo**	**37.20**	**33**	LR		LR	12 15 34.4	
	comp=Z,1μm,19.6s,baz=200,slow=33							
KSANE	**Kasane**	**38.70**	**27**	P		**P**	**12 02 22.1**	**-0.7**
KSANE				IAmb		IAmb	12 02 31.4	
	comp=Z,113nm,1.6s							
LSZ	**Lusaka**	**41.95**	**30**			**P**	**12 02 49.2**	**-0.6**
LSZ				IAMs_20		IAMs_20	12 18 25.4	
	comp=Z,1μm,18.0s							
LSZ	**Lusaka**	**41.95**	**30**	LR		LR	12 18 45.0	
	comp=Z,1μm,18.1s,baz=190,slow=34							
LSZ	**Lusaka**	**41.95**	**30**	P		**P**	**12 02 49.2**	**-0.6**
LSZ	**Lusaka**	**41.95**	**30**	P		**P**	**12 02 49.2**	**-0.6**
LSZ				pmax		pmax		
	comp=Z,53nm,1.6s							
USHA	**Ushuaia**	**42.23**	**237**	LR		LR	12 15 58.0	
	comp=Z,850nm,20.2s,baz=126,slow=30							
VOI	**Vohitsoka**	**43.56**	**58**			**P**	**12 03 01.1**	**-1.7**
VOI				IAmb		IAmb	12 03 08.1	
	comp=Z,129nm,1.7s							
ABPO	**Ambohimpanom**	**46.22**	**56**	P		**P**	**12 03 23.9**	**-0.2**
ABPO				IAmb		IAmb	12 03 34.6	
	comp=Z,71nm,1.8s							
ABPO	**Ambohimpanom**	**46.22**	**56**	IAMs_20		IAMs_20	12 19 49.9	
	comp=Z,1μm,18.0s							
ABPO	**Ambohimpanom**	**46.22**	**56**	P		**P**	**12 03 23.9**	**-0.2**
ABPO				pmax		pmax		
	comp=Z,71nm,1.8s							
CASY	**Casey**	**46.55**	**147**			**P**	**12 03 25.8**	**-0.2**
CASY				IAmb		IAmb	12 03 35.8	
	comp=Z,79nm,1.5s							
OPO	**Ambohidratompo**	**46.58**	**56**	LR		LR	12 19 39.6	
	comp=Z,582nm,19.3s,baz=2.0,slow=32							
VNDA	**Vanda**	**47.57**	**173**	P		**P**	**12 03 33.9**	**+0.1**
VNDA	**Vanda**	**47.57**	**173**	P		**P**	**12 03 34.0**	**+0.1**
	comp=Z,26nm,0.9s,baz=223,slow=7.9,SNR=123							
VNDA				LR		LR	12 23 02.4	
	comp=Z,1μm,18.6s,baz=194,slow=35							
	comp=Z,26nm,0.9s							
VNDA	**Vanda**	**47.57**	**173**	P		**P**	**12 03 34.0**	**+0.1**
SBA	**Scott Base**	**47.58**	**174**			**P**	**12 03 34.1**	**+0.2**
SBA				IAmb		IAmb	12 03 43.6	
	comp=Z,58nm,1.3s							
SBA	**Scott Base**	**47.58**	**174**	P		**P**	**12 03 34.1**	**+0.2**
SBA				pmax		pmax		
	comp=Z,58nm,1.3s							
PLTB	**Pedras Altas**	**48.47**	**272**	P		**P**	**12 03 40.2**	**-1.2**
PLTB				IAmb		IAmb	12 03 50.2	
	comp=Z,35nm,1.3s							
PLTB	**Pedras Altas**	**48.47**	**272**	*e*P		**P**	**12 03 44.2**	**+2.8**
H10S2	**ASCENSION HYDR**	**48.57**	**330**	T		T	12 56 06.1	
	baz=58,slow=74,SNR=18							
H10S3	**ASCENSION HYDR**	**48.59**	**330**	T		T	12 56 00.0	
	baz=162,slow=74,SNR=18							
TRQA	**Tornquist**	**48.96**	**259**	P		**P**	**12 03 44.8**	**-0.3**
TRQA				IAmb		IAmb	12 03 48.5	
	comp=Z,105nm,1.9s							
TRQA	**Tornquist**	**48.96**	**259**	P		**P**	**12 03 44.8**	**-0.3**
TRQA				pmax		pmax		
	comp=Z,105nm,1.9s							
ITAB	**Concordia**	**50.95**	**277**	P		**P**	**12 04 00.7**	**+0.4**
SPB	**Sao Paulo**	**51.02**	**284**	P		**P**	**12 04 01.5**	**+0.7**
SPB				IAmb		IAmb	12 05 21.5	
	comp=Z,90nm,1.7s							
LL02	**Futaleuf**	**51.06**	**248**	P		**P**	**12 03 59.9**	**-1.0**
PSAL	**Palomas, Salto**	**51.32**	**269**	*e*P		**P**	**12 04 05.4**	**+2.4**
SJMB	**Sao Joao De Ma**	**51.46**	**294**	*e*P		**P**	**12 04 04.0**	**-0.2**
PLCA	**Paso Flores**	**52.00**	**251**	P		**P**	**12 04 07.0**	**-1.1**
PLCA				LR		LR	12 24 28.8	
	comp=Z,267nm,18.8s,baz=131,slow=34							
	comp=Z,3.7nm,0.8s							
PLCA	**Paso Flores**	**52.00**	**251**	*e*P		**P**	**12 04 07.4**	**-0.7**
PTGB	**Pitanga**	**52.82**	**279**	*e*P		**P**	**12 04 16.5**	**+2.1**
DIAM	**Diamantina, MG**	**53.14**	**292**	*e*P		**P**	**12 04 17.2**	**+0.3**
LR05	**Currie**	**53.15**	**250**			**P**	**12 04 16.2**	**-0.4**
LR05				IAmb		IAmb	12 04 18.7	
	comp=Z,61nm,1.3s							
CPUP	**Villa Florida**	**54.67**	**273**			**P**	**12 04 28.0**	**+0.2**
CPUP	**Villa Florida**	**54.67**	**273**	P		**P**	**12 04 27.4**	**-0.4**
	comp=Z,6.8nm,1.1s,baz=353,slow=6.2,SNR=15							
CPUP				LR		LR	12 23 34.7	
	comp=Z,101nm,21.9s,baz=1.0,slow=31							
	comp=Z,6.8nm,1.1s							
CPUP	**Villa Florida**	**54.67**	**273**	P		**P**	**12 04 28.0**	**+0.2**
CPUP				pmax		pmax		
	comp=Z,14nm,1.2s							
SJPY	**San Joaquin**	**54.96**	**275**	*e*P		**P**	**12 04 31.8**	**+1.9**
BI02	**San Fabin de**	**55.24**	**254**	P		**P**	**12 04 31.2**	**-0.7**
BI02				IAmb		IAmb	12 04 34.4	
	comp=Z,85nm,1.8s							
ITRB	**Iturama**	**55.75**	**284**	*e*P		**P**	**12 04 37.8**	**+2.2**
AMBA	**Amambai (Brazi**	**55.90**	**278**	*e*P		**P**	**12 04 37.3**	**+0.6**
IPMB	**Ipameri, GO**	**55.91**	**288**	*e*P		**P**	**12 04 36.9**	**0.0**
JANB	**Januaria**	**56.14**	**293**	*e*P		**P**	**12 04 38.0**	**-0.6**
BO02	**Sierra Bellavi**	**56.30**	**256**	P		**P**	**12 04 38.7**	**-0.8**
NBAN	**Anadia - AL**	**56.57**	**305**	*e*P		**P**	**12 04 40.7**	**-0.9**
MBAR	**Mbarara**	**56.64**	**28**	P		**P**	**12 04 41.5**	**-0.6**
MBAR				IAmb		IAmb	12 04 53.2	
	comp=Z,43nm,1.6s							
MBAR	**Mbarara**	**56.64**	**28**	*i* P		**P**	**12 04 41.9**	**-0.3**
MBAR				pmax		pmax		
	comp=Z,26nm,1.5s							
BO04	**La Punta**	**56.78**	**257**			**P**	**12 04 42.7**	**-0.3**
MT08	**Bocatoma Ro**	**56.84**	**258**	IAmb		IAmb	12 04 56.1	
	comp=Z,60nm,1.6s							
RPRD	**Ribas do Rio P**	**57.05**	**281**	*e*P		**P**	**12 04 47.2**	**+2.3**
CFA	**Coronel Fontan**	**57.15**	**260**	LR		LR	12 25 45.7	
	comp=Z,324nm,21.7s,baz=150,slow=32							
MT09	**Talagante**	**57.15**	**257**	IAmb		IAmb	12 04 55.3	
	comp=Z,50nm,1.3s							
KIBK	**Kibwezi**	**57.29**	**37**			**P**	**12 04 46.2**	**-0.4**
KIBK				IAmb		IAmb	12 04 57.8	
	comp=Z,33nm,1.3s							
KIBK	**Kibwezi**	**57.29**	**37**	P		**P**	**12 04 47.4**	**+0.7**
	SNR=7.3							
PEL	**Peldehue**	**57.44**	**257**	IAmb		IAmb	12 04 50.0	
	comp=Z,50nm,1.3s							
BDFB	**Brasilia**	**57.69**	**289**	P		**P**	**12 04 49.4**	**-0.2**
BDFB				IAmb		IAmb	12 04 53.4	
	comp=Z,60nm,1.4s							
BDFB	**Brasilia**	**57.69**	**289**	P		**P**	**12 04 49.4**	**-0.2**
	comp=Z,15nm,0.9s,baz=156,slow=4.2,SNR=11							
BDFB				LR		LR	12 25 14.3	
	comp=Z,412nm,19.1s,baz=146,slow=32							
	comp=Z,15nm,0.9s							
EDA	**Edea**	**57.79**	**3**	IAMs_20		IAMs_20	12 26 47.7	
	comp=Z,789nm,18.0s							
KMBO	**Kilima Mbogo**	**58.14**	**35**	P		**P**	**12 04 52.5**	**-0.3**
	comp=Z,3.2nm,0.3s,baz=196,slow=9.3,SNR=4.0							
KMBO				LR		LR	12 28 42.5	
	comp=Z,2μm,18.9s,baz=158,slow=35							
	comp=Z,3.2nm,0.3s							
AQDB	**Aquidauana**	**58.21**	**279**	*e*P		**P**	**12 04 53.3**	**+0.2**
SDBA	**SÃO DESIDERIO**	**58.65**	**294**	*e*P		**P**	**12 04 54.9**	**-1.4**
CO01	**Juntas del Tor**	**59.42**	**260**	IAmb		IAmb	12 05 33.7	
	comp=Z,64nm,1.6s							
RCBR	**Riachuelo**	**59.74**	**307**	LR		LR	12 25 24.8	
	comp=Z,52nm,18.8s,baz=102,slow=31							
ARAG	**Araguaiana, MT**	**59.77**	**286**	*e*P		**P**	**12 05 04.7**	**+0.8**
PP1B	**Ponte de Pedra**	**60.00**	**282**	*e*P		**P**	**12 05 06.1**	**+0.6**
AC02	**Maricunga**	**61.21**	**263**			**P**	**12 05 13.2**	**-1.1**
AC02				IAMs_20		IAMs_20	12 29 36.5	
	comp=Z,791nm,20.0s							
DBIC	**Dimbokro**	**61.56**	**346**			**P**	**12 05 15.6**	**-0.4**
DBIC	**Dimbokro**	**61.56**	**346**	P		**P**	**12 05 15.2**	**-0.8**
	comp=Z,39nm,1.0s,baz=184,slow=7.6,SNR=18							
DBIC				LR		LR	12 26 43.6	
	comp=Z,261nm,19.5s,baz=187,slow=31							
	comp=Z,39nm,1.0s							
DBIC	**Dimbokro**	**61.56**	**346**	P		**P**	**12 05 15.6**	**-0.4**
DBIC				pmax		pmax		
	comp=Z,51nm,1.1s							
LODK	**Lodwar**	**61.81**	**32**	IAMs_20		IAMs_20	12 31 25.7	
	comp=Z,858nm,18.0s							
SALV	**Santo Antonio**	**61.82**	**282**	*e*P		**P**	**12 05 18.8**	**+0.8**
SNDB	**Serra Nova Dou**	**62.50**	**289**	*e*P		**P**	**12 05 22.2**	**-0.3**
SMTB	**Santa Maria do**	**63.05**	**294**	*e*P		**P**	**12 05 26.0**	**-0.1**
PTLB	**Pontes e Lacer**	**64.17**	**280**			**P**	**12 05 33.3**	**-0.2**
PTLB				IAmb		IAmb	12 05 36.1	
	comp=Z,32nm,1.3s							
PTLB	**Pontes e Lacer**	**64.17**	**280**	*e*P		**P**	**12 05 33.4**	**-0.2**
SIV	**San Ignacio**	**64.86**	**278

PALK	**Pallekele**	**85.97**	**72**	LR	LR	12 37 44.9				
	comp=Z,325nm,19.6s,baz=218,slow=30									
MHTO	**MHTO**	**86.32**	**46**	P	**P**	**12 07 40.9**	**+0.2**			
EIL	**Elat**	**86.73**	**23**	LR	LR	12 44 38.1				
	comp=Z,516nm,20.7s,baz=175,slow=34									
MDT	**Midelt**	**87.31**	**350**	LR	LR	12 41 35.3				
	comp=Z,158nm,21.5s,baz=174,slow=32									
MD31	**MD31**	**87.38**	**349**	P	**P**	**12 07 45.8**	**+0.1**			
MD31				IAmb	IAmb	12 07 49.4				
	comp=Z,57nm,1.9s									
MD01	**Midelt array s**	**87.38**	**349**		**P**	**12 07 45.5**	**-0.3**			
FLOC	**Florencia**	**87.47**	**276**		**P**	**12 07 46.0**	**-0.7**			
FLOC				IAmb	IAmb	12 07 55.0				
	comp=Z,42nm,1.5s									
BSY	**Bisya**	**87.56**	**45**	P	**P**	**12 07 47.3**	**+0.5**			
	SNR=7.2									
JLN	**Jalan Bani Buh**	**87.96**	**47**	P	**P**	**12 07 48.4**	**-0.2**			
PCRV	**Puerto La Cruz**	**88.16**	**290**	LR	LR	12 43 20.3				
	comp=Z,348nm,19.8s,slow=33									
SMDO	**Samad**	**88.19**	**45**	P	**P**	**12 07 51.0**	**+1.1**			
	SNR=6.1									
HOQ	**Hoqain**	**88.36**	**44**	P	**P**	**12 07 52.0**	**+1.5**			
	SNR=10									
GHAJ	**Ghor Haditha**	**88.44**	**23**	IAMs_20	IAMs_20	12 44 35.7				
	comp=Z,556nm,21.0s									
SOHO	**SOHO**	**88.53**	**43**	P	**P**	**12 07 51.4**	**+0.1**			
BIDO	**Bidbid**	**88.64**	**45**	P	**P**	**12 07 53.0**	**+1.2**			
	SNR=6.0									
ASHO	**Ashtiyiah**	**88.83**	**43**	P	**P**	**12 07 54.0**	**+1.2**			
	SNR=7.3									
INKA	**Innaminka**	**88.85**	**139**		**P**	**12 07 52.7**	**-0.4**			
HATD	**Hatta, Dubai**	**88.99**	**43**	P	**P**	**12 07 55.0**	**+1.5**			
	SNR=5.5									
BAUV	**El Baul**	**89.05**	**287**		**P**	**12 07 54.3**	**+0.3**			
UOSS	**Minazif**	**89.12**	**43**	P	**P**	**12 07 53.5**	**-0.6**			
UOSS	**Minazif**	**89.12**	**43**	IAMs_20	IAMs_20	12 41 32.3				
	comp=Z,358nm,21.0s									
ROSC	**El Rosal**	**89.32**	**279**	LR	LR	12 44 46.4				
	comp=Z,545nm,20.8s,baz=170,slow=34									
KEST	**Kesra**	**89.56**	**1**		**P**	**12 07 56.8**	**+0.8**			
KEST				IAmb	IAmb	12 08 13.8				
	comp=Z,49nm,1.4s									
KEST	**Kesra**	**89.56**	**1**	P	**P**	**12 07 56.4**	**+0.4**			
	comp=Z,15nm,1.1s,baz=236,slow=3.3,SNR=12									
KEST				LR	LR	12 45 58.8				
	comp=Z,238nm,18.8s,baz=229,slow=34									
	comp=Z,15nm,1.1s									
KEST	**Kesra**	**89.56**	**1**	P	**P**	**12 07 58.1**	**+2.1**			
ASF	**Jabal al Asfar**	**89.59**	**24**	LR	LR	12 47 39.4				
	comp=Z,473nm,18.8s,baz=231,slow=35									
ASAR	**Alice Springs**	**89.67**	**132**	P	**P**	**12 07 55.3**	**-1.7**			
ASAR	**Alice Springs**	**89.67**	**132**	P	**P**	**12 07 55.5**	**-1.5**			
	comp=Z,7.2nm,1.0s,baz=196,slow=5.0,SNR=25									
ASAR				LR	LR	12 42 45.4				
	comp=Z,108nm,19.1s,baz=156,slow=32									
	comp=Z,7.2nm,1.0s									
AS31	**Alice Springs**	**89.67**	**132**		**P**	**12 07 56.1**	**-0.9**			
WDD	**Wied Dalam**	**89.84**	**5**	IAMs_20	IAMs_20	12 52 15.9				
	comp=Z,377nm,18.0s									
MMAI	**Mount Meron Ar**	**90.05**	**23**	LR	LR	12 46 31.6				
	comp=Z,482nm,21.5s,baz=189,slow=34									
LEM	**Lembang**	**90.20**	**102**	LR	LR	12 40 29.8				
	comp=Z,111nm,20.2s,baz=176,slow=30									
IDI	**Anoyia**	**90.32**	**14**	IAmb	IAmb	12 08 12.0				
	comp=Z,26nm,1.2s									
IDI	**Anoyia**	**90.32**	**14**	LR	LR	12 49 44.5				
	comp=Z,196nm,19.9s,baz=196,slow=36									
SDV	**Santo Domingo**	**90.47**	**284**	IAMs_20	IAMs_20	12 47 23.7				
	comp=Z,391nm,18.0s									
SDV	**Santo Domingo**	**90.47**	**284**	LR	LR	12 47 25.7				
	comp=Z,236nm,18.2s,baz=101,slow=35									
FITZ	**Fitzroy Crossi**	**90.62**	**123**	LR	LR	12 43 12.2				
	comp=Z,190nm,20.2s,baz=193,slow=32									
KARP	**Karpathos**	**90.91**	**16**	P	**P**	**12 08 02.6**	**+0.4**			
	comp=Z,633nmcomp=Z,49nm,1.5s									
VAE	**Valguarnera**	**91.47**	**5**	LR	LR	12 48 26.9				
	comp=Z,275nm,18.5s,baz=150,slow=35									
CSS	**Mathiatis**	**91.47**	**21**	IAMs_20	IAMs_20	12 49 41.8				
	comp=Z,405nm,20.0s									
CSS	**Mathiatis**	**91.47**	**21**	P	**P**	**12 08 05.1**	**+0.3**			
	comp=Z,16nm,1.4s									
CEL	**Celeste**	**92.33**	**6**	IAMs_20	IAMs_20	12 50 42.9				
	comp=Z,344nm,20.0s									
CEL	**Celeste**	**92.33**	**6**	P	**P**	**12 08 10.0**	**+1.2**			
	comp=Z,12nm,1.1s									
WRA	**Warramunga Arr**	**93.12**	**131**		**P**	**12 08 13.4**	**+0.4**			
WRA	**Warramunga Arr**	**93.12**	**131**	P	**P**	**12 08 13.6**	**+0.5**			
	comp=Z,2.0nm,1.0s,baz=209,slow=4.5,SNR=6.9									
WRA				LR	LR	12 42 52.9				
	comp=Z,142nm,20.3s,baz=180,slow=31									
	comp=Z,2.0nm,1.0s									
WRA	**Warramunga Arr**	**93.12**	**131**	P	**P**	**12 08 13.4**	**+0.4**			
WRA				pmax	pmax					
	comp=Z,1.0nm,1.5s									
TIP	**Timpagrande**	**93.31**	**7**	P	**P**	**12 08 13.8**	**+0.6**			
TIP				IAmb	IAmb	12 08 18.0				
	comp=Z,23nm,1.3s									
TIP	**Timpagrande**	**93.31**	**7**	P	**P**	**12 08 14.2**	**+1.0**			
	comp=Z,12nm,1.2s									
VSL	**Villasalto**	**93.32**	**1**	IAMs_20	IAMs_20	12 50 02.0				
	comp=Z,345nm,18.0s									
ISP	**Isparta**	**93.70**	**18**	IAMs_20	IAMs_20	12 53 38.3				
	comp=Z,306nm,19.0s									
ESDC	**Sonseca Array**	**94.04**	**351**		**P**	**12 08 16.5**	**0.0**			
ESDC	**Sonseca Array**	**94.04**	**351**	P	**P**	**12 08 16.1**	**-0.5**			
	comp=Z,1.2nm,0.9s,baz=166,slow=4.9,SNR=7.8									
ESDC				LR	LR	12 48 26.9				
	comp=Z,98nm,18.3s,baz=171,slow=34									
	comp=Z,1.2nm,0.9s									
COI	**Coimbra**	**95.06**	**348**	IAMs_20	IAMs_20	12 45 27.2				
	comp=Z,369nm,22.0s									
SJG	**San Juan**	**95.51**	**293**	LR	LR	12 48 18.5				
	comp=Z,91nm,19.2s,baz=188,slow=34									
ANTO	**Ankara**	**96.11**	**19**	IAMs_20	IAMs_20	12 54 50.5				
	comp=Z,340nm,22.0s									
BRTR	**Keskin Array B**	**96.13**	**20**	P	**P**	**12 08 26.6**	**+0.4**			
	comp=Z,1.5nm,0.7s,baz=171,slow=6.8,SNR=8.0									
BRTR				PP	**PP**	**12 12 19.4**	**-0.5**			
	comp=Z,1.1nm,0.8s,baz=190,slow=7.3,SNR=3.9									
	comp=Z,1.5nm,0.7s									
BRTR	**Keskin Array B**	**96.13**	**20**	*i* P	**P**	**12 08 27.6**	**+1.3**			
BRTR				pmax	pmax					
	comp=Z,2.0nm,0.7s									
BR131	**Keskin Array S**	**96.13**	**20**	*e*P	**P**	**12 08 26.7**	**+0.4**			
BATI	**Baumata**	**96.28**	**117**	LR	LR	12 43 40.5				
	comp=Z,165nm,21.6s,baz=200,slow=30									
RAO	**Raoul Island**	**96.76**	**175**	LR	LR	12 50 36.4				
	comp=Z,192nm,18.6s,baz=162,slow=34									
KAPI	**Kappang**	**98.52**	**111**	LR	LR	12 44 06.1				
	comp=Z,117nm,20.9s,baz=211,slow=30									
KAPI	**Kappang**	**98.52**	**111**	*i* P	Pdif	12 08 39.2	+1.6			
KAPI				pmax	pmax					
	comp=Z,46nm,1.7s									
GNI	**Garni**	**99.16**	**28**	LR	LR	12 53 05.7				
	comp=Z,342nm,20.5s,baz=208,slow=35									
TIRR	**Tirgusor**	**99.82**	**15**	IAMs_20	IAMs_20	12 55 41.9				
	comp=Z,290nm,21.0s									
JTS	**Las Juntas de**	**99.90**	**274**	LR	LR	12 52 39.4				
	comp=Z,138nm,20.9s,baz=145,slow=35									
TBI	**Tubuai**	**100.35**	**201**	*e*LR	LR	12 41 25.5				
	comp=Z,900nm,33.5s									
TBI				*e*LR	LR	12 41 26.2				
	comp=Z,3μm,35.5s									
SOC	**Sochi**	**101.13**	**23**	*e*P	**Pdif**	**12 08 46.1**	**-2.3**			
SOC				*e*		12 12 58.5				
AKT	**Akhty**	**101.24**	**29**	*e*P	**Pdif**	**12 08 43.2**	**-5.9**			
AKT				MLR	MLR					
	comp=Z,405nm,20.0s									
DZM	**Mont Dzumac**	**101.85**	**160**	*e*LR	LR	12 42 07.9				
	comp=Z,343nm,22.4s									
KIV	**Kislovodsk**	**102.19**	**25**	*e*P	**Pdif**	**12 08 54.1**	**+0.9**			
KIV				pmax	pmax					
	comp=Z,5.0nm,0.9s									
KIV				MLR	MLR					
	comp=Z,347nm,20.0s									
PSZ	**Piszkesteto**	**102.24**	**8**	IAMs_20	IAMs_20	12 47 11.9				
	comp=Z,338nm,20.0s									
MAK	**Makhachkala**	**102.54**	**29**	*e*P	**Pdif**	**12 08 52.0**	**-2.6**			
MAK				*i*		12 13 11.4				
MAK				*e*PPP	PPP	12 15 18.3				
MAK				*e*		12 19 26.2				
MAK				*e*PS	**PS**	**12 22 11.9**	**-2.5**			
MAK				*e*		12 23 10.1				
MAK				*e*SS	SS	12 27 40.0	-7.0			
MAK				pmax	pmax					
	comp=Z,64nm,0.7s									
MAK				MLR	MLR					
	comp=Z,299nm,17.0s									
CLL	**Collm**	**105.21**	**3**	*e*SS	SS	12 28 24.0	+0.6			
PPT2	**Papeete2**	**105.94**	**202**	*e*SS	SS	12 28 32.1	0.0			
	comp=Z,203nm,26.5s									
PPT2	**Papeete2**	**105.94**	**202**	*e*LR	LR	12 43 58.1				
	comp=Z,547nm,23.2s									
PPT2				*e*LR	LR	12 44 01.4				
	comp=Z,438nm,23.5s									
LSA	**Lhasa**	**109.82**	**67**	IAMs_20	IAMs_20	12 55 20.7				
	comp=Z,247nm,19.0s									
TAOE	**Nuku Hiva Isla**	**111.65**	**214**	*e*SS	SS	12 29 49.9	+0.4			
	comp=Z,223nm,26.2s									
TAOE	**Nuku Hiva Isla**	**111.65**	**214**	*e*LR	LR	12 46 31.6				
	comp=Z,315nm,32.9s									
AAK	**Ala-Archa**	**111.96**	**47**	*c i* PKIKP	**PKiKP**	**12 13 34.1**	**+0.6**			
AAK				pmax	pmax					
	comp=Z,2.0nm,0.7s									
QIZ	**Qiongzhong**	**112.19**	**88**	Pdif	**Pdif**	**12 09 41.8**	**+3.6**			
QIZ				PP	**PP**	**12 14 18.5**	**-0.8**			
QIZ				SS	SS	12 30 00.9	+2.8			
QIZ				LR	LR					
	comp=Z,260nm,9.6s									
QIZ				LR	LR					
	comp=Z,290nm,11.2s									
QIZ				LR	LR					
	comp=Z,320nm,16.9s									
PZH	**PanZhiHua**	**113.25**	**77**	PKP	**PKiKP**	**12 13 37.8**	**+1.4**			
KLMR	**Klimovskoe**	**117.42**	**17**	*e*PKIKP	**PKiKP**	**12 13 43.5**	**+0.3**			
KLMR				pmax	pmax					
	comp=Z,15nm,1.3s									
ARTI	**Arti**	**117.68**	**29**	*i* PKIKP	**PKPdf**	**12 13 43.3**	**-0.5**			
ARTI						12 20 54.8				
ARTI				SP	SP	12 24 34.5	-5.7			
CD2	**Chengdu**	**117.74**	**75**	PKP	**PKiKP**	**12 13 46.0**	**+1.1**			
BVAR	**Borovoye Array**	**118.75**	**38**	PKP	**PKPdf**	**12 13 45.4**	**-0.6**			
	comp=Z,6.0nm,0.8s,baz=198,slow=4.1,SNR=17									
WMQ	**Urumqi**	**118.89**	**54**	*e*PKP	**PKiKP**	**12 13 48.0**	**+1.3**			
WMQ				LR	LR					
	comp=Z,430nm,21.9s									
KURBB	**Kurchatov Arra**	**119.98**	**44**	PKP	**PKPdf**	**12 13 48.1**	**-0.3**			
	comp=Z,1.6nm,0.8s,baz=229,slow=2.7,SNR=14									
KURK	**Kurchatov**	**120.09**	**44**		**PKPdf**	**12 13 48.3**	**-0.3**			
KURK	**Kurchatov**	**120.09**	**44**	IAMs_20	IAMs_20	13 07 41.0				
	comp=Z,242nm,22.0s									
KURK	**Kurchatov**	**120.09**	**44**	*ce*PKIKP	**PKiKP**	**12 13 48.7**	**0.0**			
KURK				pmax	pmax					
	comp=Z,4.0nm,1.3s									
OXF	**Oxford**	**121.18**	**287**	IAMs_20	IAMs_20	12 56 36.1				
	comp=Z,195nm,20.0s									
GTA	**Gaotai**	**121.81**	**66**	*e*PKP	**PKPdf**	**12 13 52.0**	**-0.5**			
GTA				LR	LR					
	comp=Z,270nm,18.2s									
GTA				LR	LR					
	comp=Z,180nm,17.1s									
GTA				LR	LR					
	comp=Z,320nm,19.3s									
P48A	**Milroy**	**122.56**	**294**	IAMs_20	IAMs_20	13 11 58.8				
	comp=Z,296nm,22.0s									
XAN	**Xi'an**	**122.99**	**76**	Pdif	**Pdif**	**12 10 29.4**	**+3.5**			
XAN				PKP	**PKPdf**	**12 13 54.8**	**0.0**			
XAN				PP	**PP**	**12 15 41.3**	**+6.8**			
ARCES	**ARCESS Array B**	**124.08**	**7**		**PKPdf**	**12 13 55.8**	**0.0**			
ARCES	**ARCESS Array B**	**124.08**	**7**	PKP	**PKPdf**	**12 13 55.2**	**-0.5**			
	comp=Z,13nm,0.9s,baz=219,slow=0.8,SNR=14									
Q44A	**Meyer Farm, Va**	**124.12**	**291**	IAMs_20	IAMs_20	13 10 41.0				
	comp=Z,276nm,20.0s									
TXAR	**Lajitas Array**	**125.63**	**272**		**PKiKP**	**12 14 00.4**	**-0.1**			
TXAR	**Lajitas Array**	**125.63**	**272**	PKP	**PKPdf**	**12 13 59.5**	**-0.6**			
	comp=Z,1.7nm,0.9s,baz=182,slow=3.6,SNR=11									
TX31	**Lajitas Ar. Si**	**125.64**	**272**		**PKiKP**	**12 14 00.3**	**-0.2**			
OK052	**Battle Ridge R**	**126.44**	**283**	IAMs_20	IAMs_20	13 07 12.5				
	comp=Z,248nm,20.0s									
NJ2	**Nanjing**	**127.31**	**85**	*e*PKP	**PKiKP**	**12 14 04.3**	**+0.7**			
VHRN	**Van Horn**	**127.47**	**272**		**PKPdf**	**12 14 02.8**	**-0.9**			
OK038	**West end E0370**	**127.89**	**282**	IAMs_20	IAMs_20	12 51 28.0				
	comp=Z,271nm,21.0s									
BTO	**Baotou**	**128.23**	**71**	*e*PKP	**PKPdf**	**12 14 02.1**	**-2.6**			
BTO				LR	LR					
	comp=Z,280nm,11.1s									
BTO				LR	LR					
	comp=Z,230nm,8.9s									
BTO				LR	LR					
	comp=Z,280nm,10.2s									
EPT	**El Paso**	**129.08**	**272**	IAMs_20	IAMs_20	13 04 14.1				
	comp=Z,223nm,19.0s									
HHC	**Hu-ho-hao-te**	**129.26**	**72**	*e*PKP	**PKPdf**	**12 14 04.3**	**-2.4**			
SUMG	**Summit**	**130.47**	**343**		**PKPdf**	**12 14 08.6**	**+0.2**			
SUMG	**Summit**	**130.47**	**343**	PKIKP	**PKPdf**	**12 14 08.6**	**+0.2**			
ANMO	**Albuquerque**	**131.31**	**275**	*ce*PKIKP	**PKPdf**	**12 14 11.2**	**+0.3**			
ANMO				pmax	pmax					
	comp=Z,3.0nm,1.3s									
PDAR	**Pinedale Array**	**138.30**	**281**	PKP	**PKPdf**	**12 14 21.6**	**-2.2**			
	comp=Z,1.2nm,0.9s,baz=132,slow=4.4,SNR=8.0									
SPR3	**Spring Creek 3**	**138.68**	**273**		**PKPdf**	**12 14 25.4**	**+0.8**			
LAO	**LASA Array**	**138.75**	**288**		**PKiKP**	**12 14 26.2**	**-0.2**			
LOHW	**Long Hollow**	**139.42**	**281**		**PKiKP**	**12 14 27.7**	**-0.3**			
TPAW	**Teton Pass**	**139.55**	**281**		**PKPdf**	**12 14 26.4**	**+0.4**			
RLMT	**Red Lodge**	**139.56**	**284**		**PKiKP**	**12 14 28.0**	**-0.3**			
IMW	**Indian Meadow**	**139.79**	**281**		**PKPdf**	**12 14 26.9**	**+0.4**			
NVAR	**Mina Array Bea**	**140.64**	**269**	PKP	**PKPdf**	**12 14 26.6**	**-1.5**			
	comp=Z,2.4nm,1.0s,baz=138,slow=3.4,SNR=7.2									
DLMT	**Dillon**	**141.61**	**282**		**PKPdf**	**12 14 30.9**	**+1.3**			
MSO	**Missoula**	**143.21**	**283**		**PKPdf**	**12 14 32.1**	**-0.2**			
WVOR	**Wild Horse Val**	**143.39**	**274**		**PKPdf**	**12 14 32.3**	**-0.5**			
WVOR	**Wild Horse Val**	**143.39**	**274**	PKIKP	**PKPdf**	**12 14 32.3**	**-0.5**			
PLID	**Pearl Lake**	**143.42**	**279**		**PKPdf**	**12 14 32.6**	**-0.3**			
RES	**Resolute Bay**	**144.53**	**333**		**PKPdf**	**12 14 33.3**	**-0.3**			
RES	**Resolute Bay**	**144.53**	**333**	PKIKP	**PKPdf**	**12 14 33.3**	**-0.3**			
ZEA	**Zeya**	**145.30**	**65**	*e*PKIKP	**PKPbc**	**12 14 35.3**	**-0.1**			
ZEA				pmax	pmax					
	comp=Z,10.0nm,1.2s									
NEW	**Newport**	**145.80**	**283**		**PKPdf**	**12 14 36.8**	**+0.1**			
NEW	**Newport**	**145.80**	**283**	PKP2	**PKPdf**	**12 14 36.8**	**+0.1**			
HAWA	**Hanford**	**146.20**	**279**		**PKPab**	**12 14 38.9**	**-0.3**			
D08A	**Wollman Farm,**	**146.20**	**280**		**PKPbc**	**12 14 38.3**	**-0.1**			
D05A	**Enumclaw**	**148.05**	**278**		**PKPbc**	**12 14 44.4**	**+0.8**			
GNW	**Green Mountain**	**148.73**	**278**		**PKPbc**	**12 14 45.6**	**+0.3**			
YAK	**Yakutsk**	**149.27**	**52**	PKPbc	**PKPdf**	**12 14 43.9**	**+2.1**			
	comp=Z,7.1nm,0.3s,baz=61,slow=1.5,SNR=7.7									
YAK	**Yakutsk**	**149.27**	**52**	*e*PKIKP	**PKPdf**	**12 14 43.2**	**+1.3**			
YAK				*e*		12 14 49.8				
YAK				*e*		12 18 19.9				
YAK				pmax	pmax					
	comp=Z,35nm,1.3s									
YAK				pmax	pmax					
	comp=N,3.0nm,1.3s									
YAK				pmax	pmax					
	comp=E,10.0nm,1.3s									
YAK				pmax	pmax					
	comp=Z,304nm,4.9s									
YAK				pmax	pmax					
	comp=N,70nm,4.2s									
YAK				pmax	pmax					
	comp=E,94nm,4.1s									
YKA	**Yellowknife Ar**	**149.66**	**309**	PKPbc	**PKPbc**	**12 14 46.4**	**-0.8**			
	comp=E,12nm,0.8s,baz=88,slow=2.7,SNR=18									
TIXI	**Tiksi**	**149.69**	**33**		**PKPab**	**12 14 53.3**	**+0.9**			
TIXI	**Tiksi**	**149.69**	**33**	pmax	pmax					
	comp=Z,60nm,1.8s									
G31M	**Satah River**	**157.88**	**320**		**PKPab**	**12 15 27.6**	**+0.4**			
H31M	**Peel River**	**158.21**	**317**		**PKPab**	**12 15 29.6**	**+0.9**			
E29M	**Blow River**	**158.66**	**325**		**PKPab**	**12 15 31.5**	**+0.9**			
E27K	**Coleen River**	**159.98**	**326**		**PKPab**	**12 15 37.2**	**+0.9**			
I28M	**Miner Creek**	**160.53**	**318**		**PKPab**	**12 15 39.3**	**+0.4**			
G26K	**Porcupine Rive**	**161.32**	**324**		**PKPab**	**12 15 43.6**	**+1.4**			
BCAR	**Beaver Creek A**	**162.03**	**312**		**PKPab**	**12 15 45.8**	**+0.3**			
PRP	**Porcupine Dome**	**162.63**	**321**		**PKPab**	**12 15 49.1**	**+0.9**			
H24K	**Noodor Dome**	**163.31**	**324**		**PKPab**	**12 15 51.9**	**+0.9**			
ILAR	**Eielson Array**	**163.49**	**320**		**PKPab**	**12 15 51.4**	**-0.4**			
ILAR	**Eielson Array**	**163.49**	**320**	PKPab	**PKPab**	**12 15 52.0**	**+0.3**			
	comp=Z,5.1nm,0.9s,baz=48,slow=3.4,SNR=22									
ILAR				PP	**PP**	**12 19 42.4**	**+4.7**			
	comp=Z,2.3nm,1.2s,baz=41,slow=4.5,SNR=5.2									
ILAR	**Eielson Array**	**163.49**	**320**	PKP2	**PKPab**	**12 15 51.4**	**-0.4**			
E19K	**Redstone River**	**164.90**	**338**		**PKPab**	**12 15 58.5**	**+0.6**			

*DJA **18** 12:03:59.4±0.5,5°N±3°×12°6E±°, h10km,M4.7/11,mB5.1/4, mb4.8/5,MLv4.7/11,Mw(mB)4.4/4*
*NEIC **18** 12:04:04.5±1.4,5°39N±0°04×126°24E±0°07,h77km±8km, mb4.8/49,Error ellipse: s-maj=11.3km s-min=5.1km az=106.0*
*IDC **18** 12:04:05.2±1.4,5°38N×126°17E,h89km±11km,mb4.2/22,*

mbtmp4.5/22,MS3.6/15,Error ellipse: s-maj=25.0km s-min=10.5km az=73.0
ISC 18 12:04:03.9±0.6,**5°34N**±0°04×**126°22E**±0°08,**h76**km±6km, **n124**,σ1**17**/115,**mb4.7**/49,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SGSI	**Sangihe**	**1.78**	**203**	P	**Pn**	**12 04 31.3**			**-1.6**
SGSI				S	**Sn**	**12 04 55.1**			**+0.3**
DAV	**Davao City (W)**	**1.83**	**340**		**Pn**	**12 04 32.8**			**-0.8**
DAV	**Davao City (W)**	**1.83**	**340**	P	**Pn**	**12 04 32.7**			**-0.9**
	487nm,0.3s,baz=267,slow=7.5,SNR=5.4								
DAV				S	**Sn**	**12 04 57.5**			**+1.5**
	870nm,0.4s,baz=266,slow=23,SNR=7.1								
DAV				LR	LR	12 05 27.3			
	comp=Z,2μm,18.9s,baz=163,slow=46								
TNTI	**Ternate**	**4.68**	**166**		**Pn**	**12 05 12.6**			**+0.4**
TNTI	**Ternate**	**4.68**	**166**	P	**Pn**	**12 05 11.2**			**-1.0**
TNTI				S	**Sn**	**12 06 06.9**			**+1.7**
MRSI	**Marisa**	**6.45**	**222**	P	**Pn**	**12 05 36.8**			**+0.5**
TOLI2	**Tolitoli**	**6.86**	**232**		**Pn**	**12 05 41.3**			**-0.7**
LUWI	**Luwuk**	**7.21**	**209**		**Pn**	**12 05 47.3**			**+0.5**
LUWI	**Luwuk**	**7.21**	**209**	P	**Pn**	**12 05 48.3**			**+1.5**
	2μm150nm,1.0s								
SANI	**Sanana**	**7.34**	**182**	P	**Pn**	**12 05 44.7**			**-3.9**
MYLDM	**Lahad Datu**	**7.69**	**269**	Pn	**Pn**	**12 05 52.3**			**-0.9**
KKM	**Kota Kinabalu**	**9.98**	**275**	Pn	**Pn**	**12 06 23.5**			**-1.1**
KAPI	**Kappang**	**12.15**	**212**	LR	LR	12 12 42.9			
	comp=Z,179nm,18.8s,baz=44,slow=43								
SBUM	**Sibu**	**14.26**	**259**		**Pn**	**12 07 22.0**			**-0.3**
SOEI	**Soe**	**15.12**	**187**	Pn	**Pn**	**12 07 34.0**			**+0.5**
SOEI				IAmb	IAmb	12 08 03.4			
	comp=Z,57nm,1.2s								
JAY	**Jayapura**	**16.44**	**118**	LR	LR	12 13 37.1			
	comp=Z,128nm,18.2s,baz=300,slow=35								
JAGI	**Jajag, Banyuwa**	**18.25**	**221**	P	**P**	**12 08 11.4**			**0.0**
JAGI				IAmb	IAmb	12 08 38.5			
	comp=Z,42nm,1.1s								
YULB	**Yu-li**	**18.57**	**346**	P	**P**	**12 08 13.3**			**-1.5**
YULB				IAmb	IAmb	12 08 23.2			
	comp=Z,78nm,1.4s								
TPUB	**Ta-pu**	**18.65**	**344**	P	**P**	**12 08 14.8**			**-1.0**
TPUB				IAmb	IAmb	12 08 25.2			
	comp=Z,107nm,1.5s								
MTN	**Manton Dam**	**18.71**	**165**	P	**P**	**12 08 15.6**			**-0.9**
GUMO	**Guam**	**20.12**	**65**	LR	LR	12 14 48.9			
	comp=Z,131nm,21.8s,baz=226,slow=32								
KNRA	**Kununurra**	**21.03**	**173**		**P**	**12 08 42.3**			**+0.6**
KNRA				IAmb	IAmb	12 08 50.6			
	comp=Z,26nm,0.8s								
LEM	**Lembang**	**22.15**	**237**	LR	LR	12 19 56.3			
	comp=Z,63nm,18.1s,baz=10,slow=43								
FITZ	**Fitzroy Crossi**	**23.30**	**181**		**P**	**12 09 05.2**			**-0.1**
PMG	**Port Moresby**	**25.50**	**125**	LR	LR	12 20 02.9			
	comp=Z,102nm,18.9s,baz=238,slow=38								
COEN	**Coen**	**25.51**	**139**	P	**P**	**12 09 24.0**			**-1.5**
WB0	**Warramunga Arr**	**26.21**	**162**		**P**	**12 09 32.5**			**+0.7**
WB0				IAmb	IAmb	12 09 43.8			
	comp=Z,15nm,0.8s								
WRAB	**Tennant Creek**	**26.36**	**163**	P	**P**	**12 09 33.5**			**+0.4**
WRA	**Warramunga Arr**	**26.36**	**

H11S2	**WAKE ISLAND Hy**	**41.60**	**68**	T	T	12 55 36.1		
	baz=257,slow=75,SNR=13							
H11N1	**WAKE ISLAND Hy**	**42.06**	**66**	T	T	12 56 11.7		
	baz=255,slow=75,SNR=6.6							
H11N2	**WAKE ISLAND Hy**	**42.06**	**66**	T	T	12 56 12.4		
	baz=255,slow=75,SNR=10							
H11N3	**WAKE ISLAND Hy**	**42.07**	**66**	T	T	12 56 13.0		
	baz=255,slow=75,SNR=13							
ULN	**Ulaanbaatar**	**45.44**	**342**	P	**P**	**12 12 15.7**	**+0.3**	
ULN				IAmb	IAmb	12 12 16.6		
	comp=Z,9.1nm,1.0s							
SONM	**Songino Array**	**45.62**	**341**	P	**P**	**12 12 17.0**	**+0.2**	
SONM	**Songino Array**	**45.62**	**341**	P	**P**	**12 12 16.6**	**-0.1**	
	comp=Z,2.1nm,0.7s,baz=157,slow=9.2,SNR=12							
SONM				PcP	**PcP**	**12 13 54.5**	**+0.6**	
	comp=Z,3.4nm,0.7s,baz=163,slow=3.8,SNR=10							
	comp=Z,2.1nm,0.7s							
TOO	**Toolangi**	**46.31**	**159**	P	**P**	**12 12 22.5**	**+0.2**	
WMQ	**Urumqi**	**51.12**	**325**	*e*P	**P**	**12 13 01.9**	**+2.8**	
WMQ				LR	LR			
	comp=Z,370nm,23.9s							
PETK	**Petropavlovsk-**	**54.15**	**23**	P	**P**	**12 13 20.6**	**-0.6**	
	comp=Z,2.1nm,0.7s,baz=101,slow=4.0,SNR=4.5							
	comp=Z,2.1nm,0.7s							
MK31	**Makanchi Array**	**55.95**	**325**	P	**P**	**12 13 34.3**	**-0.1**	
MK31				IAmb	IAmb	12 13 35.3		
	comp=Z,5.7nm,0.7s							
MKAR	**Makanchi Array**	**55.95**	**325**		**P**	**12 13 34.4**	**0.0**	
MKAR	**Makanchi Array**	**55.95**	**325**	P	**P**	**12 13 34.5**	**+0.1**	
	comp=Z,8.4nm,0.5s,baz=120,slow=7.7,SNR=86							
	comp=Z,8.4nm,0.5s							
MAKZ	**Makanchi**	**56.14**	**325**	P	**P**	**12 13 35.5**	**-0.2**	
MAKZ				IAmb	IAmb	12 13 36.2		
	comp=Z,6.7nm,0.6s							
MAKZ	**Makanchi**	**56.14**	**325**	P	**P**	**12 13 35.7**	**0.0**	
MAKZ				pP	**pP**	**12 13 55.0**	**+0.9**	
PRZ	**Przheval'sk**	**56.17**	**319**	P	**P**	**12 13 36.6**	**+0.4**	
TARG	**Taragay, Kyrgy**	**56.22**	**318**	P	**P**	**12 13 35.5**	**-1.4**	
TARG				IAmb	IAmb	12 13 47.6		
	comp=Z,3.9nm,0.9s							
NIL	**Nilore**	**56.55**	**307**	P	**P**	**12 13 38.5**	**-0.4**	
NIL				IAmb	IAmb	12 13 41.1		
	comp=Z,15nm,1.1s							
YAK	**Yakutsk**	**56.62**	**2**	P	**P**	**12 13 37.6**	**-1.1**	
YAK	**Yakutsk**	**56.62**	**2**	P	**P**	**12 13 38.5**	**-0.3**	
	comp=Z,31nm,0.7s,baz=45,slow=2.5,SNR=9.3							
	comp=Z,31nm,0.7s							
ZAA0	**Zalesovo Array**	**58.93**	**333**		**P**	**12 13 54.4**	**-0.7**	
ZAA0				IAmb	IAmb	12 13 57.6		
	comp=Z,15nm,1.4s							
ZALV	**Zalesovo Beam**	**58.93**	**333**	P	**P**	**12 13 54.4**	**-0.7**	
ZALV	**Zalesovo Beam**	**58.93**	**333**	P	**P**	**12 13 53.5**	**-1.7**	
	comp=Z,1.8nm,0.3s,baz=136,slow=6.1,SNR=11							
	comp=Z,1.8nm,0.3s							
ZALV	**Zalesovo Beam**	**58.93**	**333**	*i* PKIKP	**P**	**12 13 54.5**	**-0.6**	
ARSB	**Arslanbob**	**59.36**	**315**	IAmb	IAmb	12 13 60.0		
	comp=Z,12nm,1.3s							
KURBB	**Kurchatov Arra**	**60.12**	**327**	P	**P**	**12 14 02.0**	**-1.3**	
	comp=Z,7.1nm,0.6s,baz=125,slow=6.7,SNR=66							
	comp=Z,7.1nm,0.6s							
KURK	**Kurchatov**	**60.12**	**327**		**P**	**12 14 03.0**	**-0.3**	
KURK	**Kurchatov**	**60.12**	**327**	P	**P**	**12 14 03.0**	**-0.3**	
GAR	**Garm**	**60.47**	**312**		**P**	**12 14 06.1**	**0.0**	
SIMJ	**Simiganj**	**61.34**	**311**	P	**P**	**12 14 11.7**	**-0.4**	
SIMJ				IAmb	IAmb	12 14 37.6		
	comp=Z,7.2nm,0.7s							
KK31	**Karatay Array**	**61.72**	**317**	P	**P**	**12 14 14.4**	**0.0**	
KK31				IAmb	IAmb	12 14 15.9		
	comp=Z,6.5nm,1.1s							
KKAR	**Karatay Array**	**61.72**	**317**	P	**P**	**12 14 13.8**	**-0.6**	
BVAR	**Borovoye Array**	**65.70**	**327**	P	**P**	**12 14 40.1**	**-0.3**	
	comp=Z,5.8nm,0.8s,baz=120,slow=8.8,SNR=9.1							
	comp=Z,5.8nm,0.8s							
TIXI	**Tiksi**	**66.25**	**1**		**P**	**12 14 42.0**	**-1.5**	
TIXI	**Tiksi**	**66.25**	**1**	P	**P**	**12 14 46.0**	**+2.5**	
TIXI				pP	**pwP**	**12 15 05.9**	**+0.3**	
TIXI	**Tiksi**	**66.25**	**1**	*e*PKHKP	PKPpre	12 14 41.6		
AB31	**Akbulak array**	**70.59**	**321**		**P**	**12 15 11.1**	**+0.1**	
ABKAR	**Akbulak array**	**70.59**	**321**		**P**	**12 15 10.6**	**-0.4**	
F19K	**Shaleruckik Mo**	**79.62**	**23**	P	**P**	**12 16 01.8**	**-0.8**	
F19K				IAmb	IAmb	12 16 03.0		
	comp=Z,15nm,1.1s							
CCD	**Concordia, Ant**	**80.33**	**181**	P	**P**	**12 16 11.3**	**+4.6**	
CCD				pP	**pwP**	**12 16 31.7**	**+0.9**	
ILAR	**Eielson Array**	**83.88**	**25**	P	**P**	**12 16 23.8**	**-1.3**	
	comp=Z,1.4nm,0.9s,baz=254,slow=5.5,SNR=9.4							
	comp=Z,1.4nm,0.9s							
VNDA	**Vanda**	**85.08**	**173**	P	**P**	**12 16 30.9**	**+0.1**	
	comp=Z,0.7nm,0.8s,baz=315,slow=5.7,SNR=6.3							
	comp=Z,0.7nm,0.8s							
OBN	**Obninsk**	**85.46**	**325**	LR	LR	12 58 44.2		
	comp=Z,88nm,18.4s,baz=198,slow=38							
PPT	**Papeete**	**86.09**	**108**	LR	LR	12 52 01.7		
	comp=Z,207nm,18.0s,baz=174,slow=33							
ARCES	**ARCESS Array B**	**88.77**	**340**	P	**P**	**12 16 48.7**	**-0.3**	
	comp=Z,7.3nm,0.7s,baz=86,slow=5.7,SNR=17							
	comp=Z,7.3nm,0.7s							
SPITS	**Spitsbergen Ar**	**88.81**	**349**	P	**P**	**12 16 49.1**	**+0.1**	
	comp=Z,6.3nm,0.7s,baz=66,slow=4.9,SNR=2.2							
	comp=Z,6.3nm,0.7s							
FINES	**FINESS Array B**	**90.18**	**332**	P	**P**	**12 16 55.0**	**-0.7**	
	comp=Z,1.8nm,0.6s,baz=63,slow=5.7,SNR=15							
FINES				LR	LR	13 02 52.2		
	comp=Z,72nm,18.6s,baz=200,slow=39							
	comp=Z,1.8nm,0.6s							
AKASG	**Malin Array Be**	**90.33**	**321**	P	**P**	**12 16 55.6**	**-1.0**	
	comp=Z,0.2nm,0.2s,baz=83,slow=3.8,SNR=2.0							
	comp=Z,0.2nm,0.2s							
HFS	**Hagfors**	**96.37**	**332**	P	**P**	**12 17 22.6**	**-1.6**	
	comp=Z,2.7nm,0.7s,baz=64,slow=6.6,SNR=4.6							
	comp=Z,2.7nm,0.7s							
POGA	**Pongola**	**96.43**	**243**	P	**P**	**12 17 22.9**	**-2.3**	
NB2	**NORSAR Subarra**	**97.13**	**334**	P	**P**	**12 17 26.7**	**-1.0**	
	comp=Z,1.5nm,0.7s,baz=64,slow=4.6							
NOA	**NORSAR Array B**	**97.13**	**334**	P	**P**	**12 17 26.4**	**-1.3**	
	comp=Z,1.2nm,0.7s,baz=64,slow=4.6,SNR=3.9							
NOA				LR	LR	13 05 43.9		
	comp=Z,29nm,19.1s,baz=80,slow=38							
	comp=Z,1.2nm,0.7s							
NC204	**NORSAR Array S**	**97.23**	**334**	P	**P**	**12 17 27.3**	**-0.8**	
CLL	**Collm**	**100.05**	**324**	*e*Pdif	**Pdif**	**12 17 41.0**	**+0.1**	
	comp=Z,5.0nm,0.6s							
TXAR	**Lajitas Array**	**121.00**	**51**	PKP	**PKPdf**	**12 22 48.4**	**-0.2**	
	comp=Z,0.2nm,0.6s,baz=337,slow=3.3,SNR=2.4							
TORD	**Torodi Ar. Bea**	**121.93**	**289**	PKP	**PKPdf**	**12 22 50.0**	**-0.5**	
	comp=Z,2.0nm,0.7s,baz=32,slow=2.8,SNR=7.8							

NNC 18 12:13:40.1±7.8, 37°06N×70°41E, h0km, mb4.0, mpv4.0, 1C-2D, Error ellipse: s-maj=72.7km s-min=58.4km az=127.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRLS	**Boroldaу**	**5.98**	**356**	Pg	Pn	12 15 07.7	-2.2
	2.0nm,0.1s						
BRLS				Lg	Lg	12 16 15.9	
	6.2nm,0.4s						
KK31	**Karatay Array**	**6.04**	**1**	⇑P	Pn	12 15 11.2	+0.5
	1.3nm,0.2s,baz=179,slow=12,SNR=31						
KK31				⇓S	Sn	12 16 21.6	+1.1
	15nm,0.6s,baz=181,slow=24						
MRKS	**Merke**	**6.08**	**20**	Pg	Pn	12 15 10.0	-1.3
	12nm,0.3s						
MRKS				Lg	Lg	12 16 19.9	
	3.4nm,0.3s						
AB31	**Akbulak array**	**14.37**	**331**	⇓P	Pn	12 17 03.5	-1.2
	0.2nm,0.3s,baz=160,slow=12,SNR=6.7						

*IDC **18** 12:26:38.6±0.8, 8.°99N×127.°07E, h0km, mb4.1/12, mbtmp4.1/13, ML4.6/1, MS3.5/5, Error ellipse: s-maj=29.5km s-min=15.5km az=79.0*
*NEIC **18** 12:26:47.6±1.0, 8.°81N±0.°07×126.°4E±0.°1, h53km±7km, mb4.4/25, Error ellipse: s-maj=19.2km s-min=9.4km az=82.0*
ISC 18 12:26:46.8±0.6, 8.°81N±0.°07×126.°4E±0.°1, h54km, n53, σ1§03/51, mb4.5/25, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.93**	**206**	Pn	**Pn**	**12 27 17.6**	**+0.3**
DAV	**Davao City (W)**	**1.93**	**206**	Pn	**Pn**	**12 27 21.1**	**+3.8**
	135nm,0.3s,baz=90,slow=4.9,SNR=4.4						
DAV				Sn	Sn	12 27 52.3	+12
	186nm,0.3s,baz=271,slow=23,SNR=5.9						

DAV				LR	LR	12 28 14.0		
	comp=Z,413nm,18.8s,baz=337,slow=40							
	326nm,0.4s							
TOLI2	**Tolitoli**	**9.50**	**217**	Pn	**Pn**	**12 28 59.7**	**-1.3**	
LUWI	**Luwuk**	**10.45**	**201**	Pn	**Pn**	**12 29 13.3**	**-0.8**	
KKM	**Kota Kinabalu**	**10.51**	**256**	Pn	**Pn**	**12 29 14.3**	**-0.6**	
TPUB	**Ta-pu**	**15.45**	**340**	Pn	**Pn**	**12 30 21.4**	**-0.1**	
TPUB				IAmb	IAmb	12 30 44.9		
	comp=Z,45nm,1.1s							
SBUM	**Sibu**	**15.49**	**247**		**Pn**	**12 30 21.6**	**-0.5**	
JAY	**Jayapura**	**18.13**	**128**	LR	LR	12 37 55.0		
	comp=Z,81nm,18.6s,baz=9.5,slow=38							
GUMO	**Guam**	**18.68**	**74**	LR	LR	12 36 48.2		
	comp=Z,46nm,22.0s,baz=206,slow=34							
KNRA	**Kununurra**	**24.43**	**175**		**P**	**12 32 00.8**	**+0.2**	
KNRA				IAmb	IAmb	12 32 14.9		
	comp=Z,12nm,0.8s							
JMN	**Monobe**	**25.73**	**14**	P	**P**	**12 32 12.4**	**0.0**	
FITZ	**Fitzroy Crossi**	**26.75**	**182**		**P**	**12 32 21.5**	**0.0**	
CM31	**Chiang Mai Arr**	**28.36**	**293**	P	**P**	**12 32 35.7**	**-0.4**	
CM31				IAmb	IAmb	12 32 39.8		
	comp=Z,4.4nm,0.9s							
CMAR	**Chiang Mai Arr**	**28.36**	**293**	P	**P**	**12 32 35.7**	**-0.4**	
CMAR	**Chiang Mai Arr**	**28.36**	**293**	P	**P**	**12 32 37.8**	**+1.7**	
	comp=Z,0.6nm,0.3s,baz=108,slow=6.8,SNR=12							
CMAR				PcP	**PcP**	**12 35 49.0**	**+1.1**	
	comp=Z,0.5nm,0.3s,baz=178,slow=1.1,SNR=4.5							
	comp=Z,0.6nm,0.3s							
WB0	**Warramunga Arr**	**29.45**	**165**	P	**P**	**12 32 43.8**	**-1.9**	
WB0				IAmb	IAmb	12 33 02.5		
	comp=Z,4.2nm,0.8s							
WRAB	**Tennant Creek**	**29.60**	**165**	P	**P**	**12 32 47.2**	**+0.1**	
WRA	**Warramunga Arr**	**29.61**	**165**	P	**P**	**12 32 45.2**	**-2.0**	
	comp=Z,0.6nm,0.6s,baz=344,slow=9.3,SNR=7.0							
	comp=Z,0.6nm,0.6s							
WB2	**Warramunga Arr**	**29.61**	**165**	P	**P**	**12 32 46.9**	**-0.3**	
WB2				IAmb	IAmb	12 33 03.9		
	comp=Z,4.1nm,0.9s							
WR8	**Warramunga Arr**	**29.66**	**165**	P	**P**	**12 32 48.0**	**+0.3**	
WR0	**Warramunga Arr**	**29.68**	**164**	P	**P**	**12 32 48.4**	**+0.6**	
ASAR	**Alice Springs**	**33.09**	**167**	P	**P**	**12 33 17.8**	**+0.1**	
ASAR	**Alice Springs**	**33.09**	**167**	P	**P**	**12 33 16.6**	**-1.1**	
	comp=Z,0.2nm,0.4s,baz=352,slow=7.0,SNR=8.3							
	comp=Z,0.2nm,0.4s							
USRK	**Ussuriysk Ar.**	**35.59**	**7**	P	**P**	**12 33 38.6**	**-0.5**	
	comp=Z,6.3nm,0.8s,baz=195,slow=6.1,SNR=6.2							
BRDH	**Bariadhala**	**36.11**	**297**	LR	LR	12 51 03.8		
	comp=Z,455nm,20.1s,baz=264,slow=40							
BBOO	**Buckleboo**	**42.39**	**168**	P	**P**	**12 34 36.4**	**+0.3**	
BBOO				IAmb	IAmb	12 34 46.4		
	comp=Z,5.7nm,0.7s							
SONM	**Songino Array**	**42.44**	**340**	P	**P**	**12 34 36.9**	**+0.4**	
	comp=Z,0.4nm,0.3s,baz=146,slow=10,SNR=2.1							
	comp=Z,0.4nm,0.3s							
YAK	**Yakutsk**	**53.17**	**2**	P	**P**	**12 35 58.9**	**-0.2**	
MK31	**Makanchi Array**	**53.29**	**323**	P	**P**	**12 36 00.2**	**-0.2**	
MK31				IAmb	IAmb	12 36 02.1		
	comp=Z,5.5nm,0.7s							
MKAR	**Makanchi Array**	**53.29**	**323**	P	**P**	**12 36 00.3**	**-0.1**	
MKAR	**Makanchi Array**	**53.29**	**323**	P	**P**	**12 36 00.8**	**+0.5**	
	comp=Z,6.0nm,0.6s,baz=123,slow=7.9,SNR=45							
MKAR				PcP	**PcP**	**12 37 08.0**	**+0.5**	
	comp=Z,1.6nm,0.8s,baz=117,slow=5.0,SNR=4.0							
	comp=Z,6.0nm,0.6s							
MAKZ	**Makanchi**	**53.48**	**323**	P	**P**	**12 36 01.6**	**-0.2**	
MAKZ				IAmb	IAmb	12 36 04.0		
	comp=Z,6.5nm,0.9s							
MA2	**Magadan**	**53.89**	**15**	P	**P**	**12 36 05.0**	**+0.5**	
MA2				IAmb	IAmb	12 36 17.6		
	comp=Z,4.2nm,0.8s							
NIL	**Nilore**	**54.70**	**305**	P	**P**	**12 36 09.8**	**-1.1**	
ZAA0	**Zalesovo Array**	**55.98**	**332**	P	**P**	**12 36 19.2**	**-0.5**	
ZAA0				IAmb	IAmb	12 36 20.5		
	comp=Z,2.8nm,0.9s							
ZALV	**Zalesovo Beam**	**55.98**	**332**	P	**P**	**12 36 19.0**	**-0.7**	
	comp=Z,1.7nm,0.6s,baz=116,slow=6.8,SNR=10							
	comp=Z,1.7nm,0.6s							
KURK	**Kurchatov**	**57.37**	**326**		**P**	**12 36 30.3**	**+0.8**	
KURBB	**Kurchatov Arra**	**57.37**	**326**	P	**P**	**12 36 30.2**	**+0.6**	
	comp=Z,5.9nm,0.7s,baz=125,slow=6.5,SNR=50							
	comp=Z,5.9nm,0.7s							
GAR	**Garm**	**58.36**	**311**		**P**	**12 36 37.1**	**+0.2**	
CHGR	**Chuyangaron**	**59.15**	**310**		**P**	**12 36 42.6**	**+0.2**	
KK31	**Karatay Array**	**59.40**	**315**	P	**P**	**12 36 43.3**	**-0.6**	
KK31				IAmb	IAmb	12 36 46.4		
	comp=Z,2.4nm,0.8s							
KKAR	**Karatay Array**	**59.40**	**315**	P	**P**	**12 36 43.6**	**-0.3**	
BVAR	**Borovoye Array**	**62.96**	**326**	P	**P**	**12 37 08.6**	**+0.8**	
	comp=Z,3.2nm,0.7s,baz=115,slow=9.0,SNR=9.6							
	comp=Z,3.2nm,0.7s							
AB31	**Akbulak array**	**68.09**	**320**	P	**P**	**12 37 40.5**	**-0.5**	
ABKAR	**Akbulak array**	**68.09**	**320**	P	**P**	**12 37 40.4**	**-0.7**	
C18K	**Utukok River**	**75.45**	**21**	P	**P**	**12 38 27.1**	**+2.1**	
C18K				IAmb	IAmb	12 38 46.8		
	comp=Z,11nm,1.1s							
D19K	**Kuna River**	**76.53**	**22**	P	**P**	**12 38 31.9**	**+0.9**	
D19K				IAmb	IAmb	12 38 45.1		
	comp=Z,7.4nm,0.9s							
ILAR	**Eielson Array**	**80.67**	**26**	P	**P**	**12 38 51.4**	**-2.5**	
	comp=Z,0.5nm,0.8s,baz=242,slow=5.1,SNR=7.4							
	comp=Z,0.5nm,0.8s							
INK	**Inuvik**	**85.57**	**22**	LR	LR	13 18 14.0		
	comp=Z,80nm,20.2s,baz=57,slow=36							
ARCES	**ARCESS Array B**	**85.62**	**340**	P	**P**	**12 39 19.6**	**+0.3**	
	comp=Z,4.6nm,1.0s,baz=67,slow=4.3,SNR=4.5							
	comp=Z,4.6nm,1.0s							
FINES	**FINESS Array B**	**87.25**	**332**	P	**P**	**12 39 26.8**	**-0.6**	
	comp=Z,3.0nm,0.9s,baz=50,slow=3.0,SNR=7.9							
	comp=Z,3.0nm,0.9s							
VNDA	**Vanda**	**88.47**	**173**	P	**P**	**12 39 32.5**	**-0.3**	
	comp=Z,0.3nm,0.4s,baz=328,slow=5.7,SNR=3.3							
	comp=Z,0.3nm,0.4s							
TORD	**Torodi Ar. Bea**	**120.96**	**291**	PKP	**PKiKP**	**12 45 35.1**	**+0.7**	
	comp=Z,0.2nm,0.6s,baz=96,slow=1.4,SNR=4.3							

IDC 18 12:35:35.2±6.7, 6.°78S×148.°43E, h80km±74km, mb3.2/2, mbtmp3.4/4, ML2.5/2, Error ellipse: s-maj=178.6km s-min=37.5km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.89**	**206**	P	Pn	12 36 20.3	+1.1
	6.9nm,0.3s,baz=24,slow=5.7,SNR=16						
PMG				S	Sn	12 36 53.3	+0.4
	51nm,0.4s,baz=191,slow=19,SNR=19						
	22nm,0.4s						
WRA	**Warramunga Arr**	**18.93**	**225**	P	P	12 39 50.0	+0.2
	0.1nm,0.3s,baz=39,slow=12,SNR=4.2						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**21.83**	**218**	P	P	12 40 21.7	+0.5
	0.5nm,0.8s,baz=42,slow=12,SNR=5.2						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**85.64**	**23**	P	P	12 48 04.4	-0.3
	0.8nm,0.7s,baz=253,slow=4.7,SNR=12						
	0.8nm,0.7s						

KRSC 18 12:36:42.6±1.1, 54.°04N×168.°93E, h55km±28km, Ml3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**2.08**	**305**	*e*P	Pn	12 37 17.6	+2.7
BKI				*e*S	Sn	12 37 40.2	+0.6
KBTR	**Krutoberegovo**	**4.12**	**304**	*e*P	Pn	12 37 47.8	+4.8
MKZ	**Mys Kozlova**	**4.25**	**280**	*e*P	Pn	12 37 48.3	+3.6
MKZ				*e*S	Sn	12 38 35.2	+2.3
SDLR	**Sedlovina**	**6.02**	**267**	*e*P	Pn	12 38 13.5	+4.3
UGLR	**Uglovaya**	**6.07**	**266**	*e*P	Pn	12 38 14.5	+4.7
SMAR	**Somma**	**6.07**	**267**	*e*P	Pn	12 38 13.4	+3.5
AVH	**Avacha**	**6.11**	**267**	*e*P	Pn	12 38 14.5	+4.2
KRX	**Arik**	**6.14**	**268**	*e*P	Pn	12 38 15.5	+4.7
KOK	**Koryaka**	**6.16**	**267**	*e*P	Pn	12 38 15.4	+4.3
MTVR	**Mutnovka**	**6.63**	**261**	*e*P	Pn	12 38 21.9	+4.4
ASAK	**Asacha**	**6.83**	**260**	*e*P	Pn	12 38 24.9	+4.8

*IDC **18** 12:50:41.8±1.5, 10.°30S×118.°90E, h0km, mb3.6/3, mbtmp3.5/8, ML3.4/5, Error ellipse: s-maj=45.6km s-min=19.8km az=54.0*
*DJA **18** 12:50:49.1±0.8, 10.°5S×11.°9E±, h10km±5km, M4.0/14, mb4.4/3, MLv3.8/14*
ISC 18 12:50:46.3±1.0, 10.°24S±0.°06×119.°26E±0.°05, h10km, n19, σ1§85/20, mb3.8/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.60**	**12**	P	**Pg**	**12 50 58.8**	**+0.7**
WBSI				S	**Sg**	**12 51 05.8**	**-0.2**
WSI	**Waingapu**	**1.17**	**61**	P	**Pb**	**12 51 09.4**	**+0.8**
BASI	**Baing, Sumba**	**1.30**	**89**	P	**Pn**	**12 51 12.4**	**+1.9**
PLAI	**Plampang**	**2.02**	**314**	P	**Pn**	**12 51 21.4**	**+0.9**
TWSI	**Taliwang, Sumb**	**2.78**	**302**	P	**Pn**	**12 51 32.0**	**+1.1**
EDFI	**Ende, Flores**	**2.82**	**59**	P	**Pn**	**12 51 32.3**	**+0.8**
BSSI	**Bau Bau, Buton**	**4.25**	**17**	P	**Pn**	**12 51 51.7**	**+0.6**
BATI	**Baumata**	**4.33**	**90**	Pn	**Pn**	**12 51 54.5**	**+2.2**
	4.3nm,0.3s,baz=256,slow=8.3,SNR=1.7						
BATI				Sn	**Sn**	**12 52 41.2**	**-1.7**
	3.7nm,0.3s,baz=284,slow=14,SNR=1.4						
	12nm,0.4s						
BATI	**Baumata**	**4.33**	**90**	P	**Pn**	**12 51 54.9**	**+2.6**
BKSI	**Bulukumba**	**4.96**	**10**	P	**Pn**	**12 52 02.6**	**+1.8**
SOEI	**Soe**	**4.96**	**85**	P	**Pn**	**12 52 02.4**	**+1.4**
KAPI	**Kappang**	**5.21**	**5**	Pn	**Pn**	**12 52 02.1**	**-2.2**
	0.4nm,0.3s,baz=197,slow=13,SNR=2.0						
KAPI				Sn	**Sn**	**12 53 05.3**	**+0.8**
	3.2nm,0.3s,baz=3.4,slow=20,SNR=4.8						
	9.8nm,0.9s						
JAGI	**Jajag, Banyuwa**	**5.34**	**289**	P	**Pn**	**12 52 09.6**	**+3.5**
	0.2nm37nm,1.1s						
FITZ	**Fitzroy Crossi**	**9.97**	**142**	Pn	**Pn**	**12 53 07.8**	**-1.9**
	0.2nm,0.3s,baz=326,slow=6.5,SNR=13						
FITZ				Sn	Sn	12 54 52.9	-8.8
	0.8nm,0.3s,baz=175,slow=23,SNR=14						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**17.45**	**125**	P	**Pn**	**12 54 48.6**	**-1.4**
	0.1nm,0.3s,baz=294,slow=14,SNR=11						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**19.33**	**136**	P	**P**	**12 55 12.3**	**+0.4**
	0.1nm,0.3s,baz=310,slow=12,SNR=13						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**65.67**	**333**	P	P	13 01 27.6	-3.2
	0.3nm,0.5s,baz=134,slow=6.2,SNR=1.8						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**70.18**	**334**	P	**P**	**13 01 56.5**	**-2.7**
	0.2nm,0.6s,baz=134,slow=5.1,SNR=2.7						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**70.28**	**339**	P	P	13 01 55.6	-4.1
	0.7nm,0.5s,baz=152,slow=6.7,SNR=3.6						
	0.7nm,0.5s						

*RSNC **18** 13:13:47.8±2.2, 16.°S±22.°×7.°4W±., h0km, M4.5, mB5.2, mb4.6, ML4.4, Mw(mB)4.5*
*IDC **18** 13:13:54.0±2.1, 15.°54S×73.°89W, h66km±19km, mb4.0/10, mbtmp4.2/14, MS3.2/5, Error ellipse: s-maj=23.9km s-min=11.6km az=49.0*
*NEIC **18** 13:13:54.8±1.4, 15.°66S±0.°09×74.°1W±0.°1, h66km±8km, mb4.4/20, Error ellipse: s-maj=17.4km s-min=9.7km az=50.0*
*VAO **18** 13:13:56.1±0.7, 15.°51S×74.°06W, h84km±6km, mb4.6*
ISC 18 13:13:54.8±0.5, 15.°65S±0.°05×74.°00W±0.°07, h71km, n151, σ1§38/136, mb4.3/20, 4C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.57**	**322**		**Pn**	**13 15 01.2**	**-0.4**
NNA	**Nana**	**4.57**	**322**	P	**Pn**	**13 15 00.8**	**-0.8**
	102nm,0.3s,baz=150,slow=11,SNR=22						
NNA				S	**Sn**	**13 15 52.4**	**-1.1**
	292nm,0.5s,baz=263,slow=5.7,SNR=6.0						
NNA	**Nana**	**4.57**	**322**	P	**Pn**	**13 15 00.4**	**-1.2**
PB18	**Visviri**	**4.74**	**115**		**Pn**	**13 15 07.7**	**+3.4**
PB18	**Visviri**	**4.74**	**115**	⇑*i*P	**Pn**	**13 15 08.3**	**+4.0**
PB16	**IPOC Station P**	**5.06**	**122**		**Pn**	**13 15 10.9**	**+2.2**
PB16	**IPOC Station P**	**5.06**	**122**	*e*P	**Pn**	**13 15 10.1**	**+1.4**
LPAZ	**La Paz**	**5.68**	**97**	P	**Pn**	**13 15 21.0**	**+3.7**
	28nm,0.3s,baz=303,slow=7.2,SNR=84						
LPAZ			

comp=Z,992nmcomp=Z,115nm,1.0s
VILC Villavicencio, 19.64 1 P **Pn 13 18 22.4 +2.3**
comp=Z,1µmcomp=Z,127nm,0.7s
RPRD Ribas do Rio P 19.88 107 *e*P **Pn 13 18 22.4 -0.4**
NPGB Novo Progresso 20.16 67 *e*P **P 13 18 23.2 -0.5**
ROSC El Rosal 20.36 359 P Pn 13 18 30.0 +1.2
comp=Z,27nm,0.8s,baz=143,slow=15,SNR=4.7
ROSC LR LR 13 27 10.5
comp=Z,75nm,19.2s,baz=126,slow=39
GUY2C Guyana, Caldas 20.79 356 P Pn 13 18 32.6 -1.3
comp=Z,50nm,1.2s
NORC Norcasia 21.10 358 P **P 13 18 34.3 +0.6**
comp=Z,22nm,1.1s
SPBC San Pablo de B 21.17 360 P **P 13 18 34.5 0.0**
comp=Z,18nm,1.1s
ITTB Itaituba 21.17 60 *e*P **P 13 18 34.3 -0.2**
ARAG Araguaiana, MT 21.36 93 *e*P **P 13 18 36.3 -0.3**
RUSC La Rusia 21.42 2 P **13 18 37.9 +0.3**
RUSC La Rusia 21.42 2 P **P 13 18 38.3 +0.6**
comp=Z,778nmcomp=Z,75nm,1.5s
PSAL Palomas, Salto 21.46 139 *e*P **P 13 18 39.5 +2.0**
CBOC Ciudad Bolivar 21.47 355 P **P 13 18 37.3 -0.5**
PTBC PUERTO BERRIO, 22.05 359 P **P 13 18 43.4 -0.5**
BARC Barichara 22.11 2 P **P 13 18 43.4 -1.4**
BOAV Boa Vista 22.34 38 P **13 18 46.3 -0.8**
BOAV IAmb IAmb 13 18 48.7
comp=Z,7.6nm,0.7s
BOAV Boa Vista 22.34 38 *e*P **P 13 18 46.9 -0.2**
BOAV Boa Vista 22.34 38 P **P 13 18 46.4 -0.7**
comp=Z,14nm,1.0s
SNDB Serra Nova Dou 22.35 83 *e*P **P 13 18 47.7 +0.6**
PTGB Pitanga 22.45 117 *e*P **P 13 18 50.8 +2.5**
DBBC Dabeiba 22.63 354 P **P 13 18 50.8 +0.6**
comp=Z,13µmcomp=Z,16nm,2.0s
ITRB Iturama 22.88 104 *e*P **P 13 18 54.0 +1.3**
PAMC Pamplona, Colo 22.88 3 P **P 13 18 52.7 -0.5**
ITAB Concordia 23.35 123 *e*P **P 13 18 58.0 +0.8**
CPSB Cacapava Do Su 23.89 131 *e*P **P 13 19 02.7 +0.6**
FRTB Fartura 24.25 112 *e*P **P 13 19 06.9 +1.5**
PLTB Pedras Altas 24.55 134 P **P 13 19 08.4 +0.4**
PLTB IAmb IAmb 13 19 19.7
comp=Z,15nm,1.1s
PLTB Pedras Altas 24.55 134 *e*P **P 13 19 08.7 +0.6**
BB19B Bebedouro 24.75 106 *e*P **P 13 19 10.5 +0.5**
IPMB Ipameri, GO 24.79 99 *e*P **P 13 19 11.0 +0.6**
BDFB Brasilia 25.02 94 P **P 13 19 12.7 +0.1**
BDFB Brasilia 25.02 94 P **P 13 19 11.7 -0.9**
comp=Z,4.7nm,0.5s,baz=253,slow=12,SNR=7.0
comp=Z,4.7nm,0.5s
BAUV El Baul 25.14 14 P 13 19 12.8 -0.6
PLCA Paso Flores 25.17 174 P **P 13 19 13.8 +0.1**
comp=Z,5.4nm,0.8s,baz=339,slow=11,SNR=9.4
comp=Z,5.4nm,0.8s
PLCA Paso Flores 25.17 174 *e*P **P 13 19 14.9 +1.3**
CNLB Canela 25.28 126 *e*P **P 13 19 15.6 +0.9**
ARGC Ariguani, Magd 25.35 359 P **P 13 19 18.7 +3.3**
SMTB Santa Maria do 26.66 78 *e*P **P 13 19 28.3 +1.0**
PCRV Puerto La Cruz 27.29 20 LR LR 13 31 28.1
comp=Z,77nm,19.8s,slow=39
PARB Paraibuna 27.79 110 *e*P **P 13 19 38.9 +1.5**
JANB Januaria 28.63 93 *e*P **P 13 19 45.0 0.0**
DIAM Diamantina, MG 29.11 100 *e*P **P 13 19 50.3 +1.0**
MDP Montagnes des 29.54 47 LR LR 13 32 01.1
comp=Z,53nm,18.9s,baz=276,slow=37
RIB01 Linhares ES 32.23 101 *e*P **P 13 20 17.2 +0.5**
PMSA Palmer Station 49.54 174 LR LR 13 40 11.8
comp=Z,24nm,21.2s,baz=302,slow=32
HNDO Hondo 51.33 331 P **P 13 22 51.0 +0.5**
DRIO Del Rio 51.66 330 P **P 13 22 54.5 -0.1**
DRIO IAmb IAmb 13 22 55.2
comp=Z,7.8nm,1.0s
TXAR Lajitas Array 53.11 327 P **P 13 23 05.5 +0.1**
TXAR Lajitas Array 53.11 327 P **P 13 23 05.4 0.0**
comp=Z,3.6nm,0.6s,baz=150,slow=9.1,SNR=28
comp=Z,3.6nm,0.6s
TX31 Lajitas Ar. Si 53.11 327 P 13 23 05.0 -0.5
TX31 IAmb IAmb 13 23 06.3
comp=Z,8.0nm,1.1s
SADO Sadowa 60.31 356 LR LR 13 54 24.9
comp=Z,418nm,18.1s,baz=11,slow=40
R11B Troy Canyon, C 66.36 325 P 13 24 37.2 +0.7
R11B IAmb IAmb 13 25 06.2
comp=Z,7.1nm,1.4s
PDAR Pinedale Array 66.69 332 P **P 13 24 37.9 -0.7**
comp=Z,0.3nm,0.6s,baz=131,slow=7.6,SNR=3.9
comp=Z,0.3nm,0.6s
NVAR Mina Array Bea 67.94 324 P **P 13 24 46.5 0.0**
comp=Z,0.9nm,0.8s,baz=150,slow=8.0,SNR=6.8
comp=Z,0.9nm,0.8s
ULM Lac du Bonnet 68.38 345 P **P 13 24 47.4 -1.3**
comp=Z,5.1nm,0.6s,baz=150,slow=8.1,SNR=9.2
comp=Z,5.1nm,0.6s
SNAA Sanae 69.34 161 P **P 13 24 54.0 -0.5**
SNAA IAmb IAmb 13 25 15.7
comp=Z,3.7nm,0.8s
SNAA Sanae 69.34 161 P **P 13 24 54.6 0.0**
comp=Z,2.1nm,0.7s,baz=315,slow=8.0,SNR=5.6
comp=Z,2.1nm,0.7s
DBIC Dimbokro 71.95 77 P **P 13 25 10.6 -0.7**
DBIC Dimbokro 71.95 77 P **P 13 25 10.4 -0.9**
comp=Z,4.7nm,0.6s,baz=285,slow=4.1,SNR=4.9
comp=Z,4.7nm,0.6s
QSPA South Pole Qui 74.50 180 P **P 13 25 28.0 +2.3**
QSPA IAmb IAmb 13 25 57.5
comp=Z,5.3nm,1.1s
TORD Torodi Ar. Bea 80.14 73 P **P 13 25 56.7 -1.1**
TORD IAmb IAmb 13 25 58.7
comp=Z,2.6nm,0.8s
TORD Torodi Ar. Bea 80.14 73 P **P 13 25 56.3 -1.6**
comp=Z,3.2nm,0.7s,baz=268,slow=4.9,SNR=16
comp=Z,3.2nm,0.7s
ESDC Sonseca Array 85.22 47 P **P 13 26 23.9 +0.1**
comp=Z,2.2nm,1.0s,baz=246,slow=5.5,SNR=10
comp=Z,2.2nm,1.0s
H11N3 WAKE ISLAND Hyl 22.08 284 T T 15 46 34.0
baz=98
H11N2 WAKE ISLAND Hyl 22.10 284 T T 15 46 30.9
baz=98,slow=74
H11N1 WAKE ISLAND Hyl 22.10 284 T T 15 46 17.0
baz=98,slow=74
H11S2 WAKE ISLAND Hyl 22.13 282 T T 15 46 43.1
baz=99,slow=75
H11S1 WAKE ISLAND Hyl 22.14 282 T T 15 46 46.6
baz=99,slow=75
H11S3 WAKE ISLAND Hyl 22.15 282 T T 15 46 40.6
baz=99,slow=75
ASAR Alice Springs 132.34 215 PKP **PKPdf 13 33 01.6 -0.2**
comp=Z,0.3nm,0.5s,baz=140,slow=2.3,SNR=12
WRA Warramunga Arr 134.97 219 PKP **PKPdf 13 33 06.8 +0.1**
comp=Z,1.3nm,0.8s,baz=136,slow=1.9,SNR=11
ZALV Zalesovo Beam 138.35 19 PKP **PKPdf 13 33 12.2 +0.2**
comp=Z,0.9nm,0.6s,baz=318,slow=1.9,SNR=6.0
KURBB Kurchatov Arra 138.69 26 PKP **PKPdf 13 33 12.2 -0.4**
comp=Z,0.2nm,0.2s,baz=312,slow=3.1,SNR=2.6
MKAR Makanchi Array 143.21 27 PKP PKPbc 13 33 17.9 -0.2
comp=Z,0.7nm,0.7s,baz=338,slow=1.6,SNR=6.2
SONM Songino Array 147.91 359 PKPbc **PKPdf 13 33 30.0 +0.8**
comp=Z,2.1nm,0.9s,baz=355,slow=2.7,SNR=6.6

*IDC **18** 13:22:49.9±2.4,22°.30N×93°.87E,h84km±28km,mb3.4/5, mbtmp3.8/7,Error ellipse: s-maj=39.6km s-min=15.0km az=43.0*

ISC 18 13:22:50.1±0.9,22°.5N±0°.1×93°.8E±0°.1,h88km,n13, σ1§91/20,mb3.6/5,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRDH	**Bariadhala**	**2.01**	**276**	P	**Pn**	**13 23 24.1**	**+1.7**
	194nm,0.3s,baz=93,slow=7.0,SNR=7.7						
BRDH				S	**Sn**	**13 23 48.8**	**+1.7**
	177nm,0.3s,baz=239,slow=22,SNR=4.3						
CMAR	**Chiang Mai Arr**	**6.26**	**129**	P	**Pn**	**13 24 17.4**	**-2.6**
	3.5nm,0.4s,baz=307,slow=13,SNR=35						
ODAN	**Odare**	**7.28**	**308**	Pn	**Pn**	**13 24 35.2**	**+1.1**
	baz=314,slow=0.0						
ODAN				Sn	**Sn**	**13 25 53.7**	**-1.6**
	19nm,0.2s,baz=314,slow=0.0						
RAMN	**Ramite**	**7.92**	**306**	Pn	**Pn**	**13 24 43.4**	**+0.7**
	baz=311,slow=0.0						
RAMN				Sn	**Sn**	**13 26 08.9**	**-1.9**
	9.4nm,0.3s,baz=311,slow=0.0						
GUN	**Gumba**	**8.98**	**309**	Pn	**Pn**	**13 24 57.5**	**+0.1**
	baz=313,slow=0.0						
GUN				Sn	**Sn**	**13 26 35.6**	**-1.4**
	12nm,0.3s,baz=313,slow=0.0						
PKI	**Pulchoki**	**9.14**	**305**	Pn	**Pn**	**13 24 59.9**	**+0.4**
	baz=310,slow=0.0						
PKI				Sn	**Sn**	**13 26 38.3**	**-2.6**
	7.6nm,0.3s,baz=310,slow=0.0						
PKIN	**Phulchoki**	**9.16**	**305**	Pn	**Pn**	**13 24 59.5**	**-0.2**
	baz=310,slow=0.0						
PKIN				Sn	**Sn**	**13 26 38.3**	**-2.8**
	9.2nm,0.3s,baz=310,slow=0.0						
GKN	**Gorkha**	**9.95**	**305**	Pn	**Pn**	**13 25 09.9**	**-0.5**
	baz=310,slow=0.0						
GKN				Sn	**Sn**	**13 26 56.9**	**-3.5**
	19nm,0.3s,baz=310,slow=0.0						
MKAR	**Makanchi Array**	**25.98**	**342**	P	**P**	**13 28 17.0**	**+2.5**
	0.3nm,0.4s,baz=152,slow=10,SNR=5.3						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**57.83**	**134**	P	**P**	**13 32 31.9**	**-1.0**
	0.3nm,0.3s,baz=318,slow=7.7,SNR=15						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**60.20**	**137**	P	**P**	**13 32 48.2**	**-1.0**
	0.3nm,0.6s,baz=315,slow=6.9,SNR=10						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**61.56**	**338**	P	**P**	**13 32 59.8**	**+2.1**
	6.7nm,1.1s,baz=108,slow=7.7,SNR=2.1						
	6.7nm,1.1s						
ILAR	**Eielson Array**	**81.40**	**22**	P	**P**	**13 34 57.0**	**0.0**
	0.3nm,0.6s,baz=294,slow=5.5,SNR=6.3						
	0.3nm,0.6s						

*IGIL **18** 13:38:52.2,37°.03N×5°.13W,h0km,ML3.5*
*INMG **18** 13:38:53.6±1.9,37°.05N×5°.15W,h12km±4km,ML3.5,Error ellipse: s-maj=3.5km s-min=2.7km az=97.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NW Malaga (ESP)*
*SFS **18** 13:38:53.8,37°.11N×5°.22W,h1km,ML3.7/21,ML3.7/22, MLv3.6/22*
*MDD **18** 13:38:53.4±0.2,37°.07N×5°.28W,h0km,mb_Lg3.6/47, Error ellipse: s-maj=1.9km s-min=1.4km az=176.0*
*CNRM **18** 13:38:56.1,36°.78N×5°.41W,h70km,ML3.1*

ISC 18 13:38:51.4±1.1,37°.03N±0°.02×5°.22W±0°.01,h11km±9km, n116,σ1§63/205,Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESPR	**Espera**	**0.53**	**253**	Pg	**Pn**	**13 39 04.6**	**-0.3**
ESPR				Sg	**Sn**	**13 39 15.0**	**+1.2**
ESPR	**Espera**	**0.53**	**253**	Pg	**Pb**	**13 39 03.7**	**+1.1**
ESPR				Sg	**Sb**	**13 39 10.8**	**+0.5**
ESPR				*i* IVmb_Lg		13 39 22.3	
EJIF	**Jimena Fronter**	**0.61**	**199**	Pg	**Pn**	**13 39 05.9**	**0.0**
EJIF				Sg	**Sn**	**13 39 14.5**	**-1.2**
EMAL	**Malaga-Limoner**	**0.69**	**112**	Pg	**Pb**	**13 39 05.0**	**-0.3**
EGOR	**Sierra Gorda,**	**0.89**	**84**	Sg	**Sn**	**13 39 22.8**	**-0.1**
EGOR				Pg	**Pn**	**13 39 09.8**	**-0.1**
EGOR	**Sierra Gorda,**	**0.89**	**84**	Pg	**Pn**	**13 39 10.1**	**+0.1**
EGOR				Sg	**Sn**	**13 39 24.0**	**+1.0**
EGOR				*i* IVmb_Lg		13 39 30.1	
CNIL	**Conil**	**0.94**	**226**	Pg	**Pn**	**13 39 13.4**	**+3.0**
ECAB	**El Cabril**	**1.06**	**352**	Pg	**Pb**	**13 39 12.0**	**+0.3**
ECAB				Sg	**Sb**	**13 39 26.7**	**+1.1**
ECAB	**El Cabril**	**1.06**	**352**	Pg	**Pb**	**13 39 12.1**	**+0.3**
ECAB				Sg	**Sg**	**13 39 24.3**	**-1.2**
ECAB				*i* IVmb_Lg		13 39 28.6	
CEU	**Ceuta**	**1.13**	**186**	Pg	**Pn**	**13 39 16.0**	**+3.0**
ECEU	**Ceuta**	**1.14**	**186**	Pg	**Pn**	**13 39 16.1**	**+3.8**
ECEU	**Ceuta**	**1.14**	**186**	Pg	**Pn**	**13 39 16.2**	**+3.0**
ECEU				Sg	**Sn**	**13 39 30.2**	**+1.5**
ECEU				*i* IVmb_Lg		13 39 50.1	
EADA	**Adamuz**	**1.25**	**24**	Pg	**Pn**	**13 39 15.6**	**+0.9**
EADA				Sg	**Sb**	**13 39 31.9**	**+0.9**
EADA	**Adamuz**	**1.25**	**24**	Pg	**Pn**	**13 39 15.6**	**+0.9**
EADA				Sg	**Sg**	**13 39 31.3**	**-0.3**
EADA				*i* IVmb_Lg		13 39 33.8	
ELGU	**Los Guajares,**	**1.29**	**97**	Pn	**Pb**	**13 39 16.7**	**+1.1**
ELGU	**Los Guajares,**	**1.29**	**97**	Pg	**Pb**	**13 39 17.7**	**+2.1**
ELGU				Sg	**Sn**	**13 39 35.9**	**+3.3**
ELGU				*i* IVmb_Lg		13 39 43.7	
SMIR	**Smir Dam**	**1.35**	**186**	P	**Pg**	**13 39 16.6**	**-0.7**
SMIR	**Smir Dam**	**1.35**	**186**	S	**Sb**	**13 39 30.4**	**-3.5**
CPS	**Cap Spartel**	**1.36**	**204**	P	**Pn**	**13 39 16.4**	**+0.2**
CPS	**Cap Spartel**	**1.36**	**204**	S	**Sb**	**13 39 31.3**	**-2.8**
EMIN	**Mina Concepcio**	**1.37**	**303**	Pn	**Pn**	**13 39 17.0**	**+0.6**
EMIN				Sn	**Sn**	**13 39 36.2**	**+1.7**
EMIN	**Mina Concepcio**	**1.37**	**303**	Pg	**Pb**	**13 39 17.2**	**+0.2**
EMIN				Sg	**Sb**	**13 39 34.1**	**-0.4**
EMIN				*i* IVmb_Lg		13 39 39.3	
EQTA	**Presa de Quent**	**1.43**	**82**	Sn	**Sg**	**13 39 41.1**	**+3.6**
EQTA				Pn	**Pg**	**13 39 20.0**	**+1.1**
EQUE	**Quentar**	**1.44**	**82**	Pn	**Pg**	**13 39 19.9**	**+1.0**
EQUE				Sn	**Sg**	**13 39 39.4**	**+1.8**
EQUE				*i* IVmb_Lg		13 39 45.3	
E0803	**Jimena (Jaen)**	**1.61**	**59**	Pn	**Pb**	**13 39 21.3**	**+0.2**
E0803				Sn	**Sg**	**13 39 43.0**	**-0.2**
E0802	**Ubeda,Jaen**	**1.77**	**55**	Pn	**Pg**	**13 39 24.8**	**-0.6**
E0802				Sn	**Sg**	**13 39 47.4**	**-1.1**
PBAR	**Barrancos**	**1.84**	**309**	Pn	**Pn**	**13 39 23.5**	**+0.6**
PBAR				Sn	**Sn**	**13 39 47.9**	**+1.8**
PBAR	**Barrancos**	**1.84**	**309**	*e*Pn	**Pn**	**13 39 23.7**	**+0.9**
PBAR				*e*Sg	**Sg**	**13 39 51.9**	**+1.2**
PBAR				*i* IAML		13 39 53.9	
PBAR				*i* IAML		13 39 54.2	
PBAR				*i* IAML		13 39 56.9	
EGRO	**El Granado**	**1.87**	**286**	Pn	**Pn**	**13 39 24.2**	**+0.9**
EGRO				Sn	**Sg**	**13 39 51.1**	**-0.5**
EGRO	**El Granado**	**1.87**	**286**	Pn	**Pn**	**13 39 24.3**	**+1.1**
EGRO				Sn	**Sn**	**13 39 47.2**	**+0.4**
EGRO				*i* IVmb_Lg		13 39 56.3	
EQES	**Quesada**	**1.88**	**65**	Pn	**Pb**	**13 39 25.4**	**-0.4**
EQES				Sn	**Sg**	**13 39 50.5**	**-1.3**
EQES				*i* IVmb_Lg		13 39 58.4	
PVAQ	**Vaqueiros**	**2.03**	**281**	*e*Pn	**Pn**	**13 39 26.6**	**+1.2**
PVAQ				*e*Sn	**Sn**	**13 39 51.8**	**+1.1**
PVAQ				*e*Sg	**Sg**	**13 39 58.1**	**+1.6**
PVAQ				*i* IAML		13 39 58.7	
PVAQ				*i* IAML		13 40 00.1	
PVAQ				*i* IAML		13 40 04.4	
PVAQ	**Vaqueiros**	**2.03**	**281**	P	**Pn**	**13 39 26.6**	**+1.2**
PVAQ	**Vaqueiros**	**2.03**	**281**	S	**Sn**	**13 39 50.3**	**-0.4**
EALB	**Alboran**	**2.07**	**121**	Pn	**Pb**	**13 39 28.8**	**-0.1**
EALB	**Alboran**	**2.07**	**121**	Pn	**Pb**	**13 39 29.0**	**+0.1**
EALB				Sn	**Sg**	**13 39 56.9**	**-1.0**
EALB				*i* IVmb_Lg		13 40 08.9	
PSIM	**Granatula de C**	**2.13**	**32**	Pn	**Pb**	**13 39 29.0**	**-1.0**
PSIM				Sn	**Sn**	**13 39 54.1**	**+0.7**
PBDV	**Barranco-do-Ve**	**2.18**	**276**	*e*Pn	**Pn**	**13 39 29.0**	**+1.5**
PBDV				*e*Sn	**Sn**	**13 39 56.4**	**+2.0**
PBDV				*e*Sg	**Sg**	**13 40 02.7**	**+1.4**
PBDV				*i* IAML		13 40 09.2	
PBDV				*i* IAML		13 40 10.0	
PBDV				*i* IAML		13 40 14.4	
EBAD	**Badajoz**	**2.23**	**321**	Pn	**Pn**	**13 39 28.8**	**+0.6**
EBAD				Sn	**Sn**	**13 39 57.1**	**+1.3**
EBAD	**Badajoz**	**2.23**	**321**	Pn	**Pn**	**13 39 28.9**	**+0.6**
EBAD				Sn	**Sn**	**13 39 55.5**	**-0.3**
EBAD				*i* IVmb_Lg		13 40 05.7	
PCVE	**Castro Verde**	**2.33**	**286**	Pn	**Pn**	**13 39 30.5**	**+1.0**
PCVE				Sn	**Sb**	**13 40 02.4**	**+0.5**
PCVE	**Castro Verde**	**2.33**	**286**	*e*Pn	**Pn**	**13 39 30.8**	**+1.3**
PCVE				*e*Sn	**Sb**	**13 40 02.8**	**+0.8**
PCVE				*e*Sg	**Sg**	**13 40 08.2**	**+2.1**
PCVE				*i* IAML		13 40 14.5	
PCVE				*i* IAML		13 40 15.5	
PCVE				*i* IAML		13 40 16.6	
ENIJ	**Nijar**	**2.41**	**90**	Pn	**Pn**	**13 39 32.7**	**+1.9**
ENIJ	**Nijar**	**2.41**	**90**	Pn	**Pn**	**13 39 32.1**	**+1.3**
ENIJ				Sn	**Sb**	**13 40 04.2**	**-0.4**
ENIJ				*i* IVmb_Lg		13 40 15.2	
MESJ	**Messejana**	**2.52**	**290**	*e*P	**Pn**	**13 39 33.4**	**+1.2**
MESJ	**Messejana**	**2.52**	**290**	*e*Pn	**Pn**	**13 39 33.5**	**+1.3**
MESJ				*e*Sn	**Sn**	**13 40 04.3**	**+1.5**
MESJ				*e*Sg	**Sg**	**13 40 16.0**	**+3.7**
MESJ				*i* IAML		13 40 17.0	
MESJ				*i* IAML		13 40 20.6	
MESJ				*i* IAML		13 40 24.9	
GOG	**Mont Gurugu**	**2.55**	**134**	P	**Pn**	**13 39 34.7**	**+2.1**
GOG	**Mont Gurugu**	**2.55**	**134**	S	**Sn**	**13 40 04.5**	**+0.8**
PESTR	**Estremoz**	**2.62**	**315**	Pn	**Pn**	**13 39 34.2**	**+0.5**
PESTR				Sn	**Sn**	**13 40 04.9**	**-0.5**
PESTR	**Estremoz**	**2.62**	**315**	*e*Pn	**Pn**	**13 39 34.7**	**+1.1**
PESTR				*e*Sn	**Sn**	**13 40 06.1**	**+0.7**
PESTR				*e*Sg	**Sg**	**13 40 14.6**	**-1.1**
PESTR				*i* IAML		13 40 20.3	
PESTR				*i* IAML		13 40 22.4	
PESTR				*i* IAML		13 40 22.9	
PESTR	**Estremoz**	**2.62**	**315**	P	**Pb**	**13 39 37.0**	**-1.4**
PESTR	**Estremoz**	**2.62**	**315**	S	**Sb**	**13 40 10.0**	**-0.6**
EVO	**Evora**	**2.67**	**305**	Pn	**Pn**	**13 39 35.4**	**+1.1**
EVO				Sn	**Sn**	**13 40 07.8**	**+1.2**
AKLM	**AKL**	**2.75**	**156**	P	**Pb**	**13 39 38.6**	**-1.8**
MORF	**Marmelete**	**2.75**	**277**	*e*P	**Pn**	**13 39 36.6**	**+1.1**
MORF				*e*S	**Sn**	**13 40 09.3**	**+0.6**
MORF				IAML		13 40 32.9	
	comp=N,183nm,0.4s						
MORF	**Marmelete**	**2.75**	**277**	*e*Pn	**Pn**	**13 39 37.3**	**+1.8**
MORF				*e*Sn	**Sn**	**13 40 10.2**	**+1.5**
MORF				*e*Sg	**Sg**	**13 40 21.0**	**+1.1**
MORF				*i* IAML		13 40 26.2	
MORF				*i* IAML		13 40 27.7	
MORF				*i* IAML		13 40 33.1	
ESDC	**Sonseca Array**	**2.82**	**20**	Pn	**Pn**	**13 39 38.1**	**+1.7**
ESDC				Sn	**Sn**	**13 40 12.4**	**+2.0**
ESDC				*i* IVmb_Lg		13 40 25.6	
ESBB	**Sonseca Array**	**2.82**	**20**	Pn	**Pn**	**13 39 38.3**	**+1.9**
ESBB				Sn	**Sn**	**13 40 12.3**	**+1.9**
ELOR	**Lorca, Murcia**	**2.84**	**77**	Pn	**Pb**	**13 39 39.6**	**-2.4**
ELOR				Sn	**Sb**	**13 40 14.3**	**-2.4**
ELOR				*i* IVmb_Lg		13 40 51.9	
PFVI	**Vila Bisbo**	**2.88**	**273**	Pn	**Pn**	**13 39 38.1**	**+0.9**
PFVI				P	Pb	13 39 38.1	-4.6
PFVI				Sn	**Sn**	**13 40 12.1**	**+0.3**
PFVI	**Vila Bisbo**	**2.88**	**273**	*e*Pn	**Pn**	**13 39 38.4**	**+1.2**
PFVI				*e*Sn	**Sn**	**13 40 12.6**	**+0.7**
PFVI				*i* IAML		13 40 27.6	
PFVI				*i* IAML		13 40 36.8	
PFVI				*i* IAML		13 40 40.7	
PFVI	**Vila Bisbo**	**2.88**	**273**	P	**Pn**	**13 39 38.3**	**+1.2**
PFVI	**Vila Bisbo**	**2.88**	**273**	S	**Sn**	**13 40 10.9**	**-1.0**
PMRV	**Marv??o**	**2.94**	**325**	*e*Pn	**Pn**	**13 39 39.0**	**+0.9**
PMRV				*e*Sn	**Sn**	**13 40 13.8**	**+0.4**
PMRV				*e*Sg	**Sg**	**13 40 23.7**	**-2.2**
PMRV				*i* IAML		13 40 31.1	
PMRV				*i* IAML		13 40 32.3	
PMRV				*i* IAML		13 40 34.5	
EPLA	**Plasencia**	**3.11**	**348**	Pn	**Pn**	**13 39 40.4**	**+0.1**
EPLA				Sn	**Sn**	**13 40 17.4**	**0.0**
EPLA				*i* IVmb_Lg		13 40 32.6	
PMTG	**Montargil**	**3.13**	**312**	*e*Pn	**Pn**	**13 39 41.6**	**+1.1**
PMTG				*e*Sn	**Sn**	**13 40 18.9**	**+1.1**
PMTG				*e*Sg	**Sg**	**13 40 30.6**	**-1.2**
PMTG				*i* IAML		13 40 37.1	
PMTG				*i* IAML		13 40 38.5	
PMTG				*i* IAML		13 40 39.1	
EMUR	**La Murta**	**3.27**	**74**	Pn	**Pn**	**13 39 43.9**	**+1.4**
EMUR				Sn	**Sn**	**13 40 23.8**	**+2.3**
EMUR	**La Murta**	**3.27**	**74**	Pn	**Pn**	**13 39 44.1**	**+1.6**
EMUR				Sn	**Sn**	**13 40 24.4**	**+2.9**
EMUR				*i* IVmb_Lg		13 40 47.7	
CART	**Cartagena**	**3.41**	**79**	Pn	**Pn**	**13 39 44.8**	**+0.4**
CART				Sn	**Sn**	**13 40 25.9**	**+1.1**
CART	**Cartagena**	**3.41**	**79**	P	**Pn**	**13 39 45.2**	**+0.8**
CART	**Cartagena**	**3.41**	**79**	S	**Sb**	**13 40 31.2**	**-2.0**
JBK	**JBK**	**3.45**	**140**	P	**Pn**	**13 39 46.9**	**+1.7**
JBK	**JBK**	**3.45**	**140**	S	**Sn**	**13 40 24.9**	**-1.1**
PSARD	**Sardoal**	**3.46**	**319**	*e*Pn	**Pn**	**13 39 46.6**	**+1.6**
PSARD				*e*Pg	**Pg**	**13 39 56.3**	**-0.8**
PSARD				*e*Sn	**Sn**	**13 40 26.6**	**+0.6**
PSARD				*e*Sg	**Sg**	**13 40 40.9**	**-1.5**
PSARD				*i* IAML		13 40 46.9	
PSARD				*i* IAML		13 40 50.7	
PSARD				*i* IAML		13 40 51.7	
PARRA	**Arraiolos**	**3.51**	**302**	*e*Pn	Pn	13 39 37.8	-8.0
PARRA				*e*Sg	**Sn**	**13 40 22.4**	**-4.8**
PARRA				*i* IAML		13 40 26.4	
PARRA				*i* IAML		13 40 31.9	
PARRA				*i* IAML		13 40 32.1	
UCM	**Universidad Co**	**3.62**	**25**	Pn	**Pn**	**13 39 49.9**	**+2.5**
GUD	**Guadarrama**	**3.71**	**13**	Pn	**Pn**	**13 39 49.7**	**+1.1**
GUD				Sn	**Sn**	**13 40 33.3**	**+0.9**
GUD				*i* IVmb_Lg		13 40 51.7	
PMAFR	**Mafra**	**3.74**	**302**	Pn	**Pn**	**13 39 50.3**	**+1.3**
PMAFR				Sn	**Sn**	**13 40 33.9**	**+0.9**
PMAFR	**Mafra**	**3.74**	**302**	*e*Pn	**Pn**	**13 39 50.8**	**+1.8**
PMAFR				*e*Sn	**Sn**	**13 40 34.3**	**+1.3**
PMAFR				*e*Sg	**Sg**	**13 40 51.9**	**+0.4**
PMAFR				*i* IAML		13 41 03.3	
PMAFR				*i* IAML		13 41 05.5	
PMAFR				*i* IAML		13 41 08.0	
PSBE	**So Bento**	**3.75**	**313**	*e*Pn	**Pn**	**13 39 51.5**	**+2.3**
PSBE				*e*Sn	**Sn**	**13 40 36.0**	**+2.7**
PSBE				*e*Sg	**Sg**	**13 40 52.6**	**+0.8**
PSBE				*i* IAML		13 40 58.5	
PSBE				*i* IAML		13 40 60.0	
PSBE				*i* IAML		13 41 03.6	
ZHG	**ZHG**	**3.76**	**198**	P	**Pn**	**13 39 50.9**	**+1.6**
ZHG	**ZHG**	**3.76**	**198**	S	**Sn**	**13 40 33.0**	**-0.5**
MTE	**Manteigas**	**3.83**	**332**	*e*Pn	**Pn**	**13 39 52.0**	**+1.8**
MTE				*e*Sg	**Sg**	**13 40 51.8**	**-2.4**
MTE				*i* IAML		13 40 57.1	
MTE				*i* IAML		13 40 57.2	
MTE				*i* IAML		13 41 06.1	
EVIV	**Cofrentes, Val**	**3.93**	**54**	Pn	**Pn**	**13 39 52.1**	**+0.4**
EVIV				Sn	**Sn**	**13 40 38.6**	**+0.8**
EVIV				*i* IVmb_Lg		13 41 05.4	
PCAS	**Casmilo, Conde**	**3.96**	**321**	*e*Pn	**Pn**	**13 39 54.3**	**+2.2**
PCAS				*e*Sn	**Sn**	**13 40 38.1**	**-0.4**
P

PGAV				*i* IAML			13 41 52.0	
PGAV				*i* IAML			13 41 56.9	
PGAV				*i* IAML			13 42 01.9	
EIBI	**Ibiza**	**5.55**	**67**	Pn	**Pn**		**13 40 14.1**	**+0.2**
EIBI				Sn	**Sn**		**13 41 17.6**	**-0.1**
EIBI	**Ibiza**	**5.55**	**67**	Pn	**Pn**		**13 40 14.6**	**+0.7**
EIBI				Sn	**Sn**		**13 41 17.2**	**-0.5**
EIBI				*i* IVmb_Lg			13 41 57.6	
OUK	**Oukaimeden**	**6.21**	**201**	P	**Pn**		**13 40 21.6**	**-1.6**
OUK	**Oukaimeden**	**6.21**	**201**	S	**Sn**		**13 41 29.2**	**-5.1**
OUZM	**OUZ**	**6.24**	**192**	P	**Pn**		**13 40 24.2**	**+0.8**
OUZM	**OUZ**	**6.24**	**192**	S	**Sn**		**13 41 34.4**	**-0.3**
ELAN	**Lanestosa**	**6.35**	**12**	Pn	**Pn**		**13 40 25.9**	**+1.1**
ELAN				*i* IVmb_Lg			13 41 28.9	
ELAN				Sn	**Sn**		**13 41 36.0**	**-1.2**
EALK	**Alkurruntz**	**6.81**	**24**	Pn	**Pn**		**13 40 32.8**	**+1.6**
EALK				Sn	**Sn**		**13 41 45.9**	**-2.7**
EALK				*i* IVmb_Lg			13 42 50.4	

UPA 18 13:50:08.4±1.1, 8°.85N×82°.86W, h26km±6km, ML2.9, MW2.9, 1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRU2	**Volcan**	**0.17**	**109**	*eP*	Pn	13 50 14.8	-0.6
BRU2				*eS*	Sb	13 50 19.3	+1.3
BRU2	**Volcan**	**0.17**	**109**	*iP*	Pn	13 50 14.9	-0.6
BRU2				*eS*	Sb	13 50 19.4	+1.5
BC3P	**Paso Ancho**	**0.24**	**98**	*eP*	Pb	13 50 15.4	+0.4
BC3P				AMP		13 50 15.5	
	comp=Z,2μm,0.1s						
BC3P				*eS*	Sb	13 50 20.1	+0.6
PTAR3	**Potrerillos Ar**	**0.39**	**114**	*eP*	Pb	13 50 16.6	-0.4
PTAR3				*eS*	Sb	13 50 23.9	+1.1
BQTLY	**Boquete Panama**	**0.40**	**103**	*eS*	Sn	13 50 24.8	-0.6
LNBQ3	**Los Naranjos,**	**0.41**	**98**	*eP*	Pb	13 50 18.0	+0.6
LNBQ3				*eS*	Sb	13 50 24.1	+0.6
PSOM3	**Paja de Sombre**	**0.55**	**107**	*eP*	Pb	13 50 18.7	-0.9
PSOM3				*eS*	Sn	13 50 28.1	-0.8
RBALA	**Bur**	**0.69**	**88**	*eP*	Pb	13 50 21.8	-0.2
RBALA				*eS*	Sb	13 50 31.1	-0.1
CHGR2	**Aguacate**	**0.71**	**83**	*eP*	Pb	13 50 21.6	-0.5

*IDC **18** 13:53:56.0±6.6, 12°.72N×142°.98E, h90km±79km, mb3.6/5, mbtmp3.9/6, ML3.4/1, Error ellipse: s-maj=76.5km s-min=18.3km az=91.0*
ISC 18 13:53:56.7±1.1, 12°.7N±0°.2×143°.1E±0°.1, h100km, n6, σ0s40/7, mb3.9/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.98**	**64**	P	**Pn**	**13 54 28.5**	**-0.5**
	14nm,0.3s,baz=166,slow=17,SNR=11						
GUMO				S	**Sn**	**13 54 54.2**	**+0.5**
	165nm,0.3s,baz=118,slow=20,SNR=18						
	28nm,0.3s						
WRA	**Warramunga Arr**	**33.57**	**195**	P	**P**	**14 00 27.2**	**-0.1**
	1.6nm,0.6s,baz=18,slow=9.4,SNR=26						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**37.25**	**194**	P	**P**	**14 00 59.1**	**+0.2**
	0.6nm,0.5s,baz=21,slow=12,SNR=35						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**61.31**	**325**	P	**P**	**14 04 01.5**	**-0.1**
	0.4nm,0.3s,baz=120,slow=8.5,SNR=2.0						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**64.15**	**320**	P	**P**	**14 04 20.8**	**+0.2**
	0.8nm,0.5s,baz=106,slow=6.7,SNR=5.9						
	0.8nm,0.5s						
BVAR	**Borovoye Array**	**69.51**	**322**	P	**P**	**14 04 54.5**	**0.0**
	0.6nm,0.3s,baz=111,slow=7.9,SNR=5.0						
	0.6nm,0.3s						

*MOS **18** 14:03:35.7, 42°.53N×43°.42E, h6km, MPVA3.7*
*NORS **18** 14:03:35.0, 42°.59N×43°.51E, h10km, MPVA3.6*
*AFAD **18** 14:03:36.8, 42°.56N×43°.30E, h12km, ML2.8*
ISC 18 14:03:35.6±1.1, 42°.56N±0°.03×43°.45E±0°.04, h7km±11km, n15, σ0s76/30, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LACR	**Lac**	**0.68**	**67**	*ePg*	**Pg**	**14 03 48.0**	**-0.7**
LACR				*eSg*	**Sg**	**14 03 56.8**	**-0.7**
KORR	**Kora**	**0.69**	**41**	*ePg*	**Pg**	**14 03 49.3**	**+0.3**
KORR				*eSg*	**Sb**	**14 03 59.6**	**-0.2**
LSNR	**Lesken**	**0.77**	**21**	*ePg*	**Pg**	**14 03 50.9**	**+0.6**
LSNR				*eSg*	**Sb**	**14 04 02.5**	**+0.5**
ARNR	**Ardon**	**0.87**	**45**	*ePg*	**Pb**	**14 03 53.2**	**+0.1**
ARNR				*eSg*	**Sn**	**14 04 06.1**	**-1.1**
NEUR	**Neytrino**	**0.89**	**322**	*ePg*	**Pn**	**14 03 53.7**	**-1.0**
NEUR				*eSg*	**Sn**	**14 04 06.7**	**-1.2**
STDR	**Stavd-Durt**	**0.92**	**29**	*ePg*	**Pn**	**14 03 54.9**	**-0.1**
STDR				*eSg*	**Sb**	**14 04 07.7**	**+0.7**
EPOS	**Posof**	**1.19**	**207**	P	**Pn**	**14 03 58.6**	**-0.1**
EPOS				S	**Sn**	**14 04 15.2**	**0.0**
KBZ	**Khabaz**	**1.23**	**341**	*ePg*	**Pg**	**14 03 59.5**	**+0.3**
KBZ				*eSg*	**Sn**	**14 04 16.2**	**+0.1**
SHA1	**Shidzhatmaz**	**1.31**	**334**	*ePg*	**Pg**	**14 04 01.2**	**+0.5**
SHA1				*eSg*	**Sn**	**14 04 19.1**	**+0.8**
AHAN	**Ardahan-Merkez**	**1.53**	**204**	P	**Pg**	**14 04 05.2**	**+0.3**
AHAN				S	**Sg**	**14 04 26.2**	**+1.4**
DBOC	**Borcka**	**1.80**	**228**	P	**Pb**	**14 04 09.1**	**+0.1**
DBOC				S	**Sg**	**14 04 33.3**	**-0.2**
GOLE	**Ardahan-G¶le**	**1.84**	**201**	P	**Pg**	**14 04 10.6**	**-0.3**
GOLE				S	**Sg**	**14 04 35.1**	**+0.3**
DVE	**Vedeno**	**2.01**	**78**	*ePg*	**Pb**	**14 04 12.7**	**+0.2**
DVE				*eSg*	**Sb**	**14 04 39.4**	**+1.6**
DBAD	**Bademkaya**	**2.03**	**221**	P	**Pb**	**14 04 13.3**	**+0.5**
DBAD				S	**Sg**	**14 04 39.7**	**-1.0**
DBAD				*i* IAML		14 04 41.0	
	comp=N,53nm,0.3s						
DBAD				*i* IAML		14 04 42.0	
	comp=E,62nm,0.3s						
DDEM	**Demirkent**	**2.10**	**218**	P	**Pb**	**14 04 13.9**	**-0.2**
DDEM				S	**Sg**	**14 04 41.8**	**-1.3**
DDEM				*i* IAML		14 04 44.0	
	comp=N,101nm,0.3s						
DDEM				*i* IAML		14 04 46.0	
	comp=E,88nm,0.3s						

*CATAC **18** 14:22:09.4±0.9, 13°.N±5°.×8°.9W±°., h31km±7km, M2.9/6, MLv2.9/6, Error ellipse: s-maj=12.1km s-min=3.3km az=26.2, confirmed*
*SNET **18** 14:22:11.3±1.1, 13°.05N×88°.64W, h63km±15km, ML2.6*
ISC 18 14:22:09.0±1.6, 12°.83N±0°.08×88°.69W±0°.04, h29km±12km, n27, σ0s60/38, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TECO	**Alcaldia de Te**	**0.71**	**353**	*eP*	**Pn**	**14 22 23.6**	**+0.4**
TECO				*eS*	**Sn**	**14 22 33.4**	**+0.2**
TECO				IAML		14 22 34.5	
	comp=Z,115nm,0.1s						
PACA	**Pacayal**	**0.73**	**30**	*eP*	**Pn**	**14 22 24.4**	**+0.8**
PACA				*eS*	**Sn**	**14 22 34.5**	**+0.6**
PACA	**Pacayal**	**0.73**	**30**	P	**Pb**	**14 22 21.2**	**-2.1**
BLLM	**Bellamira**	**0.76**	**36**	*eP*	**Pn**	**14 22 24.4**	**+0.5**
UESV	**Universidad de**	**0.81**	**354**	*eP*	**Pb**	**14 22 25.3**	**+0.7**
UESV				*eS*	**Sn**	**14 22 35.5**	**-0.2**
LFRS	**El Faro**	**0.87**	**336**	*eP*	**Pb**	**14 22 25.9**	**+0.3**
LFRS				*eS*	**Sb**	**14 22 37.3**	**+0.4**
SCLA	**Alcaldia de Sa**	**0.87**	**358**	*eP*	**Pb**	**14 22 25.6**	**+0.1**
SCLA				*eS*	**Sb**	**14 22 37.1**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.87**	**358**	P	**Pn**	**14 22 25.1**	**-0.3**
PAVA	**Las Pavas**	**0.91**	**345**	*eP*	**Pb**	**14 22 26.6**	**+0.3**
PAVA				*eS*	**Sb**	**14 22 38.6**	**+0.5**
LCND	**La Caada**	**0.92**	**59**	*eP*	**Pb**	**14 22 26.4**	**+0.1**
LCND				*eS*	**Sb**	**14 22 38.2**	**0.0**
LCND				IAML		14 22 42.4	
	comp=Z,181nm,0.2s						
LCND	**La Caada**	**0.92**	**59**	P	**Pb**	**14 22 26.2**	**-0.1**
LOMA	**Loma Larga**	**0.93**	**330**	*eP*	**Pb**	**14 22 26.8**	**+0.1**
LOMA				*eS*	**Sb**	**14 22 38.8**	**0.0**
LOMA	**Loma Larga**	**0.93**	**330**	P	**Pn**	**14 22 26.1**	**-0.2**
CNCH	**Conchagua**	**0.95**	**62**	S	**Sb**	**14 22 39.2**	**0.0**
CNCH	**Conchagua**	**0.95**	**62**	P	**Pb**	**14 22 26.8**	**-0.2**
BOQS	**Boqueron**	**1.07**	**328**	*eP*	**Pb**	**14 22 29.0**	**0.0**
PMON	**Piamonte**	**1.07**	**326**	S	**Sb**	**14 22 42.9**	**+0.4**
JAYA	**Jayaque - finc**	**1.10**	**318**	*eP*	**Pb**	**14 22 29.5**	**-0.1**
JAYA				*eS*	**Sb**	**14 22 44.1**	**+0.5**
JAYA				IAML		14 22 46.8	
	comp=Z,266nm,0.1s						
JAYA	**Jayaque - finc**	**1.10**	**318**	S	**Sb**	**14 22 43.3**	**-0.4**
NUBE	**Las Nubes**	**1.50**	**315**	*eP*	**Pb**	**14 22 35.5**	**-0.8**
NUBE				*eS*	**Sn**	**14 22 52.6**	**-0.4**
NUBE	**Las Nubes**	**1.50**	**315**	S	**Sn**	**14 22 53.2**	**+0.3**
NUBE	**Las Nubes**	**1.50**	**315**	P	**Pn**	**14 22 34.7**	**+0.6**
FAME	**Alcaldia de Sa**	**1.63**	**308**	S	**Sn**	**14 22 55.8**	**-0.2**
PKGN	**Cerro Pekin**	**1.68**	**95**	P	**Pn**	**14 22 36.7**	**+0.2**
PKGN				S	**Sn**	**14 22 57.3**	**+0.1**
MTO3	**Montecristo**	**1.69**	**338**	*eP*	**Pn**	**14 22 36.8**	**0.0**
MTO3	**Montecristo**	**1.69**	**338**	P	**Pn**	**14 22 36.8**	**0.0**
MTO3	**Montecristo**	**1.69**	**338**	S	**Sn**	**14 22 55.9**	**-1.8**

*IDC **18** 14:27:54.8±1.0, 51°.60N×175°.43W, h0km, mb3.6/7, mbtmp3.6/7, MS3.0/5, Error ellipse: s-maj=40.4km s-min=25.1km az=4.0*
*NEIC **18** 14:28:01.2±1.5, 51°.60N±0°.06×175°.24W±0°.04, h30km±11km, ML3.7(AEIC), Error ellipse: s-maj=9.3km s-min=3.4km az=170.0*
*AEIC **18** 14:28:01.2±1.7, 51°.67N±0°.09×175°.27W±0°.06, h43km±9km, Error ellipse: s-maj=13.2km s-min=4.6km az=167.0*
ISC 18 14:28:00.4±1.5, 51°.55N±0°.08×175°.21W±0°.03, h33km±10km, n65, σ1s32/77, mb3.8/7, MS2.8/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSIG	**Igitkin Island**	**0.62**	**315**		**Pb**	**14 28 12.6**	**-0.3**
GSIG					**Sn**	**14 28 21.3**	**-0.4**
GSMY	**Great Sitkin M**	**0.72**	**313**		**Pb**	**14 28 14.3**	**-0.3**
GSMY					**Sn**	**14 28 24.0**	**-0.1**
GSMY					**Sb**	**14 28 24.2**	**0.0**
GSCK	**Great Sitkin C**	**0.75**	**308**		**Pb**	**14 28 14.6**	**-0.5**
GSCK					**Pn**	**14 28 14.7**	**0.0**
GSCK					**Sn**	**14 28 24.6**	**-0.2**
GSCK					**Sb**	**14 28 25.0**	**0.0**
GSTR	**Great Sitkin T**	**0.76**	**316**		**Pb**	**14 28 14.6**	**-0.6**
GSTR	**Great Sitkin T**	**0.76**	**316**		**Sn**	**14 28 26.0**	**+0.9**
GSTD	**Great Sitkin T**	**0.77**	**311**		**Pb**	**14 28 14.9**	**-0.5**
GSTD					**Sn**	**14 28 25.5**	**0.0**
ETKA	**Kagalaska Isla**	**0.81**	**293**		**Pb**	**14 28 15.4**	**-0.5**
ETKA					**Sb**	**14 28 25.8**	**-0.7**
GSSP	**Great Sitkin S**	**0.81**	**312**		**Pb**	**14 28 15.7**	**-0.3**
GSSP					**Sb**	**14 28 25.7**	**-0.9**
GSSP					**Sn**	**14 28 26.5**	**+0.2**
ATKA	**Atka Island**	**0.90**	**44**		**Pn**	**14 28 16.7**	**0.0**
ATKA					**Sn**	**14 28 28.0**	**-0.6**
ATKA					**Sb**	**14 28 28.3**	**-1.0**
ADAG	**Mount Adagdak**	**0.96**	**297**		**Pb**	**14 28 18.3**	**-0.3**
ADAG					**Sb**	**14 28 30.4**	**-0.7**
ADAG					**Sn**	**14 28 30.8**	**+0.6**
ADK	**Adak**	**0.97**	**290**		**Pn**	**14 28 17.6**	**-0.1**
ADK	**Adak**	**0.97**	**290**		**Sn**	**14 28 30.3**	**-0.1**
KONW	**Korovin Northw**	**1.05**	**36**		**Pn**	**14 28 19.6**	**+0.9**
KONW					**Pb**	**14 28 19.9**	**-0.1**
KONW					**Sn**	**14 28 33.1**	**+0.9**
KIRH	**Kanaga Island**	**1.22**	**287**		**Pn**	**14 28 21.7**	**+0.6**
KIRH					**Sn**	**14 28 36.8**	**+0.3**
KIWB	**Kanaga Island**	**1.24**	**285**		**Pn**	**14 28 21.5**	**+0.1**
KIWB	**Kanaga Island**	**1.24**	**285**		**Sn**	**14 28 37.5**	**+0.4**
KINC	**Kanaga Island**	**1.25**	**288**		**Pn**	**14 28 22.2**	**+0.7**
KINC					**Pb**	**14 28 22.3**	**-1.1**
KINC					**Sb**	**14 28 37.9**	**-1.3**
KIKV	**Kanaga Island**	**1.26**	**286**		**Pn**	**14 28 22.1**	**+0.4**
KIKV					**Sn**	**14 28 38.2**	**+0.7**
KIMD	**Kanaga Island**	**1.28**	**280**		**Pn**	**14 28 21.9**	**0.0**
KICM	**Kanaga Island**	**1.29**	**287**		**Pn**	**14 28 22.7**	**+0.7**
TAPA	**Tanaga Point A**	**1.64**	**280**		**Pn**	**14 28 27.7**	**+0.8**
TAPA					**Sn**	**14 28 47.6**	**+0.7**
TAFL	**Tanaga Flats**	**1.69**	**278**		**Pn**	**14 28 28.3**	**+0.8**
TAFL					**Sn**	**14 28 48.1**	**+0.2**
TASE	**Tanaga Southea**	**1.78**	**280**		**Pn**	**14 28 30.0**	**+1.1**
TASE					**Sn**	**14 28 52.0**	**+1.6**
GALAA	**Gareloi Lava P**	**2.23**	**277**		**Pn**	**14 28 36.4**	**+1.4**
GANE	**Gareloi Northe**	**2.24**	**278**		**Pn**	**14 28 36.8**	**+1.8**
GANE					**Sn**	**14 29 02.5**	**+1.0**
GAKI	**Gareloi-Kavalg**	**2.25**	**271**		**Pn**	**14 28 36.2**	**+0.9**
GAKI					**Sn**	**14 29 03.2**	**+1.4**
GANO	**Gareloi North**	**2.25**	**278**		**Pn**	**14 28 36.9**	**+1.5**
GANO					**Sn**	**14 29 03.3**	**+1.4**
CEPE	**Semis' Perret**	**3.22**	**279**		**Pn**	**14 28 49.4**	**+0.8**
AMKA	**Amchitka**	**3.44**	**269**		**Pn**	**14 28 51.6**	**0.0**
LSPA	**Little Sitkin**	**3.88**	**278**		**Pn**	**14 28 58.4**	**+0.6**
LSSE	**Little Sitkin**	**3.88**	**278**		**Pn**	**14 28 59.5**	**+1.7**
LSNW	**Little Sitkin**	**3.92**	**279**		**Pn**	**14 28 59.9**	**+1.7**
NIKH	**Nikolski High**	**4.15**	**68**	Pn	**Pn**	**14 29 02.8**	**+1.4**
P09K	**Saint George I**	**6.05**	**31**	Pn	**Pn**	**14 29 29.5**	**+2.0**
SPIA	**Saint Paul Isl**	**6.33**	**25**	Pn	**Pn**	**14 29 34.3**	**+3.0**
SDPT	**Sand Point**	**9.57**	**61**	Pn	**Pn**	**14 30 16.1**	**+0.4**
O14K	**Tigyukauivet M**	**11.04**	**40**	Pn	**Pn**	**14 30 38.8**	**+3.0**
N14K	**Kuskokwak Cree**	**11.31**	**37**	Pn	**Pn**	**14 30 43.2**	**+3.7**
O15K	**Ungalikthiuk R**	**11.59**	**43**	Pn	**Pn**	**14 30 46.9**	**+3.6**
K13K	**Kusilvak Mount**	**11.89**	**25**	Pn	**Pn**	**14 30 50.9**	**+3.6**
O16K	**Kokwok River B**	**12.56**	**43**	Pn	**Pn**	**14 31 00.5**	**+3.9**
N18K	**Kilae Creek**	**14.08**	**42**	Pn	**Pn**	**14 31 16.6**	**-0.6**
K17K	**Iditarod**	**14.41**	**33**	Pn	**Pn**	**14 31 22.7**	**+0.9**
PETK	**Petropavlovsk-**	**16.60**	**286**	LR	LR	14 36 58.3	
	comp=Z,42nm,22.0s,baz=110,slow=33						
MA2	**Magadan**	**20.64**	**306**	LR	LR	14 39 49.0	
	comp=Z,27nm,20.2s,baz=116,slow=35						
SEY	**Seymchan**	**20.65**	**316**	LR	LR	14 40 44.0	
	comp=Z,44nm,18.2s,baz=136,slow=38						
TIXI	**Tiksi**	**31.60**	**330**	LR	LR	14 47 43.8	
	comp=Z,16nm,18.1s,baz=16,slow=38						
H11N2	**WAKE ISLAND Hy**	**34.73**	**211**	T	T	15 11 58.0	
	baz=20,slow=76,SNR=136						
H11N3	**WAKE ISLAND Hy**	**34.74**	**211**	T	T	15 11 58.8	
	baz=20,slow=76,SNR=124						
H11N1	**WAKE ISLAND Hy**	**34.75**	**211**	T	T	15 11 59.0	
	baz=20,slow=76,SNR=99						
H11S1	**WAKE ISLAND Hy**	**35.94**	**210**	T	T	15 13 27.9	
	baz=19,slow=76						
H11S2	**WAKE ISLAND Hy**	**35.95**	**210**	T	T	15 13 30.7	
	baz=19,slow=76						
H11S3	**WAKE ISLAND Hy**	**35.96**	**210**	T	T	15 13 31.2	
	baz=19,slow=76						
RES	**Resolute Bay**	**38.65**	**25**	LR	LR	14 54 08.0	
	comp=Z,40nm,18.3s,baz=334,slow=41						
PDAR	**Pinedale Array**	**44.11**	**75**	P	**P**	**14 36 06.0**	**+0.4**
	1.4nm,0.6s,baz=300,slow=4.1,SNR=12						
	1.4nm,0.6s						
TXAR	**Lajitas Array**	**56.41**	**84**	P	**P**	**14 37 38.6**	**0.0**
	0.1nm,0.5s,baz=320,slow=6.9,SNR=2.3						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**60.60**	**315**	P	**P**	**14 38 06.4**	**-1.0**
	0.4nm,0.3s,baz=45,slow=6.6,SNR=2.1						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**61.66**	**310**	P	**P**	**14 38 12.6**	**-2.0**
	0.1nm,0.3s,baz=53,slow=6.7,SNR=1.8						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**62.18**	**322**	P	**P**	**14 38 17.1**	**-0.9**
	0.6nm,0.4s,baz=56,slow=7.7,SNR=3.0						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**83.73**	**227**	P	**P**	**14 40 25.1**	**-0.8**
	0.2nm,0.4s,baz=28,slow=5.4,SNR=2.2						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**87.17**	**225**	P	**P**	**14 40 42.6**	**-0.3**
	0.5nm,0.8s,baz=29,slow=5.6,SNR=5.4						
	0.5nm,0.8s						
H03N2	**Juan Fernandez**	**119.05**	**108**	T	T	16 57 11.9	
	baz=317,slow=78						
H03N1	**Juan Fernandez**	**119.06**	**108**	T	T	16 57 13.3	
	baz=317,slow=78						
H03N3	**Juan Fernandez**	**119.06**	**108**	T	T	16 57 19.8	
	baz=317,slow=78						
BOSA	**Boshof**	**152.43**	**318**	PKPbc	**PKPbc**	**14 47 51.9**	**-1.0**
	1.3nm,0.5s,baz=357,slow=2.9,SNR=6.3						

*CATAC **18** 14:28:13.8±0.5, 15°.N±4°.×9°.2W±°., h169km±3km, M3.4/10, MLv3.4/10, Error ellipse: s-maj=8.5km s-min=4.1km az=32.0, confirmed*
*GCG **18** 14:28:14.6±0.8, 15°.44N×91°.91W, h160km±8km, MD3.8, MW3.6*
*MEX **18** 14:28:15.4±1.0, 15°.41N×91°.95W, h175km±11km, MD4.2*
ISC 18 14:28:10.6±1.4, 15°.35N±0°.05×92°.06W±0°.04, h193km±8km, n32, σ2s25/48, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMCA	**Catarina**	**0.49**	**181**	*i* P	**Pn**	**14 28 37.8**	**+0.8**
SMCA				*i* S	**Sn**	**14 28 56.2**	**-1.1**
HUEH	**Huehuetenango**	**0.54**	**93**	*eP*	**Pn**	**14 28 38.3**	**+0.9**
HUEH				*eS*	**Sn**	**14 28 56.1**	**-1.9**
HUEH	**Huehuetenango**	**0.54**	**93**	P	**Pn**	**14 28 38.1**	**+0.8**
SOKI	**Kika Raxquin**	**0.82**	**129**	*iP*	**Pn**	**14 28 40.4**	**+1.3**
RTAL	**Retalhuleu**	**0.89**	**156**	*eP*	**Pn**	**14 28 40.4**	**+1.4**
RTAL				*eS*	**Sn**	**14 29 00.4**	**-0.6**
RTAL	**Retalhuleu**	**0.89**	**156**	P	**Pn**	**14 28 40.3**	**+1.4**
CCIG	**Comitan**	**0.93**	**356**	*iP*	**Pn**	**14 28 41.5**	**+2.1**
CCIG				*iS*	**Sn**	**14 28 59.1**	**-2.8**
CCIG	**Comitan**	**0.93**	**356**	*iP*	**Pn**	**14 28 39.8**	**+0.3**
CCIG				*iS*	**Sn**	**14 28 59.8**	**-2.1**
CCIG	**Comitan**	**0.93**	**356**	P	**Pn**	**14 28 41.2**	**+1.8**
CCIG	**Comitan**	**0.93**	**356**	S	**Sn**	**14 29 01.3**	**-0.6**
PCIG		**1.17**	**288**	*iP*	**Pn**	**14 28 42.9**	**+2.1**
PCIG				*eS*	**Sn**	**14 29 04.8**	**+0.5**
ESSG	**Sabana Grande**	**1.53**	**129**	*iP*	**Pn**	**14 28 44.9**	**+0.9**
TGIG		**1.75**	**325**	*iP*	**Pn**	**14 28 48.5**	**+2.4**
TGIG				*eS*	**Sn**	**14 29 14.6**	**+0.7**
TGIG		**1.75**	**325**	*iP*	**Pn**	**14 28 48.5**	**+2.4**
TGIG				*iS*	**Sn**	**14 29 14.0**	**+0.1**
FG8	**Yepocapa, Chim**	**1.81**	**126**	*iP*	**Pn**	**14 28 44.3**	**-2.5**
FAME	**Alcaldia de Sa**	**2.48**	**127**	S	**Sn**	**14 29 28.2**	**+0.6**
FAME	**Alcaldia de Sa**	**2.48**	**127**	P	**Pn**	**14 28 54.9**	**+1.0**
PETF	**Flores**	**2.63**	**53**	*eP*	**Pn**	**14 28 56.7**	**+1.2**
PETF				*eS*	**Sn**	**14 29 27.4**	**-3.1**
PETF	**Flores**	**2.63**	**53**	*iP*	**Pn**	**14 28 56.9**	**+1.4**
PETF				*iS*	**Sn**	**14 29 28.3**	**-2.2**
PETF	**Flores**	**2.63**	**53**	P	**Pn**	**14 28 56.6**	**+1.2**
NUBE	**Las Nubes**	**2.64**	**123**	P	**Pn**	**14 28 57.3**	**+1.5**
MTO3	**Montecristo**	**2.78**	**109**	*iP*	**Pn**	**14 28 59.4**	**+1.9**
MTO3	**Montecristo**	**2.78**	**109**	P	**Pn**	**14 28 59.1**	**+1.7**
MTO3	**Montecristo**	**2.78**	**109**	S	**Sn**	**14 29 34.2**	**+0.2**
CMIG	**Matias Romero**	**3.22**	**303**	*eP*	**Pn**	**14 29 05.0**	**+2.5**
CMIG				*eS*	**Sn**	**14 29 42.1**	**-1.0**
HUIG	**Huatulco**	**3.92**	**277**	*eP*	**Pn**	**14 29 13.0**	**+1.8**
HUIG				*eS*	**Sn**	**14 29 54.9**	**-3.7**
NEUV	**Arroyo Zacate**	**4.29**	**304**	*eP*	**Pn**	**14 29 18.4**	**+2.6**
NEUV				*eS*	**Sn**	**14 30 05.2**	**-1.7**
PMUV	**Sontecomapan**	**4.32**	**318**	*eP*	Pn	14 29 12.1	-4.2
PMUV				*iS*	**Sn**	**14 30 02.1**	**-5.8**
VHO	**Vista Hermosa**	**4.80**	**292**	*eP*	**Pn**	**14 29 24.6**	**+2.1**
VHO				*eS*	**Sn**	**14 30 13.4**	**-5.7**
PEIG	**Puerto Escondi**	**4.94**	**278**	*eP*	**Pn**	**14 29 26.8**	**+2.7**
PEIG				*eS*	**Sn**	**14 30 18.2**	**-3.7**
YOIG	**Yosondua**	**5.48**	**287**	*eP*	Pn	14 29 36.4	+5.1
YOIG				*eS*	**Sn**	**14 30 32.2**	**-2.7**
JAUV	**Jalcomulco**	**6.04**	**312**	*eP*	**Sn**	**14 29 40.7**	**+2.4**
JAUV				*eS*	**Sn**	**14 30 47.4**	**-0.3**

*DJA **18** 14:39:37.7±0.2, 8°.S±3°.×12°.1E±°., h178km±3km, M4.1/18, mB4.8/1, mb4.2/12, MLv4.1/18, Mw(mB)4.0/1*
*IDC **18** 14:39:38.9±1.6, 8°.185×121°.26E, h198km±16km, mb3.7/4, mbtmp4.2/8, Error ellipse: s-maj=41.6km s-min=13.9km az=55.0*
ISC 18 14:39:37.6±0.6, 8°.52S±0°.05×121°.14E±0°.05, h200km, n37, σ1s62/44, mb3.7/3, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**0.59**	**113**	P	**Pn**	**14 40 03.6**	**-1.7**
EDFI				S	**Sn**	**14 40 22.6**	**-4.0**
MMRI	**Maumere**	**1.09**	**96**	P	**Pn**	**14 40 07.2**	**-0.9**
MMRI	**Maumere**	**1.09**	**96**	P	**Pn**	**14 40 06.9**	**-1.2**
MMRI				S	**Sn**	**14 40 28.3**	**-3.3**
WSI	**Waingapu**	**1.42**	**216**	P	**Pn**	**14 40 09.5**	**-1.1**
WSI				S	**Sn**	**14 40 33.0**	**-3.3**
BASI	**Baing, Sumba**	**1.78**	**198**	P	**Pn**	**14 40 13.0**	**-1.0**
WBSI	**Waikabubak, Su**	**2.06**	**237**	P	**Pn**	**14 40 15.9**	**-0.9**
BSSI	**Bau Bau, Buton**	**2.44**	**345**	P	**

ϕ=258.03000°, δ60.85000°, λ-118.17000°. Principal axes: T 6.5829, Plg12.0000°, Azm8.0000°; N 1.4480, Plg24.0000°, Azm273.0000°; P -8.0309, Plg63.0000°, Azm121.0000°;
*NEIC **18** 14:46:23.8, 10°.52S×152°.37E, h12km*
*IDC **18** 14:46:25.0±2.0, 10°.46S×152°.28E, h46km±18km, mb4.3/16, mbtmp4.6/20, ML4.1/2, MS4.2/41, Error ellipse: s-maj=13.8km s-min=12.4km az=106.0*
*DJA **18** 14:46:24.4±1.5, 11°.5S×15°.2E±°, h22km±11km, M4.9/30, mb5.0/30, mB5.5/14, MLv4.4/1, Mw(mB)5.0/14, MwMwp5.1/4, Mwp5.3/4*
ISC 18 14:46:24.5±0.3, 10°.63S±0°.05×152°.35E±0°.05, h35km, n495, σ1$: 48/472, mb4.9/68, MS4.3/50, 6C-4D, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.25**	**283**				**Pn**	**14 47 38.5**	**-2.0**
PMG	**Port Moresby**	**5.25**	**283**	P			**Pn**	**14 47 39.1**	**-1.5**
	19nm,0.6s,baz=53,slow=3.6,SNR=11								
PMG				S			**Sn**	**14 48 38.3**	**-1.6**
	122nm,0.8s,baz=76,slow=19,SNR=1.5								
PMG				LR		LR	LR	14 49 38.5	
	comp=Z,3μm,21.2s,baz=42,slow=38								
PMG	**Port Moresby**	**5.25**	**283**	P			**Pn**	**14 47 42.5**	**+1.9**
PMG	**Port Moresby**	**5.25**	**283**	P			**Pn**	**14 47 42.4**	**+1.9**
PMG	**Port Moresby**	**5.25**	**283**	*i* P			**Pn**	**14 47 42.9**	**+2.3**
SAVO	**Savo Central**	**7.50**	**79**	P			**Pn**	**14 48 12.6**	**+1.1**
HNR	**Honiara**	**7.58**	**82**				**Pn**	**14 48 12.1**	**-0.5**
HNR	**Honiara**	**7.58**	**82**	P			**Pn**	**14 48 13.2**	**+0.6**
	259nm,0.8s,baz=217,slow=5.8,SNR=8.5								
HNR	**Honiara**	**7.58**	**82**	P			**Pn**	**14 48 15.6**	**+3.0**
HNR	**Honiara**	**7.58**	**82**	P			**Pn**	**14 48 12.1**	**-0.5**
TATA	**Tatamba Isabel**	**7.69**	**74**	P			**Pn**	**14 48 17.1**	**+3.1**
ALEG	**Aligegeo Malai**	**8.44**	**78**	P			**Pn**	**14 48 27.2**	**+2.8**
COEN	**Coen**	**9.55**	**249**				**Pn**	**14 48 38.7**	**-1.0**
COEN	**Coen**	**9.55**	**249**	P			**Pn**	**14 48 39.4**	**-0.3**
MANU	**Manus Island**	**9.86**	**330**				**Pn**	**14 48 43.2**	**-0.7**
TV1H	**Townsville Har**	**10.12**	**211**	P			**Pn**	**14 48 47.7**	**+0.3**
MTSU	**Mount Surprise**	**10.78**	**225**	P			**Pn**	**14 48 56.7**	**+0.3**
CTAO	**Charters Tower**	**11.09**	**211**				**Pn**	**14 49 00.3**	**-0.4**
CTAO	**Charters Tower**	**11.09**	**211**	P			**Pn**	**14 49 01.1**	**+0.4**
CTAO	**Charters Tower**	**11.09**	**211**	P			**Pn**	**14 49 00.3**	**-0.4**
GD1S	**Gladstone Soft**	**13.19**	**185**	P			**Pn**	**14 49 30.0**	**+0.6**
JAY	**Jayapura**	**14.09**	**304**	P			P	14 50 00.3	+11
GENI	**Genyem**	**14.49**	**303**	P			**Pn**	**14 49 50.0**	**+2.9**
GENI	**Genyem**	**14.49**	**303**	P			**Pn**	**14 49 49.1**	**+2.0**
	103nm,1.3s								
EIDS	**Eidsvold**	**14.71**	**185**	P			**Pn**	**14 49 50.5**	**+0.4**
QIS	**Mount Isa**	**15.74**	**230**	P			**Pn**	**14 50 05.5**	**+1.8**
SMPI	**Sarmi**	**16.03**	**301**	P			**P**	**14 50 11.5**	**+0.9**
TW1H	**Toowoomba 1 Ha**	**16.83**	**181**	P			**Pn**	**14 50 18.6**	**+1.0**
QLP	**Quilpie**	**17.62**	**205**	P			**P**	**14 50 29.7**	**+1.6**
DZM	**Mont Dzumac**	**17.66**	**132**	*e*P			**Pn**	**14 50 28.4**	**+0.4**
	66nm,1.6s								
DZM				*e*LR		LR	LR	14 54 29.7	
	3μm,22.9s								
DZM	**Mont Dzumac**	**17.66**	**132**				**Pn**	**14 50 26.8**	**-1.1**
DZM	**Mont Dzumac**	**17.66**	**132**	P			**Pn**	**14 50 29.5**	**+1.5**
	0.3nm,0.3s,baz=355,slow=14,SNR=4.8								
DZM				LR		LR	LR	14 56 28.5	
	comp=Z,3μm,18.5s,baz=326,slow=34								
	14nm,1.0s								
BAKI	**Biak**	**18.66**	**299**	P			**Pn**	**14 50 41.7**	**+1.5**
	3μm2μm85nm,1.9s								
WR8	**Warramunga Arr**	**19.54**	**240**				**P**	**14 50 48.7**	**-0.5**
WR8					IAmb	IAmb	IAmb	14 51 02.1	
	comp=Z,61nm,0.9s								
KDU	**Kakadu**	**19.57**	**262**	P			**P**	**14 50 50.7**	**+1.1**
WRAB	**Tennant Creek**	**19.65**	**240**	P			**P**	**14 50 51.3**	**+0.8**
WRA	**Warramunga Arr**	**19.67**	**240**	P			**P**	**14 50 49.1**	**-1.6**
WRA	**Warramunga Arr**	**19.67**	**240**	P			**P**	**14 50 50.8**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=62,slow=11,SNR=20								
WRA				S			**S**	**14 54 25.7**	**-5.1**
	comp=Z,1.8nm,0.8s,baz=64,slow=22,SNR=4.0								
WRA				LR		LR	LR	14 58 06.4	
	comp=Z,1μm,19.4s,baz=63,slow=36								
	comp=Z,16nm,0.8s								
WRA	**Warramunga Arr**	**19.67**	**240**	P			**P**	**14 50 49.1**	**-1.6**
WRA				pmax		pmax			
	comp=Z,6.0nm,1.6s								
ARMA	**Armidale**	**19.70**	**182**	P			**P**	**14 50 52.1**	**+1.0**
RKPI	**Ransiki, Papua**	**20.19**	**295**	P			Pn	14 50 58.5	0.0
	comp=Z,3μmcomp=Z,2μmcomp=Z,104nm,1.1s								
INKA	**Innaminka**	**20.22**	**211**				**P**	**14 50 57.6**	**+1.1**
INKA					IAmb		IAmb	14 51 08.3	
	comp=Z,251nm,1.9s								
MTN	**Manton Dam**	**20.89**	**262**				**P**	**14 51 04.3**	**+0.4**
MTN					IAmb		IAmb	14 51 18.2	
	comp=Z,205nm,1.5s								
MTN	**Manton Dam**	**20.89**	**262**	P			Pn	14 51 06.4	-0.2
DRS	**Darwin Rock St**	**21.09**	**263**	P			**P**	**14 51 09.9**	**+3.8**
CMSA	**Cobar Meteorol**	**21.70**	**196**	P			**P**	**14 51 14.9**	**+2.4**
AS31	**Alice Springs**	**21.84**	**231**	P			**P**	**14 51 15.3**	**+1.1**
ASAR	**Alice Springs**	**21.84**	**231**				**P**	**14 51 14.1**	**-0.1**
ASAR	**Alice Springs**	**21.84**	**231**	P			**P**	**14 51 15.3**	**+1.1**
	comp=Z,3.8nm,0.6s,baz=62,slow=9.3,SNR=29								
ASAR				S			**S**	**14 55 13.7**	**-0.3**
	comp=Z,1.0nm,1.1s,baz=59,slow=24,SNR=1.6								
ASAR				LR		LR	LR	14 58 49.0	
	comp=Z,1μm,21.8s,baz=55,slow=34								
	comp=Z,3.8nm,0.6s								
ASAR	**Alice Springs**	**21.84**	**231**	P			**P**	**14 51 14.1**	**-0.1**
BNDI	**Bandanaira**	**23.05**	**284**	P			P	14 51 38.5	+12
STKA	**Stephens Creek**	**23.37**	**204**	P			**P**	**14 51 29.2**	**-0.9**
STKA	**Stephens Creek**	**23.37**	**204**	P			**P**	**14 51 29.8**	**-0.2**
	comp=Z,22nm,0.9s,baz=18,slow=11,SNR=16								
STKA				LR		LR	LR	15 01 17.5	
	comp=Z,1μm,18.5s,baz=23,slow=38								
	comp=Z,22nm,0.9s								
STKA	**Stephens Creek**	**23.37**	**204**	P			**P**	**14 51 30.8**	**+0.8**
STKA	**Stephens Creek**	**23.37**	**204**	*i* P			**P**	**14 51 28.5**	**-1.5**
KNRA	**Kununurra**	**23.50**	**255**				**P**	**14 51 31.9**	**+0.4**
KNRA					IAmb		IAmb	14 51 58.6	
	comp=Z,27nm,0.9s								
GUMO	**Guam**	**25.18**	**343**	LR		LR	LR	15 02 27.2	
	comp=Z,208nm,18.7s,baz=148,slow=38								
HTT	**Hallett**	**25.83**	**206**	P			**P**	**14 51 54.6**	**+1.9**
MSVF	**Nonsavu**	**25.88**	**109**	*i* P			**P**	**14 51 50.2**	**-3.2**
MSVF				pmax		pmax			
	comp=Z,125nm,3.8s								
WHYH	**Whyalla**	**26.11**	**209**	P			**P**	**14 51 58.8**	**+3.6**
BBOO	**Buckleboo**	**26.69**	**212**	P			**P**	**14 52 00.5**	**0.0**
BBOO					IAmb		IAmb	14 52 11.1	
	comp=Z,51nm,1.1s								
BBOO	**Buckleboo**	**26.69**	**212**	P			**P**	**14 52 04.2**	**+3.7**
FITZ	**Fitzroy Crossi**	**26.89**	**251**	P			**P**	**14 52 02.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**26.89**	**251**	LR		LR	LR	15 01 39.5	
	comp=Z,1μm,18.6s,baz=85,slow=34								
SANI	**Sanana**	**27.52**	**286**	P			**P**	**14 52 07.3**	**-0.8**
SOEI	**Soe**	**27.65**	**269**	P			**P**	**14 52 11.7**	**+2.3**
	comp=Z,36nm,1.4s								
BATI	**Baumata**	**28.21**	**268**	LR		LR	LR	15 03 27.3	
	comp=Z,792nm,19.7s,baz=109,slow=36								
BATI	**Baumata**	**28.21**	**268**	P			P	14 52 19.3	+5.0
MMRI	**Maumere**	**29.75**	**271**	P			**P**	**14 52 31.2**	**+3.3**
	comp=Z,54nm,1.0s								
BBSI	**Bau Bau**	**29.91**	**277**	P			**P**	**14 52 30.8**	**+1.4**
EDFI	**Ende, Flores**	**30.27**	**271**	P			**P**	**14 52 32.8**	**+0.1**
	comp=Z,705nmcomp=Z,30nm,1.4s								
BKSI	**Bulukumba**	**32.33**	**277**	P			**P**	**14 52 51.8**	**+1.1**
	comp=Z,435nmcomp=Z,22nm,0.8s								
WBSI	**Waikabubak, Su**	**32.45**	**269**	P			**P**	**14 52 54.3**	**+2.5**
BNSI	**Bone**	**32.54**	**279**	P			**P**	**14 52 52.9**	**+0.4**
	comp=Z,904nmcomp=Z,49nm,1.6s								
KAPI	**Kappang**	**32.75**	**277**	P			**P**	**14 52 54.4**	**0.0**
KAPI					IAmb		IAmb	14 52 56.1	
	comp=Z,45nm,1.0s								
KAPI	**Kappang**	**32.75**	**277**	LR		LR	LR	15 08 44.1	
	comp=Z,249nm,18.5s,baz=114,slow=41								
KAPI	**Kappang**	**32.75**	**277**	P			**P**	**14 52 54.9**	**+0.5**
KAPI				pmax		pmax			
	comp=Z,60nm,1.0s								
PSA00	**Pilbara Seismi**	**33.00**	**247**	P			**P**	**14 52 57.8**	**+1.3**
PSA00					IAmb		IAmb	14 52 58.8	
	comp=Z,27nm,1.3s								
RAO	**Raoul Island**	**33.38**	**128**	LR		LR	LR	15 04 31.0	
	comp=Z,264nm,19.4s,baz=312,slow=32								
PLAI	**Plampang**	**34.11**	**270**	P			**P**	**14 53 05.4**	**-0.9**
TWSI	**Taliwang, Sumb**	**35.00**	**270**	P			**P**	**14 53 15.4**	**+1.4**
	comp=Z,1μmcomp=Z,52nm,1.4s								
URZ	**Urewera**	**35.34**	**145**	LR		LR	LR	15 05 28.7	
	comp=Z,1μm,20.8s,baz=318,slow=32								
RPZ	**Rata Peaks**	**36.74**	**157**	LR		LR	LR	15 06 46.3	
	comp=Z,2μm,20.4s,baz=320,slow=33								
JAGI	**Jajag, Banyuwa**	**37.71**	**270**	P			**P**	**14 53 37.8**	**+0.6**
NWAO	**Narrogin (SRO)**	**39.15**	**230**	LR		LR	LR	15 10 05.9	
	comp=Z,1μm,18.1s,baz=76,slow=36								
KKM	**Kota Kinabalu**	**39.60**	**293**	P			**P**	**14 53 52.3**	**-0.8**
SBUM	**Sibu**	**41.99**	**286**	P			**P**	**14 54 12.5**	**-0.3**
STKI	**Sintang**	**42.00**	**282**	P			**P**	**14 54 16.3**	**+3.5**
KSM	**Kuching**	**43.51**	**284**	P			**P**	**14 54 24.4**	**-0.6**
KSM					IAmb		IAmb	14 54 29.1	
	comp=Z,56nm,1.7s								
JOW	**Kunigami**	**43.97**	**328**	LR		LR	LR	15 10 10.0	
	comp=Z,378nm,18.8s,baz=72,slow=32								
JHJ	**Hachijo jima 2**	**45.12**	**345**	LR		LR	LR	15 10 16.2	
	comp=Z,179nm,18.8s,baz=220,slow=32								
RAR	**Rarotonga**	**47.07**	**109**	LR		LR	LR	15 11 57.9	
	comp=Z,89nm,20.0s,baz=272,slow=32								
MJAR	**Matsushiro Arr**	**48.77**	**345**	LR		LR	LR	15 14 59.4	
	comp=Z,87nm,18.7s,baz=162,slow=35								
QIZ	**Qiongzhong**	**51.23**	**305**	P			**P**	**14 55 26.8**	**+1.8**
QIZ				pmax		pmax			
	comp=Z,230nm,7.8s								
QIZ				LR		LR			
	comp=Z,180nm,8.8s								
QIZ				LR		LR			
	comp=Z,290nm,7.8s								
QIZ				LR		LR			
	comp=Z,310nm,10.2s								
KSRS	**Korea Array**	**53.03**	**336**	P			**P**	**14 55 35.8**	**-2.3**
	comp=Z,2.8nm,0.9s,baz=154,slow=8.5,SNR=5.3								
	comp=Z,2.8nm,0.9s								
NJ2	**Nanjing**	**53.17**	**324**	*e*P			**P**	**14 55 40.8**	**+1.6**
NJ2				pmax		pmax			
	comp=Z,7.0nm,0.5s								
PSI	**Prapat**	**54.81**	**281**	LR		LR	LR	15 22 09.2	
	comp=Z,166nm,20.6s,baz=124,slow=39								
WHN	**Wuhan**	**54.85**	**319**	P			**P**	**14 55 52.6**	**+1.1**
ASAJ	**Asahikawa**	**55.20**	**351**	LR		LR	LR	15 15 14.1	
	comp=Z,80nm,21.1s,baz=166,slow=31								
PPT2	**Papeete2**	**56.57**	**104**	*e*S			**S**	**15 03 55.5**	**+1.3**
PPT2									
	comp=Z,145nm,28.2s								
PPT2				*e*SS			**SS**	**15 07 41.5**	**-0.6**
	comp=Z,164nm,24.0s								
PPT2				*e*LQ			LQ	15 10 08.7	
	comp=Z,843nm,30.2s								
PPT2				*e*LR			LR	15 12 32.7	
	comp=Z,215nm,33.5s								
PPT2				*e*LR			LR	15 12 36.1	
	comp=Z,169nm,23.2s								
PPT	**Papeete**	**56.58**	**104**	LR			LR	15 16 04.7	
	comp=Z,95nm,19.7s,baz=268,slow=31								
TBI	**Tubuai**	**56.74**	**111**	*e*LQ			LQ	15 10 14.2	
	comp=Z,2μm,35.8s								
TBI				*e*LR			LR	15 12 43.9	
	comp=Z,877nm,25.8s								
DL2	**Dalian**	**56.99**	**332**	*e*P			**P**	**14 56 04.5**	**-2.2**
DL2				S			**S**	**15 04 01.3**	**+2.6**
DL2				pmax		pmax			
	comp=Z,40nm,1.6s								
DL2				pmax		pmax			
	comp=Z,450nm,7.8s								
DL2				LR		LR			
	comp=Z,260nm,17.7s								
DL2				LR		LR			
	comp=Z,340nm,16.9s								
DL2				LR		LR			
	comp=Z,620nm,19.1s								
YSS	**Yuzhno-Sakhali**	**57.96**	**352**	*e*P			**P**	**14 56 17.1**	**+3.8**
YSS				*e*PPP		PPP		14 59 42.3	
YSS				*e*S			**S**	**15 04 14.5**	**+3.4**
YSS				*e*				15 06 01.4	
YSS				pmax		pmax			
	comp=Z,400nm,5.3s								
YSS				MLR		MLR			
	comp=Z,500nm,15.0s								
YSS				MLR		MLR			
	comp=N,600nm,17.0s								
YSS				MLR		MLR			
	comp=E,600nm,18.0s								
HNS	**HongShan**	**59.39**	**326**	⇑P			**P**	**14 56 23.0**	**-0.5**
HNS				pmax		pmax			
	comp=E,12nm,2.0s								
HNS				pmax		pmax			
	comp=E,340nm,9.0s								
HNS				LR		LR			
	comp=E,290nm,17.3s								
HNS				LR		LR			
	comp=E,270nm,18.8s								
HNS				LR		LR			
	comp=E,360nm,16.9s								
KMI	**Kunming**	**59.99**	**307**	P			**P**	**14 56 28.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**60.09**	**298**	P			**P**	**14 56 27.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**60.09**	**298**	P			**P**	**14 56 27.3**	**-1.4**
	comp=E,1.6nm,0.9s,baz=124,slow=5.3,SNR=12								
	comp=E,1.6nm,0.9s								
CMAR	**Chiang Mai Arr**	**60.09**	**298**	*ce*P			**P**	**14 56 29.0**	**+0.3**
CMAR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
CHTO	**Chiang Mai**	**60.24**	**299**	P			**P**	**14 56 28.7**	**-1.0**
CHTO	**Chiang Mai**	**60.24**	**299**	P			**P**	**14 56 28.7**	**-1.0**
CHTO				pmax		pmax			
	comp=Z,6.0nm,1.1s								
BJI	**Beijing**	**60.54**	**329**	P			**P**	**14 56 29.8**	**-1.5**
BJI				pmax		pmax			
	comp=Z,8.0nm,1.9s								
XAN	**Xi'an**	**60.61**	**319**	⇓P			**P**	**14 56 30.6**	**-1.4**
XAN				pP		pP		14 56 42.1	-0.3
XAN				S			**S**	**15 04 44.9**	**-1.1**
XAN				pmax		pmax			
	comp=Z,17nm,1.2s								
XAN				pmax		pmax			
	comp=Z,410nm,5.7s								
PZH	**PanZhiHua**	**61.46**	**308**	P			**P**	**14 56 39.8**	**+1.7**
CD2	**Chengdu**	**62.27**	**313**	*e*P			**P**	**14 56 44.0**	**+0.6**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
TNCH	**TengChong**	**63.30**	**305**	P			**P**	**14 56 50.0**	**-0.5**
TNCH				pmax		pmax			
	comp=Z,21nm,1.7s								
TNCH				pmax		pmax			
	comp=Z,240nm,5.8s								
XLT	**XiLinHaoTe**	**63.49**	**331**	*e*P			**P**	**14 56 50.6**	**-0.6**
XLT				pmax		pmax			
	comp=Z,11nm,1.3s								
XLT				pmax		pmax			
	comp=Z,170nm,3.6s								
HHC	**Hu-ho-hao-te**	**63.56**	**326**	*e*P			**P**	**14 56 53.6**	**+1.8**
HHC				pmax		pmax			
	comp=Z,30nm,0.8s								
HHC				pmax		pmax			
	comp=Z,140nm,6.3s								
HHC				LR		LR			
	comp=Z,210nm,18.3s								
HHC				LR		LR			
	comp=Z,200nm,18.3s								
HHC				LR		LR			
	comp=Z,330nm,19.1s								
PET	**Petropavlovsk**	**63.63**	**4**	*e*P			**P**	**14 56 55.5**	**+3.7**
PET				*e*S			**S**	**15 05 29.9**	**+6.7**
PET				*e*PPS			PPS	15 06 35.4	
PET				pmax		pmax			
	comp=Z,100nm,9.9s								
PET				MLR		MLR			
	comp=Z,100nm,17.0s								
PETK	**Petropavlovsk-**	**63.65**	**4**	P			**P**	**14 56 50.0**	**-2.0**
	comp=Z,3.0nm,0.9s,baz=163,slow=6.5,SNR=5.8								
	comp=Z,3.0nm,0.9s								
PETK	**Petropavlovsk-**	**63.65**	**4**	P			**P**	**14 56 50.0**	**-2.0**
BTO	**Baotou**	**64.24**	**325**	*e*P			**P**	**14 56 58.8**	**+2.5**
BTO				pP			**sP**	**14 57 12.9**	**+2.2**
BTO				sP			pwP	14 57 18.4	+12
BTO				S			**S**	**15 05 36.1**	**+4.5**
BTO				pmax		pmax			
	comp=Z,19nm,0.6s								
BTO				pmax		pmax			
	comp=Z,500nm,5.4s								
BTO				LR		LR			
	comp=Z,280nm,5.0s								
BTO				LR		LR			
	comp=Z,330nm,11.3s								
BTO				LR		LR			
	comp=Z,480nm,20.1s								
HEH	**HeiHe**	**64.42**	**343**	*e*P			**P**	**14 56 56.4**	**-0.7**
HEH				pmax		pmax			
	comp=Z,6.0nm,1.2s								
LZH	**Lanzhou**	**65.16**	**318**	*e*P			**P**	**14 57 02.1**	**-0.3**
LZH				sP			sP	14 57 18.6	+1.8
LZH				pmax		pmax			
	comp=Z,13nm,1.3s								
LZH				pmax		pmax			
	comp=Z,290nm,4.8s								
LZH				LR		LR			
	comp=Z,160nm,14.8s								
LZDM	**Lanzhou Array**	**65.18**	**318**	P			**P**	**14 57 01.9**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=148,slow=8.7,SNR=3.6								
LZDM				LR		LR	LR	15 26 19.7	
	comp=Z,37nm,18.1s,baz=75,slow=37								
	comp=Z,1.1nm,0.4s								
HIA	**Hailar**	**66.17**	**337**	*i* P			**P**	**14 57 06.7**	**-1.8**
HIA				pmax		pmax			
	comp=Z,28nm,2.6s								
VNDA	**Vanda**	**67.06**	**178**	P			**P**	**14 57 14.2**	**+0.4**
VNDA	**Vanda**	**67.06**	**178**	P			**P**	**14 57 14.2**	**+0.4**
	comp=Z,2.7nm,0.9s,baz=323,slow=6.4,SNR=14								
VNDA				LR		LR	LR	15 24 41.7	
	comp=Z,152nm,19.0s,baz=338,slow=34								
	comp=Z,2.7nm,0.9s								
VNDA	**Vanda**	**67.06**	**178**	P			**P**	**14 57 14.2**	**+0.4**
VNDA				pmax		pmax			
	comp=Z,6.0nm,0.9s								
ZEA	**Zeya**	**67.58**	**344**	*e*P			**P**	**14 57 16.9**	**-0.4**
ZEA				pmax		pmax			
	comp=Z,10.0nm,1.3s								
GTA	**Gaotai**	**69.67**	**319**	P			**P**	**14 57 30.8**	**-0.1**
GTA				sP			sP	14 57 45.1	-0.2
GTA				pmax		pmax			
	comp=Z,9.0nm,2.0s								
GTA				pmax		pmax			
	comp=Z,250nm,7.0s								
MA2	**Magadan**	**69.98**	**359**	LR		LR	LR	15 27 59.1	
	comp=Z,53nm,19.4s,baz=183,slow=36								
RKT	**Rikitea**	**70.06**	**111**	*e*LR		LR	LR	15 18 53.7	
	comp=Z,2μm,33.2s								
ULN	**Ulaanbaatar**	**70.72**	**330**	P			**P**	**14 57 36.5**	**-0.7**
ULN				IAmb		IAmb	IAmb	14 57 39.6	
	comp=Z,16nm,1.3s								
ULN	**Ulaanbaatar**	**70.72**	**330**	*i* P			**P**	**14 57 36.0**	**-1.1**
ULN				pmax		pmax			
	comp=Z,26nm,2.2s								
SONM	**Songino Array**	**71.03**	**329**				**P**	**14 57 38.0**	**-1.0**
SONM				IAmb		IAmb	IAmb	14 57 46.2	
	comp=Z,48nm,2.0s								
SONM	**Songino Array**	**71.03**	**329**	P			**P**	**14 57 38.6**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=141,slow=5.6,SNR=14								
SONM				LR		LR	LR	15 28 10.0	
	comp=Z,143nm,21.8s,baz=129,slow=35								
	comp=Z,4.2nm,0.8s								
SONM	**Songino Array**	**71.03**	**329**	P			**P**	**14 57 38.0**	**-1.0**
SONM				pmax		pmax			
	comp=Z,48nm,2.0s								
GOMU	**GeErMu**	**71.39**	**314**	P			**P**	**14 57 41.0**	**-0.7**
GOMU				PcP			**PcP**	**14 58 00.3**	**-1.0**
NIKH	**Nikolski High**	**71.49**	**24**	P			**P**	**14 57 40.0**	**-1.5**
	baz=220								
UNV	**Unalaska Valle**	**73.08**	**24**	P			**P**	**14 57 49.9**	**-1.0**
	baz=222								
SEY	**Seymchan**	**73.33**	**0**	LR		LR	LR	15 27 02.2	
	comp=Z,60nm,22.0s,baz=160,slow=33								
SEY	**Seymchan**	**73.33**	**0**	*i* P			**P**	**14 57 50.0**	**-2.2**
SEY				pmax		pmax			
	comp=Z,16nm,1.9s								
P08K	**Saint George I**	**74.03**	**21**	P			**P**	**14 57 56.0**	**-0.4**
	baz=219								
EVN	**Everest**	**74.05**	**303**	P			**P**	**14 57 57.0**	**-1.0**
EVN					IAmb		IAmb	14 58 12.0	
	comp=Z,21nm,1.3s								
ZAK	**Zakamensk**	**74.24**	**330**	*e*P			**P**	**14 57 55.9**	**-2.1**
ZAK				pmax		pmax			
	comp=Z,24nm,1.7s								
YAK	**Yakutsk**	**74.57**	**349**	LR		LR	LR	15 28 47.8	
	comp=Z,65nm,21.4s,baz=150,slow=34								
YAK	**Yakutsk**	**74.57**	**349**	*e*P			P	14 57 54.6	-4.9
YAK				pmax		pmax			
	comp=Z,10.0nm,1.5s								
YAK				pmax		pmax			
	comp=N,7.0nm,1.4s								
YAK				pmax		pmax			
	comp=E,2.0nm,1.3s								
IRK	**Irkutsk**	**74.97**	**332**	*e*P			**P**	**14 57 59.1**	**-2.9**
IRK				pmax		pmax			
	comp=Z,30nm,2.2s								
FALS	**False Pass**	**75.06**	**25**	P			**P**	**14 58 01.3**	**-1.2**
	baz=225								
MOY	**Mondy**	**76.17**	**330**	*e*P			**P**	**14 58 07.7**	**-1.4**
MOY				pmax		pmax			
	comp=Z,37nm,2.8s								
S12K	**Black Hills**	**76.21**	**25**	P			**P**	**14 58 08.3**	**-0.8**
	baz=226								
SDPT	**Sand Point**	**76.63**	**26**	P			**P**	**14 58 10.5**	**-0.9**
	baz=228								
CHNA	**Chernabura Isl**	**76.66**	**26**	P			**P**	**14 58 10.6**	**-1.0**
	baz=229								
S14K	**Fog Glacier**	**77.64**	**25**	P			**P**	**14 58 16.5**	**-0.7**
	baz=228								
HYB	**Hyderabad**	**78.03**	**290**	*e*P			**P**	**

baz=224
N16K Nishlik Lake 80.73 22 P P 14 58 33.4 -0.6
baz=229
P17K Kvichak River 80.80 24 P P 14 58 33.4 -0.9
baz=231
O17K Koliganek Bris 80.91 23 P P 14 58 34.3 -0.6
baz=230
OHAK Old Harbor 80.92 27 P P 14 58 33.6 -1.3
baz=234
K15K Wolf Creek Mou 81.00 20 P 14 58 34.3 -1.0
K15K IAmb IAmb 14 58 41.9
comp=Z,43nm,1.1s
K15K Wolf Creek Mou 81.00 20 P P 14 58 34.8 -0.5
baz=226
M16K Timber Creek 81.03 22 P 14 58 34.8 -0.7
M16K IAmb IAmb 14 58 38.5
comp=Z,41nm,1.2s
M16K Timber Creek 81.03 22 P P 14 58 34.0 -1.5
baz=228
Q18K Katmai Hardscr 81.04 25 P P 14 58 34.4 -1.4
baz=232
L16K Owhat River 81.30 21 P P 14 58 35.9 -1.0
baz=228
N17K Nushagak Hills 81.36 23 P P 14 58 36.7 -0.6
baz=230
P18K Big Mountain, 81.41 24 P P 14 58 36.1 -1.5
baz=232
KDAK Kodiak Island 81.56 26 P P 14 58 36.7 -1.7
baz=234
M17K Holitna River 81.83 22 P P 14 58 38.2 -1.5
baz=230
F14K Arctic Creek 81.86 16 P P 14 58 38.0 -1.8
baz=221
N18K Kilae Creek 81.95 23 P P 14 58 40.2 -0.2
N18K Kilae Creek 81.95 23 P P 14 58 39.7 -0.8
baz=231
J16K Anvik River 81.99 20 P 14 58 40.3 -0.2
J16K Anvik River 81.99 20 P P 14 58 39.3 -1.2
baz=227
L17K Donlin 82.00 21 P P 14 58 39.0 -1.6
baz=229
Q20K Shuyak Island 82.12 26 P P 14 58 40.4 -0.9
baz=235
I17K Unalakleet 82.38 19 P P 14 58 42.6 +0.1
baz=226
P19K Oil Pt 82.38 25 P P 14 58 41.0 -1.7
baz=234
K17K Iditarod 82.39 21 P P 14 58 41.4 -1.3
baz=229
H16K Elim 82.42 18 P P 14 58 41.8 -0.9
baz=225
M18K Stony River 82.49 22 P P 14 58 41.8 -1.4
baz=231
J17K VABM Dome 82.58 20 P P 14 58 42.9 -0.7
baz=228
L18K Granite Mounta 82.63 22 P P 14 58 43.5 -0.4
L18K Granite Mounta 82.63 22 P P 14 58 42.5 -1.4
baz=230
G16K Koyuk River 82.93 17 P P 14 58 43.9 -1.4
baz=225
HOM Homer 83.04 25 P P 14 58 45.4 -0.7
baz=235
ZSN Zaisan 83.05 321 eP P 14 58 45.6 -0.9
ZSN Zaisan 83.05 321 eP P 14 58 45.5 -0.9
L19K White Mountain 83.28 22 P P 14 58 46.5 -0.8
baz=232
H17K Granite Mounta 83.35 19 P P 14 58 46.9 -0.7
baz=227
J18K Innoko River 83.42 21 P P 14 58 46.9 -1.1
baz=230
BRSE Bradley Lake S 83.47 25 P P 14 58 47.0 -1.3
baz=236
G17K Kiwalik Mounta 83.51 18 P P 14 58 46.7 -1.7
baz=226
TIXI Tiksi 83.58 353 LR LR 15 34 18.4
comp=Z,45nm,21.1s,baz=190,slow=34
N20K Mount Spurr 83.70 24 P P 14 58 47.9 -1.7
baz=234
SPCR Spurr Chakacha 83.70 24 P P 14 58 48.0 -1.6
baz=234
M20K Styx River 83.75 23 P P 14 58 47.4 -2.4
baz=234
L20K Farewell, AK 83.82 22 P P 14 58 47.8 -2.3
baz=233
CAPN Captain Cook N 83.88 24 P P 14 58 49.8 -0.5
baz=236
H18K Honhosa River 83.98 19 P P 14 58 50.3 -0.5
baz=228
F17K Baldwin Pennin 83.99 17 P P 14 58 50.5 -0.3
baz=226
J19K Poorman 84.14 20 P P 14 58 50.7 -1.0
baz=231
GCSA Galena City Sc 84.19 20 P P 14 58 50.3 -1.6
baz=230
SEW Seward 84.21 25 P P 14 58 50.3 -1.7
baz=237
C16K Lisburne Hills 84.23 15 P P 14 58 50.7 -1.3
baz=222
E17K Hotham Inlet 84.28 16 P P 14 58 51.9 -0.4
baz=225
K20K Telida 84.29 21 P P 14 58 51.2 -1.2
baz=233
O22K Cooper Landing 84.30 25 P P 14 58 51.0 -1.5
baz=237
D17K Noatak River 84.38 16 P P 14 58 51.1 -1.6
baz=224
G18K Tagagawik 84.39 18 P P 14 58 51.2 -1.6
baz=228
SKT Skwentna 84.42 23 P P 14 58 51.6 -1.5
baz=235
MK31 Makanchi Array 84.42 320 ceP P 14 58 53.2 -0.3
MKAR Makanchi Array 84.42 320 P P 14 58 52.3 -1.2
MKAR Makanchi Array 84.42 320 P P 14 58 52.1 -1.4
comp=Z,4.4nm,0.7s,baz=103,slow=6.1,SNR=31
MKAR LR LR 15 37 13.2
comp=Z,84nm,19.4s,baz=80,slow=36
comp=Z,4.4nm,0.7s
MKAR Makanchi Array 84.42 320 P P 14 58 52.3 -1.2
SUA Susitna One 84.43 24 P P 14 58 51.8 -1.5
baz=236
F18K Selawik 84.56 17 P P 14 58 52.0 -1.6
baz=227
RC01 Rabbit Creek A 84.63 24 P P 14 58 52.9 -1.3
baz=237
RDOG Red Dog Mine 84.68 15 P P 14 58 52.8 -1.6
baz=224
PPLA Purkeypile 84.70 22 P P 14 58 53.1 -1.6
baz=234
J20K Nowinta River 84.76 21 P P 14 58 53.2 -1.5
baz=232
H19K Roundabout Mou 84.84 19 P P 14 58 53.0 -2.0
baz=230
M22K Willow 84.84 24 P P 14 58 53.4 -1.8
baz=236
E18K Tukpahlearik C 84.86 16 P P 14 58 54.9 -0.3
baz=226
C17K DeLong Mountai 84.92 15 P P 14 58 53.8 -1.7
baz=224
SHLS Shalkode 85.02 315 eP P 14 58 54.1 -2.6
comp=Z,12nm,1.2s
SHLS Shalkode 85.02 315 eP P 14 58 54.1 -2.6
SHLS pmax pmax
comp=Z,11nm,1.2s
I20K Naaghedeneel 85.03 20 P P 14 58 54.8 -1.3
baz=232
G19K Purcell Mounta 85.03 18 P P 14 58 54.7 -1.4
baz=230
PWL Port Wells 85.08 25 P P 14 58 54.2 -2.3
baz=238
CUT Chulitna 85.15 23 P P 14 58 55.1 -1.6
baz=236
PMR Palmer 85.15 24 P P 14 58 55.4 -1.4
baz=237
Q23K Middleton Isla 85.19 27 P P 14 58 55.9 -1.1
baz=240
CHUM Lake Minchumin 85.23 21 P P 14 58 55.4 -1.7
baz=234
F19K Shaleruckik Mo 85.28 18 P P 14 58 55.9 -1.4
baz=229
UZB Uzynbulak 85.32 315 eP P 14 58 57.1 -1.2
comp=Z,16nm,1.4s
UZB Uzynbulak 85.32 315 eP P 14 58 57.1 -1.2
UZB pmax pmax
comp=Z,16nm,1.4s
H20K Anotleneega Mo 85.32 19 P P 14 58 56.6 -1.0
baz=232
KNK Knik Glacier 85.33 24 P P 14 58 55.3 -2.4
baz=238
C18K Utukok River 85.56 15 P P 14 58 58.2 -0.5
baz=226
GLI Glacier Island 85.61 25 P P 14 58 57.9 -1.2
baz=239
SATY Saty 85.72 315 eP P 14 58 59.0 -1.2
SATY Saty 85.72 315 eP P 14 58 59.0 -1.2
TARG Taragay, Kyrgy 85.72 314 P P 14 58 59.9 -0.7
TARG IAmb IAmb 14 59 13.5
comp=Z,21nm,1.3s
TARG Taragay, Kyrgy 85.72 314 P P 14 58 59.9 -0.7
TARG pmax pmax
comp=Z,21nm,1.3s
TRF Thorofare Moun 85.72 22 P P 14 58 58.3 -1.5
baz=236
ZAA0 Zalesovo Array 85.74 327 P P 14 58 57.6 -2.2
ZAA0 IAmb IAmb 14 58 58.2
comp=Z,5.7nm,0.7s
ZALV Zalesovo Beam 85.74 327 P P 14 58 57.8 -2.1
ZALV Zalesovo Beam 85.74 327 P P 14 58 57.2 -2.6
comp=Z,5.7nm,0.6s,baz=113,slow=5.6,SNR=25
ZALV LR LR 15 37 25.6
comp=Z,108nm,19.9s,baz=108,slow=36
comp=Z,5.7nm,0.6s
ZALV Zalesovo Beam 85.74 327 P P 14 58 57.8 -2.1
M23K Glacier View 85.82 24 P P 14 58 59.3 -0.9
baz=238
BPAW Bear Paw Mtn. 85.83 22 P P 14 58 59.8 -0.4
baz=235
E19K Redstone River 85.85 17 P 14 58 59.5 -0.6
E19K Redstone River 85.85 17 P P 14 58 59.5 -0.6
baz=229
B18K Kokolik River 85.91 15 P P 14 58 59.7 -0.7
baz=225
SCM Sheep Creek Mo 86.01 24 P P 14 58 59.2 -1.9
baz=239
EYAK Cordova Ski Ar 86.01 26 P P 14 58 59.8 -1.2
baz=240
F20K Avaraart Lake 86.03 18 P P 14 58 59.4 -1.6
baz=231
WAT1 Susitna Watana 86.05 23 P P 14 58 59.6 -1.7
baz=238
I21K Tanana 86.11 20 P P 14 58 59.5 -1.9
baz=234
H21K Melozitna Rive 86.11 20 P P 14 58 59.8 -1.7
baz=234
WAT6 Susitna Watana 86.23 24 P P 14 59 00.4 -2.0
baz=238
D19K Kuna River 86.28 16 P P 14 59 00.9 -1.4
baz=228
KAIM Kayak Island 86.29 27 P P 14 59 00.9 -1.6
baz=242
C19K Lookout Ridge 86.29 16 P P 14 59 01.5 -0.9
baz=227
TDK Taldyqorghan 86.34 317 eP P 14 59 02.1 -1.1
comp=Z,18nm,1.1s
TDK Taldyqorghan 86.34 317 eP P 14 59 02.0 -1.1
TDK pmax pmax
comp=Z,18nm,1.1s
KSH Kashi 86.39 311 P P 14 59 03.8 +0.2
KSH pmax pmax
comp=Z,6.0nm,1.0s
MCK McKinley 86.39 22 P P 14 59 01.3 -1.6
baz=237,SNR=7.6
G21K Allakaket 86.39 19 P P 14 59 01.2 -1.7
baz=233
KLU Klutina 86.41 25 P P 14 59 01.8 -1.4
baz=240
MLY Manley 86.45 21 P P 14 59 02.2 -1.0
baz=236
ARXS Arharly 86.48 316 eP P 14 59 01.4 -2.5
M24K Tolsona, Glenn 86.61 24 P P 14 59 03.1 -1.0
baz=240
DHY Denali Highway 86.63 23 P P 14 59 03.1 -1.2
baz=239
E20K Nigu River 86.67 17 P P 14 59 03.5 -0.7
baz=230
A19K Wainwright 86.68 14 P P 14 59 02.9 -1.2
baz=226
MDOK Medeo 86.69 315 eP P 14 59 03.8 -1.3
MDOK Medeo 86.69 315 eP P 14 59 03.8 -1.3
BMRM Bremner River 86.71 26 P P 14 59 02.2 -2.4
baz=241
H22K Ishtalitna Cre 86.73 20 P P 14 59 03.4 -1.2
baz=235
TNSS Tian-Shan 86.73 315 eP P 14 59 04.0 -1.5
TNSS Tian-Shan 86.73 315 eP P 14 59 04.0 -1.5
NEA2 Nenana 86.80 22 P P 14 59 03.5 -1.4
baz=237
F21K Alatna River 86.83 18 P P 14 59 04.3 -0.7
baz=233
D20K Etivluk River 86.84 17 P P 14 59 04.7 -0.3
baz=230
BGLC Bering Glacier 86.89 27 P P 14 59 04.7 -0.7
baz=243
N25K Chitina, Valde 87.02 25 P P 14 59 05.7 -0.5
baz=241
HARP HAARP 87.17 24 P P 14 59 05.4 -1.4
baz=241
CRQE Cirque 87.26 26 P P 14 59 06.1 -1.2
baz=243
G22K Bettles 87.28 19 P P 14 59 06.8 -0.3
baz=235,SNR=5.8
PAX Paxson 87.33 24 P P 14 59 06.6 -1.0
baz=240
COLA College 87.40 22 iP P 14 59 06.1 -1.6
COLA pmax pmax
comp=Z,17nm,1.0s
COLA College 87.40 22 P P 14 59 06.4 -1.3
baz=238
F22K John River 87.41 19 P P 14 59 07.3 -0.5
baz=234
E21K Killik River 87.42 17 P P 14 59 07.5 -0.4
baz=232
HDA Harding Lake 87.49 22 P P 14 59 06.7 -1.6
baz=239
MESA MESA 87.51 27 P P 14 59 07.2 -1.5
baz=244
B20K Meade River 87.53 15 P P 14 59 07.4 -0.9
baz=229
MCARA McCarthy VSAT 87.58 26 P P 14 59 08.0 -0.7
baz=243
K24K Donnelly Dome 87.62 23 P P 14 59 08.5 -0.4
baz=240
C21K Knifeblade Rid 87.63 17 P P 14 59 08.2 -0.7
baz=232
G23K Bananza Creek 87.64 20 P P 14 59 08.1 -0.9
baz=236
POKR Poker Plat Res 87.67 22 P P 14 59 08.5 -0.7
baz=239
ILAR Eielson Array 87.69 22 P P 14 59 07.0 -2.3
comp=Z,3.9nm,0.8s,baz=253,slow=5.1,SNR=33
comp=Z,3.9nm,0.8s
COLD Coldfoot 87.87 19 P P 14 59 09.5 -0.5
baz=236
E22K Anaktuvuk Pass 87.89 18 P P 14 59 09.3 -0.9
baz=234
H24K Noodor Dome 87.90 21 P P 14 59 09.2 -1.1
baz=238
RIDG Independent Ri 87.95 23 P P 14 59 09.5 -1.0
baz=241,SNR=6.1
B21K Ikpikpuk River 87.97 16 P P 14 59 09.4 -0.9
B21K Ikpikpuk River 87.97 16 P P 14 59 10.3 0.0
baz=232
SYO Syowa Base 88.06 199 eP P 14 59 12.6 +1.7
SYO Syowa Base 88.06 199 eP cP P cP 14 59 13.8 +1.1
M26K Nabesna, AK 88.06 25 P P 14 59 10.5 -0.6
baz=243
D22K Ayikyak River 88.07 17 P P 14 59 10.3 -0.6
baz=234
KURK Kurchatov 88.07 322 P P 14 59 10.0 -1.3
KURK IAmb IAmb 14 59 16.0
comp=Z,10nm,1.4s
KURK Kurchatov 88.07 322 ceP P 14 59 09.4 -1.9
KURK pmax pmax
comp=Z,11nm,1.7s
KURBB Kurchatov Arra 88.09 322 P P 14 59 08.9 -2.4
comp=Z,2.3nm,0.2s,baz=110,slow=4.0,SNR=8.0
comp=Z,2.3nm,0.2s
CTG Chitna Glacier 88.12 27 P P 14 59 11.0 -0.5
baz=244
J25K Salcha River, 88.18 22 P P 14 59 10.7 -1.0
baz=240,SNR=18
L26K Log Cabin Wild 88.21 24 P P 14 59 10.7 -1.0
baz=242
PINM Pinnacle 88.24 28 P P 14 59 10.6 -1.4
baz=245
AAK Ala-Archa 88.34 314 LR LR 15 38 40.7
comp=Z,46nm,21.2s,baz=120,slow=36
AAK Ala-Archa 88.34 314 iP P 14 59 11.5 -1.5
AAK pmax pmax
comp=Z,4.0nm,0.9s
SCRK Sand Creek 88.40 23 P P 14 59 11.5 -1.2
baz=242
PNL Peninsula 88.45 28 P P 14 59 11.4 -1.6
baz=246
G24K Hadweenzic Riv 88.49 20 P P 14 59 12.3 -0.7
baz=238
M27K Edge Creek, AK 88.51 25 P P 14 59 13.4 +0.1
M27K Edge Creek, AK 88.51 25 P P 14 59 12.2 -1.1
baz=244,SNR=11
E23K Chandalar 88.52 19 P P 14 59 12.2 -1.0
baz=236
A21K Barrow 88.53 15 P P 14 59 12.2 -0.8
baz=230
O28M Mount Upton 88.55 27 P P 14 59 13.1 -0.6
baz=245
PRP Porcupine Dome 88.57 22 P P 14 59 13.4 -0.2
baz=240
D23K Nanushuk River 88.71 18 P P 14 59 13.9 0.0
D23K Nanushuk River 88.71 18 P P 14 59 13.8 -0.1
baz=236,SNR=5.7
A22K Sinclair Lake 88.74 15 P P 14 59 13.4 -0.6
baz=231
B22K Teshekpuk Lake 88.74 16 P P 14 59 13.4 -0.6
baz=233
F24K Squaw Lake 88.78 19 P P 14 59 13.9 -0.5
baz=238
J26L Joseph Creek 88.81 23 P P 14 59 14.2 -0.4
baz=242,SNR=6.1
H25L Birch Creek 88.84 21 P P 14 59 13.8 -0.7
baz=240
L27K Beaver Creek, 88.84 25 P P 14 59 14.0 -0.7
baz=244
TOLK Toolik Lake Re 88.86 18 P P 14 59 14.4 -0.3
baz=236
BCAR Beaver Creek A 88.86 25 P P 14 59 14.2 -0.6
E24K Your Creek 88.89 19 P P 14 59 14.2 -0.7
baz=238
G25K Bearman Lake 88.99 20 P P 14 59 15.2 0.0
baz=240,SNR=5.4
O29M Mount Kennedy 89.09 28 P P 14 59 15.8 -0.3
baz=247
K27K Chicken 89.17 24 P P 14 59 16.2 0.0
baz=244
P29M Windy Craggy 89.21 29 P P 14 59 16.1 -0.4
baz=247
C23K Itkillik River 89.22 17 P P 14 59 16.2 -0.1
baz=236
BTLS Baital 89.31 316 eP P 14 59 16.1 -1.2
BTLS Baital 89.31 316 eP P 14 59 16.0 -1.2
S31K Pelican 89.32 30 P P 14 59 16.6 -0.4
baz=249
D24K Happy Valley 89.37 18 P P 14 59 16.9 -0.1
baz=237
YUK6 Outpost Mounta 89.44 27 P P 14 59 17.4 -0.4
baz=247
SIT Sitka 89.45 31 P P 14 59 16.9 -0.8
baz=250
YUK4 Talbot Arm 89.47 27 P P 14 59 17.6 -0.4
baz=247
F25K Christian Rive 89.56 20 P P 14 59 17.0 -1.1
baz=240
C24K Franklin Bluff 89.71 17 P P 14 59 17.9 -0.7
baz=237
P30M Million Dollar 89.76 28 P P 14 59 19.0 -0.1
baz=248
HYT Haines Junctio 89.78 27 P 14 59 18.5 -0.7
HYT IAmb IAmb 14 59 23.2
comp=Z,26nm,1.6s
HYT Haines Junctio 89.78 27 P P 14 59 18.6 -0.7
baz=248
PLBC Pleasant Camp 89.80 29 P P 14 59 18.5 -0.7
baz=249
BMAR Burnt Mountain 89.84 20 P P 14 59 19.6 +0.3
E25K Arctic Village 89.85 19 P P 14 59 18.6 -0.7
baz=240
EGAK Eagle 89.86 23 P P 14 59 19.0 -0.4
baz=244,SNR=8.9
G26K Porcupine Rive 89.88 21 P P 14 59 18.9 -0.5
baz=242,SNR=15
M29M Somme Creek 89.99 26 P P 14 59 19.5 -0.7
baz=247
I27K Kandik River 90.05 22 P P 14 59 19.9 -0.5
baz=244
CRAG Craig 90.08 33 P P 14 59 20.2 -0.4
baz=251
F26K Sheenjek River 90.11 20 P P 14 59 20.3 -0.3
baz=242
D25K Kavik River 90.20 18 P P 14 59 19.6 -1.4
baz=240
N30M Aishikik Lake 90.21 27 P P 14 59 19.7 -1.5
baz=248
DAWY Dawson 90.26 24 P P 14 59 20.4 -1.0
baz=246,SNR=7.4
R32K Eaglecrest 90.28 30 P P 14 59 19.9 -1.6
baz=250
U33K Whale Pass 90.28 33 P P 14 59 21.2 -0.3
baz=251
H27K Steamboat Moun 90.36 22 P P 14 59 21.1 -0.7
H27K Steamboat Moun 90.36 22 P P 14 59 20.4 -1.4
baz=244
L29M L29M 90.39 25 P P 14 59 21.4 -0.6
baz=247
G27K Doyon Strip 90.57 21 P P 14 59 22.2 -0.5
baz=244
I28M Miner Creek 90.61 23 P P 14 59 22.1 -1.0
baz=245
M30M Minto, Yukon 90.75 26 P P 14 59 22.7 -1.0
baz=248
WRAK Wrangell Islan 90.79 33 P P 14 59 22.7 -1.2
baz=252
N31M Braeburn, Yuko 90.80 27 P P 14 59 22.8 -1.1
baz=249
V35K Ketchikan 90.85 34 P P 14 59 22.3 -1.9
baz=253
J29N Klondike Camp 90.88 24 P P 14 59 23.5 -0.8
baz=247
WHY Whitehorse 90.92 28 P P 14 59 22.5 -2.1
baz=250
K29M Barlow Dome 90.93 25 P P 14 59 23.9 -0.6
baz=248
C26K Camden Bay 90.94 18 P P 14 59 23.6 -0.7
baz=241
P32M Atlin 91.11 29 P P 14 59 24.3 -1.1
baz=251
C27K Jago River 91.17 18 P P 14 59 24.7 -0.7
baz=242
E27K Coleen River 91.19 20 P P 14 59 24.9 -0.8
baz=244
I29M Ogilvie Camp, 91.20 23 P P 14 59 24.4 -1.3
baz=247
KKAR Karatay Array 91.29 314 P P 14 59 24.5 -2.1
KKAR Karatay Array 91.29 314 P P 14 59 24.5 -2.1
SIMJ Simiganj 91.42 309 P P 14 59 24.7 -2.8
SIMJ IAmb IAmb 14 59 32.9
comp=Z,11nm,1.4s
H29M Whitestone 91.52 22 P P 14 59 26.3 -0.8
baz=247
F28M Old Crow 91.54 21 P P 14 59 26.6 -0.7
baz=246
BELA Belgrano 2 91.56 179 P P 14 59 26.7 -0.6
BELA IAmb IAmb 14 59 35.0
comp=Z,10nm,0.9s
Q32M Nakina River 91.61 30 P P 14 59 27.1 -0.9
baz=252
M31M Drury Creek, Y 91.67 27 P P 14 59 27.5 -0.5
baz=250
J30M Hart River 91.68 24 P P 14 59 27.2 -0.9
baz=249
P33M Teslin, Yukon 91.74 29 P P 14 59 27.1 -1.3
baz=252
BRLS Borolday 91.75 313 eP P 14 59 27.6 -1.3
BRLS Borolday 91.75 313 eP P 14 59 27.5 -1.3
CHM Chimkent 91.77 313 eP P 14 59 27.4 -1.5
CHM Chimkent 91.77 313 eP P 14 59 27.3 -1.5
D27M Malcolm River 91.86 19 P P 14 59 27.7 -1.0
baz=245
S34M Telegraph Cree 91.87 31 P P 14 59 27.5 -1.4
baz=253
I30M Mount Dempster 91.90 24 P P 14 59 28.3 -0.7
baz=249
G29M Pine Creek 91.92 22 P P 14 59 28.1 -0.9
baz=247
BBB Bella Bella 91.98 37 LR LR 15 33 04.4
comp=Z,217nm,21.6s,baz=250,slow=30

T35M	**Bob Quinn** baz=254	**92.06**	**32**	P		**P**	**14 59 29.2**	**-0.6**
E28M	**Babbage River** baz=246	**92.06**	**20**	P		**P**	**14 59 29.1**	**-0.5**
EPYK	**Eagle Plains** baz=248	**92.19**	**22**	P		**P**	**14 59 29.4**	**-0.8**
R33M	**Jennings River** baz=253	**92.38**	**30**	P		**P**	**14 59 29.8**	**-1.6**
E29M	**Blow River** baz=247	**92.53**	**20**	P		**P**	**14 59 30.4**	**-1.3**
DLBC	**Dease Lake** comp=Z,2µm,20.1s,baz=235,slow=32	**92.58**	**31**	LR		LR	15 35 03.8	
DLBC	**Dease Lake** baz=254	**92.58**	**31**	P		**P**	**14 59 31.2**	**-1.1**
G30M	**tAoh Zraii Nji** baz=249	**92.60**	**22**	P		**P**	**14 59 30.3**	**-1.9**
D28M	**Stokes Point** baz=247	**92.62**	**19**	P		**P**	**14 59 31.2**	**-0.9**
H31M	**Peel River** baz=250	**92.90**	**23**	P		**P**	**14 59 32.1**	**-1.4**
F30M	**Barrier River** baz=249	**92.98**	**21**	P		**P**	**14 59 32.1**	**-1.7**
MMPY	**Sheldon Lake,** baz=253	**93.18**	**27**	P		**P**	**14 59 34.4**	**-0.5**
YBH	**Yreka Blue Hor** comp=Z,13nm,19.5s,baz=271,slow=32	**93.25**	**48**	LR		LR	15 36 14.4	
G31M	**Satah River** baz=251	**93.30**	**22**	P		**P**	**14 59 33.8**	**-1.5**
BVAR	**Borovoye Array** comp=Z,2.2nm,0.8s,baz=104,slow=6.3,SNR=9.0	**93.61**	**323**	P		**P**	**14 59 34.3**	**-2.8**
BVAR	comp=Z,52nm,18.7s,baz=85,slow=36 comp=Z,2.2nm,0.8s			LR		LR	15 42 39.4	
F31M	**Tsiigehtchic** baz=251	**93.67**	**22**	P		**P**	**14 59 35.4**	**-1.6**
INK	**Inuvik** comp=Z,137nm,19.4s,baz=234,slow=34	**94.02**	**21**	LR		LR	15 38 52.8	
INK	**Inuvik** baz=251	**94.02**	**21**	P		**P**	**14 59 37.3**	**-1.2**
NVL	**N'lazarevskaya**	**94.51**	**192**	*e*P		P	14 59 31.3	-10
NVL				*e*			15 10 40.8	
NVL	comp=Z,6.0nm,0.8s			pmax		pmax		
NVL	comp=Z,158nm,23.0s			MLR		MLR		
LIRD	**Liard River Hi** baz=257	**94.80**	**31**	P		**P**	**14 59 41.4**	**-1.0**
KOTAN	**Kotaneelee Air** baz=259	**95.96**	**30**	P		**P**	**14 59 46.1**	**-1.6**
NVAR	**Mina Array Bea** comp=Z,3.6nm,1.2s,baz=264,slow=5.4,SNR=8.5	**96.01**	**52**	P		**P**	**14 59 47.9**	**-0.8**
NVAR	comp=Z,104nm,18.9s,baz=272,slow=33 comp=Z,3.6nm,1.2s			LR		LR	15 38 41.3	
SNAA	**Sanae** comp=Z,441nm,21.5s,baz=78,slow=34	**96.23**	**188**	LR		LR	15 41 36.1	
PFO	**Pinyon Flats O** comp=Z,97nm,20.3s,baz=256,slow=32	**96.78**	**57**	LR		LR	15 37 12.7	
WRGLY	**Wrigley** baz=260	**96.80**	**27**	P		**P**	**14 59 49.9**	**-1.4**
VNA3	**Neumayer Olymp** comp=Z,1.6nm,0.9s	**97.42**	**186**	⇓P		**P**	**14 59 54.2**	**0.0**
VNA2	**Neumayer--Watz** comp=Z,1.1nm,0.7s,baz=119,slow=3.2	**97.48**	**187**	⇓P		**P**	**14 59 54.0**	**-0.4**
NEW	**Newport** comp=Z,166nm,21.5s,baz=276,slow=31	**98.19**	**42**	LR		LR	15 37 13.5	
ELK	**Elko** comp=Z,94nm,21.6s,baz=272,slow=31	**98.66**	**50**	LR		LR	15 37 16.8	
KIV	**Kislovodsk**	**111.44**	**313**	*i* PKIKP		**PKiKP**	**15 04 50.5**	**-4.9**
KIV	comp=Z,5.0nm,1.1s			pmax		pmax		
MNK	**Minsk**	**118.25**	**327**	*i* PKIKP		**PKPdf**	**15 05 03.8**	**-4.1**
MNK				*i*			15 06 20.4	
MNK				*i* PPP		PPP	15 08 49.5	
MNK				*i*			15 12 15.0	
MNK				*i* SS		SS	15 22 37.0	+0.3
MNK				*i* SSS		SSS	15 27 01.6	
MNK	comp=Z,5.0nm,0.6s			pmax		pmax		
MNK	comp=E,6.0nm,0.5s			pmax		pmax		
MNK	comp=N,123nm,24.1s			pmax		pmax		
MNK	comp=Z,115nm,18.0s			MLR		MLR		
MNK	comp=N,123nm,24.0s			MLR		MLR		
MNK	comp=E,131nm,23.0s			MLR		MLR		
CLL	**Collm**	**127.64**	**329**	*e*PKIKP		**PKPdf**	**15 05 27.0**	**+0.9**
CLL				*e*			15 05 37.0	
ESDC	**Sonseca Array** comp=E,0.5nm,0.8s,baz=25,slow=4.1,SNR=4.4	**144.22**	**328**	PKP		**PKPab**	**15 05 55.6**	**+0.6**
PGAV	**Gavieira, Arco**	**144.46**	**335**	*e*PKP		**PKPab**	**15 05 55.0**	**-0.8**
MVO	**Moncorvo**	**144.57**	**333**	*e*PKP		**PKPab**	**15 05 56.8**	**+0.5**
POLO	**Lamas de Olo**	**144.74**	**334**	*e*PKP		**PKPab**	**15 05 56.0**	**-0.9**
PVIS	**Viseu**	**145.32**	**333**	*e*PKP		**PKPbc**	**15 05 58.0**	**-0.9**
MTE	**Manteigas**	**145.41**	**332**	*e*PKP		**PKPbc**	**15 05 58.5**	**-0.6**
PCBR	**Castelo Branco**	**145.83**	**332**	*e*PKP		**PKPdf**	**15 06 00.6**	**+0.8**
PMRV	**Marv??o**	**146.12**	**331**	*e*PKP		**PKPdf**	**15 06 00.0**	**-0.4**
PCAS	**Casmilo, Conde**	**146.12**	**333**	*e*PKP		**PKPab**	**15 06 02.3**	**+0.4**
PSARD	**Sardoal**	**146.34**	**332**	*e*PKP		**PKPab**	**15 06 03.4**	**+0.6**
PESTR	**Estremoz**	**146.66**	**331**	*e*PKP		**PKPab**	**15 06 04.3**	**+0.2**
PMTG	**Montargil**	**146.79**	**332**	*e*PKP		**PKPdf**	**15 06 02.5**	**+0.9**
PBAR	**Barrancos**	**146.93**	**329**	*e*PKP		**PKPdf**	**15 06 03.0**	**+1.2**
BDFB	**Brasilia** comp=E,15nm,1.0s,baz=168,slow=5.3,SNR=11	**147.02**	**142**	PKPbc		**PKPdf**	**15 06 02.2**	**-0.5**
PMAFR	**Mafra**	**147.37**	**333**	*e*PKP		**PKPbc**	**15 06 06.1**	**+1.1**
PARRA	**Arraiolos**	**147.37**	**332**	*e*PKP		**PKPdf**	**15 06 02.9**	**+0.4**
MESJ	**Messejana**	**147.77**	**330**	*e*PKP		**PKiKP**	**15 06 08.5**	**+0.4**
PCVE	**Castro Verde**	**147.84**	**330**	*e*PKP		**PKPbc**	**15 06 07.8**	**+1.5**
PVAQ	**Vaqueiros**	**147.86**	**329**	*e*PKP		**PKPdf**	**15 06 05.3**	**+1.9**
PBDV	**Barranco-do-Ve**	**148.09**	**329**	*e*PKP		**PKPbc**	**15 06 08.1**	**+1.1**
PTEO	**Sao Teotonio**	**148.25**	**331**	*e*PKP		**PKPdf**	**15 06 05.8**	**+1.9**
PFVI	**Vila Bisbo**	**148.62**	**330**	*e*PKP		**PKPdf**	**15 06 05.8**	**+1.2**
TORD	**Torodi Ar. Bea** comp=E,4.0nm,0.7s,baz=53,slow=3.2,SNR=20	**151.18**	**278**	PKPbc		**PKPbc**	**15 06 13.9**	**-1.3**

*CATAC **18** 14:49:49.9±0.6, 13°N±3°×9°0W±°, h19km±3km, M3.4/16, MLv3.4/16, Error ellipse: s-maj=6.4km s-min=4.1km az=15.0, confirmed*
*SNET **18** 14:49:51.1±1.4, 13°.20N×89°.76W, h31km, ML3.3*
*GCG **18** 14:49:52.9±0.8, 13°.35N×89°.81W, h34km±420km, MD3.8*
ISC 18 14:49:50.7±2.4, 13°.17N±0°.10×89°.76W±0°.07, h28km±12km, n52, σ0°52/59, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.57**	**32**	*e*P	**Pn**	**14 50 02.9**	**-0.4**
JAYA				*e*S	**Sn**	**14 50 12.2**	**+0.4**
JAYA	**Jayaque - finc**	**0.57**	**32**	*i* P	**Pn**	**14 50 02.8**	**-0.4**
JAYA				*i* S	**Sb**	**14 50 10.5**	**+0.2**
JAYA	**Jayaque - finc**	**0.57**	**32**	P	**Pn**	**14 50 02.8**	**-0.4**
CEVE	**Cerro Verde**	**0.67**	**12**	*e*P	**Pn**	**14 50 04.2**	**-0.4**
CEVE	**Cerro Verde**	**0.67**	**12**	P	**Pn**	**14 50 04.3**	**-0.3**
CEVE	**Cerro Verde**	**0.67**	**12**	S	**Sn**	**14 50 15.4**	**+1.1**
SBLS	**San Blas**	**0.68**	**12**	*i* P	**Pn**	**14 50 04.3**	**-0.4**
SBLS				*e*P	**Pn**	**14 50 04.4**	**-0.4**
PMON	**Piamonte**	**0.70**	**39**	*e*P	**Pb**	**14 50 04.3**	**-0.1**
PMON	**Piamonte**	**0.70**	**39**	P	**Pb**	**14 50 04.2**	**-0.3**
PMON	**Piamonte**	**0.70**	**39**	S	**Sn**	**14 50 14.5**	**-0.3**
SNJE	**San Jose**	**0.71**	**12**	*i* P	**Pb**	**14 50 04.7**	**0.0**
SNJE				*e*P	**Pb**	**14 50 04.8**	**0.0**
FAME	**Alcaldia de Sa**	**0.71**	**340**	P	**Pb**	**14 50 04.4**	**-0.3**
FAME	**Alcaldia de Sa**	**0.71**	**340**	S	**Sn**	**14 50 15.1**	**0.0**
PANCS	**Alcalda de**	**0.72**	**52**	S	**Sn**	**14 50 14.6**	**-0.8**
PANCS	**Alcalda de**	**0.72**	**52**	P	**Pn**	**14 50 04.0**	**-1.2**
CEDA	**San Andres**	**0.73**	**30**	S	**Sn**	**14 50 15.8**	**+0.3**
NUBE	**Las Nubes**	**0.73**	**359**	*e*P	**Pb**	**14 50 04.8**	**-0.2**
NUBE	**Las Nubes**	**0.73**	**359**	*i* P	**Pb**	**14 50 04.8**	**-0.2**
NUBE				*i* S	**Sb**	**14 50 14.4**	**-0.3**
NUBE	**Las Nubes**	**0.73**	**359**	P	**Pb**	**14 50 04.8**	**-0.2**
NUBE	**Las Nubes**	**0.73**	**359**	S	**Sn**	**14 50 15.7**	**-0.1**
BOQS	**Boqueron**	**0.73**	**40**	*i* P	**Pn**	**14 50 05.0**	**-0.5**
LOMA	**Loma Larga**	**0.75**	**51**	*e*P	**Pn**	**14 50 05.1**	**-0.5**
LOMA	**Loma Larga**	**0.75**	**51**	P	**Pn**	**14 50 04.9**	**-0.7**
LOMA	**Loma Larga**	**0.75**	**51**	S	**Sn**	**14 50 16.3**	**+0.1**
UEES	**Universidad Ev**	**0.75**	**43**	P	**Pn**	**14 50 05.0**	**-0.6**
UEES	**Universidad Ev**	**0.75**	**43**	S	**Sn**	**14 50 15.9**	**-0.2**
IGN	**Direccin Gen**	**0.79**	**47**	S	**Sn**	**14 50 17.3**	**+0.1**
UDBS	**Universidad Do**	**0.80**	**47**	S	**Sn**	**14 50 17.4**	**0.0**
UDBS	**Universidad Do**	**0.80**	**47**	P	**Pn**	**14 50 05.9**	**-0.5**
LFRS	**El Faro**	**0.82**	**56**	*e*P	**Pn**	**14 50 05.9**	**-0.7**
LOAL	**Lomas de Alarc**	**0.82**	**359**	S	**Sn**	**14 50 19.5**	**+1.6**
LOAL	**Lomas de Alarc**	**0.82**	**359**	P	**Pb**	**14 50 06.6**	**0.0**
UNIC	**Universidad Ca**	**0.83**	**15**	P	**Pb**	**14 50 06.7**	**0.0**
UNIC	**Universidad Ca**	**0.83**	**15**	S	**Sn**	**14 50 18.9**	**+0.7**
PAVA	**Las Pavas**	**0.97**	**56**	*e*P	**Pn**	**14 50 08.3**	**-0.4**
PAVA				*e*S	**Sb**	**14 50 22.6**	**+1.1**
PAVA	**Las Pavas**	**0.97**	**56**	S	**Sb**	**14 50 21.8**	**+0.3**
PAVA	**Las Pavas**	**0.97**	**56**	P	**Pn**	**14 50 08.4**	**-0.2**
TECO	**Alcaldia de Te**	**1.02**	**69**	P	**Pn**	**14 50 08.6**	**-0.7**
TECO	**Alcaldia de Te**	**1.02**	**69**	S	**Sn**	**14 50 22.1**	**-0.8**
UESV	**Universidad de**	**1.06**	**64**	P	**Pn**	**14 50 09.1**	**-0.7**
UESV	**Universidad de**	**1.06**	**64**	S	**Sn**	**14 50 23.5**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.14**	**62**	*e*P	**Pn**	**14 50 11.2**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.14**	**62**	P	**Pn**	**14 50 10.9**	**0.0**
SCLA	**Alcaldia de Sa**	**1.14**	**62**	S	**Sb**	**14 50 26.7**	**+0.4**
LLGN	**La Laguna**	**1.27**	**39**	P	**Pn**	**14 50 12.8**	**0.0**
LLGN	**La Laguna**	**1.27**	**39**	S	**Sb**	**14 50 30.4**	**+0.3**
MTO3	**Montecristo**	**1.28**	**18**	*i* P	**Pn**	**14 50 13.0**	**-0.1**
MTO3	**Montecristo**	**1.28**	**18**	P	**Pn**	**14 50 13.0**	**-0.1**
MTO3	**Montecristo**	**1.28**	**18**	S	**Sb**	**14 50 30.5**	**-0.1**
PACA	**Pacayal**	**1.43**	**78**	*e*P	**Pn**	**14 50 16.0**	**+0.9**
PACA				*e*S	**Sn**	**14 50 33.2**	**+0.1**
PACA	**Pacayal**	**1.43**	**78**	P	**Pn**	**14 50 15.7**	**+0.6**
BLLM	**Bellamira**	**1.51**	**79**	*e*P	**Pn**	**14 50 16.3**	**+0.2**

DJA 18 14:59:30.1±0.3, 8°S±2°×12°0E±°, h44km±69km, M3.9/12, mB5.0/1, mb3.9/1, MLv3.8/12, Mw(mB)4.3/1, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	**Bau Bau, Buton**	**1.66**	**27**	P	Pn	14 59 57.1	+0.4
BSSI				S	Sn	15 00 17.2	+0.4
WBSI	**Waikabubak, Su**	**2.03**	**190**	P	Pn	15 00 01.5	-0.4
WBSI				S	Sn	15 00 24.9	-1.1
WSI	**Waingapu**	**2.10**	**165**	P	Pn	15 00 02.9	+0.1
EDFI	**Ende, Flores**	**2.23**	**120**	P	Pn	15 00 04.1	-0.6
PLAI	**Plampang**	**2.28**	**238**	P	Pn	15 00 05.4	+0.1
BKSI	**Bulukumba**	**2.32**	**9**	P	Pn	15 00 06.7	+0.8
BKSI				S	Sn	15 00 32.9	-0.3
BASI	**Baing, Sumba**	**2.70**	**162**	P	Pn	15 00 11.4	+0.3
TWSI	**Taliwang, Sumb**	**3.04**	**249**	P	Pn	15 00 15.9	+0.2
BNSI	**Bone**	**3.23**	**7**	P	Pn	15 00 18.7	+0.4
BBSI	**Bau Bau**	**3.53**	**53**	P	Pn	15 00 22.2	-0.2
JAGI	**Jajag, Banyuwa**	**5.60**	**261**	P	Pn	15 00 51.1	+0.2
GMJI	**Gumukmas**	**6.27**	**264**	P	Pn	15 01 00.0	-0.1

*IDC **18** 15:04:05.5±2.0, 5°.30S×146°.39E, h131km±18km, mb3.4/6, mbtmp3.8/9, MS3.5/1, Error ellipse: s-maj=28.1km s-min=14.3km az=106.0*
ISC 18 15:04:04.5±1.0, 5°.33S±0°.08×146°.4E±0°.1, h123km, n11, σ1s33/13, mb3.6/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 17nm,0.3s,baz=287,slow=12,SNR=29	**4.13**	**169**	P	**Pn**	**15 05 06.8**	**+0.9**
PMG				S	**Sn**	**15 05 52.3**	**-1.1**
JAY	**Jayapura** 29nm,0.3s,baz=145,slow=23,SNR=15	**6.29**	**296**	P	**Pn**	**15 05 34.5**	**-0.6**
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=32,slow=11,SNR=12	**18.65**	**218**	P	**Pn**	**15 08 13.5**	**-1.2**
WRA	0.2nm,0.5s,baz=37,slow=22,SNR=1.9			S	**S**	**15 11 37.5**	**-1.7**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=50,slow=8.4,SNR=12	**21.83**	**212**	P	**P**	**15 08 49.2**	**+2.1**
ASAR	0.5nm,0.8s,baz=26,slow=22,SNR=4.5 0.3nm,0.5s			S	**S**	**15 12 40.9**	**0.0**
FITZ	**Fitzroy Crossi** 2.2nm,0.4s,baz=44,slow=9.6,SNR=18 2.2nm,0.4s	**23.89**	**236**	P	**P**	**15 09 08.0**	**+1.0**
CMAR	**Chiang Mai Arr** 0.4nm,0.7s,baz=120,slow=8.5,SNR=4.3 0.4nm,0.7s	**52.37**	**298**	P	**P**	**15 13 05.6**	**+1.2**
KLR	**Kul'dur** comp=Z,44nm,21.2s,baz=212,slow=34	**55.81**	**348**	LR	LR	15 36 08.0	
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=92,slow=9.2,SNR=4.2 0.3nm,0.5s	**76.58**	**321**	P	**P**	**15 15 41.9**	**+0.4**
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=109,slow=5.9,SNR=3.8 0.7nm,0.4s	**78.11**	**328**	P	**P**	**15 15 49.2**	**-0.6**
ILAR	**Eielson Array** 1.5nm,0.6s,baz=256,slow=5.2,SNR=23 1.5nm,0.6s	**85.12**	**23**	P	**P**	**15 16 26.1**	**-0.4**
TORD	**Torodi Ar. Bea** 0.2nm,0.5s,baz=54,slow=2.3,SNR=2.1	**144.30**	**285**	PKP	**PKPdf**	**15 23 25.2**	**-1.9**

*BJI **18** 15:22:33.3, 44°.50N×147°.03E, h125km, mB5.0/18, mb5.0/66*
*NEIC **18** 15:22:35.0±2.4, 44°.48N±0°.07×147°.08E±0°.09, h118km±5km, mb4.9/127, Error ellipse: s-maj=13.6km s-min=1.7km az=137.0*
*MOS **18** 15:22:34.6±1.1, 44°.51N×147°.00E, h136km, mb4.5/17, Error ellipse: s-maj=7.4km s-min=6.2km az=81.5*
MOS Felt (III-IV) at Malokuril'skoye, (III) at Krabozavodskoye, (II) at Yuzhno-Kuril'sk.
*IDC **18** 15:22:35.7±0.5, 44°.63N×146°.97E, h129km±4km, mb4.0/27, mbtmp4.5/32, MS2.9/2, Error ellipse: s-maj=11.3km s-min=8.0km az=156.0*
*SKHL **18** 15:22:35.3±0.5, 44°.40N×147°.10E, h133km±5km, mb5.8/7, msha6.3/6*
*NIED **18** 15:22:36.4, 44°.30N×147°.06E, h130km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.30; Mθθ3.44; Mϕϕ -3.74; Mrθ2.62; Mrϕ-2.82; Mθϕ-1.22; Fault plane solution: M₀5.32000×10¹⁵ NP1:φs60.00000°, δ68.00000°, λ163.00000°. NP2:φs157.00000°, δ74.00000°, λ23.00000°.*
*JMA **18** 15:22:36.4±0.3, 44°.1N±1°×14°.7E±°, h130km±3km, MD4.4/39, MV4.7/39, NEAR ETOROFU ISLAND*
JMA Felt II J1 at NEAR ETOROFU ISLAND .
ISC 18 15:22:35.3±0.4, 44°.54N±0°.04×147°.02E±0°.04, h129km±2km, h128km; pP-P, n621, σ1s39/633, mb4.8/122, 42C-11D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.69**	**192**	*i* P	**Pn**	**15 22 59.7**	**+4.3**
SHO	5µm,0.4s			AMB	AMB	15 23 00.1	
SHO				*i* S	**Sn**	**15 23 13.7**	**+3.1**
SHO	48µm,0.3s			A	A	15 23 14.1	
KUR	**Kuril'sk**	**0.92**	**41**	*d i* PN	**Pn**	**15 22 57.8**	**+0.5**
KUR				*i* S	**Sn**	**15 23 14.8**	**+0.9**
KUR	comp=E,1µm,0.3s			pmax	pmax		
KUR	comp=Z,7µm,0.3s			pmax	pmax		
KUR	comp=N,924nm,0.2s			pmax	pmax		
KUR	comp=N,20µm,2.8s			smax	smax		
KUR	comp=E,6µm,1.3s			smax	smax		
KUR	comp=N,5µm,0.4s			smax	smax		
KUR	comp=E,5µm,0.4s			smax	smax		
KUR	**Kuril'sk**	**0.92**	**41**	*i* P	**Pn**	**15 22 58.8**	**+1.5**
KUR				AMB	AMB	15 22 59.1	
KUR	comp=E,9µm,0.4s			*i* S	**Sn**	**15 23 16.0**	**+2.1**
KUR				A	A	15 23 17.1	
KUR	comp=E,8µm,0.6s			A	A	15 23 17.1	
KUR	comp=E,8µm,0.6s			A	A	15 23 17.1	
YUK	**Yuzh-Kuril'sk**	**0.98**	**239**	*c i* PN	**Pn**	**15 22 58.3**	**+0.5**
YUK				*i* S	**Sn**	**15 23 15.1**	**+0.2**
YUK	comp=Z,7µm,0.2s			pmax	pmax		
YUK	comp=N,684nm,0.1s			pmax	pmax		
YUK	comp=E,1µm,0.3s			pmax	pmax		
YUK	comp=E,22nm,0.5s			smax	smax		
YUK	comp=N,8.0nm,0.4s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**0.98**	**239**	*i* P	**Pn**	**15 22 58.3**	**+0.5**
YUK				AMB	AMB	15 22 59.5	
YUK	comp=N,8µm,0.2s			*i* S	**Sn**	**15 23 15.4**	**+0.5**
YUK	comp=N,33µm,0.6s			A	A	15 23 16.1	
YUK	comp=N,27µm,0.6s			A	A	15 23 16.1	
RUSJ	**Misakicho**	**1.35**	**252**	⇑*i* PN	**Pn**	**15 23 02.5**	**+0.9**
RUSJ				*i* S	**Sn**	**15 23 23.2**	**+1.6**
GLVR	**Golovnino**	**1.35**	**234**	⇑*i* PN	**Pn**	**15 23 02.3**	**+0.7**
GLVR				*i* S	**Sn**	**15 23 22.2**	**+0.6**
GLVR	comp=E,566nm,0.3s			pmax	pmax		
GLVR	comp=Z,8µm,0.3s			pmax	pmax		
GLVR	comp=N,29µm,0.4s			smax	smax		
GLVR	comp=E,12µm,0.4s			smax	smax		
GLVR	**Golovnino**	**1.35**	**234**	*i* P	**Pn**	**15 23 02.3**	**+0.7**
GLVR				AMB	AMB	15 23 02.5	
GLVR	comp=E,8µm,0.3s			*i* S	**Sn**	**15 23 22.2**	**+0.6**
GLVR	comp=E,29µm,0.4s			A	A	15 23 22.9	
GLVR	comp=E,12µm,0.4s			A	A	15 23 22.9	
JRA	**Rausu**	**1.50**	**247**	*i* P	**Pn**	**15 23 04.0**	**+0.8**
JRA				S	**Sn**	**15 23 24.8**	**+0.4**
JRA	**Rausu** comp=N,8.0nm,1.9s,comp=E,6.0nm,3.7s	**1.50**	**247**	A	A	15 23 04.0	
NEM2	**Nemuro 2**	**1.50**	**219**	*i* P	**Pn**	**15 23 02.6**	**-0.7**
NEM2				S	**Sn**	**15 23 21.9**	**-2.6**
NEM2	**Nemuro 2** comp=N,9.0nm,1.8s,comp=E,7.0nm,0.7s	**1.50**	**219**	A	A	15 23 02.6	
NMR	**Nemuro--Hokkai**	**1.50**	**219**	⇑*i* PN	**Pn**	**15 23 02.6**	**-0.7**
NMR				*i* S	**Sn**	**15 23 21.8**	**-2.8**
NMR	**Nemuro--Hokkai**	**1.50**	**219**	*i* P	**Pn**	**15 23 02.6**	**-0.7**
NMR				*i* S	**Sn**	**15 23 22.1**	**-2.5**
JNSB	**Nemuroshibetsu**	**1.64**	**243**	*i* P	**Pn**	**15 23 05.9**	**+1.0**
JNSB				S	**Sn**	**15 23 28.6**	**+1.1**
JNSB	**Nemuroshibetsu** comp=N,26nm,2.4s,comp=E,14nm,0.8s	**1.64**	**243**	A	A	15 23 05.9	
JNK	**Nakash**	**1.92**	**241**	*i* P	**Pn**	**15 23 08.9**	**+0.7**
JNK				*e*S	**Sn**	**15 23 33.3**	**0.0**
JNK	**Nakash** comp=N,13nm,1.1s,comp=E,12nm,0.8s	**1.92**	**241**	A	A	15 23 08.9	
JKHN	**Kushirohamanak**	**1.99**	**223**	*i* P	**Pn**	**15 23 08.7**	**-0.3**
JKHN				S	**Sn**	**15 23 32.5**	**-2.3**
JKHN	**Kushirohamanak** comp=N,9.0nm,1.6s,comp=E,7.0nm,2.6s	**1.99**	**223**	A	A	15 23 08.7	
AKK	**Akkeshi**	**2.20**	**227**	*e*P	**Pn**	**15 23 11.1**	**-0.5**
JAK	**Akkeshi**	**2.29**	**228**	*i* P	**Pn**	**15 23 12.4**	**-0.3**
JAK				S	**Sn**	**15 23 39.1**	**-2.3**
JAK	**Akkeshi** comp=N,9.0nm,0.6s,comp=E,8.0nm,1.9s	**2.29**	**228**	A	A	15 23 12.4	
JTKR	**Abashiri--Toko**	**2.31**	**257**	*i* P	**Pn**	**15 23 14.1**	**+1.1**
JTKR				*e*S	**Sn**	**15 23 42.8**	**+0.8**
JTKR	**Abashiri--Toko** comp=N,3.0nm,1.7s,comp=E,3.0nm,1.6s	**2.31**	**257**	A	A	15 23 14.1	
JAR	**Ashorobuto**	**2.66**	**243**	*i* P	**Pn**	**15 23 18.9**	**+1.4**
JAR				S	**Sn**	**15 23 50.9**	**+1.0**
JAR	**Ashorobuto** comp=N,17nm,1.9s,comp=E,11nm,0.9s	**2.66**	**243**	A	A	15 23 18.9	
JMP	**Maruseppu**	**2.69**	**260**	*i* P	**Pn**	**15 23 19.0**	**+1.2**
JMP				*e*S	**Sn**	**15 23 51.8**	**+1.3**
JOB	**Onbets**	**2.83**	**236**	*i* P	**Pn**	**15 23 20.3**	**+0.6**
JOB				S	**Sn**	**15 23 52.5**	**-1.4**
JOB	**Onbets** comp=N,8.0nm,0.8s,comp=E,9.0nm,1.1s	**2.83**	**236**	A	A	15 23 20.3	
JKK2	**Kamakawa 2**	**3.15**	**259**	P	**Pn**	**15 23 25.4**	**+1.6**
JKK2				*e*S	**Sn**	**15 24 02.5**	**+1.3**
JSE	**Soyaes**	**3.19**	**279**	P	**Pn**	**15 23 26.0**	**+1.7**
JKA	**Kamikawa-asahi**	**3.20**	**264**		**Pn**	**15 23 25.9**	**+1.4**
JKA	**Kamikawa-asahi**	**3.20**	**264**	*e*P	**Pn**	**15 23 26.0**	**+1.5**
ASAJ	**Asahikawa** comp=E,347nm,0.8s,baz=98,slow=14,SNR=215	**3.21**	**264**	P	**Pn**	**15 23 26.0**	**+1.5**
ASAJ	comp=E,411nm,0.7s,baz=231,slow=19,SNR=7.8			S	**Sn**	**15 24 03.0**	**+0.5**
ASAJ	comp=E,217nm,18.3s,baz=266,slow=37			LR	LR	15 24 32.1	
ASAJ	**Asahikawa**	**3.21**	**264**	P	**Pn**	**15 23 26.4**	**+1.9**
ASAJ				S	**Sn**	**15 24 05.1**	**+2.6**
JCH	**Churui**	**3.29**	**235**	*i* P	**Pn**	**15 23 25.5**	**0.0**
JCH				S	**Sn**	**15 24 01.8**	**-2.6**
JCH	**Churui** comp=N,5.0nm,0.6s,comp=E,3.0nm,0.6s	**3.29**	**235**	A	A	15 23 25.5	
JWK2	**Keihoku**	**3.72**	**284**	P	**Pn**	**15 23 34.4**	**+3.1**
ERM	**Erimo**	**3.79**	**230**		**Pn**	**15 23 32.0**	**-0.1**
ERM	**Erimo**	**3.79**	**230**	P	**Pn**	**15 23 33.0**	**+0.8**
ERM	**Erimo**	**3.79**	**230**	PN	**Pn**	**15 23 32.1**	**-0.1**
JEM	**Erimo**	**3.79**	**230**	P	**Pn**	**15 23 33.0**	**+0.8**
YSS	**Yuzhno-Sakhali**	**3.84**	**310**		**Pn**	**15 23 34.9**	**+2.0**
YSS	**Yuzhno-Sakhali**	**3.84**	**310**	P	**Pn**	**15 23 35.2**	**+2.4**
YSS	**Yuzhno-Sakhali**	**3.84**	**310**	*e*PN	**Pn**	**15 23 34.8**	**+2.0**
YSS				*e*S	**Sn**	**15 24 17.3**	**-0.1**
YSS	comp=Z,60nm,0.6s			pmax	pmax		
YSS	comp=N,90nm,1.0s			smax	smax		
YSS	comp=E,250nm,0.8s			smax	smax		
YSS	comp=N,800nm,3.2s			smax	smax		
YSS	**Yuzhno-Sakhali**	**3.84**	**310**	*e*P	**Pn**	**15 23 35.1**	**+2.3**
YSS				*e*S	**Sn**	**15 24 19.6**	**+2.2**
JNBK	**Urakawa-nobuka**	**3.85**	**235**	P	**Pn**	**15 23 32.2**	**-0.8**
JNBK				S	**Sn**	**15 24 15.1**	**-2.6**
JHR	**Hokuryu**	**3.90**	**260**	*e*P	**Pn**	**15 23 35.9**	**+2.2**
JRBN	**Rebuntou**	**4.32**	**284**	*e*P	**Pn**	**15 23 41.3**	**+2.1**
JEW	**Eniwo**	**4.39**	**249**	P	**Pn**	**15 23 41.7**	**+1.6**
JEW				S	**Sn**	**15 24 31.3**	**+0.8**

MAJO **Matsushiro** 10.43 223 Pn **Pn** 15 24 58.5 -2.9
MAJO **Matsushiro** 10.43 223 P **Pn** 15 24 59.1 -2.3
MAJO **Matsushiro** 10.43 223 *i* PN **Pn** 15 24 58.8 -2.6
MJAR **Matsushiro Arr** 10.43 223 P **Pn** 15 24 59.2 -2.2
comp=Z,10nm,0.5s,baz=28,slow=13,SNR=35
MJAR S **Sn** 15 26 52.8 -3.6
comp=Z,2.0nm,0.5s,baz=80,slow=18,SNR=1.6
MJB9 **Matsu-Tunnel** 10.43 223 Pn **Pn** 15 24 59.6 -1.8
USRK **Ussuriysk Ar.** 10.77 273 P **Pn** 15 25 06.6 +0.7
comp=Z,104nm,0.7s,baz=88,slow=14,SNR=80
VLA **Vladivostok** 11.03 268 *i* PN **Pn** 15 25 07.3 -2.1
VLA **Vladivostok** 11.03 268 *e*P **Pn** 15 25 07.3 -2.1
PEA0B **Petropavlovsk-** 11.08 36 Pn **Pn** 15 25 09.8 -0.2
PEA0B **Petropavlovsk-** 11.08 36 *ce*PN **Pn** 15 25 09.7 -0.2
PETK **Petropavlovsk-** 11.08 36 P **Pn** 15 25 09.5 -0.4
comp=Z,10nm,0.7s,baz=100,slow=29,SNR=45
PET **Petropavlovsk** 11.43 38 Pn **Pn** 15 25 13.7 -0.8
PET **Petropavlovsk** 11.43 38 *i* PN **Pn** 15 25 14.0 -0.5
PET **Petropavlovsk** 11.43 38 *e*P **Pn** 15 25 14.0 -0.5
JGF **Kuroka** 11.59 223 Pn **Pn** 15 25 14.1 -2.8
PSTR **Posyet** 11.91 267 *i* PN **Pn** 15 25 19.5 -1.5
PSTR **Posyet** 11.91 267 *e*P **Pn** 15 25 19.5 -1.5
INU **Inuyama** 11.96 223 Pn **Pn** 15 25 19.8 -1.9
MDJ **Mudanjiang** 12.43 276 Pn **Pn** 15 25 28.2 +0.4
MDJ **Mudanjiang** 12.43 276 P **Pn** 15 25 28.0 +0.2
MDJ S **Sn** 15 27 42.9 -1.8
MDJ PcS **PcS** 15 34 33.3 +2.4
MDJ pmax pmax
comp=Z,44nm,0.8s
MDJ pmax pmax
comp=Z,230nm,3.8s
JHJ **Hachijo jima 2** 12.72 209 LR LR 15 29 50.5
comp=Z,54nm,21.3s,baz=308,slow=34
BNX **BinXian** 13.90 282 ⇑P **Pn** 15 25 45.9 -0.8
BNX pmax pmax
comp=Z,18nm,1.1s
HEH **HeiHe** 14.44 300 *e*P **Pn** 15 25 53.3 -0.2
HEH pmax pmax
comp=Z,8.0nm,1.1s
MA2 **Magadan** 15.23 7 P **P** 15 26 04.8 -0.4
MA2 **Magadan** 15.23 7 P **Pn** 15 26 02.8 -0.4
comp=Z,11nm,0.6s,baz=178,slow=10.0,SNR=14
MA2 **Magadan** 15.23 7 *ce*P **Pn** 15 26 04.3 +1.0
MA2 pmax pmax
comp=Z,42nm,1.7s
MA2 **Magadan** 15.23 7 *e*P **Pn** 15 26 04.3 +1.0
MA2 **Magadan** 15.23 7 P **Pn** 15 26 03.0 -0.3
comp=Z,26nm,1.0s
CN2 **Changchun** 15.50 275 *e*P **Pn** 15 26 04.6 -2.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
ZEA **Zeya** 15.83 313 *e*P **Pn** 15 26 11.1 +0.3
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA **Zeya** 15.83 313 *e*P **Pn** 15 26 11.1 +0.3
KSRS **Korea Array** 16.05 250 P **Pn** 15 26 12.1 -1.5
comp=Z,4.8nm,0.5s,baz=60,slow=13,SNR=20
KSRS LR LR 15 32 37.8
comp=Z,12μm,18.4s,baz=55,slow=38
JNU **Nakatsue** 16.94 233 P **Pn** 15 26 26.6 +2.0
JNU **Nakatsue** 16.94 233 P **Pn** 15 26 26.9 +2.3
SEY **Seymchan** 18.68 8 P **P** 15 26 42.3 -0.9
comp=Z,30nm,0.9s,baz=174,slow=10.0,SNR=25
SEY **Seymchan** 18.68 8 *ce*P **P** 15 26 43.6 +0.4
SEY pmax pmax
comp=Z,41nm,1.0s
HIA **Hailar** 19.18 294 **P** 15 26 45.6 -3.2
HIA **Hailar** 19.18 294 P **P** 15 26 45.6 -3.2
DL2 **Dalian** 19.74 262 P **P** 15 26 55.3 +0.5
DL2 pmax pmax
comp=Z,57nm,1.2s
YAK **Yakutsk** 20.24 336 P **P** 15 26 58.1 -1.8
comp=Z,19nm,0.4s,baz=304,slow=2.0,SNR=9.3
YAK S **S** 15 30 33.0 -6.7
comp=Z,5.3nm,0.4s,baz=145,slow=20,SNR=8.8
comp=Z,19nm,0.4s
YAK **Yakutsk** 20.24 336 *e*P **P** 15 26 56.5 -3.5
YAK *e*S **S** 15 30 35.7 -4.0
YAK *e**SS Sn 15 31 04.3 +13
YAK *e* 15 38 13.4
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK smax smax
comp=E,95nm,2.3s
YAK smax smax
comp=N,59nm,1.8s
XLT **XiLinHaoTe** 22.12 279 *e*P **P** 15 27 19.1 -1.3
XLT pmax pmax
comp=N,57nm,0.7s
XLT pmax pmax
comp=N,110nm,3.6s
BJI **Beijing** 23.18 270 P **P** 15 27 30.3 -0.2
BJI pmax pmax
comp=N,19nm,0.8s
BJT **Baijiatuau** 23.20 270 **P** 15 27 30.0 -0.7
BJT **Baijiatuau** 23.20 270 P **P** 15 27 30.0 -0.7
NJ2 **Nanjing** 25.25 250 *e*P **P** 15 27 50.6 +1.3
NJ2 pmax pmax
comp=N,40nm,0.8s
HNS **HongShan** 25.31 265 ⇓P **P** 15 27 50.5 +0.7
HNS pmax pmax
comp=N,20nm,0.8s
HHC **Hu-ho-hao-te** 26.19 274 *e*P **P** 15 27 59.5 +1.6
HHC pmax pmax
comp=N,25nm,0.6s
HHC pmax pmax
comp=N,170nm,4.7s
BTO **Baotou** 27.38 275 *e*P **P** 15 28 10.4 +1.9
BTO S **S** 15 32 45.9 +6.8
BTO pmax pmax
comp=N,30nm,0.6s
BTO pmax pmax
comp=N,420nm,3.9s
BTO LR LR
comp=N,280nm,5.1s
BTO LR LR
comp=N,250nm,4.8s
BTO LR LR
comp=N,310nm,9.2s
ULN **Ulaanbaatar** 27.65 291 P **P** 15 28 10.2 -0.7
ULN **Ulaanbaatar** 27.65 291 *ce*P **P** 15 28 11.6 +0.7
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN **Ulaanbaatar** 27.65 291 *e*P **P** 15 28 11.6 +0.7
SONM **Songino Array** 28.09 291 P **P** 15 28 14.4 -0.4
comp=Z,6.9nm,0.7s,baz=78,slow=8.6,SNR=22
comp=Z,6.9nm,0.7s
LYN **LuoYang** 28.27 261 P **P** 15 28 15.6 -0.8
LYN pmax pmax
comp=Z,27nm,1.0s
WHN **Wuhan** 29.22 253 ⇑P **P** 15 28 25.3 +0.5
SPIA **Saint Paul Isl** 29.27 49 P **P** 15 28 24.9 0.0
baz=263
P08K **Saint George I** 29.59 50 P **P** 15 28 27.4 -0.4
baz=264
H11N2 **WAKE ISLAND Hy** 29.76 140 T T 15 59 33.4
baz=330,slow=75,SNR=1059
H11N1 **WAKE ISLAND Hy** 29.77 140 T T 15 59 35.7
baz=330,slow=75,SNR=1209
H11N3 **WAKE ISLAND Hy** 29.78 140 T T 15 59 36.2
baz=330,slow=75,SNR=1527
NIKH **Nikolski High** 29.87 58 P **P** 15 28 30.3 -0.1
baz=272
GAMB **Gambell** 30.11 36 P **P** 15 28 31.7 -0.6
baz=250
H11S1 **WAKE ISLAND Hy** 30.74 141 T T 16 00 49.0
baz=331,slow=76,SNR=1858
H11S3 **WAKE ISLAND Hy** 30.75 141 T T 16 00 48.6
baz=331,slow=76,SNR=1307
H11S2 **WAKE ISLAND Hy** 30.76 141 T T 16 00 46.4
baz=331,slow=76,SNR=1499
XAN **Xi'an** 31.05 264 ⇓P **P** 15 28 40.5 -0.5
XAN pmax pmax
comp=Z,20nm,0.7s
UNV **Unalaska Valle** 31.25 56 P **P** 15 28 42.4 0.0
baz=272
M11K **Mekoryuk** 31.79 43 P **P** 15 28 47.0 -0.1
baz=261
TNA **Tin City** 32.24 34 P **P** 15 28 50.8 -0.2
baz=251
ENH **Enshi** 32.74 257 **P** 15 28 55.1 -0.7
ENH IAmb IAmb 15 28 56.3
comp=Z,18nm,1.0s
ENH **Enshi** 32.74 257 P **P** 15 28 55.4 -0.4
K13K **Kusilvak Mount** 32.77 41 P **P** 15 28 54.7 -1.0
baz=260
F14K **Arctic Creek** 32.85 34 P **P** 15 28 55.5 -0.8
baz=253
ANM **Nome** 33.00 36 P **P** 15 28 57.1 -0.6
baz=256
FALS **False Pass** 33.01 54 P **P** 15 28 57.6 -0.3
baz=273
M13K **Dall Lake** 33.20 44 P **P** 15 28 58.9 -0.5
baz=264
J14K **Nanvaranak Lak** 33.42 39 P **P** 15 28 59.9 -1.4
baz=260
F15K **North Star Dit** 33.58 34 P **P** 15 29 01.9 -0.8
baz=255
L14K **Kuka Creek** 33.62 42 P **P** 15 29 02.2 -0.9
baz=263
G15K **Niukluk** 33.65 35 P **P** 15 29 02.2 -1.1
baz=256
LZH **Lanzhou** 33.66 271 *e*P **P** 15 29 05.1 +1.1
LZH pmax pmax
comp=Z,76nm,1.3s
S12K **Black Hills** 33.75 52 P **P** 15 29 03.0 -1.3
baz=272
LZDM **Lanzhou Array** 33.83 271 P **P** 15 29 06.8 +1.3
comp=Z,20nm,0.6s,baz=98,slow=3.1,SNR=30
LZDM PcP **PcP** 15 31 41.9 +0.3
comp=Z,3.8nm,0.4s,baz=270,slow=0.7,SNR=4.2
comp=Z,20nm,0.6s
M14K **Bethel** 33.92 43 P **P** 15 29 04.4 -1.1
baz=265
N14K **Kuskokwak Cree** 33.99 45 P **P** 15 29 05.1 -1.1
baz=266
C16K **Lisburne Hills** 34.09 29 P **P** 15 29 05.3 -1.7
baz=250
O14K **Tigyukauivet M** 34.17 46 P **P** 15 29 06.4 -1.5
baz=268
L15K **Ungalak Mounta** 34.23 42 P **P** 15 29 07.0 -1.3
baz=264
K15K **Wolf Creek Mou** 34.28 40 P **P** 15 29 07.7 -1.0
baz=263
H16K **Elim** 34.33 36 P **P** 15 29 07.6 -1.5
baz=259
G16K **Koyuk River** 34.44 35 P **P** 15 29 08.3 -1.7
baz=258
M15K **Kasigluk River** 34.53 43 P **P** 15 29 09.3 -1.6
baz=266
SDPT **Sand Point** 34.67 53 P **P** 15 29 11.0 -1.1
baz=274
D17K **Noatak River** 34.72 31 P **P** 15 29 11.0 -1.5
baz=254
N15K **Kwethluk River** 34.80 44 P **P** 15 29 14.7 +1.5
N15K IAmb IAmb 15 29 45.1
comp=Z,22nm,1.1s
N15K **Kwethluk River** 34.80 44 P **P** 15 29 12.1 -1.2
baz=267
J16K **Anvik River** 34.83 39 P **P** 15 29 12.2 -1.3
baz=262
I17K **Unalakleet** 34.87 38 P **P** 15 29 12.3 -1.5
baz=262
RDOG **Red Dog Mine** 34.88 30 P **P** 15 29 12.5 -1.4
baz=253
O15K **Ungalikthiuk R** 34.91 46 P **P** 15 29 12.6 -1.6
baz=269
C17K **DeLong Mountai** 34.91 30 P **P** 15 29 12.1 -2.0
baz=252
E17K **Hotham Inlet** 35.03 32 P **P** 15 29 12.7 -2.4
baz=256
GTA **Gaotai** 35.08 278 P **P** 15 29 17.3 +1.2
GTA PcP **PcP** 15 31 46.1 +1.2
GTA pmax pmax
comp=Z,37nm,0.8s
F17K **Baldwin Pennin** 35.10 33 P **P** 15 29 14.1 -1.7
baz=257
S14K **Fog Glacier** 35.13 51 P **P** 15 29 14.1 -2.1
baz=274
G17K **Kiwalik Mounta** 35.15 35 P **P** 15 29 14.0 -2.3
baz=259,SNR=8.3
L16K **Owhat River** 35.19 42 **P** 15 29 17.8 +1.2
L16K **Owhat River** 35.19 42 P **P** 15 29 14.5 -2.0
baz=266
CHNA **Chernabura Isl** 35.22 54 P **P** 15 29 15.6 -1.3
baz=276
H17K **Granite Mounta** 35.36 36 P **P** 15 29 16.5 -1.6
baz=261
M16K **Timber Creek** 35.40 43 P **P** 15 29 16.3 -2.1
baz=267
N16K **Nishlik Lake** 35.47 44 P **P** 15 29 18.0 -1.1
baz=268,SNR=5.9
J17K **VABM Dome** 35.52 39 **P** 15 29 20.9 +1.5
J17K IAmb IAmb 15 29 22.2
comp=Z,26nm,1.2s
J17K **VABM Dome** 35.52 39 P **P** 15 29 17.9 -1.5
baz=264
E18K **Tukpahlearik C** 35.57 32 P **P** 15 29 18.4 -1.4
baz=257
B18K **Kokolik River** 35.65 28 P **P** 15 29 18.7 -1.8
baz=253
C18K **Utukok River** 35.66 30 P **P** 15 29 18.9 -1.7
baz=254
CHGN **Chignik** 35.76 51 P **P** 15 29 20.5 -1.0
baz=274
F18K **Selawik** 35.76 33 P **P** 15 29 19.8 -1.6
baz=259
L17K **Donlin** 35.77 41 P **P** 15 29 20.3 -1.3
baz=266
O16K **Kokwok River B** 35.80 45 P **P** 15 29 20.7 -1.1
baz=270
K17K **Iditarod** 35.81 40 P **P** 15 29 20.8 -1.1
baz=266
P16K **Nushagak River** 35.86 46 P **P** 15 29 21.1 -1.2
baz=271
G18K **Tagagawik** 36.04 35 P **P** 15 29 22.4 -1.4
baz=261,SNR=8.6
H18K **Honhosa River** 36.05 36 **P** 15 29 25.1 +1.2
H18K **Honhosa River** 36.05 36 P **P** 15 29 22.5 -1.4
baz=262,SNR=11
R16K **Pilot Point** 36.13 49 P **P** 15 29 22.9 -1.7
baz=273
A19K **Wainwright** 36.15 27 P **P** 15 29 22.7 -1.9
baz=252
M17K **Holitna River** 36.15 42 P **P** 15 29 26.8 +2.0
M17K **Holitna River** 36.15 42 P **P** 15 29 22.9 -1.9
baz=268
N17K **Nushagak Hills** 36.25 44 P **P** 15 29 23.9 -1.7
baz=270
O17K **Koliganek Bris** 36.30 45 P **P** 15 29 23.7 -2.4
baz=271
C19K **Lookout Ridge** 36.34 29 P **P** 15 29 23.5 -2.9
baz=256
L18K **Granite Mounta** 36.53 41 P **P** 15 29 29.9 +1.9
L18K IAmb IAmb 15 29 48.7
comp=Z,35nm,1.6s
L18K **Granite Mounta** 36.53 41 P **P** 15 29 26.6 -1.4
baz=268
F19K **Shaleruckik Mo** 36.54 33 P **P** 15 29 27.9 -0.1
F19K IAmb IAmb 15 29 29.0
comp=Z,10nm,0.7s
F19K **Shaleruckik Mo** 36.54 33 P **P** 15 29 26.1 -1.9
baz=260
Q16K **King Salmon** 36.56 47 P **P** 15 29 26.9 -1.4
baz=272
J18K **Innoko River** 36.59 39 P **P** 15 29 29.5 +1.0
J18K IAmb IAmb 15 29 30.7
comp=Z,14nm,0.8s
J18K **Innoko River** 36.59 39 P **P** 15 29 27.6 -0.9
baz=266
GCSA **Galena City Sc** 36.62 37 P **P** 15 29 27.2 -1.5
baz=264
P17K **Kvichak River** 36.65 46 P **P** 15 29 28.1 -0.9
baz=272
G19K **Purcell Mounta** 36.71 34 P **P** 15 29 28.0 -1.4
baz=262
D19K **Kuna River** 36.72 30 P **P** 15 29 28.2 -1.4
baz=258
R17L **Mt. Peulik Vol** 36.78 49 P **P** 15 29 29.4 -0.8
baz=274
E19K **Redstone River** 36.85 32 **P** 15 29 31.0 +0.3
E19K IAmb IAmb 15 29 33.6
comp=Z,11nm,0.6s
E19K **Redstone River** 36.85 32 P **P** 15 29 30.4 -0.2
baz=260,SNR=6.4
H19K **Roundabout Mou** 36.89 35 P **P** 15 29 30.8 -0.1
baz=263,SNR=24
N18K **Kilae Creek** 36.89 43 P **P** 15 29 30.7 -0.4
baz=270
M18K **Stony River** 36.92 42 P **P** 15 29 30.8 -0.5
baz=269
Q17K **Contact Creek** 36.99 48 P **P** 15 29 31.1 -0.9
baz=274
GYA **Guiyang** 37.04 255 ⇑P **P** 15 29 32.8 0.0
GYA pmax pmax
comp=Z,11nm,0.9s
J19K **Poorman** 37.11 38 IAmb IAmb 15 29 34.9
comp=Z,18nm,0.9s
J19K **Poorman** 37.11 38 P **P** 15 29 31.9 -1.0
baz=266,SNR=12
P18K **Big Mountain,** 37.26 46 P **P** 15 29 32.9 -1.3
baz=273
D20K **Etivluk River** 37.31 30 P **P** 15 29 33.1 -1.4
baz=259
CHIR **Chirikof Islan** 37.37 52 P **P** 15 29 34.0 -1.1
baz=277
F20K **Avaraart Lake** 37.37 33 P **P** 15 29 33.0 -2.0
baz=262
E20K **Nigu River** 37.38 31 P **P** 15 29 33.7 -1.5
baz=260
B20K **Meade River** 37.38 28 P **P** 15 29 33.2 -1.9
baz=257
L19K **White Mountain** 37.39 41 P **P** 15 29 33.9 -1.5
baz=269
Q18K **Katmai Hardscr** 37.42 47 P **P** 15 29 34.5 -1.2
baz=274
H20K **Anotleneega Mo** 37.54 36 P **P** 15 29 34.7 -1.8
baz=265,SNR=14
N19K **Bonanza Creek** 37.58 43 P **P** 15 29 35.4 -1.6
baz=272
I20K **Naaghedeneel** 37.66 37 P **P** 15 29 36.1 -1.3
baz=266
O19K **Port Alsworth** 37.69 44 P **P** 15 29 36.6 -1.1
baz=272
J20K **Nowinta River** 37.77 38 **P** 15 29 39.5 +1.1
J20K IAmb IAmb 15 29 40.8
comp=Z,18nm,0.8s
J20K **Nowinta River** 37.77 38 P **P** 15 29 36.9 -1.5
baz=267,SNR=11
K20K **Telida** 37.77 39 IAmb IAmb 15 30 16.5
comp=Z,35nm,1.8s
K20K **Telida** 37.77 39 P **P** 15 29 37.4 -1.1
baz=268
R18K **Karluk** 37.81 49 P **P** 15 29 37.3 -1.5
baz=276
L20K **Farewell, AK** 37.85 41 P **P** 15 29 38.1 -1.1
baz=270
A21K **Barrow** 37.87 26 P **P** 15 29 38.1 -1.1
baz=256
C21K **Knifeblade Rid** 38.04 30 P **P** 15 29 38.8 -1.8
baz=260
SII **Sitkinak Islan** 38.07 50 P **P** 15 29 39.8 -1.3
baz=277
Q19K **Cape Douglas,** 38.11 46 P **P** 15 29 40.1 -1.2
baz=275
B21K **Ikpikpuk River** 38.17 29 P **P** 15 29 39.7 -2.0
baz=260
G21K **Allakaket** 38.19 34 IAmb IAmb 15 29 44.3
comp=Z,15nm,0.8s
G21K **Allakaket** 38.19 34 P **P** 15 29 40.3 -1.5
baz=265,SNR=11
M20K **Styx River** 38.21 41 P **P** 15 29 40.6 -1.7
baz=271
E21K **Killik River** 38.22 31 P **P** 15 29 40.5 -1.7
baz=262
F21K **Alatna River** 38.26 33 P **P** 15 29 40.6 -1.9
baz=264
P19K **Oil Pt** 38.26 45 P **P** 15 29 41.0 -1.6
baz=274
A22K **Sinclair Lake** 38.32 27 P **P** 15 29 40.9 -2.0
baz=258
H21K **Melozitna Rive** 38.41 35 IAmb IAmb 15 29 45.7
comp=Z,13nm,0.7s
H21K **Melozitna Rive** 38.41 35 P **P** 15 29 41.8 -1.9
baz=267,SNR=12
OHAK **Old Harbor** 38.47 49 P **P** 15 29 43.0 -1.4
baz=277
CHUM **Lake Minchumin** 38.56 38 P **P** 15 29 43.2 -1.9
baz=269
PPLA **Purkeypile** 38.62 40 IAmb IAmb 15 29 49.0
comp=Z,31nm,1.3s
PPLA **Purkeypile** 38.62 40 P **P** 15 29 43.7 -2.1
baz=271
N20K **Mount Spurr** 38.67 43 P **P** 15 29 43.6 -2.5
baz=273
SPCR **Spurr Chakacha** 38.67 43 P **P** 15 29 43.6 -2.5
baz=273
B22K **Teshekpuk Lake** 38.70 28 P **P** 15 29 43.9 -2.2
baz=260
I21K **Tanana** 38.73 36 IAmb IAmb 15 29 48.8
comp=Z,16nm,0.9s
I21K **Tanana** 38.73 36 P **P** 15 29 44.4 -2.0
baz=268
D22K **Ayikyak River** 38.74 30 P **P** 15 29 44.0 -2.6
baz=263
KDAK **Kodiak Island** 38.78 48 P **P** 15 29 44.9 -2.1
baz=277
KDAK **Kodiak Island** 38.78 48 P **P** 15 29 47.5 +0.6
KDAK pP **pP** 15 30 15.2 -0.4
Q20K **Shuyak Island** 38.79 47 P **P** 15 29 45.0 -2.0
baz=276
F22K **John River** 38.79 32 P **P** 15 29 44.8 -2.1
baz=265
SKT **Skwentna** 38.96 41 P **P** 15 29 46.2 -2.3
baz=272
E22K **Anaktuvuk Pass** 38.98 31 IAmb IAmb 15 29 49.6
comp=Z,10.0nm,0.6s
E22K **Anaktuvuk Pass** 38.98 31 P **P** 15 29 46.4 -2.2
baz=265,SNR=9.4
G22K **Bettles** 39.01 33 P **P** 15 29 47.2 -1.5
baz=266,SNR=7.4
H22K **Ishtalitna Cre** 39.01 35 P **P** 15 29 46.8 -2.0
baz=268,SNR=10
HOM **Homer** 39.07 45 P **P** 15 29 48.2 -1.1
baz=275
BPAW **Bear Paw Mtn.** 39.15 38 P **P** 15 29 49.1 -0.9
baz=270
KTH **Kantishna Hill** 39.19 39 **P** 15 29 52.1 +1.8
CAPN **Captain Cook N** 39.22 43 P **P** 15 29 49.6 -0.9
baz=274
MLY **Manley** 39.26 36 IAmb IAmb 15 29 53.4
comp=Z,16nm,1.2s
MLY **Manley** 39.26 36 P **P** 15 29 49.9 -1.0
baz=269
SUA **Susitna One** 39.36 42 P **P** 15 29 51.4 -0.5
baz=274
TRF **Thorofare Moun** 39.47 39 P **P** 15 29 51.8 -1.1
baz=272
D23K **Nanushuk River** 39.47 30 P **P** 15 29 53.0 +0.4
D23K IAmb IAmb 15 29 54.2
comp=Z,42nm,1.6s
D23K **Nanushuk River** 39.47 30 P **P** 15 29 51.8 -0.8
baz=265
BRSE **Bradley Lake S** 39.51 45 P **P** 15 29 52.4 -0.6
baz=276
CUT **Chulitna** 39.53 41 P **P** 15 29 52.5 -0.6
baz=273
COLD **Coldfoot** 39.53 33 P **P** 15 29 52.8 -0.3
baz=267
G23K **Bananza Creek** 39.58 34 P **P** 15 29 53.4 -0.2
baz=268
C23K **Itkillik River** 39.59 29 P **P** 15 29 52.5 -1.0
baz=264
M22K **Willow** 39.64 42 P **P** 15 29 52.7 -1.3
baz=274
E23K **Chandalar** 39.80 32 **P** 15 29 56.0 +0.6
E23K IAmb IAmb 15 29 56.7
comp=Z,9.4nm,0.7s
E23K **Chandalar** 39.80 32 P **P** 15 29 54.1 -1.3
baz=267,SNR=5.3
TOLK **Toolik Lake Re** 39.85 31 P **P** 15 29 54.4 -1.4
baz=266
RC01 **Rabbit Creek A** 39.88 43 P **P** 15 29 55.1 -0.9
baz=275
O22K **Cooper Landing** 39.94 44 P **P** 15 29 55.9 -0.7
baz=276
NEA2 **Nenana** 39.98 37 P **P** 15 29 55.8 -1.0
baz=272,SNR=16
GOMU **GeErMu** 40.05 277 P **P** 15 29 58.0 -0.2
GOMU pmax pmax
comp=Z,30nm,0.8s
MCK **McKinley** 40.07 38 IAmb IAmb 15 30 00.0
comp=Z,22nm,1.3s
MCK **McKinley** 40.07 38 P **P** 15 29 56.8 -0.7
baz=273
SEW **Seward** 40.12 44 P **P** 15 29 57.5 -0.5
baz=276

PMR **Palmer** 40.12 42 P P 15 29 57.1 -0.9
baz=275
D24K **Happy Valley** 40.15 30 P P 15 29 57.3 -0.9
baz=266
E24K **Your Creek** 40.22 32 IAmb IAmb 15 30 00.2
comp=Z,11nm,0.7s
E24K **Your Creek** 40.22 32 P P 15 29 58.0 -0.8
baz=268,SNR=7.2
C24K **Franklin Bluff** 40.24 29 P P 15 29 57.9 -1.0
baz=266
WAT1 **Susitna Watana** 40.29 40 P P 15 29 58.8 -0.7
baz=274
PZH **PanZhiHua** 40.44 259 P P 15 30 01.3 +0.1
PZH pmax pmax
comp=Z,30nm,0.7s
F24K **Squaw Lake** 40.44 33 P P 15 29 59.9 -0.7
baz=269,SNR=6.9
H24K **Noodor Dome** 40.45 35 IAmb IAmb 15 30 03.2
comp=Z,17nm,0.8s
H24K **Noodor Dome** 40.45 35 P P 15 30 00.3 -0.4
baz=271,SNR=14
ZALV **Zalesovo Beam** 40.45 306 P P 15 29 59.1 -1.8
comp=Z,0.9nm,0.4s,baz=93,slow=6.4,SNR=5.4
ZALV PcP PcP 15 32 01.8 +0.7
comp=Z,6.0nm,0.4s,baz=67,slow=3.4,SNR=21
ZALV ScP ScP 15 35 37.9 -0.3
comp=Z,1.8nm,0.8s,baz=126,slow=3.8,SNR=6.7
comp=Z,0.9nm,0.4s
KNK **Knik Glacier** 40.46 42 P P 15 30 00.6 -0.2
baz=276
COLA **College** 40.49 37 P P 15 30 02.2 +1.3
COLA **College** 40.49 37 *i* P P 15 30 01.7 +0.7
COLA pmax pmax
comp=Z,32nm,0.9s
COLA **College** 40.49 37 P P 15 30 00.5 -0.5
baz=272
COLA **College** 40.49 37 P P 15 30 02.3 +1.3
COLA pP pP 15 30 30.1 +0.6
PWL **Port Wells** 40.58 43 P P 15 30 01.7 -0.1
baz=276
G24K **Hadweenzic Riv** 40.60 34 P P 15 30 01.2 -0.7
baz=270
KMI **Kunming** 40.61 257 P P 15 30 03.4 +0.7
KMI pmax pmax
comp=Z,12nm,1.1s
POKR **Poker Plat Res** 40.66 36 IAmb IAmb 15 30 05.0
comp=Z,23nm,0.8s
POKR **Poker Plat Res** 40.66 36 P P 15 30 02.4 0.0
baz=272,SNR=5.9
WAT6 **Susitna Watana** 40.69 40 P P 15 30 02.3 -0.6
baz=275
M23K **Glacier View** 40.77 41 P P 15 30 03.3 0.0
baz=276
DHY **Denali Highway** 40.81 39 IAmb IAmb 15 30 05.5
comp=Z,17nm,1.1s
DHY **Denali Highway** 40.81 39 P P 15 30 03.6 -0.2
baz=275,SNR=5.3
HDA **Harding Lake** 40.90 37 IAmb IAmb 15 30 05.8
comp=Z,8.4nm,0.6s
HDA **Harding Lake** 40.90 37 P P 15 30 04.4 0.0
baz=274,SNR=5.3
ILAR **Eielson Array** 40.91 37 P P 15 30 04.8 +0.4
comp=Z,14nm,1.0s,baz=265,slow=6.3,SNR=66
ILAR pP pP 15 30 34.0 +1.0
comp=Z,2.2nm,0.8s,baz=283,slow=7.2,SNR=2.9
comp=Z,14nm,1.0s
SCM **Sheep Creek Mo** 40.95 41 P P 15 30 03.6 -1.3
baz=276
D25K **Kavik River** 41.03 30 IAmb IAmb 15 30 07.0
comp=Z,14nm,0.6s
D25K **Kavik River** 41.03 30 P P 15 30 04.3 -1.2
baz=268,SNR=7.0
G25K **Bearman Lake** 41.14 34 P P 15 30 05.2 -1.1
baz=272
GLI **Glacier Island** 41.18 43 P P 15 30 05.7 -1.0
baz=278
H25L **Birch Creek** 41.27 34 P P 15 30 05.9 -1.5
baz=272,SNR=8.5
F25K **Christian Rive** 41.30 32 P P 15 30 06.5 -1.2
baz=271,SNR=5.8
E25K **Arctic Village** 41.32 32 P P 15 30 07.1 -0.7
baz=270
PRP **Porcupine Dome** 41.43 36 P P 15 30 09.9 +1.0
PRP IAmb IAmb 15 30 11.2
comp=Z,22nm,0.9s
PRP **Porcupine Dome** 41.43 36 P P 15 30 08.5 -0.4
baz=274,SNR=21
K24K **Donnelly Dome** 41.46 38 P P 15 30 08.0 -1.0
baz=275
M24K **Tolsona, Glenn** 41.46 41 P P 15 30 10.6 +1.5
M24K **Tolsona, Glenn** 41.46 41 P P 15 30 07.7 -1.4
baz=277
C26K **Camden Bay** 41.56 29 P P 15 30 08.0 -1.7
baz=269
J25K **Salcha River,** 41.57 37 P P 15 30 08.8 -1.2
baz=275
KLU **Klutina** 41.66 42 P P 15 30 09.2 -1.5
baz=278
PAX **Paxson** 41.69 39 P P 15 30 09.9 -1.1
baz=276
WMQ **Urumqi** 41.73 291 *e*P P 15 30 13.5 +2.0
Q23K **Middleton Isla** 41.77 45 P P 15 30 10.3 -1.2
baz=280
F26K **Sheenjek River** 41.87 32 IAmb IAmb 15 30 14.8
comp=Z,42nm,1.8s
F26K **Sheenjek River** 41.87 32 P P 15 30 11.0 -1.3
baz=272,SNR=5.8
RIDG **Independent Ri** 41.88 38 P P 15 30 11.7 -0.7
baz=276
EYAK **Cordova Ski Ar** 41.88 43 P P 15 30 11.7 -0.7
baz=279
HARP **HAARP** 41.90 40 P P 15 30 11.5 -1.1
baz=277
C27K **Jago River** 41.98 29 P P 15 30 12.4 -0.6
baz=271
G26K **Porcupine Rive** 42.05 33 IAmb IAmb 15 30 16.1
comp=Z,10nm,0.7s
G26K **Porcupine Rive** 42.05 33 P P 15 30 12.7 -1.0
baz=274,SNR=6.9
SCRK **Sand Creek** 42.23 38 IAmb IAmb 15 30 16.7
comp=Z,18nm,1.2s
SCRK **Sand Creek** 42.23 38 P P 15 30 14.6 -0.8
baz=277
N25K **Chitina, Valde** 42.27 41 P P 15 30 14.8 -0.9
baz=279
SLVN **Son La** 42.31 251 P 15 30 16.6 +0.1
J26L **Joseph Creek** 42.35 37 P P 15 30 15.8 -0.6
baz=276
BMRM **Bremner River** 42.37 42 P P 15 30 16.0 -0.4
baz=279
L26K **Log Cabin Wild** 42.64 39 P P 15 30 18.2 -0.4
baz=278
KAIM **Kayak Island** 42.65 44 P P 15 30 18.6 0.0
baz=281
E27K **Coleen River** 42.80 31 P P 15 30 19.5 -0.4
baz=274
M26K **Nabesna, AK** 42.89 40 IAmb IAmb 15 30 23.8
comp=Z,18nm,1.1s
M26K **Nabesna, AK** 42.89 40 P P 15 30 20.4 -0.3
baz=279,SNR=5.2
G27K **Doyon Strip** 42.90 33 P P 15 30 21.7 +1.1
G27K **Doyon Strip** 42.90 33 P P 15 30 20.1 -0.6
baz=276
D27M **Malcolm River** 42.96 30 P P 15 30 20.8 -0.3
baz=274
H27K **Steamboat Moun** 43.01 34 IAmb IAmb 15 30 24.4
comp=Z,9.8nm,0.7s
H27K **Steamboat Moun** 43.01 34 P P 15 30 21.2 -0.4
baz=276,SNR=11
I27K **Kandik River** 43.05 35 P P 15 30 21.5 -0.3
baz=277,SNR=6.0
MCARA **McCarthy VSAT** 43.05 41 P P 15 30 22.0 +0.1
baz=280
K27K **Chicken** 43.06 38 P P 15 30 21.8 -0.1
baz=278
CRQE **Cirque** 43.14 42 P P 15 30 22.5 -0.2
baz=281
BGLC **Bering Glacier** 43.17 43 P P 15 30 22.4 -0.3
baz=281
L27K **Beaver Creek,** 43.32 39 IAmb IAmb 15 30 27.0
comp=Z,9.2nm,0.6s
L27K **Beaver Creek,** 43.32 39 P P 15 30 24.2 +0.1
baz=279
EGAK **Eagle** 43.35 36 P P 15 30 24.4 +0.2
baz=278,SNR=12
M27K **Edge Creek, AK** 43.41 40 IAmb IAmb 15 30 29.5
comp=Z,11nm,0.8s
M27K **Edge Creek, AK** 43.41 40 P P 15 30 25.5 +0.6
baz=280
F28M **Old Crow** 43.50 32 P P 15 30 26.5 +1.0
baz=276
E28M **Babbage River** 43.53 31 IAmb IAmb 15 30 29.0
comp=Z,34nm,1.7s
E28M **Babbage River** 43.53 31 P P 15 30 26.4 +0.8
baz=276
TNCH **TengChong** 43.62 260 ⇓P P 15 30 28.0 +0.9
TNCH pmax pmax
comp=Z,35nm,1.1s
I28M **Miner Creek** 43.76 35 P P 15 30 28.9 +1.3
I28M IAmb IAmb 15 30 30.1
comp=Z,18nm,0.7s
I28M **Miner Creek** 43.76 35 P P 15 30 28.5 +0.9
baz=278,SNR=16
MESA **MESA** 43.81 43 P P 15 30 29.4 +1.2
baz=282
CTG **Chitna Glacier** 43.94 42 P P 15 30 30.4 +1.2
baz=282
CTGM **Chitina Glacie** 43.94 42 IAmb IAmb 15 30 33.9
comp=Z,19nm,1.2s
MK31 **Makanchi Array** 44.14 297 *ce*P P 15 30 31.8 +0.9
MKAR **Makanchi Array** 44.14 297 P P 15 30 31.0 +0.1
comp=Z,5.1nm,0.5s,baz=77,slow=8.5,SNR=43
MKAR PcP PcP 15 32 13.7 +0.2
comp=Z,3.9nm,1.0s,baz=68,slow=5.6,SNR=6.1
comp=Z,5.1nm,0.5s
E29M **Blow River** 44.15 31 P P 15 30 31.6 +1.0
baz=277
DAWY **Dawson** 44.22 37 P P 15 30 32.5 +1.3
baz=280
H29M **Whitestone** 44.28 34 IAmb IAmb 15 30 34.2
comp=Z,13nm,0.7s
H29M **Whitestone** 44.28 34 P P 15 30 32.9 +1.3
baz=279,SNR=7.0
G29M **Pine Creek** 44.31 33 P P 15 30 33.1 +1.2
baz=279
MAKZ **Makanchi** 44.34 297 P P 15 30 32.8 +0.4
MAKZ pP pP 15 31 01.5 +0.8
MAKZ sP sP 15 31 15.2 +0.3
I29M **Ogilvie Camp,** 44.45 35 IAmb IAmb 15 30 35.3
comp=Z,31nm,0.9s
I29M **Ogilvie Camp,** 44.45 35 P P 15 30 33.8 +0.8
baz=280,SNR=20
O28M **Mount Upton** 44.53 42 P P 15 30 34.8 +0.8
baz=283
YUK8 **Steele Glacier** 44.61 41 P P 15 30 35.3 +0.6
baz=283
J29N **Klondike Camp** 44.65 37 P P 15 30 35.8 +1.1
baz=281
PINM **Pinnacle** 44.65 43 P P 15 30 35.4 +0.6
baz=284
EPYK **Eagle Plains** 44.91 34 IAmb IAmb 15 30 39.0
comp=Z,20nm,0.7s
EPYK **Eagle Plains** 44.91 34 P P 15 30 38.1 +1.4
baz=280,SNR=7.7
M29M **Sonora Creek** 44.96 39 P P 15 30 39.0 +1.8
baz=283
L29M **L29M** 44.96 38 IAmb IAmb 15 30 40.8
comp=Z,37nm,1.6s
L29M **L29M** 44.96 38 P P 15 30 38.8 +1.7
baz=282,SNR=8.3
G30M **tAoh Zrail Nji** 45.00 33 P P 15 30 38.7 +1.3
baz=280
KURK **Kurchatov** 45.02 303 P 15 30 36.6 -1.0
KURK **Kurchatov** 45.02 303 *ce*P P 15 30 37.7 0.0
KURK pmax pmax
comp=Z,4.0nm,0.7s
KURK **Kurchatov** 45.02 303 *e*P P 15 30 37.7 0.0
KURK **Kurchatov** 45.02 303 P P 15 30 36.8 -0.9
KURK PcP PcP 15 32 17.2 +0.8
F30M **Barrier River** 45.05 32 P 15 30 39.2 +1.4
F30M IAmb IAmb 15 30 40.2
comp=Z,16nm,0.7s
F30M **Barrier River** 45.05 32 P P 15 30 38.9 +1.1
baz=280,SNR=7.1
K29M **Barlow Dome** 45.07 37 P P 15 30 39.4 +1.3
baz=282
KURBB **Kurchatov Arra** 45.10 303 P P 15 30 37.6 -0.7
comp=Z,2.3nm,0.4s,baz=70,slow=8.9,SNR=22
KURBB PcP PcP 15 32 17.4 +0.7
comp=Z,2.6nm,0.4s,baz=78,slow=3.2,SNR=12
KURBB ScP ScP 15 35 56.4 -0.7
comp=Z,0.2nm,0.5s,baz=76,slow=3.3,SNR=4.3
comp=Z,2.3nm,0.4s
PNL **Peninsula** 45.18 43 P P 15 30 38.9 +0.1
baz=285
I30M **Mount Dempster** 45.27 35 IAmb IAmb 15 30 42.1
comp=Z,32nm,1.0s
I30M **Mount Dempster** 45.27 35 P P 15 30 40.3 +0.7
baz=282,SNR=29
YUK6 **Outpost Mounta** 45.36 41 P P 15 30 41.7 +1.2
baz=284
O29M **Mount Kennedy** 45.41 42 P P 15 30 41.9 +1.0
baz=285
J30M **Hart River** 45.42 36 IAmb IAmb 15 30 43.6
comp=Z,21nm,1.4s
J30M **Hart River** 45.42 36 P P 15 30 41.6 +0.7
baz=282
M30M **Minto, Yukon** 45.68 39 P P 15 30 43.6 +0.8
baz=284
G31M **Satah River** 45.76 33 P P 15 30 44.0 +0.7
G31M IAmb IAmb 15 30 45.0
comp=Z,9.6nm,0.5s
G31M **Satah River** 45.76 33 P P 15 30 44.0 +0.7
baz=282
INK **Inuvik** 45.77 31 IAmb IAmb 15 30 44.5
comp=Z,11nm,0.5s
INK **Inuvik** 45.77 31 P P 15 30 44.2 +0.9
baz=281,SNR=8.2
HYT **Haines Junctio** 45.79 41 P 15 30 45.6 +1.7
HYT IAmb IAmb 15 30 49.4
comp=Z,26nm,0.8s
HYT **Haines Junctio** 45.79 41 P P 15 30 44.1 +0.3
baz=285,SNR=18
N30M **Aishikik Lake** 45.82 40 P P 15 30 44.5 +0.5
baz=285
F31M **Tsiigehtchic** 45.86 32 P P 15 30 45.1 +1.0
baz=282
H31M **Peel River** 45.97 34 IAmb IAmb 15 30 47.4
comp=Z,22nm,0.8s
H31M **Peel River** 45.97 34 P P 15 30 46.2 +1.1
baz=283,SNR=12
P29M **Windy Craggy** 46.00 43 P P 15 30 48.2 +2.8
P29M IAmb IAmb 15 30 48.7
comp=Z,14nm,0.7s
P29M **Windy Craggy** 46.00 43 P P 15 30 46.8 +1.4
baz=286,SNR=6.0
P30M **Million Dollar** 46.24 42 P P 15 30 48.4 +1.2
baz=286
N31M **Braeburn, Yuko** 46.42 40 P 15 30 50.7 +2.1
N31M **Braeburn, Yuko** 46.42 40 P P 15 30 50.1 +1.5
baz=286
O30N **Mendenhall** 46.47 41 P P 15 30 50.0 +0.9
baz=286
PLBC **Pleasant Camp** 46.72 43 P P 15 30 51.8 +0.9
baz=287
M31M **Drury Creek, Y** 46.86 39 P P 15 30 53.1 +1.1
baz=286
WHY **Whitehorse** 47.08 41 P P 15 30 56.1 +2.3
WHY IAmb IAmb 15 31 04.2
comp=Z,44nm,1.9s
WHY **Whitehorse** 47.08 41 P P 15 30 55.0 +1.2
baz=287
S31K **Pelican** 47.25 45 P P 15 30 56.0 +1.0
baz=288
CHTO **Chiang Mai** 47.42 253 P 15 30 57.4 +0.5
CHTO IAmb IAmb 15 30 58.8
comp=Z,17nm,1.0s
CHTO **Chiang Mai** 47.42 253 P P 15 30 57.4 +0.5
CHTO pmax pmax
comp=Z,17nm,1.0s
CHTO **Chiang Mai** 47.42 253 P P 15 30 57.5 +0.7
CHTO pP pP 15 31 25.1 -1.2
CMAR **Chiang Mai Arr** 47.67 253 P P 15 30 59.5 +0.7
comp=Z,5.0nm,0.9s,baz=40,slow=7.1,SNR=37
CMAR PcP PcP 15 32 25.9 -0.3
comp=Z,0.4nm,0.4s,baz=51,slow=3.7,SNR=5.5
comp=Z,5.0nm,0.9s
A36M **Sachs Harbour** 47.69 25 P P 15 30 58.8 +0.6
baz=285
P32M **Atlin** 47.96 42 P P 15 31 02.1 +1.5
baz=289
R32K **Eaglecrest** 48.00 44 P P 15 31 02.4 +1.6
baz=289
SIT **Sitka** 48.01 46 P P 15 31 02.3 +1.4
baz=290
MMPY **Sheldon Lake,** 48.13 38 P P 15 31 03.0 +1.2
baz=288
P33M **Teslin, Yukon** 48.19 41 IAmb IAmb 15 32 14.3
comp=Z,32nm,2.0s
P33M **Teslin, Yukon** 48.19 41 P P 15 31 04.1 +1.8
baz=289
PRZ **Przheval'sk** 48.46 293 P P 15 31 06.3 +1.5
PRZ IAmb IAmb 15 31 07.3
comp=Z,16nm,1.0s
PRZ **Przheval'sk** 48.46 293 P P 15 31 06.3 +1.5
PRZ pmax pmax
comp=Z,16nm,1.0s
Q32M **Nakina River** 48.88 43 P P 15 31 07.4 -0.4
Q32M IAmb IAmb 15 32 22.4
comp=Z,30nm,1.9s
Q32M **Nakina River** 48.88 43 P P 15 31 08.8 +1.1
baz=290
BVAR **Borovoye Array** 48.93 309 P P 15 31 07.0 -1.1
comp=Z,1.6nm,0.3s,baz=87,slow=8.4,SNR=9.1
BVAR PcP PcP 15 32 30.1 -0.2
comp=Z,2.6nm,0.4s,baz=65,slow=3.9,SNR=8.1
BVAR ScP ScP 15 36 12.6 -0.6
comp=Z,0.3nm,0.5s,baz=180,slow=2.3,SNR=4.1
comp=Z,1.6nm,0.3s
R33M **Jennings River** 49.35 42 P P 15 31 12.8 +1.5
baz=291
KDJ **Kajisay** 49.42 293 IAmb IAmb 15 31 14.0
comp=Z,19nm,1.0s
U33K **Whale Pass** 49.48 46 P P 15 31 14.0 +1.8
baz=292
S34M **Telegraph Cree** 49.81 44 P P 15 31 17.0 +2.3
baz=292
TGTN **Hyland Airport** 49.82 39 P P 15 31 16.5 +1.7
baz=291
ULHL **Ulahol** 49.98 294 P P 15 31 17.7 +1.3
SNR=6.5
TKM2 **Tokmak 2** 50.09 295 P P 15 31 18.2 +1.0
SNR=24
DLBC **Dease Lake** 50.16 43 P P 15 31 19.3 +2.0
baz=292
T35M **Bob Quinn** 50.62 45 P P 15 31 22.8 +2.0
baz=293
KBK **Karagaybulak** 50.63 295 P P 15 31 22.6 +1.3
SNR=11
USP **Ospenovka** 50.63 296 P P 15 31 22.4 +1.2
SNR=7.3
AAK **Ala-Archa** 50.94 295 P P 15 31 24.3 +0.7
AAK IAmb IAmb 15 31 25.1
comp=Z,18nm,1.4s
AAK **Ala-Archa** 50.94 295 *ce*P P 15 31 24.1 +0.6
AAK pmax pmax
comp=Z,15nm,1.7s
AAK **Ala-Archa** 50.94 295 *e*P P 15 31 24.1 +0.6
AAK **Ala-Archa** 50.94 295 P P 15 31 24.2 +0.7
AAK pP pP 15 31 51.9 -0.6
EKS2 **Erkin-Say** 51.39 295 P P 15 31 27.6 +0.7
SNR=16
KSH **Kashi** 51.49 291 P P 15 31 32.3 +4.6
KSH pmax pmax
comp=Z,12nm,0.9s
KK31 **Karatay Array** 53.27 297 P P 15 31 41.2 +0.6
KK31 IAmb IAmb 15 31 41.9
comp=Z,11nm,0.8s
KK31 **Karatay Array** 53.27 297 P P 15 31 41.2 +0.6
KK31 pmax pmax
comp=Z,11nm,0.8s
ARTI **Arti** 53.81 316 P 15 31 44.2 -0.1
ARTI **Arti** 53.81 316 *di* P P 15 31 43.9 -0.4
ARTI *e*P pP 15 32 14.0 +0.3
ARTI 15 32 46.6
ARTI S S 15 39 09.9 +1.1
ARTI SS SS 15 42 51.4 +0.6
ARTI pmax pmax
comp=Z,4.0nm,0.9s
YKA **Yellowknife Ar** 55.20 34 P P 15 31 54.4 +0.2
comp=Z,2.2nm,0.7s,baz=312,slow=9.1,SNR=4.9
comp=Z,2.2nm,0.7s
KULM **Kulim** 56.27 240 P P 15 32 04.0 +1.5
NIL **Nilore** 56.48 286 P 15 32 04.4 +0.5
NIL **Nilore** 56.48 286 P P 15 32 04.4 +0.5
NIL pmax pmax
comp=Z,31nm,0.9s
SIMJ **Simiganj** 56.56 293 P 15 32 04.5 0.0
SIMJ **Simiganj** 56.56 293 P P 15 32 04.7 +0.3
APA **Apatity** 57.62 335 ⇓*i*P P 15 32 08.6 -2.7
APA *i* *PP pP 15 32 37.5 -3.5
APA *e* 15 32 58.7
APA *e* 15 34 21.8
APA *e*S S 15 39 52.5 -6.4
APA *i* 15 41 44.4
APA pmax pmax
comp=Z,7.0nm,1.2s
ARCES **ARCESS Array B** 58.47 339 P P 15 32 15.9 -1.4
comp=Z,5.2nm,1.0s,baz=41,slow=6.6,SNR=5.6
comp=Z,5.2nm,1.0s
BLKN **Baker Lake** 60.80 26 P P 15 32 33.7 +0.5
HRA **Herat** 63.46 293 P P 15 32 51.9 +0.2
HRA IAmb IAmb 15 32 53.1
comp=Z,8.6nm,0.6s
FIA1 **FINESS Array S** 64.13 333 P P 15 32 55.5 +0.2
FINES **FINESS Array B** 64.13 333 P P 15 32 54.1 -1.3
comp=Z,1.9nm,0.5s,baz=40,slow=8.1,SNR=26
comp=Z,1.9nm,0.5s
WB0 **Warramunga Arr** 65.03 193 P P 15 33 01.0 -0.7
WR8 **Warramunga Arr** 65.20 193 P P 15 33 02.4 -0.3
WR8 IAmb IAmb 15 34 07.0
comp=Z,20nm,1.8s
WRA **Warramunga Arr** 65.21 193 P P 15 33 02.5 -0.3
comp=Z,4.5nm,0.8s,baz=9.0,slow=6.7,SNR=50
WRA pP PcP 15 33 34.6 +0.4
comp=Z,1.0nm,0.8s,baz=12,slow=3.2,SNR=3.8
comp=Z,4.5nm,0.8s
FCC **Fort Churchill** 65.38 30 P P 15 33 03.7 +0.2
FCC **Fort Churchill** 65.38 30 P P 15 33 03.7 +0.2
FCC pmax pmax
comp=Z,65nm,1.3s
BOZ **Bozeman (W)** 66.48 49 P P 15 33 12.4 +1.3
BOZ **Bozeman (W)** 66.48 49 P P 15 33 12.4 +1.3
BOZ pmax pmax
comp=Z,4.0nm,1.0s
NVAR **Mina Array Bea** 67.23 58 P P 15 33 17.0 +1.0
comp=Z,1.0nm,0.7s,baz=300,slow=6.1,SNR=7.1
NVAR pP pP 15 33 48.5 +1.2
comp=Z,2.5nm,0.7s,baz=291,slow=6.8,SNR=9.3
comp=Z,1.0nm,0.7s
YNE **Yellowstone No** 67.74 48 P P 15 33 20.6 +1.5
AKT **Akhty** 68.01 307 *e*P P 15 33 21.2 +0.6
AKT *e* 15 33 46.6
AKT *e**PP pP 15 33 52.8 +1.2
AKT *e**SP sP 15 34 05.3 0.0
AKT pmax pmax
comp=Z,12nm,0.6s
NB2 **NORSAR Subarra** 68.83 339 P P 15 33 24.7 -0.6
comp=Z,1.3nm,0.5s,baz=32,slow=6.9
NOA **NORSAR Array B** 68.83 339 P P 15 33 24.2 -1.1
comp=Z,2.2nm,0.8s,baz=32,slow=6.4,SNR=6.6
comp=Z,2.2nm,0.8s
HFS **Hagfors** 68.92 337 P P 15 33 25.1 -0.8
comp=Z,2.4nm,0.3s,baz=38,slow=5.3,SNR=20
comp=Z,2.4nm,0.3s
AS31 **Alice Springs** 68.93 193 P P 15 33 26.6 +0.3
ASAR **Alice Springs** 68.93 193 P P 15 33 26.8 +0.5
comp=Z,1.3nm,0.6s,baz=11,slow=7.0,SNR=33
ASAR pP pP 15 33 58.2 +0.4
comp=Z,0.5nm,0.5s,baz=9.6,slow=6.6,SNR=2.3
comp=Z,1.3nm,0.6s
KIV **Kislovodsk** 69.17 312 P 15 33 29.6 +1.8
KIV **Kislovodsk** 69.17 312 ⇑P P 15 33 29.8 +2.0
KIV **Kislovodsk** 69.17 312 *e*P P 15 33 27.4 -0.4
KIV pmax pmax
comp=Z,27nm,1.0s
KIV **Kislovodsk** 69.17 312 P P 15 33 27.9 +0.1
comp=Z,28nm,0.8s
KIV **Kislovodsk** 69.17 312 P P 15 33 29.2 +1.4
KBZ **Khabaz** 69.21 311 P P 15 33 28.9 +1.0
comp=Z,13nm,0.8s,baz=58,slow=4.8,SNR=32
comp=Z,13nm,0.8s
KBZ **Khabaz** 69.21 311 *ce*P P 15 33 29.0 +1.1
KBZ pmax pmax
comp=Z,14nm,0.8s
KBZ **Khabaz** 69.21 311 *e*P P 15 33 29.0 +1.1
SHA1 **Shidzhatmaz** 69.33 311 *i* P P 15 33 28.8 -0.2
PDAR **Pinedale Array** 69.47 50 P P 15 33 30.4 +0.6
comp=Z,0.9nm,0.4s,baz=300,slow=4.8,SNR=1.5
PDAR pP pP 15 34 01.4 0.0
comp=Z,0.7nm,0.4s,baz=336,slow=3.3,SNR=2.2

comp=Z,0.9nm,0.4s
PSA00 Pilbara Seismi 70.33 207 P P 15 33 34.5 -0.4
GNI Garni 70.59 307 *ce*P **P 15 33 36.0 -0.6**
GNI pmax pmax
comp=Z,14nm,1.3s
GNI Garni 70.59 307 P P 15 33 37.0 +0.4
comp=Z,13nm,0.9s
AK03 Malin Array Si 70.87 323 P P 15 33 37.4 -0.5
AKASG Malin Array Be 70.89 323 P P 15 33 37.2 -0.8
comp=Z,3.4nm,0.5s,baz=40,slow=6.1,SNR=17
comp=Z,3.4nm,0.5s
AKASG Malin Array Be 70.89 323 *i* P **P 15 33 38.0 0.0**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 70.89 323 P P 15 33 38.1 +0.1
AKBB Malin Array Si 70.89 323 *ce*P **P 15 33 37.3 -0.7**
AKBB pmax pmax
comp=Z,10.0nm,0.9s
AKBB Malin Array Si 70.89 323 P P 15 33 37.5 -0.5
AK04 Malin Array Si 70.90 324 P P 15 33 37.3 -0.8
AK01 Malin Array Si 70.90 323 P P 15 33 37.3 -0.8
KIEV Kiev 70.90 323 ⇑P **P 15 33 38.4 +0.4**
KIEV Kiev 70.90 323 P P 15 33 37.5 -0.6
comp=Z,39nm,0.9s
AK22 Malin Array Si 70.91 324 P P 15 33 37.3 -0.8
AK21 Malin Array Si 70.91 324 P P 15 33 37.3 -0.8
AK08 Malin Array Si 70.93 323 P P 15 33 37.4 -0.8
AK09 Malin Array Si 70.93 323 P P 15 33 37.4 -0.8
AK02 Malin Array Si 70.93 323 P P 15 33 37.4 -0.9
AK11 Malin Array Si 70.93 323 P P 15 33 37.4 -0.9
AK15 Malin Array Si 70.94 324 P P 15 33 37.5 -0.8
AK18 Malin Array Si 70.94 324 P P 15 33 37.5 -0.8
AK20 Malin Array Si 70.95 324 P P 15 33 37.5 -0.9
AK10 Malin Array Si 70.95 323 P P 15 33 38.1 -0.3
AK05 Malin Array Si 70.96 323 P P 15 33 37.9 -0.5
AK12 Malin Array Si 70.96 323 P P 15 33 37.9 -0.5
AK16 Malin Array Si 70.96 324 P P 15 33 37.9 -0.6
AK19 Malin Array Si 70.96 324 P P 15 33 37.9 -0.6
AK17 Malin Array Si 70.97 324 P P 15 33 38.0 -0.5
ANN Anapa 71.33 315 *e*P P 15 33 33.3 -7.4
ANN pmax pmax
comp=Z,261nm,1.1s
LUBAR Lubar, Ukraine 72.10 324 P P 15 33 43.6 -1.7
KOPT Kop Dagi 73.05 310 P 15 33 53.4 +1.9
SORM Soroca 73.19 322 ⇓P **P 15 33 52.2 +0.5**
GURO Guroymak-BITLI 73.21 308 P P 15 33 53.8 +1.5
GURO lAmb lAmb 15 33 55.0
comp=Z,20nm,0.9s
UOSS Minazif 73.51 289 P P 15 33 54.6 +0.6
UOSS lAmb lAmb 15 33 55.1
comp=Z,10.0nm,0.6s
UOSS Minazif 73.51 289 P P 15 33 54.3 +0.2
MARD Mardin 74.78 308 P P 15 34 02.9 +1.5
BUR08 Bucovina Ar. S 74.93 323 P P 15 34 03.1 +1.0
BURAR Bucovina Array 74.94 323 ⇓P **P 15 34 03.0 +0.9**
BURAR Bucovina Array 74.94 323 ⇓P **P 15 34 03.0 +0.9**
BZK Bozkurt 75.10 315 ⇑P **P 15 34 03.9 +0.9**
TESR Tescani 75.18 322 ⇑P **P 15 34 03.9 +0.6**
TESR Tescani 75.18 322 P P 15 34 02.6 -0.8
CFR Carcaliu 75.53 320 ⇑P **P 15 34 05.8 +0.4**
CFR Carcaliu 75.53 320 ⇑P **P 15 34 05.8 +0.4**
VRI Vrincioaia 75.64 321 ⇑P **P 15 34 06.4 +0.4**
VRI Vrincioaia 75.64 321 P P 15 34 06.4 +0.4
TPGR Topolog 75.65 320 ⇑P **P 15 34 07.3 +1.3**
COVR Voineasa-Covas 75.89 322 ⇑P **P 15 34 09.0 +1.5**
VOIR 76.72 322 ⇑P **P 15 34 13.7 +1.5**
VOIR 76.72 322 ⇑P **P 15 34 13.7 +1.5**
SCHQ Schefferville 76.90 19 P P 15 34 13.7 +0.7
SCHQ Schefferville 76.90 19 P P 15 34 13.3 +0.3
comp=Z,16nm,0.5s,baz=344,slow=7.4,SNR=1.5
comp=Z,16nm,0.5s
BRTR Keskin Array B 76.93 313 P P 15 34 14.2 +0.6
comp=Z,3.2nm,0.6s,baz=83,slow=3.3,SNR=20
comp=Z,3.2nm,0.6s
ARR Arges 76.95 322 ⇑P **P 15 34 14.4 +0.9**
KIRS Kirsehir-Merke 77.22 313 ⇓P **P 15 34 16.4 +1.2**
ANTO Ankara 77.26 314 ⇑P **P 15 34 17.3 +1.9**
ANTO Ankara 77.26 314 ⇑P **P 15 34 17.3 +1.9**
ANTO Ankara 77.26 314 P P 15 34 16.6 +1.2
EKA Eskdalemuir Ar 77.34 343 P P 15 34 15.2 -0.1
comp=Z,1.7nm,0.7s,baz=21,slow=4.8,SNR=7.0
comp=Z,1.7nm,0.7s
KHC Kasperske Hory 78.22 331 *e*P **P 15 34 21.6 +1.1**
KHC Kasperske Hory 78.22 331 *e*P **P 15 34 21.6 +1.1**
GERES GERESS Array B 78.42 331 P P 15 34 21.5 -0.2
comp=Z,0.6nm,0.4s,baz=27,slow=6.3,SNR=4.9
comp=Z,0.6nm,0.4s
BAND Balkesir-Ban 79.25 317 ⇑P **P 15 34 27.7 +1.5**
BOVS Bovan 79.60 323 ⇑P **P 15 34 28.4 +0.4**
OBKA Obir 80.09 329 *e*P **P 15 34 31.2 +0.5**
comp=Z,2.7nm,0.6s
WATA Walderalm 80.45 331 *e*P **P 15 34 33.7 +0.9**
comp=Z,2.6nm,0.3s
WTTA Wattenberg 80.50 331 *e*P **P 15 34 34.0 +1.0**
comp=Z,2.6nm,0.3s
MOTA Moosalm 80.61 331 *e*P **P 15 34 34.4 +0.9**
comp=Z,2.5nm,0.5s
SQTA Sankt Quirin 80.68 331 *e*P **P 15 34 34.8 +0.9**
comp=Z,1.8nm,0.3s
MMAI Mount Meron Ar 80.93 308 P P 15 34 36.6 +1.2
comp=Z,2.6nm,0.5s,baz=316,slow=4.7,SNR=5.6
comp=Z,2.6nm,0.5s
RAYN Ar Rayn 81.59 295 P 15 34 39.7 +0.7
RAYN Ar Rayn 81.59 295 ⇑P **P 15 34 40.0 +1.0**
RAYN Ar Rayn 81.59 295 P P 15 34 39.7 +0.7
PDG Podgorica 81.62 324 ⇑P **P 15 34 39.4 +0.6**
NWAO Narrogin (SRO) 81.73 205 P P 15 34 39.7 +0.4
NWAO Narrogin (SRO) 81.73 205 P P 15 34 39.7 +0.4
NWAO pmax pmax
comp=Z,146nm,1.6s
TXAR Lajitas Array 82.28 56 P P 15 34 43.9 +1.3
comp=Z,0.4nm,0.4s,baz=286,slow=3.9,SNR=5.9
TXAR pP **pP 15 35 14.4 -0.7**
comp=Z,1.7nm,0.6s,baz=299,slow=4.0,SNR=8.6
comp=Z,0.4nm,0.4s
APE Apeiranthos 83.06 317 ⇑P **P 15 34 46.2 -0.3**
APE Apeiranthos 83.06 317 ⇑P **P 15 34 46.2 -0.3**
KARP Karpathos 83.44 315 P P 15 34 48.4 0.0
PAOC Oil Creek Stat 84.64 33 P P 15 34 54.7 +0.3
IDI Anoyia 84.79 316 P P 15 34 54.3 -1.0
IDI lAmb lAmb 15 34 56.3
comp=Z,28nm,1.5s
ESDC Sonseca Array 92.19 338 P P 15 35 30.1 -0.3
comp=Z,0.3nm,0.5s,baz=354,slow=5.3,SNR=4.8
comp=Z,0.3nm,0.5s
TORD Torodi Ar. Bea 114.51 322 PKiKP PKiKP 15 40 59.5 -0.9
comp=Z,0.2nm,0.3s,baz=5.9,slow=2.1,SNR=2.6
VNDA Vanda 122.14 176 PKPdf PKiKP 15 41 13.9 +0.6
VNDA Vanda 122.14 176 PKP PKiKP 15 41 13.4 0.0
baz=336,slow=1.8,SNR=5.5
SBA Scott Base 122.72 175 PKPdf PKiKP 15 41 15.9 +1.4
SBA Scott Base 122.72 175 PKIKP PKiKP 15 41 15.9 +1.4
QSPA South Pole Qui 134.28 180 PKPdf PKiKP 15 41 38.5 +0.5
H03N2 Juan Fernandez 143.04 89 T T 18 21 26.0
baz=304,slow=77
H03N3 Juan Fernandez 143.06 89 T T 18 21 27.0
baz=304,slow=77
H03N1 Juan Fernandez 143.06 89 T T 18 21 27.4
baz=304,slow=77
LCO Las Campanas 146.38 75 PKPdf PKPdf 15 42 00.3 +0.4
LCO Las Campanas 146.38 75 PKP2 PKPdf 15 42 00.3 +0.4
GO04 Tololo Observa 147.00 77 PKPbc PKPbc 15 42 03.4 +0.3
TROLL Troll, Antarti 147.71 200 ⇑P **PKiKP 15 42 04.7 -0.8**
comp=Z,851nm,0.8s
MT01 Popeta 148.74 83 PKPbc PKPbc 15 42 07.5 +0.2
SNAA Sanae 149.18 198 ⇑P **PKiKP 15 42 07.7 -0.7**
comp=Z,52nm,0.7s
SNAA Sanae 149.18 198 PKPbc PKPbc 15 42 07.4 +0.1
comp=Z,3.5nm,0.9s,baz=220,slow=2.1,SNR=6.4
BO02 Sierra Bellavi 149.55 85 PKPbc PKiKP 15 42 10.3 -0.1
VNA2 Neumayer--Watz 150.72 197 ⇑P **PKiKP 15 42 11.5 -0.1**
comp=Z,20nm,0.7s,baz=117,slow=1.9
VNA3 Neumayer Olymp 150.91 195 ⇓P **PKPbc 15 42 11.5 +0.1**
comp=Z,9.2nm,0.6s
VNA1 Neumayer--Stat 151.11 197 ⇑P **PKiKP 15 42 11.9 -0.4**
comp=Z,6.8nm,0.8s

*NEIC **18** 15:59:39.8±1.0, 19°.57N±0°.05×145°.2E±0°.3, h165km±10km, mb4.1/25, Error ellipse: s-maj=35.1km s-min=6.4km az=83.0*
*IDC **18** 15:59:45.3±12.0, 19°.58N×145°.21E, h230km±123km, mb3.3/7, mbtmp3.9/7, Error ellipse: s-maj=34.7km s-min=20.1km az=91.0*

ISC 18 15:59:42.4±0.8, 19°.5N±0°.1×145°.1E±0°.3, h200km, n32, σ0s86/33, mb3.9/20, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**35.01**	**204**	P	**P**	**16 06 17.4**	**+1.3**
KNRA	**Kununurra**	**38.52**	**206**	P	**P**	**16 06 48.4**	**+2.7**
CTAO	**Charters Tower**	**39.39**	**178**	P	**P**	**16 06 52.4**	**-0.5**
CTAO				lAmb	lAmb	16 06 53.5	
comp=Z,3.6nm,1.0s							
WB0	**Warramunga Arr**	**40.45**	**196**	P	**P**	**16 07 02.1**	**+0.5**
WB0				lAmb	lAmb	16 07 23.0	
comp=Z,4.2nm,1.1s							
WR0	**Warramunga Arr**	**40.60**	**195**	P	**P**	**16 07 02.7**	**-0.1**
WR0				lAmb	lAmb	16 07 06.1	
comp=Z,4.2nm,1.1s							
WR8	**Warramunga Arr**	**40.61**	**195**	P	**P**	**16 07 03.6**	**+0.7**
WR8				lAmb	lAmb	16 07 05.5	
comp=Z,3.4nm,1.0s							
WRAB	**Tennant Creek**	**40.62**	**196**	P	**P**	**16 07 03.2**	**+0.1**
WRAB				lAmb	lAmb	16 07 04.1	
comp=Z,2.0nm,0.6s							
WB2	**Warramunga Arr**	**40.63**	**196**	P	**P**	**16 07 03.6**	**+0.5**
WB2				lAmb	lAmb	16 07 04.3	
comp=Z,2.3nm,0.6s							
WRA	**Warramunga Arr**	**40.63**	**196**	P	**P**	**16 07 03.8**	**+0.7**
comp=Z,1.2nm,0.5s,baz=16,slow=9.0,SNR=23							
WRA				PcP	**PcP**	**16 08 59.9**	**-1.2**
comp=Z,0.2nm,0.5s,baz=20,slow=3.6,SNR=1.6							
comp=Z,1.2nm,0.5s							
FITZ	**Fitzroy Crossi**	**42.01**	**208**	P	**P**	**16 07 14.7**	**+0.3**
AS31	**Alice Springs**	**44.31**	**195**	P	**P**	**16 07 32.6**	**-0.2**
ASAR	**Alice Springs**	**44.31**	**195**	P	**P**	**16 07 32.9**	**+0.1**
comp=Z,0.8nm,0.5s,baz=12,slow=6.1,SNR=33							
comp=Z,0.8nm,0.5s							
G18K	**Tagagawik**	**58.77**	**24**	P	**P**	**16 09 19.9**	**+0.6**
G18K				lAmb	lAmb	16 09 21.9	
comp=Z,2.4nm,0.9s							
C19K	**Lookout Ridge**	**59.80**	**20**	P	**P**	**16 09 27.1**	**+0.8**
D19K	**Kuna River**	**60.02**	**21**	P	**P**	**16 09 28.4**	**+0.6**
D19K				lAmb	lAmb	16 09 31.8	
comp=Z,3.6nm,0.9s							
KURBB	**Kurchatov Arra**	**60.35**	**318**	P	**P**	**16 09 30.6**	**+0.3**
comp=Z,0.4nm,0.4s,baz=92,slow=7.6,SNR=5.4							
comp=Z,0.4nm,0.4s							
D20K	**Etivluk River**	**60.62**	**21**	P	**P**	**16 09 32.5**	**+0.7**
D20K				lAmb	lAmb	16 09 51.0	
comp=Z,5.3nm,1.1s							
B20K	**Meade River**	**60.96**	**19**	P	**P**	**16 09 34.4**	**+0.4**
D22K	**Ayikyak River**	**62.01**	**21**	P	**P**	**16 09 42.0**	**+0.9**
TOLK	**Toolik Lake Re**	**63.02**	**22**	P	**P**	**16 09 48.7**	**+0.8**
ILAR	**Eielson Array**	**63.13**	**26**	P	**P**	**16 09 47.0**	**-1.6**
comp=Z,0.5nm,0.4s,baz=256,slow=5.8,SNR=6.6							
comp=Z,0.5nm,0.4s							
F24K	**Squaw Lake**	**63.34**	**23**	P	**P**	**16 09 50.2**	**+0.2**
F24K				lAmb	lAmb	16 09 50.9	
comp=Z,2.2nm,1.1s							
F25K	**Christian Rive**	**64.20**	**23**	P	**P**	**16 09 56.5**	**+0.9**
F25K				lAmb	lAmb	16 09 57.7	
comp=Z,4.2nm,1.1s							
J26L	**Joseph Creek**	**64.50**	**27**	P	**P**	**16 09 57.7**	**+0.1**
BVAR	**Borovoye Array**	**65.50**	**320**	P	**P**	**16 10 04.4**	**+0.2**
comp=Z,0.5nm,0.3s,baz=81,slow=8.3,SNR=3.3							
comp=Z,0.5nm,0.3s							
H27K	**Steamboat Moun**	**65.58**	**25**	P	**P**	**16 10 05.1**	**+0.6**
H27K				lAmb	lAmb	16 10 34.3	
comp=Z,2.2nm,1.1s							
E28M	**Babbage River**	**66.62**	**23**	P	**P**	**16 10 11.3**	**+0.3**
M30M	**Minto, Yukon**	**67.36**	**29**	P	**P**	**16 10 15.4**	**-0.5**
G31M	**Satah River**	**68.52**	**25**	P	**P**	**16 10 22.6**	**-0.3**
G31M				lAmb	lAmb	16 10 28.6	
comp=Z,5.8nm,1.1s							
AB31	**Akbulak array**	**72.38**	**317**	P	**P**	**16 10 46.8**	**+0.2**
NVAR	**Mina Array Bea**	**83.04**	**52**	P	**P**	**16 11 46.7**	**+0.7**
comp=Z,0.4nm,0.6s,baz=305,slow=5.3,SNR=3.8							
comp=Z,0.4nm,0.6s							
FINES	**FINESS Array B**	**85.91**	**335**	P	**P**	**16 11 58.3**	**-1.3**
comp=Z,1.2nm,0.7s,baz=64,slow=3.2,SNR=3.4							
comp=Z,1.2nm,0.7s							

*IDC **18** 16:00:50.4±0.6, 54°.02S×7°.90E, h0km, mb4.4/11, mbtmp4.5/12, ML4.4/1, MS4.0/29, Error ellipse: s-maj=21.8km s-min=16.3km az=76.0*
*NEIC **18** 16:00:53.1±1.0, 54°.2S±0°.1×7°.8E±0°.2, h10km±1km, mb5.0/31, Error ellipse: s-maj=23.2km s-min=18.6km az=113.0*
*GCMT **18** 16:00:56.1±0.3, 54°.41S±0°.03×8°.40E±0°.05, h20km±1km, MW4.9/86, Moment Tensor Solution. s19,c21; s86,c101; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.18±.15; Mθθ 0.55±.09; Mϕϕ 1.64±.11; Mrθ -1.27±.22; Mrϕ -1.03±.07; Mθϕ -0.65±.21; Best double couple: Mo 2.58000×10^16 NP1: ϕs 353.00000°, δ 49.00000°, λ -54.00000°. NP2: ϕs 124.00000°, δ 52.00000°, λ -125.00000°. Principal axes: T 2.2620, Plg 2.0000°, Azm 238.0000°; N 0.6410, Plg 27.0000°, Azm 147.0000°; P -2.8970, Plg 63.0000°, Azm 331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 16:00:52.3±0.5, 54°.13S±0°.07×7°.8E±0°.1, h10km, n87, σ0s79/61, mb4.9/22, MS4.1/28, 6C, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**18.06**	**197**	⇑P	**Pn**	**16 05 02.0**	**-1.0**
comp=Z,47nm,0.9s							
TROLL	**Troll, Antarti**	**18.09**	**185**	⇑P	**Pn**	**16 05 02.7**	**-0.8**
comp=Z,3μm,0.7s							
VNA2	**Neumayer--Watz**	**18.15**	**196**	⇑P	**Pn**	**16 05 02.7**	**-1.5**
comp=Z,36nm,0.8s,baz=16,slow=14							
SNAA	**Sanae**	**18.21**	**191**	⇑P	**P**	**16 05 04.7**	**-0.4**
comp=Z,2μm,0.9s							
SNAA	**Sanae**	**18.21**	**191**		**P**	**16 05 04.8**	**-0.4**
SNAA				lAmb	lAmb	16 05 07.0	
comp=Z,106nm,0.9s							
SNAA	**Sanae**	**18.21**	**191**	P	**P**	**16 05 05.4**	**+0.3**
comp=Z,1.3nm,0.3s,baz=12,slow=9.6,SNR=160							
SNAA				LR	LR	16 10 34.9	
comp=Z,531nm,20.1s,baz=36,slow=32							
comp=Z,88nm,0.8s							
VNA3	**Neumayer Olymp**	**18.81**	**198**	⇑P	**P**	**16 05 10.8**	**-0.9**
comp=Z,53nm,0.7s							
SYO	**Syowa Base**	**20.86**	**148**	⇑*e*Pn	**P**	**16 05 33.4**	**-0.6**
SUR	**Sutherland**	**23.63**	**28**	P	**P**	**16 06 04.7**	**+1.0**
SUR				lAmb	lAmb	16 06 29.4	
comp=Z,97nm,1.9s							
BELA	**Belgrano 2**	**28.12**	**198**	P	**P**	**16 06 43.2**	**-0.7**
BELA				lAmb	lAmb	16 06 47.4	
comp=Z,53nm,1.5s							
BOSA	**Boshof**	**28.50**	**34**	P	**P**	**16 06 47.2**	**-0.6**
BOSA				lAmb	lAmb	16 07 43.2	
comp=Z,52nm,1.9s							
BOSA	**Boshof**	**28.50**	**34**	P	**P**	**16 06 45.8**	**-2.0**
comp=Z,2.0nm,0.7s,baz=181,slow=9.1,SNR=3.4							
BOSA				LR	LR	16 16 08.5	
comp=Z,421nm,20.1s,baz=193,slow=32							
comp=Z,2.0nm,0.7s							
H04S2	**CROZET ISLANDS**	**28.58**	**94**	T	T	16 37 01.9	
baz=238,slow=75							
H04S3	**CROZET ISLANDS**	**28.58**	**93**	T	T	16 37 04.6	
baz=238,slow=75							
H04S1	**CROZET ISLANDS**	**28.59**	**94**	T	T	16 37 00.0	
baz=238,slow=75							
MAW	**Mawson**	**28.85**	**139**	P	**P**	**16 06 51.4**	**+1.1**
comp=Z,3.6nm,0.9s,baz=250,slow=10,SNR=4.0							
MAW				LR	LR	16 14 52.4	
comp=Z,66nm,20.7s,baz=221,slow=29							
comp=Z,3.6nm,0.9s							
LBTB	**Lobatse**	**31.96**	**32**	P	**P**	**16 07 18.4**	**+0.1**
LBTB				lAmb	lAmb	16 07 44.4	
comp=Z,29nm,1.9s							
LBTB	**Lobatse**	**31.96**	**32**	LR	LR	16 18 03.0	
comp=Z,256nm,20.8s,baz=192,slow=32							
POGA	**Pongola**	**32.00**	**43**	P	**P**	**16 07 19.2**	**+0.6**
KOOLE	**Kule**	**32.46**	**22**	P	**P**	**16 07 23.7**	**+0.8**
KOOLE				lAmb	lAmb	16 07 26.1	
comp=Z,12nm,0.8s							
KGCAE	**Kacgae**	**33.06**	**25**	P	**P**	**16 07 28.1**	**+0.1**
GRTLG	**Ghanzi**	**34.26**	**23**	P	**P**	**16 07 38.6**	**0.0**
TSUM	**Tsumeb**	**35.66**	**16**	P	**P**	**16 07 51.0**	**+0.4**
TSUM	**Tsumeb**	**35.66**	**16**	LR	LR	16 20 28.7	
comp=Z,277nm,18.3s,baz=150,slow=33							
PMSA	**Palmer Station**	**36.01**	**224**	P	**P**	**16 07 53.6**	**+0.7**
PMSA				lAmb	lAmb	16 07 55.1	
comp=Z,31nm,1.1s							
PMSA	**Palmer Station**	**36.01**	**224**	LR	LR	16 18 46.4	
comp=Z,370nm,19.6s,baz=96,slow=30							
QSPA	**South Pole Qui**	**36.11**	**180**	P	**P**	**16 07 55.2**	**+1.1**
comp=Z,7.5nm,0.8s,baz=232,slow=4.0,SNR=46							
QSPA				LR	LR	16 21 49.2	
comp=Z,305nm,20.4s,baz=238,slow=35							
comp=Z,7.5nm,0.8s							
SMAI	**San Martin Ant**	**36.20**	**218**	P	**P**	**16 07 55.4**	**+0.7**
PHDHD	**Phuduhudu**	**36.21**	**27**	P	**P**	**16 07 55.6**	**+0.3**
PHDHD				lAmb	lAmb	16 07 58.3	
comp=Z,27nm,1.0s							
XAUDM	**Khaudum**	**37.02**	**22**	P	**P**	**16 08 03.3**	**+1.1**
MATP	**Matopo**	**37.16**	**33**	LR	LR	16 21 46.1	
comp=Z,262nm,18.3s,baz=210,slow=34							
KSANE	**Kasane**	**38.66**	**27**	P	**P**	**16 08 16.2**	**+0.2**
LSZ	**Lusaka**	**41.91**	**30**	P	**P**	**16 08 43.2**	**+0.2**
LSZ	**Lusaka**	**41.91**	**30**	LR	LR	16 24 38.2	
comp=Z,311nm,18.2s,baz=187,slow=34							
OPO	**Ambohidratompo**	**46.57**	**56**	LR	LR	16 25 32.6	
comp=Z,146nm,19.0s,baz=10,slow=32							
CASY	**Casey**	**46.62**	**147**	P	**P**	**16 09 20.9**	**+0.8**
CASY				lAmb	lAmb	16 09 23.7	
comp=Z,36nm,1.9s							
VNDA	**Vanda**	**47.63**	**173**	P	**P**	**16 09 28.4**	**+0.6**
VNDA				lAmb	lAmb	16 09 29.3	
comp=Z,14nm,0.9s							
VNDA	**Vanda**	**47.63**	**173**	P	**P**	**16 09 28.1**	**+0.3**
comp=Z,8.5nm,0.8s,baz=224,slow=7.4,SNR=68							
VNDA				LR	LR	16 28 56.0	
comp=Z,234nm,18.3s,baz=186,slow=35							
comp=Z,8.5nm,0.8s							
SBA	**Scott Base**	**47.64**	**174**	P	**P**	**16 09 29.2**	**+1.3**
TRQA	**Tornquist**	**48.95**	**259**	P	**P**	**16 09 38.8**	**+0.2**
TRQA				lAmb	lAmb	16 09 39.6	
comp=Z,11nm,0.9s							
ITAB	**Concordia**	**50.91**	**277**	P	**P**	**16 09 55.1**	**+1.6**
PLCA	**Paso Flores**	**52.00**	**251**	P	**P**	**16 10 01.5**	**-0.1**
PLCA				lAmb	lAmb	16 11 28.1	
comp=Z,26nm,1.6s							
PLCA	**Paso Flores**	**52.00**	**251**	P	**P**	**16 10 00.9**	**-0.7**
comp=Z,4.0nm,0.8s,baz=155,slow=5.2,SNR=5.3							
PLCA				LR	LR	16 28 57.3	
comp=Z,58nm,21.7s,baz=108,slow=32							
comp=Z,4.0nm,0.8s							
CPUP	**Villa Florida**	**54.64**	**273**	P	**P**	**16 10 21.5**	**+0.4**
CPUP	**Villa Florida**	**54.64**	**273**	P	**P**	**16 10 20.6**	**-0.6**
comp=Z,2.8nm,0.8s,baz=338,slow=6.2,SNR=17							
CPUP				LR	LR	16 29 29.2	
comp=Z,19nm,22.0s,baz=3.5,slow=31							
comp=Z,2.8nm,0.8s							
BO04	**La Punta**	**56.77**	**257**	P	**P**	**16 10 36.6**	**+0.2**
BO04				lAmb	lAmb	16 10 41.1	
comp=Z,13nm,0.9s							
MT09	**Talagante**	**57.14**	**257**	P	**P**	**16 10 38.5**	**-0.6**
MT02	**Curacav**	**57.60**	**257**	P	**P**	**16 10 42.0**	**-0.2**
BDFB	**Brasilia**	**57.65**	**289**	LR	LR	16 31 09.9	
comp=Z,130nm,20.2s,baz=216,slow=32							
KMBO	**Kilima Mbogo**	**58.11**	**35**	LR	LR	16 34 35.8	
comp=Z,341nm,18.8s,baz=106,slow=35							
AQDB	**Aquidauana**	**58.18**	**279**	P	**P**	**16 10 46.7**	**+0.3**
AQDB				lAmb	lAmb	16 10 50.0	
comp=Z,28nm,1.5s							
CO01	**Juntas del Tor**	**59.41**	**260**	P	**P**	**16 10 56.2**	**+1.0**
CO01				lAmb	lAmb	16 11 05.2	
comp=Z,14nm,1.2s							
DBIC	**Dimbokro**	**61.50**	**346**	P	**P**	**16 11 08.6**	**-0.5**
DBIC				lAmb	lAmb	16 11 11.9	
comp=Z,16nm,1.1s							
DBIC	**Dimbokro**	**61.50**	**346**	P	**P**	**16 11 08.8**	**-0.3**
comp=Z,10nm,1.1s,baz=186,slow=9.6,SNR=4.9							
DBIC				LR	LR	16 31 07.0	
comp=Z,91nm,20.8s,baz=257,slow=30							
comp=Z,10nm,1.1s							
PTLB	**Pontes e Lacer**	**64.14**	**280**	P	**P**	**16 11 26.8**	**0.0**
PTLB				lAmb	lAmb	16 11 30.4	
comp=Z,17nm,1.3s							
TORD	**Torodi Ar. Bea**	**67.21**	**354**	P	**P**	**16 11 45.2**	**-1.3**
comp=Z,3.7nm,0.7s,baz=180,slow=4.5,SNR=16							
comp=Z,3.7nm,0.7s							
LPAZ	**La Paz**	**68.74**	**272**	P	**P**	**16 11 57.1**	**0.0**
LPAZ	**La Paz**	**68.74**	**272**	P	**P**	**16 11 56.9**	**-0.2**
comp=Z,11nm,1.1s,baz=130,slow=4.6,SNR=19							
LPAZ				LR	LR	16 38 48.1	
comp=Z,76nm,21.6s,baz=79,slow=33							
comp=Z,11nm,1.1s							
H01W2	**Cape Leeuwin H**	**71.06**	**123**	T	T	17 30 40.0	
baz=217,slow=75							
H01W3	**Cape Leeuwin H**	**71.08**	**123**	T	T	17 30 40.6	
baz=217,slow=75							
H01W1	**Cape Leeuwin H**	**71.08**	**124**	T	T	17 30 37.7	
baz=217,slow=75							
NNA	**Nana**	**77.26**	**267**	LR	LR	16 44 22.1	
comp=Z,78nm,21.6s,baz=174,slow=34							
ATAH	**Atahualpa**	**82.05**	**269**	LR	LR	16 49 11.5	
comp=Z,69nm,18.7s,baz=147,slow=35							
PALK	**Palikele**	**85.98**	**72**	LR	LR	16 45 41.2	
comp=Z,69nm,18.6s,baz=160,slow=31							
EIL	**Elat**	**86.69**	**23**	LR	LR	16 50 30.7	
comp=Z,125nm,20.1s,baz=171,slow=34							
PCRV	**Puerto La Cruz**	**88.12**	**290**	LR	LR	16 49 25.7	
comp=Z,105nm,18.2s,slow=33							
ROSC	**El Rosal**	**89.28**	**279**	LR	LR	16 51 37.2	
comp=Z,105nm,19.0s,baz=91,slow=34							
ASF	**Jabal al Asfar**	**89.55**	**24**	LR	LR	16 53 41.6	
comp=Z,93nm,18.3s,baz=236,slow=36							
ASAR	**Alice Springs**	**89.72**	**132**	P	**P**	**16 13 50.0**	**-0.9**
comp=Z,2.4nm,0.9s,baz=201,slow=4.1,SNR=16							
comp=Z,2.4nm,0.9s							
MMAI	**Mount Meron Ar**	**90.01**	**23**	LR	LR	16 52 13.6	
comp=Z,122nm,21.1s,baz=192,slow=34							
SDV	**Santo Domingo**	**90.44**	**284**	LR	LR	16 52 19.5	
comp=Z,83nm,18.4s,baz=58,slow=34							
WRA	**Warramunga Arr**	**93.18**	**131**	P	**P**	**16 14 05.3**	**-1.6**
comp=Z,0.5nm,1.1s,baz=203,slow=5.0,SNR=5.2							
comp=Z,0.5nm,1.1s							
KAPI	**Kappang**	**98.56**	**111**	LR	LR	16 51 05.2	
comp=Z,40nm,21.1s,baz=226,slow=31							
GNI	**Garni**	**99.12**	**28**	LR	LR	16 58 48.3	
comp=Z,74nm,20.4s,baz=204,slow=35							
JTS	**Las Juntas de**	**99.87**	**274**	LR	LR

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NP1:ψ$_s$69.00000°, δ46.00000°, λ-137.00000°. NP2: ψ-306.00000°, δ61.00000°, λ-53.00000°. Principal axes: T 2.0270, Plg9.0000°, Azm11.0000°; N 0.7280, Plg31.0000°, Azm106.0000°; P -2.7520, Plg57.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*IDC **18** 16:10:22.9±3.5, 9.91S×150.16E, h50km±29km, mb4.1/15, mbtmp4.4/18, ML4.0/2, MS3.8/29 Error ellipse: s-maj=24.3km s-min=13.2km az=71.0*

*NOU **18** 16:10:26.1, 10.23S×149.56E, h11km, mb4.6/9, Eastern New Guinea Reg., P.N.G.*

ISC 18 16:10:20.4±0.4, 9.97S±0.05×150.19E±0.05, h28km, n145, σ1°43/123, mb4.9/53, MS3.8/28, 3C-2D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.04**	**280**				**Pn**	**16 11 06.3**	**-0.3**
PMG	**Port Moresby**	**3.04**	**280**	P			**Pn**	**16 11 06.8**	**+0.1**
	171nm,0.4s,baz=84,slow=6.4,SNR=178								
PMG				S			**Sn**	**16 11 43.7**	**+1.6**
	676nm,0.5s,baz=297,slow=17,SNR=3.3								
PMG	**Port Moresby**	**3.04**	**280**	P			**Pn**	**16 11 06.7**	**+0.1**
PMG	**Port Moresby**	**3.04**	**280**	*ce*P			**Pn**	**16 11 06.9**	**+0.3**
PMG					pmax	pmax			
	comp=Z,248nm,0.8s								
RABL	**Rabaul**	**6.06**	**19**	Pn			**Pn**	**16 11 44.9**	**-3.3**
COEN	**Coen**	**7.93**	**239**	Pn			**Pn**	**16 12 12.4**	**-1.5**
COEN	**Coen**	**7.93**	**239**	P			**Pn**	**16 12 12.1**	**-1.8**
MANU	**Manus Island**	**8.36**	**340**	Pn			**Pn**	**16 12 17.9**	**-1.8**
HNR	**Honiara**	**9.63**	**88**	LR		LR	16 15 47.7		
	comp=Z,730nm,21.2s,baz=230,slow=34								
TV1H	**Townsville Har**	**9.81**	**199**	P			**Pn**	**16 12 41.1**	**+1.5**
MTSU	**Mount Surprise**	**9.92**	**214**	P			**Pn**	**16 12 41.2**	**0.0**
MTSU	**Mount Surprise**	**9.92**	**214**	S			**Sn**	**16 14 27.7**	**-4.0**
CTAO	**Charters Tower**	**10.76**	**200**	Pn			**Pn**	**16 12 52.9**	**+0.2**
CTAO	**Charters Tower**	**10.76**	**200**	P			**Pn**	**16 12 53.9**	**+1.2**
CTAO	**Charters Tower**	**10.76**	**200**	P			**Pn**	**16 12 52.9**	**+0.2**
SMPI	**Sarmi**	**13.89**	**304**	P			**P**	**16 13 41.6**	**-1.8**
QIS	**Mount Isa**	**14.66**	**223**	P			**Pn**	**16 13 45.3**	**-0.7**
EIDS	**Eidsvold**	**15.35**	**177**	Pn			**Pn**	**16 13 55.7**	**+0.6**
BAKI	**Biak**	**16.49**	**301**	P			**Pn**	**16 14 09.9**	**0.0**
	comp=Z,56nm,1.0s								
RKPI	**Ransiki, Papua**	**18.00**	**297**	P			**P**	**16 14 31.6**	**+2.6**
WB0	**Warramunga Arr**	**18.10**	**236**				**P**	**16 14 31.2**	**+1.1**
WR8	**Warramunga Arr**	**18.11**	**235**				**Pn**	**16 14 30.4**	**+0.3**
WRAB	**Tennant Creek**	**18.22**	**235**	P			**Pn**	**16 14 31.5**	**+0.1**
WRAB	**Tennant Creek**	**18.22**	**235**	P			**Pn**	**16 14 31.5**	**+0.1**
WRAB					pmax	pmax			
	comp=Z,22nm,0.9s								
WRA	**Warramunga Arr**	**18.23**	**235**	P			**Pn**	**16 14 31.4**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=60,slow=11,SNR=69								
WRA				S			Sn	16 17 37.6	-17
	comp=Z,6.0nm,0.8s,baz=59,slow=22,SNR=6.4								
WRA				LR		LR		16 21 33.2	
	comp=Z,608nm,19.1s,baz=46,slow=37								
	comp=Z,20nm,0.9s								
WRA	**Warramunga Arr**	**18.23**	**235**	*i* P			**Pn**	**16 14 31.3**	**-0.2**
WRA					pmax	pmax			
	comp=Z,20nm,0.9s								
MTN	**Manton Dam**	**18.90**	**259**	P			**Pn**	**16 14 39.8**	**+0.1**
MTN					IAmb	IAmb		16 14 41.8	
	comp=Z,88nm,1.4s								
DZM	**Mont Dzumac**	**19.70**	**130**	*e*P			**Pn**	**16 14 49.9**	**+0.6**
	comp=Z,59nm,1.4s								
DZM				*e*S			**S**	**16 18 26.5**	**-2.1**
	comp=Z,1μm,29.7s								
DZM				*e*LR		LR		16 19 30.3	
	comp=Z,519nm,24.5s								
DZM	**Mont Dzumac**	**19.70**	**130**	P			**Pn**	**16 14 49.9**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=126,slow=7.7,SNR=3.6								
DZM				LR		LR		16 20 47.8	
	comp=Z,404nm,20.1s,baz=342,slow=32								
	comp=Z,4.4nm,0.8s								
INKA	**Innaminka**	**19.79**	**205**	P			**Pn**	**16 14 50.4**	**+0.1**
INKA					IAmb	IAmb		16 14 52.4	
	comp=Z,64nm,0.8s								
ARMA	**Armidale**	**20.40**	**176**	P			**P**	**16 14 56.3**	**+1.1**
AS31	**Alice Springs**	**20.67**	**227**	P			**P**	**16 14 59.6**	**+1.3**
ASAR	**Alice Springs**	**20.67**	**227**	P			**P**	**16 14 59.4**	**+1.1**
	comp=Z,34nm,0.8s,baz=69,slow=10.0,SNR=273								
ASAR				S			**S**	**16 18 45.0**	**-3.0**
	comp=Z,1.9nm,0.8s,baz=50,slow=22,SNR=4.3								
ASAR				LR		LR		16 22 51.1	
	comp=Z,580nm,18.9s,baz=50,slow=36								
	comp=Z,34nm,0.8s								
SWI	**Sorong**	**20.89**	**295**	P			Pn	16 15 02.4	-0.8
	comp=Z,693nmcomp=Z,68nm,0.9s								
KNRA	**Kununurra**	**21.64**	**253**	P			**P**	**16 15 09.2**	**+0.5**
KNRA					IAmb	IAmb		16 15 12.3	
	comp=Z,50nm,0.8s								
AAI	**Ambon**	**22.70**	**284**	P			**P**	**16 15 18.0**	**-2.1**
STKA	**Stephens Creek**	**23.21**	**199**	P			**P**	**16 15 24.9**	**-0.3**
STKA	**Stephens Creek**	**23.21**	**199**	P			**P**	**16 15 24.9**	**-0.3**
	comp=Z,27nm,1.0s,baz=12,slow=10,SNR=24								
STKA				LR		LR		16 25 00.3	
	comp=Z,589nm,18.1s,baz=16,slow=38								
	comp=Z,27nm,1.0s								
STKA	**Stephens Creek**	**23.21**	**199**	P			**P**	**16 15 24.9**	**-0.3**
STKA					pmax	pmax			
	comp=Z,118nm,0.9s								
GUMO	**Guam**	**23.99**	**347**	LR		LR		16 25 15.9	
	comp=Z,161nm,18.3s,baz=183,slow=37								
FITZ	**Fitzroy Crossi**	**25.13**	**249**	P			**P**	**16 15 43.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**25.13**	**249**	LR		LR		16 25 58.4	
	comp=Z,501nm,18.1s,baz=80,slow=37								
CAN	**Canberra**	**25.26**	**182**	P			**P**	**16 15 45.5**	**+1.2**
CAN					IAmb	IAmb		16 16 16.1	
	comp=Z,131nm,1.9s								
CAN	**Canberra**	**25.26**	**182**	P			**P**	**16 15 45.6**	**+1.2**
CAN					pmax	pmax			
	comp=Z,131nm,1.9s								
SANI	**Sanana**	**25.30**	**287**	P			**P**	**16 15 43.9**	**-0.9**
SOEI	**Soe**	**25.54**	**268**	P			**P**	**16 15 47.8**	**+0.6**
SOEI					IAmb	IAmb		16 16 10.6	
	comp=Z,52nm,1.0s								
SOEI	**Soe**	**25.54**	**268**	P			**P**	**16 15 46.9**	**-0.2**
	comp=Z,62nm,1.1s								
BATI	**Baumata**	**26.12**	**267**	LR		LR		16 27 37.0	
	comp=Z,630nm,18.2s,baz=108,slow=40								
BATI	**Baumata**	**26.12**	**267**	P			**P**	**16 15 57.0**	**+4.7**
BBOO	**Buckleboo**	**26.21**	**208**	P			**P**	**16 15 53.4**	**+0.5**
BBOO					IAmb	IAmb		16 15 54.8	
	comp=Z,44nm,1.4s								
BBSI	**Bau Bau**	**27.72**	**277**	P			**P**	**16 16 08.1**	**+1.4**
MSVF	**Nonsavu**	**28.10**	**109**	*i* P			**P**	**16 16 07.6**	**-2.6**
MSVF					pmax	pmax			
	comp=Z,29nm,1.4s								
EDFI	**Ende, Flores**	**28.14**	**270**	P			**P**	**16 16 12.7**	**+2.1**
	comp=Z,17nm,1.0s								
DAV	**Davao City (W)**	**29.79**	**304**	LR		LR		16 30 51.0	
	comp=Z,119nm,18.6s,baz=118,slow=41								
KAPI	**Kappang**	**30.56**	**277**	LR		LR		16 31 25.8	
	comp=Z,106nm,18.8s,baz=111,slow=41								
KAPI	**Kappang**	**30.56**	**277**	*i* P			**P**	**16 16 33.4**	**+1.4**
KAPI					pmax	pmax			
	comp=Z,25nm,1.3s								
PSA00	**Pilbara Seismi**	**31.33**	**245**	P			**P**	**16 16 38.1**	**-0.6**
JAGI	**Jajag, Banyuwa**	**35.59**	**269**	P			**P**	**16 17 14.9**	**-1.0**
JAGI					IAmb	IAmb		16 17 25.8	
	comp=Z,22nm,0.8s								
URZ	**Urewera**	**37.11**	**144**	LR		LR		16 29 56.7	
	comp=Z,119nm,20.8s,baz=298,slow=32								
NWAO	**Narrogin (SRO)**	**37.98**	**228**	P			**P**	**16 17 36.6**	**+0.6**
NWAO	**Narrogin (SRO)**	**37.98**	**228**	LR		LR		16 33 30.0	
	comp=Z,712nm,18.6s,baz=82,slow=36								
NWAO	**Narrogin (SRO)**	**37.98**	**228**	P			**P**	**16 17 36.6**	**+0.6**
NWAO					pmax	pmax			
	comp=Z,143nm,1.5s								
KHZ	**Kahutara**	**38.25**	**152**	P			**P**	**16 17 39.0**	**+0.9**
KHZ					IAmb	IAmb		16 18 03.0	
	comp=Z,93nm,1.9s								
UGM	**Wanagama**	**39.22**	**270**	P			**P**	**16 17 47.3**	**+0.6**
LEM	**Lembang**	**42.21**	**271**	LR		LR		16 37 16.1	
	comp=Z,108nm,21.6s,baz=184,slow=38								
JOW	**Kunigami**	**42.31**	**330**	LR		LR		16 34 16.4	
	comp=Z,62nm,21.9s,baz=107,slow=34								
TPUB	**Ta-pu**	**43.93**	**319**	P			**P**	**16 18 23.3**	**-1.8**
MJAR	**Matsushiro Arr**	**47.61**	**347**	LR		LR		16 36 04.7	
	comp=Z,48nm,20.8s,baz=164,slow=32								
MAJO	**Matsushiro**	**47.61**	**347**	*i* P			**P**	**16 18 54.1**	**+0.1**
MAJO					pmax	pmax			
	comp=Z,16nm,1.2s								
NJ2	**Nanjing**	**51.41**	**326**	*e*P			**P**	**16 19 24.3**	**+1.3**
NJ2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
MNSI	**Mandailing Nat**	**51.48**	**279**	P			P	16 19 33.1	+9.2
KSRS	**Korea Array**	**51.58**	**337**	P			**P**	**16 19 24.1**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=146,slow=9.1,SNR=5.6								
	comp=Z,1.2nm,0.8s								
KULM	**Kulim**	**51.62**	**285**	P			**P**	**16 19 24.1**	**-0.8**
KULM					IAmb	IAmb		16 21 20.9	
	comp=Z,46nm,1.6s								
USRK	**Ussuriysk Ar.**	**56.38**	**344**	P			**P**	**16 19 58.9**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=126,slow=7.4,SNR=3.1								
	comp=Z,1.5nm,0.6s								
CMAR	**Chiang Mai Arr**	**57.91**	**299**	P			**P**	**16 20 10.9**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=126,slow=5.1,SNR=11								
CMAR					LR	LR		16 48 07.1	
	comp=Z,27nm,18.4s,baz=205,slow=39								
	comp=Z,0.6nm,0.3s								
CMAR	**Chiang Mai Arr**	**57.91**	**299**	*ce*P			**P**	**16 20 11.0**	**+0.5**
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								
XAN	**Xi'an**	**58.73**	**320**	⇓P			**P**	**16 20 13.9**	**-2.0**
XAN					pmax	pmax			
	comp=Z,7.0nm,0.9s								
XAN					pmax	pmax			
	comp=Z,260nm,4.5s								
PPT2	**Papeete2**	**58.79**	**105**	*e*S			**S**	**16 28 24.1**	**+3.3**
	comp=Z,54nm,23.5s								
PPT2				*e*SS			**SS**	**16 32 17.7**	**+3.3**
	comp=Z,46nm,22.0s								
PPT2				*e*LQ		LQ		16 35 03.7	
	comp=Z,313nm,26.2s								
PPT2				*e*LR		LR		16 37 28.5	
	comp=Z,163nm,29.0s								
PPT2				*e*LR		LR		16 37 36.8	
	comp=Z,196nm,27.2s								
PPT	**Papeete**	**58.79**	**104**	LR		LR		16 43 19.7	
	comp=Z,60nm,18.4s,baz=192,slow=34								
PZH	**PanZhiHua**	**59.39**	**309**	P			**P**	**16 20 23.0**	**+2.3**
CD2	**Chengdu**	**60.28**	**314**	*e*P			**P**	**16 20 27.0**	**+0.2**
HHC	**Hu-ho-hao-te**	**61.85**	**328**	*e*P			**P**	**16 20 39.8**	**+2.6**
HHC					pmax	pmax			
	comp=Z,14nm,0.6s								
HHC					pmax	pmax			
	comp=Z,96nm,5.3s								
CASY	**Casey**	**62.35**	**197**	P			**P**	**16 20 39.6**	**-0.5**
BTO	**Baotou**	**62.51**	**326**	*e*P			**P**	**16 20 43.3**	**+1.7**
BTO				S			**S**	**16 29 13.6**	**+6.1**
BTO					pmax	pmax			
	comp=Z,16nm,0.6s								
BTO					pmax	pmax			
	comp=Z,290nm,3.9s								
BTO					LR	LR			
	comp=Z,280nm,5.1s								
BTO					LR	LR			
	comp=Z,200nm,4.5s								
PETK	**Petropavlovsk-**	**63.15**	**5**	P			**P**	**16 20 45.4**	**-0.1**
	comp=Z,5.1nm,1.1s,baz=144,slow=4.4,SNR=4.8								
PETK					LR	LR		16 44 58.1	
	comp=Z,51nm,20.3s,baz=140,slow=33								
	comp=Z,5.1nm,1.1s								
LZH	**Lanzhou**	**63.26**	**319**	*e*P			**P**	**16 20 48.3**	**+1.5**
LZH					sP	sP		16 21 00.0	+1.5
LZH					pmax	pmax			
	comp=Z,12nm,1.3s								
SHEM	**Shemya Is, Ala**	**65.72**	**16**	LR		LR		16 44 25.4	
	comp=Z,72nm,20.4s,baz=49,slow=31								
ZEA	**Zeya**	**66.38**	**345**	*e*P			P	16 21 11.9	+5.3
ZEA					pmax	pmax			
	comp=Z,10.0nm,0.9s								
GTA	**Gaotai**	**67.79**	**320**	*e*P			P	16 21 23.8	+7.8
GTA					sP	sP		16 21 29.8	+2.1
GTA					pmax	pmax			
	comp=Z,4.0nm,1.8s								
VNDA	**Vanda**	**67.81**	**177**	P			**P**	**16 21 15.4**	**0.0**
VNDA	**Vanda**	**67.81**	**177**	P			**P**	**16 21 15.6**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=336,slow=7.8,SNR=11								
	comp=Z,1.5nm,0.8s								
VNDA	**Vanda**	**67.81**	**177**	P			**P**	**16 21 15.4**	**0.0**
VNDA					pmax	pmax			
	comp=Z,3.0nm,0.8s								
TAOE	**Nuku Hiva Isla**	**68.61**	**96**	*e*LR		LR		16 42 03.5	
	comp=Z,192nm,24.7s								
ULN	**Ulaanbaatar**	**69.09**	**330**	*i* P			**P**	**16 21 23.6**	**-0.4**
ULN					pmax	pmax			
	comp=Z,11nm,1.7s								
MA2	**Magadan**	**69.31**	**0**	P			**P**	**16 21 23.9**	**-1.0**
MA2					IAmb	IAmb		16 23 46.6	
	comp=Z,30nm,1.4s								
MA2	**Magadan**	**69.31**	**0**	LR		LR		16 47 55.2	
	comp=Z,32nm,21.9s,baz=164,slow=32								
MA2	**Magadan**	**69.31**	**0**	P			**P**	**16 21 23.9**	**-1.0**
MA2					pmax	pmax			
	comp=Z,30nm,1.4s								
SONM	**Songino Array**	**69.39**	**330**	P			**P**	**16 21 25.9**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=152,slow=7.0,SNR=5.4								
SONM					LR	LR		16 51 43.8	
	comp=Z,42nm,20.9s,baz=181,slow=36								
	comp=Z,1.1nm,0.5s								
ZAK	**Zakamensk**	**72.62**	**331**	*e*P			**P**	**16 21 44.6**	**-0.7**
ZAK					pmax	pmax			
	comp=Z,8.0nm,1.2s								
SEY	**Seymchan**	**72.70**	**1**	LR		LR		16 50 03.5	
	comp=Z,32nm,21.3s,baz=160,slow=33								
SEY	**Seymchan**	**72.70**	**1**	*i* P			**P**	**16 21 44.5**	**-0.9**
SEY					pmax	pmax			
	comp=Z,16nm,1.5s								
YAK	**Yakutsk**	**73.54**	**350**	*i* P			**P**	**16 21 49.9**	**-0.4**
YAK					pmax	pmax			
	comp=Z,12nm,1.3s								
HYB	**Hyderabad**	**75.81**	**291**	*e*P			**P**	**16 22 04.6**	**+0.1**
HYB				*e*PcP			**PcP**	**16 22 16.6**	**-0.5**
HYB				*e*S			**S**	**16 31 47.0**	**+1.6**
WMQ	**Urumqi**	**77.84**	**319**	*e*P			**P**	**16 22 14.4**	**-1.1**
WMQ					pmax	pmax			
	comp=Z,46nm,0.7s								
BILL	**Bilibino**	**78.65**	**6**	*i* P			**P**	**16 22 19.8**	**+0.4**
BILL					pmax	pmax			
	comp=Z,23nm,1.3s								
MAW	**Mawson**	**79.84**	**203**	P			**P**	**16 22 25.6**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=95,slow=6.4,SNR=6.3								
	comp=Z,3.1nm,0.7s								
QSPA	**South Pole Qui**	**80.03**	**180**	P			**P**	**16 22 29.1**	**+1.9**
QSPA					IAmb	IAmb		16 22 36.7	
	comp=Z,9.4nm,0.8s								
QSPA	**South Pole Qui**	**80.03**	**180**	P			**P**	**16 22 28.5**	**+1.3**
	comp=Z,7.7nm,1.0s,baz=318,slow=1.0,SNR=30								
	comp=Z,7.7nm,1.0s								
K15K	**Wolf Creek Mou**	**81.12**	**21**	P			**P**	**16 22 33.0**	**+0.2**
KDAK	**Kodiak Island**	**81.92**	**27**	LR		LR		16 52 30.4	
	comp=Z,45nm,22.0s,baz=190,slow=31								
MKAR	**Makanchi Array**	**82.55**	**320**	P			**P**	**16 22 40.0**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=111,slow=5.4,SNR=7.2								
	comp=Z,1.0nm,0.7s								
L18K	**Granite Mounta**	**82.81**	**22**	P			**P**	**16 22 41.9**	**+0.1**
L18K					IAmb	IAmb		16 22 51.5	
	comp=Z,15nm,1.2s								
ZAA0	**Zalesovo Array**	**84.03**	**327**	P			**P**	**16 22 46.6**	**-1.6**
ZAA0					IAmb	IAmb		16 22 48.6	
	comp=Z,4.2nm,0.6s								
ZALV	**Zalesovo Beam**	**84.03**	**327**	P			**P**	**16 22 46.8**	**-1.4**
	comp=Z,5.8nm,0.6s,baz=117,slow=5.3,SNR=25								
	comp=Z,5.8nm,0.6s								
G18K	**Tagagawik**	**84.43**	**19**	P			**P**	**16 22 49.8**	**-0.2**
G18K					IAmb	IAmb		16 22 54.9	
	comp=Z,42nm,1.8s								
F19K	**Shaleruckik Mo**	**85.30**	**18**	P			**P**	**16 22 54.2**	**-0.1**
F19K					IAmb	IAmb		16 23 02.3	
	comp=Z,8.0nm,1.1s								
E19K	**Redstone River**	**85.86**	**18**	P			**P**	**16 22 57.6**	**+0.4**
E19K					IAmb	IAmb		16 23 09.8	
	comp=Z,9.5nm,0.9s								
F20K	**Avaraart Lake**	**86.07**	**19**	P			**P**	**16 22 57.9**	**-0.2**
F20K					IAmb	IAmb		16 26 06.7	
	comp=Z,19nm,1.8s								
C19K	**Lookout Ridge**	**86.24**	**16**	P			**P**	**16 22 59.3**	**+0.3**
D19K	**Kuna River**	**86.25**	**17**	P			**P**	**16 22 58.7**	**-0.4**
KURK	**Kurchatov**	**86.26**	**323**	*i* P			**P**	**16 22 58.9**	**-0.5**
KURK					pmax	pmax			
	comp=Z,10.0nm,2.5s								
KURBB	**Kurchatov Arra**	**86.28**	**323**	P			**P**	**16 22 58.6**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=103,slow=4.3,SNR=9.7								
	comp=Z,1.0nm,0.7s								
RND	**Reindeer**	**86.46**	**23**	P			**P**	**16 22 59.5**	**-0.8**
RND					IAmb	IAmb		16 24 49.3	
	comp=Z,12nm,0.9s								
RND	**Reindeer**	**86.46**	**23**	P			**P**	**16 22 59.5**	**-0.8**

ETL				S			**Sn**	**16 07 07.6**	**-0.5**
TWC	**Suao**	**0.77**	**315**	*i*P			**Pn**	**16 06 56.9**	**-0.6**
TWC				S			**Sn**	**16 07 06.6**	**-1.7**
HWA	**Hwalien**	**0.77**	**264**	P			**Pn**	**16 06 57.7**	**+0.2**
HWA				S			**Sn**	**16 07 08.9**	**+0.4**
TWD	**Chiawan**	**0.78**	**271**	*i* P			**Pn**	**16 06 57.1**	**-0.5**
TWD				*i* S			**Sn**	**16 07 07.7**	**-0.8**
NACB	**Ninganchiao**	**0.78**	**278**	P			**Pn**	**16 06 57.3**	**-0.4**
NACB	**Ninganchiao**	**0.78**	**278**	S			**Sn**	**16 07 06.1**	**-2.6**
NACB	**Ninganchiao**	**0.78**	**278**	P			**Pn**	**16 06 57.1**	**-0.5**
NACB				S			**Sn**	**16 07 08.1**	**-0.7**
TEYL	**Yanliau Villag**	**0.80**	**256**	*e*P			**Pn**	**16 06 57.2**	**-0.7**
TEYL				*e*S			**Sn**	**16 07 09.4**	**+0.3**
SHUL	**Shoufeng**	**0.85**	**251**	P			**Pn**	**16 06 58.5**	**-0.1**
SHUL				S			**Sn**	**16 07 11.1**	**+0.8**
NDS	**Dongshan**	**0.87**	**310**	P			**Pn**	**16 06 59.3**	**+0.5**
NDS				S			**Sn**	**16 07 10.8**	**+0.1**
ETM	**Tongmen**	**0.88**	**264**	P			**Pn**	**16 06 58.3**	**-0.6**
ETM				*i* S			**Sn**	**16 07 10.1**	**-0.7**
ETLH	**Xiulin Townshi**	**0.89**	**279**	P			**Pn**	**16 06 59.1**	**0.0**
ETLH				S			**Sn**	**16 07 10.4**	**-0.9**
TEGC	**Jichi Village**	**0.90**	**247**	*e*P			**Pn**	**16 06 59.3**	**+0.1**
TEGC				*e*S			**Sn**	**16 07 12.3**	**+0.9**
LXIB	**Xiulin Townshi**	**0.94**	**267**	P			**Pn**	**16 06 59.8**	**-0.1**
LXIB				S			**Sn**	**16 07 12.1**	**-0.5**
ESL	**Shilin**	**0.96**	**255**	P			**Pn**	**16 06 59.2**	**-0.8**
ESL				S			**Sn**	**16 07 11.7**	**-1.1**
LATG	**Datong**	**0.96**	**299**	P			**Pn**	**16 06 59.9**	**-0.2**
LATG				S			**Sn**	**16 07 12.7**	**-0.2**
TWE	**Neicheng**	**0.96**	**313**	*i* P			**Pn**	**16 07 00.3**	**+0.3**
TWE				S			**Sn**	**16 07 12.1**	**-0.7**
ENTT	**Nioudou**	**0.98**	**306**	*i* P			**Pn**	**16 07 00.4**	**+0.1**
ENTT				*i* S			**Sn**	**16 07 12.0**	**-1.4**
EGFH	**Guangfu**	**1.01**	**247**	P			**Pn**	**16 07 00.6**	**-0.1**
EGFH				S			**Sn**	**16 07 13.8**	**-0.2**
TWB1	**Santiao Chiao**	**1.02**	**336**	P			**Pn**	**16 07 00.2**	**-0.6**
TWB1				S			**Sn**	**16 07 12.9**	**-1.4**
WARBT	**Fenglin Townsh**	**1.03**	**250**	P			**Pn**	**16 07 00.7**	**-0.3**
WARBT				*e*S			**Sn**	**16 07 13.5**	**-1.0**
NNSB	**Datong**	**1.03**	**291**	P			**Pn**	**16 07 01.1**	**0.0**
NNSB				*e*S			**Sn**	**16 07 14.1**	**-0.7**
FUSB	**Fushanzhiwuyua**	**1.04**	**312**	P			**Pn**	**16 07 01.7**	**+0.5**
FUSB				*e*S			**Sn**	**16 07 15.7**	**+0.8**
NNS	**Nan Shan**	**1.05**	**291**	P			**Pn**	**16 07 01.2**	**-0.1**
NNS				S			**Sn**	**16 07 14.8**	**-0.3**
TIPB	**Shuangxi**	**1.06**	**328**	*i* P			**Pn**	**16 07 01.1**	**-0.3**
TIPB				*i* S			**Sn**	**16 07 14.4**	**-0.9**
WHF	**Hehuan Shan**	**1.08**	**274**	P			**Pn**	**16 07 01.9**	**-0.1**
WHF				*i* S			**Sn**	**16 07 15.8**	**-0.5**
HGSD	**Ruisui**	**1.10**	**239**	*e*P			**Pn**	**16 07 01.4**	**-0.4**
NWLT	**Wulai**	**1.11**	**310**	P			**Pn**	**16 07 02.3**	**+0.2**
NWLT				*i* S			**Sn**	**16 07 16.4**	**-0.1**
YHNB	**Yeheng**	**1.15**	**302**	P			**Pn**	**16 07 02.6**	**+0.1**
YHNB	**Yeheng**	**1.15**	**302**	*i* P			**Pn**	**16 07 02.7**	**+0.2**
YHNB				S			**Sn**	**16 07 16.2**	**-1.1**
SXI1	**Grass Mountain**	**1.15**	**333**	P			**Pn**	**16 07 02.1**	**-0.5**
SXI1				*e*S			**Sn**	**16 07 16.6**	**-0.8**
EHYH	**Wanrong**	**1.16**	**241**	*e*P			**Pn**	**16 07 02.8**	**+0.2**
NSK	**Sanguang**	**1.16**	**302**	⇓*i*P			**Pn**	**16 07 02.8**	**+0.1**
NSK				*i* S			**Sn**	**16 07 17.1**	**-0.6**
OWD	**Renai**	**1.17**	**265**	P			**Pn**	**16 07 02.3**	**-0.6**
OWD				*i* S			**Sn**	**16 07 16.6**	**-1.3**
NWF	**Wu-fen Shan**	**1.17**	**329**	*e*P			**Pn**	**16 07 02.4**	**-0.4**
WFSB	**Wu-fen Shan**	**1.17**	**329**	*e*P			**Pn**	**16 07 02.5**	**-0.2**
WFSB				*e*S			**Sn**	**16 07 17.1**	**-0.7

RND						pmax		pmax		
	comp=Z,12nm,0.9s									
COLA	**College**	**87.58**	**22**	*i*	P		**P**		**16 23 04.6**	**-0.9**
COLA						pmax		pmax		
	comp=Z,11nm,1.0s									
ILAR	**Eielson Array**	**87.89**	**22**		P		**P**		**16 23 05.8**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=251,slow=4.6,SNR=16									
ILAR						LR		LR	17 00 01.8	
	comp=Z,29nm,18.9s,baz=248,slow=34									
	comp=Z,1.5nm,0.6s									
SYO	**Syowa Base**	**87.97**	**200**	⇓	*e*P		**P**		**16 23 08.4**	**+1.0**
SYO	**Syowa Base**	**87.97**	**200**	⇑	*e*sP		sP		16 23 14.0	-5.4
H24K	**Noodor Dome**	**88.05**	**21**		P		**P**		**16 23 07.3**	**-0.5**
H24K					IAmb		IAmb		16 23 49.8	
	comp=Z,20nm,1.7s									
D22K	**Ayikyak River**	**88.08**	**18**		P		**P**		**16 23 07.2**	**-0.7**
J25K	**Salcha River,**	**88.39**	**23**		P		**P**		**16 23 08.0**	**-1.5**
J25K					IAmb		IAmb		16 23 16.0	
	comp=Z,6.9nm,0.8s									
D23K	**Nanushuk River**	**88.73**	**18**		P		**P**		**16 23 11.8**	**+0.9**
FYU	**Fort Yukon**	**89.34**	**21**		P		**P**		**16 23 14.0**	**+0.2**
M29M	**Somme Creek**	**90.33**	**26**		P		**P**		**16 23 19.2**	**+0.5**
M29M					IAmb		IAmb		16 26 06.4	
	comp=Z,31nm,2.0s									
H27K	**Steamboat Moun**	**90.54**	**22**		P		**P**		**16 23 19.7**	**+0.2**
H27K					IAmb		IAmb		16 26 17.9	
	comp=Z,16nm,1.6s									
BVAR	**Borovoye Array**	**91.81**	**324**		P		**P**		**16 23 23.4**	**-2.3**
	comp=Z,1.0nm,0.5s,baz=100,slow=7.1,SNR=6.7									
	comp=Z,1.0nm,0.5s									
DLBC	**Dease Lake**	**93.11**	**31**		LR		LR		17 03 18.6	
	comp=Z,614nm,18.6s,baz=136,slow=34									
NVL	**N'lazarevskaya**	**94.69**	**193**		*e*P		P		16 23 23.6	-15
NVL					*e*				16 34 38.8	
NVL					*e*SS		SS		16 41 10.3	-2.3
NVL					pmax		pmax			
	comp=Z,5.0nm,0.7s									
NVL					MLR		MLR			
	comp=Z,95nm,17.0s									
SNAA	**Sanae**	**96.59**	**188**		LR		LR		17 07 39.4	
	comp=Z,93nm,18.1s,baz=216,slow=36									
PFO	**Pinyon Flats O**	**98.21**	**57**		LR		LR		17 03 02.9	
	comp=Z,51nm,18.0s,baz=51,slow=32									
AKTO	**Aktyubinsk**	**98.98**	**320**		LR		LR		17 09 36.8	
	comp=Z,50nm,21.9s,baz=42,slow=36									
NEW	**Newport**	**99.14**	**43**		LR		LR		17 00 50.9	
	comp=Z,63nm,21.0s,baz=224,slow=30									
ARTI	**Arti**	**99.22**	**326**		LR		LR		17 12 59.2	
	comp=Z,41nm,18.0s,baz=186,slow=38									
BOAV	**Boa Vista**	**148.58**	**102**		PKPbc		**PKPbc**		**16 30 04.6**	**-1.2**
TORD	**Torodi Ar. Bea**	**148.98**	**279**		PKPbc		**PKPbc**		**16 30 05.6**	**-1.2**
	comp=Z,3.2nm,0.5s,baz=46,slow=3.0,SNR=28									

NNC 18 16:20:01.7±2.5, 38°42N×68°68E, *h*0km, mb3.9, mpv3.6, 3D, Error ellipse: s-maj=20.6km s-min=16.5km az=157.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRLS	**Borolday**	**4.69**	**10**	Pg	Pb	16 21 25.0	+0.2
	4.0nm,0.2s						
BRLS				Lg	Lg	16 22 27.3	
	44nm,0.5s						
KK31	**Karatay Array**	**4.88**	**16**	⇓Pn	Pn	16 21 16.6	+0.2
	0.7nm,0.2s,baz=198,slow=13,SNR=16						
KK31				⇓Pg	Pb	16 21 31.5	+3.4
	2.1nm,0.2s,baz=196,slow=18,SNR=9.2						
KK31				Sn	Sn	16 22 14.4	+0.7
	baz=198,slow=22						
KK31				⇓Lg	Lg	16 22 38.1	
	49nm,0.6s						
MRKS	**Merke**	**5.54**	**37**	Pg	Pb	16 21 40.3	+1.0
	10nm,0.5s						
MRKS				Lg	Lg	16 22 53.3	
	31nm,0.4s						
SGDS	**Sogindy**	**6.75**	**40**	Pg	Pb	16 22 03.8	+3.8
	2.2nm,0.4s						
SGDS				Lg	Lg	16 23 33.8	
	2.3nm,0.1s						
KST	**Kastek**	**7.21**	**48**	Pg	Pb	16 22 10.3	+2.5
	1.5nm,0.2s						
KST				Lg	Lg	16 23 44.3	
	10nm,0.6s						
BTLS	**Baital**	**7.74**	**29**	Lg	Lg	16 24 04.9	
	1.7nm,0.5s						
AB31	**Akbulak array**	**12.53**	**333**	P	Pn	16 23 00.8	-0.4
	0.6nm,0.5s,baz=198,slow=22,SNR=19						

*IDC **18** 16:52:32.7±1.0, 5.°03N×125.°93E, *h*0km, mb3.8/7, mbtmp3.8/8, ML3.9/1, MS3.0/2, Error ellipse: s-maj=93.3km s-min=15.8km az=71.0*

ISC 18 16:52:41.2±1.4, 5.°3N±0.°5×12.°6E±.°, *h*66km, n10, σ2°89/11, mb4.0/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.92**	**334**	Pn	**Pn**	**16 53 07.9**	**-3.9**
	46nm,0.3s,baz=75,slow=12,SNR=1.9						
DAV				Sn	**Sn**	**16 53 37.9**	**+2.9**
	89nm,0.3s,baz=259,slow=13,SNR=3.9						
	108nm,0.3s						
GUMO	**Guam**	**19.92**	**64**	LR	LR	17 05 35.5	
	comp=Z,23nm,18.9s,baz=262,slow=38						
LEM	**Lembang**	**22.34**	**237**	LR	LR	17 06 38.9	
	comp=Z,57nm,20.3s,baz=18,slow=39						
WRA	**Warramunga Arr**	**26.30**	**163**	P	**P**	**16 58 07.3**	**-3.6**
	0.1nm,0.6s,baz=342,slow=9.9,SNR=9.0						
	0.1nm,0.6s						
ASAR	**Alice Springs**	**29.73**	**166**	P	**P**	**16 58 40.9**	**-0.6**
	0.2nm,0.5s,baz=341,slow=6.8,SNR=18						
ASAR				PcP	**PcP**	**17 01 45.9**	**+1.7**
	0.3nm,0.6s,baz=352,slow=2.3,SNR=5.3						
ASAR				ScP	**ScP**	**17 05 25.9**	**+5.2**
	0.2nm,0.7s,baz=339,slow=3.1,SNR=2.0						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**56.08**	**325**	P	**P**	**17 02 13.8**	**+0.1**
	0.8nm,0.4s,baz=118,slow=8.0,SNR=12						
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**59.04**	**333**	P	**P**	**17 02 34.1**	**-0.1**
	0.5nm,0.5s,baz=126,slow=6.6,SNR=2.5						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**60.24**	**327**	P	**P**	**17 02 42.3**	**-0.3**
	0.9nm,0.6s,baz=122,slow=7.4,SNR=12						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**65.83**	**327**	P	**P**	**17 03 20.1**	**+0.5**
	0.4nm,0.4s,baz=108,slow=4.7,SNR=2.6						
	0.4nm,0.4s						
ARCES	**ARCESS Array B**	**88.85**	**340**	P	**P**	**17 05 28.5**	**+0.7**
	3.8nm,0.8s,baz=78,slow=4.9,SNR=3.9						
	3.8nm,0.8s						

*NEIC **18** 16:57:29.4±1.6, 37.°87N±0.°02×112.°48W±0.°02, *h*5km±1km, Error ellipse: s-maj=3.2km s-min=3.0km az=324.0*

UUSS 18 16:57:30.2±1.6, 37.°87N±0.°01×112.°49W±0.°02, *h*6km±5km, ML2.6/9, ML2.7/90(NEIC), Error ellipse: s-maj=1.8km s-min=1.6km az=104.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTPU	**Mount Pierson**	**0.29**	**55**		Pg	16 57 35.8	-0.3
MTPU					Sg	16 57 40.9	+0.8
PKCU	**Pink Cliffs**	**0.45**	**162**		Pg	16 57 39.1	+0.1
PKCU					Sg	16 57 45.9	+1.0
DWU	**Dry Willow Pea**	**0.47**	**300**		Pg	16 57 39.7	+0.4
BTU	**Barney Top**	**0.50**	**103**		Pg	16 57 40.0	+0.1
SZCU	**Shurtz Canyon**	**0.55**	**240**		Pg	16 57 40.8	-0.1
SZCU					Sg	16 57 48.4	+0.3
SZCU				IAML		16 57 51.5	
	comp=E,979nm,0.2s						
SZCU				IAML		16 57 53.7	
	comp=N,646nm,0.2s						
ZNPU	**Zion National**	**0.72**	**225**		Pg	16 57 44.0	-0.2
TCRU	**Three Creeks R**	**0.74**	**2**		Pg	16 57 44.4	0.0
ARUT	**Antelope Range**	**0.76**	**264**		Pg	16 57 45.0	+0.2
CCUT	**Cedar City**	**0.77**	**245**	Pg	Pg	16 57 44.4	-0.6
EKU	**East Kanab**	**0.80**	**181**		Pg	16 57 45.1	-0.4
KNB	**Kanab**	**0.90**	**197**	Pg	Pg	16 57 46.6	-0.8
IMU	**Iron Mountain**	**0.93**	**325**		Pg	16 57 48.0	0.0
LCMT	**Little Creek M**	**1.05**	**215**	Pg	Pg	16 57 49.3	-1.0
LCMT				IAML		16 58 04.6	
	comp=E,219nm,0.3s						
LCMT				IAML		16 58 08.9	
	comp=N,169nm,0.2s						
PSUT	**Pine Spring**	**1.26**	**302**		Pg	16 57 54.3	-0.2
ICU	**Indian Springs**	**1.35**	**238**		Pn	16 57 55.6	-0.2
HMU	**Henry Mountain**	**1.38**	**87**		Pn	16 57 55.0	-1.3
HMU				IAML		16 58 21.0	
	comp=N,299nm,0.3s						
Q16A	**Castle Valley**	**1.47**	**44**		Pn	16 57 57.2	-0.2
TMUT	**Trail Mountain**	**1.74**	**35**	Pn	Pn	16 58 01.3	0.0
TMUT				IAML		16 58 26.7	
	comp=E,63nm,0.6s						
TMUT				IAML		16 58 27.8	
	comp=N,50nm,0.4s						
SPR3	**Spring Creek 3**	**1.83**	**308**	Pn	Pn	16 58 01.4	-1.3
SPR3				IAML		16 58 30.8	
	comp=N,61nm,0.5s						
SPR3				IAML		16 58 31.9	
	comp=E,51nm,0.5s						
SRU	**San Rafael Swe**	**1.98**	**51**	Pn	Pn	16 58 04.3	-0.1
SRU				IAML		16 58 35.7	
	comp=E,66nm,0.4s						
SRU				IAML		16 58 40.8	
	comp=N,37nm,0.7s						
PRN	**Pahroc Range**	**2.09**	**258**	Pn	Pn	16 58 06.0	+0.1
PRN				IAML		16 58 39.9	
	comp=N,107nm,0.4s						
PRN				IAML		16 58 52.7	
	comp=E,81nm,0.7s						
P17A	**Butcher Ranch,**	**2.10**	**40**	Pn	Pn	16 58 05.0	-1.1
DUG	**Dugway, Tooele**	**2.33**	**354**	Pn	Pn	16 58 08.2	-1.1
DUG				IAML		16 58 48.6	
	comp=E,23nm,0.8s						
P18A	**Preston Nutter**	**2.48**	**44**	Pn	Pn	16 58 10.6	-0.9
P18A				IAML		16 58 50.0	
	comp=E,30nm,0.5s						
P18A				IAML		16 58 54.4	
	comp=N,33nm,0.6s						
R11B	**Troy Canyon, C**	**2.49**	**282**	Pn	Pn	16 58 09.8	-1.7
R11B				IAML		16 58 59.5	
	comp=E,22nm,0.6s						
WUAZ	**Wupatki**	**2.52**	**159**	Pn	Pn	16 58 12.1	+0.3
SHPR	**Sheep Range**	**2.53**	**238**	Pn	Pn	16 58 12.1	0.0
PV10	**Paradox Valley**	**2.77**	**78**	Pn	Pn	16 58 13.8	-1.5
PV20	**West Nyswonger**	**2.81**	**79**	Pn	Pn	16 58 15.8	-0.2
PV21	**Cone Mtn., Par**	**2.85**	**75**	Pn	Pn	16 58 16.7	+0.2
PV11	**David Mesa, Pa**	**2.88**	**80**	Pn	Pn	16 58 17.1	+0.1
BSUT	**Blindstream Ca**	**2.98**	**26**	Pn	Pn	16 58 17.8	-0.6
W13A	**Hualapai Mount**	**2.99**	**203**	Pn	Pn	16 58 19.0	+0.6
W13A				IAML		16 59 04.0	
	comp=E,14nm,0.6s						
PV07	**Paradox Valley**	**3.08**	**78**	Pn	Pn	16 58 19.9	+0.3
PV07				IAML		16 59 11.0	
	comp=N,44nm,0.8s						
PV07				IAML		16 59 14.1	
	comp=E,44nm,0.8s						
PV01	**Paradox Valley**	**3.10**	**84**	Pn	Pn	16 58 17.9	-2.1
TPNV	**Topopah Spring**	**3.13**	**254**	Pn	Pn	16 58 19.2	-1.1
TPNV				IAML		16 59 12.6	
	comp=E,17nm,0.7s						
TPNV				IAML		16 59 13.3	
	comp=E,29nm,0.5s						
PV15	**Paradox Valley**	**3.19**	**80**	Pn	Pn	16 58 22.6	+1.4
MVCO	**Mesa Verde**	**3.24**	**101**	Pn	Pn	16 58 21.3	-0.5
WCT	**Wildcat Mounta**	**3.47**	**253**	Pn	Pn	16 58 27.0	+2.1
WCT				IAML		16 59 27.1	
	comp=E,8.3nm,1.1s						
W18A	**Petrified Fore**	**3.53**	**140**	Pn	Pn	16 58 25.3	-0.6
X16A	**Lo Mia Camp, P**	**3.55**	**166**	Pn	Pn	16 58 26.3	+0.3
X16A				IAML		16 59 26.4	
	comp=N,15nm,0.5s						
X16A				IAML		16 59 27.3	
	comp=E,15nm,0.7s						
ELK	**Elko**	**3.58**	**324**	Pn	Pn	16 58 25.5	-0.9
GWY	**Greenwater Val**	**3.75**	**245**	Pn	Pn	16 58 28.3	-0.4
GWY				IAML		16 59 34.5	
	comp=N,12nm,0.7s						
GWY				IAML		16 59 50.8	
	comp=E,15nm,0.7s						
TPH	**Tonopah**	**3.75**	**275**	Pn	Pn	16 58 27.7	-1.1
TPH				IAML		16 59 31.7	
	comp=E,14nm,0.6s						
TPH				IAML		16 59 34.0	
	comp=N,12nm,0.8s						
GMN	**Gold Mountain**	**3.83**	**263**	Pn	Pn	16 58 30.0	0.0
GMN				IAML		16 59 44.7	
	comp=N,7.6nm,1.1s						
O20A	**White River Ci**	**4.00**	**54**	Pn	Pn	16 58 32.0	-0.3
O20A				IAML		16 59 42.9	
	comp=N,28nm,0.8s						
O20A				IAML		16 59 49.7	
	comp=N,19nm,0.7s						
DSP	**Deep Springs**	**4.38**	**265**	Pn	Pn	16 58 37.5	+0.2
DSP				IAML		17 00 08.4	
	comp=N,5.5nm,4.6s						
DSP				IAML		17 00 43.4	
	comp=E,6.8nm,4.4s						
S22A	**4UR Ranch, Cre**	**4.48**	**90**	Pn	Pn	16 58 39.6	+0.6
S22A				IAML		16 59 52.0	
	comp=N,4.3nm,0.4s						
S22A				IAML		17 00 06.7	
	comp=E,8.5nm,2.6s						
CRNM	**Carthage**	**6.09**	**128**	Pn	Pn	16 59 02.4	+1.4

*IDC **18** 17:48:44.1±2.1, 7.°80S×147.°50E, *h*63km±20km, mb3.5/5, mbtmp3.9/6, Error ellipse: s-maj=41.9km s-min=14.7km az=112.0*

ISC 18 17:48:42.9±1.1, 7.°76S±0.°10×147.°5E±0.°3, *h*52km, n8, σ0°56/10, mb3.9/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.66**	**190**	P	**Pn**	**17 49 09.2**	**-0.5**
	298nm,0.3s,baz=20,slow=11,SNR=523						
PMG				S	**Sn**	**17 49 30.9**	**+1.0**
	4μm,0.8s,baz=27,slow=17,SNR=95						
WRA	**Warramunga Arr**	**17.56**	**225**	P	**P**	**17 52 44.6**	**-0.1**
	4.3nm,0.7s,baz=45,slow=13,SNR=62						
ASAR	**Alice Springs**	**20.48**	**218**	P	**P**	**17 53 16.9**	**+0.4**
	0.9nm,0.4s,baz=54,slow=9.6,SNR=35						
ASAR					S	**S**	**17 57 02.9**	**-0.1**
	0.3nm,0.7s,baz=48,slow=21,SNR=4.1						
	0.9nm,0.4s						
MJAR	**Matsushiro Arr**	**44.91**	**349**	P	**P**	**17 56 53.1**	**+0.5**
	2.8nm,0.9s,baz=172,slow=7.5,SNR=4.8						
	2.8nm,0.9s						
MKAR	**Makanchi Array**	**79.14**	**321**	P	**P**	**18 00 41.8**	**-0.3**
	0.4nm,0.8s,baz=119,slow=5.1,SNR=1.5						
	0.4nm,0.8s						
QSPA	**South Pole Qui**	**82.22**	**180**	P	**P**	**18 00 57.8**	**-0.6**
	1.0nm,0.5s,baz=294,slow=1.1,SNR=18						
	1.0nm,0.5s						
ILAR	**Eielson Array**	**86.91**	**23**	P	**P**	**18 01 22.2**	**+0.4**
	0.3nm,0.7s,baz=252,slow=4.9,SNR=2.7						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**145.94**	**282**	PKPbc	**PKPbc**	**18 08 17.6**	**-0.2**
	0.5nm,0.7s,baz=83,slow=4.0,SNR=2.8						

*DNK **18** 18:09:46.1±2.0, 51.°59N×15.°83E, *h*0km±82km, ML2.1*
*BGR **18** 18:09:47.4±0.5, 51.°59N×16.°10E, *h*1km, ML3.1/12, Error ellipse: s-maj=7.8km s-min=3.3km az=15.0*
*IPEC **18** 18:09:47.3±0.2, 51.°58N×16.°15E, *h*1km, ML2.9/4, Error ellipse: s-maj=1.9km s-min=1.2km az=36.0*
*IDC **18** 18:09:48.1±0.9, 51.°53N×15.°96E, *h*0km, mbtmp3.5/6, ML2.7/6, Error ellipse: s-maj=15.1km s-min=7.5km az=109.0*
*PRU **18** 18:09:50.0, 51.°49N×16.°09E, *h*0km*

ISC 18 18:09:45.3±0.7, 51.°66N±0.°03×16.°10E±0.°02, *h*0km, n62, σ1°07/109, 1C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.82**	**172**	*e*Pg	**Pb**	**18 10 01.9**	**-0.6**
KSP				*e*Sg	**Sg**	**18 10 12.1**	**+0.4**
KSP	**Ksiaz**	**0.82**	**172**	*e*Pg	**Pb**	**18 10 01.9**	**-0.6**
KSP				*e*Sg	**Sg**	**18 10 12.0**	**+0.2**
CHVC	**Chvalec**	**1.07**	**182**	*e*PG	**Pb**	**18 10 06.7**	**0.0**
CHVC				*e*SG	**Sg**	**18 10 19.4**	**-0.3**
OSTC	**Ostas**	**1.10**	**176**	*e*PG	**Pb**	**18 10 07.4**	**+0.1**
OSTC				*e*SG	**Sg**	**18 10 20.0**	**-0.7**
	138nm,0.8s						
UPC	**Upice**	**1.15**	**183**	*e*PG	**Pb**	**18 10 08.1**	**0.0**
UPC				*e*SG	**Sg**	**18 10 22.0**	**-0.3**
DPC	**Dobruska-Polom**	**1.32**	**174**	*e*PG	**Pg**	**18 10 10.7**	**+0.2**
DPC				*e*SG	**Sg**	**18 10 26.4**	**-1.1**
	168nm,0.7s						
DPC	**Dobruska-Polom**	**1.32**	**174**	*e*Pg	**Pg**	**18 10 10.7**	**+0.2**
PVCC	**Panska Ves**	**1.49**	**221**	*e*PG	**Pg**	**18 10 13.8**	**0.0**
PVCC				*e*SG	**Sn**	**18 10 33.6**	**+0.2**
	227nm,0.3s						
PIVO	**Bartosovice**	**1.50**	**169**	*e*Pg	**Pn**	**18 10 13.6**	**+0.1**
	baz=350						
BRG	**Berggiesshubel**	**1.57**	**241**	*e*Pn	**Pn**	**18 10 14.6**	**+0.3**
BRG	**Berggiesshubel**	**1.57**	**241**	Pn	**Pb**	**18 10 14.8**	**-0.3**
BRG				Pg	**Pg**	**18 10 16.5**	**+1.2**
BRG				Sg	**Sg**	**18 10 36.5**	**+0.9**
BRG				Amp		18 10 37.2	
	comp=Z,192nm,0.4s						
KRLC	**Kraliky**	**1.64**	**165**	*e*PG	**Pn**	**18 10 15.8**	**+0.4**
KRLC				*e*SG	**Sn**	**18 10 37.0**	**-0.3**
	comp=Z,87nm,0.6s						
FBE	**Freiberg**	**1.88**	**248**	*e*Sg	**Sg**	**18 10 45.5**	**-0.1**
PRU	**Pruhonice**	**1.94**	**211**	*e*PN	**Pn**	**18 10 19.8**	**+0.3**
PRU				*e*PG	**Pb**	**18 10 21.9**	**+0.4**
PRU				*e*SG	**Sb**	**18 10 46.1**	**-0.2**
	comp=Z,74nm,0.6s						
CLL	**Collm**	**1.97**	**261**	*e*Pn	**Pn**	**18 10 20.3**	**+0.5**
CLL	**Collm**	**1.97**	**261**	*e*Pn	**Pb**	**18 10 21.0**	**-1.0**
	comp=Z,23nm,0.5s						
CLL				*e*Pg	**Pg**	**18 10 24.0**	**+1.0**
CLL				*i* x	x	18 10 27.5	
CLL				*e*Sg	**Sg**	**18 10 49.0**	**+0.5**
	comp=Z,48nm,0.6s						
STEB	**Steborice**	**2.02**	**148**	*e*PN	**Pn**	**18 10 21.0**	**+0.3**
STEB				*e*PG	**Pg**	**18 10 23.7**	**-0.4**
STEB				*e*SG	**Sb**	**18 10 48.3**	**-0.4**
MORC	**Moravsky Berou**	**2.09**	**154**	*e*Pn	**Pn**	**18 10 21.9**	**+0.3**
	baz=334						
MORC				*e*Sg	**Sb**	**18 10 50.4**	**-0.3**
	comp=Z,71nm,0.7s,baz=334						
MORC	**Moravsky Berou**	**2.09**	**154**	*e*PN	**Pn**	**18 10 22.0**	**+0.3**
MORC				*e*SG	**Sb**	**18 10 50.5**	**-0.3**
MORC	**Moravsky Berou**	**2.09**	**154**	⇓P	**Pn**	**18 10 22.0**	**+0.3**
MORC				⇓S	**Sb**	**18 10 50.3**	**-0.3**
MORC	**Moravsky Berou**	**2.09**	**154**	*e*Pn	**Pn**	**18 10 21.9**	**+0.3**
OKC	**Ostrava-Krasne**	**2.24**	**144**	*e*PG	**Pg**	**18 10 28.1**	**-0.1**
VRAC	**Vranov**	**2.37**	**172**	Pn	**Pn**	**18 10 26.6**	**+1.1**
	comp=Z,3.8nm,0.3s,baz=345,slow=16,SNR=29						
VRAC				Sn	**Sn**	**18 10 54.2**	**-1.1**
	comp=Z,2.5nm,0.3s,baz=189,slow=11,SNR=3.5						
VRAC				Lg	Lg	18 10 59.5	
	comp=Z,6.0nm,0.3s,baz=71,slow=22,SNR=8.8						
	comp=Z,12nm,0.4s						
VRAC	**Vranov**	**2.37**	**172**	*e*Pn	**Pn**	**18 10 26.1**	**+0.6**
	baz=353						
VRAC				*e*Sg	**Sb**	**18 10 59.0**	**+0.3**
	comp=Z,52nm,0.8s,baz=353						
VRAC	**Vranov**	**2.37**	**172**	⇑P	**Pn**	**18 10 26.9**	**+1.5**
VRAC				⇓S	**Sb**	**18 10 59.9**	**+1.2**
KRUC	**Moravsky**	**2.60**	**176**	*e*Pn	**Pn**	**18 10 29.5**	**+0.9**
	baz=356						
KRUC				*e*Sg	**Sb**	**18 11 06.2**	**+0.8**
	comp=Z,44nm,0.9s,baz=356						
TANN	**Tannenbergstha**	**2.61**	**243**	*e*Pn	**Pn**	**18 10 29.6**	**+0.8**
WERD	**Werda**	**2.68**	**245**	*e*Pn	**Pn**	**18 10 30.1**	**+0.4**
OJC	**Ojcow**	**2.75**	**120**	*e*Pn	**Pn**	**18 10 29.3**	**-1.3**
OJC				*e*Pg	**Pg**	**18 10 38.4**	**+0.5**
OJC				*e*Sg	**Sg**	**18 11 14.3**	**+0.9**
OJC	**Ojcow**	**2.75**	**120**	*e*Pn	**Pn**	**18 10 29.6**	**-1.0**
OJC				*e*Sg	**Sg**	**18 11 12.9**	**-0.6**
JAVC	**Velka Javorina**	**2.98**	**160**	*e*Pn	**Pn**	**18 10 34.5**	**+0.7**
	baz=341						
KHC	**Kasperske Hory**	**3.00**	**214**	*e*PN	**Pn**	**18 10 34.5**	**+0.4**
KHC				*e*PG	**Pb**	**18 10 41.0**	**+1.4**
KHC				*e*SG	**Sg**	**18 11 20.6**	**-1.0**
	comp=Z,24nm,0.5s						
MOX	**Moxa**	**3.00**	**252**	*e*Pn	**Pn**	**18 10 34.9**	**+0.8**
CKRC	**Cesky Krumlov**	**3.06**	**203**	*e*PN	**Pn**	**18 10 36.4**	**+1.4**
CKRC				*e*PG	**Pb**	**18 10 42.0**	**+1.3**
ROTZ	**Rotzenmuhle**	**3.12**	**234**	*e*Pn	**Pn**	**18 10 36.6**	**+0.9**
ROTZ				*e*Sg	**Sg**	**18 11 23.7**	**-1.6**
GEC2	**GERESS Array S**	**3.21**	**210**	*e*Pn	**Pn**	**18 10 37.6**	**+0.6**
GERES	**GERESS Array B**	**3.21**	**210**	Pn	**Pn**	**18 10 38.2**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=30,slow=13,SNR=31						
GERES				Sn	**Sn**	**18 11 15.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=37,slow=27,SNR=5.7						
GERES				Lg	Lg	18 11 23.3	
	comp=Z,0.5nm,0.3s,baz=42,slow=26,SNR=5.5						
	comp=Z,3.3nm,0.3s						
WET	**Wettzell**	**3.25**	**221**	*e*Pn	**Pn**	**18 10 38.2**	**+0.7**
NIE	**Niedzica**	**3.49**	**128**	*e*Pg	**Pg**	**18 10 54.5**	**+2.3**
NIE				*e*Sg	**Sg**	**18 11 39.7**	**+2.3**
BSD	**Bornholm Skovb**	**3.54**	**349**	*e*P	**Pn**	**18 10 42.9**	**+1.5**
BSD				*e*S	**Sn**	**18 11 24.6**	**+0.7**
BSD				IAML		18 11 43.1	
	comp=Z,2.2nm,0.2s						
CLZ	**Clausthal**	**3.56**	**275**	*e*Pn	**Pn**	**18 10 43.1**	**+1.3**
CONA	**Conrad Observa**	**3.74**	**182**	*i* Pn	**Pn**	**18 10 45.5**	**+1.2**
	comp=Z,4.0nm,0.4s,SNR=9.0						
CONA				*e*Pg	**Pg**	**18 10 56.2**	**-0.6**
	comp=Z,8.5nm,0.3s						
CONA				*e*Sg	**Sg**	**18 11 45.0**	**-0.2**
	comp=Z,36nm,0.5s						
RONA	**Rosalia, Austr**	**3.96**	**178**	*i* Pn	**Pn**	**18 10 48.1**	**+0.8**
	comp=Z,0.6nm,0.2s						
RONA				*i* Pg	**Pg**	**18 10 59.2**	**-2.0**
	comp=Z,3.4nm,0.5s						
RONA				*e*

*IDC **18** 18:15:28.5±1.0,54.˚10S×7.˚95E, h0km, mb4.2/8, mbtmp4.3/9, ML4.0/1, MS3.8/22, Error ellipse: s-maj=31.9km s-min=20.9km az=68.0*
*NEIC **18** 18:15:28.8±2.0,54.˚11S±0.˚07×7.˚2E±0.˚2, h10km±1km, mb4.8/17, Error ellipse: s-maj=24.0km s-min=12.5km az=86.0*

ISC 18 18:15:28.8±0.5,54.˚10S±0.˚08×7.˚6E±0.˚1, h10km, n58, σ1§79/37, mb4.5/10, MS3.9/21, 5C, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNA1	**Neumayer--Stat**	**18.05**	**197**	⇑P		**P**	**18 19 39.7**	**-0.1**
	comp=Z,33nm,0.9s							
TROLL	**Troll, Antarti**	**18.11**	**185**	⇑P		**Pn**	**18 19 40.3**	**+0.1**
	comp=Z,2μm,0.8s							
VNA2	**Neumayer--Watz**	**18.15**	**196**	⇑P		**Pn**	**18 19 39.8**	**-0.7**
	comp=Z,14nm,0.8s,baz=15,slow=14							
SNAA	**Sanae**	**18.21**	**191**	⇑P		**Pn**	**18 19 41.4**	**0.0**
	comp=Z,1μm,0.9s							
SNAA	**Sanae**	**18.21**	**191**	P		**Pn**	**18 19 40.6**	**-0.8**
SNAA				IAmb		IAmb	18 19 44.5	
	comp=Z,70nm,1.0s							
SNAA	**Sanae**	**18.21**	**191**	P		**Pn**	**18 19 41.7**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=12,slow=10,SNR=70							
SNAA				S		Sn	18 22 49.2	-15
	comp=Z,1.1nm,0.4s,baz=185,slow=21,SNR=2.4							
SNAA				LR		LR	18 25 00.1	
	comp=Z,356nm,21.6s,baz=38,slow=31							
	comp=Z,48nm,0.9s							
VNA3	**Neumayer Olymp**	**18.80**	**197**	⇑P		**P**	**18 19 48.2**	**+0.1**
	comp=Z,25nm,0.8s							
HOPE	**Hope Point**	**25.50**	**251**	P		**P**	**18 20 54.6**	**-2.3**
BELA	**Belgrano 2**	**28.11**	**198**	P		**P**	**18 21 20.2**	**0.0**
BELA				IAmb		IAmb	18 21 22.2	
	comp=Z,21nm,1.2s							
BOSA	**Boshof**	**28.53**	**34**	LR		LR	18 30 56.6	
	comp=Z,276nm,19.2s,baz=178,slow=33							
H04S2	**CROZET ISLANDS**	**28.69**	**94**	T		T	18 51 40.9	
	baz=239,slow=75							
H04S3	**CROZET ISLANDS**	**28.69**	**94**	T		T	18 51 38.1	
	baz=239,slow=75							
H04S1	**CROZET ISLANDS**	**28.70**	**94**	T		T	18 51 41.1	
	baz=239,slow=75							
MAW	**Mawson**	**28.94**	**139**	LR		LR	18 31 14.3	
	comp=Z,106nm,19.6s,baz=299,slow=33							
LBTB	**Lobatse**	**31.99**	**32**	LR		LR	18 32 51.4	
	comp=Z,178nm,19.5s,baz=192,slow=33							
TSUM	**Tsumeb**	**35.67**	**16**	LR		LR	18 34 20.7	
	comp=Z,215nm,20.9s,baz=175,slow=32							
PMSA	**Palmer Station**	**35.95**	**224**	LR		LR	18 33 36.1	
	comp=Z,249nm,20.4s,baz=111,slow=30							
QSPA	**South Pole Qui**	**36.13**	**180**	P		**P**	**18 22 31.1**	**+0.3**
QSPA				IAmb		IAmb	18 22 41.5	
	comp=Z,18nm,1.2s							
QSPA	**South Pole Qui**	**36.13**	**180**	P		**P**	**18 22 32.9**	**+2.1**
	comp=Z,4.8nm,0.9s,baz=234,slow=5.2,SNR=14							
QSPA				LR		LR	18 36 25.9	
	comp=Z,157nm,19.8s,baz=240,slow=35							
	comp=Z,4.8nm,0.9s							
SMAI	**San Martin Ant**	**36.16**	**218**	P		**P**	**18 22 31.1**	**+0.4**
PHDHD	**Phduhuduo**	**36.23**	**28**	P		**P**	**18 22 32.6**	**+0.7**
MATP	**Matopo**	**37.20**	**34**	LR		LR	18 35 46.0	
	comp=Z,191nm,21.5s,baz=204,slow=33							
KSANE	**Kasane**	**38.69**	**27**	P		**P**	**18 22 54.4**	**+1.7**
LSZ	**Lusaka**	**41.94**	**30**	LR		LR	18 39 16.6	
	comp=Z,201nm,18.1s,baz=190,slow=34							
CASY	**Casey**	**46.69**	**147**	P		**P**	**18 23 56.6**	**-0.5**
CASY				IAmb		IAmb	18 24 06.1	
	comp=Z,9.2nm,1.2s							
VNDA	**Vanda**	**47.66**	**173**	P		**P**	**18 24 04.8**	**+0.2**
VNDA				IAmb		IAmb	18 24 06.6	
	comp=Z,9.7nm,1.0s							
VNDA	**Vanda**	**47.66**	**173**	P		**P**	**18 24 05.5**	**+0.9**
	comp=Z,6.0nm,0.9s,baz=219,slow=8.0,SNR=30							
VNDA				LR		LR	18 44 09.2	
	comp=Z,183nm,18.2s,baz=195,slow=36							
	comp=Z,6.0nm,0.9s							
SBA	**Scott Base**	**47.68**	**174**	P		**P**	**18 24 06.0**	**+1.3**
SBA				IAmb		IAmb	18 24 07.5	
	comp=Z,10.0nm,1.1s							
PLCA	**Paso Flores**	**51.90**	**251**	P		**P**	**18 24 38.4**	**+1.0**
	comp=Z,4.0nm,1.1s,baz=279,slow=7.9,SNR=3.0							
PLCA				LR		LR	18 43 21.4	
	comp=Z,57nm,21.4s,baz=163,slow=32							
	comp=Z,4.0nm,1.1s							
CPUP	**Villa Florida**	**54.53**	**273**	P		**P**	**18 25 00.2**	**+3.5**
	comp=Z,0.7nm,0.8s,baz=286,slow=6.4,SNR=3.5							
CPUP				LR		LR	18 44 17.0	
	comp=Z,9.7nm,20.4s,baz=3.5,slow=32							
	comp=Z,0.7nm,0.8s							
BDFB	**Brasilia**	**57.54**	**289**	P		**P**	**18 25 21.6**	**+3.0**
	comp=Z,1.8nm,0.4s,baz=266,slow=6.5,SNR=3.3							
	comp=Z,1.8nm,0.4s							
DBIC	**Dimbokro**	**61.45**	**346**	LR		LR	18 45 53.6	
	comp=Z,54nm,19.2s,baz=166,slow=30							
LODK	**Lodwar**	**61.81**	**32**	P		**P**	**18 25 48.0**	**+0.1**
PB05	**IPOC Station P**	**65.10**	**266**	P		**P**	**18 26 04.9**	**-2.5**
PB03	**IPOC Station P**	**65.10**	**266**	P		**P**	**18 26 06.6**	**-3.2**
TORD	**Torodi Ar. Bea**	**67.17**	**354**	P		**P**	**18 26 22.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**67.17**	**354**	P		**P**	**18 26 24.0**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=177,slow=6.1,SNR=6.8							
TORD				LR		LR	18 50 15.0	
	comp=Z,72nm,18.6s,baz=148,slow=31							
	comp=Z,1.4nm,0.7s							
LPAZ	**La Paz**	**68.63**	**272**	P		**P**	**18 26 30.0**	**-2.8**
LPAZ	**La Paz**	**68.63**	**272**	P		**P**	**18 26 35.5**	**+2.6**
	comp=Z,3.9nm,1.1s,baz=124,slow=3.6,SNR=4.1							
LPAZ				LR		LR	18 54 17.2	
	comp=Z,39nm,20.9s,baz=58,slow=34							
	comp=Z,3.9nm,1.1s							
H01W2	**Cape Leeuwin H**	**71.17**	**124**	T		T	19 45 06.5	
	baz=217,slow=75,SNR=15							
H01W3	**Cape Leeuwin H**	**71.18**	**124**	T		T	19 45 27.2	
	baz=217,slow=75,SNR=17							
H01W1	**Cape Leeuwin H**	**71.18**	**124**	T		T	19 45 07.4	
	baz=217,slow=75,SNR=16							
MBO	**M'Bour**	**71.38**	**335**	P		**P**	**18 26 47.9**	**-0.9**
MAL2	**Monte Alegre,**	**72.16**	**292**	P		**P**	**18 26 52.7**	**-1.0**
ATAH	**Atahualpa**	**81.94**	**269**	LR		LR	19 03 47.4	
	comp=Z,24nm,19.4s,baz=128,slow=35							
PALK	**Pallekele**	**86.07**	**72**	LR		LR	18 57 56.1	
	comp=Z,72nm,19.5s,baz=197,slow=30							
EIL	**Elat**	**86.71**	**24**	LR		LR	19 05 59.8	
	comp=Z,65nm,18.8s,baz=180,slow=35							
MDT	**Midelt**	**87.20**	**350**	LR		LR	19 00 33.5	
	comp=Z,30nm,20.7s,baz=230,slow=31							
MD01	**Midelt array s**	**87.27**	**350**	P		**P**	**18 28 12.4**	**-2.8**
ASF	**Jabal al Asfar**	**89.57**	**24**	LR		LR	19 08 11.0	
	comp=Z,80nm,18.8s,baz=224,slow=35							
ASAR	**Alice Springs**	**89.82**	**132**	P		**P**	**18 28 27.0**	**-0.7**
ASAR	**Alice Springs**	**89.82**	**132**	P		**P**	**18 28 28.3**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=209,slow=4.5,SNR=8.6							
	comp=Z,1.5nm,0.9s							
MMAI	**Mount Meron Ar**	**90.03**	**23**	LR		LR	19 09 06.6	
	comp=Z,60nm,18.1s,baz=186,slow=36							
GNI	**Garni**	**99.15**	**28**	LR		LR	19 14 15.6	
	comp=Z,36nm,18.3s,baz=206,slow=36							
BRG	**Berggiesshubel**	**104.74**	**4**	*e*P		**Pdif**	**18 29 32.4**	**-1.8**
BRG				Amp			18 29 33.7	
	comp=Z,12nm,1.6s							
BVAR	**Borovoye Array**	**118.77**	**38**	PKP		**PKiKP**	**18 34 17.0**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=186,slow=5.4,SNR=6.0							
E09A	**Wood Farm, Sta**	**145.31**	**280**			**PKPbc**	**18 35 04.3**	**-1.4**
HON	**Honolulu**	**145.50**	**204**	PKPdf		**PKPbc**	**18 35 02.5**	**-4.4**

IDC 18 18:23:03.3±6.6,6.˚77S×148.˚56E, h108km±49km, mb2.5/1, mbtmp3.0/3, Error ellipse: s-maj=120.7km s-min=54.8km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**2.96**	**208**	P		Pn	18 23 47.6	-1.2
	15nm,0.8s,baz=12,slow=13,SNR=16							
PMG				S		Sn	18 24 25.3	+1.5
	13nm,0.3s,baz=98,slow=23,SNR=5.6							
WRA	**Warramunga Arr**	**19.02**	**225**	P		P	18 27 15.7	-1.3
	0.4nm,0.8s,baz=52,slow=11,SNR=5.9							
ASAR	**Alice Springs**	**21.92**	**218**	P		P	18 27 47.5	-0.6
	0.2nm,0.5s,baz=51,slow=8.7,SNR=12							
	0.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**146.78**	**284**	PKPbc		PKPbc	18 42 34.5	+0.6
	0.3nm,0.4s,baz=92,slow=4.2,SNR=2.0							

*OSPL **18** 18:23:53.4±0.7, 18.˚14N×70.˚65W, h12km±81km, ML2.0*
*SDD **18** 18:23:54.5±1.1, 18.˚07N×70.˚72W, h31km±23km, MD2.9, ML1.9, MW2.5*

ISC 18 18:23:52.5±2.1, 17.˚9N±0.˚1×70.˚60W±0.˚09, h35km, n8, σ2§45/14, 1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BANI	**BANI**	**0.52**	**26**	*e*Pg		**Pn**	**18 24 03.2**	**-0.3**
BANI				*e*Sg		**Sn**	**18 24 11.5**	**+0.4**
BANI				IAML			18 24 12.3	
	comp=E,98nm,0.3s							
BANI				IAML			18 24 12.4	
	comp=N,143nm,0.1s							
PODR	**Polo**	**0.69**	**290**	*e*Pg		**Pn**	**18 24 05.3**	**-0.7**
PODR				IAML			18 24 15.7	
	comp=N,29nm,1.1s							
PODR	**Polo**	**0.69**	**290**	*i* P		**Pn**	**18 24 04.5**	**-1.5**
LOVI	**El Cajuil, Ovi**	**0.75**	**260**	*i* P		**Pn**	**18 24 06.6**	**0.0**
LOVI				*e*S		**Sn**	**18 24 16.6**	**-0.1**
LOVI				IAML			18 24 17.9	
	comp=Z,63nm,0.9s							
ABDR	**Alto Bandera**	**0.88**	**358**	⇓*e*Pg		**Pn**	**18 24 07.7**	**-1.1**
ABDR				*e*Sg		**Sn**	**18 24 18.3**	**-2.2**
ABDR				IAML			18 24 19.7	
	comp=N,34nm,1.1s							
ABDR				IAML			18 24 23.7	
	comp=E,23nm,0.6s							
LOBH	**Bahia de las A**	**1.00**	**266**	*i* P		**Pn**	**18 24 10.8**	**+0.8**
LOBH				*e*S		**Sn**	**18 24 23.6**	**+0.8**
LOBH				IAML			18 24 28.6	
	comp=Z,48nm,1.2s							
LONE3	**El Aguacate, B**	**1.06**	**310**	*i* P		**Pn**	**18 24 09.2**	**-1.8**
LONE3				*e*S		**Sn**	**18 24 20.7**	**-4.0**
LONE3				IAML			18 24 22.5	
	comp=Z,14nm,1.4s							
REDR	**Restauracion**	**1.45**	**329**	*e*Pg		**Pn**	**18 24 20.1**	**+3.9**
REDR				*e*Sg		**Sn**	**18 24 38.6**	**+4.6**
REDR				IAML			18 24 39.0	
	comp=E,28nm,0.2s							
REDR				IAML			18 24 40.8	
	comp=N,45nm,0.1s							

DJA 18 18:29:50.4±0.8,5.˚5S±4.˚×10.˚4E±.˚, h29km±7km, M4.0/14, mB4.8/1, mb4.5/2, MLv3.8/14, Mw(mB)4.0/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LWLI	**Liwa**	**0.61**	**46**	P		Pn	18 30 03.5	+0.2
LWLI				S		Sn	18 30 13.2	+1.0
KASI	**Kota Agung**	**0.88**	**95**	P		Pn	18 30 06.8	0.0
MDSI	**Maura Dua**	**1.11**	**30**	P		Pn	18 30 09.6	-0.4
MNAI	**Manna**	**1.27**	**329**	P		Pn	18 30 11.5	-0.7
KLI	**Kotabumi**	**1.36**	**65**	P		Pn	18 30 13.8	+0.3
LHSI	**Lahat**	**1.61**	**357**	P		Pn	18 30 17.7	+0.7
BLSI	**Bandar Lampung**	**1.62**	**87**	P		Pn	18 30 17.4	+0.4
KSI	**Kapahiang**	**2.06**	**330**	P		Pn	18 30 23.6	+0.5
CGJI	**Cibinong**	**2.36**	**119**	P		Pn	18 30 27.4	+0.1
MASI	**Maura Aman, Be**	**2.67**	**329**	P		Pn	18 30 32.5	+0.9
CNJI	**Cibinong**	**3.95**	**118**	P		Pn	18 30 49.2	+0.2
PPSI	**Pulau Pagai**	**4.48**	**306**	P		Pn	18 30 55.2	-1.2
TPI	**Tanjungpandan**	**4.83**	**57**	P		Pn	18 31 00.9	-0.3
DSRI	**Dabo**	**5.03**	**11**	P		Pn	18 31 03.7	-0.3
	0.1nm928nm26nm,0.7s							
UGM	**Wanagama**	**7.28**	**110**	P		Pn	18 31 36.5	+1.6

*NOU **18** 18:34:59.7, 37.˚90S×176.˚36E, h224km, MLv4.3/13, North Island, New Zealand*
*IDC **18** 18:35:01.4±0.9, 37.˚56S×176.˚46E, h184km±4km, mb3.9/8, mbtmp4.4/8, Error ellipse: s-maj=32.3km s-min=14.7km az=46.0*
*NEIC **18** 18:35:03.5±1.3, 38.˚1S±0.˚1×176.˚2E±0.˚1, h194km±7km, mb4.2/4, Error ellipse: s-maj=19.9km s-min=11.2km az=219.0*
*WEL **18** 18:35:04.5±1.1, 38.˚5S±9.˚×17.˚6E±.˚, h173km±8km, M3.3/22, ML3.4/6, MLv3.3/22, Error ellipse: s-maj=12.7km s-min=8.8km az=23.3, confirmed*

ISC 18 18:35:03.0±0.6, 37.˚90S±0.˚05×176.˚26E±0.˚05, h197km±5km, n105, σ1§49/115, mb4.2/13, 5D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KARZ	**Kaharoa**	**0.12**	**185**	P		**Pn**	**18 35 28.3**	**-0.4**
LIRZ	**Lichensteins R**	**0.14**	**136**	P		**Pn**	**18 35 28.4**	**-0.4**
TGRZ	**Tauranga**	**0.17**	**1**	P		**Pn**	**18 35 28.1**	**-0.8**
NGRZ	**Ngongotaha**	**0.21**	**196**	P		**Pn**	**18 35 28.8**	**-0.1**
TBCS	**Tauranga Boys**	**0.21**	**338**	P		**Pn**	**18 35 28.3**	**-0.6**
OMRZ	**Omania**	**0.22**	**157**	P		**Pn**	**18 35 28.7**	**-0.3**
OPRZ	**Ohinepanea**	**0.24**	**77**	P		**Pn**	**18 35 28.1**	**-0.9**
KMRZ	**Kaimai**	**0.26**	**282**	P		**Pn**	**18 35 28.6**	**-0.4**
KMRZ				S		**Sn**	**18 35 48.2**	**-0.9**
UTU	**Utuhina**	**0.28**	**190**	P		**Pn**	**18 35 29.0**	**0.0**
MKRZ	**Makatiti**	**0.29**	**145**	P		**Pn**	**18 35 29.3**	**+0.1**
MWFS	**Matata Watchor**	**0.33**	**83**	P		**Pn**	**18 35 28.3**	**-0.8**
MARZ	**Manawahe**	**0.34**	**105**	P		**Pn**	**18 35 28.8**	**-0.4**
HLRZ	**Highlands Stat**	**0.36**	**168**	P		**Pn**	**18 35 29.3**	**+0.1**
TARZ	**Mount Tarawera**	**0.39**	**150**	P		**Pn**	**18 35 29.3**	**-0.1**
HSRZ	**Hossack Road**	**0.41**	**182**	P		**Pn**	**18 35 29.4**	**+0.1**
EDRZ	**Edgecumbe**	**0.43**	**119**	P		**Pn**	**18 35 29.1**	**-0.4**
GRRZ	**Galatos Road**	**0.46**	**195**	P		**Pn**	**18 35 29.5**	**0.0**
RRRZ	**Republican Roa**	**0.48**	**155**	P		**Pn**	**18 35 29.4**	**-0.2**
RRRZ				S		**Sn**	**18 35 49.5**	**-0.9**
HRRZ	**Handcock Road**	**0.49**	**178**	P		**Pn**	**18 35 29.7**	**0.0**
WHRZ	**Whale Island**	**0.57**	**86**	P		**Pn**	**18 35 29.5**	**-0.5**
PRRZ	**Plateau Road**	**0.61**	**170**	P		**Pn**	**18 35 29.9**	**-0.2**
MYRZ	**Mayor Island**	**0.62**	**359**	P		**Pn**	**18 35 29.4**	**-0.8**
TOZ	**Tahuroa Road**	**0.62**	**286**			**Pn**	**18 35 29.8**	**-0.4**
TOZ	**Tahuroa Road**	**0.62**	**286**	P		**Pn**	**18 35 29.8**	**-0.4**
TOZ				S		**Sn**	**18 35 50.4**	**-0.7**
WPRZ	**Whakapapatarin**	**0.62**	**187**	P		**Pn**	**18 35 30.3**	**+0.1**
ALRZ	**Allen Road**	**0.66**	**174**	P		**Pn**	**18 35 30.5**	**+0.1**
KUTZ	**Kaahu Road**	**0.68**	**210**	P		**Pn**	**18 35 30.6**	**+0.1**
MUGZ	**Murupara**	**0.70**	**145**	P		**Pn**	**18 35 30.1**	**-0.5**
MUGZ				S		**Sn**	**18 35 50.2**	**-1.9**
TLZ	**Tolley Road**	**0.71**	**233**	P		**Pn**	**18 35 30.7**	**0.0**
TLZ				S		**Sn**	**18 35 51.3**	**-0.9**
URZ	**Urewera**	**0.76**	**118**	LR		LR	18 35 17.3	
	comp=Z,73nm,20.4s,baz=201,slow=18							
URZ				P		**Pn**	**18 35 29.8**	**-1.0**
	2μm,0.5s,baz=253,slow=4.1,SNR=3231							
URZ				S		**Sn**	**18 35 50.0**	**-2.5**
	2μm,0.4s,baz=164,slow=21,SNR=34							
URZ	**Urewera**	**0.76**	**118**	P		**Pn**	**18 35 30.0**	**-0.8**
URZ	**Urewera**	**0.76**	**118**	P		**Pn**	**18 35 29.9**	**-1.0**
URZ				S		**Sn**	**18 35 50.0**	**-2.5**
RTZ	**Ruatahuna**	**0.91**	**142**			**Pn**	**18 35 31.5**	**-0.4**
RTZ				Sn		**Sn**	**18 35 52.8**	**-1.6**
MRHZ	**Matea Rd**	**0.94**	**172**	P		**Pn**	**18 35 31.9**	**-0.1**
MRHZ				S		**Sn**	**18 35 52.4**	**-2.3**
RATZ	**Rangitukua**	**1.04**	**201**	P		**Pn**	**18 35 32.9**	**+0.2**
MTHZ	**Maungataniwha**	**1.05**	**154**	P		**Pn**	**18 35 32.6**	**-0.2**
RAGZ	**Rawiri**	**1.09**	**123**	P		**Pn**	**18 35 32.9**	**-0.2**
MWZ	**Matawai**	**1.09**	**114**	P		**Pn**	**18 35 32.2**	**-0.8**
RITZ	**Rihia Road**	**1.12**	**196**	P		**Pn**	**18 35 33.9**	**+0.6**
RUGZ	**Raukumara Rang**	**1.12**	**94**	P		**Pn**	**18 35 31.5**	**-1.9**
RUGZ				S		**Sn**	**18 35 52.8**	**-4.1**
KATZ	**Kakaramea**	**1.16**	**202**	P		**Pn**	**18 35 34.0**	**+0.3**
MKAZ	**Moumakai**	**1.18**	**312**	P		**Pn**	**18 35 32.7**	**-1.0**
RAHZ	**Arahi**	**1.21**	**148**	P		**Pn**	**18 35 34.1**	**+0.2**
HAZ	**Te Kaha**	**1.22**	**84**	P		**Pn**	**18 35 32.4**	**-1.5**
SNGZ	**Shannon Statio**	**1.22**	**136**	P		**Pn**	**18 35 34.2**	**+0.1**
KUZ	**Kuaotunu**	**1.23**	**339**	P		**Pn**	**18 35 33.0**	**-1.1**
KUZ	**Kuaotunu**	**1.23**	**339**	P		**Pn**	**18 35 33.0**	**-1.1**
HIZ	**Hauiti**	**1.26**	**241**			**Pn**	**18 35 34.5**	**+0.2**
HIZ	**Hauiti**	**1.26**	**241**	P		**Pn**	**18 35 34.6**	**+0.3**
BKZ	**Black Stump Fm**	**1.28**	**172**			**Pn**	**18 35 34.3**	**-0.2**
BKZ	**Black Stump Fm**	**1.28**	**172**	P		**Pn**	**18 35 34.4**	**-0.1**
WIAZ	**Waiheke Island**	**1.42**	**321**	P		**Pn**	**18 35 35.1**	**-0.6**
MXZ	**Matakaoa Point**	**1.66**	**79**			**Pn**	**18 35 36.9**	**-0.9**
MXZ	**Matakaoa Point**	**1.66**	**79**	P		**Pn**	**18 35 37.0**	**-0.8**
KHEZ	**Kahui Hut**	**2.24**	**231**	P		**Pn**	**18 35 44.3**	**+0.5**
BFZ	**Birch Farm**	**2.78**	**180**			**Pn**	**18 35 48.8**	**-0.9**
BFZ	**Birch Farm**	**2.78**	**180**	P		**Pn**	**18 35 48.9**	**-0.8**
MRZ	**Mangatainoka R**	**2.81**	**191**			**Pn**	**18 35 48.9**	**-1.2**
OUZ	**Omahuta**	**3.43**	**320**	P		**Pn**	**18 35 56.9**	**-0.7**
MSWZ	**Moikau Station**	**3.60**	**192**			**Pn**	**18 35 57.3**	**-2.2**
SNZO	**South Karori**	**3.61**	**199**	Pn		**Pn**	**18 35 56.6**	**-3.1**
SNZO	**South Karori**	**3.61**	**199**	P		**Pn**	**18 35 57.6**	**-2.1**
TCW	**Tory Channel**	**3.64**	**204**			**Pn**	**18 35 57.9**	**-2.2**
BHW	**Baring Head**	**3.66**	**197**			**Pn**	**18 35 58.0**	**-2.4**
PLWZ	**Palliser**	**3.75**	**192**			**Pn**	**18 35 58.9**	**-2.5**
TUWZ	**Tuamarina**	**3.95**	**206**			**Pn**	**18 36 01.7**	**-2.2**
NNZ	**Nelson**	**3.99**	**213**			**Pn**	**18 36 02.3**	**-2.1**
TKNZ	**Takaka Hill**	**4.04**	**218**			**Pn**	**18 36 02.8**	**-2.2**
QRZ	**Quartz Range**	**4.11**	**224**	Pn		**Pn**	**18 36 03.9**	**-2.0**
QRZ	**Quartz Range**	**4.11**	**224**	P		**Pn**	**18 36 03.9**	**-2.0**
CMWZ	**Cape Campbell**	**4.15**	**202**			**Pn**	**18 36 04.9**	**-1.6**
BSWZ	**Blackbirch Sta**	**4.23**	**205**			**Pn**	**18 36 05.1**	**-2.3**
KHZ	**Kahutara**	**4.97**	**204**	P		**Pn**	**18 36 14.6**	**-2.1**
DSZ	**Denniston Nort**	**5.15**	**220**	Pn		**Pn**	**18 36 16.6**	**-2.5**
LTZ	**Lake Taylor**	**5.75**	**211**			**Pn**	**18 36 24.1**	**-2.8**
AMCZ	**Amberley**	**5.94**	**206**	Pn		**Pn**	**18 36 26.0**	**-3.3**
MQZ	**McQueen's Vall**	**6.41**	**204**			Pn	18 36 31.1	-4.2
RPZ	**Rata Peaks**	**7.02**	**213**			**Pn**	**18 36 40.5**	**-2.9**
RPZ	**Rata Peaks**	**7.02**	**213**	P		**Pn**	**18 36 40.6**	**-2.8**
	12nm,0.3s,baz=254,slow=1.4,SNR=19							
RPZ				S		Sn	18 37 54.2	-8.9
	86nm,0.4s,baz=34,slow=1.9,SNR=24							
RPZ	**Rata Peaks**	**7.02**	**213**	P		**Pn**	**18 36 40.9**	**-2.5**
ODZ	**Otahua Downs**	**8.29**	**209**	P		**Pn**	**18 36 56.8**	**-3.0**
DZM	**Mont Dzumac**	**17.90**	**329**	P		**Pn**	**18 38 58.3**	**-1.9**
	3.9nm,0.5s,baz=304,slow=23,SNR=8.7							
STKA	**Stephens Creek**	**28.95**	**271**	P		**P**	**18 40 45.8**	**+1.9**
	1.3nm,0.5s,baz=111,slow=8.6,SNR=2.5							
	1.3nm,0.5s							
AS31	**Alice Springs**	**38.72**	**279**	P		**P**	**18 42 08.3**	**+0.2**
AS31				IAmb		IAmb	18 42 09.4	
	comp=Z,3.0nm,0.5s							
ASAR	**Alice Springs**	**38.72**	**279**	P		**P**	**18 42 08.6**	**+0.4**
	comp=Z,4.3nm,0.5s,baz=120,slow=6.9,SNR=124							
ASAR				S		**S**	**18 47 48.1**	**-2.4**
	comp=Z,0.7nm,1.0s,baz=124,slow=15,SNR=3.4							
	comp=Z,4.3nm,0.5s							
VNDA	**Vanda**	**40.20**	**185**	P		**P**	**18 42 22.5**	**+2.9**
	comp=Z,1.4nm,0.7s,baz=0.5,slow=8.2,SNR=14							
	comp=Z,1.4nm,0.7s							
WRA	**Warramunga Arr**	**40.43**	**284**	P		**P**	**18 42 22.5**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=120,slow=8.4,SNR=59							
	comp=Z,3.3nm,0.7s							
WB0	**Warramunga Arr**	**40.49**	**285**	P		**P**	**18 42 22.9**	**+0.1**
WB0				IAmb		IAmb	18 42 24.0	
	comp=Z,9.4nm,1.1s							
QSPA	**South Pole Qui**	**52.22**	**180**	P		**P**	**18 43 57.6**	**+4.0**
	comp=Z,9.2nm,0.4s,baz=353,slow=1.6,SNR=182							
	comp=Z,9.2nm,0.4s							
BELA	**Belgrano 2**	**62.98**	**173**	P		**P**	**18 45 09.0**	**+0.9**
MAW	**Mawson**	**63.60**	**203**	P		**P**	**18 45 12.5**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=96,slow=15,SNR=4.7							
	comp=Z,2.6nm,0.7s							
TROLL	**Troll, Antarti**	**70.30**	**182**	⇓P		**P**	**18 45 55.3**	**+0.7**
	comp=Z,197nm,0.5s							
SNAA	**Sanae**	**70.73**	**180**	⇓P		**P**	**18 45 57.7**	**+0.5**
	comp=Z,80nm,0.8s							
SNAA	**Sanae**	**70.73**	**180**	P		**P**	**18 45 57.4**	**+0.2**
SNAA	**Sanae**	**70.73**	**180**	P		**P**	**18 45 57.3**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=194,slow=14,SNR=6.9							
	comp=Z,1.8nm,0.5s							
VNA3	**Neumayer Olymp**	**71.08**	**178**	⇓P		**P**

NADR					IAML		Sg	19 35 02.5	+0.8
	comp=N,17nm,0.3s								
NADR					eSg		Sg	19 35 02.5	+0.8
SC01	**Santiago de Io**	**0.81**	**260**				**Pb**	**19 35 09.1**	**+0.7**
SC01	**Santiago de Io**	**0.81**	**260**	*i*	P		**Pb**	**19 35 09.2**	**+0.7**
SC01					eS		**Sn**	**19 35 22.6**	**+1.8**
ABDR	**Alto Bandera**	**1.03**	**223**	*e*	Pg		**Pg**	**19 35 11.8**	**-1.2**
ABDR					eSg		**Sb**	**19 35 27.2**	**+1.5**
ABDR					IAML			19 35 32.0	
	comp=N,7μm,0.3s								
LUDR	**Luperon**	**1.06**	**288**	*e*	Pg		**Pn**	**19 35 13.0**	**+0.2**
LUDR					eSg		**Sb**	**19 35 26.8**	**+0.7**
SDD	**Santo Domingo**	**1.10**	**181**				**Pg**	**19 35 11.9**	**-2.4**
SDD					Sn		**Sg**	**19 35 27.6**	**-1.3**
SDD	**Santo Domingo**	**1.10**	**181**	*i*	P		**Pg**	**19 35 12.2**	**-2.2**
SDD					eS		**Sg**	**19 35 27.9**	**-0.9**
MADR	**Mao Valverde**	**1.15**	**270**	*e*	Pg		**Pn**	**19 35 15.3**	**+1.3**
MADR					eSg		**Sn**	**19 35 31.2**	**+1.9**
MADR					IAML			19 35 42.1	
	comp=N,10μm,0.7s								
LOSC1	**San Cristbal**	**1.18**	**190**	*i*	P		**Pg**	**19 35 11.6**	**-4.1**
LOSC1					eS		**Sg**	**19 35 25.6**	**-5.5**
LOSC1					IAML			19 35 32.1	
	comp=Z,7μm,1.0s								
BANI	**BANI**	**1.25**	**201**				**Pg**	**19 35 15.0**	**-2.2**
BANI					Sn		**Sg**	**19 35 33.0**	**-0.6**
BANI	**BANI**	**1.25**	**201**	*e*	Pg		**Pg**	**19 35 15.4**	**-1.8**
BANI					eSg		**Sb**	**19 35 33.5**	**+1.6**
BANI					IAML			19 35 35.5	
	comp=N,14μm,0.2s								
LOPP1	**Punta Rusia, P**	**1.27**	**283**	*i*	P		**Pn**	**19 35 16.5**	**+0.8**
LOPP1					eS		**Sn**	**19 35 35.7**	**+3.5**
LOPP1					IAML			19 35 45.1	
	comp=Z,3μm,0.5s								
BAN1	**Bani Escuela**	**1.35**	**198**	*e*	Pg		**Pb**	**19 35 18.0**	**+0.4**
BAN1					eSg		**Sn**	**19 35 37.1**	**+2.9**
BAN1					IAML			19 35 38.3	
	comp=N,6μm,0.4s								
SDDR	**Presa de Saban**	**1.45**	**246**				**Pn**	**19 35 18.4**	**+0.2**
SDDR	**Presa de Saban**	**1.45**	**246**	*e*	P		**Pn**	**19 35 18.9**	**+0.7**
SDDR					eS		**Sg**	**19 35 37.8**	**-2.0**
SDDR	**Presa de Saban**	**1.45**	**246**	*i*	P		**Pn**	**19 35 19.0**	**+0.8**
SDDR					eS		**Sn**	**19 35 39.7**	**+2.9**
SDDR					IAML			19 35 47.0	
	comp=Z,2μm,1.1s								
HIDR	**Higuey Centro**	**1.47**	**131**	*e*	Pg		**Pn**	**19 35 18.3**	**-0.2**
HIDR					eSg		**Sn**	**19 35 39.6**	**+2.4**
HIDR					IAML			19 35 42.9	
	comp=N,11μm,0.7s								
MCDR	**Montecristi**	**1.70**	**281**	*e*	Pg		**Pb**	**19 35 22.9**	**-0.7**
MCDR					eSg		**Sg**	**19 35 47.8**	**-0.1**
MCDR					IAML			19 35 48.3	
	comp=N,7μm,1.2s								
LODA1	**ITESIL, Dajabo**	**1.72**	**270**	*e*	Pg		**Pb**	**19 35 23.3**	**-0.6**
LODA1					eSg		**Sg**	**19 35 47.2**	**-1.1**
LODA1					IAML			19 35 52.7	
	comp=N,9μm,0.8s								
LODA1	**ITESIL, Dajabo**	**1.72**	**270**	*i*	P		**Pb**	**19 35 23.3**	**-0.6**
LODA1					eS		**Sb**	**19 35 46.9**	**+1.8**
LODA1					IAML			19 35 47.7	
	comp=Z,5μm,0.6s								
LONE3	**El Aguacate, B**	**1.77**	**237**	*i*	P		**Pb**	**19 35 25.1**	**+0.2**
LONE3					IAML			19 35 53.5	
	comp=Z,2μm,1.0s								
BRH1	**Barahona**	**1.77**	**220**	*e*	Pg		**Pg**	**19 35 27.5**	**+0.5**
BRH1					eSg		**Sg**	**19 35 52.3**	**+2.1**
NEDR	**Neiba UASD**	**1.81**	**234**	*e*	Pg		**Pg**	**19 35 26.6**	**-1.1**
NEDR					eSg		**Sg**	**19 35 53.1**	**+1.9**
NEDR					IAML			19 35 56.0	
	comp=N,2μm,0.3s								
PODR	**Polo**	**1.92**	**224**	*i*	P		**Pb**	**19 35 27.4**	**-0.1**
LODU1	**El Espartillar**	**1.93**	**231**	*i*	P		**Pb**	**19 35 28.4**	**+0.9**
LODU1					IAML			19 35 56.8	
	comp=Z,5μm,0.9s								
JIDR	**Jimani**	**2.15**	**240**	*e*	Pg		**Pb**	**19 35 30.9**	**-0.3**
JIDR					eSg		**Sg**	**19 36 01.7**	**-0.3**
JIDR					IAML			19 36 04.1	
	comp=N,4μm,0.8s								
LOVI	**El Cajuil, Ovi**	**2.25**	**219**	*i*	P		**Pb**	**19 35 32.8**	**-0.3**
LOVI					IAML			19 36 09.1	
	comp=Z,2μm,0.9s								
GRTK	**Grand Turk**	**2.26**	**329**				**Pn**	**19 35 29.5**	**+0.2**
GRTK					Sn		**Sn**	**19 35 58.8**	**+2.1**
GRTK	**Grand Turk**	**2.26**	**329**	*e*	P		**Pn**	**19 35 29.4**	**+0.1**
GRTK					eS		**Sn**	**19 35 57.4**	**+0.7**
GRTK	**Grand Turk**	**2.26**	**329**	*e*	Pg		**Pn**	**19 35 29.5**	**+0.2**
GRTK					eSg		**Sb**	**19 36 00.5**	**-0.2**
GRTK					IAML			19 36 01.1	
	comp=N,4μm,0.2s								
GRTK	**Grand Turk**	**2.26**	**329**	*i*	P		**Pn**	**19 35 29.9**	**+0.6**
GRTK					eS		**Sn**	**19 35 57.6**	**+0.9**
GRTK					IAML			19 36 04.2	
	comp=Z,2μm,0.7s								
LOBH	**Bahia de las A**	**2.38**	**225**	*i*	P		**Pb**	**19 35 35.2**	**0.0**
LOBH					IAML			19 36 12.0	
	comp=Z,1μm,1.1s								
PAPH	**Port-au-Prince**	**2.51**	**246**	*e*	P		**Pn**	**19 35 35.6**	**+2.9**
PAPH					eS		**Sb**	**19 36 08.4**	**+0.4**
PAPH	**Port-au-Prince**	**2.51**	**246**	*i*	P		**Pn**	**19 35 35.7**	**+2.9**
AGPR	**Aguadilla, PR**	**2.84**	**112**	*i*	P		**Pn**	**19 35 38.1**	**+0.8**
AGPR					IAML			19 36 26.5	
	comp=Z,1μm,0.2s								
PRSN	**Puerto Rico Se**	**2.92**	**117**				**Pn**	**19 35 39.7**	**+1.3**
CRPR	**Cabo Rojo, PR**	**3.05**	**120**				**Pn**	**19 35 41.6**	**+1.4**
CRPR	**Cabo Rojo, PR**	**3.05**	**120**	*i*	P		**Pn**	**19 35 42.0**	**+1.7**
CRPR					IAML			19 36 34.1	
	comp=Z,860nm,0.8s								
AOPR	**Arecibo Observ**	**3.20**	**112**				**Pn**	**19 35 44.5**	**+2.2**
UUPR	**Utuado, UPR, P**	**3.27**	**113**				**Pn**	**19 35 43.9**	**+0.7**
EMPR	**Esperanza - Ma**	**3.35**	**108**				**Pn**	**19 35 44.5**	**+0.1**
OBIP	**Obispado Ponce**	**3.46**	**116**				**Pn**	**19 35 47.3**	**+1.5**
CELP	**Cerrillos**	**3.46**	**115**				**Pn**	**19 35 47.1**	**+1.2**
GCPR	**Guaynabo City**	**3.81**	**109**				**Pn**	**19 35 52.1**	**+1.5**
SJG	**San Juan**	**3.82**	**112**				**Pn**	**19 35 49.9**	**-0.9**
SJG	**San Juan**	**3.82**	**112**		Pn		**Pn**	**19 35 49.3**	**-1.5**
	comp=Z,16nm,0.3s,baz=331,slow=9.7,SNR=19								
SJG					Sn		**Sn**	**19 36 34.1**	**-1.2**
	comp=Z,77nm,0.3s,baz=117,slow=23,SNR=13								
SJG					LR		LR	19 37 31.3	
	comp=Z,288nm,20.6s,baz=280,slow=42								
	comp=Z,14nm,0.3s								
PDPR	**Patillas Dam,**	**3.97**	**112**				**Pn**	**19 35 53.1**	**+0.2**
HUMP	**Col San Antoni**	**4.08**	**110**				**Pn**	**19 35 54.2**	**-0.1**
MASC	**Masc**	**4.13**	**279**	*e*	P		**Pn**	**19 35 53.5**	**-1.5**
MASC	**Masc**	**4.13**	**279**	*i*	P		**Pn**	**19 35 53.6**	**-1.5**
MASC					IAML			19 37 02.1	
	comp=Z,230nm,0.8s								
QMBU	**Quimbuelo**	**4.68**	**279**	*e*	P		**Pn**	**19 36 00.6**	**-2.1**
NMDO	**Nuevo Mundo**	**4.89**	**282**				**Pn**	**19 36 03.0**	**-2.5**
NMDO	**Nuevo Mundo**	**4.89**	**282**	*e*	P		**Pn**	**19 36 03.3**	**-2.2**
NMDO					eP		**Sn**	**19 37 01.9**	**+0.2**
GTBY	**Guantanamo Bay**	**4.94**	**275**				**Pn**	**19 36 04.1**	**-2.0**
GTBY	**Guantanamo Bay**	**4.94**	**275**	*e*	P		**Pn**	**19 36 04.2**	**-1.9**
GTBY	**Guantanamo Bay**	**4.94**	**275**	*i*	P		**Pn**	**19 36 05.1**	**-1.0**
RCC	**Rio Carpintero**	**5.49**	**275**	*e*	P		**Pn**	**19 36 11.3**	**-2.4**
PINC	**Pinares de May**	**5.63**	**280**	*e*	P		**Pn**	**19 36 11.6**	**-4.0**
PINC					eP		**Sn**	**19 37 17.3**	**-2.5**
MARVS	**Santiago de Cu**	**5.68**	**275**	*e*	P		**Pn**	**19 36 13.5**	**-2.9**
MARVS					eS		**Sn**	**19 37 19.0**	**-2.1**
HLGC	**Holguin**	**5.95**	**284**	*e*	P		**Pn**	**19 36 18.8**	**-1.3**
LMGC	**Las Mercedes**	**6.72**	**275**	*e*	P		**Pn**	**19 36 28.3**	**-2.3**
MTDJ	**Mount Denham**	**7.36**	**261**		Pn		**Pn**	**19 36 38.6**	**-1.0**
MTDJ	**Mount Denham**	**7.36**	**261**	*e*	P		**Pn**	**19 36 40.1**	**+0.5**
GDHS	**Morne Mazeau,**	**8.39**	**112**		Pn		**Pn**	**19 36 53.9**	**+0.2**
CBE	**Ff, Capester**	**8.62**	**113**		Pn		**Pn**	**19 36 56.5**	**-0.2**
BIM	**Bigot**	**9.81**	**119**		Pn		**Pn**	**19 37 12.9**	**-0.2**
PCRV	**Puerto La Cruz**	**10.62**	**151**		Pn		**Pn**	**19 37 26.4**	**+2.2**
	comp=Z,2.2nm,0.3s,baz=303,slow=6.1,SNR=11								
PCRV					Sn		**Sn**	**19 39 18.4**	**-4.4**
	comp=Z,1.4nm,0.3s,baz=302,slow=14,SNR=1.2								
PCRV					LR		LR	19 41 31.1	
	comp=Z,70nm,18.2s,slow=38								
	comp=Z,23nm,0.7s								
SDV	**Santo Domingo**	**10.64**	**184**				**Pn**	**19 37 24.3**	**-0.5**
SDV	**Santo Domingo**	**10.64**	**184**		Pn		**Pn**	**19 37 25.6**	**+0.9**
	comp=Z,3.5nm,0.3s,baz=7.5,slow=7.5,SNR=5.7								
SDV					Sn		**Sn**	**19 39 20.6**	**-3.0**
	comp=Z,2.2nm,0.3s,baz=17,slow=20,SNR=1.8								
SDV					LR		LR	19 41 55.4	
	comp=Z,300nm,18.7s,baz=64,slow=40								
	comp=Z,9.6nm,0.3s								
BAUV	**El Baul**	**10.71**	**170**				**Pn**	**19 37 27.4**	**+1.9**
BAUV	**El Baul**	**10.71**	**170**	*e*	P		**Pn**	**19 37 28.9**	**+3.4**
BAUV	**El Baul**	**10.71**	**170**	*e*	S		**Sn**	**19 39 20.1**	**-4.8**
TRN	**Trinidad (W)**	**12.07**	**136**	*e*	P		**Pn**	19 37 49.2	+5.2
RUSC	**La Rusia**	**13.95**	**193**				**Pn**	**19 38 10.8**	**+0.7**
ROSC	**El Rosal**	**15.27**	**197**		Pn		**Pn**	**19 38 27.1**	**-0.9**
	comp=Z,3.1nm,0.3s,baz=129,slow=17,SNR=1.9								
ROSC					LR		LR	19 44 19.8	
	comp=Z,100nm,18.8s,baz=70,slow=37								
	comp=Z,8.9nm,0.3s								
JTS	**Las Juntas de**	**17.22**	**240**		P		**Pn**	**19 38 52.9**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=47,slow=11,SNR=5.7								
JTS					LR		LR	19 45 50.5	
	comp=Z,107nm,18.1s,baz=34,slow=38								
	comp=Z,4.4nm,0.4s								
TEIG	**Tepich**	**17.31**	**275**		Pn		**Pn**	**19 38 50.5**	**-3.2**
MGAN	**Managua**	**17.38**	**247**		Pn		**Pn**	**19 38 51.9**	**-2.6**
PETF	**Flores**	**19.16**	**265**		P		**P**	**19 39 15.7**	**+0.3**
PETF					IAmb		IAmb	19 39 20.7	
	comp=Z,9.4nm,0.4s								
T57A	**Hurt**	**19.20**	**337**		P		**P**	**19 39 15.3**	**-0.5**
T57A					IAmb		IAmb	19 39 23.3	
	comp=Z,14nm,0.6s								
BOAV	**Boa Vista**	**19.37**	**151**				**P**	**19 39 16.6**	**-1.1**
TKL	**Tuckaleechee C**	**20.17**	**325**		S		**S**	**19 43 07.6**	**-4.5**
	comp=Z,9.2nm,0.6s,baz=243,slow=19,SNR=5.2								
TKL					LR		LR	19 46 28.2	
	comp=Z,54nm,20.2s,baz=52,slow=35								
CCIG	**Comitan**	**21.42**	**265**		P		**P**	**19 39 39.0**	**-1.1**
CCIG					IAmb		IAmb	19 39 45.1	
	comp=Z,11nm,0.8s								
TXAR	**Lajitas Array**	**32.15**	**294**		P		**P**	**19 41 20.0**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=115,slow=11,SNR=6.5								
	comp=Z,0.7nm,0.8s								
VHRN	**Van Horn**	**33.54**	**296**				**P**	**19 41 33.3**	**+1.4**
VHRN					IAmb		IAmb	19 41 46.5	
	comp=Z,4.9nm,1.0s								
SCHQ	**Schefferville**	**35.28**	**3**		P		**P**	**19 41 47.0**	**+0.6**
	comp=Z,56nm,1.0s,baz=217,slow=15,SNR=2.3								
SCHQ					LR		LR	19 54 54.7	
	comp=Z,636nm,19.9s,baz=128,slow=34								
LPAZ	**La Paz**	**35.67**	**177**		P		**P**	**19 41 52.5**	**+1.6**
	comp=Z,1.3nm,0.7s,baz=353,slow=5.0,SNR=4.6								
LPAZ					LR		LR	19 57 16.9	
	comp=Z,49nm,19.1s,baz=0.5,slow=38								
	comp=Z,1.3nm,0.7s								
ANMO	**Albuquerque**	**35.71**	**303**		LR		LR	19 57 51.2	
	comp=Z,71nm,20.8s,baz=232,slow=39								
SIV	**San Ignacio**	**36.38**	**166**		P		**P**	**19 41 58.6**	**+2.3**
	comp=Z,1.2nm,0.6s,baz=351,slow=13,SNR=4.0								
	comp=Z,1.2nm,0.6s								
ULM	**Lac du Bonnet**	**36.93**	**332**		LR		LR	19 57 24.0	
	comp=Z,49nm,18.1s,baz=74,slow=37								
PDAR	**Pinedale Array**	**40.56**	**314**		P		**P**	**19 42 32.7**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=143,slow=8.9,SNR=2.1								
	comp=Z,0.2nm,0.5s								
NVAR	**Mina Array Bea**	**45.77**	**305**		P		**P**	**19 43 14.3**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=92,slow=8.9,SNR=4.8								
	comp=Z,0.7nm,0.6s								
SFJD	**Kangerlussuaq**	**49.00**	**10**		LR		LR	20 03 35.9	
	comp=Z,51nm,18.3s,baz=170,slow=35								
YKA	**Yellowknife Ar**	**52.70**	**336**		LR		LR	20 06 11.4	
	comp=Z,44nm,20.2s,baz=336,slow=36								
BORG	**Borgarnes**	**55.36**	**23**		LR		LR	20 04 21.7	
	comp=Z,53nm,20.3s,baz=203,slow=32								
ESDC	**Sonseca Array**	**59.43**	**55**		P		**P**	**19 44 55.7**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=279,slow=6.8,SNR=17								
ESDC					LR		LR	20 05 23.7	
	comp=Z,50nm,21.4s,baz=261,slow=31								
	comp=Z,1.3nm,0.6s								
EKA	**Eskdalemuir Ar**	**60.91**	**37**		P		**P**	**19 45 04.7**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=286,slow=6.8,SNR=3.5								
	comp=Z,1.0nm,0.7s								
DBIC	**Dimbokro**	**64.29**	**92**		P		**P**	**19 45 27.1**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=288,slow=3.2,SNR=3.9								
	comp=Z,2.5nm,0.8s								
ILAR	**Eielson Array**	**66.94**	**333**		P		**P**	**19 45 45.2**	**+1.2**
	comp=Z,0.5nm,1.0s,baz=81,slow=5.5,SNR=2.1								
	comp=Z,0.5nm,1.0s								
TORD	**Torodi Ar. Bea**	**68.56**	**83**		P		**P**	**19 45 55.3**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=304,slow=7.9,SNR=5.5								
	comp=Z,1.2nm,0.9s								
NOA	**NORSAR Array B**	**68.79**	**31**		P		**P**	**19 45 56.1**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=274,slow=6.6,SNR=4.3								
NOA					LR		LR	20 12 30.5	
	comp=Z,22nm,19.2s,baz=280,slow=33								
	comp=Z,1.1nm,0.8s								
DAVOX	**Davos/Dischmat**	**69.08**	**46**		LR		LR	20 14 04.3	
	comp=Z,41nm,18.6s,baz=270,slow=34								
GERES	**GERESS Array B**	**71.36**	**44**		P		**P**	**19 46 12.0**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=310,slow=2.9,SNR=3.8								
	comp=Z,0.2nm,0.4s								
VRAC	**Vranov**	**73.16**	**43**		LR		LR	20 14 32.4	
	comp=Z,47nm,20.1s,baz=291,slow=33								
ARCES	**ARCESS Array B**	**73.71**	**21**		P		**P**	**19 46 26.8**	**+1.5**
	comp=Z,3.2nm,0.9s,baz=294,slow=3.9,SNR=8.8								
	comp=Z,3.2nm,0.9s								
FINES	**FINESS Array B**	**75.82**	**30**		P		**P**	**19 46 38.1**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=240,slow=6.4,SNR=7.0								
	comp=Z,2.0nm,0.6s								
MLR	**Muntele Rosu**	**80.25**	**45**		LR		LR	20 19 39.9	
	comp=Z,25nm,18.0s,baz=310,slow=34								
SEY	**Seymchan**	**91.33**	**342**		LR		LR	20 30 38.8	
	comp=Z,29nm,21.1s,baz=74,slow=37								
GNI	**Garni**	**95.01**	**44**		LR		LR	20 31 28.6	
	comp=Z,9.1nm,18.5s,baz=14,slow=36								
ASAR	**Alice Springs**	**157.52**	**255**		PKPab		**PKPab**	**19 55 20.6**	**0.0**
	comp=Z,0.7nm,0.8s,baz=97,slow=4.3,SNR=6.0								

*JMA **18** 19:47:32.7±0.2,23°.9N±0°.8×123°.4E±0°.4, h25km±2km, MV2.6/7, NEAR ISHIGAKIJIMA ISLAND*
ISC 18 19:47:32.8±1.3,**23°.88N**±0°.08×**123°.41E**±0°.04,**h27**km±13km, **n12**,σ**0°.63**/**18**,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.40**	**65**	P		**Pb**	**19 47 41.4**	**-0.2**
HATJ				*e*S		**Sb**	**19 47 47.0**	**0.0**
IRIF	**Iriomote-Funau**	**0.54**	**33**	*e*P		**Pb**	**19 47 43.4**	**-0.4**
IRIF				*e*S		**Sb**	**19 47 51.6**	**+0.4**
JKRS	**Kuro-shima**	**0.65**	**57**	*e*P		**Pb**	**19 47 45.8**	**0.0**
JKRS				*e*S		**Sb**	**19 47 54.9**	**+0.4**
YOJ	**Yonaguni jima**	**0.68**	**328**	P		**Pb**	**19 47 45.9**	**-0.2**
YOJ	**Yonaguni jima**	**0.68**	**328**	*e*P		**Pb**	**19 47 45.7**	**-0.4**
YOJ				*e*S		**Sb**	**19 47 55.1**	**-0.1**
JIJ	**Ishigaki jima**	**0.82**	**54**	*e*P		**Pb**	**19 47 48.3**	**-0.3**
JIJ				*e*S		**Sb**	**19 47 59.6**	**+0.3**
JISG	**Ishigakijimahi**	**1.08**	**49**	*e*P		**Pn**	**19 47 52.1**	**-0.1**
JISG				*e*S		**Sn**	**19 48 05.8**	**-0.5**
NACB	**Ninganchiao**	**1.68**	**280**	P		**Pn**	**19 48 00.7**	**+0.3**
YULB	**Yu-li**	**2.00**	**256**	P		**Pn**	**19 48 03.9**	**-0.9**
YHNB	**Yeheng**	**2.01**	**293**	P		**Pn**	**19 48 06.0**	**+0.9**
SSLB	**Suanglung**	**2.25**	**268**	P		**Pb**	**19 48 12.2**	**-0.6**
TPUB	**Ta-pu**	**2.61**	**258**	P		**Pn**	**19 48 14.8**	**+1.5**

*IDC **18** 19:48:18.9±0.8, 14°.83S×173°.66W, h0km, mb3.8/7, mbtmp3.8/7, MS3.7/4, Error ellipse: s-maj=37.3km s-min=23.4km az=127.0*
*NEIC **18** 19:48:20.8±1.8, 15°.11S±0°.08×173°.40W±0°.06, h10km±1km, mb4.4/9, Error ellipse: s-maj=14.7km s-min=8.0km az=23.0*
ISC 18 19:48:22.9±0.7,**15°.03S**±0°.10×**173°.4W**±0°.1,**h30**km,**n25**, σ**1°55**/**22**,**mb3.9**/**8**,**MS3.6**/**4**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**1.89**	**54**			**Pn**	**19 48 54.0**	**+0.7**
AFI					Sn	**Sn**	**19 49 13.8**	**-2.4**
NIUE	**Niue**	**5.19**	**141**		Pn	**Pn**	**19 49 37.8**	**-0.8**
URZ	**Urewera**	**24.62**	**198**		LR	LR	20 01 39.5	
	comp=Z,160nm,18.2s,baz=186,slow=32							
QRZ	**Quartz Range**	**28.48**	**203**		P	**P**	**19 54 15.0**	**-0.5**
THZ	**Tophouse**	**29.17**	**201**		P	**P**	**19 54 21.0**	**-0.6**
GVZ	**Greta Valley S**	**30.19**	**200**		P	**P**	**19 54 29.2**	**-1.4**
LTZ	**Lake Taylor**	**30.29**	**201**		P	**P**	**19 54 30.1**	**-1.3**
WR8	**Warramunga Arr**	**49.82**	**256**		P	**P**	**19 57 13.3**	**-0.2**
WR8					IAmb	IAmb	19 57 51.8	
	comp=Z,8.4nm,1.4s							
WB0	**Warramunga Arr**	**49.93**	**257**		P	**P**	**19 57 13.7**	**-0.7**
WRA	**Warramunga Arr**	**49.97**	**256**		P	**P**	**19 57 13.1**	**-1.6**
	comp=Z,0.9nm,1.0s,baz=91,slow=6.9,SNR=5.2							
	comp=Z,0.9nm,1.0s							
AS31	**Alice Springs**	**50.26**	**252**		P	**P**	**19 57 15.3**	**-1.6**
ASAR	**Alice Springs**	**50.27**	**252**		P	**P**	**19 57 13.7**	**-3.2**
ASAR	**Alice Springs**	**50.27**	**252**		P	**P**	**19 57 15.4**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=90,slow=7.6,SNR=26							
	comp=Z,1.6nm,0.7s							
VNDA	**Vanda**	**63.74**	**186**		P	**P**	**19 58 52.8**	**+1.3**
VNDA					IAmb	IAmb	19 58 54.2	
	comp=Z,1.6nm,1.0s							
VNDA	**Vanda**	**63.74**	**186**		P	**P**	**19 58 53.0**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=23,slow=6.5,SNR=6.3							
	comp=Z,0.8nm,0.8s							
PFO	**Pinyon Flats O**	**72.64**	**47**		LR	LR	20 22 56.0	
	comp=Z,32nm,19.9s,baz=164,slow=29							
NVAR	**Mina Array Bea**	**74.03**	**42**		P	**P**	**19 59 56.5**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=243,slow=4.7,SNR=4.2							
	comp=Z,0.7nm,0.7s							
KDAK	**Kodiak Island**	**74.55**	**11**		LR	LR	20 24 58.3	
	comp=Z,33nm,19.6s,baz=164,slow=30							
QSPA	**South Pole Qui**	**75.01**	**180**		P	**P**	**20 00 03.5**	**+2.1**
QSPA					IAmb	IAmb	20 00 04.9	
	comp=Z,7.6nm,1.2s							
QSPA	**South Pole Qui**	**75.01**	**180**		P	**P**	**20 00 03.8**	**+2.4**
	comp=Z,2.2nm,0.8s,baz=27,slow=2.1,SNR=6.6							
	comp=Z,2.2nm,0.8s							
PDAR	**Pinedale Array**	**81.97**	**42**		P	**P**	**20 00 41.6**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=262,slow=5.8,SNR=2.6							
	comp=Z,0.4nm,0.7s							
ILAR	**Eielson Array**	**82.08**	**11**		P	**P**	**20 00 39.3**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=206,slow=5.2,SNR=2.7							
	comp=Z,0.5nm,0.8s							
CFA	**Coronel Fontan**	**94.62**	**124**		LR	LR	20 36 45.5	
	comp=Z,66nm,21.5s,baz=165,slow=31							
GERES	**GERESS Array B**	**145.78**	**352**		PKPbc	**PKPab**	**20 07 59.9**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=347,slow=3.0,SNR=1.9							
BRTR	**Keskin Array B**	**145.90**	**321**		PKPbc	**PKPab**	**20 08 00.4**	**0.0**
	comp=Z,0.9nm,0.8s,baz=32,slow=4.9,SNR=2.2							

*IDC **18** 20:24:02.5±6.9, 36°.09N×71°.37E, h66km±62km, mb3.3/6, mbtmp3.6/11, ML3.1/5, Error ellipse: s-maj=50.4km s-min=23.8km az=25.0*
*NNC **18** 20:24:11.7±7.5, 36°.98N×71°.59E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=60.6km s-min=47.0km az=154.0*
ISC 18 20:24:08.2±1.1,**36°.50N**±0°.10×**71°.5E**±0°.1,**h114**km,**n21**, σ**1°49**/**24**,**mb3.2**/**4**,**3C**,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UCH	**Uchtor**	**6.17**	**21**	P		**Pn**	**20 25 38.1**	**+0.9**
	SNR=9.8							
EKS2	**Erkin-Say**	**6.40**	**15**	P		**Pn**	**20 25 40.4**	**+0.4**
	SNR=13							
AAK	**Ala-Archa**	**6.55**	**20**	P		**Pn**	**20 25 43.5**	**+1.4**
	SNR=5.2							
AAK	**Ala-Arch

SONM	**Songino Array**	**26.25 321**	P	**P**	**20 49 50.6**	**0.0**
	comp=E,0.2nm,0.4s,baz=136,slow=10,SNR=1.7					
SONM			LR	LR	21 01 16.6	
	comp=E,125nm,18.2s,baz=177,slow=39					
	comp=E,0.2nm,0.4s					
CMAR	**Chiang Mai Arr**	**30.83 257**	LR	LR	21 04 53.8	
	comp=E,42nm,18.2s,baz=85,slow=40					
YAK	**Yakutsk**	**32.68 359**	LR	LR	21 03 43.9	
	comp=E,49nm,19.7s,baz=174,slow=36					
MA2	**Magadan**	**33.18 19**	LR	LR	21 05 25.6	
	comp=E,34nm,18.4s,baz=197,slow=39					
MKAR	**Makanchi Array**	**41.13 309**	P	**P**	**20 51 59.8**	**+0.5**
	comp=E,0.7nm,0.7s,baz=87,slow=11,SNR=8.0					
	comp=E,0.7nm,0.7s					
ZALV	**Zalesovo Beam**	**41.13 320**	P	**P**	**20 51 57.2**	**-1.9**
	comp=E,0.3nm,0.3s,baz=112,slow=9.5,SNR=2.1					
ZALV			LR	LR	21 11 16.3	
	comp=E,56nm,21.0s,baz=64,slow=40					
	comp=E,0.3nm,0.3s					
TIXI	**Tiksi**	**42.35 359**	LR	LR	21 11 09.6	
	comp=E,50nm,18.4s,baz=200,slow=38					
KURBB	**Kurchatov Arra**	**44.13 314**	P	**P**	**20 52 23.6**	**+0.1**
	comp=E,0.6nm,0.3s,baz=96,slow=9.4,SNR=18					
	comp=E,0.6nm,0.3s					
WRA	**Warramunga Arr**	**49.15 175**	P	**P**	**20 53 03.5**	**+0.4**
	comp=E,0.3nm,0.7s,baz=355,slow=7.8,SNR=2.2					
	comp=E,0.3nm,0.7s					
BVAR	**Borovoye Array**	**49.41 316**	P	**P**	**20 53 05.0**	**+0.2**
	comp=E,0.9nm,0.4s,baz=85,slow=8.7,SNR=9.7					
BVAR			LR	LR	21 15 18.4	
	comp=E,60nm,18.2s,baz=86,slow=38					
	comp=E,0.9nm,0.4s					
ASAR	**Alice Springs**	**52.82 176**	P	**P**	**20 53 32.4**	**+1.8**
	comp=E,0.3nm,0.8s,baz=350,slow=6.2,SNR=6.5					
	comp=E,0.3nm,0.8s					
ARTI	**Arti**	**56.38 321**	LR	LR	21 20 51.3	
	comp=E,67nm,19.7s,baz=86,slow=39					
AKTO	**Aktyubinsk**	**57.18 313**	LR	LR	21 20 33.1	
	comp=E,99nm,18.2s,baz=223,slow=38					
ARCES	**ARCESS Array B**	**67.87 338**	LR	LR	21 29 34.6	
	comp=E,68nm,19.5s,baz=70,slow=40					
KBZ	**Khabaz**	**68.82 309**	LR	LR	21 28 13.5	
	comp=E,33nm,20.7s,baz=87,slow=38					
FINES	**FINESS Array B**	**71.18 331**	P	**P**	**20 55 33.2**	**-0.3**
	comp=E,0.5nm,0.4s,baz=66,slow=7.2,SNR=7.5					
FINES			LR	LR	21 30 08.0	
	comp=E,53nm,19.8s,baz=56,slow=39					
	comp=E,0.5nm,0.4s					
AKASG	**Malin Array Be**	**74.52 320**	LR	LR	21 31 40.3	
	comp=E,65nm,18.4s,baz=51,slow=38					
BRTR	**Keskin Array B**	**76.77 308**	P	**P**	**20 56 06.8**	**+0.1**
	comp=E,1.1nm,1.0s,baz=134,slow=3.6,SNR=3.8					
	comp=E,1.1nm,1.0s					
NOA	**NORSAR Array B**	**77.43 334**	LR	LR	21 35 11.9	
	comp=E,24nm,18.6s,baz=295,slow=40					
MMAI	**Mount Meron Ar**	**78.58 301**	LR	LR	21 36 25.9	
	comp=E,17nm,19.7s,baz=135,slow=40					
VRAC	**Vranov**	**82.17 323**	LR	LR	21 37 00.6	
	comp=E,68nm,18.2s,baz=42,slow=39					
DAVOX	**Davos/Dischmat**	**87.26 324**	LR	LR	21 37 36.2	
	comp=E,37nm,18.1s,baz=61,slow=37					

*IDC **18** 20:53:59.6±7.0, 18.04S×174.89W, h116km±59km, mb4.2/12, mbtmp4.6/13, Error ellipse: s-maj=25.4km s-min=16.0km az=74.0*
*NOU **18** 20:54:06.8, 17.86S×174.49W, h222km, mb4.6/32, Tonga Islands*
*NEIC **18** 20:54:06.4±2.4, 18.31S±0.10×174.91W±0.09, h175km±7km, mb4.8/32, Error ellipse: s-maj=15.2km s-min=11.5km az=213.0*

ISC 18 20:54:07.3±0.4, 18.23S±0.08×174.75W±0.06, h200km, n134, σ1°64/117, mb4.7/35, 1C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.65**	**101**		**Pn**	**20 55 16.9**	**-0.4**
NIUE				Sn	**Sn**	**20 56 06.5**	**-5.9**
NIUE	**Niue**	**4.65**	**101**	P	**Pn**	**20 55 16.7**	**-0.6**
NIUE	**Niue**	**4.65**	**101**	S	**Sn**	**20 56 09.7**	**-2.7**
FUTU	**Fugatoga**	**5.07**	**320**	Pn	**Pn**	**20 55 21.8**	**-0.8**
AFI	**Afiamalu**	**5.16**	**34**	Pn	Pn	20 55 18.9	-5.0
AFI				Sn	Sn	20 56 12.9	-11
AFI	**Afiamalu**	**5.16**	**34**	P	Pn	20 55 20.0	-3.9
AFI	**Afiamalu**	**5.16**	**34**	S	Sn	20 56 13.7	-11
MSVF	**Nonsavu**	**6.87**	**273**		**Pn**	**20 55 46.0**	**0.0**
MSVF	**Nonsavu**	**6.87**	**273**	P	**Pn**	**20 55 47.8**	**+1.8**
PINNC	**Pines Island,**	**17.25**	**252**	P	**P**	**20 57 51.9**	**-3.1**
YATNC	**Mamie plateau,**	**17.65**	**254**	P	**Pn**	**20 58 00.7**	**-0.7**
OUENC	**Ouen Island, N**	**17.76**	**253**	P	**Pn**	**20 58 03.6**	**+1.0**
DZM	**Mont Dzumac**	**18.07**	**255**		**Pn**	**20 58 03.4**	**-2.9**
DZM	**Mont Dzumac**	**18.07**	**255**	P	**Pn**	**20 58 02.6**	**-3.8**
	15nm,1.0s,baz=73,slow=21,SNR=11						
DZM	**Mont Dzumac**	**18.07**	**255**	P	**Pn**	**20 58 06.0**	**-0.3**
ONTNC	**Ouen Toro**	**18.09**	**254**	P	**Pn**	**20 58 02.9**	**-3.6**
OUZ	**Onahuta**	**19.84**	**209**	P	**Pn**	**20 58 26.2**	**-1.0**
MXZ	**Matakaoa Point**	**20.20**	**196**	P	Pn	20 58 27.3	-4.3
MXZ	**Matakaoa Point**	**20.20**	**196**	P	Pn	20 58 29.4	-2.2
KUZ	**Kuaotunu**	**20.27**	**203**	P	Pn	20 58 30.1	-2.3
URZ	**Urewera**	**21.19**	**198**	P	**P**	**20 58 37.5**	**+0.3**
	16nm,0.3s,baz=289,slow=1.9,SNR=32						
URZ				S	**S**	**21 02 19.9**	**-0.6**
	5.6nm,0.7s,baz=15,slow=18,SNR=2.3						
	16nm,0.3s						
URZ	**Urewera**	**21.19**	**198**	P	**P**	**20 58 37.7**	**+0.4**
TOZ	**Tahuroa Road**	**21.23**	**202**	P	**P**	**20 58 37.5**	**-0.2**
BKZ	**Black Stump Fm**	**22.21**	**198**		**P**	**20 58 45.2**	**-2.4**
BFZ	**Birch Farm**	**25.68**	**197**	P	**P**	**20 59 01.6**	**+0.8**
MRZ	**Mangatainoka R**	**23.86**	**198**	P	**P**	**20 59 02.1**	**-0.3**
MRZ				IAmb	IAmb	20 59 40.4	
	comp=Z,77nm,1.9s						
TCW	**Tory Channel**	**24.77**	**200**	P	**P**	**20 59 10.8**	**+0.1**
PLWZ	**Palliser**	**24.79**	**198**	P	**P**	**20 59 10.0**	**-0.9**
QRZ	**Quartz Range**	**25.04**	**203**	P	**P**	**20 59 13.4**	**+0.3**
QRZ				IAmb	IAmb	20 59 31.7	
	comp=Z,55nm,1.3s						
QRZ	**Quartz Range**	**25.04**	**203**	P	**P**	**20 59 15.9**	**+2.8**
TKNZ	**Takaka Hill**	**25.06**	**202**	P	**P**	**20 59 12.6**	**-0.8**
TUWZ	**Tuamarina**	**25.07**	**200**	P	**P**	**20 59 12.4**	**-0.9**
NNZ	**Nelson**	**25.08**	**199**	P	**P**	**20 59 12.8**	**-0.6**
BSWZ	**Blackbirch Sta**	**25.35**	**200**	P	**P**	**20 59 14.0**	**-1.9**
MRNZ	**Matariki Terra**	**25.46**	**202**	P	**P**	**20 59 16.9**	**0.0**
THZ	**Tophouse**	**25.72**	**202**	P	**P**	**20 59 17.6**	**-1.7**
THZ				IAmb	IAmb	20 59 25.2	
	comp=Z,18nm,0.9s						
KHZ	**Kahutara**	**26.09**	**200**	P	**P**	**20 59 23.4**	**+0.9**
KHZ	**Kahutara**	**26.09**	**200**	P	**P**	**20 59 23.7**	**+1.2**
INZ	**Inchbonnie**	**27.09**	**203**	P	**P**	**20 59 30.9**	**-0.6**
OXZ	**Oxford**	**27.40**	**201**	P	**P**	**20 59 33.8**	**-0.5**
OXZ				IAmb	IAmb	20 59 42.0	
	comp=Z,31nm,1.0s						
JCZ	**Jackson Bay**	**29.25**	**205**	P	**P**	**20 59 51.7**	**+0.9**
EIDS	**Eidsvold**	**32.45**	**251**		**P**	**21 00 17.9**	**-1.0**
EIDS				IAmb	IAmb	21 00 18.8	
	comp=Z,12nm,0.9s						
ARMA	**Armidale**	**32.83**	**242**	P	**P**	**21 00 22.4**	**+0.1**
CTAO	**Charters Tower**	**36.83**	**261**		**P**	**21 00 55.1**	**-1.5**
CTAO	**Charters Tower**	**36.83**	**261**	P	**P**	**21 00 57.7**	**+1.2**
CMSA	**Cobar Meteorol**	**38.05**	**242**	P	**P**	**21 01 06.1**	**-0.5**
QLP	**Quilpie**	**38.69**	**250**	P	**P**	**21 01 11.5**	**-0.5**
COEN	**Coen**	**40.59**	**270**	P	**P**	**21 01 27.4**	**-0.5**
COEN				IAmb	IAmb	21 01 32.5	
	comp=Z,47nm,1.6s						
STKA	**Stephens Creek**	**41.55**	**242**		**P**	**21 01 35.1**	**-0.4**
STKA	**Stephens Creek**	**41.55**	**242**	P	**P**	**21 01 35.1**	**-0.4**
	comp=Z,8.1nm,0.7s,baz=91,slow=11,SNR=22						
	comp=Z,8.1nm,0.7s						
STKA	**Stephens Creek**	**41.55**	**242**	P	**P**	**21 01 35.2**	**-0.3**
QIS	**Mount Isa**	**43.01**	**259**	P	**P**	**21 01 48.5**	**+1.0**
BBOO	**Buckleboo**	**46.31**	**242**		**P**	**21 02 11.7**	**-1.6**
BBOO				IAmb	IAmb	21 02 13.4	
	comp=Z,30nm,0.8s						
BBOO	**Buckleboo**	**46.31**	**242**	P	**P**	**21 02 12.8**	**-0.5**
WR8	**Warramunga Arr**	**47.84**	**259**		**P**	**21 02 23.8**	**-1.6**
WB0	**Warramunga Arr**	**47.97**	**260**		**P**	**21 02 25.4**	**-0.9**
WB0				IAmb	IAmb	21 02 26.1	
	comp=Z,19nm,0.5s						
WRAB	**Tennant Creek**	**47.99**	**259**		**P**	**21 02 24.8**	**-1.6**
WRAB				IAmb	IAmb	21 02 25.9	
	comp=Z,13nm,0.5s						
WB1	**Warramunga Ar.**	**47.99**	**259**	P	**P**	**21 02 25.2**	**-1.3**
WRA	**Warramunga Arr**	**48.00**	**259**		**P**	**21 02 24.8**	**-1.8**
WRA	**Warramunga Arr**	**48.00**	**259**	P	**P**	**21 02 25.5**	**-1.1**
	comp=Z,13nm,0.5s,baz=97,slow=7.0,SNR=330						
	comp=Z,13nm,0.5s						
AS31	**Alice Springs**	**48.05**	**254**	IAmb	IAmb	21 02 27.2	
	comp=Z,19nm,0.7s						
ASAR	**Alice Springs**	**48.06**	**254**		**P**	**21 02 25.9**	**-1.1**
ASAR	**Alice Springs**	**48.06**	**254**	P	**P**	**21 02 26.1**	**-0.8**
	comp=Z,81nm,0.6s,baz=90,slow=8.2,SNR=1058						
KDU	**Kakadu**	**51.03**	**268**	P	**P**	**21 02 48.7**	**-0.7**
MTN	**Manton Dam**	**52.27**	**268**	IAmb	IAmb	21 02 58.3	
	comp=Z,17nm,0.8s						
MTN	**Manton Dam**	**52.27**	**268**	P	**P**	**21 02 57.5**	**-1.1**
KNRA	**Kununurra**	**53.92**	**264**	IAmb	IAmb	21 03 11.0	
	comp=Z,22nm,0.8s						
FITZ	**Fitzroy Crossi**	**56.41**	**260**	P	**P**	**21 03 28.0**	**-0.4**
SBA	**Scott Base**	**60.35**	**184**	P	P	21 03 57.9	+3.2
SBA	**Scott Base**	**60.35**	**184**	P	P	21 03 58.4	+3.7
VNDA	**Vanda**	**60.45**	**186**	P	**P**	**21 03 54.4**	**-1.0**
VNDA	**Vanda**	**60.45**	**186**	P	**P**	**21 03 58.2**	**+2.8**
	comp=Z,2.2nm,0.9s,baz=11,slow=7.2,SNR=14						
	comp=Z,2.2nm,0.9s						
VNDA	**Vanda**	**60.45**	**186**	P	P	21 03 58.7	+3.3
PSA00	**Pilbara Seismi**	**61.19**	**255**	P	**P**	**21 03 59.9**	**-1.5**
PSA00				IAmb	IAmb	21 04 01.8	
	comp=Z,20nm,0.9s						
PSA00	**Pilbara Seismi**	**61.19**	**255**		**P**	**21 03 59.5**	**-1.8**
PSA00				IAmb	IAmb	21 04 01.0	
	comp=Z,7.8nm,1.0s						
MEEK	**Meekatharra**	**61.58**	**249**	P	**P**	**21 04 03.1**	**-0.8**
KLBR	**Kellerberrin**	**61.80**	**243**	P	**P**	**21 04 05.1**	**-0.2**
BLDU	**Ballidu**	**62.79**	**244**	P	**P**	**21 04 11.2**	**-0.7**
MUN	**Mundaring**	**63.08**	**243**	P	**P**	**21 04 13.4**	**-0.4**
CCD	**Concordia, Ant**	**65.42**	**195**	P	**P**	**21 04 30.8**	**+2.1**
CCD				PcP	**PcP**	**21 05 00.5**	**+1.5**
PLAI	**Plampang**	**65.97**	**268**	P	**P**	**21 04 32.3**	**-0.4**
JAGI	**Jajag, Banyuwa**	**69.51**	**268**	P	**P**	**21 04 53.0**	**-1.9**
JAGI	**Jajag, Banyuwa**	**69.51**	**268**	P	**P**	**21 04 53.5**	**-1.4**
MJAR	**Matsushiro Art**	**70.28**	**321**	P	**P**	**21 04 59.2**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=162,slow=6.2,SNR=9.6						
	comp=Z,3.4nm,0.8s						
QSPA	**South Pole Qui**	**71.83**	**180**		P	21 05 12.0	+3.9
QSPA				IAmb	IAmb	21 05 13.5	
	comp=Z,12nm,0.8s						
QSPA	**South Pole Qui**	**71.83**	**180**	P	P	21 05 12.2	+4.1
	comp=Z,9.2nm,0.7s,baz=24,slow=1.0,SNR=55						
	comp=Z,9.2nm,0.7s						
QSPA	**South Pole Qui**	**71.83**	**180**	P	P	21 05 12.9	+4.7
PETK	**Petropavlovsk-**	**74.93**	**343**	P	**P**	**21 05 26.9**	**+0.8**
	comp=Z,3.5nm,0.8s,baz=117,slow=8.5,SNR=6.1						
	comp=Z,3.5nm,0.8s						
KSM	**Kuching**	**76.18**	**276**	IAmb	IAmb	21 05 35.8	
	comp=Z,16nm,0.8s						
KSRS	**Korea Array**	**77.29**	**317**	P	**P**	**21 05 41.5**	**+1.8**
	comp=Z,1.7nm,0.4s,baz=147,slow=6.3,SNR=6.2						
	comp=Z,1.7nm,0.4s						
NJ2	**Nanjing**	**80.85**	**308**	*e*P	**P**	**21 05 58.3**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,23nm,0.5s						
BELA	**Belgrano 2**	**81.39**	**172**		**P**	**21 06 02.9**	**+1.5**
TXAR	**Lajitas Array**	**83.25**	**56**	P	**P**	**21 06 12.4**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=252,slow=4.5,SNR=1.7						
MAW	**Mawson**	**84.72**	**199**	P	**P**	**21 06 19.9**	**+1.5**
	comp=Z,4.8nm,0.7s,baz=139,slow=5.8,SNR=13						
	comp=Z,4.8nm,0.7s						
H03S2	**Juan Fernandez**	**84.72**	**124**	T	T	22 39 45.4	
	baz=249,slow=75,SNR=12						
H03S1	**Juan Fernandez**	**84.73**	**124**	T	T	22 39 41.7	
	baz=249,slow=75,SNR=14						
H03S3	**Juan Fernandez**	**84.74**	**124**	T	T	22 39 40.1	
	baz=249,slow=75,SNR=15						
H03N2	**Juan Fernandez**	**84.84**	**123**	T	T	22 39 45.3	
	baz=257,slow=71,SNR=9.9						
H03N3	**Juan Fernandez**	**84.84**	**123**	T	T	22 39 38.2	
	baz=257,slow=71,SNR=7.3						
H03N1	**Juan Fernandez**	**84.86**	**123**	T	T	22 39 46.1	
	baz=257,slow=71,SNR=8.9						
ILAR	**Eielson Array**	**85.45**	**12**	P	**P**	**21 06 22.7**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=223,slow=5.6,SNR=13						
	comp=Z,0.9nm,0.5s						
RPSI	**Rantau Prapat**	**87.34**	**274**	IAmb	IAmb	21 06 33.8	
	comp=Z,12nm,0.7s						
XAN	**Xi'an**	**89.24**	**306**	⇓P	**P**	**21 06 41.3**	**+0.4**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.6s						
TROLL	**Troll, Antarti**	**89.97**	**179**	⇓P	**P**	**21 06 45.5**	**+1.7**
	comp=Z,151nm,0.6s						
HHC	**Hu-ho-hao-te**	**90.00**	**313**	*e*P	**P**	**21 06 44.3**	**-0.1**
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,68nm,3.6s						
SNAA	**Sanae**	**90.16**	**177**	⇓P	**P**	**21 06 46.0**	**+1.4**
	comp=Z,42nm,0.8s						
SNAA	**Sanae**	**90.16**	**177**	P	**P**	**21 06 46.4**	**+1.8**
	comp=Z,1.9nm,0.8s,baz=259,slow=1.2,SNR=6.8						
	comp=Z,1.9nm,0.8s						
VNA3	**Neumayer Olymp**	**90.17**	**175**	⇓P	**P**	**21 06 46.2**	**+1.6**
	comp=Z,5.1nm,0.6s						
VNA2	**Neumayer--Watz**	**90.65**	**176**	⇑P	**P**	**21 06 48.7**	**+1.9**
	comp=Z,8.4nm,0.6s,baz=180,slow=3.8						
VNA1	**Neumayer--Stat**	**90.86**	**176**	⇓P	**P**	**21 06 49.8**	**+2.1**
	comp=Z,6.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**92.28**	**289**	P	**P**	**21 06 56.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**92.28**	**289**	P	**P**	**21 06 57.5**	**+2.2**
	comp=Z,1.0nm,0.8s,baz=114,slow=2.8,SNR=9.5						
	comp=Z,1.0nm,0.8s						
PZH	**PanZhiHua**	**92.39**	**297**	P	**P**	**21 06 55.6**	**-0.2**
MKAR	**Makanchi Array**	**111.86**	**314**	PKiKP	**PKiKP**	**21 12 18.6**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=157,slow=1.5,SNR=6.5						
BVAR	**Borovoye Array**	**119.28**	**321**	PKP	**PKiKP**	**21 12 33.3**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=45,slow=2.3,SNR=5.2						
FINES	**FINESS Array B**	**134.38**	**346**	PKP	**PKiKP**	**21 13 02.5**	**0.0**
	comp=Z,6.3nm,1.2s,baz=48,slow=2.1,SNR=4.1						
CLL	**Collm**	**146.42**	**351**	*e*PKPdf	**PKPbc**	**21 13 24.0**	**-0.6**
CLL				*i* PKPbc	**PKiKP**	**21 13 25.9**	**-1.5**
	comp=Z,9.0nm,0.8s						
BRG	**Berggiesshubel**	**146.70**	**350**	*e*PKP	**PKiKP**	**21 13 27.3**	**-0.6**
BRG				Amp		21 13 27.7	
	comp=Z,5.5nm,1.0s						
BRG	**Berggiesshubel**	**146.70**	**350**	P	**PKiKP**	**21 13 34.0**	**+6.0**
BRG				Amp		21 13 34.4	
	comp=Z,3.1nm,1.1s						
MORC	**Moravsky Berou**	**147.01**	**345**	*e*PKP	**PKiKP**	**21 13 27.7**	**-1.0**
BRTR	**Keskin Array B**	**147.43**	**317**	PKPbc	**PKiKP**	**21 13 29.1**	**-0.9**
	comp=Z,4.1nm,0.8s,baz=120,slow=3.2,SNR=16						
VRAC	**Vranov**	**147.67**	**346**	*e*PKP	**PKiKP**	**21 13 29.1**	**-0.9**
JAVC	**Velka Javorina**	**147.82**	**345**	*e*PKP	**PKPab**	**21 13 30.8**	**-0.8**
KRUC	**Moravsky**	**147.94**	**346**	*e*PKP	**PKiKP**	**21 13 30.3**	**-0.3**
GERES	**GERESS Array B**	**148.70**	**349**	PKPbc	**PKiKP**	**21 13 32.1**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=35,slow=4.9,SNR=7.7						
CONA	**Conrad Observa**	**149.13**	**346**	*e*PKP	**PKiKP**	**21 13 34.2**	**+1.0**
	comp=Z,1.3nm,0.6s						
MMAI	**Mount Meron Ar**	**149.21**	**304**	PKPbc	**PKPab**	**21 13 35.0**	**-2.9**
	comp=Z,5.1nm,0.7s,baz=81,slow=5.4,SNR=8.3						
MMAI				PKPab	**PKiKP**	**21 13 39.9**	**+6.1**
	comp=Z,3.9nm,0.8s,baz=45,slow=2.5,SNR=5.3						
RONA	**Rosalia, Austr**	**149.24**	**345**	*e*PKP	**PKiKP**	**21 13 34.2**	**+0.8**
	comp=Z,1.1nm,0.5s						
WATA	**Walderalm**	**150.51**	**351**	*i* PKP	**PKiKP**	**21 13 36.8**	**+0.6**
	comp=Z,1.0nm,0.4s						
WTTA	**Wattenberg**	**150.57**	**351**	*i* PKP	**PKiKP**	**21 13 37.1**	**+0.8**
	comp=Z,4.2nm,0.6s						
SQTA	**Sankt Quirin**	**150.67**	**352**	*e*PKP	**PKiKP**	**21 13 37.4**	**+1.0**
	comp=Z,2.6nm,0.6s						
FETA	**Feichten**	**150.93**	**352**	*e*PKP	**PKiKP**	**21 13 38.0**	**+1.0**
	comp=Z,1.6nm,0.6s						
ABTA	**Abfaltersbach**	**150.93**	**350**	*i* PKP	**PKiKP**	**21 13 37.3**	**+0.4**
	comp=Z,2.0nm,0.5s						
ESDC	**Sonseca Array**	**157.18**	**19**	PKP	**PKPdf**	**21 13 40.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=332,slow=2.0,SNR=1.5						
ESDC				PKPab	**PKPab**	**21 14 12.8**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=338,slow=7.5,SNR=4.3						

IDC 18 21:04:18.1±2.0, 1.48N×126.75E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=188.3km s-min=23.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.55**	**161**	P	P	21 09 20.7	+0.6
	0.4nm,0.4s,baz=340,slow=11,SNR=7.1						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**25.95**	**165**	P	P	21 09 51.7	-0.8
	0.3nm,0.8s,baz=349,slow=8.7,SNR=2.3						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**59.41**	**326**	P	P	21 14 22.4	-0.2
	0.3nm,0.5s,baz=117,slow=7.9,SNR=5.8						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**63.64**	**328**	P	P	21 14 51.4	+0.4
	0.3nm,0.4s,baz=116,slow=6.2,SNR=1.7						
	0.3nm,0.4s						

IDC 18 21:30:12.1±46.0, 18.92S×173.45W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=875.9km s-min=172.6km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.33**	**243**	P	P	21 38 08.1	+0.2
	0.7nm,0.4s,baz=92,slow=11,SNR=4.7						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**49.06**	**255**	P	P	21 39 01.1	-0.3
	3.1nm,0.7s,baz=98,slow=7.5,SNR=49						
	3.1nm,0.7s						
WRA	**Warramunga Arr**	**49.08**	**260**	P	P	21 39 01.4	-0.2
	0.8nm,0.3s,baz=97,slow=7.2,SNR=51						
	0.8nm,0.3s						

*NEIC **18** 21:45:05.3±1.1, 35.92N±0.01×120.46W±0.02, h10km±2km, Error ellipse: s-maj=2.1km s-min=1.9km az=51.0*

NCEDC 18 21:45:05.3±1.0, 35.93N±0.01×120.47W±0.02, h9km±2km, ML3.1/32, ML2.7/47(NEIC), Error ellipse: s-maj=2.1km s-min=2.0km az=62.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVCM	**Vineyard Canyo**	**0.05**	**262**		Pg	21 45 07.5	+0.2
PKD	**Bear Valley Ra**	**0.06**	**287**		Pg	21 45 07.5	+0.1
PKD					Sg	21 45 09.0	+0.2
PHFM	**Heflinger Ranc**	**0.07**	**129**		Pg	21 45 07.9	+0.4
CTM	**Castle Mountai**	**0.11**	**88**		Pg	21 45 09.1	+1.0
PHAM	**Harlan Ranch**	**0.11**	**146**		Pg	21 45 08.5	+0.5
PWKM	**Work Ranch**	**0.12**	**195**		Pg	21 45 08.7	+0.6
PHPM	**Hope Ranch**	**0.12**	**296**		Pg	21 45 08.4	+0.3
PPO	**Portuguese Can**	**0.13**	**242**		Pg	21 45 09.0	+0.6
PSMM	**Smith Mountain**	**0.17**	**325**		Pg	21 45 09.9	+0.9
PKLM	**Kerr Lake**	**0.19**	**145**		Pg	21 45 09.9	+0.6
PMRM	**Maxey Ranch**	**0.24**	**127**		Pg	21 45 10.7	+0.4
TCHL	**Shandon**	**0.25**	**166**		Pg	21 45 11.1	+0.8
PAGB	**Antelope Grade**	**0.27**	**137**		Pg	21 45 11.2	+0.4
PPTM	**Peach Tree Val**	**0.27**	**312**		Pg	21 45 11.2	+0.5
THIS	**South End of C**	**0.28**	**136**		Pg	21 45 11.5	+0.5
TRAM	**Private Proper**	**0.30**	**147**		Pg	21 45 11.8	+0.5
TRAM	**Private Proper**	**0.30**	**147**	IAML		21 45 20.9	
	comp=N,3μm,0.5s						
TCAS	**Cass Winery, P**	**0.33**	**192**		Pg	21 45 12.3	+0.5
LCUV	**Le Cuvier**	**0.35**	**217**		Pg	21 45 12.3	+0.1
PSAM	**San Ardo**	**0.35**	**286**		Pg	21 45 12.5	+0.2
PANM	**San Antonio Re**	**0.38**	**247**		Pg	21 45 13.0	+0.1
PMPB	**Monarch Peak**	**0.39**	**317**		Pg	21 45 13.4	+0.4
PMPB				IAML		21 45 24.0	
	comp=E,990nm,0.6s						
PMPB				IAML		21 45 25.0	
	comp=N,639nm,0.8s						
TSCN	**Private Proper**	**0.40**	**165**		Pg	21 45 13.7	+0.6
RAMR	**Ramage Ranch**	**0.43**	**228**		Pg	21 45 14.0	+0.2
RAMR				Sg	Sg	21 45 20.1	+0.6
TRAY	**Twisselman Ran**	**0.47**	**143**		Pg	21 45 14.8	+0.3
PBPM	**Bitterwater Pu**	**0.47**	**137**		Pg	21 45 15.2	+0.6
PTAM	**Tassajara Cree**	**0.57**	**200**		Pg	21 45 16.4	+0.1
PCCM	**Crazy Canyon**	**0.58**	**286**		Pg	21 45 16.7	+0.1
HULI	**Fort Hunter Li**	**0.62**	**279**		Pg	21 45 17.3	-0.1
HULI				Sg	Sb	21

WRA	**Warramunga Arr**	**44.13**	**266**	P	P	21 56 59.8	-0.4
	0.2nm,0.4s,baz=102,slow=7.8,SNR=4.8						
	0.2nm,0.4s						
VNDA	**Vanda**	**54.47**	**185**	P	P	21 58 18.2	-0.2
	0.4nm,0.5s,baz=0.0,slow=4.0,SNR=8.9						
	0.4nm,0.5s						
HFS	**Hagfors**	**142.92**	**350**	PKP	PKPdf	22 08 23.6	-1.1
	4.1nm,1.1s,baz=28,slow=3.4,SNR=7.1						
BRTR	**Keskin Array B**	**148.99**	**308**	PKPbc	PKPbc	22 08 39.7	-0.2
	0.2nm,0.5s,baz=23,slow=7.8,SNR=1.3						

SDD ***18*** *21:51:12.4±1.0, 19.21N×73.08W, h15km±8km, MD2.9, ML2.5, MW3.0*
OSPL ***18*** *21:51:18.5±1.7, 19.13N×72.72W, h0km±17km, ML2.5*
ISC 18 21:51:15.8±1.5, 19°21′N±0′06×72°76′W±0′08, h2km±16km, n15, σ1s09/18, 2C-1D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAPH	**Port-au-Prince**	**0.81**	**147**	*i* P	**Pg**	**21 51 30.7**	**-0.7**
PAPH				*e*S	**Sg**	**21 51 41.8**	**0.0**
JIDR	**Jimani**	**1.11**	**130**	*e*Pg	**Pb**	**21 51 36.6**	**-1.3**
JIDR				⇑*e*Sg	**Sg**	**21 51 53.4**	**+1.7**
JIDR				IAML		21 51 54.1	
	comp=N,99nm,0.3s						
JIDR				IAML		21 51 54.8	
	comp=E,122nm,0.3s						
MCDR	**Montecristi**	**1.24**	**56**	*e*Pg	**Pn**	**21 51 38.4**	**-1.8**
MCDR				*e*Sg	**Sb**	**21 51 58.0**	**+1.5**
MCDR				IAML		21 52 01.2	
	comp=N,91nm,0.1s						
MCDR				IAML		21 52 01.6	
	comp=E,48nm,0.2s						
REDR	**Restauracion**	**1.29**	**92**	*e*Pg	Pn	21 51 35.5	-5.4
REDR				*i* S	Sn	21 51 49.9	-8.9
REDR				IAML		21 51 51.7	
	comp=E,156nm,0.1s						
REDR				IAML		21 51 51.9	
	comp=N,176nm,0.1s						
LONE3	**El Aguacate, B**	**1.37**	**116**	*i* P	**Pn**	**21 51 41.5**	**-0.6**
SDDR	**Presa de Saban**	**1.41**	**99**	*e*Pg	**Pn**	**21 51 42.4**	**-0.2**
SDDR				IAML		21 52 03.0	
	comp=E,24nm,0.5s						
SDDR				IAML		21 52 07.6	
	comp=N,31nm,0.3s						
SDDR	**Presa de Saban**	**1.41**	**99**	*i* P	**Pn**	**21 51 42.0**	**-0.6**
SDDR				*e*S	**Sn**	**21 52 01.8**	**+0.1**
SDDR				IAML		21 52 05.2	
	comp=Z,21nm,0.2s						
LODU1	**El Espartillar**	**1.48**	**125**	*i* P	**Pn**	**21 51 43.0**	**-0.5**
LODU1				IAML		21 52 08.3	
	comp=Z,53nm,0.8s						
MASC	**Masc**	**1.69**	**305**	*i* P	**Pg**	**21 51 48.7**	**+0.5**
LOBH	**Bahia de las A**	**1.71**	**141**	*i* P	**Pn**	**21 51 46.3**	**-0.3**
LOBH				IAML		21 52 10.8	
	comp=Z,62nm,1.0s						
PODR	**Polo**	**1.74**	**126**	*e*Pg	**Pn**	**21 51 46.9**	**-0.4**
PODR				⇑*e*Sg	**Sb**	**21 52 12.4**	**+1.4**
PODR				IAML		21 52 16.9	
	comp=N,22nm,1.6s						
PODR				IAML		21 52 21.3	
	comp=E,33nm,0.3s						
PODR	**Polo**	**1.74**	**126**	*i* P	**Pn**	**21 51 46.9**	**-0.3**
LOVI	**El Cajuil, Ovi**	**1.92**	**137**	*i* P	**Pn**	**21 51 50.2**	**+0.6**
LOVI				IAML		21 52 16.3	
	comp=E,66nm,1.4s						
ABDR	**Alto Bandera**	**2.05**	**101**	*e*Pg	**Pn**	**21 51 53.2**	**+1.5**
ABDR				IAML		21 52 27.3	
	comp=E,19nm,0.2s						
GTBY	**Guantanamo Bay**	**2.33**	**288**	*e*Pg	Pn	21 51 47.3	-8.0

HEL ***18*** *22:08:20.8±0.6, 67.79N×20.31E, h0km, ML1.2, Suspected explosion*
UPP 18 22:08:18.3±0.3, 67.79N×20.31E, h0km, ML1.8, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.16**	**3**	P	Pg	22 08 21.5	+0.1
KUA				S	Sg	22 08 23.8	+0.3
RATU	**Laukkuluspa**	**0.28**	**277**	P	Pg	22 08 23.7	+0.2
RATU				S	Sg	22 08 27.2	+0.1
KOVU	**Salmi**	**0.44**	**353**	P	Pg	22 08 26.9	+0.3
KOVU				S	Sg	22 08 32.1	-0.2
NIKU	**Nikkaluokta**	**0.49**	**279**	P	Pg	22 08 27.6	-0.1
NIKU				S	Sg	22 08 34.5	+0.5
LANU	**Lannavaara**	**0.69**	**67**	PG	Pb	22 08 32.9	-0.2
LANU				SG	Sg	22 08 41.7	+1.4
PAJU	**Pajala**	**1.33**	**124**	PG	Pn	22 08 45.1	+1.0
	baz=304						
PAJU				SN	Sn	22 09 04.7	+2.2
HEF	**Hetta**	**1.40**	**62**	*e*P	Pn	22 08 42.5	-2.5
HEF	**Hetta**	**1.40**	**62**	PG	Pb	22 08 45.9	+0.7
HEF				MSG		22 09 03.0	
	comp=Z,1.4nm,0.2s						
HEF				SB	Sn	22 09 05.5	+1.3
ERTU	**Ertsjaerv**	**1.44**	**149**	PN	Pb	22 08 48.2	+2.2
	baz=327						
ERTU				SN	Sn	22 09 08.5	+3.3
KTK1	**Kautokeino**	**1.63**	**40**	*e*P	Pb	22 08 49.2	-0.1
KTK1	**Kautokeino**	**1.63**	**40**	PG	Sg	22 08 50.1	+0.5
KTK1				SN	Sg	22 09 13.1	+2.4
TRO	**Tromso**	**1.92**	**345**	SB	Sb	22 09 18.3	-0.2
KALU	**Kalix**	**2.29**	**147**	PG	Pb	22 09 00.6	+0.3
KALU				SG	Sg	22 09 32.0	+0.4
TOF	**Tornio**	**2.34**	**136**	PG	Pb	22 09 02.1	+0.9
TOF				MSG		22 09 29.7	
	comp=Z,1.1nm,0.2s						
ARA0	**ARCESS Array S**	**2.58**	**45**	PN	Pb	22 09 05.0	-0.5
ARA0				SB	Sb	22 09 38.0	+0.3
RAJF	**Raja-Jooseppi**	**3.07**	**73**	PG	Pg	22 09 17.5	+0.4
RAJF				SG	Sb	22 09 53.6	+2.0

HEL ***18*** *22:08:51.8±0.2, 67.80N×34.04E, h0km, ML1.2, Explosion*
KOLA 18 22:08:50.7, 67.69N×34.14E, h0km, ML1.4, Error ellipse: s-maj=3.1km s-min=1.6km az=130.0, Khibiny Mines, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.28**	**43**	P	Pg	22 08 56.0	0.0
LVZ				S	Sg	22 09 00.0	+0.2
LVZ	**Lovozero**	**0.28**	**43**	PG	Pg	22 08 56.3	+0.2
LVZ				SG	Sg	22 09 00.0	+0.2
APA	**Apatity**	**0.31**	**246**	P	Pg	22 08 56.4	-0.2
APA				S	Sg	22 09 00.8	+0.3
APA0	**Apatity Array**	**0.45**	**259**	P	Pg	22 09 08.9	-0.3
APA0				S	Sg	22 09 05.1	+0.1
KVDA	**Kovda**	**1.12**	**207**	P	Pg	22 09 10.8	-1.4
KVDA				S	Sg	22 09 25.4	-1.2
VRF	**Varrio**	**1.73**	**274**	PB	Pn	22 09 22.1	+0.1
VRF	**Varrio**	**1.73**	**274**	PG	Pn	22 09 22.1	+0.1
VRF				MSG		22 09 42.1	
	comp=Z,2.0nm,0.2s						
VRF				SN	Sn	22 09 44.4	-0.3
OLKF	**Oulanka, Finla**	**2.32**	**236**	SN	Sb	22 10 01.9	-0.5
OLKF	**Oulanka, Finla**	**2.32**	**236**	PB	Pb	22 09 32.0	-1.3
OLKF				MSG		22 10 01.2	
	comp=Z,0.8nm,0.2s						
OLKF				SB	Sb	22 10 01.9	-0.5
RAJF	**Raja-Jooseppi**	**2.32**	**292**	PG	Pb	22 09 32.2	-1.2
RAJF				SG	Sn	22 10 00.9	+1.6
KU6	**Riekki**	**2.37**	**227**	PB	Pb	22 09 32.9	-1.3
KU6	**Riekki**	**2.37**	**227**	PN	Pb	22 09 32.9	-1.3
KU6				MSG		22 10 03.3	
	comp=Z,0.7nm,0.2s						
KU6				SB	Sb	22 10 04.0	0.0
MSF	**Maaselka**	**2.70**	**231**	SN	Sb	22 10 12.0	-1.3
VADS	**Vadso**	**2.99**	**327**	S	Sn	22 10 12.7	-3.0
KEV	**Kevo**	**3.32**	**312**	PG	Pb	22 09 50.1	-0.3
ARCES	**ARCESS Array B**	**3.66**	**304**	S	Sn	22 10 31.2	-1.1
HEF	**Hetta**	**4.00**	**285**	SN	Sn	22 10 36.3	-4.4
PAJU	**Pajala**	**4.32**	**266**	PN	Pn	22 09 59.4	+1.9
LANU	**Lannavaara**	**4.61**	**280**	PN	Pn	22 10 00.3	-1.2
KALU	**Kalix**	**4.65**	**252**	PG	Pb	22 10 13.2	+0.2

IDC ***18*** *22:19:58.5±5.8, 20.80S×178.35W, h435km±57km, mb3.4/6, mbtmp4.3/7, Error ellipse: s-maj=39.6km s-min=19.1km az=51.0*

NEIC ***18*** *22:20:06.2±1.6, 21.13S±0.09×178.4W±0.2, h520km±6km, mb4.1/22, Error ellipse: s-maj=23.1km s-min=12.9km az=102.0*
ISC 18 22:20:05.4±0.9, 21°2S±0′1×178°4W±0′1, h500km, n42, σ1s31/39, mb4.1/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.77**	**315**	P	**P**	**22 21 32.3**	**+1.8**
PINNC	**Pines Island,**	**13.20**	**261**	P	**P**	**22 22 58.4**	**+1.8**
DZM	**Mont Dzumac**	**14.10**	**264**	P	**P**	**22 23 07.3**	**+1.0**
DZM	**Mont Dzumac**	**14.10**	**264**	P	**P**	**22 23 07.0**	**+0.6**
	9.6nm,0.7s,baz=76,slow=18,SNR=4.5						
URZ	**Urewera**	**17.46**	**192**	P	**P**	**22 23 39.0**	**-1.6**
	7.2nm,0.3s,baz=272,slow=3.1,SNR=15						
BFZ	**Birch Farm**	**19.97**	**192**	P	**P**	**22 24 02.1**	**-1.5**
DSZ	**Denniston Nort**	**22.11**	**200**	P	**P**	**22 24 22.2**	**-0.8**
EIDS	**Eidsvold**	**28.29**	**256**	P	**P**	**22 25 17.0**	**-0.9**
EIDS				IAmb	IAmb	22 25 18.3	
	comp=Z,3.7nm,0.8s						
ARMA	**Armidale**	**28.42**	**245**	P	**P**	**22 25 19.0**	**-0.1**
ARMA				IAmb	IAmb	22 25 47.6	
	comp=Z,8.9nm,1.1s						
CTAO	**Charters Tower**	**33.03**	**265**	P	**P**	**22 25 58.3**	**-0.6**
STKA	**Stephens Creek**	**37.14**	**245**	P	**P**	**22 26 32.8**	**-0.3**
STKA	**Stephens Creek**	**37.14**	**245**	P	**P**	**22 26 32.6**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=110,slow=12,SNR=3.5						
	comp=Z,1.5nm,0.5s						
COEN	**Coen**	**37.23**	**275**	P	**P**	**22 26 33.8**	**-0.3**
COEN				IAmb	IAmb	22 27 15.8	
	comp=Z,9.1nm,1.1s						
BBOO	**Buckleboo**	**41.90**	**244**	P	**P**	**22 27 10.6**	**-0.8**
BBOO				IAmb	IAmb	22 27 11.4	
	comp=Z,14nm,0.9s						
WR8	**Warramunga Arr**	**43.97**	**263**	P	**P**	**22 27 26.3**	**-1.6**
WR8				IAmb	IAmb	22 27 38.1	
	comp=Z,3.9nm,1.1s						
AS31	**Alice Springs**	**43.98**	**257**	P	**P**	**22 27 27.1**	**-0.9**
AS31				IAmb	IAmb	22 27 28.9	
	comp=Z,2.2nm,1.1s						
ASAR	**Alice Springs**	**43.98**	**257**	P	**P**	**22 27 26.9**	**-1.1**
ASAR	**Alice Springs**	**43.98**	**257**	P	**P**	**22 27 27.2**	**-0.8**
	comp=Z,3.7nm,0.5s,baz=93,slow=8.2,SNR=49						
ASAR				PcP	**pP**	**22 29 01.6**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=110,slow=4.2,SNR=5.3						
	comp=Z,3.7nm,0.5s						
WB0	**Warramunga Arr**	**44.10**	**263**	P	**P**	**22 27 27.6**	**-1.4**
WB0				IAmb	IAmb	22 27 28.2	
	comp=Z,5.7nm,0.6s						
WRA	**Warramunga Arr**	**44.12**	**263**	P	**P**	**22 27 27.4**	**-1.7**
WRA	**Warramunga Arr**	**44.12**	**263**	P	**P**	**22 27 27.6**	**-1.5**
	comp=Z,2.8nm,0.6s,baz=97,slow=7.2,SNR=52						
	comp=Z,2.8nm,0.6s						
FORT	**Forrest**	**48.67**	**247**	P	**P**	**22 28 02.4**	**-1.1**
FORT				IAmb	IAmb	22 28 34.3	
	comp=Z,6.2nm,0.9s						
KNRA	**Kununurra**	**50.22**	**267**	P	**P**	**22 28 14.0**	**-1.2**
KNRA				IAmb	IAmb	22 28 15.8	
	comp=Z,9.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.55**	**263**	P	**P**	**22 28 31.9**	**-0.1**
VNDA	**Vanda**	**57.21**	**185**	P	**P**	**22 29 04.4**	**+0.7**
VNDA	**Vanda**	**57.21**	**185**	P	**P**	**22 29 04.6**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=2.5,slow=8.1,SNR=8.5						
	comp=Z,0.5nm,0.6s						
MBWA	**Marble Bar**	**57.32**	**258**	P	**P**	**22 29 04.1**	**-1.3**
MBWA				IAmb	IAmb	22 29 47.9	
	comp=Z,11nm,1.0s						
CASY	**Casey**	**63.19**	**205**	P	**P**	**22 29 43.2**	**-0.3**
TOLI2	**Tolitoli**	**63.36**	**282**	P	**P**	**22 29 45.8**	**+0.1**
TOLI2				IAmb	IAmb	22 29 47.6	
	comp=Z,4.2nm,0.8s						
QSPA	**South Pole Qui**	**68.90**	**180**	P	**P**	**22 30 21.1**	**+1.6**
QSPA	**South Pole Qui**	**68.90**	**180**	P	**P**	**22 30 21.0**	**+1.6**
	comp=Z,3.6nm,0.7s,baz=51,slow=1.3,SNR=22						
	comp=Z,3.6nm,0.7s						
PEA0B	**Petropavlovsk-**	**76.82**	**345**	P	**P**	**22 31 03.3**	**-1.6**
PEA0B				IAmb	IAmb	22 31 18.4	
	comp=Z,12nm,1.1s						
PETK	**Petropavlovsk-**	**76.82**	**345**	P	**P**	**22 31 03.1**	**-1.8**
PETK	**Petropavlovsk-**	**76.82**	**345**	P	**P**	**22 31 02.5**	**-2.4**
	comp=Z,2.0nm,0.6s,baz=152,slow=7.8,SNR=3.8						
	comp=Z,2.0nm,0.6s						
P08K	**Saint George I**	**77.83**	**5**	P	**P**	**22 31 10.3**	**0.0**
HFS	**Hagfors**	**140.14**	**351**	PKhKP	PKPpre	22 38 27.3	
	comp=Z,2.8nm,0.9s,baz=119,slow=12,SNR=2.1						
AKASG	**Malin Array Be**	**143.40**	**330**	PKhKP	PKPpre	22 38 37.8	
	comp=Z,2.5nm,0.5s,baz=42,slow=4.3,SNR=15						
AKBB	**Malin Array Si**	**143.40**	**330**	PKPdf	PKPab	22 38 37.8	-2.6
KIEV	**Kiev**	**143.42**	**330**	PKPdf	PKPab	22 38 37.6	-2.9
BRTR	**Keskin Array B**	**146.99**	**311**	PKPbc	**PKPdf**	**22 38 49.1**	**+0.1**
BRTR	**Keskin Array B**	**146.99**	**311**	PKPbc	**PKPdf**	**22 38 49.7**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=116,slow=3.8,SNR=3.9						
MMAI	**Mount Meron Ar**	**147.79**	**299**	PKPbc	**PKPdf**	**22 38 52.8**	**+2.3**
	comp=Z,2.3nm,0.8s,baz=63,slow=7.4,SNR=2.1						

IDC ***18*** *22:27:52.8±1.1, 30.04S×178.80W, h0km, mb3.7/3, mbtmp3.8/4, ML3.9/1, MS3.5/4, Error ellipse: s-maj=35.6km s-min=16.7km az=134.0*
ISC 18 22:27:57.6±0.9, 30.1S±0.1×178.8W±0.2, h35km, n16, σ1s50/8, mb3.4/3, MS3.6/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.12**	**41**	Pn	**Pn**	**22 28 15.3**	**-1.4**
	136nm,0.3s,baz=114,slow=20,SNR=8.8						
RAO				Sn	**Sn**	**22 28 32.2**	**+1.3**
	154nm,0.3s,baz=129,slow=17,SNR=4.3						
URZ	**Urewera**	**8.83**	**202**	Pn	**Pn**	**22 30 00.9**	**-1.7**
	1.4nm,0.3s,baz=84,slow=6.8,SNR=6.9						
URZ				Sn	**Sn**	**22 31 41.6**	**+0.7**
	0.3nm,0.3s,baz=81,slow=16,SNR=1.2						
	4.2nm,0.5s						
DZM	**Mont Dzumac**	**15.50**	**298**	LR	LR	22 36 14.3	
	comp=Z,181nm,18.5s,baz=31,slow=32						
PMG	**Port Moresby**	**37.88**	**296**	LR	LR	22 46 53.0	
	comp=Z,32nm,21.5s,baz=155,slow=30						
ASAR	**Alice Springs**	**42.47**	**267**	P	**P**	**22 35 50.7**	**+1.2**
	0.5nm,0.8s,baz=111,slow=8.0,SNR=2.8						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**43.42**	**272**	P	**P**	**22 35 56.7**	**-0.6**
	0.6nm,0.8s,baz=111,slow=8.0,SNR=7.2						
	0.6nm,0.8s						
BATI	**Baumata**	**56.96**	**278**	LR	LR	23 01 06.0	
	comp=Z,76nm,18.9s,baz=180,slow=35						
QSPA	**South Pole Qui**	**60.01**	**180**	P	**P**	**22 38 02.1**	**+1.5**
	2.6nm,0.9s,baz=16,slow=2.8,SNR=4.3						
	2.6nm,0.9s						
H03S2	**Juan Fernandez**	**81.18**	**124**	T	T	00 09 35.9	
	baz=238,slow=74,SNR=30						
H03S1	**Juan Fernandez**	**81.19**	**124**	T	T	00 09 37.4	
	baz=238,slow=74,SNR=30						
H03S3	**Juan Fernandez**	**81.20**	**124**	T	T	00 09 36.3	
	baz=238,slow=74,SNR=31						
H03N3	**Juan Fernandez**	**81.38**	**124**	T	T	00 09 57.0	
	baz=242,slow=73,SNR=21						
H03N2	**Juan Fernandez**	**81.38**	**124**	T	T	00 09 50.0	
	baz=242,slow=73,SNR=30						
H03N1	**Juan Fernandez**	**81.39**	**124**	T	T	00 09 45.9	
	baz=242,slow=73,SNR=28						
PETK	**Petropavlovsk-**	**85.36**	**346**	LR	LR	23 11 56.3	
	comp=Z,26nm,21.0s,baz=225,slow=31						
FINES	**FINESS Array B**	**144.63**	**340**	PKP	**PKPab**	**22 47 28.5**	**+0.1**
	2.7nm,1.0s,baz=51,slow=6.4,SNR=1.7						

SDD ***18*** *22:37:43.3±1.5, 19.18N×72.89W, h16km±75km, MD3.5, ML2.8*
OSPL ***18*** *22:37:43.8±3.2, 19.16N×72.84W, h0km±14km, ML2.6*
ISC 18 22:37:42.2±1.7, 19°19N±0′05×72°84W±0′04, h3km±13km, n19, σ1s04/25, 1C, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAPH	**Port-au-Prince**	**0.84**	**142**	*i* P	**Pg**	**22 37 58.0**	**-0.2**
PAPH				*e*S	**Sg**	**22 38 09.0**	**-0.1**
LODA1	**ITESIL, Dajabo**	**1.13**	**72**	*e*S	**Sg**	**22 38 18.5**	**+0.1**
LODA1				IAML		22 38 19.0	
	comp=Z,999nm,1.5s						
JIDR	**Jimani**	**1.17**	**127**	*e*Pg	**Pb**	**22 38 03.8**	**-1.2**
JIDR				⇑*e*Sg	**Sg**	**22 38 20.6**	**+0.9**
JIDR				IAML		22 38 22.0	
	comp=N,339nm,0.3s						
JIDR				IAML		22 38 22.0	
	comp=E,366nm,0.3s						
MCDR	**Montecristi**	**1.31**	**58**	*e*Pg	**Pn**	**22 38 06.2**	**-1.3**
MCDR				*e*Sg	**Sb**	**22 38 25.2**	**+0.5**
MCDR				IAML		22 38 25.7	
	comp=E,93nm,0.7s						
MCDR				IAML		22 38 29.0	
	comp=N,126nm,0.6s						
REDR	**Restauracion**	**1.36**	**91**	*e*Pg	Pn	22 38 02.8	-5.3
REDR				*e*Sg	Sb	22 38 17.4	-8.8
REDR				IAML		22 38 18.2	
	comp=E,319nm,0.2s						
REDR				IAML		22 38 18.3	
	comp=N,343nm,0.3s						
LONE3	**El Aguacate, B**	**1.43**	**114**	*i* P	**Pn**	**22 38 08.5**	**-0.6**
LONE3				*e*S	**Sn**	**22 38 28.2**	**-0.3**
LONE3				IAML		22 38 30.8	
	comp=Z,60nm,1.9s						
SDDR	**Presa de Saban**	**1.48**	**98**	*e*Pg	**Pn**	**22 38 09.8**	**+0.1**
SDDR				*e*Sg	**Sn**	**22 38 29.5**	**-0.2**
SDDR				IAML		22 38 30.1	
	comp=E,73nm,0.6s						
SDDR				IAML		22 38 32.4	
	comp=N,54nm,0.5s						
SDDR	**Presa de Saban**	**1.48**	**98**	*i* P	**Pn**	**22 38 09.5**	**-0.2**
SDDR				*e*S	**Sn**	**22 38 28.8**	**-0.8**
SDDR				IAML		22 38 36.9	
	comp=Z,43nm,0.5s						
LODU1	**El Espartillar**	**1.54**	**123**	*i* P	**Pn**	**22 38 10.1**	**-0.4**
LODU1				IAML		22 38 35.3	
	comp=Z,98nm,1.1s						
LOPP1	**Punta Rusia, P**	**1.68**	**67**	*i* P	**Pn**	**22 38 14.0**	**+1.6**
LOPP1				IAML		22 38 43.1	
	comp=Z,68nm,1.1s						
MADR	**Mao Valverde**	**1.68**	**77**	IAML		22 38 40.5	
	comp=E,192nm,0.4s						
LOBH	**Bahia de las A**	**1.74**	**139**	*i* P	**Pn**	**22 38 12.8**	**-0.5**
LOBH				IAML		22 38 49.2	
	comp=Z,46nm,0.6s						
PODR	**Polo**	**1.79**	**124**	*e*Pg	**Pn**	**22 38 14.4**	**+0.2**
PODR				IAML		22 38 43.6	
	comp=E,61nm,0.5s						
PODR				IAML		22 38 44.1	
	comp=N,54nm,1.1s						
PODR	**Polo**	**1.79**	**124**	*i* P	**Pn**	**22 38 14.4**	**+0.2**
PODR				*e*S	**Sb**	**22 38 40.5**	**+1.8**
LOVI	**El Cajuil, Ovi**	**1.97**	**135**	*i* P	**Pn**	**22 38 17.4**	**+1.0**
LOVI				IAML		22 38 44.4	
	comp=Z,80nm,0.9s						
QMBU	**Quimbuelo**	**2.11**	**299**	*e*Pg	**Pn**	**22 38 19.6**	**+1.2**
ABDR	**Alto Bandera**	**2.12**	**100**	*e*Pg	**Pn**	**22 38 20.1**	**+1.2**
GTBY	**Guantanamo Bay**	**2.27**	**289**	*i* P	**Pn**	**22 38 21.1**	**+0.6**
GTBY				*e*S	**Sn**	**22 38 47.8**	**-1.2**
GTBY				IAML		22 38 56.4	
	comp=Z,17nm,3.1s						
BANI	**BANI**	**2.48**	**108**	*e*Pg	**Pn**	**22 38 25.9**	**+2.3**

IDC ***18*** *22:46:13.6±1.5, 24.89N×124.04E, h0km, mb3.6/6, mbtmp3.6/6, MS3.0/5, Error ellipse: s-maj=55.3km s-min=20.3km az=63.0*
JMA ***18*** *22:46:14.8±0.2, 24.8N±0.9×123.4E±0.5, h22km±3km, MD4.4/10, MV3.8/10, NW OFF ISHIGAKIJIMA IS*
ISC 18 22:46:15.4±1.4, 24.71N±0.07×123.46E±0.04, h4km±10km, n27, σ1s59/24, mb3.6/6, MS3.1/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.45**	**146**	*i* P	**Pb**	**22 46 26.5**	**+0.7**
IRIF				S	**Sb**	**22 46 34.1**	**+1.4**
IRIF	**Iriomote-Funau**	**0.45**	**146**	A	A	22 46 26.5	
	comp=N,31nm,0.7s,comp=E,19nm,0.7s						
YOJ	**Yonaguni jima**	**0.48**	**239**	P	**Pg**	**22 46 24.1**	**-0.4**
YOJ	**Yonaguni jima**	**0.48**	**239**	S	**Sg**	**22 46 31.3**	**+0.6**
YOJ	**Yonaguni jima**	**0.48**	**239**	*i* P	**Pg**	**22 46 24.3**	**-0.2**
YOJ				*e*S	**Sg**	**22 46 30.8**	**+0.1**
YOJ	**Yonaguni jima**	**0.48**	**239**	A	A	22 46 24.3	
	comp=N,46nm,0.4s,comp=E,52nm,0.7s						
JKRS	**Kuro-shima**	**0.69**	**133**	*i* P	**Pb**	**22 46 30.5**	**+0.6**
JKRS				S	**Sb**	**22 46 40.5**	**+0.8**
JIJ	**Ishigaki jima**	**0.71**	**119**	*i* P	**Pb**	**22 46 30.3**	**0.0**
JIJ	**Ishigaki jima**	**0.71**	**119**	A	A	22 46 30.3	
	comp=N,5.0nm,2.2s,comp=E,4.0nm,3.4s						
HATJ	**Hateruma jima**	**0.72**	**154**	P	**Pb**	**22 46 31.0**	**+0.5**
HATJ				S	**Sn**	**22 46 42.0**	**-1.7**
HATJ	**Hateruma jima**	**0.72**	**154**	A	A	22 46 31.0	
	comp=N,23nm,1.9s,comp=E,27nm,2.9s						
JISG	**Ishigakijimahi**	**0.78**	**99**	P	**Pb**	**22 46 31.1**	**-0.4**
JISG				S	**Sb**	**22 46 42.7**	**+0.2**
JTJ	**Tarama**	**1.13**	**93**	*e*P	**Pg**	**22 46 37.1**	**+0.1**
JTJ				S	**Sb**	**22 46 52.5**	**0.0**
JTJ	**Tarama**	**1.13**	**93**	A	A	22 46 37.1	
	comp=N,12nm,1.4s,comp=E,13nm,3.4s						
YULB	**Yu-li**	**2.37**	**237**	P	**Pn**	**22 46 52.2**	**-2.8**
SSLB	**Suanglung**	**2.46**	**249**	P	**Pn**	**22 46 54.3**	**-2.0**
TWGBT	**Beinan**	**2.88**	**230**	P	**Pn**	**22 47 00.1**	**-1.9**
TGY	**Tagaytay City**	**10.81**	**193**	LR	LR	22 52 52.5	
	comp=E,37nm,20.6s,baz=192,slow=36						
MJAR	**Matsushiro Arr**	**17.30**	**44**	LR	LR	22 57 15.6	
	comp=E,42nm,19.7s,baz=217,slow=39						
CMAR	**Chiang Mai Arr**	**23.61**	**260**	P	**P**	**22 51 32.4**	**+4.8**
	comp=E,0.6nm,0.4s,baz=77,slow=8.3,SNR=5.6						
CMAR				LR	LR	23 01 23.0	
	comp=E,33nm,18.5s,baz=70,slow=38

FSA	**Cafayete**	**2.46**	**164**	*eP*		**Pn**	**23 00 34.4**	**+0.3**
FSA				*eS*		**S**	**23 01 08.2**	**-0.2**
ALOL	**LOMAS DE OLMED**	**2.53**	**92**	*eP*		**Pn**	**23 00 34.5**	**-0.2**
PB06	**IPOC Station P**	**2.80**	**291**			**Pn**	**23 00 38.9**	**+1.0**
PB06					Sn	**S**	**23 01 14.9**	**-0.1**
PB06	**IPOC Station P**	**2.80**	**291⇑**	*eP*		**Pn**	**23 00 38.8**	**+0.8**
PB06				*eS*		**S**	**23 01 15.2**	**+0.1**
PB06				IAML			23 01 17.0	
	comp=N,2μm,0.1s							
PB06	**IPOC Station P**	**2.80**	**291**	*eP*		**Pn**	**23 00 39.0**	**+1.0**
PB06				*eS*		**S**	**23 01 16.2**	**+1.2**
PB06				IAML			23 01 17.4	
	comp=Z,809nm,0.3s							
GO02	**Mina Guanaco**	**2.96**	**241**			**Pn**	**23 00 40.8**	**+0.9**
GO02					Sn	**S**	**23 01 19.0**	**+0.5**
GO02	**Mina Guanaco**	**2.96**	**241**	*eP*		**Pn**	**23 00 40.7**	**+0.9**
GO02				*eS*		**S**	**23 01 19.5**	**+0.9**
GO02				IAML			23 01 21.5	
	comp=E,2μm,0.5s							
GO02	**Mina Guanaco**	**2.96**	**241**	*eP*		**Pn**	**23 00 40.8**	**+0.9**
GO02				*eS*		**S**	**23 01 19.6**	**+1.1**
GO02				IAML			23 01 22.9	
	comp=Z,967nm,0.3s							
PB09	**IPOC Station P**	**3.01**	**309**			**Pn**	**23 00 42.0**	**+1.6**
PB09					Sn	**S**	**23 01 20.4**	**+0.9**
PB09	**IPOC Station P**	**3.01**	**309**	*eP*		**Pn**	**23 00 41.8**	**+1.4**
PB09				*eS*		**S**	**23 01 21.4**	**+1.9**
PB09	**IPOC Station P**	**3.01**	**309**	*eP*		**Pn**	**23 00 41.5**	**+1.0**
PB09				*eS*		**S**	**23 01 20.9**	**+1.4**
PB09				IAML			23 01 22.6	
	comp=Z,415nm,0.2s							
PB03	**IPOC Station P**	**3.25**	**301**			**Pn**	**23 00 43.9**	**+0.7**
PB05	**IPOC Station P**	**3.31**	**285**			**Pn**	**23 00 44.1**	**+0.3**
PB05	**IPOC Station P**	**3.31**	**285⇑**	*eP*		**Pn**	**23 00 44.2**	**+0.5**
PB05				*eS*		**S**	**23 01 24.1**	**-1.4**
PB05	**IPOC Station P**	**3.31**	**285**	*eP*		**Pn**	**23 00 44.3**	**+0.5**
PB05				*eS*		**S**	**23 01 25.2**	**-0.3**
PB05				IAML			23 01 27.0	
	comp=Z,373nm,0.8s							
PB14	**IPOC Station P**	**3.46**	**255**			**Pn**	**23 00 46.2**	**+0.4**
PB14	**IPOC Station P**	**3.46**	**255⇑**	*eP*		**Pn**	**23 00 46.2**	**+0.4**
PB14				*eS*		**S**	**23 01 27.9**	**-1.2**
PB14	**IPOC Station P**	**3.46**	**255**	*eP*		**Pn**	**23 00 46.2**	**+0.4**
PB14				*eS*		**S**	**23 01 28.2**	**-1.0**
PB14				IAML			23 01 33.8	
	comp=Z,556nm,0.7s							
PB10	**IPOC Station P**	**3.51**	**273**			**Pn**	**23 00 46.8**	**+0.8**
PB10	**IPOC Station P**	**3.51**	**273⇑**	*eP*		**Pn**	**23 00 46.6**	**+0.5**
PB10				*eS*		**S**	**23 01 27.9**	**-1.8**
PB10	**IPOC Station P**	**3.51**	**273**	*eP*		**Pn**	**23 00 46.9**	**+0.8**
PB10				*eS*		**S**	**23 01 29.7**	**0.0**
PB10				IAML			23 01 31.6	
	comp=Z,401nm,0.8s							
PB01	**IPOC Station P**	**3.70**	**316**			**Pn**	**23 00 48.8**	**+0.2**
PB01	**IPOC Station P**	**3.70**	**316**	*eP*		**Pn**	**23 00 48.4**	**-0.2**
PB01	**IPOC Station P**	**3.70**	**316**	*eP*		**Pn**	**23 00 48.7**	**+0.2**
PB01				*eS*		**S**	**23 01 33.6**	**-0.4**
PB01				IAML			23 01 34.8	
	comp=Z,518nm,0.2s							
AC02	**Maricunga**	**3.76**	**215**			**Pn**	**23 00 50.5**	**+0.8**
AC02	**Maricunga**	**3.76**	**215**	*eP*		**Pn**	**23 00 49.8**	**+0.2**
AC02	**Maricunga**	**3.76**	**215**	*eP*		**Pn**	**23 00 50.6**	**+1.0**
AC02				*eS*		S	23 01 21.3	-15
AC02				IAML			23 01 27.1	
	comp=Z,247nm,0.8s							
PB02	**IPOC Station P**	**3.79**	**309**			**Pn**	**23 00 49.7**	**+0.1**
PB02	**IPOC Station P**	**3.79**	**309**	*eP*		**Pn**	**23 00 49.3**	**-0.3**
PB02	**IPOC Station P**	**3.79**	**309**	*eP*		**Pn**	**23 00 49.5**	**-0.1**
PB02				*eS*		**S**	**23 01 34.4**	**-1.6**
PB02				IAML			23 01 35.9	
	comp=Z,958nm,0.1s							
PB08	**IPOC Station P**	**4.23**	**328**			**Pn**	**23 00 56.3**	**+1.0**
PB08	**IPOC Station P**	**4.23**	**328**	*eP*		**Pn**	**23 00 55.9**	**+0.6**
PB08	**IPOC Station P**	**4.23**	**328**	*eP*		**Pn**	**23 00 56.2**	**+1.0**
PB08				*eS*		**S**	**23 01 47.0**	**+0.7**
PB08				IAML			23 01 48.9	
	comp=Z,318nm,0.5s							
AC01	**Pan de Azucar**	**4.24**	**235**			**Pn**	**23 00 54.4**	**-0.6**
AC01	**Pan de Azucar**	**4.24**	**235⇑**	*iP*		**Pn**	**23 00 54.3**	**-0.8**
AC01	**Pan de Azucar**	**4.24**	**235**	*eP*		**Pn**	**23 00 54.6**	**-0.6**
AC01				*eS*		**S**	**23 01 44.4**	**-1.6**
AC01				IAML			23 01 45.6	
	comp=Z,206nm,0.8s							
PATCX	**Punta Patache**	**4.29**	**312**			**Pn**	**23 00 55.6**	**-0.2**
TA01	**Diego Aracena**	**4.49**	**314**			**Pn**	**23 00 58.5**	**+0.3**
TA01	**Diego Aracena**	**4.49**	**314**	*eP*		**Pn**	**23 00 57.5**	**-0.7**
TA01	**Diego Aracena**	**4.49**	**314**	*eP*		**Pn**	**23 00 58.5**	**+0.3**
TA01				*eS*		**S**	**23 01 50.1**	**-1.5**
TA01				IAML			23 01 53.6	
	comp=Z,204nm,0.5s							
HMBC	**Humberstone**	**4.52**	**319**			**Pn**	**23 00 58.8**	**+0.1**
HMBC	**Humberstone**	**4.52**	**319**	*eP*		**Pn**	**23 00 57.3**	**-1.4**
HMBC	**Humberstone**	**4.52**	**319**	*eP*		**Pn**	**23 00 57.8**	**-0.9**
HMBC				*eS*		**S**	**23 01 50.6**	**-1.8**
HMBC				IAML			23 01 56.3	
	comp=Z,964nm,0.6s							
GO01	**Chusmiza**	**4.65**	**330**			**Pn**	**23 01 00.8**	**+0.1**
GO01	**Chusmiza**	**4.65**	**330**	*eP*		**Pn**	**23 01 00.7**	**0.0**
GO01	**Chusmiza**	**4.65**	**330**	*eP*		**Pn**	**23 01 01.0**	**+0.3**
GO01				*eS*		**S**	**23 01 57.1**	**+1.1**
GO01				IAML			23 01 58.7	
	comp=Z,261nm,0.1s							
TA02	**Huaiquique**	**4.67**	**317**	*eP*		**Pn**	**23 00 58.5**	**-1.9**
CYA	**Choya**	**4.75**	**170**	*eP*		**Pn**	**23 01 02.3**	**+0.8**
PB11	**IPOC Station P**	**4.80**	**325**			**Pn**	**23 01 01.4**	**-0.8**
PB11	**IPOC Station P**	**4.80**	**325**	*eP*		**Pn**	**23 01 01.2**	**-1.1**
PB11	**IPOC Station P**	**4.80**	**325**	*eP*		**Pn**	**23 01 01.3**	**-0.9**
PB11				*eS*		**S**	**23 01 56.6**	**-2.4**
PB11				IAML			23 01 58.7	
	comp=Z,315nm,0.3s							
GO03	**Copiapo**	**4.96**	**219**	*eP*		**Pn**	**23 01 02.9**	**-1.2**
GO03	**Copiapo**	**4.96**	**219**	*eP*		**Pn**	**23 01 03.3**	**-0.8**
GO03				*eS*		**S**	**23 02 00.5**	**-2.0**
GO03				IAML			23 02 03.5	
	comp=Z,203nm,0.3s							
VCA	**Vinchina**	**5.14**	**195**	*eP*		**Pn**	**23 01 08.2**	**+1.7**
VCA				*eS*		**S**	**23 02 10.3**	**+3.5**
AC04	**Llanos de Chal**	**5.91**	**220**			**Pn**	**23 01 14.4**	**-1.8**
AC04	**Llanos de Chal**	**5.91**	**220**	*eP*		**Pn**	**23 01 14.1**	**-2.1**
PB16	**IPOC Station P**	**5.97**	**334**			**Pn**	**23 01 17.3**	**-0.2**
PB18	**Visviri**	**6.64**	**337**			**Pn**	**23 01 25.5**	**-0.6**
GO04	**Tololo Observa**	**7.36**	**209**		Pn	**Pn**	**23 01 32.9**	**-2.2**
LPAZ	**La Paz**	**7.53**	**350**			**Pn**	**23 01 38.0**	**+0.3**
LPAZ	**La Paz**	**7.53**	**350**		P	**Pn**	**23 01 38.1**	**+0.3**
	comp=Z,7.5nm,0.3s,baz=165,slow=7.2,SNR=71							
LPAZ					S	**S**	**23 03 02.2**	**-1.3**
	comp=Z,14nm,0.8s,baz=19,slow=20,SNR=7.7							
LPAZ	**La Paz**	**7.53**	**350**	*eP*		**Pn**	**23 01 38.1**	**+0.3**
CFA	**Coronel Fontan**	**7.94**	**189**		P	**Pn**	**23 01 40.7**	**-1.8**
	comp=Z,2.2nm,0.3s,baz=8.2,slow=11,SNR=55							
CFA					S	**S**	**23 03 05.0**	**-7.3**
	comp=Z,6.7nm,0.3s,baz=223,slow=17,SNR=12							
CPUP	**Villa Florida**	**8.91**	**109**		P	**Pn**	**23 01 52.3**	**-2.7**
	comp=Z,5.2nm,0.8s,baz=154,slow=11,SNR=38							
CPUP	**Villa Florida**	**8.91**	**109**	*eP*		**Pn**	**23 01 53.3**	**-1.7**
SIV	**San Ignacio**	**9.37**	**36**		P	**Pn**	**23 01 58.7**	**-2.4**
	comp=Z,3.6nm,0.3s,baz=215,slow=13,SNR=38							
SIV					S	S	23 03 31.9	-15
	comp=Z,1.1nm,0.4s,baz=192,slow=14,SNR=1.1							
SJPY	**San Joaquin**	**9.78**	**100**	*eP*		**Pn**	**23 02 05.1**	**-1.1**
BDQN	**Bodoquena, MS**	**9.82**	**72**	*eP*		**Pn**	**23 02 04.3**	**-2.5**
AQDB	**Aquidauana**	**10.74**	**75**		Pn	**Pn**	**23 02 16.1**	**-2.4**
AQDB	**Aquidauana**	**10.74**	**75**	*eP*		**Pn**	**23 02 17.1**	**-1.5**
AMBA	**Amambai (Brazi**	**10.83**	**88**	*eP*		**Pn**	**23 02 17.1**	**-2.6**
PSAL	**Palomas, Salto**	**10.92**	**134**	*eP*		**Pn**	**23 02 20.1**	**-0.6**
PTLB	**Pontes e Lacer**	**10.92**	**42**			**Pn**	**23 02 18.6**	**-2.3**
PTLB	**Pontes e Lacer**	**10.92**	**42**	*eP*		**Pn**	**23 02 19.1**	**-1.8**
VILB	**Vilhena**	**12.39**	**31**			**Pn**	**23 02 38.9**	**-0.8**
RPRD	**Ribas do Rio P**	**12.51**	**77**	*eP*		**Pn**	**23 02 40.1**	**-1.0**
SALV	**Santo Antonio**	**12.99**	**55**	*eP*		**Pn**	**23 02 45.2**	**-1.8**
TRCB	**Terra Rica**	**13.00**	**89**			**Pn**	**23 02 45.9**	**-1.4**
TRCB	**Terra Rica**	**13.00**	**89**	*eP*		**Pn**	**23 02 46.2**	**-1.0**
PTGB	**Pitanga**	**13.43**	**97**	*eP*		**Pn**	**23 02 51.3**	**-1.3**
CPSB	**Cacapava Do Su**	**13.57**	**122**	*eP*		**Pn**	**23 02 52.9**	**-1.3**
ITAB	**Concordia**	**13.64**	**108**		Pn	**Pn**	**23 02 53.8**	**-1.4**
ITAB	**Concordia**	**13.64**	**108**	*eP*		**Pn**	**23 02 54.4**	**-0.7**
PLTB	**Pedras Altas**	**14.10**	**127**		Pn	**Pn**	**23 02 59.5**	**-1.2**
TRQA	**Tornquist**	**14.84**	**165**		Pn	**Pn**	**23 03 07.7**	**-2.0**
CNLB	**Canela**	**15.26**	**115**	*eP*		**Pn**	**23 03 13.4**	**-1.6**
PDRB	**Porto dos Gac**	**15.37**	**40**	*eP*		**P**	**23 03 16.2**	**-0.2**
ITRB	**Iturama**	**15.74**	**78**	*eP*		**P**	**23 03 19.5**	**-1.0**
FRTB	**Fartura**	**15.76**	**92**	*eP*		**Pn**	**23 03 20.2**	**-0.8**
ARAG	**Araguaiana, MT**	**16.16**	**63**	*eP*		**P**	**23 03 23.6**	**-1.5**
CLDB	**Colider**	**16.51**	**41**	*eP*		**P**	**23 03 28.0**	**-1.0**
BB19B	**Bebedouro**	**17.05**	**85**	*eP*		**Pn**	**23 03 35.2**	**-1.2**
PLCA	**Paso Flores**	**17.24**	**190**		P	**P**	**23 03 37.2**	**+0.4**
PLCA					IAmb	IAmb	23 03 44.2	
	comp=Z,6.0nm,0.5s							
PLCA	**Paso Flores**	**17.24**	**190**		P	**P**	**23 03 37.7**	**+0.9**
	comp=Z,2.6nm,0.5s,baz=11,slow=7.8,SNR=8.1							
VAO	**Valinhos**	**18.17**	**92**		P	**P**	**23 03 45.7**	**-1.4**
VAO	**Valinhos**	**18.17**	**92**	*eP*		**P**	**23 03 46.4**	**-0.7**
IPMB	**Ipameri, GO**	**18.23**	**75**	*eP*		**P**	**23 03 47.3**	**-0.5**
SNDB	**Serra Nova Dou**	**18.77**	**54**	*eP*		**P**	**23 03 52.6**	**-1.0**
PARB	**Paraibuna**	**19.37**	**93**	*eP*		**P**	**23 03 59.2**	**-0.9**
BDFB	**Brasilia**	**19.37**	**69**		P	**P**	**23 03 58.4**	**-1.7**
BDFB					IAmb	IAmb	23 04 00.7	
	comp=Z,10nm,0.9s							
BDFB	**Brasilia**	**19.37**	**69**		P	**P**	**23 03 58.2**	**-2.0**
	comp=Z,7.9nm,0.7s,baz=251,slow=14,SNR=10.0							
PMNB	**Patos De Minas**	**19.62**	**79**	*eP*		**P**	**23 04 02.4**	**-0.5**
LL02	**Futaleuf**	**19.85**	**191**		P	**P**	**23 04 04.8**	**-0.1**
NPGB	**Novo Progresso**	**19.88**	**35**	*eP*		**P**	**23 04 05.7**	**+0.2**
TEFE	**Tefe**	**20.22**	**6**	*eP*		**P**	**23 04 09.2**	**+0.1**
ITTB	**Itaituba**	**22.00**	**31**	*eP*		**P**	**23 04 27.0**	**-0.4**
JANB	**Januaria**	**22.82**	**72**	*eP*		**P**	**23 04 33.1**	**-2.0**
SMTB	**Santa Maria do**	**23.55**	**54**	*eP*		**P**	**23 04 40.4**	**-1.2**
SDBA	**SAO DESIDERIO**	**23.58**	**65**	*eP*		**P**	**23 04 40.6**	**-1.4**
PRPB	**Parauapebas**	**23.88**	**46**	*eP*		**P**	**23 04 43.6**	**-1.0**
BOAV	**Boa Vista**	**26.68**	**14**		P	**P**	**23 05 08.7**	**-1.1**
BOAV	**Boa Vista**	**26.68**	**14**	*eP*		**P**	**23 05 09.5**	**-0.2**
RUSC	**La Rusia**	**30.10**	**347**		P	**P**	**23 05 41.1**	**+0.5**
RUSC					IAmb	IAmb	23 05 43.7	
	comp=Z,5.1nm,1.0s							
JTS	**Las Juntas de**	**38.23**	**330**		LR	LR	23 24 26.1	
	comp=Z,34nm,19.1s,baz=296,slow=39							
FDF	**Fort de France**	**38.63**	**9**		P	**P**	**23 06 51.1**	**-2.1**
ESPZ	**Base Esperanza**	**40.17**	**173**		P	**P**	**23 07 05.9**	**+0.5**
CELP	**Cerrillos**	**41.56**	**0**		P	**P**	**23 07 14.5**	**-2.7**
CELP					IAmb	IAmb	23 07 30.3	
	comp=Z,31nm,1.2s							
TEIG	**Tepich**	**48.48**	**333**		P	**P**	**23 08 11.5**	**-0.2**
BELA	**Belgrano 2**	**56.26**	**172**			**P**	**23 09 08.9**	**+0.9**
BELA					IAmb	IAmb	23 09 10.2	
	comp=Z,4.9nm,0.9s							
VNA3	**Neumayer Olymp**	**57.32**	**161**	⇓	P	**P**	**23 09 16.5**	**+0.9**
	comp=Z,8.5nm,0.7s							
VNA1	**Neumayer--Stat**	**57.51**	**160**	⇓	P	**P**	**23 09 18.1**	**+1.3**
	comp=Z,4.2nm,0.6s							
VNA2	**Neumayer--Watz**	**57.88**	**160**	⇓	P	**P**	**23 09 20.4**	**+1.0**
	comp=Z,7.2nm,0.6s,baz=275,slow=7.7							
SNAA	**Sanae**	**59.51**	**161**	⇓	P	**P**	**23 09 31.2**	**+0.4**
SNAA					IAmb	IAmb	23 09 32.5	
	comp=Z,134nm,0.7s							
SNAA	**Sanae**	**59.51**	**161**		P	**P**	**23 09 31.4**	**+0.6**
SNAA					IAmb	IAmb	23 09 32.5	
	comp=Z,6.8nm,0.8s							
SNAA	**Sanae**	**59.51**	**161**		P	**P**	**23 09 31.6**	**+0.8**
	comp=Z,4.9nm,0.7s,baz=268,slow=8.5,SNR=41							
SNAA					pP	**PcP**	**23 10 16.4**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=250,slow=6.7,SNR=4.4							
	comp=Z,4.9nm,0.7s							
W57A	**Gilead**	**59.91**	**347**		P	**P**	**23 09 33.8**	**0.0**
TROLL	**Troll, Antarti**	**61.23**	**161**	⇓	P	**P**	**23 09 43.6**	**+1.1**
	comp=Z,408nm,0.7s							
WVT	**Waverly**	**62.80**	**341**		P	**P**	**23 09 52.2**	**-0.9**
WVT					IAmb	IAmb	23 09 53.3	
	comp=Z,6.4nm,0.8s							
MIAR	**Mount Ida**	**63.32**	**335**		P	**P**	**23 09 56.9**	**+0.3**
MIAR					IAmb	IAmb	23 09 57.8	
	comp=Z,12nm,1.2s							
TXAR	**Lajitas Array**	**63.61**	**324**		P	**P**	**23 09 59.7**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=153,slow=7.8,SNR=6.8							
	comp=Z,0.4nm,0.4s							
VHRN	**Van Horn**	**65.45**	**324**		P	**P**	**23 10 11.8**	**+1.1**
QSPA	**South Pole Qui**	**66.46**	**180**		P	**P**	**23 10 19.3**	**+2.6**
QSPA					IAmb	IAmb	23 10 20.4	
	comp=Z,8.4nm,0.6s							
QSPA	**South Pole Qui**	**66.46**	**180**		P	**P**	**23 10 19.6**	**+3.0**
	comp=Z,7.7nm,0.5s,baz=256,slow=0.3,SNR=85							
	comp=Z,7.7nm,0.5s							
P38A	**Dawn**	**67.83**	**338**		P	**P**	**23 10 25.5**	**+0.2**
P38A					IAmb	IAmb	23 10 26.1	
	comp=Z,8.2nm,0.8s							
ANMO	**Albuquerque**	**69.47**	**326**		P	**P**	**23 10 37.0**	**+1.1**
VNDA	**Vanda**	**74.99**	**190**		P	**P**	**23 11 09.9**	**+2.2**
	comp=Z,1.1nm,0.9s,baz=158,slow=4.6,SNR=6.4							
	comp=Z,1.1nm,0.9s							
BSUT	**Blindstream Ca**	**75.94**	**327**		P	**P**	**23 11 15.6**	**+1.6**
TORD	**Torodi Ar. Bea**	**76.25**	**69**		P	**P**	**23 11 14.3**	**-1.6**
	comp=Z,1.9nm,0.5s,baz=264,slow=5.4,SNR=43							
	comp=Z,1.9nm,0.5s							
PDAR	**Pinedale Array**	**77.05**	**329**		P	**P**	**23 11 20.7**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=123,slow=6.8,SNR=10							
	comp=Z,0.8nm,0.6s							
HWUT	**Hardware Ranch**	**77.14**	**327**		P	**P**	**23 11 22.0**	**+1.5**
ULM	**Lac du Bonnet**	**78.06**	**341**		P	**P**	**23 11 25.4**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=128,slow=7.0,SNR=6.1							
	comp=Z,2.4nm,0.6s							
SCHQ	**Schefferville**	**78.25**	**360**		P	**P**	**23 11 26.4**	**+0.3**
	comp=Z,21nm,0.7s,baz=42,slow=18,SNR=1.4							
	comp=Z,21nm,0.7s							
BOSA	**Boshof**	**80.64**	**117**		P	**P**	**23 11 39.0**	**-0.9**
BOSA					IAmb	IAmb	23 11 52.3	
	comp=Z,8.2nm,1.1s							
BOSA	**Boshof**	**80.64**	**117**		P	**P**	**23 11 39.2**	**-0.6**
	comp=Z,5.5nm,1.1s,baz=266,slow=2.7,SNR=5.2							
	comp=Z,5.5nm,1.1s							
MAW	**Mawson**	**81.61**	**163**		P	**P**	**23 11 45.3**	**+1.3**
	comp=Z,2.9nm,0.5s,baz=212,slow=9.8,SNR=16							
	comp=Z,2.9nm,0.5s							
PLID	**Pearl Lake**	**81.89**	**327**		P	**P**	**23 11 47.8**	**+1.7**
PLID					IAmb	IAmb	23 11 48.5	
	comp=Z,6.6nm,0.8s							
ESDC	**Sonseca Array**	**86.05**	**43**		P	**P**	**23 12 07.2**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=231,slow=4.8,SNR=7.1							
	comp=Z,1.0nm,0.9s							
DLBC	**Dease Lake**	**97.11**	**332**		P	**P**	**23 12 57.9**	**-0.1**
	comp=Z,7.8nm,0.6s,baz=100,slow=27,SNR=1.5							
ASAR	**Alice Springs**	**128.79**	**204**		PKP	**PKPdf**	**23 18 33.5**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=153,slow=2.4,SNR=14							
WRA	**Warramunga Arr**	**131.96**	**207**		PKP	**PKPdf**	**23 18 39.8**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=162,slow=1.7,SNR=20							
WRA					SKPbc	**SKPbc**	**23 21 46.1**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=152,slow=3.4,SNR=7.3							
PETK	**Petropavlovsk-**	**135.55**	**323**		PKP	**PKiKP**	**23 18 46.4**	**0.0**
	comp=Z,1.1nm,0.5s,baz=72,slow=5.0,SNR=2.3							
BVAR	**Borovoye Array**	**136.45**	**37**		PKP	**PKiKP**	**23 18 47.7**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=323,slow=2.2,SNR=5.4							
KURBB	**Kurchatov Arra**	**142.03**	**36**		PKhKP	PKPpre	23 18 53.5	
	comp=Z,0.4nm,0.3s,baz=311,slow=2.8,SNR=4.4							
ZALV	**Zalesovo Beam**	**143.06**	**28**		PKhKP	PKPpre	23 18 56.1	
	comp=Z,2.5nm,0.7s,baz=289,slow=4.5,SNR=13							
MKAR	**Makanchi Array**	**146.17**	**39**		PKPbc	**PKPdf**	**23 19 04.9**	**+0.8**
	comp=Z,6.5nm,0.7s,baz=335,slow=2.5,SNR=44							
SONM	**Songino Array**	**155.34**	**11**		PKP	**PKPdf**	**23 19 19.2**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=27,slow=1.6,SNR=2.6							
SONM					PKPab	**PKPab**	**23 19 43.7**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=314,slow=3.3,SNR=5.4							
CMAR	**Chiang Mai Arr**	**165.64**	**109**		PKPab	**PKPab**	**23 20 30.7**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=237,slow=5.7,SNR=6.6							

IDC 18 23:18:27.8±2.0, 8°.93S×156°.06E, h0km, mb3.5/4, mbtmp3.6/4, MS2.6/1, Error ellipse: s-maj=53.7km s-min=37.2km az=112.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HNR	**Honiara**	**3.87**	**98**	LR		LR	23 20 41.7	
	comp=Z,82nm,20.5s,baz=260,slow=35							
WRA	**Warramunga Arr**	**23.68**	**240**	P		P	23 23 41.1	-0.2
	0.6nm,0.7s,baz=64,slow=9.9,SNR=6.5							
	0.6nm,0.7s							
ASAR	**Alice Springs**	**25.77**	**233**	P		P	23 24 00.9	+0.4
	0.6nm,0.9s,baz=50,slow=10,SNR=4.1							
	0.6nm,0.9s							
SONM	**Songino Array**	**71.53**	**327**	P		P	23 29 51.2	+0.4
	0.4nm,0.6s,baz=126,slow=5.9,SNR=3.6							
	0.4nm,0.6s							
QSPA	**South Pole Qui**	**81.06**	**180**	P		P	23 30 44.1	-0.5
	0.7nm,0.6s,baz=6.4,slow=2.6,SNR=2.2							
	0.7nm,0.6s							

*ISK **18** 23:19:09.9, 36°.06N×35°.86E, h8km, ML3.4/24*
*GII **18** 23:19:10.6±0.0, 36°.137N±0°.002×35°.612E±0°.001, h1km, Mws3.5, confirmed*

*NIC **18** 23:19:11.5, 36°.02N×35°.99E, h8km×31km, Ml3.3/10*
*IDC **18** 23:19:11.4±1.2, 36°.01N×36°.00E, h0km, mb3.6/4, mbtmp3.6/6, ML3.3/2, MS2.2/2, Error ellipse: s-maj=23.8km s-min=13.3km az=84.0*
*AFAD **18** 23:19:12.0, 36°.18N×35°.86E, h7km±1km, ML3.2*
*GRAL **18** 23:19:14.0±0.3, 36°.01N×35°.68E, h8km×4km, MD4.0*

ISC 18 23:19:11.1±1.2, 36°.09N±0°.02×35°.87E±0°.02, h1km±9km, n125, σ1°23/156, mb3.6/3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ASUZ	**Hatay-Arsuz**	**0.21**	**342**	P		**Pg**	**23 19 14.8**	**-0.5**
ASUZ				S		**Sg**	**23 19 17.5**	**-0.5**
ASUZ				*i*	IAML		23 19 18.0	
	comp=N,2μm,0.3s							
ASUZ				*i*	IAML		23 19 20.0	
	comp=E,1μm,0.4s							
TAHT	**Tahtakopru-Hat**	**0.39**	**42**	Pg		**Pg**	**23 19 18.4**	**-0.1**
TAHT				Sg		**Sg**	**23 19 24.5**	**+0.9**
RHAN	**Hatay/Reyhanl**	**0.62**	**74**	P		**Pg**	**23 19 24.0**	**+1.0**
RHAN				*i*	IAML		23 19 33.0	
	comp=N,4μm,0.3s							
RHAN				S		**Sb**	**23 19 33.0**	**-0.9**
RHAN				*i*	IAML		23 19 37.0	
	comp=E,2μm,0.3s							
YURE	**YUREGIR**	**0.76**	**346**	P		**Pg**	**23 19 25.1**	**-0.6**
YURE				S		**Sg**	**23 19 37.4**	**+1.8**
YURE				*i*	IAML		23 19 41.0	
	comp=E,356nm,0.6s							
YURE				*i*	IAML		23 19 45.0	
	comp=N,391nm,0.6s							
HASA	**Hatay-Hassa-Ha**	**0.83**	**37**	P		**Pg**	**23 19 26.4**	**-0.7**
HASA				S		**Sg**	**23 19 37.8**	**+0.1**
HASA				*i*	IAML		23 19 41.0	
	comp=E,2μm,0.4s							
HASA				*i*	IAML		23 19 44.0	
	comp=N,2μm,0.5s							
CEYT	**Ceyhan**	**0.93**	**354**	Pg		**Pg**	**23 19 28.7**	**-0.2**
CEYT				Sg		**Sg**	**23 19 42.2**	**+1.3**
KUZU	**Kuzuini**	**1.19**	**55**	P		**Pb**	**23 19 34.0**	**-0.5**
KUZU				S		**Sg**	**23 19 50.1**	**+0.7**
KUZU				*i*	IAML		23 19 51.0	
	comp=E,2μm,0.2s							
KUZU				*i*	IAML		23 19 52.0	
	comp=N,3μm,0.3s							
KAMA	**Osmaniye**	**1

	0.3nm,1.0s						
APOL				AML	AML	23 20 52.5	
	0.4nm,1.0s						
HDMB	**Hadim**	**2.86**	**289**	Pn	**Pn**	**23 19 57.3**	**-0.8**
GEM	**Giv'at Ha'Em**	**2.88**	**183**	P	**Pn**	**23 19 57.9**	**-0.2**
GEM	**Giv'at Ha'Em**	**2.88**	**183**	S	**Sb**	**23 20 34.8**	**-4.1**
GAZI	**Gazipasa**	**2.88**	**274**	Pn	**Pn**	**23 19 57.3**	**-0.8**
NATA	**Nata**	**2.99**	**245**	P	**Pn**	**23 20 00.8**	**+1.1**
NATA				S	**Sb**	**23 20 42.5**	**+0.2**
NATA				AML	AML	23 20 50.4	
	1.0nm,0.9s						
NATA				AML	AML	23 20 54.8	
	0.9nm,0.9s						
HNTI	**Hanita**	**3.05**	**191**	P	**Pn**	**23 19 59.9**	**-0.6**
HNTI	**Hanita**	**3.05**	**191**	S	**Sn**	**23 20 37.8**	**+0.2**
AKMS	**Akamas**	**3.07**	**251**	P	**Pn**	**23 20 02.0**	**+1.2**
AKMS				S	**Sb**	**23 20 41.1**	**-3.5**
AKMS				AML	AML	23 20 52.4	
	0.4nm,0.7s						
AKMS				AML	AML	23 20 53.9	
	0.3nm,0.5s						
MMC7	**Mount Meron ar**	**3.08**	**187**	P	**Pn**	**23 20 00.7**	**-0.3**
MMA0B	**Mount Meron ar**	**3.09**	**187**	P	**Pn**	**23 20 00.7**	**-0.4**
MMA0B	**Mount Meron ar**	**3.09**	**187**	S	**Sn**	**23 20 37.8**	**-0.9**
MMAI	**Mount Meron Ar**	**3.09**	**187**	Pn	**Pn**	**23 20 00.5**	**-0.6**
	39nm,0.3s,baz=8.0,slow=14,SNR=224						
MMAI				Sn	**Sn**	**23 20 38.3**	**-0.4**
	75nm,0.3s,baz=10,slow=29,SNR=26						
MMAI				Lg	Lg	23 20 47.4	
	41nm,0.3s,baz=12,slow=31,SNR=5.4						
	18nm,0.2s						
KSHT	**Keshet**	**3.10**	**181**	P	**Pn**	**23 20 01.6**	**+0.4**
KSHT	**Keshet**	**3.10**	**181**	S	**Sb**	**23 20 40.8**	**-4.6**
BLGI	**Bet Lehem HaGe**	**3.39**	**190**	P	**Pn**	**23 20 04.9**	**-0.3**
BLGI	**Bet Lehem HaGe**	**3.39**	**190**	S	**Sn**	**23 20 46.8**	**+0.8**
LADK	**Ladik-KONYA**	**3.50**	**308**	Pn	**Pn**	**23 20 06.6**	**-0.2**
OFRI	**`Ofer**	**3.54**	**192**	P	**Pn**	**23 20 06.5**	**-0.7**
OFRI	**`Ofer**	**3.54**	**192**	S	**Sn**	**23 20 49.6**	**0.0**
YOZ	**Yozgat**	**3.57**	**353**	Pn	**Pn**	**23 20 07.7**	**-0.1**
MMLI	**Mount Malkishu**	**3.66**	**186**	P	**Pn**	**23 20 09.7**	**+0.7**
MMLI				S	**Sn**	**23 20 52.4**	**-0.3**
MMLI	**Mount Malkishu**	**3.66**	**186**	P	**Pn**	**23 20 09.0**	**+0.1**
MMLI	**Mount Malkishu**	**3.66**	**186**	S	**Sn**	**23 20 53.6**	**+0.9**
KAMT	**Kaman**	**3.69**	**333**	Pn	**Pn**	**23 20 09.5**	**0.0**
HMDT	**Nahal Hemdat**	**3.84**	**184**	P	**Pn**	**23 20 11.6**	**+0.3**
HMDT	**Nahal Hemdat**	**3.84**	**184**	S	**Sn**	**23 20 58.6**	**+1.6**
SLTI	**Sal'it**	**3.90**	**190**	P	**Pn**	**23 20 12.2**	**+0.1**
SLTI	**Sal'it**	**3.90**	**190**	S	**Sn**	**23 20 58.9**	**+0.3**
BRTR	**Keskin Array B**	**4.04**	**335**	Pn	**Pn**	**23 20 15.8**	**+1.6**
	0.2nm,0.3s,baz=154,slow=11,SNR=5.4						
BRTR				Sn	**Sn**	**23 21 04.3**	**+2.1**
	0.2nm,0.3s,baz=149,slow=14,SNR=4.1						
BRTR				Lg	Lg	23 21 24.0	
	0.4nm,0.3s,baz=151,slow=36,SNR=3.6						
SALP	**Salfit**	**4.05**	**188**	P	**Pn**	**23 20 14.4**	**+0.1**
SALP	**Salfit**	**4.05**	**188**	S	**Sn**	**23 21 03.4**	**+1.1**
UJAP	**Al Uja**	**4.14**	**185**	P	**Pn**	**23 20 15.8**	**+0.3**
UJAP	**Al Uja**	**4.14**	**185**	S	**Sn**	**23 21 05.6**	**+1.2**
DSI	**Dead Sea**	**4.52**	**185**	P	**Pn**	**23 20 21.1**	**+0.3**
DSI	**Dead Sea**	**4.52**	**185**	S	**Sn**	**23 21 14.6**	**+0.6**
AMAZ	**Amatzia**	**4.61**	**190**	P	**Pn**	**23 20 22.9**	**+0.9**
AMAZ				S	**Sn**	**23 21 15.0**	**-1.2**
AMAZ	**Amatzia**	**4.61**	**190**	P	**Pn**	**23 20 22.1**	**+0.1**
AMAZ	**Amatzia**	**4.61**	**190**	S	**Sn**	**23 21 16.9**	**+0.7**
YTIR	**Yattir**	**4.75**	**188**	P	**Pn**	**23 20 24.6**	**+0.6**
YTIR	**Yattir**	**4.75**	**188**	S	**Sn**	**23 21 20.9**	**+1.1**
GHAJ	**Ghor Haditha**	**4.78**	**183**	P	**Pn**	**23 20 24.8**	**+0.5**
GHAJ	**Ghor Haditha**	**4.78**	**183**	S	**Sn**	**23 21 21.4**	**+1.1**
MSBI	**Mazada**	**4.78**	**185**	P	**Pn**	**23 20 24.8**	**+0.5**
MSBI	**Mazada**	**4.78**	**185**	S	**Sn**	**23 21 21.1**	**+0.8**
ELL	**Elmali**	**4.85**	**280**	P	**Pn**	**23 20 27.4**	**+2.1**
KZIT	**Kziot**	**5.31**	**194**	P	**Pn**	**23 20 32.0**	**+0.4**
KZIT				S	**Sn**	**23 21 32.2**	**-1.2**
KZIT	**Kziot**	**5.31**	**194**	P	**Pn**	**23 20 31.8**	**+0.2**
KZIT	**Kziot**	**5.31**	**194**	S	**Sn**	**23 21 33.6**	**+0.2**
ZFRI	**Zfri**	**5.55**	**186**	P	**Pn**	**23 20 34.8**	**0.0**
ZFRI	**Zfri**	**5.55**	**186**	S	**Sn**	**23 21 40.1**	**+0.9**
RMNI	**Mount Ramon**	**5.55**	**190**	P	**Pn**	**23 20 35.6**	**+0.6**
RMNI	**Mount Ramon**	**5.55**	**190**	S	**Sn**	**23 21 40.1**	**+0.6**
PRNI	**Paran**	**5.77**	**187**	P	**Pn**	**23 20 37.9**	**+0.1**
PRNI	**Paran**	**5.77**	**187**	S	**Sn**	**23 21 46.1**	**+1.5**
KRMI	**Paran Flat**	**6.03**	**189**	P	**Pn**	**23 20 41.8**	**+0.3**
KRMI	**Paran Flat**	**6.03**	**189**	S	**Sn**	**23 21 52.1**	**+0.9**
HRFI	**Mount Harif**	**6.08**	**187**	P	**Pn**	**23 20 42.6**	**+0.5**
HRFI	**Mount Harif**	**6.08**	**187**	S	**Sn**	**23 21 53.6**	**+1.4**
MBRI	**Mt Berech**	**6.33**	**188**	P	**Pn**	**23 20 46.2**	**+0.5**
MBRI	**Mt Berech**	**6.33**	**188**	S	**Sn**	**23 21 59.7**	**+1.1**
EIL	**Elat**	**6.45**	**187**	P	**Pn**	**23 20 47.3**	**+0.1**
EIL	**Elat**	**6.45**	**187**	S	**Sn**	**23 22 02.9**	**+1.5**
GNI	**Garni**	**8.08**	**57**	LR	LR	23 23 45.2	
	comp=Z,6.3nm,20.5s,baz=264,slow=34						
MLR	**Muntele Rosu**	**12.02**	**324**	LR	LR	23 28 01.7	
	comp=Z,32nm,18.8s,baz=175,slow=44						
AKASG	**Malin Array Be**	**15.37**	**344**	Pn	**Pn**	**23 22 50.1**	**+1.0**
	0.3nm,0.3s,baz=163,slow=11,SNR=1.3						
GERES	**GERESS Array B**	**20.64**	**315**	P	Pn	23 23 54.0	-0.3
	0.3nm,0.6s,baz=139,slow=9.1,SNR=4.1						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**26.12**	**349**	P	**P**	**23 24 49.3**	**+3.0**
	0.8nm,0.7s,baz=189,slow=10.0,SNR=1.1						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**33.75**	**51**	P	**P**	**23 25 53.9**	**-0.1**
	1.7nm,0.2s,baz=281,slow=8.4,SNR=1.3						
	1.7nm,0.2s						
MKAR	**Makanchi Array**	**35.93**	**58**	P	**P**	**23 26 13.0**	**-0.1**
	0.2nm,0.5s,baz=262,slow=7.1,SNR=1.9						
	0.2nm,0.5s						

ROM 18 23:30:44.0±0.1, 37°.847N±0°.004×14°.987E±0°.007, h28km, ML2.0/46, 4C-5D, Error ellipse: s-maj=0.6km s-min=0.2km az=99.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMSG	**Monte Spagnolo**	**0.04**	**229**	⇑P	Pb	23 30 48.6	-0.3
EMSG				S	Sb	23 30 53.0	+0.7
EMSG				AML	AML		
	comp=E,2025μm,0.5s						
EMSG				AML	AML		
	comp=N,1585μm,1.3s						
EMSG				AML	AML		
	comp=N,1585μm,0.7s						
EMSG				AML	AML		
	comp=N,1508μm,0.2s						
EMSG				AML	AML		
	comp=E,1529μm,0.2s						
EPIT	**Pozzo Pitarron**	**0.07**	**123**	P	Pb	23 30 48.9	-0.2
EPIT				S	Sb	23 30 53.2	+0.7
EMCN	**Etna Monte Con**	**0.07**	**146**	P	Pb	23 30 49.0	-0.1
EPZF	**Pizzo Felice**	**0.10**	**258**	⇑P	Pb	23 30 48.9	-0.3
EPZF				S	Sb	23 30 53.1	+0.3
EPZF				AML	AML		
	comp=E,939μm,1.5s						
EPZF				AML	AML		
	comp=N,1365μm,1.3s						
EPZF				AML	AML		
	comp=E,939μm,0.5s						
EPZF				AML	AML		
	comp=N,1365μm,0.7s						
EPZF				AML	AML		
	comp=N,1274μm,0.5s						
EPZF				AML	AML		
	comp=E,917μm,0.3s						
ECTS	**Castiglione**	**0.11**	**72**	⇓P	Pb	23 30 49.0	-0.2
ECTS				S	Sb	23 30 52.8	+0.1
ECTS				AML	AML		
	comp=E,1023μm,0.3s						
ECTS				AML	AML		
	comp=N,1490μm,0.4s						
ECTS				AML	AML		
	comp=N,1495μm,0.4s						
ECTS				AML	AML		
	comp=E,1024μm,0.3s						
ECTS				AML	AML		
	comp=N,1495μm,1.6s						
ECTS				AML	AML		
	comp=N,1493μm,0.4s						
ECTS				AML	AML		
	comp=E,1024μm,0.3s						
ESLN	**Serra La Nave**	**0.15**	**184**	P	Pb	23 30 49.7	0.0
ECHR	**Santa Chiara**	**0.17**	**200**	P	Pb	23 30 49.9	+0.1
EVRN	**Santa Venerina**	**0.20**	**143**	P	Pb	23 30 50.2	+0.2
MUCR	**Ucria**	**0.21**	**335**	⇓P	Pb	23 30 49.9	-0.4
MUCR				S	Sb	23 30 54.4	-0.1
MUCR				AML	AML		
	comp=E,419μm,0.3s						
MUCR				AML	AML		
	comp=N,498μm,0.4s						
MUCR				AML	AML		
	comp=N,498μm,1.6s						
MUCR				AML	AML		
	comp=N,499μm,0.5s						
MUCR				AML	AML		
	comp=E,419μm,0.3s						
NOV	**Novara**	**0.22**	**33**	⇑P	Pb	23 30 50.0	-0.2
NOV				S	Sb	23 30 54.3	-0.2
NOV				AML	AML		
	comp=E,1430μm,0.2s						
NOV				AML	AML		
	comp=E,1430μm,1.8s						
NOV				AML	AML		
	comp=N,847μm,0.3s						
NOV				AML	AML		
	comp=N,847μm,0.3s						
NOV				AML	AML		
	comp=E,1430μm,0.2s						
ENIC	**Nicolosi**	**0.22**	**173**	P	Pb	23 30 50.3	+0.1
AIO	**Antillo**	**0.23**	**57**	⇑P	Pb	23 30 50.5	0.0
AIO				S	Sb	23 30 55.3	+0.5
AIO				AML	AML		
	comp=N,393μm,0.9s						
AIO				AML	AML		
	comp=N,393μm,1.1s						
AIO				AML	AML		
	comp=E,354μm,0.5s						
AIO				AML	AML		
	comp=E,340μm,0.4s						
AIO				AML	AML		
	comp=N,376μm,0.2s						
ESML	**S. M. di Licod**	**0.24**	**201**	P	Pn	23 30 51.4	-0.4
MNO	**Monte Soro**	**0.25**	**291**	P	Pb	23 30 50.6	-0.1
MNO				S	Sb	23 30 55.8	+0.5
MNO				AML	AML		
	comp=E,679μm,0.4s						
MNO				AML	AML		
	comp=N,468μm,1.2s						
MNO				AML	AML		
	comp=E,679μm,0.4s						
MNO				AML	AML		
	comp=N,459μm,0.2s						
GALF	**Gagliano Caste**	**0.36**	**248**	P	Pb	23 30 52.8	+0.6
GALF				S	Sn	23 30 59.0	-0.6
GALF				AML	AML		
	comp=N,322μm,0.8s						
GALF				AML	AML		
	comp=E,465μm,1.2s						
GALF				AML	AML		
	comp=N,322μm,1.2s						
GALF				AML	AML		
	comp=E,115μm,0.8s						
GALF				AML	AML		
	comp=E,445μm,0.5s						
GALF				AML	AML		
	comp=N,123μm,0.7s						
GALF				AML	AML		
	comp=N,321μm,0.4s						
MSFR	**San Fratello**	**0.36**	**301**	⇓P	Pb	23 30 52.3	0.0
MSFR				S	Sb	23 30 58.2	+0.3
MSFR				AML	AML		
	comp=N,87μm,1.1s						
MSFR				AML	AML		
	comp=N,87μm,0.9s						
MSFR				AML	AML		
	comp=E,80μm,0.9s						
MSFR				AML	AML		
	comp=N,87μm,0.3s						
MSFR				AML	AML		
	comp=E,74μm,0.2s						
MPNC	**Port Mandanici**	**0.41**	**44**	P	Pb	23 30 53.2	+0.2
MPNC				S	Sn	23 31 00.1	-0.9
MPNC				AML	AML		
	comp=N,304μm,0.5s						
MPNC				AML	AML		
	comp=E,314μm,1.6s						
MPNC				AML	AML		
	comp=E,308μm,0.3s						
MPNC				AML	AML		
	comp=N,300μm,0.5s						
HLNI	**Lentini**	**0.51**	**190**	⇓P	Pb	23 30 54.1	-0.3
HLNI				S	Sb	23 31 01.9	+0.4
HLNI				AML	AML		
	comp=N,152μm,0.2s						
HLNI				AML	AML		
	comp=E,160μm,0.6s						
HLNI				AML	AML		
	comp=N,152μm,0.2s						
HLNI				AML	AML		
	comp=E,146μm,0.1s						
HAGA	**Augusta**	**0.58**	**167**	P	Pb	23 30 55.3	-0.3
HAGA				S	Sn	23 31 04.3	-0.6
HAGA				AML	AML		
	comp=E,88μm,1.2s						
HAGA				AML	AML		
	comp=N,117μm,0.4s						
HAGA				AML	AML		
	comp=E,88μm,0.8s						
HAGA				AML	AML		
	comp=E,80μm,0.2s						
HAGA				AML	AML		
	comp=N,87μm,0.1s						
MSRU	**Castanea**	**0.58**	**45**	P	Pb	23 30 56.0	+0.2
MSRU				S	Sn	23 31 05.8	+0.6
MSRU				AML	AML		
	comp=E,141μm,0.2s						
MSRU				AML	AML		
	comp=N,143μm,1.2s						
MSRU				AML	AML		
	comp=N,143μm,0.8s						
MSRU				AML	AML		
	comp=N,125μm,0.3s						
MSRU				AML	AML		
	comp=E,141μm,0.2s						
AGST	**Augusta-Monte**	**0.62**	**162**	⇓P	Pb	23 30 56.0	-0.3
AGST				S	Sn	23 31 05.7	-0.2
AGST				AML	AML		
	comp=E,188μm,0.2s						
AGST				AML	AML		
	comp=N,170μm,0.8s						
AGST				AML	AML		
	comp=E,188μm,0.2s						
AGST				AML	AML		
	comp=N,164μm,0.1s						
PLLN	**Pollina**	**0.68**	**283**	P	Pn	23 30 58.2	+0.3
PLLN				AML	AML		
	comp=E,210μm,0.7s						
PLLN				AML	AML		
	comp=N,154μm,0.6s						
PLLN				AML	AML		
	comp=N,154μm,0.6s						
PLLN				AML	AML		
	comp=E,210μm,0.7s						
SSY	**Sortino**	**0.69**	**174**	P	Pb	23 30 57.3	-0.3
SSY				AML	AML		
	comp=N,687μm,1.5s						
SSY				AML	AML		
	comp=E,340μm,0.4s						
SSY				AML	AML		
	comp=N,687μm,0.5s						
SSY				AML	AML		
	comp=E,341μm,0.4s						
SSY				AML	AML		
	comp=N,634μm,0.2s						
GMB	**Gambarie**	**0.74**	**64**	P	Pn	23 30 59.2	+0.5
GMB				AML	AML		
	comp=E,204μm,0.2s						
GMB				AML	AML		
	comp=N,194μm,0.2s						
GMB				AML	AML		
	comp=E,204μm,1.8s						
GMB				AML	AML		
	comp=N,194μm,0.2s						
GMB				AML	AML		
	comp=E,204μm,0.2s						
IFIL	**Filicudi I Eol**	**0.79**	**335**	P	Pn	23 30 59.8	+0.5
IFIL				AML	AML		
	comp=E,305μm,0.5s						
IFIL				AML	AML		
	comp=N,89μm,1.4s						
IFIL				AML	AML		
	comp=N,89μm,0.6s						
IFIL				AML	AML		
	comp=E,289μm,0.2s						
IFIL				AML	AML		
	comp=N,74μm,0.2s						
RAFF	**Raffo Rosso**	**0.80**	**219**	P	Pn	23 30 59.5	+0.1
RAFF				AML	AML		
	comp=N,82μm,0.3s						
RAFF				AML	AML		
	comp=E,113μm,0.4s						
RAFF				AML	AML		
	comp=N,82μm,0.3s						
RAFF				AML	AML		
	comp=E,113μm,0.4s						
CEL	**Celeste**	**0.83**	**60**	P	Pn	23 31 00.1	+0.3
CEL				AML	AML		
	comp=N,37μm,1.2s						
CEL				AML	AML		
	comp=E,48μm,0.3s						
CEL				AML	AML		
	comp=N,30μm,0.3s						
CEL				AML	AML		
	comp=E,48μm,0.3s						
IACL	**Alicudi**	**0.85**	**324**	P	Pn	23 30 59.5	-0.6
IACL				AML	AML		
	comp=E,96μm,1.4s						
IACL				AML	AML		
	comp=E,96μm,0.6s						
IACL				AML	AML		
	comp=N,124μm,0.5s						
IACL				AML	AML		
	comp=N,85μm,0.3s						
IACL				AML	AML		
	comp=E,84μm,0.3s						
CLTA	**Licata**	**1.07**	**230**	P	Pb	23 31 04.5	+0.7
HPAC	**Pachino**	**1.15**	**175**	P	Pn	23 31 04.7	+0.5
HPAC				AML	AML		
	comp=N,130μm,0.8s						
HPAC				AML	AML		
	comp=E,91μm,0.7s						
CAR1	**CAROLEI**	**1.70**	**34**	P	Pn	23 31 12.4	+0.5
CAR1				AML	AML		
	comp=E,22μm,0.6s						
CAR1				AML	AML		
	comp=N,20μm,0.4s						

ROM 18 23:31:03.6±0.2, 37°.857N±0°.008×14°.992E±0°.008, h29km±1km, ML2.0/12, 2D, Error ellipse: s-maj=0.7km s-min=0.6km az=35.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMSG	**Monte Spagnolo**	**0.05**	**223**	P	Pb	23 31 08.9	+0.1
EMSG				S	Sb	23 31 12.5	+0.2
EMSG				AML	AML		
	comp=N,1169μm,0.5s						
EMSG				AML	AML		
	comp=E,2125μm,0.5s						
EPIT	**Pozzo Pitarron**	**0.07**	**132**	P	Pb	23 31 08.6	-0.3
EPIT				S	Sb	23 31 13.1	+0.6
EMCN	**Etna Monte Con**	**0.07**	**153**	P	Pb	23 31 08.9	-0.1
EMCN				S	Sb	23 31 12.4	-0.1
ECTS	**Castiglione**	**0.10**	**76**	P	Pb	23 31 08.6	-0.3
ECTS				S	Sb	23 31 12.5	-0.1
ECTS				AML	AML		
	comp=N,700μm,0.4s						
ECTS				AML	AML		
	comp=E,552μm,0.3s						
EPZF	**Pizzo Felice**	**0.11**	**253**	P	Pb	23 31 08.8	-0.2
EPZF				S	Sb	23 31 13.2	+0.4
EPZF				AML	AML		
	comp=E,254μm,0.7s						
EPZF				AML	AML		
	comp=N,414μm,0.7s						
EVRN	**Santa Venerina**	**0.20**	**146**	P	Pb	23 31 09.9	+0.2
EVRN				S	Sb	23 31 14.8	+0.8
NOV	**Novara**	**0.20**	**34**	P	Pb	23 31 09.8	-0.1
NOV				S	Sb	23 31 14.5	+0.4
NOV				AML	AML		
	comp=N,491μm,0.2s						
NOV				AML	AML		
	comp=E,509μm,0.4s						
MUCR	**Ucria**	**0.21**	**333**	⇓P	Pb	23 31 09.7	-0.2
MUCR				S	Sb	23 31 14.2	0.0
MUCR				AML	AML		
	comp=N,221μm,0.3s						
MUCR				AML	AML		
	comp=E,329μm,0.3s						
AIO	**Antillo**	**0.22**	**59**	⇓P	Pb	23 31 10.2	+0.1
AIO				S	Sb	23 31 15.1	+0.7
AIO				AML	AML		
	comp=E,159μm,0.2s						
AIO				AML	AML		
	comp=N,155μm,0.2s						
MNO	**Monte Soro**	**0.25**	**288**	P	Pb	23 31 10.4	-0.1
MNO				S	Sb	23 31 15.7	+0.5
MNO				AML	AML		
	comp=E,200μm,0.4s						
MNO				AML	AML		
	comp=N,178μm,0.4s						
ESML	**S. M. di Licod**	**0.26**	**201**	P	Pb	23 31 10.0	-0.4
MSFR	**San Fratello**	**0.36**	**299**	P	Pb	23 31 12.1	+0.2
MSFR				S	Sb	23 31 18.3	+0.7
MPNC	**Port Mandanici**	**0.41**	**45**	P	Pb	23 31 13.0	+0.5

*MOS **18** 23:49:27.2±1.1, 36°.52N×140°.67E, h57km, mb4.6/20, Error ellipse: s-maj=11.2km s-min=7.0km az=118.2*
*NEIC **18** 23:49:28.3±2.2, 36°.44N±0°.06×140°.74E±0°.08, h47km±7km, mb4.5/20, Error ellipse: s-maj=9.8km s-min=7.5km az=117.0*
*IDC **18** 23:49:28.5±1.9, 36°.44N×140°.79E, h58km±17km, mb3.9/16, mbtmp4.1/21, MS3.2/18, Error ellipse: s-maj=16.5km s-min=9.6km az=68.0*
*NIED **18** 23:49:28.3, 36°.42N×140°.69E, h52km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.04; $M_{\theta\theta}$0.14; $M_{\phi\phi}$-0.17; $M_{r\theta}$1.50; $M_{\theta\phi}$-0.23; $M_{\phi r}$1.31; Fault plane solution: $M_0$2.01000×10^{15} NP1: ϕ_s158.00000°, δ6.00000°, λ19.00000°. NP2:ϕ_s49.00000°, δ88.00000°, λ95.00000°.*
*JMA **18** 23:49:28.3±0.1, 36°.4N±0°.2×140°.7E±0°.6, h52km, MD4.1/39, MV4.0/39, NORTHERN IBARAKI PREF*
JMA Felt II J1 at NORTHERN IBARAKI PREF .

ISC 18 23:49:28.2±0.6, 36°.45N±0°.04×140°.71E±0°.05, h53km±5km, n152, σ1s23/130, mb4.3/39, MS3.3/16, 9C-16D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.15**	**222**	⇓*i*P	**Pn**	**23 49 36.4**	**-0.1**
JHYU				⇓S	**Sn**	**23 49 42.1**	**-0.4**
JHYU	**Hitachinakayam**	**0.15**	**222**	A	A	23 49 36.4	
	comp=N,106nm,0.8s,comp=E,67nm,1.0s						
JHO	**Hitachi**	**0.20**	**325**	⇓*i*P	**Pn**	**23 49 37.0**	**+0.1**
JHO				⇓S	**Sn**	**23 49 42.8**	**-0.3**
JHO	**Hitachi**	**0.20**	**325**	A	A	23 49 37.0	
	comp=N,18nm,0.9s,comp=E,33nm,1.0s						
JYT	**Yasato**	**0.47**	**242**	⇓*i*P	**Pn**	**23 49 39.1**	**-0.3**
JYT				⇓S	**Sn**	**23 49 46.4**	**-0.9**
JYT	**Yasato**	**0.47**	**242**	A	A	23 49 39.1	
	comp=N,61nm,0.4s,comp=E,46nm,0.4s						
JIHU	**Itakohorinouch**	**0.50**	**197**	P	**Pn**	**23 49 39.7**	**0.0**
JIHU				S	**Sn**	**23 49 48.3**	**+0.3**
JIHU	**Itakohorinouch**	**0.50**	**197**	A	A	23 49 39.7	
	comp=N,24nm,1.0s,comp=E,63nm,1.8s						
JFFD	**Fukushimafurud**	**0.65**	**350**	A	A	23 49 41.9	
	comp=N,21nm,0.6s,comp=E,11nm,0.6s						
ONAJ	**Iwakimizuishiy**	**0.66**	**6**	⇓*i*P	**Pn**	**23 49 41.4**	**-0.2**
ONAJ				⇓S	**Sn**	**23 49 51.0**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.66**	**6**	A	A	23 49 41.4	
	comp=N,9.0nm,0.3s,comp=E,16nm,0.7s						
JSB	**Shiboa**	**0.82**	**310**	A	A	23 49 43.9	
	comp=N,11nm,1.0s,comp=E,10.0nm,1.0s						
JSMT	**Sammumatsuo**	**0.83**	**195**	A	A	23 49 43.5	
	comp=N,14nm,0.9s,comp=E,14nm,2.4s						
JFK	**Kawauchi**	**0.93**	**8**	⇓*i*P	**Pn**	**23 49 44.7**	**-0.4**
JFK				⇓*e*S	**Sn**	**23 49 57.2**	**-0.2**
JFK	**Kawauchi**	**0.93**	**8**	A	A	23 49 44.7	
	comp=N,3.0nm,5.8s,comp=E,4.0nm,0.7s						
JAG	**Ashikaga**	**1.01**	**269**	⇓*i*P	**Pn**	**23 49 46.2**	**0.0**
JAG				⇓S	**Sn**	**23 49 59.3**	**-0.2**
JAG	**Ashikaga**	**1.01**	**269**	A	A	23 49 46.2	
	comp=N,8.0nm,0.6s,comp=E,3.0nm,0.7s						

TOK	**Tokyo**	**1.08**	**226**	A		A		23 49 46.9	
	comp=N,13nm,0.5s,comp=E,15nm,1.4s								
JOTO	**OTAMA OYAMA**	**1.15**	**345**	*i* P		**Pn**		**23 49 48.6**	**+0.5**
JOTO				S		**Sn**		**23 50 04.2**	**+1.4**
JOTO	**OTAMA OYAMA**	**1.15**	**345**	A		A		23 49 48.6	
	comp=N,13nm,0.5s,comp=E,11nm,0.4s								
JKT	**Katashina**	**1.22**	**286**	*i* P		**Pn**		**23 49 49.5**	**+0.5**
JKT				S		**Sn**		**23 50 05.4**	**+0.9**
JKT	**Katashina**	**1.22**	**286**	A		A		23 49 49.5	
	comp=N,7.0nm,0.5s,comp=E,8.0nm,1.0s								
JFY	**Yanaizu**	**1.25**	**320**	⇓*i* P		**Pn**		**23 49 50.0**	**+0.6**
JFY	**Yanaizu**	**1.25**	**320**	A		A		23 49 50.0	
	comp=N,4.0nm,4.9s,comp=E,3.0nm,2.6s								
JMM	**Marumori**	**1.42**	**3**	Pn		**Pn**		**23 49 52.4**	**+0.8**
JMM				Sn		**Sn**		**23 50 09.8**	**+0.6**
JMM	**Marumori**	**1.42**	**3**	P		**Pn**		**23 49 52.1**	**+0.4**
JMM	**Marumori**	**1.42**	**3**	⇓*i* P		**Pn**		**23 49 52.0**	**+0.4**
JMM				⇓*e* S		**Sn**		**23 50 09.8**	**+0.6**
JMM	**Marumori**	**1.42**	**3**	A		A		23 49 52.0	
	comp=N,7.0nm,0.6s,comp=E,7.0nm,0.4s								
JYAR	**Yonezawaarcadi**	**1.53**	**343**	A		A		23 49 54.1	
	comp=N,6.0nm,1.2s,comp=E,5.0nm,1.2s								
JYS	**Shirataka**	**1.84**	**344**	A		A		23 49 58.6	
	comp=N,6.0nm,1.2s,comp=E,6.0nm,0.9s								
JOU	**Okura**	**1.91**	**359**	A		A		23 49 59.7	
	comp=N,4.0nm,0.6s,comp=E,5.0nm,0.5s								
MJAR	**Matsushiro Arr**	**2.02**	**273**			**Pn**		**23 50 00.6**	**+0.7**
MJAR	**Matsushiro Arr**	**2.02**	**273**	P		**Pn**		**23 50 00.3**	**+0.5**
	comp=E,81nm,0.7s,baz=102,slow=9.2,SNR=172								
MJAR				S		**Sn**		**23 50 26.2**	**+2.3**
	comp=E,111nm,0.7s,baz=86,slow=31,SNR=6.0								
MJAR				LR		LR		23 51 00.6	
	comp=E,362nm,20.1s,baz=127,slow=44								
MAJO	**Matsushiro**	**2.02**	**273**			**Pn**		**23 50 01.0**	**+1.1**
MAJO	**Matsushiro**	**2.02**	**273**	P		**Pn**		**23 50 01.2**	**+1.3**
MAJO	**Matsushiro**	**2.02**	**273**	*i* P		**Pn**		**23 50 01.1**	**+1.2**
MJB9	**Matsu-Tunnel**	**2.02**	**273**			**Pn**		**23 50 01.8**	**+1.9**
SHZ3	**Shizuoka 3**	**2.46**	**237**	A		A		23 50 06.5	
	comp=N,4.0nm,0.9s,comp=E,3.0nm,0.9s								
JSD	**Sado**	**2.52**	**310**	Pn		**Pn**		**23 50 07.7**	**+1.0**
JSD	**Sado**	**2.52**	**310**	P		**Pn**		**23 50 08.2**	**+1.6**
JGF	**Kuroka**	**2.84**	**254**			**Pn**		**23 50 13.0**	**+1.8**
JGF	**Kuroka**	**2.84**	**254**	P		**Pn**		**23 50 13.6**	**+2.4**
JGF	**Kuroka**	**2.84**	**254**	S		**Sn**		**23 50 48.1**	**+3.8**
INU	**Inuyama**	**3.19**	**251**	Pn		**Pn**		**23 50 17.3**	**+1.4**
JHJ	**Hachijo jima 2**	**3.41**	**193**	P		**Pn**		**23 50 18.2**	**-0.7**
	comp=E,217nm,0.8s,baz=74,slow=16,SNR=1.7								
JHJ				S		**Sn**		**23 50 59.5**	**+1.4**
	comp=E,246nm,0.6s,baz=103,slow=23,SNR=6.6								
JHJ				LR		LR		23 51 52.7	
	comp=E,256nm,21.1s,baz=212,slow=42								
JHJ2	**Mitsune**	**3.41**	**193**	Pn		**Pn**		**23 50 19.0**	**+0.1**
JTM	**Tenmabayashi**	**4.34**	**4**	Pn		**Pn**		**23 50 33.2**	**+1.6**
JTM	**Tenmabayashi**	**4.34**	**4**	P		**Pn**		**23 50 33.3**	**+1.7**
JTM	**Tenmabayashi**	**4.34**	**4**	S		**Sn**		**23 51 24.4**	**+3.5**
ERM	**Erimo**	**5.88**	**18**			**Pn**		**23 50 52.7**	**+0.1**
ERM	**Erimo**	**5.88**	**18**	P		**Pn**		**23 50 51.9**	**-0.7**
ERM	**Erimo**	**5.88**	**18**	S		**Sn**		**23 52 00.0**	**+1.4**
ERM	**Erimo**	**5.88**	**18**	P		**Pn**		**23 50 52.7**	**+0.1**
JEM	**Erimo**	**5.88**	**18**	P		**Pn**		**23 50 52.1**	**-0.6**
JEM	**Erimo**	**5.88**	**18**	S		**Sn**		**23 51 59.7**	**+1.1**
JMN	**Monobe**	**6.22**	**246**	Pn		**Pn**		**23 50 57.3**	**-0.2**
ASAJ	**Asahikawa**	**7.79**	**10**	P		**Pn**		**23 51 17.9**	**-1.1**
	comp=E,8.7nm,0.4s,baz=211,slow=14,SNR=7.5								
ASAJ				S		**Sn**		**23 52 42.0**	**-3.8**
	comp=E,8.5nm,0.4s,baz=254,slow=21,SNR=1.5								
JKA	**Kamikawa-asahi**	**7.79**	**10**	Pn		**Pn**		**23 51 17.4**	**-1.5**
TEY	**Ternei**	**9.12**	**341**	*e*P		Pn		23 51 43.4	+6.3
USRK	**Ussuriysk Ar.**	**10.21**	**322**	P		**Pn**		**23 51 53.5**	**+1.6**
	comp=E,6.9nm,0.8s,baz=145,slow=14,SNR=5.4								
KSRS	**Korea Array**	**10.28**	**279**	P		**Pn**		**23 51 53.5**	**+0.5**
	comp=E,1.6nm,0.6s,baz=94,slow=13,SNR=5.2								
NJ2	**Nanjing**	**18.58**	**263**	*e*P		**Pn**		**23 53 41.4**	**-0.2**
NJ2				pmax		pmax			
	comp=Z,13nm,0.5s								
PETK	**Petropavlovsk-**	**20.48**	**30**	LR		LR		00 01 29.2	
	comp=Z,33nm,20.2s,baz=96,slow=35								
MA2	**Magadan**	**24.05**	**13**	LR		LR		00 04 41.7	
	comp=Z,32nm,19.0s,baz=142,slow=38								
MA2	**Magadan**	**24.05**	**13**	*ce*P		**P**		**23 54 39.2**	**+1.1**
MA2				pmax		pmax			
	comp=Z,43nm,2.5s								
XAN	**Xi'an**	**26.01**	**274**	P		**P**		**23 54 51.8**	**-4.5**
XAN				pmax		pmax			
	comp=Z,5.0nm,0.8s								
YAK	**Yakutsk**	**26.52**	**348**	*ce*P		**P**		**23 54 59.4**	**-1.1**
YAK				pmax		pmax			
	comp=Z,15nm,0.6s								
ULN	**Ulaanbaatar**	**27.22**	**305**	*ce*P		**P**		**23 55 05.1**	**-2.1**
ULN				pmax		pmax			
	comp=Z,4.0nm,0.8s								
SEY	**Seymchan**	**27.48**	**12**	*ce*P		**P**		**23 55 11.0**	**+1.9**
SEY				pmax		pmax			
	comp=Z,15nm,2.5s								
SONM	**Songino Array**	**27.65**	**305**	P		**P**		**23 55 10.1**	**-0.9**
SONM	**Songino Array**	**27.65**	**305**	P		**P**		**23 55 10.7**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=110,slow=9.2,SNR=13								
SONM				LR		LR		00 06 33.0	
	comp=Z,38nm,18.7s,baz=110,slow=37								
	comp=Z,2.3nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**28.35**	**119**	T		T		00 25 15.5	
	baz=313,slow=75,SNR=101								
H11N1	**WAKE ISLAND Hy**	**28.36**	**119**	T		T		00 25 19.0	
	baz=313,slow=75,SNR=109								
H11N3	**WAKE ISLAND Hy**	**28.37**	**119**	T		T		00 25 20.2	
	baz=313,slow=75,SNR=98								
H11S1	**WAKE ISLAND Hy**	**29.03**	**121**	T		T		00 26 09.8	
	baz=314,slow=75,SNR=230								
H11S3	**WAKE ISLAND Hy**	**29.03**	**121**	T		T		00 26 10.2	
	baz=314,slow=75,SNR=187								
H11S2	**WAKE ISLAND Hy**	**29.05**	**121**	T		T		00 26 11.4	
	baz=314,slow=75,SNR=130								
GTA	**Gaotai**	**32.20**	**288**	*e*P		**P**		**23 55 51.9**	**+0.6**
PZH	**PanZhiHua**	**34.48**	**265**	P		**P**		**23 56 11.3**	**0.0**
TIXI	**Tiksi**	**35.80**	**354**	LR		LR		00 10 43.8	
	comp=Z,21nm,18.8s,baz=206,slow=36								
CMAR	**Chiang Mai Arr**	**40.80**	**255**	LR		LR		00 15 36.5	
	comp=Z,15nm,19.5s,baz=195,slow=38								
ZAA0	**Zalesovo Array**	**41.89**	**313**			**P**		**23 57 12.9**	**-0.2**
ZAA0				IAmb		IAmb		23 57 14.3	
	comp=Z,4.3nm,0.8s								
ZALV	**Zalesovo Beam**	**41.89**	**313**			**P**		**23 57 12.8**	**-0.3**
ZALV	**Zalesovo Beam**	**41.89**	**313**	P		**P**		**23 57 13.5**	**+0.4**
	comp=Z,3.6nm,0.6s,baz=91,slow=7.3,SNR=17								
	comp=Z,3.6nm,0.6s								
MK31	**Makanchi Array**	**43.95**	**303**	*ce*P		**P**		**23 57 29.6**	**-0.3**
MKAR	**Makanchi Array**	**43.95**	**303**	P		**P**		**23 57 29.8**	**-0.1**
MKAR	**Makanchi Array**	**43.95**	**303**	P		**P**		**23 57 29.9**	**0.0**
	comp=Z,3.0nm,0.7s,baz=92,slow=9.8,SNR=17								
MKAR				LR		LR		00 17 39.8	
	comp=Z,6.3nm,18.7s,baz=68,slow=38								
	comp=Z,3.0nm,0.7s								
MKAR	**Makanchi Array**	**43.95**	**303**	*ce*P		**P**		**23 57 30.8**	**+0.9**
MKAR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
K17K	**Iditarod**	**45.16**	**35**	P		**P**		**23 57 39.7**	**+0.4**
K17K				IAmb		IAmb		23 58 09.8	
	comp=Z,16nm,1.3s								
KURK	**Kurchatov**	**45.85**	**308**	P		**P**		**23 57 43.9**	**-1.0**
KURK				IAmb		IAmb		23 57 47.2	
	comp=Z,6.0nm,0.8s								
KURK	**Kurchatov**	**45.85**	**308**	*ce*P		**P**		**23 57 43.7**	**-1.2**
KURK				pmax		pmax			
	comp=Z,6.0nm,0.8s								
KURBB	**Kurchatov Arra**	**45.92**	**308**	P		**P**		**23 57 45.1**	**-0.3**
	comp=Z,4.1nm,0.6s,baz=84,slow=8.1,SNR=18								
	comp=Z,4.1nm,0.6s								
PMG	**Port Moresby**	**46.01**	**171**	*i* P		**P**		**23 57 47.7**	**+1.2**
PMG				pmax		pmax			
	comp=Z,31nm,1.2s								
D19K	**Kuna River**	**46.12**	**27**	P		**P**		**23 57 47.7**	**+0.9**
D20K	**Etivluk River**	**46.70**	**26**	P		**P**		**23 57 52.5**	**+1.1**
D20K				IAmb		IAmb		23 58 19.4	
	comp=Z,11nm,1.2s								
TARG	**Taragay, Kyrgy**	**48.15**	**297**	P		**P**		**23 58 04.0**	**+0.5**
TARG				IAmb		IAmb		23 58 06.2	
	comp=Z,5.0nm,0.9s								
TARG	**Taragay, Kyrgy**	**48.15**	**297**	P		**P**		**23 58 04.0**	**+0.5**
TARG				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KDJ	**Kajisay**	**48.49**	**297**	P		**P**		**23 58 06.1**	**+0.2**
KDJ	**Kajisay**	**48.49**	**297**	P		**P**		**23 58 06.1**	**+0.2**
KDJ				pmax		pmax			
	comp=Z,2.0nm,1.0s								
AAK	**Ala-Archa**	**50.27**	**299**	LR		LR		00 20 38.1	
	comp=Z,49nm,21.6s,baz=78,slow=37								
AAK	**Ala-Archa**	**50.27**	**299**	*i* P		**P**		**23 58 19.0**	**-0.4**
AAK				pmax		pmax			
	comp=Z,3.0nm,0.9s								
ILAR	**Eielson Array**	**50.29**	**32**	P		**P**		**23 58 19.2**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=272,slow=6.3,SNR=17								
	comp=Z,1.8nm,0.8s								
BVAR	**Borovoye Array**	**50.55**	**313**	P		**P**		**23 58 21.2**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=45,slow=15,SNR=4.5								
BVAR				LR		LR		00 22 11.6	
	comp=Z,20nm,19.1s,baz=82,slow=39								
	comp=Z,2.1nm,0.9s								
ARSB	**Arslanbob**	**51.74**	**297**	P		**P**		**23 58 28.5**	**-1.9**
ARSB				IAmb		IAmb		23 58 46.2	
	comp=Z,7.2nm,1.2s								
ARSB	**Arslanbob**	**51.74**	**297**	P		**P**		**23 58 28.5**	**-1.9**
ARSB				pmax		pmax			
	comp=Z,7.0nm,1.2s								
KK31	**Karatay Array**	**52.93**	**300**			**P**		**23 58 38.7**	**-0.3**
KK31	**Karatay Array**	**52.93**	**300**	P		**P**		**23 58 38.7**	**-0.3**
KK31				pmax		pmax			
	comp=Z,2.0nm,1.0s								
KKAR	**Karatay Array**	**52.93**	**300**			**P**		**23 58 38.7**	**-0.3**
KKAR	**Karatay Array**	**52.93**	**300**	P		**P**		**23 58 38.7**	**-0.3**
INK	**Inuvik**	**55.16**	**27**	P		**P**		**23 58 56.1**	**+1.3**
INK				IAmb		IAmb		23 58 57.3	
	comp=Z,2.7nm,0.8s								
INK	**Inuvik**	**55.16**	**27**	P		**P**		**23 58 56.1**	**+1.3**
INK				pmax		pmax			
	comp=Z,3.0nm,0.8s								
H31M	**Peel River**	**55.38**	**30**	P		**P**		**23 58 58.0**	**+1.5**
CHGR	**Chuyangaron**	**55.41**	**296**			**P**		**23 58 56.8**	**-0.4**
CHGR	**Chuyangaron**	**55.41**	**296**	P		**P**		**23 58 56.8**	**-0.4**
CHGR				pmax		pmax			
	comp=Z,10.0nm,0.8s								
SIMJ	**Simiganj**	**55.51**	**296**			**P**		**23 58 57.0**	**-1.0**
SIMJ				IAmb		IAmb		23 58 59.1	
	comp=Z,3.4nm,0.8s								
WR8	**Warramunga Arr**	**56.40**	**187**	P		**P**		**23 59 03.7**	**-0.6**
WR8				IAmb		IAmb		23 59 09.5	
	comp=Z,11nm,1.4s								
WRA	**Warramunga Arr**	**56.41**	**187**	P		**P**		**23 59 03.3**	**-1.0**
WRA	**Warramunga Arr**	**56.41**	**187**	P		**P**		**23 59 03.4**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=4.0,slow=7.3,SNR=27								
	comp=Z,2.7nm,0.8s								
WRA	**Warramunga Arr**	**56.41**	**187**	*i* P		**P**		**23 59 03.7**	**-0.6**
WRA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
ARTI	**Arti**	**56.53**	**319**	P		**P**		**23 59 04.5**	**-0.4**
ARTI	**Arti**	**56.53**	**319**	*d* P		**P**		**23 59 02.8**	**-2.0**
ARTI				*PP		**pP**		**23 59 21.6**	**+2.3**
ARTI								23 59 58.1	
ARTI				S		**S**		**00 06 47.8**	**-4.5**
ARTI				pmax		pmax			
	comp=Z,5.0nm,0.6s								
AB31	**Akbulak array**	**57.88**	**310**	P		**P**		**23 59 14.2**	**-0.3**
AB31				IAmb		IAmb		23 59 15.0	
	comp=Z,3.3nm,0.7s								
ABKAR	**Akbulak array**	**57.88**	**310**	P		**P**		**23 59 14.3**	**-0.2**
ASAR	**Alice Springs**	**60.13**	**187**	P		**P**		**23 59 30.1**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=11,slow=6.9,SNR=16								
	comp=Z,1.3nm,0.7s								
KIRV	**Kirov**	**60.37**	**323**	*ce*P		**P**		**23 59 30.0**	**-1.5**
ARCES	**ARCESS Array B**	**64.34**	**339**	P		**P**		**23 59 58.0**	**0.0**
	comp=Z,3.3nm,0.8s,baz=48,slow=9.0,SNR=7.3								
ARCES				LR		LR		00 31 17.9	
	comp=Z,19nm,18.6s,baz=244,slow=39								
	comp=Z,3.3nm,0.8s								
ARCES	**ARCESS Array B**	**64.34**	**339**	P		**P**		**23 59 58.0**	**0.0**
FIA1	**FINESS Array S**	**69.06**	**332**	P		**P**		**00 00 27.8**	**-0.3**
FINES	**FINESS Array B**	**69.07**	**332**	P		**P**		**00 00 27.6**	**-0.5**
FINES	**FINESS Array B**	**69.07**	**332**	P		**P**		**00 00 27.3**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=72,slow=6.2,SNR=6.1								
FINES				LR		LR		00 32 01.9	
	comp=Z,47nm,18.0s,baz=345,slow=37								
	comp=Z,2.9nm,0.8s								
FINES	**FINESS Array B**	**69.07**	**332**	*i* P		**P**		**00 00 29.6**	**+1.5**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.9s								
KBZ	**Khabaz**	**70.85**	**311**	P		**P**		**00 00 40.0**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=21,slow=4.7,SNR=6.1								
	comp=Z,2.1nm,0.8s								
KBZ	**Khabaz**	**70.85**	**311**	P		**P**		**00 00 40.0**	**+0.6**
KIV	**Kislovodsk**	**70.86**	**311**	*e*P		**P**		**00 00 40.8**	**+1.2**
KIV				pmax		pmax			
	comp=Z,5.0nm,1.0s								
GNI	**Garni**	**71.60**	**307**	LR		LR		00 33 38.7	
	comp=Z,17nm,18.5s,baz=84,slow=37								
AKASG	**Malin Array Be**	**74.41**	**322**	P		**P**		**00 01 00.2**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=48,slow=5.8,SNR=8.9								
AKASG				LR		LR		00 34 30.7	
	comp=Z,45nm,18.0s,baz=54,slow=36								
	comp=Z,1.5nm,0.6s								
AKASG	**Malin Array Be**	**74.41**	**322**	*i* P		**P**		**00 01 00.2**	**-0.2**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
AKBB	**Malin Array Si**	**74.41**	**322**	*ce*P		**P**		**00 00 59.5**	**-0.9**
AKBB				pmax		pmax			
	comp=Z,4.0nm,0.8s								
NB2	**NORSAR Sabarra**	**74.50**	**337**	P		**P**		**00 01 00.9**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=40,slow=6.2								
NOA	**NORSAR Array B**	**74.50**	**337**	P		**P**		**00 01 01.1**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=39,slow=5.8,SNR=12								
NOA				LR		LR		00 37 27.3	
	comp=Z,16nm,18.0s,baz=245,slow=39								
	comp=Z,2.4nm,0.7s								
PDAR	**Pinedale Array**	**78.48**	**45**	P		**P**		**00 01 24.8**	**+0.9**
PDAR	**Pinedale Array**	**78.48**	**45**	P		**P**		**00 01 24.1**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=312,slow=6.7,SNR=2.0								
	comp=Z,0.3nm,0.6s								
BRTR	**Keskin Array B**	**78.81**	**311**	P		**P**		**00 01 26.1**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=158,slow=1.3,SNR=3.6								
	comp=Z,1.0nm,0.8s								
MLR	**Muntele Rosu**	**79.46**	**319**	LR		LR		00 38 32.4	
	comp=Z,51nm,18.2s,baz=39,slow=37								
RAYN	**Ar Rayn**	**80.35**	**292**	P		**P**		**00 01 34.2**	**+0.1**
RAYN	**Ar Rayn**	**80.35**	**292**	P		**P**		**00 01 34.2**	**+0.1**
RAYN				pmax		pmax			
	comp=Z,2.0nm,1.1s								
VRAC	**Vranoy**	**81.30**	**327**	LR		LR		00 39 06.5	
	comp=Z,24nm,18.8s,baz=334,slow=37								
ASF	**Jabal al Asfar**	**81.36**	**304**	LR		LR		00 44 40.2	
	comp=Z,12nm,19.1s,baz=179,slow=41								
EKA	**Eskdalemuir Ar**	**83.49**	**340**	P		**P**		**00 01 49.6**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=46,slow=7.5,SNR=2.9								
	comp=Z,0.9nm,0.8s								
H03N2	**Juan Fernandez**	**147.52**	**97**	T		T		02 54 15.0	
	baz=291,slow=76,SNR=19								
H03N3	**Juan Fernandez**	**147.53**	**97**	T		T		02 54 09.5	
	baz=291,slow=76,SNR=18								
H03N1	**Juan Fernandez**	**147.54**	**97**	T		T		02 54 16.5	
	baz=291,slow=76,SNR=23								

*ISK **18** 23:56:45.5, 35.87N×30.89E, h11km, ML2.5/21*
*AFAD **18** 23:56:47.9, 36.00N×31.09E, h8km±3km, ML2.3*
*NIC **18** 23:56:49.4, 36.42N×31.60E, h35km±32km, Ml2.3/8*
ISC 18 23:56:46.3±1.2, 35.94N±0.03×30.98E±0.02, h19km±3km, n42, σ1°53/58, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.64**	**307**	P		**Pg**		**23 57 00.6**	**+1.5**
AKUM				S		**Sn**		**23 57 12.0**	**+2.0**
AKUM				*i* IAML				23 57 14.0	
	comp=N,329nm,0.3s								
AKUM				*i* IAML				23 57 17.0	
	comp=E,264nm,0.3s								
ANTB	**Antalya**	**1.00**	**345**	Pg		**Pg**		**23 57 06.9**	**+1.2**
ANTB				Sg		**Sn**		**23 57 20.8**	**+2.1**
ALAN	**Alanya-ANTALYA**	**1.05**	**54**	Pn		**Pg**		**23 57 07.7**	**+1.0**
GAZI	**Gazipasa**	**1.12**	**74**	Pn		**Pg**		**23 57 07.5**	**-0.5**
GAZI	**Gazipasa**	**1.12**	**74**	P		**Pg**		**23 57 07.4**	**-0.6**
GAZI				S		**Sg**		**23 57 21.9**	**-0.8**
GAZI				*i* IAML				23 57 25.0	
	comp=N,107nm,0.2s								
GAZI				*i* IAML				23 57 25.0	
	comp=E,166nm,0.2s								
AKAS	**Kas**	**1.15**	**285**	Pn		**Pn**		**23 57 07.3**	**-0.2**
KSL	**Kastellorizon**	**1.15**	**281**	P		**Pn**		**23 57 07.5**	**+0.1**
KSL				S		**Sb**		**23 57 21.1**	**-1.0**
ELL	**Elmali**	**1.19**	**313**	Pn		**Pn**		**23 57 08.6**	**+0.7**
AKMS	**Akamas**	**1.44**	**129**	P		**Pb**		**23 57 13.9**	**+1.5**
AKMS				S		**Sg**		**23 57 33.9**	**+1.1**
AKMS				AML		AML		23 57 42.9	
	0.2nm,0.8s								
AKMS				AML		AML		23 57 43.6	
	0.2nm,0.5s								
ALFC	**Alefka**	**1.53**	**120**	P		**Pn**		**23 57 13.3**	**+0.7**
ALFC				S		**Sb**		**23 57 33.0**	**-0.1**
ALFC				AML		AML		23 57 42.7	
	0.1nm,0.3s								
ALFC				AML		AML		23 57 44.1	
	0.1nm,0.3s								
HDMB	**Hadim**	**1.59**	**49**	Pn		**Pg**		**23 57 15.9**	**-1.0**
SEYD	**Seydisehir-KON**	**1.62**	**25**	Pn		**Pg**		**23 57 16.3**	**-1.2**
SEDI	**Konya, Seydise**	**1.63**	**22**	P		**Pb**		**23 57 15.4**	**-0.4**
SEDI				S		**Sg**		**23 57 38.2**	**-0.8**
SEDI				*i* IAML				23 57 42.0	
	comp=N,29nm,0.4s								
SEDI				*i* IAML				23 57 43.0	
	comp=E,46nm,0.4s								
CAME	**Cameli-Denizli**	**1.69**	**307**	Pn		**Pn**		**23 57 15.6**	**+0.8**
ERMK	**Ermenek**	**1.71**	**65**	P		**Pg**		**23 57 18.1**	**-1.2**
ERMK				*i* IAML				23 57 49.0	
	comp=E,41nm,0.4s								
ERMK				*i* IAML				23 57 51.0	
	comp=N,44nm,0.4s								
NATA	**Nata**	**1.74**	**131**	P		**Pb**		**23 57 19.1**	**+1.5**
NATA				S		**Sg**		**23 57 42.0**	**-0.4**
NATA				AML		AML		23 57 56.9	
	0.4nm,0.9s								
NATA				AML		AML		23 58 02.3	
	0.3nm,0.7s								
TEKE	**Tekeli-Mersin**	**1.74**	**83**	Pn		**Pb**		**23 57 17.7**	**+0.1**
TROD	**Troodos**	**1.83**	**122**	P		**Pn**		**23 57 18.1**	**+1.3**
TROD				AML		AML		23 57 60.0	
	0.1nm,0.7s								
TROD				AML		AML		23 58 00.3	
	0.1nm,0.5s								
BERE	**Bereket-Mersin**	**1.86**	**77**	Pn		**Pb**		**23 57 19.6**	**-0.1**
XYLS	**Xyliatos**	**1.92**	**118**	P		**Pn**		**23 57 18.2**	**+0.2**
XYLS				S		**Sn**		**23 57 41.2**	**-0.5**
XYLS				AML		AML		23 57 53.3	
	0.1nm,0.3s								
XYLS				AML		AML		23 57 55.5	
	0.1nm,0.3s								
KKBE	**Karaman, Kazim**	**2.03**	**50**	P		**Pb**		**23 57 22.8**	**+0.2**
KKBE				S		**Sg**		**23 57 51.3**	**-0.4**
KKBE				*i* IAML				23 57 54.0	
	comp=E,25nm,0.5s								
KKBE				*i* IAML				23 57 57.0	
	comp=N,24nm,0.5s								
APMY	**Acipayam-Deniz**	**2.04**	**319**	Pn		**Pn**		**23 57 21.0**	**+1.3**
GULN	**MERSIN_Gulnar**	**2.09**	**83**	P		**Pb**		**23 57 24.1**	**+0.6**
GULN				S		**Sg**		**23 57 50.1**	**-3.5**
GULN				*i* IAML				23 57 51.0	
	comp=N,22nm,0.3s								
GULN				*i* IAML				23 57 52.0	
	comp=E,23nm,0.6s								
BASM	**Basmaki-Afyon**	**2.11**	**340**	Pn		**Pn**		**23 57 22.6**	**+1.9**
CSS	**Mathiatis**	**2.15**	**116**	Pn		**Pn**		**23 57 22.7**	**+1.6**
CSS	**Mathiatis**	**2.15**	**116**	P		**Pn**		**23 57 21.4**	**+0.3**
CSS				AML		AML		23 58 04.5	
CSS				AML		AML		23 58 06.7	
ASGA	**Asgata**	**2.18**	**121**	P		**Pn**		**23 57 23.8**	**+2.4**
ASGA				S		**Sn**		**23 57 48.3**	**+0.4**
ASGA				AML		AML		23 58 10.1	
	0.1nm,0.7s							

PB01	**IPOC Station P**	**1.92 337**	*e*P		**Pn**	**00 08 17.5**	**-0.1**
PB01			*e*S		**Sn**	**00 08 41.8**	**0.0**
PB01			IAML			00 08 43.6	
	comp=N,677nm,0.3s						
PB01	**IPOC Station P**	**1.92 337**	*i* P		**Pn**	**00 08 17.4**	**-0.1**
PB01			*e*S		**Sn**	**00 08 41.9**	**+0.2**
PB01			IAML			00 08 44.6	
	comp=Z,232nm,0.2s						
PB01			IAML			00 08 44.6	
	comp=Z,232nm,0.2s						
PB14	**IPOC Station P**	**2.40 221**	*i* P		**Pn**	**00 08 23.9**	**-0.2**
PB14			*e*S		**Sn**	**00 08 53.5**	**+0.2**
PB14			IAML			00 09 01.1	
	comp=Z,161nm,0.2s						
PB14			IAML			00 09 01.1	
	comp=Z,161nm,0.2s						
PATCX	**Punta Patache**	**2.42 325**	*i* P		**Pn**	**00 08 22.9**	**-1.1**
PATCX			⇓*e*S		**Sn**	**00 08 53.1**	**-0.1**
PATCX			IAML			00 08 58.8	
	comp=Z,189nm,0.4s						
PATCX			IAML			00 08 58.8	
	comp=Z,189nm,0.4s						
GO02	**Mina Guanaco**	**2.48 200**	*e*P		**Pn**	**00 08 25.0**	**-0.2**
GO02			IAML			00 09 06.5	
	comp=E,456nm,0.2s						
GO02	**Mina Guanaco**	**2.48 200**	*i* P		**Pn**	**00 08 25.2**	**0.0**
GO02			*e*S		**Sn**	**00 08 55.2**	**0.0**
GO02			IAML			00 09 05.8	
	comp=Z,269nm,0.2s						
GO02			IAML			00 09 05.8	
	comp=Z,269nm,0.2s						
TA01	**Diego Aracena**	**2.64 328**	*i* P		**Pn**	**00 08 26.3**	**-0.6**
TA01			*e*S		**Sn**	**00 08 59.0**	**+0.5**
TA01			IAML			00 09 07.0	
	comp=Z,110nm,0.4s						
TA01			IAML			00 09 07.0	
	comp=Z,110nm,0.4s						
PB08	**IPOC Station P**	**2.70 350**	*i* P		**Pn**	**00 08 28.1**	**0.0**
PB08			*e*S		**Sn**	**00 09 00.1**	**-0.2**
PB08			IAML			00 09 08.3	
	comp=Z,48nm,0.2s						
PB08			IAML			00 09 08.3	
	comp=Z,48nm,0.2s						
HMBC	**Humberstone**	**2.77 336**	*i* P		**Pn**	**00 08 28.4**	**-0.4**
HMBC			*e*S		**Sn**	**00 09 02.6**	**+0.9**
HMBC			IAML			00 09 10.0	
	comp=Z,188nm,0.4s						
HMBC			IAML			00 09 10.0	
	comp=Z,188nm,0.4s						
GO01	**Chusmiza**	**3.17 351**	*i* P		**Pn**	**00 08 34.0**	**-0.4**
GO01			IAML			00 09 21.5	
	comp=Z,51nm,0.7s						
GO01			IAML			00 09 21.5	
	comp=Z,51nm,0.7s						
PB11	**IPOC Station P**	**3.17 343**	*i* P		**Pn**	**00 08 33.2**	**-1.0**
PB11			IAML			00 09 23.6	
	comp=Z,76nm,0.3s						
PB11			IAML			00 09 23.7	
	comp=Z,76nm,0.3s						
AZAP	**Zapla**	**3.59 114**	*i* P		**Pn**	**00 08 40.0**	**+0.1**
AZAP			IAML			00 09 44.6	
	comp=Z,16nm,3.3s						
AC02	**Maricunga**	**4.03 186**	*i* P		**Pn**	**00 08 45.9**	**-0.1**
AC02			IAML			00 10 15.1	
	comp=Z,36nm,0.7s						
AC02			IAML			00 10 15.1	
	comp=Z,36nm,0.7s						
PB16	**IPOC Station P**	**4.53 350**	*i* P		**Pn**	**00 08 52.9**	**+0.1**
PB16			IAML			00 10 00.6	
	comp=Z,22nm,0.5s						
PB16			IAML			00 10 13.5	
	comp=Z,18nm,1.9s						

NEIC ***19*** *00:20:29.4±1.4, 11°.71N±0°.08×140°.2E±0°.2, h10km±1km, mb4.7/32, Error ellipse: s-maj=25.6km s-min=14.1km az=87.0*
IDC ***19*** *00:20:35.0±0.6, 11°.63N×140°.36E, h56km±4km, mb3.9/15, mbtmp4.2/16, MS3.4/18, Error ellipse: s-maj=22.9km s-min=13.0km az=83.0*

ISC 19 00:20:33.8±0.5, **11°.60N**±0°.06×**140°.3E**±0°.1, **h43km**, **n73,** σ1§**71**/65, **mb4.4**/30, **MS3.3**/16, **Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**14.03**	**178**	P	**Pn**	**00 23 51.0**	**+0.9**
	17nm,0.6s,baz=17,slow=7.2,SNR=11						
JAY				S	**Sn**	**00 26 26.9**	**+2.3**
	9.1nm,0.8s,baz=77,slow=18,SNR=2.3						
JAY				LR	LR	00 28 12.0	
	comp=Z,182nm,19.7s,baz=20,slow=32						
DAV	**Davao City (W)**	**15.19**	**254**	LR	LR	00 28 37.7	
	comp=Z,111nm,20.2s,baz=114,slow=32						
MANU	**Manus Island**	**15.28**	**152**		**Pn**	**00 24 05.2**	**-1.4**
MANU				IAmb	IAmb	00 24 14.1	
	comp=Z,21nm,0.8s						
LUWI	**Luwuk**	**21.46**	**235**	P	**P**	**00 25 16.4**	**-2.4**
PMG	**Port Moresby**	**21.96**	**162**	LR	LR	00 33 14.2	
	comp=Z,72nm,20.6s,baz=264,slow=35						
TOLI2	**Tolitoli**	**21.98**	**243**	P	**P**	**00 25 21.5**	**-2.9**
MYLDM	**Lahad Datu**	**22.47**	**255**	P	**P**	**00 25 27.3**	**-2.2**
MYLDM				IAmb	IAmb	00 25 50.8	
	comp=Z,28nm,1.1s						
JMN	**Monobe**	**22.79**	**346**	P	**P**	**00 25 30.3**	**-2.5**
MJAR	**Matsushiro Arr**	**24.90**	**356**	LR	LR	00 35 36.4	
	comp=Z,46nm,18.6s,baz=154,slow=36						
COEN	**Coen**	**25.56**	**173**	P	**P**	**00 25 59.4**	**+0.6**
COEN				IAmb	IAmb	00 26 02.1	
	comp=Z,9.0nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**26.38**	**72**	T	T	00 55 35.4	
	baz=254						
H11S1	**WAKE ISLAND Hy**	**26.39**	**72**	T	T	00 55 35.4	
	baz=254						
H11S2	**WAKE ISLAND Hy**	**26.39**	**72**	T	T	00 55 35.4	
	baz=254						
SOEI	**Soe**	**26.53**	**218**	P	**P**	**00 26 06.8**	**-1.1**
SOEI				IAmb	IAmb	00 26 33.8	
	comp=Z,18nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**26.83**	**69**	T	T	00 56 11.5	
	baz=254						
H11N2	**WAKE ISLAND Hy**	**26.84**	**69**	T	T	00 56 11.5	
	baz=254						
H11N3	**WAKE ISLAND Hy**	**26.85**	**69**	T	T	00 56 15.1	
	baz=254						
BATI	**Baumata**	**27.25**	**218**	LR	LR	00 36 50.7	
	comp=Z,57nm,19.7s,baz=90,slow=36						
KNRA	**Kununurra**	**29.41**	**203**	P	**P**	**00 26 32.5**	**-0.8**
KNRA				IAmb	IAmb	00 26 33.2	
	comp=Z,11nm,0.6s						
WB0	**Warramunga Arr**	**31.71**	**191**	P	**P**	**00 26 52.9**	**-0.8**
WRA	**Warramunga Arr**	**31.89**	**191**		**P**	**00 26 54.4**	**-0.8**
WRA	**Warramunga Arr**	**31.89**	**191**	P	**P**	**00 26 54.9**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=13,slow=9.0,SNR=50						
WRA				LR	LR	00 40 02.1	
	comp=Z,108nm,18.7s,baz=343,slow=37						
	comp=Z,2.4nm,0.6s						
ASAJ	**Asahikawa**	**32.46**	**3**	LR	LR	00 41 56.3	
	comp=Z,24nm,18.0s,baz=0.0,slow=40						
FITZ	**Fitzroy Crossi**	**32.86**	**206**	P	**P**	**00 27 00.4**	**-3.4**
AS31	**Alice Springs**	**35.60**	**190**		**P**	**00 27 27.4**	**-0.1**
ASAR	**Alice Springs**	**35.60**	**190**	P	**P**	**00 27 27.2**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=13,slow=7.9,SNR=32						
ASAR				PcP	**PcP**	**00 29 56.4**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=18,slow=2.5,SNR=4.1						
ASAR				LR	LR	00 41 26.4	
	comp=Z,161nm,20.8s,baz=84,slow=35						
	comp=Z,1.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**40.44**	**285**	P	**P**	**00 28 10.4**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=88,slow=6.4,SNR=2.0						
CMAR				pP	**sP**	**00 28 24.2**	**-0.2**
	comp=Z,8.3nm,1.2s,baz=95,slow=7.8,SNR=3.3						
	comp=Z,0.7nm,0.3s						
STKA	**Stephens Creek**	**43.25**	**178**	P	**P**	**00 28 30.8**	**-0.3**
	comp=Z,5.7nm,0.9s,baz=339,slow=7.8,SNR=5.5						
STKA				LR	LR	00 48 13.9	
	comp=Z,204nm,18.5s,baz=199,slow=38						
	comp=Z,5.7nm,0.9s						
PETK	**Petropavlovsk-**	**43.69**	**15**	LR	LR	00 44 49.5	
	comp=Z,34nm,19.6s,baz=175,slow=33						
FORT	**Forrest**	**43.75**	**195**	P	**P**	**00 28 34.6**	**-0.5**
FORT				IAmb	IAmb	00 28 38.0	
	comp=Z,6.6nm,0.8s						
SONM	**Songino Array**	**45.92**	**328**		**P**	**00 28 51.8**	**-0.6**
SONM	**Songino Array**	**45.92**	**328**	P	**P**	**00 28 53.3**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=135,slow=7.1,SNR=4.8						
SONM				pP	**sP**	**00 29 08.3**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=140,slow=8.2,SNR=2.8						
SONM				LR	LR	00 48 23.5	
	comp=Z,42nm,20.2s,baz=129,slow=36						
	comp=Z,0.7nm,0.6s						
CAN	**Canberra**	**47.39**	**170**	P	**P**	**00 29 04.3**	**+0.3**
MA2	**Magadan**	**48.52**	**7**	LR	LR	00 48 17.3	
	comp=Z,22nm,20.6s,baz=105,slow=34						
TOO	**Toolangi**	**49.16**	**175**	P	**P**	**00 29 18.5**	**+1.0**
TOO				IAmb	IAmb	00 29 19.9	
	comp=Z,3.1nm,0.7s						
SHEM	**Shemya Is, Ala**	**49.18**	**27**	LR	LR	00 48 11.9	
	comp=Z,37nm,20.4s,baz=89,slow=34						
YAK	**Yakutsk**	**50.93**	**354**	LR	LR	00 49 58.3	
	comp=Z,17nm,20.8s,baz=160,slow=35						
MKAR	**Makanchi Array**	**59.87**	**318**	P	**P**	**00 30 34.5**	**-0.7**
MKAR	**Makanchi Array**	**59.87**	**318**	P	**P**	**00 30 35.0**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=98,slow=8.2,SNR=5.4						
MKAR				sP	**sP**	**00 30 55.8**	**+4.6**
	comp=Z,0.5nm,0.6s,baz=93,slow=8.4,SNR=2.7						
MKAR				LR	LR	00 57 16.5	
	comp=Z,15nm,20.7s,baz=256,slow=37						
	comp=Z,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**60.69**	**326**	P	**P**	**00 30 39.7**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=97,slow=7.5,SNR=3.7						
ZALV				sP	**sP**	**00 31 00.3**	**+3.6**
	comp=Z,1.1nm,0.5s,baz=111,slow=8.0,SNR=3.9						
	comp=Z,0.5nm,0.3s						
KURK	**Kurchatov**	**63.26**	**321**		**P**	**00 30 57.2**	**-0.8**
KURK				IAmb	IAmb	00 31 20.6	
	comp=Z,3.9nm,0.6s						
KURBB	**Kurchatov Arra**	**63.29**	**321**	P	**P**	**00 30 57.5**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=106,slow=7.1,SNR=14						
KURBB				pP	**sP**	**00 31 13.9**	**-0.4**
	comp=Z,2.9nm,0.9s,baz=104,slow=7.7,SNR=5.3						
KURBB				sP	**pwP**	**00 31 19.4**	**+5.6**
	comp=Z,2.3nm,0.7s,baz=106,slow=7.1,SNR=5.1						
	comp=Z,1.0nm,0.3s						
NIL	**Nilore**	**64.59**	**302**	P	**P**	**00 31 06.3**	**-0.8**
NIL				IAmb	IAmb	00 31 33.0	
	comp=Z,8.8nm,1.2s						
KDAK	**Kodiak Island**	**68.12**	**32**	LR	LR	00 59 11.6	
	comp=Z,26nm,19.5s,baz=249,slow=34						
BVAR	**Borovoye Array**	**68.73**	**323**	P	**P**	**00 31 32.6**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=114,slow=6.6,SNR=11						
BVAR				pP	**sP**	**00 31 49.8**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=101,slow=6.0,SNR=5.4						
	comp=Z,1.8nm,0.6s						
IMAR	**Indian Mountai**	**69.78**	**23**	P	**P**	**00 31 38.8**	**-0.6**
MLY	**Manley**	**70.72**	**25**		**P**	**00 31 44.6**	**-0.6**
MLY				IAmb	IAmb	00 31 45.2	
	comp=Z,4.7nm,0.7s						
COLD	**Coldfoot**	**71.48**	**23**	P	**P**	**00 31 49.4**	**-0.3**
COLD				IAmb	IAmb	00 31 51.8	
	comp=Z,6.0nm,0.8s						
TOLK	**Toolik Lake Re**	**72.07**	**21**	P	**P**	**00 31 53.0**	**-0.3**
TOLK				IAmb	IAmb	00 32 22.2	
	comp=Z,8.6nm,1.1s						
IL31		**72.27**	**25**	P	**P**	**00 31 52.5**	**-1.9**
IL31				IAmb	IAmb	00 31 53.7	
	comp=Z,6.2nm,1.1s						
ILAR	**Eielson Array**	**72.27**	**25**	P	**P**	**00 31 52.3**	**-2.1**
ILAR	**Eielson Array**	**72.27**	**25**	P	**P**	**00 31 52.5**	**-1.9**
	comp=Z,3.1nm,0.6s,baz=247,slow=5.8,SNR=40						
	comp=Z,3.1nm,0.6s						
SCRK	**Sand Creek**	**73.39**	**26**		**P**	**00 32 00.2**	**-1.1**
SCRK				IAmb	IAmb	00 32 02.2	
	comp=Z,4.8nm,1.2s						
BMAR	**Burnt Mountain**	**73.66**	**23**	P	**P**	**00 32 03.0**	**+0.3**
BCAR	**Beaver Creek A**	**74.26**	**28**	P	**P**	**00 32 06.0**	**-0.3**
AB31	**Akbulak array**	**75.01**	**318**	P	**P**	**00 32 09.8**	**-1.1**
ABKAR	**Akbulak array**	**75.01**	**318**	P	**P**	**00 32 09.5**	**-1.4**
DIB	**Dawson Inlet,**	**79.16**	**38**	P	**P**	**00 32 33.5**	**-0.6**
GNW	**Green Mountain**	**86.13**	**42**		**P**	**00 33 10.7**	**+0.2**
YKA	**Yellowknife Ar**	**86.65**	**27**	P	**P**	**00 33 12.6**	**-0.1**
	comp=Z,3.6nm,0.7s,baz=295,slow=5.3,SNR=18						
	comp=Z,3.6nm,0.7s						
YBH	**Yreka Blue Hor**	**87.53**	**48**	P	**P**	**00 33 18.1**	**+0.5**
YBH				IAmb	IAmb	00 33 21.9	
	comp=Z,5.6nm,1.1s						
ARCES	**ARCESS Array B**	**87.56**	**341**	LR	LR	01 17 05.5	
	comp=Z,25nm,19.2s,baz=66,slow=39						
NEW	**Newport**	**89.66**	**41**	LR	LR	01 13 32.9	
	comp=Z,42nm,18.3s,baz=312,slow=36						
BEKR	**Beckworth**	**89.71**	**49**	P	**P**	**00 33 28.2**	**+0.3**
BMO	**Blue Mountains**	**90.53**	**44**	P	**P**	**00 33 31.5**	**-0.1**
FINES	**FINESS Array B**	**91.02**	**334**	P	**P**	**00 33 31.3**	**-2.0**
	comp=Z,2.3nm,0.9s,baz=64,slow=5.4,SNR=4.4						
FINES				pP	**pwP**	**00 33 50.0**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=90,slow=5.7,SNR=1.3						
FINES				sP	**sP**	**00 33 55.4**	**+5.6**
	comp=Z,3.7nm,1.0s,baz=57,slow=5.1,SNR=1.6						
	comp=Z,2.3nm,0.9s						
NVAR	**Mina Array Bea**	**91.64**	**50**	P	**P**	**00 33 36.4**	**-0.6**
NVAR	**Mina Array Bea**	**91.64**	**50**	P	**P**	**00 33 37.6**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=283,slow=6.5,SNR=12						
	comp=Z,2.2nm,0.7s						
MFID	**Jamas Ranch**	**91.98**	**45**		**P**	**00 33 38.2**	**-0.1**
WCT	**Wildcat Mounta**	**93.38**	**52**	IAmb	IAmb	00 33 45.9	
	comp=Z,2.8nm,0.9s						
BRTR	**Keskin Array B**	**95.12**	**312**	P	**P**	**00 33 51.9**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=59,slow=5.5,SNR=1.6						
	comp=Z,0.3nm,0.5s						
PDAR	**Pinedale Array**	**96.51**	**44**	P	**P**	**00 33 59.2**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=285,slow=4.4,SNR=5.1						
	comp=Z,0.2nm,0.5s						
LPAZ	**La Paz**	**152.05**	**103**	PKPbc	**PKiKP**	**00 40 26.4**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=296,slow=1.2,SNR=11						

NEIC ***19*** *00:31:30.7±1.5, 24°.89N±0°.07×123°.03E±0°.07, h139km±1km, mb4.3/17, Error ellipse: s-maj=10.0km s-min=8.6km az=202.0*
IDC ***19*** *00:31:30.2±5.0, 25°.04N×123°.16E, h136km±52km, mb3.5/10, mbtmp4.0/11, MS3.4/2, Error ellipse: s-maj=42.9km s-min=12.0km az=64.0*
JMA ***19*** *00:31:31.1±0.3, 25°.N±2°×123°.0E±0°.7, h135km±2km, MV4.0/18, NW OFF ISHIGAKIJIMA IS*

ISC 19 00:31:30.4±0.6, **24°.89N**±0°.06×**123°.03E**±0°.04, **h139**km±5km, **n66,** σ1§**06**/76, **mb4.2**/19, **Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.43**	**182**		**Pn**	**00 31 50.4**	**+0.1**
YOJ				Sn	**Sn**	**00 32 04.7**	**-0.5**
YOJ	**Yonaguni jima**	**0.43**	**182**	P	**Pn**	**00 31 50.2**	**0.0**
YOJ	**Yonaguni jima**	**0.43**	**182**	P	**Pn**	**00 31 50.3**	**+0.1**
YOJ				S	**Sn**	**00 32 04.6**	**-0.6**
YOJ	**Yonaguni jima**	**0.43**	**182**	A	A	00 31 50.3	
	comp=N,9.0nm,1.7s,comp=E,7.0nm,0.7s						
IRIF	**Iriomote-Funau**	**0.84**	**131**	P	**Pn**	**00 31 53.0**	**+0.1**
IRIF				S	**Sn**	**00 32 08.8**	**-1.1**
HATJ	**Hateruma jima**	**1.09**	**139**	P	**Pn**	**00 31 55.5**	**+0.5**
HATJ				*e*S	**Sn**	**00 32 13.0**	**-0.8**
JKRS	**Kuro-shima**	**1.10**	**126**	P	**Pn**	**00 31 55.8**	**+0.7**
JKRS				S	**Sn**	**00 32 13.4**	**-0.5**
JIJ	**Ishigaki jima**	**1.14**	**117**	P	**Pn**	**00 31 55.5**	**0.0**
JIJ				S	**Sn**	**00 32 13.0**	**-1.6**
JISG	**Ishigakijimahi**	**1.21**	**104**	P	**Pn**	**00 31 56.3**	**+0.2**
JISG				S	**Sn**	**00 32 14.6**	**-1.1**
TATO	**Taipei**	**1.40**	**274**		**Pn**	**00 31 58.7**	**+0.6**
TATO				Sn	**Sn**	**00 32 18.7**	**-0.5**
NACB	**Ninganchiao**	**1.49**	**242**		**Pn**	**00 31 58.6**	**-0.4**
NACB				Sn	**Sn**	**00 32 17.8**	**-3.1**
NACB	**Ninganchiao**	**1.49**	**242**	P	**Pn**	**00 31 58.9**	**-0.2**
YHNB	**Yeheng**	**1.52**	**262**		**Pn**	**00 32 00.1**	**+0.7**
YHNB	**Yeheng**	**1.52**	**262**	P	**Pn**	**00 32 00.3**	**+0.8**
JTJ	**Tarama**	**1.54**	**99**	P	**Pn**	**00 32 00.1**	**+0.5**
JTJ				S	**Sn**	**00 32 21.4**	**-0.6**
JIRB	**Irabujima**	**1.95**	**91**	*e*S	**Sn**	**00 32 29.6**	**-0.6**
JIKM	**Ikemajima**	**2.02**	**89**	*e*S	**Sn**	**00 32 31.1**	**-0.6**
JMJ2	**Miyako jima3**	**2.10**	**94**	*e*P	**Pn**	**00 32 07.1**	**+1.0**
JMJ2				*e*S	**Sn**	**00 32 33.0**	**-0.4**
JOGS	**Gusukube**	**2.17**	**93**	*e*S	**Sn**	**00 32 34.3**	**-0.6**
YULB	**Yu-li**	**2.17**	**227**		**Pn**	**00 32 06.6**	**-0.5**
YULB	**Yu-li**	**2.17**	**227**	P	**Pn**	**00 32 06.5**	**-0.5**
SSLB	**Suanglung**	**2.19**	**240**		**Pn**	**00 32 07.7**	**+0.5**
SSLB	**Suanglung**	**2.19**	**240**	P	**Pn**	**00 32 07.8**	**+0.6**
TPUB	**Ta-pu**	**2.70**	**235**		**Pn**	**00 32 14.5**	**+0.8**
TPUB	**Ta-pu**	**2.70**	**235**	P	**Pn**	**00 32 14.6**	**+1.0**
TWGBT	**Beinan**	**2.73**	**221**	P	**Pn**	**00 32 13.5**	**-0.4**
TWG	**Pinlang**	**2.73**	**221**		**Pn**	**00 32 13.4**	**-0.6**
KNMB	**Chin-men Tao**	**4.24**	**265**	Pn	**Pn**	**00 32 33.4**	**-0.2**
JOW	**Kunigami**	**5.11**	**67**	Pn	**Pn**	**00 32 43.6**	**-1.5**
JOW	**Kunigami**	**5.11**	**67**	P	**Pn**	**00 32 43.5**	**-1.6**
	comp=E,31nm,0.3s,baz=107,slow=19,SNR=9.3						
JOW				S	**Sn**	**00 33 38.3**	**-5.0**
	comp=E,28nm,0.2s,baz=137,slow=27,SNR=1.3						
KSAR	**Wonju Array Be**	**13.18**	**17**	Pn	**Pn**	**00 34 34.0**	**+1.8**
KSRS	**Korea Array**	**13.20**	**17**	P	**Pn**	**00 34 34.0**	**+1.5**
	comp=E,14nm,0.8s,baz=200,slow=12,SNR=24						
KS19	**Wonju Array Si**	**13.23**	**17**	P	**Pn**	**00 34 35.6**	**+2.6**
USRK	**Ussuriysk Ar.**	**20.60**	**19**	P	**P**	**00 35 58.0**	**-0.4**
	comp=E,4.2nm,0.6s,baz=203,slow=10,SNR=6.0						
	comp=E,4.2nm,0.6s						
SONM	**Songino Array**	**26.42**	**334**	P	**P**	**00 36 54.1**	**0.0**
	comp=E,0.6nm,0.6s,baz=155,slow=11,SNR=2.0						
	comp=E,0.6nm,0.6s						
MKAR	**Makanchi Array**	**39.02**	**315**	P	**P**	**00 38 43.0**	**-0.3**
	comp=E,0.6nm,0.4s,baz=98,slow=10,SNR=12						
	comp=E,0.6nm,0.4s						
ZAA0	**Zalesovo Array**	**40.59**	**326**	P	**P**	**00 38 54.9**	**-1.3**
ZALV	**Zalesovo Beam**	**40.59**	**326**	P	**P**	**00 38 54.8**	**-1.4**
ZALV	**Zalesovo Beam**	**40.59**	**326**	P	**P**	**00 38 55.0**	**-1.2**
	comp=E,1.5nm,0.5s,baz=111,slow=7.7,SNR=7.3						
ZALV				LR	LR	00 56 12.2	
	comp=E,28nm,18.6s,baz=87,slow=37						
	comp=E,1.5nm,0.5s						
KNRA	**Kununurra**	**40.71**	**172**	P	**P**	**00 38 57.7**	**+0.3**
KNRA				IAmb	IAmb	00 39 16.9	
	comp=Z,21nm,1.5s						
KURK	**Kurchatov**	**42.65**	**319**	P	**P**	**00 39 12.6**	**-0.3**
KURK				IAmb	IAmb	00 39 13.0	
	comp=Z,3.5nm,1.1s						
KURBB	**Kurchatov Arra**	**42.67**	**319**	P	**P**	**00 39 12.8**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=112,slow=9.6,SNR=9.8						
	comp=Z,0.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**42.80**	**176**	P	**P**	**00 39 14.3**	**-0.2**
COEN	**Coen**	**43.33**	**151**		**P**	**00 39 20.0**	**+1.2**
WB0	**Warramunga Arr**	**45.75**	**165**		**P**	**00 39 38.6**	**+0.6**
WB0				IAmb	IAmb	00 39 39.4	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**45.90**	**165**		**P**	**00 39 38.5**	**-0.7**
WRA	**Warramunga Arr**	**45.90**	**165**	P	**P**	**00 39 40.2**	**+1.1**
	comp=Z,7.9nm,0.5s,baz=347,slow=8.7,SNR=76						
PSA00	**Pilbara Seismi**	**46.29**	**184**	P	**P**	**00 39 41.4**	**-0.8**
PSA00				IAmb	IAmb	00 39 42.4	
	comp=Z,6.7nm,1.2s						
KKAR	**Karatay Array**	**46.39**	**307**	P	**P**	**00 39 42.9**	**+0.1**
BVAR	**Borovoye Array**	**48.20**	**320**	P	**P**	**00 39 56.5**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=126,slow=9.1,SNR=3.5						
	comp=Z,0.6nm,0.5s						
AS31	**Alice Springs**	**49.41**	**167**	P	**P**	**00 40 06.6**	**+0.4**
ASAR	**Alice Springs**	**49.41**	**167**	P	**P**	**00 40 06.3**	**+0.1**
ASAR	**Alice Springs**	**49.41**	**167**	P	**P**	**00 40 07.5**	**+1.4**
	comp=Z,1.7nm,0.4s,baz=348,slow=9.4,SNR=24						
	comp=Z,1.7nm,0.4s						
AB31	**Akbulak array**	**54.16**	**314**	P	**P**	**00 40 40.9**	**-0.2**
AB31				IAmb	IAmb	00 40 41.8	
	comp=Z,1.4nm,0.8s						
ABKAR	**Akbulak array**	**54.16**	**314**	P	**P**	**00 40 40.7**	**-0.5**
ARTI	**Arti**	**55.66**	**323**	P	**P**	**00 40 50.6**	**-1.2**
ARTI				IAmb	IAmb	00 41 09.0	
	comp=Z,2.9nm,0.9s						
BBOO	**Buckleboo**	**58.71**	**167**	P	**P**	**00 41 13.7**	**+0.3**
STKA	**Stephens Creek**	**59.17**	**162**	P	**P**	**00 41 16.6**	**0.0**
STKA	**Stephens Creek**	**59.17**	**162**	P	**P**	**00 41 16.9**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=331,slow=7.1,SNR=5.7						
	comp=Z,2.2nm,0.6s						
D20K	**Etivluk River**	**63.56**	**24**	P	**P**	**00 41 45.9**	**+0.1**
D20K				IAmb	IAmb	00 41 53.6	
	comp=Z,11nm,1.4s						
J20K	**Nowinta River**	**64.79**	**29**	P	**P**	**00 41 53.9**	**+0.1**
J20K				IAmb	IAmb	00 42 08.0	
	comp=Z,8.8nm,1.5s						
G21K	**Allakaket**	**64.86**	**26**	P	**P**	**00 41 54.8**	**+0.6**
G21K				IAmb	IAmb	00 42 18.1	
	comp=Z,4.2nm,1.1s						
D22K	**Ayikyak River**	**64.98**	**23**	P	**P**	**00 41 55.2**	**+0.1**
ARCES	**ARCESS Array B**	**69.51**	**338**	P	**P**	**00 42 23.1**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=55,slow=5.8,SNR=0.7						
	comp=Z,0.6nm,0.6s						
FINES	**FINESS Array B**	**71.68**	**330**	P	**P**	**00 42 36.3**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=71,slow=6.6,SNR=3.7						
	comp=Z,0.8nm,0.7s						
VRAC	**Vranov**	**81.47**	**321**	LR	LR	01 22 15.0	
	com

MTVZ	Mangateitei	0.74	195	P		Pn	00 36 04.8	0.0
TARZ	Mount Tarawera	0.75	56	P		Pn	00 36 04.0	-1.0
OMRZ	Omania	0.76	43	P		Pn	00 36 03.9	-1.0
KARZ	Kaharoa	0.76	33	P		Pn	00 36 04.0	-0.9
BKZ	Black Stump Fm	0.79	130			Pn	00 36 04.7	-0.4
BKZ					Sn	Sn	00 36 21.7	-2.7
BKZ	Black Stump Fm	0.79	130	P		Pn	00 36 04.5	-0.6
BKZ	Black Stump Fm	0.79	130	S		Sn	00 36 22.3	-2.1
BKZ	Black Stump Fm	0.79	130	P		Pn	00 36 04.7	-0.4
MKRZ	Makatiti	0.79	48	P		Pn	00 36 04.6	-0.6
KMRZ	Kaimai	0.84	12	P		Pn	00 36 04.6	-0.9
LIRZ	Lichensteins R	0.84	39	P		Pn	00 36 04.5	-1.0
MUGZ	Murupara	0.85	78	P		Pn	00 36 04.3	-1.1
VRZ	Vera Road	0.88	238	P		Pn	00 36 05.7	+0.1
MTHZ	Maungataniwha	0.90	102	P		Pn	00 36 05.3	-0.5
KWHZ	Kaweka Forest	0.94	144	P		Pn	00 36 06.2	+0.1
TOZ	Tahuroa Road	0.95	350			Pn	00 36 05.5	-0.7
TOZ					Sn	Sn	00 36 23.9	-2.3
TOZ	Tahuroa Road	0.95	350	P		Pn	00 36 05.5	-0.7
NMHZ	Naumai	0.95	117	P		Pn	00 36 06.7	+0.4
EDRZ	Edgecumbe	0.98	56	P		Pn	00 36 05.2	-1.3
RTZ	Ruatahuna	0.99	88			Pn	00 36 05.8	-0.8
RTZ	Ruatahuna	0.99	88	P		Pn	00 36 05.7	-0.8
MARZ	Manawahe	1.01	48	P		Pn	00 36 05.6	-1.1
TGRZ	Tauranga	1.03	25	P		Pn	00 36 05.7	-1.0
OPRZ	Ohinepanea	1.05	39	P		Pn	00 36 05.7	-1.2
MCHZ	McNeill Hill	1.09	136	P		Pn	00 36 08.0	+0.7
RAHZ	Arahi	1.10	104	P		Pn	00 36 07.3	-0.1
KRHZ	Kereru	1.10	153	P		Pn	00 36 07.5	+0.2
ARHZ	Aropaoanui	1.16	121	P		Pn	00 36 08.2	+0.3
MHEZ	Mangahewa	1.16	249	P		Pn	00 36 08.6	+0.7
URZ	Urewera	1.17	70	P		Pn	00 36 06.4	-1.5
	2µm,0.3s,baz=243,slow=4.5,SNR=2792							
URZ					LR	LR	00 36 14.5	
	comp=Z,185nm,21.2s,baz=307,slow=43							
URZ					S	Sn	00 36 24.6	-4.7
	2µm,0.3s,baz=234,slow=8.5,SNR=6.0							
URZ	Urewera	1.17	70	P		Pn	00 36 06.3	-1.5
URZ	Urewera	1.17	70	P		Sn	00 36 25.7	-3.6
URZ	Urewera	1.17	70	P		Pn	00 36 06.4	-1.5
WAZ	Wanganui	1.23	207	P		Pn	00 36 08.7	+0.3
WHHZ	Waihua	1.25	110	P		Pn	00 36 08.7	+0.1
SNGZ	Shannon Statio	1.27	96	P		Pn	00 36 08.6	-0.3
WHRZ	Whale Island	1.28	51	P		Pn	00 36 07.6	-1.3
DREZ	Durham Road	1.29	246	P		Pn	00 36 08.7	+0.6
LREZ	Lake Rotokare	1.30	232	P		Pn	00 36 09.8	+0.8
PNHZ	Pukenui	1.30	163	P		Pn	00 36 09.2	0.0
RAGZ	Rawiri	1.34	83	P		Pn	00 36 08.7	-0.9
PREZ	Palmer Road	1.39	240	P		Pn	00 36 10.7	+0.7
NEZ	North Egmont	1.40	244	P		Pn	00 36 10.8	+0.6
TSZ	Takapari Road	1.41	172	P		Pn	00 36 10.2	+0.1
MYRZ	Mayor Island	1.44	17	P		Pn	00 36 09.7	-0.8
KAHZ	Kahuranaki	1.44	142	P		Pn	00 36 10.9	+0.4
CKHZ	Cape Kidnapper	1.45	134	P		Pn	00 36 10.9	+0.4
PKE	Pukeiti	1.45	248	P		Pn	00 36 10.9	+0.4
MWZ	Matawai	1.46	77	P		Pn	00 36 09.5	-1.1
KHEZ	Kahui Hut	1.47	244	P		Pn	00 36 11.1	+0.3
KHEZ	Kahui Hut	1.47	244	P		Sn	00 36 34.8	+0.3
KHEZ	Kahui Hut	1.47	244	P		Pn	00 36 11.2	+0.5
WPHZ	Waipukurau	1.51	158	P		Pn	00 36 11.2	+0.2
NBEZ	Newall Road No	1.56	247	P		Pn	00 36 11.9	+0.3
KNZ	Kokohu	1.57	104	P		Pn	00 36 11.2	-0.4
OHWZ	Ohakea	1.57	191	P		Pn	00 36 12.4	+0.7
RIGZ	Rimuhau	1.60	92	P		Pn	00 36 11.5	-0.5
NMEZ	Namu Road	1.62	242	P		Pn	00 36 12.6	+0.5
MKAZ	Moumakai	1.62	344	P		Pn	00 36 11.8	-0.4
PXZ	Pawanui	1.63	147	P		Pn	00 36 12.4	+0.1
DVHZ	Dannevirke	1.67	168	P		Pn	00 36 12.5	-0.2
TKGZ	Te Karaka	1.69	83	P		Pn	00 36 12.4	-0.4
RUGZ	Raukumara Rang	1.69	66	P		Pn	00 36 11.0	-2.1
PRGZ	Paritu Road	1.71	99	P		Pn	00 36 12.6	-0.6
POWZ	Post Office Ro	1.73	179	P		Pn	00 36 13.1	-0.2
PRHZ	Porangahau	1.75	156	P		Pn	00 36 13.7	+0.1
MHGZ	Mahia Peninsul	1.78	107	P		Pn	00 36 13.7	-0.1
AWAZ	Awhitu Peninsu	1.81	332	P		Pn	00 36 13.9	-0.3
ETAZ	East Tamaki Re	1.82	340	P		Pn	00 36 14.0	-0.3
TWGZ	Tauwhareparae	1.84	75	P		Pn	00 36 13.8	-0.8
HAZ	Te Kaha	1.86	62	P		Pn	00 36 12.8	-1.9
ANWZ	Angora Road	1.89	162	P		Pn	00 36 15.1	+0.2
PRWZ	Pori Road	1.90	174	P		Pn	00 36 14.1	0.0
KUZ	Kuaotunu	1.92	0	P		Pn	00 36 14.3	-1.1
KUZ	Kuaotunu	1.92	0	P		Pn	00 36 14.4	-1.0
WIAZ	Waiheke Island	1.93	346	P		Pn	00 36 14.8	-0.7
WTAZ	Waiatarua	1.95	332	P		Pn	00 36 15.7	-0.1
CNGZ	Carnagh Statio	1.96	86	P		Pn	00 36 15.4	-0.4
MRZ	Mangatainoka R	2.00	183			Pn	00 36 15.8	-0.4
MRZ					Sn	Sn	00 36 41.8	-2.6
MRZ	Mangatainoka R	2.00	183	P		Pn	00 36 15.8	-0.4
MBAZ	Motutapu North	2.00	341	P		Pn	00 36 15.8	-0.5
PKGZ	Pakihiroa	2.02	68	P		Pn	00 36 15.4	-1.2
BFZ	Birch Farm	2.06	169			Pn	00 36 16.5	-0.4
BFZ	Birch Farm	2.06	169	P		Pn	00 36 16.4	-0.5
BFZ	Birch Farm	2.06	169	P		Sn	00 36 43.5	-2.0
BFZ	Birch Farm	2.06	169	P		Pn	00 36 16.5	-0.4
PUZ	Puketiti	2.08	74	P		Pn	00 36 15.8	-1.4
TIWZ	Tintock	2.11	177	P		Pn	00 36 17.2	-0.4
ABAZ	Army Bay	2.13	341	P		Pn	00 36 16.6	+0.2
OGWZ	Otaki Gorge	2.19	191	P		Pn	00 36 18.0	-0.4
HOWZ	Holdsworth Sta	2.24	184	P		Pn	00 36 18.2	-0.7
CPWZ	Castlepoint	2.27	171	P		Pn	00 36 19.3	0.0
KIW	Kapiti Island	2.28	196	P		Pn	00 36 18.7	-0.8
WMGZ	Waiomatatini S	2.29	69	P		Pn	00 36 18.0	-1.5
MXZ	Matakaoa Point	2.32	62			Pn	00 36 18.6	-1.3
MXZ	Matakaoa Point	2.32	62	P		Pn	00 36 18.6	-1.3
MXZ	Matakaoa Point	2.32	62	S		Sn	00 36 48.4	-2.4
MXZ	Matakaoa Point	2.32	62	P		Pn	00 36 18.7	-1.3
GRZ	Great Barrier	2.42	355	P		Pn	00 36 20.4	-0.7
TMWZ	Te Maipa	2.44	177	P		Pn	00 36 20.6	-0.8
CAW	Cannon Point	2.49	191	P		Pn	00 36 21.1	-0.8
MTW	Mount Morrison	2.50	184	P		Pn	00 36 21.0	-1.0
DUWZ	D'Urville Isla	2.54	212	P		Pn	00 36 21.5	-1.0
WEL	Wellington	2.72	195	P		Pn	00 36 23.5	-1.1
PAWZ	Paruwai Farm	2.72	185	P		Pn	00 36 23.5	-1.2
TRWZ	Traveller	2.73	180	P		Pn	00 36 23.7	-1.1
SNZO	South Karori	2.75	196			Pn	00 36 23.8	-1.3
SNZO	South Karori	2.75	196	P		Pn	00 36 23.7	-1.3
SNZO	South Karori	2.75	196	S		Sn	00 36 57.7	-2.4
MSWZ	Moikau Station	2.77	187			Pn	00 36 24.0	-1.3
MSWZ	Moikau Station	2.77	187	P		Pn	00 36 24.1	-1.3
TCW	Tory Channel	2.77	203			Pn	00 36 24.2	-1.1
TCW	Tory Channel	2.77	203	P		Pn	00 36 24.3	-1.1
BHW	Baring Head	2.82	193			Pn	00 36 24.5	-1.3
BHW	Baring Head	2.82	193	P		Pn	00 36 24.5	-1.3
PLWZ	Palliser	2.92	187			Pn	00 36 25.7	-1.5
PLWZ	Palliser	2.92	187	P		Pn	00 36 25.7	-1.5
TUWZ	Tuamarina	3.08	206			Pn	00 36 27.7	-1.3
TUWZ	Tuamarina	3.08	206	P		Pn	00 36 27.9	-1.1
NNZ	Nelson	3.12	214			Pn	00 36 28.0	-1.6
NNZ	Nelson	3.12	214	P		Pn	00 36 28.1	-1.4
TKNZ	Takaka Hill	3.18	221			Pn	00 36 28.8	-1.6
QRZ	Quartz Range	3.27	228			Pn	00 36 29.8	-1.6
QRZ	Quartz Range	3.27	228	P		Pn	00 36 29.7	-1.8
QRZ	Quartz Range	3.27	228	S		Sn	00 37 09.4	-2.2
CMWZ	Cape Campbell	3.29	200			Pn	00 36 31.0	-0.6
BSWZ	Blackbirch Sta	3.36	204			Pn	00 36 31.2	-1.3
MRNZ	Matariki Terra	3.55	219			Pn	00 36 33.0	-2.0
THZ	Tophouse	3.77	214			Pn	00 36 36.3	-1.5
OUZ	Omahuta	3.83	333	P		Pn	00 36 39.0	+0.3
KHZ	Kahutara	4.10	203			Pn	00 36 40.6	-1.4
KHZ	Kahutara	4.10	203	P		Pn	00 36 40.4	-1.5
KHZ	Kahutara	4.10	203	S		Sn	00 37 28.1	-2.3
DSZ	Denniston Nort	4.29	223			Pn	00 36 42.2	-2.4
GVZ	Greta Valley S	4.76	204			Pn	00 36 48.5	-2.1
LTZ	Lake Taylor	4.88	211			Pn	00 36 49.9	-2.2
INZ	Inchbonnie	5.20	217			Pn	00 36 54.4	-1.8
RPZ	Rata Peaks	6.15	213			Pn	00 37 06.0	-2.8
RPZ	Rata Peaks	6.15	213	P		Pn	00 37 07.6	-1.2
	28nm,0.3s,baz=204,slow=2.0,SNR=57							
RPZ					S	Sn	00 38 12.2	-6.4
	497nm,0.4s,baz=217,slow=23,SNR=72							
RPZ	Rata Peaks	6.15	213	P		Pn	00 37 07.0	-1.8
FOZ	Fox Glacier	6.60	221			Pn	00 37 11.7	-3.0
ODZ	Otahua Downs	7.41	209			Pn	00 37 22.1	-3.4
ODZ	Otahua Downs	7.41	209	P		Pn	00 37 22.5	-3.0
JCZ	Jackson Bay	7.51	222	P		Pn	00 37 23.7	-3.1
CTZ	Chatham Island	7.68	134	Pn		Pn	00 37 30.3	+1.3
MLZ	Mavora Lakes	8.76	218			Pn	00 37 40.9	-2.5
SYZ	Scrubby Hill	9.24	210	P		Pn	00 37 48.2	-1.4
DZM	Mont Dzumac	18.35	332	P		P	00 39 42.8	+0.8
DZM	Mont Dzumac	18.35	332	P		P	00 39 39.8	-2.2
	6.6nm,0.7s,baz=296,slow=23,SNR=5.3							
MSVF	Nonsavu	20.95	6	P		P	00 40 09.5	-0.4
TOO	Toolangi	23.76	263	P		P	00 40 38.4	+1.4
TOO				IAmb		IAmb	00 41 04.7	
	comp=Z,8.9nm,1.4s							
CTAO	Charters Tower	31.45	298	P		P	00 41 47.1	+1.4
COEN	Coen	37.83	302	P		P	00 42 39.7	-0.8
COEN				IAmb		IAmb	00 42 44.1	
	comp=Z,8.7nm,1.1s							
AS31	Alice Springs	38.43	280	P		P	00 42 45.0	-0.5
AS31				IAmb		IAmb	00 42 47.8	
	comp=Z,1.9nm,0.6s							
ASAR	Alice Springs	38.43	280	P		P	00 42 46.5	+1.0
ASAR	Alice Springs	38.43	280	P		P	00 42 46.4	+0.9
	comp=Z,4.3nm,0.7s,baz=124,slow=8.1,SNR=31							
ASAR				PcP		PcP	00 44 53.9	-1.4
	comp=Z,0.8nm,0.4s,baz=129,slow=4.1,SNR=5.6							
ASAR				S		S	00 48 22.4	-5.7
	comp=Z,0.9nm,0.7s,baz=125,slow=15,SNR=8.8							
	comp=Z,4.3nm,0.7s							
VNDA	Vanda	39.41	185	P		P	00 42 54.3	+1.4
VNDA	Vanda	39.41	185	P		P	00 42 56.6	+3.8
	comp=Z,0.7nm,0.7s,baz=359,slow=8.2,SNR=5.3							
	comp=Z,0.7nm,0.7s							
SBA	Scott Base	39.48	183	P		P	00 42 54.8	+1.4
SBA				IAmb		IAmb	00 43 04.8	
	comp=Z,7.9nm,1.4s							
WR8	Warramunga Arr	40.09	286	P		P	00 43 00.2	+1.0
WR8				IAmb		IAmb	00 43 00.5	
	comp=Z,8.2nm,1.4s							
WRA	Warramunga Arr	40.22	286	P		P	00 43 01.5	+1.2
WRA	Warramunga Arr	40.22	286	P		P	00 43 00.8	+0.5
	comp=Z,0.8nm,0.4s,baz=125,slow=7.7,SNR=12							
WRA				S		S	00 48 52.7	-2.1
	comp=Z,0.5nm,1.0s,baz=315,slow=41,SNR=1.5							
	comp=Z,0.8nm,0.4s							
CASY	Casey	45.42	211	P		P	00 43 41.6	+0.2
CASY				IAmb		IAmb	00 44 04.8	
	comp=Z,7.9nm,1.4s							
MTN	Manton Dam	47.06	291	P		P	00 43 55.9	+1.0
MTN				IAmb		IAmb	00 44 13.9	
	comp=Z,9.5nm,1.1s							
FITZ	Fitzroy Crossi	47.94	281	P		P	00 44 02.8	+1.1
QSPA	South Pole Qui	51.46	180	P		P	00 44 30.9	+3.1
	comp=Z,2.3nm,0.6s,baz=257,slow=0.5,SNR=24							
	comp=Z,2.3nm,0.6s							
MAW	Mawson	62.73	203	P		P	00 45 48.4	+1.8
	comp=Z,0.6nm,0.4s,baz=115,slow=15,SNR=1.6							
	comp=Z,0.6nm,0.4s							
TROLL	Troll, Antarti	69.52	182	⇓P		P	00 46 31.7	+1.7
	comp=Z,48nm,0.4s							
TROLL				⇑pP		pP	00 47 09.5	-1.1
SNAA	Sanae	69.96	180	⇓P		P	00 46 34.2	+1.6
	comp=Z,16nm,0.4s							
SNAA				⇑pP		pP	00 47 13.8	+0.6
SNAA	Sanae	69.96	180	P		P	00 46 34.4	+1.8
SNAA				IAmb		IAmb	00 47 17.0	
	comp=Z,9.1nm,1.5s							
SNAA	Sanae	69.96	180	P		P	00 46 34.4	+1.8
	comp=Z,1.1nm,0.9s,baz=175,slow=9.9,SNR=1.7							
	comp=Z,1.1nm,0.9s							
VNA3	Neumayer Olymp	70.33	178	⇓P		P	00 46 36.4	+1.6
	comp=Z,2.2nm,0.6s							
VNA3				⇑pP		pP	00 47 14.8	-0.7
VNA2	Neumayer--Watz	70.69	179	⇓P		P	00 46 38.3	+1.3
	comp=Z,2.7nm,0.6s,baz=167,slow=6.1							
VNA2				⇑pP		pP	00 47 17.5	-0.1
	baz=162,slow=11							
VNA1	Neumayer--Stat	70.96	179	⇓P		P	00 46 40.4	+1.9
	comp=Z,1.8nm,0.5s							
VNA1				⇑pP		pP	00 47 19.1	-0.1
PLCA	Paso Flores	80.50	135	P		P	00 47 36.1	+2.7
	comp=Z,2.9nm,0.8s,baz=261,slow=6.2,SNR=4.3							
KSRS	Korea Array	87.61	324	P		P	00 48 09.1	+0.2
	comp=Z,2.0nm,0.7s,baz=149,slow=5.0,SNR=5.5							
	comp=Z,2.0nm,0.7s							
CMAR	Chiang Mai Arr	91.48	292	P		P	00 48 29.0	+1.5
	comp=Z,1.2nm,0.7s,baz=123,slow=4.1,SNR=7.7							
	comp=Z,1.2nm,0.7s							
PZH	PanZhiHua	94.73	300	P		P	00 48 43.6	+1.2
PZH				pmax		pmax		
	comp=Z,20nm,1.0s							
HHC	Hu-ho-hao-te	98.42	316	eP		Pdif	00 49 01.4	+2.6
HHC				pmax		pmax		
	comp=Z,13nm,0.6s							
HHC				pmax		pmax		
	comp=Z,130nm,4.7s							
MKAR	Makanchi Array	118.96	308	PKP		PKPdf	00 54 05.7	-2.4
	comp=Z,1.1nm,0.5s,baz=208,slow=1.7,SNR=18							
ZALV	Zalesovo Beam	120.61	317	PKP		PKPdf	00 54 09.9	-1.0
	comp=Z,0.5nm,0.4s,baz=120,slow=2.0,SNR=3.9							
KURBB	Kurchatov Arra	122.82	311	PKP		PKPdf	00 54 13.7	-1.6
	comp=Z,3.0nm,0.6s,baz=109,slow=1.9,SNR=36							
BVAR	Borovoye Array	128.38	312	PKP		PKPdf	00 54 24.7	-1.2
	comp=Z,1.5nm,0.5s,baz=67,slow=2.8,SNR=7.7							
KBZ	Khabaz	144.52	294	PKP		PKPab	00 54 54.8	-0.1
	comp=Z,7.2nm,0.8s,baz=117,slow=2.7,SNR=18							
KEV	Kevo	144.70	342	PKPbc		PKPab	00 54 54.3	-0.4
MARD	Mardin	144.73	282	PKPbc		PKPab	00 54 55.8	-0.3
ARCES	ARCESS Array B	145.22	342	PKPdf		PKPdf	00 54 56.2	-0.2
ARCES	ARCESS Array B	145.22	342	PKP		PKPdf	00 54 56.3	0.0
	comp=Z,4.6nm,0.6s,baz=48,slow=4.0,SNR=26							
MMAI	Mount Meron Ar	147.52	272	PKPbc		PKPbc	00 55 04.6	+0.3
	comp=Z,0.5nm,0.3s,baz=100,slow=3.5,SNR=4.1							
DBIC	Dimbokro	148.15	179	PKPbc		PKPbc	00 55 05.5	-0.9
DBIC	Dimbokro	148.15	179	PKPbc		PKPbc	00 55 06.3	-0.1
	comp=Z,4.8nm,0.8s,baz=173,slow=4.1,SNR=5.3							
FIA1	FINESS Array S	150.49	330	PKPbc		PKPbc	00 55 09.2	-1.6
FINES	FINESS Array B	150.49	330	PKPbc		PKPbc	00 55 09.5	-1.2
	comp=Z,4.3nm,0.6s,baz=51,slow=3.1,SNR=39							
BRTR	Keskin Array B	150.73	284	PKPbc		PKPbc	00 55 10.7	-1.5
BRTR	Keskin Array B	150.73	284	PKPbc		PKPbc	00 55 11.3	-0.9
	comp=Z,3.6nm,0.8s,baz=138,slow=4.6,SNR=18							
BRTR				PKPab		PKPab	00 55 19.5	-0.4
	comp=Z,2.2nm,0.7s,baz=128,slow=4.9,SNR=7.8							
AKASG	Malin Array Be	153.55	308	PKPbc		PKPbc	00 55 16.7	-1.3
	comp=Z,1.1nm,0.4s,baz=69,slow=2.2,SNR=5.8							
AKASG				PKPab		PKPab	00 55 30.9	-0.3
	comp=Z,0.4nm,0.4s,baz=72,slow=3.1,SNR=2.4							
TORD	Torodi Ar. Bea	154.04	193	PKPbc		PKiKP	00 55 20.3	+0.1
	comp=Z,0.6nm,0.5s,baz=150,slow=2.1,SNR=10							
TORD				PKPab		PKPab	00 55 33.9	-0.2
	comp=Z,0.8nm,0.4s,baz=155,slow=3.5,SNR=8.6							

NIED ***19*** *00:46:32.3, 36.86N×144.22E, h51km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=1.93; $M_{\theta\theta}$=0.45; $M_{\phi\phi}$=2.38; $M_{r\theta}$=0.60; $M_{\theta\phi}$=0.77; $M_{\phi r}$=1.24; Fault plane solution: M_0=2.65000×10^{14} NP1:ϕ_s=3.00000°, δ=30.00000°, λ=-107.00000°. NP2:ϕ_s=202.00000°, δ=61.00000°, λ=-80.00000°.*

JMA 19 00:46:32.3±0.3, 36.9N±0.8×14.4E±°, h51km, MV4.0/26, FAR E OFF CENTRAL HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	Ishinomakibobu	2.62	304	*i* P	Pn	00 47 13.4	+1.2
JIKH				eS	Sn	00 47 44.3	+1.5
JFK	Kawauchi	2.72	282	eP	Pn	00 47 15.0	+1.4
JFK				eS	Sn	00 47 46.7	+1.4
ONAJ	Iwakimizuishiy	2.75	276	eS	Sn	00 47 47.1	+1.1
JIO	Ouri	2.78	306	P	Pn	00 47 15.6	+1.3
JIO				eS	Sn	00 47 47.6	+0.9
JMST	Minamisoumatoc	2.79	289	P	Pn	00 47 15.9	+1.4
JMST				S	Sn	00 47 48.6	+1.6
JMK	Ichinoseki	3.16	312	eP	Pn	00 47 20.8	+1.2
JOTO	OTAMA OYAMA	3.18	284	P	Pn	00 47 22.4	+2.6
JOTO				S	Sn	00 47 59.3	+2.8
BSO1	Boso 1	3.43	231	eP	Pn	00 47 23.7	+1.0
JRY	Ryogami san	4.37	261	eP	Pn	00 47 37.5	+1.3
JRY				eS	Sn	00 48 26.3	+0.6
JOD2	Odawara 2	4.45	251	eP	Pn	00 47 39.0	+1.8
JOD2				S	Sn	00 48 29.0	+1.3
JOT	Ohata	5.15	332	eS	Sn	00 48 42.4	-2.5
JCH	Churui	5.79	354	eS	Sn	00 48 55.2	-5.4
NEM2	Nemuro 2	6.61	10	eP	Pn	00 48 02.4	-4.4
NEM2				eS	Sn	00 49 12.0	-8.6
JTKR	Abashiri--Toko	7.11	358	eP	Pn	00 48 11.6	-2.1
JTKR				eS	Sn	00 49 27.3	-5.8

NEIC ***19*** *01:03:21.0±1.1, 17.5S±0.1×179.6E±0.2, h577km±7km, mb4.5/13, Error ellipse: s-maj=26.6km s-min=14.6km az=114.0*

IDC ***19*** *01:03:21.6±31.0, 17.39S×179.37E, h564km±323km, mb3.1/5, mbtmp4.0/5, Error ellipse: s-maj=185.7km s-min=28.0km az=57.0*

ISC 19 01:03:23.0±0.7, 17.4S±0.1×179.4E±0.2, h602km, n23, σ1°69/23, mb4.1/12, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	1.28	256	P	P	01 04 31.6	-3.6
DZM	Mont Dzumac	13.00	247	P	P	01 06 11.0	-0.9
NNZ	Nelson	24.25	191	P	P	01 07 53.3	-1.1
NNZ				IAmb	IAmb	01 08 06.8	
	comp=Z,24nm,1.2s						
TUWZ	Tuamarina	24.36	190	P	P	01 07 53.8	-1.5
LTZ	Lake Taylor	25.98	192	P	P	01 08 07.2	-2.3
LTZ				IAmb	IAmb	01 08 10.0	
	comp=Z,16nm,0.9s						
GVZ	Greta Valley S	26.01	191	P	P	01 08 07.4	-2.5
GVZ				IAmb	IAmb	01 08 22.1	
	comp=Z,32nm,1.3s						
WR8	Warramunga Arr	42.47	259	P	P	01 10 27.1	0.0
WR8				IAmb	IAmb	01 10 29.8	
	comp=Z,6.4nm,1.4s						
WB0	Warramunga Arr	42.59	260	P	P	01 10 28.7	+0.7
WB0				IAmb	IAmb	01 10 45.9	
	comp=Z,6.0nm,1.2s						
WRA	Warramunga Arr	42.62	259	P	P	01 10 28.4	+0.1
WRA	Warramunga Arr	42.62	259	P	P	01 10 29.0	+0.7
	comp=Z,0.2nm,0.4s,baz=94,slow=8.1,SNR=6.1						
	comp=Z,0.2nm,0.4s						
ASAR	Alice Springs	42.87	254	P	P	01 10 31.5	+1.3
	comp=Z,1.9nm,0.5s,baz=86,slow=8.5,SNR=21						
	comp=Z,1.9nm,0.5s						
VNDA	Vanda	60.74	184	P	P	01 12 38.6	+1.5
VNDA	Vanda	60.74	184	P	P	01 12 38.5	+1.3
	comp=Z,0.4nm,0.6s,baz=15,slow=7.7,SNR=2.6						
	comp=Z,0.4nm,0.6s						
JHJ2	Mitsune	62.87	323	P	P	01 12 52.2	+0.6
QSPA	South Pole Qui	72.61	180	P	P	01 13 52.0	+1.6
QSPA	South Pole Qui	72.61	180	P	P	01 13 53.1	+2.7
	comp=Z,2.5nm,0.6s,baz=39,slow=4.2,SNR=16						
	comp=Z,2.5nm,0.6s						
PLK4	Peulik 4	77.47	13	P	P	01 14 18.0	+0.7
PLK4				IAmb	IAmb	01 14 35.0	
	comp=Z,46nm,1.4s						
KRPM	Rodgers	78.39	40	P	P	01 14 20.6	-2.0
M11K	Mekoryuk	78.42	7	P	P	01 14 22.2	+0.1
KDAK	Kodiak Island	78.47	15	P	P	01 14 23.0	+0.5
KDAK				IAmb	IAmb	01 14 25.1	
	comp=Z,22nm,1.1s						
SNAA	Sanae	91.11	179	P	P	01 15 24.4	+0.2
	comp=Z,2.8nm,1.3s,baz=205,slow=11,SNR=2.6						
	comp=Z,2.8nm,1.3s						
MMAI	Mount Meron Ar	144.09	303	PKP	PKPab	01 21 54.0	+2.2
	comp=Z,0.4

IDC ***19*** *01:43:41.4±3.0, 1°.69S×77°.67W, h133km±27km, mb3.4/9, mbtmp3.8/11, Error ellipse: s-maj=29.0km s-min=17.8km az=67.0*
RSNC ***19*** *01:43:41.5±0.4, 2°.3S×7°.8W, h192km±8km, M3.6, mB4.8, mb4.0, ML3.2, Mw(mB)4.0*
IGQ ***19*** *01:43:44.5±0.3, 2°.5S×7°.8W, h158km±3km, MLv3.6/13*
ISC 19 01:43:44.2±0.7, **1°.87S**±0°.04×**77°.87W**±0°.05, **h166**km±5km, **n108**, σ1**§31**/115, **mb3.5**/8, **9C-38D, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**0.40**	**337**	S	**Sn**	**01 44 23.9**	**-0.7**
PUYO				P	**Pn**	**01 44 06.5**	**-0.6**
TAIS	**Taisha**	**0.63**	**144**	S	**Sn**	**01 44 26.3**	**0.0**
TAIS				⇓P	**Pn**	**01 44 07.8**	**-0.2**
BPAT	**Tungurahua Vol**	**0.67**	**303**	S	**Sn**	**01 44 26.5**	**-1.0**
BPAT				⇓P	**Pn**	**01 44 08.5**	**-0.3**
ARDO	**Archidona, Ten**	**0.87**	**5**	⇓P	**Pn**	**01 44 08.6**	**-1.0**
ARDO				S	**Sn**	**01 44 27.3**	**-1.8**
PIAT	**Ana Tenorio**	**0.95**	**336**	⇓P	**Pn**	**01 44 10.2**	**-0.3**
PIAT	**Ana Tenorio**	**0.95**	**336**	P	**Pn**	**01 44 10.2**	**-0.3**
PIS1	**Pisayambo**	**0.95**	**327**	⇓P	**Pn**	**01 44 10.8**	**+0.1**
PIS1				S	**Sn**	**01 44 30.9**	**-0.1**
CHSH	**Refugio Sur-Vo**	**1.06**	**290**	⇑P	**Pn**	**01 44 11.3**	**-0.3**
JSCH	**Cashca Totoras**	**1.12**	**278**	P	**Pn**	**01 44 12.0**	**+0.2**
VCES	**Cotopaxi**	**1.18**	**334**	⇓P	**Pn**	**01 44 12.8**	**+0.2**
TAMB	**Tambo**	**1.27**	**337**	P	**Pn**	**01 44 13.3**	**0.0**
BMOR	**Cotopaxi Volca**	**1.27**	**332**	⇓P	**Pn**	**01 44 13.3**	**-0.1**
BTAM	**Cotopaxi Volca**	**1.29**	**336**	⇓P	**Pn**	**01 44 13.7**	**+0.1**
BVC2	**Cotopaxi Volca**	**1.32**	**336**	⇓P	**Pn**	**01 44 13.9**	**+0.1**
AZOG	**Ecuador-Azogue**	**1.32**	**228**	P	**Pn**	**01 44 13.7**	**+0.1**
BREF	**Cotopaxi Volca**	**1.32**	**334**	⇓P	**Pn**	**01 44 14.1**	**+0.2**
VC1	**Cotopaxi 1**	**1.33**	**336**	P	**Pn**	**01 44 13.9**	**0.0**
ANTM	**Antisana-La Mi**	**1.37**	**345**	⇓P	**Pn**	**01 44 14.2**	**-0.1**
SUCR	**Mariscal Sucre**	**1.37**	**333**	⇓P	**Pn**	**01 44 14.6**	**+0.4**
ANTS	**Antisana-Sarah**	**1.39**	**348**	⇓P	**Pn**	**01 44 14.5**	**-0.1**
ANTG	**Antisana-Guama**	**1.41**	**344**	⇓P	**Pn**	**01 44 14.6**	**-0.1**
PITA	**Cotopaxi Volc**	**1.42**	**337**	P	**Pn**	**01 44 14.6**	**0.0**
BOSC	**San Juan Bosco**	**1.42**	**206**	⇑P	**Pn**	**01 44 14.3**	**-0.1**
ILLI	**Illinizas Sur**	**1.43**	**323**	⇓P	**Pn**	**01 44 14.9**	**+0.1**
ANTI	**Antisana**	**1.44**	**348**	⇓P	**Pn**	**01 44 14.8**	**-0.2**
TOMA	**Boca Toma-Volc**	**1.47**	**337**	P	**Pn**	**01 44 15.2**	**+0.1**
ACUE	**Ecuador-Cuenca**	**1.50**	**226**	P	**Pn**	**01 44 16.0**	**+0.7**
COHC	**Cochancay**	**1.51**	**247**	P	**Pn**	**01 44 14.5**	**-0.5**
COHC	**Cochancay**	**1.51**	**247**	P	**Pn**	**01 44 14.4**	**-0.6**
COHC				S	**Sn**	**01 44 38.4**	**-0.3**
MILO	**Milagro-Astudi**	**1.73**	**256**	⇑P	**Pn**	**01 44 15.8**	**-1.6**
REVS	**Reventador Sur**	**1.77**	**8**	⇓P	**Pn**	**01 44 17.4**	**-0.6**
LAV4	**Lava4-Reventad**	**1.78**	**8**	⇓P	**Pn**	**01 44 17.6**	**-0.6**
GGPT	**Toaza - Volcan**	**1.79**	**335**	⇓P	**Pn**	**01 44 18.4**	**-0.1**
REVN	**San Rafael**	**1.79**	**8**	⇓P	**Pn**	**01 44 17.8**	**-0.6**
JUA2	**San Juan 2**	**1.80**	**336**	⇓P	**Pn**	**01 44 18.4**	**-0.1**
GGPC	**Guagua Pichinc**	**1.83**	**337**	⇓P	**Pn**	**01 44 18.8**	**-0.2**
TERV	**Terraza Guagua**	**1.83**	**336**	P	**Pn**	**01 44 19.0**	**0.0**
PINO	**Pino**	**1.85**	**336**	⇓P	**Pn**	**01 44 19.1**	**-0.2**
YANA	**Yana**	**1.87**	**338**	⇓P	**Pn**	**01 44 19.2**	**-0.2**
CAYR	**Refugio Cayamb**	**1.87**	**356**	⇑P	**Pn**	**01 44 19.6**	**0.0**
ANGU	**Angureal**	**1.90**	**356**	⇓P	**Pn**	**01 44 19.9**	**0.0**
PULU	**Pululahua**	**1.98**	**341**	⇓P	**Pn**	**01 44 20.1**	**-0.3**
CASC	**Dorado de Casc**	**2.06**	**15**	⇓P	**Pn**	**01 44 20.3**	**-0.7**
AGUAY	**Guayaquil**	**2.09**	**265**	P	**Pn**	**01 44 19.7**	**-1.6**
PCRA	**Pucara 2**	**2.11**	**231**	⇑P	**Pn**	**01 44 20.2**	**-1.8**
AC07	**Ecuador-Guayaq**	**2.13**	**262**	P	**Pn**	**01 44 19.9**	**-2.0**
IMBA	**Imbabura, San**	**2.15**	**351**	⇓P	**Pn**	**01 44 23.2**	**+0.7**
OTAV	**Otavalo**	**2.17**	**344**	⇓P	**Pn**	**01 44 22.2**	**-0.5**
OTAV	**Otavalo**	**2.17**	**344**	P	**Pn**	**01 44 23.0**	**-0.7**
CUIC	**Cuicocha-Domo**	**2.21**	**347**	P	**Pn**	**01 44 23.0**	**-0.2**
CUSE	**Cuicocha Este**	**2.22**	**346**	⇓P	**Pn**	**01 44 23.1**	**-0.2**
CUSE	**Cuicocha Este**	**2.22**	**346**	P	**Pn**	**01 44 22.4**	**-0.9**
COTA	**Cotacachi**	**2.23**	**348**	P	**Pn**	**01 44 23.7**	**+0.2**
PAC1	**Pacto, Paraso**	**2.31**	**336**	P	**Pn**	**01 44 23.7**	**-0.3**
PAC1	**Pacto, Paraso**	**2.31**	**336**	P	**Pn**	**01 44 23.4**	**-0.6**
URCU	**Urcuqui**	**2.32**	**350**	⇓P	**Pn**	**01 44 24.5**	**+0.1**
BONI	**La Bonita**	**2.33**	**8**	⇓P	**Pn**	**01 44 23.8**	**-0.5**
BONI	**La Bonita**	**2.33**	**8**	P	**Pn**	**01 44 23.8**	**-0.5**
PECV	**Mancha de Ca P**	**2.43**	**296**	P	**Pn**	**01 44 27.8**	**+2.5**
ISPG	**Isla Puna-Puer**	**2.55**	**244**	P	**Pn**	**01 44 26.0**	**-0.7**
MORR	**Playas El Morr**	**2.58**	**253**	⇑P	**Pn**	**01 44 25.9**	**-1.2**
LNGL	**El Angel-Carch**	**2.59**	**357**	⇓P	**Pn**	**01 44 27.3**	**-0.4**
CHL1	**Volc¡n Chiles**	**2.64**	**358**	⇓P	**Pn**	**01 44 28.7**	**+0.4**
CHL2	**Volc¡n Chiles**	**2.65**	**359**	⇓P	**Pn**	**01 44 29.1**	**+0.6**
ECEN	**Cerro Negro**	**2.67**	**358**	⇓P	**Pn**	**01 44 28.9**	**+0.2**
CHMA	**Chilma**	**2.72**	**356**	P	**Pn**	**01 44 28.2**	**-0.8**
ARNL	**Arenillas**	**2.72**	**233**	P	**Pn**	**01 44 28.9**	**-2.3**
CMBC	**Cumbal**	**2.79**	**1**	P	**Pn**	**01 44 30.1**	**+0.1**
CMBC	**Cumbal**	**2.79**	**1**	P	**Pn**	**01 44 31.3**	**+1.3**
GONZ	**Gonzanam**	**2.81**	**213**	⇑P	**Pn**	**01 44 29.6**	**-0.6**
PPLP	**Puerto Lpez**	**2.92**	**276**	⇓P	**Pn**	**01 44 29.5**	**-1.8**
PPLP	**Puerto Lpez**	**2.92**	**276**	P	**Pn**	**01 44 29.2**	**-2.0**
PPLP				S	**Sn**	**01 45 03.1**	**-4.7**
GCUF	**Volcan Galeras**	**3.12**	**10**	P	**Pn**	**01 44 34.3**	**+0.2**
SALI	**Salinas**	**3.13**	**264**	P	**Pn**	**01 44 32.4**	**-1.5**
ZUMB	**Zumba**	**3.24**	**203**	⇑P	**Pn**	**01 44 35.1**	**-0.2**
AMCR	**Ecuador-Macara**	**3.24**	**220**	⇓P	**Pn**	**01 44 33.4**	**-1.9**
MCRA	**Macar, Loja**	**3.24**	**220**	⇑P	**Pn**	**01 44 33.2**	**-2.1**
MCRA	**Macar, Loja**	**3.24**	**220**	P	**Pn**	**01 44 32.9**	**-2.4**
MCRA				S	**Sn**	**01 45 12.7**	**-2.4**
ISPT	**Isla de la Pla**	**3.26**	**281**	P	**Pn**	**01 44 33.6**	**-1.9**
CRUC	**La Cruz**	**3.53**	**15**	P	**Pn**	**01 44 39.5**	**+0.3**
PTLC	**Puerto Leguiza**	**3.68**	**57**	P	**Pn**	**01 44 37.4**	**-3.3**
PTLC	**Puerto Leguiza**	**3.68**	**57**	P	**Pn**	**01 44 37.1**	**-3.7**
BBAC	**Balboa, Cauca**	**3.91**	**9**	P	**Pn**	**01 44 44.3**	**+0.3**
FLOC	**Florencia**	**4.08**	**33**	P	**Pn**	**01 44 44.2**	**-1.8**
POPC	**Popayan, Colom**	**4.54**	**15**	P	**Pn**	**01 44 50.9**	**-1.2**
ATAH	**Atahualpa**	**5.26**	**186**	P	**Pn**	**01 45 02.5**	**+0.8**
	32nm,0.5s,baz=23,slow=9.7,SNR=34						
ATAH				S	**Sn**	**01 46 01.6**	**-0.8**
	72nm,0.7s,baz=217,slow=21,SNR=12						
MACC	**Macarena, Meta**	**5.66**	**45**	P	**Pn**	**01 45 04.9**	**-1.7**
	36nm,0.6s						
YOTC	**Yotoco, Valle**	**6.01**	**15**	P	**Pn**	**01 45 07.8**	**-3.5**
	15nm,0.5s						
URMC	**La Uribe, Meta**	**6.16**	**35**	P	**Pn**	**01 45 12.8**	**-0.5**
	1µm92nm,1.1s						
PRAC	**Prado**	**6.29**	**28**	P	**Pn**	**01 45 13.4**	**-1.6**
	17nm,0.8s						
ORTC	**Ortega, Tolima**	**6.31**	**25**	P	**Pn**	**01 45 13.7**	**-1.5**
	37nm,1.2s						
GUY2C	**Guyana, Caldas**	**7.47**	**20**	P	**Pn**	**01 45 27.1**	**-3.9**
	5.2nm,0.7s						
CZSB	**Cruzeiro do Su**	**7.77**	**139**	P	**Pn**	**01 45 33.0**	**-1.6**
	17nm,0.8s						
RUSC	**La Rusia**	**9.07**	**32**	P	**Pn**	**01 45 50.8**	**-1.4**
	13nm,1.1s						
ZARC	**Zaragoza, Cauc**	**9.77**	**18**	P	**Pn**	**01 45 59.4**	**-1.6**
LPAZ	**La Paz**	**17.25**	**147**	P	**Pn**	**01 47 35.9**	**0.0**
	1.2nm,0.5s,baz=345,slow=6.2,SNR=8.2						
SIV	**San Ignacio**	**21.70**	**131**	P	**P**	**01 48 22.8**	**+0.5**
	1.1nm,0.5s,baz=302,slow=9.3,SNR=9.7						
	1.1nm,0.5s						
PLCA	**Paso Flores**	**39.25**	**171**	P	**P**	**01 50 58.5**	**+1.8**
	2.3nm,0.6s,baz=346,slow=9.4,SNR=9.5						
	2.3nm,0.6s						
PDAR	**Pinedale Array**	**52.81**	**331**	P	**P**	**01 52 42.9**	**+0.1**
	0.2nm,0.5s,baz=118,slow=9.8,SNR=1.8						
	0.2nm,0.5s						
NVAR	**Mina Array Bea**	**54.73**	**321**	P	**P**	**01 52 58.5**	**+1.7**
	0.4nm,0.6s,baz=119,slow=6.2,SNR=2.5						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**80.27**	**76**	P	**P**	**01 55 35.9**	**-1.4**
	0.3nm,0.4s,baz=281,slow=5.5,SNR=4.8						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**82.87**	**336**	P	**P**	**01 55 49.9**	**+0.1**
	0.7nm,1.1s,baz=116,slow=3.9,SNR=4.1						
	0.7nm,1.1s						
EKA	**Eskdalemuir Ar**	**82.87**	**34**	P	**P**	**01 55 49.3**	**-0.8**
	0.3nm,0.7s,baz=255,slow=2.2,SNR=1.9						
	0.3nm,0.7s						
SNAA	**Sanae**	**83.55**	**162**	P	**P**	**01 55 54.2**	**+0.8**
	1.5nm,1.0s,baz=259,slow=8.0,SNR=11						
	1.5nm,1.0s						
QSPA	**South Pole Qui**	**88.20**	**180**	P	**P**	**01 56 19.6**	**+3.3**
	2.5nm,0.8s,baz=180,slow=3.0,SNR=9.3						
	2.5nm,0.8s						
ASAR	**Alice Springs**	**140.01**	**229**	PKhKP	PKPpre	02 02 50.5	
	0.4nm,0.6s,baz=118,slow=3.3,SNR=2.5						
WRA	**Warramunga Arr**	**141.69**	**234**	PKhKP	PKPpre	02 02 51.9	
	0.2nm,0.3s,baz=121,slow=2.4,SNR=4.8						
FITZ	**Fitzroy Crossi**	**149.51**	**228**	PKPbc	**PKiKP**	**02 03 15.9**	**0.0**
	0.8nm,0.4s,baz=155,slow=1.6,SNR=7.7						

SJA ***19*** *01:58:41.6±0.7, 30°.68S×71°.81W, h13km±3km, ML4.0, MW3.9*
GUC ***19*** *01:58:44.8±0.7, 30°.70S×71°.71W, h36km±1km, ML4.3*
IDC ***19*** *01:58:45.6±3.3, 30°.66S×71°.88W, h36km±27km, mb3.5/6, mbtmp3.6/10, ML3.7/5, MS3.1/2, Error ellipse: s-maj=25.5km s-min=20.0km az=122.0*
NEIC ***19*** *01:58:45.6±1.4, 30°.72S±0°.05×71°.67W±0°.07, h32km±7km, mb4.3/3, ML4.3(GUC), Error ellipse: s-maj=9.4km s-min=6.4km az=73.0*
ISC 19 01:58:42.1±1.2, **30°.69S**±0°.02×**71°.92W**±0°.04, **h12**km±7km, **n134**, σ1§**98**/188, **mb4.1**/7, **1C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.25**	**86**		**Pb**	**01 58 49.9**	**+1.5**
CO06				Sg	**Sg**	**01 58 53.6**	**+2.8**
CO06	**Fray Jorge**	**0.25**	**86**	⇓*i*P	**Pb**	**01 58 50.3**	**+1.8**
CO06				*i* S	**Sg**	**01 58 53.7**	**+2.9**
CO06				IAML		01 58 54.0	
	comp=N,84µm,0.2s						
CO02	**Combarbal**	**0.94**	**123**		**Pg**	**01 58 59.5**	**-0.8**
CO02					**Sg**	**01 59 10.0**	**-2.6**
CO02	**Combarbal**	**0.94**	**123**	*i* P	**Pg**	**01 58 59.5**	**-0.8**
CO02				*i* S	**Sg**	**01 59 10.0**	**-2.6**
CO02				IAML		01 59 10.8	
	comp=N,34µm,0.5s						
CO02	**Combarbal**	**0.94**	**123**	*e*P	Pg	01 58 50.6	-10
CO02				IAML		01 59 10.6	
	comp=Z,7µm,0.7s						
CO05	**La Serena**	**0.97**	**38**		**Pg**	**01 59 01.0**	**+0.2**
CO05	**La Serena**	**0.97**	**38**	*i* P	**Pg**	**01 59 01.1**	**+0.2**
CO05				*i* S	**Sg**	**01 59 12.7**	**-0.8**
CO03	**El Pedregal**	**1.07**	**98**		**Pg**	**01 59 01.0**	**-1.8**
CO03					**Sg**	**01 59 12.7**	**-4.0**
CO03	**El Pedregal**	**1.07**	**98**	*i* P	**Pg**	**01 59 00.9**	**-1.8**
CO03				*i* S	**Sg**	**01 59 12.7**	**-4.0**
CO03				IAML		01 59 13.2	
	comp=N,18µm,0.2s						
CO03	**El Pedregal**	**1.07**	**98**	*e*P	**Pg**	**01 59 00.1**	**-2.6**
CO03				*e*S	**Sg**	**01 59 12.2**	**-4.5**
CO03				IAML		01 59 13.1	
	comp=Z,8µm,0.6s						
GO04	**Tololo Observa**	**1.10**	**62**		**Pg**	**01 59 02.4**	**-0.8**
GO04	**Tololo Observa**	**1.10**	**62**	⇓*i*P	**Pg**	**01 59 02.4**	**-0.8**
GO04				*i* S	**Sg**	**01 59 15.4**	**-2.2**
GO04	**Tololo Observa**	**1.10**	**62**	*e*P	**Pg**	**01 59 02.5**	**-0.8**
GO04				*e*S	**Sg**	**01 59 16.0**	**-1.6**
GO04				IAML		01 59 17.0	
	comp=Z,17µm,0.2s						
CO04	**Los Peladeros**	**1.57**	**149**	*i* P	**Pn**	**01 59 09.8**	**-0.2**
CO04				*i* S	**Sn**	**01 59 30.2**	**-0.3**
CO04				IAML		01 59 33.0	
	comp=N,4µm,0.2s						
CO01	**Juntas del Tor**	**1.73**	**66**		**Pn**	**01 59 12.1**	**-0.1**
CO01	**Juntas del Tor**	**1.73**	**66**	*i* P	**Pn**	**01 59 12.3**	**+0.1**
CO01				*i* S	**Sn**	**01 59 32.5**	**-1.8**
CO01				IAML		01 59 34.0	
	comp=N,3µm,0.3s						
CO01	**Juntas del Tor**	**1.73**	**66**	*e*P	**Pn**	**01 59 12.3**	**+0.1**
CO01				*e*S	**Sn**	**01 59 33.7**	**-0.6**
CO01				IAML		01 59 35.5	
	comp=Z,2µm,0.4s						
VA06	**Catapilco**	**1.94**	**164**		**Pn**	**01 59 15.3**	**+0.5**
VA06	**Catapilco**	**1.94**	**164**	*e*P	**Pn**	**01 59 15.4**	**+0.5**
VA06				*i* S	**Sn**	**01 59 39.6**	**+0.6**
VA06				IAML		01 59 48.7	
	comp=E,2µm,0.4s						
LCO	**Las Campanas**	**1.98**	**33**		**Pn**	**01 59 16.1**	**+0.5**
LCO	**Las Campanas**	**1.98**	**33**	*i* P	**Pn**	**01 59 16.3**	**+0.7**
LCO				*i* S	**Sn**	**01 59 41.3**	**+0.8**
LCO	**Las Campanas**	**1.98**	**33**	*e*P	**Pn**	**01 59 16.3**	**+0.7**
LCO				*e*S	**Sb**	**01 59 44.0**	**+1.0**
LCO				IAML		01 59 47.8	
	comp=Z,2µm,1.1s						
AROD	**Rodeo**	**2.18**	**77**	*e*P	**Pn**	**01 59 20.1**	**+1.7**
AROD				*e*S	**Sn**	**01 59 46.8**	**+1.4**
VA01	**Torpederas**	**2.34**	**174**		**Pn**	**01 59 20.5**	**+0.2**
VA01	**Torpederas**	**2.34**	**174**	*e*P	**Pn**	**01 59 20.6**	**+0.4**
VA01				*e*S	**Sn**	**01 59 50.4**	**+1.6**
VA01				IAML		01 59 57.6	
	comp=Z,296nm,1.1s						
VA03	**San Esteban**	**2.37**	**151**		**Pn**	**01 59 22.1**	**+1.2**
VA03	**San Esteban**	**2.37**	**151**	*e*P	**Pn**	**01 59 22.1**	**+1.2**
VA03				*e*S	**Sn**	**01 59 50.2**	**+0.2**
VA03				IAML		01 59 58.1	
	comp=E,3µm,0.8s						
VA03	**San Esteban**	**2.37**	**151**	*e*P	**Pn**	**01 59 22.3**	**+1.4**
VA03				*e*S	**Sn**	**01 59 47.8**	**-2.2**
VA03				IAML		02 00 01.0	
	comp=Z,878nm,0.8s						
ROCH	**El Roble**	**2.40**	**161**	*e*P	**Pn**	**01 59 22.1**	**+0.7**
ROCH				*i* P		01 59 22.1	
ROCH				*i* S	**Sn**	**01 59 51.9**	**+1.1**
ROCH				*e*S		01 59 53.0	
ROCH				IAML		01 59 57.5	
	comp=N,1µm,0.6s						
ROC1	**El Roble**	**2.40**	**162**	*e*P	**Pn**	**01 59 22.1**	**+0.7**
ROC1				*e*S	**Sn**	**01 59 50.6**	**-0.3**
ACCO	**Cerro Coronel**	**2.46**	**88**	*e*P	**Pn**	**01 59 24.6**	**+2.3**
ACCO				*e*S	**Sn**	**01 59 52.0**	**-0.5**
ACDV	**Cuesta del Vie**	**2.47**	**79**	*e*P	**Pn**	**01 59 25.0**	**+2.7**
ACDV				*e*S	**Sn**	**01 59 51.7**	**-0.8**
ACDV				IAML		01 59 57.3	
	comp=Z,725nm,0.4s						
RTLS	**Leoncito**	**2.50**	**117**	*e*P	**Pn**	**01 59 25.1**	**+2.2**
RTLS				*e*S	**Sn**	**01 59 57.0**	**+3.5**
RTLS				IAML		01 59 59.0	
	comp=Z,2µm,0.4s						
AC04	**Llanos de Chal**	**2.59**	**17**		**Pn**	**01 59 24.2**	**+0.5**
AC04	**Llanos de Chal**	**2.59**	**17**	*i* P	**Pn**	**01 59 24.2**	**+0.5**
AC04	**Llanos de Chal**	**2.59**	**17**	*e*P	**Pn**	**01 59 23.6**	**-0.1**
AC04				*e*S	**Sn**	**01 59 57.5**	**+2.5**
AC04				IAML		02 00 12.4	
	comp=Z,502nm,0.4s						
MT02	**Curacav**	**2.65**	**166**		**Pn**	**01 59 26.3**	**+1.7**
MT02	**Curacav**	**2.65**	**166**	*e*P	**Pn**	**01 59 25.5**	**+1.0**
MT02				*e*S	**Sn**	**01 59 57.9**	**+1.4**
MT02	**Curacav**	**2.65**	**166**	*e*P	**Pn**	**01 59 25.2**	**+0.7**
MT02				*e*S	**Sb**	**02 00 01.3**	**-0.5**
MT02				IAML		02 00 16.3	
	comp=Z,392nm,0.5s						
PEL	**Peldehue**	**2.66**	**157**		**Pn**	**01 59 25.9**	**+1.2**
PEL	**Peldehue**	**2.66**	**157**	*i* P	**Pn**	**01 59 26.1**	**+1.2**
PEL				*i* S	**Sn**	**01 59 58.7**	**+1.7**
PEL				IAML		02 00 06.4	
	comp=E,810nm,0.7s						
PEL	**Peldehue**	**2.66**	**157**	*e*P	**Pn**	**01 59 26.8**	**+2.0**
PEL				*e*S	**Sn**	**01 59 58.0**	**+1.0**
PEL				IAML		02 00 14.0	
	comp=Z,701nm,0.7s						
MT10	**Hacienda Santa**	**2.83**	**156**	⇓*i*P	**Pn**	**01 59 28.4**	**+1.1**
MT10				*e*S	**Sn**	**02 00 01.8**	**+0.5**
MT10				IAML		02 00 12.3	
	comp=N,2µm,0.6s						
MT05	**Renca**	**2.87**	**160**		**Pn**	**01 59 27.6**	**-0.1**
MT05	**Renca**	**2.87**	**160**	*e*S	**Sn**	**02 00 02.7**	**+0.5**
MT05				IAML		02 00 15.0	
	comp=E,1µm,0.4s						
MT05	**Renca**	**2.87**	**160**	*e*P	**Pn**	**01 59 29.4**	**+1.7**
MT05				*e*S	**Sn**	**02 00 05.5**	**+3.3**
MT05				IAML		02 00 15.8	
	comp=Z,414nm,1.0s						
ZON	**Zonda**	**2.91**	**108**		**Pn**	**01 59 30.2**	**+2.0**
ZON	**Zonda**	**2.91**	**108**	*e*P	**Pn**	**01 59 30.9**	**+2.7**
ZON				*e*S	**Sn**	**02 00 01.9**	**-1.2**
ZON				IAML		02 00 09.6	
	comp=Z,338nm,0.7s						
MT14	**Cerro Cal¡n**	**2.94**	**157**	*e*S	**Sn**	**02 00 07.2**	**+3.2**
FCH	**Farellones**	**2.97**	**153**	*e*S	**Sn**	**02 00 06.2**	**+1.2**
FCH				IAML		02 00 18.0	
	comp=E,629nm,0.7s						
MT16	**CCHEN**	**2.98**	**157**		**Pn**	**01 59 29.1**	**0.0**
MT16	**CCHEN**	**2.98**	**157**	*e*S	**Sn**	**02 00 05.5**	**+0.8**
MT16				IAML		02 00 15.5	
	comp=N,765nm,0.6s						
SJA	**San Juan**	**3.00**	**107**	*e*P	**Pn**	**01 59 31.6**	**+2.1**
SJA				*e*S	**Sn**	**02 00 07.0**	**+1.7**
SJA				IAML		02 00 14.3	
	comp=Z,386nm,1.0s						
RTLL	**Cerro Villicun**	**3.03**	**103**	*e*P	**Pn**	**01 59 31.7**	**+1.9**
RTLL				*e*P		01 59 32.1	
RTLL				*e*S	**Sn**	**02 00 06.4**	**+0.4**
RTLL				IAML		02 00 12.9	
	comp=Z,627nm,0.3s						
MT03	**Universidad Ad**	**3.04**	**157**		**Pn**	**01 59 30.2**	**+0.2**
MT03	**Universidad Ad**	**3.04**	**157**	IAML		02 00 22.1	
	comp=E,1µm,0.5s						
MT03	**Universidad Ad**	**3.04**	**157**	*e*P	**Pn**	**01 59 32.1**	**+2.1**
MT03				*e*S	**Sn**	**02 00 08.5**	**+2.1**
MT03				IAML		02 00 20.1	
	comp=Z,677nm,0.5s						
MT04	**Ro Olivares**	**3.10**	**151**	*i* P	**Pn**	**01 59 33.5**	**+2.5**
MT04				*e*S	**Sn**	**02 00 08.4**	**+0.3**
MT04				IAML		02 00 18.4	
	comp=N,598nm,0.3s						
MT04	**Ro Olivares**	**3.10**	**151**	*e*P	**Pn**	**01 59 33.7**	**+2.7**
MT04				*e*S	**Sn**	**02 00 09.3**	**+1.2**
MT04				IAML		02 00 21.1	
	comp=Z,367nm,0.8s						
MT15	**Las Vizcachas**	**3.14**	**158**	*e*P	**Pn**	**01 59 33.0**	**+1.7**
MT15				*e*S	**Sn**	**02 00 09.5**	**+0.7**
MT15				IAML		02 00 21.2	
	comp=E,1µm,0.7s						
MT09	**Talagante**	**3.17**	**166**		**Pn**	**01 59 32.6**	**+0.6**
MT09	**Talagante**	**3.17**	**166**	⇑*i*P	**Pn**	**01 59 33.2**	**+1.3**
MT09				*e*S	**Sn**	**02 00 10.8**	**+1.0**
MT09				IAML		02 00 22.7	
	comp=N,574nm,0.3s						
MT08	**Bocatoma Ro**	**3.19**	**150**		**Pn**	**01 59 30.8**	**-1.4**
MT08	**Bocatoma Ro**	**3.19**	**150**	*e*P	**Pn**	**01 59 35.2**	**+3.0**
MT08				*e*S	**Sn**	**02 00 10.5**	**+0.4**
MT08				IAML		02 00 21.6	
	comp=N,476nm,0.5s						
MT08	**Bocatoma Ro**	**3.19**	**150**	*e*P	**Pn**	**01 59 31.3**	**-0.9**
MT08				*e*P		01 59 32.7	
MT08				*e*S	**Sn**	**02 00 15.2**	**+5.0**
MT08				IAML		02 00 21.3	
	comp=Z,264nm,0.6s						
AGUA	**GUANDACOL**	**3.21**	**69**	*e*P	**Pn**	**01 59 36.6**	**+4.3**
AGUA				*e*S	**Sb**	**02 00 19.7**	**+1.7**
AGUA				IAML		02 00 25.6	
	comp=Z,786nm,0.5s						
MT01	**Popeta**	**3.21**	**170**		**Pn**	**01 59 32.7**	**+0.4**
MT01	**Popeta**	**3.21**	**170**	*e*S	**Sn**	**02 00 11.9**	**+1.3**
MT01				IAML		02 00 23.1	
	comp=E,344nm,0.4s						
MT01	**Popeta**	**3.21**	**170**	*e*P	**Pn**	**01 59 33.1**	**+0.7**
MT01				*e*S	**Sn**	**02 00 14.7**	**+4.1**
MT01				IAML		02 00 27.9	
	comp=Z,239nm,0.5s						
ASAL	**Salagasta**	**3.24**	**127**	*e*P	**Pn**	**01 59 36.5**	**+3.6**
ASAL				*e*S	**Sn**	**02 00 15.1**	**+3.7**
MT12	**Pirque**	**3.25**	**159**	*e*P	**Pn**	**01 59 34.2**	**+1.3**
MT12				*e*S	**Sn**	**02 00 09.0**	**-2.5**
MT12				IAML		02 00 26.0	
	comp=E,1µm,0.5s						
CFA	**Coronel Fontan**	**3.29**	**107**	Pn	**Pn**	**01 59 35.5**	**+2.1**
	comp=E,42nm,0.3s,baz=303,slow=12,SNR=83						
CFA				Sn	**Sn**	**02 00 14.2**	**+1.8**
	com

PB06	**IPOC Station P**	**8.23**	**15**	Pn		**Pn**	**02 00 42.1**	**+0.7**
PLCA	**Paso Flores**	**10.08**	**174**	Pn		**Pn**	**02 01 07.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=340,slow=12,SNR=1.2 comp=Z,0.5nm,0.4s							
TRQA	**Tornquist**	**11.01**	**134**	Pn		**Pn**	**02 01 19.1**	**-0.3**
CPUP	**Villa Florida**	**13.54**	**75**	Pn		**Pn**	**02 01 50.5**	**-3.5**
CPUP	**Villa Florida**	**13.54**	**75**	Pn		**Pn**	**02 01 54.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=208,slow=17,SNR=1.6 comp=Z,0.1nm,0.3s							
LPAZ	**La Paz**	**14.75**	**14**	Pn		**Pn**	**02 02 09.3**	**-1.9**
LPAZ	**La Paz**	**14.75**	**14**	Pn		**Pn**	**02 02 10.2**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=216,slow=14,SNR=1.9 comp=Z,0.6nm,0.5s							
SIV	**San Ignacio**	**17.68**	**37**	P		**Pn**	**02 02 48.1**	**-0.2**
	baz=209,slow=8.8,SNR=5.9 comp=Z,0.8nm,0.5s							
BDFB	**Brasilia**	**26.52**	**61**	P		**P**	**02 04 19.5**	**-0.2**
	comp=Z,1.7nm,0.4s,baz=217,slow=14,SNR=3.2 comp=Z,1.7nm,0.4s							
BOAV	**Boa Vista**	**34.65**	**20**	P		**P**	**02 05 30.8**	**-0.6**
BOAV				IAmb		IAmb	02 05 38.5	
	comp=Z,5.2nm,1.3s							
SNAA	**Sanae**	**54.61**	**159**	P		**P**	**02 08 09.0**	**-1.1**
SNAA				IAmb		IAmb	02 08 50.9	
	comp=Z,7.3nm,1.5s							
SNAA	**Sanae**	**54.61**	**159**	P		**P**	**02 08 09.6**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=275,slow=16,SNR=1.7 comp=Z,0.6nm,0.7s							
QSPA	**South Pole Qui**	**59.53**	**180**	P		**P**	**02 08 46.1**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=245,slow=6.1,SNR=1.6 comp=Z,0.3nm,0.3s							
MAW	**Mawson**	**76.32**	**164**	P		**P**	**02 10 30.3**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=216,slow=8.7,SNR=1.4 comp=Z,0.6nm,0.5s							
PDAR	**Pinedale Array**	**80.87**	**333**	P		**P**	**02 10 56.9**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=144,slow=7.8,SNR=2.2 comp=Z,0.2nm,0.6s							
NVAR	**Mina Array Bea**	**81.24**	**325**	LR		LR	02 42 59.5	
	comp=Z,30nm,18.4s,baz=96,slow=33							
TORD	**Torodi Ar. Bea**	**83.00**	**70**	P		**P**	**02 11 05.5**	**-2.1**
TORD				IAmb		IAmb	02 11 21.8	
	comp=Z,2.1nm,1.4s							
TORD	**Torodi Ar. Bea**	**83.00**	**70**	P		**P**	**02 11 06.8**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=241,slow=4.8,SNR=4.3 comp=Z,0.2nm,0.6s							
H11S2	**WAKE ISLAND Hy**	**25.87**	**271**	T		T	04 36 30.6	
	baz=115,slow=75,SNR=87							
H11S1	**WAKE ISLAND Hy**	**25.87**	**271**	T		T	04 36 27.5	
	baz=115,slow=75,SNR=99							
H11S3	**WAKE ISLAND Hy**	**25.87**	**271**	T		T	04 36 31.9	
	baz=115,slow=75,SNR=58							
H11N3	**WAKE ISLAND Hy**	**26.18**	**273**	T		T	04 36 55.1	
	baz=116,slow=75,SNR=12							
H11N1	**WAKE ISLAND Hy**	**26.20**	**273**	T		T	04 36 56.0	
	baz=116,slow=75,SNR=4.6							
H11N2	**WAKE ISLAND Hy**	**26.20**	**273**	T		T	04 36 56.4	
	baz=116,slow=75,SNR=18							
ZALV	**Zalesovo Beam**	**151.34**	**29**	PKPbc		**PKPbc**	**02 18 34.8**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=343,slow=4.5,SNR=2.2							

MOS ***19*** *02:18:40.8±0.8,42°.29N×144°.13E,h40km,mb4.5/1,Error ellipse: s-maj=25.4km s-min=12.0km az=65.6*
JMA ***19*** *02:18:44.9±0.1,42°.7N±0°.4×144°.2E±0°.4,h53km±1km, MV3.6/37,SE OFF TOKACHI*
JMA Felt I J1 at SE OFF TOKACHI .
IDC ***19*** *02:18:45.1±12.0,43°.67N×143°.75E,h0km,mb3.7/6, mbtmp3.7/6,Error ellipse: s-maj=313.1km s-min=32.0km az=168.0*
SKHL ***19*** *02:18:46.0±0.0,42°.70N×144°.10E,h61km±3km,mb4.9/3*
ISC 19 02:18:43.8±1.2,**42°.61N**±0°.06×**144°.22E**±0°.03,**h33**km±4km, **n42**,σ1**§36**/50,**mb3.6**/6,**6D**,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.41**	**317**	⇓*i*P	**Pn**	**02 18 54.9**	**+1.5**
JOB				⇓S	**Sb**	**02 19 01.8**	**+2.5**
JAK	**Akkeshi**	**0.53**	**42**	*i* P	**Pn**	**02 18 56.4**	**+1.5**
JAK				S	**Sn**	**02 19 05.0**	**+2.2**
AKK	**Akkeshi**	**0.62**	**48**	*e*P	**Pb**	**02 18 57.5**	**+1.2**
JCH	**Churui**	**0.63**	**271**	⇓*i*P	**Pb**	**02 18 57.4**	**+0.9**
JCH				⇓S	**Sb**	**02 19 05.8**	**+0.7**
JAR	**Ashorobuto**	**0.76**	**335**	*i* P	**Pb**	**02 18 58.9**	**+0.2**
JAR				S	**Sb**	**02 19 08.8**	**-0.1**
JKHN	**Kushirohamanak**	**0.84**	**55**	P	**Pb**	**02 19 00.7**	**+0.6**
JKHN				*e*S	**Sb**	**02 19 12.1**	**+1.1**
JEM	**Erimo**	**0.98**	**233**	P	**Pn**	**02 19 02.4**	**+1.2**
JNK	**Nakash**	**1.04**	**21**	⇓*i*P	**Pb**	**02 19 02.9**	**-0.6**
JNK				⇓S	**Sn**	**02 19 15.4**	**-0.2**
JNBK	**Urakawa-nobuka**	**1.13**	**254**	*i* P	**Pn**	**02 19 03.6**	**+0.3**
JFR	**Furan**	**1.31**	**296**	*e*P	**Pn**	**02 19 06.6**	**+0.7**
JFR				*e*S	**Sn**	**02 19 21.5**	**-0.8**
NMR	**Nemuro--Hokkai**	**1.35**	**55**	*e*PN	**Pn**	**02 19 06.6**	**+0.3**
NMR				*i* S	**Sn**	**02 19 22.3**	**-0.7**
NMR	**Nemuro--Hokkai**	**1.35**	**55**	*e*P	**Pn**	**02 19 06.8**	**+0.5**
NMR				*i* S	**Sn**	**02 19 22.4**	**-0.6**
NEM2	**Nemuro 2**	**1.35**	**55**	*i* P	**Pn**	**02 19 06.7**	**+0.4**
NEM2				S	**Sn**	**02 19 22.5**	**-0.7**
JBT2	**Biratori 2**	**1.38**	**278**	P	**Pn**	**02 19 06.5**	**-0.1**
GLVR	**Golovnino**	**1.48**	**40**	*e*PN	**Pb**	**02 19 09.6**	**-1.1**
GLVR				*i* S	**Sb**	**02 19 27.8**	**-1.4**
GLVR				pmax	pmax		
	comp=Z,649nm,0.1s						
GLVR				pmax	pmax		
	comp=E,118nm,0.2s						
GLVR				smax	smax		
	comp=E,4μm,0.3s						
GLVR				smax	smax		
	comp=N,5μm,0.4s						
GLVR	**Golovnino**	**1.48**	**40**	*e*P	**Pb**	**02 19 09.6**	**-1.1**
GLVR				AMB	AMB	02 19 10.0	
	comp=N,650nm,0.2s						
GLVR				*i* S	**Sb**	**02 19 27.8**	**-1.4**
GLVR				A	A	02 19 28.8	
	comp=N,5μm,0.4s						
GLVR				A	A	02 19 28.8	
	comp=N,4μm,0.4s						
RUSJ	**Misakicho**	**1.68**	**26**	*e*PN	**Pb**	**02 19 12.6**	**-1.4**
RUSJ				*i* S	**Sb**	**02 19 33.6**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**1.86**	**40**	*e*PN	**Pn**	**02 19 15.0**	**+1.6**
YUK				*i* S	**Sn**	**02 19 36.8**	**+1.0**
YUK				pmax	pmax		
	comp=Z,407nm,0.2s						
YUK				pmax	pmax		
	comp=N,78nm,0.1s						
YUK				pmax	pmax		
	comp=E,149nm,0.1s						
YUK				smax	smax		
	comp=E,1μm,0.3s						
YUK				smax	smax		
	comp=N,1μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.86**	**40**	*e*P	**Pn**	**02 19 14.8**	**+1.4**
YUK				AMB	AMB	02 19 15.7	
	comp=N,310nm,0.2s						
YUK				*i* S	**Sn**	**02 19 36.3**	**+0.5**
YUK				A	A	02 19 37.4	
	comp=N,1μm,0.4s						
YUK				A	A	02 19 37.4	
	comp=N,1μm,0.4s						
SHO	**Shikotan**	**2.29**	**56**	*e*P	**Pb**	**02 19 24.6**	**+0.1**
SHO				AMB	AMB	02 19 25.1	
	comp=N,40nm,0.2s						
SHO				*e*S	**Sb**	**02 19 49.8**	**-2.5**
SHO				A	A	02 19 51.6	
	comp=N,820nm,0.3s						
SHO				A	A	02 19 51.6	
	comp=N,710nm,0.3s						
KUR	**Kuril'sk**	**3.72**	**44**	*e*PN	**Pn**	**02 19 42.3**	**+3.4**
KUR				pmax	pmax		
	comp=Z,64nm,0.5s						
KUR	**Kuril'sk**	**3.72**	**44**	*e*P	**Pn**	**02 19 42.3**	**+3.4**
KUR				AMB	AMB	02 19 45.0	
	comp=Z,60nm,0.5s						
KUR				*i* S	**Sn**	**02 20 24.4**	**+2.8**
KUR				A	A	02 20 30.8	
	comp=Z,110nm,0.2s						
KUR				A	A	02 20 30.8	
	comp=Z,70nm,0.2s						
SONM	**Songino Array**	**26.96**	**294**	P	**P**	**02 24 21.8**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=100,slow=6.6,SNR=2.0 comp=Z,0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.77**	**133**	T	T	02 56 04.8	
	baz=326,slow=76,SNR=385						
H11N1	**WAKE ISLAND Hy**	**29.78**	**133**	T	T	02 56 04.7	
	baz=326,slow=76,SNR=231						
H11N3	**WAKE ISLAND Hy**	**29.79**	**133**	T	T	02 56 06.3	
	baz=326,slow=76,SNR=238						
H11S1	**WAKE ISLAND Hy**	**30.67**	**135**	T	T	02 57 10.1	
	baz=328,slow=76,SNR=272						
H11S3	**WAKE ISLAND Hy**	**30.67**	**135**	T	T	02 57 11.6	
	baz=328,slow=76,SNR=249						
H11S2	**WAKE ISLAND Hy**	**30.69**	**135**	T	T	02 57 13.9	
	baz=328,slow=76,SNR=162						
MKAR	**Makanchi Array**	**43.21**	**298**	P	**P**	**02 26 41.0**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=89,slow=7.9,SNR=1.8 comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**43.21**	**298**	P	**P**	**02 26 41.0**	**-0.6**
MKAR	**Makanchi Array**	**43.21**	**298**	*e*P	**P**	**02 26 41.0**	**-0.6**
ILAR	**Eielson Array**	**43.67**	**35**	P	**P**	**02 26 45.8**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=276,slow=8.6,SNR=7.1 comp=Z,0.4nm,0.5s						
KURK	**Kurchatov**	**44.39**	**304**	P	**P**	**02 26 50.7**	**-0.2**
KURK	**Kurchatov**	**44.39**	**304**	*e*P	**P**	**02 26 50.7**	**-0.2**
KURBB	**Kurchatov Arra**	**44.47**	**304**	P	**P**	**02 26 50.7**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=74,slow=9.1,SNR=4.6 comp=Z,0.8nm,0.6s						
BVAR	**Borovoye Array**	**48.57**	**309**	P	**P**	**02 27 23.1**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=85,slow=7.2,SNR=7.3 comp=Z,0.7nm,0.3s						
FINES	**FINESS Array B**	**64.90**	**332**	P	**P**	**02 29 17.9**	**-1.4**
	comp=Z,2.5nm,1.0s,baz=42,slow=6.3,SNR=4.8 comp=Z,2.5nm,1.0s						
FINES	**FINESS Array B**	**64.90**	**332**	P	**P**	**02 29 18.0**	**-1.4**
H03N2	**Juan Fernandez**	**145.12**	**89**	T	T	05 20 02.8	
	baz=303						
H03N3	**Juan Fernandez**	**145.13**	**89**	T	T	05 20 08.7	
	baz=303						
H03N1	**Juan Fernandez**	**145.13**	**89**	T	T	05 20 00.8	
	baz=303						

NEIC ***19*** *02:22:30.1±1.7,37°.87N±0°.01×112°.45W±0°.02,h5km±2km, Error ellipse: s-maj=3.1km s-min=2.9km az=127.0*
UUSS 19 02:22:31.0±2.2,**37°.88N**±0°.01×**112°.49W**±0°.02,**h6**km±5km, **ML2.4**/10,**ML2.8**/96(NEIC),**Error ellipse: s-maj=2.38km s-min=2.0km az=91.0,Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTPU	**Mount Pierson**	**0.29**	**56**		Pg	02 22 36.6	-0.3
MTPU					Sg	02 22 41.4	+0.7
PKCU	**Pink Cliffs**	**0.46**	**162**		Pg	02 22 40.0	0.0
DWU	**Dry Willow Pea**	**0.46**	**299**		Pg	02 22 40.4	+0.4
BTU	**Barney Top**	**0.50**	**104**		Pg	02 22 40.9	+0.1
SZCU	**Shurtz Canyon**	**0.55**	**239**		Pg	02 22 41.7	0.0
SZCU					Sg	02 22 49.6	+0.6
SZCU	**Shurtz Canyon**	**0.55**	**239**	IAML		02 22 52.3	
	comp=E,733nm,0.2s						
SZCU				IAML		02 22 52.5	
	comp=N,592nm,0.2s						
NMUT	**North Mineral**	**0.70**	**336**		Pg	02 22 44.6	+0.1
ZNPU	**Zion National**	**0.73**	**224**		Pg	02 22 45.0	0.0
TCRU	**Three Creeks R**	**0.73**	**3**		Pg	02 22 45.1	0.0
ARUT	**Antelope Range**	**0.76**	**263**		Pg	02 22 45.9	+0.2
CCUT	**Cedar City**	**0.77**	**245**		Pg	02 22 45.7	-0.1
KNB	**Kanab**	**0.90**	**197**		Pg	02 22 47.7	-0.7
IMU	**Iron Mountain**	**0.92**	**325**		Pg	02 22 48.8	+0.1
LCMT	**Little Creek M**	**1.05**	**215**		Pg	02 22 50.4	-0.8
LCMT	**Little Creek M**	**1.05**	**215**	IAML		02 23 05.3	
	comp=E,268nm,0.2s						
LCMT				IAML		02 23 07.4	
	comp=N,197nm,0.1s						
PSUT	**Pine Spring**	**1.26**	**302**		Pg	02 22 55.1	-0.1
ICU	**Indian Springs**	**1.35**	**238**		Pn	02 22 56.4	-0.2
HMU	**Henry Mountain**	**1.38**	**87**		Pn	02 22 56.2	-1.0
HMU	**Henry Mountain**	**1.38**	**87**	IAML		02 23 21.7	
	comp=N,122nm,0.4s						
HMU				IAML		02 23 24.7	
	comp=E,183nm,0.6s						
Q16A	**Castle Valley**	**1.47**	**45**		Pn	02 22 58.2	-0.1
TMUT	**Trail Mountain**	**1.73**	**35**	Pn	Pn	02 23 01.4	-0.6
SPR3	**Spring Creek 3**	**1.83**	**308**		Pn	02 23 02.3	-1.1
SPR3				IAML		02 23 29.0	
	comp=N,31nm,0.4s						
SRU	**San Rafael Swe**	**1.97**	**51**		Pn	02 23 04.7	-0.5
SRU				IAML		02 23 36.1	
	comp=E,25nm,0.5s						
PRN	**Pahroc Range**	**2.09**	**258**		Pn	02 23 06.6	-0.1
PRN				IAML		02 23 40.6	
	comp=N,62nm,0.4s						
PRN				IAML		02 23 53.4	
	comp=E,43nm,0.7s						
P18A	**Preston Nutter**	**2.48**	**44**		Pn	02 23 11.8	-0.5
P18A				IAML		02 23 50.1	
	comp=E,13nm,0.8s						
P18A				IAML		02 23 54.9	
	comp=N,14nm,0.6s						
R11B	**Troy Canyon, C**	**2.49**	**282**		Pn	02 23 11.5	-0.8
WUAZ	**Wupatki**	**2.52**	**159**		Pn	02 23 12.6	-0.2
SHPR	**Sheep Range**	**2.54**	**238**	Pn	Pn	02 23 12.8	-0.2
PV05	**Paradox Valley**	**2.69**	**85**		Pn	02 23 16.1	+1.0
PV10	**Paradox Valley**	**2.77**	**79**		Pn	02 23 15.4	-0.8
PV14	**Lion Creek, Pa**	**2.78**	**79**		Pn	02 23 15.8	-0.5
PV14				IAML		02 23 57.8	
	comp=N,58nm,0.5s						
PV19	**Morning Glory**	**2.80**	**80**	Pn	Pn	02 23 16.3	-0.3
PV19				IAML		02 24 01.3	
	comp=E,71nm,0.5s						
PV23	**Carpenter Ridg**	**2.80**	**77**	Pn	Pn	02 23 15.6	-1.0
PV17	**East Wray Mesa**	**2.81**	**81**	Pn	Pn	02 23 16.0	-0.8
PV17				IAML		02 23 58.4	
	comp=E,55nm,0.6s						
PV17				IAML		02 24 00.1	
	comp=N,56nm,0.6s						
PV20	**West Nyswonger**	**2.82**	**79**	Pn	Pn	02 23 16.3	-0.5
JLU	**Jordanelle**	**2.84**	**16**	Pn	Pn	02 23 16.4	-0.8
PV18	**Skein Mesa, Pa**	**2.85**	**82**	Pn	Pn	02 23 17.0	-0.3
PV21	**Cone Mtn., Par**	**2.85**	**75**	Pn	Pn	02 23 17.0	-0.3
PV16	**Nyswonger Mesa**	**2.85**	**80**	Pn	Pn	02 23 17.5	+0.2
PV16				IAML		02 24 00.1	
	comp=N,53nm,0.7s						
PV16				IAML		02 24 01.1	
	comp=E,54nm,0.6s						
V12A	**Nelson**	**2.87**	**222**	Pn	Pn	02 23 17.1	-0.3
PV04	**Paradox Valley**	**2.87**	**79**	Pn	Pn	02 23 17.5	-0.1
PV04				IAML		02 24 04.9	
	comp=N,55nm,0.6s						
PV04				IAML		02 24 08.8	
	comp=E,46nm,0.6s						
PV11	**David Mesa, Pa**	**2.88**	**81**	Pn	Pn	02 23 17.2	-0.5
PV03	**Paradox Valley**	**2.90**	**81**	Pn	Pn	02 23 17.9	0.0
PV03				IAML		02 24 01.4	
	comp=N,54nm,0.4s						
PV03				IAML		02 24 01.8	
	comp=E,64nm,0.5s						
PV13	**Radium Mtn., P**	**2.91**	**83**	Pn	Pn	02 23 17.9	-0.3
PV13				IAML		02 24 05.3	
	comp=N,63nm,0.4s						
PV13				IAML		02 24 06.5	
	comp=E,54nm,0.6s						
PV12	**Saucer Basin,**	**2.94**	**80**	Pn	Pn	02 23 18.5	0.0
PV02	**Paradox Valley**	**2.98**	**83**	Pn	Pn	02 23 18.9	-0.1
PV22	**Blue Mesa, Par**	**2.99**	**76**	Pn	Pn	02 23 20.0	+0.8
PV22				IAML		02 24 02.6	
	comp=E,45nm,0.6s						
PV22				IAML		02 24 03.0	
	comp=N,43nm,0.6s						
W13A	**Hualapai Mount**	**2.99**	**202**	Pn	Pn	02 23 19.3	+0.1
W13A				IAML		02 24 04.7	
	comp=E,9.4nm,0.6s						
PV07	**Paradox Valley**	**3.08**	**78**	Pn	Pn	02 23 20.1	-0.3
PV07				IAML		02 24 07.6	
	comp=E,20nm,0.8s						
PV07				IAML		02 24 14.6	
	comp=N,20nm,0.7s						
PV01	**Paradox Valley**	**3.11**	**84**	Pn	Pn	02 23 20.3	-0.6
PV01				IAML		02 24 07.1	
	comp=E,40nm,0.6s						
PV01				IAML		02 24 11.8	
	comp=N,30nm,0.4s						
TPNV	**Topopah Spring**	**3.13**	**254**		Pn	02 23 21.2	+0.1
TPNV				IAML		02 24 13.3	
	comp=N,8.1nm,0.6s						
TPNV				IAML		02 24 14.0	
	comp=N,14nm,0.5s						
PV15	**Paradox Valley**	**3.19**	**80**	Pn	Pn	02 23 22.1	0.0
PV15				IAML		02 24 14.6	
	comp=E,36nm,0.8s						
MVCO	**Mesa Verde**	**3.24**	**101**	Pn	Pn	02 23 22.5	-0.2
MVCO				IAML		02 24 20.7	
	comp=E,38nm,0.4s						
MVCO				IAML		02 24 24.9	
	comp=E,28nm,0.6s						
WCT	**Wildcat Mounta**	**3.47**	**253**	Pn	Pn	02 23 26.5	+0.8
W18A	**Petrified Fore**	**3.54**	**140**	Pn	Pn	02 23 27.0	+0.3
X16A	**Lo Mia Camp, P**	**3.56**	**166**	Pn	Pn	02 23 27.3	+0.3
DSP	**Deep Springs**	**4.38**	**265**	Pn	Pn	02 23 37.9	-0.2

IDC ***19*** *02:50:37.4±2.3,4°.11S×127°.69E,h234km±21km,mb3.7/9, mbtmp4.3/12,Error ellipse: s-maj=43.4km s-min=9.2km az=66.0*
NEIC ***19*** *02:50:38.5±1.5,4°.15S±0°.08×127°.62E±0°.08,h238km±9km, mb4.4/19,Error ellipse: s-maj=15.7km s-min=5.7km az=137.0*
DJA ***19*** *02:50:38.5±0.2,4°.5S±3°×12°.8E±°,h220km±3km,M4.5/13, mB4.9/6,mb4.5/11,MLv4.6/13,Mw(mB)4.2/6*
ISC 19 02:50:38.1±0.4,**4°.17S**±0°.05×**127°.64E**±0°.06,**h238**km,**n72**, σ1**§23**/78,**mb4.3**/17,**1D**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.73**	**49**	P	**Pn**	**02 51 09.4**	**-1.1**
AAI				S	**S**	**02 51 33.6**	**-2.3**
NLAI	**Namlea**	**1.07**	**330**	P	**Pn**	**02 51 12.0**	**-0.3**
NLAI				S	**S**	**02 51 35.8**	**-3.3**
MSAI	**Masohi**	**1.52**	**57**	P	**Pn**	**02 51 14.0**	**-1.5**
MSAI				S	**S**	**02 51 42.0**	**-2.7**
BNDI	**Bandanaira**	**2.28**	**99**	P	**Pn**	**02 51 22.5**	**+0.2**
BNDI	**Bandanaira**	**2.28**	**99**	P	**Pn**	**02 51 22.4**	**+0.2**
SANI	**Sanana**	**2.68**	**322**	P	**Pn**	**02 51 24.3**	**-2.1**
SANI	**Sanana**	**2.68**	**322**	P	**Pn**	**02 51 24.2**	**-2.1**
FAKI	**Fak Fak**	**4.76**	**75**		**Pn**	**02 51 50.4**	**-0.3**
FAKI	**Fak Fak**	**4.76**	**75**	P	**Pn**	**02 51 50.3**	**-0.3**
FAKI	**Fak Fak**	**4.76**	**75**	P	**Pn**	**02 51 50.0**	**-0.6**
SWI	**Sorong**	**4.88**	**48**	P	**Pn**	**02 51 51.2**	**-0.9**
KMPI	**Kaimana, Papua**	**6.07**	**85**	P	**Pn**	**02 52 06.5**	**-0.4**
	4μm216nm,0.8s						
RKPI	**Ransiki, Papua**	**7.04**	**68**	P	**Pn**	**02 52 19.5**	**+0.3**
BATI	**Baumata**	**7.18**	**213**	P	**Pn**	**02 52 19.5**	**-1.5**
	36nm,0.6s,baz=242,slow=4.2,SNR=1.9						
EDFI	**Ende, Flores**	**7.46**	**232**	P	**Pn**	**02 52 26.1**	**+1.4**
DRS	**Darwin Rock St**	**8.82**	**159**	P	**Pn**	**02 52 42.8**	**+1.0**
DRS	**Darwin Rock St**	**8.82**	**159**	S	**S**	**02 54 21.0**	**-0.6**
MTN	**Manton Dam**	**9.28**	**158**		**Pn**	**02 52 47.8**	**+0.1**
MTN	**Manton Dam**	**9.28**	**158**	P	**Pn**	**02 52 48.1**	**+0.4**
MTN	**Manton Dam**	**9.28**	**158**	S	**S**	**02 54 31.6**	**-0.9**
KDU	**Kakadu**	**9.71**	**151**	P	**Pn**	**02 52 53.4**	**+0.2**
PLAI	**Plampang**	**10.84**	**244**	P	**Pn**	**02 53 07.9**	**+0.4**
PLAI	**Plampang**	**10.84**	**244**	S	**S**	**02 55 08.9**	**-0.1**
PLAI	**Plampang**	**10.84**	**244**	P	**Pn**	**02 53 07.5**	**0.0**
KNRA	**Kununurra**	**11.49**	**175**		**Pn**	**02 53 15.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**13.98**	**188**	P	**Pn**	**02 53 46.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**13.98**	**188**	P	**Pn**	**02 53 46.1**	**-0.3**
	1.9nm,0.3s,baz=22,slow=12,SNR=26						
JAGI	**Jajag, Banyuwa**	**14.07**	**252**		**Pn**	**02 53 47.7**	**0.0**
KKM	**Kota Kinabalu**	**15.27**	**312**	P	**Pn**	**02 54 03.9**	**+1.6**
SBUM	**Sibu**	**16.76**	**293**		**P**	**02 54 18.9**	**+0.8**
SBUM	**Sibu**	**16.76**	**293**	P	**Pn**	**02 54 19.6**	**-0.2**
WB0	**Warramunga Arr**	**16.84**	**158**		**P**	**02 54 18.9**	**0.0**
WB0				IAmb	IAmb	02 54 21.6	
	comp=Z,39nm,1.3s						
WRAB	**Tennant Creek**	**16.98**	**158**		**P**	**02 54 21.3**	**+0.8**
WRAB				IAmb	IAmb	02 54 23.3	
	comp=Z,15nm,0.9s						
WRA	**Warramunga Arr**	**16.98**	**158**	P	**P**	**02 54 20.9**	**+0.4**
WRA	**Warramunga Arr**	**16.98**	**158**	P	**P**	**02 54 20.8**	**+0.4**
	comp=Z,4.7nm,0.4s,baz=333,slow=13,SNR=94						
WRA				S	**S**	**02 57 22.7**	**-2.6**
	comp=Z,0.5nm,0.5s,baz=338,slow=20,SNR=2.0						
WR8	**Warramunga Arr**	**17.05**	**157**		**P**	**02 54 21.6**	**+0.3**
WR8				IAmb	IAmb	02 54 24.2	
	comp=Z,16nm,0.7s						
COEN	**Coen**	**18.14**	**123**	P	**P**	**02 54 34.0**	**+0.9**
COEN				IAmb	IAmb	02 54 49.4	
	comp=Z,21nm,1.4s						
KSM	**Kuching**	**18.21**	**288**	P	**P**	**02 54 35.2**	**+1.3**
MBWA	**Marble Bar**	**18.55**	**204**	P	**P**	**02 54 37.1**	**-0.4**
MBWA				IAmb	IAmb	02 55 13.9	
	comp=Z,24nm,1.4s						
PSA00	**Pilbara Seismi**	**18.88**	**203**	P	**P**	**02 54 41.4**	**+0.3**
PSA00				IAmb	IAmb	02 54 43.5	
	comp=Z,24nm,1.4s						
QIS	**Mount Isa**	**20.02**	**145**	P	**P**	**02 54 54.6**	**+1.3**
AS31	**Alice Springs**	**20.30**	**163**		**P**	**02 54 56.4**	**+0.1**
AS31				IAmb	IAmb	02 55 05.6	
	comp=Z,5.3nm,0.6s						
ASAR	**Alice Springs**	**20.30**	**163**	P	**P**	**02 54 56.6**	**+0.4**
ASAR	**Alice Springs**	**20.30**	**163**	P	**P**	**02 54 56.5**	**+0.2**
	comp=Z,4.4nm,0.6s,baz=345,slow=11,SNR=43						
ASAR				S	**S**	**02 58 31.2**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=349,slow=21,SNR=5.4						
ASAR				ScP	**ScP**	**03 02 12.6**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=19,slow=1.9,SNR=4.4 comp=Z,4.4nm,0.6s						
BBOO	**Buckleboo**	**29.56**	**166**	P	**P**	**02 56 21.4**	**+0.5**
STKA	**Stephens Creek**	**30.52**	**156**	P	**P**	**02 56 30.1**

*CATAC **19** 02:58:26.1±0.7, 12°N±5°×87°7W±°, h30km±5km, M3.9/13, MLv3.9/13, Error ellipse: s-maj=12.4km s-min=6.2km az=29.7, confirmed*
*SNET **19** 02:58:32.0±1.1, 12°59N×87°84W, h14km±7km, ML3.3*
ISC 19 02:58:23.1±1.5, **12°30N**±0°07×**87°50W**±0°03, **h17**km±12km, **n31**, σ1§17/39, **6C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.59**	**48**	S	**Sn**	**02 58 47.2**	**+0.9**
PKGN	**Cerro Pekin**	**0.63**	**54**	S	**Sn**	**02 58 48.9**	**+1.9**
ALEN	**Leon**	**0.64**	**76**	⇑P	**Pn**	**02 58 37.2**	**-0.2**
CNGA	**Al SSO del Vol**	**0.81**	**76**	⇑P	**Pn**	**02 58 40.1**	**+0.3**
CNGN	**Cerro Negro**	**0.81**	**76**	S	**Sb**	**02 58 49.1**	**-0.3**
CNGN	**Cerro Negro**	**0.81**	**76**	⇓P	**Pn**	**02 58 40.6**	**+0.8**
COPN	**Copaltepe**	**0.90**	**98**	⇑P	**Pg**	**02 58 39.7**	**-0.9**
MOM2	**El Cardon**	**1.00**	**82**	⇑P	**Pn**	**02 58 43.1**	**+0.6**
MOM2				S	**Sn**	**02 58 56.4**	**+0.2**
CNCH	**Conchagua**	**1.02**	**342**	*eP*	**Pn**	**02 58 44.4**	**+1.5**
CNCH				*eS*	**Sb**	**02 58 55.6**	**-0.1**
CNCH				IAML		02 59 02.5	
	comp=Z,3μm,0.1s						
CNCH	**Conchagua**	**1.02**	**342**	⇓P	**Pn**	**02 58 44.5**	**+1.6**
LCND	**La Caada**	**1.07**	**339**	*eP*	**Pn**	**02 58 45.0**	**+1.6**
LCND				IAML		02 59 03.0	
	comp=Z,872nm,0.3s						
LCND	**La Caada**	**1.07**	**339**	⇓P	**Pn**	**02 58 45.0**	**+1.6**
APQ3	**Volcan Apoyequ**	**1.11**	**91**	S	**Sb**	**02 58 57.5**	**-0.5**
ABCN	**Banco Central**	**1.18**	**99**	P	**Pg**	**02 58 47.3**	**+1.4**
UNAN	**Cigeo UNAN**	**1.22**	**99**	S	**Sb**	**02 59 00.6**	**-0.6**
BLLM	**Bellamira**	**1.34**	**328**	*eP*	**Pg**	**02 58 49.0**	**-0.1**
BLLM				*eS*	**Sb**	**02 59 02.9**	**-2.1**
NANN	**Nandasmo**	**1.40**	**105**	⇑P	**Pn**	**02 58 48.8**	**+0.9**
PACA	**Pacayal**	**1.41**	**325**	*eP*	**Pg**	**02 58 49.9**	**-0.4**
PACA	**Pacayal**	**1.41**	**325**	P	**Pg**	**02 58 50.4**	**0.0**
OCON	**Estacion meteo**	**1.66**	**37**	P	**Pb**	**02 58 53.2**	**-0.1**
MATN	**Matagalpa**	**1.66**	**68**	⇑P	**Pn**	**02 58 51.1**	**-0.5**
TECO	**Alcaldia de Te**	**1.75**	**315**	*eP*	**Pb**	**02 58 54.8**	**-0.1**
TECO				*eS*	**Sn**	**02 59 13.0**	**-1.8**
TECO	**Alcaldia de Te**	**1.75**	**315**	P	**Pn**	**02 58 54.0**	**+1.2**
RCVN	**Varillal2**	**1.80**	**45**	⇓P	**Pb**	**02 58 55.3**	**-0.6**
RCPN	**Sur Rio San Ju**	**1.83**	**48**	⇓P	**Pb**	**02 58 55.5**	**-0.8**
LFRS	**El Faro**	**2.01**	**311**	*eP*	**Pb**	**02 58 59.3**	**0.0**
LFRS				*eS*	**Sn**	**02 59 20.2**	**-1.1**
LOMA	**Loma Larga**	**2.11**	**310**	*eP*	**Pb**	**02 59 01.1**	**+0.2**
LOMA				*eS*	**Sn**	**02 59 23.0**	**-0.7**
PMON	**Piamonte**	**2.26**	**309**	*eP*	**Pb**	**02 59 02.9**	**-0.6**
PMON				*eS*	**Sn**	**02 59 27.6**	**+0.2**
JAYA	**Jayaque - finc**	**2.33**	**306**	*eP*	**Pb**	**02 59 03.9**	**-0.9**
JAYA				*eS*	**Sn**	**02 59 27.4**	**-1.8**
JAYA				IAML		02 59 31.0	
	comp=Z,172nm,0.1s						
SBLS	**San Blas**	**2.57**	**307**	*eP*	**Pb**	**02 59 08.0**	**-1.0**
NUBE	**Las Nubes**	**2.73**	**306**	*eP*	**Pn**	**02 59 09.6**	**+3.2**

*PDG **19** 03:06:22.2±0.2, 41°.89N×20°.40E, h8km, ML3.1/12, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
*BEO **19** 03:06:23.9±0.3, 41°.88N×20°.34E, h11km±2km, ML2.9/9*
*SKO **19** 03:06:24.4, 41°.94N×20°.45E, h15km, ML2.7*
*TIR **19** 03:06:25.3, 42°.01N×21°.04E, h9km±20km, Ml2.8/1*
ISC 19 03:06:23.3±1.0, **41°92N**±0°02×**20°35E**±0°02, **h8**km±9km, **n85**, σ1§80/115, **21C-15D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.73**	**337**	*eP*	**Pg**	**03 06 36.4**	**-1.0**
PVY				*i* Sg	**Sb**	**03 06 48.8**	**+0.2**
SKO	**Skopje**	**0.81**	**86**	*i* Pg	**Pg**	**03 06 37.9**	**-1.1**
SKO				*i* Sg	**Sg**	**03 06 49.3**	**-0.2**
ULC	**Ulcinj**	**0.83**	**273**	⇑*i* Pg	**Pg**	**03 06 38.3**	**-0.8**
ULC				*i* Sg	**Sn**	**03 06 51.7**	**-1.9**
OHR	**Ohrid**	**0.88**	**157**	*i* Pg	**Pg**	**03 06 39.1**	**-1.0**
OHR				*i* Sg	**Sn**	**03 06 53.0**	**-1.8**
OHR				*eLg*	Lg	03 06 53.3	
	comp=E,167nm,0.5s						
OHR				*eLg*	Lg	03 06 53.8	
	comp=N,193nm,0.4s						
DRME	**Dracevica, Mon**	**0.91**	**287**	*ePg*	**Pg**	**03 06 40.0**	**-0.7**
DRME	**Dracevica, Mon**	**0.91**	**287**	⇑*iPg*	**Pg**	**03 06 39.6**	**-1.1**
DRME				*i* Sg	**Sn**	**03 06 54.7**	**-0.9**
PDG	**Podgorica**	**0.96**	**302**	⇑P	**Pg**	**03 06 40.3**	**-1.4**
PDG				⇑S	**Sg**	**03 06 51.8**	**-2.4**
PDG	**Podgorica**	**0.96**	**302**	*ePg*	**Pg**	**03 06 40.4**	**-1.3**
PDG				*eSg*	**Sn**	**03 06 55.8**	**-1.1**
PDG	**Podgorica**	**0.96**	**302**	⇑*iPg*	**Pg**	**03 06 40.1**	**-1.6**
PDG				*i* Sg	**Sn**	**03 06 56.4**	**-0.5**
IVA	**Berane**	**1.01**	**341**	⇑*iPg*	**Pg**	**03 06 41.9**	**-0.8**
IVA				*i* Sg	**Sn**	**03 06 58.2**	**-0.1**
KOME	**Kolasin**	**1.12**	**327**	*ePg*	**Pb**	**03 06 43.6**	**-1.3**
KOME	**Kolasin**	**1.12**	**327**	⇑*iPg*	**Pb**	**03 06 43.7**	**-1.2**
KOME				*i* Sg	**Sn**	**03 07 01.9**	**+1.0**
BUM	**Brajici-Budva**	**1.15**	**290**	⇓*iPg*	**Pb**	**03 06 44.4**	**-1.0**
BUM				*i* Sg	**Sn**	**03 07 03.2**	**+1.6**
CEME	**Cevo**	**1.23**	**301**	⇑*iPg*	**Pn**	**03 06 45.2**	**-1.7**
CEME				*i* Sg	**Sn**	**03 07 06.1**	**+2.3**
KBN	**Korca**	**1.34**	**166**	P	**Pg**	**03 06 49.7**	**+0.8**
KBN				Sg	**Sg**	**03 07 11.5**	**+5.3**
NKME	**Niksic**	**1.34**	**310**	⇓*iPg*	**Pn**	**03 06 47.2**	**-1.1**
NKME				*i* Sg	**Sg**	**03 07 09.9**	**+3.6**
SJES	**Sjenica**	**1.37**	**348**	*ePg*	**Pb**	**03 06 48.6**	**-0.6**
SJES				*eSg*	**Sg**	**03 07 10.4**	**+3.1**
FNA	**Florina**	**1.37**	**145**	Pg	**Pg**	**03 06 49.5**	**-0.1**
FNA				S	**Sg**	**03 07 07.8**	**+0.4**
FNA	**Florina**	**1.37**	**145**	*i* Pg	**Pg**	**03 06 50.5**	**+1.0**
FNA				*i* Sg	**Sg**	**03 07 07.9**	**+0.4**
FNA	**Florina**	**1.37**	**145**	*ePg*	**Pn**	**03 06 47.3**	**-1.5**
FNA				*eSg*	**Sg**	**03 07 08.5**	**+1.1**
BARS	**Barje**	**1.41**	**50**	*i* Pg	**Pg**	**03 06 50.0**	**-0.3**
BARS				*i* Sg	**Sn**	**03 07 07.3**	**-0.7**
BARS	**Barje**	**1.41**	**50**	*ePg*	**Pb**	**03 06 49.4**	**-0.4**
BARS				*eSg*	**Sg**	**03 07 09.6**	**+1.1**
SELS	**Selova**	**1.42**	**23**	*ePg*	**Pb**	**03 06 49.7**	**-0.3**
SELS				*eSg*	**Sg**	**03 07 11.0**	**+2.1**
HCY	**Herceg Novi**	**1.48**	**292**	⇑*iPg*	**Pb**	**03 06 50.4**	**-0.6**
HCY				*i* Sg	**Sg**	**03 07 13.7**	**+3.0**
NEST	**Nestorio**	**1.59**	**160**	Pg	**Pg**	**03 06 53.4**	**-0.4**
NEST				Sg	**Sg**	**03 07 17.7**	**+3.2**
NEST				AML	AML	03 07 19.0	
	comp=N,0.4nm,0.8s						
BRY	**Bratogost**	**1.66**	**307**	⇓*iPn*	**Pb**	**03 06 53.1**	**-1.1**
BRY				*i* Sn	**Sg**	**03 07 18.1**	**+1.4**
IVAS	**Ivanjica**	**1.66**	**355**	*ePn*	**Pn**	**03 06 53.0**	**+0.2**
IVAS				*eSn*	**Sg**	**03 07 16.9**	**+0.2**
UPM	**Unac-Piva**	**1.67**	**321**	⇑*iPn*	**Pb**	**03 06 53.9**	**-0.4**
UPM				*i* Sn	**Sg**	**03 07 18.1**	**+1.2**
BOSS	**Bosilegrad**	**1.68**	**69**	*ePn*	**Pn**	**03 06 53.3**	**+0.3**
TREB	**Trebinje**	**1.68**	**299**	*ePn*	**Pb**	**03 06 54.3**	**-0.2**
GOCS	**Kraljevo Serbi**	**1.69**	**13**	*ePn*	**Pn**	**03 06 53.5**	**+0.4**
GOCS				*eSn*	**Sb**	**03 07 15.5**	**-0.5**
VAY	**Valandovo**	**1.77**	**109**	*i* Pg	**Pb**	**03 06 55.9**	**0.0**
VAY				*i* Sg	**Sg**	**03 07 19.0**	**-1.1**
VAY				*eLg*	Lg	03 07 19.8	
	comp=E,38nm,0.5s						
VAY				*eLg*	Lg	03 07 20.1	
	comp=N,57nm,0.6s						
KLINJ	**Klinje**	**1.81**	**314**	*ePn*	**Pb**	**03 06 56.3**	**-0.3**
RUDO	**Rudo**	**1.84**	**337**	*ePn*	**Pb**	**03 06 55.8**	**-1.4**
BOVS	**Bovan**	**1.98**	**30**	*ePn*	**Pb**	**03 06 59.7**	**+0.1**
BOVS				*eSn*	**Sb**	**03 07 24.0**	**-0.5**
GRUS	**Gruza**	**1.99**	**8**	*ePn*	**Pn**	**03 06 57.3**	**+0.2**
KNT	**Kendrikon**	**2.06**	**111**	*i* Pg	**Pn**	**03 06 58.7**	**+0.5**
BBLS	**Lazi&#263i**	**2.07**	**341**	*ePn*	**Pb**	**03 06 59.5**	**-1.5**
KKB	**Krupnik**	**2.08**	**91**	*i* Pg	**Pn**	**03 06 59.2**	**+0.8**
ZAPS	**Zavoj**	**2.16**	**50**	*ePn*	**Pn**	**03 07 00.2**	**+0.6**
ZAPS				*eSn*	**Sn**	**03 07 25.5**	**-1.1**
TRUS	**Trudelj**	**2.30**	**1**	*ePn*	**Pn**	**03 07 02.3**	**+0.8**
ZAGS	**Zajecar**	**2.34**	**36**	*ePn*	**Pb**	**03 07 03.7**	**-2.0**
ZAGS				*eSn*	**Sn**	**03 07 31.7**	**+0.7**
LIT	**Litokhoron**	**2.43**	**138**	*i* Pn	**Pb**	**03 07 05.1**	**-2.1**
BORS2	**Bor- Borsko je**	**2.49**	**29**	*ePn*	**Pn**	**03 07 05.8**	**+1.7**
BORS2				*eSn*	**Sn**	**03 07 35.5**	**+0.8**
SRS	**Serrai**	**2.56**	**107**	*ePn*	**Pn**	**03 07 05.4**	**+0.3**
MMB	**Musomishta**	**2.57**	**97**	*i* Pn	**Pb**	**03 07 10.5**	**+0.9**
KUBS	**Kucevo**	**2.67**	**21**	*ePn*	**Pb**	**03 07 08.4**	**+1.8**
TEKS	**Tekeris**	**2.70**	**347**	*ePn*	**Pn**	**03 07 07.2**	**+0.3**
AVAS	**Avala Beograd**	**2.78**	**2**	*ePn*	**Pn**	**03 07 09.6**	**+1.6**
PUNG	**Punghina**	**3.02**	**38**	⇓P	**Pg**	**03 07 19.5**	**-1.7**
PUNG				⇓S	**Sg**	**03 08 00.5**	**+0.2**
MATE	**Matera**	**3.03**	**246**	⇓P	**Pn**	**03 07 10.0**	**-1.4**
MATE				⇓S	**Sn**	**03 07 43.8**	**-4.0**
MDVR	**Moldovita**	**3.03**	**19**	⇑P	**Pb**	**03 07 19.2**	**+1.7**
MDVR				⇑S	**Sg**	**03 07 58.4**	**-2.1**
DJES	**Djerdap**	**3.17**	**29**	⇓P	**Pg**	**03 07 22.0**	**-2.0**
DJES				⇑S	**Sg**	**03 08 03.6**	**-1.4**
FRGS	**Fruska Gora**	**3.26**	**353**	*ePn*	**Pn**	**03 07 15.3**	**+0.6**
VRSS	**Vrsac**	**3.28**	**12**	*ePn*	**Pn**	**03 07 15.3**	**+0.4**
HERR	**Herculane**	**3.32**	**26**	⇓P	**Pb**	**03 07 23.6**	**+1.2**
HERR				⇓S	**Sb**	**03 08 06.1**	**+3.2**
PLVB	**Pleven**	**3.48**	**64**	⇑P	**Pg**	**03 07 27.6**	**-2.2**
KIJV	**Kijevo**	**3.57**	**307**	*ePn*	**Pn**	**03 07 21.3**	**+2.4**
BLY	**Banja Luka**	**3.65**	**322**	*ePn*	**Pn**	**03 07 22.4**	**+2.4**
BLY	**Banja Luka**	**3.65**	**322**	⇓P	**Pn**	**03 07 21.1**	**+1.1**
BLY				⇓S	**Sn**	**03 08 04.0**	**+0.8**
BZS	**Buzias**	**3.81**	**14**	⇑P	**Pb**	**03 07 29.4**	**-1.3**
TIP	**Timpagrande**	**3.87**	**226**	⇑P	**Pn**	**03 07 22.8**	**-0.4**
TIP				⇑S	**Sn**	**03 08 05.4**	**-3.4**
SURR	**Surduc**	**4.04**	**18**	⇓P	**Pb**	**03 07 31.9**	**-2.7**
ELND	**Elena**	**4.21**	**74**	⇑P	**Pb**	**03 07 37.6**	**0.0**
SIRR	**Siria**	**4.45**	**12**	⇓P	**Pb**	**03 07 37.9**	**-3.7**
MOSL	**Moslavina**	**4.52**	**326**	*ePn*	**Pn**	**03 07 34.4**	**+2.4**
VOIR		**4.90**	**43**	⇑P	**Pb**	**03 07 46.1**	**-3.1**
OZLJ	**Ozalj**	**5.11**	**318**	*ePn*	**Pn**	**03 07 42.5**	**+2.4**
MARR	**Marisel-Cluj**	**5.15**	**22**	⇑P	Pb	03 07 47.9	-5.7
DRGR		**5.16**	**18**	⇓P	Pb	03 07 47.8	-5.9
PSZ	**Piszkesteto**	**6.01**	**357**	⇓P	Pn	03 07 58.0	+5.5
SOKA	**Soboth**	**6.10**	**323**	*i* Pn	**Pn**	**03 07 55.9**	**+2.2**
	comp=N,2.1nm,0.7s						
OBKA	**Obir**	**6.20**	**320**	*ePn*	**Pn**	**03 07 59.2**	**+4.1**
	comp=N,2.2nm,0.4s						
ARSA	**Arzberg**	**6.35**	**329**	*i* Pn	**Pn**	**03 07 60.0**	**+2.9**
	comp=N,0.8nm,0.3s						
RONA	**Rosalia, Austr**	**6.46**	**335**	*i* Pn	Pn	03 08 04.8	+6.2
	comp=N,0.7nm,0.3s						
CONA	**Conrad Observa**	**6.80**	**334**	*i* Pn	Pn	03 08 07.7	+4.3
	comp=N,0.2nm,0.2s						
KBA	**Koelnbreinsper**	**7.19**	**318**	*ePn*	**Pn**	**03 08 12.5**	**+3.8**
	comp=N,0.8nm,0.3s						
MOA	**Molln**	**7.33**	**326**	*ePn*	Pb	03 08 21.3	-9.5
	comp=N,0.8nm,0.3s						
ABTA	**Abfaltersbach**	**7.41**	**313**	*ePn*	**Pn**	**03 08 13.9**	**+2.3**
	comp=N,1.5nm,0.3s						
BIOA	**Bad Ischl, Aus**	**7.49**	**323**	*ePn*	Pn	03 08 20.3	+7.6
	comp=N,0.9nm,0.3s						
LESA	**Schwarzleotal**	**7.76**	**318**	*i* Pn	**Pn**	**03 08 20.2**	**+3.7**
	comp=N,2.6nm,0.5s						
WTTA	**Wattenberg**	**8.20**	**314**	*ePn*	**Pn**	**03 08 25.7**	**+3.1**
	comp=N,0.8nm,0.2s						
WATA	**Walderalm**	**8.27**	**314**	*ePn*	**Pn**	**03 08 25.8**	**+2.2**
	comp=N,2.5nm,0.3s						
SQTA	**Sankt Quirin**	**8.40**	**312**	*ePn*	Pn	03 08 34.4	+9.0
	comp=N,0.7nm,0.3s						
FETA	**Feichten**	**8.56**	**310**	*i* Pn	Pn	03 08 32.5	+5.0
	comp=N,0.4nm,0.4s						

*AEIC **19** 03:17:15.6±0.6, 53°.30N±0°.06×165°.73W±0°.09, h21km±8km, Error ellipse: s-maj=11.5km s-min=2.3km az=138.0*
NEIC 19 03:17:15.1±0.6, **53°.25N**±0°.05×**165°.77W**±0°.06, **h28**km±12km, **ML2.5**/10, **ML2.0**(AEIC), **Error ellipse: s-maj=7.8km s-min=5.1km az=185.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.74**	**324**		Pn	03 17 29.6	-0.1
UNV				IAML		03 17 40.7	
	comp=E,182nm,0.2s						
UNV	**Unalaska Valle**	**0.74**	**324**		Sb	03 17 39.6	+0.4
MREP	**Makushin Rep't**	**0.81**	**314**		Pn	03 17 30.9	+0.1
MNAT	**Makushin Natee**	**0.84**	**320**		Pn	03 17 31.2	+0.1
ZRO	**Akutan Zero**	**0.85**	**352**		Pn	03 17 31.0	-0.3
ZRO					Sn	03 17 43.0	+0.1
AKMO	**Akutan Morgan**	**0.85**	**350**		Pn	03 17 31.1	-0.3
AKMO					Sn	03 17 42.8	-0.1
AKBBA	**Akutan Broad B**	**0.85**	**354**		Pn	03 17 31.1	-0.3
AKBBA					Sn	03 17 43.1	+0.2
MGOD	**Makushin Gods**	**0.85**	**310**		Pb	03 17 31.6	+0.2
AHB	**Akutan Harbor**	**0.87**	**358**		Pn	03 17 31.2	-0.3
AHB					Sn	03 17 44.4	+1.2
AKV	**Akutan Volcano**	**0.89**	**353**		Pn	03 17 31.8	0.0
AKV					Sn	03 17 44.9	+1.2
AKUT	**Akutan**	**0.89**	**360**		Pn	03 17 31.2	-0.6
AKUT	**Akutan**	**0.89**	**360**	IAML		03 17 45.2	
	comp=E,124nm,0.2s						
AKSA	**Akutan Strait**	**0.89**	**3**		Pn	03 17 31.3	-0.4
AKSA					Sb	03 17 43.1	-0.3
MAPS	**Pakushin South**	**0.90**	**309**		Pb	03 17 32.1	+0.1
AKRB	**Akutan Reef Bi**	**0.90**	**349**		Pn	03 17 31.8	-0.1
AKRB					Sn	03 17 43.9	-0.1
MSW	**Makushin Switc**	**0.90**	**318**		Pn	03 17 31.9	0.0
MSW					Sn	03 17 44.6	+0.6
AKLV	**Akutan Long Va**	**0.92**	**353**		Pn	03 17 31.8	-0.5
LVA	**Lava Point**	**0.93**	**350**		Pn	03 17 32.1	-0.2
NIKH	**Nikolski High**	**1.88**	**263**	Pn	Pn	03 17 45.7	+0.3
NIKH				IAML		03 18 04.0	
	comp=E,44nm,1.1s						
NIKH				IAML		03 18 09.9	
	comp=N,45nm,1.2s						
FALS	**False Pass**	**2.12**	**40**	Pn	Pn	03 17 48.8	+0.1

*NEIC **19** 03:17:52.0±0.7, 7°.0N±0°.2×59°.5E±0°.2, h10km±2km, mb4.4/11, Error ellipse: s-maj=39.8km s-min=7.7km az=230.0*
*IDC **19** 03:17:55.0±2.3, 7°.68N×59°.42E, h0km, mb3.8/11, mbtmp3.8/11, MS3.3/13, Error ellipse: s-maj=54.4km s-min=33.3km az=162.0*
ISC 19 03:17:52.6±0.9, **7°1N**±0°.2×**59°6E**±0°.1, **h10**km, **n55**, σ1§**04**/38, **mb4.2**/16, **MS3.3**/13, **9C-2D, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAAM	**Kaadhehdhoo**	**14.91**	**116**	Pn	**Pn**	**03 21 22.6**	**-1.1**
ATD	**Arta Tunnel**	**17.07**	**286**		**Pn**	**03 21 51.4**	**-0.3**
PALK	**Pallekele**	**20.97**	**88**	LR	LR	03 29 13.1	
	comp=Z,60nm,18.1s,baz=266,slow=32						
RAYN	**Ar Rayn**	**21.19**	**322**	P	**P**	**03 22 38.0**	**-0.5**
RAYN				IAmb	IAmb	03 22 39.4	
	comp=Z,8.4nm,0.8s						
OPO	**Ambohidratompo**	**28.29**	**205**	LR	LR	03 32 24.5	
	comp=Z,63nm,20.2s,baz=177,slow=30						
BRDH	**Bariadhala**	**34.53**	**60**	LR	LR	03 38 29.4	
	comp=Z,81nm,18.1s,baz=231,slow=36						
AAK	**Ala-Archa**	**37.76**	**18**	LR	LR	03 41 01.7	
	comp=Z,22nm,18.6s,baz=207,slow=37						
LSZ	**Lusaka**	**38.23**	**234**	LR	LR	03 39 00.9	
	comp=Z,63nm,18.7s,baz=36,slow=33						
CMAR	**Chiang Mai Arr**	**39.93**	**70**	LR	LR	03 41 11.6	
	comp=Z,17nm,18.9s,baz=260,slow=35						
BRTR	**Keskin Array B**	**39.95**	**328**	P	**P**	**03 25 27.1**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=154,slow=9.6,SNR=8.7						
	comp=Z,1.6nm,0.8s						
MATP	**Matopo**	**41.01**	**228**	LR	LR	03 39 45.0	
	comp=Z,58nm,18.7s,baz=10,slow=32						
AB31	**Akbulak array**	**42.01**	**0**		**P**	**03 25 43.8**	**-0.2**
AB31				IAmb	IAmb	03 25 45.3	
	comp=Z,3.8nm,0.8s						
ABKAR	**Akbulak array**	**42.01**	**0**		**P**	**03 25 44.0**	**-0.1**
IDI	**Anoyia**	**42.41**	**316**	P	**P**	**03 25 45.7**	**-2.0**
IDI				IAmb	IAmb	03 25 51.1	
	comp=Z,9.6nm,0.9s						
MKAR	**Makanchi Array**	**44.09**	**22**	LR	LR	03 45 43.6	
	comp=Z,27nm,18.6s,baz=306,slow=38						
LBTB	**Lobatse**	**45.97**	**225**	LR	LR	03 44 33.6	
	comp=Z,35nm,18.4s,baz=42,slow=34						
KURBB	**Kurchatov Arra**	**46.17**	**17**	P	**P**	**03 26 17.5**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=214,slow=8.1,SNR=4.9						
	comp=Z,0.4nm,0.7s						
VRI	**Vrincioaia**	**47.89**	**329**	⇑P	**P**	**03 26 31.2**	**+0.2**
PLOR	**Plostina**	**47.92**	**329**	⇑P	**P**	**03 26 33.4**	**+2.2**
MLR	**Muntele Rosu**	**48.04**	**328**	P	**P**	**03 26 31.8**	**-0.5**
MLR	**Muntele Rosu**	**48.04**	**328**	⇑P	**P**	**03 26 32.3**	**0.0**
TESR	**Tescani**	**48.38**	**330**	⇑P	**P**	**03 26 35.5**	**+0.8**
VOIR		**48.47**	**328**	⇑P	**P**	**03 26 36.4**	**+0.8**
BOSA	**Boshof**	**48.54**	**221**	LR	LR	03 45 44.1	
	comp=Z,34nm,19.1s,baz=12,slow=34						
DOPR	**Dopca**	**48.65**	**329**	⇓P	**P**	**03 26 36.9**	**0.0**
TSUM	**Tsumeb**	**48.93**	**237**	LR	LR	03 46 59.2	
	comp=Z,49nm,18.4s,baz=154,slow=36						
BURAR	**Bucovina Array**	**49.85**	**330**	P	**P**	**03 26 46.8**	**+0.7**
BURAR	**Bucovina Array**	**49.85**	**330**	⇑P	**P**	**03 26 47.5**	**+1.4**
MDVR	**Moldovita**	**49.89**	**325**	⇓P	P	03 26 35.7	-11
AKASG	**Malin Array Be**	**50.25**	**335**	P	**P**	**03 26 48.8**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=133,slow=6.8,SNR=10						
	comp=Z,1.1nm,0.6s						
SURR	**Surduc**	**50.25**	**326**	⇑P	**P**	**03 26 50.1**	**+1.0**
MARR	**Marisel-Cluj**	**50.30**	**328**	⇑P	**P**	**03 26 50.6**	**+1.0**
ZALV	**Zalesovo Beam**	**50.97**	**19**	LR	LR	03 48 07.4	
	comp=Z,26nm,20.0s,baz=72,slow=36						
MORH	**Mrgy, Hungar**	**52.48**	**325**	⇑P	**P**	**03 27 05.1**	**-0.6**
H04N1	**CROZET ISLANDS**	**53.48**	**187**	T	T	04 25 11.4	
	baz=10,slow=75,SNR=34						
H04N2	**CROZET ISLANDS**	**53.48**	**187**	T	T	04 25 07.4	
	baz=10,slow=75,SNR=38						
H04N3	**CROZET ISLANDS**	**53.50**	**187**	T	T	04 25 08.0	
	baz=10,slow=75,SNR=31						
GERES	**GERESS Array B**	**56.72**	**325**	P	**P**	**03 27 36.3**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=134,slow=7.6,SNR=2.4						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	**56.75**	**36**	P	**P**	**03 27 38.7**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=239,slow=5.9,SNR=1.6						
	comp=Z,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**57.19**	**281**	P	**P**	**03 27 43.0**	**+2.6**
	comp=Z,0.6nm,0.9s,baz=86,slow=6.9,SNR=4.0						
	comp=Z,0.6nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**57.65**	**322**	P	**P**	**03 27 44.3**	**+0.8**
FUORN				IAmb	IAmb	03 27 49.6	
	comp=Z,6.6nm,1.4s						
SENIN	**Lac Senin/Sane**	**59.39**	**320**	P	**P**	**03 27 54.7**	**-0.9**
SENIN				IAmb	IAmb	03 27 57.7	
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**59.64**	**342**	P	**P**	**03 27 57.0**	**+0.3**
FINES	**FINESS Array B**	**59.64**	**342**	P	**P**	**03 27 56.2**	**-0.5**
	comp=Z,1.8nm,0.9s,baz=157,slow=8.6,SNR=1.8						
	comp=Z,1.8nm,0.9s						
ECH	**Echery**	**60.25**	**322**	P	**P**	**03 28 00.4**	**-0.8**
ECH				IAmb	IAmb	03 28 33.3	
	comp=Z,6.6nm,1.3s						
HFS	**Hagfors**	**63.11**	**336**	P	**P**	**03 28 20.1**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=148,slow=8.7,SNR=2.1						
	comp=Z,2.2nm,0.8s						
DBIC	**Dimbokro**	**63.91**	**274**	LR	LR	03 56 08.4	
	comp=Z,42nm,19.2s,baz=182,slow=36						
MD01	**Midelt array s**	**64.65**	**303**	P	**P**	**03 28 30.8**	**-0.3**
ESDC	**Sonseca Array**	**65.20**	**310**	P	**P**	**03 28 33.4**	**-1.1**
ESDC				IAmb	IAmb	03 28 36.9	
	comp=Z,2.6nm,1.1s						
ESDC	**Sonseca Array**	**65.20**	**310**	P	**P**	**03 28 35.6**	**+1.1**
	comp=Z,2.1nm,0.9s,baz=86,slow=5.3,SNR=16						
	comp=Z,2.1nm,0.9s						
ARCES	**ARCESS Array B**	**66.16**	**348**	P	**P**	**03 28 40.0**	**0.0**
	comp=Z,3.1nm,0.9s,baz=138,slow=7.5,SNR=6.7						
	comp=Z,3.1nm,0.9s						
EKA	**Eskdalemuir Ar**	**68.86**	**327**	P	**P**	**03 28 56.9**	**-0.5**

	comp=Z,9.1nm,1.2s							
MKAR	**Makanchi Array**	65.07	331	P		**P**	04 00 28.4	-0.3
MKAR	**Makanchi Array**	65.07	331	P		**P**	04 00 29.2	+0.5
	comp=Z,1.9nm,0.5s,baz=141,slow=7.7,SNR=13							
	comp=Z,1.9nm,0.5s							
MAKZ	**Makanchi**	65.23	331	P		**P**	04 00 29.8	+0.1
ZALV	**Zalesovo Beam**	69.28	337	P		**P**	04 00 54.4	-0.4
	comp=Z,0.9nm,0.4s,baz=132,slow=7.0,SNR=4.0							
	comp=Z,0.9nm,0.4s							
KURBB	**Kurchatov Arra**	69.53	332	P		**P**	04 00 56.7	+0.3
	comp=Z,0.9nm,0.5s,baz=143,slow=5.7,SNR=5.5							
	comp=Z,0.9nm,0.5s							
ABKAR	**Akbulak array**	78.62	324	P		**P**	04 01 48.4	-0.5

CATAC ***19*** *04:07:10.0±0.8, 14°N±6°×9°2W±°, h2km±5km, M3.9/11, MLv3.9/11, Error ellipse: s-maj=13.2km s-min=5.1km az=25.2, confirmed*
GCG ***19*** *04:07:12.0±1.0, 14°23N×91°87W, h23km±5km, MD4.2, ML3.8*
SNET ***19*** *04:07:15.2±0.9, 14°18N×91°61W, h15km±999km, ML3.7*

ISC 19 04:07:13.0±1.6, **14°30N**±0°10×**91°81W**±0°07, **h28**km±14km, **n41**, σ1**°84**/51, **1C, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.61**	**335**	*eP*	**Pb**	**04 07 24.7**	**-0.6**
SMCA				*i* S	**Sb**	**04 07 34.5**	**+0.9**
SMCA				IAML		04 07 35.0	
	comp=N,3μm,0.2s						
SOKI	**Kika Raxquin**	**0.65**	**37**	*i* P	**Pb**	**04 07 27.0**	**+0.8**
SOKI				IAML		04 07 43.5	
	comp=E,1μm,0.4s						
THIG		**0.75**	**324**	*i* P	**Pb**	**04 07 26.1**	**-1.5**
THIG				⇑*i*S	**Sb**	**04 07 37.6**	**+0.1**
THIG				IAML		04 07 38.1	
	comp=N,5μm,0.4s						
ESSG	**Sabana Grande**	**0.95**	**85**	*eP*	**Pn**	**04 07 30.2**	**-0.4**
ESSG				*eS*	**Sb**	**04 07 44.3**	**+1.0**
ESSG				IAML		04 07 46.3	
	comp=N,1μm,0.2s						
QUIS	**Sacapulas**	**1.21**	**35**	*i* P	**Pn**	**04 07 35.2**	**+1.0**
QUIS				IAML		04 07 55.7	
	comp=E,972nm,0.4s						
FG8	**Yepocapa, Chim**	**1.21**	**92**	*i* P	Pn	04 07 29.4	-4.8
FG8				*eS*	**Sn**	**04 07 43.2**	**-6.6**
FG16	**Alotenango, Sa**	**1.26**	**91**	*eP*	**Pn**	**04 07 30.5**	**-4.4**
FG16				*i* S	**Sn**	**04 07 45.1**	**-5.9**
FG16				IAML		04 07 50.8	
	comp=N,19μm,0.2s						
GCG4	**OSOP**	**1.27**	**77**	*i* P	**Pb**	**04 07 36.3**	**-0.1**
GCG4				IAML		04 07 57.0	
	comp=N,1μm,0.3s						
ESSJ	**San Jos, E**	**1.47**	**120**	*eP*	Pn	04 07 31.2	-6.4
FAME	**Alcaldia de Sa**	**1.80**	**104**	P	**Pn**	**04 07 41.3**	**-0.9**
FAME	**Alcaldia de Sa**	**1.80**	**104**	S	**Sb**	**04 08 06.3**	**-1.2**
CCIG	**Comitan**	**2.00**	**351**	*i* P	**Pn**	**04 07 45.6**	**+0.5**
CCIG				IAML		04 08 19.5	
	comp=N,259nm,0.4s						
NUBE	**Las Nubes**	**2.01**	**101**	*eP*	**Pn**	**04 07 45.6**	**+0.5**
NUBE				*eS*	**Sn**	**04 08 09.1**	**-0.4**
NUBE	**Las Nubes**	**2.01**	**101**	*eP*	**Pn**	**04 07 45.2**	**0.0**
NUBE	**Las Nubes**	**2.01**	**101**	P	**Pn**	**04 07 45.3**	**+0.1**
NUBE	**Las Nubes**	**2.01**	**101**	S	**Sb**	**04 08 12.7**	**-0.9**
RTR	**El Retiro**	**2.14**	**100**	*eP*	**Pn**	**04 07 47.8**	**+0.8**
RTR				*eS*	**Sn**	**04 08 13.0**	**+0.3**
SBLS	**San Blas**	**2.17**	**102**	*eP*	**Pn**	**04 07 47.8**	**+0.4**
CEVE	**Cerro Verde**	**2.17**	**102**	*eP*	**Pn**	**04 07 48.4**	**+0.9**
CEVE				*eS*	**Sn**	**04 08 14.5**	**+0.9**
CEVE				IAML		04 08 26.2	
	comp=Z,901nm,0.3s						
JAYA	**Jayaque - finc**	**2.38**	**105**	*eP*	**Pn**	**04 07 50.2**	**-0.1**
JAYA				*eS*	**Sn**	**04 08 18.3**	**-0.4**
JAYA				IAML		04 08 23.2	
	comp=Z,705nm,0.2s						
JAYA	**Jayaque - finc**	**2.38**	**105**	*eP*	**Pn**	**04 07 50.2**	**-0.1**
JAYA				*i* S	**Sn**	**04 08 20.1**	**+1.5**
JAYA	**Jayaque - finc**	**2.38**	**105**	P	**Pn**	**04 07 50.4**	**+0.1**
PMON	**Piamonte**	**2.49**	**103**	*eP*	**Pn**	**04 07 52.4**	**+0.7**
PMON	**Piamonte**	**2.49**	**103**	P	**Pn**	**04 07 52.8**	**+1.0**
PMON	**Piamonte**	**2.49**	**103**	S	**Sn**	**04 08 23.5**	**+2.2**
BOQS	**Boqueron**	**2.52**	**103**	*eP*	**Pn**	**04 07 53.1**	**+0.9**
LOMA	**Loma Larga**	**2.64**	**104**	*eP*	**Pn**	**04 07 54.6**	**+0.7**
LOMA	**Loma Larga**	**2.64**	**104**	P	**Pn**	**04 07 54.7**	**+0.7**
LOMA	**Loma Larga**	**2.64**	**104**	S	**Sn**	**04 08 27.6**	**+2.5**
LFRS	**El Faro**	**2.75**	**104**	*eP*	**Pn**	**04 07 56.5**	**+1.1**
LFRS				*eS*	**Sn**	**04 08 27.9**	**+0.1**
PAVA	**Las Pavas**	**2.85**	**101**	*eP*	**Pn**	**04 07 57.7**	**+1.0**
PAVA				IAML		04 08 48.1	
	comp=Z,106nm,0.3s						
PAVA	**Las Pavas**	**2.85**	**101**	P	**Pn**	**04 07 56.9**	**+0.2**
PAVA	**Las Pavas**	**2.85**	**101**	S	**Sn**	**04 08 33.2**	**+3.0**
TECO	**Alcaldia de Te**	**3.04**	**104**	*eP*	**Pn**	**04 07 59.6**	**+0.4**
TECO	**Alcaldia de Te**	**3.04**	**104**	P	**Pn**	**04 07 59.8**	**+0.6**
TECO	**Alcaldia de Te**	**3.04**	**104**	S	**Sn**	**04 08 37.4**	**+2.7**
SCLA	**Alcaldia de Sa**	**3.05**	**101**	*eP*	**Pn**	**04 08 00.8**	**+1.4**
SCLA	**Alcaldia de Sa**	**3.05**	**101**	P	**Pn**	**04 07 59.9**	**+0.5**
SCLA	**Alcaldia de Sa**	**3.05**	**101**	S	**Sn**	**04 08 38.2**	**+3.2**
PACA	**Pacayal**	**3.48**	**103**	*eP*	**Pn**	**04 08 06.4**	**+1.0**
LCND	**La Caada**	**3.93**	**104**	*eP*	**Pn**	**04 08 12.5**	**+1.0**
LCND				*eS*	**Sn**	**04 08 56.6**	**-0.2**

GCG ***19*** *04:36:54.9±1.1, 14°13N×91°16W, h95km±30km, MD4.1, ML2.8*
CATAC ***19*** *04:37:00.5±0.6, 14°N±3°×8°9W±°, h8km±2km, M1.3/4, MLv1.3/4, Error ellipse: s-maj=7.3km s-min=2.9km az=20.8, confirmed*

ISC 19 04:36:54.4±3.5, **13°8N**±0°2×**91°4W**±0°2, **h61**km, **n20,** σ0**°97**/13, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.78**	**41**	*eP*	**Pn**	**04 37 09.7**	**-0.1**
ESSG				*eS*	**Sn**	**04 37 21.9**	**+0.8**
ESSG				IAML		04 37 24.3	
	comp=E,178nm,0.2s						
FG8	**Yepocapa, Chim**	**0.90**	**59**	*i* P	**Pn**	**04 37 10.0**	**-1.3**
FG16	**Alotenango, Sa**	**0.95**	**60**	*i* P	**Pn**	**04 37 10.7**	**-1.4**
SOKI	**Kika Raxquin**	**1.02**	**357**	*i* P	**Pn**	**04 37 13.2**	**0.0**
SOKI				IAML		04 37 45.8	
	comp=N,215nm,0.8s						
FAME	**Alcaldia de Sa**	**1.30**	**88**	P	**Pn**	**04 37 15.5**	**-1.0**
NUBE	**Las Nubes**	**1.54**	**86**	*eP*	**Pn**	**04 37 19.8**	**0.0**
NUBE				*i* S	**Sn**	**04 37 38.8**	**0.0**
NUBE	**Las Nubes**	**1.54**	**86**	S	**Pn**	**04 37 19.6**	**-0.1**
LOAL	**Lomas de Alarc**	**1.54**	**82**	S	**Pn**	**04 37 21.1**	**+1.3**
CEVE	**Cerro Verde**	**1.68**	**89**	S	Pn	04 37 13.9	-7.9
JAYA	**Jayaque - finc**	**1.86**	**94**	*eP*	**Pn**	**04 37 24.7**	**+0.5**
JAYA				*eS*	**Sn**	**04 37 46.0**	**-0.7**
PMON	**Piamonte**	**1.99**	**92**	P	Pn	04 37 03.3	-22
MTO3	**Montecristo**	**2.03**	**72**	S	**Pn**	**04 37 27.8**	**+1.3**
UEES	**Universidad Ev**	**2.06**	**92**	P	Pn	04 37 04.0	-23
LOMA	**Loma Larga**	**2.13**	**94**	P	Pn	04 37 04.4	-23
PAVA	**Las Pavas**	**2.35**	**92**	S	Pn	04 37 16.2	-15
UESV	**Universidad de**	**2.50**	**93**	S	Pn	04 37 20.1	-13
TECO	**Alcaldia de Te**	**2.52**	**95**	S	Pn	04 37 20.2	-13
SCLA	**Alcaldia de Sa**	**2.56**	**92**	S	Pn	04 37 22.1	-11
SARH	**Santa Rosa de**	**2.70**	**68**	S	Pn	04 37 42.8	+7.3
PACA	**Pacayal**	**2.97**	**96**	S	Pn	04 37 33.1	-6.1

TIR ***19*** *05:00:30.1, 40°45N×20°77E, h20km±2km, Ml3.0/2*
ATH ***19*** *05:00:30.9, 40°43N×20°80E, h10km±2km, ML2.3/6, Manual Solution by E.Daskalaki First location: 2019/09/19 05:01:48, This location: 2019/09/19 06:24:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*
SKO ***19*** *05:00:33.0, 40°53N×20°83E, h15km, ML2.3*

ISC 19 05:00:30.8±1.2, **40°46N**±0°03×**20°78E**±0°05, **h10**km±8km, **n17**, σ0**°77**/29, **1C, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.17**	**3**	Pg	**Pg**	**05 00 33.9**	**-0.5**
KBN				Sg	**Sg**	**05 00 37.0**	**0.0**
KBN				AML	AML	05 00 37.2	
	12nm,0.3s						
NEST	**Nestorio**	**0.21**	**102**	Pg	**Pg**	**05 00 35.4**	**+0.1**
NEST				S	**Sg**	**05 00 38.9**	**+0.6**
NEST				AML	AML	05 00 39.6	
	6.6nm,0.2s						
NEST	**Nestorio**	**0.21**	**102**	P	**Pg**	**05 00 35.4**	**+0.1**
NEST				S	**Sg**	**05 00 38.5**	**+0.2**
PENT	**Pentalofos**	**0.38**	**133**	P	**Pg**	**05 00 38.2**	**-0.2**
PENT				S	**Sg**	**05 00 43.0**	**-0.4**
FNA	**Florina**	**0.56**	**54**	Pg	**Pg**	**05 00 41.2**	**-0.5**
FNA				Sg	**Sb**	**05 00 50.0**	**-0.9**
FNA	**Florina**	**0.56**	**54**	*i* Pg	**Pg**	**05 00 41.1**	**-0.5**
FNA				*i* Sg	**Sb**	**05 00 50.3**	**-0.6**
FNA	**Florina**	**0.56**	**54**	P	**Pg**	**05 00 41.0**	**-0.6**
FNA				S	**Sb**	**05 00 49.7**	**-1.0**
OHR	**Ohrid**	**0.65**	**2**	⇑*i*Pg	**Pg**	**05 00 43.7**	**+0.3**
OHR				*i* Sg	**Sb**	**05 00 54.0**	**+0.5**
OHR				*e*Lg	Lg	05 00 54.3	
	comp=E,400nm,0.6s						
OHR				*e*Lg	Lg	05 00 54.3	
	comp=N,151nm,0.6s						
KZN	**Kozani**	**0.78**	**101**	P	**Pg**	**05 00 45.3**	**-0.4**
TETR	**Tetrakomo, Epi**	**1.18**	**161**	P	**Pg**	**05 00 53.3**	**-0.1**
THL	**Klokotos Trika**	**1.30**	**133**	P	**Pb**	**05 00 55.0**	**-0.4**
LIT	**Litokhoron**	**1.36**	**105**	*i* Pg	**Pg**	**05 00 57.2**	**+0.3**
LIT				*i* Sg	**Sg**	**05 01 17.0**	**+2.5**
LIT	**Litokhoron**	**1.36**	**105**	P	**Pn**	**05 00 55.3**	**-0.6**
SKO	**Skopje**	**1.59**	**18**	*i* Pg	**Pb**	**05 01 00.8**	**+0.5**
SKO				*i* Sg	**Sg**	**05 01 22.1**	**+0.1**
VAY	**Valandovo**	**1.61**	**57**	*i* Pg	**Pb**	**05 01 00.2**	**-0.4**
VAY				*i* Sg	**Sg**	**05 01 22.3**	**-0.2**
VAY				*e*Lg	Lg	05 01 23.2	
	comp=N,21nm,0.6s						
VAY				*e*Lg	Lg	05 01 23.9	
	comp=E,12nm,0.5s						
KNT	**Kendrikon**	**1.76**	**66**	*i* Pg	**Pn**	**05 01 01.7**	**+0.3**
KNT				*i* Sg	**Sg**	**05 01 29.0**	**+1.8**
BARS	**Barje**	**2.48**	**18**	*i* Pn	**Pn**	**05 01 11.6**	**+0.3**

KRNET ***19*** *05:06:52.6±0.1, 39°62N×69°22E, mb3.0*
NNC ***19*** *05:06:54.8±5.1, 39°75N×69°16E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=33.2km s-min=24.3km az=24.0*
SOME ***19*** *05:07:01.1, 39°97N×69°42E, h5km*

ISC 19 05:06:52.4±1.2, **39°65N**±0°04×**69°30E**±0°08, **h10**km, **n9,** σ1**°38**/14, **8C, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**1.00**	**187**	⇑*i*P	**Pg**	**05 07 11.0**	**-0.6**
CHGR				⇑*i*S	**Sg**	**05 07 24.5**	**-0.1**
GAR	**Garm**	**1.02**	**129**	⇑*i*P	**Pg**	**05 07 12.8**	**+0.8**
GAR				⇑*i*S	**Sn**	**05 07 27.7**	**+0.4**
TRKS	**Terek-Say**	**2.34**	**36**	⇑*i*P	**Pb**	**05 07 35.6**	**+0.8**
TRKS				⇑*i*S	**Sg**	**05 08 06.4**	**-1.2**
IUG	**Iuzhnay**	**2.55**	**12**	Pg	**Pb**	**05 07 39.6**	**+1.3**
	5.5nm,0.3s						
IUG				Lg	Lg	05 08 13.9	
	39nm,0.6s						
BRLS	**Borolday**	**3.40**	**7**	Pg	**Pb**	**05 07 51.1**	**-1.7**
	2.3nm,0.6s						
BRLS				Lg	Lg	05 08 33.7	
	11nm,0.3s						
BRLS	**Borolday**	**3.40**	**7**	*eP*	**Pb**	**05 07 54.1**	**+1.4**
	3.4nm,0.2s						
BRLS				*eS*	**Sb**	**05 08 33.0**	**-1.1**
	11nm,0.1s						
KK31	**Karatay Array**	**3.57**	**14**	⇑Pg	**Pg**	**05 08 02.5**	**+1.8**
	0.8nm,0.3s,baz=211,slow=14,SNR=5.5						
KK31				⇑Lg	Lg	05 08 44.8	
	2.4nm,0.3s,baz=199,slow=29,SNR=14						
MRKS	**Merke**	**4.28**	**42**	Pg	**Pg**	**05 08 12.0**	**-2.3**
	1.0nm,0.4s						
MRKS				Lg	Lg	05 09 09.0	
	4.6nm,0.6s						
MRKS	**Merke**	**4.28**	**42**	*eP*	**Pg**	**05 08 15.2**	**+0.9**
	0.7nm,0.1s						
MRKS				*eS*	**Sg**	**05 09 09.1**	**-0.7**
	4.6nm,0.6s						

GCG ***19*** *05:14:06.1±0.4, 13°29N×89°94W, h46km±15km, MD3.6, ML2.8*
SNET ***19*** *05:14:06.0±1.0, 13°22N×89°84W, h22km±9km, ML2.5*

ISC 19 05:14:06.3±3.1, **13°3N**±0°1×**89°9W**±0°1, **h34**km±3km, **n19,** σ0**°52**/31, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.58**	**46**	*eP*	**Pn**	**05 14 17.4**	**-0.9**
JAYA				*eS*	**Sn**	**05 14 26.1**	**-0.7**
JAYA				IAML		05 14 30.0	
	comp=Z,260nm,0.2s						
JAYA	**Jayaque - finc**	**0.58**	**46**	*i* P	**Pb**	**05 14 18.2**	**-0.3**
JAYA				*i* S	**Sb**	**05 14 28.0**	**+1.2**
SBLS	**San Blas**	**0.64**	**23**	*eP*	**Pn**	**05 14 18.8**	**-0.3**
SBLS				*eP*	**Pn**	**05 14 18.9**	**-0.3**
SBLS				*eS*	**Sb**	**05 14 29.2**	**+0.9**
NUBE	**Las Nubes**	**0.66**	**9**	*eP*	**Pb**	**05 14 19.3**	**-0.3**
NUBE				*eS*	**Sb**	**05 14 29.0**	**+0.3**
NUBE	**Las Nubes**	**0.66**	**9**	*i* P	**Pn**	**05 14 19.2**	**-0.2**
NUBE				*eS*	**Sb**	**05 14 29.5**	**+0.8**
RTR	**El Retiro**	**0.69**	**20**	*eP*	**Pn**	**05 14 19.6**	**-0.2**
PMON	**Piamonte**	**0.72**	**50**	*eP*	**Pn**	**05 14 20.2**	**0.0**
PMON				*eS*	**Sb**	**05 14 30.1**	**-0.3**
BOQS	**Boqueron**	**0.76**	**51**	*eP*	**Pn**	**05 14 20.8**	**0.0**
LOMA	**Loma Larga**	**0.80**	**60**	*eP*	**Pn**	**05 14 20.7**	**-0.6**
UESS	**Universidad de**	**0.81**	**55**	*eP*	**Pn**	**05 14 21.1**	**-0.4**
LFRS	**El Faro**	**0.88**	**65**	*eP*	**Pn**	**05 14 22.2**	**-0.2**
LBRS	**Las Brisas**	**0.95**	**59**	*eP*	**Pn**	**05 14 23.4**	**0.0**
LBRS				*eS*	**Sb**	**05 14 36.7**	**-0.1**
PAVA	**Las Pavas**	**1.03**	**63**	*eP*	**Pn**	**05 14 24.4**	**-0.1**
PAVA				*eS*	**Sb**	**05 14 39.6**	**+0.4**
PAVA				IAML		05 14 42.5	
	comp=Z,118nm,0.3s						
TECO	**Alcaldia de Te**	**1.11**	**75**	*eP*	**Pn**	**05 14 24.8**	**-0.7**
TECO				*eS*	**Sn**	**05 14 40.1**	**+0.5**
UESV	**Universidad de**	**1.14**	**70**	*eP*	**Pn**	**05 14 26.2**	**-0.2**
UESV				*eS*	**Sn**	**05 14 41.0**	**+0.7**
UESV				IAML		05 14 44.9	
	comp=Z,85nm,0.3s						
SCLA	**Alcaldia de Sa**	**1.21**	**68**	*eP*	**Pn**	**05 14 27.1**	**+0.2**
SCLA				*eS*	**Sb**	**05 14 43.9**	**-0.4**
MTO3	**Montecristo**	**1.25**	**24**	*i* P	**Pn**	**05 14 27.8**	**+0.2**
LCND	**La Caada**	**1.94**	**88**	*eP*	**Pn**	**05 14 36.9**	**-0.1**
LCND				IAML		05 15 05.6	
	comp=Z,58nm,0.4s						
CNCH	**Conchagua**	**2.00**	**89**	*eP*	**Pn**	**05 14 38.3**	**+0.5**

AFAD ***19*** *05:43:04.4, 38°72N×38°14E, h7km±2km, ML2.5*
ISK ***19*** *05:43:05.9, 38°88N×38°06E, h5km, ML2.6/10*

ISC 19 05:43:04.7±1.1, **38°74N**±0°02×**38°24E**±0°03, **h8**km±9km, **n19,** σ1**°37**/30, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.26**	**303**	P	**Pg**	**05 43 08.9**	**-1.1**
HEKM				S	**Sg**	**05 43 12.7**	**-0.8**
ARPR	**Arapgir-MALATY**	**0.36**	**12**	Pg	**Pg**	**05 43 12.4**	**+0.5**
ARPR				Sg	**Sb**	**05 43 18.6**	**-0.8**
MAYA	**Malatya/Merkez**	**0.44**	**160**	P	**Pg**	**05 43 13.4**	**+0.2**
MAYA				S	**Sb**	**05 43 20.7**	**-0.8**
MAYA				*i* IAML		05 43 21.0	
	comp=N,318nm,0.4s						
MAYA				*i* IAML		05 43 21.0	
	comp=E,304nm,0.2s						
AKCD	**Akcadag**	**0.51**	**209**	P	**Pg**	**05 43 13.4**	**-1.2**
AKCD				S	**Sg**	**05 43 21.2**	**0.0**
AKCD				*i* IAML		05 43 23.0	
	comp=E,598nm,0.2s						
AKCD				*i* IAML		05 43 27.0	
	comp=N,779nm,0.4s						
ELZG	**Elazig**	**0.63**	**112**	P	**Pb**	**05 43 17.8**	**-0.4**
ELZG				S	**Sn**	**05 43 28.6**	**-1.9**
ELZG				*i* IAML		05 43 30.0	
	comp=N,252nm,0.3s						
ELZG				*i* IAML		05 43 31.0	
	comp=E,427nm,0.8s						
ILIC	**ilic-Erzincan**	**0.76**	**20**	Pg	**Pn**	**05 43 20.5**	**-1.3**
ILIC				Sg	**Sn**	**05 43 31.3**	**-2.2**
AZEY	**Adyaman-Merk**	**0.93**	**179**	P	**Pb**	**05 43 22.3**	**-0.7**
AZEY				*i* IAML		05 43 41.0	
	comp=N,56nm,0.6s						
AZEY				*i* IAML		05 43 41.0	
	comp=E,79nm,0.5s						
AKCA	**Adyaman/G¶l**	**1.04**	**205**	P	**Pb**	**05 43 24.0**	**-1.0**
AKCA				S	**Sb**	**05 43 39.4**	**+0.6**
AKCA				*i* IAML		05 43 42.0	
	comp=E,153nm,0.8s						
AKCA				*i* IAML		05 43 43.0	
	comp=N,182nm,0.4s						
TNCL	**Tunceli-Merkez**	**1.08**	**69**	P	**Pn**	**05 43 25.5**	**-0.8**
TNCL				S	**Sn**	**05 43 43.4**	**+1.8**
TNCL				*i* IAML		05 43 45.0	
	comp=E,174nm,0.9s						
TNCL				*i* IAML		05 43 46.0	
	comp=N,113nm,0.3s						
CUAYA	**Sivas-Altinyay**	**1.28**	**295**	P	**Pn**	**05 43 29.2**	**+0.2**
CUAYA				S	**Sb**	**05 43 45.8**	**0.0**
CUAYA				*i* IAML		05 43 49.0	
	comp=E,109nm,0.5s						
CUAYA				*i* IAML		05 43 50.0	
	comp=N,71nm,0.5s						
SUSE	**Susehri**	**1.47**	**359**	P	**Pg**	**05 43 32.7**	**-0.2**
SUSE				S	**Sg**	**05 43 55.8**	**+3.9**
SUSE				*i* IAML		05 43 56.0	
	comp=E,74nm,0.6s						
SUSE				*i* IAML		05 43 58.0	
	comp=N,56nm,0.9s						
SVSK	**Karacayir**	**1.52**	**321**	Pn	**Pn**	**05 43 32.4**	**+0.2**
SVSK				Sn	**Sn**	**05 43 51.7**	**-0.4**
GAZ	**Gaziantep**	**1.76**	**208**	Pn	**Pg**	**05 43 39.5**	**+1.0**
BNN	**Bunyan**	**1.87**	**274**	Pn	**Pn**	**05 43 38.1**	**+0.9**
YEDI	**Yedisu-Bingol**	**1.93**	**68**	Pn	**Pg**	**05 43 42.7**	**+1.1**
TOKT	**Tokat**	**2.05**	**321**	Pn	**Pn**	**05 43 39.9**	**+0.3**
SVAN	**Silvan-Diyarba**	**2.40**	**103**	Pn	**Pg**	**05 43 50.8**	**+0.1**
YOZ	**Yozgat**	**2.44**	**293**	Pn	**Pn**	**05 43 45.6**	**+0.6**
CMRD	**Camardi-Nigde**	**2.78**	**248**	Pn	**Pn**	**05 43 52.5**	**+2.9**

UPA ***19*** *05:45:35.0±1.1, 8°90N×82°87W, h10km±4km, MW3.4*
CATAC ***19*** *05:45:35.8±0.2, 9°N±2°×8°3W±°, h8km±1km, M3.6/13, MLv3.6/13, Error ellipse: s-maj=3.9km s-min=2.5km az=24.6, confirmed*
UCR ***19*** *05:45:36.0±1.5, 8°92N×82°85W, h17km±2km, MW3.6*

ISC 19 05:45:35.5±0.8, **8°91N**±0°02×**82°88W**±0°01, **h18**km±1km, **n136,** σ0**°91**/202, **29C-15D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALCO	**Alturas Coton,**	**0.06**	**47**	⇑*i*P	**Pb**	**05 45 39.3**	**+0.1**
ALCO				*eS*	**Sb**	**05 45 42.1**	**+0.5**
VITO	**San Vito**	**0.12**	**226**	⇑*i*P	**Pg**	**05 45 40.7**	**+1.1**
VITO				*eS*	**Sg**	**05 45 45.0**	**+2.6**
BRU2	**Volcan**	**0.22**	**121**	⇑*i*P	**Pb**	**05 45 41.3**	**+0.5**
BRU2				*eS*	**Sg**	**05 45 43.7**	**-0.9**
BRU2	**Volcan**	**0.22**	**121**	⇑*i*P	**Pb**	**05 45 41.3**	**+0.5**
BRU2				*eS*	**Sb**	**05 45 45.6**	**+1.5**
BRU2	**Volcan**	**0.22**	**121**	P	**Pb**	**05 45 41.2**	**+0.5**
BRU2	**Volcan**	**0.22**	**121**	S	**Sb**	**05 45 46.4**	**+2.3**
TBS2		**0.25**	**117**	⇑*i*P	**Pb**	**05 45 41.8**	**+0.4**
TBS2				*eS*	**Sb**	**05 45 46.0**	**+0.8**
NELY	**Ciudad Neily**	**0.26**	**195**	*eP*	**Pb**	**05 45 42.3**	**+0.6**
NELY				*eS*	**Sb**	**05 45 48.2**	**+2.5**
BC3P	**Paso Ancho**	**0.28**	**109**	⇑*i*P	**Pb**	**05 45 42.0**	**-0.1**
BC3P				*eS*	**Sb**	**05 45 46.4**	**0.0**
EDP2	**Potrero Grande**	**0.31**	**290**	⇓*eP*	**Pb**	**05 45 42.9**	**+0.3**
EDP2				*eS*	**Sb**	**05 45 48.6**	**+1.3**
CDITO	**Canoas**	**0.33**	**179**	P	**Pb**	**05 45 43.1**	**+0.2**
CDITO	**Canoas**	**0.33**	**179**	S	**Sb**	**05 45 49.1**	**+1.1**
LPPC	**Paso Canoas**	**0.37**	**174**	⇑*i*P	**Pb**	**05 45 44.2**	**+0.5**
LPPC				*eS*	**Sb**	**05 45 50.2**	**+1.0**
EDAD	**Golfito**	**0.38**	**228**	⇓*i*P	**Pb**	**05 45 43.4**	**-0.5**
EDAD				*eS*	**Sb**	**05 45 49.5**	**+0.1**
FITO	**Golfito**	**0.39**	**224**	⇓*eP*	**Pb**	**05 45 43.5**	**-0.5**
FITO				*eS*	**Sb**	**05 45 49.8**	**+0.1**
PTAR3	**Potrerillos Ar**	**0.43**	**119**	*eP*	**Pb**	**05 45 44.5**	**-0.3**
PTAR3				*eS*	**Sb**	**05 45 50.8**	**-0.2**
BQTLY	**Boquete Panama**	**0.44**	**110**	⇑*i*P	**Pg**	**05 45 44.3**	**-0.3**
BQTLY				*eS*	**Sg**	**05 45 50.5**	**-0.2**
LNBQ3	**Los Naranjos,**	**0.45**	**105**	⇑*i*P	**Pg**	**05 45 44.2**	**-0.6**
LNBQ3				*eS*	**Sg**	**05 45 51.1**	**+0.2**
BQSF3	**Alto Boquete,**	**0.47**	**110**	*eP*	**Pg**	**05 45 44.8**	**-0.4**
BQSF3				*eS*	**Sb**	**05 45 51.9**	**-0.1**
DRK0	**Durika**	**0.51**	**314**	⇓*i*P	**Pg**	**05 45 45.3**	**-0.5**
DRK0				*eS*	**Sb**	**05 45 52.8**	**-0.3**
DRK0	**Durika**	**0.51**	**314**	⇓*eP*	**Pg**	**05 45 45.3**	**-0.5**
DRK0				*eS*	**Sg**	**05 45 52.3**	**-0.5**
DRK0	**Durika**	**0.51**	**314**	P	**Pg**	**05 45 45.4**	**-0.5**
LESP3	**La Esperanza,**	**0.51**	**170**	*eP*	**Pb**	**05 45 45.7**	**-0.2**
LESP3				*eS*	**Sb**	**05 45

QUEP	Quepos	1.37 292	P		Pb	05 46 00.6	0.0
QUEP	Quepos	1.37 292	S		Sn	05 46 17.3	-0.1
RVLA	Villa Bonita	1.38 330	eP		Pn	05 46 00.5	+0.5
RVLA			eS		Sb	05 46 19.0	+0.8
LCR2	La Lucha 2	1.39 307	S		Sn	05 46 17.9	-0.2
CVTV	Tajo	1.39 322⇑	iP		Pn	05 46 00.7	+0.4
CVTV			eS		Sb	05 46 19.4	+0.8
RAFA	San Farael, Vo	1.39 319⇑	eP		Pn	05 46 00.6	+0.2
RAFA			eS		Sn	05 46 18.8	+0.4
CVTQ	Turrialba Volc	1.40 321⇑	eP		Pn	05 46 00.8	+0.3
CVTQ			eS		Sb	05 46 20.0	+1.0
VTR0	Volcan Turrial	1.41 322⇑	eP		Pn	05 46 00.9	+0.3
VTR0			eS		Sb	05 46 20.0	+0.8
CVTR	Volcan Turrial	1.41 322⇑	iP		Pn	05 46 00.8	+0.2
CVTR			eS		Sb	05 46 19.9	+0.6
VICA	Volcano Irazu	1.43 318⇑	eP		Pn	05 46 01.1	+0.1
TRIO	Tres Rios	1.48 312	eP		Pn	05 46 01.4	0.0
PICV	PH. Pirrs	1.48 299	eP		Pn	05 46 01.7	+0.3
PAR1A	Puntarenas Pro	1.52 297	eP		Pn	05 46 02.1	+0.3
PAR1A			eS		Sb	05 46 22.8	+0.7
AMPA	Desamparados	1.53 310⇓	iP		Pn	05 46 02.1	0.0
AMPA			eS		Sn	05 46 22.1	+0.6
CVIMO	Finca Echandi	1.53 317	eP		Pn	05 46 02.4	+0.3
CORON	Coronado	1.53 314	eP		Pn	05 46 02.7	+0.6
ACOS	Acosta	1.54 305⇓	eP		Pn	05 46 02.1	-0.1
ACOS			eS		Sn	05 46 22.3	+0.4
ECI	Escuela Centro	1.55 312	eP		Pn	05 46 02.6	+0.4
ECI			eS		Sb	05 46 23.3	+0.3
SJS3	Mercedes San J	1.55 312	eP		Pn	05 46 02.7	+0.5
SJS3			eS		Sb	05 46 23.4	+0.4
CENT	San Jose	1.56 311	eP		Pb	05 46 03.8	-0.2
MEXI	Barrio Mexico	1.57 311	eP		Pn	05 46 03.3	+0.6
PILE	Guapiles	1.58 325	eP		Pn	05 46 03.6	+0.9
PILE			eS		Sb	05 46 24.2	+0.3
DOMI	Santo Domingo	1.60 312	eP		Pn	05 46 03.7	+0.6
HDC	Heredia	1.63 312	eP		Pn	05 46 03.0	-0.5
SANTA	Santa Ana	1.64 308	eP		Pn	05 46 03.6	0.0
HEME	Heredia, Merce	1.65 311	eP		Pb	05 46 05.5	+0.1
BELE	Belen	1.67 310⇓	iP		Pn	05 46 04.4	+0.4
BELE			eS		Sn	05 46 26.1	+1.0
PURI	Puriscal	1.69 304	eP		Pn	05 46 04.6	+0.3
PURI			eS		Sn	05 46 26.1	+0.5
POAS	San Pedro de P	1.78 311	eP		Pb	05 46 06.6	-1.0
POAS			eS		Sb	05 46 30.1	+0.4
TCS1	Tacares	1.80 309	P		Pb	05 46 07.0	-1.1
TCS1	Tacares	1.80 309	S		Sb	05 46 30.8	+0.6
ATEO	Atenas	1.82 306⇓	iP		Pn	05 46 06.5	+0.4
VPS8	V Poas	1.84 313	eP		Pb	05 46 08.9	-0.1
SARCI	Sarchi	1.86 309	eP		Pn	05 46 07.5	+0.8
SARCI			eS		Sb	05 46 32.4	+0.2
NARAN	Naranjo de Ala	1.89 309	eP		Pn	05 46 08.3	+1.0
SARA	Sarapiqu	1.90 324	eP		Pn	05 46 08.0	+0.9
PALD	Palmares	1.91 307	eP		Pn	05 46 07.7	+0.4
ARTO	Ro Cuarto	1.94 317	eP		Pn	05 46 08.9	+1.3
RAMO	San Ramon	1.96 307	eP		Pb	05 46 10.4	-0.3
VPL2	V. Platanar	2.03 313	eP		Pb	05 46 10.7	-1.4
ITAL	Pital	2.06 318	eP		Pn	05 46 10.3	+1.1
SOCE	Pocosol	2.26 311	eP		Pn	05 46 12.8	+0.8
SOCE	Pocosol	2.26 311	P		Pn	05 46 13.1	+1.2
SOCE	Pocosol	2.26 311	S		Sn	05 46 39.4	0.0
COVE	Coope Vega, Sa	2.34 320	P		Pb	05 46 15.5	-1.7
COVE	Coope Vega, Sa	2.34 320	S		Sn	05 46 42.9	+1.4
VACR	Volcan Arenal	2.36 311	eP		Pn	05 46 13.9	+0.5
MTEVE	Monteverde	2.38 306	eP		Pn	05 46 14.7	+0.9
VARE2	V. Arenal	2.38 311	eP		Pn	05 46 14.5	+0.8
CEDE	Laguna Cedeo	2.39 311	eP		Pn	05 46 15.6	+1.8
TABAC	Tabacon	2.44 311	eP		Pn	05 46 13.1	-1.5
JTS	Las Juntas de	2.46 304	eP		Pn	05 46 14.9	+0.1
JTS			eS		Sn	05 46 45.2	+0.7
JTS	Las Juntas de	2.46 304	eP		Pn	05 46 16.0	+1.2
JTS	Las Juntas de	2.46 304	P		Pn	05 46 15.9	+1.0
JTS			S		Sn	05 46 45.7	+1.2
JUNT	Juntas	2.46 304	eP		Pn	05 46 15.8	+1.0
NYURE	Nandayure	2.58 295	eP		Pn	05 46 17.8	+1.4
TILA	Tilaran	2.58 307	eP		Pn	05 46 17.9	+1.5
QUEB	Quebradon, Cot	2.62 311	eP		Pn	05 46 18.6	+1.7
TIMP	Tierras Morena	2.69 308	eP		Pn	05 46 18.9	+0.9
TENO	El Achiote	2.73 311	eP		Pn	05 46 20.7	+2.2
INDI	Punta indio, G	2.76 290	P		Pn	05 46 19.9	+1.1
CUI	Cuipilapa	2.85 308	eP		Pn	05 46 21.3	+1.2
COLC	Colonia	2.88 308	eP		Pb	05 46 25.2	-1.3
VMAR	Armenia, Volca	2.90 311	eP		Pn	05 46 22.9	+2.0
BCIP	Isla Barro Col	3.02 85	eP		Pn	05 46 23.1	+0.7
BCIP	Isla Barro Col	3.02 85	P		Pb	05 46 27.0	-1.7
BCIP			S		Sn	05 47 02.1	+4.6
LAPC	Finca la Perla	3.12 307	eP		Pn	05 46 23.9	0.0
ELI1	Hacienda Flor	3.15 303	S		Sn	05 47 02.9	+1.5
BLUN	Bluefields	3.20 344	S		Sn	05 47 04.2	+1.5

*NEIC **19** 06:10:28.7±1.2,35°.271N×0°.010×97°.93W±0°.01,h5km±1km, mb_Lg2.2/18,ML2.3/15,ML2.3/52,Error ellipse: s-maj=2.8km s-min=1.6km az=296.0*

NEIC 19 06:10:28.8±1.1,35°.278N±0°.010×97°.94W±0°.01,h8km±4km, Error ellipse: s-maj=1.4km s-min=1.3km az=205.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	0.42	71		Pg	06 10 37.4	+0.4
OKCFA					Sg	06 10 43.4	+0.9
OKCSW	**OKLAHOMA CITY**	0.43	73	Pg	Pg	06 10 37.4	+0.2
OKCSW				IAML		06 10 43.8	
	comp=E,395nm,0.3s						
OKCSW				IAML		06 10 43.8	
	comp=N,203nm,0.2s						
FNO	**Franklin**	0.44	93		Pg	06 10 37.7	+0.3
ADOK	**Arcadia Dam**	0.59	51	Pg	Pg	06 10 40.2	0.0
OK029	**Liberty Lake**	0.65	37		Pg	06 10 41.5	+0.1
OK029					Sg	06 10 50.2	+0.3
OK029				IAML		06 10 50.5	
	comp=N,134nm,0.4s						
OK029				IAML		06 10 53.8	
	comp=N,126nm,0.6s						
X34A	**Smith Ranch, M**	0.68	173		Pb	06 10 42.5	-0.5
X34A				IAmb_Lg		06 10 50.1	
	comp=Z,31nm,1.1s						
X34A					Sg	06 10 51.0	+0.2
X34A				IAML		06 11 06.0	
	comp=N,92nm,0.4s						
CSTR	**Hydro, Custer**	0.72	301		Pg	06 10 42.9	+0.2
CSTR					Sg	06 10 52.6	+0.7
WMOK	**Wichita Mounta**	0.88	232	Pg	Pg	06 10 45.3	-0.4
WMOK	**Wichita Mounta**	0.88	232		Sg	06 10 56.4	-0.8
OK052	**Battle Ridge R**	1.17	52		Pg	06 10 50.4	-0.8
OK052					Sg	06 11 00.4	+0.1
OK052				IAML		06 11 11.4	
	comp=N,133nm,0.3s						
CROK	**Carrier**	1.22	358		Pb	06 10 51.3	-1.0
DEOK	**Depew**	1.30	64		Pn	06 10 52.6	-0.7
QUOK	**Quay**	1.34	48		Pn	06 10 53.0	-0.9
OK038	**West end E0370**	1.36	332		Pn	06 10 53.6	-0.6
OK048	**Pawnee Station**	1.39	35		Pn	06 10 54.3	-0.3
LOOK	**Love County**	1.43	154		Pn	06 10 55.0	0.0
LOOK				Pn	Pb	06 10 55.2	-0.5
ELIS	**Ellis County**	1.44	303		Pn	06 10 55.2	-0.1
OK051	**E0350 and S346**	1.52	36		Pn	06 10 56.2	-0.1
WTFS	**Witchita Falls**	1.57	196		Pn	06 10 57.4	+0.4
WTFS					Pb	06 10 57.6	-0.6
GC02	**Grant County #**	1.57	2		Pn	06 10 57.0	-0.1
NOKA	**Waynoka**	1.58	329		Pn	06 10 57.5	+0.3
KAN14	**Manchester OK**	1.68	359		Pn	06 10 58.6	0.0
KAN13	**South Haven SW**	1.77	12		Pb	06 11 00.9	-0.7
KAN13					Sb	06 11 24.8	+0.8
TUL3	**Leonard**	1.86	70		Pn	06 11 01.6	+0.6
KAN01	**Argonia South**	1.88	4		Pn	06 11 02.0	+0.7
KAN01				IAmb_Lg		06 11 30.7	
	comp=Z,12nm,1.1s						
SMWD	**Samnorwood**	1.90	265		Pn	06 11 02.3	+0.7
Z35A	**Perchaven, San**	2.02	164		Pn	06 11 03.9	+0.6
FW06	**Azle**	2.32	172		Pn	06 11 09.0	+1.6
FW06				IAmb_Lg		06 11 46.5	
	comp=Z,7.3nm,0.9s						
PLPT	**Palo Pinto**	2.48	187		Pn	06 11 10.8	+1.2
PLPT				IAmb_Lg		06 11 50.5	
	comp=Z,7.7nm,0.7s						
RLO	**Rose Lookout**	2.53	69		Pn	06 11 10.7	+0.4
APMT	**Aspermont**	2.66	224	Pn	Pn	06 11 12.7	+0.6
APMT				IAmb_Lg		06 11 55.7	
	comp=Z,6.0nm,0.8s						
R32A	**Long Quarter,**	3.20	349	Pn	Pn	06 11 20.2	+0.7
HHAR	**Hobbs**	3.40	72	Pn	Pn	06 11 23.0	+0.7
HHAR				IAmb_Lg		06 12 23.6	
	comp=Z,7.7nm,0.8s						
MIAR	**Mount Ida**	3.66	100	Pn	Pn	06 11 27.0	+1.3
MIAR				IAmb_Lg		06 12 34.8	
	comp=Z,6.5nm,1.0s						
POST	**Post**	3.69	234	Pn	Pn	06 11 27.0	+0.7
BRDY	**Brady**	4.08	193	Pn	Pn	06 11 31.8	+0.2
SGCY	**Sterling City**	4.28	219	IAmb_Lg		06 12 50.8	
	comp=Z,7.8nm,0.8s						
FCAR	**Ozark Folk Cen**	4.78	81	Pn	Pn	06 11 42.0	+0.9
R40A	**Maddies Statio**	5.45	55	Pn	Pn	06 11 51.3	+0.9
MNHN	**Monahans**	5.63	227	IAmb_Lg		06 13 40.6	
	comp=Z,4.3nm,0.9s						

*ATH **19** 06:31:17.9,38°.24N×26°.66E,h14km±1km,ML3.3/4, Manual Solution by A.Moschou First location: 2019/09/19 06:32:41, This location: 2019/09/19 07:05:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*ISK **19** 06:31:17.3,38°.21N×26°.61E,h2km,ML3.2/41*
*THE **19** 06:31:18.3,38°N±8°×2°.7E±°,h10km±6km,M3.3/5, MLh3.3/5*
*AFAD **19** 06:31:19.5,38°.20N×26°.74E,h7km±2km,ML3.1*

ISC 19 06:31:18.3±0.9,38°.22N±0°.02×26°.63E±0°.02,h10km±7km, n63,σ0°80/87,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	0.14	348	Pg	Pg	06 31 21.4	-0.2
URLA				Sg	Sg	06 31 23.9	0.0
GMLD	**Gumuldur**	0.26	123	Pg	Pg	06 31 23.5	-0.2
GMLD				Sg	Sg	06 31 28.0	+0.8
CESE	**eme**	0.28	293	Pg	Pg	06 31 23.5	-0.6
CESE				Sg	Sg	06 31 28.3	+0.4
BLCB	**Balcova**	0.36	63	Pg	Pg	06 31 25.3	-0.1
BLCB	**Balcova**	0.36	63	P	Pg	06 31 25.4	-0.1
BLCB				S	Sg	06 31 30.7	+0.4
KRL1	**Karlovasi Samo**	0.43	172	P	Pg	06 31 26.5	-0.2
KRL1				S	Sg	06 31 32.9	+0.6
CHOS	**Chios island**	0.48	290	Pg	Pg	06 31 27.4	-0.4
CHOS				Sg	Sg	06 31 34.9	+0.7
CHOS	**Chios island**	0.48	290	P	Pg	06 31 27.7	-0.2
CHOS				S	Sg	06 31 35.8	+1.6
CHOS	**Chios island**	0.48	290	P	Pg	06 31 27.6	-0.2
CHOS				S	Sg	06 31 34.7	+0.5
FOCM	**Foa**	0.50	9	Pg	Pg	06 31 27.6	-0.4
FOCM				Sg	Sb	06 31 36.5	+0.1
EAG2	**Marmaro, Chios**	0.53	308	P	Pg	06 31 28.4	-0.1
EAG2				S	Sg	06 31 35.8	+0.4
SMG	**Samos**	0.54	162	P	Pg	06 31 28.6	-0.1
SMG				S	Sb	06 31 36.8	-0.7
SMG	**Samos**	0.54	162	P	Pg	06 31 28.5	-0.2
SMG				S	Sg	06 31 36.4	+0.6
GCAM	**G?zelcaml?**	0.70	137	Pg	Pg	06 31 31.9	0.0
GCAM	**G?zelcaml?**	0.70	137	P	Pg	06 31 31.9	0.0
GCAM				S	Sb	06 31 41.5	-0.8
GCAM				*i* IAML		06 31 44.0	
	comp=N,1μm,0.8s						
GCAM				*i* IAML		06 31 45.0	
	comp=E,941nm,0.2s						
DIDI	**Didim-Aydin**	0.97	150	Pg	Pb	06 31 37.3	+0.2
DIDI				Sg	Sn	06 31 50.9	-0.8
AYDB	**Zeytinkoy-Aydi**	1.03	105	Pg	Pg	06 31 37.9	-0.2
IZMR	**zmir-demi**	1.04	94	P	Pb	06 31 38.3	-0.1
IZMR				S	Sg	06 31 51.4	-0.5
PRK	**Paraskevi**	1.06	345	P	Pg	06 31 38.2	-0.5
PRK				S	Sn	06 31 55.3	+1.3
PRK	**Paraskevi**	1.06	345	P	Pg	06 31 38.0	-0.8
PRK				S	Sg	06 31 52.0	-0.6
GOMA	**Golmarmara-Man**	1.12	64	Pn	Pn	06 31 40.0	0.0
AYDN	**Tasoluk**	1.13	119	P	Pb	06 31 39.7	-0.3
AYDN				S	Sb	06 31 54.9	+0.2
AYDN				*i* IAML		06 31 55.0	
	comp=N,360nm,0.3s						
AYDN				*i* IAML		06 31 58.0	
	comp=E,541nm,0.3s						
AKS	**Akhisar**	1.14	54	Pn	Pn	06 31 40.6	+0.4
ODEM	**Odemis-Izmir**	1.14	87	Pn	Pb	06 31 39.7	-0.3
SIGR	**SIGRI**	1.16	329	Pn	Pb	06 31 39.8	-0.6
SIGR	**SIGRI**	1.16	329	P	Pb	06 31 39.8	-0.6
SIGR				S	Sg	06 31 56.1	+0.4
SIGR	**SIGRI**	1.16	329	P	Pb	06 31 39.6	-0.9
SIGR				S	Sb	06 31 54.3	-1.3
SOMA	**Soma-Manisa**	1.17	37	Pn	Pn	06 31 41.0	+0.3
YKAV	**Yalikavak-Bodr**	1.21	155	Pn	Pg	06 31 41.4	-0.1
KLNA	**Kalymnos**	1.29	168	P	Pn	06 31 42.0	-0.3
KLNA				S	Sb	06 31 58.5	-0.6
GPNR	**Gulpinar-Canak**	1.29	343	Pn	Pg	06 31 43.1	-0.1
NAZL	**Nazilli-Aydin**	1.33	101	Pn	Pb	06 31 43.3	-0.1
TNSA	**Tinos**	1.35	240	P	Pn	06 31 42.8	-0.3
GORD	**Gordes-Manisa**	1.39	60	Pn	Pg	06 31 44.9	-0.1
KIRA	**zmir-Kiraz**	1.39	90	P	Pn	06 31 43.5	-0.3
KIRA				S	Sg	06 32 02.9	-0.2
ESFN	**Aydn-Nazilli**	1.42	107	P	Pn	06 31 43.8	-0.3
ESEN				S	Sg	06 32 04.0	+0.1
YAYO	**Edremit-Balk**	1.43	14	Pn	Pb	06 31 45.2	+0.2
APE	**Apeiranthos**	1.45	218	Pn	Pn	06 31 45.1	+0.6
MANT	**Manisa**	1.54	79	P	Pg	06 31 47.2	-0.6
MANT				S	Sg	06 32 07.8	0.0
MANT				*i* IAML		06 32 09.0	
	comp=N,356nm,0.2s						
MANT				*i* IAML		06 32 09.0	
	comp=E,180nm,0.4s						
EZNE	**Ezine-Canakkal**	1.55	352	Pn	Pb	06 31 47.2	+0.2
KULA	**Kula-Manisa**	1.62	79	Pn	Pb	06 31 48.1	-0.2
EZN	**Ezine**	1.62	352	Pn	Pn	06 31 47.7	+0.8
EZN	**Ezine**	1.62	352	P	Pn	06 31 46.8	-0.1
DAT	**Datca**	1.67	153	Pn	Pb	06 31 48.4	-0.7
BOZC	**Bozcaada**	1.68	345	Pn	Pb	06 31 48.8	-0.5
CANM	**Can-anakkale**	1.82	10	Pn	Pb	06 31 51.2	-0.4
COMU	**Canakkale**	1.88	356	Pn	Pn	06 31 51.4	+0.9
TURN	**Turunc**	1.93	138	Pn	Pb	06 31 52.5	-1.0
GONE	**Gonen-Balikesi**	2.00	24	Pn	Pb	06 31 53.5	-1.2
GADA	**Gvkgeada**	2.05	344	Pn	Pn	06 31 53.9	+1.1
GELI	**Tayfur-Gelibol**	2.18	357	Pn	Pn	06 31 55.7	+1.1
SHAP	**Saphane-Kutahy**	2.18	68	Pn	Pb	06 31 56.7	-1.2
KRBG	**Karabiga-Canak**	2.23	13	Pn	Pb	06 31 57.2	-1.5
APMY	**Acipayam-Deniz**	2.24	109	Pn	Pn	06 31 56.7	+1.2
GEDZ	**Gediz**	2.33	68	Pn	Pb	06 31 58.4	-1.9
ARG	**Arkhangelos**	2.33	149	Pn	Pn	06 31 57.8	+1.2
EDC	**Edincik**	2.33	24	Pn	Pn	06 31 58.2	+1.6
ERIK	**Erikli-Kesan**	2.45	358	Pn	Pn	06 31 58.7	+0.4
CAME	**Cameli-Denizli**	2.47	120	Pn	Pn	06 31 59.5	+0.7
TVSB	**Tavsanli**	2.53	60	Pn	Pn	06 32 01.1	+1.6
ARMT	**Armutlu**	2.91	36	Pn	Pn	06 32 06.9	+2.3
AKAS	**Kas**	3.09	129	Pn	Pn	06 32 09.3	+2.1
YLV	**Yalova**	3.16	41	Pn	Pn	06 32 10.2	+2.1

*NEIC **19** 06:42:09.2±0.5,39°.52N±0°.04×116°.56W±0°.03,h14km±8km, Error ellipse: s-maj=6.0km s-min=3.0km az=180.0*

REN 19 06:42:09.0±0.5,39°.55N±0°.04×116°.57W±0°.02,h11km±8km, ML1.9/1,ML2.5/28(NEIC),Error ellipse: s-maj=6.1km s-min=2.3km az=166.0,Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q09A	**Carvers**	0.86	214		Pg	06 42 25.6	0.0
Q09A					Sg	06 42 37.0	+0.2
Q09A				IAML		06 42 37.8	
	comp=N,184nm,0.3s						
Q09A				IAML		06 42 38.0	
	comp=E,211nm,0.4s						
R11B	**Troy Canyon, C**	1.42	147		Pb	06 42 35.6	-0.1
R11B					Sn	06 42 53.1	-0.7
Q12A	**Willow Creek R**	1.44	110		Pb	06 42 36.0	0.0
TPH	**Tonopah**	1.56	199		Pb	06 42 37.9	-0.1
TPH				IAML		06 43 00.3	
	comp=E,64nm,0.7s						
ELK	**Elko**	1.57	40		Pb	06 42 38.1	-0.2
NV11	**Mina Array Sit**	1.66	229		Pn	06 42 39.0	+0.7
NVAR	**Mina Array Bea**	1.75	231	Pn	Pn	06 42 40.4	+0.8
NV09	**Mina Array Sit**	1.77	232		Pn	06 42 40.7	+0.9
RYN	**Ryan**	1.78	240		Pn	06 42 39.9	+0.1
RYN				IAML		06 43 07.6	
	comp=N,41nm,0.3s						
RYN				IAML		06 43 08.0	
	comp=E,47nm,0.4s						
NV08	**Mina Array Sit**	1.78	231		Pn	06 42 40.8	+0.9
SPR3	**Spring Creek 3**	1.82	107		Pn	06 42 40.8	+0.2
SPR3				IAML		06 43 09.4	
	comp=E,29nm,0.3s						
LHV	**Little Huntoon**	1.99	230		Pn	06 42 43.6	+1.0
LHV				IAML		06 43 14.7	
	comp=N,49nm,0.6s						
LHV				IAML		06 43 17.0	
	comp=E,55nm,0.5s						
PRN	**Pahroc Range**	2.45	150		Pn	06 42 49.6	+0.5
WAKR	**Walker**	2.46	246		Pn	06 42 48.6	-0.8
WAKR				IAML		06 43 29.1	
	comp=N,18nm,0.4s						
WAKR				IAML		06 43 29.7	
	comp=E,31nm,0.4s						
SGV	**South Grapevin**	2.59	188		Pn	06 42 52.5	+1.4
WCT	**Wildcat Mounta**	2.75	181	Pn	Pn	06 42 53.9	+0.7
WCT				IAML		06 43 36.4	
	comp=N,17nm,0.7s						
WCT				IAML		06 43 37.8	
	comp=E,18nm,0.4s						

*NEIC **19** 06:46:23.4±0.8,2°.09N±0°.08×125°.42E±0°.07,h119km±4km, mb4.4/33,Error ellipse: s-maj=12.1km s-min=9.4km az=217.0*
*IDC **19** 06:46:24.0±1.8,2°.02N×125°.13E,h128km±15km,mb3.9/17, mbtmp4.3/20,Error ellipse: s-maj=25.3km s-min=8.4km az=75.0*
*DJA **19** 06:46:25.5±0.3,2°N±2°×12°5E±°,h105km±4km,M5.0/18, mb4.7/9,mB5.9/6,MLv4.8/18,Mw(mB)5.5/6*

ISC 19 06:46:22.3±0.5,1°.98N±0°.05×125°.47E±0°.05,h100km,n82, σ2°29/76,mb4.4/33,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	1.69	2	P	Pn	06 46 54.9	+3.9
SGSI				S	Sn	06 47 17.9	+5.1
KMSI	**Cibinong**	2.04	227	P	Pn	06 46 58.8	+3.3
KMSI				S	Sn	06 47 25.0	+4.2
TNTI	**Ternate**	2.25	122		Pn	06 47 01.5	+3.3
TNTI				Sn	Sn	06 47 29.5	+4.0
TNTI	**Ternate**	2.25	122	P	Pn	06 47 02.2	+4.0
TNTI	**Ternate**	2.25	122	P	Pn	06 47 01.8	+3.6
TNTI				S	Sn	06 47 29.2	+3.6
MRSI	**Marisa**	3.83	247	P	Pn	06 47 22.7	+3.4
LUWI	**Luwuk**	4.04	222		Pn	06 47 25.0	+2.9
LUWI	**Luwuk**	4.04	222	P	Pn	06 47 24.8	+2.7
LUWI	**Luwuk**	4.04	222	P	Pn	06 47 27.2	+5.1
LUWI				S	Sn	06 48 11.2	+2.8
SANI	**Sanana**	4.04	173	P	Pn	06 47 22.4	+0.3
SANI	**Sanana**	4.04	173	P	Pn	06 47 22.3	+0.2
TOLI2	**Tolitoli**	4.76	260		Pn	06 47 33.3	+1.4
TOLI2	**Tolitoli**	4.76	260	P	Pn	06 47 33.3	+1.4
APSI	**Ampana**	4.78	233	P	Pn	06 47 36.3	+4.2
NLAI	**Namlea**	5.44	163	P	Pn	06 47 42.8	+1.7
	30μm299nm,0.6s						
AAI	**Ambon**	6.26	154	P	Pn	06 47 54.5	+2.3
	1.6nm4μm237nm,0.6s						
MSAI	**Masohi**	6.33	147	P	Pn	06 47 56.4	+3.3
MSAI				S	Sn	06 49 05.9	+1.9
MYLDM	**Lahad Datu**	7.64	295	Pn	Pn	06 48 09.0	-2.1
BNDI	**Bandanaira**	7.84	146	P	Pn	06 48 18.0	+4.3
BNDI	**Bandanaira**	7.84	146	P	Pn	06 48 15.3	+1.6
	1.2nm205nm,0.9s						
SPSI	**Sidrap Palu**	8.21	224	P	Pn	06 48 21.9	+3.2
	3μm14nm,0.4s						
FAKI	**Fak Fak**	8.35	126	Pn	Pn	06 48 22.5	+1.8
FAKI	**Fak Fak**	8.35	126	P	Pn	06 48 24.8	+4.2
FAKI	**Fak Fak**	8.35	126	P	Pn	06 48 23.8	+3.2
	44nm,1.0s						
SMKI	**Samarinda**	8.60	254	P	Pn	06 48 26.4	+2.3
KAPI	**Kappang**	9.00	219	P	Pn	06 48 30.1	+0.7
	8.4nm,0.8s,baz=18,slow=20,SNR=1.9						
EDFI	**Ende, Flores**	11.31	199	P	Pn	06 49 04.2	+3.2
JAY	**Jayapura**	15.88	106	P	Pn	06 50 03.3	+3.0
	15nm,0.8s,baz=328,slow=13,SNR=2.8						
KNRA	**Kununurra**	17.85	170		P	06 50 23.8	+0.2
KNRA				IAmb	IAmb	06 50 24.9	
	comp=Z,18nm,0.8s						
FITZ	**Fitzroy Crossi**	19.96	180		P	06 50 46.5	-0.2
FITZ	**Fitzroy Crossi**	19.96	180	P	P	06 50 46.4	-0.3
	comp=Z,5.1nm,0.4s,baz=11,slow=9.5,SNR=45						
WB0	**Warramunga Arr**	23.32	158		P	06 51 21.4	-0.5
WRAB	**Tennant Creek**	23.46	159	P	P	06 51 22.6	-0.5
WRAB				IAmb	IAmb	06 51 24.2	
	comp=Z,19nm,1.0s						
WRA	**Warramunga Arr**	23.47	159	P	P	06 51 22.1	-1.0
WRA	**Warramunga Arr**	23.47	159	P	P	06 51 22.6	-0.6
	comp=Z,12nm,0.5s,baz=342,slow=9.9,SNR=121						
WRA				S	S	06 55 30.9	+1.7
	comp=

comp=Z,1.7nm,0.7s,baz=120,slow=3.9,SNR=7.6
comp=Z,0.9nm,0.3s
KDJ Kajisay 58.83 320 P P 06 56 08.6 -2.1
KDJ IAmb IAmb 06 56 36.9
comp=Z,3.7nm,1.2s
BOOM Boomskoye usch 59.80 319 P P 06 56 15.2 -2.3
ZALV Zalesovo Beam 61.58 334 P P 06 56 25.9 -3.1
comp=Z,0.3nm,0.3s,baz=132,slow=6.4,SNR=1.4
comp=Z,0.3nm,0.3s
RTZ Ruatahuna 62.23 136 P **P 06 56 33.6 -0.2**
KURBB Kurchatov Arra 62.54 328 P P 06 56 32.4 -3.1
comp=Z,1.3nm,0.4s,baz=129,slow=6.1,SNR=11
comp=Z,1.3nm,0.4s
KURK Kurchatov 62.54 328 P P 06 56 32.7 -2.8
KURK IAmb IAmb 06 56 35.8
comp=Z,3.0nm,0.6s
KKAR Karatay Array 63.66 318 P P 06 56 41.6 -1.5
BVAR Borovoye Array 68.10 328 P P 06 57 08.0 -3.4
comp=Z,0.7nm,0.4s,baz=105,slow=9.3,SNR=2.5
comp=Z,0.7nm,0.4s
CASY Casey 68.95 186 P **P 06 57 16.0 -0.4**
CASY IAmb IAmb 06 57 32.8
comp=Z,3.9nm,0.6s
AB31 Akbulak array 72.71 321 P P 06 57 36.5 -3.0
ABKAR Akbulak array 72.71 321 P P 06 57 36.5 -3.0
VOI Vohitsoka 80.24 248 P P 06 58 20.6 -2.2
VOI IAmb IAmb 06 58 21.0
comp=Z,4.0nm,0.6s
MAW Mawson 81.69 200 P **P 06 58 27.8 -1.5**
comp=Z,1.0nm,0.7s,baz=90,slow=7.1,SNR=2.2
comp=Z,1.0nm,0.7s
VNDA Vanda 81.87 173 P **P 06 58 29.6 -0.5**
VNDA Vanda 81.87 173 P **P 06 58 29.4 -0.7**
comp=Z,2.0nm,0.5s,baz=317,slow=6.6,SNR=15
comp=Z,2.0nm,0.5s
SBA Scott Base 82.79 172 P **P 06 58 34.2 -0.7**
B21K Ikpikpuk River 84.64 20 P **P 06 58 43.3 -1.1**
B21K IAmb IAmb 06 58 46.4
comp=Z,6.6nm,1.1s
ILAR Eielson Array 87.21 25 P **P 06 58 57.4 +0.2**
comp=Z,0.1nm,0.7s,baz=253,slow=5.5,SNR=1.5
comp=Z,0.1nm,0.7s
ARCES ARCESS Array B 91.64 340 P P 06 59 14.6 -3.4
comp=Z,3.7nm,0.9s,baz=95,slow=5.3,SNR=5.1
comp=Z,3.7nm,0.9s
QSPA South Pole Qui 91.90 180 P **P 06 59 19.1 -0.2**
comp=Z,0.8nm,0.7s,baz=351,slow=2.1,SNR=5.7
comp=Z,0.8nm,0.7s
AKASG Malin Array Be 92.44 321 P P 06 59 18.1 -3.9
comp=Z,0.2nm,0.3s,baz=74,slow=4.0,SNR=1.5
comp=Z,0.2nm,0.3s
FINES FINESS Array B 92.76 332 P P 06 59 19.9 -3.3
comp=Z,1.6nm,0.6s,baz=64,slow=4.4,SNR=5.4
comp=Z,1.6nm,0.6s

*JMA **19** 07:02:11.8±0.3,46°N±1°×14°2E±°,h11km±3km,MV2.5/13, SOUTH SAKHALIN*
*SKHL **19** 07:02:12.1±0.4,46°40N×141°50E,h14km±1km,mb3.9/2*
ISC 19 07:02:11.5±2.6,46°42N±0°06×141°3E±0°2,h11km,n5, σ1§12/9,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEVR	**Nevel`sk**	**0.46**	**56**	*e*Sg	**Sg**	**07 02 28.3**	**+1.9**
NEVR				A	A	07 02 29.4	
	930nm,0.2s						
NEVR				A	A	07 02 29.4	
	970nm,0.2s						
KHLM	**Kholmsk**	**0.81**	**39**	*e*Pg	**Pn**	**07 02 29.1**	**+0.3**
KHLM				AMB	AMB	07 02 29.2	
	50nm,0.2s						
KHLM				*e*Sg	**Sn**	**07 02 40.6**	**-0.3**
KHLM				A	A	07 02 41.1	
	690nm,0.3s						
KHLM				A	A	07 02 41.1	
	460nm,0.3s						
YSS	**Yuzhno-Sakhali**	**1.13**	**61**	*e*Pg	**Pn**	**07 02 32.4**	**-0.8**
YSS				AMB	AMB	07 02 32.5	
	10.0nm,0.3s						
YSS				*e*Sg	**Sn**	**07 02 46.9**	**-1.7**
YSS				A	A	07 02 47.4	
	40nm,0.3s						
YSS				A	A	07 02 47.4	
	20nm,0.3s						
JWK2	**Keihoku**	**1.18**	**159**	P	**Pb**	**07 02 33.7**	**-0.1**
JWK2				*e*S	**Sb**	**07 02 49.3**	**+0.2**
JSE	**Soyaes**	**1.71**	**148**	P	**Pn**	**07 02 41.4**	**+0.2**
JSE				S	**Sn**	**07 03 02.6**	**-0.4**

VAO 19 07:02:31.4±1.4,14°27S×73°84W,h10km,mb4.1,Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.86**	**111**	*e*P	Pn	07 03 58.3	-0.7
VILB	**Vilhena**	**13.32**	**86**	*e*P	Pn	07 05 39.9	-0.9
TEFE	**Tefe**	**14.03**	**41**	*e*P	Pn	07 05 49.8	-0.5
PTLB	**Pontes e Lacer**	**14.26**	**97**	*e*P	Pn	07 05 53.9	+0.3
BDQN	**Bodoquena, MS**	**17.43**	**113**	*e*P	Pn	07 06 34.5	-0.3
SALV	**Santo Antonio**	**17.60**	**98**	*e*P	Pn	07 06 36.8	-0.1
CLDB	**Colider**	**17.93**	**81**	*e*P	Pn	07 06 40.8	-0.2
AQDB	**Aquidauana**	**18.37**	**112**	*e*P	Pn	07 06 46.1	-0.4
CPUP	**Villa Florida**	**19.57**	**130**	*e*P	P	07 06 59.3	-0.2
SJPY	**San Joaquin**	**19.80**	**125**	*e*P	P	07 07 02.0	-0.1
AMBA	**Amambai (Brazi**	**19.82**	**119**	*e*P	P	07 07 03.1	+0.8
RPRD	**Ribas do Rio P**	**20.18**	**111**	*e*P	P	07 07 06.8	+0.5
ITTB	**Itaituba**	**20.38**	**63**	*e*P	P	07 07 08.7	+0.2
SNDB	**Serra Nova Dou**	**22.07**	**87**	*e*P	P	07 07 27.6	+0.8
PTGB	**Pitanga**	**22.98**	**120**	*e*P	P	07 07 36.4	0.0
CPSB	**Cacapava Do Su**	**24.71**	**134**	*e*P	P	07 07 52.3	-0.6
IPMB	**Ipameri, GO**	**24.89**	**102**	*e*P	P	07 07 55.0	+0.3

TRN 19 07:04:28.0,16°75N×61°04W,h26km,MD3.7,South-east of Antigua.,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DSDZ	**La Diserade, G**	**0.44**	**184**	*e*P	Pn	07 04 39.0	+0.5
DSDZ				*e*S	Sn	07 04 47.7	+2.1
DHSZ	**Broadband at M**	**0.85**	**236**	*e*P	Pn	07 04 45.0	+0.9
DHSZ				*e*S	Sn	07 04 57.9	+2.2
ATGZ	**Broadband at L**	**0.93**	**226**	*e*P	Pb	07 04 46.7	+1.3
MMLZ	**Guadeloupe Bro**	**0.93**	**221**	*e*P	Pb	07 04 46.7	+1.3
MMLZ				*e*S	Sn	07 05 00.2	+2.5
TBG	**Guadaloupe-3**	**1.07**	**213**	*e*P	Pb	07 04 48.6	+0.8
TBG				*e*S	Sb	07 05 04.0	+2.6
ANWB	**Willy Bob**	**1.16**	**322**	*e*P	Pb	07 04 49.1	-0.2
ANWB				*e*S	Sb	07 05 07.3	+3.2
DWS	**Wesley**	**1.21**	**193**	*e*P	Pb	07 04 49.7	-0.4
DWS				*e*S	Sb	07 05 08.0	+2.7
DSLB	**Salisbury**	**1.36**	**196**	*e*P	Pb	07 04 52.5	-0.3
DSLB				*e*S	Sb	07 05 10.4	+0.7
MDN	**Morne-Daniel**	**1.47**	**194**	*e*P	Pb	07 04 54.2	-0.3
MDN				*e*S	Sb	07 05 14.2	+1.4
SKI	**Saint Kitts**	**1.73**	**290**	*e*P	Pb	07 04 58.1	-1.0
SKI				*e*S	Sb	07 05 20.6	+0.1
SVN	**Savane Anatole**	**1.90**	**184**	*e*P	Pb	07 05 01.1	-0.9
ILAM	**Ilet Lapin Mar**	**1.97**	**175**	*e*P	Pn	07 05 01.0	+1.3
ILAM				*e*S	Sb	07 05 26.0	-1.4
BIM	**Bigot**	**2.22**	**181**	*e*P	Pn	07 05 05.0	+1.9
BIM				*e*S	Sn	07 05 32.0	+2.3
SLBI	**Saint Lucia, B**	**2.71**	**179**	*e*P	Pn	07 05 11.6	+1.8
SLBI				*e*S	Sn	07 05 43.7	+1.9

*IDC **19** 07:05:36.7±3.3,54°18N×87°24E,h0km,mbtmp3.3/2, ML2.5/2,Error ellipse: s-maj=31.3km s-min=18.8km az=53.0*
ASRS 19 07:05:35.0±0.8,54°17N×87°10E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**262**	I	I	07 14 50.0	
	baz=80,slow=320,SNR=2.5						
ZALV	**Zalesovo Beam**	**1.36**	**262**	Pg	Pb	07 06 01.9	+0.5
	1.2nm,0.3s,baz=80,slow=17,SNR=13						
ZALV				Lg	Lg	07 06 22.9	
	1.1nm,0.3s,baz=83,slow=28,SNR=4.2						
KURBB	**Kurchatov Arra**	**6.33**	**239**	Pn	Pn	07 07 13.4	+3.9
	0.1nm,0.3s,baz=54,slow=14,SNR=3.3						
	3.2nm,0.4s						
MKAR	**Makanchi Array**	**8.00**	**204**	Pn	Pn	07 07 36.0	+3.6
	0.1nm,0.3s,baz=25,slow=14,SNR=8.0						
	0.2nm,0.2s						

*MOS **19** 07:06:32.7±0.9,5°93S×111°83E,h624km,mb5.5/68,Error ellipse: s-maj=7.4km s-min=4.1km az=117.7*
*IPGP **19** 07:06:33.0,6°06S×111°86E,h622km,Mw6.2,Fault plane solution: NP1:φs102.00000°,δ43.00000°,λ-98.00000°. NP2:φs292.00000°,δ47.00000°,λ-83.00000°.*
*NEIC **19** 07:06:33.3±2.0,6°07S±0°07×111°84E±0°09,h610km±2km, mb5.5/125,Mwb6.2/41,Mww6.1/66,Error ellipse: s-maj=14.6km s-min=12.2km az=68.0,Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=2.07; Mθθ2.09; Mφφ-0.02; Mrθ-0.47; Mrφ-0.59; Mθφ-0.28; Fault plane solution: Mo2.23000×1018 NP1:φs295.59000°, δ41.02000°,λ-73.27000°. NP2:φs93.87000°,δ51.06000°, λ-104.06000°. Principal axes: T 2.2733, Plg5.0000°, Azm194.0000°; N -0.0985, Plg11.0000°, Azm103.0000°; P -2.1748, Plg78.0000°, Azm309.0000°;*
*DJA **19** 07:06:33.5±0.1,6°S±1°×11°2E±°,h618km±1km,M5.4/146, mB5.8/121,mb5.6/146,MLv6.2/42,Mw6.1/190, Mw(mB)5.4/121,MwMwp5.4/67,Mwp5.6/67*
*NEIC **19** 07:06:34,6°02S×111°84E,h620km*
*GCMT **19** 07:06:34.3±0.1,6°07S±0°01×111°83E±0°01,h623km, MW6.1/168,Moment Tensor Solution. s168,c403; s145,c186; Duration: 2§9 Moment tensor: Scale 1018 Nm; Mrr-2.06±.01; Mθθ1.85±.02; Mφφ0.20±.02; Mrθ0.05±.02; Mθφ-0.46±.02; Mφr-0.29±.02; Best double couple: Mo2.03500×1018 NP1:φs98.00000°,δ44.00000°, λ-100.00000°. NP2:φs292.00000°,δ47.00000°, λ-80.00000°. Principal axes: T 1.9730, Plg2.0000°, Azm15.0000°; N 0.1150, Plg7.0000°, Azm105.0000°; P -2.0970, Plg83.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
*NEIC **19** 07:06:34.1,6°32S×111°84E,h620km,Moment Tensor Solution. Duration: 5§7 Moment tensor: Scale 1018Nm; Mrr-1.82; Mθθ1.34; Mφφ0.48; Mrθ0.03; Mθφ-0.56; Mφr-0.24; Fault plane solution: Mo1.74000×1018 NP1: φs110.68000°,δ43.10000°,λ-98.17000°. NP2: φs301.81000°,δ47.44000°,λ-82.42000°. Principal axes: T 1.6194, Plg2.0000°, Azm26.0000°; N 0.2210, Plg6.0000°, Azm117.0000°; P -1.8404, Plg84.0000°, Azm275.0000°;*
*IDC **19** 07:06:34.1±0.3,5°98S×111°85E,h623km±3km,mb4.9/36, mbtmp5.9/42 Error ellipse: s-maj=9.1km s-min=5.8km az=72.0*
*NEIC **19** 07:06:34.1,6°02S×111°84E,h620km*
ISC 19 07:06:33.5±0.2,6°04S±0°02×111°82E±0°03,h624km±1km, h626km:pP-P,n1554,σ1§69/1929,mb5.5/238,57C-91D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBJI	**Tambak Boyo**	**0.78**	**178**	P	**P**	**07 07 47.5**	**+0.8**
TBJI				S	**S**	07 08 46.7	+0.5
BWJI	**Bawean**	**0.86**	**77**	P	**P**	07 07 46.6	-0.2
GRJI	**Gresik**	**1.09**	**143**	P	**P**	07 07 47.8	+0.5
GRJI				S	**S**	07 08 47.5	+0.2
NGJI	**Ngawi**	**1.37**	**195**	P	**P**	07 07 49.6	+1.6
NGJI				S	**S**	07 08 51.6	+3.1
SMRI	**Semarang**	**1.70**	**234**	P	**P**	07 07 49.8	+0.9
SMRI	**Semarang**	**1.70**	**234**	P	**P**	07 07 50.0	+1.0
SMRI	**Semarang**	**1.70**	**234**	P	**P**	07 07 50.0	+1.0
SMRI				S	**S**	07 08 52.1	+1.7
WOJI	**Wonogiri, Jawa**	**2.00**	**206**	P	**P**	07 07 49.9	-0.1
WOJI				S	**S**	07 08 50.6	-1.7
PCJI	**Pacitan**	**2.23**	**196**	P	**P**	07 07 50.6	-0.4
PCJI				S	**S**	07 08 50.8	-3.2
UGM	**Wanagama**	**2.26**	**215**	P	**P**	07 07 50.7	-0.4
UGM	**Wanagama**	**2.26**	**215**	P	**P**	07 07 51.1	-0.1
UGM	**Wanagama**	**2.26**	**215**	S	**S**	07 08 53.1	-1.2
UGM	**Wanagama**	**2.26**	**215**	P	**P**	07 07 51.1	-0.1
UGM				S	**S**	07 08 52.2	-2.1
KMMI	**Kalianget**	**2.36**	**115**	P	**P**	07 07 52.8	+1.3
KMMI				S	**S**	07 08 55.1	+0.1
BLJI	**Banyuglugur**	**2.45**	**134**	P	**P**	07 07 52.4	+0.5
BLJI				S	**S**	07 08 55.2	-0.5
GMJI	**Gumukmas**	**2.75**	**144**	P	**P**	07 07 52.6	-0.7
GMJI				S	**S**	07 08 55.7	-2.7
ABJI	**Asem Bagus**	**2.97**	**126**	P	**P**	07 07 55.3	+0.8
ABJI				S	**S**	07 09 00.6	+0.1
KPJI	**Karang Pucung**	**3.14**	**246**	P	**P**	07 07 56.1	+0.6
KPJI				S	**S**	07 09 01.8	-0.4
JAGI	**Jajag, Banyuwa**	**3.35**	**136**		**P**	07 07 55.4	-1.2
JAGI	**Jajag, Banyuwa**	**3.35**	**136**	P	**P**	07 07 55.9	-0.8
JAGI	**Jajag, Banyuwa**	**3.35**	**136**	S	**S**	07 09 02.8	-1.6
JAGI	**Jajag, Banyuwa**	**3.35**	**136**	P	**P**	07 07 55.6	-1.1
JAGI				S	**S**	07 09 00.6	-3.8
JCJI	**Jatiwangi**	**3.56**	**263**	P	**P**	07 07 59.1	+1.2
JCJI				S	**S**	07 09 07.0	+0.3
SRBI	**Singaraja**	**3.94**	**121**	P	**P**	07 08 00.1	-0.2
SRBI				S	**S**	07 09 10.3	-0.8
BBKI	**Banjar Baru**	**3.95**	**50**	P	**P**	07 08 01.5	+1.0
BBKI				S	**S**	07 09 12.5	+1.2
LEM	**Lembang**	**4.25**	**259**	P	**P**	07 08 03.4	+0.8
	6µm,0.7s,baz=64,slow=7.9,SNR=419						
LEM				S	**S**	07 09 15.3	0.0
	3µm,0.7s,baz=254,slow=19,SNR=11						
LEM	**Lembang**	**4.25**	**259**	P	**P**	07 08 03.2	+0.6
LEM				S	**S**	07 09 14.7	-0.6
DNP	**Denpasar**	**4.26**	**128**	P	**P**	07 08 02.1	-0.5
DNP				S	**S**	07 09 13.0	-2.2
BBJI	**Bungbulang**	**4.37**	**251**	P	**P**	07 08 02.8	-0.6
CNJI	**Cibinong**	**4.83**	**255**	P	**P**	07 08 04.8	-1.8
CNJI				S	**S**	07 09 18.4	-4.2
DBJI	**Dramaga**	**5.06**	**264**	P	**P**	07 08 08.4	-0.1
	19nm23µm35µm3µm,0.7s						
DBJI				S	**S**	07 09 23.3	-2.6
	19nm23µm35µm3µm,0.7s						
TNG	**Tangerang**	**5.14**	**268**	P	**P**	07 08 09.5	+0.5
TNG				S	**S**	07 09 25.2	-1.8
TPI	**Tanjungpandan**	**5.28**	**308**	P	**P**	07 08 11.4	+1.3
	11nm23µm40µm3µm,1.1s						
TPI				S	**S**	07 09 25.7	-3.3
	11nm23µm40µm3µm,1.1s						
SKJI	**Sukabumi**	**5.32**	**259**	P	**P**	07 08 09.6	-0.8
SKJI				S	**S**	07 09 24.9	-4.6
SBJI	**Serang**	**5.66**	**269**	P	**P**	07 08 12.7	-0.4
	7.8nm17µm18µm1µm,0.8s						
TWSI	**Taliwang, Sumb**	**5.69**	**118**	P	**P**	07 08 11.7	-1.7
TWSI				S	**S**	07 09 29.3	-5.8
STKI	**Sintang**	**6.07**	**357**	P	**P**	07 08 18.6	+2.0
CGJI	**Cibinong**	**6.12**	**264**	P	**P**	07 08 16.0	-0.9
PLAI	**Plampang**	**6.53**	**115**	P	**P**	07 08 18.5	-1.9
PLAI	**Plampang**	**6.53**	**115**	P	**P**	07 08 18.3	-2.1
BLSI	**Bandar Lampung**	**6.57**	**275**	P	**P**	07 08 20.8	-0.1
	1.8nm541nm,0.8s						
PPBI	**Pangkal Pinang**	**6.85**	**304**	P	**P**	07 08 25.1	+1.8
BKB	**Balikpapan**	**6.94**	**47**	P	**P**	07 08 26.6	+2.5
BKB	**Balikpapan**	**6.94**	**47**	P	**P**	07 08 26.7	+2.5
BKB	**Balikpapan**	**6.94**	**47**	P	**P**	07 08 27.3	+3.2
KLI	**Kotabumi**	**7.03**	**279**	P	**P**	07 08 24.3	-0.6
	2.8nm366nm,0.8s						
KASI	**Kota Agung**	**7.30**	**274**	P	**P**	07 08 26.1	-1.2
	7.2nm14µm2µm,0.9s						
XMI	**Christmas Isla**	**7.48**	**234**	P	**P**	07 08 28.8	-0.2
KSM	**Kuching**	**7.61**	**349**	P	**P**	07 08 31.4	+1.3
KSM	**Kuching**	**7.61**	**349**	P	**P**	07 08 32.0	+1.8
PMBI	**Palembang**	**7.67**	**293**	P	**P**	07 08 31.9	+1.2
PMBI	**Palembang**	**7.67**	**293**	P	**P**	07 08 32.7	+2.0
PMBI	**Palembang**	**7.67**	**293**	P	**P**	07 08 33.3	+2.6
	5.0nm31µm565nm,0.9s						
SMKI	**Samarinda**	**7.73**	**44**	P	**P**	07 08 33.5	+2.2
MDSI	**Maura Dua**	**7.76**	**281**	P	**P**	07 08 30.8	-0.7
LWLI	**Liwa**	**7.79**	**277**	P	**P**	07 08 31.3	-0.6
	12nm27µm2µm,0.8s						
KAPI	**Kappang**	**7.96**	**83**		**P**	07 08 32.9	-0.5
KAPI	**Kappang**	**7.96**	**83**	P	**P**	07 08 33.2	-0.1
	2µm,1.0s,baz=270,slow=6.2,SNR=162						
KAPI				S	**S**	07 10 11.2	-0.4
	368nm,0.9s,baz=113,slow=19,SNR=6.2						
KAPI	**Kappang**	**7.96**	**83**	P	**P**	07 08 33.2	-0.1
KAPI				S	**S**	07 10 11.2	-0.4
KAPI	**Kappang**	**7.96**	**83**	P	**P**	07 08 33.3	-0.1
KAPI	**Kappang**	**7.96**	**83**	P	**P**	07 08 33.4	0.0
KAPI				S	**S**	07 10 07.2	-4.4
SPSI	**Sidrap Palu**	**8.19**	**76**	P	**P**	07 08 35.2	-0.3
	22µm3µm,1.0s						
WBSI	**Waikabubak, Su**	**8.31**	**116**	P	**P**	07 08 33.4	-3.3
BNSI	**Bone**	**8.41**	**79**	P	**P**	07 08 38.5	+0.9
SBUM	**Sibu**	**8.44**	**3**		**P**	07 08 39.2	+1.3
SBUM	**Sibu**	**8.44**	**3**	P	**P**	07 08 39.5	+1.6
TTSI	**Tana Toraja**	**8.51**	**70**	P	**P**	07 08 39.7	+1.2
	7µm25µm2µm,1.3s						
LHSI	**Lahat**	**8.55**	**285**	P	**P**	07 08 38.7	-0.2
	10µm915nm,1.1s						
BSSI	**Bau Bau, Buton**	**8.62**	**91**	P	**P**	07 08 39.0	-0.6
	14µm49µm4µm,1.1s						
MNAI	**Manna**	**8.98**	**280**		**P**	07 08 42.4	-0.6
MNAI	**Manna**	**8.98**	**280**	P	**P**	07 08 42.7	-0.3
MNAI	**Manna**	**8.98**	**280**	P	**P**	07 08 42.6	-0.4
	24µm912nm,0.5s						
DSRI	**Dabo**	**9.09**	**307**	P	**P**	07 08 45.4	+1.3
	6µm8µm379nm,0.7s						
WSI	**Waingapu**	**9.14**	**114**	P	**P**	07 08 41.4	-3.1
PCI	**Palu**	**9.49**	**58**	P	**P**	07 08 48.9	+1.0
	29µm3µm,1.1s						
KSI	**Kapahiang**	**9.49**	**284**	P	**P**	07 08 48.0	0.0
	27µm517nm,0.7s						
BASI	**Baing, Sumba**	**9.61**	**116**	P	**P**	07 08 48.0	-1.1
MASI	**Maura Aman, Be**	**9.97**	**286**	P	**P**	07 08 52.4	-0.2
	669nm,1.1s						
TPRI	**Tanjung Pinang**	**10.04**	**313**	P	**P**	07 08 54.7	+1.5
	13µm16µm803nm,0.8s						
EDFI	**Ende, Flores**	**10.15**	**106**	P	**P**	07 08 50.8	-3.7
	22µm1µm,0.6s						
MMRI	**Maumere**	**10.65**	**105**		**P**	07 08 56.2	-3.1
MMRI	**Maumere**	**10.65**	**105**	P	**P**	07 08 56.6	-2.7
MMRI	**Maumere**	**10.65**	**105**	P	**P**	07 08 56.2	-3.1
BTDF	**Bukit Timah Da**	**10.89**	**312**	P	**P**	07 09 03.5	+1.9
KRJI	**Kerinci**	**11.05**	**290**	P	**P**	07 09 03.5	+0.2
	16µm569nm,1.0s						
APSI	**Ampana**	**11.05**	**63**	P	**P**	07 09 03.1	-0.1
	18µm2µm,0.9s						
MYKOM	**Kota Tinggi**	**11.12**	**314**	P	**P**	07 09 04.7	+0.8
MYKOM	**Kota Tinggi**	**11.12**	**314**	P	**P**	07 09 05.2	+1.3
TOLI2	**Tolitoli**	**11.43**	**52**		**P**	07 09 07.0	+0.2
TOLI2	**Tolitoli**	**11.43**	**52**	P	**P**	07 09 07.0	+0.2
MRSI	**Marisa**	**12.00**	**58**	P	**P**	07 09 10.5	-1.8
	17µm7µm753nm,0.9s						
LUWI	**Luwuk**	**12.00**	**66**	S	**S**	07 11 23.9	+1.4
LUWI				P	**P**	07 09 09.1	-3.3
LUWI	**Luwuk**	**12.00**	**66**		**P**	07 09 12.3	-0.1
LUWI	**Luwuk**	**12.00**	**66**	P	**P**	07 09 12.8	+0.4
LUWI	**Luwuk**	**12.00**	**66**	P	**P**	07 09 12.8	+0.4
	16µm24µm2µm,0.7s						
PPSI	**Pulau Pagai**	**12.21**	**285**	P	**P**	07 09 15.2	+0.8
	316nm,1.1s						
PDSI	**Padang**	**12.42**	**294**	P	**P**	07 09 15.1	-1.3
BATI	**Baumata**	**12.44**	**110**	P	**P**	07 09 15.6	-0.9
	683nm,0.3s,baz=256,slow=2.6,SNR=43						
BATI				S	S	07 11 17.2	-13
	9µm,0.6s,baz=160,slow=23,SNR=12						
BATI	**Baumata**	**12.44**	**110**	P	**P**	07 09 15.0	-1.5
BKNI	**Bangkinang**	**12.48**	**300**	S	**S**	07 11 33.4	+2.4
BKNI				P	**P**	07 09 16.1	-0.9
BKNI	**Bangkinang**	**12.48**	**300**	P	**P**	07 09 18.1	+1.1
BKNI	**Bangkinang**	**12.48**	**300**	P	**P**	07 09 18.9	+2.0
BKNI	**Bangkinang**	**12.48**	**300**	P	**P**	07 09 18.6	+1.7
	13µm396nm,0.7s						
PPI	**Padang Panjang**	**12.68**	**296**	P	**P**	07 09 18.0	-0.8
KKM	**Kota Kinabalu**	**12.78**	**20**	P	**P**	07 09 19.4	-0.5
KKM	**Kota Kinabalu**	**12.78**	**20**	P	**P**	07 09 20.2	+0.3
SOEI	**Soe**	**12.87**	**107**	P	**P**	07 09 21.4	+0.6
SOEI				S	S	07 11 28.2	-10
SOEI	**Soe**	**12.87**	**107**		**P**	07 09 18.4	-2.5
SOEI	**Soe**	**12.87**	**107**	P	**P**	07 09 18.7	-2.1
SOEI	**Soe**	**12.87**	**107**	P	**P**	07 09 18.5	-2.3
MYLDM	**Lahad Datu**	**12.99**	**31**		**P**	07 09 24.4	+2.5
MYLDM	**Lahad Datu**	**12.99**	**31**	P	**P**	07 09 23.9	+2.1
SISI	**Saibi**	**13.53**	**290**	P	**P**	07 09 27.1	-0.1
	193nm,0.8s						
KMSI	**Cibinong**	**13.81**	**62**	P	**P**	07 09 28.7	-1.1
	11µm24µm2µm,0.7s						
MNSI	**Mandalilng Nat**	**13.98**	**299**	P	**P**	07 09 31.2	-0.2
SANI	**Sanana**	**14.68**	**75**	P	**P**	07 09 35.7	-2.1
SANI				S	**S**	07 12 07.3	-0.9
SANI	**Sanana**	**14.68**	**75**	P	**P**	07 09 38.1	+0.2
SANI	**Sanana**	**14.68**	**75**	P	**P**	07 09 38.1	+0.2
	8µm16µm1µm,1.3s						
PBSI	**Pulau Batu**	**14.76**	**293**	P	**P**	07 09 38.5	-0.1
	8µm684nm,1.2s						
IPM	**Ipoh**	**15.01**	**314**	P	**P**	07 09 42.2	+1.3
IPM	**Ipoh**	**15.01**	**314**	P	**P**	07 09 43.0	+2.1
NLAI	**Namlea**	**15.48**	**80**	P	**P**	07 09 45.7	+0.5
	5µm8µm517nm,0.5s						
RPSI	**Rantau Prapat**	**15.53**	**304**	P	**P**	07 09 46.7	+1.1
RPSI	**Rantau Prapat**	**15.53**	**304**	P	**P**	07 09 47.1	+1.6
PSI	**Prapat**	**15.59**	**304**	P	**P**	07 09 47.1	+0.9
	113nm,0.4s,baz=154,slow=7.7,SNR=132						
PSI				S	**S**	07 12 21.5	-1.7
	78nm,1.0s,baz=239,slow=18,SNR=5.5						
PSI	**Prapat**	**15.59**	**304**	P	**P**	07 09 47.3	+1.1
PSI	**Prapat**	**15.59**	**304**	P	**P**	07 09 46.7	+0.5
KULM	**Kulim**	**15.84**	**315**	P	**P**	07 09 48.9	+0.4
KULM	**Kulim**	**15.84**	**315**	P	**P**	07 09 49.5	+1.1
GSI	**Gunungsitoli**	**15.98**	**297**	P	**P**	07 09 49.6	-0.1
GSI	**Gunungsitoli**	**15.98**	**297**	P	**P**	07 09 51.2	+1.5
GSI	**Gunungsitoli**	**15.98**	**297**	P	**P**	07 09 50.5	+0.8
	8µm334nm,1.5s						
COCO	**West Island**	**16.00**	**246**	P	**P**	07 09 50.5	+0.7

comp=Z,390nm,0.4s,baz=201,slow=2.5,SNR=9.7
DAV Davao City (W) 18.92 47 P **P** **07 10 17.7 +1.2**
DAV Davao City (W) 18.92 47 P P 07 10 24.3 +7.8
DAV Davao City (W) 18.92 47 P **P** **07 10 16.0 -0.5**
KNRA Kununurra 19.18 121 P **P** **07 10 18.9 +0.1**
comp=Z,771nm,0.6s
KNRA Kununurra 19.18 121 P **P** **07 10 18.6 -0.2**
SURA Surathani 19.38 321 P **P** **07 10 22.8 +2.1**
SAUI Saumlaki 19.43 97 P **P** **07 10 20.3 -0.9**
SAUI Saumlaki 19.43 97 P **P** **07 10 23.0 +1.9**
SAUI Saumlaki 19.43 97 P **P** **07 10 22.1 +1.0**
comp=Z,941nm,1.0s
DRS Darwin Rock St 19.87 110 P **P** **07 10 25.5 +0.5**
SWI Sorong 20.07 76 P **P** **07 10 27.2 +0.3**
comp=Z,4µmcomp=Z,475nm,1.2s
MTN Manton Dam 20.21 111 P **P** **07 10 28.1 0.0**
comp=Z,257nm,0.5s
MTN Manton Dam 20.21 111 P **P** **07 10 27.6 -0.5**
MTN Manton Dam 20.21 111 P **P** **07 10 28.2 +0.1**
FAKI Fak Fak 20.60 82 P **P** **07 10 32.0 +0.4**
FAKI Fak Fak 20.60 82 P **P** **07 10 31.8 +0.1**
FAKI Fak Fak 20.60 82 P **P** **07 10 32.2 +0.5**
comp=Z,3µmcomp=Z,162nm,0.8s
KDU Kakadu 21.41 109 P **P** **07 10 38.6 -0.3**
comp=Z,229nm,0.6s
KDU Kakadu 21.41 109 P **P** **07 10 38.3 -0.6**
MEEK Meekatharra 21.49 163 P **P** **07 10 39.9 +0.6**
comp=Z,0.0nmcomp=Z,441nm,1.6s
MEEK Meekatharra 21.49 163 P **P** **07 10 40.0 +0.6**
KMPI Kaimana, Papua 21.93 85 P **P** **07 10 44.2 +0.6**
comp=Z,4µmcomp=Z,398nm,0.7s
TGY Tagaytay City 21.96 24 P **P** **07 10 44.7 +0.9**
comp=Z,257nm,0.3s,baz=192,slow=6.9,SNR=8.1
comp=Z,257nm,0.3s
RKPI Ransiki, Papua 22.75 79 P **P** **07 10 51.3 +0.4**
comp=Z,6µmcomp=Z,248nm,0.7s
MORW Morawa 23.25 171 P **P** **07 10 55.8 +0.8**
comp=Z,0.0nmcomp=Z,915nm,1.2s
MORW Morawa 23.25 171 P **P** **07 10 55.3 +0.2**
MORW Morawa 23.25 171 P **P** **07 10 56.0 +1.0**
WRKA Warakurna 24.62 142 P **P** **07 11 07.6 +0.3**
comp=Z,127nm,1.6s
BAKI Biak 24.71 80 P **P** **07 11 09.0 +0.9**
comp=Z,1µmcomp=Z,147nm,0.6s
BLDU Ballidu 24.88 170 P **P** **07 11 09.7 +0.3**
comp=Z,418nm,1.9s
BLDU Ballidu 24.88 170 P **P** **07 11 10.0 +0.6**
SZP Santa 24.94 20 P **P** **07 11 11.5 +1.4**
QIZ Qiongzhong 24.98 356 P **P** **07 11 12.3 +1.9**
QIZ sP **sP** **07 13 54.1 -2.6**
QIZ S **S** **07 14 54.8 +2.5**
QIZ ScS **ScS** **07 20 54.3 +0.2**
QIZ pmax pmax
comp=Z,100nm,1.7s
QIZ pmax pmax
comp=Z,2µm,6.5s
PBA Port Blair 25.87 313 P **P** **07 11 18.3 0.0**
WRA Warramunga Arr 25.88 124 P **P** **07 11 18.1 -0.2**
WRA Warramunga Arr 25.88 124 P **P** **07 11 18.7 +0.3**
comp=Z,185nm,0.7s,baz=302,slow=9.4,SNR=767
WRA S **S** **07 15 03.1 -3.4**
comp=Z,126nm,0.9s,baz=293,slow=17,SNR=13
comp=Z,185nm,0.7s
WRAB Tennant Creek 25.89 124*d* iP **P** **07 11 18.8 +0.4**
WRAB pmax pmax
comp=Z,519nm,1.0s
WB2 Warramunga Arr 25.89 124 P **P** **07 11 18.4 -0.1**
WR5 Warramunga Arr 25.96 124 P **P** **07 11 19.7 +0.6**
WR8 Warramunga Arr 26.02 124 P **P** **07 11 19.6 0.0**
KLBR Kellerberrin 26.02 168 P **P** **07 11 19.8 +0.4**
comp=Z,670nm,0.7s
KLBR Kellerberrin 26.02 168 P **P** **07 11 20.1 +0.7**
MTKN Mount Kenneth 26.03 172 P **P** **07 11 20.7 +1.3**
MUN Mundaring 26.13 172 P **P** **07 11 21.0 +0.6**
SMPI Sarmi 27.12 83 P **P** **07 11 29.6 +0.3**
comp=Z,3µmcomp=Z,135nm,1.5s
NWAO Narrogin (SRO) 27.23 170 P **P** **07 11 30.5 +0.6**
comp=Z,675nm,1.2s
NWAO Narrogin (SRO) 27.23 170 P **P** **07 11 29.8 -0.1**
NWAO Narrogin (SRO) 27.23 170 P **P** **07 11 30.8 +0.9**
comp=Z,161nm,0.6s,baz=335,slow=7.1,SNR=67
comp=Z,161nm,0.6s
NWAO Narrogin (SRO) 27.23 170 P **P** **07 11 30.4 +0.6**
NWAO S **S** **07 15 26.6 -0.3**
NWAO Narrogin (SRO) 27.23 170 P **P** **07 11 30.6 +0.6**
NWAO Narrogin (SRO) 27.23 170 P **P** **07 11 30.7 +0.9**
CM31 Chiang Mai Arr 27.45 333 P **P** **07 11 33.5 +1.4**
CM31 Chiang Mai Arr 27.45 333 P **P** **07 11 34.0 +1.9**
SNR=105
CM31 S **S** **07 15 32.6 +1.8**
CMAR Chiang Mai Arr 27.45 333 P **P** **07 11 33.4 +1.3**
CMAR Chiang Mai Arr 27.45 333 P **P** **07 11 34.2 +2.1**
comp=Z,142nm,1.0s,baz=164,slow=7.9,SNR=208
CMAR PcP **PcP** **07 14 30.1 +0.9**
comp=Z,26nm,0.7s,baz=152,slow=2.6,SNR=11
CMAR ScP **ScP** **07 17 12.9 +1.1**
comp=Z,13nm,0.9s,baz=137,slow=3.7,SNR=4.4
comp=Z,142nm,1.0s
AS31 Alice Springs 27.54 132 P **P** **07 11 33.0 +0.1**
ASAR Alice Springs 27.54 132 P **P** **07 11 33.6 +0.8**
comp=Z,100nm,0.5s,baz=308,slow=8.4,SNR=1274
ASAR PcP **PcP** **07 14 30.4 +0.9**
comp=Z,64nm,0.9s,baz=296,slow=2.3,SNR=4.8
ASAR S **S** **07 15 30.0 -2.3**
comp=Z,111nm,0.7s,baz=295,slow=16,SNR=5.9
ASAR ScP **ScP** **07 17 12.6 +0.5**
comp=Z,41nm,0.8s,baz=312,slow=1.6,SNR=5.1
comp=Z,100nm,0.5s
CHTO Chiang Mai 27.77 333 P **P** **07 11 36.1 +1.3**
CHTO IAmb IAmb 07 11 41.0
comp=Z,208nm,1.1s
CHTO Chiang Mai 27.77 333 P **P** **07 11 36.4 +1.6**
CHTO P **P** **07 11 36.4 +1.6**
CHTO S **S** **07 15 35.8 +0.1**
CHTO S **S** **07 15 35.8 +0.1**
CHTO Chiang Mai 27.77 333 P **P** **07 11 37.0 +2.2**
CHTO Chiang Mai 27.77 333 P **P** **07 11 36.1 +1.3**
CHTO pmax pmax
comp=Z,208nm,1.2s
CHTO Chiang Mai 27.77 333 P **P** **07 11 37.0 +2.2**
CHTO S **S** **07 15 37.4 +1.7**
HKPS Hong Kong Po S 28.23 5 P **P** **07 11 40.3 +1.5**
HKPS Hong Kong Po S 28.23 5 P **P** **07 11 40.2 +1.5**
HKC Hong Kong Obse 28.26 5 ⇑P **P** **07 11 40.0 +1.0**
SLVN Son La 28.29 344 P **P** **07 11 41.2 +1.9**
SLVN IAmb IAmb 07 11 46.1
comp=Z,192nm,1.5s
SLVN Son La 28.29 344 P **P** **07 11 41.2 +1.9**
GENI Genyem 28.47 84 P **P** **07 11 41.7 +0.7**
GENI Genyem 28.47 84 P **P** **07 11 40.7 -0.3**
comp=Z,3µmcomp=Z,189nm,1.2s
H01W3 Cape Leeuwin H 28.78 176 P **P** **07 11 45.0 +1.9**
baz=341,slow=4.7,SNR=28
H01W1 Cape Leeuwin H 28.80 176 P **P** **07 11 45.2 +2.0**
baz=341,slow=4.7,SNR=47
H01W2 Cape Leeuwin H 28.80 176 P **P** **07 11 45.2 +2.0**
baz=341,slow=4.7,SNR=37
RKGY Rocky Gully 28.83 171 P **P** **07 11 45.3 +1.5**
comp=Z,818nm,0.8s
GZH Guangzhou 28.98 3 P P 07 11 51.6 +6.4
GZH sP sP 07 14 36.8 +1.2
GZH S S 07 16 05.8 +11
GZH pmax pmax
comp=Z,210nm,1.4s
JAY Jayapura 29.01 84 P **P** **07 11 44.8 -0.9**
comp=Z,125nm,0.9s
TWGBT Beinan 30.08 17 P **P** **07 11 56.1 +1.5**
TPUB Ta-pu 30.40 16 P **P** **07 11 58.0 +0.5**
TPUB Ta-pu 30.40 16 P **P** **07 11 58.7 +1.2**
QIS Mount Isa 30.57 121 P **P** **07 11 59.5 +0.5**
YULB Yu-li 30.68 17 P **P** **07 12 00.3 +0.5**
YULB IAmb IAmb 07 12 12.6
comp=Z,100nm,0.9s
YULB Yu-li 30.68 17 P **P** **07 12 01.8 +2.0**
SSLB Suanglung 30.96 16 P **P** **07 12 02.8 +0.6**
SSLB Suanglung 30.96 16 P **P** **07 12 03.4 +1.2**
GULI GuiLin 31.17 357 P **P** **07 12 07.3 +3.4**
GULI sP **sP** **07 14 56.8 +1.6**
GULI S **S** **07 16 26.3 -1.6**
GULI pmax pmax
comp=Z,130nm,1.7s
QZH Quanzhou 31.49 12 P **P** **07 12 06.0 -0.6**
QZH sP **sP** **07 14 58.4 +0.4**
QZH S **S** **07 16 30.5 -2.2**
QZH pmax pmax
comp=Z,96nm,1.8s
NACB Ninganchiao 31.51 17 P **P** **07 12 06.7 -0.1**
NACB IAmb IAmb 07 12 10.1
comp=Z,230nm,1.3s
NACB Ninganchiao 31.51 17 P **P** **07 12 08.5 +1.7**
COEN Coen 31.84 107 P **P** **07 12 09.4 -0.4**
comp=Z,370nm,1.0s
COEN Coen 31.84 107 P **P** **07 12 09.8 +0.1**
COEN Coen 31.84 107 P **P** **07 12 09.9 +0.1**
YHNB Yeheng 31.91 17 P **P** **07 12 11.7 +1.4**
KMI Kunming 32.21 344 ⇑P **P** **07 12 16.3 +3.3**
KMI PcP **PcP** **07 14 45.3 +3.3**
KMI sP sP 07 15 06.5 +1.9
KMI S **S** **07 16 49.3 +5.2**
KMI SS **SS** **07 19 58.3 +1.8**
KMI pmax pmax
comp=Z,210nm,1.2s
KMI pmax pmax
comp=Z,1µm,4.2s
YOJ Yonaguni jima 32.22 19 P **P** **07 12 12.3 -0.4**
YOJ Yonaguni jima 32.22 19 P **P** **07 12 12.4 -0.4**
YOJ pmax pmax
comp=Z,2µm,1.7s
TATO Taipei 32.23 17 P **P** **07 12 13.2 +0.3**
TATO Taipei 32.23 17 P **P** **07 12 14.5 +1.6**
GYA Guiyang 32.69 351 ⇑P **P** **07 12 18.8 +1.9**
GYA sP sP 07 15 10.4 +1.7
GYA S **S** **07 16 52.3 +1.2**
GYA pmax pmax
comp=Z,86nm,1.0s
GYA pmax pmax
comp=Z,640nm,3.1s
TNCH TengChong 33.48 338 P **P** **07 12 25.8 +2.2**
TNCH PcP **PcP** **07 14 47.9 +2.3**
TNCH sP **sP** 07 15 16.0 +0.2
TNCH S **S** **07 17 07.3 +4.1**
TNCH pmax pmax
comp=Z,2µm,3.5s
PALK Pallekele 33.74 293 P **P** **07 12 26.3 +0.5**
PALK IAmb IAmb 07 12 30.9
comp=Z,145nm,1.1s
PALK Pallekele 33.74 293 P **P** **07 12 26.5 +0.7**
PALK S **S** **07 17 06.3 -0.9**
PALK Pallekele 33.74 293*d* iP **P** **07 12 26.4 +0.5**
PALK pmax pmax
comp=Z,221nm,1.1s
PALK Pallekele 33.74 293 P **P** **07 12 23.5 -2.3**
PALK S **S** **07 17 03.8 -3.4**
PALK Pallekele 33.74 293 P **P** **07 12 26.3 +0.5**
MTSU Mount Surprise 33.91 114 P **P** **07 12 28.0 +0.9**
comp=Z,314nm,0.8s
MTSU Mount Surprise 33.91 114 P **P** **07 12 28.2 +1.1**
MALK Mahakanadarawa 34.33 294 P **P** **07 12 30.5 -0.1**
BBOO Buckleboo 34.91 143 P **P** **07 12 35.7 +0.4**
comp=Z,401nm,1.0s
BBOO Buckleboo 34.91 143 P **P** **07 12 35.3 +0.1**
BBOO Buckleboo 34.91 143 P **P** **07 12 35.9 +0.7**
AZL Aizawl 34.99 328 *e*P P 07 12 31.1 -5.0
AZL IAML 07 12 42.0
comp=Z,277nm,0.6s
PMG Port Moresby 35.17 98 P **P** **07 12 37.6 0.0**
PMG Port Moresby 35.17 98 P **P** **07 12 38.7 +1.2**
PMG Port Moresby 35.17 98 P **P** **07 12 38.6 +1.0**
PMG Port Moresby 35.17 98*d* iP **P** **07 12 38.8 +1.2**
PMG pmax pmax
comp=Z,391nm,0.9s
IMP Imphal 35.27 331 *e*P **P** **07 12 34.0 -4.3**
IMP IAmb IAmb 07 12 43.6
comp=Z,237nm,1.0s
MANU Manus Island 35.67 85 P **P** **07 12 42.4 +0.7**
MANU IAmb IAmb 07 12 44.0
comp=Z,121nm,0.8s
SILR SILCHAR 35.80 330 *e*P **P** **07 12 38.2 -4.4**
SILR IAmb IAmb 07 12 48.9
comp=Z,288nm,1.1s
AGT Agartala 35.88 327 *e*P **P** **07 12 38.8 -4.4**
AGT IAML 07 12 43.5
comp=Z,352nm,0.5s
KOHI KOHIMA 35.95 332 *e*P **P** **07 12 39.4 -4.6**
WHYH Whyalla 35.99 142 P **P** **07 12 45.0 +1.0**
ENH Enshi 36.17 357 P **P** **07 12 46.8 +1.2**
ENH Enshi 36.17 357 P **P** **07 12 46.2 +0.6**
ENH sP **sP** **07 15 41.5 +2.3**
CTAO Charters Tower 36.23 116 P **P** **07 12 47.1 +0.8**
PTPS Port Pirie 36.34 141 P **P** **07 12 48.3 +1.4**
JOW Kunigami 36.36 25 P **P** **07 12 47.9 +0.7**
JOW IAmb IAmb 07 12 50.5
comp=Z,116nm,0.7s
JOW Kunigami 36.36 25 P **P** **07 12 48.6 +1.5**
WHN Wuhan 36.45 4 ⇑P **P** **07 12 49.1 +1.3**
WHN sP **sP** **07 15 43.1 +1.5**
WHN ScP **S** **07 17 44.8 -2.2**
WHN S **ScP** **07 17 48.0 +5.5**
WHN sS **sS** **07 20 53.3 -3.0**
TV1H Townsville Har 36.48 114 P **P** **07 12 49.2 +1.0**
BWNR Bhubaneshwar 36.59 316 *e*P P 07 12 44.0 -5.1
LKP Lekhapani 36.60 336 *e*P **P** **07 12 44.7 -4.4**
SHL Shillong 36.91 329 P **P** **07 12 52.2 +0.3**
SHL Shillong 36.91 329 P **P** **07 12 52.6 +0.8**
SNR=119
SHL Shillong 36.91 329 P **P** **07 12 52.2 +0.3**
SHL pmax pmax
comp=Z,377nm,0.9s
QLP Quilpie 37.03 127 P **P** **07 12 53.9 +1.3**
comp=Z,400nm,1.6s
QLP Quilpie 37.03 127 P **P** **07 12 54.0 +1.3**
HTT Hallett 37.09 141 P **P** **07 12 53.9 +0.7**
comp=Z,143nm,0.8s
HTT Hallett 37.09 141 P **P** **07 12 54.1 +0.9**
TEZP TEZPUR 37.33 331 *e*P **P** **07 12 50.7 -4.4**
TEZP IAmb IAmb 07 13 00.2
comp=Z,273nm,1.4s
GUWA GUWAHATI 37.52 329 *e*P **P** **07 12 52.5 -4.1**
CD2 Chengdu 37.54 349 P **P** **07 12 57.9 +1.1**
CD2 sP sP 07 15 49.6 -1.5
CD2 S **S** **07 18 04.3 +1.1**
CD2 pmax pmax
comp=Z,320nm,4.5s
KOD Kodaikanal 37.84 295 *e*P P 07 12 54.6 -5.1
KOD IAmb IAmb 07 13 04.4
comp=Z,59nm,0.9s
STKA Stephens Creek 37.88 137 P **P** **07 13 00.3 +0.8**
comp=Z,2µm,0.8s
STKA Stephens Creek 37.88 137 P **P** **07 12 59.8 +0.3**
STKA Stephens Creek 37.88 137 P **P** **07 13 00.5 +1.0**
comp=Z,215nm,0.6s,baz=311,slow=8.6,SNR=520
STKA S **S** **07 18 07.3 -0.8**
comp=Z,68nm,0.6s,baz=157,slow=18,SNR=8.7
comp=Z,215nm,0.6s
STKA Stephens Creek 37.88 137 P **P** **07 13 00.2 +0.7**
SSE Sheshan 38.00 13 P **P** **07 13 01.6 +1.3**
SSE S **S** **07 18 11.4 +1.7**
SSE pmax pmax
comp=Z,63nm,1.4s
SSE pmax pmax
comp=Z,400nm,3.5s
NJ2 Nanjing 38.47 10⇑*i*P **P** **07 13 05.6 +1.5**
NJ2 PP **PP** **07 14 51.8 -0.5**
NJ2 sP **sP** **07 15 59.4 +0.1**
NJ2 S **S** **07 18 16.8 +0.2**
NJ2 ScS **ScS** **07 22 04.5 +1.6**
NJ2 pmax pmax
comp=Z,100nm,0.9s
NJ2 pmax pmax
comp=Z,790nm,5.7s
COBR COOCHBEHAR 38.77 327 *e*P **P** **07 13 02.6 -4.0**
KNTI KHUNTI 38.85 319 IAmb IAmb 07 13 03.8
KNTI *e*P **P** **07 13 04.0 -3.5**
SHBG Sahibganj 38.95 324 *e*P **P** **07 13 04.2 -3.9**
JHSG JHARSUGUGA 38.97 316 *e*P **P** **07 13 03.9 -4.5**
H08S2 Diego Garcia H 39.07 265 P **P** **07 13 09.4 +0.4**
baz=59,slow=9.8,SNR=4.4
H08S3 Diego Garcia H 39.08 265 P **P** **07 13 12.2 +3.1**
baz=59,slow=9.8,SNR=7.7
H08S1 Diego Garcia H 39.09 265 P **P** **07 13 11.1 +2.0**
baz=59,slow=9.8,SNR=7.5
DGAR Diego Garcia 39.11 266 P **P** **07 13 10.6 +0.9**
DGAR Diego Garcia 39.11 266*d* iP **P** **07 13 10.4 +0.8**
DGAR pmax pmax
comp=Z,371nm,1.3s
KAAM Kaadhehdhoo 39.29 278 P **P** **07 13 12.4 +1.3**
JPG JALPAIGURI 39.38 326 *e*P **P** **07 13 07.1 -4.4**
XAN Xi'an 39.95 356 ⇑P **P** **07 13 16.6 +0.5**
XAN pP pP 07 15 02.1 +1.0
XAN PP **PcP** **07 15 05.6 +0.3**
XAN sP sP 07 16 12.0 +0.3
XAN S **S** **07 18 36.4 -1.9**
XAN sS sS 07 21 45.4 -5.6
XAN pmax pmax
comp=Z,220nm,0.6s
XAN pmax pmax
comp=Z,480nm,3.9s
XAN Xi'an 39.95 356 P **P** **07 13 17.0 +1.0**
XAN sP **sP** **07 16 12.6 +0.9**
GAYA Gaya 40.12 321 *e*P **P** **07 13 13.2 -4.3**
HYB Hyderabad 40.29 306 *e*P **P** **07 13 19.0 0.0**
HYB IVmB_BB 07 13 23.1
comp=Z,2µm,3.2s
HYB *e*pP **pP** **07 15 02.9 -1.3**
HYB *e*PP **PP** **07 15 09.3 +0.1**
HYB *e*sP **sP** **07 16 12.3 -2.5**
HYB *e*ScP **ScP** **07 17 59.3 +1.6**
HYB *e*S **S** **07 18 45.1 +1.6**
HYB *e*PcS **PcS** **07 18 59.0 +0.2**
HYB *e*SS **ScS** **07 22 12.2 -2.4**
BLSP Bilaspur 40.36 315 *e*P **P** **07 13 14.8 -4.6**
BLSP IAML 07 13 24.1
comp=Z,124nm,0.9s
LYN LuoYang 40.38 1 ⇑P **P** **07 13 20.0 +0.7**
LYN PP **PcP** **07 15 05.8 -0.8**
LYN PcP **PP** **07 15 10.8 +1.1**
LYN ScP **ScP** **07 17 59.3 +1.7**
LYN S **S** **07 18 47.3 +3.1**
LYN pmax pmax
comp=Z,210nm,1.2s
LYN pmax pmax
comp=Z,860nm,4.2s
CMSA Cobar Meteorol 40.59 133 P **P** **07 13 22.3 +1.2**
comp=Z,623nm,0.9s
CMSA Cobar Meteorol 40.59 133 P **P** **07 13 22.1 +1.0**
HMDM Hanimaadhoo 40.60 288 P **P** **07 13 22.0 +0.6**
HMDM Hanimaadhoo 40.60 288 P **P** **07 13 22.7 +1.2**
RMQ Roma 40.65 124 P **P** **07 13 23.4 +1.7**
comp=Z,76nm,1.6s
LSA Lhasa 40.70 332 P **P** **07 13 22.3 -0.3**
LSA pmax pmax
comp=Z,100nm,1.4s
LSA Lhasa 40.70 332 P **P** **07 13 24.1 +1.5**
LSA P **P** **07 13 24.1 +1.5**
LSA Lhasa 40.70 332 P **P** **07 13 24.2 +1.6**
LSA Lhasa 40.70 332 P **P** **07 13 24.1 +1.5**
ARPS Mount Arapiles 41.09 142 P **P** **07 13 25.8 +0.8**
comp=Z,136nm,0.9s
STMR SITAMARHI 41.52 323 *e*P **P** **07 13 24.4 -4.1**
GD1S Gladstone Soft 41.74 119 P **P** **07 13 31.0 +0.7**
NGP Nagpur 42.00 311 *e*P **P** **07 13 28.1 -4.3**
EIDS Eidsvold 42.17 121 P **P** **07 13 34.7 +1.1**
comp=Z,210nm,2.1s
EIDS Eidsvold 42.17 121 P **P** **07 13 34.1 +0.5**
EIDS IAmb IAmb 07 13 35.5
comp=Z,140nm,0.8s
EIDS Eidsvold 42.17 121 P **P** **07 13 34.6 +0.9**
TIA Tai'an 42.32 6 P **P** **07 13 34.1 -0.5**
TIA sP **sP** **07 16 31.0 -0.7**
TIA ScP **ScP** **07 18 04.0 -1.4**
TIA S **S** **07 19 10.8 -1.3**
TIA pmax pmax
comp=Z,92nm,0.8s
TIA pmax pmax
comp=Z,690nm,4.2s
LZDM Lanzhou Array 42.46 350 P **P** **07 13 37.3 +1.2**
comp=Z,48nm,0.6s,baz=182,slow=12,SNR=49
LZDM ScP **ScP** **07 18 07.0 +0.6**
comp=Z,3.1nm,0.3s,baz=131,slow=4.4,SNR=4.4
comp=Z,48nm,0.6s
LZH Lanzhou 42.57 350 ⇑P **P** **07 13 38.5 +1.8**
LZH sP sP 07 16 29.1 -4.7
LZH ScP **ScP** **07 18 08.1 +1.5**
LZH S **S** **07 19 13.3 -2.6**
LZH sS ScS 07 22 28.8 +0.4
LZH pmax pmax
comp=Z,310nm,1.3s
LZH pmax pmax
comp=Z,960nm,4.2s
ALBI Allahabad 42.69 318 *e*P **P** **07 13 33.4 -4.2**
ALBI IAML 07 13 42.5
comp=Z,354nm,0.8s
BRAT Ballarat 42.87 142 P **P** **07 13 41.2 +2.4**
JNU Nakatsue 42.95 24 P **P** **07 13 39.3 -0.2**
JNU IAmb IAmb 07 13 42.3
comp=Z,227nm,1.5s
JNU Nakatsue 42.95 24 P **P** **07 13 39.4 -0.2**
HRYA Harraiya (Bast 43.27 320 *e*P **P** **07 13 37.9 -4.2**
HNS HongShan 43.30 3 ⇑P **P** **07 13 42.3 +0.2**
HNS PcP **PcP** **07 15 17.8 +1.4**
HNS pP **pP** **07 15 33.0 +3.2**
HNS sP **sP** **07 16 41.8 +2.2**
HNS ScP **ScP** **07 18 10.5 +1.2**
HNS S **S** **07 19 20.1 -5.7**
HNS ScS **ScS** **07 22 33.0 +0.5**
HNS sS **sS** **07 22 35.5 -6.6**
HNS pmax pmax
comp=Z,59nm,1.3s
AKL Akola 43.30 309 *e*P **P** **07 13 38.2 -4.3**
AKL IAML 07 13 47.1
comp=Z,69nm,0.5s
TIY Taiyuan 43.53 1 *e*P **P** **07 13 44.4 +0.4**
TIY pP **PP** **07 15 37.1 -1.4**
TIY sP **sP** **07 16 42.4 +0.8**
TIY S **S** **07 19 27.9 -1.4**
TIY pmax pmax
comp=Z,32nm,0.7s
TIY pmax pmax
comp=Z,410nm,4.7s
JTU Tsushima 43.63 21 P **P** **07 13 45.7 +1.0**
TW1H Toowoomba 1 Ha 43.70 124 P **P** **07 13 47.6 +2.1**
BNDA BANDA 43.80 317 *e*P **P** **07 13 41.9 -4.3**
KAD Karad 43.82 303 *e*P **P** **07 13 42.0 -4.6**
KAD IAmb IAmb 07 13 50.9
comp=Z,75nm,0.8s
TOO Toolangi 43.86 141 P **P** **07 13 48.3 +1.8**
comp=Z,100nm,1.6s
TOO Toolangi 43.86 141 P **P** **07 13 48.0 +1.4**
TOO Toolangi 43.86 141 P **P** **07 13 48.0 +1.4**
TOO pmax pmax
comp=Z,114nm,1.2s
YNG Young 43.96 135 P **P** **07 13 48.4 +1.0**
comp=Z,194nm,1.4s
NRDN NARMADA NAGAR44.33 311 *e*P **P** **07 13 46.4 -4.0**
NRDN IAmb IAmb 07 13 55.1
comp=Z,169nm,0.7s
BRCI Bahraich 44.38 320 *e*P **P** **07 13 46.1 -4.5**
ARMA Armidale 44.56 128 P **P** **07 13 54.3 +2.2**
comp=Z,308nm,1.1s
ARMA Armidale 44.56 128 P **P** **07 13 53.9 +1.8**
ARMA IAmb IAmb 07 13 55.8
comp=Z,248nm,0.9s
ARMA Armidale 44.56 128 P **P** **07 13 54.1 +2.0**
TJN Taejon 44.64 18 P **P** **07 13 52.9 +0.5**
TJN IAmb IAmb 07 15 23.5
comp=Z,213nm,1.0s
TJN Taejon 44.64 18 P **P** **07 13 53.6 +1.2**
TJN Taejon 44.64 18*ce*P **P** **07 13 53.1 +0.7**
JMN Monobe 44.73 26 P **P** **07 13 53.4 +0.1**
CAN Canberra 44.92 136 P **P** **07 13 55.9 +1.2**
comp=Z,320nm,1.4s
CAN Canberra 44.92 136 P **P** **07 13 55.5 +0.8**
CAN Canberra 44.92 136 P **P** **07 13 55.8 +1.1**
CAN Canberra 44.92 136 P **P** **07 13 55.5 +0.8**
CAN pmax pmax
comp=Z,392nm,1.2s
GOMU GeErMu 44.94 340 P **P** **07 13 56.3 +1.1**
GOMU PP **PP** **07 15 54.9 +3.2**
GOMU S **S** **07 19 49.8 0.0**
GOMU SS **SS** **07 23 22.9 -1.4**
GOMU pmax pmax
comp=Z,43nm,1.3s
JHNI Jhansi 45.02 315 *e*P **P** **07 13 50.9 -4.7**
CNB Canberra Magne 45.17 135 P **P** **07 13 57.4 +0.7**
comp=Z,194nm,1.5s
CNB Canberra Magne 45.17 135 P **P** **07 13 57.6 +0.9**
GC1S Gold Coast 1 S 45.19 124 P **P** **07 13 58.0 +1.2**
SYDH Sydney Hard Ro 45.38 133 P **P** **07 14 00.1 +1.9**
MGCD Mangrove Creek 45.39 132 P **P** **07 14 00.2 +1.9**
comp=Z,121nm,0.7s
MGCD Mangrove Creek 45.39 132 P **P** **07 14 00.3 +2.0**

INCN	**Inchon**	**45.45**	**17**	P	**P**	**07 13 59.1 +0.5**
INCN	**Inchon**	**45.45**	**17**	P	**P**	**07 13 59.9 +1.3**
INCN				S	**S**	**07 19 55.2 -0.9**
INCN	**Inchon**	**45.45**	**17**	P	**P**	**07 14 00.3 +1.7**
INCN	**Inchon**	**45.45**	**17**	P	**P**	**07 13 59.1 +0.5**
INCN				pmax	pmax	
	comp=Z,108nm,1.2s					
DL2	**Dalian**	**45.63**	**11**	P	**P**	**07 13 59.8 -0.1**
DL2				PcP	**PcP**	**07 15 26.0 +1.4**
DL2				PP	**PP**	**07 15 54.8 -2.7**
DL2				sP	**sP**	**07 16 57.8 -1.0**
DL2				ScP	**ScP**	**07 18 18.4 -0.6**
DL2				S	**S**	**07 19 54.1 -4.4**
DL2				ScS	**ScS**	**07 22 50.3 +2.6**
DL2				pmax	pmax	
	comp=Z,72nm,1.4s					
DL2				pmax	pmax	
	comp=Z,630nm,8.6s					
RIV	**Riverview**	**45.72**	**133**	P	**P**	**07 14 02.6 +1.9**
	comp=Z,336nm,1.3s					
RIV	**Riverview**	**45.72**	**133**	P	**P**	**07 14 02.6 +1.9**
KSAR	**Wonju Array Be**	**45.78**	**18**	P	**P**	**07 14 01.5 +0.4**
KSAR	**Wonju Array Be**	**45.78**	**18**	P	**P**	**07 14 01.5 +0.4**
KSRS	**Korea Array**	**45.80**	**18**	P	**P**	**07 14 01.7 +0.5**
	comp=Z,47nm,0.9s,baz=203,slow=7.6,SNR=57					
KSRS				PcP	**PcP**	**07 15 26.7 +1.5**
	comp=Z,12nm,0.8s,baz=192,slow=3.4,SNR=9.3					
	comp=Z,47nm,0.9s					
KS19	**Wonju Array Si**	**45.83**	**18**	P	**P**	**07 14 02.0 +0.5**
BJT	**Baijiatuan**	**46.00**	**5**	P	**P**	**07 14 03.3 +0.6**
BJT	**Baijiatuan**	**46.00**	**5**	P	**P**	**07 14 03.0 +0.3**
BJT				PcP	**PcP**	**07 15 26.8 +0.9**
BJT				sP	**sP**	**07 17 00.8 -0.9**
BJI	**Beijing**	**46.02**	**5**	P	**P**	**07 14 03.3 +0.4**
BJI				PcP	**PcP**	**07 15 27.3 +1.4**
BJI				pP	**pP**	**07 15 56.6 +3.9**
BJI				sP	**sP**	**07 17 03.1 +1.3**
BJI				S	**S**	**07 20 02.8 -1.1**
BJI				ScS	**ScS**	**07 22 50.9 +0.7**
BJI				pmax	pmax	
	comp=Z,52nm,1.2s					
BTO	**Baotou**	**46.44**	**358**	*e*P	**P**	**07 14 07.9 +1.7**
BTO				sP	**sP**	**07 17 10.4 +5.0**
BTO				S	**S**	**07 20 13.9 +3.9**
BTO				pmax	pmax	
	comp=Z,180nm,1.3s					
BTO				pmax	pmax	
	comp=Z,630nm,4.1s					
AGRA	**Agra**	**46.55**	**317**	*e*P	**P**	**07 14 02.6 -4.5**
GTA	**Gaotai**	**46.56**	**347**	P	**P**	**07 14 09.4 +2.3**
GTA				PcP	**PcP**	**07 15 30.1 +2.0**
GTA				pP	PP	07 16 02.0 -4.1
GTA				sP	sP	07 17 09.3 +2.9
GTA				ScP	**ScP**	**07 18 25.3 +2.2**
GTA				S	**S**	**07 20 14.0 +2.2**
GTA				ScS	**ScS**	**07 22 52.8 -1.4**
GTA				sS	sS	07 23 29.8 -1.8
GTA				SS	**SS**	**07 23 55.6 +6.1**
GTA				pmax	pmax	
	comp=Z,56nm,1.4s					
GTA				pmax	pmax	
	comp=Z,690nm,5.0s					
PTH	**Pithoragarh**	**46.62**	**321**	*e*P	**P**	**07 14 03.6 -4.2**
HHC	**Hu-ho-hao-te**	**46.66**	**360**	*e*P	**P**	**07 14 08.8 +1.0**
HHC				pP	pP	07 15 58.3 +0.2
HHC				PP	**PP**	**07 16 11.1 +4.2**
HHC				sP	sP	07 17 02.8 -4.3
HHC				S	**S**	**07 20 13.4 +0.4**
HHC				sS	sS	07 23 29.5 -3.4
HHC				pmax	pmax	
	comp=Z,50nm,1.2s					
HHC				pmax	pmax	
	comp=Z,320nm,4.3s					
TKRD	**Thakurdwara**	**47.21**	**320**	*e*P	**P**	**07 14 08.0 -4.0**
CORO	**Coronation Par**	**47.25**	**144**	P	**P**	**07 14 14.0 +2.0**
INU	**Inuyama**	**47.51**	**28**	P	**P**	**07 14 14.7 +0.6**
INU	**Inuyama**	**47.51**	**28**	P	**P**	**07 14 12.9 -1.2**
INU				PcP	**PcP**	**07 15 29.8 -1.7**
TATA	**Tatamba Isabel**	**47.64**	**96**	P	**P**	**07 14 15.5 0.0**
SAVO	**Savo Central**	**47.65**	**97**	P	**P**	**07 14 15.8 +0.2**
ASOR	**Ausora**	**47.66**	**318**	*e*P	**P**	**07 14 11.1 -4.2**
ASOR				IAML		07 14 18.8
	comp=Z,797nm,0.7s					
JOSI	**Joshimath**	**47.73**	**322**	*e*P	**P**	**07 14 11.8 -4.3**
JOSI				IAmb	IAmb	07 14 20.7
	comp=Z,151nm,0.6s					
HNR	**Honiara**	**47.78**	**97**	P	**P**	**07 14 18.9 +2.4**
	comp=Z,456nm,1.1s,baz=214,slow=7.5,SNR=3.8					
	comp=Z,456nm,1.1s					
JMIU	**JAMIA UNIVERSI**	**47.86**	**318**	*e*P	**P**	**07 14 12.6 -4.2**
JGF	**Kuroka**	**47.88**	**28**	P	**P**	**07 14 16.4 -0.5**
JGF	**Kuroka**	**47.88**	**28**	P	**P**	**07 14 16.4 -0.5**
MOO	**Moorlands**	**47.89**	**145**	P	**P**	**07 14 18.1 +1.2**
MOO	**Moorlands**	**47.89**	**145**	P	**P**	**07 14 18.4 +1.6**
AYAN	**Aya Nagar**	**47.91**	**318**	*e*P	**P**	**07 14 13.0 -4.2**
LDR	**Lodi Road**	**47.92**	**318**	*e*P	**P**	**07 14 13.1 -4.2**
NGOA	**Tingoa Renbel**	**47.94**	**100**	P	**P**	**07 14 17.8 +0.1**
NDI	**New Delhi**	**47.98**	**318**	*e*P	**P**	**07 14 13.8 -4.0**
NDI				IAmb	IAmb	07 14 20.7
	comp=Z,230nm,0.7s					
NPLP	**NPLP New Delhi**	**47.98**	**318**	*e*P	**P**	**07 14 13.3 -4.4**
NPLP				IAmb	IAmb	07 14 20.7
	comp=Z,173nm,0.9s					
KUDL	**Kundal**	**48.13**	**317**	*e*P	**P**	**07 14 14.8 -4.0**
KUDL				IAmb	IAmb	07 14 20.8
	comp=Z,131nm,0.8s					
NRLA	**Narela**	**48.13**	**318**	*e*P	**P**	**07 14 15.8 -3.0**
BHGR	**Bahadurgarh**	**48.17**	**318**	*e*P	P	07 14 14.2 -4.9
TAU	**Tasmania Unive**	**48.26**	**145**	P	**P**	**07 14 20.7 +1.1**
TAU	**Tasmania Unive**	**48.26**	**145**	P	**P**	**07 14 21.0 +1.4**
TAU	**Tasmania Unive**	**48.26**	**145**	P	**P**	**07 14 20.7 +1.1**
TAU				pmax	pmax	
	comp=Z,98nm,1.0s					
JHJR	**Jhajjar**	**48.32**	**317**	*e*P	**P**	**07 14 15.5 -4.8**
AJM	**Ajmer**	**48.40**	**314**	*e*P	**P**	**07 14 16.6 -4.4**
AJM				IAML		07 14 24.7
	comp=Z,94nm,0.8s					
GNR	**GANAUR**	**48.41**	**318**	*e*P	**P**	**07 14 16.6 -4.2**
GNR				IAML		07 14 24.4
	comp=Z,449nm,0.5s					
ALEG	**Aligegeo Malai**	**48.52**	**96**	P	**P**	**07 14 20.9 -1.1**
RTK	**Rohtak**	**48.74**	**318**	*e*P	**P**	**07 14 19.2 -4.1**
SNY	**Shenyang**	**48.83**	**12**	⇑P	**P**	**07 14 23.3 -0.4**
SNY				pP	**pP**	**07 16 16.0 +0.2**
SNY				PP	**PP**	**07 16 25.3 -0.9**
SNY				sP	**sP**	**07 17 21.8 -2.3**
SNY				S	**S**	**07 20 38.1 -4.3**
SNY				ScS	**ScS**	**07 23 09.9 +0.8**
SNY				pmax	pmax	
	comp=Z,63nm,1.1s					
SNY				pmax	pmax	
	comp=Z,460nm,3.5s					
ROCAM	**Rodrigues Isla**	**48.97**	**249**	P	**P**	**07 14 26.7 +1.5**
MAJO	**Matsushiro**	**49.04**	**28**	P	**P**	**07 14 24.4 -1.0**
MAJO	**Matsushiro**	**49.04**	**28**	P	**P**	**07 14 25.3 -0.1**
MAJO	**Matsushiro**	**49.04**	**28**	*c iP*	**P**	**07 14 24.0 -1.4**
MAJO				pmax	pmax	
	comp=Z,132nm,1.1s					
MAJO	**Matsushiro**	**49.04**	**28**	P	**P**	**07 14 24.0 -1.4**
MAJO				PcP	**PcP**	**07 15 37.9 +0.8**
MAJO				pP	**pP**	**07 16 16.9 -0.6**
MAJO				sP	**sP**	**07 17 23.4 -2.5**
MJAR	**Matsushiro Arr**	**49.04**	**28**	P	**P**	**07 14 25.0 -0.4**
MJAR	**Matsushiro Arr**	**49.04**	**28**	P	**P**	**07 14 24.6 -0.8**
	comp=Z,65nm,0.9s,baz=203,slow=7.6,SNR=70					
MJAR				PcP	**PcP**	**07 15 37.8 +0.7**
	comp=Z,26nm,0.9s,baz=194,slow=4.9,SNR=6.7					
	comp=Z,65nm,0.9s					
MJAR	**Matsushiro Arr**	**49.04**	**28**	P	**P**	**07 14 25.0 -0.4**
MJAR				pmax	pmax	
	comp=Z,104nm,1.0s					
MJB9	**Matsu-Tunnel**	**49.04**	**28**	P	**P**	**07 14 25.1 -0.4**
KKR	**Kurukshetra**	**49.08**	**319**	*e*P	**P**	**07 14 21.2 -4.5**
KLP	**Kalpa**	**49.22**	**321**	*e*P	**P**	**07 14 22.7 -4.5**
CGRH	**CHANDIGARH**	**49.61**	**320**	*e*P	**P**	**07 14 25.2 -4.5**
HNLY	**HANLEY**	**49.64**	**323**	*e*P	**P**	**07 14 26.2 -4.3**
HURO	**Huro Makira**	**49.72**	**99**	P	**P**	**07 14 32.7 +1.9**
XLT	**XiLinHaoTe**	**49.85**	**4**	*e*P	**P**	**07 14 32.3 +1.0**
XLT				pP	pP	07 16 25.3 +1.2
XLT				sP	sP	07 17 31.8 -0.4
XLT				S	**S**	**07 20 53.1 -3.3**
XLT				sS	sS	07 24 23.3 +3.4
XLT				pmax	pmax	
	comp=Z,80nm,1.7s					
JSD	**Sado**	**50.28**	**27**	P	**P**	**07 14 34.2 -0.2**
BHK	**Bhakra**	**50.29**	**320**	*e*P	P	07 14 28.0 -6.7
BHK				IAML		07 14 39.1
	comp=Z,117nm,0.7s					
LHI	**Lord Howe Isla**	**50.88**	**126**	P	**P**	**07 14 39.3 +0.4**
	comp=Z,94nm,0.8s					
LHI	**Lord Howe Isla**	**50.88**	**126**	P	**P**	**07 14 40.0 +1.1**
TLWR	**Talawar**	**50.94**	**320**	*e*P	**P**	**07 14 35.3 -4.1**
CN2	**Changchun**	**51.12**	**13**	P	**P**	**07 14 38.5 -1.8**
CN2				PP	**PP**	**07 16 46.3 -0.2**
CN2				ScP	**ScP**	**07 18 41.9 -0.4**
CN2				PcS	**PcS**	**07 19 39.8 -3.6**
CN2				S	**S**	**07 21 08.5 -4.6**
CN2				pmax	pmax	
	comp=Z,50nm,1.0s					
CN2				pmax	pmax	
	comp=Z,340nm,3.5s					
JMM	**Marumori**	**51.34**	**29**	P	**P**	**07 14 42.1 +0.1**
JMM				IAmb	IAmb	07 14 45.2
	comp=Z,459nm,1.6s					
JMM	**Marumori**	**51.34**	**29**	P	**P**	**07 14 42.3 +0.3**
JASL	**Jaisalmer**	**51.40**	**312**	*e*P	**P**	**07 14 38.4 -4.3**
JASL				IAmb	IAmb	07 14 45.2
	comp=Z,144nm,0.8s					
PSTR	**Posyet**	**51.45**	**18**	*c iP*	**P**	**07 14 44.2 +1.5**
MSHR	**Mys Shultsa**	**51.49**	**18**	*d iP*	**P**	**07 14 44.2 +1.2**
MSHR				pmax	pmax	
	comp=Z,68nm,1.4s					
ALCI	**Alchi Leh**	**51.71**	**323**	*e*P	P	07 14 40.4 -4.9
JMU	**Jammu**	**52.12**	**320**	*e*P	**P**	**07 14 43.9 -3.8**
VLA	**Vladivostok**	**52.21**	**19**	*ce*P	**P**	**07 14 49.5 +1.4**
VLA				pmax	pmax	
	comp=Z,97nm,1.1s					
KOUNC	**Koumac, New Ca**	**52.83**	**111**	P	**P**	**07 14 54.6 +1.6**
MDJ	**Mudanjiang**	**52.90**	**16**	P	**P**	**07 14 53.9 +0.9**
MDJ				PP	**PP**	**07 17 04.3 +2.0**
MDJ				S	**S**	**07 21 36.3 -0.4**
MDJ				pmax	pmax	
	comp=Z,70nm,1.0s					
MDJ	**Mudanjiang**	**52.90**	**16**	P	**P**	**07 14 54.3 +1.3**
SRNI	**Srinagar**	**53.05**	**321**	*e*P	**P**	**07 14 50.4 -3.9**
USRK	**Ussuriysk Ar.**	**53.21**	**18**	P	**P**	**07 14 55.2 -0.1**
	comp=Z,74nm,0.7s,baz=196,slow=5.0,SNR=78					
	comp=Z,74nm,0.7s					
BNX	**BinXian**	**53.40**	**14**	⇑P	**P**	**07 14 56.3 -0.2**
BNX				PP	**PP**	**07 17 06.4 -0.3**
BNX				sP	**sP**	**07 17 57.8 -1.3**
BNX				S	**S**	**07 21 40.8 -2.4**
BNX				pmax	pmax	
	comp=Z,140nm,0.8s					
BNX				pmax	pmax	
	comp=Z,230nm,5.4s					
NIL	**Nilore**	**53.77**	**320**	P	**P**	**07 14 58.5 -1.0**
NIL				IAmb	IAmb	07 15 03.0
	comp=Z,201nm,0.8s					
NIL	**Nilore**	**53.77**	**320**	P	**P**	**07 14 58.9 -0.5**
NIL	**Nilore**	**53.77**	**320**	P	**P**	**07 14 58.5 -1.0**
NIL				pmax	pmax	
	comp=Z,201nm,0.9s					
JTM	**Tenmabayashi**	**53.78**	**27**	P	**P**	**07 14 59.1 -0.2**
ULN	**Ulaanbaatar**	**53.84**	**356**	P	**P**	**07 15 00.4 +0.6**
ULN	**Ulaanbaatar**	**53.84**	**356**	P	**P**	**07 15 00.9 +1.1**
ULN				S	**S**	**07 21 48.5 -0.8**
ULN	**Ulaanbaatar**	**53.84**	**356**	*c iP*	**P**	**07 15 00.9 +1.1**
ULN				pmax	pmax	
	comp=Z,102nm,0.8s					
ULN	**Ulaanbaatar**	**53.84**	**356**	P	**P**	**07 15 00.9 +1.1**
ULN				PcP	**PcP**	**07 15 55.1 -0.1**
ULN				pP	**pP**	**07 16 57.5 +2.2**
ULN				sP	**sP**	**07 18 03.3 +0.6**
SONM	**Songino Array**	**53.85**	**355**	P	**P**	**07 15 00.6 +0.7**
	comp=Z,76nm,0.7s,baz=175,slow=8.8,SNR=198					
SONM				PcP	**PcP**	**07 15 55.7 +0.5**
	comp=Z,35nm,0.7s,baz=189,slow=3.8,SNR=9.5					
SONM				ScP	**ScP**	**07 18 54.6 +0.2**
	comp=Z,18nm,0.8s,baz=167,slow=6.2,SNR=4.8					
	comp=Z,76nm,0.7s					
WMQ	**Urumqi**	**54.20**	**339**	⇓P	**P**	**07 15 03.4 +1.1**
WMQ				PcP	**PcP**	**07 15 57.3 +0.7**
WMQ				pP	pP	07 17 02.3 +4.2
WMQ				sP	sP	07 18 01.4 -3.9
WMQ				ScP	**ScP**	**07 18 59.9 +4.0**
WMQ				S	**S**	**07 21 53.3 -0.7**
WMQ				pmax	pmax	
	comp=Z,57nm,1.1s					
WMQ				pmax	pmax	
	comp=Z,830nm,4.7s					
DZM	**Mont Dzumac**	**55.03**	**113**	*e*P	**P**	**07 15 07.6 -1.0**
	comp=Z,294nm,1.2s					
DZM				*e*pP	**pP**	**07 17 01.9 -2.5**
	comp=Z,104nm,1.4s					
DZM				*e*S	**S**	**07 21 57.2 -8.4**
	comp=Z,1μm,23.3s					
DZM				*e*SS	**SS**	**07 26 02.7 -0.5**
	comp=Z,3μm,27.1s					
DZM				*e*LQ	LQ	07 29 02.6
	comp=Z,3μm,27.4s					
DZM				*e*LR	LR	07 32 03.5
	comp=Z,1μm,23.7s					
DZM	**Mont Dzumac**	**55.03**	**113**	P	**P**	**07 15 08.8 +0.3**
DZM	**Mont Dzumac**	**55.03**	**113**	P	**P**	**07 15 09.6 +1.1**
DZM	**Mont Dzumac**	**55.03**	**113**	P	**P**	**07 15 09.7 +1.1**
ONTNC	**Ouen Toro**	**55.08**	**113**	P	**P**	**07 15 09.5 +0.8**
ONTNC				IAmb	IAmb	07 15 11.1
	comp=Z,274nm,1.2s					
ONTNC	**Ouen Toro**	**55.08**	**113**	P	**P**	**07 15 09.9 +1.2**
SANVU	**Saraoutou**	**55.08**	**105**	P	**P**	**07 15 09.1 +0.3**
SANVU	**Saraoutou**	**55.08**	**105**	P	**P**	**07 15 09.6 +0.8**
YATNC	**Mamie plateau,**	**55.44**	**113**	P	**P**	**07 15 13.2 +1.9**
OUENC	**Ouen Island, N**	**55.45**	**113**	P	**P**	**07 15 13.0 +1.7**
TEY	**Ternei**	**55.49**	**21**	*e*P	**P**	**07 15 11.2 +0.1**
TEY				*e*		07 22 06.9
TEY				pmax	pmax	
	comp=N,200nm,8.3s					
TEY				pmax	pmax	
	comp=E,200nm,8.3s					
TEY				pmax	pmax	
	comp=Z,200nm,8.3s					
HIA	**Hailar**	**55.51**	**6**	P	**P**	**07 15 12.5 +1.3**
PINNC	**Pines Island,**	**56.03**	**113**	P	**P**	**07 15 15.4 +0.1**
PINNC				IAmb	IAmb	07 15 18.1
	comp=Z,287nm,1.3s					
PINNC	**Pines Island,**	**56.03**	**113**	P	**P**	**07 15 16.7 +1.4**
MSEY	**Mahe Island**	**56.09**	**268**	P	**P**	**07 15 15.6 -0.3**
MSEY				P	**P**	**07 15 15.6 -0.3**
MSEY				S	**S**	**07 22 18.7 -0.7**
MSEY				S	**S**	**07 22 18.7 -0.7**
MSEY	**Mahe Island**	**56.09**	**268**	P	**P**	**07 15 16.4 +0.5**
KSH	**Kashi**	**56.13**	**327**	P	**P**	**07 15 15.6 -0.2**
KSH				pP	pP	07 17 10.9 -1.9
KSH				sP	sP	07 18 20.9 +1.3
KSH				S	**S**	**07 22 14.5 -4.6**
KSH				sS	sS	07 25 41.9 -7.3
KSH				pmax	pmax	
	comp=Z,180nm,0.8s					
KSH				pmax	pmax	
	comp=Z,690nm,8.0s					
DVP	**Devils Point**	**56.18**	**107**	P	**P**	**07 15 17.8 +1.4**
ZAK	**Zakamensk**	**56.68**	**353**	*e*P	**P**	**07 15 18.7 -0.6**
ZAK				pmax	pmax	
	comp=Z,81nm,1.5s					
TARG	**Taragay, Kyrgy**	**56.79**	**330**	P	**P**	**07 15 21.2 +0.6**
TARG	**Taragay, Kyrgy**	**56.79**	**330**	P	**P**	**07 15 21.2 +0.6**
TARG				pmax	pmax	
	comp=Z,72nm,0.8s					
KBU	**Kabul Universi**	**56.99**	**318**	P	**P**	**07 15 20.3 -1.6**
SHLS	**Shalkode**	**57.07**	**332**	*e*P	**P**	**07 15 21.7 -0.5**
	comp=Z,82nm,0.5s					
SHLS				*e*S	**S**	**07 22 30.7 -0.5**
SHLS	**Shalkode**	**57.07**	**332**	*e*P	**P**	**07 15 21.7 -0.5**
SHLS				*e*S	**S**	**07 22 30.6 -0.5**
SHLS				pmax	pmax	
	comp=Z,82nm,0.5s					
UZB	**Uzynbulak**	**57.27**	**332**	*j iP*	**P**	**07 15 24.3 +0.8**
UZB	**Uzynbulak**	**57.27**	**332**	*d iP*	**P**	**07 15 24.3 +0.8**
SATY	**Saty**	**57.50**	**331**	*j iP*	**P**	**07 15 25.7 +0.7**
SATY	**Saty**	**57.50**	**331**	*d iP*	**P**	**07 15 25.7 +0.7**
HEH	**HeiHe**	**57.67**	**12**	*e*P	**P**	**07 15 25.8 -0.1**
HEH				pP	**pP**	**07 17 25.0 +1.0**
HEH				S	**S**	**07 22 36.9 -1.2**
HEH				pmax	pmax	
	comp=Z,140nm,1.3s					
HEH				pmax	pmax	
	comp=Z,670nm,6.0s					
CIT	**Chita**	**57.85**	**1**	*e*P	**P**	**07 15 29.0 +1.9**
CIT				*e*		07 16 08.8
CIT				pmax	pmax	
	comp=Z,255nm,1.8s					
ULHL	**Ulahol**	**57.95**	**329**	P	**P**	**07 15 28.8 +0.6**
	SNR=46					
TNSS	**Tian-Shan**	**58.18**	**330**	*e*P	**P**	**07 15 30.5 +0.5**
TNSS	**Tian-Shan**	**58.18**	**330**	*e*P	**P**	**07 15 30.5 +0.5**
MOY	**Mondy**	**58.22**	**352**	*e*P	**P**	**07 15 30.8 +1.1**
MOY				pmax	pmax	
	comp=Z,197nm,1.8s					
MDOK	**Medeo**	**58.23**	**331**	*e*P	**P**	**07 15 30.6 +0.6**
MDOK				*e*S	**S**	**07 22 47.9 +2.1**
MDOK	**Medeo**	**58.23**	**331**	*e*P	**P**	**07 15 30.6 +0.6**
MDOK				*e*S	**S**	**07 22 47.9 +2.1**
BOOM	**Boomskoye usch**	**58.28**	**329**	P	**P**	**07 15 30.7 +0.3**
BOOM	**Boomskoye usch**	**58.28**	**329**	P	**P**	**07 15 30.7 +0.3**
BOOM				pmax	pmax	
	comp=Z,172nm,0.9s					
NGCH	**Negor - Chabah**	**58.29**	**305**	P	**P**	**07 15 30.8 +0.2**
NGCH				S	**S**	**07 22 45.4 -1.5**
AAA	**Alma-Ata**	**58.33**	**331**	*e*P	**P**	**07 15 31.1 +0.6**
AAA	**Alma-Ata**	**58.33**	**331**	*e*P	**P**	**07 15 31.1 +0.6**
ZSN	**Zaisan**	**58.34**	**339**	*e*P	**P**	**07 15 31.2 +0.8**
ZSN	**Zaisan**	**58.34**	**339**	*e*P	**P**	**07 15 31.2 +0.8**
IRK	**Irkutsk**	**58.41**	**355**	*e*P	**P**	**07 15 31.7 +0.9**
IRK				*e*		07 17 32.2
IRK				*e*		07 22 46.1
IRK				pmax	pmax	
	comp=Z,185nm,1.8s					
JLN	**Jalan Bani Buh**	**58.45**	**300**	P	**P**	**07 15 31.3 -0.4**
	SNR=16					
JLN				S	**S**	**07 22 48.7 -0.3**
YUK	**Yuzh-Kuril'sk**	**58.53**	**28**	*d*P	**P**	**07 15 35.4 +3.6**
ARXS	**Arharly**	**58.65**	**332**	*e*P	**P**	**07 15 32.6 -0.1**
MK31	**Makanchi Array**	**58.76**	**337**	*d iP*	**P**	**07 15 33.5 +0.2**
MKAR	**Makanchi Array**	**58.76**	**337**	P	**P**	**07 15 33.3 0.0**
MKAR	**Makanchi Array**	**58.76**	**337**	P	**P**	**07 15 33.7 +0.4**
	comp=Z,59nm,0.4s,baz=149,slow=7.2,SNR=306					
MKAR				PcP	**PcP**	**07 16 14.9 +0.4**
	comp=Z,3.2nm,0.3s,baz=131,slow=5.3,SNR=4.6					
MKAR				pP	**pP**	**07 17 33.0 +0.9**
	comp=Z,25nm,1.0s,baz=143,slow=7.0,SNR=2.9					
MKAR				S	**S**	**07 22 51.2 -0.9**
	comp=Z,3.0nm,0.9s,baz=148,slow=11,SNR=1.4					
	comp=Z,59nm,0.4s					
TKM2	**Tokmak 2**	**58.77**	**329**	P	**P**	**07 15 34.3 +0.6**
	SNR=91					
UCH	**Uchtor**	**58.83**	**328**	P	**P**	**07 15 35.2 +0.8**
	SNR=29					
KBK	**Karagaybulak**	**58.91**	**329**	P	**P**	**07 15 35.8 +1.2**
	SNR=84					
TDK	**Taldyqorghan**	**58.98**	**333**	*e*P	**P**	**07 15 35.4 +0.6**
	comp=Z,276nm,0.8s					
TDK	**Taldyqorghan**	**58.98**	**333**	*e*P	**P**	**07 15 35.4 +0.6**
TDK				pmax	pmax	
	comp=Z,276nm,0.8s					
GAR	**Garm**	**59.01**	**323**	P	**P**	**07 15 35.3 +0.1**
GAR				IAmb	IAmb	07 15 40.2
	comp=Z,213nm,0.8s					
ARSB	**Arslanbob**	**59.02**	**327**	P	**P**	**07 15 35.5 +0.2**
ARSB				IAmb	IAmb	07 15 40.4
	comp=Z,548nm,1.4s					
ARSB	**Arslanbob**	**59.02**	**327**	P	**P**	**07 15 35.5 +0.2**
ARSB				pmax	pmax	
	comp=Z,548nm,1.4s					
KUU	**Kurty**	**59.12**	**331**	*e*P	**P**	**07 15 36.4 +0.7**
	comp=Z,191nm,0.8s					
KUU	**Kurty**	**59.12**	**331**	*e*P	**P**	**07 15 36.4 +0.7**
KUU				pmax	pmax	
	comp=Z,191nm,0.8s					
AAK	**Ala-Archa**	**59.13**	**329**	P	**P**	**07 15 37.0 +1.0**
	SNR=43					
AAK	**Ala-Archa**	**59.13**	**329**	P	**P**	**07 15 36.7 +0.6**
AAK	**Ala-Archa**	**59.13**	**329**	P	**P**	**07 15 37.0 +1.0**
	comp=Z,77nm,0.7s,baz=151,slow=4.8,SNR=63					
	comp=Z,77nm,0.7s					
AAK	**Ala-Archa**	**59.13**	**329**	P	**P**	**07 15 36.8 +0.8**
AAK				P	**P**	**07 15 36.8 +0.8**
AAK				S	**S**	**07 22 56.7 -0.5**
AAK				S	**S**	**07 22 56.7 -0.5**
AAK	**Ala-Archa**	**59.13**	**329**	*i* P	**P**	**07 15 37.1 +1.0**
	SNR=56					
AAK	**Ala-Archa**	**59.13**	**329**	*d iP*	**P**	**07 15 36.8 +0.8**
AAK				pmax	pmax	
	comp=Z,159nm,0.9s					
FRU1	**Bishkek**	**59.18**	**329**	P	**P**	**07 15 36.9 +0.6**
FRU1	**Bishkek**	**59.18**	**329**	P	**P**	**07 15 36.9 +0.6**
FRU1				pmax	pmax	
	comp=Z,80nm,0.7s					
CHMS	**Chumysh**	**59.26**	**329**	P	**P**	**07 15 39.6 +2.9**
	SNR=6.9					
MHTO	**MHTO**	**59.27**	**299**	P	**P**	**07 15 36.6 -0.5**
	SNR=50					
DQM	**DQM**	**59.28**	**297**	P	**P**	**07 15 37.3 +0.1**
	SNR=18					
DQM				P	**P**	**07 15 37.3 +0.1**
	SNR=18					
H11S3	**WAKE ISLAND Hy**	**59.33**	**64**	P	**P**	**07 15 37.5 +0.1**
	baz=235,slow=6.2,SNR=3.2					
H11S2	**WAKE ISLAND Hy**	**59.34**	**64**	P	**P**	**07 15 37.8 +0.3**
	baz=235,slow=6.2,SNR=5.1					
H11S1	**WAKE ISLAND Hy**	**59.34**	**64**	P	**P**	**07 15 37.7 +0.2**
	baz=235,slow=6.2,SNR=4.2					
YSS	**Yuzhno-Sakhali**	**59.45**	**24**	P	**P**	**07 15 37.9 0.0**
YSS	**Yuzhno-Sakhali**	**59.45**	**24**	P	**P**	**07 15 39.4 +1.6**
YSS	**Yuzhno-Sakhali**	**59.45**	**24**	*ce*P	**P**	**07 15 37.9 0.0**
YSS				*e*		07 16 12.6
YSS				*e**PP	**pP**	**07 17 37.2 +0.2**
YSS				*e*		07 17 59.4
YSS				*e**SP	**sP**	**07 18 41.4 -1.8**
YSS				*e*S	**S**	**07 22 59.2 -1.4**
YSS				*e*		07 23 14.8
YSS				*e*SS	**SS**	**07 27 07.3 -4.0**
YSS				pmax	pmax	
	comp=Z,300nm,2.1s					
YSS				pmax	pmax	
	comp=Z,130nm,1.3s					
YSS				smax	smax	
	comp=N,2μm,13.3s					
YSS				smax	smax

SHAO	Shalim		60.37	295	*i*	P		P	07 15 44.0	-0.4
	SNR=14									
KUR	Kuril'sk		60.38	29	*d*	iP		P	07 15 46.1	+2.1
KUR							pmax	pmax		
	comp=Z,383nm,1.1s									
GRNR	Gornyy		60.43	18	⇓	*i* P		P	07 15 45.8	+1.5
GRNR							pmax	pmax		
	comp=Z,10.0nm,0.9s									
BSY	Bisya		60.56	300		P		P	07 15 45.7	0.0
	SNR=18									
BSY							S	S	07 23 13.8	-1.6
HOQ	Hoqain		60.78	301		P		P	07 15 47.2	+0.1
	SNR=29									
HOQ							P	P	07 15 47.2	+0.1
	SNR=29									
HOQ							S	S	07 23 16.6	-1.4
HOQ							S	S	07 23 16.6	-1.4
DMTO	DMTO		60.89	294		P		P	07 15 48.0	+0.1
	SNR=33									
DMTO							P	P	07 15 48.0	+0.1
	SNR=33									
DMTO							S	S	07 23 18.0	-1.5
DMTO							S	S	07 23 18.0	-1.5
UGL	Uglegorsk		60.91	22		*e*P		P	07 15 53.6	+6.2
UGL						*e*S		S	07 23 17.6	-1.0
UGL							smax	smax		
	comp=E,5μm,9.6s									
UGL							smax	smax		
	comp=N,4μm,6.9s									
ZEA	Zeya		60.96	10		*e*P		P	07 15 48.7	+1.1
ZEA						*e*			07 16 25.7	
ZEA						*e*PP		pP	07 17 48.6	+0.9
ZEA						*e*SP		sP	07 18 53.4	-0.2
ZEA						*e*			07 20 00.8	
ZEA						*e*S		S	07 23 19.5	+0.5
ZEA						*e*			07 24 39.6	
ZEA							pmax	pmax		
	comp=N,100nm,2.0s									
ZEA							pmax	pmax		
	comp=Z,300nm,2.0s									
ZEA							pmax	pmax		
	comp=E,30nm,1.7s									
ZEA							pmax	pmax		
	comp=N,30nm,1.1s									
ZEA							pmax	pmax		
	comp=Z,70nm,1.3s									
ZEA							smax	smax		
	comp=E,300nm,7.1s									
ZEA							smax	smax		
	comp=N,2μm,8.8s									
DZA	Taraz		60.99	327		*e*P		P	07 15 48.1	0.0
DZA	Taraz		60.99	327		*e*P		P	07 15 48.1	0.0
BTLS	Baital		61.08	330	⇓	*i* P		P	07 15 48.3	-0.3
BTLS	Baital		61.08	330	*d*	*i* P		P	07 15 48.3	-0.3
IUG	Iuzhnay		61.21	326	⇓	*i* P		P	07 15 50.4	+0.7
	comp=N,256nm,1.2s									
IUG	Iuzhnay		61.21	326	*d*	*i* P		P	07 15 50.3	+0.7
IUG							pmax	pmax		
	comp=Z,256nm,1.2s									
SBV	Sambava		61.32	258		P		P	07 15 51.2	+0.5
	SNR=5.6									
ARQ	Araqi		61.36	301		P		P	07 15 50.5	-0.4
	SNR=17									
ARQ							P	P	07 15 50.5	-0.4
	SNR=17									
TARA	Tarawa		61.45	85		P		P	07 15 51.6	0.0
TARA	Tarawa		61.45	85		P		P	07 15 54.1	+2.5
RBK	Rabkut		61.50	294		P		P	07 15 51.6	-0.3
	SNR=13									
RBK							P	P	07 15 51.6	-0.3
	SNR=13									
RBK							S	S	07 23 25.0	-2.1
RBK							S	S	07 23 25.0	-2.1
RBK							S	S	07 23 25.2	-1.9
RBK							S	S	07 23 25.2	-1.9
CHM	Chimkent		61.56	325		*e*P		P	07 15 52.6	+0.8
	comp=Z,122nm,0.6s									
CHM	Chimkent		61.56	325		*e*P		P	07 15 52.6	+0.8
CHM							pmax	pmax		
	comp=Z,121nm,0.6s									
KK31	Karatay Array		61.57	327		P		P	07 15 51.6	-0.2
KK31	Karatay Array		61.57	327		*e*P		P	07 15 51.7	-0.2
KKAR	Karatay Array		61.57	327		P		P	07 15 51.5	-0.4
KKAR	Karatay Array		61.57	327		P		P	07 15 51.5	-0.4
SOHO	SOHO		61.64	301		P		P	07 15 52.3	-0.4
SOHO						P		P	07 15 52.3	-0.4
SOHO						S		S	07 23 27.3	-1.2
SOHO						S		S	07 23 27.3	-1.2
SOHO	SOHO		61.64	301	*i*	P		P	07 15 52.2	-0.4
	SNR=25									
DCZ	Deep Cove		61.81	139		P		P	07 15 54.2	+0.8
DCZ	Deep Cove		61.81	139		P		P	07 15 54.5	+1.1
BRLS	Borolday		61.90	326		*e*P		P	07 15 53.8	-0.3
BRLS	Borolday		61.90	326		*e*P		P	07 15 53.7	-0.3
DOK	Doka		61.90	295		P		P	07 15 53.9	-0.5
	SNR=19									
DOK							S	S	07 23 28.3	-3.6
WHFO	Wadi Hawf		62.02	294		P		P	07 15 54.7	-0.6
	SNR=71									
WHFO							P	P	07 15 54.7	-0.6
	SNR=71									
WHFO							S	S	07 23 29.5	-3.9
WHFO							S	S	07 23 29.5	-3.9
MSZ	Milford Sound		62.04	138		P		P	07 15 56.1	+1.3
UOSS	Minazif		62.22	302		P		P	07 15 56.1	-0.3
UOSS	Minazif		62.22	302		P		P	07 15 55.9	-0.6
UOSS						S		S	07 23 32.4	-3.2
UOSS	Minazif		62.22	302	*i*	P		P	07 15 55.6	-0.8
	SNR=16									
UOSS	Minazif		62.22	302		P		P	07 15 55.8	-0.6
UOSS						S		S	07 23 34.0	-1.6
UOSS	Minazif		62.22	302		P		P	07 15 55.2	-1.2
UOSS						pP		pP	07 17 55.9	-1.4
HATD	Hatta, Dubai		62.24	302		P		P	07 15 56.6	0.0
	SNR=23									
HATD							P	P	07 15 56.6	0.0
	SNR=23									
HATD							S	S	07 23 33.0	-2.8
HATD							S	S	07 23 33.0	-2.8
HATD	Hatta, Dubai		62.24	302	*i*	P		P	07 15 56.2	-0.4
	SNR=45									
ASHO	Ashiyiah		62.25	302		P		P	07 15 56.6	0.0
	SNR=37									
ASHO							P	P	07 15 56.6	0.0
	SNR=37									
ASHO							S	S	07 23 33.1	-2.9
ASHO							S	S	07 23 33.1	-2.9
ASHO	Ashiyiah		62.25	302	*i*	P		P	07 15 56.5	0.0
	SNR=79									
MDH	Madha		62.27	303		P		P	07 15 55.5	-1.2
	SNR=5.4									
MDH	Madha		62.27	303	*i*	P		P	07 15 55.4	-1.4
	SNR=24									
ALNE	Al Ain		62.28	301		P		P	07 15 56.7	-0.2
	SNR=41									
ALNE							P	P	07 15 56.7	-0.2
	SNR=41									
ALNE							S	S	07 23 33.5	-2.9
ALNE							S	S	07 23 33.5	-2.9
ALNE	Al Ain		62.28	301	*i*	P		P	07 15 56.6	-0.2
	SNR=24									
ABTO	Aybut		62.29	293		P		P	07 15 56.8	-0.2
	SNR=13									
ABTO							P	P	07 15 56.8	-0.2
	SNR=13									
ABTO							S	S	07 23 33.4	-3.4
ABTO							S	S	07 23 33.4	-3.4
UMZA	Um Al Zommool		62.31	299		P		P	07 15 56.5	-0.5
UMZA						P		P	07 15 56.5	-0.5
UMZA						S		S	07 23 32.9	-3.9
UMZA						S		S	07 23 32.9	-3.9
JCZ	Jackson Bay		62.41	137		P		P	07 15 58.4	+1.0
JCZ	Jackson Bay		62.41	137		P		P	07 15 58.3	+1.0
MLZ	Mavora Lakes		62.41	139		P		P	07 15 58.0	+0.7
MLZ						IAmb		IAmb	07 15 59.1	
	comp=Z,250nm,1.3s									
MLZ	Mavora Lakes		62.41	139		P		P	07 15 57.8	+0.4
MSFE	Esma-Masafi		62.41	303	*i*	P		P	07 15 57.8	+0.2
	SNR=30									
MASF	Masafi		62.42	303		P		P	07 15 58.0	+0.3
	SNR=11									
MASF							S	S	07 23 36.4	-1.7
WHZ	Wether Hill Ro		62.49	139		P		P	07 15 58.2	+0.5
BANOM	Banah		62.51	303		P		P	07 15 58.4	+0.1
BANOM								P	07 15 58.4	+0.1
BANOM								S	07 23 36.9	-2.3
BANOM								S	07 23 36.9	-2.3
BANOM	Banah		62.51	303	*i*	P		P	07 15 58.4	+0.1
	SNR=14									
TYV	Tymovskoe		62.59	21		*e*P		P	07 15 56.9	-1.3
TYV						*e*S		S	07 23 31.9	-7.2
TYV							pmax	pmax		
	comp=Z,20nm,1.6s									
TYV							pmax	pmax		
	comp=Z,500nm,3.6s									
TYV							smax	smax		
	comp=N,1μm,5.9s									
TYV							smax	smax		
	comp=E,2μm,5.9s									
TYV							smax	smax		
	comp=N,25nm,1.8s									
TYV							smax	smax		
	comp=E,36nm,1.8s									
FAQ	Al Faqa, Dubai		62.66	302		P		P	07 15 59.0	-0.2
	SNR=50									
FAQ							S	S	07 23 37.7	-3.3
FAQ	Al Faqa, Dubai		62.66	302	*i*	P		P	07 15 59.1	-0.1
	SNR=37									
SHME	Shamm		62.69	303		P		P	07 15 59.3	0.0
	SNR=8.5									
SHME							S	S	07 23 38.9	-2.3
SHME	Shamm		62.69	303	*i*	P		P	07 15 59.5	+0.1
	SNR=21									
NAZ	Nazwa, Dubai		62.69	302		P		P	07 15 59.4	0.0
	SNR=19									
NAZ							S	S	07 23 38.5	-2.9
NAZ	Nazwa, Dubai		62.69	302	*i*	P		P	07 15 59.1	-0.3
	SNR=29									
WKZ	Wanaka		62.82	138		P		P	07 16 00.6	+0.6
ASUD	Al Ashush, Dub		62.84	301		P		P	07 16 00.7	+0.3
	SNR=18									
ASUD							P	P	07 16 00.7	+0.3
	SNR=18									
ASUD							S	S	07 23 40.6	-2.5
ASUD							S	S	07 23 40.6	-2.5
ASUD	Al Ashush, Dub		62.84	301	*i*	P		P	07 16 00.6	+0.3
	SNR=15									
APZ	The Paps		62.86	140		P		P	07 16 01.2	+1.0
UMQ	Umm Al-Quwin		62.89	303		P		P	07 16 01.3	+0.7
UMQ						S		S	07 23 42.2	-1.4
FOZ	Fox Glacier		62.93	136		P		P	07 16 00.0	-0.6
AJN	Ajban		63.11	301		P		P	07 16 01.6	-0.5
	SNR=11									
AJN							S	S	07 23 43.1	-3.3
AJN	Ajban		63.11	301	*i*	P		P	07 16 01.6	-0.5
	SNR=12									
EAZ	Earnscleugh		63.15	138		P		P	07 16 03.1	+1.1
KURBB	Kurchatov Arra		63.32	337		P		P	07 16 03.0	+0.2
	comp=E,52nm,0.7s,baz=153,slow=5.6,SNR=105									
KURBB							PcP	PcP	07 16 33.7	+0.7
	comp=E,25nm,0.6s,baz=145,slow=3.6,SNR=11									
	comp=E,52nm,0.7s									
KURBB	Kurchatov Arra		63.32	337		P		P	07 16 02.0	-0.9
KURK	Kurchatov		63.36	337		P		P	07 16 02.9	-0.2
KURK	Kurchatov		63.36	337		P		P	07 16 03.4	+0.3
KURK						P		P	07 16 03.4	+0.3
KURK						S		S	07 23 47.0	-1.4
KURK						S		S	07 23 47.0	-1.4
KURK	Kurchatov		63.36	337	*d*	*i* P		P	07 16 03.2	+0.1
KURK							pmax	pmax		
	comp=E,88nm,0.8s									
KURK	Kurchatov		63.36	337		P		P	07 16 03.2	+0.1
KURK						PcP		PcP	07 16 34.3	+1.2
KURK						pP		pP	07 18 06.3	+1.6
KURK						sP		sP	07 19 10.6	+0.5
WVZ	Waitaha Valley		63.43	135		P		P	07 16 03.9	+0.1
LBZ	Lake Benmore		63.46	137		P		P	07 16 04.0	0.0
OUZ	Omahuta		63.57	126		P		P	07 16 06.5	+1.7
TUZ	Tuapeka		63.61	139		P		P	07 16 05.6	+0.7
BOD	Bodaibo		63.67	1		*e*P		P	07 16 05.4	+0.5
BOD							pmax	pmax		
	comp=Z,139nm,1.4s									
MZWR	Madinat Zayed		63.78	300		P		P	07 16 06.1	-0.3
MZWR						S		S	07 23 50.6	-3.8
DSZ	Denniston Nort		63.80	134		P		P	07 16 06.9	+0.6
INZ	Inchbonnie		63.82	135		P		P	07 16 06.0	-0.3
RPZ	Rata Peaks		63.84	136		P		P	07 16 06.6	+0.2
MZR	Muzera		63.87	299		P		P	07 16 06.9	-0.1
	SNR=30									
MZR							S	S	07 23 52.0	-3.6
MZR	Muzera		63.87	299	*i*	P		P	07 16 06.9	-0.1
	SNR=39									
ZALV	Zalesovo Beam		63.93	343		P		P	07 16 06.3	-0.4
ZALV	Zalesovo Beam		63.93	343		P		P	07 16 06.5	-0.2
	comp=Z,56nm,0.4s,baz=145,slow=4.7,SNR=114									
ZALV							PcP	PcP	07 16 36.5	+1.0
	comp=Z,14nm,0.6s,baz=137,slow=4.0,SNR=3.6									
ZALV							pP	pP	07 18 09.0	+0.5
	comp=Z,13nm,0.7s,baz=137,slow=6.9,SNR=2.6									
ZALV							S	S	07 23 52.1	-2.9
	comp=Z,15nm,0.7s,baz=134,slow=11,SNR=9.4									
	comp=Z,56nm,0.4s									
ODZ	Otahua Downs		63.98	138		P		P	07 16 07.4	+0.1
ABPO	Ambohimpanom		64.05	252		P		P	07 16 08.6	+0.2
ABPO						IAmb		IAmb	07 16 11.6	
	comp=Z,693nm,2.5s									
ABPO	Ambohimpanom		64.05	252		P		P	07 16 08.6	+0.2
ABPO						pmax	pmax			
	comp=Z,693nm,2.6s									
QRZ	Quartz Range		64.07	133		P		P	07 16 09.4	+1.5
WCZ	Waipu Caves		64.32	127		P		P	07 16 11.4	+1.9
VOI	Vohitsoka		64.61	249		P		P	07 16 11.8	0.0
VOI						IAmb		IAmb	07 16 15.1	
	comp=Z,272nm,1.5s									
VOI	Vohitsoka		64.61	249		P		P	07 16 12.6	+0.7
	SNR=12									
GHWR	Ruwais		64.71	300		P		P	07 16 11.9	-0.3
GHWR						P		P	07 16 11.9	-0.3
GHWR						S		S	07 24 01.3	-4.3
GHWR						S		S	07 24 01.3	-4.3
NMEZ	Namu Road		64.72	131		P		P	07 16 13.9	+1.9
PKE	Pukeiti		64.75	131		P		P	07 16 14.7	+2.4
KHEZ	Kahui Hut		64.79	131		P		P	07 16 14.8	+2.2
KHEZ	Kahui Hut		64.79	131		P		P	07 16 14.7	+2.1
NEZ	North Egmont		64.85	131		P		P	07 16 15.2	+2.3
DREZ	Durham Road		64.91	131		P		P	07 16 15.7	+2.5
JRN	Qarnain Island		65.06	301		P		P	07 16 13.8	-0.6
	SNR=8.6									
JRN							S	S	07 24 04.3	-5.4
WIAZ	Waiheke Island		65.11	128		P		P	07 16 16.6	+2.1
WIAZ						PP		pP	07 18 21.6	+4.5
MKAZ	Moumakai		65.20	128		P		P	07 16 17.0	+2.0
MKAZ						PP		pP	07 18 21.4	+3.7
HIZ	Hauiti		65.26	130		P		P	07 16 17.2	+1.8
GRZ	Great Barrier		65.26	127		P		P	07 16 17.2	+1.8
BRZS	Berezniki		65.28	333	*e*P			P	07 16 15.8	+0.5
BRZS	Berezniki		65.28	333	*e*P			P	07 16 15.8	+0.5
VRZ	Vera Road		65.32	130		P		P	07 16 17.0	+1.3
KUZ	Kuaotunu		65.57	128		P		P	07 16 18.6	+1.3
KUZ	Kuaotunu		65.57	128		P		P	07 16 18.7	+1.3
MSVF	Nonsavu		65.57	107		P		P	07 16 19.4	+1.6
MSVF	Nonsavu		65.57	107	*d*	*i* P		P	07 16 19.1	+1.3
MSVF							pmax	pmax		
	comp=Z,191nm,1.4s									
TOZ	Tahuroa Road		65.59	129		P		P	07 16 19.0	+1.5
WAZ	Wanganui		65.63	131		P		P	07 16 19.1	+1.4
TLZ	Tolley Road		65.74	129		P		P	07 16 20.2	+1.7
SLWR	Sila		65.77	300		P		P	07 16 18.5	-0.3
SLWR						P		P	07 16 18.5	-0.3
SLWR						S		S	07 24 14.0	-4.1
SLWR						S		S	07 24 14.0	-4.1
SNZO	South Karori		65.78	133		P		P	07 16 18.3	-0.3
SNZO	South Karori		65.78	133		S		S	07 24 14.1	-3.6
SNZO	South Karori		65.78	133		P		P	07 16 18.1	-0.5
SNZO						pP		pP	07 18 21.3	+0.1
PKVZ	Pokaka		65.80	130		P		P	07 16 19.8	+1.0
TWVZ	Taurewa		65.82	130		P		P	07 16 21.5	+2.4
KIW	Kapiti Island		65.83	132		P		P	07 16 19.1	+0.1
MTVZ	Mangateitei		65.91	130		P		P	07 16 20.7	+1.1
COVZ	Chateau Observ		65.93	130		P		P	07 16 21.1	+1.4
WTVZ	West Tongariro		65.95	130		P		P	07 16 21.3	+1.4
FWVZ	Far West T-bar		65.95	130		P		P	07 16 20.9	+0.9
TRVZ	Turoa		65.95	130		P		P	07 16 20.9	+0.9
MAVZ	Mataerangi		65.96	130		P		P	07 16 21.1	+1.0
NGZ	Ngauruhoe		65.97	130		P		P	07 16 21.0	+1.0
NNVZ	North Ngauruho		65.97	130		P		P	07 16 21.4	+1.4
KRVZ	Karewarewa		65.98	130		P		P	07 16 21.4	+1.3
WHVZ	Whangaehu Hut		65.98	130		P		P	07 16 21.1	+0.9
WNVZ	Wahianoa		66.00	130		P		P	07 16 21.0	+0.8
SNVZ	South Ngauruho		66.00	130		P		P	07 16 21.3	+1.0
CAW	Cannon Point		66.00	132		P		P	07 16 20.0	0.0
NTVZ	North Tongarir		66.01	130		P		P	07 16 21.4	+1.2
OGWZ	Otaki Gorge		66.01	132		P		P	07 16 20.2	+0.2
OTVZ	Oturere		66.01	130		P		P	07 16 21.4	+1.1
TUVZ	Tukino		66.03	130		P		P	07 16 21.7	+1.3
RATZ	Rangitukua		66.03	130		P		P	07 16 22.2	+1.9
TMVZ	Te Maari		66.03	130		P		P	07 16 21.7	+1.3
ETVZ	East Tongariro		66.04	130		P		P	07 16 19.6	-0.8
RITZ	Rihia Road		66.12	130		P		P	07 16 22.3	+1.4
MOVZ	Moawhango		66.13	130		P		P	07 16 21.3	+0.3
MSWZ	Moikau Station		66.21	133		P		P	07 16 21.7	+0.4
PLWZ	Palliser		66.25	133		P		P	07 16 22.0	+0.5
MRZ	Mangatainoka R		66.28	132		P		P	07 16 21.8	+0.1
HOWZ	Holdsworth Sta		66.28	132		P		P	07 16 22.5	+0.8
PAWZ	Paruwai Farm		66.33	133		P		P	07 16 23.1	+1.0
MTW	Mount Morrison		66.33	132		P		P	07 16 22.5	+0.5
TRNA	Turayna		66.40	300		P		P	07 16 22.4	-0.3
	SNR=16									
TRNA						S		S	07 24 20.5	-4.9
MRHZ	Matea Rd		66.52	130		P		P	07 16 23.5	+0.2
MRHZ						PP		pP	07 18 25.9	-0.6
TRWZ	Traveller		66.52	133		P		P	07 16 24.3	+1.1
PNHZ	Pukenui		66.58	131		P		P	07 16 24.2	+0.6
PNHZ						PP		pP	07 18 27.1	+0.4
TMWZ	Te Maipa		66.61	132		P		P	07 16 24.7	+0.9
DVHZ	Dannevirke		66.64	131		P		P	07 16 24.1	+0.2
BKZ	Black Stump Fm		66.64	130		P		P	07 16 24.2	+0.1
SMRA	Abu-Samra		66.73	300		P		P	07 16 24.4	-0.3
	SNR=28									
SMRA						S		S	07 24 23.8	-5.6
BFZ	Birch Farm		66.78	132		P		P	07 16 25.4	+0.6
WPHZ	Waipukurau		66.79	131		P		P	07 16 23.4	-1.5
CPWZ	Castlepoint		66.79	132		P		P	07 16 26.1	+1.3
URZ	Urewera		66.94	129		P		P	07 16 25.0	-0.8
SHMA	Al-Shehemyia		66.98	301		P		P	07 16 25.8	-0.4
	SNR=19									
SHMA						S		S	07 24 26.9	-5.3
DGTI	Dogotuki		67.16	105		P		P	07 16 28.5	+1.0
SAKB	Bahrain		67.38	301		P		P	07 16 28.3	-0.4
SAKB						S		S	07 24 31.1	-5.7
TAVE	Taveuni		67.50	106		P		P	07 16 31.1	+1.5
MXZ	Matakaoa Point		67.75	128		P		P	07 16 31.1	+0.4
SKR	Severo-Kuril's		68.15	29		*e*P		P	07 16 23.7	-9.1
SKR						*e*S		S	07 24 42.2	-2.6
SKR							pmax	pmax		
	comp=Z,600nm,5.3s									
BVA0	Borovoye Array		68.46	335		*i* P		P	07 16 34.8	+0.1
BVAR	Borovoye Array		68.46	335		P		P	07 16 34.8	+0.1
	comp=Z,61nm,0.7s,baz=141,slow=7.3,SNR=84									
BVAR						S		S	07 24 48.0	-0.4
	comp=Z,4.6nm,0.9s,baz=140,slow=16,SNR=4.1									
	comp=Z,61nm,0.7s									
LKBA	Tubou, Lakemba		68.56	107		P		P	07 16 36.8	+0.9
FUTU	Fugatoga		69.24	103		P		P	07 16 41.2	+1.1
YAK	Yakutsk		69.26	9		P		P	07 16 39.0	-0.2
YAK	Yakutsk		69.26	9		P		P	07 16 39.5	+0.2
	comp=Z,300nm,0.7s,baz=18,slow=1.4,SNR=51									
	comp=Z,300nm,0.7s									
YAK	Yakutsk		69.26	9	*d*	*i* P		P	07 16 39.4	+0.2
YAK							pmax	pmax		
	comp=Z,250nm,0.6s									
MAW	Mawson		69.71	198		P		P	07 16 42.6	+0.8
	comp=Z,29nm,1.5s									
MAW	Mawson		69.71	198		P		P	07 16 43.0	+1.2
	comp=Z,69nm,0.8s,baz=47,slow=7.0,SNR=108									
MAW						S		S	07 25 01.1	-1.0
	comp=Z,6.7nm,1.0s,baz=312,slow=24,SNR=7.2									
	comp=Z,69nm,0.8s									
PEA0B	Petropavlovsk-		70.49	27		P		P	07 16 47.1	+0.4
PEA0B	Petropavlovsk-		70.49	27	*ce*	P		P	07 16 47.4	+0.7
PETK	Petropavlovsk-		70.49	27		P		P	07 16 46.6	-0.1
PETK	Petropavlovsk-		70.49	27		P		P	07 16 46.3	-0.4
	comp=Z,64nm,0.6s,baz=186,slow=1.0,SNR=155									
PETK						pP		pP	07 18 51.9	-0.2
	comp=Z,51nm,1.1s,baz=230,slow=8.2,SNR=8.1									
	comp=Z,64nm,0.6s									
ATD	Arta Tunnel		70.79	284		P		P	07 16 50.8	+1.5
	SNR=20									
ATD						S		S	07 25 13.2	-3.1
KBD	Kabd		70.80	304		P		P	07 16 48.7	-0.3
KBD						S		S	07 25 10.6	-5.2
PET	Petropavlovsk		70.87	28		P		P	07 16 49.2	+0.3
PET						IAmb		IAmb	07 16 53.0	
	comp=Z,162nm,1.2s									
PET	Petropavlovsk		70.87	28		P		P	07 16 49.7	+0.8
PET	Petropavlovsk		70.87	28		*e*P		P	07 16 49.2	+0.3
PET						*e*PP		pP	07 18 55.9	+1.4
PET						*e*SP		sP	07 20 00.8	+2.0
PET						*e*S		S	07 25 15.1	-0.5
PET						*e*SP		ScS	07 25 53.8	-0.3
PET							pmax	pmax		
	comp=Z,112nm,0.8s									
PET							pmax	pmax		
	comp=Z,700nm,6.5s									
PET							pmax	pmax		
	comp=Z,500nm,8.5s									
PET	Petropavlovsk		70.87	28		P		P	07 16 49.1	+0.3
PET						pP		pP	07 18 56.0

comp=Z,244nm,0.6s,baz=133,slow=3.2,SNR=88
comp=Z,244nm,0.6s
ARTI Arti 75.96 333 P **P** **07 17 17.4 -0.3**
ARTI pmax pmax
comp=Z,411nm,0.5s
VNDA Vanda 76.06 170 P **P** **07 17 18.5 +0.6**
VNDA IAmb IAmb 07 17 20.1
comp=Z,119nm,1.1s
VNDA Vanda 76.06 170 P **P** **07 17 18.7 +0.8**
comp=Z,92nm,1.0s,baz=310,slow=5.8,SNR=173
VNDA S **S** **07 26 12.7 +1.1**
comp=Z,10.0nm,1.1s,baz=169,slow=18,SNR=11
comp=Z,92nm,1.0s
VNDA Vanda 76.06 170 P **P** **07 17 18.5 +0.6**
VNDA pP **pwP** **07 19 27.4 -1.9**
GNI Garni 76.72 314 P **P** **07 17 22.9 +0.6**
GNI IAmb IAmb 07 17 27.7
comp=Z,190nm,1.2s
GNI Garni 76.72 314 P **P** **07 17 23.3 +0.8**
GNI S **S** **07 26 19.2 -1.0**
GNI Garni 76.72 314 P **P** **07 17 23.0 +0.6**
GNI Garni 76.72 314*d* *i*P **P** **07 17 23.2 +0.8**
GNI pmax pmax
comp=Z,154nm,1.0s
LODK Lodwar 76.92 275 P **P** **07 17 24.1 +0.2**
LODK Lodwar 76.92 275 P **P** **07 17 25.1 +1.2**
SNR=18
NIUE Niue 76.97 108 P **P** **07 17 23.6 -0.4**
comp=Z,186nm,1.1s
SBA Scott Base 77.11 170 P **P** **07 17 24.8 +1.2**
SBA Scott Base 77.11 170 P **P** **07 17 24.8 +1.2**
SBA pmax pmax
comp=Z,107nm,1.1s
GEVA Gevas 77.35 311 P **P** **07 17 26.7 +0.8**
GEVA IAmb IAmb 07 17 31.9
comp=Z,176nm,1.1s
SYO Syowa Base 78.06 201⇓ *i*P **P** **07 17 29.6 +0.8**
SYO Syowa Base 78.06 201⇑ *i*PP PP 07 20 39.2 +2.2
GURO Guroymak-BITLI 78.19 311 P **P** **07 17 31.5 +1.1**
GURO IAmb IAmb 07 17 35.9
comp=Z,228nm,0.9s
TIXI Tiksi 78.34 5 P **P** **07 17 29.9 -0.3**
TIXI IAmb IAmb 07 17 33.8
comp=Z,229nm,1.1s
TIXI Tiksi 78.34 5*d* *i*P **P** **07 17 29.7 -0.6**
TIXI pmax pmax
comp=Z,221nm,1.1s
TIXI Tiksi 78.34 5 P **P** **07 17 29.6 -0.6**
TIXI pP **pP** **07 19 39.9 +0.4**
POGA Pongola 78.48 243 P **P** **07 17 33.2 +1.2**
POGA IAmb IAmb 07 17 37.5
comp=Z,173nm,0.8s
NCK Nalchik 78.65 316 *e*P **P** **07 17 34.0 +1.5**
NCK pmax pmax
comp=Z,126nm,0.8s
MARD Mardin 78.78 310 P **P** **07 17 34.0 +0.5**
MARD IAmb IAmb 07 17 38.5
comp=Z,164nm,0.7s
NEUR Neytrino 79.19 316 *i* P **P** **07 17 37.3 +1.7**
NEUR pmax pmax
comp=Z,68nm,1.0s
KBZ Khabaz 79.20 316 P **P** **07 17 36.3 +1.0**
comp=Z,70nm,0.8s,baz=112,slow=3.6,SNR=44
KBZ pP **pP** **07 19 46.3 +1.3**
comp=Z,18nm,0.9s,baz=44,slow=7.4,SNR=3.0
KBZ PKKPbc **PKKPbc** **07 36 21.9 -0.3**
comp=Z,2.6nm,0.5s,baz=290,slow=1.8,SNR=6.7
comp=Z,70nm,0.8s
KBZ Khabaz 79.20 316*d* *i*P **P** **07 17 36.2 +0.9**
KBZ pmax pmax
comp=Z,136nm,1.0s
SHA1 Shidzhatmaz 79.37 316*d* *i*P **P** **07 17 37.3 +0.7**
KIV Kislovodsk 79.42 317 P **P** **07 17 36.8 +0.2**
KIV IAmb IAmb 07 17 42.4
comp=Z,124nm,0.7s
KIV Kislovodsk 79.42 317 P **P** **07 17 37.4 +0.7**
KIV S **S** **07 26 47.3 -0.7**
KIV Kislovodsk 79.42 317⇓ P **P** **07 17 38.0 +1.3**
KIV Kislovodsk 79.42 317 *i* P **P** **07 17 37.2 +0.5**
SNR=23
KIV Kislovodsk 79.42 317 *e*P **P** **07 17 37.1 +0.5**
KIV *e**PP **pP** **07 19 43.0 -3.4**
KIV *e* 07 20 46.4
KIV *e*S **S** **07 26 47.9 -0.1**
KIV *e*SSS SSS 07 35 46.9
KIV pmax pmax
comp=Z,123nm,1.1s
KIV Kislovodsk 79.42 317 P **P** **07 17 36.5 -0.1**
KIV S **S** **07 26 46.3 -1.8**
BELG Belogornoye 79.47 326*d* *i*P **P** **07 17 36.5 0.0**
BELG pmax pmax
comp=Z,51nm,1.1s
GOF Gofitskoye 79.54 318*c* *e*P **P** **07 17 38.1 +0.9**
KOPT Kop Dagi 79.77 312 P **P** **07 17 40.0 +1.2**
MBAR Mbarara 81.07 270*d* *i*P **P** **07 17 47.0 +1.1**
MBAR pmax pmax
comp=Z,160nm,0.8s
VSLR Vesyoloye 81.10 316*d* *i*P **P** **07 17 45.9 +0.7**
VSLR pmax pmax
comp=Z,417nm,1.0s
KIRV Kirov 81.24 332 P **P** **07 17 45.9 +0.4**
comp=Z,146nm,0.7s,baz=62,slow=0.4,SNR=50
KIRV pP **pP** **07 19 56.1 0.0**
comp=Z,22nm,0.8s,baz=147,slow=1.7,SNR=1.9
comp=Z,146nm,0.7s
KIRV Kirov 81.24 332*d* *i*P **P** **07 17 45.8 +0.3**
SOC Sochi 81.35 316 *e*P **P** **07 17 45.9 -0.6**
SOC *e*PPP PPP 07 22 58.0
SOC *e*S **S** **07 27 07.3 -0.1**
SOC *e*SS **SS** **07 32 38.8 -4.1**
SOC *e*SSS SSS 07 36 17.8
SOC pmax pmax
comp=Z,174nm,0.8s
ERBR Yeremizino-Bor 81.46 318 *e*P **P** **07 17 45.7 -1.3**
ERBR *e*S **SKSac** **07 27 07.7 -0.2**
ERBR pmax pmax
comp=Z,316nm,1.6s
GAZ Gaziantep 81.49 309 P **P** **07 17 48.1 +0.6**
GAZ IAmb IAmb 07 17 53.7
comp=Z,174nm,1.1s
HWQ Hawqa 81.81 306 *e*P **P** **07 17 50.5 +1.2**
BHL Bhannes 81.96 305 *e*P **P** **07 17 51.3 +1.3**
MMAI Mount Meron Ar 81.97 304 P **P** **07 17 52.0 +2.0**
comp=Z,101nm,0.7s,baz=92,slow=9.2,SNR=53
comp=Z,101nm,0.7s
LSZ Lusaka 82.31 255 P **P** **07 17 52.4 +0.3**
LSZ IAmb IAmb 07 17 57.0
comp=Z,122nm,0.8s
LSZ Lusaka 82.31 255 P **P** **07 17 53.0 +0.9**
LSZ S **SKSac** **07 27 09.1 -5.8**
LSZ Lusaka 82.31 255 P **P** **07 17 52.4 +0.3**
LSZ pmax pmax
comp=Z,122nm,0.8s
LSZ Lusaka 82.31 255 P **P** **07 17 52.7 +0.6**
LSZ pP **pP** **07 20 04.0 +0.9**
VRH Novokhopyorsk 82.43 323 *e*P **P** **07 17 50.1 -1.6**
VRH pmax pmax
comp=Z,130nm,0.8s
MREMI Moremi 82.53 248 *i* P **P** **07 17 53.9 +0.8**
BROLN Tlhalogang 82.72 250 *i* P **P** **07 17 54.8 +0.7**
TOKA Tokat 82.81 312 P **P** **07 17 54.7 +0.7**
TOKA IAmb IAmb 07 17 59.7
comp=Z,152nm,0.9s
BNN Bunyan 82.94 310 P **P** **07 17 55.4 +0.6**
BNN IAmb IAmb 07 18 00.7
comp=Z,134nm,1.1s
BILL Bilibino 83.07 18*d* *i*P **P** **07 17 54.5 -0.1**
BILL pmax pmax
comp=Z,34nm,1.1s
ANN Anapa 83.27 316 *e*P **P** **07 17 56.1 0.0**
ANN *e* 07 21 18.3
ANN *e*S **SKSac** **07 27 20.4 +0.8**
ANN pmax pmax
comp=Z,152nm,0.9s
SOOWA Sowa 83.80 250 *i* P **P** **07 18 00.4 +1.0**
VORD Divnogorie 83.81 323 *e*P **P** **07 17 57.0 -1.6**
VORD pmax pmax
comp=Z,180nm,1.0s
LPHEP Lephephe 83.94 247 *i* P **P** **07 18 00.8 +0.8**
QSPA South Pole Qui 83.94 180 P **P** **07 18 01.4 +2.2**
comp=Z,125nm,1.1s,baz=302,slow=1.4,SNR=146
QSPA S **SKSac** **07 27 22.2 -1.2**
comp=Z,6.9nm,1.0s,baz=36,slow=7.0,SNR=9.9
QSPA PKKPbc **PKKPbc** **07 36 11.5 -1.7**
comp=Z,5.9nm,0.7s,baz=265,slow=1.0,SNR=18

comp=Z,125nm,1.1s
VSR Storozhevoye 83.96 323 *e*P **P** **07 17 57.5 -1.8**
VSR pmax pmax
comp=Z,290nm,0.9s
VORR Voronezh 84.07 323 *e*P **P** **07 17 58.5 -1.4**
VORR pmax pmax
comp=Z,230nm,0.9s
BOSA Boshof 84.13 242 P **P** **07 18 01.1 +0.2**
BOSA IAmb IAmb 07 18 04.0
comp=Z,179nm,1.5s
BOSA Boshof 84.13 242 P **P** **07 18 01.7 +0.7**
comp=Z,27nm,0.6s,baz=107,slow=3.9,SNR=74
BOSA PKKPbc **PKKPbc** **07 36 10.8 +0.3**
comp=Z,6.1nm,1.1s,baz=312,slow=3.2,SNR=4.9
comp=Z,27nm,0.6s
BOSA Boshof 84.13 242 P **P** **07 18 00.9 -0.1**
BOSA S **SKSac** **07 27 29.0 +2.8**
KHWEE KHWEE 84.42 249 *i* P **P** **07 18 03.4 +0.9**
KIRS Kirsehir-Merke 84.47 310 ⇑P **P** **07 18 02.9 +0.7**
LPSR Galich'ya Gora 84.51 324 *e*P **P** **07 18 00.8 -1.2**
LPSR pmax pmax
comp=Z,350nm,1.0s
MAKGR Makgori 84.73 245 P **P** **07 18 03.8 -0.1**
BR131 Keskin Array S 84.80 311 P **P** **07 18 03.8 -0.1**
BR131 IAmb IAmb 07 18 08.9
comp=Z,181nm,0.8s
BR131 Keskin Array S 84.80 311 P **P** **07 18 04.1 +0.1**
SNR=66
BR131 Keskin Array S 84.80 311*d* *i*P **P** **07 18 03.9 -0.1**
BRTR Keskin Array B 84.80 311 P **P** **07 18 03.7 -0.3**
BRTR Keskin Array B 84.80 311 P **P** **07 18 04.0 +0.1**
comp=Z,96nm,0.7s,baz=128,slow=5.2,SNR=142
BRTR pP **pP** **07 20 15.6 -0.4**
comp=Z,26nm,1.1s,baz=130,slow=6.4,SNR=6.6
comp=Z,96nm,0.7s
KSANE Kasane 85.01 253 *i* P **P** **07 18 06.6 +1.2**
BZK Bozkurt 85.01 313⇓ P **P** **07 18 05.9 +1.2**
KDWAN Kaudwane 85.03 247 *i* P **P** **07 18 06.6 +1.2**
KDWAN Kaudwane 85.03 247 P **P** **07 18 05.9 +0.5**
KDWAN IAmb IAmb 07 18 09.4
comp=Z,138nm,0.8s
ATKA Atka Island 85.04 36 P **P** **07 18 05.4 +0.8**
PHDHD Phuduhudu 85.40 250 *i* P **P** **07 18 08.2 +1.1**
PHDHD Phuduhudu 85.40 250 P **P** **07 18 07.6 +0.4**
PHDHD IAmb IAmb 07 18 12.6
comp=Z,149nm,0.8s
ANTO Ankara 85.47 311 P **P** **07 18 07.3 +0.2**
ANTO IAmb IAmb 07 18 11.9
comp=Z,103nm,0.8s
ANTO Ankara 85.47 311 P **P** **07 18 07.5 +0.5**
ANTO Ankara 85.47 311⇓ P **P** **07 18 07.6 +0.5**
ANTO Ankara 85.47 311 P **P** **07 18 07.5 +0.5**
ANTO Ankara 85.47 311 P **P** **07 18 07.7 +0.6**
ANTO S **SKSac** **07 27 33.9 +0.1**
ANTO Ankara 85.47 311 P **P** **07 18 07.4 +0.4**
ANTO pP **pP** **07 20 20.6 +1.1**
SIM Simferopol' 85.59 316 *e*P **P** **07 18 07.6 +0.2**
SIM *e* 07 21 37.7
SIM *e*S **S** **07 27 47.4 -1.2**
SIM pmax pmax
comp=Z,177nm,1.0s
SIM pmax pmax
comp=Z,253nm,19.3s
SIM smax smax
comp=E,897nm,17.2s
SKOMA Sekoma 85.61 246 *i* P **P** **07 18 09.0 +0.9**
MOS Moscow 86.16 327 *e*P **P** **07 18 07.9 -1.9**
MOS *e**PP **pP** **07 20 21.7 -0.8**
MOS *e* 07 21 42.3
MOS *e* 07 27 33.4
MOS *e*S **S** **07 27 49.6 -3.8**
MOS pmax pmax
comp=Z,500nm,2.0s
MOS pmax pmax
comp=Z,138nm,1.2s
MOS smax smax
comp=N,1µm,3.2s
OBN Obninsk 86.56 326 P **P** **07 18 12.2 +0.5**
OBN Obninsk 86.56 326 ⇑P **P** **07 18 12.0 +0.3**
OBN Obninsk 86.56 326*d* *i*P **P** **07 18 11.8 +0.1**
OBN *i**PP **pP** **07 20 24.7 +0.1**
OBN *e* 07 21 46.7
OBN *e*PPP PPP 07 23 42.7
OBN *i*S **SKSac** **07 27 40.9 +1.4**
OBN *e*SS **SS** **07 33 57.4 -0.5**
OBN *e*SSS SSS 07 37 40.2
OBN pmax pmax
comp=Z,212nm,1.2s
OBN Obninsk 86.56 326 P **P** **07 18 11.6 -0.1**
OBN sP **sP** **07 21 26.0 -0.9**
KLMR Klimovskoe 86.74 332 *e*P **P** **07 18 07.8 -4.6**
KLMR *e**PP **pP** **07 20 20.0 -5.4**
KLMR *e*S **SKSac** **07 27 36.2 -4.1**
KLMR 07 27 53.3
KLMR pmax pmax
comp=Z,170nm,1.3s
ISP Isparta 86.83 308*d* *i*P **P** **07 18 13.1 -0.4**
ISP pmax pmax
comp=Z,61nm,1.4s
SAHE Sakarya_HENDEK 87.11 311 ⇑P **P** **07 18 15.0 +0.3**
ELL Elmali 87.12 307 P **P** **07 18 15.4 +0.4**
ELL Elmali 87.12 307 P **P** **07 18 15.4 +0.4**
ELL pmax pmax
comp=Z,47nm,0.9s
AKAS Kas 87.28 307 P **P** **07 18 15.3 -0.4**
KGCAE Kacgae 87.33 247 *i* P **P** **07 18 17.4 +1.1**
KGCAE Kacgae 87.33 247 P **P** **07 18 16.8 +0.5**
NVL N'lazarevskaya 87.62 199 *e*P P 07 18 06.7 -10
NVL pmax pmax
comp=Z,6.0nm,0.7s
SUR Sutherland 87.66 238 P **P** **07 18 18.7 +1.0**
SUR IAmb IAmb 07 18 21.9
comp=Z,168nm,1.4s
NIKH Nikolski High 88.39 36 P **P** **07 18 20.8 +0.5**
baz=258
GRTLG Ghanzi 88.39 249 *i* P **P** **07 18 22.0 +0.8**
ARG Arkhangelos 88.46 306 P **P** **07 18 20.8 -0.3**
ARG IAmb IAmb 07 18 26.7
comp=Z,83nm,1.2s
ARG Arkhangelos 88.46 306 P **P** **07 18 20.8 -0.3**
ARG pmax pmax
comp=Z,83nm,1.2s
SPIA Saint Paul Isl 88.53 32 P **P** **07 18 22.0 +1.1**
baz=257
XAUDM Khaudum 88.56 252 P **P** **07 18 22.9 +0.9**
XAUDM IAmb IAmb 07 18 27.2
comp=Z,45nm,0.7s
P08K Saint George I 88.78 33 P **P** **07 18 22.6 +0.6**
baz=257
BAND Balkesir-Ban 89.10 311 ⇑P **P** **07 18 24.7 +0.7**
KARP Karpathos 89.14 306 P **P** **07 18 24.5 +0.2**
KOOLE Kule 89.16 247 P **P** **07 18 25.1 +0.3**
KOOLE IAmb IAmb 07 18 29.0
comp=Z,51nm,0.7s
JURR Jurilovca 89.21 315 ⇑P **P** **07 18 24.5 +0.2**
GAMB Gambell 89.44 26 P **P** **07 18 25.3 +0.4**
baz=255
TIRR Tirgusor 89.49 315 ⇑P **P** **07 18 25.7 +0.1**
TIRR Tirgusor 89.49 315 P **P** **07 18 25.7 +0.1**
TPGR Topolog 89.55 315 ⇑P **P** **07 18 26.0 0.0**
MILM Milestii Mici 89.60 317⇓ P **P** **07 18 26.3 +0.2**
MILM Milestii Mici 89.60 317⇓ *i*P **P** **07 18 25.0 -1.1**
comp=Z,400nm,2.5s
MILM Milestii Mici 89.60 317*d* *i*P **P** **07 18 25.0 -1.1**
MILM *e* 07 20 37.0
MILM pmax pmax
comp=Z,400nm,2.5s
KIS Kishinev 89.61 317⇓ *i*P **P** **07 18 25.0 -1.1**
KIS Kishinev 89.61 317*d* *i*P **P** **07 18 25.0 -1.1**
KIS *i* 07 20 38.0
KIS *i* 07 29 34.0
KIS pmax pmax
comp=Z,200nm,8.3s
CFR Carcaliu 89.80 315 ⇑P **P** **07 18 27.2 +0.1**
CFR Carcaliu 89.80 315 P **P** **07 18 27.1 +0.1**
HARR Harsova 89.87 315⇓ P **P** **07 18 27.5 +0.1**
HARR Harsova 89.87 315 P **P** **07 18 27.5 +0.1**
UNV Unalaska Valle 89.94 36 P **P** **07 18 28.7 +1.3**
UNV Unalaska Valle 89.94 36 P **P** **07 18 28.1 +0.6**
baz=260
AKASG Malin Array Be 89.95 321 P **P** **07 18 26.4 -1.2**
AKASG IAmb IAmb 07 18 31.8
comp=Z,59nm,1.1s
AKASG Malin Array Be 89.95 321 P **P** **07 18 26.9 -0.8**
comp=Z,16nm,0.6s,baz=85,slow=4.6,SNR=69
AKASG pP **pP** **07 20 41.2 -0.4**
comp=Z,21nm,1.1s,baz=85,slow=4.2,SNR=7.5
AKASG PP **PP** **07 22 10.6 -1.8**
comp=Z,2.9nm,0.7s,baz=84,slow=6.3,SNR=4.3
AKASG PKIKP **PKiKP** **07 23 20.6 +1.4**
comp=Z,2.4nm,0.6s,baz=80,slow=2.0,SNR=5.3
AKASG PKKP **PKKPdf** **07 35 54.6 +2.2**
comp=Z,1.1nm,0.4s,baz=284,slow=3.3,SNR=7.5
comp=Z,16nm,0.6s
AKASG Malin Array Be 89.95 321 *i* P **P** **07 18 26.8 -0.8**
AKASG pmax pmax
comp=Z,18nm,0.6s
AKBB Malin Array Si 89.95 321 P **P** **07 18 26.7 -0.9**
AKBB IAmb IAmb 07 18 31.8
comp=Z,48nm,1.0s
AKBB Malin Array Si 89.95 321 *i* P **P** **07 18 27.3 -0.3**
AKBB pmax pmax
comp=Z,57nm,1.0s
KIEV Kiev 89.96 321 P **P** **07 18 26.6 -1.1**
KIEV IAmb IAmb 07 18 31.8
comp=Z,43nm,1.0s
KIEV Kiev 89.96 321⇑ P **P** **07 18 27.3 -0.4**
KIEV Kiev 89.96 321 *i* P **P** **07 18 26.7 -0.9**
SNR=22
KIEV Kiev 89.96 321 P **P** **07 18 27.2 -0.4**
SORM Soroca 90.10 318⇑ P **P** **07 18 28.2 -0.2**
SORM Soroca 90.10 318 P **P** **07 18 28.1 -0.2**
TROLL Troll, Antarti 90.16 197⇓ P **P** **07 18 29.8 +1.4**
comp=Z,1µm,1.1s
TROLL ⇑pP **pP** **07 20 44.3 +2.0**
comp=Z,580nm,0.9s
TROLL ⇑sP **sP** **07 21 39.3 -5.0**
TROLL ⇓SKSac **SKSac** **07 27 59.5 -0.9**
TROLL ⇑S **S** **07 28 30.0 +0.1**
TROLL ⇓x x 07 35 51.5
comp=Z,101nm,0.6s
EZN Ezine 90.37 310⇓ P **P** **07 18 30.4 +0.6**
EZN Ezine 90.37 310 P **P** **07 18 30.4 +0.6**
AKUT Akutan 90.41 36 P **P** **07 18 29.8 +0.2**
LOZB Loznitsa 90.64 313⇑ P **P** **07 18 31.2 +0.2**
ALN Alexandroupoli 90.72 311 P **P** **07 18 31.2 -0.2**
ALN IAmb IAmb 07 18 35.4
comp=Z,44nm,0.9s
ALN Alexandroupoli 90.72 311 P **P** **07 18 31.2 -0.2**
ALN pmax pmax
comp=Z,44nm,0.9s
LVZ Lovozero 90.75 338⇓ *e*P **P** **07 18 32.1 +1.1**
LVZ pmax pmax
comp=Z,83nm,1.7s
VRI Vrincioaia 90.88 316⇑ P **P** **07 18 32.7 +0.6**
VRI Vrincioaia 90.88 316 P **P** **07 18 32.6 +0.6**
PUL Pulkovo 90.90 330⇑ *e*P **P** **07 18 32.7 +0.9**
PUL pmax pmax
comp=Z,156nm,1.1s
ISR Istrita 90.91 315⇑ P **P** **07 18 32.9 +0.6**
ISR Istrita 90.91 315 P **P** **07 18 32.8 +0.6**
IDI Anoyia 90.94 305 P **P** **07 18 32.8 +0.1**
XMAS Kiritimati 90.94 88 P **P** **07 18 34.3 +1.2**
XMAS Kiritimati 90.94 88 P **P** **07 18 35.0 +2.0**
TESR Tescani 91.02 317⇓ P **P** **07 18 33.1 +0.5**
ELND Elena 91.10 313⇑ P **P** **07 18 33.3 +0.1**
NEHR Nehoiu 91.12 315⇑ P **P** **07 18 33.9 +0.7**
APA Apatity 91.14 338⇓ *e*P **P** **07 18 30.3 -2.4**
APA *e**PP **pP** **07 20 45.5 -1.4**
APA MLR MLR
comp=Z,890nm,4.6s
M11K Mekoryuk 91.25 29 P **P** **07 18 34.8 +1.5**
baz=260
MNK Minsk 91.35 325 *i* P **P** **07 18 31.2 -2.8**
MNK *i* *PP **pP** **07 20 47.5 -0.7**
MNK *i* 07 22 20.8
MNK *i* S **SKSac** **07 28 05.9 -1.3**
MNK *i* SS **SS** **07 35 05.9 -0.4**
MNK *i* SSS SSS 07 38 50.2
MNK pmax pmax
comp=N,18nm,0.8s
MNK pmax pmax
comp=E,14nm,0.8s
MNK pmax pmax
comp=Z,52nm,0.9s
MNK MLR MLR
comp=Z,563nm,19.0s
MLR Muntele Rosu 91.37 315 P **P** **07 18 33.9 -0.5**
MLR IAmb IAmb 07 18 39.6
comp=Z,136nm,1.7s
MLR Muntele Rosu 91.37 315⇑ P **P** **07 18 34.8 +0.3**
MLR Muntele Rosu 91.37 315 P **P** **07 18 35.1 +0.6**
TNA Tin City 91.43 24 P **P** **07 18 35.0 +0.9**
baz=259
SNAA Sanae 91.84 197⇓ P **P** **07 18 37.2 +1.1**
comp=Z,299nm,0.5s
SNAA ⇓pP **pP** **07 20 51.4 +1.2**
comp=Z,442nm,0.8s
SNAA ⇑sP **sP** **07 21 47.8 -4.3**
SNAA ⇓SKSac **SKSac** **07 28 07.6 -2.0**
SNAA ⇑S **S** **07 28 44.4 -0.2**
SNAA ⇓x x 07 35 49.2
comp=Z,108nm,0.7s
SNAA Sanae 91.84 197 P **P** **07 18 36.5 +0.5**
SNAA IAmb IAmb 07 18 40.1
comp=Z,40nm,1.0s
SNAA Sanae 91.84 197 P **P** **07 18 37.2 +1.1**
comp=Z,14nm,0.6s,baz=185,slow=7.5,SNR=86
SNAA pP **pP** **07 20 52.0 +1.8**
comp=Z,22nm,0.9s,baz=87,slow=6.7,SNR=6.3
SNAA PKKP **PKKPdf** **07 35 48.9 +0.2**
comp=Z,4.9nm,0.8s,baz=244,slow=4.4,SNR=18
comp=Z,14nm,0.6s
FALS False Pass 91.88 35 P **P** **07 18 37.3 +0.9**
baz=262
VOIR 91.99 315⇑ P **P** **07 18 37.9 +0.6**
VOIR 91.99 315 P **P** **07 18 37.8 +0.6**
WIN Windhoek 92.05 247 P **P** **07 18 39.2 +1.0**
WIN IAmb IAmb 07 20 56.1
comp=Z,96nm,1.5s
WIN Windhoek 92.05 247 P **P** **07 18 39.2 +1.0**
WIN pmax pmax
comp=Z,96nm,1.5s
PLVB Pleven 92.07 313⇑ P **P** **07 18 37.8 +0.3**
F14K Arctic Creek 92.07 24 P **P** **07 18 38.1 +1.1**
baz=260
BURAR Bucovina Array 92.12 317 P **P** **07 18 37.8 -0.1**
BURAR Bucovina Array 92.12 317⇓ P **P** **07 18 38.7 +0.9**
BURAR Bucovina Array 92.12 317 P **P** **07 18 38.7 +0.9**
K13K Kusilvak Mount 92.24 28 P **P** **07 18 39.3 +1.5**
baz=261
ARR Arges 92.27 315⇑ P **P** **07 18 38.3 -0.2**
ANM Nome 92.32 25 P **P** **07 18 39.9 +1.7**
baz=261
VSU Vasula 92.53 328*d* *e*P **P** **07 18 38.4 -0.9**
VSU pmax pmax
comp=Z,83nm,0.7s
M13K Dall Lake 92.65 30 P **P** **07 18 41.2 +1.4**
baz=262
S12K Black Hills 92.75 34 P **P** **07 18 40.6 +0.2**
baz=263
F15K North Star Dit 92.80 24 P **P** **07 18 41.9 +1.5**
baz=262
J14K Nanvaranak Lak 92.86 27 P **P** **07 18 41.5 +0.8**
baz=262
C16K Lisburne Hills 92.91 22 P **P** **07 18 41.5 +0.6**
C16K Lisburne Hills 92.91 22 P **P** **07 18 42.2 +1.4**
baz=261,SNR=9.0
G15K Niukluk 92.95 25 P **P** **07 18 42.2 +1.1**
baz=262
VADS Vadso 93.07 340 *e*P **P** **07 18 43.2 +1.7**
VADS IAmb IAmb 07 19 34.7
comp=Z,162nm,1.5s
VADS *e*pP **pP** **07 20 56.1 +0.2**
VADS *e*SS SS 07 35 30.7 +1.0
L14K Kuka Creek 93.09 29 P **P** **07 18 42.6 +0.8**
baz=263,SNR=6.4
FIA1 FINESS Array S 93.22 331 P **P** **07 18 42.5 +0.1**
FINES FINESS Array B 93.22 331 P **P** **07 18 42.8 +0.4**
FINES FINESS Array B 93.22 331 P **P** **07 18 42.2 -0.1**
comp=Z,17nm,0.6s,baz=117,slow=5.4,SNR=34
FINES pP **pP** **07 20 58.0 +1.2**
comp=Z,6.5nm,0.8s,baz=126,slow=19,SNR=3.6
FINES PKiKP **PKiKP** **07 23 25.0 +0.6**
comp=Z,7.7nm,0.8s,baz=122,slow=4.0,SNR=5.8
FINES PKKP **PKKPdf** **07 35 47.4 +0.5**
comp=Z,2.5nm,0.4s,baz=275,slow=0.4,SNR=19
comp=Z,17nm,0.6s
FINES FINESS Array B 93.22 331 P **P** **07 18 42.8 +0.4**

LIT	Litokhoron	93.33	310		P		P	07 18 42.5	-1.0	
LIT	Litokhoron	93.33	310		P		P	07 18 42.5	-1.0	
LIT					pmax		pmax			
	comp=Z,188nm,1.4s									
M14K	Bethel	93.37	29		P		P	07 18 43.1	0.0	
M14K					IAmb		IAmb	07 18 47.5		
	comp=Z,54nm,1.1s									
M14K	Bethel	93.37	29		P		P	07 18 44.5	+1.4	
	baz=264,SNR=6.8									
VAY	Valandovo	93.38	311	*i*	P		P	07 18 42.4	-1.2	
N14K	Kuskokwak Cree	93.42	30		P		P	07 18 43.7	+0.4	
	baz=264									
MARR	Marisel-Cluj	93.45	316	⇓	P		P	07 18 44.2	+0.2	
VNA2	Neumayer--Watz	93.49	197	⇓	P		P	07 18 44.5	+1.0	
	comp=Z,18nm,0.6s,baz=107,slow=4.6									
VNA2				⇑	pP		pP	07 20 58.7	+0.9	
	comp=Z,12nm,0.7s,baz=4.0,slow=3.0									
VNA2				⇑	sP		sP	07 21 57.9	-1.7	
	baz=360,slow=3.3									
VNA2				⇓	PP		PP	07 22 38.2	-0.7	
	baz=341,slow=5.4									
VNA2				⇑	SKSac		SKSac	07 28 17.8	-0.6	
	baz=342,slow=10									
VNA2				⇓	x		x	07 35 45.0		
	comp=Z,2.3nm,0.6s,baz=318,slow=3.6									
O14K	Tigyukauivet M	93.56	31		P		P	07 18 44.4	+0.4	
	baz=264									
GZR	Gura Zlata	93.58	315	⇓	P		P	07 18 44.6	+0.1	
GZR	Gura Zlata	93.58	315		P		P	07 18 44.6	+0.1	
SDPT	Sand Point	93.61	35		P		P	07 18 44.5	+0.2	
	baz=265									
H16K	Elim	93.67	25		P		P	07 18 45.1	+0.7	
	baz=264									
D17K	Noatak River	93.68	22		P		P	07 18 45.4	+1.0	
	baz=263,SNR=18									
L15K	Ungalak Mounta	93.70	28		P		P	07 18 45.2	+0.7	
	baz=264									
G16K	Koyuk River	93.70	25		P		P	07 18 45.6	+1.1	
G16K					IAmb		IAmb	07 18 48.4		
	comp=Z,38nm,0.8s									
G16K	Koyuk River	93.70	25		P		P	07 18 45.7	+1.2	
	baz=264,SNR=12									
C17K	DeLong Mountai	93.74	22		P		P	07 18 45.9	+1.2	
	baz=263									
K15K	Wolf Creek Mou	93.74	28		P		P	07 18 45.8	+1.0	
	baz=264									
RDOG	Red Dog Mine	93.79	22		P		P	07 18 45.6	+0.8	
	baz=263									
VNA1	Neumayer--Stat	93.88	197	⇓	P		P	07 18 46.2	+1.0	
	comp=Z,24nm,1.2s									
VNA1				⇑	pP		pP	07 21 02.9	+3.3	
	comp=Z,14nm,1.0s									
VNA1				⇑	SKSac		SKSac	07 28 21.2	+0.7	
VNA1				⇓	x		x	07 35 42.5		
	comp=Z,5.1nm,1.0s									
VNA3	Neumayer Olymp	93.97	196	⇓	P		P	07 18 46.4	+0.7	
	comp=Z,21nm,0.8s									
VNA3				⇑	pP		pP	07 21 04.0	+4.0	
	comp=Z,9.7nm,0.7s									
VNA3				⇑	sP		sP	07 22 00.2	-1.6	
VNA3				⇓	SKSac		SKSac	07 28 19.7	-1.3	
VNA3				⇓	x		x	07 35 43.8		
	comp=Z,3.2nm,0.8s									
M15K	Kasigluk River	93.99	30		P		P	07 18 46.5	+0.6	
	baz=265,SNR=6.8									
SUW	Suwalki	94.04	324		*e*P		P	07 18 46.4	+0.1	
SUW					*e*pP		pP	07 21 00.6	-0.1	
SUW					*e*S		S	07 29 05.1	+1.1	
SURR	Surduc	94.06	315	⇓	P		P	07 18 46.3	-0.3	
CHNA	Chernabura Isl	94.08	35		P		P	07 18 47.2	+0.8	
	baz=265									
E17K	Hotham Inlet	94.09	23		P		P	07 18 47.7	+1.5	
	baz=264									
BELA	Belgrano 2	94.19	187		P		P	07 18 46.2	-0.4	
BELA					IAmb		IAmb	07 18 48.3		
	comp=Z,50nm,1.4s									
BOVS	Bovan	94.20	313	⇓	P		P	07 18 47.1	-0.2	
KOLS	Kolonicke sedl	94.21	319		*e*P		P	07 18 48.8	+1.6	
S14K	Fog Glacier	94.21	34		P		P	07 18 47.8	+0.7	
	baz=266									
N15K	Kwethluk River	94.24	30		P		P	07 18 48.4	+1.3	
	baz=265									
J16K	Anvik River	94.26	27		P		P	07 18 48.4	+1.3	
J16K					IAmb		IAmb	07 21 03.7		
	comp=Z,46nm,1.1s									
J16K	Anvik River	94.26	27		P		P	07 18 48.4	+1.3	
	baz=265,SNR=10									
F17K	Baldwin Pennin	94.26	24		P		P	07 18 48.1	+1.1	
	baz=265									
I17K	Unalakleet	94.27	26		P		P	07 18 48.5	+1.4	
	baz=265									
MDVR	Moldovita	94.28	314	⇓	P		P	07 18 48.2	+0.5	
O15K	Ungalikthiuk R	94.30	31		P		P	07 18 49.3	+2.0	
	baz=265									
ARA0	ARCESS Array S	94.32	339		IAmb		IAmb	07 18 44.7		
	comp=Z,533nm,3.0s									
ARA0					*e*P		P	07 18 48.7	+1.4	
ARA0					*e*pP		pP	07 20 57.2	-4.6	
ARA0					*e*SP		SP	07 30 29.6	+2.6	
ARA0					*e*SS		SS	07 35 48.0	+0.6	
ARCES	ARCESS Array B	94.32	339		P		P	07 18 47.3	0.0	
	comp=Z,5.3nm,0.5s,baz=89,slow=4.5,SNR=25									
ARCES					PKiKP		PKiKP	07 23 26.4	+0.2	
	comp=Z,1.3nm,0.4s,baz=172,slow=2.3,SNR=8.4									
ARCES					PKKP		PKKPdf	07 35 45.0	-0.1	
	comp=Z,3.8nm,1.0s,baz=259,slow=1.6,SNR=3.7									
	comp=Z,5.3nm,0.5s									
B18K	Kokolik River	94.33	21		P		P	07 18 49.1	+1.9	
	baz=264									
BZS	Buzias	94.41	315	⇓	P		P	07 18 47.9	-0.3	
BZS	Buzias	94.41	315		P		P	07 18 47.9	-0.3	
G17K	Kiwalik Mounta	94.42	25		P		P	07 18 48.3	+0.5	
	baz=265,SNR=15									
SIRR	Siria	94.43	316	⇑	P		P	07 18 48.3	0.0	
C18K	Utukok River	94.48	22		P		P	07 18 49.3	+1.2	
C18K	Utukok River	94.48	22		P		P	07 18 48.8	+0.7	
	baz=265,SNR=7.0									
E18K	Tukpahlearik C	94.60	23		P		P	07 18 48.6	+0.1	
	baz=265,SNR=9.5									
A19K	Wainwright	94.66	20		P		P	07 18 49.4	+0.7	
	baz=265									
L16K	Owhat River	94.66	29		P		P	07 18 49.9	+0.9	
	baz=266,SNR=10									
H17K	Granite Mounta	94.69	25		P		P	07 18 50.0	+1.0	
H17K					IAmb		IAmb	07 18 51.4		
	comp=Z,26nm,0.8s									
H17K	Granite Mounta	94.69	25		P		P	07 18 49.3	+0.3	
	baz=266,SNR=13									
OHR	Ohrid	94.69	311	*i*	P		P	07 18 48.7	-0.9	
CHGN	Chignik	94.85	34		P		P	07 18 50.6	+0.7	
	baz=266									
M16K	Timber Creek	94.86	29		P		P	07 18 50.2	+0.4	
	baz=266									
F18K	Selawik	94.91	24		P		P	07 18 50.5	+0.6	
	baz=266									
N16K	Nishlik Lake	94.92	30		P		P	07 18 50.6	+0.4	
	baz=266,SNR=6.4									
J17K	VABM Dome	94.95	27		P		P	07 18 51.1	+0.8	
	baz=266,SNR=5.3									
HAMF	Hammerfest	95.03	340		*e*P		P	07 18 50.0	-0.4	
HAMF					IAmb		IAmb	07 19 58.6		
	comp=Z,479nm,2.5s									
HAMF					*e*pP		pP	07 21 04.2	-0.8	
HAMF					*e*SP		SP	07 30 32.9	-1.8	
HAMF					*e*SS		SS	07 35 58.1	+0.9	
HOPEN	Hopen	95.08	346		IAmb		IAmb	07 18 47.3		
	comp=Z,168nm,1.3s									
HOPEN					*e*P		P	07 18 49.1	-1.4	
HOPEN					*e*pP		pP	07 21 03.5	-1.7	
HOPEN					*e*			07 25 42.0		
HOPEN					*e*SP		SP	07 30 40.6	+5.6	
HOPEN					*e*SS		SS	07 36 05.2	+7.6	
KTK1	Kautokeino	95.08	339		IAmb		IAmb	07 18 42.6		
	comp=Z,365nm,2.5s									
KTK1					*e*P		P	07 18 52.4	+1.7	
KTK1					*e*pP		pP	07 21 02.3	-3.0	
KTK1					*e*			07 25 55.2		
KTK1					*e*SP		SP	07 30 35.9	+0.6	
C19K	Lookout Ridge	95.09	21		P		P	07 18 51.9	+1.1	
	baz=266,SNR=8.8									
R9F13	Warsaw-Wawer	95.14	322		*e*P		pP	07 21 07.3	+1.4	
O16K	Kokwok River B	95.21	31		P		P	07 18 51.7	+0.3	
	baz=267									
P16K	Nushagak River	95.23	31		P		P	07 18 51.8	+0.3	
	baz=267									
L17K	Donlin	95.24	28		P		P	07 18 52.2	+0.7	
	baz=267,SNR=5.8									
K17K	Iditarod	95.27	28		P		P	07 18 52.2	+0.6	
	baz=267,SNR=9.6									
G18K	Tagagawik	95.27	24		P		P	07 18 52.3	+0.6	
	baz=267									
BEL	Belsk	95.34	321		*e*P		P	07 18 52.9	+0.7	
BEL					*e*pP		pP	07 21 07.9	+1.1	
H18K	Honhosa River	95.36	25		P		P	07 18 51.2	-0.9	
H18K					IAmb		IAmb	07 21 09.9		
	comp=Z,68nm,1.6s									
H18K	Honhosa River	95.36	25		P		P	07 18 52.5	+0.4	
	baz=267									
R16K	Pilot Point	95.38	33		P		P	07 18 52.5	+0.3	
	baz=267									
NIE	Niedzica	95.53	319		*e*P		P	07 18 54.0	+0.8	
NIE					*e*pP		pP	07 21 08.2	+0.4	
NIE					*e*PP		PP	07 22 54.4	-1.0	
TBI	Tubuai	95.59	114		*e*PKIKP		P	07 18 53.4	-0.6	
	comp=Z,6μm,34.8s									
TBI	Tubuai	95.59	114		*e*sS		sS	07 33 12.6	-8.6	
	comp=Z,2μm,26.5s									
TBI					*e*SS		SS	07 36 05.3	-1.7	
	comp=Z,5μm,27.2s									
TBI	Tubuai	95.59	114		*e*LR		LR	07 50 43.8		
	comp=Z,3μm,29.2s									
D19K	Kuna River	95.60	22		P		P	07 18 53.2	+0.1	
	baz=268									
M17K	Holitna River	95.61	29		P		P	07 18 53.1	-0.2	
	baz=268									
F19K	Shaleruckik Mo	95.67	23		P		P	07 18 53.9	+0.5	
	baz=268									
N17K	Nushagak Hills	95.70	30		P		P	07 18 54.3	+0.7	
	baz=268									
O17K	Koliganek Bris	95.72	31		P		P	07 18 54.6	+0.9	
	baz=268									
PSZ	Piszkesteto	95.73	317	⇑	P		P	07 18 54.2	0.0	
PSZ	Piszkesteto	95.73	317		P		P	07 18 54.1	0.0	
OJC	Ojcow	95.89	320		*e*P		P	07 18 54.2	-0.5	
OJC					*e*pP		pP	07 21 08.2	-1.2	
OJC					*e*PP		PP	07 22 58.6	+0.6	
OJC	Ojcow	95.89	320		P		P	07 18 54.3	-0.5	
OJC	Ojcow	95.89	320		P		P	07 18 54.3	-0.5	
E19K	Redstone River	95.90	23		P		P	07 18 55.2	+0.8	
	baz=268									
Q16K	King Salmon	95.91	32		P		P	07 18 55.1	+0.5	
	baz=268									
PDG	Podgorica	95.92	312	⇓	P		P	07 18 55.0	-0.1	
G19K	Purcell Mounta	95.92	24		P		P	07 18 55.5	+0.9	
	baz=268,SNR=12									
GCSA	Galena City Sc	95.97	26		P		P	07 18 55.5	+0.7	
	baz=268,SNR=5.4									
B20K	Meade River	95.98	20		P		P	07 18 55.3	+0.6	
	baz=269									
L18K	Granite Mounta	96.00	28		P		P	07 18 55.7	+0.7	
	baz=268,SNR=9.7									
J18K	Innoko River	96.02	27		P		P	07 18 55.4	+0.4	
	baz=269,SNR=9.3									
R17L	Mt. Peulik Vol	96.03	33		P		P	07 18 55.6	+0.4	
	baz=268									
P17K	Kvichak River	96.04	31		P		P	07 18 54.9	-0.2	
	baz=269									
LANS	Liptovska Anna	96.06	319	*i*	P		P	07 19 00.1	+4.5	
LANS				*e*				07 22 57.4		
JETT	Jettan, Norway	96.11	339		*e*P		P	07 18 55.9	+0.6	
JETT					IAmb		IAmb	07 20 29.3		
	comp=Z,402nm,2.6s									
JETT					*e*pP		pP	07 21 09.7	-0.4	
D20K	Etivluk River	96.16	22		Pdiff		P	07 18 56.6	+1.0	
	baz=269									
H19K	Roundabout Mou	96.17	25		Pdiff		P	07 18 56.3	+0.6	
	baz=269									
A21K	Barrow	96.18	19		Pdiff		P	07 18 55.8	+0.2	
	baz=270									
Q17K	Contact Creek	96.30	32		Pdiff		P	07 18 55.7	-0.8	
	baz=269									
E20K	Nigu River	96.31	22		Pdiff		P	07 18 56.4	+0.1	
	baz=270									
N18K	Kilae Creek	96.35	30		Pdiff		P	07 18 56.9	+0.3	
	baz=269									
PPT2	Papeete2	96.35	108		*e*PKIKP		P	07 18 55.8	-1.8	
	comp=Z,176nm,25.8s									
PPT2					*e*pP		pP	07 20 59.9	-12	
	comp=Z,310nm,25.0s									
PPT2	Papeete2	96.35	108		*e*sS		sS	07 33 18.5	-9.2	
	comp=Z,1μm,24.8s									
PPT2	Papeete2	96.35	108		*e*LR		LR	07 51 09.0		
	comp=Z,564nm,25.0s									
PPT2					*e*LR		LR	07 51 09.2		
	comp=Z,417nm,25.8s									
M18K	Stony River	96.39	29		Pdiff		P	07 18 55.3	-1.5	
	baz=269									
CHIR	Chirikof Islan	96.39	35		Pdiff		P	07 18 55.2	-1.6	
	baz=269									
F20K	Avaraart Lake	96.48	23		Pdiff		P	07 18 56.1	-0.8	
	baz=270									
J19K	Poorman	96.51	26		P		P	07 18 58.2	+1.0	
J19K					IAmb		IAmb	07 21 16.4		
	comp=Z,26nm,1.1s									
J19K	Poorman	96.51	26		Pdiff		P	07 18 56.3	-1.0	
	baz=270									
BJO1	Bjornoya	96.53	344		*e*P		P	07 18 56.4	-0.7	
BJO1					IAmb		IAmb	07 19 03.3		
	comp=Z,78nm,1.0s									
TRO	Tromso	96.63	339		*e*P		P	07 18 57.7	+0.1	
P18K	Big Mountain,	96.66	31		Pdiff		P	07 18 56.9	-1.1	
	baz=269									
A22K	Sinclair Lake	96.72	19		Pdiff		P	07 18 56.9	-1.1	
	baz=271									
Q18K	Katmai Hardscr	96.77	32		Pdiff		P	07 18 56.9	-1.7	
	baz=270									
C21K	Knifeblade Rid	96.82	21		Pdiff		P	07 18 57.5	-1.0	
	baz=271									
H20K	Anotleneega Mo	96.83	25		Pdiff		P	07 18 57.0	-1.6	
	baz=270									
L19K	White Mountain	96.86	28		P		P	07 19 00.1	+1.2	
L19K					IAmb		IAmb	07 21 18.1		
	comp=Z,46nm,1.3s									
L19K	White Mountain	96.86	28		Pdiff		P	07 18 57.3	-1.5	
	baz=270									
B21K	Ikpikpuk River	96.87	21		P		P	07 18 59.7	+1.1	
B21K	Ikpikpuk River	96.87	21		Pdiff		P	07 18 57.6	-1.0	
	baz=271									
OKC	Ostrava-Krasne	96.94	319	⇓	*i*P		P	07 19 00.1	+0.6	
OKC					*e*			07 28 40.8		
OKC	Ostrava-Krasne	96.94	319	⇓	*e*PDIFF		P	07 19 00.1	+0.6	
OKC					*e*SKS		SKSac	07 28 40.8	+3.7	
SPB2	Spitsbergen Ar	96.99	348		P		P	07 18 59.2	+0.1	
SPA0	Spitsbergen Ar	96.99	348		*e*P		P	07 18 59.1	0.0	
SPA0					IAmb		IAmb	07 19 02.3		
	comp=Z,118nm,1.2s									
SPITS	Spitsbergen Ar	96.99	348		P		P	07 18 58.8	-0.3	
	comp=Z,32nm,0.6s,baz=99,slow=8.0,SNR=24									
	comp=Z,32nm,0.6s									
I20K	Naaghedeneel	97.00	25		Pdiff		Pdif	07 18 58.1	-1.2	
	baz=271									
N19K	Bonanza Creek	97.04	30		Pdiff		Pdif	07 18 58.3	-1.5	
	baz=270									
R18K	Karluk	97.06	33		Pdiff		Pdif	07 18 59.0	-0.8	
	baz=270									
O19K	Port Alsworth	97.12	30		Pdiff		Pdif	07 18 58.7	-1.3	
	baz=270									
E21K	Killik River	97.13	22		Pdiff		Pdif	07 18 58.4	-1.6	
	baz=272									
MAUC	Maruska	97.14	319	⇓	*e*pP		pP	07 21 13.3	-2.0	
J20K	Nowinta River	97.16	26		P		P	07 19 01.0	+0.9	
J20K					IAmb		IAmb	07 21 16.3		
	comp=Z,22nm,1.1s									
J20K	Nowinta River	97.16	26		Pdiff		Pdif	07 18 58.6	-1.4	
	baz=271									
SII	Sitkinak Islan	97.20	34		Pdiff		Pdif	07 18 58.8	-1.7	
	baz=270									
K20K	Telida	97.21	27		Pdiff		Pdif	07 18 59.2	-1.2	
	baz=271									
JAVC	Velka Javorina	97.24	318		*e*PDIFF		P	07 19 01.8	+0.9	
JAVC					*e*pP		pP	07 21 16.0	+0.3	
B22K	Teshekpuk Lake	97.25	20		Pdiff		Pdif	07 18 59.5	-0.9	
	baz=272									
IMAR	Indian Mountai	97.28	24		P		P	07 19 01.3	+0.7	
L20K	Farewell, AK	97.31	28		Pdiff		Pdif	07 19 00.0	-0.9	
	baz=271									
MORC	Moravsky Berou	97.33	319		*e*PDIFF		P	07 19 01.3	0.0	
MORC					*e*pP		pP	07 21 15.8	-0.3	
MORC					*e*PP		PP	07 23 08.6	-0.4	
MORC					*e*SKS		SKSac	07 28 40.9	+1.7	
MORC					*e*PKKP		PKKPbc	07 35 36.7	-1.7	
MORC	Moravsky Berou	97.33	319	⇑	P		P	07 19 01.8	+0.5	
F21K	Alatna River	97.35	23		Pdiff		Pdif	07 19 00.1	-0.9	
	baz=272									
G21K	Allakaket	97.37	24		Pdiff		Pdif	07 19 00.4	-0.6	
	baz=272									
Q19K	Cape Douglas,	97.48	31		Pdiff		Pdif	07 19 00.4	-1.3	
	baz=271									
MODS	Modra-Piesok	97.49	318	*i*	P		P	07 19 02.3	+0.3	
D22K	Ayikyak River	97.58	21		Pdiff		Pdif	07 19 01.3	-0.6	
	baz=273									
M20K	Styx River	97.67	28		Pdiff		Pdif	07 19 00.9	-1.7	
	baz=272									
P19K	Oil Pt	97.68	31		Pdiff		Pdif	07 19 01.6	-0.9	
	baz=271									
H21K	Melozitna Rive	97.69	25		Pdiff		Pdif	07 19 01.9	-0.5	
	baz=272									
OHAK	Old Harbor	97.69	33		Pdiff		Pdif	07 19 02.4	-0.2	
	baz=271									
TIP	Timpagrande	97.70	309	⇓	P		Pdif	07 19 03.1	-0.1	
KBS	Kingsbay	97.79	349		*e*P		P	07 19 02.8	+0.2	
F22K	John River	97.84	23		Pdiff		Pdif	07 19 02.6	-0.5	
	baz=273									
E22K	Anaktuvuk Pass	97.94	22		Pdiff		Pdif	07 19 03.3	-0.3	
	baz=274									
VRAC	Vranov	97.95	319		*e*PDIFF		P	07 19 04.0	0.0	
VRAC					*e*pP		pP	07 21 19.9	+1.0	
VRAC					*e*PP		PP	07 23 11.4	-2.2	
VRAC					*e*SKS		SKSac	07 28 42.3	+0.1	
VRAC					*e*PKKP		PKKPbc	07 35 35.0	-1.6	
CHUM	Lake Minchumin	97.97	26		Pdiff		Pdif	07 19 03.6	-0.1	
	baz=273									
STEI	Steigen	98.04	338		*e*P		P	07 19 04.8	+0.9	
I21K	Tanana	98.05	25		Pdiff		Pdif	07 19 03.9	-0.2	
	baz=273									
FAUS	Fauske	98.05	337		*e*P		P	07 19 04.5	+0.5	
KDAK	Kodiak Island	98.06	33		Pdiff		Pdif	07 19 04.0	-0.2	
	baz=272									
PPLA	Purkeypile	98.07	27		Pdiff		Pdif	07 19 03.8	-0.6	
	baz=272									
KRUC	Moravsky	98.08	319		*e*PDIFF		Pdif	07 19 04.0	-0.6	
KRUC					*e*pP		pP	07 21 19.8	+0.3	
KRUC					*e*PP		PP	07 23 13.9	-0.7	
KRUC					*e*SKS		SKSac	07 28 44.0	+1.2	
KRUC					*e*PKKP		PKKPbc	07 35 34.5	-1.7	
DPC	Dobruska-Polom	98.12	320	⇓	*i*P		P	07 19 05.4	+0.6	
DPC					*e**PP		pP	07 21 17.9	-1.8	
DPC	Dobruska-Polom	98.12	320	⇓	*e*PDIFF		P	07 19 05.4	+0.6	
DPC					*e*pP		pP	07 21 17.9	-1.8	
KSP	Ksiaz	98.14	320		*e*P		P	07 19 06.8	+2.0	
KSP					*e*pP		pP	07 21 20.5	+0.8	
KSP					*e*PP		PP	07 23 10.8	-4.1	
Q20K	Shuyak Island	98.14	32		Pdiff		Pdif	07 19 04.2	-0.4	
	baz=272									
SPCR	Spurr Chakacha	98.14	29		Pdiff		Pdif	07 19 03.9	-0.8	
	baz=272									
G22K	Bettles	98.14	23		Pdiff		P	07 19 04.6	+0.2	
	baz=274									
RONA	Rosalia, Austr	98.15	317		*e*Pdiff		P	07 19 08.2	+3.2	
	comp=Z,6.3nm,1.5s									
RONA					*i* PKiKP		PKiKP	07 23 33.9	+0.3	
	comp=Z,7.4nm,1.0s									
KOGS	Kog	98.18	316		*e*Pdiff		P	07 19 08.3	+3.3	
KOGS					*e*pP		pP	07 21 17.0	-3.0	
KOGS					*i*			07 23 13.2		
KOGS					*e*PP		PP	07 23 16.2	+0.8	
OSTC	Ostas	98.19	320	⇓	*e*pP		pP	07 21 17.8	-2.2	
OSTC					*e*PP		PP	07 23 12.9	-2.5	
C23K	Itkillik River	98.25	20		Pdiff		Pdif	07 19 04.6	-0.2	
	baz=275									
H22K	Ishtalitna Cre	98.26	24		Pdiff		Pdif	07 19 02.6	-2.4	
	baz=274									
D23K	Nanushuk River	98.30	21		Pdiff		Pdif	07 19 02.9	-2.2	
	baz=275									
UPC	Upice	98.32	320	⇓	*i*P		Pdif	07 19 05.6	0.0	
UPC					*e**PP		pP	07 21 18.2	-2.4	
UPC					*e*			07 31 12.6		
UPC	Upice	98.32	320	⇓	*e*PDIFF		Pdif	07 19 05.6	0.0	
UPC					*e*pP		pP	07 21 18.2	-2.4	
UPC					*ex*		x	07 31 12.6		
SKT	Skwentna	98.42	28		Pdiff		Pdif	07 19 04.2	-1.6	
	baz=273									
CONA	Conrad Observa	98.44	317	*i*	Pdiff		P	07 19 07.2	+0.8	
	comp=Z,9.5nm,1.1s									
CONA					*e*PP		PP	07 23 21.1	+3.7	
	comp=Z,14nm,1.6s									
MOR8	Moi Rana	98.47	336		*e*P		Pdif	07 19 05.8	-0.1	
HOM	Homer	98.48	31		Pdiff		Pdif	07 19 04.3	-1.8	
	baz=272									
BPAW	Bear Paw Mtn.	98.55	26		Pdiff		Pdif	07 19 04.7	-1.6	
	baz=274									
MLY	Manley	98.59	25		Pdiff		Pdif	07 19 05.3	-1.2	
	baz=274									
RAUS	Rausandaksla	98.61	336		*e*Pdif		P	07 19 08.2	+1.6	
COLD

CKRC	**Cesky Krumlov**	**99.46**	**318**	⇓	*e*PDIFF	**Pdif**	**07 19 09.2**	**-1.5**
CKRC					*e*pP	**pP**	**07 21 23.3**	**-2.5**
CKRC					*ex*	x	07 28 49.5	
CKRC					*ex*	x	07 31 24.9	
MCK	**McKinley**	**99.48**	**26**		Pdiff	**Pdif**	**07 19 09.1**	**-1.4**
	baz=276							
F24K	**Squaw Lake**	**99.49**	**23**		Pdiff	**Pdif**	**07 19 09.6**	**-0.8**
	baz=277							
MOA	**Molln**	**99.51**	**317**		*i* PP	**PP**	**07 23 25.2**	**-0.1**
	comp=Z,11nm,0.9s							
SEW	**Seward**	**99.56**	**30**		Pdiff	**Pdif**	**07 19 10.1**	**-0.7**
	baz=274							
PMR	**Palmer**	**99.59**	**29**		Pdiff	**Pdif**	**07 19 10.6**	**-0.3**
	baz=275							
BRG	**Berggiesshubel**	**99.62**	**320**		pP	pP	07 21 23.0	-3.5
BRG	**Berggiesshubel**	**99.62**	**320**	⇓	Sif		07 29 51.0	
BRG	**Berggiesshubel**	**99.62**	**320**		SP	SP	07 31 21.0	-3.7
BRG	**Berggiesshubel**	**99.62**	**320**		SS	SS	07 37 03.0	+1.3
NSS	**Namsos**	**99.66**	**334**		*e*Pdif	**Pdif**	**07 19 12.0**	**+0.8**
H24K	**Noodor Dome**	**99.70**	**24**		Pdiff	**Pdif**	**07 19 10.9**	**-0.5**
	baz=277							
WAT1	**Susitna Watana**	**99.74**	**27**		Pdiff	**Pdif**	**07 19 10.6**	**-1.1**
	baz=276							
G24K	**Hadweenzic Riv**	**99.75**	**23**		Pdiff	**Pdif**	**07 19 11.0**	**-0.6**
	baz=277							
D25K	**Kavik River**	**99.79**	**21**		Pdiff	**Pdif**	**07 19 11.1**	**-0.7**
	baz=279							
COLA	**College**	**99.83**	**25**		Pdiff	**Pdif**	**07 19 11.5**	**-0.4**
	baz=277							
GERES	**GERESS Array B**	**99.86**	**318**		Pdiff	**Pdif**	**07 19 13.1**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=44,slow=4.1,SNR=4.4							
GERES					PP	**PP**	**07 23 25.6**	**-2.4**
	comp=Z,2.0nm,0.7s,baz=79,slow=8.7,SNR=3.5							
GERES					PKKPbc	**PKKPbc**	**07 35 30.9**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=60,slow=6.3,SNR=4.1							
KHC	**Kasperske Hory**	**99.93**	**319**	⇓	*i* P	**Pdif**	**07 19 14.2**	**+1.4**
KHC					*e**PP	**pP**	**07 21 26.3**	**-1.6**
KHC					*e*		07 23 26.9	
KHC					*e*		07 28 45.5	
KHC	**Kasperske Hory**	**99.93**	**319**	⇓	*e*PDIFF	**Pdif**	**07 19 14.2**	**+1.4**
KHC					*e*pP	**pP**	**07 21 26.3**	**-1.6**
KHC					*e*PP	**PP**	**07 23 26.9**	**-1.5**
KHC					*ex*	x	07 28 45.5	
KNK	**Knik Glacier**	**99.93**	**29**		Pdiff	**Pdif**	**07 19 11.6**	**-0.9**
	baz=276							
BIOA	**Bad Ischl, Aus**	**99.94**	**317**		*e*Pdiff	**Pdif**	**07 19 14.3**	**+1.4**
	comp=Z,3.0nm,0.6s							
POKR	**Poker Plat Res**	**99.97**	**25**		Pdiff	**Pdif**	**07 19 11.7**	**-1.0**
	baz=277							
MYKA	**Terra Mystica**	**99.97**	**316**		*i* Pdiff	**Pdif**	**07 19 13.8**	**+0.6**
	comp=Z,8.7nm,1.1s							
MYKA					*e*PP	**PP**	**07 23 29.2**	**+0.4**
	comp=Z,12nm,1.1s							
PWL	**Port Wells**	**100.04**	**29**		Pdiff	**Pdif**	**07 19 12.1**	**-1.0**
	baz=276							
WAT6	**Susitna Watana**	**100.14**	**28**		Pdiff	**Pdif**	**07 19 12.9**	**-0.8**
	baz=276							
KBA	**Koelnbreinsper**	**100.16**	**317**		*e*PP	**PP**	**07 23 29.9**	**-0.5**
	comp=Z,13nm,1.0s							
C26K	**Camden Bay**	**100.19**	**20**		Pdiff	**Pdif**	**07 19 13.8**	**+0.4**
	baz=280							
CLL	**Collm**	**100.20**	**321**		*e*P	**Pdif**	**07 19 16.0**	**+2.1**
CLL					*e*		07 28 49.0	
CLL					*e*S	**Sdif**	**07 29 52.0**	**-4.1**
CLL					pmax	pmax		
	comp=Z,5.0nm,0.8s							
M23K	**Glacier View**	**100.24**	**28**		Pdiff	**Pdif**	**07 19 13.8**	**0.0**
	baz=276							
ILAR	**Eielson Array**	**100.25**	**25**		Pdiff	**Pdif**	**07 19 13.2**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=278,slow=4.6,SNR=17							
ILAR					pP	**pPdif**	**07 21 28.6**	**-0.2**
	comp=Z,5.3nm,1.3s,baz=257,slow=2.2,SNR=7.5							
ILAR					PKiKP	**PKiKP**	**07 23 36.5**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=251,slow=3.8,SNR=4.3							
ILAR					PKKPbc	**PKKPbc**	**07 35 28.2**	**-2.6**
	comp=Z,3.8nm,0.6s,baz=101,slow=0.8,SNR=15							
ILAR					PKPPKP	**P'P'df**	**07 43 45.6**	**+2.2**
	comp=Z,1.3nm,1.2s,baz=129,slow=1.3,SNR=4.7							
DHY	**Denali Highway**	**100.25**	**27**		Pdiff	**Pdif**	**07 19 13.7**	**-0.4**
	baz=277							
NC602	**NORSAR Array S**	**100.26**	**331**		*e*Pdif	**Pdif**	**07 19 14.7**	**+0.7**
E25K	**Arctic Village**	**100.27**	**22**		Pdiff	**Pdif**	**07 19 11.5**	**-2.4**
	baz=279							
HDA	**Harding Lake**	**100.27**	**26**		Pdiff	**Pdif**	**07 19 11.6**	**-2.3**
	baz=278							
G25K	**Bearman Lake**	**100.28**	**23**		Pdiff	**Pdif**	**07 19 12.4**	**-1.5**
	baz=279							
F25K	**Christian Rive**	**100.33**	**22**		Pdiff	**Pdif**	**07 19 12.1**	**-2.1**
	baz=279							
NB2	**NORSAR Subarra1**	**100.39**	**331**		P	**Pdif**	**07 19 14.0**	**-0.6**
	comp=Z,11nm,0.9s,baz=84,slow=4.3							
NB2	**NORSAR Subarra1**	**100.39**	**331**		P	**Pdif**	**07 19 14.0**	**-0.6**
	comp=Z,11nm,0.9s,baz=84,slow=4.3							
NB2					PKKP	**PKKPbc**	**07 35 29.0**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=268,slow=5.3							
NOA	**NORSAR Array B**	**100.39**	**331**		Pdiff	**Pdif**	**07 19 14.2**	**-0.4**
	comp=Z,4.1nm,0.7s,baz=81,slow=4.8,SNR=8.8							
NOA					PKiKP	**PP**	**07 23 33.9**	**+2.4**
	comp=Z,3.1nm,0.8s,baz=73,slow=1.8,SNR=5.1							
NOA					PKKPbc	**PKKPbc**	**07 35 28.1**	**-2.2**
	comp=Z,0.9nm,0.6s,baz=261,slow=2.4,SNR=4.3							
SCM	**Sheep Creek Mo**	**100.42**	**28**		Pdiff	**Pdif**	**07 19 13.0**	**-1.7**
	baz=277							
H25L	**Birch Creek**	**100.47**	**24**		Pdiff	**Pdif**	**07 19 13.5**	**-1.3**
	baz=279							
LESA	**Schwarzleotal**	**100.60**	**317**		*e*Pdiff	**Pdif**	**07 19 17.7**	**+1.7**
	comp=Z,5.2nm,1.0s							
LESA					*i* PP	**PP**	**07 23 32.0**	**-1.5**
	comp=Z,15nm,1.0s							
GLI	**Glacier Island**	**100.64**	**29**		Pdiff	**Pdif**	**07 19 14.4**	**-1.3**
	baz=277							
C27K	**Jago River**	**100.66**	**20**		Pdiff	**Pdif**	**07 19 14.3**	**-1.3**
	baz=282							
PRP	**Porcupine Dome**	**100.71**	**24**		Pdiff	**Pdif**	**07 19 14.7**	**-1.4**
	baz=279							
ABTA	**Abfaltersbach**	**100.75**	**316**		*e*PP	**PP**	**07 23 29.0**	**-5.6**
	comp=Z,9.8nm,1.6s							
K24K	**Donnelly Dome**	**100.86**	**26**		Pdiff	**Pdif**	**07 19 14.6**	**-2.1**
	baz=278							
F26K	**Sheenjek River**	**100.88**	**22**		Pdiff	**Pdif**	**07 19 14.7**	**-1.9**
	baz=281							
J25K	**Salcha River,**	**100.92**	**25**		Pdiff	**Pdif**	**07 19 14.0**	**-2.9**
	baz=279							
M24K	**Tolsona, Glenn**	**100.92**	**28**		Pdiff	**Pdif**	**07 19 14.4**	**-2.6**
	baz=278							
PAX	**Paxson**	**101.12**	**27**		Pdiff	**Pdif**	**07 19 16.5**	**-1.4**
	baz=279							
KLU	**Klutina**	**101.13**	**29**		Pdiff	**Pdif**	**07 19 16.0**	**-2.0**
	baz=278							
G26K	**Porcupine Rive**	**101.15**	**23**		Pdiff	**Pdif**	**07 19 16.1**	**-1.7**
	baz=281							
Q23K	**Middleton Isla**	**101.19**	**31**		Pdiff	**Pdif**	**07 19 16.3**	**-1.8**
	baz=277							
DOMB	**Dombas**	**101.28**	**332**		*e*Pdif	**Pdif**	**07 19 18.8**	**+0.2**
RIDG	**Independent Ri**	**101.28**	**26**		Pdiff	**Pdif**	**07 19 16.9**	**-1.7**
	baz=279							
WTTA	**Wattenberg**	**101.32**	**317**		*e*Pdiff	**Pdif**	**07 19 21.0**	**+1.7**
	comp=Z,6.8nm,0.7s							
WTTA					*e*PP	**PP**	**07 23 36.8**	**-2.2**
	comp=Z,15nm,1.3s							
EYAK	**Cordova Ski Ar**	**101.34**	**29**		Pdiff	**Pdif**	**07 19 16.3**	**-2.4**
	baz=278							
HARP	**HAARP**	**101.35**	**28**		Pdiff	**Pdif**	**07 19 17.2**	**-1.7**
	baz=279							
WATA	**Walderalm**	**101.35**	**317**		*e*Pdiff	**Pdif**	**07 19 20.7**	**+1.4**
	comp=Z,3.5nm,0.6s							
WATA					*i* PP	**PP**	**07 23 35.7**	**-3.5**
	comp=Z,13nm,1.2s							
KONO	**Kongsberg**	**101.36**	**330**		*e*Pdif	**Pdif**	**07 19 19.7**	**+0.9**
SQTA	**Sankt Quirin**	**101.61**	**317**		*i* Pdiff	**Pdif**	**07 19 20.0**	**-0.5**
	comp=Z,3.0nm,0.7s							
SQTA					*i* PKiKP	**PKiKP**	**07 23 39.1**	**-0.9**
	comp=Z,6.2nm,0.8s							
SCRK	**Sand Creek**	**101.62**	**26**		Pdiff	**Pdif**	**07 19 17.7**	**-2.5**
	baz=280							
MOTA	**Moosalm**	**101.67**	**317**		*i* Pdiff	**Pdif**	**07 19 20.8**	**0.0**
	comp=Z,8.4nm,1.5s							
MOTA					*e*PKiKP	**PKiKP**	**07 23 34.1**	**-6.0**
	comp=Z,14nm,1.3s							
D27M	**Malcolm River**	**101.69**	**20**		Pdiff	**Pdif**	**07 19 18.7**	**-1.6**
	baz=284							
J26L	**Joseph Creek**	**101.70**	**25**		Pdiff	**Pdif**	**07 19 18.4**	**-2.1**
	baz=281							
E27K	**Coleen River**	**101.72**	**21**		Pdiff	**Pdif**	**07 19 18.3**	**-2.0**
	baz=283							
N25K	**Chitina, Valde**	**101.74**	**28**		Pdiff	**Pdif**	**07 19 18.8**	**-1.9**
	baz=279							
BMRM	**Bremner River**	**101.84**	**29**		Pdiff	**Pdif**	**07 19 19.0**	**-2.1**
	baz=279							
SKAR	**Skarslia**	**101.85**	**331**		*e*Pdif	**Pdif**	**07 19 22.0**	**+0.9**
MOL	**Molde**	**101.90**	**333**		*e*Pdif	**Pdif**	**07 19 21.8**	**+0.6**
RETA	**Reutte**	**101.90**	**317**		*i* Pdiff	**Pdif**	**07 19 21.9**	**+0.3**
	comp=Z,3.5nm,0.9s							
RETA					*i* PKiKP	**PKiKP**	**07 23 38.5**	**-2.0**
	comp=Z,9.5nm,1.1s							
FETA	**Feichten**	**101.95**	**317**		*e*Pdiff	**Pdif**	**07 19 21.9**	**-0.1**
	comp=Z,4.9nm,1.2s							
FETA					*e*PKiKP	**PKiKP**	**07 23 40.4**	**-0.3**
	comp=Z,6.0nm,0.8s							
G27K	**Doyon Strip**	**102.00**	**23**		Pdiff	**Pdif**	**07 19 19.9**	**-1.8**
	baz=283							
L26K	**Log Cabin Wild**	**102.07**	**27**		Pdiff	**Pdif**	**07 19 20.3**	**-1.7**
	baz=280							
KAIM	**Kayak Island**	**102.09**	**30**		Pdiff	**Pdif**	**07 19 20.1**	**-2.1**
	baz=279							
HOMB	**Homborsund**	**102.11**	**328**		*e*Pdif	**Pdif**	**07 19 21.5**	**-0.7**
H27K	**Steamboat Moun**	**102.19**	**23**		Pdiff	**Pdif**	**07 19 20.5**	**-2.0**
	baz=283							
AKN	**Aaknes**	**102.22**	**332**		*e*Pdif	**Pdif**	**07 19 23.3**	**+0.6**
I27K	**Kandik River**	**102.29**	**24**		Pdiff	**Pdif**	**07 19 21.1**	**-1.9**
	baz=283							
M26K	**Nabesna, AK**	**102.35**	**27**		Pdiff	**Pdif**	**07 19 21.0**	**-2.3**
	baz=281							
E28M	**Babbage River**	**102.35**	**21**		Pdiff	**Pdif**	**07 19 20.9**	**-2.2**
	baz=285							
VLC	**Villacollemand**	**102.38**	**314**		P	**Pdif**	**07 19 32.8**	**+8.9**
VLC					PKP	**PP**	**07 23 47.3**	**+0.7**
D28M	**Stokes Point**	**102.43**	**20**		Pdiff	**Pdif**	**07 19 21.8**	**-1.6**
	baz=286							
K27K	**Chicken**	**102.43**	**26**		Pdiff	**Pdif**	**07 19 21.4**	**-2.2**
	baz=282							
F28M	**Old Crow**	**102.49**	**22**		Pdiff	**Pdif**	**07 19 22.0**	**-1.8**
	baz=285							
DAVA	**Damuels**	**102.51**	**317**		*e*Pdiff	**Pdif**	**07 19 25.4**	**+0.9**
	comp=Z,3.6nm,0.5s							
DAVA					*i* PP	**PP**	**07 23 45.9**	**-1.8**
	comp=Z,40nm,1.3s							
MCARA	**McCarthy VSAT**	**102.52**	**28**		Pdiff	**Pdif**	**07 19 22.3**	**-1.7**
	baz=280							
CRQE	**Cirque**	**102.60**	**29**		Pdiff	**Pdif**	**07 19 22.0**	**-2.6**
	baz=280							
EGAK	**Eagle**	**102.66**	**25**		Pdiff	**Pdif**	**07 19 21.7**	**-2.9**
	baz=283							
L27K	**Beaver Creek,**	**102.74**	**27**		Pdiff	**Pdif**	**07 19 22.1**	**-3.0**
	baz=282							
HYA	**Hoyanger**	**102.78**	**331**		*e*Pdif	**Pdif**	**07 19 25.8**	**+0.6**
ODD1	**Odda**	**102.80**	**330**		*e*Pdif	**Pdif**	**07 19 25.8**	**+0.4**
M27K	**Edge Creek, AK**	**102.86**	**27**		Pdiff	**Pdif**	**07 19 22.6**	**-3.1**
	baz=282							
BLS5	**Blasjo**	**102.97**	**330**		*e*Pdif	**Pdif**	**07 19 26.4**	**+0.3**
E29M	**Blow River**	**102.99**	**21**		Pdiff	**Pdif**	**07 19 23.3**	**-2.6**
	baz=287							
I28M	**Miner Creek**	**103.01**	**24**		Pdiff	**Pdif**	**07 19 23.4**	**-2.8**
	baz=284							
MESA	**MESA**	**103.27**	**30**		Pdiff	**Pdif**	**07 19 24.5**	**-3.1**
	baz=281							
BER	**Bergen**	**103.35**	**331**		*e*Pdif	**Pdif**	**07 19 27.9**	**+0.2**
G29M	**Pine Creek**	**103.37**	**22**		Pdiff	**Pdif**	**07 19 24.6**	**-3.1**
	baz=286							
ASK	**Askoy**	**103.39**	**331**		*e*Pdif	**Pdif**	**07 19 28.0**	**+0.1**
CTG	**Chitna Glacier**	**103.40**	**29**		Pdiff	**Pdif**	**07 19 24.9**	**-3.3**
	baz=282							
H29M	**Whitestone**	**103.43**	**23**		Pdiff	**Pdif**	**07 19 25.2**	**-2.8**
	baz=286							
SUE	**Sulen**	**103.49**	**331**		*e*Pdif	**Pdif**	**07 19 28.7**	**+0.4**
DAWY	**Dawson**	**103.58**	**25**		Pdiff	**Pdif**	**07 19 26.3**	**-2.5**
	baz=284							
KEST	**Kesra**	**103.62**	**305**		Pdiff	**Pdif**	**07 19 29.8**	**+0.2**
	comp=Z,8.1nm,1.1s,baz=355,slow=2.5,SNR=3.6							
KEST					PKiKP	**PKiKP**	**07 23 44.7**	**+0.8**
	comp=Z,5.7nm,0.9s,baz=0.0,slow=3.0,SNR=4.6							
KMY	**Karmoy**	**103.62**	**330**		*e*Pdif	**Pdif**	**07 19 28.7**	**-0.2**
I29M	**Ogilvie Camp,**	**103.69**	**24**		Pdiff	**Pdif**	**07 19 26.6**	**-2.6**
	baz=286							
J29N	**Klondike Camp**	**103.97**	**25**		Pdiff	**Pdif**	**07 19 27.7**	**-2.9**
	baz=286							
F30M	**Barrier River**	**103.99**	**21**		Pdiff	**Pdif**	**07 19 27.7**	**-2.7**
	baz=289							
O28M	**Mount Upton**	**103.99**	**29**		Pdiff	**Pdif**	**07 19 27.2**	**-3.7**
	baz=283							
EPYK	**Eagle Plains**	**104.02**	**23**		Pdiff	**Pdif**	**07 19 28.1**	**-2.6**
	baz=287							
G30M	**tAoh Zraii Nji**	**104.03**	**22**		Pdiff	**Pdif**	**07 19 27.8**	**-2.8**
	baz=288							
YUK8	**Steele Glacier**	**104.08**	**28**		Pdiff	**Pdif**	**07 19 28.1**	**-3.2**
	baz=283							
PINM	**Pinnacle**	**104.11**	**29**		Pdiff	**Pdif**	**07 19 28.2**	**-3.0**
	baz=283							
L29M	**L29M**	**104.37**	**26**		Pdiff	**Pdif**	**07 19 29.1**	**-3.1**
	baz=285							
M29M	**Somme Creek**	**104.39**	**27**		Pdiff	**Pdif**	**07 19 29.5**	**-3.0**
	baz=285							
K29M	**Barlow Dome**	**104.43**	**25**		Pdiff	**Pdif**	**07 19 30.0**	**-2.7**
	baz=286							
DAG	**Dannmarks Havn**	**104.50**	**350**		*i* P	**PKiKP**	**07 23 48.0**	**+3.7**
I30M	**Mount Dempster**	**104.50**	**24**		Pdiff	**Pdif**	**07 19 30.2**	**-2.7**
	baz=288							
INK	**Inuvik**	**104.55**	**20**		Pdiff	**Pdif**	**07 19 30.2**	**-2.7**
	baz=291							
YUK4	**Talbot Arm**	**104.59**	**28**		Pdiff	**Pdif**	**07 19 30.9**	**-2.6**
	baz=284							
PNL	**Peninsula**	**104.63**	**30**		Pdiff	**Pdif**	**07 19 31.0**	**-2.5**
	baz=283							
J30M	**Hart River**	**104.72**	**24**		Pdiff	**Pdif**	**07 19 29.9**	**-4.0**
	baz=287							
G31M	**Satah River**	**104.77**	**22**		Pdiff	**Pdif**	**07 19 29.5**	**-4.4**
	baz=290							
F31M	**Tsiigehtchic**	**104.78**	**21**		Pdiff	**Pdif**	**07 19 30.4**	**-3.5**
	baz=290							
YUK6	**Outpost Mounta**	**104.82**	**28**		Pdiff	**Pdif**	**07 19 32.3**	**-2.3**
	baz=285							
O29M	**Mount Kennedy**	**104.88**	**29**		Pdiff	**Pdif**	**07 19 32.6**	**-2.2**
	baz=284							
M30M	**Minto, Yukon**	**105.10**	**27**		PKiKP	**PKiKP**	**07 23 43.7**	**-2.1**
	baz=286							
H31M	**Peel River**	**105.12**	**23**		PKiKP	**PKiKP**	**07 23 44.0**	**-1.8**
	baz=290							
MAYO	**Mayo, Yukon**	**105.20**	**25**		PKiKP	**PKiKP**	**07 23 44.5**	**-1.5**
	baz=288							
HYT	**Haines Junctio**	**105.26**	**28**		PKiKP	**PKiKP**	**07 23 44.0**	**-2.3**
	baz=285							
N30M	**Aishikik Lake**	**105.28**	**28**		PKiKP	**PKiKP**	**07 23 43.8**	**-2.4**
	baz=286							
P29M	**Windy Craggy**	**105.46**	**30**		PKiKP	**PKiKP**	**07 23 43.9**	**-2.7**
	baz=285							
P30M	**Million Dollar**	**105.71**	**29**		PKiKP	**PKiKP**	**07 23 45.8**	**-1.2**
	baz=286							
N31M	**Braeburn, Yuko**	**105.88**	**27**		PKiKP	**PKiKP**	**07 23 45.2**	**-2.1**
	baz=287							
O30N	**Mendenhall**	**105.94**	**28**		PKiKP	**PKiKP**	**07 23 45.5**	**-2.0**
	baz=287							
PLBC	**Pleasant Camp**	**106.18**	**30**		PKiKP	**PKiKP**	**07 23 46.4**	**-1.5**
	baz=286							
M31M	**Drury Creek, Y**	**106.28**	**27**		PKiKP	**PKiKP**	**07 23 46.8**	**-1.2**
	baz=288							
DBG	**Daneborg**	**106.37**	**348**		*i* P	**PKiKP**	**07 23 50.5**	**+2.6**
WHY	**Whitehorse**	**106.54**	**28**		PKiKP	**PKiKP**	**07 23 45.8**	**-2.9**
	baz=288							
S31K	**Pelican**	**106.65**	**31**		PKiKP	**PKiKP**	**07 23 47.4**	**-1.4**
	baz=286							
TAOE	**Nuku Hiva Isla**	**106.75**	**101**		*e*P	**Pdif**	**07 19 36.0**	**-8.0**
	comp=Z,102nm,25.8s							
TAOE	**Nuku Hiva Isla**	**106.75**	**101**		*e*S	Sdif	07 30 29.5	-23
	comp=Z,589nm,26.9s							
TAOE	**Nuku Hiva Isla**	**106.75**	**101**		*e*LR	LR	07 55 53.3	
	comp=Z,415nm,25.0s							
N32M	**Quiet Lake**	**107.22**	**27**		PKiKP	**PKiKP**	**07 23 48.5**	**-1.3**
	baz=289							
SIT	**Sitka**	**107.37**	**32**		PKiKP	**PKiKP**	**07 23 48.7**	**-1.4**
	baz=286							
P32M	**Atlin**	**107.43**	**29**		PKiKP	**PKiKP**	**07 23 49.3**	**-1.0**
	baz=288							
R32K	**Eaglecrest**	**107.44**	**30**		PKiKP	**PKiKP**	**07 23 48.7**	**-1.5**
	baz=287							
MMPY	**Sheldon Lake,**	**107.51**	**26**		PKiKP	**PKiKP**	**07 23 48.8**	**-1.5**
	baz=292							
P33M	**Teslin, Yukon**	**107.65**	**28**		PKiKP	**PKiKP**	**07 23 48.9**	**-1.8**
	baz=289							
NEEM	**North Greenlan**	**108.05**	**356**		*i* P	**PKiKP**	**07 23 52.4**	**+1.1**
Q32M	**Nakina River**	**108.34**	**29**		PKiKP	**PKiKP**	**07 23 50.2**	**-2.0**
	baz=290							
R33M	**Jennings River**	**108.81**	**29**		PKiKP	**PKiKP**	**07 23 51.8**	**-1.1**
	baz=291							
U33K	**Whale Pass**	**108.82**	**32**		PKiKP	**PKiKP**	**07 23 51.9**	**-1.0**
	baz=288							
EKA	**Eskdalemuir Ar**	**109.01**	**327**		Pdiff	**Pdif**	**07 19 53.1**	**+0.1**
	comp=Z,3.5nm,1.0s,baz=92,slow=5.0,SNR=4.9							
EKA					PKiKP	**PKiKP**	**07 23 54.0**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=57,slow=3.1,SNR=7.2							
EKA					PKKPbc	**PKKPbc**	**07 35 03.7**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=256,slow=3.1,SNR=11							
CRAG	**Craig**	**109.01**	**33**		PKiKP	**PKiKP**	**07 23 52.8**	**-0.4**
	baz=288							
TGTN	**Hyland Airport**	**109.23**	**26**		PKiKP	**PKiKP**	**07 23 53.9**	**+0.3**
	baz=294							
PMSA	**Palmer Station**	**109.31**	**182**		*e*P	**Pdif**	**07 19 54.3**	**+0.2**
DLBC	**Dease Lake**	**109.62**	**29**		PKiKP	**PKiKP**	**07 23 53.0**	**-1.4**
	baz=291							
V35K	**Ketchikan**	**109.87**	**33**		PKiKP	**PKiKP**	**07 23 53.8**	**-1.0**
	baz=289							
T35M	**Bob Quinn**	**110.03**	**31**		PKiKP	**PKiKP**	**07 23 53.9**	**-1.3**
	baz=291							
WRGLY	**Wrigley**	**110.47**	**23**		PKiKP	**PKiKP**	**07 23 56.0**	**+0.2**
	baz=299							
U35K	**Hyder**	**110.52**	**32**		PKiKP	**PKiKP**	**07 23 55.5**	**-0.5**
	baz=291							
TORD	**Torodi Ar. Bea**	**110.91**	**282**		PKiKP	**PKiKP**	**07 23 57.9**	**-0.2**
	comp=Z,11nm,0.5s,baz=35,slow=1.7,SNR=47							
TORD					PP	**PP**	**07 24 48.9**	**0.0**
	comp=Z,2.9nm,0.9s,baz=92,slow=7.7,SNR=4.6							
TORD					SKP		07 26 35.5	
	comp=Z,2.4nm,0.6s,baz=42,slow=2.9,SNR=3.7							
TORD					PKKPbc	**PKKPbc**	**07 34 57.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=307,slow=4.2,SNR=7.9							
TORD					PKKPab	**PKKPab**	**07 35 09.5**	**-0.3**
	comp=Z,2.1nm,1.0s,baz=321,slow=2.1,SNR=4.2							
SUMG	**Summit**	**111.09**	**351**		*i* P	**PKiKP**	**07 23 58.4**	**+1.1**
LIRD	**Liard River Hi**	**111.10**	**28**		PKiKP	**PKiKP**	**07 23 56.3**	**-0.8**
	baz=295							
KULLO	**Kullorsuaq**	**111.22**	**357**		*i* P	**PKiKP**	**07 23 59.4**	**+2.5**
ECHE	**Chera**	**111.34**	**310**		PKP	**PKiKP**	**07 23 59.0**	**+0.8**
KOTAN	**Kotaneelee Air**	**111.70**	**26**		PKiKP	**PKiKP**	**07 23 57.7**	**-0.5**
	baz=298							
TOAD	**Toad River Com**	**111.74**	**28**		PKiKP	**PKiKP**	**07 23 59.1**	**+0.7**
	baz=296							
ENIJ	**Nijar**	**112.76**	**308**		PKP	**PKiKP**	**07 24 01.8**	**+0.8**
UCM	**Universidad Co**	**112.92**	**311**		PKP	**PKiKP**	**07 24 03.6**	**+2.3**
ESDC	**Sonseca Array**	**113.60**	**311**		PKiKP	**PKiKP**	**07 24 03.4**	**+0.8**
	comp=Z,5.6nm,0.6s,baz=16,slow=2.6,SNR=23							
ESDC					PP	**PP**	**07 25 06.9**	**0.0**
	comp=Z,2.2nm,0.8s,baz=75,slow=6.2,SNR=4.7							
ESDC					PKKPbc	**PKKPbc**	**07 34 47.9**	**-1.2**
	comp=Z,2.3nm,0.9s,baz=280,slow=3.5,SNR=8.1							
ESDC					PKKPab	**PKKPab**	**07 34 57.8**	**+0.1**
	comp=Z,5.4nm,0.9s,baz=272,slow=4.8,SNR=15							
YKA	**Yellowknife Ar**	**114.26**	**22**		PKP	**PKiKP**	**07 24 03.4**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=315,slow=13,SNR=32							
YKA					SKP		07 26 40.7	
	comp=Z,4.1nm,1.0s,baz=315,slow=2.0,SNR=4.1							
YKA					PKKPbc	**PKKPbc**	**07 34 46.9**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=309,slow=2.7,SNR=15							
SAATT	**Saattut**	**114

PET01	Itanhaem-SP	143.61	213	*e*P	PKPab	07 24 58.4	-0.1
TIJ01	Guaruva-PR	143.67	210	PKP	PKPbc	07 24 57.8	-1.0
SJMB	Sao Joao De Ma	143.77	227	PKP	PKPbc	07 24 58.3	-0.8
SJMB	Sao Joao De Ma	143.77	227	*e*P	PKPbc	07 24 58.4	-0.7
GUA01	Guaratinga, BA	144.04	231	PKP	**PKPab**	**07 25 00.8**	**+0.5**
GUA01	Guaratinga, BA	144.04	231	*e*P	PKPbc	07 24 59.4	-0.6
SPB	Sao Paulo	144.25	214	*e*P	**PKPdf**	**07 25 00.5**	**0.0**
VAO	Valinhos	144.46	215	*e*P	**PKPdf**	**07 24 57.5**	**-3.4**
VABB	Valinhos	144.46	215	PKP	**PKPab**	**07 25 02.1**	**+0.2**
CMC01	Camacan, BA	144.53	233	PKP	PKPbc	07 25 01.6	+0.1
CMC01	Camacan, BA	144.53	233	*e*P	**PKPdf**	**07 24 59.9**	**-1.2**
M65A	Busby, Falmout baz=356	144.56	3	PKiKP	**PKPdf**	**07 25 00.1**	**-0.4**
NBAN	Anadia - AL	144.59	244	PKP	PKPbc	07 25 01.6	-0.2
NBAN	Anadia - AL	144.59	244	*e*P	**PKPdf**	**07 25 00.2**	**-1.1**
BSCB	Bom Sucesso	144.64	220	PKP	**PKPab**	**07 25 02.7**	**+0.1**
RCLB	Rio Claro- Sao	145.24	215	PKP	**PKPdf**	**07 25 02.8**	**+0.5**
RCLB	Rio Claro- Sao	145.24	215	*e*P	**PKPdf**	**07 25 01.2**	**-1.1**
FRTB	Fartura	145.59	211	PKP	**PKPbc**	**07 25 04.4**	**-0.1**
FRTB	Fartura	145.59	211	*e*P	**PKPdf**	**07 25 00.1**	**-2.7**
PTGB	Pitanga	145.64	207	PKP	**PKPdf**	**07 25 03.6**	**+0.6**
PTGB	Pitanga	145.64	207	*e*P	**PKPdf**	**07 25 01.3**	**-1.6**
RCBR	Riachuelo	145.69	250	PKP	**PKPdf**	**07 25 03.3**	**0.0**
RCBR	Riachuelo	145.69	250	*e*P	**PKPdf**	**07 25 01.9**	**-1.4**
DIAM	Diamantina, MG	145.80	225	PKP	**PKPbc**	**07 25 04.7**	**-0.6**
DIAM	Diamantina, MG	145.80	225	*e*P	**PKPdf**	**07 25 02.7**	**-0.8**
CPUP	Villa Florida comp=Z,55nm,0.9s,baz=358,slow=1.8,SNR=87	146.15	198	PKP	**PKPdf**	**07 25 04.2**	**+0.5**
CPUP	comp=Z,60nm,0.9s,baz=357,slow=1.8,SNR=108			pPKPbc	**PKPbc**	**07 25 06.2**	**+0.4**
CPUP	comp=Z,30nm,1.1s,baz=32,slow=2.4,SNR=9.0			pPKPbc	**pPKPdf**	**07 27 28.0**	**+0.4**
CPUP	Villa Florida	146.15	198	PKP	**PKPdf**	**07 25 04.4**	**+0.8**
BB19B	Bebedouro	146.87	215	PKP	**PKPbc**	**07 25 06.8**	**-1.3**
BB19B	Bebedouro	146.87	215	*e*P	**PKPdf**	**07 25 03.1**	**-1.9**
SJPY	San Joaquin	146.99	200	*e*P	**PKPdf**	**07 25 03.3**	**-1.9**
JQT1	Jequitai-MG	147.00	225	PKP	**PKPbc**	**07 25 07.8**	**-0.7**
PMNB	Patos De Minas	147.50	221	*e*P	**PKPdf**	**07 25 04.2**	**-2.0**
TRCB	Terra Rica	147.56	207	PKP	**PKPdf**	**07 25 06.7**	**+0.5**
TRCB	Terra Rica	147.56	207	*e*P	**PKPdf**	**07 25 04.4**	**-1.7**
JANB	Januaria	148.39	228	PKP	**PKPdf**	**07 25 08.0**	**+0.3**
JANB	Januaria	148.39	228	*e*P	**PKPdf**	**07 25 05.7**	**-2.0**
AMBA	Amambai (Brazi	148.45	204	*e*P	**PKPdf**	**07 25 06.0**	**-1.6**
SFA1	Serra Facao	148.73	220	PKP	**PKPdf**	**07 25 08.6**	**+0.4**
ITRB	Iturama	148.98	214	PKP	**PKPdf**	**07 25 09.3**	**+0.8**
ITRB	Iturama	148.98	214	*e*P	**PKPdf**	**07 25 06.6**	**-1.9**
IPMB	Ipameri, GO	149.04	219	PKP	**PKPdf**	**07 25 08.9**	**+0.3**
IPMB	Ipameri, GO	149.04	219	*e*P	**PKPdf**	**07 25 05.7**	**-3.0**
ITU3	Corumbazu	149.27	218	PKP	**PKPdf**	**07 25 09.3**	**+0.3**
SDBA	SAO DESIDERIO	150.48	232	PKP	**PKPdf**	**07 25 11.2**	**+0.2**
SDBA	SAO DESIDERIO	150.48	232	*e*P	**PKPdf**	**07 25 08.6**	**-2.4**
SBBR	Sobral	150.48	251	PKP	**PKPdf**	**07 25 10.9**	**-0.1**
BDFB	Brasilia comp=Z,14nm,0.7s,baz=110,slow=1.9,SNR=15	150.62	223	PKP	**PKPdf**	**07 25 12.7**	**+1.4**
BDFB	comp=Z,146nm,0.6s,baz=119,slow=2.4,SNR=48			PKPbc	**PKiKP**	**07 25 18.2**	**+0.4**
BDFB	comp=Z,80nm,1.1s,baz=54,slow=3.6,SNR=7.0			pPKPbc	**pPKPbc**	**07 27 39.1**	**-0.8**
AQDB	Aquidauana	150.94	205	PKP	**PKPdf**	**07 25 11.7**	**+0.2**
AQDB	Aquidauana	150.94	205	*e*P	**PKPdf**	**07 25 09.7**	**-1.7**
C2SB	Chapadao do Su	151.08	211	PKP	**PKPdf**	**07 25 12.1**	**+0.4**
CAN3	Cana Brava	152.58	226	PKP	**PKPdf**	**07 25 15.2**	**+1.1**
ARAG	Araguaiana, MT	152.99	217	*e*P	**PKPdf**	**07 25 12.5**	**-2.1**
ROSB	Rosrio	154.39	250	*e*P	**PKPdf**	**07 25 14.7**	**-1.9**
LAJE	UHE Lajeado	154.61	231	PKP	**PKPdf**	**07 25 17.5**	**+0.5**
SMTB	Santa Maria do	154.69	234	PKP	**PKPdf**	**07 25 17.1**	**0.0**
SMTB	Santa Maria do	154.69	234	*e*P	**PKPdf**	**07 25 15.1**	**-1.9**
SALV	Santo Antonio	154.94	209	PKP	**PKPdf**	**07 25 17.1**	**-0.2**
SNDB	Serra Nova Dou	155.46	223	PKP	**PKPdf**	**07 25 18.4**	**+0.4**
PAL2	UHE Estreito -	155.62	239	PKP	**PKPdf**	**07 25 18.2**	**-0.1**
PTLB	Pontes e Lacer	156.85	203	PKP	**PKPdf**	**07 25 19.8**	**+0.1**
SIV	San Ignacio comp=Z,22nm,0.9s,baz=132,slow=2.2,SNR=51	157.01	198	PKP	**PKPdf**	**07 25 20.6**	**+0.6**
SIV	comp=Z,26nm,0.8s,baz=180,slow=5.2,SNR=19			PKPab	**PKPab**	**07 25 55.2**	**+1.0**
SIV	comp=Z,18nm,1.1s,baz=177,slow=7.4,SNR=6.3			PP	**PP**	**07 29 34.8**	**+0.7**
LPAZ	La Paz comp=Z,23nm,1.0s,baz=47,slow=1.9,SNR=39	157.82	180	PKP	**PKPdf**	**07 25 22.8**	**+1.0**
LPAZ	comp=Z,82nm,1.4s,baz=197,slow=5.4,SNR=8.3			PKPab	**PKPab**	**07 25 59.1**	**+0.8**
LPAZ	La Paz	157.82	180	PKP	**PKPdf**	**07 25 21.5**	**-0.2**
LPAZ	La Paz	157.82	180	*e*P	**PKPdf**	**07 25 18.9**	**-2.8**
PRPB	Parauapebas	158.02	237	PKP	**PKPdf**	**07 25 21.0**	**-0.3**
PRPB	Parauapebas	158.02	237	*e*P	**PKPdf**	**07 25 20.3**	**-1.0**
TMAB	Tom-Au,PA,Br	158.27	248	PKP	**PKPdf**	**07 25 21.2**	**-0.4**
PDRB	Porto dos Gac	159.09	213	PKP	**PKPdf**	**07 25 22.0**	**-0.5**
PDRB	Porto dos Gac	159.09	213	*e*P	**PKPdf**	**07 25 20.4**	**-2.1**
CLDB	Colider	159.16	216	PKP	**PKPdf**	**07 25 22.8**	**+0.2**
CLDB	Colider	159.16	216	*e*P	**PKPdf**	**07 25 20.6**	**-2.0**
VILB	Vilhena	159.53	203	PKP	**PKPdf**	**07 25 23.7**	**+0.7**
VILB	Vilhena	159.53	203	*e*P	**PKPdf**	**07 25 20.9**	**-2.1**
BMO2	UHE Belo Monte	161.33	240	PKP	**PKPdf**	**07 25 24.5**	**-0.5**
ATM1	UHE Belo Monte	161.57	240	PKP	**PKPdf**	**07 25 24.7**	**-0.5**
NPGB	Novo Progresso	161.76	225	PKP	**PKPdf**	**07 25 25.9**	**+0.5**
NPGB	Novo Progresso	161.76	225	*e*P	**PKPdf**	**07 25 22.9**	**-2.5**
HDC	Heredia	163.74	75	*e*P	**PKPdf**	**07 25 25.3**	**-2.1**
ITTB	Itaituba	163.83	231	PKP	**PKPdf**	**07 25 27.8**	**+0.4**
ITTB	Itaituba	163.83	231	*e*P	**PKPdf**	**07 25 25.4**	**-2.0**
MAL2	Monte Alegre,	163.89	241	PKP	**PKPdf**	**07 25 27.4**	**-0.1**
LABB	Lábrea	164.54	189	PKP	**PKPdf**	**07 25 27.7**	**-0.3**
CZSB	Cruzeiro do Su	165.60	162	PKP	**PKPdf**	**07 25 28.8**	**0.0**
MACA	Manacapuru-AM	168.19	220	PKP	**PKPdf**	**07 25 30.4**	**-0.4**
MACA	Manacapuru-AM	168.19	220	*e*P	**PKPdf**	**07 25 29.1**	**-1.7**
OTAV	Otavalo	168.24	119	PKP	**PKPdf**	**07 25 30.7**	**-0.8**
OTAV	Otavalo	168.24	119	*e*P	**PKPdf**	**07 25 28.6**	**-2.9**
TEFE	Tefe	169.88	201	PKP	**PKPdf**	**07 25 31.9**	**+0.1**
TEFE	Tefe	169.88	201	*e*P	**PKPdf**	**07 25 30.2**	**-1.6**
BOAV	Boa Vista	171.55	245	PKP	**PKPdf**	**07 25 31.9**	**-0.8**
BOAV	Boa Vista	171.55	245	*e*P	**PKPdf**	**07 25 30.9**	**-1.9**
SGC2	Sao Gabriel da	173.74	191	PKP	**PKPdf**	**07 25 32.8**	**-0.9**
ROSC	El Rosal comp=Z,25nm,0.9s,baz=73,slow=2.8,SNR=23	173.78	101	PKP	**PKPdf**	**07 25 34.2**	**+0.1**
SDV	Santo Domingo	176.27	41	PKP	**PKPdf**	**07 25 33.4**	**-1.1**

TEH ***19*** *07:24:12.6,29°.87N×57°.76E,h8km±29km*
THR ***19*** *07:24:15.4±0.4,29°.86N×57°.62E,h10km,ML4.1*
ISC 19 07:24:13.0±0.9,29°.84N±0°.04×57°.74E±0°.03,h10km,n45,σ1§54/48,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMN	Cheshme madani	0.17	276	Pg	**Pg**	07 24 17.0	**+0.1**
KRM1	Kerman Provinc	0.77	329	Pg	**Pg**	07 24 27.1	-0.9
KRM1				Sg	**Sg**	07 24 37.2	-0.9
KRBR	Kerman	0.86	280	Pg	**Pg**	07 24 29.7	**-0.5**
KRBR	Kerman	0.86	280	*e*Pg	**Pg**	07 24 29.6	**0.0**
KRBR				*i* S	**Sg**	07 24 41.0	**+0.1**
KRBR	comp=Z,4μm,1.0s			IAML		07 24 46.1	
NGRK	Negar Kerman	0.90	257	Pg	**Pb**	07 24 30.6	**-0.3**
KBAM	BAM	0.94	138	Pg	**Pb**	07 24 30.5	**-0.9**
KHGB	Koh Gabri	1.22	296	Pg	**Pn**	07 24 35.4	**-0.8**
ZRDN	Zarand Kerman	1.53	317	Pg	**Pb**	07 24 41.4	**-0.2**
KHNJ	Kahnooj	1.89	181	Pn	**Pb**	07 24 46.3	**-1.3**
BSRN	Basiran	2.43	29	Pn	**Pn**	07 24 53.3	**+0.4**
BSRN	Basiran	2.43	29	*e*Pn	**Pb**	07 24 54.7	**-2.2**
BSRN				*e*Sg	**Sb**	07 25 27.5	**+0.6**
BSRN	comp=Z,920nm,1.0s			IAML		07 25 29.2	
NHDN	Nehbandan	2.52	52	Pn	**Pn**	07 24 55.2	**+1.1**
IBAF	Bafgh	2.56	314	Pn	**Pb**	07 24 56.4	**-2.6**
IBND	Bandar-abas	2.61	204	Pn	**Pb**	07 24 57.3	**-2.5**
ZHSF	Zahedan	2.65	94	Pn	**Pn**	07 24 57.2	**+1.2**
ZHSF	Zahedan	2.65	94	*i* P	**Pb**	07 25 00.3	**-0.4**
ZHSF	comp=Z,520nm,1.0s			IAML		07 25 37.5	
IKOO	Kooshah	2.79	23	Pn	**Pn**	07 24 58.7	**+0.7**
GENO	Geno	2.80	210	Pn	**Pb**	07 25 00.9	**-2.2**
IMEH	Mehriz	3.10	301	Pn	**Pn**	07 25 04.3	**+2.0**
ITEG	Tejag	3.17	16	Pn	**Pn**	07 25 04.0	**+0.9**
BAGH	Bagheran - Bir	3.19	23	Pn	**Pn**	07 25 03.9	**+0.4**
TPRV	Parvadeh(Tabas	3.30	344	Pn	**Pn**	07 25 06.0	**+1.2**
IDAH	Dahanechah	3.42	32	Pn	**Pn**	07 25 07.5	**+0.9**
YZKH	Yazd	3.71	314	*e*Pn	**Pn**	07 25 12.7	**+2.3**
YZKH	comp=Z,190nm,1.0s			IAML		07 26 21.4	
ICHK	Chekchek	3.73	311	Pn	**Pn**	07 25 12.3	**+1.5**
AFRZ	Afriz	3.73	17	Pn	**Pn**	07 25 11.7	**+0.9**
TKDS	Koohdasht(Taba	3.80	352	Pn	**Pn**	07 25 12.4	**+0.8**
TABS	Tabas comp=Z,690nm,1.0s	3.83	352	*e*Pn	**Pn**	07 25 14.1	**+2.0**
TABS				IAML		07 26 22.4	
TNSJ	Nastanj	4.22	347	Pn	**Pn**	07 25 18.8	**+1.3**
SHRT	Shahrakht	4.37	29	Pn	**Pn**	07 25 21.1	**+1.5**
SHRT	Shahrakht	4.37	29	*e*Pn	**Pn**	07 25 21.3	**+1.8**
SHRT	comp=Z,100nm,1.0s			IAML		07 26 48.7	
SRVN	Saravan	4.76	120	Pn	**Pn**	07 25 26.8	**+1.8**
SRVN	Saravan	4.76	120	*e*Pn	**Pn**	07 25 28.3	**+3.3**
SRVN	comp=Z,45nm,1.0s			IAML		07 27 22.4	
ANAR	Anarak	4.78	315	Pn	**Pn**	07 25 27.0	**+1.8**
TAPT	Tabas- Tapeh t	5.05	355	Pn	**Pn**	07 25 29.8	**+0.9**
IZEF	Zefreh	5.54	305	Pn	**Pn**	07 25 38.0	**+2.2**
TBJM	Torbat-e-JAM	5.83	21	Pn	**Pn**	07 25 40.7	**+0.9**
DSBU	Dashti - Bushe	5.86	257	Pn	**Pn**	07 25 41.5	**+1.6**
ISFB	Sefidab	6.48	315	Pn	**Pn**	07 25 50.6	**+2.1**
SBZV	Sabzevar	6.53	359	Pn	**Pn**	07 25 50.8	**+1.5**
IPAY	Payeh	6.67	9	Pn	**Pn**	07 25 52.9	**+1.6**
IAKL	Akhelmad	6.79	7	Pn	**Pn**	07 25 54.4	**+1.4**
ISFR	Sfrayin	7.20	2	Pn	**Pn**	07 26 00.5	**+1.9**
IEMG	Emamgholi	7.59	6	Pn	**Pn**	07 26 05.2	**+1.3**
MRVT	Maraveh tapeh	7.92	350	Pn	**Pn**	07 26 10.3	**+2.1**

BJI ***19*** *07:32:00.0,6°.00S×111°.80E,h612km,mB5.6/50,mb5.6/98*
NEIC ***19*** *07:32:00.3,6°.09S×111°.90E,h598km*
NEIC ***19*** *07:32:00.3,6°.29S×111°.89E,h600km,Moment Tensor Solution. Duration: 4s8 Moment tensor: Scale 10¹⁸Nm; Mrr=0.73; Mθθ=0.86; Mϕϕ=-0.13; Mrθ=0.19; Mϕθ=0.37; Mϕr=0.54; Fault plane solution: M₀1.06000×10¹⁸ NP1:ϕs81.51000°, δ40.96000°,λ=-135.60000°. NP2:ϕs315.03000°, δ62.70000°,λ=-58.20000°. Principal axes: T 1.0593, Plg12.0000°, Azm23.0000°; N -0.0066, Plg28.0000°, Azm119.0000°; P -1.0526, Plg59.0000°, Azm272.0000°;*
DJA ***19*** *07:32:00.2±0.1,6°.S±.1×111°.2E±°,h608km±1km,M5.8/144, mB6.1/121,mb5.9/144,MLv6.5/42,Mw6.0/191, Mw(mB)5.8/121,MwMwp5.6/28,Mwp5.7/28*
NEIC ***19*** *07:32:00.3,6°.09S×111°.89E,h600km*
GCMT ***19*** *07:32:00.6±0.1,6°.15S±.0°.01×111°.82E±.0°.01,h612km±1km, MW6.0/151,Moment Tensor Solution. s151,c312; s117,c128; Duration: 2s4 Moment tensor: Scale 10¹⁸ Nm; Mrr=0.74±.01; Mθθ=0.95±.02; Mϕϕ=-0.20±.02; Mrθ=0.11±.02; Mϕθ=-0.41±.02; Mϕr=0.60±.02; Best double couple: M₀1.13200×10¹⁸ NP1:ϕs78.00000°,δ45.00000°, λ=139.00000°. NP2:ϕs317.00000°,δ62.00000°, λ=53.00000°. Principal axes: T 1.1270, Plg10.0000°, Azm21.0000°; N 0.0110, Plg32.0000°, Azm118.0000°; P -1.1380, Plg56.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
IDC ***19*** *07:32:01.0±0.2,6°.01S×111°.87E,h612km±2km,mb5.0/44, mbtmp6.0/48 Error ellipse: s-maj=7.7km s-min=5.3km az=75.0*
NEIC ***19*** *07:32:01.6±1.8,6°.06S±.0°.09×111°.89E±.0°.08,h618km±3km, mb5.8/142,Mwb6.0/31,Mww5.9/41,Error ellipse: s-maj=12.5km s-min=11.8km az=213.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.71; Mθθ=0.93; Mϕϕ=-0.23; Mrθ=0.00; Mϕθ=-0.41; Mϕr=0.54; Fault plane solution: M₀1.08000×10¹⁸ NP1:ϕs77.47000°, δ49.47000°,λ=-138.56000°. NP2:ϕs317.63000°, δ59.80000°,λ=-48.76000°. Principal axes: T 1.0796, Plg6.0000°, Azm20.0000°; N 0.0042, Plg35.0000°, Azm114.0000°; P -1.0839, Plg55.0000°, Azm281.0000°;*
ISC 19 07:32:00.5±0.2,6°.07S±.0°.02×111°.80E±0°.03,h615km±1km, h616km:pP-P,n1626,σ1§53/2051,mb5.7/261,58C-88D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBJI	Tambak Boyo	0.75	176	P	**P**	07 33 13.4	**+0.6**
TBJI				S	**S**	07 34 11.5	**0.0**
BWJI	Bawean	0.88	76	P	**P**	07 33 12.7	**-0.3**
GRJI	Gresik	1.08	141	P	**P**	07 33 14.0	**+0.6**
GRJI				S	**S**	07 34 11.8	**-0.8**
NGJI	Ngawi	1.34	195	P	**P**	07 33 15.4	**+1.4**
NGJI				S	**S**	07 34 14.9	**+1.2**
SMRI	Semarang	1.67	234		**P**	07 33 15.6	**+0.6**
SMRI	Semarang	1.67	234	P	**P**	07 33 15.8	**+0.7**
SMRI	Semarang	1.67	234	P	**P**	07 33 15.7	**+0.7**
SMRI				S	**S**	07 34 16.5	**+0.9**
WOJI	Wonogiri, Jawa	1.96	206	P	**P**	07 33 15.6	**-0.5**
WOJI				S	**S**	07 34 15.3	**-2.2**
PCJI	Pacitan	2.20	196	P	**P**	07 33 16.2	**-0.8**
PCJI				S	**S**	07 34 15.2	**-4.1**
UGM	Wanagama	2.23	215	P	**P**	07 33 16.5	**-0.7**
UGM	Wanagama	2.23	215	P	**P**	07 33 16.8	**-0.4**
UGM	Wanagama	2.23	215	P	**P**	07 33 16.6	**-0.6**
KMMI	Kalianget	2.36	115	P	**P**	07 33 18.7	**+1.0**
KMMI				S	**S**	07 34 20.4	**-0.1**
BLJI	Banyuglugur	2.44	133	P	**P**	07 33 18.3	**+0.2**
BLJI				S	**S**	07 34 20.1	**-1.1**
GMJI	Gumukmas	2.73	143	P	**P**	07 33 18.8	**-0.7**
GMJI				S	**S**	07 34 20.3	**-3.5**
ABJI	Asem Bagus	2.96	126	P	**P**	07 33 21.3	**+0.6**
ABJI				S	**S**	07 34 25.0	**-1.0**
KPJI	Karang Pucung	3.12	246	P	**P**	07 33 21.8	**+0.2**
KPJI				S	**S**	07 34 26.8	**-0.8**
JAGI	Jajag, Banyuwa	3.34	136		**P**	07 33 21.3	**-1.6**
JAGI	Jajag, Banyuwa	3.34	136	P	**P**	07 33 21.6	**-1.3**
JAGI	Jajag, Banyuwa	3.34	136	S	**S**	07 34 26.3	**-3.7**
JAGI	Jajag, Banyuwa	3.34	136	P	**P**	07 33 21.7	**-1.2**
JAGI				S	**S**	07 34 25.5	**-4.5**
JCJI	Jatiwangi	3.54	263	P	**P**	07 33 24.5	**+0.4**
JCJI				S	**S**	07 34 32.5	**+0.4**
CMJI	Cimerak	3.74	243	P	**P**	07 33 23.8	**-1.6**
SRBI	Singaraja	3.94	121	P	**P**	07 33 26.6	**-0.1**
BBKI	Banjar Baru	3.98	50	P	**P**	07 33 27.6	**+0.6**
BBKI				S	**S**	07 34 37.6	**+0.1**
LEM	Lembang	4.22	259	P	**P**	07 33 29.4	**+0.5**
LEM	Lembang	4.22	259	P	**P**	07 33 29.4	**+0.5**
LEM	9μm,0.7s,baz=56,slow=8.4,SNR=733			S	**S**	07 34 41.3	**+0.5**
LEM	17μm,0.8s,baz=198,slow=23,SNR=13			P	**P**	07 33 29.0	**+0.1**
LEM				S	**S**	07 34 39.3	**-1.5**
LEM	Lembang	4.22	259	P	**P**	07 33 29.4	**+0.5**
DNP	Denpasar	4.26	128	P	**P**	07 33 28.2	**-0.7**
BBJI	Bungbulang	4.35	251	P	**P**	07 33 28.7	**-0.9**
BBJI	Bungbulang	4.35	251	S	**S**	07 34 39.2	**-3.0**
CNJI	Cibinong	4.80	255	P	**P**	07 33 31.8	**-1.1**
CNJI				S	**S**	07 34 43.3	**-4.3**
DBJI	Dramaga 34nm87μm8μm,1.0s	5.04	264	P	**P**	07 33 34.3	**-0.5**
DBJI	34nm87μm8μm,1.0s			S	**S**	07 34 49.3	**-2.3**
TNG	Tangerang	5.13	269	P	**P**	07 33 35.3	**-0.1**
TPI	Tanjungpandan 18μm2μm,0.9s	5.28	308	P	**P**	07 33 37.5	**+0.9**
SKJI	Sukabumi	5.29	260	P	**P**	07 33 35.5	**-1.2**
SBJI	Serang 25nm29μm3μm,1.0s	5.64	269	P	**P**	07 33 39.1	**-0.4**
TWSI	Taliwang, Sumb	5.70	118	P	**P**	07 33 37.9	**-2.0**
CGJI	Cibinong 35nm121μm9μm,1.0s	6.09	265	P	**P**	07 33 42.2	**-1.1**
STKI	Sintang 30nm25μm76μm8μm,0.8s	6.10	357	P	**P**	07 33 45.2	**+1.8**
PLAI	Plampang	6.53	115	P	**P**	07 33 44.7	**-2.4**
PLAI	Plampang	6.53	115	P	**P**	07 33 44.7	**-2.4**
BLSI	Bandar Lampung 4.9nm16μm2μm,1.0s	6.56	276	P	**P**	07 33 46.9	**-0.5**
PPBI	Pangkal Pinang	6.85	304	P	**P**	07 33 50.9	**+0.9**
BKB	Balikpapan	6.97	47	P	**P**	07 33 53.5	**+2.5**
BKB	Balikpapan	6.97	47	P	**P**	07 33 54.0	**+3.0**
BKB	Balikpapan 42nm103μm11μm,1.0s	6.97	47	P	**P**	07 33 54.0	**+3.0**
KLI	Kotabumi 5.7nm13μm900nm,0.8s	7.02	279	P	**P**	07 33 50.6	**-0.8**
KASI	Kota Agung 11nm29μm3μm,1.0s	7.29	274	P	**P**	07 33 52.5	**-1.4**
XMI	Christmas Isla	7.45	234	P	**P**	07 33 54.9	**-0.5**
KSM	Kuching	7.64	349		**P**	07 33 58.1	**+1.1**
KSM	Kuching	7.64	349	P	**P**	07 33 58.5	**+1.4**
PMBI	Palembang	7.67	294	P	**P**	07 33 58.6	**+1.2**
PMBI	Palembang 6.1nm1μm,0.8s	7.67	294	P	**P**	07 33 58.0	**+0.6**
MDSI	Maura Dua 2.7nm979nm,1.1s	7.75	281	P	**P**	07 33 57.5	**-0.6**
SMKI	Samarinda 35nm96μm11μm,1.0s	7.76	44	P	**P**	07 34 00.0	**+1.7**
LWLI	Liwa 19nm35μm2μm,0.8s	7.78	277	P	**P**	07 33 57.8	**-0.7**
KAPI	Kappang	7.98	83		**P**	07 33 59.1	**-1.1**
KAPI	Kappang 4μm,0.6s,baz=257,slow=4.7,SNR=519	7.98	83	P	**P**	07 33 59.6	**-0.6**
KAPI	Kappang	7.98	83	P	**P**	07 33 59.9	**-0.3**
KAPI				S	**S**	07 35 37.2	**-1.1**
KAPI	Kappang	7.98	83	P	**P**	07 33 59.7	**-0.6**
KAPI	Kappang	7.98	83	*d* iP	**P**	07 33 59.5	**-0.8**
KAPI	Kappang	7.98	83	P	**P**	07 33 60.0	**-0.3**
KAPI				S	**S**	07 35 37.7	**-0.6**
SPSI	Sidrap Palu 27μm81μm9μm,1.0s	8.21	76	P	**P**	07 34 01.9	**-0.5**
WBSI	Waikabubak, Su	8.31	116	P	**P**	07 34 00.0	**-3.5**
BNSI	Bone	8.44	79	P	**P**	07 34 05.1	**+0.5**
SBUM	Sibu	8.47	3		**P**	07 34 06.3	**+1.4**
SBUM	Sibu	8.47	3	P	**P**	07 34 06.4	**+1.5**
TTSI	Tana Toraja 69μm6μm,0.8s	8.54	70	P	**P**	07 34 06.4	**+0.9**
LHSI	Lahat 29μm2μm,0.9s	8.54	285	P	**P**	07 34 05.2	**-0.4**
BSSI	Bau Bau, Buton	8.64	91	P	**P**	07 34 05.4	**-1.1**
MNAI	Manna	8.97	280		**P**	07 34 07.6	**-2.1**
MNAI	Manna	8.97	280	P	**P**	07 34 07.9	**-1.8**
MNAI	Manna 71μm5μm,0.6s	8.97	280	P	**P**	07 34 07.9	**-1.8**
DSRI	Dabo 542nm,0.8s	9.10	307	P	**P**	07 34 11.5	**+0.6**
WSI	Waingapu	9.14	114	P	**P**	07 34 07.9	**-3.4**
KSI	Kapahiang 22μm1μm,0.5s	9.48	284	P	**P**	07 34 13.9	**-0.8**
PCI	Palu 78μm9μm,0.9s	9.52	58	P	**P**	07 34 16.1	**+1.1**
BASI	Baing, Sumba	9.62	116	P	**P**	07 34 14.3	**-1.6**
MASI	Maura Aman, Be 22μm2μm,1.1s	9.96	287	P	**P**	07 34 18.3	**-1.1**
TPRI	Tanjung Pinang 983nm,0.9s	10.04	313	P	**P**	07 34 20.9	**+0.8**
EDFI	Ende, Flores	10.16	106	P	**P**	07 34 17.3	**-4.1**
MMRI	Maumere	10.66	104		**P**	07 34 22.4	**-3.8**
MMRI	Maumere	10.66	104	P	**P**	07 34 22.9	**-3.3**
MMRI	Maumere	10.66	104	P	**P**	07 34 22.5	**-3.8**
BTDF	Bukit Timah Da	10.89	312	P	**P**	07 34 29.9	**+1.4**
KDI	Kendari	10.98	80	P	**P**	07 34 28.5	**-0.9**
KRJI	Kerinci 25μm2μm,1.0s	11.04	291	P	**P**	07 34 29.3	**-0.8**
APSI	Ampana 26μm4μm,1.0s	11.08	63	P	**P**	07 34 30.3	**-0.1**
MYKOM	Kota Tinggi	11.13	314		**P**	07 34 31.6	**+0.7**
MYKOM	Kota Tinggi	11.13	314	P	**P**	07 34 32.1	**+1.2**
TOLI2	Tolitoli	11.46	52		**P**	07 34 34.1	**0.0**
TOLI2	Tolitoli	11.46	52	P	**P**	07 34 34.4	**+0.3**
MRSI	Marisa 17μm2μm,0.9s	12.03	58	P	**P**	07 34 37.5	**-2.2**
LUWI	Luwuk	12.03	66	S	**S**	07 36 51.2	**+1.0**
LUWI				P	P	07 34 34.3	-5.4
LUWI	Luwuk	12.03	66		**P**	07 34 39.4	**-0.3**
LUWI	Luwuk	12.03	66	P	**P**	07 34 40.4	**+0.7**

FITZ Fitzroy Crossi 18.04 133 P P 07 35 36.1 +0.1
BNDI Bandanaira 18.09 86 P P 07 35 33.9 -2.6
comp=Z,11µmcomp=Z,817nm,1.1s
DLV Lat 18.19 350 P P 07 35 39.1 +1.5
MLSI Meulaboh, Aceh 18.49 303 P P 07 35 40.3 +0.2
comp=Z,26µmcomp=Z,2µm,1.8s
LHMI Lhok Sumawe 18.60 307 P 07 35 42.5 +1.5
LHMI Lhok Sumawe 18.60 307 P P 07 35 43.4 +2.4
LHMI Lhok Sumawe 18.60 307 P P 07 35 41.4 +0.4
comp=Z,24µmcomp=Z,2µm,1.3s
DAV Davao City (W) 18.95 47 P P 07 35 45.6 +1.3
DAV Davao City (W) 18.95 47 P P 07 35 47.5 +3.2
comp=Z,2µm,0.9s,baz=113,slow=1.4,SNR=25
DAV Davao City (W) 18.95 47 P P 07 35 47.0 +2.7
DAV P P 07 35 47.0 +2.7
DAV S S 07 38 46.6 +1.1
DAV S S 07 38 46.6 +1.1
DAV Davao City (W) 18.95 47 P P 07 35 47.5 +3.2
KNRA Kununurra 19.18 121 P P 07 35 45.9 -0.4
comp=Z,815nm,0.9s
KNRA Kununurra 19.18 121 P 07 35 45.9 -0.4
SAUI Saumlaki 19.45 97 P 07 35 48.0 -0.7
SAUI Saumlaki 19.45 97 P P 07 35 47.7 -1.1
comp=Z,23µmcomp=Z,3µm,0.9s
DRS Darwin Rock St 19.87 110 P P 07 35 52.8 +0.2
SWI Sorong 20.09 76 P P 07 35 53.9 -0.7
comp=Z,16µmcomp=Z,2µm,1.1s
MTN Manton Dam 20.21 111 P P 07 35 55.0 -0.6
comp=Z,384nm,0.6s
MTN Manton Dam 20.21 111 P P 07 35 54.7 -0.9
MTN Manton Dam 20.21 111 P P 07 35 55.5 -0.1
FAKI Fak Fak 20.62 82 P P 07 35 58.9 -0.4
FAKI Fak Fak 20.62 82 P P 07 35 59.4 0.0
FAKI Fak Fak 20.62 82 P P 07 35 59.0 -0.4
comp=Z,9µmcomp=Z,894nm,1.0s
KDU Kakadu 21.42 109 P P 07 36 05.6 -0.9
comp=Z,450nm,0.7s
KDU Kakadu 21.42 109 P P 07 36 06.0 -0.4
MEEK Meekatharra 21.46 163 P P 07 36 07.0 +0.2
comp=Z,858nm,1.6s
MEEK Meekatharra 21.46 163 P P 07 36 07.0 +0.2
KMPI Kaimana, Papua 21.95 85 P P 07 36 10.5 -0.7
comp=Z,9µmcomp=Z,1µm,0.9s
TGY Tagaytay City 21.99 24 P P 07 36 12.7 +1.1
TGY Tagaytay City 21.99 24 P P 07 36 12.7 +1.1
comp=Z,539nm,0.8s,baz=275,slow=3.7,SNR=8.3
comp=Z,539nm,0.8s
TGY Tagaytay City 21.99 24 P P 07 36 12.7 +1.1
CMBY CAMPBELL BAY 22.07 306 *e*P **P 07 36 09.7 -2.5**
CMBY IAmb IAmb 07 36 18.4
comp=Z,389nm,0.5s
RKPI Ransiki, Papua 22.78 79 P P 07 36 18.3 -0.3
comp=Z,7µmcomp=Z,556nm,0.8s
MORW Morawa 23.23 171 P P 07 36 23.2 +0.9
comp=Z,2µm,1.3s
MORW Morawa 23.23 171 P P 07 36 22.7 +0.3
MORW Morawa 23.23 171 P P 07 36 23.0 +0.7
WRKA Warakurna 24.61 142 P P 07 36 35.1 +0.4
comp=Z,77nm,1.1s
BAKI Biak 24.73 80 P P 07 36 36.0 +0.1
comp=Z,3µmcomp=Z,342nm,1.4s
SRPI Serui, Papua 24.73 81 P P 07 36 34.8 -1.1
comp=Z,317nm,0.9s
BLDU Ballidu 24.85 170 P P 07 36 37.1 +0.4
comp=Z,897nm,0.9s
BLDU Ballidu 24.85 170 P P 07 36 36.8 +0.1
QIZ Qiongzhong 25.01 356 P P 07 36 39.8 +1.6
QIZ sP **sP 07 39 20.9 -1.7**
QIZ S S 07 40 24.0 +3.3
QIZ ScS **ScS 07 46 25.5 +2.5**
QIZ pmax pmax
comp=Z,130nm,1.7s
QIZ pmax pmax
comp=Z,2µm,11.0s
PBA Port Blair 25.87 313 P P 07 36 47.0 +1.1
SNR=6.5
PBA Port Blair 25.87 313 *e*P **P 07 36 42.4 -3.5**
PBA IAmb IAmb 07 36 46.9
comp=Z,310nm,1.4s
WRA Warramunga Arr 25.88 124 P P 07 36 45.6 -0.3
WRA Warramunga Arr 25.88 124 P P 07 36 45.9 0.0
comp=Z,61nm,0.5s,baz=302,slow=9.2,SNR=433
WRA S **S 07 40 30.3 -4.1**
comp=Z,144nm,1.1s,baz=297,slow=16,SNR=8.4
WRA P3KPbc 08 09 22.3
comp=Z,4.1nm,1.1s,baz=135,slow=4.2,SNR=12
WRA P3KP 08 10 18.3
comp=Z,2.2nm,0.7s,baz=118,slow=4.2,SNR=17
comp=Z,61nm,0.5s
WRA Warramunga Arr 25.88 124 P P 07 36 45.9 0.0
WRAB Tennant Creek 25.89 124 *d* *i*P **P 07 36 45.8 -0.1**
WRAB pmax pmax
comp=Z,153nm,0.9s
WB2 Warramunga Arr 25.89 124 P P 07 36 46.1 +0.1
KLBR Kellerberrin 26.00 168 P P 07 36 46.9 +0.1
MTKN Mount Kenneth 26.00 172 P P 07 36 49.1 +2.4
comp=Z,3µm,0.8s
MTKN Mount Kenneth 26.00 172 P P 07 36 47.4 +0.7
WR8 Warramunga Arr 26.02 124 P P 07 36 46.7 -0.4
MUN Mundaring 26.11 171 P P 07 36 48.4 +0.7
comp=Z,757nm,1.2s
MUN Mundaring 26.11 171 P P 07 36 48.4 +0.7
DGPR DIGLIPUR 26.77 316 *e*P **P 07 36 50.2 -3.5**
SMPI Sarmi 27.14 83 P P 07 36 56.7 -0.3
comp=Z,4µmcomp=Z,396nm,0.9s
NWAO Narrogin (SRO) 27.20 170 P P 07 36 57.9 +0.6
comp=Z,2µm,1.1s
NWAO Narrogin (SRO) 27.20 170 P P 07 36 58.0 +0.8
comp=Z,969nm,1.1s
NWAO Narrogin (SRO) 27.20 170 P P 07 36 57.7 +0.4
NWAO Narrogin (SRO) 27.20 170 P P 07 36 57.9 +0.6
comp=Z,502nm,0.8s,baz=348,slow=7.9,SNR=234
comp=Z,502nm,0.8s
NWAO Narrogin (SRO) 27.20 170 P P 07 36 57.7 +0.4
NWAO S **S 07 40 53.7 -0.8**
NWAO Narrogin (SRO) 27.20 170 P P 07 36 57.6 +0.4
NWAO Narrogin (SRO) 27.20 170 P P 07 36 57.4 +0.2
NWAO Narrogin (SRO) 27.20 170 P P 07 36 57.9 +0.6
CM31 Chiang Mai Arr 27.47 333 P P 07 37 01.4 +1.7
CM31 Chiang Mai Arr 27.47 333 P P 07 37 02.0 +2.3
SNR=146
CM31 S **S 07 41 00.9 +1.8**
CMAR Chiang Mai Arr 27.47 333 P P 07 37 01.0 +1.2
CMAR Chiang Mai Arr 27.47 333 P P 07 37 01.9 +2.1
comp=Z,115nm,0.9s,baz=165,slow=7.7,SNR=435
CMAR PcP **PcP 07 39 58.8 +1.6**
comp=Z,18nm,0.7s,baz=194,slow=2.8,SNR=4.3
CMAR P3KP 08 10 11.5
comp=Z,0.8nm,0.4s,baz=322,slow=6.1,SNR=4.1
comp=Z,115nm,0.9s
CMAR Chiang Mai Arr 27.47 333 P P 07 37 01.9 +2.1
CMAR 07 39 58.8
AS31 Alice Springs 27.54 132 P P 07 37 00.1 -0.2
ASAR Alice Springs 27.54 132 P P 07 36 59.6 -0.8
ASAR Alice Springs 27.54 132 P P 07 37 00.5 +0.1
comp=Z,33nm,0.3s,baz=304,slow=8.2,SNR=739
ASAR PcP **PcP 07 39 58.1 +0.7**
comp=Z,63nm,0.9s,baz=294,slow=2.0,SNR=4.2
ASAR ScP **ScP 07 42 41.6 +0.8**
comp=Z,68nm,0.8s,baz=315,slow=2.6,SNR=5.8
ASAR P3KPbc 08 09 06.5
comp=Z,0.8nm,0.9s,baz=143,slow=4.9,SNR=4.2
ASAR P3KP 08 10 06.0
comp=Z,2.5nm,0.9s,baz=131,slow=1.3,SNR=5.5
ASAR PKPPKP **P'P'df 08 11 03.3 -0.8**
comp=Z,1.9nm,0.8s,baz=209,slow=3.3,SNR=5.2
comp=Z,33nm,0.3s
ASAR Alice Springs 27.54 132 P P 07 37 00.5 +0.1
ASAR 07 39 58.2
CHTO Chiang Mai 27.78 333 P P 07 37 03.9 +1.4
CHTO IAmb IAmb 07 37 05.7
comp=Z,401nm,1.4s
CHTO Chiang Mai 27.78 333 P P 07 37 04.3 +1.8
CHTO S **S 07 41 05.5 +1.6**
CHTO Chiang Mai 27.78 333 P P 07 37 05.2 +2.7
CHTO Chiang Mai 27.78 333 P P 07 37 03.9 +1.4
CHTO pmax pmax
comp=Z,401nm,1.4s
CHTO Chiang Mai 27.78 333 P P 07 37 03.6 +1.1
CHTO S **S 07 41 05.6 +1.7**
HKPS Hong Kong Po S 28.26 5 P P 07 37 07.0 +0.4
HKPS IAmb IAmb 07 38 05.2
comp=Z,264nm,1.1s
SLVN Son La 28.31 344 P P 07 37 08.9 +1.8
GENI Genyem 28.49 84 P P 07 37 08.3 -0.4
GENI Genyem 28.49 84 P P 07 37 07.3 -1.4
comp=Z,26µmcomp=Z,434nm,1.1s
H01W3 Cape Leeuwin H 28.76 176 P P 07 37 12.0 +1.5
baz=339,slow=4.7,SNR=40
H01W1 Cape Leeuwin H 28.77 176 P P 07 37 12.8 +2.3
baz=339,slow=4.7,SNR=64
H01W2 Cape Leeuwin H 28.77 176 P P 07 37 12.4 +1.8
baz=339,slow=4.7,SNR=54
RKGY Rocky Gully 28.80 171 P P 07 37 12.5 +1.4
comp=Z,2µm,1.1s
GZH Guangzhou 29.01 3 P P
GZH sP sP 07 37 19.3 +6.3
GZH S S 07 40 05.6 +4.3
GZH SS **SS 07 41 32.6 +10**
GZH pmax pmax **07 44 34.5 +4.0**
comp=Z,330nm,1.2s
JAY Jayapura 29.03 84 P P 07 37 13.0 -0.5
JAY Jayapura 29.03 84 P P 07 37 13.0 -0.5
comp=Z,478nm,0.8s,baz=253,slow=6.8,SNR=40
JAY ScP **ScP 07 42 45.7 -0.1**
comp=Z,121nm,1.2s,baz=238,slow=4.9,SNR=6.0
comp=Z,478nm,0.8s
JAY Jayapura 29.03 84 P P 07 37 12.6 -0.9
comp=Z,4µmcomp=Z,505nm,0.8s
JAY Jayapura 29.03 84 P P 07 37 13.0 -0.5
TPUB Ta-pu 30.44 16 P P 07 37 26.4 +1.1
TPUB Ta-pu 30.44 16 P P 07 37 27.8 +2.5
QIS Mount Isa 30.57 121 P P 07 37 26.7 +0.1
comp=Z,95nm,0.9s
QIS Mount Isa 30.57 121 P P 07 37 26.4 -0.2
YULB Yu-li 30.71 17 P P 07 37 27.8 +0.1
YULB IAmb IAmb 07 38 26.9
comp=Z,310nm,0.7s
YULB Yu-li 30.71 17 P P 07 37 30.0 +2.3
SSLB Suanglung 30.99 16 P P 07 37 31.2 +1.2
SSLB Suanglung 30.99 16 P P 07 37 32.1 +2.1
KNMB Chin-men Tao 31.02 12 P P 07 37 30.8 +0.6
KNMB IAmb IAmb 07 38 27.4
comp=Z,237nm,0.8s
GULI GuiLin 31.20 357 P P 07 37 35.4 +3.6
GULI S **S 07 41 59.0 +2.7**
GULI pmax pmax
comp=Z,170nm,1.3s
QZH Quanzhou 31.52 12⇑ *i*P **P 07 37 35.3 +0.8**
QZH S **S 07 42 00.4 -0.8**
QZH pmax pmax
comp=Z,160nm,1.7s
QZH pmax pmax
comp=Z,3µm,3.6s
NACB Ninganchiao 31.54 17 P P 07 37 35.4 +0.8
COEN Coen 31.84 107 P P 07 37 37.6 +0.2
comp=Z,497nm,0.8s
COEN Coen 31.84 107 P P 07 37 36.6 -0.8
COEN IAmb IAmb 07 37 38.5
comp=Z,297nm,0.7s
COEN Coen 31.84 107 P P 07 37 37.2 -0.2
YHNB Yeheng 31.94 17 P P 07 37 38.1 -0.1
YHNB Yeheng 31.94 17 P P 07 37 39.2 +1.0
KMI Kunming 32.23 344⇓ P **P 07 37 43.9 +3.1**
KMI S **S 07 42 16.8 +4.3**
KMI ScS **ScS 07 46 59.6 +2.0**
KMI pmax pmax
comp=Z,270nm,1.1s
KMI pmax pmax
comp=Z,2.0nm,2.7s
YOJ Yonaguni jima 32.25 19 P P 07 37 41.5 +0.9
YOJ Yonaguni jima 32.25 19 P P 07 37 41.5 +0.9
YOJ pmax pmax
comp=Z,923nm,0.7s
TATO Taipei 32.26 17 P P 07 37 41.2 +0.5
TATO Taipei 32.26 17 P P 07 37 41.5 +0.7
GYA Guiyang 32.71 351⇑ P **P 07 37 47.1 +2.4**
GYA sP sP 07 40 34.3 -0.2
GYA S **S 07 42 19.8 +0.3**
GYA pmax pmax
comp=Z,200nm,0.8s
GYA pmax pmax
comp=Z,2µm,3.2s
TNCH TengChong 33.50 338 P P 07 37 53.8 +2.4
TNCH sP sP 07 40 42.3 +0.8
TNCH S **S 07 42 36.0 +4.4**
TNCH SS **SS 07 45 53.1 +7.5**
TNCH pmax pmax
comp=Z,930nm,1.1s
PALK Pallekele 33.74 293 P P 07 37 53.9 +0.5
PALK Pallekele 33.74 293 P P 07 37 54.3 +0.9
PALK S **S 07 42 34.0 -1.3**
PALK Pallekele 33.74 293 P P 07 37 54.3 +0.9
PALK Pallekele 33.74 293 P P 07 37 54.3 +0.9
PZH PanZhiHua 33.81 344 P P 07 37 55.8 +1.9
PZH S **S 07 42 37.9 +1.8**
PZH pmax pmax
comp=Z,160nm,1.0s
PZH pmax pmax
comp=Z,820nm,3.5s
MTSU Mount Surprise 33.91 114 P P 07 37 55.4 +0.7
comp=Z,111nm,0.7s
CNSH ChangSha 34.07 2 P P 07 37 58.0 +2.2
CNSH S **S 07 42 41.4 +1.8**
CNSH pmax pmax
comp=Z,460nm,1.0s
MALK Mahakanadarawa 34.32 294 P P 07 37 56.5 -1.7
MALK S **S 07 42 42.5 -1.4**
BRDH Bariadhala 34.72 326 P P 07 38 02.5 +1.2
BRDH Bariadhala 34.72 326 P P 07 38 02.5 +1.2
comp=Z,460nm,0.8s,baz=243,slow=21,SNR=5.2
BRDH PcP **PcP 07 40 16.9 -0.1**
comp=Z,62nm,0.3s,baz=62,slow=9.0,SNR=3.7
BRDH S **S 07 42 51.2 +1.7**
comp=Z,65nm,0.3s,baz=127,slow=23,SNR=8.4
comp=Z,460nm,0.8s
BBOO Buckleboo 34.90 143 P P 07 38 02.7 0.0
comp=Z,408nm,0.6s
BBOO Buckleboo 34.90 143 P 07 38 02.5 -0.3
BBOO Buckleboo 34.90 143 P P 07 38 02.7 0.0
INKA Innaminka 34.92 131 P 07 38 03.4 +0.4
AZL Aizawl 35.01 328 *e*P **P 07 38 00.1 -3.8**
PMG Port Moresby 35.18 98 P 07 38 05.9 +0.6
PMG Port Moresby 35.18 98 P P 07 38 06.3 +1.0
comp=Z,630nm,0.8s,baz=286,slow=3.2,SNR=119
PMG S **S 07 42 57.1 +0.4**
comp=Z,37nm,0.9s,baz=312,slow=21,SNR=7.2
comp=Z,630nm,0.8s
PMG Port Moresby 35.18 98 P P 07 38 06.2 +0.9
PMG Port Moresby 35.18 98 *d* *i*P **P 07 38 06.4 +1.0**
PMG pmax pmax
comp=Z,815nm,0.9s
IMP Imphal 35.29 331 *e*P **P 07 38 02.4 -3.7**
MANU Manus Island 35.69 85 P 07 38 10.7 +1.2
MANU IAmb IAmb 07 38 12.0
comp=Z,394nm,0.8s
SILR SILCHAR 35.81 330 *e*P **P 07 38 06.5 -3.8**
AGT Agartala 35.89 327 *e*P **P 07 38 07.3 -3.7**
KOHI KOHIMA 35.97 332 *e*P **P 07 38 07.8 -4.0**
WHYH Whyalla 35.98 142 P P 07 38 12.1 +0.5
ENH Enshi 36.20 357 P P 07 38 14.4 +0.9
CTAO Charters Tower 36.23 116 P 07 38 14.3 +0.4
CTAO Charters Tower 36.23 116 P P 07 38 14.7 +0.8
CTAO Charters Tower 36.23 116 P P 07 38 14.3 +0.4
CTAO pmax pmax
comp=Z,78nm,1.0s
CTAO Charters Tower 36.23 116 P P 07 38 14.7 +0.8
CTAO pP **pP 07 39 55.4 +0.3**
PTPS Port Pirie 36.33 141 P P 07 38 14.8 +0.3
JOW Kunigami 36.39 25 P 07 38 15.6 +0.6
JOW Kunigami 36.39 25 P P 07 38 16.3 +1.3
TV1H Townsville Har 36.48 114 P P 07 38 16.4 +0.5
WHN Wuhan 36.48 4⇑ P **P 07 38 17.5 +1.8**
WHN ScP **ScP 07 43 13.3 +1.9**
WHN S **S 07 43 18.6 +3.0**
WHN pmax pmax
comp=Z,650nm,1.0s
WHN pmax pmax
comp=Z,5µm,3.2s
CAL Calcutta 36.55 322 *e*P **P 07 38 13.0 -3.4**
BWNR Bhubaneshwar 36.60 316 *e*P **P 07 38 13.0 -3.8**
JORH JORHAT 36.78 333 *e*P **P 07 38 14.6 -3.7**
JMZ Minamidaito 2 36.88 30 P P 07 38 19.6 +0.5
SHL Shillong 36.92 329 P P 07 38 20.5 +0.8
SHL Shillong 36.92 329 P P 07 38 20.8 +1.1
SNR=225
SHL Shillong 36.92 329 *e*P **P 07 38 15.3 -4.3**
SHL IAmb IAmb 07 38 21.1
comp=Z,281nm,0.8s
SHL Shillong 36.92 329 P P 07 38 20.5 +0.8
SHL pmax pmax
comp=Z,1µm,1.3s
QLP Quilpie 37.03 127 P P 07 38 21.3 +1.0
comp=Z,149nm,1.1s
QLP Quilpie 37.03 127 P P 07 38 21.1 +0.8
HTT Hallett 37.08 141 P P 07 38 21.4 +0.7
comp=Z,81nm,0.5s
HTT Hallett 37.08 141 P P 07 38 21.2 +0.5
TEZP TEZPUR 37.35 331 *e*P **P 07 38 19.2 -3.6**
GUWA GUWAHATI 37.54 330 *e*P **P 07 38 21.3 -3.1**
CD2 Chengdu 37.56 349 P P 07 38 25.8 +1.2
CD2 S **S 07 43 32.1 +0.5**
CD2 pmax pmax
comp=Z,670nm,0.7s
ZIRO ZIRO 37.64 333 *e*P **P 07 38 21.6 -3.8**
ZIRO IAmb IAmb 07 38 26.8
comp=Z,133nm,0.6s
KOD Kodaikanal 37.84 295 *e*P **P 07 38 23.6 -3.7**
KOD IAmb IAmb 07 38 28.4
comp=Z,117nm,0.8s
STKA Stephens Creek 37.87 136 P P 07 38 27.7 +0.7
comp=Z,1µm,0.6s
STKA Stephens Creek 37.87 136 P 07 38 27.3 +0.3
STKA Stephens Creek 37.87 136 P P 07 38 27.8 +0.7
comp=Z,170nm,0.4s,baz=315,slow=8.5,SNR=461
STKA pP **pP 07 40 09.3 +0.9**
comp=Z,145nm,0.6s,baz=325,slow=7.3,SNR=1.8
STKA S **S 07 43 36.3 +0.2**
comp=Z,92nm,0.8s,baz=148,slow=18,SNR=7.3
comp=Z,170nm,0.4s
STKA Stephens Creek 37.87 136 P P 07 38 27.1 +0.1
STKA Stephens Creek 37.87 136 *d* *i*P **P 07 38 27.6 +0.6**
SSE Sheshan 38.03 13 P P 07 38 29.6 +1.4
SSE S **S 07 43 39.8 +1.5**
SSE pmax pmax
comp=Z,140nm,1.3s
SSE pmax pmax
comp=Z,990nm,4.0s
VJD Vijayawada 38.12 306 *e*P **P 07 38 25.7 -3.5**
GUMO Guam 38.20 59 P 07 38 28.6 -1.3
GUMO IAmb IAmb 07 38 30.9
comp=Z,477nm,1.1s
GUMO Guam 38.20 59 P P 07 38 29.4 -0.5
GUMO Guam 38.20 59 P P 07 38 28.6 -1.3
GUMO pmax pmax
comp=Z,477nm,1.2s
GUMO Guam 38.20 59 P P 07 38 28.6 -1.3
GUMO pP **pP 07 40 10.9 -1.7**
NJ2 Nanjing 38.50 10⇑ *i*P **P 07 38 34.0 +2.0**
NJ2 PP **PP 07 40 22.5 +2.4**
NJ2 ScP **ScP 07 43 20.8 +1.7**
NJ2 S **S 07 43 48.5 +3.4**
NJ2 ScS **ScS 07 47 33.6 +1.8**
NJ2 pmax pmax
comp=Z,290nm,0.9s
NJ2 pmax pmax
comp=Z,2µm,4.5s
KNTI KHUNTI 38.86 319 *e*P **P 07 38 34.4 -0.7**
KNTI IAmb IAmb 07 38 36.7
comp=Z,216nm,0.7s
SHBG Sahibganj 38.96 324 *e*P **P 07 38 32.5 -3.3**
JHSG JHARSUGUGA 38.98 316 *e*P **P 07 38 32.6 -3.5**
BOK Bokaro 38.99 320 *e*P **P 07 38 32.6 -3.6**
H08S2 Diego Garcia H 39.05 265 P P 07 38 38.1 +1.6
H08S2 Diego Garcia H 39.05 265 P P 07 38 38.1 +1.6
baz=51,slow=9.1,SNR=14
H08S3 Diego Garcia H 39.06 265 P P 07 38 37.7 +1.1
H08S3 Diego Garcia H 39.06 265 P P 07 38 37.7 +1.1
baz=51,slow=9.1,SNR=8.8
H08S1 Diego Carcia H 39.07 265 P P 07 38 38.1 +1.4
H08S1 Diego Carcia H 39.07 265 P P 07 38 38.1 +1.4
baz=51,slow=9.1,SNR=12
DGAR Diego Garcia 39.09 266 P P 07 38 38.2 +1.1
DGAR Diego Garcia 39.09 266 P P 07 38 38.8 +1.6
DGAR Diego Garcia 39.09 266 P P 07 38 38.3 +1.1
DGAR pmax pmax
comp=Z,850nm,1.1s
KAAM Kaadhehdhoo 39.28 278 P P 07 38 39.7 +1.1
KAAM Kaadhehdhoo 39.28 278 P P 07 38 40.5 +1.9
SNR=8.9
XAN Xi'an 39.98 356⇓ P **P 07 38 44.5 +0.6**
XAN PP **PP 07 40 34.4 +0.7**
XAN S **S 07 44 05.3 -1.5**
XAN sS sS 07 47 18.8 +1.2
XAN SS **SS 07 47 29.8 -2.1**
XAN pmax pmax
comp=Z,500nm,0.6s
XAN pmax pmax
comp=Z,2µm,8.2s
GAYA Gaya 40.13 321 *e*P **P 07 38 41.9 -3.4**
RABL Rabaul 40.24 89 P P 07 38 45.9 -0.4
HYB Hyderabad 40.29 306 *e*P **P 07 38 47.0 +0.3**
HYB IVmB_BB 07 38 47.3
comp=Z,5µm,1.5s
HYB *e*pP **pP 07 40 32.0 +1.2**
HYB *e*PP **PP 07 40 37.3 +0.6**
HYB *e*ScP **ScP 07 43 26.5 0.0**
HYB *e*S **S 07 44 13.4 +1.6**
HYB *e*SS **SS 07 47 40.1 +2.9**
BLSP Bilaspur 40.37 315 *e*P **P 07 38 43.3 -3.9**
LYN LuoYang 40.40 1⇓ P **P 07 38 48.3 +1.1**
LYN PP **PcP 07 40 34.5 -0.2**
LYN S **S 07 44 12.0 -0.8**
LYN PcS **PcS 07 44 25.8 -0.7**
LYN ScS **ScS 07 47 46.9 +3.6**
LYN pmax pmax
comp=Z,500nm,0.8s
LYN pmax pmax
comp=Z,2µm,11.0s
CMSA Cobar Meteorol 40.58 133 P P 07 38 49.7 +1.0
comp=Z,218nm,0.7s
CMSA Cobar Meteorol 40.58 133 P P 07 38 49.8 +1.0
HMDM Hanimaadhoo 40.59 288 P P 07 38 50.5 +1.4
HMDM Hanimaadhoo 40.59 288 P P 07 38 51.0 +1.9
SNR=15
LSA Lhasa 40.72 332 P P 07 38 50.3 -0.1
LSA S **S 07 44 15.8 -2.7**
LSA pmax pmax
comp=Z,370nm,1.3s
LSA Lhasa 40.72 332 P P 07 38 52.1 +1.7
LSA S **S 07 44 18.5 0.0**
LSA Lhasa 40.72 332 *i* P **P 07 38 52.4 +2.0**
SNR=18
ARPS Mount Arapiles 41.07 142 P P 07 38 53.3 +0.7
comp=Z,51nm,0.5s
STMR SITAMARHI 41.53 323 *e*P **P 07 38 52.7 -3.5**
EVN Everest 41.55 326 P P 07 38 58.1 +1.0
EVN IAmb IAmb 07 38 59.8
comp=Z,765nm,1.2s
NGP Nagpur 42.01 311 *e*P **P 07 38 56.6 -3.5**
NGP IAmb IAmb 07 39 00.9
comp=Z,259nm,0.7s
EIDS Eidsvold 42.17 121 P P 07 39 02.1 +0.8
comp=Z,44nm,0.6s
EIDS Eidsvold 42.17 121 P P 07 39 01.4 +0.1
EIDS Eidsvold 42.17 121 P P 07 39 02.2 +0.8
TIA Tai'an 42.35 6 P P 07 39 02.4 -0.1
TIA S **S 07 44 38.9 -1.8**
TIA pmax pmax
comp=Z,270nm,0.7s
LZDM Lanzhou Array 42.49 350 P P 07 39 05.4 +1.4
LZDM Lanzhou Array 42.49 350 P P 07 39 05.4 +1.4
comp=Z,167nm,0.8s,baz=184,slow=11,SNR=126
comp=Z,167nm,0.8s
LZH Lanzhou 42.59 350⇓ P **P 07 39 06.3 +1.7**
LZH PcP **PcP 07 40 44.8 +2.6**
LZH pP PP 07 40 55.8 -1.8
LZH PP **PP 07 41 01.1 +3.5**
LZH ScP **ScP 07 43 38.3 +2.8**
LZH S **S 07 44 45.1 +0.7**
LZH sS ScS 07 47 55.8 -1.4
LZH pmax pmax
comp=Z,410nm,1.3s
LZH pmax pmax
comp=Z,1µm,4.1s
ALBI Allahabad 42.70 318 *e*P **P 07 39 01.7 -3.7**
JNU Nakatsue 42.98 24 P P 07 39 07.0 -0.5
JNU IAmb IAmb 07 40 04.1
comp=Z,240nm,0.8s
JNU Nakatsue 42.98 24 P P 07 39 07.5 0.0
HRYA Harraiya (Bast 43.28 320 *e*P **P 07 39 06.4 -3.5**
GOA Goa 43.29 300 *e*P **P 07 39 06.3 -3.8**
GOA IAmb IAmb 07 39 11.2

comp=Z,200nm,0.8s
AKL Akola 43.30 309 *e*P **P 07 39 06.7 -3.4**
AKL IAmb IAmb 07 39 12.0
comp=Z,397nm,1.2s
HNS HongShan 43.33 3 ⇓P **P 07 39 10.1 +0.1**
HNS sP **sP 07 42 05.6 +0.3**
HNS ScP **ScP 07 43 40.1 +1.9**
HNS S **S 07 44 51.3 -3.1**
HNS ScS **ScS 07 48 02.3 +0.9**
HNS pmax pmax
comp=Z,150nm,1.1s
TIY Taiyuan 43.56 1 P **P 07 39 12.8 +0.9**
TIY S **S 07 44 56.8 -1.1**
TIY pmax pmax
comp=Z,76nm,0.7s
JTU Tsushima 43.66 21 P **P 07 39 13.3 +0.6**
BNDA BANDA 43.80 317 *e*P **P 07 39 10.7 -3.3**
KAD Karad 43.83 303 *e*P **P 07 39 10.8 -3.5**
TOO Toolangi 43.84 140 P **P 07 39 16.0 +1.8**
comp=Z,28nm,0.9s
TOO Toolangi 43.84 140 P **P 07 39 15.4 +1.3**
TOO Toolangi 43.84 140 P **P 07 39 15.4 +1.3**
TOO pmax pmax
comp=Z,85nm,1.1s
YNG Young 43.95 135 P **P 07 39 16.1 +1.1**
comp=Z,58nm,0.9s
JCJ Chichijima 44.17 40 P **P 07 39 14.6 -2.1**
JCJ Chichijima 44.17 40 P **P 07 39 16.7 -0.1**
NRDN NARMADA NAGAR 44.34 311 *e*P **P 07 39 14.5 -3.6**
NRDN IAmb IAmb 07 39 20.3
comp=Z,200nm,0.7s
BRCI Bahraich 44.39 320 *e*P **P 07 39 14.7 -3.7**
ARMA Armidale 44.55 128 P **P 07 39 22.0 +2.2**
comp=Z,117nm,0.9s
ARMA Armidale 44.55 128 P **P 07 39 21.7 +2.0**
ARMA Armidale 44.55 128 P **P 07 39 21.9 +2.1**
TJN Taejon 44.67 18 P **P 07 39 19.7 -0.6**
TJN Taejon 44.67 18 P **P 07 39 21.1 +0.7**
TJN Taejon 44.67 18*c i*P **P 07 39 20.8 +0.4**
POO Poona 44.70 304 *e*P **P 07 39 17.3 -3.6**
JMN Monobe 44.77 26 P **P 07 39 21.1 -0.2**
JMN IAmb IAmb 07 40 18.6
comp=Z,266nm,0.7s
JMN Monobe 44.77 26 P **P 07 39 21.7 +0.5**
CAN Canberra 44.91 136 P **P 07 39 23.5 +1.1**
comp=Z,150nm,0.7s
CAN Canberra 44.91 136 P **P 07 39 22.9 +0.5**
CAN Canberra 44.91 136 P **P 07 39 23.7 +1.3**
CAN Canberra 44.91 136 P **P 07 39 22.9 +0.5**
CAN pmax pmax
comp=Z,98nm,0.7s
CAN Canberra 44.91 136 P **P 07 39 23.6 +1.2**
CAN PcP **PcP 07 40 51.8 +1.5**
CAN pP **pP 07 41 10.8 +2.1**
GOMU GeErMu 44.96 340 P **P 07 39 23.8 +0.7**
GOMU S **S 07 45 18.1 -0.2**
GOMU SS **SS 07 48 48.3 -4.3**
GOMU pmax pmax
comp=Z,77nm,1.3s
JHNI Jhansi 45.02 316 *e*P **P 07 39 19.9 -3.4**
CNB Canberra Magne 45.16 135 P **P 07 39 25.3 +1.0**
comp=Z,45nm,1.0s
CNB Canberra Magne 45.16 135 P **P 07 39 25.7 +1.4**
MGCD Mangrove Creek 45.39 132 P **P 07 39 27.7 +1.8**
comp=Z,87nm,0.6s
MGCD Mangrove Creek 45.39 132 P **P 07 39 27.8 +1.8**
INCN Inchon 45.48 17 P **P 07 39 27.2 +0.6**
INCN IAmb IAmb 07 40 23.9
comp=Z,265nm,1.1s
INCN Inchon 45.48 17 P **P 07 39 27.2 +0.6**
INCN pmax pmax
comp=Z,265nm,1.2s
DL2 Dalian 45.66 11⇑*i*P **P 07 39 27.9 0.0**
DL2 pP **pP 07 41 19.3 +3.0**
DL2 sP **sP 07 42 21.6 -2.9**
DL2 S **S 07 45 23.4 -3.8**
DL2 ScS **ScS 07 48 15.8 -0.8**
DL2 pmax pmax
comp=Z,230nm,1.2s
DL2 pmax pmax
comp=Z,430nm,8.5s
RIV Riverview 45.71 132 P **P 07 39 30.0 +1.6**
KSAR Wonju Array Be 45.81 18 P **P 07 39 29.5 +0.5**
KSAR Wonju Array Be 45.81 18 P **P 07 39 29.5 +0.5**
KSRS Korea Array 45.84 18 P **P 07 39 30.0 +0.8**
KSRS Korea Array 45.84 18 P **P 07 39 30.0 +0.8**
comp=Z,151nm,0.9s,baz=201,slow=8.5,SNR=232
KSRS pP **pP 07 41 17.3 -0.5**
comp=Z,24nm,1.0s,baz=202,slow=7.6,SNR=1.6
comp=Z,151nm,0.9s
KSRS Korea Array 45.84 18 P **P 07 39 30.0 +0.8**
KS19 Wonju Array Si 45.86 18 P **P 07 39 29.8 +0.3**
KS19 IAmb IAmb 07 40 27.1
comp=Z,242nm,0.9s
BJT Baijiatuan 46.03 5 P **P 07 39 32.0 +1.4**
BJI Beijing 46.05 5 P **P 07 39 31.3 +0.5**
BJI PcP **PcP 07 40 55.3 +1.3**
BJI ScP **ScP 07 43 51.0 +1.5**
BJI S **S 07 45 32.0 -0.6**
BJI ScS **ScS 07 48 19.6 +0.5**
BJI sS **sS 07 48 43.6 -6.1**
BJI pmax pmax
comp=Z,120nm,0.6s
BTO Baotou 46.47 358 *e*P **P 07 39 35.8 +1.7**
BTO pP **pP 07 41 21.9 -1.2**
BTO PP **PP 07 41 38.3 +5.6**
BTO sP **sP 07 42 29.0 -2.0**
BTO S **S 07 45 42.5 +3.9**
BTO pmax pmax
comp=Z,810nm,0.8s
BTO pmax pmax
comp=Z,800nm,3.9s
GTA Gaotai 46.59 347 P **P 07 39 37.4 +2.4**
GTA PcP **PcP 07 40 58.3 +2.1**
GTA pP pP 07 41 28.8 +4.7
GTA sP sP 07 42 30.3 -1.7
GTA ScP **ScP 07 43 55.3 +3.3**
GTA S **S 07 45 42.8 +2.5**
GTA ScS **ScS 07 48 22.3 -0.8**
GTA pmax pmax
comp=Z,150nm,1.6s
GTA pmax pmax
comp=Z,1µm,8.0s
PTH Pithoragarh 46.63 321 *e*P **P 07 39 32.1 -3.5**
HHC Hu-ho-hao-te 46.69 360 *e*P **P 07 39 36.8 +1.1**
HHC pP pP 07 41 23.8 -1.0
HHC PP **PP 07 41 38.8 +4.2**
HHC sP sP 07 42 26.6 -6.2
HHC S **S 07 45 42.3 +0.7**
HHC sS sS 07 48 58.6 -0.8
HHC pmax pmax
comp=Z,120nm,0.8s
HHC pmax pmax
comp=Z,830nm,5.2s
TKRD Thakurdwara 47.22 320 *e*P **P 07 39 36.3 -3.5**
UGON Onchagaon 47.29 318 *e*P **P 07 39 36.8 -3.5**
INU Inuyama 47.55 28 P **P 07 39 41.7 -0.4**
JSG Sagara 47.56 30 P **P 07 39 42.0 -0.2**
JSG IAmb IAmb 07 40 41.3
comp=Z,216nm,0.8s
JSG Sagara 47.56 30 P **P 07 39 42.9 +0.7**
TATA Tatamba Isabel 47.66 96 P **P 07 39 43.4 +0.1**
ASOR Ausora 47.67 318 *e*P **P 07 39 39.3 -3.8**
JOSI Joshimath 47.74 322 *e*P **P 07 39 40.0 -4.0**
HNR Honiara 47.80 97 P **P 07 39 44.3 0.0**
HNR IAmb IAmb 07 41 36.9
comp=Z,635nm,1.1s
HNR Honiara 47.80 97 P **P 07 39 44.3 0.0**
HNR pmax pmax
comp=Z,635nm,1.1s
JMIU JAMIA UNIVERSI 47.87 318 *e*P **P 07 39 41.0 -3.7**
MOO Moorlands 47.88 145 P **P 07 39 46.2 +1.7**
comp=Z,60nm,1.0s
MOO Moorlands 47.88 145 P **P 07 39 44.7 +0.2**
JGF Kuroka 47.91 28 P **P 07 39 44.5 -0.4**
JGF IAmb IAmb 07 39 45.8
comp=Z,702nm,1.6s
JGF Kuroka 47.91 28 P **P 07 39 44.1 -0.7**
AYAN Aya Nagar 47.92 318 *e*P **P 07 39 41.6 -3.4**
LDR Lodi Road 47.93 318 *e*P **P 07 39 41.5 -3.5**
NGOA Tingoa Renbel 47.96 100 P **P 07 39 45.9 +0.4**
NDI New Delhi 47.99 318 *e*P **P 07 39 42.2 -3.4**
NPLP NPLP New Delhi 47.99 318 *e*P **P 07 39 43.6 -1.9**
NPLP IAmb IAmb 07 39 44.5
comp=Z,76nm,0.9s
UDPR Udaipur 48.00 311 *e*P **P 07 39 42.2 -3.5**
KUDL Kundal 48.14 317 *e*P **P 07 39 43.0 -3.5**
KUDL IAmb IAmb 07 39 45.9
comp=Z,188nm,0.9s
PATS Pohnpei 48.15 75 P **P 07 39 47.3 +0.3**
comp=Z,209nm,1.4s
BHGR Bahadurgarh 48.18 318 *e*P **P 07 39 45.1 -1.8**
TAU Tasmania Unive 48.25 145 P **P 07 39 48.2 +1.0**
TAU Tasmania Unive 48.25 145 P **P 07 39 47.5 +0.3**
TAU Tasmania Unive 48.25 145 P **P 07 39 48.2 +1.0**
TAU pmax pmax
comp=Z,49nm,0.8s
JHJR Jhajjar 48.33 317 *e*P **P 07 39 44.5 -3.5**
AJM Ajmer 48.41 314 *e*P **P 07 39 45.0 -3.7**
ALEG Aligegeo Malai 48.53 96 P **P 07 39 49.8 0.0**
SNY Shenyang 48.86 12⇑P **P 07 39 51.3 -0.4**
SNY pP **pP 07 41 43.9 +1.4**
SNY S **S 07 46 07.6 -3.5**
SNY ScS **ScS 07 48 38.6 +0.6**
SNY pmax pmax
comp=Z,190nm,1.2s
SNY pmax pmax
comp=Z,1µm,3.6s
ROCAM Rodrigues Isla 48.95 249 P **P 07 39 54.3 +1.6**
MAJO Matsushiro 49.08 28 P **P 07 39 52.1 -1.3**
MAJO IAmb IAmb 07 39 53.9
comp=Z,817nm,1.5s
MAJO Matsushiro 49.08 28 P **P 07 39 52.7 -0.7**
MAJO Matsushiro 49.08 28*c i*P **P 07 39 52.5 -0.9**
MAJO pmax pmax
comp=Z,497nm,1.4s
MJAR Matsushiro Arr 49.08 28 P **P 07 39 52.5 -0.9**
MJAR IAmb IAmb 07 40 49.5
comp=Z,342nm,0.9s
MJAR Matsushiro Arr 49.08 28 P **P 07 39 52.5 -0.9**
comp=Z,260nm,1.0s,baz=201,slow=7.6,SNR=312
MJAR pP **pP 07 41 44.1 -0.2**
comp=Z,70nm,1.0s,baz=208,slow=6.9,SNR=3.3
MJAR PKP2ab 08 11 33.3
comp=Z,2.2nm,0.9s,baz=19,slow=3.8,SNR=4.6
comp=Z,260nm,1.0s
MJAR Matsushiro Arr 49.08 28 P **P 07 39 52.5 -0.9**
MJAR pmax pmax
comp=Z,342nm,0.9s
MJB9 Matsu-Tunnel 49.08 28 P **P 07 39 52.9 -0.5**
MJB9 IAmb IAmb 07 39 54.9
comp=Z,833nm,1.5s
KKR Kurukshetra 49.09 319 *e*P **P 07 39 50.1 -3.5**
KLP Kalpa 49.23 321 *e*P **P 07 39 51.0 -3.9**
KLP IAmb IAmb 07 39 55.4
comp=Z,145nm,0.8s
CGRH CHANDIGARH 49.62 320 *e*P **P 07 39 53.8 -3.7**
SMLA Simla 49.63 320 *e*P **P 07 39 53.9 -3.6**
SMLA IAmb IAmb 07 39 58.1
HNLY HANLEY 49.65 323 *e*P **P 07 39 54.4 -4.0**
XLT XiLinHaoTe 49.88 4 *e*P **P 07 40 00.3 +1.0**
XLT pP pP 07 41 55.0 +4.2
XLT PP **PP 07 42 03.8 +0.6**
XLT ScP **ScP 07 44 07.5 +1.6**
XLT S **S 07 46 20.8 -4.3**
XLT sS sS 07 49 45.8 -0.5
XLT pmax pmax
comp=Z,190nm,1.2s
BHK Bhakra 50.30 320 *e*P P 07 39 56.4 -6.1
JSD Sado 50.31 27 P **P 07 40 02.3 -0.1**
BHUJ Bhuj 50.44 307 *e*P **P 07 39 59.9 -3.7**
DHRM DHARAMSHALA 50.93 321 *e*P **P 07 40 03.4 -3.8**
TLWR Talawar 50.95 320 *e*P **P 07 40 03.6 -3.6**
CN2 **Changchun 51.15 13** P **P 07 40 07.8 -0.5**
CN2 PP **PP 07 42 15.6 +1.3**
CN2 S **S 07 46 38.3 -3.5**
CN2 ScS **ScS 07 48 52.3 -1.5**
CN2 sS sS 07 50 01.5 -2.9
CN2 pmax pmax
comp=Z,140nm,1.0s
CN2 pmax pmax
comp=Z,750nm,4.5s
JMM Marumori 51.37 29 P **P 07 40 09.1 -0.9**
JMM IAmb IAmb 07 40 11.0
comp=Z,575nm,1.1s
JMM Marumori 51.37 29 P **P 07 40 10.1 +0.1**
JASL Jaisalmer 51.40 312 *e*P **P 07 40 07.1 -3.4**
JASL IAmb IAmb 07 40 10.5
comp=Z,62nm,0.7s
TSSA Tissa 51.42 321 *e*P **P 07 40 06.7 -4.0**
PSTR Posyet 51.48 18*c i*P **P 07 40 10.9 +0.3**
MSHR Mys Shultsa 51.52 18*c i*P **P 07 40 11.3 +0.3**
MSHR pmax pmax
comp=Z,156nm,1.4s
ALCI Alchi Leh 51.72 323 *e*P **P 07 40 08.9 -4.1**
ALCI IAmb IAmb 07 40 14.3
comp=Z,127nm,0.7s
JMU Jammu 52.13 320 *e*P **P 07 40 12.6 -2.9**
VLA Vladivostok 52.24 19*d i*P **P 07 40 16.7 +0.6**
VLA pmax pmax
comp=Z,371nm,1.5s
MDJ Mudanjiang 52.93 16 P **P 07 40 21.4 +0.4**
MDJ S **S 07 47 04.9 -0.5**
MDJ pmax pmax
comp=Z,180nm,1.1s
MDJ Mudanjiang 52.93 16 P **P 07 40 21.1 +0.1**
MDJ pP **pP 07 42 15.8 +1.1**
SRNI Srinagar 53.07 321 *e*P **P 07 40 18.7 -3.4**
USRK Ussuriysk Ar. 53.24 18 P **P 07 40 23.6 +0.4**
comp=Z,182nm,0.8s,baz=202,slow=5.2,SNR=164
USRK pP **pP 07 42 17.2 +0.1**
comp=Z,29nm,0.8s,baz=204,slow=8.4,SNR=2.7
comp=Z,182nm,0.8s
USRK Ussuriysk Ar. 53.24 18 P **P 07 40 23.6 +0.4**
USRK *PP **pP 07 42 17.2 +0.1**
BNX BinXian 53.43 14⇑P **P 07 40 24.6 +0.1**
BNX PP **PP 07 42 33.9 -0.6**
BNX sP **sP 07 43 24.0 -0.8**
BNX S **S 07 47 14.0 +2.1**
BNX sS **sS 07 50 39.3 +2.5**
BNX SS **SS 07 51 10.3 +5.2**
BNX pmax pmax
comp=Z,260nm,1.1s
BNX pmax pmax
comp=Z,700nm,7.3s
NIL Nilore 53.78 320 P **P 07 40 26.7 -0.6**
JTM Tenmabayashi 53.81 27 P **P 07 40 26.7 -0.6**
JTM IAmb IAmb 07 40 28.4
comp=Z,441nm,1.1s
JTM Tenmabayashi 53.81 27 P **P 07 40 27.4 +0.1**
ULN Ulaanbaatar 53.86 356 P **P 07 40 28.3 +0.6**
ULN S **S 07 47 17.6 -0.3**
ULN Ulaanbaatar 53.86 356*d i*P **P 07 40 28.2 +0.5**
ULN pmax pmax
comp=Z,159nm,0.9s
SONM Songino Array 53.88 355 P **P 07 40 28.4 +0.6**
SONM Songino Array 53.88 355 P **P 07 40 28.6 +0.8**
comp=Z,98nm,0.8s,baz=176,slow=8.1,SNR=333
SONM pP **pP 07 42 20.1 -2.0**
comp=Z,64nm,1.1s,baz=183,slow=4.1,SNR=3.6
SONM ScP **ScP 07 44 24.5 +1.3**
comp=Z,18nm,0.7s,baz=170,slow=5.6,SNR=4.4
comp=Z,98nm,0.8s
SONM Songino Array 53.88 355 P **P 07 40 28.6 +0.8**
SONM *PP **pP 07 42 20.1 -2.0**
WMQ Urumqi 54.23 339 P **P 07 40 28.6 -1.6**
WMQ S **S 07 47 22.9 +0.3**
WMQ pmax pmax
comp=Z,100nm,1.1s
WMQ pmax pmax
comp=Z,480nm,4.9s
DZM Mont Dzumac 55.04 113 P **P 07 40 37.0 +0.6**
DZM Mont Dzumac 55.04 113 P **P 07 40 36.1 -0.3**
YATNC Mamie plateau, 55.45 113 P **P 07 40 40.2 +1.1**
OUENC Ouen Island, N 55.45 113 P **P 07 40 40.0 +0.9**
HIA Hailar 55.54 6 P **P 07 40 39.0 -0.2**
HIA PcP **PcP 07 41 30.2 +0.6**
HIA pP **pP 07 42 35.9 +1.4**
PAF Port-aux-Franc 55.54 212 P **P 07 40 40.1 +1.0**
PAF IAmb IAmb 07 40 42.4
comp=Z,559nm,0.9s
PAF Port-aux-Franc 55.54 212 P **P 07 40 40.1 +1.0**
PAF pmax pmax
comp=Z,559nm,0.9s
ERM Erimo 55.75 28 P **P 07 40 41.0 +0.3**
ERM Erimo 55.75 28 P **P 07 40 41.0 +0.3**
ERM pmax pmax
comp=Z,189nm,1.1s
MSEY Mahe Island 56.07 268 P **P 07 40 44.3 +0.7**
MSEY P **P 07 40 44.3 +0.7**
MSEY Mahe Island 56.07 268 *i* P **P 07 40 44.8 +1.2**
SNR=7.2
KSH Kashi 56.14 327 P **P 07 40 43.5 -0.1**
KSH S **S 07 47 44.5 -3.2**
KSH pmax pmax
comp=Z,200nm,1.3s
ZAK Zakamensk 56.70 353 *e*P **P 07 40 46.8 -0.4**
ZAK *e* 07 41 34.0
ZAK pmax pmax
comp=Z,139nm,1.7s
ZAK pmax pmax
comp=Z,107nm,1.6s
TARG Taragay, Kyrgy 56.80 330 P **P 07 40 49.2 +0.7**
TARG Taragay, Kyrgy 56.80 330 P **P 07 40 49.2 +0.7**
TARG pmax pmax
comp=Z,138nm,1.2s
PRZ Przheval'sk 57.08 331 P **P 07 40 51.4 +1.3**
PRZ Przheval'sk 57.08 331 P **P 07 40 51.4 +1.3**
PRZ pmax pmax
comp=Z,390nm,1.2s
SHLS Shalkode 57.09 332⇓*i*P **P 07 40 50.0 -0.1**
SHLS *e*S **S 07 47 59.6 -0.1**
SHLS Shalkode 57.09 332*d i*P **P 07 40 49.9 -0.1**
SHLS *e*S **S 07 47 59.6 -0.1**
ASAJ Asahikawa 57.15 26 P **P 07 40 49.7 -0.6**
ASAJ pmax pmax
comp=Z,88nm,0.7s
JKA Kamikawa-asahi 57.15 26 P **P 07 40 49.7 -0.6**
UZB Uzynbulak 57.29 332⇓*i*P **P 07 40 52.4 +1.0**
UZB Uzynbulak 57.29 332*d i*P **P 07 40 52.3 +0.9**
SATY Saty 57.51 331⇓*i*P **P 07 40 53.9 +0.9**
SATY *e*S **S 07 48 07.3 +2.3**
SATY Saty 57.51 331*d i*P **P 07 40 53.8 +0.9**
SATY *e*S **S 07 48 07.3 +2.3**
KPKS Kokpek 57.69 332 *e*P **P 07 40 54.7 +0.6**
KPKS Kokpek 57.69 332 *e*P **P 07 40 54.7 +0.6**
HEH HeiHe 57.70 12 *e*P **P 07 40 53.9 +0.1**
HEH pP **pP 07 42 52.1 +1.5**
HEH S **S 07 48 06.0 -0.8**
HEH ScS **ScS 07 49 37.5 -3.5**
HEH pmax pmax
comp=Z,290nm,1.1s
CIT Chita 57.88 1 *e*P **P 07 40 56.4 +1.3**
CIT *e* 07 41 40.0
CIT pmax pmax
comp=Z,582nm,2.0s
ULHL Ulahol 57.97 329 P **P 07 40 56.9 +0.8**
SNR=49
TNSS Tian-Shan 58.20 330 *e*P **P 07 40 58.6 +0.6**
TNSS Tian-Shan 58.20 330 *e*P **P 07 40 58.5 +0.6**
MDOK Medeo 58.24 331 *e*P **P 07 40 58.7 +0.8**
MDOK *e*S **S 07 48 16.5 +2.2**
MDOK Medeo 58.24 331 *e*P **P 07 40 58.7 +0.8**
MDOK *e*S **S 07 48 16.5 +2.2**
MOY Mondy 58.25 352 *e*P **P 07 40 58.6 +0.9**
MOY pmax pmax
comp=Z,341nm,1.9s
NGCH Negor - Chabah 58.29 305 P **P 07 40 59.6 +1.3**
NGCH S **S 07 48 14.8 -0.4**
BOOM Boomskoye usch 58.30 329 P **P 07 40 58.9 +0.6**
BOOM Boomskoye usch 58.30 329 P **P 07 40 58.9 +0.6**
BOOM pmax pmax
comp=Z,439nm,1.4s
AAA Alma-Ata 58.34 331 *e*P **P 07 40 59.2 +0.7**
AAA Alma-Ata 58.34 331 *e*P **P 07 40 59.1 +0.7**
ZSN Zaisan 58.36 339⇓*i*P **P 07 40 59.3 +0.9**
ZSN Zaisan 58.36 339*d i*P **P 07 40 59.3 +0.9**
IRK Irkutsk 58.44 355 *e*P **P 07 40 59.1 +0.3**
IRK *e* 07 42 57.7
IRK *e*S **S 07 48 14.0 -2.1**
IRK pmax pmax
comp=Z,287nm,1.7s
JLN Jalan Bani Buh 58.45 300 P **P 07 40 59.6 +0.1**
SNR=38
JLN P **P 07 40 59.6 +0.1**
SNR=38
JLN S **S 07 48 17.1 -0.2**
JLN S **S 07 48 17.1 -0.2**
YUK Yuzh-Kuril'sk 58.57 28*de*P **P 07 41 00.7 +0.9**
ARXS Arharly 58.66 332 *e*P **P 07 41 00.7 +0.1**
MK31 Makanchi Array 58.78 337*d i*P **P 07 41 01.6 +0.4**
MKAR Makanchi Array 58.78 337 P **P 07 41 01.0 -0.2**
MKAR Makanchi Array 58.78 337 P **P 07 41 01.8 +0.5**
comp=Z,32nm,0.3s,baz=148,slow=7.2,SNR=377
MKAR pP **pP 07 42 60.0 +1.4**
comp=Z,30nm,0.7s,baz=144,slow=8.5,SNR=2.9
MKAR S **S 07 48 20.5 -0.2**
comp=Z,2.9nm,0.8s,baz=127,slow=3.8,SNR=1.6
comp=Z,32nm,0.3s
MKAR Makanchi Array 58.78 337 *i* P **P 07 41 01.7 +0.5**
MKAR pmax pmax
comp=Z,32nm,0.3s
TKM2 Tokmak 2 58.79 330 P **P 07 41 02.4 +0.8**
SNR=174
CHKK Chushkaly 58.79 331 *e*P **P 07 41 01.5 +0.1**
CHKK Chushkaly 58.79 331 *e*P **P 07 41 01.5 +0.1**
UCH Uchtor 58.84 328 P **P 07 41 03.1 +0.8**
SNR=103
MAKZ Makanchi 58.91 336 P **P 07 41 02.3 +0.2**
MAKZ PcP **PcP 07 41 42.8 -0.3**
MAKZ pP **pP 07 43 00.8 +1.2**
MAKZ sP **sP 07 44 05.5 +0.6**
MAKZ ScP **ScP 07 44 44.0 -1.4**
KBK Karagaybulak 58.93 329 P **P 07 41 03.1 +0.7**
SNR=115
TDK Taldyqorghan 59.00 333 *e*P **P 07 41 03.5 +0.8**
comp=Z,646nm,1.3s
TDK Taldyqorghan 59.00 333 *e*P **P 07 41 03.5 +0.8**
TDK pmax pmax
comp=Z,646nm,1.3s
GAR Garm 59.02 323 P **P 07 41 03.1 -0.1**
GAR IAmb IAmb 07 41 04.5
comp=Z,559nm,1.2s
ARSB Arslanbob 59.03 327 P **P 07 41 03.4 +0.2**
ARSB IAmb IAmb 07 41 05.4
comp=Z,948nm,1.3s
ARSB Arslanbob 59.03 327 P **P 07 41 03.4 +0.2**
ARSB pmax pmax
comp=Z,949nm,1.3s
KUU Kurty 59.13 331 *e*P **P 07 41 04.1 +0.4**
comp=Z,428nm,1.4s
KUU Kurty 59.13 331 *e*P **P 07 41 04.0 +0.4**
KUU pmax pmax
comp=Z,428nm,1.4s
AAK Ala-Archa 59.15 329 P **P 07 41 05.0 +1.1**
SNR=92
AAK Ala-Archa 59.15 329 P **P 07 41 04.6 +0.6**
AAK Ala-Archa 59.15 329 P **P 07 41 05.0 +1.1**
comp=Z,124nm,1.0s,baz=144,slow=5.3,SNR=219
comp=Z,124nm,1.0s
AAK Ala-Archa 59.15 329 P **P 07 41 05.0 +1.1**
AAK S **S 07 48 26.5 +0.8**
AAK Ala-Archa 59.15 329 *i* P **P 07 41 05.1 +1.1**
SNR=116
AAK Ala-Archa 59.15 329*d i*P **P 07 41 04.8 +0.9**
AAK pmax pmax
comp=Z,306nm,1.3s
AAK Ala-Archa 59.15 329 P **P 07 41 05.1 +1.1**
AAK S **S 07 48 26.2 +0.5**
FRU1 Bishkek 59.20 329 P **P 07 41 04.7 +0.5**
FRU1 Bishkek 59.20 329 P **P 07 41 04.7 +0.5**
FRU1 pmax pmax
comp=Z,364nm,1.4s
MHTO MHTO 59.27 299 P **P 07 41 04.7 -0.2**
SNR=102
MHTO S **S 07 48 26.0 -1.6**
CHMS Chumysh 59.27 329 P **P 07 41 05.0 +0.4**
SNR=8.0
DQM DQM 59.27 297 P **P 07 41 05.2 +0.2**
SNR=54
DQM P **P 07 41 05.2 +0.2**
SNR=54
DQM S **S 07 48 27.7 -0.1**
DQM S **S 07 48 27.7 -0.1**
H11S3 WAKE ISLAND Hy 59.35 64 P **P 07 41 04.9 -0.5**
H11S3 WAKE ISLAND Hy 59.35 64 P **P 07 41 04.9 -0.5**
SNR=3.8
H11S2 WAKE ISLAND Hy 59.37 64 P **P 07 41 04.9 -0.5**
H11S1 WAKE ISLAND Hy 59.37 64 P **P 07 41 05.0 -0.5**
YSS Yuzhno-Sakhali 59.49 24 P **P 07 41 05.4 -0.4**
YSS Yuzhno-Sakhali 59.49 24 P **P 07 41 07.0 +1.2**

YSS	**Yuzhno-Sakhali**	59.49	24	α	*i*P		**P**		07 41 06.4	+0.6
YSS					*e*PP		**pP**		07 43 02.9	-0.8
YSS					*e*				07 43 28.6	
YSS					*e*S		**S**		07 48 24.6	-4.8
YSS					*e*SS		**SS**		07 52 44.6	+4.8
YSS					pmax	pmax				
	comp=Z,1μm,2.0s									
YSS					pmax	pmax				
	comp=Z,280nm,1.0s									
YSS					smax	smax				
	comp=N,2μm,7.5s									
YSS					smax	smax				
	comp=E,1μm,7.9s									
CHGR	**Chuyangaron**	59.51	322				**P**		07 41 05.2	-1.1
CHGR					IAmb	IAmb			07 41 06.7	
	comp=Z,697nm,1.3s									
CHGR	**Chuyangaron**	59.51	322		P		**P**		07 41 05.2	-1.1
CHGR					pmax	pmax				
	comp=Z,697nm,1.3s									
WSAR	**Wadi Sarin**	59.53	301		P		**P**		07 41 07.2	+0.5
	SNR=90									
WSAR					S		**S**		07 48 30.5	-0.4
EKS2	**Erkin-Say**	59.54	328		P		**P**		07 41 07.7	+1.2
	SNR=96									
WAKE	**Wake Island**	59.58	64		P		**P**		07 41 07.0	0.0
USP	**Ospenovka**	59.59	329		P		**P**		07 41 07.6	+0.9
	SNR=7.3									
SIMJ	**Simiganj**	59.60	322		P		**P**		07 41 05.6	-1.4
SIMJ	**Simiganj**	59.60	322		P		**P**		07 41 05.8	-1.2
SIMJ					pP		**pP**		07 43 04.8	-0.1
JMDO	**Jabal Madar**	59.65	300		P		**P**		07 41 07.8	+0.3
	SNR=56									
JMDO					S		**S**		07 48 32.3	-0.1
SGDS	**Sogindy**	59.66	329	ǁ	*i*P		**P**		07 41 07.7	+0.5
H11N1	**WAKE ISLAND Hy**	59.94	63		P		**P**		07 41 07.8	-1.3
H11N2	**WAKE ISLAND Hy**	59.95	63		P		**P**		07 41 07.9	-1.3
SMDO	**Samad**	59.95	301		P		**P**		07 41 09.6	0.0
	SNR=54									
SMDO					S		**S**		07 48 36.1	-0.2
H11N3	**WAKE ISLAND Hy**	59.95	63		P		**P**		07 41 07.9	-1.3
BIDO	**Bidbid**	60.06	301		P		**P**		07 41 10.8	+0.7
	SNR=110									
BIDO					S		**S**		07 48 37.1	-0.4
CASY	**Casey**	60.12	181		P		**P**		07 41 09.7	0.0
SHAO	**Shalim**	60.37	295		P		**P**		07 41 12.8	+0.6
	SNR=13									
SHAO					S		**S**		07 48 39.9	-1.5
SHAO	**Shalim**	60.37	295	*i*	P		**P**		07 41 13.0	+0.7
	SNR=12									
KUR	**Kuril'sk**	60.41	29	*c*	*i*P		**P**		07 41 11.8	-0.2
KUR					pmax	pmax				
	comp=Z,855nm,1.1s									
GRNR	**Gornyy**	60.46	18	⇑	*i*P		**P**		07 41 12.0	-0.3
GRNR					pmax	pmax				
	comp=Z,20nm,1.0s									
BSY	**Bisya**	60.56	300		P		**P**		07 41 13.3	-0.2
	SNR=55									
BSY					S		**S**		07 48 42.6	-1.1
HOQ	**Hoqain**	60.78	301		P		**P**		07 41 15.1	+0.2
	SNR=78									
HOQ					S		**S**		07 48 46.3	-0.1
DMTO	**DMTO**	60.89	294		P		**P**		07 41 15.7	0.0
	SNR=14									
DMTO					S		**S**		07 48 46.8	-1.0
UGL	**Uglegorsk**	60.94	22		*e*P		**P**		07 41 16.0	+0.6
UGL					*e*S		**S**		07 48 44.8	-2.5
UGL					smax	smax				
	comp=E,3μm,10.0s									
UGL					smax	smax				
	comp=N,3μm,9.2s									
ZEA	**Zeya**	60.99	10		*e*P		**P**		07 41 16.4	+0.8
ZEA					*e*PP		**pP**		07 43 15.2	+0.9
ZEA					*e*				07 43 37.3	
ZEA					*e*S		**S**		07 48 49.6	+1.8
ZEA					*e*				07 50 04.4	
ZEA					pmax	pmax				
	comp=E,30nm,1.1s									
ZEA					pmax	pmax				
	comp=N,60nm,1.4s									
ZEA					pmax	pmax				
	comp=Z,120nm,1.7s									
ZEA					pmax	pmax				
	comp=Z,500nm,1.8s									
ZEA					smax	smax				
	comp=N,1μm,4.9s									
DZA	**Taraz**	61.00	327		*e*P		**P**		07 41 16.3	+0.3
DZA	**Taraz**	61.00	327		*e*P		**P**		07 41 16.3	+0.3
BTLS	**Baital**	61.09	330		*e*P		**P**		07 41 16.5	0.0
BTLS	**Baital**	61.09	330		*e*P		**P**		07 41 16.5	0.0
IUG	**Iuzhnay**	61.22	326	ǁ	*i*P		**P**		07 41 18.3	+0.8
	comp=N,305nm,0.9s									
IUG	**Iuzhnay**	61.22	326	*d*	*i*P		**P**		07 41 18.3	+0.8
IUG					pmax	pmax				
	comp=Z,305nm,0.9s									
ARQ	**Araqi**	61.36	301		P		**P**		07 41 18.3	-0.4
	SNR=31									
ARQ					P		**P**		07 41 18.3	-0.4
	SNR=31									
ARQ					S		**S**		07 48 51.8	-1.8
ARQ					S		**S**		07 48 51.8	-1.8
TARA	**Tarawa**	61.47	85		P		**P**		07 41 20.7	+1.2
RBK	**Rabkut**	61.50	294		P		**P**		07 41 20.3	+0.5
	SNR=29									
RBK					S		**S**		07 48 54.1	-1.4
CHM	**Chimkent**	61.58	325		*e*P		**P**		07 41 20.7	+0.9
	comp=Z,959nm,1.6s									
CHM	**Chimkent**	61.58	325		*e*P		**P**		07 41 20.6	+0.9
CHM					pmax	pmax				
	comp=Z,959nm,1.6s									
KK31	**Karatay Array**	61.59	327				**P**		07 41 19.5	-0.3
KK31	**Karatay Array**	61.59	327		*i*P		**P**		07 41 19.9	+0.1
KKAR	**Karatay Array**	61.59	327				**P**		07 41 19.1	-0.7
KKAR	**Karatay Array**	61.59	327		P		**P**		07 41 19.1	-0.7
SOHO	**SOHO**	61.64	301		P		**P**		07 41 20.7	+0.2
SOHO					S		**S**		07 48 55.3	-1.6
SOHO	**SOHO**	61.64	301		*i*P		**P**		07 41 21.0	+0.5
	SNR=48									
DCZ	**Deep Cove**	61.80	139		P		**P**		07 41 21.4	+0.3
DCZ	**Deep Cove**	61.80	139		P		**P**		07 41 22.2	+1.0
DOK	**Doka**	61.90	295		P		**P**		07 41 21.8	-0.4
	SNR=27									
DOK					S		**S**		07 48 57.6	-2.6
BRLS	**Boroldaу**	61.91	326		*e*P		**P**		07 41 21.7	-0.2
BRLS	**Boroldaу**	61.91	326		*e*P		**P**		07 41 21.6	-0.2
WHFO	**Wadi Hawf**	62.02	294		P		**P**		07 41 22.5	-0.6
	SNR=25									
WHFO					P		**P**		07 41 22.5	-0.6
	SNR=25									
WHFO					S		**S**		07 48 58.5	-3.2
WHFO					S		**S**		07 48 58.5	-3.2
MSZ	**Milford Sound**	62.03	138		P		**P**		07 41 23.8	+1.2
UOSS	**Minazif**	62.22	302		P		**P**		07 41 23.2	-1.0
UOSS					IAmb	IAmb			07 41 25.2	
	comp=Z,408nm,1.2s									
UOSS	**Minazif**	62.22	302		P		**P**		07 41 24.0	-0.2
UOSS	**Minazif**	62.22	302		*i*P		**P**		07 41 24.0	-0.2
	SNR=44									
UOSS	**Minazif**	62.22	302		P		**P**		07 41 24.0	-0.2
UOSS					S		**S**		07 49 02.9	-1.1
HATD	**Hatta, Dubai**	62.24	302		P		**P**		07 41 24.5	+0.2
	SNR=54									
HATD					S		**S**		07 49 03.1	-1.1
HATD	**Hatta, Dubai**	62.24	302		*i*P		**P**		07 41 25.0	+0.6
	SNR=62									
ASHO	**Ashiyiah**	62.25	302		P		**P**		07 41 24.4	0.0
	SNR=58									
ASHO					S		**S**		07 49 03.3	-1.1
ASHO	**Ashiyiah**	62.25	302		*i*P		**P**		07 41 25.0	+0.5
	SNR=72									
MDH	**Madha**	62.27	303		P		**P**		07 41 23.7	-0.9
	SNR=6.5									
MDH					S		**S**		07 49 01.0	-3.6
MDH	**Madha**	62.27	303		*i*P		**P**		07 41 24.1	-0.4
	SNR=7.1									
ALNE	**Al Ain**	62.28	301		P		**P**		07 41 24.4	-0.2
	SNR=76									
ALNE					S		**S**		07 49 03.7	-1.0
ALNE	**Al Ain**	62.28	301		*i*P		**P**		07 41 24.7	+0.1
	SNR=19									
ABTO	**Aybut**	62.28	293		P		**P**		07 41 24.6	-0.2
	SNR=34									
ABTO					S		**S**		07 49 02.8	-2.3
UMZA	**Um Al Zommool**	62.31	299		P		**P**		07 41 24.4	-0.4
JCZ	**Jackson Bay**	62.40	137		P		**P**		07 41 26.2	+1.1
JCZ	**Jackson Bay**	62.40	137		P		**P**		07 41 25.6	+0.4
JCZ					PP		**pP**		07 43 24.2	+0.4
MLZ	**Mavora Lakes**	62.40	139		P		**P**		07 41 25.4	+0.3
MSFE	**Esma-Masafi**	62.41	303	*i*	P		**P**		07 41 25.8	+0.3
	SNR=32									
MASF	**Masafi**	62.42	303		P		**P**		07 41 25.3	-0.2
	SNR=19									
MASF					S		**S**		07 49 04.1	-2.4
WHZ	**Wether Hill Ro**	62.48	139		P		**P**		07 41 25.8	+0.3
WHZ					PP		**pP**		07 43 26.2	+2.3
BANOM	**Banah**	62.51	303		P		**P**		07 41 26.0	-0.1
BANOM					S		**S**		07 49 05.7	-1.9
BANOM	**Banah**	62.51	303	*i*	P		**P**		07 41 27.0	+0.9
	SNR=9.1									
TYV	**Tymovskoe**	62.62	21		*e*P		**P**		07 41 26.4	+0.2
TYV					*e*S		**S**		07 49 05.7	-2.1
TYV					pmax	pmax				
	comp=Z,27nm,1.1s									
TYV					pmax	pmax				
	comp=Z,500nm,5.0s									
TYV					smax	smax				
	comp=N,700nm,5.4s									
TYV					smax	smax				
	comp=E,900nm,5.4s									
TYV					smax	smax				
	comp=N,20nm,1.7s									
TYV					smax	smax				
	comp=E,200nm,1.7s									
FAQ	**Al Faqa, Dubai**	62.66	302		P		**P**		07 41 27.2	+0.2
	SNR=82									
FAQ					P		**P**		07 41 27.2	+0.2
	SNR=82									
FAQ					S		**S**		07 49 07.3	-2.0
FAQ					S		**S**		07 49 07.3	-2.0
FAQ	**Al Faqa, Dubai**	62.66	302	*i*	P		**P**		07 41 27.3	+0.2
	SNR=62									
SHME	**Shamm**	62.69	303		P		**P**		07 41 27.4	+0.2
	SNR=15									
SHME					S		**S**		07 49 07.8	-1.8
SHME	**Shamm**	62.69	303	*i*	P		**P**		07 41 27.8	+0.6
	SNR=19									
NAZ	**Nazwa, Dubai**	62.70	302		P		**P**		07 41 27.2	0.0
	SNR=45									
NAZ					P		**P**		07 41 27.2	0.0
	SNR=45									
NAZ					S		**S**		07 49 08.0	-1.8
NAZ					S		**S**		07 49 08.0	-1.8
NAZ					S		**S**		07 49 08.8	-0.9
NAZ					S		**S**		07 49 08.8	-0.9
NAZ	**Nazwa, Dubai**	62.70	302	*i*	P		**P**		07 41 28.0	+0.7
	SNR=51									
WKZ	**Wanaka**	62.81	138		P		**P**		07 41 28.3	+0.6
WKZ					PP		**pP**		07 43 28.2	+1.9
ASUD	**Al Ashush, Dub**	62.84	301		P		**P**		07 41 28.6	+0.4
	SNR=34									
ASUD					P		**P**		07 41 28.6	+0.4
	SNR=34									
ASUD	**Al Ashush, Dub**	62.84	301	*i*	P		**P**		07 41 29.0	+0.8
	SNR=32									
APZ	**The Paps**	62.85	140		P		**P**		07 41 28.7	+0.8
APZ					PP		**pP**		07 43 24.8	-1.7
UMQ	**Umm Al-Quwin**	62.89	303		P		**P**		07 41 28.9	+0.4
	SNR=7.3									
UMQ					S		**S**		07 49 11.9	-0.1
UMQ	**Umm Al-Quwin**	62.89	303	*i*	P		**P**		07 41 30.1	+1.6
	SNR=6.4									
AJN	**Ajban**	63.11	301		P		**P**		07 41 29.4	-0.5
	SNR=23									
AJN					S		**S**		07 49 12.3	-2.5
AJN	**Ajban**	63.11	301	*i*	P		**P**		07 41 29.8	-0.1
	SNR=13									
KURBB	**Kurchatov Arra**	63.34	337		P		**P**		07 41 31.1	+0.3
	comp=E,69nm,1.1s,baz=149,slow=5.4,SNR=236									
KURBB					pP		**pP**		07 43 32.2	+1.3
	comp=E,48nm,1.0s,baz=144,slow=6.1,SNR=5.4									
KURBB					PKPPKP		**P'P'df**		08 10 10.1	-7.8
	comp=E,2.6nm,0.9s,baz=301,slow=3.0,SNR=7.4									
	comp=E,69nm,1.1s									
KURBB	**Kurchatov Arra**	63.34	337		P		**P**		07 41 31.2	+0.4
KURK	**Kurchatov**	63.38	337		P		**P**		07 41 31.6	+0.5
KURK	**Kurchatov**	63.38	337		P		**P**		07 41 31.6	+0.5
KURK					P		**P**		07 41 31.6	+0.5
KURK					S		**S**		07 49 15.8	-1.2
KURK					S		**S**		07 49 15.8	-1.2
KURK	**Kurchatov**	63.38	337	*d*	*i*P		**P**		07 41 31.2	+0.1
KURK					pmax	pmax				
	comp=Z,256nm,1.5s									
KURK	**Kurchatov**	63.38	337		P		**P**		07 41 31.5	+0.4
KURK					PcP		**PcP**		07 42 01.4	+0.2
KURK					pP		**pP**		07 43 32.6	+1.4
WVZ	**Waitaha Valley**	63.42	135		P		**P**		07 41 31.4	-0.1
WVZ					PP		**pP**		07 43 31.4	+0.5
LBZ	**Lake Benmore**	63.45	137		P		**P**		07 41 31.2	-0.6
OUZ	**Omahuta**	63.57	126		P		**P**		07 41 33.8	+1.1
TUZ	**Tuapeka**	63.60	139		P		**P**		07 41 32.8	+0.1
TUZ					PP		**pP**		07 43 32.5	+0.8
BOD	**Bodaibo**	63.70	1		*e*P		**P**		07 41 33.1	+0.2
BOD					pmax	pmax				
	comp=Z,252nm,1.5s									
MZWR	**Madinat Zayed**	63.78	300		P		**P**		07 41 34.1	-0.1
MZWR					S		**S**		07 49 19.6	-3.2
DSZ	**Denniston Nort**	63.79	134		P		**P**		07 41 33.8	-0.2
INZ	**Inchbonnie**	63.81	135				**P**		07 41 33.8	-0.2
INZ					IAmb	IAmb			07 43 40.7	
	comp=Z,334nm,1.1s									
INZ	**Inchbonnie**	63.81	135		P		**P**		07 41 33.8	-0.2
RPZ	**Rata Peaks**	63.84	136				**P**		07 41 34.5	+0.2
RPZ	**Rata Peaks**	63.84	136		P		**P**		07 41 34.5	+0.2
RPZ	**Rata Peaks**	63.84	136		P		**P**		07 41 34.4	+0.2
MZR	**Muzera**	63.87	299		P		**P**		07 41 35.0	+0.2
	SNR=75									
MZR					P		**P**		07 41 35.0	+0.2
	SNR=75									
MZR					S		**S**		07 49 20.9	-3.1
MZR					S		**S**		07 49 20.9	-3.1
MZR	**Muzera**	63.87	299	*i*	P		**P**		07 41 35.0	+0.2
	SNR=69									
ZAA0	**Zalesovo Array**	63.95	343		P		**P**		07 41 34.8	+0.2
ZAA0					IAmb	IAmb			07 41 35.9	
	comp=Z,447nm,1.6s									
ZALV	**Zalesovo Beam**	63.95	343		P		**P**		07 41 34.5	-0.1
	comp=Z,148nm,1.0s,baz=151,slow=7.1,SNR=110									
ZALV					pP		**pP**		07 43 36.1	+1.0
	comp=Z,48nm,0.7s,baz=146,slow=3.8,SNR=4.3									
ZALV					S		**S**		07 49 22.8	-0.9
	comp=Z,7.8nm,0.7s,baz=153,slow=12,SNR=6.1									
ZALV					PKPPKP		P'P'df		08 10 08.6	-8.1
	comp=Z,3.5nm,0.9s,baz=318,slow=2.0,SNR=5.1									
	comp=Z,148nm,1.0s									
ZALV	**Zalesovo Beam**	63.95	343		P		**P**		07 41 34.5	-0.1
ZALV					*PP		**pP**		07 43 36.1	+1.0
ODZ	**Otahua Downs**	63.97	138		P		**P**		07 41 36.1	+1.1
ODZ	**Otahua Downs**	63.97	138		P		**P**		07 41 35.2	+0.2
TMZ	**Timaru**	64.01	137		P		**P**		07 41 34.8	-0.5
QRZ	**Quartz Range**	64.06	133		P		**P**		07 41 37.3	+1.6
QRZ	**Quartz Range**	64.06	133		P		**P**		07 41 37.0	+1.3
WCZ	**Waipu Caves**	64.31	127		P		**P**		07 41 38.6	+1.2
OXZ	**Oxford**	64.40	135		P		**P**		07 41 37.6	-0.2
LTZ	**Lake Taylor**	64.41	135		P		**P**		07 41 37.7	-0.2
TKNZ	**Takaka Hill**	64.43	133		P		**P**		07 41 39.0	+0.9
TKNZ					PP		**pP**		07 43 38.5	+0.1
THZ	**Tophouse**	64.58	134		P		**P**		07 41 39.3	+0.2
VOI	**Vohitsoka**	64.59	249		P		**P**		07 41 40.4	+0.9
GHWR	**Ruwais**	64.71	300		P		**P**		07 41 39.9	-0.2
GHWR					S		**S**		07 49 30.4	-3.5
NNZ	**Nelson**	64.79	133		P		**P**		07 41 40.1	-0.1
KHEZ	**Kahui Hut**	64.79	131		P		**P**		07 41 42.0	+1.6
KHEZ	**Kahui Hut**	64.79	131		P		**P**		07 41 42.4	+2.0
NEZ	**North Egmont**	64.84	131		P		**P**		07 41 42.8	+2.0
MQZ	**McQueen's Vall**	64.94	136		P		**P**		07 41 41.6	+0.5
GVZ	**Greta Valley S**	65.00	135		P		**P**		07 41 41.5	-0.1
JRN	**Qarnain Island**	65.06	301		P		**P**		07 41 42.1	-0.1
	SNR=16									
JRN					S		**S**		07 49 34.3	-3.8
DUWZ	**D'Urville Isla**	65.08	132		P		**P**		07 41 42.6	+0.5
H04N2	**CROZET ISLANDS**	65.10	222		P		**P**		07 41 43.6	+1.8
	SNR=5.3									
H04N1	**CROZET ISLANDS**	65.11	222		P		**P**		07 41 45.0	+3.2
	baz=61,slow=6.0,SNR=3.9									
H04N3	**CROZET ISLANDS**	65.11	222		P		**P**		07 41 43.5	+1.6
	baz=61,slow=6.0,SNR=3.2									
KHZ	**Kahutara**	65.21	134		P		**P**		07 41 43.3	+0.5
KHZ	**Kahutara**	65.21	134		P		**P**		07 41 43.0	+0.2
H04S1	**CROZET ISLANDS**	65.24	221		P		**P**		07 41 43.8	+1.1
TUWZ	**Tuamarina**	65.25	133		P		**P**		07 41 43.3	+0.2
HIZ	**Hauiti**	65.25	130		P		**P**		07 41 44.5	+1.3
HIZ	**Hauiti**	65.25	130		P		**P**		07 41 44.9	+1.7
H04S3	**CROZET ISLANDS**	65.25	221		P		**P**		07 41 44.6	+1.8
H04S2	**CROZET ISLANDS**	65.26	221		P		**P**		07 41 45.5	+2.7
	baz=84,slow=5.3,SNR=0.8									
BSWZ	**Blackbirch Sta**	65.27	133		P		**P**		07 41 43.2	-0.1
BRZS	**Berezniki**	65.30	333		*e*P		**P**		07 41 43.8	+0.5
BRZS	**Berezniki**	65.30	333		*e*P		**P**		07 41 43.7	+0.5
VRZ	**Vera Road**	65.31	130		P		**P**		07 41 44.8	+1.2
TCW	**Tory Channel**	65.44	133		P		**P**		07 41 44.1	-0.2
KUZ	**Kuaotunu**	65.56	128		P		**P**		07 41 46.4	+1.2
KUZ	**Kuaotunu**	65.56	128		P		**P**		07 41 46.3	+1.2
MSVF	**Nonsavu**	65.57	107		P		**P**		07 41 46.6	+0.9
MSVF	**Nonsavu**	65.57	107		P		**P**		07 41 46.3	+0.6
MSVF	**Nonsavu**	65.57	107		P		**P**		07 41 46.6	+0.9
MSVF					pmax	pmax				
	comp=Z,180nm,1.1s									
TOZ	**Tahuroa Road**	65.59	129		P		**P**		07 41 47.1	+1.8
WAZ	**Wanganui**	65.62	131		P		**P**		07 41 46.9	+1.4
TLZ	**Tolley Road**	65.74	129		P		**P**		07 41 47.9	+1.6
SLWR	**Sila**	65.77	300		P		**P**		07 41 46.4	-0.2
SLWR					P		**P**		07 41 46.4	-0.2
SLWR					S		**S**		07 49 42.2	-4.3
SLWR					S		**S**		07 49 42.2	-4.3
SNZO	**South Karori**	65.78	133		P		**P**		07 41 45.8	-0.6
SNZO					IAmb	IAmb			07 43 55.7	
	comp=Z,270nm,0.8s									
SNZO	**South Karori**	65.78	133		P		**P**		07 41 46.5	+0.1
SNZO	**South Karori**	65.78	133		P		**P**		07 41 46.0	-0.4
SNZO	**South Karori**	65.78	133		P		**P**		07 41 45.7	-0.7
SNZO					pP		**pP**		07 43 48.5	+1.1
PKVZ	**Pokaka**	65.79	130		P		**P**		07 41 47.9	+1.2
KIW	**Kapiti Island**	65.82	132		P		**P**		07 41 46.6	-0.1
MTVZ	**Mangateitei**	65.91	130		P		**P**		07 41 48.2	+0.8
WTVZ	**West Tongariro**	65.94	130		P		**P**		07 41 48.8	+1.2
FWVZ	**Far West T-bar**	65.94	130		P		**P**		07 41 48.0	+0.2
KMRZ	**Kaimai**	65.95	129		P		**P**		07 41 48.9	+1.3
MAVZ	**Matarangi**	65.95	130		P		**P**		07 41 48.3	+0.4
NGZ	**Ngauruhoe**	65.96	130		P		**P**		07 41 48.8	+1.0
NNVZ	**North Ngauruho**	65.96	130		P		**P**		07 41 48.9	+1.1
KRVZ	**Karewarewa**	65.98	130		P		**P**		07 41 49.0	+1.1
WHVZ	**Whangaehu Hut**	65.98	130		P		**P**		07 41 48.2	+0.2
WNVZ	**Wahianoa**	65.99	130		P		**P**		07 41 48.4	+0.4
CAW	**Cannon Point**	65.99	132		P		**P**		07 41 47.4	-0.4
SNVZ	**South Ngauruho**	66.00	130		P		**P**		07 41 48.7	+0.6
NTVZ	**North Tongarir**	66.00	130		P		**P**		07 41 48.6	+0.6
OGWZ	**Otaki Gorge**	66.00	132		P		**P**		07 41 47.8	0.0
OTVZ	**Oturere**	66.01	130		P		**P**		07 41 48.5	+0.4
TUVZ	**Tukino**	66.02	130		P		**P**		07 41 48.9	+0.7
TMVZ	**Te Maari**	66.03	130		P		**P**		07 41 48.7	+0.5
MOVZ	**Moawhango**	66.13	130		P		**P**		07 41 48.8	0.0
MSWZ	**Moikau Station**	66.20	133		P		**P**		07 41 49.2	+0.1
PLWZ	**Palliser**	66.24	133		P		**P**		07 41 49.2	-0.2
MRZ	**Mangatainoka R**	66.27	132		P		**P**		07 41 49.5	0.0
HOWZ	**Holdsworth Sta**	66.28	132		P		**P**		07 41 49.8	+0.3
PAWZ	**Paruwai Farm**	66.32	133		P		**P**		07 41 50.1	+0.3
MTW	**Mount Morrison**	66.33	132		P		**P**		07 41 49.8	0.0
POWZ	**Post Office Ro**	66.35	131		P		**P**		07 41 50.0	0.0
TRNA	**Turayna**	66.40	300		P		**P**		07 41 50.5	0.0
	SNR=28									
TRNA					S		**S**		07 49 49.6	-4.3
TSZ	**Takapari Road**	66.42	131		P		**P**		07 41 50.8	+0.3
**

comp=Z,323nm,0.8s
MAW Mawson 69.68 198 P **P** **07 42 10.7 +1.2**
MAW *PP **pP** **07 44 14.2 +1.5**
PEA0B Petropavlovsk- 70.52 27 P **P** **07 42 14.8 +0.1**
PEA0B Petropavlovsk- 70.52 27 P **P** **07 42 14.8 +0.1**
PEA0B pmax pmax
comp=Z,209nm,1.2s
PETK Petropavlovsk- 70.52 27 P **P** **07 42 14.4 -0.3**
PETK Petropavlovsk- 70.52 27 P **P** **07 42 14.6 -0.1**
comp=Z,95nm,0.9s,baz=213,slow=2.7,SNR=110
PETK pP **pP** **07 44 19.1 +0.4**
comp=Z,89nm,0.9s,baz=222,slow=2.0,SNR=7.9
PETK PKPPKP **P'P'df** **08 10 01.0 -5.1**
comp=Z,8.1nm,1.0s,baz=50,slow=2.3,SNR=3.5
comp=Z,95nm,0.9s
PETK Petropavlovsk- 70.52 27 P **P** **07 42 14.6 -0.1**
PETK *PP **pP** **07 44 19.1 +0.4**
ATD Arta Tunnel 70.78 284 P **P** **07 42 18.1 +1.0**
ATD IAmb IAmb 07 42 20.3
comp=Z,339nm,1.2s
ATD Arta Tunnel 70.78 284 P **P** **07 42 18.7 +1.6**
KBD Kabd 70.80 304 P **P** **07 42 16.7 -0.2**
KBD S **S** **07 50 39.6 -4.7**
PET Petropavlovsk 70.90 28 P **P** **07 42 17.8 +0.8**
PET Petropavlovsk 70.90 28 *eP* **P** **07 42 17.7 +0.8**
PET *e*PP **pP** **07 44 20.4 -0.7**
PET *e*SP **sP** **07 45 24.7 +0.3**
PET *eS* **S** **07 50 45.1 +0.6**
PET *e*SP **SKKSac** **07 51 21.8 +0.9**
PET pmax pmax
comp=Z,134nm,0.7s
PET Petropavlovsk 70.90 28 P **P** **07 42 17.2 +0.3**
comp=Z,161nm,1.3s
PET Petropavlovsk 70.90 28 P **P** **07 42 17.4 +0.4**
PET pP **pP** **07 44 21.1 0.0**
RAYN Ar Rayn 71.02 297 P **P** **07 42 18.3 0.0**
RAYN IAmb IAmb 07 43 15.4
comp=Z,415nm,1.2s
RAYN Ar Rayn 71.02 297 P **P** **07 42 18.2 -0.2**
RAYN S **S** **07 50 42.2 -4.9**
RAYN Ar Rayn 71.02 297 *i* P **P** **07 42 18.3 0.0**
SNR=184
RAYN Ar Rayn 71.02 297 P **P** **07 42 18.7 +0.3**
AB31 Akbulak array 71.15 327 *i* P **P** **07 42 18.9 +0.4**
ABKAR Akbulak array 71.15 327 P **P** **07 42 18.6 +0.2**
MA2 Magadan 72.35 20 P **P** **07 42 25.7 +0.4**
MA2 IAmb IAmb 07 42 27.1
comp=Z,206nm,1.1s
MA2 Magadan 72.35 20 P **P** **07 42 26.1 +0.9**
comp=Z,126nm,1.0s,baz=203,slow=5.7,SNR=78
MA2 pP **pP** **07 44 31.0 +0.9**
comp=Z,33nm,0.8s,baz=208,slow=7.5,SNR=3.8
comp=Z,126nm,1.0s
MA2 Magadan 72.35 20 P **P** **07 42 26.4 +1.2**
MA2 Magadan 72.35 20 *d* *i* P **P** **07 42 25.5 +0.3**
MA2 pmax pmax
comp=Z,152nm,1.0s
MA2 Magadan 72.35 20 P **P** **07 42 26.0 +0.8**
comp=Z,2µmcomp=Z,197nm,1.4s
MA2 Magadan 72.35 20 P **P** **07 42 26.0 +0.8**
MA2 pP **pP** **07 44 30.9 +0.9**
MA2 sP **sP** **07 45 34.5 +1.3**
AKTO Aktyubinsk 72.84 327 P **P** **07 42 28.6 +0.4**
comp=Z,135nm,1.0s,baz=124,slow=4.6,SNR=182
AKTO PKPPKP 08 09 56.3
comp=Z,4.0nm,0.9s,baz=340,slow=3.9,SNR=7.1
comp=Z,135nm,1.0s
AKTO Aktyubinsk 72.84 327 P **P** **07 42 28.6 +0.4**
KIBK Kibwezi 73.61 269 P **P** **07 42 31.6 -1.9**
KIBK Kibwezi 73.61 269 P **P** **07 42 34.4 +0.9**
KIBK IAmb IAmb 07 42 36.1
comp=Z,291nm,1.0s
KIBK Kibwezi 73.61 269 P **P** **07 42 34.6 +1.1**
FURI Furi 74.39 281 P **P** **07 42 41.1 +3.0**
KMBO Kilima Mbogo 74.52 271 P **P** **07 42 40.3 +1.4**
comp=Z,143nm,1.0s,baz=77,slow=6.9,SNR=129
comp=Z,143nm,1.0s
KMBO Kilima Mbogo 74.52 271 *i* P **P** **07 42 40.2 +1.4**
KMBO pmax pmax
comp=Z,143nm,1.0s
AKT Akhty 75.08 316 *eP* **P** **07 42 40.0 -1.2**
AKT *e* 07 42 50.6
AKT *e*SP **PP** **07 45 45.1 +4.0**
AKT *e*PPP PPP 07 47 29.8
AKT *eS* **S** **07 51 29.2 -1.9**
AKT pmax pmax
comp=Z,476nm,1.4s
SVE Sverdlovsk 75.22 334 *ceP* **P** **07 42 42.2 +0.8**
SVE *eS* **S** **07 51 30.5 -1.2**
SVE *e* 07 52 19.9
SVE pmax pmax
comp=Z,528nm,1.4s
SEY Seymchan 75.39 18 P **P** **07 42 43.2 +0.9**
SEY Seymchan 75.39 18 P **P** **07 42 43.2 +0.9**
comp=Z,51nm,0.6s,baz=230,slow=5.5,SNR=142
SEY pP **pP** **07 44 48.7 +0.1**
comp=Z,39nm,0.9s,baz=221,slow=7.1,SNR=4.6
comp=Z,51nm,0.6s
SEY Seymchan 75.39 18 ⇓ *iP* **P** **07 42 43.1 +0.8**
SEY pmax pmax
comp=Z,273nm,1.5s
MAK Makhachkala 75.80 317 *d* *i* P **P** **07 42 43.8 -1.1**
MAK *e*SP **sP** **07 45 50.6 -3.5**
MAK *eS* **S** **07 51 35.9 -2.5**
MAK *e*SS **SS** **07 56 54.5 +5.7**
MAK pmax pmax
comp=Z,414nm,1.1s
ARTI Arti 75.97 333 P **P** **07 42 45.8 +0.2**
ARTI IAmb IAmb 07 43 42.9
comp=Z,341nm,0.8s
ARTI Arti 75.97 333 P **P** **07 42 45.9 +0.2**
comp=Z,232nm,0.9s,baz=126,slow=2.9,SNR=163
comp=Z,232nm,0.9s
ARTI Arti 75.97 333 P **P** **07 42 45.8 +0.2**
ARTI pmax pmax
comp=Z,341nm,0.8s
VNDA Vanda 76.03 170 P **P** **07 42 46.3 +0.6**
VNDA IAmb IAmb 07 42 47.9
comp=Z,334nm,1.4s
VNDA Vanda 76.03 170 P **P** **07 42 46.4 +0.8**
comp=Z,96nm,0.8s,baz=311,slow=5.9,SNR=311
VNDA pP **pP** **07 44 53.0 +1.9**
comp=Z,12nm,0.8s,baz=316,slow=5.9,SNR=1.3
VNDA S **S** **07 51 39.4 -0.5**
comp=Z,3.6nm,1.0s,baz=303,slow=13,SNR=3.0
VNDA PKKP **PKKPdf** **08 01 42.2 -1.0**
comp=Z,0.8nm,1.0s,baz=78,slow=6.4,SNR=3.0
comp=Z,96nm,0.8s
VNDA Vanda 76.03 170 P **P** **07 42 46.4 +0.8**
VNDA *PP **pP** **07 44 53.0 +1.9**
GNI Garni 76.72 314 P **P** **07 42 50.9 +0.6**
GNI IAmb IAmb 07 42 53.0
comp=Z,377nm,1.4s
GNI Garni 76.72 314 P **P** **07 42 51.2 +0.9**
GNI Garni 76.72 314 *d* *i* P **P** **07 42 51.2 +0.9**
GNI pmax pmax
comp=Z,321nm,1.3s
GNI Garni 76.72 314 P **P** **07 42 51.2 +0.9**
comp=Z,3µmcomp=Z,204nm,1.6s
LODK Lodwar 76.91 275 P **P** **07 42 52.5 +0.8**
LODK Lodwar 76.91 275 P **P** **07 42 53.1 +1.3**
SBA Scott Base 77.08 170 P **P** **07 42 52.7 +1.4**
SBA Scott Base 77.08 170 P **P** **07 42 52.7 +1.4**
SBA pmax pmax
comp=Z,149nm,1.0s
GEVA Gevas 77.36 311 P **P** **07 42 54.5 +0.7**
GEVA IAmb IAmb 07 42 56.4
comp=Z,438nm,1.2s
SYO Syowa Base 78.03 201 ⇑ *iP* **P** **07 42 57.2 +0.7**
SYO Syowa Base 78.03 201 ⇓ *i* PcP **PcP** **07 43 04.2 +0.8**
SYO Syowa Base 78.03 201 ⇑ *i* pP pP 07 45 06.0 +3.0
GURO Guroymak-BITLI 78.20 311 P **P** **07 42 59.3 +1.0**
GURO IAmb IAmb 07 43 01.1
comp=Z,630nm,1.3s
TIXI Tiksi 78.37 5 P **P** **07 42 57.6 -0.7**
TIXI IAmb IAmb 07 45 06.8
comp=Z,192nm,0.8s
TIXI Tiksi 78.37 5 P **P** **07 42 58.0 -0.3**
comp=Z,111nm,0.8s,baz=183,slow=4.0,SNR=49
TIXI pP **pP** **07 45 06.2 +0.3**
comp=Z,139nm,0.8s,baz=192,slow=3.2,SNR=10
TIXI S **S** **07 52 00.2 -4.2**
comp=Z,6.5nm,0.7s,baz=26,slow=16,SNR=6.0
comp=Z,111nm,0.8s
TIXI Tiksi 78.37 5 P **P** **07 42 58.0 -0.3**
TIXI *PP **pP** **07 45 06.2 +0.3**
TIXI Tiksi 78.37 5 P **P** **07 42 57.7 -0.5**
TIXI pP **pP** **07 45 04.6 -1.3**
POGA Pongola 78.45 243 P **P** **07 43 00.6 +0.9**
POGA IAmb IAmb 07 43 02.4
comp=Z,560nm,0.9s
SHEM Shemya Is, Ala 78.59 33 pP pP 07 45 07.0 -0.5
comp=Z,311nm,1.1s,baz=300,slow=3.2,SNR=5.7
NCK Nalchik 78.66 316 ⇓ *iP* **P** **07 43 01.7 +1.3**
NCK pmax pmax
comp=Z,437nm,1.6s
MARD Mardin 78.79 310 P **P** **07 43 01.9 +0.4**
MARD IAmb IAmb 07 43 03.8
comp=Z,340nm,1.2s
NEUR Neytrino 79.19 316 *i* P **P** **07 43 05.3 +1.8**
NEUR pmax pmax
comp=Z,271nm,1.5s
KBZ Khabaz 79.21 316 P **P** **07 43 04.4 +1.1**
KBZ Khabaz 79.21 316 P **P** **07 43 04.4 +1.1**
comp=Z,116nm,1.0s,baz=97,slow=2.7,SNR=106
KBZ S **S** **07 52 12.9 -1.2**
comp=Z,1.2nm,0.4s,baz=65,slow=23,SNR=8.6
KBZ PKKPbc **PKKPbc** **08 01 49.6 -0.6**
comp=Z,6.1nm,0.8s,baz=181,slow=1.0,SNR=9.0
comp=Z,116nm,1.0s
KBZ Khabaz 79.21 316 *d* *i* P **P** **07 43 04.1 +0.8**
KBZ pmax pmax
comp=Z,334nm,1.3s
SHA1 Shidzhatmaz 79.38 316 *d* *i* P **P** **07 43 05.4 +0.9**
KIV Kislovodsk 79.43 317 P **P** **07 43 05.3 +0.7**
KIV Kislovodsk 79.43 317 P **P** **07 43 05.3 +0.7**
KIV S **S** **07 52 16.3 -0.3**
KIV Kislovodsk 79.43 317 ⇑ P **P** **07 43 06.1 +1.5**
KIV Kislovodsk 79.43 317 *i* P **P** **07 43 05.7 +1.1**
SNR=34
KIV Kislovodsk 79.43 317 *eP* **P** **07 43 04.5 -0.1**
KIV *e*PP **pP** **07 45 11.0 -1.7**
KIV *e* 07 46 15.3
KIV *eS* **S** **07 52 16.9 +0.2**
KIV pmax pmax
comp=Z,145nm,1.1s
KIV Kislovodsk 79.43 317 P **P** **07 43 05.1 +0.5**
comp=Z,3µmcomp=Z,130nm,1.2s
BELG Belogornoye 79.48 326 *d* *i* P **P** **07 43 04.8 +0.3**
BELG pmax pmax
comp=Z,106nm,1.3s
GOF Gofitskoye 79.55 318 *d* *i* P **P** **07 43 06.2 +1.1**
GOF *eS* **S** **07 52 17.9 +0.2**
KOPT Kop Dagi 79.77 312 P **P** **07 43 08.0 +1.2**
KOPT IAmb IAmb 07 43 10.9
comp=Z,655nm,1.3s
MBAR Mbarara 81.05 270 P **P** **07 43 14.8 +1.1**
MBAR IAmb IAmb 07 43 16.4
comp=Z,516nm,1.1s
MBAR Mbarara 81.05 270 *d* *i* P **P** **07 43 14.9 +1.2**
MBAR pmax pmax
comp=Z,583nm,1.1s
VSLR Vesyoloye 81.11 316 *d* *i* P **P** **07 43 13.9 +0.7**
VSLR pmax pmax
comp=Z,806nm,1.2s
KIRV Kirov 81.26 332 *d* *i* P **P** **07 43 13.8 +0.3**
SOC Sochi 81.36 316 *eP* **P** **07 43 12.9 -1.6**
SOC *e* 07 46 30.8
SOC *eS* **S** **07 52 33.8 -2.2**
SOC *e*SS **SS** **07 58 07.8 -3.3**
SOC pmax pmax
comp=Z,233nm,0.9s
ERBR Yeremizino-Bor 81.47 318 *eP* **P** **07 43 13.7 -1.3**
ERBR *e* 07 46 30.8
ERBR *eS* **SKSac** **07 52 35.7 -1.0**
GHAJ Ghor Haditha 81.47 303 P **P** **07 43 16.5 +1.2**
GAZ Gaziantep 81.49 309 P **P** **07 43 16.7 +1.3**
GAZ IAmb IAmb 07 43 18.3
comp=Z,481nm,1.2s
MATP Matopo 81.65 250 P P 07 43 22.9 +6.3
comp=Z,247nm,0.9s,baz=98,slow=5.1,SNR=377
MATP pP pP 07 45 28.0 +2.3
comp=Z,26nm,0.8s,baz=118,slow=5.1,SNR=0.9
HWQ Hawqa 81.81 306 *eP* **P** **07 43 18.8 +1.6**
BHL Bhannes 81.97 305 *eP* **P** **07 43 19.6 +1.7**
MMAI Mount Meron Ar 81.98 304 P **P** **07 43 20.1 +2.1**
MMAI Mount Meron Ar 81.98 304 P **P** **07 43 20.1 +2.1**
comp=Z,251nm,1.0s,baz=99,slow=8.5,SNR=154
MMAI pP **pP** **07 45 26.7 -0.4**
comp=Z,14nm,0.8s,baz=62,slow=16,SNR=1.8
comp=Z,251nm,1.0s
LSZ Lusaka 82.28 255 P **P** **07 43 20.6 +0.7**
LSZ Lusaka 82.28 255 P **P** **07 43 21.0 +1.1**
comp=Z,356nm,1.1s,baz=98,slow=4.5,SNR=232
comp=Z,356nm,1.1s
LSZ Lusaka 82.28 255 P **P** **07 43 20.9 +1.1**
LSZ Lusaka 82.28 255 P **P** **07 43 21.0 +1.1**
VRH Novokhopyorsk 82.44 323 *eP* **P** **07 43 17.8 -1.9**
VRH pmax pmax
comp=Z,170nm,1.0s
MREMI Moremi 82.50 248 *i* P **P** **07 43 21.7 +0.9**
MREMI Moremi 82.50 248 P **P** **07 43 21.5 +0.7**
BROLN Tlhalogang 82.70 250 *i* P **P** **07 43 22.7 +0.9**
TOKA Tokat 82.82 312 P **P** **07 43 23.7 +1.7**
TOKA IAmb IAmb 07 43 24.9
comp=Z,364nm,1.2s
GRHM Grahamstown, E 82.89 237 P **P** **07 43 24.1 +1.6**
GRHM IAmb IAmb 07 43 25.7
comp=Z,583nm,1.1s
BILL Bilibino 83.10 18 *d* *i* P **P** **07 43 22.5 -0.2**
BILL pmax pmax
comp=Z,62nm,1.5s
KIWB Kanaga Island 83.22 36 P **P** **07 43 23.8 +0.2**
KIWB IAmb IAmb 07 45 34.2
comp=Z,407nm,1.4s
ANN Anapa 83.28 316 *eP* **P** **07 43 23.3 -0.7**
ANN *eS* **SKSac** **07 52 47.2 -1.2**
ANN pmax pmax
comp=Z,335nm,1.2s
ADK Adak 83.51 36 P **P** **07 43 25.2 +0.2**
SOOWA Sowa 83.78 250 *i* P **P** **07 43 28.5 +1.3**
VORD Divnogorie 83.82 323 *eP* **P** **07 43 25.8 -0.8**
VORD pmax pmax
comp=Z,200nm,1.0s
LPHEP Lephephe 83.91 247 *i* P **P** **07 43 29.0 +1.2**
LPHEP Lephephe 83.91 247 P **P** **07 43 28.4 +0.5**
LPHEP IAmb IAmb 07 43 30.4
comp=Z,511nm,1.2s
QSPA South Pole Qui 83.91 180 P **P** **07 43 29.1 +2.2**
comp=Z,204nm,1.1s,baz=309,slow=1.4,SNR=435
QSPA pP **pwP** **07 45 38.9 +0.3**
comp=Z,66nm,1.1s,baz=154,slow=0.9,SNR=2.9
QSPA S **SKSac** **07 52 52.1 +0.1**
comp=Z,16nm,1.1s,baz=284,slow=5.9,SNR=10
QSPA PKKPbc **PKKPbc** **08 01 39.8 -1.5**
comp=Z,6.8nm,0.9s,baz=294,slow=0.6,SNR=15
QSPA PKPPKP **P'P'df** **08 09 38.4 -4.1**
comp=Z,9.2nm,1.1s,baz=125,slow=1.0,SNR=8.3
comp=Z,204nm,1.1s
VSR Storozhevoye 83.97 323 *eP* **P** **07 43 24.9 -2.4**
VSR pmax pmax
comp=Z,360nm,1.0s
LBTB Lobatse 84.04 246 P **P** **07 43 29.1 +0.7**
LBTB IAmb IAmb 07 43 30.7
comp=Z,375nm,1.4s
LBTB Lobatse 84.04 246 P **P** **07 43 29.4 +0.9**
comp=Z,111nm,0.9s,baz=107,slow=5.5,SNR=98
LBTB pP **pP** **07 45 40.3 +1.6**
comp=Z,29nm,0.8s,baz=216,slow=4.0,SNR=2.7
comp=Z,111nm,0.9s
LBTB Lobatse 84.04 246 P **P** **07 43 29.4 +0.9**
LBTB *PP **pP** **07 45 40.3 +1.6**
LBTB Lobatse 84.04 246 P **P** **07 43 29.4 +0.9**
LBTB pP **pP** **07 45 39.9 +1.2**
CSS Mathiatis 84.07 306 P **P** **07 43 28.8 +0.5**
CSS IAmb IAmb 07 43 30.7
comp=Z,428nm,1.2s
CSS Mathiatis 84.07 306 P **P** **07 43 29.1 +0.9**
comp=Z,5µmcomp=Z,321nm,1.1s
VORR Voronezh 84.08 323 *eP* **P** **07 43 25.8 -2.0**
VORR pmax pmax
comp=Z,290nm,1.1s
BOSA Boshof 84.11 242 P **P** **07 43 29.6 +0.9**
comp=Z,98nm,0.9s,baz=113,slow=3.3,SNR=81
BOSA PKKPbc **PKKPbc** **08 01 39.6 +1.1**
comp=Z,5.1nm,0.9s,baz=269,slow=4.9,SNR=3.8
comp=Z,98nm,0.9s
BOSA Boshof 84.11 242 P **P** **07 43 29.6 +0.9**
BOSA Boshof 84.11 242 P **P** **07 43 29.0 +0.3**
KHWEE KHWEE 84.39 249 *i* P **P** **07 43 31.5 +1.2**
KHWEE KHWEE 84.39 249 P **P** **07 43 30.8 +0.5**
KIRS Kirsehir-Merke 84.47 310 ⇓ P **P** **07 43 31.0 +0.8**
LPSR Galich'ya Gora 84.52 324 *eP* **P** **07 43 27.6 -2.4**
LPSR pmax pmax
comp=Z,450nm,1.0s
BR104 Keskin Array S 84.80 311 P **P** **07 43 32.1 +0.2**
comp=Z,2µmcomp=Z,226nm,1.1s
BR131 Keskin Array S 84.81 311 P **P** **07 43 31.7 -0.2**
BR131 IAmb IAmb 07 43 33.7
comp=Z,401nm,1.1s
BR131 Keskin Array S 84.81 311 P **P** **07 43 32.0 +0.1**
BR131 Keskin Array S 84.81 311 *d* P **P** **07 43 31.9 0.0**
BRTR Keskin Array B 84.81 311 P **P** **07 43 32.1 +0.3**
comp=Z,177nm,1.0s,baz=128,slow=5.5,SNR=306
BRTR pP **pP** **07 45 42.3 0.0**
comp=Z,24nm,0.9s,baz=134,slow=7.1,SNR=3.1
comp=Z,177nm,1.0s
BRTR Keskin Array B 84.81 311 P **P** **07 43 32.2 +0.3**
BRTR *PP **pP** **07 45 42.3 0.0**
BR105 Keskin Array S 84.82 311 P **P** **07 43 32.2 +0.2**
comp=Z,2µmcomp=Z,246nm,1.1s
BR106 Keskin Array S 84.83 311 P **P** **07 43 32.1 +0.1**
comp=Z,2µmcomp=Z,217nm,1.1s
KSANE Kasane 84.98 253 *i* P **P** **07 43 34.4 +1.3**
KDWAN Kaudwane 85.01 247 *i* P **P** **07 43 34.5 +1.3**
BZK Bozkurt 85.02 313 P **P** **07 43 33.7 +1.1**
BZK Bozkurt 85.02 313 ⇑ P **P** **07 43 32.6 0.0**
PHDHD Phuduhudu 85.38 250 *i* P **P** **07 43 36.3 +1.3**
ANTO Ankara 85.47 311 P **P** **07 43 35.6 +0.6**
ANTO Ankara 85.47 311 ⇑ P **P** **07 43 35.3 +0.3**
ANTO Ankara 85.47 311 P **P** **07 43 35.2 +0.3**
ANTO Ankara 85.47 311 P **P** **07 43 35.3 +0.3**
comp=Z,2µmcomp=Z,115nm,1.4s
ANTO Ankara 85.47 311 P **P** **07 43 35.5 +0.5**
ANTO S **S** **07 53 15.3 -1.1**
SKOMA Sekoma 85.58 246 *i* P **P** **07 43 37.0 +1.1**
SIM Simferopol' 85.60 316 *eP* **P** **07 43 36.0 +0.6**
SIM *eS* **S** **07 53 18.9 +1.6**
SIM pmax pmax
comp=Z,194nm,1.1s
SIM smax smax
comp=N,242nm,11.8s
MOS Moscow 86.17 327 *eP* **P** **07 43 35.9 -1.9**
MOS *e*PP **pP** **07 45 47.8 -1.0**
MOS *e* 07 47 08.5
MOS *e* 07 53 03.1
MOS *eS* **S** **07 53 15.4 -6.8**
MOS pmax pmax
comp=Z,297nm,1.4s
MOS pmax pmax
comp=Z,1µm,2.2s
MOS pmax pmax
comp=N,88nm,1.2s
MOS pmax pmax
comp=E,79nm,1.2s
MOS smax smax
comp=E,2µm,4.5s
MOS smax smax
comp=N,4µm,4.2s
OBN Obninsk 86.58 326 ⇑ P **P** **07 43 40.9 +1.2**
OBN Obninsk 86.58 326 *d* P **P** **07 43 39.9 +0.2**
OBN *e*PP **pP** **07 45 50.6 -0.3**
OBN *e* 07 47 13.2
OBN *e*PPP PPP 07 49 11.1
OBN *eS* **SKSac** **07 53 04.6 -3.7**
OBN *e*SS **SS** **07 59 22.9 -3.4**
OBN pmax pmax
comp=E,614nm,1.5s
OBN Obninsk 86.58 326 P **P** **07 43 40.4 +0.7**
comp=Z,5µmcomp=Z,339nm,1.4s
KLMR Klimovskoe 86.75 332 *eP* **P** **07 43 37.1 -3.3**
KLMR *e*PP **pP** **07 45 51.4 -0.3**
KLMR *eS* **SKSac** **07 53 06.2 -3.0**
KLMR 07 53 23.1
KLMR pmax pmax
comp=Z,318nm,1.4s
MDUB Mudurnu 86.79 311 P **P** **07 43 41.5 +0.2**
MDUB IAmb IAmb 07 43 43.1
comp=Z,382nm,1.5s
ISP Isparta 86.83 308 *d* *i* P **P** **07 43 41.0 -0.5**
ISP pmax pmax
comp=Z,157nm,1.6s
SAHE Sakarya_HENDEK 87.12 311 ⇑ P **P** **07 43 42.8 +0.2**
ELL Elmali 87.13 307 P **P** **07 43 43.4 +0.5**
ELL Elmali 87.13 307 P **P** **07 43 43.4 +0.5**
KGCAE Kacgae 87.30 247 *i* P **P** **07 43 45.3 +1.2**
KGCAE Kacgae 87.30 247 P **P** **07 43 45.1 +1.1**
NVL N'lazarevskaya 87.59 199 *eP* P 07 43 34.7 -10
NVL *e*SS SS 07 59 42.4 +2.7
NVL *e*SSS SSS 08 03 18.3
NVL pmax pmax
comp=Z,8.0nm,1.0s
SUR Sutherland 87.63 238 P **P** **07 43 47.4 +1.9**
SUR Sutherland 87.63 238 P **P** **07 43 47.1 +1.6**
NE56 Odesa 88.16 317 P **P** **07 43 47.0 -0.3**
GRTLG Ghanzi 88.36 249 *i* P **P** **07 43 49.9 +0.9**
NIKH Nikolski High 88.42 36 P **P** **07 43 49.3 +0.9**
NIKH Nikolski High 88.42 36 P **P** **07 43 48.4 0.0**
baz=258
SPIA Saint Paul Isl 88.57 32 P **P** **07 43 49.5 +0.6**
baz=256
P08K Saint George I 88.81 33 P **P** **07 43 51.0 +0.9**
baz=257
PURM Purcari 88.83 317 ⇑ P **P** **07 43 50.9 +0.5**
BAND Balkesir-Ban 89.10 311 ⇓ P **P** **07 43 52.0 +0.1**
KARP Karpathos 89.14 306 P **P** **07 43 53.0 +0.8**
KARP IAmb IAmb 07 44 50.2
comp=Z,222nm,0.9s
KARP Karpathos 89.14 306 P **P** **07 43 53.0 +0.8**
comp=Z,4µmcomp=Z,254nm,1.2s
BAL3X Bal3x, Balta 89.25 318 P **P** **07 43 53.1 +0.7**
TLCR 89.33 315 ⇑ P **P** **07 43 52.9 0.0**
TLCR 89.33 315 P **P** **07 43 52.8 0.0**
GAMB Gambell 89.48 26 P **P** **07 43 53.8 +0.8**
baz=255
TIRR Tirgusor 89.50 315 P **P** **07 43 53.5 0.0**
TIRR Tirgusor 89.50 315 ⇓ P **P** **07 43 52.9 -0.7**
TIRR Tirgusor 89.50 315 P **P** **07 43 53.5 0.0**
TIRR pmax pmax
comp=Z,81nm,1.1s
TIRR Tirgusor 89.50 315 P **P** **07 43 53.6 0.0**
comp=Z,1µmcomp=Z,76nm,1.2s
TPGR Topolog 89.56 315 ⇑ P **P** **07 43 54.6 +0.7**
MILM Milestii Mici 89.61 317 ⇓ P **P** **07 43 53.3 -0.7**
MILM Milestii Mici 89.61 317 ⇓ *i* P **P** **07 43 52.0 -2.1**
comp=Z,300nm,1.7s
MILM Milestii Mici 89.61 317 *d* *i* P **P** **07 43 52.0 -2.1**
MILM *i* 07 46 03.0
MILM pmax pmax
comp=Z,300nm,1.7s
KIS Kishinev 89.62 317 ⇓ *iP* **P** **07 43 52.0 -2.1**
comp=Z,250nm,9.0s
KIS Kishinev 89.62 317 *d* *i* P **P** **07 43 52.0 -2.1**
KIS pmax pmax
comp=Z,250nm,9.0s
PHSR Pinarhisar 89.72 312 ⇑ P **P** **07 43 55.5 +0.8**
CFR Carcaliu 89.81 315 ⇑ P **P** **07 43 54.1 -0.9**
CFR Carcaliu 89.81 315 P **P** **07 43 55.8 +0.8**
AK09 Malin Array Si 89.91 321 P **P** **07 43 54.9 -0.4**
AK10 Malin Array Si 89.93 321 P **P** **07 43 55.1 -0.3**
VLDR Vladesti 89.94 316 ⇑ P **P** **07 43 56.6 +0.9**
AK07 Malin Array Si 89.95 321 P **P** **07 43 55.1 -0.4**
AK06 Malin Array Si 89.96 321 P **P** **07 43 55.1 -0.5**
AK05 Malin Array Si 89.96 321 P **P** **07 43 55.0 -0.6**
AKASG Malin Array Be 89.96 321 P **P** **07 43 55.0 -0.6**
comp=Z,47nm,1.0s,baz=85,slow=4.5,SNR=154
AKASG pP **pP** **07 46 07.0 -0.9**
comp=Z,20nm,0.8s,baz=86,slow=4.4,SNR=7.1
AKASG PP **PP** **07 47 38.7 -1.6**
comp=Z,9.6nm,1.0s,baz=88,slow=5.8,SNR=4.9
AKASG PKKP **PKKPbc** **08 01 23.4 -2.0**
comp=Z,0.8nm,0.4s,baz=272,slow=2.7,SNR=6.1
comp=Z,47nm,1.0s
AKASG Malin Array Be 89.96 321 P **P** **07 43 55.0 -0.6**
AKASG *PP **pP** **07 46 07.0 -0.9**
AKBB Malin Array Si 89.96 321 *d* *i* P **P** **07 43 54.8 -0.8**
AKBB pmax pmax
comp=Z,110nm,1.1s
AKBB Malin Array Si 89.96 321 P **P** **07 43 54.9 -0.7**
AK01 Malin Array Si 89.97 321 P **P** **07 43 55.0 -0.6**
UNV Unalaska Valle 89.97 36 P **P** **07 43 55.8 +0.3**
baz=260
KIEV Kiev 89.97 321 P **P** **07 43 54.8 -0.8**
KIEV IAmb IAmb 07 43 56.5

comp=Z,88nm,1.1s
KIEV Kiev 89.97 321 ⇓P P 07 43 55.4 -0.3
KIEV Kiev 89.97 321 *i* P P 07 43 55.6 0.0
SNR=8.0
KIEV Kiev 89.97 321 P P 07 43 55.3 -0.3
KIEV Kiev 89.97 321 P P 07 43 54.9 -0.8
comp=Z,6µmcomp=Z,348nm,1.4s
AK11 Malin Array Si 89.99 321 P P 07 43 54.9 -0.8
AK12 Malin Array Si 90.00 321 P P 07 43 55.2 -0.5
AK04 Malin Array Si 90.00 321 P P 07 43 55.1 -0.7
AK14 Malin Array Si 90.02 321 P P 07 43 55.3 -0.6
AK15 Malin Array Si 90.02 321 P P 07 43 55.1 -0.8
PRD Provadia 90.03 313 P P 07 43 56.7 +0.6
AK16 Malin Array Si 90.03 321 P P 07 43 55.3 -0.6
AK17 Malin Array Si 90.06 321 P P 07 43 55.5 -0.6
AK18 Malin Array Si 90.06 321 P P 07 43 55.3 -0.7
AK22 Malin Array Si 90.07 321 P P 07 43 55.5 -0.6
SORM Soroca 90.11 318 ⇓P P 07 43 56.0 -0.4
SORM Soroca 90.11 318 P P 07 43 56.3 0.0
TROLL Troll, Antarti 90.13 197 ⇓P P 07 43 57.9 +1.7
comp=Z,3µm,0.9s
TROLL ⇓SKSac SKSac 07 53 27.8 -1.1
TROLL ⇓S S 07 53 58.4 +0.1
NEF NEVSHA 90.14 313 P P 07 43 57.2 +0.6
VASR Vaslui 90.26 317 ⇓P P 07 43 57.8 +0.7
EZN Ezine 90.38 310 ⇑P P 07 43 57.7 -0.1
EZN Ezine 90.38 310 P P 07 43 57.6 -0.1
AKUT Akutan 90.44 36 P P 07 43 57.9 +0.2
APE Apeiranthos 90.65 307 ⇑*eP* P 07 43 59.1 -0.1
APE pmax pmax
comp=Z,74nm,1.0s
LUBAR Lubar, Ukraine 90.77 320 P P 07 43 58.3 -1.0
LVZ Lovozero 90.77 338 ⇑*eP* P 07 43 58.0 -1.0
LVZ pmax pmax
comp=Z,128nm,2.3s
MI29 MI29, Kamyanyy 90.78 320 P P 07 43 59.1 -0.3
comp=Z,13µmcomp=Z,849nm,1.4s
VRI Vrincioaia 90.88 316 ⇑P P 07 44 00.9 +0.8
VRI Vrincioaia 90.88 316 P P 07 44 00.8 +0.8
VRI Vrincioaia 90.88 316 P P 07 44 00.3 +0.3
comp=Z,2µmcomp=Z,107nm,1.4s
PUL Pulkovo 90.92 330 ⇑*eP* P 07 44 00.5 +0.7
PUL pmax pmax
comp=Z,164nm,1.2s
PLOR5 Plostina Array 90.93 316 P P 07 44 00.1 -0.1
comp=Z,1µmcomp=Z,73nm,1.5s
PLOR Plostina 90.94 316 ⇑P P 07 44 00.9 +0.6
PLOR Plostina 90.94 316 P P 07 44 00.9 +0.6
IDI Anoyia 90.95 305 P P 07 44 00.9 +0.3
IDI Anoyia 90.95 305 P P 07 44 01.1 +0.5
IDI IAmb IAmb 07 44 02.7
comp=Z,108nm,1.4s
MI28 Mi28,Pidlybu 90.97 321 P P 07 43 59.8 -0.4
TESR Tescani 91.03 317 ⇑P P 07 44 00.6 0.0
TESR Tescani 91.03 317 P P 07 44 00.7 +0.1
comp=Z,2µmcomp=Z,163nm,1.5s
ELND Elena 91.11 313 ⇑P P 07 44 00.4 -0.7
NEHR Nehoiu 91.13 315 ⇓P P 07 44 01.7 +0.5
RDO Rodhopi 91.14 311 P P 07 44 01.4 +0.1
APA Apatity 91.16 338 ⇓*eP* P 07 43 57.4 -3.3
APA *e* 07 47 48.7
APA *e* 07 54 06.0
APA *i* SS SS 08 00 30.4 -0.7
APA MLR MLR
comp=Z,930nm,4.7s
M11K Mekoryuk 91.28 29 P P 07 44 02.5 +1.1
baz=260
KDZ Kurdzhali 91.34 312 P P 07 44 01.7 -0.5
MNK Minsk 91.36 325 *i* P P 07 44 01.0 -0.9
comp=E,21nm,0.8s
MNK *i* P P 07 44 01.0 -0.9
comp=N,65nm,1.3s
MNK *i* P P 07 44 01.0 -0.9
comp=Z,108nm,1.1s,baz=98
MNK *i* pP pP 07 46 13.3 -1.1
MNK *i* PP PP 07 47 50.0 -1.0
MNK *i* PPP PPP 07 49 55.7
MNK *i* S S 07 53 35.8 -34
MNK *i* SS SS 08 00 36.0 +1.3
MNK *i* SSS SSS 08 04 22.2
MNK Minsk 91.36 325 *eP* P 07 44 01.0 -0.9
MLR Muntele Rosu 91.38 315 P P 07 44 02.4 -0.1
MLR IAmb IAmb 07 44 04.9
comp=Z,230nm,1.6s
MLR Muntele Rosu 91.38 315 ⇑P P 07 44 02.0 -0.5
MLR Muntele Rosu 91.38 315 P P 07 44 02.4 -0.1
MLR pmax pmax
comp=Z,231nm,1.6s
MLR Muntele Rosu 91.38 315 P P 07 44 02.3 -0.1
comp=Z,1µmcomp=Z,83nm,1.7s
KMPD K-Podol'skiy 91.42 319 P PcP 07 44 01.7 -1.2
KMPD P P 07 44 01.6 -0.8
TNA Tin City 91.47 24 P P 07 44 02.7 +0.5
baz=259
RZN Rozhen 91.80 312 P P 07 44 04.6 +0.1
SNAA Sanae 91.81 197 ⇑P P 07 44 04.7 +0.9
comp=Z,956nm,0.7s
SNAA ⇑pP pP 07 46 16.5 +0.3
SNAA ⇑SKSac SKSac 07 53 37.9 -0.3
SNAA ⇑S S 07 54 12.6 -0.3
SNAA ⇓PKKPbc PKKPdf 08 01 17.7 +0.9
comp=Z,63nm,0.6s
SNAA Sanae 91.81 197 P P 07 44 04.8 +0.9
SNAA IAmb IAmb 07 44 06.5
comp=Z,170nm,1.3s
SNAA Sanae 91.81 197 P P 07 44 05.0 +1.1
comp=Z,74nm,1.0s,baz=276,slow=6.2,SNR=3.8
SNAA pP pP 07 46 16.6 +0.3
comp=Z,39nm,1.0s,baz=124,slow=8.3,SNR=5.8
SNAA PKKPbc PKKPdf 08 01 17.0 +0.1
comp=Z,4.7nm,0.9s,baz=290,slow=6.8,SNR=18
SNAA PKPPKP 08 09 20.6
comp=Z,3.4nm,1.1s,baz=248,slow=8.1,SNR=5.7
comp=Z,74nm,1.0s
SNAA Sanae 91.81 197 *d* *i*P P 07 44 05.1 +1.3
SNAA pmax pmax
comp=Z,147nm,1.3s
FALS False Pass 91.91 35 P P 07 44 05.1 +0.6
baz=262
TSUM Tsumeb 91.99 251 P P 07 44 06.0 +0.2
TSUM IAmb IAmb 07 44 08.1
comp=Z,67nm,1.0s
TSUM Tsumeb 91.99 251 P P 07 44 06.9 +1.1
comp=Z,40nm,0.9s,baz=97,slow=3.1,SNR=55
comp=Z,40nm,0.9s
VOIR 92.00 315 ⇓P P 07 44 04.3 -1.0
VOIR 92.00 315 P P 07 44 04.2 -1.0
NACGM Naroch 92.05 325 ⇓*eP* P 07 44 05.3 +0.1
NACGM *eP* P 07 44 05.3 +0.1
NACGM ⇓*iP* P 07 44 05.3 +0.1
comp=Z,58nm,1.0s,baz=98
NACGM *e*pP pP 07 46 17.6 -0.1
NACGM *e*sP sP 07 47 18.8 +0.2
NACGM PP PP 07 47 53.8 -2.5
NACGM PPP PPP 07 50 10.7
NACGM *i* S S 07 53 39.3 -36
NACGM SS SS 08 00 49.7 +5.3
NACGM SSS SSS 08 04 30.7
PLVB Pleven 92.07 313 ⇓P P 07 44 05.3 -0.2
F14K Arctic Creek 92.10 24 P P 07 44 05.7 +0.6
baz=260
RNPP5 Staryi Chortor 92.13 321 P P 07 44 05.2 -0.3
BURAR Bucovina Array 92.13 317 ⇑P P 07 44 05.7 -0.2
BURAR Bucovina Array 92.13 317 P P 07 44 05.6 -0.2
RNPP9 Sopachiv 92.14 321 P P 07 44 05.4 -0.2
RNPP8 Varash 92.16 321 P P 07 44 05.4 -0.3
K13K Kusilvak Mount 92.27 28 P P 07 44 06.9 +0.9
baz=261
ARR Arges 92.28 315 ⇑P P 07 44 05.5 -1.0
PGB Panagyurishte 92.31 312 P P 07 44 06.3 -0.4
ANM Nome 92.35 25 P P 07 44 07.6 +1.3
baz=261
MMB Musomishta 92.52 311 P P 07 44 07.0 -0.7
VSU Vasula 92.54 328 *d* *i*P P 07 44 06.5 -0.8
VSU pmax pmax
comp=Z,144nm,1.3s
TNR Turnu Rosu 92.56 315 ⇑P P 07 44 07.5 -0.2
TNR Turnu Rosu 92.56 315 P P 07 44 07.5 -0.2
M13K Dall Lake 92.69 30 P P 07 44 08.6 +0.8
baz=262
MPEP Malo Peshtene 92.71 313 P P 07 44 09.0 +0.6
STNU Starunia 92.73 319 P P 07 44 08.1 -0.3
S12K Black Hills 92.79 34 P P 07 44 08.9 +0.3
baz=263

F15K North Star Dit 92.83 24 P P 07 44 09.5 +1.1
baz=262,SNR=6.5
PLNA Plana 92.85 312 P P 07 44 09.2 -0.1
J14K Nanvaranak Lak 92.89 27 P P 07 44 09.6 +0.8
baz=262
C16K Lisburne Hills 92.95 22 P P 07 44 10.4 +1.4
C16K Lisburne Hills 92.95 22 P P 07 44 10.3 +1.4
baz=261,SNR=11
VALD Valchedram 92.96 313 P P 07 44 10.1 +0.5
G15K Niukluk 92.98 25 P P 07 44 09.8 +0.6
baz=262
VTS Vitosha 93.01 312 P P 07 44 09.7 -0.3
KKB Krupnik 93.01 312 P P 07 44 09.3 -0.6
L14K Kuka Creek 93.12 29 P P 07 44 10.7 +0.9
baz=263,SNR=5.5
FIA1 FINESS Array S 93.23 331 P 07 44 10.3 0.0
FINES FINESS Array B 93.24 331 P P 07 44 10.8 +0.4
comp=Z,50nm,1.1s,baz=118,slow=6.1,SNR=42
FINES pP pP 07 46 23.2 +0.1
comp=Z,19nm,0.9s,baz=95,slow=9.6,SNR=4.9
FINES PKKP PKKPdf 08 01 15.5 +0.6
comp=Z,2.0nm,0.5s,baz=274,slow=1.2,SNR=15
comp=Z,50nm,1.1s
FINES FINESS Array B 93.24 331 P P 07 44 10.8 +0.4
FINES *PP pP 07 46 23.2 +0.1
LIT Litokhoron 93.34 310 P P 07 44 10.8 -0.6
LIT Litokhoron 93.34 310 P P 07 44 10.8 -0.6
LIT pmax pmax
comp=Z,208nm,1.2s
MEZ Mezhgor'ye 93.36 318 P P 07 44 12.1 +0.8
VAY Valandovo 93.38 311 *i* P P 07 44 10.8 -0.8
M14K Bethel 93.41 29 P P 07 44 11.9 +0.7
baz=264,SNR=7.1
N14K Kuskokwak Cree 93.45 30 P P 07 44 12.7 +1.3
baz=264
VNA2 Neumayer--Watz 93.46 197 ⇑P P 07 44 12.3 +1.0
comp=Z,51nm,0.7s,baz=103,slow=4.3
VNA2 ⇑pP pP 07 46 23.8 -0.1
baz=106,slow=3.9
VNA2 ⇓PKKPdf PKKPdf 08 01 11.3 -2.5
comp=Z,2.3nm,0.8s,baz=341,slow=9.3
MARR Marisel-Cluj 93.46 316 ⇑P P 07 44 11.6 -0.4
GZR Gura Zlata 93.59 315 ⇑P P 07 44 11.7 -0.8
GZR Gura Zlata 93.59 315 P P 07 44 11.6 -0.8
O14K Tigyukauivet M 93.60 31 P P 07 44 13.2 +1.1
baz=264
SDPT Sand Point 93.65 35 P P 07 44 12.5 +0.1
SDPT Sand Point 93.65 35 P P 07 44 12.5 +0.1
baz=265
H16K Elim 93.70 26 P P 07 44 12.8 +0.3
baz=264
D17K Noatak River 93.71 22 P P 07 44 13.5 +1.1
baz=263,SNR=21
L15K Ungalak Mounta 93.73 28 P P 07 44 13.7 +1.1
baz=264,SNR=5.1
G16K Koyuk River 93.74 25 P P 07 44 13.6 +1.0
baz=264,SNR=9.9
C17K DeLong Mountai 93.77 22 P P 07 44 13.9 +1.2
baz=263,SNR=5.9
K15K Wolf Creek Mou 93.77 28 P P 07 44 13.8 +0.9
baz=264
RDOG Red Dog Mine 93.82 22 P P 07 44 13.9 +1.0
baz=263,SNR=6.0
VNA1 Neumayer--Stat 93.85 197 ⇑P P 07 44 14.0 +0.9
comp=Z,63nm,1.1s
VNA1 ⇓PKKPbc PKKPdf 08 01 12.5 -0.6
comp=Z,6.8nm,0.9s
BERU Beregovo 93.91 318 P P 07 44 13.8 0.0
VNA3 Neumayer Olymp 93.93 196 ⇑P P 07 44 14.1 +0.6
comp=Z,54nm,0.9s
VNA3 ⇓SKSac SKSac 07 53 48.9 -0.7
VNA3 ⇑S ScS 07 54 31.9 +0.1
VNA3 ⇑PKKPbc PKKPdf 08 01 12.2 -0.8
comp=Z,2.0nm,0.9s
M15K Kasigluk River 94.02 30 P P 07 44 14.3 +0.3
baz=265,SNR=6.4
SUW Suwalki 94.05 324 *eP* P 07 44 14.3 0.0
SUW *e*pP pP 07 46 26.3 -0.7
SUW *e*S S 07 54 28.6 -4.1
SUW Suwalki 94.05 324 P P 07 44 13.8 -0.4
SUW Suwalki 94.05 324 P P 07 44 13.8 -0.4
SURR Surduc 94.07 315 ⇓P P 07 44 14.3 -0.3
CHNA Chernabura Isl 94.11 35 P P 07 44 15.0 +0.5
baz=265
E17K Hotham Inlet 94.13 23 P P 07 44 15.7 +1.4
baz=264,SNR=6.0
BOVS Bovan 94.21 313 ⇑P P 07 44 15.1 -0.1
KOLS Kolonicke sedl 94.22 319 *eP* P 07 44 15.6 +0.4
S14K Fog Glacier 94.25 34 P P 07 44 16.2 +0.9
baz=265
N15K Kwethluk River 94.27 30 P P 07 44 16.8 +1.6
baz=265
SKO Skopje 94.28 312 *i* P P 07 44 14.6 -1.0
MDVR Moldovita 94.29 314 ⇑P P 07 44 15.5 -0.1
J16K Anvik River 94.29 27 P P 07 44 16.3 +1.2
J16K IAmb IAmb 07 46 29.0
comp=Z,65nm,0.9s
J16K Anvik River 94.29 27 P P 07 44 16.4 +1.2
baz=265,SNR=11
F17K Baldwin Pennin 94.29 24 P P 07 44 16.0 +0.9
baz=265
I17K Unalakleet 94.30 26 P P 07 44 16.4 +1.2
baz=265
O15K Ungalikthiuk R 94.33 31 P P 07 44 16.1 +0.7
baz=265
ARCES ARCESS Array B 94.34 339 P P 07 44 14.5 -0.8
comp=Z,12nm,1.0s,baz=92,slow=6.4,SNR=11
ARCES PKKP PKKPdf 08 01 12.1 -1.0
comp=Z,0.9nm,0.5s,baz=339,slow=3.0,SNR=3.9
comp=Z,12nm,1.0s
ARCES ARCESS Array B 94.34 339 P P 07 44 14.5 -0.8
B18K Kokolik River 94.36 21 P P 07 44 16.5 +1.1
baz=264
BZS Buzias 94.42 315 ⇑P P 07 44 15.5 -0.6
BZS Buzias 94.42 315 P P 07 44 15.5 -0.6
SIRR Siria 94.43 316 ⇑P P 07 44 16.5 +0.2
G17K Kiwalik Mounta 94.45 25 P P 07 44 16.9 +1.0
baz=265,SNR=14
C18K Utukok River 94.51 22 P P 07 44 16.8 +0.7
C18K IAmb IAmb 07 46 33.0
comp=Z,126nm,1.2s
C18K Utukok River 94.51 22 P P 07 44 17.4 +1.2
baz=265
E18K Tukpahlearik C 94.63 23 P P 07 44 17.9 +1.3
baz=265,SNR=8.4
A19K Wainwright 94.69 20 P P 07 44 18.4 +1.6
baz=265
L16K Owhat River 94.69 29 P P 07 44 17.2 +0.2
L16K IAmb IAmb 07 46 30.3
comp=Z,63nm,0.9s
L16K Owhat River 94.69 29 P P 07 44 17.6 +0.7
baz=266,SNR=8.1
OHR Ohrid 94.70 311 *i* P P 07 44 16.8 -0.8
H17K Granite Mounta 94.72 25 P P 07 44 18.3 +1.2
baz=266,SNR=13
CHGN Chignik 94.88 34 P P 07 44 18.9 +1.0
baz=266
M16K Timber Creek 94.89 29 P 07 44 18.8 +0.8
M16K IAmb IAmb 07 46 31.2
comp=Z,54nm,0.9s
M16K Timber Creek 94.89 29 P P 07 44 18.1 +0.1
baz=266,SNR=6.2
F18K Selawik 94.94 24 P P 07 44 19.0 +1.0
baz=266,SNR=6.9
N16K Nishlik Lake 94.95 30 P P 07 44 18.9 +0.7
baz=266,SNR=8.8
J17K VABM Dome 94.98 27 P P 07 44 18.7 +0.4
baz=266,SNR=5.9
C19K Lookout Ridge 95.13 21 P P 07 44 20.3 +1.4
baz=266,SNR=6.5
O16K Kokwok River B 95.24 31 P P 07 44 19.7 +0.2
baz=267
P16K Nushagak River 95.26 31 P P 07 44 20.4 +0.8
baz=267
L17K Donlin 95.27 28 P P 07 44 20.5 +0.8
baz=267
K17K Iditarod 95.30 28 P P 07 44 20.4 +0.6
baz=267,SNR=9.9
G18K Tagagawik 95.31 24 P P 07 44 20.4 +0.7
baz=267
BEL Belsk 95.35 321 *eP* P 07 44 21.2 +1.0
BEL *e*pP pP 07 46 33.9 +0.8
BEL *e*PP PP 07 48 21.3 -0.3
KEK Kerkira 95.37 309 P P 07 44 23.1 +2.5
KEK IAmb IAmb 07 44 25.5
comp=Z,140nm,1.4s

H18K Honhosa River 95.39 25 P P 07 44 20.9 +0.8
baz=267
R16K Pilot Point 95.41 33 P P 07 44 21.5 +1.2
baz=267
NIE Niedzica 95.54 319 *eP* P 07 44 21.8 +0.6
NIE *e*pP pP 07 46 33.1 -1.0
NIE *e*PP PP 07 48 22.1 -1.1
NIE Niedzica 95.54 319 P P 07 44 21.6 +0.4
comp=Z,19nm,1.4s
D19K Kuna River 95.63 22 P P 07 44 22.3 +1.2
baz=268
M17K Holitna River 95.65 29 P P 07 44 22.1 +0.8
baz=268
F19K Shaleruckik Mo 95.70 23 P P 07 44 22.4 +1.0
baz=268,SNR=8.6
N17K Nushagak Hills 95.74 30 P P 07 44 22.5 +0.8
baz=268
PSZ Piszkesteto 95.74 317 P P 07 44 21.6 -0.5
PSZ IAmb IAmb 07 48 25.0
comp=Z,120nm,1.4s
PSZ Piszkesteto 95.74 317 ⇓P P 07 44 21.9 -0.3
PSZ Piszkesteto 95.74 317 P P 07 44 21.8 -0.3
O17K Koliganek Bris 95.75 31 P P 07 44 21.6 -0.3
baz=268
OJC Ojcow 95.90 320 *eP* P 07 44 22.3 -0.5
OJC *e*pP pP 07 46 34.4 -1.3
OJC *e*PP PP 07 48 25.4 -0.4
OJC Ojcow 95.90 320 P P 07 44 22.7 0.0
PDG Podgorica 95.93 312 ⇑P P 07 44 22.8 -0.2
E19K Redstone River 95.93 23 P P 07 44 23.3 +0.8
baz=268
Q16K King Salmon 95.94 32 P P 07 44 23.5 +0.9
baz=268
G19K Purcell Mounta 95.96 24 P P 07 44 24.0 +1.3
baz=268,SNR=13
GCSA Galena City Sc 96.01 26 P P 07 44 24.0 +1.1
baz=268
B20K Meade River 96.02 20 P P 07 44 24.0 +1.3
baz=269,SNR=5.3
L18K Granite Mounta 96.03 28 P P 07 44 23.1 +0.1
baz=268,SNR=14
J18K Innoko River 96.05 27 P P 07 44 23.9 +0.8
J18K IAmb IAmb 07 46 36.5
comp=Z,48nm,1.0s
J18K Innoko River 96.05 27 P P 07 44 23.9 +0.8
baz=268,SNR=7.5
R17L Mt. Peulik Vol 96.07 33 P P 07 44 23.3 0.0
baz=268
P17K Kvichak River 96.07 31 P P 07 44 23.6 +0.3
baz=268
LANS Liptovska Anna 96.07 319 *i* P P 07 44 25.2 +1.6
LANS *e* 07 48 27.5
D20K Etivluk River 96.19 22 Pdiff P 07 44 25.0 +1.4
baz=269
H19K Roundabout Mou 96.20 25 Pdiff P 07 44 25.0 +1.3
baz=269
A21K Barrow 96.21 19 Pdiff P 07 44 24.3 +0.7
baz=270
Q17K Contact Creek 96.33 32 Pdiff P 07 44 25.3 +0.6
baz=269
E20K Nigu River 96.34 22 Pdiff P 07 44 25.9 +1.5
baz=270
PPT Papeete 96.36 108 pP pP 07 46 39.4 +0.9
comp=Z,33nm,1.0s,baz=68,slow=19,SNR=2.5
N18K Kilae Creek 96.38 30 Pdiff P 07 44 25.6 +0.9
baz=269
M18K Stony River 96.42 29 Pdiff P 07 44 25.8 +1.0
baz=269
CHIR Chirikof Islan 96.42 35 Pdiff P 07 44 26.0 +1.1
baz=269
F20K Avaraart Lake 96.51 23 Pdiff P 07 44 26.3 +1.3
baz=270
J19K Poorman 96.54 26 P P 07 44 25.9 +0.6
J19K IAmb IAmb 07 46 39.1
comp=Z,46nm,1.0s
J19K Poorman 96.54 26 Pdiff P 07 44 26.1 +0.8
baz=270
P18K Big Mountain, 96.69 31 Pdiff P 07 44 26.4 +0.3
baz=269
A22K Sinclair Lake 96.75 19 Pdiff P 07 44 26.7 +0.7
baz=271
Q18K Katmai Hardscr 96.80 32 Pdiff P 07 44 26.8 +0.1
baz=270
C21K Knifeblade Rid 96.85 21 Pdiff P 07 44 27.5 +0.9
baz=271
H20K Anotleneega Mo 96.86 25 Pdiff P 07 44 27.1 +0.4
baz=270
L19K White Mountain 96.89 28 Pdiff P 07 44 28.0 +1.0
baz=270
B21K Ikpikpuk River 96.90 21 Pdiff P 07 44 27.9 +1.2
baz=271
SPITS Spitsbergen Ar 97.02 348 P Pdif 07 44 26.7 -0.5
SPITS Spitsbergen Ar 97.02 348 P Pdif 07 44 26.7 -0.4
comp=Z,17nm,0.6s,baz=117,slow=8.5,SNR=29
SPITS pP pP 07 46 39.8 -0.5
comp=Z,20nm,0.9s,baz=48,slow=10,SNR=3.3
comp=Z,17nm,0.6s
SPITS Spitsbergen Ar 97.02 348 P Pdif 07 44 26.9 -0.3
SPITS pmax pmax
comp=Z,256nm,1.6s
I20K Naaghedeneel 97.04 26 Pdiff P 07 44 29.0 +1.5
baz=271
N19K Bonanza Creek 97.07 30 P P 07 44 28.3 +0.4
N19K IAmb IAmb 07 46 41.4
comp=Z,75nm,1.1s
N19K Bonanza Creek 97.07 30 Pdiff P 07 44 28.5 +0.7
baz=270
R18K Karluk 97.09 33 Pdiff P 07 44 28.8 +1.0
baz=270
O19K Port Alsworth 97.16 30 Pdiff P 07 44 29.2 +1.2
baz=270
E21K Killik River 97.16 22 Pdiff P 07 44 29.0 +1.0
baz=272
J20K Nowinta River 97.19 26 Pdiff P 07 44 29.3 +1.1
baz=271
SII Sitkinak Islan 97.24 34 Pdiff Pdif 07 44 28.4 -0.1
baz=270
K20K Telida 97.24 27 Pdiff P 07 44 29.2 +0.7
baz=271
JAVC Velka Javorina 97.25 318 *e*PDIFF P 07 44 29.9 +1.0
JAVC *e*PP PP 07 48 36.0 -0.1
JAVC *e*PKKP PKKPdf 08 01 07.3 -0.2
B22K Teshekpuk Lake 97.29 20 P P 07 44 29.6 +1.1
B22K IAmb IAmb 07 46 45.3
comp=Z,71nm,1.1s
B22K Teshekpuk Lake 97.29 20 Pdiff P 07 44 28.8 +0.4
baz=272
L20K Farewell, AK 97.34 28 Pdiff P 07 44 29.6 +0.7
baz=271
MORC Moravsky Berou 97.34 319 *e*PDIFF P 07 44 29.6 +0.3
MORC *e*pP pP 07 46 41.5 -0.9
MORC *e*PP PP 07 48 34.6 -2.2
MORC *e*SKS SKSac 07 54 09.2 +1.2
MORC *e*PKKP PKKPbc 08 01 05.7 -0.6
F21K Alatna River 97.39 23 Pdiff P 07 44 30.2 +1.2
baz=272
G21K Allakaket 97.40 24 Pdiff P 07 44 30.0 +0.9
baz=272
MODS Modra-Piesok 97.50 318 *i* P P 07 44 31.5 +1.5
MODS *e* 07 48 40.8
BLY Banja Luka 97.51 314 ⇓P Pdif 07 44 29.9 -0.2
GKP Gorka Klasztor 97.56 323 *eP* Pdif 07 44 29.8 -0.2
GKP *e*PP PP 07 48 37.4 -0.8
D22K Ayikyak River 97.61 21 Pdiff P 07 44 31.1 +1.1
baz=273
M20K Styx River 97.70 28 Pdiff P 07 44 31.7 +1.0
baz=272
P19K Oil Pt 97.71 31 Pdiff P 07 44 31.2 +0.6
baz=271
H21K Melozitna Rive 97.72 25 Pdiff P 07 44 31.7 +1.2
baz=272
OHAK Old Harbor 97.72 33 Pdiff P 07 44 31.3 +0.6
baz=271
F22K John River 97.88 23 Pdiff P 07 44 32.5 +1.3
baz=273
VRAC Vranov 97.96 319 *e*PDIFF P 07 44 32.3 +0.3
VRAC *e*pP pP 07 46 45.1 -0.1
VRAC *e*PP PP 07 48 39.5 -1.9
VRAC *e*SKS SKSac 07 54 11.4 +0.4
VRAC *e*PKKP PKKPbc 08 01 03.5 -1.1
E22K Anaktuvuk Pass 97.98 22 Pdiff P 07 44 32.9 +1.2
baz=274
CHUM Lake Minchumin 98.00 26 Pdiff P 07 44 32.6 +0.8
baz=272
I21K Tanana 98.08 25 Pdiff P 07 44 33.4 +1.2
baz=273

KRUC **Moravsky** 98.09 319 *e*PDIFF **P** 07 44 33.0 +0.4
KRUC *e*SKS **SKSac** 07 54 11.7 +0.1
KRUC *e*PKKP **PKKPbc** 08 01 03.5 -0.7
KDAK Kodiak Island 98.09 33 pP pP 07 46 44.2 -1.3
comp=Z,21nm,1.0s,baz=118,slow=3.0,SNR=5.0
KDAK Kodiak Island 98.09 33 Pdiff **P** 07 44 32.5 +0.1
baz=271
PPLA Purkeypile 98.11 27 Pdiff **P** 07 44 33.0 +0.5
baz=272
KSP Ksiaz 98.15 320 *e*P **P** 07 44 33.2 +0.5
RONA Rosalia, Austr 98.16 317 *i* PP **PP** 07 48 41.2 -1.7
comp=Z,24nm,1.3s
Q20K Shuyak Island 98.17 32 Pdiff **P** 07 44 33.1 +0.5
baz=272
SPCR Spurr Chakacha 98.17 29 Pdiff **P** 07 44 32.7 0.0
baz=272
G22K Bettles 98.17 23 Pdiff **P** 07 44 33.1 +0.6
baz=274
KOGS Kog 98.18 316 *e*Pdiff **P** 07 44 33.1 +0.1
KOGS *e*PP **PP** 07 48 40.6 -2.5
KOGS *e*SKSac **SKSac** 07 54 11.5 -0.7
C23K Itkillik River 98.28 20 Pdiff **P** 07 44 33.6 +0.7
baz=275
H22K Ishtalitna Cre 98.29 24 Pdiff **P** 07 44 33.6 +0.5
baz=274
D23K Nanushuk River 98.33 21 Pdiff **P** 07 44 33.8 +0.6
baz=275
CONA Conrad Observa 98.45 317 *i* Pdiff Pdif 07 44 33.1 -1.2
comp=Z,8.8nm,0.9s
CONA *e*PP **PP** 07 48 42.9 -2.3
comp=Z,32nm,1.6s
SKT Skwentna 98.46 28 Pdiff Pdif 07 44 33.5 -0.4
baz=273
HOM Homer 98.52 31 Pdiff **P** 07 44 34.6 +0.4
baz=272
BPAW Bear Paw Mtn. 98.58 26 Pdiff **P** 07 44 34.9 +0.4
baz=274
MLY Manley 98.62 25 Pdiff **P** 07 44 34.9 +0.2
baz=274
COLD Coldfoot 98.66 23 Pdiff **P** 07 44 35.1 +0.3
baz=275
ARSA Arzberg 98.68 317 *e*Pdiff Pdif 07 44 35.2 0.0
comp=Z,10nm,1.3s
ARSA *i* PP **PP** 07 48 45.5 -1.4
comp=Z,60nm,1.7s,SNR=7.1
CAPN Captain Cook N 98.70 30 Pdiff **P** 07 44 35.1 +0.1
baz=273
TOLK Toolik Lake Re 98.76 21 Pdiff **P** 07 44 35.3 +0.1
baz=276
G23K Bananza Creek 98.78 23 Pdiff **P** 07 44 35.8 +0.5
baz=275
E23K Chandalar 98.81 22 Pdiff Pdif 07 44 34.9 -0.5
baz=276
SUA Susitna One 98.86 29 Pdiff Pdif 07 44 34.6 -1.2
baz=274
TRF Thorofare Moun 98.93 27 Pdiff Pdif 07 44 35.8 -0.4
baz=274
C24K Franklin Bluff 98.95 20 Pdiff Pdif 07 44 35.7 -0.1
baz=277
PERS Pernice 98.97 316 *e*PP **PP** 07 48 46.5 -2.5
BRSE Bradley Lake S 98.97 31 Pdiff **P** 07 44 37.0 +0.7
baz=273
D24K Happy Valley 98.98 21 Pdiff **P** 07 44 37.1 +1.0
baz=276
CUT Chulitna 99.02 28 Pdiff **Pdif** 07 44 37.3 +0.9
baz=274
SOKA Soboth 99.02 316 *i* Pdiff **Pdif** 07 44 37.2 +0.3
comp=Z,15nm,1.5s
SOKA *i* PP **PP** 07 48 48.1 -1.4
comp=Z,63nm,1.5s,SNR=9.4
M22K Willow 99.14 28 Pdiff **Pdif** 07 44 37.4 +0.5
baz=274
E24K Your Creek 99.22 22 Pdiff **Pdif** 07 44 37.3 +0.1
baz=277
HFS Hagfors 99.27 330 P **Pdif** 07 44 37.7 +0.2
comp=Z,8.2nm,0.7s,baz=84,slow=4.6,SNR=14
HFS pP **pP** 07 46 51.4 +0.5
comp=Z,26nm,1.0s,baz=76,slow=1.8,SNR=8.2
HFS PP **PP** 07 48 50.8 0.0
comp=Z,20nm,1.0s,baz=107,slow=5.1,SNR=4.8
comp=Z,8.2nm,0.7s
HFS Hagfors 99.27 330 P **Pdif** 07 44 37.7 +0.2
HFS *PP **pP** 07 46 51.4 +0.5
OBKA Obir 99.36 316 *i* Pdiff **Pdif** 07 44 36.6 -1.7
comp=Z,17nm,1.3s
OBKA *e*PP **PP** 07 48 50.0 -2.1
comp=Z,53nm,1.2s
NEA2 Nenana 99.37 26 Pdiff **Pdif** 07 44 38.0 +0.1
baz=276
RC01 Rabbit Creek A 99.37 29 Pdiff **Pdif** 07 44 38.2 +0.2
baz=274
LJU Ljubljana 99.38 316 *i* PP **PP** 07 48 48.7 -3.4
LJU *e*SKSac **SKSac** 07 54 18.2 +0.1
O22K Cooper Landing 99.43 30 Pdiff **Pdif** 07 44 38.6 +0.4
baz=274
MCK McKinley 99.51 26 Pdiff **Pdif** 07 44 39.0 +0.4
baz=276
F24K Squaw Lake 99.52 23 Pdiff **Pdif** 07 44 39.1 +0.5
baz=277
MOA Molln 99.52 317 *i* Pdiff **Pdif** 07 44 38.7 -0.3
comp=Z,7.9nm,1.4s
MOA *i* PP **PP** 07 48 50.6 -2.5
comp=Z,34nm,1.4s,SNR=5.1
SEW Seward 99.59 30 Pdiff **Pdif** 07 44 39.8 +0.9
baz=274
PMR Palmer 99.62 29 Pdiff **Pdif** 07 44 40.1 +1.1
baz=275
BRG Berggiesshubel 99.64 320 S S 07 44 33.0 -648
BRG ⇓*e*Pif 07 44 39.5
BRG Amp 07 44 41.2
comp=Z,22nm,1.4s
BRG Berggiesshubel 99.64 320 P **Pdif** 07 44 47.8 +8.5
BRG Amp 07 44 49.0
comp=Z,2.6nm,0.8s
BRG ⇓*e*Pif 07 45 36.1
BRG Amp 07 45 36.4
comp=Z,6.8nm,0.7s
BRG pP **pP** 07 46 52.0 -0.7
BRG Amp 07 46 53.4
comp=Z,4.5nm,0.9s
BRG Berggiesshubel 99.64 320 P **PKiKP** 07 48 59.6 -4.6
BRG Amp 07 49 00.6
comp=Z,15nm,1.1s
BRG Berggiesshubel 99.64 320 ⇓Sif 07 55 20.0
BRG Berggiesshubel 99.64 320 SS SS 08 02 30.0 -0.1
H24K Noodor Dome 99.73 24 Pdiff **Pdif** 07 44 40.6 +1.1
baz=277
WAT1 Susitna Watana 99.78 27 Pdiff **Pdif** 07 44 40.4 +0.6
baz=276
G24K Hadweenzic Riv 99.78 23 Pdiff **Pdif** 07 44 39.8 +0.1
baz=277
D25K Kavik River 99.82 21 Pdiff **Pdif** 07 44 40.4 +0.5
baz=279
COLA College 99.86 25 Pdiff **Pdif** 07 44 41.4 +1.4
baz=277
GERES GERESS Array B 99.87 318 P **Pdif** 07 44 40.6 +0.1
comp=Z,0.6nm,0.5s,baz=68,slow=4.7,SNR=11
GERES PP **PP** 07 48 52.3 -3.5
comp=Z,6.0nm,1.0s,baz=81,slow=6.7,SNR=4.8
GERES PKKPbc **PKKPbc** 08 00 58.3 -1.1
comp=Z,2.0nm,1.0s,baz=290,slow=3.8,SNR=4.9
comp=Z,0.6nm,0.5s
GERES GERESS Array B 99.87 318 P **Pdif** 07 44 40.7 +0.1
KHC Kasperske Hory 99.94 319 *de*P **Pdif** 07 44 40.6 -0.2
KHC pmax pmax
comp=Z,13nm,1.7s
BIOA Bad Ischl, Aus 99.95 317 *e*Pdiff **Pdif** 07 44 40.1 -0.8
comp=Z,2.8nm,0.7s
BIOA *i* PP **PP** 07 48 53.9 -2.5
comp=Z,4.6nm,0.6s
KNK Knik Glacier 99.96 29 Pdiff **Pdif** 07 44 41.6 +1.0
baz=276
MYKA Terra Mystica 99.98 316 *e*Pdiff **Pdif** 07 44 42.1 +1.0
comp=Z,2.9nm,0.7s
MYKA *i* PP **PP** 07 48 53.7 -3.0
comp=Z,16nm,1.2s
POKR Poker Plat Res 100.00 25 Pdiff **Pdif** 07 44 41.6 +0.9
baz=277
PWL Port Wells 100.08 29 Pdiff **Pdif** 07 44 41.3 +0.2
baz=276
KBA Koelnbreinsper 100.17 317 *e*PP **PP** 07 48 53.6 -4.6
comp=Z,27nm,1.5s
WAT6 Susitna Watana 100.17 28 Pdiff **Pdif** 07 44 41.7 0.0
baz=276
CLL Collm 100.21 321 *i* P **Pdif** 07 44 42.2 +0.3
CLL *e* 07 48 58.0
CLL pmax pmax
comp=Z,11nm,1.1s
CLL Collm 100.21 321 *i* Pdif **Pdif** 07 44 42.2 +0.3
CLL *i* x x 07 44 49.6
CLL *e*PP **PP** 07 48 58.0 0.0
CLL *i* PKiKP **PKiKP** 07 49 04.8 -0.4
comp=Z,18nm,1.2s
CLL *i* PKKPbc **PKKPbc** 08 00 57.8 -0.6
comp=Z,11nm,1.1s
C26K Camden Bay 100.22 20 Pdiff **Pdif** 07 44 42.6 +1.1
baz=280
M23K Glacier View 100.27 28 Pdiff **Pdif** 07 44 42.8 +0.8
baz=276
ILAR Eielson Array 100.28 25 P **Pdif** 07 44 41.2 -0.7
comp=Z,0.9nm,0.7s,baz=277,slow=4.0,SNR=11
ILAR pP **pPdif** 07 46 53.0 -2.1
comp=Z,1.6nm,0.7s,baz=267,slow=4.1,SNR=6.7
ILAR PP **PP** 07 48 59.0 +0.8
comp=Z,5.7nm,1.2s,baz=269,slow=7.4,SNR=6.0
ILAR PKKPbc **PKKPbc** 08 00 54.9 -3.8
comp=Z,7.9nm,0.9s,baz=37,slow=1.1,SNR=4.9
ILAR PKPPKP 08 09 07.4
comp=Z,2.3nm,1.2s,baz=82,slow=0.8,SNR=5.8
ILAR Eielson Array 100.28 25 P **Pdif** 07 44 41.2 -0.7
DHY Denali Highway 100.28 27 Pdiff **Pdif** 07 44 42.2 0.0
baz=277
E25K Arctic Village 100.30 22 Pdiff **Pdif** 07 44 41.1 -1.0
baz=279
HDA Harding Lake 100.30 26 Pdiff **Pdif** 07 44 41.8 -0.2
baz=278
G25K Bearman Lake 100.31 23 Pdiff **Pdif** 07 44 41.7 -0.3
baz=279
F25K Christian Rive 100.36 22 Pdiff **Pdif** 07 44 42.8 +0.5
baz=279
NB2 NORSAR Subarra 100.41 331 P **Pdif** 07 44 42.0 -0.6
comp=Z,37nm,1.4s,baz=77,slow=4.6
NB2 NORSAR Subarra 100.41 331 P **Pdif** 07 44 42.0 -0.6
comp=Z,37nm,1.4s,baz=77,slow=4.6
NB2 PKKP **PKKPbc** 08 00 56.0 -2.2
comp=Z,1.1nm,0.7s,baz=251,slow=2.6
NOA NORSAR Array B 100.41 331 P **Pdif** 07 44 42.4 -0.2
comp=Z,5.6nm,1.0s,baz=80,slow=4.6,SNR=5.4
NOA pP **pPdif** 07 46 55.0 -0.8
comp=Z,6.5nm,1.1s,baz=81,slow=4.8,SNR=7.0
NOA PP **PP** 07 49 01.9 +2.6
comp=Z,5.7nm,1.0s,baz=89,slow=7.8,SNR=4.3
NOA PKKPbc **PKKPbc** 08 00 56.0 -2.2
comp=Z,2.2nm,0.8s,baz=60,slow=2.6,SNR=4.6
NOA NORSAR Array B 100.41 331 P **Pdif** 07 44 42.4 -0.2
SCM Sheep Creek Mo 100.45 28 Pdiff **Pdif** 07 44 43.1 +0.3
baz=277
H25L Birch Creek 100.50 24 Pdiff **Pdif** 07 44 43.4 +0.6
baz=279
LESA Schwarzleotal 100.61 317 *i* Pdiff **Pdif** 07 44 43.5 -0.4
comp=Z,9.2nm,1.3s
LESA *i* PP **PP** 07 48 56.6 -4.7
comp=Z,34nm,1.6s
GLI Glacier Island 100.68 29 Pdiff **Pdif** 07 44 43.5 -0.3
baz=277
C27K Jago River 100.69 20 Pdiff **Pdif** 07 44 43.6 0.0
baz=281
PRP Porcupine Dome 100.74 24 Pdiff **Pdif** 07 44 44.0 -0.1
baz=279
ABTA Abfaltersbach 100.75 316 *i* Pdiff **Pdif** 07 44 43.9 -0.7
comp=Z,4.0nm,0.8s
ABTA *i* PP **PP** 07 48 56.8 -5.6
comp=Z,14nm,1.3s
K24K Donnelly Dome 100.89 26 Pdiff **Pdif** 07 44 44.9 +0.2
baz=278
F26K Sheenjek River 100.91 22 Pdiff **Pdif** 07 44 44.1 -0.6
baz=281
J25K Salcha River, 100.95 25 Pdiff **Pdif** 07 44 44.9 -0.1
baz=279
M24K Tolsona, Glenn 100.96 28 Pdiff **Pdif** 07 44 44.5 -0.5
baz=278
PAX Paxson 101.16 27 Pdiff **Pdif** 07 44 46.1 +0.1
baz=279
KLU Klutina 101.16 29 Pdiff **Pdif** 07 44 45.4 -0.6
baz=278
G26K Porcupine Rive 101.19 23 Pdiff **Pdif** 07 44 46.0 +0.1
baz=281
Q23K Middleton Isla 101.22 31 Pdiff **Pdif** 07 44 46.0 -0.2
baz=277
RIDG Independent Ri 101.31 26 Pdiff **Pdif** 07 44 46.6 0.0
baz=279
WTTA Wattenberg 101.33 317 *i* Pdiff **Pdif** 07 44 47.1 -0.1
comp=Z,15nm,1.3s
WTTA *i* PP **PP** 07 49 02.6 -4.1
comp=Z,48nm,1.7s
WATA Walderalm 101.36 317 *i* Pdiff **Pdif** 07 44 46.7 -0.6
comp=Z,0.3nm,0.2s
WATA *i* PP **PP** 07 49 03.0 -3.9
comp=Z,35nm,1.4s
EYAK Cordova Ski Ar 101.37 29 Pdiff **Pdif** 07 44 46.5 -0.3
baz=278
HARP HAARP 101.39 28 Pdiff **Pdif** 07 44 45.6 -1.4
baz=279
GRF Grafenberg Arr 101.44 319 *e*Pdiff **Pdif** 07 44 47.6 +0.1
GRF *e*PP **PP** 07 49 03.2 -4.0
baz=86,slow=7.4
SQTA Sankt Quirin 101.62 317 *e*Pdiff **Pdif** 07 44 47.9 -0.6
comp=Z,8.1nm,0.9s
SQTA *e*PKiKP **PKiKP** 07 49 04.7 -3.3
comp=Z,33nm,1.8s
SCRK Sand Creek 101.65 26 Pdiff **Pdif** 07 44 46.8 -1.4
baz=280
MOTA Moosalm 101.68 317 *i* Pdiff **Pdif** 07 44 48.5 -0.2
comp=Z,17nm,1.3s
MOTA *i* PKiKP **PKiKP** 07 49 04.4 -3.8
comp=Z,30nm,1.4s
D27M Malcolm River 101.72 20 Pdiff **Pdif** 07 44 47.5 -0.8
baz=284
J26L Joseph Creek 101.74 25 Pdiff **Pdif** 07 44 47.8 -0.8
baz=281
E27K Coleen River 101.75 21 Pdiff **Pdif** 07 44 47.4 -1.0
baz=283
N25K Chitina, Valde 101.77 28 Pdiff **Pdif** 07 44 47.9 -0.8
baz=279
BMRM Bremner River 101.87 29 Pdiff **Pdif** 07 44 48.1 -1.0
baz=279
RETA Reutte 101.91 317 *i* Pdiff **Pdif** 07 44 50.2 +0.6
comp=Z,17nm,1.8s
RETA *e*PKiKP **PKiKP** 07 49 02.9 -5.6
comp=Z,25nm,1.1s
FETA Feichten 101.96 317 *i* Pdiff **Pdif** 07 44 50.4 +0.4
comp=Z,13nm,1.3s
FETA *e*PKiKP **PKiKP** 07 49 07.0 -1.7
comp=Z,25nm,1.4s
G27K Doyon Strip 102.04 23 Pdiff **Pdif** 07 44 48.5 -1.3
baz=283
L26K Log Cabin Wild 102.10 27 Pdiff **Pdif** 07 44 49.4 -0.7
baz=280
KAIM Kayak Island 102.12 30 Pdiff **Pdif** 07 44 49.7 -0.5
baz=279
H27K Steamboat Moun 102.22 23 Pdiff **Pdif** 07 44 50.3 -0.2
baz=283
I27K Kandik River 102.32 24 Pdiff **Pdif** 07 44 50.6 -0.5
baz=283
M26K Nabesna, AK 102.38 27 Pdiff **Pdif** 07 44 50.7 -0.7
baz=281
E28M Babbage River 102.38 21 Pdiff **Pdif** 07 44 50.7 -0.6
baz=285
VLC Villacollemand 102.39 314 P **Pdif** 07 44 50.5 -1.4
VLC PKP **PP** 07 49 12.2 -2.3
D28M Stokes Point 102.46 20 Pdiff **Pdif** 07 44 51.2 -0.3
baz=286
K27K Chicken 102.47 26 Pdiff **Pdif** 07 44 51.4 -0.2
baz=282
DAVA Damuels 102.52 317 *i* Pdiff **Pdif** 07 44 52.9 +0.4
comp=Z,13nm,1.1s
DAVA *i* PKiKP **PKiKP** 07 49 11.9 +2.2
comp=Z,46nm,1.1s
F28M Old Crow 102.52 22 Pdiff **Pdif** 07 44 51.5 -0.4
baz=285
MCARA McCarthy VSAT 102.55 28 Pdiff **Pdif** 07 44 51.7 -0.4
baz=280
CRQE Cirque 102.64 29 Pdiff **Pdif** 07 44 51.5 -1.1
baz=280
EGAK Eagle 102.69 25 Pdiff **Pdif** 07 44 52.1 -0.5
baz=283
L27K Beaver Creek, 102.78 27 Pdiff **Pdif** 07 44 53.2 +0.1
baz=282
M27K Edge Creek, AK 102.90 27 Pdiff **Pdif** 07 44 53.3 -0.5
baz=282
E29M Blow River 103.02 21 Pdiff **Pdif** 07 44 53.9 -0.1
baz=287
I28M Miner Creek 103.04 24 Pdiff **Pdif** 07 44 54.6 +0.3
baz=284
MESA MESA 103.30 30 Pdiff **Pdif** 07 44 55.5 -0.2
baz=281
G29M Pine Creek 103.40 22 Pdiff **Pdif** 07 44 56.2 +0.4
baz=286
CTG Chitna Glacier 103.44 29 Pdiff **Pdif** 07 44 56.1 -0.2
baz=282
H29M Whitestone 103.46 23 Pdiff **Pdif** 07 44 56.0 0.0
baz=286
DAWY Dawson 103.61 25 Pdiff **Pdif** 07 44 57.3 +0.5
baz=284
KEST Kesra 103.62 305 Pdiff **Pdif** 07 44 58.4 +0.8
comp=Z,8.1nm,1.1s,baz=180,slow=3.1,SNR=6.6
KEST Kesra 103.62 305 P **Pdif** 07 44 58.0 +0.4
I29M Ogilvie Camp, 103.72 24 Pdiff **Pdif** 07 44 57.8 +0.6
baz=286
J29N Klondike Camp 104.00 25 Pdiff **Pdif** 07 44 58.7 +0.1
baz=286
F30M Barrier River 104.02 21 Pdiff **Pdif** 07 44 58.9 +0.4
baz=289
O28M Mount Upton 104.03 29 Pdiff **Pdif** 07 44 58.7 -0.3
baz=283
EPYK Eagle Plains 104.06 23 Pdiff **Pdif** 07 44 59.6 +0.9
baz=287
G30M tAoh Zraii Nji 104.06 22 Pdiff **Pdif** 07 44 58.7 -0.1
baz=288
YUK8 Steele Glacier 104.11 28 Pdiff **Pdif** 07 44 59.6 +0.2
baz=283
PINM Pinnacle 104.15 29 Pdiff **Pdif** 07 44 59.0 -0.3
baz=283
L29M L29M 104.40 26 Pdiff **Pdif** 07 45 01.1 +0.8
baz=285
M29M Somme Creek 104.43 27 Pdiff **Pdif** 07 45 01.7 +1.1
baz=285
K29M Barlow Dome 104.46 25 Pdiff **Pdif** 07 45 01.8 +1.0
baz=286
I30M Mount Dempster 104.54 24 Pdiff **Pdif** 07 45 01.5 +0.5
baz=287
INK Inuvik 104.58 20 pPdiff **pPdif** 07 47 13.5 -0.7
comp=Z,8.0nm,1.1s,baz=188,slow=7.7,SNR=4.3
INK PKiKP **PKiKP** 07 49 12.1 -0.6
comp=Z,5.1nm,0.9s,baz=3.8,slow=1.9,SNR=5.8
INK PKKPbc **PKKPbc** 08 00 44.0 -2.2
comp=Z,7.1nm,1.0s,baz=104,slow=5.8,SNR=4.3
INK Inuvik 104.58 20 Pdiff **Pdif** 07 45 01.2 +0.3
baz=291
YUK4 Talbot Arm 104.62 28 Pdiff **Pdif** 07 45 01.9 +0.3
baz=284
PNL Peninsula 104.66 30 Pdiff **Pdif** 07 45 01.3 -0.2
baz=283
MEM Membach 104.68 321 *d*PP **PP** 07 49 30.3 -0.5
BHOU Houvegnez 104.72 320 *d*PP **PP** 07 49 30.5 -0.7
WLF Walferdange 104.72 320 PP **PP** 07 49 27.0 -4.2
WLF Walferdange 104.72 320 *d*PP **PP** 07 49 27.7 -3.6
J30M Hart River 104.75 24 Pdiff **Pdif** 07 45 01.7 -0.3
baz=287
G31M Satah River 104.80 22 Pdiff **Pdif** 07 45 02.4 +0.4
baz=290
F31M Tsiigehtchic 104.82 21 Pdiff **Pdif** 07 45 02.2 +0.2
baz=290
YUK6 Outpost Mounta 104.86 28 Pdiff **Pdif** 07 45 03.7 +1.0
baz=284
O29M Mount Kennedy 104.91 29 Pdiff **Pdif** 07 45 03.7 +0.9
baz=284
M30M Minto, Yukon 105.14 27 PKiKP **PKiKP** 07 49 14.6 +0.7
baz=286
BCLA Clavier 105.15 321 *d*PP **PP** 07 49 33.0 -1.3
H31M Peel River 105.16 23 PKiKP **PKiKP** 07 49 14.9 +1.0
baz=290
RCHB Rochefort 105.24 320 *d*PP **PP** 07 49 33.5 -1.4
HYT Haines Junctio 105.29 28 PKiKP **PKiKP** 07 49 15.1 +0.7
baz=285
BGES Gesves 105.29 321 *d*PP **PP** 07 49 34.5 -0.9
N30M Aishikik Lake 105.31 28 PKiKP **PKiKP** 07 49 15.8 +1.5
baz=286
P29M Windy Craggy 105.49 30 PKiKP **PKiKP** 07 49 15.2 +0.6
baz=285
BMRD Maredsous 105.51 320 *d*PP **PP** 07 49 35.2 -1.7
A36M Sachs Harbour 105.55 16 PKiKP **PKiKP** 07 49 15.4 +1.0
baz=300
DOU Dourbes 105.65 320 *d*PP **PP** 07 49 36.7 -1.3
P30M Million Dollar 105.74 29 PKiKP **PKiKP** 07 49 15.5 +0.3
baz=286
N31M Braeburn, Yuko 105.91 27 PKiKP **PKiKP** 07 49 15.0 -0.4
baz=287
O30N Mendenhall 105.97 28 PKiKP **PKiKP** 07 49 14.7 -0.9
baz=286
PLBC Pleasant Camp 106.21 30 PKiKP **PKiKP** 07 49 16.1 +0.2
baz=286
M31M Drury Creek, Y 106.32 27 PKiKP **PKiKP** 07 49 16.6 +0.5
baz=288
WHY Whitehorse 106.57 28 PKiKP **PKiKP** 07 49 17.9 +1.1
baz=288
S31K Pelican 106.69 31 PKiKP **PKiKP** 07 49 17.7 +0.9
baz=286
SKAG Skagway 106.72 29 PKiKP **PKiKP** 07 49 18.0 +1.1
baz=287
R31K City Hall, Gus 106.81 31 PKiKP **PKiKP** 07 49 17.3 +0.2
baz=286
N32M Quiet Lake 107.25 27 PKiKP **PKiKP** 07 49 17.9 0.0
baz=289
SIT Sitka 107.41 32 PKiKP **PKiKP** 07 49 18.6 +0.4
baz=286
P32M Atlin 107.46 29 PKiKP **PKiKP** 07 49 18.5 +0.1
baz=288
R32K Eaglecrest 107.47 30 PKiKP **PKiKP** 07 49 18.3 0.0
baz=287
MMPY Sheldon Lake, 107.54 26 PKiKP **PKiKP** 07 49 18.4 0.0
baz=292
P33M Teslin, Yukon 107.69 28 PKiKP **PKiKP** 07 49 19.7 +1.0
baz=289
Q32M Nakina River 108.37 29 PKiKP **PKiKP** 07 49 20.0 -0.3
baz=290
R33M Jennings River 108.85 29 PKiKP **PKiKP** 07 49 22.1 +1.1
baz=291
U33K Whale Pass 108.85 32 PKiKP **PKiKP** 07 49 21.5 +0.6
baz=288
EKA Eskdalemuir Ar 109.02 327 Pdiff **Pdif** 07 45 21.5 +0.5
comp=Z,3.2nm,1.1s,baz=100,slow=3.6,SNR=4.0
EKA pPdiff **pPdif** 07 47 33.1 -1.1
comp=Z,1.5nm,0.8s,baz=145,slow=5.0,SNR=4.6
EKA PKiKP **PKiKP** 07 49 21.8 +0.4
comp=Z,0.3nm,0.3s,baz=56,slow=4.0,SNR=5.6
EKA PKKPbc **PKKPbc** 08 00 30.6 -1.7
comp=Z,0.7nm,0.3s,baz=261,slow=2.7,SNR=7.3
EKA PKKP **PKKPab** 08 00 45.6 -0.2
comp=Z,3.4nm,0.9s,baz=236,slow=3.9,SNR=8.1
CRAG Craig 109.05 33 PKiKP **PKiKP** 07 49 22.9 +1.6
baz=288
WRAK Wrangell Islan 109.16 32 PKiKP **PKiKP** 07 49 22.7 +1.2
baz=289
TGTN Hyland Airport 109.26 26 PKiKP **PKiKP** 07 49 23.1 +1.4
baz=294
S34M Telegraph Cree 109.29 30 PKiKP **PKiKP** 07 49 22.5 +0.8
baz=290
DLBC Dease Lake 109.65 29 PKKPbc PKKPbc 08 00 26.9 -3.6
comp=Z,46nm,0.9s,baz=117,slow=2.9,SNR=5.3
DLBC Dease Lake 109.65 29 PKiKP **PKiKP** 07 49 22.6 +0.1
baz=291
V35K Ketchikan 109.91 33 PKiKP **PKiKP** 07 49 23.6 +0.6
baz=289
T35M Bob Quinn 110.06 31 PKiKP **PKiKP** 07 49 24.8 +1.5
baz=291
WRGLY Wrigley 110.50 23 PKiKP **PKiKP** 07 49 25.6 +1.8
baz=299
U35K Hyder 110.56 32 PKiKP **PKiKP** 07 49 25.9 +1.8
baz=290
TORD Torodi Ar. Bea 110.90 282 PKiKP **PKiKP** 07 49 24.3 -1.7
comp=Z,16nm,0.9s,baz=40,slow=1.7,SNR=29
TORD SKP 07 52 02.9
comp=Z,5.2nm,0.8s,baz=82,slow=1.3,SNR=4.2
SUMG Summit 111.11 351 PP **PP** 07 50 11.8 -4.7
ECHE Cheria 111.35 310 PP **PP** 07 50 23.0 +4.0
CART Cartagena 111.71 308 PP PP 07 50 09.5 -12
KOTAN Kotaneelee Air 111.73 26 PKiKP **PKiKP** 07 49 27.1 +0.8
baz=298
TOAD Toad River Com 111.78 28 PKiKP **PKiKP** 07 49 26.8 +0.3
baz=296
ENIJ Nijar 112.76 307 PP **PP** 07 50 24.8 -4.1
UCM Universidad Co 112.93 311 PP **PP** 07 50 25.8 -4.2
BBB Bella Bella 112.93 35 PKiKP **PKiKP** 07 49 29.5 +0.7
comp=Z,12nm,0.9s,baz=350,slow=4.3,SNR=7.1
ESDC Sonseca Array 113.60 311 PKiKP **PKiKP** 07 49 30.2 -0.4
comp=Z,7.5nm,0.9s,baz=39,slow=2.6,SNR=28
ESDC PKKPbc **PKKPbc** 08 00 16.6 -0.6
comp=Z,4.6nm,1.1s,baz=278,slow=3.9,SNR=9.7
ESDC PKKPab **PKKPab** 08 00 26.1 +0.6
comp=Z,6.7nm,1.0s,baz=272,slow=4.4,SNR=18
YKA Yellowknife Ar 114.29 22 PKiKP **PKiKP** 07 49 31.4 +0.3
comp=Z,1.1nm,0.3s,baz=293,slow=11,SNR=30

YKA PP **PP** 07 50 39.3 +0.9
comp=Z,2.5nm,0.8s,baz=313,slow=6.4,SNR=3.6
YKA SKP 07 52 08.7
comp=Z,1.0nm,0.4s,baz=325,slow=2.2,SNR=4.7
YKA PKKPbc **PKKPbc** 08 00 13.2 -2.2
comp=Z,0.7nm,0.3s,baz=123,slow=2.6,SNR=14
YKA Yellowknife Ar 114.29 22 *i* PKIKP **PKiKP** 07 49 31.5 +0.3
PBRG Braganca 115.15 313 *e*PKPdf **PKiKP** 07 49 33.9 +0.4
MVO Moncorvo 115.53 313 *e*PKPdf **PKiKP** 07 49 35.4 +1.1
POLO Lamas de Olo 116.03 313 *e*PKPdf **PKiKP** 07 49 36.2 +0.9
MTE Manteigas 116.10 312 *e*PKPdf **PKiKP** 07 49 36.9 +1.4
PMRV Marv??o 116.24 311 *e*PKPdf **PKiKP** 07 49 36.2 +0.5
PBAR Barrancos 116.28 310 *e*PKPdf **PKiKP** 07 49 36.8 +1.1
PESTR Estremoz 116.53 311 *e*PKPdf **PKiKP** 07 49 37.0 +0.8
PSARD Sardoal 116.77 311 *e*PKPdf **PKiKP** 07 49 37.5 +0.8
EVO Evora 116.93 310 PKP **PKiKP** 07 49 37.2 +0.2
PMTG Montargil 116.95 311 *e*PKPdf **PKiKP** 07 49 37.5 +0.5
PVAQ Vaqueiros 116.98 309 *e*PKPdf **PKiKP** 07 49 38.1 +1.0
DBIC Dimbokro 117.08 274 PKP **PKiKP** 07 49 38.0 0.0
comp=Z,42nm,0.8s,baz=104,slow=1.8,SNR=26
DBIC Dimbokro 117.08 274 PKIKP **PKiKP** 07 49 38.0 0.0
DBIC Dimbokro 117.08 274 PKP **PKiKP** 07 49 38.1 +0.2
PCVE Castro Verde 117.17 309 *e*PKPdf **PKiKP** 07 49 38.7 +1.2
PBDV Barranco-do-Ve 117.19 309 *e*PKPdf **PKiKP** 07 49 39.0 +1.5
MESJ Messejana 117.26 310 *e*PKPdf **PKiKP** 07 49 38.6 +1.0
PARRA Arraiolos 117.63 311 *e*PKPdf **PKPdf** 07 49 37.7 -0.6
AVE Averroes 117.64 304 PKP **PKiKP** 07 49 38.7 +0.1
MORF Marmelete 117.73 309 *e*PKPdf **PKiKP** 07 49 39.5 +0.9
MORF Marmelete 117.73 309 *e*PKPdf **PKiKP** 07 49 39.9 +1.3
PFVI Vila Bisbo 117.91 309 *e*PKPdf **PKiKP** 07 49 39.7 +0.8
TIO Tiouine 117.96 302 PKP **PKiKP** 07 49 39.8 +0.4
YBH Yreka Blue Hor 120.12 45 PKP **PKPdf** 07 49 43.1 0.0
comp=Z,0.4nm,1.0s,baz=208,slow=2.5,SNR=8.9
YBH pPKP **pPKPdf** 07 52 04.9 +0.2
comp=Z,0.5nm,1.1s,baz=126,slow=1.2,SNR=3.0
YBH Yreka Blue Hor 120.12 45 PKIKP **PKPdf** 07 49 43.1 0.0
YBH 07 52 04.9
NEW Newport 120.98 36 PKP **PKiKP** 07 49 45.5 +0.8
comp=Z,13nm,0.9s,baz=246,slow=0.4,SNR=23
NEW PKKPbc **PKKPbc** 07 59 50.1 -1.6
comp=Z,3.0nm,0.7s,baz=149,slow=6.8,SNR=6.6
NEW Newport 120.98 36 PKIKP **PKiKP** 07 49 45.5 +0.8
NVAR Mina Array Bea 124.47 47 PKP **PKiKP** 07 49 53.0 +0.8
comp=Z,0.7nm,0.9s,baz=247,slow=5.8,SNR=4.7
NVAR pPKP **pPKPdf** 07 52 12.5 -0.8
comp=Z,5.6nm,0.7s,baz=225,slow=2.8,SNR=4.5
NVAR PKKPbc **PKKPbc** 07 59 38.8 +0.2
comp=Z,21nm,0.8s,baz=133,slow=4.9,SNR=55
PMPST Porto Santo, M 124.93 306 *e*PKPdf **PKiKP** 07 49 53.5 +0.6
PMPS Porto Santo 124.94 306 *e*PKPdf **PKiKP** 07 49 54.0 +1.1
PMAR Madeira 125.50 306 *e*PKPdf **PKiKP** 07 49 55.0 +0.8
ELK Elko 125.67 43 PKP **PKiKP** 07 49 55.5 +1.0
comp=Z,35nm,1.0s,baz=302,slow=2.1,SNR=80
ELK pPKP **pPKPdf** 07 52 13.9 -1.7
comp=Z,8.1nm,0.8s,baz=306,slow=3.1,SNR=4.7
ELK Elko 125.67 43 PKIKP **PKiKP** 07 49 55.5 +1.0
ELK 07 52 13.9
PMOZ Porto Moniz, M 125.70 306 *e*PKPdf **PKiKP** 07 49 56.1 +1.5
PFO Pinyon Flats O 127.61 52 PKP **PKiKP** 07 50 00.0 +1.6
comp=Z,24nm,1.0s,baz=263,slow=1.5,SNR=23
PFO pPKP **pPKPdf** 07 52 20.1 +0.8
comp=Z,20nm,1.0s,baz=280,slow=0.4,SNR=9.1
PFO Pinyon Flats O 127.61 52 PKIKP **PKiKP** 07 50 00.0 +1.6
PFO 07 52 20.1
PDAR Pinedale Array 128.37 38 PKP **PKiKP** 07 49 59.5 -0.3
comp=Z,0.8nm,0.8s,baz=209,slow=2.7,SNR=3.9
PDAR pPKP **pPKPdf** 07 52 20.6 -0.1
comp=Z,9.6nm,0.8s,baz=288,slow=0.9,SNR=7.1
PDAR PKKPab **Sdif** 07 59 21.6 +0.8
comp=Z,1.3nm,0.7s,baz=111,slow=6.9,SNR=5.0
ULM Lac du Bonnet 130.23 23 PKP **PKPdf** 07 50 01.4 -0.6
comp=Z,8.4nm,0.5s,baz=344,slow=1.9,SNR=17
ULM pPKP **pPKPdf** 07 52 23.0 -0.6
comp=Z,21nm,1.1s,baz=329,slow=3.6,SNR=4.3
ULM Lac du Bonnet 130.23 23 PKIKP **PKPdf** 07 50 01.5 -0.6
ULM 07 52 23.0
SCHQ Schefferville 131.36 359 PKP **PKiKP** 07 50 04.7 -0.5
comp=Z,222nm,0.6s,baz=8.3,slow=1.6,SNR=28
SCHQ pPKP **pPKPdf** 07 52 25.2 -0.5
comp=Z,72nm,0.7s,baz=32,slow=7.1,SNR=3.0
SCHQ SKPbc **SKPab** 07 52 33.5 -0.6
comp=Z,132nm,0.8s,baz=268,slow=7.4,SNR=4.4
PLCA Paso Flores 133.38 178 PKhKP PKPpre 07 49 51.2
comp=Z,1.2nm,0.7s,baz=13,slow=20,SNR=2.9
PLCA PKP **PKiKP** 07 50 09.8 0.0
comp=Z,13nm,0.9s,baz=229,slow=2.5,SNR=12
PLCA pPKP pPKPdf 07 52 29.6 -0.6
comp=Z,7.7nm,0.8s,baz=316,slow=3.1,SNR=2.7
PLCA SKPbc **SKPbc** 07 52 40.8 +0.5
comp=Z,36nm,1.0s,baz=216,slow=3.7,SNR=6.2
PLCA Paso Flores 133.38 178 PKIKP **PKiKP** 07 50 09.8 0.0
PLCA 07 52 29.6
PLCA Paso Flores 133.38 178 PKP **PKiKP** 07 50 10.0 +0.1
PLCA PKP **PKPdf** 07 50 10.2 +1.7
ANMO Albuquerque 134.54 46 PKhKP PKPpre 07 49 58.3
comp=Z,2.5nm,0.9s,baz=288,slow=5.6,SNR=4.7
ANMO PKP **PKiKP** 07 50 12.4 -0.1
comp=Z,34nm,1.1s,baz=305,slow=1.9,SNR=31
ANMO pPKP pPKPdf 07 52 31.3 -1.2
comp=Z,9.8nm,0.8s,baz=122,slow=1.2,SNR=16
ANMO SKPbc **SKPab** 07 52 46.6 -2.2
comp=Z,124nm,1.2s,baz=335,slow=2.7,SNR=9.9
ANMO SKKPbc **SKKPbc** 08 01 54.9 +0.1
comp=Z,1.8nm,0.9s,baz=172,slow=4.4,SNR=3.5
ANMO Albuquerque 134.54 46 PKIKP **PKiKP** 07 50 12.4 -0.1
ANMO 07 52 31.3
Y22D IRIS PASSCAL I 134.63 47 PKiKP **PKPdf** 07 50 11.5 +0.5
baz=299
TRQA Tornquist 135.72 187 PKP **PKPdf** 07 50 13.4 +0.6
TRQA PKP **PKiKP** 07 50 13.8 -0.8
LPIG La Paz 135.79 62 PKP **PKPdf** 07 50 12.3 -1.0
comp=Z,44nm,1.1s,baz=241,slow=3.4,SNR=5.5
LPIG pPKP **pPKPdf** 07 52 34.3 -0.6
comp=Z,12nm,0.9s,baz=21,slow=9.7,SNR=1.8
LPIG SKPbc **SKPab** 07 52 50.8 +2.5
comp=Z,36nm,1.0s,baz=287,slow=1.2,SNR=7.3
TXAR Lajitas Array 139.32 51 PKhKP PKPpre 07 50 12.7
comp=Z,6.2nm,0.8s,baz=259,slow=2.8,SNR=62
TXAR SKPbc **SKiKP** 07 53 00.0 -1.0
comp=Z,20nm,0.9s,baz=264,slow=2.3,SNR=7.5
TXAR SKKPbc **SKKPbc** 08 01 35.8 -0.6
comp=Z,1.9nm,0.9s,baz=142,slow=6.2,SNR=4.2
RFA San Rafael 139.38 180 *e*P **PKPdf** 07 50 18.5 -1.2
RFA *e*P **PKiKP** 07 50 19.4 -2.8
LMEL Las Melosas 140.26 177 *e*P **PKPdf** 07 50 20.1 -1.4
MT13 San Alfonso 140.36 177 *e*P **PKPdf** 07 50 18.1 -3.5
MT08 Bocatoma Ro 140.67 178 *e*P **PKPdf** 07 50 18.8 -3.5
AVIZ Vizcacheras 140.68 180 *e*P **PKPdf** 07 50 18.7 -3.4
MT05 Renca 140.68 177 *e*P **PKPdf** 07 50 16.8 -5.3
MT04 Ro Olivares 140.70 177 *e*P **PKPdf** 07 50 18.8 -3.6
PEL Peldehue 140.93 177‖ *e*P **PKPdf** 07 50 18.1 -4.4
AAGR Agrelo 141.06 179 *e*P **PKPdf** 07 50 19.6 -3.2
ROC1 El Roble 141.08 176‖ *e*P **PKPdf** 07 50 19.9 -3.2
VA03 San Esteban 141.32 177 *e*P **PKPdf** 07 50 19.9 -3.4
ASAL Salagasta 141.55 179 *i* P **PKPdf** 07 50 20.9 -2.8
MRA San Martin 141.66 183 *i* P **PKPdf** 07 50 21.6 -2.3
ACAN Cantantal 141.86 181 *e*P **PKPdf** 07 50 20.9 -3.3
RTLS Leoncito 142.33 178 *i* P **PKPdf** 07 50 23.6 -1.7
CFA Coronel Fontan 142.54 180 PKP **PKPdf** 07 50 23.2 -2.2
comp=Z,121nm,0.7s,baz=196,slow=3.1,SNR=344
CFA Coronel Fontan 142.54 180 *i* P **PKPdf** 07 50 23.5 -1.9
ZON Zonda 142.60 179 *e*P **PKPdf** 07 50 23.8 -1.7
SJA San Juan 142.62 179 *e*P **PKPdf** 07 50 24.3 -1.3
TCA Tanti 142.65 185 *i* P **PKPdf** 07 50 25.2 -0.5
MAN01 Angra dos Reis 142.74 219 PKP **PKPdf** 07 50 25.1 -0.9
ACHE Chepes 142.95 182 *e*P **PKPdf** 07 50 25.4 -0.9
SLP01 Ubatuba-SP 143.12 217 PKP PKPbc 07 50 25.7 +0.6
CO03 El Pedregal 143.23 176 *e*P **PKPdf** 07 50 26.1 -0.6
PARB Paraibuna 143.38 216 PKP **PKPdf** 07 50 27.0 -0.1
ITAB Concordia 143.43 204 PKP **PKPdf** 07 50 26.5 -0.5
AVFE Valle Fertil 143.48 181 *i* P **PKPdf** 07 50 27.3 +0.2
ACCO Cerro Coronel 143.54 179 *i* P **PKPdf** 07 50 28.1 +0.5
PET01 Itanhaem-SP 143.58 213 PKP **PKPdf** 07 50 27.7 +0.3
APLL PUNTA DE LOS L 143.71 182 *i* P **PKPdf** 07 50 28.0 +0.5
SJMB Sao Joao De Ma 143.74 227 PKP PKPab 07 50 27.2 +0.1
GUA01 Guaratinga, BA 144.01 231 PKP **PKPdf** 07 50 28.4 +0.1
CO01 Juntas del Tor 144.12 177 *e*P **PKPab** 07 50 30.1 +1.6
VABB Valinhos 144.43 215 PKP **PKPab** 07 50 30.4 +0.7
CMC01 Camacan, BA 144.49 233 PKP **PKPab** 07 50 30.2 +0.1
NBAN Anadia - AL 144.56 244 PKP PKPbc 07 50 29.7 0.0
M65A Busby, Falmout 144.59 3 PKiKP **PKPab** 07 50 29.6 0.0
baz=356
BSCB Bom Sucesso 144.61 220 PKP **PKPab** 07 50 30.6 +0.1
AGUA GUANDACOL 144.65 180 *e*P **PKPab** 07 50 31.4 +1.0
ACLC CERRO LA CRUZ 144.69 182 *e*P **PKPab** 07 50 31.1 +0.5
RCLB Rio Claro- Sao 145.20 215 PKP **PKPbc** 07 50 31.9 +0.5
AANI Anillaco 145.30 182 *i* P **PKPab** 07 50 33.2 +0.2
FRTB Fartura 145.56 211 PKP **PKPbc** 07 50 32.2 -0.2
PTGB Pitanga 145.60 207 PKP **PKPdf** 07 50 31.7 +0.8
CYA Choya 145.62 184 *i* P **PKPbc** 07 50 31.7 -0.8
CYA *i* P **PKPdf** 07 50 32.4 +1.6
RCBR Riachuelo 145.66 250 PKP **PKPbc** 07 50 32.5 -0.5
DIAM Diamantina, MG 145.77 225 PKP **PKPdf** 07 50 32.0 +0.6
CPUP Villa Florida 146.11 198 PKPbc **PKPdf** 07 50 32.5 +0.8
comp=Z,106nm,1.0s,baz=357,slow=1.8,SNR=129
CPUP pPKPbc pPKPab 07 52 52.5 +0.1
comp=Z,29nm,0.9s,baz=238,slow=1.3,SNR=5.7
CPUP Villa Florida 146.11 198 PKIKP **PKPdf** 07 50 32.5 +0.8
CPUP 07 52 52.5
CPUP Villa Florida 146.11 198 PKP **PKPdf** 07 50 32.5 +0.8
BB19B Bebedouro 146.83 215 PKP **PKPbc** 07 50 34.5 -1.5
JQT1 Jequitai-MG 146.97 225 PKP **PKPdf** 07 50 34.2 +0.9
TKL Tuckaleechee C 147.25 24 PKPbc **PKPdf** 07 50 34.7 +1.4
comp=Z,66nm,0.4s,baz=145,slow=7.6,SNR=92
TKL pPKPbc **pPKPdf** 07 52 54.7 -0.6
comp=Z,75nm,0.8s,baz=183,slow=1.0,SNR=6.2
TKL Tuckaleechee C 147.25 24 PKIKP **PKPdf** 07 50 34.7 +1.4
TKL 07 52 54.7
TRCB Terra Rica 147.52 207 PKP **PKPdf** 07 50 34.7 +0.5
JANB Januaria 148.36 228 PKP **PKPdf** 07 50 36.8 +1.1
SFA1 Serra Facao 148.70 220 PKP **PKPdf** 07 50 37.4 +1.2
ITRB Iturama 148.95 214 PKP **PKPdf** 07 50 37.5 +1.1
BAT2 UHE Batalha 149.00 221 PKP **PKPdf** 07 50 37.8 +1.2
IPMB Ipameri, GO 149.01 219 PKP **PKPdf** 07 50 37.4 +0.7
ITU3 Corumbazu 149.24 218 PKP **PKPdf** 07 50 37.6 +0.7
SDBA SAO DESIDERIO 150.45 232 PKP **PKPdf** 07 50 40.0 +1.1
SBBR Sobral 150.46 251 PKP **PKPdf** 07 50 40.3 +1.4
BDFB Brasilia 150.59 223 PKP **PKPdf** 07 50 40.1 +0.9
comp=Z,40nm,1.0s,baz=74,slow=1.6,SNR=31
BDFB PKPbc **PKiKP** 07 50 46.4 +0.6
comp=Z,283nm,0.8s,baz=109,slow=1.9,SNR=120
BDFB PKPab **PKPab** 07 50 56.8 +1.9
comp=Z,175nm,0.9s,baz=125,slow=8.5,SNR=12
BDFB pPKPbc **pPKPbc** 07 53 05.2 -0.7
comp=Z,107nm,0.9s,baz=123,slow=2.5,SNR=4.5
BDFB Brasilia 150.59 223 PKIKP **PKPdf** 07 50 40.1 +0.9
BDFB 07 50 56.8
BDFB 07 53 05.2
AQDB Aquidauana 150.90 205 PKP **PKPdf** 07 50 39.8 +0.3
C2SB Chapadao do Su 151.04 211 PKP **PKPdf** 07 50 41.4 +1.7
CAN3 Cana Brava 152.54 226 PKP **PKPdf** 07 50 43.3 +1.2
LAJE UHE Lajeado 154.58 231 PKP **PKPdf** 07 50 45.6 +0.7
SMTB Santa Maria do 154.66 234 PKP **PKPdf** 07 50 45.7 +0.6
PAL2 UHE Estreito - 155.59 239 PKP **PKPdf** 07 50 47.1 +0.8
PAL01 Palmeiras do T 155.84 239 PKP **PKPdf** 07 50 46.6 0.0
PTLB Pontes e Lacer 156.81 203 PKP **PKPdf** 07 50 48.2 +0.5
SIV San Ignacio 156.98 198 PKP **PKPdf** 07 50 48.9 +0.9
comp=Z,32nm,1.0s,baz=139,slow=1.9,SNR=104
SIV PKPab **PKPab** 07 51 23.3 +1.3
comp=Z,89nm,0.9s,baz=150,slow=5.0,SNR=35
SIV pPKP **pPKPdf** 07 53 08.9 -1.6
comp=Z,13nm,0.9s,baz=185,slow=7.8,SNR=1.8
SIV pPKPab **pPKPab** 07 53 38.0 +1.8
comp=Z,14nm,0.8s,baz=225,slow=4.2,SNR=2.3
SIV PP **PP** 07 55 02.8 +1.0
comp=Z,45nm,1.2s,baz=160,slow=6.0,SNR=4.7
LPAZ La Paz 157.79 180 PKP **PKPdf** 07 50 50.9 +1.2
comp=Z,38nm,1.0s,baz=59,slow=1.2,SNR=81
LPAZ PKPab **PKPab** 07 51 27.8 +1.6
comp=Z,38nm,0.8s,baz=184,slow=5.9,SNR=17
LPAZ pPKP **pPKPdf** 07 53 11.5 -0.8
comp=Z,13nm,0.8s,baz=12,slow=3.6,SNR=2.1
LPAZ pPKPab **pPKPab** 07 53 41.3 +1.0
comp=Z,28nm,1.0s,baz=180,slow=4.7,SNR=3.2
LPAZ La Paz 157.79 180 PKIKP **PKPdf** 07 50 50.9 +1.2
LPAZ 07 51 27.8
LPAZ 07 53 11.5
LPAZ La Paz 157.79 180 PKP **PKPdf** 07 50 50.5 +0.8
PRPB Parauapebas 157.99 237 PKP **PKPdf** 07 50 49.7 +0.4
TMAB Tom-Au,PA,Br 158.25 248 PKP **PKPdf** 07 50 50.3 +0.7
PDRB Porto dos Gac 159.06 213 PKP **PKPdf** 07 50 50.7 +0.1
CLDB Colider 159.13 216 PKP **PKPdf** 07 50 51.0 +0.4
VILB Vilhena 159.50 203 PKP **PKPdf** 07 50 52.3 +1.2
BMO2 UHE Belo Monte 161.31 240 PKP **PKPdf** 07 50 53.6 +0.6
ATM1 UHE Belo Monte 161.54 240 PKP **PKPdf** 07 50 53.9 +0.6
NPGB Novo Progresso 161.73 225 PKP **PKPdf** 07 50 53.9 +0.5
ITTB Itaituba 163.80 230 PKP **PKPdf** 07 50 55.8 +0.4
MAL2 Monte Alegre, 163.86 241 PKP **PKPdf** 07 50 56.5 +1.0
CZSB Cruzeiro do Su 165.58 162 PKP **PKPdf** 07 50 57.2 +0.3
OTAV Otavalo 168.24 119 PKP **PKPdf** 07 51 00.5 +1.1
ROSC El Rosal 173.79 101 PKP **PKPdf** 07 51 02.6 +0.5
comp=Z,56nm,1.1s,baz=97,slow=1.1,SNR=41
ROSC pPKPab **pPKPab** 07 54 50.4 -0.1
comp=Z,14nm,0.5s,baz=242,slow=5.3,SNR=1.9
ROSC El Rosal 173.79 101 PKIKP **PKPdf** 07 51 02.7 +0.5

*MOS **19** 07:32:55.5±0.8, 6°.01S×111°.90E, h618km, mb5.6/51, Error ellipse: s-maj=8.5km s-min=5.7km az=107.0*
*IDC **19** 07:32:56.5±0.6, 6°.04S×111°.86E, h606km±6km, mb5.0/43, mbtmp6.0/48, Error ellipse: s-maj=8.8km s-min=6.3km az=81.0*
*DJA **19** 07:32:56.4±0.1, 6°.S±2°.×111°.2E±°, h610km±2km, M5.8/93, mB6.1/51, mb5.8/93, MLv6.4/19, Mw6.0/17, Mw(mB)5.7/51, MwMwp5.8/12, Mwp5.9/12*
*NEIC **19** 07:32:58.8±1.4, 6°.05S±0°.08×111°.90E±0°.09, h636km±6km, mb5.6/82, Error ellipse: s-maj=13.6km s-min=12.2km az=80.0*

ISC 19 07:32:56.9±0.4, **6°.09S**±0°.03×**111°.87E**±0°.04, **h617**km±3km, **h618**km:**pP-P**,**n600**,σ=**1931**/607,**mb5.6**/148,**35C-27D**,**Jawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TBJI	**Tambak Boyo**	**0.72**	**182**	P	**P**		**07 34 08.9**	**-0.4**
GRJI	**Gresik**	**1.02**	**143**	P	**P**		**07 34 09.5**	**-0.3**
SMRI	**Semarang**	**1.71**	**236**	P	P		07 34 17.8	+6.1
WOJI	**Wonogiri, Jawa**	**1.97**	**208**	P	**P**		**07 34 10.9**	**-1.7**
UGM	**Wanagama**	**2.25**	**216**	P	**P**		**07 34 19.9**	**+3.1**
UGM	**Wanagama**	**2.25**	**216**	S	**P**		**07 34 17.1**	**+3.3**
KMMI	**Kalianget**	**2.29**	**115**	P	**P**		**07 34 13.2**	**-0.8**
GMJI	**Gumukmas**	**2.67**	**144**	P	**P**		**07 34 13.2**	**-2.6**
ABJI	**Asem Bagus**	**2.90**	**126**	P	**P**		**07 34 15.4**	**-1.5**
SRBI	**Singaraja**	**3.87**	**121**	P	**P**		**07 34 22.0**	**-0.7**
BBKI	**Banjar Baru**	**3.95**	**49**	P	**P**		**07 34 23.0**	**-0.3**
LEM	**Lembang**	**4.29**	**260**	P	**P**		**07 34 24.3**	**-1.5**
	4µm,0.7s,baz=62,slow=12,SNR=3.7							
CNJI	**Cibinong**	**4.86**	**255**	P	**P**		**07 34 28.0**	**-1.8**
DBJI	**Dramaga**	**5.11**	**265**	P	**P**		**07 34 30.2**	**-1.5**
	34nm37µm120µm6µm,0.8s							
SKJI	**Sukabumi**	**5.36**	**260**	P	**P**		**07 34 32.3**	**-1.4**
CGJI	**Cibinong**	**6.16**	**265**	P	**P**		**07 34 38.5**	**-1.8**
	27nm85µm7µm,1.0s							
BKB	**Balikpapan**	**6.94**	**46**	P	**P**		**07 34 49.8**	**+2.6**
BKB	**Balikpapan**	**6.94**	**46**	P	**P**		**07 34 48.7**	**+1.5**
	42nm8µm,1.0s							
KASI	**Kota Agung**	**7.36**	**274**	P	**P**		**07 34 49.3**	**-1.6**
	11nm31µm739nm,0.7s							
KSM	**Kuching**	**7.67**	**348**	P	**P**		**07 34 54.8**	**+0.9**
MDSI	**Maura Dua**	**7.82**	**281**	P	**P**		**07 34 53.9**	**-1.3**
KAPI	**Kappang**	**7.92**	**83**	P	**P**		**07 34 55.3**	**-0.9**
	1µm,0.7s,baz=230,slow=4.1,SNR=6.8							
KAPI	**Kappang**	**7.92**	**83**	*d*P	**P**		**07 34 54.6**	**-1.5**
SPSI	**Sidrap Palu**	**8.15**	**75**	P	**P**		**07 34 57.2**	**-1.1**
	6µm,0.9s							
BNSI	**Bone**	**8.37**	**79**	P	**P**		**07 35 00.5**	**+0.1**
TTSI	**Tana Toraja**	**8.48**	**69**	P	**P**		**07 35 01.9**	**+0.5**
	59µm5µm,1.1s							
SBUM	**Sibu**	**8.49**	**2**	P	**P**		**07 35 01.8**	**+0.3**
BSSI	**Bau Bau, Buton**	**8.57**	**91**	P	**P**		**07 35 01.0**	**-1.3**
MASI	**Maura Aman, Be**	**10.03**	**287**	P	**P**		**07 35 15.1**	**-1.4**
	33µm58µm2µm,1.1s							
MMRI	**Maumere**	**10.59**	**104**	P	**P**		**07 35 18.8**	**-3.1**
	5µm,0.8s							
KRJI	**Kerinci**	**11.11**	**291**	P	**P**		**07 35 26.8**	**-0.4**
	34µm2µm,0.8s							
MYKOM	**Kota Tinggi**	**11.20**	**314**	P	**P**		**07 35 28.4**	**+0.5**
TOLI2	**Tolitoli**	**11.42**	**52**	P	**P**		**07 35 30.0**	**-0.1**
BATI	**Baumata**	**12.37**	**110**	P	**P**		**07 35 37.5**	**-1.9**
	2µm,0.5s,baz=122,slow=1.4,SNR=7.1							
BATI				S	**S**		**07 37 50.0**	**-2.7**
	3µm,0.5s,baz=339,slow=21,SNR=1.0							
BKNI	**Bangkinang**	**12.55**	**300**	P	**P**		**07 35 41.4**	**+0.3**
	48µm24µm3µm,0.9s							
PPI	**Padang Panjang**	**12.74**	**296**	P	**P**		**07 35 42.0**	**-1.0**
MYLDM	**Lahad Datu**	**13.01**	**31**	P	**P**		**07 35 48.3**	**+2.8**
KMSI	**Cibinong**	**13.79**	**62**	P	**P**		**07 35 53.7**	**+0.4**
	28µm5µm,1.0s							
SANI	**Sanana**	**14.64**	**75**	P	**P**		**07 36 00.7**	**-0.6**
	781nm,1.1s							
PBSI	**Pulau Batu**	**14.83**	**293**	P	**P**		**07 36 02.3**	**-0.6**
	15µm1µm,1.2s							
IPM	**Ipoh**	**15.08**	**314**	P	**P**		**07 36 06.3**	**+1.0**
NLAI	**Namlea**	**15.44**	**80**	P	**P**		**07 36 09.5**	**+1.0**
	963nm,0.7s							
RPSI	**Rantau Prapat**	**15.60**	**304**	P	**P**		**07 36 10.5**	**+0.6**
RPSI	**Rantau Prapat**	**15.60**	**304**	P	**P**		**07 36 10.8**	**+0.9**
PSI	**Prapat**	**15.65**	**304**	P	**P**		**07 36 10.8**	**+0.2**
	335nm,0.3s,baz=342,slow=12,SNR=47							
PSI				S	**S**		**07 38 48.8**	**+0.4**
	100nm,0.9s,baz=237,slow=23,SNR=2.7							
PSI	**Prapat**	**15.65**	**304**	P	**P**		**07 36 10.5**	**-0.1**
COCO	**West Island**	**16.03**	**247**	P	**P**		**07 36 14.1**	**+0.3**
COCO	**West Island**	**16.03**	**247**	P	**P**		**07 36 14.1**	**+0.3**
GSI	**Gunungsitoli**	**16.05**	**297**	P	**P**		**07 36 14.5**	**+0.4**
GSI	**Gunungsitoli**	**16.05**	**297**	P	**P**		**07 36 13.3**	**-0.8**
	549nm,0.9s							
TSI	**Tuntungan**	**16.35**	**305**	P	**P**		**07 36 18.1**	**+1.3**
TNTI	**Ternate**	**16.91**	**67**	P	**P**		**07 36 22.9**	**+1.0**
	2µm,0.9s							
KCSI	**Kotacane, Aceh**	**17.01**	**304**	P	**P**		**07 36 22.8**	**-0.1**
	9µm835nm,1.2s							
MSAI	**Masohi**	**17.22**	**82**	P	**P**		**07 36 24.0**	**-0.8**
PSA00	**Pilbara Seismi**	**17.22**	**154**	P	**P**		**07 36 25.2**	**+0.5**
PSA00	**Pilbara Seismi**	**17.22**	**154**	P	**P**		**07 36 25.9**	**+1.2**
SNSI	**Sinabang, Aceh**	**17.67**	**298**	P	**P**		**07 36 29.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**17.98**	**133**	S	**S**		**07 39 28.2**	**+2.4**
	156nm,0.6s,baz=220,slow=22,SNR=1.5							
DLV	**Lat**	**18.23**	**349**	P	P		**07 36 35.2**	**+1.1**
MLSI	**Meulaboh, Aceh**	**18.55**	**303**	P	**P**		**07 36 37.0**	**+0.1**
DAV	**Davao City (W)**	**18.92**	**47**	P	**P**		**07 36 42.2**	**+1.9**
DAV	**Davao City (W)**	**18.92**	**47**	P	**P**		**07 36 40.6**	**+0.3**
	1µm,0.8s,baz=66,slow=7.7,SNR=5.8							
SAUI	**Saumlaki**	**19.38**	**97**	P	**P**		**07 36 44.2**	**-0.2**
	2µm,0.8s							
SWI	**Sorong**	**20.03**	**76**	P	**P**		**07 36 50.2**	**-0.1**
	339nm,0.8s							
TGY	**Tagaytay City**	**21.99**	**24**	P	**P**		**07 37 08.6**	**+0.8**
	677nm,0.5s,baz=191,slow=2.9,SNR=9.2							
	677nm,0.5s							
UBPT	**Khong Chiam**	**22.16**	**343**	P	**P**		**07 37 09.8**	**+0.6**
RKPI	**Ransiki, Papua**	**22.71**	**79**	P	**P**		**07 37 13.5**	**-0.8**
	16µm373nm,1.1s							
MORW	**Morawa**	**23.19**	**171**	P	**P**		**07 37 18.9**	**+0.6**
QIZ	**Qiongzhong**	**25.04**	**355**	ScS	ScS		07 47 17.4	-1.6
QIZ	**Qiongzhong**	**25.04**	**355**	pmax	pmax			
	comp=Z,1µm,5.9s							
QIZ	**Qiongzhong**	**25.04**	**355**	pmax	pmax			
	comp=Z,160nm,0.9s							
QIZ	**Qiongzhong**	**25.04**	**355**	P	**P**		**07 37 36.5**	**+1.8**
QIZ	**Qiongzhong**	**25.04**	**355**	sP	sP		07 40 21.3	+1.7
QIZ	**Qiongzhong**	**25.04**	**355**	S	**S**		**07 41 19.6**	**+2.3**
QIZ	**Qiongzhong**	**25.04**	**355**	ScP	**ScP**		**07 43 29.6**	**+0.4**
WRA	**Warramunga Arr**	**25.81**	**124**	P	P		**07 37 41.5**	**0.0**
	110nm,0.7s,baz=299,slow=11,SNR=8.4							
WRA				PcP	**PcP**		**07 40 49.8**	**+0.4**
	57nm,0.7s,baz=307,slow=1.9,SNR=4.6							
WRA				ScP	**ScP**		**07 43 31.9**	**+0.3**
	39nm,0.5s,baz=325,slow=2.2,SNR=5.0							
	110nm,0.7s							
WRAB	**Tennant Creek**	**25.82**	**124**	*c i*P	P		**07 37 41.6**	**0.0**
WRAB				pmax	pmax			
	comp=Z,130nm,0.7s							
PBA	**Port Blair**	**25.94**	**313**	P	P		**07 37 42.8**	**+0.2**
WR8	**Warramunga Arr**	**25.95**	**124**	P	P		**07 37 43.3**	**+0.5**
NWAO	**Narrogin (SRO)**	**27.17**	**170**	P	P		**07 37 53.3**	**+0.1**
	comp=Z,220nm,0.7s,baz=332,slow=9.1,SNR=6.3							
	comp=Z,220nm,0.7s							
ASAR	**Alice Springs**	**27.47**	**132**	P	P		**07 37 56.5**	**+0.5**
	comp=Z,125nm,0.6s,baz=301,slow=8.6,SNR=8.5							
ASAR				PcP	**PcP**		**07 40 54.1**	**+0.7**
	comp=Z,53nm,0.7s,baz=310,slow=2.4,SNR=4.7							
ASAR				ScP	**ScP**		**07 43 37.2**	**+0.6**
	comp=Z,75nm,0.8s,baz=317,slow=2.7,SNR=4.1							
	comp=Z,125nm,0.6s							
CMAR	**Chiang Mai Arr**	**27.52**	**333**	P	P		**07 37 58.0**	**+1.5**
	comp=Z,54nm,0.8s,baz=165,slow=7.6,SNR=7.6							
CMAR				PcP	**PcP**		**07 40 54.1**	**+0.6**
	comp=Z,30nm,0.6s,baz=198,slow=3.0,SNR=11							
CMAR				ScP	**ScP**		**07 43

CD2	**Chengdu**	37.60	349	P	**P**		07 39 22.0	+0.9	
CD2	**Chengdu**	37.60	349	pmax	pmax				
	comp=Z,750nm,0.6s								
STKA	**Stephens Creek**	37.81	137	P	**P**		07 39 22.7	-0.1	
	comp=Z,326nm,0.7s,baz=301,slow=9.4,SNR=10								
	comp=Z,326nm,0.7s								
SSE	**Sheshan**	38.03	13	S	**S**		07 44 35.4	+0.9	
SSE	**Sheshan**	38.03	13	P	**P**		07 39 25.4	+0.9	
SSE	**Sheshan**	38.03	13	pmax	pmax				
	comp=Z,670nm,3.5s								
SSE	**Sheshan**	38.03	13	pmax	pmax				
	comp=Z,170nm,0.8s								
SSE	**Sheshan**	38.03	13	P	**P**		07 39 25.8	+1.3	
NJ2	**Nanjing**	38.51	10	ScS	ScS		07 48 29.8	+1.9	
NJ2	**Nanjing**	38.51	10	pmax	pmax				
	comp=Z,1μm,5.3s								
NJ2	**Nanjing**	38.51	10	pmax	pmax				
	comp=Z,200nm,0.5s								
NJ2	**Nanjing**	38.51	10	⇑*i*P	**P**		07 39 29.8	+1.5	
NJ2	**Nanjing**	38.51	10	ScP	**ScP**		07 44 15.9	+0.8	
NJ2	**Nanjing**	38.51	10	S	**S**		07 44 43.5	+2.1	
H08S2	**Diego Garcia H**	39.11	265	P	**P**		07 39 34.0	+0.7	
	baz=55,slow=9.1,SNR=10								
H08S3	**Diego Garcia H**	39.12	265	P	**P**		07 39 33.8	+0.5	
	baz=55,slow=9.1,SNR=11								
H08S1	**Diego Garcia H**	39.13	265	P	**P**		07 39 34.0	+0.7	
	baz=55,slow=9.1,SNR=20								
DGAR	**Diego Garcia**	39.16	266	P	**P**		07 39 33.7	-0.1	
DGAR	**Diego Garcia**	39.16	266*d*	*i*P	**P**		07 39 34.4	+0.6	
DGAR				pmax	pmax				
	comp=Z,583nm,0.8s								
XAN	**Xi'an**	40.01	356	S	**S**		07 45 01.3	-2.0	
XAN	**Xi'an**	40.01	356	pP	pP		07 41 26.0	+1.4	
XAN	**Xi'an**	40.01	356	pmax	pmax				
	comp=Z,1μm,11.8s								
XAN	**Xi'an**	40.01	356	pmax	pmax				
	comp=Z,830nm,0.6s								
XAN	**Xi'an**	40.01	356	⇑P	**P**		07 39 40.8	+0.4	
XAN	**Xi'an**	40.01	356	P	**P**		07 39 40.3	-0.1	
HYB	**Hyderabad**	40.35	306	*e*SS	SS		07 48 47.4	+13	
HYB	**Hyderabad**	40.35	306	*e*P	**P**		07 39 43.2	-0.2	
HYB	**Hyderabad**	40.35	306	IVmB_BB			07 39 43.3		
	comp=Z,3μm,1.5s								
HYB	**Hyderabad**	40.35	306	*e*PcP	**PcP**		07 41 30.2	-0.9	
HYB	**Hyderabad**	40.35	306	*e*sP	sP		07 42 42.4	+4.9	
HYB	**Hyderabad**	40.35	306	*e*S	**S**		07 45 08.2	-0.6	
HYB	**Hyderabad**	40.35	306	*e*PcS	PcS		07 45 22.2	-0.9	
HYB	**Hyderabad**	40.35	306	*e*ScS	ScS		07 48 36.8	-2.9	
LYN	**LuoYang**	40.42	1	S	**S**		07 45 07.6	-1.6	
LYN	**LuoYang**	40.42	1	pmax	pmax				
	comp=Z,830nm,0.6s								
LYN	**LuoYang**	40.42	1	⇑P	**P**		07 39 44.3	+0.7	
LYN	**LuoYang**	40.42	1	PP	PP		07 41 32.1	-1.8	
HMDM	**Hanimaadhoo**	40.66	288		**P**		07 39 46.3	+0.4	
TIA	**Tai'an**	42.37	6	P	**P**		07 39 58.5	-0.3	
TIA	**Tai'an**	42.37	6	pmax	pmax				
	comp=Z,460nm,0.6s								
LZDM	**Lanzhou Array**	42.52	350	P	**P**		07 40 01.6	+1.2	
	comp=Z,129nm,0.5s,baz=183,slow=10,SNR=22								
LZDM				ScP	**ScP**		07 44 32.7	+1.3	
	comp=Z,24nm,0.6s,baz=189,slow=7.4,SNR=5.1								
	comp=Z,129nm,0.5s								
LZH	**Lanzhou**	42.62	350	S	**S**		07 45 42.9	+1.9	
LZH	**Lanzhou**	42.62	350	pmax	pmax				
	comp=Z,400nm,4.4s								
LZH	**Lanzhou**	42.62	350	pmax	pmax				
	comp=Z,450nm,1.3s								
LZH	**Lanzhou**	42.62	350	⇑P	**P**		07 40 02.8	+1.8	
LZH	**Lanzhou**	42.62	350	ScP	**ScP**		07 44 33.4	+1.8	
JNU	**Nakatsue**	42.97	24	P	**P**		07 40 02.7	-0.9	
HNS	**HongShan**	43.34	3	ScP	**ScP**		07 44 35.8	+1.6	
HNS	**HongShan**	43.34	3	⇑P	**P**		07 40 06.5	+0.2	
HNS	**HongShan**	43.34	3	PcP	**PcP**		07 41 42.3	+1.6	
TIY	**Taiyuan**	43.58	1	P	**P**		07 40 08.5	+0.2	
TIY				pmax	pmax				
	comp=Z,130nm,0.8s								
TJN	**Taejon**	44.67	18	P	**P**		07 40 16.3	-0.3	
TJN	**Taejon**	44.67	18	*c*P	**P**		07 40 16.6	0.0	
INCN	**Inchon**	45.48	17	P	**P**		07 40 22.1	-0.7	
INCN	**Inchon**	45.48	17	P	**P**		07 40 22.1	-0.7	
INCN				pmax	pmax				
	comp=Z,265nm,1.2s								
DL2	**Dalian**	45.67	11	ScS	ScS		07 49 11.8	-0.8	
DL2	**Dalian**	45.67	11	pmax	pmax				
	comp=Z,490nm,5.8s								
DL2	**Dalian**	45.67	11	pmax	pmax				
	comp=Z,360nm,0.8s								
DL2	**Dalian**	45.67	11	⇑*i*P	**P**		07 40 23.8	-0.3	
DL2	**Dalian**	45.67	11	*e*S	**S**		07 46 21.8	-1.6	
KSRS	**Korea Array**	45.84	18	P	**P**		07 40 25.9	+0.5	
	comp=Z,215nm,0.9s,baz=202,slow=7.8,SNR=36								
KSRS				ScP	**ScP**		07 44 46.0	+1.5	
	comp=Z,20nm,1.0s,baz=195,slow=4.2,SNR=4.7								
	comp=Z,215nm,0.9s								
KS19	**Wonju Array Si**	45.86	18	P	**P**		07 40 26.0	+0.4	
BJI	**Beijing**	46.07	5	SS	SS		07 50 08.3	+2.9	
BJI	**Beijing**	46.07	5	pmax	pmax				
	comp=Z,200nm,0.6s								
BJI	**Beijing**	46.07	5	P	**P**		07 40 27.5	+0.4	
BJI	**Beijing**	46.07	5	ScP	**ScP**		07 44 47.6	+2.1	
BJI	**Beijing**	46.07	5	S	**S**		07 46 27.1	-1.8	
BJI	**Beijing**	46.07	5	ScS	ScS		07 49 16.9	+1.7	
BJI	**Beijing**	46.07	5	sS	sS		07 49 50.3	+3.8	
BTO	**Baotou**	46.49	358	S	**S**		07 46 37.5	+2.5	
BTO	**Baotou**	46.49	358	pmax	pmax				
	comp=Z,700nm,5.3s								
BTO	**Baotou**	46.49	358	pmax	pmax				
	comp=Z,950nm,0.7s								
BTO	**Baotou**	46.49	358	*e*P	**P**		07 40 31.8	+1.4	
GTA	**Gaotai**	46.62	347	ScS	ScS		07 49 18.6	-0.7	
GTA	**Gaotai**	46.62	347	pmax	pmax				
	comp=Z,130nm,1.3s								
GTA	**Gaotai**	46.62	347	P	**P**		07 40 33.8	+2.3	
GTA	**Gaotai**	46.62	347	PcP	**PcP**		07 41 53.6	+1.2	
GTA	**Gaotai**	46.62	347	ScP	**ScP**		07 44 49.8	+1.7	
GTA	**Gaotai**	46.62	347	S	**S**		07 46 39.0	+2.1	
HHC	**Hu-ho-hao-te**	46.71	360	sS	sS		07 49 59.4	+3.1	
HHC	**Hu-ho-hao-te**	46.71	360	pmax	pmax				
	comp=Z,540nm,5.2s								
HHC	**Hu-ho-hao-te**	46.71	360	pmax	pmax				
	comp=Z,180nm,0.7s								
HHC	**Hu-ho-hao-te**	46.71	360	*e*P	**P**		07 40 32.3	+0.2	
HHC	**Hu-ho-hao-te**	46.71	360	S	**S**		07 46 38.5	+0.5	
INU	**Inuyama**	47.53	28	pP	pP		07 42 27.5	-0.8	
INU	**Inuyama**	47.53	28	P	**P**		07 40 37.3	-0.9	
SNY	**Shenyang**	48.87	12	S	S		07 46 58.1	-9.2	
SNY	**Shenyang**	48.87	12	pmax	pmax				
	comp=Z,1μm,3.7s								
SNY	**Shenyang**	48.87	12	pmax	pmax				
	comp=Z,250nm,0.8s								
SNY	**Shenyang**	48.87	12	⇑P	**P**		07 40 47.3	-0.6	
SNY	**Shenyang**	48.87	12	pP	pP		07 42 44.6	+5.5	
SNY	**Shenyang**	48.87	12	sP	sP		07 43 46.9	+0.3	
MAJO	**Matsushiro**	49.06	28	*c*P	**P**		07 40 48.2	-1.3	
MAJO				pmax	pmax				
	comp=Z,250nm,0.8s								
MJAR	**Matsushiro Arr**	49.06	28	P	**P**		07 40 48.5	-1.1	
	comp=Z,283nm,0.8s,baz=200,slow=7.7,SNR=38								
MJAR				ScP	**ScP**		07 44 59.1	+0.7	
	comp=Z,17nm,0.7s,baz=185,slow=4.2,SNR=6.0								
	comp=Z,283nm,0.8s								
XLT	**XiLinHaoTe**	49.90	4	ScP	**ScP**		07 45 02.3	+0.4	
XLT	**XiLinHaoTe**	49.90	4	pmax	pmax				
	comp=Z,200nm,1.0s								
XLT	**XiLinHaoTe**	49.90	4	*e*P	**P**		07 40 56.0	+0.4	
XLT	**XiLinHaoTe**	49.90	4	PcP	**PcP**		07 42 04.4	+0.1	
CN2	**Changchun**	51.16	13	PP	PP		07 43 11.5	+0.9	
CN2	**Changchun**	51.16	13	pmax	pmax				
	comp=Z,160nm,0.9s								
CN2	**Changchun**	51.16	13	P	**P**		07 41 03.8	-0.7	
PSTR	**Posyet**	51.48	18	*c*eP	**P**		07 41 06.7	-0.1	
MSHR	**Mys Shultsa**	51.52	18	⇓*i*P	**P**		07 41 06.3	-0.9	
MSHR				pmax	pmax				
	comp=Z,79nm,1.0s								
VLA	**Vladivostok**	52.24	18	*d*iP	**P**		07 41 12.4	+0.1	
VLA				pmax	pmax				
	comp=Z,254nm,1.2s								
MDJ	**Mudanjiang**	52.93	16	S	**S**		07 48 02.6	+1.1	
MDJ	**Mudanjiang**	52.93	16	pmax	pmax				
	comp=Z,190nm,0.9s								
MDJ	**Mudanjiang**	52.93	16	P	**P**		07 41 17.3	+0.1	
USRK	**Ussuriysk Ar.**	53.25	18	P	**P**		07 41 19.5	+0.1	
	comp=Z,306nm,0.9s,baz=201,slow=5.3,SNR=24								
	comp=Z,306nm,0.9s								
BNX	**BinXian**	53.43	14	SS	**SS**		07 52 05.6	+4.3	
BNX	**BinXian**	53.43	14	pmax	pmax				
	comp=Z,420nm,5.7s								
BNX	**BinXian**	53.43	14	pmax	pmax				
	comp=Z,290nm,0.9s								
BNX	**BinXian**	53.43	14	⇑P	**P**		07 41 20.6	-0.1	
BNX	**BinXian**	53.43	14	PcP	**PcP**		07 42 19.3	+1.8	
BNX	**BinXian**	53.43	14	PP	PP		07 43 31.0	+0.2	
BNX	**BinXian**	53.43	14	S	**S**		07 48 10.1	+2.1	
ULN	**Ulaanbaatar**	53.89	356	*d*iP	**P**		07 41 23.5	-0.6	
ULN				pmax	pmax				
	comp=Z,214nm,1.2s								
ULN	**Ulaanbaatar**	53.89	356	P	**P**		07 41 24.6	+0.5	
SONM	**Songino Array**	53.91	355	P	**P**		07 41 23.8	-0.4	
	comp=Z,77nm,0.6s,baz=174,slow=8.4,SNR=18								
SONM				ScP	**ScP**		07 45 20.4	+1.1	
	comp=Z,54nm,0.8s,baz=169,slow=3.8,SNR=9.4								
SONM				P3KP			08 10 14.6		
	comp=Z,0.7nm,0.5s,baz=129,slow=0.9,SNR=4.6								
	comp=Z,77nm,0.6s								
WMQ	**Urumqi**	54.27	339	S	**S**		07 48 17.4	-1.8	
WMQ	**Urumqi**	54.27	339	pmax	pmax				
	comp=Z,130nm,0.7s								
WMQ	**Urumqi**	54.27	339	*e*P	P		07 41 32.3	+5.6	
WMQ	**Urumqi**	54.27	339	pP	pP		07 43 27.5	+6.0	
HIA	**Hailar**	55.55	6*c*	*i*P	**P**		07 41 35.1	-0.3	
HIA				pmax	pmax				
	comp=Z,75nm,1.3s								
PAF	**Port-aux-Franc**	55.56	212	P	**P**		07 41 36.4	+1.0	
PAF				IAmb	IAmb		07 41 37.9		
	comp=Z,342nm,0.8s								
PAF	**Port-aux-Franc**	55.56	212	P	**P**		07 41 36.4	+1.0	
PAF				pmax	pmax				
	comp=Z,342nm,0.8s								
ERM	**Erimo**	55.74	28	P	**P**		07 41 36.6	-0.2	
ERM	**Erimo**	55.74	28	P	**P**		07 41 36.6	-0.2	
ERM				pmax	pmax				
	comp=Z,135nm,1.0s								
ERM	**Erimo**	55.74	28	P	**P**		07 41 36.9	+0.1	
MSEY	**Mahe Island**	56.14	268	P	**P**		07 41 39.9	-0.3	
MSEY	**Mahe Island**	56.14	268	P	**P**		07 41 39.9	-0.3	
MSEY				pmax	pmax				
	comp=Z,120nm,0.7s								
KSH	**Kashi**	56.20	327	P	**P**		07 41 39.6	-0.6	
KSH	**Kashi**	56.20	327	pmax	pmax				
	comp=Z,140nm,0.7s								
TARG	**Taragay, Kyrgy**	56.85	330	P	**P**		07 41 47.3	+2.3	
TARG	**Taragay, Kyrgy**	56.85	330	P	**P**		07 41 47.3	+2.3	
TARG				pmax	pmax				
	comp=Z,60nm,0.9s								
ASAJ	**Asahikawa**	57.14	26	P	**P**		07 41 45.6	-0.8	
ASAJ				pmax	pmax				
	comp=Z,88nm,0.7s								
JKA	**Kamikawa-asahi**	57.14	26		**P**		07 41 45.6	-0.8	
SHLS	**Shalkode**	57.14	332	*e*P	**P**		07 41 45.5	-1.1	
SHLS	**Shalkode**	57.14	332	*e*P	**P**		07 41 45.4	-1.1	
UZB	**Uzynbulak**	57.34	332	*e*P	**P**		07 41 47.9	-0.1	
UZB	**Uzynbulak**	57.34	332	*e*P	**P**		07 41 47.8	-0.1	
KDJ	**Kajisay**	57.46	330		**P**		07 41 49.3	+0.4	
KDJ	**Kajisay**	57.46	330	P	**P**		07 41 49.3	+0.4	
KDJ				pmax	pmax				
	comp=Z,115nm,0.9s								
SATY	**Saty**	57.56	331	*e*P	**P**		07 41 49.3	-0.1	
SATY	**Saty**	57.56	331	*e*P	**P**		07 41 49.3	-0.1	
HEH	**HeiHe**	57.71	12	ScS	**ScS**		07 50 33.3	-3.7	
HEH	**HeiHe**	57.71	12	pmax	pmax				
	comp=Z,200nm,1.4s								
HEH	**HeiHe**	57.71	12	*e*P	**P**		07 41 50.0	-0.1	
HEH	**HeiHe**	57.71	12	pP	pP		07 43 47.9	+0.8	
HEH	**HeiHe**	57.71	12	S	**S**		07 49 02.3	-0.7	
TNSS	**Tian-Shan**	58.25	330	*e*P	**P**		07 41 53.9	-0.5	
TNSS	**Tian-Shan**	58.25	330	*e*P	**P**		07 41 53.9	-0.5	
MDOK	**Medeo**	58.30	331	*e*P	**P**		07 41 54.5	0.0	
MDOK	**Medeo**	58.30	331	*e*P	**P**		07 41 54.4	0.0	
BOOM	**Boomskoye usch**	58.35	329	P	**P**		07 41 54.4	-0.4	
BOOM	**Boomskoye usch**	58.35	329	P	**P**		07 41 54.4	-0.4	
AAA	**Alma-Ata**	58.40	331	*e*P	**P**		07 41 54.7	-0.3	
AAA	**Alma-Ata**	58.40	331	*e*P	**P**		07 41 54.6	-0.3	
ZSN	**Zaisan**	58.40	339	*e*P	**P**		07 41 54.5	-0.3	
ZSN	**Zaisan**	58.40	339	*e*P	**P**		07 41 54.5	-0.3	
MK31	**Makanchi Array**	58.83	337	*c* *i*P	**P**		07 41 57.2	-0.5	
MKAR	**Makanchi Array**	58.83	337	P	**P**		07 41 56.8	-0.9	
MKAR	**Makanchi Array**	58.83	337	P	**P**		07 41 57.4	-0.3	
	comp=Z,39nm,0.3s,baz=149,slow=7.1,SNR=15								
MKAR				PcP	**PcP**		07 42 39.3	+0.4	
	comp=Z,29nm,0.5s,baz=150,slow=4.6,SNR=4.8								
MKAR				P3KP			08 10 05.8		
	comp=Z,3.9nm,1.1s,baz=270,slow=0.9,SNR=5.6								
	comp=Z,39nm,0.3s								
MKAR	**Makanchi Array**	58.83	337	P	**P**		07 41 56.8	-0.9	
TDK	**Taldyqorghan**	59.05	333	*e*P	**P**		07 41 58.8	-0.4	
	comp=Z,165nm,0.6s								
TDK	**Taldyqorghan**	59.05	333	*e*P	**P**		07 41 58.8	-0.4	
TDK				pmax	pmax				
	comp=Z,165nm,0.6s								
AAK	**Ala-Archa**	59.20	329	P	**P**		07 42 00.2	-0.3	
AAK	**Ala-Archa**	59.20	329	P	**P**		07 42 01.3	+0.9	
	comp=Z,80nm,0.8s,baz=152,slow=6.3,SNR=12								
AAK				P3KP			08 10 07.4		
	comp=Z,1.0nm,0.3s,baz=93,slow=2.2,SNR=4.9								
	comp=Z,80nm,0.8s								
AAK	**Ala-Archa**	59.20	329	*d*iP	**P**		07 42 00.9	+0.4	
AAK				pmax	pmax				
	comp=Z,106nm,0.9s								
H11S3	**WAKE ISLAND Hy**	59.30	64	P	**P**		07 42 00.7	-0.5	
H11S2	**WAKE ISLAND Hy**	59.32	64	P	**P**		07 42 01.9	+0.6	
	baz=77,slow=74,SNR=4.5								
H11S1	**WAKE ISLAND Hy**	59.32	64	P	**P**		07 42 01.7	+0.4	
	baz=253,slow=74,SNR=3.0								
YSS	**Yuzhno-Sakhali**	59.48	24		**P**		07 42 02.3	+0.3	
YSS				IAmb	IAmb		07 42 03.2		
	comp=Z,515nm,1.3s								
YSS	**Yuzhno-Sakhali**	59.48	24α	*i*P	**P**		07 42 01.8	-0.2	
YSS				*e*PP	**pP**		07 44 00.0	-0.1	
YSS				*e*S	**S**		07 49 21.8	-3.5	
YSS				pmax	pmax				
	comp=Z,800nm,2.0s								
YSS				pmax	pmax				
	comp=Z,240nm,1.3s								
YSS	**Yuzhno-Sakhali**	59.48	24	sP	sP		07 45 09.1	+3.6	
YSS	**Yuzhno-Sakhali**	59.48	24	P	**P**		07 42 02.1	+0.1	
WAKE	**Wake Island**	59.53	64	P	**P**		07 42 02.6	-0.3	
SIMJ	**Simiganj**	59.66	322	P	**P**		07 42 01.6	-1.9	
SGDS	**Sogindy**	59.71	329	*e*P	**P**		07 42 03.1	-0.6	
H11N1	**WAKE ISLAND Hy**	59.89	63	P	**P**		07 42 05.2	+0.3	
	baz=15,slow=76,SNR=6.1								
H11N2	**WAKE ISLAND Hy**	59.90	63	P	**P**		07 42 05.3	+0.3	
	baz=15,slow=76,SNR=5.7								
H11N3	**WAKE ISLAND Hy**	59.91	63	P	**P**		07 42 05.4	+0.3	
	baz=15,slow=76,SNR=11								
DZA	**Taraz**	61.05	327	*e*P	**P**		07 42 12.2	-0.3	
DZA	**Taraz**	61.05	327	*e*P	**P**		07 42 12.2	-0.3	
BTLS	**Baital**	61.14	330	*e*P	**P**		07 42 12.6	-0.4	
BTLS	**Baital**	61.14	330	*e*P	**P**		07 42 12.6	-0.4	
IUG	**Iuzhnay**	61.28	326	*e*P	**P**		07 42 14.5	+0.4	
	comp=Z,187nm,0.8s								
IUG	**Iuzhnay**	61.28	326	*e*P	**P**		07 42 14.5	+0.4	
IUG				pmax	pmax				
	comp=Z,187nm,0.8s								
KK31	**Karatay Array**	61.64	327	P	**P**		07 42 15.9	-0.4	
KK31	**Karatay Array**	61.64	327	*e*P	**P**		07 42 15.6	-0.7	
KKAR	**Karatay Array**	61.64	327	P	**P**		07 42 15.8	-0.5	
KKAR	**Karatay Array**	61.64	327	P	**P**		07 42 15.8	-0.5	
BRLS	**Boroldoy**	61.97	326	*e*P	**P**		07 42 18.0	-0.5	
BRLS	**Boroldoy**	61.97	326	*e*P	**P**		07 42 17.9	-0.5	
UOSS	**Minazif**	62.29	302	P	**P**		07 42 19.7	-1.1	
UOSS	**Minazif**	62.29	302	pP	pP		07 44 22.3	+1.6	
UOSS	**Minazif**	62.29	302	P	**P**		07 42 20.2	-0.7	
JCZ	**Jackson Bay**	62.34	137	P	**P**		07 42 21.0	+0.1	
MLZ	**Mavora Lakes**	62.34	139	P	**P**		07 42 20.9	+0.1	
WHZ	**Wether Hill Ro**	62.42	139	P	**P**		07 42 21.4	+0.1	
TYV	**Tymovskoe**	62.62	21	*e*P	**P**		07 42 22.8	+0.4	
TYV				*e*S	**S**		07 50 02.7	-1.1	
TYV				pmax	pmax				
	comp=Z,20nm,1.1s								
TYV				pmax	pmax				
	comp=Z,400nm,3.3s								
TYV				smax	smax				
	comp=N,16nm,1.8s								
TYV				smax	smax				
	comp=E,41nm,1.8s								
TYV				smax	smax				
	comp=N,800nm,6.2s								
TYV				smax	smax				
	comp=E,1μm,6.2s								
WKZ	**Wanaka**	62.75	138	P	**P**		07 42 23.5	+0.1	
WKZ				IAmb	IAmb		07 43 34.7		
	comp=Z,195nm,0.9s								
WKZ	**Wanaka**	62.75	138	P	**P**		07 42 23.4	-0.1	
KURBB	**Kurchatov Arra**	63.39	337	P	**P**		07 42 26.8	-0.5	
	comp=Z,39nm,0.7s,baz=152,slow=5.7,SNR=4.8								
KURBB				PcP	**PcP**		07 42 57.6	+0.2	
	comp=Z,41nm,0.9s,baz=148,slow=3.7,SNR=8.2								
	comp=Z,39nm,0.7s								
KURBB	**Kurchatov Arra**	63.39	337	P	**P**		07 42 26.5	-0.8	
LBZ	**Lake Benmore**	63.39	137	P	**P**		07 42 26.9	-0.6	
LBZ	**Lake Benmore**	63.39	137	P	**P**		07 42 26.6	-0.9	
KURK	**Kurchatov**	63.42	337	P	**P**		07 42 27.4	-0.1	
KURK	**Kurchatov**	63.42	337	*d*iP	**P**		07 42 27.6	+0.1	
KURK				pmax	pmax				
	comp=Z,66nm,0.8s								
TUZ	**Tuapeka**	63.54	139	P	**P**		07 42 28.5	+0.1	
DSZ	**Denniston Nort**	63.73	134	P	**P**		07 42 29.0	-0.8	
RPZ	**Rata Peaks**	63.77	136	P	**P**		07 42 29.4	-0.6	
ZAA0	**Zalesovo Array**	63.99	343	P	**P**		07 42 30.8	-0.3	
ZALV	**Zalesovo Beam**	63.99	343	P	**P**		07 42 30.9	-0.1	
	comp=Z,44nm,0.5s,baz=148,slow=5.0,SNR=9.9								
ZALV				S	**S**		07 50 18.5	-1.7	
	comp=Z,23nm,0.8s,baz=151,slow=12,SNR=12								
ZALV				PKPPKP	**P'P'df**		08 11 17.6	+4.9	
	comp=Z,3.9nm,0.9s,baz=221,slow=23,SNR=5.8								
	comp=Z,44nm,0.5s								
QRZ	**Quartz Range**	64.00	133	P	**P**		07 42 31.7	+0.2	
ABPO	**Ambohimpanom**	64.08	252	P	**P**		07 42 32.6	0.0	
MRNZ	**Matariki Terra**	64.32	133	P	**P**		07 42 33.4	0.0	
LTZ	**Lake Taylor**	64.35	135	P	**P**		07 42 32.7	-1.0	
FOMA	**Nahampoana Res**	64.71	245		**P**		07 42 36.5	+0.3	
FOMA				IAmb	IAmb		07 42 37.5		
	comp=Z,179nm,0.8s								
NNZ	**Nelson**	64.72	133	P	**P**		07 42 35.6	-0.4	
NEZ	**North Egmont**	64.78	131	P	**P**		07 42 37.9	+1.4	
H04N2	**CROZET ISLANDS**	65.12	222	P	**P**		07 42 40.7	+2.6	
	baz=61,slow=6.0,SNR=13								
MKAZ	**Moumakai**	65.13	128	P	**P**		07 42 39.2	+0.6	
H04N1	**CROZET ISLANDS**	65.14	222	P	**P**		07 42 39.9	+1.7	
H04N3	**CROZET ISLANDS**	65.14	222	P	**P**		07 42 40.4	+2.1	
KHZ	**Kahutara**	65.15	134	P	**P**		07 42 38.0	-0.6	
KHZ				IAmb	IAmb		07 43 49.0		
	comp=Z,519nm,1.4s								
KHZ	**Kahutara**	65.15	134	P	**P**		07 42 38.4	-0.2	
VRZ	**Vera Road**	65.25	130	P	**P**		07 42 40.0	+0.7	
H04S1	**CROZET ISLANDS**	65.27	221	P	**P**		07 42 40.7	+1.6	
	baz=84,slow=5.3,SNR=4.4								
H04S3	**CROZET ISLANDS**	65.28	221	P	**P**		07 42 40.7	+1.5	
	baz=84,slow=5.3,SNR=6.1								
H04S2	**CROZET ISLANDS**	65.28	221	P	**P**		07 42 40.6	+1.5	
BRZS	**Berezniki**	65.35	333	*e*P	**P**		07 42 40.2	+0.4	
BRZS	**Berezniki**	65.35	333	*e*P	**P**		07 42 40.1	+0.4	
TCW	**Tory Channel**	65.38	133	P	**P**		07 42 40.2	+0

GNI Garni 76.78 313 P **P** **07 43 47.4 +0.6**
GNI Garni 76.78 313 P **P** **07 43 47.4 +0.6**
GNI pmax pmax
comp=Z,150nm,1.2s
LODK Lodwar 76.97 275 P **P** **07 43 48.6 +0.3**
GEVA Gevas 77.42 311 P **P** **07 43 50.8 +0.4**
GEVA IAmb IAmb 07 43 52.2
comp=Z,267nm,1.1s
SYO Syowa Base 78.03 201⇓ *i*P **P** **07 43 53.2 +0.5**
SYO Syowa Base 78.03 201⇓ *i*pP pP 07 46 05.6 +6.1
GURO Guroymak-BITLI 78.27 311 P **P** **07 43 54.9 +0.1**
GURO IAmb IAmb 07 43 56.4
comp=Z,202nm,0.6s
TIXI Tiksi 78.39 5 P **P** **07 43 53.2 -1.3**
comp=Z,60nm,0.9s,baz=195,slow=3.9,SNR=7.3
comp=Z,60nm,0.9s
TIXI Tiksi 78.39 5*d i*P **P** **07 43 54.7 +0.2**
TIXI pmax pmax
comp=Z,86nm,0.9s
NCK Nalchik 78.72 316⇓ *e*P **P** **07 43 58.5 +1.6**
NCK pmax pmax
comp=Z,112nm,0.6s
MARD Mardin 78.85 310 **P** **07 43 57.8 -0.1**
MARD IAmb IAmb 07 43 59.0
comp=Z,129nm,0.6s
NEUR Neytrino 79.26 316 *i* P **P** **07 44 01.6 +1.6**
NEUR pmax pmax
comp=Z,91nm,1.1s
KBZ Khabaz 79.27 316 P **P** **07 44 00.6 +0.8**
comp=Z,100nm,0.8s,baz=133,slow=4.5,SNR=16
KBZ PKKPbc **PKKPbc** **08 02 46.0 -0.2**
comp=Z,5.2nm,0.8s,baz=202,slow=2.5,SNR=7.0
comp=Z,100nm,0.8s
KBZ Khabaz 79.27 316*d i*P **P** **07 43 59.3 -0.5**
KBZ pmax pmax
comp=Z,144nm,0.9s
SHA1 Shidzhatmaz 79.44 316*d i*P **P** **07 44 01.6 +0.6**
KIV Kislovodsk 79.49 317 **P** **07 44 01.7 +0.6**
KIV IAmb IAmb 07 44 04.9
comp=Z,116nm,0.8s
KIV Kislovodsk 79.49 317 *e*P **P** **07 44 01.4 +0.3**
KIV *e*S **S** **07 53 13.1 -0.2**
KIV pmax pmax
comp=Z,115nm,1.1s
BELG Belogornoye 79.54 326*d i*P **P** **07 44 01.0 +0.1**
BELG pmax pmax
comp=Z,41nm,1.0s
VSLR Vesyoloye 81.17 316*d i*P **P** **07 44 10.1 +0.4**
VSLR pmax pmax
comp=Z,340nm,0.9s
KIRV Kirov 81.31 332*d i*P **P** **07 44 09.6 -0.3**
SOC Sochi 81.42 316 *e*P **P** **07 44 10.3 -0.6**
SOC *e**PP **pP** **07 46 25.0 +4.7**
SOC *e* 07 47 20.2
SOC *e*S **S** **07 53 30.7 -1.9**
SOC *e*SS **SS** **07 59 14.4 +6.3**
SOC *e*SSS SSS 08 02 46.2
ERBR Yeremizino-Bor 81.53 318 *e*P **P** **07 44 10.5 -0.9**
ERBR *e**PP **pP** **07 46 16.1 -4.8**
ERBR *e* 07 47 27.8
ERBR *e*S **SKSac** **07 53 31.3 -1.8**
ERBR pmax pmax
comp=Z,117nm,0.7s
GHAJ Ghor Haditha 81.54 303 P **P** **07 44 11.9 +0.2**
GAZ Gaziantep 81.56 309 P **P** **07 44 12.4 +0.5**
GAZ IAmb IAmb 07 44 14.1
comp=Z,194nm,1.0s
MATP Matopo 81.70 250 P P 07 44 17.9 +4.9
comp=Z,200nm,0.5s,baz=114,slow=4.6,SNR=49
HWQ Hawqa 81.88 306 *e*P **P** **07 44 14.4 +0.7**
BHL Bhannes 82.03 305 *e*P **P** **07 44 15.5 +1.1**
MMAI Mount Meron Ar 82.04 304 P **P** **07 44 16.2 +1.8**
comp=Z,136nm,0.8s,baz=116,slow=5.7,SNR=29
comp=Z,136nm,0.8s
LSZ Lusaka 82.34 255 P **P** **07 44 16.9 +0.6**
comp=Z,161nm,0.5s,baz=94,slow=5.8,SNR=31
comp=Z,161nm,0.5s
LSZ Lusaka 82.34 255 pP pP 07 46 28.8 +2.7
LSZ Lusaka 82.34 255 P **P** **07 44 16.9 +0.6**
VRH Novokhopyorsk 82.50 323 *e*P **P** **07 44 14.5 -1.6**
VRH pmax pmax
comp=Z,180nm,0.8s
MREMI Moremi 82.56 248 *i* P **P** **07 44 17.9 +0.6**
BROLN Tlhalogang 82.75 250 *i* P **P** **07 44 18.9 +0.6**
GRHM Grahamstown, E 82.93 237 **P** **07 44 19.2 +0.4**
BILL Bilibino 83.10 18⇓ *e*P **P** **07 44 19.4 +0.6**
BILL pmax pmax
comp=Z,18nm,0.8s
ANN Anapa 83.34 316 *e*P **P** **07 44 20.0 -0.5**
ANN *e**PP **pP** **07 46 26.1 -4.6**
ANN *e* 07 47 42.2
ANN *e*S **SKSac** **07 53 43.2 -1.5**
ANN pmax pmax
comp=Z,188nm,0.9s
SOOWA Sowa 83.83 250 *i* P **P** **07 44 24.6 +0.9**
VORD Divnogorie 83.88 323 *e*P **P** **07 44 21.3 -1.7**
VORD pmax pmax
comp=Z,160nm,1.0s
QSPA South Pole Qui 83.89 180 P **P** **07 44 25.0 +2.0**
comp=Z,83nm,0.7s,baz=292,slow=0.8,SNR=15
QSPA PKKPbc **PKKPbc** **08 02 34.5 -2.9**
comp=Z,3.2nm,0.5s,baz=271,slow=0.8,SNR=18
comp=Z,83nm,0.7s
LPHEP Lephephe 83.96 247 *i* P **P** **07 44 25.3 +1.0**
VSR Storozhevoye 84.03 323 *e*P **P** **07 44 21.7 -2.0**
VSR pmax pmax
comp=Z,280nm,0.8s
LBTB Lobatse 84.09 246 P **P** **07 44 25.2 +0.4**
comp=Z,83nm,0.6s,baz=114,slow=4.8,SNR=31
comp=Z,83nm,0.6s
CSS Mathiatis 84.13 306 **P** **07 44 24.8 +0.1**
CSS IAmb IAmb 07 44 26.5
comp=Z,202nm,1.0s
VORR Voronezh 84.14 323 *e*P **P** **07 44 22.8 -1.5**
VORR pmax pmax
comp=Z,190nm,0.8s
BOSA Boshof 84.15 242 P **P** **07 44 25.7 +0.6**
comp=Z,65nm,0.5s,baz=111,slow=3.9,SNR=36
BOSA PKKPbc **PKKPbc** **08 02 35.1 +0.6**
comp=Z,2.6nm,0.7s,baz=285,slow=2.8,SNR=4.2
comp=Z,65nm,0.5s
KHWEE KHWEE 84.44 249 *i* P **P** **07 44 27.2 +0.5**
LPSR Galich'ya Gora 84.58 324 *e*P **P** **07 44 25.4 -1.0**
LPSR pmax pmax
comp=Z,390nm,0.9s
MAKGR Makgori 84.75 245 P **P** **07 44 27.6 -0.5**
MAKGR IAmb IAmb 07 44 29.0
comp=Z,81nm,0.8s
BR131 Keskin Array S 84.87 311*c i*P **P** **07 44 27.9 -0.5**
BRTR Keskin Array B 84.87 311 P **P** **07 44 27.6 -0.8**
comp=Z,156nm,0.8s,baz=131,slow=5.2,SNR=36
comp=Z,156nm,0.8s
KSANE Kasane 85.04 253 *i* P **P** **07 44 29.9 +0.3**
KDWAN Kaudwane 85.06 247 *i* P **P** **07 44 30.7 +1.1**
BZK Bozkurt 85.08 313 P **P** **07 44 29.5 +0.4**
ILGA Ilgaz 85.10 312 **P** **07 44 28.9 -0.6**
ILGA IAmb IAmb 07 44 30.6
comp=Z,96nm,0.7s
PHDHD Phuduhudu 85.43 250 *i* P **P** **07 44 32.1 +0.7**
PHDHD Phuduhudu 85.43 250 P **P** **07 44 31.4 0.0**
ANTO Ankara 85.54 311 P **P** **07 44 31.4 -0.1**
SKOMA Sekoma 85.63 246 *i* P **P** **07 44 33.3 +1.0**
SIM Simferopol' 85.66 316 *e*P **P** **07 44 32.5 +0.7**
SIM *e*S **S** **07 54 15.9 +2.0**
SIM pmax pmax
comp=Z,138nm,0.8s
SIM smax smax
comp=E,270nm,18.6s
MOS Moscow 86.22 327 *e*P **P** **07 44 32.7 -1.5**
MOS *e*S **S** **07 54 15.9 -2.8**
MOS pmax pmax
comp=Z,142nm,1.0s
MOS pmax pmax
comp=Z,300nm,1.6s
MOS smax smax
comp=N,2μm,4.0s
PHPEN Phepeng 86.53 245 *i* P **P** **07 44 37.5 +1.0**
OBN Obninsk 86.63 326*d i*P **P** **07 44 36.2 +0.1**
OBN pmax pmax
comp=Z,215nm,1.1s
OBN Obninsk 86.63 326 pP pP 07 46 50.0 +2.3
OBN Obninsk 86.63 326 P **P** **07 44 35.9 -0.2**
KLMR Klimovskoe 86.81 332 *e*P **P** **07 44 34.4 -2.4**
KLMR *e*S **SKSac** **07 54 03.6 -1.8**
KLMR 07 54 18.3
KLMR pmax pmax
comp=Z,60nm,0.6s
MDUB Mudurnu 86.86 311 P **P** **07 44 37.8 +0.1**
MDUB IAmb IAmb 07 44 40.0
comp=Z,84nm,0.7s
KGCAE Kacgae 87.36 247 *i* P **P** **07 44 41.7 +1.2**
SUR Sutherland 87.67 238 P **P** **07 44 42.5 +0.6**
GMARE Gumare 87.73 251 *i* P **P** **07 44 43.0 +0.8**
GRTLG Ghanzi 88.42 249 *i* P **P** **07 44 46.3 +0.8**
GRTLG Ghanzi 88.42 249 P **P** **07 44 45.5 +0.1**
GRTLG IAmb IAmb 07 44 47.4
comp=Z,238nm,1.6s
MANT Manisa 88.53 309 **P** **07 44 45.3 -0.4**
MANT IAmb IAmb 07 44 46.5
comp=Z,55nm,0.7s
KARP Karpathos 89.21 306 **P** **07 44 48.0 -0.6**
TIRR Tirgusor 89.56 315 **P** **07 44 49.0 -1.0**
TIRR IAmb IAmb 07 44 50.7
comp=Z,50nm,0.9s
TIRR Tirgusor 89.56 315 P **P** **07 44 49.0 -1.0**
TIRR pmax pmax
comp=Z,50nm,0.9s
AKASG Malin Array Be 90.02 321 P **P** **07 44 50.3 -1.7**
AKASG IAmb IAmb 07 44 52.3
comp=Z,94nm,1.1s
AKASG Malin Array Be 90.02 321 P **P** **07 44 51.2 -0.7**
comp=Z,20nm,0.5s,baz=88,slow=4.6,SNR=40
AKASG PKiKP **PKiKP** **07 49 43.4 -0.1**
comp=Z,2.2nm,0.5s,baz=76,slow=2.4,SNR=5.5
AKASG PKKP **PKKPdf** **08 02 17.6 +1.2**
comp=Z,1.6nm,0.3s,baz=285,slow=3.2,SNR=8.1
comp=Z,20nm,0.5s
AKBB Malin Array Si 90.02 321 **P** **07 44 49.9 -2.1**
AKBB IAmb IAmb 07 44 52.2
comp=Z,75nm,1.1s
AKBB Malin Array Si 90.02 321*de*P **P** **07 44 50.3 -1.7**
AKBB pmax pmax
comp=Z,49nm,0.7s
KIEV Kiev 90.03 321 **P** **07 44 50.6 -1.4**
KIEV IAmb IAmb 07 44 52.2
comp=Z,74nm,1.1s
KIEV Kiev 90.03 321 P **P** **07 44 50.6 -1.4**
KIEV pmax pmax
comp=Z,74nm,1.1s
TROLL Troll, Antarti 90.12 197 ⇑P **P** **07 44 53.1 +0.8**
comp=Z,3μm,1.1s
TROLL ⇓PKKPbc **PKKPdf** **08 02 17.9 +1.9**
ALN Alexandroupoli 90.79 311 P **P** **07 44 54.8 -1.0**
ALN IAmb IAmb 07 44 56.3
comp=Z,83nm,1.3s
ALN Alexandroupoli 90.79 311 P **P** **07 44 54.8 -1.0**
ALN pmax pmax
comp=Z,83nm,1.3s
PUL Pulkovo 90.97 330⇓ *e*P **P** **07 44 57.2 +1.1**
PUL pmax pmax
comp=Z,72nm,0.7s
IDI Anoyia 91.01 305 P **P** **07 44 56.7 -0.4**
APA Apatity 91.20 338⇓ *e*P **P** **07 44 57.3 +0.2**
APA *e**PP **pP** **07 47 13.8 +3.8**
APA *e* 07 48 45.2
APA MLR MLR
comp=Z,930nm,4.7s
MNK Minsk 91.42 325 *i* P **P** **07 44 57.2 -1.1**
comp=E,38nm,1.0s
MNK *i* P **P** **07 44 57.2 -1.1**
comp=N,39nm,1.0s
MNK *i* P **P** **07 44 57.2 -1.1**
comp=Z,65nm,0.9s,baz=98
MNK *i* pP **pP** **07 47 05.8 -5.5**
MNK *i* PP **PP** **07 48 47.0 -0.7**
MNK *i* PPP PPP 07 50 51.3
MNK *i* S S 07 54 32.1 -34
MNK *i* sS sS 07 58 38.4 -25
MNK *i* SS **SS** **08 01 32.5 +1.0**
MNK *i* SSS SSS 08 05 19.8
MNK *i* LRM MLR 08 28 16.8
comp=E,293nm,17.5s
MNK *i* LRM MLR 08 29 28.5
comp=Z,328nm,20.5s
MNK Minsk 91.42 325 *i* P **P** **07 44 57.2 -1.1**
MNK *i **PP **pP** **07 47 05.7 -5.5**
MNK *i* 07 48 46.9
MNK *i* PPP PPP 07 50 51.2
MNK *i* S **SKSac** **07 54 32.0 -0.3**
MNK *i* SS **SS** **08 01 32.5 +1.0**
MNK *i* SSS SSS 08 05 19.7
MNK pmax pmax
comp=E,38nm,1.0s
MNK pmax pmax
comp=Z,65nm,0.9s
MNK pmax pmax
comp=N,39nm,1.0s
MNK MLR MLR
comp=E,293nm,18.0s
MNK MLR MLR
comp=Z,328nm,21.0s
MNK MLR MLR
comp=N,241nm,20.0s
MLR Muntele Rosu 91.44 315 P **P** **07 44 58.8 -0.1**
MLR IAmb IAmb 07 48 11.8
comp=Z,100nm,1.4s
MLR Muntele Rosu 91.44 315 P **P** **07 44 58.8 -0.1**
MLR pmax pmax
comp=Z,100nm,1.4s
SNAA Sanae 91.81 197 ⇑P **P** **07 45 00.4 +0.4**
comp=Z,773nm,0.5s
SNAA ⇓PKKPbc **PKKPdf** **08 02 13.3 +0.3**
SNAA Sanae 91.81 197 P **P** **07 45 00.8 +0.9**
comp=Z,41nm,0.7s,baz=198,slow=3.6,SNR=17
SNAA PKKP **PKKPdf** **08 02 13.7 +0.8**
comp=Z,6.3nm,0.8s,baz=279,slow=4.0,SNR=15
SNAA PKPPKP **P'P'df** **08 10 17.7 -6.3**
comp=Z,3.4nm,1.2s,baz=27,slow=2.5,SNR=7.5
comp=Z,41nm,0.7s
SNAA Sanae 91.81 197*c i*P **P** **07 45 00.2 +0.2**
SNAA pmax pmax
comp=Z,95nm,1.5s
TSUM Tsumeb 92.05 251 P **P** **07 45 02.8 +0.6**
comp=Z,46nm,0.8s,baz=88,slow=5.6,SNR=20
comp=Z,46nm,0.8s
VSU Vasula 92.60 328*d i*P **P** **07 45 02.6 -1.0**
VSU pmax pmax
comp=Z,94nm,0.8s
FIA1 FINESS Array S 93.29 331 **P** **07 45 06.0 -0.8**
FIA1 IAmb IAmb 07 45 07.6
comp=Z,90nm,0.9s
FINES FINESS Array B 93.29 331 **P** **07 45 05.2 -1.6**
FINES FINESS Array B 93.29 331 P **P** **07 45 05.9 -0.9**
comp=Z,18nm,0.6s,baz=116,slow=6.5,SNR=18
FINES PKiKP **PKiKP** **07 49 48.8 +0.1**
comp=Z,3.6nm,0.5s,baz=112,slow=4.4,SNR=5.4
FINES PKKP **PKKPdf** **08 02 11.2 +0.3**
comp=Z,2.3nm,0.3s,baz=236,slow=1.1,SNR=18
comp=Z,18nm,0.6s
LIT Litokhoron 93.40 310 P **P** **07 45 06.6 -1.2**
LIT Litokhoron 93.40 310 P **P** **07 45 06.6 -1.2**
LIT pmax pmax
comp=Z,92nm,1.0s
VNA2 Neumayer--Watz 93.46 197 ⇑P **P** **07 45 08.0 +0.5**
comp=Z,42nm,0.6s,baz=106,slow=4.8
VNA2 ⇑PKKPdf **PKKPdf** **08 02 07.0 -3.0**
baz=341,slow=11
ITM Ithomi 93.59 307 **P** **07 45 07.2 -1.5**
ITM IAmb IAmb 07 48 09.2
comp=Z,36nm,1.1s
PABE Paberze 93.78 325 **P** **07 45 09.2 +0.1**
PABE IAmb IAmb 07 45 10.0
comp=Z,63nm,0.7s
VNA1 Neumayer--Stat 93.84 197 ⇑P **P** **07 45 10.3 +1.1**
comp=Z,48nm,1.1s
VNA1 ⇑PKKPbc **PKKPdf** **08 02 08.8 -0.4**
VNA3 Neumayer Olymp 93.93 196 ⇑P **P** **07 45 09.9 +0.3**
comp=Z,43nm,0.8s
VNA3 ⇑PKKPbc **PKKPdf** **08 02 08.0 -1.2**
BELA Belgrano 2 94.15 187 P **P** **07 45 10.6 +0.1**
BELA IAmb IAmb 07 46 39.2
comp=Z,32nm,0.8s
O15K Ungalikthiuk R 94.31 31 P **P** **07 45 10.7 -0.8**
O15K IAmb IAmb 07 48 31.5
comp=Z,141nm,1.9s
ARCES ARCESS Array B 94.38 339 P **P** **07 45 10.5 -1.1**
ARCES IAmb IAmb 07 48 17.2
comp=Z,78nm,1.6s
ARCES ARCESS Array B 94.38 339 P **P** **07 45 10.0 -1.7**
comp=Z,8.3nm,0.8s,baz=108,slow=4.9,SNR=8.1
ARCES PKiKP **PKiKP** **07 49 50.5 0.0**
comp=Z,3.0nm,0.6s,baz=159,slow=1.8,SNR=7.1
ARCES PKKP **PKKPdf** **08 02 07.2 -1.9**
comp=Z,2.2nm,0.8s,baz=256,slow=2.5,SNR=5.0
comp=Z,8.3nm,0.8s
ARCES ARCESS Array B 94.38 339 P **P** **07 45 10.5 -1.1**
ARCES pmax pmax
comp=Z,78nm,1.7s
L16K Owhat River 94.68 29 P **P** **07 45 13.3 +0.2**
H17K Granite Mounta 94.71 25 P **P** **07 45 13.7 +0.5**
H17K IAmb IAmb 07 46 30.9
comp=Z,53nm,0.9s
KEK Kerkira 95.44 309 P **P** **07 45 18.4 +1.4**
KEK IAmb IAmb 07 45 21.3
comp=Z,92nm,1.4s
PDG Podgorica 95.99 312 **P** **07 45 18.0 -1.4**
PDG IAmb IAmb 07 45 19.5
comp=Z,51nm,0.9s
J18K Innoko River 96.04 27 P **P** **07 45 19.0 -0.2**
SPITS Spitsbergen Ar 97.05 348 P Pdif 07 45 23.1 -0.4
comp=Z,11nm,0.5s,baz=87,slow=5.7,SNR=9.3
SPITS PKKP **PKKPbc** **08 02 01.1 -2.9**
comp=Z,4.5nm,0.7s,baz=152,slow=3.7,SNR=7.4
comp=Z,11nm,0.5s
STEB Steborice 97.26 319 *e*PDIFF **P** **07 45 25.0 0.0**
JAVC Velka Javorina 97.31 318 *e*PDIFF **P** **07 45 26.1 +0.8**
MORC Moravsky Berou 97.40 319 *e*PDIFF Pdif 07 45 24.8 -0.9
MORC *e*PP **PP** **07 49 31.6 -1.8**
VRAC Vranov 98.02 319 *e*PDIFF Pdif 07 45 28.1 -0.3
VRAC *e*PP **PP** **07 49 35.1 -2.9**
KRUC Moravsky 98.15 319 *e*PDIFF Pdif 07 45 28.2 -0.7
KRUC *e*PP **PP** **07 49 35.9 -3.1**
DPC Dobruska-Polom 98.19 320 *i* P **P** **07 45 29.7 +0.5**
DPC Dobruska-Polom 98.19 320 *e*PDIFF **P** **07 45 29.7 +0.5**
HFS Hagfors 99.32 330 P **Pdif** **07 45 34.0 +0.1**
comp=Z,16nm,0.7s,baz=101,slow=4.8,SNR=16
comp=Z,16nm,0.7s
BRG Berggiesshubel 99.69 320 P **PP** **07 49 47.0 -3.5**
BRG Amp 07 49 49.1
comp=Z,6.4nm,0.7s
GERES GERESS Array B 99.93 318 P **Pdif** **07 45 36.6 -0.3**
comp=Z,1.3nm,0.6s,baz=64,slow=9.8,SNR=4.1
comp=Z,1.3nm,0.6s
KHC Kasperske Hory 100.00 319 *i* P **Pdif** **07 45 37.3 +0.1**
KHC Kasperske Hory 100.00 319 *e*PDIFF **Pdif** **07 45 37.3 +0.1**
CLL Collm 100.27 321 *i* P **Pdif** **07 45 37.8 -0.5**
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 100.27 321 *i* Pdif **Pdif** **07 45 37.8 -0.5**
comp=Z,10.0nm,1.1s
CLL *i* x x 07 47 48.8
comp=Z,15nm,0.5s
ILAR Eielson Array 100.27 25 P **Pdif** **07 45 38.2 +0.2**
comp=Z,0.3nm,0.5s,baz=250,slow=5.7,SNR=4.7
ILAR PKKPbc **PKKPbc** **08 01 52.0 -2.8**
comp=Z,7.7nm,0.8s,baz=100,slow=1.2,SNR=17
NB2 NORSAR Subarra100.46 331 P **Pdif** **07 45 38.1 -0.9**
comp=Z,9.6nm,0.9s,baz=81,slow=4.6
NB2 NORSAR Subarra100.46 331 PKKP 08 01 52.3
comp=Z,1.4nm,0.6s,baz=253,slow=2.5
NB2 NORSAR Subarra100.46 331 P **Pdif** **07 45 38.1 -0.9**
comp=Z,9.6nm,0.9s,baz=81,slow=4.6
NB2 NORSAR Subarra100.46 331 PP **PKiKP** **07 49 55.4 -6.1**
comp=Z,7.2nm,1.1s,baz=86,slow=7.9
NOA NORSAR Array B 100.46 331 P **Pdif** **07 45 38.5 -0.5**
comp=Z,4.3nm,0.7s,baz=81,slow=4.7,SNR=7.2
NOA PKKPbc **PKKPbc** **08 01 52.2 -2.1**
comp=Z,2.3nm,0.7s,baz=270,slow=2.2,SNR=5.1
INK Inuvik 104.58 20 PKiKP **PKiKP** **07 50 09.4 +0.6**
comp=Z,3.5nm,0.6s,baz=309,slow=3.9,SNR=5.8
INK PKKPbc **PKKPbc** **08 01 39.2 -3.1**
comp=Z,4.7nm,0.7s,baz=53,slow=3.0,SNR=4.6
EKA Eskdalemuir Ar 109.08 327 Pdiff **Pdif** **07 46 17.6 +0.2**
comp=Z,1.4nm,0.7s,baz=81,slow=5.2,SNR=5.0
EKA PKiKP **PKiKP** **07 50 18.4 +0.9**
comp=Z,2.2nm,0.7s,baz=163,slow=1.2,SNR=5.2
EKA PKKPbc **PKKPbc** **08 01 26.9 -1.4**
comp=Z,2.3nm,0.4s,baz=256,slow=2.6,SNR=11
DLBC Dease Lake 109.64 30 PKiKP **PKiKP** **07 50 19.6 +1.0**
comp=Z,25nm,0.6s,baz=192,slow=2.3,SNR=5.9
DLBC PKKPbc **PKKPbc** **08 01 25.5 -1.2**
comp=Z,26nm,0.6s,baz=157,slow=4.7,SNR=5.0
TORD Torodi Ar. Bea 110.97 282 PKiKP **PKiKP** **07 50 20.5 -1.8**
comp=Z,19nm,0.5s,baz=97,slow=2.6,SNR=6.6
BBB Bella Bella 112.91 35 PKiKP **PKiKP** **07 50 24.9 0.0**
comp=Z,19nm,0.9s,baz=357,slow=5.2,SNR=7.7
ESDC Sonseca Array 113.67 311 PKiKP **PKiKP** **07 50 27.4 +0.6**
comp=Z,8.1nm,0.7s,baz=21,slow=2.6,SNR=21
ESDC PKKPbc **PKKPbc** **08 01 12.7 -0.4**
comp=Z,1.8nm,0.8s,baz=278,slow=4.4,SNR=4.9
ESDC PKKPab **PKKPab** **08 01 21.7 +0.3**
comp=Z,3.6nm,0.9s,baz=274,slow=4.9,SNR=8.0
YKA Yellowknife Ar 114.29 22 PKiKP PKPdf 07 50 27.1 -0.1
comp=Z,1.2nm,0.3s,baz=32,slow=4.8,SNR=20
YKA SKP 07 53 05.2
comp=Z,8.0nm,0.9s,baz=304,slow=2.0,SNR=5.4
YKA PKKPbc **PKKPbc** **08 01 08.2 -3.4**
comp=Z,1.6nm,0.3s,baz=336,slow=5.3,SNR=23
YKA PKKPab **PKKPab** **08 01 16.9 -1.6**
comp=Z,2.7nm,0.8s,baz=115,slow=4.2,SNR=3.9
PBRG Braganca 115.21 313 *e*PKPdf **PKPdf** **07 50 29.0 -0.7**
MVO Moncorvo 115.59 313 *e*PKPdf **PKiKP** **07 50 31.3 +0.7**
PVRL Vila Real 116.06 313 *e*PKPdf **PKiKP** **07 50 32.0 +0.6**
PCAB Cabril 116.16 314 *e*PKPdf **PKiKP** **07 50 32.2 +0.7**
MTE Manteigas 116.17 312 *e*PKPdf **PKiKP** **07 50 32.3 +0.7**
PCBR Castelo Branco 116.26 312 *e*PKPdf **PKiKP** **07 50 32.4 +0.6**
PMRV Marv??o 116.30 311 *e*PKPdf **PKiKP** **07 50 32.2 +0.3**
PVIS Viseu 116.34 313 *e*PKPdf **PKiKP** **07 50 32.4 +0.4**
PBAR Barrancos 116.34 310 *e*PKPdf **PKiKP** **07 50 32.7 +0.7**
PESTR Estremoz 116.59 311 *e*PKPdf **PKiKP** **07 50 33.1 +0.6**
PSARD Sardoal 116.83 311 *e*PKPdf **PKiKP** **07 50 33.6 +0.7**
PCAS Casmilo, Conde 116.96 312 *e*PKPdf **PKiKP** **07 50 33.8 +0.6**
PBEJ Beja 117.01 310 *e*PKPdf **PKiKP** **07 50 33.9 +0.6**
PMTG Montargil 117.02 311 *e*PKPdf **PKiKP** **07 50 33.4 +0.2**
PVAQ Vaqueiros 117.05 309 *e*PKPdf **PKiKP** **07 50 34.1 +0.8**
DBIC Dimbokro 117.15 274 PKP **PKPdf** **07 50 34.0 -0.2**
comp=Z,42nm,0.5s,baz=111,slow=1.8,SNR=27
DBIC SKP 07 53 12.2
comp=Z,3.9nm,0.7s,baz=33,slow=1.1,SNR=3.7
DBIC Dimbokro 117.15 274 PKiKP **PKPdf** **07 50 34.0 -0.2**
PCVE Castro Verde 117.24 309 *e*PKPdf **PKiKP** **07 50 34.5 +0.8**
PBDV Barranco-do-Ve 117.25 309 *e*PKPdf **PKiKP** **07 50 34.9 +1.1**
MESJ Messejana 117.33 310 *e*PKPdf **PKiKP** **07 50 34.5 +0.5**
MESJ Messejana 117.33 310 *e*PKPdf **PKiKP** **07 50 34.9 +1.0**
PARRA Arraiolos 117.70 311 *e*PKPdf **PKPdf** **07 50 33.6 -1.0**
PTEO Sao Teotonio 117.79 309 *e*PKPdf **PKiKP** **07 50 35.8 +1.0**
MORF Marmelete 117.79 309 *e*PKPdf **PKiKP** **07 50 35.4 +0.5**
MORF Marmelete 117.79 309 *e*PKPdf **PKiKP** **07 50 35.4 +0.5**
PMAFR Mafra 117.84 311 *e*PKPdf **PKPdf** **07 50 33.8 -1.0**
PFVI Vila Bisbo 117.97 309 *e*PKPdf **PKiKP** **07 50 36.0 +0.8**
YBH Yreka Blue Hor 120.08 45 PKP **PKiKP** **07 50 40.1 +0.8**
comp=Z,0.3nm,0.8s,baz=243,slow=0.5,SNR=6.3
YBH PKKPbc **PKKPbc** **08 00 49.6 -1.4**
comp=Z,0.4nm,0.8s,baz=90,slow=2.6,SNR=5.3
NEW Newport 120.96 36 PKP **PKiKP** **07 50 41.2 +0.4**
comp=Z,12nm,0.8s,baz=317,slow=2.2,SNR=10
NEW PKKPbc **PKKPbc** **08 00 45.7 -2.2**
comp=Z,3.4nm,0.6s,baz=123,slow=5.3,SNR=8.3
NVAR Mina Array Bea 124.44 47 PKP **PKiKP** **07 50 49.0 +0.8**
comp=Z,14nm,0.8s,baz=235,slow=2.5,SNR=18
NVAR SKP 07 53 27.1
comp=Z,4.8nm,0.7s,baz=253,slow=2.7,SNR=2.5
NVAR PKKPbc **PKKPbc** **08 00 34.7 -0.1**
comp=Z,8.7nm,0.5s,baz=209,slow=29,SNR=59
NVAR SKKPbc SKKPbc 08 03 26.1 -0.1
comp=Z,5.8nm,1.0s,baz=109,slow=3.8,SNR=4.4
PMPST Porto Santo, M 125.00 306 *e*PKPdf **PKiKP** **07 50 49.9 +0.7**
PMPS Porto Santo 125.01 306 *e*PKPdf **PKiKP** **07 50 49.8 +0.7**
PMAR Madeira 125.57 306 *e*PKPdf **PKiKP** **07 50 51.9 +1.4**
ELK Elko 125.65 43 PKP **PKiKP** **07 50 51.1 +0.6**
comp=Z,12nm,0.4s,baz=288,slow=4.7,SNR=16
PMOZ Porto Moniz, M 125.77 306 *e*PKPdf **PKiKP** **07 50 52.1 +1.3**
PFO Pinyon Flats O 127.58 52 PKP **PKiKP** **07 50 56.1 +1.6**
comp=Z,14nm,0.7s,baz=316,slow=1.8,SNR=13
PDAR Pinedale Array 128.34 38 PKP **PKiKP** **07 50 56.3 +0.4**
comp=Z,4.8nm,0.5s,baz=141,slow=1.2,SNR=12
PDAR SKP 07 53 18.9
comp=Z,21nm,0.9s,baz=221,slow=1.1,SNR=13
PDAR SKKPbc SKKPbc 08 03 02.5 -11
comp=Z,4.5nm,0.9s,baz=122,slow=4.7,SNR=5.7
ULM Lac du Bonnet 130.23 23 PKP **PKiKP** **07 50 59.1 0.0**
comp=Z,12nm,0.6s,baz=324,slow=0.6,SNR=14
ULM SKPbc **SKPab** **07 53 25.6 +0.3**
comp=Z,185nm,0.8s,baz=316,slow=4.1,SNR=35
SCHQ Schefferville 131.39 359 PKP **PKPdf** **07 51 00.8 +0.5**
comp=Z,245nm,0.5s,baz=337,slow=1.6,SNR=19
SCHQ SKPbc **SKPab** **07 53 29.8 -0.3**

comp=Z,796nm,1.0s,baz=38,slow=3.5,SNR=12
PLCA Paso Flores 133.36 177 PKP **PKiKP** **07 51 05.3 -0.6**
comp=Z,11nm,0.9s,baz=234,slow=1.6,SNR=6.1
PLCA SKPbc **SKPbc** **07 53 37.2 +1.0**
comp=Z,34nm,1.0s,baz=214,slow=3.4,SNR=7.0
ANMO Albuquerque 134.50 46 PKP **PKPdf** **07 51 07.5 +0.5**
comp=Z,20nm,0.9s,baz=279,slow=2.8,SNR=11
ANMO SKPbc **SKPab** **07 53 42.6 -2.0**
comp=Z,98nm,0.9s,baz=17,slow=3.2,SNR=22
LPIG La Paz 135.75 62 SKPbc **SKPbc** **07 53 46.5 +2.4**
comp=Z,19nm,0.7s,baz=317,slow=1.9,SNR=5.1
TXAR Lajitas Array 139.28 51 PKP **PKPdf** **07 51 15.6 -0.2**
comp=Z,3.3nm,0.7s,baz=216,slow=2.0,SNR=6.2
TXAR SKPbc **SKPbc** **07 53 55.3 +1.1**
comp=Z,30nm,0.8s,baz=248,slow=1.3,SNR=10
H03N3 Juan Fernandez 139.36 166 PKP **PKPdf** **07 51 15.3 -0.1**
H03N2 Juan Fernandez 139.38 166 PKP **PKPdf** **07 51 15.3 -0.1**
H03N1 Juan Fernandez 139.38 166 PKP **PKPdf** **07 51 15.4 0.0**
CFA Coronel Fontan 142.52 180 PKP **PKPdf** **07 51 19.5 -2.0**
comp=Z,94nm,0.5s,baz=191,slow=3.2,SNR=31
CFA SKPbc **SKiKP** **07 54 03.1 -0.3**
comp=Z,22nm,0.8s,baz=228,slow=4.0,SNR=4.2
CPUP Villa Florida 146.11 198 PKPbc **PKPbc** **07 51 30.5 +0.6**
comp=Z,51nm,0.6s,baz=2.5,slow=2.7,SNR=16
TKL Tuckaleechee C 147.25 24 PKPbc **PKPbc** **07 51 32.8 +0.1**
comp=Z,72nm,0.5s,baz=296,slow=3.8,SNR=20
BDFB Brasília 150.62 222 PKPbc **PKiKP** **07 51 42.4 +0.4**
comp=Z,344nm,0.6s,baz=128,slow=2.8,SNR=40
BDFB PKPab **PKPab** **07 51 52.4 +1.2**
comp=Z,206nm,0.9s,baz=212,slow=5.4,SNR=6.0
SIV San Ignacio 156.97 198 PKP **PKPdf** **07 51 44.7 +0.6**
comp=Z,30nm,0.9s,baz=81,slow=4.8,SNR=4.6
SIV PKPab **PKPab** **07 52 19.0 +0.9**
comp=Z,68nm,0.8s,baz=195,slow=5.6,SNR=20
LPAZ La Paz 157.77 180 PKPab **PKPab** **07 52 23.2 +0.9**
comp=Z,27nm,0.7s,baz=186,slow=2.2,SNR=6.2
ROSC El Rosal 173.72 101 PKP **PKPdf** **07 51 59.0 +0.8**
comp=Z,20nm,0.8s,baz=111,slow=7.0,SNR=5.3

*IDC **19** 07:38:37.1±3.6,54.24N×87.52E,h0km,mbtmp3.0/2, ML2.8/2,Error ellipse: s-maj=32.6km s-min=19.8km az=41.0*
ASRS 19 07:38:37.0±1.0,54.19N×87.08E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**261**	I	I	07 48 00.0	
	baz=78,slow=319,SNR=3.3						
ZALV	**Zalesovo Beam**	**1.35**	**261**	Pg	Pb	07 39 04.8	+1.6
	2.3nm,0.3s,baz=79,slow=15,SNR=15						
ZALV				Lg	Lg	07 39 29.0	
	2.3nm,0.3s,baz=79,slow=26,SNR=6.6						
KURBB	**Kurchatov Arra**	**6.33**	**239**	Pn	Pn	07 40 16.2	+4.7
	0.1nm,0.3s,baz=54,slow=14,SNR=6.0						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**8.01**	**204**	Pn	Pn	07 40 37.7	+3.1
	0.2nm,0.3s,baz=23,slow=14,SNR=4.3						
	0.4nm,0.5s						

AFAD 19 07:42:17.0,38.22N×26.63E,h7km±1km,ML1.0,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEYE	**Izmir, Urla-Ze**	**0.10**	**281**	P	Pg	07 42 19.5	+0.3
ZEYE				*i* IAML		07 42 21.0	
	comp=N,130nm,0.2s						
ZEYE				*i* IAML		07 42 21.0	
	comp=E,90nm,0.1s						
ZEYE				S	Sg	07 42 21.5	+0.8
URLA	**Izmir**	**0.14**	**350**	P	Pg	07 42 20.2	+0.3
URLA				S	Sg	07 42 22.5	+0.4
URLA				*i* IAML		07 42 25.0	
	comp=N,31nm,0.5s						
DGB	**zmir**	**0.26**	**130**	P	Pg	07 42 22.5	+0.3
DGB				S	Sg	07 42 26.4	+0.7
DGB				*i* IAML		07 42 27.0	
	comp=N,33nm,0.1s						

*DJA **19** 07:51:29.5±0.2,10.2S×119.40E±0.03,h35km,mb4.4/22, mB5.2/2,mb4.5/7,MLv4.3/22,Mw(mB)4.6/2*
*IDC **19** 07:51:31.4±3.4,10.26S×119.33E,h58km±32km,mb4.0/6, mbtmp4.3/10,ML4.2/4,Error ellipse: s-maj=32.9km s-min=14.1km az=58.0*
ISC 19 07:51:29.5±0.6,10.25S±0.05×119.40E±0.03,h35km,n41, σ2s74/54,mb4.3/6,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.60**	**359**	P	**Pn**	**07 51 39.4**	**-2.3**
WBSI				S	**Sn**	**07 51 45.3**	**-4.9**
WSI	**Waingapu**	**1.06**	**57**	P	**Pn**	**07 51 48.0**	**+0.1**
WSI				S	**Sn**	**07 52 02.6**	**+1.2**
BASI	**Baing, Sumba**	**1.16**	**89**	P	**Pn**	**07 51 50.9**	**+1.6**
BASI				S	**Sn**	**07 52 07.4**	**+3.4**
PLAI	**Plampang**	**2.13**	**311**	P	**Pn**	**07 52 03.9**	**+1.2**
PLAI	**Plampang**	**2.13**	**311**	P	**Pn**	**07 52 03.1**	**+0.4**
PLAI				S	**Sn**	**07 52 30.6**	**+2.7**
EDFI	**Ende, Flores**	**2.71**	**57**	P	**Pn**	**07 52 11.7**	**+1.0**
TWSI	**Taliwang, Sumb**	**2.90**	**301**	P	**Pn**	**07 52 14.6**	**+1.4**
TWSI				S	**Sn**	**07 52 50.0**	**+3.1**
MMRI	**Maumere**	**3.23**	**60**	P	**Pn**	**07 52 19.9**	**+2.1**
MMRI	**Maumere**	**3.23**	**60**	P	**Pn**	**07 52 19.1**	**+1.3**
MMRI				S	**Sn**	**07 52 58.3**	**+3.3**
BATI	**Baumata**	**4.20**	**90**	P	**Pn**	**07 52 34.6**	**+3.5**
	14nm,0.3s,baz=290,slow=1.1,SNR=12						
BATI				S	**Sn**	**07 53 22.7**	**+3.6**
	58nm,0.3s,baz=133,slow=22,SNR=5.7						
	38nm,0.3s						
BATI	**Baumata**	**4.20**	**90**	P	**Pn**	**07 52 34.2**	**+3.0**
BATI				S	**Sn**	**07 53 23.4**	**+4.4**
BSSI	**Bau Bau, Buton**	**4.22**	**15**	P	**Pn**	**07 52 33.0**	**+1.6**
BSSI				S	**Sn**	**07 53 20.9**	**+1.4**
DNP	**Denpasar**	**4.42**	**290**	P	**Pn**	**07 52 36.4**	**+2.3**
DNP				S	**Sn**	**07 53 28.0**	**+3.7**
SRBI	**Singaraja**	**4.66**	**297**	P	**Pn**	**07 52 40.1**	**+2.7**
SOEI	**Soe**	**4.82**	**85**	P	**Pn**	**07 52 42.6**	**+2.8**
SOEI	**Soe**	**4.82**	**85**	S	**Sn**	**07 53 38.5**	**+4.0**
SOEI	**Soe**	**4.82**	**85**	P	**Pn**	**07 52 44.5**	**+4.7**
KAPI	**Kappang**	**5.21**	**4**	P	**Pn**	**07 52 46.6**	**+1.5**
	6.6nm,0.3s,baz=182,slow=6.2,SNR=14						
KAPI				S	**Sn**	**07 53 46.9**	**+3.0**
	34nm,0.5s,baz=42,slow=21,SNR=7.8						
	31nm,0.5s						
KAPI	**Kappang**	**5.21**	**4**	P	**Pn**	**07 52 46.8**	**+1.8**
JAGI	**Jajag, Banyuwa**	**5.47**	**288**	P	**Pn**	**07 52 49.7**	**+1.1**
JAGI	**Jajag, Banyuwa**	**5.47**	**288**	P	**Pn**	**07 52 49.0**	**+0.4**
	0.4nm33nm,0.4s						
BNSI	**Bone**	**5.85**	**7**	P	**Pn**	**07 52 55.7**	**+1.9**
	0.2nm46nm,1.1s						
GMJI	**Gumukmas**	**6.20**	**288**	P	**Pn**	**07 53 01.3**	**+2.7**
	0.2nm45nm,1.0s						
GMJI				S	**Sn**	**07 54 12.0**	**+3.8**
	0.2nm45nm,1.0s						
BLJI	**Banyuglugur**	**6.25**	**293**	P	**Pn**	**07 53 01.1**	**+1.8**
BLJI				S	**Sn**	**07 54 13.1**	**+3.6**
SPSI	**Sidrap Palu**	**6.25**	**3**	P	**Pn**	**07 52 59.7**	**+0.3**
	0.1nm2μm19nm,0.5s						
FITZ	**Fitzroy Crossi**	**9.88**	**143**	P	**Pn**	**07 53 49.5**	**+0.4**
	1.5nm,0.3s,baz=336,slow=9.4,SNR=28						
FITZ				S	**Sn**	**07 55 35.0**	**-3.8**
	34nm,0.7s,baz=179,slow=17,SNR=16						
	7.0nm,0.6s						
PSA00	**Pilbara Seismi**	**11.27**	**178**	P	**Pn**	**07 54 07.6**	**-0.6**
DRS	**Darwin Rock St**	**11.49**	**102**	P	**Pn**	**07 54 13.0**	**+1.8**
MTN	**Manton Dam**	**11.79**	**104**	P	**Pn**	**07 54 15.2**	**-0.1**
MEEK	**Meekatharra**	**16.32**	**182**	P	**Pn**	**07 55 16.2**	**+0.1**
WRA	**Warramunga Arr**	**17.34**	**126**	P	**Pn**	**07 55 27.6**	**-1.3**
	0.9nm,0.5s,baz=292,slow=12,SNR=9.1						
WRA				S	**Sn**	**07 58 34.2**	**-6.8**
	1.1nm,0.4s,baz=300,slow=23,SNR=6.1						
ASAR	**Alice Springs**	**19.23**	**136**	P	**Pn**	**07 55 53.1**	**+1.1**
	0.7nm,0.3s,baz=312,slow=11,SNR=22						
ASAR				S	**Sn**	**07 59 20.8**	**-5.9**
	2.0nm,0.8s,baz=306,slow=22,SNR=7.7						
	2.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**34.94**	**325**	P	**P**	**07 58 18.5**	**+0.1**
	1.2nm,0.4s,baz=143,slow=8.2,SNR=7.1						
	1.2nm,0.4s						
H08S2	**Diego Garcia H**	**46.38**	**269**	T	T	08 49 23.4	
	baz=96,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**46.39**	**269**	T	T	08 49 24.1	
	baz=96,slow=75,SNR=15						
H08S1	**Diego Garcia H**	**46.39**	**269**	T	T	08 49 24.8	
	baz=96,slow=75,SNR=9.3						
SONM	**Songino Array**	**58.97**	**350**	P	**P**	**08 01 24.8**	**-0.8**
	1.1nm,0.7s,baz=167,slow=7.6,SNR=2.4						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**65.74**	**333**	P	**P**	**08 02 10.4**	**-0.4**
	2.1nm,0.4s,baz=147,slow=7.2,SNR=22						
	2.1nm,0.4s						
KURBB	**Kurchatov Arra**	**70.25**	**334**	P	**P**	**08 02 38.3**	**-0.7**
	1.5nm,0.6s,baz=142,slow=5.6,SNR=13						
	1.5nm,0.6s						
ZALV	**Zalesovo Beam**	**70.34**	**339**	P	**P**	**08 02 38.1**	**-1.3**
	2.2nm,0.5s,baz=137,slow=5.1,SNR=8.3						
	2.2nm,0.5s						
KBZ	**Khabaz**	**87.43**	**315**	P	**P**	**08 04 11.0**	**-2.4**
	3.1nm,0.7s,baz=137,slow=0.8,SNR=4.4						
	3.1nm,0.7s						

*JMA **19** 07:54:51.1±0.2,23.9N±1.0×123.5E±0.6,h36km±1km, MV3.0/8,NEAR ISHIGAKIJIMA ISLAND*
ISC 19 07:54:50.5±1.5,23.89N±0.07×123.54E±0.04,h31km±12km, n17,σ0s42/24,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.30**	**55**	*i* P	**Pn**	**07 54 58.6**	**-0.1**
HATJ				S	**Sn**	**07 55 04.2**	**+0.1**
IRIF	**Iriomote-Funau**	**0.48**	**21**	*i* P	**Pb**	**07 55 00.5**	**-0.1**
IRIF				S	**Sb**	**07 55 07.6**	**0.0**
JKRS	**Kuro-shima**	**0.55**	**51**	P	**Pn**	**07 55 02.3**	**0.0**
JKRS				S	**Sn**	**07 55 10.8**	**+0.3**
JIJ	**Ishigaki jima**	**0.73**	**49**	*i* P	**Pn**	**07 55 04.4**	**-0.3**
JIJ				S	**Sn**	**07 55 14.9**	**+0.1**
YOJ	**Yonaguni jima**	**0.75**	**320**	P	**Pn**	**07 55 05.1**	**+0.1**
YOJ	**Yonaguni jima**	**0.75**	**320**	S	**Sn**	**07 55 15.2**	**-0.1**
YOJ	**Yonaguni jima**	**0.75**	**320**	P	**Sn**	**07 55 04.8**	**-0.2**
YOJ				S	**Sn**	**07 55 14.9**	**-0.4**
JYNG	**Yonagunijimaku**	**0.78**	**316**	P	**Pn**	**07 55 05.3**	**-0.1**
JYNG				S	**Sn**	**07 55 15.6**	**-0.5**
JISG	**Ishigakijimahi**	**0.99**	**45**	P	**Pn**	**07 55 08.5**	**+0.2**
JISG				S	**Sn**	**07 55 21.2**	**0.0**
NACB	**Ninganchiao**	**1.80**	**280**	P	**Pn**	**07 55 19.4**	**-0.1**
YULB	**Yu-li**	**2.11**	**257**	P	**Pn**	**07 55 23.6**	**-0.2**
YULB	**Yu-li**	**2.11**	**257**	S	**Sn**	**07 55 48.5**	**-0.5**
YHNB	**Yeheng**	**2.12**	**292**	P	**Pn**	**07 55 25.2**	**+1.2**
SSLB	**Suanglung**	**2.37**	**268**	P	**Pn**	**07 55 27.9**	**+0.6**
TWGBT	**Beinan**	**2.50**	**245**	P	**Pn**	**07 55 29.1**	**0.0**
TWGBT	**Beinan**	**2.50**	**245**	S	**Sn**	**07 55 58.1**	**-0.4**
TPUB	**Ta-pu**	**2.73**	**258**	P	**Pn**	**07 55 33.0**	**+0.7**

IDC 19 08:05:10.1±3.6,54.57N×86.26E,h0km,mbtmp2.6/2, ML2.3/2,Error ellipse: s-maj=26.9km s-min=15.2km az=46.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**234**	I	I	08 12 50.0	
	baz=54,slow=323,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.05**	**234**	Pg	Pg	08 05 29.0	-1.2
	0.7nm,0.3s,baz=51,slow=17,SNR=8.3						
ZALV				Lg	Lg	08 05 45.0	
	1.6nm,0.3s,baz=53,slow=28,SNR=10						
KURBB	**Kurchatov Arra**	**6.14**	**233**	Pn	Pn	08 06 43.3	+1.3
	baz=49,slow=14,SNR=1.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**8.18**	**200**	Pn	Pn	08 07 10.7	+0.7
	0.1nm,0.3s,baz=21,slow=12,SNR=1.9						
	0.1nm,0.3s						

DJA 19 08:06:05.3±1.3,9.3S×117.0E±,h13km±9km,M3.5/10, mb4.1/5,MLv3.1/10,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.86**	**32**	P	Pb	08 06 22.6	+0.4
WOJI	**Wonogiri, Jawa**	**1.18**	**47**	P	Pn	08 06 26.8	-0.7
PCJI	**Pacitan**	**1.19**	**68**	P	Pn	08 06 26.2	-1.5
KPJI	**Karang Pucung**	**1.72**	**319**	P	Pn	08 06 35.1	+0.1
CMJI	**Cimerak**	**1.81**	**298**	P	Pn	08 06 36.1	-0.1
JAGI	**Jajag, Banyuwa**	**4.05**	**88**	P	Pn	08 07 07.1	0.0
MDSI	**Maura Dua**	**7.16**	**305**	P	Pn	08 07 49.9	+0.1
PLAI	**Plampang**	**7.63**	**92**	P	Pn	08 07 56.3	0.0
	22nm,1.0s						
SPSI	**Sidrap Palu**	**10.71**	**65**	P	Pn	08 08 37.7	-0.9
	9.4nm,1.2s						
LUWI	**Luwuk**	**14.74**	**60**	P	Pn	08 09 33.5	-0.2

*IDC **19** 08:15:21.1±3.7,53.61N×87.84E,h0km,mbtmp2.5/2, ML2.1/1,Error ellipse: s-maj=35.4km s-min=18.6km az=52.0*
ASRS 19 08:15:20.0±0.8,53.56N×87.88E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**283**	I	I	08 28 05.0	
	baz=100,slow=324,SNR=7.7						
ZALV	**Zalesovo Beam**	**1.86**	**283**	Pg	Pn	08 15 52.9	-0.2
	0.5nm,0.3s,baz=102,slow=12,SNR=6.4						
ZALV				Lg	Lg	08 16 19.2	
	0.7nm,0.3s,baz=102,slow=25,SNR=7.6						
KURBB	**Kurchatov Arra**	**6.47**	**247**	Pn	Pn	08 16 58.8	+2.4
	baz=54,slow=13,SNR=2.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.66**	**210**	Pn	Pn	08 17 15.4	+2.6
	0.1nm,0.5s,baz=32,slow=14,SNR=1.2						

GCG 19 08:32:58.7±0.7,14.15N×91.35W,h72km±10km,MD3.5, ML2.7,3D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKI	**Kika Raxquin**	**0.67**	**355**	*i* P	Pn	08 33 15.1	+1.2
SOKI				*i* S	Sn	08 33 27.1	+2.0
SOKI				IAML		08 33 29.1	
	comp=N,19nm,0.1s						
FG8	**Yepocapa, Chim**	**0.77**	**81**	*i* P	Pn	08 33 12.0	-2.7
FG8				⇓*i*S	Sn	08 33 22.8	-3.7
FG16	**Alotenango, Sa**	**0.82**	**81**	*e*P	Pn	08 33 13.0	-2.4
FG16				*i* S	Sn	08 33 24.7	-3.0
FG16				IAML		08 33 25.3	
	comp=N,2μm,0.3s						
SMCA	**Catarina**	**1.00**	**315**	*i* P	Pn	08 33 17.9	+0.5
SMCA				⇓*i*S	Sn	08 33 31.9	+0.7
NUBE	**Las Nubes**	**1.54**	**99**	⇓*e*P	Pn	08 33 24.3	-0.1

*IDC **19** 08:41:17.9±0.9,41.45S×85.58W,h0km,mb4.0/9, mbtmp4.0/10,ML3.1/1,MS3.8/4,Error ellipse: s-maj=35.7km s-min=18.1km az=98.0*
*NEIC **19** 08:41:19.5±1.0,41.49S±0.07×85.5W±0.2,h10km±1km, mb4.4/9,Error ellipse: s-maj=21.3km s-min=10.5km az=254.0*
ISC 19 08:41:20.0±0.7,41.45S±0.10×85.4W±0.1,h14km,n40, σ1s02/30,mb4.3/13,MS3.7/3,4C-1D,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**8.89**	**105**	Pn	**Pn**	**08 43 28.3**	**+0.3**
H03S2	**Juan Fernandez**	**9.19**	**36**	T	T	08 52 56.1	
	baz=211,slow=72,SNR=68						
H03S1	**Juan Fernandez**	**9.19**	**36**	T	T	08 52 57.6	
	baz=211,slow=72,SNR=80						
H03S3	**Juan Fernandez**	**9.20**	**36**	T	T	08 53 00.5	
	baz=211,slow=72,SNR=98						
H03N3	**Juan Fernandez**	**9.51**	**35**	T	T	08 53 22.3	
	baz=215,slow=79						
H03N2	**Juan Fernandez**	**9.52**	**35**	T	T	08 53 20.2	
	baz=215,slow=79						
H03N1	**Juan Fernandez**	**9.53**	**35**	T	T	08 53 19.2	
	baz=215,slow=79						
COYC	**Coyhaique**	**10.54**	**117**	Pn	**Pn**	**08 43 50.4**	**-0.2**
PLCA	**Paso Flores**	**11.27**	**91**	LR	LR	08 47 23.7	
	comp=Z,470nm,20.8s,baz=278,slow=32						
BO02	**Sierra Bellavi**	**13.31**	**65**	Pn	**Pn**	**08 44 26.4**	**-2.2**
LMEL	**Las Melosas**	**14.25**	**63**	Pn	**Pn**	**08 44 39.0**	**-2.5**
MT13	**San Alfonso**	**14.26**	**62**	Pn	**Pn**	**08 44 44.3**	**+2.8**
CFA	**Coronel Fontan**	**16.94**	**60**	P	**P**	**08 45 19.1**	**+0.7**
	0.1nm,0.3s,baz=234,slow=10,SNR=13						
	6.2nm,1.0s						
AF01	**San Pedro de A**	**23.45**	**43**	P	**P**	**08 46 30.4**	**+1.2**
RPN	**Rapa Nui**	**24.26**	**299**	LR	LR	08 53 29.2	
	comp=Z,156nm,21.4s,baz=8.0,slow=30						
GO01	**Chusmiza**	**25.74**	**37**	P	**P**	**08 46 50.5**	**-0.1**
PB16	**IPOC Station P**	**26.77**	**35**	P	**P**	**08 47 01.0**	**+0.9**
PB16				IAmb	IAmb	08 47 02.0	
	comp=Z,7.8nm,1.2s						
LPAZ	**La Paz**	**29.18**	**36**	P	**P**	**08 47 23.2**	**+1.5**
	comp=Z,1.6nm,1.0s,baz=192,slow=8.5,SNR=3.5						
	comp=Z,1.6nm,1.0s						
SIV	**San Ignacio**	**32.95**	**47**	P	**P**	**08 47 54.5**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=196,slow=9.5,SNR=5.7						
	comp=Z,1.1nm,0.8s						
BELA	**Belgrano 2**	**41.85**	**166**	P	**P**	**08 49 09.0**	**+0.1**
BELA				IAmb	IAmb	08 49 10.4	
	comp=Z,7.3nm,1.2s						
VNA3	**Neumayer Olymp**	**46.86**	**155**	⇑P	**P**	**08 49 49.6**	**+0.5**
	comp=Z,3.8nm,0.8s						
VNA1	**Neumayer--Stat**	**47.37**	**154**	⇓P	**P**	**08 49 52.3**	**-0.7**
VNA2	**Neumayer--Watz**	**47.63**	**154**	⇑P	**P**	**08 49 55.5**	**+0.4**
	comp=Z,4.4nm,0.6s,baz=262,slow=8.1						
QSPA	**South Pole Qui**	**48.79**	**180**	P	**P**	**08 50 04.8**	**+0.5**
QSPA				IAmb	IAmb	08 50 07.5	
	comp=Z,5.5nm,0.9s						
QSPA	**South Pole Qui**	**48.79**	**180**	P	**P**	**08 50 05.3**	**+1.0**
	comp=Z,4.5nm,0.9s,baz=132,slow=2.4,SNR=12						
	comp=Z,4.5nm,0.9s						
SNAA	**Sanae**	**48.99**	**155**	⇑P	**P**	**08 50 05.9**	**+0.3**
	comp=Z,74nm,1.0s						
SNAA	**Sanae**	**48.99**	**155**	P	**P**	**08 50 05.5**	**-0.2**
SNAA				IAmb	IAmb	08 50 06.4	
	comp=Z,3.1nm,0.8s						
SNAA	**Sanae**	**48.99**	**155**	P	**P**	**08 50 05.8**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=237,slow=6.4,SNR=20						
	comp=Z,2.2nm,0.8s						
TROLL	**Troll, Antarti**	**50.58**	**156**	⇑P	**P**	**08 50 17.9**	**+0.1**
	comp=Z,227nm,0.7s						
VNDA	**Vanda**	**54.51**	**194**	P	**P**	**08 50 46.9**	**+0.2**
	comp=Z,1.3nm,1.0s,baz=145,slow=12,SNR=4.1						
	comp=Z,1.3nm,1.0s						
RCBR	**Riachuelo**	**56.51**	**65**	LR	LR	09 13 46.5	
	comp=Z,63nm,18.9s,baz=247,slow=34						
MAW	**Mawson**	**68.66**	**168**	P	**P**	**08 52 21.9**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=226,slow=8.8,SNR=3.6						
	comp=Z,1.4nm,0.7s						
KHZ	**Kahutara**	**70.32**	**231**	P	**P**	**08 52 33.0**	**+0.1**
URZ	**Urewera**	**70.73**	**236**	LR	LR	09 17 05.0	
	comp=Z,170nm,18.1s,baz=224,slow=30						
CASY	**Casey**	**71.90**	**187**	P	**P**	**08 52 41.3**	**-0.8**
CASY				IAmb	IAmb	08 52 46.0	
	comp=Z,4.6nm,1.2s						
TXAR	**Lajitas Array**	**72.42**	**343**	P	**P**	**08 52 45.7**	**0.0**
TXAR	**Lajitas Array**	**72.42**	**343**	P	**P**	**08 52 46.1**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=164,slow=8.4,SNR=16						
	comp=Z,1.2nm,0.8s						
TX31	**Lajitas Ar. Si**	**72.42**	**343**	P	**P**	**08 52 45.6**	**-0.1**
PDAR	**Pinedale Array**	**86.61**	**342**	P	**P**	**08 54 01.9**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=152,slow=6.7,SNR=4.4						
	comp=Z,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**96.46**	**78**	P	**P**	**08 54 48.4**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=204,slow=3.2,SNR=4.0						
	comp=Z,0.5nm,0.7s						

*ASRS **19** 09:05:22.0±0.8,53.67N×86.86E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 19 09:05:24.3±3.0,53.72N×86.92E,h0km,mbtmp2.8/2, ML2.6/2,Error ellipse: s-maj=27.6km s-min=16.2km az=71.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**281**	I	I	09 13 00.0	
	baz=100,slow=320,SNR=5.0						
ZALV	**Zalesovo Beam**	**1.27**	**281**	Pg	Pg	09 05 47.7	-0.9
	1.6nm,0.3s,baz=101,slow=17,SNR=10						
ZALV				Lg	Lg	09 06 05.7	
	1.3nm,0.3s,baz=102,slow=29,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.02**	**242**	Pn	Pn	09 06 55.0	+0.5
	0.1nm,0.3s,baz=57,slow=13,SNR=2.0						
	0.3nm,0.2s						
MKAR	**Makanchi Array**	**7.54**	**205**	Pn	Pn	09 07 17.0	+1.6
	0.2nm,0.3s,baz=25,slow=14,SNR=2.3						
	0.3nm,0.5s						

*IDC **19** 09:22:05.0±1.3,26.79N×65.98E,h0km,mb3.7/9, mbtmp3.7/9,ML1.8/1,MS3.3/2,Error ellipse: s-maj=30.9km s-min=24.8km az=90.0*
ISC 19 09:22:09.6±1.0,26.7N±0.2×65.8E±0.1,h35km,n12, σ1s61/11,mb3.6/9,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**7.34**	**243**	Pn	**Pn**	**09 23 55.5**	**+1.1**
	baz=36,slow=24,SNR=9.7						
WSAR				Sn	**Sn**	**09 25 14.5**	**-2.0**
	baz=217,slow=24,SNR=5.6						
MKAR	**Makanchi Array**	**23.92**	**29**	P	**P**	**09 27 18.1**	**-2.1**
	1.1nm,0.7s,baz=210,slow=9.3,SNR=9.6						
	1.1nm,0.7s						
AKTO	**Aktyubinsk**	**24.41**	**348**	P	**P**	**09 27 26.7**	**+2.0**
	1.4nm,0.7s,baz=181,slow=6.8,SNR=4.6						
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**25.79**	**19**	P	**P**	**09 27 35.8**	**-1.3**
	0.4nm,0.5s,baz=211,slow=9.1,SNR=2.7						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**26.50**	**6**	P	**P**	**09 27 43.6**	**0.0**
	1.0nm,0.6s,baz=185,slow

az=88.0
*VAO **19** 09:43:03.1±0.7,21°.73S×68°.32W,h154km±7km,mb4.0*
ISC 19 09:42:57.7±0.6,21°.95S±0°.03×68°.73W±0°.04,h126km±5km, n133,σ1$42/165,mb4.4/10,11C-4D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.50**	**288**			**Pn**	**09 43 16.4**	**-0.1**
PB09	**IPOC Station P**	**0.50**	**288**	⇑*iP*		**Pn**	**09 43 16.7**	**+0.2**
PB09				*i* S		**Sn**	**09 43 30.0**	**-0.6**
PB09				*i* S			09 43 30.4	
PB09				IAML			09 43 33.0	
	comp=E,6μm,0.6s							
PB09	**IPOC Station P**	**0.50**	**288**	*eP*		**Pn**	**09 43 16.4**	**-0.1**
PB09				IAML			09 43 31.4	
	comp=Z,4μm,0.3s							
PB09				*eS*		**Sn**	**09 43 31.5**	**+0.9**
PB03	**IPOC Station P**	**0.96**	**264**			**Pn**	**09 43 19.7**	**-0.3**
PB03	**IPOC Station P**	**0.96**	**264**	⇑*iP*		**Pn**	**09 43 19.9**	**0.0**
PB03				*eS*		**Sn**	**09 43 36.7**	**-0.2**
PB03				IAML			09 43 39.3	
	comp=E,4μm,0.4s							
PB03	**IPOC Station P**	**0.96**	**264**	*eP*		**Pn**	**09 43 19.9**	**0.0**
PB03				*eS*		**Sn**	**09 43 37.3**	**+0.4**
PB03				IAML			09 43 39.1	
	comp=Z,5μm,0.3s							
PB06	**IPOC Station P**	**1.09**	**226**			**Pn**	**09 43 21.3**	**+0.1**
PB06	**IPOC Station P**	**1.09**	**226**	⇑*iP*		**Pn**	**09 43 21.3**	**+0.1**
PB06				*i* S		**Sn**	**09 43 39.3**	**+0.2**
PB06				IAML			09 43 40.3	
	comp=E,4μm,0.2s							
PB06	**IPOC Station P**	**1.09**	**226**	*eP*		**Pn**	**09 43 21.3**	**+0.1**
PB06				*eS*		**Sn**	**09 43 39.8**	**+0.8**
PB06				IAML			09 43 42.3	
	comp=Z,1μm,0.1s							
AF01	**San Pedro de A**	**1.12**	**153**			**Pn**	**09 43 21.5**	**-0.1**
AF01	**San Pedro de A**	**1.12**	**153**	*i* P		**Pn**	**09 43 21.5**	**-0.1**
AF01	**San Pedro de A**	**1.12**	**153**	*eP*		**Pn**	**09 43 22.8**	**+1.2**
AF01				*eS*		**Sn**	**09 43 45.1**	**+5.2**
AF01				IAML			09 43 55.6	
	comp=Z,5μm,0.9s							
PB01	**IPOC Station P**	**1.15**	**322**			**Pn**	**09 43 21.5**	**-0.2**
PB01	**IPOC Station P**	**1.15**	**322**	⇓*iP*		**Pn**	**09 43 21.5**	**-0.2**
PB01				*i* S		**Sn**	**09 43 39.5**	**-0.5**
PB01				IAML			09 43 41.8	
	comp=E,8μm,0.4s							
PB01	**IPOC Station P**	**1.15**	**322**	*eP*		**Pn**	**09 43 21.5**	**-0.2**
PB01				*eS*		**Sn**	**09 43 39.8**	**-0.2**
PB01				IAML			09 43 42.1	
	comp=Z,2μm,0.2s							
PB02	**IPOC Station P**	**1.26**	**300**			**Pn**	**09 43 23.1**	**+0.1**
PB02	**IPOC Station P**	**1.26**	**300**	⇑*iP*		**Pn**	**09 43 23.0**	**+0.1**
PB02				*i* S		**Sn**	**09 43 41.7**	**-0.4**
PB02	**IPOC Station P**	**1.26**	**300**	*eP*		**Pn**	**09 43 22.3**	**-0.6**
PB02				*eS*		**Sn**	**09 43 42.1**	**0.0**
PB02				IAML			09 43 43.2	
	comp=Z,9μm,0.3s							
PB05	**IPOC Station P**	**1.64**	**236**			**Pn**	**09 43 27.2**	**+0.1**
PB05	**IPOC Station P**	**1.64**	**236**	⇑*iP*		**Pn**	**09 43 27.2**	**+0.1**
PB05				*i* S		**Sn**	**09 43 49.2**	**-0.5**
PB05	**IPOC Station P**	**1.64**	**236**	*eP*		**Pn**	**09 43 27.3**	**+0.1**
PB05				*eS*		**Sn**	**09 43 50.0**	**+0.3**
PB05				IAML			09 43 51.1	
	comp=Z,1μm,0.6s							
PATCX	**Punta Patache**	**1.74**	**310**			**Pn**	**09 43 28.2**	**-0.2**
PATCX	**Punta Patache**	**1.74**	**310**	*eP*		**Pn**	**09 43 28.1**	**-0.2**
PATCX				*i* S		**Sn**	**09 43 51.1**	**-0.7**
PATCX				IAML			09 43 56.4	
	comp=N,3μm,0.1s							
PATCX	**Punta Patache**	**1.74**	**310**	*eP*		**Pn**	**09 43 28.2**	**-0.2**
PATCX				*eS*		**Sn**	**09 43 51.9**	**+0.1**
PATCX				IAML			09 43 55.3	
	comp=Z,2μm,0.6s							
PX03	**IPOC Station P**	**1.76**	**331**	*eP*		**Pn**	**09 43 27.6**	**-1.0**
PX03				*i* S		**Sn**	**09 43 51.5**	**-0.6**
PB08	**IPOC Station P**	**1.84**	**347**			**Pn**	**09 43 30.4**	**+0.5**
PB08	**IPOC Station P**	**1.84**	**347**	⇓*iP*		**Pn**	**09 43 30.4**	**+0.5**
PB08				*i* S		**Sn**	**09 43 55.2**	**+0.7**
PB08				IAML			09 43 57.3	
	comp=E,3μm,0.6s							
PB08	**IPOC Station P**	**1.84**	**347**	*eP*		**Pn**	**09 43 30.4**	**+0.5**
PB08				*eS*		**Sn**	**09 43 56.2**	**+1.7**
PB08				IAML			09 43 58.5	
	comp=Z,996nm,0.6s							
TA01	**Diego Aracena**	**1.94**	**315**			**Pn**	**09 43 30.3**	**-0.3**
TA01	**Diego Aracena**	**1.94**	**315**	*i* P		**Pn**	**09 43 30.0**	**-0.6**
TA01				*i* S		**Sn**	**09 43 55.0**	**-0.8**
TA01				IAML			09 43 58.0	
	comp=N,3μm,0.4s							
TA01	**Diego Aracena**	**1.94**	**315**	*eP*		**Pn**	**09 43 30.3**	**-0.3**
TA01				*eS*		**Sn**	**09 43 56.4**	**+0.6**
TA01				IAML			09 43 57.3	
	comp=Z,1μm,0.5s							
TA02	**Huaiquique**	**2.13**	**322**	*eP*		**Pn**	**09 43 32.4**	**-0.6**
TA02				*eS*		**Sn**	**09 43 58.7**	**-1.3**
TA02				IAML			09 44 06.9	
	comp=Z,1μm,0.3s							
PB10	**IPOC Station P**	**2.30**	**227**			**Pn**	**09 43 34.5**	**-0.7**
PB10	**IPOC Station P**	**2.30**	**227**	⇑*iP*		**Pn**	**09 43 34.4**	**-0.7**
PB10				*i* S		**Sn**	**09 44 01.0**	**-2.8**
PB10	**IPOC Station P**	**2.30**	**227**	*eP*		**Pn**	**09 43 34.7**	**-0.4**
PB10				*eS*		**Sn**	**09 44 02.1**	**-1.8**
PB10				IAML			09 44 04.8	
	comp=Z,460nm,0.4s							
GO01	**Chusmiza**	**2.31**	**349**			**Pn**	**09 43 36.1**	**+0.3**
GO01	**Chusmiza**	**2.31**	**349**	⇓*iP*		**Pn**	**09 43 36.0**	**+0.1**
GO01				*i* S		**Sn**	**09 44 06.2**	**+1.3**
GO01	**Chusmiza**	**2.31**	**349**	*eP*		**Pn**	**09 43 35.4**	**-0.4**
GO01				*eS*		**Sn**	**09 44 06.4**	**+1.5**
GO01				IAML			09 44 07.5	
	comp=Z,1μm,0.5s							
PB11	**IPOC Station P**	**2.35**	**338**			**Pn**	**09 43 35.2**	**-0.7**
PB11	**IPOC Station P**	**2.35**	**338**	⇓*iP*		**Pn**	**09 43 35.4**	**-0.5**
PB11				*i* S		**Sn**	**09 44 04.4**	**-0.9**
PB11	**IPOC Station P**	**2.35**	**338**	*eP*		**Pn**	**09 43 35.2**	**-0.7**
PB11				*eS*		**Sn**	**09 44 05.2**	**0.0**
PB11				IAML			09 44 07.5	
	comp=Z,1μm,0.3s							
YJA	**Yavi**	**2.99**	**95**	*eP*		**Pn**	**09 43 46.0**	**+1.6**
YJA				*eS*		**Sn**	**09 44 17.8**	**-2.5**
PB14	**IPOC Station P**	**3.08**	**210**			**Pn**	**09 43 44.7**	**-0.8**
PB14	**IPOC Station P**	**3.08**	**210**	*i* P		**Pn**	**09 43 45.1**	**-0.3**
PB14	**IPOC Station P**	**3.08**	**210**	*eP*		**Pn**	**09 43 45.2**	**-0.2**
PB14				*eS*		**Sn**	**09 44 21.2**	**-1.1**
PB14				IAML			09 44 23.4	
	comp=Z,444nm,0.3s							
SALTA		**3.15**	**136**	*eP*		**Pn**	**09 43 42.4**	**-4.2**
SALTA				*eP*			09 43 48.1	
SALTA				*eS*		**Sn**	**09 44 25.2**	**+0.9**
GO02	**Mina Guanaco**	**3.29**	**194**			**Pn**	**09 43 47.7**	**-0.6**
GO02	**Mina Guanaco**	**3.29**	**194**	*eP*		**Pn**	**09 43 47.2**	**-1.0**
GO02				*eS*		**Sn**	**09 44 27.6**	**+0.3**
GO02				IAML			09 44 33.4	
	comp=Z,458nm,0.1s							
HJA	**Humahuaca**	**3.31**	**113**	*eP*		**Pn**	**09 43 50.0**	**+1.4**
PB16	**IPOC Station P**	**3.67**	**348**			**Pn**	**09 43 53.6**	**0.0**
SLA	**San Lorenzo**	**4.04**	**134**	*eP*		**Pn**	**09 43 59.5**	**+1.4**
AZAP	**Zapla**	**4.06**	**125**	*eP*		**Pn**	**09 43 58.7**	**+0.3**
PB18	**Visviri**	**4.40**	**351**			**Pn**	**09 44 05.3**	**+2.2**
AC01	**Pan de Azucar**	**4.52**	**202**			**Pn**	**09 44 02.3**	**-1.9**
AC01	**Pan de Azucar**	**4.52**	**202**	*eP*		**Pn**	**09 44 02.0**	**-2.2**
AC01				*eS*		**Sn**	**09 44 52.1**	**-3.8**
AC01				IAML			09 45 09.9	
	comp=Z,144nm,0.5s							
FSA	**Cafayete**	**4.84**	**149**	*eP*		**Pn**	**09 44 04.0**	**-4.7**
AC02	**Maricunga**	**4.88**	**184**			**Pn**	**09 44 08.9**	**-0.6**
AC02	**Maricunga**	**4.88**	**184**	*eP*		**Pn**	**09 44 08.9**	**-0.6**
AC02				IAML			09 45 41.3	
	comp=Z,124nm,0.6s							
LPAZ	**La Paz**	**5.66**	**6**			**Pn**	**09 44 21.6**	**+1.5**
LPAZ	**La Paz**	**5.66**	**6**	P		**Pn**	**09 44 21.0**	**+0.8**
	comp=Z,21nm,0.3s,baz=193,slow=3.7,SNR=143							
LPAZ				S		Sn	09 45 11.7	-13
	comp=Z,15nm,0.8s,baz=198,slow=6.0,SNR=4.8							
LPAZ	**La Paz**	**5.66**	**6**	*eP*		**Pn**	**09 44 21.7**	**+1.5**
GO03	**Copiapo**	**5.78**	**193**			**Pn**	**09 44 19.0**	**-2.3**
LCO	**Las Campanas**	**7.25**	**194**			**Pn**	**09 44 37.3**	**-4.0**
CFA	**Coronel Fontan**	**9.63**	**178**	P		**Pn**	**09 45 09.6**	**-3.4**
	comp=Z,2.5nm,0.3s,baz=4.3,slow=15,SNR=29							
CFA				S		Sn	09 46 50.8	-8.6
	comp=Z,2.5nm,0.4s,baz=172,slow=17,SNR=7.6							
PTLB	**Pontes e Lacer**	**11.15**	**56**			**Pn**	**09 45 30.7**	**-2.8**
PTLB	**Pontes e Lacer**	**11.15**	**56**	*eP*		**Pn**	**09 45 30.8**	**-2.8**
BDQN	**Bodoquena, MS**	**11.27**	**85**	*eP*		**Pn**	**09 45 31.0**	**-4.1**
CPUP	**Villa Florida**	**11.28**	**115**	P		**Pn**	**09 45 32.3**	**-2.9**
	comp=Z,0.4nm,0.6s,baz=143,slow=11,SNR=4.4							
MT02	**Curacav**	**11.47**	**190**	Pn		**Pn**	**09 45 36.6**	**-1.0**
VILB	**Vilhena**	**12.09**	**44**			**Pn**	**09 45 44.6**	**-1.3**
VILB	**Vilhena**	**12.09**	**44**	*eP*		**Pn**	**09 45 44.6**	**-1.3**
AQDB	**Aquidauana**	**12.24**	**85**	*eP*		**Pn**	**09 45 48.4**	**+0.5**
BO01	**Tunca**	**12.57**	**189**	Pn		**Pn**	**09 45 51.5**	**-0.5**
AMBA	**Amambai (Brazi**	**12.74**	**97**	*eP*		**Pn**	**09 45 55.0**	**+0.6**
BO02	**Sierra Bellavi**	**12.92**	**188**	Pn		**Pn**	**09 45 57.2**	**+0.5**
PSAL	**Palomas, Salto**	**13.47**	**135**	*eP*		**P**	**09 46 08.1**	**-0.5**
SALV	**Santo Antonio**	**13.71**	**66**	*eP*		**Pn**	**09 46 05.8**	**-1.3**
PP1B	**Ponte de Pedra**	**13.73**	**74**	*eP*		**Pn**	**09 46 06.9**	**-0.3**
RPRD	**Ribas do Rio P**	**14.09**	**87**	*eP*		**Pn**	**09 46 11.5**	**-0.2**
BI02	**San Fabin de**	**14.83**	**188**			**Pn**	**09 46 20.5**	**-0.6**
TRCB	**Terra Rica**	**14.91**	**96**	*eP*		**Pn**	**09 46 21.8**	**-0.4**
C2SB	**Chapadao do Su**	**15.23**	**81**	*eP*		**Pn**	**09 46 26.2**	**+0.1**
PDRB	**Porto dos Gac**	**15.40**	**50**	*eP*		**Pn**	**09 46 27.2**	**-1.2**
ITAB	**Concordia**	**15.98**	**113**			**Pn**	**09 46 35.2**	**-0.2**
ITAB	**Concordia**	**15.98**	**113**	*eP*		**P**	**09 46 36.2**	**-0.2**
CPSB	**Cacapava Do Su**	**16.09**	**125**	*eP*		**P**	**09 46 38.6**	**+1.1**
CLDB	**Colider**	**16.57**	**50**	*eP*		**Pn**	**09 46 41.5**	**-1.2**
TRQA	**Tornquist**	**17.07**	**162**	P		**P**	**09 46 48.3**	**-0.1**
ARAG	**Araguaiana, MT**	**17.16**	**72**	*eP*		**P**	**09 46 48.1**	**-1.6**
ITRB	**Iturama**	**17.31**	**86**	*eP*		**P**	**09 46 50.6**	**-0.6**
CNLB	**Canela**	**17.69**	**118**	*eP*		**Pn**	**09 46 56.8**	**+0.5**
FRTB	**Fartura**	**17.74**	**98**	*eP*		**P**	**09 46 54.3**	**-1.6**
LR05	**Currie**	**18.43**	**188**	P		**P**	**09 47 03.6**	**+0.3**
LR05				IAmb		IAmb	09 47 22.2	
	comp=Z,53nm,1.4s							
TEFE	**Tefe**	**18.76**	**13**	*eP*		**Pn**	**09 47 07.5**	**-1.4**
PLCA	**Paso Flores**	**18.79**	**184**	P		**P**	**09 47 08.0**	**+0.7**
PLCA	**Paso Flores**	**18.79**	**184**	P		**P**	**09 47 08.1**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=17,slow=9.3,SNR=8.3							
PLCA	**Paso Flores**	**18.79**	**184**	*eP*		**Pn**	**09 47 12.3**	**+3.1**
BB19B	**Bebedouro**	**18.82**	**91**	*eP*		**P**	**09 47 06.6**	**-1.2**
SNDB	**Serra Nova Dou**	**19.38**	**62**	*eP*		**P**	**09 47 11.8**	**-2.0**
RCLB	**Rio Claro- Sao**	**19.63**	**95**	*eP*		**P**	**09 47 15.7**	**-0.9**
NPGB	**Novo Progresso**	**19.65**	**43**	*eP*		**P**	**09 47 14.5**	**-2.2**
IPMB	**Ipameri, GO**	**19.68**	**82**	*eP*		**P**	**09 47 16.4**	**-0.7**
VAO	**Valinhos**	**20.14**	**97**			**P**	**09 47 21.0**	**-1.0**
VAO				IAmb		IAmb	09 47 21.5	
	comp=Z,23nm,0.9s							
VAO	**Valinhos**	**20.14**	**97**	*eP*		**P**	**09 47 20.6**	**-1.4**
MACA	**Manacapuru-AM**	**20.24**	**24**	P		**P**	**09 47 21.6**	**-1.6**
MACA	**Manacapuru-AM**	**20.24**	**24**	*eP*		**P**	**09 47 21.3**	**-1.9**
BDFB	**Brasilia**	**20.58**	**76**	P		**P**	**09 47 24.9**	**-2.0**
BDFB				IAmb		IAmb	09 47 27.2	
	comp=Z,12nm,1.1s							
BDFB	**Brasilia**	**20.58**	**76**	P		**P**	**09 47 24.1**	**-2.7**
	comp=Z,5.6nm,0.5s,baz=248,slow=14,SNR=7.5							
	comp=Z,5.6nm,0.5s							
LL01	**San Ignacio de**	**20.60**	**188**	P		**P**	**09 47 26.3**	**-0.4**
LL01				IAmb		IAmb	09 47 30.3	
	comp=Z,20nm,0.9s							
ITTB	**Itaituba**	**21.54**	**38**	*eP*		**P**	**09 47 34.7**	**-2.4**
BSCB	**Bom Sucesso**	**22.31**	**92**	*eP*		**P**	**09 47 45.0**	**-0.1**
PRPB	**Parauapebas**	**24.09**	**52**	*eP*		**P**	**09 48 00.7**	**-1.0**
JANB	**Januaria**	**24.12**	**78**	*eP*		**P**	**09 48 01.5**	**-0.6**
SMTB	**Santa Maria do**	**24.13**	**61**	*eP*		**P**	**09 48 01.5**	**-0.6**
MAL2	**Monte Alegre,**	**24.35**	**38**	P		**P**	**09 48 04.8**	**+0.8**
SDBA	**SAO DESIDERIO**	**24.63**	**71**	*eP*		**P**	**09 48 04.9**	**-1.7**
BOAV	**Boa Vista**	**25.49**	**19**	P		**P**	**09 48 15.1**	**+0.7**
BOAV				IAmb		IAmb	09 48 15.7	
	comp=Z,11nm,0.7s							
BOAV	**Boa Vista**	**25.49**	**19**	*eP*		**P**	**09 48 14.4**	**0.0**
RUSC	**La Rusia**	**28.00**	**351**	P		**P**	**09 48 37.9**	**+0.5**
RUSC				IAmb		IAmb	09 49 09.1	
	comp=Z,12nm,1.1s							
BAUV	**El Baul**	**30.71**	**1**	P		**P**	**09 49 01.0**	**+0.2**
VNA3	**Neumayer Olymp**	**59.60**	**161**	⇑P		**P**	**09 52 49.0**	**+1.1**
	comp=Z,2.1nm,0.6s							
VNA1	**Neumayer--Stat**	**59.80**	**160**	⇑P		**P**	**09 52 50.8**	**+1.6**
	comp=Z,3.2nm,1.0s							
VNA2	**Neumayer--Watz**	**60.17**	**161**	⇑P		**P**	**09 52 53.0**	**+1.2**
	comp=Z,3.6nm,0.6s,baz=279,slow=7.5							
TXAR	**Lajitas Array**	**61.09**	**325**	P		**P**	**09 53 00.2**	**+1.6**
	comp=Z,0.1nm,0.6s,baz=146,slow=8.9,SNR=2.0							
	comp=Z,0.1nm,0.6s							
SNAA	**Sanae**	**61.80**	**161**	⇑P		**P**	**09 53 03.4**	**+0.5**
	comp=Z,86nm,0.7s							
SNAA	**Sanae**	**61.80**	**161**	P		**P**	**09 53 03.7**	**+0.8**
SNAA				IAmb		IAmb	09 53 04.6	
	comp=Z,3.5nm,0.7s							
SNAA	**Sanae**	**61.80**	**161**	P		**P**	**09 53 03.8**	**+0.9**
	comp=Z,2.9nm,0.6s,baz=280,slow=7.7,SNR=40							
	comp=Z,2.9nm,0.6s							
TROLL	**Troll, Antarti**	**63.52**	**161**	⇑P		**P**	**09 53 15.7**	**+1.4**
	comp=Z,147nm,0.5s							
QSPA	**South Pole Qui**	**68.24**	**180**	P		**P**	**09 53 48.0**	**+3.3**
	comp=Z,4.0nm,0.8s,baz=140,slow=1.0,SNR=22							
	comp=Z,4.0nm,0.8s							
DBIC	**Dimbokro**	**68.70**	**73**	P		**P**	**09 53 47.9**	**-0.3**
	comp=Z,7.5nm,0.8s,baz=249,slow=6.2,SNR=7.9							
	comp=Z,7.5nm,0.8s							
PDAR	**Pinedale Array**	**74.58**	**330**	P		**P**	**09 54 24.6**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=133,slow=4.4,SNR=2.8							
	comp=Z,0.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**77.34**	**70**	P		**P**	**09 54 38.4**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=252,slow=5.4,SNR=9.5							
	comp=Z,1.6nm,0.5s							
MKAR	**Makanchi Array**	**145.89**	**36**	PKPbc		**PKPab**	**10 02 23.5**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=327,slow=2.4,SNR=7.6							

*BER **19** 09:50:19.9±2.3,80°.77N×2°.89W,h10km,mb(Pn)2.6, ML1.1(DNK),Confirmed Earthquake*
*DNK **19** 09:50:21.3±2.0,80°.74N×2°.95W,h37km±20km,ML1.1*
ISC 19 09:50:16.1±1.1,80.72N±0°.07×3.05W±0°.05,h10km,n11, σ2$87/22,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.28**	**299**	*eP*		**Pn**	**09 50 56.4**	**+2.7**
NOR				*eS*		**Sn**	**09 51 21.0**	**-0.7**
NOR				IAML			09 51 27.3	
	comp=Z,0.8nm,0.2s							
NOR	**Nord**	**2.28**	**299**	*eP*		**Pn**	**09 50 56.4**	**+2.7**
NOR				*eS*		**Sn**	**09 51 21.0**	**-0.7**
NOR				IAML			09 51 27.3	
	comp=Z,0.8nm,0.2s							
KBS	**Kingsbay**	**3.21**	**117**	*eP*		**Pn**	**09 51 09.3**	**+2.9**
KBS				*eS*		**Sn**	**09 51 42.7**	**-1.9**
KBS				IAML			09 51 55.3	
	comp=Z,3.0nm,0.8s							
KBS	**Kingsbay**	**3.21**	**117**	*eP*		**Pn**	**09 51 09.0**	**+2.6**
KBS				*eS*		**Sn**	**09 51 42.5**	**-2.1**
SPA0	**Spitsbergen Ar**	**4.37**	**116**	*eP*		**Pn**	**09 51 25.8**	**+1.4**
SPA0				*eS*		**Sn**	**09 52 12.7**	**-0.5**
SPA0	**Spitsbergen Ar**	**4.37**	**116**	*eP*		**Pn**	**09 51 25.8**	**+3.4**
SPA0				*eS*		**Sn**	**09 52 11.6**	**-1.6**
SPA0				IAML			09 52 24.1	
	comp=Z,2.0nm,0.8s							
DAG	**Danmarks Havn**	**4.99**	**225**	*eP*		**Pn**	**09 51 34.1**	**+3.3**
DAG				*eS*		**Sn**	**09 52 26.5**	**-1.9**
DAG				IAML			09 52 31.8	
	comp=Z,2.2nm,0.4s							
DAG	**Danmarks Havn**	**4.99**	**225**	*eP*		**Pn**	**09 51 34.1**	**+3.3**
DAG				*eS*		**Sn**	**09 52 25.2**	**-3.2**
DAG				IAML			09 52 31.8	
	comp=Z,2.2nm,0.4s							
DBG	**Daneborg**	**7.39**	**219**	*eP*		**Pn**	**09 52 05.5**	**+1.7**
DBG				*eS*		**Sn**	**09 53 23.6**	**-3.9**
ZFI2	**Zemlya Franca-**	**7.93**	**64**	*eP*		**Pn**	**09 52 13.7**	**+2.5**
ZFI2				*eS*		**Sn**	**09 53 36.8**	**-4.0**
	comp=Z,22nm,1.8s							
OMEGA	**Omega**	**7.95**	**65**	*eP*		**Pn**	**09 52 13.7**	**+2.2**
OMEGA				*eS*		**Sn**	**09 53 36.8**	**-4.5**
	comp=Z,26nm,1.8s							

*SJA **19** 09:54:11.4±0.6,27°.13S×71°.31W,h10km,ML4.4,MW4.0*
*GUC **19** 09:54:14.9±0.7,27°.19S×71°.07W,h37km±3km,ML4.5*
*NEIC **19** 09:54:16.4±2.4,27°.15S±0°.05×71°.2W±0°.1,h35km±2km, mb4.3/6,Mwr4.2/40,Mwr4.3(GUC),Error ellipse: s-maj=17.1km s-min=7.7km az=274.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.71; Mθθ0.46; Mϕϕ-2.17; Mrθ0.17; Mθϕ-0.54; Mϕr-0.64; Fault plane solution: M₀2.15000×10¹⁵ NP1:ϕs179.74000°, δ54.52000°,λ75.14000°. NP2:ϕs24.30000°,δ38.09000°, λ109.78000°. Principal axes: T 1.8605, Plg75.0000°,*

Azm44.0000°; N 0.5000, Plg12.0000°, Azm188.0000°; P -2.3605, Plg8.0000°, Azm280.0000°;
*NEIC **19** 09:54:16.4,27°.15S×71°.22W,h35km*
*IDC **19** 09:54:17.3±3.8,27°.12S×70°.79W,h37km±29km,mb3.9/6, mbtmp3.9/10,ML3.4/4,MS3.5/8,Error ellipse: s-maj=34.7km s-min=18.4km az=93.0*
ISC 19 09:54:14.4±1.4,27°.21S±0°.02×71°.05W±0°.04,h18km±9km, n90,σ1$96/108,mb4.2/9,MS3.6/6,6C-4D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO03	**Copiapo**	**0.82**	**118**			**Pg**	**09 54 31.1**	**+0.6**
GO03	**Copiapo**	**0.82**	**118**	⇓*iP*		**Pg**	**09 54 30.6**	**+0.1**
GO03				*i* S		**Sb**	**09 54 41.6**	**+0.6**
GO03	**Copiapo**	**0.82**	**118**	*eP*		**Pg**	**09 54 30.7**	**+0.1**
GO03				IAML			09 54 47.3	
	comp=Z,7μm,0.5s							
AC04	**Llanos de Chal**	**0.99**	**181**			**Pb**	**09 54 33.1**	**+0.1**
AC04	**Llanos de Chal**	**0.99**	**181**	⇓*iP*		**Pb**	**09 54 32.8**	**-0.3**
AC04				*i* S		**Sb**	**09 54 46.2**	**+0.5**
AC04	**Llanos de Chal**	**0.99**	**181**	*eP*		**Pb**	**09 54 33.0**	**0.0**
AC04				*eS*		**Sn**	**09 54 47.6**	**+0.6**
AC01	**Pan de Azucar**	**1.14**	**21**			**Pb**	**09 54 35.4**	**-0.2**
AC01	**Pan de Azucar**	**1.14**	**21**	⇑*iP*		**Pb**	**09 54 34.9**	**-0.7**
AC01				*i* S		**Sb**	**09 54 49.1**	**-0.8**
AC01	**Pan de Azucar**	**1.14**	**21**	*eP*		Pb	09 54 29.3	-6.3
AC01				*eS*		**Sb**	**09 54 49.9**	**-0.1**
AC01				IAML			09 54 53.9	
	comp=Z,5μm,0.3s							
AC02	**Maricunga**	**1.76**	**78**			**Pb**	**09 54 46.5**	**0.0**
AC02	**Maricunga**	**1.76**	**78**	⇓*iP*		**Pb**	**09 54 46.4**	**-0.1**
AC02				*i* S		**Sb**	**09 55 09.1**	**+0.7**
AC02				IAML			09 55 11.0	
	comp=E,13μm,0.2s							
AC02	**Maricunga**	**1.76**	**78**	*eP*		**Pb**	**09 54 46.5**	**0.0**
AC02				*eS*		**Sn**	**09 55 03.8**	**-2.9**
AC02				IAML			09 55 10.5	
	comp=Z,6μm,0.2s							
LCO	**Las Campanas**	**1.82**	**170**			**Pn**	**09 54 46.2**	**+1.1**
LCO	**Las Campanas**	**1.82**	**170**	*i* P		**Pn**	**09 54 45.9**	**+0.8**
LCO				*i* S		**Sb**	**09 55 10.3**	**+0.4**
LCO				IAML			09 55 14.0	
	comp=Z,10μm,0.3s							
LCO	**Las Campanas**	**1.82**	**170**	*eP*		**Pn**	**09 54 46.5**	**+1.4**
LCO				*eS*		**Sg**	**09 55 13.9**	**+0.8**
LCO				IAML			09 55 14.5	
	comp=Z,3μm,0.6s							
GO02	**Mina Guanaco**	**2.43**	**33**			**Pn**	**09 54 54.3**	**+0.8**
GO02	**Mina Guanaco**	**2.43**	**33**	⇑*iP*		**Pn**	**09 54 54.1**	**+0.6**
GO02				*i* S		**Sn**	**09 55 24.5**	**+1.6**
GO02				IAML			09 55 38.4	
	comp=N,5μm,0.4s							
GO02	**Mina Guanaco**	**2.43**	**33**	*eP*		**Pn**	**09 54 54.7**	**+1.2**
GO02				*eS*		**Sb**	**09 55 27.1**	**-0.4**
GO02				IAML			09 55 38.4	
	comp=Z,3μm,0.5s							
PB14	**IPOC Station P**	**2.64**	**13**			**Pn**	**09 54 55.4**	**-1.1**
PB14	**IPOC Station P**

LPAZ				LR	LR	10 01 35.0			
	comp=Z,150nm,18.2s,baz=178,slow=40								
	comp=Z,0.9nm,0.4s								
CPUP	**Villa Florida**	**12.30**	**89**	Pn	**Pn**	**09 57 12.0**	**+3.3**		
CPUP	**Villa Florida**	**12.30**	**89**	Pn	**Pn**	**09 57 05.3**	**-3.4**		
	baz=274,slow=16,SNR=1.3								
CPUP				LR	LR	10 02 23.8			
	comp=Z,103nm,18.4s,baz=114,slow=40								
	comp=Z,0.1nm,0.4s								
TRQA	**Tornquist**	**13.23**	**147**	Pn	**Pn**	**09 57 24.3**	**+2.9**		
PLCA	**Paso Flores**	**13.49**	**178**	Pn	**Pn**	**09 57 26.2**	**+1.2**		
	comp=Z,0.1nm,0.3s,baz=9.5,slow=12,SNR=1.3								
	comp=Z,2.3nm,1.1s								
PLTB	**Pedras Altas**	**15.86**	**111**	Pn	**Pn**	**09 57 57.7**	**+1.0**		
ITAB	**Concordia**	**16.84**	**94**		**P**	**09 58 11.5**	**+0.3**		
ITAB				IAmb	IAmb	09 58 36.9			
	comp=Z,24nm,1.3s								
ATAH	**Atahualpa**	**21.15**	**339**	LR	LR	10 06 45.2			
	comp=Z,46nm,18.2s,baz=243,slow=35								
BDFB	**Brasilia**	**24.30**	**66**	P	**P**	**09 59 29.0**	**-2.2**		
	comp=Z,2.6nm,0.5s,baz=237,slow=7.6,SNR=5.1								
BDFB				LR	LR	10 10 06.6			
	comp=Z,157nm,19.5s,baz=309,slow=40								
	comp=Z,2.6nm,0.5s								
BOAV	**Boa Vista**	**31.14**	**21**	P	**P**	**10 00 32.3**	**+0.1**		
BOAV				IAmb	IAmb	10 00 32.6			
	comp=Z,2.8nm,0.8s								
RPN	**Rapa Nui**	**33.97**	**261**	LR	LR	10 10 08.4			
	comp=Z,54nm,19.0s,baz=114,slow=28								
BAUV	**El Baul**	**36.06**	**5**	P	**P**	**10 01 13.4**	**-1.6**		
VNA3	**Neumayer Olymp**	**55.36**	**160**	⇑P	**P**	**10 03 47.3**	**+0.3**		
	comp=Z,2.0nm,0.8s								
VNA1	**Neumayer--Stat**	**55.63**	**159**	⇑P	**P**	**10 03 48.2**	**-0.6**		
	comp=Z,2.2nm,1.0s								
VNA2	**Neumayer--Watz**	**55.98**	**159**	⇑P	**P**	**10 03 49.9**	**-1.5**		
	comp=Z,2.7nm,0.7s,baz=282,slow=8.3								
SNAA	**Sanae**	**57.58**	**160**	⇑P	**P**	**10 04 02.9**	**+0.1**		
	comp=Z,32nm,0.6s								
SNAA	**Sanae**	**57.58**	**160**	P	**P**	**10 04 03.2**	**+0.4**		
SNAA				IAmb	IAmb	10 04 25.3			
	comp=Z,5.6nm,1.4s								
SNAA	**Sanae**	**57.58**	**160**	P	**P**	**10 04 02.7**	**-0.1**		
	comp=Z,1.5nm,0.6s,baz=280,slow=7.6,SNR=19								
	comp=Z,1.5nm,0.6s								
TROLL	**Troll, Antarti**	**59.30**	**160**	⇓P	**P**	**10 04 15.3**	**+0.5**		
	comp=Z,48nm,0.5s								
QSPA	**South Pole Qui**	**63.00**	**180**	P	**P**	**10 04 42.5**	**+2.5**		
QSPA				IAmb	IAmb	10 04 43.9			
	comp=Z,3.8nm,1.1s								
QSPA	**South Pole Qui**	**63.00**	**180**	P	**P**	**10 04 41.6**	**+1.6**		
	comp=Z,2.3nm,1.0s,baz=123,slow=3.0,SNR=3.9								
	comp=Z,2.3nm,1.0s								
TXAR	**Lajitas Array**	**64.32**	**329**	P	**P**	**10 04 49.7**	**+0.6**		
	comp=Z,0.2nm,0.8s,baz=144,slow=7.3,SNR=2.2								
	comp=Z,0.2nm,0.8s								
DBIC	**Dimbokro**	**72.27**	**73**	LR	LR	10 34 55.3			
	comp=Z,55nm,21.2s,baz=230,slow=34								
MAW	**Mawson**	**79.43**	**164**	P	**P**	**10 06 18.4**	**-0.8**		
	comp=Z,2.6nm,0.9s,baz=238,slow=7.2,SNR=5.0								
	comp=Z,2.6nm,0.9s								
TSUM	**Tsumeb**	**80.29**	**107**	LR	LR	10 39 31.0			
	comp=Z,48nm,19.0s,baz=149,slow=34								
TORD	**Torodi Ar. Bea**	**81.11**	**70**	P	**P**	**10 06 28.7**	**-0.5**		
	comp=Z,4.6nm,0.8s,baz=270,slow=4.6,SNR=19								
	comp=Z,4.6nm,0.8s								
LSZ	**Lusaka**	**91.09**	**108**	LR	LR	10 43 50.1			
	comp=Z,46nm,18.5s,baz=200,slow=33								
KURBB	**Kurchatov Arra**	**147.12**	**36**	PKPbc	**PKPdf**	**10 13 54.5**	**+0.6**		
	comp=Z,0.7nm,0.4s,baz=301,slow=3.0,SNR=5.7								
ZALV	**Zalesovo Beam**	**147.92**	**27**	PKPbc	**PKPdf**	**10 13 55.9**	**+0.8**		
	comp=Z,3.8nm,0.7s,baz=300,slow=3.3,SNR=14								
MKAR	**Makanchi Array**	**151.32**	**40**	PKPbc	**PKPbc**	**10 14 06.5**	**-0.3**		
	comp=Z,2.9nm,0.7s,baz=316,slow=2.3,SNR=21								

IDC 19 09:58:08.0±2.0, 1°.63N×126°.34E, h0km, mb3.6/3, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=118.6km s-min=26.3km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.62**	**182**	P	P	10 02 38.8	+0.5
	baz=14,slow=12,SNR=1.0						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**22.83**	**160**	P	P	10 03 12.4	-0.5
	1.5nm,0.5s,baz=338,slow=11,SNR=20						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**26.20**	**164**	P	P	10 03 44.9	+0.3
	0.6nm,0.5s,baz=349,slow=9.8,SNR=17						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**59.06**	**326**	P	P	10 08 09.9	-0.1
	0.2nm,0.4s,baz=120,slow=8.5,SNR=3.2						
	0.2nm,0.4s						

*IDC **19** 09:59:44.2±1.3, 33°.28N×115°.73W, h0km, mbtmp2.9/5, ML3.1/5, Error ellipse: s-maj=16.6km s-min=8.1km az=18.0*
*PAS **19** 09:59:46.6±1.2, 33°.360N±0°.005×115°.788W±0°.007, h3km±3km, Mwr3.6/4, ML3.6/60(NEIC), Error ellipse: s-maj=0.9km s-min=0.7km az=119.0*
*NEIC **19** 09:59:46.4±1.1, 33°.372N±0°.008×115°.791W±0°.010, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.6km az=53.0*

ISC 19 09:59:46.7±0.8, 33°.36N±0°.02×115°.80W±0°.02, h15km±6km, n92, σ1§02/115, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOMB	**Bombay Beach**	**0.06**	**80**		**Pg**	**09 59 49.8**	**+0.3**
FRK	**Frink**	**0.14**	**71**		**Pg**	**09 59 49.4**	**-1.1**
FRK					**Sg**	**09 59 51.5**	**-1.5**
SALN	**Salton City**	**0.17**	**245**	Pg	**Pg**	**09 59 50.9**	**0.0**
ERRC	**Elmore Ranch**	**0.24**	**185**		Pg	09 59 57.0	+5.1
CLI2	**Calipatria 2**	**0.30**	**142**		**Pb**	**09 59 53.2**	**-0.5**
CTW	**Cottonwood Mou**	**0.33**	**349**		**Pg**	**09 59 53.2**	**-0.4**
CTW					**Sg**	**09 59 57.9**	**-0.3**
CTCC	**Cactus City**	**0.34**	**332**		**Sg**	**09 59 58.8**	**+0.2**
HAY	**Hayfield**	**0.36**	**15**		**Pg**	**09 59 53.9**	**-0.3**
HAY					**Sg**	**09 59 59.3**	**0.0**
WEMD	**Westmorland, C**	**0.36**	**150**		**Pb**	**09 59 54.6**	**-0.3**
WEMD					**Sb**	**10 00 01.0**	**+0.6**
SUP	**Superstition M**	**0.40**	**183**		**Pg**	**09 59 54.6**	**-0.2**
SWSC	**Sam W. Stewart**	**0.41**	**180**		**Pg**	**09 59 54.8**	**-0.2**
SWSC					**Sg**	**10 00 00.1**	**-0.4**
BC3	**Big Chuckawall**	**0.41**	**44**		**Pg**	**09 59 54.6**	**-0.5**
BC3	**Big Chuckawall**	**0.41**	**44**		**Sg**	**10 00 00.6**	**-0.2**
SLH	**Sleepy Hollow**	**0.41**	**247**		**Pg**	**09 59 55.1**	**+0.1**
SLH					**Sg**	**10 00 01.4**	**+0.7**
SLVP	**Salvation Pass**	**0.43**	**106**		**Pg**	**09 59 54.9**	**-0.5**
SLVP					**Sg**	**10 00 00.7**	**-0.5**
CRR	**Carrizo Plain**	**0.49**	**197**		**Pg**	**09 59 56.3**	**-0.1**
CRR					**Sb**	**10 00 05.1**	**+1.1**
IMPE	**Imperial**	**0.49**	**156**		**Pb**	**09 59 56.8**	**-0.2**
IMPE					**Sb**	**10 00 05.0**	**+0.9**
COK2	**Cook Ranch 2**	**0.51**	**173**		**Pg**	**09 59 56.9**	**+0.1**
COK2					**Sb**	**10 00 05.2**	**+0.7**
BORC	**Borrego Spring**	**0.53**	**261**		**Pg**	**09 59 56.9**	**-0.2**
BORC				IAML		10 00 06.6	
	comp=N,2µm,0.5s						
BORC	**Borrego Spring**	**0.53**	**261**		**Sg**	**10 00 04.2**	**+0.1**
PMD	**Palm Desert**	**0.57**	**301**		**Pg**	**09 59 57.1**	**-0.8**
PMD				IAML		10 00 07.3	
	comp=E,3µm,0.1s						
SNR	**Schaffner Ranc**	**0.58**	**148**		**Pg**	**09 59 58.1**	**0.0**
SNR					**Sb**	**10 00 07.6**	**+1.1**
WESC	**Westside Schoo**	**0.60**	**175**		**Sb**	**10 00 08.0**	**+0.9**
XPFO	**Pinon Flat**	**0.61**	**295**		**Sg**	**10 00 06.5**	**-0.3**
PFO	**Pinyon Flats O**	**0.61**	**295**		**Pg**	**09 59 58.0**	**-0.7**
PFO	**Pinyon Flats O**	**0.61**	**295**	Pg	**Pg**	**09 59 57.9**	**-0.8**
	comp=E,238nm,0.3s,baz=118,slow=14,SNR=2122						
PFO				Lg	Lg	10 00 08.3	
	comp=E,200nm,0.3s,baz=40,slow=22,SNR=8.9						
DREC	**Desert Rsrch C**	**0.62**	**152**		**Pb**	**09 59 59.2**	**-0.1**
DREC					**Sb**	**10 00 10.0**	**+2.2**
BELC	**Belle Mtn. Jos**	**0.67**	**346**		**Pg**	**09 59 59.4**	**-0.4**
BELC				IAML		10 00 09.6	
	comp=N,3µm,0.5s						
BELC	**Belle Mtn. Jos**	**0.67**	**346**		**Sg**	**10 00 08.3**	**-0.3**
FRD	**Ford Ranch, An**	**0.69**	**282**		**Pg**	**09 59 59.8**	**-0.4**
FRD					**Sg**	**10 00 09.8**	**+0.5**
FRD	**Ford Ranch, An**	**0.69**	**282**		**Sg**	**10 00 08.9**	**-0.3**
SGL	**Mount Signal**	**0.71**	**175**		**Pg**	**09 59 59.8**	**-0.7**
SGL					**Sg**	**10 00 09.3**	**-0.5**
SNDA	**J Saunders Pla**	**0.71**	**286**		**Sg**	**10 00 09.8**	**-0.2**
YUH	**Yuha Desert**	**0.71**	**189**	Pg	**Pg**	**09 59 59.9**	**-0.8**
YUH	**Yuha Desert**	**0.71**	**189**		**Sg**	**10 00 09.9**	**-0.2**
JUEM	**Julian Eagle M**	**0.72**	**248**		**Sg**	**10 00 10.2**	**-0.3**
DNR	**Dunn Ranch,Anz**	**0.73**	**287**		**Pg**	**10 00 00.6**	**-0.4**
DNR	**Dunn Ranch,Anz**	**0.73**	**287**		**Sg**	**10 00 10.7**	**+0.1**
MATG	**Mataguay Scout**	**0.73**	**258**		**Pg**	**10 00 00.6**	**-0.3**
MATG					**Sg**	**10 00 10.5**	**-0.1**
5053	**Calexico**	**0.73**	**159**		**Pg**	**10 00 00.6**	**-0.3**
5053					**Sb**	**10 00 12.0**	**+1.1**
BZNA	**Buzz No.'s Pla**	**0.74**	**281**		**Sg**	**10 00 10.8**	**-0.1**
COA	**Coachella**	**0.75**	**131**		**Pg**	**10 00 00.6**	**-0.7**
IKP	**In-Ko-Pah, Jac**	**0.75**	**201**		**Pg**	**10 00 00.6**	**-0.8**
IKP					**Sg**	**10 00 11.2**	**0.0**
5054	**Holtville Bond**	**0.77**	**150**		**Pg**	**10 00 01.2**	**-0.4**
5054					**Sb**	**10 00 12.9**	**+1.0**
EW2	**E Wide Canyon**	**0.78**	**319**		**Sg**	**10 00 12.3**	**+0.3**
UABX	**UABC, Campus M**	**0.78**	**157**		**Pg**	**10 00 01.3**	**-0.6**
UABX					**Sb**	**10 00 13.1**	**+0.7**
RMX	**La Rumorosa**	**0.79**	**198**		**Pg**	**10 00 01.8**	**-0.2**
RMX					**Sb**	**10 00 13.1**	**+0.4**
RUN	**Ruthven**	**0.79**	**119**		**Pg**	**10 00 01.0**	**-1.0**
RUN					**Sg**	**10 00 12.5**	**+0.1**
GVDA	**Garner Valley**	**0.80**	**293**		**Pg**	**10 00 01.5**	**-0.8**
CRY	**Cary Ranch**	**0.81**	**285**		**Sg**	**10 00 13.1**	**-0.2**
BLAC	**Blackrock camp**	**0.87**	**326**		**Pg**	**10 00 02.6**	**-0.9**
BLAC					**Sg**	**10 00 15.0**	**0.0**
GLA	**Glamis**	**0.87**	**110**		**Pg**	**10 00 02.8**	**-0.8**
GLA				IAML		10 00 16.6	
	comp=E,3µm,0.5s						
GLA				IAML		10 00 19.1	
	comp=N,2µm,0.5s						
GLA	**Glamis**	**0.87**	**110**		**Sg**	**10 00 14.7**	**-0.3**
DEVC	**Devers**	**0.87**	**312**		**Pg**	**10 00 03.1**	**-0.6**
DEVC					**Sb**	**10 00 16.0**	**+0.9**
PLM	**Palomar**	**0.89**	**270**		**Sg**	**10 00 15.5**	**-0.3**
EMSC	**East Mesa**	**0.92**	**132**		**Pg**	**10 00 03.1**	**-1.4**
IRM	**Iron Mountain**	**0.97**	**34**		**Pg**	**10 00 04.5**	**-1.0**
IRM				IAML		10 00 20.4	
	comp=N,1µm,0.6s						
IRM				IAML		10 00 20.6	
	comp=E,1µm,0.4s						
IRM	**Iron Mountain**	**0.97**	**34**		**Sg**	**10 00 17.5**	**-0.7**
BAR	**Barrett**	**1.00**	**228**		**Pg**	**10 00 05.0**	**-1.0**
BAR				IAML		10 00 19.3	
	comp=N,2µm,0.2s						
BAR				IAML		10 00 19.4	
	comp=E,1µm,0.2s						
BAR	**Barrett**	**1.00**	**228**		**Sg**	**10 00 18.5**	**-0.6**
POB	**Polly Butte**	**1.00**	**290**		**Pg**	**10 00 04.7**	**-1.3**
POB					**Sg**	**10 00 18.3**	**-0.8**
CPBX	**Cerro Prieto**	**1.02**	**156**		**Pg**	**10 00 06.0**	**-0.5**
CPBX				IAML		10 00 41.0	
	comp=N,2µm,0.4s						
DPP	**Dos Picos Cty**	**1.02**	**250**		**Pg**	**10 00 05.2**	**-1.3**
DPP				IAML		10 00 20.9	
	comp=E,3µm,0.2s						
DPP	**Dos Picos Cty**	**1.02**	**250**		**Sg**	**10 00 18.8**	**-1.1**
DGR	**Domenigoni Val**	**1.05**	**287**		**Sg**	**10 00 20.1**	**-0.8**
BLYC	**Blythe**	**1.14**	**69**		**Pg**	**10 00 06.6**	**-2.0**
BLYC				IAML		10 00 25.8	
	comp=N,1µm,0.6s						
BLYC				IAML		10 00 27.8	
	comp=E,1µm,0.6s						
CBX	**Cerro Bola**	**1.27**	**215**		**Pg**	**10 00 09.2**	**-2.0**
CBX				IAML		10 00 40.3	
	comp=N,2µm,0.8s						
DANC	**Danby, Needles**	**1.32**	**15**		**Pg**	**10 00 11.2**	**-1.1**
DANC				IAML		10 00 33.4	
	comp=E,2µm,0.4s						
DANC				IAML		10 00 37.4	
	comp=N,960nm,0.4s						
TJX	**Tijuana**	**1.35**	**232**		**Pn**	**10 00 10.5**	**-0.5**
TJX				IAML		10 00 32.9	
	comp=E,2µm,0.9s						
ESJX	**Sierra Juarez**	**1.35**	**185**		**Pn**	**10 00 10.1**	**-1.1**
ESJX				IAML		10 00 29.7	
	comp=E,960nm,0.3s						
ESJX				IAML		10 00 30.0	
	comp=N,620nm,0.1s						
ELS	**Elsinore Mount**	**1.39**	**283**		**Pn**	**10 00 11.1**	**-0.6**
CCX	**Cicese**	**1.65**	**206**	IAML		10 00 46.6	
	comp=E,582nm,0.9s						
CCX				IAML		10 00 54.1	
	comp=N,431nm,0.7s						
NEE2	**Needles Airpor**	**1.72**	**34**		**Pn**	**10 00 17.3**	**+1.3**
NEE2				IAML		10 00 43.3	
	comp=N,1µm,0.3s						
NEE2				IAML		10 00 51.8	
	comp=E,1µm,0.6s						
VTX	**Valle De La Tr**	**1.96**	**180**		**Pn**	**10 00 19.2**	**-0.3**
MWC	**Mount Wilson**	**2.07**	**295**		**Pn**	**10 00 21.5**	**+0.4**
MWC				IAML		10 00 57.0	
	comp=E,326nm,0.5s						
MWC				IAML		10 00 57.6	
	comp=N,396nm,0.7s						
MTPC	**Mountain Pass**	**2.13**	**5**		**Pn**	**10 00 23.7**	**+1.7**
PASC	**Pasadena Art C**	**2.15**	**293**		**Pn**	**10 00 24.5**	**+2.5**
W13A	**Hualapai Mount**	**2.35**	**42**		**Pn**	**10 00 25.0**	**0.0**
Y14A	**Wickenburg**	**2.40**	**75**		**Pn**	**10 00 26.2**	**+0.6**
TPO	**Tropico Hills**	**2.52**	**308**		**Pn**	**10 00 27.4**	**+0.2**
PIX	**Pinacate**	**2.67**	**132**		**Pn**	**10 00 29.2**	**0.0**
SHPR	**Sheep Range**	**3.19**	**9**		**Pn**	**10 00 39.0**	**+2.6**
WUAZ	**Wupatki**	**4.25**	**58**		**Pn**	**10 00 54.3**	**+3.3**
WUAZ				IAML		10 02 03.0	
	comp=N,48nm,0.5s						
WUAZ				IAML		10 02 07.2	
	comp=N,60nm,0.6s						
TUC	**Tucson**	**4.35**	**103**		**Pn**	**10 00 53.7**	**+1.4**
DSP	**Deep Springs**	**4.38**	**337**		**Pn**	**10 00 52.9**	**+0.2**
PMPB	**Monarch Peak**	**5.01**	**306**	Pn	**Pn**	**10 01 01.4**	**0.0**
NVAR	**Mina Array Bea**	**5.46**	**339**	Pn	**Pn**	**10 01 07.1**	**-0.6**
	comp=N,0.1nm,0.3s,baz=258,slow=35,SNR=1.8						
NVAR				Pg	**Pb**	**10 01 17.8**	**-4.1**
	comp=N,0.4nm,0.3s,baz=162,slow=15,SNR=6.9						
NVAR				Lg	Lg	10 02 40.1	
	comp=N,0.3nm,0.3s,baz=153,slow=30,SNR=1.3						
	comp=N,0.1nm,0.3s						
SPR3	**Spring Creek 3**	**5.76**	**11**		**Pn**	**10 01 13.0**	**+1.1**
ELK	**Elko**	**7.39**	**3**	Pn	**Pn**	**10 01 36.3**	**+2.1**
	comp=N,0.1nm,0.3s,baz=177,slow=13,SNR=2.5						
ELK				Lg	Lg	10 03 38.3	
	comp=N,0.3nm,0.3s,baz=186,slow=13,SNR=3.7						
	comp=N,0.4nm,0.4s						
ANMO	**Albuquerque**	**7.90**	**76**	Pn	**Pn**	**10 01 39.4**	**-1.9**
	comp=N,0.1nm,0.3s,baz=264,slow=9.2,SNR=2.0						
ANMO				Pg	**Pb**	**10 02 06.5**	**+3.0**
	comp=N,0.1nm,0.3s,baz=262,slow=14,SNR=5.8						
ANMO				Lg	Lg	10 03 52.4	
	comp=N,0.2nm,0.3s,baz=284,slow=19,SNR=1.6						
	comp=N,0.3nm,0.3s						
PDAR	**Pinedale Array**	**10.60**	**26**	Pn	Pn	10 02 23.2	+5.0
	baz=226,slow=11,SNR=4.6						
	comp=N,0.7nm,0.9s						
TXAR	**Lajitas Array**	**11.12**	**108**	Pn	**Pn**	**10 02 25.1**	**-0.2**
	comp=N,0.1nm,0.3s,baz=295,slow=14,SNR=6.9						
	comp=N,0.1nm,0.3s						

*IDC **19** 10:22:24.0±1.4, 33°.80S×56°.42E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=53.4km s-min=29.0km az=96.0*

ISC 19 10:22:25.9±1.3, 33°.8S±0°.2×56°.4E±0°.4, h12km, n16, σ0§76/7, mb3.9/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**12.83**	**195**	T	T	10 38 19.5	
	baz=17,slow=75,SNR=232						
H04N1	**CROZET ISLANDS**	**12.83**	**195**	T	T	10 38 17.0	
	baz=17,slow=75,SNR=270						
H04N3	**CROZET ISLANDS**	**12.84**	**195**	T	T	10 38 20.9	
	baz=17,slow=75,SNR=286						
H08S1	**Diego Carcia H**	**29.98**	**33**	T	T	11 00 12.7	
	baz=207,slow=75,SNR=38						
H08S2	**Diego Garcia H**	**29.98**	**33**	T	T	10 59 54.0	
	baz=207,slow=75,SNR=7.8						
H08S3	**Diego Garcia H**	**30.00**	**33**	T	T	11 00 14.2	
	baz=207,slow=75,SNR=30						
H01W2	**Cape Leeuwin H**	**47.09**	**108**	T	T	11 21 29.5	
	baz=253,slow=74,SNR=5.1						
H01W3	**Cape Leeuwin H**	**47.09**	**108**	T	T	11 21 32.3	
	baz=253,slow=74,SNR=4.4						
H01W1	**Cape Leeuwin H**	**47.10**	**108**	T	T	11 21 29.8	
	baz=253,slow=74,SNR=4.8						
QSPA	**South Pole Qui**	**56.36**	**180**	P	**P**	**10 32 07.0**	**+0.3**
	1.0nm,0.7s,baz=258,slow=5.5,SNR=9.5						
	1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**65.92**	**45**	P	**P**	**10 33 12.4**	**+0.5**
	1.3nm,0.7s,baz=232,slow=6.5,SNR=9.2						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**67.27**	**104**	P	**P**	**10 33 20.1**	**-0.7**
	0.4nm,0.8s,baz=244,slow=6.2,SNR=1.7						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**69.42**	**101**	P	**P**	**10 33 34.4**	**+0.3**
	0.5nm,0.7s,baz=243,slow=6.2,SNR=3.5						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**83.56**	**18**	P	**P**	**10 34 53.3**	**-0.3**
	0.6nm,0.7s,baz=197,slow=3.8,SNR=3.7						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**87.33**	**8**	P	**P**	**10 35 12.6**	**+0.4**
	1.5nm,0.8s,baz=191,slow=1.5,SNR=1.9						
	1.5nm,0.8s						
ILAR	**Eielson Array**	**145.92**	**18**	PKPbc	**PKPdf**	**10 42 02.6**	**-1.1**
	0.6nm,0.7s,baz=314,slow=3.7,SNR=7.8						

IDC 19 10:26:52.5±17.0, 22°.79S×176°.52W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=434.3km s-min=40.1km az=40.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.38**	**259**	P	P	10 35 12.4	-0.6
	0.2nm,0.4s,baz=98,slow=7.4,SNR=6.1						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**45.69**	**264**	P	P	10 35 15.7	+0.2
	0.3nm,0.3s,baz=102,slow=7.8,SNR=15						
	0.3nm,0.3s						
VNDA	**Vanda**	**55.77**	**186**	P	P	10 36 30.6	-0.1
	1.1nm,0.4s,baz=2.0,slow=7.2,SNR=15						
	1.1nm,0.4s						

*IDC **19** 10:32:03.6±0.9, 5°.92S×125°.87E, h524km±12km, mb3.5/12, mbtmp4.5/17, Error ellipse: s-maj=16.7km s-min=7.8km az=59.0*
*NEIC **19** 10:32:04.4±1.3, 5°.9S±0°.1×125°.9E±0°.1, h525km±11km, mb4.4/9, Error ellipse: s-maj=18.6km s-min=13.5km az=47.0*
*DJA **19** 10:32:06.0±0.2, 6°.S±2°.×12°.6E±°, h478km±3km, M4.5/31, mB5.0/19, mb4.8/28, MLv5.1/31, Mw(mB)4.4/19*

ISC 19 10:32:04.1±0.4, 5°.92S±0°.04×125°.92E±0°.05, h525km, n134, σ1§38/151, mb4.1/22, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**2.91**	**24**	P	**P**	**10 33 15.3**	**-1.2**
NLAI				S	**S**	**10 34 10.6**	**-4.8**
AAI	**Ambon**	**3.17**	**46**	P	**P**	**10 33 16.7**	**-1.5**
AAI				S	**S**	**10 34 14.5**	**-4.0**
BBSI	**Bau Bau**	**3.36**	**277**	P	**P**	**10 33 20.2**	**+0.7**
KDI	**Kendari**	**3.82**	**300**	P	**P**	**10 33 21.9**	**-1.0**
KDI				S	**S**	**10 34 23.3**	**-3.7**
SANI	**Sanana**	**3.84**	**1**	P	**P**	**10 33 21.5**	**-1.6**
SANI	**Sanana**	**3.84**	**1**	P	**P**	**10 33 20.4**	**-2.7**
SANI				S	**S**	**10 34 24.0**	**-3.3**
MSAI	**Masohi**	**3.94**	**50**	P	**P**	**10 33 22.9**	**-0.9**
MSAI				S	**S**	**10 34 24.6**	**-4.0**
SOEI	**Soe**	**4.15**	**203**	P	**P**	**10 33 25.9**	**+0.3**
SOEI	**Soe**	**4.15**	**203**	P	**P**	**10 33 25.6**	**+0.1**
SOEI	**Soe**	**4.15**	**203**	S	**S**	**10 34 30.6**	**-1.3**
SOEI	**Soe**	**4.15**	**203**	P	**P**	**10 33 24.4**	**-1.1**
SOEI				S	**S**	**10 34 28.7**	**-3.2**
BNDI	**Bandanaira**	**4.20**	**71**	P	**P**	**10 33 25.6**	**-0.2**
BNDI	**Bandanaira**	**4.20**	**71**	S	**S**	**10 34 32.7**	**+0.3**
BNDI	**Bandanaira**	**4.20**	**71**	P	**P**	**10 33 25.2**	**-0.6**
BNDI				S	**S**	**10 34 28.9**	**-3.5**
MMRI	**Maumere**	**4.54**	**233**	P	**P**	**10 33 28.6**	**0.0**
MMRI	**Maumere**	**4.54**	**233**	S	**S**	**10 34 36.7**	**-0.8**
MMRI	**Maumere**	**4.54**	**233**	P	**P**	**10 33 28.6**	**0.0**
MMRI				S	**S**	**10 34 34.9**	**-2.6**
BATI	**Baumata**	**4.81**	**208**	P	**P**	**10 33 31.2**	**+0.3**
	575nm,0.6s,baz=54,slow=1.0,SNR=50						
BATI				S	**S**	**10 34 37.1**	**-4.5**
	489nm,0.5s,baz=31,slow=11,SNR=8.1						
BATI	**Baumata**	**4.81**	**208**	P	**P**	**10 33 29.8**	**-1.1**
BATI				S	**S**	**10 34 39.2**	**-2.5**
EDFI	**Ende, Flores**	**5.05**	**236**	P	**P**	**10 33 31.5**	**-1.6**
	0.7nm2µm101nm,0.7s						
EDFI				S	**S**	**10 34 43.5**	**-2.1**
	0.7nm2µm101nm,0.7s						
BSSI	**Bau Bau, Buton**	**5.40**	**267**	P	**P**	**10

	48nm,0.6s,baz=331,slow=10,SNR=485						
WRA				S	**S**	**10 38 10.3**	**-1.3**
	13nm,0.9s,baz=330,slow=17,SNR=9.3						
WR8	**Warramunga Arr**	**16.26 150**		P	**P**	**10 35 26.6**	**-0.3**
MBWA	**Marble Bar**	**16.30 201**			**P**	**10 35 26.9**	**-0.3**
MBWA	**Marble Bar**	**16.30 201**		P	**P**	**10 35 26.9**	**-0.3**
PSA00	**Pilbara Seismi**	**16.64 200**			**P**	**10 35 30.1**	**-0.4**
PSA00	**Pilbara Seismi**	**16.64 200**			**P**	**10 35 29.5**	**-1.1**
PSA00	**Pilbara Seismi**	**16.64 200**		P	**P**	**10 35 30.2**	**-0.4**
KSM	**Kuching**	**17.23 295**			**P**	**10 35 35.5**	**-0.8**
BBJI	**Bungbulang**	**18.21 264**		P	**P**	**10 35 44.0**	**-1.3**
LEM	**Lembang**	**18.21 266**		P	**P**	**10 35 45.2**	**-0.2**
	35nm,0.7s,baz=309,slow=19,SNR=6.0						
COEN	**Coen**	**18.77 116**			**P**	**10 35 50.3**	**0.0**
COEN	**Coen**	**18.77 116**		P	**P**	**10 35 50.4**	**0.0**
AS31	**Alice Springs**	**19.25 157**			**P**	**10 35 55.4**	**+0.8**
ASAR	**Alice Springs**	**19.25 157**			**P**	**10 35 55.3**	**+0.7**
ASAR	**Alice Springs**	**19.25 157**		P	**P**	**10 35 55.5**	**+0.9**
	19nm,0.7s,baz=340,slow=9.1,SNR=338						
ASAR				S	**S**	**10 39 01.9**	**-0.3**
	10nm,0.8s,baz=353,slow=23,SNR=12						
QIS	**Mount Isa**	**19.70 139**		P	**P**	**10 35 59.3**	**+0.5**
PMG	**Port Moresby**	**21.33 101**		P	**P**	**10 36 13.5**	**-0.1**
	31nm,1.1s,baz=279,slow=9.9,SNR=3.6						
	31nm,1.1s						
MEEK	**Meekatharra**	**21.75 198**		P	**P**	**10 36 18.0**	**+0.7**
MYKOM	**Kota Tinggi**	**23.33 289**			**P**	**10 36 32.2**	**+0.6**
CTAO	**Charters Tower**	**24.27 127**			**P**	**10 36 40.4**	**+0.6**
BLDU	**Ballidu**	**26.05 198**		P	**P**	**10 36 55.7**	**+0.3**
KLBR	**Kellerberrin**	**26.66 196**		P	**P**	**10 37 01.2**	**+0.4**
IPM	**Ipoh**	**26.92 292**			**P**	**10 37 02.4**	**-0.9**
QLP	**Quilpie**	**26.97 142**		P	**P**	**10 37 05.4**	**+1.8**
KULM	**Kulim**	**27.58 293**		P	**P**	**10 37 08.6**	**-0.5**
RPSI	**Rantau Prapat**	**28.28 287**			**P**	**10 37 14.7**	**-0.6**
PSI	**Prapat**	**28.32 287**		P	**P**	**10 37 14.7**	**-1.0**
BBOO	**Buckleboo**	**28.38 162**		P	**P**	**10 37 16.6**	**+0.8**
STKA	**Stephens Creek**	**29.70 152**			**P**	**10 37 27.6**	**+0.2**
STKA	**Stephens Creek**	**29.70 152**		P	**P**	**10 37 27.8**	**+0.5**
	20nm,0.8s,baz=326,slow=9.5,SNR=31						
	20nm,0.8s						
STKA	**Stephens Creek**	**29.70 152**		P	**P**	**10 37 28.3**	**+0.9**
HTT	**Hallett**	**29.93 158**		P	**P**	**10 37 29.7**	**+0.4**
CMSA	**Cobar Meteorol**	**31.50 146**		P	**P**	**10 37 44.2**	**+1.3**
ARMA	**Armidale**	**34.33 138**		P	**P**	**10 38 07.7**	**+0.7**
ARMA				IAmb	IAmb	10 38 09.8	
	comp=Z,12nm,0.8s						
ARMA	**Armidale**	**34.33 138**		P	**P**	**10 38 07.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**35.98 313**			**P**	**10 38 20.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**35.98 313**		P	**P**	**10 38 20.1**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=142,slow=6.7,SNR=14						
	comp=Z,1.9nm,0.7s						
CAN	**Canberra**	**36.17 147**		P	**P**	**10 38 23.9**	**+1.8**
CAN				IAmb	IAmb	10 38 24.9	
	comp=Z,27nm,0.8s						
CAN	**Canberra**	**36.17 147**		P	**P**	**10 38 24.2**	**+2.0**
CHTO	**Chiang Mai**	**36.20 313**		P	**P**	**10 38 22.6**	**0.0**
CHTO				IAmb	IAmb	10 38 22.8	
	comp=Z,9.5nm,1.2s						
CNB	**Canberra Magne**	**36.36 147**		P	**P**	**10 38 25.0**	**+1.2**
NJ2	**Nanjing**	**38.35 350**		*e*P	**P**	**10 38 41.9**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PZH	**PanZhiHua**	**39.85 325**		P	**P**	**10 38 54.3**	**+2.0**
MJAR	**Matsushiro Arr**	**43.78 14**		P	**P**	**10 39 22.1**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=191,slow=8.0,SNR=5.5						
	comp=Z,2.2nm,0.6s						
HHC	**Hu-ho-hao-te**	**48.37 345**		*e*P	**P**	**10 40 01.9**	**+3.9**
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,69nm,4.7s						
EVN	**Everest**	**50.57 314**			**P**	**10 40 14.6**	**-0.6**
EVN				IAmb	IAmb	10 40 15.7	
	comp=Z,5.5nm,0.7s						
GTA	**Gaotai**	**51.15 334**		*e*P	**P**	**10 40 18.8**	**+0.2**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.5s						
RPZ	**Rata Peaks**	**54.59 141**		P	**P**	**10 40 43.9**	**+0.9**
TUWZ	**Tuamarina**	**55.40 137**		P	**P**	**10 40 49.0**	**+0.3**
URZ	**Urewera**	**56.36 133**		P	**P**	**10 40 55.0**	**-0.4**
	comp=Z,6.0nm,0.6s,baz=297,slow=2.3,SNR=5.6						
	comp=Z,6.0nm,0.6s						
RTZ	**Ruatahuna**	**56.40 133**		P	**P**	**10 40 56.0**	**+0.3**
RTZ				IAmb	IAmb	10 40 56.6	
	comp=Z,17nm,0.8s						
WMQ	**Urumqi**	**60.33 329**		*e*P	**P**	**10 41 22.5**	**+0.4**
WMQ				pmax	pmax		
	comp=Z,140nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,440nm,4.9s						
WMQ				LR	LR		
	comp=Z,330nm,23.9s						
KSH	**Kashi**	**64.52 319**		P	**P**	**10 41 52.3**	**+2.9**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PETK	**Petropavlovsk-**	**64.65 21**		P	**P**	**10 41 50.0**	**+0.2**
	comp=Z,4.6nm,0.9s,baz=198,slow=3.4,SNR=10						
	comp=Z,4.6nm,0.9s						
MKAR	**Makanchi Array**	**65.15 329**		P	**P**	**10 41 52.4**	**-0.7**
MKAR	**Makanchi Array**	**65.15 329**		P	**P**	**10 41 52.5**	**-0.6**
	comp=Z,2.8nm,0.6s,baz=116,slow=8.3,SNR=24						
	comp=Z,2.8nm,0.6s						
ZALV	**Zalesovo Beam**	**68.87 335**		P	**P**	**10 42 14.5**	**-1.3**
	comp=Z,1.7nm,0.4s,baz=130,slow=5.5,SNR=8.9						
	comp=Z,1.7nm,0.4s						
KURBB	**Kurchatov Arra**	**69.51 330**		P	**P**	**10 42 18.8**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=133,slow=5.4,SNR=14						
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**69.52 330**		P	**P**	**10 42 18.9**	**-0.9**
VNDA	**Vanda**	**74.03 172**		P	**P**	**10 42 45.5**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=312,slow=4.5,SNR=3.7						
	comp=Z,0.7nm,0.8s						
BVAR	**Borovoye Array**	**75.02 329**		P	**P**	**10 42 51.0**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=134,slow=6.4,SNR=10						
	comp=Z,2.9nm,0.7s						
RAYN	**Ar Rayn**	**83.61 294**		P	**P**	**10 43 37.0**	**-0.7**
ILAR	**Eielson Array**	**94.11 25**		P	**P**	**10 44 23.7**	**-2.3**
	comp=Z,0.5nm,1.0s,baz=242,slow=3.1,SNR=4.1						
	comp=Z,0.5nm,1.0s						
PDAR	**Pinedale Array**	**118.97 44**		PKP	**PKPdf**	**10 49 53.0**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=284,slow=9.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**124.62 282**		PKP	**PKPdf**	**10 50 04.3**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=27,slow=4.0,SNR=3.8						

*IDC **19** 11:08:44.2±0.8,53°.03S×22°.89E,h0km,mb4.0/11, mbtmp4.0/11,MS3.4/10,Error ellipse: s-maj=25.8km s-min=19.4km az=70.0*
*NEIC **19** 11:08:46.2±0.5,53°.01S±0°.05×22°.9E±0°.3,h10km±1km, mb4.6/11,Error ellipse: s-maj=33.8km s-min=7.8km az=91.0*

ISC 19 11:08:46.0±0.7,53°.05S±0°.1×22°.9E±0°.2,h10km,n42, σ0s63/30,mb4.2/18,MS3.3/10,5C,South of Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H04S2	**CROZET ISLANDS**	**19.59**	**83**	T	T	11 33 32.6	
	baz=240,slow=75,SNR=64						
H04S3	**CROZET ISLANDS**	**19.60**	**83**	T	T	11 33 47.3	
	baz=240,slow=67						
H04S1	**CROZET ISLANDS**	**19.61**	**83**	T	T	11 33 34.5	
	baz=240,slow=75,SNR=101						
TROLL	**Troll, Antarti**	**21.03 198**		⇑P	**P**	**11 13 29.7**	**+0.1**
	comp=Z,455nm,0.7s						
SNAA	**Sanae**	**21.86 202**		⇑P	**P**	**11 13 38.7**	**+0.3**
	comp=Z,183nm,0.9s						
SNAA	**Sanae**	**21.86 202**		P	**P**	**11 13 39.0**	**+0.6**
SNAA	**Sanae**	**21.86 202**		P	**P**	**11 13 38.5**	**+0.1**
	comp=Z,7.7nm,0.8s,baz=40,slow=11,SNR=19						
SNAA				LR	LR	11 20 00.7	
	comp=Z,115nm,21.7s,baz=78,slow=31						
	comp=Z,7.7nm,0.8s						
VNA2	**Neumayer--Watz**	**22.47 206**		⇑P	**P**	**11 13 45.2**	**+0.2**
	comp=Z,9.3nm,0.8s,baz=38,slow=10						
VNA1	**Neumayer--Stat**	**22.54 207**		⇑P	**P**	**11 13 45.9**	**+0.3**
	comp=Z,9.2nm,1.1s						
VNA3	**Neumayer Olymp**	**23.26 206**		⇑P	**P**	**11 13 52.8**	**-0.4**
	comp=Z,3.2nm,0.8s						
MAW	**Mawson**	**24.04 143**		P	**P**	**11 13 59.6**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=277,slow=9.5,SNR=5.0						
MAW				LR	LR	11 21 48.7	
	comp=Z,48nm,21.1s,baz=76,slow=33						
	comp=Z,1.4nm,0.6s						
BOSA	**Boshof**	**24.43 5**		P	**P**	**11 14 04.7**	**-0.1**
BOSA				IAmb	IAmb	11 14 09.6	
	comp=Z,12nm,1.2s						
BOSA	**Boshof**	**24.43 5**		P	**P**	**11 14 06.1**	**+1.3**
	comp=Z,3.6nm,0.9s,baz=188,slow=7.1,SNR=3.7						
BOSA				LR	LR	11 21 50.7	
	comp=Z,85nm,19.9s,baz=180,slow=32						
	comp=Z,3.6nm,0.9s						
LBTB	**Lobatse**	**28.03 5**		LR	LR	11 25 14.0	
	comp=Z,42nm,18.1s,baz=180,slow=35						
BELA	**Belgrano 2**	**32.07 200**		P	**P**	**11 15 12.3**	**-0.1**
BELA				IAmb	IAmb	11 15 19.1	
	comp=Z,5.2nm,1.0s						
MATP	**Matopo**	**32.81 10**		LR	LR	11 27 20.2	
	comp=Z,98nm,18.2s,baz=172,slow=34						
QSPA	**South Pole Qui**	**37.22 180**		P	**P**	**11 15 58.6**	**+1.4**
QSPA				IAmb	IAmb	11 16 05.6	
	comp=Z,8.5nm,0.9s						
QSPA	**South Pole Qui**	**37.22 180**		P	**P**	**11 15 58.0**	**+0.8**
	comp=Z,4.2nm,0.7s,baz=244,slow=2.1,SNR=51						
QSPA				LR	LR	11 30 16.6	
	comp=Z,41nm,19.6s,baz=246,slow=35						
	comp=Z,4.2nm,0.7s						
LSZ	**Lusaka**	**37.88 8**		LR	LR	11 29 43.3	
	comp=Z,101nm,20.8s,baz=178,slow=33						
VNDA	**Vanda**	**47.28 169**		P	**P**	**11 17 18.9**	**+0.2**
VNDA	**Vanda**	**47.28 169**		P	**P**	**11 17 18.6**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=222,slow=7.8,SNR=6.7						
	comp=Z,0.9nm,0.6s						
SBA	**Scott Base**	**47.53 170**		P	**P**	**11 17 21.4**	**+0.7**
SBA				IAmb	IAmb	11 17 28.7	
	comp=Z,5.5nm,1.0s						
TRQA	**Tornquist**	**57.86 248**		P	**P**	**11 18 37.7**	**0.0**
TRQA				IAmb	IAmb	11 19 04.9	
	comp=Z,12nm,1.2s						
PLCA	**Paso Flores**	**60.62 241**		P	**P**	**11 18 56.6**	**-0.2**
PLCA	**Paso Flores**	**60.62 241**		P	**P**	**11 18 55.9**	**-1.0**
	comp=Z,2.2nm,0.9s,baz=126,slow=9.3,SNR=3.1						
	comp=Z,2.2nm,0.9s						
FURI	**Furi**	**63.12 18**		LR	LR	11 46 10.7	
	comp=Z,26nm,18.6s,baz=145,slow=36						
CPUP	**Villa Florida**	**63.65 261**		P	**P**	**11 19 16.4**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=164,slow=7.4,SNR=3.5						
	comp=Z,0.3nm,0.6s						
H01W2	**Cape Leeuwin H**	**63.72 114**		T	T	12 29 05.1	
	baz=221,slow=75,SNR=5.6						
H01W3	**Cape Leeuwin H**	**63.74 114**		T	T	12 29 06.4	
	baz=221,slow=75,SNR=5.6						
H01W1	**Cape Leeuwin H**	**63.74 114**		T	T	12 29 12.6	
	baz=221,slow=75,SNR=5.3						
DBIC	**Dimbokro**	**63.93 329**		LR	LR	11 40 40.6	
	comp=Z,27nm,19.4s,baz=178,slow=30						
TORD	**Torodi Ar. Bea**	**68.35 338**		P	**P**	**11 19 47.5**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=173,slow=5.9,SNR=3.8						
	comp=Z,1.0nm,0.6s						
LPAZ	**La Paz**	**77.76 259**		P	**P**	**11 20 44.0**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=146,slow=7.3,SNR=1.8						
	comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**83.16 120**		P	**P**	**11 21 12.0**	**-0.3**
ASAR	**Alice Springs**	**83.16 120**		P	**P**	**11 21 11.6**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=202,slow=5.1,SNR=11						
	comp=Z,0.7nm,0.7s						
MMAI	**Mount Meron Ar**	**86.36 11**		LR	LR	12 00 17.6	
	comp=Z,16nm,18.5s,baz=186,slow=36						
WRA	**Warramunga Arr**	**86.45 119**		P	**P**	**11 21 28.0**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=209,slow=3.8,SNR=8.8						
	comp=Z,0.9nm,0.8s						
WRAB	**Tennant Creek**	**86.46 119**		P	**P**	**11 21 28.6**	**-0.3**
WRAB				IAmb	IAmb	11 21 58.4	
	comp=Z,9.7nm,1.4s						
WR8	**Warramunga Arr**	**86.52 119**		P	**P**	**11 21 28.9**	**-0.3**
WR8				IAmb	IAmb	11 22 08.8	
	comp=Z,7.1nm,1.4s						
WB0	**Warramunga Arr**	**86.62 119**		P	**P**	**11 21 29.6**	**-0.1**
PDAR	**Pinedale Array**	**147.06 271**		PKPbc	**PKPdf**	**11 28 27.2**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=117,slow=3.7,SNR=8.0						
NVAR	**Mina Array Bea**	**149.64 257**		PKPbc	**PKiKP**	**11 28 35.9**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=54,slow=1.3,SNR=5.4						

*NSSP **19** 11:09:16.6,38°.82N×43°.32E,h10km,Ms3.5*
*ISK **19** 11:09:16.1,38°.75N×43°.48E,h5km,ML3.5/14*
*AFAD **19** 11:09:16.0,38°.74N×43°.44E,h10km±10km,ML3.4*
*TEH **19** 11:09:16.7,38°.75N×43°.47E,h5km±29km*

ISC 19 11:09:18.0±0.8,38.77N±0°.02×43.48E±0°.02,h12km±5km, n67,σ1s93/96,2C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.19 202**		Pg	**Pg**	**11 09 22.6**	**+0.4**
VANB				Sg	**Sg**	**11 09 26.8**	**+1.7**
VMUR	**Van-Muradiye**	**0.23 18**		P	**Pg**	**11 09 21.9**	**-1.1**
VMUR				S	**Sb**	**11 09 28.7**	**+2.3**
VMUR				*i* IAML		11 09 30.0	
	comp=N,1μm,0.4s						
VMUR				*i* IAML		11 09 31.0	
	comp=E,10μm,0.5s						
VMUR	**Van-Muradiye**	**0.23 18**		Pg	**Pg**	**11 09 21.8**	**-1.1**
TVAN	**Van**	**0.25 193**		P	**Pg**	**11 09 21.3**	**-1.9**
TVAN				*i* IAML		11 09 26.0	
	comp=E,2μm,0.8s						
TVAN				S	**Sg**	**11 09 26.1**	**-0.7**
TVAN	**Van**	**0.25 193**		Pg	**Pg**	**11 09 21.3**	**-1.9**
ERCV	**ERCIS-VAN**	**0.27 336**		Pg	**Pg**	**11 09 22.7**	**-1.0**
ERCV				Sg	**Sb**	**11 09 28.3**	**-1.3**
ERCV	**ERCIS-VAN**	**0.27 336**		Pg	**Pg**	**11 09 22.7**	**-1.0**
OZAP	**Van, Ozalp-Mer**	**0.42 105**		P	**Pb**	**11 09 25.9**	**-1.6**
OZAP				S	**Sb**	**11 09 34.7**	**+0.8**
OZAP				*i* IAML		11 09 39.0	
	comp=N,2μm,0.6s						
OZAP				*i* IAML		11 09 41.0	
	comp=E,4μm,0.7s						
GEVA	**Gevas**	**0.56 216**		P	**Pg**	**11 09 27.1**	**-1.9**
GEVA				S	**Sb**	**11 09 38.1**	**+0.2**
GEVA				*i* IAML		11 09 43.0	
	comp=N,2μm,0.5s						
GEVA				*i* IAML		11 09 45.0	
	comp=E,2μm,0.5s						
GEVA	**Gevas**	**0.56 216**		Pg	**Pg**	**11 09 27.1**	**-1.9**
AKDM	**Akdamar-Van**	**0.59 222**		Pg	**Pg**	**11 09 27.6**	**-1.9**
AKDM	**Akdamar-Van**	**0.59 222**		Pg	**Pg**	**11 09 27.5**	**-1.9**
ADCV	**BITLIS_Adilcev**	**0.59 274**		P	**Pg**	**11 09 28.3**	**-1.2**
ADCV				S	**Sb**	**11 09 39.1**	**+0.4**
ADCV				*i* IAML		11 09 43.0	
	comp=E,1μm,0.5s						
DYDN	**Diyadin**	**0.79 12**		P	**Pg**	**11 09 32.0**	**-1.3**
DYDN				S	**Sn**	**11 09 47.5**	**+0.4**
DYDN	**Diyadin**	**0.79 12**		Pg	**Pg**	**11 09 32.0**	**-1.3**
MLAZ	**Malazgirt-MUS**	**0.81 297**		Pg	**Pb**	**11 09 33.0**	**-1.2**
MLAZ				Sg	**Sn**	**11 09 45.7**	**-1.8**
MLAZ	**Malazgirt-MUS**	**0.81 297**		Pg	**Pb**	**11 09 33.0**	**-1.2**
DORK	**Agr/Tutak/Do**	**0.82 319**		P	**Pg**	**11 09 32.1**	**-1.7**
DORK				*i* IAML		11 09 48.0	
	comp=E,1μm,0.5s						
DORK				*i* IAML		11 09 49.0	
	comp=N,2μm,0.5s						
AGRB	**Hanur-Agry**	**0.89 335**		Pg	**Pg**	**11 09 33.8**	**-1.4**
AGRB				Sg	**Sn**	**11 09 48.6**	**-0.9**
AGRB	**Hanur-Agry**	**0.89 335**		Pg	**Pg**	**11 09 33.6**	**-1.6**
KOTA	**Agri, Merkez-K**	**1.05 349**		P	**Pg**	**11 09 36.7**	**-1.6**
KOTA				S	**Sn**	**11 09 56.4**	**+2.9**
PERV	**Siirt/Pervari-**	**1.10 222**		P	**Pn**	**11 09 38.3**	**-1.1**
PERV				S	**Sn**	**11 09 57.0**	**+2.3**
PERV				*i* IAML		11 10 00.0	
	comp=E,1μm,0.5s						
PERV				*i* IAML		11 10 01.0	
	comp=N,1μm,0.7s						
BLIS	**Bitlis-Merkez**	**1.12 252**		P	**Pg**	**11 09 37.4**	**-2.3**
BLIS				S	**Sn**	**11 09 54.3**	**-1.0**
BLIS				*i* IAML		11 10 03.0	
	comp=N,701nm,0.5s						
BLIS	**Bitlis-Merkez**	**1.12 252**		Pg	**Pg**	**11 09 37.3**	**-2.3**
GURO	**Guroymak-BITLI**	**1.15 259**		Pn	**Pg**	**11 09 37.8**	**-2.4**
HAKT	**HAKKARI**	**1.22 171**		S	**Sn**	**11 10 01.4**	**+3.6**
EATA	**Eleskirt**	**1.33 325**		P	**Pg**	**11 09 42.7**	**-0.9**
EATA				S	**Sg**	**11 10 03.1**	**+2.2**
EATA				*i* IAML		11 10 04.0	
	comp=N,804nm,0.7s						
EATA				*i* IAML		11 10 04.0	
	comp=E,1μm,0.6s						
YOVA	**Hakkari_Yksek**	**1.34 151**		P	**Pn**	**11 09 41.2**	**-1.5**
YOVA				*i* IAML		11 10 09.0	
	comp=E,391nm,0.6s						
TASB	**TASBURUN-IGDIR**	**1.35 26**		Pn	**Pg**	**11 09 43.1**	**-0.8**
VNNZ	**Vanand**	**1.36 11**		*e*P	**Pg**	**11 09 43.4**	**-0.7**
VNNZ				*e*S	**Sg**	**11 10 02.6**	**+0.8**
SRTM	**Siirt_Merkez**	**1.45 238**		P	**Pg**	**11 09 44.4**	**-1.4**
SRTM				S	**Sg**	**11 10 06.3**	**+1.7**
SRTM				*i* IAML		11 10 09.0	
	comp=E,581nm,0.6s						
SRTM				*i* IAML		11 10 12.0	
	comp=N,519nm,0.6s						
SIRN	**Sırnak**	**1.52 214**		P	**Pg**	**11 09 46.9**	**-0.3**
SIRN				*i* IAML		11 10 10.0	
	comp=E,547nm,0.9s						
SIRN				S	**Sg**	**11 10 11.3**	**+4.2**
SIRN				*i* IAML		11 10 17.0	
	comp=N,589nm,0.7s						
MUSM	**Mu-Merkez**	**1.54 269**		P	**Pb**	**11 09 45.0**	**-1.5**
MUSM				S	**Sg**	**11 10 05.8**	**-1.7**
GNI	**Garni**	**1.69 35**		Pn	**Pb**	**11 09 48.4**	**-0.7**
GNI	**Garni**	**1.69 35**		⇑*i*P	**Pg**	**11 09 49.0**	**-1.4**
GNI				⇑*i*S	**Sg**	**11 10 14.3**	**+2.0**
KOPR	**Koprukoy-ERZUR**	**1.75 315**		Pn	**Pb**	**11 09 49.4**	**-0.8**
HOMI	**Horasan**	**1.76 317**		P	**Pg**	**11 09 50.0**	**-1.8**
HOMI				S	**Sg**	**11 10 19.0**	**+4.3**
HOMI				*i* IAML		11 10 21.0	
	comp=N,604nm,0.8s						
HOMI				*i* IAML		11 10 21.0	
	comp=E,1μm,0.8s						
VAYK	**Vayk**	**1.77 58**		⇓*e*P	**Pg**	**11 09 50.4**	**-1.6**
VAYK				⇓*e*S	**Sg**	**11 10 16.6**	**+1.7**
KAPZ	**Kaputan**	**1.81 31**		*e*P	**Pb**	**11 09 50.5**	**-0.7**
KAPZ				*e*S	**Sb**	**11 10 14.4**	**+0.4**
BOZK	**Kars-Merkez-Bo**	**1.86 348**		P	**Pg**	**11 09 52.4**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.89 252**		Pn	**Pb**	**11 09 51.1**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.89 252**		P	**Pg**	**11 09 54.0**	**-0.3**
SVAN				S	**Sg**	**11 10 26.1**	**+7.2**
EAK	**Akyaka**	**1.92 3**		P	**Pg**	**11 09 54.0**	**-0.7**
BTMN	**Batman**	**1.94 244**		P	**Pb**	**11 09 51.7**	**-1.7**
BTMN				S	**Sg**	**11 10 19.7**	**-0.8**
BTMN				*i* IAML		11 10 29.0	
	comp=N,336nm,1.0s						
BTMN				*i* IAML		11 10 33.0	
	comp=E,349nm,0.8s						
SENK	**Senkaya-Erzuru**	**1.99 334**		Pn	**Pb**	**11 09 52.9**	**-1.4**
ERZM	**Erzurum**	**1.99 305**		P	**Pb**	**11 09 53.9**	**-0.5**
EJDE	**Erzurum, Palan**	**1.99 303**		S	**Sg**	**11 10 26.4**	**+4.3**
KMOZ	**Kamo**	**2.08 10**		*e*P	**Pg**	**11 09 56.0**	**-1.8**
KMOZ				*e*S	**Sg**	**11 10 24.3**	**-0.6**
ETEKE	**Tekederesi - E**	**2.08 300**		P	**Pg**	**11 09 55.9**	**-2.0**
ETEKE				*i* IAML		11 10 31.0	
	comp=N,181nm,0.9s						
ETEKE				*i* IAML		11 10 38.0	
	comp=E,276nm,0.6s						
ECAT	**Cat-ERZURUM**	**2.12 294**		P	**Pb**	**11 09 56.0**	**-0.4**
AYRK	**Ayrk**	**2.24 52**		*e*P	**Pg**	**11 09 58.9**	**-1.9**
AYRK				*e*S	**Sg**	**11 10 29.1**	**-0.8**
IAZR	**Azarshahr**	**2.25 118**		Pn	**Pb**	**11 09 57.0**	**-1.8**
EMRE	**Erzurum,Aziziy**	**2.31 304**		P	**Pg**	**11 10 00.1**	**-2.2**
YEDI	**Yedisu-Bingol**	**2.38 287**		Pn	**Pb**	**11 09 57.8**	**-3.0**
SRTK	**Saratovka**	**2.38 16**		*e*P	**Pb**	**11 10 01.3**	**+0.3**
SRTK				*e*S	**Sg**	**11 10 33.2**	**-1.4**
EGVZ	**Egvard**	**2.43 78**		*e*P	**Pb**	**11 09 59.0**	**-2.7**
EGVZ				*e*S	**Sb**	**11 10 31.6**	**-0.1**
DDEM	**Demirkent**	**2.50 328**		P	**Pg**	**11 10 03.6**	**-2.4**
LSVT	**Lusahovit**	**2.52 31**		*e*P	**Pg**	**11 10 04.2**	**-2.0**
LSVT				*e*S	**Sg**	**11 10 38.6**	**-0.2**
KOPT	**Kop Dagi**	**2.62 299**		P	**Pb**	**11 10 04.8**	**-0.3**
DYBB	**Diyarbakir**	**2.75 254**		Pn	**Pb**	**11 10 03.4**	**-3.7**
IHRS	**Heris**	**2.83 98**		Pn	**Pn**	**11 10 04.3**	**+1.1**
BAYT	**Aydıntepe-Bayb**	**3.05 303**		Pn	**Pn**	**11 10 07.6**	**+1.4**
IHSH	**Hashtrud**	**3.33 115**		Pn	**Pn**	**11 10 11.7**	**+1.5**
ISRB	**Sarab**	**3.43 105**		Pn	**Pn**	**11 10 12.9**	**+1.5**
GRMI	**Germi**	**3.45 88**		Pn	**Pn**	**11 10 12.9**	**+1.2**
IGHG	**Ghaleghazi**	**5.08 150**		Pn	**Pn**	**11 10 36.7**	**+2.4**
SNQR	**Sonqor, Kerman**	**5.13 138**		Pn	**Pn**	**11 10 37.1**	**+2.1**

*IDC **19** 11:17:05.4±0.7,23°.40S×111°.59W,h0km,mb3.8/7, mbtmp3.8/7,MS4.0/34,Error ellipse: s-maj=33.2km s-min=21.4km az=80.0*
*GCMT **

comp=Z,130nm,18.2s,baz=92,slow=33
3.7nm,0.9s
NEW Newport 71.57 356 LR LR 11 54 37.9
comp=Z,86nm,18.6s,baz=183,slow=32
VNA3 Neumayer Olymp 71.75 161 ⇓P **P 11 28 28.4 -0.4**
comp=Z,3.8nm,0.8s
SNAA Sanae 73.61 162 ⇓P **P 11 28 39.4 -0.7**
comp=Z,24nm,0.8s
SNAA Sanae 73.61 162 P **P 11 28 39.7 -0.3**
comp=Z,1.3nm,0.9s,baz=250,slow=7.1,SNR=4.4
SNAA LR LR 11 55 04.5
comp=Z,60nm,21.1s,baz=253,slow=31
comp=Z,1.3nm,0.9s
TROLL Troll, Antarti 74.95 163 ⇓P **P 11 28 46.1 -1.8**
comp=Z,81nm,0.8s
HNR Honiara 84.90 262 LR LR 11 59 15.1
comp=Z,118nm,21.9s,baz=163,slow=30
YKA Yellowknife Ar 85.69 359 LR LR 12 03 20.3
comp=Z,110nm,18.6s,baz=235,slow=32
KDAK Kodiak Island 87.88 339 LR LR 11 59 16.8
comp=Z,85nm,21.9s,baz=126,slow=29
MAW Mawson 89.12 178 LR LR 12 06 55.1
comp=Z,45nm,18.6s,baz=144,slow=34
H11S2 WAKE ISLAND Hy 89.94 290 T T 13 09 33.3
baz=115,slow=74,SNR=184
H11S1 WAKE ISLAND Hy 89.95 290 T T 13 09 32.9
baz=115,slow=74,SNR=83
H11S3 WAKE ISLAND Hy 89.96 290 T T 13 09 34.5
baz=115,slow=74,SNR=74
H11N3 WAKE ISLAND Hy 90.27 291 T T 13 09 57.5
baz=116,slow=75,SNR=34
H11N1 WAKE ISLAND Hy 90.29 291 T T 13 09 59.0
baz=116,slow=75,SNR=14
H11N2 WAKE ISLAND Hy 90.29 291 T T 13 10 03.7
baz=116,slow=75,SNR=55
ILAR Eielson Array 92.09 346 LR LR 12 03 44.4
comp=Z,83nm,18.8s,baz=164,slow=30
INK Inuvik 92.91 352 LR LR 12 07 27.6
comp=Z,110nm,18.1s,baz=145,slow=32
PMG Port Moresby 96.45 257 LR LR 12 06 52.5
comp=Z,80nm,19.9s,baz=138,slow=31
ZALV Zalesovo Beam 147.14 342 PKPbc **PKPbc 11 36 48.5 -1.3**
comp=Z,0.6nm,0.3s,baz=54,slow=3.0,SNR=5.0
BVAR Borovoye Array 150.44 358 PKPbc **PKPbc 11 36 58.2 -0.2**
comp=Z,2.0nm,0.5s,baz=46,slow=4.2,SNR=6.9
KBZ Khabaz 150.87 40 PKPbc **PKiKP 11 37 00.0 -0.2**
comp=Z,1.4nm,0.5s,baz=293,slow=7.7,SNR=2.1
CMAR Chiang Mai Arr 151.08 266 PKPbc **PKiKP 11 37 01.6 +0.2**
comp=Z,1.1nm,0.6s,baz=136,slow=0.8,SNR=7.8
KURBB Kurchatov Arra 151.76 346 PKPbc **PKPbc 11 37 00.8 -0.7**
comp=Z,1.9nm,0.6s,baz=16,slow=1.7,SNR=7.6
MKAR Makanchi Array 154.18 338 PKPbc **PKPbc 11 37 05.3 -1.7**
comp=Z,0.5nm,0.6s,baz=41,slow=2.2,SNR=4.1

*CRAAG **19** 11:19:56.2,35°.76N×0°.87W,Ml3.2,Algerie 06km NE Les-Andalouses*
*MDD **19** 11:19:58.5±0.7,36°.11N×1°.04W,h0km,mb_Lg2.5/10, Error ellipse: s-maj=5.8km s-min=3.6km az=12.0*
*CNRM **19** 11:19:58.5,36°.07N×1°.26W,h69km,ML2.4*
ISC 19 11:19:55.9±1.2,35°.86N±0°.03×0°.91W±0°.03,h26km±12km, n36,σ1°47/50,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USTO	**Oran**	**0.32**	**114**	P	**Pb**	**11 20 02.6**	**-0.7**
OLHC	**Oulhaca**	**0.74**	**215**	P	**Pn**	**11 20 11.1**	**+0.3**
ODJA	**Bouhanifia**	**0.81**	**130**	P	**Pn**	**11 20 12.1**	**+0.3**
OFDG	**Douar Fergoug**	**0.84**	**114**	P	**Pn**	**11 20 12.1**	**0.0**
OJBR	**Djebel Berber**	**1.06**	**105**	P	**Pn**	**11 20 15.0**	**-0.1**
OBBL	**Beni Bahdel**	**1.25**	**203**	P	**Pb**	**11 20 19.8**	**+0.9**
ENIJ	**Nijar**	**1.53**	**317**	Sn	**Sn**	**11 20 40.2**	**-0.4**
ENIJ				Pn	**Pn**	**11 20 22.6**	**+1.0**
ENIJ	**Nijar**	**1.53**	**317**	Pg	**Pn**	**11 20 22.6**	**+1.0**
ENIJ				Sg	**Sn**	**11 20 39.9**	**-0.7**
ENIJ				*i* lVmb_Lg		11 20 43.6	
CART	**Cartagena**	**1.72**	**358**	Pn	**Pn**	**11 20 25.0**	**+0.8**
CART				Sn	**Sn**	**11 20 43.5**	**-1.9**
CART	**Cartagena**	**1.72**	**358**	P	**Pn**	**11 20 24.8**	**+0.5**
CART	**Cartagena**	**1.72**	**358**	S	**Sn**	**11 20 42.7**	**-2.7**
EALB	**Alboran**	**1.73**	**273**	Pn	**Pn**	**11 20 24.7**	**+0.4**
EALB				Sn	**Sn**	**11 20 45.7**	**+0.2**
EALB	**Alboran**	**1.73**	**273**	Pn	**Pn**	**11 20 24.6**	**+0.3**
EALB				Sn	**Sn**	**11 20 45.5**	**0.0**
GOG	**Mont Gurugu**	**1.82**	**250**	P	**Pn**	**11 20 26.1**	**+0.5**
GOG	**Mont Gurugu**	**1.82**	**250**	S	**Sn**	**11 20 47.0**	**-0.9**
EMUR	**La Murta**	**2.00**	**352**	Pn	**Pn**	**11 20 29.7**	**+1.6**
EMUR				Sn	**Sn**	**11 20 52.4**	**+0.1**
EMUR	**La Murta**	**2.00**	**352**	Pg	**Pn**	**11 20 29.7**	**+1.6**
EMUR				Sg	**Sn**	**11 20 52.5**	**+0.3**
EMUR				*i* lVmb_Lg		11 20 56.8	
JBK	**JBK**	**2.04**	**222**	P	**Pb**	**11 20 31.2**	**-1.2**
JBK	**JBK**	**2.04**	**222**	S	**Sb**	**11 20 58.6**	**+1.1**
ELGU	**Los Guajares,**	**2.41**	**295**	Pn	**Pn**	**11 20 34.3**	**+0.5**
ELGU				Sn	**Sn**	**11 21 01.1**	**-1.5**
ELGU	**Los Guajares,**	**2.41**	**295**	Pn	**Pn**	**11 20 34.4**	**+0.5**
ELGU				*i* lVmb_Lg		11 20 36.6	
ELGU				Sn	**Sn**	**11 21 01.9**	**-0.7**
EQES	**Quesada**	**2.60**	**319**	Pg	**Pb**	**11 20 40.3**	**-1.7**
EQES				*i* lVmb_Lg		11 20 41.5	
EQES				Sg	**Sb**	**11 21 13.4**	**-0.1**
AKLM	**AKL**	**2.77**	**242**	P	**Pn**	**11 20 39.6**	**+0.9**
AKLM	**AKL**	**2.77**	**242**	S	**Sn**	**11 21 10.1**	**-1.3**
EIBI	**Ibiza**	**3.63**	**29**	Pn	**Pn**	**11 20 53.0**	**+2.5**
EIBI				Sn	**Sn**	**11 21 30.7**	**-1.9**
EIBI	**Ibiza**	**3.63**	**29**	Pn	**Pn**	**11 20 52.8**	**+2.3**
EIBI				*i* lVmb_Lg		11 20 55.3	
EIBI				Sn	**Sn**	**11 21 32.0**	**-0.6**
EADA	**Adamuz**	**3.73**	**309**	Pn	**Pn**	**11 20 52.1**	**+0.2**
ECAB	**El Cabril**	**4.24**	**303**	Pn	**Pn**	**11 21 00.2**	**+1.4**
ECAB				*i* lVmb_Lg		11 21 15.8	
MDT	**Midelt**	**4.31**	**226**	P	**Pn**	**11 21 00.7**	**+0.8**
MD31	**MD31**	**4.37**	**228**	P	**Pn**	**11 21 02.1**	**+1.4**
ETOS	**Mallorca**	**4.89**	**36**	Pn	**Pn**	**11 21 10.2**	**+2.4**
ETOS	**Mallorca**	**4.89**	**36**	Pn	**Pn**	**11 21 11.1**	**+3.3**
ETOS				Sn	**Sn**	**11 22 03.9**	**+0.4**
ETOS				*i* lVmb_Lg		11 23 37.8	
EMIN	**Mina Concepcio**	**5.00**	**294**	Pn	**Pn**	**11 21 10.6**	**+1.3**
ERTA	**Horta de San J**	**5.18**	**10**	Pn	**Pn**	**11 21 15.2**	**+3.4**
ERTA				Sn	**Sn**	**11 22 07.1**	**-3.6**
EBAD	**Badajoz**	**5.66**	**303**	Pn	**Pn**	**11 21 19.6**	**+1.3**
EBAD	**Badajoz**	**5.66**	**303**	Pn	**Pn**	**11 21 19.5**	**+1.1**
EBAD				*i* lVmb_Lg		11 21 40.4	

*NEIC **19** 11:23:36.7±1.0,6°.2S±0°.1×154°.6E±0°.1,h70km±10km, mb4.3/16,Error ellipse: s-maj=19.6km s-min=11.9km az=222.0*
*IDC **19** 11:23:40.4±4.7,6°.31S×154°.47E,h105km±39km,mb3.7/9, mbtmp4.1/11,MS3.2/2,Error ellipse: s-maj=28.5km s-min=23.6km az=65.0*
ISC 19 11:23:35.2±0.7,6°.24S±0°.09×154°.7E±0°.1,h61km,n31, σ0s92/33,mb4.2/16,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.21**	**309**		**Pn**	**11 24 24.2**	**+1.0**
PMG	**Port Moresby**	**8.07**	**247**	Pn	**Pn**	**11 25 30.5**	**+0.7**
PMG	**Port Moresby**	**8.07**	**247**	P	**Pn**	**11 25 32.1**	**+2.3**
	12nm,0.5s,baz=55,slow=13,SNR=2.9						
PMG				LR	LR	11 28 23.9	
	comp=Z,125nm,20.6s,baz=59,slow=36						
COEN	**Coen**	**13.65**	**235**		**P**	**11 26 52.8**	**-0.1**
EIDS	**Eidsvold**	**19.33**	**190**	P	**P**	**11 27 56.1**	**+0.5**
EIDS				IAmb	IAmb	11 28 28.1	
	comp=Z,11nm,1.5s						
DZM	**Mont Dzumac**	**19.43**	**145**	P	**Pn**	**11 27 59.9**	**+1.4**
	comp=Z,2.6nm,0.4s,baz=348,slow=20,SNR=1.3						
WB0	**Warramunga Arr**	**23.84**	**234**	P	**P**	**11 28 42.4**	**-0.6**
WB0				IAmb	IAmb	11 28 43.9	
	comp=Z,6.8nm,0.8s						
WR8	**Warramunga Arr**	**23.86**	**233**	P	**P**	**11 28 43.3**	**+0.1**
WR8				IAmb	IAmb	11 28 44.6	
	comp=Z,18nm,1.1s						
WRAB	**Tennant Creek**	**23.97**	**233**	P	**P**	**11 28 44.2**	**0.0**
WRAB				IAmb	IAmb	11 28 44.9	
	comp=Z,8.9nm,0.8s						
WRA	**Warramunga Arr**	**23.98**	**233**	P	**P**	**11 28 43.4**	**-0.9**
WRA	**Warramunga Arr**	**23.98**	**233**	P	**P**	**11 28 44.3**	**0.0**
	comp=Z,9.3nm,0.8s,baz=57,slow=9.4,SNR=66						
WRA				PcP	**PcP**	**11 32 23.8**	**-1.5**
	comp=Z,0.5nm,1.0s,baz=53,slow=2.5,SNR=2.5						
WRA				LR	LR	11 37 53.4	
	comp=Z,70nm,18.1s,baz=162,slow=36						
	comp=Z,9.3nm,0.8s						
ARMA	**Armidale**	**24.22**	**186**	P	**P**	**11 28 46.8**	**+0.3**
ARMA				IAmb	IAmb	11 28 48.2	
	comp=Z,13nm,1.3s						
INKA	**Innaminka**	**25.14**	**210**	P	**P**	**11 28 53.2**	**-1.5**
INKA				IAmb	IAmb	11 28 54.5	
	comp=Z,4.1nm,0.7s						
AS31	**Alice Springs**	**26.43**	**227**	P	**P**	**11 29 05.8**	**-0.7**
ASAR	**Alice Springs**	**26.43**	**227**	P	**P**	**11 29 05.4**	**-1.2**
ASAR	**Alice Springs**	**26.43**	**227**	P	**P**	**11 29 05.7**	**-0.9**
	comp=Z,3.7nm,0.6s,baz=56,slow=9.4,SNR=90						
ASAR				PcP	**PcP**	**11 32 29.8**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=55,slow=2.8,SNR=1.8						
	comp=Z,3.7nm,0.6s						
KNRA	**Kununurra**	**27.06**	**248**	P	**P**	**11 29 12.3**	**+0.1**
KNRA				IAmb	IAmb	11 29 19.5	
	comp=Z,29nm,1.5s						
FITZ	**Fitzroy Crossi**	**30.66**	**245**	P	**P**	**11 29 43.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**30.66**	**245**	P	**P**	**11 29 42.5**	**-1.7**
	comp=Z,3.8nm,0.7s,baz=81,slow=7.2,SNR=9.5						
	comp=Z,3.8nm,0.7s						
BBOO	**Buckleboo**	**31.60**	**211**	P	**P**	**11 29 51.4**	**-1.0**
RTZ	**Ruatahuna**	**38.05**	**151**	P	**P**	**11 30 48.2**	**+0.3**
BKZ	**Black Stump Fm**	**38.25**	**152**	P	**P**	**11 30 49.5**	**-0.1**
BKZ				IAmb	IAmb	11 30 58.8	
	comp=Z,6.0nm,1.2s						
MRZ	**Mangatainoka R**	**39.06**	**154**	P	**P**	**11 30 56.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**60.16**	**295**	P	**P**	**11 33 37.4**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=120,slow=5.6,SNR=4.3						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**82.62**	**319**	P	**P**	**11 35 52.5**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=108,slow=3.3,SNR=3.7						
	comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	**82.80**	**22**	P	**P**	**11 35 52.1**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=238,slow=5.2,SNR=1.4						
	comp=Z,0.3nm,0.8s						
QSPA	**South Pole Qui**	**83.73**	**180**	P	**P**	**11 35 58.0**	**+0.5**
QSPA				IAmb	IAmb	11 36 03.0	
	comp=Z,8.3nm,1.4s						
QSPA	**South Pole Qui**	**83.73**	**180**	P	**P**	**11 35 57.7**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=331,slow=1.6,SNR=11						
	comp=Z,1.7nm,0.7s						
D23K	**Nanushuk River**	**83.86**	**17**	P	**P**	**11 35 58.5**	**+0.6**
MAW	**Mawson**	**84.96**	**203**	P	**P**	**11 36 02.6**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=92,slow=6.7,SNR=7.2						
	comp=Z,1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**86.06**	**322**	P	**P**	**11 36 09.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=104,slow=3.9,SNR=1.8						
	comp=Z,0.2nm,0.3s						

*NIED **19** 11:35:04.7,37°.24N×142°.16E,h35km,MW3.3,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.63; Mθθ0.04; Mφφ -0.67; Mrθ-0.14; Mrφ-0.40; Mθφ0.77; Fault plane solution: M₀1.10000×10¹⁴ NP1: φs231.00000°,δ30.00000°,λ138.00000°. NP2: φs359.00000°,δ70.00000°,λ67.00000°.*
JMA 19 11:35:04.7±0.3,37°.2N±0°.7×14°.2E±°,h35km,MV3.5/36,E OFF FUKUSHIMA PREF,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.03**	**278**	P	Pn	11 35 23.0	+0.3
ONAJ	**Iwakimizuishiy**	**1.09**	**263**	P	Pn	11 35 23.7	+0.1
JMST	**Minamisoumatoc**	**1.12**	**296**	P	Pn	11 35 24.4	+0.5
JIKH	**Ishinomakibobu**	**1.20**	**333**	P	Pn	11 35 25.5	+0.5
JMM	**Marumori**	**1.25**	**300**	P	Pn	11 35 26.4	+0.7
JIO	**Ouri**	**1.37**	**332**	P	Pn	11 35 28.2	+0.8
JOTO	**OTAMA OYAMA**	**1.49**	**283**	P	Pn	11 35 30.6	+1.7
JOU	**Okura**	**1.63**	**314**	*eP*	Pn	11 35 32.6	+1.7
JMK	**Ichinoseki**	**1.86**	**337**	*eP*	Pn	11 35 35.6	+1.5
JYK	**Kaneyama**	**2.20**	**320**	*eP*	Pn	11 35 40.6	+1.9

UPP 19 11:38:57.1±0.3,67°.81N×20°.37E,h0km,ML1.9, Confirmed Induced event,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.15**	**355**	P	Pg	11 39 00.1	+0.2
KUA				S	Sg	11 39 03.2	+1.3
RATU	**Laukkuluspa**	**0.30**	**273**	P	Pg	11 39 02.8	+0.1
RATU				S	Sg	11 39 06.2	-0.4
KOVU	**Salmi**	**0.42**	**349**	S	Sg	11 39 11.3	+0.7
NIKU	**Nikkaluokta**	**0.51**	**277**	P	Pg	11 39 07.1	+0.3
NIKU				S	Sg	11 39 12.9	-0.5

BER 19 11:39:43.6±0.5,60°.29N×11°.12E,h0km,ML1.0, Suspected explosion,Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NC602	**NORSAR Array S**	**0.49**	**25**	*eP*	Pg	11 39 52.2	-0.8
NC602				*eS*	Sg	11 39 58.9	-0.4
NC602				IAML		11 40 03.1	
	comp=Z,9.6nm,1.0s						
NAO01	**NORSAR Array S**	**0.56**	**349**	*eP*	Pg	11 39 53.4	-1.0
NAO01				*eS*	Sg	11 40 01.5	-0.2
NAO01				IAML		11 40 04.9	
	comp=Z,9.2nm,0.6s						
NBO00	**NORSAR Array S**	**0.76**	**347**	*eP*	Pg	11 39 57.1	-1.0
NBO00				IAML		11 40 10.2	
	comp=Z,6.8nm,0.6s						
NB201	**NORSAR Array S**	**0.76**	**7**	*eP*	Pg	11 39 57.3	-0.9
NB201				IAML		11 40 08.9	
	comp=Z,5.2nm,0.4s						
NC303	**NORSAR Array S**	**0.94**	**7**	*eP*	Pg	11 40 00.7	-1.0
NC303				IAML		11 40 19.6	
	comp=Z,8.3nm,0.6s						
NC204	**NORSAR Array S**	**1.00**	**350**	*eP*	Pg	11 40 01.4	-1.3
STRU	**Stroemstad**	**1.26**	**178**	*eP*	Pg	11 40 06.3	-1.5

*DJA **19** 11:47:17.8±0.7,7°.N±5°.×12°.7E±°,h30km,M4.8/11, mb4.8/11,mB5.2/7,MLv4.9/9,Mw(mB)4.6/7*
*IDC **19** 11:47:18.7±2.0,6°.76N×126°.55E,h70km±17km,mb3.9/17, mbtmp4.2/18,MS3.1/10,Error ellipse: s-maj=33.4km s-min=12.0km az=67.0*
*NEIC **19** 11:47:21.9±1.7,6°.73N±0°.08×126°.19E±0°.10,h83km±7km, mb4.5/27,Error ellipse: s-maj=15.9km s-min=9.0km az=53.0*
ISC 19 11:47:21.1±0.5,6°.74N±0°.05×126°.23E±0°.08,h83km,n74, σ1s46/71,mb4.4/32,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.73**	**297**		**Pn**	**11 47 36.8**	**-0.5**
DAV				Sn	**Sn**	**11 47 49.6**	**+0.2**
DAV	**Davao City (W)**	**0.73**	**297**	P	**Pn**	**11 47 36.8**	**-0.5**
	4μm,0.4s,baz=234,slow=2.9,SNR=36						
DAV				S	**Sn**	**11 47 51.7**	**+2.3**
	7μm,0.7s,baz=121,slow=5.4,SNR=12						
DAV				LR	LR	11 48 15.3	
	comp=Z,1μm,20.3s,baz=164,slow=56						
SGSI	**Sangihe**	**3.11**	**193**	P	**Pn**	**11 48 08.0**	**-0.1**
TNTI	**Ternate**	**6.03**	**169**		**Pn**	**11 48 47.5**	**-0.4**
TNTI				Sn	**Sn**	**11 49 56.0**	**+0.5**
TNTI	**Ternate**	**6.03**	**169**	P	**Pn**	**11 48 48.2**	**+0.4**
	0.2nm38nm,0.5s						
TNTI				S	**Sn**	**11 49 59.2**	**+3.7**
	0.2nm38nm,0.5s						
KMSI	**Cibinong**	**6.52**	**200**	P	**Pn**	**11 48 56.6**	**+2.1**
MRSI	**Marisa**	**7.55**	**215**	P	**Pn**	**11 49 09.4**	**+0.9**
	0.5nm940nm55nm,0.7s						
TOLI2	**Tolitoli**	**7.80**	**224**		**Pn**	**11 49 09.1**	**-2.8**
TOLI2				Sn	**Sn**	**11 50 35.1**	**-3.6**
MYLDM	**Lahad Datu**	**7.84**	**259**		**Pn**	**11 49 12.6**	**+0.1**
LUWI	**Luwuk**	**8.46**	**204**		**Pn**	**11 49 23.4**	**+2.4**
LUWI				Sn	**Sn**	**11 50 57.4**	**+2.5**
LUWI	**Luwuk**	**8.46**	**204**	P	**Pn**	**11 49 23.7**	**+2.7**
	2μm81nm,1.1s						
SANI	**Sanana**	**8.73**	**182**	P	**Pn**	**11 49 21.7**	**-3.0**
TTSI	**Tana Toraja**	**11.64**	**214**	P	**Pn**	**11 50 06.7**	**+2.4**
SBUM	**Sibu**	**14.60**	**254**		**P**	**11 50 46.7**	**-1.0**
SOEI	**Soe**	**16.50**	**187**	P	**P**	**11 51 09.7**	**+0.8**
SOEI				IAmb	IAmb	11 51 20.4	
	comp=Z,24nm,0.6s						
BATI	**Baumata**	**17.03**	**189**	P	**Pn**	**11 51 14.8**	**+0.7**
	comp=Z,24nm,0.5s,baz=327,slow=4.0,SNR=4.9						
GUMO	**Guam**	**19.56**	**68**	LR	LR	11 58 43.5	
	comp=Z,14nm,20.4s,baz=226,slow=36						

KNRA	**Kununurra**	**22.41**	**174**		**P**	**11 52 12.8**	**-0.2**
KNRA				IAmb	IAmb	11 52 35.2	
	comp=Z,17nm,0.8s						
LEM	**Lembang**	**22.95**	**234**	LR	LR	12 03 04.5	
	comp=Z,41nm,19.9s,baz=202,slow=41						
FITZ	**Fitzroy Crossi**	**24.68**	**181**	P	**P**	**11 52 33.9**	**-0.6**
IPM	**Ipoh**	**25.18**	**266**		**P**	**11 52 39.8**	**+0.6**
IPM				IAmb	IAmb	11 52 43.1	
	comp=Z,16nm,0.7s						
KULM	**Kulim**	**25.48**	**268**		**P**	**11 52 42.2**	**+0.4**
KULM				IAmb	IAmb	11 52 46.6	
	comp=Z,14nm,0.9s						
PSI	**Prapat**	**27.49**	**263**	LR	LR	12 04 47.9	
	comp=Z,37nm,18.9s,baz=88,slow=38						
WB0	**Warramunga Arr**	**27.54**	**163**	P	**P**	**11 52 58.8**	**-1.4**
WRAB	**Tennant Creek**	**27.68**	**163**	P	**P**	**11 53 00.6**	**-0.9**
WRAB				IAmb	IAmb	11 53 36.8	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**27.69**	**163**	P	**P**	**11 52 58.3**	**-3.3**
WRA	**Warramunga Arr**	**27.69**	**163**	P	**P**	**11 52 59.0**	**-2.6**
	comp=Z,0.9nm,0.8s,baz=334,slow=11,SNR=14						
	comp=Z,0.9nm,0.8s						
WB2	**Warramunga Arr**	**27.69**	**163**	P	**P**	**11 53 01.7**	**+0.1**
WB2				IAmb	IAmb	11 53 14.7	
	comp=Z,12nm,1.4s						
WR8	**Warramunga Arr**	**27.75**	**163**	P	**P**	**11 53 02.2**	**+0.1**
WR8				IAmb	IAmb	11 53 44.4	
	comp=Z,9.3nm,1.1s						
MBWA	**Marble Bar**	**28.45**	**193**	P	**P**	**11 53 06.6**	**-1.7**
MBWA				IAmb	IAmb	11 53 46.3	
	comp=Z,22nm,1.2s						
PSA00	**Pilbara Seismi**	**28.82**	**192**	P	**P**	**11 53 10.6**	**-1.0**
PSA00				IAmb	IAmb	11 53 45.6	
	comp=Z,15nm,1.1s						
CMAR	**Chiang Mai Arr**	**29.02**	**296**	P	**P**	**11 53 16.2**	**+2.7**
	comp=Z,0.5nm,0.3s,baz=122,slow=7.5,SNR=5.4						
CMAR				LR	LR	12 04 48.0	
	comp=Z,26nm,21.4s,baz=120,slow=36						
	comp=Z,0.5nm,0.3s						
AS31	**Alice Springs**	**31.13**	**166**	P	**P**	**11 53 31.7**	**-0.4**
ASAR	**Alice Springs**	**31.13**	**166**	P	**P**	**11 53 31.0**	**-1.1**
ASAR	**Alice Springs**	**31.13**	**166**	P	**P**	**11 53 30.8**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=348,slow=7.3,SNR=19						
	comp=Z,0.9nm,0.7s						
BRDH	**Bariadhala**	**36.88**	**299**	LR	LR	12 10 17.8	
	comp=Z,30nm,19.3s,baz=154,slow=37						
MORW	**Morawa**	**36.93**	**195**	P	**P**	**11 54 21.4**	**-0.7**
FORT	**Forrest**	**37.34**	**177**	P	**P**	**11 54 25.6**	**0.0**
GTA	**Gaotai**	**40.29**	**328**	*eP*	**P**	**11 54 53.4**	**+3.0**
GTA				sP	pP	11 55 02.0	-8.2
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
NWAO	**Narrogin (SRO)**	**40.36**	**192**	P	**P**	**11 54 50.9**	**0.0**
BBOO	**Buckleboo**	**40.42**	**167**	P	**P**	**11 54 51.5**	**+0.1**
STKA	**Stephens Creek**	**41.10**	**160**	P	**P**	**11 54 56.5**	**-0.5**
STKA	**Stephens Creek**	**41.10**	**160**	P	**P**	**11 54 56.0**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=338,slow=9.4,SNR=5.4						
	comp=Z,1.8nm,0.5s						
EVN	**Everest**	**42.85**	**304**		**P**	**11 55 12.7**	**+0.6**
EVN				IAmb	IAmb	11 55 13.7	
	comp=Z,6.1nm,0.6s						
SONM	**Songino Array**	**44.31**	**341**	P	**P**	**11 55 24.1**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=168,slow=10.0,SNR=6.0						
	comp=Z,1.8nm,0.8s						
PALK	**Pallekele**	**45.18**	**274**	LR	LR	12 15 41.3	
	comp=Z,29nm,20.2s,baz=110,slow=37						
PETK	**Petropavlovsk-**	**52.86**	**23**	P	**P**	**11 56 27.2**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=197,slow=4.5,SNR=2.3						
	comp=Z,1.3nm,0.8s						
MK31	**Makanchi Array**	**54.83**	**324**	P	**P**	**11 56 43.1**	**+0.3**
MK31				IAmb	IAmb	11 56 44.9	
	comp=Z,2.8nm,0.8s						
MKAR	**Makanchi Array**	**54.83**	**324**		**P**	**11 56 43.2**	**+0.4**
MKAR	**Makanchi Array**	**54.83**	**324**	P	**P**	**11 56 42.9**	**+0.2**
	comp=Z,3.2nm,0.5s,baz=119,slow=7.7,SNR=51						
	comp=Z,3.2nm,0.5s						
MAKZ	**Makanchi**	**55.02**	**324**	P	**P**	**11 56 44.3**	**+0.2**
MAKZ				IAmb	IAmb	11 56 46.8	
	comp=Z,8.8nm,1.3s						
YAK	**Yakutsk**	**55.24**	**2**	LR	LR	12 21 14.2	
	comp=Z,14nm,21.9s,baz=78,slow=37						
KDJ	**Kajisay**	**55.80**	**317**	P	**P**	**11 56 50.3**	**+0.3**
KDJ				IAmb	IAmb	11 56 53.8	
	comp=Z,5.2nm,1.1s						
ZAA0	**Zalesovo Array**	**57.70**	**332**	P	**P**	**11 57 03.9**	**+0.9**
ZAA0				IAmb	IAmb	11 57 06.6	
	comp=Z,4.3nm,1.4s						
ZALV	**Zalesovo Beam**	**57.70**	**332**	P	**P**	**11 57 03.5**	**+0.5**
ZALV	**Zalesovo Beam**	**57.70**	**332**	P	**P**	**11 57 02.5**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=134,slow=6.2,SNR=5.7						
	comp=Z,1.4nm,0.4s						
KURK	**Kurchatov**	**58.96**	**327**	P	**P**	**11 57 12.3**	**+0.5**
KURBB	**Kurchatov Arra**	**58.96**	**327**	P	**P**	**11 57 11.9**	**+0.1**
	comp=Z,5.3nm,0.8s,baz=126,slow=6.2,SNR=34						
	comp=Z,5.3nm,0.8s						
KKAR	**Karatay Array**	**60.72**	**316**		**P**	**11 57 23.7**	**-0.4**
BVAR	**Borovoye Array**	**64.55**	**326**	P	**P**	**11 57 49.5**	**+0.2**
	comp=Z,6.6nm,0.9s,baz

JFK	Kawauchi	1.36	213	P		Pn	11 55 03.7	+0.3
JFK				*e*S		Sn	11 55 20.1	-0.4
JYS	Shirataka	1.39	258	⇓*i*P		Pn	11 55 04.1	+0.4
JYS				⇓*e*S		Sn	11 55 21.4	+0.3
MJAR	Matsushiro Arr	3.47	236	P		Pn	11 55 34.0	+1.9
	comp=E,1.7nm,0.4s,baz=37,slow=12,SNR=17							
ASAJ	Asahikawa	5.62	6	P		Pn	11 56 01.7	0.0
	comp=E,12nm,0.9s,baz=212,slow=15,SNR=8.0							
ASAJ				S		Sn	11 57 05.2	+0.3
	comp=E,6.7nm,0.8s,baz=325,slow=16,SNR=1.6							
H11N2	WAKE ISLAND Hy	28.68	124	T		T	12 30 51.1	
	baz=316,slow=76,SNR=98							
H11N1	WAKE ISLAND Hy	28.69	124	T		T	12 30 51.8	
	baz=316,slow=76,SNR=169							
H11N3	WAKE ISLAND Hy	28.70	124	T		T	12 30 52.1	
	baz=316,slow=76,SNR=104							
H11S1	WAKE ISLAND Hy	29.45	126	T		T	12 31 46.6	
	baz=318,slow=76,SNR=64							
H11S3	WAKE ISLAND Hy	29.45	126	T		T	12 31 46.9	
	baz=318,slow=76,SNR=71							
H11S2	WAKE ISLAND Hy	29.46	126	T		T	12 31 48.1	
	baz=318,slow=76,SNR=55							
ZALV	Zalesovo Beam	41.15	311	P		P	12 02 18.7	-0.7
	comp=E,0.5nm,0.4s,baz=93,slow=9.2,SNR=1.7							
	comp=E,0.5nm,0.4s							
MKAR	Makanchi Array	43.60	301	P		P	12 02 39.6	+0.1
	comp=E,0.3nm,0.5s,baz=83,slow=9.9,SNR=4.0							
	comp=E,0.3nm,0.5s							
KURBB	Kurchatov Arra	45.34	307	P		P	12 02 53.0	-0.1
	comp=E,1.7nm,0.5s,baz=81,slow=7.9,SNR=5.7							
	comp=E,1.7nm,0.5s							
WRA	Warramunga Arr	58.57	188	P		P	12 04 31.6	-0.2
	comp=E,0.5nm,0.6s,baz=5.1,slow=7.2,SNR=5.9							
	comp=E,0.5nm,0.6s							

IDC 19 11:59:29.3±1.7, 2°94N×126°48E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=118.2km s-min=20.7km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.92	182	P	Pn	12 04 15.7	-0.5
	1.0nm,0.5s,baz=3.8,slow=9.4,SNR=5.7						
	1.0nm,0.5s						
WRA	Warramunga Arr	24.02	162	P	P	12 04 45.3	-0.8
	1.0nm,0.6s,baz=338,slow=11,SNR=15						
	1.0nm,0.6s						
ASAR	Alice Springs	27.42	165	P	P	12 05 17.1	+0.1
	0.3nm,0.6s,baz=338,slow=9.4,SNR=5.6						
	0.3nm,0.6s						
MKAR	Makanchi Array	58.06	326	P	P	12 09 24.4	0.0
	0.3nm,0.4s,baz=111,slow=8.4,SNR=3.6						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	62.27	328	P	P	12 09 52.7	-0.4
	0.4nm,0.6s,baz=132,slow=6.1,SNR=4.7						
	0.4nm,0.6s						

*NOU **19** 12:01:20.1, 10°17S×161°35E, h88km, MLv4.4/7, Solomon Islands*
*IDC **19** 12:01:23.4±1.8, 10°18S×161°07E, h85km±13km, mb3.7/9, mbtmp4.1/10, Error ellipse: s-maj=22.0km s-min=16.1km az=76.0*
ISC 19 12:01:21.7±0.6, 10°20S±0°08×161°17E±0°07, h67km, n18, σ1§40/21, mb3.9/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	Huro Makira	0.77	111	P	Pn	12 01 37.2	0.0
HURO	Huro Makira	0.77	111	S	Sn	12 01 49.8	+1.2
HNR	Honiara	1.43	302	P	Pn	12 01 45.7	+0.2
	252nm,0.3s,baz=159,slow=6.4,SNR=46						
HNR				S	Sn	12 02 04.4	+0.8
	1µm,0.4s,baz=9.8,slow=22,SNR=18						
HNR	Honiara	1.43	302	P	Pn	12 01 45.8	+0.2
ALEG	Aligegeo Malai	1.51	342	P	Pn	12 01 47.2	+0.5
ALEG	Aligegeo Malai	1.51	342	S	Sn	12 02 06.5	+1.0
SAVO	Savo Central	1.69	308	P	Pn	12 01 49.7	+0.4
SAVO	Savo Central	1.69	308	S	Sn	12 02 13.9	+3.8
DZM	Mont Dzumac	12.85	157	P	Pn	12 04 24.3	+2.7
	7.8nm,1.0s,baz=312,slow=16,SNR=1.8						
DZM				S	Sn	12 06 42.9	0.0
	6.0nm,0.9s,baz=214,slow=19,SNR=1.6						
WRA	Warramunga Arr	27.62	246	P	P	12 07 02.5	-0.8
	2.5nm,0.6s,baz=75,slow=9.2,SNR=27						
WRA				PcP	PcP	12 10 18.2	-1.2
	0.3nm,0.7s,baz=75,slow=3.7,SNR=5.1						
	2.5nm,0.6s						
ASAR	Alice Springs	29.25	239	P	P	12 07 15.8	-1.8
	0.6nm,0.5s,baz=64,slow=10,SNR=11						
	0.6nm,0.5s						
FITZ	Fitzroy Crossi	35.29	253	P	P	12 08 09.5	-1.0
	3.2nm,0.7s,baz=73,slow=9.4,SNR=12						
	3.2nm,0.7s						
VNDA	Vanda	67.31	180	P	P	12 12 09.7	+0.6
	0.7nm,0.6s,baz=338,slow=6.9,SNR=4.8						
	0.7nm,0.6s						
SONM	Songino Array	75.37	325	P	P	12 12 57.6	-0.6
	4.7nm,0.6s,baz=141,slow=5.5,SNR=24						
	4.7nm,0.6s						
QSPA	South Pole Qui	79.80	180	P	P	12 13 22.8	+0.1
	1.6nm,0.8s,baz=338,slow=1.4,SNR=11						
	1.6nm,0.8s						
ILAR	Eielson Array	84.19	20	P	P	12 13 44.2	-1.2
	0.4nm,0.6s,baz=245,slow=4.7,SNR=10						
	0.4nm,0.6s						
NVAR	Mina Array Bea	88.94	51	P	P	12 14 10.0	+0.5
	0.4nm,0.7s,baz=243,slow=7.4,SNR=4.1						
	0.4nm,0.7s						
MKAR	Makanchi Array	89.85	318	P	P	12 14 12.5	-0.8
	0.6nm,0.8s,baz=89,slow=7.6,SNR=4.0						
	0.6nm,0.8s						

*AFAD **19** 12:06:31.8, 42°03N×40°96E, h8km±5km, ML2.7*
*MOS **19** 12:06:31.8, 42°16N×41°15E, h22km, MPVA3.7*
*TIF **19** 12:06:32.3, 42°11N×41°11E, h20km±1km*
*ISK **19** 12:06:35.5, 41°93N×41°18E, h9km, ML2.9/6*
ISC 19 12:06:31.4±1.0, 42°12N±0°02×41°05E±0°02, h17km±9km, n36, σ0§87/66, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	Batumi	0.70	137	P	Pn	12 06 46.5	0.0
BATM				S	Sn	12 06 56.5	-0.4
BATM	Batumi	0.70	137	*e*Pg	Pn	12 06 46.5	0.0
BATM				*e*Sg	Sn	12 06 56.5	-0.4
HOPA	Hopa-Artvin	0.79	158	Pg	Pn	12 06 47.3	-0.4
HOPA				Sg	Sb	12 06 55.6	-1.4
BCA	Borcka	0.80	148	Pg	Pn	12 06 47.6	-0.2
DBOC	Borcka	0.90	149	P	Pn	12 06 49.4	+0.1
DBOC				S	Sn	12 07 01.4	-0.5
DBOC				*i* IAML		12 07 03.0	
	comp=E,308nm,0.3s						
GHRG	Ghorjomi	1.04	111	P	Pg	12 06 51.3	-0.1
GHRG				S	Sn	12 07 05.2	-0.3
GHRG	Ghorjomi	1.04	111	*e*Pg	Pg	12 06 51.3	-0.1
GHRG				*e*Sg	Sn	12 07 05.2	-0.3
CHOM	Cayeli-Rize	1.05	192	Pg	Pg	12 06 52.8	+1.2
CHOM				Sg	Sg	12 07 05.9	+0.5
DBAD	Bademkaya	1.20	156	P	Pg	12 06 54.2	-0.4
DBAD				S	Sg	12 07 09.7	-0.7
DBAD				*i* IAML		12 07 14.0	
	comp=E,294nm,0.5s						
DBAD				*i* IAML		12 07 16.0	
	comp=N,361nm,0.5s						
DOMR	Dombai	1.24	20	*e*Pg	Pg	12 06 55.7	+0.3
DOMR				*e*Sg	Sg	12 07 11.4	-0.3
DDEM	Demirkent	1.33	157	P	Pg	12 06 56.5	-0.6
DDEM				S	Sg	12 07 14.5	0.0
DDEM				*i* IAML		12 07 19.0	
	comp=N,529nm,0.4s						
DDEM				*i* IAML		12 07 19.0	
	comp=E,527nm,0.5s						
IZDR	Rize	1.38	196	P	Pb	12 06 56.7	-0.1
IZDR				S	Sb	12 07 13.4	-0.8
IZDR				*i* IAML		12 07 18.0	
	comp=N,49nm,0.4s						
IZDR				*i* IAML		12 07 21.0	
	comp=E,42nm,0.4s						
EPOS	Posof	1.40	116	P	Pb	12 06 57.0	0.0
EPOS				S	Sb	12 07 15.0	+0.4
EPOS				*i* IAML		12 07 17.0	
	comp=E,115nm,0.2s						
EPOS				*i* IAML		12 07 25.0	
	comp=N,244nm,0.5s						
TKB	Tkibuli	1.46	80	P	Pb	12 06 58.2	+0.1
TKB				S	Sb	12 07 16.3	0.0
TKB	Tkibuli	1.46	80	*e*Pg	Pb	12 06 58.2	+0.1
TKB				*e*Sg	Sb	12 07 16.3	0.0
MACK	Trabzon	1.52	220	S	Sb	12 07 18.1	0.0
VSLR	Vesoyloye	1.54	331	*e*Pg	Pg	12 07 00.4	-0.5
VSLR				*e*Sg	Sg	12 07 21.6	+0.7
NEUR	Neytrino	1.67	46	*e*Pg	Pb	12 07 02.0	+0.3
NEUR				*e*Sg	Sb	12 07 23.1	+0.7
RPOR	Krasnaya Polya	1.68	340	*i* Pg	Pg	12 07 02.9	-0.8
RPOR				*i* Sg	Sg	12 07 25.7	+0.1
SOC	Sochi	1.76	327	*e*Pg	Pg	12 07 04.9	-0.3
SOC				*e*Sg	Sg	12 07 29.4	+1.3
SENK	Senkaya-Erzuru	1.84	147	Pn	Pb	12 07 05.1	+0.5
SENK				Sn	Sb	12 07 26.5	-0.9
GARIG	Gari	1.85	74	P	Pb	12 07 05.1	+0.3
GARIG				S	Sb	12 07 29.4	+1.7
BAYT	Aydıntepe-Bayb	1.86	202	Pn	Pg	12 07 06.7	-0.4
BAYB	BAYBURT	1.96	198	S	Sg	12 07 34.7	+0.3
AKH	Akhalkalaki	1.96	110	Pn	Pb	12 07 07.1	+0.5
AKH	Akhalkalaki	1.96	110	*e*Pg	Pb	12 07 07.2	+0.5
AKH				*e*Sg	Sb	12 07 31.7	+0.9
GRYR	Gornoye	2.00	1	*e*Pg	Pb	12 07 07.2	0.0
GRYR				*e*Sg	Sb	12 07 33.8	+2.0
GUZR	Guzeripl'	2.00	340	*e*Pg	Pb	12 07 07.9	+0.7
GUZR				*e*Sg	Sg	12 07 34.1	-1.6
SHA1	Shidzhatmaz	2.00	36	*e*Pg	Pb	12 07 07.0	-0.4
SHA1				*e*Sg	Sb	12 07 32.4	+0.3
DIGR	Digorskoe uzhe	2.02	67	*e*Pg	Pb	12 07 07.5	-0.2
DIGR				*e*Sg	Sb	12 07 33.7	+0.9
KBZ	Khabaz	2.10	40	*i* Pg	Pg	12 07 10.8	-0.8
KBZ				*i* Sg	Sg	12 07 38.0	-0.9
KOPT	Kop Dagi	2.14	191	S	Sg	12 07 43.5	+3.2
MRNR	Maryino	2.15	328	*e*Pg	Pb	12 07 09.5	-0.3
MRNR				*e*Sg	Sb	12 07 37.9	+1.7
KIV	Kislovodsk	2.19	33	*e*Pg	Pg	12 07 12.6	-0.8
KIV				*e*Sg	Sb	12 07 39.0	+1.6
GOYR	Goytkh	2.45	331	*e*Pn	Pb	12 07 13.9	-1.1
GOYR				*e*Sn	Sb	12 07 45.0	+0.1
LACR	Lac	2.50	73	*e*Pn	Pb	12 07 17.1	+1.2
LACR				*e*Sn	Sb	12 07 47.9	+1.5

*CATAC **19** 12:22:10.5±0.6, 12°N±3°×8°7W±°, h22km±4km, M3.8/19, MLv3.8/19, Error ellipse: s-maj=7.1km s-min=3.6km az=26.5, confirmed*
ISC 19 12:22:11.0±1.9, 11°93N±0°08×87°27W±0°06, h21km±5km, n28, σ0§75/34, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.71	69	P	Pb	12 22 24.2	-0.4
TEL3	Telica 3	0.76	33	P	Pn	12 22 26.9	+0.3
QUEN	Al S del Volca	0.78	31	P	Pb	12 22 25.8	0.0
CNGA	Al SSO del Vol	0.79	44	P	Pb	12 22 26.4	+0.3
PKGN	Cerro Pekin	0.79	21	P	Pb	12 22 26.3	+0.2
HOYN	Al Sur del Vol	0.79	33	P	Pn	12 22 26.9	-0.1
HOYN				S	Sn	12 22 38.9	+0.6
CNGN	Cerro Negro	0.80	44	P	Pb	12 22 26.4	+0.4
CRIN	San Cristobal	0.80	15	P	Pb	12 22 26.6	-0.5
CRIN	San Cristobal	0.80	15	S	Sn	12 22 38.7	+0.3
HERN	Volcan Telica	0.80	32	S	Sn	12 22 39.2	+0.7
HERN	Volcan Telica	0.80	32	P	Pn	12 22 26.8	-0.3
MOM2	El Cardon	0.92	56	P	Pb	12 22 28.0	-0.2
MOM2				S	Sn	12 22 41.3	+0.1
APQ3	Volcan Apoyequ	0.94	68	P	Pb	12 22 28.7	0.0
APQ3				S	Sn	12 22 43.9	+2.1
MAS3	Al N del Volca	1.07	85	P	Pn	12 22 30.0	-0.8
MAS3				S	Sb	12 22 44.8	+0.4
WILN	Americas 2	1.08	77	P	Pn	12 22 30.3	-0.5
WILN				S	Sn	12 22 45.4	+0.1
MASN	Masaya	1.09	87	P	Pn	12 22 30.3	-0.8
MASN				S	Sn	12 22 45.9	+0.3
NANN	Nandasmo	1.12	89	P	Pb	12 22 31.9	+0.2
NANN	Nandasmo	1.12	89	S	Sn	12 22 48.4	+2.2
AESN	El Sauce Leon	1.19	36	P	Pn	12 22 31.7	-0.7
CNCH	Conchagua	1.45	338	P	Pn	12 22 35.6	-0.6
CNCH	Conchagua	1.45	338	S	Sb	12 22 54.9	-0.6
LCND	La Caada	1.50	336	P	Pn	12 22 36.3	-0.5
CONN	Concepcion	1.65	102	P	Pn	12 22 38.2	-0.5
MATN	Matagalpa	1.65	53	S	Sn	12 22 58.7	-0.7
MATN	Matagalpa	1.65	53	P	Pn	12 22 37.4	-1.4
PACA	Pacayal	1.85	326	P	Pn	12 22 41.5	-0.2
YUSH	Yuscaran	2.06	12	P	Pn	12 22 44.6	+0.2
SCLA	Alcaldia de Sa	2.27	321	P	Pn	12 22 47.4	0.0

*HEL **19** 12:22:38.1±0.2, 61°09N×30°17E, h0km, ML1.8, Explosion*
*IDC **19** 12:22:40.5±2.1, 61°05N×29°87E, h0km, mbtmp3.2/3, ML2.4/3, Error ellipse: s-maj=22.6km s-min=11.9km az=171.0*
ISC 19 12:22:39.8±2.5, 61°26N±0°10×29°89E±0°07, h10km±15km, n14, σ1§75/21, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	Ruokolahti	0.48	290	*e*P	Pb	12 22 50.2	-0.1
RUF				*e*S	Sb	12 22 58.8	+1.2
VJF	Virojoki	1.35	239	*e*P	Pn	12 23 02.9	-1.9
VJF				*e*SN	Sb	12 23 24.5	+2.0
VJF				MSG		12 23 25.6	
	comp=E,11nm,0.1s						
JOF	Joensuu	1.79	21	*e*P	Pn	12 23 12.0	+1.2
JOF	Joensuu	1.79	21	*e*P	Pn	12 23 11.8	+1.0
JOF				*e*S	Sg	12 23 36.4	-1.0
JOF				MSG		12 23 40.3	
	comp=E,6.3nm,0.1s						
FIA1	FINESS Array S	1.85	277	*e*PB	Pb	12 23 13.6	0.0
FIA1				*e*SG	Sg	12 23 39.8	+0.7
FIA1				MSG		12 23 42.1	
	comp=E,5.6nm,0.1s						
FINES	FINESS Array B	1.85	277	Pg	Pb	12 23 13.5	-0.1
	comp=E,1.4nm,0.3s,baz=105,slow=16,SNR=44						
FINES				Lg	Lg	12 23 39.6	
	comp=E,2.2nm,0.3s,baz=100,slow=25,SNR=18						
KAF	Kangasniemi	1.91	298	*e*PG	Pg	12 23 15.8	-0.6
KAF				*e*SG	Sg	12 23 43.6	+2.4
KEF	Keuruu	2.56	293	*e*P	Pb	12 23 24.8	-0.9
KEF	Keuruu	2.56	293	*e*P	Pb	12 23 24.6	-1.1
KEF				*e*SB	Sg	12 23 59.4	-2.5
MEF	Metsahovi	2.90	251	*e*P	Pn	12 23 27.4	+1.5
RAF	Rauma	3.95	270	*e*P	Pn	12 23 42.9	+2.6
HFS	Hagfors	8.03	269	Pn	Pn	12 24 36.1	-0.2
	comp=Z,0.2nm,0.3s,baz=74,slow=15,SNR=6.1						
HFS				Sn	Sn	12 26 03.6	-3.5
	comp=Z,0.1nm,0.3s,baz=75,slow=28,SNR=2.1						
HFS				Lg	Lg	12 26 51.5	
	comp=Z,0.2nm,0.3s,baz=76,slow=25,SNR=1.4						
	comp=Z,2.5nm,0.9s						
ARCES	ARCESS Array B	8.51	350	Pn	Pn	12 24 44.7	+1.8
	comp=Z,0.1nm,0.3s,baz=163,slow=14,SNR=5.6						
	comp=Z,2.8nm,1.0s						
NOA	NORSAR Array B	9.03	277	Pn	Pn	12 24 49.8	-0.3
	baz=69,slow=14,SNR=1.2						
	comp=Z,0.1nm,0.3s						

*SJA **19** 12:29:22.7±0.7, 38°16S×69°61W, h7km±4km, ML3.4, MW3.5*
ISC 19 12:29:22.5±1.1, 38°14S±0°03×69°61W±0°06, h10km, n14, σ1§30/24, Southern Argentina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANA	Caviahue	1.17	282	*e*P	Pn	12 29 45.9	+0.7
CANA				*e*S	Sn	12 30 02.5	+1.3
LC01	Cunco	1.93	246	*e*P	Pb	12 29 58.0	+0.2
LC01				IAML		12 30 26.4	
	comp=E,116nm,0.3s						
BI02	San Fabin de	1.98	318	*e*P	Pb	12 29 59.2	+0.6
BI02				*e*S	Sg	12 30 26.0	-0.2
BI02				IAML		12 30 28.8	
	comp=N,340nm,0.5s						
BI02	San Fabin de	1.98	318	*e*P	Pb	12 29 59.3	+0.6
BI02				*i* S	Sg	12 30 26.4	+0.3
BI02				IAML		12 30 28.0	
	comp=Z,262nm,0.6s						
GO06	Curarrehue	2.04	225	*e*P	Pb	12 29 59.7	-0.1
GO06				*e*S	Sg	12 30 26.9	-1.3
GO06				IAML		12 30 30.5	
	comp=E,239nm,0.5s						
GO06	Curarrehue	2.04	225	*e*P	Pb	12 29 59.9	+0.1
GO06				*e*S	Sg	12 30 27.3	-0.9
GO06				IAML		12 30 31.2	
	comp=Z,172nm,1.0s						
EDS3	Malargue	2.37	4	*e*P	Pb	12 30 06.0	+0.6
EDS3				*e*S	Sg	12 30 38.8	0.0
LR03	Panguipulli	2.60	234	*e*P	Pn	12 30 05.8	+1.2
LR03				*e*S	Sg	12 30 56.2	+10
LR03				IAML		12 30 56.4	
	comp=Z,137nm,0.5s						
PLCA	Paso Flores	2.69	195	*e*P	Pn	12 30 07.1	+1.3
PLCA				*e*S	Sb	12 30 45.6	+1.8
PLCA				IAML		12 30 55.4	
	comp=Z,175nm,1.0s						
LR05	Currie	2.79	221	*e*P	Pg	12 30 14.1	-1.9
LR05	Currie	2.79	221	*e*P	Pg	12 30 14.5	-1.5
LR05				*e*S	Sg	12 30 51.0	-1.2
LR05				IAML		12 31 04.0	
	comp=Z,191nm,0.8s						
BO02	Sierra Bellavi	3.47	344	*e*P	Pg	12 30 26.5	-2.6
BO02				*e*S	Sg	12 31 14.2	+0.1
BO02				IAML		12 31 29.9	
	comp=Z,65nm,1.1s						
RFA	San Rafael	3.49	16	*e*P	Pb	12 30 25.7	+1.3
RFA				*e*S	Sg	12 31 11.9	-2.7
RFA				IAML		12 31 22.1	
	comp=Z,237nm,0.6s						
GO05	Hualane	3.64	328	*e*P	Pb	12 30 27.3	+0.4

*NEIC **19** 12:38:35.3±1.7, 11°08S±0°07×115°2E±0°1, h10km±1km, mb4.4/11, Error ellipse: s-maj=20.5km s-min=4.1km az=234.0*
*IDC **19** 12:38:35.2±1.0, 10°68S×115°47E, h0km, mb4.1/13, mbtmp4.0/14, ML3.3/1, MS3.0/4, Error ellipse: s-maj=37.8km s-min=17.1km az=54.0*
*DJA **19** 12:38:41.6±0.4, 11°S±3°×11°5E±°, h20km, M4.4/19, mB5.1/3, mb4.7/5, MLv4.3/19, Mw(mB)4.5/3*
ISC 19 12:38:39.0±0.6, 11°03S±0°06×115°17E±0°05, h42km, n70, σ2§00/71, mb4.2/15, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	Denpasar	2.34	1	P	Pn	12 39 12.5	-2.5
DNP				S	Sn	12 39 40.8	-1.7
JAGI	Jajag, Banyuwa	2.73	338		Pn	12 39 19.5	-1.0
JAGI	Jajag, Banyuwa	2.73	338	P	Pn	12 39 19.1	-1.3
JAGI	Jajag, Banyuwa	2.73	338	S	Sn	12 39 49.8	-2.5
JAGI	Jajag, Banyuwa	2.73	338	P	Pn	12 39 18.8	-1.6
JAGI				S	Sn	12 39 50.1	-2.2
TWSI	Taliwang, Sumb	2.83	37	P	Pn	12 39 21.4	-0.4
TWSI				S	Sn	12 39 53.3	-1.5
SRBI	Singaraja	2.93	1	P	Pn	12 39 22.8	-0.3
SRBI				S	Sn	12 39 55.1	-1.9
GMJI	Gumukmas	3.22	328	P	Pn	12 39 25.5	-1.7
ABJI	Asem Bagus	3.34	344	P	Pn	12 39 29.5	+0.7
ABJI				S	Sn	12 40 06.1	-1.2
PLAI	Plampang	3.38	50	P	Pn	12 39 28.6	-0.7
PLAI	Plampang	3.38	50	P	Pn	12 39 28.4	-0.9
BLJI	Banyuglugur	3.61	334	P	Pn	12 39 33.5	+1.0
BLJI				S	Sn	12 40 13.3	-0.7
KMMI	Kalianget	4.13	343	P	Pn	12 39 41.7	+2.1
WBSI	Waikabubak, Su	4.38	72	P	Pn	12 39 43.6	+0.5
PCJI	Pacitan	4.84	305	P	Pn	12 39 53.2	+3.8
NGJI	Ngawi	5.16	315	P	Pn	12 39 56.3	+2.5
WSI	Waingapu	5.23	75	P	Pn	12 39 58.7	+4.0
	62nm,1.1s						
WSI				S	Sn	12 40 56.7	+3.0
	62nm,1.1s						
WOJI	Wonogiri, Jawa	5.25	307	P	Pn	12 39 58.3	+3.3
UGM	Wanagama	5.53	304		Pn	12 39 58.6	-0.3
UGM	Wanagama	5.53	304	P	Pn	12 39 59.0	+0.1
UGM	Wanagama	5.53	304	S	Sn	12 40 58.0	-3.3
UGM	Wanagama	5.53	304	P	Pn	12 40 01.7	+2.8
	58nm,0.5s						
EDFI	Ende, Flores	6.81	71	P	Pn	12 40 18.1	+1.5
KPJI	Karang Pucung	7.17	300	P	Pn	12 40 23.3	+1.9
KAPI	Kappang	7.50	38	LR	LR	12 44 00.5	
	comp=Z,55nm,18.1s,baz=268,slow=46						
KAPI	Kappang	7.50	38	P	Pn	12 40 26.1	+0.1
BBJI	Bungbulang	8.22	295	P	Pn	12 40 36.3	+0.4
BBJI	Bungbulang	8.22	295	S	Sn	12 42 04.9	-2.7
LEM	Lembang	8.55	299	LR	LR	12 44 40.8	
	comp=Z,145nm,18.9s,baz=68,slow=42						
TTSI	Tana Toraja	9.18	31	P	Pn	12 40 53.6	+4.7
MBWA	Marble Bar	10.98	157		Pn	12 41 10.4	-3.2
MBWA	Marble Bar	10.98	157	P	Pn	12 41 10.1	-3.6
PSA00	Pilbara Seismi	11.40	157	Pn	Pn	12 41 16.6	-2.9
PSA00	Pilbara Seismi	11.40	157	P	Pn	12 41 16.9	-2.5
GIRL	Giralia	11.58	184	Pn	Pn	12 41 19.5	-2.4
FITZ	Fitzroy Crossi	12.33	126	Pn	Pn	12 41 30.6	-1.4
FITZ	Fitzroy Crossi	12.33	126	Pn	Pn	12 41 30.2	-1.8
	0.1nm,0.3s,baz=300,slow=11,SNR=16						
FITZ				Sn	Sn	12 43 37.0	-11
	0.4nm,0.3s,baz=175,slow=23,SNR=6.3						
FITZ				LR	LR	12 45 36.4	
	comp=Z,78nm,21.4s,baz=202,slow=34						
	0.7nm,0.4s						
MEEK	Meekatharra	15.86	169	P	Pn	12 42 17.5	-2.0
MORW	Morawa	17.97	178		Pn	12 42 44.3	-1.4
MORW				IAmb	IAmb	12 42 50.0	
	comp=Z,60nm,1.5s						
FAKI	Fak Fak	18.76	66	P	P	12 42 52.4	-2.4
FAKI				IAmb	IAmb	12 42 54.3	
	comp=Z,56nm,1.4s						
WB0	Warramunga Arr	20.45	117	P	P	12 43 12.8	-0.3
WB0				IAmb	IAmb	12 43 26.6	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	20.47	118	P	P	12 43 13.7	+0.3
	comp=Z,1.8nm,0.9s,baz=300,slow=11,SNR=14						
WRA				S	S	12 46 47.5	-13
	comp=Z,0.3nm,0.6s,baz=289,slow=24,SNR=3.0						
	comp=Z,1.8

ZALV	**Zalesovo Beam**	**69.67**	**341**	P		**P**	**12 49 44.1**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=146,slow=5.1,SNR=9.6							
	comp=Z,1.7nm,0.6s							
BVAR	**Borovoye Array**	**74.37**	**334**	P		**P**	**12 50 13.9**	**+1.6**
	comp=Z,3.1nm,0.7s,baz=142,slow=7.5,SNR=14							
	comp=Z,3.1nm,0.7s							
ABKAR	**Akbulak array**	**77.10**	**326**	P		**P**	**12 50 30.0**	**+2.1**
QSPA	**South Pole Qui**	**78.98**	**180**	P		**P**	**12 50 38.1**	**-0.3**
QSPA				IAmb		IAmb	12 51 20.1	
	comp=Z,6.3nm,1.5s							
MMAI	**Mount Meron Ar**	**87.51**	**304**	LR		LR	13 35 01.2	
	comp=Z,13nm,18.2s,baz=58,slow=39							
SNAA	**Sanae**	**88.03**	**196**	P		**P**	**12 51 29.2**	**+4.6**
	comp=Z,0.9nm,0.8s,baz=106,slow=5.1,SNR=4.2							
	comp=Z,0.9nm,0.8s							

*IDC **19** 13:07:52.0±1.4, 18°.49S×168°.85E, h0km, mb3.8/5, mbtmp3.9/6, ML4.1/1, Error ellipse: s-maj=36.1km s-min=24.8km az=112.0*
*NOU **19** 13:08:01.8, 19°.11S×168°.70E, h18km, MLv4.9/18, Vanuatu Islands*
ISC 19 13:07:57.8±1.4, 19°.10S±0°.04×169°.0E±0°.1, h10km, n19, σ1§74/17, mb3.8/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTV	**Rentapao**	**1.40**	**338**	P	**Pb**	**13 08 25.0**	**+1.0**
RTV	**Rentapao**	**1.40**	**338**	S	**Sg**	**13 08 43.9**	**+1.1**
DVP	**Devils Point**	**1.55**	**332**	P	**Pb**	**13 08 27.2**	**+0.5**
DVP	**Devils Point**	**1.55**	**332**	S	**Sb**	**13 08 47.1**	**+0.7**
YATNC	**Mamie plateau,**	**3.53**	**213**	P	**Pn**	**13 08 52.1**	**-0.6**
PINNC	**Pines Island,**	**3.77**	**202**	P	**Pn**	**13 08 57.9**	**+1.8**
DZM	**Mont Dzumac**	**3.78**	**218**	Pn	**Pn**	**13 08 57.8**	**+1.5**
	11nm,0.3s,baz=60,slow=8.6,SNR=320						
DZM				Pg	**Pg**	**13 09 09.3**	**-1.0**
	24nm,0.3s,baz=56,slow=15,SNR=8.6						
DZM				Sn	**Sn**	**13 09 39.6**	**-1.4**
	97nm,0.3s,baz=112,slow=21,SNR=18						
	38nm,0.3s						
OUENC	**Ouen Island, N**	**3.85**	**211**	P	**Pn**	**13 08 59.0**	**+1.8**
OUENC	**Ouen Island, N**	**3.85**	**211**	S	**Sn**	**13 09 42.5**	**0.0**
ONTNC	**Ouen Toro**	**3.96**	**216**	P	**Pn**	**13 09 00.3**	**+1.6**
ONTNC	**Ouen Toro**	**3.96**	**216**	S	**Sn**	**13 09 44.8**	**-0.4**
SANVU	**Saraoutou**	**4.00**	**335**	P	**Pn**	**13 08 59.3**	**0.0**
KOUNC	**Koumac, New Ca**	**4.63**	**251**	P	**Pn**	**13 09 09.0**	**+1.1**
URZ	**Urewera**	**20.37**	**161**	P	**P**	**13 12 36.1**	**+1.6**
	2.9nm,0.5s,baz=289,slow=7.0,SNR=5.4						
	2.9nm,0.5s						
WRA	**Warramunga Arr**	**32.61**	**263**	P	P	13 14 25.3	-4.7
	0.3nm,0.7s,baz=78,slow=8.2,SNR=1.9						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**32.91**	**256**	P	P	13 14 28.2	-4.3
	0.9nm,0.5s,baz=83,slow=8.6,SNR=24						
	0.9nm,0.5s						
SONM	**Songino Array**	**86.95**	**323**	P	P	13 20 37.7	-5.6
	0.4nm,0.3s,baz=108,slow=3.6,SNR=3.7						
	0.4nm,0.3s						
ILAR	**Eielson Array**	**90.18**	**17**	P	P	13 20 51.3	-6.7
	0.3nm,0.7s,baz=239,slow=4.9,SNR=6.2						
	0.3nm,0.7s						
GERES	**GERESS Array B**	**144.25**	**332**	PKP	**PKPab**	**13 27 27.4**	**-4.6**
	0.6nm,0.6s,baz=50,slow=1.5,SNR=3.8						

IDC 19 13:09:01.1±2.8, 2°.15S×142°.06E, h0km, mb3.3/2, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=56.1km s-min=32.5km az=92.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.40**	**255**	Pg	Pn	13 09 27.1	-0.9
	43nm,0.3s,baz=189,slow=12,SNR=138						
JAY				Lg	Lg	13 09 37.9	
	30nm,0.3s,baz=83,slow=16,SNR=9.7						
WRA	**Warramunga Arr**	**19.23**	**203**	P	P	13 13 27.1	+0.1
	0.1nm,0.3s,baz=27,slow=12,SNR=4.9						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**22.80**	**200**	P	P	13 14 05.7	+0.1
	0.6nm,0.9s,baz=30,slow=9.6,SNR=5.3						
	0.6nm,0.9s						
MKAR	**Makanchi Array**	**71.42**	**321**	P	P	13 20 23.3	0.0
	0.3nm,0.6s,baz=120,slow=5.8,SNR=3.9						
	0.3nm,0.6s						

DNK 19 13:15:09.7±0.6, 59°.13N×11°.29E, h1km±3km, Explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STRU	**Stroemstad**	**0.11**	**211**	*e*P	Pg	13 15 11.5	-0.2
STRU				P		13 15 11.6	
STRU				S	Sg	13 15 13.2	+0.1
STRU				*e*S		13 15 13.3	
FINU	**Finntorp**	**0.67**	**65**	P	Pg	13 15 22.1	-0.4
VANU	**Vaenersborg**	**0.76**	**147**	P	Pg	13 15 23.6	-0.5
VANU				S	Sg	13 15 33.5	-0.4
NASU	**Vaermlandsnaes**	**1.00**	**101**	P	Pg	13 15 28.1	-0.7
NASU				S	Sg	13 15 41.2	-0.6
TJOU	**Tjoern**	**1.11**	**171**	P	Pg	13 15 29.9	-1.0
TJOU				*e*P	Pb	13 15 30.1	-1.6
TJOU				*e*S	Sg	13 15 45.0	-0.3
BORU	**Boraas**	**1.69**	**152**	*e*P	Pn	13 15 40.2	0.0
BORU				*e*S	Sn	13 16 01.9	-0.5

BER 19 13:15:13.3±1.1, 58°.29N×6°.38E, h0km, ML1.7, Explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNART	**Snartemo**	**0.44**	**83**	*e*P	Pg	13 15 20.9	-0.8
SNART				*e*S	Sg	13 15 26.6	-0.8
SNART				IAML		13 15 30.2	
	comp=Z,112nm,0.8s						
SNART	**Snartemo**	**0.44**	**83**	*e*P	Pg	13 15 20.9	-0.8
SNART				*e*S	Sg	13 15 26.6	-0.8
SNART				IAML		13 15 30.2	
	comp=Z,112nm,0.8s						
SNART	**Snartemo**	**0.44**	**83**	*i* P	Pg	13 15 21.0	-0.8
SNART				*e*S	Sg	13 15 26.6	-0.9
KMY	**Karmoy**	**1.10**	**328**	*e*P	Pg	13 15 32.5	-1.8
KMY				*e*S	Sg	13 15 47.4	-1.2
KMY	**Karmoy**	**1.10**	**328**	*e*P	Pg	13 15 32.5	-1.8
KMY				*e*S	Sg	13 15 47.4	-1.2
HOMB	**Homborsund**	**1.12**	**90**	*e*P	Pg	13 15 33.8	-1.0
HOMB				*e*S	Sg	13 15 48.5	-0.9
HOMB				IAML		13 15 51.5	
	comp=Z,14nm,0.2s						
HOMB	**Homborsund**	**1.12**	**90**	*e*P	Pg	13 15 33.8	-1.0
HOMB				*e*S	Sg	13 15 48.5	-0.9
HOMB				IAML		13 15 51.5	
	comp=Z,14nm,0.2s						
HOMB	**Homborsund**	**1.12**	**90**	*i* P	Pg	13 15 33.6	-1.2
HOMB				*e*S	Sg	13 15 48.5	-0.8
BLS5	**Blasjo**	**1.14**	**2**	*e*P	Pg	13 15 33.2	-1.9
BLS5				*e*S	Sg	13 15 48.9	-0.9
BLS5	**Blasjo**	**1.14**	**2**	*e*P	Pg	13 15 33.2	-1.9
BLS5				*e*S	Sg	13 15 48.9	-0.9
ODD1	**Odda**	**1.63**	**4**	*e*P	Pn	13 15 42.4	-1.0
ODD1	**Odda**	**1.63**	**4**	*e*P	Pn	13 15 42.4	-1.0

*SJA **19** 13:16:26.9±0.6, 31°.50S×71°.99W, h17km±2km, ML3.4, MW3.5*
*GUC **19** 13:16:31.2±0.8, 31°.51S×71°.54W, h49km±5km, ML3.4*
ISC 19 13:16:27.8±1.8, 31°.51S±0°.02×71°.77W±0°.05, h6km±13km, n41, σ1§02/64, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.72**	**65**	*e*P	**Pn**	**13 16 44.5**	**-0.2**
CO02				*e*S	**Sb**	**13 16 53.9**	**+0.7**
CO02				IAML		13 16 56.6	
	comp=N,10μm,0.1s						
CO02	**Combarbal**	**0.72**	**65**	*e*P	**Pn**	**13 16 44.5**	**-0.2**
CO02				*e*S	**Sn**	**13 16 54.9**	**-1.2**
CO02				IAML		13 16 55.5	
	comp=Z,2μm,0.3s						
CO06	**Fray Jorge**	**0.84**	**8**	*e*P	**Pn**	**13 16 47.6**	**+1.4**
CO06				*e*S	**Sn**	**13 16 58.0**	**-0.9**
CO06				IAML		13 16 59.9	
	comp=E,2μm,0.2s						
CO04	**Los Peladeros**	**0.86**	**128**	*e*P	**Pn**	**13 16 46.6**	**-0.1**
CO04				*e*S	**Sb**	**13 16 57.2**	**0.0**
CO04				IAML		13 16 58.1	
	comp=E,7μm,0.2s						
VA06	**Catapilco**	**1.12**	**159**	*e*P	**Pn**	**13 16 50.8**	**+0.8**
VA06				*e*S	**Sg**	**13 17 04.5**	**+0.5**
VA06				IAML		13 17 08.2	
	comp=N,1μm,0.2s						
CO03	**El Pedregal**	**1.14**	**54**	*e*P	**Pn**	**13 16 51.2**	**+0.8**
CO03				*e*S	**Sg**	**13 17 04.5**	**-0.1**
CO03				IAML		13 17 07.3	
	comp=E,2μm,0.1s						
CO03	**El Pedregal**	**1.14**	**54**	*e*P	**Pn**	**13 16 51.2**	**+0.8**
CO03				*e*S	**Sn**	**13 17 06.7**	**+0.3**
CO03				IAML		13 17 07.0	
	comp=Z,581nm,0.6s						
VA01	**Torpederas**	**1.51**	**176**	*e*P	**Pn**	**13 16 52.5**	**-2.9**
GO04	**Tololo Observa**	**1.57**	**32**	*e*P	**Pb**	**13 16 57.7**	**+0.3**
GO04				*e*S	**Sg**	**13 17 18.2**	**-0.2**
GO04	**Tololo Observa**	**1.57**	**32**	*e*P	**Pb**	**13 16 57.8**	**+0.3**
GO04				*e*S	**Sg**	**13 17 18.5**	**+0.1**
GO04				IAML		13 17 21.2	
	comp=Z,990nm,0.1s						
ROCH	**El Roble**	**1.59**	**156**	*e*P	**Pb**	**13 16 57.8**	**0.0**
ROCH				*e*P	**Pb**	**13 16 57.8**	**0.0**
ROCH				IAML		13 17 21.0	
	comp=N,994nm,0.4s						
ROCH				IAML		13 17 21.0	
	comp=N,495nm,0.4s						
ROC1	**El Roble**	**1.59**	**157**	*e*P	**Pb**	**13 16 57.8**	**0.0**
ROC1				*e*S	**Sg**	**13 17 20.0**	**+0.9**
VA03	**San Esteban**	**1.62**	**141**	*e*P	**Pb**	**13 16 58.3**	**+0.1**
VA03				IAML		13 17 21.6	
	comp=E,2μm,0.2s						
VA03	**San Esteban**	**1.62**	**141**	*e*P	**Pn**	**13 16 57.8**	**+0.7**
VA03				*e*S	**Sb**	**13 17 19.6**	**+0.7**
VA03				IAML		13 17 20.7	
	comp=Z,753nm,0.2s						
CO05	**La Serena**	**1.65**	**16**	*e*P	**Pb**	**13 16 59.1**	**+0.5**
CO05				*e*S	**Sb**	**13 17 20.1**	**+0.4**
CO05				IAML		13 17 29.4	
	comp=N,568nm,0.5s						
MT02	**Curacav**	**1.82**	**163**	*e*P	**Pn**	**13 17 00.4**	**+0.7**
MT02				*e*S	**Sg**	**13 17 26.6**	**+0.2**
MT02				IAML		13 17 29.5	
	comp=Z,164nm,0.3s						
PEL	**Peldehue**	**1.87**	**151**	*e*P	**Pb**	**13 17 01.9**	**-0.5**
PEL				*e*S	**Sg**	**13 17 27.9**	**0.0**
PEL				IAML		13 17 33.5	
	comp=Z,187nm,0.2s						
MT05	**Renca**	**2.07**	**155**	*e*P	**Pn**	**13 17 04.5**	**+1.4**
MT05				*e*S	Sn	13 17 19.5	-10
MT05				IAML		13 17 39.2	
	comp=Z,242nm,0.3s						
CO01	**Juntas del Tor**	**2.10**	**44**	*e*P	**Pb**	**13 17 06.1**	**-0.3**
CO01				*e*S	**Sb**	**13 17 33.0**	**+0.2**
CO01				IAML		13 17 35.1	
	comp=Z,266nm,0.7s						
RTLS	**Leoncito**	**2.13**	**98**	*e*P	**Pb**	**13 17 07.3**	**+0.3**
RTLS				*e*S	**Sg**	**13 17 35.4**	**-0.9**
RTLS				IAML		13 17 36.0	
	comp=Z,532nm,0.5s						
MT14	**Cerro Cal¡n**	**2.15**	**151**	*e*P	**Pn**	**13 17 05.9**	**+1.7**
MT14				IAML		13 17 42.1	
	comp=N,497nm,0.4s						
MT16	**CCHEN**	**2.18**	**151**	*e*P	**Pn**	**13 17 06.4**	**+1.6**
MT16				IAML		13 17 43.6	
	comp=N,251nm,0.8s						
FCH	**Farellones**	**2.20**	**146**	*e*P	**Pn**	**13 17 06.7**	**+1.4**
FCH				IAML		13 17 36.8	
	comp=E,228nm,0.2s						
MT03	**Universidad Ad**	**2.25**	**152**	*e*P	**Pn**	**13 17 07.4**	**+1.8**
MT03				*e*S	**Sb**	**13 17 37.7**	**+0.7**
MT03				IAML		13 17 44.9	
	comp=Z,245nm,0.5s						
MT04	**Ro Olivares**	**2.34**	**144**	*e*P	**Pb**	**13 17 09.3**	**-1.2**
MT04				*e*S	**Sb**	**13 17 39.9**	**+0.1**
MT04				IAML		13 17 47.0	
	comp=Z,133nm,0.4s						
AROD	**Rodeo**	**2.38**	**56**	*e*P	**Pb**	**13 17 11.0**	**-0.3**
AROD				*e*S	**Sg**	**13 17 43.2**	**-1.3**
MT01	**Popeta**	**2.39**	**170**	*e*P	**Pn**	**13 17 08.6**	**+1.1**
MT01				*e*S	**Sb**	**13 17 39.5**	**-1.5**
MT01				IAML		13 17 45.1	
	comp=Z,132nm,0.6s						
MT08	**Bocatoma Ro**	**2.43**	**143**	*e*P	**Pb**	**13 17 11.3**	**-0.8**
MT08				IAML		13 17 47.6	
	comp=E,156nm,0.3s						
MT08	**Bocatoma Ro**	**2.43**	**143**	*e*P	**Pb**	**13 17 11.8**	**-0.3**
MT08				*e*S	**Sb**	**13 17 42.1**	**-0.4**
MT08				IAML		13 17 47.9	
	comp=Z,102nm,0.2s						
ACCO	**Cerro Coronel**	**2.50**	**69**	*e*P	**Pb**	**13 17 12.9**	**-0.3**
ACCO				*e*S	**Sg**	**13 17 46.8**	**-1.3**
MT13	**San Alfonso**	**2.56**	**151**	*e*P	**Pn**	**13 17 11.9**	**+2.0**
MT13				*e*S	**Sb**	**13 17 46.5**	**+0.7**
MT13				IAML		13 17 51.2	
	comp=Z,145nm,0.3s						
ZON	**Zonda**	**2.64**	**92**	*e*P	**Pb**	**13 17 15.3**	**-0.2**
ZON				*e*S	**Sb**	**13 17 48.7**	**+0.5**
ZON				IAML		13 17 52.5	
	comp=Z,76nm,0.4s						
ACDV	**Cuesta del Vie**	**2.64**	**60**	*e*P	Pg	13 17 28.2	+10
ACDV				IAML		13 17 52.1	
	comp=Z,116nm,0.3s						
ACDV				*e*S	**Sg**	**13 17 52.2**	**-0.5**
LCO	**Las Campanas**	**2.66**	**21**	*e*P	**Pn**	**13 17 12.8**	**+1.4**
LCO				*e*S	**Sb**	**13 17 46.6**	**-2.3**
LCO				IAML		13 17 57.7	
	comp=Z,374nm,0.8s						
LMEL	**Las Melosas**	**2.68**	**151**	*e*P	**Pn**	**13 17 13.7**	**+2.1**
LMEL				*e*S	**Sb**	**13 17 48.9**	**-0.5**
LMEL				IAML		13 17 54.8	
	comp=Z,155nm,0.2s						
ASAL	**Salagasta**	**2.71**	**114**	*e*P	**Pb**	**13 17 16.9**	**0.0**
ASAL				IAML		13 17 59.8	
	comp=Z,0.1nm,0.7s						
SJA	**San Juan**	**2.74**	**91**	IAML		13 18 22.0	
	comp=Z,95nm,0.1s						
ARCO	**CERRO ARCO**	**2.75**	**120**	*e*P	Pn	13 17 01.2	-11
ARCO				IAML		13 18 01.9	
	comp=Z,123nm,0.3s						
RTLL	**Cerro Villicun**	**2.82**	**87**	IAML		13 18 05.9	
	comp=Z,181nm,0.3s						
BO01	**Tunca**	**2.93**	**169**	*e*S	**Sb**	**13 17 55.0**	**-1.6**
AAGR	**Agrelo**	**2.94**	**123**	IAML		13 18 03.9	
	comp=Z,121nm,0.7s						

*UCR **19** 13:36:06.3±1.0, 11°.66N×87°.19W, h31km±6km, MW3.5*
*CATAC **19** 13:36:06.7±1.4, 12°.N±5°.×8°.7W±°, h18km±8km, M3.4/4, MLv3.4/4, Error ellipse: s-maj=11.4km s-min=6.1km az=38.9, confirmed*
ISC 19 13:36:11.4±1.9, 11°.82N±0°.06×86°.9W±0°.1, h50km, n17, σ1§46/21, 7D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.46**	**38**	*i*P	**Pn**	**13 36 21.3**	**-0.9**
COPN				*e*S	**Sn**	**13 36 31.8**	**+1.9**
COPN	**Copaltepe**	**0.46**	**38**	P	**Pn**	**13 36 21.4**	**-0.7**
AMTN	**Mateare**	**0.60**	**46**	S	**Sn**	**13 36 34.3**	**+1.3**
APQ2	**Apoyeque**	**0.66**	**55**	S	**Sn**	**13 36 34.9**	**+0.7**
UNAN	**Cigeo UNAN**	**0.66**	**64**	S	**Sn**	**13 36 35.5**	**+1.2**
CNGA	**Al SSO del Vol**	**0.69**	**14**	S	**Sn**	**13 36 37.5**	**+2.4**
MGAN	**Managua**	**0.70**	**62**	S	**Sn**	**13 36 36.8**	**+1.7**
CNGN	**Cerro Negro**	**0.70**	**14**	*i*P	**Pn**	**13 36 23.7**	**-1.6**
CNGN				*e*S	**Sn**	**13 36 36.6**	**+1.4**
CNGN	**Cerro Negro**	**0.70**	**14**	P	**Pn**	**13 36 23.5**	**-1.7**
MOM2	**El Cardon**	**0.72**	**32**	P	**Pn**	**13 36 23.8**	**-1.7**
NANN	**Nandasmo**	**0.75**	**81**	S	**Sn**	**13 36 37.3**	**+1.0**
CRIN	**San Cristobal**	**0.89**	**349**	S	**Sn**	**13 36 40.8**	**+1.0**
MORN	**Al O del Volca**	**1.23**	**103**	S	**Sn**	**13 36 48.2**	**+0.3**
CONN	**Concepcion**	**1.25**	**102**	P	**Pn**	**13 36 30.7**	**-1.9**
CONN				S	**Sn**	**13 36 49.1**	**+0.8**
LCRUZ	**La Cruz**	**1.43**	**121**	*e*P	**Pn**	**13 36 34.1**	**-0.8**
LCRUZ				*e*S	**Sn**	**13 36 54.1**	**+1.6**
VRLE	**La Escondida,**	**1.80**	**124**	*e*S	**Sn**	**13 37 02.7**	**+0.8**
JUD3	**Juan Diaz 3**	**2.10**	**141**	*i*P	**Pn**	**13 36 44.1**	**-0.2**

IDC 19 13:37:49.7±994.0, 48°.17N×3°.15W, h0km, Error ellipse: s-maj=439.4km s-min=178.2km az=60.0, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**11.21**	**80**	I	I	14 42 50.0	
	baz=274,slow=333,SNR=2.6						
I37NO	**I37NO**	**23.56**	**19**	I	I	16 02 40.0	
	baz=220,slow=329,SNR=0.8						
I43RU	**DUBNA INFRASON**	**25.71**	**55**	I	I	16 15 40.0	
	baz=268,slow=329,SNR=2.1						

*NNC **19** 13:47:03.6±1.6, 42°.55N×74°.53E, h0km, mb3.9, mpv2.8, Error ellipse: s-maj=11.9km s-min=7.3km az=173.0*
*KNET **19** 13:47:03.3±0.3, 42°.55N×74°.54E, h6km±6km, ml1.1, Error ellipse: s-maj=1.9km s-min=1.3km az=104.0*
*SOME **19** 13:47:03.4, 42°.53N×74°.55E, h5km*
ISC 19 13:47:03.4±1.0, 42°.55N±0°.03×74°.53E±0°.03, h7km±7km, n14, σ0§51/27, 14C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**0.09**	**344**	P	**Pg**	**13 47 05.7**	**0.0**
	28nm,0.1s,SNR=92						
AAK				S	**Sg**	**13 47 07.2**	**-0.1**
	130nm,0.2s						
AAK	**Ala-Archa**	**0.09**	**344**	P	**Pg**	**13 47 05.6**	**-0.1**
	2.3nm,0.3s						
AAK				S	**Sg**	**13 47 07.1**	**-0.2**
	7.1nm,0.3s						
UCH	**Uchtor**	**0.32**	**182**	P	**Pg**	**13 47 09.9**	**0.0**
	1.9nm,0.1s,SNR=21						
UCH				S	**Sg**	**13 47 14.6**	**+0.3**
	6.9nm,0.1s						
KBK	**Karagaybulak**	**0.33**	**71**	P	**Pg**	**13 47 10.4**	**+0.5**
	17nm,0.1s,SNR=18						
KBK				S	**Sg**	**13 47 15.4**	**+1.1**
	19nm,0.2s						
CHMS	**Chumysh**	**0.48**	**20**	P	**Pg**	**13 47 13.1**	**+0.4**
	1.4nm,0.1s						
CHMS				S	**Sg**	**13 47 19.9**	**+1.0**
	9.9nm,0.1s						
EKS2	**Erkin-Say**	**0.57**	**281**	P	**Pg**	**13 47 15.0**	**+0.6**
	1.1nm,0.1s,SNR=7.8						
EKS2				S	**Sb**	**13 47 23.3**	**-0.7**
	7.3nm,0.2s						
USP	**Ospenovka**	**0.71**	**358**	P	**Pg**	**13 47 16.9**	**-0.3**
	1.1nm,0.1s						
USP				S	**Sg**	**13 47 27.4**	**+0.9**
	4.9nm,0.1s						
TKM2	**Tokmak 2**	**0.87**	**65**	P	**Pg**	**13 47 19.9**	**-0.3**
	2.7nm,0.1s,SNR=6.7						
TKM2				S	**Sb**	**13 47 32.1**	**-0.8**
	5.7nm,0.1s						
SGDS	**Sogindy**	**0.90**	**5**	P	**Pg**	**13 47 21.0**	**+0.2**
	0.9nm,0.1s						
SGDS				S	**Sg**	**13 47 33.0**	**+0.5**
	9.3nm,0.1s						
MRKS	**Merke**	**0.98**	**282**	P	**Pg**	**13 47 22.4**	**+0.2**
	0.9nm,0.1s						
MRKS				S	**Sg**	**13 47 35.3**	**+0.3**
	3.0nm,0.1s						
MRKS	**Merke**	**0.98**	**282**	*e*P	**Pg**	**13 47 22.2**	**0.0**
	1.6nm,0.2s						
MRKS				*e*S	**Sg**	**13 47 35.3**	**+0.3**
	3.4nm,0.1s						
KRBS	**Karabastau**	**1.42**	**36**	P	**Pb**	**13 47 30.3**	**+0.1**
	0.5nm,0.1s						
KRBS				S	**Sg**	**13 47 48.9**	**-0.2**
	1.2nm,0.1s						
KNDC	**Almaty**	**1.91**	**69**	P	**Pg**	**13 47 40.0**	**0.0**
	16nm,0.4s						
KNDC				S	**Sn**	**13 48 00.7**	**-0.1**
	6.1nm,0.3s						
KTBS	**Karatobe**	**1.96**	**53**	Pg	**Pg**	**13 47 40.5**	**-0.4**
	0.9nm,0.1s						
KTBS				Lg	Lg	13 48 06.6	
	6.7nm,0.2s						

*NEIC **19** 13:52:03.7±2.6, 23°.9S±0°.1×179°.96W±0°.10, h525km±8km, mb4.5/31, Error ellipse: s-maj=18.2km s-min=10.9km az=208.0*
*IDC **19** 13:52:03.8±1.0, 23°.90S×179°.94W, h518km±10km, mb3.5/17, mbtmp4.3/19, Error ellipse: s-maj=12.4km s-min=11.7km az=139.0*
*NOU **19** 13:52:03.8, 23°.86S×179°.54W, h550km, mb4.3/44, South of Fiji Islands*
ISC 19 13:52:03.1±0.4, 23°.94S±0°.05×179°.82W±0°.07, h518km, n173, σ1§68/183, mb4.2/35, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.56**	**163**	P	**P**	**13 53 37.7**	**+1.7**
RAO	**Raoul Island**	**5.56**	**163**	P	**P**	**13 53 37.8**	**+1.8**
	1μm,0.2s,baz=80,slow=9.9,SNR=34						
RAO				S	**S**	**13 54 52.8**	**+0.8**
	122nm,0.3s,baz=314,slow=23,SNR=1.3						
RAO	**Raoul Island**	**5.56**	**163**	P	**P**	**13 53 38.5**	**+2.5**
GLKZ	**Green Lake**	**5.57**	**163**	P	**P**	**13 53 39.8**	**+3.8**
GLKZ				S	**S**	**13 54 53.2**	**+1.1**
LKBA	**Tubou, Lakemba**	**5.75**	**10**	P	**P**	**13 53 39.8**	**+1.8**
MSVF	**Nonsavu**	**6.49**	**342**		**P**	**13 53 45.5**	**+0.4**
MSVF	**Nonsavu**	**6.49**	**342**	P	**P**	**13 53 46.4**	**+1.3**
TAVE	**Taveuni**	**7.19**	**359**	P	**P**	**13 53 54.2**	**+2.2**
DGTI	**Dogotuki**	**7.61**	**357**	P	**P**	**13 53 58.1**	**+1.9**
NIUE	**Niue**	**10.40**	**64**	P	**P**	**13 54 22.8**	**-2.1**
NIUE	**Niue**	**10.40**	**64**	P	**P**	13 54 30.8	+5.9
PINNC	**Pines Island,**	**11.78**	**274**	P	**P**	**13 54 42.7**	**+3.3**
OUENC	**Ouen Island, N**	**12.37**	**274**	P	**P**	**13 54 48.9**	**+3.4**
YATNC	**Mamie plateau,**	**12.38**	**276**	P	**P**	13 54 49.4	+3.7
AFI	**Afiamalu**	**12.54**	**39**	P	**P**	**13 54 43.5**	**-4.0**
AFI	**Afiamalu**	**12.54**	**39**	P	**P**	**13 54 45.9**	**-1.6**
RTV	**Rentapao**	**12.57**	**297**	P	**P**	**13 54 50.6**	**+2.9**
OUZ	**Omahuta**	**12.61**	**205**	P	**P**	**13 54 50.5**	**+2.6**
OUZ	**Omahuta**	**12.61**	**205**	P	**P**	**13 54 50.6**	**+2.6**
ONTNC	**Ouen Toro**	**12.74**	**275**	P	**P**	**13 54 52.1**	**+2.7**
DZM	**Mont Dzumac**	**12.79**	**276**	P	**P**	**13 54 53.2**	**+3.2**
DZM	**Mont Dzumac**	**12.79**	**276**	P	**P**	**13 54 49.8**	**-0.3**
	12nm,0.7s,baz=96,slow=20,SNR=12					

comp=Z,9.5nm,0.7s
BKZ Black Stump Fm 15.50 191 P **P** **13 55 20.1 +1.9**
BKZ Black Stump Fm 15.50 191 P **P** **13 55 15.5 -2.7**
NTVZ North Tongarir 15.59 193 P **P** **13 55 18.8 -0.4**
TMVZ Te Maari 15.60 193 P **P** **13 55 19.2 -0.1**
TWVZ Taurewa 15.62 194 P **P** **13 55 21.2 +1.8**
ETVZ East Tongariro 15.62 193 P **P** **13 55 20.8 +1.3**
WTVZ West Tongariro 15.63 193 P **P** **13 55 19.9 +0.4**
NNVZ North Ngauruho 15.64 193 P **P** **13 55 20.3 +0.7**
OTVZ Oturere 15.66 193 P **P** **13 55 18.6 -1.3**
NGZ Ngauruhoe 15.68 193 P **P** **13 55 22.1 +1.9**
SNVZ South Ngauruho 15.68 193 P **P** **13 55 19.5 -0.7**
COVZ Chateau Observ 15.72 193 P **P** **13 55 21.7 +1.2**
MCHZ McNeill Hill 15.74 190 P **P** **13 55 22.1 +1.5**
TUVZ Tukino 15.76 193 P **P** **13 55 19.4 -1.5**
KWHZ Kaweka Forest 15.77 191 P **P** **13 55 20.1 -0.8**
FWVZ Far West T-bar 15.77 193 P **P** **13 55 21.3 +0.2**
WHVZ Whangaehu Hut 15.79 193 P **P** **13 55 21.3 0.0**
VRZ Vera Road 15.82 196 P **P** **13 55 22.9 +1.4**
WNVZ Wahianoa 15.83 193 P **P** **13 55 21.3 -0.4**
PKVZ Pokaka 15.85 194 P **P** **13 55 20.6 -1.1**
MOVZ Moawhango 15.87 193 P **P** **13 55 22.2 +0.2**
KRHZ Kereru 15.99 191 P **P** **13 55 22.3 -0.8**
KAHZ Kahuranaki 16.05 189 P **P** **13 55 22.6 -1.2**
BFZ Birch Farm 17.02 190 P **P** **13 55 34.6 +1.2**
MRZ Mangatainoka R 17.12 192 P **P** **13 55 31.1 -3.2**
SNZO South Karori 17.92 194 P **P** **13 55 42.0 +0.4**
QRZ Quartz Range 18.02 199 P **P** **13 55 43.1 +0.5**
QRZ Quartz Range 18.02 199 P **P** **13 55 43.4 +0.8**
NNZ Nelson 18.15 197 P **P** **13 55 43.9 +0.1**
NNZ Nelson 18.15 197 P **P** **13 55 43.1 -0.6**
THZ Tophouse 18.78 197 P **P** **13 55 50.2 +0.6**
INZ Inchbonnie 20.09 199 P **P** **13 56 00.5 -0.9**
JCZ Jackson Bay 22.15 202 P **P** **13 56 20.3 +0.1**
ARMA Armidale 26.17 249 P **P** **13 56 53.8 -2.3**
ARMA IAmb IAmb 13 56 59.0
comp=Z,12nm,0.8s
ARMA Armidale 26.17 249 P **P** **13 56 57.4 +1.4**
EIDS Eidsvold 26.47 261 P **P** **13 56 57.0 -1.6**
EIDS IAmb IAmb 13 57 00.8
comp=Z,10nm,0.5s
EIDS Eidsvold 26.47 261 P **P** **13 57 00.5 +1.9**
MGCD Mangrove Creek 27.08 243 P **P** **13 57 05.5 +1.6**
CNB Canberra Magne 28.98 240 P **P** **13 57 21.5 +0.9**
CAN Canberra 29.27 240 P **P** **13 57 22.8 -0.3**
CAN IAmb IAmb 13 57 45.6
comp=Z,37nm,1.5s
CAN Canberra 29.27 240 P **P** **13 57 23.7 +0.6**
CMSA Cobar Meteorol 31.36 248 P **P** **13 57 42.2 +1.1**
CTAO Charters Tower 31.64 270 **P** **13 57 43.1 -0.6**
CTAO IAmb IAmb 13 57 45.5
comp=Z,33nm,1.4s
CTAO Charters Tower 31.64 270 P **P** **13 57 44.8 +1.1**
TOO Toolangi 32.57 237 P **P** **13 57 48.8 -2.6**
TOO IAmb IAmb 13 57 53.5
comp=Z,3.8nm,0.7s
TAU Tasmania Unive 33.03 227 P **P** **13 57 55.4 +0.2**
TAU Tasmania Unive 33.03 227 P **P** **13 57 55.9 +0.7**
STKA Stephens Creek 34.86 248 P **P** **13 58 08.2 -2.6**
STKA Stephens Creek 34.86 248 P **P** **13 58 11.5 +0.7**
comp=Z,3.8nm,0.6s,baz=100,slow=10,SNR=5.1
comp=Z,3.8nm,0.6s
STKA Stephens Creek 34.86 248 P **P** **13 58 11.0 +0.2**
INKA Innaminka 35.59 255 **P** **13 58 15.4 -1.5**
COEN Coen 36.29 279 P **P** **13 58 18.9 -3.9**
COEN IAmb IAmb 13 58 45.5
comp=Z,22nm,1.4s
COEN Coen 36.29 279 P **P** **13 58 23.4 +0.6**
HTT Hallett 37.21 246 P **P** **13 58 30.5 +0.2**
QIS Mount Isa 37.62 267 P **P** **13 58 34.0 +0.3**
BBOO Buckleboo 39.58 247 P **P** **13 58 45.9 -3.6**
BBOO Buckleboo 39.58 247 P **P** **13 58 50.3 +0.8**
AS31 Alice Springs 42.19 261 **P** **13 59 09.6 -0.8**
ASAR Alice Springs 42.19 261 P **P** **13 59 08.7 -1.7**
ASAR Alice Springs 42.19 261 P **P** **13 59 10.5 0.0**
comp=Z,5.3nm,0.6s,baz=97,slow=7.1,SNR=120
ASAR ScP **ScP** **14 03 55.4 +1.4**
comp=Z,1.2nm,0.8s,baz=115,slow=4.5,SNR=5.7
ASAR S **S** **14 04 51.1 -2.0**
comp=Z,0.7nm,0.6s,baz=95,slow=16,SNR=5.0
comp=Z,5.3nm,0.6s
WR8 Warramunga Arr 42.42 266 **P** **13 59 10.7 -1.5**
WR8 IAmb IAmb 13 59 13.0
comp=Z,5.1nm,0.7s
WRAB Tennant Creek 42.56 266 P **P** **13 59 12.5 -0.9**
WRAB IAmb IAmb 13 59 14.1
comp=Z,9.6nm,0.9s
WB0 Warramunga Arr 42.56 266 **P** **13 59 11.8 -1.6**
WB0 IAmb IAmb 13 59 14.2
comp=Z,13nm,0.8s
WRA Warramunga Arr 42.57 266 P **P** **13 59 11.9 -1.5**
WRA Warramunga Arr 42.57 266 P **P** **13 59 12.9 -0.5**
comp=Z,5.2nm,0.4s,baz=97,slow=8.4,SNR=218
WRA ScP **ScP** **14 03 57.8 +2.2**
comp=Z,1.1nm,0.5s,baz=97,slow=3.7,SNR=12
WRA S **S** **14 04 55.2 -3.4**
comp=Z,0.6nm,0.7s,baz=97,slow=14,SNR=5.5
comp=Z,5.2nm,0.4s
FORT Forrest 46.45 250 P **P** **13 59 41.0 -2.3**
KDU Kakadu 46.46 275 P **P** **13 59 43.6 +0.1**
MTN Manton Dam 47.62 274 P **P** **13 59 50.2 -2.0**
MTN IAmb IAmb 13 59 51.2
comp=Z,29nm,1.4s
MTN Manton Dam 47.62 274 P **P** **13 59 52.4 +0.1**
KNRA Kununurra 48.85 270 P **P** **14 00 01.4 -0.1**
KNRA IAmb IAmb 14 00 02.7
comp=Z,11nm,1.1s
FITZ Fitzroy Crossi 50.99 266 P **P** **14 00 17.4 +0.2**
SBA Scott Base 54.35 183 P **P** **14 00 42.4 +2.2**
VNDA Vanda 54.36 185 P **P** **14 00 39.0 -1.3**
VNDA Vanda 54.36 185 P **P** **14 00 41.5 +1.3**
comp=Z,0.4nm,0.4s,baz=340,slow=6.0,SNR=3.5
comp=Z,0.4nm,0.4s
MEEK Meekatharra 55.26 253 P **P** **14 00 47.4 -0.1**
PSA00 Pilbara Seismi 55.32 260 P **P** **14 00 45.0 -3.0**
BLDU Ballidu 56.17 248 P **P** **14 00 53.7 0.0**
MORW Morawa 57.02 250 P **P** **14 00 58.6 -1.0**
MORW IAmb IAmb 14 01 01.2
comp=Z,52nm,1.4s
MORW Morawa 57.02 250 P **P** **14 00 59.7 +0.1**
PLAI Plampang 61.29 273 P **P** **14 01 28.0 -0.4**
QSPA South Pole Qui 66.14 180 P **P** **14 01 59.4 +0.7**
QSPA IAmb IAmb 14 02 02.8
comp=Z,18nm,1.4s
QSPA South Pole Qui 66.14 180 P **P** **14 02 01.6 +2.8**
comp=Z,5.4nm,0.7s,baz=239,slow=0.5,SNR=69
comp=Z,5.4nm,0.7s
MJAR Matsushiro Arr 72.02 326 P **P** **14 02 33.9 -0.4**
comp=Z,3.3nm,0.7s,baz=159,slow=6.2,SNR=9.0
comp=Z,3.3nm,0.7s
SMAI San Martin Ant 76.01 159 P **P** **14 02 57.1 +0.7**
SMAI IAmb IAmb 14 02 58.5
comp=Z,6.0nm,0.7s
BELA Belgrano 2 76.38 173 P **P** **14 02 58.0 -0.4**
BELA IAmb IAmb 14 02 59.0
comp=Z,4.3nm,0.5s
NIKH Nikolski High 77.18 7 P **P** **14 03 02.0 -0.9**
MAW Mawson 77.77 200 P **P** **14 03 06.3 +0.3**
comp=Z,2.0nm,0.6s,baz=136,slow=9.9,SNR=4.5
comp=Z,2.0nm,0.6s
UNV Unalaska Valle 78.31 8 P **P** **14 03 07.4 -1.6**
UNV IAmb IAmb 14 03 50.7
comp=Z,43nm,1.3s
KSRS Korea Array 78.38 320 P **P** **14 03 10.9 +1.1**
comp=Z,2.1nm,0.7s,baz=141,slow=6.1,SNR=11
comp=Z,2.1nm,0.7s
PETK Petropavlovsk- 79.18 346 P **P** **14 03 13.4 -0.3**
comp=Z,5.3nm,0.7s,baz=118,slow=7.2,SNR=17
comp=Z,5.3nm,0.7s
NJ2 Nanjing 80.81 311 *eP* **P** **14 03 23.0 +0.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
USRK Ussuriysk Ar. 80.89 327 P **P** **14 03 24.1 +1.2**
comp=Z,3.0nm,0.7s,baz=150,slow=2.6,SNR=3.1
comp=Z,3.0nm,0.7s
SNAA Sanae 84.63 179 P **P** **14 03 41.4 0.0**
comp=Z,1.0nm,0.4s,baz=198,slow=11,SNR=8.2
comp=Z,1.0nm,0.4s
NVAR Mina Array Bea 84.66 44 P **P** **14 03 42.8 +0.5**
comp=Z,0.3nm,0.5s,baz=262,slow=5.5,SNR=4.2
comp=Z,0.3nm,0.5s
XAN Xi'an 88.90 308 ⇑P **P** **14 04 02.4 +0.2**
XAN pmax pmax
comp=Z,9.0nm,0.8s
XAN pmax pmax
comp=Z,360nm,4.0s
SEY Seymchan 89.34 348 P **P** **14 04 03.0 -0.5**
comp=Z,3.0nm,0.7s,baz=138,slow=6.3,SNR=14
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 89.70 290 P **P** **14 04 08.0 +1.7**
comp=Z,1.1nm,0.8s,baz=136,slow=3.1,SNR=9.0
comp=Z,1.1nm,0.8s
TXAR Lajitas Array 90.31 58 P **P** **14 04 09.8 +0.8**
comp=Z,0.4nm,0.4s,baz=223,slow=8.6,SNR=5.2
comp=Z,0.4nm,0.4s
HHC Hu-ho-hao-te 90.56 315 *eP* **P** **14 04 09.3 -0.6**
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,130nm,4.8s
PZH PanZhiHua 90.85 299 P **P** **14 04 11.4 -0.1**
ILAR Eielson Array 92.03 13 P **P** **14 04 15.2 -0.7**
comp=Z,0.5nm,0.8s,baz=221,slow=7.7,SNR=6.7
comp=Z,0.5nm,0.8s
PDAR Pinedale Array 92.60 44 P **P** **14 04 19.8 +0.4**
comp=Z,0.3nm,0.6s,baz=258,slow=4.2,SNR=3.5
comp=Z,0.3nm,0.6s
WMQ Urumqi 107.89 311 Pdif **Pdif** **14 05 27.5 0.0**
WMQ LR LR
comp=Z,94nm,19.9s
ZALV Zalesovo Beam 112.09 321 PKiKP **PKiKP** **14 09 38.4 -0.7**
comp=Z,0.3nm,0.4s,baz=108,slow=3.2,SNR=2.4
MKAR Makanchi Array 112.30 313 PKiKP **PKiKP** **14 09 38.5 -1.3**
comp=Z,0.4nm,0.6s,baz=127,slow=1.4,SNR=5.7
KURBB Kurchatov Arra 115.39 316 PKP **PKPdf** **14 09 44.3 -1.2**
comp=Z,0.4nm,0.5s,baz=93,slow=1.9,SNR=7.7
BVAR Borovoye Array 120.58 319 PKP **PKPdf** **14 09 54.9 -0.5**
comp=Z,1.3nm,0.5s,baz=131,slow=4.5,SNR=7.8
ARCES ARCESS Array B 131.96 348 PKP **PKPdf** **14 10 16.8 +0.1**
comp=Z,1.3nm,0.6s,baz=54,slow=1.6,SNR=8.0
FINES FINESS Array B 138.53 342 PKhKP PKPpre 14 10 21.2
comp=Z,1.1nm,0.7s,baz=27,slow=8.8,SNR=3.4
FINES PKP **PKPdf** **14 10 30.1 +1.0**
comp=Z,0.9nm,0.5s,baz=45,slow=2.2,SNR=7.1
FINES SKP 14 13 14.4
comp=Z,2.5nm,0.7s,baz=318,slow=2.6,SNR=5.0
NOA NORSAR Array B 142.14 351 PKhKP PKPpre 14 10 31.6
comp=Z,0.7nm,0.7s,baz=16,slow=4.7,SNR=3.7
HFS Hagfors 142.62 349 PKhKP PKPpre 14 10 33.0
comp=Z,5.5nm,0.5s,baz=64,slow=3.4,SNR=49
AKASG Malin Array Be 145.09 327 PKPbc **PKPdf** **14 10 40.9 -0.2**
AKASG SKPbc **SKPbc** **14 13 31.4 -0.2**
comp=Z,1.8nm,0.6s,baz=45,slow=2.9,SNR=9.2
KIEV Kiev 145.10 327 **PKPbc** **14 10 41.3 -0.6**
BRTR Keskin Array B 147.73 307 PKPbc **PKPbc** **14 10 49.7 0.0**
comp=Z,1.0nm,0.6s,baz=130,slow=5.1,SNR=4.8
MMAI Mount Meron Ar 147.87 294 PKPbc **PKiKP** **14 10 51.2 -0.4**
comp=Z,3.0nm,0.4s,baz=70,slow=5.5,SNR=8.5
EKA Eskdalemuir Ar 148.54 4 PKPbc **PKPbc** **14 10 50.5 -0.5**
comp=Z,1.6nm,0.7s,baz=7.7,slow=2.4,SNR=4.0
TORD Torodi Ar. Bea 169.17 188 PKPab **PKPab** **14 12 27.3 +0.5**
comp=Z,0.5nm,0.6s,baz=151,slow=4.2,SNR=2.9

*NEIC **19** 13:53:51.6±2.0,59.78N±0.03×140.95W±0.02,h5km±2km, Error ellipse: s-maj=4.9km s-min=3.0km az=8.0*
*ANF **19** 13:53:51.6±0.3,59.80N×140.94W,h6km±2km,ML3.7/46, Error ellipse: s-maj=3.0km s-min=1.5km az=9.0*
*AEIC **19** 13:53:52.2±2.5,59.83N±0.03×140.93W±0.02,h1km±7km, ML3.3,ML3.4/100(NEIC),Error ellipse: s-maj=3.9km s-min=0.5km az=196.0*

ISC 19 13:53:51.6±1.2,59.80N±0.03×140.95W±0.02,h4km±10km, n148,σ0.79/172,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHX	**Chaix Hills**	**0.28**	**342**			**Pg**	**13 53 57.9**	**+0.9**
CHX						**Sb**	**13 54 03.6**	**-0.6**
SAMH	**Samovar Hills**	**0.34**	**14**			**Pg**	**13 53 58.9**	**+0.7**
SAMH						**Sb**	**13 54 05.3**	**-0.8**
PCA	**Pinnacle**	**0.46**	**49**			**Sb**	**13 54 08.8**	**-0.6**
PCA	**Pinnacle**	**0.46**	**49**			**Pb**	**13 54 01.6**	**-0.7**
PCA				IAML			13 54 09.8	
	comp=N,6μm,0.5s							
PCA				IAML			13 54 15.4	
	comp=E,5μm,0.5s							
PINM	**Pinnacle**	**0.46**	**49**	P		**Pb**	**13 54 01.6**	**-0.7**
	baz=238,SNR=780							
PINM				S		**Sb**	**13 54 07.9**	**-1.6**
	baz=238							
RKAV	**Rock Avalanche**	**0.54**	**338**			**Pb**	**13 54 02.9**	**-0.8**
RKAV						**Sb**	**13 54 11.9**	**0.0**
MESA	**MESA**	**0.63**	**307**			**Sb**	**13 54 14.9**	**+0.4**
MESA	**MESA**	**0.63**	**307**			**Pb**	**13 54 04.7**	**-0.6**
MESA	**MESA**	**0.63**	**307**	P		**Pb**	**13 54 04.7**	**-0.6**
	baz=124,SNR=1000							
MESA				Sb		**Sb**	**13 54 14.7**	**+0.2**
	baz=124							
TABL	**Table Mountain**	**0.65**	**351**			**Pg**	**13 54 04.8**	**+0.6**
TABL				IAML			13 54 15.6	
	comp=N,3μm,0.9s							
TABL	**Table Mountain**	**0.65**	**351**			**Sb**	**13 54 15.4**	**+0.3**
BCPM	**Bancas Point**	**0.68**	**76**			**Pb**	**13 54 05.3**	**-0.7**
BCPM				IAML			13 54 16.2	
	comp=E,2μm,0.3s							
BCPM				IAML			13 54 16.2	
	comp=N,2μm,0.2s							
BCPM	**Bancas Point**	**0.68**	**76**			**Sb**	**13 54 15.9**	**+0.2**
YAH	**Yahtse**	**0.69**	**325**			**Sb**	**13 54 16.8**	**+0.4**
YAH	**Yahtse**	**0.69**	**325**			**Pb**	**13 54 05.8**	**-0.5**
YAH				IAML			13 54 17.1	
	comp=N,2μm,0.5s							
YAH				IAML			13 54 24.8	
	comp=E,2μm,0.7s							
YKU2	**Yakutat**	**0.71**	**114**			**Pb**	**13 54 06.6**	**+0.1**
PNL	**Peninsula**	**0.80**	**99**			**Pg**	**13 54 07.2**	**+0.3**
PNL	**Peninsula**	**0.80**	**99**	P		**Pg**	**13 54 07.0**	**+0.2**
	baz=284,SNR=1000							
PNL				S		**Sg**	**13 54 17.2**	**0.0**
	baz=284							
BAGL	**Bagley Icefiel**	**0.90**	**321**			**Sb**	**13 54 22.2**	**+0.3**
GRNC	**Granite Creek**	**1.02**	**337**			**Sb**	**13 54 25.1**	**-0.6**
GRNC	**Granite Creek**	**1.02**	**337**			**Pg**	**13 54 10.6**	**-0.5**
GRNC				IAML			13 54 31.9	
	comp=N,1μm,0.8s							
GRNC				IAML			13 54 34.4	
	comp=E,886nm,0.8s							
SNH	**Sunshine Point**	**1.02**	**293**			**Pg**	**13 54 11.3**	**+0.1**
SNH				IAML			13 54 29.9	
	comp=E,1μm,0.3s							
SNH				IAML			13 54 30.5	
	comp=N,1μm,0.6s							
LOGN	**Logan Glacier**	**1.03**	**358**			**Pg**	**13 54 10.2**	**-1.1**
LOGN				IAML			13 54 30.4	
	comp=N,1μm,0.5s							
LOGN				IAML			13 54 33.6	
	comp=E,1μm,0.8s							
O28M	**Mount Upton**	**1.04**	**21**			**Pg**	**13 54 10.8**	**-0.8**
O28M	**Mount Upton**	**1.04**	**21**	P		**Pg**	**13 54 10.7**	**-1.0**
	baz=204,SNR=321							
O28M				S		**Sg**	**13 54 24.7**	**-0.5**
	baz=204							
ISLE	**Juniper Island**	**1.06**	**320**			**Pg**	**13 54 11.3**	**-0.7**
ISLE				IAML			13 54 29.6	
	comp=N,1μm,0.7s							
ISLE				IAML			13 54 34.4	
	comp=E,994nm,0.8s							
WAX	**Waxell Ridge**	**1.16**	**305**			**Pg**	**13 54 12.9**	**-0.9**
CTGM	**Chitina Glacie**	**1.18**	**351**			**Pg**	**13 54 12.9**	**-1.4**
CTGM				IAML			13 54 34.5	
	comp=E,734nm,0.7s							
CTG	**Chitna Glacier**	**1.19**	**351**	P		**Pg**	**13 54 12.9**	**-1.4**
	baz=172,SNR=665							
CTG				S		**Sg**	**13 54 28.7**	**-1.0**
	baz=172							
BGLC	**Bering Glacier**	**1.22**	**286**			**Pg**	**13 54 14.9**	**0.0**
BGLC	**Bering Glacier**	**1.22**	**286**	P		**Pg**	**13 54 14.9**	**0.0**
	baz=102							
BGLC				S		**Sn**	**13 54 32.6**	**+0.4**
	baz=102							
O29M	**Mount Kennedy**	**1.29**	**66**			**Pg**	**13 54 15.2**	**-1.2**
O29M				IAML			13 54 40.9	
	comp=E,501nm,0.4s							
O29M	**Mount Kennedy**	**1.29**	**66**	P		**Pg**	**13 54 15.1**	**-1.2**
	baz=251,SNR=826							
O29M				S		**Sn**	**13 54 34.1**	**-0.1**
	baz=251							
BARN	**Barnard Glacie**	**1.31**	**345**			**Pg**	**13 54 15.4**	**-1.4**
BARN				IAML			13 54 37.1	
BARN				IAML			13 54 38.7	
	comp=N,518nm,0.8s							
TGL	**Tana Glacier**	**1.34**	**316**			**Pn**	**13 54 15.8**	**-1.4**
TGL				IAML			13 54 36.0	
	comp=N,514nm,0.3s							
TGL				IAML			13 54 36.4	
	comp=E,698nm,0.3s							
CRQE	**Cirque**	**1.43**	**313**	P		**Pn**	**13 54 17.2**	**-1.3**
	baz=130,SNR=37							
CRQE				S		**Sb**	**13 54 37.1**	**-0.4**
	baz=130							
SUCK	**Suckling Hills**	**1.45**	**282**			**Pn**	**13 54 18.9**	**+0.3**
SUCK				IAML			13 54 42.2	
	comp=N,537nm,0.6s							
CRQM	**Cirque**	**1.45**	**312**			**Pn**	**13 54 17.2**	**-1.5**
BERG	**Berg Lake**	**1.50**	**294**			**Pn**	**13 54 18.8**	**-0.5**
YUK8	**Steele Glacier**	**1.60**	**21**			**Pn**	**13 54 20.6**	**-0.2**
YUK8	**Steele Glacier**	**1.60**	**21**	P		**Pn**	**13 54 20.5**	**-0.4**
	baz=204,SNR=76							
YUK8				S		**Sn**	**13 54 41.7**	**-0.4**
	baz=204							
P29M	**Windy Craggy**	**1.64**	**95**			**Pn**	**13 54 20.3**	**-0.8**
P29M				IAML			13 54 51.1	
	comp=N,505nm,0.5s							
P29M				IAML			13 54 55.6	
	comp=E,462nm,0.5s							
P29M	**Windy Craggy**	**1.64**	**95**	P		**Pn**	**13 54 20.3**	**-0.8**
	baz=279,SNR=181							
P29M				S		**Sn**	**13 54 42.0**	**-0.6**
	baz=279							
YUK6	**Outpost Mounta**	**1.72**	**47**	P		**Pb**	**13 54 23.1**	**-0.8**
	baz=232,SNR=1000							
YUK6				Sb		**Sg**	**13 54 46.8**	**0.0**
	baz=232							
HMT	**Hamilton**	**1.75**	**289**			**Pn**	**13 54 22.8**	**+0.2**
KAIM	**Kayak Island**	**1.76**	**276**			**Pn**	**13 54 21.4**	**-1.3**
KAIM				IAML			13 54 55.5	
	comp=N,281nm,0.8s							
KAIM	**Kayak Island**	**1.76**	**276**	P		**Pn**	**13 54 21.8**	**-0.9**
	baz=91							
KAIM				S		**Sn**	**13 54 46.0**	**+0.5**
	baz=91							
MCARA	**McCarthy VSAT**	**1.89**	**328**			**Pn**	**13 54 24.6**	**0.0**
MCARA				IAML			13 54 59.2	
	comp=N,496nm,1.0s							
MCARA	**McCarthy VSAT**	**1.89**	**328**	P		**Pn**	**13 54 24.2**	**-0.4**
	baz=146,SNR=181							
MCARA				S		**Sn**	**13 54 49.4**	**+0.6**
	baz=146							
VRDI	**Verde Repeater**	**1.90**	**320**			**Pn**	**13 54 24.1**	**-0.7**
VRDI				IAML			13 55 01.8	
	comp=N,285nm,0.9s							
YUK4	**Talbot Arm**	**1.92**	**35**	Pb		**Pb**	**13 54 27.6**	**+0.3**
	baz=218,SNR=1000							
YUK4				Sb		**Sg**	**13 54 54.8**	**+1.5**
	baz=218							
RAGM	**Ragged Mountai**	**1.96**	**289**			**Pn**	**13 54 25.7**	**+0.1**
HYT	**Haines Junctio**	**2.00**	**58**			**Pn**	**13 54 26.4**	**+0.2**
HYT	**Haines Junctio**	**2.00**	**58**	P		**Pn**	**13 54 26.0**	**-0.2**
	baz=242,SNR=370							
HYT				S		**Sn**	**13 54 52.2**	**+0.6**
	baz=242							
P30M	**Million Dollar**	**2.03**	**79**	P		**Pn**	**13 54 26.3**	**-0.3**
	baz=264							
P30M				Sb		**Sb**	**13 54 55.5**	**+0.9**
	baz=264							
BMRM	**Bremner River**	**2.16**	**304**			**Pn**	**13 54 28.3**	**-0.1**
BMRM	**Bremner River**	**2.16**	**304**	P		**Pn**	**13 54 28.2**	**-0.2**
	baz=120,SNR=27							
BMRM				S		**Sn**	**13 54 56.5**	**+0.9**
	baz=120							
GLB	**Gilahina Butte**	**2.17**	**321**			**Pn**	**13 54 27.9**	**-0.6**
GLB				IAML			13 54 57.5	
	comp=N,277nm,0.9s							
GLB				IAML			13 54 59.8	
	comp=E,198nm,0.5s							
PLBC	**Pleasant Camp**	**2.35**	**96**			**Pn**	**13 54 31.1**	**+0.2**
PLBC	**Pleasant Camp**	**2.35**	**96**	P		**Pn**	**13 54 30.4**	**-0.5**
	baz=282,SNR=153							
EYAK	**Cordova Ski Ar**	**2.52**	**289**			**Pn**	**13 54 32.5**	**-0.6**
EYAK	**Cordova Ski Ar**	**2.52**	**289**	P		**Pn**	**13 54 32.6**	**-0.6**
	baz=104							
N30M	**Aishikik Lake**	**2.53**	**47**			**Pn**	**13 54 33.6**	**+0.2**
N30M	**Aishikik Lake**	**2.53**	**47**	P		**Pn**	**13 54 33.4**	**0.0**
	baz=232,SNR=291							
N30M				S		**Sn**	**13 55 04.9**	**+0.3**
	baz=232							
N25K	**Chitina, Valde**	**2.55**	**317**			**Pn**	**13 54 33.8**	**+0.1**
N25K				IAML			13 55 12.0	
	comp=E,139nm,0.5s							
N25K				IAML			13 55 17.5	
	comp=N,126nm,0.7s							
N25K	**Chitina, Valde**	**2.55**	**317**	P		**Pn**	**13 54 33.4**	**-0.3**
	baz=133,SNR=32							
N25K				S		**Sn**	**13 55 06.2**	**+1.0**
	baz=133							
M27K	**Edge Creek, AK**	**2.61**	**350**	P		**Pn**	**13 54 35.0**	**+0.4**
	baz=170,SNR=218							
M27K				Sb		**Sb**	**13 55 12.3**	**+1.0**
	baz=170							
O30N	**Mendenhall**	**2.61**	**66**			**Pn**	**13 54 34.4**	**-0.1**
O30N	**Mendenhall**	**2.61**	**66**	P		**Pn**	**13 54 34.1**	**-0.4**
	baz=252,SNR=82							
DIV	**Divide**	**2.74**	**301**			**Pn**	**13 54 36.0**	**-0.3**
DIV				IAML			13 55 17.9	
	comp=N,194nm,0.5s							
WACK	**Wrangell Chich**	**2.75**	**324**			**Pn**	**13 54 36.7**	**+0.1**
M26K	**Nabesna, AK**	**2.79**	**340**			**Pn**	**13 54 38.0**	**+1.0**
M26K				IAML			13 55 25.5	
	comp=E,116nm,0.8s							
M26K				IAML			13 55 25.7	
	comp=N,137nm,0.7s							
M26K	**Nabesna, AK**	**2.79**	**340**	P		**Pn**	**13 54 37.4**	**+0.4**
	baz=158,SNR=36							
HIN	**Hinchinbrook I**	**2.85**	**285**			**Pn**	**13 54 37.1**	**-0.6**
HIN				IAML			13 55 22.6	
	comp=E,153nm,1.0s							
HIN				IAML			13 55 32.0	
	comp=N,153nm,0.8s							
M29M	**Somme Creek**	**2.91**	**23**			**Pn**	**13 54 39.6**	**+0.9**
M29M	**Somme Creek**	**2.91**	**23**	P		**Pn**	**13 54 39.5**	**+0.7**
	baz=206,SNR=52							
M29M				S		**Sn**	**13 55 14.1**	**-0.1**
	baz=206							
FID	**Port Fidalgo**	**2.92**	**291**			**Pn**	**13 54 38.7**	**0.0**
FID				IAML			13 55 23.0	
	comp=E,129nm,0.5s							
FID				IAML			13 55 32.9	
	comp=N,101nm,0.6s							
KLU	**Klutina**	**2.98**	**307**			**Pn**	**13 54 39.6**	**-0.1**
KLU	**Klutina**	**2.98**	**307**	P		**Pn**	**13 54 39.8**	**+0.2**
	baz=122,SNR=34							
KLU				S		**Sn**	**13 55 15.8**	**-0.1**
	baz=122							
N31M	**Braeburn, Yuko**	**3.06**	**54**	IAML			13 55 41.3	
	comp=E,159nm,1.0s							
N31M				IAML			13 55 41.4	
	comp=N,114nm,0.9s							
N31M	**Braeburn, Yuko**	**3.06**	**54**	P		**Pn**	**13 54 41.0**	**+0.4**
	baz=240,SNR=185							
N31M				Sg		**Sg**	**13 55 31.7**	**+2.0**
	baz=240							
S31K	**Pelican**	**3.06**	**125**			**Pn**	**13 54 42.1**	**+1.4**
S31K				IAML			13 55 47.2	
	comp=N,116nm,0.9s							
S31K				IAML			13 55 49.4	
	comp=E,104nm,0.9s							
WHY	**Whitehorse**	**3.15**	**71**			**Pn**	**13 54 41.9**	**-0.1**
WHY	**Whitehorse**	**3.15**	**71**	P		**Pn**	**13 54 41.9**	**-0.1**
	baz=258,SNR=107							
L27K	**Beaver Creek,**	**3.30**	**353**	P		**Pn**	**13 54 43.7**	**-0.3**
	baz=173							
BCAR	**Beaver Creek A**	**3.30**	**353**			**Pn**	**13 54 43.7**	**-0.4**
BESE	**Bessie Mountai**	**3.37**	**109**			**Pn**	**13 54 44.6**	**-0.3**
BESE	

	comp=E,144nm,1.2s						
M24K	**Tolsona, Glenn**	**3.44**	**314**	P	**Pn**	**13 54 46.5**	**+0.4**
	baz=130,SNR=12						
L29M	**L29M**	**3.58**	**21**	IAML		13 55 49.7	
	comp=E,90nm,0.8s						
L29M				IAML		13 55 57.8	
	comp=N,70nm,0.6s						
L29M	**L29M**	**3.58**	**21**	P	**Pn**	**13 54 48.9**	**+1.0**
	baz=204,SNR=99						
P32M	**Atlin**	**3.67**	**90**		**Pn**	**13 54 48.0**	**-1.1**
P32M	**Atlin**	**3.67**	**90**	P	**Pn**	**13 54 48.1**	**-1.0**
	baz=277,SNR=6.8						
SCM	**Sheep Creek Mo**	**3.73**	**306**		**Pn**	**13 54 49.6**	**-0.4**
SCM				IAML		13 55 51.9	
	comp=E,82nm,1.1s						
SCM	**Sheep Creek Mo**	**3.73**	**306**	P	**Pn**	**13 54 49.6**	**-0.4**
	baz=120						
PWL	**Port Wells**	**3.82**	**289**		**Pn**	**13 54 51.1**	**-0.1**
PWL	**Port Wells**	**3.82**	**289**	P	**Pn**	**13 54 50.9**	**-0.3**
	baz=102						
PAX	**Paxson**	**3.85**	**328**		**Pn**	**13 54 52.2**	**+0.6**
M31M	**Drury Creek, Y**	**4.00**	**50**	P	**Pn**	**13 54 54.1**	**+0.5**
	baz=237,SNR=5.8						
KNK	**Knik Glacier**	**4.04**	**297**	P	**Pn**	**13 54 54.2**	**0.0**
	baz=110						
P33M	**Teslin, Yukon**	**4.10**	**81**	P	**Pn**	**13 54 55.0**	**-0.1**
	baz=269,SNR=7.3						
N32M	**Quiet Lake**	**4.12**	**67**	P	**Pn**	**13 54 55.3**	**0.0**
	baz=255						
K27K	**Chicken**	**4.28**	**353**	P	**Pn**	**13 54 57.1**	**-0.2**
	baz=173						
SEW	**Seward**	**4.29**	**278**	P	**Pn**	**13 54 56.6**	**-0.9**
	baz=90						
WAT6	**Susitna Watana**	**4.31**	**313**	P	**Pn**	**13 54 58.1**	**+0.1**
	baz=127						
DAWY	**Dawson**	**4.34**	**9**		**Pn**	**13 54 59.1**	**+0.8**
DAWY	**Dawson**	**4.34**	**9**	P	**Pn**	**13 54 59.2**	**+0.8**
	baz=191,SNR=122						
K29M	**Barlow Dome**	**4.37**	**20**	IAML		13 56 16.8	
	comp=E,35nm,0.8s						
K29M	**Barlow Dome**	**4.37**	**20**	P	**Pn**	**13 55 00.1**	**+1.3**
	baz=204,SNR=50						
SCRK	**Sand Creek**	**4.43**	**342**		**Pn**	**13 54 58.9**	**-0.7**
SCRK	**Sand Creek**	**4.43**	**342**	P	**Pn**	**13 55 00.8**	**+1.2**
	baz=160						
DHY	**Denali Highway**	**4.51**	**320**	P	**Pn**	**13 55 02.1**	**+1.4**
	baz=134,SNR=6.0						
RC01	**Rabbit Creek A**	**4.54**	**290**		**Pn**	**13 55 00.7**	**-0.3**
RC01	**Rabbit Creek A**	**4.54**	**290**	P	**Pn**	**13 55 01.2**	**+0.2**
	baz=102						
WAT1	**Susitna Watana**	**4.76**	**313**	P	**Pn**	**13 55 03.8**	**-0.2**
	baz=126						
J29N	**Klondike Camp**	**4.84**	**14**	P	**Pn**	**13 55 04.9**	**-0.2**
	baz=197						
J26L	**Joseph Creek**	**4.88**	**347**	P	**Pn**	**13 55 05.9**	**+0.2**
	baz=164,SNR=18						
BRSE	**Bradley Lake S**	**4.95**	**274**	P	**Pn**	**13 55 07.1**	**+0.5**
	baz=84						
EGAK	**Eagle**	**5.00**	**359**	P	**Pn**	**13 55 08.5**	**+1.3**
	baz=179,SNR=8.8						
R33M	**Jennings River**	**5.09**	**90**	P	**Pn**	**13 55 08.1**	**-0.5**
	baz=280,SNR=8.8						
CNPM	**China Poot**	**5.22**	**271**		**Pn**	**13 55 10.8**	**+0.4**
RND	**Reindeer**	**5.23**	**317**		**Pn**	**13 55 11.3**	**+0.9**
J25K	**Salcha River,**	**5.25**	**339**		**Pn**	**13 55 12.7**	**+1.9**
J25K	**Salcha River,**	**5.25**	**339**	P	**Pn**	**13 55 12.5**	**+1.6**
	baz=155						
J30M	**Hart River**	**5.26**	**22**	P	**Pn**	**13 55 12.3**	**+1.4**
	baz=207,SNR=42						
MMPY	**Sheldon Lake,**	**5.47**	**55**		**Pn**	**13 55 14.4**	**+0.7**
MMPY	**Sheldon Lake,**	**5.47**	**55**	P	**Pn**	**13 55 14.5**	**+0.7**
	baz=244,SNR=34						
SKT	**Skwentna**	**5.61**	**297**	P	**Pn**	**13 55 16.4**	**+0.7**
	baz=108						
I28M	**Miner Creek**	**5.69**	**4**	P	**Pn**	**13 55 17.6**	**+0.8**
	baz=186,SNR=18						
TRF	**Thorofare Moun**	**5.76**	**313**	P	**Pn**	**13 55 19.5**	**+1.6**
	baz=125						
I27K	**Kandik River**	**5.83**	**357**	P	**Pn**	**13 55 20.5**	**+1.7**
	baz=177						
I30M	**Mount Dempster**	**5.84**	**19**	P	**Pn**	**13 55 20.4**	**+1.5**
	baz=204,SNR=32						
P19K	**Oil Pt**	**6.22**	**274**	P	**Pn**	**13 55 23.8**	**-0.2**
	baz=83						
KDAK	**Kodiak Island**	**6.38**	**257**	P	**Pn**	**13 55 26.1**	**-0.1**
	baz=66						
BPAW	**Bear Paw Mtn.**	**6.40**	**317**	P	**Pn**	**13 55 26.4**	**-0.1**
	baz=128						
H27K	**Steamboat Moun**	**6.46**	**358**	P	**Pn**	**13 55 28.2**	**+0.8**
	baz=178						
H29M	**Whitestone**	**6.55**	**9**	P	**Pn**	**13 55 28.7**	**+0.2**
	baz=192,SNR=13						
Q19K	**Cape Douglas,**	**6.55**	**268**		**Pn**	**13 55 29.0**	**+0.4**
Q19K	**Cape Douglas,**	**6.55**	**268**	P	**Pn**	**13 55 29.7**	**+1.1**
	baz=76						
H31M	**Peel River**	**6.74**	**24**	P	**Pn**	**13 55 32.8**	**+1.6**
	baz=210,SNR=11						
CHUM	**Lake Minchumin**	**6.76**	**312**	P	**Pn**	**13 55 31.7**	**+0.3**
	baz=122						
L20K	**Farewell, AK**	**6.81**	**299**	P	**Pn**	**13 55 33.1**	**+0.9**
	baz=107						
L19K	**White Mountain**	**7.17**	**295**	P	**Pn**	**13 55 37.4**	**+0.3**
	baz=103						
K20K	**Telida**	**7.20**	**305**	P	**Pn**	**13 55 38.9**	**+1.3**
	baz=114						
BMAR	**Burnt Mountain**	**7.83**	**350**		**Pn**	**13 55 48.2**	**+2.1**
F26K	**Sheenjek River**	**8.05**	**351**	P	**Pn**	**13 55 50.7**	**+1.5**
	baz=169,SNR=6.4						
D25K	**Kavik River**	**9.84**	**349**	P	**Pn**	**13 56 14.6**	**+1.0**
	baz=164,SNR=9.9						

*UPP **19** 14:33:35.8±0.8, 62°.69N×21°.65E, h0km, ML1.8, Presumed earthquake*
HEL 19 14:33:27.3±0.1, 62°.47N×22°.71E, h0km, ML1.6, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPF	**Kankaanpaa**	**0.71**	**205**	PG	Pg	14 33 39.8	-1.0
KPF				SG	Sg	14 33 49.3	-0.6
KPF				MSG		14 33 49.6	
	comp=Z,7.6nm,0.2s						
KEF	**Keuruu**	**1.05**	**106**	PG	Pg	14 33 46.3	-1.1
	baz=291						
KEF				MSG		14 33 59.5	
	comp=Z,3.7nm,0.2s						
KEF				SG	Sg	14 34 00.0	-1.1
RAF	**Rauma**	**1.52**	**198**	PG	Pn	14 33 54.4	-1.2
RAF				MSG		14 34 12.9	
	comp=Z,5.5nm,0.2s						
RAF				SG	Sg	14 34 14.3	-1.8
SUF	**Sumiainen**	**1.61**	**80**	PG	Pn	14 33 56.3	-0.6
SUF				MSG		14 34 15.5	
	comp=Z,2.9nm,0.2s						
SUF				SN	Sn	14 34 17.4	-1.0
UMAU	**Umeaa**	**1.69**	**328**	PG	Pn	14 33 57.8	-0.3
	baz=147						
UMAU				SN	Sn	14 34 19.9	-0.5
KAF	**Kangasniemi**	**1.72**	**100**	PG	Pn	14 33 58.1	-0.4
KAF				MSG		14 34 18.6	
	comp=Z,5.1nm,0.2s						
KAF				SG	Sn	14 34 20.5	-0.6
HUSU	**Husum**	**1.82**	**300**	P	Pn	14 33 59.9	+0.1
HUSU				S	Sb	14 34 24.2	-0.6
HUSU	**Husum**	**1.82**	**300**	PG	Pn	14 34 00.1	+0.3
HUSU				SG	Sn	14 34 24.0	+0.4
FIA0	**FINESS Array S**	**1.90**	**121**	PG	Pn	14 34 01.2	+0.3
	baz=307						
FIA0				MSG		14 34 23.8	
	comp=Z,4.1nm,0.2s						
FIA0				SG	Sn	14 34 25.9	+0.5
OBF8	**Ulkokalla**	**1.90**	**10**	MSG		14 34 23.8	
	comp=Z,5.7nm,0.2s						
OBF8				SG	Sb	14 34 26.2	-0.7
OUF	**Merijarvi**	**2.11**	**25**	PG	Pn	14 34 04.8	+1.0
	baz=206						
OUF				MSG		14 34 29.8	
	comp=Z,3.0nm,0.2s						
OUF				SG	Sb	14 34 32.2	-0.9
OBF0	**Syolatti, Pyha**	**2.15**	**18**	MSG		14 34 31.1	
	comp=Z,4.5nm,0.2s						
OBF0				SG	Sb	14 34 33.1	-1.0
HEMU	**Hemsoen**	**2.17**	**278**	P	Pn	14 34 05.4	+0.7
HEMU				S	Sb	14 34 34.2	-0.6
HEMU	**Hemsoen**	**2.17**	**278**	PG	Pn	14 34 05.2	+0.5
HEMU				SG	Sb	14 34 34.0	-0.9
NUR	**Nurmijarvi**	**2.18**	**154**	MSG		14 34 31.8	
	comp=Z,3.2nm,0.2s						
NUR				SG	Sn	14 34 33.6	+1.3
BREU	**Bredtraesk**	**2.35**	**309**	P	Pn	14 34 08.7	+1.5
MEF	**Metsahovi**	**2.40**	**159**	PG	Pn	14 34 09.4	+1.6
MEF				MSG		14 34 38.3	
	comp=Z,3.4nm,0.2s						
MEF				SG	Sb	14 34 41.0	-0.5
PVF	**Pernaja**	**2.45**	**141**	MSG		14 34 39.9	
	comp=Z,3.4nm,0.2s						
PVF				SG	Sb	14 34 42.6	-0.3
NIF	**Nilsia**	**2.51**	**66**	PG	Pn	14 34 10.8	+1.5
NIF				MSG		14 34 41.4	
	comp=Z,2.0nm,0.2s						
NIF				SG	Sb	14 34 42.7	-1.8
OBF4	**Vikkela, Lumij**	**2.58**	**23**	MSG		14 34 43.5	
	comp=Z,1.7nm,0.2s						
OBF4				SG	Sb	14 34 45.6	-1.0
SOLU	**Sollefteaa**	**2.62**	**290**	P	Pb	14 34 12.9	-2.1
SOLU				S	Sb	14 34 46.8	-0.8
ARNU	**Arnoeviken**	**2.63**	**255**	P	Pn	14 34 12.0	+1.1
ARNU				S	Sb	14 34 46.2	-1.7
AAL	**Aland**	**2.65**	**211**	SG	Sb	14 34 47.6	-0.9
TVF	**Tvarminne**	**2.65**	**174**	PG	Pb	14 34 13.4	-2.1
	baz=357						
TVF				MSG		14 34 45.3	
	comp=Z,1.1nm,0.2s						
TVF				SG	Sb	14 34 48.1	-0.4
HASU	**Hassela**	**2.86**	**266**	P	Pn	14 34 15.3	+1.2
VJF	**Virojoki**	**3.02**	**128**	MSG		14 34 56.2	
	comp=Z,1.6nm,0.2s						
VJF				SB	Sb	14 34 58.2	-1.2
KALU	**Kalix**	**3.41**	**4**	SG	Sg	14 35 13.8	-3.0
OSTU	**Oestervaala**	**3.50**	**233**	P	Pb	14 34 31.1	+1.0
FIBU	**Brunna**	**3.66**	**228**	P	Pb	14 34 34.3	+1.6
TOF	**Tornio**	**3.69**	**10**	SN	Sn	14 35 10.1	+0.4
RANF	**Ranua**	**3.98**	**25**	SN	Sn	14 35 16.4	-0.3
JOF	**Joensuu**	**3.99**	**80**	SG	Sb	14 35 29.8	+2.7
ERTU	**Ertsjaerv**	**4.11**	**357**	SN	Sn	14 35 19.7	-0.2
MSF	**Maaselka**	**4.42**	**36**	SN	Sn	14 35 27.3	-0.5
PAJU	**Pajala**	**4.58**	**2**	SN	Sn	14 35 30.8	-0.6
KU6	**Riekki**	**4.75**	**38**	SN	Sn	14 35 34.8	-0.8

*NEIC **19** 14:34:54.0±0.9, 58°.35N×0°.02×155°.95W±0°.01, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.6km az=165.0*
AEIC 19 14:34:54.0±0.7, 58°.35N±0°.01×155°.95W±0°.02, h3km±7km, ML3.5, ML3.7/80(NEIC), **Error ellipse: s-maj=2.0km s-min=1.6km az=171.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNTC	**Contact Creek**	**0.09**	**158**		Pg	14 34 55.3	-0.6
CNTC					Sg	14 34 56.7	-0.5
ANCK	**Angle Creek**	**0.28**	**122**		Pg	14 34 59.5	0.0
ACHA	**Angle Creek He**	**0.36**	**112**		Pg	14 35 00.9	0.0
KABU	**Katmai Buttres**	**0.36**	**102**		Pg	14 35 00.9	0.0
KABU					Sg	14 35 05.8	+0.1
KCG	**Knife Ck. Glac**	**0.44**	**95**		Pg	14 35 02.2	-0.3
MGLS	**Mageik Landsli**	**0.47**	**117**		Pg	14 35 03.2	+0.2
KAKN	**Katmai Knife C**	**0.47**	**96**		Pg	14 35 02.8	-0.2
KAKN					Sg	14 35 08.9	-0.3
Q16K	**King Salmon**	**0.50**	**312**		Pg	14 35 03.7	+0.2
Q16K					Sg	14 35 10.2	+0.1
KAHC	**Katmai Hardscr**	**0.58**	**58**		Pg	14 35 05.0	-0.1
KAHC					Sg	14 35 12.6	0.0
PLK5	**Peulik 5**	**0.60**	**235**		Pg	14 35 05.6	0.0
PLK5					Sg	14 35 13.5	+0.1
PLK2	**Peulik 2**	**0.62**	**199**		Pg	14 35 06.2	+0.3
PLK1	**Peulik 1**	**0.65**	**213**		Pg	14 35 06.5	+0.1
PLK1					Sg	14 35 15.6	+0.8
PLK4	**Peulik 4**	**0.75**	**197**		Pg	14 35 08.6	+0.2
KAHG	**Katmai Hook Gl**	**0.75**	**78**		Sg	14 35 18.6	+0.4
PLBL	**Peulik Blue Cr**	**0.80**	**216**		Sg	14 35 20.1	+0.5
P17K	**Kvichak River**	**0.89**	**343**		Pg	14 35 10.8	-0.2
P18K	**Big Mountain,**	**1.11**	**19**		Pg	14 35 13.9	-1.4
P18K				IAML		14 35 32.1	
	comp=E,2μm,0.5s						
R18K	**Karluk**	**1.12**	**134**		Pg	14 35 14.4	-1.1
R18K	**Karluk**	**1.12**	**134**	IAML		14 35 32.1	
	comp=E,3μm,0.5s						
R16K	**Pilot Point**	**1.17**	**229**		Pg	14 35 16.0	-0.4
P16K	**Nushagak River**	**1.27**	**304**		Pg	14 35 17.6	-0.7
P16K				IAML		14 35 38.0	
	comp=E,1μm,0.8s						
P16K				IAML		14 35 40.7	
	comp=N,2μm,0.8s						
Q19K	**Cape Douglas,**	**1.34**	**63**		Pn	14 35 18.7	-0.9
Q19K				IAML		14 35 44.1	
	comp=N,2μm,0.9s						
O17K	**Koliganek Bris**	**1.55**	**338**		Pn	14 35 21.7	-0.7
O18K	**Koktuh Hills**	**1.56**	**14**		Pn	14 35 21.9	-0.7
AUCH	**Augustine Cone**	**1.65**	**51**		Pn	14 35 23.6	-0.4
AUCH					Pb	14 35 23.7	-1.4
AGU	**Augustine-Summ**	**1.66**	**51**		Pn	14 35 23.3	-0.7
O16K	**Kokwok River B**	**1.67**	**319**		Pn	14 35 23.7	-0.5
AU22	**Augustine Moun**	**1.69**	**52**		Pn	14 35 23.7	-0.7
AU22					Pb	14 35 23.9	-1.8
OHAK	**Old Harbor**	**1.82**	**127**		Pn	14 35 26.3	+0.2
KDAK	**Kodiak Island**	**1.88**	**106**		Pn	14 35 27.2	+0.3
SYI	**Shuyak Island**	**1.89**	**80**		Pn	14 35 26.9	-0.3
ANPK	**Aniakchak Peak**	**1.91**	**219**		Pn	14 35 27.1	-0.4
P19K	**Oil Pt**	**1.92**	**46**		Pn	14 35 27.9	+0.3
P19K				IAML		14 35 58.2	
	comp=N,1μm,0.4s						
ANPB	**Aniakchak Plen**	**2.00**	**220**		Pn	14 35 28.4	-0.3
SII	**Sitkinak Islan**	**2.03**	**151**		Pn	14 35 29.5	+0.4
SII				IAML		14 36 01.3	
	comp=N,867nm,0.9s						
O19K	**Port Alsworth**	**2.03**	**24**		Pn	14 35 28.6	-0.5
O15K	**Ungalikthiuk R**	**2.18**	**294**		Pn	14 35 31.3	+0.1
ILSW	**Iliamna Southw**	**2.19**	**40**		Pn	14 35 31.3	-0.1
ILSW				IAML		14 36 02.4	
	comp=N,506nm,0.6s						
ILSW				IAML		14 36 02.9	
	comp=E,353nm,0.8s						
ILS	**Iliamna Low So**	**2.19**	**41**		Pn	14 35 31.5	+0.1
N17K	**Nushagak Hills**	**2.28**	**344**		Pn	14 35 32.5	0.0
N17K				IAML		14 36 05.8	
	comp=N,317nm,0.7s						
N17K				IAML		14 36 14.9	
	comp=E,423nm,0.9s						
N18K	**Kilae Creek**	**2.34**	**1**		Pn	14 35 33.3	0.0
N18K				IAML		14 36 16.4	
	comp=N,278nm,0.9s						
N18K				IAML		14 36 17.9	
	comp=E,266nm,1.1s						
N16K	**Nishlik Lake**	**2.58**	**327**		Pn	14 35 36.6	0.0
N19K	**Bonanza Creek**	**2.58**	**16**		Pn	14 35 36.5	-0.3
N19K				IAML		14 36 14.8	
	comp=N,479nm,0.5s						
N19K				IAML		14 36 22.7	
	comp=E,411nm,0.5s						
RED	**Redoubt Volcan**	**2.64**	**37**		Pn	14 35 37.7	+0.2
RED				IAML		14 36 31.2	
	comp=N,192nm,1.0s						
CNPM	**China Poot**	**2.71**	**62**		Pn	14 35 38.5	0.0
N15K	**Kwethluk River**	**2.80**	**312**		Pn	14 35 40.2	+0.4
N15K				IAML		14 36 26.4	
	comp=N,167nm,0.7s						
N15K				IAML		14 36 28.4	
	comp=E,216nm,0.8s						
O14K	**Tigyukauivet M**	**2.91**	**290**		Pn	14 35 41.4	+0.2
BRSE	**Bradley Lake S**	**3.03**	**60**		Pn	14 35 42.9	0.0
M16K	**Timber Creek**	**3.09**	**332**		Pn	14 35 43.7	+0.1
M16K				IAML		14 36 36.8	
	comp=N,188nm,1.0s						
M16K				IAML		14 36 39.3	
	comp=E,230nm,0.9s						
M17K	**Holitna River**	**3.15**	**347**		Pn	14 35 44.5	0.0
N14K	**Kuskokwak Cree**	**3.35**	**301**		Pn	14 35 47.8	+0.6
N14K				IAML		14 36 52.0	
	comp=N,215nm,1.2s						
SPU	**Mount Spurr**	**3.46**	**33**		Pn	14 35 49.0	+0.2
L16K	**Owhat River**	**3.81**	**334**		Pn	14 35 53.6	+0.1
L16K				IAML		14 37 03.8	
	comp=N,129nm,1.0s						
L16K				IAML		14 37 04.7	
	comp=E,171nm,1.0s						
M20K	**Styx River**	**3.82**	**20**	IAML		14 36 58.1	
	comp=N,105nm,0.9s						
M20K				IAML		14 37 06.3	
	comp=E,136nm,1.1s						
M14K	**Bethel**	**3.90**	**311**	IAML		14 37 05.2	
	comp=E,69nm,1.1s						
M14K				IAML		14 37 16.2	
	comp=N,70nm,1.1s						
L18K	**Granite Mounta**	**3.90**	**355**	IAML		14 37 06.4	
	comp=E,164nm,1.1s						
SKT	**Skwentna**	**4.26**	**29**		Pn	14 36 00.7	+0.9
SKT	**Skwentna**	**4.26**	**29**	IAML		14 37 18.4	
	comp=E,61nm,1.2s						
M13K	**Dall Lake**	**4.32**	**302**	IAML		14 37 29.0	
	comp=E,81nm,1.1s						
M13K				IAML		14 37 29.4	
	comp=N,53nm,0.8s						
M22K	**Willow**	**4.49**	**38**	IAML		14 37 28.0	
	comp=E,80nm,0.9s						
M22K				IAML		14 37 37.7	
	comp=N,87nm,0.9s						
L14K	**Kuka Creek**	**4.53**	**314**	IAML		14 37 19.1	
	comp=E,77nm,1.1s						
L14K				IAML		14 37 23.7	
	comp=N,79nm,1.1s						
K17K	**Iditarod**	**4.53**	**346**		Pn	14 36 03.2	-0.2
K15K	**Wolf Creek Mou**	**4.83**	**327**	IAML		14 37 30.5	
	comp=N,43nm,0.9s						
K15K				IAML		14 37 30.6	
	comp=E,65nm,1.1s						
K20K	**Telida**	**5.11**	**10**	IAML		14 37 46.6	
	comp=N,69nm,1.0s						
J18K	**Innoko River**	**5.15**	**356**	IAML		14 37 51.2	
	comp=N,63nm,1.0s						
J17K	**VABM Dome**	**5.29**	**345**	IAML		14 37 50.6	
	comp=E,71nm,0.9s						
J16K	**Anvik River**	**5.45**	**337**		Pn	14 36 15.2	-0.8
J16K					Pn	14 36 15.3	-0.7
WAT7	**Susitna Watana**	**5.70**	**35**		Pn	14 36 20.9	+1.3
WAT7					Pn	14 36 21.1	+1.5
TRF	**Thorofare Moun**	**5.81**	**26**		Pn	14 36 23.1	+1.8
J20K	**Nowinta River**	**5.91**	**8**		Pn	14 36 22.0	-0.4
BPAW	**Bear Paw Mtn.**	**6.25**	**20**		Pn	14 36 27.2	+0.2
DHY	**Denali Highway**	**6.34**	**38**		Pn	14 36 29.1	+0.8
DHY					Pn	14 36 29.4	+1.1
H17K	**Granite Mounta**	**6.88**	**346**		Pn	14 36 35.8	+0.2
PAX	**Paxson**	**6.92**	**44**		Pn	14 36 37.3	+0.9
H18K	**Honhosa River**	**6.92**	**352**		Pn	14 36 36.5	+0.2
K24K	**Donnelly Dome**	**7.36**	**38**		Pn	14 36 42.3	0.0
SCRK	**Sand Creek**	**8.07**	**41**		Pn	14 36 51.7	-0.4
G23K	**Bananza Creek**	**8.82**	**16**		Pn	14 37 02.2	-0.2
M29M	**Somme Creek**	**9.57**	**57**		Pn	14 37 12.9	+0.3

*IDC **19** 14:49:03.5±3.7, 55°.64N×154°.81W, h0km, mb4.0/9, mbtmp4.0/10, ML3.4/2, MS3.3/2, Error ellipse: s-maj=85.7km s-min=20.2km az=138.0*
*NEIC **19** 14:49:08.9±1.3, 55°.94N±0°.05×154°.62W±0°.08, h29km±7km, ML3.7/36, ML3.6(AEIC), Error ellipse: s-maj=9.4km s-min=4.6km az=142.0*
*AEIC **19** 14:49:10.8±1.3, 55°.87N±0°.07×154°.59W±0°.07, h31km±7km, Error ellipse: s-maj=12.0km s-min=1.3km az=150.0*
ISC 19 14:49:07.4±0.9, 55°.91N±0°.06×154°.64W±0°.06, h21km, n86, s099/93, mb4.0/9, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**0.56**	**261**		**Pn**	**14 49 20.4**	**+0.3**
CHIR				IAML		14 49 29.6	
	comp=E,7μm,0.7s						
CHIR	**Chirikof Islan**	**0.56**	**261**		**Sn**	**14 49 28.6**	**-0.2**
CHIR	**Chirikof Islan**	**0.56**	**261**	P	**Pn**	**14 49 20.4**	**+0.3**
CHIR	**Chirikof Islan**	**0.56**	**261**	S	**Sn**	**14 49 29.1**	**+0.3**
SII	**Sitkinak Islan**	**0.69**	**21**		**Pn**	**14 49 22.3**	**+0.3**
SII				IAML		14 49 33.2	
	comp=N,5μm,0.7s						
SII	**Sitkinak Islan**	**0.69**	**21**		**Sb**	**14 49 31.6**	**+1.6**
SII	**Sitkinak Islan**	**0.69**	**21**	P	**Pn**	**14 49 22.3**	**+0.3**
SII	**Sitkinak Islan**	**0.69**	**21**	S	**Sn**	**14 49 31.9**	**-0.3**
OHAK	**Old Harbor**	**1.51**	**29**		**Pn**	**14 49 33.5**	**+0.3**
OHAK	**Old Harbor**	**1.51**	**29**	P	**Pn**	**14 49 33.2**	**0.0**
R18K	**Karluk**	**1.66**	**3**		**Pn**	**14 49 35.4**	**+0.1**
R18K					**Sn**	**14 49 56.4**	**+0.5**
PLK4	**Peulik 4**	**1.97**	**332**		**Pn**	**14 49 39.6**	**0.0**
PLK4	**Peulik 4**	**1.97**	**332**		**Sn**	**14 50 03.2**	**-0.3**
PLK2	**Peulik 2**	**2.08**	**334**		**Pn**	**14 49 41.3**	**+0.4**
PLK2					**Sn**	**14 50 07.4**	**+1.2**
CHGN	**Chignik**	**2.15**	**282**		**Pn**	**14 49 41.9**	**-0.1**
CHGN				IAML		14 50 18.8	
	comp=E,503nm,0.6s						
CHGN				IAML		14 50 20.4	
	comp=N,457nm,0.9s						
ANPK	**Aniakchak Peak**	**2.15**	**297**		**Pn**	**14 49 42.0**	**-0.1**
PLBL	**Peulik Blue Cr**	**2.16**	**327**		**Pn**	**14 49 42.8**	**+0.8**
PLBL					**Pb**	**14 49 44.1**	**-1.6**
PLBL					**Sn**	**14 50 08.8**	**+0.6**
PLK1	**Peulik 1**	**2.18**	**331**		**Pn**	**14 49 43.1**	**+0.7**
PLK1					**Sn**	**14 50 10.6**	**+1.9**
KDAK	**Kodiak Island**	**2.19**	**30**		**Pn**	**14 49 42.8**	**+0.4**
KDAK	**Kodiak Island**	**2.19**	**30**	Pn	**Pn**	**14 49 42.3**	**-0.1**
	comp=N,11nm,0.3s,baz=227,slow=9.9,SNR=8.8						
KDAK				Lg	Lg	14 50 17.1	
	comp=N,13nm,0.3s,baz=15,slow=14,SNR=7.3						
KJL	**Kejulik**	**2.21**	**347**		**Pn**	**14 49 42.8**	**0.0**
ANPB	**Aniakchak Plen**	**2.21**	**295**		**Pn**	**14 49 43.0**	**0.0**
R16K	**Pilot Point**	**2.32**	**317**	Pn	**Pn**	**14 49 44.4**	**+0.2**
R16K				IAML		14 50 21.6	
	comp=E,764nm,0.8s						
R16K				IAML		14 50 44.7	
	comp=N,620nm,1.1s						
ACHA	**Angle Creek He**	**2.33**	**351**		**Pn**	**14 49 45.8**	**+1.2**
ANCK	**Angle Creek**	**2.34**	**349**		**Pn**	**14 49 44.8**	**+0.2**
KABU	**Katmai Buttres**	**2.39**	**352**		**Pb**	**14 49 48.6**	**-1.1**
KAKN	**Katmai Knife C**	**2.40**	**355**		**Pn**	**14 49 45.9

N14K	**Kuskokwak Cree**	**5.50**	**320**		**Pn**	**14 50 27.7**	**-0.2**
M18K	**Stony River**	**5.63**	**354**		**Pn**	**14 50 30.0**	**+0.3**
M17K	**Holitna River**	**5.69**	**346**		**Pn**	**14 50 30.5**	**-0.2**
M15K	**Kasigluk River**	**5.76**	**329**		**Pn**	**14 50 31.1**	**-0.4**
M15K					Pb	14 50 32.0	-15
PWL	**Port Wells**	**5.96**	**31**		**Pn**	**14 50 34.0**	**-0.4**
M20K	**Styx River**	**6.04**	**7**		**Pn**	**14 50 36.2**	**+0.8**
L16K	**Owhat River**	**6.33**	**339**		**Pn**	**14 50 40.2**	**+0.9**
L18K	**Granite Mounta**	**6.41**	**351**		**Pn**	**14 50 40.3**	**-0.2**
EYAK	**Cordova Ski Ar**	**6.60**	**42**	P	**Pn**	**14 50 43.6**	**+0.6**
AKUT	**Akutan**	**6.65**	**259**	P	**Pn**	**14 50 44.5**	**+0.8**
L15K	**Ungalak Mounta**	**6.79**	**331**		**Pn**	**14 50 45.6**	**+0.1**
L14K	**Kuka Creek**	**6.87**	**326**		**Pn**	**14 50 47.8**	**+1.1**
SCM	**Sheep Creek Mo**	**7.04**	**30**		**Pn**	**14 50 48.7**	**-0.5**
K17K	**Iditarod**	**7.08**	**346**		**Pn**	**14 50 49.1**	**-0.4**
UNV	**Unalaska Valle**	**7.15**	**258**	P	**Pn**	**14 50 50.6**	**-0.1**
MREP	**Makushin Rep't**	**7.30**	**258**		**Pn**	**14 50 52.8**	**0.0**
K15K	**Wolf Creek Mou**	**7.31**	**334**		**Pn**	**14 50 53.8**	**+1.0**
J17K	**VABM Dome**	**7.83**	**345**		**Pn**	**14 51 00.1**	**+0.1**
K13K	**Kusilvak Mount**	**7.95**	**323**		**Pn**	**14 51 02.0**	**+0.5**
J16K	**Anvik River**	**7.99**	**340**		**Pn**	**14 51 02.8**	**+0.8**
PNL	**Peninsula**	**8.96**	**59**	P	**Pn**	**14 51 17.3**	**+1.8**
IL31		**9.67**	**20**		**Pn**	**14 51 25.8**	**+0.7**
ILAR	**Eielson Array**	**9.67**	**20**	Pn	**Pn**	**14 51 24.5**	**-0.6**
	comp=N,0.2nm,0.3s,baz=214,slow=13,SNR=10.0						
ILAR				Sn	**Sn**	**14 53 08.7**	**-4.3**
	baz=46,slow=14,SNR=1.5						
	comp=N,0.4nm,0.4s						
J25K	**Salcha River,**	**9.85**	**24**		**Pn**	**14 51 28.3**	**+0.6**
PETK	**Petropavlovsk-**	**27.38**	**284**	P	**P**	**14 54 49.6**	**-1.2**
	comp=N,1.3nm,0.6s,baz=65,slow=12,SNR=9.0						
	comp=N,1.3nm,0.6s						
ARCES	**ARCESS Array B**	**54.86**	**360**	P	**P**	**14 58 36.0**	**+0.6**
	comp=N,2.2nm,0.8s,baz=12,slow=9.2,SNR=4.0						
	comp=N,2.2nm,0.8s						
SONM	**Songino Array**	**56.52**	**307**	P	**P**	**14 58 48.3**	**+0.4**
	comp=N,0.6nm,0.5s,baz=36,slow=7.7,SNR=3.6						
SONM				LR	LR	15 23 07.8	
	comp=N,21nm,19.2s,baz=11,slow=36						
	comp=N,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**60.17**	**324**	P	**P**	**14 59 13.8**	**+0.8**
	comp=N,0.9nm,0.6s,baz=54,slow=7.5,SNR=4.1						
ZALV				LR	LR	15 27 27.9	
	comp=N,23nm,18.7s,baz=32,slow=38						
	comp=N,0.9nm,0.6s						
FINES	**FINESS Array B**	**62.98**	**360**	P	**P**	**14 59 33.0**	**+1.2**
	comp=N,1.6nm,0.8s,baz=12,slow=10,SNR=3.5						
	comp=N,1.6nm,0.8s						
HFS	**Hagfors**	**63.93**	**6**	P	**P**	**14 59 39.0**	**+0.8**
	comp=N,0.9nm,0.7s,baz=10,slow=6.3,SNR=1.1						
	comp=N,0.9nm,0.7s						
BVAR	**Borovoye Array**	**65.28**	**332**	P	**P**	**14 59 47.7**	**+0.6**
	comp=N,1.8nm,0.5s,baz=30,slow=5.6,SNR=10						
	comp=N,1.8nm,0.5s						
MKAR	**Makanchi Array**	**67.08**	**321**	P	**P**	**14 59 59.0**	**+0.2**
	comp=N,0.6nm,0.7s,baz=40,slow=6.5,SNR=5.9						
	comp=N,0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**83.74**	**294**	P	**P**	**15 01 35.3**	**+0.5**
	comp=N,1.2nm,0.3s,baz=16,slow=6.0,SNR=4.9						
	comp=N,1.2nm,0.3s						

*IDC **19** 14:50:12.9±1.3,24°.30N×120°.96E, h0km, mb3.5/4, mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=70.0km s-min=22.0km az=69.0*
*TAP **19** 14:50:21.9,24°.78N×121°.81E, h81km, ML4.0, B*
*JMA **19** 14:50:22.3±0.3,24°.8N±0°.7×121°.9E±0°.9, h76km±3km, MV3.0/9, TAIWAN REGION*

ISC 19 14:50:21.9±0.8,**24°.81N**±0°.03×**121°.82E**±0°.03,**h86**km±4km, **n149**,σ0**°73**/248,**mb3.5**/4,**39C-1D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NTC	**Toucheng**	**0.05**	**8**	*eP*		**Pn**	**14 50 34.0**	**0.0**
NTC				*eS*		**Sn**	**14 50 43.3**	**+0.3**
EGS		**0.11**	**68**	*eP*		**Pn**	**14 50 34.1**	**0.0**
EGS				*eS*		**Sn**	**14 50 43.5**	**+0.3**
TWE	**Neicheng**	**0.16**	**239**	⇑*iP*		**Pn**	**14 50 34.3**	**0.0**
TWE				*i S*		**Sn**	**14 50 43.8**	**+0.4**
TIPB	**Shuangxi**	**0.17**	**1**	⇑*iP*		**Pn**	**14 50 34.1**	**-0.3**
TIPB				*eS*		**Sn**	**14 50 42.1**	**-1.4**
NDS	**Dongshan**	**0.20**	**210**	⇑*iP*		**Pn**	**14 50 34.6**	**+0.2**
NDS				*eS*		**Sn**	**14 50 43.9**	**+0.2**
TWC	**Suao**	**0.20**	**173**	⇑*iP*		**Pn**	**14 50 34.5**	**+0.1**
TWC				S		**Sn**	**14 50 43.4**	**-0.3**
FUSB	**Fushanzhiwuyua**	**0.22**	**258**	⇑*iP*		**Pn**	**14 50 34.3**	**-0.3**
FUSB				*i* S		**Sn**	**14 50 42.9**	**-1.0**
ESAO	**Su ao**	**0.23**	**175**	⇑*iP*		**Pn**	**14 50 34.7**	**+0.2**
ESAO				S		**Sn**	**14 50 44.0**	**+0.1**
TWB1	**Santiao Chiao**	**0.25**	**37**	⇑*iP*		**Pn**	**14 50 34.3**	**-0.3**
TWB1				*eS*		**Sn**	**14 50 43.0**	**-1.0**
NWF	**Wu-fen Shan**	**0.27**	**352**	⇑*iP*		**Pn**	**14 50 34.5**	**-0.3**
NWF				*i* S		**Sn**	**14 50 43.7**	**-0.7**
WFSB	**Wu-fen Shan**	**0.27**	**352**	⇑*iP*		**Pn**	**14 50 34.5**	**-0.2**
WFSB				*i* S		**Sn**	**14 50 43.8**	**-0.4**
ENTT	**Nioudou**	**0.28**	**235**	⇑*iP*		**Pn**	**14 50 34.8**	**0.0**
ENTT				*eS*		**Sn**	**14 50 43.9**	**-0.5**
NWLT	**Wulai**	**0.29**	**265**	⇑*iP*		**Pn**	**14 50 34.4**	**-0.5**
NWLT				S		**Sn**	**14 50 42.9**	**-1.5**
SXI1	**Grass Mountain**	**0.29**	**10**	⇑*iP*		**Pn**	**14 50 34.3**	**-0.6**
SXI1				S		**Sn**	**14 50 43.8**	**-0.8**
NHDH	**Xindian Distri**	**0.31**	**300**	⇑*iP*		**Pn**	**14 50 34.8**	**-0.2**
NHDH				S		**Sn**	**14 50 43.9**	**-0.7**
NHY	**Taipei**	**0.33**	**316**	*eP*		**Pn**	**14 50 34.8**	**-0.2**
NHY				*eS*		**Sn**	**14 50 44.6**	**-0.1**
TNOU	**National Taiwa**	**0.35**	**353**	⇑*iP*		**Pn**	**14 50 34.8**	**-0.4**
TNOU				*eS*		**Sn**	**14 50 44.2**	**-0.8**
TATO	**Taipei**	**0.35**	**299**	P		**Pn**	**14 50 34.7**	**-0.4**
TATO	**Taipei**	**0.35**	**299**	S		**Sn**	**14 50 44.4**	**-0.6**
EWUT	**Wuta**	**0.36**	**186**	*eP*		**Pn**	**14 50 35.4**	**+0.2**
TAP	**Taipei**	**0.37**	**309**	⇑*iP*		**Pn**	**14 50 35.0**	**-0.2**
TAP				*i* S		**Sn**	**14 50 44.8**	**-0.4**
LATG	**Datong**	**0.38**	**225**	⇑*iP*		**Pn**	**14 50 35.5**	**0.0**
LATG				S		**Sn**	**14 50 44.9**	**-0.7**
ENA	**Nanau**	**0.38**	**191**	⇑P		**Pn**	**14 50 35.3**	**-0.1**
ENA				*eS*		**Sn**	**14 50 46.5**	**+1.2**
YM01	**YM01**	**0.41**	**326**	⇑*iP*		**Pn**	**14 50 35.4**	**-0.3**
YM01				*i* S		**Sn**	**14 50 45.2**	**-0.6**
YHNB	**Yeheng**	**0.43**	**252**	P		**Pn**	**14 50 35.4**	**-0.4**
YHNB	**Yeheng**	**0.43**	**252**	⇑*iP*		**Pn**	**14 50 35.3**	**-0.4**
YHNB				S		**Sn**	**14 50 44.8**	**-1.3**
ZUZH	**Zhuzihu**	**0.44**	**325**	⇑P		**Pn**	**14 50 35.5**	**-0.3**
ZUZH				*i* S		**Sn**	**14 50 45.2**	**-0.9**
NSK	**Sanguang**	**0.44**	**253**	⇑*iP*		**Pn**	**14 50 35.4**	**-0.5**
NSK				S		**Sn**	**14 50 44.9**	**-1.3**
ANP	**Anpu**	**0.47**	**324**	*eP*		**Pn**	**14 50 35.7**	**-0.4**
ANP				S		**Sn**	**14 50 45.8**	**-0.9**
TWS1	**Kuangyinshan**	**0.47**	**309**	⇑*iP*		**Pn**	**14 50 36.0**	**0.0**
TWS1				S		**Sn**	**14 50 46.6**	**+0.1**
EAHA	**Aohua**	**0.48**	**189**	*eP*		**Pn**	**14 50 36.2**	**+0.1**
EAHA				S		**Sn**	**14 50 46.9**	**+0.3**
NTST	**Danshui**	**0.49**	**317**	*eP*		**Pn**	**14 50 36.0**	**-0.1**
NTST				*eS*		**Sn**	**14 50 46.8**	**+0.1**
TWY	**Chenhua**	**0.51**	**337**	⇑*iP*		**Pn**	**14 50 36.3**	**-0.1**
TWY				S		**Sn**	**14 50 47.1**	**+0.1**
EOS2	**EOS2**	**0.54**	**136**	*eP*		**Pn**	**14 50 36.9**	**+0.6**
NNS	**Nan Shan**	**0.55**	**228**	⇑*iP*		**Pn**	**14 50 36.7**	**-0.1**
NNS				S		**Sn**	**14 50 46.8**	**-1.0**
NNSB	**Datong**	**0.55**	**227**	⇑*iP*		**Pn**	**14 50 36.7**	**-0.1**
NNSB				*i* S		**Sn**	**14 50 47.0**	**-0.8**
KSHI	**Guanxi Townshi**	**0.59**	**267**	⇑*iP*		**Pn**	**14 50 37.0**	**0.0**
KSHI				*i* S		**Sn**	**14 50 48.0**	**-0.2**
NCUH	**Zhongli**	**0.60**	**286**	*i P*		**Pn**	**14 50 37.1**	**0.0**
NCUH				*i* S		**Sn**	**14 50 48.2**	**-0.2**
NACB	**Ninganchiao**	**0.66**	**198**	P		**Pn**	**14 50 36.8**	**-0.9**
NACB	**Ninganchiao**	**0.66**	**198**	P		**Sn**	**14 50 49.3**	**-0.1**
NACB	**Ninganchiao**	**0.66**	**198**	*eP*		**Pn**	**14 50 36.7**	**-1.0**
NACB				*eS*		**Sn**	**14 50 48.6**	**-0.8**
NFF	**Wufeng Townshi**	**0.66**	**255**	⇑*iP*		**Pn**	**14 50 37.4**	**-0.3**
NFF				S		**Sn**	**14 50 48.2**	**-1.4**
ETL	**Fush Village**	**0.67**	**196**	*eP*		**Pn**	**14 50 36.9**	**-0.9**
ETL				*eS*		**Sn**	**14 50 48.9**	**-0.7**
ETLH	**Xiulin Townshi**	**0.67**	**208**	⇑P		**Pn**	**14 50 37.5**	**-0.4**
ETLH				S		**Sn**	**14 50 48.9**	**-0.9**
EOS3	**EOS3**	**0.69**	**139**	⇓P		**Pn**	**14 50 38.3**	**+0.6**
EOS3				*eS*		**Sn**	**14 50 49.2**	**-0.3**
LIOB	**Emei**	**0.75**	**258**	⇑*iP*		**Pn**	**14 50 38.5**	**-0.1**
LIOB				*eS*		**Sn**	**14 50 49.9**	**-1.2**
TWD	**Chiawan**	**0.75**	**196**	*eP*		**Pn**	**14 50 37.7**	**-0.8**
TWD				*i* S		**Sn**	**14 50 49.8**	**-1.1**
SBCB	**Hsinchu**	**0.76**	**269**	⇑P		**Pn**	**14 50 38.7**	**0.0**
SBCB				S		**Sn**	**14 50 50.3**	**-0.9**
NSTT	**Nanjuang**	**0.77**	**257**	⇑*iP*		**Pn**	**14 50 38.5**	**-0.2**
NSTT				S		**Sn**	**14 50 50.5**	**-0.8**
HSN	**Hsinchu**	**0.78**	**270**	*eP*		**Pn**	**14 50 38.5**	**-0.3**
HSN				*eS*		**Sn**	**14 50 50.5**	**-0.9**
TWT	**Tachien**	**0.81**	**227**	⇑⇑P		**Pn**	**14 50 40.0**	**+0.6**
TWT				S		**Sn**	**14 50 52.5**	**+0.2**
EOS4	**EOS4**	**0.82**	**146**	⇑⇑P		**Pn**	**14 50 38.8**	**0.0**
EOS4				*eS*		**Sn**	**14 50 50.8**	**-0.8**
TDCB	**Techi**	**0.82**	**228**	⇑*iP*		**Pn**	**14 50 39.9**	**+0.5**
TDCB				*eS*		**Sn**	**14 50 52.1**	**-0.4**
WHF	**Hehuan Shan**	**0.83**	**218**	⇑⇑P		**Pn**	**14 50 39.8**	**-0.1**
WHF				*eS*		**Sn**	**14 50 53.1**	**-0.2**
HWA	**Hwalien**	**0.85**	**194**	*eP*		**Pn**	**14 50 39.5**	**-0.1**
HWA				*eS*		**Sn**	**14 50 52.7**	**-0.1**
LXIB	**Xiulin Townshi**	**0.86**	**206**	P		**Pn**	**14 50 39.0**	**-0.9**
LXIB				S		**Sn**	**14 50 53.3**	**-0.1**
ETM	**Tongmen**	**0.89**	**200**	*eP*		**Pn**	**14 50 38.9**	**-1.2**
ETM				*eS*		**Sn**	**14 50 52.6**	**-1.1**
TEYL	**Yanliau Villag**	**0.95**	**192**	*eP*		**Pn**	**14 50 40.8**	**0.0**
TEYL				*eS*		**Sn**	**14 50 53.1**	**-1.8**
WHP	**Taichung City**	**0.95**	**237**	⇑*iP*		**Pn**	**14 50 41.3**	**+0.5**
WHP				S		**Sn**	**14 50 54.8**	**-0.3**
NMLH	**Miaoli**	**0.97**	**254**	*eP*		**Pn**	**14 50 41.1**	**+0.1**
NMLH				S		**Sn**	**14 50 55.1**	**-0.3**
OWD	**Renai**	**1.03**	**215**	*eP*		**Pn**	**14 50 41.9**	**0.0**
OWD				S		**Sn**	**14 50 56.2**	**-0.6**
WUSB	**Renai**	**1.03**	**219**	*eP*		**Pn**	**14 50 42.3**	**+0.4**
WUSB				*eS*		**Sn**	**14 50 55.5**	**-1.3**
NSY	**Sanyi**	**1.04**	**248**	P		**Pn**	**14 50 42.2**	**+0.4**
NSY				*eS*		**Sn**	**14 50 57.0**	**+0.3**
SHUL	**Shoufeng**	**1.04**	**193**	*eP*		**Pn**	**14 50 41.4**	**-0.4**
SHUL				*i S*		**Sn**	**14 50 57.2**	**+0.5**
ESL	**Shilin**	**1.05**	**200**	*eP*		**Pn**	**14 50 40.8**	**-1.1**
ESL				*eS*		**Sn**	**14 50 56.0**	**-0.8**
TWQ1	**Liyutan**	**1.06**	**245**	⇑*iP*		**Pn**	**14 50 42.1**	**+0.1**
TWQ1				*eS*		**Sn**	**14 50 56.6**	**-0.5**
WCS	**Beigang Elemen**	**1.11**	**228**	⇑⇑P		**Pn**	**14 50 43.1**	**+0.4**
YOJ	**Yonaguni jima**	**1.14**	**107**	*eP*		**Pn**	**14 50 42.5**	**-0.4**
YOJ	**Yonaguni jima**	**1.14**	**107**	P		**Pn**	**14 50 42.5**	**-0.4**
WARBT	**Fenglin Townsh**	**1.15**	**200**	*eP*		**Pn**	**14 50 41.5**	**-1.7**
WARBT				*eS*		**Sn**	**14 50 57.4**	**-1.7**
WDJ	**Dajia District**	**1.17**	**247**	*eP*		**Pn**	**14 50 43.7**	**+0.4**
EGFH	**Guangfu**	**1.19**	**198**	*eP*		**Pn**	**14 50 43.9**	**+0.3**
EGFH				*eS*		**Sn**	**14 50 57.6**	**-2.2**
TCU	**Taichung**	**1.23**	**238**	*eP*		**Pn**	**14 50 44.3**	**+0.2**
TCU				*eS*		**Sn**	**14 51 00.3**	**-0.5**
SMLT	**Sun Moon Lake**	**1.25**	**223**	*eP*		**Pn**	**14 50 44.8**	**+0.4**
SMLT				*eS*		**Sn**	**14 51 01.7**	**+0.4**
TYC	**Yuchr**	**1.26**	**225**	⇑P		**Pn**	**14 50 44.7**	**+0.3**
TYC				*eS*		**Sn**	**14 51 01.4**	**+0.1**
SSLB	**Suanglung**	**1.29**	**218**	P		**Pn**	**14 50 45.5**	**+0.7**
SSLB	**Suanglung**	**1.29**	**218**	S		**Sn**	**14 51 03.4**	**+1.4**
SSLB	**Suanglung**	**1.29**	**218**	*eP*		**Pn**	**14 50 45.1**	**+0.3**
SSLB				*eS*		**Sn**	**14 51 02.1**	**0.0**
HGSD	**Ruisui**	**1.36**	**196**	*eP*		**Pn**	**14 50 45.7**	**0.0**
HGSD				*eS*		**Sn**	**14 51 03.8**	**+0.2**
WCHH	**Zhanghua**	**1.36**	**238**	P		**Pn**	**14 50 45.8**	**+0.2**
WCHH				*i* S		**Sn**	**14 51 03.0**	**-0.6**
EHY	**Hungye**	**1.37**	**200**	*eP*		**Pn**	**14 50 45.4**	**-0.4**
EHY				*eS*		**Sn**	**14 51 01.9**	**-2.0**
WCH1	**Changhua City**	**1.37**	**238**	*eP*		**Pn**	**14 50 45.5**	**-0.3**
WCH1				*eS*		**Sn**	**14 51 03.5**	**-0.4**
EHYH	**Wanrong**	**1.38**	**199**	*eP*		**Pn**	**14 50 45.9**	**0.0**
EHYH				*eS*		**Sn**	**14 51 02.1**	**-1.9**
WNT	**Mingjian**	**1.39**	**229**	*eP*		**Pn**	**14 50 46.5**	**+0.5**
WNT				*eS*		**Sn**	**14 51 04.4**	**+0.1**
WJS	**Zhushan**	**1.40**	**226**	*eP*		**Pn**	**14 50 45.8**	**+0.3**
WJS				*eS*		**Sn**	**14 51 05.1**	**+0.7**
WHYT	**Xinyi Township**	**1.41**	**219**	*eP*		**Pn**	**14 50 47.2**	**+0.8**
WHYT				*eS*		**Sn**	**14 51 05.7**	**+0.7**
YULB	**Yu-li**	**1.48**	**199**	P		**Pn**	**14 50 46.9**	**-0.4**
YULB	**Yu-li**	**1.48**	**199**	*eP*		**Pn**	**14 50 45.8**	**-1.5**
YULB				*eS*		**Sn**	**14 51 05.9**	**-0.6**
ECBN	**Changbin**	**1.52**	**193**	*eP*		**Pn**	**14 50 46.4**	**-1.3**
ECBN				*eS*		**Sn**	**14 51 06.8**	**-0.5**
EYUL	**Yuli**	**1.52**	**198**	*eP*		**Pn**	**14 50 47.0**	**-0.8**
TWF1	**Yuli**	**1.52**	**198**	*eP*		**Pn**	**14 50 46.4**	**-1.4**
TWF1				*eS*		**Sn**	**14 51 07.0**	**-0.3**
ALS	**Alishan**	**1.59**	**216**	*eP*		**Pn**	**14 50 49.4**	**+0.5**
ALS				*eS*		**Sn**	**14 51 09.1**	**-0.2**
CHN5	**Tsauling**	**1.59**	**221**	*eP*		**Pn**	**14 50 49.1**	**+0.4**
CHN5				*eS*		**Sn**	**14 51 08.8**	**-0.3**
WDL	**Douliou City**	**1.60**	**227**	*eP*		**Pn**	**14 50 48.1**	**-0.6**
WDL				*eS*		**Sn**	**14 51 09.1**	**+0.1**
WGK	**Gukeng**	**1.60**	**226**	*eP*		**Pn**	**14 50 49.5**	**+0.8**
WGK				*i* S		**Sn**	**14 51 10.1**	**+1.0**
WDLH	**Douliu**	**1.61**	**227**	*eP*		**Pn**	**14 50 49.6**	**+0.7**
WDLH				*i* S		**Sn**	**14 51 09.9**	**+0.5**
CHKH	**Chenggong**	**1.65**	**194**	*eP*		**Pn**	**14 50 49.5**	**+0.1**
CHKH				*eS*		**Sn**	**14 51 09.5**	**-0.8**
FULB	**Fuli**	**1.67**	**197**	*eP*		**Pn**	**14 50 49.5**	**-0.1**
FULB				*eS*		**Sn**	**14 51 10.1**	**-0.6**
WTCT	**Ta-ch'eng**	**1.69**	**237**	*eP*		**Pn**	**14 50 50.1**	**+0.3**
WTCT				*eS*		**Sn**	**14 51 10.2**	**-0.9**
WTK	**Tuku**	**1.72**	**230**	*eP*		**Pn**	**14 50 50.6**	**+0.4**
WTK				*i S*		**Sn**	**14 51 11.8**	**+0.1**
EHD	**Haiduan**	**1.74**	**199**	*eP*		**Pn**	**14 50 49.0**	**-1.6**
EHD				*eS*		**Sn**	**14 51 10.6**	**-1.8**
CHKT	**Chengkung**	**1.75**	**194**	*eP*		**Pn**	**14 50 50.1**	**-0.5**
CHKT				S		**Sn**	**14 51 11.9**	**-0.6**
WCKO	**Fanlu**	**1.76**	**220**	*eP*		**Pn**	**14 50 51.5**	**+0.7**
WCKO				S		**Sn**	**14 51 13.6**	**+0.9**
ELDTW	**Lidau**	**1.77**	**205**	*eP*		**Pn**	**14 50 51.0**	**+0.1**
ELDTW				*eS*		**Sn**	**14 51 12.5**	**-0.6**
ECS	**Chishang**	**1.79**	**198**	*eP*		**Pn**	**14 50 51.3**	**+0.1**
ECS				*eS*		**Sn**	**14 51 12.8**	**-0.7**
IRIF	**Iriomote-Funau**	**1.80**	**105**	P		**Pn**	**14 50 50.9**	**-0.4**
CHY	**Chiayi**	**1.82**	**225**	*eP*		**Pn**	**14 50 52.0**	**+0.4**
CHY				*eS*		**Sn**	**14 51 13.9**	**-0.3**
TPUB	**Ta-pu**	**1.85**	**216**	P		**Pn**	**14 50 53.1**	**+1.0**
TPUB	**Ta-pu**	**1.85**	**216**	*eP*		**Pn**	**14 50 52.5**	**+0.4**
TPUB				*eS*		**Sn**	**14 51 15.2**	**+0.3**
EDH	**Donghe**	**1.88**	**195**	*eP*		**Pn**	**14 50 52.7**	**+0.2**
EDH				*eS*		**Sn**	**14 51 14.8**	**-0.8**
STYH	**Taoyuan**	**1.89**	**211**	*eP*		**Pn**	**14 50 53.4**	**+0.9**
STYH				*eS*		**Sn**	**14 51 15.1**	**-0.7**
WTP	**Ta-pu**	**1.91**	**216**	*eP*		**Pn**	**14 50 53.2**	**+0.5**
WTP				*eS*		**Sn**	**14 51 15.5**	**-0.7**
WSL	**Shuilin Townsh**	**1.94**	**229**	*eP*		**Pn**	**14 50 52.9**	**-0.3**
WSL				*eS*		**Sn**	**14 51 15.4**	**-0.5**
TWK	**Hsinying**	**1.96**	**219**	*eP*		**Pn**	**14 50 54.2**	**+0.7**
SNST	**Tainan City**	**1.99**	**218**	*eP*		**Pn**	**14 50 54.2**	**+0.3**
LONT	**Longtian**	**1.99**	**199**	*eP*		**Pn**	**14 50 53.7**	**-0.2**
JKRS	**Kuro-shima**	**2.07**	**105**	*eP*		**Pn**	**14 50 55.0**	**+0.1**
TWG	**Pinlang**	**2.09**	**199**	*eP*		**Pn**	**14 50 53.9**	**-1.3**
TWG				*eS*		**Sn**	**14 51 19.9**	**-0.7**
TWGBT	**Beinan**	**2.09**	**199**	P		**Pn**	**14 50 54.3**	**-0.9**
TWGBT	**Beinan**	**2.09**	**199**	*eP*		**Pn**	**14 50 54.0**	**-1.2**
TWGBT				*eS*		**Sn**	**14 51 19.7**	**-0.9**
JIJ	**Ishigaki jima**	**2.16**	**101**	*eP*		**Pn**	**14 50 55.9**	**-0.1**
JIJ				*eS*		**Sn**	**14 51 21.5**	**-0.6**
MATB	**Ma-tsu**	**2.16**	**309**	*eP*		**Pn**	**14 50 55.3**	**-0.8**
VWUC	**VWUC**	**2.16**	**275**	*eP*		**Pn**	**14 50 55.2**	**-0.8**
SCST	**Cishan**	**2.27**	**213**	*eP*		**Pn**	**14 50 57.9**	**+0.5**
JISG	**Ishigakijimahi**	**2.27**	**95**	*eP*		**Pn**	**14 50 57.5**	**-0.1**
TSCK	**Chigu Township**	**2.29**	**224**	*eP*		**Pn**	**14 50 57.8**	**0.0**
SSD	**Sandimen**	**2.32**	**208**	*eP*		**Pn**	**14 50 59.5**	**+1.3**
ECL	**Taimali**	**2.34**	**200**	*eP*		**Pn**	**14 50 58.0**	**-0.4**
PNG	**Penghu**	**2.41**	**240**	*eP*		**Pn**	**14 50 57.6**	**-1.7**
PHUB	**P'eng-hu**	**2.42**	**238**	*eP*		**Pn**	**14 50 58.2**	**-1.3**
MASBT	**Mashibuluo**	**2.44**	**207**	*eP*		**Pn**	**14 51 00.7**	**+0.9**
PTMZ	**Houxiangcun**	**2.46**	**276**	*eP*		**Pn**	**14 50 59.6**	**-0.5**
WDGT	**Dungji**	**2.50**	**233**	*eP*		**Pn**	**14 51 00.6**	**-0.1**
EAST	**Anshuo**	**2.57**	**201**	*eP*		**Pn**	**14 51 01.1**	**-0.5**
XPSS	**Dashiqiu**	**2.58**	**326**	*eP*		**Pn**	**14 51 00.9**	**-0.7**
SCZT	**Fangliau**	**2.66**	**205**	*eP*		**Pn**	**14 51 04.2**	**+1.4**
LYUB	**Lan-yu**	**2.80**	**185**	*eP*		**Pn**	**14 51 03.0**	**-1.7**
MHZQ	**Yeshan**	**2.83**	**298**	*eP*		**Pn**	**14 51 03.6**	**-1.4**
KNM	**Kinmen**	**3.11**	**264**	*eP*		**Pn**	**14 51 09.5**	**+0.7**
KNMB	**Chin-men Tao**	**3.14**	**265**	*eP*		**Pn**	**14 51 08.1**	**-1.1**
AXDP	**Jialang**	**3.50**	**272**	*eP*		**Pn**	**14 51 13.2**	**-0.8**
ZPLA	**Ao Xicun**	**3.81**	**258**	*eP*		**Pn**	**14 51 17.9**	**-0.4**
SXFK	**Yanhouchang**	**4.09**	**294**	*eP*		**Pn**	**14 51 21.3**	**-0.9**
DSXP	**Dongshan**	**4.16**	**256**	*eP*		**Pn**	**14 51 22.2**	**-0.8**
KSRS	**Korea Array**	**13.64**	**21**	Pn		**P**	**14 53 39.0**	**+1.5**
	0.1nm,0.3s,baz=203,slow=12,SNR=8.2							
	2.0nm,0.7s							
SONM	**Songino Array**	**26.03**	**336**	P		**P**	**14 55 47.7**	**+0.7**
	0.5nm,0.3s,baz=141,slow=9.3,SNR=3.0							
	0.5nm,0.3s							
MKAR	**Makanchi Array**	**38.30**	**315**	P		**P**	**14 57 34.6**	**+0.6**
	0.2nm,0.5s,baz=99,slow=8.9,SNR=4.1							
	0.2nm,0.5s							
WRA	**Warramunga Arr**	**46.12**	**164**	P		**P**	**14 58 36.9**	**-0.8**
	0.4nm,0.5s,baz=342,slow=9.0,SNR=6.9							
	0.4nm,0.5s							
ASAR	**Alice Springs**	**49.59**	**165**	P		**P**	**14 59 03.9**	**-0.6**
	0.3nm,0.7s,baz=339,slow=6.5,SNR=7.7							
	0.3nm,0.7s							

RSNC 19 15:00:30.1±0.0,**13°N**±5°×**7°2W**±°,**h6**km±4km,**M2.9,mB5.8, ML2.9,Mw(mB)5.4,Near north coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
URIC	**Uribia, Colomb**	**0.91**	**166**	P		Pg	15 00 45.3	-2.3
URIC				S		Sg	15 00 59.0	-0.4
CRJC	**Cerrejon, Guaj**	**1.69**	**203**	P		Pn	15 00 58.7	-1.6
CRJC				S		Sn	15 01 21.3	-1.0
SJCC	**San Jacinto, C**	**3.95**	**228**	P		Pn	15 01 33.0	+1.7
SDV	**Santo Domingo**	**4.00**	**157**	P		Pn

SABU S Sn 15 39 27.8 -7.0
AYDN Tasoluk 3.73 20 P **Pn** **15 39 00.3 +2.0**
AYDN *i* IAML 15 39 45.0
comp=N,7.1nm,0.6s
AYDN *i* IAML 15 40 07.0
comp=E,7.5nm,0.8s
VLI Velíai 3.77 314 P **Pn** **15 38 59.6 +1.0**
DNZT Denizli-Tavas- 3.83 34 P **Pn** **15 39 02.2 +2.6**
DNZT S **Sn** **15 39 39.0 -5.5**
DNZT *i* IAML 15 40 18.0
comp=N,8.6nm,1.3s
TAVA DENIZLI_Tavas 3.93 32 P Pn 15 39 06.0 +5.0
TAVA S **Sn** **15 39 42.3 -4.7**
AKUM Antalya-Kumluc 3.95 55 P **Pn** **15 38 59.8 -1.3**
ESEN Aydn-Nazilli 4.00 24 P **Pn** **15 39 04.1 +2.2**
GOLH Golhisar 4.07 40 P **Pn** **15 39 06.8 +3.9**
GOLH *i* IAML 15 39 56.0
comp=N,13nm,0.5s
GOLH *i* IAML 15 40 00.0
comp=E,13nm,0.5s
ITM Ithomi 4.68 312 P **Pn** **15 39 12.7 +1.5**
LTK Loutraki 4.72 326 P **Pn** **15 39 13.0 +1.2**
VIL2 Platees 4.75 330 P **Pn** **15 39 12.7 +0.5**
GUR Goura 4.96 321 P **Pn** **15 39 16.2 +1.0**

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*BJI **19** 16:02:24.5, 22°.75S × 174°.78W, h6km, mB5.7/12, mb5.3/37, Ms5.3/18, Ms7 5.0/18*
*MOS **19** 16:02:25.9±1.1, 22°.84S × 175°.27W, h10km, mb5.4/22, MS4.9/5, Error ellipse: s-maj=11.7km s-min=10.1km az=85.7*
*IDC **19** 16:02:25.8±0.5, 22°.71S × 175°.23W, h0km, mb4.8/17, mbtmp4.8/19, ML5.0/2, MS4.2/32, Error ellipse: s-maj=20.1km s-min=13.6km az=106.0*
*NEIC **19** 16:02:26.5±1.6, 22°.77S±0°.08 × 175°.0W±0°.1, h10km±1km, mb5.1/170, Error ellipse: s-maj=17.6km s-min=11.8km az=126.0*
*NOU **19** 16:02:27.9, 22°.94S × 174°.23W, h48km, mb5.1/35, Tonga Islands Region*
*GCMT **19** 16:02:31.5±0.3, 23°.00S±0°.02 × 174°.69W±0°.02, h23km, MW4.9/93, Moment Tensor Solution. s37,c48; s93,c123; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.10±.16; $M_{\theta\theta}$-1.51±.11; $M_{\phi\phi}$-1.59±.09; $M_{r\theta}$0.86±.14; $M_{\theta\phi}$-0.92±.05; $M_{r\phi}$0.98±.13; Best double couple: M_o3.07800×10^{16} NP1:ϕ_s224.00000°, δ32.00000°, λ91.00000°. NP2: ϕ_s43.00000°, δ58.00000°, λ89.00000°. Principal axes: T 3.3930, Plg77.0000°, Azm310.0000°; N -0.6310, Plg1.0000°, Azm43.0000°; P -2.7630, Plg13.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 16:02:29.9±0.6, 23°.02S±0°.05 × 175°.01W±0°.05, h32km±3km, h32km:pP-P, n653, σ1§24/587, mb5.1/131, MS4.4/43, 47C-39D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.16**	**51**				Pn	16 03 50.2	-8.5
NIUE					Sn		Sn	16 04 49.2	-19
NIUE	**Niue**	**6.16**	**51**	P			Pn	16 03 50.2	-8.4
NIUE	**Niue**	**6.16**	**51**	S			Sn	16 04 49.5	-18
RAO	**Raoul Island**	**6.74**	**202**	Pn			**Pn**	**16 04 05.4**	**-1.2**
RAO							**Sn**	**16 05 21.4**	**-0.8**
RAO	**Raoul Island**	**6.74**	**202**	Pn			**Pn**	**16 04 07.0**	**+0.4**
	165nm,0.3s,baz=78,slow=22,SNR=6.0								
RAO					Sn		**Sn**	**16 05 22.0**	**-0.3**
	58nm,0.3s,baz=99,slow=21,SNR=3.9 332nm,0.3s								
RAO	**Raoul Island**	**6.74**	**202**	P			**Pn**	**16 04 07.5**	**+0.9**
DGTI	**Dogotuki**	**8.31**	**323**	P			**Pn**	**16 04 31.1**	**+2.8**
MSVF	**Nonsavu**	**8.37**	**308**	Pn			**Pn**	**16 04 30.8**	**+1.7**
MSVF	**Nonsavu**	**8.37**	**308**	P			**Pn**	**16 04 33.1**	**+4.0**
MSVF	**Nonsavu**	**8.37**	**308**	P			**Pn**	**16 04 30.8**	**+1.7**
FUTU	**Fugatoga**	**9.15**	**341**	Pn			**Pn**	**16 04 37.2**	**-2.6**
AFI	**Afiamalu**	**9.56**	**19**	Pn			Pn	16 04 37.9	-7.6
AFI	**Afiamalu**	**9.56**	**19**	P			Pn	16 04 39.4	-6.1
AFI	**Afiamalu**	**9.56**	**19**	P			Pn	16 04 37.9	-7.6
RAR	**Rarotonga**	**14.24**	**86**	LR			LR	16 10 44.3	
	comp=Z,978nm,18.6s,baz=281,slow=35								
PINNC	**Pines Island,**	**16.18**	**268**	Pn			**Pn**	**16 06 13.3**	**-1.7**
PINNC	**Pines Island,**	**16.18**	**268**	P			**P**	**16 06 21.4**	**+3.5**
DVP	**Devils Point**	**16.61**	**285**	P			**P**	**16 06 26.4**	**+3.8**
URZ	**Urewera**	**16.62**	**202**	Pn			**P**	**16 06 22.5**	**-0.1**
	1.0nm,0.3s,baz=338,slow=4.0,SNR=9.9								
URZ					Sn		**Sn**	**16 09 18.5**	**-5.6**
	1.8nm,0.3s,baz=234,slow=22,SNR=8.0 8.7nm,0.6s								
URZ	**Urewera**	**16.62**	**202**	P			**P**	**16 06 22.3**	**-0.4**
YATNC	**Mamie plateau,**	**16.75**	**270**	P			**P**	**16 06 27.8**	**+3.6**
RTZ	**Ruatahuna**	**16.99**	**202**	Pn			**Pn**	**16 06 23.1**	**-2.1**
DZM	**Mont Dzumac**	**17.16**	**270**	*e*P			**Pn**	**16 06 25.2**	**-2.3**
	143nm,1.0s								
DZM				*e*S			**Sn**	**16 09 39.3**	**+1.8**
	2μm,26.8s								
DZM				*e*LR			LR	16 10 19.2	
	721nm,20.7s								
DZM	**Mont Dzumac**	**17.16**	**270**				**Pn**	**16 06 23.8**	**-3.7**
DZM	**Mont Dzumac**	**17.16**	**270**	Pn			**P**	**16 06 30.6**	**+1.7**
	1.1nm,0.3s,baz=95,slow=18,SNR=15								
BKZ	**Black Stump Fm**	**17.65**	**202**	P			**P**	**16 06 34.8**	**+0.7**
SANVU	**Saraoutou**	**18.39**	**291**				**P**	**16 06 40.6**	**-1.8**
SANVU					IAmb		IAmb	16 06 49.5	
	comp=Z,74nm,0.8s								
SANVU	**Saraoutou**	**18.39**	**291**	P			**Pn**	**16 06 47.1**	**+4.5**
BFZ	**Birch Farm**	**19.09**	**201**	P			**P**	**16 06 46.0**	**-3.9**
BFZ	**Birch Farm**	**19.09**	**201**	P			**P**	**16 06 49.4**	**-0.5**
MRZ	**Mangatainoka R**	**19.30**	**202**				**P**	**16 06 48.1**	**-4.1**
SNZO	**South Karori**	**20.18**	**203**	P			Pn	16 07 03.0	-0.8
TUWZ	**Tuamarina**	**20.57**	**204**	P			**P**	**16 07 00.4**	**-5.5**
KHZ	**Kahutara**	**21.57**	**204**	P			**P**	**16 07 05.0**	**+2.3**
OXZ	**Oxford**	**22.92**	**205**	P			**P**	**16 07 30.7**	**-0.4**
TBI	**Tubuai**	**23.48**	**96**	*e*S			**S**	**16 11 48.8**	**+0.3**
	comp=Z,3μm,27.0s								
TBI				*e*LR			LR	16 13 11.6	
	comp=Z,2μm,22.5s								
TBI				*e*LR			LR	16 13 16.3	
	comp=Z,1μm,29.0s								
RPZ	**Rata Peaks**	**23.63**	**206**	P			**P**	**16 07 41.9**	**+3.7**
	comp=Z,26nm,1.1s,baz=35,slow=15,SNR=3.2 comp=Z,26nm,1.1s								
FOZ	**Fox Glacier**	**24.00**	**208**	P			**P**	**16 07 43.6**	**+2.0**
PPT2	**Papeete2**	**24.44**	**82**	*e*S			**S**	**16 12 01.0**	**-3.2**
	comp=Z,979nm,25.5s								
PPT2				*e*LR			LR	16 13 31.8	
	comp=Z,546nm,21.8s								
PPT2				*e*LR			LR	16 13 42.2	
	comp=Z,482nm,22.5s								
PPT	**Papeete**	**24.45**	**82**	LR			LR	16 15 54.4	
	comp=Z,458nm,18.1s,baz=267,slow=33								
JCZ	**Jackson Bay**	**24.88**	**209**	P			**P**	**16 07 50.8**	**+1.0**
ODZ	**Otahua Downs**	**24.91**	**205**	P			**P**	**16 07 50.0**	**+0.1**
WKZ	**Wanaka**	**25.38**	**207**	P			**P**	**16 07 58.0**	**+3.7**
WKZ					IAmb		IAmb	16 08 26.3	
	comp=Z,36nm,1.0s								
WHZ	**Wether Hill Ro**	**26.69**	**207**	P			**P**	**16 08 04.3**	**-1.8**
WHZ					IAmb		IAmb	16 08 11.2	
	comp=Z,47nm,1.1s								
TARA	**Tarawa**	**26.93**	**333**	P			**P**	**16 08 05.1**	**-3.3**
TARA					IAmb		IAmb	16 08 07.1	
	comp=Z,62nm,0.9s								
HNR	**Honiara**	**27.52**	**295**	LR			LR	16 18 08.5	
	comp=Z,298nm,18.9s,baz=162,slow=35								
TATA	**Tatamba Isabel**	**28.20**	**297**	P			**P**	**16 08 21.5**	**+1.6**
XMAS	**Kiritimati**	**30.23**	**37**				**P**	**16 08 36.5**	**-1.3**
XMAS					IAmb		IAmb	16 08 44.6	
	comp=Z,36nm,1.2s								
ARMA	**Armidale**	**30.62**	**249**	P			**P**	**16 08 39.7**	**-1.6**
ARMA					IAmb		IAmb	16 08 43.9	
	comp=Z,64nm,1.8s								
ARMA	**Armidale**	**30.62**	**249**	P			**P**	**16 08 42.2**	**+0.8**
EIDS	**Eidsvold**	**30.97**	**259**				**P**	**16 08 43.2**	**-1.2**
EIDS					IAmb		IAmb	16 08 44.8	
	comp=Z,21nm,1.1s								
CMSA	**Cobar Meteorol**	**35.79**	**248**	P			**P**	**16 09 26.2**	**-0.1**
CTA	**Charters Tower**	**36.08**	**267**	LR			LR	16 23 31.2	
	comp=Z,6.3nm,18.6s,baz=91,slow=35								
CTAO	**Charters Tower**	**36.08**	**267**				**P**	**16 09 27.6**	**-1.3**
CTAO					IAmb		IAmb	16 09 29.0	
	comp=Z,25nm,0.9s								
CTAO	**Charters Tower**	**36.08**	**267**	P			**P**	**16 09 27.6**	**-1.3**
CTAO					pmax		pmax		
	comp=Z,25nm,0.9s								
TAOE	**Nuku Hiva Isla**	**36.24**	**73**	*e*LR			LR	16 19 13.6	
	comp=Z,300nm,21.9s								
TOO	**Toolangi**	**36.78**	**238**	P			**P**	**16 09 35.2**	**+0.4**
TOO	**Toolangi**	**36.78**	**238**	P			**P**	**16 09 35.2**	**+0.4**
TOO					pmax		pmax		
	comp=Z,8.0nm,1.0s								
QLP	**Quilpie**	**37.06**	**256**	P			**P**	**16 09 39.6**	**+2.4**
MTSU	**Mount Surprise**	**38.30**	**270**	P			**P**	**16 09 47.9**	**+0.1**
PMG	**Port Moresby**	**38.63**	**284**	P			**P**	**16 09 49.2**	**-1.4**
PMG	**Port Moresby**	**38.63**	**284**	LR			LR	16 24 13.5	
	comp=Z,462nm,19.3s,baz=123,slow=34								
PMG	**Port Moresby**	**38.63**	**284**	*c* *i*P			**P**	**16 09 48.6**	**-2.0**
PMG					pmax		pmax		
	comp=Z,76nm,1.0s								
STKA	**Stephens Creek**	**39.30**	**247**	P			**P**	**16 09 55.2**	**-0.8**
STKA					IAmb		IAmb	16 09 59.1	
	comp=Z,39nm,0.8s								
STKA	**Stephens Creek**	**39.30**	**247**	P			**P**	**16 09 55.3**	**-0.7**
	comp=Z,5.8nm,0.6s,baz=80,slow=7.1,SNR=10								
STKA					LR		LR	16 25 29.5	
	comp=Z,470nm,18.4s,baz=69,slow=35 comp=Z,5.8nm,0.6s								
STKA	**Stephens Creek**	**39.30**	**247**	P			**P**	**16 09 58.0**	**+2.0**
STKA	**Stephens Creek**	**39.30**	**247**	‖*e*P			**P**	**16 09 54.4**	**-1.6**
INKA	**Innaminka**	**40.09**	**254**	P			**P**	**16 10 02.5**	**-0.2**
COEN	**Coen**	**40.55**	**275**	P			**P**	**16 10 05.7**	**-0.9**
COEN					IAmb		IAmb	16 10 07.4	
	comp=Z,48nm,1.6s								
COEN	**Coen**	**40.55**	**275**	P			**P**	**16 10 10.5**	**+3.9**
HTT	**Hallett**	**41.61**	**245**	P			**P**	**16 10 14.6**	**-0.6**
BBOO	**Buckleboo**	**44.00**	**246**	P			**P**	**16 10 32.7**	**-1.8**
BBOO					IAmb		IAmb	16 11 03.6	
	comp=Z,52nm,1.6s								
AS31	**Alice Springs**	**46.70**	**259**				**P**	**16 10 54.1**	**-2.0**
ASAR	**Alice Springs**	**46.70**	**259**				**P**	**16 10 54.5**	**-1.6**
ASAR					PcP		**PcP**	**16 12 29.0**	**-0.5**
ASAR	**Alice Springs**	**46.70**	**259**	P			**P**	**16 10 55.4**	**-0.7**
	comp=Z,30nm,0.9s,baz=93,slow=8.0,SNR=129								
ASAR					S		**S**	**16 17 40.5**	**-3.4**
	comp=Z,0.7nm,0.8s,baz=100,slow=14,SNR=5.3								
ASAR					LR		LR	16 30 39.1	
	comp=Z,670nm,18.5s,baz=101,slow=36 comp=Z,30nm,0.9s								
WR8	**Warramunga Arr**	**46.90**	**264**	P			**P**	**16 10 55.2**	**-2.5**
WR8					IAmb		IAmb	16 10 56.5	
	comp=Z,15nm,0.9s								
WB0	**Warramunga Arr**	**47.04**	**264**		IAmb		IAmb	16 10 57.6	
	comp=Z,21nm,0.8s								
WRAB	**Tennant Creek**	**47.04**	**264**	P			**P**	**16 10 56.7**	**-2.1**
WRAB					IAmb		IAmb	16 10 57.6	
	comp=Z,23nm,0.9s								
WRAB	**Tennant Creek**	**47.04**	**264**	*c* *i*P			**P**	**16 10 56.3**	**-2.5**
WRAB					pmax		pmax		
	comp=Z,28nm,0.9s								
WRA	**Warramunga Arr**	**47.05**	**264**	P			**P**	**16 10 56.1**	**-2.8**
WRA					PcP		**PcP**	**16 12 31.7**	**+1.0**
WRA	**Warramunga Arr**	**47.05**	**264**	P			**P**	**16 10 56.7**	**-2.2**
	comp=Z,18nm,0.9s,baz=100,slow=7.9,SNR=76								
WRA					LR		LR	16 30 26.9	
	comp=Z,371nm,19.2s,baz=112,slow=36 comp=Z,18nm,0.9s								
KDU	**Kadu**	**50.80**	**272**	P			**P**	**16 11 28.3**	**+0.7**
KNRA	**Kununurra**	**53.29**	**267**	P			**P**	**16 11 44.9**	**-1.2**
GUMO	**Guam**	**53.54**	**309**	LR			LR	16 31 29.2	
	comp=Z,115nm,21.3s,baz=110,slow=33								
FITZ	**Fitzroy Crossi**	**55.47**	**263**	P			**P**	**16 12 01.2**	**-0.8**
SBA	**Scott Base**	**55.58**	**185**				**P**	**16 12 05.2**	**+3.4**
SBA	**Scott Base**	**55.58**	**185**	P			**P**	**16 12 05.2**	**+3.4**
SBA					pmax		pmax		
	comp=Z,9.0nm,0.9s								
VNDA	**Vanda**	**55.68**	**186**	P			**P**	**16 12 03.6**	**+1.0**
VNDA	**Vanda**	**55.68**	**186**	P			**P**	**16 12 05.8**	**+3.2**
	comp=Z,3.3nm,0.9s,baz=14,slow=4.2,SNR=18								
VNDA					LR		LR	16 30 51.6	
	comp=Z,86nm,21.6s,baz=14,slow=30 comp=Z,3.3nm,0.9s								
RPN	**Rapa Nui**	**59.03**	**109**	LR			LR	16 33 56.2	
	comp=Z,188nm,18.1s,baz=46,slow=32								
SOEI	**Soe**	**59.36**	**272**				**P**	**16 12 28.9**	**-0.7**
SOEI	**Soe**	**59.36**	**272**	P			**P**	**16 12 31.5**	**+1.8**
KLBR	**Kellerberrin**	**59.54**	**246**	P			**P**	**16 12 32.3**	**+1.8**
MEEK	**Meekatharra**	**59.75**	**252**	P			**P**	**16 12 34.0**	**+1.9**
NWAO	**Narrogin (SRO)**	**59.76**	**244**	LR			LR	16 38 04.8	
	comp=Z,215nm,18.3s,baz=138,slow=36								
BATI	**Baunata**	**59.76**	**271**	LR			LR	16 38 47.9	
	comp=Z,805nm,19.6s,baz=152,slow=37								
PSA00	**Pilbara Seismi**	**59.83**	**258**	P			**P**	**16 12 31.1**	**-1.6**
PSA00					IAmb		IAmb	16 12 31.8	
	comp=Z,19nm,1.4s								
MBWA	**Marble Bar**	**60.04**	**258**	P			**P**	**16 12 32.9**	**-1.2**
MBWA					IAmb		IAmb	16 12 37.1	
	comp=Z,23nm,0.9s								
MBWA	**Marble Bar**	**60.04**	**258**	P			**P**	**16 12 33.4**	**-0.7**
BLDU	**Ballidu**	**60.60**	**247**	P			**P**	**16 12 39.7**	**+1.9**
MORW	**Morawa**	**61.47**	**248**	P			**P**	**16 12 42.9**	**-0.9**
MORW	**Morawa**	**61.47**	**248**	P			**P**	**16 12 45.7**	**+2.0**
CASY	**Casey**	**62.91**	**206**	P			**P**	**16 12 53.9**	**+1.2**
CASY					IAmb		IAmb	16 12 55.7	
	comp=Z,18nm,1.1s								
KAPI	**Kappang**	**65.28**	**275**	LR			LR	16 41 30.3	
	comp=Z,88nm,19.8s,baz=115,slow=36								
PLAI	**Plampang**	**65.67**	**271**	P			**P**	**16 13 12.6**	**+0.9**
TOLI2	**Tolitoli**	**66.84**	**282**	P			**P**	**16 13 16.7**	**-2.5**
TOLI2					IAmb		IAmb	16 13 18.3	
	comp=Z,16nm,1.0s								
QSPA	**South Pole Qui**	**67.07**	**180**	P			**P**	**16 13 23.2**	**+3.3**
QSPA					IAmb		IAmb	16 13 32.9	
	comp=Z,12nm,0.9s								
QSPA	**South Pole Qui**	**67.07**	**180**	P			**P**	**16 13 24.1**	**+4.2**
	comp=Z,7.1nm,0.8s,baz=56,slow=1.7,SNR=23								
QSPA					LR		LR	16 37 37.8	
	comp=Z,157nm,22.0s,baz=41,slow=31 comp=Z,7.1nm,0.8s								
MJAR	**Matsushiro Arr**	**73.88**	**322**				**P**	**16 13 59.8**	**-1.9**
MJAR	**Matsushiro Arr**	**73.88**	**322**	P			**P**	**16 14 00.6**	**-1.1**
	comp=Z,4.1nm,0.8s,baz=153,slow=5.9,SNR=12 comp=Z,4.1nm,0.8s								
MAJO	**Matsushiro**	**73.88**	**322**	P			**P**	**16 13 59.7**	**-2.0**
MAJO	**Matsushiro**	**73.88**	**322**	⇑*e*P			**P**	**16 14 00.2**	**-1.5**
MAJO					pmax		pmax		
	comp=Z,26nm,1.8s								
NIKH	**Nikolski High**	**75.86**	**4**	P			**P**	**16 14 12.6**	**-0.1**
	baz=186								
SHEM	**Shemya Is, Ala**	**76.02**	**353**	LR			LR	16 42 47.2	
	comp=Z,158nm,18.9s,baz=200,slow=32								
KSM	**Kuching**	**76.50**	**277**	P			**P**	**16 14 15.7**	**-1.6**
KSM					IAmb		IAmb	16 14 17.5	
	comp=Z,12nm,1.0s								
BELA	**Belgrano 2**	**76.71**	**172**	P			**P**	**16 14 17.9**	**+0.5**
UNV	**Unalaska Valle**	**76.89**	**5**	P			**P**	**16 14 18.6**	**+0.1**
	baz=188								
TPUB	**Ta-pu**	**77.67**	**302**	P			**P**	**16 14 21.8**	**-1.8**
LPIG	**La Paz**	**78.35**	**58**	LR			LR	16 44 53.7	
	comp=Z,231nm,18.2s,baz=222,slow=32								
CHNA	**Chernabura Isl**	**78.65**	**9**	P			**P**	**16 14 28.1**	**-0.2**
	baz=194								
SDPT	**Sand Point**	**79.03**	**8**	P			**P**	**16 14 30.4**	**+0.1**
	baz=194								
PET	**Petropavlovsk**	**79.11**	**344**	⇑*e*P			**P**	**16 14 30.4**	**-0.4**
PET					pmax		pmax		
	comp=Z,43nm,1.5s								
S12K	**Black Hills**	**79.18**	**7**	P			**P**	**16 14 31.7**	**+0.5**
	baz=192								
PFO	**Pinyon Flats O**	**79.22**	**46**	LR			LR	16 45 56.6	
	comp=Z,215nm,18.2s,baz=220,slow=33								
PFO	**Pinyon Flats O**	**79.22**	**46**	‖*e*P			**P**	**16 14 33.0**	**+0.8**
BUCR	**Buckhorn Ranch**	**79.39**	**41**				**P**	**16 14 31.9**	**-1.0**
YSS	**Yuzhno-Sakhali**	**79.39**	**332**	P			**P**	**16 14 31.5**	**-1.1**
YSS	**Yuzhno-Sakhali**	**79.39**	**332**	*e*P			**P**	**16 14 33.1**	**+0.5**
YSS				*e*				16 24 39.7	
YSS					pmax		pmax		
	comp=Z,50nm,1.1s								
PEA0B	**Petropavlovsk-**	**79.43**	**344**	‖*e*P			**P**	**16 14 33.5**	**+0.9**
PETK	**Petropavlovsk-**	**79.43**	**344**	P			**P**	**16 14 31.4**	**-1.2**
PETK	**Petropavlovsk-**	**79.43**	**344**	P			**P**	**16 14 32.5**	**-0.2**
	comp=Z,10nm,0.9s,baz=135,slow=7.1,SNR=13								
PETK					LR		LR	16 43 46.8	
	comp=Z,66nm,21.2s,baz=162,slow=31 comp=Z,10nm,0.9s								
PETK	**Petropavlovsk-**	**79.43**	**344**	P			**P**	**16 14 31.4**	**-1.2**
P08K	**Saint George I**	**79.44**	**3**	P			**P**	**16 14 33.0**	**+0.5**
	baz=185								
CMB	**Columbia Colle**	**79.47**	**41**	P			**P**	**16 14 33.3**	**0.0**
CMB	**Columbia Colle**	**79.47**	**41**	P			**P**	**16 14 33.3**	**0.0**
CMB					pmax		pmax		
	comp=Z,6.0nm,1.0s								
SPIA	**Saint Paul Isl**	**79.98**	**3**	P			**P**	**16 14 36.0**	**+0.5**
	baz=184								
MPMC	**Manual Prospec**	**80.03**	**44**	IAmb			IAmb	16 15 01.0	
	comp=Z,32nm,1.9s								
N02D	**Trinity Center**	**80.06**	**37**				**P**	**16 14 36.3**	**-0.2**
N02D					IAmb		IAmb	16 14 50.4	
	comp=Z,45nm,1.7s								
S14K	**Fog Glacier**	**80.07**	**9**	P			**P**	**16 14 35.1**	**-1.0**
	baz=194								
MAW	**Mawson**	**80.13**	**199**	P			**P**	**16 14 38.8**	**+2.4**
	comp=Z,14nm,0.9s,baz=122,slow=6.3,SNR=15 comp=Z,14nm,0.9s								
CHIR	**Chirikof Islan**	**80.24**	**11**	P			**P**	**16 14 37.2**	**+0.3**
	baz=198								
CHGN	**Chignik**	**80.25**	**9**	P			**P**	**16 14 37.7**	**+0.8**
	baz=196								
KSRS	**Korea Array**	**80.61**	**317**	P			**P**	**16 14 39.6**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=136,slow=5.3,SNR=7.2 comp=Z,2.3nm,0.8s								
KSAR	**Wonju Array Be**	**80.62**	**317**	P			**P**	**16 14 37.8**	**-1.6**
KSAR	**Wonju Array Be**	**80.62**	**317**	P			**P**	**16 14 37.8**	**-1.6**
BEKR	**Beckworth**	**80.67**	**40**	P			**P**	**16 14 38.8**	**-1.2**
NVAR	**Mina Array Bea**	**80.99**	**42**	P			**P**	**16 14 41.7**	**0.0**
NVAR	**Mina Array Bea**	**80.99**	**42**	P			**P**	**16 14 42.5**	**+0.8**
	comp=Z,4.6nm,0.9s,baz=222,slow=9.3,SNR=22								
NVAR					LR		LR	16 48 36.8	
	comp=Z,239nm,18.1s,baz=270,slow=34 comp=Z,4.6nm,0.9s								
SII	**Sitkinak Islan**	**81.20**	**11**	P			**P**	**16 14 42.0**	**-0.1**
	baz=199								
TPH	**Tonopah**	**81.44**	**42**	IAmb			IAmb	16 14 48.3	
	comp=Z,43nm,1.9s								
R16K	**Pilot Point**	**81.59**	**9**	P			**P**	**16 14 44.4**	**+0.3**
	baz=196								
R17L	**Mt. Peuilik Vol**	**81.84**	**10**	P			**P**	**16 14 46.2**	**+0.7**
	baz=197								
MSHR	**Mys Shultsa**	**81.98**	**323**	‖*e*P			**P**	**16 14 46.7**	**+0.2**
MSHR					pmax		pmax		
	comp=Z,45nm,1.4s								
OHAK	**Old Harbor**	**81.99**	**12**	P			**P**	**16 14 46.4**	**+0.2**
	baz=200								
R18K	**Karluk**	**82.10**	**11**	P			**P**	**16 14 46.6**	**-0.2**
	baz=199								
TUC	**Tucson**	**82.39**	**50**	P			**P**	**16 14 48.7**	**-0.3**
TUC	**Tucson**	**82.39**	**50**	P			**P**	**16 14 48.7**	**-0.3**
TUC					pmax		pmax		
	comp=Z,6.0nm,1.1s								
PRN	**Pahroc Range**	**82.41**	**44**	IAmb			IAmb	16 14 54.0	
	comp=Z,20nm,1.4s								
J05D	**Fort Rock, OR**	**82.42**	**36**	IAmb			IAmb	16 15 08.9	
	comp=Z,21nm,1.4s								
TYV	**Tymovskoe**	**82.48**	**335**	*e*P			P	16 15 00.1	+11
TYV					pmax		pmax		
	comp=Z,23nm,1.3s								
TYV					pmax		pmax		
	comp=Z,200nm,4.9s								
Q17K	**Contact Creek**	**82.53**	**10**	P			**P**	**16 14 49.3**	**+0.2**
	baz=198								
USRK	**Ussuriysk Ar.**	**82.61**	**325**	P			**P**	**16 14 49.5**	**-0.2**
	comp=Z,25nm,0.9s,baz=154,slow=3.8,SNR=24 comp=Z,25nm,0.9s								
KDAK	**Kodiak Island**	**82.65**	**12**	LR			LR	16 44 06.5	
	comp=Z,158nm,20.1s,baz=201,slow=30								
KDAK	**Kodiak Island**	**82.65**	**12**	P			**P**	**16 14 50.0**	**+0.4**
	baz=201								
O14K	**Tigyukauivet M**	**82.75**	**7**	P			**P**	**16 14 50.3**	**+0.2**
	baz=193								
O15K	**Ungalikthiuk R**	**82.84**	**8**	P			**P**	**16 14 50.9**	**+0.2**
	baz=194								
PINE	**Pine Mountain**	**82.91**	**36**	IAmb			IAmb	16 15 04.6	
	comp=Z,26nm,1.5s								
P16K	**Nushagak River**	**82.95**	**9**	P			**P**	**16 14 51.6**	**+0.4**
	baz=196								
Q18K	**Katmai Hardscr**	**83.04**	**10**	P			**P**	**16 14 51.9**	**+0.1**
	baz=198								
WVOR	**Wild Horse Val**	**83.32**	**38**	IAmb			IAmb	16 15 13.3	
	comp=Z,13nm,1.2s								
P17K	**Kvichak River**	**83.33**	**9**	P			**P**	**16 14 53.6**	**+0.5**
	baz=197								
N14K	**Kuskokwak Cree**	**83.36**	**7**	P			**P**	**16 14 53.5**	**+0.3**
	baz=192								
M11K	**Mekoryuk**	**83.41**	**4**	P			**P**	**16 14 54.3**	**+0.8**
	baz=188								
**O16

SNAA **Sanae** 85.41 178 ⇓P P
comp=Z,143nm,0.8s
SNAA ⇑pP pwP 16 15 18.3 -1.3
SNAA Sanae 85.41 178 P P 16 15 04.4 +0.5
SNAA IAmb IAmb 16 15 06.7
comp=Z,11nm,1.0s
SNAA Sanae 85.41 178 P P 16 15 05.4 +1.6
comp=Z,9.1nm,1.0s,baz=185,slow=4.4,SNR=12
SNAA LR LR 16 50 31.4
comp=Z,367nm,19.8s,baz=236,slow=34
comp=Z,9.1nm,1.0s
SEW Seward 85.42 13 P P 16 15 04.6 +0.9
baz=204
VNA3 Neumayer Olymp 85.44 175 ⇑P P 16 15 04.9 +0.9
comp=Z,24nm,0.8s
VNA3 ⇑pP sP 16 15 16.8 +1.0
Q23K Middleton Isla 85.47 14 P P 16 15 04.8 +0.8
baz=206
PLCA Paso Flores 85.53 132 LR LR 16 46 22.4
comp=Z,134nm,19.5s,baz=244,slow=31
MFID Camas Ranch 85.54 39 IAmb IAmb 16 15 08.6
comp=Z,25nm,1.9s
BMO Blue Mountains 85.59 37 IAmb IAmb 16 15 07.8
comp=Z,23nm,2.0s
M18K Stony River 85.62 9 P P 16 15 05.9 +1.2
baz=198
K15K Wolf Creek Mou 85.69 6 P 16 15 04.5 -0.6
K15K Wolf Creek Mou 85.69 6 P P 16 15 06.0 +0.9
baz=192,SNR=6.3
VHRN Van Horn 85.82 54 IAmb IAmb 16 15 43.1
comp=Z,25nm,1.9s
L17K Donlin 85.90 8 P P 16 15 07.1 +1.0
baz=195,SNR=7.6
VNA2 Neumayer--Watz 85.91 176 ⇑P P 16 15 07.6 +1.3
comp=Z,15nm,0.9s,baz=172,slow=2.5
VNA2 ⇑pP pwP 16 15 20.5 -1.6
baz=221,slow=1.0
SPCR Spurr Chakacha 85.92 11 P P 16 15 07.0 +0.6
baz=201
J14K Nanvaranak Lak 85.96 5 P P 16 15 07.2 +0.9
baz=191
CN2 Changchun 85.99 321 P P 16 15 07.4 +0.5
CN2 pmax pmax
comp=Z,20nm,1.2s
BNX BinXian 86.08 324 ⇓P P 16 15 07.8 +0.4
BNX pmax pmax
comp=Z,39nm,1.1s
TX31 Lajitas Ar. Si 86.11 56 IAmb IAmb 16 15 33.8
comp=Z,16nm,1.4s
TXAR Lajitas Array 86.11 56 P P 16 15 06.6 -1.4
TXAR Lajitas Array 86.11 56 P P 16 15 08.8 +0.8
comp=Z,3.5nm,0.9s,baz=209,slow=7.2,SNR=19
comp=Z,3.5nm,0.9s
D08A Wollman Farm, 86.12 35 IAmb IAmb 16 15 19.5
comp=Z,26nm,1.6s
VNA1 Neumayer--Stat 86.12 176 ⇓P P 16 15 08.8 +1.5
comp=Z,20nm,0.9s
VNA1 ⇑pP pwP 16 15 21.5 -1.5
IPM Ipoh 86.19 276 P 16 15 07.7 -1.0
L18K Granite Mounta 86.20 8 IAmb IAmb 16 15 10.0
comp=Z,12nm,0.9s
L18K Granite Mounta 86.20 8 P P 16 15 08.1 +0.6
baz=197,SNR=6.5
RC01 Rabbit Creek A 86.27 12 P P 16 15 08.7 +0.7
baz=203
PWL Port Wells 86.33 13 P P 16 15 08.7 +0.4
baz=204
KAIM Kayak Island 86.36 15 P P 16 15 09.1 +0.7
baz=208
V35K Ketchikan 86.36 23 P P 16 15 09.0 +0.5
baz=219
M20K Styx River 86.41 10 P P 16 15 09.6 +0.9
baz=200
L19K White Mountain 86.42 9 P P 16 15 09.5 +0.8
baz=199
SUA Susitna One 86.43 11 P P 16 15 09.4 +0.6
baz=202
U33K Whale Pass 86.44 22 P P 16 15 09.6 +0.8
baz=218
SIT Sitka 86.46 20 P P 16 15 09.8 +0.9
baz=216
K17K Iditarod 86.47 8 IAmb IAmb 16 15 12.7
comp=Z,17nm,1.2s
K17K Iditarod 86.47 8 P P 16 15 09.8 +0.9
baz=195
GAMB Gambell 86.54 1 P P 16 15 09.7 +0.5
baz=183
EYAK Cordova Ski Ar 86.60 14 P P 16 15 10.3 +0.8
baz=207
GLI Glacier Island 86.61 13 P P 16 15 10.4 +0.7
baz=206
ALPN Alpine 86.63 55 IAmb IAmb 16 15 44.9
comp=Z,27nm,1.7s
J16K Anvik River 86.76 6 P P 16 15 10.7 +0.4
baz=193
M22K Willow 86.81 12 P P 16 15 11.3 +0.8
baz=203
KNK Knik Glacier 86.82 12 P P 16 15 11.1 +0.5
baz=204
ANMO Albuquerque 86.84 50 P P 16 15 10.8 -0.9
ANMO Albuquerque 86.84 50 LR LR 16 51 03.9
comp=Z,391nm,18.1s,baz=337,slow=34
ANMO Albuquerque 86.84 50⇑*eP* P 16 15 11.2 -0.5
ANMO pmax pmax
comp=Z,7.0nm,1.3s
PMR Palmer 86.85 12 P P 16 15 10.9 +0.2
baz=204
L20K Farewell, AK 86.85 10 P P 16 15 10.3 -0.5
baz=200
KULM Kulim 86.85 277 P P 16 15 11.1 -0.9
KULM IAmb IAmb 16 15 13.4
comp=Z,18nm,1.1s
S31K Pelican 86.91 20 P P 16 15 11.0 -0.1
baz=215
BSUT Blindstream Ca 86.94 43 IAmb IAmb 16 15 24.7
comp=Z,33nm,2.0s
WRAK Wrangell Islan 86.95 22 P P 16 15 11.4 +0.1
baz=219
MA2 Magadan 86.96 343 LR LR 16 49 14.4
comp=Z,61nm,19.4s,baz=154,slow=32
MA2 Magadan 86.96 343⇓*eP* P 16 15 11.0 -0.3
MA2 pmax pmax
comp=Z,13nm,1.2s
TIA Tai'an 87.02 311 P P 16 15 12.3 +0.1
TIA pmax pmax
comp=Z,19nm,1.1s
TIA LR LR
comp=Z,460nm,14.3s
TIA LR LR
comp=Z,710nm,13.7s
TIA LR LR
comp=Z,980nm,16.9s
J17K VABM Dome 87.03 7 IAmb IAmb 16 15 13.5
comp=Z,17nm,1.1s
J17K VABM Dome 87.03 7 P P 16 15 11.8 +0.2
baz=195,SNR=5.0
MESA MESA 87.18 16 P P 16 15 12.2 -0.5
baz=210
BMRM Bremner River 87.23 14 P 16 15 12.2 -0.6
BMRM Bremner River 87.23 14 P P 16 15 13.1 +0.3
baz=208
M23K Glacier View 87.31 13 P P 16 15 13.4 +0.4
baz=205
I17K Unalakleet 87.34 6 P P 16 15 13.2 +0.1
baz=193
J18K Innoko River 87.39 8 IAmb IAmb 16 15 15.0
comp=Z,20nm,1.1s
J18K Innoko River 87.39 8 P P 16 15 13.7 +0.3
baz=197,SNR=9.2
CRQE Cirque 87.40 15 P P 16 15 13.9 +0.2
baz=209
PNL Peninsula 87.41 17 P P 16 15 13.5 0.0
baz=212
KLU Klutina 87.41 14 P P 16 15 13.8 +0.2
baz=207
RPSI Rantau Prapat 87.42 274 P P 16 15 13.9 -0.8
SCM Sheep Creek Mo 87.42 13 P P 16 15 13.7 0.0
baz=205
PSI Prapat 87.46 274 P P 16 15 13.9 -1.2
PSI pmax pmax
comp=Z,54nm,1.3s
PPLA Purkeypile 87.51 10 P P 16 15 14.0 -0.1
baz=201
PINM Pinnacle 87.55 17 P P 16 15 14.3 0.0
baz=212
K20K Telida 87.66 9 IAmb IAmb 16 15 16.4
comp=Z,12nm,1.2s
K20K Telida 87.66 9 P P 16 15 14.0 -0.7
baz=199
R32K Eaglecrest 87.70 20 P P 16 15 15.0 +0.1
baz=217
N25K Chitina, Valde 87.80 14 IAmb IAmb 16 15 17.0
comp=Z,16nm,1.1s
N25K Chitina, Valde 87.80 14 P P 16 15 14.9 -0.6
baz=208
P29M Windy Craggy 87.84 18 P P 16 15 15.7 0.0
baz=214
CMIG Matias Romero 87.85 71 LR LR 16 45 57.2
comp=Z,123nm,19.6s,baz=184,slow=30
M24K Tolsona, Glenn 87.91 13 P P 16 15 16.4 +0.4
baz=206
H16K Elim 87.93 5 P P 16 15 16.1 +0.2
baz=192
MCARA McCarthy VSAT 87.97 15 P P 16 15 16.4 +0.2
baz=209
CTG Chitna Glacier 88.01 16 P P 16 15 16.6 0.0
baz=211
WAT6 Susitna Watana 88.02 12 P P 16 15 16.5 -0.1
baz=205,SNR=5.8
J19K Poorman 88.04 8 IAmb IAmb 16 15 18.2
comp=Z,9.7nm,1.2s
J19K Poorman 88.04 8 P P 16 15 16.5 +0.1
baz=198
PLBC Pleasant Camp 88.09 19 P P 16 15 17.0 +0.2
baz=215
WAT1 Susitna Watana 88.09 12 P P 16 15 16.8 0.0
baz=204
T35M Bob Quinn 88.12 23 P P 16 15 17.1 +0.1
baz=220
GSI Gunungsitoli 88.12 272 P 16 15 17.3 -0.8
G15K Niukluk 88.14 5 P P 16 15 16.8 0.0
baz=190
O28M Mount Upton 88.14 16 P P 16 15 17.2 -0.2
baz=212
O29M Mount Kennedy 88.17 17 P P 16 15 16.6 -0.8
baz=213
TRF Thorofare Moun 88.35 11 P P 16 15 18.0 -0.1
baz=203,SNR=6.0
HARP HAARP 88.39 13 P P 16 15 18.4 +0.2
baz=207
CHUM Lake Minchumin 88.42 10 P P 16 15 18.2 0.0
baz=201
J20K Nowinta River 88.42 9 IAmb IAmb 16 15 19.6
comp=Z,17nm,1.2s
J20K Nowinta River 88.42 9 P P 16 15 18.9 +0.7
baz=199,SNR=7.4
H17K Granite Mounta 88.44 6 P P 16 15 18.8 +0.5
baz=194
F14K Arctic Creek 88.46 4 P P 16 15 18.7 +0.4
baz=188
TNA Tin City 88.46 3 P P 16 15 18.7 +0.4
baz=187
P30M Million Dollar 88.47 18 P P 16 15 19.0 +0.3
baz=215
DHY Denali Highway 88.54 12 P P 16 15 19.5 +0.4
baz=205
GCSA Galena City Sc 88.60 8 P P 16 15 19.8 +0.8
baz=197
G16K Koyuk River 88.66 5 P P 16 15 20.1 +0.7
baz=192
YUK8 Steele Glacier 88.68 16 P P 16 15 20.2 +0.3
baz=212
YUK6 Outpost Mounta 88.77 17 P P 16 15 20.2 0.0
baz=213
F15K North Star Dit 88.80 4 P P 16 15 20.6 +0.6
baz=190
H18K Honhosa River 88.82 7 P P 16 15 20.4 +0.3
baz=195
PAX Paxson 88.83 13 P P 16 15 20.7 +0.4
baz=207
BPAW Bear Paw Mtn. 88.84 10 P P 16 15 20.4 +0.1
baz=202
MCK McKinley 88.85 11 P 16 15 18.5 -1.8
MCK McKinley 88.85 11 P P 16 15 18.5 -1.8
MCK pmax pmax
comp=Z,75nm,2.0s
MCK McKinley 88.85 11 P P 16 15 20.5 +0.2
baz=204
M26K Nabesna, AK 88.87 14 IAmb IAmb 16 15 22.3
comp=Z,11nm,1.1s
M26K Nabesna, AK 88.87 14 P P 16 15 20.7 +0.3
baz=209
HYT Haines Junctio 88.90 17 P P 16 15 20.8 0.0
baz=214
HEH HeiHe 88.91 327 *eP* P 16 15 21.1 +0.2
HEH pmax pmax
comp=Z,13nm,1.4s
PD31 Pinedale Array 88.92 42 P P 16 15 20.0 -1.5
PDAR Pinedale Array 88.92 42 P P 16 15 21.0 -0.4
comp=Z,1.3nm,0.9s,baz=188,slow=3.0,SNR=10
PDAR LR LR 16 54 05.7
comp=Z,138nm,18.0s,baz=242,slow=35
comp=Z,1.3nm,0.9s
G17K Kiwalik Mounta 88.92 6 P P 16 15 21.2 +0.6
baz=193
I20K Naaghedeneel 88.96 9 P P 16 15 20.7 0.0
baz=199
Q32M Nakina River 88.96 21 P P 16 15 21.9 +0.7
baz=219
P32M Atlin 89.00 20 P P 16 15 21.9 +0.8
baz=218
YUK4 Talbot Arm 89.03 17 P P 16 15 22.0 +0.5
baz=213
M27K Edge Creek, AK 89.09 15 P P 16 15 21.8 +0.1
baz=210,SNR=9.0
YHL Hebgen Lake 89.09 40 IAmb IAmb 16 15 26.8
comp=Z,24nm,1.8s
O30N Mendenhall 89.25 18 P P 16 15 22.0 -0.3
O30N IAmb IAmb 16 15 25.8
comp=Z,28nm,1.6s
O30N Mendenhall 89.25 18 P P 16 15 22.5 +0.2
baz=215
BOZ Bozeman (W) 89.25 39 IAmb IAmb 16 15 34.7
comp=Z,25nm,1.9s
HNS HongShan 89.29 311 ⇓P P 16 15 24.3 +1.4
HNS pmax pmax
comp=Z,14nm,0.8s
DLBC Dease Lake 89.31 22 P P 16 15 22.8 +0.2
baz=221
L26K Log Cabin Wild 89.33 14 IAmb IAmb 16 15 24.4
comp=Z,13nm,1.2s
L26K Log Cabin Wild 89.33 14 P P 16 15 22.8 +0.2
baz=209
H19K Roundabout Mou 89.40 8 IAmb IAmb 16 15 24.5
comp=Z,13nm,1.1s
H19K Roundabout Mou 89.40 8 P P 16 15 23.0 +0.2
baz=197
SEY Seymchan 89.47 346 ⇓*iP* P 16 15 23.6 +0.4
SEY pmax pmax
comp=Z,27nm,1.1s
LYN LuoYang 89.49 308 P P 16 15 25.0 +1.0
LYN pmax pmax
comp=Z,39nm,0.8s
LYN LR LR
comp=Z,530nm,11.0s
LYN LR LR
comp=Z,710nm,16.1s
LYN LR LR
comp=Z,760nm,15.8s
G18K Tagagawik 89.51 7 IAmb IAmb 16 15 24.4
comp=Z,8.7nm,1.1s
G18K Tagagawik 89.51 7 P P 16 15 23.6 +0.2
baz=195
WHY Whitehorse 89.51 19 P P 16 15 24.2 +0.6
baz=216
K24K Donnelly Dome 89.52 13 P P 16 15 23.8 +0.3
baz=207
N30M Aishikik Lake 89.54 17 P P 16 15 23.6 0.0
baz=214
H20K Anotleneega Mo 89.57 8 P P 16 15 23.8 +0.1
baz=198
NEA2 Nenana 89.62 11 P P 16 15 24.7 +0.8
baz=204
BJI Beijing 89.63 314 P P 16 15 25.3 +0.8
RIDG Independent Ri 89.65 13 P P 16 15 24.6 +0.5
baz=208
I21K Tanana 89.69 10 P P 16 15 24.3 +0.2
baz=201
L27K Beaver Creek, 89.71 14 IAmb IAmb 16 15 26.1
comp=Z,10nm,1.2s
L27K Beaver Creek, 89.71 14 P P 16 15 24.9 +0.6
baz=210
BCAR Beaver Creek A 89.72 14 P P 16 15 23.3 -1.2
R33M Jennings River 89.72 21 P 16 15 24.4 -0.2
R33M Jennings River 89.72 21 P P 16 15 24.8 +0.2
baz=220,SNR=6.2
DOT Dot Lake 89.73 13 IAmb IAmb 16 15 25.9
comp=Z,13nm,1.1s
ENH Enshi 89.74 303 P P 16 15 24.9 -0.4
MLY Manley 89.74 10 P P 16 15 24.8 +0.3
baz=202
P33M Teslin, Yukon 89.77 20 P P 16 15 24.6 -0.2
baz=218
F17K Baldwin Pennin 89.79 5 P P 16 15 24.7 +0.2
baz=193
HDA Harding Lake 89.83 12 IAmb IAmb 16 15 25.9
comp=Z,11nm,1.0s
HDA Harding Lake 89.83 12 P P 16 15 25.3 +0.4
baz=206,SNR=6.0
YNE Yellowstone No 89.88 40 P P 16 15 25.4 -0.5
YNE IAmb IAmb 16 15 30.3
comp=Z,23nm,1.9s
CCB Clear Creek Bu 89.89 11 IAmb IAmb 16 15 26.0
comp=Z,23nm,1.4s
G19K Purcell Mounta 89.92 7 IAmb IAmb 16 15 26.8
comp=Z,14nm,1.1s
G19K Purcell Mounta 89.92 7 P P 16 15 25.1 -0.1
baz=196
N31M Braeburn, Yuko 89.92 18 P P 16 15 25.8 +0.4
baz=216
M29M Somme Creek 90.00 16 IAmb IAmb 16 15 27.6
comp=Z,9.6nm,1.1s
M29M Somme Creek 90.00 16 P P 16 15 25.8 0.0
baz=213
H21K Melozitna Rive 90.01 9 IAmb IAmb 16 16 58.1
comp=Z,18nm,1.7s
H21K Melozitna Rive 90.01 9 P P 16 15 26.2 +0.5
baz=200
SCRK Sand Creek 90.04 13 P P 16 15 23.8 -2.2
SCRK IAmb IAmb 16 15 27.6
comp=Z,8.4nm,1.1s
SCRK Sand Creek 90.04 13 P P 16 15 25.7 -0.2
baz=208
COLA College 90.09 11⇑*eP* P 16 15 25.7 -0.3
COLA pmax pmax
comp=Z,19nm,1.3s
COLA College 90.09 11 P P 16 15 26.1 +0.1
baz=205
F18K Selawik 90.09 6 P P 16 15 26.2 +0.2
baz=194
IL31 90.17 12 IAmb IAmb 16 15 28.0
comp=Z,15nm,1.3s
ILAR Eielson Array 90.17 12 P P 16 15 24.7 -1.7
ILAR Eielson Array 90.17 12 P P 16 15 26.1 -0.4
comp=Z,5.5nm,1.1s,baz=220,slow=5.1,SNR=23
comp=Z,5.5nm,1.1s
IMAR Indian Mountai 90.19 9 P P 16 15 25.8 -0.7
GYA Guiyang 90.30 299 ⇓P P 16 15 29.3 +1.2
GYA pmax pmax
comp=Z,15nm,1.3s
J25K Salcha River, 90.32 12 IAmb IAmb 16 15 28.5
comp=Z,16nm,1.1s
J25K Salcha River, 90.32 12 P P 16 15 27.4 +0.1
baz=207,SNR=11
E17K Hotham Inlet 90.37 5 P P 16 15 27.3 0.0
baz=192
POKR Poker Plat Res 90.39 11 P P 16 15 27.1 -0.3
baz=205
N32M Quiet Lake 90.43 19 P P 16 15 28.0 +0.2
baz=218
H22K Ishtalitna Cre 90.45 9 P P 16 15 28.0 +0.2
baz=202
K27K Chicken 90.49 14 IAmb IAmb 16 15 30.1
comp=Z,9.8nm,1.1s
K27K Chicken 90.49 14 P P 16 15 28.2 +0.3
baz=210
F19K Shaleruckik Mo 90.51 7 P P 16 15 26.9 -1.0
F19K IAmb IAmb 16 15 29.1
comp=Z,13nm,1.0s
F19K Shaleruckik Mo 90.51 7 P P 16 15 28.2 +0.3
baz=196
M30M Minto, Yukon 90.54 17 IAmb IAmb 16 15 40.2
comp=Z,11nm,1.2s
M30M Minto, Yukon 90.54 17 P P 16 15 28.5 +0.2
baz=215,SNR=5.0
J26L Joseph Creek 90.59 13 P P 16 15 28.8 +0.3
baz=209,SNR=18
L29M L29M 90.64 16 P P 16 15 29.2 +0.5
baz=214,SNR=13
G21K Allakaket 90.72 8 IAmb IAmb 16 15 47.0
comp=Z,12nm,1.3s
G21K Allakaket 90.72 8 P P 16 15 28.9 -0.1
baz=200
E18K Tukpahlearik C 90.80 6 P 16 15 27.9 -1.4
E18K IAmb IAmb 16 15 31.3
comp=Z,13nm,0.9s
E18K Tukpahlearik C 90.80 6 P P 16 15 29.8 +0.5
baz=193
D17K Noatak River 90.88 5 P P 16 15 29.6 0.0
baz=191
M31M Drury Creek, Y 90.89 18 P P 16 15 30.0 +0.1
baz=217
F20K Avaraart Lake 90.95 7 IAmb IAmb 16 15 31.5
comp=Z,12nm,1.1s
F20K Avaraart Lake 90.95 7 P P 16 15 30.7 +0.7
baz=198
H24K Noodor Dome 90.96 11 P P 16 15 30.7 +0.5
baz=205
WTLY Watson Lake, Y 90.99 21 P P 16 15 30.9 +0.5
baz=222
DAWY Dawson 91.14 15 IAmb IAmb 16 15 32.9
comp=Z,15nm,1.1s
DAWY Dawson 91.14 15 P P 16 15 31.2 +0.2
baz=212,SNR=5.9
E19K Redstone River 91.17 7 P P 16 15 31.5 +0.4
baz=196
ZEA Zeya 91.18 330 *eP* P 16 15 32.2 +0.8
RDOG Red Dog Mine 91.24 5 P P 16 15 31.7 +0.3
baz=191
C16K Lisburne Hills 91.30 4 P P 16 15 31.8 +0.2
baz=189
TOAD Toad River Com 91.31 23 P P 16 15 32.4 +0.5
baz=225,SNR=6.2
EGAK Eagle 91.34 14 IAmb IAmb 16 15 33.5
comp=Z,18nm,1.2s
EGAK Eagle 91.34 14 P P 16 15 32.8 +0.9
baz=211,SNR=6.0
G22K Bettles 91.39 9 P P 16 15 32.2 +0.1
baz=202
F21K Alatna River 91.40 8 P P 16 15 32.6 +0.4
baz=200
K29M Barlow Dome 91.40 16 P P 16 15 32.6 +0.2
baz=214,SNR=13
G23K Bananza Creek 91.41 10 IAmb IAmb 16 15 33.8
comp=Z,8.3nm,1.2s
G23K Bananza Creek 91.41 10 P P 16 15 32.3 +0.1
baz=203
C17K DeLong Mountai 91.64 4 P P 16 15 32.9 -0.3
baz=191
XLT XiLinHaoTe 91.66 318 *eP* P 16 15 33.8 -0.2
XLT pmax pmax
comp=Z,10.0nm,1.2s
XLT pmax pmax
comp=Z,160nm,4.5s
H25L Birch Creek 91.72 11 P P 16 15 34.1 +0.5
baz=207
J29N Klondike Camp 91.74 15 P P 16 15 34.0 +0.1
baz=214
G24K Hadweenzic Riv 91.82 11 P P 16 15 34.4 +0.3
baz=205
BILL Bilibino 91.83 353 ⇓*eP* P 16 15 34.6 +0.5
BILL pmax pmax
comp=Z,9.0nm,0.9s
F22K John River 91.84 9 P P 16 15 34.5 +0.3
baz=201
XAN Xi'an 91.86 306 ⇑P P 16 15 36.3 +1.2
XAN sP pP 16 15 40.8 -3.1
XAN pmax pmax
comp=Z,45nm,1.4s
XAN pmax pmax
comp=Z,490nm,4.3s
COLD Coldfoot 91.86 9 P P 16 15 34.5 +0.2
baz=203
C18K Utukok River 91.95 5 P P 16 15 35.1 +0.3
baz=193
I27K Kandik River 91.96 13 P P 16 15 35.3 +0.5
baz=210
E20K Nigu River 92.06 7 P P 16 15 35.6 +0.4
baz=197
D19K Kuna River 92.08 6 P P 16 15 35.7 +0.4
baz=196
G25K Bearman Lake 92.11 11 P P 16 15 35.8 +0.4
baz=206
MMPY Sheldon Lake, 92.12 19 P P 16 15 35.8 +0.2

	baz=220							
I28M	**Miner Creek**	**92.19**	**14**	IAmb	IAmb	16 16 01.3		
	comp=Z,11nm,1.3s							
I28M	**Miner Creek**	**92.19**	**14**	P	**P**	**16 15 36.4**	**+0.4**	
	baz=212							
J30M	**Hart River**	**92.30**	**16**	P	**P**	**16 15 37.0**	**+0.5**	
	baz=215							
D20K	**Ettviuk River**	**92.45**	**7**	P	**P**	**16 15 37.4**	**+0.4**	
	baz=197							
E22K	**Anaktuvuk Pass**	**92.48**	**8**	IAmb	IAmb	16 15 39.4		
	comp=Z,13nm,1.2s							
E22K	**Anaktuvuk Pass**	**92.48**	**8**	P	**P**	**16 15 37.5**	**+0.4**	
	baz=201							
I29M	**Ogilvie Camp,**	**92.48**	**15**	P	**P**	**16 15 37.8**	**+0.7**	
	baz=214							
E21K	**Killik River**	**92.49**	**8**	P	**P**	**16 15 37.6**	**+0.4**	
	baz=199							
F24K	**Squaw Lake**	**92.49**	**10**	P	**P**	**16 15 37.7**	**+0.5**	
	baz=205							
H27K	**Steamboat Moun**	**92.52**	**13**	P	**P**	**16 15 36.7**	**-0.7**	
	baz=211							
C19K	**Lookout Ridge**	**92.54**	**5**	P	**P**	**16 15 37.5**	**+0.1**	
	baz=194							
B18K	**Kokolik River**	**92.61**	**5**	P	**P**	**16 15 38.2**	**+0.5**	
	baz=192							
G26K	**Porcupine Rive**	**92.70**	**12**	IAmb	IAmb	16 15 40.7		
	comp=Z,18nm,1.4s							
G26K	**Porcupine Rive**	**92.70**	**12**	P	**P**	**16 15 38.7**	**+0.6**	
	baz=209							
E23K	**Chandalar**	**92.72**	**9**	P	**P**	**16 15 38.2**	**-0.1**	
	baz=203							
I30M	**Mount Dempster**	**92.82**	**15**	IAmb	IAmb	16 15 40.4		
	comp=Z,10nm,1.1s							
I30M	**Mount Dempster**	**92.82**	**15**	P	**P**	**16 15 39.2**	**+0.3**	
	baz=215,SNR=6.0							
E24K	**Your Creek**	**92.91**	**10**	P	**P**	**16 15 39.5**	**+0.4**	
	baz=204							
F25K	**Christian Rive**	**92.94**	**11**	P	**P**	**16 15 39.5**	**+0.2**	
	baz=207							
KMI	**Kunming**	**92.95**	**296**	P	**P**	**16 15 42.4**	**+1.8**	
KMI				pmax	pmax			
	comp=Z,14nm,0.9s							
KMI				LR	LR			
	comp=Z,270nm,14.8s							
KMI				LR	LR			
	comp=Z,250nm,14.9s							
KMI				LR	LR			
	comp=Z,350nm,15.2s							
BMAR	**Burnt Mountain**	**92.98**	**11**	P	**P**	**16 15 39.1**	**-0.3**	
G27K	**Doyon Strip**	**92.99**	**13**	IAmb	IAmb	16 16 28.4		
	comp=Z,13nm,1.8s							
G27K	**Doyon Strip**	**92.99**	**13**	P	**P**	**16 15 39.8**	**+0.3**	
	baz=210							
D22K	**Ayikyak River**	**93.06**	**8**	P	**P**	**16 15 40.4**	**+0.6**	
	baz=201							
C21K	**Knifeblade Rid**	**93.07**	**7**	P	**P**	**16 15 40.6**	**+0.8**	
	baz=199							
HHC	**Hu-ho-hao-te**	**93.09**	**313**	*e*P	**P**	**16 15 41.0**	**+0.3**	
HHC				pmax	pmax			
	comp=Z,19nm,0.8s							
HHC				pmax	pmax			
	comp=Z,200nm,4.1s							
HHC				LR	LR			
	comp=Z,240nm,14.5s							
HHC				LR	LR			
	comp=Z,320nm,14.2s							
HHC				LR	LR			
	comp=Z,430nm,14.5s							
H29M	**Whitestone**	**93.19**	**14**	P	**P**	**16 15 41.1**	**+0.7**	
	baz=214							
TOLK	**Toolik Lake Re**	**93.27**	**9**	P	**P**	**16 15 41.4**	**+0.6**	
	baz=203							
ATAH	**Atahualpa**	**93.29**	**99**	LR	LR	16 50 26.5		
	comp=Z,207nm,18.4s,baz=254,slow=31							
F26K	**Sheenjek River**	**93.29**	**11**	P	**P**	**16 15 41.6**	**+0.7**	
	baz=208							
D23K	**Nanushuk River**	**93.41**	**9**	P	**P**	**16 15 42.0**	**+0.6**	
	baz=202							
E25K	**Arctic Village**	**93.42**	**11**	P	**P**	**16 15 42.1**	**+0.6**	
	baz=207							
A19K	**Wainwright**	**93.49**	**5**	P	**P**	**16 15 41.9**	**+0.3**	
	baz=193							
B21K	**Ikpikpuk River**	**93.53**	**7**	P	**P**	**16 15 42.6**	**+0.7**	
	baz=199							
CMAR	**Chiang Mai Arr**	**93.56**	**288**	P	**P**	**16 15 44.0**	**+0.7**	
CMAR	**Chiang Mai Arr**	**93.56**	**288**	P	**P**	**16 15 44.4**	**+1.1**	
	comp=Z,12nm,1.1s,baz=121,slow=3.0,SNR=60							
	comp=Z,12nm,1.1s							
CMAR	**Chiang Mai Arr**	**93.56**	**288**	P	**P**	**16 15 44.0**	**+0.7**	
B20K	**Meade River**	**93.64**	**6**	P	**P**	**16 15 42.8**	**+0.4**	
	baz=196							
EPYK	**Eagle Plains**	**93.69**	**14**	P	**P**	**16 15 43.2**	**+0.5**	
	baz=215							
CHTO	**Chiang Mai**	**93.70**	**289**	P	**P**	**16 15 44.6**	**+0.7**	
CHTO	**Chiang Mai**	**93.70**	**289**	P	**P**	**16 15 44.6**	**+0.7**	
CHTO				pmax	pmax			
	comp=Z,21nm,1.3s							
H31M	**Peel River**	**93.80**	**16**	P	**P**	**16 15 43.3**	**+0.1**	
	baz=217							
G29M	**Pine Creek**	**93.84**	**14**	P	**P**	**16 15 43.9**	**+0.5**	
	baz=214							
D24K	**Happy Valley**	**93.84**	**9**	P	**P**	**16 15 43.3**	**0.0**	
	baz=204							
JTS	**Las Juntas de**	**94.01**	**81**	LR	LR	16 51 08.8		
	comp=Z,43nm,18.5s,baz=174,slow=31							
JTS	**Las Juntas de**	**94.01**	**81**⇑	*e*P	**P**	**16 15 47.2**	**+1.8**	
JTS				pmax	pmax			
	comp=Z,16nm,1.3s							
F28M	**Old Crow**	**94.04**	**13**	P	**P**	**16 15 44.5**	**+0.1**	
	baz=212							
E27K	**Coleen River**	**94.20**	**12**	P	**P**	**16 15 44.8**	**-0.2**	
	baz=211							
C23K	**Itkillik River**	**94.23**	**8**	P	**P**	**16 15 45.3**	**+0.2**	
	baz=202							
G30M	**tAoh Zraii Nji**	**94.30**	**14**	P	**P**	**16 15 45.8**	**+0.2**	
	baz=215							
PZH	**PanZhiHua**	**94.33**	**297**	P	**P**	**16 15 47.8**	**+1.0**	
B22K	**Teshekpuk Lake**	**94.35**	**7**	P	**P**	**16 15 46.1**	**+0.5**	
	baz=200							
D25K	**Kavik River**	**94.37**	**10**	P	**P**	**16 15 46.3**	**+0.4**	
	baz=206							
C24K	**Franklin Bluff**	**94.38**	**9**	P	**P**	**16 15 46.7**	**+0.9**	
	baz=204							
CD2	**Chengdu**	**94.47**	**302**	*e*P	**P**	**16 15 47.0**	**-0.2**	
G31M	**Satah River**	**94.71**	**15**	P	**P**	**16 15 47.5**	**+0.2**	
	baz=217							
A22K	**Sinclair Lake**	**94.81**	**6**	P	**P**	**16 15 48.3**	**+0.6**	
	baz=198							
F30M	**Barrier River**	**94.92**	**14**	P	**P**	**16 15 48.7**	**+0.3**	
	baz=216							
E28M	**Babbage River**	**94.95**	**12**	P	**P**	**16 15 49.1**	**+0.6**	
	baz=212							
A21K	**Barrow**	**94.95**	**6**	P	**P**	**16 15 49.4**	**+1.0**	
	baz=197							
C27K	**Jago River**	**95.08**	**11**	P	**P**	**16 15 49.8**	**+0.8**	
	baz=209							
E29M	**Blow River**	**95.10**	**13**	P	**P**	**16 15 49.2**	**0.0**	
	baz=214							
C26K	**Camden Bay**	**95.14**	**10**	P	**P**	**16 15 49.8**	**+0.5**	
	baz=208							
D27M	**Malcolm River**	**95.23**	**12**	P	**P**	**16 15 50.4**	**+0.6**	
	baz=211							
F31M	**Tsiigehtchic**	**95.25**	**15**	P	**P**	**16 15 50.0**	**+0.3**	
	baz=218							
YAK	**Yakutsk**	**95.49**	**337**	LR	LR	16 56 15.6		
	comp=Z,79nm,18.3s,baz=158,slow=34							
YAK	**Yakutsk**	**95.49**	**337**	*e*P	**P**	**16 15 49.5**	**-1.5**	
YAK				pmax	pmax			
	comp=Z,10.0nm,1.2s							
YAK				pmax	pmax			
	comp=N,4.0nm,1.3s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.5s							
INK	**Inuvik**	**95.99**	**14**	LR	LR	16 59 14.3		
	comp=E,84nm,18.1s,baz=244,slow=36							
INK	**Inuvik**	**95.99**	**14**	P	**P**	**16 15 54.0**	**+0.9**	
	baz=218							
TNCH	**TengChong**	**96.44**	**294**	*e*P	**P**	**16 15 57.5**	**+1.0**	
TNCH				pmax	pmax			
	comp=E,14nm,0.9s							
YKA	**Yellowknife Ar**	**97.65**	**24**	LR	LR	16 56 00.8		
	comp=E,74nm,18.1s,baz=269,slow=33							
LPAZ	**La Paz**	**98.54**	**112**	LR	LR	16 56 19.6		
	comp=E,35nm,18.2s,baz=262,slow=33							
C36M	**Paulatuk**	**99.06**	**16**	P	**Pdif**	**16 16 07.0**	**0.0**	
	baz=226							
ULN	**Ulaanbaatar**	**99.08**	**318**⇓	*e*P	**Pdif**	**16 16 08.6**	**+0.8**	
ULN				pmax	pmax			
	comp=Z,7.0nm,1.5s							
A36M	**Sachs Harbour**	**100.62**	**14**	P	**Pdif**	**16 16 14.7**	**+0.8**	
	baz=226							
WMQ	**Urumqi**	**110.67**	**310**	PKP	**PKiKP**	**16 20 55.3**	**-4.1**	
WMQ				AMB	AMB			
	comp=Z,200nm,4.1s							
WMQ				LR	LR			
	comp=Z,190nm,12.9s							
WMQ				LR	LR			
	comp=Z,490nm,13.7s							
WMQ				LR	LR			
	comp=Z,160nm,24.1s							
ZALV	**Zalesovo Beam**	**114.19**	**320**	PKiKP	PKPdf	16 21 04.3	-1.4	
	comp=Z,0.6nm,0.6s,baz=90,slow=1.5,SNR=3.5							
MKAR	**Makanchi Array**	**114.94**	**312**	PKiKP	PKPdf	16 21 06.6	-0.9	
	comp=Z,0.6nm,0.6s,baz=77,slow=2.1,SNR=3.8							
KURK	**Kurchatov**	**117.72**	**316**	PKiKP	**PKPdf**	**16 21 11.8**	**-0.8**	
KURBB	**Kurchatov Arra**	**117.77**	**316**	PKP	**PKPdf**	**16 21 11.8**	**-0.9**	
	comp=Z,1.1nm,0.7s,baz=99,slow=2.0,SNR=6.1							
AAK	**Ala-Archa**	**120.03**	**307**⇓	*i*PKiKP	**PKPdf**	**16 21 17.2**	**-0.4**	
BVAR	**Borovoye Array**	**122.79**	**319**	PKP	**PKPdf**	**16 21 22.1**	**-0.3**	
	comp=Z,2.0nm,0.8s,baz=60,slow=3.6,SNR=9.1							
GAR	**Garm**	**122.91**	**302**		**PKPdf**	**16 21 21.1**	**-2.0**	
KKAR	**Karatay Array**	**122.98**	**307**		**PKPdf**	**16 21 21.7**	**-1.3**	
KKAR	**Karatay Array**	**122.98**	**307**	PKiKP	**PKPdf**	**16 21 21.7**	**-1.3**	
ARTI	**Arti**	**128.95**	**325**	*i* PKiKP	**PKiKP**	**16 21 34.7**	**0.0**	
ARTI						16 23 39.2		
ARTI						16 28 45.7		
ARTI				SP	SP	16 33 41.9	-3.7	
ARCES	**ARCESS Array B**	**131.87**	**350**	PKP	**PKPdf**	**16 21 39.2**	**0.0**	
	comp=Z,1.1nm,0.7s,baz=16,slow=2.5,SNR=4.2							
KLMR	**Klimovskoe**	**135.28**	**337**	*e*PKiKP	**PKPdf**	**16 21 45.4**	**-0.4**	
KLMR				pmax	pmax			
	comp=Z,16nm,1.8s							
BELG	**Belogornoye**	**136.27**	**323**	*de*PKiKP	**PKPdf**	**16 21 47.6**	**-0.2**	
FINES	**FINESS Array B**	**138.94**	**345**	PKhKP	PKPpre	16 21 46.3		
	comp=Z,2.2nm,0.9s,baz=22,slow=27,SNR=3.0							
FINES				PKP	**PKiKP**	**16 21 54.2**	**-0.5**	
	comp=Z,3.8nm,1.0s,baz=48,slow=2.8,SNR=3.3							
OBN	**Obninsk**	**140.28**	**332**	*e*PKiKP	**PKPdf**	**16 21 54.8**	**-0.3**	
OBN				*e*		16 24 49.1		
OBN				*e*PPP	PPP	16 27 57.6		
OBN				pmax	pmax			
	comp=Z,3.0nm,0.9s							
VSU	**Vasula**	**141.31**	**342**⇑	*i*PKiKP	**PKiKP**	**16 22 01.7**	**+2.0**	
HFS	**Hagfors**	**142.41**	**353**	PKhKP	PKPpre	16 21 54.3		
	comp=Z,1.2nm,0.5s,baz=79,slow=9.2,SNR=4.7							
KBZ	**Khabaz**	**142.63**	**313**⇓	*e*PKiKP	**PKPdf**	**16 22 00.5**	**+0.8**	
KIV	**Kislovodsk**	**142.69**	**313**	*i* PKiKP	**PKPdf**	**16 21 57.1**	**-2.9**	
KIV				pmax	pmax			
	comp=Z,5.0nm,1.1s							
SHA1	**Shidzhatmaz**	**142.79**	**313**	*ce*PKiKP	**PKPdf**	**16 21 58.9**	**-1.5**	
NACGM	**Naroch**	**144.24**	**338**	*e*PKP	**PKPdf**	**16 22 01.6**	**-0.6**	
	comp=Z,11nm,1.0s,baz=36							
VSLR	**Vesyoloye**	**144.66**	**314**⇓	*e*PKiKP	**PKPab**	**16 22 01.3**	**-0.8**	
LODK	**Lodwar**	**144.74**	**241**		**PKPab**	**16 22 01.7**	**-1.6**	
GURO	**Guroymak-BITLI**	**144.88**	**305**		**PKPab**	**16 22 01.9**	**-1.3**	
ANN	**Anapa**	**145.75**	**317**	*i* PKiKP	**PKPdf**	**16 22 05.2**	**+0.1**	
ANN				pmax	pmax			
	comp=Z,76nm,1.2s							
SUW	**Suwalki**	**146.14**	**341**	*e*PKP	**PKPab**	**16 22 07.0**	**-0.1**	
MARD	**Mardin**	**146.15**	**303**		**PKPdf**	**16 22 03.8**	**-2.5**	
AKASG	**Malin Array Be**	**146.54**	**332**	PKPbc	**PKPdf**	**16 22 06.6**	**+0.3**	
	comp=Z,16nm,0.8s,baz=42,slow=4.0,SNR=39							
AKBB	**Malin Array Si**	**146.54**	**332**		**PKPdf**	**16 22 04.2**	**-2.1**	
AKBB	**Malin Array Si**	**146.54**	**332**	*de*PKiKP	**PKPdf**	**16 22 06.1**	**-0.2**	
KIEV	**Kiev**	**146.56**	**332**		**PKPdf**	**16 22 04.3**	**-2.0**	
KIEV	**Kiev**	**146.56**	**332**	⇓P	**PKPbc**	**16 22 07.6**	**-0.2**	
KIEV	**Kiev**	**146.56**	**332**	⇓PKP2	**PKPbc**	**16 22 07.6**	**-0.2**	
IDGL	**Inch Island, C**	**146.65**	**13**	PKP	**PKPdf**	**16 22 07.1**	**+0.8**	
EKA	**Eskdalemuir Ar**	**147.16**	**9**	PKPbc	**PKPbc**	**16 22 08.9**	**-0.5**	
	comp=Z,5.2nm,0.9s,baz=317,slow=2.7,SNR=11							
SIM	**Simferopol'**	**147.70**	**320**	*e*PKP2	**PKiKP**	**16 22 12.8**	**-0.5**	
SIM				pmax	pmax			
	comp=Z,35nm,0.9s							
SIM				pmax	pmax			
	comp=Z,15nm,0.9s							
IGLA	**Glengowla, Co**	**147.74**	**16**	PKP	**PKPbc**	**16 22 10.9**	**-0.1**	
ILTH	**Belurgan, Co L**	**147.87**	**13**	PKP	**PKPbc**	**16 22 11.5**	**+0.1**	
DSB	**Dublin**	**148.60**	**13**	PKP	**PKPdf**	**16 22 09.5**	**-0.2**	
BEL	**Belsk**	**148.76**	**341**	*e*PKP	**PKPbc**	**16 22 14.4**	**+0.7**	
SORM	**Soroca**	**148.79**	**329**	⇓P	**PKPbc**	**16 22 13.7**	**-0.3**	
SORM	**Soroca**	**148.79**	**329**	⇓PKP2	**PKPbc**	**16 22 13.7**	**-0.3**	
GAZ	**Gaziantep**	**148.93**	**304**		**PKPdf**	**16 22 11.9**	**+1.1**	
IWEX	**Carrickbyrne,**	**149.33**	**14**	PKP	**PKPbc**	**16 22 14.8**	**-0.4**	
OJC	**Ojcow**	**150.47**	**341**	*e*PKP	**PKPbc**	**16 22 18.4**	**+0.3**	
BR131	**Keskin Array S**	**150.58**	**311**⇓	*i*PKiKP	**PKPbc**	**16 22 18.4**	**-0.5**	
BRTR	**Keskin Array B**	**150.58**	**311**		**PKPdf**	**16 22 15.5**	**+2.0**	
BRTR	**Keskin Array B**	**150.58**	**311**	PKPbc	**PKPbc**	**16 22 18.8**	**-0.1**	
	comp=Z,5.7nm,0.9s,baz=63,slow=3.2,SNR=21							
BRTR	**Keskin Array B**	**150.58**	**311**	PKiKP	**PKPdf**	**16 22 15.5**	**+2.0**	
BURAR	**Bucovina Array**	**150.60**	**332**	⇑P	**PKiKP**	**16 22 19.4**	**+0.1**	
BURAR	**Bucovina Array**	**150.60**	**332**	⇑PKiKP	**PKiKP**	**16 22 19.4**	**+0.1**	
KIRS	**Kirsehir-Merke**	**150.64**	**310**	⇑P	**PKPbc**	**16 22 19.3**	**+0.3**	
KOLS	**Kolonicke sedl**	**150.74**	**336**	*e*PKiKP	**PKiKP**	**16 22 20.3**	**+0.9**	
TESR	**Tescani**	**150.76**	**329**	⇑P	**PKiKP**	**16 22 21.3**	**+1.7**	
KSP	**Ksiaz**	**150.86**	**345**	*e*PKP	**PKiKP**	**16 22 19.6**	**0.0**	
CFR	**Carcaliu**	**150.93**	**325**	⇓P	**PKiKP**	**16 22 19.9**	**0.0**	
CFR	**Carcaliu**	**150.93**	**325**	⇓PKiKP	**PKiKP**	**16 22 19.9**	**0.0**	
TPGR	**Topolog**	**150.99**	**324**	⇓P	**PKiKP**	**16 22 20.4**	**+0.3**	
ONER	**Baraj Valea Uz**	**151.00**	**329**	⇓P	**PKiKP**	**16 22 20.7**	**+0.6**	
NIE	**Niedzica**	**151.02**	**339**	*e*PKP	**PKiKP**	**16 22 20.0**	**0.0**	
CLL	**Collm**	**151.08**	**350**	*e*PKiKP	**PKPdf**	**16 22 15.0**	**+1.4**	
CLL				*i*		16 22 19.7		
CLL				*i*		16 22 23.3		
CLL				pmax	pmax			
	comp=Z,22nm,1.1s							
CLL	**Collm**	**151.08**	**350**	*e*PKPdf	**PKPdf**	**16 22 15.0**	**+1.4**	
CLL				*i* PKPbc	**PKPbc**	**16 22 19.7**	**+0.2**	
	comp=Z,22nm,1.1s							
CLL				*i* x	x	16 22 23.3		
	comp=Z,15nm,1.1s							
CLL				*i* PKPab	**sPKPdf**	**16 22 26.3**	**+0.7**	
	comp=Z,12nm,1.0s							
CLL				*e*SKPdf	**SKPdf**	**16 25 48.0**	**+3.2**	
CLL				*e*PP	**PP**	**16 25 57.0**	**+0.2**	
CLL				*ex*	x	16 26 05.0		
CLL				LmH		17 29 00.0		
	comp=N,100nm,18.6s							
CLL				LmH		17 29 00.0		
	comp=E,100nm,19.7s							
CLL				LmH		17 29 00.0		
	comp=Z,100nm,18.4s							
ANTO	**Ankara**	**151.10**	**312**	⇓P	**PKiKP**	**16 22 20.5**	**-0.1**	
ANTO	**Ankara**	**151.10**	**312**	⇓PKiKP	**PKiKP**	**16 22 20.5**	**-0.1**	
OSTC	**Ostas**	**151.15**	**345**	*e*PKiKP	**PKPbc**	**16 22 19.6**	**-0.1**	
OSTC				MLR	MLR			
	comp=Z,200nm,14.7s							
OSTC	**Ostas**	**151.15**	**345**⇑	*e*PKP	**PKPbc**	**16 22 19.6**	**-0.1**	
OSTC				AMS	AMS	17 28 30.0		
	comp=Z,200nm,14.7s							
CHVC	**Chvalec**	**151.16**	**345**	AMS	AMS	17 28 40.0		
	comp=Z,200nm,16.1s							
VRI	**Vrincioaia**	**151.18**	**328**	⇑P	**PKPbc**	**16 22 18.0**	**-1.9**	
VRI	**Vrincioaia**	**151.18**	**328**	⇑PKiKP	**PKPbc**	**16 22 18.0**	**-1.9**	
UPC	**Upice**	**151.24**	**345**	*e*PKiKP	**PKiKP**	**16 22 20.4**	**0.0**	
UPC				MLR	MLR			
	comp=Z,200nm,14.2s							
UPC	**Upice**	**151.24**	**345**⇑	*e*PKP	**PKiKP**	**16 22 20.4**	**0.0**	
UPC				AMS	AMS	17 28 30.0		
	comp=Z,200nm,14.2s							
DPC	**Dobruska-Polom**	**151.31**	**345**	*e*PKiKP	**PKiKP**	**16 22 21.0**	**+0.4**	
DPC				MLR	MLR			
	comp=Z,200nm,14.2s							
DPC	**Dobruska-Polom**	**151.31**	**345**⇑	*e*PKP	**PKiKP**	**16 22 21.0**	**+0.4**	
DPC				AMS	AMS	17 28 20.0		
	comp=Z,200nm,14.2s							
STEB	**Steborice**	**151.32**	**343**⇑	*e*PKP	**PKiKP**	**16 22 20.7**	**+0.1**	
BRG	**Berggiesshubel**	**151.33**	**348**	*i* PKP	**PKiKP**	**16 22 20.6**	**0.0**	
BRG				Amp		16 22 22.2		
	comp=Z,15nm,1.1s							
BRG	**Berggiesshubel**	**151.33**	**348**	P	**PKPab**	**16 22 28.5**	**+0.4**	
BRG				Amp		16 22 29.4		
	comp=Z,6.1nm,0.9s							
BRG	**Berggiesshubel**	**151.33**	**348**	P	**PKPab**	**16 22 32.3**	**+4.1**	
BRG				Amp		16 22 33.1		
	comp=Z,7.5nm,0.8s							
TURR	**Turia**	**151.39**	**329**	⇓P	**PKiKP**	**16 22 21.6**	**+0.6**	
MMAI	**Mount Meron Ar**	**151.45**	**297**	PKPbc	**PKiKP**	**16 22 21.5**	**0.0**	
	comp=Z,9.9nm,0.9s,baz=116,slow=2.9,SNR=9.6							
OZUR		**151.47**	**329**	⇓P	**PKiKP**	**16 22 22.4**	**+1.3**	
LANS	**Liptovska Anna**	**151.52**	**340**	*e*PKiKP	**PKiKP**	**16 22 21.2**	**+0.1**	
MORC	**Moravsky Berou**	**151.53**	**343**	*e*PKP	**PKPbc**	**16 22 20.6**	**0.0**	
MORC	**Moravsky Berou**	**151.53**	**343**	⇓P	**PKiKP**	**16 22 21.3**	**+0.2**	
MORC	**Moravsky Berou**	**151.53**	**343**	⇓PKiKP	**PKiKP**	**16 22 21.3**	**+0.2**	
PVCC	**Panska Ves**	**151.54**	**347**	*e*PKiKP	**PKiKP**	**16 22 22.3**	**+1.3**	
PVCC	**Panska Ves**	**151.54**	**347**⇑	*e*PKP	**PKiKP**	**16 22 22.3**	**+1.3**	
DOPR	**Dopca**	**151.75**	**329**	⇓P	**PKiKP**	**16 22 22.2**	**+0.6**	
ISR	**Istrita**	**151.79**	**327**	⇑P	**PKPbc**	**16 22 21.5**	**+0.1**	
ISR	**Istrita**	**151.79**	**327**	⇑PKiKP	**PKPbc**	**16 22 21.5**	**+0.1**	
MAUC	**Maruska**	**151.82**	**342**	*e*PKPDF	**PKPbc**	**16 22 18.5**	**-2.8**	
MAUC				⇑*e*PKP	**PKiKP**	**16 22 22.1**	**+0.4**	
MAUC				*ex*	x	16 22 34.5		
MLR	**Muntele Rosu**	**151.83**	**328**	PKPdf	**PKPdf**	**16 22 12.7**	**-2.5**	
MLR					**PKPbc**	**16 22 21.1**	**-0.4**	
MLR	**Muntele Rosu**	**151.83**	**328**	⇑P	**PKiKP**	**16 22 22.3**	**+0.3**	
MLR	**Muntele Rosu**	**151.83**	**328**	PKiKP	**PKPdf**	**16 22 12.7**	**-2.5**	
MLR						16 22 21.1		
MOX	**Moxa**	**151.94**	**351**	*e*L	L	17 32 03.1		
	comp=Z,108nm,19.2s							
PRU	**Pruhonice**	**152.05**	**347**	*e*PKiKP	**PKiKP**	**16 22 22.5**	**+0.4**	
PRU				MLR	MLR			
	comp=Z,100nm,15.1s							
PRU	**Pruhonice**	**152.05**	**347**⇑	*e*PKP	**PKiKP**	**16 22 22.5**	**+0.4**	
PRU				AMS	AMS	17 29 50.0		
	comp=Z,100nm,15.1s							
VRAC	**Vranov**	**152.21**	**344**	*e*PKP	**PKiKP**	**16 22 22.5**	**0.0**	
VRAC	**Vranov**	**152.21**	**344**	⇑P	**PKiKP**	**16 22 23.0**	**+0.6**	
VRAC	**Vranov**	**152.21**	**344**	⇑PKiKP	**PKiKP**	**16 22 23.0**	**+0.6**	
MARR	**Marisel-Cluj**	**152.23**	**333**	⇓P	**PKiKP**	**16 22 22.8**	**+0.1**	
VOIR		**152.30**	**329**	⇓P	**PKiKP**	**16 22 23.5**	**+0.6**	
VOIR		**152.30**	**329**	⇓PKiKP	**PKiKP**	**16 22 23.5**	**+0.6**	
DRGR		**152.31**	**333**	⇑P	**PKiKP**	**16 22 23.4**	**+0.6**	
DRGR		**152.31**	**333**	⇑PKiKP	**PKiKP**	**16 22 23.4**	**+0.6**	
JAVC	**Velka Javorina**	**152.32**	**342**	*e*PKP	**PKiKP**	**16 22 23.4**	**+0.6**	
PSZ	**Piszkesteto**	**152.45**	**338**	⇑P	**PKPbc**	**16 22 22.4**	**-0.4**	
PSZ	**Piszkesteto**	**152.45**	**338**	⇑PKiKP	**PKPbc**	**16 22 22.4**	**-0.4**	
KRUC	**Moravsky**	**152.48**	**344**	*e*PKP	**PKPbc**	**16 22 22.5**	**-0.3**	
MODS	**Modra-Piesok**	**152.87**	**342**	*e*PKP2	**PKPab**	**16 22 35.8**	**+1.1**	
GRF	**Grafenberg Arr**	**152.93**	**351**	*e*PKP	**PKPab**	**16 22 35.0**	**+0.1**	
	baz=12,slow=4.1							
GRF				*e*L	L	17 34 32.7		
	comp=Z,117nm,18.0s							
SRO	**Srobarova**	**153.06**	**340**	*e*PKiKP	**PKiKP**	**16 22 29.3**	**+5.1**	
SRO				*e*		16 22 35.2		
KHC	**Kasperske Hory**	**153.07**	**347**	*e*PKiKP	**PKiKP**	**16 22 27.5**	**+3.2**	
KHC				MLR	MLR			
	comp=Z,200nm,16.2s							
KHC	**Kasperske Hory**	**153.07**	**347**⇑	*e*PKP	**PKiKP**	**16 22 27.5**	**+3.2**	
KHC				AMS	AMS	17 30 10.0		
	comp=Z,200nm,16.2s							
SIRR	**Siria**	**153.16**	**334**	⇓P	**PKiKP**	**16 22 24.9**	**+0.4**	
CKRC	**Cesky Krumlov**	**153.21**	**346**	*e*PKiKP	**PKiKP**	**16 22 24.5**	**-0.1**	
CKRC	**Cesky Krumlov**	**153.21**	**346**⇑	*e*PKP	**PKiKP**	**16 22 24.5**	**-0.1**	
GERES	**GERESS Array B**	**153.31**	**347**	PKPbc	**PKPbc**	**16 22 24.6**	**-0.2**	
	comp=Z,1.9nm,1.0s,baz=27,slow=2.5,SNR=7.1							
SURR	**Surduc**	**153.38**	**333**	⇑P	**PKiKP**	**16 22 25.4**	**+0.4**	
GZR	**Gura Zlata**	**153.38**	**331**	⇑P	**PKiKP**	**16 22 25.6**	**+0.5**	
GZR	**Gura Zlata**	**153.38**	**331**	⇑PKiKP	**PKiKP**	**16 22 25.6**	**+0.5**	
CONA	**Conrad Observa**	**153.67**	**343**	*e*PKP	**PKPdf**	**16 22 16.7**	**-1.0**	
	comp=Z,6.8nm,2.0s	

distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCHA	**Lechaina**	**0.05**	**100**	P	Pg	16 20 06.8	+0.2
LCHA				S	Sg	16 20 09.0	+1.4
ANDM	**Andravida**	**0.07**	**59**	P	Pg	16 20 07.5	+0.7
ANDM				S	Sg	16 20 09.7	+1.7
CLEM	**Kyllini,Ilia,G**	**0.07**	**221**	P	Pg	16 20 06.9	0.0
CLEM				S	Sg	16 20 08.8	+0.8
YRMI	**Loutra Irminis**	**0.20**	**38**	P	Pg	16 20 09.1	+0.1
YRMI				S	Sg	16 20 12.7	+1.0
RLS	**Riolos of Patr**	**0.24**	**63**	P	Pg	16 20 09.8	0.0
RLS				S	Sg	16 20 13.6	+0.6
RLS	**Riolos of Patr**	**0.24**	**63**	P	Pg	16 20 09.8	0.0
RLS				S	Sg	16 20 13.1	0.0
AXS	**Araxos**	**0.29**	**30**	P	Pg	16 20 11.5	+0.8
AXS				S	Sg	16 20 15.2	+0.7
KYPS	**Kipseli, Zakin**	**0.32**	**247**	P	Pb	16 20 12.3	-0.9
KYPS				S	Sb	16 20 17.1	-1.6
RTZL	**Ratzakli, Kefa**	**0.36**	**291**	P	Pg	16 20 12.6	+0.5
LTHK	**Lithakia**	**0.37**	**230**	P	Pg	16 20 13.0	+0.8
LTHK				S	Sb	16 20 19.9	-0.2
LTHK	**Lithakia**	**0.37**	**230**	P	Pg	16 20 13.0	+0.7
LTHK				S	Sg	16 20 18.2	+1.0
DRO	**Drossia**	**0.41**	**89**	P	Pg	16 20 12.6	-0.4
DRO	**Drossia**	**0.41**	**89**	P	Pg	16 20 13.0	0.0
DRO				S	Sg	16 20 19.3	+0.9
ORTH	**Orthonies,Zaky**	**0.41**	**257**	P	Pg	16 20 13.4	+0.4
ORTH				S	Sb	16 20 20.3	-0.9
ORTH	**Orthonies,Zaky**	**0.41**	**257**	P	Pg	16 20 13.0	+0.1
ORTH				S	Sg	16 20 19.0	+0.7
KRI1	**kERI**	**0.41**	**227**	P	Pg	16 20 13.6	+0.6
KRI1				S	Sb	16 20 20.7	-0.7
KRI1	**kERI**	**0.41**	**227**	P	Pg	16 20 13.2	+0.1
PSDA	**Pessada-Kefalo**	**0.51**	**289**	P	Pg	16 20 14.9	0.0
PSDA	**Pessada-Kefalo**	**0.51**	**289**	P	Pg	16 20 14.9	-0.1
PSDA				S	Sg	16 20 22.1	+0.5
VLS	**Valsamata**	**0.53**	**296**	P	Pg	16 20 15.6	+0.3
VLS	**Valsamata**	**0.53**	**296**	P	Pg	16 20 15.5	+0.1
VLS				S	Sg	16 20 22.7	+0.4
VSK1	**VASILIKIADES**	**0.68**	**313**	P	Pg	16 20 17.6	-0.5
DMLN	**Damoulianata-K**	**0.71**	**294**	P	Pg	16 20 18.7	-0.1
DMLN				S	Sg	16 20 28.7	+0.7
FSK	**Fiskardo**	**0.71**	**316**	P	Pg	16 20 18.9	+0.1
FSK				S	Sg	16 20 29.1	+0.9
PVO	**Paravola**	**0.72**	**21**	P	Pb	16 20 20.0	-0.1
PVO				S	Sb	16 20 29.7	-0.4
EFP	**Efpalio**	**0.74**	**49**	P	Pg	16 20 19.1	-0.1
KLV	**Kalavryta, Ach**	**0.76**	**82**	P	Pg	16 20 18.6	-1.1
EVGI	**Lefkada island**	**0.80**	**328**	P	Pg	16 20 20.5	+0.1
ANX	**Ano Chora**	**0.86**	**41**	P	Pg	16 20 21.7	+0.1
KALE	**Kalithea**	**0.87**	**59**	P	Pg	16 20 21.7	-0.1
GUR	**Goura**	**0.91**	**90**	P	Pg	16 20 21.8	-0.7
LKD2	**Lefkada island**	**0.94**	**333**	P	Pg	16 20 23.4	+0.2
ITM	**Ithomi**	**0.96**	**143**	P	Pb	16 20 24.0	-0.2
TSLK	**Tsoukalades, L**	**0.97**	**334**	P	Pb	16 20 24.7	+0.3
EVR	**Evrytania**	**1.08**	**26**	P	Pb	16 20 26.4	0.0
MAKR	**Makrakomi, Fth**	**1.29**	**34**	P	Pg	16 20 30.4	+0.5
TETR	**Tetrakomo, Epi**	**1.40**	**3**	P	Pg	16 20 32.4	+0.5
LTK	**Loutraki**	**1.40**	**86**	P	Pb	16 20 31.5	-0.2
LOUT	**Loutraki**	**1.41**	**88**	P	Pb	16 20 31.6	-0.1
VIL2	**Platees**	**1.66**	**80**	P	Pb	16 20 35.6	-0.4
MET2	**Kameni Chora,**	**1.72**	**101**	P	Pb	16 20 36.5	-0.7

*IDC **19** 16:30:28.1±2.2, 72.°79N×5.°90E, h0km, mb3.4/2, mbtmp3.5/7, ML3.0/5, MS3.3/17, Error ellipse: s-maj=31.9km s-min=19.9km az=86.0*
*BER **19** 16:30:29.3±1.0, 72.°91N×5.°12E, h10km, mb(Pn)4.2, Confirmed Earthquake*
*NAO **19** 16:30:29.4±1.1, 72.°96N×5.°17E, h24km±13km, ML2.8*

ISC 19 16:30:28.7±1.4, **72.°91N**±0.°09×**6.°0E**±0.°1, **h11**km, **n45,** σ1**s23**/34, **MS3.2**/14, **Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**4.79**	**27**	Pn	**Pn**	**16 31 39.8**	**-0.9**
TRO	**Tromso**	**5.30**	**122**	Pn	**Pn**	**16 31 48.6**	**+0.9**
TRO	**Tromso**	**5.30**	**122**	*e*P	**Pn**	**16 31 48.8**	**+1.1**
TRO				IAML		16 32 51.8	
	comp=Z,6.1nm,0.6s						
LOF	**Lofoten**	**5.42**	**149**	*e*P	**Pn**	**16 31 49.6**	**+0.2**
LOF				IAML		16 32 28.0	
	comp=Z,6.9nm,0.8s						
JETT	**Jettan, Norway**	**5.73**	**119**	Pn	**Pn**	**16 31 55.1**	**+1.5**
JETT	**Jettan, Norway**	**5.73**	**119**	*e*P	**Pn**	**16 31 54.7**	**+1.1**
JETT				IAML		16 33 01.9	
	comp=Z,4.7nm,0.5s						
SPA0	**Spitsbergen Ar**	**5.88**	**21**	Pn	**Pn**	**16 31 55.1**	**-0.5**
	baz=211,slow=16						
SPA0	**Spitsbergen Ar**	**5.88**	**21**	*e*P	**Pn**	**16 31 55.6**	**-0.1**
SPITS	**Spitsbergen Ar**	**5.88**	**21**	Pn	**Pn**	**16 31 55.7**	**+0.1**
	baz=213,slow=17						
	comp=Z,1.2nm,0.4s						
STEI	**Steigen**	**5.88**	**144**	*e*P	**Pn**	**16 31 55.6**	**-0.1**
STEI				IAML		16 33 03.5	
	comp=Z,4.9nm,0.5s						
KBS	**Kingsbay**	**6.21**	**11**	Pn	**Pn**	**16 31 58.9**	**-1.3**
KBS	**Kingsbay**	**6.21**	**11**	*e*P	**Pn**	**16 31 59.0**	**-1.1**
KIF	**Kilpisjarvi**	**6.21**	**122**	Pn	**Pn**	**16 32 01.5**	**+1.3**
KIF	**Kilpisjarvi**	**6.21**	**122**	*e*P	**Pn**	**16 32 01.2**	**+1.0**
FAUS	**Fauske**	**6.38**	**146**	*e*P	**Pn**	**16 32 02.3**	**-0.2**
VAGH	**Vaagaholmen**	**6.69**	**155**	*e*P	**Pn**	**16 32 07.0**	**+0.2**
KTK1	**Kautokeino**	**6.84**	**116**	*e*P	**Pn**	**16 32 10.8**	**+2.0**
KTK1				IAML		16 33 19.9	
	comp=Z,1.6nm,0.8s						
KONS	**Konsvik**	**6.89**	**156**	*e*P	**Pn**	**16 32 08.9**	**-0.7**
KONS				IAML		16 33 25.2	
	comp=Z,5.3nm,0.4s						
SALU	**Saltoluokta**	**6.98**	**137**	*e*P	**Pn**	**16 32 11.3**	**+0.5**
STOK	**Stokkvaagen**	**7.04**	**156**	*e*P	**Pn**	**16 32 10.7**	**-0.9**
STOK				IAML		16 33 31.1	
	comp=Z,5.8nm,0.4s						
ARA0	**ARCESS Array S**	**7.12**	**109**	Pn	**Pn**	**16 32 13.9**	**+1.2**
	baz=318,slow=12						
ARA0				Sn	**Sn**	**16 33 31.7**	**-1.7**
	baz=307,slow=22						
ARCES	**ARCESS Array B**	**7.12**	**109**	Pn	**Pn**	**16 32 13.9**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=310,slow=19,SNR=9.9						
ARCES				Sn	**Sn**	**16 33 30.2**	**-3.2**
	baz=306,slow=22,SNR=1.7						
	comp=Z,4.1nm,0.9s						
KEV	**Kevo**	**7.41**	**105**	Pn	**Pn**	**16 32 18.0**	**+1.4**
NB2	**NORSAR Subarra**	**12.09**	**168**	Pn	**Pn**	**16 33 20.6**	**-0.1**
	baz=341,slow=12						
NOA	**NORSAR Array B**	**12.09**	**168**	Pn	**Pn**	**16 33 20.2**	**-0.5**
	baz=350,slow=13,SNR=4.4						
NOA				LR	LR	16 37 55.6	
	comp=Z,56nm,18.7s,baz=340,slow=37						
	comp=Z,0.3nm,0.5s						
NRA0	**NORESS Array S**	**12.41**	**167**	Pn	**Pn**	**16 33 23.7**	**-1.4**
	baz=351,slow=14						
NRA0				Sn	Sn	16 35 30.6	-13
	baz=351,slow=28						
HFS	**Hagfors**	**13.18**	**163**	Pn	**Pn**	**16 33 34.5**	**-0.9**
	baz=358,slow=11						
HFS	**Hagfors**	**13.18**	**163**	Pn	**Pn**	**16 33 34.7**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=353,slow=10,SNR=12						
HFS				LR	LR	16 38 19.9	
	comp=Z,125nm,18.7s,baz=347,slow=36						
	comp=Z,2.0nm,0.4s						
FIA0	**FINESS Array S**	**13.78**	**136**	P	**Pn**	**16 33 43.5**	**-0.1**
	baz=339,slow=12						
FINES	**FINESS Array B**	**13.78**	**136**	Pn	**Pn**	**16 33 43.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=340,slow=12,SNR=13						
FINES				LR	LR	16 38 45.5	
	comp=Z,130nm,19.6s,baz=230,slow=36						
	comp=Z,1.7nm,0.5s						
KIRV	**Kirov**	**22.14**	**107**	LR	LR	16 44 18.9	
	comp=Z,40nm,21.3s,baz=338,slow=38						
VRAC	**Vranov**	**24.15**	**163**	LR	LR	16 44 59.7	
	comp=Z,65nm,18.0s,baz=338,slow=36						
AKASG	**Malin Array Be**	**24.49**	**143**	P	**P**	**16 35 49.1**	**+1.7**
	comp=Z,0.3nm,0.4s,baz=349,slow=9.4,SNR=1.9						
AKASG				LR	LR	16 45 10.8	
	comp=Z,126nm,19.9s,baz=326,slow=36						
	comp=Z,0.3nm,0.4s						
DAVOX	**Davos/Dischmat**	**26.28**	**174**	LR	LR	16 46 26.4	
	comp=Z,60nm,19.3s,baz=80,slow=37						
ARTI	**Arti**	**26.58**	**100**	LR	LR	16 45 58.6	
	comp=Z,35nm,20.9s,baz=98,slow=35						
FRB	**Frobisher Bay**	**27.05**	**289**	LR	LR	16 45 32.8	
	comp=Z,76nm,20.4s,baz=9.5,slow=33						
MLR	**Muntele Rosu**	**29.01**	**150**	LR	LR	16 48 19.3	
	comp=Z,101nm,18.8s,baz=338,slow=37						
AKTO	**Aktyubinsk**	**31.70**	**106**	LR	LR	16 50 31.8	
	comp=Z,49nm,19.0s,baz=275,slow=38						
KBZ	**Khabaz**	**33.96**	**129**	LR	LR	16 51 29.6	
	comp=Z,53nm,18.1s,baz=10,slow=37						
KEST	**Kesra**	**37.29**	**176**	LR	LR	16 52 25.2	
	comp=Z,38nm,19.4s,baz=329,slow=35						
KURBB	**Kurchatov Arra**	**37.53**	**86**	P	**P**	**16 37 44.2**	**+2.0**
	comp=Z,0.2nm,0.2s,baz=330,slow=7.4,SNR=2.0						
	comp=Z,0.2nm,0.2s						
GNI	**Garni**	**37.78**	**129**	LR	LR	16 54 00.2	
	comp=Z,32nm,18.0s,baz=357,slow=37						
MMAI	**Mount Meron Ar**	**42.74**	**143**	LR	LR	16 57 36.4	
	comp=Z,22nm,20.1s,baz=356,slow=38						
ASF	**Jabal al Asfar**	**43.83**	**141**	LR	LR	16 56 37.0	
	comp=Z,28nm,18.6s,baz=238,slow=36						
ANMO	**Albuquerque**	**63.14**	**302**	LR	LR	17 08 51.0	
	comp=Z,45nm,20.8s,baz=350,slow=36						

*NEIC **19** 16:36:43.6±2.6, 29.°26N±0.°05×130.°80E±0.°08, h22km±5km, mb4.6/37, Error ellipse: s-maj=10.0km s-min=6.4km az=112.0*
*NIED **19** 16:36:43.8, 29.°25N×130.°82E, h22km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}2.43; $M_{\theta\theta}$-0.60; $M_{\phi\phi}$-1.83; $M_{r\theta}$1.38; $M_{\theta\phi}$-2.21; $M_{\phi r}$1.49; Fault plane solution: $M_0$3.60000×10¹⁵ NP1: ϕ_s210.00000°, δ28.00000°, λ79.00000°. NP2:ϕ_s42.00000°, δ62.00000°, λ96.00000°.*
*JMA **19** 16:36:43.8±0.2, 29.°3N±0.°7×130.°8E±0.°9, h22km, MD4.2/26, MV3.9/26, NEAR AMAMI-OSHIMA ISLAND*
*IDC **19** 16:36:47.2±1.9, 29.°31N×130.°63E, h44km±16km, mb3.7/17, mbtmp3.2/1, ML3.2/4, MS3.8/14, Error ellipse: s-maj=19.1km s-min=11.0km az=101.0*

ISC 19 16:36:43.4±0.7, **29.°25N**±0.°04×**130.°83E**±0.°05, **h22**km±5km, **n98,** σ1**s28**/104, **mb4.4**/33, **MS3.9**/13, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**1.02**	**306**	P	**Pb**	**16 37 02.2**	**-0.2**
JNN				*e*S	**Sn**	**16 37 16.2**	**+0.1**
JNN	**Nakanoshima**	**1.02**	**306**	A	A	16 37 02.2	
	comp=N,23nm,1.1s,comp=E,20nm,1.6s						
JYAK	**Yakushimahirau**	**1.03**	**344**	*i* P	**Pn**	**16 37 02.7**	**+0.3**
JYAK				S	**Sn**	**16 37 17.0**	**+0.8**
JYAK	**Yakushimahirau**	**1.03**	**344**	A	A	16 37 02.7	
	comp=N,9.0nm,1.4s,comp=E,9.0nm,4.5s						
JMTN	**Minamitane**	**1.15**	**3**	P	**Pb**	**16 37 04.9**	**+0.3**
JMTN				S	**Sn**	**16 37 20.2**	**+1.0**
JMTN	**Minamitane**	**1.15**	**3**	A	A	16 37 04.9	
	comp=N,12nm,4.4s,comp=E,13nm,3.5s						
JKC	**Kuchinoerabu**	**1.33**	**336**	P	**Pn**	**16 37 06.8**	**+0.1**
JAM	**Amami Oshima**	**1.36**	**233**	P	**Pb**	**16 37 08.1**	**0.0**
JAM				S	**Sb**	**16 37 25.8**	**+0.7**
JTN	**Tanegashima 3**	**1.41**	**5**	P	**Pn**	**16 37 08.5**	**+0.8**
JTN	**Tanegashima 3**	**1.41**	**5**	A	A	16 37 08.5	
	comp=N,5.0nm,2.3s,comp=E,7.0nm,2.0s						
JTAJ	**Takarajima**	**1.43**	**267**	P	**Pb**	**16 37 09.3**	**0.0**
JTAJ				S	**Sb**	**16 37 28.4**	**+1.4**
JAMN	**Amaminishikomi**	**1.76**	**236**	P	**Pn**	**16 37 13.6**	**+1.1**
JAMN				S	**Sb**	**16 37 35.9**	**-0.8**
JTSR	**Tashiro 2**	**1.92**	**2**	P	**Pn**	**16 37 15.9**	**+1.1**
JTSR				S	**Sn**	**16 37 39.5**	**+1.3**
JTK	**Tokunoshima**	**2.20**	**229**	P	**Pn**	**16 37 20.3**	**+1.7**
JTK				S	**Sn**	**16 37 47.1**	**+1.9**
JSU	**Suzuyama**	**2.27**	**352**	*i* P	**Pn**	**16 37 20.0**	**+0.3**
JNAR	**Kushima--Naru**	**2.30**	**9**	P	**Pn**	**16 37 21.9**	**+1.9**
JNAR				*e*S	**Sb**	**16 37 50.7**	**-1.6**
JOW	**Kunigami**	**3.30**	**224**		**Pn**	**16 37 35.0**	**+1.2**
JOW				Sn	**Sn**	**16 38 11.2**	**-1.1**
JOW	**Kunigami**	**3.30**	**224**	P	**Pn**	**16 37 35.1**	**+1.3**
	comp=E,5.6nm,0.3s,baz=163,slow=11,SNR=16						
JOW				S	**Sn**	**16 38 12.8**	**+0.5**
	comp=E,90nm,0.5s,baz=96,slow=18,SNR=5.0						
	comp=E,13nm,0.3s						
JMZ	**Minamidaito 2**	**3.43**	**174**		**Pn**	**16 37 37.0**	**+1.5**
JMZ				Sn	**Sn**	**16 38 14.7**	**-0.9**
JNU	**Nakatsue**	**3.86**	**1**		**Pn**	**16 37 43.0**	**+1.5**
JNU				Sn	**Sn**	**16 38 25.6**	**-0.6**
JMN	**Monobe**	**5.17**	**29**	Pn	**Pn**	**16 38 00.7**	**+1.2**
JMN				Sn	**Sn**	**16 38 53.8**	**-4.7**
INU	**Inuyama**	**8.03**	**39**	Pn	**Pn**	**16 38 38.9**	**+0.3**
JGF	**Kuroka**	**8.40**	**39**	Pn	**Pn**	**16 38 43.3**	**-0.5**
KSRS	**Korea Array**	**8.54**	**344**	P	**Pn**	**16 38 48.2**	**+2.6**
	comp=E,0.2nm,0.3s,baz=160,slow=15,SNR=10						
KSRS				S	**Sn**	**16 40 21.6**	**+0.4**
	comp=E,1.0nm,0.8s,baz=11,slow=15,SNR=1.2						
	comp=E,3.1nm,0.7s						
MAJO	**Matsushiro**	**9.56**	**39**	Pn	**Pn**	**16 38 59.2**	**-0.4**
MJAR	**Matsushiro Arr**	**9.56**	**39**	Pn	**Pn**	**16 39 00.7**	**+1.0**
MJAR	**Matsushiro Arr**	**9.56**	**39**	P	**Pn**	**16 39 02.9**	**+3.3**
	comp=E,0.1nm,0.3s,baz=247,slow=14,SNR=4.7						
	comp=E,1.3nm,0.8s						
MJB9	**Matsu-Tunnel**	**9.56**	**38**	Pn	**Pn**	**16 38 59.8**	**+0.1**
YHNB	**Yeheng**	**9.59**	**244**	Pn	**Pn**	**16 38 57.7**	**-2.4**
USRK	**Ussuriysk Ar.**	**14.95**	**3**	P	**Pn**	**16 40 15.4**	**+2.1**
	comp=E,0.3nm,0.3s,baz=175,slow=9.4,SNR=6.1						
	comp=E,2.2nm,1.0s						
TGY	**Tagaytay City**	**17.64**	**213**	LR	LR	16 47 11.0	
	comp=E,84nm,19.8s,baz=298,slow=36						
ENH	**Enshi**	**18.56**	**278**	P	**P**	**16 40 57.8**	**-1.0**
GUMO	**Guam**	**20.30**	**137**	LR	LR	16 47 38.8	
	comp=E,55nm,21.2s,baz=332,slow=32						
DAV	**Davao City (W)**	**22.61**	**194**	LR	LR	16 50 32.5	
	comp=E,58nm,20.1s,baz=14,slow=36						
LZDM	**Lanzhou Array**	**23.77**	**293**	P	**P**	**16 41 54.3**	**-0.4**
	comp=E,1.8nm,0.3s,baz=165,slow=7.5,SNR=3.9						
	comp=E,1.8nm,0.3s						
ULN	**Ulaanbaatar**	**26.12**	**322**	P	**P**	**16 42 14.3**	**-1.5**
SONM	**Songino Array**	**26.46**	**321**	P	**P**	**16 42 17.1**	**-1.8**
SONM	**Songino Array**	**26.46**	**321**	P	**P**	**16 42 18.1**	**-0.7**
	comp=E,1.8nm,0.7s,baz=137,slow=10.0,SNR=8.3						
	comp=E,1.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.98**	**257**	P	**P**	**16 42 59.5**	**+0.2**
	comp=E,0.5nm,0.6s,baz=55,slow=5.5,SNR=5.5						
CMAR				PcP	**PcP**	**16 45 57.9**	**+2.6**
	comp=E,0.5nm,0.4s,baz=16,slow=2.3,SNR=5.4						
	comp=E,0.5nm,0.6s						
BRDH	**Bariadhala**	**35.71**	**269**	LR	LR	17 00 41.3	
	comp=E,142nm,18.1s,baz=168,slow=40						
BATI	**Batata**	**39.88**	**191**	LR	LR	17 00 44.8	
	comp=E,64nm,18.8s,baz=200,slow=36						
ZAA0	**Zalesovo Array**	**41.34**	**320**	P	**P**	**16 44 25.6**	**-1.7**
ZALV	**Zalesovo Beam**	**41.34**	**320**	P	**P**	**16 44 26.0**	**-1.3**
	comp=E,2.0nm,0.8s,baz=100,slow=7.7,SNR=8.4						
ZALV				PcP	**PcP**	**16 46 24.7**	**-0.7**
	comp=E,1.3nm,0.8s,baz=102,slow=2.9,SNR=3.7						
ZALV				LR	LR	17 03 34.0	
	comp=E,153nm,18.6s,baz=114,slow=39						
	comp=E,2.0nm,0.8s						
MKAR	**Makanchi Array**	**41.35**	**309**	P	**P**	**16 44 26.8**	**-0.8**
MKAR	**Makanchi Array**	**41.35**	**309**	P	**P**	**16 44 27.5**	**-0.1**
	comp=E,1.9nm,0.8s,baz=97,slow=10.0,SNR=15						
MKAR				PcP	**PcP**	**16 46 24.7**	**-1.0**
	comp=E,0.7nm,0.8s,baz=93,slow=3.7,SNR=3.6						
	comp=E,1.9nm,0.8s						
TARG	**Taragay, Kyrgy**	**44.29**	**301**	P	**P**	**16 44 52.1**	**0.0**
KURK	**Kurchatov**	**44.30**	**314**	P	**P**	**16 44 50.5**	**-0.9**
KURK				IAmb	IAmb	16 44 52.3	
	comp=Z,6.0nm,0.8s						
KURBB	**Kurchatov Arra**	**44.35**	**314**	P	**P**	**16 44 51.7**	**-0.1**
	comp=Z,5.7nm,0.9s,baz=100,slow=8.7,SNR=44						
KURBB				PcP	**PP**	**16 46 34.9**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=98,slow=3.5,SNR=2.3						
KURBB				LR	LR	17 04 55.3	
	comp=Z,197nm,19.3s,baz=162,slow=38						
	comp=Z,5.7nm,0.9s						
KDJ	**Kajisay**	**44.75**	**302**	P	**P**	**16 44 54.4**	**-1.0**
AAK	**Ala-Archa**	**46.72**	**302**	LR	LR	17 06 21.6	
	comp=Z,64nm,19.5s,baz=100,slow=38						
NIL	**Nilore**	**48.78**	**291**	P	**P**	**16 45 26.6**	**-0.3**
WB0	**Warramunga Arr**	**48.85**	**176**	P	**P**	**16 45 27.9**	**+0.6**
WB0				IAmb	IAmb	16 45 34.1	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**49.02**	**176**	P	**P**	**16 45 29.7**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=352,slow=8.3,SNR=7.9						
	comp=Z,0.7nm,0.8s						
WB2	**Warramunga Arr**	**49.02**	**176**	P	**P**	**16 45 29.0**	**+0.3**
WB2				IAmb	IAmb	16 45 54.4	
	comp=Z,5.6nm,1.1s						
KK31	**Karatay Array**	**49.62**	**303**		**P**	**16 45 32.5**	**-0.6**
KK31				IAmb	IAmb	16 45 34.6	
	comp=Z,5.3nm,0.8s						
KKAR	**Karatay Array**	**49.62**	**303**		**P**	**16 45 32.9**	**-0.2**
BVAR	**Borovoye Array**	**49.62**	**316**	P	**P**	**16 45 32.6**	**-0.4**
	comp=Z,10nm,0.8s,baz=89,slow=9.3,SNR=34						
BVAR				PcP	**PcP**	**16 46 54.5**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=93,slow=4.5,SNR=2.8						
BVAR				LR	LR	17 10 48.7	
	comp=Z,56nm,19.1s,baz=87,slow=41						
	comp=Z,10nm,0.8s						
ASAR	**Alice Springs**	**52.69**	**176**	P	**P**	**16 45 58.2**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=10,slow=14,SNR=5.3						
	comp=Z,0.5nm,0.8s						
SDPT	**Sand Point**	**54.52**	**41**	P	**P**	**16 46 11.6**	**+2.2**
C18K	**Utukok River**	**55.09**	**24**	P	**P**	**16 46 13.8**	**+0.4**
K17K	**Iditarod**	**55.71**	**32**	P	**P**	**16 46 19.6**	**+1.8**
K17K				IAmb	IAmb	16 47 00.2	
	comp=Z,18nm,1.4s						
AB31	**Akbulak array**	**56.31**	**312**		**P**	**16 46 21.9**	**-0.4**
AB31				IAmb	IAmb	16 46 23.1	
	comp=Z,10.0nm,0.8s						
ABKAR	**Akbulak array**	**56.31**	**312**		**P**	**16 46 21.5**	**-0.9**
E19K	**Redstone River**	**56.43**	**26**	P	**P**	**16 46 23.7**	**+0.8**
E19K				IAmb	IAmb	16 46 26.5	
	comp=Z,4.7nm,0.8s						
ARTI	**Arti**	**56.59**	**321**	P	**P**	**16 46 24.0**	**-0.3**
ARTI	**Arti**	**56.59**	**321**	LR	LR	17 13 10.0	
	comp=Z,144nm,18.6s,baz=50,slow=39						
H19K	**Roundabout Mou**	**56.63**	**28**	P	**P**	**16 46 26.0**	**+1.7**
H19K				IAmb	IAmb	16 46 39.4	
	comp=Z,8.5nm,1.3s						
D20K	**Etivluk River**	**56.76**	**25**	P	**P**	**16 46 26.3**	**+1.0**
D20K				IAmb	IAmb	16 46 38.6	
	comp=Z,14nm,1.3s						
AKTO	**Aktyubinsk**	**57.40**	**314**	LR	LR	17 13 00.4	
	comp=Z,191nm,19.1s,baz=116,slow=38						
B21K	**Ikpikpuk River**	**57.53**	**24**	P	**P**	**16 46 31.9**	**+1.3**
IMAR	**Indian Mountai**	**57.76**	**28**	P	**P**	**16 46 34.3**	**+2.0**
E22K	**Anaktuvuk Pass**	**58.51**	**25**	P	**P**	**16 46 39.8**	**+2.2**
E22K				IAmb	IAmb	16 46 53.8	
	comp=Z,12nm,1.4s						
D23K	**Nanushuk River**	**58.92**	**24**	P	**P**	**16 46 42.1**	**+1.6**
D23K				IAmb	IAmb	16 47 06.3	
	comp=Z,12nm,1.4s						
E23K	**Chandalar**	**59.34**	**25**	P	**P**	**16 46 45.1**	**+1.6**
F24K	**Squaw Lake**	**60.02**	**26**	P	**P**	**16 46 49.1**	**+1.0**
F24K				IAmb	IAmb	16 47 02.4	
	comp=Z,8.6nm,1.3s						
D25K	**Kavik River**	**60.44**	**24**	P	**P**	**16 46 52.3**	**+1.3**
D25K				IAmb	IAmb	16 46 53.2	
	comp=Z,5.4nm,1.1s						
ILAR	**Eielson Array**	**60.70**	**29**	P	**P**	**16 46 53.7**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=283,slow=7.7,SNR=5.8						
	comp=Z,0.7nm,0.8s						
J26L	**Joseph Creek**	**62.15**	**29**	P	**P**	**16 47 03.4**	**+0.8**
ARCES	**ARCESS Array B**	**68.05**	**339**	LR	LR	17 22 41.5	
	comp=Z,144nm,19.5s,baz=50,slow=40						
KBZ	**Khabaz**	**69.04**	**309**	P	**P**	**16 47 48.1**	**+0.7**
	comp=Z,5.6nm,0.8s,baz=118,slow=1.2,SNR=10						
	comp=Z,5.6nm,0.8s						
FIA1	**FINESS Array S**	**71.38**	**331**	P	**P**	**16 48 01.1**	**-0.2**
FINES	**FINESS Array B**	**71.38**	**331**	P	**P**	**16 48 00.3**	**-1.0**
FINES	**FINESS Array B**	**71.38**	**331**	P	**P**	**16 48 01.1**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=55,slow=6.1,SNR=3.8						
	comp=Z,1.7nm,0.9s						
MARD	**Mardin**	**72.98**	**304**	P	**P**	**16 48 10.7**	**-0.8**
AKASG	**Malin Array Be**	**74.73**	**320**	P	**P**	**16 48 20.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=58,slow=6.0,SNR=6.1						
AKASG				LR	LR	17 23 58.2	
	comp=

BANI			IAML		16 44 21.4	
	comp=N,358nm,0.2s					
BANI			IAML		16 44 21.4	
	comp=N,3µm,0.1s					
LOPP1	**Punta Rusia, P**	**1.32 283**	*i* P	**Pn**	**16 44 02.7**	**+0.3**
LOPP1			*e*S	**Sg**	**16 44 21.5**	**-0.1**
LOPP1			IAML		16 44 23.4	
	comp=Z,616nm,0.3s					
HGY1	**Higuey**	**1.43 132**	*e*Pg	**Pn**	**16 44 04.7**	**+0.8**
HGY1			*e*Sg	**Sg**	**16 44 24.8**	**-0.3**
HGY1			IAML		16 44 30.0	
	comp=N,1µm,0.2s					
SDDR	**Presa de Saban**	**1.49 248**	*e*P	**Pn**	**16 44 05.1**	**+0.4**
SDDR			IAML		16 44 29.6	
	comp=N,509nm,0.6s					
SDDR			IAML		16 44 31.4	
	comp=N,386nm,0.4s					
SDDR	**Presa de Saban**	**1.49 248**Ⅱ	*e*Pg	**Pn**	**16 44 04.8**	**+0.1**
SDDR			*e*Sg	**Sb**	**16 44 25.4**	**+0.8**
SDDR			IAML		16 44 29.9	
	comp=N,564nm,0.7s					
PCDR	**Punta Cana, DR**	**1.72 127**	*e*Pg	**Pb**	**16 44 09.9**	**-0.1**
PCDR			IAML		16 44 37.3	
	comp=N,600nm,0.5s					
MCDR	**Montecristi**	**1.75 281**	*e*Pg	**Pn**	**16 44 08.9**	**+0.7**
MCDR			*e*Sg	**Sb**	**16 44 33.7**	**+1.7**
MCDR			IAML		16 44 38.3	
	comp=N,818nm,0.2s					
LODA1	**ITESIL, Dajabo**	**1.76 270**	*e*Pg	**Pn**	**16 44 09.3**	**+0.9**
LODA1			*e*Sg	**Sb**	**16 44 33.1**	**+0.7**
LODA1			IAML		16 44 39.6	
	comp=N,2µm,0.4s					
LODA1	**ITESIL, Dajabo**	**1.76 270**	*i* P	**Pn**	**16 44 09.5**	**+1.0**
LODA1			*e*S	**Sb**	**16 44 33.1**	**+0.7**
LODA1			IAML		16 44 35.3	
	comp=Z,2µm,2.8s					
LONE3	**El Aguacate, B**	**1.80 239**	*i* P	**Pb**	**16 44 11.1**	**-0.3**
LONE3			*e*S	**Sg**	**16 44 36.2**	**-0.9**
LONE3			IAML		16 44 39.3	
	comp=Z,344nm,0.4s					
NEDR	**Neiba UASD**	**1.84 235**	*e*Pg	**Pb**	**16 44 12.8**	**+0.8**
NEDR			*e*Sg	**Sg**	**16 44 38.2**	**0.0**
NEDR			IAML		16 44 41.3	
	comp=N,414nm,0.5s					
PODR	**Polo**	**1.95 225**	*e*Pg	**Pb**	**16 44 14.1**	**+0.2**
PODR			*e*Sg	**Sg**	**16 44 41.9**	**+0.2**
PODR			IAML		16 44 45.1	
	comp=N,519nm,0.3s					
PODR	**Polo**	**1.95 225**	*i* P	**Pb**	**16 44 14.1**	**+0.2**
PODR			*e*S	**Sg**	**16 44 42.0**	**+0.2**
LODU1	**El Espartillar**	**1.96 233**	*i* P	**Pb**	**16 44 14.5**	**+0.4**
LODU1			IAML		16 44 42.5	
	comp=Z,667nm,0.4s					
JIDR	**Jimani**	**2.18 241**	*e*Pg	**Pb**	**16 44 17.3**	**-0.5**
JIDR			*e*Sg	**Sg**	**16 44 48.9**	**-0.3**
JIDR			IAML		16 44 50.0	
	comp=N,729nm,0.7s					
LOVI	**El Cajuil, Ovi**	**2.27 220**	*i* P	**Pb**	**16 44 18.5**	**-0.9**
LOVI			IAML		16 44 55.1	
	comp=Z,172nm,0.8s					
GRTK	**Grand Turk**	**2.29 328**	*i* P	**Pn**	**16 44 16.0**	**+0.2**
GRTK			*e*S	**Sn**	**16 44 44.2**	**+0.7**
GRTK			IAML		16 44 52.9	
	comp=Z,138nm,0.8s					
LOBH	**Bahia de las A**	**2.40 226**	*i* P	**Pb**	**16 44 21.5**	**-0.1**
LOBH			IAML		16 45 04.0	
	comp=Z,164nm,0.4s					
PAPH	**Port-au-Prince**	**2.55 247**	*e*P	**Pn**	**16 44 21.7**	**+2.4**
PAPH	**Port-au-Prince**	**2.55 247**	*i* P	**Pn**	**16 44 22.1**	**+2.8**
AGPR	**Aguadilla, PR**	**2.80 112**	*e*Pg	**Pg**	**16 44 32.9**	**+0.4**
AGPR			*e*Sg	**Sn**	**16 44 57.7**	**+1.7**
AGPR			IAML		16 45 18.3	
	comp=N,175nm,0.3s					
CRPR	**Cabo Rojo, PR**	**3.01 120**	*e*Pg	**Pb**	**16 44 32.0**	**+0.1**
CRPR			*e*Sg	**Sb**	**16 45 08.6**	**+0.3**
CRPR			IAML		16 45 24.0	
	comp=N,148nm,0.6s					
MLPR	**Magueyes Islan**	**3.08 120**	*e*Pg	**Pb**	**16 44 32.8**	**-0.4**
MLPR			*e*Sg	**Sb**	**16 45 07.3**	**-3.1**
MLPR			IAML		16 45 18.5	
	comp=N,31nm,0.6s					
AOPR	**Arecibo Observ**	**3.16 112**	*e*Pg	**Pb**	**16 44 33.9**	**-0.5**
AOPR			*e*Sg	**Sb**	**16 45 13.1**	**+0.5**
AOPR			IAML		16 45 23.9	
	comp=N,345nm,0.2s					
CELP	**Cerrillos**	**3.42 115**	*e*Pg	**Pb**	**16 44 37.9**	**-1.1**
CELP			*e*Sg	**Sn**	**16 45 13.9**	**+2.5**
CELP			IAML		16 45 23.5	
	comp=N,116nm,0.4s					
MASC	**Masc**	**4.18 279**	*e*P	**Pn**	**16 44 39.8**	**-2.0**
MASC	**Masc**	**4.18 279**	*i* P	**Pn**	**16 44 44.0**	**+2.3**
MASC			*e*S	**Sn**	**16 45 29.6**	**-0.5**
MASC			IAML		16 45 50.3	
	comp=Z,25nm,0.4s					
QMBU	**Quimbuelo**	**4.73 279**	*e*P	**Pn**	**16 44 47.1**	**-2.2**
QMBU			*e*S	**Sn**	**16 45 38.6**	**-5.0**
NMDO	**Nuevo Mundo**	**4.94 283**	*e*P	**Pn**	**16 44 49.4**	**-2.7**
GTBY	**Guantanamo Bay**	**4.98 275**	*e*P	**Pn**	**16 44 51.3**	**-1.4**
GTBY	**Guantanamo Bay**	**4.98 275**	*i* P	**Pn**	**16 44 54.0**	**+1.2**
GTBY			*e*S	**Sn**	**16 45 49.5**	**-0.4**
GTBY			IAML		16 45 55.4	
	comp=Z,12nm,0.8s					
RCC	**Rio Carpintero**	**5.54 275**	*e*P	**Pn**	**16 44 58.2**	**-2.1**
PINC	**Pinares de May**	**5.67 280**	*e*P	**Pn**	**16 44 58.8**	**-3.5**
MARVS	**Santiago de Cu**	**5.73 275**	*e*P	**Pn**	**16 45 00.4**	**-2.6**
HLGC	**Holguin**	**5.99 284**	*e*P	**Pn**	**16 45 04.9**	**-1.8**

*TAP **19** 16:53:21.6,24˚.92N×122˚.05E,h120km,ML3.5,D*
ISC 19 16:53:20.5±2.3,24˚92N±0˚.06×122˚08E±0˚.06,
h127km±11km,n121,σ0s95/230,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.12**	**315**	*i* P	**Pn**	**16 53 38.2**	**+0.5**
TWB1				*i* S	**Sn**	**16 53 49.7**	**-1.1**
TIPB	**Shuangxi**	**0.24**	**282**	*i* P	**Pn**	**16 53 38.3**	**+0.3**
TIPB				*i* S	**Sn**	**16 53 50.0**	**-1.3**
SXI1	**Grass Mountain**	**0.25**	**313**	*i* P	**Pn**	**16 53 38.5**	**+0.4**
SXI1				*i* S	**Sn**	**16 53 51.5**	**0.0**
NWF	**Wu-fen Shan**	**0.31**	**299**	*i* P	**Pn**	**16 53 38.1**	**-0.2**
NWF				*e*S	**Sn**	**16 53 50.8**	**-1.0**
WFSB	**Wu-fen Shan**	**0.31**	**299**	*i* P	**Pn**	**16 53 38.0**	**-0.2**
WFSB				*i* S	**Sn**	**16 53 50.7**	**-0.9**
ILA	**Ilan**	**0.34**	**243**	*i* P	**Pn**	**16 53 39.7**	**+1.4**
ILA				*i* S	**Sn**	**16 53 51.7**	**-0.1**
TWC	**Suao**	**0.38**	**214**	*i* P	**Pn**	**16 53 38.9**	**+0.4**
TWC				*i* S	**Sn**	**16 53 51.1**	**-1.0**
ESAO	**Su ao**	**0.41**	**212**	*i* P	**Pn**	**16 53 38.5**	**-0.2**
ESAO				*i* S	**Sn**	**16 53 51.7**	**-0.7**
TWE	**Neicheng**	**0.43**	**242**	*i* P	**Pn**	**16 53 39.4**	**+0.7**
TWE				S	**Sn**	**16 53 52.3**	**-0.2**
NDS	**Dongshan**	**0.44**	**229**	*i* P	**Pn**	**16 53 39.6**	**+0.8**
NDS				*i* S	**Sn**	**16 53 52.2**	**-0.4**
FUSB	**Fushanzhiwuyua**	**0.48**	**250**	*i* P	**Pn**	**16 53 39.4**	**+0.3**
FUSB				*e*S	**Sn**	**16 53 52.7**	**-0.4**
NHY	**Taipei**	**0.48**	**284**	P	**Pn**	**16 53 39.9**	**+0.9**
NHY				S	**Sn**	**16 53 53.4**	**+0.3**
NHDH	**Xindian Distri**	**0.51**	**275**	*i* P	**Pn**	**16 53 39.7**	**+0.6**
NHDH				*i* S	**Sn**	**16 53 52.3**	**-1.0**
YM01	**YM01**	**0.52**	**296**	*i* P	**Pn**	**16 53 39.5**	**+0.2**
YM01				S	**Sn**	**16 53 52.4**	**-1.1**
YM08	**YM08**	**0.52**	**301**	*e*P	Pn	16 53 35.6	-3.7
YM08				*e*S	**Sn**	**16 53 51.1**	**-2.4**
EOS2	**EOS2**	**0.52**	**165**	*i* P	**Pn**	**16 53 40.4**	**+1.3**
EOS2				*i* S	**Sn**	**16 53 54.2**	**+1.0**
TAP	**Taipei**	**0.54**	**283**	P	**Pn**	**16 53 39.6**	**+0.3**
TAP				S	**Sn**	**16 53 53.1**	**-0.5**
TATO	**Taipei**	**0.54**	**276**	P	**Pn**	**16 53 40.4**	**+1.0**
TATO	**Taipei**	**0.54**	**276**	S	**Sn**	**16 53 53.4**	**-0.3**
TATO	**Taipei**	**0.54**	**276**	*i* P	**Pn**	**16 53 39.8**	**+0.4**
TATO				*i* S	**Sn**	**16 53 52.1**	**-1.5**
ZUZH	**Zhuzihu**	**0.54**	**296**	*i* P	**Pn**	**16 53 39.7**	**+0.2**
ZUZH				*i* S	**Sn**	**16 53 52.3**	**-1.5**
NWLT	**Wulai**	**0.55**	**255**	*i* P	**Pn**	**16 53 39.7**	**+0.3**
NWLT				*i* S	**Sn**	**16 53 52.9**	**-0.9**
ENTT	**Nioudou**	**0.55**	**239**	*i* P	**Pn**	**16 53 40.4**	**+0.9**
ENTT				*i* S	**Sn**	**16 53 53.8**	**0.0**
TWY	**Chenhua**	**0.56**	**309**	*e*P	**Pn**	**16 53 40.7**	**+1.2**
TWY				*e*S	**Sn**	**16 53 53.4**	**-0.5**
ANP	**Anpu**	**0.57**	**297**	*i* P	**Pn**	**16 53 39.9**	**+0.2**
ANP				*e*S	**Sn**	**16 53 53.6**	**-0.7**
ENA	**Nanau**	**0.58**	**212**	*i* P	**Pn**	**16 53 40.4**	**+0.7**
ENA				*i* S	**Sn**	**16 53 54.2**	**+0.1**
NTST	**Danshui**	**0.62**	**293**	*i* P	**Pn**	**16 53 40.8**	**+0.9**
NTST				*i* S	**Sn**	**16 53 55.1**	**+0.5**
TWS1	**Kuangyinshan**	**0.63**	**287**	*i* P	**Pn**	**16 53 40.6**	**+0.7**
TWS1				S	**Sn**	**16 53 55.0**	**+0.3**
LATG	**Datong**	**0.64**	**233**	*i* P	**Pn**	**16 53 40.9**	**+0.8**
LATG				*i* S	**Sn**	**16 53 55.2**	**+0.1**
EAHA	**Aohua**	**0.67**	**208**	P	**Pn**	**16 53 40.9**	**+0.7**
EAHA				*i* S	**Sn**	**16 53 55.2**	**0.0**
EOS3	**EOS3**	**0.67**	**161**	*e*P	**Pn**	**16 53 41.5**	**+1.5**
EOS3				*e*S	**Sn**	**16 53 56.1**	**+1.2**
YHNB	**Yeheng**	**0.69**	**249**	P	**Pn**	**16 53 40.9**	**+0.4**
YHNB	**Yeheng**	**0.69**	**249**	*i* P	**Pn**	**16 53 40.8**	**+0.3**
YHNB				*i* S	**Sn**	**16 53 54.4**	**-1.2**
NSK	**Sanguang**	**0.70**	**250**	*i* P	**Pn**	**16 53 40.9**	**+0.3**
NSK				*i* S	**Sn**	**16 53 54.3**	**-1.5**
NTY	**Taoyuan**	**0.71**	**276**	*i* P	**Pn**	**16 53 41.5**	**+0.9**
NTY				*i* S	**Sn**	**16 53 55.6**	**-0.2**
NNSB	**Datong**	**0.80**	**232**	*i* P	**Pn**	**16 53 42.2**	**+0.7**
NNSB				*i* S	**Sn**	**16 53 57.2**	**-0.1**
NNS	**Nan Shan**	**0.80**	**233**	*i* P	**Pn**	**16 53 42.1**	**+0.6**
NNS				*i* S	**Sn**	**16 53 56.8**	**-0.5**
NCU	**National Centr**	**0.81**	**274**	*e*P	Pn	16 53 37.6	-3.8
NCU				*e*S	**Sn**	**16 53 52.5**	**-4.7**
NCUH	**Zhongli**	**0.81**	**273**	*i* P	**Pn**	**16 53 42.2**	**+0.8**
NCUH				*i* S	**Sn**	**16 53 57.3**	**0.0**
EOS4	**EOS4**	**0.83**	**165**	*e*P	**Pn**	**16 53 42.7**	**+1.6**
EOS4				*e*S	**Sn**	**16 53 57.6**	**+0.9**
KSHI	**Guanxi Townshi**	**0.83**	**260**	*i* P	**Pn**	**16 53 42.2**	**+0.7**
KSHI				*i* S	**Sn**	**16 53 56.6**	**-0.9**
ETL	**Fush Village**	**0.87**	**209**	*i* P	**Pn**	**16 53 42.1**	**+0.2**
ETL				*i* S	**Sn**	**16 53 56.2**	**-1.9**
NACB	**Ninganchiao**	**0.87**	**211**	P	**Pn**	**16 53 42.0**	**+0.1**
NACB	**Ninganchiao**	**0.87**	**211**	*i* P	**Pn**	**16 53 42.0**	**+0.1**
NACB				*i* S	**Sn**	**16 53 56.8**	**-1.3**
ETLH	**Xiulin Townshi**	**0.90**	**218**	*i* P	**Pn**	**16 53 42.6**	**+0.3**
ETLH				*i* S	**Sn**	**16 53 57.8**	**-0.9**
NFF	**Wufeng Townshi**	**0.92**	**252**	*i* P	**Pn**	**16 53 42.7**	**+0.3**
NFF				*i* S	**Sn**	**16 53 57.6**	**-1.4**
TWD	**Chiawan**	**0.95**	**208**	*i* P	**Pn**	**16 53 42.7**	**+0.1**
TWD				*i* S	**Sn**	**16 53 57.8**	**-1.6**
SBCB	**Hsinchu**	**1.00**	**263**	*i* P	**Pn**	**16 53 43.8**	**+0.7**
SBCB				*i* S	**Sn**	**16 53 59.9**	**-0.3**
LIOB	**Emei**	**1.01**	**254**	*i* P	**Pn**	**16 53 43.8**	**+0.6**
LIOB				*i* S	**Sn**	**16 53 59.7**	**-0.6**
FUSS	**Fushou**	**1.02**	**229**	*i* P	**Pn**	**16 53 44.7**	**+1.2**
FUSS				*i* S	**Sn**	**16 54 00.7**	**-0.2**
HSN	**Hsinchu**	**1.02**	**263**	*i* P	**Pn**	**16 53 45.3**	**+0.3**
HSN				*i* S	**Sn**	**16 53 59.6**	**-0.8**
NSTT	**Nanjuang**	**1.02**	**254**Ⅱ	*i* P	**Pn**	**16 53 43.9**	**+0.6**
NSTT				*i* S	**Sn**	**16 53 59.4**	**-1.2**
HWA	**Hwalien**	**1.04**	**205**	*i* P	**Pn**	**16 53 42.3**	**-1.1**
HWA				*i* S	**Sn**	**16 54 01.8**	**+1.0**
TWT	**Tachien**	**1.06**	**231**	*i* P	**Pn**	**16 53 45.1**	**+1.3**
TWT				*i* S	**Sn**	**16 54 01.9**	**+0.4**
TDCB	**Techi**	**1.07**	**232**	*i* P	**Pn**	**16 53 45.1**	**+1.1**
TDCB				*i* S	**Sn**	**16 54 01.6**	**-0.1**
WHF	**Hehuan Shan**	**1.07**	**224**	*i* P	**Pn**	**16 53 45.0**	**+0.8**
WHF				*i* S	**Sn**	**16 54 01.9**	**-0.4**
LXIB	**Xiulin Townshi**	**1.08**	**214**	*i* P	**Pn**	**16 53 44.2**	**+0.2**
LXIB				*i* S	**Sn**	**16 54 01.1**	**-0.8**
ETM	**Tongmen**	**1.09**	**209**	*i* P	**Pn**	**16 53 44.1**	**+0.1**
ETM				*i* S	**Sn**	**16 54 00.1**	**-1.7**
WHP	**Taichung City**	**1.22**	**238**	*i* P	**Pn**	**16 53 46.2**	**+0.9**
WHP				*i* S	**Sn**	**16 54 03.7**	**-0.5**
SHUL	**Shoufeng**	**1.23**	**203**	*i* P	**Pn**	**16 53 46.3**	**+0.4**
SHUL				*i* S	**Sn**	**16 54 04.6**	**+0.4**
NMLH	**Miaoli**	**1.23**	**252**	*i* P	**Pn**	**16 53 46.3**	**+0.9**
NMLH				*i* S	**Sn**	**16 54 03.9**	**-0.4**
ESL	**Shilin**	**1.25**	**208**	*i* P	**Pn**	**16 53 45.4**	**-0.2**
ESL				*i* S	**Sn**	**16 54 02.8**	**-1.9**
OWD	**Renai**	**1.27**	**221**	*i* P	**Pn**	**16 53 46.4**	**+0.4**
OWD				*i* S	**Sn**	**16 54 04.6**	**-0.6**
WUSB	**Renai**	**1.28**	**224**	*i* P	**Pn**	**16 53 47.3**	**+1.3**
WUSB				S	**Sn**	**16 54 05.2**	**-0.2**
NSY	**Sanyi**	**1.30**	**248**	*i* P	**Pn**	**16 53 47.3**	**+1.1**
NSY				*i* S	**Sn**	**16 54 05.3**	**-0.4**
TWQ1	**Liyutan**	**1.32**	**245**	*i* P	**Pn**	**16 53 46.8**	**+0.5**
TWQ1				S	**Sn**	**16 54 05.0**	**-1.0**
WARBT	**Fenglin Townsh**	**1.36**	**208**	*i* P	**Pn**	**16 53 46.4**	**-0.3**
WARBT				*i* S	**Sn**	**16 54 04.9**	**-1.8**
WCS	**Beigang Elemen**	**1.37**	**231**	*i* P	**Pn**	**16 53 47.9**	**+1.0**
WCS				*i* S	**Sn**	**16 54 06.3**	**-0.7**
EGFH	**Guangfu**	**1.38**	**206**	*i* P	**Pn**	**16 53 47.1**	**0.0**
EGFH				*i* S	**Sn**	**16 54 05.8**	**-1.5**
WDJ	**Dajia District**	**1.43**	**247**	*i* P	**Pn**	**16 53 48.4**	**+0.8**
WDJ				*i* S	**Sn**	**16 54 08.5**	**+0.4**
SMLT	**Sun Moon Lake**	**1.49**	**226**	*i* P	**Pn**	**16 53 49.5**	**+1.1**
SMLT				*i* S	**Sn**	**16 54 10.4**	**+0.8**
TCU	**Taichung**	**1.49**	**239**	*i* P	**Pn**	**16 53 49.5**	**+1.2**
TCU				*i* S	**Sn**	**16 54 09.0**	**-0.4**
TYC	**Yuchr**	**1.51**	**228**	*i* P	**Pn**	**16 53 49.5**	**+1.1**
TYC				*i* S	**Sn**	**16 54 10.0**	**+0.4**
SSLB	**Suanglung**	**1.53**	**223**	P	**Pn**	**16 53 49.8**	**+1.1**
SSLB	**Suanglung**	**1.53**	**223**	*i* P	**Pn**	**16 53 49.9**	**+1.1**
SSLB				*i* S	**Sn**	**16 54 10.4**	**+0.2**
HGSD	**Ruisui**	**1.54**	**203**	*i* P	**Pn**	**16 53 49.9**	**+1.0**
HGSD				S	**Sn**	**16 54 11.2**	**+0.7**
EHY	**Hungye**	**1.57**	**206**	*i* P	**Pn**	**16 53 49.4**	**+0.2**
EHY				*i* S	**Sn**	**16 54 09.3**	**-1.7**
EHYH	**Wanrong**	**1.57**	**205**	*i* P	**Pn**	**16 53 49.7**	**+0.5**
EHYH				*i* S	**Sn**	**16 54 09.4**	**-1.6**
WCHH	**Zhanghua**	**1.62**	**239**	*i* P	**Pn**	**16 53 50.3**	**+0.6**
WCHH				*i* S	**Sn**	**16 54 12.0**	**0.0**
WNT	**Mingjian**	**1.64**	**231**	*i* P	**Pn**	**16 53 51.1**	**+1.1**
WNT				*i* S	**Sn**	**16 54 12.8**	**+0.3**
WJS	**Zhushan**	**1.65**	**229**	*i* P	**Pn**	**16 53 51.2**	**+1.1**
WJS				*i* S	**Sn**	**16 54 12.8**	**+0.2**
WHYT	**Xinyi Township**	**1.66**	**223**	*i* P	**Pn**	**16 53 51.5**	**+1.3**
WHYT				*i* S	**Sn**	**16 54 13.2**	**+0.4**
YULB	**Yu-li**	**1.68**	**205**	P	**Pn**	**16 53 50.5**	**0.0**
YULB	**Yu-li**	**1.68**	**205**	*i* P	**Pn**	**16 53 50.0**	**-0.5**
YULB				*i* S	**Sn**	**16 54 11.6**	**-1.7**
TWF1	**Yuli**	**1.72**	**205**	*i* P	**Pn**	**16 53 50.7**	**-0.2**
TWF1				*i* S	**Sn**	**16 54 13.2**	**-0.9**
ALS	**Alishan**	**1.83**	**220**	*i* P	**Pn**	**16 53 53.9**	**+1.5**
ALS				*i* S	**Sn**	**16 54 17.4**	**+0.5**
CHN5	**Tsauling**	**1.84**	**224**	*i* P	**Pn**	**16 53 53.7**	**+1.3**
CHN5				*i* S	**Sn**	**16 54 17.7**	**+0.4**
WGK	**Gukeng**	**1.85**	**229**	*i* P	**Pn**	**16 53 53.8**	**+1.3**
WGK				*i* S	**Sn**	**16 54 16.9**	**-0.1**
FULB	**Fuli**	**1.86**	**203**	*i* P	**Pn**	**16 53 53.3**	**+0.7**
FULB				*i* S	**Sn**	**16 54 17.0**	**-0.2**
WDLH	**Douliu**	**1.87**	**229**	*i* P	**Pn**	**16 53 54.0**	**+1.4**
WDLH				*i* S	**Sn**	**16 54 16.2**	**-1.0**
CHKT	**Chengkung**	**1.93**	**200**	*i* P	**Pn**	**16 53 53.5**	**+0.1**
CHKT				*i* S	**Sn**	**16 54 16.9**	**-1.6**
EHD	**Haiduan**	**1.94**	**205**	*i* P	**Pn**	**16 53 53.4**	**-0.2**
EHD				*i* S	**Sn**	**16 54 16.9**	**-2.0**
WTK	**Tuku**	**1.97**	**232**	*i* P	**Pn**	**16 53 54.8**	**+0.9**
WTK				*i* S	**Sn**	**16 54 19.1**	**-0.4**
ELDTW	**Lidau**	**1.98**	**210**	*i* P	**Pn**	**16 53 54.7**	**+0.5**
ELDTW				*i* S	**Sn**	**16 54 19.4**	**-0.5**
ECS	**Chishang**	**1.98**	**204**	*e*P	**Pn**	**16 53 54.7**	**+0.6**
ECS				S	**Sn**	**16 54 21.0**	**+1.2**
WCKO	**Fanlu**	**2.00**	**223**	*i* P	**Pn**	**16 53 55.6**	**+1.4**
WCKO				*i* S	**Sn**	**16 54 22.5**	**+0.4**
EDH	**Donghe**	**2.07**	**200**	P	**Pn**	**16 53 55.3**	**+0.2**
EDH				*i* S	**Sn**	**16 54 20.6**	**-1.0**
CHY	**Chiayi**	**2.07**	**227**	*i* P	**Pn**	**16 53 56.3**	**+1.1**
CHY				*i* S	**Sn**	**16 54 22.0**	**+0.3**
TPUB	**Ta-pu**	**2.09**	**220**	P	**Pn**	**16 53 56.6**	**+1.2**
TPUB	**Ta-pu**	**2.09**	**220**	S	**Sn**	**16 54 22.1**	**0.0**
TPUB	**Ta-pu**	**2.09**	**220**	*i* P	**Pn**	**16 53 56.7**	**+1.2**
TPUB				*i* S	**Sn**	**16 54 21.7**	**-0.4**
STYH	**Taoyuan**	**2.11**	**215**	*i* P	**Pn**	**16 53 56.8**	**+1.1**
STYH				*i* S	**Sn**	**16 54 23.0**	**+0.4**
WSF	**Szhu**	**2.12**	**233**	*e*P	**Pn**	**16 53 55.7**	**-0.1**
WSF				S	**Sn**	**16 54 22.7**	**-0.1**
WTP	**Ta-pu**	**2.14**	**219**	*i* P	**Pn**	**16 53 57.0**	**+0.9**
WTP				*i* S	**Sn**	**16 54 23.0**	**-0.3**
LONT	**Longtian**	**2.19**	**204**	*i* P	**Pn**	**16 53 56.3**	**-0.3**
LONT				*i* S	**Sn**	**16 54 22.8**	**-1.5**
WSL	**Shuilin Townsh**	**2.19**	**231**	*i* P	**Pn**	**16 53 57.3**	**+0.6**
WSL				*i* S	**Sn**	**16 54 23.5**	**-0.9**
TWK	**Hsinying**	**2.20**	**222**	*i* P	**Pn**	**16 53 58.0**	**+1.2**
TWK				*i* S	**Sn**	**16 54 24.4**	**-0.2**
TWG	**Pinlang**	**2.29**	**204**	*i* P	**Pn**	**16 53 57.8**	**-0.1**
TWG				*i* S	**Sn**	**16 54 24.7**	**-1.9**
TWGBT	**Beinan**	**2.29**	**204**	P	**Pn**	**16 53 58.1**	**+0.2**
TWGBT	**Beinan**	**2.29**	**204**	S	**Sn**	**16 54 25.4**	**-1.1**
TWGBT	**Beinan**	**2.29**	**204**	*i* P	**Pn**	**16 53 57.2**	**-0.7**
TWGBT				S	**Sn**	**16 54 24.9**	**-1.7**
SCLT	**Jiali**	**2.45**	**225**	*e*P	**Pn**	**16 54 00.8**	**+1.0**
SCLT				S	**Sn**	**16 54 30.2**	**0.0**
SCST	**Cishan**	**2.49**	**216**	*i* P	**Pn**	**16 54 01.9**	**+1.5**
SCST				*i* S	**Sn**	**16 54 30.8**	**-0.4**
ECL	**Taimali**	**2.54**	**204**	P	**Pn**	**16 54 00.6**	**-0.4**
ECL				S	**Sn**	**16 54 31.1**	**-1.0**
TSCK	**Chigu Township**	**2.54**	**226**	*i* P	**Pn**	**16 54 02.3**	**+1.3**
TSCK				*i* S	**Sn**	**16 54 31.4**	**-0.8**
SSD	**Sandimen**	**2.54**	**212**	*i* P	**Pn**	**16 54 02.5**	**+1.4**
SSD				S	**Sn**	**16 54 32.4**	**+0.2**
MASBT	**Mashibuluo**	**2.66**	**210**	*i* P	**Pn**	**16 54 04.0**	**+1.5**
MASBT				*i* S	**Sn**	**16 54 35.1**	**+0.2**
PHUB	**P'eng-hu**	**2.69**	**239**	*i* P	**Pn**	**16 54 03.0**	**+0.2**
PHUB				*i* S	**Sn**	**16 54 33.4**	**-2.1**
EAST	**Anshuo**	**2.77**	**204**	*i* P	**Pn**	**16 54 04.5**	**+0.5**
EAST				*e*S	**Sn**	**16 54 37.1**	**-0.5**
SCZT	**Fangliau**	**2.87**	**208**	*i* P	**Pn**	**16 54 06.0**	**+0.7**
SCZT				*e*S	**Sn**	**16 54 39.1**	**-0.8**
LYUB	**Lan-yu**	**2.94**	**189**	*e*P	**Pn**	**16 54 05.7**	**-0.5**
LYUB				*e*S	**Sn**	**16 54 39.7**	**-1.8**

*SNET **19** 17:05:05.2±0.9, 13˚.38N×89˚.66W, h62km, ML2.9*
*GCG **19** 17:05:06.0±0.6, 13˚.46N×89˚.66W, h61km±16km, MD2.9*
ISC 19 17:05:05.7±2.6,13˚3N±0˚.1×89˚69W±0˚.10,h56km±14km,
n29,σ0s51/41,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.40**	**36**	*e*P	**Pn**	**17 05 16.0**	**-0.4**
JAYA				*e*S	**Sn**	**17 05 24.2**	**0.0**
JAYA	**Jayaque - finc**	**0.40**	**36**	*i* P	**Pn**	**17 05 16.0**	**-0.4**
CEVE	**Cerro Verde**	**0.50**	**7**	*e*P	**Pn**	**17 05 17.4**	**-0.3**
SBLS	**San Blas**	**0.51**	**7**	*e*P	**Pn**	**17 05 17.3**	**-0.5**
SBLS				*e*S	**Sn**	**17 05 27.1**	**+0.7**
PMON	**Piamonte**	**0.52**	**44**	*e*P	**Pn**	**17 05 17.3**	**-0.4**
SNJE	**San Jose**	**0.54**	**9**	*e*P	**Pn**	**17 05 17.7**	**-0.4**
RTR	**El Retiro**	**0.56**	**4**	*e*P	**Pn**	**17 05 18.2**	**-0.1**
BOQS	**Boqueron**	**0.56**	**45**	*e*P	**Pn**	**17 05 18.0**	**-0.3**
BOQS				*e*S	**Sn**	**17 05 27.9**	**+0.4**
PANCS	**Alcalda de**	**0.57**	**61**	*e*P	**Pn**	**17 05 17.6**	**-0.6**
NUBE	**Las Nubes**	**0.57**	**351**	*e*P	**Pn**	**17 05 18.1**	**-0.3**
NUBE				*e*S	**Sn**	**17 05 27.5**	**-0.1**
NUBE	**Las Nubes**	**0.57**	**351**	*i* P	**Pn**	**17 05 18.2**	**-0.2**
UEES	**Universidad Ev**	**0.58**	**49**	*e*P	**Pn**	**17 05 17.9**	**-0.4**
UEES				*e*S	**Sn**	**17 05 28.1**	**+0.5**
LOMA	**Loma Larga**	**0.59**	**58**	*e*P	**Pn**	**17 05 18.0**	**-0.5**

FITZ	**Fitzroy Crossi**	**8.93**	**171**		**Pn**	**17 30 11.0**	**-1.6**
FITZ	**Fitzroy Crossi**	**8.93**	**171**	P	**Pn**	**17 30 11.1**	**-1.5**
	46nm,0.5s,baz=6.1,slow=10,SNR=321						
FITZ				S	Sn	17 31 44.2	-7.3
	201nm,0.4s,baz=84,slow=4.6,SNR=10						
FITZ				LR	LR	17 34 20.4	
	comp=Z,137nm,21.7s,baz=1.0,slow=41						
FITZ	**Fitzroy Crossi**	**8.93**	**171**	P	**Pn**	**17 30 11.0**	**-1.6**
PCI	**Palu**	**9.31**	**333**	P	**Pn**	**17 30 19.7**	**+1.8**
	93nm,0.8s						
JAGI	**Jajag, Banyuwa**	**9.87**	**274**		Pn	17 30 20.8	-4.7
MRSI	**Marisa**	**9.89**	**347**	P	**Pn**	**17 30 26.6**	**+0.8**
	22nm,1.0s						
FAKI	**Fak Fak**	**10.24**	**53**	Pn	**Pn**	**17 30 30.2**	**-0.4**
TOLI2	**Tolitoli**	**10.81**	**342**		**Pn**	**17 30 39.8**	**+1.5**
TOLI2	**Tolitoli**	**10.81**	**342**	P	**Pn**	**17 30 41.9**	**+3.6**
TOLI2	**Tolitoli**	**10.81**	**342**	S	**Sn**	**17 32 42.2**	**+4.7**
MBWA	**Marble Bar**	**12.57**	**199**	Pn	**Pn**	**17 31 00.9**	**-1.3**
PSA00	**Pilbara Seismi**	**12.93**	**198**	Pn	**Pn**	**17 31 05.2**	**-1.8**
PSA00	**Pilbara Seismi**	**12.93**	**198**	Pn	**Pn**	**17 31 06.8**	**-0.2**
UGM	**Wanagama**	**13.50**	**275**	Pn	**Pn**	**17 31 12.2**	**-2.4**
WRA	**Warramunga Arr**	**14.52**	**138**	P	Pn	17 31 23.9	-3.9
	6.2nm,0.4s,baz=232,slow=12,SNR=136						
WRA				S	Sn	17 33 56.0	-12
	37nm,0.7s,baz=308,slow=24,SNR=17						
WRA				LR	LR	17 36 56.4	
	comp=Z,88nm,20.9s,baz=100,slow=37						
WRAB	**Tennant Creek**	**14.52**	**138**	Pn	**Pn**	**17 31 24.6**	**-3.3**
WR8	**Warramunga Arr**	**14.64**	**138**		Pn	17 31 25.8	-3.6
DAV	**Davao City (W)**	**16.27**	**5**	LR	LR	17 38 07.9	
	comp=Z,26nm,21.2s,baz=158,slow=38						
LEM	**Lembang**	**16.50**	**277**	P	**P**	**17 31 54.4**	**-0.1**
	26nm,0.7s,baz=34,slow=9.0,SNR=5.7						
LEM				LR	LR	17 39 37.4	
	comp=Z,39nm,21.9s,baz=177,slow=41						
SBUM	**Sibu**	**16.59**	**314**		**P**	**17 31 56.3**	**+1.1**
SBUM	**Sibu**	**16.59**	**314**	P	**P**	**17 31 58.4**	**+3.2**
KKM	**Kota Kinabalu**	**17.10**	**332**	P	**Pn**	**17 32 00.9**	**+0.4**
KKM				IAmb	IAmb	17 32 07.8	
	comp=Z,18nm,0.8s						
KKM	**Kota Kinabalu**	**17.10**	**332**	P	**P**	**17 32 05.3**	**+4.3**
AS31	**Alice Springs**	**17.13**	**148**		**Pn**	**17 31 58.8**	**-1.9**
ASAR	**Alice Springs**	**17.13**	**148**		**Pn**	**17 31 58.2**	**-2.5**
ASAR	**Alice Springs**	**17.13**	**148**	P	**Pn**	**17 31 58.9**	**-1.8**
	comp=Z,11nm,0.5s,baz=326,slow=12,SNR=70						
ASAR				S	Sn	17 34 60.0	-11
	comp=Z,10.0nm,0.5s,baz=312,slow=18,SNR=11						
ASAR				LR	LR	17 39 49.4	
	comp=Z,106nm,20.0s,baz=36,slow=41						
ASAR				ScP	**ScP**	**17 40 10.3**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=322,slow=2.4,SNR=3.2						
KSM	**Kuching**	**17.39**	**307**		**P**	**17 32 02.7**	**-1.3**
KSM				IAmb	IAmb	17 32 08.8	
	comp=Z,29nm,1.3s						
KSM	**Kuching**	**17.39**	**307**	P	**Pn**	**17 32 08.1**	**+4.2**
JAY	**Jayapura**	**17.80**	**69**	P	P	17 32 00.8	-7.8
	comp=Z,14nm,1.0s,baz=162,slow=20,SNR=1.8						
QIS	**Mount Isa**	**18.71**	**129**	P	**Pn**	**17 32 21.1**	**+1.3**
COEN	**Coen**	**19.25**	**106**		**P**	**17 32 25.3**	**+0.8**
COEN				IAmb	IAmb	17 32 27.8	
	comp=Z,25nm,0.7s						
COEN	**Coen**	**19.25**	**106**	P	**Pn**	**17 32 27.3**	**+1.0**
MORW	**Morawa**	**21.13**	**200**	P	**P**	**17 32 45.0**	**+0.3**
MORW				IAmb	IAmb	17 33 06.6	
	comp=Z,44nm,1.4s						
MTSU	**Mount Surprise**	**21.51**	**116**	P	**P**	**17 32 51.5**	**+2.6**
INKA	**Innaminka**	**24.18**	**142**	P	**P**	**17 33 18.2**	**+3.0**
NWAO	**Narrogin (SRO)**	**24.41**	**194**	P	**P**	**17 33 18.0**	**+0.7**
QLP	**Quilpie**	**25.70**	**135**	P	**P**	**17 33 32.5**	**+3.4**
BBOO	**Buckleboo**	**25.92**	**156**	P	**P**	**17 33 32.9**	**+1.9**
BBOO	**Buckleboo**	**25.92**	**156**	P	**P**	**17 33 33.5**	**+2.5**
STKA	**Stephens Creek**	**27.76**	**147**	P	**P**	**17 33 50.0**	**+2.5**
STKA	**Stephens Creek**	**27.76**	**147**	P	**P**	**17 33 45.8**	**-1.7**
	comp=Z,4.8nm,0.5s,baz=316,slow=8.6,SNR=15						
STKA				LR	LR	17 46 21.7	
	comp=Z,78nm,19.8s,baz=25,slow=40						
	comp=Z,4.8nm,0.5s						
CMSA	**Cobar Meteorol**	**29.90**	**141**	P	**P**	**17 34 09.9**	**+3.4**
CMAR	**Chiang Mai Arr**	**37.07**	**318**	P	**P**	**17 35 08.9**	**0.0**
	comp=Z,1.6nm,0.4s,baz=136,slow=6.3,SNR=16						
CMAR				ScP	**ScP**	**17 41 07.7**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=130,slow=4.1,SNR=5.8						
CMAR				LR	LR	17 51 36.4	
	comp=Z,20nm,20.6s,baz=135,slow=38						
	comp=Z,1.6nm,0.4s						
CHTO	**Chiang Mai**	**37.33**	**318**		**P**	**17 35 10.4**	**-0.6**
CHTO				IAmb	IAmb	17 35 11.6	
	comp=Z,8.6nm,1.2s						
NJ2	**Nanjing**	**41.37**	**353**	*e*P	**P**	**17 35 46.0**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
PZH	**PanZhiHua**	**41.65**	**329**	P	**P**	**17 35 47.9**	**+0.9**
XAN	**Xi'an**	**45.40**	**342**	⇑P	**P**	**17 36 16.3**	**-0.6**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SHL	**Shillong**	**46.70**	**319**	P	**P**	**17 36 25.4**	**-2.2**
SHL				IAmb	IAmb	17 36 30.0	
	comp=Z,7.4nm,0.7s						
MJAR	**Matsushiro Arr**	**47.43**	**15**	P	**P**	**17 36 30.8**	**-2.0**
	comp=Z,2.7nm,0.8s,baz=189,slow=8.6,SNR=4.6						
	comp=Z,2.7nm,0.8s						
LSA	**Lhasa**	**50.06**	**322**	P	**P**	**17 36 51.5**	**-2.1**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**51.17**	**348**	*e*P	**P**	**17 37 03.8**	**+2.5**
HHC				pmax	pmax		
	comp=Z,25nm,0.6s						
HHC				pmax	pmax		
	comp=Z,69nm,4.1s						
GTA	**Gaotai**	**53.41**	**337**	*e*P	**P**	**17 37 21.0**	**+3.0**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
USRK	**Ussuriysk Ar.**	**53.67**	**7**	P	**P**	**17 37 18.3**	**-1.3**
	comp=Z,2.9nm,0.7s,baz=167,slow=9.6,SNR=5.0						
	comp=Z,2.9nm,0.7s						
SONM	**Songino Array**	**58.96**	**346**	P	**P**	**17 37 54.9**	**-2.5**
	comp=Z,0.7nm,0.5s,baz=157,slow=8.0,SNR=3.8						
	comp=Z,0.7nm,0.5s						
NIL	**Nilore**	**64.42**	**314**	P	**P**	**17 38 32.5**	**-1.7**
KSH	**Kashi**	**65.89**	**321**	P	**P**	**17 38 43.6**	**-0.2**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MKAR	**Makanchi Array**	**67.07**	**330**		**P**	**17 38 49.1**	**-1.9**
MKAR	**Makanchi Array**	**67.07**	**330**	P	**P**	**17 38 49.4**	**-1.7**
	comp=Z,4.0nm,0.8s,baz=134,slow=8.0,SNR=35						
	comp=Z,4.0nm,0.8s						
BOOM	**Boomskoye usch**	**67.69**	**323**	IAmb	IAmb	17 39 02.6	
	comp=Z,2.6nm,0.6s						
PETK	**Petropavlovsk-**	**68.38**	**21**	P	**P**	**17 38 55.5**	**-3.6**
	comp=Z,2.9nm,1.1s,baz=193,slow=2.8,SNR=4.8						
	comp=Z,2.9nm,1.1s						
MAW	**Mawson**	**70.77**	**201**	P	**P**	**17 39 15.5**	**+2.0**
	comp=Z,1.0nm,0.4s,baz=29,slow=19,SNR=1.6						
	comp=Z,1.0nm,0.4s						
VNDA	**Vanda**	**71.00**	**172**	P	**P**	**17 39 15.8**	**+1.0**
VNDA	**Vanda**	**71.00**	**172**	P	**P**	**17 39 16.0**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=317,slow=8.1,SNR=6.6						
	comp=Z,0.7nm,0.6s						
ZAA0	**Zalesovo Array**	**71.16**	**337**		**P**	**17 39 13.7**	**-2.4**
ZALV	**Zalesovo Beam**	**71.16**	**337**		**P**	**17 39 13.4**	**-2.7**
ZALV	**Zalesovo Beam**	**71.16**	**337**	P	**P**	**17 39 13.6**	**-2.5**
	comp=Z,2.3nm,0.6s,baz=122,slow=4.2,SNR=13						
	comp=Z,2.3nm,0.6s						
YAK	**Yakutsk**	**71.19**	**3**	P	**P**	**17 39 14.9**	**-1.1**
KKAR	**Karatay Array**	**71.31**	**322**	P	**P**	**17 39 16.1**	**-1.3**
KURBB	**Kurchatov Arra**	**71.51**	**331**	P	**P**	**17 39 16.7**	**-1.6**
	comp=Z,2.1nm,0.8s,baz=140,slow=5.1,SNR=27						
	comp=Z,2.1nm,0.8s						
KURK	**Kurchatov**	**71.53**	**331**		**P**	**17 39 16.7**	**-1.7**
KURK				IAmb	IAmb	17 39 18.1	
	comp=Z,3.6nm,0.8s						
BVAR	**Borovoye Array**	**76.96**	**330**	P	**P**	**17 39 48.7**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=133,slow=8.3,SNR=3.5						
	comp=Z,0.5nm,0.6s						
QSPA	**South Pole Qui**	**80.75**	**180**	P	**P**	**17 40 13.0**	**+2.3**
	comp=Z,1.4nm,0.8s,baz=42,slow=0.6,SNR=7.0						
	comp=Z,1.4nm,0.8s						
RAYN	**Ar Rayn**	**83.36**	**295**		**P**	**17 40 23.6**	**-1.5**
RAYN				IAmb	IAmb	17 40 28.5	
	comp=Z,2.5nm,0.7s						
SNAA	**Sanae**	**92.08**	**195**		**P**	**17 41 07.0**	**+0.8**
SNAA				IAmb	IAmb	17 41 11.5	
	comp=Z,3.2nm,1.1s						
SNAA	**Sanae**	**92.08**	**195**	P	**P**	**17 41 06.3**	**0.0**
	comp=Z,1.0nm,0.5s,baz=108,slow=19,SNR=1.8						
	comp=Z,1.0nm,0.5s						
BELA	**Belgrano 2**	**92.21**	**184**	P	**P**	**17 41 08.7**	**+2.1**
BELA				IAmb	IAmb	17 41 09.5	
	comp=Z,4.5nm,1.3s						
TORD	**Torodi Ar. Bea**	**123.47**	**280**	PKP	**PKPdf**	**17 46 54.2**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=61,slow=2.7,SNR=4.5						
BG3	**Lake Jocassee**	**144.39**	**40**	PKPdf	**PKPdf**	**17 47 32.9**	**-0.8**
CPUP	**Villa Florida**	**144.61**	**178**	PKP	**PKPdf**	**17 47 34.9**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=185,slow=3.9,SNR=6.8						
LPAZ	**La Paz**	**151.89**	**154**	PKPbc	**PKPbc**	**17 47 53.1**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=188,slow=6.7,SNR=5.6						

*IDC **19** 17:47:23.1±0.9, 52°.37N×170°.55W, h0km, mb4.0/17, mbtmp4.0/20, ML3.3/3, MS3.1/9, Error ellipse: s-maj=25.8km s-min=16.6km az=171.0*
*AEIC **19** 17:47:28.4±2.4, 52°.22N±0°.09×170°.44W±0°.09, h45km±7km, Error ellipse: s-maj=13.5km s-min=6.0km az=153.0*
*NEIC **19** 17:47:30.0±1.8, 52°.30N±0°.09×170°.5W±0°.1, h46km±5km, mb3.9/16, ML3.7/20, ML3.4(AEIC), Error ellipse: s-maj=14.6km s-min=5.3km az=148.0*

ISC 19 17:47:27.5±0.7, 52°.2N±0°.1×170°.50W±0°.06, h31km, n101, σ1s98, mb4.0/19, MS3.2/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**0.73**	**30**	Sn	**Sn**	**17 47 52.9**	**+1.2**
CLCO	**Concord Point,**	**0.76**	**39**		**Pb**	**17 47 42.6**	**+0.4**
CLCO					**Sn**	**17 47 52.7**	**+0.3**
NIKH	**Nikolski High**	**1.27**	**52**		**Pn**	**17 47 49.0**	**-0.1**
NIKH				Sn	**Sn**	**17 48 04.3**	**-0.7**
NIKH				IAML		17 48 11.2	
	comp=N,2μm,0.5s						
OKSP	**Okmok Steeple**	**1.71**	**51**		**Pn**	**17 47 55.6**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.91**	**51**		**Pn**	**17 47 59.1**	**+1.2**
OKTU					**Sn**	**17 48 22.0**	**+1.1**
OKRE	**Okmok R'deer P**	**1.94**	**46**		**Pb**	**17 48 00.3**	**-1.9**
ATKA	**Atka Island**	**2.27**	**272**	Pn	**Pn**	**17 48 03.8**	**+1.0**
ATKA	**Atka Island**	**2.27**	**272**		**Sn**	**17 48 31.3**	**+1.6**
MREP	**Makushin Rep't**	**2.79**	**53**		**Pn**	**17 48 11.1**	**+1.2**
UNV	**Unalaska Valle**	**2.92**	**54**		**Pn**	**17 48 13.8**	**+2.0**
UNV				IAML		17 48 57.0	
	comp=N,164nm,0.8s						
UNV				IAML		17 49 04.6	
	comp=E,164nm,0.9s						
ZRO	**Akutan Zero**	**3.32**	**53**		**Pn**	**17 48 19.9**	**+2.7**
LVA	**Lava Point**	**3.33**	**52**		**Pn**	**17 48 20.4**	**+3.0**
LVA				IAML		17 49 13.7	
	comp=E,197nm,0.8s						
GSTR	**Great Sitkin T**	**3.42**	**270**	Pn	**Pn**	**17 48 18.9**	**+0.1**
AKUT	**Akutan**	**3.44**	**54**		**Pn**	**17 48 19.2**	**+0.3**
ADK	**Adak**	**3.83**	**268**	Pn	**Pn**	**17 48 25.7**	**+1.5**
ADK				IAML		17 49 28.0	
	comp=E,139nm,0.7s						
ADK				IAML		17 49 28.8	
	comp=E,172nm,1.1s						
KIWB	**Kanaga Island**	**4.12**	**268**	Pn	**Pn**	**17 48 30.0**	**+1.7**
KIWB				IAML		17 49 36.7	
	comp=N,134nm,0.6s						
P08K	**Saint George I**	**4.45**	**7**	Pn	**Pn**	**17 48 34.4**	**+1.7**
P08K				IAML		17 49 43.7	
	comp=E,108nm,1.1s						
P08K				IAML		17 50 43.3	
	comp=N,64nm,1.1s						
SPIA	**Saint Paul Isl**	**4.99**	**2**	Pn	**Pn**	**17 48 42.0**	**+1.9**
SPIA				IAML		17 50 10.0	
	comp=E,58nm,1.1s						
FALS	**False Pass**	**4.99**	**55**	Pn	**Pn**	**17 48 39.6**	**-0.6**
CNBA	**Chernabura Isl**	**7.02**	**64**	Pn	**Pn**	**17 49 10.7**	**+2.8**
CHGN	**Chignik**	**8.18**	**55**	Pn	**Pn**	**17 49 26.7**	**+2.8**
O14K	**Tigyukauivet M**	**8.78**	**33**	Pn	**Pn**	**17 49 36.3**	**+4.3**
N14K	**Kuskokwak Cree**	**9.17**	**29**	Pn	**Pn**	**17 49 41.2**	**+3.8**
O15K	**Ungalikthiuk R**	**9.22**	**37**	Pn	**Pn**	**17 49 42.2**	**+4.0**
M14K	**Bethel**	**9.78**	**25**	Pn	**Pn**	**17 49 49.1**	**+3.3**
PLK4	**Peulik 4**	**9.79**	**51**	Pn	Pn	17 49 51.0	+5.0
P16K	**Nushagak River**	**9.83**	**41**	Pn	**Pn**	**17 49 48.1**	**+1.5**
N15K	**Kwethluk River**	**9.86**	**32**	Pn	**Pn**	**17 49 51.2**	**+4.3**
L14K	**Kuka Creek**	**10.11**	**22**	Pn	**Pn**	**17 49 51.7**	**+1.4**
O16K	**Kokwok River B**	**10.16**	**38**	Pn	**Pn**	**17 49 54.7**	**+3.8**
K13K	**Kusilvak Mount**	**10.26**	**16**	Pn	Pn	17 49 58.6	+6.2
M16K	**Timber Creek**	**10.87**	**31**	Pn	**Pn**	**17 50 05.4**	**+4.6**
N17K	**Nushagak Hills**	**11.12**	**36**	Pn	**Pn**	**17 50 08.2**	**+4.1**
K15K	**Wolf Creek Mou**	**11.21**	**22**	Pn	**Pn**	**17 50 08.7**	**+3.3**
L16K	**Owhat River**	**11.26**	**28**		**Pn**	**17 50 09.4**	**+3.4**
M17K	**Holitna River**	**11.65**	**33**	Pn	Pn	17 50 16.6	+5.2
Q19K	**Cape Douglas,**	**11.66**	**48**	Pn	**Pn**	**17 50 12.3**	**+0.7**
KDAK	**Kodiak Island**	**11.70**	**54**	Pn	**Pn**	**17 50 12.7**	**+0.7**
KDAK	**Kodiak Island**	**11.70**	**54**	Pn	**Pn**	**17 50 11.8**	**-0.2**
	comp=E,0.3nm,0.3s,baz=211,slow=5.9,SNR=6.4						
	comp=E,1.5nm,0.5s						
K17K	**Iditarod**	**12.39**	**27**	Pn	**Pn**	**17 50 24.4**	**+2.9**
L18K	**Granite Mounta**	**12.49**	**31**	Pn	Pn	17 50 27.7	+4.8
L19K	**White Mountain**	**13.07**	**34**	Pn	**Pn**	**17 50 34.6**	**+3.7**
J18K	**Innoko River**	**13.43**	**27**	Pn	**Pn**	**17 50 37.9**	**+2.2**
H17K	**Granite Mounta**	**13.88**	**19**	Pn	**P**	**17 50 46.2**	**-3.5**
J19K	**Poorman**	**14.15**	**28**	Pn	**Pn**	**17 50 48.8**	**+3.3**
PPLA	**Aurkeypile**	**14.48**	**35**	Pn	**Pn**	**17 50 51.3**	**+1.2**
J20K	**Nowinka River**	**14.72**	**29**		**P**	**17 50 56.8**	**-2.1**
PWL	**Port Wells**	**14.92**	**46**	Pn	**Pn**	**17 50 57.6**	**+1.6**
HIN	**Hinchinbrook I**	**15.57**	**49**	Pn	**Pn**	**17 51 05.8**	**+1.3**
ILAR	**Eielson Array**	**17.49**	**35**	P	**Pn**	**17 51 26.5**	**-2.2**
	comp=E,0.1nm,0.3s,baz=222,slow=11,SNR=4.6						
	comp=E,0.4nm,0.9s						
J25K	**Salcha River,**	**17.94**	**36**	P	**P**	**17 51 35.0**	**+0.3**
SCRK	**Sand Creek**	**18.15**	**39**		**P**	**17 51 37.0**	**0.0**
M27K	**Edge Creek, AK**	**18.35**	**45**	P	**Pn**	**17 51 42.5**	**+3.1**
M27K				IAmb	IAmb	17 52 24.6	
	comp=E,8.4nm,1.3s						
G24K	**Hadweenzic Riv**	**18.48**	**29**	P	**Pn**	**17 51 42.6**	**+1.7**
G24K				IAmb	IAmb	17 51 43.9	
	comp=Z,9.1nm,1.4s						
J26L	**Joseph Creek**	**18.56**	**38**	P	**Pn**	**17 51 41.8**	**-0.1**
BCPM	**Bancas Point**	**18.75**	**53**	Pn	**Pn**	**17 51 45.4**	**+1.2**
D22K	**Ayikyak River**	**18.75**	**20**	P	**Pn**	**17 51 46.0**	**+1.9**
PEA0B	**Petropavlovsk-**	**19.23**	**285**	P	**P**	**17 51 47.9**	**-1.0**
PETK	**Petropavlovsk-**	**19.23**	**285**	P	**P**	**17 51 49.0**	**+0.1**
PETK	**Petropavlovsk-**	**19.23**	**285**	P	**P**	**17 51 49.2**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=82,slow=13,SNR=11						
PETK				LR	LR	17 58 11.0	
	comp=Z,38nm,21.3s,baz=79,slow=34						
	comp=Z,2.5nm,0.5s						
O29M	**Mount Kennedy**	**19.33**	**53**	P	**Pn**	**17 51 51.3**	**0.0**
O29M				IAmb	IAmb	17 52 17.1	
	comp=Z,12nm,1.1s						
BMAR	**Burnt Mountain**	**19.82**	**30**	P	**Pn**	**17 51 56.3**	**-0.6**
HYT	**Haines Junctio**	**19.95**	**51**	P	**Pn**	**17 51 58.4**	**-0.3**
HYT				IAmb	IAmb	17 52 00.8	
	comp=Z,6.8nm,0.7s						
H27K	**Steamboat Moun**	**20.16**	**35**	P	**P**	**17 51 58.9**	**0.0**
H27K				IAmb	IAmb	17 52 37.0	
	comp=Z,5.7nm,1.5s						
N30M	**Aishikik Lake**	**20.27**	**50**	P	Pn	17 52 02.6	+0.3
I28M	**Miner Creek**	**20.37**	**38**	P	**P**	**17 52 02.3**	**+1.0**
I28M				IAmb	IAmb	17 52 45.5	
	comp=Z,7.6nm,1.5s						
H29M	**Whitestone**	**21.28**	**36**	P	**P**	**17 52 11.3**	**+0.3**
H29M				IAmb	IAmb	17 52 12.2	
	comp=Z,13nm,1.5s						
J30M	**Hart River**	**21.45**	**42**	P	**P**	**17 52 13.3**	**+0.4**
J30M				IAmb	IAmb	17 52 36.9	
	comp=Z,3.9nm,1.1s						
MA2	**Magadan**	**22.66**	**304**	LR	LR	18 00 16.4	
	comp=Z,27nm,21.8s,baz=90,slow=34						
BBB	**Bella Bella**	**25.72**	**73**	LR	LR	18 00 23.6	
	comp=Z,50nm,19.8s,baz=345,slow=30						
ASAJ	**Asahikawa**	**31.83**	**274**	LR	LR	18 04 57.3	
	comp=Z,27nm,21.4s,baz=179,slow=33						
H11N2	**WAKE ISLAND Hy**	**36.89**	**217**	T	T	18 33 54.1	
	baz=23,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**36.90**	**217**	T	T	18 34 07.8	
	baz=23,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**36.91**	**217**	T	T	18 33 54.1	
	baz=23,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**38.09**	**217**	T	T	18 35 46.9	
	baz=23,slow=76,SNR=129						
H11S2	**WAKE ISLAND Hy**	**38.10**	**217**	T	T	18 35 23.0	
	baz=23,slow=76,SNR=132						
H11S3	**WAKE ISLAND Hy**	**38.10**	**217**	T	T	18 35 40.2	
	baz=23,slow=76,SNR=96						
ELK	**Elko**	**38.84**	**85**	LR	LR	18 08 51.7	
	comp=Z,40nm,20.6s,baz=316,slow=33						
MJAR	**Matsushiro Arr**	**38.99**	**267**	LR	LR	18 11 38.3	
	comp=Z,15nm,18.8s,baz=36,slow=37						
PDAR	**Pinedale Array**	**41.12**	**78**	P	**P**	**17 55 10.2**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=301,slow=3.6,SNR=12						
	comp=Z,0.9nm,0.5s						
KSRS	**Korea Array**	**44.73**	**276**	LR	LR	18 13 08.0	
	comp=Z,5μm,21.2s,baz=70,slow=34						
FRB	**Frobisher Bay**	**49.52**	**35**	LR	LR	18 17 24.0	
	comp=Z,74nm,18.1s,baz=159,slow=36						
SPITS	**Spitsbergen Ar**	**49.82**	**358**	P	**P**	**17 56 16.4**	**-0.4**
	comp=Z,14nm,1.1s,baz=46,slow=3.6,SNR=4.7						
	comp=Z,14nm,1.1s						
SONM	**Songino Array**	**50.79**	**300**	P	**P**	**17 56 24.3**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=62,slow=4.9,SNR=4.1						
	comp=Z,0.6nm,0.4s						
TXAR	**Lajitas Array**	**53.45**	**88**	P	**P**	**17 56 45.6**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=316,slow=5.2,SNR=5.4						
	comp=Z,0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**57.08**	**317**	P	**P**	**17 57 10.4**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=73,slow=5.8,SNR=2.4						
ZALV				PcP	**PcP**	**17 58 04.1**	**-0.7**
	comp=Z,1.7nm,1.0s,baz=57,slow=5.5,SNR=3.9						
ZALV				LR	LR	18 22 01.1	
	comp=Z,22nm,21.3s,baz=36,slow=36						
	comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**58.01**	**353**	P	**P**	**17 57 15.7**	**-0.9**
	comp=Z,5.0nm,0.9s,baz=21,slow=5.8,SNR=2.5						
	comp=Z,5.0nm,0.9s						
KURBB	**Kurchatov Arra**	**62.14**	**318**	P	**P**	**17 57 44.9**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=46,slow=6.6,SNR=2.0						
	comp=Z,0.9nm,0.3s						
MKAR	**Makanchi Array**	**63.41**	**313**	P	**P**	**17 57 53.0**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=54,slow=6.1,SNR=2.7						
MKAR				LR	LR	18 26 29.0	
	comp=Z,21nm,19.6s,baz=339,slow=37						
	comp=Z,0.3nm,0.5s						
BVAR	**Borovoye Array**	**63.43**	**324**	P	**P**	**17 57 53.5**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=50,slow=7.9,SNR=7.1						
	comp=Z,1.2nm,0.4s						
FINES	**FINESS Array B**	**65.94**	**351**	P	**P**	**17 58 08.7**	**-1.2**
	comp=Z,3.1nm,1.0s,baz=20,slow=6.1,SNR=5.0						
	comp=Z,3.1nm,1.0s						
NOA	**NORSAR Array B**	**67.10**	**359**	P	**P**	**17 58 16.7**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=2.0,slow=3.0,SNR=2.4						
	comp=Z,0.5nm,0.6s						
HFS	**Hagfors**	**67.97**	**358**	P	**P**	**17 58 21.6**	**-1.3**
	comp=Z,2.2nm,0.4s,baz=8.5,slow=3.0,SNR=29						
	comp=Z,2.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**75.97**	**282**	P	**P**	**17 59 12.1**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=28,slow=6.3,SNR=15						
	comp=Z,1.9nm,0.8s						
GERES	**GERESS Array B**	**79.27**	**357**	P	**P**	**17 59 28.9**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=18,slow=4.8,SNR=4.1						
	comp=Z,0.5nm,0.6s						
WRA	**Warramunga Arr**	**86.36**	**231**	P	**P**	**18 00 05.5**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=24,slow=5.1,SNR=2.4						
	comp=Z,0.4nm,0.9s						
ESDC	**Sonseca Array**	**87.75**	**10**	P	**P**	**18 00 12.2**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=340,slow=3.4,SNR=5.9						
	comp=Z,0.7nm,0.7s						
ASAR	**Alice Springs**	**89.75**	**229**	P	**P**	**18 00 23.0**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=29,slow=4.9,SNR=5.5						
	comp=Z,0.8nm,0.9s			

NNA	**Nana**	**10.72**	**159**	Pn	**Pn**	**17 57 49.1**	**0.0**	
	1.6nm,0.3s,baz=316,slow=12,SNR=3.6							
	8.3nm,0.5s							
RUSC	**La Rusia**	**10.93**	**45**	Pn	**Pn**	**17 57 54.8**	**+2.5**	
TBTG	**Tabatinga, AM**	**11.08**	**102**	Pn	**Pn**	**17 57 50.8**	**-3.1**	
SDV	**Santo Domingo**	**14.75**	**43**	LR	LR	18 05 30.0		
	comp=Z,55nm,19.6s,baz=230,slow=42							
TGUH	**Tegucigalpa,Un**	**17.14**	**338**	P	P	17 59 26.7	+10	
TGUH				IAmb	IAmb	17 59 35.1		
	comp=Z,18nm,0.8s							
LPAZ	**La Paz**	**18.94**	**140**	P	**P**	**17 59 37.2**	**0.0**	
LPAZ	**La Paz**	**18.94**	**140**	P	**Pn**	**17 59 37.9**	**+0.1**	
	comp=Z,0.2nm,0.3s,baz=314,slow=6.5,SNR=4.9							
LPAZ				LR	LR	18 08 38.3		
	comp=Z,174nm,19.7s,baz=334,slow=42							
	comp=Z,0.6nm,0.5s							
PB16	**IPOC Station P**	**19.70**	**147**	P	**P**	**17 59 45.7**	**+0.1**	
PB16				IAmb	IAmb	18 00 07.3		
	comp=Z,3.8nm,0.9s							
PCRV	**Puerto La Cruz**	**20.07**	**53**	P	**P**	**17 59 49.0**	**-0.1**	
	comp=Z,0.7nm,0.3s,baz=300,slow=9.4,SNR=2.5							
	comp=Z,9.2nm,0.9s							
MACA	**Manacapuru-AM**	**20.11**	**94**	P	**P**	**17 59 49.7**	**+0.1**	
BOAV	**Boa Vista**	**20.70**	**78**	P	**P**	**17 59 56.2**	**+0.3**	
BOAV				IAmb	IAmb	17 59 59.0		
	comp=Z,7.3nm,1.2s							
GO01	**Chusmiza**	**20.95**	**148**	P	Pn	18 00 00.6	-1.0	
GO01				IAmb	IAmb	18 00 24.6		
	comp=Z,20nm,1.4s							
MDP	**Montagnes des**	**28.96**	**76**	LR	LR	18 13 28.3		
	comp=Z,110nm,20.8s,baz=157,slow=38							
CPUP	**Villa Florida**	**33.11**	**139**	LR	LR	18 18 32.8		
	comp=Z,42nm,18.9s,baz=190,slow=42							
PDAR	**Pinedale Array**	**51.51**	**333**	P	**P**	**18 04 21.7**	**+0.1**	
	comp=Z,0.5nm,0.8s,baz=125,slow=9.6,SNR=4.0							
	comp=Z,0.5nm,0.8s							
NVAR	**Mina Array Bea**	**53.00**	**323**	P	**P**	**18 04 33.2**	**+0.4**	
	comp=Z,0.7nm,0.7s,baz=157,slow=9.2,SNR=4.2							
	comp=Z,0.7nm,0.7s							
ULM	**Lac du Bonnet**	**53.57**	**348**	P	**P**	**18 04 34.9**	**-1.5**	
	comp=Z,3.5nm,0.5s,baz=156,slow=9.3,SNR=5.9							
	comp=Z,3.5nm,0.5s							
ESDC	**Sonseca Array**	**81.10**	**50**	P	**P**	**18 07 31.1**	**-0.2**	
	comp=Z,0.7nm,0.9s,baz=251,slow=4.1,SNR=4.2							
	comp=Z,0.7nm,0.8s							
QSPA	**South Pole Qui**	**88.13**	**180**	P	**P**	**18 08 06.0**	**-0.3**	
	comp=Z,0.8nm,0.8s,baz=166,slow=8.0,SNR=1.8							
	comp=Z,0.8nm,0.8s							
KURBB	**Kurchatov Arra**	**128.41**	**17**	PKP	**PKPdf**	**18 14 21.5**	**-1.1**	
	comp=Z,0.2nm,0.7s,baz=343,slow=2.8,SNR=2.4							
WRA	**Warramunga Arr**	**139.27**	**236**	PKP	**PKPdf**	**18 14 41.7**	**-2.2**	
	comp=Z,0.5nm,0.9s,baz=112,slow=2.0,SNR=4.9							

IDC 19 18:00:10.6±1.9, 4°28'N×123°90'E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=282.4km s-min=20.7km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.17**	**157**	P	P	18 05 47.4	+0.4
	0.7nm,0.3s,baz=336,slow=9.5,SNR=20						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**29.44**	**161**	P	P	18 06 15.9	-0.4
	0.3nm,0.4s,baz=337,slow=7.7,SNR=24						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**55.52**	**326**	P	P	18 09 48.2	+0.6
	0.4nm,0.5s,baz=116,slow=8.1,SNR=5.3						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**59.77**	**328**	P	P	18 10 16.9	-0.6
	0.3nm,0.5s,baz=132,slow=6.8,SNR=7.6						
	0.3nm,0.5s						

IDC 19 18:28:28.6±3.3, 31°60'S×177°03'W, h0km, mb3.8/2, mbtmp3.8/3, ML3.1/1, Error ellipse: s-maj=82.0km s-min=48.5km az=126.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.46**	**342**	Sn	Sn	18 29 36.1	-4.7
	128nm,0.3s,baz=78,slow=23,SNR=5.7						
URZ	**Urewera**	**8.20**	**214**	Pn	Pn	18 30 28.5	-0.3
	0.2nm,0.3s,baz=40,slow=7.9,SNR=1.7						
URZ				Sn	Sn	18 31 59.0	-3.2
	1.8nm,0.3s,baz=315,slow=18,SNR=10						
	4.5nm,0.9s						
ASAR	**Alice Springs**	**43.89**	**268**	P	P	18 36 37.0	-0.1
	0.8nm,1.0s,baz=101,slow=6.5,SNR=4.4						
	0.8nm,1.0s						
WRA	**Warramunga Arr**	**44.98**	**273**	P	P	18 36 45.8	-0.1
	1.0nm,0.3s,baz=111,slow=8.0,SNR=28						
	1.0nm,0.3s						
H03S2	**Juan Fernandez**	**79.11**	**123**	T	T	20 05 14.9	
	baz=241,slow=74						
H03S1	**Juan Fernandez**	**79.12**	**123**	T	T	20 05 16.7	
	baz=241,slow=74						
H03S3	**Juan Fernandez**	**79.13**	**123**	T	T	20 05 13.2	
	baz=241,slow=74						
H03N3	**Juan Fernandez**	**79.31**	**123**	T	T	20 05 17.6	
	baz=242,slow=74						
H03N2	**Juan Fernandez**	**79.31**	**123**	T	T	20 05 17.6	
	baz=242						
H03N1	**Juan Fernandez**	**79.32**	**123**	T	T	20 05 14.6	
	baz=242,slow=74						
H10S3	**ASCENSION HYDR**	**136.29**	**154**	T	T	21 18 37.6	
	baz=16,slow=74,SNR=14						
H10S2	**ASCENSION HYDR**	**136.29**	**154**	T	T	21 18 31.1	
	baz=204,slow=74,SNR=18						
H10N3	**ASCENSION HYDR**	**137.37**	**154**	T	T	21 19 58.9	
	baz=203,slow=75,SNR=20						
H10N1	**ASCENSION HYDR**	**137.37**	**154**	T	T	21 19 55.6	
	baz=203,slow=75,SNR=24						
H10N2	**ASCENSION HYDR**	**137.39**	**154**	T	T	21 19 57.1	
	baz=203,slow=75,SNR=37						
FINES	**FINESS Array B**	**146.56**	**340**	PKPbc	PKPdf	18 48 10.4	+0.7
	0.8nm,0.7s,baz=90,slow=5.6,SNR=4.4						

MOS ***19*** *18:33:14.3±1.3, 37°56'N×20°57'E, h9km, mb4.5/17, Error ellipse: s-maj=6.7km s-min=3.7km az=75.3*

IDC ***19*** *18:33:14.9±0.6, 37°61'N×20°72'E, h0km, mb4.2/23, mbtmp4.1/39, ML3.9/14, MS3.4/20, Error ellipse: s-maj=11.7km s-min=10.7km az=175.0*

NAO ***19*** *18:33:16.8, 37°53'N×20°63'E, h10km, MB4.5*

ATH ***19*** *18:33:16.9, 37°52'N×20°61'E, h10km, Mw4.3, Moment Tensor Solution. s11 Moment tensor: Mrr=1.54; Mθθ=1.90; Mφφ=0.36; Mrθ=-1.91; Mrφ=0.74; Mθφ=-1.95; Fault plane solution: NP1:φs=280.00000°, δ=24.00000°, λ=-41.00000°. NP2:φs=49.00000°, δ=75.00000°, λ=-108.00000°.*

NEIC ***19*** *18:33:16.8±1.7, 37°60'N±0°07×20°70'E±0°07, h10km±5km, mb4.7/37 Error ellipse: s-maj=10.1km s-min=7.9km az=192.0*

BEO ***19*** *18:33:18.7±0.5, 37°71'N×20°57'E, h0km, ML4.2/10*

THE ***19*** *18:33:18.1, 38°N±1°×2°1'E±1°, h14km±1km, M4.4/16, MLh4.4/16*

PDG ***19*** *18:33:19.7±1.5, 37°91'N×20°60'E, h13km±11km, ML4.3/10, Error ellipse: s-maj=48.8km s-min=39.3km az=90.0*

AFAD ***19*** *18:33:23.0, 37°64'N×21°16'E, h7km±6km, MW4.2*

ISC 19 18:33:17.7±0.5, 37°58'N±0°03×20°71'E±0°02, h19km±2km, n571, σ1ϑ94/625, mb4.3/67, MS3.5/15, 35C-33D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.12**	**44**	P	**Pg**	**18 33 22.1**	**+0.4**
KRI1				S	**Sg**	**18 33 24.8**	**+0.4**
KRI1	**kERI**	**0.12**	**44**	P	**Pg**	**18 33 22.1**	**+0.4**
KRI1				S	**Sg**	**18 33 24.7**	**+0.4**
LTHK	**Lithakia**	**0.16**	**37**	P	**Pg**	**18 33 22.6**	**+0.4**
LTHK				S	**Sg**	**18 33 25.9**	**+0.7**
LTHK	**Lithakia**	**0.16**	**37**	P	**Pg**	**18 33 22.6**	**+0.4**
LTHK				S	**Sg**	**18 33 25.8**	**+0.5**
KYPS	**Kipseli, Zakin**	**0.26**	**20**	P	**Pg**	**18 33 24.5**	**+0.9**
KYPS				S	**Sg**	**18 33 29.4**	**+1.8**
ZAK2	**Zakynthos**	**0.26**	**35**	P	**Pg**	**18 33 24.4**	**+0.9**
ZAK2				S	**Sg**	**18 33 29.1**	**+1.6**
ORTH	**Orthonies,Zaky**	**0.27**	**357**	P	**Pb**	**18 33 24.2**	**+0.2**
ORTH				S	**Sg**	**18 33 28.5**	**+0.4**
CLEM	**Kyllini,Ilia,G**	**0.46**	**47**	P	**Pb**	**18 33 27.7**	**+0.5**
CLEM				S	**Sb**	**18 33 34.8**	**+1.2**
RTZL	**Ratzakli, Kefa**	**0.50**	**5**	P	**Pb**	**18 33 28.0**	**+0.1**
RTZL				S	**Sb**	**18 33 35.9**	**+1.1**
PSDA	**Pessada-Kefalo**	**0.55**	**349**	P	**Pb**	**18 33 28.5**	**-0.1**
PSDA				S	**Sg**	**18 33 36.7**	**+0.6**
PSDA	**Pessada-Kefalo**	**0.55**	**349**	P	**Pg**	**18 33 28.8**	**+0.1**
PSDA				S	**Sg**	**18 33 36.6**	**+0.6**
LCHA	**Lechaina**	**0.56**	**50**	P	**Pn**	**18 33 30.5**	**-0.3**
ANDM	**Andravida**	**0.60**	**47**	P	**Pn**	**18 33 31.0**	**-0.2**
VLS	**Valsamata**	**0.61**	**351**	P	**Pb**	**18 33 29.6**	**0.0**
VLS	**Valsamata**	**0.61**	**351**	P	**Pb**	**18 33 29.6**	**0.0**
VLS				S	**Sg**	**18 33 38.9**	**+0.9**
ARG2	**Argostoli**	**0.63**	**343**	P	**Pb**	**18 33 29.9**	**0.0**
ARG2	**Argostoli**	**0.63**	**343**	P	**Pg**	**18 33 30.1**	**0.0**
LXR1	**Lixouri, Cepha**	**0.66**	**341**	P	**Pb**	**18 33 30.5**	**0.0**
DMLN	**Damoulianata-K**	**0.71**	**338**	P	**Pb**	**18 33 31.5**	**0.0**
DMLN	**Damoulianata-K**	**0.71**	**338**	P	**Pb**	**18 33 31.5**	**0.0**
YRMI	**Loutra Irminis**	**0.73**	**44**	P	**Pg**	**18 33 32.4**	**+0.4**
YRMI				S	**Sn**	**18 33 43.1**	**-0.4**
ZARO	**Zacharo**	**0.75**	**97**	P	**Pn**	**18 33 33.5**	**+0.2**
RLS	**Riolos of Patr**	**0.77**	**51**	P	**Pg**	**18 33 33.0**	**+0.3**
RLS	**Riolos of Patr**	**0.77**	**51**	P	**Pg**	**18 33 33.0**	**+0.3**
RLS				S	**Sn**	**18 33 45.4**	**+0.9**
AMT	**Artemida-Makis**	**0.79**	**93**	P	**Pn**	**18 33 33.8**	**-0.1**
AXS	**Araxos**	**0.81**	**40**	P	**Pg**	**18 33 33.8**	**+0.3**
AXS	**Araxos**	**0.81**	**40**	P	**Pg**	**18 33 33.5**	**-0.1**
AXS				S	**Sn**	**18 33 46.8**	**+1.2**
DRO	**Drossia**	**0.87**	**64**	P	**Pn**	**18 33 35.4**	**+0.4**
DRO	**Drossia**	**0.87**	**64**	P	**Pn**	**18 33 35.4**	**+0.4**
FSK	**Fiskardo**	**0.89**	**352**	P	**Pb**	**18 33 34.5**	**0.0**
FSK	**Fiskardo**	**0.89**	**352**	P	**Pb**	**18 33 34.5**	**0.0**
FSK				S	**Sn**	**18 33 48.1**	**+0.5**
MSL1	**Messolongi**	**0.97**	**35**	P	**Pg**	**18 33 37.4**	**+0.8**
AST1	**Astakos**	**1.01**	**17**	P	**Pn**	**18 33 36.9**	**+0.1**
PYL1	**Pylos**	**1.03**	**130**	P	**Pn**	**18 33 37.2**	**+0.3**
EVGI	**Lefkada island**	**1.04**	**358**	P	**Pb**	**18 33 37.2**	**+0.1**
EVGI	**Lefkada island**	**1.04**	**358**	P	**Pb**	**18 33 37.0**	**-0.1**
EVGI				S	**Sg**	**18 33 52.7**	**+1.0**
ITM	**Ithomi**	**1.04**	**112**	eP	**Pg**	**18 33 39.3**	**+1.3**
ITM	**Ithomi**	**1.04**	**112**		**Pn**	**18 33 37.5**	**+0.2**
ITM	**Ithomi**	**1.04**	**112**	P	**Pg**	**18 33 37.7**	**-0.2**
ITM	**Ithomi**	**1.04**	**112**	P	**Pn**	**18 33 37.6**	**+0.2**
PYL2	**Kinigos**	**1.05**	**130**	P	**Pn**	**18 33 37.5**	**+0.1**
MTHA	**Methoni**	**1.09**	**133**	P	**Pg**	**18 33 39.3**	**+0.4**
UPR	**University Cam**	**1.10**	**50**	P	**Pg**	**18 33 39.3**	**+0.3**
DRAG	**Dragano-Lefkad**	**1.11**	**354**	P	**Pb**	**18 33 38.5**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.13**	**359**	P	**Pn**	**18 33 38.5**	**0.0**
NYDR	**Nydri-Lefkada**	**1.13**	**359**	P	**Pb**	**18 33 38.9**	**+0.2**
KLV1	**Kalavrita**	**1.19**	**67**	P	**Pg**	**18 33 41.1**	**+0.3**
LKD2	**Lefkada island**	**1.21**	**358**	P	**Pn**	**18 33 39.9**	**+0.2**
LKD2	**Lefkada island**	**1.21**	**358**	P	**Pb**	**18 33 40.1**	**0.0**
PVO	**Paravola**	**1.22**	**31**	P	**Pg**	**18 33 41.2**	**-0.1**
KLV	**Kalavryta, Ach**	**1.23**	**67**	P	**Pg**	**18 33 41.0**	**-0.5**
KLV	**Kalavryta, Ach**	**1.23**	**67**	P	**Pg**	**18 33 41.4**	**0.0**
TSLK	**Tsoukalades, L**	**1.25**	**358**	P	**Pb**	**18 33 40.6**	**-0.1**
TSLK	**Tsoukalades, L**	**1.25**	**358**	P	**Pb**	**18 33 40.5**	**-0.1**
EFP	**Efpalio**	**1.27**	**48**	P	**Pg**	**18 33 42.1**	**-0.1**
GUR	**Goura**	**1.34**	**74**	P	**Pb**	**18 33 42.9**	**+0.6**
VLX	**Vlachokerasia**	**1.34**	**98**	P	**Pb**	**18 33 42.7**	**+0.4**
VLX	**Vlachokerasia**	**1.34**	**98**	P	**Pb**	**18 33 42.6**	**+0.3**
SERG	**Sergoula**	**1.35**	**51**	P	**Pb**	**18 33 42.5**	**+0.1**
SERG	**Sergoula**	**1.35**	**51**	P	**Pb**	**18 33 42.8**	**+0.4**
KALE	**Kalithea**	**1.39**	**54**	P	**Pb**	**18 33 43.6**	**+0.5**
ANX	**Ano Chora**	**1.39**	**43**	P	**Pb**	**18 33 43.7**	**+0.6**
AMPL	**Ampelaki**	**1.40**	**16**	P	**Pb**	**18 33 43.4**	**+0.2**
EVR	**Evrytania**	**1.59**	**32**	P	**Pb**	**18 33 47.2**	**+0.7**
DLFA	**Delphi**	**1.67**	**57**	P	**Pb**	**18 33 47.9**	**0.0**
MAKR	**Makrakomi, Fth**	**1.82**	**37**	P	**Pb**	**18 33 50.8**	**+0.4**
TETR	**Tetrakomo, Epi**	**1.82**	**14**	P	**Pb**	**18 33 49.7**	**-0.7**
LOUT	**Loutraki**	**1.84**	**76**	P	**Pb**	**18 33 50.0**	**-0.7**
LTK	**Loutraki**	**1.84**	**75**	P	**Pb**	**18 33 50.2**	**-0.5**
AXAR	**Agios Charalam**	**1.94**	**52**	P	**Pb**	**18 33 51.5**	**-0.9**
VLI	**Veliai**	**1.97**	**115**	P	**Pb**	**18 33 52.4**	**-0.6**
JAN	**Janina**	**2.08**	**3**	P	**Pb**	**18 33 53.8**	**-1.0**
MET2	**Kameni Chora,**	**2.08**	**88**	P	**Pb**	**18 33 53.6**	**-1.2**
LKR	**Lokris**	**2.10**	**59**	P	**Pb**	**18 33 54.7**	**-0.4**
MET6	**Megalochori,Me**	**2.10**	**89**	P	**Pb**	**18 33 54.1**	**-1.0**
MET5	**Makryloggos,Me**	**2.10**	**88**	P	**Pb**	**18 33 54.2**	**-0.9**
VIL2	**Platees**	**2.12**	**72**	P	**Pb**	**18 33 54.7**	**-0.8**
ATAL	**Atalanti**	**2.13**	**58**	P	**Pb**	**18 33 55.2**	**-0.5**
MET4	**Agioi Theodoro**	**2.13**	**88**	P	**Pb**	**18 33 54.5**	**-1.2**
THL	**Klokotos Trika**	**2.23**	**27**	P	**Pb**	**18 33 56.3**	**-1.1**
KEK	**Kerkira**	**2.25**	**342**	eP	**Pb**	**18 33 58.8**	**+1.1**
KEK	**Kerkira**	**2.25**	**342**		**Pb**	**18 33 58.6**	**+0.9**
MAGU	**Magoula**	**2.27**	**76**	P	**Pb**	**18 33 56.6**	**-1.5**
KTHA	**Kythira Island**	**2.30**	**124**	eP	**Pb**	**18 33 57.6**	**-1.0**
STFN	**Stefani**	**2.32**	**74**	P	**Pb**	**18 33 57.2**	**-1.7**
ATH	**Athens Observa**	**2.41**	**90**	P	**Pn**	**18 33 57.7**	**+1.6**
TYRN	**Tyrnavos**	**2.44**	**29**	P	**Pb**	**18 33 59.4**	**-1.6**
VLY	**Voula,Athens**	**2.46**	**83**	P	**Pn**	**18 33 58.6**	**+1.8**
ATHU	**Athens Univers**	**2.46**	**80**	P	**Pn**	**18 33 58.9**	**+2.0**
LRSO	**Larissa Observ**	**2.47**	**32**	P	**Pb**	**18 33 59.6**	**-1.9**
PTL	**Penteli**	**2.54**	**78**	P	**Pn**	**18 33 59.9**	**+1.9**
DION	**Dionisos Attik**	**2.60**	**78**	P	**Pb**	**18 34 01.3**	**-2.4**
NEO	**Neokhori**	**2.62**	**48**	P	**Pn**	**18 34 01.3**	**+2.3**
ANKY	**Antikythira Is**	**2.69**	**129**	P	**Pn**	**18 34 01.3**	**+1.4**
KZN	**Kozani**	**2.85**	**16**	P	**Pn**	**18 34 04.7**	**+2.5**
KYMI	**Kymi, Euboea I**	**2.87**	**67**	P	**Pn**	**18 34 04.9**	**+2.4**
LIT	**Litokhoron**	**2.88**	**28**		**Pn**	**18 34 03.6**	**+1.0**
LIT	**Litokhoron**	**2.88**	**28**	P	**Pn**	**18 34 03.6**	**+1.0**
LIT	**Litokhoron**	**2.88**	**28**	P	**Pn**	**18 34 05.0**	**+2.4**
KARY	**Karystos**	**2.98**	**80**	P	**Pn**	**18 34 05.8**	**+1.8**
MHLO	**Agia Marina, M**	**3.08**	**106**	P	**Pn**	**18 34 06.8**	**+1.5**
SKY	**Skiros Island**	**3.29**	**66**	P	**Pn**	**18 34 10.3**	**+2.1**
KNDR	**Palaiochora Ch**	**3.35**	**133**	eP	**Pn**	**18 34 11.8**	**+2.9**
KNDR	**Palaiochora Ch**	**3.35**	**133**	P	**Pn**	**18 34 09.9**	**+0.9**
TIP	**Timpagrande**	**3.50**	**298**		**Pn**	**18 34 11.1**	**0.0**
TIP	**Timpagrande**	**3.50**	**298**	⇑P	**Pn**	**18 34 11.6**	**+0.4**
TIP				⇑S	**Sn**	**18 34 50.2**	**-1.8**
TIP	**Timpagrande**	**3.50**	**298**	P	**Pn**	**18 34 11.1**	**0.0**
PLG	**Polygyros**	**3.51**	**36**	P	**Pn**	**18 34 13.2**	**+1.9**
THE	**Thessaloniki**	**3.52**	**29**	P	**Pn**	**18 34 13.4**	**+2.1**
OHR	**Ohrid**	**3.53**	**1**	*i* Pn	**Pn**	**18 34 14.7**	**+3.1**
HORT	**Hortiatis**	**3.54**	**31**	P	**Pn**	**18 34 13.6**	**+1.9**
MESG	**Mesagne**	**3.74**	**324**	P	**Pn**	**18 34 14.4**	**0.0**
OUR	**Ouranopolis**	**3.75**	**42**	eP	**Pn**	**18 34 17.1**	**+2.6**
OUR	**Ouranopolis**	**3.75**	**42**	P	**Pn**	**18 34 16.8**	**+2.3**
GVD	**Gavdhos**	**3.86**	**134**	eP	**Pn**	**18 34 19.2**	**+3.1**
CEL	**Celeste**	**3.87**	**282**		**Pn**	**18 34 16.4**	**0.0**
CEL	**Celeste**	**3.87**	**282**	P	**Pn**	**18 34 16.3**	**0.0**
KNT	**Kendrikon**	**3.96**	**25**	P	**Pn**	**18 34 19.8**	**+2.4**
THERA	**Ancient Thera,**	**4.00**	**106**	P	**Pn**	**18 34 19.3**	**+1.3**
VAY	**Valandovo**	**4.00**	**26**	*i* Pn	**Pn**	**18 34 19.1**	**+2.9**
IDI	**Anoyia**	**4.07**	**123**	eP	**Pn**	**18 34 21.7**	**+2.7**
IDI	**Anoyia**	**4.07**	**123**		**Pn**	**18 34 19.6**	**+0.6**
IDI	**Anoyia**	**4.07**	**123**	Pn	**Pn**	**18 34 19.8**	**+0.8**
	9.5nm,0.4s,baz=306,slow=12,SNR=31						
IDI				Sn	**Sn**	**18 35 07.3**	**+1.2**
	5.4nm,0.3s,baz=322,slow=19,SNR=4.3						
IDI	**Anoyia**	**4.07**	**123**	P	**Pn**	**18 34 19.1**	**+0.1**
SRS	**Serrai**	**4.18**	**31**	ePn	**Pn**	**18 34 23.0**	**+2.5**
SRS				*e*Sn	**Sn**	**18 35 09.9**	**+1.1**
SRS	**Serrai**	**4.18**	**31**	P	**Pn**	**18 34 22.8**	**+2.4**
LIA	**Limnos Island**	**4.19**	**55**	P	**Pn**	**18 34 22.4**	**+1.8**
LTRZ	**Laterza**	**4.28**	**316**	P	**Pn**	**18 34 21.7**	**-0.1**
NOCI	**Noci**	**4.28**	**320**	P	**Pn**	**18 34 22.4**	**+0.5**
CHOS	**Chios island**	**4.30**	**78**	eP	**Pn**	**18 34 24.0**	**+1.9**
THAS	**Thassos island**	**4.34**	**45**	P	**Pn**	**18 34 24.1**	**+1.4**
SIGR	**SIGRI**	**4.36**	**66**	eP	**Pn**	**18 34 24.8**	**+1.9**
SIGR	**SIGRI**	**4.36**	**66**	P	**Pn**	**18 34 24.9**	**+2.1**
MATE	**Matera**	**4.37**	**316**	⇑P	**Pn**	**18 34 21.9**	**-1.1**
SKO	**Skopje**	**4.42**	**7**	*i* Pn	**Pn**	**18 34 25.7**	**+1.9**
KAVA	**Kavala**	**4.51**	**40**	P	**Pn**	**18 34 27.0**	**+2.1**
CUC	**Castrocucco**	**4.52**	**304**		**Pn**	**18 34 25.9**	**+0.7**
ULC	**Ulcinj**	**4.52**	**346**	⇑*i* Pn	**Pn**	**18 34 25.5**	**+0.3**
ULC				*i* Sn	**Sn**	**18 35 12.7**	**-4.6**
NPS	**Neapolis**	**4.58**	**119**	P	**Pn**	**18 34 26.1**	**+0.2**
MMB	**Musomishta**	**4.61**	**30**	P	**Pn**	**18 34 28.8**	**+2.5**
MMB				*e*S	**Sn**	**18 35 21.9**	**+2.6**
KARB	**zmir-Karabur**	**4.62**	**75**	P	**Pn**	**18 34 27.9**	**+1.4**
KARB				S	**Sb**	**18 35 29.2**	**-4.2**
ZEYE	**Izmir, Urla-Ze**	**4.63**	**80**	P	**Pn**	**18 34 27.9**	**+1.4**
ZEYE				S	**Sn**	**18 35 19.0**	**-0.7**
KKB	**Krupnik**	**4.65**	**23**	P	**Pn**	**18 34 29.2**	**+2.3**
KKB				*e*S	**Sn**	**18 35 22.4**	**+2.1**
KOCA	**Canakkale, Ayv**	**4.67**	**64**	P	**Pn**	**18 34 29.3**	**+2.2**
KOCA				S	**Sn**	**18 35 13.1**	**-7.7**
PRK	**Paraskevi**	**4.67**	**67**	P	**Pn**	**18 34 29.6**	**+2.4**
URLA	**Izmir**	**4.71**	**79**	eP	**Pn**	**18 34 29.6**	**+1.8**
URLA	**Izmir**	**4.71**	**79**	P	**Pn**	**18 34 29.9**	**+2.0**
URLA				S	**Sn**	**18 35 18.5**	**-3.5**
SMTH	**Samothraki Isl**	**4.73**	**51**	P	**Pn**	**18 34 29.1**	**+1.0**
BOZC	**Bozcaada**	**4.75**	**60**	*e*P	**Pn**	**18 34 30.5**	**+2.2**
BOZC	**Bozcaada**	**4.75**	**60**	P	Pn	18 34 21.6	-6.7
DRME	**Dracevica, Mon**	**4.75**	**346**	*e*Pn	**Pn**	**18 34 28.7**	**+0.4**
DRME	**Dracevica, Mon**	**4.75**	**346**	⇓*i* Pn	**Pn**	**18 34 29.4**	**+1.1**
DRME				*i* Sn	**Sn**	**18 35 19.8**	**-3.1**
GOAD	**anakkale-G¶**	**4.81**	**56**	P	**Pn**	**18 34 29.9**	**+0.8**
GOAD				S	**Sn**	**18 35 15.8**	**-8.4**
GADA	**Gvkgeada**	**4.81**	**56**	*e*P	**Pn**	**18 34 31.7**	**+2.6**
SMG	**Samos**	**4.86**	**87**	P	**Pn**	**18 34 31.6**	**+1.8**
ACER	**Acerenza**	**4.90**	**312**		**Pn**	**18 34 31.6**	**+1.2**
DGB	**zmir**	**4.91**	**83**	P	**Pn**	**18 34 27.1**	**-3.3**
DGB				S	Sn	18 35 16.1	-11
BUM	**Brajici-Budva**	**4.92**	**344**	⇑*i* Pn	**Pn**	**18 34 30.4**	**-0.3**
BUM				*i* Sn	**Sn**	**18 35 23.3**	**-3.6**
EZN	**Ezine**	**4.93**	**61**	*e*P	**Pn**	**18 34 33.0**	**+2.3**
EZN	**Ezine**	**4.93**	**61**	⇓P	Pn	18 34 36.3	+5.5
EZN	**Ezine**	**4.93**	**61**	P	Pn	18 34 36.2	+5.5
PDG	**Podgorica**	**4.97**	**347**		**Pn**	**18 34 31.4**	**+0.1**
PDG	**Podgorica**	**4.97**	**347**	⇓P	**Pn**	**18 34 31.5**	**+0.1**
PDG	**Podgorica**	**4.97**	**347**	*e*Pn	**Pn**	**18 34 31.7**	**+0.4**
PDG				*e*Sn	**Sn**	**18 35 27.6**	**-0.7**
PDG	**Podgorica**	**4.97**	**347**	⇑*i* Pn	**Pn**	**18 34 31.4**	**+0.1**
PDG				*i* Sn	**Sn**	**18 35 23.8**	**-4.5**
PDG	**Podgorica**	**4.97**	**347**	P	**Pn**	**18 34 31.8**	**+0.5**
AYVA	**Ayvalik**	**5.00**	**68**	P	**Pn**	**18 34 35.6**	**+3.9**
VAE	**Valguarnera**	**5.01**	**271**	Pn	**Pn**	**18 34 32.6**	**+0.7**
	26nm,0.8s,baz=175,slow=16,SNR=7.9						
VAE				Sn	**Sn**	**18 35 29.1**	**-0.2**
	8.1nm,0.3s,baz=7.1,slow=16,SNR=4.1						
BAYC	**CANAKKALE_Bayr**	**5.05**	**63**	P	**Pn**	**18 34 34.5**	**+2.1**
BAYC				S	Sn	18 35 21.3	-8.9
RAFF	**Raffo Rosso**	**5.07**	**268**		**Pn**	**18 34 32.0**	**-0.7**
ZKR	**Zakros**	**5.08**	**117**	*e*P	**Pn**	**18 34 36.1**	**+3.3**
ZKR	**Zakros**	**5.08**	**117**	P	**Pn**	**18 34 34.6**	**+1.8**
CNKL	**anakkale-Mer**	**5.08**	**59**	P	**Pn**	**18 34 35.9**	**+3.1**
BOSS	**Bosilegrad**	**5.10**	**15**	*e*Pn	**Pn**	**18 34 35.0**	**+1.9**
CEME	**Cevo**	**5.15**	**345**	⇑*i* Pn	**Pn**	**18 34 32.7**	**-1.1**
CEME	

MDVR Moldovita 7.24 6 ⇓P Pn 18 35 02.8 +0.4
MDVR Moldovita 7.24 6 *e*Pn Pn 18 35 02.1 -0.4
AKAS Kas 7.25 98 Pn 18 35 05.9 +3.1
SRE Strehaia 7.32 14 ⇑P Pn 18 35 05.1 +1.5
SRE Strehaia 7.32 14 P Pn 18 35 05.1 +1.5
HERR Herculane 7.41 9 ⇑P Pn 18 35 05.6 +0.8
VRSS Vrsac 7.55 3 *e*Pn Pn 18 35 06.5 -0.3
FRGS Fruska Gora 7.60 355 *e*Pn Pn 18 35 06.6 -0.9
FRGS *e*Sn Sn 18 36 27.9 -5.2
BLY Banja Luka 7.64 341 *e*Pn Pn 18 35 07.2 -0.8
GZR Gura Zlata 7.96 11 ⇑P Pn 18 35 13.4 +0.9
GZR Gura Zlata 7.96 11 P Pn 18 35 13.3 +0.9
GZR Gura Zlata 7.96 11 *e*Pn Pn 18 35 13.3 +0.9
BZS Buzias 8.06 5 ⇓P Pn 18 35 13.7 -0.1
BZS Buzias 8.06 5 P Pn 18 35 13.6 -0.1
BZS Buzias 8.06 5 *e*Pn Pn 18 35 13.4 -0.3
BZS *e*Sn Sn 18 36 40.1 -4.2
SURR Surduc 8.24 7 ⇑P Pn 18 35 16.5 +0.3
MTUR Matau 8.31 22 ⇑P Pn 18 35 20.1 +2.8
MTUR Matau 8.31 22 P Pn 18 35 20.0 +2.8
ARR Arges 8.32 19 ⇑P Pn 18 35 19.4 +2.1
VOIR 8.50 21 ⇓P Pn 18 35 22.4 +2.6
VOIR 8.50 21 P Pn 18 35 22.3 +2.6
MOSL Moslavina 8.56 341 *e*Pn Pn 18 35 18.6 -2.0
SIRR Siria 8.71 4 ⇑P Pn 18 35 22.9 +0.3
SIRR Siria 8.71 4 *e*Pn Pn 18 35 22.7 0.0
ISR Istrita 8.71 28 ⇓P Pn 18 35 26.3 +3.5
ISR Istrita 8.71 28 P Pn 18 35 26.2 +3.5
MLR Muntele Rosu 8.82 25 Pn 18 35 24.4 +0.1
MLR Muntele Rosu 8.82 25 Pn Pn 18 35 26.8 +2.5
0.7nm,0.3s,baz=167,slow=18,SNR=25
MLR LR LR 18 39 37.1
comp=Z,169nm,18.3s,baz=218,slow=44
20nm,0.7s
MLR Muntele Rosu 8.82 25 ⇑P Pn 18 35 27.6 +3.3
MLR Muntele Rosu 8.82 25 *e*Pn Pn 18 35 25.8 +1.5
BOJS Bojanci 8.91 334 *i* Pn Pn 18 35 25.6 +0.1
BOJS Bojanci 8.91 334 *e*Pn Pn 18 35 25.4 0.0
BOJS *e*Sn Sn 18 37 01.7 -3.6
OZLJ Ozalj 8.94 336 *e*Pn Pn 18 35 25.4 -0.3
BRJN Brijuni 9.00 327 *e*Pn Pn 18 35 27.1 +0.5
DOPR Dopca 9.08 21 ⇓P Pn 18 35 29.8 +2.1
VSL Villasalto 9.09 286 Pn Pn 18 35 25.1 -2.8
BISRR Bisoca 9.14 28 ⇑P Pn 18 35 31.5 +2.9
COVR Voinesasa-Covas 9.22 25 ⇓P Pn 18 35 32.8 +3.1
MARR Marisel-Cluj 9.27 10 ⇑P Pn 18 35 31.5 +1.2
OZUR 9.31 22 ⇑P Pn 18 35 33.5 +2.6
KEST Kesra 9.32 262 Pn 18 35 30.8 -0.3
KEST Kesra 9.32 262 Pn Pn 18 35 32.0 +1.0
0.6nm,0.3s,baz=47,slow=7.1,SNR=10
KEST Sn Sn 18 37 10.9 -4.6
0.1nm,0.3s,baz=55,slow=23,SNR=1.6
3.1nm,0.6s
TURR Turia 9.35 23 ⇑P Pn 18 35 34.5 +3.2
BEHE Becsehely 9.36 343 Pn 18 35 30.3 -1.2
BEHE Becsehely 9.36 343 *e*Pn Pn 18 35 30.5 -1.0
PLOR Plostina 9.38 26 ⇑P Pn 18 35 35.2 +3.3
PLOR Plostina 9.38 26 P Pn 18 35 35.1 +3.3
SKDS Skadanscina 9.41 330 *e*Pn Pn 18 35 31.5 -0.7
SKDS *e*Sn Sn 18 37 12.7 -4.8
CEY Cerknica 9.41 332 *e*Pn Pn 18 35 32.4 +0.1
VRI Vrincioaia 9.42 27 ⇓P Pn 18 35 35.5 +3.1
VRI Vrincioaia 9.42 27 P Pn 18 35 35.4 +3.1
LJU Ljubljana 9.63 333 *i* Pn Pn 18 35 35.2 -0.1
TRI Trieste 9.64 330 Pn Pn 18 35 34.9 -0.5
TRI Trieste 9.64 330 P Pn 18 35 34.9 -0.5
ONER Baraj Valea Uz 9.72 24 ⇑P Pn 18 35 39.5 +3.1
SABO M.te Sabotino 9.93 330 Pn Pn 18 38 38.4 -1.0
TESR Tescani 9.96 24 ⇑P Pn 18 35 42.3 +2.6
SOKA Soboth 10.02 337 *i* Pn Pn 18 35 40.0 -0.7
14nm,0.5s,SNR=11
SOKA *e*Sn Sn 18 37 34.1 +1.5
12nm,0.7s
OBKA Obir 10.03 335 *e*Pn Pn 18 35 41.6 +0.9
6.4nm,0.4s
OBKA *e*Sn Sn 18 37 31.7 -1.1
20nm,0.6s
BR131 Keskin Array S 10.34 74 *de*P Pn 18 35 49.0 +3.9
BRTR Keskin Array B 10.34 74 Pn Pn 18 35 48.9 +3.9
0.1nm,0.3s,baz=267,slow=12,SNR=4.1
0.7nm,0.6s
PSZ Piszkesteto 10.35 357 ⇓P Pn 18 35 46.3 +1.1
PSZ Piszkesteto 10.35 357 P Pn 18 35 46.2 +1.1
ARSA Arzberg 10.40 340 Pn 18 35 44.0 -1.7
ARSA Arzberg 10.40 340 *e*Pn Pn 18 35 45.0 -0.8
4.3nm,0.5s
MYKA Terra Mystica 10.46 332 *i* Pn Pn 18 35 49.0 +2.4
4.4nm,0.3s
MYKA *i* Sn Sn 18 37 42.3 -0.9
4.4nm,0.4s
STAL STALIGIAL 10.52 328 Pn Pn 18 35 46.4 -1.1
BURAR Bucovina Array 10.56 17 Pn Pn 18 35 48.2 +0.1
BURAR Bucovina Array 10.56 17 ⇑P Pn 18 35 51.0 +2.9
BURAR Bucovina Array 10.56 17 P Pn 18 35 51.0 +2.9
RONA Rosalia, Austr 10.62 344 *e*Pn Pn 18 35 48.5 -0.4
3.6nm,0.6s
CONA Conrad Observa 10.94 343 *i* Pn Pn 18 35 52.7 -0.6
1.1nm,0.4s
KBA Koelnbreinsper 10.94 332 *e*Pn Pn 18 35 57.2 +3.8
4.6nm,0.4s
ABTA Abfaltersbach 10.99 329 *i* Pn Pn 18 35 55.2 +1.2
3.5nm,0.5s
ABTA *e*Sn Sn 18 37 53.5 -2.9
14nm,0.9s
MOA Molln 11.30 337 *e*Pn Pn 18 35 57.3 -0.8
14nm,0.7s
MOA *i* Sn Sn 18 38 01.9 -2.0
7.5nm,0.6s
BIOA Bad Ischl, Aus 11.37 335 *i* Pn Pn 18 35 59.7 +0.7
5.8nm,0.3s,SNR=5.4
BIOA *e*Sn Sn 18 38 06.4 +0.9
5.2nm,0.4s
KOLS Kolonicke sedl 11.41 5 *e*P Pn 18 36 00.4 +0.8
LESA Schwarzleotal 11.48 332 *i* Pn Pn 18 36 01.3 +0.7
8.6nm,0.5s,SNR=10.0
LESA *i* Sn Sn 18 38 03.7 -4.7
5.9nm,0.5s
WTTA Wattenberg 11.77 328 *i* Pn Pn 18 36 06.5 +1.9
4.6nm,0.4s
WTTA *e*Sn Sn 18 38 16.1 +0.6
13nm,0.5s
WATA Walderalm 11.85 328 *i* Pn Pn 18 36 06.8 +1.0
5.0nm,0.5s
WATA *i* Sn Sn 18 38 16.1 -1.3
7.3nm,0.5s
FUORN Ofenpass-Fuorn 11.90 323 Pn 18 36 06.9 +0.3
SQTA Sankt Quirin 11.91 327 *i* Pn Pn 18 36 10.5 +3.9
1.7nm,0.2s
SQTA *i* Sn Sn 18 38 19.7 +0.6
9.6nm,0.5s
FETA Feichten 11.98 325 *i* Pn Pn 18 36 17.0 +9.5
3.9nm,0.6s
FETA *e*Sn Sn 18 38 18.3 -2.3
1.6nm,0.4s
MOTA Moosalm 12.06 327 *e*Pn Pn 18 36 10.1 +1.6
1.8nm,0.4s
MOTA *i* Sn Sn 18 38 22.7 +0.1
6.1nm,0.6s
VRAC Vranov 12.10 347 Pn Pn 18 36 09.2 +0.2
0.3nm,0.3s,baz=153,slow=15,SNR=2.2
VRAC LR LR 18 41 36.8
comp=Z,88nm,18.2s,baz=168,slow=42
1.3nm,0.4s
CKRC Cesky Krumlov 12.16 340 *e*P Pn 18 36 10.2 +0.3
CKRC MLR MLR
comp=Z,900nm,10.1s
CKRC Cesky Krumlov 12.16 340 *e*PN Pn 18 36 10.2 +0.3
CKRC AMS AMS 18 41 40.0
comp=Z,900nm,10.1s
DAVOX Davos/Dischmat 12.20 322 Pn Pn 18 36 10.7 +0.1
comp=Z,0.3nm,0.3s,baz=135,slow=16,SNR=3.6
DAVOX Sn Sn 18 38 22.2 -3.9
comp=Z,0.4nm,0.3s,baz=155,slow=23,SNR=1.4
comp=Z,2.0nm,0.6s
TUE Stuetta 12.25 320 Pn 18 36 10.5 -0.8
TREC Trest 12.31 344 AMS AMS 18 42 50.0
comp=Z,300nm,9.8s
RETA Reutte 12.31 327 *e*Pn Pn 18 36 16.1 +4.0
comp=Z,3.1nm,0.4s
RETA *i* Sn Sn 18 38 27.7 -1.1
comp=Z,3.1nm,0.4s
GERES GERESS Array B 12.36 338 Pn Pn 18 36 11.2 -1.4
comp=Z,0.1nm,0.3s,baz=156,slow=14,SNR=12
GERES Sn Sn 18 38 24.3 -5.6
comp=Z,0.1nm,0.3s,baz=153,slow=22,SNR=4.6
GERES LR LR 18 42 34.1
comp=Z,241nm,18.7s,baz=147,slow=45
comp=Z,1.4nm,0.5s
GERES GERESS Array B 12.36 338 *e*P Pn 18 36 14.3 +1.6
OKC Ostrava-Krasne 12.39 352 AMS AMS 18 41 40.0
comp=Z,400nm,12.8s
DAVA Damuels 12.56 324 *i* Pn Pn 18 36 18.2 +2.7
comp=Z,1.0nm,0.3s
DAVA *e*Sn Sn 18 38 34.0 -0.9
comp=Z,13nm,0.5s
KHC Kasperske Hory 12.65 338 ⇓*e*P Pn 18 36 16.0 -0.7
KHC Kasperske Hory 12.65 338 *e*PN Pn 18 36 15.9 -0.7
KHC *e*SN Sn 18 38 31.5 -5.4
KHC AMS AMS 18 42 00.0
comp=Z,800nm,11.6s
ZVC Zvikov 12.76 340 *e*PN Pn 18 36 21.9 +3.9
MMAI Mount Meron Ar 12.83 106 Pn Pn 18 36 16.8 -2.3
comp=Z,1.3nm,0.3s,baz=299,slow=12,SNR=7.0
MMAI Sn Sn 18 38 36.3 -5.2
comp=Z,0.9nm,0.3s,baz=300,slow=25,SNR=2.5
MMAI LR LR 18 42 17.9
comp=Z,95nm,21.3s,baz=286,slow=42
comp=Z,5.2nm,0.7s
DPC Dobruska-Polom 13.15 348 *e*P P 18 36 30.3 -3.1
DPC MLR MLR
comp=Z,700nm,13.2s
DPC Dobruska-Polom 13.15 348 *e*PN P 18 36 30.3 -3.1
DPC *ex* x 18 36 36.0
DPC AMS AMS 18 42 30.0
comp=Z,700nm,13.2s
PRU Pruhonice 13.18 342 AMS AMS 18 42 30.0
comp=Z,600nm,9.3s
SENIN Lac Senin/Sane 13.28 316 Pn 18 36 25.9 +0.6
PRA Prague 13.28 342 AMS AMS 18 42 30.0
comp=Z,700nm,8.3s
UPC Upice 13.36 347 AMS AMS 18 42 40.0
comp=Z,700nm,11.9s
OSTC Ostas 13.37 348 AMS AMS 18 42 40.0
comp=Z,600nm,13.1s
CHVC Chvalec 13.43 347 AMS AMS 18 42 50.0
comp=Z,800nm,7.9s
PVCC Panska Ves 13.67 343 AMS AMS 18 42 40.0
comp=Z,400nm,9.6s
GHAJ Ghor Haditha 13.76 113 Pn 18 36 32.2 +0.5
GRA1 Grafenberg Arr 13.91 334 Pn P 18 36 43.5 +1.7
GRF Grafenberg Arr 13.91 334 P P 18 36 43.5 +1.7
GRF Grafenberg Arr 13.91 334 *e*Pn P 18 36 44.1 +2.3
GRFO Grafenberg 13.91 334 Pn P 18 36 43.7 +2.0
BFO Black Forest 14.04 324 Pn Pn 18 36 32.1 -3.5
BFO P P 18 36 44.1 +0.8
BFO Black Forest 14.04 324 P Pn 18 36 32.1 -3.5
BRG Berggiesshubel 14.14 342 *e*P P 18 36 47.8 +3.5
BRG Amp 18 36 48.9
comp=Z,3.3nm,0.9s
EIL Elat 14.23 119 Pn Pn 18 36 36.2 -2.1
comp=Z,1.5nm,0.3s,baz=350,slow=6.8,SNR=15
EIL Sn Sn 18 39 04.2 -11
comp=Z,0.5nm,0.3s,baz=314,slow=17,SNR=2.6
comp=Z,9.7nm,0.6s
ASF Jabal al Safar 14.33 107 Pn Pn 18 36 38.6 -1.0
comp=Z,0.4nm,0.3s,baz=324,slow=7.2,SNR=11
ASF Sn Sn 18 39 16.2 -2.0
comp=Z,0.1nm,0.3s,baz=346,slow=22,SNR=2.5
comp=Z,0.8nm,0.5s
KIEV Kiev 14.45 22 Pn 18 36 40.4 -0.6
KIEV Kiev 14.45 22 Pn Pn 18 36 41.5 +0.5
KIEV Kiev 14.45 22 P Pn 18 36 40.4 -0.6
AKASG Malin Array Be 14.46 22 Pn Pn 18 36 40.4 -0.8
AKASG P P 18 36 47.5 -0.3
AKASG Malin Array Be 14.46 22 Pn Pn 18 36 40.3 -0.9
comp=Z,0.7nm,0.3s,baz=215,slow=12,SNR=6.1
AKASG LR LR 18 43 47.1
comp=Z,66nm,19.1s,baz=204,slow=44
comp=Z,1.9nm,0.7s
AKASG Malin Array Be 14.46 22 *e*P Pn 18 36 41.3 +0.1
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 14.46 22 Pn 18 36 40.4 -0.8
AKBB Malin Array Si 14.46 22 *d* iP Pn 18 36 41.3 +0.1
ECH Echery 14.53 321 Pn 18 36 40.8 -1.4
ECH Echery 14.53 321 P Pn 18 36 40.8 -1.4
CLL Collm 14.78 341 Pn 18 36 44.3 -1.2
CLL Collm 14.78 341 P Pn 18 36 44.3 -1.2
CLL Collm 14.78 341 *i* PP P 18 36 53.7 +2.3
comp=Z,22nm,1.1s
CLL *ex* x 18 37 12.0
CLL Lmax 18 43 00.0
CEST Esterri de Car 15.71 295 Pn 18 36 55.3 -2.7
MARD Mardin 15.94 85 Pn 18 36 58.5 -2.5
WLF Walferdange 16.00 324 P 18 37 07.8 +2.9
WLF IAmb IAmb 18 37 09.9
comp=Z,46nm,1.0s
WLF Walferdange 16.00 324 *d*P P 18 37 08.0 +3.0
WLF Walferdange 16.00 324 P P 18 37 07.9 +2.9
WLF pmax pmax
comp=Z,46nm,1.0s
BTNL Ternell 16.66 326 *d*P P 18 37 16.3 +4.0
MEM Membach 16.73 326 *d*P P 18 37 17.1 +4.1
comp=Z,11nm,1.0s
RCHB Rochefort 16.77 323 *d*P P 18 37 16.5 +2.9
BSTI Sart Tilman 16.91 325 *d*P P 18 37 19.1 +4.0
BGES Gesves 16.99 324 *d*P P 18 37 18.4 +2.5
comp=Z,5.7nm,1.0s
DOU Dourbes 17.04 322 *d*P P 18 37 18.3 +1.9
comp=Z,8.9nm,0.8s
BMRD Maredsous 17.09 323 *d*P P 18 37 20.7 +3.6
UCC Uccle 17.62 324 Pn 18 37 20.4 -1.5
UCC Uccle 17.62 324 P Pn 18 37 20.4 -1.5
UCC pmax pmax
comp=Z,9.0nm,0.6s
MNK Minsk 17.63 14 *i* P Pn 18 37 18.4 -3.7
comp=E,12nm,0.9s
MNK *i* P Pn 18 37 18.4 -3.7
comp=N,11nm,0.9s
MNK *i* P Pn 18 37 18.4 -3.7
comp=Z,13nm,1.0s,baz=199
MNK *i* PP pP 18 37 28.5 +0.3
MNK *i* PPP PPP 18 37 36.1
MNK *i* S Sn 18 40 34.6 -3.2
MNK *i* SS SnSn 18 40 49.2 -2.0
MNK *i* SSS SSS 18 41 01.4
MNK *i* LQ LQ 18 42 25.2
MNK *i* LR LR 18 43 47.7
MNK *i* LRM MLR 18 44 52.9
comp=Z,118nm,14.4s
MNK *i* LRM MLR 18 44 54.7
comp=N,68nm,16.4s
MNK *i* LRM MLR 18 45 01.2
comp=E,114nm,16.4s
MNK Minsk 17.63 14 *i* P Pn 18 37 18.3 -3.7
MNK *i* S Sn 18 40 34.5 -3.2
MNK pmax pmax
comp=Z,13nm,1.0s
MNK pmax pmax
comp=N,11nm,0.9s
MNK pmax pmax
comp=E,12nm,0.9s
MNK MLR MLR
comp=Z,118nm,14.0s
MNK MLR MLR
comp=N,68nm,16.0s
MNK MLR MLR
comp=E,114nm,16.0s
SHA1 Shidzhatmaz 17.73 63 ⇑*e*P P 18 37 26.9 +2.5
KIV Kislovodsk 17.80 62 *e*P Pn 18 37 24.6 +0.2
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,25nm,14.0s
KVAR Kislovodsk Arr 17.80 62 P P 18 37 25.2 +0.1
baz=279,slow=18
comp=Z,1.7nm,0.7s
NACGM Naroch 17.82 12 *e*P Pn 18 37 24.1 -0.3
comp=Z,14nm,0.8s,baz=196
KBZ Khabaz 17.89 63 P P 18 37 26.5 +0.5
comp=Z,0.3nm,0.3s,baz=225,slow=19,SNR=6.3
comp=Z,1.0nm,0.4s
KBZ Khabaz 17.89 63 ⇓*e*P P 18 37 28.1 +2.1
KBZ pmax pmax
comp=Z,5.0nm,0.9s
PABE Paberze 18.07 6 Pn 18 37 25.9 -1.6
PABE Paberze 18.07 6 *e*P Pn 18 37 27.0 -0.5
NCK Nalchik 18.34 64 ⇓*e*P Pn 18 37 34.8 +3.8
NCK pmax pmax
comp=Z,7.0nm,0.5s
GNI Garni 18.88 75 P Pn 18 37 38.0 +0.4
comp=Z,0.9nm,0.3s,baz=252,slow=3.2,SNR=2.4
comp=Z,4.3nm,0.5s
GNI Garni 18.88 75 Pn Pn 18 37 39.9 +2.2
GNI Garni 18.88 75 ⇓*e*P Pn 18 37 38.7 +1.1
GNI pmax pmax
comp=Z,18nm,1.4s
VSR Storozhevoye 18.89 38 *e*P P 18 37 36.0 -0.9
VSR pmax pmax
comp=Z,3.0nm,0.9s
BJUU Bjuv 19.21 347 *i* P Pn 18 37 41.6 +0.2
ESDC Sonseca Array 19.38 284 Pn 18 37 43.1 -0.5
ESDC Sonseca Array 19.38 284 P P 18 37 42.6 +0.2
comp=Z,0.1nm,0.3s,baz=78,slow=11,SNR=43
ESDC LR LR 18 45 11.6
comp=Z,46nm,19.5s,baz=98,slow=37
comp=Z,8.6nm,0.9s
SSRD Sdr. Stenderup 19.42 341 *i* P Pn 18 37 43.9 +0.1
SSRD IAmb IAmb 18 37 45.4
comp=Z,62nm,0.7s
DEL Delary 19.45 349 *i* P Pn 18 37 44.0 -0.2
LPSR Galich'ya Gora 19.69 34 *e*P P 18 37 45.5 -0.1
LPSR pmax pmax
comp=Z,10.0nm,0.8s
FABU Falkenberg 20.15 347 *i* P Pn 18 37 51.9 -0.6
VRH Novokhopyorsk 20.18 41 *e*P P 18 37 50.8 -0.1
VRH pmax pmax
comp=Z,8.0nm,0.9s
MUD Monsted U'grnd 20.41 341 *i* P Pn 18 37 54.7 -0.8
MUD IAmb IAmb 18 37 55.5
comp=Z,38nm,1.1s
OBN Obninsk 20.59 27 P P 18 37 52.8 -2.5
OBN Obninsk 20.59 27 P P 18 37 54.7 -0.6
comp=Z,26nm,0.4s,baz=158,slow=19,SNR=5.0
comp=Z,26nm,0.4s
OBN Obninsk 20.59 27 ⇓*e*P P 18 37 56.2 +0.9
OBN *e* 18 38 01.5
OBN *e*PPP PPP 18 38 21.0
OBN *e* 18 42 06.5
OBN pmax pmax
comp=Z,13nm,0.5s
OBN MLR MLR
comp=Z,148nm,14.0s
ONAU Onsala 20.67 346 *i* P Pn 18 37 57.4 -1.1
BORU Boraas 20.74 348 *i* P Pn 18 37 58.4 -1.1
AKT Akhty 21.16 71 *e*P P 18 38 03.0 +1.1
AKT *e* 18 38 22.3
AKT pmax pmax
comp=Z,14nm,1.1s
AKT MLR MLR
comp=Z,29nm,6.0s
MDT Midelt 21.21 265 P P 18 38 03.2 +0.8
comp=Z,4.7nm,0.8s,baz=77,slow=10,SNR=7.4
comp=Z,4.7nm,0.8s
VSU Vasula 21.27 9 *e*P P 18 38 02.6 0.0
VSU Vasula 21.27 9 *c* iP P 18 38 02.4 -0.2
VSU pmax pmax
comp=Z,53nm,0.6s
MD01 Midelt array s 21.31 265 P 18 38 02.0 -1.5
MD31 MD31 21.31 265 P 18 38 02.9 -0.5
TJOU Tjoern 21.32 347 *i* P P 18 38 04.5 +1.3
MOS Moscow 21.45 27 *e*P P 18 38 03.8 -0.9
MOS *e*S S 18 42 04.4 +2.7
MOS pmax pmax
comp=Z,28nm,0.8s
PBRG Braganca 21.50 290 *e*P P 18 38 05.9 +0.5
PBRG *i* IAmb IAmb 18 38 07.3
comp=Z,27nm,1.9s
MVO Moncorvo 21.71 288 *e*P P 18 38 08.2 +0.6
MVO *i* IAmb IAmb 18 38 18.0
comp=Z,9.4nm,1.5s
PBAR Barrancos 21.89 280 *e*P P 18 38 10.9 +1.4
PBAR *i* IAmb IAmb 18 38 24.0
comp=Z,16nm,1.3s
PMRV Marv??o 22.04 284 *e*P P 18 38 10.0 -1.1
PMRV *i* IAmb IAmb 18 38 16.0
comp=Z,11nm,1.0s
PCBR Castelo Branco 22.08 285 *e*P P 18 38 11.9 +0.4
PCBR *i* IAmb IAmb 18 38 17.7
comp=Z,11nm,1.8s
MTE Manteigas 22.11 286 P P 18 38 11.4 -0.5
MTE IAmb IAmb 18 38 28.9
comp=Z,16nm,1.2s
MTE Manteigas 22.11 286 *e*P P 18 38 12.9 +0.9
MTE *i* IAmb IAmb 18 38 14.4
comp=Z,17nm,2.0s
ARBE Arbavere 22.14 7 *e*P P 18 38 16.3 +4.4
PESTR Estremoz 22.24 282 *e*P P 18 38 14.5 +1.2
PESTR *i* IAmb IAmb 18 38 17.5
comp=Z,15nm,1.8s
POLO Lamas de Olo 22.29 289 *e*P P 18 38 16.8 +2.9
POLO *i* IAmb IAmb 18 38 18.7
comp=Z,7.1nm,1.2s
STRU Stroemstad 22.34 347 *e*P P 18 38 14.2 0.0
STRU Stroemstad 22.34 347 *i* P P 18 38 14.3 +0.2
PVIS Viseu 22.37 287 *e*P P 18 38 15.5 +0.8
UPP Uppsala 22.39 356 *e*P P 18 38 14.6 0.0
PVAQ Vaqueiros 22.53 278 *e*P P 18 38 18.5 +2.1
PVAQ *i* IAmb IAmb 18 38 25.6
comp=Z,14nm,1.6s
PBEJ Beja 22.55 280 *e*P P 18 38 18.1 +1.4
PBEJ *i* IAmb IAmb 18 38 27.1
comp=Z,11nm,1.2s
SNART Snartemo 22.57 341 *i* P P 18 38 17.7 +1.1
EVO Evora 22.61 281 *e*P P 18 38 18.4 +1.1
EVO *i* IAmb IAmb 18 38 22.5
comp=Z,8.9nm,1.1s
PSARD Sardoal 22.62 284 *e*P P 18 38 18.8 +1.3
PSARD *i* IAmb IAmb 18 38 23.6
comp=Z,20nm,1.0s
AAL Aland 22.62 359 ⇑*e*P P 18 38 16.8 -0.3
PMTG Montargil 22.71 283 *e*P P 18 38 17.7 -0.6
PMTG *i* IAmb IAmb 18 38 20.1
comp=Z,26nm,1.5s
PBDV Barranco-do-Ve 22.72 278 *e*P P 18 38 20.9 +2.4
PBDV *i* IAmb IAmb 18 38 30.3
comp=Z,21nm,1.7s
PCAS Casmilo, Conde 22.85 285 *e*P P 18 38 20.2 +0.4
PCAS *i* IAmb IAmb 18 38 21.8
comp=Z,12nm,1.0s
MESJ Messejana 22.86 280 *e*P P 18 38 20.5 +0.6
MESJ IAmb IAmb 18 38 22.1
comp=Z,28nm,1.5s
MESJ Messejana 22.86 280 *e*P P 18 38 21.8 +2.0
MESJ *i* IAmb IAmb 18 38 23.2
comp=Z,18nm,1.7s
PTO Porto 22.89 288 *e*P P 18 38 23.1 +2.9
PTO *i* IAmb IAmb 18 38 26.4
comp=Z,22nm,1.6s
HFS Hagfors 23.02 351 P P 18 38 20.7 -0.6
comp=Z,8.5nm,0.4s,baz=156,slow=11,SNR=57
HFS LR LR 18 48 32.9
comp=Z,30nm,19.3s,baz=172,slow=40
comp=Z,8.5nm,0.4s
PARRA Arraiolos 23.37 282 *e*P P 18 38 16.3 -8.8
PARRA *i* IAmb IAmb 18 38 18.6
comp=Z,9.2nm,1.8s
RAF Rauma 23.48 1 *e*P P 18 38 24.6 -1.3
NC602 NORSAR Array S 23.89 349 IAmb IAmb 18 38 41.4
comp=Z,28nm,1.4s
BELG Belogornoye 23.93 43 *de*P P 18 38 31.3 +1.0
BELG pmax pmax
comp=Z,3.0nm,0.8s
EKA Eskdalemuir Ar 24.01 325 P P 18 38 31.4 +0.3
comp=Z,10nm,0.6s,baz=127,slow=8.8,SNR=62
comp=Z,10nm,0.6s
ESK Eskdalemuir 24.02 325 P 18 38 31.3 +0.2
ESK IAmb IAmb 18 38 32.5
comp=Z,12nm,0.8s
ESK Eskdalemuir 24.02 325 P P 18 38 31.3 +0.2
ESK pmax pmax
comp=Z,13nm,0.8s
NAO01 NORSAR Array S 24.10 348 IAmb IAmb 18 38 32.9
comp=Z,22nm,1.0s
FINES FINESS Array B 24.12 6 P P 18 38 31.5 -0.6
comp=Z,5.7nm,0.4s,baz=175,slow=10.0,SNR=82
comp=Z,5.7nm,0.4s
NC405 NORSAR Array S 24.23 349 P 18 38 31.1 -2.0
NC405 IAmb IAmb 18 38 41.0
comp=Z,44nm,1.4s
NB2 NORSAR Subarra 24.23 349 P P 18 38 32.8 -0.3
comp=Z,7.7nm,0.8s,baz=162,slow=9.3
NOA NORSAR Array B 24.23 349 P P 18 38 32.9 -0.3
comp=Z,4.9nm,0.8s,baz=161,slow=8.5,SNR=20
NOA LR LR 18 50 47.0

	comp=Z,41nm,19.1s,baz=165,slow=44								
	comp=Z,4.9nm,0.8s								
NOA	**NORSAR Array B**	**24.23**	**349**		*e*P		**P**	**18 38 33.2**	**0.0**
NOA					pmax		pmax		
	comp=Z,3.0nm,0.6s								
NBO00	**NORSAR Array S**	**24.30**	**348**		IAmb		IAmb	18 38 34.5	
	comp=Z,19nm,0.9s								
NC303	**NORSAR Array S**	**24.39**	**349**		IAmb		IAmb	18 38 35.8	
	comp=Z,20nm,0.8s								
NC204	**NORSAR Array S**	**24.53**	**348**				**P**	**18 38 34.3**	**-1.6**
NC204					IAmb		IAmb	18 38 44.6	
	comp=Z,15nm,0.9s								
KEF	**Keuruu**	**24.75**	**5**		*e*P		**P**	**18 38 38.2**	**+0.4**
RAYN	**Ar Rayn**	**25.44**	**116**				**P**	**18 38 43.7**	**-0.7**
RAYN					IAmb		IAmb	18 38 48.4	
	comp=Z,4.4nm,0.6s								
RAYN	**Ar Rayn**	**25.44**	**116**		*i* P		**P**	**18 38 46.1**	**+1.7**
	SNR=9.2								
RAYN	**Ar Rayn**	**25.44**	**116**		P		**P**	**18 38 43.7**	**-0.7**
RAYN					pmax		pmax		
	comp=Z,4.0nm,0.6s								
KLMR	**Klimovskoe**	**26.14**	**21**		*e*P		**P**	**18 38 49.5**	**-0.9**
KLMR					*e*			18 39 27.7	
KLMR					pmax		pmax		
	comp=Z,15nm,1.5s								
TORD	**Torodi Ar. Bea**	**29.66**	**220**		P		**P**	**18 39 22.2**	**0.0**
	comp=Z,1.4nm,0.6s,baz=31,slow=9.4,SNR=10								
	comp=Z,1.4nm,0.6s								
AB31	**Akbulak array**	**30.46**	**55**				**P**	**18 39 28.6**	**-0.4**
ARTI	**Arti**	**31.30**	**41**	*c*	*i*P		**P**	**18 39 35.8**	**-0.6**
ARTI					S		**S**	**18 44 45.3**	**+3.1**
ARTI					SS		**SnSn**	**18 46 29.9**	**+4.4**
ARTI					pmax		pmax		
	comp=Z,7.0nm,1.5s								
MZR	**Muzera**	**31.62**	**108**		*i* P		**P**	**18 39 39.9**	**+0.3**
	SNR=6.7								
SHME	**Shamm**	**32.05**	**101**		P		**P**	**18 39 43.5**	**+0.2**
ARCES	**ARCESS Array B**	**32.12**	**3**		P		**P**	**18 39 43.3**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=189,slow=12,SNR=19								
ARCES					LR		LR	18 53 57.9	
	comp=Z,102nm,20.5s,baz=198,slow=39								
	comp=Z,1.1nm,0.4s								
NAZ	**Nazwa, Dubai**	**32.21**	**103**		*i* P		**P**	**18 39 45.6**	**+0.9**
	SNR=8.1								
BANOM	**Banah**	**32.23**	**101**		P		**P**	**18 39 45.5**	**+0.5**
UOSS	**Minazif**	**32.65**	**102**		P		**P**	**18 39 48.9**	**+0.3**
HATD	**Hatta, Dubai**	**32.66**	**103**		P		**P**	**18 39 49.2**	**+0.5**
ASHO	**Ashiyiah**	**32.68**	**103**		*i* P		**P**	**18 39 49.6**	**+0.8**
	SNR=8.4								
ALNE	**Al Ain**	**32.77**	**104**		*i* P		**P**	**18 39 50.3**	**+0.6**
	SNR=26								
SOHO	**SOHO**	**33.33**	**103**		*i* P		**P**	**18 39 55.0**	**+0.4**
	SNR=11								
LODK	**Lodwar**	**36.55**	**155**				**P**	**18 40 24.0**	**+1.6**
BORG	**Borgarnes**	**36.71**	**331**		LR		LR	18 55 53.5	
	comp=Z,28nm,19.1s,baz=178,slow=37								
BVAR	**Borovoye Array**	**37.39**	**49**		P		**P**	**18 40 29.4**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=271,slow=7.2,SNR=10								
	comp=Z,1.8nm,0.6s								
CHGR	**Chuyangaron**	**37.78**	**73**		IAmb		IAmb	18 40 33.7	
	comp=Z,8.7nm,0.6s								
KK31	**Karatay Array**	**37.90**	**66**				**P**	**18 40 33.5**	**-0.1**
KK31	**Karatay Array**	**37.90**	**66**		P		**P**	**18 40 33.5**	**-0.1**
KK31					pmax		pmax		
	comp=Z,3.0nm,0.8s								
KKAR	**Karatay Array**	**37.90**	**66**				**P**	**18 40 32.5**	**-1.1**
KKAR	**Karatay Array**	**37.90**	**66**		P		**P**	**18 40 32.5**	**-1.1**
DBIC	**Dimbokro**	**38.56**	**223**		P		**P**	**18 40 40.1**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=69,slow=9.9,SNR=4.0								
	comp=Z,2.1nm,0.6s								
GAR	**Garm**	**38.57**	**72**		IAmb		IAmb	18 40 41.0	
	comp=Z,7.6nm,0.5s								
SPITS	**Spitsbergen Ar**	**40.75**	**359**		P		**P**	**18 40 56.8**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=146,slow=11,SNR=6.4								
	comp=Z,5.5nm,0.8s								
AAK	**Ala-Archa**	**40.87**	**65**		LR		LR	19 00 15.3	
	comp=Z,25nm,19.2s,baz=279,slow=40								
AAK	**Ala-Archa**	**40.87**	**65**		*e*P		**P**	**18 41 00.6**	**+2.1**
AAK					pmax		pmax		
	comp=Z,3.0nm,0.8s								
KURBB	**Kurchatov Arra**	**42.47**	**53**		P		**P**	**18 41 10.8**	**-0.5**
	comp=Z,1.8nm,0.4s,baz=280,slow=8.8,SNR=13								
	comp=Z,1.8nm,0.4s								
KURK	**Kurchatov**	**42.51**	**53**		*i*P		**P**	**18 41 11.3**	**-0.4**
KURK					pmax		pmax		
	comp=Z,10.0nm,2.8s								
MK31	**Makanchi Array**	**45.49**	**58**	*d*	*i*P		**P**	**18 41 35.1**	**-0.6**
MKAR	**Makanchi Array**	**45.49**	**58**				**P**	**18 41 34.4**	**-1.3**
MKAR	**Makanchi Array**	**45.49**	**58**		P		**P**	**18 41 35.2**	**-0.4**
	comp=Z,1.8nm,0.4s,baz=271,slow=7.6,SNR=28								
	comp=Z,1.8nm,0.4s								
ZAA0	**Zalesovo Array**	**45.98**	**48**				**P**	**18 41 38.5**	**-0.9**
ZAA0					IAmb		IAmb	18 41 51.4	
	comp=Z,3.8nm,0.7s								
ZALV	**Zalesovo Beam**	**45.98**	**48**				**P**	**18 41 38.2**	**-1.2**
ZALV	**Zalesovo Beam**	**45.98**	**48**		P		**P**	**18 41 39.1**	**-0.3**
	comp=Z,3.1nm,0.4s,baz=277,slow=8.8,SNR=20								
ZALV					LR		LR	19 01 07.5	
	comp=Z,21nm,18.8s,baz=98,slow=36								
	comp=Z,3.1nm,0.4s								
ZALV	**Zalesovo Beam**	**45.98**	**48**		*e*P		**P**	**18 41 39.3**	**-0.1**
ZALV					pmax		pmax		
	comp=Z,3.0nm,0.4s								
EVN	**Everest**	**55.40**	**79**		IAmb		IAmb	18 42 53.2	
	comp=Z,4.3nm,0.5s								
MATP	**Matopo**	**58.16**	**171**		LR		LR	19 11 17.7	
	comp=Z,40nm,19.2s,baz=70,slow=39								
SCHQ	**Schefferville**	**59.00**	**318**		P		**P**	**18 43 15.8**	**-0.2**
	comp=Z,34nm,0.5s,baz=54,slow=2.9,SNR=4.4								
GTA	**Gaotai**	**59.98**	**61**		*e*P		**P**	**18 43 22.3**	**-0.7**
GTA					pP		pP	18 43 28.0	-0.9
GTA					pmax		pmax		
	comp=Z,2.0nm,1.1s								
TIXI	**Tiksi**	**60.16**	**20**		LR		LR	19 13 12.3	
	comp=Z,106nm,18.4s,baz=342,slow=40								
SONM	**Songino Array**	**60.72**	**50**		P		**P**	**18 43 27.6**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=283,slow=7.4,SNR=3.8								
SONM					LR		LR	19 12 35.8	
	comp=Z,26nm,19.1s,baz=0.0,slow=39								
	comp=Z,0.3nm,0.6s								
LBTB	**Lobatse**	**62.43**	**175**		LR		LR	19 11 57.1	
	comp=Z,47nm,18.7s,baz=340,slow=37								
BOSA	**Boshof**	**65.98**	**176**		P		**P**	**18 44 04.0**	**+1.2**
	comp=Z,3.0nm,0.8s,baz=4.5,slow=5.7,SNR=5.1								
BOSA					LR		LR	19 15 52.1	
	comp=Z,37nm,18.4s,baz=14,slow=39								
	comp=Z,3.0nm,0.8s								
HHC	**Hu-ho-hao-te**	**67.25**	**55**		*e*P		**P**	**18 44 10.0**	**-1.0**
HHC					pmax		pmax		
	comp=Z,11nm,0.6s								
HHC					pmax		pmax		
	comp=Z,90nm,4.1s								
PZH	**PanZhiHua**	**67.63**	**73**		P		**P**	**18 44 15.5**	**+1.8**
CHTO	**Chiang Mai**	**69.62**	**82**				**P**	**18 44 25.8**	**-0.2**
CHTO					IAmb		IAmb	18 44 32.9	
	comp=Z,4.1nm,1.0s								
CHTO	**Chiang Mai**	**69.62**	**82**		P		**P**	**18 44 25.8**	**-0.2**
CHTO					pmax		pmax		
	comp=Z,4.0nm,1.0s								
CM31	**Chiang Mai Arr**	**69.82**	**82**		P		**P**	**18 44 27.5**	**+0.2**
CM31					IAmb		IAmb	18 44 28.1	
	comp=Z,4.2nm,0.7s								
CMAR	**Chiang Mai Arr**	**69.82**	**82**		P		**P**	**18 44 27.3**	**0.0**
	comp=Z,2.2nm,0.6s,baz=302,slow=8.0,SNR=25								
	comp=Z,2.2nm,0.6s								
CMAR	**Chiang Mai Arr**	**69.82**	**82**		*e*P		**P**	**18 44 27.5**	**+0.2**
CMAR					pmax		pmax		
	comp=Z,2.0nm,0.6s								
SEY	**Seymchan**	**72.64**	**21**		P		**P**	**18 44 44.4**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=274,slow=10,SNR=4.4								
	comp=Z,1.3nm,0.8s								
E29M	**Blow River**	**73.14**	**352**				**P**	**18 44 47.7**	**+1.2**
ULM	**Lac du Bonnet**	**76.27**	**324**		P		**P**	**18 45 05.5**	**+0.5**
	comp=Z,4.0nm,0.9s,baz=66,slow=6.1,SNR=3.6								
	comp=Z,4.0nm,0.9s								
ULM	**Lac du Bonnet**	**76.27**	**324**		*e*P		**P**	**18 45 06.1**	**+1.2**
ULM					pmax		pmax		
	comp=Z,4.0nm,0.9s								
NJ2	**Nanjing**	**76.99**	**60**		*e*P		**P**	**18 45 10.0**	**+0.7**
NJ2					pmax		pmax		
	comp=Z,6.0nm,0.5s								
ILAR	**Eielson Array**	**77.52**	**355**		P		**P**	**18 45 12.2**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=4.0,slow=4.6,SNR=6.0								
	comp=Z,0.5nm,0.8s								
ILAR	**Eielson Array**	**77.52**	**355**		*e*P		**P**	**18 45 14.4**	**+2.7**
ILAR					pmax		pmax		
	comp=Z,1.0nm,0.8s								
USRK	**Ussuriysk Ar.**	**77.61**	**43**		P		**P**	**18 45 11.1**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=276,slow=4.5,SNR=1.7								
	comp=Z,1.1nm,0.6s								
M29M	**Somme Creek**	**78.92**	**350**				**P**	**18 45 21.7**	**+2.0**
M29M					IAmb		IAmb	18 45 22.5	
	comp=Z,4.8nm,0.8s								
KSRS	**Korea Array**	**79.59**	**51**		P		**P**	**18 45 23.4**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=304,slow=4.4,SNR=2.6								
	comp=Z,0.6nm,0.4s								
JTMT	**Jette**	**86.04**	**331**		P		**P**	**18 45 59.1**	**+1.9**
OVMT	**Ovando**	**86.11**	**330**		P		**P**	**18 45 58.0**	**+0.5**
PDAR	**Pinedale Array**	**88.13**	**326**		P		**P**	**18 46 06.6**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=90,slow=6.5,SNR=3.8								
	comp=Z,0.3nm,0.7s								
ELK	**Elko**	**92.24**	**328**		LR		LR	19 31 15.4	
	comp=Z,59nm,18.1s,baz=356,slow=38								
ANMO	**Albuquerque**	**92.75**	**319**		LR		LR	19 27 00.2	
	comp=Z,39nm,20.7s,baz=234,slow=35								
JTS	**Las Juntas de**	**95.93**	**288**		LR		LR	19 25 47.9	
	comp=Z,34nm,18.8s,baz=77,slow=33								
WRA	**Warramunga Arr**	**120.36**	**93**		PKP		**PKPdf**	**18 52 07.6**	**-0.5**
	comp=Z,0.5nm,1.0s,baz=310,slow=2.6,SNR=2.8								
ASAR	**Alice Springs**	**121.95**	**97**		PKP		**PKiKP**	**18 52 11.6**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=315,slow=1.7,SNR=5.8								

PRU 19 18:33:48.4,50.11N×18.44E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STEB	**Steborice**	**0.47**	**248**	*e*PG	Pg	18 33 56.9	-0.4
STEB				*e*SG	Sg	18 34 03.3	0.0
MORC	**Moravsky Berou**	**0.67**	**240**	*e*PG	Pg	18 34 00.7	-0.5
MORC				*e*SG	Sg	18 34 09.7	-0.2
KRLC	**Kraliky**	**1.07**	**269**	*e*PG	Pg	18 34 07.1	-1.8
KRLC				*e*SG	Sg	18 34 21.4	-1.3
DPC	**Dobruska-Polom**	**1.38**	**281**	*e*PG	Pg	18 34 13.4	-1.5
DPC				*e*SG	Sg	18 34 32.9	+0.2

*ISK **19** 18:42:27.4,41.08N×43.87E,h5km,ML2.3/7*
*AZER **19** 18:42:28.2,41.04N×44.16E,h2km,ml2.6*
*AFAD **19** 18:42:29.2,41.06N×43.75E,h5km±4km,ML2.3*
*DRS **19** 18:42:31.8,40.80N×44.35E,h0km*

ISC 19 18:42:25.7±1.1,41.16N±0.02×43.90E±0.02,h5km±10km, n40,σ1§38/74,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.40**	**310**	P	**Pn**	**18 42 36.9**	**-1.3**
AKH				S	**Sg**	**18 42 42.5**	**+0.7**
EAK	**Akyaka**	**0.52**	**205**	P	**Pb**	**18 42 36.4**	**-1.0**
EAK				S	**Sg**	**18 42 42.0**	**-0.5**
EAK				*i* IAML		18 42 46.0	
	comp=N,248nm,0.3s						
EAK				*i* IAML		18 42 46.0	
	comp=E,486nm,0.6s						
DIGO	**Kars**	**0.84**	**208**	P	**Pb**	**18 42 42.6**	**-0.4**
DIGO				S	**Sg**	**18 42 51.7**	**-1.1**
BOZK	**Kars-Merkez-Bo**	**0.90**	**231**	P	**Pn**	**18 42 44.3**	**-0.9**
BOZK				S	**Sg**	**18 42 54.4**	**-0.3**
EPOS	**Posof**	**0.95**	**292**	P	**Pn**	**18 42 46.3**	**+0.5**
EPOS				S	**Sn**	**18 42 58.7**	**-1.0**
EPOS				*i* IAML		18 43 00.0	
	comp=N,100nm,0.3s						
EPOS				*i* IAML		18 43 00.0	
	comp=E,90nm,0.3s						
AHAN	**Ardahan-Merkez**	**0.96**	**271**	P	**Pn**	**18 42 46.3**	**+0.3**
AHAN				S	**Sn**	**18 42 59.0**	**-1.2**
AHAN				*i* IAML		18 43 01.0	
	comp=N,95nm,0.4s						
AHAN				*i* IAML		18 43 01.0	
	comp=E,162nm,0.4s						
GOLE	**Ardahan-Gℷle**	**1.04**	**252**	P	**Pn**	**18 42 47.7**	**+0.6**
GOLE				S	**Sb**	**18 43 00.1**	**-0.1**
QZX	**Qazax, Azerbai**	**1.12**	**95**	P	**Pn**	**18 42 48.4**	**+0.3**
QZX				S	**Sn**	**18 43 04.2**	**+0.4**
GNI	**Garni**	**1.19**	**147**	Pn	**Pn**	**18 42 49.4**	**+0.2**
GNI				Sn	**Sn**	**18 43 05.9**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.20**	**167**	Pn	**Pg**	**18 42 49.2**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.32**	**244**	Pn	**Pg**	**18 42 52.1**	**+1.2**
KOTA	**Agri, Merkez-K**	**1.45**	**202**	P	**Pg**	**18 42 54.6**	**+1.1**
KOTA				S	**Sg**	**18 43 14.3**	**+1.9**
GDB	**GEDABAY**	**1.47**	**107**	P	**Pg**	**18 42 53.7**	**-0.3**
GDB				S	**Sb**	**18 43 12.2**	**-0.4**
HYR	**Heyderabad**	**1.61**	**153**	P	**Pg**	**18 42 56.6**	**+0.1**
HYR				S	**Sg**	**18 43 17.6**	**+0.2**
DDEM	**Demirkent**	**1.65**	**261**	P	**Pg**	**18 42 58.3**	**+1.1**
DDEM				S	**Sn**	**18 43 14.8**	**-2.2**
DDEM				*i* IAML		18 43 24.0	
	comp=E,61nm,0.3s						
DDEM				*i* IAML		18 43 26.0	
	comp=N,68nm,0.4s						
DBAD	**Bademkaya**	**1.67**	**266**	P	**Pg**	**18 42 58.2**	**+0.5**
DBAD				S	**Sn**	**18 43 17.3**	**-0.2**
DBAD				*i* IAML		18 43 23.0	
	comp=E,32nm,0.6s						
EATA	**Eleskirt**	**1.68**	**220**	P	**Pg**	**18 42 59.0**	**+1.1**
DBOC	**Borcka**	**1.69**	**277**	P	**Pg**	**18 42 58.7**	**+0.5**
DBOC				S	**Sb**	**18 43 18.4**	**-0.6**
DBOC				*i* IAML		18 43 28.0	
	comp=E,36nm,0.6s						
AGRB	**Hanur-Agry**	**1.73**	**204**	Pn	**Pb**	**18 42 57.8**	**-0.2**
BCA	**Borcka**	**1.74**	**280**	Pn	**Pg**	**18 42 58.9**	**-0.1**
GANJ	**Ganja**	**1.91**	**105**	P	**Pb**	**18 43 00.9**	**0.0**
GANJ				S	**Sb**	**18 43 24.1**	**-1.0**
KOPR	**Koprukoy-ERZUR**	**1.94**	**234**	Pn	**Pb**	**18 43 01.2**	**-0.5**
TLTR	**Tlyarata**	**2.07**	**62**	*e*Pg	**Pg**	**18 43 04.6**	**-0.8**
	1.0nm,0.4s						
TLTR				*e*Sg	**Sb**	**18 43 30.8**	**+0.9**
	27nm,1.2s						
ZKTA	**Zakatala**	**2.10**	**76**	P	**Pg**	**18 43 05.2**	**-0.8**
ZKTA				S	**Sg**	**18 43 34.6**	**+1.4**
SBZ	**Shahbuz**	**2.17**	**144**	P	**Pg**	**18 43 06.1**	**-1.1**
SBZ				S	**Sg**	**18 43 33.7**	**-1.6**
BTLR	**Botlikh**	**2.30**	**48**	*e*Pn	**Pg**	**18 43 09.8**	**+0.1**
	9.0nm,0.5s						
BTLR				*e*Sn	**Sg**	**18 43 40.3**	**+0.8**
	20nm,0.6s						
SEKA	**Sheki**	**2.49**	**88**	P	**Pb**	**18 43 11.0**	**+0.1**
SEKA				S	**Sg**	**18 43 44.8**	**-0.9**
XNZR	**Khunzakh**	**2.51**	**56**	*e*Pn	**Pb**	**18 43 12.0**	**+0.6**
	8.0nm,0.4s						
XNZR				*e*Sn	**Sb**	**18 43 43.9**	**+1.3**
	14nm,0.0s						
KMKR	**Kumukh**	**2.59**	**67**	*e*Pn	**Pb**	**18 43 11.9**	**-0.8**
	8.0nm,0.6s						
KMKR				*e*Sn	**Sb**	**18 43 43.6**	**-1.3**
	15nm,0.2s						
AGDM	**Agdam**	**2.66**	**112**	P	**Pb**	**18 43 14.1**	**+0.4**
AGDM				S	**Sb**	**18 43 47.4**	**+0.8**
UNCR	**Uncukul**	**2.66**	**53**	*e*Pn	**Pb**	**18 43 14.4**	**+0.6**
	7.0nm,0.4s						
UNCR				*e*Sn	**Sb**	**18 43 48.4**	**+1.5**
	22nm,0.8s						
ARKR	**Arakani**	**2.73**	**57**	*e*Pn	**Pb**	**18 43 14.3**	**-0.6**
	9.0nm,0.5s						
ARKR				*e*Sn	**Sb**	**18 43 48.6**	**-0.1**
	7.0nm,0.4s						
ORD	**Ordubad**	**2.75**	**143**	P	**Pb**	**18 43 15.8**	**+0.5**
ORD				S	**Sb**	**18 43 49.3**	**0.0**
KRNR	**Karanay**	**2.79**	**52**	*e*Pn	**Pb**	**18 43 16.6**	**+0.5**
	5.0nm,0.6s						
KRNR				*e*Sn	**Sb**	**18 43 52.2**	**+1.5**
	7.0nm,0.4s						
AKT	**Akhty**	**2.90**	**82**	*e*Pn	**Pn**	**18 43 14.1**	**+1.5**
	5.0nm,0.7s						
AKT				*e*Sn	**Sn**	**18 43 48.0**	**+0.1**
	7.0nm,0.6s						
QBL	**Gabala**	**2.99**	**93**	P	**Pb**	**18 43 18.9**	**-0.5**
QBL				S	**Sb**	**18 43 55.5**	**-0.7**
XNQ	**Khinaliq**	**3.20**	**88**	P	**Pb**	**18 43 21.8**	**-1.3**
XNQ				S	**Sb**	**18 44 00.6**	**-1.9**
IML	**Ismayilli**	**3.26**	**95**	P	**Pb**	**18 43 21.5**	**-2.6**
IML				S	**Sb**	**18 44 00.4**	**-3.7**
PQL	**Pirkuli**	**3.57**	**94**	P	**Pb**	**18 43 26.5**	**-3.0**
PQL				S	**Sb**	**18 44 08.1**	**-5.0**
YRD	**Yardimli**	**4.01**	**122**	P	**Pn**	**18 43 31.4**	**+3.4**
YRD				S	**Sn**	**18 44 19.1**	**+3.6**

*IDC **19** 18:45:00.2±1.7,24.13N×94.10E,h0km,mb3.4/6, mbtmp3.4/7,ML3.2/1,Error ellipse: s-maj=83.8km s-min=16.5km az=62.0*

ISC 19 18:45:11.0±1.9,24.1N±0.3×94.4E±0.5,h96km,n7,σ2§19/7, mb3.4/6,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.01**	**142**	Pn	**Pn**	**18 46 48.9**	**-2.2**
	0.1nm,0.3s,baz=313,slow=12,SNR=4.5						
CMAR				Lg	Lg	18 48 51.2	
	0.1nm,0.3s,baz=333,slow=30,SNR=1.5						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**24.65**	**340**	P	**P**	**18 50 22.1**	**-0.5**
	0.8nm,0.5s,baz=146,slow=9.4,SNR=8.9						
	0.8nm,0.5s						
SONM	**Songino Array**	**25.52**	**19**	P	**P**	**18 50 31.4**	**+0.7**
	0.2nm,0.4s,baz=223,slow=9.8,SNR=1.9						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**29.21**	**339**	P	**P**	**18 51 02.7**	**-0.7**
	0.2nm,0.5s,baz=147,slow=8.9,SNR=2.5						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**30.67**	**349**	P	**P**	**18 51 14.7**	**-1.5**
	0.4nm,0.4s,baz=173,slow=7.6,SNR=2.3						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**58.54**	**135**	P	**P**	**18 54 59.7**	**+1.9**
	0.2nm,0.5s,baz=324,slow=7.3,SNR=7.0						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**61.00**	**138**	P	**P**	**18 55 17.3**	**+2.7**
	0.3nm,0.7s,baz=315,slow=6.5,SNR=6.8						
	0.3nm,0.7s						

*BJI **19** 19:09:49.0,3.17N×126.88E,h61km,mB5.1/15,mb4.9/61, Ms4.8/4,Ms7.4.8/2*
*MOS **19** 19:09:49.0±1.0,3.58N×127.08E,h47km,mb5.1/34,Error ellipse: s-maj=10.3km s-min=5.3km az=118.9*
*NEIC **19** 19:09:50.6±1.6,3.58N±0.06×127.23E±0.07,h46km±5km, mb5.0/135,Error ellipse: s-maj=12.1km s-min=7.0km az=57.0*
*DJA **19** 19:09:51.6±0.3,4.1N±3.1×127.7E±.,h43km±5km,M4.8/34, mb4.9/34,mB5.2/12,MLv5.0/17,Mw(mB)4.6/12*
*IDC **19** 19:09:51.4±2.1,3.53N×127.23E,h54km±18km,mb4.3/28, mbtmp4.5/30,ML4.6/2,MS3.5/23,Error ellipse: s-maj=20.5km s-min=8.7km az=77.0*

ISC 19 19:09:50.8±0.4,3.54N±0.04×127.18E±0.05,h50km±3km, h50km:pP-P,n576,σ1§13/509,mb4.9/136,MS3.5/25, 20C-15D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.66**	**275**	P	**Pn**	**19 10 17.6**	**+0.1**
TNTI	**Ternate**	**2.76**	**176**		**Pn**	**19 10 32.7**	**+0.1**
TNTI	**Ternate**	**2.76**	**176**	P	**Pn**	**19 10 34.0**	**+1.4**
TNTI	**Ternate**	**2.76**	**176**	P	**Pn**	**19 10 34.4**	**+1.8**
DAV	**Davao City (W)**	**3.85**	**336**	Pn	**Pn**	**19 10 44.9**	**-2.8**
DAV	**Davao City (W)**	**3.85**	**336**	P	**Pn**	**19 10 47.7**	**+0.1**
	70nm,0.3s,baz=99,slow=7.4,SNR=3.8						
DAV				S	**Sn**	**19 11 35.4**	**+3.8**
	340nm,0.3s,baz=192,slow=20,SNR=4.3						
DAV				LR	LR	19 12 20.3	
	comp=Z,527nm,20.9s,baz=122,slow=38						
	143nm,0.3s						
KMSI	**Cibinong**	**4.35**	**227**	P	**Pn**	**19 10 57.4**	**+2.9**
SANI	**Sanana**	**5.68**	**192**	P	**Pn**	**19 11 14.7**	**+2.0**
SANI	**Sanana**	**5.68**	**192**	P	**Pn**	**19 11 11.9**	**-0.8**
	0.4nm3µm63nm,0.8s						
SWI	**Sorong**	**5.98**	**137**	P	**Pn**	**19 11 18.4**	**+1.5**
	0.4nm110nm,0.6s						
MRSI	**Marisa**	**6.06**	**240**	P	**Pn**	**19 11 20.5**	**+2.6**
LUWI	**Luwuk**	**6.34**	**224**		**Pn**	**19 11 22.8**	**+1.1**
LUWI	**Luwuk**	**6.34**	**224**	P	**Pn**	**19 11 25.7**	**+4.0**
LUWI	**Luwuk**	**6.34**	**224**	P	**Pn**	**19 11 24.4**	**+2.7**
	2µm244nm,1.0s						
NLAI	**Namlea**	**6.74**	**181**	P	**Pn**	**19 11 28.8**	**+1.6**
	0.4nm1µm70nm,0.5s						
TOLI2	**Tolitoli**	**6.83**	**249**		**Pn**	**19 11 28.7**	**+0.1**
APSI	**Ampana**	**7.08**	**231**	P	**Pn**	**19 11 35.4**	**+3.4**
AAI	**Ambon**	**7.25**	**172**	P	**Pn**	**19 11 35.7**	**+1.4**
	0.4nm1µm114nm,1.0s						
FAKI	**Fak Fak**	**8.18**	**142**	P	**Pn**	**19 11 48.7**	**+1.7**
FAKI	**Fak Fak**	**8.18**	**142**	S	**Sn**	**19 13 17.9**	**-0.2**
FAKI	**Fak Fak**	**8.18**	**142**	P	**Pn**	**19 11 48.4**	**+1.4**
	71nm,1.5s						
BNDI	**Bandanaira**	**8.46**	**161**	P	**Pn**	**19 11 52.6**	**+1.7**
PCI	**Palu**	**8.57**	**239**	P	**Pn**	**19 11 53.7**	**+1.3**
	80nm,0.8s

comp=Z,53nm,0.8s
SSLB Suanglung 21.01 344 P **P** 19 14 29.2 -1.2
NACB Ninganchiao 21.21 346 P **P** 19 14 31.5 -1.0
FITZ Fitzroy Crossi 21.56 184 **P** 19 14 36.8 +0.6
FITZ Fitzroy Crossi 21.56 184 P **P** 19 14 35.2 -1.0
comp=Z,1.8nm,0.4s,baz=22,slow=6.2,SNR=5.9
FITZ S **S** **19 18 28.2 -4.4**
comp=Z,4.0nm,0.9s,baz=336,slow=12,SNR=2.6
comp=Z,1.8nm,0.4s
YHNB Yeheng 21.74 346 P **P** 19 14 37.7 -0.5
LEM Lembang 22.08 242 P **P** 19 14 42.8 +0.7
comp=Z,16nm,0.6s,baz=18,slow=14,SNR=5.0
LEM LR LR 19 23 52.2
comp=Z,170nm,19.6s,baz=358,slow=38
comp=Z,16nm,0.6s
BBJI Bungbulang 22.35 241 P **P** 19 14 44.6 -0.3
QIZ Qiongzhong 22.89 314 P **P** 19 14 51.8 +1.3
QIZ sP **sP** 19 15 06.8 -1.6
QIZ S **S** **19 18 58.9 +2.1**
MYKOM Kota Tinggi 23.37 266 P **P** 19 14 54.3 -1.0
MYKOM IAmb IAmb 19 15 21.3
comp=Z,82nm,1.9s
PMG Port Moresby 23.70 123 LR LR 19 25 28.8
comp=Z,182nm,18.0s,baz=324,slow=40
MDSI Maura Dua 24.33 251 P **P** **19 15 06.8 +2.6**
WRAB Tennant Creek 24.37 163 P **P** **19 15 03.4 -1.1**
WRAB Tennant Creek 24.37 163⇑ *eP* **P** **19 15 04.1 -0.4**
WRAB pmax pmax
comp=Z,26nm,0.9s
WRA Warramunga Arr 24.38 163 P **P** **19 15 03.1 -1.4**
WRA Warramunga Arr 24.38 163 P **P** **19 15 03.4 -1.1**
comp=Z,4.0nm,0.6s,baz=334,slow=11,SNR=46
WRA S **S** **19 19 20.7 -0.1**
comp=Z,0.7nm,0.9s,baz=350,slow=14,SNR=2.5
comp=Z,4.0nm,0.6s
MBWA Marble Bar 25.61 196 P **P** **19 15 17.9 +2.2**
PSA00 Pilbara Seismi 25.97 196 P **P** **19 15 19.4 +0.4**
PSA00 Pilbara Seismi 25.97 196 P **P** **19 15 20.0 +1.0**
QIS Mount Isa 26.88 154 P **P** **19 15 27.2 0.0**
ASAR Alice Springs 27.83 167 P **P** **19 15 35.3 -0.4**
comp=Z,1.1nm,0.6s,baz=347,slow=7.6,SNR=26
ASAR PcP **PcP** **19 18 51.9 +0.9**
comp=Z,0.9nm,0.7s,baz=324,slow=1.9,SNR=2.0
ASAR LR LR 19 27 52.9
comp=Z,114nm,18.4s,baz=52,slow=39
comp=Z,1.1nm,0.6s
PSI Prapat 28.22 269 LR LR 19 27 50.8
comp=Z,101nm,21.8s,baz=82,slow=38
NJ2 Nanjing 29.42 346 *eP* **P** **19 15 51.8 +2.1**
NJ2 pmax pmax
comp=Z,13nm,0.6s
WHN Wuhan 29.47 337 P **P** **19 15 52.3 +2.1**
GSI Gunungsitoli 29.66 266 P **P** **19 15 52.1 0.0**
MEEK Meekatharra 31.12 195 P **P** **19 16 06.4 +1.5**
CMAR Chiang Mai Arr 31.35 300 P **P** **19 16 05.9 -1.1**
CMAR Chiang Mai Arr 31.35 300 P **P** **19 16 06.9 -0.2**
comp=Z,7.2nm,0.8s,baz=114,slow=7.1,SNR=58
CMAR PcP **PcP** **19 19 00.8 +0.7**
comp=Z,0.7nm,0.6s,baz=147,slow=0.7,SNR=4.1
CMAR LR LR 19 30 35.0
comp=Z,35nm,18.5s,baz=125,slow=40
comp=Z,7.2nm,0.8s
ENH Enshi 31.41 330 IAmb IAmb 19 16 09.1
comp=Z,13nm,0.6s
ENH Enshi 31.41 330 P **P** **19 16 07.2 -0.3**
CHTO Chiang Mai 31.50 301 P **P** **19 16 07.1 -1.2**
CHTO Chiang Mai 31.50 301 P **P** **19 16 08.5 +0.2**
CHTO Chiang Mai 31.50 301 P **P** **19 16 07.1 -1.2**
CHTO pmax pmax
comp=Z,18nm,1.1s
CHTO Chiang Mai 31.50 301 P **P** **19 16 08.1 -0.3**
KMI Kunming 31.83 315 P **P** **19 16 12.8 +1.4**
KMI pmax pmax
comp=Z,12nm,1.4s
PZH PanZhiHua 33.39 316 P **P** **19 16 26.3 +1.4**
KSRS Korea Array 33.76 1 P **P** **19 16 27.9 +0.1**
comp=Z,3.4nm,0.8s,baz=177,slow=9.3,SNR=9.8
comp=Z,3.4nm,0.8s
MORW Morawa 34.14 198 P **P** **19 16 32.7 +1.5**
MJAR Matsushiro Arr 34.38 16 P **P** **19 16 32.6 -0.6**
comp=Z,1.0nm,0.5s,baz=192,slow=9.4,SNR=4.2
MJAR LR LR 19 28 28.9
comp=Z,107nm,21.4s,baz=186,slow=32
comp=Z,1.0nm,0.5s
MAJO Matsushiro 34.38 16⇑ *eP* **P** **19 16 33.3 +0.1**
MAJO pmax pmax
comp=Z,13nm,1.2s
XAN Xi'an 34.79 333 ⇑P **P** **19 16 35.9 -0.9**
XAN pP sP 19 16 55.0 +0.1
XAN S **S** **19 22 03.8 -0.2**
XAN pmax pmax
comp=Z,40nm,0.7s
XAN pmax pmax
comp=Z,420nm,4.3s
XAN Xi'an 34.79 333 P **P** **19 16 36.1 -0.7**
CD2 Chengdu 35.06 324 P **P** **19 16 39.1 -0.1**
CD2 pmax pmax
comp=Z,30nm,0.5s
HNR Honiara 35.10 112 LR LR 19 29 37.7
comp=Z,147nm,21.9s,baz=22,slow=34
BLDU Ballidu 35.41 196 P **P** **19 16 42.7 +0.6**
DL2 Dalian 35.56 353 P **P** **19 16 45.8 +2.5**
DL2 pmax pmax
comp=Z,28nm,0.8s
HNS HongShan 35.59 343 ⇓P **P** **19 16 44.6 +1.0**
HNS pmax pmax
comp=Z,26nm,1.1s
KLBR Kellerberrin 36.07 194 P **P** **19 16 48.7 +0.9**
MUN Mundaring 36.83 196 P **P** **19 16 55.3 +1.0**
BBOO Buckleboo 37.12 168 P **P** **19 16 56.8 +0.1**
BJT Baijiatuau 37.66 346 IAmb IAmb 19 17 13.5
comp=Z,26nm,0.9s
BJT Baijiatuau 37.66 346 P **P** **19 17 02.4 +1.2**
BJI Beijing 37.67 346 P **P** **19 17 01.8 +0.5**
BJI pP **pP** **19 17 14.4 +0.6**
BJI pmax pmax
comp=Z,15nm,0.9s
STKA Stephens Creek 37.80 160 P **P** **19 17 01.8 -0.6**
STKA Stephens Creek 37.80 160 P **P** **19 17 02.2 -0.3**
comp=Z,10nm,0.7s,baz=332,slow=8.7,SNR=18
STKA LR LR 19 33 29.9
comp=Z,125nm,20.6s,baz=11,slow=38
comp=Z,10nm,0.7s
STKA Stephens Creek 37.80 160 *ceP* **P** **19 17 02.3 -0.2**
LZDM Lanzhou Array 38.87 329 P **P** **19 17 11.3 -0.6**
comp=Z,3.2nm,0.4s,baz=165,slow=7.4,SNR=1.7
comp=Z,3.2nm,0.4s
LZH Lanzhou 38.89 329 *eP* **P** **19 17 11.9 0.0**
LZH pP pP 19 17 23.8 -0.6
LZH sP sP 19 17 29.6 -0.5
LZH pmax pmax
comp=Z,26nm,1.2s
CMSA Cobar Meteorol 39.09 155 P **P** **19 17 13.8 +0.5**
BRDH Bariadhala 39.31 302 LR LR 19 36 12.7
comp=Z,47nm,18.7s,baz=152,slow=40
HHC Hu-ho-hao-te 39.72 341 *eP* **P** **19 17 19.9 +1.3**
HHC pmax pmax
comp=Z,19nm,1.1s
HHC pmax pmax
comp=Z,140nm,5.0s
BTO Baotou 40.01 340 *eP* P 19 17 26.6 +5.5
BTO pmax pmax
comp=Z,14nm,0.8s
BTO pmax pmax
comp=Z,120nm,4.3s
SHL Shillong 40.35 306 P **P** **19 17 22.7 -1.4**
SHL Shillong 40.35 306 P **P** **19 17 22.7 -1.4**
SHL pmax pmax
comp=Z,38nm,0.6s
USRK Ussuriysk Ar. 40.71 5 P **P** **19 17 26.8 +0.2**
comp=Z,3.1nm,0.8s,baz=191,slow=5.4,SNR=3.5
comp=Z,3.1nm,0.8s
H11S3 WAKE ISLAND Hy 41.40 66 T T 20 00 54.3
baz=253,slow=75,SNR=20
H11S1 WAKE ISLAND Hy 41.41 66 T T 20 00 56.2
baz=253,slow=75,SNR=12
H11S2 WAKE ISLAND Hy 41.41 66 T T 20 00 55.5
baz=253,slow=75,SNR=12
H11N1 WAKE ISLAND Hy 41.93 64 T T 20 01 52.3
baz=250
H11N2 WAKE ISLAND Hy 41.94 64 T T 20 01 50.6
baz=250
H11N3 WAKE ISLAND Hy 41.95 64 T T 20 01 56.4
baz=250
BNX BinXian 42.03 0 ⇓P P 19 17 42.6 +5.2
BNX pmax pmax

comp=Z,7.0nm,0.9s
ASAJ Asahikawa 42.64 16 LR LR 19 34 03.2
comp=Z,70nm,21.4s,baz=182,slow=34
LSA Lhasa 42.90 311 P **P** **19 17 43.3 -2.0**
LSA pmax pmax
comp=Z,15nm,0.8s
LSA Lhasa 42.90 311 P **P** **19 17 45.3 0.0**
GTA Gaotai 43.49 329 P **P** **19 17 50.0 +0.5**
GTA pP pP 19 18 02.3 0.0
GTA pmax pmax
comp=Z,12nm,1.1s
GTA LR LR
comp=Z,170nm,16.7s
GTA LR LR
comp=Z,170nm,16.4s
GOMU GeErMu 44.11 322 P **P** **19 17 54.8 -0.1**
HIA Hailar 46.00 353⇓ *eP* **P** **19 18 10.7 +1.5**
HIA pmax pmax
comp=Z,13nm,0.9s
DZM Mont Dzumac 46.06 125 *e*LR LR 19 31 08.6
comp=Z,122nm,25.1s
PALK Pallekele 46.40 277 LR LR 19 38 35.1
comp=Z,9.8nm,20.6s,baz=101,slow=37
PALK Pallekele 46.40 277⇓ *eP* **P** **19 18 11.8 -1.2**
HEH HeiHe 46.55 0 *eP* **P** **19 18 15.3 +1.9**
HEH pmax pmax
comp=Z,8.0nm,0.7s
ULN Ulaanbaatar 47.44 342 P **P** **19 18 20.4 -0.3**
ULN IAmb IAmb 19 18 22.8
comp=Z,17nm,1.0s
ULN Ulaanbaatar 47.44 342 *c iP* **P** **19 18 21.4 +0.7**
ULN pmax pmax
comp=Z,21nm,1.1s
ULN Ulaanbaatar 47.44 342 P **P** **19 18 22.4 +1.8**
SONM Songino Array 47.62 341 P **P** **19 18 22.2 +0.2**
SONM Songino Array 47.62 341 P **P** **19 18 22.9 +0.8**
comp=Z,6.2nm,0.8s,baz=161,slow=8.8,SNR=37
comp=Z,6.2nm,0.8s
HYB Hyderabad 49.60 290 *eP* **P** **19 18 36.9 -0.8**
CIT Chita 49.63 349 *eP* **P** **19 18 40.4 +3.0**
CIT *e* 19 18 53.6
ZEA Zeya 50.04 0 *eP* P **19 18 47.4 +7.1**
ZEA *e* 19 19 05.8
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZAK Zakamensk 50.85 340 *eP* **P** **19 18 45.6 -1.0**
ZAK pmax pmax
comp=Z,9.0nm,1.9s
MOY Mondy 52.71 340 *eP* **P** **19 19 02.4 +1.9**
MOY pmax pmax
comp=Z,30nm,1.7s
WMQ Urumqi 53.14 325 *eP* **P** **19 19 05.9 +2.2**
PEA0B Petropavlovsk- 55.44 22 *de*P **P** **19 19 21.2 +1.0**
PETK Petropavlovsk- 55.44 22 P **P** **19 19 20.1 -0.1**
comp=Z,10nm,0.7s,baz=183,slow=5.1,SNR=35
PETK LR LR 19 43 33.6
comp=Z,16nm,20.3s,baz=211,slow=36
comp=Z,10nm,0.7s
ZSN Zaisan 56.91 327 *eP* **P** **19 19 31.0 +0.1**
ZSN Zaisan 56.91 327 *eP* **P** **19 19 30.9 +0.1**
SHLS Shalkode 57.78 320 *eP* **P** **19 19 35.1 -2.2**
SHLS Shalkode 57.78 320 *eP* **P** **19 19 35.0 -2.2**
MK31 Makanchi Array 57.97 325 *c iP* **P** **19 19 38.2 -0.1**
MKAR Makanchi Array 57.97 325 P **P** **19 19 37.9 -0.4**
MKAR Makanchi Array 57.97 325 P **P** **19 19 38.2 -0.1**
comp=Z,7.4nm,0.6s,baz=118,slow=7.5,SNR=73
comp=Z,7.4nm,0.6s
UZB Uzynbulak 58.05 320 *eP* **P** **19 19 38.8 -0.4**
UZB Uzynbulak 58.05 320 *eP* **P** **19 19 38.8 -0.4**
PRZ Przheval'sk 58.14 319 P **P** **19 19 40.1 +0.2**
PRZ Przheval'sk 58.14 319 P **P** **19 19 40.1 +0.2**
PRZ pmax pmax
comp=Z,11nm,0.6s
MAKZ Makanchi 58.15 325 P **P** **19 19 39.5 -0.1**
YAK Yakutsk 58.38 1 P **P** **19 19 40.4 -0.5**
YAK Yakutsk 58.38 1 *eP* **P** **19 19 41.0 +0.1**
YAK *e**PP **pP** **19 19 54.4 +0.5**
YAK *e* 19 20 31.2
YAK *e* 19 21 50.5
YAK *e*S **S** **19 27 40.8 +1.0**
YAK *e**SS **sS** **19 28 00.6 -1.6**
YAK *e* 19 29 26.5
YAK pmax pmax
comp=Z,53nm,1.4s
YAK pmax pmax
comp=N,15nm,1.6s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,177nm,7.3s
YAK pmax pmax
comp=N,184nm,5.7s
YAK pmax pmax
comp=E,90nm,5.3s
YAK smax smax
comp=N,80nm,4.3s
YAK smax smax
comp=E,76nm,3.8s
YAK Yakutsk 58.38 1 P **P** **19 19 41.2 +0.4**
NIL Nilore 58.40 308 P **P** **19 19 40.7 -0.9**
NIL IAmb IAmb 19 20 08.0
comp=Z,19nm,1.4s
NIL Nilore 58.40 308 P **P** **19 19 40.7 -0.9**
NIL pmax pmax
comp=Z,19nm,1.4s
SATY Saty 58.41 320 *eP* **P** **19 19 41.5 -0.2**
comp=Z,5.6nm,0.7s
SATY Saty 58.41 320 *eP* **P** **19 19 41.4 -0.2**
SATY pmax pmax
comp=Z,6.0nm,0.7s
KSH Kashi 58.49 315 P **P** **19 19 43.5 +1.2**
KSH sP sP 19 20 01.3 +0.4
KSH pmax pmax
comp=Z,4.0nm,0.8s
MA2 Magadan 58.78 14 LR LR 19 43 26.2
comp=Z,26nm,21.9s,baz=190,slow=34
MA2 Magadan 58.78 14 *de*P **P** **19 19 44.0 +0.3**
MA2 pmax pmax
comp=Z,12nm,1.1s
KDJ Kajisay 58.78 318 IAmb IAmb 19 19 45.7
comp=Z,7.4nm,0.6s
MDOK Medeo 59.34 319 *eP* **P** **19 19 48.0 -0.2**
MDOK Medeo 59.34 319 *eP* **P** **19 19 47.9 -0.2**
TDK Taldyqorghan 59.34 322 *eP* **P** **19 19 47.6 -0.3**
TDK Taldyqorghan 59.34 322 *eP* **P** **19 19 47.6 -0.3**
TNSS Tian-Shan 59.35 319 *eP* **P** **19 19 48.0 -0.5**
TNSS Tian-Shan 59.35 319 *eP* **P** **19 19 48.0 -0.5**
AAA Alma-Ata 59.45 319 *eP* **P** **19 19 48.5 -0.3**
comp=Z,7.0nm,0.6s
AAA Alma-Ata 59.45 319 *eP* **P** **19 19 48.4 -0.3**
AAA pmax pmax
comp=Z,7.0nm,0.6s
AAK Ala-Archa 60.80 318⇓ *eP* **P** **19 19 59.7 +1.6**
AAK pmax pmax
comp=Z,3.0nm,0.8s
ZAA0 Zalesovo Array 60.96 333 IAmb IAmb 19 19 59.6
comp=Z,11nm,0.9s
ZALV Zalesovo Beam 60.96 333 P **P** **19 19 58.1 -0.6**
ZALV Zalesovo Beam 60.96 333 P **P** **19 19 58.3 -0.4**
comp=Z,6.9nm,0.7s,baz=116,slow=6.8,SNR=31
comp=Z,6.9nm,0.7s
URZ Urewera 62.10 137 LR LR 19 47 47.7
comp=Z,232nm,18.1s,baz=287,slow=37
BTLS Baital 62.11 320 *eP* **P** **19 20 06.3 -0.4**
BTLS Baital 62.11 320 *eP* **P** **19 20 06.3 -0.4**
SEY Seymchan 62.11 13 LR LR 19 44 19.2
comp=Z,25nm,21.9s,baz=196,slow=33
SEY Seymchan 62.11 13⇓ *eP* **P** **19 20 07.4 +1.0**
SEY pmax pmax
comp=Z,13nm,1.3s
KURBB Kurchatov Arra 62.14 327 P **P** **19 20 06.7 -0.1**
comp=Z,13nm,0.7s,baz=128,slow=6.2,SNR=114
comp=Z,13nm,0.7s
KURBB Kurchatov Arra 62.14 327 P **P** **19 20 06.6 -0.2**
KURK Kurchatov 62.14 327 P **P** **19 20 06.6 -0.1**
KURK Kurchatov 62.14 327 P **P** **19 20 06.7 -0.1**
KURK Kurchatov 62.14 327 P **P** **19 20 06.7 -0.1**
BKZ Black Stump Fm 62.14 138 P **P** **19 20 06.9 -0.2**
RTZ Ruatahuna 62.19 137 P **P** **19 20 07.1 -0.3**
SHEM Shemya Is, Ala 62.40 30 LR LR 19 50 18.1
comp=Z,9.7nm,18.1s,baz=282,slow=39
CHGR Chuyangaron 63.13 312 IAmb IAmb 19 20 15.4
comp=Z,7.5nm,0.7s
SIMJ Simiganj 63.24 312 P **P** **19 20 14.0 -0.5**
IUG luzhnay 63.66 316 *eP* **P** **19 20 17.0 -0.3**

comp=Z,5.3nm,0.6s
IUG luzhnay 63.66 316 *eP* **P** **19 20 16.9 -0.3**
IUG pmax pmax
comp=Z,5.0nm,0.6s
KK31 Karatay Array 63.67 317 P **P** **19 20 16.3 -0.9**
KK31 Karatay Array 63.67 317 *i* P **P** **19 20 16.5 -0.7**
KKAR Karatay Array 63.67 317 P **P** **19 20 16.2 -1.0**
KKAR Karatay Array 63.67 317 P **P** **19 20 16.2 -1.0**
BRLS Borolday 64.11 317 *eP* **P** **19 20 19.7 -0.4**
BRLS Borolday 64.11 317 *eP* **P** **19 20 19.7 -0.4**
BRZS Berezniki 65.10 325 *eP* **P** **19 20 26.5 +0.1**
BRZS Berezniki 65.10 325 *eP* **P** **19 20 26.5 +0.1**
BVA0 Borovoye Array 67.72 327 *i* P **P** **19 20 43.0 -0.1**
BVAR Borovoye Array 67.72 327 P **P** **19 20 43.5 +0.4**
comp=Z,13nm,0.8s,baz=125,slow=7.8,SNR=45
comp=Z,13nm,0.8s
TIXI Tiksi 68.02 1⇓ *eP* **P** **19 20 44.7 +0.1**
TIXI pmax pmax
comp=Z,9.0nm,0.6s
CASY Casey 70.69 187 P **P** **19 21 01.7 +0.6**
NIKH Nikolski High 71.71 35 P **P** **19 21 06.9 -0.6**
baz=251
SPIA Saint Paul Isl 72.43 30 P **P** **19 21 11.1 -0.7**
baz=248
P08K Saint George I 72.58 31 P **P** **19 21 11.9 -0.7**
baz=249
AB31 Akbulak array 72.58 321 P **P** **19 21 12.6 -0.3**
AB31 IAmb IAmb 19 21 14.2
comp=Z,9.2nm,0.6s
AB31 Akbulak array 72.58 321 *i* P **P** **19 21 12.7 -0.2**
ABKAR Akbulak array 72.58 321 P **P** **19 21 12.7 -0.2**
UNV Unalaska Valle 73.32 35 P **P** **19 21 17.5 +0.4**
baz=252
SVE Sverdlovsk 74.36 328 *de*P **P** **19 21 23.7 +0.6**
SVE pmax pmax
comp=Z,50nm,1.0s
GAMB Gambell 74.39 24 P **P** **19 21 23.7 +0.6**
baz=245
ARTI Arti 75.42 328 P **P** **19 21 28.9 -0.5**
ARTI Arti 75.42 328 *c iP* **P** **19 21 29.1 -0.2**
ARTI *PP **pwP** **19 21 44.4 -1.5**
ARTI S **S** **19 31 07.5 +2.0**
ARTI SS **SS** **19 35 54.9 -1.7**
ARTI pmax pmax
comp=Z,25nm,0.7s
M11K Mekoryuk 75.52 28 P **P** **19 21 30.6 +0.8**
baz=251
S12K Black Hills 76.30 33 P **P** **19 21 34.1 -0.2**
baz=256
TNA Tin City 76.59 23 P **P** **19 21 36.1 +0.3**
baz=248
K13K Kusilvak Mount 76.72 27 P **P** **19 21 36.2 -0.4**
baz=252
M13K Dall Lake 76.88 29 P **P** **19 21 37.7 +0.2**
baz=254
SDPT Sand Point 77.10 34 P **P** **19 21 38.5 -0.3**
baz=257
F14K Arctic Creek 77.18 23 P **P** **19 21 39.1 0.0**
baz=250
ANM Nome 77.25 24 P **P** **19 21 39.5 0.0**
baz=251
L14K Kuka Creek 77.45 28 P **P** **19 21 40.6 0.0**
baz=254
J14K Nanvaranak Lak 77.46 26 P **P** **19 21 40.5 -0.2**
baz=253
CHNA Chernabura Isl 77.49 35 P **P** **19 21 40.4 -0.6**
baz=258
N14K Kuskokwak Cree 77.55 29 P **P** **19 21 41.1 -0.2**
baz=255
O14K Tigyukauivet M 77.59 30 P **P** **19 21 40.9 -0.6**
baz=256
M14K Bethel 77.63 28 IAmb IAmb 19 21 43.6
comp=Z,18nm,0.8s
M14K Bethel 77.63 28 P **P** **19 21 41.5 -0.2**
baz=255
S14K Fog Glacier 77.81 33 P **P** **19 21 43.0 +0.1**
baz=258
F15K North Star Dit 77.91 23 P **P** **19 21 43.2 0.0**
baz=251
G15K Niukluk 77.93 24 P **P** **19 21 43.4 +0.1**
baz=252
L15K Ungalak Mounta 78.09 28 P **P** **19 21 43.5 -0.8**
baz=255
M15K Kasigluk River 78.22 29 P **P** **19 21 45.0 0.0**
baz=256
K15K Wolf Creek Mou 78.23 27 IAmb IAmb 19 21 47.3
comp=Z,15nm,1.0s
K15K Wolf Creek Mou 78.23 27 P **P** **19 21 44.4 -0.7**
baz=255
O15K Ungalikthiuk R 78.29 30 P **P** **19 21 45.5 +0.1**
baz=257
N15K Kwethluk River 78.39 29 P **P** **19 21 46.0 +0.1**
baz=257
CHGN Chignik 78.43 33 P **P** **19 21 46.7 +0.5**
baz=259
C16K Lisburne Hills 78.50 21 P **P** **19 21 46.1 -0.2**
baz=250
H16K Elim 78.56 24 P **P** **19 21 47.1 +0.3**
baz=254
G16K Koyuk River 78.73 24 P **P** **19 21 47.6 -0.1**
baz=254
J16K Anvik River 78.90 26 IAmb IAmb 19 21 54.2
comp=Z,13nm,1.0s
J16K Anvik River 78.90 26 P **P** **19 21 49.1 +0.4**
baz=256
I17K Unalakleet 79.01 25 P **P** **19 21 48.4 -0.8**
baz=255
L16K Owhat River 79.03 28 IAmb IAmb 19 21 51.3
comp=Z,14nm,0.9s
L16K Owhat River 79.03 28 P **P** **19 21 49.6 +0.1**
baz=257,SNR=5.6
N16K Nishlik Lake 79.10 29 P **P** **19 21 49.8 -0.1**
baz=258
M16K Timber Creek 79.12 28 P **P** **19 21 49.6 -0.4**
baz=257
R16K Pilot Point 79.12 32 P **P** **19 21 49.9 -0.1**
baz=259
D17K Noatak River 79.13 21 P **P** **19 21 50.9 +1.1**
baz=252,SNR=5.4
P16K Nushagak River 79.19 31 P **P** **19 21 50.4 +0.1**
baz=259
O16K Kokwok River B 79.25 30 P **P** **19 21 50.0 -0.6**
baz=258
RDOG Red Dog Mine 79.30 21 P **P** **19 21 50.8 0.0**
baz=252
C17K DeLong Mountai 79.33 21 P **P** **19 21 50.3 -0.7**
baz=252
E17K Hotham Inlet 79.41 22 P **P** **19 21 51.6 +0.2**
baz=254
G17K Kiwalik Mounta 79.44 24 P **P** **19 21 51.5 -0.2**
baz=255
F17K Baldwin Pennin 79.45 23 P **P** **19 21 51.4 -0.2**
baz=254
J17K VABM Dome 79.59 26 IAmb IAmb 19 21 54.8
comp=Z,8.8nm,0.8s
J17K VABM Dome 79.59 26 P **P** **19 21 51.9 -0.6**
baz=257
H17K Granite Mounta 79.60 24 P **P** **19 21 51.8 -0.8**
baz=256
L17K Donlin 79.67 27 P **P** **19 21 53.0 +0.1**
baz=258,SNR=5.1
O17K Koliganek Bris 79.78 30 P **P** **19 21 53.3 -0.2**
baz=259
R17L Mt. Peulik Vol 79.78 32 P **P** **19 21 52.4 -1.2**
baz=260
K17K Iditarod 79.79 27 IAmb IAmb 19 21 56.0
comp=Z,16nm,0.8s
K17K Iditarod 79.79 27 P **P** **19 21 53.3 -0.2**
baz=258,SNR=6.4
N17K Nushagak Hills 79.87 29 P **P** **19 21 53.6 -0.4**
baz=259
CHIR Chirikof Islan 79.89 34 P **P** **19 21 53.6 -0.6**
baz=261
M17K Holitna River 79.92 28 P **P** **19 21 54.1 -0.2**
baz=259
E18K Tukpahlearik C 79.96 22 P **P** **19 21 53.9 -0.5**
baz=255,SNR=8.8
P17K Kvichak River 80.00 31 P **P** **19 21 54.2 -0.5**
baz=260
B18K Kokolik River 80.07 20 P **P** **19 21 55.2 +0.3**
baz=253
C18K Utukok River 80.08 21 P **P** **19 21 54.9 -0.2**
baz=254
F18K Selawik 80.11 23 P **P** **19 21 54.7 -0.4**
baz=256
Q17K Contact Creek 80.13 32 P **P** **19 21 54.9 -0.7**
baz=261

H18K **Honhosa River** 80.29 24 P P 19 21 55.6 -0.7
baz=257
G18K **Tagagawik** 80.34 24 P P 19 21 55.6 -0.9
baz=257
L18K **Granite Mounta** 80.43 27 IAmb IAmb 19 21 59.3
comp=Z,8.6nm,0.7s
L18K **Granite Mounta** 80.43 27 P P 19 21 56.0 -1.0
baz=259,SNR=6.3
N18K **Kilae Creek** 80.53 29 P P 19 21 57.3 -0.4
baz=260
A19K **Wainwright** 80.55 19 P P 19 21 57.4 0.0
baz=254
KIRV **Kirov** 80.61 329 *ce*P P 19 21 58.5 +0.5
J18K **Innoko River** 80.65 26 P P 19 21 57.0 -1.2
baz=259
Q18K **Katmai Hardscr** 80.65 31 P P 19 21 57.8 -0.6
baz=261
P18K **Big Mountain,** 80.65 30 P P 19 21 57.2 -1.1
baz=261
M18K **Stony River** 80.70 28 P P 19 21 57.7 -0.8
baz=260
C19K **Lookout Ridge** 80.76 20 P P 19 21 58.1 -0.6
baz=255
R18K **Karluk** 80.78 32 P P 19 21 57.9 -1.1
baz=262
SII **Sitkinak Islan** 80.79 33 P P 19 21 58.4 -0.7
baz=262
GCSA **Galena City Sc** 80.83 25 P P 19 21 58.3 -0.7
baz=259
BELG **Belogornoye** 80.83 322 *ci*P P 19 21 59.1 -0.2
BELG pmax pmax
comp=Z,10.0nm,1.0s
F19K **Shaleruckik Mo** 80.89 23 P P 19 21 58.3 -1.1
baz=258
RAYN **Ar Rayn** 80.97 293 P P 19 22 00.1 -0.7
RAYN **Ar Rayn** 80.97 293 P P 19 22 00.1 -0.7
RAYN pmax pmax
comp=Z,7.0nm,0.9s
G19K **Purcell Mounta** 81.02 24 IAmb IAmb 19 22 04.3
comp=Z,17nm,0.8s
D19K **Kuna River** 81.13 21 IAmb IAmb 19 22 02.7
comp=Z,18nm,0.7s
D19K **Kuna River** 81.13 21 P P 19 22 01.0 +0.3
baz=257,SNR=8.2
H19K **Roundabout Mou** 81.16 24 IAmb IAmb 19 22 03.2
comp=Z,14nm,0.9s
H19K **Roundabout Mou** 81.16 24 P P 19 22 01.3 +0.5
baz=259,SNR=9.0
J19K **Poorman** 81.22 26 IAmb IAmb 19 22 04.0
comp=Z,12nm,0.9s
J19K **Poorman** 81.22 26 P P 19 22 01.8 +0.5
baz=260,SNR=9.5
E19K **Redstone River** 81.23 22 P P 19 22 01.6 +0.4
baz=258,SNR=15
N19K **Bonanza Creek** 81.23 29 IAmb IAmb 19 22 05.3
comp=Z,11nm,0.8s
N19K **Bonanza Creek** 81.23 29 P P 19 22 01.3 -0.1
baz=261,SNR=5.1
L19K **White Mountain** 81.27 28 IAmb IAmb 19 22 04.2
comp=Z,12nm,1.1s
L19K **White Mountain** 81.27 28 P P 19 22 01.9 +0.3
baz=261,SNR=5.9
Q19K **Cape Douglas,** 81.39 31 P P 19 22 02.5 +0.2
baz=262
P19K **Oil Pt** 81.69 30 P P 19 22 04.3 +0.5
baz=263
D20K **Etivluk River** 81.72 21 P P 19 22 04.4 +0.6
baz=258,SNR=6.7
F20K **Avaraart Lake** 81.73 23 IAmb IAmb 19 22 06.1
comp=Z,12nm,0.9s
F20K **Avaraart Lake** 81.73 23 P P 19 22 04.4 +0.6
baz=259,SNR=9.2
L20K **Farewell, AK** 81.76 27 P P 19 22 04.5 +0.3
baz=262,SNR=5.3
E20K **Nigu River** 81.78 21 P P 19 22 04.2 0.0
baz=259,SNR=20
H20K **Anotleneega Mo** 81.79 24 P P 19 22 04.0 -0.3
baz=260,SNR=8.2
B20K **Meade River** 81.80 20 P P 19 22 04.6 +0.5
baz=258
K20K **Telida** 81.80 27 IAmb IAmb 19 22 06.7
comp=Z,10nm,0.8s
K20K **Telida** 81.80 27 P P 19 22 04.5 +0.1
baz=261,SNR=8.8
KDAK **Kodiak Island** 81.81 32 LR LR 19 52 35.6
comp=Z,62nm,20.5s,baz=266,slow=31
KDAK **Kodiak Island** 81.81 32⇑ *i*P P 19 22 04.3 -0.1
KDAK pmax pmax
comp=Z,20nm,1.3s
KDAK **Kodiak Island** 81.81 32 P P 19 22 04.3 -0.1
baz=264
I20K **Naaghedeneel** 81.85 25 P P 19 22 05.4 +0.9
baz=261,SNR=7.0
J20K **Nowinta River** 81.89 26 IAmb IAmb 19 22 07.1
comp=Z,14nm,0.8s
J20K **Nowinta River** 81.89 26 P P 19 22 05.2 +0.4
baz=261,SNR=8.0
Q20K **Shuyak Island** 82.00 31 P P 19 22 05.8 +0.4
baz=264
RED **Redoubt Volcan** 82.02 30 IAmb IAmb 19 22 06.5
comp=Z,15nm,1.0s
M20K **Styx River** 82.03 28 IAmb IAmb 19 22 08.4
comp=Z,12nm,0.7s
M20K **Styx River** 82.03 28 P P 19 22 05.8 +0.2
baz=262,SNR=12
IMAR **Indian Mountai** 82.33 24 P P 19 22 07.8 +0.7
SPCR **Spurr Chakacha** 82.38 29 P P 19 22 07.8 +0.3
baz=263
VOI **Vohitsoka** 82.41 247 P P 19 22 08.4 -0.1
VOI IAmb IAmb 19 22 12.6
comp=Z,12nm,0.9s
C21K **Knifeblade Rid** 82.45 21 P P 19 22 08.1 +0.5
baz=260
G21K **Allakaket** 82.51 23 IAmb IAmb 19 22 10.2
comp=Z,11nm,1.1s
G21K **Allakaket** 82.51 23 P P 19 22 08.1 +0.2
baz=262,SNR=6.6
PPLA **Purkeypile** 82.59 27 P P 19 22 08.5 -0.1
baz=263
B21K **Ikpikpuk River** 82.59 20 P P 19 22 08.6 +0.3
baz=260
F21K **Alatna River** 82.62 23 P P 19 22 09.0 +0.4
baz=262
E21K **Killik River** 82.62 21 P P 19 22 09.1 +0.5
baz=261
CHUM **Lake Minchumin** 82.65 26 P P 19 22 09.6 +0.8
baz=263
H21K **Melozitna Rive** 82.67 24 IAmb IAmb 19 22 11.1
comp=Z,11nm,0.8s
H21K **Melozitna Rive** 82.67 24 P P 19 22 08.7 -0.1
baz=262,SNR=8.2
SKT **Skwentna** 82.79 28 IAmb IAmb 19 22 10.3
comp=Z,17nm,1.2s
SKT **Skwentna** 82.79 28 P P 19 22 09.2 -0.3
baz=264,SNR=6.1
NCK **Nalchik** 82.92 313⇓ *e*P P 19 22 10.1 -0.5
NCK pmax pmax
comp=Z,7.0nm,0.4s
I21K **Tanana** 82.95 25 P P 19 22 09.6 -0.6
baz=263,SNR=8.5
BRSE **Bradley Lake S** 82.96 30 P P 19 22 10.0 -0.5
baz=265
SUA **Susitna One** 83.11 29 P P 19 22 10.9 -0.4
baz=265
B22K **Teshekpuk Lake** 83.11 20 P P 19 22 11.3 +0.3
baz=261
D22K **Ayikyak River** 83.16 21 P P 19 22 11.4 +0.1
baz=262
F22K **John River** 83.16 22 P P 19 22 10.9 -0.4
baz=263
VNDA **Vanda** 83.19 173 P P 19 22 11.4 +0.2
VNDA **Vanda** 83.19 173 P P 19 22 12.0 +0.8
comp=Z,1.4nm,0.8s,baz=313,slow=7.3,SNR=11
comp=Z,1.4nm,0.8s
VNDA **Vanda** 83.19 173 P P 19 22 11.4 +0.2
VNDA pmax pmax
comp=Z,3.0nm,1.0s
KTH **Kantishna Hill** 83.23 27 IAmb IAmb 19 22 13.8
comp=Z,14nm,1.0s
BPAW **Bear Paw Mtn.** 83.26 26 IAmb IAmb 19 22 13.6
comp=Z,12nm,0.9s
BPAW **Bear Paw Mtn.** 83.26 26 P P 19 22 11.5 -0.4
baz=264,SNR=11
H22K **Ishtalitna Cre** 83.28 24 P P 19 22 11.9 -0.1
baz=264,SNR=10
G22K **Bettles** 83.35 23 P P 19 22 12.5 +0.2
baz=263
E22K **Anaktuvuk Pass** 83.38 22 IAmb IAmb 19 22 15.0
comp=Z,17nm,1.1s
E22K **Anaktuvuk Pass** 83.38 22 P P 19 22 12.5 0.0
baz=263,SNR=7.0
KBZ **Khabaz** 83.43 313 P P 19 22 13.5 +0.3
comp=Z,2.0nm,0.8s,baz=45,slow=2.9,SNR=4.6
comp=Z,2.0nm,0.8s
KBZ **Khabaz** 83.43 313⇓ *i*P P 19 22 13.7 +0.5
KBZ pmax pmax
comp=Z,10.0nm,1.9s
MLY **Manley** 83.46 25 IAmb IAmb 19 22 14.8
comp=Z,15nm,0.8s
MLY **Manley** 83.46 25 P P 19 22 12.0 -1.0
baz=264,SNR=21
TRF **Thorofare Moun** 83.50 27 IAmb IAmb 19 22 14.4
comp=Z,14nm,0.9s
TRF **Thorofare Moun** 83.50 27 P P 19 22 12.4 -0.9
baz=265,SNR=5.8
RC01 **Rabbit Creek A** 83.57 29 P P 19 22 13.9 +0.4
baz=266
KIV **Kislovodsk** 83.59 314 *e*P P 19 22 14.4 +0.3
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,179nm,19.0s
SHA1 **Shidzhatmaz** 83.61 313⇑ *e*P P 19 22 14.7 +0.3
SEW **Seward** 83.64 30 P P 19 22 13.9 +0.1
baz=266
MAW **Mawson** 83.73 200 LR LR 20 00 17.8
comp=Z,38nm,20.6s,baz=57,slow=36
ATD **Arta Tunnel** 83.75 281 IAmb IAmb 19 22 17.9
comp=Z,10nm,0.8s
D23K **Nanushuk River** 83.89 21 IAmb IAmb 19 22 17.9
comp=Z,20nm,1.0s
D23K **Nanushuk River** 83.89 21 P P 19 22 15.1 +0.1
baz=264,SNR=6.5
COLD **Coldfoot** 83.89 23 IAmb IAmb 19 22 17.5
comp=Z,18nm,0.9s
COLD **Coldfoot** 83.89 23 P P 19 22 15.3 +0.3
baz=264,SNR=17
PMR **Palmer** 83.89 29 IAmb IAmb 19 22 16.1
comp=Z,16nm,0.8s
PMR **Palmer** 83.89 29 P P 19 22 14.9 -0.3
baz=266
G23K **Bananza Creek** 83.91 23 P P 19 22 14.9 -0.4
baz=265,SNR=22
C23K **Itkillik River** 84.00 20 P P 19 22 16.3 +0.7
baz=264
GHO **Glory Hole Cre** 84.00 28 IAmb IAmb 19 22 17.0
comp=Z,19nm,1.1s
GURO **Guroymak-BITLI** 84.02 308 IAmb IAmb 19 22 18.7
comp=Z,16nm,0.9s
MCK **McKinley** 84.13 26 P P 19 22 16.3 -0.1
baz=266,SNR=6.5
NEA2 **Nenana** 84.13 26 IAmb IAmb 19 22 18.6
comp=Z,9.3nm,0.7s
NEA2 **Nenana** 84.13 26 P P 19 22 15.8 -0.6
baz=266,SNR=6.6
RND **Reindeer** 84.14 27 IAmb IAmb 19 22 17.2
comp=Z,13nm,0.7s
E23K **Chandalar** 84.19 22 P P 19 22 15.9 -0.7
baz=265,SNR=12
KNK **Knik Glacier** 84.20 29 P P 19 22 16.1 -0.7
baz=267,SNR=8.5
PWL **Port Wells** 84.23 29 P P 19 22 16.6 -0.4
baz=267,SNR=8.3
WAT1 **Susitna Watana** 84.25 27 P P 19 22 17.3 +0.3
baz=266
TOLK **Toolik Lake Re** 84.25 21 IAmb IAmb 19 22 19.4
comp=Z,16nm,0.9s
TOLK **Toolik Lake Re** 84.25 21 P P 19 22 17.2 +0.2
baz=265,SNR=6.0
VRH **Novokhopyorsk** 84.41 321 *e*P P 19 22 16.0 -2.0
VRH pmax pmax
comp=Z,10.0nm,1.0s
WRH **Wood River Hil** 84.55 26 IAmb IAmb 19 22 19.2
comp=Z,9.8nm,1.0s
D24K **Happy Valley** 84.57 21 P P 19 22 19.1 +0.7
baz=266
M23K **Glacier View** 84.57 28 P P 19 22 18.6 0.0
baz=267,SNR=12
WAT6 **Susitna Watana** 84.61 28 P P 19 22 18.9 -0.1
baz=267,SNR=13
E24K **Your Creek** 84.61 22 P P 19 22 18.9 +0.1
baz=266
PPT2 **Papeete2** 84.63 108 *e*LR LR 19 48 58.2
PPT2 *e*LR LR 19 49 06.3
comp=Z,104nm,31.0s
comp=Z,84nm,25.5s
C24K **Franklin Bluff** 84.65 20 P P 19 22 18.6 -0.2
baz=266
COLA **College** 84.67 25⇑ *i*P P 19 22 18.4 -0.6
COLA pmax pmax
comp=Z,15nm,2.0s
CCB **Clear Creek Bu** 84.68 26 IAmb IAmb 19 22 20.2
comp=Z,8.3nm,1.0s
H24K **Noodor Dome** 84.71 24 P P 19 22 18.2 -1.1
baz=267,SNR=5.5
SCM **Sheep Creek Mo** 84.77 28 P P 19 22 19.7 0.0
baz=268,SNR=6.9
DHY **Denali Highway** 84.79 27 P P 19 22 19.5 -0.4
baz=268
F24K **Squaw Lake** 84.81 23 IAmb IAmb 19 22 22.3
comp=Z,10nm,0.9s
F24K **Squaw Lake** 84.81 23 P P 19 22 20.2 +0.4
baz=267,SNR=7.1
GLI **Glacier Island** 84.84 29 P P 19 22 19.7 -0.2
baz=268
POKR **Poker Plat Res** 84.86 25 P P 19 22 20.0 0.0
baz=267
G24K **Hadwenzic Riv** 84.92 23 P P 19 22 19.7 -0.6
baz=267,SNR=11
HDA **Harding Lake** 85.04 26 IAmb IAmb 19 22 21.9
comp=Z,7.8nm,0.8s
HDA **Harding Lake** 85.04 26 P P 19 22 21.1 +0.2
baz=268,SNR=7.2
ILAR **Eielson Array** 85.08 25 P P 19 22 19.7 -1.4
comp=Z,2.1nm,0.7s,baz=244,slow=6.3,SNR=19
comp=Z,2.1nm,0.7s
Q23K **Middleton Isla** 85.17 31 P P 19 22 21.9 +0.2
baz=269
M24K **Tolsona, Glenn** 85.32 28 P P 19 22 22.2 -0.2
baz=269,SNR=6.3
KLU **Klutina** 85.42 29 P P 19 22 22.7 -0.4
baz=269,SNR=5.3
D25K **Kavik River** 85.45 21 P P 19 22 22.9 0.0
baz=268
G25K **Bearman Lake** 85.47 23 P P 19 22 22.3 -0.7
baz=268
EYAK **Cordova Ski Ar** 85.49 30 P P 19 22 22.6 -0.6
baz=269
K24K **Donnelly Dome** 85.53 26 P P 19 22 23.2 -0.2
baz=269
H25L **Birch Creek** 85.57 24 P P 19 22 23.7 +0.2
baz=269,SNR=6.7
PAX **Paxson** 85.66 27 IAmb IAmb 19 22 25.8
comp=Z,17nm,1.4s
PAX **Paxson** 85.66 27 P P 19 22 23.7 -0.5
baz=269,SNR=5.6
F25K **Christian Rive** 85.67 23 IAmb IAmb 19 22 26.7
comp=Z,4.3nm,0.7s
F25K **Christian Rive** 85.67 23 P P 19 22 24.5 +0.4
baz=269
E25K **Arctic Village** 85.71 22 IAmb IAmb 19 22 27.4
comp=Z,6.1nm,0.9s
E25K **Arctic Village** 85.71 22 P P 19 22 24.4 +0.2
baz=269,SNR=5.5
J25K **Salcha River,** 85.73 26 P P 19 22 24.3 -0.2
baz=269
SOC **Sochi** 85.74 313 *e*P P 19 22 21.5 -3.4
SOC *e*PPP PPP 19 27 37.8
SOC *e*S **SKSac** 19 32 41.4 -5.1
SOC *e*SS **SS** 19 38 27.6 -3.7
SOC *e*SSS SSS 19 41 56.4
SOC MLR MLR
comp=Z,227nm,20.0s
KLMR **Klimovskoe** 85.79 331 *e*P P 19 22 22.8 -1.9
KLMR pmax pmax
comp=Z,14nm,1.2s
HARP **HAARP** 85.80 28 P P 19 22 24.6 -0.2
baz=270
VORD **Divnogorie** 85.94 321 *e*P P 19 22 24.0 -1.6
VORD pmax pmax
comp=Z,10.0nm,1.0s
RIDG **Independent Ri** 85.95 26 IAmb IAmb 19 22 49.5
comp=Z,22nm,1.7s
RIDG **Independent Ri** 85.95 26 P P 19 22 25.2 -0.3
baz=270
C26K **Camden Bay** 85.98 20 P P 19 22 25.5 +0.1
baz=269
VORR **Voronezh** 85.99 321 *e*P P 19 22 24.7 -1.2
VORR pmax pmax
comp=Z,20nm,0.9s
VSR **Storozhevoye** 86.02 321 *e*P P 19 22 24.4 -1.6
VSR pmax pmax
comp=Z,10.0nm,0.9s
BMRM **Bremner River** 86.06 29 P P 19 22 25.8 -0.4
baz=270
N25K **Chitina, Valde** 86.06 29 P P 19 22 25.7 -0.5
baz=270
BMAR **Burnt Mountain** 86.08 23 P P 19 22 27.4 +1.3
LPSR **Galich'ya Gora** 86.15 322 *e*P P 19 22 25.9 -0.7
LPSR pmax pmax
comp=Z,20nm,1.0s
KAIM **Kayak Island** 86.16 30 P P 19 22 26.0 -0.5
baz=270
F26K **Sheenjek River** 86.24 22 IAmb IAmb 19 22 29.5
comp=Z,5.5nm,0.8s
F26K **Sheenjek River** 86.24 22 P P 19 22 26.1 -0.7
baz=270
SCRK **Sand Creek** 86.33 26 P P 19 22 27.0 -0.5
baz=270
G26K **Porcupine Rive** 86.39 23 IAmb IAmb 19 24 05.4
comp=Z,6.7nm,0.5s
G26K **Porcupine Rive** 86.39 23 P P 19 22 26.9 -0.6
baz=270
C27K **Jago River** 86.39 21 P P 19 22 27.3 -0.2
baz=270
GLB **Gilahina Butte** 86.44 29 IAmb IAmb 19 22 30.4
comp=Z,9.7nm,0.9s
J26L **Joseph Creek** 86.51 26 P P 19 22 27.4 -0.9
baz=271,SNR=6.2
L26K **Log Cabin Wild** 86.63 27 P P 19 22 27.5 -1.3
baz=271
CRQE **Cirque** 86.80 29 P P 19 22 29.4 -0.5
baz=271
M26K **Nabesna, AK** 86.81 28 P P 19 22 28.9 -0.9
baz=271
MCARA **McCarthy VSAT** 86.82 29 P P 19 22 29.0 -0.8
baz=272
K27K **Chicken** 87.17 26 P P 19 22 30.6 -0.8
baz=272
E27K **Coleen River** 87.19 22 P P 19 22 31.6 0.0
baz=272
G27K **Doyon Strip** 87.23 23 IAmb IAmb 19 23 31.2
comp=Z,13nm,1.8s
G27K **Doyon Strip** 87.23 23 P P 19 22 31.6 -0.1
baz=272
I27K **Kandik River** 87.30 25 P P 19 22 31.6 -0.5
baz=272
H27K **Steamboat Moun** 87.31 24 P P 19 22 31.3 -0.8
baz=273
L27K **Beaver Creek,** 87.32 27 P P 19 22 30.5 -1.7
baz=272
M27K **Edge Cek, AK** 87.33 28 P P 19 22 31.3 -1.2
baz=272
BCAR **Beaver Creek A** 87.34 27 P P 19 22 32.6 +0.3
D27M **Malcolm River** 87.37 21 P P 19 22 31.3 -1.1
baz=273
MESA **MESA** 87.39 30 P P 19 22 31.2 -1.6
baz=272
OBN **Obninsk** 87.47 325 *di*P P 19 22 34.1 +1.1
OBN *e**PP **pP** 19 22 46.8 -0.1
OBN *e**SP **sP** 19 22 52.0 -0.2
OBN *e* 19 25 56.4
OBN *e*PPP PPP 19 27 54.3
OBN pmax pmax
comp=Z,11nm,0.6s
OBN MLR MLR
comp=Z,222nm,19.0s
CTG **Chitna Glacier** 87.65 29 P P 19 22 33.0 -1.0
baz=273
F28M **Old Crow** 87.88 23 IAmb IAmb 19 22 37.0
comp=Z,6.0nm,0.8s
F28M **Old Crow** 87.88 23 P P 19 22 34.3 -0.4
baz=274
E28M **Babbage River** 87.93 22 IAmb IAmb 19 22 36.9
comp=Z,7.2nm,1.1s
E28M **Babbage River** 87.93 22 P P 19 22 34.8 -0.2
baz=274
I28M **Miner Creek** 88.01 25 IAmb IAmb 19 22 37.0
comp=Z,5.4nm,0.8s
I28M **Miner Creek** 88.01 25 P P 19 22 36.1 +0.5
baz=274
O28M **Mount Upton** 88.22 29 P P 19 22 34.8 -2.1
baz=274
PINM **Pinnacle** 88.24 30 P P 19 22 35.0 -1.7
baz=274
DAWY **Dawson** 88.35 26 P P 19 22 35.8 -1.3
baz=275
YUK8 **Steele Glacier** 88.39 29 P P 19 22 36.3 -1.4
baz=274
E29M **Blow River** 88.55 22 P P 19 22 36.9 -1.0
baz=276
H29M **Whitestone** 88.58 24 P P 19 22 36.8 -1.4
baz=275
G29M **Pine Creek** 88.66 23 P P 19 22 37.3 -1.2
baz=276
I29M **Ogilvie Camp,** 88.69 25 P P 19 22 37.5 -1.2
baz=276
PNL **Peninsula** 88.70 30 P P 19 22 37.3 -1.6
baz=275
J29N **Klondike Camp** 88.82 26 P P 19 22 38.2 -1.2
baz=276
M29M **Somme Creek** 88.91 28 P P 19 22 38.0 -1.9
baz=275
YUK4 **Talbot Arm** 88.92 29 P P 19 22 38.2 -1.9
baz=275
L29M **L29M** 89.00 27 IAmb IAmb 19 22 42.7
comp=Z,14nm,1.2s
L29M **L29M** 89.00 27 P P 19 22 38.4 -1.8
baz=276
O29M **Mount Kennedy** 89.06 30 P P 19 22 38.8 -1.8
baz=275
YUK6 **Outpost Mounta** 89.10 29 P P 19 22 39.5 -1.5
baz=276
K29M **Barlow Dome** 89.19 26 P P 19 22 39.8 -1.4
baz=276
EPYK **Eagle Plains** 89.23 24 P P 19 22 39.7 -1.6
baz=277
G30M **tAoh Zraii Nji** 89.35 23 P P 19 22 40.4 -1.3
baz=277
F30M **Barrier River** 89.44 22 P P 19 22 40.9 -1.2
baz=278
I30M **Mount Dempster** 89.52 25 P P 19 22 41.2 -1.5
baz=277
HYT **Haines Junctio** 89.53 29 P P 19 22 41.2 -1.7
baz=276
P29M **Windy Craggy** 89.55 30 P P 19 22 41.2 -1.6
baz=276
MMAI **Mount Meron Ar** 89.58 303 P P 19 22 44.4 +0.7
comp=Z,1.5nm,0.5s,baz=76,slow=11,SNR=5.8
comp=Z,1.5nm,0.5s
J30M **Hart River** 89.62 25 P P 19 22 41.5 -1.7
baz=277
N30M **Aishikik Lake** 89.66 29 P P 19 22 42.0 -1.4
baz=277
M30M **Minto, Yukon** 89.66 27 P P 19 22 42.1 -1.2
baz=277
P30M **Million Dollar** 89.88 30 P P 19 22 42.5 -1.9
baz=277
G31M **Satah River** 90.12 23 P P 19 22 43.9 -1.4
baz=279
INK **Inuvik** 90.17 22 P P 19 22 44.4 -1.1
baz=280
O30N **Mendenhall** 90.22 29 P P 19 22 44.9 -1.0
baz=278
H31M **Peel River** 90.27 24 P P 19 22 45.4 -0.7
baz=279
N31M **Braeburn, Yuko** 90.28 28 P P 19 22 46.2 0.0
baz=278
BR131 **Keskin Array S** 90.49 310⇑ *i*P P 19 22 47.6 -0.2
BRTR **Keskin Array B** 90.49 310 P P 19 22 47.7 -0.1
comp=Z,1.2nm,0.6s,baz=122,slow=3.5,SNR=7.4
comp=Z,1.2nm,0.6s
S31K **Pelican** 90.52 32 P P 19 22 46.8 -0.5
baz=277
SPITS **Spitsbergen Ar** 90.75 349 P P 19 22 48.0 -0.1
comp=Z,5.2nm,0.8s,baz=96,slow=7.5,SNR=1.7
comp=Z,5.2nm,0.8s
SPITS **Spitsbergen Ar** 90.75 349 P P 19 22 48.0 -0.1
ARCES **ARCESS Array B** 90.78 340 P P 19 22 47.8 -0.6
comp=Z,6.3nm,0.9s,baz=74,slow=6.4,SNR=10
comp=Z,6.3nm,0.9s
M31M **Drury Creek, Y** 90.82 28 P P 19 22 48.4 -0.3
baz=279
WHY **Whitehorse** 90.83 29 P P 19 22 48.2 -0.7

	baz=279							
SIT	**Sitka**	**91.13**	**33**	P		**P**	**19 22 49.5**	**-0.7**
	baz=278							
R32K	**Eaglecrest**	**91.38**	**32**	P		**P**	**19 22 51.2**	**-0.2**
	baz=279							
P32M	**Atlin**	**91.58**	**30**	P		**P**	**19 22 52.2**	**-0.1**
	baz=280							
N32M	**Quiet Lake**	**91.62**	**29**	P		**P**	**19 22 51.4**	**-1.1**
	baz=280							
P33M	**Teslin, Yukon**	**91.91**	**29**	P		**P**	**19 22 53.6**	**-0.2**
	baz=280							
MMPY	**Sheldon Lake,**	**92.18**	**27**	P		**P**	**19 22 54.7**	**-0.3**
	baz=282							
FINES	**FINESS Array B**	**92.21**	**332**	P		**P**	**19 22 55.9**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=67,slow=3.7,SNR=12							
	comp=Z,0.8nm,0.4s							
AKASG	**Malin Array Be**	**92.32**	**321**	P		**P**	**19 22 55.6**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=69,slow=4.7,SNR=4.8							
	comp=Z,1.6nm,0.7s							
AKBB	**Malin Array Si**	**92.32**	**321**	⇑*e*P		**P**	**19 22 56.3**	**+0.5**
AKBB				pmax		pmax		
	comp=Z,11nm,2.3s							
SYO	**Syowa Base**	**92.41**	**201**	⇑*e*PcP		**PcP**	**19 22 58.0**	**+1.5**
Q32M	**Nakina River**	**92.42**	**31**	P		**P**	**19 22 56.6**	**+0.2**
	baz=281							
CRAG	**Craig**	**92.59**	**34**	P		**P**	**19 22 56.5**	**-0.4**
	baz=280							
WRAK	**Wrangell Islan**	**92.85**	**33**	P		**P**	**19 22 58.0**	**-0.2**
	baz=281							
R33M	**Jennings River**	**92.99**	**30**	P		**P**	**19 22 58.8**	**-0.1**
	baz=282							
C36M	**Paulatuk**	**93.24**	**20**	P		**P**	**19 22 59.8**	**+0.2**
	baz=289							
QSPA	**South Pole Qui**	**93.45**	**180**	P		**P**	**19 23 02.2**	**+1.4**
	comp=Z,2.5nm,0.9s,baz=341,slow=1.5,SNR=5.7							
	comp=Z,2.5nm,0.9s							
V35K	**Ketchikan**	**93.47**	**34**	P		**P**	**19 23 00.2**	**-0.8**
	baz=281							
DLBC	**Dease Lake**	**93.67**	**31**	LR		LR	19 58 46.0	
	comp=Z,461nm,21.5s,baz=274,slow=31							
DLBC	**Dease Lake**	**93.67**	**31**	P		**P**	**19 23 01.8**	**-0.2**
	baz=283							
TGTN	**Hyland Airport**	**93.80**	**28**	P		**P**	**19 23 02.2**	**-0.4**
	baz=284							
VRI	**Vrincioaia**	**94.74**	**316**	⇓P		**P**	**19 23 07.5**	**+0.3**
MLR	**Muntele Rosu**	**95.35**	**316**	⇑P		**P**	**19 23 10.3**	**+0.3**
BURAR	**Bucovina Array**	**95.44**	**318**	⇓P		**P**	**19 23 11.4**	**+1.0**
BUR08	**Bucovina Ar. S**	**95.44**	**318**	IAmb		IAmb	19 23 12.6	
	comp=Z,3.4nm,0.8s							
TOAD	**Toad River Com**	**95.99**	**30**	P		**P**	**19 23 12.3**	**-0.3**
	baz=287							
MARR	**Marisel-Cluj**	**97.03**	**318**	⇓P		Pdif	19 23 18.8	+1.1
DRGR		**97.28**	**318**	⇑P		Pdif	19 23 20.3	+1.4
HERR	**Herculane**	**97.91**	**316**	⇑P		Pdif	19 23 29.9	+8.3
HFS	**Hagfors**	**98.39**	**332**	P		Pdif	19 23 24.7	+1.4
	comp=Z,5.6nm,1.1s,baz=150,slow=6.7,SNR=4.5							
	comp=Z,5.6nm,1.1s							
NOA	**NORSAR Array B**	**99.15**	**334**	P		**Pdif**	**19 23 26.4**	**-0.4**
	comp=Z,1.3nm,1.0s,baz=66,slow=4.4,SNR=2.7							
	comp=Z,1.3nm,1.0s							
MATP	**Matopo**	**99.36**	**250**	LR		LR	20 07 07.1	
	comp=Z,26nm,19.8s,baz=195,slow=35							
KHC	**Kasperske Hory**	**102.49**	**322**	⇑*i*P		**Pdif**	**19 23 45.1**	**+3.2**
KHC				pmax		pmax		
	comp=Z,13nm,3.3s							
GERES	**GERESS Array B**	**102.51**	**322**	P		**Pdif**	**19 23 43.3**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=112,slow=3.6,SNR=4.0							
TXAR	**Lajitas Array**	**121.36**	**52**	PKP		**PKiKP**	**19 28 40.4**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=332,slow=5.0,SNR=2.3							
TORD	**Torodi Ar. Bea**	**123.41**	**288**	PKP		**PKPdf**	**19 28 42.6**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=66,slow=2.4,SNR=5.1							
LPAZ	**La Paz**	**160.33**	**131**	PKPab		**PKPab**	**19 30 28.8**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=221,slow=4.7,SNR=4.6							

TEH ***19*** *19:15:01.7, 34.˚49N×45.˚17E, h10km±128km*
ISN ***19*** *19:15:02.1±0.5, 34.˚52N×45.˚09E, h14km±7km, ML2.7*
ISC 19 19:15:01.4±1.0,**34.˚55N**±0.˚05×**45.˚16E**±0.˚05,**h10**km,**n10,** σ1°**06**/13,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLG1	**Gilan-e-Gharb**	**0.76**	**125**	Pg	**Pb**	**19 15 16.1**	**-0.6**
IDHR	**Dehrash**	**1.02**	**81**	Pg	**Pg**	**19 15 21.1**	**-0.1**
IKRK	**Kirkuk**	**1.08**	**322**	*e*Pg	**Pb**	**19 15 22.0**	**-0.3**
IKRK				*e*Sg	**Sb**	**19 15 37.0**	**+0.4**
IKRK				AML	AML	19 15 41.6	
	comp=E,180nm,0.6s						
IKRK				AML	AML	19 15 41.9	
	comp=N,208nm,0.6s						
IGHG	**Ghaleghazi**	**1.19**	**100**	Pg	**Pn**	**19 15 24.6**	**+0.3**
ILBA	**Ilam Banvizeh**	**1.27**	**136**	Pg	**Pn**	**19 15 24.7**	**-0.6**
BHD	**Baghdad**	**1.43**	**207**	*e*Pg	**Pn**	**19 15 27.0**	**-0.4**
BHD				*e*Sg	**Sg**	**19 15 46.0**	**-1.4**
IBDR	**Badra**	**1.57**	**156**	*e*Pn	**Pg**	**19 15 31.5**	**-0.1**
SNQR	**Sonqor, Kerman**	**2.06**	**81**	Pn	**Pb**	**19 15 38.7**	**-0.3**
IBZA	**Bozab**	**2.23**	**91**	Pn	**Pb**	**19 15 41.0**	**-1.0**
RAFI	**Al-Rafai**	**2.93**	**164**	*e*Pn	**Pn**	**19 15 50.0**	**+2.0**
RAFI				*e*Sn	**Sn**	**19 16 25.0**	**+1.8**

NEIC ***19*** *19:39:22.2±0.8, 4.˚68S±0.˚08×129.˚9E±0.˚1, h163km±14km, mb4.3/11, Error ellipse: s-maj=15.2km s-min=11.5km az=71.0*
DJA ***19*** *19:39:22.5±0.2, 5.˚3S×13.˚0E±.˚, h169km±3km, M4.5/16, mB5.0/3, mb4.4/13, MLv4.6/16, Mw(mB)4.4/3*
IDC ***19*** *19:39:25.0±4.0, 5.˚30S×130.˚31E, h126km±47km, mb3.9/1, mbtmp4.6/5, MS4.8/1, Error ellipse: s-maj=48.6km s-min=35.8km az=139.0*
ISC 19 19:39:21.6±0.7,**4.70S**±0.˚06×**130.˚01E**±0.˚06,**h170**km±8km, **n44,** σ1°**91**/48,**mb4.1**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.20**	**330**	P	**Pn**	**19 39 45.5**	**+1.2**
BNDI				S	**Sn**	**19 40 03.4**	**+1.7**
MSAI	**Masohi**	**1.72**	**321**	P	**Pn**	**19 39 54.5**	**-0.5**
AAI	**Ambon**	**2.07**	**299**	P	**Pn**	**19 39 58.4**	**-0.3**
FAKI	**Fak Fak**	**2.85**	**52**		**Pn**	**19 40 09.5**	**+1.5**
FAKI				Sn	**Sn**	**19 40 39.2**	**-4.9**
FAKI	**Fak Fak**	**2.85**	**52**	P	**Pn**	**19 40 09.7**	**+1.7**
NLAI	**Namlea**	**3.24**	**296**	P	**Pn**	**19 40 12.2**	**-0.6**
SAUI	**Saumlaki**	**3.51**	**159**	Pn	**Pn**	**19 40 17.5**	**+1.4**
SAUI				Sn	**Sn**	**19 40 54.3**	**-4.4**
SAUI	**Saumlaki**	**3.51**	**159**	P	**Pn**	**19 40 17.6**	**+1.5**
KMPI	**Kaimana, Papua**	**3.83**	**75**	P	**Pn**	**19 40 22.3**	**+2.1**
SWI	**Sorong**	**4.01**	**18**	P	**Pn**	**19 40 23.1**	**+0.5**
SANI	**Sanana**	**4.80**	**303**	P	**Pn**	**19 40 31.1**	**-1.6**
RKPI	**Ransiki, Papua**	**5.23**	**53**	P	**Pn**	**19 40 40.4**	**+2.0**
TNTI	**Ternate**	**6.04**	**334**		**Pn**	**19 40 48.3**	**-0.8**
SRPI	**Serui, Papua**	**6.83**	**66**	P	**Pn**	**19 41 01.6**	**+2.1**
	0.4nm120nm,0.7s						
BAKI	**Biak**	**7.02**	**60**	P	**Pn**	**19 41 05.1**	**+3.1**
	0.3nm82nm,0.5s						
SOEI	**Soe**	**7.59**	**228**	Pn	**Pn**	**19 41 09.8**	**+0.2**
SOEI	**Soe**	**7.59**	**228**	P	**Pn**	**19 41 10.7**	**+1.1**
	0.1nm10nm,0.9s						
LUWI	**Luwuk**	**8.09**	**296**	Pn	**Pn**	**19 41 14.5**	**-1.6**
MTN	**Manton Dam**	**8.17**	**172**		**Pn**	**19 41 15.5**	**-1.6**
BATI	**Baumata**	**8.33**	**229**	P	**Pn**	**19 41 20.1**	**+0.8**
	52nm,0.6s,baz=63,slow=4.5,SNR=10						
BATI				S	**Sn**	**19 42 54.6**	**+2.0**
	24nm,0.8s,baz=73,slow=15,SNR=2.9						
BATI	**Baumata**	**8.33**	**229**	P	**Pn**	**19 41 19.9**	**+0.5**
	65nm,0.8s						
EDFI	**Ende, Flores**	**9.18**	**244**	P	**Pn**	**19 41 32.8**	**+2.1**
	12nm,1.3s						
MRSI	**Marisa**	**9.56**	**302**	P	**Pn**	**19 41 34.9**	**-0.6**
	12nm,0.7s						
TOLI2	**Tolitoli**	**10.87**	**302**	Pn	**Pn**	**19 41 50.5**	**-2.3**
KNRA	**Kununurra**	**10.98**	**186**		**Pn**	**19 41 51.7**	**-2.4**
PLAI	**Plampang**	**12.81**	**251**	P	**Pn**	**19 42 17.4**	**-0.4**
	38nm,1.3s						
FITZ	**Fitzroy Crossi**	**13.98**	**197**	Pn	**Pn**	**19 42 31.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**13.98**	**197**	P	**Pn**	**19 42 31.1**	**-1.5**
	2.6nm,0.3s,baz=35,slow=11,SNR=27						
FITZ				S	Sn	19 44 55.4	-13
	3.3nm,0.4s,baz=78,slow=23,SNR=4.7						
WRAB	**Tennant Creek**	**15.72**	**165**		**Pn**	**19 42 52.7**	**-1.3**
WRAB				IAmb	IAmb	19 42 57.2	
	comp=Z,10nm,0.9s						
WRA	**Warramunga Arr**	**15.73**	**165**		**Pn**	**19 42 50.3**	**-3.8**
WRA	**Warramunga Arr**	**15.73**	**165**	P	**Pn**	**19 42 52.3**	**-1.8**
	comp=Z,3.5nm,0.3s,baz=346,slow=13,SNR=37						
WRA				S	S	19 45 37.0	-13
	comp=Z,5.0nm,0.6s,baz=340,slow=22,SNR=11						
COEN	**Coen**	**15.91**	**126**		**Pn**	**19 42 58.4**	**+2.0**
COEN				IAmb	IAmb	19 43 01.1	
	comp=Z,12nm,0.9s						
AS31	**Alice Springs**	**19.23**	**169**	P	**P**	**19 43 34.0**	**+1.2**
AS31				IAmb	IAmb	19 43 38.5	
	comp=Z,15nm,0.6s						
ASAR	**Alice Springs**	**19.23**	**169**	P	**P**	**19 43 33.9**	**+1.0**
ASAR	**Alice Springs**	**19.23**	**169**	P	**P**	**19 43 34.2**	**+1.4**
	comp=Z,34nm,0.6s,baz=349,slow=10,SNR=366						
ASAR				S	**S**	**19 46 59.0**	**-2.7**
	comp=Z,1.4nm,0.7s,baz=351,slow=23,SNR=7.7						
PSA00	**Pilbara Seismi**	**19.45**	**210**	P	**P**	**19 43 34.0**	**-1.3**
PSA00				IAmb	IAmb	19 44 04.8	
	comp=Z,5.6nm,1.1s						
CTAO	**Charters Tower**	**22.00**	**135**	P	**P**	**19 44 03.6**	**+1.2**
CTAO				IAmb	IAmb	19 44 23.5	
	comp=Z,7.7nm,1.1s						
INKA	**Innaminka**	**25.09**	**157**	P	**P**	**19 44 32.0**	**+1.4**
BBOO	**Buckleboo**	**28.53**	**169**	P	**P**	**19 45 02.0**	**+0.7**
STKA	**Stephens Creek**	**29.14**	**159**	P	**P**	**19 45 07.4**	**+0.7**
STKA	**Stephens Creek**	**29.14**	**159**	P	**P**	**19 45 07.5**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=339,slow=9.2,SNR=4.6						
	comp=Z,1.4nm,0.3s						
CAN	**Canberra**	**35.16**	**152**	P	**P**	**19 46 00.9**	**+1.7**
RPZ	**Rata Peaks**	**53.05**	**143**	LR	LR	20 12 15.6	
	comp=Z,1μm,19.8s,baz=320,slow=38						
BKZ	**Black Stump Fm**	**54.22**	**136**	P	**P**	**19 48 31.2**	**+1.3**
BKZ				IAmb	IAmb	19 48 55.5	
	comp=Z,15nm,1.3s						

MOS ***19*** *19:43:07.8±1.2, 41.˚40N×83.˚83E, h13km, mb4.7/12, MS4.1/7, Error ellipse: s-maj=8.0km s-min=4.6km az=131.2*
IDC ***19*** *19:43:07.1±0.6, 41.˚38N×83.˚78E, h0km, mb3.9/19, mbtmp4.1/26, ML3.8/6, MS3.8/55, Error ellipse: s-maj=14.5km s-min=9.5km az=51.0*
BJI ***19*** *19:43:07.8, 41.˚29N×83.˚77E, h10km, mB5.0/10, mb4.5/31, ML4.9/11, Ms4.4/35, Ms7 4.1/32*
NEIC ***19*** *19:43:09.6±0.9, 41.˚36N±0.˚09×83.˚83E±0.˚09, h10km±1km, mb4.5/23, Error ellipse: s-maj=15.7km s-min=11.2km az=13.0*
SOME ***19*** *19:43:10.7, 41.˚25N×83.˚55E, h10km, MS4.2*
NNC ***19*** *19:43:10.3±1.7, 41.˚38N×83.˚72E, h0km, mb5.1, mpv4.9, Error ellipse: s-maj=13.3km s-min=9.7km az=159.0*
ISC 19 19:43:09.5±0.3,**41.˚30N**±0.˚03×**83.˚89E**±0.˚02,**h10**km,**n246,** σ2°**16**/209,**mb4.3**/46,**MS3.9**/64,**22C-16D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**3.77**	**47**	Pn	**Pn**	**19 44 10.9**	**+3.1**
WMQ				Sn	**Sn**	**19 44 57.6**	**+5.3**
WMQ				smax	smax		
	comp=N,2μm,1.3s						
WMQ				smax	smax		
	comp=E,2μm,0.9s						
SHLS	**Shalkode**	**3.78**	**301**	Pg	**Pn**	**19 44 11.8**	**+3.9**
	717nm,0.4s						
SHLS				Lg	Lg	19 44 55.8	
	2μm,0.5s						
SHLS	**Shalkode**	**3.78**	**301**	*e*P	**Pn**	**19 44 11.8**	**+3.9**
	717nm,0.4s						
SHLS				*e*S	**Sn**	**19 44 55.8**	**+3.4**
	2μm,0.5s						
SHLS	**Shalkode**	**3.78**	**301**	*e*P	Pn	19 44 03.9	-4.0
PDGK	**Podgornoye**	**3.84**	**303**	⇑Pn	**Pn**	**19 44 08.7**	**-0.1**
	124nm,0.6s						
PDGK				⇑Pg	**Pb**	**19 44 18.3**	**+0.9**
	837nm,0.7s						
PDGK				⇑Sn	**Sn**	**19 44 53.7**	**-0.3**
	626nm,0.7s						
PDGK				⇑Lg	Lg	19 45 07.2	
	3μm,1.1s						
PDGK	**Podgornoye**	**3.84**	**303**	P	**Pn**	**19 44 08.0**	**-0.8**
PDGK				S	**Sn**	**19 44 54.0**	**-0.1**
UZB	**Uzunbulak**	**4.06**	**299**	Pg	**Pb**	**19 44 20.8**	**-0.3**
	323nm,0.5s						
UZB				Lg	Lg	19 45 11.6	
	423nm,0.4s						
UZB	**Uzunbulak**	**4.06**	**299**	*e*P	**Pb**	**19 44 20.8**	**-0.3**
	323nm,0.5s						
UZB				*e*S	**Sb**	**19 45 11.6**	**+1.3**
	423nm,0.4s						
UZB	**Uzunbulak**	**4.06**	**299**	*e*P	**Pn**	**19 44 11.1**	**-0.7**
PRZ	**Przheval'sk**	**4.27**	**288**		**Pn**	**19 44 14.7**	**0.0**
PRZ	**Przheval'sk**	**4.27**	**288**	P	**Pn**	**19 44 14.7**	**0.0**
KPKS	**Kokpek**	**4.42**	**301**	Pg	**Pb**	**19 44 28.6**	**+1.3**
	105nm,0.4s						
KPKS				Lg	Lg	19 45 23.9	
	368nm,0.3s						
SATY	**Saty**	**4.44**	**295**	Pg	**Pb**	**19 44 29.6**	**+2.0**
	167nm,0.4s						
SATY				Lg	Lg	19 45 26.3	
	874nm,0.6s						
KNOS	**Konyrlen**	**4.62**	**313**	Pg	**Pb**	**19 44 34.2**	**+3.5**
	182nm,0.4s						
KNOS				Lg	Lg	19 45 34.4	
	500nm,0.5s						
KURS	**Kuram**	**4.77**	**299**	Pg	**Pb**	**19 44 34.8**	**+1.7**
	194nm,0.7s						
KURS				Lg	Lg	19 45 35.0	
	290nm,0.7s						
KDJ	**Kajisay**	**5.09**	**282**		**Pn**	**19 44 25.6**	**-0.4**
KDJ	**Kajisay**	**5.09**	**282**	P	**Pn**	**19 44 25.6**	**-0.4**
KAPS	**Kapalarasan**	**5.18**	**322**	Pg	**Pb**	**19 44 42.4**	**+2.3**
	87nm,0.2s						
KAPS				Lg	Lg	19 45 48.2	
	624nm,0.4s						
ARXS	**Arharly**	**5.33**	**305**	Pg	**Pb**	**19 44 45.5**	**+2.8**
	151nm,0.5s						
ARXS				Lg	Lg	19 45 53.9	
	289nm,0.6s						
ARXS	**Arharly**	**5.33**	**305**	*e*P	**Pb**	**19 44 45.5**	**+2.8**
ARXS				*e*S	**Sb**	**19 45 53.9**	**+7.0**
ARXS	**Arharly**	**5.33**	**305**	*e*P	**Pn**	**19 44 28.1**	**-1.1**
KOTS	**Kotyrbulak**	**5.39**	**293**	Pg	Pb	19 44 48.7	+4.9
	255nm,0.5s						
KOTS				Lg	Lg	19 45 58.4	
	1μm,0.6s						
KOTS	**Kotyrbulak**	**5.39**	**293**	*e*P	**Pb**	**19 44 45.8**	**+2.0**
	255nm,0.5s						
KOTS				*e*S	**Sb**	**19 45 55.0**	**+6.5**
	1μm,0.6s						
MDOK	**Medeo**	**5.41**	**292**	Pg	**Pb**	**19 44 46.1**	**+1.9**
	95nm,0.6s						
MDOK				Lg	Lg	19 45 54.9	
	291nm,0.8s						
TNSS	**Tian-Shan**	**5.45**	**291**	Pg	**Pb**	**19 44 47.0**	**+2.1**
	48nm,0.5s						
TNSS				Lg	Lg	19 45 56.4	
	95nm,0.6s						
TNSS	**Tian-Shan**	**5.45**	**291**	*e*P	**Pb**	**19 44 47.0**	**+2.1**
	48nm,0.5s						
TNSS				*e*S	**Sb**	**19 45 56.4**	**+5.9**
	95nm,0.6s						
TDK	**Taldyqorghan**	**5.46**	**315**	Pg	Pb	19 44 49.7	+4.9
	618nm,0.5s						
TDK				Lg	Lg	19 46 00.9	
	870nm,0.5s						
TDK	**Taldyqorghan**	**5.46**	**315**	*e*P	Pb	19 44 49.7	+4.9
	618nm,0.5s						
TDK				*e*S	**Sg**	**19 46 00.8**	**-3.8**
	870nm,0.5s						
KNDC	**Almaty**	**5.49**	**293**	⇑Pn	**Pn**	**19 44 31.8**	**+0.5**
	205nm,0.5s						
KNDC				⇓Sn	**Sn**	**19 45 35.5**	**+1.0**
	494nm,0.7s						
KNDC				⇓Lg	Lg	19 46 05.2	
	728nm,0.9s						
KNDC	**Almaty**	**5.49**	**293**	P	**Pn**	**19 44 31.8**	**+0.5**
KNDC				S	**Sn**	**19 45 35.5**	**+1.0**
AAA	**Alma-Ata**	**5.52**	**293**	Pg	**Pb**	**19 44 47.1**	**+1.2**
	163nm,0.6s						
AAA				Lg	Lg	19 45 56.9	
	28nm,0.8s						
AAA	**Alma-Ata**	**5.52**	**293**	*e*P	**Pb**	**19 44 47.1**	**+1.2**
	163nm,0.6s						
AAA				*e*S	**Sb**	**19 45 56.9**	**+4.7**
	28nm,0.8s						
AAA	**Alma-Ata**	**5.52**	**293**	*e*P	**Pn**	**19 44 33.1**	**+1.4**
MK31	**Makanchi Array**	**5.62**	**349**	⇑Pn	**Pn**	**19 44 33.2**	**+0.2**
	4.6nm,0.4s,baz=162,slow=13,SNR=290						
MK31				⇑Pg	**Pg**	**19 44 54.7**	**-2.2**
	20nm,0.3s,baz=169,slow=15,SNR=12						
MK31				⇑Sn	**Sn**	**19 45 36.8**	**-0.8**
	94nm,0.5s,baz=171,slow=20,SNR=5.9						
MK31				⇓Lg	Lg	19 46 06.9	
	400nm,0.6s,baz=161,slow=31,SNR=3.5						
MK31	**Makanchi Array**	**5.62**	**349**	*de*P	**Pn**	**19 44 33.0**	**0.0**
MKAR	**Makanchi Array**	**5.62**	**349**		**Pn**	**19 44 32.5**	**-0.5**
MKAR	**Makanchi Array**	**5.62**	**349**	Pn	**Pn**	**19 44 33.2**	**+0.3**
	5.2nm,0.3s,baz=172,slow=15,SNR=117						
MKAR				Pg	**Pb**	**19 44 46.4**	**-1.1**
	6.2nm,0.3s,baz=171,slow=14,SNR=13						
MKAR				Sn	**Sn**	**19 45 36.6**	**-1.0**
	52nm,0.3s,baz=184,slow=27,SNR=12						
MKAR				Lg	Lg	19 46 02.8	
	34nm,0.3s,baz=174,slow=27,SNR=7.7						
	7.1nm,0.3s						
MKAR	**Makanchi Array**	**5.62**	**349**	P	**Pn**	**19 44 32.5**	**-0.5**
CHKK	**Chushkaly**	**5.70**	**299**	Pg	**Pb**	**19 44 52.3**	**+3.3**
	54nm,0.4s						
CHKK				Lg	Lg	19 46 05.0	
	207nm,0.4s						
CHKK	**Chushkaly**	**5.70**	**299**	*e*P	**Pb**	**19 44 52.3**	**+3.3**
	54nm,0.4s						
CHKK				*e*S	**Sb**	**19 46 05.0**	**+7.6**
	207nm,0.4s						
ULHL	**Ulahol**	**5.80**	**282**	P	**Pn**	**19 44 35.0**	**-0.7**
	SNR=29						
MTBS	**Maitube**	**5.84**	**291**	Pg	**Pb**	**19 44 53.6**	**+2.3**
	51nm,0.3s						
MTBS				Lg	Lg	19 46 07.9	
	270nm,0.6s						
MTBS	**Maitube**	**5.84**	**291**	*e*P	**Pb**	**19 44 53.6**	**+2.3**
	51nm,0.3s						
MTBS				*e*S	**Sb**	**19 46 07.9**	**+6.6**
	270nm,0.6s						
KTBS	**Karatobe**	**5.85**	**297**	Pg	Pb	19 44 57.4	+5.8
	104nm,0.5s						
KTBS				Lg	Lg	19 46 13.7	
	50nm,0.5s						
BOOM	**Boomskoye usch**	**6.05**	**284**		**Pn**	**19 44 37.6**	**-1.6**
BOOM	**Boomskoye usch**	**6.05**	**284**	P	**Pn**	**19 44 37.6**	**-1.6**
KST	**Kastek**	**6.14**	**289**	Pg	**Pb**	**19 44 59.5**	**+2.9**
	99nm,0.6s						
KST				Lg	Lg	19 46 17.3	
	303nm,0.8s						
KST	**Kastek**	**6.14**	**289**	*e*P	**Pb**	**19 44 59.5**	**+2.9**
	99nm,0.6s						
KST				*e*S	**Sb**	**19 46 17.3**	**+7.1**
	303nm,0.8s						
KUU	**Kurty**	**6.15**	**297**	Pg	Pb	19 45 04.0	-3.2
	148nm,0.6s						
KUU				Lg	Lg	19 46 25.2	
KUU	**Kurty**	**6.15**	**297**	*e*P	Pb	19 45 03.0	+6.4
	148nm,0.6s						
KUU				*e*S	**Sg**	**19 46 23.7**	**-3.0**
ZSN	**Zaisan**	**6.19**	**6**	Pg	**Pg**	**19 45 07.7**	**-0.2**
	46nm,0.6s						
ZSN				Lg	Lg	19 46 31.6	
	807nm,0.8s						
ZSN	**Zaisan**	**6.19**	**6**	*e*P	**Pg**	**19 45 07.7**	**-0.2**
	46nm,0.6s						
ZSN				*e*S	**Sg**	**19 46 31.6**	**+3.5**
	807nm,0.8s						
KSH	**Kashi**	**6.30**	**256**	Pn	Pn	19 44 48.4	+5.9
KSH				Sn	Sn	19 46 03.6	+9.0
KSH				smax	smax		
	comp=N,1μm,0.9s						
KSH				smax	smax		
	comp=E,900nm,1.2s						
TKM2	**Tokmak 2**	**6.38**	**287**	P	**Pn**	**19 44 43.1**	**-0.6**
	SNR=224						
KRBS	**Karabastau**	**6.53**	**294**	Pg	Pb	19 45 08.0	+4.9
	31nm,0.6s						
KRBS				Lg	Lg	19 46 32.1	
	34nm,0.3s						
KBK	**Karagaybulak**	**6.80**	**284**	P	**Pn**	**19 44 48.9**	**-0.6**
	SNR=96						
CHMS	**Chumysh**	**7.00**	**287**	P	**Pn**	**19 44 51.8**	**-0.3**
	SNR=12						
FRU1	**Bishkek**	**7.06**	**285**	Pn	**Pn**	**19 44 51.5**	**-1.3**
FRU1	**Bishkek**	**7.06**	**285**	P	**Pn**	**19 44 51.5**	**-1.3**
UCH	**Uchtor**	**7.07**	**281**	P	**Pn**	**19 44 53.1**	**-0.4**
	SNR=21						
AAK	**Ala-Archa**	**7.13**	**284**	P	**Pn**	**19 44 53.8**	**-0.2**
	SNR=13						
AAK	**Ala-Archa**	**7.13**	**284**		**Pn**	**19 44 53.0**	**-1.0**
AAK	**Ala-Archa**	**7.13**	**284**	⇑Pn	**Pn**	**19 44 53.6**	**-0.4**
	3.7nm,0.4s						
AAK				⇑Pg	Pb	19 45 19.9	+6.4
	38nm,0.7s						
AAK				⇓Lg	Lg	19 46 58.9	
	187nm,0.8s						
AAK	**Ala-Archa**	**7.13**	**284**	Pn	**Pn**	**19 44 53.5**	**-0.4**
	8.1nm,0.3s,baz=119,slow=7.6,SNR=39						
AAK				Lg	Lg	19 46 48.6	
	8.5nm,0.3s,baz=99,slow=19,SNR=7.1						
	15nm,0.4s						
AAK	**Ala-Archa**	**7.13**	**284**	*d*iP	**Pn**	**19 44 53.9**	**-0.1**
SGDS	**Sogindy**	**7.19**	**290**	Pg	Pb	19 45 21.2	+6.8
	23nm,0.5s						
SGDS				Lg	Lg	19 46 54.2	
	86nm,0.5s						
USP	**Ospenovka**	**7.24**	**289**	P	**Pn**	**19 44 54.8**	**-0.5**
	SNR=40					

CHGR Chuyangaron 11.61 262 P Pn 19 45 52.5 -2.8
SIMJ Simiganj 11.72 262 Pn 19 45 53.6 -3.2
GTA Gaotai 12.29 94 P **Pn** **19 46 03.3 -1.4**
GTA pmax pmax
comp=Z,11nm,1.0s
GTA LR LR
comp=N,2μm,11.6s
GTA LR LR
comp=E,840nm,8.4s
GTA LR LR
comp=Z,670nm,15.3s
ZAA0 Zalesovo Array 12.67 2 Pn 19 46 06.7 -2.9
ZALV Zalesovo Beam 12.67 2 Pn 19 46 06.6 -3.0
ZALV Zalesovo Beam 12.67 2 Pn Pn 19 46 06.9 -2.7
2.2nm,0.3s,baz=183,slow=13,SNR=37
ZALV Sn Sn 19 48 21.7 -9.0
2.6nm,0.3s,baz=183,slow=26,SNR=6.5
ZALV Lg Lg 19 49 48.3
baz=167,slow=27
ZALV LR LR 19 51 36.3
comp=Z,216nm,21.6s,baz=193,slow=40
11nm,0.5s
LSA Lhasa 12.99 151 P **Pn** **19 46 15.6 +1.1**
LSA pmax pmax
comp=Z,3.0nm,1.1s
LSA LR LR
comp=N,390nm,12.6s
LSA LR LR
comp=E,380nm,11.9s
LSA LR LR
comp=Z,290nm,14.4s
EVN Everest 13.52 169 **Pn** **19 46 22.8 +0.9**
BVA0 Borovoye Array 14.87 327 ⇑P **Pn** **19 46 43.5 +3.9**
22nm,1.1s,baz=133,slow=12,SNR=18
BVA0 Borovoye Array 14.87 327 P **Pn** **19 46 43.5 +3.9**
BVAR Borovoye Array 14.87 327 Pn Pn 19 46 36.2 -3.4
0.2nm,0.3s,baz=124,slow=13,SNR=19
BVAR Sn Sn 19 49 15.2 -9.1
0.1nm,0.3s,baz=157,slow=19,SNR=1.9
BVAR Lg Lg 19 50 55.0
0.1nm,0.3s,baz=115,slow=28,SNR=3.6
BVAR LR LR 19 52 41.6
comp=Z,623nm,19.7s,baz=136,slow=39
5.8nm,0.6s
MOY Mondy 15.65 43 *e*P **Pn** **19 46 50.9 +0.8**
MOY pmax pmax
comp=Z,18nm,2.2s
ZAK Zakamensk 16.24 49 *e*P **Pn** **19 46 57.5 -0.2**
ZAK pmax pmax
comp=Z,9.0nm,1.4s
LZDM Lanzhou Array 16.36 103 Pn **Pn** **19 46 58.2 -1.3**
comp=Z,3.5nm,0.4s,baz=325,slow=11,SNR=1.5
LZH Lanzhou 16.41 102 *e*P **Pn** **19 47 02.0 +2.0**
LZH sP pP 19 47 08.1 +2.2
LZH pmax pmax
comp=Z,14nm,1.2s
LZH LR LR
comp=Z,1μm,13.1s
LZH LR LR
comp=Z,1μm,13.4s
LZH LR LR
comp=Z,1μm,12.7s
SHL Shillong 17.03 155 **Pn** **19 47 08.2 +0.3**
SHL IAmb IAmb 19 47 12.9
comp=Z,14nm,0.8s
SHL Shillong 17.03 155 P **Pn** **19 47 08.2 +0.3**
SHL pmax pmax
comp=Z,14nm,0.8s
SONM Songino Array 17.28 60 **Pn** **19 47 10.7 -0.2**
SONM Songino Array 17.28 60 P **Pn** **19 47 10.7 -0.2**
comp=Z,0.3nm,0.3s,baz=249,slow=13,SNR=25
SONM Lg Lg 19 52 16.0
comp=Z,0.1nm,0.3s,baz=252,slow=31,SNR=5.7
SONM LR LR 19 53 39.4
comp=Z,145nm,18.2s,baz=176,slow=36
comp=Z,4.1nm,0.8s
SONM Songino Array 17.28 60 P **Pn** **19 47 10.7 -0.2**
SONM pmax pmax
comp=Z,10.0nm,1.4s
IRK Irkutsk 17.68 45 *e*P P 19 47 24.4 +7.9
IRK pmax pmax
comp=Z,29nm,1.5s
ULN Ulaanbaatar 17.72 60 Pn **Pn** **19 47 15.7 -0.7**
ULN Ulaanbaatar 17.72 60 P **Pn** **19 47 15.7 -0.7**
ULN pmax pmax
comp=Z,5.0nm,0.8s
AB31 Akbulak array 18.58 303 **P** **19 47 22.6 -3.9**
AB31 Akbulak array 18.58 303 P **P** **19 47 23.0 -3.5**
comp=Z,3.6nm,0.6s,baz=103,slow=11,SNR=50
AB31 Akbulak array 18.58 303 P **P** **19 47 23.2 -3.3**
ABKAR Akbulak array 18.58 303 **P** **19 47 22.8 -3.7**
CD2 Chengdu 19.07 117 P **P** **19 47 32.0 0.0**
CD2 S **Sn** **19 51 10.4 +4.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,800nm,9.8s
CD2 LR LR
comp=Z,900nm,18.2s
CD2 LR LR
comp=Z,2μm,14.7s
BTO Baotou 19.73 83 *e*P **P** **19 47 38.8 -0.5**
BTO PP **PnPn** **19 47 58.4 +4.1**
BTO S **S** **19 51 22.8 +1.1**
BTO pmax pmax
comp=Z,18nm,0.7s
BTO pmax pmax
comp=Z,400nm,4.3s
BTO LR LR
comp=Z,2μm,5.6s
BTO LR LR
comp=Z,640nm,4.2s
BTO LR LR
comp=Z,2μm,17.0s
AKTO Aktyubinsk 20.12 306 ⇑P **P** **19 47 41.4 -1.9**
comp=Z,5.2nm,0.8s
AKTO Aktyubinsk 20.12 306 P **P** **19 47 40.6 -2.6**
comp=Z,2.8nm,0.6s,baz=104,slow=9.9,SNR=13
AKTO Lg Lg 19 53 41.5
comp=Z,0.1nm,0.3s,baz=27,slow=18,SNR=1.2
comp=Z,2.8nm,0.6s
TNCH TengChong 20.28 139 P **P** **19 47 46.4 +1.0**
TNCH S **S** **19 51 35.0 +2.1**
TNCH pmax pmax
comp=Z,22nm,1.1s
TNCH LR LR
comp=Z,440nm,10.4s
TNCH LR LR
comp=Z,330nm,9.9s
TNCH LR LR
comp=Z,400nm,10.4s
HHC Hu-ho-hao-te 20.84 82 *e*P **P** **19 47 52.6 +1.3**
HHC S **S** **19 51 44.5 +0.8**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,210nm,4.8s
HHC LR LR
comp=Z,890nm,10.3s
HHC LR LR
comp=Z,300nm,9.9s
HHC LR LR
comp=Z,410nm,9.2s
PZH PanZhiHua 20.85 129 P **P** **19 47 51.6 0.0**
XAN Xi'an 21.05 102 ⇓P **P** **19 47 54.1 +0.5**
XAN pP pP 19 47 59.9 +3.2
XAN S **S** **19 51 43.6 -4.4**
XAN pmax pmax
comp=Z,25nm,1.2s
XAN pmax pmax
comp=Z,470nm,4.3s
XAN LR LR
comp=Z,1μm,15.1s
XAN LR LR
comp=Z,1μm,15.8s
XAN LR LR
comp=Z,1μm,15.1s
SVE Sverdlovsk 21.60 324 *e*P **P** **19 47 57.9 -1.3**
SVE *e*S **S** **19 51 58.3 0.0**
SVE pmax pmax
comp=Z,25nm,0.6s
SVE MLR MLR
comp=Z,441nm,16.0s
ARTI Arti 22.39 321 **P** **19 48 04.2 -3.5**
ARTI IAmb IAmb 19 48 43.0
comp=Z,20nm,0.6s
ARTI Arti 22.39 321 P **P** **19 48 05.6 -2.2**
comp=Z,6.8nm,0.6s,baz=132,slow=8.3,SNR=14
ARTI Lg Lg 19 54 52.2
comp=Z,0.1nm,0.3s,baz=197,slow=23,SNR=2.6
ARTI LR LR 19 57 29.1
comp=Z,431nm,18.3s,baz=124,slow=39
comp=Z,6.8nm,0.6s
ARTI Arti 22.39 321 *d i*P **P** **19 48 06.0 -1.7**
ARTI 19 48 29.1
ARTI S **S** **19 52 14.2 +0.7**
ARTI SS **SnSn** **19 52 43.4 +2.1**
ARTI pmax pmax
comp=Z,9.0nm,0.8s
ARTI MLR MLR
comp=Z,352nm,15.0s
KMI Kunming 22.48 130 P **P** **19 48 09.8 +0.6**
KMI pmax pmax
comp=Z,15nm,0.6s
KMI LR LR
comp=Z,560nm,12.8s
KMI LR LR
comp=Z,340nm,10.2s
KMI LR LR
comp=Z,380nm,29.7s
ENH Enshi 23.41 110 P **P** **19 48 19.1 +0.5**
ENH IAmb IAmb 19 48 37.8
comp=Z,32nm,1.1s
GYA Guiyang 23.91 121 ⇓P **P** **19 48 27.3 +3.7**
GYA S **S** **19 52 41.4 +1.4**
GYA pmax pmax
comp=Z,14nm,1.2s
GYA pmax pmax
comp=Z,310nm,4.0s
GYA LR LR
comp=Z,450nm,4.9s
GYA LR LR
comp=Z,240nm,4.0s
GYA LR LR
comp=Z,160nm,4.4s
HNS HongShan 24.08 89 ⇑P **P** **19 48 30.3 +5.3**
HNS pmax pmax
comp=Z,14nm,0.6s
HNS LR LR
comp=N,1μm,14.3s
HNS LR LR
comp=E,400nm,14.3s
HNS LR LR
comp=Z,540nm,12.6s
CHTO Chiang Mai 25.84 146 **P** **19 48 41.4 +0.3**
CHTO IAmb IAmb 19 49 07.2
comp=Z,4.1nm,1.0s
CHTO Chiang Mai 25.84 146 P **P** **19 48 41.4 +0.3**
CHTO pmax pmax
comp=Z,4.0nm,1.0s
CM31 Chiang Mai Arr 26.16 146 P **P** **19 48 44.2 +0.3**
CM31 IAmb IAmb 19 49 15.7
comp=Z,10nm,1.1s
CMAR Chiang Mai Arr 26.16 146 **P** **19 48 43.7 -0.3**
CMAR Chiang Mai Arr 26.16 146 P **P** **19 48 44.0 0.0**
comp=Z,2.7nm,0.8s,baz=324,slow=9.6,SNR=23
comp=Z,2.7nm,0.8s
CMAR Chiang Mai Arr 26.16 146 P **P** **19 48 44.0 0.0**
BELG Belogornoye 26.90 307 *i* P **P** **19 48 48.2 -2.1**
BELG pmax pmax
comp=Z,6.0nm,1.5s
MAK Makhachkala 26.91 286 *e*P P 19 48 43.8 -6.7
MAK *e*S S 19 53 17.6 -10
MAK *e*SS **SnSn** **19 54 29.1 -2.9**
MAK pmax pmax
comp=Z,161nm,1.4s
MAK MLR MLR
comp=Z,389nm,12.0s
KIRV Kirov 27.70 320 LR LR 20 00 35.6
comp=Z,323nm,18.6s,baz=115,slow=38
KIRV Kirov 27.70 320 ⇓*e*P **P** **19 48 57.6 +0.1**
NJ2 Nanjing 29.36 97 *e*P **P** **19 49 13.5 +1.0**
NJ2 pmax pmax
comp=Z,11nm,0.5s
KBZ Khabaz 30.10 289 P **P** **19 49 18.1 -0.8**
comp=Z,0.6nm,0.5s,baz=89,slow=7.8,SNR=1.7
comp=Z,0.6nm,0.5s
KVAR Kislovodsk Arr 30.21 289 LR LR 20 02 54.1
comp=Z,143nm,19.1s,baz=285,slow=39
ZEA Zeya 31.31 52 *e*P **P** **19 49 31.0 +1.4**
ZEA *e* 20 00 07.7
QIZ Qiongzhong 31.35 127 P **P** **19 49 28.8 -1.4**
QIZ S **S** **19 54 37.4 0.0**
QIZ LR LR
comp=Z,340nm,11.6s
QIZ LR LR
comp=Z,350nm,17.8s
QIZ LR LR
comp=Z,170nm,17.4s
KLMR Klimovskoe 33.18 321 *e*P P 19 49 42.4 -3.5
KLMR pmax pmax
comp=Z,16nm,1.4s
KLMR MLR MLR
comp=Z,302nm,12.0s
MARD Mardin 33.34 278 **P** **19 49 47.5 -0.3**
OBN Obninsk 33.74 310 *e*P **P** **19 49 51.8 +1.0**
OBN *e* 19 51 00.5
OBN *e*PPP PPP 19 51 13.8
OBN pmax pmax
comp=Z,10.0nm,0.8s
OBN MLR MLR
comp=Z,222nm,19.0s
KSRS Korea Array 33.98 82 P **P** **19 49 53.4 +0.3**
comp=Z,1.0nm,0.6s,baz=282,slow=9.5,SNR=5.0
comp=Z,1.0nm,0.6s
PALK Pallekele 34.00 186 LR LR 20 05 33.5
comp=Z,108nm,19.3s,baz=13,slow=40
YAK Yakutsk 34.16 37 P **P** **19 49 53.8 -0.5**
YAK Yakutsk 34.16 37 LR LR 20 04 40.0
comp=Z,205nm,18.7s,baz=236,slow=38
YAK Yakutsk 34.16 37 *e*P **P** **19 49 53.4 -0.9**
YAK pmax pmax
comp=Z,9.0nm,0.8s
YAK pmax pmax
comp=N,3.0nm,1.9s
YAK pmax pmax
comp=E,3.0nm,1.1s
RAYN Ar Rayn 36.58 253 P **P** **19 50 14.9 -0.8**
RAYN Ar Rayn 36.58 253 P **P** **19 50 14.9 -0.8**
RAYN pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi 37.59 22 LR LR 20 07 06.1
comp=Z,579nm,19.0s,baz=255,slow=38
BR131 Keskin Array S 37.81 285 **P** **19 50 25.3 -0.8**
BR131 IAmb IAmb 19 50 26.3
comp=Z,4.7nm,0.7s
BR131 Keskin Array S 37.81 285 *d i*P **P** **19 50 25.5 -0.6**
BRTR Keskin Array B 37.81 285 P **P** **19 50 25.6 -0.5**
BRTR Keskin Array B 37.81 285 P **P** **19 50 25.1 -1.0**
comp=Z,3.7nm,0.7s,baz=96,slow=9.0,SNR=17
comp=Z,3.7nm,0.7s
AKASG Malin Array Be 38.33 303 P **P** **19 50 28.1 -2.0**
comp=Z,0.7nm,0.5s,baz=78,slow=7.7,SNR=2.6
comp=Z,0.7nm,0.5s
AKBB Malin Array Si 38.33 303 ⇑*e*P **P** **19 50 31.3 +1.2**
AKBB pmax pmax
comp=Z,24nm,3.0s
ANTO Ankara 38.38 285 P **P** **19 50 30.2 -0.6**
ANTO IAmb IAmb 19 50 30.9
comp=Z,7.7nm,0.8s
ANTO Ankara 38.38 285 P **P** **19 50 30.2 -0.6**
ANTO pmax pmax
comp=Z,8.0nm,0.9s
MMAI Mount Meron Ar 39.09 274 P **P** **19 50 35.4 -1.4**
comp=Z,0.9nm,0.4s,baz=70,slow=9.8,SNR=7.3
MMAI LR LR 20 09 53.8
comp=Z,84nm,18.6s,baz=59,slow=41
comp=Z,0.9nm,0.4s
FINES FINESS Array B 39.70 320 P **P** **19 50 39.7 -1.7**
comp=Z,1.1nm,0.5s,baz=96,slow=8.3,SNR=6.3
FINES LR LR 20 08 08.3
comp=Z,145nm,21.1s,baz=90,slow=38
comp=Z,1.1nm,0.5s
PSI Prapat 40.65 157 LR LR 20 10 09.9
comp=Z,88nm,18.5s,baz=22,slow=40
EIL Elat 41.02 270 LR LR 20 10 56.7
comp=Z,50nm,18.3s,baz=150,slow=41
ARCES ARCESS Array B 41.03 333 P **P** **19 50 51.5 -0.9**
comp=Z,2.1nm,0.6s,baz=101,slow=7.6,SNR=8.5
ARCES LR LR 20 07 33.3
comp=Z,160nm,19.3s,baz=94,slow=36
comp=Z,2.1nm,0.6s
BURAR Bucovina Array 41.48 299 P **P** **19 50 54.9 -1.6**
MLR Muntele Rosu 41.53 296 P **P** **19 50 56.3 -0.7**
MLR IAmb IAmb 19 51 38.9
comp=Z,9.1nm,1.3s
MLR Muntele Rosu 41.53 296 P **P** **19 50 56.3 -0.7**
MLR pmax pmax
comp=Z,9.0nm,1.3s
MJAR Matsushiro Arr 41.95 78 LR LR 20 10 08.8
comp=Z,78nm,19.1s,baz=312,slow=39
MA2 Magadan 44.23 42 LR LR 20 10 44.5
comp=Z,105nm,18.2s,baz=262,slow=38
JHJ Hachijo jima 2 44.59 82 LR LR 20 11 54.1
comp=Z,232nm,18.2s,baz=306,slow=39
SEY Seymchan 44.68 37 LR LR 20 11 15.5
comp=Z,90nm,20.0s,baz=272,slow=38
SEY Seymchan 44.68 37 ⇓*i*P **P** **19 51 22.0 -0.1**
SEY pmax pmax
comp=Z,6.0nm,1.6s
HFS Hagfors 45.82 319 P **P** **19 51 29.9 -1.2**
comp=Z,1.3nm,0.4s,baz=100,slow=7.7,SNR=14
HFS LR LR 20 11 38.5
comp=Z,194nm,21.1s,baz=76,slow=37
comp=Z,1.3nm,0.4s
KRLC Kraliky 46.24 305 AMS AMS 20 11 30.0
comp=Z,200nm,14.4s
DPC Dobruska-Polom 46.45 305 *e*P **P** **19 51 36.1 -0.2**
DPC MLR MLR
comp=Z,200nm,16.4s
DPC Dobruska-Polom 46.45 305 *e*P **P** **19 51 36.1 -0.2**
DPC AMS AMS 20 11 40.0
comp=Z,200nm,16.4s
OSTC Ostas 46.46 306 AMS AMS 20 11 40.0
comp=Z,200nm,16.4s
VRAC Vranov 46.58 304 LR LR 20 12 43.9
comp=Z,133nm,18.3s,baz=81,slow=38
NC405 NORSAR Array S 46.63 321 P **P** **19 51 36.6 -1.0**
NC405 IAmb IAmb 19 52 18.4
comp=Z,12nm,1.2s
NC602 NORSAR Array S 46.77 320 P **P** **19 51 38.0 -0.7**
NB201 NORSAR Array S 46.84 320 P **P** **19 51 38.7 -0.5**
NB201 IAmb IAmb 19 51 51.6
comp=Z,20nm,1.4s
NB2 NORSAR Subarra 46.88 320 P **P** **19 51 38.0 -1.5**
comp=Z,3.3nm,0.9s,baz=80,slow=7.9
NOA NORSAR Array B 46.88 320 P **P** **19 51 38.3 -1.3**
comp=Z,1.1nm,0.7s,baz=80,slow=7.7,SNR=6.2
NOA LR LR 20 10 28.0
comp=Z,124nm,21.0s,baz=75,slow=35
comp=Z,1.1nm,0.7s
NC204 NORSAR Array S 47.05 321 P **P** **19 51 40.2 -0.8**
NAO01 NORSAR Array S 47.07 320 P **P** **19 51 40.2 -0.8**
CONA Conrad Observa 47.46 302 *e*P **P** **19 51 43.7 -0.5**
comp=Z,1.1nm,0.5s
PVCC Panska Ves 47.47 306 AMS AMS 20 12 30.0
comp=Z,200nm,17.9s
PRU Pruhonice 47.65 305 AMS AMS 20 12 30.0
comp=Z,200nm,15.7s
PRA Prague 47.69 305 AMS AMS 20 12 30.0
comp=Z,200nm,19.3s
CKRC Cesky Krumlov 48.16 304 *e*P **P** **19 51 49.6 0.0**
CKRC MLR MLR
comp=Z,200nm,15.4s
CKRC Cesky Krumlov 48.16 304 *e*P **P** **19 51 49.6 0.0**
CKRC AMS AMS 20 15 30.0
comp=Z,200nm,15.4s
SOKA Soboth 48.40 301 *e*P **P** **19 51 50.4 -1.2**
comp=Z,0.9nm,0.4s
KHC Kasperske Hory 48.51 304 *e*P **P** **19 51 52.0 -0.4**
KHC MLR MLR
comp=Z,200nm,15.6s
KHC Kasperske Hory 48.51 304 *e*P **P** **19 51 52.0 -0.4**
KHC AMS AMS 20 13 10.0
comp=Z,200nm,15.6s
GERES GERESS Array B 48.53 304 P **P** **19 51 51.6 -1.0**
comp=Z,0.8nm,0.8s,baz=74,slow=7.1,SNR=7.3
GERES LR LR 20 13 53.6
comp=Z,172nm,19.5s,baz=72,slow=38
comp=Z,0.8nm,0.8s
OBKA Obir 48.77 301 *e*P **P** **19 51 53.5 -1.0**
comp=Z,1.5nm,0.5s
PETK Petropavlovsk- 49.37 50 LR LR 20 12 44.6
comp=Z,76nm,21.0s,baz=276,slow=36
DAV Davao City (W) 50.29 121 LR LR 20 14 41.7
comp=Z,137nm,19.3s,baz=5.0,slow=38
WTTA Wattenberg 50.37 303 *i* P **P** **19 52 06.2 -0.6**
comp=Z,5.6nm,0.7s
SQTA Sankt Quirin 50.66 303 *i* P **P** **19 52 07.8 -1.1**
comp=Z,3.5nm,0.4s
MOTA Moosalm 50.68 303 *i* P **P** **19 52 07.9 -1.2**
comp=Z,4.3nm,0.8s
FURI Furi 51.28 244 LR LR 20 17 46.8
comp=Z,68nm,19.8s,baz=36,slow=41
DAVOX Davos/Dischmat 51.67 303 LR LR 20 16 07.3
comp=Z,175nm,18.1s,baz=68,slow=38
JMIC Jan Mayen 52.35 336 LR LR 20 14 49.2
comp=Z,66nm,21.1s,baz=47,slow=36
VAE Valguarnera 52.52 290 LR LR 20 19 12.9
comp=Z,28nm,20.8s,baz=148,slow=41
LEM Lembang 52.60 150 LR LR 20 19 57.0
comp=Z,57nm,18.3s,baz=176,slow=42
BMRD Maredsous 53.44 308 *d*P P 19 52 26.3 -3.0
BNI Bardonecchia 54.41 302 P **P** **19 52 35.5 -1.2**
BNI IAmb IAmb 19 52 44.6
comp=Z,5.1nm,0.9s
BNI Bardonecchia 54.41 302 P **P** **19 52 35.5 -1.2**
BNI pmax pmax
comp=Z,5.0nm,0.9s
EKA Eskdalemuir Ar 55.83 316 P **P** **19 52 44.7 -1.9**
comp=Z,1.1nm,0.7s,baz=83,slow=9.3,SNR=10.0
comp=Z,1.1nm,0.7s
KAPI Kappang 56.55 136 LR LR 20 19 45.9
comp=Z,71nm,18.4s,baz=308,slow=39
KEST Kesra 56.93 291 LR LR 20 20 57.3
comp=Z,52nm,21.0s,baz=332,slow=40
SHEM Shemya Is, Ala 58.65 45 LR LR 20 19 43.8
comp=Z,106nm,18.3s,baz=300,slow=38
BORG Borgarnes 59.40 331 LR LR 20 20 38.6
comp=Z,74nm,18.4s,baz=294,slow=38
GUMO Guam 59.41 99 LR LR 20 20 18.2
comp=Z,52nm,19.3s,baz=284,slow=38
BATI Baumata 62.98 135 LR LR 20 23 19.2
comp=Z,102nm,19.1s,baz=298,slow=38
ESDC Sonseca Array 63.91 301 P **P** **19 53 41.0 -1.5**
comp=Z,1.5nm,0.9s,baz=51,slow=6.1,SNR=10
ESDC LR LR 20 25 14.4
comp=Z,51nm,18.3s,baz=40,slow=40
comp=Z,1.5nm,0.9s
SFJD Kangerlussuaq 66.61 342 LR LR 20 27 40.7
comp=Z,76nm,18.1s,baz=78,slow=40
ILAR Eielson Array 67.06 21 P **P** **19 54 01.6 -0.8**
comp=Z,0.8nm,0.9s,baz=308,slow=5.0,SNR=6.4
ILAR LR LR 20 27 19.1
comp=Z,130nm,19.4s,baz=256,slow=40
comp=Z,0.8nm,0.9s
INK Inuvik 67.18 14 LR LR 20 26 24.3
comp=Z,58nm,20.0s,baz=292,slow=39
KDAK Kodiak Island 70.59 28 LR LR 20 27 47.5
comp=Z,122nm,18.7s,baz=316,slow=38
FRB Frobisher Bay 73.03 348 LR LR 20 29 27.5
comp=Z,97nm,18.7s,baz=80,slow=38
YKA Yellowknife Ar 75.49 9 LR LR 20 30 30.0
comp=Z,56nm,20.1s,baz=304,slow=38
TORD Torodi Ar. Bea 75.63 275 P **P** **19 54 52.8 -2.2**
comp=Z,1.3nm,0.5s,baz=40,slow=5.2,SNR=5.4
comp=Z,1.3nm,0.5s
LSZ Lusaka 76.25 235 LR LR 20 31 12.0
comp=Z,56nm,19.1s,baz=70,slow=38
DLBC Dease Lake 76.69 18 LR LR 20 31 50.5
comp=Z,388nm,18.8s,baz=46,slow=38
WRAB Tennant Creek 76.79 132 ⇓*e*P **P** **19 55 00.7 -0.6**
WRAB pmax pmax
comp=Z,12nm,1.6s
WRA Warramunga Arr 76.79 132 P **P** **19 55 00.7 -0.6**
comp=Z,0.6nm,0.6s,baz=329,slow=5.5,SNR=11
comp=Z,0.6nm,0.6s
ASAR Alice Springs 79.54 134 P **P** **19 55 16.4 -0.1**
comp=Z,0.5nm,0.5s,baz=324,slow=5.4,SNR=5.7
ASAR LR LR 20 33 17.5
comp=Z,64nm,18.2s,baz=112,slow=38
comp=Z,0.5nm,0.5s
SCHQ Schefferville 81.03 343 LR LR 20 35 26.0
comp=Z,394nm,18.2s,baz=74,slow=39
BBB Bella Bella 82.84 19 LR LR 20 35 39.0
comp=Z,77nm,18.4s,baz=342,slow=38
LBTB Lobatse 85.25 231 LR LR 20 36 20.9
comp=Z,24nm,18.8s,baz=37,slow=38
TSUM Tsumeb 85.92 240 LR LR 20 35 53.3
comp=Z,49nm,19.7s,baz=66,slow=37
BOSA Boshof 88.19 229 LR LR 20 35 34.6

comp=Z,19nm,20.8s,baz=13,slow=36
NEW Newport 88.90 14 LR LR 20 38 27.1
comp=Z,25nm,20.8s,baz=52,slow=37
SADO Sadowa 92.97 348 LR LR 20 42 06.5
comp=Z,324nm,18.3s,baz=61,slow=38
PDAR Pinedale Array 95.44 10 LR LR 20 45 13.4
comp=Z,30nm,18.9s,baz=349,slow=39
NVAR Mina Array Bea 98.10 17 LR LR 20 46 20.5
comp=Z,46nm,18.7s,baz=268,slow=39

GCG 19 19:52:00.4±0.3, 13°72'N×90°79'W, h41km±97km, MD3.8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FG16	**Alotenango, Sa**	**0.62**	**26**	*i* P	Pn	19 52 15.1	+2.1
ESSG	**Sabana Grande**	**0.67**	**357**	*i* P	Pn	19 52 13.6	+0.1
JAYA	**Jayaque - finc**	**1.30**	**92**	*e*P	Pn	19 52 22.1	-0.2

*BUT **19** 19:54:31.7±0.7, 45°.86N±0°.01×111°.37W±0°.02, h3km±5km, Error ellipse: s-maj=2.1km s-min=1.1km az=132.0*
NEIC 19 19:54:31.3±0.8, 45°.86N±0°.01×111°.38W±0°.02, h5km±3km, ML2.5/38, ML2.8/20(BUT), Error ellipse: s-maj=2.5km s-min=2.0km az=95.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NQMA	**Gallatin River**	**0.05**	**34**		Pg	19 54 33.1	+0.2
NQMA					Sg	19 54 34.2	+0.2
SXM	**Sixmile**	**0.31**	**22**		Pg	19 54 37.7	+0.2
SXM					Sg	19 54 42.2	+0.6
BOZ	**Bozeman (W)**	**0.32**	**214**		Pg	19 54 38.0	+0.4
BOZ					Sg	19 54 42.4	+0.6
BOZ	**Bozeman (W)**	**0.32**	**214**	IAML		19 54 42.6	
	411nm,0.4s						
BOZ				IAML		19 54 42.6	
	850nm,0.3s						
BZMT	**Bozeman Pass**	**0.46**	**117**		Pg	19 54 40.7	+0.5
MSMT	**Mission Creek**	**0.75**	**107**		Pg	19 54 46.0	+0.2
LRM	**Limekiln Ridge**	**0.75**	**267**		Pg	19 54 46.0	+0.2
BGMT	**Barton Gulch**	**0.78**	**217**		Pg	19 54 46.7	+0.3
BUT	**Butte**	**0.84**	**281**		Pg	19 54 47.8	+0.3
HBMT	**Mount Humbug**	**0.86**	**266**		Pg	19 54 48.1	+0.1
HRY	**Holter Researc**	**0.91**	**340**		Pg	19 54 48.7	-0.1
DLMT	**Dillon**	**0.99**	**240**		Pg	19 54 50.3	0.0
YMV	**Mammoth Vault**	**1.01**	**151**		Pg	19 54 50.8	+0.1
YHL	**Hebgen Lake**	**1.02**	**172**		Pg	19 54 50.7	-0.2
YHL	**Hebgen Lake**	**1.02**	**172**	IAML		19 55 08.9	
	comp=N,200nm,0.6s						
QLMT	**Earthquake Lak**	**1.03**	**182**		Pg	19 54 51.0	-0.1
GCR	**Grayling Creek**	**1.08**	**170**		Pg	19 54 52.0	-0.1
BEMT	**Mount Belmont**	**1.11**	**324**		Pg	19 54 52.6	0.0
YHB	**Horse Butte**	**1.12**	**173**		Pg	19 54 52.9	+0.1
YHB	**Horse Butte**	**1.12**	**173**	IAML		19 55 10.8	
	comp=E,187nm,0.5s						
YMC	**Maple Creek**	**1.13**	**167**		Pg	19 54 52.7	-0.3
YHH	**Holmes Hill**	**1.13**	**161**		Pg	19 54 52.6	-0.5
TPMT	**Tepee Creek**	**1.15**	**190**		Pg	19 54 53.5	+0.1
YPDC	**Denny Creek**	**1.16**	**175**		Pg	19 54 53.3	-0.1
YMR	**Madison River**	**1.23**	**166**		Pg	19 54 54.4	-0.4
YMR	**Madison River**	**1.23**	**166**	IAML		19 55 15.3	
	comp=N,157nm,0.3s						
YMR				IAML		19 55 16.4	
	comp=E,144nm,0.3s						
YNR	**Norris Junctio**	**1.25**	**157**		Pg	19 54 55.1	-0.1
YNR				IAML		19 55 16.7	
	comp=N,62nm,0.5s						
YNR				IAML		19 55 21.6	
	comp=E,59nm,0.5s						
YPM	**Purple Mountai**	**1.26**	**163**		Pn	19 54 56.0	+0.2
YPWB	**West Boundary**	**1.27**	**171**		Pg	19 54 55.7	+0.1
LYMT	**Lyon Mountain**	**1.28**	**331**		Pb	19 54 55.9	-0.1
YNE	**Yellowstone No**	**1.29**	**131**		Pg	19 54 55.2	-0.8
YNE				IAML		19 55 16.6	
	comp=E,139nm,0.3s						
MOMT	**Monida**	**1.46**	**210**		Pg	19 54 59.4	+0.1
YFT	**Old Faithful**	**1.46**	**165**		Pn	19 54 57.2	-1.4
MCMT	**McKenzie Canyo**	**1.47**	**226**		Pb	19 54 58.9	-0.3
YPK	**Parker Peak, Y**	**1.52**	**137**		Pn	19 54 59.9	+0.3
BPMT	**Black Pine Rid**	**1.55**	**293**		Pb	19 55 00.3	-0.4
YPP	**Pitchstone Pla**	**1.64**	**166**		Pn	19 55 00.6	-0.4
OVMT	**Ovando**	**1.65**	**318**		Pn	19 55 01.2	+0.2
RLMT	**Red Lodge**	**1.66**	**116**		Pb	19 55 01.9	-0.5
MSO	**Missoula**	**2.02**	**300**		Pn	19 55 04.5	-1.7
MSO				IAML		19 55 39.4	
	comp=E,64nm,0.5s						
MSO				IAML		19 55 39.8	
	comp=E,59nm,0.6s						
LOHW	**Long Hollow**	**2.31**	**166**		Pn	19 55 11.8	+1.5
TPAW	**Teton Pass**	**2.39**	**173**		Pb	19 55 14.5	-0.4
TPAW				IAML		19 55 48.2	
	comp=E,18nm,0.7s						
TPAW				IAML		19 55 59.1	
	comp=E,20nm,0.9s						
SNOW	**Snow King Moun**	**2.44**	**169**	Pn	Pn	19 55 12.8	+0.8
SNOW				IAML		19 55 41.8	
	comp=E,16nm,2.4s						
SNOW				IAML		19 56 01.5	
	comp=E,19nm,0.5s						
JTMT	**Jette**	**2.75**	**314**		Pn	19 55 15.4	-0.7
HLID	**Hailey**	**3.16**	**224**	Pg	Pb	19 55 29.7	+1.7
HLID				IAML		19 56 11.3	
	comp=E,17nm,0.4s						
HLID				IAML		19 56 16.3	
	comp=E,15nm,0.8s						
PLID	**Pearl Lake**	**3.34**	**258**		Pb	19 55 31.8	+0.6
PLID				IAML		19 56 19.6	
	comp=E,8.7nm,0.6s						
PLID				IAML		19 56 21.6	
	comp=E,8.1nm,0.4s						
LAO	**LASA Array**	**3.67**	**75**		Pn	19 55 28.6	-0.1
MFID	**Camas Ranch**	**4.01**	**234**		Pn	19 55 34.2	+0.8
BMO	**Blue Mountains**	**4.30**	**259**	Pg	Pb	19 55 50.2	+2.8
BMO				IAML		19 57 15.1	
	comp=E,5.6nm,4.9s						
BMO				IAML		19 57 25.7	
	comp=E,4.6nm,4.9s						

*IDC **19** 19:55:43.0±7.1, 21°.60N×143°.37E, h315km±73km, mb3.0/8, mbtmp3.7/9, Error ellipse: s-maj=42.2km s-min=16.0km az=84.0*
ISC 19 19:55:41.6±1.2, 21°.6N±0°.1×143°.4E±0°.3, h300km, n9, σ0851/9, mb3.2/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**15.56**	**344**	P	**P**	**19 59 05.0**	**+0.3**
	0.9nm,0.6s,baz=167,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**42.21**	**193**	P	**P**	**20 03 06.0**	**+0.2**
	0.2nm,0.2s,baz=11,slow=8.2,SNR=15						
	0.2nm,0.2s						
ASAR	**Alice Springs**	**45.91**	**192**	P	**P**	**20 03 35.1**	**0.0**
	0.1nm,0.3s,baz=12,slow=7.2,SNR=1.4						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**54.89**	**313**	P	**P**	**20 04 41.5**	**-0.2**
	0.1nm,0.4s,baz=88,slow=10,SNR=2.1						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**57.71**	**317**	P	**P**	**20 05 01.3**	**-0.1**
	0.6nm,0.4s,baz=93,slow=7.5,SNR=6.8						
	0.6nm,0.4s						
ILAR	**Eielson Array**	**62.06**	**27**	P	**P**	**20 05 30.4**	**-0.1**
	0.2nm,0.5s,baz=259,slow=5.3,SNR=1.7						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**62.86**	**320**	P	**P**	**20 05 36.2**	**+0.3**
	1.1nm,0.3s,baz=95,slow=7.8,SNR=7.3						
	1.1nm,0.3s						
ARCES	**ARCESS Array B**	**79.08**	**342**	P	**P**	**20 07 13.3**	**+0.7**
	2.4nm,0.8s,baz=61,slow=5.9,SNR=1.6						
	2.4nm,0.8s						
FINES	**FINESS Array B**	**83.35**	**335**	P	**P**	**20 07 34.1**	**-0.9**
	1.6nm,0.8s,baz=88,slow=4.4,SNR=5.3						
	1.6nm,0.8s						

UPA 19 20:05:46.7±1.6, 8°.34N×82°.86W, h23km±7km, MW2.2, 1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LMNES	**Limones**	**0.24**	**180**	*e*S	Sb	20 06 02.1	+5.5
PIRO	**Carate, Puerto**	**0.47**	**278**	*e*S	Sb	20 06 03.5	+0.4
BRU2	**Volcan**	**0.48**	**20**	*e*S	Sb	20 06 04.3	+0.9
TBS2		**0.49**	**24**	*e*P	Pb	20 05 57.6	+0.8
BQTLY	**Boquete Panama**	**0.57**	**44**	*e*P	Pb	20 05 58.3	0.0
BQTLY				*e*S	Sb	20 06 06.7	+0.6
RBALA	**Bur**	**0.88**	**52**	*i*P	Pb	20 06 02.8	-0.5
RBALA				*e*S	Sb	20 06 14.6	-0.1
KKNTU	**Kakint²**	**1.16**	**64**	*e*S	Sb	20 06 21.5	-1.1

IDC 19 20:35:32.2±5.2, 27°.71N×143°.33E, h0km, mb3.9/5, mbtmp3.8/6, ML2.9/1, Error ellipse: s-maj=116.5km s-min=96.1km az=80.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**9.82**	**335**	Pn	Pn	20 37 54.0	-0.7
	0.1nm,0.3s,baz=150,slow=12,SNR=5.2						
	0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**49.70**	**319**	P	P	20 44 26.5	+0.7
	0.5nm,0.4s,baz=98,slow=6.0,SNR=2.5						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**50.88**	**309**	P	P	20 44 34.1	-0.8
	0.2nm,0.5s,baz=96,slow=8.9,SNR=1.7						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**53.35**	**314**	P	P	20 44 53.2	0.0
	0.6nm,0.3s,baz=96,slow=7.6,SNR=5.2						
	0.6nm,0.3s						
BVAR	**Borovoye Array**	**58.29**	**317**	P	P	20 45 28.6	0.0
	1.1nm,0.3s,baz=101,slow=8.0,SNR=8.1						
	1.1nm,0.3s						
ARCES	**ARCESS Array B**	**73.30**	**341**	P	P	20 47 05.0	-0.2
	2.5nm,0.8s,baz=64,slow=5.8,SNR=1.0						
	2.5nm,0.8s						
FINES	**FINESS Array B**	**77.85**	**334**	P	P	20 47 26.8	-4.5
	2.8nm,0.9s,baz=62,slow=5.5,SNR=3.6						

*DJA **19** 21:01:16.8±0.3, 11°S±3°×11°9E±°, h10km, M4.0/12, mb4.2/9, MLv3.9/12*
ISC 19 21:01:16.8±1.1, 11°.41S±0°.09×119°.24E±0°.08, h10km, n19, σ1904/19, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.76**	**5**	P	**Pn**	**21 01 47.3**	**-0.2**
BASI	**Baing, Sumba**	**1.77**	**48**	P	**Pn**	**21 01 47.3**	**-0.2**
WSI	**Waingapu**	**2.02**	**31**	P	**Pn**	**21 01 51.0**	**0.0**
PLAI	**Plampang**	**2.94**	**331**	P	**Pn**	**21 02 03.9**	**+0.2**
PLAI	**Plampang**	**2.94**	**331**	P	**Pn**	**21 02 03.9**	**+0.2**
TWSI	**Taliwang, Sumb**	**3.53**	**319**	P	**Pn**	**21 02 11.7**	**0.0**
EDFI	**Ende, Flores**	**3.58**	**43**	P	**Pn**	**21 02 11.4**	**-1.1**
MMRI	**Maumere**	**4.04**	**47**	P	**Pn**	**21 02 17.7**	**-1.1**
BATI	**Baumata**	**4.51**	**75**	P	**Pn**	**21 02 28.3**	**+3.1**
SRBI	**Singaraja**	**5.16**	**309**	P	**Pn**	**21 02 34.8**	**+0.6**
	0.2nm32nm,1.3s						
BSSI	**Bau Bau, Buton**	**5.38**	**13**	P	**Pn**	**21 02 36.7**	**-0.5**
	50nm,1.4s						
JAGI	**Jajag, Banyuwa**	**5.80**	**300**	P	**Pn**	**21 02 43.1**	**+0.1**
JAGI	**Jajag, Banyuwa**	**5.80**	**300**	P	**Pn**	**21 02 41.1**	**-1.9**
	0.2nm7.6nm,0.5s						
PCJI	**Pacitan**	**8.56**	**291**	P	**Pn**	**21 03 21.4**	**+0.4**
	30nm,1.3s						
FITZ	**Fitzroy Crossi**	**9.08**	**138**	P	**Pn**	**21 03 28.0**	**-0.1**
MBWA	**Marble Bar**	**9.71**	**177**	P	**Pn**	**21 03 36.7**	**+0.1**
PSA00	**Pilbara Seismi**	**10.12**	**177**	P	**Pn**	**21 03 42.7**	**+0.4**
MEEK	**Meekatharra**	**15.16**	**182**	P	**Pn**	**21 04 50.4**	**-0.8**
MORW	**Morawa**	**17.82**	**189**	P	**P**	**21 05 26.1**	**+0.3**

*GEN **19** 22:00:27.3, 45°.88N×7°.03E, h6km±1km, Ml0.9*
*ROM **19** 22:00:27.6±0.2, 45°.87N±0°.01×7°.02E±0°.01, h10km, ML1.0/10, Error ellipse: s-maj=1.3km s-min=0.9km az=316.0*
*ZUR **19** 22:00:28.2, 45°.88N×7°.01E, h3km, MLh0.8/17, Error ellipse: s-maj=1741.4km s-min=663.4km az=111.0*
*LDG **19** 22:00:28.2±0.1, 45°.87N×7°.03E, h5km, Ml1.7/9, Error ellipse: s-maj=1.4km s-min=1.0km az=95.0*
STR 19 22:00:28.3±0.4, 46°N±3°×°±°, h6km, MLv1.1/7, 9C-3D, LOCSAT earthModelID alpes_taup-2.11 preliminary, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MFERR	**Prayon, Val Fe**	**0.10**	**40**	⇓P	Pg	22 00 30.6	0.0
MFERR					Sg	22 00 32.1	-0.2
REMY	**Saint-Rhmy-en**	**0.10**	**109**	⇑P	Pg	22 00 30.9	+0.2
REMY					Sg	22 00 32.7	+0.4
REMY	**Saint-Rhmy-en**	**0.10**	**109**	P	Pg	22 00 30.9	+0.2
REMY					Sg	22 00 32.7	+0.4
REMY	**Saint-Rhmy-en**	**0.10**	**109**	⇑P	Pg	22 00 30.9	+0.2
REMY				S	Sg	22 00 32.7	+0.4
REMY				AML	AML		
	comp=E,164μm,0.7s						
REMY				AML	AML		
	comp=N,291μm,0.4s						
REMY				AML	AML		
	comp=E,143μm,0.1s						
REMY				AML	AML		
	comp=N,215μm,0.1s						
REMY	**Saint-Rhmy-en**	**0.10**	**109**	Pg	Pg	22 00 30.8	+0.1
REMY					Sg	22 00 32.6	+0.3
MRGE	**Morge**	**0.11**	**163**	P	Pg	22 00 30.7	0.0
MRGE				S	Sg	22 00 32.6	+0.3
MRGE	**Morge**	**0.11**	**163**	P	Pg	22 00 30.7	0.0
MRGE				S	Sg	22 00 32.5	+0.2
MRGE				AML	AML		
	comp=E,242μm,0.1s						
MRGE				AML	AML		
	comp=N,330μm,0.1s						
MRGE				AML	AML		
	comp=E,242μm,0.1s						
MRGE				AML	AML		
	comp=N,329μm,0.1s						
OGSI	**Sixt**	**0.27**	**317**	⇑P	Pg	22 00 33.1	-0.4
OGSI					Sg	22 00 36.7	-0.4
OGSI	**Sixt**	**0.27**	**317**	P	Pg	22 00 33.1	-0.4
OGSI					Sg	22 00 36.7	-0.5
SALAN	**Lac Salanfe**	**0.27**	**354**	⇑P	Pg	22 00 33.8	0.0
SALAN					Sg	22 00 37.3	-0.1
FULLY	**Reservoir Maze**	**0.30**	**16**	⇑P	Pg	22 00 34.2	+0.1
FULLY					Sg	22 00 37.9	-0.2
RSL	**Roselend**	**0.33**	**236**	⇓P	Pg	22 00 34.7	0.0
RSL					Sg	22 00 38.9	-0.2
RSL	**Roselend**	**0.33**	**236**	P	Pg	22 00 34.7	0.0
RSL				S	Sg	22 00 39.0	-0.2
RSL	**Roselend**	**0.33**	**236**	Pg	Pg	22 00 34.7	0.0
RSL				Sg	Sg	22 00 38.9	-0.2
DIX	**Grande Dixence**	**0.34**	**53**	Pg	Pg	22 00 35.0	-0.1
DIX				Sg	Sg	22 00 39.5	-0.1
DIX	**Grande Dixence**	**0.34**	**53**	P	Pg	22 00 35.0	-0.1
DIX				S	Sg	22 00 39.5	-0.1
DIX	**Grande Dixence**	**0.34**	**53**	⇓P	Pg	22 00 35.1	0.0
DIX				S	Sg	22 00 39.6	0.0
DIX				AML	AML		
	comp=E,58μm,0.2s						
DIX	**Grande Dixence**	**0.34**	**53**	Pg	Pg	22 00 35.0	-0.1
DIX				Sg	Sg	22 00 39.7	0.0
ILLEZ	**Chalet Vouargn**	**0.35**	**351**	⇑P	Pg	22 00 35.1	0.0
GRYON	**Gryon**	**0.38**	**10**	⇑P	Pg	22 00 35.8	0.0
GRYON					Sg	22 00 40.7	-0.2
LPL	**La Plagne**	**0.41**	**209**	*e*Pg	Pg	22 00 36.3	+0.1
LPL				*e*Sg	Sg	22 00 40.2	-1.4
	comp=E,2.5nm,0.2s						
LPG	**La Plagne**	**0.42**	**207**	*e*Pg	Pg	22 00 36.4	-0.1
LPG				*e*Sg	Sg	22 00 41.4	-0.6
	comp=E,3.9nm,0.2s						
LSD	**Lago del Serru**	**0.42**	**169**	⇑P	Pg	22 00 36.4	-0.1
LSD					Sg	22 00 41.8	-0.2
LSD	**Lago del Serru**	**0.42**	**169**	P	Pg	22 00 36.4	-0.1
LSD				S	Sg	22 00 41.9	-0.1
LSD	**Lago del Serru**	**0.42**	**169**	P	Pg	22 00 36.4	0.0
LSD				S	Sg	22 00 41.9	-0.2
LSD				AML	AML		
	comp=E,116nm,1.5s						
LSD				AML	AML		
	comp=N,13μm,1.1s						
LSD				AML	AML		
	comp=N,10μm,0.1s						
LSD	**Lago del Serru**	**0.42**	**169**	Pg	Pg	22 00 36.4	0.0
LSD				Sg	Sg	22 00 41.8	-0.2
AIGLE	**Aigle**	**0.47**	**355**	Pg	Pg	22 00 37.5	+0.1
RAW2	**Sanetsch, VS**	**0.49**	**25**	⇑P	Pg	22 00 37.9	+0.1
SENIN	**Lac Senin/Sane**	**0.53**	**22**	P	Pg	22 00 38.5	0.0
SENIN				S	Sg	22 00 45.6	+0.1
TRAV	**Traversella**	**0.62**	**125**	P	Pg	22 00 40.0	-0.3
TRAV				AML	AML		
	comp=E,8μm,0.1s						
TRAV				AML	AML		
	comp=N,12μm,0.1s						
TRAV	**Traversella**	**0.62**	**125**	Pg	Pg	22 00 40.0	-0.3
TRAV				Sg	Sg	22 00 48.4	-0.1
MMK	**Mattmark**	**0.68**	**75**	P	Pg	22 00 41.5	0.0
MMK				S	Sg	22 00 50.3	-0.1
RSP	**Reno Superiore**	**0.74**	**166**	P	Pg	22 00 42.5	0.0
RSP	**Reno Superiore**	**0.74**	**166**	Pg	Pg	22 00 42.4	-0.1
RSP				Sg	Sg	22 00 52.7	+0.4
OGSM	**Saint Maurice**	**0.96**	**255**	Pg	Pg	22 00 46.9	+0.2
RRL	**Rocca Remolon**	**0.96**	**190**	P	Pg	22 00 46.1	-0.7
RRL				S	Sg	22 00 59.2	-0.1
RRL	**Rocca Remolon**	**0.96**	**190**	Pg	Pg	22 00 46.7	-0.1
CABF	**La Chapelle**	**0.98**	**319**	*e*Pg	Pb	22 00 47.6	-0.1
CABF				*e*Sg	Sg	22 01 00.3	+0.4
	comp=N,4.0nm,0.4s						
OG35	**Corcelles**	**1.02**	**280**	Pg	Pg	22 00 48.1	+0.2
OG35					Sg	22 01 01.6	+0.5
MBDF	**Montbardon**	**1.16**	**189**	*e*Pg	Pg	22 00 49.5	-1.0
MBDF				*e*Sg	Sg	22 01 04.1	-1.4
	comp=N,0.5nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.25**	**220**	*e*Pg	Pg	22 00 51.0	-1.2
ORIF				*e*Sg	Sb	22 01 08.6	0.0
	comp=N,2.2nm,0.2s						
VIVF	**Saint-Julien-l**	**1.94**	**239**	*e*Pn	Pn	22 01 00.4	-1.4
VIVF				*e*Sg	Sb	22 01 29.4	+0.9
	comp=N,2.6nm,0.3s						
HINF	**Hinteralfeld**	**1.95**	**357**	*e*Sg	Sg	22 01 30.2	-0.7
	comp=N,0.3nm,0.2s						
SMF	**Signal de Mont**	**2.33**	**290**	*e*Sg	Sg	22 01 42.2	-1.1
	comp=N,1.9nm,0.3s						
LOR	**Lormes**	**2.59**	**304**	*e*Sg	Sg	22 01 49.3	-2.1
	comp=N,1.0nm,0.3s						
AVF	**Avril sur Loir**	**2.70**	**291**	*e*Sg	Sg	22 01 53.0	-2.0
	comp=N,0.2nm,0.2s						

*NOU **19** 22:11:13.8, 14°.90S×166°.96E, h67km, MLv4.8/14, Vanuatu Islands*
*IDC **19** 22:11:13.3±5.7, 14°.97S×167°.01E, h85km±51km, mb3.5/5, mbtmp3.9/6, ML4.4/1, Error ellipse: s-maj=36.6km s-min=33.6km az=178.0*
ISC 19 22:11:10.8±1.2, 14°.8S±0°.1×166°.7E±0°.1, h50km, n13, σ2501/14, mb3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.86**	**141**	P	**Pn**	**22 11 28.0**	**+1.4**
SANVU	**Saraoutou**	**0.86**	**141**	S	**Sn**	**22 11 40.3**	**+2.2**
DVP	**Devils Point**	**3.28**	**154**	P	**Pn**	**22 11 59.3**	**-0.4**
YATNC	**Mamie plateau,**	**7.25**	**178**	P	**Pn**	**22 12 54.9**	**+0.7**
DZM	**Mont Dzumac**	**7.26**	**182**	P	**Pn**	**22 12 56.1**	**+1.7**
	6.1nm,0.3s,baz=338,slow=19,SNR=43						
DZM				S	**Sn**	**22 14 11.8**	**-3.7**
	19nm,0.5s,baz=90,slow=20,SNR=9.5						
	25nm,0.5s						
DZM	**Mont Dzumac**	**7.26**	**182**	P	**Pn**	**22 12 56.1**	**+1.7**
ONTNC	**Ouen Toro**	**7.50**	**181**	P	**Pn**	**22 12 58.5**	**+1.0**
OUENC	**Ouen Island, N**	**7.61**	**179**	P	**Pn**	**22 13 01.0**	**+2.0**
STKA	**Stephens Creek**	**28.51**	**229**	P	**P**	**22 17 01.7**	**+0.1**
	1.3nm,0.5s,baz=31,slow=12,SNR=3.2						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**31.23**	**256**	P	**P**	**22 17 27.5**	**+1.6**
	0.9nm,0.6s,baz=86,slow=9.2,SNR=12						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**32.10**	**249**	P	**P**	**22 17 35.3**	**+1.8**
	0.7nm,0.8s,baz=90,slow=8.8,SNR=5.1						
	0.7nm,0.8s						
VNDA	**Vanda**	**62.80**	**181**	P	**P**	**22 21 28.9**	**-1.8**
	0.3nm,0.5s,baz=23,slow=7.7,SNR=3.8						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**86.75**	**18**	P	**P**	**22 23 47.4**	**-1.8**
	0.5nm,0.9s,baz=231,slow=5.9,SNR=4.6						
	0.5nm,0.9s						

*DJA **19** 22:22:37.1±0.3, 4°S±2°×12°9E±°, h10km, M3.7/10, MLv3.7/10*
*IDC **19** 22:22:37.8±1.9, 3°.79S×129°.21E, h0km, mb3.6/3, mbtmp3.7/5, ML3.5/2, Error ellipse: s-maj=112.2km s-min=24.5km az=73.0*
ISC 19 22:22:37.6±0.8, 3°.65S±0°.06×128°.80E±0°.04, h10km, n12, σ2511/17, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.33**	**23**	P	**Pg**	**22 22 42.9**	**-1.2**
MSAI				S	**Sg**	**22 22 47.6**	**-0.9**
AAI	**Ambon**	**0.61**	**266**	P	**Pg**	**22 22 48.9**	**-0.5**
AAI				S	**Sb**	**22 22 57.8**	**-1.2**
BNDI	**Bandanaira**	**1.40**	**128**	P	**Pn**	**22 23 01.1**	**-2.1**
NLAI	**Namlea**	**1.75**	**283**	P	**Pn**	**22 23 08.1**	**+0.1**
NLAI				S	**Sn**	**22 23 28.8**	**-1.6**
SANI	**Sanana**	**3.23**	**299**	P	**Pn**	**22 23 26.5**	**-1.9**
SANI				S	**Sn**	**22 24 05.2**	**-1.7**
FAKI	**Fak Fak**	**3.52**	**78**	P	**Pn**	**22 23 33.3**	**+0.9**
SWI	**Sorong**	**3.70**	**42**	P	**Pn**	**22 23 34.3**	**-0.6**
SWI				S	**Sn**	**22 24 17.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**14.69**	**192**	Pn	**Pn**	**22 26 07.5**	**+1.8**
	0.2nm,0.3s,baz=10,slow=13,SNR=6.0						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**17.07**	**162**	Pn	**Pn**	**22 26 33.8**	**-2.8**
	0.2nm,0.3s,baz=344,slow=13,SNR=9.0						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**20.50**	**167**	P	**P**	**22 27 15.2**	**-0.9**
	2.5nm,0.6s,baz=350,slow=12,SNR=29						
	2.5nm,0.6s						
MKAR	**Makanchi Array**	**64.79**	**327**	P	**P**	**22 33 20.5**	**+3.9**
	0.4nm,0.8s,baz=110,slow=8.3,SNR=2.0						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**69.05**	**328**	P	**P**	**22 33 47.4**	**+3.9**
	0.5nm,0.7s,baz=129,slow=5.8,SNR=6.0						
	0.5nm,0.7s						

*AEIC **19** 22:34:28.7±0.6, 52°.5N±0°.1×163°.6W±0°.1, h9km±8km, Error ellipse: s-maj=17.8km s-min=9.4km

DOL					Sn	22 35 41.5	-2.2	
OKSP	**Okmok Steeple**	**2.84**	**285**		Pn	22 35 10.8	-0.3	
HAG	**Hague Volcano**	**2.91**	**21**		Pn	22 35 12.6	+0.4	
PS4A	**Pavlof South-4**	**2.95**	**21**		Pn	22 35 13.2	+0.5	
PS1A	**Pavlof South-1**	**3.04**	**22**		Pn	22 35 14.8	+0.8	
NIKH	**Nikolski High**	**3.14**	**279**		Pn	22 35 14.8	-0.5	
NIKH	**Nikolski High**	**3.14**	**279**	IAML		22 35 56.1		
	comp=N,58nm,1.0s							
NIKH				IAML		22 35 56.2		
	comp=E,46nm,0.6s							
CNBA	**Chernabura Isl**	**3.30**	**46**	Pn	Pn	22 35 16.3	-1.2	
SDPT	**Sand Point**	**3.34**	**34**		Pn	22 35 17.2	-0.8	
SDPT				IAML		22 36 02.0		
	comp=E,56nm,0.8s							
SDPT				IAML		22 36 02.6		
	comp=N,74nm,1.0s							
CLES	**Cleveland East**	**3.76**	**276**	Pn	Pn	22 35 23.7	-0.1	
CHGN	**Chignik**	**4.82**	**38**	Pn	Pn	22 35 38.2	-0.1	
CHGN					Sn	22 36 32.6	-1.5	
CHGN				IAML		22 36 34.8		
	comp=E,47nm,0.1s							
CHGN				IAML		22 36 39.2		
	comp=N,30nm,0.6s							

HLW ***19*** *23:04:14.5,27˚.96N×33˚.54E, h7km±.98km, Md1.9, Ml1.4*
SGS 19 23:04:15.7,27˚.81N×34˚.46E, h8km, Ml1.1, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TR1	**Tor 1**	**0.49**	**294**	P	Pg	23 04 23.1	-2.0
KRABS	**KRABS**	**0.76**	**68**	S	Sg	23 04 40.5	+0.2
KRABS	**KRABS**	**0.76**	**68**	P	Pg	23 04 30.0	-0.3
AYUS	**`Aynunah**	**0.81**	**62**	S	Sg	23 04 42.0	+0.1
AYUS	**`Aynunah**	**0.81**	**62**	P	Pg	23 04 30.8	-0.5
HKAT	**Jabal Katrina**	**0.82**	**330**	P	Pg	23 04 31.1	-0.4
HKAT				S	Sg	23 04 34.5	-7.7
BDAS	**Al Bad`**	**0.84**	**42**	P	Pg	23 04 31.1	-0.7
MWLHS	**Almuwaylih**	**0.94**	**94**	P	Pg	23 04 32.1	-1.6
HHRG	**Al Ghardaqah**	**0.99**	**233**	P	Pg	23 04 30.3	-4.3
JLOS		**1.29**	**44**	S	Sb	23 04 55.7	-1.5
JLOS		**1.29**	**44**	P	Pn	23 04 38.4	-1.8
HAQS	**Haql**	**1.30**	**18**	P	Pg	23 04 41.6	+1.0
WTBKS	**WTBKS**	**1.31**	**78**	P	Pn	23 04 38.7	-1.7

IDC ***19*** *23:11:12.9±0.6, 45˚.79N×26˚.59E, h126km±4km, mb3.4/4, mbtmp3.7/16, Error ellipse: s-maj=16.2km s-min=10.2km az=124.0*
MCSM ***19*** *23:11:12.5±0.5, 46˚N±3˚×2˚7E±˚, h133km±4km, mb4.8, mB4.8, MLv3.4, Mw(mB)4.0*
SIGU ***19*** *23:11:12.3, 45˚.69N×26˚.60E, h138km*
BUC ***19*** *23:11:13.4±0.2, 45˚.64N×26˚.61E, h129km±1km, ml4.0/85, Error ellipse: s-maj=1.4km s-min=1.1km az=18.0*
SOF ***19*** *23:11:13.3, 45˚.62N±0˚.01×26˚.54E±0˚.01, h130km±1km, MD4.2/16*
CFUSG ***19*** *23:11:14.8, 45˚.66N×26˚.98E, h110km, mb3.0/3, MD3.6/3, Romania Magtype MSH 3.2 from 6 stations*
BEO ***19*** *23:11:17.4±0.5, 45˚.47N×26˚.19E, h118km±4km, ML3.8/11*
ISC 19 23:11:12.6±0.6, 45˚.69N±0˚.02×26˚.61E±0˚.02, h141km±4km, n240, σ1s25/332, mb3.7/3, 68C-90D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	**Bisoca**	**0.16**	**153**	P	**Pn**	**23 11 31.7**	**-0.1**
PLOR5	**Plostina Array**	**0.16**	**13**	P	**Pn**	**23 11 31.1**	**-0.6**
PLOR5				S	**Sn**	**23 11 45.0**	**-1.3**
PLOR	**Plostina**	**0.17**	**10**	↑P	**Pn**	**23 11 31.5**	**-0.2**
PLOR				↑S	**Sn**	**23 11 45.1**	**-1.2**
VRI	**Vrincioaia**	**0.20**	**25**	↑P	**Pn**	**23 11 31.7**	**-0.1**
VRI				↓S	**Sn**	**23 11 44.9**	**-1.5**
VRI	**Vrincioaia**	**0.20**	**25**	P	**Pn**	**23 11 31.4**	**-0.4**
ODBI	**Odobesti**	**0.32**	**76**	P	**Pn**	**23 11 32.5**	**+0.4**
COVR	**Voineasa-Covas**	**0.32**	**299**	↑P	**Pn**	**23 11 31.9**	**-0.3**
COVR				↓S	**Sn**	**23 11 45.7**	**-1.4**
GRER		**0.40**	**140**	↓S	**Sn**	**23 11 47.4**	**0.0**
PANC	**Panciu**	**0.42**	**64**	↑P	**Pn**	**23 11 32.6**	**+0.1**
PANC				↑S	**Sn**	**23 11 47.0**	**-0.6**
MLR	**Muntele Rosu**	**0.51**	**247**	↑P	**Pn**	**23 11 33.2**	**+0.1**
MLR				↓S	**Sn**	**23 11 47.8**	**-0.8**
MLR	**Muntele Rosu**	**0.51**	**247**	P	**Pn**	**23 11 33.1**	**+0.1**
	347nm,0.4s,baz=339,slow=8.9,SNR=939						
MLR				S	**Sn**	**23 11 47.6**	**-1.0**
	1µm,0.5s,baz=59,slow=18,SNR=41						
MLR	**Muntele Rosu**	**0.51**	**247**	*e*P	**Pn**	**23 11 33.2**	**+0.1**
MLR				*e*S	**Sn**	**23 11 47.8**	**-0.8**
MLR	**Muntele Rosu**	**0.51**	**247**	P	**Pn**	**23 11 32.8**	**-0.3**
COSR	**Cosmesti PH**	**0.52**	**71**	↓P	**Pn**	**23 11 32.8**	**-0.1**
COSR				↓S	**Sn**	**23 11 47.7**	**-0.7**
TURR	**Turia**	**0.55**	**312**	↑P	**Pn**	**23 11 33.1**	**-0.1**
TURR				↑S	**Sn**	**23 11 48.2**	**-0.7**
ISR	**Istrita**	**0.57**	**185**	↑P	**Sn**	**23 11 46.6**	**-2.5**
ISR	**Istrita**	**0.57**	**185**	P	**Pn**	**23 11 33.3**	**0.0**
ONER	**Baraj Valea Uz**	**0.66**	**347**	↑P	**Pn**	**23 11 33.9**	**0.0**
ONER				↓S	**Sn**	**23 11 49.5**	**-0.6**
GHRR		**0.67**	**56**	↑P	**Pn**	**23 11 34.2**	**+0.3**
GHRR				↓S	**Sn**	**23 11 49.9**	**-0.1**
GHRR		**0.67**	**56**	P	**Pn**	**23 11 34.0**	**+0.1**
TUDR		**0.75**	**97**	↓P	**Pn**	**23 11 34.2**	**-0.2**
TUDR				↑S	**Sn**	**23 11 50.0**	**-1.0**
BOSR	**Bodos**	**0.77**	**301**	↑P	**Pn**	**23 11 34.5**	**-0.1**
BOSR				↓S	**Sn**	**23 11 50.3**	**-1.1**
TESR	**Tescani**	**0.82**	**2**	↑P	**Pn**	**23 11 34.7**	**-0.3**
IZVR	**Izvoarele**	**0.82**	**100**	↓P	**Pn**	**23 11 34.6**	**-0.4**
IZVR				↓S	**Sn**	**23 11 50.4**	**-1.6**
SCHL	**Schela**	**0.88**	**102**	↑P	**Pn**	**23 11 35.2**	**-0.2**
SCHL				↓S	**Sn**	**23 11 51.5**	**-1.2**
SCHLR	**Schela**	**0.89**	**104**	↓P	**Pn**	**23 11 35.2**	**-0.3**
SCHLR				↑S	**Sn**	**23 11 51.5**	**-1.3**
VARL	**Varlezi**	**0.89**	**76**	↓P	**Pn**	**23 11 35.5**	**0.0**
VARL				↓S	**Sn**	**23 11 51.9**	**-1.1**
DOPR	**Dopca**	**0.90**	**289**	↑P	**Pn**	**23 11 35.7**	**+0.1**
DOPR				↓S	**Sn**	**23 11 52.7**	**-0.5**
NEGRR	**Negrea**	**0.90**	**99**	↑P	**Pn**	**23 11 35.7**	**+0.1**
NEGRR				↓S	**Sn**	**23 11 52.5**	**-0.6**
BIR	**Birlad**	**0.91**	**50**	↓P	**Pn**	**23 11 35.9**	**+0.2**
BIR				↑S	**Sn**	**23 11 52.4**	**-1.0**
SCTR	**Scanteiesti**	**0.97**	**90**	↓P	**Pn**	**23 11 36.5**	**+0.3**
SCTR				↓S	**Sn**	**23 11 53.1**	**-1.1**
TATR	**Tatarca**	**1.01**	**95**	↓P	**Pn**	**23 11 36.8**	**+0.2**
TATR				↓S	**Sn**	**23 11 53.7**	**-1.1**
SULR		**1.04**	**194**	↓P	**Pn**	**23 11 37.3**	**+0.5**
SULR				↓S	**Sn**	**23 11 55.0**	**-0.3**
VLDR	**Vladesti**	**1.04**	**81**	↓P	**Pn**	**23 11 37.0**	**+0.2**
VLDR				↓S	**Sn**	**23 11 54.1**	**-1.1**
GISR	**Galati**	**1.04**	**103**	↓P	**Pn**	**23 11 37.0**	**+0.2**
GISR				↓S	**Sn**	**23 11 54.3**	**-1.0**
VOIR		**1.12**	**258**	↑P	**Pn**	**23 11 37.6**	**-0.1**
VOIR				↑S	**Sn**	**23 11 55.3**	**-1.5**
VOIR		**1.12**	**258**	P	**Pn**	**23 11 37.3**	**-0.4**
GIUM	**Giurgiulesti**	**1.14**	**100**	↓P	**Pn**	**23 11 38.0**	**+0.3**
GIUM				↑S	**Sn**	**23 11 56.0**	**-0.9**
GIUM	**Giurgiulesti**	**1.14**	**100**	P	**Pn**	**23 11 38.0**	**+0.3**
GIUM				S	**Sn**	**23 11 56.0**	**-0.9**
CFR	**Carcaliu**	**1.19**	**115**	↑P	**Pn**	**23 11 38.0**	**-0.2**
CFR				↑S	**Sn**	**23 11 56.1**	**-1.6**
AMRR	**Amara**	**1.20**	**154**	↓P	**Pn**	**23 11 38.5**	**+0.3**
AMRR				↑S	**Sn**	**23 11 57.3**	**-0.6**
LEHL	**Lehliu**	**1.22**	**173**	↓P	**Pn**	**23 11 38.9**	**+0.3**
LEHL				↑S	**Sn**	**23 11 58.2**	**-0.2**
VASR	**Vaslui**	**1.26**	**40**	↓P	**Pn**	**23 11 39.1**	**+0.3**
JOSR	**Joseni**	**1.27**	**324**	↑P	**Pn**	**23 11 39.2**	**+0.1**
INCR	**INCERC-Sediu C**	**1.29**	**194**	↓P	**Pn**	**23 11 39.4**	**+0.2**
INCR				↑S	**Sn**	**23 11 58.9**	**-0.6**
BIZ	**Bicaz**	**1.30**	**345**	↓S	**Sn**	**23 11 59.4**	**-0.4**
BUC	**Bucharest**	**1.33**	**196**	↓P	**Pn**	**23 11 39.2**	**+0.2**
BUC				↑S	**Sn**	**23 11 59.8**	**-0.4**
CIOR	**Ciorogarla**	**1.34**	**203**	↓P	**Pn**	**23 11 39.9**	**+0.2**
CIOR				↓S	**Sn**	**23 11 59.5**	**-1.0**
HARR	**Harsova**	**1.37**	**136**	↓P	**Pn**	**23 11 40.0**	**0.0**
BUC1	**Bucharest**	**1.40**	**197**	↓P	**Pn**	**23 11 40.7**	**+0.3**
BUC1				↑S	**Sn**	**23 12 00.9**	**-0.7**
BUC1	**Bucharest**	**1.40**	**197**	↓P	**Pn**	**23 11 40.7**	**+0.3**
BUC1				↑S	**Sn**	**23 12 00.9**	**-0.7**
ARR	**Arges**	**1.43**	**258**	↑P	**Pn**	**23 11 41.2**	**+0.5**
ARR				↑S	**Sn**	**23 12 01.7**	**-0.5**
STFAR	**Stefanesti-Arg**	**1.43**	**235**	↓P	**Pn**	**23 11 41.3**	**+0.6**
STFAR				↑S	**Sn**	**23 12 00.1**	**-2.0**
CICN	**Ciocanesti**	**1.52**	**169**	↓P	**Pn**	**23 11 41.7**	**0.0**
CICN				↑S	**Sn**	**23 12 02.8**	**-1.0**
TPGR	**Topolog**	**1.52**	**122**	↑P	**Pn**	**23 11 41.4**	**-0.3**
TPGR				↓S	**Sn**	**23 12 01.8**	**-2.1**
TLBR	**Topalu**	**1.53**	**138**	↓P	**Pn**	**23 11 41.9**	**+0.1**
TLBR				↑S	**Sn**	**23 12 02.4**	**-1.6**
SGRR	**Singureni**	**1.53**	**197**	↓P	**Pn**	**23 11 41.8**	**0.0**
SGRR				↑S	**Sn**	**23 12 03.0**	**-1.1**
MDB	**Medias**	**1.62**	**287**	↓P	**Pn**	**23 11 43.5**	**+0.7**
IASR	**Iasi**	**1.63**	**24**	↓P	**Pn**	**23 11 43.0**	**+0.1**
TLCR		**1.63**	**107**	↑P	**Pn**	**23 11 42.8**	**-0.1**
TLCR				↑S	**Sn**	**23 12 04.6**	**-1.4**
HUMR	**Humele**	**1.64**	**225**	↓P	**Pn**	**23 11 42.9**	**0.0**
HUMR				↓S	**Sn**	**23 12 05.1**	**-1.0**
TNR	**Turnu Rosu**	**1.64**	**270**	↓P	**Pn**	**23 11 43.4**	**+0.4**
TNR				↑S	**Sn**	**23 12 05.0**	**-1.2**
TGMR	**Targu Mures**	**1.68**	**301**	↓P	**Pn**	**23 11 43.9**	**+0.5**
CVDA	**Cernavoda**	**1.69**	**143**	↓P	**Pn**	**23 11 43.7**	**+0.2**
CVDA				↑S	**Sn**	**23 12 05.9**	**-1.3**
TIRR	**Tirgusor**	**1.77**	**133**	↑P	**Pn**	**23 11 44.5**	**0.0**
TIRR				↓S	**Sn**	**23 12 06.9**	**-2.0**
TIRR	**Tirgusor**	**1.77**	**133**	P	**Pn**	**23 11 44.3**	**-0.2**
ICOR	**Ion Corvin**	**1.79**	**151**	↓P	**Pn**	**23 11 45.1**	**+0.5**
ICOR				↑S	**Sn**	**23 12 07.7**	**-1.4**
MILM	**Milestii Mici**	**1.96**	**50**	P	**Pn**	**23 11 45.4**	**-1.2**
MFTR	**Murfatlar**	**1.98**	**139**	↓P	**Pn**	**23 11 47.0**	**+0.1**
MFTR				↓S	**Sn**	**23 12 12.1**	**-1.2**
LOT	**Lotru**	**2.01**	**264**	↓P	**Pn**	**23 11 48.0**	**+0.7**
LOT				↑S	**Sn**	**23 12 13.9**	**-0.1**
KIS	**Kishinev**	**2.01**	**49**	↓P	**Pn**	**23 11 47.5**	**+0.3**
KIS	**Kishinev**	**2.01**	**49**	↓*i*P	**Pn**	**23 11 47.4**	**+0.2**
	630nm,0.3s						
KIS				*i* S	**Sn**	**23 12 12.2**	**-1.7**
KIS	**Kishinev**	**2.01**	**49**	P	**Pn**	**23 11 47.5**	**+0.3**
ARCR	**ARCALIA**	**2.10**	**313**	↑P	**Pn**	**23 11 48.5**	**+0.3**
TSCT	**Constanta Port**	**2.11**	**136**	↓P	**Pn**	**23 11 48.6**	**+0.2**
TSCT				↑S	**Sn**	**23 12 14.5**	**-1.4**
RAZG	**Razgrad**	**2.12**	**182**	↓P	**Pn**	**23 11 48.7**	**0.0**
RAZG				↓S	**Sn**	**23 12 14.5**	**-1.8**
BURAR	**Bucovina Array**	**2.15**	**334**	↑P	**Pn**	**23 11 50.7**	**+1.7**
ZIMR		**2.22**	**204**	↓P	**Pn**	**23 11 49.7**	**0.0**
ZIMR				↓S	**Sn**	**23 12 16.6**	**-1.6**
VLAD	**Vladila**	**2.31**	**224**	↓P	**Pn**	**23 11 50.6**	**-0.2**
VLAD				↑S	**Sn**	**23 12 18.1**	**-2.1**
LOZB	**Loznitsa**	**2.32**	**180**	↓P	**Pn**	**23 11 51.0**	**-0.1**
LOZB				↓S	**Sn**	**23 12 18.7**	**-1.8**
PSN	**Preselentsi**	**2.32**	**151**	P	**Pn**	**23 11 51.5**	**+0.5**
PSN				S	**Sn**	**23 12 19.5**	**-1.1**
CJR	**Cluj-Napoca**	**2.33**	**297**	↑P	**Pn**	**23 11 51.3**	**+0.2**
MANR	**Mangalia**	**2.34**	**142**	↑P	**Pn**	**23 11 51.5**	**+0.2**
MANR				↑S	**Sn**	**23 12 19.9**	**-1.1**
TSMN	**Mangalia Port-**	**2.36**	**142**	↑P	**Pn**	**23 11 51.8**	**+0.3**
TSMN				↓S	**Sn**	**23 12 19.9**	**-1.4**
PURM	**Purcari**	**2.42**	**69**	↓P	**Pn**	**23 11 52.4**	**+0.2**
SZH	**Strazhitsa**	**2.46**	**191**	P	**Pn**	**23 11 52.9**	**+0.1**
SZH				S	**Sn**	**23 12 21.0**	**-2.8**
NEF	**NEVSHA**	**2.47**	**169**	P	**Pn**	**23 11 53.2**	**+0.3**
PRD	**Provadia**	**2.59**	**167**	P	**Pn**	**23 11 54.7**	**+0.3**
PRD				S	**Sn**	**23 12 25.6**	**-1.0**
DEV	**Deva**	**2.60**	**276**	↓P	**Pn**	**23 11 55.3**	**+0.9**
DEV				↓S	**Sn**	**23 12 27.7**	**+1.0**
MARR	**Marisel-Cluj**	**2.62**	**293**	↑P	**Pn**	**23 11 54.8**	**0.0**
SRE	**Strehaia**	**2.62**	**248**	↓P	**Pn**	**23 11 54.7**	**0.0**
SRE				↓S	**Sn**	**23 12 26.2**	**-1.0**
CHRU	**Chernivtsi**	**2.65**	**350**	*e*Sg	**Sn**	**23 12 26.7**	**-1.2**
PLVB	**Pleven**	**2.71**	**212**	↓P	**Pn**	**23 11 55.9**	**+0.1**
GZR	**Gura Zlata**	**2.71**	**265**	↓P	**Pn**	**23 11 56.4**	**+0.5**
GZR	**Gura Zlata**	**2.71**	**265**	*e*P	**Pn**	**23 11 56.4**	**+0.5**
GZR				*e*S	**Sn**	**23 12 30.5**	**+1.2**
SORM	**Soroca**	**2.72**	**25**	↓P	**Pn**	**23 11 55.8**	**-0.2**
SORM	**Soroca**	**2.72**	**25**	P	**Pn**	**23 11 55.7**	**-0.2**
PVL	**Pavlikeni**	**2.77**	**202**	P	**Pn**	**23 11 56.7**	**+0.1**
PVL				S	**Sn**	**23 12 28.0**	**-2.5**
ELND	**Elena**	**2.81**	**191**	↓P	**Pn**	**23 11 57.4**	**+0.2**
KSV	**Kosov**	**2.83**	**339**	↓*i*Pn	**Pn**	**23 11 57.8**	**+0.4**
KSV				Pm		23 12 00.7	
KSV				*e*Sn	**Sn**	**23 12 31.3**	**-0.7**
KSV				Sm		23 12 36.5	
BAIL	**Bailesti**	**2.86**	**235**	↓P	**Pn**	**23 11 57.6**	**-0.1**
KMPD	**K-Podol'skiy**	**2.88**	**358**	↓*i*Pn	**Pn**	**23 11 57.5**	**-0.4**
KMPD				*e*Sn	**Sn**	**23 12 30.5**	**-2.5**
NSLU	**Nyzhne Selyshc**	**2.91**	**330**	↓*i*Pn	Pn	23 12 04.0	+5.6
BMR	**Baia Mare**	**2.92**	**314**	↑P	**Pn**	**23 11 59.3**	**+0.8**
DRGR		**2.92**	**294**	↑P	**Pn**	**23 11 58.4**	**-0.3**
DRGR		**2.92**	**294**	*e*P	**Pn**	**23 11 58.3**	**-0.3**
MESR	**Meseseni**	**2.92**	**301**	↑P	**Pn**	**23 11 58.7**	**+0.1**
NDNU	**Novodnistrovsk**	**2.95**	**10**	↓*i*Pn	**Pn**	**23 11 58.9**	**0.0**
NDNU				Pm		23 11 59.0	
NDNU				*e*Sn	**Sn**	**23 12 32.0**	**-2.7**
NDNU				Sm		23 12 33.8	
RMGR	**Halanga-Turnu**	**2.96**	**251**	↓P	**Pn**	**23 11 58.8**	**-0.2**
PUNG	**Punghina**	**2.97**	**243**	↓P	**Pn**	**23 11 58.3**	**-0.7**
PUNG	**Punghina**	**2.97**	**243**	*e*P	**Pn**	**23 11 58.4**	**-0.7**
PUNG				*e*S	**Sn**	**23 12 31.9**	**-3.1**
VALD	**Valchedram**	**3.02**	**230**	P	**Pn**	**23 11 59.5**	**-0.3**
BAL3X	**Bal3x, Balta**	**3.04**	**41**	P	**Pn**	**23 11 59.6**	**-0.5**
DJES	**Djerdap**	**3.07**	**252**	↑P	**Pn**	**23 11 59.3**	**-1.1**
DJES	**Djerdap**	**3.07**	**252**	*e*P	**Pn**	**23 11 59.2**	**-1.2**
DJES				*e*S	**Sn**	**23 12 33.8**	**-3.6**
HERR	**Herculane**	**3.07**	**256**	↑P	**Pn**	**23 12 00.2**	**-0.2**
MPEP	**Malo Peshtene**	**3.11**	**222**	P	**Pn**	**23 12 01.1**	**+0.2**
MPEP				S	**Sn**	**23 12 37.0**	**-1.3**
NE56	**Odesa**	**3.14**	**70**	P	**Pn**	**23 12 01.0**	**-0.3**
SURR	**Surduc**	**3.14**	**273**	↓P	**Pn**	**23 12 02.1**	**+0.8**
JMB	**Yambol**	**3.20**	**181**	P	**Pn**	**23 12 02.3**	**+0.2**
STNU	**Starunia**	**3.35**	**335**	*e*Pn	**Pn**	**23 12 03.3**	**-0.7**
STNU	**Starunia**	**3.35**	**335**	P	**Pn**	**23 12 03.0**	**-1.0**
KORU	**Korolevo**	**3.43**	**317**	↓*i*Pn	**Pn**	**23 12 05.7**	**+0.7**
TRSU	**Trosnyk**	**3.47**	**315**	*e*Pn	**Pn**	**23 12 06.2**	**+0.6**
TRSU	**Trosnyk**	**3.47**	**315**	P	**Pn**	**23 12 05.7**	**+0.1**
BLKB	**Belogradchik**	**3.49**	**235**	*e*P	**Pn**	**23 12 04.9**	**-1.0**
BLKB				*e*S	**Sn**	**23 12 43.2**	**-3.9**
SIRR	**Siria**	**3.50**	**281**	↓P	**Pn**	**23 12 06.3**	**+0.3**
SIRR	**Siria**	**3.50**	**281**	*e*P	**Pn**	**23 12 06.4**	**+0.4**
BZS	**Buzias**	**3.50**	**271**	↓P	**Pn**	**23 12 06.2**	**+0.2**
BZS	**Buzias**	**3.50**	**271**	*e*P	**Pn**	**23 12 06.4**	**+0.4**
HORU	**Horodok**	**3.53**	**358**	↓*i*Pg	**Pn**	**23 12 06.6**	**+0.3**
HORU				Pm		23 12 07.1	
HORU				*e*Sg	**Sn**	**23 12 47.3**	**-0.8**
HORU				Sm		23 12 50.1	
HORU	**Horodok**	**3.53**	**358**	P	**Pn**	**23 12 05.6**	**-0.7**
MEZ	**Mezhgor'ye**	**3.53**	**324**	*e*Pn	**Pn**	**23 12 07.5**	**+1.1**
MDVR	**Moldovita**	**3.58**	**257**	↓P	**Pn**	**23 12 06.8**	**-0.3**
MDVR	**Moldovita**	**3.58**	**257**	*e*P	**Pn**	**23 12 06.6**	**-0.4**
MDVR				*e*S	**Sn**	**23 12 46.8**	**-2.4**
BRIU	**Brid**	**3.61**	**318**	↑*i*Pn	**Pn**	**23 12 08.3**	**+0.9**
BRIU	**Brid**	**3.61**	**318**	P	**Pn**	**23 12 06.7**	**-0.7**
PGB	**Panagyurishte**	**3.63**	**210**	P	**Pn**	**23 12 08.0**	**+0.3**
BORS2	**Bor- Borsko je**	**3.63**	**246**	*e*P	**Pn**	**23 12 05.5**	**-2.3**
BORS2				*e*S	**Sn**	**23 12 45.7**	**-4.8**
ZAGS	**Zajecar**	**3.64**	**241**	*e*P	**Pn**	**23 12 06.5**	**-1.3**
ZAGS				*e*S	**Sn**	**23 12 47.0**	**-3.6**
DIM	**Dimitrovgrad**	**3.72**	**192**	*e*P	**Pn**	**23 12 08.8**	**-0.1**
BERU	**Beregovo**	**3.72**	**315**	↑*i*Pn	**Pn**	**23 12 09.7**	**+0.9**
KUBS	**Kucevo**	**3.72**	**252**	*e*P	**Pn**	**23 12 06.8**	**-2.1**
KUBS				*e*S	**Sn**	**23 12 49.0**	**-3.6**
ZAPS	**Zavoj**	**3.73**	**231**	*e*P	**Pn**	**23 12 08.2**	**-0.9**
ZAPS				*e*S	**Sn**	**23 12 49.1**	**-3.8**
VRSS	**Vrsac**	**3.77**	**263**	*e*P	**Pn**	**23 12 09.4**	**+0.1**
PLD	**Plovdiv**	**3.79**	**201**	P	**Pn**	**23 12 10.3**	**+0.5**
PLD	**Plovdiv**	**3.79**	**201**	*e*P	**Pn**	**23 12 10.0**	**+0.2**
SOF	**Sofia**	**3.81**	**219**	P	**Pn**	**23 12 10.9**	**+0.8**
MUKU	**Mukachevo**	**3.85**	**317**	↓*i*Pn	**Pn**	**23 12 10.1**	**-0.4**
MUKU	**Mukachevo**	**3.85**	**317**	P	**Pn**	**23 12 10.8**	**+0.3**
BANR	**Banloc**	**3.86**	**267**	*e*P	**Pn**	**23 12 11.8**	**+1.1**
BANR				*e*S	**Sn**	**23 12 55.4**	**-0.3**
MORS	**Morshin**	**3.91**	**333**	*e*Pn	**Pn**	**23 12 13.1**	**+1.8**
MORS	**Morshin**	**3.91**	**333**	P	**Pn**	**23 12 11.3**	**0.0**
VTS	**Vitosha**	**3.91**	**220**	P	**Pn**	**23 12 11.7**	**+0.1**
VTS	**Vitosha**	**3.91**	**220**	*e*P	**Pn**	**23 12 11.9**	**+0.3**
PLNA	**Plana**	**3.95**	**217**	P	**Pn**	**23 12 12.4**	**+0.4**
HOLU	**Holmets**	**4.05**	**316**	↑*i*Pn	**Pn**	**23 12 13.4**	**+0.3**
HOLU	**Holmets**	**4.05**	**316**	P	**Pn**	**23 12 13.2**	**+0.2**
BOVS	**Bovan**	**4.06**	**241**	↓P	**Pn**	**23 12 13.0**	**-0.3**
BOVS	**Bovan**	**4.06**	**241**	*e*P	**Pn**	**23 12 13.1**	**-0.3**
BOVS				*e*S	**Sn**	**23 12 58.3**	**-2.1**
SVIS	**Svilajnac**	**4.08**	**252**	*e*P	**Pn**	**23 12 13.9**	**+0.3**
SVIS				*e*S	**Sn**	**23 12 57.8**	**-3.2**
KDZ	**Kurdzhali**	**4.16**	**193**	P	**Pn**	**23 12 14.7**	**0.0**
UZH	**Uzhgorod**	**4.16**	**317**	↑*i*Pn	**Pn**	**23 12 15.2**	**+0.6**
RZN	**Rozhen**	**4.22**	**199**	P	**Pn**	**23 12 15.9**	**+0.3**
STZU	**Stuzhytsa**	**4.29**	**322**	↓*i*Pn	**Pn**	**23 12 17.8**	**+1.4**
LUBAR	**Lubar, Ukraine**	**4.30**	**10**	P	**Pn**	**23 12 15.5**	**-1.0**
BOSS	**Bosilegrad**	**4.36**	**224**	*e*P	**Pn**	**23 12 17.9**	**+0.5**
AVAS	**Avala Beograd**	**4.42**	**259**	*e*P	**Pn**	**23 12 17.9**	**-0.2**
AVAS				*e*S	**Sn**	**23 13 05.4**	**-3.7**
BARS	**Barje**	**4.48**	**232**	*e*P	**Pn**	**23 12 19.0**	**0.0**
GRUS	**Gruza**	**4.57**	**249**	*e*P	**Pn**	**23 12 19.8**	**-0.2**
KKB	**Krupnik**	**4.60**	**214**	P	**Pn**	**23 12 21.0**	**+0.5**
GOCS	**Kraljevo Serbi**	**4.61**	**245**	*e*P	**Pn**	**23 12 20.5**	**-0.3**
MMB	**Musomishta**	**4.63**	**208**	P	**Pn**	**23 12 21.2**	**+0.2**
TRUS	**Trudelj**	**4.64**	**254**	*e*P	**Pn**	**23 12 20.6**	**-0.4**
SELS	**Selova**	**4.64**	**240**	*e*P	**Pn**	**23 12 20.9**	**-0.2**
SELS				*e*S	**Sn**	**23 13 11.5**	**-2.8**
DNZ2	**Donuzlav2**	**4.65**	**92**	*e*P	**Pn**	**23 12 21.0**	**-0.1**
DNZ2				Pm		23 12 25.2	
	comp=Z,20nm,0.2s						
DNZ2				*e*S	**Sn**	**23 13 11.4**	**-3.0**
DNZ2				Sm		23 13 13.9	
	comp=N,213nm,0.7s						
DNZ2				Sm		23 13 13.9	
	comp=E,83nm,0.5s						
DIVS	**Divibare**	**4.96**	**254**	*e*P	**Pn**	**23 12 25.0**	**-0.4**
IVAS	**Ivanjica**	**5.07**	**248**	*e*P	**Pn**	**23 12 25.9**	**-0.9**
IVAS				*e*S	**Sn**	**23 13 20.3**	**-4.3**
SRS	**Serrai**	**5.07**	**207**	*e*P	**Pn**	**23 12 27.1**	**+0.3**
SEV	**Sevastopol'**	**5.12**	**100**	*e*P	**Pn**	**23 12 27.9**	**+0.5**
SEV				Pm		23 12 28.7	
SEV				*e*S	**Sn**	**23 13 23.4**	**-2.3**
SEV				Sm		23 13 27.0	
SEV	**Sevastopol'**	**5.12**	**100**	*e*P	**Pn**	**23 12 27.9**	**+0.5**
SEV				Pm		23 12 28.7	
	comp=Z,5.0nm,0.4s						
SEV				*e*S	**S

	3.0nm,0.2s						
SATY				Lg	Lg	23 31 04.1	
	16nm,0.4s						
TNSS	**Tian-Shan**	**3.10**	**346**	Pg	**Pn**	**23 30 26.2**	**+3.3**
	1.7nm,0.2s						
TNSS				Lg	Lg	23 31 06.7	
	3.5nm,0.5s						
TNSS	**Tian-Shan**	**3.10**	**346**	*e*P	**Pn**	**23 30 26.2**	**+3.3**
	1.7nm,0.2s						
TNSS				*e*S	**Sb**	**23 31 06.7**	**-0.5**
	3.5nm,0.5s						
MDOK	**Medeo**	**3.21**	**348**	Pg	**Pn**	**23 30 27.8**	**+3.7**
	8.1nm,0.2s						
MDOK				Lg	Lg	23 31 09.5	
	12nm,0.5s						
UZB	**Uzynbulak**	**3.23**	**14**	Pg	**Pn**	**23 30 26.8**	**+2.5**
	2.5nm,0.2s						
UZB				Lg	Lg	23 31 07.8	
	8.2nm,0.3s						
UZB	**Uzynbulak**	**3.23**	**14**	*e*P	**Pn**	**23 30 26.8**	**+2.5**
	2.5nm,0.2s						
UZB				*e*S	**Sb**	**23 31 07.8**	**-2.7**
	8.2nm,0.3s						
KOTS	**Kotyrbulak**	**3.27**	**349**	Pg	**Pb**	**23 30 29.1**	**-3.2**
	4.8nm,0.2s						
KOTS				Lg	Lg	23 31 11.8	
	14nm,0.3s						
KOTS	**Kotyrbulak**	**3.27**	**349**	*e*P	**Pb**	**23 30 29.1**	**-3.2**
	4.8nm,0.2s						
KOTS				*e*S	**Sb**	**23 31 11.8**	**+0.1**
	14nm,0.3s						
KNDC	**Almaty**	**3.27**	**347**	⇑Pg	**Pn**	**23 30 27.6**	**+2.7**
	5.8nm,0.3s						
KNDC				⇑Lg	Lg	23 31 11.8	
	11nm,0.6s						
MTBS	**Maitube**	**3.31**	**340**	Pg	**Pb**	**23 30 29.7**	**-3.2**
	1.7nm,0.1s						
MTBS				Lg	Lg	23 31 12.8	
	2.6nm,0.1s						
MTBS	**Maitube**	**3.31**	**340**	*e*P	**Pb**	**23 30 29.7**	**-3.2**
	1.7nm,0.1s						
MTBS				*e*S	**Sb**	**23 31 12.8**	**+0.1**
	2.6nm,0.1s						
SHLS	**Shalkode**	**3.33**	**20**	Pg	**Pb**	**23 30 30.9**	**-2.5**
	3.8nm,0.4s						
SHLS				Lg	Lg	23 31 14.9	
	15nm,0.5s						
SHLS	**Shalkode**	**3.33**	**20**	*e*P	**Pb**	**23 30 30.9**	**-2.5**
	3.8nm,0.4s						
SHLS				*e*S	**Sb**	**23 31 14.9**	**+1.4**
	15nm,0.5s						
TKM2	**Tokmak 2**	**3.39**	**329**	⇓*i*P	**Pn**	**23 30 27.0**	**+0.4**
TKM2				⇓*i*S	**Sn**	**23 31 07.4**	**+1.2**
KBK	**Karagaybulak**	**3.46**	**320**	*i*P	**Pn**	**23 30 27.9**	**+0.3**
KBK				*i*S	**Sn**	**23 31 09.2**	**+1.2**
KURS	**Kuram**	**3.47**	**3**	Pg	**Pb**	**23 30 32.5**	**-3.1**
	2.3nm,0.2s						
KURS				Lg	Lg	23 31 17.7	
	11nm,0.6s						
KPKS	**Kokpek**	**3.48**	**9**	Pg	**Pn**	**23 30 31.6**	**+3.8**
	0.3nm,0.2s						
KPKS				Lg	Lg	23 31 16.1	
	8.6nm,0.5s						
PDGK	**Podgornoye**	**3.50**	**19**	⇓Pg	**Pn**	**23 30 27.4**	**-0.6**
	1.5nm,0.4s						
PDGK				⇑Lg	Lg	23 31 11.5	
	11nm,0.7s						
AAK	**Ala-Archa**	**3.68**	**316**	⇑Pg	**Pb**	**23 30 36.4**	**-2.9**
	0.7nm,0.4s						
AAK				⇑Lg	Lg	23 31 27.3	
	3.0nm,0.6s						
KTBS	**Karatobe**	**3.81**	**346**	Pg	**Pb**	**23 30 38.0**	**-3.3**
	4.6nm,0.3s						
KTBS				Lg	Lg	23 31 27.1	
	12nm,0.4s						
CHKK	**Chushkaly**	**3.89**	**350**	Pg	**Pb**	**23 30 40.1**	**-2.8**
	4.1nm,0.3s						
CHKK				Lg	Lg	23 31 30.7	
	7.4nm,0.2s						
CHKK	**Chushkaly**	**3.89**	**350**	*e*P	**Pb**	**23 30 40.1**	**-2.8**
	4.1nm,0.3s						
CHKK				*e*S	**Sb**	**23 31 30.7**	**+1.2**
	7.4nm,0.2s						
KRBS	**Karabastau**	**4.04**	**336**	Pg	**Pb**	**23 30 42.5**	**-2.9**
	3.8nm,0.2s						
KRBS				Lg	Lg	23 31 35.0	
	5.6nm,0.7s						
ARXS	**Arharly**	**4.19**	**359**	Pg	**Pb**	**23 30 45.0**	**-2.9**
	1.5nm,0.2s						
ARXS				Lg	Lg	23 31 39.0	
	6.7nm,0.3s						
ARXS	**Arharly**	**4.19**	**359**	*e*P	**Pb**	**23 30 45.0**	**-2.9**
ARXS				*e*S	**Sb**	**23 31 39.0**	**+0.9**
KNOS	**Konyrlen**	**4.43**	**12**	Pg	**Pb**	**23 30 49.6**	**-2.5**
	1.9nm,0.3s						
KNOS				Lg	Lg	23 31 47.2	
	2.7nm,0.3s						
KK31	**Karatay Array**	**6.37**	**301**	⇑Pg	**Pb**	**23 31 25.7**	**+0.7**
	0.3nm,0.5s,baz=116,slow=12,SNR=4.0						
KK31				⇑Lg	Lg	23 32 54.6	
	0.4nm,0.5s						

*NOU **19** 23:43:30.1, 17°.90S×178°.06W, h627km, mb4.4/22, Fiji Islands Region*
*NEIC **19** 23:43:31.3±2.1, 17°.9S±0°.1×178°.4W±0°.1, h598km±5km, mb4.1/78, Error ellipse: s-maj=15.8km s-min=15.4km az=138.0*
*IDC **19** 23:43:35.0±2.2, 17°.83S×178°.64W, h640km±27km, mb3.5/15, mbtmp4.5/16, Error ellipse: s-maj=18.1km s-min=10.8km az=151.0*
ISC 19 23:43:31.0±0.4, 17°.90S±0°.08×178°.42W±0°.07, h600km, n148, σ1§05/150, mb4.1/53, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**1.85**	**310**	P	**P**	**23 44 47.8**	**+3.0**
MSVF	**Nonsavu**	**3.37**	**272**		**P**	**23 44 54.2**	**+1.8**
MSVF	**Nonsavu**	**3.37**	**272**	P	**P**	**23 44 55.7**	**+3.2**
FUTU	**Fugatoga**	**3.58**	**5**	P	**P**	**23 44 53.2**	**-0.6**
NIUE	**Niue**	**8.14**	**100**	P	**P**	**23 45 31.8**	**+0.1**
SANVU	**Saraoutou**	**13.99**	**278**	P	**P**	**23 46 30.8**	**+0.8**
SANVU	**Saraoutou**	**13.99**	**278**	P	**P**	**23 46 31.2**	**+1.3**
PINNC	**Pines Island,**	**14.07**	**248**	P	**P**	**23 46 30.9**	**+0.3**
DZM	**Mont Dzumac**	**14.82**	**251**	P	**P**	**23 46 37.9**	**+0.2**
DZM	**Mont Dzumac**	**14.82**	**251**	P	**P**	**23 46 37.6**	**-0.1**
	6.8nm,0.4s,baz=126,slow=22,SNR=8.7						
DZM	**Mont Dzumac**	**14.82**	**251**	P	**P**	**23 46 38.3**	**+0.6**
ONTNC	**Ouen Toro**	**14.87**	**250**	P	**P**	**23 46 38.4**	**+0.4**
OUZ	**Omahuta**	**18.66**	**201**	P	**P**	**23 47 12.1**	**-0.3**
URZ	**Urewera**	**20.66**	**190**	P	**P**	**23 47 28.1**	**-2.3**
	5.8nm,0.4s,baz=26,slow=3.8,SNR=4.6						
URZ	**Urewera**	**20.66**	**190**	P	**P**	**23 47 28.7**	**-1.8**
RTZ	**Ruatahuna**	**21.03**	**190**	P	**P**	**23 47 32.3**	**-1.6**
RTZ				IAmb	IAmb	23 47 34.0	
	comp=Z,7.4nm,0.7s						
TATA	**Tatamba Isabel**	**23.20**	**291**	P	**P**	**23 47 54.3**	**+0.8**
MRZ	**Mangatainoka R**	**23.27**	**192**	P	**P**	**23 47 51.2**	**-2.5**
MRZ				IAmb	IAmb	23 47 54.9	
	comp=Z,13nm,1.1s						
QRZ	**Quartz Range**	**24.14**	**197**	P	**P**	**23 48 00.6**	**-0.9**
JCZ	**Jackson Bay**	**28.23**	**200**	P	**P**	**23 48 36.5**	**-0.9**
EIDS	**Eidsvold**	**29.26**	**250**	P	**P**	**23 48 47.0**	**+0.5**
EIDS				IAmb	IAmb	23 48 47.2	
	comp=Z,9.5nm,0.8s						
ARMA	**Armidale**	**29.94**	**240**	P	**P**	**23 48 53.0**	**+0.6**
ARMA				IAmb	IAmb	23 48 54.6	
	comp=Z,6.0nm,0.9s						
CNB	**Canberra Magne**	**33.43**	**232**	P	**P**	**23 49 22.9**	**+1.1**
CTAO	**Charters Tower**	**33.44**	**261**	P	**P**	**23 49 22.4**	**+0.3**
CTAO	**Charters Tower**	**33.44**	**261**	P	**P**	**23 49 22.5**	**+0.3**
CAN	**Canberra**	**33.70**	**233**	P	**P**	**23 49 24.5**	**+0.3**
CAN				IAmb	IAmb	23 49 37.0	
	comp=Z,7.1nm,1.1s						
PMG	**Port Moresby**	**34.45**	**280**		**P**	**23 49 31.6**	**+1.1**
MANU	**Manus Island**	**37.09**	**291**	P	**P**	**23 49 53.5**	**+1.2**
COEN	**Coen**	**37.10**	**270**		**P**	**23 49 53.4**	**+1.0**
TOO	**Toolangi**	**37.17**	**231**	P	**P**	**23 49 53.9**	**+1.2**
TOO				IAmb	IAmb	23 49 55.2	
	comp=Z,3.1nm,1.1s						
STKA	**Stephens Creek**	**38.63**	**241**		**P**	**23 50 05.4**	**+0.9**
STKA	**Stephens Creek**	**38.63**	**241**	P	**P**	**23 50 05.5**	**+0.9**
	comp=Z,8.2nm,0.5s,baz=91,slow=10.0,SNR=19						
	comp=Z,8.2nm,0.5s						
INKA	**Innaminka**	**38.74**	**248**		**P**	**23 50 06.9**	**+1.4**
INKA				IAmb	IAmb	23 50 07.5	
	comp=Z,8.1nm,0.7s						
QIS	**Mount Isa**	**39.65**	**259**	P	**P**	**23 50 12.8**	**-0.1**
HTT	**Hallett**	**41.15**	**239**	P	**P**	**23 50 25.4**	**+0.8**
BBOO	**Buckleboo**	**43.41**	**241**	P	**P**	**23 50 42.5**	**+0.3**
BBOO	**Buckleboo**	**43.41**	**241**	P	**P**	**23 50 42.3**	**+0.1**
WR8	**Warramunga Arr**	**44.48**	**260**		**P**	**23 50 50.1**	**-0.6**
WR8				IAmb	IAmb	23 50 52.3	
	comp=Z,6.1nm,0.8s						
WB0	**Warramunga Arr**	**44.59**	**260**		**P**	**23 50 51.0**	**-0.5**
WRAB	**Tennant Creek**	**44.62**	**260**	P	**P**	**23 50 51.3**	**-0.5**
WRA	**Warramunga Arr**	**44.63**	**260**	P	**P**	**23 50 51.4**	**-0.5**
	comp=Z,10.0nm,0.5s,baz=95,slow=7.3,SNR=121						
WRA				PcP	**PcP**	**23 52 21.1**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=91,slow=3.3,SNR=4.6						
WRA				S	**S**	**23 56 40.9**	**-4.8**
	comp=Z,1.2nm,0.6s,baz=100,slow=14,SNR=5.5						
	comp=Z,10.0nm,0.5s						
AS31	**Alice Springs**	**44.79**	**254**		**P**	**23 50 52.7**	**-0.3**
ASAR	**Alice Springs**	**44.79**	**254**		**P**	**23 50 52.8**	**-0.2**
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**	**23 50 53.0**	**0.0**
	comp=Z,44nm,0.5s,baz=86,slow=8.7,SNR=449						
ASAR				PcP	**PcP**	**23 52 21.4**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=88,slow=4.7,SNR=5.5						
ASAR				S	**S**	**23 56 45.5**	**-2.4**
	comp=Z,4.1nm,0.8s,baz=94,slow=14,SNR=18						
	comp=Z,44nm,0.5s						
MTN	**Manton Dam**	**48.79**	**268**		**P**	**23 51 22.3**	**-0.9**
FORT	**Forrest**	**50.01**	**245**	P	**P**	**23 51 31.1**	**-0.7**
FORT				IAmb	IAmb	23 51 39.1	
	comp=Z,12nm,1.1s						
KNRA	**Kununurra**	**50.48**	**264**		**P**	**23 51 35.3**	**-0.2**
KNRA				IAmb	IAmb	23 51 35.9	
	comp=Z,14nm,0.8s						
FAKI	**Fak Fak**	**50.57**	**281**	P	**P**	**23 51 35.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**53.02**	**261**	P	**P**	**23 51 53.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**53.02**	**261**	P	**P**	**23 51 53.6**	**-0.1**
SOEI	**Soe**	**56.06**	**270**		**P**	**23 52 15.9**	**+0.8**
PSA00	**Pilbara Seismi**	**57.91**	**255**	P	**P**	**23 52 26.7**	**-0.7**
PSA00				IAmb	IAmb	23 52 28.0	
	comp=Z,13nm,0.9s						
PSA00	**Pilbara Seismi**	**57.91**	**255**	P	**P**	**23 52 26.0**	**-1.4**
PSA00				IAmb	IAmb	23 52 27.2	
	comp=Z,4.9nm,0.8s						
MBWA	**Marble Bar**	**58.07**	**256**	P	**P**	**23 52 27.7**	**-0.8**
MBWA				IAmb	IAmb	23 52 28.6	
	comp=Z,8.5nm,0.8s						
MBWA	**Marble Bar**	**58.07**	**256**	P	**P**	**23 52 28.0**	**-0.5**
MEEK	**Meekatharra**	**58.43**	**249**	P	**P**	**23 52 30.1**	**-0.8**
KLBR	**Kellerberrin**	**58.83**	**244**	P	**P**	**23 52 32.8**	**-0.6**
BLDU	**Ballidu**	**59.78**	**245**	P	**P**	**23 52 38.7**	**-1.1**
VNDA	**Vanda**	**60.45**	**185**	P	**P**	**23 52 43.7**	**+0.3**
VNDA	**Vanda**	**60.45**	**185**	P	**P**	**23 52 44.1**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=355,slow=7.7,SNR=2.6						
	comp=Z,0.4nm,0.6s						
MORW	**Morawa**	**60.48**	**246**	P	**P**	**23 52 43.6**	**-0.8**
MORW				IAmb	IAmb	23 53 02.5	
	comp=Z,14nm,1.1s						
PLAI	**Plampang**	**62.49**	**269**	P	**P**	**23 52 57.4**	**-0.3**
TOLI2	**Tolitoli**	**62.71**	**281**	P	**P**	**23 52 59.5**	**+0.4**
TOLI2				IAmb	IAmb	23 52 59.6	
	comp=Z,6.8nm,0.8s						
GIRL	**Giralia**	**62.89**	**253**	P	**P**	**23 53 00.7**	**+0.5**
JAGI	**Jajag, Banyuwa**	**66.03**	**269**	P	**P**	**23 53 18.6**	**-1.5**
CASY	**Casey**	**66.14**	**205**	P	**P**	**23 53 19.8**	**+0.1**
JGF	**Kuroka**	**67.73**	**322**	P	**P**	**23 53 30.4**	**+0.3**
JGF				IAmb	IAmb	23 53 36.0	
	comp=Z,5.5nm,1.0s						
MJAR	**Matsushiro Arr**	**67.90**	**323**	P	**P**	**23 53 30.9**	**-0.1**
MJAR				IAmb	IAmb	23 53 31.5	
	comp=Z,3.3nm,0.7s						
MJAR	**Matsushiro Arr**	**67.90**	**323**	P	**P**	**23 53 30.7**	**-0.3**
	comp=Z,3.9nm,0.5s,baz=163,slow=6.0,SNR=9.0						
	comp=Z,3.9nm,0.5s						
UGM	**Wanagama**	**69.64**	**268**	P	**P**	**23 53 41.8**	**-0.3**
QSPA	**South Pole Qui**	**72.15**	**180**	P	**P**	**23 53 57.9**	**+2.0**
QSPA	**South Pole Qui**	**72.15**	**180**	P	**P**	**23 53 57.7**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=20,slow=1.0,SNR=11						
	comp=Z,1.2nm,0.6s						
SSLB	**Suanglung**	**72.23**	**303**	P	**P**	**23 53 55.9**	**-1.1**
SSLB				IAmb	IAmb	23 54 11.8	
	comp=Z,15nm,1.0s						
TPUB	**Ta-pu**	**72.25**	**302**	P	**P**	**23 53 56.0**	**-1.0**
PETK	**Petropavlovsk-**	**73.67**	**345**	P	**P**	**23 54 04.8**	**+0.4**
	comp=Z,3.8nm,0.7s,baz=183,slow=6.8,SNR=3.0						
	comp=Z,3.8nm,0.7s						
KSRS	**Korea Array**	**74.69**	**318**	P	**P**	**23 54 11.6**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=126,slow=6.2,SNR=4.4						
	comp=Z,0.9nm,0.5s						
CMB	**Columbia Colle**	**77.84**	**43**	P	**P**	**23 54 28.4**	**+0.6**
CMB				IAmb	IAmb	23 54 29.4	
	comp=Z,4.6nm,0.9s						
N14K	**Kuskokwak Cree**	**78.73**	**9**	P	**P**	**23 54 32.4**	**+0.4**
N14K				IAmb	IAmb	23 54 36.8	
	comp=Z,11nm,1.1s						
DSP	**Deep Springs**	**79.07**	**45**	P	**P**	**23 54 35.4**	**+1.1**
DSP				IAmb	IAmb	23 54 36.5	
	comp=Z,6.6nm,1.1s						
N15K	**Kwethluk River**	**79.20**	**9**	P	**P**	**23 54 34.0**	**-0.5**
N15K				IAmb	IAmb	23 54 50.6	
	comp=Z,6.5nm,1.1s						
BBOR	**Butler Butte**	**79.23**	**38**	P	**P**	**23 54 35.7**	**+0.5**
NVAR	**Mina Array Bea**	**79.42**	**44**	P	**P**	**23 54 37.3**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=228,slow=8.7,SNR=11						
	comp=Z,2.2nm,0.7s						
WCT	**Wildcat Mounta**	**79.68**	**46**	P	**P**	**23 54 38.6**	**+0.9**
TPNV	**Topopah Spring**	**80.02**	**46**	P	**P**	**23 54 40.4**	**+0.8**
J05D	**Fort Rock, OR**	**80.32**	**39**	P	**P**	**23 54 41.9**	**+1.0**
J05D				IAmb	IAmb	23 54 42.9	
	comp=Z,8.5nm,0.8s						
L16K	**Owhat River**	**80.77**	**9**	P	**P**	**23 54 43.4**	**+0.8**
N19K	**Bonanza Creek**	**80.77**	**12**	P	**P**	**23 54 41.9**	**-0.9**
N19K				IAmb	IAmb	23 54 46.0	
	comp=Z,3.2nm,1.0s						
PINE	**Pine Mountain**	**80.79**	**38**	P	**P**	**23 54 44.6**	**+1.2**
PINE				IAmb	IAmb	23 54 45.5	
	comp=Z,7.0nm,0.9s						
M17K	**Holitna River**	**80.79**	**10**	P	**P**	**23 54 43.9**	**+1.1**
M17K				IAmb	IAmb	23 54 54.7	
	comp=Z,5.8nm,1.1s						
K15K	**Wolf Creek Mou**	**81.04**	**8**	P	**P**	**23 54 45.0**	**+1.0**
K15K				IAmb	IAmb	23 54 45.5	
	comp=Z,4.0nm,0.8s						
J14K	**Nanvaranak Lak**	**81.23**	**7**	P	**P**	**23 54 45.0**	**0.0**
J14K				IAmb	IAmb	23 54 54.9	
	comp=Z,3.8nm,1.0s						
NLWA	**Neilton Lookou**	**81.31**	**34**		**P**	**23 54 46.7**	**+0.9**
NLWA				IAmb	IAmb	23 54 54.0	
	comp=Z,6.1nm,1.1s						
L18K	**Granite Mounta**	**81.69**	**10**	P	**P**	**23 54 48.1**	**+0.8**
GHO	**Glory Hole Cre**	**82.80**	**14**	P	**P**	**23 54 52.9**	**-0.1**
GHO				IAmb	IAmb	23 55 09.2	
	comp=Z,8.1nm,1.1s						
G08A	**Pilot Rock**	**82.81**	**38**	P	**P**	**23 54 54.4**	**+0.9**
J18K	**Innoko River**	**82.85**	**10**	P	**P**	**23 54 53.4**	**+0.2**
K20K	**Telida**	**83.20**	**11**	P	**P**	**23 54 55.0**	**+0.1**
SCM	**Sheep Creek Mo**	**83.22**	**14**	P	**P**	**23 54 55.0**	**-0.1**
SCM				IAmb	IAmb	23 54 59.7	
	comp=Z,10nm,1.2s						
J19K	**Poorman**	**83.52**	**10**	P	**P**	**23 54 56.5**	**+0.1**
RPSI	**Rantau Prapat**	**83.84**	**275**	P	**P**	**23 54 58.8**	**-0.4**
PSI	**Prapat**	**83.88**	**275**	P	**P**	**23 54 58.8**	**-0.8**
	comp=Z,6.4nm,0.5s,baz=84,slow=3.8,SNR=5.5						
	comp=Z,6.4nm,0.5s						
J20K	**Nowinta River**	**83.94**	**10**	P	**P**	**23 54 58.6**	**+0.1**
TRF	**Thorofare Moun**	**84.00**	**12**	P	**P**	**23 54 58.5**	**-0.6**
TRF				IAmb	IAmb	23 54 59.7	
	comp=Z,3.7nm,0.8s						
CTGM	**Chitina Glacie**	**84.04**	**17**	P	**P**	**23 54 57.8**	**-1.5**
CTGM				IAmb	IAmb	23 55 04.5	
	comp=Z,9.4nm,1.2s						
F10A	**Beach Ranch, E**	**84.20**	**38**	P	**P**	**23 55 00.6**	**+0.2**
RND	**Reindeer**	**84.26**	**13**	P	**P**	**23 54 59.9**	**-0.3**
RND				IAmb	IAmb	23 55 00.7	
	comp=Z,3.7nm,0.8s						
DHY	**Denali Highway**	**84.30**	**14**	P	**P**	**23 54 59.9**	**-0.6**
B08A	**Colville Reser**	**84.34**	**35**	P	**P**	**23 55 00.7**	**-0.2**
B08A				IAmb	IAmb	23 55 01.2	
	comp=Z,2.3nm,0.7s						
PLID	**Pearl Lake**	**84.45**	**39**	P	**P**	**23 55 02.2**	**+0.4**
HLID	**Hailey**	**84.63**	**41**	P	**P**	**23 55 03.6**	**+1.0**
GSI	**Gunungsitoli**	**84.70**	**273**	P	**P**	**23 55 04.2**	**+0.8**
M27K	**Edge Creek, AK**	**85.03**	**16**	P	**P**	**23 55 04.5**	**+0.4**
M27K				IAmb	IAmb	23 55 18.2	
	comp=Z,2.9nm,1.1s						
PV17	**East Wray Mesa**	**85.73**	**48**	P	**P**	**23 55 05.2**	**-2.9**
ILAR	**Eielson Array**	**85.88**	**13**	P	**P**	**23 55 07.0**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=224,slow=5.0,SNR=12						
	comp=Z,0.5nm,0.4s						
TX31	**Lajitas Ar. Si**	**86.00**	**58**	P	**P**	**23 55 10.4**	**+1.0**
TX31				IAmb	IAmb	23 55 12.0	
	comp=Z,6.0nm,1.0s						
TXAR	**Lajitas Array**	**86.00**	**58**	P	**P**	**23 55 10.9**	**+1.6**
	comp=Z,3.1nm,0.8s,baz=216,slow=6.6,SNR=34						
	comp=Z,3.1nm,0.8s						
J25K	**Salcha River,**	**86.08**	**14**	P	**P**	**23 55 08.8**	**-0.1**
G21K	**Allakaket**	**86.20**	**10**	P	**P**	**23 55 08.6**	**-0.8**
G21K				IAmb	IAmb	23 55 17.1	
	comp=Z,2.4nm,1.1s						
MCMT	**McKenzie Canyo**	**86.24**	**40**	P	**P**	**23 55 10.7**	**+0.3**
PD31	**Pinedale Array**	**87.35**	**43**	P	**P**	**23 55 15.8**	**+0.2**
PD31				IAmb	IAmb	23 55 16.5	
	comp=Z,1.6nm,0.8s						
PDAR	**Pinedale Array**	**87.35**	**43**	P	**P**	**23 55 15.9**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=224,slow=2.9,SNR=15						
	comp=Z,1.2nm,0.6s						
F24K	**Squaw Lake**	**88.08**	**11**	P	**P**	**23 55 16.3**	**-1.9**
F24K				IAmb	IAmb	23 55 17.8	
	comp=Z,3.6nm,0.6s						
DRIO	**Del Rio**	**88.49**	**59**	P	**P**	**23 55 21.1**	**+0.1**
DRIO				IAmb	IAmb	23 55 22.8	
	comp=Z,4.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**88.88**	**290**	P	**P**	**23 55 22.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**88.88**	**290**	P	**P**	**23 55 23.5**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=117,slow=2.9,SNR=13						
	comp=Z,2.3nm,0.8s						
SONM	**Songino Array**	**93.54**	**319**	P	**P**	**23 55 44.2**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=118,slow=5.2,SNR=1.3						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**109.12**	**314**	PKiKP	**PKiKP**	**00 00 52.0**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=54,slow=0.7,SNR=6.5						
KURBB	**Kurchatov Arra**	**111.87**	**318**	PKiKP	**PKiKP**	**00 00 57.1**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=104,slow=1.7,SNR=5.9						
BVAR	**Borovoye Array**	**116.83**	**321**	PKP	**PKPdf**	**00 01 07.0**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=104,slow=1.6,SNR=7.0						
ARCES	**ARCESS Array B**	**126.31**	**350**	PKP	**PKPdf**	**00 01 25.1**	**-0.7**
	comp=Z,9.8nm,1.1s,baz=352,slow=1.8,SNR=2.2						
EKA	**Eskdalemuir Ar**	**142.46**	**4**	PKP	**PKPdf**	**00 01 53.7**	**-2.5**
	comp=Z,0.3nm,0.4s,baz=342,slow=2.9,SNR=5.2						
BUR08	**Bucovina Ar. S**	**144.59**	**332**		PKPbc	00 02 01.3	+0.6
BR131	**Keskin Array S**	**144.77**	**315**		**PKPdf**	**00 02 00.9**	**0.0**
BRTR	**Keskin Array B**	**144.77**	**315**		PKPbc	00 02 01.6	+0.1
BRTR	**Keskin Array B**	**144.77**	**315**	PKP	**PKPdf**	**00 02 01.2**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=73,slow=2.8,SNR=17						
CLL	**Collm**	**145.45**	**347**		**PKPbc**	**00 02 03.0**	**+0.1**
MMAI	**Mount Meron Ar**	**146.13**	**303**	PKPbc	**PKPbc**	**00 02 05.9**	**+0.3**
	comp=Z,3.1nm,0.5s,baz=72,slow=5.5,SNR=18						
GERES	**GERESS Array B**	**147.60**	**345**	PKPbc	**PKPbc**	**00 02 08.9**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=28,slow=2.5,SNR=15						
CONA	**Conrad Observa**	**147.85**	**342**	*i* PKP	**PKPbc**	**00 02 09.9**	**+0.2**
	comp=Z,5.0nm,1.1s						
RONA	**Rosalia, Austr**	**147.93**	**341**	*e*PKP	**PKPbc**	**00 02 10.2**	**+0.5**
	comp=Z,8.1nm,1.6s						
KBA	**Koelnbreinsper**	**149.33**	**344**	*e*PKP	**PKPbc**	**00 02 12.8**	**-0.6**
	comp=Z,4.9nm,1.3s						
WATA	**Walderalm**	**149.52**	**347**	*i* PKP	**PKPbc**	**00 02 13.4**	**-0.4**
	comp=Z,1.3nm,0.4s						
RETA	**Reutte**	**149.54**	**348**	*e*PKP	**PKPbc**	**00 02 13.3**	**-0.5**
	comp=Z,0.4nm,0.3s						
WTTA	**Wattenberg**	**149.57**	**346**	*i* PKP	**PKPbc**	**00 02 13.5**	**-0.4**
	comp=Z,1.8nm,0.4s						
MOTA	**Moosalm**	**149.61**	**347**	*e*PKP	**PKPbc**	**00 02 13.7**	**-0.3**
	comp=Z,2nm,0.8s						
MYKA	**Terra Mystica**	**149.66**	**343**	*e*PKP	**PKPbc**	**00 02 13.1**	**-0.9**
	comp=Z,6.2nm,1.0s						
ABTA	**Abfaltersbach**	**149.85**	**345**	*e*PKP	**PKPbc**	**00 02 13.6**	**-0.9**
	comp=Z,5.6nm,0.8s						
FETA	**Feichten**	**150.00**	**347**	*i* PKP	**PKPbc**	**00 02 14.8**	**-0.2**
	comp=Z,5.5nm,1.1s						

*IDC **19** 23:47:10.6±7.4, 17°.37S×178°.74W, h590km±94km, mb3.1/6, mbtmp4.1/7, Error ellipse: s-maj=93.6km s-min=34.9km az=156.0*
**ISC 19 23:47:11.3±1.5, 17°.4S±

PMG Port Moresby 6.25 225 *d* iP Pn 00 01 11.3 -0.4
TATA Tatamba Isabel 8.79 113 P Pn 00 01 46.7 +1.1
SAVO Savo Central 9.11 117 P Pn 00 01 53.9 +4.1
HNR Honiara 9.35 119 Pn Pn 00 01 52.7 -0.4
HNR Honiara 9.35 119 P Pn 00 01 54.0 +0.9
192nm,0.8s,baz=229,slow=19,SNR=4.4
HNR Honiara 9.35 119 P Pn 00 01 54.0 +0.9
ALEG Aligegeo Malai 9.74 113 P Pn 00 01 59.9 +1.7
NGOA Tingoa Renbel 10.59 129 P Pn 00 02 13.0 +3.6
JAY Jayapura 11.18 282 P Pn 00 02 16.9 -0.4
14nm,0.9s,baz=137,slow=11,SNR=5.8
HURO Huro Makira 11.53 119 P Pn 00 02 23.7 +1.8
GENI Genyem 11.69 281 P Pn 00 02 24.9 +1.0
COEN Coen 12.21 223 P Pn 00 02 32.4 +1.8
comp=Z,71nm,1.1s
COEN Coen 12.21 223 Pn 00 02 31.7 +1.1
COEN Coen 12.21 223 P Pn 00 02 32.2 +1.6
COEN Coen 12.21 223 S Sn 00 04 44.9 -0.9
SMPI Sarmi 13.24 283 P Pn 00 02 44.7 +0.8
comp=Z,117nm,0.4s
MTSU Mount Surprise 14.90 208 P P 00 03 06.8 +0.1
comp=Z,79nm,1.1s
CTAO Charters Tower 15.90 199 P 00 03 18.4 +0.7
CTAO Charters Tower 15.90 199 P P 00 03 18.4 +0.7
BAKI Biak 15.96 283 P P 00 03 19.4 +1.0
comp=Z,53nm,0.5s
RKPI Ransiki, Papua 17.77 281 P Pn 00 03 39.5 -0.2
comp=Z,130nm,0.5s
KMPI Kaimana, Papua 17.93 273 P Pn 00 03 41.5 -0.1
comp=Z,173nm,0.7s
SANVU Saraoutou 18.50 125 P 00 03 47.1 +0.9
QIS Mount Isa 19.40 216 P P 00 03 56.8 +0.7
comp=Z,111nm,1.1s
QIS Mount Isa 19.40 216 P P 00 03 56.8 +0.7
QIS Mount Isa 19.40 216 S S 00 07 25.9 -1.5
FAKI Fak Fak 19.45 275 P 00 03 56.4 -0.3
FAKI Fak Fak 19.45 275 P P 00 03 56.9 +0.2
comp=Z,55nm,0.7s
GUMO Guam 19.64 340 P 00 03 59.7 +1.1
GUMO Guam 19.64 340 P P 00 03 60.0 +1.4
comp=Z,269nm,0.9s,baz=176,slow=8.3,SNR=9.0
GUMO LR LR 00 11 54.7
comp=Z,56nm,20.2s,baz=178,slow=37
GUMO Guam 19.64 340 P P 00 04 00.0 +1.4
EIDS Eidsvold 20.28 181 P P 00 04 06.3 +0.9
comp=Z,37nm,0.9s
EIDS Eidsvold 20.28 181 P 00 04 05.8 +0.5
KDU Kakadu 20.41 247 P P 00 04 06.2 -0.7
comp=Z,348nm,0.4s
KDU Kakadu 20.41 247 P P 00 04 06.8 -0.1
KDU Kakadu 20.41 247 S S 00 07 45.3 -2.1
SAUI Saumlaki 20.43 261 P P 00 04 07.4 +0.3
SAUI Saumlaki 20.43 261 P P 00 04 07.6 +0.5
comp=Z,322nm,0.8s
SWI Sorong 20.75 281 P P 00 04 11.5 +0.9
comp=Z,2µmcomp=Z,147nm,0.6s
MTN Manton Dam 21.70 248 P P 00 04 20.9 +0.2
comp=Z,182nm,0.5s
MTN Manton Dam 21.70 248 P P 00 04 19.4 -1.2
MTN Manton Dam 21.70 248 P P 00 04 20.1 -0.6
MTN Manton Dam 21.70 248 S S 00 08 09.6 -1.4
DRS Darwin Rock St 21.78 249 P P 00 04 21.8 +0.2
DZM Mont Dzumac 22.23 141 *eP* P 00 04 25.1 -1.0
comp=Z,276nm,1.6s
DZM *eS* S 00 08 13.5 -6.4
comp=Z,798nm,26.9s
DZM Mont Dzumac 22.23 141 P P 00 04 26.7 +0.6
DZM IAmb IAmb 00 04 28.6
comp=Z,100nm,1.1s
DZM Mont Dzumac 22.23 141 P P 00 04 27.1 +1.1
comp=Z,51nm,0.9s,baz=266,slow=8.3,SNR=29
comp=Z,51nm,0.9s
DZM Mont Dzumac 22.23 141 P P 00 04 28.1 +2.0
WB0 Warramunga Arr 22.31 227 P 00 04 25.8 -1.1
WR8 Warramunga Arr 22.35 227 P P 00 04 26.6 -0.7
ONTNC Ouen Toro 22.41 142 P P 00 04 27.9 +0.2
ONTNC IAmb IAmb 00 04 29.8
comp=Z,43nm,0.9s
WRAB Tennant Creek 22.45 227 P P 00 04 27.0 -1.2
WRAB Tennant Creek 22.45 227 *c iP* P 00 04 27.6 -0.6
WRAB pmax pmax
comp=Z,68nm,0.5s
WRA Warramunga Arr 22.46 227 P P 00 04 26.8 -1.6
WRA Warramunga Arr 22.46 227 P P 00 04 27.9 -0.5
comp=Z,101nm,0.4s,baz=51,slow=9.9,SNR=181
WRA PcP PcP 00 08 18.2 +0.9
comp=Z,9.7nm,0.5s,baz=43,slow=2.0,SNR=9.5
WRA ScP ScP 00 11 41.7 +1.0
comp=Z,3.3nm,0.5s,baz=50,slow=2.7,SNR=8.6
comp=Z,101nm,0.4s
YATNC Mamie plateau, 22.50 140 P P 00 04 30.8 +2.2
QLP Quilpie 22.61 197 P P 00 04 30.2 +0.6
comp=Z,145nm,1.5s
QLP Quilpie 22.61 197 P P 00 04 30.8 +1.2
NLAI Namlea 24.54 273 P P 00 04 48.3 +1.0
comp=Z,2µmcomp=Z,1µmcomp=Z,70nm,0.5s
KNRA Kununurra 24.86 243 P P 00 04 49.7 -0.5
comp=Z,251nm,0.4s
KNRA Kununurra 24.86 243 P 00 04 50.0 -0.2
INKA Innaminka 24.89 203 P 00 04 50.3 -0.1
TNTI Ternate 24.91 283 P P 00 04 49.6 -1.1
TNTI IAmb IAmb 00 04 59.4
comp=Z,48nm,1.2s
AS31 Alice Springs 25.24 221 P 00 04 53.5 -0.2
AS31 IAmb IAmb 00 04 58.5
comp=Z,21nm,0.5s
ASAR Alice Springs 25.24 221 P 00 04 53.3 -0.4
ASAR Alice Springs 25.24 221 P P 00 04 53.5 -0.1
comp=Z,18nm,0.4s,baz=54,slow=9.0,SNR=235
ASAR pP pP 00 05 25.8 0.0
comp=Z,16nm,0.6s,baz=50,slow=9.7,SNR=3.8
ASAR PcP PcP 00 08 24.1 +1.0
comp=Z,5.8nm,0.5s,baz=49,slow=2.8,SNR=6.6
ASAR S S 00 09 05.0 -3.1
comp=Z,4.2nm,0.8s,baz=46,slow=13,SNR=4.6
ASAR ScP ScP 00 11 50.2 +2.0
comp=Z,4.3nm,0.8s,baz=42,slow=2.8,SNR=9.0
ASAR LR LR 00 15 18.7
comp=Z,112nm,19.2s,baz=96,slow=37
comp=Z,18nm,0.4s
ARMA Armidale 25.30 180 P P 00 04 54.9 +0.8
SANI Sanana 25.76 276 P P 00 04 59.2 +0.7
SANI Sanana 25.76 276 P P 00 04 58.2 -0.3
CMSA Cobar Meteorol 27.00 191 P P 00 05 09.6 +0.3
comp=Z,16nm,3.0s
CMSA Cobar Meteorol 27.00 191 P P 00 05 10.4 +1.1
SGSI Sangihe 27.47 288 P P 00 05 14.5 +0.8
SOEI Soe 27.55 259 P P 00 05 14.6 0.0
SOEI IAmb IAmb 00 05 28.7
comp=Z,34nm,0.6s
SOEI Soe 27.55 259 P P 00 05 15.6 +1.0
comp=Z,53nm,0.6s
KMSI Cibinong 28.17 281 P P 00 05 20.7 +0.7
BATI Baumata 28.20 258 LR LR 00 18 01.4
comp=Z,205nm,20.9s,baz=74,slow=39
BATI Baumata 28.20 258 P P 00 05 20.8 +0.5
comp=Z,65nm,0.5s
STKA Stephens Creek 28.36 198 P P 00 05 20.9 -0.5
comp=Z,56nm,1.1s
STKA Stephens Creek 28.36 198 P P 00 05 21.4 -0.1
STKA Stephens Creek 28.36 198 P P 00 05 21.5 +0.1
comp=Z,5.1nm,0.5s,baz=34,slow=15,SNR=12
STKA PcP PcP 00 08 31.2 +0.8
comp=Z,2.2nm,0.4s,baz=349,slow=5.2,SNR=2.2
comp=Z,5.1nm,0.5s
STKA Stephens Creek 28.36 198 P P 00 05 22.5 +1.1
FITZ Fitzroy Crossi 28.56 241 P P 00 05 22.7 -0.7
FITZ Fitzroy Crossi 28.56 241 P P 00 05 22.6 -0.8
comp=Z,36nm,0.4s,baz=46,slow=6.6,SNR=302
FITZ LR LR 00 17 33.1
comp=Z,150nm,21.8s,baz=36,slow=38
comp=Z,36nm,0.4s
DAV Davao City (W) 28.63 295 LR LR 00 17 06.8
comp=Z,68nm,18.4s,baz=102,slow=37
MSVF Nonsavu 28.77 118 ‖ *eP* P 00 05 26.1 +0.7
MSVF pmax pmax
comp=Z,37nm,1.5s
LUWI Luwuk 29.09 277 P P 00 05 27.7 -0.4
LUWI Luwuk 29.09 277 P P 00 05 28.8 +0.7
LUWI Luwuk 29.09 277 P P 00 05 28.4 +0.3
comp=Z,81nm,1.3s
DGTI Dogotuki 29.77 114 P P 00 05 36.9 +2.8
EDFI Ende, Flores 29.96 261 P P 00 05 36.1 +0.2
comp=Z,32nm,0.6s
WRKA Warakurna 29.99 226 P P 00 05 35.0 -1.0
comp=Z,37nm,0.6s
MRSI Marisa 30.16 280 P P 00 05 38.2 +0.7
comp=Z,38nm,0.5s
APSI Ampana 30.21 277 P P 00 05 38.4 +0.3
comp=Z,1µmcomp=Z,74nm,1.2s
HTT Hallett 30.68 201 P P 00 05 41.8 -0.2
comp=Z,11nm,1.1s
HTT Hallett 30.68 201 P P 00 05 42.5 +0.5
WHYH Whyalla 30.84 203 P P 00 05 43.6 +0.3
BBOO Buckleboo 31.27 206 P P 00 05 46.8 -0.4
BBOO Buckleboo 31.27 206 P P 00 05 47.1 -0.1
TOLI2 Tolitoli 31.41 280 P 00 05 47.7 -0.9
TOLI2 IAmb IAmb 00 05 53.7
comp=Z,13nm,0.6s
TOLI2 Tolitoli 31.41 280 P P 00 05 49.8 +1.2
KAPI Kappang 31.76 269 P P 00 05 50.9 -0.8
KAPI IAmb IAmb 00 05 53.2
comp=Z,12nm,0.7s
KAPI Kappang 31.76 269 P P 00 05 50.9 -0.8
KAPI pmax pmax
comp=Z,12nm,0.7s
PCI Palu 32.01 276 P P 00 05 54.5 +0.6
PLAI Plampang 33.82 262 P P 00 06 09.7 +0.1
PLAI Plampang 33.82 262 P P 00 06 07.9 -1.7
FORT Forrest 33.92 218 P P 00 06 09.6 -0.6
FORT IAmb IAmb 00 06 10.1
comp=Z,16nm,0.6s
MYLDM Lahad Datu 34.60 287 P P 00 06 17.0 +0.7
MYLDM Lahad Datu 34.60 287 P P 00 06 17.7 +1.4
MBWA Marble Bar 34.88 240 P P 00 06 17.8 -0.8
MBWA Marble Bar 34.88 240 P P 00 06 18.3 -0.3
MBWA Marble Bar 34.88 240 P P 00 06 17.9 -0.7
PSA00 Pilbara Seismi 34.94 239 P 00 06 18.5 -0.6
PSA00 IAmb IAmb 00 06 19.5
comp=Z,51nm,1.4s
PSA00 Pilbara Seismi 34.94 239 P P 00 06 18.5 -0.6
PSA00 IAmb IAmb 00 06 19.6
comp=Z,125nm,1.4s
PSA00 Pilbara Seismi 34.94 239 P P 00 06 18.7 -0.5
OUZ Omahuta 36.28 149 P P 00 06 32.4 +2.0
KKM Kota Kinabalu 37.03 287 P 00 06 37.1 0.0
KKM IAmb IAmb 00 06 38.8
comp=Z,56nm,1.2s
KKM Kota Kinabalu 37.03 287 P P 00 06 37.9 +0.8
MOO Moorlands 37.51 185 P P 00 06 42.8 +2.2
MEEK Meekatharra 38.17 232 P P 00 06 45.8 -0.7
JOW Kunigami 38.88 326 P P 00 06 53.1 +0.8
JHJ Hachijo jima 2 39.53 344 LR LR 00 21 43.6
comp=Z,78nm,20.5s,baz=295,slow=34
SBUM Sibu 40.07 280 P P 00 07 02.4 0.0
SBUM IAmb IAmb 00 07 04.6
comp=Z,40nm,1.8s
SBUM Sibu 40.07 280 P P 00 07 04.6 +2.2
GIRL Giralia 40.17 240 P P 00 07 03.2 +0.1
HAZ Te Kaha 40.40 147 P P 00 07 08.0 +3.2
URZ Urewera 40.42 149 P P 00 07 06.5 +1.6
RTZ Ruatahuna 40.62 149 P P 00 07 07.5 +0.8
RTZ IAmb IAmb 00 07 09.8
comp=Z,19nm,0.8s
RTZ Ruatahuna 40.62 149 P P 00 07 09.0 +2.3
TKNZ Takaka Hill 40.66 155 P P 00 07 09.3 +2.3
MWZ Matawai 40.70 148 P P 00 07 09.9 +2.6
BKZ Black Stump Fm 40.80 150 P P 00 07 08.5 +0.4
BKZ IAmb IAmb 00 07 51.6
comp=Z,102nm,1.9s
BKZ Black Stump Fm 40.80 150 P P 00 07 09.2 +1.1
PUZ Puketiti 40.89 147 P P 00 07 10.7 +1.8
YULB Yu-li 40.90 315 P P 00 07 09.3 +0.2
YULB IAmb IAmb 00 07 11.6
comp=Z,40nm,0.7s
YULB Yu-li 40.90 315 P P 00 07 10.2 +1.1
UGM Wanagama 40.95 264 P P 00 07 08.4 -1.3
NACB Ninganchiao 41.19 318 P P 00 07 12.3 +0.9
TSZ Takapari Road 41.23 151 P P 00 07 12.9 +1.3
THZ Tophouse 41.25 156 P P 00 07 11.9 +0.2
THZ IAmb IAmb 00 08 39.7
comp=Z,62nm,1.6s
THZ Tophouse 41.25 156 P P 00 07 12.4 +0.7
TPUB Ta-pu 41.31 314 P P 00 07 12.8 +0.3
MORW Morawa 41.33 230 P P 00 07 12.0 -0.6
MORW Morawa 41.33 230 P P 00 07 11.9 -0.6
KLBR Kellerberrin 41.34 226 P P 00 07 11.5 -1.1
TCW Tory Channel 41.37 154 P P 00 07 14.2 +1.5
SSLB Suanglung 41.39 315 P P 00 07 14.1 +1.0
SSLB IAmb IAmb 00 07 16.1
comp=Z,30nm,0.5s
TUWZ Tuamarina 41.41 154 P P 00 07 13.8 +0.8
MRZ Mangatainoka R 41.52 152 P P 00 07 14.1 +0.2
MRZ IAmb IAmb 00 08 16.2
comp=Z,66nm,1.7s
WVZ Waitaha Valley 41.53 159 P P 00 07 13.6 -0.3
BLDU Ballidu 41.59 228 P P 00 07 14.1 -0.6
BSWZ Blackbirch Sta 41.61 155 P P 00 07 15.0 +0.4
YHNB Yeheng 41.66 316 P P 00 07 16.3 +0.9
KSM Kuching 41.78 278 P P 00 07 15.2 -1.3
KSM IAmb IAmb 00 07 17.7
comp=Z,27nm,0.9s
KSM Kuching 41.78 278 P P 00 07 16.9 +0.4
BFZ Birch Farm 41.85 152 P P 00 07 17.0 +0.4
BFZ IAmb IAmb 00 07 22.4
comp=Z,44nm,1.2s
BFZ Birch Farm 41.85 152 P P 00 07 16.4 -0.2
LTZ Lake Taylor 41.85 157 P P 00 07 17.7 +1.1
LTZ IAmb IAmb 00 07 27.9
comp=Z,36nm,1.3s
LTZ Lake Taylor 41.85 157 P P 00 07 17.7 +1.1
JMN Monobe 42.01 338 P P 00 07 18.2 +0.2
JMN IAmb IAmb 00 07 19.5
comp=Z,29nm,0.8s
JMN Monobe 42.01 338 P P 00 07 19.4 +1.4
RPZ Rata Peaks 42.20 159 P P 00 07 20.5 +1.1
RPZ Rata Peaks 42.20 159 P P 00 07 20.7 +1.3
GVZ Greta Valley S 42.31 157 P P 00 07 21.1 +0.8
GVZ Greta Valley S 42.31 157 P P 00 07 21.4 +1.1
NWAO Narrogin (SRO) 42.44 225 P P 00 07 20.9 -0.5
NWAO Narrogin (SRO) 42.44 225 LR LR 00 26 01.2
comp=Z,169nm,18.5s,baz=209,slow=37
NWAO Narrogin (SRO) 42.44 225 P P 00 07 21.8 +0.3
NWAO Narrogin (SRO) 42.44 225 P P 00 07 21.9 +0.4
NWAO Narrogin (SRO) 42.44 225 P P 00 07 21.0 -0.5
NWAO pmax pmax
comp=Z,123nm,1.6s
LBZ Lake Benmore 42.49 160 P P 00 07 22.0 +0.3
LBZ IAmb IAmb 00 08 31.1
comp=Z,117nm,2.0s
JGF Kuroka 42.54 343 P P 00 07 21.6 -0.7
MUN Mundaring 42.66 227 P P 00 07 23.0 -0.3
JNU Nakatsue 42.71 334 P P 00 07 23.8 +0.2
JNU IAmb IAmb 00 08 02.2
comp=Z,30nm,1.0s
MLZ Mavora Lakes 42.72 163 P P 00 07 23.7 +0.1
MLZ IAmb IAmb 00 08 34.3
comp=Z,106nm,1.8s
MLZ Mavora Lakes 42.72 163 P P 00 07 24.4 +0.8
MJAR Matsushiro Arr 43.18 344 P P 00 07 25.7 -1.7
comp=Z,6.1nm,1.0s,baz=162,slow=9.8,SNR=6.3
MJAR PcP PcP 00 09 14.5 +0.4
comp=Z,5.0nm,0.6s,baz=158,slow=3.9,SNR=7.7
MJAR LR LR 00 26 30.5
comp=Z,36nm,18.1s,baz=168,slow=37
comp=Z,6.1nm,1.0s
MAJO Matsushiro 43.18 344 ⇑ *eP* P 00 07 25.3 -2.1
MAJO pmax pmax
comp=Z,26nm,1.5s
MJB9 Matsu-Tunnel 43.19 344 P P 00 07 27.0 -0.4
MJB9 IAmb IAmb 00 07 28.9
comp=Z,40nm,1.6s
BBJI Bungbulang 43.78 264 P P 00 07 31.4 -1.3
DLV Lat 46.09 292 P P 00 07 51.8 +0.8
DLV Lat 46.09 292 P P 00 07 50.7 -0.3
JTM Tenmabayashi 46.57 349 P P 00 07 53.5 -0.5
TJN Taejon 47.00 333 ‖ *eP* P 00 07 58.3 +0.8
QIZ Qiongzhong 47.57 301 P P 00 08 02.9 +0.7
QIZ IAmb IAmb 00 08 40.4
comp=Z,40nm,1.3s
KSRS Korea Array 47.65 334 P P 00 08 02.8 +0.3
comp=Z,4.2nm,0.8s,baz=153,slow=7.9,SNR=14
KSRS PcP PcP 00 09 30.4 +0.7
comp=Z,2.9nm,0.5s,baz=150,slow=3.9,SNR=8.0
comp=Z,4.2nm,0.8s
MYKOM Kota Tinggi 48.21 277 P 00 08 06.8 -0.4
MYKOM Kota Tinggi 48.21 277 P P 00 08 07.7 +0.4
INCN Inchon 48.24 333 P P 00 08 08.5 +1.4
NJ2 Nanjing 48.27 322 *eP* P 00 08 09.4 +2.1
NJ2 pmax pmax
comp=Z,13nm,0.6s
MNAI Manna 48.52 269 P P 00 08 08.0 -1.6
JKA Kamikawa-asahi 49.55 351 P P 00 08 16.7 -0.2
ASAJ Asahikawa 49.55 351 LR LR 00 27 29.7
comp=Z,27nm,20.6s,baz=143,slow=34
ASAJ Asahikawa 49.55 351 P P 00 08 16.7 -0.2
ASAJ pmax pmax
comp=Z,168nm,1.8s
WHN Wuhan 50.20 317 P P 00 08 23.8 +1.8
WHN pmax pmax
comp=Z,480nm,2.1s
BKNI Bangkinang 50.81 274 P P 00 08 26.1 -0.8
BKNI Bangkinang 50.81 274 P P 00 08 27.7 +0.7
MSHR Mys Shultsa 50.87 341 ‖ *eP* P 00 08 24.3 -2.5
MSHR pmax pmax
comp=Z,16nm,1.3s
PSTR Posyet 51.05 340 ⇑ *eP* P 00 08 28.2 +0.1
VLA Vladivostok 51.11 341 ‖ *eP* P 00 08 30.2 +1.6
VLA pmax pmax
comp=Z,45nm,1.4s
XMAS Kiritimati 51.34 83 P P 00 08 29.9 -1.0
XMAS IAmb IAmb 00 09 21.7
comp=Z,20nm,0.9s
IPM Ipoh 51.42 280 P 00 08 31.3 -0.3
IPM Ipoh 51.42 280 P P 00 08 31.4 -0.1
KULM Kulim 51.93 281 P 00 08 35.0 -0.3
KULM Kulim 51.93 281 P P 00 08 35.0 -0.3
USRK Ussuriysk Ar. 52.06 342 P P 00 08 35.5 -0.1
comp=Z,5.0nm,0.5s,baz=170,slow=8.1,SNR=9.3
USRK pP pP 00 09 11.5 +1.2
comp=Z,3.6nm,0.9s,baz=165,slow=7.9,SNR=1.7
USRK PcP PcP 00 09 46.7 +1.0
comp=Z,1.6nm,0.5s,baz=101,slow=7.8,SNR=2.2
comp=Z,5.0nm,0.5s
TIA Tai'an 52.18 325 P P 00 08 37.4 +0.6
TIA pmax pmax
comp=Z,17nm,0.6s
RPSI Rantau Prapat 53.21 277 P 00 08 43.7 -1.0
PSI Prapat 53.23 277 P P 00 08 44.0 -1.0
PSI Prapat 53.23 277 P P 00 08 43.7 -1.3
PSI pmax pmax
comp=Z,30nm,0.7s
ENH Enshi 53.44 314 P P 00 08 47.0 +0.9
GYA Guiyang 53.59 308 ‖ P P 00 08 49.0 +1.6
GYA pmax pmax
comp=Z,38nm,0.6s
SLVN Son La 53.59 301 P 00 08 48.9 +1.5
SLVN IAmb IAmb 00 08 50.1
comp=Z,21nm,1.2s
SLVN Son La 53.59 301 P P 00 08 48.9 +1.5
SURA Surathani 53.71 285 P P 00 08 49.4 +1.1
LYN LuoYang 53.93 320 P P 00 08 49.3 -0.3
LYN pmax pmax
comp=Z,32nm,1.3s
GSI Gunungsitoli 54.37 275 P P 00 08 52.1 -1.0
GSI Gunungsitoli 54.37 275 P P 00 08 53.1 0.0
HNS HongShan 54.41 324 ⇑ P P 00 08 53.4 +0.5
HNS pmax pmax
comp=Z,36nm,1.3s
BNX BinXian 54.93 339 ⇑ P P 00 08 56.0 -0.5
BNX pmax pmax
comp=Z,29nm,1.0s
BJI Beijing 55.41 327 P P 00 09 00.5 +0.4
BJI pP pwP 00 09 37.8 +0.2
BJI sP sP 00 09 54.8 +3.3
BJI PcP PcP 00 09 58.1 -0.5
BJI pmax pmax
comp=Z,5.0nm,1.3s
BJI pmax pmax
comp=Z,110nm,4.1s
LHMI Lhok Sumawe 55.55 280 P P 00 09 00.9 -0.7
LHMI Lhok Sumawe 55.55 280 P P 00 09 03.3 +1.7
XAN Xi'an 55.96 317 ⇑ P P 00 09 04.3 0.0
XAN pP pwP 00 09 41.8 0.0
XAN S S 00 16 43.3 +2.7
XAN pmax pmax
comp=Z,39nm,0.5s
XAN pmax pmax
comp=Z,440nm,5.5s
XAN Xi'an 55.96 317 P P 00 09 04.2 -0.1
KMI Kunming 56.13 305 ⇑ P P 00 09 07.4 +1.6
KMI pP pwP 00 09 43.8 +0.5
KMI pmax pmax
comp=Z,36nm,0.7s
KMI Kunming 56.13 305 P P 00 09 07.1 +1.2
CMAR Chiang Mai Arr 56.91 296 P P 00 09 11.9 +0.7
CMAR Chiang Mai Arr 56.91 296 P P 00 09 12.2 +1.0
comp=Z,9.6nm,0.6s,baz=123,slow=6.1,SNR=58
CMAR pP pP 00 09 46.8 +0.5
comp=Z,1.2nm,0.3s,baz=110,slow=5.3,SNR=1.7
comp=Z,9.6nm,0.6s
CHTO Chiang Mai 57.02 296 P P 00 09 12.1 +0.1
CHTO IAmb IAmb 00 09 13.9
comp=Z,52nm,1.5s
CHTO Chiang Mai 57.02 296 P P 00 09 13.2 +1.2
CHTO Chiang Mai 57.02 296 P P 00 09 12.1 +0.1
CHTO pmax pmax
comp=Z,52nm,1.5s
CHTO Chiang Mai 57.02 296 P P 00 09 12.3 +0.3
PZH PanZhiHua 57.53 306 P P 00 09 17.4 +1.8
CD2 Chengdu 57.98 311 P P 00 09 19.0 +0.5
CD2 pmax pmax
comp=Z,90nm,0.4s
PEA0B Petropavlovsk- 58.10 4 ⇑ *eP* P 00 09 18.4 -0.4
PETK Petropavlovsk- 58.10 4 P P 00 09 18.0 -0.9
PETK Petropavlovsk- 58.10 4 P P 00 09 18.6 -0.3
comp=Z,5.0nm,0.4s,baz=154,slow=6.0,SNR=27
PETK pP pP 00 09 54.9 +0.2
comp=Z,4.0nm,0.8s,baz=183,slow=3.0,SNR=2.7
PETK LR LR 00 31 40.0
comp=Z,33nm,18.9s,baz=220,slow=33
comp=Z,5.0nm,0.4s
XLT XiLinHaoTe 58.25 330 *eP* P 00 09 20.5 +0.3
XLT pP pwP 00 09 58.5 +0.4
XLT pmax pmax
comp=Z,52nm,0.9s
XLT pmax pmax
comp=Z,140nm,4.6s
HHC Hu-ho-hao-te 58.53 325 *eP* P 00 09 23.3 +1.1
HHC pmax pmax
comp=Z,28nm,0.7s
HHC pmax pmax
comp=Z,150nm,4.4s
HEH HeiHe 58.87 342 *eP* P 00 09 23.5 -0.7
HEH pmax pmax
comp=Z,24nm,0.8s
TBI Tubuai 59.54 114 *eS* S 00 17 21.1 -6.3
comp=Z,940nm,34.2s
TBI *e*LR LR 00 27 10.5
comp=Z,1µm,35.5s
LZH Lanzhou 60.56 316 *eP* P 00 09 37.3 +1.0
LZH PcP PcP 00 10 18.8 -0.5
LZH pmax pmax
comp=Z,49nm,1.3s
LZDM Lanzhou Array 60.59 316 P P 00 09 38.2 +1.5
comp=Z,22nm,0.7s,baz=144,slow=5.3,SNR=19
comp=Z,22nm,0.7s
HIA Hailar 60.73 337 P P 00 09 37.5 +0.5
HIA Hailar 60.73 337 P P 00 09 38.5 +1.5
HIA Hailar 60.73 337 P P 00 09 37.5 +0.5
HIA pmax pmax
comp=Z,21nm,0.6s
HIA Hailar 60.73 337 P P 00 09 37.1 +0.1
ZEA Zeya 61.99 344 *eP* P 00 09 45.5 +0.2
ZEA *e* 00 10 24.2
ZEA pmax pmax
comp=Z,10.0nm,1.0s
KIWB Kanaga Island 62.56 21 P P 00 09 49.6 +0.4
ADK Adak 62.76 21 P P 00 09 49.8 -0.6
ADK Adak 62.76 21 P P 00 09 49.8 -0.6
ADK pmax pmax
comp=Z,97nm,1.4s
MA2 Magadan 64.36 360 P 00 10 00.3 -0.5
MA2 IAmb IAmb 00 10 00.7
comp=Z,12nm,0.6s
MA2 Magadan 64.36 360 LR LR 00 40 31.5
comp=Z,16nm,18.0s,baz=140,slow=38
MA2 Magadan 64.36 360 P P 00 10 00.3 -0.5
MA2 pmax pmax
comp=Z,12nm,0.6s
MA2 Magadan 64.36 360 P P 00 10 00.1 -0.7
comp=Z,17nm,0.6s
GTA Gaotai 65.01 318 P P 00 10 06.9 +1.3

GTA PcP **PcP** **00 10 38.3 +1.0**
GTA pP pwP 00 10 46.3 +2.1
GTA pmax pmax
comp=Z,16nm,1.7s
SHL Shillong 65.41 301 P P 00 10 08.5 0.0
SHL Shillong 65.41 301 P **P 00 10 08.5 0.0**
SHL pmax pmax
comp=Z,45nm,0.5s
ULN Ulaanbaatar 65.55 329 P **P 00 10 10.0 +1.1**
ULN Ulaanbaatar 65.55 329 *c iP* **P 00 10 09.9 +0.9**
ULN pmax pmax
comp=Z,74nm,2.5s
ULN Ulaanbaatar 65.55 329 P **P 00 10 09.8 +0.9**
SONM Songino Array 65.87 328 P **P 00 10 12.0 +1.0**
SONM Songino Array 65.87 328 P **P 00 10 12.0 +1.0**
comp=Z,34nm,0.5s,baz=147,slow=5.3,SNR=192
comp=Z,34nm,0.5s
SONM Songino Array 65.87 328 P **P 00 10 12.0 +1.0**
SONM pmax pmax
comp=Z,38nm,0.5s
NIKH Nikolski High 66.66 25 P **P 00 10 16.2 +0.5**
baz=224
LSA Lhasa 67.39 305 P **P 00 10 21.7 +0.3**
LSA Lhasa 67.39 305 P **P 00 10 20.4 -1.0**
LSA pmax pmax
comp=Z,47nm,0.6s
LSA Lhasa 67.39 305 P **P 00 10 21.7 +0.3**
LSA pmax pmax
comp=Z,39nm,0.5s
LSA Lhasa 67.39 305 P **P 00 10 22.0 +0.6**
CASY Casey 67.50 197 P **P 00 10 21.3 +0.5**
CASY IAmb IAmb 00 10 22.4
comp=Z,25nm,1.2s
SEY Seymchan 67.73 0 ⇓ *iP* **P 00 10 22.4 +0.1**
SEY pmax pmax
comp=Z,4.0nm,0.4s
UNV Unalaska Valle 68.28 25 P **P 00 10 26.7 +0.9**
baz=226
YAK Yakutsk 68.93 349 LR LR 00 39 09.8
comp=Z,20nm,22.0s,baz=146,slow=34
YAK Yakutsk 68.93 349 *eP* **P 00 10 29.1 -0.6**
YAK pmax pmax
comp=Z,39nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
ZAK Zakamensk 69.05 329 *eP* **P 00 10 31.0 +0.1**
ZAK pmax pmax
comp=Z,45nm,1.4s
P08K Saint George I 69.06 22 P **P 00 10 31.7 +1.1**
baz=222
SPIA Saint Paul Isl 69.24 21 P **P 00 10 32.8 +1.1**
baz=221
FALS False Pass 70.29 26 P **P 00 10 38.7 +0.5**
baz=228
EVN Everest 70.45 302 P **P 00 10 41.0 +0.4**
EVN IAmb IAmb 00 10 43.1
comp=Z,26nm,0.6s
MOY Mondy 70.98 329 *eP* **P 00 10 43.2 +0.6**
MOY pmax pmax
comp=Z,42nm,1.6s
S12K Black Hills 71.43 26 P **P 00 10 45.5 +0.4**
baz=229
PALK Pallekele 71.82 279 LR LR 00 44 51.0
comp=Z,20nm,19.3s,baz=118,slow=38
SDPT Sand Point 71.90 26 P **P 00 10 48.4 +0.5**
baz=231
CCD Concordia, Ant 71.93 187 P **P 00 10 49.0 +0.7**
VNDA Vanda 72.69 178 **P 00 10 53.5 +1.2**
VNDA Vanda 72.69 178 P **P 00 10 53.2 +0.9**
comp=Z,2.9nm,0.5s,baz=334,slow=6.9,SNR=22
VNDA pP **pP 00 11 28.1 -1.3**
comp=Z,5.1nm,1.1s,baz=327,slow=6.0,SNR=4.2
comp=Z,2.9nm,0.5s
VNDA Vanda 72.69 178 P **P 00 10 53.5 +1.2**
VNDA pmax pmax
comp=Z,9.0nm,1.3s
S14K Fog Glacier 72.89 26 P **P 00 10 54.1 +0.2**
baz=232
M11K Mekoryuk 73.03 20 P **P 00 10 54.8 +0.4**
baz=224
SBA Scott Base 73.26 177 P **P 00 10 57.2 +1.6**
SBA Scott Base 73.26 177 P **P 00 10 57.2 +1.6**
SBA pmax pmax
comp=Z,23nm,1.5s
CHGN Chignik 73.40 26 P **P 00 10 56.5 -0.2**
CHGN IAmb IAmb 00 11 49.4
comp=Z,68nm,1.7s
CHGN Chignik 73.40 26 P **P 00 10 57.4 +0.7**
baz=233
GAMB Gambell 73.88 16 P **P 00 10 59.5 +0.2**
GAMB Gambell 73.88 16 P **P 00 11 00.2 +0.9**
baz=218
M13K Dall Lake 74.06 21 P **P 00 11 00.6 +0.1**
baz=227
O14K Tigyukauivet M 74.07 23 P **P 00 11 01.8 +1.2**
O14K IAmb IAmb 00 12 12.6
comp=Z,80nm,1.9s
O14K Tigyukauivet M 74.07 23 P **P 00 11 01.1 +0.5**
baz=229
N14K Kuskokwak Cree 74.35 22 P **P 00 11 03.7 +1.5**
N14K IAmb IAmb 00 13 42.1
comp=Z,47nm,1.6s
N14K Kuskokwak Cree 74.35 22 P **P 00 11 02.6 +0.4**
baz=229
CHIR Chirikof Islan 74.39 28 P **P 00 11 02.4 -0.1**
CHIR Chirikof Islan 74.39 28 P **P 00 11 03.1 +0.6**
baz=235
R16K Pilot Point 74.53 26 P **P 00 11 04.0 +0.7**
baz=233
O15K Ungalikthiuk R 74.59 24 P **P 00 11 04.3 +0.6**
O15K IAmb IAmb 00 12 05.2
comp=Z,69nm,1.8s
O15K Ungalikthiuk R 74.59 24 P **P 00 11 04.4 +0.8**
baz=231
K13K Kusilvak Mount 74.66 20 P **P 00 11 05.1 +1.1**
K13K IAmb IAmb 00 12 55.9
comp=Z,62nm,2.0s
K13K Kusilvak Mount 74.66 20 P **P 00 11 05.1 +1.1**
baz=226
M14K Bethel 74.80 22 **P 00 11 05.6 +0.8**
M14K IAmb IAmb 00 11 07.5
comp=Z,14nm,0.5s
M14K Bethel 74.80 22 P **P 00 11 05.8 +1.0**
baz=228,SNR=5.8
L14K Kuka Creek 74.93 21 P **P 00 11 06.7 +1.2**
L14K IAmb IAmb 00 11 08.4
comp=Z,19nm,0.6s
L14K Kuka Creek 74.93 21 P **P 00 11 06.5 +1.0**
baz=228,SNR=9.5
WMQ Urumqi 75.10 318 *eP* **P 00 11 02.5 -4.5**
WMQ pmax pmax
comp=Z,44nm,0.7s
R17L Mt. Peulik Vol 75.10 26 P **P 00 11 06.9 +0.3**
baz=234
PLK4 Peulik 4 75.10 26 P **P 00 11 06.9 +0.2**
N15K Kwethluk River 75.12 23 P **P 00 11 07.2 +0.5**
N15K Kwethluk River 75.12 23 P **P 00 11 07.0 +0.3**
baz=230
M15K Kasigluk River 75.23 22 P **P 00 11 07.8 +0.5**
baz=230
HYB Hyderabad 75.46 289 *eP* **P 00 11 09.2 -0.4**
SII Sitkinak Islan 75.47 28 P **P 00 11 08.9 +0.2**
SII IAmb IAmb 00 11 58.5
comp=Z,47nm,1.1s
SII Sitkinak Islan 75.47 28 P **P 00 11 09.2 +0.4**
baz=236
O16K Kokwok River B 75.55 24 P **P 00 11 09.6 +0.6**
baz=232
L15K Ungalak Mounta 75.59 21 P **P 00 11 09.8 +0.5**
baz=229
J14K Nanvaranak Lak 75.60 20 P **P 00 11 10.6 +1.3**
J14K IAmb IAmb 00 12 24.0
comp=Z,61nm,1.9s
J14K Nanvaranak Lak 75.60 20 P **P 00 11 10.1 +0.8**
baz=226
Q17K Contact Creek 75.67 26 P **P 00 11 09.9 -0.1**
baz=235
N16K Nishlik Lake 75.83 23 P **P 00 11 11.3 +0.6**
baz=232
ACHA Angle Creek He 75.88 26 P **P 00 11 11.1 0.0**
R18K Karluk 75.90 27 P **P 00 11 12.1 +1.0**
baz=236
K15K Wolf Creek Mou 75.98 21 **P 00 11 12.4 +0.9**
K15K IAmb IAmb 00 11 14.5
comp=Z,17nm,0.6s
K15K Wolf Creek Mou 75.98 21 P **P 00 11 12.6 +1.1**
baz=228,SNR=9.3
P17K Kvichak River 75.98 25 P **P 00 11 11.9 +0.3**
baz=234
O17K Koliganek Bris 76.06 24 P **P 00 11 12.6 +0.7**
baz=233
M16K Timber Creek 76.09 22 **P 00 11 13.1 +0.9**
M16K IAmb IAmb 00 11 15.3
comp=Z,11nm,0.7s
M16K Timber Creek 76.09 22 P **P 00 11 13.1 +0.9**
baz=231,SNR=6.3
OHAK Old Harbor 76.24 27 P **P 00 11 12.7 -0.3**
OHAK Old Harbor 76.24 27 P **P 00 11 13.7 +0.6**
baz=237
Q18K Katmai Hardscr 76.27 26 P **P 00 11 12.9 -0.4**
baz=235
TNA Tin City 76.29 16 P **P 00 11 13.6 +0.5**
baz=222
ANM Nome 76.30 18 P **P 00 11 13.8 +0.5**
baz=224
L16K Owhat River 76.34 22 **P 00 11 13.7 +0.2**
L16K IAmb IAmb 00 11 16.1
comp=Z,12nm,0.5s
L16K Owhat River 76.34 22 P **P 00 11 14.3 +0.8**
baz=231,SNR=11
N17K Nushagak Hills 76.48 23 **P 00 11 14.3 0.0**
N17K Nushagak Hills 76.48 23 P **P 00 11 14.3 0.0**
baz=233
P18K Big Mountain, 76.60 25 P **P 00 11 15.6 +0.5**
P18K Big Mountain, 76.60 25 P **P 00 11 15.8 +0.7**
baz=235
F14K Arctic Creek 76.68 17 P **P 00 11 16.4 +1.0**
baz=223
KDAK Kodiak Island 76.86 27 P **P 00 11 17.1 +0.6**
KDAK IAmb IAmb 00 11 23.7
comp=Z,43nm,1.7s
KDAK Kodiak Island 76.86 27 P **P 00 11 17.1 +0.6**
KDAK pmax pmax
comp=Z,43nm,1.7s
KDAK Kodiak Island 76.86 27 P **P 00 11 17.1 +0.6**
baz=238
M17K Holitna River 76.91 23 P **P 00 11 18.4 +1.7**
M17K IAmb IAmb 00 11 57.7
comp=Z,33nm,1.6s
M17K Holitna River 76.91 23 P **P 00 11 17.4 +0.7**
baz=233
J16K Anvik River 76.96 20 P **P 00 11 18.1 +1.1**
J16K Anvik River 76.96 20 P **P 00 11 17.9 +0.9**
baz=229
Q19K Cape Douglas, 77.02 26 P **P 00 11 17.0 -0.4**
Q19K Cape Douglas, 77.02 26 P **P 00 11 17.8 +0.3**
baz=237
L17K Donlin 77.04 22 P **P 00 11 17.3 -0.1**
baz=232,SNR=5.9
N18K Kilae Creek 77.08 24 P **P 00 11 18.2 +0.5**
N18K IAmb IAmb 00 13 02.2
comp=Z,45nm,2.0s
N18K Kilae Creek 77.08 24 P **P 00 11 18.5 +0.7**
baz=234
H16K Elim 77.32 19 P **P 00 11 19.9 +1.0**
baz=227
I17K Unalakleet 77.32 20 P **P 00 11 19.7 +0.7**
I17K Unalakleet 77.32 20 P **P 00 11 19.5 +0.5**
baz=229
F15K North Star Dit 77.33 17 P **P 00 11 19.7 +0.6**
F15K North Star Dit 77.33 17 P **P 00 11 20.1 +1.1**
baz=225
Q20K Shuyak Island 77.39 26 P **P 00 11 20.4 +0.9**
baz=238
SYI Shuyak Island 77.39 26 P **P 00 11 20.3 +0.8**
K17K Iditarod 77.40 21 **P 00 11 19.7 +0.2**
K17K Iditarod 77.40 21 P **P 00 11 20.6 +1.1**
baz=232
J17K VABM Dome 77.55 20 **P 00 11 21.0 +0.7**
J17K IAmb IAmb 00 11 23.6
comp=Z,11nm,0.6s
J17K VABM Dome 77.55 20 P **P 00 11 21.4 +1.2**
baz=231,SNR=7.4
M18K Stony River 77.58 23 P **P 00 11 22.1 +1.6**
baz=234
P19K Oil Pt 77.59 25 **P 00 11 20.5 -0.2**
P19K Oil Pt 77.59 25 P **P 00 11 21.3 +0.7**
baz=237
L18K Granite Mounta 77.69 22 **P 00 11 22.2 +1.1**
L18K Granite Mounta 77.69 22 P **P 00 11 22.4 +1.3**
baz=233,SNR=8.8
N19K Bonanza Creek 77.72 24 **P 00 11 21.8 +0.4**
N19K Bonanza Creek 77.72 24 P **P 00 11 22.5 +1.1**
baz=235,SNR=5.8
G16K Koyuk River 77.80 18 P **P 00 11 22.5 +0.9**
G16K Koyuk River 77.80 18 P **P 00 11 22.8 +1.2**
baz=227
ILSW Iliamna Southw 77.81 25 P **P 00 11 21.8 -0.2**
TIXI Tiksi 77.93 353 P **P 00 11 21.7 -0.5**
TIXI Tiksi 77.93 353 ⇓ *iP* **P 00 11 21.5 -0.7**
TIXI pmax pmax
comp=Z,19nm,1.3s
RED Redoubt Volcan 78.21 25 P **P 00 11 23.3 -0.8**
RED IAmb IAmb 00 14 22.3
comp=Z,18nm,1.1s
H17K Granite Mounta 78.27 19 **P 00 11 24.9 +0.7**
H17K Granite Mounta 78.27 19 P **P 00 11 25.2 +1.0**
baz=230,SNR=5.6
ZSN Zaisan 78.27 320 *eP* **P 00 11 24.9 +0.3**
ZSN Zaisan 78.27 320 *eP* **P 00 11 24.9 +0.3**
L19K White Mountain 78.36 23 **P 00 11 25.3 +0.5**
L19K IAmb IAmb 00 11 26.3
comp=Z,12nm,0.6s
L19K White Mountain 78.36 23 P **P 00 11 26.0 +1.2**
baz=235,SNR=11
CNPM China Poot 78.38 26 P **P 00 11 25.6 +0.6**
G17K Kiwalik Mounta 78.40 18 P **P 00 11 26.4 +1.5**
baz=229,SNR=7.2
J18K Innoko River 78.43 21 **P 00 11 25.4 +0.2**
J18K Innoko River 78.43 21 P **P 00 11 25.9 +0.7**
baz=233,SNR=9.2
BRLK Bradley Lake 78.66 26 P **P 00 11 26.4 -0.1**
BRLK IAmb IAmb 00 11 32.3
comp=Z,16nm,0.7s
BRSE Bradley Lake S 78.71 26 P **P 00 11 27.7 +1.0**
baz=239
F17K Baldwin Pennin 78.84 17 **P 00 11 27.9 +0.6**
F17K IAmb IAmb 00 11 30.2
comp=Z,12nm,0.6s
F17K Baldwin Pennin 78.84 17 P **P 00 11 28.3 +1.0**
baz=228
N20K Mount Spurr 78.86 24 P **P 00 11 28.6 +0.9**
baz=238
M20K Styx River 78.86 23 P **P 00 11 27.9 +0.2**
M20K Styx River 78.86 23 P **P 00 11 28.7 +1.0**
baz=236
L20K Farewell, AK 78.91 23 P **P 00 11 28.9 +1.1**
baz=236,SNR=6.8
H18K Honhosa River 78.91 19 P **P 00 11 28.3 +0.6**
H18K Honhosa River 78.91 19 P **P 00 11 28.6 +0.9**
baz=231
SPU Mount Spurr 78.92 24 P **P 00 11 28.2 +0.3**
C16K Lisburne Hills 78.98 15 P **P 00 11 28.2 +0.1**
C16K Lisburne Hills 78.98 15 P **P 00 11 29.5 +1.5**
baz=224
CAPN Captain Cook N 79.07 25 P **P 00 11 29.2 +0.6**
baz=238
E17K Hotham Inlet 79.11 17 P **P 00 11 29.7 +1.0**
baz=227
J19K Poorman 79.14 21 **P 00 11 29.5 +0.5**
J19K Poorman 79.14 21 P **P 00 11 29.7 +0.7**
baz=234,SNR=8.1
GCSA Galena City Sc 79.15 20 P **P 00 11 30.1 +1.0**
baz=232
STLK Strandline Lak 79.17 24 P **P 00 11 28.7 -0.6**
D17K Noatak River 79.18 16 P **P 00 11 30.1 +1.0**
baz=226
G18K Tagagawik 79.29 19 **P 00 11 29.6 -0.2**
G18K Tagagawik 79.29 19 P **P 00 11 30.4 +0.6**
baz=231,SNR=7.6
SLKM Skilak Lake 79.33 25 P **P 00 11 30.0 -0.1**
SLKM IAmb IAmb 00 11 32.2
comp=Z,23nm,0.5s
K20K Telida 79.33 22 **P 00 11 30.9 +0.8**
K20K Telida 79.33 22 P **P 00 11 30.7 +0.6**
baz=235,SNR=7.6
F18K Selawik 79.43 18 P **P 00 11 31.2 +0.7**
baz=230
SEW Seward 79.45 26 P **P 00 11 30.8 0.0**
SEW IAmb IAmb 00 11 32.7
comp=Z,56nm,1.6s
SEW Seward 79.45 26 P **P 00 11 31.3 +0.6**
baz=240
RDOG Red Dog Mine 79.47 16 P **P 00 11 31.2 +0.5**
RDOG IAmb IAmb 00 11 32.0
comp=Z,14nm,0.5s
RDOG Red Dog Mine 79.47 16 P **P 00 11 31.7 +0.9**
baz=226
O22K Cooper Landing 79.53 25 P **P 00 11 31.5 +0.3**
O22K IAmb IAmb 00 11 37.2
comp=Z,29nm,0.6s
O22K Cooper Landing 79.53 25 P **P 00 11 31.8 +0.7**
baz=240
SKT Skwentna 79.55 24 P **P 00 11 30.5 -0.9**
SKT Skwentna 79.55 24 P **P 00 11 31.8 +0.5**
baz=238
SUA Susitna One 79.60 24 P **P 00 11 31.7 0.0**
SUA IAmb IAmb 00 11 41.5
comp=Z,53nm,1.6s
SUA Susitna One 79.60 24 P **P 00 11 31.8 0.0**
baz=239
E18K Tukpahlearik C 79.69 17 P **P 00 11 32.8 +0.9**
baz=229
C17K DeLong Mountai 79.69 15 P **P 00 11 32.3 +0.3**
baz=226
MK31 Makanchi Array 79.71 319 P **P 00 11 32.5 0.0**
MK31 Makanchi Array 79.71 319 *c iP* **P 00 11 32.4 0.0**
MKAR Makanchi Array 79.71 319 **P 00 11 32.5 0.0**
MKAR Makanchi Array 79.71 319 P **P 00 11 32.6 +0.1**
comp=Z,3.7nm,0.5s,baz=101,slow=7.8,SNR=46
comp=Z,3.7nm,0.5s
J20K Nowinta River 79.77 21 **P 00 11 33.1 +0.7**
J20K Nowinta River 79.77 21 P **P 00 11 33.1 +0.7**
baz=235,SNR=11
H19K Roundabout Mou 79.77 19 P **P 00 11 33.2 +0.8**
baz=233
PPLA Purkeypile 79.79 23 P **P 00 11 32.1 -0.6**
PPLA IAmb IAmb 00 11 35.1
comp=Z,25nm,1.6s
PPLA Purkeypile 79.79 23 P **P 00 11 33.1 +0.4**
baz=237
RC01 Rabbit Creek A 79.83 25 P **P 00 11 32.6 -0.2**
RC01 IAmb IAmb 00 11 33.9
comp=Z,12nm,0.5s
RC01 Rabbit Creek A 79.83 25 P **P 00 11 32.8 +0.1**
baz=240
MAKZ Makanchi 79.92 319 P **P 00 11 33.5 -0.1**
MAKZ IAmb IAmb 00 11 34.8
comp=Z,59nm,1.6s
MAKZ Makanchi 79.92 319 P **P 00 11 33.5 -0.1**
MAKZ pmax pmax
comp=Z,59nm,1.6s
MAKZ Makanchi 79.92 319 P **P 00 11 33.4 -0.1**
G19K Purcell Mounta 79.94 19 **P 00 11 34.1 +0.8**
G19K Purcell Mounta 79.94 19 P **P 00 11 33.8 +0.5**
baz=232
M22K Willow 80.01 24 P **P 00 11 34.3 +0.6**
baz=239
I20K Naaghedeneel 80.01 21 P **P 00 11 34.3 +0.6**
I20K IAmb IAmb 00 12 10.5
comp=Z,61nm,1.9s
I20K Naaghedeneel 80.01 21 P **P 00 11 33.5 -0.1**
baz=235
F19K Shaleruckik Mo 80.16 18 **P 00 11 34.9 +0.5**
F19K Shaleruckik Mo 80.16 18 P **P 00 11 34.8 +0.4**
baz=231,SNR=11
CHUM Lake Minchumin 80.28 22 P **P 00 11 35.9 +0.8**
baz=237,SNR=8.9
H20K Anotleneega Mo 80.28 20 P **P 00 11 35.7 +0.6**
baz=234
CUT Chulitna 80.28 24 P **P 00 11 35.2 +0.1**
CUT IAmb IAmb 00 12 13.7
comp=Z,28nm,1.2s
CUT Chulitna 80.28 24 P **P 00 11 35.5 +0.4**
baz=239
PWL Port Wells 80.31 25 IAmb IAmb 00 11 37.5
comp=Z,20nm,0.5s
PWL Port Wells 80.31 25 P **P 00 11 35.4 0.0**
baz=241,SNR=5.6
PMR Palmer 80.33 25 P **P 00 11 36.0 +0.6**
baz=240
C18K Utukok River 80.34 16 P **P 00 11 36.5 +1.1**
baz=228
GHO Glory Hole Cre 80.51 25 P **P 00 11 36.4 -0.1**
GHO IAmb IAmb 00 12 14.1
comp=Z,42nm,1.8s
Q23K Middleton Isla 80.52 27 P **P 00 11 37.3 +0.9**
baz=243
KNK Knik Glacier 80.53 25 P **P 00 11 36.8 +0.2**
baz=241
SHLS Shalkode 80.54 315 *eP* **P 00 11 35.7 -1.5**
SHLS Shalkode 80.54 315 *eP* **P 00 11 35.7 -1.5**
KTH Kantishna Hill 80.62 22 IAmb IAmb 00 11 40.4
comp=Z,38nm,2.0s
PAF Port-aux-Franc 80.65 221 P **P 00 11 37.3 -0.1**
PAF Port-aux-Franc 80.65 221 P **P 00 11 37.3 -0.1**
PAF pmax pmax
comp=Z,361nm,1.3s
ZAA0 Zalesovo Array 80.67 327 IAmb IAmb 00 11 37.6
comp=Z,22nm,0.5s
ZALV Zalesovo Beam 80.67 327 **P 00 11 37.0 -0.4**
ZALV Zalesovo Beam 80.67 327 P **P 00 11 36.6 -0.8**
comp=Z,21nm,0.4s,baz=112,slow=6.3,SNR=117
ZALV LR LR 00 48 42.9
comp=Z,28nm,19.8s,baz=77,slow=36
comp=Z,21nm,0.4s
ZALV Zalesovo Beam 80.67 327 P **P 00 11 37.0 -0.4**
E19K Redstone River 80.71 18 IAmb IAmb 00 11 38.8
comp=Z,14nm,0.6s
E19K Redstone River 80.71 18 P **P 00 11 38.1 +0.7**
baz=232,SNR=14
TRF Thorofare Moun 80.81 23 IAmb IAmb 00 11 53.3
comp=Z,34nm,1.9s
TRF Thorofare Moun 80.81 23 P **P 00 11 38.8 +0.5**
baz=239
UZB Uzynbulak 80.85 315 *eP* **P 00 11 39.0 +0.1**
comp=Z,18nm,1.3s
UZB Uzynbulak 80.85 315 *eP* **P 00 11 38.9 +0.1**
UZB pmax pmax
comp=Z,18nm,1.3s
GLI Glacier Island 80.85 26 P **P 00 11 38.0 -0.3**
HIN Hinchinbrook I 80.89 26 P **P 00 11 38.4 -0.1**
BPAW Bear Paw Mtn. 80.89 22 P **P 00 11 38.3 -0.2**
baz=238
F20K Avaraart Lake 80.93 18 P **P 00 11 39.6 +1.1**
baz=233
IMAR Indian Mountai 80.94 20 P **P 00 11 38.9 +0.3**
M23K Glacier View 81.02 25 P **P 00 11 39.9 +0.8**
baz=242
H21K Melozitna Rive 81.08 20 P **P 00 11 40.0 +0.6**
baz=236
C19K Lookout Ridge 81.08 16 P **P 00 11 40.3 +0.9**
C19K Lookout Ridge 81.08 16 P **P 00 11 39.9 +0.5**
baz=229
D19K Kuna River 81.10 17 IAmb IAmb 00 11 43.5
comp=Z,29nm,1.4s
D19K Kuna River 81.10 17 P **P 00 11 39.9 +0.4**
baz=231
I21K Tanana 81.11 21 P **P 00 11 39.9 +0.4**
baz=237
PRZ Przheval'sk 81.11 314 P **P 00 11 41.3 +1.0**
PRZ IAmb IAmb 00 11 42.9
comp=Z,71nm,1.3s
PRZ Przheval'sk 81.11 314 P **P 00 11 41.3 +1.0**
PRZ pmax pmax
comp=Z,71nm,1.3s
WAT1 Susitna Watana 81.18 24 P **P 00 11 40.0 0.0**
baz=241
SCM Sheep Creek Mo 81.20 25 P **P 00 11 40.3 +0.1**
SCM IAmb IAmb 00 12 18.2
comp=Z,30nm,1.4s
SCM Sheep Creek Mo 81.20 25 P **P 00 11 40.3 +0.1**
SCM pmax pmax
comp=Z,30nm,1.4s
SCM Sheep Creek Mo 81.20 25 P **P 00 11 40.3 +0.1**
baz=242
SATY Saty 81.26 315 *eP* **P 00 11 41.2 +0.1**
SATY Saty 81.26 315 *eP* **P 00 11 41.1 +0.1**
EYAK Cordova Ski Ar 81.29 26 P **P 00 11 40.8 +0.3**
baz=244
G21K Allakaket 81.33 19 P **P 00 11 40.8 +0.1**
baz=236
WAT6 Susitna Watana 81.39 24 P **P 00 11 40.9 -0.4**
baz=241
MLY Manley 81.47 21 IAmb IAmb 00 11 42.5
comp=Z,14nm,0.4s
MLY Manley 81.47 21 P **P 00 11 41.5 0.0**

MCK **McKinley** 81.48 23 IAmb IAmb 00 11 42.1
comp=Z,25nm,1.2s
MCK **McKinley** 81.48 23 P P **00 11 41.4 -0.1**
baz=240,SNR=6.9
BWN **Browne** 81.50 22 P P **00 11 41.6 0.0**
BWN IAmb IAmb 00 11 47.0
comp=Z,60nm,1.8s
E20K **Nigu River** 81.52 17 P P **00 11 42.4 +0.6**
baz=233,SNR=7.2
DIV **Divide** 81.54 26 P P **00 11 42.8 +0.9**
DIV IAmb IAmb 00 14 13.7
comp=Z,44nm,1.7s
KLU **Klutina** 81.64 25 IAmb IAmb 00 11 43.7
comp=Z,24nm,1.4s
KLU **Klutina** 81.64 25 P P **00 11 42.9 +0.3**
baz=243
D20K **Etivluk River** 81.67 17 P P **00 11 42.8 +0.3**
D20K IAmb IAmb 00 12 19.7
comp=Z,41nm,1.6s
D20K **Etivluk River** 81.67 17 P P **00 11 43.2 +0.7**
baz=232
H22K **Ishtalitna Cre** 81.71 20 P P **00 11 43.3 +0.6**
baz=238
F21K **Alatna River** 81.74 19 P P **00 11 43.5 +0.7**
baz=235
DHY **Denali Highway** 81.77 24 IAmb IAmb 00 11 44.8
comp=Z,35nm,2.0s
DHY **Denali Highway** 81.77 24 P P **00 11 43.4 +0.2**
baz=242
TDK **Taldyqorghan** 81.77 317⇑ *i*P P **00 11 43.8 +0.3**
comp=Z,20nm,0.9s
TDK **Taldyqorghan** 81.77 317 *c i*P P **00 11 43.8 +0.3**
TDK pmax pmax
comp=Z,20nm,0.9s
M24K **Tolsona, Glenn** 81.81 25 P P **00 11 44.4 +1.0**
M24K IAmb IAmb 00 12 21.8
comp=Z,101nm,1.8s
M24K **Tolsona, Glenn** 81.81 25 P P **00 11 43.5 +0.1**
baz=243
NEA2 **Nenana** 81.86 22 P P **00 11 43.0 -0.5**
baz=240,SNR=14
KDJ **Kajisay** 81.90 314 IAmb IAmb 00 11 46.2
comp=Z,51nm,1.2s
BMRM **Bremner River** 81.98 26 P P **00 11 44.7 +0.5**
BMRM IAmb IAmb 00 12 10.6
comp=Z,26nm,1.4s
BMRM **Bremner River** 81.98 26 P P **00 11 45.1 +0.8**
baz=244
KSH **Kashi** 82.18 311 P P **00 11 47.8 +1.9**
KSH pmax pmax
comp=Z,16nm,1.4s
BGLC **Bering Glacier** 82.21 27 P P **00 11 45.7 +0.3**
baz=246
G22K **Bettles** 82.22 19 P P **00 11 46.2 +0.9**
baz=237
MDOK **Medeo** 82.25 315 *e*P P **00 11 46.4 +0.2**
MDOK **Medeo** 82.25 315 *e*P P **00 11 46.4 +0.2**
N25K **Chitina, Valde** 82.26 26 P P **00 11 45.8 0.0**
N25K **Chitina, Valde** 82.26 26 P P **00 11 46.2 +0.4**
baz=244
E21K **Killik River** 82.29 18 P P **00 11 46.5 +0.8**
baz=235
TNSS **Tian-Shan** 82.29 314 *e*P P **00 11 46.6 -0.1**
TNSS **Tian-Shan** 82.29 314 *e*P P **00 11 46.6 -0.1**
F22K **John River** 82.32 19 P P **00 11 46.6 +0.8**
baz=237
B20K **Meade River** 82.32 16 P P **00 11 45.9 +0.2**
B20K **Meade River** 82.32 16 P P **00 11 46.5 +0.8**
baz=232
AAA **Alma-Ata** 82.36 315 *e*P P **00 11 47.0 +0.4**
comp=Z,12nm,0.5s
AAA **Alma-Ata** 82.36 315 *e*P P **00 11 47.0 +0.4**
AAA pmax pmax
comp=Z,12nm,0.5s
COLA **College** 82.45 22 *c i*P P **00 11 45.5 -1.0**
COLA pmax pmax
comp=Z,7.0nm,0.6s
COLA **College** 82.45 22 P P **00 11 46.6 +0.1**
baz=241
C21K **Knifeblade Rid** 82.47 17 P P **00 11 47.3 +0.7**
baz=234
PAX **Paxson** 82.49 24 P P **00 11 47.3 +0.3**
PAX **Paxson** 82.49 24 P P **00 11 47.3 +0.3**
PAX pmax pmax
comp=Z,3.0nm,0.7s
PAX **Paxson** 82.49 24 P P **00 11 47.7 +0.8**
baz=243
GLB **Gilahina Butte** 82.53 26 P P **00 11 47.6 +0.5**
GLB IAmb IAmb 00 11 50.7
comp=Z,36nm,1.8s
CRQM **Cirque** 82.54 27 P P **00 11 48.2 +0.8**
CRQM IAmb IAmb 00 12 36.5
comp=Z,18nm,1.2s
WAX **Waxell Ridge** 82.55 27 P P **00 11 48.2 +1.0**
WAX IAmb IAmb 00 13 45.3
comp=Z,72nm,1.6s
CRQE **Cirque** 82.56 27 P P **00 11 47.7 +0.3**
baz=246
HDA **Harding Lake** 82.57 23 IAmb IAmb 00 11 48.3
comp=Z,8.2nm,0.5s
HDA **Harding Lake** 82.57 23 P P **00 11 47.2 0.0**
baz=242,SNR=13
VRDI **Verde Repeater** 82.60 26 P P **00 11 47.8 +0.2**
G23K **Bananza Creek** 82.60 20 P P **00 11 47.4 0.0**
baz=239
ULHL **Ulahol** 82.61 314 P P **00 11 48.9 +0.7**
SNR=11
POKR **Poker Plat Res** 82.73 22 P P **00 11 47.2 -0.8**
POKR **Poker Plat Res** 82.73 22 P P **00 11 47.6 -0.4**
baz=241
K24K **Donnelly Dome** 82.75 23 IAmb IAmb 00 14 34.8
comp=Z,44nm,1.9s
K24K **Donnelly Dome** 82.75 23 P P **00 11 48.2 +0.1**
baz=243
ILAR **Eielson Array** 82.77 22 P P **00 11 47.0 -1.2**
comp=Z,4.8nm,0.5s,baz=253,slow=5.0,SNR=77
ILAR sP **sP** **00 12 41.7 -1.1**
comp=Z,2.5nm,0.8s,baz=246,slow=5.5,SNR=3.2
ILAR PKKPbc **PKKPbc** **00 30 11.6 -3.1**
comp=Z,0.6nm,0.4s,baz=360,slow=1.4,SNR=6.8
comp=Z,4.8nm,0.5s
E22K **Anaktuvuk Pass** 82.78 18 P P **00 11 48.3 0.0**
baz=237
B21K **Ikpikpuk River** 82.79 17 P P **00 11 48.5 +0.3**
B21K **Ikpikpuk River** 82.79 17 P P **00 11 48.7 +0.5**
baz=234
COLD **Coldfoot** 82.81 19 P P **00 11 48.9 +0.5**
baz=239
ISLE **Juniper Island** 82.84 27 P P **00 11 49.2 +0.3**
ISLE IAmb IAmb 00 11 52.3
comp=Z,47nm,1.6s
MESA **MESA** 82.85 27 P P **00 11 50.2 +1.2**
MESA IAmb IAmb 00 14 27.4
comp=Z,40nm,1.0s
MCARA **McCarthy VSAT** 82.85 26 P P **00 11 49.5 +0.8**
MCARA IAmb IAmb 00 12 08.8
comp=Z,26nm,1.5s
MCARA **McCarthy VSAT** 82.85 26 P P **00 11 49.7 +1.0**
baz=246
H24K **Noodor Dome** 82.91 21 P P **00 11 49.3 +0.3**
baz=241,SNR=7.4
D22K **Ayikyak River** 82.93 18 IAmb IAmb 00 11 54.8
comp=Z,39nm,1.6s
D22K **Ayikyak River** 82.93 18 P P **00 11 49.7 +0.8**
baz=236
YAH **Yahtse** 83.02 27 P P **00 11 50.2 +0.3**
YAH IAmb IAmb 00 13 49.3
comp=Z,76nm,1.7s
RIDG **Independent Ri** 83.09 24 P P **00 11 50.3 +0.4**
baz=244
GRNC **Granite Creek** 83.16 27 P P **00 11 51.2 +0.6**
GRNC IAmb IAmb 00 12 04.6
comp=Z,17nm,1.2s
MENT **Mentasta** 83.20 25 P P **00 11 50.6 +0.1**
KURK **Kurchatov** 83.20 322 P P **00 11 50.5 -0.2**
KURK IAmb IAmb 00 11 52.2
comp=Z,54nm,1.4s
KURK **Kurchatov** 83.20 322 *c i*P P **00 11 50.2 -0.5**
KURK pmax pmax
comp=Z,41nm,1.3s
KURK **Kurchatov** 83.20 322 P P **00 11 50.4 -0.3**
TKM2 **Tokmak 2** 83.23 314 P P **00 11 51.7 +0.4**
SNR=36
KURBB **Kurchatov Arra** 83.23 322 P P **00 11 50.5 -0.4**
comp=Z,4.8nm,0.5s,baz=101,slow=5.0,SNR=54
KURBB PKiKP **PKiKP** **00 17 07.0 -1.0**
comp=Z,0.5nm,0.6s,baz=113,slow=1.6,SNR=6.9
comp=Z,4.8nm,0.5s
KURBB **Kurchatov Arra** 83.23 322 P P **00 11 50.2 -0.7**
J25K **Salcha River,** 83.27 23 IAmb IAmb 00 11 51.2
comp=Z,18nm,0.5s
J25K **Salcha River,** 83.27 23 P P **00 11 50.9 0.0**
baz=243,SNR=35
TABL **Table Mountain** 83.32 27 P P **00 11 51.8 +0.4**
TABL IAmb IAmb 00 14 38.3
comp=Z,24nm,1.2s
L26K **Log Cabin Wild** 83.39 25 P P **00 11 52.1 +0.6**
baz=245,SNR=7.8
CTG **Chitna Glacier** 83.43 27 P P **00 11 52.4 +0.5**
baz=247
CTGM **Chitina Glacie** 83.44 27 P P **00 11 52.5 +0.6**
CTGM IAmb IAmb 00 13 38.0
comp=Z,43nm,1.9s
E23K **Chandalar** 83.44 19 P P **00 11 52.8 +1.1**
E23K **Chandalar** 83.44 19 P P **00 11 52.3 +0.6**
baz=239
G24K **Hadweenzic Riv** 83.48 20 P P **00 11 51.8 0.0**
baz=241
LOGN **Logan Glacier** 83.53 27 P P **00 11 53.0 +0.6**
LOGN IAmb IAmb 00 11 55.6
comp=Z,32nm,1.6s
SCRK **Sand Creek** 83.53 24 P P **00 11 52.2 -0.1**
baz=245
D23K **Nanushuk River** 83.58 18 IAmb IAmb 00 11 54.4
comp=Z,15nm,0.6s
D23K **Nanushuk River** 83.58 18 P P **00 11 53.4 +1.1**
baz=238
KBK **Karagaybulak** 83.63 314 P P **00 11 54.0 +0.7**
SNR=11
F24K **Squaw Lake** 83.73 20 IAmb IAmb 00 11 54.7
comp=Z,8.9nm,0.7s
F24K **Squaw Lake** 83.73 20 P P **00 11 54.3 +1.1**
baz=241
M27K **Edge Creek, AK** 83.74 25 IAmb IAmb 00 11 55.0
comp=Z,10nm,0.6s
M27K **Edge Creek, AK** 83.74 25 P P **00 11 54.0 +0.5**
baz=247,SNR=7.6
TOLK **Toolik Lake Re** 83.75 18 P P **00 11 53.9 +0.6**
TOLK **Toolik Lake Re** 83.75 18 P P **00 11 54.1 +0.8**
baz=239,SNR=5.7
E24K **Your Creek** 83.81 19 P P **00 11 53.5 -0.1**
E24K **Your Creek** 83.81 19 P P **00 11 54.1 +0.5**
baz=240
CHMS **Chumysh** 83.85 314 P P **00 11 54.7 +0.4**
SNR=16
PNL **Peninsula** 83.85 28 P P **00 11 54.5 +0.6**
baz=249
UCH **Uchtor** 83.85 313 P P **00 11 56.1 +1.2**
SNR=10
H25L **Birch Creek** 83.86 21 P P **00 11 54.3 +0.6**
baz=243
O28M **Mount Upton** 83.88 27 P P **00 11 55.1 +0.7**
O28M **Mount Upton** 83.88 27 P P **00 11 54.3 0.0**
baz=248
J26L **Joseph Creek** 83.93 23 P P **00 11 54.6 +0.4**
baz=245,SNR=7.2
AAK **Ala-Archa** 83.95 314 P P **00 11 55.6 +0.6**
SNR=13
AAK **Ala-Archa** 83.95 314 P **00 11 55.5 +0.6**
AAK IAmb IAmb 00 11 56.8
comp=Z,63nm,1.6s
AAK **Ala-Archa** 83.95 314 *c i*P P **00 11 55.4 +0.4**
AAK pmax pmax
comp=Z,40nm,1.7s
G25K **Bearman Lake** 83.99 21 P P **00 11 55.0 +0.6**
baz=242
SGDS **Sogindy** 84.03 314⇑ *i*P P **00 11 55.4 +0.2**
L27K **Beaver Creek,** 84.04 25 P P **00 11 55.2 +0.4**
baz=247,SNR=6.0
BCAR **Beaver Creek A** 84.06 25 P **00 11 55.4 +0.5**
C23K **Itkillik River** 84.07 17 P P **00 11 55.3 +0.6**
C23K IAmb IAmb 00 14 07.9
comp=Z,68nm,1.8s
C23K **Itkillik River** 84.07 17 P P **00 11 55.6 +0.9**
baz=238
USP **Ospenovka** 84.09 314 P P **00 11 56.1 +0.6**
SNR=36
D24K **Happy Valley** 84.25 18 IAmb IAmb 00 11 57.4
comp=Z,12nm,0.5s
D24K **Happy Valley** 84.25 18 P P **00 11 56.4 +0.7**
baz=240
YUK8 **Steele Glacier** 84.26 27 P P **00 11 56.2 0.0**
baz=249
K27K **Chicken** 84.32 24 P P **00 11 56.7 +0.5**
baz=246
O29M **Mount Kennedy** 84.46 28 P P **00 11 57.2 +0.1**
baz=250
EKS2 **Erkin-Say** 84.48 314 P P **00 11 58.5 +0.9**
SNR=36
F25K **Christian River** 84.53 20 P P **00 11 57.9 +0.7**
baz=243
C24K **Franklin Bluff** 84.57 18 IAmb IAmb 00 13 26.7
comp=Z,82nm,2.0s
C24K **Franklin Bluff** 84.57 18 P P **00 11 57.8 +0.5**
baz=240
P29M **Windy Craggy** 84.63 29 P P **00 11 58.5 +0.7**
baz=251
BTLS **Baital** 84.78 316⇑ *i*P P **00 11 59.3 +0.3**
comp=Z,18nm,1.1s
BTLS **Baital** 84.78 316 *c i*P P **00 11 59.2 +0.3**
BTLS pmax pmax
comp=Z,18nm,1.1s
YUK4 **Talbot Arm** 84.79 27 P P **00 11 59.9 +1.1**
baz=250
E25K **Arctic Village** 84.80 20 P P **00 11 59.0 +0.5**
E25K **Arctic Village** 84.80 20 P P **00 11 59.6 +1.1**
baz=243
BMAR **Burnt Mountain** 84.82 20 P P **00 11 59.8 +1.1**
G26K **Porcupine Rive** 84.89 21 IAmb IAmb 00 12 00.6
comp=Z,10nm,0.8s
G26K **Porcupine Rive** 84.89 21 P P **00 12 00.1 +1.2**
baz=245,SNR=11
MAW **Mawson** 84.95 203 P P **00 11 59.5 +0.2**
comp=Z,8.7nm,0.6s,baz=91,slow=6.3,SNR=23
MAW pP pP **00 12 36.9 -1.0**
comp=Z,8.4nm,1.0s,baz=89,slow=9.0,SNR=3.2
comp=Z,8.7nm,0.6s
QSPA **South Pole Qui** 84.98 180 P **00 12 01.6 +2.0**
QSPA IAmb IAmb 00 12 38.8
comp=Z,40nm,1.4s
QSPA **South Pole Qui** 84.98 180 P P **00 12 01.3 +1.7**
comp=Z,6.8nm,0.7s,baz=326,slow=0.7,SNR=43
QSPA pP pP **00 12 37.4 -0.5**
comp=Z,9.5nm,1.0s,baz=19,slow=2.4,SNR=4.9
comp=Z,6.8nm,0.7s
QSPA **South Pole Qui** 84.98 180 P P **00 12 02.0 +2.4**
EGAK **Eagle** 84.99 23 P P **00 11 59.6 +0.2**
baz=247
SIT **Sitka** 85.04 32 P P **00 12 00.9 +1.1**
baz=253
F26K **Sheenjek River** 85.09 20 P P **00 12 00.9 +1.0**
baz=244
D25K **Kavik River** 85.09 18 P P **00 12 01.3 +1.3**
baz=242
I27K **Kandik River** 85.13 23 P P **00 12 00.9 +0.7**
baz=247,SNR=6.8
HYT **Haines Junctio** 85.13 28 P P **00 12 01.2 +0.8**
baz=251
P30M **Million Dollar** 85.16 28 P P **00 12 01.0 +0.5**
baz=251
PLBC **Pleasant Camp** 85.24 29 P P **00 12 01.9 +1.1**
baz=252
M29M **Somme Creek** 85.25 26 P P **00 12 02.2 +1.2**
baz=250
H27K **Steamboat Moun** 85.42 22 P P **00 12 02.7 +1.1**
baz=247,SNR=9.8
DAWY **Dawson** 85.43 24 P P **00 12 03.0 +1.3**
baz=249,SNR=5.5
N30M **Aishikik Lake** 85.53 27 P P **00 12 03.5 +1.1**
N30M IAmb IAmb 00 12 06.0
comp=Z,27nm,1.9s
N30M **Aishikik Lake** 85.53 27 P P **00 12 03.1 +0.8**
baz=251
G27K **Doyon Strip** 85.60 21 P P **00 12 03.5 +1.0**
baz=247,SNR=6.7
L29M **L29M** 85.62 25 IAmb IAmb 00 12 05.0
comp=Z,9.3nm,0.5s
L29M **L29M** 85.62 25 P P **00 12 03.5 +0.8**
baz=250,SNR=10
I28M **Miner Creek** 85.72 23 IAmb IAmb 00 12 06.4
comp=Z,33nm,1.9s
I28M **Miner Creek** 85.72 23 P P **00 12 03.9 +0.7**
baz=248,SNR=5.8
SKAG **Skagway** 85.74 29 P P **00 12 04.5 +1.2**
baz=253
O30N **Mendenhall** 85.77 28 P P **00 12 04.1 +0.5**
baz=252
C26K **Camden Bay** 85.83 18 P P **00 12 04.0 +0.5**
baz=243
M30M **Minto, Yukon** 86.02 26 P P **00 12 04.6 -0.1**
baz=251
J29N **Klondike Camp** 86.05 24 P P **00 12 05.3 +0.5**
baz=250
C27K **Jago River** 86.07 18 IAmb IAmb 00 12 06.2
comp=Z,8.2nm,0.6s
C27K **Jago River** 86.07 18 P P **00 12 05.7 +1.0**
baz=244,SNR=6.3
HG4B **Hotspring** 86.11 37 P P **00 12 06.9 +1.6**
HG4B IAmb IAmb 00 12 07.9
comp=Z,52nm,1.4s
K29M **Barlow Dome** 86.13 25 IAmb IAmb 00 12 07.0
comp=Z,10.0nm,0.8s
K29M **Barlow Dome** 86.13 25 P P **00 12 06.0 +0.7**
baz=251,SNR=11
N31M **Braeburn, Yuko** 86.14 27 IAmb IAmb 00 12 14.8
comp=Z,24nm,1.5s
N31M **Braeburn, Yuko** 86.14 27 P P **00 12 06.2 +0.9**
baz=252
E27K **Coleen River** 86.17 20 IAmb IAmb 00 12 06.8
comp=Z,8.9nm,0.6s
E27K **Coleen River** 86.17 20 P P **00 12 06.0 +0.7**
baz=247,SNR=12
DZA **Taraz** 86.29 313 *e*P P **00 12 06.8 +0.3**
comp=Z,24nm,1.2s
DZA **Taraz** 86.29 313 *e*P P **00 12 06.7 +0.3**
DZA pmax pmax
comp=Z,24nm,1.2s
WHY **Whitehorse** 86.31 28 P P **00 12 07.7 +1.5**
WHY **Whitehorse** 86.31 28 P P **00 12 06.8 +0.5**
baz=253
I29M **Ogilvie Camp,** 86.33 23 P P **00 12 06.3 +0.2**
baz=250,SNR=8.9
WRAK **Wrangell Islan** 86.44 33 P P **00 12 07.4 +0.6**
baz=256
F28M **Old Crow** 86.55 21 P P **00 12 06.9 -0.2**
baz=248,SNR=5.8
P32M **Atlin** 86.57 29 P P **00 12 07.9 +0.4**
P32M IAmb IAmb 00 13 36.0
comp=Z,24nm,1.6s
P32M **Atlin** 86.57 29 P P **00 12 07.7 +0.2**
baz=254
H29M **Whitestone** 86.60 22 P P **00 12 07.6 +0.2**
H29M IAmb IAmb 00 14 02.3
comp=Z,27nm,1.8s
H29M **Whitestone** 86.60 22 P P **00 12 08.4 +1.0**
baz=250
BRZS **Berezniki** 86.72 321 *e*P P **00 12 08.8 +0.4**
BRZS **Berezniki** 86.72 321 *e*P P **00 12 08.7 +0.4**
D27M **Malcolm River** 86.80 19 IAmb IAmb 00 12 12.6
comp=Z,9.5nm,0.5s
D27M **Malcolm River** 86.80 19 P P **00 12 09.1 +0.8**
baz=247
J30M **Hart River** 86.86 24 IAmb IAmb 00 12 10.5
comp=Z,8.4nm,0.8s
J30M **Hart River** 86.86 24 P P **00 12 09.4 +0.6**
baz=252,SNR=9.0
KK31 **Karatay Array** 86.92 314 *i*P P **00 12 09.2 -0.3**
KKAR **Karatay Array** 86.92 314 P **00 12 09.1 -0.4**
KKAR **Karatay Array** 86.92 314 P P **00 12 09.1 -0.4**
G29M **Pine Creek** 86.97 22 IAmb IAmb 00 12 12.2
comp=Z,46nm,1.8s
G29M **Pine Creek** 86.97 22 P P **00 12 10.1 +0.9**
baz=250
M31M **Drury Creek, Y** 86.98 27 P P **00 12 10.1 +0.8**
M31M **Drury Creek, Y** 86.98 27 P P **00 12 10.3 +1.0**
baz=254
E28M **Babbage River** 87.03 20 IAmb IAmb 00 12 10.9
comp=Z,6.5nm,0.6s
E28M **Babbage River** 87.03 20 P P **00 12 10.0 +0.6**
baz=248,SNR=7.6
I30M **Mount Dempster** 87.04 24 IAmb IAmb 00 12 12.9
comp=Z,22nm,1.6s
I30M **Mount Dempster** 87.04 24 P P **00 12 10.0 +0.2**
baz=252,SNR=5.2
Q32M **Nakina River** 87.12 30 P P **00 12 11.4 +1.1**
Q32M IAmb IAmb 00 12 22.0
comp=Z,42nm,1.9s
Q32M **Nakina River** 87.12 30 P P **00 12 09.9 -0.5**
baz=256
P33M **Teslin, Yukon** 87.17 29 P P **00 12 10.0 -0.4**
baz=255
CHGR **Chuyangaron** 87.23 309 IAmb IAmb 00 12 15.2
comp=Z,27nm,1.0s
EPYK **Eagle Plains** 87.28 23 IAmb IAmb 00 12 14.3
comp=Z,41nm,1.4s
EPYK **Eagle Plains** 87.28 23 P P **00 12 11.0 +0.2**
baz=251
N32M **Quiet Lake** 87.29 28 P P **00 12 11.0 +0.1**
baz=255
SIMJ **Simiganj** 87.34 309 P **00 12 11.7 -0.1**
SIMJ IAmb IAmb 00 12 16.1
comp=Z,21nm,1.4s
SIMJ **Simiganj** 87.34 309 P P **00 12 11.7 -0.1**
BRLS **Borolday** 87.39 313 *e*P P **00 12 11.9 +0.1**
BRLS **Borolday** 87.39 313 *e*P P **00 12 11.9 +0.1**
CHM **Chimkent** 87.45 313 *e*P P **00 12 12.3 +0.2**
comp=Z,8.1nm,0.6s
CHM **Chimkent** 87.45 313 *e*P P **00 12 12.2 +0.2**
CHM pmax pmax
comp=Z,8.0nm,0.6s
E29M **Blow River** 87.52 20 IAmb IAmb 00 12 14.6
comp=Z,19nm,1.7s
E29M **Blow River** 87.52 20 P P **00 12 12.2 +0.5**
baz=250
D28M **Stokes Point** 87.57 19 P P **00 12 12.5 +0.6**
baz=249
G30M **tAoh Zraii Nji** 87.66 22 P P **00 12 14.0 +1.4**
G30M IAmb IAmb 00 12 59.4
comp=Z,22nm,1.6s
G30M **tAoh Zraii Nji** 87.66 22 P P **00 12 12.9 +0.3**
baz=252
T35M **Bob Quinn** 87.70 32 P P **00 12 13.3 +0.4**
baz=257
R33M **Jennings River** 87.88 30 IAmb IAmb 00 12 26.9
comp=Z,18nm,1.7s
R33M **Jennings River** 87.88 30 P P **00 12 14.1 +0.3**
baz=257
F30M **Barrier River** 88.02 21 IAmb IAmb 00 12 15.1
comp=Z,16nm,1.1s
F30M **Barrier River** 88.02 21 P P **00 12 14.7 +0.5**
baz=252
H31M **Peel River** 88.03 23 IAmb IAmb 00 12 15.1
comp=Z,6.5nm,0.7s
H31M **Peel River** 88.03 23 P P **00 12 14.8 +0.6**
baz=253,SNR=5.2
DLBC **Dease Lake** 88.14 31 LR LR 00 50 06.8
comp=Z,466nm,18.2s,baz=82,slow=34
DLBC **Dease Lake** 88.14 31 P P **00 12 16.0 +1.0**
baz=258
G31M **Satah River** 88.38 22 P P **00 12 16.2 +0.4**
G31M **Satah River** 88.38 22 P P **00 12 16.8 +1.0**
baz=253
MMPY **Sheldon Lake,** 88.49 27 P P **00 12 17.5 +0.9**
baz=256
BVA0 **Borovoye Array** 88.70 323 P P **00 12 15.9 -1.8**
BVAR **Borovoye Array** 88.70 323 P P **00 12 16.6 -1.1**
comp=Z,13nm,0.5s,baz=110,slow=6.8,SNR=43
BVAR PKiKP **PKiKP** **00 17 17.3 +0.4**
comp=Z,1.0nm,0.5s,baz=57,slow=1.7,SNR=4.6
comp=Z,13nm,0.5s
KBO **Bosley Butte** 88.98 48 P P **00 12 20.6 +1.3**
INK **Inuvik** 89.04 21 P P **00 12 18.9 0.0**
INK **Inuvik** 89.04 21 P P **00 12 18.9 0.0**
INK pmax pmax
comp=Z,8.0nm,1.2s
INK **Inuvik** 89.04 21 P P **00 12 19.6 +0.7**
baz=254
KRMB **Red Mountain** 89.12 48 P P **00 12 20.6 +0.5**
KCPM **Cahto Peak** 89.14 50 P P **00 12 20.3 +0.1**
KHMM **Horse Mountain** 89.17 49 P P **00 12 21.9 +1.6**
KSXB **Camp Six Broad** 89.19 48 P P **00 12 21.7 +1.4**
K02D **Willamette Mer** 89.45 47 P P **00 12 22.6 +1.0**
K02D IAmb IAmb 00 12 23.9
comp=Z,27nm,1.3s
I02E **Swisshome, OR** 89.50 46 P P **00 12 22.5 +0.9**
KHBM **Hayfork Bally** 89.53 49 P P **00 12 22.9 +0.8**
KHBM IAmb IAmb 00 13 11.7
comp=Z,16nm,1.6s
O02D **Mt. Diablo Mer** 89.80 50 P P **00 12 24.9 +1.6**
O02D IAmb IAmb 00 13 02.1
comp=Z,13nm,1.2s

RADR	Rader Ridge	89.83	44	P		P	00 12 24.2	+1.0
M02C	Callahan	89.89	49			P	00 12 25.2	+1.5
M02C				IAmb		IAmb	00 12 26.6	
	comp=Z,9.1nm,0.8s							
CLRS	Cowichan Lake	89.92	41	P		P	00 12 24.4	+1.0
CLRS				IAmb		IAmb	00 13 24.8	
	comp=Z,39nm,1.8s							
MNRC	McLaughlin Min	89.92	51	P		P	00 12 25.0	+1.2
MNRC				IAmb		IAmb	00 12 40.8	
	comp=Z,27nm,1.4s							
N02D	Trinity Center	89.96	49			P	00 12 25.5	+1.5
N02D				IAmb		IAmb	00 12 27.8	
	comp=Z,44nm,1.8s							
YBH	Yreka Blue Hor	90.04	48			P	00 12 26.3	+1.9
YBH				IAmb		IAmb	00 12 27.0	
	comp=Z,25nm,1.4s							
YBH	Yreka Blue Hor	90.04	48	P		P	00 12 26.3	+1.9
YBH				pmax		pmax		
	comp=Z,25nm,1.4s							
BBOR	Butler Butte	90.19	47			P	00 12 26.4	+1.3
BBOR				IAmb		IAmb	00 12 26.9	
	comp=Z,16nm,1.4s							
B04A	Port Angeles	90.23	42	P		P	00 12 26.5	+1.5
B04A				IAmb		IAmb	00 12 27.2	
	comp=Z,25nm,1.5s							
H04D	Lebanon	90.34	45	P		P	00 12 26.6	+1.0
PGC	Sidney	90.34	41	P		P	00 12 26.3	+0.9
PGC				IAmb		IAmb	00 13 17.9	
	comp=Z,38nm,1.9s							
L04D	Klamath Falls	90.39	48	P		P	00 12 26.7	+0.6
M03C	McCloud	90.43	49	P		P	00 12 27.6	+1.5
GNW	Green Mountain	90.63	42	P		P	00 12 28.3	+1.5
J04A	Umpqua Nationa	90.65	47	P		P	00 12 28.1	+0.8
TOAD	Toad River Com	90.67	31	P		P	00 12 27.5	+0.7
	baz=262							
WELL	Weller Preserv	91.21	52	IAmb		IAmb	00 12 32.5	
	comp=Z,15nm,1.2s							
J05D	Fort Rock, OR	91.29	47			P	00 12 31.7	+1.5
CMB	Columbia Colle	91.44	52			P	00 12 32.4	+1.5
CMB				IAmb		IAmb	00 12 33.2	
	comp=Z,14nm,1.4s							
CMB	Columbia Colle	91.44	52	P		P	00 12 32.4	+1.5
CMB				pmax		pmax		
	comp=Z,14nm,1.4s							
K05A	Summer Lake	91.49	47	P		P	00 12 32.7	+1.5
PINE	Pine Mountain	91.55	46			P	00 12 32.9	+1.4
BUCR	Buckhorn Ranch	91.60	53			P	00 12 33.1	+1.4
BUCR				IAmb		IAmb	00 12 34.7	
	comp=Z,30nm,1.4s							
BEKR	Beckworth	91.63	50			P	00 12 32.9	+1.1
BEKR				IAmb		IAmb	00 12 34.2	
	comp=Z,12nm,1.2s							
LTY	Liberty	92.06	43	P		P	00 12 34.2	+0.7
LTY				IAmb		IAmb	00 14 50.8	
	comp=Z,6.2nm,0.5s							
WRGLY	Wrigley	92.11	27	P		P	00 12 34.0	+0.7
	baz=263							
WAKR	Walker	92.23	52	IAmb		IAmb	00 12 37.3	
	comp=Z,17nm,1.4s							
C36M	Paulatuk	92.61	21	P		P	00 12 35.2	-0.3
C36M	Paulatuk	92.61	21	P		P	00 12 36.1	+0.7
	baz=263							
MWC	Mount Wilson	93.02	56	P		P	00 12 40.1	+1.7
MWC	Mount Wilson	93.02	56	P		P	00 12 40.1	+1.7
MWC				pmax		pmax		
	comp=Z,44nm,1.4s							
B08A	Colville Reser	93.04	42	P		P	00 12 37.9	-0.1
B08A				IAmb		IAmb	00 12 39.8	
	comp=Z,8.1nm,1.3s							
TIN	Tinemaha, Big	93.07	53	P		P	00 12 40.2	+1.7
TIN	Tinemaha, Big	93.07	53	P		P	00 12 40.2	+1.7
TIN				pmax		pmax		
	comp=Z,61nm,0.3s							
G08A	Pilot Rock	93.08	45	P		P	00 12 38.1	-0.3
G08A				IAmb		IAmb	00 13 16.4	
	comp=Z,15nm,1.3s							
E08A	Dider Farm, El	93.10	44	P		P	00 12 38.2	0.0
E08A				IAmb		IAmb	00 13 15.8	
	comp=Z,11nm,1.2s							
NVAR	Mina Array Bea	93.11	52	P		P	00 12 40.0	+1.2
	comp=Z,5.8nm,0.8s,baz=260,slow=5.6,SNR=16							
NVAR				pP		pP	00 13 15.9	-2.1
	comp=Z,3.6nm,0.8s,baz=268,slow=7.1,SNR=3.4							
NVAR				LR		LR	00 46 52.9	
	comp=Z,52nm,20.6s,baz=267,slow=30							
	comp=Z,5.8nm,0.8s							
SYO	Syowa Base	93.11	200⇑	eP		P	00 12 37.6	-0.2
WVOR	Wild Horse Val	93.12	48	P		P	00 12 38.4	-0.2
WVOR				IAmb		IAmb	00 12 41.0	
	comp=Z,21nm,1.5s							
WVOR	Wild Horse Val	93.12	48	P		P	00 12 38.4	-0.2
WVOR				pmax		pmax		
	comp=Z,21nm,1.5s							
YPT	Yellepit	93.13	44	P		P	00 12 38.6	+0.2
YPT				IAmb		IAmb	00 13 16.7	
	comp=Z,8.6nm,1.0s							
CWC	Cottonwood Cre	93.15	54	P		P	00 12 38.8	-0.2
CWC				IAmb		IAmb	00 12 42.3	
	comp=Z,26nm,1.6s							
NV11	Mina Array Sit	93.22	52	P		P	00 12 39.6	+0.4
DSP	Deep Springs	93.30	53			P	00 12 40.0	+0.6
DSP				IAmb		IAmb	00 12 42.3	
	comp=Z,17nm,1.2s							
J08A	Circle Bar Ran	93.30	47	P		P	00 12 39.6	+0.2
J08A				IAmb		IAmb	00 13 17.5	
	comp=Z,11nm,1.1s							
WSHM	Spangler Hills	93.57	55	P		P	00 12 41.8	+1.0
MPMC	Manual Prospec	93.61	54	P		P	00 12 41.3	+0.2
MPMC				IAmb		IAmb	00 12 44.5	
	comp=Z,22nm,1.5s							
CCCA	Chr Cany lake	93.67	55	P		P	00 12 41.9	+0.6
E09A	Wood Farm, Sta	93.73	44	P		P	00 12 42.0	+0.9
E09A				IAmb		IAmb	00 13 19.2	
	comp=Z,14nm,1.2s							
GMN	Gold Mountain	93.86	53	P		P	00 12 42.3	0.0
GMN				IAmb		IAmb	00 12 44.5	
	comp=Z,10nm,1.5s							
TPH	Tonopah	93.94	52	P		P	00 12 42.4	-0.2
TPH				IAmb		IAmb	00 12 45.1	
	comp=Z,14nm,1.3s							
TPH	Tonopah	93.94	52	P		P	00 12 42.4	-0.2
TPH				pmax		pmax		
	comp=Z,14nm,1.3s							
QSM	Queen of Sheba	94.10	54	P		P	00 12 43.1	0.0
GSC	Goldstone, Bar	94.12	55	P		P	00 12 43.2	-0.1
GSC				IAmb		IAmb	00 12 46.1	
	comp=Z,18nm,1.5s							
GSC	Goldstone, Bar	94.12	55	P		P	00 12 43.2	-0.1
FURC	Furnace Creek,	94.13	54	P		P	00 12 44.0	+0.8
DNR	Dunn Ranch,Anz	94.17	57	P		P	00 12 42.8	-0.9
BMO	Blue Mountains	94.23	45			P	00 12 43.3	-0.3
BMO				IAmb		IAmb	00 13 21.5	
	comp=Z,11nm,1.2s							
BMO	Blue Mountains	94.23	45	P		P	00 12 43.3	-0.3
BMO				pmax		pmax		
	comp=Z,11nm,1.2s							
GWY	Greenwater Val	94.28	54	P		P	00 12 44.2	+0.1
PFO	Pinyon Flats O	94.31	57	P		P	00 12 44.1	-0.2
PFO				IAmb		IAmb	00 12 47.2	
	comp=Z,4.4nm,0.8s							
PFO	Pinyon Flats O	94.31	57	LR		LR	00 47 14.0	
	comp=Z,52nm,20.0s,baz=276,slow=30							
PFO	Pinyon Flats O	94.31	57⇑	iP		P	00 12 46.3	+2.0
PFO				pmax		pmax		
	comp=Z,42nm,3.6s							
NEW	Newport	94.51	42	P		P	00 12 43.5	-1.3
NEW				IAmb		IAmb	00 12 46.6	
	comp=Z,11nm,1.4s							
NEW	Newport	94.51	42	LR		LR	00 49 23.6	
	comp=Z,56nm,19.4s,baz=257,slow=32							
NEW	Newport	94.51	42	P		P	00 12 43.5	-1.3
NEW				pmax		pmax		
	comp=Z,11nm,1.4s							
SHOC	Shoshone, Teco	94.58	54	P		P	00 12 46.3	+1.0
TPNV	Topopah Spring	94.65	53	P		P	00 12 46.2	+0.4
TPNV				IAmb		IAmb	00 12 48.4	
	comp=Z,16nm,1.2s							
TPNV	Topopah Spring	94.65	53	P		P	00 12 46.2	+0.4
TPNV				pmax		pmax		
	comp=Z,16nm,1.2s							
YUH	Yuha Desert	94.71	58	P		P	00 12 45.5	-0.5
YUH				IAmb		IAmb	00 12 50.3	
	comp=Z,14nm,1.2s							
BELC	Belle Mtn. Jos	94.71	56			P	00 12 46.5	+0.3
AB31	Akbulak array	94.85	319	IAmb		IAmb	00 12 46.2	
	comp=Z,11nm,1.4s							
AB31	Akbulak array	94.85	319	*i* P		P	00 12 43.9	-2.3
ABKAR	Akbulak array	94.85	319			P	00 12 44.0	-2.2
BC3	Big Chuckawall	95.15	57	P		P	00 12 47.9	-0.3
MFID	Camas Ranch	95.23	47	P		P	00 12 47.9	-0.4
MFID				IAmb		IAmb	00 13 26.4	
	comp=Z,12nm,1.4s							
R11B	Troy Canyon, C	95.24	52	P		P	00 12 48.3	-0.2
R11B				IAmb		IAmb	00 12 51.1	
	comp=Z,9.1nm,1.3s							
DANC	Danby, Needles	95.25	56	P		P	00 12 48.1	-0.3
IRM	Iron Mountain	95.43	56	P		P	00 12 49.8	+0.5
SHPR	Sheep Range	95.51	54	P		P	00 12 50.0	+0.2
SHPR				IAmb		IAmb	00 12 52.7	
	comp=Z,8.4nm,1.5s							
PRN	Pahroc Range	95.63	53	P		P	00 12 50.0	-0.3
PRN				IAmb		IAmb	00 12 53.8	
	comp=Z,13nm,1.2s							
V12A	Nelson	95.73	55	P		P	00 12 50.2	-0.5
V12A				IAmb		IAmb	00 13 46.5	
	comp=Z,6.9nm,0.7s							
RPN	Rapa Nui	95.75	118	LR		LR	00 48 10.2	
	comp=Z,30nm,21.2s,baz=269,slow=30							
NEE2	Needles Airpor	95.89	56	P		P	00 12 52.4	+1.1
ARTI	Arti	95.92	326	P		P	00 12 48.9	-2.0
ARTI				IAmb		IAmb	00 12 49.9	
	comp=Z,7.6nm,0.8s							
ARTI	Arti	95.92	326	LR		LR	00 56 37.9	
	comp=Z,29nm,21.0s,baz=69,slow=36							
ARTI	Arti	95.92	326*c*	*i* P		P	00 12 48.4	-2.5
ARTI				*PP		pP	00 13 25.9	-3.5
ARTI							00 16 41.6	
ARTI				S		SKSac	00 23 09.9	-2.8
ARTI				pmax		pmax		
	comp=Z,8.0nm,0.9s							
BLYC	Blythe	95.93	57	P		P	00 12 50.9	-0.6
BLYC				IAmb		IAmb	00 12 54.8	
	comp=Z,6.9nm,0.7s							
YKA	Yellowknife Ar	96.13	28	P		P	00 12 52.0	+0.3
	comp=Z,1.3nm,0.7s,baz=208,slow=7.0,SNR=4.5							
	comp=Z,1.3nm,0.7s							
W13A	Hualapai Mount	96.50	55			P	00 12 55.0	+0.6
W13A				IAmb		IAmb	00 13 33.0	
	comp=Z,6.8nm,1.1s							
CCUT	Cedar City	96.97	53			P	00 12 56.1	-0.3
CCUT				IAmb		IAmb	00 13 35.2	
	comp=Z,8.7nm,1.2s							
KNB	Kanab	97.40	53			P	00 12 57.8	-0.5
KNB	Kanab	97.40	53	P		P	00 12 57.8	-0.5
KNB				pmax		pmax		
	comp=Z,13nm,1.2s							
YNR	Norris Junctio	98.94	46	P		P	00 13 03.3	-1.8
LPIG	La Paz	99.36	66	LR		LR	00 53 43.9	
	comp=Z,66nm,18.0s,baz=264,slow=33							
PDAR	Pinedale Array	99.83	48	Pdiff		Pdif	00 13 09.5	+0.4
	comp=Z,1.4nm,0.6s,baz=207,slow=2.0,SNR=17							
PDAR				pP		pP	00 13 45.8	-2.5
	comp=Z,1.8nm,0.9s,baz=240,slow=4.8,SNR=3.9							
PDAR				PKKPbc		PKKPbc	00 29 29.8	-0.6
	comp=Z,0.4nm,0.4s,baz=82,slow=4.0,SNR=4.9							
PDAR				LR		LR	00 55 39.2	
	comp=Z,28nm,18.1s,baz=235,slow=34							
TROLL	Troll, Antarti	100.58	189	⇑P		Pdif	00 13 11.4	-0.4
	comp=Z,67nm,0.5s							
KIRV	Kirov	100.60	329	*ce*P		Pdif	00 13 11.5	-0.3
TXAR	Lajitas Array	105.23	61	PKiKP		PKiKP	00 17 47.5	+0.6
	comp=Z,0.5nm,1.0s,baz=343,slow=2.6,SNR=3.5							
ARCES	ARCESS Array B	106.70	343	PKiKP		PKiKP	00 17 48.4	+0.1
	comp=Z,3.2nm,0.8s,baz=104,slow=1.8,SNR=12							
FINES	FINESS Array B	110.74	335	Pdiff		Pdif	00 13 56.3	-0.5
	comp=Z,1.0nm,0.4s,baz=184,slow=5.5,SNR=15							
FINES				PKiKP		PKiKP	00 17 56.5	+0.5
	comp=Z,2.4nm,0.5s,baz=107,slow=3.7,SNR=20							
AKASG	Malin Array Be	113.97	324	PKiKP		PKiKP	00 18 02.0	-0.5
	comp=Z,1.6nm,0.4s,baz=61,slow=2.6,SNR=6.9							
AKASG	Malin Array Be	113.97	324	*i* PKiKP		PKiKP	00 18 02.0	-0.5
AKBB	Malin Array Si	113.97	324⇑	*i*PKiKP		PKiKP	00 18 01.6	-0.9
KIEV	Kiev	113.98	324	P		Pdif	00 14 10.4	-1.1
BRTR	Keskin Array B	114.56	312	PKiKP		PKPdf	00 18 03.6	-0.6
	comp=Z,1.1nm,0.5s,baz=125,slow=1.8,SNR=15							
SORM	Soroca	115.49	322	⇑P		PKiKP	00 18 04.8	-0.7
SORM	Soroca	115.49	322	⇑PKiKP		PKiKP	00 18 04.8	-0.7
TLCR		116.29	318	⇑P		PKiKP	00 18 07.3	+0.2
TLCR		116.29	318	⇑PKiKP		PKiKP	00 18 07.3	+0.2
HFS	Hagfors	116.42	338	PKP		PKPdf	00 18 06.6	-0.3
	comp=Z,2.1nm,0.5s,baz=100,slow=3.5,SNR=11							
NB2	NORSAR Subarra	116.69	340	PKPdf		PKPdf	00 18 06.8	-0.7
	comp=Z,1.0nm,0.6s,baz=45,slow=1.9							
NOA	NORSAR Array B	116.69	340	PKP		PKPdf	00 18 07.0	-0.5
	comp=Z,1.2nm,0.6s,baz=48,slow=1.9,SNR=9.9							
CFR	Carcaliu	116.74	319	⇑P		PKPdf	00 18 07.5	-0.5
CFR	Carcaliu	116.74	319	⇑PKiKP		PKPdf	00 18 07.5	-0.5
TLBR	Topalu	117.03	318	⇑P		PKiKP	00 18 08.7	+0.1
TESR	Tescani	117.19	320	⇓P		PKPdf	00 18 08.7	-0.2
VRI	Vrincioaia	117.40	320	⇓P		PKPdf	00 18 08.5	-0.8
VRI	Vrincioaia	117.40	320	⇓PKiKP		PKPdf	00 18 08.5	-0.8
BURAR	Bucovina Array	117.63	322			PKiKP	00 18 10.9	+1.1
BURAR	Bucovina Array	117.63	322	⇓P		PKiKP	00 18 10.6	+0.8
BURAR	Bucovina Array	117.63	322	⇓PKiKP		PKiKP	00 18 10.6	+0.8
MLR	Muntele Rosu	118.05	320	⇑P		PKPdf	00 18 10.7	0.0
MLR	Muntele Rosu	118.05	320	⇑PKiKP		PKPdf	00 18 10.7	0.0
STRU	Stroemstad	118.11	338	*i* P		PKiKP	00 18 10.7	+0.4
BEL	Belsk	118.17	328	*e*PKP		PKiKP	00 18 13.0	+2.4
DOPR	Dopca	118.21	320	⇑P		PKPdf	00 18 10.6	-0.3
BORU	Boraas	118.45	336	*i* P		PKPdf	00 18 10.4	-0.5
BOSA	Boshof	118.58	234	PKP		PKiKP	00 18 12.5	+0.2
	comp=Z,4.5nm,0.5s,baz=105,slow=2.1,SNR=27							
TJOU	Tjoern	118.63	337	*i* P		PKPdf	00 18 11.2	0.0
DEL	Delary	118.76	335	*i* P		PKPdf	00 18 11.6	0.0
KOLS	Kolonicke sedl	118.79	324	*e*PKiKP		PKiKP	00 18 12.0	+0.1
FABU	Falkenberg	118.89	336	*i* P		PKPdf	00 18 11.4	-0.4
ARR	Arges	118.94	320	⇓P		PKiKP	00 18 13.2	+0.8
ONAU	Onsala	118.95	336	*i* P		PKPdf	00 18 10.7	-1.2
MREMI	Moremi	118.98	241	*i* P		PKiKP	00 18 13.3	+0.2
MREMI	Moremi	118.98	241			PKiKP	00 18 13.4	+0.2
HUMR	Humele	119.06	319	⇓P		PKPdf	00 18 12.0	-0.5
ELND	Elena	119.09	317	⇑P		PKPdf	00 18 12.2	-0.4
MARR	Marisel-Cluj	119.33	322	⇓P		PKPdf	00 18 12.6	-0.5
BJUU	Bjuv	119.38	335	*i* P		PKPdf	00 18 12.5	-0.2
DRGR		119.53	322	⇓P		PKPdf	00 18 12.5	-0.9
DRGR		119.53	322	⇓PKiKP		PKPdf	00 18 12.5	-0.9
BROLN	Tlhalogang	119.56	242	*i* P		PKPdf	00 18 14.0	-0.3
HOMB	Homborsund	119.64	339	*i* P		PKPdf	00 18 12.7	-0.4
NIE	Niedzica	119.68	326	*e*PKP		PKiKP	00 18 14.3	+0.6
SNART	Snartemo	120.05	339	*i* P		PKiKP	00 18 14.3	+0.2
MAKGR	Makgori	120.07	236	*i* P		PKiKP	00 18 15.4	+0.2
MAKGR	Makgori	120.07	236			PKiKP	00 18 15.3	0.0
GZR	Gura Zlata	120.11	321	⇑P		PKiKP	00 18 14.7	0.0
GZR	Gura Zlata	120.11	321	⇑PKiKP		PKiKP	00 18 14.7	0.0
S51A	Beattyville	120.23	49	PKPdf		PKiKP	00 18 15.2	+0.1
LANS	Liptovska Anna	120.28	326	*e*PKiKP		PKiKP	00 18 16.1	+1.2
PLCA	Paso Flores	120.32	144	PKP		PKiKP	00 18 15.7	+0.4
	comp=Z,1.4nm,0.6s,baz=304,slow=9.5,SNR=4.3							
SURR	Surduc	120.36	321	⇑P		PKPdf	00 18 14.6	-0.4
SIRR	Siria	120.41	322	⇑P		PKPdf	00 18 15.0	-0.1
LSZ	Lusaka	120.49	249			PKiKP	00 18 16.6	+0.3
LSZ	Lusaka	120.49	249	PKiKP		PKiKP	00 18 16.6	+0.3
TZTN	Tazewell	120.61	50	PKPdf		PKiKP	00 18 16.4	+0.5
P52A	Corning	120.63	46	PKPdf		PKPdf	00 18 15.3	-0.4
SOOWA	Sowa	120.72	243	*i* P		PKiKP	00 18 16.8	+0.1
BZS	Buzias	120.74	321	⇑P		PKPdf	00 18 15.6	-0.1
BZS	Buzias	120.74	321	⇑PKiKP		PKPdf	00 18 15.6	-0.1
W52A	Murphy	120.75	52	PKPdf		PKiKP	00 18 16.5	+0.3
STEB	Steborice	120.80	327	*e*PKPDF		PKiKP	00 18 15.9	+0.1
MORC	Moravsky Berou	121.01	327	*e*PKP		PKPdf	00 18 16.2	0.0
MORC	Moravsky Berou	121.01	327	⇓P		PKiKP	00 18 16.6	+0.3
MORC	Moravsky Berou	121.01	327	⇓PKiKP		PKiKP	00 18 16.6	+0.3
MDVR	Moldovita	121.06	320	⇓P		PKPdf	00 18 16.2	-0.2
KSP	Ksiaz	121.07	329	*e*PKP		PKiKP	00 18 16.5	+0.2
KDWAN	Kaudwane	121.10	239	*i* P		PKiKP	00 18 17.3	0.0
N53A	Lisbon	121.12	45			PKiKP	00 18 17.3	+0.5
P53A	Whipple	121.22	46	PKPdf		PKiKP	00 18 17.4	+0.4
KRLC	Kraliky	121.25	328	*e*PKiKP		PKiKP	00 18 16.9	+0.1
KRLC	Kraliky	121.25	328	*e*PKPDF		PKiKP	00 18 16.9	+0.1
OSTC	Ostas	121.27	328	*e*PKiKP		PKiKP	00 18 17.0	+0.2
OSTC	Ostas	121.27	328	*e*PKPDF		PKiKP	00 18 17.0	+0.2
SKOMA	Sekoma	121.29	237	*i* P		PKiKP	00 18 17.9	+0.3
DPC	Dobruska-Polom	121.34	328	*e*PKiKP		PKiKP	00 18 17.2	+0.3
DPC	Dobruska-Polom	121.34	328	*e*PKPDF		PKiKP	00 18 17.2	+0.3
CHVC	Chvalec	121.34	329	*e*PKiKP		PKPdf	00 18 16.6	-0.2
CHVC	Chvalec	121.34	329	*e*PKPDF		PKPdf	00 18 16.6	-0.2
JAVC	Velka Javorina	121.44	326	*e*PKP		PKiKP	00 18 18.2	+1.0
V53A	Saluda	121.45	51	PKPdf		PKiKP	00 18 18.0	+0.4
BG3	Lake Jocassee	121.56	52	PKPdf		PKiKP	00 18 18.5	+0.7
BOVS	Bovan	121.58	319	⇓P		PKPdf	00 18 17.0	-0.4
SRO	Srobarova	121.64	325	*e*PKiKP		PKiKP	00 18 17.6	+0.1
PAOC	Oil Creek Stat	121.64	44	PKPdf		PKPdf	00 18 17.6	0.0
O54A	Avella	121.68	45	PKPdf		PKiKP	00 18 18.0	+0.1
DELO	Deloro Mine	121.70	40	PKPdf		PKPdf	00 18 17.5	-0.1
VRAC	Vranov	121.78	327	*e*PKP		PKPdf	00 18 17.5	-0.1
VRAC	Vranov	121.78	327	⇓P		PKiKP	00 18 17.9	+0.1
VRAC	Vranov	121.78	327	⇓PKiKP		PKiKP	00 18 17.9	+0.1
Q54A	Coxs Mills	121.81	47			PKiKP	00 18 18.5	+0.4
PHPEN	Phepeng	121.81	236	*i* P		PKiKP	00 18 19.0	+0.2
PHPEN	Phepeng	121.81	236			PKiKP	00 18 18.9	+0.2
MODS	Modra-Piesok	121.92	326	*e*PKiKP		PKiKP	00 18 18.8	+0.7
KRUC	Moravsky	122.03	327	*e*PKP		PKPdf	00 18 18.0	-0.1
PVCC	Panska Ves	122.14	329	*e*PKiKP		PKiKP	00 18 18.6	+0.2
PVCC	Panska Ves	122.14	329	*e*PKPDF		PKiKP	00 18 18.6	+0.2
BRG	Berggiesshubel	122.25	330	*i* PKP		PKiKP	00 18 18.9	+0.3
BRG				Amp			00 18 20.1	
	comp=Z,6.8nm,0.5s							
CLL	Collm	122.45	331	*i* PKiKP		PKiKP	00 18 18.9	-0.1
CLL				*e*			00 18 58.0	
CLL				pmax		pmax		
	comp=Z,11nm,0.5s							
CLL	Collm	122.45	331	*i* PKPdf		PKiKP	00 18 18.9	-0.1
	comp=Z,11nm,0.5s							
CLL				*i* x		x	00 18 21.3	
CLL				*i* x		x	00 18 23.4	
CLL				*e*pPKiKP		pPKPdf	00 18 58.0	-1.2
PRU	Pruhonice	122.48	329	*e*PKiKP		PKPdf	00 18 18.8	-0.1
PRU	Pruhonice	122.48	329	*e*PKPDF		PKPdf	00 18 18.8	-0.1
PRA	Prague	122.48	329	*e*PKiKP		PKiKP	00 18 19.1	0.0
PRA	Prague	122.48	329	*e*PKPDF		PKiKP	00 18 19.1	0.0
RONA	Rosalia, Austr	122.84	326	*i* PKiKP		PKiKP	00 18 20.0	0.0
	comp=Z,6.7nm,1.0s							
CONA	Conrad Observa	122.96	326	*e*PKiKP		PKPdf	00 18 20.1	+0.1
	comp=Z,4.9nm,0.5s,SNR=5.8							
ZVC	Zvikov	122.99	328	*e*PKPDF		PKPdf	00 18 20.0	+0.1
J57A	Williamstown	123.25	40	PKPdf		PKPdf	00 18 20.6	0.0
CKRC	Cesky Krumlov	123.29	328	*e*PKiKP		PKiKP	00 18 20.9	+0.1
CKRC	Cesky Krumlov	123.29	328	*e*PKPDF		PKiKP	00 18 20.9	+0.1
KGCAE	Kacgae	123.39	239	*i* P		PKiKP	00 18 22.4	+0.4
KGCAE	Kacgae	123.39	239			PKiKP	00 18 22.3	+0.4
M57A	Sunshine Farm,	123.46	43	PKPdf		PKiKP	00 18 21.6	+0.3
KHC	Kasperske Hory	123.49	328	*de*PKiKP		PKPdf	00 18 20.6	-0.4
KHC	Kasperske Hory	123.49	328	*e*PKPDF		PKiKP	00 18 21.2	0.0
ARSA	Arzberg	123.53	325	PKPdf		PKiKP	00 18 21.3	0.0
ARSA	Arzberg	123.53	325	*i* PKP		PKPdf	00 18 20.8	-0.3
	comp=Z,16nm,0.6s							
GERES	GERESS Array B	123.60	328	PKP		PKPdf	00 18 21.4	+0.1
	comp=Z,8.0nm,0.5s,baz=64,slow=2.1,SNR=88							
LKGWB	Lokgwabe	123.72	237	*i* P		PKPdf	00 18 22.0	-0.3
MOA	Molln	123.89	327	*i* PKP		PKPdf	00 18 21.4	-0.3
	comp=Z,2.6nm,0.6s							
BIOA	Bad Ischl, Aus	124.32	327	*i* PKP		PKPdf	00 18 22.1	-0.5
	comp=Z,1.2nm,0.4s							
OBKA	Obir	124.50	325	*i* PKP		PKPdf	00 18 22.6	-0.4
	comp=Z,3.3nm,0.6s							
GRTLG	Ghanzi	124.81	240	*i* P	

GLKZ	**Green Lake**	**3.34**	**348**	P	Pn	00 07 54.9	-0.8
GLKZ				S	Sn	00 08 36.6	+1.4
MXZ	**Matakaoa Point**	**6.26**	**216**	P	Pn	00 08 34.1	-1.7
MXZ				S	Sn	00 09 51.6	+4.5
HAZ	**Te Kaha**	**6.67**	**217**	P	Pn	00 08 44.3	+3.0
HAZ				S	Sn	00 09 58.3	+1.0
PUZ	**Puketiti**	**6.69**	**213**	P	Pn	00 08 45.9	+4.2
PUZ				S	Sn	00 10 03.4	+5.6
RUGZ	**Raukumara Rang**	**6.89**	**217**	P	Pn	00 08 45.9	+1.4
RUGZ				S	Sn	00 10 02.9	+0.1
TWGZ	**Tauwhareparae**	**6.90**	**214**	P	Sn	00 10 05.9	+2.7
TKGZ	**Te Karaka**	**7.17**	**214**	P	Sn	00 10 07.0	-2.7
MWZ	**Matawai**	**7.25**	**216**	P	Pn	00 08 50.5	+1.2
MWZ				S	Sn	00 10 11.2	-0.4
URZ	**Urewera**	**7.40**	**218**	P	Pn	00 08 51.0	-0.4
URZ				S	Sn	00 10 12.7	-2.5
RIGZ	**Rimuhau**	**7.43**	**213**	P	Pn	00 08 46.9	-4.9
RIGZ				S	Sn	00 10 16.3	+0.2

YARS 20 00:09:57.0, 69°54′N × 133°38′E, h15 km, ML1.8/3, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTGS	**Batagay**	**1.92**	**171**	*i* Pg	Pb	00 10 31.6	+0.1
	0.5nm,0.1s						
BTGS				*i* Sg	Sg	00 10 57.1	-1.4
	1.7nm,0.1s						
BTGS				*i* Sg	Sg	00 10 57.1	-1.4
	1.1nm,0.1s						
DEPR	**Deputatskiy**	**2.13**	**91**	*i* Pg	Pb	00 10 35.6	+0.4
	3.4nm,6.1s						
DEPR				*i* Sg	Sg	00 11 03.6	-1.8
	14nm,4.8s						
DEPR				*i* Sg	Sg	00 11 03.6	-1.8
	2.7nm,0.0s						
TIXI	**Tiksi**	**2.70**	**324**	*i* Pg	Pb	00 10 45.7	+0.8
	24nm,1.4s						

*NOU **20** 00:12:47.9, 26°.39S × 179°.98E, h505 km, mb4.3/12, South of Fiji Islands*
*IDC **20** 00:12:48.1±1.1, 26°.22S × 179°.54E, h481 km±14 km, mb3.6/13, mbtmp4.4/16, Error ellipse: s-maj=22.2km s-min=14.2km az=175.0*
*NEIC **20** 00:12:50.3±1.3, 26°.4S±0°.1 × 179°.61E±0°.08, h499 km±10 km, mb4.4/20, Error ellipse: s-maj=19.1km s-min=8.5km az=161.0*

ISC 20 00:12:49.4±0.5, 26°.39S±0°.07 × 179°.63E±0°.09, h495 km, n66, σ1°28/69, mb4.1/21, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.59**	**143**	P	**P**	**00 14 05.3**	**+1.2**
RAO	**Raoul Island**	**3.59**	**143**	P	**P**	**00 14 03.9**	**-0.2**
	180nm,0.4s,baz=146,slow=23,SNR=3.9						
RAO				S	**S**	**00 15 04.5**	**-0.5**
	157nm,0.3s,baz=110,slow=24,SNR=1.6						
MSVF	**Nonsavu**	**8.74**	**350**	P	P	00 14 51.8	-1.8
MSVF	**Nonsavu**	**8.74**	**350**	P	**P**	00 14 51.8	-1.8
TAVE	**Taveuni**	**9.64**	**3**	P	**P**	**00 15 02.5**	**-0.5**
DGTI	**Dogotuki**	**10.04**	**1**	P	**P**	**00 15 05.9**	**-1.4**
MXZ	**Matakaoa Point**	**11.20**	**185**	P	**P**	**00 15 20.1**	**+0.9**
MXZ	**Matakaoa Point**	**11.20**	**185**	P	**P**	**00 15 18.1**	**-1.1**
PINNC	**Pines Island,**	**11.71**	**286**	P	**P**	**00 15 25.2**	**+0.3**
TOZ	**Tahuroa Road**	**11.84**	**196**	P	**P**	**00 15 27.0**	**+1.0**
URZ	**Urewera**	**12.03**	**190**	P	**P**	**00 15 27.8**	**-0.2**
	13nm,0.4s,baz=31,slow=1.3,SNR=22						
URZ				S	**S**	**00 17 37.7**	**-1.1**
	6.9nm,0.6s,baz=88,slow=22,SNR=8.7						
URZ	**Urewera**	**12.03**	**190**	P	**P**	**00 15 26.5**	**-1.5**
YATNC	**Mamie plateau,**	**12.39**	**288**	P	**P**	**00 15 34.1**	**+1.9**
DZM	**Mont Dzumac**	**12.77**	**287**	P	**P**	**00 15 37.3**	**+1.0**
DZM	**Mont Dzumac**	**12.77**	**287**	P	**P**	**00 15 33.2**	**-3.1**
	16nm,0.8s,baz=156,slow=24,SNR=6.0						
DZM	**Mont Dzumac**	**12.77**	**287**	P	**P**	**00 15 38.0**	**+1.7**
BKZ	**Black Stump Fm**	**13.01**	**191**	P	**P**	**00 15 37.7**	**-0.8**
QRZ	**Quartz Range**	**15.56**	**200**	P	**P**	**00 16 04.8**	**-0.5**
SANVU	**Saraoutou**	**15.90**	**311**	P	**P**	**00 16 09.9**	**+0.7**
LHI	**Lord Howe Isla**	**18.70**	**249**	P	**P**	**00 16 38.0**	**+1.6**
LBZ	**Lake Benmore**	**19.51**	**201**	P	**P**	**00 16 42.7**	**-1.0**
LBZ				IAmb	IAmb	00 16 59.8	
	comp=Z,10nm,1.0s						
JCZ	**Jackson Bay**	**19.71**	**204**	P	**P**	**00 16 44.7**	**-0.8**
ARMA	**Armidale**	**24.93**	**254**	P	**P**	**00 17 33.0**	**+0.4**
EIDS	**Eidsvold**	**25.68**	**266**		**P**	**00 17 39.6**	**+0.3**
EIDS	**Eidsvold**	**25.68**	**266**	P	**P**	**00 17 39.8**	**+0.5**
TATA	**Tatamba Isabel**	**25.98**	**310**	P	**P**	**00 17 41.7**	**-0.2**
CAN	**Canberra**	**27.67**	**244**	P	**P**	**00 17 58.5**	**+1.7**
CAN				IAmb	IAmb	00 18 06.3	
	comp=Z,7.5nm,1.1s						
TARA	**Tarawa**	**28.33**	**346**	P	**P**	**00 18 04.7**	**+2.1**
CTAO	**Charters Tower**	**31.24**	**275**		**P**	**00 18 28.2**	**+0.3**
STKA	**Stephens Creek**	**33.55**	**252**	P	**P**	**00 18 47.5**	**+0.1**
STKA				IAmb	IAmb	00 18 50.5	
	comp=Z,18nm,0.8s						
STKA	**Stephens Creek**	**33.55**	**252**	P	**P**	**00 18 47.1**	**-0.3**
	comp=Z,5.7nm,0.5s,baz=97,slow=12,SNR=17						
STKA				PcP	**PcP**	**00 21 12.7**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=72,slow=5.1,SNR=3.0						
	comp=Z,5.7nm,0.5s						
INKA	**Innaminka**	**34.56**	**259**		**P**	**00 18 56.5**	**+0.6**
INKA				IAmb	IAmb	00 18 57.9	
	comp=Z,6.5nm,1.0s						
COEN	**Coen**	**36.25**	**283**	P	**P**	**00 19 10.3**	**+0.1**
COEN				IAmb	IAmb	00 19 10.6	
	comp=Z,12nm,0.6s						
BBOO	**Buckleboo**	**38.22**	**250**	P	**P**	**00 19 25.5**	**-0.7**
BBOO				IAmb	IAmb	00 19 26.0	
	comp=Z,11nm,0.8s						
AS31	**Alice Springs**	**41.36**	**263**		**P**	**00 19 51.3**	**-0.4**
ASAR	**Alice Springs**	**41.36**	**263**	P	**P**	**00 19 51.6**	**-0.1**
ASAR	**Alice Springs**	**41.36**	**263**	P	**P**	**00 19 50.8**	**-0.9**
	comp=Z,8.9nm,0.8s,baz=103,slow=8.1,SNR=46						
	comp=Z,8.9nm,0.8s						
WR8	**Warramunga Arr**	**41.82**	**269**		**P**	**00 19 54.0**	**-1.3**
WR8				IAmb	IAmb	00 19 55.5	
	comp=Z,9.2nm,0.8s						
WRA	**Warramunga Arr**	**41.96**	**269**	P	**P**	**00 19 55.3**	**-1.2**
WRA	**Warramunga Arr**	**41.96**	**269**	P	**P**	**00 19 55.1**	**-1.4**
	comp=Z,7.8nm,0.7s,baz=106,slow=7.9,SNR=37						
WRA				PcP	**PcP**	**00 21 38.7**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=114,slow=2.8,SNR=2.5						
	comp=Z,7.8nm,0.7s						
WB0	**Warramunga Arr**	**41.97**	**269**		**P**	**00 19 55.4**	**-1.1**
WB0				IAmb	IAmb	00 19 56.2	
	comp=Z,12nm,0.8s						
JAY	**Jayapura**	**44.24**	**296**	P	**P**	**00 20 12.4**	**-2.0**
	comp=Z,4.6nm,0.5s,baz=196,slow=7.4,SNR=1.8						
	comp=Z,4.6nm,0.5s						
FORT	**Forrest**	**45.17**	**252**	P	**P**	**00 20 19.7**	**-1.7**
FORT				IAmb	IAmb	00 20 28.7	
	comp=Z,9.8nm,1.1s						
MTN	**Manton Dam**	**47.36**	**277**	P	**P**	**00 20 37.6**	**-0.6**
KNRA	**Kununurra**	**48.39**	**272**	P	**P**	**00 20 45.4**	**-0.5**
KNRA				IAmb	IAmb	00 20 46.1	
	comp=Z,15nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.35**	**268**		**P**	**00 20 59.8**	**-0.5**
QSPA	**South Pole Qui**	**63.70**	**180**	P	**P**	**00 22 33.2**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=188,slow=7.2,SNR=3.0						
	comp=Z,0.5nm,0.3s						
MJAR	**Matsushiro Arr**	**73.76**	**326**	P	**P**	**00 23 31.2**	**-1.4**
	comp=Z,4.0nm,0.7s,baz=148,slow=5.1,SNR=6.8						
	comp=Z,4.0nm,0.7s						
KSRS	**Korea Array**	**79.94**	**321**	P	**P**	**00 24 05.9**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=138,slow=6.3,SNR=7.8						
	comp=Z,2.6nm,0.7s						
PETK	**Petropavlovsk-**	**81.43**	**347**	P	**P**	**00 24 12.9**	**-0.8**
	comp=Z,2.1nm,0.4s,baz=157,slow=5.3,SNR=2.2						
	comp=Z,2.1nm,0.4s						
USRK	**Ussuriysk Ar.**	**82.67**	**328**	P	**P**	**00 24 20.4**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=134,slow=8.3,SNR=3.0						
	comp=Z,2.3nm,0.5s						
NVAR	**Mina Array Bea**	**86.77**	**44**	P	**P**	**00 24 40.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=260,slow=5.2,SNR=2.0						
	comp=Z,0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**90.07**	**290**	P	**P**	**00 24 56.3**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=101,slow=5.5,SNR=2.3						
	comp=Z,0.7nm,0.3s						
TXAR	**Lajitas Array**	**92.03**	**58**	P	**P**	**00 25 05.0**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=240,slow=5.1,SNR=6.6						
	comp=Z,0.6nm,0.8s						
PDAR	**Pinedale Array**	**94.70**	**44**	P	**P**	**00 25 17.5**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=235,slow=4.5,SNR=1.6						
	comp=Z,0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**116.79**	**316**	PKP	**PKPdf**	**00 30 35.0**	**-1.8**
	comp=Z,0.1nm,0.4s,baz=141,slow=3.1,SNR=3.4						
BVAR	**Borovoye Array**	**122.06**	**318**	PKP	**PKPdf**	**00 30 46.0**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=122,slow=2.2,SNR=1.4						
ARCES	**ARCESS Array B**	**134.24**	**348**	PKhKP	PKPpre	00 31 02.5	
	comp=Z,4.7nm,0.9s,baz=64,slow=2.1,SNR=2.0						
ARCES				SKPbc	**SKPbc**	**00 33 53.4**	**+1.0**
	comp=Z,5.5nm,0.9s,baz=26,slow=3.1,SNR=4.5						
FINES	**FINESS Array B**	**140.68**	**340**	PKhKP	PKPpre	00 31 13.9	
	comp=Z,2.1nm,0.7s,baz=41,slow=4.9,SNR=10						
MARD	**Mardin**	**143.64**	**298**		PKPab	00 31 26.3	-0.1
NOA	**NORSAR Array B**	**144.47**	**350**	PKP	**PKPdf**	**00 31 27.5**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=22,slow=3.0,SNR=8.8						
HFS	**Hagfors**	**144.90**	**348**	PKP	**PKPdf**	**00 31 28.0**	**-1.0**
	comp=Z,1.9nm,0.4s,baz=66,slow=3.7,SNR=32						
AKASG	**Malin Array Be**	**146.84**	**325**	PKPbc	**PKPdf**	**00 31 34.0**	**+1.4**
	comp=Z,2.5nm,0.5s,baz=48,slow=4.1,SNR=8.3						
AKASG				PKPab	**PKPbc**	**00 31 37.1**	**+1.8**
	comp=Z,2.5nm,0.5s,baz=48,slow=4.2,SNR=5.8						
MMAI	**Mount Meron Ar**	**148.34**	**291**	PKPbc	**PKPbc**	**00 31 40.2**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=82,slow=6.0,SNR=19						
MMAI				PKPab	**PKPab**	**00 31 44.7**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=98,slow=2.9,SNR=5.5						
BRTR	**Keskin Array B**	**148.74**	**304**	PKPbc	**PKPdf**	**00 31 39.9**	**+3.6**
	comp=Z,0.8nm,0.6s,baz=79,slow=1.2,SNR=6.3						
BRTR				PKPab	**PKiKP**	**00 31 45.5**	**+3.7**
	comp=Z,1.5nm,0.6s,baz=86,slow=2.2,SNR=8.5						
EKA	**Eskdalemuir Ar**	**151.01**	**3**	PKPbc	**PKPbc**	**00 31 44.2**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=354,slow=2.3,SNR=6.8						

*ISN **20** 01:01:46.7±0.3, 34°.14N × 45°.76E, h14 km±12 km, ML2.9*
*TEH **20** 01:01:46.9, 34°.10N × 45°.78E, h10 km±55 km*

ISC 20 01:01:46.7±1.0, 34°.12N±0°.05 × 45°.78E±0°.04, h12 km±9 km, n9, σ0°53/13, 1C, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLG1	**Gilan-e-Gharb**	**0.11**	**94**	Pg	**Pg**	**01 01 49.6**	**-0.2**
GLG1				Sg	**Sg**	**01 01 52.2**	**+0.2**
IGHG	**Ghaleghazi**	**0.69**	**72**	Pg	**Pb**	**01 02 00.8**	**0.0**
IDHR	**Dehrash**	**0.77**	**41**	Pg	**Pg**	**01 02 01.9**	**+0.3**
IBDR	**Badra**	**1.02**	**173**	*e*Pg	**Pb**	**01 02 06.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**01 02 20.0**	**+0.4**
IBDR				⇑*e*		01 02 26.3	
KCHF	**Cheshme Sefid,**	**1.06**	**81**	Pg	**Pb**	**01 02 06.6**	**-0.6**
BHD	**Baghdad**	**1.44**	**234**	*e*Pn	**Pg**	**01 02 14.0**	**-0.4**
BHD				*e*Sn	**Sg**	**01 02 34.0**	**+0.9**
BHD				AML	AML	01 02 37.2	
	comp=E,262nm,0.3s						
SNQR	**Sonqor, Kerman**	**1.70**	**64**	Pg	**Pg**	**01 02 18.9**	**-0.4**
IKRK	**Kirkuk**	**1.74**	**318**	*e*Pn	**Pb**	**01 02 18.0**	**-0.6**
IKRK				*e*Sn	**Sb**	**01 02 41.0**	**+0.6**
IKRK				AML	AML	01 02 46.9	
	comp=N,99nm,0.7s						
IKRK				AML	AML	01 02 47.3	
	comp=E,193nm,0.6s						
IBZA	**Bozab**	**1.76**	**78**	Pg	**Pg**	**01 02 20.6**	**0.0**

*SOME **20** 01:15:34.3, 42°.13N × 75°.47E, h5 km*
*KNET **20** 01:15:34.8±0.4, 42°.16N × 75°.44E, h0 km, ml2.0, Error ellipse: s-maj=4.6km s-min=1.6km az=15.0*
*KRNET **20** 01:15:34.3±0.1, 42°.10N × 75°.45E, h18 km, mb2.9*
*NNC **20** 01:15:35.2±0.9, 42°.15N × 75°.40E, h0 km, mb3.6, mpv3.4, Error ellipse: s-maj=6.9km s-min=2.3km az=179.0*

ISC 20 01:15:34.6±1.1, 42°.12N±0°.02 × 75°.44E±0°.01, h6 km±9 km, n55, σ1°04/100, 36C-18D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOOM	**Boomskoye usch**	**0.52**	**45**	⇓*i*P	**Pg**	**01 15 44.8**	**0.0**
BOOM				⇓*i*S	**Sg**	**01 15 52.3**	**+0.7**
ULHL	**Ulahol**	**0.61**	**78**	⇓P	**Pg**	**01 15 46.4**	**-0.1**
	24nm,0.2s,SNR=22						
ULHL				⇓S	**Sg**	**01 15 54.9**	**+0.5**
	52nm,0.2s						
ULHL	**Ulahol**	**0.61**	**78**	⇑*i*P	**Pg**	**01 15 46.0**	**-0.4**
ULHL				⇑*i*S	**Sg**	**01 15 54.4**	**0.0**
KBK	**Karagaybulak**	**0.64**	**326**	⇑P	**Pg**	**01 15 47.2**	**+0.2**
	30nm,0.1s,SNR=23						
KBK				⇓S	**Sb**	**01 15 56.4**	**-1.4**
	110nm,0.2s						
KBK	**Karagaybulak**	**0.64**	**326**	⇑*i*P	**Pg**	**01 15 47.1**	**0.0**
KBK				⇑*i*S	**Sg**	**01 15 56.2**	**+0.7**
UCH	**Uchtor**	**0.69**	**279**	⇑P	**Pg**	**01 15 48.2**	**+0.2**
	15nm,0.1s,SNR=9.7						
UCH				⇓S	**Sg**	**01 15 58.4**	**+1.3**
	12nm,0.2s						
UCH	**Uchtor**	**0.69**	**279**	⇑*i*P	**Pg**	**01 15 47.7**	**-0.3**
UCH				⇑*i*S	**Sg**	**01 15 57.4**	**+0.3**
TKM2	**Tokmak 2**	**0.81**	**8**	⇓P	**Pg**	**01 15 50.1**	**-0.1**
	28nm,0.2s,SNR=64						
TKM2				⇑S	**Sg**	**01 16 00.5**	**-0.1**
	32nm,0.1s						
TKM2	**Tokmak 2**	**0.81**	**8**	⇑*i*P	**Pg**	**01 15 49.8**	**-0.3**
TKM2				⇑*i*S	**Sb**	**01 16 01.2**	**-1.3**
ASAR	**Ala-Archa**	**0.87**	**307**	⇓P	**Pg**	**01 15 51.5**	**+0.3**
	35nm,0.2s,SNR=38						
AAK				⇓S	**Sb**	**01 16 03.7**	**-0.5**
	53nm,0.3s						
AAK	**Ala-Archa**	**0.87**	**307**	⇓P	**Pg**	**01 15 51.0**	**-0.2**
	5.2nm,0.5s						
AAK				⇑S	**Sg**	**01 16 02.5**	**-0.1**
	10.0nm,0.5s						
AAK	**Ala-Archa**	**0.87**	**307**	⇑*i*P	**Pg**	**01 15 50.9**	**-0.4**
AAK				⇑*i*S	**Sg**	**01 16 03.0**	**+0.4**
FRU1	**Bishkek**	**0.91**	**319**	⇑*i*P	**Pg**	**01 15 52.1**	**0.0**
FRU1				⇑*i*S	**Sb**	**01 16 04.9**	**-0.4**
KST	**Kastek**	**1.00**	**23**	P	**Pg**	**01 15 53.8**	**0.0**
	12nm,0.3s						
KST				S	**Sb**	**01 16 07.6**	**-0.3**
	41nm,0.2s						
KST	**Kastek**	**1.00**	**23**	*e*P	**Pg**	**01 15 53.8**	**0.0**
	12nm,0.3s						
KST				*e*S	**Sb**	**01 16 07.6**	**-0.3**
	41nm,0.2s						
CHMS	**Chumysh**	**1.01**	**330**	⇓P	**Pg**	**01 15 54.0**	**0.0**
	7.3nm,0.1s,SNR=23						
CHMS				⇑S	**Sg**	**01 16 07.2**	**0.0**
	29nm,0.2s						
CHMS	**Chumysh**	**1.01**	**330**	⇓*i*P	**Pg**	**01 15 53.5**	**-0.5**
CHMS				⇓*i*S	**Sb**	**01 16 07.4**	**-0.8**
JNKS	**Jany-Kuch**	**1.08**	**171**	⇑*i*P	**Pg**	**01 15 53.9**	**-1.4**
JNKS				⇑*i*S	**Sg**	**01 16 08.1**	**-1.2**
MTBS	**Maitube**	**1.25**	**36**	P	**Pb**	**01 15 58.4**	**-0.3**
	14nm,0.3s						
MTBS				S	**Sn**	**01 16 15.5**	**-0.4**
	17nm,0.4s						
MTBS	**Maitube**	**1.25**	**36**	*e*P	**Pb**	**01 15 58.4**	**-0.3**
	14nm,0.3s						
MTBS				*e*S	**Sn**	**01 16 15.5**	**-0.4**
	17nm,0.4s						
KDJ	**Kajisay**	**1.30**	**89**	⇑*i*P	**Pg**	**01 15 58.1**	**-1.4**
KDJ				⇑*i*S	**Sg**	**01 16 15.5**	**-0.8**
USP	**Ospenovka**	**1.33**	**329**	⇑P	**Pg**	**01 16 00.1**	**-0.1**
	7.3nm,0.1s,SNR=24						
USP				⇑S	**Sn**	**01 16 18.3**	**+0.3**
	17nm,0.2s						
USP	**Ospenovka**	**1.33**	**329**	⇑*i*P	**Pn**	**01 15 59.1**	**-0.8**
USP				⇑*i*S	**Sb**	**01 16 17.3**	**-0.3**
EKS2	**Erkin-Say**	**1.34**	**294**	⇓P	**Pn**	**01 16 00.4**	**+0.3**
	12nm,0.2s,SNR=22						
EKS2				⇑S	**Sn**	**01 16 19.1**	**+0.7**
	6.7nm,0.2s						
EKS2	**Erkin-Say**	**1.34**	**294**	⇑*e*P	**Pn**	**01 15 59.1**	**-1.0**
EKS2				⇑*i*S	**Sg**	**01 16 17.3**	**-0.5**
TNSS	**Tian-Shan**	**1.44**	**50**	P	**Pn**	**01 16 01.8**	**+0.1**
	3.8nm,0.2s						
TNSS				S	**Sn**	**01 16 21.6**	**+0.4**
	3.6nm,0.6s						
TNSS	**Tian-Shan**	**1.44**	**50**	*e*P	**Pn**	**01 16 01.8**	**+0.1**
	3.8nm,0.2s						
TNSS				*e*S	**Sn**	**01 16 21.6**	**+0.4**
	3.6nm,0.6s						
SGDS	**Sogindy**	**1.46**	**336**	P	**Pg**	**01 16 02.7**	**+0.1**
	7.0nm,0.1s						
SGDS				S	**Sg**	**01 16 22.7**	**+1.3**
	9.3nm,0.3s						
MDOK	**Medeo**	**1.58**	**48**	Pg	**Pb**	**01 16 04.3**	**0.0**
	8.2nm,0.3s						
MDOK				Lg	Lg	01 16 25.7	
	8.8nm,0.4s						
KRBS	**Karabastau**	**1.58**	**6**	P	**Pg**	**01 16 04.5**	**-0.5**
	3.3nm,0.2s						
KRBS				S	**Sg**	**01 16 25.6**	**+0.1**
	12nm,0.7s						
KOTS	**Kotyrbulak**	**1.66**	**48**	P	**Pg**	**01 16 06.2**	**-0.3**
	16nm,0.2s						
KOTS				S	**Sg**	**01 16 28.7**	**+0.7**
	24nm,0.4s						
KOTS	**Kotyrbulak**	**1.66**	**48**	*e*P	**Pg**	**01 16 06.2**	**-0.3**
	16nm,0.2s						
KOTS				*e*S	**Sg**	**01 16 28.7**	**+0.7**
	24nm,0.4s						
MRKS	**Merke**	**1.75**	**292**	P	**Pb**	**01 16 07.7**	**+0.5**
	13nm,0.2s						
MRKS				S	**Sg**	**01 16 31.9**	**+1.1**
	17nm,0.3s						
MRKS	**Merke**	**1.75**	**292**	*e*P	**Pb**	**01 16 07.7**	**+0.5**
	13nm,0.2s						
MRKS				*e*S	**Sg**	**01 16 31.9**	**+1.1**
	17nm,0.3s						
TARG	**Taragay, Kyrgy**	**1.81**	**102**	⇓*i*P	**Pn**	**01 16 07.0**	**+0.2**
TARG				⇓*i*S	**Sn**	**01 16 31.0**	**+0.7**
KTBS	**Karatobe**	**1.83**	**30**	P	**Pb**	**01 16 08.8**	**+0.2**
	15nm,0.2s						
KTBS				S	**Sg**	**01 16 33.3**	**-0.2**
	16nm,0.3s						
KUU	**Kurty**	**1.89**	**20**	P	**Pb**	**01 16 09.6**	**0.0**
	3.2nm,0.1s						
KUU				S	**Sg**	**01 16 34.3**	**-1.1**
	13nm,0.1s						
KUU	**Kurty**	**1.89**	**20**	*e*P	**Pb**	**01 16 09.6**	**0.0**
	3.2nm,0.1s						
KUU				*e*S	**Sg**	**01 16 34.3**	**-1.1**
	13nm,0.1s						
ARSB	**Arslanbob**	**2.00**	**247**	⇑*e*P	**Pn**	**01 16 09.9**	**+0.7**
ARSB				⇑*e*S	**Sn**	**01 16 35.8**	**+1.1**
CHKK	**Chushkaly**	**2.07**	**33**	Pg	**Pg**	**01 16 13.8**	**-0.6**
	24nm,0.2s						
CHKK				Lg	Lg	01 16 41.7	
	24nm,0.2s						
CHKK	**Chushkaly**	**2.07**	**33**	*e*P	**Pg**	**01 16 13.8**	**-0.6**
	24nm,0.2s						
CHKK				*e*S	**Sg**	**01 16 41.7**	**+0.5**
	24nm,0.2s						
PRZ	**Przheval'sk**	**2.23**	**80**	⇓*i*P	**Pn**	**01 16 12.9**	**+0.6**
PRZ				⇓*i*S	**Sn**	**01 16 41.1**	**+0.8**
KURS	**Kuram**	**2.43**	**55**	Pg	**Pb**	**01 16 19.4**	**+0.6**
	9.1nm,0.5s						
KURS				Lg	Lg	01 16 51.5	
	11nm,0.8s						
ARXS	**Arharly**	**2.72**	**39**	Pg	**Pb**	**01 16 22.7**	**-1.1**
	14nm,0.4s						
ARXS				Lg	Lg	01 16 57.0	
	6.9nm,0.3s						
ARXS	**Arharly**	**2.72**	**39**	*e*P	**Pb**	**01 16 22.7**	**-1.1**
ARXS				*e*S	**Sb**	**01 16 57.0**	**-0.6**
KPKS	**Kokpek**	**2.74**	**60**	Pg	**Pg**	**01 16 25.7**	**-1.4**
	11nm,0.3s						
KPKS				Lg	Lg	01 17 02.0	
	13nm,0.4s						
UZB	**Uzynbulak**	**2.84**	**68**	Pg	**Pb**	**01 16 25.9**	**+0.1**
	5.0nm,0.4s						
UZB				Lg	Lg	01 17 03.6	
	7.7nm,0.5s						
UZB	**Uzynbulak**	**2.84**	**68**	*e*P	**Pb**	**01 16 25.9**	**+0.1**
	5.0nm,0.4s						
UZB				*e*S	**Sg**	**01 17 03.5**	**-2.2**
	7.7nm,0.5s						
BTLS	**Baital**	**3.09**	**341**	Pg	**Pb**	**01 16 30.9**	**+0.9**
	2.3nm,0.2s						
BTLS				Lg	Lg	01 17 11.1	
	27nm,0.5s						
BTLS	**Baital**	**3.09**	**341**	*e*P	**Pb**	**01 16 30.9**	**+0.9**
	2.3nm,0.2s						
BTLS				*e*S	**Sg**	**01 17 11.1**	**-2.7**
	27nm,0.5s						
SHLS	**Shalkode**	**3.15**	**69**	Pg	**Pg**	**01 16 37.1**	**+2.2**
	3.8nm,0.2s						
SHLS				Lg	Lg	01 17 22.1	
	15nm,0.5s						
SHLS	**Shalkode**	**3.15**	**69**	*e*P	**Pg**	**01 16 37.1**	**+2.2**
	3.8nm,0.2s						
SHLS				*e*S	**Sg**	**01 17 22.1**	**+6.4**
	15nm,0.5s						
PDGK	**Podgornoye**	**3.22**	**67**	⇑Pg	**Pb**	**01 16 31.8**	**-0.5**
	1.6nm,0.3s						
PDGK				⇑Lg	Lg	01 17 17.2	
	10.0nm,0.6s						
TRKS	**Terek-Say**	**3.27**	**261**	⇑*i*P	**Pn**	**01 16 27.1**	**+0.5**
TRKS				⇑*i*S	**Sn**	**01 17 05.6**	**-0.2**

DAV	**Davao City (W)**	**28.73 295**	LR	LR	02 08 34.0		
	comp=Z,32nm,18.6s,baz=15,slow=36						
BRDH	**Bariadhala**	**64.83 298**	LR	LR	02 31 12.8		
	comp=Z,28nm,18.5s,baz=152,slow=37						
SONM	**Songino Array**	**66.06 328**	P	**P**	**02 02 15.5**	**+0.8**	
	0.9nm,0.7s,baz=130,slow=4.5,SNR=5.0						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**79.88 319**	P	**P**	**02 03 36.8**	**+0.5**	
	0.7nm,0.8s,baz=102,slow=6.3,SNR=3.3						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**80.86 327**	P	**P**	**02 03 40.7**	**-0.6**	
	0.5nm,0.4s,baz=106,slow=3.3,SNR=2.7						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**82.98 22**	P	**P**	**02 03 51.6**	**-0.7**	
	0.4nm,0.7s,baz=241,slow=3.7,SNR=3.5						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**83.41 322**	P	**P**	**02 03 55.1**	**+0.3**	
	0.3nm,0.6s,baz=110,slow=4.3,SNR=2.8						
	0.3nm,0.6s						
NVAR	**Mina Array Bea**	**93.25 52**	P	**P**	**02 04 43.6**	**+1.0**	
	1.0nm,0.8s,baz=287,slow=7.5,SNR=5.7						
	1.0nm,0.8s						
BRTR	**Keskin Array B**	**114.71 311**	PKP	PKPdf	02 10 07.2	-1.1	
	0.4nm,0.7s,baz=156,slow=3.9,SNR=2.3						
GERES	**GERESS Array B**	**123.79 328**	PKP	**PKPdf**	**02 10 25.1**	**-0.3**	
	0.7nm,0.6s,baz=58,slow=2.6,SNR=5.8						
EKA	**Eskdalemuir Ar**	**126.08 342**	PKP	**PKPdf**	**02 10 29.0**	**-0.5**	
	0.1nm,0.3s,baz=37,slow=2.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**149.33 287**	PKPbc	**PKPbc**	**02 11 16.6**	**-0.6**	
	1.8nm,0.5s,baz=72,slow=2.3,SNR=18						

IDC ***20*** *01:59:15.8±0.5, 31°.21S×177°.84W, h0km, mb4.6/11, mbtmp4.5/11, MS4.1/23, Error ellipse: s-maj=21.6km s-min=19.8km az=137.0*

NEIC ***20*** *01:59:17.6±2.0, 31°.3S±0°.1×177°.63W±0°.07, h10km±1km, mb4.8/20, Error ellipse: s-maj=17.7km s-min=9.5km az=7.0*

ISC 20 01:59:16.9±0.4**, 31°.49S**±0°.05×**177°.72W**±0°.08**, h10**km**, n118, σ2§10/100, mb4.8/26, MS4.1/23, 6C, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.23 356**		P	Pn	01 59 48.5	-5.4
GLKZ				S	**Sn**	**02 00 17.6**	**-3.9**
RAO	**Raoul Island**	**2.24 356**			**Pn**	**01 59 51.6**	**-2.5**
WMGZ	**Waiomatatini S**	**7.07 206**		P	**Pn**	**02 00 59.5**	**-1.0**
WMGZ				S	**Sn**	**02 02 20.1**	**-0.7**
PKGZ	**Pakihiroa**	**7.24 207**		P	**Pn**	**02 01 01.4**	**-1.4**
PKGZ				S	**Sn**	**02 02 25.4**	**+0.4**
HAZ	**Te Kaha**	**7.26 209**		P	**Pn**	**02 00 59.1**	**-4.0**
HAZ				S	**Sn**	**02 02 25.8**	**+0.2**
PUZ	**Puketiti**	**7.35 206**		P	**Pn**	**02 01 00.1**	**-4.2**
PUZ				S	**Sn**	**02 02 25.8**	**-2.0**
RUGZ	**Raukumara Rang**	**7.49 209**		P	Pn	02 01 00.0	-6.3
RUGZ				S	**Sn**	**02 02 30.9**	**-0.4**
TWGZ	**Tauwhareparae**	**7.55 207**		P	**Pn**	**02 01 06.9**	**-0.1**
TWGZ				S	**Sn**	**02 02 32.1**	**-0.6**
TKGZ	**Te Karaka**	**7.83 206**		S	**Sn**	**02 02 37.1**	**-2.3**
MWZ	**Matawai**	**7.86 208**		P	**Pn**	**02 01 07.7**	**-3.7**
MWZ				S	**Sn**	**02 02 38.6**	**-1.8**
WCZ	**Waipu Caves**	**7.96 234**		P	Pb	02 01 23.3	-12
URZ	**Urewera**	**7.97 211**		Pn	**Pn**	**02 01 11.9**	**-1.0**
	1.6nm,0.3s,baz=327,slow=4.2,SNR=5.0						
URZ				Sn	**Sn**	**02 02 41.5**	**-1.6**
	4.4nm,0.3s,baz=170,slow=14,SNR=14						
URZ	**Urewera**	**7.97 211**		P	**Pn**	**02 01 11.0**	**-1.8**
URZ				S	**Sn**	**02 02 41.6**	**-1.5**
RAGZ	**Rawiri**	**8.04 208**		S	**Sn**	**02 02 44.7**	**-0.2**
RIGZ	**Rimuhau**	**8.09 206**		P	**Pn**	**02 01 13.2**	**-1.3**
RIGZ				S	**Sn**	**02 02 44.6**	**-1.5**
OUZ	**Omahuta**	**8.16 241**		P	Pn	02 01 21.7	+6.3
PRGZ	**Paritu Road**	**8.24 205**		S	**Sn**	**02 02 47.4**	**-2.3**
SNGZ	**Shannon Statio**	**8.32 208**		S	**Sn**	**02 02 48.8**	**-2.9**
MHGZ	**Mahia Peninsul**	**8.44 204**		S	**Sn**	**02 02 52.5**	**-2.0**
BKZ	**Black Stump Fm**	**9.00 210**		Pn	**Pn**	**02 01 26.2**	**-0.7**
PXZ	**Pawanui**	**9.59 206**		S	**Sn**	**02 03 18.3**	**-4.4**
TSZ	**Takapari Road**	**9.97 209**		S	**Sn**	**02 03 26.2**	**-6.0**
BFZ	**Birch Farm**	**10.38 206**		P	**Pn**	**02 01 42.3**	**-3.7**
BFZ				S	**Sn**	**02 03 35.4**	**-6.9**
MRZ	**Mangatainoka R**	**10.63 209**		Pn	**Pn**	**02 01 45.2**	**-4.0**
MRZ	**Mangatainoka R**	**10.63 209**		P	**Pn**	**02 01 46.6**	**-2.7**
MRZ				S	**Sn**	**02 03 40.1**	**-8.3**
RPZ	**Rata Peaks**	**15.08 213**		Pn	**Pn**	**02 02 48.9**	**-1.1**
	1.6nm,0.3s,baz=312,slow=12,SNR=1.9						
RPZ				Sn	Sn	02 05 22.6	-15
	0.8nm,0.3s,baz=140,slow=21,SNR=3.9						
DZM	**Mont Dzumac**	**16.95 300**		*e*P	**Pn**	**02 03 15.2**	**+0.8**
	104nm,1.2s						
DZM				*e*LR	LR	02 06 57.9	
	1μm,22.9s						
DZM	**Mont Dzumac**	**16.95 300**			**P**	**02 03 16.5**	**+0.2**
DZM	**Mont Dzumac**	**16.95 300**		Pn	**P**	**02 03 18.6**	**+2.3**
	0.2nm,0.3s,baz=89,slow=21,SNR=5.5						
DZM				LR	LR	02 08 46.7	
	comp=Z,1μm,18.3s,baz=144,slow=34						
RAR	**Rarotonga**	**19.04 62**		LR	LR	02 10 14.8	
	comp=Z,272nm,19.4s,baz=199,slow=35						
TBI	**Tubuai**	**26.31 79**		*e*S	**S**	**02 09 23.6**	**-2.1**
	1μm,23.0s						
TBI				*e*LR	LR	02 11 33.5	
	1μm,24.5s						
PPT2	**Papeete2**	**29.00 68**		*e*S	**S**	**02 10 05.3**	**-3.1**
	327nm,23.8s						
PPT2				*e*LR	LR	02 12 36.9	
	299nm,24.0s						
PPT2				*e*LR	LR	02 12 43.0	
	809nm,45.0s						
PPT2				*e*LR	LR	02 12 43.6	
	252nm,21.0s						
PPT	**Papeete**	**29.01 68**		LR	LR	02 15 11.6	
	comp=Z,258nm,18.2s,baz=190,slow=33						
CTA	**Charters Tower**	**34.22 281**		LR	LR	02 19 11.9	
	comp=Z,14nm,18.0s,baz=72,slow=35						
CTAO	**Charters Tower**	**34.22 281**		P	**P**	**02 06 04.5**	**+1.5**
STKA	**Stephens Creek**	**34.48 258**		P	**P**	**02 06 05.8**	**+0.7**
STKA	**Stephens Creek**	**34.48 258**		P	**P**	**02 06 04.8**	**-0.3**
	8.1nm,0.8s,baz=103,slow=9.2,SNR=12						
STKA				LR	LR	02 19 41.1	
	comp=Z,265nm,18.6s,baz=52,slow=36						
	8.1nm,0.8s						
INKA	**Innaminka**	**36.15 265**		P	**P**	**02 06 21.5**	**+2.0**
RKT	**Rikitea**	**38.69 88**		*e*LR	LR	02 16 42.9	
	13μm,43.8s						
RKT				*e*LR	LR	02 17 12.3	
	1μm,29.0s						
BBOO	**Buckleboo**	**38.91 255**		P	**P**	**02 06 42.8**	**-0.1**
BBOO				IAmb	IAmb	02 07 00.2	
	comp=Z,38nm,1.3s						
PMG	**Port Moresby**	**39.30 296**		LR	LR	02 21 22.8	
	comp=Z,84nm,18.0s,baz=144,slow=34						
TAOE	**Nuku Hiva Isla**	**41.53 65**		*e*LR	LR	02 18 27.4	
	comp=Z,166nm,21.7s						
AS31	**Alice Springs**	**43.30 268**			**P**	**02 07 19.4**	**+0.3**
ASAR	**Alice Springs**	**43.30 268**			**P**	**02 07 18.5**	**-0.7**
ASAR	**Alice Springs**	**43.30 268**		P	**P**	**02 07 19.3**	**+0.1**
	comp=Z,6.8nm,0.7s,baz=105,slow=7.1,SNR=31						
ASAR				PcP	**PcP**	**02 09 05.7**	**-2.4**
	comp=Z,1.1nm,0.9s,baz=99,slow=4.7,SNR=1.4						
ASAR				ScP	**ScP**	**02 13 01.6**	**+2.1**
	comp=Z,1.6nm,0.9s,baz=106,slow=4.0,SNR=6.6						
ASAR				LR	LR	02 24 31.6	
	comp=Z,182nm,18.4s,baz=105,slow=35						
	comp=Z,6.8nm,0.7s						
WR8	**Warramunga Arr**	**44.24 273**			**P**	**02 07 27.2**	**+0.4**
WR8				IAmb	IAmb	02 07 30.0	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**44.39 273**			**P**	**02 07 28.0**	**+0.1**
WRA	**Warramunga Arr**	**44.39 273**		P	**P**	**02 07 28.1**	**+0.1**
	comp=Z,13nm,0.7s,baz=114,slow=7.7,SNR=31						
WRA				ScP	**ScP**	**02 13 03.2**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=100,slow=4.9,SNR=4.8						
WRA				LR	LR	02 25 52.1	
	comp=Z,544nm,18.1s,baz=102,slow=36						
	comp=Z,13nm,0.7s						
VNDA	**Vanda**	**47.04 186**		LR	LR	02 24 05.8	
	comp=Z,134nm,20.8s,baz=5.0,slow=32						
JAY	**Jayapura**	**48.61 298**		LR	LR	02 28 14.6	
	comp=Z,53nm,19.2s,baz=358,slow=36						
FITZ	**Fitzroy Crossi**	**52.60 271**		P	**P**	**02 08 31.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**52.60 271**		LR	LR	02 31 01.6	
	comp=Z,433nm,18.0s,baz=130,slow=36						
CASY	**Casey**	**54.29 208**			**P**	**02 08 43.0**	**+0.1**
CASY				IAmb	IAmb	02 08 57.4	
	comp=Z,14nm,1.1s						
GUMO	**Guam**	**57.42 315**		LR	LR	02 32 29.1	
	comp=Z,70nm,18.8s,baz=134,slow=35						
BATI	**Baumata**	**58.03 278**		LR	LR	02 34 53.3	
	comp=Z,464nm,18.6s,baz=124,slow=37						
QSPA	**South Pole Qui**	**58.62 180**		P	P	02 09 18.5	+4.5
QSPA	**South Pole Qui**	**58.62 180**		P	**P**	**02 09 17.9**	**+3.9**
	comp=Z,14nm,1.1s,baz=26,slow=2.4,SNR=24						
	comp=Z,14nm,1.1s						
RPN	**Rapa Nui**	**58.92 105**		LR	LR	02 29 41.0	
	comp=Z,147nm,19.1s,baz=264,slow=31						
KAPI	**Kappang**	**64.04 281**		LR	LR	02 38 00.4	
	comp=Z,141nm,18.7s,baz=94,slow=36						
BELA	**Belgrano 2**	**68.67 172**			**P**	**02 10 20.6**	**+0.6**
BELA				IAmb	IAmb	02 10 49.5	
	comp=Z,4.4nm,0.9s						
MAW	**Mawson**	**71.37 201**		P	**P**	**02 10 39.0**	**+2.4**
	comp=Z,5.2nm,0.9s,baz=61,slow=6.7,SNR=5.2						
	comp=Z,5.2nm,0.9s						
TROLL	**Troll, Antarti**	**76.78 180**	⇑	P	**P**	**02 11 10.1**	**+1.7**
	comp=Z,478nm,0.8s						
SNAA	**Sanae**	**77.06 178**	⇑	P	**P**	**02 11 11.0**	**+1.1**
	comp=Z,108nm,0.8s						
SNAA	**Sanae**	**77.06 178**			**P**	**02 11 10.6**	**+0.7**
SNAA				IAmb	IAmb	02 11 14.1	
	comp=Z,11nm,1.1s						
SNAA	**Sanae**	**77.06 178**		P	**P**	**02 11 11.3**	**+1.4**
	comp=Z,8.6nm,1.1s,baz=156,slow=11,SNR=7.7						
	comp=Z,8.6nm,1.1s						
VNA3	**Neumayer Olymp**	**77.20 176**	⇑	P	**P**	**02 11 11.3**	**+0.7**
	comp=Z,25nm,0.8s						
VNA2	**Neumayer--Watz**	**77.64 177**	⇑	P	**P**	**02 11 14.6**	**+1.5**
	comp=Z,15nm,0.8s,baz=173,slow=5.1						
VNA1	**Neumayer--Stat**	**77.87 176**	⇑	P	**P**	**02 11 15.9**	**+1.6**
	comp=Z,18nm,0.9s						
H03S2	**Juan Fernandez**	**79.67 123**		T	T	03 38 14.2	
	baz=242,slow=75,SNR=149						
H03S1	**Juan Fernandez**	**79.68 123**		T	T	03 38 14.3	
	baz=242,slow=75,SNR=145						
H03S3	**Juan Fernandez**	**79.68 123**		T	T	03 38 08.3	
	baz=242,slow=75,SNR=122						
H03N3	**Juan Fernandez**	**79.86 123**		T	T	03 38 28.3	
	baz=242,slow=74,SNR=47						
H03N2	**Juan Fernandez**	**79.86 123**		T	T	03 38 19.3	
	baz=242,slow=74,SNR=24						
H03N1	**Juan Fernandez**	**79.88 123**		T	T	03 38 22.5	
	baz=242,slow=74,SNR=25						
PLCA	**Paso Flores**	**81.59 133**		P	**P**	**02 11 37.0**	**+1.8**
	comp=Z,4.8nm,1.1s,baz=251,slow=4.8,SNR=3.0						
PLCA				LR	LR	02 40 11.1	
	comp=Z,100nm,18.5s,baz=219,slow=30						
	comp=Z,4.8nm,1.1s						
KSRS	**Korea Array**	**85.33 320**		LR	LR	02 46 11.3	
	comp=Z,16μm,20.1s,baz=190,slow=33						
PSI	**Prapat**	**85.78 276**		LR	LR	02 52 03.6	
	comp=Z,134nm,18.8s,baz=76,slow=37						
PETK	**Petropavlovsk-**	**86.93 345**		P	**P**	**02 12 02.2**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=157,slow=5.9,SNR=4.6						
	comp=Z,3.3nm,0.9s						
NJ2	**Nanjing**	**87.13 310**	*e*	P	**P**	**02 12 05.3**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
CMB	**Columbia Colle**	**87.41 42**			**P**	**02 12 03.8**	**-0.7**
CMB				IAmb	IAmb	02 12 05.7	
	comp=Z,4.8nm,0.9s						
O02D	**Mt. Diablo Mer**	**87.59 39**		P	**P**	**02 12 06.5**	**+1.2**
GMN	**Gold Mountain**	**88.73 44**		IAmb	IAmb	02 12 14.7	
	comp=Z,5.1nm,1.2s						
NVAR	**Mina Array Bea**	**88.88 43**			**P**	**02 12 10.9**	**-0.7**
NVAR	**Mina Array Bea**	**88.88 43**		P	**P**	**02 12 12.3**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=218,slow=8.1,SNR=15						
NVAR				LR	LR	02 46 07.0	
	comp=Z,123nm,18.9s,baz=271,slow=32						
	comp=Z,3.0nm,0.8s						
TPH	**Tonopah**	**89.27 43**		P	**P**	**02 12 12.6**	**-0.8**
TPH				IAmb	IAmb	02 12 14.9	
	comp=Z,7.1nm,1.0s						
K05A	**Summer Lake**	**90.40 38**		P	**P**	**02 12 18.8**	**+0.2**
LCMT	**Little Creek M**	**90.97 46**		IAmb	IAmb	02 13 29.8	
	comp=Z,3.5nm,0.7s						
TXAR	**Lajitas Array**	**92.78 57**		P	**P**	**02 12 30.4**	**+0.6**
	comp=Z,1.1nm,1.1s,baz=216,slow=6.2,SNR=4.8						
	comp=Z,1.1nm,1.1s						
CMIG	**Matias Romero**	**92.86 72**		LR	LR	02 45 43.0	
	comp=Z,61nm,20.3s,baz=172,slow=30						
NNA	**Nana**	**92.89 106**		LR	LR	02 45 59.0	
	comp=Z,76nm,19.8s,baz=194,slow=30						
G08A	**Pilot Rock**	**93.18 37**			**P**	**02 12 31.0**	**-0.3**
G08A				IAmb	IAmb	02 12 32.6	
	comp=Z,5.8nm,1.1s						
CMAR	**Chiang Mai Arr**	**93.98 289**		LR	LR	02 55 22.6	
	comp=Z,18nm,21.2s,baz=105,slow=36						
ANMO	**Albuquerque**	**94.07 51**		LR	LR	02 50 10.7	
	comp=Z,157nm,18.3s,baz=312,slow=32						
XAN	**Xi'an**	**94.96 307**	⇑	P	**P**	**02 12 41.6**	**+1.9**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
PZH	**PanZhiHua**	**96.02 297**		P	**P**	**02 12 46.1**	**+1.3**
PDAR	**Pinedale Array**	**96.76 43**		P	**P**	**02 12 48.4**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=246,slow=5.2,SNR=4.2						
	comp=Z,0.4nm,0.8s						
HHC	**Hu-ho-hao-te**	**97.16 314**		*e*P	Pdif	02 12 51.1	+1.4
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,82nm,4.8s						
DLBC	**Dease Lake**	**98.03 23**		LR	LR	02 50 29.4	
	comp=Z,374nm,19.5s,baz=208,slow=31						
CPUP	**Villa Florida**	**99.12 128**		LR	LR	02 52 53.4	
	comp=Z,16nm,18.1s,baz=72,slow=32						
KURBB	**Kurchatov Arra**	**122.01 313**		PKP	**PKPdf**	**02 18 09.7**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=119,slow=2.0,SNR=12						
BVAR	**Borovoye Array**	**127.35 315**		PKP	**PKPdf**	**02 18 20.6**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=114,slow=1.7,SNR=7.7						
GNI	**Garni**	**144.78 296**		PKP	**PKPab**	**02 18 53.2**	**+0.1**
KBZ	**Khabaz**	**145.91 303**		PKPbc	**PKPdf**	**02 18 55.2**	**-0.6**
	comp=Z,4.4nm,0.9s,baz=13,slow=2.3,SNR=7.7						
KIV	**Kislovodsk**	**146.03 303**		PKP	**PKPbc**	**02 18 57.0**	**0.0**
OBN	**Obninsk**	**146.20 324**		PKP	**PKPdf**	**02 18 55.6**	**-0.3**
FIA1	**FINESS Array S**	**146.25 340**			**PKPdf**	**02 18 55.8**	**0.0**
FINES	**FINESS Array B**	**146.25 340**			**PKPdf**	**02 18 55.6**	**-0.2**
FINES	**FINESS Array B**	**146.25 340**		PKPbc	**PKPdf**	**02 18 55.2**	**-0.6**
	comp=Z,9.3nm,0.8s,baz=41,slow=4.4,SNR=17						
NB2	**NORSAR Subarra**	**149.86 351**		PKP	**PKPbc**	**02 19 04.8**	**-1.9**
	comp=Z,12nm,1.2s,baz=18,slow=4.3						
NOA	**NORSAR Array B**	**149.86 351**		PKPbc	**PKPbc**	**02 19 06.1**	**-0.5**
	comp=Z,3.0nm,1.0s,baz=15,slow=2.6,SNR=6.2						
HFS	**Hagfors**	**150.36 348**		PKPbc	**PKPbc**	**02 19 06.8**	**-1.0**
	comp=Z,5.0nm,0.9s,baz=15,slow=1.6,SNR=5.8						
MMAI	**Mount Meron Ar**	**152.01 282**		PKPbc	**PKPbc**	**02 19 12.3**	**-0.3**
	comp=Z,5.2nm,0.9s,baz=85,slow=3.0,SNR=6.6						
AKASG	**Matin Array Ba**	**152.31 322**		PKPbc	**PKPbc**	**02 19 12.8**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=47,slow=3.0,SNR=9.2						
BRTR	**Keskin Array B**	**153.31 297**		PKPbc	**PKPbc**	**02 19 15.6**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=150,slow=3.2,SNR=5.2						
RNPP9	**Sopachiv**	**153.57 326**		PKP	**PKPdf**	**02 19 08.0**	**+0.3**
BRG	**Berggiesshubel**	**158.79 339**		*e*PKP	**PKPab**	**02 19 49.2**	**-1.1**
BRG				Amp		02 19 51.7	
	comp=Z,13nm,1.5s						
TORD	**Torodi Ar. Bea**	**161.74 178**		PKP	**PKPdf**	**02 19 19.4**	**+0.5**
	comp=Z,1.2nm,1.1s,baz=123,slow=1.3,SNR=4.0						
TORD				PKPab	**PKPab**	**02 20 03.6**	**-0.3**
	comp=Z,1.9nm,1.0s,baz=172,slow=2.5,SNR=5.3						
ESDC	**Sonseca Array**	**170.38 30**		PKPab	**PKPab**	**02 20 39.9**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=330,slow=4.1,SNR=2.9						

WEL ***20*** *02:22:08.9±0.8, 33°.S±14°×17°.9W±3°.0, h12km, mB4.9/4, ML4.5/13, MLv4.3/12, Mw(mB)4.1/4, Error ellipse: s-maj=43.2km s-min=5.5km az=114.2, confirmed*

IDC ***20*** *02:22:10.7±3.0, 33°.64S×179°.13W, h0km, mb3.8/2, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=70.7km s-min=35.8km az=115.0*

ISC 20 02:22:06.3±1.5**, 33°.60S**±0°.09×**178°.4W**±0°.2**, h10**km**, n25, σ1§45/39, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**4.34 5**		P	**Pn**	**02 23 11.8**	**-0.6**
GLKZ				S	**Sn**	**02 23 59.9**	**-3.2**
MXZ	**Matakaoa Point**	**4.79 214**		P	**Pn**	**02 23 19.3**	**+0.8**
MXZ				S	**Sn**	**02 24 12.9**	**-1.3**
WMGZ	**Waiomatatini S**	**4.96 211**		P	**Pn**	**02 23 21.5**	**+0.7**
WMGZ				S	**Sn**	**02 24 17.4**	**-0.7**
PKGZ	**Pakihiroa**	**5.15 213**		P	**Pn**	**02 23 22.7**	**-0.7**
HAZ	**Te Kaha**	**5.20 216**		P	**Pn**	**02 23 25.1**	**+1.0**
HAZ				S	**Sn**	**02 24 24.4**	**+0.3**
PUZ	**Puketiti**	**5.24 211**		P	**Pn**	**02 23 25.6**	**+1.0**
PUZ				S	**Sn**	**02 24 23.7**	**-1.5**
RUGZ	**Raukumara Rang**	**5.42 215**		P	**Pn**	**02 23 26.9**	**-0.3**
RUGZ				S	**Sn**	**02 24 28.2**	**-1.4**
TWGZ	**Tauwhareparae**	**5.45 212**		P	**Pn**	**02 23 28.2**	**+0.7**
TWGZ				S	**Sn**	**02 24 29.5**	**-0.8**
CNGZ	**Carnagh Statio**	**5.61 209**		P	**Pn**	**02 23 29.7**	**0.0**
CNGZ				S	**Sn**	**02 24 34.0**	**-0.2**
TKGZ	**Te Karaka**	**5.72 211**		P	**Pn**	**02 23 31.5**	**+0.2**
TKGZ				S	**Sn**	**02 24 35.7**	**-1.3**
MWZ	**Matawai**	**5.78 214**		P	**Pn**	**02 23 32.3**	**+0.2**
MWZ				S	**Sn**	**02 24 37.1**	**-1.4**
URZ	**Urewera**	**5.92 217**		Pn	**Pn**	**02 23 34.1**	**+0.1**
	3.6nm,0.3s,baz=85,slow=9.5,SNR=21						
URZ				Sn	**Sn**	**02 24 39.3**	**-2.6**
	7.2nm,0.3s,baz=105,slow=20,SNR=8.1						
	10nm,0.3s						
URZ	**Urewera**	**5.92 217**		P	**Pn**	**02 23 34.5**	**+0.5**
URZ				S	**Sn**	**02 24 39.0**	**-2.9**
RAGZ	**Rawiri**	**5.96 214**		P	**Pn**	**02 23 35.6**	**+0.9**
RIGZ	**Rimuhau**	**5.98 211**		P	**Pn**	**02 23 34.9**	**0.0**
RIGZ				S	**Sn**	**02 24 41.8**	**-1.6**
PRGZ	**Paritu Road**	**6.12 209**		S	**Sn**	**02 24 44.5**	**-2.2**
SNGZ	**Shannon Statio**	**6.23 213**		P	**Pn**	**02 23 38.5**	**+0.2**
SNGZ				S	**Sn**	**02 24 48.8**	**-0.7**
MHGZ	**Mahia Peninsul**	**6.30 207**		P	**Pn**	**02 23 42.2**	**+3.0**
MTHZ	**Maungataniwha**	**6.52 215**		P	**Pn**	**02 23 43.9**	**+1.7**
MTHZ				S	**Sn**	**02 24 55.2**	**-1.4**
AWAZ	**Awhitu Peninsu**	**6.68 237**		S	**Sn**	**02 25 02.5**	**+1.9**
OUZ	**Omahuta**	**6.84 254**		P	Pb	02 23 52.1	-13
OTVZ	**Oturere**	**7.35 219**		P	**Pn**	**02 23 52.1**	**-1.7**
ASAR	**Alice Springs**	**42.73 271**		P	**P**	**02 30 04.5**	**+0.6**
	0.3nm,0.3s,baz=115,slow=7.4,SNR=5.9						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**44.01 276**		P	**P**	**02 30 15.0**	**+0.8**
	0.5nm,0.3s,baz=116,slow=7.5,SNR=4.8						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**148.02 338**		PKPbc	**PKPab**	**02 41 56.1**	**+2.2**
	7.8nm,1.2s,baz=29,slow=4.4,SNR=7.0						

DNK 20 02:22:55.9±3.0**, 65°.85N**×**37°.09W, h14**km±10km**, ML3.7, 2D, Eastern Kalaallit Nunaat**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANGG	**Ammassalik, Gr**	**0.33 224**		*i* P	Pg	02 23 02.9	+0.3
ANGG				*i* S	Sg	02 23 06.8	-0.4
ANGG				IAML		02 23 06.9	
	comp=Z,4μm,0.2s						
ANGG	**Ammassalik, Gr**	**0.33 224**	⇓	*i* P	Pg	02 23 02.9	+0.3
ANGG				*i* S	Sg	02 23 06.9	-0.3
ANGG				IAML		02 23 07.1	
	comp=Z,4μm,0.2s						
ISOG	**Isortoq, Green**	**0.84 249**		*i* P	Pg	02 23 11.5	-0.6
ISOG				*i* S	Sg	02 23 21.6	-1.5
ISOG				IAML		02 23 25.1	
	comp=Z,1μm,0.4s						
ISOG	**Isortoq, Green**	**0.84 249**	⇓	*i* P	Pg	02 23 11.5	-0.6
ISOG				*i* S	Sg	02 23 13.5	-10
ISOG				IAML		02 23 25.2	
	comp=Z,1μm,0.1s						
DY2G	**Dye2**	**3.78 284**		*i* P	Pb	02 23 58.8	-3.6
DY2G				*i* S	Sb	02 24 44.4	-3.6
DY2G				IAML		02 24 54.0	
	comp=Z,92nm,0.4s						
DY2G	**Dye2**	**3.78 284**		*e*P	Pn	02 23 54.2	+0.4
DY2G				*i* S	Sn	02 24 34.0	-4.1
DY2G				IAML		02 24 50.5	
	comp=Z,64nm,0.4s						
SFJD	**Kangerlussuaq**	**5.55 288**		*i* P	Pn	02 24 19.6	+1.7
SFJD				*i* S	Sn	02 25 21.0	-0.4
SF

UUSS 20 04:07:15.0±1.3, 37.87N±0.01×112.50W±0.02, h6km±5km, ML2.4/6, ML2.5/72 (NEIC), Error ellipse: s-maj=2.6km s-min=1.6km az=132.0, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTPU	**Mount Pierson**	**0.30**	**56**		Pg	04 07 20.7	-0.3
PKCU	**Pink Cliffs**	**0.45**	**161**		Pg	04 07 23.9	0.0
PKCU					Sg	04 07 30.4	+0.6
DWU	**Dry Willow Pea**	**0.46**	**300**		Pg	04 07 24.4	+0.5
BTU	**Barney Top**	**0.51**	**103**		Pg	04 07 24.8	0.0
SZCU	**Shurtz Canyon**	**0.55**	**240**		Pg	04 07 25.6	+0.1
SZCU				Sg	Sg	04 07 33.2	+0.5
SZCU				IAML		04 07 36.3	
	comp=N,352nm,0.3s						
SZCU				IAML		04 07 37.6	
	comp=E,356nm,0.2s						
NMUT	**North Mineral**	**0.70**	**337**		Pg	04 07 28.5	0.0
NMUT					Sg	04 07 38.2	+0.6
ZNPU	**Zion National**	**0.72**	**224**		Pg	04 07 28.9	0.0
TCRU	**Three Creeks R**	**0.73**	**3**		Pg	04 07 29.1	-0.1
ARUT	**Antelope Range**	**0.75**	**264**		Pg	04 07 29.8	+0.3
CCUT	**Cedar City**	**0.76**	**245**		Pg	04 07 29.6	-0.1
CCUT					Sg	04 07 39.6	+0.1
KNB	**Kanab**	**0.90**	**197**		Pg	04 07 31.6	-0.6
KNB				Sg	Sg	04 07 42.6	-1.2
IMU	**Iron Mountain**	**0.92**	**326**		Pg	04 07 32.7	0.0
LCMT	**Little Creek M**	**1.05**	**215**		Pg	04 07 34.4	-0.8
LCMT					Sg	04 07 48.6	-0.1
LCMT				IAML		04 07 51.8	
	comp=N,93nm,0.2s						
LCMT				IAML		04 07 52.9	
	comp=E,105nm,0.2s						
WCU	**Willow Creek**	**1.13**	**16**		Pg	04 07 36.4	-0.4
PSUT	**Pine Spring**	**1.26**	**302**		Pg	04 07 39.0	-0.1
ICU	**Indian Springs**	**1.35**	**238**		Pn	04 07 40.2	-0.3
HMU	**Henry Mountain**	**1.39**	**87**		Pn	04 07 40.3	-0.9
HMU				IAML		04 08 08.6	
	comp=N,74nm,0.5s						
HMU				IAML		04 08 08.7	
	comp=E,110nm,0.6s						
Q16A	**Castle Valley**	**1.47**	**45**		Pn	04 07 42.1	-0.2
TMUT	**Trail Mountain**	**1.74**	**35**		Pn	04 07 46.7	+0.6
SPR3	**Spring Creek 3**	**1.83**	**308**		Pn	04 07 46.7	-0.6
SPR3				IAML		04 08 15.5	
	comp=N,17nm,0.5s						
SRU	**San Rafael Swe**	**1.98**	**51**		Pb	04 07 50.8	-0.8
SRU				IAML		04 08 20.1	
	comp=E,16nm,0.5s						
PRN	**Pahroc Range**	**2.08**	**258**		Pn	04 07 51.6	+1.0
PRN				IAML		04 08 26.1	
	comp=N,35nm,0.5s						
PRN				IAML		04 08 26.1	
	comp=E,27nm,0.8s						
P18A	**Preston Nutter**	**2.48**	**44**		Pb	04 07 59.0	-1.3
P18A				IAML		04 08 33.4	
	comp=E,11nm,0.5s						
R11B	**Troy Canyon, C**	**2.48**	**282**		Pn	04 07 56.1	-0.1
WUAZ	**Wupatki**	**2.52**	**159**		Pb	04 07 59.2	-1.6
SHPR	**Sheep Range**	**2.53**	**238**		Pn	04 07 57.5	+0.7
PV05	**Paradox Valley**	**2.69**	**85**		Pb	04 08 04.2	+0.5
PV14	**Lion Creek, Pa**	**2.78**	**79**		Pb	04 08 03.7	-1.6
PV14				IAML		04 08 43.7	
	comp=N,35nm,0.6s						
PV19	**Morning Glory**	**2.81**	**80**	IAML		04 08 47.6	
	comp=E,36nm,0.6s						
PV23	**Carpenter Ridg**	**2.81**	**77**		Pb	04 08 03.6	-2.1
PV18	**Skein Mesa, Pa**	**2.85**	**81**		Pb	04 08 05.9	-0.6
PV16	**Nyswonger Mesa**	**2.86**	**80**	IAML		04 08 46.6	
	comp=E,35nm,0.7s						
PV16				IAML		04 08 56.1	
	comp=N,33nm,0.8s						
PV03	**Paradox Valley**	**2.90**	**81**	IAML		04 08 45.0	
	comp=E,34nm,0.4s						
PV03				IAML		04 08 45.4	
	comp=N,32nm,0.5s						
PV22	**Blue Mesa, Par**	**3.00**	**76**	IAML		04 08 46.6	
	comp=E,24nm,0.6s						
PV22				IAML		04 08 47.0	
	comp=N,23nm,0.6s						
PV01	**Paradox Valley**	**3.11**	**84**	IAML		04 08 50.9	
	comp=E,23nm,0.6s						
PV01				IAML		04 09 00.9	
	comp=N,16nm,0.6s						
MVCO	**Mesa Verde**	**3.25**	**101**		Pn	04 08 08.2	+1.5
MVCO				IAML		04 09 04.7	
	comp=N,20nm,0.4s						
MVCO				IAML		04 09 08.9	
	comp=N,16nm,0.6s						
X16A	**Lo Mia Camp, P**	**3.55**	**166**		Pb	04 08 15.8	-2.6
X16A				IAML		04 09 10.3	
	comp=N,5.8nm,0.7s						
X16A				IAML		04 09 21.9	
	comp=E,6.3nm,4.9s						
X18A	**Snowflake**	**3.92**	**148**		Pn	04 08 17.9	+1.9
S22A	**4UR Ranch, Cre**	**4.49**	**90**	IAML		04 10 10.1	
	comp=N,2.0nm,2.6s						
S22A				IAML		04 10 43.7	
	comp=E,4.6nm,4.8s						

IDC 20 04:52:10.9±3.9, 18.85S×178.37W, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=211.1km s-min=32.4km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.51**	**260**	P	P	05 00 24.1	-0.5
	0.3nm,0.3s,baz=92,slow=8.7,SNR=2.7						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**44.58**	**255**	P	P	05 00 25.4	+0.2
	0.3nm,0.5s,baz=95,slow=7.5,SNR=5.2						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**86.79**	**13**	P	P	05 04 56.8	+0.1
	0.4nm,0.6s,baz=204,slow=4.6,SNR=6.1						
	0.4nm,0.6s						
PDAR	**Pinedale Array**	**88.01**	**43**	P	P	05 05 03.2	-0.2
	0.3nm,0.5s,baz=234,slow=4.2,SNR=2.5						
	0.3nm,0.5s						

*JMA **20** 04:53:49.9±0.1, 24°N±1°×122°3E±0°5, h29km, MV3.0/7, TAIWAN REGION*
*TAP **20** 04:53:50.2, 24°08N×122°27E, h25km, ML3.2, C*
ISC 20 04:53:50.0±0.9, 24°05N±0°02×122°26E±0°03, h25km±6km, n67, σ0.75/116, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.09**	**35**	*i* P	**Pb**	**04 53 54.2**	**0.0**
EOS4				*i* S	**Sb**	**04 53 57.4**	**+0.4**
EOS3	**EOS3**	**0.24**	**12**	*i* P	**Pb**	**04 53 56.0**	**-0.1**
EOS3				*i* S	**Sb**	**04 54 00.7**	**+0.4**
EOS2	**EOS2**	**0.37**	**356**	*i* P	**Pb**	**04 53 58.1**	**+0.1**
EOS2				*i* S	**Sb**	**04 54 04.1**	**+0.6**
EAHA	**Aohua**	**0.55**	**300**	*eP*	**Pb**	**04 54 00.6**	**-0.5**
EWUT	**Wuta**	**0.59**	**312**	*eP*	**Pb**	**04 54 01.2**	**-0.6**
EWUT				*eS*	**Sb**	**04 54 09.5**	**-0.4**
ETL	**Fush Village**	**0.59**	**281**	*eP*	**Pb**	**04 54 02.2**	**+0.3**
ENA	**Nanau**	**0.61**	**309**	*i* P	**Pb**	**04 54 01.4**	**-0.7**
ENA				*i* S	**Sb**	**04 54 09.2**	**-1.1**
TWD	**Chiawan**	**0.61**	**273**	*eP*	**Pb**	**04 54 02.3**	**+0.2**
TWD				*eS*	**Sn**	**04 54 11.8**	**-0.3**
NACB	**Ninganchiao**	**0.62**	**282**	*eP*	**Pb**	**04 54 02.9**	**+0.6**
NACB				*eS*	**Sn**	**04 54 12.7**	**+0.2**
ESAO	**Su ao**	**0.65**	**324**	*eP*	**Pb**	**04 54 01.9**	**-0.8**
ESAO				S	**Sb**	**04 54 10.1**	**-1.3**
TWC	**Suao**	**0.67**	**326**	P	**Pb**	**04 54 02.1**	**-1.1**
TWC				S	**Sb**	**04 54 10.5**	**-1.7**
SHUL	**Shoufeng**	**0.69**	**248**	*eP*	**Pn**	**04 54 04.5**	**+0.3**
SHUL				*eS*	**Sn**	**04 54 14.8**	**+0.7**
ETM	**Tongmen**	**0.71**	**263**	*eP*	**Pb**	**04 54 04.0**	**+0.2**
ETM				*eS*	**Sn**	**04 54 14.3**	**-0.3**
ETLH	**Xiulin Townshi**	**0.73**	**283**	*eP*	**Pb**	**04 54 04.6**	**+0.4**
ETLH				*eS*	**Sb**	**04 54 14.7**	**+0.9**
NDS	**Dongshan**	**0.77**	**320**	*eP*	**Pb**	**04 54 04.4**	**-0.3**
NDS				*eS*	**Sb**	**04 54 14.1**	**-0.7**
LXIB	**Xiulin Townshi**	**0.78**	**268**	*eP*	**Pb**	**04 54 05.1**	**+0.1**
LXIB				*i* S	**Sn**	**04 54 16.3**	**-0.1**
ESL	**Shilin**	**0.79**	**253**	*eP*	**Pb**	**04 54 05.2**	**0.0**
ESL				*eS*	**Sb**	**04 54 16.4**	**+0.8**
LATG	**Datong**	**0.83**	**306**	P	**Pb**	**04 54 06.1**	**+0.3**
LATG				*eS*	**Sn**	**04 54 18.4**	**+0.7**
EGFH	**Guangfu**	**0.85**	**244**	*eS*	**Sn**	**04 54 18.2**	**+0.1**
TWE	**Neicheng**	**0.86**	**321**	*eP*	**Pn**	**04 54 06.4**	**-0.2**
TWE				S	**Sb**	**04 54 17.8**	**+0.3**
ENTT	**Nioudou**	**0.87**	**313**	*i* P	**Pn**	**04 54 06.4**	**-0.2**
ENTT				*i* S	**Sb**	**04 54 17.3**	**-0.3**
WARBT	**Fenglin Townsh**	**0.87**	**248**	*eP*	**Pn**	**04 54 06.1**	**-0.5**
WARBT				*eS*	**Sb**	**04 54 18.0**	**+0.3**
NNSB	**Datong**	**0.89**	**295**	*eP*	**Pn**	**04 54 07.0**	**-0.1**
NNS	**Nan Shan**	**0.90**	**296**	*eP*	**Pb**	**04 54 07.6**	**+0.5**
NNS				*eS*	**Sb**	**04 54 18.0**	**-0.7**
WHF	**Hehuan Shan**	**0.92**	**276**	*eP*	**Pn**	**04 54 06.9**	**-0.8**
WHF				*eS*	**Sb**	**04 54 20.2**	**+0.8**
FUSB	**Fushanzhiwuyua**	**0.94**	**319**	P	**Pb**	**04 54 07.9**	**+0.2**
FUSB				*eS*	**Sn**	**04 54 20.7**	**+0.4**
HGSD	**Ruisui**	**0.95**	**234**	*eP*	**Pb**	**04 54 08.3**	**+0.5**
HGSD				*eS*	**Sb**	**04 54 18.8**	**-1.1**
FUSS	**Fushou**	**0.95**	**282**	P	**Pb**	**04 54 08.6**	**+0.5**
FUSS				*eS*	**Sn**	**04 54 21.9**	**+1.0**
TWB1	**Santiao Chiao**	**0.99**	**345**	*eP*	**Pb**	**04 54 09.8**	**+1.3**
TWB1				*eS*	**Sb**	**04 54 20.8**	**-0.3**
OWD	**Renai**	**1.00**	**265**	*eP*	**Pn**	**04 54 07.9**	**-0.7**
OWD				S	**Sb**	**04 54 20.8**	**-0.7**
TIPB	**Shuangxi**	**1.00**	**337**	*eP*	**Pn**	**04 54 08.6**	**+0.1**
TIPB				*i* S	**Sn**	**04 54 20.6**	**-1.2**
NWLT	**Wulai**	**1.00**	**316**	*eP*	**Pb**	**04 54 09.0**	**+0.2**
NWLT				*eS*	**Sn**	**04 54 20.6**	**-1.3**
EHYH	**Wanrong**	**1.01**	**237**	*eP*	**Pb**	**04 54 09.0**	**+0.2**
TWT	**Tachien**	**1.01**	**282**	*eP*	**Pb**	**04 54 10.1**	**+1.0**
EHY	**Hungye**	**1.02**	**238**	P	**Pb**	**04 54 09.6**	**+0.6**
EHY				S	**Sn**	**04 54 21.5**	**-0.7**
YHNB	**Yeheng**	**1.02**	**308**	*eP*	**Pb**	**04 54 09.2**	**+0.1**
YHNB				*eS*	**Sn**	**04 54 22.0**	**-0.3**
TDCB	**Techi**	**1.03**	**282**	*eP*	**Pn**	**04 54 08.2**	**-0.8**
NSK	**Sanguang**	**1.03**	**307**	*eP*	**Pb**	**04 54 10.1**	**+0.7**
NSK				S	**Sb**	**04 54 23.3**	**+0.7**
ECBN	**Changbin**	**1.04**	**226**	*eP*	**Pn**	**04 54 08.7**	**-0.3**
ECBN				*eS*	**Sn**	**04 54 22.8**	**0.0**
WUSB	**Renai**	**1.05**	**267**	*eP*	**Pb**	**04 54 09.6**	**0.0**
WUSB				*eS*	**Sb**	**04 54 24.8**	**+1.8**
SXI1	**Grass Mountain**	**1.10**	**341**	*eP*	**Pn**	**04 54 09.8**	**-0.1**
SXI1				*eS*	**Sn**	**04 54 23.9**	**-0.5**
YULB	**Yu-li**	**1.10**	**234**	*eP*	**Pn**	**04 54 09.9**	**+0.1**
NWF	**Wu-fen Shan**	**1.11**	**337**	*eP*	**Pb**	**04 54 11.0**	**+0.4**
NWF				*i* S	**Sn**	**04 54 24.4**	**-0.2**
WFSB	**Wu-fen Shan**	**1.11**	**337**	*eP*	**Pn**	**04 54 09.7**	**-0.3**
WFSB				S	**Sb**	**04 54 24.8**	**+0.3**
TWF1	**Yuli**	**1.12**	**232**	*eP*	**Pb**	**04 54 10.6**	**-0.2**
TWF1				*i* S	**Sb**	**04 54 25.4**	**+0.3**
CHKH	**Chenggong**	**1.17**	**223**	*eP*	**Pn**	**04 54 09.2**	**-1.5**
NFF	**Wufeng Townshi**	**1.20**	**299**	*eP*	**Pb**	**04 54 13.1**	**+1.0**
NFF				*eS*	**Sb**	**04 54 29.5**	**+2.4**
WHP	**Taichung City**	**1.22**	**281**	*eP*	**Pb**	**04 54 14.0**	**+1.4**
SSLB	**Suanglung**	**1.23**	**258**	*eP*	**Pn**	**04 54 11.7**	**+0.1**
FULB	**Fuli**	**1.23**	**227**	P	**Pn**	**04 54 11.4**	**-0.2**
FULB				*eS*	**Sn**	**04 54 26.5**	**-0.9**
CHKT	**Chengkung**	**1.25**	**221**	*eP*	**Pn**	**04 54 10.5**	**-1.5**
CHKT				*eS*	**Sn**	**04 54 25.8**	**-2.2**
LIOB	**Emei**	**1.28**	**298**	*eP*	**Pb**	**04 54 14.3**	**+0.7**
ZUZH	**Zhuzihu**	**1.29**	**330**	*eP*	**Pb**	**04 54 13.8**	**+0.2**
ZUZH				*i* S	**Sn**	**04 54 29.3**	**+0.4**
NSTT	**Nanjuang**	**1.29**	**297**	*eP*	**Pb**	**04 54 14.1**	**+0.4**
EHD	**Haiduan**	**1.32**	**227**	*eP*	**Pn**	**04 54 13.1**	**+0.3**
EHD				S	**Sn**	**04 54 29.9**	**+0.2**
EDH	**Donghe**	**1.39**	**220**	*eP*	**Pn**	**04 54 13.5**	**-0.3**
EDH				*eS*	**Sn**	**04 54 29.3**	**-2.0**
ELDTW	**Lidau**	**1.43**	**233**	*eP*	**Pn**	**04 54 14.3**	**-0.1**
ELDTW				*eS*	**Sn**	**04 54 32.2**	**-0.3**
ALS	**Alishan**	**1.44**	**248**	*eP*	**Pb**	**04 54 15.8**	**-0.5**
ALS				*i* S	**Sb**	**04 54 34.1**	**-0.2**
WNT	**Mingjian**	**1.45**	**264**	*eP*	**Pb**	**04 54 15.9**	**-0.5**
CHN5	**Tsauling**	**1.52**	**253**	*eS*	**Sb**	**04 54 36.8**	**+0.3**
LONT	**Longtian**	**1.54**	**223**	*eP*	**Pn**	**04 54 15.9**	**0.0**
LONT				S	**Sn**	**04 54 35.3**	**+0.1**
WCKO	**Fanlu**	**1.64**	**249**	*eP*	**Pb**	**04 54 19.2**	**-0.3**
WCKO				S	**Sb**	**04 54 41.2**	**+1.5**
TPUB	**Ta-pu**	**1.67**	**244**	*eP*	**Pb**	**04 54 20.2**	**0.0**
TPUB				S	**Sb**	**04 54 41.8**	**+1.0**
JIJ	**Ishigaki jima**	**1.75**	**79**	*eP*	**Pn**	**04 54 19.2**	**+0.5**
JIJ				*eS*	**Sn**	**04 54 40.4**	**+0.3**
WTK	**Tuku**	**1.75**	**259**	*eS*	**Sb**	**04 54 44.2**	**+1.1**
JISG	**Ishigakijimahi**	**1.94**	**74**	*eS*	**Sn**	**04 54 45.1**	**+0.1**
MASBT	**Mashibuluo**	**2.07**	**227**	*eP*	**Pn**	**04 54 23.2**	**0.0**

WEL 20 05:06:26.8±0.6, 34°S±7°×17°9W±1°6, h12km, M4.3/13, mB5.1/4, ML4.5/21, MLv4.3/13, Mw(mB)4.4/4, Error ellipse: s-maj=22.7km s-min=3.7km az=110.9, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.34**	**205**	P	Pn	05 07 32.7	+0.1
MXZ				S	Sn	05 08 25.0	+1.8
WMGZ	**Waiomatatini S**	**4.54**	**203**	P	Pn	05 07 37.9	+2.6
WMGZ				S	Sn	05 08 29.4	+1.4
GLKZ	**Green Lake**	**4.54**	**16**	P	Pn	05 07 33.0	-2.3
GLKZ				S	Sn	05 08 24.4	-3.6
PKGZ	**Pakihiroa**	**4.70**	**205**	P	Pn	05 07 38.7	+1.2
PKGZ				S	Sn	05 08 34.1	+2.2
HAZ	**Te Kaha**	**4.71**	**209**	P	Pn	05 07 39.9	+2.3
HAZ				S	Sn	05 08 35.4	+3.2
PUZ	**Puketiti**	**4.82**	**203**	P	Pn	05 07 41.8	+2.6
PUZ				S	Sn	05 08 35.5	+0.5
RUGZ	**Raukumara Rang**	**4.93**	**208**	P	Pn	05 07 43.2	+2.4
RUGZ				S	Sn	05 08 37.4	-0.5
TWGZ	**Tauwhareparae**	**5.01**	**205**	P	Pn	05 07 43.2	+1.4
TWGZ				S	Sn	05 08 41.3	+1.7
KUZ	**Kuaotunu**	**5.07**	**231**	P	Pn	05 07 43.8	+1.2
CNGZ	**Carnagh Statio**	**5.21**	**201**	P	Pn	05 07 46.9	+2.3
TKGZ	**Te Karaka**	**5.29**	**204**	S	Sn	05 08 47.4	+0.9
MWZ	**Matawai**	**5.31**	**207**	P	Pn	05 07 44.4	-1.5
MWZ				S	Sn	05 08 47.0	-0.1
OPRZ	**Ohinepanea**	**5.34**	**217**	P	Pn	05 07 49.0	+2.7
URZ	**Urewera**	**5.42**	**211**	P	Pn	05 07 49.2	+1.9
URZ				S	Sn	05 08 48.7	-0.9
RAGZ	**Rawiri**	**5.50**	**207**	P	Pn	05 07 51.1	+2.6
RIGZ	**Rimuhau**	**5.56**	**204**	P	Pn	05 07 45.3	-4.1
RIGZ				S	Sn	05 08 53.2	0.0
MKAZ	**Moumakai**	**5.64**	**231**	P	Pn	05 07 51.8	+1.4
PRGZ	**Paritu Road**	**5.72**	**202**	P	Pn	05 07 53.0	+1.6
PRGZ				S	Sn	05 08 56.0	-1.0
RTZ	**Ruatahuna**	**5.77**	**210**	P	Pn	05 07 53.6	+1.3
RTZ				S	Sn	05 08 56.5	-2.0
SNGZ	**Shannon Statio**	**5.78**	**206**	P	Pn	05 07 54.7	+2.4
SNGZ				S	Sn	05 08 59.0	+0.5
MHGZ	**Mahia Peninsul**	**5.92**	**201**	P	Pn	05 07 57.3	+3.1
MHGZ				S	Sn	05 09 00.5	-1.6
NMHZ	**Naumai**	**6.25**	**208**	P	Pn	05 07 59.2	+0.2
NMHZ				S	Sn	05 09 09.4	-0.9
ARHZ	**Aropaoanui**	**6.33**	**206**	P	Pn	05 08 00.5	+0.6
ARHZ				S	Sn	05 09 10.2	-1.8
KWHZ	**Kaweka Forest**	**6.69**	**209**	P	Pn	05 08 04.9	0.0
KWHZ				S	Sn	05 09 17.0	-4.1
HIZ	**Hauiti**	**6.74**	**222**	P	Pn	05 08 06.3	+2.8
NTVZ	**North Tongarir**	**6.75**	**215**	P	Pn	05 08 06.3	+0.5
TMVZ	**Te Maari**	**6.75**	**215**	P	Pn	05 08 05.8	0.0
OTVZ	**Oturere**	**6.81**	**215**	P	Pn	05 08 06.9	+0.3
KAHZ	**Kahuranaki**	**6.84**	**205**	P	Pn	05 08 07.3	+0.4
KAHZ				S	Sn	05 09 21.5	-3.2
WHVZ	**Whangaehu Hut**	**6.94**	**214**	P	Pn	05 08 07.9	-0.6
WAZ	**Wanganui**	**7.60**	**215**	P	Pn	05 08 15.4	-1.9

*VAO **20** 05:08:15.0±1.0, 21°62S×68°80W, h145km±8km, mb3.9*
*SJA **20** 05:08:17.0±0.8, 21°27S×68°82W, h139km±6km, ML3.4, MW3.5*
*GUC **20** 05:08:19.4±0.9, 21°25S×68°74W, h123km±5km, ML3.5*
ISC 20 05:08:16.6±0.8, 21°27S±0°03×68°79W±0°06, h140km±8km, n45, σ1.933/61, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.67**	**218**	*i*P	**Pn**	**05 08 39.2**	**+1.1**
PB09				*i* S	**Sn**	**05 08 54.5**	**0.0**
PB09				IAML		05 08 58.2	
	comp=E,993nm,0.4s						
PB09	**IPOC Station P**	**0.67**	**218**	*i* P	**Pn**	**05 08 38.9**	**+0.8**
PB09				IAML		05 08 55.4	
	comp=Z,1μm,0.4s						
PB09				IAML		05 08 57.9	
	comp=Z,877nm,0.6s						
PB01	**IPOC Station P**	**0.69**	**289**	*i*P	**Pn**	**05 08 38.7**	**+0.6**
PB01				*i* S	**Sn**	**05 08 53.8**	**-0.6**
PB01				IAML		05 08 54.4	
	comp=N,2μm,0.4s						
PB02	**IPOC Station P**	**1.03**	**267**	*i*P	**Pn**	**05 08 42.2**	**+1.2**
PB02				*i* S	**Sn**	**05 08 59.6**	**+0.3**
PB02				IAML		05 09 01.6	
	comp=E,3μm,0.3s						
PB02	**IPOC Station P**	**1.03**	**267**	*i* P	**Pn**	**05 08 42.1**	**+1.2**
PB02				*eS*	**Sn**	**05 08 59.6**	**+0.3**
PB02				IAML		05 09 05.9	
	comp=Z,3μm,0.4s						
PB08	**IPOC Station P**	**1.17**	**343**	*eP*	**Pn**	**05 08 43.3**	**+0.8**
PB08				*i* S	**Sn**	**05 09 01.7**	**-0.5**
PB08				IAML		05 09 04.8	
	comp=E,682nm,0.3s						
PB08	**IPOC Station P**	**1.17**	**343**	*i* P	**Pn**	**05 08 43.3**	**+0.8**
PB08				*eS*	**Sn**	**05 09 02.6**	**+0.4**
PB08				IAML		05 09 03.7	
	comp=Z,286nm,0.5s						
PB08				IAML		05 09 03.7	
	comp=Z,286nm,0.5s						
PB03	**IPOC Station P**	**1.19**	**229**	*i*P	**Pn**	**05 08 43.8**	**+1.4**
PB03				*i* S	**Sn**	**05 09 02.5**	**+0.4**
PB03				IAML		05 09 03.3	
	comp=N,1μm,0.2s						
TA01	**Diego Aracena**	**1.47**	**298**	*eP*	**Pn**	**05 08 46.3**	**+1.1**
TA01				*i* S	**Sn**	**05 09 07.1**	**+0.2**
TA01				IAML		05 09 09.4	
	comp=E,740nm,0.3s						
TA01	**Diego Aracena**	**1.47**	**298**	*i* P	**Pn**	**05 08 46.1**	**+1.0**
TA01				*eS*	**Sn**	**05 09 07.7**	**+0.7**
TA01				IAML		05 09 09.3	
	comp=Z,351nm,0.5s						
TA01				IAML		05 09 09.3	
	comp=Z,351nm,0.5s						
TA02	**Huaiquique**	**1.60**	**308**	*eP*	**Pn**	**05 08 47.2**	**+0.6**
TA02	**Huaiquique**	**1.60**	**308**	*i* P	**Pn**	**05 08 47.4**	**+0.9**
TA02				*eS*	**Sn**	**05 09 09.6**	**+0.2**
TA02				IAML		05 09 14.4	
	comp=Z,358nm,0.1s						
TA02				IAML		05 09 14.4	
	comp=Z,358nm,0.1s						
PB06	**IPOC Station P**	**1.60**	**207**	*i*P	**Pn**	**05 08 48.5**	**+1.7**
PB06				*i* S	**Sn**	**05 09 10.9**	**+1.0**
PB06				IAML		05 09 12.1	
	comp=E,724nm,0.3s						
PB06	**IPOC Station P**	**1.60**	**207**	*i* P	**Pn**	**05 08 47.8**	**+1.0**
PB06				*eS*	**Sn**	**05 09 10.3**	**+0.4**
PB06				IAML		05 09 13.2	
	comp=Z,410nm,0.3s						
PB06				IAML		05 09 13.2	
	comp=Z,410nm,0.3s						
GO01	**Chusmiza**	**1.63**	**347**	*eP*	**Pn**	**05 08 48.3**	**+0.8**
GO01				*i* S	**Sn**	**05 09 11.1**	**0.0**
GO01	**Chusmiza**	**1.63**	**347**	*i* P	**Pn**	**05 08 48.4**	**+0.9**
GO01				*eS*	**Sn**	**05 09 11.9**	**+0.9**
GO01				IAML		05 09 13.5	
	comp=Z,245nm,0.2s						
GO01				IAML		05 09 13.5	
	comp=Z,245nm,0.2s						
PB11	**IPOC Station P**	**1.70**	**331**	*eP*	**Pn**	**05 08 48.6**	**+0.7**
PB11				*eS*	**Sn**	**05 09 11.7**	**-0.1**
PB11				IAML		05 09 13.3	
	comp=E,1μm,0.3s						
AF01	**San Pedro de A**	**1.77**	**161**	*eP*	**Pn**	**05 08 50.8**	**+1.9**
AF01				IAML		05 09 27.2	
	comp=N,545nm,0.5s						
AF01	**San Pedro de A**	**1.77**	**161**	*i* P	**Pn**	**05 08 50.3**	**+1.5**
AF01				IAML		05 09 35.4	
	comp=Z,415nm,0.7s						
AF01				IAML		05 09 35.4	
	comp=Z,415nm,0.7s						
PB05	**IPOC Station P**	**2.05**	**219**	*eP*	**Pn**	**05 08 53.5**	**+1.6**
PB05				*eS*	**Sn**	**05 09 19.3**	**+0.3**
PB05				IAML		05 09 21.5	
	comp=E,164nm,0.1s						
PB05	**IPOC Station P**	**2.05**	**219**	*i* P	**Pn**	**05 08 53.1**	**+1.2**
PB05				*eS*	**Sn**	**05 09 19.1**	**+0.1**
PB05				IAML		05 09 25.1	
	comp=Z,107nm,0.8s						
PB05				IAML		05 09 25.1	
	comp=Z,107nm,0.8s						
PB10	**IPOC Station P**	**2.77**	**216**	*eP*	**Pn**	**05 09 02.0**	**+1.3**
PB10				IAML		05 09 41.1	
	comp=N,75nm,0.5s						
PB10	**IPOC Station P**	**2.77**	**216**	*i* P	**Pn**	**05 09 02.0**	**+1.3**
PB10				IAML		05 09 36.7	
	comp=Z,60nm,1.4s						
PB10				IAML		05 09 52.0	
	comp=Z,51nm,0.3s						
PB16	**IPOC Station P**	**2.99**	**347**	*eP*	**Pn**	**05 09 05.8**	**+1.7**
PB16				IAML		05 09 48.4	

couple: $M_0$0.83400×10^{17} NP1:ϕ_s167.00000°, δ34.00000°, λ-118.00000°. NP2:ϕ_s19.00000°, δ61.00000°, λ-73.00000°. Principal axes: T 0.8120, Plg14.0000°, Azm97.0000°; N 0.0450, Plg15.0000°, Azm190.0000°; P -0.8560, Plg69.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

IDC **20** *05:28:33.1±2.5, 18°.44S×172°.62W, h42^{km}±21^{km}, mb4.6/22, mbtmp4.8/23, ML4.9/1, MS4.6/52 Error ellipse: s-maj=15.2km s-min=11.3km az=140.0*

ISC 20 05:28:25.8±0.2, **18°.36S**±0'.04×**172°.07W**±0'.04, **h10**^{km}, **n777**, σ1**88**/748, **mb5.4**/128, **MS4.7**/67, **31C-44D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
NIUE	**Niue**	**2.15**	**110**	P		**Pn**	**05 29 01.8**	**+0.1**
NIUE	**Niue**	**2.15**	**110**	Pn		**Pn**	**05 29 01.8**	**+0.1**
NIUE	**Niue**	**2.15**	**110**	P		**Pn**	**05 29 01.7**	**-0.1**
NIUE	**Niue**	**2.15**	**110**	S		**Sn**	**05 29 28.7**	**+0.2**
NIUE	**Niue**	**2.15**	**110**	P		**Pn**	**05 29 01.1**	**-0.6**
NIUE				S		**Sn**	**05 29 27.8**	**-0.7**
AFI	**Afiamalu**	**4.44**	**4**	Pn		**Pn**	**05 29 30.7**	**-2.6**
AFI	**Afiamalu**	**4.44**	**4**	P		**Pn**	**05 29 30.7**	**-2.6**
AFI	**Afiamalu**	**4.44**	**4**	P		**Pn**	**05 29 30.9**	**-2.4**
AFI				S		**Sn**	**05 30 20.3**	**-4.8**
LKBA	**Tubou, Lakemba**	**6.41**	**270**	P		**Pn**	**05 30 01.6**	**+1.2**
FUTU	**Fugatoga**	**7.07**	**304**			**Pn**	**05 30 08.6**	**-0.9**
FUTU	**Fugatoga**	**7.07**	**304**	P		Pn	05 30 13.2	+3.7
TAVE	**Taveuni**	**7.66**	**281**	P		**Pn**	**05 30 18.4**	**+0.9**
DGTI	**Dogotuki**	**8.09**	**283**	P		**Pn**	**05 30 25.2**	**+1.7**
MSVF	**Nonsavu**	**9.42**	**272**			**Pn**	**05 30 40.1**	**-1.7**
MSVF	**Nonsavu**	**9.42**	**272**	P		**Pn**	**05 30 43.0**	**+1.2**
MSVF	**Nonsavu**	**9.42**	**272**	P		**Pn**	**05 30 40.1**	**-1.7**
RAR	**Rarotonga**	**11.91**	**106**			**Pn**	**05 31 15.7**	**-0.2**
RAR	**Rarotonga**	**11.91**	**106**	P		**Pn**	**05 31 15.8**	**-0.1**
	277nm,0.9s,baz=256,slow=8.3,SNR=46							
RAR				S		**Sn**	**05 33 21.5**	**-7.4**
	20nm,0.7s,baz=121,slow=20,SNR=1.0							
RAR				LR		LR	05 34 39.9	
	comp=Z,4μm,21.4s,baz=248,slow=30							
RAR	**Rarotonga**	**11.91**	**106**	P		**Pn**	**05 31 15.6**	**-0.2**
RAR	**Rarotonga**	**11.91**	**106**	P		**Pn**	**05 31 15.7**	**-0.2**
RAR	**Rarotonga**	**11.91**	**106**	P		**Pn**	**05 31 15.4**	**-0.4**
GLKZ	**Green Lake**	**12.10**	**205**	P		**Pn**	**05 31 15.9**	**-2.5**
RTV	**Rentapao**	**18.56**	**269**	P		**P**	**05 32 40.9**	**-2.0**
DVP	**Devils Point**	**18.79**	**269**	P		**P**	**05 32 44.4**	**-1.1**
PINNC	**Pines Island,**	**19.65**	**254**	P		**P**	**05 32 52.9**	**-2.0**
PINNC				IAmb		IAmb	05 33 03.6	
	comp=Z,798nm,1.4s							
PINNC	**Pines Island,**	**19.65**	**254**	P		**P**	**05 32 52.9**	**-2.0**
SANVU	**Saraoutou**	**20.04**	**275**	P		**P**	**05 32 57.9**	**-1.4**
SANVU				IAmb		IAmb	05 33 01.5	
	comp=Z,556nm,1.6s							
SANVU	**Saraoutou**	**20.04**	**275**	P		**P**	**05 32 57.5**	**-1.8**
YATNC	**Mamie plateau,**	**20.08**	**256**	P		**P**	**05 32 59.5**	**-0.2**
OUENC	**Ouen Island, N**	**20.17**	**255**	P		**P**	**05 32 58.3**	**-2.3**
DZM	**Mont Dzumac**	**20.50**	**256**	*e*P		**P**	**05 33 01.2**	**-3.1**
	comp=Z,407nm,1.4s							
DZM				*e*S		S	05 36 41.5	-12
	comp=Z,714nm,23.4s							
DZM				*e*LR		LR	05 37 49.3	
	comp=Z,7μm,24.3s							
DZM	**Mont Dzumac**	**20.50**	**256**			**P**	**05 33 01.4**	**-2.9**
DZM				IAmb		IAmb	05 33 11.4	
	comp=Z,276nm,1.5s							
DZM	**Mont Dzumac**	**20.50**	**256**	P		**P**	**05 33 01.4**	**-2.9**
	comp=Z,3.1nm,0.3s,baz=87,slow=19,SNR=20							
	comp=Z,27nm,0.6s							
DZM	**Mont Dzumac**	**20.50**	**256**	P		**P**	**05 33 01.6**	**-2.7**
ONTNC	**Ouen Toro**	**20.52**	**255**			**P**	**05 33 02.5**	**-1.9**
ONTNC				IAmb		IAmb	05 33 16.8	
	comp=Z,342nm,1.5s							
ONTNC	**Ouen Toro**	**20.52**	**255**	P		**P**	**05 33 02.6**	**-1.8**
GRZ	**Great Barrier**	**20.95**	**209**	P		**P**	**05 33 08.3**	**-0.6**
OUZ	**Omahuta**	**21.07**	**214**	P		**P**	**05 33 09.4**	**-0.8**
WCZ	**Waipu Caves**	**21.23**	**212**	P		**P**	**05 33 12.7**	**+0.7**
KUZ	**Kuaotunu**	**21.24**	**208**	P		**P**	**05 33 12.1**	**+0.1**
KUZ	**Kuaotunu**	**21.24**	**208**	P		**P**	**05 33 12.8**	**+0.8**
HAZ	**Te Kaha**	**21.27**	**203**	P		**P**	**05 33 14.9**	**+2.6**
PPT2	**Papeete2**	**21.41**	**91**	*e*PKP1		**P**	**05 33 11.9**	**-2.2**
	comp=Z,611nm,27.5s							
PPT2				*e*S		**S**	**05 37 06.3**	**-5.6**
	comp=Z,2μm,24.2s							
PPT2				*e*LR		LR	05 38 14.4	
	comp=Z,5μm,28.0s							
PPT2				*e*LR		LR	05 38 20.5	
	comp=Z,7μm,25.5s							
PPT	**Papeete**	**21.41**	**91**	P		**P**	**05 33 19.7**	**+5.6**
	comp=Z,44nm,0.9s,baz=254,slow=8.5,SNR=6.7							
PPT				LR		LR	05 39 12.8	
	comp=Z,2μm,21.3s,baz=248,slow=29							
PPTF	**Pamatai, Papee**	**21.42**	**91**	P		**P**	**05 33 15.9**	**+1.7**
ABAZ	**Army Bay**	**21.52**	**210**	P		**P**	**05 33 16.1**	**+1.0**
TBI	**Tubuai**	**21.69**	**107**	*e*P		**P**	**05 33 11.8**	**-5.2**
	comp=Z,2μm,37.5s							
TBI				*e*S		**S**	**05 37 10.4**	**-6.9**
	comp=Z,17μm,26.8s							
TBI				*e*LR		LR	05 38 22.5	
	comp=Z,4μm,24.8s							
TBI				*e*LR		LR	05 38 33.4	
	comp=Z,19μm,27.0s							
MWZ	**Matawai**	**21.87**	**202**	P		**P**	**05 33 20.4**	**+1.5**
URZ	**Urewera**	**21.96**	**203**	P		**P**	**05 33 19.4**	**-0.4**
	comp=Z,32nm,0.9s,baz=43,slow=1.8,SNR=16							
URZ				S		S	05 37 10.5	-12
	comp=Z,12nm,0.9s,baz=47,slow=12,SNR=2.9							
	comp=Z,32nm,0.9s							
URZ	**Urewera**	**21.96**	**203**	P		**P**	**05 33 19.1**	**-0.7**
URZ	**Urewera**	**21.96**	**203**	P		**P**	**05 33 19.4**	**-0.4**
TOZ	**Tahuroa Road**	**22.15**	**207**	P		**P**	**05 33 22.2**	**+0.3**
RTZ	**Ruatahuna**	**22.32**	**203**	P		**P**	**05 33 28.6**	**+4.8**
KOUNC	**Koumac, New Ca**	**22.40**	**261**	P		**P**	**05 33 24.9**	**+0.2**
TLZ	**Tolley Road**	**22.64**	**206**	P		**P**	**05 33 29.3**	**+2.2**
BKZ	**Black Stump Pm**	**22.99**	**203**	P		**P**	**05 33 29.3**	**-1.5**
HIZ	**Hauiti**	**23.09**	**207**	P		**P**	**05 33 31.4**	**-0.4**
NGZ	**Ngauruhoe**	**23.34**	**205**	P		**P**	**05 33 35.5**	**+1.0**
BFZ	**Birch Farm**	**24.41**	**202**	P		**P**	**05 33 43.3**	**-1.2**
TARA	**Tarawa**	**24.54**	**321**	P		**P**	**05 33 43.3**	**-2.6**
TARA				IAmb		IAmb	05 33 46.6	
	comp=Z,206nm,1.2s							
TARA	**Tarawa**	**24.54**	**321**	P		**P**	**05 33 45.4**	**-0.5**
MRZ	**Mangatainoka R**	**24.63**	**203**			**P**	**05 33 46.4**	**-0.2**
MRZ				IAmb		IAmb	05 34 00.3	
	comp=Z,174nm,1.5s							
XMAS	**Kiritimati**	**24.87**	**37**	P		**P**	**05 33 46.7**	**-2.2**
XMAS				IAmb		IAmb	05 34 04.6	
	comp=Z,92nm,1.1s							
XMAS	**Kiritimati**	**24.87**	**37**	P		**P**	**05 33 52.3**	**+3.4**
TUWZ	**Tuamarina**	**25.92**	**205**	P		**P**	**05 33 58.5**	**+0.3**
QRZ	**Quartz Range**	**26.01**	**207**	P		**P**	**05 33 57.8**	**-1.2**
HNR	**Honiara**	**28.55**	**284**	LR		LR	05 44 18.5	
	comp=Z,2μm,18.1s,baz=114,slow=34							
RPZ	**Rata Peaks**	**29.00**	**206**	P		**P**	**05 34 26.3**	**+0.5**
JCZ	**Jackson Bay**	**30.26**	**208**	P		**P**	**05 34 35.8**	**-1.3**
TAOE	**Nuku Hiva Isla**	**32.38**	**77**	*e*PKP1		**P**	**05 34 53.2**	**-2.9**
	comp=Z,62nm,23.4s							
TAOE	**Nuku Hiva Isla**	**32.38**	**77**	*e*PP		PP	05 36 07.4	-1.9
	comp=Z,106nm,27.4s							
TAOE				*e*S		**S**	**05 40 03.8**	**-6.8**
	comp=Z,94nm,23.6s							
TAOE				*e*LR		LR	05 43 19.9	
	comp=Z,3μm,26.0s							
TW1H	**Toowoomba 1 Ha**	**34.25**	**248**	P		**P**	**05 35 11.3**	**-1.0**
EIDS	**Eidsvold**	**34.82**	**252**	P		**P**	**05 35 14.9**	**-2.2**
	comp=Z,45nm,1.3s							
EIDS	**Eidsvold**	**34.82**	**252**			**P**	**05 35 15.1**	**-2.1**
EIDS				IAmb		IAmb	05 35 17.8	
	comp=Z,107nm,1.6s							
EIDS	**Eidsvold**	**34.82**	**252**	P		**P**	**05 35 13.9**	**-3.3**
ARMA	**Armidale**	**35.02**	**243**	P		**P**	**05 35 16.9**	**-2.1**
	comp=Z,44nm,1.4s							
ARMA	**Armidale**	**35.02**	**243**			**P**	**05 35 16.9**	**-2.1**
ARMA				IAmb		IAmb	05 35 18.4	
	comp=Z,91nm,1.4s							
ARMA	**Armidale**	**35.02**	**243**	P		**P**	**05 35 16.7**	**-2.3**
MGCD	**Mangrove Creek**	**36.09**	**239**	P		**P**	**05 35 28.1**	**+0.1**
SYDH	**Sydney Hard Ro**	**36.53**	**238**	P		**P**	**05 35 29.9**	**-1.9**
CNB	**Canberra Magne**	**38.05**	**236**	P		**P**	**05 35 43.4**	**-1.3**
	comp=Z,85nm,1.4s							
CNB	**Canberra Magne**	**38.05**	**236**	P		**P**	**05 35 42.7**	**-2.0**
CAN	**Canberra**	**38.34**	**236**			**P**	**05 35 46.0**	**-1.1**
CAN				IAmb		IAmb	05 35 49.0	
	comp=Z,97nm,1.4s							
CAN	**Canberra**	**38.34**	**236**	P		**P**	**05 35 45.5**	**-1.6**
CAN	**Canberra**	**38.34**	**236**	P		**P**	**05 35 46.0**	**-1.1**
CAN				pmax		pmax		
	comp=Z,97nm,1.4s							
YNG	**Young**	**38.55**	**238**	P		**P**	**05 35 48.2**	**-0.7**
	comp=Z,15nm,1.6s							
TV1H	**Townsville Har**	**38.89**	**262**	P		**P**	**05 35 49.1**	**-2.7**
CTAO	**Charters Tower**	**39.32**	**261**			**P**	**05 35 52.9**	**-2.6**
CTAO				IAmb		IAmb	05 35 54.8	
	comp=Z,134nm,1.4s							
CTAO	**Charters Tower**	**39.32**	**261**	P		**P**	**05 35 52.5**	**-3.0**
CTAO	**Charters Tower**	**39.32**	**261**	P		**P**	**05 35 52.9**	**-2.6**
CTAO				pmax		pmax		
	comp=Z,134nm,1.4s							
CMSA	**Cobar Meteorol**	**40.24**	**243**	P		**P**	**05 36 00.4**	**-2.6**
	comp=Z,57nm,1.4s							
CMSA	**Cobar Meteorol**	**40.24**	**243**	P		**P**	**05 36 00.7**	**-2.3**
PMG	**Port Moresby**	**40.49**	**277**			**P**	**05 36 03.2**	**-2.0**
PMG				IAmb		IAmb	05 36 07.7	
	comp=Z,107nm,1.3s							
PMG	**Port Moresby**	**40.49**	**277**	LR		LR	05 51 15.1	
	comp=Z,1μm,18.1s,baz=96,slow=34							
PMG	**Port Moresby**	**40.49**	**277**	P		**P**	**05 36 03.6**	**-1.6**
PMG	**Port Moresby**	**40.49**	**277**	P		**P**	**05 36 03.0**	**-2.3**
PMG	**Port Moresby**	**40.49**	**277** *d*	*i*P		**P**	**05 36 02.9**	**-2.3**
PMG				pmax		pmax		
	comp=Z,85nm,1.2s							
QLP	**Quilpie**	**41.04**	**250**	P		**P**	**05 36 07.2**	**-2.5**
	comp=Z,92nm,1.5s							
QLP	**Quilpie**	**41.04**	**250**	P		**P**	**05 36 06.8**	**-2.9**
MTSU	**Mount Surprise**	**41.35**	**263**	P		**P**	**05 36 09.3**	**-3.1**
	comp=Z,15nm,1.1s							
MTSU	**Mount Surprise**	**41.35**	**263**	P		**P**	**05 36 09.6**	**-2.7**
CORO	**Coronation Par**	**41.66**	**228**	P		**P**	**05 36 15.2**	**+0.6**
TOO	**Toolangi**	**41.67**	**234**	P		**P**	**05 36 13.6**	**-1.1**
	comp=Z,33nm,1.3s							
TOO	**Toolangi**	**41.67**	**234**			**P**	**05 36 13.1**	**-1.6**
TOO	**Toolangi**	**41.67**	**234**	P		**P**	**05 36 13.1**	**-1.6**
TOO				pmax		pmax		
	comp=Z,39nm,1.2s							
MOO	**Moorlands**	**42.00**	**226**	P		**P**	**05 36 17.0**	**-0.4**
	comp=Z,72nm,2.9s							
H11S2	**WAKE ISLAND Hy**	**42.15**	**329**	T		T	06 22 04.0	
	baz=147,slow=75,SNR=30							
H11S3	**WAKE ISLAND Hy**	**42.16**	**329**	T		T	06 22 03.0	
	baz=147,slow=75,SNR=26							
H11S1	**WAKE ISLAND Hy**	**42.16**	**329**	T		T	06 22 04.4	
	baz=147,slow=75,SNR=22							
BRAT	**Ballarat**	**42.86**	**234**	P		**P**	**05 36 24.4**	**0.0**
MANU	**Manus Island**	**42.94**	**287**			**P**	**05 36 24.4**	**-1.0**
MANU				IAmb		IAmb	05 36 28.3	
	comp=Z,195nm,1.6s							
H11N3	**WAKE ISLAND Hy**	**43.10**	**330**	T		T	06 22 42.8	
	baz=150,slow=76,SNR=23							
H11N1	**WAKE ISLAND Hy**	**43.11**	**330**	T		T	06 22 43.1	
	baz=150,slow=76,SNR=23							
H11N2	**WAKE ISLAND Hy**	**43.12**	**330**	T		T	06 22 40.8	
	baz=150,slow=76,SNR=26							
COEN	**Coen**	**43.13**	**269**	P		**P**	**05 36 24.7**	**-2.2**
	comp=Z,45nm,1.2s							
COEN	**Coen**	**43.13**	**269**			**P**	**05 36 24.9**	**-2.0**
COEN	**Coen**	**43.13**	**269**	P		**P**	**05 36 25.1**	**-1.8**
STKA	**Stephens Creek**	**43.75**	**243**	P		**P**	**05 36 30.0**	**-1.7**
	comp=Z,311nm,1.4s							
STKA	**Stephens Creek**	**43.75**	**243**			**P**	**05 36 29.8**	**-1.8**
STKA	**Stephens Creek**	**43.75**	**243**	P		**P**	**05 36 30.0**	**-1.7**
	comp=Z,63nm,1.2s,baz=79,slow=7.2,SNR=30							
STKA				LR		LR	05 52 56.1	
	comp=Z,1μm,18.8s,baz=78,slow=34							
	comp=Z,63nm,1.2s							
STKA	**Stephens Creek**	**43.75**	**243**	P		**P**	**05 36 30.0**	**-1.7**
STKA	**Stephens Creek**	**43.75**	**243** *d*	*i*P		**P**	**05 36 29.9**	**-1.8**
INKA	**Innaminka**	**44.19**	**249**			**P**	**05 36 33.7**	**-1.5**
QIS	**Mount Isa**	**45.49**	**259**	P		**P**	**05 36 42.7**	**-3.1**
	comp=Z,36nm,1.9s							
QIS	**Mount Isa**	**45.49**	**259**	P		**P**	**05 36 43.1**	**-2.7**
HTT	**Hallett**	**46.16**	**241**	P		**P**	**05 36 49.5**	**-1.4**
	comp=Z,9.6nm,1.3s							
HTT	**Hallett**	**46.16**	**241**	P		**P**	**05 36 49.9**	**-1.0**
BBOO	**Buckleboo**	**48.50**	**242**	P		**P**	**05 37 07.6**	**-1.6**
	comp=Z,53nm,2.6s							
BBOO	**Buckleboo**	**48.50**	**242**			**P**	**05 37 07.5**	**-1.6**
BBOO	**Buckleboo**	**48.50**	**242**	P		**P**	**05 37 07.9**	**-1.2**
JAY	**Jayapura**	**48.85**	**283**	LR		LR	05 57 38.7	
	comp=Z,700nm,18.6s,baz=50,slow=36							
JAY	**Jayapura**	**48.85**	**283**	P		**P**	**05 37 12.9**	**+0.8**
GENI	**Genyem**	**49.32**	**283**	P		**P**	**05 37 17.7**	**+2.1**
GENI	**Genyem**	**49.32**	**283**	P		**P**	**05 37 16.7**	**+1.1**
	comp=Z,2μmcomp=Z,3μmcomp=Z,58nm,0.6s							
WB2	**Warramunga Arr**	**50.46**	**259**	P		**P**	**05 37 21.6**	**-2.7**
WRAB	**Tennant Creek**	**50.46**	**259**	P		**P**	**05 37 21.9**	**-2.4**
WRAB				IAmb		IAmb	05 37 23.1	
	comp=Z,177nm,1.4s							
WRAB	**Tennant Creek**	**50.46**	**259** *d*	*i*P		**P**	**05 37 21.4**	**-2.9**
WRAB				pmax		pmax		
	comp=Z,161nm,1.4s							
AS31	**Alice Springs**	**50.47**	**254**			**P**	**05 37 22.3**	**-2.1**
ASAR	**Alice Springs**	**50.47**	**254**			**P**	**05 37 22.1**	**-2.3**
ASAR	**Alice Springs**	**50.47**	**254**	P		**P**	**05 37 22.3**	**-2.1**
	comp=Z,142nm,1.1s,baz=87,slow=7.9,SNR=16							
ASAR				S		**S**	**05 44 30.5**	**-8.0**
	comp=Z,2.3nm,0.8s,baz=93,slow=15,SNR=14							
ASAR				LR		LR	05 58 07.9	
	comp=Z,1μm,18.7s,baz=97,slow=36							
	comp=Z,142nm,1.1s							
WRA	**Warramunga Arr**	**50.47**	**259**	P		**P**	**05 37 21.7**	**-2.7**
	comp=Z,74nm,1.1s,baz=95,slow=7.4,SNR=177							
WRA				PcP		**PcP**	**05 38 43.7**	**+1.1**
	comp=Z,5.6nm,1.0s,baz=92,slow=2.9,SNR=1.4							
WRA				S		**S**	**05 44 31.0**	**-7.5**
	comp=Z,3.2nm,1.1s,baz=92,slow=14,SNR=9.9							
WRA				LR		LR	05 57 50.7	
	comp=Z,1μm,18.9s,baz=97,slow=35							
	comp=Z,74nm,1.1s							
GUMO	**Guam**	**53.02**	**304**	LR		LR	05 58 04.4	
	comp=Z,401nm,19.7s,baz=119,slow=34							
KDU	**Kakadu**	**53.57**	**268**	P		**P**	**05 37 45.2**	**-2.3**
	comp=Z,64nm,1.3s							
KDU	**Kakadu**	**53.57**	**268**	P		**P**	**05 37 45.2**	**-2.3**
MTN	**Manton Dam**	**54.81**	**267**	P		**P**	**05 37 54.1**	**-2.4**
	comp=Z,58nm,1.2s							
MTN	**Manton Dam**	**54.81**	**267**	P		**P**	**05 37 54.0**	**-2.4**
MTN				IAmb		IAmb	05 37 55.6	
	comp=Z,63nm,1.1s							
MTN	**Manton Dam**	**54.81**	**267**	P		**P**	**05 37 54.1**	**-2.4**
DRS	**Darwin Rock St**	**55.12**	**267**	P		**P**	**05 37 57.1**	**-1.7**
FORT	**Forrest**	**55.27**	**245**	P		**P**	**05 37 58.7**	**-1.0**
	comp=Z,33nm,1.5s							
WRKA	**Warakurna**	**55.44**	**252**	P		**P**	**05 37 59.8**	**-1.2**
	comp=Z,28nm,1.9s							
KNRA	**Kununurra**	**56.43**	**263**	P		**P**	**05 38 06.5**	**-1.6**
	comp=Z,87nm,1.2s							
KNRA	**Kununurra**	**56.43**	**263**			**P**	**05 38 06.2**	**-2.0**
KNRA				IAmb		IAmb	05 38 08.0	
	comp=Z,126nm,1.2s							
RPN	**Rapa Nui**	**58.01**	**111**	LR		LR	05 57 11.7	
	comp=Z,741nm,20.2s,baz=255,slow=29							
SWI	**Sorong**	**58.24**	**281**	P		**P**	**05 38 21.0**	**0.0**
	comp=Z,2μmcomp=Z,99nm,1.0s							
FITZ	**Fitzroy Crossi**	**58.89**	**260**	P		**P**	**05 38 24.7**	**-0.8**
	comp=Z,9.0nm,1.7s							
FITZ	**Fitzroy Crossi**	**58.89**	**260**	P		**P**	**05 38 24.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**58.89**	**260**	LR		LR	06 02 21.9	
	comp=Z,1μm,19.9s,baz=102,slow=35							
FITZ	**Fitzroy Crossi**	**58.89**	**260**	P		**P**	**05 38 24.2**	**-1.3**
SBA	**Scott Base**	**60.42**	**185**	P		**P**	**05 38 35.7**	**+0.6**
SBA				IAmb		IAmb	05 38 53.8	
	comp=Z,54nm,1.6s							
SBA	**Scott Base**	**60.42**	**185**	P		**P**	**05 38 35.7**	**+0.6**
SBA				pmax		pmax		
	comp=Z,54nm,1.6s							
VNDA	**Vanda**	**60.58**	**186**	P		**P**	**05 38 36.5**	**+0.3**
VNDA	**Vanda**	**60.58**	**186**	P		**P**	**05 38 38.3**	**+2.1**
	comp=Z,1.9nm,1.0s,baz=13,slow=6.7,SNR=9.5							
VNDA				LR		LR	06 01 22.0	
	comp=Z,114nm,19.2s,baz=22,slow=33							
	comp=Z,1.9nm,1.0s							
NLAI	**Namlea**	**61.34**	**276**	P		**P**	**05 38 42.9**	**+0.6**
	comp=Z,83nm,1.5s							
SOEI	**Soe**	**62.09**	**269**			**P**	**05 38 46.0**	**-1.6**
SOEI	**Soe**	**62.09**	**269**	P		**P**	**05 38 48.6**	**+1.0**
SOEI	**Soe**	**62.09**	**269**	P		**P**	**05 38 48.3**	**+0.7**
TNTI	**Ternate**	**62.45**	**281**			**P**	**05 38 48.4**	**-1.5**
TNTI	**Ternate**	**62.45**	**281**	P		**P**	**05 38 50.4**	**+0.6**
TNTI	**Ternate**	**62.45**	**281**	P		**P**	**05 38 50.9**	**+1.1**
	comp=Z,3μmcomp=Z,111nm,1.0s							
BATI	**Baumata**	**62.55**	**268**	LR		LR	06 06 56.7	
	comp=Z,891nm,18.9s,baz=146,slow=37							
SANI	**Sanana**	**62.77**	**277**	P		**P**	**05 38 51.9**	**-0.1**
SANI	**Sanana**	**62.77**	**277**	P		**P**	**05 38 51.7**	**-0.3**
	comp=Z,2μmcomp=Z,88nm,1.3s							
PSAC2	**Pilbara Seismi**	**63.57**	**255**	P		**P**	**05 38 56.8**	**-0.4**
	comp=Z,70nm,1.6s							
PSA00	**Pilbara Seismi**	**63.62**	**255**			**P**	**05 38 55.6**	**-1.9**
PSA00	**Pilbara Seismi**	**63.62**	**255**	P		**P**	**05 38 57.0**	**-0.5**
MBWA	**Marble Bar**	**63.80**	**255**	P		**P**	**05 38 57.8**	**-0.9**
	comp=Z,60nm,1.4s							
MBWA	**Marble Bar**	**63.80**	**255**			**P**	**05 38 56.5**	**-2.2**
MBWA	**Marble Bar**	**63.80**	**255**	P		**P**	**05 38 58.3**	**-0.4**
MEEK	**Meekatharra**	**63.91**	**249**	P		**P**	**05 38 58.4**	**-1.0**
	comp=Z,63nm,1.6s							
MEEK	**Meekatharra**	**63.91**	**249**	P		**P**	**05 38 58.7**	**-0.7**
KLBR	**Kellerberrin**	**64.02**	**243**	P		**P**	**05 38 59.7**	**-0.3**
	comp=Z,96nm,1.3s							
KLBR	**Kellerberrin**	**64.02**	**243**	P		**P**	**05 39 00.0**	**0.0**
NWAO	**Narrogin (SRO)**	**64.31**	**242**	P		**P**	**05 39 01.4**	**-0.5**
NWAO				IAmb		IAmb	05 39 03.2	
	comp=Z,102nm,1.4s							
NWAO	**Narrogin (SRO)**	**64.31**	**242**	LR		LR	06 05 33.1	
	comp=Z,805nm,19.1s,baz=86,slow=35							
NWAO	**Narrogin (SRO)**	**64.31**	**242**	P		**P**	**05 39 01.4**	**-0.5**
NWAO				pmax		pmax		
	comp=Z,102nm,1.4s							
EDFI	**Ende, Flores**	**64.81**	**269**	P		**P**	**05 39 04.5**	**-1.1**
	comp=Z,2μmcomp=Z,85nm,1.4s							
BLDU	**Ballidu**	**65.03**	**244**	P		**P**	**05 39 06.0**	**-0.6**
	comp=Z,37nm,2.3s							
BLDU	**Ballidu**	**65.03**	**244**	P		**P**	**05 39 06.5**	**-0.1**
MUN	**Mundaring**	**65.28**	**243**	P		**P**	**05 39 08.4**	**+0.1**
BASI	**Baing, Sumba**	**65.47**	**267**	P		**P**	**05 39 10.6**	**+0.9**
MORW	**Morawa**	**65.81**	**246**	P		**P**	**05 39 11.5**	**-0.2**
	comp=Z,56nm,1.8s							
MORW	**Morawa**	**65.81**	**246**	P		**P**	**05 39 10.2**	**-1.5**
MORW	**Morawa**	**65.81**	**246**	P		**P**	**05 39 11.8**	**+0.1**
WSI	**Waingapu**	**65.89**	**267**	P		**P**	**05 39 13.2**	**+0.8**
LUWI	**Luwuk**	**66.14**	**277**	P		**P**	**05 39 12.6**	**-1.5**
LUWI	**Luwuk**	**66.14**	**277**	P		**P**	**05 39 15.1**	**+1.0**
LUWI	**Luwuk**	**66.14**	**277**	P		**P**	**05 39 15.0**	**+1.0**
DAV	**Davao City (W)**	**66.48**	**286**	LR		LR	06 06 46.8	
	comp=Z,215nm,18.6s,baz=156,slow=35							
WBSI	**Waikabubak, Su**	**66.75**	**267**	P		**P**	**05 39 17.9**	**-0.1**
	comp=Z,2μmcomp=Z,107nm,1.4s							
APSI	**Ampana**	**67.24**	**277**	P		**P**	**05 39 22.7**	**+1.6**
BKSI	**Bulukumba**	**67.29**	**272**	P		**P**	**05 39 21.1**	**-0.3**
MRSI	**Marisa**	**67.43**	**278**	P		**P**	**05 39 22.7**	**+0.4**
	comp=Z,1μmcomp=Z,52nm,1.3s							
BNSI	**Bone**	**67.59**	**273**	P		**P**	**05 39 23.8**	**+0.5**
	comp=Z,2μmcomp=Z,86nm,1.3s							
KAPI	**Kappang**	**67.74**	**272**	LR		LR	06 06 46.2	
	comp=Z,161nm,21.9s,baz=99,slow=34							
KAPI	**Kappang**	**67.74**	**272**	P		**P**

PEA0B **Petropavlovsk-** 75.83 342 ||*e*P P 05 40 12.7 +0.7
PETK **Petropavlovsk-** 75.83 342 P P 05 40 13.7 +1.7
comp=Z,11nm,1.0s,baz=115,slow=10.0,SNR=9.9
PETK LR LR 06 08 00.8
comp=Z,95nm,21.4s,baz=164,slow=31
comp=Z,11nm,1.0s
SII **Sitkinak Island** 76.14 10 P P 05 40 14.0 +0.3
baz=198
R16K **Pilot Point** 76.60 8 P P 05 40 16.3 +0.1
baz=194
YSS **Yuzhno-Sakhali** 76.67 330 *e*P P 05 40 13.3 -3.6
YSS *e*S S 05 50 01.5 -2.1
YSS pmax pmax
comp=Z,40nm,1.4s
R17L **Mt. Peulik Vol** 76.83 9 P P 05 40 18.3 +0.7
baz=195
OHAK **Old Harbor** 76.92 10 P P 05 40 19.0 +1.0
baz=198
R18K **Karluk** 77.06 10 P P 05 40 19.8 +1.0
baz=197
STKI **Sintang** 77.17 274 P P 05 40 21.9 +1.4
SBUM **Sibu** 77.24 277 P P 05 40 22.9 +2.0
NACB **Ninganchiao** 77.26 301 P P 05 40 22.1 +1.4
KPJI **Karang Pucung** 77.33 266 P P 05 40 21.6 +0.2
comp=Z,1µmcomp=Z,75nm,1.7s
Q17K **Contact Creek** 77.51 9 P P 05 40 22.1 +0.6
baz=196
KDAK **Kodiak Island** 77.57 11 LR LR 06 08 19.5
comp=Z,224nm,21.0s,baz=203,slow=31
KDAK **Kodiak Island** 77.57 11 *d* *i*P P 05 40 23.9 +2.2
KDAK pmax pmax
comp=Z,64nm,1.6s
KDAK **Kodiak Island** 77.57 11 P P 05 40 22.3 +0.6
baz=199
Q16K **King Salmon** 77.80 8 P P 05 40 24.1 +1.1
baz=195
O14K **Tigyukauivet M** 77.84 6 P P 05 40 23.4 +0.2
baz=190
O15K **Ungalikthiuk R** 77.91 6 P P 05 40 24.0 +0.4
baz=192
P16K **Nushagak River** 77.98 7 P P 05 40 24.4 +0.5
baz=194
Q18K **Katmai Hardscr** 78.01 9 P P 05 40 25.1 +0.8
baz=197
P17K **Kvichak River** 78.33 8 P P 05 40 27.2 +1.3
baz=195
Q20K **Shuyak Island** 78.39 10 P P 05 40 26.9 +0.7
baz=199
N14K **Kuskokwak Cree** 78.46 5 P P 05 40 27.1 +0.5
baz=190
Q19K **Cape Douglas,** 78.49 10 P P 05 40 27.8 +0.9
baz=198
BBJI **Bungbulang** 78.50 266 P P 05 40 28.3 +0.3
O16K **Kokwok River B** 78.51 7 P P 05 40 27.5 +0.6
baz=194
M11K **Mekoryuk** 78.61 3 P P 05 40 28.4 +1.1
baz=186
P18K **Big Mountain,** 78.69 9 P P 05 40 27.7 -0.3
P18K IAmb IAmb 05 40 40.9
comp=Z,64nm,1.4s
P18K **Big Mountain,** 78.69 9 P P 05 40 28.9 +1.0
baz=196
LEM **Lembang** 78.72 267 LR LR 06 14 14.8
comp=Z,321nm,21.9s,baz=145,slow=35
KSM **Kuching** 78.73 275 P P 05 40 30.9 +1.7
O17K **Koliganek Bris** 78.81 8 P P 05 40 29.8 +1.3
baz=194
M13K **Dall Lake** 78.81 4 P P 05 40 30.1 +1.6
baz=188
N15K **Kwethluk River** 78.86 6 P P 05 40 30.1 +1.3
baz=192
KSRS **Korea Array** 79.16 315 P P 05 40 33.4 +2.5
comp=Z,4.7nm,0.9s,baz=134,slow=5.2,SNR=18
comp=Z,4.7nm,0.9s
P19K **Oil Pt** 79.24 10 P P 05 40 31.9 +0.9
baz=198
M14K **Bethel** 79.26 5 P P 05 40 32.2 +1.2
baz=190,SNR=8.2
N16K **Nishlik Lake** 79.29 7 P P 05 40 32.6 +1.3
baz=193
M15K **Kasigluk River** 79.31 6 P P 05 40 32.6 +1.3
baz=191,SNR=9.2
HOM **Homer** 79.51 10 P P 05 40 32.9 +0.6
baz=200
N17K **Nushagak Hills** 79.53 7 P P 05 40 32.6 +0.1
baz=194
TYV **Tymovskoe** 79.56 333 *e*P P 05 40 34.5 +1.7
TYV *e*S S 05 50 31.6 -2.8
TYV pmax pmax
comp=Z,13nm,1.3s
TYV pmax pmax
comp=Z,300nm,2.6s
TYV smax smax
comp=N,400nm,4.2s
TYV smax smax
comp=E,100nm,4.2s
O19K **Port Alsworth** 79.60 9 P P 05 40 34.6 +1.8
baz=197
DBJI **Dramaga** 79.62 267 P P 05 40 35.0 +0.9
comp=E,93nm,1.0s
BRSE **Bradley Lake S** 79.75 11 P P 05 40 35.7 +2.0
baz=201
O20K **Slope Mountain** 79.75 10 P P 05 40 35.2 +1.4
baz=199
L14K **Kuka Creek** 79.78 5 P P 05 40 36.4 +2.6
baz=189
M16K **Timber Creek** 79.81 6 P P 05 40 35.8 +1.8
baz=193,SNR=8.9
N18K **Kilae Creek** 79.84 8 P P 05 40 35.8 +1.6
baz=196
BBB **Bella Bella** 79.97 26 LR LR 06 15 09.8
comp=E,167nm,18.1s,baz=227,slow=35
N19K **Bonanza Creek** 80.17 9 P P 05 40 37.7 +1.7
baz=197,SNR=5.6
L15K **Ungalak Mounta** 80.21 5 P P 05 40 38.3 +2.2
baz=190,SNR=6.6
K13K **Kusilvak Mount** 80.24 4 P P 05 40 38.6 +2.3
baz=187
Q23K **Middleton Isla** 80.32 13 P P 05 40 37.9 +1.2
baz=205
SEW **Seward** 80.32 11 P P 05 40 37.4 +0.7
baz=202
M17K **Holitna River** 80.35 7 P P 05 40 38.8 +1.9
baz=194,SNR=5.7
L16K **Owhat River** 80.43 6 P P 05 40 39.5 +2.2
baz=192,SNR=8.2
USRK **Ussuriysk Ar.** 80.50 323 P P 05 40 40.0 +1.9
comp=E,2.6nm,0.8s,baz=119,slow=6.7,SNR=8.4
comp=E,2.6nm,0.8s
USRK **Ussuriysk Ar.** 80.50 323 P P 05 40 40.0 +1.9
CGJI **Cibinong** 80.61 266 P P 05 40 39.5 +0.1
comp=E,3µmcomp=E,96nm,1.4s
CRAG **Craig** 80.61 21 P P 05 40 39.0 +0.6
baz=217
O22K **Cooper Landing** 80.62 11 P P 05 40 39.6 +1.2
baz=202
M18K **Stony River** 80.64 8 P P 05 40 40.5 +2.0
baz=196,SNR=5.2
CAPN **Captain Cook N** 80.64 10 P P 05 40 41.0 +2.6
baz=200
K15K **Wolf Creek Mou** 80.82 5 P P 05 40 42.5 +3.1
baz=190,SNR=23
N20K **Mount Spurr** 80.88 10 P P 05 40 41.5 +1.6
baz=199
SPCR **Spurr Chakacha** 80.88 10 P P 05 40 40.9 +1.1
baz=199
BELA **Belgrano 2** 80.90 172 P P 05 40 39.7 -0.1
PMSA **Palmer Station** 80.96 156 LR LR 06 14 04.8
comp=E,309nm,18.2s,baz=254,slow=34
L17K **Donlin** 80.97 7 P P 05 40 42.6 +2.4
baz=193,SNR=9.8
Y22D **IRIS PASSCAL I** 80.98 50 P P 05 40 41.7 +0.6
baz=241
V35K **Ketchikan** 81.03 22 P P 05 40 41.6 +1.0
baz=219
J14K **Nanvaranak Lak** 81.12 4 P P 05 40 41.7 +0.7
baz=188
U33K **Whale Pass** 81.12 21 P P 05 40 42.2 +1.1
baz=217
SIT **Sitka** 81.17 19 P P 05 40 41.9 +0.6
baz=215
RC01 **Rabbit Creek A** 81.19 11 P P 05 40 42.5 +1.1
baz=201
KAIM **Kayak Island** 81.19 14 P P 05 40 42.6 +1.1
baz=206
TXAR **Lajitas Array** 81.22 55 P P 05 40 47.4 +5.0
comp=E,8.7nm,1.1s,baz=223,slow=5.1,SNR=37
TXAR LR LR 06 09 07.9
comp=E,212nm,20.9s,baz=236,slow=30
comp=E,8.7nm,1.1s
PWL **Port Wells** 81.23 11 P P 05 40 43.3 +1.6
baz=203
L18K **Granite Mounta** 81.23 7 P P 05 40 43.6 +2.0
baz=195,SNR=11
SUA **Susitna One** 81.36 10 P P 05 40 41.9 -0.6
baz=200
M20K **Styx River** 81.39 9 P P 05 40 42.7 +0.2
baz=198
L19K **White Mountain** 81.43 8 P P 05 40 43.6 +0.9
baz=196
EYAK **Cordova Ski Ar** 81.46 13 P P 05 40 43.5 +0.6
baz=205
GLI **Glacier Island** 81.49 12 P P 05 40 43.9 +0.9
baz=204
K17K **Iditarod** 81.54 6 P P 05 40 44.5 +1.3
baz=193,SNR=7.0
BGLC **Bering Glacier** 81.62 14 P P 05 40 44.0 +0.4
baz=208
WRAK **Wrangell Islan** 81.63 21 P P 05 40 44.3 +0.5
baz=218
S31K **Pelican** 81.64 18 P P 05 40 44.1 +0.3
baz=214
KNK **Knik Glacier** 81.72 11 P P 05 40 45.2 +0.9
baz=203
SKT **Skwentna** 81.72 10 P P 05 40 45.2 +0.9
baz=200,SNR=5.2
T33K **Petersburg** 81.74 21 P P 05 40 45.3 +1.0
baz=217
M22K **Willow** 81.74 10 P P 05 40 45.3 +1.0
baz=201
ANMO **Albuquerque** 81.74 49 LR LR 06 14 08.3
comp=E,390nm,18.3s,baz=333,slow=33
ANMO **Albuquerque** 81.74 49 ||*e*P P 05 40 48.8 +3.6
ANMO pmax pmax
comp=Z,45nm,2.5s
PMR **Palmer** 81.77 11 P P 05 40 46.8 +2.4
PMR **Palmer** 81.77 11 P P 05 40 46.0 +1.6
baz=202,SNR=6.6
L20K **Farewell, AK** 81.85 8 P P 05 40 46.3 +1.4
baz=197,SNR=8.0
GAMB **Gambell** 81.87 0 P P 05 40 46.4 +1.5
baz=180
J16K **Anvik River** 81.87 5 P P 05 40 46.9 +1.9
baz=191,SNR=6.5
MESA **MESA** 81.99 15 P P 05 40 47.3 +1.4
baz=209
U35K **Hyder** 82.05 22 P P 05 40 47.3 +1.3
baz=220
KASI **Kota Agung** 82.07 267 P P 05 40 47.5 +0.3
comp=Z,1µmcomp=Z,80nm,1.1s
BMRM **Bremner River** 82.08 13 P P 05 40 48.2 +2.0
baz=205,SNR=8.5
J17K **VABM Dome** 82.12 6 P P 05 40 48.0 +1.7
baz=192
MDJ **Mudanjiang** 82.14 322 P P 05 40 49.8 +3.0
MDJ pmax pmax
comp=Z,13nm,1.2s
R31K **City Hall, Gus** 82.16 18 P P 05 40 47.6 +1.1
baz=215
PNL **Peninsula** 82.19 16 P P 05 40 49.0 +2.3
PNL **Peninsula** 82.19 16 P P 05 40 47.2 +0.5
baz=211
M23K **Glacier View** 82.21 11 P P 05 40 48.2 +1.4
baz=203
CRQE **Cirque** 82.23 14 P P 05 40 48.0 +0.9
baz=208
KLU **Klutina** 82.28 12 P P 05 40 48.2 +0.9
baz=205
SCM **Sheep Creek Mo** 82.32 12 P P 05 40 48.6 +1.2
baz=204
CUT **Chulitna** 82.33 10 P P 05 40 48.5 +1.1
baz=201
PINM **Pinnacle** 82.34 15 P P 05 40 48.0 +0.4
baz=210
R32K **Eaglecrest** 82.42 19 P P 05 40 48.5 +0.6
baz=216
J18K **Innoko River** 82.44 7 P P 05 40 49.6 +1.6
baz=195
NEW **Newport** 82.44 33 LR LR 06 14 44.6
comp=Z,696nm,18.1s,baz=230,slow=34
I17K **Unalakleet** 82.46 5 P P 05 40 49.7 +1.7
baz=191
PPLA **Purkeypile** 82.49 9 P P 05 40 48.9 +0.5
baz=199
H03S2 **Juan Fernandez** 82.52 123 T T 07 11 39.9
baz=250,slow=75,SNR=73
H03S1 **Juan Fernandez** 82.53 123 T T 07 11 40.8
baz=250,slow=75,SNR=62
H03S3 **Juan Fernandez** 82.53 123 T T 07 11 40.0
baz=250,slow=75,SNR=72
P29M **Windy Craggy** 82.60 17 P P 05 40 49.6 +0.7
baz=213
H03N2 **Juan Fernandez** 82.63 123 T T 07 11 45.9
baz=257,slow=72,SNR=26
H03N3 **Juan Fernandez** 82.63 123 T T 07 11 46.4
baz=257,slow=72,SNR=26
H03N1 **Juan Fernandez** 82.64 123 T T 07 11 49.1
baz=257,slow=72,SNR=34
N25K **Chitina, Valde** 82.66 13 P P 05 40 49.9 +0.7
baz=206
K20K **Telida** 82.66 8 P P 05 40 50.0 +0.9
baz=197
MDSI **Maura Dua** 82.68 268 P P 05 40 50.0 -0.4
comp=Z,1µmcomp=Z,69nm,1.1s
T35M **Bob Quinn** 82.79 22 P P 05 40 50.5 +0.5
baz=220
M24K **Tolsona, Glenn** 82.79 12 P P 05 40 50.7 +0.8
baz=205
MCARA **McCarthy VSAT** 82.81 14 P P 05 40 51.0 +1.1
baz=208
ANM **Nome** 82.83 3 P P 05 40 50.3 +0.4
baz=186
CTG **Chitna Glacier** 82.83 15 P P 05 40 50.8 +0.6
baz=209
PLBC **Pleasant Camp** 82.84 17 P P 05 40 50.9 +0.8
baz=214
WAT6 **Susitna Watana** 82.93 11 P P 05 40 52.0 +1.3
baz=203,SNR=7.2
O28M **Mount Upton** 82.94 15 P P 05 40 51.2 +0.3
baz=210,SNR=5.7
O29M **Mount Kennedy** 82.95 16 P P 05 40 51.2 +0.3
baz=212,SNR=7.6
NJ2 **Nanjing** 82.96 307 *e*P P 05 40 50.8 -0.6
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
WAT1 **Susitna Watana** 83.02 11 P P 05 40 51.8 +0.8
baz=202
J19K **Poorman** 83.08 7 P P 05 40 52.8 +1.5
baz=196,SNR=7.6
H16K **Elim** 83.08 4 P P 05 40 52.4 +1.2
baz=189
SKAG **Skagway** 83.14 18 P P 05 40 52.8 +1.2
baz=215
P30M **Million Dollar** 83.23 17 P P 05 40 53.6 +1.4
baz=213
HARP **HAARP** 83.26 12 P P 05 40 53.5 +1.2
baz=206
KTH **Kantishna Hill** 83.30 9 P P 05 40 52.7 +0.2
TRF **Thorofare Moun** 83.31 10 P P 05 40 53.6 +0.9
baz=201
G15K **Niukluk** 83.32 3 P P 05 40 53.7 +1.2
baz=188
MA2 **Magadan** 83.36 342 LR LR 06 18 33.0
comp=Z,103nm,18.9s,baz=128,slow=36
MA2 **Magadan** 83.36 342 P P 05 40 54.7 +1.9
MA2 **Magadan** 83.36 342 *ce*P P 05 40 54.2 +1.4
MA2 pmax pmax
comp=Z,26nm,1.7s
CHUM **Lake Minchumin** 83.41 9 P P 05 40 53.3 +0.3
baz=199
J20K **Nowinta River** 83.44 8 P P 05 40 55.1 +2.0
baz=197,SNR=25
DHY **Denali Highway** 83.45 11 P P 05 40 54.5 +1.0
baz=204
YUK8 **Steele Glacier** 83.48 15 P P 05 40 55.1 +1.3
baz=211,SNR=5.4
LHSI **Lahat** 83.51 268 P P 05 40 55.5 +0.9
comp=Z,2µmcomp=Z,83nm,1.5s
DSRI **Dabo** 83.54 272 P P 05 40 56.6 +1.8
comp=Z,120nm,1.4s
YUK6 **Outpost Mounta** 83.55 16 P P 05 40 54.8 +0.7
baz=212
H17K **Granite Mounta** 83.56 5 P P 05 40 54.6 +0.9
baz=192
PDAR **Pinedale Array** 83.63 41 P P 05 40 58.0 +3.0
comp=Z,4.2nm,0.8s,baz=216,slow=3.3,SNR=34
PDAR LR LR 06 15 14.9
comp=Z,183nm,18.0s,baz=234,slow=33
comp=Z,4.2nm,0.8s
GCSA **Galena City Sc** 83.67 6 P P 05 40 56.0 +1.7
baz=194
Q32M **Nakina River** 83.67 19 P P 05 40 55.7 +1.0
baz=218
HYT **Haines Junctio** 83.67 16 P P 05 40 56.4 +1.8
baz=213,SNR=8.4
CMIG **Matias Romero** 83.68 70 LR LR 06 11 15.8
comp=Z,535nm,18.0s,baz=207,slow=30
F14K **Arctic Creek** 83.69 2 P P 05 40 55.3 +0.9
baz=186
M26K **Nabesna, AK** 83.72 13 P P 05 40 55.8 +1.1
baz=208,SNR=14
PAX **Paxson** 83.72 12 P P 05 40 55.5 +0.8
baz=205,SNR=7.2
TNA **Tin City** 83.72 2 P P 05 40 55.2 +0.7
baz=184
P32M **Atlin** 83.73 19 P P 05 40 55.1 +0.4
baz=216
MCK **McKinley** 83.79 10 P P 05 40 56.3 +1.3
baz=202,SNR=8.4
BPAW **Bear Paw Mtn.** 83.81 9 P P 05 40 55.3 +0.3
baz=200
YUK4 **Talbot Arm** 83.82 15 P P 05 40 56.7 +1.3
baz=212
G16K **Koyuk River** 83.83 4 P P 05 40 55.7 +0.6
baz=189
H18K **Honhosa River** 83.91 6 P P 05 40 56.1 +0.6
baz=193
M27K **Edge Creek, AK** 83.92 14 P P 05 40 57.1 +1.2
baz=209,SNR=17
DLV **Lat** 83.92 285 P P 05 40 59.7 +2.7
DLBC **Dease Lake** 83.99 21 LR LR 06 17 57.9
comp=Z,1µm,18.4s,baz=219,slow=35
DLBC **Dease Lake** 83.99 21 P P 05 40 58.0 +1.8
baz=220,SNR=5.4
I20K **Naaghedeneel** 83.99 7 P P 05 40 57.7 +1.8
baz=197
F15K **North Star Dit** 84.00 3 P P 05 40 57.6 +1.7
baz=187
O30N **Mendenhall** 84.01 17 P P 05 40 58.3 +2.1
baz=214,SNR=8.6
TPRI **Tanjung Pinang** 84.03 273 P P 05 40 58.9 +1.6
comp=Z,110nm,1.4s
BNX **BinXian** 84.05 322 ||P P 05 40 58.3 +1.7
BNX pmax pmax
comp=Z,19nm,1.0s
BNX pmax pmax
comp=Z,570nm,7.1s
G17K **Kiwalik Mounta** 84.06 5 P P 05 40 58.7 +2.5
baz=191
DL2 **Dalian** 84.15 314 P P 05 40 57.5 +0.2
DL2 S S 05 51 25.3 +2.9
DL2 pmax pmax
comp=Z,23nm,1.1s
DL2 pmax pmax
comp=Z,820nm,6.7s
DL2 LR LR
comp=Z,460nm,18.0s
DL2 LR LR
comp=Z,350nm,18.6s
DL2 LR LR
comp=Z,520nm,22.9s
CN2 **Changchun** 84.16 320 *e*P P 05 40 57.5 +0.2
CN2 pmax pmax
comp=Z,20nm,0.7s
L26K **Log Cabin Wild** 84.20 13 P P 05 40 56.8 -0.3
L26K IAmb IAmb 05 41 01.4
comp=Z,32nm,1.4s
L26K **Log Cabin Wild** 84.20 13 P P 05 40 59.8 +2.8
baz=207,SNR=7.6
WHY **Whitehorse** 84.26 17 P P 05 40 59.9 +2.4
baz=215,SNR=6.9
SNY **Shenyang** 84.31 317 ⇑P P 05 41 01.0 +2.9
SNY pmax pmax
comp=Z,20nm,1.2s
N30M **Aishikik Lake** 84.32 16 P P 05 40 59.8 +2.0
baz=213
K24K **Donnelly Dome** 84.42 11 P P 05 40 59.4 +1.3
baz=205,SNR=8.9
R33M **Jennings River** 84.43 20 P P 05 41 00.0 +1.6
baz=213,SNR=5.8
KSI **Kapahiang** 84.44 268 P P 05 40 59.9 +0.4
H19K **Roundabout Mou** 84.47 6 P P 05 41 00.2 +1.9
baz=195,SNR=10
P33M **Teslin, Yukon** 84.50 19 P P 05 40 59.6 +0.9
baz=217
RIDG **Independent Ri** 84.54 12 P P 05 41 01.0 +2.2
baz=206,SNR=12
L27K **Beaver Creek,** 84.55 13 P P 05 41 00.8 +1.9
baz=209
NEA2 **Nenana** 84.57 10 P P 05 40 58.6 -0.2
NEA2 **Nenana** 84.57 10 P P 05 41 00.5 +1.6
baz=202
G18K **Tagagawik** 84.61 5 P P 05 41 01.6 +2.5
baz=193,SNR=6.2
H20K **Anotleneega Mo** 84.61 7 P P 05 41 01.7 +2.6
baz=196,SNR=8.8
I21K **Tanana** 84.69 8 P P 05 41 01.7 +2.3
baz=199
N31M **Braeburn, Yuko** 84.69 17 P P 05 41 01.6 +2.0
baz=214,SNR=7.7
MLY **Manley** 84.72 9 P P 05 41 01.4 +1.7
baz=200,SNR=10
HDA **Harding Lake** 84.76 11 P P 05 41 02.2 +2.4
baz=204,SNR=8.9
M29M **Somme Creek** 84.80 15 P P 05 41 02.7 +2.5
baz=212,SNR=11
BTDF **Bukit Timah Da** 84.88 273 P P 05 41 03.7 +2.1
SCRK **Sand Creek** 84.92 12 P P 05 41 02.9 +2.1
baz=207,SNR=12
MASI **Maura Aman, Be** 84.94 268 P P 05 41 03.0 +1.0
F17K **Baldwin Pennin** 84.94 4 P P 05 41 02.9 +2.2
baz=190
MYKOM **Kota Tinggi** 84.94 274 P P 05 41 00.1 -1.9
MYKOM **Kota Tinggi** 84.94 274 P P 05 41 03.5 +1.6
G19K **Purcell Mounta** 85.00 6 P P 05 41 02.7 +1.7
baz=194,SNR=8.2
COLA **College** 85.03 10 P P 05 41 03.4 +2.3
COLA **College** 85.03 10 *d* *i*P P 05 41 03.3 +2.2
COLA pmax pmax
comp=Z,54nm,1.6s
COLA **College** 85.03 10 P P 05 41 03.1 +1.9
baz=203
H21K **Melozitna Rive** 85.03 8 P P 05 41 02.9 +1.7
baz=198,SNR=12
IL31 85.10 11 P P 05 41 01.3 -0.1
IL31 IAmb IAmb 05 41 15.0
comp=Z,99nm,1.9s
ILAR **Eielson Array** 85.10 11 P P 05 41 03.5 +1.9
comp=Z,12nm,1.2s,baz=214,slow=4.2,SNR=30
ILAR LR LR 06 13 33.1
comp=Z,175nm,20.5s,baz=189,slow=32
comp=Z,12nm,1.2s
N32M **Quiet Lake** 85.17 18 P P 05 41 03.4 +1.4
baz=217
QIZ **Qiongzhong** 85.19 292 P P 05 41 05.0 +2.0
QIZ S S 05 51 32.8 -0.7
QIZ pmax pmax
comp=Z,19nm,2.6s
QIZ pmax pmax
comp=Z,770nm,5.6s
QIZ LR LR
comp=Z,280nm,10.6s
QIZ LR LR
comp=Z,290nm,13.4s
QIZ LR LR
comp=Z,340nm,18.6s
F18K **Selawik** 85.22 5 P P 05 41 03.7 +1.6
baz=192
J25K **Salcha River,** 85.23 11 P P 05 41 04.6 +2.4
baz=205,SNR=13
POKR **Poker Plat Res** 85.33 10 P P 05 41 04.5 +1.9
baz=203,SNR=6.7
M30M **Minto, Yukon** 85.33 16 P P 05 41 04.9 +2.1
baz=213,SNR=8.8
K27K **Chicken** 85.35 13 P P 05 41 05.5 +2.7
baz=208
MAW **Mawson** 85.40 198 P P 05 41 05.0 +1.8
comp=Z,10nm,1.0s,baz=153,slow=6.4,SNR=7.9
comp=Z,10nm,1.0s
MAW **Mawson** 85.40 198 P P 05 41 05.0 +1.8
H22K **Ishtalitna Cre** 85.45 8 P P 05 41 05.0 +1.8
baz=200,SNR=13
L29M **L29M** 85.45 15 P P 05 41 05.6 +2.2
baz=212,SNR=28

J26L Joseph Creek 85.47 12 P P 05 41 05.4 +1.9
baz=207,SNR=27
E17K Hotham Inlet 85.53 4 P P 05 41 05.5 +1.8
baz=190
F19K Shaleruckik Mo 85.61 6 P P 05 41 06.1 +2.1
baz=194
M31M Drury Creek, Y 85.65 17 P P 05 41 05.4 +1.0
baz=216,SNR=8.2
WTLY Watson Lake, Y 85.68 20 P P 05 41 04.7 +0.1
baz=221
SEY Seymchan 85.70 345 ⇓*i*P P 05 41 06.4 +1.9
SEY pmax pmax
comp=Z,35nm,1.4s
G21K Allakaket 85.76 7 P P 05 41 06.7 +1.9
baz=198,SNR=7.6
WHN Wuhan 85.80 304 P P 05 41 10.3 +4.5
H24K Noodor Dome 85.92 10 P P 05 41 06.4 +0.7
baz=203
E18K Tukpahlearik C 85.95 4 P P 05 41 07.4 +1.6
baz=191
DAWY Dawson 85.97 14 P P 05 41 08.3 +2.3
baz=211,SNR=25
TOAD Toad River Com 85.97 22 P P 05 41 08.5 +2.4
baz=224,SNR=12
CNSH ChangSha 86.00 301 P P 05 41 10.1 +3.3
CNSH pmax pmax
comp=Z,35nm,1.7s
F20K Avaraaart Lake 86.02 6 P P 05 41 08.6 +2.5
baz=196,SNR=7.9
D17K Noatak River 86.07 3 P P 05 41 08.2 +1.9
baz=189
LIRD Liard River Hi 86.07 22 P P 05 41 08.2 +1.7
baz=223
TIA Tai'an 86.08 310 P P 05 41 09.4 +2.3
TIA pmax pmax
comp=Z,8.0nm,0.5s
EGAK Eagle 86.20 13 P P 05 41 09.4 +2.4
baz=209,SNR=11
K29M Barlow Dome 86.22 15 P P 05 41 10.0 +2.7
baz=213,SNR=23
E19K Redstone River 86.27 6 P P 05 41 09.7 +2.3
baz=194,SNR=7.2
G22K Bettles 86.40 8 P P 05 41 10.2 +2.3
baz=200
G23K Bananza Creek 86.41 9 P P 05 41 09.6 +1.6
baz=201,SNR=7.5
MAYO Mayo, Yukon 86.41 15 P P 05 41 08.9 +0.8
baz=214
RDOG Red Dog Mine 86.43 3 P P 05 41 08.9 +0.8
baz=189
F21K Alatna River 86.44 7 P P 05 41 09.2 +1.0
baz=198
C16K Lisburne Hills 86.53 3 P P 05 41 09.6 +1.1
baz=186
HEH HeiHe 86.56 326 *e*P P 05 41 11.6 +2.5
HEH pmax pmax
comp=Z,13nm,1.2s
J29N Klondike Camp 86.57 14 P P 05 41 11.3 +2.4
baz=212
PLCA Paso Flores 86.59 132 P P 05 41 14.3 +4.5
comp=Z,5.5nm,1.1s,baz=187,slow=2.5,SNR=6.3
PLCA LR LR 06 11 54.5
comp=Z,255nm,20.7s,baz=239,slow=30
comp=Z,5.5nm,1.1s
H25L Birch Creek 86.65 10 P P 05 41 10.2 +1.1
baz=205
G24K Hadweenzic Riv 86.78 10 P P 05 41 11.1 +1.3
baz=203
C17K DeLong Mountai 86.83 3 P P 05 41 11.7 +1.6
baz=188
I27K Kandik River 86.84 12 P P 05 41 12.6 +2.4
baz=209,SNR=11
MMPY Sheldon Lake, 86.86 18 P P 05 41 13.7 +3.3
baz=218,SNR=8.4
COLD Coldfoot 86.87 8 P P 05 41 13.0 +2.8
baz=201,SNR=6.3
F22K John River 86.87 8 P P 05 41 10.5 +0.2
baz=199
TGTN Hyland Airport 86.92 19 P P 05 41 12.0 +1.3
baz=221
I28M Miner Creek 87.05 13 P P 05 41 13.6 +2.4
baz=210,SNR=11
G25K Bearman Lake 87.06 10 P P 05 41 12.5 +1.3
baz=205
J30M Hart River 87.12 15 P P 05 41 13.2 +1.5
baz=214,SNR=7.3
C18K Utukok River 87.12 4 P P 05 41 13.1 +1.5
baz=190
E20K Nigu River 87.15 6 P P 05 41 12.7 +1.0
baz=195
D19K Kuna River 87.20 5 P P 05 41 12.4 +0.5
baz=193
KOTAN Kotaneelee Air 87.31 22 P P 05 41 12.6 0.0
baz=225
PDSI Padang 87.31 270 P P 05 41 13.6 -0.1
comp=Z,37nm,1.6s
I29M Ogilvie Camp, 87.32 13 P P 05 41 14.7 +2.2
baz=212,SNR=12
H27K Steamboat Moun 87.41 12 P P 05 41 15.0 +2.0
baz=209,SNR=11
F24K Squaw Lake 87.47 9 P P 05 41 14.5 +1.3
baz=203
E22K Anaktuvuk Pass 87.51 7 P P 05 41 15.6 +2.2
baz=199
D20K Etivluk River 87.55 6 P P 05 41 14.3 +0.7
baz=195
E21K Killik River 87.56 7 P P 05 41 14.6 +1.0
baz=197
BILL Bilibino 87.60 352 ⇓*e*P P 05 41 15.4 +1.6
BILL pmax pmax
comp=Z,17nm,1.2s
BILL MLR MLR
comp=Z,217nm,20.0s
G26K Porcupine Rive 87.62 11 P P 05 41 14.7 +0.8
baz=207,SNR=14
I30M Mount Dempster 87.65 14 P P 05 41 16.2 +2.0
baz=214,SNR=18
HKT Hockley 87.67 58 ⇓*e*P P 05 41 17.4 +2.5
HKT pmax pmax
comp=Z,72nm,2.0s
C19K Lookout Ridge 87.69 4 P P 05 41 15.3 +1.0
baz=192
E23K Chandalar 87.73 8 P P 05 41 16.4 +1.9
baz=201
B18K Kokolik River 87.80 4 P P 05 41 16.0 +1.4
baz=190
F25K Christian Rive 87.89 10 P P 05 41 16.2 +0.9
baz=205
G27K Doyon Strip 87.89 12 P P 05 41 17.0 +1.8
baz=209,SNR=8.3
E24K Your Creek 87.90 9 P P 05 41 15.7 +0.4
baz=202
H29M Whitestone 88.04 13 P P 05 41 16.9 +0.9
baz=212,SNR=9.6
D22K Ayikyak River 88.12 7 P P 05 41 17.0 +0.7
baz=198
C21K Knifeblade Rid 88.16 6 P P 05 41 16.9 +0.5
baz=196
F26K Sheenjek River 88.23 10 P P 05 41 17.4 +0.6
baz=206
TOLK Toolik Lake Re 88.28 8 P P 05 41 17.2 +0.1
baz=201
HNS HongShan 88.34 310 ⇓P P 05 41 20.5 +2.5
HNS pmax pmax
comp=Z,620nm,7.4s
HNS LR LR
comp=Z,310nm,17.9s
HNS LR LR
comp=Z,280nm,22.0s
E25K Arctic Village 88.38 10 P P 05 41 17.7 +0.1
baz=205
BJT Baijiatuau 88.42 313 P P 05 41 21.5 +3.2
BJI Beijing 88.42 313 P P 05 41 18.3 0.0
BJI SKS SKSac 05 51 43.8 -3.6
BJI sS ScS 05 52 11.3 +1.5
BJI pmax pmax
comp=Z,11nm,1.5s
BJI pmax pmax
comp=Z,280nm,5.7s
BJI LR LR
comp=Z,150nm,10.6s
BJI LR LR
comp=Z,100nm,11.0s
BJI LR LR
comp=Z,140nm,14.1s
D23K Nanushuk River 88.44 8 P P 05 41 18.7 +1.0
baz=200
IPM Ipoh 88.47 275 P P 05 41 21.7 +2.5

EPYK Eagle Plains 88.53 13 P P 05 41 19.4 +1.1
baz=213,SNR=6.0
ZEA Zeya 88.61 329 *e*P P 05 41 21.8 +3.0
ZEA pmax pmax
comp=Z,20nm,1.2s
H31M Peel River 88.61 15 P P 05 41 19.8 +1.1
baz=216
B21K Ikpikpuk River 88.62 6 P P 05 41 19.6 +1.0
baz=197
A19K Wainwright 88.67 4 P P 05 41 19.8 +1.1
baz=190
G29M Pine Creek 88.71 13 P P 05 41 20.0 +0.9
baz=212
B20K Meade River 88.76 5 P P 05 41 20.5 +1.2
baz=194
D24K Happy Valley 88.86 8 P P 05 41 20.1 +0.5
baz=202
LYN LuoYang 88.86 307 P P 05 41 23.8 +3.3
LYN pmax pmax
comp=Z,50nm,1.2s
LYN pmax pmax
comp=Z,790nm,6.2s
F28M Old Crow 88.94 12 P P 05 41 21.1 +0.9
baz=210
KULM Kulim 89.07 276 P P 05 41 24.5 +2.5
E27K Coleen River 89.11 11 P P 05 41 22.2 +1.2
baz=209
G30M tAoh Zraii Nji 89.15 13 P P 05 41 22.8 +1.6
baz=214,SNR=8.9
C23K Itkillik River 89.27 7 P P 05 41 22.6 +1.0
baz=200
D25K Kavik River 89.36 9 P P 05 41 22.7 +0.5
baz=204
C24K Franklin Bluff 89.40 8 P P 05 41 21.9 -0.3
baz=202
B22K Teshekpuk Lake 89.43 6 P P 05 41 22.0 -0.3
baz=198
G31M Satah River 89.54 14 P P 05 41 24.6 +1.7
baz=216,SNR=7.1
ENH Enshi 89.57 302 P P 05 41 26.6 +2.6
WRGLY Wrigley 89.70 20 P P 05 41 24.8 +1.1
baz=225
F30M Barrier River 89.77 13 P P 05 41 24.2 +0.2
baz=214
TROLL Troll, Antarti 89.78 178 ⇑P P 05 41 25.7 +1.3
comp=Z,711nm,1.1s
VNA3 Neumayer Olymp 89.80 174 ⇑P P 05 41 26.1 +1.7
comp=Z,6.3nm,0.8s
E28M Babbage River 89.86 11 P P 05 41 25.7 +1.3
baz=211,SNR=7.8
SNAA Sanae 89.89 177 ⇑P P 05 41 26.0 +1.1
comp=Z,220nm,1.0s
SNAA Sanae 89.89 177 P P 05 41 25.3 +0.4
SNAA Sanae 89.89 177 P P 05 41 26.0 +1.1
comp=Z,12nm,1.0s,baz=194,slow=3.9,SNR=16
SNAA LR LR 06 18 37.3
comp=Z,224nm,20.0s,baz=261,slow=33
comp=Z,12nm,1.0s
SNAA Sanae 89.89 177 *d*iP P 05 41 26.1 +1.2
SNAA pmax pmax
comp=Z,16nm,1.1s
A22K Sinclair Lake 89.92 6 P P 05 41 25.6 +1.0
baz=196
PSI Prapat 89.93 273 LR LR 06 24 03.0
comp=Z,158nm,18.6s,baz=146,slow=37
PSI Prapat 89.93 273 P P 05 41 27.1 +0.9
SYO Syowa Base 89.95 191 ⇓*e*P P 05 41 23.8 -1.3
SYO Syowa Base 89.95 191 ⇑*e*PcP PcP 05 41 25.5 -0.8
SYO Syowa Base 89.95 191 ⇑*e*pP pP 05 41 28.0 +1.3
E29M Blow River 89.99 12 P P 05 41 26.0 +0.9
baz=212
C27K Jago River 90.04 10 P P 05 41 26.0 +0.8
baz=207
F31M Tsiigehtchic 90.08 14 P P 05 41 27.1 +1.7
baz=216,SNR=13
C26K Camden Bay 90.11 9 P P 05 41 25.4 -0.1
baz=206
TIY Taiyuan 90.12 310 P P 05 41 28.9 +2.4
TIY pmax pmax
comp=Z,500nm,6.3s
TIY LR LR
comp=Z,170nm,10.3s
TIY LR LR
comp=Z,260nm,17.9s
TIY LR LR
comp=Z,300nm,17.9s
XLT XiLinHaoTe 90.15 317 *e*P P 05 41 28.5 +2.0
XLT SKS SKSac 05 52 01.8 +4.1
XLT sS ScS 05 52 28.9 +4.7
XLT pmax pmax
comp=Z,14nm,0.9s
XLT pmax pmax
comp=Z,360nm,6.5s
D27M Malcolm River 90.15 11 P P 05 41 26.5 +0.6
baz=209
VNA2 Neumayer--Watz 90.31 175 ⇑P P 05 41 28.3 +1.6
comp=Z,10nm,0.7s,baz=180,slow=3.4
JTS Las Juntas de 90.49 79 LR LR 06 13 21.5
comp=Z,604nm,18.9s,baz=252,slow=30
JTS Las Juntas de 90.49 79 ⇓*e*P P 05 41 33.8 +5.2
JTS pmax pmax
comp=Z,80nm,2.5s
VNA1 Neumayer--Stat 90.50 175 ⇑P P 05 41 29.9 +2.3
comp=Z,15nm,0.9s
GYA Guiyang 90.55 298 ⇑P P 05 41 32.0 +3.2
GYA pmax pmax
comp=Z,27nm,1.2s
D28M Stokes Point 90.63 11 P P 05 41 28.4 +0.4
baz=212
GSI Gunungsitoli 90.75 271 P P 05 41 30.9 +1.0
GSI Gunungsitoli 90.75 271 P P 05 41 30.9 +1.0
INK Inuvik 90.83 13 LR LR 06 19 30.0
comp=Z,202nm,18.1s,baz=231,slow=34
INK Inuvik 90.83 13 P P 05 41 30.1 +1.1
baz=216
NNA Nana 91.15 103 LR LR 06 13 07.4
comp=Z,305nm,21.2s,baz=249,slow=29
SLVN Son La 91.21 292 P P 05 41 35.0 +3.1
ATAH Atahualpa 91.25 98 LR LR 06 14 42.7
comp=Z,562nm,18.3s,baz=254,slow=30
KCSI Kotacane, Aceh 91.25 273 P P 05 41 33.4 +1.2
comp=Z,503nmcomp=Z,22nm,1.6s
XAN Xi'an 91.38 305 ⇓P P 05 41 35.0 +2.6
XAN S S 05 52 36.8 +4.9
XAN pmax pmax
comp=Z,13nm,1.4s
XAN pmax pmax
comp=Z,840nm,5.5s
CFA Coronel Fontan 91.74 124 P P 05 41 38.0 +3.8
comp=Z,1.5nm,0.7s,baz=256,slow=5.0,SNR=4.1
comp=Z,1.5nm,0.7s
HHC Hu-ho-hao-te 91.96 312 *e*P P 05 41 34.0 -1.0
HHC pP sP 05 41 38.0 +0.8
HHC SKS SKSac 05 52 04.6 -3.7
HHC S S 05 52 32.3 -4.7
HHC SS SS 05 58 44.4 -1.7
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,210nm,4.2s
HHC LR LR
comp=Z,130nm,12.7s
HHC LR LR
comp=Z,170nm,12.8s
HHC LR LR
comp=Z,160nm,12.7s
YKA Yellowknife Ar 92.30 23 P P 05 41 38.5 +2.6
comp=Z,3.2nm,1.2s,baz=254,slow=3.7,SNR=6.7
YKA LR LR 06 22 28.4
comp=Z,146nm,18.4s,baz=218,slow=35
comp=Z,3.2nm,1.2s
YAK Yakutsk 92.33 336 ⇓*e*P P 05 41 38.1 +2.1
YAK pmax pmax
comp=Z,14nm,0.5s
BTO Baotou 92.96 312 *e*P P 05 41 43.3 +3.7
BTO pP pwP 05 41 48.0 -0.1
BTO sP sP 05 41 50.3 +8.5
BTO PP PP 05 45 28.9 +6.3
BTO SKS SKSac 05 52 18.5 +4.6
BTO sS sS 05 52 57.0 +8.8
BTO pmax pmax
comp=Z,29nm,1.4s
BTO pmax pmax
comp=Z,970nm,6.7s
BTO LR LR
comp=Z,310nm,15.4s
BTO LR LR
comp=Z,500nm,16.7s
BTO LR LR
comp=Z,350nm,18.0s
KMI Kunming 93.44 295 P P 05 41 45.8 +3.4
KMI pmax pmax
comp=Z,15nm,1.1s
KMI LR LR
comp=Z,380nm,29.8s
C36M Paulatuk 93.86 15 P P 05 41 43.7 +0.8
baz=225
CD2 Chengdu 94.43 301 P P 05 41 45.3 -1.2
PZH PanZhiHua 94.73 296 P P 05 41 49.9 +1.8
CMAR Chiang Mai Arr 94.74 288 P P 05 41 49.5 +1.3
comp=Z,1.9nm,0.3s,baz=109,slow=3.0,SNR=24
CMAR LR LR 06 19 51.8
comp=Z,122nm,21.6s,baz=105,slow=33
comp=Z,1.9nm,0.3s
CHTO Chiang Mai 94.85 288 P P 05 41 51.3 +2.6
ULM Lac du Bonnet 95.43 39 LR LR 06 22 32.3
comp=Z,330nm,18.2s,baz=250,slow=34
A36M Sachs Harbour 95.48 13 P P 05 41 50.0 -0.3
baz=224
LZH Lanzhou 95.99 306 *e*P P 05 41 55.4 +1.7
LZH pP pwP 05 42 01.9 +0.9
LZH PP PP 05 45 45.9 -0.6
LZH pmax pmax
comp=Z,31nm,1.3s
LZDM Lanzhou Array 96.07 306 P P 05 41 56.2 +1.9
comp=Z,1.1nm,0.3s,baz=102,slow=6.1,SNR=1.5
LZDM LR LR 06 23 14.5
comp=Z,69nm,20.0s,baz=50,slow=34
comp=Z,1.1nm,0.3s
ULN Ulaanbaatar 97.48 318 ⇓*e*P P 05 41 58.8 -1.4
ULN pmax pmax
comp=Z,18nm,4.3s
LPAZ La Paz 97.61 110 LR LR 06 17 05.8
comp=Z,404nm,19.4s,baz=263,slow=30
SONM Songino Array 97.89 318 P Pdif 05 42 03.8 +1.8
comp=Z,0.5nm,0.6s,baz=90,slow=1.4,SNR=1.5
SONM PP PP 05 45 59.8 -1.0
comp=Z,0.4nm,0.4s,baz=117,slow=5.0,SNR=3.6
SONM LR LR 06 24 25.4
comp=Z,71nm,18.1s,baz=136,slow=34
comp=Z,0.5nm,0.6s
TIXI Tiksi 98.19 344 LR LR 06 23 52.9
comp=Z,103nm,20.1s,baz=116,slow=34
ROSC El Rosal 98.85 88 LR LR 06 17 42.4
comp=Z,160nm,19.2s,baz=257,slow=30
TKL Tuckaleechee C 99.13 56 LR LR 06 23 18.8
comp=Z,339nm,18.1s,baz=248,slow=33
GTA Gaotai 100.01 308 *e*P Pdif 05 42 14.0 +2.3
GTA sP pwP 05 42 23.0 +2.8
GTA SKS SKSac 05 52 55.4 +4.6
GTA pmax pmax
comp=Z,4.0nm,1.5s
GTA LR LR
comp=Z,180nm,14.5s
GTA LR LR
comp=Z,200nm,16.4s
GTA LR LR
comp=Z,240nm,16.7s
WMQ Urumqi 109.77 311 Pdif Pdif 05 42 54.6 -0.3
WMQ LR LR
comp=Z,130nm,19.7s
M65A Busby, Falmout 110.37 52 P PKiKP 05 46 57.7 -0.7
baz=263
HYB Hyderabad 113.20 282 *e*PKiKP PKiKP 05 47 02.8 -1.8
HYB *es*PKiKP sPKiKP 05 47 07.5 +0.7
HYB *e*SKSdf SKSdf 05 54 14.9 -2.4
MK31 Makanchi Array 113.80 314 *i* PKiKP PKiKP 05 47 03.6 -1.3
MKAR Makanchi Array 113.80 314 PKiKP PKiKP 05 47 05.7 +0.8
comp=Z,1.0nm,0.7s,baz=151,slow=0.5,SNR=7.4
MKAR PP PP 05 47 55.9 -2.2
comp=Z,0.7nm,0.9s,baz=90,slow=5.9,SNR=4.5
KURK Kurchatov 116.19 318 PKiKP PKiKP 05 47 10.9 +1.6
KURBB Kurchatov Arra 116.25 318 PKP PKiKP 05 47 10.9 +1.5
comp=Z,0.7nm,0.4s,baz=82,slow=2.2,SNR=7.2
KURBB PP PP 05 48 13.5 -1.7
comp=Z,0.8nm,0.5s,baz=90,slow=6.4,SNR=13
AAK Ala-Archa 119.35 309 ⇑*i*PKiKP PKiKP 05 47 16.4 +0.5
SPITS Spitsbergen Ar 120.01 358 PKP PKiKP 05 47 17.9 +1.8
comp=Z,13nm,1.0s,baz=243,slow=13,SNR=2.6
BVAR Borovoye Array 120.99 321 PKP PKiKP 05 47 19.9 +1.3
comp=Z,4.0nm,0.8s,baz=112,slow=1.6,SNR=11
ARTI Arti 126.62 328 *i* PKiKP PKiKP 05 47 30.4 +0.8
ARTI 05 49 26.4
ARTI 05 54 41.6
ARTI SS SS 06 06 25.1 -5.6
ARCES ARCESS Array B 127.70 352 PKP PKiKP 05 47 32.0 +0.6
comp=Z,3.7nm,0.8s,baz=339,slow=2.0,SNR=5.0
APA Apatity 128.19 348 ⇓*i*PKiKP PKPdf 05 47 24.7 -7.1
APA pmax pmax
comp=Z,11nm,1.2s
KIRV Kirov 129.75 333 ⇑*e*PKiKP PKiKP 05 47 37.5 +1.7
BOSA Boshof 130.39 200 PKP PKiKP 05 47 41.0 +2.7
comp=Z,4.8nm,1.0s,baz=6.3,slow=2.7,SNR=3.0
BOSA Boshof 130.39 200 PKiKP PKiKP 05 47 41.0 +2.7
FINES FINESS Array B 135.09 348 PKP PKiKP 05 47 48.5 +1.9
comp=Z,5.6nm,1.0s,baz=20,slow=6.1,SNR=4.9
PUL Pulkovo 135.59 344 ⇑*e*PKiKP PKiKP 05 47 46.7 -0.9
MATP Matopo 136.49 209 PKP PKiKP 05 47 50.7 -0.2
comp=Z,3.0nm,0.8s,baz=141,slow=4.2,SNR=4.1
NOA NORSAR Array B 137.31 358 PKP PKiKP 05 47 52.4 +1.2
comp=Z,2.5nm,1.1s,baz=25,slow=1.9,SNR=2.8
OBN Obninsk 137.32 336 ⇑*i*PKiKP PKiKP 05 47 50.5 -0.7
OBN *e* 05 50 40.6
OBN *e*PPP PPP 05 53 41.5
OBN *e*SS SS 06 08 36.5 -4.0
OBN *e*SSS SSS 06 13 44.2
OBN pmax pmax
comp=Z,23nm,1.3s
MAK Makhachkala 138.59 315 *e*P Pdif 05 44 56.2 -6.7
MAK *e* 05 54 57.6
MAK *e*SS SS 06 08 53.9 -3.0
MAK *e*SSS SSS 06 13 59.5
MAK pmax pmax
comp=Z,178nm,1.2s
AKT Akhty 139.02 313 *e*PKiKP PKiKP 05 47 54.0 -1.3
AKT pmax pmax
comp=Z,16nm,1.1s
NCK Nalchik 140.92 318 *i* PKiKP PKPdf 05 47 54.8 -1.6
KIV Kislovodsk 141.27 319 *i* PKiKP PKiKP 05 47 59.4 -0.4
KIV pmax pmax
comp=Z,6.0nm,1.0s
SHA1 Shidzhatmaz 141.40 319 ⇓*e*PKiKP PKPdf 05 47 53.9 -3.6
TSUM Tsumeb 141.48 195 PKP PKPdf 05 47 58.4 +0.1
comp=Z,2.4nm,1.0s,baz=119,slow=7.9,SNR=3.2
ERBR Yeremizino-Bor 141.66 323 *e*PKHKP PKPpre 05 47 53.5
ERBR *i* 05 47 56.2
ERBR *e* 05 51 00.1
ERBR *e* 05 55 04.6
ERBR pmax pmax
comp=Z,15nm,0.5s
ERBR pmax pmax
comp=Z,15nm,0.5s
SOC Sochi 143.30 320 *e*PKHKP PKPpre 05 47 54.5
SOC *e*SS SS 06 09 57.2 +5.7
SOC *e*SSS SSS 06 15 13.4
AKASG Malin Array Be 143.55 337 PKP PKPdf 05 48 00.9 +0.2
comp=Z,1.1nm,0.6s,baz=33,slow=2.5,SNR=7.2
AKASG Malin Array Be 143.55 337 PKiKP PKPdf 05 48 01.0 +0.2
AKBB Malin Array Si 143.55 337 ⇓*e*PKiKP PKPdf 05 47 59.0 -1.8
ANN Anapa 143.94 323 *i* PKiKP PKPdf 05 48 01.1 -0.5
ANN *e* 05 51 14.2
ANN *e* 05 55 12.5
ANN pmax pmax
comp=Z,24nm,0.9s
BEL Belsk 145.09 346 *e*PKP PKiKP 05 48 06.1 -1.1
ATD Arta Tunnel 145.63 264 PKPbc PKiKP 05 48 07.4 -2.2
comp=Z,1.9nm,1.1s,baz=98,slow=2.5,SNR=28
SIM Simferopol' 145.66 326 *e*PKiKP PKiKP 05 48 07.9 -0.8
SIM pmax pmax
comp=Z,54nm,1.2s
KIS Kishinev 146.68 334 *e*PKP PKiKP 05 48 10.0 -0.7
comp=Z,270nm,7.2s
KIS Kishinev 146.68 334 *e*PKP2 PKiKP 05 48 10.0 -0.7
KIS pmax pmax
comp=Z,270nm,7.2s
MILM Milestii Mici 146.75 334 *e*PKP PKPab 05 48 09.0 -0.3
comp=Z,580nm,7.4s
MILM Milestii Mici 146.75 334 *e*PKP2 PKPab 05 48 09.0 -0.3
OJC Ojcow 146.83 346 *e*PKP PKiKP 05 48 10.0 -0.9
CLL Collm 146.88 354 *e*PKP2 PKPab 05 48 09.0 -0.7
CLL pmax pmax
comp=Z,75nm,1.4s

CLL					MLR	MLR		
	comp=Z,300nm,19.6s							
KSP	**Ksiaz**	**146.92**	**350**	*e*PKP	**PKiKP**	**PKiKP**	**05 48 09.9**	**-1.2**
BRG	**Berggiesshubel**	**147.21**	**353**	*e*PKP	**PKiKP**	**PKiKP**	**05 48 10.5**	**-1.2**
BRG					Amp		05 48 14.6	
	comp=Z,19nm,1.1s							
BRG	**Berggiesshubel**	**147.21**	**353**	P		PKiKP	05 48 20.6	+8.9
BRG					Amp		05 48 23.1	
	comp=Z,78nm,1.4s							
UPC	**Upice**	**147.29**	**350**	AMS		AMS	07 00 50.0	
	comp=Z,200nm,16.5s							
KOLS	**Kolonicke sedl**	**147.37**	**342**	*e*PKP2	**PKiKP**	**PKiKP**	**05 48 12.5**	**+0.4**
DPC	**Dobruska-Polom**	**147.39**	**350**	*e*PKP2	**PKiKP**	**PKiKP**	**05 48 13.1**	**+0.9**
DPC	**Dobruska-Polom**	**147.39**	**350**	*e*PKP	**PKiKP**	**PKiKP**	**05 48 13.1**	**+0.9**
NIE	**Niedzica**	**147.46**	**345**	*e*PKP	**PKiKP**	**PKiKP**	**05 48 12.0**	**-0.3**
STEB	**Steborice**	**147.53**	**348**	*e*PKP	**PKiKP**	**PKiKP**	**05 48 12.8**	**+0.4**
OKC	**Ostrava-Krasne**	**147.54**	**348**	AMS		AMS	07 01 00.0	
	comp=Z,200nm,15.3s							
KRLC	**Kraliky**	**147.58**	**349**	*e*PKP2	**PKiKP**	**PKiKP**	**05 48 13.1**	**+0.6**
KRLC	**Kraliky**	**147.58**	**349**	*e*PKP	**PKiKP**	**PKiKP**	**05 48 13.1**	**+0.6**
BURAR	**Bucovina Array**	**147.58**	**338**	↑P	**PKiKP**	**PKiKP**	**05 48 13.8**	**+1.0**
MORC	**Moravsky Berou**	**147.72**	**348**	*e*PKP	**PKiKP**	**PKiKP**	**05 48 11.2**	**-1.7**
MORC	**Moravsky Berou**	**147.72**	**348**	↑P	**PKiKP**	**PKPab**	**05 48 13.8**	**+0.7**
MEM	**Membach**	**147.79**	**2**	*d*PKP	**PKPab**	**PKPab**	**05 48 13.2**	**0.0**
BSTI	**Sart Tilman**	**147.80**	**3**	*d*PKP	**PKPab**	**PKPab**	**05 48 13.7**	**+0.4**
BTNL	**Ternell**	**147.82**	**2**	*d*PKP	**PKPab**	**PKPab**	**05 48 12.7**	**-0.7**
BCLA	**Clavier**	**147.95**	**3**	*d*PKP	**PKPab**	**PKPab**	**05 48 11.4**	**-1.8**
TESR	**Tescani**	**147.96**	**335**	↑P	**PKPab**	**PKPab**	**05 48 14.0**	**-0.1**
BGES	**Gesves**	**147.97**	**3**	*d*PKP	**PKPbc**	**PKPab**	**05 48 11.2**	**-0.2**
PRU	**Pruhonice**	**148.01**	**352**	*e*PKP2	**PKPab**	**PKPab**	**05 48 14.3**	**+0.2**
PRU					MLR	MLR		
	comp=Z,300nm,25.3s							
PRU	**Pruhonice**	**148.01**	**352**	*e*PKP	**PKPab**	**PKPab**	**05 48 14.3**	**+0.2**
PRU					AMS	AMS	06 59 20.0	
	comp=Z,300nm,25.3s							
BMRD	**Maredsous**	**148.03**	**4**	*d*PKP	**PKPab**	**PKPab**	**05 48 14.7**	**+0.5**
MAUC	**Maruska**	**148.06**	**348**	*e*PKP	**PKPab**	**PKPab**	**05 48 14.9**	**+0.5**
ONER	**Baraj Valea Uz**	**148.21**	**335**	↓P	**PKPab**	**PKPab**	**05 48 15.1**	**0.0**
RCHB	**Rochefort**	**148.21**	**3**	*d*PKP	**PKPab**	**PKPab**	**05 48 14.1**	**-0.8**
DOU	**Dourbes**	**148.23**	**4**	*d*PKP	**PKPbc**	**PKPab**	**05 48 10.1**	**-1.9**
VRAC	**Vranov**	**148.35**	**349**	*e*PKP	**PKPbc**	**PKPab**	**05 48 11.9**	**-0.6**
CFR	**Carcaliu**	**148.40**	**332**	↑P	**PKPab**	**PKPab**	**05 48 16.0**	**+0.1**
TPGR	**Topolog**	**148.53**	**332**	↓P	**PKPab**	**PKPab**	**05 48 15.8**	**-0.6**
TURR	**Turia**	**148.59**	**335**	↑P	**PKPab**	**PKPab**	**05 48 16.1**	**-0.5**
ZVC	**Zvikov**	**148.59**	**352**	*e*PKP	**PKPab**	**PKPab**	**05 48 15.4**	**-1.1**
KRUC	**Moravsky**	**148.62**	**349**	*e*PKP	**PKPbc**	**PKPab**	**05 48 12.2**	**-1.0**
BISRR	**Bisoca**	**148.72**	**334**	↑P	**PKPab**	**PKPab**	**05 48 15.3**	**-2.0**
HARR	**Harsova**	**148.88**	**332**	↑P	**PKPab**	**PKPab**	**05 48 16.4**	**-1.4**
DOPR	**Dopca**	**148.90**	**336**	↑P	**PKPab**	**PKPab**	**05 48 17.5**	**-0.5**
PSZ	**Piszkesteto**	**148.94**	**344**	↓P	**PKPab**	**PKPab**	**05 48 16.8**	**-1.3**
KHC	**Kasperske Hory**	**148.97**	**353**	*d* iPKP2	**PKPab**	**PKPab**	**05 48 16.4**	**-1.7**
KHC	**Kasperske Hory**	**148.97**	**353**	*e*PKP	**PKPab**	**PKPab**	**05 48 16.7**	**-1.4**
KHC					AMS	AMS	06 56 00.0	
	comp=Z,200nm,16.0s							
MLR	**Muntele Rosu**	**149.08**	**335**	↓P	**PKPab**	**PKPab**	**05 48 17.1**	**-1.7**
MARR	**Marisel-Cluj**	**149.11**	**339**	↓P	**PKPab**	**PKPab**	**05 48 17.1**	**-1.7**
MODS	**Modra-Piesok**	**149.12**	**348**	*e*PKP2	**PKPab**	**PKPab**	**05 48 18.0**	**-0.7**
ISR	**Istrita**	**149.14**	**334**	↑P	**PKPab**	**PKPab**	**05 48 16.6**	**-2.4**
DRGR		**149.15**	**340**	↓P	**PKPab**	**PKPab**	**05 48 17.2**	**-1.7**
CKRC	**Cesky Krumlov**	**149.18**	**352**	*e*PKP2	**PKPab**	**PKPab**	**05 48 17.0**	**-1.9**
CKRC					MLR	MLR		
	comp=Z,200nm,15.3s							
CKRC	**Cesky Krumlov**	**149.18**	**352**	*e*PKP	**PKPab**	**PKPab**	**05 48 17.0**	**-1.9**
CKRC				*ex*		x	05 48 26.0	
CKRC					AMS	AMS	07 06 10.0	
	comp=Z,200nm,15.3s							
BR131	**Keskin Array S**	**149.24**	**319**	*de*PKIKP		**PKPdf**	**05 48 12.1**	**+1.1**
BRTR	**Keskin Array B**	**149.24**	**319**	PKPbc		**PKiKP**	**05 48 16.7**	**+0.2**
	comp=Z,9.8nm,0.9s,baz=304,slow=7.3,SNR=4.4							
GERES	**GERESS Array B**	**149.24**	**353**	PKPbc		**PKiKP**	**05 48 16.6**	**+0.5**
	comp=Z,4.1nm,0.8s,baz=33,slow=3.2,SNR=22							
KIRS	**Kirsehir-Merke**	**149.41**	**318**	↓P		**PKPab**	**05 48 18.1**	**-2.2**
VOIR		**149.48**	**336**	↓P		**PKPab**	**05 48 18.6**	**-1.8**
ANTO	**Ankara**	**149.67**	**320**	↑P		**PKPab**	**05 48 19.0**	**-2.3**
ARR	**Arges**	**149.69**	**336**	↑P		**PKPab**	**05 48 19.0**	**-2.2**
CONA	**Conrad Observa**	**149.81**	**349**	*i* pPKiKP		**PKPab**	**05 48 19.2**	**-2.4**
	comp=Z,32nm,1.3s,SNR=9.7							
SIRR	**Siria**	**149.94**	**341**	↑P		**PKPab**	**05 48 19.4**	**-2.8**
RONA	**Rosalia, Austr**	**149.95**	**349**	*ep*PKiKP		**PKPab**	**05 48 19.4**	**-2.8**
	comp=Z,20nm,1.0s,SNR=6.9							
MOA	**Molln**	**150.14**	**351**	*ep*PKP		**PKPab**	**05 48 19.4**	**-3.4**
	comp=Z,17nm,1.4s							
SURR	**Surduc**	**150.25**	**340**	↑P		**PKiKP**	**05 48 19.0**	**+0.9**
GZR	**Gura Zlata**	**150.35**	**339**	↓P		**PKiKP**	**05 48 19.8**	**+1.4**
BIOA	**Bad Ischl, Aus**	**150.38**	**352**	*ep*PKP		**PKiKP**	**05 48 19.9**	**+1.5**
	comp=Z,11nm,1.2s							
ARSA	**Arzberg**	**150.52**	**349**	*i* pPKP		**PKiKP**	**05 48 20.2**	**+1.6**
	comp=Z,16nm,1.8s							
BZS	**Buzias**	**150.54**	**340**	↑P		**PKiKP**	**05 48 20.1**	**+1.4**
LESA	**Schwarzleotal**	**150.76**	**353**	*ep*PKiKP		**PKiKP**	**05 48 20.8**	**+1.6**
	comp=Z,21nm,1.5s							
RETA	**Reutte**	**150.86**	**356**	*i* pPKiKP		**PKiKP**	**05 48 21.3**	**+1.9**
	comp=Z,23nm,1.2s							
HERR	**Herculane**	**150.92**	**339**	↓P		**PKiKP**	**05 48 21.0**	**+1.5**
WATA	**Walderalm**	**150.95**	**355**	*ep*PKP		**PKiKP**	**05 48 21.2**	**+1.5**
	comp=Z,43nm,1.5s							
MOTA	**Moosalm**	**150.98**	**356**	*ep*PKiKP		**PKiKP**	**05 48 21.5**	**+1.7**
	comp=Z,30nm,1.1s,SNR=9.2							
WTTA	**Wattenberg**	**151.02**	**355**	*ep*PKiKP		**PKiKP**	**05 48 21.8**	**+1.9**
	comp=Z,19nm,0.7s,SNR=8.4							
KBA	**Koelnbreinsper**	**151.02**	**352**	*i* pPKP		**PKiKP**	**05 48 21.1**	**+1.2**
	comp=Z,12nm,1.1s							
SQTA	**Sankt Quirin**	**151.09**	**355**	*ep*PKiKP		**PKiKP**	**05 48 21.8**	**+1.8**
	comp=Z,28nm,1.3s,SNR=8.6							
DAVA	**Damuels**	**151.11**	**357**	*ep*PKiKP		**PKiKP**	**05 48 22.2**	**+2.2**
	comp=Z,18nm,0.8s							
SOKA	**Soboth**	**151.16**	**350**	*ep*PKP		**PKiKP**	**05 48 21.5**	**+1.4**
	comp=Z,19nm,1.3s,SNR=7.0							
ELND	**Elena**	**151.18**	**332**	↑P		**PKiKP**	**05 48 21.6**	**+1.4**
MDVR	**Moldovita**	**151.25**	**339**	↑P		**PKiKP**	**05 48 21.9**	**+1.6**
FETA	**Feichten**	**151.33**	**356**	*ep*PKiKP		**PKiKP**	**05 48 22.7**	**+2.2**
	comp=Z,29nm,1.3s,SNR=6.6							
MMAI	**Mount Meron Ar**	**151.38**	**306**	PKPbc		**PKiKP**	**05 48 23.3**	**+2.3**
	comp=Z,23nm,1.1s,baz=58,slow=5.0,SNR=17							
OBKA	**Obir**	**151.41**	**350**	*i* pPKiKP		**PKiKP**	**05 48 23.2**	**+2.6**
	comp=Z,7.7nm,1.1s							
MYKA	**Terra Mystica**	**151.42**	**352**	*i* pPKiKP		**PKiKP**	**05 48 23.2**	**+2.6**
	comp=Z,26nm,1.7s							
ABTA	**Abfaltersbach**	**151.44**	**353**	*ep*PKP		**PKiKP**	**05 48 22.2**	**+1.5**
	comp=Z,26nm,0.7s,SNR=7.4							
BOVS	**Bovan**	**152.26**	**338**	↑P		**PKiKP**	**05 48 22.8**	**+0.5**
PCAB	**Cabril**	**153.03**	**27**	*e*PKP		**PKPdf**	**05 48 19.3**	**+2.8**
PMOZ	**Porto Moniz, M**	**153.24**	**53**	*e*LR		LR	06 43 00.7	
PMOZ				*i* IAMs_20		IAMs_20	06 49 19.6	
	comp=Z,115nm,22.0s							
MVO	**Moncorvo**	**153.91**	**26**	*e*PKP		**PKPbc**	**05 48 21.9**	**-4.0**
MVO				*e*LR		LR	06 41 57.2	
MVO				*i* IAMs_20		IAMs_20	06 56 45.2	
	comp=Z,181nm,18.0s							
MTE	**Manteigas**	**154.31**	**28**	*e*LR		LR	06 42 31.2	
MTE				*i* IAMs_20		IAMs_20	06 55 38.2	
	comp=Z,223nm,18.0s							
PCBR	**Castelo Branco**	**154.79**	**29**	*e*PKP		**PKPbc**	**05 48 22.9**	**-4.8**
PARRA	**Arraiolos**	**154.84**	**32**	*e*PKP		**PKPbc**	**05 48 23.5**	**-4.3**
PMRV	**Marv??o**	**155.16**	**29**	*e*PKP		**PKPdf**	**05 48 22.4**	**+2.8**
PMRV				*e*LR		LR	06 44 14.7	
PMRV				*i* IAMs_20		IAMs_20	07 21 39.7	
	comp=Z,175nm,18.0s							
EVO	**Evora**	**155.57**	**31**	*e*PKP		**PKPdf**	**05 48 24.2**	**+4.1**
MESJ	**Messejana**	**156.00**	**33**	*e*PKP		**PKPdf**	**05 48 22.9**	**+2.1**
PBEJ	**Beja**	**156.03**	**32**	*e*PKP		**PKPdf**	**05 48 23.7**	**+2.9**
MORF	**Marmelete**	**156.17**	**34**	*e*PKP		**PKPdf**	**05 48 25.0**	**+3.9**
PBAR	**Barrancos**	**156.32**	**30**	*e*PKP		**PKPdf**	**05 48 24.7**	**+3.5**
ESDC	**Sonseca Array**	**156.40**	**23**	PKP		**PKPdf**	**05 48 23.6**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=346,slow=1.5,SNR=6.4							
ESDC					PKPab		**PKPab**	**05 48 51.6**	**+2.0**
	comp=Z,1.6nm,1.0s,baz=322,slow=4.3,SNR=4.6							
PVAQ	**Vaqueiros**	**156.59**	**33**	*e*LR		LR	06 44 09.6	
PVAQ				*i* IAMs_20		IAMs_20	06 52 53.9	
	comp=Z,169nm,20.0s							
TORD	**Torodi Ar. Bea**	**172.07**	**130**	PKP		**PKPdf**	**05 48 36.4**	**+0.5**
	comp=Z,6.1nm,1.2s,baz=278,slow=1.0,SNR=18							
TORD					PKPab		**PKPab**	**05 50 03.4**	**+4.4**
	comp=Z,5.0nm,1.0s,baz=286,slow=3.3,SNR=9.3							

CATAC 20 05:30:54.8±0.4, 12°N±3°×8°8W±°, h36km±5km, M3.1/12, MLv3.1/12, Error ellipse: s-maj=6.8km s-min=2.8km az=22.0, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.81**	**4**	P	Pn	05 31 10.6	+0.9
CNCH	**Conchagua**	**0.81**	**4**	S	Sn	05 31 22.1	+1.6

LCND	**La Caada**	**0.83**	**360**	P		Pn	05 31 10.4	+0.4
CRIN	**San Cristobal**	**0.85**	**74**	S		Sn	05 31 24.1	+2.6
CRIN	**San Cristobal**	**0.85**	**74**	P		Pn	05 31 11.4	+1.1
PKGN	**Cerro Pekin**	**0.91**	**77**	P		Pn	05 31 11.5	+0.5
PKGN				S		Sn	05 31 24.5	+1.5
PACA	**Pacayal**	**1.08**	**337**	P		Pn	05 31 14.2	+0.8
PACA	**Pacayal**	**1.08**	**337**	S		Sn	05 31 28.1	+0.8
PLRN	**Geotermica Pol**	**1.10**	**84**	P		Pn	05 31 13.2	-0.4
PLRN				S		Sn	05 31 27.7	+0.1
CNGA	**Al SSO del Vol**	**1.16**	**89**	P		Pn	05 31 14.3	-0.1
CNGA				S		Sn	05 31 29.6	+0.5
CNGN	**Cerro Negro**	**1.16**	**88**	P		Pn	05 31 14.8	+0.3
CNGN	**Cerro Negro**	**1.16**	**88**	S		Sn	05 31 30.3	+1.1
ILCN	**San Idelfonso**	**1.17**	**85**	P		Pn	05 31 14.5	0.0
ILCN				S		Sn	05 31 29.6	+0.4
COPN	**Copaltepe**	**1.30**	**103**	P		Pn	05 31 14.4	-1.9
TECO	**Alcaldia de Te**	**1.37**	**321**	P		Pn	05 31 17.1	-0.3
UESV	**Universidad de**	**1.46**	**323**	S		Sn	05 31 37.0	+0.6
SCLA	**Alcaldia de Sa**	**1.47**	**326**	P		Pn	05 31 19.1	+0.3
SCLA	**Alcaldia de Sa**	**1.47**	**326**	S		Sn	05 31 38.2	+1.3
TGUH	**Tegucigalpa,Un**	**1.69**	**21**	P		Pn	05 31 22.1	+0.3
TGUH				S		Sn	05 31 42.6	+0.3
YUSH	**Yuscaran**	**1.79**	**34**	P		Pn	05 31 23.3	+0.1
YUSH	**Yuscaran**	**1.79**	**34**	S		Sn	05 31 45.4	+0.6
OCON	**Estacion meteo**	**1.79**	**50**	P		Pn	05 31 23.3	0.0
OCON				S		Sn	05 31 45.7	+0.9
JAYA	**Jayaque - finc**	**1.93**	**308**	S		Sn	05 31 47.8	-0.4
MATN	**Matagalpa**	**1.97**	**76**	P		Pn	05 31 24.4	-1.3
RCVN	**Varillal2**	**1.99**	**56**	P		Pn	05 31 26.2	+0.3
RCVN	**Varillal2**	**1.99**	**56**	S		Sn	05 31 50.5	+0.8
RCPN	**Sur Rio San Ju**	**2.04**	**59**	P		Pn	05 31 26.9	+0.2
NUBE	**Las Nubes**	**2.33**	**308**	P		Pn	05 31 31.1	+0.4
NUBE	**Las Nubes**	**2.33**	**308**	S		Sn	05 31 58.0	-0.2

*NEIC **20** 05:33:49.5±2.2, 16°.50S±0°.08×71°.86W±0°.10, h128km±8km, mb4.2/8, Error ellipse: s-maj=15.6km s-min=9.2km az=128.0*
*IDC **20** 05:33:54.8±3.6, 16°.06S×71°.53W, h153km±26km, mb3.4/8, mbtmp3.8/9, Error ellipse: s-maj=62.3km s-min=22.7km az=30.0*
ISC 20 05:33:51.3±0.6, 16°.57S±0°.08×71°.70W±0°.08, h150km, n44, σ1°61/41, mb3.8/10, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**2.35**	**116**		**Pn**	**05 34 31.7**	**+0.5**
PB16	**IPOC Station P**	**2.73**	**130**		**Pn**	**05 34 35.6**	**-0.2**
LPAZ	**La Paz**	**3.43**	**86**		**Pn**	**05 34 44.7**	**-0.1**
LPAZ	**La Paz**	**3.43**	**86**	P	**Pn**	**05 34 44.8**	**0.0**
	23nm,0.4s,baz=270,slow=8.8,SNR=139						
LPAZ				S	**Sn**	**05 35 27.4**	**+1.3**
	36nm,0.6s,baz=236,slow=4.5,SNR=11						
PB11	**IPOC Station P**	**3.72**	**149**		**Pn**	**05 34 46.7**	**-1.4**
GO01	**Chusmiza**	**3.89**	**143**		**Pn**	**05 34 50.8**	**+0.1**
TA01	**Diego Aracena**	**4.23**	**160**		**Pn**	**05 34 53.2**	**-1.4**
PB08	**IPOC Station P**	**4.30**	**146**		**Pn**	**05 34 54.7**	**-1.2**
PATCX	**Punta Patache**	**4.48**	**161**		**Pn**	**05 34 56.0**	**-1.9**
PB01	**IPOC Station P**	**4.92**	**155**		**Pn**	**05 35 01.8**	**-2.0**
PB02	**IPOC Station P**	**5.02**	**160**		**Pn**	**05 35 03.4**	**-1.8**
PB09	**IPOC Station P**	**5.69**	**156**		**Pn**	**05 35 14.8**	**+0.7**
PB03	**IPOC Station P**	**5.75**	**162**		**Pn**	**05 35 13.4**	**-1.5**
PB05	**IPOC Station P**	**6.41**	**168**		**Pn**	**05 35 21.8**	**-1.8**
PB10	**IPOC Station P**	**6.99**	**171**	Pn	**Pn**	**05 35 29.2**	**-2.1**
AC01	**Pan de Azucar**	**9.59**	**174**	Pn	**Pn**	**05 36 03.7**	**-2.2**
SIV	**San Ignacio**	**10.22**	**88**	P	**Pn**	**05 36 10.4**	**-4.0**
	2.7nm,0.6s,baz=282,slow=8.1,SNR=17						
VILB	**Vilhena**	**11.68**	**74**	Pn	**Pn**	**05 36 31.0**	**-2.6**
MACA	**Manacapuru-AM**	**17.16**	**40**	P	**P**	**05 37 38.5**	**-3.0**
H03N1	**Juan Fernandez**	**18.02**	**200**	T	T	05 56 26.8	
	baz=21,slow=73,SNR=150						
H03N2	**Juan Fernandez**	**18.02**	**200**	T	T	05 56 26.4	
	baz=21,slow=73,SNR=110						
H03N3	**Juan Fernandez**	**18.04**	**200**	T	T	05 56 25.6	
	baz=21,slow=73,SNR=167						
ITAB	**Concordia**	**21.00**	**124**	P	**P**	**05 38 24.8**	**+1.8**
ITAB				IAmb	IAmb	05 38 27.1	
	comp=Z,33nm,1.5s						
BOAV	**Boa Vista**	**21.84**	**31**	P	**P**	**05 38 30.0**	**-2.0**
BAUV	**El Baul**	**25.60**	**8**	P	**P**	**05 39 05.0**	**-1.9**
TXAR	**Lajitas Array**	**55.09**	**326**	P	**P**	**05 43 08.0**	**-0.1**
TXAR	**Lajitas Array**	**55.09**	**326**	P	**P**	**05 43 08.2**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=142,slow=9.2,SNR=4.2						
	comp=Z,0.2nm,0.6s						
TX31	**Lajitas Ar. Si**	**55.09**	**326**	P	**P**	**05 43 08.2**	**+0.2**
TX31				IAmb	IAmb	05 43 15.0	
	comp=Z,3.5nm,1.4s						
PDAR	**Pinedale Array**	**68.54**	**331**	P	**P**	**05 44 39.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=233,slow=44,SNR=2.6						
	comp=Z,0.1nm,0.3s						
ULM	**Lac du Bonnet**	**69.86**	**344**	P	**P**	**05 44 44.8**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=127,slow=9.6,SNR=1.7						
	comp=Z,1.2nm,0.6s						
NVAR	**Mina Array Bea**	**70.00**	**323**	P	P	05 44 49.3	+2.3
	comp=Z,0.5nm,0.7s,baz=107,slow=20,SNR=2.7						
	comp=Z,0.5nm,0.7s						
QSPA	**South Pole Qui**	**73.60**	**180**	P	**P**	**05 45 09.0**	**+1.0**
QSPA				IAmb	IAmb	05 45 35.8	
	comp=Z,5.0nm,1.5s						
PINE	**Pine Mountain**	**75.05**	**325**	P	**P**	**05 45 18.4**	**+1.6**
PINE				IAmb	IAmb	05 45 32.6	
	comp=Z,4.4nm,1.5s						
TORD	**Torodi Ar. Bea**	**78.29**	**72**	P	**P**	**05 45 35.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**78.29**	**72**	P	**P**	**05 45 35.9**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=264,slow=4.0,SNR=4.2						
	comp=Z,0.9nm,0.6s						
TSUM	**Tsumeb**	**84.03**	**108**	P	**P**	**05 46 08.6**	**+2.9**
	comp=Z,0.9nm,0.3s,baz=242,slow=17,SNR=4.2						
	comp=Z,0.9nm,0.3s						
ESDC	**Sonseca Array**	**84.25**	**46**	P	**P**	**05 46 07.2**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=256,slow=4.7,SNR=2.4						
	comp=Z,0.5nm,0.7s						
YKA	**Yellowknife Ar**	**85.69**	**342**	P	**P**	**05 46 13.2**	**+0.4**
YKA	**Yellowknife Ar**	**85.69**	**342**	P	**P**	**05 46 13.8**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=135,slow=4.5,SNR=7.3						
	comp=Z,0.8nm,0.6s						
YKAW3	**Yellowknife Wh**	**85.75**	**342**	P	**P**	**05 46 13.3**	**+0.2**
YKAW3				IAmb	IAmb	05 46 36.1	
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**135.61**	**216**	PKP	**PKiKP**	**05 52 57.9**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=139,slow=2.0,SNR=5.3						
ZALV	**Zalesovo Beam**	**138.46**	**21**	PKP	**PKiKP**	**05 53 01.9**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=328,slow=5.3,SNR=3.7						
MJAR	**Matsushiro Arr**	**146.88**	**313**	PKPbc	**PKiKP**	**05 53 18.4**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=259,slow=0.7,SNR=6.9						
SONM	**Songino Array**	**148.78**	**2**	PKPbc	**PKPab**	**05 53 23.8**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=333,slow=1.6,SNR=3.3						

*SJA **20** 05:36:02.1±0.7, 33°.99S×72°.30W, h24km±2km, ML3.2, MW3.5*
*GUC **20** 05:36:05.9±0.9, 34°.04S×72°.09W, h22km±22km, ML3.1*
ISC 20 05:36:04.2±1.3, 34°.02S±0°.02×72°.16W±0°.05, h11km±9km, n53, σ1°15/79, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.50**	**161**	*i* P	**Pg**	**05 36 14.7**	**+0.6**
BO03				*e*S	**Sg**	**05 36 21.4**	**+0.7**
BO03				IAML		05 36 22.3	
	comp=E,2μm,0.3s						
MT01	**Popeta**	**0.77**	**79**	*e*P	**Pg**	**05 36 18.8**	**-0.4**
MT01				*i* S	**Sg**	**05 36 27.6**	**-1.7**
MT01				IAML		05 36 29.5	
	comp=E,1μm,0.4s						
MT01	**Popeta**	**0.77**	**79**	*e*P	**Pg**	**05 36 18.9**	**-0.3**
MT01				*e*S	**Sg**	**05 36 28.6**	**-0.6**
MT01				IAML		05 36 29.2	
	comp=Z,1μm,0.2s						
BO01	**Tunca**	**0.97**	**113**	*e*P	**Pb**	**05 36 21.1**	**-1.8**
BO01				IAML		05 36 40.9	
	comp=N,388nm,0.2s						
BO01	**Tunca**	**0.97**	**113**	*e*P	**Pb**	**05 36 20.8**	**-2.1**
BO01				*e*S	**Sn**	**05 36 38.5**	**+1.1**
GO05	**Hualane**	**1.00**	**169**	*e*P	**Pb**	**05 36 22.8**	**-0.8**
GO05				*i* S	**Sb**	**05 36 35.6**	**-1.2**
GO05				IAML		05 36 38.7	
	comp=E,716nm,0.5s						
GO05	**Hualane**	**1.00**	**169**	*e*P	**Pb**	**05 36 22.9**	**-0.7**
GO05				*e*S	**Sg**	**05 36 37.4**	**+0.7**
GO05				IAML		05 36 38.9	
	comp=Z,285nm,0.5s						
MT09	**Talagante**	**1.01**	**76**	*e*P	**Pb**	**05 36 22.4**	**-1.3**

VA01	**Torpederas**	**1.08**	**23**	*e*P		**Pb**	**05 36 24.5**	**-0.5**
VA01	**Torpederas**	**1.08**	**23**	*e*P		**Pb**	**05 36 24.2**	**-0.8**
VA01				*e*S		**Sb**	**05 36 39.3**	**+0.2**
VA01				IAML			05 36 41.9	
	comp=Z,224nm,0.8s							
MT02	**Curacav**	**1.14**	**49↑**	*e*P		**Pb**	**05 36 24.7**	**-1.3**
MT02				*i* S		**Sb**	**05 36 39.3**	**-1.5**
MT02				IAML			05 36 45.9	
	comp=E,357nm,0.4s							
MT02	**Curacav**	**1.14**	**49**	*e*P		**Pb**	**05 36 24.9**	**-1.1**
MT02				*e*S		**Sn**	**05 36 45.3**	**+3.5**
MT02				IAML			05 36 48.6	
	comp=Z,279nm,0.7s							
BO04	**La Punta**	**1.29**	**89**	*e*P		**Pn**	**05 36 26.8**	**-1.4**
BO04				IAML			05 36 48.8	
	comp=E,349nm,0.4s							
MT05	**Renca**	**1.34**	**63**	*e*P		**Pn**	**05 36 28.8**	**-0.1**
MT05				*i* S		**Sn**	**05 36 47.3**	**+0.5**
MT05				IAML			05 36 53.7	
	comp=E,737nm,0.3s							
MT05	**Renca**	**1.34**	**63**	*e*P		**Pn**	**05 36 27.9**	**-1.1**
MT05				*e*S		**Sg**	**05 36 48.8**	**+1.4**
MT05				IAML			05 36 54.4	
	comp=Z,205nm,0.3s							
BO02	**Sierra Bellavi**	**1.38**	**124**	*e*P		**Pn**	**05 36 28.1**	**-1.3**
BO02	**Sierra Bellavi**	**1.38**	**124**	*e*P		**Pn**	**05 36 27.7**	**-1.7**
BO02				*e*S		**Sn**	**05 36 48.0**	**+0.4**
BO02				IAML			05 36 51.4	
	comp=Z,590nm,0.1s							
ROC1	**El Roble**	**1.42**	**43**	*e*S		**Sn**	**05 36 48.7**	**-0.1**
ROCH	**El Roble

UEES	**Universidad Ev**	**0.60**	**7**	*e*P	Pn	05 58 58.7	+0.3
UEES				*e*S	Sn	05 59 08.3	+1.2
UEES	**Universidad Ev**	**0.60**	**7**	P	Pn	05 58 58.3	0.0
BOQS	**Boqueron**	**0.61**	**3**	*e*P	Pn	05 58 59.1	+0.4
PIC2	**El Picacho**	**0.62**	**5**	*e*P	Pn	05 58 59.4	+0.6
PIC2				*e*S	Sn	05 59 09.8	+1.9
TECO	**Alcaldia de Te**	**0.66**	**51**	*e*P	Pb	05 58 58.7	-0.2
TECO	**Alcaldia de Te**	**0.66**	**51**	P	Pb	05 58 58.4	-0.4
TECO	**Alcaldia de Te**	**0.66**	**51**	S	Sn	05 59 09.1	+0.6
PAVA	**Las Pavas**	**0.69**	**32**	*e*P	Pn	05 58 59.7	+0.1
UESV	**Universidad de**	**0.72**	**45**	P	Pb	05 58 59.4	-0.5
UESV	**Universidad de**	**0.72**	**45**	S	Sn	05 59 10.0	-0.1
SBLS	**San Blas**	**0.78**	**337**	*e*P	Pn	05 59 01.8	+0.9
SCLA	**Alcaldia de Sa**	**0.81**	**44**	*e*P	Pb	05 59 01.3	0.0
SCLA	**Alcaldia de Sa**	**0.81**	**44**	P	Pn	05 59 01.0	-0.2
SCLA	**Alcaldia de Sa**	**0.81**	**44**	S	Sn	05 59 12.8	+0.5
PQSS	**Presa 15 de Se**	**0.89**	**55**	S	Sn	05 59 14.6	+0.5
UNIC	**Universidad Ca**	**0.89**	**345**	S	Sn	05 59 15.1	+0.9
UNIC	**Universidad Ca**	**0.89**	**345**	P	Pb	05 59 02.6	-0.1
NUBE	**Las Nubes**	**0.90**	**330**	*e*P	Pb	05 59 02.8	-0.2
NUBE				*e*S	Sn	05 59 15.2	+0.6
NUBE	**Las Nubes**	**0.90**	**330**	P	Pn	05 59 02.6	0.0
NUBE	**Las Nubes**	**0.90**	**330**	S	Sn	05 59 14.9	+0.2
FAME	**Alcaldia de Sa**	**0.99**	**317**	P	Pn	05 59 03.6	-0.1
PACA	**Pacayal**	**1.02**	**70**	*e*P	Pb	05 59 04.9	0.0
PACA				*e*S	Sb	05 59 18.5	+0.5
PACA	**Pacayal**	**1.02**	**70**	P	Pb	05 59 04.5	-0.4
LLGN	**La Laguna**	**1.10**	**19**	P	Pn	05 59 05.1	-0.1
LLGN	**La Laguna**	**1.10**	**19**	S	Sb	05 59 19.8	-0.4
CNRM	**Centro Naciona**	**1.17**	**72**	S	Sn	05 59 21.0	0.0
LCND	**La Caada**	**1.40**	**82**	P	Pn	05 59 09.3	+0.1
ESQI	**Esquipulas**	**1.43**	**359**	*i* P	Pb	05 59 10.2	+0.4
ESQI	**Esquipulas**	**1.43**	**359**	S	Sn	05 59 28.1	+0.3
ESQI	**Esquipulas**	**1.43**	**359**	P	Pn	05 59 10.2	+0.4
CNCH	**Conchagua**	**1.45**	**84**	P	Pn	05 59 10.3	+0.3
CNCH	**Conchagua**	**1.45**	**84**	S	Sn	05 59 28.3	+0.2

*IDC **20** 06:29:11.6±2.1,3°68S×151°09E, h0km, mb3.5/5, mbtmp3.5/5, MS3.6/20, Error ellipse: s-maj=74.0km s-min=26.6km az=114.0, New Ireland region*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**10.49**	**123**	LR	LR	06 35 32.7	
	comp=Z,707nm,18.3s,baz=332,slow=36						
GUMO	**Guam**	**18.24**	**340**	LR	LR	06 40 24.2	
	comp=Z,79nm,19.3s,baz=148,slow=37						
WRA	**Warramunga Arr**	**22.98**	**224**	P	P	06 34 17.7	-0.3
	1.1nm,0.9s,baz=49,slow=10,SNR=4.7						
	1.1nm,0.9s						
DZM	**Mont Dzumac**	**23.58**	**142**	LR	LR	06 42 14.6	
	comp=Z,293nm,20.4s,baz=269,slow=33						
ASAR	**Alice Springs**	**25.89**	**218**	P	P	06 34 45.5	0.0
	0.5nm,0.9s,baz=48,slow=10,SNR=2.2						
ASAR				LR	LR	06 45 22.1	
	comp=Z,68nm,19.7s,baz=96,slow=38						
	0.5nm,0.9s						
DAV	**Davao City (W)**	**27.61**	**293**	LR	LR	06 45 58.9	
	comp=Z,55nm,18.9s,baz=212,slow=36						
STKA	**Stephens Creek**	**29.43**	**197**	LR	LR	06 45 45.6	
	comp=Z,175nm,20.7s,baz=29,slow=34						
KAPI	**Kappang**	**31.27**	**266**	LR	LR	06 50 19.7	
	comp=Z,46nm,18.4s,baz=84,slow=41						
JHJ	**Hachijo jima 2**	**38.14**	**345**	LR	LR	06 51 12.3	
	comp=Z,102nm,18.4s,baz=306,slow=35						
MJAR	**Matsushiro Arr**	**41.79**	**344**	LR	LR	06 51 54.5	
	comp=Z,102nm,21.0s,baz=170,slow=33						
URZ	**Urewera**	**41.81**	**149**	LR	LR	06 53 40.9	
	comp=Z,164nm,18.9s,baz=304,slow=35						
KSRS	**Korea Array**	**46.25**	**334**	P	P	06 37 37.3	-1.4
	0.5nm,0.4s,baz=148,slow=8.7,SNR=1.6						
	0.5nm,0.4s						
RAR	**Rarotonga**	**50.79**	**114**	LR	LR	06 58 07.2	
	comp=Z,66nm,18.0s,baz=274,slow=34						
CMAR	**Chiang Mai Arr**	**55.86**	**295**	LR	LR	07 01 55.1	
	comp=Z,32nm,20.2s,baz=95,slow=35						
PETK	**Petropavlovsk-**	**56.86**	**5**	LR	LR	06 59 03.4	
	comp=Z,58nm,19.9s,baz=175,slow=32						
SHEM	**Shemya Is, Ala**	**59.47**	**16**	LR	LR	06 59 28.5	
	comp=Z,50nm,20.9s,baz=197,slow=31						
MA2	**Magadan**	**63.07**	**360**	LR	LR	07 07 42.5	
	comp=Z,37nm,18.5s,baz=230,slow=37						
BRDH	**Bariadhala**	**63.64**	**297**	LR	LR	07 09 23.5	
	comp=Z,30nm,18.1s,baz=138,slow=38						
SONM	**Songino Array**	**64.48**	**328**	LR	LR	07 06 33.8	
	comp=Z,49nm,20.7s,baz=243,slow=35						
SEY	**Seymchan**	**66.44**	**1**	LR	LR	07 03 11.1	
	comp=Z,33nm,21.3s,baz=322,slow=31						
YAK	**Yakutsk**	**67.56**	**349**	LR	LR	07 07 18.3	
	comp=Z,29nm,21.9s,baz=173,slow=34						
KDAK	**Kodiak Island**	**75.96**	**27**	LR	LR	07 15 27.2	
	comp=Z,18nm,18.6s,baz=42,slow=36						
MKAR	**Makanchi Array**	**78.37**	**319**	P	P	06 41 16.0	+2.0
	0.2nm,0.6s,baz=101,slow=5.3,SNR=2.4						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**81.78**	**22**	P	P	06 41 31.4	-0.6
	0.5nm,0.9s,baz=256,slow=6.0,SNR=4.2						
	0.5nm,0.9s						

*SDD **20** 06:45:13.0±1.7,20°16N×70°70W, h15km±37km, MD3.5, ML3.3, MW3.4*
*OSPL **20** 06:45:15.3±2.4,20°08N×70°75W, h0km±8km, ML3.1*

ISC 20 06:45:11.4±1.4,20°09N±0°04×70°72W±0°03, h2km±11km, n36, σ1°10/54, 5C-10D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUDR	**Luperon**	**0.29**	**228**	*e*Pg	**Pb**	**06 45 19.9**	**+0.5**
LOPP1	**Punta Rusia, P**	**0.51**	**243**	*i* P	**Pb**	**06 45 23.7**	**+0.6**
LOPP1				*e*S	**Sb**	**06 45 31.2**	**+0.3**
LOPP1				IAML		06 45 34.5	
	comp=Z,606nm,0.3s						
SC01	**Santiago de lo**	**0.66**	**181**	*i* P	**Pb**	**06 45 26.3**	**+0.7**
SC01				*e*S	**Sb**	**06 45 35.4**	**+0.1**
LODA1	**ITESIL, Dajabo**	**1.07**	**240**	*i* P	**Pn**	**06 45 34.6**	**+1.2**
LODA1				*e*S	**Sn**	**06 45 48.1**	**-0.8**
LODA1				IAML		06 45 51.2	
	comp=Z,1μm,0.9s						
NADR	**Nagua**	**1.09**	**132**	⇑*e*Pg	**Pn**	**06 45 33.7**	**0.0**
NADR				⇓*e*Sg	**Sn**	**06 45 48.7**	**-0.7**
NADR				IAML		06 45 53.0	
	comp=N,826nm,0.6s						
REDR	**Restauracion**	**1.12**	**215**	⇓*e*Pg	**Pn**	**06 45 35.9**	**+1.8**
REDR				⇓*e*Sg	**Sn**	**06 45 52.3**	**+2.3**
REDR				IAML		06 45 53.6	
	comp=N,1μm,0.1s						
SDDR	**Presa de Saban**	**1.23**	**206**	*e*P	**Pb**	**06 45 35.1**	**-0.2**
SDDR				*e*S	**Sg**	**06 45 50.4**	**-0.4**
SDDR				IAML		06 45 52.2	
	comp=N,369nm,0.3s						
SDDR				IAML		06 45 52.2	
	comp=N,300nm,0.4s						
SDDR	**Presa de Saban**	**1.23**	**206**	⇓*e*Pg	**Pn**	**06 45 35.5**	**-0.1**
SDDR				⇓*e*Sg	**Sg**	**06 45 51.5**	**+0.6**
SDDR				IAML		06 45 52.2	
	comp=N,303nm,0.4s						
SDDR	**Presa de Saban**	**1.23**	**206**	*i* P	**Pn**	**06 45 35.2**	**-0.4**
SDDR				*e*S	**Sb**	**06 45 51.8**	**+0.2**
SDDR				IAML		06 45 52.3	
	comp=Z,230nm,0.4s						
ABDR	**Alto Bandera**	**1.27**	**176**	⇓*e*Pg	**Pn**	**06 45 36.4**	**-0.1**
ABDR				⇓*e*Sg	**Sb**	**06 45 53.4**	**+0.1**
ABDR				IAML		06 45 54.1	
	comp=N,533nm,0.4s						
GRTK	**Grand Turk**	**1.47**	**345**	*i* P	**Pg**	**06 45 40.5**	**+0.9**
GRTK				*e*S	**Sn**	**06 46 00.8**	**+2.2**
GRTK				IAML		06 46 03.9	
	comp=Z,246nm,0.4s						
LONE3	**El Aguacate, B**	**1.63**	**205**	*i* P	**Pb**	**06 45 42.2**	**-0.2**
LONE3				*e*S	**Sb**	**06 46 04.0**	**+0.5**
LONE3				IAML		06 46 05.3	
	comp=Z,232nm,0.3s						
NEDR	**Neiba UASD**	**1.73**	**203**	*e*Pg	**Pb**	**06 45 44.0**	**+0.1**
NEDR				⇑*e*Sg	**Sg**	**06 46 07.1**	**+0.1**
NEDR				IAML		06 46 09.3	
	comp=N,163nm,0.3s						
SDD	**Santo Domingo**	**1.79**	**155**	⇓*e*Pg	**Pb**	**06 45 44.3**	**-0.7**
SDD				⇓*e*Sg	**Sb**	**06 46 08.2**	**+0.3**
SDD				IAML		06 46 08.8	
	comp=N,66nm,0.6s						
SDD	**Santo Domingo**	**1.79**	**155**	*i* P	**Pb**	**06 45 45.0**	**0.0**
SDD				⇑*e*S	**Sb**	**06 46 08.0**	**+0.1**
LODU1	**El Espartillar**	**1.87**	**203**	*i* P	**Pg**	**06 45 46.7**	**-0.6**
LODU1				IAML		06 46 12.4	
	comp=Z,402nm,0.5s						
JIDR	**Jimani**	**1.92**	**214**	*e*Pg	**Pb**	**06 45 47.2**	**+0.1**
JIDR				⇑*e*Sg	**Sg**	**06 46 13.2**	**+0.2**
JIDR				IAML		06 46 13.3	
	comp=N,231nm,0.3s						
PODR	**Polo**	**1.99**	**196**	*e*Pg	**Pb**	**06 45 48.8**	**+0.3**
PODR				⇑*e*Sg	**Sg**	**06 46 15.6**	**+0.2**
PODR				IAML		06 46 17.9	
	comp=N,257nm,0.5s						
PODR	**Polo**	**1.99**	**196**	*i* P	**Pb**	**06 45 48.7**	**+0.3**
PODR				*e*S	**Sg**	**06 46 15.5**	**+0.2**
PAPH	**Port-au-Prince**	**2.16**	**224**	*e*P	Pn	06 45 42.2	-6.2
PAPH	**Port-au-Prince**	**2.16**	**224**	*i* P	**Pb**	**06 45 50.5**	**-0.7**
LOVI	**El Cajuil, Ovi**	**2.36**	**195**	*i* P	**Pb**	**06 45 53.7**	**-1.0**
LOVI				IAML		06 46 35.8	
	comp=Z,114nm,0.5s						
LOBH	**Bahia de las A**	**2.38**	**202**	*i* P	**Pb**	**06 45 54.4**	**-0.6**
LOBH				IAML		06 46 36.5	
	comp=Z,126nm,0.5s						
HIDR	**Higuey Centro**	**2.41**	**128**	*e*Pg	**Pb**	**06 45 53.7**	**-1.8**
HIDR				⇓*e*Sg	**Sb**	**06 46 25.2**	**-0.4**
HIDR				IAML		06 46 32.9	
	comp=N,197nm,0.2s						
MASC	**Masc**	**3.30**	**272**	*e*P	**Pn**	**06 46 03.1**	**-1.0**
QMBU	**Quimbuelo**	**3.85**	**272**	*e*P	**Pn**	**06 46 10.2**	**-1.5**
CRPR	**Cabo Rojo, PR**	**3.99**	**121**	*i* P	**Pn**	**06 46 16.7**	**+3.1**
CRPR				IAML		06 47 04.1	
	comp=Z,17nm,1.2s						
MOAC	**Moa**	**4.02**	**279**	*e*P	**Pn**	**06 46 12.4**	**-1.5**
NMDO	**Nuevo Mundo**	**4.03**	**277**	*e*P	**Pn**	**06 46 12.9**	**-1.2**
GTBY	**Guantanamo Bay**	**4.13**	**268**	*e*P	**Pn**	**06 46 14.7**	**-0.8**
GTBY	**Guantanamo Bay**	**4.13**	**268**	*i* P	**Pn**	**06 46 16.6**	**+1.0**
GTBY				*e*S	**Sn**	**06 47 03.1**	**-1.3**
GTBY				IAML		06 47 16.8	
	comp=Z,20nm,2.9s						
RCC	**Rio Carpintero**	**4.68**	**270**	*e*P	**Pn**	**06 46 21.7**	**-1.4**
PINC	**Pinares de May**	**4.78**	**276**	*e*P	**Pn**	**06 46 22.4**	**-2.0**
MARVS	**Santiago de Cu**	**4.87**	**270**	*e*P	**Pn**	**06 46 24.3**	**-1.4**
HLGC	**Holguin**	**5.07**	**280**	*e*P	**Pn**	**06 46 27.5**	**-1.0**
YAR	**Yar**	**5.30**	**274**	*e*P	**Pn**	**06 46 29.3**	**-2.4**

*IDC **20** 06:58:03.5±1.3,45°51S×96°23E, h0km, mb4.0/7, mbtmp4.0/7, MS3.8/17, Error ellipse: s-maj=39.9km s-min=20.4km az=120.0*
*NEIC **20** 06:58:05.4±1.1,45°5S×96°3E±0°1, h10km±1km, mb4.2/13, Error ellipse: s-maj=27.5km s-min=21.5km az=306.0*

ISC 20 06:58:05.3±0.7,45°5S±0°1×96°3E±0°1, h10km, n46, σ0°88/29, mb4.2/15, MS3.8/17, 5C, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AIS	**Amsterdam Isla**	**15.95**	**292**	Pn	**Pn**	**07 01 49.5**	**-0.2**
H01W2	**Cape Leeuwin H**	**17.20**	**58**	T	T	07 19 42.9	
	baz=226,slow=74,SNR=245						
H01W3	**Cape Leeuwin H**	**17.21**	**58**	T	T	07 19 46.0	
	baz=226,slow=74,SNR=266						
H01W1	**Cape Leeuwin H**	**17.22**	**58**	T	T	07 19 49.6	
	baz=226,slow=74,SNR=329						
NWAO	**Narrogin (SRO)**	**20.43**	**59**	LR	LR	07 08 44.9	
	comp=Z,253nm,19.4s,baz=284,slow=31						
CASY	**Casey**	**22.21**	**165**	P	**P**	**07 03 00.7**	**-0.8**
CASY				IAmb	IAmb	07 03 15.8	
	comp=Z,16nm,1.4s						
PSA00	**Pilbara Seismi**	**30.67**	**47**	P	**P**	**07 04 20.2**	**+0.2**
PSA00				IAmb	IAmb	07 04 56.2	
	comp=Z,6.2nm,1.2s						
FITZ	**Fitzroy Crossi**	**36.60**	**51**	P	**P**	**07 05 11.3**	**-0.4**
ASAR	**Alice Springs**	**37.37**	**67**	P	**P**	**07 05 18.3**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=222,slow=7.1,SNR=12						
ASAR				LR	LR	07 18 46.3	
	comp=Z,126nm,19.7s,baz=232,slow=33						
	comp=Z,1.0nm,0.7s						
STKA	**Stephens Creek**	**37.38**	**85**	P	**P**	**07 05 17.9**	**-0.3**
STKA	**Stephens Creek**	**37.38**	**85**	P	**P**	**07 05 18.3**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=259,slow=7.9,SNR=5.0						
STKA				LR	LR	07 17 56.2	
	comp=Z,201nm,18.7s,baz=209,slow=32						
	comp=Z,3.0nm,0.7s						
LEM	**Lembang**	**39.74**	**18**	LR	LR	07 19 31.2	
	comp=Z,59nm,18.4s,baz=224,slow=32						
WRA	**Warramunga Arr**	**40.33**	**64**	P	**P**	**07 05 43.6**	**+0.6**
WRA	**Warramunga Arr**	**40.33**	**64**	P	**P**	**07 05 43.0**	**0.0**
	comp=Z,2.2nm,0.7s,baz=223,slow=8.4,SNR=18						
WRA				LR	LR	07 20 32.1	
	comp=Z,272nm,20.2s,baz=234,slow=33						
	comp=Z,2.2nm,0.7s						
WR8	**Warramunga Arr**	**40.43**	**64**	P	**P**	**07 05 43.0**	**-0.8**
WR8				IAmb	IAmb	07 05 52.3	
	comp=Z,4.2nm,0.8s						
VNDA	**Vanda**	**40.80**	**162**	P	**P**	**07 05 47.1**	**+0.9**
VNDA	**Vanda**	**40.80**	**162**	P	**P**	**07 05 45.8**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=262,slow=7.2,SNR=5.4						
VNDA				LR	LR	07 21 13.7	
	comp=Z,119nm,18.5s,baz=298,slow=34						
	comp=Z,0.9nm,0.9s						
SBA	**Scott Base**	**41.90**	**163**	P	**P**	**07 05 56.4**	**+1.2**
SBA				IAmb	IAmb	07 06 04.4	
	comp=Z,5.9nm,1.1s						
BATI	**Baumata**	**42.25**	**42**	LR	LR	07 23 45.3	
	comp=Z,96nm,19.7s,baz=152,slow=36						
H08S2	**Diego Garcia H**	**42.95**	**324**	T	T	07 51 40.6	
	baz=155,slow=76,SNR=53						
H08S1	**Diego Carcia H**	**42.96**	**324**	T	T	07 52 00.4	
	baz=155,slow=76,SNR=50						
H08S3	**Diego Garcia H**	**42.97**	**324**	T	T	07 51 53.7	
	baz=155,slow=76,SNR=66						
QSPA	**South Pole Qui**	**44.67**	**180**	P	**P**	**07 06 17.5**	**-0.4**
QSPA				IAmb	IAmb	07 07 02.4	
	comp=Z,3.3nm,1.2s						
QSPA	**South Pole Qui**	**44.67**	**180**	P	**P**	**07 06 17.8**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=302,slow=1.8,SNR=5.7						
QSPA				LR	LR	07 23 45.9	
	comp=Z,146nm,19.7s,baz=322,slow=35						
	comp=Z,1.7nm,0.8s						
ARMA	**Armidale**	**45.27**	**90**	P	**P**	**07 06 23.3**	**+0.2**
TROLL	**Troll, Antarti**	**48.62**	**204**	⇑P	**P**	**07 06 50.2**	**+1.3**
	comp=Z,98nm,0.8s						
SNAA	**Sanae**	**50.30**	**204**	⇑P	**P**	**07 07 03.4**	**+1.8**
	comp=Z,48nm,0.7s						
SNAA	**Sanae**	**50.30**	**204**	P	**P**	**07 07 01.1**	**-0.4**
SNAA				IAmb	IAmb	07 07 08.6	
	comp=Z,2.5nm,0.8s						
SNAA	**Sanae**	**50.30**	**204**	P	**P**	**07 07 00.3**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=152,slow=9.2,SNR=5.4						
SNAA				LR	LR	07 24 47.1	
	comp=Z,70nm,18.6s,baz=87,slow=32						
	comp=Z,1.9nm,0.7s						
VNA2	**Neumayer--Watz**	**51.95**	**204**	⇑P	**P**	**07 07 13.2**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=114,slow=7.7						
VNA1	**Neumayer--Stat**	**52.34**	**204**	⇑P	**P**	**07 07 17.5**	**+0.8**
	comp=Z,1.7nm,0.6s						
VNA3	**Neumayer Olymp**	**52.43**	**203**	⇑P	**P**	**07 07 19.9**	**+2.5**
	comp=Z,1.8nm,0.7s						
BELA	**Belgrano 2**	**53.34**	**191**	P	**P**	**07 07 23.1**	**-0.9**
BELA				IAmb	IAmb	07 07 28.4	
	comp=Z,2.7nm,1.1s						
PMG	**Port Moresby**	**56.38**	**67**	LR	LR	07 29 27.1	
	comp=Z,79nm,21.6s,baz=218,slow=33						
JAY	**Jayapura**	**57.78**	**56**	LR	LR	07 32 47.7	
	comp=Z,100nm,18.7s,baz=11,slow=36						
LBTB	**Lobatse**	**59.35**	**264**	LR	LR	07 30 21.9	
	comp=Z,132nm,18.3s,baz=4.5,slow=33						
MATP	**Matopo**	**60.28**	**271**	LR	LR	07 29 51.9	
	comp=Z,137nm,19.1s,baz=118,slow=32						
CMAR	**Chiang Mai Arr**	**63.67**	**3**	P	**P**	**07 08 36.8**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=167,slow=5.7,SNR=4.5						
CMAR				LR	LR	07 31 35.5	
	comp=Z,36nm,21.5s,baz=250,slow=32						
	comp=Z,0.6nm,0.3s						
LSZ	**Lusaka**	**63.95**	**275**	LR	LR	07 33 43.4	
	comp=Z,87nm,18.5s,baz=244,slow=34						
HNR	**Honiara**	**64.92**	**77**	LR	LR	07 36 07.7	
	comp=Z,60nm,18.1s,baz=205,slow=35						
GUMO	**Guam**	**73.33**	**50**	LR	LR	07 42 50.6	
	comp=Z,17nm,18.4s,baz=211,slow=37						
M29M	**Somme Creek**	**144.87**	**41**	PKPdf	PKPbc	07 17 40.6	-0.1
L29M	**L29M**	**144.98**	**40**	PKPbc	**PKPdf**	**07 17 41.3**	**-0.3**
J30M	**Hart River**	**145.62**	**37**	PKPdf	**PKPdf**	**07 17 42.6**	**-0.2**
M30M	**Minto, Yukon**	**145.63**	**41**	PKPdf	**PKPbc**	**07 17 42.7**	**-0.4**
NVAR	**Mina Array Bea**	**153.47**	**93**	PKPbc	**PKiKP**	**07 18 04.6**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=251,slow=3.8,SNR=3.6						

*IDC **20** 07:09:15.6±1.0,53°35N×35°26W, h0km, mb3.5/5, mbtmp3.5/6, ML3.7/1, MS3.6/29, Error ellipse: s-maj=45.9km s-min=21.0km az=21.0*

ISC 20 07:09:17.0±0.9,53°4N±0°3×35°2W±0°1, h10km, n36, σ0°88/9, mb3.5/4, MS3.6/27, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	**15.58**	**337**	LR	LR	07 17 34.3	
	comp=Z,179nm,20.5s,baz=129,slow=32						
EKA	**Eskdalemuir Ar**	**18.71**	**71**	P	**P**	**07 13 35.1**	**-0.3**
	baz=263,slow=12						
	1.0nm,0.8s						
FRB	**Frobisher Bay**	**19.98**	**314**	LR	LR	07 19 36.8	
	comp=Z,242nm,18.0s,baz=101,slow=31						
ESDC	**Sonseca Array**	**25.27**	**110**	P	**P**	**07 14 43.5**	**+0.3**
	2.2nm,1.1s,baz=320,slow=9.1,SNR=6.1						
ESDC				LR	LR	07 22 11.1	
	comp=Z,187nm,20.1s,baz=319,slow=31						
	2.2nm,1.1s						
NOA	**NORSAR Array B**	**25.80**	**54**	LR	LR	07 23 56.3	
	comp=Z,57nm,18.7s,baz=250,slow=34						
HFS	**Hagfors**	**27.11**	**56**	LR	LR	07 24 26.2	
	comp=Z,104nm,18.5s,baz=277,slow=34						
DAVOX	**Davos/Dischmat**	**29.29**	**84**	LR	LR	07 26 23.3	
	comp=Z,130nm,18.0s,baz=306,slow=35						
RES	**Resolute Bay**	**31.54**	**334**	LR	LR	07 27 04.0	
	comp=Z,79nm,19.8s,baz=16,slow=34						
VRAC	**Vranov**	**32.04**	**76**	LR	LR	07 27 21.0	
	comp=Z,74nm,18.1s,baz=302,slow=34						
FINES	**FINESS Array B**	**32.82**	**51**	LR	LR	07 27 46.6	
	comp=Z,102nm,19.0s,baz=284,slow=34						
ULM	**Lac du Bonnet**	**36.63**	**290**	LR	LR	07 29 40.1	
	comp=Z,102nm,18.1s,baz=72,slow=33						
TKL	**Tunkaleechee C**	**38.03**	**262**	LR	LR	07 30 10.9	
	comp=Z,117nm,18.9s,baz=54,slow=33						
AKASG	**Malin Array Be**	**38.54**	**67**	LR	LR	07 31 41.3	
	comp=Z,66nm,20.4s,baz=26,slow=35						
MLR	**Muntele Rosu**	**39.44**	**76**	LR	LR	07 31 59.2	
	comp=Z,108nm,19.0s,baz=271,slow=35						
YKA	**Yellowknife Ar**	**40.50**	**315**	LR	LR	07 32 05.1	
	comp=Z,83nm,19.1s,baz=54,slow=34						
KIRV	**Kirov**	**44.66**	**48**	LR	LR	07 34 36.6	
	comp=Z,78nm,18.0s,baz=273,slow=34						
INK	**Inuvik**	**44.67**	**328**	LR	LR	07 34 18.3	
	comp=Z,98nm,18.3s,baz=59,slow=34						
PDAR	**Pinedale Array**	**48.63**	**289**	P	**P**	**07 17 59.8**	**-1.2**
	0.4nm,0.6s,baz=68,slow=8.2,SNR=5.2						
PDAR				LR	LR	07 37 18.5	
	comp=Z,51nm,18.6s,baz=45,slow=35						
	0.4nm,0.6s						
DLBC	**Dease Lake**	**49.11**	**316**	LR	LR	07 37 09.3	
	comp=Z,39nm,19.0s,baz=52,slow=34						
NEW	**Newport**	**49.30**	**299**	LR	LR	07 36 48.4	
	comp=Z,72nm,20.6s,baz=43,slow=34						
TORD	**Torodi Ar. Bea**	**49.65**	**130**	P	**P**	**07 18 08.8**	**+0.1**
	0.4nm,0.6s,baz=328,slow=8.4,SNR=2.6						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**51.05**	**329**	P	**P**	**07 18 19.6**	**+0.8**
	0.4nm,0.8s,baz=42,slow=4.7,SNR=7.2						
	0.4nm,0.8s						
ANMO	**Albuquerque**	**52.05**	**279**	LR	LR	07 39 52.7	
	comp=Z,177nm,18.4s,baz=140,slow=35						
DBIC	**Dimbokro**	**52.71**	**141**	LR	LR	07 38 25.2	
	comp=Z,74nm,19.4s,baz=343,slow=33						
ELK	**Elko**	**53.16**	**291**	LR	LR	07 40 04.0	
	comp=Z,91nm,18.2s,baz=38,slow=35						
GNI	**Garni**	**53.55**	**70**	LR	LR	07 41 24.3	
	comp=Z,33nm,21.7s,baz=312,slow=36						
TXAR	**Lajitas Array**	**54.37**	**272**	P	**P**	**07 18 44.6**	**+0.7**
	0.4nm,0.9s,baz=29,slow=8.8,SNR=5.1						
	0.4nm,0.9s						
NVAR	**Mina Array Bea**	**56.47**	**291**	LR	LR	07 42 28.2	
	comp=Z,65nm,18.1s,baz=90,slow=35						
YBH	**Yreka Blue Hor**	**56.59**	**296**	LR	LR	07 42 17.9	
	comp=Z,5.8nm,18.4s,baz=40,slow=35						
BVAR	**Borovoye Array**	**57.27**	**44**	LR	LR	07 43 38.9	
	comp=Z,44nm,18.3s,baz=318,slow=36						
CMIG	**Matias Romero**	**58.44**	**256**	LR	LR	07 45 16.6	
	comp=Z,50nm,18.8s,baz=58,slow=37	

FINES	**FINESS Array B**	**2.67**	**202**	Pg		**Pb**	**07**	**32**	**51.4 -0.7**
	comp=Z,0.4nm,0.3s,baz=24,slow=16,SNR=13								
FINES				Lg		Lg	07	33	25.9
	comp=Z,0.6nm,0.3s,baz=21,slow=27,SNR=13								
KALU	**Kalix**	**2.84**	**315**	SB		**Sn**	**07**	**33**	**26.2 +1.5**
UMAU	**Umeaa**	**3.32**	**273**	PB		**Pn**	**07**	**32**	**58.2 +1.6**
	baz=86								
VJF	**Virojoki**	**3.41**	**185**	PB		**Pb**	**07**	**33**	**02.6 -2.0**
ERTU	**Ertsjaerv**	**3.66**	**319**	PB		**Pn**	**07**	**33**	**03.4 +2.2**
NUR	**Nurmijarvi**	**3.81**	**207**	PB		**Pb**	**07**	**33**	**08.4 -3.0**
HEMU	**Hemsoen**	**4.75**	**259**	PN		**Pn**	**07**	**33**	**17.9 +1.7**
ARCES	**ARCESS Array B**	**5.74**	**350**	Pn		**Pn**	**07**	**33**	**30.8 +1.1**
	comp=Z,0.1nm,0.3s,baz=175,slow=11,SNR=1.4								
ARCES				Sn		**Sn**	**07**	**34**	**36.2 0.0**
	comp=Z,0.1nm,0.3s,baz=168,slow=22,SNR=2.1								
	comp=Z,2.4nm,0.9s								
HFS	**Hagfors**	**7.80**	**247**	Pn		**Pn**	**07**	**33**	**58.7 +0.7**
	comp=Z,0.2nm,0.3s,baz=54,slow=14,SNR=1.5								
	comp=Z,0.8nm,0.6s								
I43RU	**DUBNA INFRASON**	**8.49**	**144**	I		I	08	24	20.0
	baz=333,slow=330,SNR=4.6								

IDC ***20*** *07:52:27.7±0.9, 7.˚78S±0.˚08×128.˚2E±0.˚1, h150km, n8, σ2=27/11, mb3.9/4, Banda Sea*
mbtmp4.2/8, Error ellipse: s-maj=50.6km s-min=23.8km az=43.0

ISC 20 07:52:27.7±0.9, 7.˚78S±0.˚08×128.˚2E±0.˚1, h150km, n8, σ2=27/11, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
BATI	**Baumata**	**5.11**	**242**	P		**Pn**	**07**	**53**	**43.8 +1.1**
	72nm,0.4s,baz=99,slow=4.3,SNR=5.0								
BATI				S		**Sn**	**07**	**54**	**40.9 -0.2**
	137nm,0.5s,baz=133,slow=20,SNR=13								
FITZ	**Fitzroy Crossi**	**10.56**	**194**	P		**Pn**	**07**	**54**	**56.0 +0.9**
	9.0nm,0.5s,baz=22,slow=11,SNR=40								
FITZ				S		**Sn**	**07**	**56**	**48.6 -3.3**
	15nm,0.5s,baz=303,slow=17,SNR=11								
WRA	**Warramunga Arr**	**13.46**	**155**	P		**Pn**	**07**	**55**	**35.1 +2.2**
	2.4nm,0.5s,baz=330,slow=13,SNR=32								
WRA				S		Sn	07	57	57.3 -4.7
	8.7nm,0.7s,baz=326,slow=21,SNR=12								
ASAR	**Alice Springs**	**16.71**	**162**	P		**Pn**	**07**	**56**	**17.1 +4.0**
	15nm,0.6s,baz=341,slow=10,SNR=184								
ASAR				S		**S**	**07**	**59**	**16.7 -2.3**
	1.9nm,0.7s,baz=337,slow=17,SNR=5.9								
KSRS	**Korea Array**	**45.00**	**360**	P		**P**	**08**	**00**	**27.4 -0.7**
	1.4nm,0.6s,baz=177,slow=9.8,SNR=6.1								
	1.4nm,0.6s								
USRK	**Ussuriysk Ar.**	**51.85**	**3**	P		**P**	**08**	**01**	**19.4 -1.0**
	1.2nm,0.5s,baz=203,slow=7.8,SNR=2.5								
	1.2nm,0.5s								
SONM	**Songino Array**	**58.64**	**343**	P		**P**	**08**	**02**	**08.7 -0.5**
	1.4nm,0.8s,baz=163,slow=6.9,SNR=6.0								
	1.4nm,0.8s								
MKAR	**Makanchi Array**	**67.93**	**328**	P		**P**	**08**	**03**	**09.7 -0.5**
	0.2nm,0.4s,baz=145,slow=5.3,SNR=2.6								
	0.2nm,0.4s								

NOU ***20*** *07:59:59.5, 15.˚77S×170.˚62W, h105km, mb4.8/8, Samoa Islands Region*
MOS ***20*** *08:00:13.9±1.5, 18.˚22S×172.˚45W, h10km, mb5.0/13, Error ellipse: s-maj=12.7km s-min=11.3km az=63.1*
BJI ***20*** *08:00:13.4, 18.˚60S×172.˚38W, h14km, mb5.1/10*
NEIC ***20*** *08:00:14.1±1.5, 18.˚30S±0.˚07×172.˚10W±0.˚08, h10km±1km, mb5.0/31, Error ellipse: s-maj=16.8km s-min=4.6km az=47.0*
IDC ***20*** *08:00:14.6±0.5, 18.˚35S×172.˚51W, h0km, mb4.6/15, mbtmp4.6/15, MS4.2/55, Error ellipse: s-maj=22.8km s-min=15.6km az=132.0*
GCMT ***20*** *08:00:20.1±0.2, 18.˚43S±0.˚02×172.˚19W±0.˚01, h12km, MW5.0/116, Moment Tensor Solution. s44,c52; s116,c172; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-4.00±.07; Mθθ 0.88±.08; Mϕϕ 3.12±.06; Mrθ 0.17±.28; Mθϕ 1.30±.06; Mϕr 0.99±.29; Best double couple: Mo 3.98700×10^16 NP1: ϕs 28.00000°, δ 38.00000°, λ -85.00000°. NP2: ϕs 201.00000°, δ 52.00000°, λ -94.00000°. Principal axes: T 3.8380, Plg 7.0000°, Azm 294.0000°; N 0.3020, Plg 3.0000°, Azm 204.0000°; P -4.1360, Plg 82.0000°, Azm 89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 08:00:14.3±0.3, 18.˚34S±0.˚06×172.˚21W±0.˚05, h10km, n197, σ2=44/130, mb5.0/43, MS4.3/55, 7C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
NIUE	**Niue**	**2.29**	**109**			**Pn**	**08**	**00**	**49.9 -2.2**
NIUE	**Niue**	**2.29**	**109**	P		**Pn**	**08**	**00**	**50.2 -2.0**
AFI	**Afiamalu**	**4.42**	**5**			**Pn**	**08**	**01**	**19.3 -2.3**
AFI	**Afiamalu**	**4.42**	**5**	P		**Pn**	**08**	**01**	**19.3 -2.3**
FUTU	**Fugatoga**	**6.95**	**304**	Pn		**Pn**	**08**	**01**	**56.0 -0.2**
MSVF	**Nonsavu**	**9.29**	**272**			**Pn**	**08**	**02**	**32.7 +4.2**
MSVF	**Nonsavu**	**9.29**	**272**	P		Pn	08	02	34.0 +5.6
MSVF	**Nonsavu**	**9.29**	**272**	*i* P		**Pn**	**08**	**02**	**29.6 +1.2**
RAR	**Rarotonga**	**12.05**	**106**	Pn		**Pn**	**08**	**03**	**03.3 -2.9**
RAR	**Rarotonga**	**12.05**	**106**	Pn		**Pn**	**08**	**03**	**03.2 -3.1**
	4.7nm,0.3s,baz=252,slow=7.2,SNR=12								
RAR				Sn		Sn	08	05	07.6 -13
	0.6nm,0.3s,baz=207,slow=21,SNR=0.9								
RAR				LR		LR	08	06	37.4
	comp=Z,2μm,20.1s,baz=268,slow=31								
PINNC	**Pines Island,**	**19.52**	**254**	P		**P**	**08**	**04**	**41.3 -0.7**
DZM	**Mont Dzumac**	**20.37**	**256**	*e*P		**P**	**08**	**04**	**52.0 +0.6**
	179nm,1.4s								
DZM				*e*S		**S**	**08**	**08**	**31.6 -8.2**
	2μm,27.6s								
DZM				*e*LR		LR	08	09	35.2
	2μm,24.4s								
DZM	**Mont Dzumac**	**20.37**	**256**			**P**	**08**	**04**	**50.4 -1.0**
DZM				IAmb		IAmb	08	05	04.4
	comp=Z,96nm,1.3s								
DZM	**Mont Dzumac**	**20.37**	**256**	P		**P**	**08**	**04**	**49.3 -2.1**
	comp=Z,16nm,0.8s,baz=81,slow=18,SNR=13								
	comp=Z,16nm,0.8s								
DZM	**Mont Dzumac**	**20.37**	**256**	P		**P**	**08**	**04**	**51.4 0.0**
GRZ	**Great Barrier**	**20.91**	**209**	P		**P**	**08**	**04**	**57.9 +1.0**
OUZ	**Omahuta**	**21.01**	**214**	P		**P**	**08**	**04**	**59.8 +1.7**
KUZ	**Kuaotunu**	**21.20**	**208**	P		**P**	**08**	**05**	**04.8 +4.7**
KUZ	**Kuaotunu**	**21.20**	**208**	P		**P**	**08**	**05**	**04.7 +4.7**
HAZ	**Te Kaha**	**21.24**	**202**	P		**P**	**08**	**05**	**03.5 +3.0**
PPT2	**Papeete2**	**21.54**	**92**	*e*P		**P**	**08**	**05**	**04.6 +0.5**
	comp=Z,250nm,28.5s								
PPT2				*e*S		**S**	**08**	**09**	**00.4 -2.7**
	comp=Z,2μm,24.8s								
PPT2				*e*LR		LR	08	10	01.8
	comp=Z,2μm,28.0s								
PPT2				*e*LR		LR	08	10	09.1
	comp=Z,2μm,22.8s								
PPT	**Papeete**	**21.55**	**92**	LR		LR	08	11	00.0
	comp=Z,1μm,20.7s,baz=267,slow=30								
TBI	**Tubuai**	**21.83**	**107**	*e*P		**P**	**08**	**05**	**04.4 -2.6**
	comp=Z,980nm,32.0s								
TBI				*e*S		**S**	**08**	**09**	**04.8 -3.7**
	comp=Z,2μm,27.0s								
TBI				*e*LR		LR	08	10	06.5
	comp=Z,11μm,26.8s								
TBI				*e*LR		LR	08	10	10.5
	comp=Z,3μm,26.2s								
MWZ	**Matawai**	**21.85**	**202**	P		**P**	**08**	**05**	**10.5 +3.4**
URZ	**Urewera**	**21.93**	**203**	P		**P**	**08**	**05**	**08.4 +0.4**
	comp=Z,16nm,0.7s,baz=305,slow=2.5,SNR=16								
URZ				S		**S**	**08**	**09**	**01.4 -8.8**
	comp=Z,10nm,0.8s,baz=92,slow=18,SNR=5.8								
URZ				LR		LR	08	14	19.0
	comp=Z,213nm,20.1s,baz=18,slow=39								
	comp=Z,16nm,0.7s								
URZ	**Urewera**	**21.93**	**203**	P		**P**	**08**	**05**	**11.4 +3.4**
URZ	**Urewera**	**21.93**	**203**	P		**P**	**08**	**05**	**10.5 +2.6**
TOZ	**Tahuroa Road**	**22.12**	**207**	P		**P**	**08**	**05**	**15.5 +5.5**
RTZ	**Ruatahuna**	**22.29**	**203**	P		**P**	**08**	**05**	**17.4 +5.5**
BKZ	**Black Stump Fm**	**22.96**	**203**	P		**P**	**08**	**05**	**23.0 +4.0**
BKZ	**Black Stump Fm**	**22.96**	**203**	P		**P**	**08**	**05**	**23.0 +4.0**
TSZ	**Takapari Road**	**23.94**	**203**	P		**P**	**08**	**05**	**32.7 +4.0**
BFZ	**Birch Farm**	**24.38**	**202**	P		**P**	**08**	**05**	**35.0 +2.2**
MRNZ	**Matariki Terra**	**26.34**	**206**	P		**P**	**08**	**05**	**55.6 +5.1**
THZ	**Tophouse**	**26.59**	**205**	P		P	08	06	00.0 +7.2
KHZ	**Kahutara**	**26.89**	**204**	P		**P**	**08**	**06**	**02.2 +6.8**
GVZ	**Greta Valley S**	**27.55**	**204**	P		P	08	06	10.2 +8.8
LTZ	**Lake Taylor**	**27.70**	**205**	P		P	08	06	10.5 +7.7
INZ	**Inchbonnie**	**27.99**	**206**	P		P	08	06	13.6 +8.3
OXZ	**Oxford**	**28.25**	**205**	P		P	08	06	15.1 +7.5
HNR	**Honiara**	**28.41**	**284**	LR		LR	08	15	39.1
	comp=Z,1μm,21.2s,baz=136,slow=33								
WVZ	**Waitaha Valley**	**28.57**	**207**	P		P	08	06	17.9 +7.4
RPZ	**Rata Peaks**	**28.97**	**206**	P		P	08	06	23.2 +9.2
ARCZ	**Arundel**	**29.11**	**205**	P		P	08	06	25.5 +10
FOZ	**Fox Glacier**	**29.34**	**207**	P		P	08	06	26.0 +8.7
TMZ	**Timaru**	**29.54**	**205**	P		P	08	06	28.4 +9.3
LBZ	**Lake Benmore**	**29.88**	**206**	P		P	08	06	32.5 +10
JCZ	**Jackson Bay**	**30.22**	**208**	P		P	08	06	33.3 +8.1
ODZ	**Otahua Downs**	**30.23**	**205**	P		P	08	06	33.7 +8.5
WKZ	**Wanaka**	**30.72**	**207**	P		P	08	06	39.1 +9.5
TAOE	**Nuku Hiva Isla**	**32.51**	**77**	*e*LR		LR	08	15	07.8
	comp=Z,1μm,26.2s								
CTAO	**Charters Tower**	**39.19**	**260**	P		**P**	**08**	**07**	**41.7 -1.2**
CTAO				IAmb		IAmb	08	07	54.1
	comp=Z,51nm,1.4s								
CTAO	**Charters Tower**	**39.19**	**260**	P		**P**	**08**	**07**	**41.7 -1.2**
CTAO				pmax		pmax			
	comp=Z,51nm,1.5s								
PMG	**Port Moresby**	**40.35**	**277**	LR		LR	08	22	45.6
	comp=Z,565nm,18.6s,baz=102,slow=34								
H11S2	**WAKE ISLAND Hy**	**42.05**	**329**	T		T	08	53	51.2
	baz=147,slow=76,SNR=59								
H11S3	**WAKE ISLAND Hy**	**42.07**	**329**	T		T	08	53	52.1
	baz=147,slow=76,SNR=44								
H11S1	**WAKE ISLAND Hy**	**42.07**	**329**	T		T	08	53	52.4
	baz=147,slow=76,SNR=34								
H11N3	**WAKE ISLAND Hy**	**43.01**	**331**	T		T	08	54	24.9
	baz=150,slow=76,SNR=23								
H11N1	**WAKE ISLAND Hy**	**43.02**	**330**	T		T	08	54	28.9
	baz=150,slow=76,SNR=23								
H11N2	**WAKE ISLAND Hy**	**43.03**	**331**	T		T	08	54	26.3
	baz=150,slow=76,SNR=21								
STKA	**Stephens Creek**	**43.64**	**243**	P		**P**	**08**	**08**	**18.2 -1.1**
	comp=Z,4.8nm,0.7s,baz=122,slow=10,SNR=5.2								
STKA				LR		LR	08	23	10.9
	comp=Z,387nm,22.0s,baz=50,slow=32								
	comp=Z,4.8nm,0.7s								
STKA	**Stephens Creek**	**43.64**	**243**	*i* P		**P**	**08**	**08**	**18.8 -0.5**
JAY	**Jayapura**	**48.72**	**283**	LR		LR	08	28	12.3
	comp=Z,441nm,21.8s,baz=46,slow=35								
WR8	**Warramunga Arr**	**50.19**	**259**	P		**P**	**08**	**09**	**09.8 -0.9**
WR8				IAmb		IAmb	08	09	18.9
	comp=Z,27nm,1.1s								
WRAB	**Tennant Creek**	**50.34**	**259**	*i* P		**P**	**08**	**09**	**10.3 -1.5**
WRAB				pmax		pmax			
	comp=Z,40nm,1.3s								
WRA	**Warramunga Arr**	**50.34**	**259**			**P**	**08**	**09**	**10.4 -1.5**
WRA	**Warramunga Arr**	**50.34**	**259**	P		**P**	**08**	**09**	**10.4 -1.5**
	comp=Z,10nm,0.7s,baz=94,slow=8.3,SNR=81								
WRA				S		**S**	**08**	**16**	**18.7 -6.5**
	comp=Z,0.4nm,0.9s,baz=93,slow=15,SNR=2.0								
WRA				LR		LR	08	28	29.4
	comp=Z,355nm,21.8s,baz=88,slow=34								
	comp=Z,10nm,0.7s								
WRA	**Warramunga Arr**	**50.34**	**259**	P		**P**	**08**	**09**	**10.4 -1.5**
WRA				pmax		pmax			
	comp=Z,3.0nm,1.2s								
AS31	**Alice Springs**	**50.35**	**254**			**P**	**08**	**09**	**11.4 -0.5**
AS31				IAmb		IAmb	08	09	20.9
	comp=Z,11nm,1.1s								
ASAR	**Alice Springs**	**50.35**	**254**			**P**	**08**	**09**	**10.7 -1.3**
ASAR	**Alice Springs**	**50.35**	**254**	P		**P**	**08**	**09**	**11.4 -0.5**
	comp=Z,16nm,0.8s,baz=85,slow=8.6,SNR=115								
ASAR				S		**S**	**08**	**16**	**21.8 -3.4**
	comp=Z,1.1nm,0.9s,baz=94,slow=14,SNR=6.4								
ASAR				LR		LR	08	28	55.9
	comp=Z,420nm,20.4s,baz=100,slow=34								
	comp=Z,16nm,0.8s								
GUMO	**Guam**	**52.89**	**304**	LR		LR	08	28	37.9
	comp=Z,146nm,21.9s,baz=110,slow=32								
MTN	**Manton Dam**	**54.67**	**267**			**P**	**08**	**09**	**42.8 -1.3**
MTN				IAmb		IAmb	08	09	53.3
	comp=Z,16nm,0.8s								
KNRA	**Kununurra**	**56.30**	**263**			**P**	**08**	**09**	**55.4 -0.3**
RPN	**Rapa Nui**	**58.15**	**111**	LR		LR	08	28	39.0
	comp=Z,467nm,19.8s,baz=268,slow=29								
FITZ	**Fitzroy Crossi**	**58.76**	**260**	LR		LR	08	34	01.0
	comp=Z,438nm,19.7s,baz=100,slow=35								
SBA	**Scott Base**	**60.44**	**185**			**P**	**08**	**10**	**25.4 +1.7**
SBA				IAmb		IAmb	08	10	28.7
	comp=Z,10nm,1.0s								
SBA	**Scott Base**	**60.44**	**185**	P		**P**	**08**	**10**	**25.4 +1.7**
SBA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
VNDA	**Vanda**	**60.59**	**186**			**P**	**08**	**10**	**26.6 +1.8**
VNDA	**Vanda**	**60.59**	**186**	P		**P**	**08**	**10**	**26.6 +1.8**
	comp=Z,2.9nm,0.9s,baz=2.7,slow=7.1,SNR=13								
VNDA				LR		LR	08	34	29.5
	comp=Z,63nm,18.0s,baz=26,slow=34								
	comp=Z,2.9nm,0.9s								
VNDA	**Vanda**	**60.59**	**186**	P		**P**	**08**	**10**	**26.6 +1.8**
VNDA				pmax		pmax			
	comp=Z,6.0nm,1.1s								
SOEI	**Soe**	**61.96**	**269**	P		**P**	**08**	**10**	**33.5 -1.6**
BATI	**Baumata**	**62.41**	**268**	LR		LR	08	37	11.9
	comp=Z,289nm,19.9s,baz=138,slow=36								
NWAO	**Narrogin (SRO)**	**64.21**	**242**	LR		LR	08	35	49.2
	comp=Z,251nm,21.4s,baz=312,slow=33								
DAV	**Davao City (W)**	**66.34**	**287**	LR		LR	08	37	40.4
	comp=Z,135nm,20.4s,baz=161,slow=34								
KAPI	**Kappang**	**67.60**	**272**	LR		LR	08	38	36.3
	comp=Z,86nm,21.9s,baz=88,slow=34								
TOLI2	**Tolitoli**	**68.60**	**279**	P		**P**	**08**	**11**	**17.0 -1.1**
JHJ	**Hachijo jima 2**	**68.70**	**318**	LR		LR	08	35	56.2
	comp=Z,197nm,22.0s,baz=292,slow=31								
QSPA	**South Pole Qui**	**71.72**	**180**	P		**P**	**08**	**11**	**39.9 +3.4**
	comp=Z,15nm,1.1s,baz=40,slow=1.7,SNR=27								
QSPA				LR		LR	08	40	18.6
	comp=Z,71nm,18.4s,baz=52,slow=34								
	comp=Z,15nm,1.1s								
SHEM	**Shemya Is, Ala**	**71.76**	**351**	LR		LR	08	36	56.6
	comp=Z,102nm,21.9s,baz=115,slow=31								
TGY	**Tagaytay City**	**73.35**	**291**	LR		LR	08	39	04.9
	comp=Z,205nm,21.6s,baz=108,slow=32								
LPIG	**La Paz**	**73.63**	**57**	LR		LR	08	36	30.9
	comp=Z,190nm,19.5s,baz=240,slow=30								
PFO	**Pinyon Flats O**	**74.11**	**46**	LR		LR	08	38	44.6
	comp=Z,188nm,18.7s,baz=249,slow=31								
KKM	**Kota Kinabalu**	**74.58**	**282**	P		**P**	**08**	**11**	**55.6 +1.3**
KKM				IAmb		IAmb	08	12	06.8
	comp=Z,15nm,0.9s								
ASAJ	**Asahikawa**	**74.62**	**328**	LR		LR	08	39	16.4
	comp=Z,185nm,21.7s,baz=158,slow=31								
MPMC	**Manual Prospec**	**74.85**	**43**	P		**P**	**08**	**11**	**55.0 -0.5**
YBH	**Yreka Blue Hor**	**75.27**	**36**	LR		LR	08	39	25.2
	comp=Z,15nm,19.4s,baz=250,slow=31								
PEA0B	**Petropavlovsk-**	**75.76**	**342**	P		**P**	**08**	**11**	**59.6 -0.5**
PEA0B	**Petropavlovsk-**	**75.76**	**342**	*i* P		**P**	**08**	**11**	**59.7 -0.4**
PETK	**Petropavlovsk-**	**75.76**	**342**	P		**P**	**08**	**11**	**59.6 -0.5**
PETK	**Petropavlovsk-**	**75.76**	**342**	LR		LR	08	42	09.5
	comp=Z,58nm,19.3s,baz=152,slow=33								
PETK	**Petropavlovsk-**	**75.76**	**342**	P		**P**	**08**	**11**	**59.6 -0.5**
NVAR	**Mina Array Bea**	**75.76**	**41**	P		**P**	**08**	**12**	**03.4 +2.6**
	comp=Z,2.0nm,1.0s,baz=224,slow=8.8,SNR=9.4								
NVAR				LR		LR	08	40	24.0
	comp=Z,217nm,18.1s,baz=270,slow=32								
	comp=Z,2.0nm,1.0s								
TPH	**Tonopah**	**76.23**	**42**	P		**P**	**08**	**12**	**03.8 +0.4**
TPH	**Tonopah**	**76.23**	**42**	P		**P**	**08**	**12**	**03.8 +0.4**
TPH				pmax		pmax			
	comp=Z,5.0nm,1.1s								
YSS	**Yuzhno-Sakhali**	**76.58**	**330**	*e*P		**P**	**08**	**12**	**04.5 -0.4**
YSS				*e*			08	26	47.8
SBUM	**Sibu**	**77.10**	**277**	P		**P**	**08**	**12**	**08.2 -0.4**
TUC	**Tucson**	**77.39**	**50**	P		**P**	**08**	**12**	**12.5 +2.6**
KDAK	**Kodiak Island**	**77.57**	**11**	LR		LR	08	40	00.3
	comp=Z,129nm,20.4s,baz=202,slow=31								
KDAK	**Kodiak Island**	**77.57**	**11**	*i* P		**P**	**08**	**12**	**09.7 -0.5**
KDAK				pmax		pmax			
	comp=Z,54nm,1.5s								
319A	**Douglas**	**78.01**	**51**	P		**P**	**08**	**12**	**11.8 -1.6**
KSAR	**Wonju Array Be**	**79.06**	**315**	P		**P**	**08**	**12**	**18.8 -0.1**
KSAR	**Wonju Array Be**	**79.06**	**315**	P		**P**	**08**	**12**	**18.8 -0.1**
BBB	**Bella Bella**	**80.00**	**26**	LR		LR	08	42	21.9
	comp=Z,79nm,18.1s,baz=214,slow=32								
BELA	**Belgrano 2**	**80.94**	**172**			**P**	**08**	**12**	**28.3 -0.2**
BELA				IAmb		IAmb	08	12	31.5
	comp=Z,11nm,1.0s								
PMSA	**Palmer Station**	**81.05**	**156**	LR		LR	08	39	54.0
	comp=Z,299nm,20.9s,baz=254,slow=29								
TXAR	**Lajitas Array**	**81.32**	**55**	P		**P**	**08**	**12**	**34.4 +2.9**
	comp=Z,3.7nm,1.1s,baz=213,slow=6.7,SNR=15								
TXAR				LR		LR	08	45	53.1
	comp=Z,72nm,18.3s,baz=234,slow=34								
	comp=Z,3.7nm,1.1s								
ANMO	**Albuquerque**	**81.83**	**49**	LR		LR	08	43	49.7
	comp=Z,194nm,18.0s,baz=341,slow=32								
ANMO	**Albuquerque**	**81.83**	**49**	*i* P		**P**	**08**	**12**	**31.9 -2.3**
ANMO				pmax		pmax			
	comp=Z,1.0nm,1.1s								
NEW	**Newport**	**82.50**	**34**	LR		LR	08	43	29.4
	comp=Z,245nm,19.0s,baz=212,slow=31								
MDSI	**Maura Dua**	**82.55**	**268**	P		P	08	12	45.7 +7.5
	comp=Z,709nmcomp=Z,10.0nm,1.0s								
H03S2	**Juan Fernandez**	**82.65**	**123**	T		T	09	43	35.0
	baz=250,slow=75,SNR=25								
H03S1	**Juan Fernandez**	**82.66**	**123**	T		T	09	43	28.8
	baz=250,slow=75,SNR=25								
H03S3	**Juan Fernandez**	**82.66**	**123**	T		T	09	43	34.8
	baz=250,slow=75,SNR=20								
H03N2	**Juan Fernandez**	**82.76**	**123**	T		T	09	43	33.8
	baz=257,slow=73,SNR=28								
H03N3	**Juan Fernandez**	**82.76**	**123**	T		T	09	43	35.2
	baz=257,slow=73,SNR=14								
H03N1	**Juan Fernandez**	**82.77**	**123**	T		T	09	43	38.9
	baz=257,slow=73,SNR=22								
SAND	**Sanderson**	**82.80**	**55**			**P**	**08**	**12**	**37.0 -2.1**
NJ2	**Nanjing**	**82.83**	**307**	*e*P		**P**	**08**	**12**	**40.3 +1.1**
NJ2				pmax		pmax			
	comp=Z,12nm,0.6s								
MA2	**Magadan**	**83.29**	**342**	LR		LR	08	45	19.3
	comp=Z,64nm,20.3s,baz=146,slow=32								
PDAR	**Pinedale Array**	**83.70**	**41**	P		**P**	**08**	**12**	**45.9 +2.1**
	comp=Z,2.3nm,0.9s,baz=196,slow=3.1,SNR=21								
PDAR				LR		LR	08	45	26.2
	comp=Z,83nm,18.6s,baz=260,slow=32								
	comp=Z,2.3nm,0.9s								
CMIG	**Matias Romero**	**83.80**	**70**	LR		LR	08	43	50.6
	comp=Z,293nm,18.4s,baz=228,slow=31								
YHL	**Hebgen Lake**	**83.83**	**39**	P		**P**	**08**	**12**	**44.1 -0.4**
YHL				IAmb		IAmb	08	12	51.9
	comp=Z,9.9nm,1.0s								
DLBC	**Dease Lake**	**84.02**	**21**	LR		LR	08	46	20.7
	comp=Z,437nm,19.1s,baz=184,slow=33								
CN2	**Changchun**	**84.05**	**320**	*e*P		**P**	**08**	**12**	**46.6 +1.4**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.7s								
WRH	**Wood River Hil**	**84.61**	**10**			**P**	**08**	**12**	**48.1 +0.5**
HDA	**Harding Lake**	**84.75**	**11**	P		**P**	**08**	**12**	**48.5 +0.2**
HDA				IAmb		IAmb	08	12	53.0
	comp=Z,9.5nm,1.2s								
CCB	**Clear Creek Bu**	**84.83**	**10**			**P**	**08**	**12**	**48.9 +0.2**
CCB				IAmb		IAmb	08	12	53.2
	comp=Z,14nm,1.4s								
COLA	**College**	**85.03**	**10**	P		**P**	**08**	**12**	**49.1 -0.5**
COLA				IAmb		IAmb	08	13	03.3
	comp=Z,12nm,1.1s								
COLA	**College**	**85.03**	**10**	*i* P		**P**	**08**	**12**	**50.1 +0.5**
COLA				pmax		pmax			
	comp=Z,7.0nm,1.1s								
ILAR	**Eielson Array**	**85.10**	**11**	P		**P**	**08**	**12**	**49.4 -0.6**
ILAR	**Eielson Array**	**85.10**	**11**	P		**P**	**08**	**12**	**52.8 +2.7**
	comp=

OBN				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KIV	**Kislovodsk**	**141.16 319**	*i*	PKIKP	**PKPdf**	**08 19 44.1**	**-1.3**	
KIV				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KIV				MLR	MLR			
	comp=Z,88nm,24.0s							
SHA1	**Shidzhatmaz**	**141.29 319**	*i*	PKIKP	**PKPdf**	**08 19 45.4**	**-0.4**	
SOC	**Sochi**	**143.19 320**	*e*	PKIKP	PKPbc	08 19 45.6	-0.2	
SOC			*e*			08 22 57.2		
SOC			*e*	PPP	PPP	08 26 11.9		
AKASG	**Malin Array Be**	**143.47 337**		PKP	**PKPdf**	**08 19 50.3**	**+1.1**	
	comp=Z,0.3nm,0.3s,baz=48,slow=4.1,SNR=2.9							
AKBB	**Malin Array Si**	**143.47 337**	*i*	PKIKP	PKPbc	08 19 45.9	-0.4	
CLL	**Collm**	**146.84 354**	*i*	PKP2	**PKiKP**	**08 19 59.0**	**-0.4**	
CLL				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CLL	**Collm**	**146.84 354**	*i*	PKPbc	**PKiKP**	**08 19 59.0**	**-0.4**	
	comp=Z,6.0nm,0.9s							
CLL			*i*	PKPmax		08 20 05.4		
	comp=Z,55nm,2.0s							
BRG	**Berggiesshubel**	**147.17 353**	*e*	PKP	**PKiKP**	**08 20 04.4**	**+4.3**	
BRG				Amp		08 20 05.3		
	comp=Z,4.5nm,0.9s							
MODS	**Modra-Piesok**	**149.06 348**	*e*	PKP2	**PKPab**	**08 20 05.4**	**-1.6**	
BRTR	**Keskin Array B**	**149.13 319**		PKPbc	**PKPbc**	**08 20 05.5**	**+2.1**	
	comp=Z,4.1nm,1.0s,baz=145,slow=3.5,SNR=9.7							
GERES	**GERESS Array B**	**149.19 352**		PKPbc	**PKPbc**	**08 20 05.6**	**+2.4**	
	comp=Z,0.8nm,0.6s,baz=48,slow=6.1,SNR=4.7							
TORD	**Torodi Ar. Bea**	**172.19 130**		PKP	**PKPdf**	**08 20 26.0**	**+1.5**	
	comp=Z,0.6nm,0.8s,baz=317,slow=1.4,SNR=5.0							
TORD				PKPab	**sPKPab**	**08 21 50.0**	**-0.6**	
	comp=Z,1.6nm,0.9s,baz=274,slow=4.7,SNR=6.2							

*IDC **20** 08:14:55.0±1.4, 18.74S×172.22W, h0km, mb3.8/4, mbtmp4.0/5, ML3.0/1, Error ellipse: s-maj=34.5km s-min=20.6km az=122.0*

ISC 20 08:14:57.0±1.2, 18.6S±0.2×172.3W±0.1, h10km, n9, σ3s09/7, mb3.9/4, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**12.08 104**		Pn	**Pn**	**08 17 46.2**	**-3.0**
	1.0nm,0.3s,baz=287,slow=20,SNR=1.5 6.7nm,0.5s						
DZM	**Mont Dzumac**	**20.20 257**		*e*LR	LR	08 24 33.3	
	823nm,23.7s						
URZ	**Urewera**	**21.61 203**		P	**P**	**08 19 47.1**	**-0.2**
	8.0nm,0.9s,baz=142,slow=18,SNR=1.3						
URZ				S	**S**	**08 23 46.6**	**-0.1**
	10nm,1.1s,baz=43,slow=19,SNR=1.9 8.0nm,0.9s						
PPT2	**Papeete2**	**21.64 91**		*e*LR	LR	08 24 53.0	
	659nm,25.2s						
PPT2				*e*LR	LR	08 24 59.5	
	854nm,24.2s						
TBI	**Tubuai**	**21.84 106**		*e*P	**P**	**08 19 55.2**	**+5.3**
	298nm,26.0s						
TBI				*e*LR	LR	08 24 56.4	
	3µm,26.2s						
TAOE	**Nuku Hiva Isla**	**32.68 77**		*e*LR	LR	08 29 58.0	
	310nm,23.2s						
ASAR	**Alice Springs**	**50.17 254**		P	**P**	**08 23 53.3**	**+0.1**
	1.2nm,0.7s,baz=88,slow=8.3,SNR=10.0 1.2nm,0.7s						
WRA	**Warramunga Arr**	**50.19 259**		P	**P**	**08 23 52.9**	**-0.5**
	0.6nm,0.6s,baz=95,slow=8.7,SNR=5.2 0.6nm,0.6s						
PDAR	**Pinedale Array**	**83.99 41**		P	**P**	**08 27 27.7**	**-0.3**
	0.4nm,0.8s,baz=132,slow=2.2,SNR=4.1 0.4nm,0.8s						

*IDC **20** 08:15:04.8±0.7, 18.63S×172.49W, h0km, mb4.0/10, mbtmp4.1/10, Error ellipse: s-maj=32.9km s-min=19.1km az=150.0*

ISC 20 08:15:07.4±0.8, 18.5S±0.2×172.6W±0.2, h10km, n30, σ1s29/16, mb4.2/12, 5C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**19.98 256**		P	**P**	**08 19 40.0**	**-0.3**
	12nm,1.1s,baz=13,slow=9.0,SNR=2.4 12nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**42.04 330**		T	T	09 08 09.5	
	baz=149						
H11S3	**WAKE ISLAND Hy**	**42.05 330**		T	T	09 08 07.0	
	baz=149						
H11S1	**WAKE ISLAND Hy**	**42.06 330**		T	T	09 08 05.7	
	baz=149						
H11N3	**WAKE ISLAND Hy**	**43.01 331**		T	T	09 09 17.6	
	baz=155						
H11N1	**WAKE ISLAND Hy**	**43.01 331**		T	T	09 09 17.5	
	baz=155						
H11N2	**WAKE ISLAND Hy**	**43.02 331**		T	T	09 09 19.3	
	baz=155						
ASAR	**Alice Springs**	**49.96 254**		P	**P**	**08 24 01.3**	**-0.7**
	4.4nm,0.8s,baz=88,slow=8.2,SNR=16 4.4nm,0.8s						
WRA	**Warramunga Arr**	**49.96 259**		P	**P**	**08 24 01.7**	**-0.4**
	2.5nm,0.9s,baz=95,slow=8.5,SNR=12 2.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**58.38 260**		P	**P**	**08 25 02.7**	**-0.8**
	1.2nm,0.7s,baz=130,slow=7.9,SNR=1.8 1.2nm,0.7s						
QSPA	**South Pole Qui**	**71.54 180**		P	P	08 26 26.2	-2.3
	2.0nm,1.0s,baz=79,slow=1.6,SNR=7.1 2.0nm,1.0s						
NVAR	**Mina Array Bea**	**76.14 41**		P	P	08 26 54.9	-1.1
	0.7nm,0.8s,baz=234,slow=9.2,SNR=5.0 0.7nm,0.8s						
TXAR	**Lajitas Array**	**81.71 55**		P	**P**	**08 27 26.2**	**-0.5**
	1.1nm,0.9s,baz=218,slow=7.9,SNR=9.4 1.1nm,0.9s						
H03S2	**Juan Fernandez**	**82.84 123**		T	T	09 58 22.7	
	baz=250						
H03S1	**Juan Fernandez**	**82.85 123**		T	T	09 58 23.5	
	baz=250						
H03S3	**Juan Fernandez**	**82.85 123**		T	T	09 58 24.1	
	baz=250						
H03N2	**Juan Fernandez**	**82.95 123**		T	T	09 58 28.0	
	baz=254						
H03N3	**Juan Fernandez**	**82.95 123**		T	T	09 58 28.2	
	baz=254						
H03N1	**Juan Fernandez**	**82.97 123**		T	T	09 58 28.2	
	baz=254						
PDAR	**Pinedale Array**	**84.07 41**		P	**P**	**08 27 37.8**	**-1.0**
	1.2nm,0.8s,baz=224,slow=2.9,SNR=11 1.2nm,0.8s						
ILAR	**Eielson Array**	**85.35 11**		P	**P**	**08 27 43.8**	**-0.5**
	0.2nm,0.6s,baz=189,slow=5.2,SNR=2.1 0.2nm,0.6s						
TROLL	**Troll, Antarti**	**89.64 178**	⇑	P	**P**	**08 28 05.8**	**+0.5**
	comp=Z,143nm,0.9s						
VNA3	**Neumayer Olymp**	**89.69 175**	⇑	P	**P**	**08 28 05.5**	**0.0**
	comp=Z,2.2nm,0.7s						
SNAA	**Sanae**	**89.76 177**	⇑	P	**P**	**08 28 06.0**	**+0.2**
	comp=Z,39nm,0.7s						
SNAA	**Sanae**	**89.76 177**		P	**P**	**08 28 04.7**	**-1.1**
	comp=Z,2.3nm,1.0s,baz=210,slow=13,SNR=4.1 comp=Z,2.3nm,1.0s						
VNA2	**Neumayer--Watz**	**90.19 175**	⇑	P	**P**	**08 28 08.3**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=180,slow=3.8						
VNA1	**Neumayer--Stat**	**90.39 175**	⇑	P	**P**	**08 28 09.1**	**+0.4**
	comp=Z,3.8nm,0.9s						
BRTR	**Keskin Array B**	**149.04 319**		PKPbc	**PKPdf**	**08 34 55.5**	**+3.3**
	comp=Z,1.5nm,0.8s,baz=124,slow=2.4,SNR=5.7						
GERES	**GERESS Array B**	**149.33 352**		PKPbc	**PKPdf**	**08 34 54.7**	**+2.3**
	comp=Z,0.3nm,0.4s,baz=347,slow=3.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**172.32 133**		PKPab	**PKPab**	**08 36 40.8**	**-0.8**
	comp=Z,0.9nm,1.0s,baz=241,slow=3.0,SNR=2.5						

*NEIC **20** 08:15:26.8±2.1, 17.52S±0.08×171.68W±0.09, h10km±1km, mb4.5/14, Error ellipse: s-maj=17.1km s-min=10.2km az=43.0*

*IDC **20** 08:15:30.8±0.6, 18.35S×172.56W, h0km, mb4.3/13, mbtmp4.4/13, MS4.1/3, Error ellipse: s-maj=26.0km s-min=16.1km az=138.0*

ISC 20 08:15:27.2±0.6, 17.61S±0.08×171.87W±0.08, h10km, n65, σ1s92/45, mb4.5/21, MS4.0/4, 3C-2D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**2.35 129**		Pn	**Pn**	**08 16 04.0**	**-1.9**
AFI	**Afiamalu**	**3.68 1**		Pn	**Pn**	**08 16 21.7**	**-2.6**
MSVF	**Nonsavu**	**9.61 268**			**Pn**	**08 17 47.8**	**+2.1**
RAR	**Rarotonga**	**11.96 109**		Pn	**Pn**	**08 18 16.0**	**-1.8**
FUNA	**Funafuti**	**12.53 315**		Pn	**Pn**	**08 18 25.8**	**+0.2**
DZM	**Mont Dzumac**	**20.87 254**			**P**	**08 20 09.5**	**-0.1**
DZM				IAmb	IAmb	08 20 19.8	
	comp=Z,19nm,0.8s						
DZM	**Mont Dzumac**	**20.87 254**		P	**P**	**08 20 06.1**	**-3.6**
	comp=Z,8.8nm,0.9s,baz=78,slow=20,SNR=2.1 comp=Z,8.8nm,0.9s						
URZ	**Urewera**	**22.72 203**		P	**P**	**08 20 23.7**	**-5.6**
	comp=Z,25nm,0.9s,baz=46,slow=6.2,SNR=4.3 comp=Z,25nm,0.9s						
TOZ	**Tahuroa Road**	**22.91 206**		P	**P**	**08 20 31.3**	**+0.1**
TOZ				IAmb	IAmb	08 20 34.7	
	comp=Z,13nm,0.8s						
TKNZ	**Takaka Hill**	**26.75 206**		P	**P**	**08 21 06.9**	**-0.1**
QRZ	**Quartz Range**	**26.76 207**		P	**P**	**08 21 08.7**	**+1.6**
THZ	**Tophouse**	**27.38 205**		P	**P**	**08 21 13.0**	**+0.2**
INZ	**Inchbonnie**	**28.78 206**		P	**P**	**08 21 27.3**	**+2.1**
CTAO	**Charters Tower**	**39.63 260**		P	**P**	**08 22 57.5**	**-1.9**
CTAO				IAmb	IAmb	08 23 00.2	
	comp=Z,12nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**41.60 329**		T	T	09 08 43.5	
	baz=147,slow=76						
H11S3	**WAKE ISLAND Hy**	**41.62 329**		T	T	09 08 41.1	
	baz=147,slow=76						
H11S1	**WAKE ISLAND Hy**	**41.62 329**		T	T	09 08 40.6	
	baz=147,slow=76						
H11N3	**WAKE ISLAND Hy**	**42.55 330**		T	T	09 09 40.8	
	baz=148,slow=76,SNR=6.7						
H11N1	**WAKE ISLAND Hy**	**42.55 330**		T	T	09 09 41.0	
	baz=148,slow=76,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**42.56 330**		T	T	09 09 36.2	
	baz=148,slow=76,SNR=7.9						
COEN	**Coen**	**43.34 268**		P	**P**	**08 23 30.1**	**+0.3**
COEN				IAmb	IAmb	08 23 31.9	
	comp=Z,10nm,1.1s						
STKA	**Stephens Creek**	**44.26 242**		P	**P**	**08 23 34.5**	**-2.6**
	comp=Z,3.0nm,0.8s,baz=101,slow=7.6,SNR=4.1 comp=Z,3.0nm,0.8s						
JAY	**Jayapura**	**48.87 282**		LR	LR	08 43 03.5	
	comp=Z,166nm,22.0s,baz=356,slow=34						
WR8	**Warramunga Arr**	**50.65 258**		P	**P**	**08 24 26.6**	**-0.5**
WR8				IAmb	IAmb	08 24 38.5	
	comp=Z,4.9nm,0.9s						
WRA	**Warramunga Arr**	**50.80 258**		P	**P**	**08 24 26.4**	**-1.8**
WRA	**Warramunga Arr**	**50.80 258**		P	**P**	**08 24 26.4**	**-1.8**
	comp=Z,6.2nm,0.8s,baz=93,slow=8.4,SNR=14 comp=Z,6.2nm,0.8s						
AS31	**Alice Springs**	**50.86 254**			**P**	**08 24 28.0**	**-0.6**
AS31				IAmb	IAmb	08 24 29.5	
	comp=Z,5.5nm,0.9s						
ASAR	**Alice Springs**	**50.86 254**			**P**	**08 24 27.6**	**-1.0**
ASAR	**Alice Springs**	**50.86 254**		P	**P**	**08 24 26.6**	**-2.0**
	comp=Z,17nm,0.8s,baz=89,slow=7.2,SNR=14 comp=Z,17nm,0.8s						
KNRA	**Kununurra**	**56.71 263**		P	**P**	**08 25 11.5**	**0.0**
FITZ	**Fitzroy Crossi**	**59.21 259**		P	**P**	**08 25 29.8**	**+0.8**
FITZ	**Fitzroy Crossi**	**59.21 259**		P	**P**	**08 25 29.6**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=150,slow=4.2,SNR=5.2						
FITZ				LR	LR	08 48 31.6	
	comp=Z,160nm,21.6s,baz=90,slow=34 comp=Z,2.7nm,0.8s						
VNDA	**Vanda**	**61.35 186**		P	**P**	**08 25 42.9**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=12,slow=5.8,SNR=6.0 comp=Z,1.2nm,0.9s						
MORW	**Morawa**	**66.29 245**		P	**P**	**08 26 16.9**	**+0.8**
MORW				IAmb	IAmb	08 26 27.1	
	comp=Z,3.5nm,0.9s						
QSPA	**South Pole Qui**	**72.45 180**		P	**P**	**08 26 54.4**	**+0.7**
QSPA	**South Pole Qui**	**72.45 180**		P	**P**	**08 26 55.7**	**+2.0**
	comp=Z,5.3nm,1.0s,baz=312,slow=0.8,SNR=7.3 comp=Z,5.3nm,1.0s						
YBH	**Yreka Blue Hor**	**74.49 36**		LR	LR	08 54 39.3	
	comp=Z,5.2nm,18.7s,baz=236,slow=31						
NVAR	**Mina Array Bea**	**75.01 41**		P	P	08 27 19.9	+11
	comp=Z,1.1nm,0.9s,baz=223,slow=9.7,SNR=9.1 comp=Z,2.1nm,0.9s						
TXAR	**Lajitas Array**	**80.64 55**		P	P	08 27 51.0	+10
	comp=Z,2.3nm,0.9s,baz=219,slow=8.1,SNR=13 comp=Z,2.3nm,0.9s						
H03S2	**Juan Fernandez**	**82.77 123**		T	T	09 58 44.0	
	baz=250,slow=75,SNR=7.3						
H03S1	**Juan Fernandez**	**82.78 123**		T	T	09 58 44.0	
	baz=250,slow=75,SNR=7.1						
H03S3	**Juan Fernandez**	**82.79 123**		T	T	09 58 44.0	
	baz=250,slow=75,SNR=8.5						
H03N2	**Juan Fernandez**	**82.88 123**		T	T	09 58 47.8	
	baz=248,slow=72,SNR=11						
H03N3	**Juan Fernandez**	**82.88 123**		T	T	09 58 47.8	
	baz=248,slow=72,SNR=6.1						
H03N1	**Juan Fernandez**	**82.89 123**		T	T	09 58 47.8	
	baz=248,slow=72,SNR=6.9						
PDAR	**Pinedale Array**	**82.94 41**		P	P	08 28 02.2	+10
	comp=Z,2.8nm,0.8s,baz=208,slow=3.2,SNR=18 comp=Z,2.8nm,0.8s						
ILAR	**Eielson Array**	**84.33 10**		P	P	08 28 08.0	+9.0
	comp=Z,0.5nm,0.7s,baz=220,slow=5.2,SNR=5.2 comp=Z,0.5nm,0.7s						
TROLL	**Troll, Antarti**	**90.53 178**	⇓	P	**P**	**08 28 30.1**	**+0.9**
	comp=Z,192nm,0.7s						
TROLL	**Troll, Antarti**	**90.53 178**		P	**P**	**08 28 30.1**	**+0.9**
VNA3	**Neumayer Olymp**	**90.53 174**	⇑	P	**P**	**08 28 29.8**	**+0.6**
	comp=Z,3.2nm,0.7s						
VNA3	**Neumayer Olymp**	**90.53 174**		P	**P**	**08 28 29.8**	**+0.6**
SNAA	**Sanae**	**90.63 177**	⇑	P	**P**	**08 28 30.0**	**+0.4**
	comp=Z,48nm,0.6s						
SNAA	**Sanae**	**90.63 177**		P	**P**	**08 28 30.0**	**+0.4**
SNAA	**Sanae**	**90.63 177**		P	**P**	**08 28 30.0**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=171,slow=7.9,SNR=5.3 comp=Z,3.4nm,0.9s						
VNA2	**Neumayer--Watz**	**91.04 175**	⇓	P	**P**	**08 28 32.6**	**+1.2**
	comp=Z,5.6nm,0.8s,baz=181,slow=4.0						
VNA2	**Neumayer--Watz**	**91.04 175**		P	**P**	**08 28 32.6**	**+1.2**
	baz=181,slow=4.0						
VNA1	**Neumayer--Stat**	**91.23 175**	⇑	P	**P**	**08 28 33.6**	**+1.3**
	comp=Z,5.1nm,0.9s						
VNA1	**Neumayer--Stat**	**91.23 175**		P	**P**	**08 28 33.6**	**+1.3**
LPAZ	**La Paz**	**97.69 110**		LR	LR	09 02 54.7	
	comp=Z,100nm,21.6s,baz=250,slow=29						
AKASG	**Malin Array Be**	**142.93 338**		PKhKP	PKPpre	08 35 03.1	
	comp=Z,0.3nm,0.4s,baz=79,slow=1.4,SNR=1.6						
GERES	**GERESS Array B**	**148.52 353**		PKPbc	**PKPab**	**08 35 21.6**	**+4.0**
	comp=Z,2.6nm,0.9s,baz=46,slow=5.8,SNR=6.1						
BRTR	**Keskin Array B**	**148.78 320**		PKPbc	**PKPab**	**08 35 21.4**	**+2.2**
	comp=Z,4.5nm,0.9s,baz=117,slow=2.4,SNR=10						
DAVOX	**Davos/Dischmat**	**150.87 358**		PKPbc	**PKPab**	**08 35 27.4**	**0.0**
	comp=Z,2.5nm,0.3s,baz=348,slow=6.8,SNR=5.3						
MMAI	**Mount Meron Ar**	**151.08 307**		PKPbc	**PKPab**	**08 35 27.2**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=64,slow=7.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**172.37 125**		PKPab	**PKPab**	**08 37 06.7**	**+5.0**
	comp=Z,0.8nm,0.8s,baz=248,slow=3.7,SNR=3.1						

*IDC **20** 08:17:19.4±1.8, 1.17N×126.17E, h0km, mb3.6/3, mbtmp3.7/4, ML3.8/1, MS3.3/1, Error ellipse: s-maj=119.3km s-min=23.4km az=68.0*

*DJA **20** 08:17:25.9±0.3, 1.1N±3.3×12.6E±1.1, h10km, M4.1/12, mB5.1/2, mb4.2/4, MLv4.0/12, Mw(mB)4.4/2*

ISC 20 08:17:25.7±1.1, 1.22N±0.07×126.34E±0.07, h35km, n12, σ2s49/11, mb3.7/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.12 113**		P	**Pn**	**08 17 47.4**	**+2.6**
KMSI	**Cibinong**	**2.44 255**		P	**Pn**	**08 18 04.8**	**+1.7**
SGSI	**Sangihe**	**2.58 342**		P	**Pn**	**08 18 07.3**	**+2.3**
SANI	**Sanana**	**3.26 186**		P	**Pn**	**08 18 16.9**	**+2.5**
LUWI	**Luwuk**	**4.21 238**		P	**Pn**	**08 18 29.8**	**+2.3**
MRSI	**Marisa**	**4.46 261**		P	**Pn**	**08 18 32.9**	**+2.1**
APSI	**Ampana**	**5.14 246**		P	**Pn**	**08 18 42.5**	**+2.2**
	0.5nm1µm102nm,0.7s						
BATI	**Baumata**	**11.66 193**		LR	LR	08 25 03.0	
	comp=Z,141nm,20.1s,baz=326,slow=40						
FITZ	**Fitzroy Crossi**	**19.21 182**		P	**P**	**08 21 44.4**	**-2.4**
	0.2nm,0.3s,baz=12,slow=10.0,SNR=6.6 1.2nm,0.6s						
WRA	**Warramunga Arr**	**22.45 160**		P	**P**	**08 22 19.4**	**-2.4**
	1.1nm,0.3s,baz=338,slow=11,SNR=5.2 1.1nm,0.3s						
ASAR	**Alice Springs**	**25.80 164**		P	**P**	**08 22 53.0**	**-0.7**
	0.4nm,0.5s,baz=343,slow=11,SNR=9.9 0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.40 326**		P	**P**	**08 27 23.3**	**-1.4**
	0.4nm,0.4s,baz=119,slow=7.3,SNR=8.5 0.4nm,0.4s						

*NEIC **20** 08:39:36.1±3.3, 35.049N±0.007×97.729W±0.008, h8km±4km, Error ellipse: s-maj=1.3km s-min=0.6km az=143.0*

NEIC 20 08:39:35.6±1.2, 35.047N±0.008×97.722W±0.008, h5km±1km, mb_Lg2.6/62, ML2.4/18, ML2.5/41, Error ellipse: s-maj=2.4km s-min=1.4km az=271.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FNO	**Franklin**	**0.34 51**			Pg	08 39 43.0	+0.9
FNO					Sg	08 39 48.0	+1.4
FNO				IAML		08 39 51.6	
	comp=N,524nm,0.6s						
OKCSW	**OKLAHOMA CITY**	**0.43 33**			Pg	08 39 44.5	+0.6
OKCSW					Sg	08 39 50.6	+1.1
OKCSW				IAML		08 39 54.2	
	comp=E,565nm,0.5s						
OKCSW				IAML		08 39 54.7	
	comp=N,377nm,0.2s						
OKCFA	**Oklahoma City**	**0.43 31**			Pg	08 39 44.7	+0.8
OKCFA					Sg	08 39 50.7	+1.2
X34A	**Smith Ranch, M**	**0.45 192**			Pg	08 39 45.0	+0.6
X34A					Sg	08 39 51.1	+0.8
OK004	**Okla Sci Mus**	**0.52 23**			Pg	08 39 45.8	+0.2
OK004					Sg	08 39 53.5	+1.2
BCOK	**Bluff Creek, N**	**0.62 9**			Pg	08 39 48.0	+0.5
BCOK					Sg	08 39 56.5	+1.0
OK029	**Liberty Lake**	**0.78 16**			Pg	08 39 50.7	+0.1
OK029					Sg	08 40 01.4	+0.7
OK029				IAML		08 40 05.1	
	comp=N,228nm,0.3s						
WMOK	**Wichita Mounta**	**0.92 251**			Pg	08 39 53.4	+0.1
CSTR	**Hydro, Custer**	**0.99 307**			Pb	08 39 55.5	+0.2
CSTR					Sg	08 40 08.1	+0.6
LOOK	**Love County**	**1.14 157**			Pg	08 39 57.5	0.0
LOOK					Sn	08 40 14.3	0.0
LOOK				IAML		08 40 14.7	
	comp=N,68nm,0.4s						
LOOK				IAML		08 40 14.8	
	comp=E,88nm,4.3s						
OK052	**Battle Ridge R**	**1.21 38**			Pg	08 39 58.0	-0.8
OK052					Sg	08 40 14.5	+0.1
DEOK	**Depew**	**1.28 51**			Pg	08 39 59.3	-0.8
QUOK	**Quay**	**1.39 36**			Pn	08 40 01.2	-0.5
WTFS	**Witchita Falls**	**1.42 206**			Pn	08 40 01.8	-0.3
CROK	**Carrier**	**1.47 352**			Pn	08 40 02.5	-0.3
OK048	**Pawnee Station**	**1.51 25**			Pn	08 40 03.3	0.0
OK048				IAmb_Lg		08 40 23.5	
	comp=Z,19nm,1.1s						
OK051	**E0350 and S346**	**1.62 26**			Pn	08 40 04.7	-0.3
OK038	**West end E0370**	**1.65 330**			Pn	08 40 05.5	+0.1
ELIS	**Ellis County**	**1.72 307**		IAmb_Lg		08 40 28.8	
	comp=Z,16nm,0.7s						
Z35A	**Perchaven, San**	**1.75 167**			Pn	08 40 06.3	-0.4
TUL3	**Leonard**	**1.80 61**			Pn	08 40 07.7	+0.4
GC02	**Grant County #**	**1.81 356**			Pn	08 40 07.0	-0.4
SMWD	**Samnorwood**	**2.07 272**			Pn	08 40 11.5	+0.4
FW06	**Azle**	**2.07 176**			Pn	08 40 11.8	+0.7
KAN01	**Argonia South**	**2.10 359**		IAmb_Lg		08 40 41.3	
	comp=Z,16nm,0.9s						
T35A	**Sooner Cattle**	**2.11 27**			Pn	08 40 11.8	+0.3
KAN08	**Anthony NE Sta**	**2.19 355**		IAmb_Lg		08 40 50.9	
	comp=Z,14nm,0.7s						
PLPT	**Palo Pinto**	**2.28 193**			Pn	08 40 14.5	+0.5
TREL	**Terrell**	**2.68 149**		IAmb_Lg		08 41 04.8	
	comp=Z,37nm,1.2s						
Z38A	**Mt. Pleasant**	**2.88 127**		IAmb_Lg		08 41 14.6	
	comp=Z,20nm,0.9s						
AMTX	**Amarillo**	**3.25 268**		IAmb_Lg		08 41 27.8	
	comp=Z,9.1nm,1.0s						
SN07	**Snyder 07**	**3.27 234**		IAmb_Lg		08 41 28.3	
	comp=Z,8.3nm,0.9s						
HHAR	**Hobbs**	**3.32 67**			Pn	08 40 28.9	+0.7
HHAR				IAmb_Lg		08 41 28.7	
	comp=Z,16nm,0.8s						
MIAR	**Mount Ida**	**3.45 97**			Pn	08 40 30.5	+0.5
MIAR				IAmb_Lg		08 41 29.4	
	comp=Z,15nm,0.9s						
POST	**Post**	**3.71 239**		IAmb_Lg		08 41 38.3	
	comp=Z,11nm,1.2s						
BRDY	**Brady**	**3.90 196**			Pn	08 40 36.1	-0.2
BRDY				IAmb_Lg		08 41 41.2	
	comp=Z,13nm,1.0s						
X40A	**Basin Creek Fa**	**4.06 97**		IAmb_Lg		08 41 54.7	
	comp=Z,13nm,0.7s						
CBKS	**Cedar Bluff**	**4.09 337**		IAmb_Lg		08 41 51.3	
	comp=Z,13nm,0.8s						
KSU1	**Kansas State U**	**4.14 12**		IAmb_Lg		08 41 57.2	
	comp=Z,19nm,0.8s						
SGCY	**Sterling City**	**4.22 223**		IAmb_Lg		08 41 54.3	
	comp=Z,11nm,0.9s						
435B	**Jarrell**	**4.25 178**		IAmb_Lg		08 41 57.0	
	comp=Z,14nm,0.7s						
Z41A	**Richland Creek**	**4.45 112**		IAmb_Lg		08 42 02.4	
	comp=Z,12nm,0.8s						
WHAR	**Wooly Hollow**	**4.46 85**		IAmb_Lg		08 42 04.6	
	comp=Z,11nm,0.8s						
MGMO	**Mountain Grove**	**4.89 63**		IAmb_Lg		08 42 11.2	
	comp=Z,9.0nm,0.7s						
R40A	**Maddies Statio**	**5.45 52**		IAmb_Lg		08 42 32.2	
	comp=Z,17nm,1.0s						

EORO					Sg	Sg	09 08 16.1	-1.3	
ATE	**Arette**	**0.29**	**44**		Pg	Pb	09 08 15.2	0.0	
ATE					Sg	Sb	09 08 20.4	+0.6	
SJPF	**Ste Jean**	**0.30**	**323**		*e*Pg	Pg	09 08 14.5	-0.1	
SJPF					*e*Sg	Sg	09 08 17.8	-1.2	
	147nm,0.2s								
ETSF	**Etsaut**	**0.31**	**85**		*e*Pg	Pg	09 08 14.8	-0.1	
ETSF					*e*Sg	Sg	09 08 18.2	-1.2	
	212nm,0.3s								
ORDF	**Ordiarp**	**0.34**	**6**		Pg	Pb	09 08 16.1	+0.2	
ORDF					Sg	Sb	09 08 22.3	+1.3	
CANF	**Canfranc**	**0.36**	**108**		Pg	Pg	09 08 15.3	-0.4	
CANF					Sg	Sb	09 08 21.4	-0.2	
OSSF	**Osses**	**0.43**	**332**		Pg	Pg	09 08 17.3	+0.3	
OSSF					Sg	Sb	09 08 24.0	+0.2	
EARA	**Aranguren**	**0.45**	**257**		Pg	Pg	09 08 16.7	-0.6	
EARA					Sg	Sg	09 08 22.6	-0.9	
EARA					*i* IVmb_Lg		09 08 27.5		
EARA	**Aranguren**	**0.45**	**257**		Pg	Pg	09 08 16.8	-0.6	
EARA					Sg	Sg	09 08 22.6	-0.9	
REYF	**Montagne du Re**	**0.47**	**66**		Pg	Pb	09 08 18.1	-0.1	
REYF					Sg	Sb	09 08 25.3	+0.4	
EALK	**Alkurruntz**	**0.52**	**312**		Pg	Pg	09 08 18.1	-0.5	
EALK					Sg	Sb	09 08 26.7	+0.5	
EALK					*i* IVmb_Lg		09 08 29.7		
EALK	**Alkurruntz**	**0.52**	**312**		Pg	Pg	09 08 18.4	-0.1	
EALK					Sg	Sb	09 08 26.5	+0.3	
LABF	**Labassere**	**0.79**	**77**		Pg	Pg	09 08 23.9	+0.2	
LABF					Sg	Sg	09 08 34.9	+0.7	
EPF	**Esparros**	**0.98**	**80**		*e*Pg	Pb	09 08 26.8	-0.1	
EPF					*e*Sg	Sb	09 08 39.0	-0.6	
	29nm,0.2s								
ESAC	**San Caprasio**	**1.21**	**162**		Pg	Pb	09 08 30.6	-0.2	
ESAC					Sg	Sn	09 08 46.3	-0.3	
MLS	**Moulis**	**1.53**	**86**		Pn	Pb	09 08 36.8	+0.6	
MLS					Sn	Sg	09 08 58.1	+0.6	
SALF	**Salau**	**1.60**	**93**		Pn	Pb	09 08 37.6	+0.1	
SALF					Sn	Sg	09 08 59.3	-0.6	
ELAN	**Lanestosa**	**1.83**	**282**		Pn	Pn	09 08 40.0	+1.0	
ELAN					Pg	Pb	09 08 41.7	+0.4	
ELAN					Sg	Sg	09 09 07.2	0.0	
ELAN					*i* IVmb_Lg		09 09 11.3		
ERTA	**Horta de San J**	**2.15**	**152**		Pg	Pb	09 08 47.9	+1.1	
ERTA					Sg	Sg	09 09 16.6	-0.9	
ERTA					*i* IVmb_Lg		09 09 44.3		
EPOB	**Poblet**	**2.16**	**134**		Pn	Pn	09 08 43.9	+0.4	
EPOB					Pg	Pg	09 08 48.5	-1.2	
EPOB					Sn	Sn	09 09 10.7	+0.7	
EPOB					Sg	Sg	09 09 16.4	-1.2	
EPOB					*i* IVmb_Lg		09 09 25.5		
ETOR	**Torete**	**2.21**	**202**		Pn	Pn	09 08 44.9	+0.7	
ETOR					Sn	Sn	09 09 11.6	+0.5	
ETOR					*i* IVmb_Lg		09 09 21.9		
CARF	**Carcanieres**	**2.28**	**93**		Pn	Pn	09 08 47.1	+1.9	
MTLF	**Montolieu**	**2.39**	**78**	*e*Pg		Pb	09 08 51.2	+0.4	
MTLF				*e*Sn		Sn	09 09 14.1	-1.4	
MTLF				*e*Sg		Sb	09 09 21.0	+1.0	
	9.8nm,0.3s								
LFF	**La Frestale**	**2.41**	**30**	*e*Pg		Pb	09 08 52.3	+1.1	
LFF				*e*Sg		Sb	09 09 23.4	+2.8	
	7.8nm,0.2s								
EMOS	**Mosqueruela**	**2.54**	**171**		Sg	Sg	09 09 28.1	-1.7	
SLVF	**La Salvetat-Pe**	**2.64**	**59**		Pn	Pn	09 08 51.6	+1.6	
EJON	**La Jonquera**	**2.89**	**97**		Sg	Sg	09 09 42.1	+1.2	
CAF	**Calviac**	**3.01**	**46**	*e*Pn		Pn	09 08 54.8	-0.4	
CAF	**Calviac**	**3.01**	**46**	*e*P		Pn	09 08 57.8	+2.6	
CAF				*e*Sn		Sn	09 09 28.7	-2.2	
CAF				*e*Sg		Sg	09 09 42.8	-2.0	
	4.4nm,0.3s								
RJF	**Les Rejaudoux**	**3.02**	**36**	*e*P		Pn	09 08 58.3	+2.9	
RJF				*e*Sn		Sn	09 09 30.2	-1.0	
EARI	**Arriondas**	**3.13**	**279**		Pn	Pn	09 08 58.7	+1.8	
EARI					Sn	Sn	09 09 34.8	+1.0	
EARI					*i* IVmb_Lg		09 09 39.7		
GUD	**Guadarrama**	**3.26**	**228**		Pn	Pn	09 08 59.3	+0.6	
GUD					Sn	Sn	09 09 36.9	-0.3	
GUD					*i* IVmb_Lg		09 09 56.5		
LASF	**Ste Croix**	**3.72**	**70**	*e*Pn		Pn	09 09 04.9	-0.1	
LASF	**Ste Croix**	**3.72**	**70**	*e*P		Pn	09 09 07.9	+2.9	
LASF				*e*Sg		Sg	09 10 04.9	-2.8	
	5.2nm,0.5s								
MFF	**Saint Martin d**	**3.77**	**9**	*e*Pn		Pn	09 09 05.5	-0.2	
MFF	**Saint Martin d**	**3.77**	**9**	*e*P		Pn	09 09 08.9	+3.2	
MFF				*e*Sn		Sn	09 09 47.9	-1.8	
MFF				*e*Sg		Sg	09 10 05.8	-3.6	
	1.8nm,0.2s								
ECAL	**Calabor**	**4.36**	**260**		Pn	Pn	09 09 14.6	+0.8	
ECAL					Sn	Sn	09 10 03.7	-0.7	
ECAL					*i* IVmb_Lg		09 10 05.8		
EPON	**Pontenova**	**4.54**	**278**		Pn	Pn	09 09 17.9	+1.7	
EPON					Sn	Sn	09 10 08.4	-0.2	
EPON					*i* IVmb_Lg		09 12 05.0		
VIVF	**Saint-Julien-l**	**4.54**	**62**	*e*Sn		Sn	09 10 05.6	-3.1	
	2.2nm,0.3s								
QUIF	**Quistinic**	**5.27**	**344**	*e*Pn		Pn	09 09 25.5	-0.7	
QUIF	**Quistinic**	**5.27**	**344**	*e*P		Pn	09 09 29.7	+3.5	
QUIF				*e*Sn		Sn	09 10 23.2	-3.3	
	2.5nm,0.3s								
SGMF	**Saint Gilles**	**5.49**	**349**	*e*Pn		Pn	09 09 27.9	-1.3	
SGMF	**Saint Gilles**	**5.49**	**349**	*e*P		Pn	09 09 32.8	+3.6	
ROSF	**Rostrenen**	**5.69**	**344**	*e*Pn		Pn	09 09 31.7	-0.3	
ROSF	**Rostrenen**	**5.69**	**344**	*e*P		Pn	09 09 35.6	+3.6	
ROSF				*e*Sn		Sn	09 10 33.6	-3.4	
	2.2nm,0.3s								

GCG 20 09:13:20.7±0.4, 14°43N×91°41W, h84km±3km, MD3.6, ML3.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.56**	**95**	*i* P	Pn	09 13 35.6	+0.1
ESSG				*i* S	Sn	09 13 47.0	+0.6
ESSG				IAML		09 13 47.1	
	comp=N,281nm,0.1s						
FG8	**Yepocapa, Chim**	**0.83**	**102**	*i* P	Pn	09 13 35.0	-3.3
FG8				*i* S	Sn	09 13 46.1	-5.2
FG16	**Alotenango, Sa**	**0.88**	**100**	*i* P	Pn	09 13 35.8	-3.1
FG16				*i* S	Sn	09 13 47.7	-4.7
FG16				IAML		09 13 54.0	
	comp=N,1μm,0.2s						

*IDC **20** 09:13:37.4±0.4, 18°.55S×172°.42W, h0km, mb4.7/25, mbtmp4.7/25, MS4.6/61, Error ellipse: s-maj=17.4km s-min=12.1km az=133.0*

*MOS **20** 09:13:37.9±1.1, 18°.55S×172°.43W, h10km, mb5.1/20, MS4.9/8, Error ellipse: s-maj=12.7km s-min=9.8km az=161.2*

*BJI **20** 09:13:39.8, 18°.14S×172°.40W, h10km, mB5.6/8, mb5.0/15, Ms5.1/9, Ms7 4.8/11*

*NEIC **20** 09:13:40.1, 18°.30S×172°.51W, h16km*

*NEIC **20** 09:13:40.1±1.6, 18°.3S±0°.1×172°.51W±0°.10, h10km±1km, mb5.1/339, Mww5.4/16, Error ellipse: s-maj=17.5km s-min=14.9km az=154.0*

*NEIC **20** 09:13:40.1, 18°.40S×172°.09W, h16km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.04; $M_{\theta\theta}$0.33; $M_{\phi\phi}$0.71; $M_{r\theta}$0.15; $M_{\theta\phi}$0.29; $M_{\phi r}$1.13; Fault plane solution: $M_0$1.49000×10^{17} NP1:ϕ_s35.11000°, δ21.15000°, λ-69.56000°. NP2:ϕ_s193.33000°, δ70.24000°, λ-97.69000°. Principal axes: T 1.3645, Plg25.0000°, Azm289.0000°; N 0.2329, Plg7.0000°, Azm196.0000°; P -1.5974, Plg64.0000°, Azm91.0000°;*

*NOU **20** 09:13:40.0, 18°.12S×171°.91W, h28km, mb5.1/34, Tonga Islands Region*

*GCMT **20** 09:13:42.1±0.1, 18°.49S±0°.01×172°.20W±0°.01, h12km, MW5.3/149, Moment Tensor Solution. s84,c111; s149,c275; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.01±.01; $M_{\theta\theta}$0.20±.01; $M_{\phi\phi}$0.80±.01; $M_{r\theta}$0.10±.04; $M_{\theta\phi}$0.39±.01; $M_{\phi r}$0.29±.04; Best double couple: $M_0$1.05000×10^{17} NP1:ϕ_s28.00000°, δ36.00000°, λ-87.00000°. NP2:ϕ_s204.00000°, δ54.00000°, λ-92.00000°. Principal axes: T 1.0420, Plg9.0000°, Azm296.0000°; N 0.0160, Plg2.0000°, Azm205.0000°; P -1.0580, Plg81.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 09:13:39.4±0.3, 18°.29S±0°.06×172°.40W±0°.05, h10km, n771, σ1°63/570, mb5.1/205, MS4.8/76, 16C-21D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.47**	**109**	P	Pn	09 14 12.8	-6.9
NIUE	**Niue**	**2.47**	**109**	P	Pn	09 14 13.1	-6.7
NIUE				S	Sn	09 14 38.1	-12
AFI	**Afiamalu**	**4.39**	**8**		**Pn**	**09 14 44.8**	**-1.5**
AFI	**Afiamalu**	**4.39**	**8**	P	**Pn**	**09 14 43.0**	**-3.3**
AFI	**Afiamalu**	**4.39**	**8**	S	**Sn**	**09 15 30.8**	**-6.8**
AFI	**Afiamalu**	**4.39**	**8**	P	**Pn**	**09 14 44.8**	**-1.5**
AFI	**Afiamalu**	**4.39**	**8**	P	**Pn**	**09 14 44.3**	**-1.9**
FUTU	**Fugatoga**	**6.77**	**305**	Pn	**Pn**	**09 15 15.9**	**-3.0**
TAVE	**Taveuni**	**7.33**	**281**	P	Pn	09 15 31.0	+4.4
MSVF	**Nonsavu**	**9.10**	**272**		**Pn**	**09 15 54.5**	**+3.6**
MSVF	**Nonsavu**	**9.10**	**272**	P	Pn	09 15 55.9	+4.9
MSVF	**Nonsavu**	**9.10**	**272**	P	**Pn**	**09 15 54.6**	**+3.6**
GLKZ	**Green Lake**	**12.03**	**204**	P	Pn	09 16 24.1	-6.9
GLKZ				S	Sn	09 18 30.4	-15
RAR	**Rarotonga**	**12.24**	**106**	Pn	Pn	09 16 27.0	-6.8
	11nm,0.3s,baz=218,slow=2.6,SNR=31						
RAR				Sn	Sn	09 18 33.6	-17
	3.0nm,0.3s,baz=357,slow=16,SNR=2.6						
RAR				LR	LR	09 20 00.4	
	comp=Z,5μm,20.5s,baz=258,slow=31						
RAR	**Rarotonga**	**12.24**	**106**	P	Pn	09 16 26.5	-7.4
RAR	**Rarotonga**	**12.24**	**106**	P	Pn	09 16 26.9	-6.9
PINNC	**Pines Island,**	**19.36**	**254**	P	**P**	**09 18 04.8**	**-0.6**
YATNC	**Mamie plateau,**	**19.80**	**256**	P	**Pn**	**09 18 12.7**	**+1.1**
OUENC	**Ouen Island, N**	**19.89**	**255**	P	**Pn**	**09 18 14.2**	**+1.5**
DZM	**Mont Dzumac**	**20.21**	**256**	*e*P	**P**	**09 18 12.7**	**-2.0**
	187nm,1.4s						
DZM				*e*S	**S**	**09 21 55.0**	**-6.7**
	6μm,28.1s						
DZM				*e*LR	LR	09 22 58.4	
	7μm,24.2s						
DZM	**Mont Dzumac**	**20.21**	**256**		Pn	09 18 15.8	-0.8
DZM				IAmb	IAmb	09 18 28.0	
	comp=Z,282nm,1.8s						
DZM	**Mont Dzumac**	**20.21**	**256**	P	**P**	**09 18 13.6**	**-1.1**
	comp=Z,35nm,0.6s,baz=76,slow=17,SNR=27 comp=Z,35nm,0.6s						
DZM	**Mont Dzumac**	**20.21**	**256**	P	Pn	09 18 17.9	+1.3
ONTNC	**Ouen Toro**	**20.23**	**255**	P	Pn	09 18 17.0	+0.3
MXZ	**Matakaoa Point**	**20.86**	**201**	P	Pn	09 18 24.0	0.0
OUZ	**Omahuta**	**20.95**	**214**	P	Pn	09 18 24.3	-0.8
OUZ	**Omahuta**	**20.95**	**214**	P	**P**	**09 18 21.5**	**-1.0**
WCZ	**Waipu Caves**	**21.14**	**211**	P	**P**	**09 18 23.5**	**-0.9**
KUZ	**Kuaotunu**	**21.16**	**207**	P	**P**	**09 18 27.2**	**+2.5**
KUZ	**Kuaotunu**	**21.16**	**207**	P	**P**	**09 18 24.9**	**+0.2**
HAZ	**Te Kaha**	**21.22**	**202**	P	**P**	**09 18 26.3**	**+1.0**
PUZ	**Puketiti**	**21.34**	**201**	P	**P**	**09 18 27.6**	**+0.9**
MKAZ	**Moumakai**	**21.70**	**208**	P	**P**	**09 18 29.5**	**-1.0**
PPT2	**Papeete2**	**21.73**	**92**	*e*P	**P**	**09 18 27.5**	**-3.6**
	comp=Z,749nm,28.5s						
PPT2				*e*S	**S**	**09 22 27.8**	**-3.9**
	comp=Z,5μm,25.2s						
PPT2				*e*LR	LR	09 23 32.1	
	comp=Z,5μm,22.8s						
PPT2				*e*LR	LR	09 23 39.2	
	comp=Z,5μm,24.5s						
PPT	**Papeete**	**21.73**	**92**	P	**P**	**09 18 30.2**	**-0.8**
	comp=Z,40nm,1.0s,baz=136,slow=7.3,SNR=5.1						
PPT				LR	LR	09 24 23.4	
	comp=Z,3μm,20.7s,baz=257,slow=30 comp=Z,40nm,1.0s						
PPTF	**Pamatai, Papee**	**21.74**	**92**	P	**P**	**09 18 32.3**	**+1.2**
URZ	**Urewera**	**21.91**	**203**	P	**P**	**09 18 29.5**	**-3.2**
	comp=Z,13nm,0.4s,baz=88,slow=3.7,SNR=15						
URZ				S	S	09 22 22.1	-13
	comp=Z,17nm,0.7s,baz=86,slow=22,SNR=8.7						
URZ				LR	LR	09 27 51.1	
	comp=Z,470nm,20.1s,baz=27,slow=39 comp=Z,13nm,0.4s						
URZ	**Urewera**	**21.91**	**203**	P	**P**	**09 18 30.5**	**-2.3**
TBI	**Tubuai**	**22.02**	**107**	*e*P	**P**	**09 18 34.2**	**+0.1**
	comp=Z,3μm,32.8s						
TBI				*e*S	**S**	**09 22 36.3**	**-0.8**
	comp=Z,4μm,25.5s						
TBI				*e*LR	LR	09 23 43.7	
	comp=Z,30μm,26.8s						
TBI				*e*LR	LR	09 23 46.8	
	comp=Z,5μm,24.5s						
TOZ	**Tahuroa Road**	**22.08**	**206**	P	**P**	**09 18 35.6**	**+0.9**
NMHZ	**Naumai**	**22.76**	**202**	P	**P**	**09 18 43.7**	**+1.7**
BKZ	**Black Stump Fm**	**22.93**	**203**	P	**P**	**09 18 44.9**	**+1.1**
BKZ	**Black Stump Fm**	**22.93**	**203**	P	**P**	**09 18 43.0**	**-0.8**
HIZ	**Hauiti**	**23.01**	**206**	P	**P**	**09 18 45.9**	**+1.4**
HIZ	**Hauiti**	**23.01**	**206**	P	**P**	**09 18 47.1**	**+2.6**
MCHZ	**McNeill Hill**	**23.11**	**202**	P	**P**	**09 18 43.4**	**-2.1**
TMVZ	**Te Maari**	**23.19**	**204**	P	**P**	**09 18 46.2**	**-0.2**
KWHZ	**Kaweka Forest**	**23.19**	**202**	P	**P**	**09 18 47.2**	**+0.9**
OTVZ	**Oturere**	**23.24**	**204**	P	**P**	**09 18 46.4**	**-0.6**
SNVZ	**South Ngauruho**	**23.27**	**204**	P	**P**	**09 18 47.4**	**0.0**
KAHZ	**Kahuranaki**	**23.36**	**201**	P	**P**	**09 18 49.7**	**+1.7**
WHVZ	**Whangaehu Hut**	**23.38**	**204**	P	**P**	**09 18 48.4**	**-0.1**
KRHZ	**Kereru**	**23.40**	**202**	P	**P**	**09 18 49.3**	**+0.8**
WNVZ	**Wahianoa**	**23.41**	**204**	P	**P**	**09 18 49.1**	**+0.3**
PNHZ	**Pukenui**	**23.70**	**202**	P	**P**	**09 18 51.4**	**-0.1**
DREZ	**Durham Road**	**23.86**	**206**	P	**P**	**09 18 52.5**	**-0.5**
DVHZ	**Dannevirke**	**24.05**	**202**	P	**P**	**09 18 55.8**	**+1.0**
BFZ	**Birch Farm**	**24.36**	**201**	P	**P**	**09 18 59.7**	**+2.1**
SNZO	**South Karori**	**25.47**	**203**	P	**P**	**09 19 06.8**	**-0.8**
SNZO	**South Karori**	**25.47**	**203**	P	**P**	**09 19 09.6**	**+2.0**
QRZ	**Quartz Range**	**25.93**	**207**	P	**P**	**09 19 15.1**	**+3.3**
KHZ	**Kahutara**	**26.86**	**203**	P	**P**	**09 19 21.1**	**+0.9**
HNR	**Honiara**	**28.22**	**284**	LR	LR	09 29 01.8	
	comp=Z,3μm,21.1s,baz=102,slow=33						
JCZ	**Jackson Bay**	**30.18**	**208**	P	**P**	**09 19 53.2**	**+3.3**
TAOE	**Nuku Hiva Isla**	**32.67**	**78**	eLR	LR	09 28 39.3	
	comp=Z,3μm,23.6s						
EIDS	**Eidsvold**	**34.55**	**252**	P	**P**	**09 20 26.0**	**-2.3**
EIDS				IAmb	IAmb	09 20 38.8	
	comp=Z,52nm,1.8s						
ARMA	**Armidale**	**34.78**	**243**	P	**P**	**09 20 29.1**	**-1.3**
ARMA	**Armidale**	**34.78**	**243**	P	**P**	**09 20 29.8**	**-0.6**
RKT	**Rikitea**	**35.27**	**104**	eLR	LR	09 29 42.5	
	comp=Z,23μm,26.8s						
CNB	**Canberra Magne**	**37.83**	**236**	P	**P**	**09 20 57.5**	**+1.1**
CAN	**Canberra**	**38.12**	**236**	P	**P**	**09 20 59.5**	**+0.7**
CAN				IAmb	IAmb	09 21 59.5	
	comp=Z,56nm,1.5s						
CAN	**Canberra**	**38.12**	**236**	P	**P**	**09 20 59.5**	**+0.7**
CAN				pmax	pmax		
	comp=Z,56nm,1.5s						
CTA	**Charters Tower**	**39.02**	**260**	LR	LR	09 35 25.1	
	comp=Z,49nm,19.9s,baz=86,slow=34						
CTAO	**Charters Tower**	**39.02**	**260**		**P**	**09 21 05.1**	**-1.4**
CTAO				IAmb	IAmb	09 21 07.8	
	comp=Z,30nm,0.6s						
CTAO	**Charters Tower**	**39.02**	**260**	P	**P**	**09 21 05.1**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,30nm,0.6s						
PMG	**Port Moresby**	**40.17**	**277**	LR	LR	09 36 07.8	
	comp=Z,2μm,18.2s,baz=94,slow=34						
PMG	**Port Moresby**	**40.17**	**277**	*i* P	**P**	**09 21 14.8**	**-1.3**
PMG				pmax	pmax		
	comp=Z,20nm,1.0s						
QLP	**Quilpie**	**40.77**	**250**	P	**P**	**09 21 20.5**	**-0.5**
TOO	**Toolangi**	**41.46**	**234**		**P**	**09 21 26.1**	**-0.5**
TOO	**Toolangi**	**41.46**	**234**	P	**P**	**09 21 26.1**	**-0.5**
TOO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**41.92**	**330**	T	T	10 07 09.4	
	baz=147,slow=76,SNR=104						
H11S3	**WAKE ISLAND Hy**	**41.93**	**330**	T	T	10 07 10.4	
	baz=147,slow=76,SNR=90						
H11S1	**WAKE ISLAND Hy**	**41.94**	**330**	T	T	10 07 10.7	
	baz=147,slow=76,SNR=72						
COEN	**Coen**	**42.82**	**269**	P	**P**	**09 21 36.7**	**-1.1**
COEN	**Coen**	**42.82**	**269**	P	**P**	**09 21 40.0**	**+2.1**
H11N3	**WAKE ISLAND Hy**	**42.88**	**331**	T	T	10 07 51.6	
	baz=150,slow=76,SNR=70						
H11N1	**WAKE ISLAND Hy**	**42.89**	**331**	T	T	10 07 44.9	
	baz=150,slow=76,SNR=97						
H11N2	**WAKE ISLAND Hy**	**42.90**	**331**	T	T	10 07 54.8	
	baz=150,slow=76,SNR=84						
STKA	**Stephens Creek**	**43.50**	**243**	P	**P**	**09 21 42.6**	**-0.6**
STKA	**Stephens Creek**	**43.50**	**243**	P	**P**	**09 21 42.0**	**-1.2**
	comp=Z,5.2nm,0.7s,baz=90,slow=10,SNR=7.2						
STKA				LR	LR	09 36 43.6	
	comp=Z,986nm,21.7s,baz=71,slow=32 comp=Z,5.2nm,0.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.50**	**243**	P	**P**	**09 21 47.0**	**+3.8**
STKA	**Stephens Creek**	**43.50**	**243**	P	**P**	**09 21 42.0**	**-1.2**
INKA	**Innaminka**	**43.92**	**249**		**P**	**09 21 45.6**	**-1.0**
QIS	**Mount Isa**	**45.20**	**259**	P	**P**	**09 21 58.7**	**+1.7**
HTT	**Hallett**	**45.92**	**241**	P	**P**	**09 22 02.4**	**-0.2**
BBOO	**Buckleboo**	**48.25**	**242**	P	**P**	**09 22 18.9**	**-1.8**
JAY	**Jayapura**	**48.53**	**283**	LR	LR	09 41 45.4	
	comp=Z,1μm,21.4s,baz=72,slow=35						
GENI	**Genyem**	**49.00**	**283**	P	**P**	**09 22 27.4**	**+0.7**
WR8	**Warramunga Arr**	**50.03**	**259**		**P**	**09 22 32.1**	**-2.4**
WB0	**Warramunga Arr**	**50.15**	**259**		**P**	**09 22 33.1**	**-2.4**
WRAB	**Tennant Creek**	**50.17**	**259**	P	**P**	**09 22 33.1**	**-2.4**
WRAB	**Tennant Creek**	**50.17**	**259**	*i* P	**P**	**09 22 33.3**	**-2.3**
WRAB				pmax	pmax		
	comp=Z,23nm,1.1s						
WRA	**Warramunga Arr**	**50.18**	**259**		**P**	**09 22 33.0**	**-2.7**
WRA	**Warramunga Arr**	**50.18**	**259**	P	**P**	**09 22 32.8**	**-2.9**
	comp=Z,5.6nm,0.4s,baz=96,slow=7.5,SNR=122						
WRA				LR	LR	09 42 41.1	
	comp=Z,1μm,19.9s,baz=100,slow=35 comp=Z,5.6nm,0.4s						
WRA	**Warramunga Arr**	**50.18**	**259**	P	**P**	**09 22 33.0**	**-2.7**
WRA				pmax	pmax		
	comp=Z,6.0nm,1.6s						
AS31	**Alice Springs**	**50.19**	**254**		**P**	**09 22 33.6**	**-2.1**
ASAR	**Alice Springs**	**50.19**	**254**	P	**P**	**09 22 33.3**	**-2.4**
	comp=Z,15nm,0.7s,baz=89,slow=7.5,SNR=85						
ASAR				LR	LR	09 43 27.8	
	comp=Z,921nm,18.1s,baz=86,slow=36 comp=Z,15nm,0.7s						
GUMO	**Guam**	**52.71**	**304**	LR	LR	09 43 16.8	
	comp=Z,400nm,20.7s,baz=103,slow=34						
MTN	**Manton Dam**	**54.49**	**267**		**P**	**09 23 05.5**	**-2.2**
FORT	**Forrest**	**55.02**	**245**	P	**P**	**09 23 11.1**	**-0.3**
FORT				IAmb	IAmb	09 23 35.8	
	comp=Z,13nm,0.8s						
KNRA	**Kununurra**	**56.13**	**263**		**P**	**09 23 18.1**	**-1.4**
KNRA				IAmb	IAmb	09 23 20.6	
	comp=Z,22nm,0.8s						
SWI	**Sorong**	**57.91**	**281**	P	**P**	**09 23 33.3**	**+1.1**
RPN	**Rapa Nui**	**58.33**	**111**	LR	LR	09 42 21.1	
	comp=Z,1μm,19.1s,baz=267,slow=30						
FITZ	**Fitzroy Crossi**	**58.59**	**260**	P	**P**	**09 23 35.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**58.59**	**260**	LR	LR	09 47 33.0	
	comp=Z,1μm,20.1s,baz=96,slow=35						
FITZ	**Fitzroy Crossi**	**58.59**	**260**	P	**P**	**09 23 38.2**	**+1.3**
SBA	**Scott Base**	**60.47**	**185**		**P**	**09 23 49.4**	**+0.5**
SBA				IAmb	IAmb	09 23 51.2	
	comp=Z,10nm,0.8s						
SBA	**Scott Base**	**60.47**	**185**	P	**P**	**09 23 49.4**	**+0.5**
SBA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VNDA	**Vanda**	**60.62**	**186**		**P**	**09 23 49.8**	**-0.2**
VNDA	**Vanda**	**60.62**	**186**	P	**P**	**09 23 48.5**	**-1.5**
	comp=Z,2.7nm,0.8s,baz=3.1,slow=7.0,SNR=18						
VNDA				LR	LR	09 46 48.0	
	comp=Z,131nm,18.7s,baz=29,slow=33 comp=Z,2.7nm,0.8s						
SOEI	**Soe**	**61.78**	**269**		**P**	**09 23 58.4**	**-0.6**
SOEI	**Soe**	**61.78**	**269**	P	**P**	**09 24 00.0**	**+1.0**
BATI	**Baumata**	**62.24**	**268**	LR	LR	09 50 33.7	
	comp=Z,918nm,19.8s,baz=132,slow=36						
SANI	**Sanana**	**62.45**	**277**	P	**P**	**09 24 04.7**	**+1.3**
	comp=Z,733nmcomp=Z,22nm,1.1s						
PSA00	**Pilbara Seismi**	**63.33**	**255**		**P**	**09 24 08.0**	**-1.1**
PSA00				IAmb	IAmb	09 24 15.6	
	comp=Z,24nm,1.4s						
MEEK	**Meekatharra**	**63.64**	**249**	P	**P**	**09 24 12.0**	**+0.8**
NWAO	**Narrogin (SRO)**	**64.07**	**242**	LR	LR	09 52 12.7	
	comp=Z,227nm,18.1s,baz=99,slow=36						
EDFI	**Ende, Flores**	**64.50**	**269**	P	**P**	**09 24 16.4**	**-0.7**
	comp=Z,644nmcomp=Z,30nm,1.6s						
BLDU	**Ballidu**	**64.77**	**244**	P	**P**	**09 24 19.5**	**+1.0**
MORW	**Morawa**	**65.55**	**246**	P	**P**	**09 24 24.7**	**+1.1**
DAV	**Davao City (W)**	**66.16**	**287**	LR	LR	09 50 53.5	
	comp=Z,344nm,21.6s,baz=141,slow=34						
KAPI	**Kappang**	**67.42**	**272**	LR	LR	09 51 58.2	
	comp=Z,267nm,21.1s,baz=94,slow=34						

YBH Yreka Blue Hor 75.33 36 P P 09 25 24.5 +1.4
comp=Z,0.6nm,0.9s,baz=262,slow=1.2,SNR=12
YBH LR LR 09 53 47.0
comp=Z,44nm,18.9s,baz=250,slow=32
YBH Yreka Blue Hor 75.33 36 P P 09 25 24.5 +1.4
YBH pmax pmax
comp=Z,9.0nm,1.0s
IRM Iron Mountain 75.41 46 IAmb IAmb 09 25 27.7
comp=Z,22nm,1.5s
DANC Danby, Needles 75.52 46 IAmb IAmb 09 25 27.6
comp=Z,15nm,0.8s
BLYC Blythe 75.61 47 P 09 25 25.8 +1.1
BLYC IAmb IAmb 09 25 28.7
comp=Z,38nm,1.9s
PETK Petropavlovsk- 75.66 342 LR LR 09 55 43.1
comp=Z,122nm,19.6s,baz=155,slow=33
NVAR Mina Array Bea 75.84 41 P 09 25 26.7 +0.5
NVAR Mina Array Bea 75.84 41 P P 09 25 27.6 +1.3
comp=Z,5.2nm,0.8s,baz=226,slow=9.2,SNR=42
NVAR LR LR 09 54 25.8
comp=Z,721nm,18.4s,baz=250,slow=32
comp=Z,5.2nm,0.8s
MTPC Mountain Pass 75.89 45 IAmb IAmb 09 25 30.6
comp=Z,21nm,1.7s
NV11 Mina Array Sit 75.94 41 IAmb IAmb 09 25 30.0
comp=Z,12nm,1.1s
PAHR Pah Rah Range 75.97 39 IAmb IAmb 09 25 44.9
comp=Z,32nm,2.0s
SII Sitkinak Islan 76.12 10 P P 09 25 28.8 +1.7
baz=198
TPH Tonopah 76.31 42 IAmb IAmb 09 25 32.1
comp=Z,15nm,1.1s
R16K Pilot Point 76.57 8 P P 09 25 31.4 +1.8
baz=195
J04A Umpqua Nationa 76.66 35 IAmb IAmb 09 25 34.1
comp=Z,20nm,0.9s
R17L Mt. Peulik Vol 76.80 9 P P 09 25 32.8 +1.8
baz=196
OHAK Old Harbor 76.90 11 P P 09 25 33.1 +1.6
baz=199
SBUM Sibu 76.92 277 P P 09 25 31.4 -1.2
SBUM IAmb IAmb 09 25 42.2
comp=Z,22nm,1.7s
K05A Summer Lake 77.00 36 IAmb IAmb 09 25 36.3
comp=Z,13nm,1.0s
R18K Karluk 77.03 10 P P 09 25 33.6 +1.4
baz=198
Q17K Contact Creek 77.48 9 P P 09 25 36.2 +1.3
baz=196
TUC Tucson 77.49 50 P P 09 25 36.3 +0.8
TUC IAmb IAmb 09 25 40.1
comp=Z,23nm,1.6s
TUC Tucson 77.49 50 P P 09 25 36.3 +0.8
TUC pmax pmax
comp=Z,23nm,1.6s
KDAK Kodiak Island 77.56 11 LR LR 09 53 45.0
comp=Z,361nm,21.1s,baz=204,slow=31
KDAK Kodiak Island 77.56 11 P P 09 25 37.1 +2.0
baz=199
PINE Pine Mountain 77.67 35 IAmb IAmb 09 25 40.0
comp=Z,13nm,0.9s
Q16K King Salmon 77.77 8 P P 09 25 38.0 +1.7
baz=195
O14K Tigyukauivet M 77.80 6 P P 09 25 38.3 +1.8
baz=191
I05D Terrebonne, OR 77.80 35 IAmb IAmb 09 25 40.2
comp=Z,15nm,1.2s
O15K Ungalikthiuk R 77.87 7 P P 09 25 38.1 +1.2
baz=192
P16K Nushagak River 77.94 8 P P 09 25 39.0 +1.7
baz=194
Q18K Katmai Hardscr 77.98 9 P P 09 25 39.1 +1.4
baz=197
WVOR Wild Horse Val 78.11 38 IAmb IAmb 09 25 42.7
comp=Z,17nm,1.4s
LCMT Little Creek M 78.29 45 IAmb IAmb 09 25 44.2
comp=Z,24nm,1.9s
P17K Kvichak River 78.30 8 P P 09 25 41.0 +1.7
baz=196
Q20K Shuyak Island 78.37 11 P P 09 25 40.6 +0.9
baz=199
KSM Kuching 78.41 275 P 09 25 40.2 -0.8
KSM Kuching 78.41 275 P P 09 25 41.6 +0.7
LEM Lembang 78.41 267 LR LR 09 59 35.9
comp=Z,393nm,21.9s,baz=156,slow=35
N14K Kuskokwak Cree 78.42 5 P P 09 25 41.2 +1.4
baz=190
Q19K Cape Douglas, 78.47 10 P P 09 25 41.4 +1.2
baz=198
O16K Kokwok River B 78.48 7 P P 09 25 41.2 +1.0
baz=194
CCUT Cedar City 78.51 44 IAmb IAmb 09 25 45.8
comp=Z,23nm,1.7s
M11K Mekoryuk 78.55 3 P P 09 25 41.6 +1.0
baz=186
KNB Kanab 78.57 45 IAmb IAmb 09 25 53.6
comp=Z,50nm,1.8s
P18K Big Mountain, 78.67 9 P P 09 25 42.6 +1.3
baz=197
SZCU Shurtz Canyon 78.71 44 IAmb IAmb 09 25 46.8
comp=Z,23nm,1.6s
SMAI San Martin Ant 78.74 158 P P 09 25 41.5 -0.3
SMAI IAmb IAmb 09 25 49.5
comp=Z,18nm,1.2s
M13K Dall Lake 78.76 5 P P 09 25 42.8 +1.0
baz=189
J08A Circle Bar Ran 78.77 37 IAmb IAmb 09 25 46.2
comp=Z,28nm,1.6s
O17K Koliganek Bris 78.78 8 P P 09 25 43.6 +1.7
baz=195
N15K Kwethluk River 78.81 6 P P 09 25 43.3 +1.2
baz=192
KSRS Korea Array 78.88 316 P P 09 25 44.9 +1.9
comp=Z,2.6nm,0.9s,baz=123,slow=6.2,SNR=6.9
comp=Z,2.6nm,0.9s
KSAR Wonju Array Be 78.90 316 P P 09 25 42.9 -0.2
KSAR Wonju Array Be 78.90 316 P P 09 25 42.9 -0.2
ELK Elko 79.12 41 P P 09 25 46.0 +1.4
comp=Z,4.7nm,0.8s,baz=246,slow=6.0,SNR=19
ELK LR LR 09 57 31.9
comp=Z,652nm,18.1s,baz=231,slow=33
comp=Z,4.7nm,0.8s
ELK Elko 79.12 41 P P 09 25 46.0 +1.4
GNW Green Mountain 79.18 32 IAmb IAmb 09 25 48.2
comp=Z,28nm,1.7s
M14K Bethel 79.21 5 IAmb IAmb 09 25 56.0
comp=Z,40nm,1.4s
M14K Bethel 79.21 5 P P 09 25 45.9 +1.7
baz=190
N16K Nishlik Lake 79.25 7 P P 09 25 46.5 +1.9
baz=193
M15K Kasigluk River 79.27 6 P P 09 25 45.8 +1.2
baz=191
D05A Enumclaw 79.34 32 IAmb IAmb 09 25 49.7
comp=Z,28nm,1.2s
HOM Homer 79.49 11 P P 09 25 47.5 +1.7
baz=200
N17K Nushagak Hills 79.50 8 P P 09 25 47.3 +1.5
baz=195
ZAIG Zacatecas 79.50 62 IAmb IAmb 09 25 51.0
comp=Z,23nm,1.5s
O19K Port Alsworth 79.57 9 IAmb IAmb 09 25 50.3
comp=Z,40nm,1.5s
O19K Port Alsworth 79.57 9 P P 09 25 47.9 +1.7
baz=198
CBB Campbell River 79.67 29 P 09 25 47.2 +0.2
CBB IAmb IAmb 09 25 51.1
comp=Z,30nm,1.4s
O20K Slope Mountain 79.73 10 P P 09 25 49.0 +1.8
baz=199
BRSE Bradley Lake S 79.73 11 P P 09 25 49.1 +2.0
baz=201
L14K Kuka Creek 79.73 5 P P 09 25 49.0 +2.0
baz=190
MSHR Mys Shultsa 79.77 321 *i* P P 09 25 47.6 -0.1
MSHR pmax pmax
comp=Z,10.0nm,1.1s
M16K Timber Creek 79.77 7 P 09 25 48.2 +0.9
M16K IAmb IAmb 09 25 51.3
comp=Z,14nm,0.9s
M16K Timber Creek 79.77 7 P P 09 25 48.8 +1.5
baz=193
121A Cookes Peak, D 79.80 51 IAmb IAmb 09 25 53.0
comp=Z,21nm,1.4s
N18K Kilae Creek 79.81 8 P P 09 25 49.5 +1.9
baz=196
A04D Lummi Island 80.02 31 IAmb IAmb 09 25 53.0
comp=Z,26nm,1.1s

BBB Bella Bella 80.04 26 P P 09 25 49.8 +0.8
comp=Z,8.3nm,0.8s,baz=271,slow=4.4,SNR=5.4
BBB LR LR 09 55 19.1
comp=Z,189nm,18.6s,baz=238,slow=31
comp=Z,8.3nm,0.8s
E07A Sunnyside 80.04 34 IAmb IAmb 09 25 54.2
comp=Z,28nm,1.6s
LTY Liberty 80.07 33 IAmb IAmb 09 26 38.3
comp=Z,34nm,2.0s
N19K Bonanza Creek 80.14 9 P P 09 25 51.3 +1.8
baz=197
L15K Ungalak Mounta 80.17 5 P P 09 25 51.5 +2.1
baz=191
K13K Kusilvak Mount 80.18 4 P P 09 25 51.3 +1.8
baz=188
SEW Seward 80.31 11 P P 09 25 52.2 +2.0
baz=202
M17K Holitna River 80.31 7 P P 09 25 52.4 +2.2
baz=194
Q23K Middleton Isla 80.31 13 P P 09 25 52.3 +2.0
baz=205
L16K Owhat River 80.39 6 P P 09 25 52.3 +1.7
baz=192
HMU Henry Mountain 80.46 45 IAmb IAmb 09 26 02.6
comp=Z,20nm,1.2s
SLKM Skilak Lake 80.54 11 IAmb IAmb 09 25 54.9
comp=Z,44nm,1.5s
M18K Stony River 80.60 8 P P 09 25 53.2 +1.4
baz=196
O22K Cooper Landing 80.61 11 P P 09 25 53.9 +2.1
baz=202
CAPN Captain Cook N 80.62 10 P P 09 25 53.6 +1.8
baz=200
CRAG Craig 80.65 21 P P 09 25 53.9 +1.7
baz=218
K15K Wolf Creek Mou 80.77 5 IAmb IAmb 09 26 05.2
comp=Z,42nm,1.4s
K15K Wolf Creek Mou 80.77 5 P P 09 25 54.8 +2.1
baz=190
N20K Mount Spurr 80.86 10 P P 09 25 54.7 +1.5
baz=200
SPCR Spurr Chakacha 80.86 10 P P 09 25 55.2 +2.0
baz=200
TMUT Trail Mountain 80.88 44 IAmb IAmb 09 25 58.1
comp=Z,16nm,1.1s
L17K Donlin 80.93 7 P P 09 25 55.4 +1.9
baz=194
BELA Belgrano 2 81.02 172 P 09 25 53.0 -1.0
J14K Nanvaranak Lak 81.07 4 P P 09 25 56.5 +2.3
baz=189
VHRN Van Horn 81.07 54 IAmb IAmb 09 25 58.9
comp=Z,20nm,1.1s
V35K Ketchikan 81.07 22 P P 09 25 56.6 +2.2
baz=219
Y22A Sorro 81.08 50 IAmb IAmb 09 25 59.8
comp=Z,31nm,1.6s
PMSA Palmer Station 81.16 156 LR LR 09 53 04.7
comp=Z,751nm,20.8s,baz=248,slow=29
U33K Whale Pass 81.17 21 P P 09 25 57.2 +2.3
baz=218
RC01 Rabbit Creek A 81.17 11 P P 09 25 56.9 +2.0
baz=202
Y22D IRIS PASSCAL I 81.18 50 P P 09 25 56.9 +1.2
baz=241
KAIM Kayak Island 81.19 14 P P 09 25 56.8 +1.8
baz=207
L18K Granite Mounta 81.20 7 P P 09 25 57.1 +2.1
baz=195
SIT Sitka 81.20 19 P P 09 25 57.2 +2.2
baz=216
PWL Port Wells 81.22 12 P P 09 25 57.4 +2.2
baz=203
P17A Butcher Ranch, 81.28 44 IAmb IAmb 09 26 00.5
comp=Z,34nm,1.7s
SUA Susitna One 81.34 10 P P 09 25 57.8 +1.9
baz=201
M20K Styx River 81.36 9 P P 09 25 58.1 +2.1
baz=199
L19K White Mountain 81.40 8 P P 09 25 58.2 +2.1
baz=197
TX31 Lajitas Ar. Si 81.44 55 IAmb IAmb 09 26 01.8
comp=Z,39nm,1.4s
TXAR Lajitas Array 81.44 55 P 09 25 57.6 +0.5
TXAR Lajitas Array 81.44 55 P P 09 25 57.4 +0.3
comp=Z,5.6nm,0.8s,baz=219,slow=7.2,SNR=50
comp=Z,5.6nm,0.8s
TXAR Lajitas Array 81.44 55 P P 09 25 57.6 +0.5
EYAK Cordova Ski Ar 81.46 13 P P 09 25 58.0 +1.6
baz=206
GLI Glacier Island 81.48 12 P P 09 25 58.5 +2.0
baz=204
K17K Iditarod 81.50 7 P P 09 25 58.8 +2.2
baz=194
BGLC Bering Glacier 81.63 14 P P 09 25 59.3 +2.1
baz=208
PV05 Paradox Valley 81.64 45 IAmb IAmb 09 26 03.6
comp=Z,11nm,0.9s
S31K Pelican 81.66 19 P P 09 25 59.4 +2.0
baz=215
WRAK Wrangell Islan 81.67 21 P P 09 25 59.9 +2.4
baz=218
LLLB Lillooet 81.69 30 IAmb IAmb 09 26 03.9
comp=Z,45nm,1.9s
SKT Skwentna 81.70 10 P P 09 25 59.7 +2.0
baz=200
KNK Knik Glacier 81.71 11 P P 09 25 59.7 +2.0
baz=203
M22K Willow 81.72 11 P P 09 26 00.1 +2.4
baz=201
TCUT Toone Canyon 81.73 42 IAmb IAmb 09 26 02.0
comp=Z,22nm,0.9s
PMR Palmer 81.75 11 P P 09 26 00.1 +2.3
baz=202
KASI Kota Agung 81.76 267 P P 09 25 59.8 +0.8
GAMB Gambell 81.80 0 P P 09 25 59.6 +1.5
baz=181
L20K Farewell, AK 81.82 9 P P 09 26 00.0 +1.7
baz=198
J16K Anvik River 81.83 5 P P 09 26 00.0 +1.8
baz=191
BSUT Blindstream Ca 81.83 43 IAmb IAmb 09 26 09.7
comp=Z,29nm,1.7s
PV19 Morning Glory 81.84 45 IAmb IAmb 09 26 08.3
comp=Z,24nm,0.9s
PV14 Lion Creek, Pa 81.84 45 IAmb IAmb 09 26 03.3
comp=Z,26nm,1.4s
PV20 West Nyswonger 81.87 45 IAmb IAmb 09 26 02.8
comp=Z,31nm,1.1s
PV23 Carpenter Ridg 81.89 45 IAmb IAmb 09 26 03.0
comp=Z,24nm,1.0s
HWUT Hardware Ranch 81.90 41 IAmb IAmb 09 26 02.0
comp=Z,24nm,1.9s
PV03 Paradox Valley 81.90 45 IAmb IAmb 09 26 03.5
comp=Z,27nm,1.5s
PV11 David Mesa, Pa 81.91 45 IAmb IAmb 09 26 03.8
comp=Z,38nm,1.5s
ANMO Albuquerque 81.93 49 P 09 26 00.3 +0.6
ANMO Albuquerque 81.93 49 P P 09 26 00.4 +0.6
comp=Z,4.1nm,1.0s,baz=325,slow=8.0,SNR=7.0
ANMO LR LR 09 56 55.4
comp=Z,577nm,19.4s,baz=332,slow=32
comp=Z,4.1nm,1.0s
ANMO Albuquerque 81.93 49 *i* P P 09 26 00.6 +0.8
ANMO pmax pmax
comp=Z,5.0nm,1.1s
PV02 Paradox Valley 81.95 45 IAmb IAmb 09 26 03.2
comp=Z,19nm,1.0s
MESA MESA 82.00 15 P P 09 26 01.0 +1.5
baz=209
PV01 Paradox Valley 82.03 46 IAmb IAmb 09 26 03.5
comp=Z,14nm,1.1s
J17K VABM Dome 82.08 6 P P 09 26 01.6 +2.0
baz=193
BMRM Bremner River 82.08 13 P P 09 26 00.9 +1.1
baz=207
U35K Hyder 82.10 23 P P 09 26 01.6 +1.8
baz=220
PV07 Paradox Valley 82.13 45 IAmb IAmb 09 26 04.7
comp=Z,29nm,1.6s
R31K City Hall, Gus 82.18 18 P P 09 26 01.8 +1.6
baz=215
PECS Pecos 82.19 53 IAmb IAmb 09 26 07.1
comp=Z,21nm,1.6s
PV15 Paradox Valley 82.19 45 IAmb IAmb 09 26 09.9
comp=Z,11nm,1.0s
M23K Glacier View 82.20 12 P P 09 26 01.9 +1.6
baz=204
PNL Peninsula 82.20 16 P P 09 26 01.6 +1.3
baz=212
CRQE Cirque 82.23 14 P P 09 26 02.0 +1.4
baz=208
KLU Klutina 82.28 12 P P 09 26 02.3 +1.6
baz=205
CUT Chulitna 82.31 10 P P 09 26 02.5 +1.7
baz=201
SCM Sheep Creek Mo 82.31 12 P P 09 26 02.4 +1.4
baz=204
PINM Pinnacle 82.35 16 P P 09 26 02.7 +1.6
baz=211
MDSI Maura Dua 82.37 268 P P 09 26 01.6 -0.7
comp=Z,611nmcomp=Z,29nm,0.9s
J18K Innoko River 82.40 7 P P 09 26 02.5 +1.2
baz=195
I17K Unalakleet 82.41 5 P P 09 26 02.4 +1.1
baz=191
R32K Eaglecrest 82.44 19 P P 09 26 03.2 +1.5
baz=216
PPLA Purkeypile 82.46 9 P P 09 26 03.5 +1.7
baz=199
NEW Newport 82.55 34 P P 09 26 03.7 +1.2
comp=Z,2.7nm,0.8s,baz=154,slow=4.0,SNR=4.7
NEW LR LR 09 57 51.4
comp=Z,717nm,18.9s,baz=222,slow=32
comp=Z,2.7nm,0.8s
P29M Windy Craggy 82.62 17 P P 09 26 04.3 +1.7
baz=213
K20K Telida 82.63 8 IAmb IAmb 09 26 18.6
comp=Z,40nm,2.0s
K20K Telida 82.63 8 P P 09 26 04.4 +1.8
baz=198
N25K Chitina, Valde 82.66 13 P P 09 26 04.4 +1.7
baz=207
NJ2 Nanjing 82.66 307 *e*P P 09 26 04.8 +1.5
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
ANM Nome 82.77 3 P P 09 26 05.0 +1.8
baz=187
M24K Tolsona, Glenn 82.78 12 P P 09 26 04.8 +1.5
baz=205
MCARA McCarthy VSAT 82.81 14 P P 09 26 05.0 +1.5
baz=208
H03S2 Juan Fernandez 82.82 123 T T 10 56 59.0
baz=250,slow=75,SNR=104
CTG Chitna Glacier 82.83 15 P P 09 26 05.3 +1.6
baz=210
CTGM Chitina Glacie 82.83 15 IAmb IAmb 09 26 06.3
comp=Z,20nm,1.0s
BARN Barnard Glacie 82.84 15 IAmb IAmb 09 26 07.0
comp=Z,22nm,1.0s
H03S1 Juan Fernandez 82.84 123 T T 10 56 59.4
baz=250,slow=75,SNR=100
T35M Bob Quinn 82.84 22 IAmb IAmb 09 26 08.8
comp=Z,16nm,1.3s
T35M Bob Quinn 82.84 22 P P 09 26 05.2 +1.5
baz=220
H03S3 Juan Fernandez 82.84 123 T T 10 56 53.3
baz=250,slow=75,SNR=121
PLBC Pleasant Camp 82.86 18 P P 09 26 06.0 +2.2
baz=214
SAND Sanderson 82.92 55 IAmb IAmb 09 26 07.9
comp=Z,22nm,1.3s
WAT6 Susitna Watana 82.92 11 P P 09 26 05.7 +1.5
baz=204
H03N2 Juan Fernandez 82.93 123 T T 10 57 06.9
baz=256,slow=72,SNR=56
H03N3 Juan Fernandez 82.94 123 T T 10 57 03.9
baz=256,slow=72,SNR=35
O28M Mount Upton 82.94 15 IAmb IAmb 09 26 07.6
comp=Z,15nm,1.1s
O28M Mount Upton 82.94 15 P P 09 26 06.3 +1.7
baz=211
H03N1 Juan Fernandez 82.95 123 T T 10 57 04.8
baz=256,slow=72,SNR=42
O29M Mount Kennedy 82.96 16 IAmb IAmb 09 26 09.3
comp=Z,13nm,1.1s
O29M Mount Kennedy 82.96 16 P P 09 26 06.2 +1.8
baz=212
WAT1 Susitna Watana 83.00 11 P P 09 26 06.1 +1.6
baz=203
USHA Ushuaia 83.01 146 LR LR 09 53 44.4
comp=Z,619nm,21.2s,baz=247,slow=29
MNHN Monahans 83.02 54 IAmb IAmb 09 26 08.5
comp=Z,12nm,1.0s
S22A 4UR Ranch, Cre 83.03 47 IAmb IAmb 09 26 08.9
comp=Z,12nm,0.9s
H16K Elim 83.03 4 P P 09 26 05.9 +1.4
baz=190
J19K Poorman 83.05 7 IAmb IAmb 09 26 20.4
comp=Z,44nm,2.0s
J19K Poorman 83.05 7 P P 09 26 06.1 +1.5
baz=196
SKAG Skagway 83.17 18 P P 09 26 06.9 +1.6
baz=215
MA2 Magadan 83.19 342 LR LR 09 59 05.0
comp=Z,180nm,20.3s,baz=152,slow=33
P30M Million Dollar 83.25 17 P P 09 26 06.5 +0.6
baz=214
HARP HAARP 83.25 12 P P 09 26 06.8 +1.0
baz=206
S34M Telegraph Cree 83.25 21 P P 09 26 07.0 +1.2
baz=219
G15K Niukluk 83.27 4 P P 09 26 07.4 +1.7
baz=188
O20A White River Ci 83.27 44 IAmb IAmb 09 26 09.3
comp=Z,9.6nm,0.8s
TRF Thorofare Moun 83.28 10 P P 09 26 06.1 0.0
baz=201
TPAW Teton Pass 83.30 40 IAmb IAmb 09 26 18.1
comp=Z,14nm,1.1s
DLMT Dillon 83.36 38 IAmb IAmb 09 26 10.1
comp=Z,12nm,0.9s
CHUM Lake Minchumin 83.38 9 P P 09 26 07.1 +0.7
baz=199
J20K Nowinta River 83.41 8 IAmb IAmb 09 26 10.4
comp=Z,14nm,1.2s
J20K Nowinta River 83.41 8 P P 09 26 07.5 +1.1
baz=198,SNR=7.0
SNOW Snow King Moun 83.41 40 IAmb IAmb 09 26 10.5
comp=Z,13nm,0.9s
MSO Missoula 83.42 36 IAmb IAmb 09 26 10.3
comp=Z,16nm,1.5s
DHY Denali Highway 83.44 11 IAmb IAmb 09 26 12.7
comp=Z,18nm,1.5s
DHY Denali Highway 83.44 11 P P 09 26 07.8 +1.0
baz=204
RND Reindeer 83.48 10 IAmb IAmb 09 26 10.6
comp=Z,12nm,1.0s
YUK8 Steele Glacier 83.49 15 P P 09 26 07.9 +0.6
baz=211
H17K Granite Mounta 83.51 5 P P 09 26 08.1 +1.1
baz=192
YUK6 Outpost Mounta 83.56 16 P P 09 26 07.9 +0.3
baz=212
LOHW Long Hollow 83.58 40 IAmb IAmb 09 26 11.2
comp=Z,9.6nm,1.1s
GCSA Galena City Sc 83.63 7 P P 09 26 08.4 +0.9
baz=195
F14K Arctic Creek 83.63 3 P P 09 26 08.1 +0.5
baz=186
TNA Tin City 83.66 2 P P 09 26 08.6 +0.9
baz=184
HYT Haines Junctio 83.69 16 IAmb IAmb 09 28 25.4
comp=Z,14nm,1.3s
HYT Haines Junctio 83.69 16 P P 09 26 09.0 +0.9
baz=213
Q32M Nakina River 83.70 20 P P 09 26 09.4 +1.0
baz=218
PAX Paxson 83.71 12 IAmb IAmb 09 27 46.4
comp=Z,37nm,2.0s
PAX Paxson 83.71 12 P P 09 26 08.6 +0.5
baz=206
M26K Nabesna, AK 83.71 13 IAmb IAmb 09 26 12.0
comp=Z,23nm,1.2s
M26K Nabesna, AK 83.71 13 P P 09 26 08.7 +0.5
baz=208
P32M Atlin 83.75 19 P P 09 26 09.7 +1.3
baz=217
MCK McKinley 83.77 10 IAmb IAmb 09 26 11.8
comp=Z,14nm,1.2s
MCK McKinley 83.77 10 P P 09 26 09.3 +0.9
baz=202
G16K Koyuk River 83.77 4 P P 09 26 09.0 +0.7
baz=190
PD31 Pinedale Array 83.78 41 IAmb IAmb 09 26 11.8
comp=Z,9.4nm,0.8s
PDAR Pinedale Array 83.78 41 P P 09 26 08.8 -0.4
comp=Z,11nm,0.9s,baz=207,slow=2.7,SNR=69

PDAR LR LR 09 59 37.5
comp=Z,261nm,18.1s,baz=230,slow=33
comp=Z,11nm,0.9s
BPAW Bear Paw Mtn. **83.78 9** P **P** **09 26 10.4 +1.9**
baz=200
YPP Pitchstone Pla **83.81 39** IAmb IAmb 09 26 28.7
comp=Z,17nm,1.6s
YUK4 Talbot Arm **83.83 16** P **P** **09 26 10.6 +1.6**
baz=212
YHB Horse Butte **83.84 39** IAmb IAmb 09 26 13.2
comp=Z,18nm,1.0s
H18K Honhosa River **83.87 6** P **P** **09 26 10.0 +1.1**
baz=194
YFT Old Faithful **83.89 39** IAmb IAmb 09 26 14.2
comp=Z,12nm,1.1s
CN2 Changchun **83.90 320** *e*P **P** **09 26 10.8 +1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
M27K Edge Creek, AK **83.92 14** P **P** **09 26 10.4 +1.1**
baz=209
YMR Madison River **83.94 39** IAmb IAmb 09 26 15.1
comp=Z,13nm,0.8s
F15K North Star Dit **83.94 3** P **P** **09 26 10.3 +1.1**
baz=188
CMIG Matias Romero **83.95 70** LR LR 09 57 23.0
comp=Z,604nm,18.1s,baz=234,slow=31
I20K Naaghedeneel **83.96 8** P **P** **09 26 10.1 +0.8**
baz=197
G17K Kiwalik Mounta **84.01 5** P **P** **09 26 10.2 +0.7**
baz=191
O30N Mendenhall **84.03 17** IAmb IAmb 09 26 13.3
comp=Z,12nm,1.0s
O30N Mendenhall **84.03 17** P **P** **09 26 11.2 +1.4**
baz=214,SNR=5.6
DLBC Dease Lake **84.03 21** P **P** **09 26 09.6 -0.3**
comp=Z,45nm,0.9s,baz=177,slow=4.6,SNR=7.4
DLBC LR LR 09 59 45.7
comp=Z,1µm,18.4s,baz=205,slow=33
comp=Z,45nm,0.9s
DLBC Dease Lake **84.03 21** P **P** **09 26 11.4 +1.5**
baz=220
BOZ Bozeman (W) **84.05 38** IAmb IAmb 09 26 13.6
comp=Z,12nm,0.9s
HAYD Hayden **84.11 44** IAmb IAmb 09 26 14.2
comp=Z,9.6nm,1.0s
YNR Norris Junctio **84.13 39** IAmb IAmb 09 26 18.1
comp=Z,7.5nm,0.9s
L26K Log Cabin Wild **84.19 13** IAmb IAmb 09 26 14.5
comp=Z,14nm,1.2s
L26K Log Cabin Wild **84.19 13** P **P** **09 26 11.8 +1.2**
baz=208,SNR=7.5
WHY Whitehorse **84.28 18** P **P** **09 26 12.3 +1.1**
baz=216
833A Chaparral WMA, **84.40 58** IAmb IAmb 09 26 16.1
comp=Z,19nm,1.2s
K24K Donnelly Dome **84.40 12** P **P** **09 26 12.7 +1.1**
baz=205
H19K Roundabout Mou **84.43 7** IAmb IAmb 09 26 28.3
comp=Z,39nm,1.9s
H19K Roundabout Mou **84.43 7** P **P** **09 26 12.9 +1.3**
baz=195
YMP Mirror Lake Pl **84.46 39** IAmb IAmb 09 26 30.1
comp=Z,27nm,1.6s
R33M Jennings River **84.46 20** IAmb IAmb 09 26 23.8
comp=Z,30nm,1.8s
R33M Jennings River **84.46 20** P **P** **09 26 13.2 +1.0**
baz=219
P33M Teslin, Yukon **84.53 19** P **P** **09 26 13.2 +0.8**
baz=218
RIDG Independent Ri **84.53 12** IAmb IAmb 09 26 15.9
comp=Z,19nm,1.3s
RIDG Independent Ri **84.53 12** P **P** **09 26 13.6 +1.3**
baz=206,SNR=5.3
SGCY Sterling City **84.53 54** IAmb IAmb 09 26 17.4
comp=Z,10nm,1.0s
NEA2 Nenana **84.55 10** P **P** **09 26 13.7 +1.3**
baz=202
L27K Beaver Creek, **84.55 13** IAmb IAmb 09 26 16.2
comp=Z,17nm,1.6s
L27K Beaver Creek, **84.55 13** P **P** **09 26 13.4 +1.0**
baz=209
BCAR Beaver Creek A **84.57 13** **P** **09 26 12.5 0.0**
G18K Tagagawik **84.57 6** P **P** **09 26 12.9 +0.5**
baz=193
H20K Anotleneega Mo **84.58 7** P **P** **09 26 14.7 +2.2**
baz=197,SNR=5.2
DOT Dot Lake **84.60 12** IAmb IAmb 09 26 16.2
comp=Z,22nm,1.2s
I21K Tanana **84.66 9** P **P** **09 26 14.7 +1.9**
baz=200
YNE Yellowstone No **84.69 39** IAmb IAmb 09 26 17.3
comp=Z,15nm,1.1s
MLY Manley **84.70 9** IAmb IAmb 09 26 16.1
comp=Z,12nm,1.2s
MLY Manley **84.70 9** P **P** **09 26 14.9 +1.8**
baz=201,SNR=6.3
N31M Braeburn, Yuko **84.70 17** IAmb IAmb 09 26 19.2
comp=Z,22nm,1.2s
N31M Braeburn, Yuko **84.70 17** P **P** **09 26 14.9 +1.7**
baz=215
POST Post **84.74 53** IAmb IAmb 09 26 18.0
comp=Z,13nm,0.9s
HDA Harding Lake **84.74 11** IAmb IAmb 09 26 16.6
comp=Z,13nm,1.1s
HDA Harding Lake **84.74 11** P **P** **09 26 15.3 +2.0**
baz=204,SNR=6.2
M29M Somme Creek **84.81 15** IAmb IAmb 09 26 17.0
comp=Z,9.8nm,1.0s
M29M Somme Creek **84.81 15** P **P** **09 26 15.2 +1.4**
baz=212
QIZ Qiongzhong **84.86 292** P **P** **09 26 17.0 +2.1**
QIZ S **S** **09 36 47.8 +3.9**
QIZ SS **SS** **09 42 15.3 -1.4**
QIZ pmax pmax
comp=Z,260nm,6.3s
QIZ LR LR
comp=Z,300nm,19.8s
QIZ LR LR
comp=Z,360nm,18.7s
QIZ LR LR
comp=Z,820nm,26.5s
F17K Baldwin Pennin **84.89 4** P **P** **09 26 15.6 +1.7**
baz=191
SCRK Sand Creek **84.91 12** P **P** **09 26 16.0 +1.7**
baz=207,SNR=6.6
G19K Purcell Mounta **84.96 6** IAmb IAmb 09 26 29.9
comp=Z,9.8nm,1.1s
G19K Purcell Mounta **84.96 6** P **P** **09 26 16.5 +2.1**
baz=195
H21K Melozitna Rive **85.00 8** P **P** **09 26 16.4 +1.9**
baz=199,SNR=6.4
COLA College **85.01 10** P **P** **09 26 14.6 +0.1**
COLA College **85.01 10** *i* P **P** **09 26 15.2 +0.6**
COLA pmax pmax
comp=Z,16nm,1.0s
COLA College **85.01 10** P **P** **09 26 16.0 +1.4**
baz=203
IL31 **85.08 11** IAmb IAmb 09 26 19.1
comp=Z,17nm,1.4s
ILAR Eielson Array **85.08 11** P **P** **09 26 14.8 -0.1**
comp=Z,2.3nm,0.6s,baz=215,slow=5.3,SNR=47
ILAR LR LR 09 57 19.7
comp=Z,118nm,21.4s,baz=193,slow=31
comp=Z,2.3nm,0.6s
F18K Selawik **85.17 5** P **P** **09 26 17.0 +1.7**
baz=192
IMAR Indian Mountai **85.19 8** P **P** **09 26 16.5 +1.0**
N32M Quiet Lake **85.20 18** IAmb IAmb 09 26 19.0
comp=Z,17nm,1.1s
RLMT Red Lodge **85.20 39** IAmb IAmb 09 26 20.1
comp=Z,15nm,1.4s
J25K Salcha River, **85.21 11** IAmb IAmb 09 26 19.4
comp=Z,18nm,1.3s
J25K Salcha River, **85.21 11** P **P** **09 26 16.8 +1.0**
baz=206,SNR=9.6
POKR Poker Plat Res **85.31 10** P **P** **09 26 17.2 +1.1**
baz=204
M30M Minto, Yukon **85.34 16** IAmb IAmb 09 26 19.4
comp=Z,10.0nm,1.1s
M30M Minto, Yukon **85.34 16** P **P** **09 26 17.9 +1.5**
baz=214,SNR=6.0
K27K Chicken **85.35 13** IAmb IAmb 09 26 20.8
comp=Z,19nm,1.3s
K27K Chicken **85.35 13** P **P** **09 26 17.1 +0.8**
baz=209
MAW Mawson **85.37 198** P **P** **09 26 14.1 -2.5**
comp=Z,7.3nm,0.7s,baz=144,slow=9.2,SNR=8.3
MAW LR LR 10 00 12.8
comp=Z,148nm,21.8s,baz=120,slow=33
comp=Z,7.3nm,0.7s
H22K Ishtalitna Cre **85.42 8** P **P** **09 26 17.3 +0.6**
baz=200,SNR=9.3
DKNS Dickens **85.43 52** IAmb IAmb 09 26 21.5
comp=Z,21nm,1.1s
L29M L29M **85.45 15** P **P** **09 26 17.9 +0.9**
baz=212,SNR=14
J26L Joseph Creek **85.46 12** IAmb IAmb 09 26 21.4
comp=Z,17nm,0.9s
J26L Joseph Creek **85.46 12** P **P** **09 26 17.5 +0.5**
baz=207,SNR=13
E17K Hotham Inlet **85.48 4** P **P** **09 26 17.9 +1.0**
baz=190
SEY Seymchan **85.54 345** P **P** **09 26 18.0 +0.7**
comp=Z,5.7nm,1.0s,baz=193,slow=7.5,SNR=6.2
SEY LR LR 09 59 57.9
comp=Z,187nm,20.9s,baz=152,slow=32
comp=Z,5.7nm,1.0s
SEY Seymchan **85.54 345** *e*P **P** **09 26 18.5 +1.2**
SEY pmax pmax
comp=Z,15nm,1.6s
F19K Shaleruckik Mo **85.57 6** IAmb IAmb 09 26 32.6
comp=Z,25nm,1.5s
F19K Shaleruckik Mo **85.57 6** P **P** **09 26 17.5 +0.2**
baz=194
M31M Drury Creek, Y **85.67 17** IAmb IAmb 09 27 10.0
comp=Z,26nm,1.8s
M31M Drury Creek, Y **85.67 17** P **P** **09 26 19.0 +0.9**
baz=216
WTLY Watson Lake, Y **85.72 20** IAmb IAmb 09 26 23.4
comp=Z,37nm,1.9s
WTLY Watson Lake, Y **85.72 20** P **P** **09 26 19.1 +0.8**
baz=221
G21K Allakaket **85.73 7** IAmb IAmb 09 26 23.1
comp=Z,33nm,1.7s
G21K Allakaket **85.73 7** P **P** **09 26 18.9 +0.7**
baz=198
H24K Noodor Dome **85.89 10** P **P** **09 26 20.0 +0.9**
baz=203
E18K Tukpahlearik C **85.90 5** IAmb IAmb 09 26 33.2
comp=Z,9.9nm,1.1s
E18K Tukpahlearik C **85.90 5** P **P** **09 26 19.8 +0.8**
baz=191
BRDY Brady **85.92 55** IAmb IAmb 09 26 23.6
comp=Z,24nm,1.2s
ABTX Abilene, Hawle **85.97 54** P **P** **09 26 20.5 +0.3**
DAWY Dawson **85.97 14** P **P** **09 26 20.3 +0.8**
baz=211,SNR=15
F20K Avaraart Lake **85.98 6** P **P** **09 26 20.1 +0.8**
baz=196
D17K Noatak River **86.01 4** P **P** **09 26 20.8 +1.3**
baz=189
TOAD Toad River Com **86.02 22** P **P** **09 26 20.4 +0.5**
baz=224,SNR=9.7
LIRD Liard River Hi **86.12 22** P **P** **09 26 21.6 +1.4**
baz=224
EGAK Eagle **86.20 13** IAmb IAmb 09 26 24.4
comp=Z,18nm,1.1s
EGAK Eagle **86.20 13** P **P** **09 26 22.0 +1.4**
baz=210,SNR=11
K29M Barlow Dome **86.22 15** IAmb IAmb 09 26 25.1
comp=Z,29nm,1.4s
K29M Barlow Dome **86.22 15** P **P** **09 26 22.1 +1.2**
baz=213,SNR=11
E19K Redstone River **86.23 6** IAmb IAmb 09 26 35.4
comp=Z,11nm,0.9s
E19K Redstone River **86.23 6** P **P** **09 26 21.5 +0.9**
baz=194
G22K Bettles **86.37 8** P **P** **09 26 22.4 +1.1**
baz=200
RDOG Red Dog Mine **86.37 4** P **P** **09 26 22.0 +0.7**
baz=189
G23K Bananza Creek **86.38 9** P **P** **09 26 22.8 +1.3**
baz=201
F21K Alatna River **86.41 7** P **P** **09 26 22.7 +1.1**
baz=198
C16K Lisburne Hills **86.47 3** P **P** **09 26 23.1 +1.4**
baz=187
J29N Klondike Camp **86.57 14** P **P** **09 26 23.9 +1.4**
baz=212
H25L Birch Creek **86.63 10** P **P** **09 26 24.3 +1.7**
baz=205
G24K Hadweenzic Riv **86.75 10** P **P** **09 26 25.0 +1.7**
baz=204
C17K DeLong Mountai **86.78 3** P **P** **09 26 24.6 +1.3**
baz=189
I27K Kandik River **86.83 12** P **P** **09 26 24.7 +1.0**
baz=209
COLD Coldfoot **86.84 8** P **P** **09 26 24.9 +1.3**
baz=201
F22K John River **86.84 8** P **P** **09 26 24.4 +0.8**
baz=199
PLCA Paso Flores **86.88 132** P **P** **09 26 23.6 -1.1**
comp=Z,3.7nm,0.9s,baz=252,slow=2.7,SNR=5.4
PLCA LR LR 09 56 52.5
comp=Z,658nm,20.6s,baz=234,slow=30
comp=Z,3.7nm,0.9s
MMPY Sheldon Lake, **86.89 18** IAmb IAmb 09 26 28.3
comp=Z,12nm,1.4s
MMPY Sheldon Lake, **86.89 18** P **P** **09 26 25.0 +0.9**
baz=219
TGTN Hyland Airport **86.96 20** P **P** **09 26 26.1 +1.7**
baz=222
G25K Bearman Lake **87.04 10** P **P** **09 26 26.7 +2.1**
baz=205
I28M Miner Creek **87.04 13** IAmb IAmb 09 26 30.7
comp=Z,10nm,1.1s
I28M Miner Creek **87.04 13** P **P** **09 26 26.7 +1.9**
baz=211
C18K Utukok River **87.07 4** P **P** **09 26 26.9 +2.0**
baz=191
E20K Nigu River **87.11 6** P **P** **09 26 27.4 +2.4**
baz=196
J30M Hart River **87.12 15** P **P** **09 26 26.8 +1.5**
baz=214
D19K Kuna River **87.16 5** P **P** **09 26 27.5 +2.3**
baz=194
I29M Ogilvie Camp, **87.32 14** P **P** **09 26 28.0 +1.9**
baz=212,SNR=7.7
KOTAN Kotaneelee Air **87.36 22** P **P** **09 26 27.8 +1.5**
baz=225
H27K Steamboat Moun **87.40 12** IAmb IAmb 09 26 37.4
comp=Z,13nm,1.2s
H27K Steamboat Moun **87.40 12** P **P** **09 26 28.2 +1.7**
baz=209,SNR=6.4
F24K Squaw Lake **87.44 9** P **P** **09 26 28.3 +1.6**
baz=203
E22K Anaktuvuk Pass **87.48 8** P **P** **09 26 28.0 +1.3**
baz=200
BILL Bilibino **87.48 352** *i* P **P** **09 26 27.7 +1.0**
BILL pmax pmax
comp=Z,10.0nm,1.2s
WMOK Wichita Mounta **87.49 52** IAmb IAmb 09 26 31.1
comp=Z,9.9nm,1.3s
D20K Etivluk River **87.51 6** P **P** **09 26 28.5 +1.6**
baz=195
E21K Killik River **87.52 7** P **P** **09 26 28.9 +2.0**
baz=198
G26K Porcupine Rive **87.61 11** IAmb IAmb 09 26 31.9
comp=Z,23nm,1.3s
G26K Porcupine Rive **87.61 11** P **P** **09 26 28.6 +1.3**
baz=207,SNR=8.6
C19K Lookout Ridge **87.64 5** P **P** **09 26 29.8 +2.3**
baz=192
I30M Mount Dempster **87.65 14** P **P** **09 26 29.5 +1.7**
baz=214,SNR=12
E23K Chandalar **87.70 8** P **P** **09 26 29.3 +1.4**
baz=202
B18K Kokolik River **87.74 4** P **P** **09 26 30.3 +2.3**
baz=190
F25K Christian Rive **87.87 10** IAmb IAmb 09 28 37.7
comp=Z,26nm,1.9s
F25K Christian Rive **87.87 10** P **P** **09 26 29.6 +0.9**
baz=205
E24K Your Creek **87.87 9** P **P** **09 26 29.4 +0.7**
baz=203
G27K Doyon Strip **87.88 12** P **P** **09 26 30.1 +1.4**
baz=209
HKT Hockley **87.90 58** *i* P **P** **09 26 30.5 +1.0**
HKT pmax pmax
comp=Z,23nm,1.4s
RSSD Black Hills **87.94 42** **P** **09 26 29.9 +0.1**
RSSD IAmb IAmb 09 26 31.7
comp=Z,11nm,1.1s
RSSD Black Hills **87.94 42** P **P** **09 26 29.9 +0.1**
RSSD pmax pmax
comp=Z,11nm,1.1s
H29M Whitestone **88.04 13** P **P** **09 26 30.4 +1.0**
baz=212
HNS HongShan **88.05 310** ⇓P **P** **09 26 34.6 +4.4**
HNS pmax pmax
comp=Z,10.0nm,1.5s
HNS LR LR
comp=Z,530nm,18.2s
HNS LR LR
comp=Z,680nm,21.1s
D22K Ayikyak River **88.08 7** P **P** **09 26 30.5 +0.9**
baz=199
C21K Knifeblade Rid **88.11 6** P **P** **09 26 30.6 +0.8**
baz=197
BJT Baijiatuau **88.13 313** P **P** **09 26 30.3 -0.2**
BJT Baijiatuau **88.13 313** P **P** **09 26 30.3 -0.2**
BJT pmax pmax
comp=Z,39nm,1.8s
BJI Beijing **88.14 313** P **P** **09 26 31.5 +1.0**
BJI SKS **SKSac** **09 36 57.6 -1.7**
BJI sS **ScS** **09 37 22.1 +1.1**
BJI pmax pmax
comp=Z,5.0nm,1.6s
BJI pmax pmax
comp=Z,130nm,4.7s
BJI LR LR
comp=Z,120nm,16.1s
BJI LR LR
comp=Z,95nm,19.9s
BJI LR LR
comp=Z,250nm,20.2s
F26K Sheenjek River **88.21 10** P **P** **09 26 31.3 +1.0**
baz=207
TOLK Toolik Lake Re **88.25 8** P **P** **09 26 31.1 +0.7**
baz=202
E25K Arctic Village **88.36 10** P **P** **09 26 31.7 +0.7**
baz=206
ZEA Zeya **88.38 329** *e*P **P** **09 26 34.7 +3.4**
ZEA *e* 09 37 10.5
ZEA pmax pmax
comp=Z,10.0nm,1.4s
D23K Nanushuk River **88.41 8** P **P** **09 26 32.2 +1.1**
baz=201
EPYK Eagle Plains **88.53 14** IAmb IAmb 09 26 34.4
comp=Z,19nm,1.4s
EPYK Eagle Plains **88.53 14** P **P** **09 26 32.7 +0.9**
baz=214
LYN LuoYang **88.56 307** P **P** **09 26 37.0 +4.4**
LYN pmax pmax
comp=Z,27nm,1.0s
B21K Ikpikpuk River **88.58 6** P **P** **09 26 33.0 +1.1**
baz=197
A19K Wainwright **88.61 4** P **P** **09 26 33.5 +1.4**
baz=191
H31M Peel River **88.61 15** P **P** **09 26 33.7 +1.5**
baz=216
G29M Pine Creek **88.70 13** P **P** **09 26 34.2 +1.6**
baz=212
B20K Meade River **88.72 5** P **P** **09 26 33.8 +1.3**
baz=195
D24K Happy Valley **88.83 8** P **P** **09 26 33.7 +0.6**
baz=202
F28M Old Crow **88.92 12** P **P** **09 26 34.9 +1.3**
baz=211
E27K Coleen River **89.10 11** P **P** **09 26 35.9 +1.5**
baz=209
G30M tAoh Zraii Nji **89.15 13** P **P** **09 26 35.7 +1.0**
baz=214
C23K Itkillik River **89.23 7** P **P** **09 26 36.4 +1.4**
baz=201
D25K Kavik River **89.33 9** P **P** **09 26 36.9 +1.3**
baz=205
C24K Franklin Bluff **89.37 8** P **P** **09 26 37.3 +1.7**
baz=202
B22K Teshekpuk Lake **89.39 6** P **P** **09 26 37.5 +1.8**
baz=198
OK052 Battle Ridge R **89.47 52** IAmb IAmb 09 26 40.9
comp=Z,15nm,1.1s
G31M Satah River **89.54 14** IAmb IAmb 09 26 39.0
comp=Z,13nm,0.9s
G31M Satah River **89.54 14** P **P** **09 26 38.4 +1.9**
baz=216
PSI Prapat **89.61 273** LR LR 10 08 33.3
comp=Z,151nm,19.5s,baz=142,slow=37
WRGLY Wrigley **89.74 20** P **P** **09 26 39.4 +2.0**
baz=226
F30M Barrier River **89.77 13** P **P** **09 26 39.7 +2.2**
baz=215
TIY Taiyuan **89.83 310** P **P** **09 26 42.9 +4.2**
TIY S **S** **09 37 22.5 -8.6**
TIY pmax pmax
comp=Z,300nm,6.7s
TIY LR LR
comp=Z,210nm,14.4s
TIY LR LR
comp=Z,310nm,21.3s
TIY LR LR
comp=Z,330nm,19.2s
E28M Babbage River **89.84 11** P **P** **09 26 40.2 +2.3**
baz=211
TROLL Troll, Antarti **89.87 178** ⇑P **P** **09 26 36.7 -1.7**
comp=Z,413nm,0.8s
A22K Sinclair Lake **89.88 6** P **P** **09 26 40.1 +2.2**
baz=197
DGMT Dagmar **89.89 38** IAmb IAmb 09 26 42.6
comp=Z,13nm,1.1s
VNA3 Neumayer Olymp **89.91 174** ⇑P **P** **09 26 36.4 -2.0**
comp=Z,4.5nm,0.6s
SYO Syowa Base **89.97 191** ⇓*e*P **P** **09 26 36.3 -2.4**
SYO Syowa Base **89.97 191** ⇑*e*PcP **P** **09 26 38.4 -0.3**
SYO Syowa Base **89.97 191** ⇑*e*pP pP 09 26 41.0 +1.3
E29M Blow River **89.98 12** IAmb IAmb 09 27 02.8
comp=Z,14nm,1.5s
E29M Blow River **89.98 12** P **P** **09 26 40.7 +2.2**
baz=213
SNAA Sanae **89.99 177** ⇑P **P** **09 26 36.9 -2.0**
comp=Z,115nm,0.8s
SNAA Sanae **89.99 177** P **P** **09 26 37.7 -1.2**
SNAA Sanae **89.99 177** P **P** **09 26 36.9 -2.0**
comp=Z,4.4nm,0.7s,baz=215,slow=4.0,SNR=11
SNAA LR LR 10 03 51.7
comp=Z,300nm,19.4s,baz=261,slow=34
comp=Z,4.4nm,0.7s
SNAA Sanae **89.99 177** *i* P **P** **09 26 37.1 -1.7**
SNAA pmax pmax
comp=Z,8.0nm,0.9s
C27K Jago River **90.01 10** P **P** **09 26 40.7 +2.1**
baz=207
A21K Barrow **90.04 5** P **P** **09 26 40.4 +1.7**
baz=195
T35A Sooner Cattle **90.05 51** IAmb IAmb 09 26 42.6
comp=Z,10nm,1.0s
F31M Tsiigehtchic **90.08 14** P **P** **09 26 41.2 +2.2**
baz=216
C26K Camden Bay **90.09 9** P **P** **09 26 40.5 +1.5**
baz=206
D27M Malcolm River **90.14 11** P **P** **09 26 41.8 +2.4**
baz=210
GYA Guiyang **90.23 298** ⇓P **P** **09 26 41.4 +0.6**
GYA pmax pmax
comp=Z,18nm,0.7s
VNA2 Neumayer--Watz **90.41 175** ⇑P **P** **09 26 39.8 -0.9**
comp=Z,17nm,0.6s,baz=184,slow=4.3
VNA1 Neumayer--Stat **90.61 175** ⇑P **P** **09 26 39.3 -2.3**
comp=Z,6.6nm,0.8s
D28M Stokes Point **90.62 11** P **P** **09 26 44.0 +2.6**
baz=212
JTS Las Juntas de **90.78 79** LR LR 09 59 57.8
comp=Z,758nm,18.1s,baz=256,slow=31
INK Inuvik **90.83 13** IAmb IAmb 09 26 53.3
comp=Z,17nm,1.4s
INK Inuvik **90.83 13** LR LR 10 05 54.6
comp=Z,178nm,18.2s,baz=226,slow=34
INK Inuvik **90.83 13** P **P** **09 26 44.9 +2.4**
baz=217
XAN Xi'an **91.08 305** ⇑P P 09 26 51.4 +6.9
XAN pmax pmax
comp=Z,16nm,1.6s
XAN pmax pmax
comp=Z,740nm,4.7s
U38A Gravette **91.45 52** IAmb IAmb 09 26 49.1
comp=Z,13nm,1.1s
NNA Nana **91.47 103** LR LR 09 59 44.5
comp=Z,373nm,19.8s,baz=250,slow=30
ATAH Atahualpa **91.57 98** LR LR 09 59 44.1
comp=Z,565nm,18.2s,baz=244,slow=30
HHC Hu-ho-hao-te **91.68 313** *e*P **P** **09 26 46.8 -0.4**
HHC S **S** **09 37 44.8 -3.2**

HHC sS ScS 09 37 56.8 +6.1
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,200nm,4.3s
HHC LR LR
comp=Z,180nm,14.3s
HHC LR LR
comp=Z,190nm,14.5s
HHC LR LR
comp=Z,210nm,15.1s
SIUN Universidad Ur 92.02 76 IAmb IAmb 09 26 51.8
comp=Z,11nm,1.4s
CFA Coronel Fontan 92.05 124 LR LR 09 58 36.0
comp=Z,472nm,21.3s,baz=252,slow=29
YAK Yakutsk 92.13 336 LR LR 10 01 46.2
comp=Z,137nm,21.9s,baz=131,slow=31
YAK Yakutsk 92.13 336 *i* P **P 09 26 49.9 +1.3**
YAK pmax pmax
comp=Z,14nm,0.6s
YKA Yellowknife Ar 92.36 23 LR LR 10 04 15.9
comp=Z,128nm,18.4s,baz=250,slow=33
FCAR Ozark Folk Cen 92.96 53 IAmb IAmb 09 26 56.0
comp=Z,12nm,1.2s
P38A Dawn 93.23 49 IAmb IAmb 09 26 56.5
comp=Z,13nm,1.1s
C36M Paulatuk 93.87 15 P **P 09 26 58.8 +2.3**
baz=225
P40A Paris 94.28 50 IAmb IAmb 09 27 01.3
comp=Z,8.3nm,0.9s
PZH PanZhiHua 94.41 296 P **P 09 27 02.5 +2.3**
CMAR Chiang Mai Arr 94.42 288 P **P 09 27 01.8 +1.5**
comp=Z,5.7nm,1.1s,baz=103,slow=2.7,SNR=16
CMAR LR LR 10 05 16.3
comp=Z,236nm,21.5s,baz=105,slow=33
comp=Z,5.7nm,1.1s
A36M Sachs Harbour 95.47 13 P **P 09 27 06.2 +2.4**
baz=224
ULM Lac du Bonnet 95.57 39 LR LR 10 05 47.0
comp=Z,668nm,19.2s,baz=228,slow=33
LZH Lanzhou 95.69 306 *e*P **P 09 27 07.3 +1.4**
LZH pP pwP 09 27 13.4 -2.3
LZH pmax pmax
comp=Z,35nm,1.3s
I40A Norwalk 96.73 46 IAmb IAmb 09 27 12.2
comp=Z,7.6nm,1.0s
SONM Songino Array 97.62 318 LR LR 10 07 21.8
comp=Z,114nm,21.8s,baz=124,slow=33
LPAZ La Paz 97.93 110 LR LR 10 01 26.0
comp=Z,758nm,21.0s,baz=272,slow=29
TIXI Tiksi 98.03 344 LR LR 10 07 35.9
comp=Z,228nm,20.9s,baz=139,slow=33
ROSC El Rosal 99.16 88 LR LR 10 02 22.8
comp=Z,178nm,20.9s,baz=228,slow=30
TKL Tuckaleechee C 99.35 56 LR LR 10 06 49.5
comp=Z,314nm,19.5s,baz=244,slow=32
WMQ Urumqi 109.48 311 Pdif **Pdif 09 28 07.9 +0.8**
WMQ LR LR
comp=Z,200nm,23.5s
MKAR Makanchi Array 113.51 314 PKiKP **PKiKP 09 32 17.7 -0.2**
comp=Z,0.9nm,0.6s,baz=0.0,slow=0.1,SNR=7.1
KURK Kurchatov 115.92 318 PKIKP **PKPdf 09 32 21.9 -0.4**
KURBB Kurchatov Arra 115.99 318 PKP **PKPdf 09 32 21.9 -0.5**
comp=Z,0.8nm,0.5s,baz=92,slow=1.8,SNR=7.0
KURBB PP **PP 09 33 28.2 +1.4**
comp=Z,0.2nm,0.4s,baz=91,slow=6.2,SNR=4.4
KURBB PKKPbc **PKKPbc 09 42 52.4 -2.2**
comp=Z,0.6nm,0.6s,baz=266,slow=4.8,SNR=4.1
SPITS Spitsbergen Ar 119.92 358 PKP **PKPdf 09 32 29.6 +0.3**
comp=Z,4.3nm,0.8s,baz=104,slow=4.6,SNR=1.6
BVAR Borovoye Array 120.73 321 PKP **PKPdf 09 32 31.9 +0.3**
comp=Z,3.0nm,0.6s,baz=90,slow=1.5,SNR=12
ARTI Arti 126.39 328 *i* PKIKP **PKPdf 09 32 42.5 +0.2**
ARTI 09 34 37.5
ARTI 09 39 53.6
ARCES ARCESS Array B 127.58 352 PKP **PKPdf 09 32 43.8 -0.4**
comp=Z,3.9nm,0.8s,baz=34,slow=2.7,SNR=6.2
BELG Belogornoye 133.81 327 *i* PKIKP **PKPdf 09 32 56.5 +0.1**
BELG pmax pmax
comp=Z,2.0nm,1.0s
FINES FINESS Array B 134.95 348 PKP **PKPdf 09 32 58.8 +0.5**
comp=Z,3.0nm,0.8s,baz=48,slow=2.8,SNR=5.0
OBN Obninsk 137.12 336 ||*e*PKIKP **PKPdf 09 33 01.4 -1.1**
OBN *e* 09 35 50.4
OBN *e*PPP PPP 09 38 45.3
OBN *e* 09 40 04.1
OBN *i* SSS SSS 09 59 08.3
OBN pmax pmax
comp=Z,6.0nm,0.8s
HFS Hagfors 137.97 355 PKP **PKPdf 09 33 04.4 +0.4**
comp=Z,4.4nm,1.0s,baz=37,slow=0.7,SNR=2.9
KBZ Khabaz 140.99 318 *i* PKIKP **PKPdf 09 33 09.6 -0.3**
KIV Kislovodsk 141.01 319 *i* PKIKP **PKPdf 09 33 09.2 -1.0**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,230nm,24.0s
SHA1 Shidzhatmaz 141.13 318 *i* PKIKP **PKPdf 09 33 10.1 -0.5**
SOC Sochi 143.04 320 *e*PKHKP PKPpre 09 33 09.0
SOC eSS SS 09 55 01.0 -1.0
SOC *e*SSS SSS 10 00 22.9
SOC MLR MLR
comp=Z,236nm,19.0s
AKASG Malin Array Be 143.36 337 PKP **PKPdf 09 33 14.4 +0.5**
comp=Z,1.4nm,0.5s,baz=36,slow=4.0,SNR=9.8
GURO Guroymak-BITLI 143.90 311 PKPbc 09 33 14.8 +1.5
RAYN Ar Rayn 144.28 285 PKPbc 09 33 15.6 +0.9
RAYN Ar Rayn 144.28 285 PKIKP PKPbc 09 33 15.6 +0.8
SIM Simferopol' 145.42 326 *e*PKIKP **PKPab 09 33 20.3 +2.4**
SIM pmax pmax
comp=Z,45nm,1.0s
MILM Milestii Mici 146.54 333 *e*PKP **PKPdf 09 33 20.0 +0.4**
comp=Z,420nm,5.4s
MILM Milestii Mici 146.54 333 *e*PKP2 **PKPdf 09 33 20.0 +0.4**
MILM pmax pmax
comp=Z,420nm,5.4s
OJC Ojcow 146.68 346 *e*PKP **PKPab 09 33 23.5 +1.1**
CLL Collm 146.78 354 *e*PKP2 **PKPab 09 33 23.0 +0.2**
CLL Collm 146.78 354 *e*PKPdf **PKPbc 09 33 22.0 +0.4**
CLL *i* PKPbc **PKPab 09 33 23.5 +0.7**
comp=Z,25nm,1.0s
CLL *i* PKiKP **PKiKP 09 33 26.3 +2.0**
CLL Lm MLR 10 43 00.0
comp=Z,200nm,20.1s
KSP Ksiaz 146.79 350 *e*PKP **PKPab 09 33 24.1 +1.3**
OSTC Ostas 147.08 350 *e*PKP2 **PKPab 09 33 25.2 +1.2**
OSTC MLR MLR
comp=Z,300nm,17.6s
OSTC Ostas 147.08 350 *e*PKP **PKPab 09 33 25.2 +1.2**
OSTC AMS AMS 10 38 20.0
comp=Z,300nm,17.6s
BRG Berggiesshubel 147.10 353 *i* PKP **PKPab 09 33 24.7 +0.6**
BRG Amp 09 33 25.5
comp=Z,13nm,0.9s
BRG Berggiesshubel 147.10 353 P **PKiKP 09 33 28.1 +3.1**
BRG Amp 09 33 28.5
comp=Z,8.3nm,0.8s
UPC Upice 147.16 350 AMS AMS 10 38 30.0
comp=Z,400nm,19.0s
DPC Dobruska-Polom 147.26 350 *e*PKP2 **PKPab 09 33 25.4 +0.6**
DPC MLR MLR
comp=Z,300nm,21.3s
DPC Dobruska-Polom 147.26 350 *e*PKP **PKPab 09 33 25.4 +0.6**
DPC AMS AMS 10 38 10.0
comp=Z,300nm,21.3s
NIE Niedzica 147.30 345 *e*PKP **PKiKP 09 33 26.4 +0.9**
PVCC Panska Ves 147.35 352 *e*PKP2 **PKPab 09 33 25.9 +0.8**
PVCC MLR MLR
comp=Z,200nm,18.4s
PVCC Panska Ves 147.35 352 *e*PKP **PKPab 09 33 25.9 +0.8**
PVCC AMS AMS 10 38 00.0
comp=Z,200nm,18.4s
STEB Steborice 147.39 348 *e*PKP **PKPab 09 33 25.7 +0.5**
KRLC Kraliky 147.44 349 *e*PKP2 **PKPab 09 33 26.0 +0.5**
KRLC Kraliky 147.44 349 *e*PKP **PKPab 09 33 26.0 +0.5**
UCC Uccle 147.46 4 *d*PKP **PKPbc 09 33 23.9 +0.4**
MORC Moravsky Berou 147.58 348 *e*PKP **PKPbc 09 33 23.4 -0.6**
MORC Moravsky Berou 147.58 348 ||P **PKPbc 09 33 25.3 +1.3**
MEM Membach 147.73 2 *d*PKP **PKPbc 09 33 25.4 +1.1**
BSTI Sart Tilman 147.74 2 *d*PKP **PKiKP 09 33 26.8 +0.5**
BTNL Ternell 147.75 2 *d*PKP **PKPbc 09 33 25.3 +0.9**
PRA Prague 147.82 352 AMS AMS 10 37 50.0
comp=Z,300nm,20.5s
PRU Pruhonice 147.89 352 *e*PKP2 **PKPbc 09 33 26.2 +1.5**
PRU MLR MLR
comp=Z,400nm,28.5s
PRU Pruhonice 147.89 352 *e*PKP **PKPbc 09 33 26.2 +1.5**
PRU AMS AMS 10 38 10.0
comp=Z,400nm,28.5s
BCLA Clavier 147.89 3 *d*PKP **PKPbc 09 33 24.6 -0.1**
BGES Gesves 147.91 3 *d*PKP **PKiKP 09 33 26.5 -0.1**
MAUC Maruska 147.92 347 *e*PKP **PKiKP 09 33 27.0 +0.2**
BMRD Maredsous 147.98 3 *d*PKP **PKiKP 09 33 27.1 +0.3**
BHOU Houvegnez 147.98 2 *d*PKP **PKiKP 09 33 27.6 +0.7**
BNN Bunyan 148.04 316 **PKPbc 09 33 26.5 +0.8**
RCHB Rochefort 148.15 3 *d*PKP **PKPbc 09 33 24.8 -0.6**
DOU Dourbes 148.17 4 *d*PKP **PKPbc 09 33 26.7 +1.2**
VRAC Vranov 148.21 349 *e*PKP **PKPbc 09 33 26.3 +0.7**
TPGR Topolog 148.31 331 ||P **PKiKP 09 33 28.7 +1.0**
ZVC Zvikov 148.47 352 AMS AMS 10 38 20.0
comp=Z,300nm,18.4s
KRUC Moravsky 148.49 349 *e*PKP **PKiKP 09 33 28.0 +0.1**
WLF Walferdange 148.68 2 *d*PKP **PKPbc 09 33 28.1 +1.3**
PSZ Piszkesteto 148.78 344 ||P **PKiKP 09 33 29.8 +1.1**
KHC Kasperske Hory 148.85 352 *e*PKP2 **PKPbc 09 33 28.4 +1.1**
KHC MLR MLR
comp=Z,400nm,22.8s
KHC Kasperske Hory 148.85 352 *e*PKP **PKPbc 09 33 28.4 +1.1**
KHC AMS AMS 10 38 30.0
comp=Z,400nm,22.8s
MARR Marisel-Cluj 148.93 339 ||P **PKiKP 09 33 29.2 +0.2**
DRGR 148.97 340 ||P **PKPbc 09 33 28.9 +1.1**
BRTR Keskin Array B 148.97 319 PKPbc **PKPbc 09 33 28.6 +0.6**
comp=Z,11nm,0.8s,baz=134,slow=2.4,SNR=38
MODS Modra-Piesok 148.97 347 *e*PKP2 **PKiKP 09 33 29.9 +0.9**
CKRC Cesky Krumlov 149.06 351 *e*PKP2 **PKiKP 09 33 29.4 +0.3**
CKRC MLR MLR
comp=Z,300nm,23.0s
CKRC Cesky Krumlov 149.06 351 *e*PKP **PKiKP 09 33 29.4 +0.3**
CKRC AMS AMS 10 39 50.0
comp=Z,300nm,23.0s
GERES GERESS Array B 149.12 352 PKPbc **PKPbc 09 33 29.1 +1.1**
comp=Z,5.3nm,0.8s,baz=29,slow=3.0,SNR=20
VOIR 149.28 336 ||P **PKiKP 09 33 30.5 +0.7**
ANTO Ankara 149.41 320 ||P **PKPdf 09 33 27.3 +2.7**
ARR Arges 149.50 336 ||P **PKiKP 09 33 31.6 +1.4**
CONA Conrad Observa 149.67 349 *i* PKiKP **PKPbc 09 33 30.5 +1.0**
comp=Z,31nm,1.5s,SNR=11
SIRR Siria 149.77 340 ||P **PKiKP 09 33 31.5 +0.8**
RONA Rosalia, Austr 149.81 348 *i* PKiKP **PKPbc 09 33 30.7 +0.9**
comp=Z,13nm,0.8s,SNR=6.1
MOA Molln 150.01 351 *e*PKiKP **PKiKP 09 33 31.5 +0.4**
comp=Z,4.2nm,0.7s
GZR Gura Zlata 150.16 338 ||P **PKPbc 09 33 31.6 +0.9**
BIOA Bad Ischl, Aus 150.26 352 *e*PKP **PKPbc 09 33 30.8 0.0**
comp=Z,8.2nm,0.9s
BZS Buzias 150.36 340 ||P **PKiKP 09 33 32.8 +0.9**
ARSA Arzberg 150.39 349 *e*PKP **PKPbc 09 33 31.2 +0.1**
comp=Z,2.2nm,0.5s
LESA Schwarzleotal 150.64 353 *e*PKiKP **PKPbc 09 33 32.7 +0.8**
comp=Z,16nm,1.2s
RETA Reutte 150.76 356 *e*PKP **PKPbc 09 33 32.4 +0.3**
comp=Z,23nm,1.7s
WATA Walderalm 150.84 354 *e*PKiKP **PKPbc 09 33 33.2 +0.8**
comp=Z,11nm,0.7s
MOTA Moosalm 150.88 355 *i* PKP **PKPbc 09 33 32.8 +0.3**
comp=Z,26nm,1.0s,SNR=6.3
KBA Koelnbreinsper 150.90 352 *e*pPKP **PKPbc 09 33 31.2 -1.3**
comp=Z,6.4nm,1.1s
WTTA Wattenberg 150.91 354 *i* PKiKP **PKPbc 09 33 33.4 +0.8**
comp=Z,21nm,0.6s,SNR=7.8
ELND Elena 150.96 332 ||P **PKPab 09 33 37.2 -2.8**
SQTA Sank Quirin 150.99 355 *e*PKP **PKPbc 09 33 32.0 -0.8**
comp=Z,13nm,0.8s
DAVA Damuels 151.02 357 *e*PKiKP **PKPbc 09 33 33.5 +0.7**
comp=Z,11nm,0.8s
SOKA Soboth 151.03 349 *e*PKP **PKPbc 09 33 32.8 0.0**
comp=Z,11nm,0.9s
MDVR Moldovita 151.06 339 ||P **PKiKP 09 33 34.2 +0.8**
MMAI Mount Meron Ar 151.07 306 PKPbc **PKPbc 09 33 33.4 +0.1**
comp=Z,5.0nm,0.7s,baz=79,slow=4.4,SNR=9.2
FETA Feichten 151.23 356 *e*PKP **PKPbc 09 33 33.5 +0.2**
comp=Z,13nm,0.9s
OBKA Obir 151.28 350 *e*PKP **PKPbc 09 33 33.0 -0.4**
comp=Z,4.2nm,0.9s
MYKA Terra Mystica 151.30 351 *e*PKiKP **PKiKP 09 33 34.4 +0.5**
comp=Z,7.2nm,0.7s
ABTA Abfaltersbach 151.33 353 *i* PKP **PKPbc 09 33 32.4 -1.1**
comp=Z,23nm,0.7s,SNR=8.4
FUORN Ofenpass-Fuorn 151.66 356 **PKPbc 09 33 35.0 +0.5**
STAL STALIGIAL 151.78 352 **PKPbc 09 33 35.0 +0.6**
TUE Stuetta 151.85 357 **PKPbc 09 33 35.6 +0.7**
BOVS Bovan 152.07 338 ||P **PKiKP 09 33 37.5 +2.0**
PMOZ Porto Moniz, M 153.44 52 eLR LR 10 35 58.1
PMOZ *i* IAMs_20 IAMs_20 10 37 40.4
comp=Z,201nm,20.0s
MVO Moncorvo 153.97 26 *e*PKPdf **PKPdf 09 33 33.8 +2.2**
MTE Manteigas 154.39 27 *e*LR LR 10 36 18.1
MTE *i* IAMs_20 IAMs_20 10 41 05.8
comp=Z,183nm,20.0s
PCBR Castelo Branco 154.87 28 *e*PKPdf **PKPdf 09 33 32.4 -0.3**
PMRV Marv??o 155.25 29 *e*PKPdf **PKPdf 09 33 35.3 +2.1**
PTEO Sao Teotonio 156.06 33 *e*PKPdf **PKPdf 09 33 37.6 +3.2**
PTEO *e*PKPab **PKPab 09 34 02.1 +0.4**
MORF Marmelete 156.28 34 *e*PKPdf **PKPdf 09 33 37.9 +3.2**
PCVE Castro Verde 156.35 32 *e*PKPdf **PKPdf 09 33 37.3 +2.6**
PBAR Barrancos 156.42 30 *e*PKPdf **PKPdf 09 33 36.2 +1.3**
ESDC Sonseca Array 156.45 23 PKP **PKPdf 09 33 35.7 +0.8**
comp=Z,1.3nm,1.0s,baz=358,slow=3.0,SNR=5.4
PBDV Barranco-do-Ve 156.71 33 *e*PKPdf **PKPdf 09 33 38.1 +2.8**
TORD Torodi Ar. Bea 172.36 131 **PKPdf 09 33 47.8 -1.7**
TORD **PKPab 09 35 13.6 -0.1**
TORD Torodi Ar. Bea 172.36 131 PKP **PKPdf 09 33 47.9 -1.7**
comp=Z,4.0nm,1.2s,baz=315,slow=0.4,SNR=9.7
TORD PKPab **PKPab 09 35 12.1 -1.6**
comp=Z,1.7nm,0.7s,baz=265,slow=3.7,SNR=7.5

IDC 20 09:18:49.0±4.2, 17°.75S×172°.88W, h0km, mb3.6/3, mbtmp3.6/3, MS3.8/1, Error ellipse: s-maj=303.7km s-min=37.1km az=152.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**12.34**	**201**	LR		LR		09 25 50.1	
	comp=Z,470nm,19.2s,baz=77,slow=34								
WRA	**Warramunga Arr**	**49.83**	**259**	P		P		09 27 44.3	+0.1
	0.4nm,0.4s,baz=97,slow=7.6,SNR=8.4								
	0.4nm,0.4s								
ASAR	**Alice Springs**	**49.90**	**254**	P		P		09 27 44.4	-0.3
	0.6nm,0.6s,baz=86,slow=8.5,SNR=6.1								
	0.6nm,0.6s								
PDAR	**Pinedale Array**	**83.68**	**41**	P		P		09 31 19.9	-0.1
	0.3nm,0.7s,baz=239,slow=4.8,SNR=3.1								
	0.3nm,0.7s								

*MOS **20** 09:19:10.8±1.1, 18°.32S×172°.53W, h9km, mb5.1/23, Error ellipse: s-maj=13.5km s-min=10.2km az=53.2*
*BJI **20** 09:19:10.9, 18°.69S×172°.74W, h10km, mB5.7/5, mb5.0/9, Ms5.2/3, Ms7 4.8/4*
*IDC **20** 09:19:10.2±0.4, 18°.35S×172°.53W, h0km, mb4.7/26, mbtmp4.7/26, Error ellipse: s-maj=17.9km s-min=12.0km az=127.0*
*NEIC **20** 09:19:12.7±1.5, 18°.3S±0°.1×172°.5W±0°.1, h10km±1km, mb5.1/322, Error ellipse: s-maj=22.9km s-min=19.7km az=146.0*
*GCMT **20** 09:19:14.7±0.2, 18°.45S±0°.03×172°.19W±0°.02, h12km, MW5.0/109, Moment Tensor Solution. s24,c27; s109,c155; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.92±.09; $M_{\theta\theta}$1.22±.11; $M_{\phi\phi}$2.70±.09; $M_{r\theta}$0.34±.47; $M_{\theta\phi}$1.41±.08; $M_{\phi r}$1.33±.44; Best double couple: M_o3.97800×10^{16} NP1:ϕ_b36.00000°, δ36.00000°, λ-82.00000°. NP2:ϕ_b206.00000°, δ55.00000°, λ-96.00000°. Principal axes: T 3.7780, Plg10.0000°, Azm300.0000°; N 0.4000, Plg5.0000°, Azm209.0000°; P -4.1780, Plg79.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 09:19:11.7±0.3, 18°.42S±0°.07×172°.45W±0°.06, h10km, n617, σ1$17/481, mb5.0/190, MS4.7/3, 19C-4D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**12.25**	**105**	Pn		Pn		09 22 00.8	-5.5
	7.2nm,0.3s,baz=258,slow=8.0,SNR=18								
RAR				Sn		Sn		09 24 07.0	-16

1.0nm,0.3s,baz=137,slow=18,SNR=3.1
PINNC Pines Island, 19.28 254 P **P 09 23 37.7 +0.9**
DZM Mont Dzumac 20.13 256 *e*P **P 09 23 46.3 +0.1**
141nm,1.7s
DZM *e*S **S 09 27 26.4 -6.0**
2µm,27.9s
DZM *e*LR LR 09 28 31.6
2µm,25.6s
DZM Mont Dzumac 20.13 256 **P 09 23 47.5 +1.3**
DZM Mont Dzumac 20.13 256 P **P 09 23 45.1 -1.0**
25nm,0.7s,baz=81,slow=18,SNR=12
25nm,0.7s
OUZ Omahuta 20.82 214 P Pn 09 23 56.7 +0.8
PPT2 Papeete2 21.77 91 *e*S **S 09 27 57.8 -7.1**
2µm,26.8s
PPT2 *e*LR LR 09 29 04.0
1µm,23.2s
PPT2 *e*LR LR 09 29 11.7
1µm,25.5s
URZ Urewera 21.77 203 P **P 09 24 03.0 -0.6**
12nm,0.7s,baz=60,slow=12,SNR=7.4
URZ S S 09 27 54.9 -9.5
7.5nm,0.9s,baz=284,slow=17,SNR=1.9
12nm,0.7s
TBI Tubuai 22.02 107 *e*S **S 09 28 05.6 -4.0**
4µm,27.2s
TBI *e*LR LR 09 29 17.3
3µm,21.5s
TBI *e*LR LR 09 29 19.1
2µm,25.2s
GVZ Greta Valley S 27.39 204 P P 09 25 06.4 +9.1
LTZ Lake Taylor 27.53 205 P P 09 25 07.8 +9.2
INZ Inchbonnie 27.82 206 P P 09 25 08.7 +7.6
OXZ Oxford 28.08 204 P P 09 25 14.6 +11
WVZ Waitaha Valley 28.40 206 P P 09 25 13.7 +7.4
RPZ Rata Peaks 28.80 205 P P 09 25 20.2 +10
ARCZ Arundel 28.94 205 P P 09 25 22.8 +12
FOZ Fox Glacier 29.16 207 P P 09 25 22.3 +9.2
TMZ Timaru 29.37 205 P P 09 25 25.4 +10
LBZ Lake Benmore 29.70 206 P P 09 25 28.8 +11
JCZ Jackson Bay 30.05 208 P P 09 25 30.6 +10
TAOE Nuku Hiva Isla 32.75 77 eLR LR 09 34 04.0
709nm,25.5s
ARMA Armidale 34.68 243 **P 09 26 02.2 +0.3**
ARMA IAmb IAmb 09 26 03.3
comp=Z,16nm,0.9s
RKT Rikitea 35.29 104 *e*LR LR 09 35 17.3
comp=Z,4µm,24.0s
CAN Canberra 38.01 236 P **P 09 26 31.0 +0.8**
CAN Canberra 38.01 236 P **P 09 26 31.0 +0.8**
CAN pmax pmax
comp=Z,23nm,1.2s
CTAO Charters Tower 38.95 261 **P 09 26 37.4 -0.9**
CTAO IAmb IAmb 09 26 40.5
comp=Z,21nm,0.7s
CTAO Charters Tower 38.95 261 P **P 09 26 37.4 -0.9**
CTAO pmax pmax
comp=Z,21nm,0.7s
TOO Toolangi 41.34 234 **P 09 26 58.2 +0.2**
TOO Toolangi 41.34 234 P **P 09 26 58.2 +0.2**
TOO pmax pmax
comp=Z,8.0nm,1.0s
KIP Kipapa 42.04 20 *ce*P **P 09 27 04.5 +0.8**
KIP pmax pmax
comp=Z,58nm,1.1s
COEN Coen 42.77 269 P **P 09 27 08.4 -1.4**
H11N3 WAKE ISLAND Hy 42.97 331 T T 10 13 19.7
baz=150,slow=77,SNR=9.0
H11N1 WAKE ISLAND Hy 42.98 331 T T 10 13 23.1
baz=150,slow=77,SNR=10
H11N2 WAKE ISLAND Hy 42.99 331 T T 10 13 21.3
baz=150,slow=77,SNR=8.5
STKA Stephens Creek 43.40 243 **P 09 27 14.5 -0.2**
STKA Stephens Creek 43.40 243 P **P 09 27 13.5 -1.3**
comp=Z,10nm,1.0s,baz=104,slow=8.0,SNR=7.2
comp=Z,10nm,1.0s
STKA Stephens Creek 43.40 243 *i* P **P 09 27 15.9 +1.2**
INKA Innaminka 43.83 249 **P 09 27 18.9 +0.6**
BBOO Buckleboo 48.15 242 **P 09 27 52.9 +0.6**
BBOO IAmb IAmb 09 28 05.9
comp=Z,37nm,1.4s
WR8 Warramunga Arr 49.95 259 P **P 09 28 05.7 -0.6**
WR8 IAmb IAmb 09 28 15.0
comp=Z,32nm,1.2s
WB0 Warramunga Arr 50.08 259 **P 09 28 06.7 -0.6**
WB0 IAmb IAmb 09 28 07.5
comp=Z,23nm,0.7s
WRAB Tennant Creek 50.10 259 P **P 09 28 06.7 -0.7**
WRAB IAmb IAmb 09 28 09.4
comp=Z,17nm,0.8s
WRAB Tennant Creek 50.10 259 *i* P **P 09 28 06.4 -1.0**
WRAB pmax pmax
comp=Z,17nm,0.9s
AS31 Alice Springs 50.11 254 **P 09 28 07.7 +0.2**
WRA Warramunga Arr 50.11 259 **P 09 28 06.5 -1.0**
WRA Warramunga Arr 50.11 259 P **P 09 28 06.3 -1.2**
comp=Z,16nm,0.7s,baz=93,slow=6.7,SNR=65
WRA PcP **PcP 09 29 27.8 +0.7**
comp=Z,2.5nm,0.9s,baz=102,slow=4.1,SNR=2.4
WRA S **S 09 35 14.4 -4.8**
comp=Z,1.7nm,1.0s,baz=95,slow=14,SNR=8.0
comp=Z,16nm,0.7s
WRA Warramunga Arr 50.11 259 P **P 09 28 06.5 -1.0**
WRA pmax pmax
comp=Z,2.0nm,1.0s
ASAR Alice Springs 50.11 254 P **P 09 28 07.6 +0.1**
ASAR Alice Springs 50.11 254 P **P 09 28 07.3 -0.1**
comp=Z,13nm,0.8s,baz=86,slow=8.5,SNR=33
ASAR S **S 09 35 14.3 -5.0**
comp=Z,2.5nm,1.0s,baz=93,slow=15,SNR=9.8
comp=Z,13nm,0.8s
ASAR Alice Springs 50.11 254 P **P 09 28 07.6 +0.1**
MTN Manton Dam 54.44 267 **P 09 28 39.4 -0.3**
MTN IAmb IAmb 09 28 40.9
comp=Z,23nm,0.9s
KNRA Kununurra 56.06 263 **P 09 28 51.8 +0.4**
KNRA IAmb IAmb 09 28 52.5
comp=Z,17nm,0.8s
SWI Sorong 57.89 281 P **P 09 29 05.5 +1.1**
FITZ Fitzroy Crossi 58.52 260 **P 09 29 09.8 +1.0**
SBA Scott Base 60.34 185 **P 09 29 23.0 +2.7**
SBA IAmb IAmb 09 29 24.0
comp=Z,11nm,1.0s
SBA Scott Base 60.34 185 P **P 09 29 23.0 +2.7**
SBA pmax pmax
comp=Z,11nm,1.0s
VNDA Vanda 60.49 186 **P 09 29 23.3 +1.9**
VNDA Vanda 60.49 186 P **P 09 29 22.0 +0.6**
comp=Z,2.7nm,0.8s,baz=11,slow=7.0,SNR=15
comp=Z,2.7nm,0.8s
VNDA Vanda 60.49 186 P **P 09 29 23.3 +1.9**
VNDA pmax pmax
comp=Z,5.0nm,1.1s
SOEI Soe 61.73 269 **P 09 29 31.8 +0.8**
SOEI Soe 61.73 269 P **P 09 29 33.2 +2.2**
comp=Z,35nm,0.9s
SANI Sanana 62.42 278 P **P 09 29 35.4 -0.1**
comp=Z,19nm,1.1s
MBWA Marble Bar 63.43 255 P **P 09 29 43.0 +0.8**
EDFI Ende, Flores 64.45 269 P **P 09 29 49.3 +0.2**
comp=Z,20nm,1.0s
CASY Casey 68.07 205 P **P 09 30 10.2 -1.0**
CASY IAmb IAmb 09 30 12.6
comp=Z,14nm,1.2s
PLAI Plampang 68.14 268 P **P 09 30 14.5 +1.9**
TWSI Taliwang, Sumb 69.02 268 P **P 09 30 20.3 +2.2**
NIKH Nikolski High 71.16 2 P **P 09 30 28.1 -2.2**
baz=184
QSPA South Pole Qui 71.64 180 P **P 09 30 34.4 +1.0**
comp=Z,18nm,1.0s,baz=49,slow=1.6,SNR=30
comp=Z,18nm,1.0s
JAGI Jajag, Banyuwa 71.68 267 **P 09 30 34.7 +0.3**
MJAR Matsushiro Arr 71.82 320 P **P 09 30 34.0 -0.7**
comp=Z,1.5nm,0.5s,baz=134,slow=6.1,SNR=4.5
MJAR S **S 09 39 59.0 +3.6**
comp=Z,1.2nm,0.4s,baz=215,slow=9.4,SNR=4.7
comp=Z,1.5nm,0.5s
AKUT Akutan 72.48 4 P P **09 30 39.5 +1.3**
FALS False Pass 73.39 5 P **P 09 30 42.9 -0.7**
baz=189
MTOS Mt Oso, Westle 73.53 40 IAmb IAmb 09 30 46.7
comp=Z,23nm,1.2s
ELS Elsinore Mount 73.69 45 IAmb IAmb 09 30 47.3
comp=Z,18nm,1.4s
MNRC McLaughlin Min 73.74 39 P **P 09 30 47.4 +1.2**
MNRC IAmb IAmb 09 30 47.6

	comp=Z,22nm,1.1s							
ESJX	**Sierra Juarez**	**73.77**	**48**	IAmb	IAmb	09 30 48.3		
	comp=Z,23nm,1.3s							
CHNA	**Chernabura Isl**	**73.78**	**8**	P	**P**	**09 30 45.2**	**-0.7**	
	baz=193							
SDPT	**Sand Point**	**74.17**	**7**	P	**P**	**09 30 47.5**	**-0.7**	
	baz=192							
ISA	**Isabella, Lake**	**74.19**	**43**	IAmb	IAmb	09 30 50.5		
	comp=Z,16nm,1.3s							
PFO	**Pinyon Flats O**	**74.33**	**46**		**P**	**09 30 50.0**	**+0.2**	
PFO	**Pinyon Flats O**	**74.33**	**46**	P	**P**	**09 30 50.3**	**+0.5**	
	comp=Z,8.2nm,1.1s,baz=200,slow=3.2,SNR=4.5							
	comp=Z,8.2nm,1.1s							
PFO	**Pinyon Flats O**	**74.33**	**46**	P	**P**	**09 30 50.0**	**+0.2**	
PFO				pmax	pmax			
	comp=Z,11nm,1.3s							
S12K	**Black Hills**	**74.35**	**6**	P	**P**	**09 30 48.5**	**-0.8**	
	baz=190							
BUCR	**Buckhorn Ranch**	**74.36**	**41**		**P**	**09 30 49.8**	**-0.1**	
O02D	**Mt. Diablo Mer**	**74.39**	**37**	IAmb	IAmb	09 30 52.0		
	comp=Z,20nm,1.2s							
CMB	**Columbia Colle**	**74.44**	**40**		**P**	**09 30 50.5**	**+0.2**	
CMB	**Columbia Colle**	**74.44**	**40**	P	**P**	**09 30 50.5**	**+0.2**	
CMB				pmax	pmax			
	comp=Z,12nm,1.4s							
ASAJ	**Asahikawa**	**74.57**	**328**	P	**P**	**09 30 50.4**	**-0.4**	
	comp=Z,9.0nm,0.9s,baz=180,slow=15,SNR=3.7							
	comp=Z,9.0nm,0.9s							
P08K	**Saint George I**	**74.77**	**2**	P	**P**	**09 30 50.6**	**-1.0**	
	baz=183							
CCCA	**Chr Cany lake**	**74.83**	**44**	IAmb	IAmb	09 30 53.6		
	comp=Z,14nm,1.1s							
MPMC	**Manual Prospec**	**75.07**	**43**	IAmb	IAmb	09 30 55.6		
	comp=Z,13nm,1.1s							
S14K	**Fog Glacier**	**75.20**	**7**	P	**P**	**09 30 53.1**	**-1.2**	
	baz=193							
CHIR	**Chirikof Islan**	**75.31**	**10**	P	**P**	**09 30 53.4**	**-1.4**	
	baz=196							
SPIA	**Saint Paul Isl**	**75.33**	**1**	P	**P**	**09 30 53.6**	**-1.2**	
	baz=182							
CHGN	**Chignik**	**75.36**	**8**	P	**P**	**09 30 53.9**	**-1.2**	
	baz=194							
QSM	**Queen of Sheba**	**75.42**	**44**	IAmb	IAmb	09 30 57.2		
	comp=Z,14nm,1.1s							
YBH	**Yreka Blue Hor**	**75.46**	**36**		**P**	**09 30 56.0**	**-0.1**	
YBH	**Yreka Blue Hor**	**75.46**	**36**	P	**P**	**09 30 55.8**	**-0.4**	
	comp=Z,0.5nm,0.9s,baz=179,slow=6.5,SNR=11							
YBH	**Yreka Blue Hor**	**75.46**	**36**	P	**P**	**09 30 56.1**	**-0.1**	
YBH				pmax	pmax			
	comp=Z,10.0nm,1.1s							
IRM	**Iron Mountain**	**75.54**	**46**	IAmb	IAmb	09 30 58.3		
	comp=Z,13nm,1.1s							
BEKR	**Beckworth**	**75.61**	**39**		**P**	**09 30 57.0**	**-0.2**	
FURC	**Furnace Creek,**	**75.72**	**43**	P	**P**	**09 30 57.9**	**+0.4**	
BLYC	**Blythe**	**75.74**	**47**		**P**	**09 30 56.8**	**-1.0**	
BLYC				IAmb	IAmb	09 30 59.4		
	comp=Z,16nm,1.4s							
LHV	**Little Huntoon**	**75.74**	**41**	P	**P**	**09 30 58.0**	**+0.4**	
LHV				IAmb	IAmb	09 30 59.5		
	comp=Z,21nm,1.4s							
PETK	**Petropavlovsk-**	**75.77**	**342**	P	**P**	**09 30 57.0**	**-0.5**	
	comp=Z,3.3nm,0.8s,baz=134,slow=8.5,SNR=4.6							
	comp=Z,3.3nm,0.8s							
PETK	**Petropavlovsk-**	**75.77**	**342**	P	**P**	**09 30 57.0**	**-0.5**	
NVAR	**Mina Array Bea**	**75.97**	**41**		**P**	**09 30 58.9**	**-0.4**	
NVAR	**Mina Array Bea**	**75.97**	**41**	P	**P**	**09 30 59.8**	**+0.5**	
	comp=Z,5.3nm,0.9s,baz=227,slow=9.1,SNR=28							
	comp=Z,5.3nm,0.9s							
L04D	**Klamath Falls**	**76.01**	**36**	IAmb	IAmb	09 31 00.7		
	comp=Z,10nm,1.0s							
MTPC	**Mountain Pass**	**76.01**	**45**	IAmb	IAmb	09 31 01.2		
	comp=Z,17nm,1.5s							
NV11	**Mina Array Sit**	**76.07**	**41**	IAmb	IAmb	09 31 01.3		
	comp=Z,17nm,1.2s							
SII	**Sitkinak Islan**	**76.25**	**10**	P	**P**	**09 30 59.2**	**-1.0**	
	baz=198							
TPH	**Tonopah**	**76.44**	**42**	IAmb	IAmb	09 31 03.4		
	comp=Z,13nm,1.0s							
YSS	**Yuzhno-Sakhali**	**76.54**	**330**	*e*P	**P**	**09 31 01.5**	**-0.5**	
YSS				pmax	pmax			
	comp=Z,20nm,1.4s							
V12A	**Nelson**	**76.62**	**45**		**P**	**09 31 03.1**	**+0.2**	
R16K	**Pilot Point**	**76.71**	**8**	P	**P**	**09 31 01.2**	**-1.5**	
	baz=194							
J04A	**Umpqua Nationa**	**76.80**	**35**	IAmb	IAmb	09 31 05.3		
	comp=Z,23nm,0.9s							
SBUM	**Sibu**	**76.89**	**277**	P	**P**	**09 31 04.4**	**-0.4**	
Y14A	**Wickenburg**	**76.89**	**47**	IAmb	IAmb	09 31 05.9		
	comp=Z,9.0nm,0.9s							
R17L	**Mt. Peulik Vol**	**76.94**	**9**	P	**P**	**09 31 03.0**	**-1.1**	
	baz=196							
OHAK	**Old Harbor**	**77.04**	**11**	P	**P**	**09 31 03.5**	**-1.1**	
	baz=199							
K05A	**Summer Lake**	**77.13**	**36**	IAmb	IAmb	09 31 07.5		
	comp=Z,24nm,1.1s							
R18K	**Karluk**	**77.17**	**10**	P	**P**	**09 31 04.2**	**-1.1**	
	baz=198							
J05D	**Fort Rock, OR**	**77.31**	**36**	IAmb	IAmb	09 31 08.3		
	comp=Z,20nm,1.1s							
PRN	**Pahroc Range**	**77.44**	**43**	IAmb	IAmb	09 31 09.6		
	comp=Z,21nm,1.3s							
TUC	**Tucson**	**77.61**	**50**	P	**P**	**09 31 09.0**	**+0.4**	
TUC	**Tucson**	**77.61**	**50**	P	**P**	**09 31 09.0**	**+0.4**	
TUC				pmax	pmax			
	comp=Z,11nm,1.2s							
Q17K	**Contact Creek**	**77.62**	**9**	P	**P**	**09 31 06.9**	**-1.0**	
	baz=196							
KDAK	**Kodiak Island**	**77.69**	**11**	P	**P**	**09 31 07.6**	**-0.6**	
	baz=199							
H04A	**Detroit Lake**	**77.71**	**34**	IAmb	IAmb	09 31 09.0		
	comp=Z,11nm,1.1s							
PINE	**Pine Mountain**	**77.80**	**35**	IAmb	IAmb	09 31 11.2		
	comp=Z,20nm,1.0s							
Q16K	**King Salmon**	**77.91**	**8**	P	**P**	**09 31 08.8**	**-0.6**	
	baz=195							
O14K	**Tigyukauivet M**	**77.93**	**6**	P	**P**	**09 31 08.9**	**-0.7**	
	baz=191							
I05D	**Terrebonne, OR**	**77.94**	**35**	IAmb	IAmb	09 31 11.5		
	comp=Z,12nm,1.2s							
O15K	**Ungalikthiuk R**	**78.00**	**7**	P	**P**	**09 31 09.1**	**-0.8**	
	baz=192							
P16K	**Nushagak River**	**78.08**	**8**	P	**P**	**09 31 09.9**	**-0.5**	
	baz=194							
Q18K	**Katmai Hardscr**	**78.12**	**9**	P	**P**	**09 31 09.9**	**-0.9**	
	baz=197							
WVOR	**Wild Horse Val**	**78.24**	**38**	IAmb	IAmb	09 31 13.3		
	comp=Z,19nm,1.4s							
P17K	**Kvichak River**	**78.44**	**8**	P	**P**	**09 31 11.3**	**-1.0**	
	baz=196							
Q20K	**Shuyak Island**	**78.51**	**11**	P	**P**	**09 31 10.9**	**-1.8**	
	baz=199							
N14K	**Kuskokwak Cree**	**78.55**	**6**	P	**P**	**09 31 11.2**	**-1.7**	
	baz=190							
Q19K	**Cape Douglas,**	**78.60**	**10**	P	**P**	**09 31 12.0**	**-1.4**	
	baz=198							
O16K	**Kokwok River B**	**78.61**	**7**	P	**P**	**09 31 11.8**	**-1.5**	
	baz=194							
SMAI	**San Martin Ant**	**78.64**	**158**	P	**P**	**09 31 14.1**	**+0.6**	
SMAI				IAmb	IAmb	09 31 15.4		
	comp=Z,37nm,1.3s							
M11K	**Mekoryuk**	**78.69**	**3**	P	**P**	**09 31 12.1**	**-1.5**	
	baz=186							
KNB	**Kanab**	**78.70**	**45**	IAmb	IAmb	09 31 25.6		
	comp=Z,14nm,1.2s							
P18K	**Big Mountain,**	**78.80**	**9**	IAmb	IAmb	09 31 14.8		
	comp=Z,22nm,1.0s							
P18K	**Big Mountain,**	**78.80**	**9**	P	**P**	**09 31 13.6**	**-0.8**	
	baz=197							
WUAZ	**Wupatki**	**78.87**	**47**	IAmb	IAmb	09 31 17.5		
	comp=Z,15nm,1.2s							
M13K	**Dall Lake**	**78.90**	**5**	P	**P**	**09 31 12.2**	**-2.6**	
	baz=189							
O17K	**Koliganek Bris**	**78.91**	**8**	P	**P**	**09 31 13.8**	**-1.1**	
	baz=195							
KSRS	**Korea Array**	**78.94**	**316**	P	**P**	**09 31 15.4**	**-0.2**	
	comp=Z,1.2nm,0.7s,baz=151,slow=5.1,SNR=4.5							
	comp=Z,1.2nm,0.7s							
N15K	**Kwethluk River**	**78.95**	**6**	P	**P**	**09 31 14.4**	**-0.7**	
	baz=192							
KSAR	**Wonju Array Be**	**78.96**	**316**		**P**	**09 31 16.4**	**+0.7**	
KSAR	**Wonju Array Be**	**78.96**	**316**	P	**P**	**09 31 16.4**	**+0.7**	
ELK	**Elko**	**79.25**	**41**	P	**P**	**09 31 17.7**	**+0.1**	
	comp=Z,4.1nm,0.9s,baz=253,slow=3.1,SNR=16							
	comp=Z,4.1nm,0.9s							
M14K	**Bethel**	**79.34**	**5**	IAmb	IAmb	09 31 19.1		
	comp=Z,35nm,1.1s							
M14K	**Bethel**	**79.34**	**5**	P	**P**	**09 31 17.2**	**-0.1**	
	baz=190							
P19K	**Oil Pt**	**79.36**	**10**	P	**P**	**09 31 16.5**	**-0.9**	
	baz=198							
N16K	**Nishlik Lake**	**79.39**	**7**	P	**P**	**09 31 16.9**	**-0.7**	
	baz=193							
M15K	**Kasigluk River**	**79.41**	**6**	P	**P**	**09 31 18.0**	**+0.4**	
	baz=191,SNR=6.7							
CLRS	**Cowichan Lake**	**79.54**	**30**	IAmb	IAmb	09 31 29.0		
	comp=Z,32nm,1.5s							
HOM	**Homer**	**79.63**	**11**	P	**P**	**09 31 18.8**	**-0.1**	
	baz=200							
N17K	**Nushagak Hills**	**79.63**	**8**	P	**P**	**09 31 18.2**	**-0.7**	
	baz=195							
O19K	**Port Alsworth**	**79.71**	**9**	IAmb	IAmb	09 31 19.3		
	comp=Z,21nm,1.2s							
O19K	**Port Alsworth**	**79.71**	**9**	P	**P**	**09 31 18.4**	**-0.9**	
	baz=198							
CBB	**Campbell River**	**79.81**	**29**	IAmb	IAmb	09 31 21.7		
	comp=Z,32nm,1.3s							
O20K	**Slope Mountain**	**79.86**	**10**	P	**P**	**09 31 19.1**	**-1.1**	
	baz=199							
BRSE	**Bradley Lake S**	**79.87**	**11**	P	**P**	**09 31 19.4**	**-0.8**	
	baz=201							
L14K	**Kuka Creek**	**79.87**	**5**	P	**P**	**09 31 20.1**	**0.0**	
	baz=189							
M16K	**Timber Creek**	**79.91**	**7**	IAmb	IAmb	09 31 22.4		
	comp=Z,20nm,1.0s							
M16K	**Timber Creek**	**79.91**	**7**	P	**P**	**09 31 19.5**	**-0.9**	
	baz=193							
N18K	**Kilae Creek**	**79.95**	**8**	P	**P**	**09 31 20.2**	**-0.5**	
	baz=196							
A04D	**Lummi Island**	**80.16**	**31**	IAmb	IAmb	09 31 23.6		
	comp=Z,28nm,1.1s							
BBB	**Bella Bella**	**80.17**	**26**	P	**P**	**09 31 21.6**	**-0.4**	
	comp=Z,12nm,1.0s,baz=282,slow=4.0,SNR=5.6							
	comp=Z,12nm,1.0s							
N19K	**Bonanza Creek**	**80.27**	**9**	IAmb	IAmb	09 31 23.0		
	comp=Z,26nm,1.4s							
N19K	**Bonanza Creek**	**80.27**	**9**	P	**P**	**09 31 21.7**	**-0.8**	
	baz=197							
L15K	**Ungalak Mounta**	**80.30**	**5**	P	**P**	**09 31 22.2**	**-0.3**	
	baz=191							
K13K	**Kusilvak Mount**	**80.32**	**4**	P	**P**	**09 31 21.3**	**-1.3**	
	baz=188							
SEW	**Seward**	**80.44**	**11**	P	**P**	**09 31 22.5**	**-0.8**	
	baz=202							
M17K	**Holitna River**	**80.45**	**7**	P	**P**	**09 31 22.0**	**-1.3**	
	baz=194							
Q23K	**Middleton Isla**	**80.45**	**13**	P	**P**	**09 31 21.9**	**-1.4**	
	baz=205							
L16K	**Owhat River**	**80.52**	**6**	IAmb	IAmb	09 31 25.8		
	comp=Z,16nm,1.2s							
L16K	**Owhat River**	**80.52**	**6**	P	**P**	**09 31 23.3**	**-0.3**	
	baz=192							
E08A	**Dicke Farm, El**	**80.55**	**34**	IAmb	IAmb	09 31 25.5		
	comp=Z,16nm,1.3s							
SLKM	**Skilak Lake**	**80.68**	**11**	IAmb	IAmb	09 31 25.4		
	comp=Z,30nm,1.2s							
M18K	**Stony River**	**80.74**	**8**	P	**P**	**09 31 24.4**	**-0.5**	
	baz=196							
CAPN	**Captain Cook N**	**80.76**	**10**	P	**P**	**09 31 23.1**	**-1.9**	
	baz=200							
CRAG	**Craig**	**80.79**	**21**	P	**P**	**09 31 23.8**	**-1.5**	
	baz=218							
BELA	**Belgrano 2**	**80.90**	**172**	IAmb	IAmb	09 31 26.6		
	comp=Z,21nm,1.0s							
K15K	**Wolf Creek Mou**	**80.90**	**5**	IAmb	IAmb	09 31 28.2		
	comp=Z,27nm,1.1s							
K15K	**Wolf Creek Mou**	**80.90**	**5**	P	**P**	**09 31 25.6**	**-0.2**	
	baz=190							
D08A	**Wollman Farm,**	**80.98**	**34**	IAmb	IAmb	09 31 27.8		
	comp=Z,13nm,1.1s							
N20K	**Mount Spurr**	**80.99**	**10**	P	**P**	**09 31 25.5**	**-0.8**	
	baz=199							
SPCR	**Spurr Chakacha**	**80.99**	**10**	P	**P**	**09 31 25.6**	**-0.7**	
	baz=199							
TMUT	**Trail Mountain**	**81.00**	**44**	IAmb	IAmb	09 31 29.3		
	comp=Z,15nm,1.1s							
E09A	**Wood Farm, Sta**	**81.06**	**35**	IAmb	IAmb	09 31 27.8		
	comp=Z,21nm,1.3s							
L17K	**Donlin**	**81.06**	**7**	P	**P**	**09 31 26.9**	**+0.3**	
	baz=194							
VHRN	**Van Horn**	**81.19**	**54**	IAmb	IAmb	09 31 30.2		
	comp=Z,37nm,1.5s							
J14K	**Nanvaranak Lak**	**81.20**	**4**	P	**P**	**09 31 27.5**	**+0.3**	
	baz=189							
V35K	**Ketchikan**	**81.21**	**22**	P	**P**	**09 31 27.5**	**0.0**	
	baz=219							
Y22D	**IRIS PASSCAL I**	**81.30**	**50**	P	**P**	**09 31 28.2**	**-0.5**	
	baz=241							
U33K	**Whale Pass**	**81.30**	**21**	P	**P**	**09 31 27.7**	**-0.2**	
	baz=218							
RC01	**Rabbit Creek A**	**81.31**	**11**	IAmb	IAmb	09 31 37.7		
	comp=Z,20nm,1.2s							
RC01	**Rabbit Creek A**	**81.31**	**11**	P	**P**	**09 31 26.9**	**-1.0**	
	baz=202							
KAIM	**Kayak Island**	**81.33**	**14**	P	**P**	**09 31 27.0**	**-1.1**	
	baz=207							
L18K	**Granite Mounta**	**81.33**	**7**	IAmb	IAmb	09 31 51.9		
	comp=Z,17nm,1.4s							
L18K	**Granite Mounta**	**81.33**	**7**	P	**P**	**09 31 26.6**	**-1.4**	
	baz=195							
SIT	**Sitka**	**81.34**	**19**	P	**P**	**09 31 26.8**	**-1.3**	
	baz=215							
PWL	**Port Wells**	**81.36**	**12**	P	**P**	**09 31 27.0**	**-1.2**	
	baz=203							
SUA	**Susitna One**	**81.48**	**10**	P	**P**	**09 31 26.7**	**-2.3**	
	baz=201							
M20K	**Styx River**	**81.50**	**9**	P	**P**	**09 31 27.1**	**-1.9**	
	baz=198							
L19K	**White Mountain**	**81.53**	**8**	P	**P**	**09 31 27.0**	**-2.1**	
	baz=197							
TXAR	**Lajitas Array**	**81.55**	**55**		**P**	**09 31 30.4**	**+0.3**	
TXAR	**Lajitas Array**	**81.55**	**55**	P	**P**	**09 31 30.9**	**+0.8**	
	comp=Z,9.2nm,1.0s,baz=211,slow=7.0,SNR=44							
	comp=Z,9.2nm,1.0s							
TXAR	**Lajitas Array**	**81.55**	**55**	P	**P**	**09 31 30.4**	**+0.3**	
EYAK	**Cordova Ski Ar**	**81.60**	**13**	P	**P**	**09 31 27.3**	**-2.1**	
	baz=206							
GLI	**Glacier Island**	**81.62**	**12**	P	**P**	**09 31 27.0**	**-2.6**	
	baz=204							
K17K	**Iditarod**	**81.63**	**7**	P	**P**	**09 31 26.8**	**-2.7**	
	baz=194							
BGLC	**Bering Glacier**	**81.76**	**14**	P	**P**	**09 31 27.3**	**-2.9**	
	baz=208							
PV05	**Paradox Valley**	**81.77**	**45**	IAmb	IAmb	09 31 33.5		
	comp=Z,28nm,1.4s							
S31K	**Pelican**	**81.80**	**19**	P	**P**	**09 31 28.2**	**-2.3**	
	baz=214							
WRAK	**Wrangell Islan**	**81.81**	**21**	P	**P**	**09 31 30.2**	**-0.4**	
	baz=218							
LLLB	**Lillooet**	**81.83**	**30**	IAmb	IAmb	09 31 31.9		
	comp=Z,12nm,1.2s							
SKT	**Skwentna**	**81.84**	**10**	P	**P**	**09 31 30.0**	**-0.7**	
	baz=200							
KNK	**Knik Glacier**	**81.84**	**11**	P	**P**	**09 31 28.8**	**-2.0**	
	baz=203							
M22K	**Willow**	**81.86**	**11**	P	**P**	**09 31 28.5**	**-2.3**	
	baz=201							
TCUT	**Toone Canyon**	**81.86**	**42**	IAmb	IAmb	09 31 33.2		
	comp=Z,24nm,0.9s							
PMR	**Palmer**	**81.89**	**11**	P	**P**	**09 31 29.7**	**-1.2**	
	baz=202							
GAMB	**Gambell**	**81.93**	**0**	P	**P**	**09 31 29.2**	**-1.9**	
	baz=181							
L20K	**Farewell, AK**	**81.95**	**9**	P	**P**	**09 31 30.1**	**-1.3**	
	baz=198							
J16K	**Anvik River**	**81.96**	**5**	IAmb	IAmb	09 31 33.6		
	comp=Z,36nm,1.4s							
J16K	**Anvik River**	**81.96**	**5**	P	**P**	**09 31 31.5**	**+0.2**	
	baz=191							
PV17	**East Wray Mesa**	**81.97**	**45**	IAmb	IAmb	09 31 33.9		
	comp=Z,26nm,1.4s							
PV14	**Lion Creek, Pa**	**81.97**	**45**	IAmb	IAmb	09 31 33.2		
	comp=Z,15nm,1.3s							
PV16	**Nyswonger Mesa**	**82.01**	**45**	IAmb	IAmb	09 31 33.5		
	comp=Z,22nm,1.4s							
PV23	**Carpenter Ridg**	**82.02**	**45**	IAmb	IAmb	09 31 41.4		
	comp=Z,20nm,0.8s							
PV03	**Paradox Valley**	**82.03**	**45**	IAmb	IAmb	09 31 34.1		
	comp=Z,13nm,1.1s							
PV11	**David Mesa, Pa**	**82.03**	**45**	IAmb	IAmb	09 31 34.9		
	comp=Z,20nm,1.2s							
ANMO	**Albuquerque**	**82.05**	**49**		**P**	**09 31 32.2**	**-0.5**	
ANMO	**Albuquerque**	**82.05**	**49**	P	**P**	**09 31 32.6**	**-0.2**	
	comp=Z,4.0nm,0.8s,baz=282,slow=6.9,SNR=12							
	comp=Z,4.0nm,0.8s							
ANMO	**Albuquerque**	**82.05**	**49**	*ce*P	**P**	**09 31 33.0**	**+0.3**	
ANMO				pmax	pmax			
	comp=Z,15nm,2.5s							
MESA	**MESA**	**82.13**	**15**	P	**P**	**09 31 32.5**	**-0.1**	
	baz=209							
PV01	**Paradox Valley**	**82.16**	**46**	IAmb	IAmb	09 31 34.8		
	comp=Z,16nm,1.1s							
J17K	**VABM Dome**	**82.22**	**6**	P	**P**	**09 31 31.4**	**-1.3**	
	baz=193							
BMRM	**Bremner River**	**82.22**	**13**	IAmb	IAmb	09 31 33.9		
	comp=Z,26nm,1.2s							
BMRM	**Bremner River**	**82.22**	**13**	P	**P**	**09 31 32.1**	**-0.6**	
	baz=207							
U35K	**Hyder**	**82.24**	**23**	P	**P**	**09 31 32.1**	**-0.8**	
	baz=220							
PV07	**Paradox Valley**	**82.26**	**45**	IAmb	IAmb	09 31 35.4		
	comp=Z,15nm,1.2s							
PV15	**Paradox Valley**	**82.32**	**45**	IAmb	IAmb	09 31 35.6		
	comp=Z,12nm,1.0s							
R31K	**City Hall, Gus**	**82.32**	**19**	P	**P**	**09 31 32.3**	**-1.0**	
	baz=215							
M23K	**Glacier View**	**82.33**	**12**	P	**P**	**09 31 32.2**	**-1.1**	
	baz=204							
PNL	**Peninsula**	**82.34**	**16**	P	**P**	**09 31 31.8**	**-1.6**	
	baz=212							
CRQE	**Cirque**	**82.37**	**14**	P	**P**	**09 31 32.5**	**-1.2**	
	baz=208							
KLU	**Klutina**	**82.42**	**12**	P	**P**	**09 31 32.8**	**-1.0**	
	baz=205							
CUT	**Chulitna**	**82.44**	**10**	P	**P**	**09 31 33.1**	**-0.7**	
	baz=201							
SCM	**Sheep Creek Mo**	**82.45**	**12**	P	**P**	**09 31 32.8**	**-1.2**	
	baz=204							
PINM	**Pinnacle**	**82.48**	**16**	P	**P**	**09 31 32.1**	**-2.1**	
	baz=211							
J18K	**Innoko River**	**82.54**	**7**	IAmb	IAmb	09 31 36.1		
	comp=Z,12nm,1.2s							
J18K	**Innoko River**	**82.54**	**7**	P	**P**	**09 31 33.3**	**-1.1**	
	baz=195							
I17K	**Unalakleet**	**82.55**	**5**	P	**P**	**09 31 33.4**	**-0.9**	
	baz=191							
R32K	**Eaglecrest**	**82.58**	**19**	P	**P**	**09 31 33.3**	**-1.4**	
	baz=216							
PPLA	**Purkeypile**	**82.60**	**9**	P	**P**	**09 31 34.9**	**+0.1**	
	baz=199							
NEW	**Newport**	**82.69**	**34**	P	**P**	**09 31 34.8**	**-0.7**	
	comp=Z,2.2nm,0.8s,baz=160,slow=9.7,SNR=4.3							
	comp=Z,2.2nm,0.8s							
NJ2	**Nanjing**	**82.70**	**307**	*e*P	**P**	**09 31 36.5**	**+0.6**	
NJ2				pmax	pmax			
	comp=Z,11nm,0.5s							
P29M	**Windy Craggy**	**82.76**	**17**	P	**P**	**09 31 34.4**	**-1.2**	
	baz=213							
K20K	**Telida**	**82.77**	**8**	P	**P**	**09 31 35.2**	**-0.4**	
	baz=198							
H03S2	**Juan Fernandez**	**82.79**	**123**	T	T	11 02 22.6		
	baz=250,slow=75,SNR=28							
N25K	**Chitina, Valde**	**82.80**	**13**	P	**P**	**09 31 35.2**	**-0.6**	
	baz=207							
H03S1	**Juan Fernandez**	**82.81**	**123**	T	T	11 02 25.8		
	baz=250,slow=75,SNR=25							
H03S3	**Juan Fernandez**	**82.81**	**123**	T	T	11 02 24.7		
	baz=250,slow=75,SNR=26							
GLB	**Gilahina Butte**	**82.82**	**13**	IAmb	IAmb	09 31 36.3		
	comp=Z,11nm,1.0s							
ANM	**Nome**	**82.90**	**3**	P	**P**	**09 31 35.2**	**-0.9**	
	baz=187							
M24K	**Tolsona, Glenn**	**82.92**	**12**	P	**P**	**09 31 35.9**	**-0.6**	
	baz=205							
MCARA	**McCarthy VSAT**	**82.94**	**14**	P	**P**	**09 31 34.3**	**-2.2**	
	baz=208							
CTG	**Chitna Glacier**	**82.97**	**15**	P	**P**	**09 31 34.2**	**-2.6**	
	baz=210							
T35M	**Bob Quinn**	**82.98**	**22**	P	**P**	**09 31 35.0**	**-1.8**	
	baz=220							
PLBC	**Pleasant Camp**	**83.00**	**18**	P	**P**	**09 31 34.9**	**-1.9**	
	baz=214							
SAND	**Sanderson**	**83.03**	**55**	IAmb	IAmb	09 31 39.2		
	comp=Z,22nm,1.3s							
WAT6	**Susitna Watana**	**83.06**	**11**	P	**P**	**09 31 35.2**	**-2.0**	
	baz=204							
O28M	**Mount Upton**	**83.08**	**15**	P	**P**	**09 31 35.3**	**-2.3**	
	baz=211							
O29M	**Mount Kennedy**	**83.10**	**16**	IAmb	IAmb	09 31 39.1		
	comp=Z,17nm,1.1s							
O29M	**Mount Kennedy**	**83.10**	**16**	P	**P**	**09 31 35.5**	**-2.0**	
	baz=212							
WAT1	**Susitna Watana**	**83.14**	**11**	P	**P**	**09 31 35.6**	**-1.9**	
	baz=203							
MNHN	**Monahans**	**83.14**	**54**	IAmb	IAmb	09 31 39.8		
	comp=Z,13nm,1.1s							
S22A	**4UR Ranch, Cre**	**83.15**	**47**	IAmb	IAmb	09 31 40.6		
	comp=Z,14nm,1.0s							
H16K	**Elim**	**83.17**	**4**	P	**P**	**09 31 36.1**	**-1.4**	
	baz=190							
J19K	**Poorman**	**83.18**	**7**	P	**P**	**09 31 36.2**	**-1.4**	
	baz=196							
SKAG	**Skagway**	**83.30**	**18**	P	**P**	**09 31 37.6**	**-0.8**	
	baz=215							
P30M	**Million Dollar**	**83.39**	**17**	P	**P**	**09 31 37.5**	**-1.4**	
	baz=214							
HARP	**HAARP**	**83.39**	**12**	P	**P**	**09 31 38.9**	**+0.1**	
	baz=206							
O20A	**White River Ci**	**83.39**	**44**	IAmb	IAmb	09 31 41.0		
	comp=Z,9.5nm,0.9s							
S34M	**Telegraph Cree**	**83.39**	**21**	P	**P**	**09 31 38.3**	**-0.6**	
	baz=219							
G15K	**Niukluk**	**83.40**	**4**	P	**P**	**09 31 38.0**	**-0.7**	
	baz=188							
TRF	**Thorofare Moun**	**83.42**	**10**	IAmb	IAmb	09 31 47.7		
	comp=Z,16nm,1.2s							
TRF	**Thorofare Moun**	**83.42**	**10**	P	**P**	**09 31 38.3**	**-0.8**	
	baz=201							
TPAW	**Teton Pass**	**83.43**	**40**	IAmb	IAmb	09 31 41.2		
	comp=Z,14nm,1.1s							
DLMT	**Dillon**	**83.49**	**38**	IAmb	IAmb	09 31 41.3		
	comp=Z,18nm,1.1s			

H18K	**Honhosa River**	84.00	6	P		P	09 31 40.6	-1.2	
	baz=193								
YFT	**Old Faithful**	84.03	39	IAmb		IAmb	09 31 45.3		
	comp=Z,13nm,1.1s								
M27K	**Edge Creek, AK**	84.06	14	P		P	09 31 41.9	-0.5	
	baz=209								
F15K	**North Star Dit**	84.08	3	P		P	09 31 41.6	-0.6	
	baz=187								
I20K	**Naaghedeneel**	84.09	8	P		P	09 31 41.7	-0.6	
	baz=197								
G17K	**Kiwalik Mounta**	84.14	5	P		P	09 31 40.7	-1.8	
	baz=191								
O30N	**Mendenhall**	84.17	17	IAmb		IAmb	09 31 44.5		
	comp=Z,18nm,1.1s								
O30N	**Mendenhall**	84.17	17	P		P	09 31 41.0	-1.9	
	baz=214								
DLBC	**Dease Lake**	84.17	21	P		P	09 31 43.1	+0.2	
	comp=Z,40nm,1.0s,baz=245,slow=16,SNR=7.0								
	comp=Z,40nm,1.0s								
DLBC	**Dease Lake**	84.17	21	P		P	09 31 41.5	-1.4	
	baz=220								
BOZ	**Bozeman (W)**	84.18	38	IAmb		IAmb	09 31 44.8		
	comp=Z,17nm,1.1s								
OZNA	**Ozona**	84.22	55	IAmb		IAmb	09 31 44.5		
	comp=Z,6.3nm,0.9s								
HAYD	**Hayden**	84.23	44	IAmb		IAmb	09 31 45.5		
	comp=Z,12nm,1.1s								
YNR	**Norris Junctio**	84.26	39	IAmb		IAmb	09 31 47.2		
	comp=Z,9.2nm,1.0s								
L26K	**Log Cabin Wild**	84.33	13	IAmb		IAmb	09 31 45.1		
	comp=Z,14nm,1.1s								
L26K	**Log Cabin Wild**	84.33	13	P		P	09 31 42.8	-0.8	
	baz=208								
WHY	**Whitehorse**	84.42	18	IAmb		IAmb	09 31 45.2		
	comp=Z,18nm,1.0s								
WHY	**Whitehorse**	84.42	18	P		P	09 31 42.3	-1.9	
	baz=216								
N30M	**Aishikik Lake**	84.47	16	IAmb		IAmb	09 31 50.5		
	comp=Z,12nm,1.3s								
N30M	**Aishikik Lake**	84.47	16	P		P	09 31 43.4	-1.0	
	baz=214								
833A	**Chaparral WMA,**	84.51	58	IAmb		IAmb	09 31 46.8		
	comp=Z,18nm,1.0s								
K24K	**Donnelly Dome**	84.54	12	P		P	09 31 44.1	-0.6	
	baz=205								
H19K	**Roundabout Mou**	84.57	7	IAmb		IAmb	09 31 47.4		
	comp=Z,24nm,1.4s								
H19K	**Roundabout Mou**	84.57	7	P		P	09 31 44.3	-0.3	
	baz=195								
R33M	**Jennings River**	84.60	20	IAmb		IAmb	09 31 46.9		
	comp=Z,24nm,1.4s								
R33M	**Jennings River**	84.60	20	P		P	09 31 44.9	-0.3	
	baz=219								
SGCY	**Sterling City**	84.64	54	IAmb		IAmb	09 31 49.1		
	comp=Z,11nm,1.0s								
P33M	**Teslin, Yukon**	84.66	19	P		P	09 31 45.2	-0.2	
	baz=218								
RIDG	**Independent Ri**	84.66	12	P		P	09 31 44.8	-0.5	
	baz=206								
NEA2	**Nenana**	84.68	10	P		P	09 31 44.3	-1.1	
	baz=202								
L27K	**Beaver Creek,**	84.69	13	P		P	09 31 45.5	+0.1	
	baz=209								
G18K	**Tagagawik**	84.70	6	P		P	09 31 45.1	-0.3	
	baz=193								
BCAR	**Beaver Creek A**	84.70	13	P		P	09 31 45.6	+0.1	
H20K	**Anotleneega Mo**	84.71	7	P		P	09 31 45.4	-0.1	
	baz=197								
WRH	**Wood River Hil**	84.73	10			P	09 31 45.5	-0.1	
DOT	**Dot Lake**	84.74	12	P		P	09 31 45.9	+0.3	
I21K	**Tanana**	84.79	9	P		P	09 31 45.3	-0.6	
	baz=200								
YNE	**Yellowstone No**	84.82	39	IAmb		IAmb	09 31 48.5		
	comp=Z,15nm,1.1s								
MLY	**Manley**	84.83	9	IAmb		IAmb	09 31 46.6		
	comp=Z,21nm,1.5s								
MLY	**Manley**	84.83	9	P		P	09 31 45.1	-1.0	
	baz=201								
N31M	**Braeburn, Yuko**	84.84	17	P		P	09 31 46.1	-0.1	
	baz=215								
POST	**Post**	84.85	53	IAmb		IAmb	09 31 49.4		
	comp=Z,21nm,1.2s								
HDA	**Harding Lake**	84.88	11	P		P	09 31 46.2	-0.1	
HDA				IAmb		IAmb	09 31 47.2		
	comp=Z,13nm,1.0s								
HDA	**Harding Lake**	84.88	11	P		P	09 31 45.9	-0.4	
	baz=204								
M29M	**Somme Creek**	84.95	15	IAmb		IAmb	09 31 48.1		
	comp=Z,13nm,0.9s								
M29M	**Somme Creek**	84.95	15	P		P	09 31 45.7	-1.2	
	baz=212								
F17K	**Baldwin Pennin**	85.02	4	P		P	09 31 45.7	-1.2	
	baz=191								
SCRK	**Sand Creek**	85.05	12	IAmb		IAmb	09 31 48.6		
	comp=Z,11nm,1.0s								
SCRK	**Sand Creek**	85.05	12	P		P	09 31 46.6	-0.7	
	baz=207								
G19K	**Purcell Mounta**	85.10	6	IAmb		IAmb	09 32 10.4		
	comp=Z,13nm,1.4s								
G19K	**Purcell Mounta**	85.10	6	P		P	09 31 46.5	-0.9	
	baz=195								
H21K	**Melozitna Rive**	85.13	8	IAmb		IAmb	09 31 49.3		
	comp=Z,20nm,1.4s								
H21K	**Melozitna Rive**	85.13	8	P		P	09 31 47.0	-0.6	
	baz=199								
COLA	**College**	85.15	10	P		P	09 31 47.2	-0.4	
COLA	**College**	85.15	10	*i* P		P	09 31 46.1	-1.5	
COLA				pmax		pmax			
	comp=Z,17nm,1.1s								
COLA	**College**	85.15	10	P		P	09 31 46.8	-0.8	
	baz=203								
IL31		85.22	11	IAmb		IAmb	09 31 48.9		
	comp=Z,16nm,1.2s								
ILAR	**Eielson Array**	85.22	11	P		P	09 31 47.6	-0.4	
ILAR	**Eielson Array**	85.22	11	P		P	09 31 47.4	-0.7	
	comp=Z,3.1nm,0.9s,baz=209,slow=5.2,SNR=20								
	comp=Z,3.1nm,0.9s								
MAW	**Mawson**	85.24	198	P		P	09 31 48.5	+0.3	
	comp=Z,8.4nm,0.8s,baz=172,slow=7.5,SNR=7.4								
	comp=Z,8.4nm,0.8s								
F18K	**Selawik**	85.30	5	P		P	09 31 48.1	-0.3	
	baz=192								
IMAR	**Indian Mountai**	85.32	8	P		P	09 31 48.8	+0.3	
N32M	**Quiet Lake**	85.33	18	P		P	09 31 49.0	+0.3	
	baz=217								
J25K	**Salcha River,**	85.35	11	IAmb		IAmb	09 31 50.0		
	comp=Z,23nm,1.3s								
J25K	**Salcha River,**	85.35	11	P		P	09 31 48.2	-0.6	
	baz=206								
RTBA	**Rita Blanca**	85.43	49	IAmb		IAmb	09 31 50.2		
	comp=Z,11nm,1.1s								
POKR	**Poker Plat Res**	85.44	10	P		P	09 31 48.5	-0.6	
	baz=204								
M30M	**Minto, Yukon**	85.48	16	IAmb		IAmb	09 31 50.0		
	comp=Z,9.9nm,1.1s								
M30M	**Minto, Yukon**	85.48	16	P		P	09 31 48.8	-0.7	
	baz=214								
K27K	**Chicken**	85.49	13	P		P	09 31 48.6	-0.8	
	baz=209								
DKNS	**Dickens**	85.55	53	IAmb		IAmb	09 31 52.9		
	comp=Z,20nm,1.2s								
H22K	**Ishtalitna Cre**	85.55	9	P		P	09 31 49.3	-0.4	
	baz=200								
L29M	**L29M**	85.59	15	P		P	09 31 49.7	-0.3	
	baz=212								
J26L	**Joseph Creek**	85.60	12	P		P	09 31 50.1	+0.1	
	baz=207								
E17K	**Hotham Inlet**	85.61	4	P		P	09 31 49.2	-0.7	
	baz=190								
SEY	**Seymchan**	85.65	345	P		P	09 31 50.2	0.0	
	comp=Z,3.4nm,0.8s,baz=138,slow=13,SNR=3.8								
	comp=Z,3.4nm,0.8s								
SEY	**Seymchan**	85.65	345	*ce* P		P	09 31 50.7	+0.5	
SEY				pmax		pmax			
	comp=Z,6.0nm,1.0s								
F19K	**Shaleruckik Mo**	85.70	6	P		P	09 31 50.0	-0.3	
	baz=194								
M31M	**Drury Creek, Y**	85.81	17	IAmb		IAmb	09 31 51.9		
	comp=Z,9.5nm,1.1s								
M31M	**Drury Creek, Y**	85.81	17	P		P	09 31 50.2	-0.9	
	baz=216								
WTLY	**Watson Lake, Y**	85.86	20	IAmb		IAmb	09 31 52.8		
	comp=Z,12nm,1.1s								
WTLY	**Watson Lake, Y**	85.86	20	P		P	09 31 50.6	-0.7	
	baz=221								
G21K	**Allakaket**	85.86	7	P		P	09 31 51.1	-0.1	
	baz=198								
LR05	**Currie**	85.97	131	P		P	09 31 54.5	+2.0	
BRDY	**Brady**	86.03	55	IAmb		IAmb	09 31 54.3		
	comp=Z,25nm,1.3s								
H24K	**Noodor Dome**	86.03	10	P		P	09 31 52.7	+0.6	
	baz=203								
E18K	**Tukpahlearik C**	86.04	5	P		P	09 31 51.8	-0.2	
	baz=191								
DAWY	**Dawson**	86.11	14	P		P	09 31 51.3	-1.2	
	baz=211								
F20K	**Avaraart Lake**	86.12	6	IAmb		IAmb	09 31 55.0		
	comp=Z,15nm,1.4s								
F20K	**Avaraart Lake**	86.12	6	P		P	09 31 52.0	-0.4	
	baz=196								
D17K	**Noatak River**	86.14	4	P		P	09 31 53.0	+0.5	
	baz=189								
TOAD	**Toad River Com**	86.16	22	P		P	09 31 51.3	-1.5	
	baz=224								
LIRD	**Liard River Hi**	86.26	22	P		P	09 31 53.0	-0.3	
	baz=224								
EGAK	**Eagle**	86.34	13	IAmb		IAmb	09 31 55.0		
	comp=Z,19nm,1.1s								
EGAK	**Eagle**	86.34	13	P		P	09 31 52.4	-1.1	
	baz=210								
E19K	**Redstone River**	86.36	6	P		P	09 31 52.9	-0.7	
	baz=194								
K29M	**Barlow Dome**	86.36	15	IAmb		IAmb	09 31 55.6		
	comp=Z,23nm,1.1s								
K29M	**Barlow Dome**	86.36	15	P		P	09 31 53.1	-0.8	
	baz=213								
G22K	**Bettles**	86.50	8	P		P	09 31 54.1	-0.3	
	baz=200								
RDOG	**Red Dog Mine**	86.51	4	P		P	09 31 53.3	-1.0	
	baz=189								
G23K	**Bananza Creek**	86.51	9	IAmb		IAmb	09 31 56.1		
	comp=Z,11nm,1.2s								
G23K	**Bananza Creek**	86.51	9	P		P	09 31 53.8	-0.6	
	baz=201								
F21K	**Alatna River**	86.54	7	P		P	09 31 55.1	+0.5	
	baz=198								
C16K	**Lisburne Hills**	86.60	3	P		P	09 31 54.0	-0.8	
	baz=187								
SMWD	**Samnorwood**	86.67	51	IAmb		IAmb	09 31 59.6		
	comp=Z,13nm,1.1s								
J29N	**Klondike Camp**	86.71	14	P		P	09 31 55.3	-0.2	
	baz=212								
H25L	**Birch Creek**	86.77	10	P		P	09 31 54.7	-1.0	
	baz=205								
PLCA	**Paso Flores**	86.83	132	P		P	09 31 57.2	+0.4	
	comp=Z,3.6nm,1.1s,baz=247,slow=4.1,SNR=3.6								
	comp=Z,3.6nm,1.1s								
G24K	**Hadweenzic Riv**	86.89	10	P		P	09 31 55.1	-1.1	
	baz=204								
C17K	**DeLong Mountai**	86.91	3	P		P	09 31 55.1	-1.2	
	baz=189								
I27K	**Kandik River**	86.97	12	P		P	09 31 56.0	-0.7	
	baz=209								
COLD	**Coldfoot**	86.97	8	P		P	09 31 55.3	-1.3	
	baz=201								
F22K	**John River**	86.97	8	P		P	09 31 55.3	-1.3	
	baz=199								
MMPY	**Sheldon Lake,**	87.03	18	IAmb		IAmb	09 31 58.8		
	comp=Z,22nm,1.4s								
MMPY	**Sheldon Lake,**	87.03	18	P		P	09 31 56.6	-0.4	
	baz=219								
TGTN	**Hyland Airport**	87.09	20	P		P	09 31 56.6	-0.8	
	baz=222								
G25K	**Bearman Lake**	87.18	10	P		P	09 31 56.9	-0.6	
	baz=205								
I28M	**Miner Creek**	87.18	13	IAmb		IAmb	09 31 58.5		
	comp=Z,7.3nm,1.0s								
I28M	**Miner Creek**	87.18	13	P		P	09 31 56.2	-1.6	
	baz=211								
C18K	**Utukuk River**	87.20	4	P		P	09 31 56.5	-1.3	
	baz=191								
E20K	**Nigu River**	87.24	6	P		P	09 31 57.2	-0.8	
	baz=195								
J30M	**Hart River**	87.26	15	IAmb		IAmb	09 31 59.6		
	comp=Z,8.2nm,1.0s								
J30M	**Hart River**	87.26	15	P		P	09 31 57.6	-0.6	
	baz=214								
D19K	**Kuna River**	87.29	5	P		P	09 31 56.9	-1.2	
	baz=194								
I29M	**Ogilvie Camp,**	87.46	14	IAmb		IAmb	09 32 00.3		
	comp=Z,14nm,1.1s								
I29M	**Ogilvie Camp,**	87.46	14	P		P	09 31 58.1	-1.0	
	baz=212								
KOTAN	**Kotaneelee Air**	87.50	22	P		P	09 31 58.0	-1.4	
	baz=225								
H27K	**Steamboat Moun**	87.53	12	IAmb		IAmb	09 32 01.2		
	comp=Z,19nm,1.2s								
H27K	**Steamboat Moun**	87.53	12	P		P	09 31 58.4	-1.0	
	baz=209								
F24K	**Squaw Lake**	87.58	9	P		P	09 31 58.4	-1.2	
	baz=203								
BILL	**Bilibino**	87.61	352	*i* P		P	09 31 59.9	+0.2	
BILL				pmax		pmax			
	comp=Z,6.0nm,0.9s								
WMOK	**Wichita Mounta**	87.61	52	IAmb		IAmb	09 32 02.3		
	comp=Z,11nm,1.3s								
E22K	**Anaktuvuk Pass**	87.61	8	P		P	09 31 58.6	-1.2	
	baz=200								
D20K	**Etivluk River**	87.64	6	P		P	09 31 58.0	-1.8	
	baz=195								
E21K	**Killik River**	87.65	7	P		P	09 31 57.9	-2.1	
	baz=198								
G26K	**Porcupine Rive**	87.74	11	P		P	09 31 59.5	-0.8	
	baz=207								
I30M	**Mount Dempster**	87.79	14	P		P	09 31 59.8	-0.9	
	baz=214								
E23K	**Chandalar**	87.83	8	P		P	09 31 58.8	-2.1	
	baz=202								
B18K	**Kokolik River**	87.87	4	P		P	09 31 59.2	-1.6	
	baz=190								
F25K	**Christian Rive**	88.00	10	P		P	09 32 00.9	-0.7	
	baz=205								
E24K	**Your Creek**	88.01	9	P		P	09 31 59.5	-2.1	
	baz=203								
HKT	**Hockley**	88.01	58	*i* P		P	09 32 03.1	+0.7	
HKT				pmax		pmax			
	comp=Z,26nm,1.4s								
G27K	**Doyon Strip**	88.02	12	IAmb		IAmb	09 32 02.8		
	comp=Z,8.4nm,1.4s								
G27K	**Doyon Strip**	88.02	12	P		P	09 32 00.9	-0.8	
	baz=209								
RSSD	**Black Hills**	88.07	42			P	09 32 02.2	-0.5	
RSSD				IAmb		IAmb	09 32 02.8		
	comp=Z,7.5nm,1.0s								
RSSD	**Black Hills**	88.07	42	P		P	09 32 02.2	-0.5	
RSSD				pmax		pmax			
	comp=Z,8.0nm,1.0s								
H29M	**Whitestone**	88.18	13			P	09 32 02.9	+0.5	
H29M	**Whitestone**	88.18	13	P		P	09 32 01.3	-1.1	
	baz=212								
D22K	**Ayikyak River**	88.22	7	P		P	09 32 03.3	+0.7	
D22K				IAmb		IAmb	09 32 25.9		
	comp=Z,15nm,1.4s								
D22K	**Ayikyak River**	88.22	7	P		P	09 32 01.5	-1.1	
	baz=199								
C21K	**Knifeblade Rid**	88.25	6	P		P	09 32 02.6	-0.1	
	baz=197								
F26K	**Sheenjek River**	88.35	10	P		P	09 32 03.5	+0.2	
	baz=207								
TOLK	**Toolik Lake Re**	88.38	8	P		P	09 32 03.5	+0.1	
	baz=202								
ZEA	**Zeya**	88.46	329	*e* P		P	09 32 05.7	+1.7	
E25K	**Arctic Village**	88.50	10	P		P	09 32 04.0	0.0	
	baz=205								
D23K	**Nanushuk River**	88.54	8	P		P	09 32 02.5	-1.6	
	baz=201								
EPYK	**Eagle Plains**	88.67	14	IAmb		IAmb	09 32 13.3		
	comp=Z,16nm,1.4s								
EPYK	**Eagle Plains**	88.67	14	P		P	09 32 03.1	-1.7	
	baz=214								
B21K	**Ikpikpuk River**	88.71	6	P		P	09 32 02.6	-2.3	
	baz=197								
A19K	**Wainwright**	88.75	4	P		P	09 32 04.4	-0.6	
	baz=191								
H31M	**Peel River**	88.75	15	P		P	09 32 04.2	-1.0	
	baz=216								
G29M	**Pine Creek**	88.84	13	P		P	09 32 06.3	+0.8	
G29M				IAmb		IAmb	09 32 17.4		
	comp=Z,13nm,1.4s								
G29M	**Pine Creek**	88.84	13	P		P	09 32 05.0	-0.6	
	baz=212								
D24K	**Happy Valley**	88.96	8	P		P	09 32 04.3	-1.7	
	baz=202								
F28M	**Old Crow**	89.06	12	IAmb		IAmb	09 32 17.5		
	comp=Z,10nm,1.5s								
F28M	**Old Crow**	89.06	12	P		P	09 32 06.4	-0.2	
	baz=211								
E27K	**Coleen River**	89.23	11	P		P	09 32 07.1	-0.3	
	baz=209								
G30M	**tAoh Zraii Nji**	89.29	13	P		P	09 32 07.8	+0.1	
	baz=214								
C23K	**Itkillik River**	89.37	7	P		P	09 32 07.8	-0.1	
	baz=201								
C24K	**Franklin Bluff**	89.50	8	P		P	09 32 08.2	-0.3	
	baz=202								
B22K	**Teshekpuk Lake**	89.53	6	P		P	09 32 08.1	-0.5	
	baz=198								
OK052	**Battle Ridge R**	89.59	52	IAmb		IAmb	09 32 12.4		
	comp=Z,18nm,1.1s								
G31M	**Satah River**	89.68	14	P		P	09 32 09.7	+0.2	
	baz=216								
TROLL	**Troll, Antarti**	89.74	178	⇑P		P	09 32 10.5	+0.4	
	comp=Z,816nm,0.8s								
TROLL				⇑x		x	09 49 37.4		
	comp=Z,64nm,0.7s								
VNA3	**Neumayer Olymp**	89.78	175	⇑P		P	09 32 10.2	0.0	
	comp=Z,15nm,0.8s								
VNA3				⇑x		x	09 49 38.0		
	comp=Z,1.4nm,0.8s								
SYO	**Syowa Base**	89.83	191	⇑*i* P		P	09 32 10.7	+0.3	
SYO	**Syowa Base**	89.83	191	⇑*i* PcP		P	09 32 12.0	+1.6	
SNAA	**Sanae**	89.86	177	⇑P		P	09 32 10.8	+0.2	
	comp=Z,271nm,0.9s								
SNAA	**Sanae**	89.86	177			P	09 32 11.0	+0.4	
SNAA				IAmb		IAmb	09 32 11.6		
	comp=Z,18nm,1.0s								
SNAA	**Sanae**	89.86	177	P		P	09 32 10.9	+0.4	
	comp=Z,13nm,0.9s,baz=196,slow=2.0,SNR=24								
	comp=Z,13nm,0.9s								
SNAA	**Sanae**	89.86	177	*ce* P		P	09 32 10.8	+0.2	
SNAA				pmax		pmax			
	comp=Z,18nm,1.0s								
WRGLY	**Wrigley**	89.88	20	P		P	09 32 09.9	-0.5	
	baz=226								
F30M	**Barrier River**	89.90	13	P		P	09 32 10.5	0.0	
	baz=214								
E28M	**Babbage River**	89.98	12	P		P	09 32 10.4	-0.5	
	baz=211								
DGMT	**Dagmar**	90.02	38	IAmb		IAmb	09 32 12.7		
	comp=Z,14nm,0.9s								
E29M	**Blow River**	90.12	12	P		P	09 32 11.5	0.0	
	baz=213								
C27K	**Jago River**	90.15	10	P		P	09 32 11.1	-0.5	
	baz=207								
T35A	**Sooner Cattle**	90.17	51	IAmb		IAmb	09 32 13.8		
	comp=Z,12nm,1.0s								
F31M	**Tsiigehtchic**	90.22	14	P		P	09 32 11.2	-0.8	
	baz=216								
C26K	**Camden Bay**	90.22	9	P		P	09 32 10.7	-1.3	
	baz=206								
VNA2	**Neumayer--Watz**	90.29	175	⇑P		P	09 32 13.0	+0.5	
	comp=Z,20nm,0.6s,baz=185,slow=2.9								
VNA2				⇑x		x	09 49 41.1		
	comp=Z,2.1nm,0.7s,baz=180,slow=2.9								
VNA1	**Neumayer--Stat**	90.48	175	⇑P		P	09 32 14.0	+0.6	
	comp=Z,26nm,0.9s								
VNA1				⇑x		x	09 49 41.9		
	comp=Z,1.8nm,0.7s								
JTS	**Las Juntas de**	90.86	80	P		P	09 32 15.6	-0.6	
JTS	**Las Juntas de**	90.86	80	P		P	09 32 15.6	-0.6	
JTS				pmax		pmax			
	comp=Z,21nm,1.1s								
INK	**Inuvik**	90.97	14	P		P	09 32 14.6	-0.8	
	baz=217								
XAN	**Xi'an**	91.12	305	⇑P		P	09 32 22.5	+5.5	
XAN				pmax		pmax			
	comp=Z,10.0nm,1.4s								
MIAR	**Mount Ida**	91.49	54	IAmb		IAmb	09 32 43.0		
	comp=Z,9.8nm,1.4s								
U38A	**Gravette**	91.57	52	IAmb		IAmb	09 32 20.4		
	comp=Z,15nm,1.1s								
HHC	**Hu-ho-hao-te**	91.73	313	*e* P		P	09 32 20.6	+0.8	
HHC				pmax		pmax			
	comp=Z,14nm,0.7s								
HHC				pmax		pmax			
	comp=Z,180nm,6.0s								
HHC				LR		LR			
	comp=Z,180nm,12.3s								
HHC				LR		LR			
	comp=Z,150nm,12.8s								
HHC				LR		LR			
	comp=Z,130nm,13.3s								
HHAR	**Hobbs**	91.85	52	IAmb		IAmb	09 32 21.5		
	comp=Z,14nm,1.2s								
SIUN	**Universidad Ur**	92.10	76	IAmb		IAmb	09 32 23.2		
	comp=Z,12nm,1.1s								
YAK	**Yakutsk**	92.23	336	*i* P		P	09 32 23.2	+1.8	
YAK				pmax		pmax			
	comp=Z,10.0nm,0.5s								
BTO	**Baotou**	92.72	312	*e* P		P	09 32 26.6	+2.2	
BTO				pP		pwP	09 32 31.5	-3.5	
BTO				sP		sP	09 32 33.6	+8.0	
BTO				pmax		pmax			
	comp=Z,17nm,0.6s								
BTO				pmax		pmax			
	comp=Z,220nm,4.6s								
BTO				LR		LR			
	comp=Z,600nm,16.1s								
BTO				LR		LR			
	comp=Z,870nm,22.9s								
FCAR	**Ozark Folk Cen**	93.08	53	IAmb		IAmb	09 32 27.3		
	comp=Z,16nm,1.3s								
P38A	**Dawn**	93.36	49	IAmb		IAmb	09 32 27.9		
	comp=Z,11nm,1.0s								
LCAR	**Lake Charles**	93.88	53	IAmb		IAmb	09 32 31.8		
	comp=Z,15nm,1.5s								
C36M	**Paulatuk**	94.01	15	P		P	09 32 28.4	-1.0	
	baz=225								
CMAR	**Chiang Mai Arr**	94.41	288	P		P	09 32 32.0	-0.5	
	comp=Z,0.6nm,0.3s,baz=108,slow=2.4,SNR=6.7								
	comp=Z,0.6nm,0.3s								
PZH	**PanZhiHua**	94.43	296	P		P	09 32 33.3	+0.7	
CCM	**Cathedral Cave**	94.48	51			P	09 32 31.9	-0.5	
CCM	**Cathedral Cave**	94.48	51	P		P	09 32 31.9	-0.5	
CCM				pmax		pmax			
	comp=Z,17nm,1.2s								
A36M	**Sachs Harbour**	95.61	13	P		P	09 32 36.1	-0.6	
	baz=224								
I40A	**Norwalk**	96.86	46	IAmb		IAmb	09 32 43.4		
	comp=Z,6.8nm,0.9s								
WMQ	**Urumqi**	109.53	311	Pdif		Pdif	09 33 41.8	+2.1	
WMQ				LR		LR			
	comp=Z,230nm,

RAYN	Ar Rayn	144.27	285	PKIKP		PKPdf	09 38 49.0	+0.2
MARD	Mardin	145.36	310			PKPdf	09 38 52.2	+1.7
OJC	Ojcow	146.79	346	*e*PKP		PKPbc	09 38 55.2	+1.2
CLL	Collm	146.90	354			PKPbc	09 38 54.7	+0.4
CLL	Collm	146.90	354	*i* PKP2		PKPbc	09 38 54.6	+0.3
CLL				pmax	pmax			
	comp=Z,24nm,1.1s							
CLL	Collm	146.90	354	*i* PKPbc		PKPbc	09 38 54.6	+0.3
	comp=Z,24nm,1.1s							
KSP	Ksiaz	146.91	350	*e*PKP		PKPbc	09 38 55.2	+0.9
OSTC	Ostas	147.20	350	*e*PKP2		PKPab	09 38 56.9	+0.1
OSTC	Ostas	147.20	350	*e*PKP		PKPab	09 38 56.9	+0.1
BRG	Berggiesshubel	147.22	353	*e*PKP		PKPbc	09 38 56.3	+1.1
BRG				Amp			09 38 58.4	
	comp=Z,15nm,1.0s							
DPC	Dobruska-Polom	147.38	350	*e*PKP2		PKPbc	09 38 57.2	+1.5
DPC	Dobruska-Polom	147.38	350	*e*PKP		PKPbc	09 38 57.2	+1.5
NIE	Niedzica	147.41	344	*e*PKP		PKPab	09 38 57.4	-0.3
STEB	Steborice	147.50	348	*e*PKP		PKPbc	09 38 57.2	+1.2
MORC	Moravsky Berou	147.70	348	*e*PKP		PKPbc	09 38 56.1	-0.5
MEM	Membach	147.86	2	*d*PKP		PKPbc	09 38 57.4	+0.5
GAZ	Gaziantep	147.99	312	PKPdf		PKPdf	09 38 54.6	-0.2
PRU	Pruhonice	148.01	351	*e*PKP2		PKPbc	09 38 58.4	+1.0
PRU	Pruhonice	148.01	351	*e*PKP		PKPbc	09 38 58.4	+1.0
BCLA	Clavier	148.02	3	*d*PKP		PKPbc	09 38 58.4	+1.0
BMRD	Maredsous	148.11	3	*d*PKP		PKPbc	09 38 58.8	+1.2
VRAC	Vranov	148.33	349	*e*PKP		PKPbc	09 38 58.4	+0.1
JAVC	Velka Javorina	148.55	347	*e*PKP		PKPbc	09 39 00.3	+1.4
KRUC	Moravsky	148.60	349	*e*PKP		PKPbc	09 38 59.0	0.0
WLF	Walferdange	148.81	2	*d*P		PKPbc	09 38 59.6	+0.2
KHC	Kasperske Hory	148.98	352	*c i* PKP2		PKPbc	09 39 00.7	+0.7
KHC				pmax	pmax			
	comp=Z,23nm,1.7s							
KHC	Kasperske Hory	148.98	352	*e*PKP		PKPbc	09 39 01.0	+1.0
BR131	Keskin Array S	149.04	319	*i* PKP2		PKPbc	09 38 59.6	-1.0
BRTR	Keskin Array B	149.04	319	PKPbc		PKPbc	09 39 01.2	+0.7
	comp=Z,6.1nm,0.7s,baz=120,slow=2.4,SNR=23							
MODS	Modra-Piesok	149.09	347	*e*PKP2		PKiKP	09 39 01.7	+0.1
CKRC	Cesky Krumlov	149.18	351	*e*PKP2		PKPbc	09 39 01.6	+1.1
CKRC	Cesky Krumlov	149.18	351	*e*PKP		PKPbc	09 39 01.6	+1.1
GERES	GERESS Array B	149.24	352	PKPbc		PKPbc	09 39 00.3	-0.4
	comp=Z,2.8nm,0.7s,baz=29,slow=3.0,SNR=17							
GERES				PKPab		pPKPab	09 39 06.4	+0.4
	comp=Z,0.7nm,0.3s,baz=16,slow=1.9,SNR=6.1							
CONA	Conrad Observa	149.79	349	*e*PKP		PKPbc	09 39 02.7	+0.6
	comp=Z,12nm,0.9s							
RONA	Rosalia, Austr	149.93	348	*e*PKP		PKPbc	09 39 02.5	+0.1
	comp=Z,12nm,0.8s							
MOA	Moln	150.14	351	*e*PKP		PKPbc	09 39 02.7	-0.1
	comp=Z,5.3nm,0.7s							
BIOA	Bad Ischl, Aus	150.38	352	*e*PKP		PKPbc	09 39 03.7	+0.2
	comp=Z,2.2nm,0.5s							
ARSA	Arzberg	150.51	349	*e*PKP		PKPbc	09 39 03.7	0.0
	comp=Z,3.0nm,0.6s							
LESA	Schwarzleotal	150.77	353	*e*PKP		PKPbc	09 39 04.6	+0.1
	comp=Z,2.2nm,0.6s							
RETA	Reutte	150.89	356	*e*PKP		PKPbc	09 39 04.8	+0.1
	comp=Z,14nm,1.7s							
WATA	Walderalm	150.97	354	*e*PKP		PKPbc	09 39 04.8	-0.2
	comp=Z,6.7nm,0.6s							
MOTA	Moosalm	151.00	355	*e*PKP		PKPbc	09 39 05.0	-0.1
	comp=Z,17nm,1.1s							
KBA	Koelnbreinsper	151.02	352	*e*PKP		PKPbc	09 39 04.7	-0.5
	comp=Z,8.9nm,0.8s							
WTTA	Wattenberg	151.04	354	*e*PKP		PKPbc	09 39 05.3	0.0
	comp=Z,17nm,0.6s							
MMAI	Mount Meron Ar	151.11	306	PKPbc		PKPbc	09 39 06.3	+0.6
	comp=Z,5.0nm,0.8s,baz=57,slow=8.8,SNR=7.1							
SQTA	Sankt Quirin	151.12	355	*e*PKP		PKPbc	09 39 05.0	-0.3
	comp=Z,14nm,0.9s							
DAVA	Damuels	151.14	357	*e*PKP		PKPbc	09 39 05.4	-0.1
	comp=Z,6.0nm,0.7s							
SOKA	Soboth	151.15	349	*e*PKP		PKPbc	09 39 05.2	-0.2
	comp=Z,7.0nm,0.9s							
FETA	Feichten	151.35	355	*e*PKP		PKPbc	09 39 05.3	-0.7
	comp=Z,12nm,0.9s							
OBKA	Obir	151.40	350	*e*PKP		PKPbc	09 39 05.3	-0.7
	comp=Z,6.9nm,1.2s							
MYKA	Terra Mystica	151.42	351	*i* PKP		PKPbc	09 39 05.5	-0.5
	comp=Z,4.3nm,0.5s							
ABTA	Abfaltersbach	151.45	353	*e*PKP		PKPbc	09 39 05.7	-0.4
	comp=Z,17nm,0.6s							
FUORN	Ofenpass-Fuorn	151.78	356			PKiKP	09 39 08.1	+0.6
TUE	Stuetta	151.98	357	PKPdf		PKPdf	09 39 01.3	+0.4
TUE						PKiKP	09 39 08.5	+0.7
CTI	Castel Tesino	152.24	354			PKPbc	09 39 08.6	+0.6
CTI	Castel Tesino	152.24	354	PKIKP		PKPbc	09 39 08.6	+0.6
ESDC	Sonseca Array	156.59	23	PKP		PKPdf	09 39 07.1	-0.3
	comp=Z,0.7nm,0.7s,baz=194,slow=1.1,SNR=4.3							
ESDC				PKPab		PKPab	09 39 35.5	-0.8
	comp=Z,1.2nm,1.0s,baz=304,slow=3.7,SNR=5.6							
TORD	Torodi Ar. Bea	172.31	132			PKPdf	09 39 21.3	-0.6
TORD						PKPab	09 40 46.1	+0.3
TORD	Torodi Ar. Bea	172.31	132	PKP		PKPdf	09 39 20.9	-1.0
	comp=Z,2.7nm,0.9s,baz=245,slow=2.7,SNR=9.5							
TORD				PKPab		PKPab	09 40 46.4	+0.6
	comp=Z,3.1nm,0.9s,baz=287,slow=4.6,SNR=11							

NEIC ***20*** *09:21:46.7±1.9, 17.°90S±0.°10×172.°32W±0.°09, h10km±1km, mb4.5/18, Error ellipse: s-maj=18.8km s-min=10.7km az=37.0*

IDC ***20*** *09:21:46.3±1.8, 18.°00S×172.°41W, h0km, mb4.1/6, mbtmp4.2/6, Error ellipse: s-maj=55.3km s-min=31.9km az=141.0*

ISC 20 09:21:48.2±0.8, 18.°00S±0.°09×172.°42W±0.°10, h21km, n31, σ1§51/31, mb4.5/12, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NIUE	Niue	2.59	115	Pn		Pn	09 22 27.2	-1.8
AFI	Afiamalu	4.12	9	Pn		Pn	09 22 47.6	-2.4
FUTU	Fugatoga	6.60	303	Pn		Pn	09 23 23.1	-1.0
PINNC	Pines Island,	19.43	253	P		P	09 26 14.2	+0.8
PINNC				IAmb		IAmb	09 26 20.6	
	comp=Z,25nm,0.6s							
DZM	Mont Dzumac	20.26	255	P		P	09 26 22.2	-0.4
DZM				IAmb		IAmb	09 26 34.5	
	comp=Z,14nm,0.7s							
DZM	Mont Dzumac	20.26	255	P		Pn	09 26 25.2	+0.6
	comp=Z,16nm,1.1s,baz=90,slow=17,SNR=3.9							
	comp=Z,16nm,1.1s							
URZ	Urewera	22.16	202	P		P	09 26 44.2	+1.5
	comp=Z,22nm,1.1s,baz=68,slow=5.4,SNR=6.1							
URZ				S		S	09 30 40.1	-5.8
	comp=Z,5.6nm,1.0s,baz=10,slow=21,SNR=1.2							
	comp=Z,22nm,1.1s							
BKZ	Black Stump Fm	23.19	202	P		P	09 26 54.6	+0.9
BKZ				IAmb		IAmb	09 27 00.7	
	comp=Z,9.0nm,0.9s							
QRZ	Quartz Range	26.18	207	P		P	09 27 21.7	+0.5
EIDS	Eidsvold	34.62	251	P		P	09 28 36.3	+0.2
EIDS				IAmb		IAmb	09 28 41.6	
	comp=Z,4.2nm,0.8s							
ARMA	Armidale	34.89	242	P		P	09 28 38.3	-0.2
ARMA				IAmb		IAmb	09 28 45.1	
	comp=Z,9.0nm,0.8s							
CTAO	Charters Tower	39.05	260	P		P	09 29 14.1	+0.2
CTAO				IAmb		IAmb	09 29 20.6	
	comp=Z,10nm,0.7s							
TOO	Toolangi	41.61	233	P		P	09 29 35.1	+0.2
COEN	Coen	42.81	269	P		P	09 29 43.6	-1.4
STKA	Stephens Creek	43.62	242	P		P	09 29 50.8	-0.5
STKA				IAmb		IAmb	09 29 52.4	
	comp=Z,11nm,1.0s							
STKA	Stephens Creek	43.62	242	P		P	09 29 51.9	+0.6
	comp=Z,3.0nm,1.1s,baz=64,slow=10,SNR=4.5							
	comp=Z,3.0nm,1.1s							
BBOO	Buckleboo	48.37	242	P		P	09 30 29.2	+0.4
BBOO				IAmb		IAmb	09 30 40.1	
	comp=Z,5.9nm,0.9s							
WR8	Warramunga Arr	50.06	259	P		P	09 30 42.8	+0.9
WR8				IAmb		IAmb	09 30 55.5	
	comp=Z,4.3nm,0.9s							
WB0	Warramunga Arr	50.19	259	P		P	09 30 43.9	+1.1
WRAB	Tennant Creek	50.21	259	P		P	09 30 43.5	+0.5
WRA	Warramunga Arr	50.22	259	P		P	09 30 43.9	+0.9
WRA	Warramunga Arr	50.22	259	P		P	09 30 44.0	+0.9
	comp=Z,5.6nm,1.0s,baz=97,slow=6.1,SNR=10							
	comp=Z,5.6nm,1.0s							
AS31	Alice Springs	50.25	254	P		P	09 30 43.4	0.0
AS31				IAmb		IAmb	09 30 52.5	
	comp=Z,2.4nm,0.7s							
ASAR	Alice Springs	50.25	254	P		P	09 30 44.0	+0.7
ASAR	Alice Springs	50.25	254	P		P	09 30 44.6	+1.3
	comp=Z,4.4nm,0.9s,baz=92,slow=7.4,SNR=12							
	comp=Z,4.4nm,0.9s							
FORT	Forrest	55.12	245	P		P	09 31 19.1	-0.1
KNRA	Kununurra	56.15	263	P		P	09 31 27.6	+0.8
FITZ	Fitzroy Crossi	58.63	259	P		P	09 31 45.0	+0.8
PSA00	Pilbara Seismi	63.39	254	P		P	09 32 16.2	-0.4
QSPA	South Pole Qui	72.06	180	P		P	09 33 12.3	+1.6
PDAR	Pinedale Array	83.58	41	P		P	09 34 17.0	+1.8
	comp=Z,0.1nm,0.5s,baz=270,slow=5.0,SNR=0.8							
	comp=Z,0.1nm,0.5s							

NEIC ***20*** *09:36:34.7±1.1, 17.°84S±0.°07×172.°0W±0.°1, h10km±1km, mb4.3/20, Error ellipse: s-maj=19.8km s-min=8.0km az=62.0*

IDC ***20*** *09:36:39.3±0.7, 18.°28S×172.°63W, h0km, mb4.1/9, mbtmp4.1/10, ML3.8/1, MS3.7/5, Error ellipse: s-maj=31.2km s-min=17.1km az=133.0*

ISC 20 09:36:34.8±0.7, 17.°90S±0.°09×172.°01W±0.°08, h10km, n47, σ1§93/30, mb4.3/18, MS3.6/4, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NIUE	Niue	2.30	121			Pn	09 37 12.2	-0.5
NIUE				Sn		Sn	09 37 39.8	-1.3
AFI	Afiamalu	3.97	3	Pn		Pn	09 37 34.8	-1.1
RAR	Rarotonga	12.00	108	Pn		Pn	09 39 25.0	-0.9
RAR	Rarotonga	12.00	108	LR		LR	09 43 02.3	
	comp=Z,199nm,18.9s,baz=278,slow=31							
PINNC	Pines Island,	19.83	253	P		P	09 41 04.3	-1.5
DZM	Mont Dzumac	20.66	255	P		P	09 41 16.1	+1.1
DZM				IAmb		IAmb	09 41 28.9	
	comp=Z,11nm,0.9s							
DZM	Mont Dzumac	20.66	255	P		P	09 41 13.9	-1.2
	comp=Z,0.3nm,0.3s,baz=154,slow=13,SNR=3.1							
	comp=Z,10.0nm,1.0s							
PPT	Papeete	21.37	93	LR		LR	09 47 43.3	
	comp=Z,166nm,18.3s,baz=274,slow=30							
URZ	Urewera	22.41	203	P		P	09 41 33.0	-0.5
	comp=Z,16nm,0.8s,baz=18,slow=8.5,SNR=4.5							
URZ				S		S	09 45 30.1	-10
	comp=Z,7.5nm,1.0s,baz=192,slow=9.9,SNR=1.6							
URZ				LR		LR	09 50 00.3	
	comp=Z,216nm,19.6s,baz=17,slow=37							
	comp=Z,16nm,0.8s							
TOZ	Tahuroa Road	22.59	207	P		P	09 41 33.5	-2.0
TOZ				IAmb		IAmb	09 41 43.9	
	comp=Z,8.8nm,0.9s							
MRZ	Mangatainoka R	25.08	203	P		P	09 41 59.2	-0.3
MRZ				IAmb		IAmb	09 42 16.0	
	comp=Z,9.6nm,1.0s							
HNR	Honiara	28.49	283	LR		LR	09 52 03.0	
	comp=Z,163nm,18.9s,baz=224,slow=33							
EIDS	Eidsvold	35.02	251	P		P	09 43 28.4	+0.6
EIDS				IAmb		IAmb	09 43 55.3	
	comp=Z,2.2nm,0.8s							
ARMA	Armidale	35.28	242	P		P	09 43 30.8	+0.6
ARMA				IAmb		IAmb	09 43 51.3	
	comp=Z,5.3nm,1.0s							
CTAO	Charters Tower	39.45	260	P		P	09 44 05.4	-0.1
H11S2	WAKE ISLAND Hy	41.78	329	T		T	10 30 19.6	
	baz=147,slow=75,SNR=22							
H11S3	WAKE ISLAND Hy	41.79	329	T		T	10 30 12.9	
	baz=147,slow=75,SNR=20							
H11S1	WAKE ISLAND Hy	41.80	329	T		T	10 30 13.4	
	baz=147,slow=75,SNR=12							
TOO	Toolangi	41.99	233	P		P	09 44 26.1	-0.1
H11N3	WAKE ISLAND Hy	42.73	330	T		T	10 30 52.4	
	baz=150,slow=76,SNR=8.7							
H11N1	WAKE ISLAND Hy	42.73	330	T		T	10 30 50.1	
	baz=150,slow=76,SNR=11							
H11N2	WAKE ISLAND Hy	42.75	330	T		T	10 30 54.9	
	baz=150,slow=76,SNR=7.4							
WR0	Warramunga Arr	50.42	259	P		P	09 45 29.9	-3.0
WR0				IAmb		IAmb	09 45 58.2	
	comp=Z,4.2nm,0.9s							
WR8	Warramunga Arr	50.46	259	P		P	09 45 29.9	-3.3
WR8				IAmb		IAmb	09 45 34.7	
	comp=Z,3.9nm,0.7s							
WB0	Warramunga Arr	50.59	259			P	09 45 27.8	-6.4
WB2	Warramunga Arr	50.60	259	P		P	09 45 29.9	-4.4
WRAB	Tennant Creek	50.61	259	P		P	09 45 28.9	-5.5
WRAB				IAmb		IAmb	09 45 47.5	
	comp=Z,5.4nm,0.9s							
WRA	Warramunga Arr	50.62	259			P	09 45 29.8	-4.6
WRA	Warramunga Arr	50.62	259	P		P	09 45 34.9	+0.5
	comp=Z,2.4nm,0.6s,baz=97,slow=7.5,SNR=13							
	comp=Z,2.4nm,0.6s							
AS31	Alice Springs	50.65	254			P	09 45 33.7	-0.9
ASAR	Alice Springs	50.65	254			P	09 45 34.0	-0.6
ASAR	Alice Springs	50.65	254	P		P	09 45 35.6	+0.9
	comp=Z,3.2nm,0.8s,baz=88,slow=8.5,SNR=32							
	comp=Z,3.2nm,0.8s							
RPN	Rapa Nui	58.12	111	LR		LR	10 04 31.1	
	comp=Z,62nm,21.5s,baz=220,slow=29							
FITZ	Fitzroy Crossi	59.03	259	P		P	09 46 34.5	-0.9
SBA	Scott Base	60.88	185	P		P	09 46 48.5	+1.3
SBA				IAmb		IAmb	09 46 52.0	
	comp=Z,2.3nm,0.9s							
VNDA	Vanda	61.05	186	P		P	09 46 48.8	+0.5
VNDA	Vanda	61.05	186	P		P	09 46 51.0	+2.7
	comp=Z,0.7nm,0.8s,baz=14,slow=8.3,SNR=4.6							
	comp=Z,0.7nm,0.8s							
CASY	Casey	68.71	205	P		P	09 47 37.8	-0.6
QSPA	South Pole Qui	72.16	180	P		P	09 47 59.2	-0.4
QSPA				IAmb		IAmb	09 48 12.2	
	comp=Z,1.6nm,0.8s							
QSPA	South Pole Qui	72.16	180	P		P	09 48 04.0	+4.4
	comp=Z,2.5nm,1.0s,baz=358,slow=0.7,SNR=7.4							
	comp=Z,2.5nm,1.0s							
YBH	Yreka Blue Hor	74.80	36	P		P	09 48 25.9	+10
	comp=Z,0.1nm,0.9s,baz=183,slow=6.4,SNR=3.5							
NVAR	Mina Array Bea	75.31	41	P		P	09 48 28.4	+10
	comp=Z,1.0nm,0.9s,baz=218,slow=8.3,SNR=6.9							
	comp=Z,1.0nm,0.9s							
TXAR	Lajitas Array	80.91	55	P		P	09 48 59.4	+10
	comp=Z,0.5nm,0.7s,baz=218,slow=8.2,SNR=7.2							
	comp=Z,0.5nm,0.7s							
PDAR	Pinedale Array	83.25	41	P		P	09 49 11.3	+9.5
	comp=Z,1.2nm,0.7s,baz=214,slow=4.0,SNR=11							
	comp=Z,1.2nm,0.7s							
ILAR	Eielson Array	84.64	11	P		P	09 49 16.4	+8.2
	comp=Z,0.5nm,0.7s,baz=226,slow=6.3,SNR=8.8							
	comp=Z,0.5nm,0.7s							
GERES	GERESS Array B	148.79	353	PKPbc		PKPab	09 56 29.6	+3.2
	comp=Z,0.3nm,0.3s,baz=49,slow=2.8,SNR=4.4							
BRTR	Keskin Array B	148.92	320	PKPbc		PKPab	09 56 29.5	+2.2
	comp=Z,2.1nm,0.7s,baz=149,slow=2.2,SNR=9.8							

IDC ***20*** *09:40:37.5±0.8, 0.°11N×125.°79E, h0km, mb3.9/9, mbtmp3.9/10, ML3.5/1, MS4.1/3, Error ellipse: s-maj=48.0km s-min=16.5km az=76.0*

ISC 20 09:40:43.4±0.8, 0.°1N±0.°1×125.°9E±0.°3, h44km, n14, σ0§86/11, mb4.0/9, MS4.1/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FITZ	Fitzroy Crossi	18.06	181	P		Pn	09 44 50.5	-0.7
	0.1nm,0.3s,baz=18,slow=13,SNR=5.1							
	2.2nm,1.0s							
WRA	Warramunga Arr	21.54	158	P		P	09 45 28.7	-0.5
	1.3nm,0.5s,baz=337,slow=11,SNR=26							
	1.3nm,0.5s							
ASAR	Alice Springs	24.85	162	P		P	09 46 02.5	+0.5
	1.2nm,0.7s,baz=346,slow=12,SNR=9.5							
ASAR				PcP		PcP	09 49 39.1	+1.7
	0.5nm,0.8s,baz=353,slow=2.5,SNR=1.6							
	1.2nm,0.7s							
CTA	Charters Tower	28.26	136	LR		LR	09 58 47.4	
	comp=Z,5.0nm,18.8s,baz=40,slow=38							
KSRS	Korea Array	37.24	3	P		P	09 47 51.5	+0.7
	1.4nm,0.7s,baz=174,slow=9.3,SNR=5.7							
	1.4nm,0.7s							
MJAR	Matsushiro Arr	38.04	16	P		P	09 47 56.7	-0.9
	1.4nm,0.7s,baz=194,slow=7.4,SNR=2.5							
	1.4nm,0.7s							
SONM	Songino Array	50.50	343	P		P	09 49 37.0	-0.3
	0.9nm,0.7s,baz=163,slow=7.5,SNR=4.0							
	0.9nm,0.7s							
PETK	Petropavlovsk-	59.11	22	P		P	09 50 39.5	+0.2
	2.3nm,0.8s,baz=208,slow=8.2,SNR=2.1							
	2.3nm,0.8s							
MKAR	Makanchi Array	60.10	327	P		P	09 50 45.9	-0.5
	0.7nm,0.5s,baz=116,slow=9.1,SNR=6.7							
	0.7nm,0.5s							
AAK	Ala-Archa	62.54	319	LR		LR	10 20 52.6	
	comp=Z,190nm,21.4s,baz=81,slow=39							
KURBB	Kurchatov Arra	64.38	329	P		P	09 51 14.3	-0.5
	1.0nm,0.4s,baz=128,slow=5.9,SNR=8.6							
	1.0nm,0.4s							
BVAR	Borovoye Array	69.94	328	P		P	09 51 50.0	0.0
	0.4nm,0.4s,baz=93,slow=4.9,SNR=2.1							
	0.4nm,0.4s							
GNI	Garni	83.19	310	LR		LR	10 37 33.8	
	comp=Z,67nm,19.9s,baz=43,slow=41							
MMAI	Mount Meron Ar	90.38	303	LR		LR	10 40 22.0	
	comp=Z,93nm,21.6s,baz=50,slow=40							

NEIC ***20*** *09:45:30.2±1.0, 18.°43S±0.°05×172.°34W±0.°08, h10km±1km, mb4.2/11, Error ellipse: s-maj=12.5km s-min=8.7km az=266.0*

IDC ***20*** *09:45:33.1±0.9, 18.°30S×172.°65W, h0km, mb4.0/7, mbtmp4.0/8, ML4.0/1, MS3.4/2, Error ellipse: s-maj=32.4km s-min=16.4km az=123.0*

ISC 20 09:45:32.3±0.7, 18.°45S±0.°10×172.°51W±0.°09, h10km, n29, σ2§44/26, mb4.2/16, 4C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NIUE	Niue	2.53	105			Pn	09 46 09.1	-4.4
AFI	Afiamalu	4.57	9	Pn		Pn	09 46 38.7	-3.0
MSVF	Nonsavu	9.00	273	Pn		Pn	09 47 42.4	-0.2
DZM	Mont Dzumac	20.06	256	P		P	09 50 06.2	+0.2
	0.4nm,0.3s,baz=79,slow=14,SNR=3.5							
	11nm,1.2s							
URZ	Urewera	21.71	203	P		P	09 50 25.5	+1.9
	3.1nm,0.6s,baz=27,slow=4.5,SNR=1.1							
URZ				S		Sn	09 54 29.3	-3.6
	4.6nm,0.8s,baz=0.0,slow=12,SNR=1.2							
	3.1nm,0.6s							
PPT	Papeete	21.83	91	LR		LR	09 56 29.2	
	comp=Z,54nm,19.2s,baz=290,slow=30							
CTAO	Charters Tower	38.89	261	P		P	09 52 56.3	-2.1
CTAO				IAmb		IAmb	09 53 09.7	
	comp=Z,5.7nm,0.7s							
WR0	Warramunga Arr	49.85	259	P		P	09 54 23.4	-2.7
WR0				IAmb		IAmb	09 54 37.3	
	comp=Z,2.5nm,0.8s							
WR8	Warramunga Arr	49.89	259	P		P	09 54 24.4	-2.0
WR8				IAmb		IAmb	09 54 43.8	
	comp=Z,1.5nm,0.7s							
WB0	Warramunga Arr	50.01	259	P		P	09 54 25.3	-2.0
WB2	Warramunga Arr	50.03	259	P		P	09 54 25.9	-1.5
WB2				IAmb		IAmb	09 54 30.0	
	comp=Z,4.0nm,0.7s							
WRAB	Tennant Creek	50.03	259	P		P	09 54 24.6	-2.8
WRAB				IAmb		IAmb	09 54 38.5	
	comp=Z,3.4nm,0.7s							
AS31	Alice Springs	50.04	254	P		P	09 54 24.8	-2.7
AS31				IAmb		IAmb	09 54 39.1	
	comp=Z,1.4nm,0.8s							
ASAR	Alice Springs	50.04	254	P		P	09 54 25.7	-1.8
ASAR	Alice Springs	50.04	254	P		P	09 54 30.1	+2.5
	comp=Z,3.2nm,0.8s,baz=86,slow=8.6,SNR=22							
	comp=Z,3.2nm,0.8s							
WRA	Warramunga Arr	50.04	259	P		P	09 54 25.8	-1.7
WRA	Warramunga Arr	50.04	259	P		P	09 54 29.0	+1.5
	comp=Z,3.3nm,0.8s,baz=94,slow=8.0,SNR=22							
	comp=Z,3.3nm,0.8s							
KNRA	Kununurra	56.00	263	P		P	09 55 09.2	-2.4
RPN	Rapa Nui	58.37	111	LR		LR	10 13 48.8	
	comp=Z,48nm,20.9s,baz=347,slow=29							
FITZ	Fitzroy Crossi	58.46	260	P		P	09 55 27.2	-1.7
QSPA	South Pole Qui	71.61	180	P		P	09 56 52.5	-1.3
QSPA				IAmb		IAmb	09 57 00.6	
	comp=Z,0.6nm,0.8s							
QSPA	South Pole Qui	71.61	180	P		P	09 56 58.7	+4.9
	comp=Z,1.7nm,1.0s,baz=2.6,slow=4.8,SNR=3.0							
	comp=Z,1.7nm,1.0s							
TXAR	Lajitas Array	81.62	55	P		P	09 57 53.5	+2.5
	comp=Z,1.1nm,1.1s,baz=233,slow=6.1,SNR=5.2							
	comp=Z,1.1nm,1.1s							
PDAR	Pinedale Array	83.98	41	P		P	09 58 04.6	+1.5
	comp=Z,0.5nm,0.8s,baz=256,slow=4.1,SNR=6.0							
	comp=Z,0.5nm,0.8s							
ILAR	Eielson Array	85.27	11	P		P	09 58 10.7	+1.

SALN				IAML			09 47 56.5	
	comp=E,3μm,0.5s							
PLM	**Palomar**	**0.37**	**275**			Pg	09 47 50.7	+0.1
PLM						Sg	09 47 55.9	+0.4
GVDA	**Garner Valley**	**0.41**	**329**			Pg	09 47 50.9	-0.4
GVDA						Sg	09 47 56.5	-0.2
CTCC	**Cactus City**	**0.49**	**47**			Pg	09 47 52.8	0.0
CTCC						Sg	09 47 59.7	+0.4
ERRC	**Elmore Ranch**	**0.54**	**112**			Pg	09 47 54.2	+0.5
ERRC						Sb	09 48 02.7	-0.1
DPP	**Dos Picos Cty**	**0.54**	**234**			Pg	09 47 53.3	-0.4
DPP						Sg	09 48 00.6	-0.3
DPP				IAML			09 48 00.8	
	comp=E,2μm,0.2s							
EML	**El Monte Cty P**	**0.56**	**220**			Pg	09 47 53.6	-0.4
EML						Sg	09 48 00.9	-0.4
POB	**Polly Butte**	**0.56**	**311**			Pg	09 47 53.8	-0.3
POB						Sg	09 48 00.6	-0.8
CRR	**Carrizo Plain**	**0.57**	**139**			Pg	09 47 54.2	-0.2
CRR						Sb	09 48 02.8	-1.0
5271	**Bombay Beach**	**0.58**	**87**			Pg	09 47 54.4	0.0
BOMB	**Bombay Beach**	**0.58**	**85**			Pg	09 47 54.6	+0.1
BOMB						Sb	09 48 03.1	-0.9
CTW	**Cottonwood Mou**	**0.58**	**52**			Pg	09 47 54.2	-0.3
CTW						Sg	09 48 02.1	0.0
DGR	**Domenigoni Val**	**0.59**	**304**			Pg	09 47 54.4	-0.4
DGR						Sg	09 48 01.9	-0.6
BACC	**Bachelor Mtn.**	**0.59**	**300**			Pg	09 47 54.4	-0.4
BACC						Sg	09 48 02.4	-0.2
EW2	**E Wide Canyon**	**0.62**	**1**			Pg	09 47 54.9	-0.4
EW2						Sg	09 48 03.5	+0.1
HMTC	**Hemet**	**0.62**	**309**			Pg	09 47 54.8	-0.5
HMTC						Sg	09 48 02.9	-0.6
DEVC	**Devers**	**0.63**	**348**			Pg	09 47 54.9	-0.6
DEVC						Sg	09 48 03.6	-0.1
SWSC	**Sam W. Stewart**	**0.64**	**125**			Pg	09 47 55.4	-0.2
SWSC						Sg	09 48 03.7	-0.3
FRK	**Frink**	**0.66**	**83**			Pg	09 47 55.5	-0.4
FRK						Sg	09 48 04.3	-0.3
BAR	**Barrett**	**0.67**	**198**			Sg	09 48 04.4	-0.6
BAR	**Barrett**	**0.67**	**198**			Pg	09 47 55.7	-0.5
BAR				IAML			09 48 04.7	
	comp=N,1μm,0.2s							
BAR				IAML			09 48 04.7	
	comp=E,978nm,0.3s							
GORC	**Green Oak Ranc**	**0.70**	**257**			Pg	09 47 56.1	-0.6
GORC						Sg	09 48 05.5	-0.3
MURC	**Murrieta**	**0.71**	**294**			Pg	09 47 56.4	-0.4
MURC						Sg	09 48 05.8	-0.3
CPE	**Camp Elliot**	**0.72**	**233**			Sg	09 48 05.8	-0.6
CPE	**Camp Elliot**	**0.72**	**233**			Pg	09 47 56.4	-0.7
CPE				IAML			09 48 06.2	
	comp=E,5μm,0.2s							
CPE				IAML			09 48 06.9	
	comp=N,3μm,0.2s							
IKP	**In-Ko-Pah, Jac**	**0.72**	**159**			Pg	09 47 56.7	-0.3
IKP						Sg	09 48 06.2	-0.2
HAY	**Hayfield**	**0.73**	**58**			Pg	09 47 57.2	-0.1
HAY						Sg	09 48 07.4	+0.7
SDRC	**San Diego Road**	**0.73**	**217**			Pg	09 47 56.5	-0.8
SDRC						Sg	09 48 06.0	-0.8
CLI2	**Calipatria 2**	**0.73**	**105**			Sb	09 48 08.7	+0.4
COK2	**Cook Ranch 2**	**0.75**	**129**			Pg	09 47 57.4	-0.2
COK2						Sb	09 48 08.5	-0.2
BLAC	**Blackrock camp**	**0.75**	**2**			Pg	09 47 57.1	-0.6
BLAC						Sg	09 48 07.0	-0.5
WEMD	**Westmorland, C**	**0.76**	**112**			Pg	09 47 58.1	+0.3
WEMD						Sb	09 48 09.3	+0.2
BBSC	**Beaumont Base**	**0.76**	**322**			Sg	09 48 08.3	+0.4
BELC	**Belle Mtn. Jos**	**0.77**	**27**			Pg	09 47 57.4	-0.6
BELC						Sg	09 48 07.6	-0.4
BELC				IAML			09 48 07.8	
	comp=E,507nm,0.5s							
BELC				IAML			09 48 10.3	
	comp=N,387nm,0.5s							
TKX	**Tecate**	**0.77**	**192**			Pg	09 47 57.2	-0.8
TKX						Sg	09 48 07.4	-0.5
RMX	**La Rumorosa**	**0.77**	**158**			Pb	09 47 58.8	-0.2
RMX						Sb	09 48 09.9	+0.3
DUZA	**Dulzura**	**0.77**	**203**			Pg	09 47 57.3	-0.8
DUZA						Sg	09 48 07.2	-0.9
YUH	**Yuha Desert**	**0.79**	**148**			Sg	09 48 08.3	-0.4
YUH	**Yuha Desert**	**0.79**	**148**			Pg	09 47 58.0	-0.4
WESC	**Westside Schoo**	**0.80**	**134**			Pg	09 47 58.3	-0.4
WESC						Sb	09 48 11.1	+0.7
SDMC	**San Diego Miss**	**0.81**	**229**			Pg	09 47 58.1	-0.7
SDMC						Sg	09 48 08.7	-0.5
OLP	**Otay Lakes Par**	**0.83**	**211**			Pg	09 47 58.4	-0.8
OLP						Sg	09 48 09.0	-1.0
IMPE	**Imperial**	**0.83**	**120**			Pg	09 47 58.9	-0.4
IMPE						Sb	09 48 12.2	+0.9
PEC	**Perris**	**0.84**	**313**			Pg	09 47 58.7	-0.7
PEC						Sg	09 48 09.9	-0.5
TPC	**Twentynine Pal**	**0.84**	**21**			Pg	09 47 58.7	-0.8
BC3	**Big Chuckawall**	**0.88**	**67**			Pg	09 47 59.4	-0.7
BC3						Sg	09 48 10.7	-0.8
BC3				IAML			09 48 11.4	
	comp=E,310nm,0.5s							
BC3				IAML			09 48 12.2	
	comp=N,553nm,0.6s							
SGL	**Mount Signal**	**0.89**	**139**			Pg	09 47 59.3	-1.0
SGL						Sg	09 48 11.7	-0.1
ELS	**Elsinore Mount**	**0.90**	**292**			Pg	09 47 59.6	-1.1
ELS	**Elsinore Mount**	**0.90**	**292**			Sg	09 48 11.5	-0.8
CFT	**Crafton Hills**	**0.92**	**321**			Pg	09 48 00.5	-0.4
SLVP	**Salvation Pass**	**0.94**	**95**			Pg	09 47 59.6	-1.7
SLVP						Sg	09 48 12.9	-0.6
SNR	**Schaffner Ranc**	**0.94**	**119**			Pg	09 48 00.2	-1.2
SVD	**Seven Oaks Dam**	**0.97**	**324**			Pg	09 48 01.4	-0.5
SVD						Sg	09 48 13.9	-0.5
TJX	**Tijuana**	**0.97**	**214**			Pg	09 48 01.1	-0.7
TJX						Sg	09 48 14.0	-0.4
GTM	**Goat Mountain**	**0.97**	**3**			Pg	09 48 01.1	-0.9
RSBC	**Riverside Bore**	**1.00**	**311**			Sg	09 48 15.0	-0.4
CBX	**Cerro Bola**	**1.02**	**192**			Pg	09 48 01.9	-1.1
CBX						Sg	09 48 15.1	-1.2
CBX				IAML			09 48 18.6	
	comp=N,440nm,0.5s							
CBX				IAML			09 48 23.8	
	comp=E,519nm,0.9s							
BBRC	**Big Bear Solar**	**1.03**	**336**			Pg	09 48 02.3	-0.7
CLTC	**Calectric**	**1.07**	**316**			Pg	09 48 03.0	-0.9
SIL	**Silver Peak**	**1.08**	**342**			Pg	09 48 03.3	-0.8
COA	**Coachella**	**1.18**	**112**			Pb	09 48 03.5	-2.3
IRM	**Iron Mountain**	**1.35**	**51**			Pn	09 48 08.2	-0.2
IRM				IAML			09 48 28.1	
	comp=N,232nm,0.3s							
IRM				IAML			09 48 28.6	
	comp=E,226nm,0.3s							
GLA	**Glamis**	**1.36**	**101**			Pn	09 48 06.2	-2.4
GLA				IAML			09 48 35.5	
	comp=E,155nm,0.6s							
ESJX	**Sierra Juarez**	**1.37**	**163**			Pn	09 48 07.7	-1.1
ESJX				IAML			09 48 26.9	
	comp=E,348nm,0.2s							
ESJX				IAML			09 48 27.0	
	comp=N,217nm,0.2s							
BFSC	**Mount Baldy Ra**	**1.38**	**312**			Pn	09 48 08.0	-0.9
CCX	**Cicese**	**1.46**	**188**			Pn	09 48 09.4	-0.4
CCX				IAML			09 48 31.9	
	comp=E,209nm,0.3s							
CCX				IAML			09 48 34.8	
	comp=N,165nm,0.6s							
DANC	**Danby, Needles**	**1.57**	**33**			Pn	09 48 11.9	+0.5
DANC				IAML			09 48 37.2	
	comp=N,213nm,0.6s							
DANC				IAML			09 48 37.9	
	comp=E,207nm,1.0s							
MWC	**Mount Wilson**	**1.64**	**304**			Pn	09 48 12.4	0.0
MWC				IAML			09 48 36.8	
	comp=N,264nm,0.5s							
MWC				IAML			09 48 37.8	
	comp=E,169nm,0.6s							
BLYC	**Blythe**	**1.64**	**74**			Pn	09 48 10.6	-1.8
BLYC				IAML			09 48 36.0	
	comp=E,111nm,0.4s							
PASC	**Pasadena Art C**	**1.70**	**301**	Pn		Pn	09 48 13.5	+0.4
PASC				IAML			09 48 37.7	
	comp=N,164nm,0.7s							
VTX	**Valle De La Tr**	**2.00**	**164**			Pb	09 48 19.3	-0.5
GSC	**Goldstone, Bar**	**2.00**	**351**			Pn	09 48 17.1	-0.4
GSC				IAML			09 48 50.2	
	comp=E,124nm,0.5s							
GSC				IAML			09 48 53.7	
	comp=N,79nm,0.8s							
OSI	**Osito Audit: C**	**2.31**	**305**			Pn	09 48 21.8	+0.2
OSI				IAML			09 49 00.5	
	comp=E,72nm,0.6s							
OSI				IAML			09 49 02.1	
	comp=N,66nm,0.7s							
SFX	**San Felipe**	**2.64**	**149**	Pn		Pn	09 48 26.2	+0.2
W13A	**Hualapai Mount**	**2.75**	**49**			Pn	09 48 27.4	-0.4
GWY	**Greenwater Val**	**2.87**	**356**			Pn	09 48 29.2	-0.2
Y14A	**Wickenburg**	**2.92**	**77**			Pn	09 48 29.0	-0.9
214A	**Organ Pipe Nat**	**3.33**	**113**	Pn		Pn	09 48 35.7	0.0
WCT	**Wildcat Mounta**	**3.47**	**357**	Pn		Pn	09 48 35.5	-2.1
PRN	**Pahroc Range**	**4.23**	**15**	Pn		Pn	09 48 48.5	+0.4
DSP	**Deep Springs**	**4.24**	**343**	Pn		Pn	09 48 48.6	+0.6
X16A	**Lo Mia Camp, P**	**4.29**	**74**			Pn	09 48 48.5	-0.4
LCMT	**Little Creek M**	**4.51**	**34**	Pn		Pn	09 48 49.8	-2.1
NV11	**Mina Array Sit**	**5.29**	**345**	Pn		Pn	09 49 02.3	-0.4
X18A	**Snowflake**	**5.51**	**76**	Pn		Pn	09 49 05.5	-0.3

*UPP **20** 09:59:53.2±2.6, 64°.52N×30°.96E, h0km, ML2.4, Presumed earthquake*
*KOLA **20** 09:59:55.6, 64°.76N×30°.59E, h0km, ML2.3, Error ellipse: s-maj=17.9km s-min=12.9km az=10.0, Kostomuksha, Karelia*

ISC 20 09:59:48.3±2.1, 64°.5N±0°.1×30°.30E±0°.07, h0km, n11, σ1s98/18, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVDA	**Kovda**	**2.45**	**25**	P	**Pb**	**10 00 32.4**	**-0.8**
KVDA				S	**Sn**	**10 00 59.4**	**-0.8**
KALU	**Kalix**	**3.23**	**298**	P	**Pg**	**10 00 48.1**	**-2.1**
KALU				S	**Sb**	**10 01 27.9**	**+1.5**
APA0	**Apatity Array**	**3.31**	**18**	P	**Pn**	**10 00 43.6**	**+2.2**
APA0				S	**Sn**	**10 01 18.6**	**-2.8**
SJUU	**Sjulsmark**	**3.83**	**289**	P	**Pb**	**10 00 57.5**	**+0.9**
SJUU				S	**Sb**	**10 01 44.8**	**+1.3**
LVZ	**Lovozero**	**3.85**	**25**	S	**Sn**	**10 01 33.0**	**-1.6**
PAJU	**Pajala**	**3.90**	**314**	P	**Pb**	**10 00 56.8**	**-1.1**
ERTU	**Ertsjaerv**	**3.96**	**305**	P	**Pb**	**10 00 57.2**	**-1.7**
ODEU	**Stanfors**	**4.15**	**273**	P	**Pb**	**10 01 00.7**	**-1.4**
ODEU				S	**Sb**	**10 01 54.3**	**+1.5**
UMAU	**Umeaa**	**4.25**	**266**	P	**Pb**	**10 01 02.2**	**-1.6**
ARCES	**ARCESS Array B**	**5.40**	**342**	P	**Pn**	**10 01 12.6**	**+2.6**
ARCES				S	**Sn**	**10 02 11.0**	**-1.8**
VADS	**Vadso**	**5.67**	**357**	P	**Pn**	**10 01 17.1**	**+3.5**
VADS				S	**Sn**	**10 02 18.9**	**-0.3**

WEL 20 10:01:09.4±0.6, 33°S±12°×178°W±3°.0, h12km, M4.3/7, mB4.8/5, ML4.4/13, MLv4.4/7, Mw(mB)4.1/5, Error ellipse: s-maj=42.2km s-min=3.9km az=112.0, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.41**	**20**	P	Pn	10 02 15.8	-0.3
GLKZ				S	Sn	10 03 05.3	-2.0
MXZ	**Matakaoa Point**	**4.45**	**201**	P	Pn	10 02 18.4	+1.7
MXZ				S	Sn	10 03 09.9	+1.4
WMGZ	**Waiomatatini S**	**4.66**	**199**	P	Pn	10 02 21.4	+1.8
WMGZ				S	Sn	10 03 15.9	+2.3
HAZ	**Te Kaha**	**4.80**	**205**	P	Pn	10 02 24.0	+2.5
HAZ				S	Sn	10 03 20.2	+3.2
PKGZ	**Pakihiroa**	**4.80**	**202**	P	Pn	10 02 23.4	+1.9
PKGZ				S	Sn	10 03 18.5	+1.4
PUZ	**Puketiti**	**4.94**	**199**	P	Pn	10 02 24.4	+0.9
PUZ				S	Sn	10 03 18.3	-2.3
RUGZ	**Raukumara Rang**	**5.02**	**205**	P	Pn	10 02 27.1	+2.4
RUGZ				S	Sn	10 03 23.4	+0.6
TWGZ	**Tauwhareparae**	**5.12**	**201**	P	Pn	10 02 27.1	+1.2
TWGZ				S	Sn	10 03 26.0	+1.0
CNGZ	**Carnagh Statio**	**5.34**	**198**	P	Pn	10 02 29.9	+1.0
TKGZ	**Te Karaka**	**5.40**	**201**	P	Pn	10 02 30.4	+0.7
TKGZ				S	Sn	10 03 31.7	-0.2
MWZ	**Matawai**	**5.41**	**204**	P	Pn	10 02 30.6	+0.6
MWZ				S	Sn	10 03 32.4	+0.3
URZ	**Urewera**	**5.49**	**208**	P	Pn	10 02 31.8	+0.7
URZ				S	Sn	10 03 35.0	+0.9
RIGZ	**Rimuhau**	**5.67**	**201**	P	Pn	10 02 33.4	-0.2
RIGZ				S	Sn	10 03 37.8	-0.8
MUGZ	**Murupara**	**5.81**	**209**	S	Sn	10 03 41.5	-0.6
PRGZ	**Paritu Road**	**5.84**	**199**	S	Sn	10 03 38.9	-3.8
RTZ	**Ruatahuna**	**5.85**	**207**	P	Pn	10 02 35.0	-1.1
RTZ				S	Sn	10 03 42.7	-0.5
SNZ	**Shannon Statio**	**5.87**	**203**	P	Pn	10 02 36.0	-0.4
SNGZ				S	Sn	10 03 43.1	-0.5
MHGZ	**Mahia Peninsul**	**6.05**	**198**	P	Pn	10 02 35.7	-3.0
MHGZ				S	Sn	10 03 41.0	-6.8
WAZ	**Wanganui**	**7.64**	**213**	S	Sn	10 04 21.6	-5.6

*HEL **20** 10:08:06.8±0.3, 61°.07N×30°.32E, h0km, ML2.4, Explosion*
*IDC **20** 10:08:08.6±0.8, 61°.11N×30°.09E, h0km, mb3.3/4, mbtmp3.4/8, ML3.2/4, Error ellipse: s-maj=10.0km s-min=6.9km az=23.0*
*MOS **20** 10:08:08.0±0.5, 61°.13N±0°.05×30°.15E±0°.06, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*BER **20** 10:08:09.1±3.0, 60°.97N×30°.32E, h0km, ML2.5, ML2.4(HEL), Suspected explosion*
*UPP **20** 10:08:11.3±2.9, 61°.07N×29°.79E, h0km, ML2.8, Presumed earthquake*
*DNK **20** 10:08:14.2±1.3, 61°.23N×29°.15E, h0km, ML2.8(UPP), Suspected explosion*

ISC 20 10:08:07.6±0.8, 61°.21N±0°.03×30°.03E±0°.04, h0km, n84, σ1s97/114, mb3.3/3, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.56**	**293**	PG	**Pb**	**10 08 20.1**	**-0.3**
RUF				SG	**Sb**	**10 08 29.5**	**+0.6**
RUF				MSG		10 08 30.4	
	comp=Z,77nm,0.2s						
VJF	**Virojoki** baz=65	**1.39**	**242**	PG	**Pn**	**10 08 32.7**	**-1.4**
VJF				MSG		10 08 50.6	
	comp=Z,50nm,0.2s						
VJF				SG	**Sn**	**10 08 55.3**	**+2.2**
VJF	**Virojoki** baz=65	**1.39**	**242**	PG	**Pn**	**10 08 32.7**	**-1.4**
VJF				MSG		10 08 50.6	
	comp=Z,50nm,0.2s						
VJF				SG	**Sn**	**10 08 55.3**	**+2.2**
JOF	**Joensuu**	**1.82**	**19**	eP	**Pn**	**10 08 40.9**	**+0.8**
JOF	**Joensuu** baz=190	**1.82**	**19**	PG	**Pn**	**10 08 41.0**	**+0.8**
JOF				SG	**Sg**	**10 09 06.3**	**+0.4**
FIA0	**FINESS Array S**	**1.92**	**279**	PB	**Pn**	**10 08 43.0**	**+1.5**
FIA0				MSG		10 09 08.7	
	comp=Z,24nm,0.2s						
FIA0				SN	**Sg**	**10 09 09.9**	**+0.7**
FIA0	**FINESS Array S**	**1.92**	**279**	PB	**Pn**	**10 08 43.0**	**+1.5**
FIA0				MSG		10 09 08.7	
	comp=Z,24nm,0.2s						
FIA0				SN	**Sg**	**10 09 09.9**	**+0.7**
FINES	**FINESS Array B**	**1.92**	**279**	Pg	**Pb**	**10 08 43.2**	**-0.2**
	comp=Z,8.7nm,0.3s,baz=99,slow=16,SNR=194						
FINES				Lg		10 09 10.4	
	comp=Z,13nm,0.3s,baz=97,slow=30,SNR=23						
KAF	**Kangasniemi**	**1.99**	**299**	PB	**Pb**	**10 08 45.4**	**+0.7**
KAF				MSG		10 09 11.6	
	comp=Z,45nm,0.2s						
KAF				SN	**Sg**	**10 09 13.7**	**+2.1**
KAF	**Kangasniemi**	**1.99**	**299**	PB	**Pb**	**10 08 45.4**	**+0.7**
KAF				MSG		10 09 11.6	
	comp=Z,45nm,0.2s						
KAF				SN	**Sg**	**10 09 13.7**	**+2.1**
PVF	**Pernaja** baz=77	**2.14**	**254**	PN	**Pn**	**10 08 46.1**	**+1.5**
PVF				MSG		10 09 13.4	
	comp=Z,22nm,0.2s						
PVF				SG	**Sg**	**10 09 16.8**	**+0.4**
PVF	**Pernaja** baz=77	**2.14**	**254**	PN	**Pn**	**10 08 46.1**	**+1.5**
PVF				MSG		10 09 13.4	
	comp=Z,22nm,0.2s						
PVF				SG	**Sg**	**10 09 16.8**	**+0.4**
NIF	**Nilsia**	**2.42**	**336**	PB	**Pb**	**10 08 51.8**	**-0.2**
NIF				MSG		10 09 23.8	
	comp=Z,17nm,0.2s						
NIF				SB	**Sg**	**10 09 25.9**	**+0.6**
NIF	**Nilsia**	**2.42**	**336**	PB	**Pb**	**10 08 51.8**	**-0.2**
NIF				MSG		10 09 23.8	
	comp=Z,17nm,0.2s						
NIF				SB	**Sg**	**10 09 25.9**	**+0.6**
KEF	**Keuruu**	**2.64**	**294**	eP	**Pb**	**10 08 54.8**	**-0.9**
KEF	**Keuruu**	**2.64**	**294**	PN	**Pb**	**10 08 54.2**	**-1.5**
KEF				SN	**Sb**	**10 09 29.2**	**+0.6**
KEF				MSG		10 09 30.0	
	comp=Z,11nm,0.2s						
KEF	**Keuruu**	**2.64**	**294**	PN	**Pb**	**10 08 54.2**	**-1.5**
KEF				SN	**Sb**	**10 09 29.2**	**+0.6**
KEF				MSG		10 09 30.0	
	comp=Z,11nm,0.2s						
ARBE	**Arbavere**	**2.69**	**230**	eP	**Pn**	**10 08 52.7**	**+0.7**
ARBE	**Arbavere**	**2.69**	**230**	PN	**Pn**	**10 08 53.0**	**+1.0**
ARBE	**Arbavere**	**2.69**	**230**	PN	**Pn**	**10 08 53.0**	**+1.0**
NUR	**Nurmijarvi**	**2.73**	**257**	PN	**Pn**	**10 08 54.7**	**+2.1**
NUR				MSG		10 09 30.2	
	comp=Z,9.8nm,0.2s						
HEL1	**Helsinki** baz=67	**2.73**	**250**	PB	**Pb**	**10 08 56.5**	**-0.8**
HEL1				MSG		10 09 30.0	
	comp=Z,14nm,0.2s						
HEL1				SG	**Sg**	**10 09 34.5**	**-0.8**
HEL1	**Helsinki** baz=67	**2.73**	**250**	PB	**Pb**	**10 08 56.5**	**-0.8**
HEL1				MSG		10 09 30.0	
	comp=Z,14nm,0.2s						
HEL1				SG	**Sg**	**10 09 34.5**	**-0.8**
HEL5	**Espoo, Suvisaa**	**2.83**	**249**	PN	**Pn**	**10 08 55.5**	**+1.6**
HEL5				MSG		10 09 32.6	
	comp=Z,9.0nm,0.2s						
MEF	**Metsahovi**	**2.94**	**253**	eP	**Pn**	**10 08 57.4**	**+1.9**
MEF	**Metsahovi**	**2.94**	**253**	PN	**Pn**	**10 08 57.3**	**+1.8**
MEF				MSG		10 09 36.2	
	comp=Z,11nm,0.2s						
MEF				SB	**Sg**	**10 09 40.5**	**-1.5**
RMF	**Romuvaara**	**3.02**	**359**	PN	**Pn**	**10 08 59.2**	**+2.6**
RMF				SB	**Sb**	**10 09 39.6**	**+0.1**
VSU	**Vasula**	**3.22**	**213**	eP	**Pn**	**10 08 59.6**	**+0.4**
VSU	**Vasula**	**3.22**	**213**	PN	**Pn**	**10 08 59.7**	**+0.4**
VSU				SG	**Sb**	**10 09 47.2**	**+2.0**
TVI	**Tvarminne**	**3.62**	**251**	PN	**Pn**	**10 09 07.4**	**+2.6**
KPF	**Kankaanpaa**	**3.86**	**283**	PN	**Pn**	**10 09 11.5**	**+3.3**
OUF	**Merijarvi**	**4.00**	**325**	PB	**Pb**	**10 09 17.6**	**-1.2**
OUF				SG	**Sg**	**10 10 15.0**	**-0.8**
RAF	**Rauma**	**4.01**	**271**	eP	**Pn**	**10 09 13.4**	**+3.1**
RAF	**Rauma**	**4.01**	**271**	PN	**Pn**	**10 09 12.4**	**+2.2**
RAF				SN	**Sn**	**10 10 01.2**	**+3.3**
OBF0	**Syolatti, Pyha**	**4.23**	**324**	PN	**Pn**	**10 09 18.0**	**+4.7**
OUL	**Oulu** baz=154	**4.32**	**336**	PB	**Pb**	**10 09 22.2**	**-2.1**
OUL				SB	**Sb**	**10 10 20.0**	**+3.2**
OBF8	**Ulkokalla**	**4.35**	**319**	PN	**Pn**	**10 09 18.8**	**+3.9**
KU1	**Kurvinen**	**4.38**	**357**	PN	**Pn**	**10 09 16.1**	**+0.8**
KU2	**Taivalkoski**	**4.59**	**351**	PN	**Pn**	**10 09 21.0**	**+2.8**
AAL	**Aland**	**5.04**	**263**	P	**Pn**	**10 09 25.7**	**+1.3**
AAL				S	**Sn**	**10 10 23.2**	**+0.1**
AAL	**Aland**	**5.04**	**263**	eP	**Pn**	**10 09 25.6**	**+1.3**
AAL	**Aland**	**5.04**	**263**	P	**Pn**	**10 09 25.7**	**+1.3**
AAL				S	**Sn**	**10 10 23.2**	**+0.1**
UMAU	**Umeaa**	**5.09**	**306**	P	**Pn**	**10 09 27.6**	**+2.6**
UMAU	**Umeaa**	**5.09**	**306**	P	**Pn**	**10 09 27.6**	**+2.6**
UMAU	**Umeaa**	**5.09**	**306**	P	**Pn**	**10 09 27.6**	**+2.6**
ODEU	**Stanfors**	**5.34**	**311**	P	**Pn**	**10 09 30.2**	**+1.8**
ODEU	**Stanfors**	**5.34**	**311**	P	**Pn**	**10 09 30.2**	**+1.8**
ODEU	**Stanfors**	**5.34**	**311**	P	**Pn**	**10 09 30.2**	**+1.8**
HUSU	**Husum**	**5.48**	**298**	P	**Pn**	**10 09 32.5**	**+2.1**
HUSU	**Husum**	**5.48**	**298**	P	**Pn**	**10 09 32.5**	**+2.1**
HUSU	**Husum**	**5.48**	**298**	P	**Pn**	**10 09 32.5**	**+2.1**
KALU	**Kalix**	**5.54**	**330**	P	**Pn**	**10 09 35.0**	**+3.9**
KALU	**Kalix**	**5.54**	**330**	P	**Pn**	**10 09 35.0**	**+3.9**
KALU	**Kalix**	**5.54**	**330**	P	**Pn**	**10 09 35.0**	**+3.9**
GRAU	**Graesoe**	**5.70**	**266**	P	**Pn**	**10 09 33.4**	**+0.1**
GRAU	**Graesoe**	**5.70**	**266**	P	**Pn**	**10 09 33.4**	**+0.1**
GRAU	**Graesoe**	**5.70**	**266**	P	**Pn**	**10 09 33.4**	**+0.1**
SJUU	**Sjulsmark**	**5.74**	**322**	eP	**Pn**	**10 09 37.2**	**+3.3**
HEMU	**Hemsoen**	**5.85**	**290**	P	**Pn**	**10 09 37.5**	**+2.1**
HEMU	**Hemsoen**	**5.85**	**290**	P	**Pn**	**10 09 37.5**	**+2.1**
HEMU	**Hemsoen**	**5.85**	**290**	P	**Pn**	**10 09 37.5**	**+2.1**
LANU	**Lannavaara**	**7.67**	**337**	eP	**Pn**	**10 10 02.5**	**+2.0**
HEF	**Hetta**	**7.72**	**342**	eP	**Pn**	**10 10 03.5**	**+2.4**
HEF				eS	**Sn**	**10 11 27.3**	**-1.7**
SALU	**Saltoluokta**	**7.95**	**326**	eP	**Pn**	**10 10 06.0**	**+1.8**
SALU				eS	**Sn**	**10 11 34.6**	**-0.3**
HFS	**Hagfors**	**8.09**	**270**	Pn	**Pn**	**10 10 05.9**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=72,slow=9.5,SNR=18						
HFS				Sn	**Sn**	**10 11 34.5**	**-3.8**
	comp=Z,1.4nm,0.3s,baz=80,slow=24,SNR=9.7						
HFS				Lg	Lg	10 12 21.8	
	comp=Z,1.9nm,0.3s,baz=80,slow=19,SNR=6.8						
	comp=Z,2.7nm,0.5s						
KTK1	**Kautokeino**	**8.33**	**343**	eP	**Pn**	**10 10 11.1**	**+1.6**
KTK1				eS	**Sn**	**10 11 42.8**	**-

PIRO	**Carate, Puerto**	**0.27**	**205**	*eP*		**Pb**	**10 09 02.9**	**-0.2**
NELY	**Ciudad Neily**	**0.27**	**90**	*eP*		**Pb**	**10 09 03.2**	**+0.1**
VITO	**San Vito**	**0.30**	**56**	*eP*		**Pb**	**10 09 04.1**	**+0.5**
VITO				*eS*		**Sn**	**10 09 10.3**	**-0.6**
EDP2	**Potrero Grande**	**0.37**	**7**	*eP*		**Pb**	**10 09 04.6**	**+0.1**
PANP	**Palmar Norte**	**0.39**	**323**	*eP*		**Pb**	**10 09 04.1**	**-0.8**
RSRNO	**Rio Sereno**	**0.39**	**65**	*eP*		**Pb**	**10 09 05.6**	**+0.6**
DMCAL	**E. de Neily**	**0.42**	**87**	*eP*		**Pb**	**10 09 05.5**	**0.0**
ALCO	**Alturas Coton,**	**0.48**	**52**	*eP*		**Pb**	**10 09 06.5**	**-0.1**
ALCO				*eS*		**Sb**	**10 09 14.3**	**+0.8**
BURE	**Buenos Aires**	**0.53**	**347**	*eP*		**Pb**	**10 09 06.7**	**-0.6**
BRU2	**Volcan**	**0.54**	**75**	*i P*		**Pb**	**10 09 07.7**	**+0.2**
BRU2				*eS*		**Sn**	**10 09 16.4**	**-0.6**
BRU2	**Volcan**	**0.54**	**75**	*eP*		**Pb**	**10 09 07.2**	**-0.3**
TBS2		**0.57**	**76**	*eP*		**Pn**	**10 09 09.0**	**-0.1**
DRK0	**Durika**	**0.61**	**358**	⇃*i P*		**Pb**	**10 09 08.0**	**-0.7**
DRK0				*eS*		**Sb**	**10 09 16.7**	**-0.2**
DRK0	**Durika**	**0.61**	**358**	*eP*		**Pb**	**10 09 08.0**	**-0.7**
EDPE	**Pejibaye, P**	**0.61**	**326**	*eP*		**Pb**	**10 09 07.7**	**-0.9**
JEFFS	**S de V. Baru**	**0.68**	**88**	*eP*		**Pb**	**10 09 09.7**	**0.0**
BANCO	**falda S V. Bar**	**0.69**	**84**	*eP*		**Pb**	**10 09 09.9**	**0.0**
BQTLY	**Boquete Panama**	**0.76**	**82**	*eP*		**Pb**	**10 09 10.7**	**-0.4**
CGUAY	**Guayabal, Coch**	**0.88**	**102**	*eP*		**Pb**	**10 09 12.9**	**-0.2**
CEUA	**Cerro Uatsi, L**	**1.00**	**16**	*eP*		**Pb**	**10 09 14.5**	**-0.8**
BUS1	**Rivas**	**1.04**	**330**	*eP*		**Pb**	**10 09 14.5**	**-1.6**
RBALA	**Bur**	**1.08**	**78**	*eS*		**Sb**	**10 09 30.1**	**0.0**
RBALA	**Bur**	**1.08**	**78**	*eP*		**Pn**	**10 09 15.3**	**-0.6**
CHGR2	**Aguacate**	**1.10**	**75**	*eP*		**Pn**	**10 09 15.6**	**-0.6**
CHGR2				*eS*		**Sb**	**10 09 30.1**	**-0.7**
RGM0	**Gandoca**	**1.11**	**33**	*eP*		**Pn**	**10 09 14.8**	**-1.6**
LAES	**El Progreso Va**	**1.12**	**9**	*eP*		**Pn**	**10 09 16.8**	**+0.4**
LAES				*eS*		**Sn**	**10 09 32.8**	**+1.8**
LLNJ	**Naranjito**	**1.20**	**313**	*eP*		**Pn**	**10 09 17.5**	**0.0**
PIEC	**Cerro El Cedra**	**1.21**	**323**	*eP*		**Pn**	**10 09 17.6**	**-0.4**
VERH	**Veragua Rainfo**	**1.27**	**1**	*eP*		**Pn**	**10 09 18.9**	**+0.3**
LCR2	**La Lucha 2**	**1.33**	**324**	*eP*		**Pn**	**10 09 19.3**	**-0.3**
LCR2				*eS*		**Sn**	**10 09 36.6**	**-0.1**
PICV	**PH. Pirrs**	**1.37**	**315**	*eP*		**Pn**	**10 09 19.9**	**0.0**
PAR1A	**Puntarenas Pro**	**1.39**	**313**	*eP*		**Pb**	**10 09 21.3**	**-0.4**
KKNTU	**Kakint²**	**1.41**	**82**	*eS*		**Sn**	**10 09 39.0**	**+0.8**
RESJ	**San Isidro (Tu**	**1.43**	**343**	*eP*		**Pn**	**10 09 21.6**	**+0.8**
ABRB	**Las Abras (San**	**1.43**	**340**	*eP*		**Pn**	**10 09 21.7**	**+0.6**
CVTQ	**Turrialba Volc**	**1.45**	**338**	*eP*		**Pn**	**10 09 20.8**	**-0.5**
LCOCO	**El Coco**	**1.46**	**347**	*eP*		**Pn**	**10 09 21.9**	**+0.7**
HDC	**Heredia**	**1.61**	**327**	*eP*		**Pn**	**10 09 24.1**	**+0.9**
CEDE	**Laguna Cedeo**	**2.34**	**321**	*eP*		**Pn**	**10 09 35.2**	**+1.9**
JTS	**Las Juntas de**	**2.36**	**314**	*eP*		**Pn**	**10 09 35.6**	**+2.0**

IDC 20 10:36:13.3±954.0, 56°.16N×0°.65E, h0km, Error ellipse: s-maj=421.6km s-min=196.0km az=121.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**10.80**	**127**	I	I	11 41 00.0	
	baz=316,slow=328,SNR=2.4						
I43RU	**DUBNA INFRASON**	**20.08**	**73**	I	I	12 32 00.0	
	baz=282,slow=325,SNR=5.0						
I48TN	**KESRA INFRASON**	**21.20**	**160**	I	I	12 46 50.0	
	baz=344,slow=315,SNR=0.8						

*SOME **20** 10:49:57.4, 43°.72N×69°.65E*

NNC 20 10:49:58.3±1.8, 43°.67N×69°.75E, h0km, mb 3.6, mpv 3.0, 2C, Error ellipse: s-maj=11.0km s-min=8.3km az=177.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.64**	**174**	P	Pn	10 50 14.2	-0.5
	4.5nm,0.3s						
BRLS				S	Sn	10 50 26.6	+1.0
	26nm,0.4s						
KK31	**Karatay Array**	**0.79**	**135**	⇑P	Pg	10 50 13.7	+0.2
	3.0nm,0.4s,baz=321,slow=14,SNR=35						
KK31				⇑S	Sg	10 50 24.7	+1.0
	44nm,0.6s,baz=310,slow=30,SNR=21						
IUG	**Iuzhnay**	**1.53**	**172**	P	Pb	10 50 27.6	-0.1
	31nm,0.5s						
IUG				S	Sn	10 50 49.6	+1.9
	42nm,0.4s						
MRKS	**Merke**	**2.70**	**109**	Pg	Pb	10 50 48.1	+0.5
	3.4nm,0.3s						
MRKS				Lg	Lg	10 51 24.5	
	6.7nm,0.4s						
KRBS	**Karabastau**	**4.30**	**88**	Pg	Pb	10 51 16.3	+1.5
	3.6nm,0.6s						
KRBS				Lg	Lg	10 52 12.9	
	4.2nm,0.5s						

*NEIC **20** 10:52:08.0±2.1, 68°.639N×0°.009×147°.25W±0°.05, h10km±1km, Error ellipse: s-maj=3.2km s-min=2.9km az=253.0*

AEIC 20 10:52:07.9±1.4, 68°.62N±0°.01×147°.32W±0°.04, h15km±6km, ML3.2, ML3.2/108(NEIC), Error ellipse: s-maj=2.5km s-min=1.6km az=119.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E24K	**Your Creek**	**0.70**	**219**		Pg	10 52 21.4	-0.1
E24K				Sg	Sb	10 52 31.0	-0.2
D24K	**Happy Valley**	**0.76**	**315**		Pb	10 52 23.1	+0.2
D24K					Sb	10 52 33.6	+0.5
D25K	**Kavik River**	**0.79**	**25**		Pg	10 52 22.6	-0.6
D25K				Sg	Sg	10 52 32.0	-1.5
E25K	**Arctic Village**	**0.82**	**127**		Pb	10 52 24.4	+0.5
E25K	**Arctic Village**	**0.82**	**127**		Sn	10 52 36.6	-0.3
TOLK	**Toolik Lake Re**	**0.82**	**273**		Pg	10 52 23.9	0.0
TOLK	**Toolik Lake Re**	**0.82**	**273**		Sb	10 52 35.5	+0.6
E23K	**Chandalar**	**1.02**	**238**		Pb	10 52 26.8	-0.5
F24K	**Squaw Lake**	**1.12**	**191**		Pn	10 52 29.2	0.0
F24K				IAML		10 52 48.8	
	comp=E,308nm,0.5s						
F24K	**Squaw Lake**	**1.12**	**191**		Sn	10 52 44.9	+0.5
F25K	**Christian Rive**	**1.21**	**148**		Pg	10 52 31.8	+0.6
C24K	**Franklin Bluff**	**1.21**	**337**		Pg	10 52 31.0	-0.2
C24K					Sg	10 52 47.8	+0.8
D23K	**Nanushuk River**	**1.27**	**287**		Pg	10 52 32.8	+0.5
D23K				IAML		10 52 53.3	
	comp=N,276nm,0.7s						
D23K				IAML		10 52 54.3	
	comp=E,387nm,0.7s						
F26K	**Sheenjek River**	**1.51**	**126**		Pg	10 52 37.4	+0.5
C26K	**Camden Bay**	**1.56**	**32**		Pg	10 52 38.2	+0.3
C26K				IAML		10 53 06.9	
	comp=N,169nm,0.9s						
BMAR	**Burnt Mountain**	**1.58**	**138**		Pg	10 52 38.6	+0.3
C27K	**Jago River**	**1.64**	**50**		Pb	10 52 38.3	+0.4
C23K	**Itkillik River**	**1.69**	**318**		Pb	10 52 38.9	+0.1
C23K				IAML		10 53 06.3	
	comp=E,202nm,0.7s						
C23K				IAML		10 53 10.7	
	comp=N,230nm,0.7s						
E22K	**Anaktuvuk Pass**	**1.73**	**256**		Pb	10 52 40.0	+0.5
COLD	**Coldfoot**	**1.77**	**219**		Pn	10 52 37.8	-0.2
G24K	**Hadweenzic Riv**	**1.93**	**182**		Pb	10 52 42.6	-0.1
G24K				IAML		10 53 58.1	
	comp=E,165nm,0.9s						
G24K				IAML		10 53 58.2	
	comp=N,236nm,0.8s						
D22K	**Ayikyak River**	**1.97**	**280**		Pb	10 52 44.2	+0.8
D22K				IAML		10 53 13.0	
	comp=N,320nm,0.8s						
D22K				IAML		10 53 13.6	
	comp=E,220nm,0.6s						
F22K	**John River**	**2.14**	**241**		Pb	10 52 45.5	-0.8
G26K	**Porcupine Rive**	**2.15**	**140**		Pb	10 52 44.8	-1.7
G26K				IAML		10 53 36.8	
	comp=E,98nm,1.1s						
G26K				IAML		10 54 04.9	
	comp=N,100nm,0.8s						
E27K	**Coleen River**	**2.16**	**99**		Pb	10 52 45.6	-1.2
E27K				IAML		10 54 08.4	
	comp=N,104nm,1.1s						
G23K	**Bananza Creek**	**2.18**	**210**		Pb	10 52 47.0	+0.1
D27M	**Malcolm River**	**2.38**	**72**		Pb	10 52 50.1	-0.4
H25L	**Birch Creek**	**2.43**	**165**		Pb	10 52 49.4	-2.0
F21K	**Alatna River**	**2.72**	**242**		Pb	10 52 54.2	-1.9
C21K	**Knifeblade Rid**	**2.75**	**285**		Pn	10 52 53.9	+2.3
B22K	**Teshekpuk Lake**	**2.76**	**312**		Pn	10 52 53.5	+2.0
B21K	**Ikpikpuk River**	**2.80**	**294**		Pn	10 52 54.1	+2.0
B21K				IAML		10 54 33.4	
	comp=N,112nm,0.9s						
G27K	**Doyon Strip**	**2.82**	**127**		Pn	10 52 52.5	0.0
E28M	**Babbage River**	**2.85**	**87**		Pb	10 52 55.9	-2.6
H23K	**Yukon River**	**2.94**	**198**		Pn	10 52 55.9	+1.8
D20K	**Etivluk River**	**3.40**	**276**		Pn	10 53 01.7	+1.4
E29M	**Blow River**	**3.48**	**89**		Pn	10 53 04.1	+2.6
POKR	**Poker Plat Res**	**3.52**	**181**		Pn	10 53 05.4	+3.4
IMAR	**Indian Mountai**	**3.63**	**226**	Pn	Pn	10 53 06.4	+2.8
B20K	**Meade River**	**3.76**	**296**	Pn	Pn	10 53 07.3	+2.0
MLY	**Manley**	**3.85**	**202**		Pn	10 53 09.0	+2.4
MLY				IAML		10 55 10.6	
	comp=N,35nm,0.9s						
IL31		**3.87**	**177**		Pn	10 53 09.4	+2.7
E19K	**Redstone River**	**3.90**	**257**		Pn	10 53 09.6	+2.4
G29M	**Pine Creek**	**3.93**	**112**		Pn	10 53 10.6	+2.9
CCB	**Clear Creek Bu**	**4.00**	**183**		Pn	10 53 11.4	+2.9
CCB				IAML		10 53 59.0	
	comp=N,36nm,0.8s						
CCB				IAML		10 55 11.7	
	comp=E,28nm,0.9s						
NEA2	**Nenana**	**4.10**	**191**		Pn	10 53 12.8	+2.7
NEA2				IAML		10 55 24.5	
	comp=E,29nm,1.1s						
NEA2				IAML		10 55 28.4	
	comp=N,19nm,1.2s						
WRH	**Wood River Hil**	**4.18**	**185**		Pn	10 53 13.7	+2.6
H29M	**Whitestone**	**4.21**	**121**		Pn	10 53 14.3	+2.8
HDA	**Harding Lake**	**4.23**	**178**		Pn	10 53 14.2	+2.4
I28M	**Miner Creek**	**4.30**	**134**		Pn	10 53 16.2	+3.3
H20K	**Anotleneega Mo**	**4.31**	**227**		Pn	10 53 15.5	+2.6
F19K	**Shaleruckik Mo**	**4.36**	**251**		Pn	10 53 15.2	+1.7
C19K	**Lookout Ridge**	**4.47**	**282**	Pn	Pn	10 53 17.5	+2.4
C19K				IAML		10 55 40.0	
	comp=E,32nm,1.1s						
G19K	**Purcell Mounta**	**4.51**	**241**	Pn	Pn	10 53 17.6	+1.9
G30M	**tAoh Zraii Nji**	**4.52**	**106**	Pn	Pn	10 53 17.5	+1.7
EGAK	**Eagle**	**4.57**	**145**		Pn	10 53 18.9	+2.5
SCRK	**Sand Creek**	**4.85**	**162**		Pn	10 53 23.5	+3.1
K24K	**Donnelly Dome**	**4.88**	**172**		Pn	10 53 24.4	+3.7
MCK	**McKinley**	**4.95**	**188**	Pn	Pn	10 53 25.5	+3.8
MCK				IAML		10 55 44.0	
	comp=N,14nm,1.0s						
MCK				IAML		10 55 44.6	
	comp=E,14nm,1.2s						
RIDG	**Independent Ri**	**5.00**	**167**		Pn	10 53 25.6	+3.1
C18K	**Utukok River**	**5.07**	**277**	Pn	Pn	10 53 25.7	+2.3
C18K				IAML		10 56 03.8	
	comp=E,25nm,1.0s						
F18K	**Selawik**	**5.13**	**253**		Pn	10 53 26.4	+2.4
DOT	**Dot Lake**	**5.16**	**164**		Pn	10 53 27.8	+3.2
G18K	**Tagagawik**	**5.17**	**243**	Pn	Pn	10 53 26.8	+2.1
G31M	**Satah River**	**5.24**	**103**	Pn	Pn	10 53 27.4	+1.8
RND	**Reindeer**	**5.27**	**188**		Pn	10 53 29.3	+3.1
I30M	**Mount Dempster**	**5.49**	**123**		Pn	10 53 31.2	+2.1
H31M	**Peel River**	**5.78**	**113**	Pn	Pn	10 53 36.0	+3.0
L26K	**Log Cabin Wild**	**5.85**	**162**		Pn	10 53 36.9	+2.9
PPLA	**Purkeypile**	**6.08**	**202**	Pn	Pn	10 53 39.6	+2.2
K29M	**Barlow Dome**	**6.21**	**136**		Pn	10 53 42.1	+2.9
M26K	**Nabesna, AK**	**6.50**	**162**	Pn	Pn	10 53 46.8	+3.8
C16K	**Lisburne Hills**	**6.64**	**275**	Pn	Pn	10 53 45.7	+0.8
L29M	**L29M**	**6.69**	**141**	Pn	Pn	10 53 45.9	+0.3
J17K	**VABM Dome**	**7.09**	**228**	Pn	Pn	10 53 52.0	+0.9
M29M	**Somme Creek**	**7.20**	**145**	Pn	Pn	10 53 55.4	+2.7
L18K	**Granite Mounta**	**7.51**	**216**	Pn	Pn	10 53 58.5	+1.8
C36M	**Paulatuk**	**8.37**	**74**	Pn	Pn	10 54 10.0	+1.5
MMPY	**Sheldon Lake,**	**8.94**	**125**	Pn	Pn	10 54 19.0	+2.6

*NEIC **20** 10:52:54.2±1.2, 68°.652N±0°.005×147°.28W±0°.05, h12km±4km, Error ellipse: s-maj=2.9km s-min=0.8km az=86.0*

AEIC 20 10:52:54.0±1.1, 68°.63N±0°.02×147°.33W±0°.04, h15km±6km, ML3.3, ML3.4/144(NEIC), Error ellipse: s-maj=2.4km s-min=2.1km az=48.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E24K	**Your Creek**	**0.71**	**218**		Pg	10 53 07.6	-0.2
E24K					Sb	10 53 17.8	+0.1
D24K	**Happy Valley**	**0.75**	**315**		Pb	10 53 08.8	0.0
D24K				Sg	Sb	10 53 19.0	+0.2
D24K				IAML		10 53 27.7	
	comp=N,1μm,0.9s						
D25K	**Kavik River**	**0.77**	**26**		Pg	10 53 08.7	-0.3
D25K					Sg	10 53 18.5	-0.7
TOLK	**Toolik Lake Re**	**0.82**	**272**		Pb	10 53 10.3	+0.3
TOLK					Sb	10 53 21.5	+0.6
E25K	**Arctic Village**	**0.83**	**128**		Pb	10 53 10.5	+0.4
E25K					Sb	10 53 21.7	+0.6
E23K	**Chandalar**	**1.03**	**237**		Pb	10 53 13.4	-0.2
E23K					Sg	10 53 27.7	+0.4
F24K	**Squaw Lake**	**1.14**	**191**		Pn	10 53 15.7	+0.2
F24K				IAML		10 53 34.9	
	comp=E,1μm,0.5s						
F24K				IAML		10 53 35.4	
	comp=N,722nm,0.4s						
C24K	**Franklin Bluff**	**1.20**	**336**		Pg	10 53 17.2	+0.2
C24K				Sn	Sg	10 53 34.4	+1.7
C24K				IAML		10 53 37.1	
	comp=N,549nm,0.8s						
F25K	**Christian Rive**	**1.22**	**148**		Pg	10 53 17.9	+0.4
F25K					Sg	10 53 34.5	+1.1
F25K				IAML		10 53 39.4	
	comp=N,644nm,0.8s						
F25K				IAML		10 53 39.5	
	comp=E,525nm,1.1s						
D23K	**Nanushuk River**	**1.27**	**287**	Pn	Pb	10 53 17.9	+0.3
D23K				IAML		10 53 43.3	
	comp=E,804nm,0.9s						
D23K				IAML		10 53 45.8	
	comp=N,735nm,1.0s						
F26K	**Sheenjek River**	**1.52**	**127**	Pn	Pb	10 53 21.8	0.0
C26K	**Camden Bay**	**1.55**	**33**		Pn	10 53 21.3	+0.2
C26K				IAML		10 53 48.4	
	comp=E,457nm,1.0s						
C26K				IAML		10 53 52.7	
	comp=N,586nm,1.1s						
BMAR	**Burnt Mountain**	**1.59**	**138**	Pn	Pn	10 53 21.8	+0.2
C27K	**Jago River**	**1.63**	**51**		Pn	10 53 22.3	+0.1
C27K				IAML		10 53 51.2	
	comp=E,438nm,0.9s						
C23K	**Itkillik River**	**1.68**	**317**		Pn	10 53 23.5	+0.6
E22K	**Anaktuvuk Pass**	**1.74**	**255**		Pn	10 53 24.6	+0.9
E22K				IAML		10 53 54.3	
	comp=N,244nm,1.1s						
COLD	**Coldfoot**	**1.78**	**219**	Pn	Pn	10 53 25.0	+0.8
G25K	**Bearman Lake**	**1.93**	**165**		Pb	10 53 29.4	+0.5
G24K	**Hadweenzic Riv**	**1.94**	**182**	Pn	Pn	10 53 26.5	+0.1
G24K				IAML		10 54 01.7	
	comp=N,382nm,1.0s						
G24K				IAML		10 54 05.4	
	comp=E,197nm,1.0s						
D22K	**Ayikyak River**	**1.97**	**280**	Pn	Pn	10 53 26.9	+0.1
D22K				IAML		10 54 03.2	
	comp=E,372nm,0.6s						
F22K	**John River**	**2.15**	**240**		Pb	10 53 32.2	-0.3
G26K	**Porcupine Rive**	**2.16**	**140**	Pn	Pn	10 53 29.8	+0.3
E27K	**Coleen River**	**2.17**	**99**	Pn	Pn	10 53 30.4	+0.8
G23K	**Bananza Creek**	**2.19**	**209**	Pn	Pn	10 53 30.1	+0.2
G23K				IAML		10 54 07.6	
	comp=E,301nm,0.8s						
G23K				IAML		10 54 14.6	
	comp=N,206nm,1.1s						
D27M	**Malcolm River**	**2.38**	**72**	Pn	Pn	10 53 31.9	-0.6
D27M				IAML		10 54 19.9	
	comp=N,188nm,1.0s						
F21K	**Alatna River**	**2.72**	**242**	Pn	Pn	10 53 38.2	+1.0
F21K				IAML		10 54 21.6	
	comp=N,126nm,0.7s						
F21K				IAML		10 54 27.4	
	comp=E,133nm,0.8s						
B22K	**Teshekpuk Lake**	**2.75**	**311**	Pn	Pn	10 53 38.1	+0.7
B21K	**Ikpikpuk River**	**2.79**	**294**	Pn	Pn	10 53 39.4	+1.3
B21K				IAML		10 54 50.6	
	comp=N,112nm,0.9s						
G27K	**Doyon Strip**	**2.83**	**128**	Pn	Pn	10 53 39.3	+0.6
G27K				IAML		10 54 37.6	
	comp=E,112nm,1.0s						
G27K				IAML		10 54 38.5	
	comp=N,100nm,1.0s						
E28M	**Babbage River**	**2.85**	**87**	Pn	Pn	10 53 38.3	-0.7
E28M				IAML		10 54 34.8	
	comp=E,82nm,1.2s						
E28M				IAML		10 54 44.4	
	comp=N,84nm,1.1s						
F28M	**Old Crow**	**2.97**	**107**	Pn	Pn	10 53 40.1	-0.5
F28M				IAML		10 54 36.3	
	comp=N,122nm,0.8s						
F28M				IAML		10 54 41.1	
	comp=E,84nm,0.7s						
G21K	**Allakaket**	**3.18**	**231**	Pn	Pn	10 53 43.2	-0.2
G21K				IAML		10 54 48.3	
	comp=N,112nm,1.1s						
H27K	**Steamboat Moun**	**3.29**	**134**	Pn	Pn	10 53 45.9	+0.9
H27K				IAML		10 54 51.9	
	comp=N,71nm,0.9s						
H27K				IAML		10 54 53.0	
	comp=E,104nm,1.1s						
D20K	**Etivluk River**	**3.40**	**276**	Pn	Pn	10 53 46.9	+0.4
D20K				IAML		10 55 02.7	
	comp=E,85nm,1.1s						
D20K				IAML		10 55 07.4	
	comp=N,81nm,1.1s						
E29M	**Blow River**	**3.48**	**90**	Pn	Pn	10 53 46.7	-0.9
E29M				IAML		10 54 49.7	
	comp=E,60nm,0.8s						
E29M				IAML		10 54 50.0	
	comp=N,73nm,1.1s						
POKR	**Poker Plat Res**	**3.53**	**181**	Pn	Pn	10 53 48.3	0.0
POKR				IAML		10 54 55.0	
	comp=E,77nm,1.1s						
POKR				IAML		10 54 55.5	
	comp=N,55nm,0.8s						
F20K	**Avaraart Lake**	**3.56**	**247**	Pn	Pn	10 53 48.1	-0.4
F20K				IAML		10 54 52.9	
	comp=N,52nm,0.8s						
F20K				IAML		10 54 52.9	
	comp=E,58nm,0.9s						
IMAR	**Indian Mountai**	**3.64**	**226**	Pn	Pn	10 53 49.6	-0.2
H21K	**Melozitna Rive**	**3.67**	**218**	Pn	Pn	10 53 51.4	+1.1
H21K				IAML		10 54 57.3	
	comp=N,62nm,1.1s						
H21K				IAML		10 54 57.3	
	comp=E,86nm,1.1s						
I26K	**Coal Creek Min**	**3.72**	**152**		Pn	10 53 53.1	+2.2
COLA	**College**	**3.78**	**183**	Pn	Pn	10 53 53.3	+1.6
MLY	**Manley**	**3.86**	**202**	Pn	Pn	10 53 55.3	+2.5
MLY				IAML		10 55 15.0	
	comp=E,38nm,1.1s						
IL31		**3.88**	**177**	Pn	Pn	10 53 56.4	+3.3
ILAR	**Eielson Array**	**3.88**	**177**	Pn	Pn	10 53 56.5	+3.4
E19K	**Redstone River**	**3.90**	**257**	Pn	Pn	10 53 56.2	+2.8
I21K	**Tanana**	**3.92**	**210**	Pn	Pn	10 53 57.2	+3.6
G29M	**Pine Creek**	**3.94**	**112**		Pn	10 53 57.1	+3.3
D19K	**Kuna River**	**3.96**	**273**	Pn	Pn	10 53 56.3	+2.1
CCB	**Clear Creek Bu**	**4.01**	**183**		Pn	10 53 58.2	+3.4
J25K	**Salcha River,**	**4.11**	**168**	Pn	Pn	10 53 59.3	+3.0
J25K				IAML		10 55 04.9	
	comp=E,38nm,0.9s						
NEA2	**Nenana**	**4.12**	**191**	Pn	Pn	10 53 58.2	+1.8
WRH	**Wood River Hil**	**4.19**	**185**	Pn	Pn	10 54 00.4	+3.1
WRH				IAML		10 55 14.4	
	comp=N,30nm,0.7s						
WRH				IAML		10 55 17.1	
	comp=E,40nm,0.9s						
H29M	**Whitestone**	**4.22**	**121**	Pn	Pn	10 53 59.8	+2.1
HDA	**Harding Lake**	**4.25**	**178**		Pn	10 54 00.8	+2.7
HDA				IAML		10 55 14.8	
	comp=E,50nm,1.1s						
I28M	**Miner Creek**	**4.31**	**134**		Pn	10 54 00.2	+1.1
I28M				IAML		10 55 20.0	
	comp=N,38nm,1.2s						
I28M				IAML		10 55 30.9	
	comp=E,32nm,1.1s						
F19K	**Shaleruckik Mo**	**4.37**	**250**		Pn	10 54 01.0	+1.3
F19K				IAML		10 55 22.6	
	comp=N,24nm,1.2s						
F19K				IAML		10 55 29.9	
	comp=E,34nm,1.1s						
J26L	**Joseph Creek**	**4.41**	**158**	Pn	Pn	10 54 00.6	+0.1
J26L				IAML		10 55 27.4	
	comp=E,29nm,1.0s						
F30M	**Barrier River**	**4.44**	**98**	Pn	Pn	10 54 01.1	+0.4
F30M				IAML		10 55 08.0	
	comp=E,31nm,1.1s						
F30M				IAML		10 55 28.7	
	comp=N,42nm,1.1s						
C19K	**Lookout Ridge**	**4.46**	**282**		Pn	10 54 03.5	+2.4
G19K	**Purcell Mounta**	**4.52**	**241**	Pn	Pn	10 54 02.0	+0.1
G30M	**tAoh Zraii Nji**	**4.53**	**106**	Pn	Pn	10 54 01.7	-0.3
G30M				IAML		10 55 22.2	
	comp=E,26nm,1.0s						
G30M				IAML		10 55 30.7	
	comp=N,34nm,0.9s						
BWN	**Browne**	**4.56**	**192**	Pn	Pn	10 54 02.6	+0.2
EGAK	**Eagle**	**4.58**	**145**	Pn	Pn	10 54 03.8	+1.2
EGAK				IAML		10 55 43.8	
	comp=N,27nm,1.1s						
BPAW	**Bear Paw Mtn.**	**4.79**	**200**	Pn	Pn	10 54 06.0	+0.5
BPAW				IAML		10 55 42.5	
	comp=E,28nm,1.2s						
SCRK	**Sand Creek**	**4.87**	**162**	Pn	Pn	10 54 09.7	+2.9
SCRK				IAML		10 55 47.5	
	comp=N,21nm,0.9s						
K24K	**Donnelly Dome**	**4.89**	**172**		Pn	10 54 09.4	+2.5
MCK	**McKinley**	**4.97**	**188**	Pn	Pn	10 54 11.0	+3.0
RIDG	**Independent Ri**	**5.02**	**167**		Pn	10 54 12.3	+3.6
C18K	**Utukok River**	**5.07**	**277**		Pn	10 54 11.4	+2.0
K27K	**Chicken**	**5.08**	**153**		Pn	10 54 12.9	+3.4
INK	**Inuvik**	**5

SCM	**Sheep Creek Mo**	**6.83**	**180**	Pn	Pn	10 54 32.5	-1.1
SKT	**Skwentna**	**6.91**	**197**	Pn	Pn	10 54 35.1	+0.5
M22K	**Willow**	**7.01**	**191**	Pn	Pn	10 54 38.4	+2.5
M20K	**Styx River**	**7.20**	**202**	Pn	Pn	10 54 41.8	+3.1
M29M	**Somme Creek**	**7.21**	**145**		Pn	10 54 41.9	+3.0
SUA	**Susitna One**	**7.34**	**193**		Pn	10 54 42.5	+1.8
STLK	**Strandline Lak**	**7.41**	**197**		Pn	10 54 43.4	+1.9
M30M	**Minto, Yukon**	**7.47**	**139**	Pn	Pn	10 54 43.3	+0.9
N30M	**Aishikik Lake**	**8.39**	**144**	Pn	Pn	10 54 58.2	+3.2
N19K	**Bonanza Creek**	**8.42**	**205**	Pn	Pn	10 54 56.7	+1.3
N31M	**Braeburn, Yuko**	**8.66**	**140**	Pn	Pn	10 55 01.3	+2.7
HYT	**Haines Junctio**	**8.88**	**147**	Pn	Pn	10 55 02.9	+1.2
MMPY	**Sheldon Lake,**	**8.95**	**125**	Pn	Pn	10 55 04.5	+1.9

*NOU **20** 11:22:33.9, 38˚.10S×178˚.46E, h75km, MLv3.8/12, Off E. Coast of N. Island, N.Z.*
*WEL **20** 11:22:38.3±0.7, 38˚.3S×17˚.8E±˚, h48km±5km, M3.1/41, ML3.4/16, MLv3.1/41, Error ellipse: s-maj=5.4km s-min=4.4km az=105.1, confirmed*
ISC 20 11:22:36.2±1.7**, 38˚.02S**±0˚.04×**178˚.12E**±0˚.05**, h77**km±9km**, n86**, σ0°97/102**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.12**	**117**	P		**Pn**		**11 22 47.5**	**+0.2**
PUZ				S		**Sn**		**11 22 54.3**	**-1.3**
PKGZ	**Pakihiroa**	**0.16**	**347**	P		**Pn**		**11 22 47.4**	**-0.1**
PKGZ				S		**Sn**		**11 22 54.0**	**-1.7**
TWGZ	**Tauwhareparae**	**0.19**	**216**	P		**Pn**		**11 22 48.0**	**+0.3**
TWGZ				S		**Sn**		**11 22 55.9**	**-0.2**
WMGZ	**Waiomatatini S**	**0.30**	**49**	P		**Pn**		**11 22 48.9**	**+0.8**
WMGZ				S		**Sn**		**11 22 57.0**	**+0.1**
RUGZ	**Raukumara Rang**	**0.36**	**278**	P		**Pn**		**11 22 48.7**	**+0.1**
RUGZ				S		**Sn**		**11 22 56.2**	**-1.6**
HAZ	**Te Kaha**	**0.38**	**314**	P		**Pn**		**11 22 48.9**	**+0.3**
HAZ				S		**Sn**		**11 22 56.4**	**-1.4**
CNGZ	**Carnagh Statio**	**0.47**	**172**	P		**Pn**		**11 22 50.7**	**+1.3**
CNGZ				S		**Sn**		**11 23 01.2**	**+2.2**
TKGZ	**Te Karaka**	**0.47**	**207**	P		**Pn**		**11 22 50.0**	**+0.6**
TKGZ				S		**Sn**		**11 22 58.8**	**-0.3**
MXZ	**Matakaoa Point**	**0.48**	**18**	P		**Pn**		**11 22 49.3**	**-0.1**
MXZ	**Matakaoa Point**	**0.48**	**18**	S		**Sn**		**11 23 00.4**	**+1.2**
MXZ	**Matakaoa Point**	**0.48**	**18**	P		**Pn**		**11 22 50.5**	**+1.1**
MXZ				S		**Sn**		**11 22 59.8**	**+0.7**
MWZ	**Matawai**	**0.57**	**236**	P		**Pn**		**11 22 50.7**	**+0.4**
MWZ				S		**Sn**		**11 22 59.9**	**-0.8**
RAGZ	**Rawiri**	**0.73**	**229**	P		**Pn**		**11 22 52.8**	**+0.8**
RAGZ				S		**Sn**		**11 23 03.8**	**0.0**
RIGZ	**Rimuhau**	**0.74**	**202**	P		**Pn**		**11 22 53.0**	**+0.9**
RIGZ				S		**Sn**		**11 22 04.4**	**+0.5**
URZ	**Urewera**	**0.83**	**253**	P		**Pn**		**11 22 53.7**	**+0.7**
URZ	**Urewera**	**0.83**	**253**	P		**Pn**		**11 22 53.9**	**+0.8**
URZ				S		**Sn**		**11 23 05.4**	**-0.2**
PRGZ	**Paritu Road**	**0.92**	**192**	P		**Pn**		**11 22 54.9**	**+0.8**
WHRZ	**Whale Island**	**0.92**	**280**	P		**Pn**		**11 22 55.0**	**+0.9**
WHRZ				S		**Sn**		**11 23 06.7**	**-0.8**
SNGZ	**Shannon Statio**	**0.98**	**219**	P		**Pn**		**11 22 56.0**	**+1.1**
SNGZ				S		**Sn**		**11 23 09.5**	**+0.8**
KNZ	**Kokohu**	**1.06**	**199**	P		**Pn**		**11 22 56.4**	**+0.6**
RTZ	**Ruatahuna**	**1.08**	**236**	P		**Pn**		**11 22 57.1**	**+1.0**
EDRZ	**Edgecumbe**	**1.10**	**265**	P		**Pn**		**11 22 57.1**	**+0.8**
EDRZ				S		**Sn**		**11 23 10.6**	**-0.7**
MARZ	**Manawahe**	**1.15**	**271**	P		**Pn**		**11 22 57.2**	**+0.4**
MHGZ	**Mahia Peninsul**	**1.15**	**188**	P		**Pn**		**11 22 57.9**	**+1.1**
MUGZ	**Murupara**	**1.16**	**246**	P		**Pn**		**11 22 57.8**	**+0.8**
RAHZ	**Arahi**	**1.21**	**222**	P		**Pn**		**11 22 58.5**	**+1.3**
OPRZ	**Ohinepanea**	**1.25**	**278**	P		**Pn**		**11 22 58.4**	**+0.3**
WHHZ	**Waihua**	**1.27**	**213**	P		**Pn**		**11 22 59.6**	**+1.3**
TARZ	**Mount Tarawera**	**1.29**	**260**	P		**Pn**		**11 22 59.9**	**+1.2**
MTHZ	**Maungataniwha**	**1.31**	**230**	P		**Pn**		**11 23 00.1**	**+1.2**
RRRZ	**Republican Roa**	**1.31**	**255**	P		**Pn**		**11 22 59.7**	**+0.8**
OMRZ	**Omania**	**1.39**	**266**	P		**Pn**		**11 23 00.6**	**+0.7**
KARZ	**Kaharoa**	**1.48**	**269**	P		**Pn**		**11 23 01.8**	**+0.6**
NMHZ	**Naumai**	**1.49**	**223**	P		**Pn**		**11 23 02.9**	**+1.5**
HRRZ	**Handcock Road**	**1.50**	**255**	P		**Pn**		**11 23 02.3**	**+0.9**
ALRZ	**Allen Road**	**1.50**	**248**	P		**Pn**		**11 23 02.2**	**+0.8**
TGRZ	**Tauranga**	**1.50**	**281**	P		**Pn**		**11 23 01.7**	**+0.3**
ARHZ	**Aropaoanui**	**1.52**	**215**	P		**Pn**		**11 23 03.0**	**+1.3**
MRHZ	**Matea Rd**	**1.57**	**238**	P		**Pn**		**11 23 03.3**	**+1.0**
BKZ	**Black Stump Fm**	**1.72**	**228**	P		**Pn**		**11 23 05.2**	**+0.9**
BKZ	**Black Stump Fm**	**1.72**	**228**	P		**Pn**		**11 23 05.3**	**+1.1**
MCHZ	**McNeill Hill**	**1.81**	**218**	P		**Pn**		**11 23 06.6**	**+1.2**
CKHZ	**Cape Kidnapper**	**1.83**	**206**	P		**Pn**		**11 23 06.2**	**+0.5**
KUTZ	**Kaahu Road**	**1.87**	**255**	P		**Pn**		**11 23 07.3**	**+1.0**
KWHZ	**Kaweka Forest**	**1.93**	**223**	P		**Pn**		**11 23 07.9**	**+0.7**
RITZ	**Rihia Road**	**2.02**	**241**	P		**Pn**		**11 23 09.6**	**+1.3**
KAHZ	**Kahuranaki**	**2.02**	**208**	P		**Pn**		**11 23 08.7**	**+0.4**
TLZ	**Tolley Road**	**2.06**	**261**	P		**Pn**		**11 23 09.6**	**+0.8**
TOZ	**Tahuroa Road**	**2.10**	**277**	P		**Pn**		**11 23 09.9**	**+0.7**
KRHZ	**Kereru**	**2.12**	**220**	P		**Pn**		**11 23 09.8**	**+0.2**
KATZ	**Kakaramea**	**2.13**	**243**	P		**Pn**		**11 23 11.2**	**+1.3**
TMVZ	**Te Maari**	**2.19**	**239**	P		**Pn**		**11 23 11.5**	**+0.9**
ETVZ	**East Tongariro**	**2.20**	**239**	P		**Pn**		**11 23 11.6**	**+0.9**
NTVZ	**North Tongarir**	**2.20**	**240**	P		**Pn**		**11 23 11.7**	**+1.0**
KRVZ	**Karewarewa**	**2.22**	**240**	P		**Pn**		**11 23 12.1**	**+1.0**
PXZ	**Pawanui**	**2.24**	**206**	P		**Pn**		**11 23 10.6**	**-0.5**
OTVZ	**Oturere**	**2.24**	**239**	P		**Pn**		**11 23 12.2**	**+0.9**
NNVZ	**North Ngauruho**	**2.26**	**240**	P		**Pn**		**11 23 12.7**	**+1.1**
SNVZ	**South Ngauruho**	**2.27**	**238**	P		**Pn**		**11 23 12.6**	**+0.9**
WTVZ	**West Tongariro**	**2.27**	**240**	P		**Pn**		**11 23 12.7**	**+1.1**
NGZ	**Ngauruhoe**	**2.29**	**239**	P		**Pn**		**11 23 12.9**	**+0.9**
KUZ	**Kuaotunu**	**2.30**	**303**	P		**Pn**		**11 23 12.2**	**+0.3**
KUZ	**Kuaotunu**	**2.30**	**303**	P		**Pn**		**11 23 12.3**	**+0.4**
MOVZ	**Moawhango**	**2.32**	**232**	P		**Pn**		**11 23 12.7**	**+0.5**
COVZ	**Chateau Observ**	**2.34**	**239**	P		**Pn**		**11 23 13.6**	**+0.9**
WHVZ	**Whangaehu Hut**	**2.35**	**237**	P		**Pn**		**11 23 13.6**	**+0.7**
TWVZ	**Taurewa**	**2.35**	**243**	P		**Pn**		**11 23 13.6**	**+0.8**
FWVZ	**Far West T-bar**	**2.36**	**238**	P		**Pn**		**11 23 13.8**	**+0.8**
MAVZ	**Matarangi**	**2.36**	**237**	P		**Pn**		**11 23 13.9**	**+0.8**
PNHZ	**Pukenui**	**2.41**	**218**	P		**Pn**		**11 23 13.3**	**-0.3**
WPHZ	**Waipukurau**	**2.43**	**212**	P		**Pn**		**11 23 13.5**	**-0.2**
MTVZ	**Mangateitei**	**2.48**	**236**	P		**Pn**		**11 23 15.3**	**+0.8**
PKVZ	**Pokaka**	**2.52**	**239**	P		**Pn**		**11 23 16.0**	**+1.0**
PRHZ	**Porangahau**	**2.53**	**207**	P		**Pn**		**11 23 14.4**	**-0.6**
HIZ	**Hauiti**	**2.62**	**258**	P		**Pn**		**11 23 18.3**	**+2.0**
HIZ	**Hauiti**	**2.62**	**258**	P		**Pn**		**11 23 18.1**	**+1.9**
TSZ	**Takapari Road**	**2.64**	**219**	P		**Pn**		**11 23 16.1**	**-0.5**
WIAZ	**Waiheke Island**	**2.68**	**296**	P		**Pn**		**11 23 18.1**	**+1.0**
DVHZ	**Dannevirke**	**2.74**	**213**	P		**Pn**		**11 23 17.0**	**-1.0**
ANWZ	**Angora Road**	**2.75**	**207**	P		**Pn**		**11 23 17.4**	**-0.7**
BFZ	**Birch Farm**	**3.03**	**208**	P		**Pn**		**11 23 21.0**	**-0.9**
BFZ	**Birch Farm**	**3.03**	**208**	S		**Sn**		**11 23 56.0**	**-1.1**
KHEZ	**Kahui Hut**	**3.46**	**247**	P		**Pn**		**11 23 29.9**	**+2.1**
SNZO	**South Karori**	**4.21**	**218**	P		**Pn**		**11 23 36.5**	**-1.4**
QRZ	**Quartz Range**	**5.16**	**235**	P		**Pn**		**11 23 49.4**	**-1.4**
KHZ	**Kahutara**	**5.62**	**217**	P		**Pn**		**11 23 56.3**	**-0.8**

*GCG **20** 11:26:02.3±1.2, 13˚.09N×89˚.60W, h40km±22km, MD3.6, ML2.6*
*SNET **20** 11:26:02.7±1.1, 13˚.13N×89˚.50W, h38km, ML3.1*
*CATAC **20** 11:26:02.3±0.5, 13˚N±3˚×9˚0W±˚, h24km±2km, M3.3/17, MLv3.3/17, Error ellipse: s-maj=6.8km s-min=3.7km az=24.7, confirmed*
ISC 20 11:25:59.4±2.1**, 12˚.98N**±0˚.08×**89˚.57W**±0˚.06**, h17**km±9km**, n57**, σ0°61/66**, 1D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.56**	**25**	eP		**Pn**		**11 22 12.6**	**+0.1**
LALI				eS		**Sb**		**11 26 19.6**	**+1.2**
LALI	**Alcalda de L**	**0.56**	**25**	*i* P		**Pn**		**11 26 12.6**	**+0.1**
LALI				*i* S		**Sb**		**11 26 20.1**	**+1.8**
LALI				IAML				11 26 21.2	
	comp=N,303nm,0.3s								
LALI	**Alcalda de L**	**0.56**	**25**	P		**Pn**		**11 26 12.7**	**+0.1**
JAYA	**Jayaque - finc**	**0.68**	**10**	eP		**Pn**		**11 26 14.3**	**0.0**
JAYA	**Jayaque - finc**	**0.68**	**10**	eP		**Pn**		**11 26 14.1**	**-0.2**
JAYA				*i* S		**Sb**		**11 26 23.8**	**+1.8**
JAYA	**Jayaque - finc**	**0.68**	**10**	P		**Pn**		**11 26 14.3**	**0.0**
JAYA	**Jayaque - finc**	**0.68**	**10**	S		**Sb**		**11 26 22.6**	**+0.6**
PANCS	**Alcalda de**	**0.73**	**31**	P		**Pn**		**11 26 14.8**	**-0.2**
PANCS	**Alcalda de**	**0.73**	**31**	S		**Sb**		**11 26 23.9**	**+0.4**
LOMA	**Loma Larga**	**0.76**	**30**	eP		**Pn**		**11 26 15.1**	**+0.8**
LOMA	**Loma Larga**	**0.76**	**30**	P		**Pn**		**11 26 15.3**	**-0.2**
LOMA	**Loma Larga**	**0.76**	**30**	S		**Sg**		**11 26 24.6**	**+0.1**
PMON	**Piamonte**	**0.77**	**19**	P		**Pn**		**11 26 15.4**	**-0.1**
PMON	**Piamonte**	**0.77**	**19**	S		**Sb**		**11 26 24.9**	**+0.4**

UEES	**Universidad Ev**	**0.80**	**23**	P		**Pn**	**11 26 16.0**	**+0.1**
UEES	**Universidad Ev**	**0.80**	**23**	S		**Sb**	**11 26 26.1**	**+0.7**
BOQS	**Boqueron**	**0.80**	**20**	*i* P		**Pn**	**11 26 15.9**	**-0.2**
LFRS	**El Faro**	**0.81**	**38**	eP		**Pn**	**11 26 15.8**	**-0.3**
CEVE	**Cerro Verde**	**0.84**	**356**	*i* P		**Pn**	**11 26 16.9**	**+0.2**
CEVE	**Cerro Verde**	**0.84**	**356**	S		**Sg**	**11 26 27.0**	**-0.1**
CEVE	**Cerro Verde**	**0.84**	**356**	P		**Pn**	**11 26 17.0**	**+0.2**
SBLS	**San Blas**	**0.85**	**356**	eP		**Pn**	**11 26 16.8**	**0.0**
SBLS				eP			11 26 16.9	
SNJE	**San Jose**	**0.88**	**358**	eP		**Pn**	**11 26 17.1**	**-0.1**
SNJE				eP			11 26 17.2	
LBRS	**Las Brisas**	**0.91**	**34**	eP		**Pn**	**11 26 17.6**	**+0.2**
NUBE	**Las Nubes**	**0.94**	**347**	eP		**Pn**	**11 26 17.9**	**-0.1**
NUBE	**Las Nubes**	**0.94**	**347**	*i* P		**Pn**	**11 26 17.9**	**-0.1**
NUBE				*i* S		**Sg**	**11 26 29.8**	**-0.2**
NUBE	**Las Nubes**	**0.94**	**347**	P		**Pn**	**11 26 17.8**	**-0.1**
TECO	**Alcaldia de Te**	**0.94**	**54**	eP		**Pb**	**11 26 17.2**	**-0.1**
TECO	**Alcaldia de Te**	**0.94**	**54**	P		**Pn**	**11 26 18.0**	**+0.1**
TECO	**Alcaldia de Te**	**0.94**	**54**	S		**Sb**	**11 26 29.8**	**+0.3**
PAVA	**Las Pavas**	**0.95**	**40**	eP		**Pg**	**11 26 17.9**	**+0.1**
PAVA				eS		**Sb**	**11 26 30.3**	**+0.5**
PAVA	**Las Pavas**	**0.95**	**40**	P		**Pn**	**11 26 18.2**	**+0.1**
FAME	**Alcaldia de Sa**	**0.96**	**333**	P		**Pn**	**11 26 18.5**	**+0.4**
FAME	**Alcaldia de Sa**	**0.96**	**333**	S		**Sg**	**11 26 30.6**	**-0.1**
UESV	**Universidad de**	**1.00**	**49**	P		**Pg**	**11 26 18.6**	**-0.2**
UESV	**Universidad de**	**1.00**	**49**	S		**Sb**	**11 26 30.9**	**-0.2**
LOAL	**Lomas de Alarc**	**1.03**	**348**	P		**Pn**	**11 26 20.3**	**+1.2**
LOAL	**Lomas de Alarc**	**1.03**	**348**	S		**Sb**	**11 26 32.1**	**0.0**
SCLA	**Alcaldia de Sa**	**1.08**	**49**	eP		**Pn**	**11 26 19.9**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.08**	**49**	S		**Sb**	**11 26 33.6**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.08**	**49**	P		**Pg**	**11 26 20.3**	**-0.1**
PACA	**Pacayal**	**1.30**	**68**	S		**Sb**	**11 26 39.5**	**-0.5**
PACA	**Pacayal**	**1.30**	**68**	P		**Pb**	**11 26 23.8**	**+0.3**
LLGN	**La Laguna**	**1.32**	**27**	P		**Pn**	**11 26 23.5**	**+0.4**
LLGN	**La Laguna**	**1.32**	**27**	S		**Sb**	**11 26 39.2**	**-1.2**
MTO3	**Montecristo**	**1.42**	**8**	eP		**Pn**	**11 26 24.7**	**+0.1**
MTO3				eS		**Sn**	**11 26 41.8**	**-1.3**
MTO3	**Montecristo**	**1.42**	**8**	*i* P		**Pn**	**11 26 24.7**	**+0.1**
MTO3				eP		**Pn**	**11 26 24.7**	**+0.1**
MTO3				*i* S		**Sn**	**11 26 42.0**	**-1.2**
MTO3	**Montecristo**	**1.42**	**8**	P		**Pn**	**11 26 24.9**	**+0.3**
ESQI	**Esquipulas**	**1.58**	**8**	eP		**Pn**	**11 26 27.1**	**+0.3**
ESQI				eS		**Sn**	**11 26 45.7**	**-1.3**
ESQI	**Esquipulas**	**1.58**	**8**	P		**Pn**	**11 26 27.3**	**+0.5**
ESQI	**Esquipulas**	**1.58**	**8**	S		**Sn**	**11 26 46.2**	**-0.7**
LCND	**La Caada**	**1.67**	**79**	eP		**Pn**	**11 26 28.3**	**+0.5**
LCND	**La Caada**	**1.67**	**79**	S		**Sn**	**11 26 49.7**	**+0.9**
LCND	**La Caada**	**1.67**	**79**	P		**Pb**	**11 26 28.8**	**-0.8**
CNCH	**Conchagua**	**1.71**	**80**	eP		**Pn**	**11 26 29.1**	**+0.5**
CNCH	**Conchagua**	**1.71**	**80**	S		**Sn**	**11 26 50.7**	**+0.6**
CNCH	**Conchagua**	**1.71**	**80**	P		**Pb**	**11 26 29.5**	**-1.0**

*IDC **20** 11:33:57.4±1.1, 0˚.22S×127˚.52E, h0km, mb3.9/7, mbtmp4.0/8, ML4.2/1, MS3.3/4, Error ellipse: s-maj=52.2km s-min=18.9km az=72.0*
*DJA **20** 11:34:00.7±0.6, 0˚.5S×12˚7E±˚, h10km±5km, M4.2/13, mB5.8/1, mb4.8/3, MLv4.0/13, Mw(mB)5.3/1*
ISC 20 11:33:59.8±0.8**, 0˚.37S**±0˚.06×**127˚.23E**±0˚.08**, h10**km**, n21**, σ1°18/19**, mb4.2/7, MS3.2/4**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.15**	**7**	P		**Pb**		**11 34 20.8**	**-1.0**
TNTI				S		**Sn**		**11 34 38.4**	**+0.7**
SANI	**Sanana**	**2.08**	**217**	P		**Pn**		**11 34 34.1**	**-0.6**
SANI				S		**Sn**		**11 34 59.9**	**-0.8**
NLAI	**Namlea**	**2.85**	**183**	P		**Pn**		**11 34 45.7**	**+0.3**
MSAI	**Masohi**	**3.41**	**150**	P		**Pn**		**11 34 54.1**	**+1.0**
AAI	**Ambon**	**3.43**	**164**	P		**Pn**		**11 34 54.3**	**+0.9**
SWI	**Sorong**	**4.06**	**97**	P		**Pn**		**11 35 02.7**	**+0.6**
LUWI	**Luwuk**	**4.50**	**262**	P		**Pn**		**11 35 08.8**	**+0.6**
APSI	**Ampana**	**5.61**	**265**	P		**Pn**		**11 35 23.9**	**+0.6**
	41nm,0.5s								
KAPI	**Kappang**	**8.78**	**238**	Pn		**Pn**		**11 36 09.7**	**+2.8**
	2.5nm,0.3s,baz=85,slow=7.9,SNR=4.0 4.2nm,0.5s								
WRA	**Warramunga Arr**	**20.66**	**161**	P		**P**		**11 38 39.4**	**-0.5**
	1.2nm,0.4s,baz=342,slow=11,SNR=20 1.2nm,0.4s								
PMG	**Port Moresby**	**21.77**	**115**	LR		LR		11 50 31.0	
	comp=Z,79nm,21.5s,baz=107,slow=46								
ASAR	**Alice Springs**	**24.04**	**165**	P		**P**		**11 39 15.3**	**0.0**
	1.3nm,0.6s,baz=343,slow=9.2,SNR=24 1.3nm,0.6s								
PSI	**Prapat**	**28.47**	**277**	LR		LR		11 50 34.5	
	comp=Z,49nm,21.3s,baz=109,slow=35								
GTA	**Gaotai**	**46.88**	**331**	eP		**P**		**11 42 32.6**	**+2.1**
GTA				pmax		pmax			
	comp=Z,6.0nm,1.2s								
SONM	**Songino Array**	**51.33**	**342**	P		**P**		**11 43 03.5**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=151,slow=8.4,SNR=3.6 comp=Z,0.7nm,0.5s								
MKAR	**Makanchi Array**	**61.21**	**326**	P		**P**		**11 44 14.4**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=114,slow=7.9,SNR=15 comp=Z,1.2nm,0.5s								
YAK	**Yakutsk**	**62.27**	**1**	LR		LR		12 10 58.2	
	comp=Z,20nm,21.6s,baz=74,slow=36								
ZALV	**Zalesovo Beam**	**64.46**	**334**	P		**P**		**11 44 36.3**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=123,slow=5.3,SNR=2.1 comp=Z,0.7nm,0.4s								
KURBB	**Kurchatov Arra**	**65.45**	**328**	P		**P**		**11 44 42.0**	**-0.9**
	comp=Z,2.8nm,0.6s,baz=129,slow=6.4,SNR=14 comp=Z,2.8nm,0.6s								
BVAR	**Borovoye Array**	**71.02**	**328**	P		**P**		**11 45 16.5**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=129,slow=5.7,SNR=2.0 comp=Z,0.7nm,0.6s								
ASF	**Jabal al Asfar**	**90.48**	**302**	LR		LR		12 30 36.9	
	comp=Z,24nm,21.2s,baz=324,slow=38								

*IDC **20** 11:34:54.1±1.3, 0˚.29S×127˚.42E, h0km, mb3.9/5, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=53.3km s-min=21.9km az=72.0*
ISC 20 11:34:59.9±1.3**, 0˚.4S**±0˚.1×**127˚.3E**±0˚.2**, h41**km**, n6**, σ0°47/6**, mb4.0/4, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.82**	**238**	Pn		**Pn**		**11 37 04.9**	**0.0**
	1.2nm,0.3s,baz=58,slow=11,SNR=1.6 4.1nm,0.4s								
WRA	**Warramunga Arr**	**20.63**	**161**	P		**P**		**11 39 35.7**	**-0.4**
	1.9nm,0.5s,baz=341,slow=11,SNR=6.6 1.9nm,0.5s								
ASAR	**Alice Springs**	**24.02**	**165**	P		**P**		**11 40 11.7**	**+0.5**
	1.8nm,0.4s,baz=344,slow=9.8,SNR=6.3 1.8nm,0.4s								
SONM	**Songino Array**	**51.35**	**342**	P		**P**		**11 44 00.5**	**0.0**
	0.6nm,0.5s,baz=152,slow=6.7,SNR=2.9 0.6nm,0.5s								
MKAR	**Makanchi Array**	**61.25**	**326**	P		**P**		**11 45 11.2**	**+0.3**
	0.7nm,0.6s,baz=122,slow=8.6,SNR=3.9 0.7nm,0.6s								
KURBB	**Kurchatov Arra**	**65.49**	**328**	P		**P**		**11 45 38.5**	**-0.4**
	1.6nm,0.6s,baz=126,slow=6.2,SNR=3.7 1.6nm,0.6s								

*IDC **20** 11:47:18.1±0.9, 55˚.04N×158˚.58W, h0km, mb4.0/14, mbtmp4.0/17, ML4.4/3, MS3.5/18, Error ellipse: s-maj=26.2km s-min=14.1km az=1.0*
*NEIC **20** 11:47:22.0±1.1, 54˚.92N±0˚.06×158˚.27W±0˚.06, h31km±6km, Error ellipse: s-maj=8.7km s-min=4.5km az=156.0*
*AEIC **20** 11:47:22.4±1.2, 54˚.90N±0˚.06×158˚.23W±0˚.06, h25km±6km, ML3.9, mb4.1/10(NEIC), ML4.1/46(NEIC), Error ellipse: s-maj=9.8km s-min=4.6km az=161.0*
ISC 20 11:47:21.4±1.4**, 55˚.00N**±0˚.07×**158˚.25W**±0˚.04**, h24**km±11km**, n193**, σ1°12/179**, mb4.0/16, MS3.5/15, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHNA	**Chernabura Isl**	**0.79**	**258**	P		**Pb**		**11 47 36.1**	**-0.3**
CHNA	**Chernabura Isl**	**0.79**	**258**	S		**Sb**		**11 47 46.7**	**0.0**
CNBA	**Chernabura Isl**	**0.79**	**257**			**Pb**		**11 47 35.8**	**-0.7**
CNBA				Sg		**Sb**		**11 47 47.2**	**+0.4**
VNKR	**Veniaminof 5**	**1.21**	**329**			**Pn**		**11 47 43.4**	**+0.6**
VNSG	**Veniaminof 6**	**1.22**	**338**			**Pn**		**11 47 43.4**	**+0.5**
CHGN	**Chignik**	**1.31**	**356**			**Pn**		**11 47 44.3**	**+0.3**
CHGN				Sn		**Sn**		**11 48 02.4**	**+1.7**
CHGN				IAML				11 48 10.4	
	comp=N,3μm,0.8s								

SDPT	**Sand Point**	**1.32**	**286**			**Pn**	**11 47 43.9**	**-0.3**
SDPT				IAML			11 48 10.0	
	comp=N,2μm,0.9s							
SDPT				IAML			11 48 12.7	
	comp=E,2μm,1.2s							
SDPT	**Sand Point**	**1.32**	**286**	P		**Pn**	**11 47 44.2**	**-0.1**
SDPT	**Sand Point**	**1.32**	**286**	S		**Sn**	**11 48 01.6**	**+0.5**
VNHG	**Veniaminof 1**	**1.33**	**337**			**Pn**	**11 47 45.4**	**+1.0**
VNWF	**Veniaminof 8**	**1.37**	**328**			**Pn**	**11 47 46.1**	**+1.1**
VNNF	**Veniaminof 3**	**1.42**	**335**			**Pn**	**11 47 47.1**	**+1.4**
VNFG	**Fog Glacier, M**	**1.48**	**331**			**Pn**	**11 47 48.1**	**+1.5**
VNFG	**Fog Glacier, M**	**1.48**	**331**			**Pn**	**11 47 48.0**	**+1.5**
CHIR	**Chirikof Islan**	**1.71**	**60**			**Pn**	**11 47 49.9**	**+0.3**
CHIR				IAML			11 48 23.7	
	comp=E,2μm,0.7s							
CHIR				IAML			11 48 29.1	
	comp=N,1μm,1.1s							
CHIR	**Chirikof Islan**	**1.71**	**60**	P		**Pn**	**11 47 49.8**	**+0.2**
ANPB	**Aniakchak Plen**	**1.81**	**359**			**Pn**	**11 47 52.5**	**+1.5**
ANPK	**Aniakchak Peak**	**1.84**	**2**			**Pn**	**11 47 53.2**	**+1.7**
PS1A	**Pavlof South-1**	**2.04**	**283**			**Pn**	**11 47 54.5**	**+0.3**
PS1A						**Sn**	**11 48 18.6**	**-0.3**
PVV	**Pavlof Volcano**	**2.06**	**282**			**Pn**	**11 47 54.5**	**0.0**
DOL	**Dolgoi Island**	**2.08**	**276**			**Pn**	**11 47 54.7**	**-0.1**
DOL						**Sn**	**11 48 18.6**	**-1.3**
PS4A	**Pavlof South-4**	**2.10**	**281**			**Pn**	**11 47 55.0**	**+0.1**
HAG	**Hague Volcano**	**2.12**	**280**			**Pn**	**11 47 55.5**	**+0.2**
S12K	**Black Hills**	**2.29**	**289**	Pn		**Pn**	**11 47 58.2**	**+0.7**
S12K				IAML			11 48 38.3	
	comp=E,2μm,0.7s							
S12K				IAML			11 48 43.6	
	comp=N,1μm,0.8s							
DT1	**Dutton Round H**	**2.32**	**274**			**Pn**	**11 47 58.0**	**0.0**
DT1						**Sn**	**11 48 27.2**	**+1.4**
R16K	**Pilot Point**	**2.60**	**8**	Pn		**Pn**	**11 48 02.6**	**+0.8

EYAK	**Cordova Ski Ar**	**8.68**	**45**	P	**Pn**	**11 49 26.7**	**+1.4**
SCM	**Sheep Creek Mo**	**8.92**	**35**	Pn	**Pn**	**11 49 30.1**	**+1.5**
I17K	**Unalakleet**	**9.00**	**353**		**Pn**	**11 49 30.4**	**+0.8**
J19K	**Poorman**	**9.12**	**7**		**Pn**	**11 49 32.8**	**+1.6**
KLU	**Klutina**	**9.19**	**40**		**Pn**	**11 49 32.6**	**+0.4**
BMRM	**Bremner River**	**9.38**	**45**	Pn	**Pn**	**11 49 35.1**	**+0.1**
TRF	**Thorofare Moun**	**9.40**	**22**		**Pn**	**11 49 36.0**	**+0.8**
RND	**Reindeer**	**9.70**	**26**	Pn	**Pn**	**11 49 40.5**	**+1.2**
SNH	**Sunshine Point**	**9.76**	**52**	Pn	**Pn**	**11 49 41.2**	**+1.2**
ATKA	**Atka Island**	**9.88**	**260**	Pn	**Pn**	**11 49 41.5**	**-0.2**
ATKA	**Atka Island**	**9.88**	**260**	P	**Pn**	**11 49 41.6**	**-0.2**
GLB	**Gilahina Butte**	**9.97**	**44**	Pn	**Pn**	**11 49 44.0**	**+1.1**
H17K	**Granite Mounta**	**10.00**	**356**		**Pn**	**11 49 44.3**	**+1.0**
PAX	**Paxson**	**10.34**	**34**		**Pn**	**11 49 48.6**	**+0.6**
GRNC	**Granite Creek**	**10.48**	**50**	Pn	**Pn**	**11 49 51.1**	**+1.0**
H19K	**Roundabout Mou**	**10.60**	**4**		**Pn**	**11 49 50.6**	**-0.8**
M26K	**Nabesna, AK**	**10.84**	**41**	Pn	**Pn**	**11 49 55.8**	**+1.0**
PCA	**Pinnacle**	**10.92**	**55**	Pn	**Pn**	**11 49 57.2**	**+1.3**
G18K	**Tagagawik**	**10.93**	**359**		**Pn**	**11 49 56.9**	**+0.9**
BCPM	**Bancas Point**	**11.16**	**56**	Pn	**Pn**	**11 50 00.4**	**+1.2**
COLA	**College**	**11.17**	**23**	P	**Pn**	**11 50 00.2**	**+0.9**
PNL	**Peninsula**	**11.19**	**58**	P	**Pn**	**11 50 00.1**	**+0.4**
O28M	**Mount Upton**	**11.20**	**52**		**Pn**	**11 50 01.9**	**+1.9**
IL31		**11.31**	**25**		**Pn**	**11 50 02.4**	**+1.1**
ILAR	**Eielson Array**	**11.31**	**25**	Pn	**Pn**	**11 50 01.7**	**+0.4**
	comp=N,0.5nm,0.3s,baz=217,slow=13,SNR=17						
ILAR				Sn	**Sn**	**11 52 02.8**	**-4.0**
	baz=268,slow=30,SNR=0.8						
ILAR				LR	LR	11 54 27.6	
	comp=N,59nm,19.7s,baz=190,slow=38						
ADK	**Adak**	**11.42**	**262**	P	**Pn**	**11 50 02.8**	**0.0**
J25K	**Salcha River,**	**11.59**	**29**		**Pn**	**11 50 06.0**	**+0.9**
KIWB	**Kanaga Island**	**11.70**	**262**	Pn	**Pn**	**11 50 05.7**	**-1.0**
P29M	**Windy Craggy**	**12.00**	**59**		**Pn**	**11 50 12.2**	**+1.6**
S31K	**Pelican**	**12.51**	**67**	Pn	**Pn**	**11 50 17.4**	**-0.2**
SIT	**Sitka**	**12.97**	**71**	P	**Pn**	**11 50 23.8**	**-0.1**
EGAK	**Eagle**	**12.97**	**34**		**Pn**	**11 50 24.7**	**+0.8**
O30N	**Mendenhall**	**13.09**	**55**	Pn	**Pn**	**11 50 25.6**	**0.0**
SKAG	**Skagway**	**13.16**	**61**	P	**Pn**	**11 50 28.1**	**+1.6**
JIS	**Juneau Island**	**13.51**	**66**	P	**Pn**	**11 50 33.5**	**+2.2**
Q32M	**Nakina River**	**14.66**	**64**	Pn	**Pn**	**11 50 48.6**	**+1.4**
R33M	**Jennings River**	**15.37**	**62**	Pn	**Pn**	**11 50 56.6**	**+0.1**
DLBC	**Dease Lake**	**15.81**	**66**	Pn	**P**	**11 51 05.7**	**-0.2**
	comp=N,2.6nm,0.3s,baz=292,slow=9.3,SNR=7.4						
DLBC				LR	LR	11 55 45.0	
	comp=N,378nm,20.1s,baz=264,slow=32 comp=N,24nm,0.8s						
MMPY	**Sheldon Lake,**	**15.82**	**50**	Pn	**Pn**	**11 51 03.7**	**+1.4**
MMPY				IAmb	IAmb	11 51 14.5	
	comp=Z,17nm,1.3s						
H31M	**Peel River**	**15.89**	**38**	Pn	**Pn**	**11 51 04.8**	**+1.6**
H31M				IAmb	IAmb	11 51 31.5	
	comp=Z,10nm,1.1s						
SHEM	**Shemya Is, Ala**	**16.42**	**273**	LR	LR	11 57 42.1	
	comp=Z,72nm,18.8s,baz=87,slow=38						
F30M	**Barrier River**	**16.47**	**31**	P	**Pn**	**11 51 12.3**	**+1.8**
F30M				IAmb	IAmb	11 51 34.2	
	comp=Z,7.3nm,0.8s						
G31M	**Satah River**	**16.53**	**34**	P	**Pn**	**11 51 13.2**	**+2.0**
G31M				IAmb	IAmb	11 51 22.3	
	comp=Z,15nm,1.1s						
INK	**Inuvik**	**17.57**	**31**	P	**Pn**	**11 51 25.4**	**+1.1**
INK	**Inuvik**	**17.57**	**31**	P	**Pn**	**11 51 25.8**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=240,slow=10,SNR=8.5 comp=Z,4.5nm,0.7s						
BBB	**Bella Bella**	**18.04**	**87**	LR	LR	11 56 40.7	
	comp=Z,84nm,21.2s,baz=342,slow=31						
C36M	**Paulatuk**	**21.05**	**34**	P	**P**	**11 52 03.7**	**+0.6**
PEA0B	**Petropavlovsk-**	**25.61**	**284**	P	**P**	**11 52 47.7**	**-0.7**
PETK	**Petropavlovsk-**	**25.61**	**284**	P	**P**	**11 52 47.9**	**-0.6**
PETK	**Petropavlovsk-**	**25.61**	**284**	P	**P**	**11 52 47.1**	**-1.3**
	comp=Z,4.9nm,0.8s,baz=76,slow=14,SNR=7.2						
PETK				LR	LR	12 02 53.7	
	comp=Z,43nm,21.0s,baz=66,slow=37 comp=Z,4.9nm,0.8s						
SEY	**Seymchan**	**26.04**	**308**	LR	LR	12 04 11.7	
	comp=Z,148nm,18.7s,baz=92,slow=39						
NEW	**Newport**	**26.09**	**88**	LR	LR	12 01 50.5	
	comp=Z,64nm,18.4s,baz=346,slow=33						
YBH	**Yreka Blue Hor**	**26.76**	**105**	LR	LR	12 01 15.7	
	comp=Z,8.1nm,20.2s,baz=294,slow=31						
MA2	**Magadan**	**27.35**	**301**	LR	LR	12 05 25.1	
	comp=Z,51nm,18.6s,baz=82,slow=40						
NVAR	**Mina Array Bea**	**31.48**	**105**	P	**P**	**11 53 43.6**	**+2.4**
	comp=Z,0.7nm,0.7s,baz=302,slow=8.5,SNR=6.4						
NVAR				LR	LR	12 03 59.3	
	comp=Z,125nm,20.0s,baz=296,slow=32 comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**33.59**	**91**	P	**P**	**11 54 01.2**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=300,slow=3.5,SNR=7.6 comp=Z,0.5nm,0.7s						
TIXI	**Tiksi**	**34.01**	**327**	IAmb	IAmb	11 54 02.1	
	comp=Z,6.8nm,0.9s						
TIXI				P	**P**	**11 54 02.1**	**-0.5**
TIXI	**Tiksi**	**34.01**	**327**	LR	LR	12 09 44.5	
	comp=Z,75nm,18.4s,baz=86,slow=40						
PFO	**Pinyon Flats O**	**36.02**	**109**	LR	LR	12 06 28.8	
	comp=Z,76nm,18.0s,baz=251,slow=32						
O20A	**White River Ci**	**36.04**	**93**	P	**P**	**11 54 19.5**	**-1.3**
O20A				IAmb	IAmb	11 54 23.5	
	comp=Z,5.1nm,0.8s						
FRB	**Frobisher Bay**	**42.83**	**41**	LR	LR	12 13 38.6	
	comp=Z,116nm,18.2s,baz=88,slow=37						
H11N2	**WAKE ISLAND Hy**	**43.97**	**231**	T	T	12 42 26.0	
	baz=29,slow=76,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**43.98**	**231**	T	T	12 42 30.2	
	baz=29,slow=76,SNR=9.1						
H11N1	**WAKE ISLAND Hy**	**43.99**	**231**	T	T	12 42 41.7	
	baz=29,slow=76,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**45.13**	**230**	T	T	12 43 45.1	
	baz=28,slow=76,SNR=79						
H11S2	**WAKE ISLAND Hy**	**45.15**	**230**	T	T	12 43 48.9	
	baz=28,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy**	**45.15**	**230**	T	T	12 43 50.4	
	baz=28,slow=76,SNR=20						
TXAR	**Lajitas Array**	**46.38**	**101**	P	**P**	**11 55 47.6**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=308,slow=5.9,SNR=7.4 comp=Z,0.7nm,0.7s						
KSRS	**Korea Array**	**51.49**	**282**	P	**P**	**11 56 23.6**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=48,slow=6.9,SNR=5.2 comp=Z,1.5nm,0.8s						
SONM	**Songino Array**	**55.40**	**305**	P	**P**	**11 56 53.4**	**0.0**
	comp=Z,2.2nm,0.7s,baz=49,slow=7.5,SNR=13						
SONM				LR	LR	12 22 21.9	
	comp=Z,74nm,18.3s,baz=18,slow=38 comp=Z,2.2nm,0.7s						
CMIG	**Matias Romero**	**60.94**	**102**	LR	LR	12 22 02.8	
	comp=Z,73nm,19.8s,baz=156,slow=34						
FINES	**FINESS Array B**	**63.85**	**358**	P	**P**	**11 57 51.0**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=15,slow=8.3,SNR=6.8 comp=Z,1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**64.59**	**324**	P	**P**	**11 57 56.0**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=22,slow=6.3,SNR=4.8 comp=Z,0.8nm,0.7s						
ARTI	**Arti**	**65.03**	**339**	LR	LR	12 29 44.5	
	comp=Z,42nm,18.6s,baz=15,slow=39						
BVAR	**Borovoye Array**	**65.08**	**330**	P	**P**	**11 57 59.7**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=38,slow=7.3,SNR=3.7 comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**66.47**	**319**	P	**P**	**11 58 08.2**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=52,slow=5.0,SNR=6.9						
MKAR				LR	LR	12 29 32.2	
	comp=Z,46nm,19.9s,baz=191,slow=38 comp=Z,0.6nm,0.5s						
AAK	**Ala-Archa**	**72.89**	**322**	LR	LR	12 33 44.8	
	comp=Z,48nm,19.8s,baz=356,slow=38						
AKASG	**Malin Array Be**	**74.48**	**355**	P	**P**	**11 58 56.8**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=9.5,slow=5.5,SNR=4.5 comp=Z,0.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**82.18**	**291**	P	**P**	**11 59 40.1**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=14,slow=5.2,SNR=17						
CMAR				LR	LR	12 39 55.8	
	comp=Z,13nm,18.1s,baz=355,slow=38 comp=Z,2.2nm,0.7s						
ESDC	**Sonseca Array**	**83.16**	**20**	P	**P**	**11 59 45.3**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=334,slow=5.4,SNR=5.6 comp=Z,0.8nm,0.8s						
BRTR	**Keskin Array B**	**85.09**	**351**	P	**P**	**11 59 55.2**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=358,slow=3.6,SNR=3.7 comp=Z,0.6nm,0.5s						
H03N2	**Juan Fernandez**	**111.04**	**118**	T	T	14 06 17.8	
	baz=326,slow=77,SNR=11						
H03N1	**Juan Fernandez**	**111.05**	**118**	T	T	14 06 19.3	
	baz=326,slow=77,SNR=13						
H03N3	**Juan Fernandez**	**111.06**	**118**	T	T	14 06 18.5	
	baz=326,slow=77,SNR=10						

HEL 20 12:09:37.3±0.7, 67.75N×20.19E, h0km, ML1.0, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.75**	**66**	PB	Pg	12 09 52.0	+0.4
LANU				SG	Sg	12 09 59.4	-1.8
KIF	**Kilpisjarvi** baz=190	**1.28**	**10**	PG	Pg	12 10 00.7	-1.1
KIF				MSG		12 10 17.2	
	comp=Z,1.6nm,0.2s						
KIF				SG	Sg	12 10 17.4	-1.0
PAJU	**Pajala**	**1.34**	**121**	PN	Pg	12 10 02.3	-0.7
PAJU				SN	Sb	12 10 21.1	0.0
ERTU	**Ertsjaerv**	**1.43**	**146**	SN	Sn	12 10 24.9	+0.9
HEF	**Hetta** comp=Z,0.8nm,0.2s	**1.46**	**61**	MSG		12 10 21.1	
HEF				SN	Sn	12 10 27.4	+2.7
KTK1	**Kautokeino**	**1.70**	**40**	SG	Sn	12 10 30.2	-0.3
TOF	**Tornio**	**2.34**	**134**	PB	Pn	12 10 17.1	+0.2
TOF				MSG		12 10 46.5	
	comp=Z,0.5nm,0.2s						
TOF				SG	Sg	12 10 51.4	-1.0
OBF0	**Syolatti, Pyha**	**3.66**	**151**	PN	Pn	12 10 35.1	+0.1
OBF0	**Syolatti, Pyha**	**3.66**	**151**	SG	Pn	12 10 35.1	+0.1
OBF8	**Ulkokalla**	**3.68**	**157**	SN	Sn	12 11 14.4	-4.9

HEL 20 12:09:37.0±0.1, 62.72N×22.97E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KPF	**Kankaanpaa** baz=20	**0.98**	**206**	PG	Pg	12 09 54.5	-1.2
KPF				MSG		12 10 07.1	
	comp=Z,2.1nm,0.2s						
KPF				SB	Sg	12 10 07.3	-1.1
KEF	**Keuruu** baz=301	**1.04**	**121**	PG	Pg	12 09 55.9	-1.1
KEF				MSG		12 10 08.9	
	comp=Z,1.6nm,0.2s						
KEF				SB	Sg	12 10 10.6	+0.1
SUF	**Sumiainen** baz=274	**1.47**	**88**	PG	Pn	12 10 03.2	-1.5
SUF				MSG		12 10 21.1	
	comp=Z,0.8nm,0.2s						
SUF				SN	Sg	12 10 23.4	-0.6
UMAU	**Umeaa**	**1.56**	**320**	PN	Pn	12 10 05.8	-0.2
UMAU				SN	Sg	12 10 28.2	+1.1
OBF8	**Ulkokalla** comp=Z,1.2nm,0.2s	**1.64**	**7**	MSG		12 10 26.0	
OBF8				SG	Sn	12 10 27.6	-1.1
KAF	**Kangasniemi**	**1.67**	**110**	PG	Pn	12 10 06.8	-0.7
KAF				MSG		12 10 26.8	
	comp=Z,2.0nm,0.2s						
KAF				SN	Sn	12 10 29.8	+0.3
RAF	**Rauma**	**1.79**	**199**	PG	Pn	12 10 09.5	+0.4
RAF				MSG		12 10 30.4	
	comp=Z,1.2nm,0.2s						
RAF				SN	Sn	12 10 32.3	-0.2
HUSU	**Husum**	**1.82**	**292**	SG	Sn	12 10 32.3	-0.9
OUF	**Merijarvi**	**1.84**	**25**	PG	Pn	12 10 09.8	+0.1
OUF				MSG		12 10 31.7	
	comp=Z,1.2nm,0.2s						
OUF				SG	Sn	12 10 34.2	+0.5
OBF0	**Syolatti, Pyha** comp=Z,1.4nm,0.2s	**1.88**	**17**	MSG		12 10 33.0	
FIA0	**FINESS Array S** baz=316	**1.94**	**130**	PG	Pn	12 10 11.3	+0.1
FIA0				MSG		12 10 34.8	
	comp=Z,1.8nm,0.2s						
FIA0				SG	Sb	12 10 37.5	-0.4
HEMU	**Hemsoen**	**2.27**	**271**	PB	Pn	12 10 15.6	-0.1
HEMU				SG	Sn	12 10 45.7	+1.3
NIF	**Nilsia** comp=Z,0.6nm,0.2s	**2.31**	**71**	MSG		12 10 45.1	
NIF				SG	Sb	12 10 47.8	-0.7
OBF4	**Vikkela, Lumij** comp=Z,0.6nm,0.2s	**2.31**	**23**	MSG		12 10 45.4	
OBF4				SG	Sb	12 10 47.8	-0.8

VIE 20 12:11:15.0±0.5, 47.18N×11.08E, h0km, ml0.3/2, Error ellipse: s-maj=3.6km s-min=1.5km az=47.0 6 km WSW of Gries im Sellrain Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SQTA	**Sankt Quirin** 0.7nm,0.2s	**0.10**	**62**	*e*Pg	Pg	12 11 17.0	+0.2
SQTA				*i* Sg	Sg	12 11 18.3	+0.3
	5.4nm,0.5s						
MOTA	**Moosalm** 0.2nm,0.1s	**0.17**	**5**	*i* Pg	Pg	12 11 18.4	+0.2
MOTA				*i* Sg	Sg	12 11 21.0	+0.5
	0.7nm,0.1s						

IDC 20 12:12:00.3±380.0, 46.43N×9.80E, h0km, Error ellipse: s-maj=149.4km s-min=73.8km az=49.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS** baz=228,slow=333,SNR=1.3	**3.59**	**46**	I	I	12 32 10.0	
I48TN	**KESRA INFRASON** baz=358,slow=312,SNR=0.4	**10.62**	**182**	I	I	13 16 50.0	
I43RU	**DUBNA INFRASON** baz=248,slow=327,SNR=1.4	**19.78**	**49**	I	I	14 15 40.0	

*HEL **20** 12:13:40.1±0.4, 61.12N×30.36E, h0km, ML2.4, Explosion*
*MOS **20** 12:13:43.0±0.5, 61.12N±0.05×30.15E±0.06, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **20** 12:13:44.5±1.0, 61.11N×29.97E, h0km, mb3.3/1, mbtmp3.6/6, ML3.3/5, Error ellipse: s-maj=11.0km s-min=8.0km az=7.0*
*BER **20** 12:13:45.6±3.0, 61.10N×29.89E, h0km, ML2.4, ML2.4(HEL), Suspected explosion*
ISC 20 12:13:42.8±1.0, 61.20N±0.04×29.97E±0.05, h0km, n58, σ1938/81, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUF	**Ruokolahti**	**0.54**	**295**	PB	**Pb**	**12 13 54.4**	**-0.7**
RUF				MSG		12 14 03.5	
	comp=Z,65nm,0.2s						
RUF				SB	**Sb**	**12 14 03.9**	**+0.4**
RUF	**Ruokolahti**	**0.54**	**295**	PB	**Pb**	**12 13 54.4**	**-0.7**
RUF				MSG		12 14 03.5	
	comp=Z,65nm,0.2s						
RUF				SB	**Sb**	**12 14 03.9**	**+0.4**
VJF	**Virojoki** baz=64	**1.36**	**242**	PG	**Pg**	**12 14 06.8**	**-1.9**
VJF				MSG		12 14 24.9	
	comp=Z,50nm,0.2s						
VJF				SN	**Sn**	**12 14 29.5**	**+2.0**
JOF	**Joensuu**	**1.83**	**20**	*e*P	**Pn**	**12 14 16.1**	**+0.6**
FIA0	**FINESS Array S**	**1.89**	**279**	PG	**Pn**	**12 14 17.3**	**+1.0**
FIA0				MSG		12 14 42.3	
	comp=Z,19nm,0.2s						
FIA0				SG	**Sg**	**12 14 44.4**	**+0.9**
FIA0	**FINESS Array S**	**1.89**	**279**	PG	**Pn**	**12 14 17.3**	**+1.0**
FIA0				MSG		12 14 42.3	
	comp=Z,19nm,0.2s						
FIA0				SG	**Sg**	**12 14 44.4**	**+0.9**
FINES	**FINESS Array B**	**1.89**	**279**	Pg	**Pb**	**12 14 17.5**	**-0.6**
	comp=Z,7.4nm,0.3s,baz=100,slow=16,SNR=205						
FINES				Lg	Lg	12 14 44.5	
	comp=Z,12nm,0.3s,baz=98,slow=29,SNR=23						
KAF	**Kangasniemi**	**1.97**	**299**	PG	**Pb**	**12 14 19.7**	**+0.2**
KAF				MSG		12 14 44.6	
	comp=Z,37nm,0.2s						
KAF				SG	**Sg**	**12 14 47.9**	**+1.8**
KAF	**Kangasniemi**	**1.97**	**299**	PG	**Pb**	**12 14 19.7**	**+0.2**
KAF				MSG		12 14 44.6	
	comp=Z,37nm,0.2s						
KAF				SG	**Sg**	**12 14 47.9**	**+1.8**
PVF	**Pernaja** baz=71	**2.12**	**254**	PG	**Pn**	**12 14 19.9**	**+0.6**
PVF				MSG		12 14 47.5	
	comp=Z,22nm,0.2s						
PVF				SG	**Sg**	**12 14 51.1**	**+0.5**
PVF	**Pernaja** baz=71	**2.12**	**254**	PG	**Pn**	**12 14 19.9**	**+0.6**
PVF				MSG		12 14 47.5	
	comp=Z,22nm,0.2s						
PVF				SG	**Sg**	**12 14 51.1**	**+0.5**
SUF	**Sumiainen** baz=128	**2.36**	**312**	PG	**Pb**	**12 14 26.2**	**+0.1**
SUF				MSG		12 14 55.5	
	comp=Z,17nm,0.2s						
SUF				SG	**Sg**	**12 14 59.4**	**+0.9**
SUF	**Sumiainen** baz=128	**2.36**	**312**	PG	**Pb**	**12 14 26.2**	**+0.1**
SUF				MSG		12 14 55.5	
	comp=Z,17nm,0.2s						
SUF				SG	**Sg**	**12 14 59.4**	**+0.9**
NIF	**Nilsia**	**2.42**	**336**	PG	**Pb**	**12 14 26.2**	**-0.9**
NIF				MSG		12 14 56.0	
	comp=Z,13nm,0.2s						
NIF				SG	**Sg**	**12 14 59.8**	**-0.5**
KEF	**Keuruu**	**2.62**	**294**	*e*P	**Pb**	**12 14 29.1**	**-1.4**
KEF	**Keuruu**	**2.62**	**294**	PB	**Pn**	**12 14 28.5**	**+2.3**
KEF				MSG		12 15 03.3	
	comp=Z,9.1nm,0.2s						
KEF				SB	**Sb**	**12 15 03.7**	**+0.6**
KEF	**Keuruu**	**2.62**	**294**	PB	**Pn**	**12 14 28.5**	**+2.3**
KEF				MSG		12 15 03.3	
	comp=Z,9.1nm,0.2s						
KEF				SB	**Sb**	**12 15 03.7**	**+0.6**
ARBE	**Arbavere**	**2.66**	**230**	*e*P	**Pn**	**12 14 26.9**	**+0.2**
ARBE	**Arbavere**	**2.66**	**230**	PB	**Pn**	**12 14 27.5**	**+0.7**
ARBE	**Arbavere**	**2.66**	**230**	PB	**Pn**	**12 14 27.5**	**+0.7**
NUR	**Nurmijarvi**	**2.70**	**257**	PB	**Pn**	**12 14 29.0**	**+1.7**
NUR				MSG		12 15 04.3	
	comp=Z,8.4nm,0.2s						
NUR	**Nurmijarvi**	**2.70**	**257**	PB	**Pn**	**12 14 29.0**	**+1.7**
NUR				MSG		12 15 04.3	
	comp=Z,8.4nm,0.2s						
HEL1	**Helsinki** baz=65	**2.71**	**250**	PG	**Pb**	**12 14 31.2**	**-0.8**
HEL1				MSG		12 15 04.3	
	comp=Z,12nm,0.2s						
HEL1				SG	**Sg**	**12 15 08.7**	**-0.9**
HEL1	**Helsinki** baz=65	**2.71**	**250**	PG	**Pb**	**12 14 31.2**	**-0.8**
HEL1				MSG		12 15 04.3	
	comp=Z,12nm,0.2s						
HEL1				SG	**Sg**	**12 15 08.7**	**-0.9**
HEL5	**Espoo, Suvisaa** baz=72	**2.80**	**249**	PB	**Pn**	**12 14 29.5**	**+0.9**
HEL5				MSG		12 15 06.9	
	comp=Z,10nm,0.2s						
HEL5				SG	**Sg**	**12 15 11.0**	**-1.5**
MEF	**Metsahovi**	**2.91**	**253**	*e*P	**Pn**	**12 14 32.5**	**+2.2**
MEF	**Metsahovi**	**2.91**	**253**	PB	**Pn**	**12 14 31.5**	**+1.2**
MEF				MSG		12 15 10.3	
	comp=Z,9.1nm,0.2s						
MEF				SG	**Sg**	**12 15 14.8**	**-1.4**
RMF	**Romuvaara**	**3.03**	**360**	PB	**Pn**	**12 14 33.9**	**+2.0**
RMF				MSG		12 15 11.6	
	comp=Z,17nm,0.2s						
RMF				SG	**Sb**	**12 15 14.5**	**-0.5**
TVF	**Tvarminne**	**3.59**	**251**	PN	**Pn**	**12 14 40.7**	**+1.1**
OUF	**Merijarvi**	**3.98**	**325**	PB	**Pb**	**12 14 50.6**	**-3.2**
OUF				SN	**Sn**	**12 15 31.0**	**-1.4**
RAF	**Rauma**	**3.99**	**271**	*e*P	**Pn**	**12 14 47.1**	**+2.1**
RAF	**Rauma**	**3.99**	**271**	PN	**Pn**	**12 14 46.9**	**+1.9**
RAF				SN	**Sn**	**12 15 35.5**	**+3.1**
OUL	**Oulu**	**4.31**	**336**	SG	**Sb**	**12 15 54.2**	**+2.4**
OBF8	**Ulkokalla**	**4.34**	**319**	PN	**Pn**	**12 14 49.2**	**-0.6**
KU1	**Kurvinen**	**4.38**	**358**	PN	**Pn**	**12 14 50.6**	**+0.2**
AAL	**Aland**	**5.01**	**263**	*e*P	**Pn**	**12 15 00.3**	**+1.2**
SJUU	**Sjulsmark**	**5.73**	**323**	*e*P	**Pn**	**12 15 11.8**	**+2.9**
HEF	**Hetta**	**7.71**	**342**	*e*P	**Pn**	**12 15 37.1**	**+0.9**
SALU	**Saltoluokta**	**7.94**	**326**	*e*P	**Pn**	**12 15 40.2**	**+0.9**
HFS	**Hagfors** comp=Z,0.7nm,0.3s,baz=74,slow=11,SNR=15	**8.06**	**270**	Pn	**Pn**	**12 15 40.9**	**-0.1**
HFS				Sn	**Sn**	**12 17 10.5**	**-2.2**
	comp=Z,1.1nm,0.3s,baz=80,slow=26,SNR=9.9						
HFS				Lg	Lg	12 17 57.0	
	comp=Z,1.4nm,0.3s,baz=73,slow=30,SNR=6.3 comp=Z,2.3nm,0.4s						
KTK1	**Kautokeino**	**8.33**	**343**	*e*P	**Pn**	**12 15 45.4**	**+0.8**
KTK1				IAML		12 17 41.3	
	comp=Z,3.0nm,0.5s						
ARA0	**ARCESS Array S**	**8.57**	**349**	*e*P	**Pn**	**12 15 47.5**	**-0.4**
ARA0				IAML		12 17 56.3	
	comp=Z,3.2nm,0.5s						
ARCES	**ARCESS Array B** comp=Z,0.2nm,0.3s,baz=164,slow=14,SNR=15	**8.57**	**349**	Pn	**Pn**	**12 15 48.3**	**+0.4**
ARCES				Sn	**Sn**	**12 17 22.0**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=164,slow=23,SNR=5.7						
ARCES				Lg	Lg	12 18 11.4	
	comp=Z,1.7nm,0.3s,baz=162,slow=30,SNR=5.2 comp=Z,1.0nm,0.5s						
KIF	**Kilpisjarvi**	**8.72**	**338**	*e*P	**Pn**	**12 15 50.6**	**+0.7**
FAUS	**Fauske**	**8.88**	**321**	*e*P	**Pn**	**12 15 52.6**	**+0.5**
FAUS				IAML		12 17 50.9	
	comp=Z,3.1nm,0.4s						
VADS	**Vadso**	**8.96**	**359**	*e*P	**Pn**	**12 15 55.2**	**+2.0**
NC602	**NORSAR Array S**	**8.97**	**275**	*e*P	**Pn**	**12 15 53.5**	**+0.1**
NC602				IAML		12 17 51.7	
	comp=Z,2.4nm,0.5s						
NC303	**NORSAR Array S**	**8.97**	**278**	*e*P	**Pn**	**12 15 53.5**	**+0.1**
NB201	**NORSAR Array S**	**9.04**	**277**	*e*P	**Pn**	**12 15 53.5**	**-0.8**
NOA	**NORSAR Array B** comp=Z,0.1nm,0.3s,baz=78,slow=13,SNR=8.9	**9.08**	**277**	Pn	**Pn**	**12 15 53.9**	**-1.0**
NOA				Sn	**Sn**	**12 17 37.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=223,slow=8.5,SNR=3.4						
NOA	

SCLA	Alcaldia de Sa	1.44	349	P		Pn	12 17 05.8	-0.2
SCLA	Alcaldia de Sa	1.44	349	S		Sb	12 17 25.8	+0.3
LFRS	El Faro	1.47	336	*e*P		Pn	12 17 05.6	-0.8
LALI	Alcalda de L	1.48	325	P		Pn	12 17 05.5	-0.8
LALI	Alcalda de L	1.48	325	S		Sn	12 17 25.1	+0.1
PKGN	Cerro Pekin	1.48	75	P		Pn	12 17 06.7	+0.2
PKGN				S		Sb	12 17 26.4	-0.1
PAVA	Las Pavas	1.51	341	*e*P		Pn	12 17 06.4	-0.5
PAVA	Las Pavas	1.51	341	P		Pn	12 17 06.2	-0.7
PAVA	Las Pavas	1.51	341	S		Sn	12 17 26.8	+0.8
LOMA	Loma Larga	1.53	333	P		Pn	12 17 07.1	-0.2
LOMA	Loma Larga	1.53	333	S		Sn	12 17 26.6	0.0
UDBS	Universidad Do	1.59	334	P		Pn	12 17 08.5	+0.5
UDBS	Universidad Do	1.59	334	S		Sn	12 17 28.4	+0.5
IGN	Direccin Gen	1.59	334	P		Pn	12 17 07.5	-0.5
IGN	Direccin Gen	1.59	334	S		Sn	12 17 28.4	+0.4
UTEC	Universidad Te	1.60	333	S		Sn	12 17 29.0	+0.9
LFU	La Fuente	1.60	336	*e*P		Pn	12 17 07.9	-0.3
HERN	Volcan Telica	1.61	78			Pn	12 17 07.2	-1.0
UEES	Universidad Ev	1.63	332	S		Sn	12 17 29.0	+0.1
PMON	Piamonte	1.66	329	P		Pn	12 17 08.6	-0.4
PMON	Piamonte	1.66	329	S		Sn	12 17 30.4	+0.7
BOQS	Boqueron	1.66	331	*e*P		Pn	12 17 08.6	-0.6
PLRN	Geotermica Pol	1.67	79	S		Sb	12 17 31.4	-0.3
JAYA	Jayaque - finc	1.69	325	*e*P		Pn	12 17 09.0	-0.4
JAYA	Jayaque - finc	1.69	325	P		Pn	12 17 08.6	-0.8
JAYA	Jayaque - finc	1.69	325	S		Sn	12 17 30.8	+0.4
CNGA	Al SSO del Vol	1.72	83	P		Pn	12 17 10.0	+0.3
CNGN	Cerro Negro	1.72	82			Pn	12 17 08.4	-1.4
CNGN	Cerro Negro	1.72	82	P		Pn	12 17 10.3	+0.6
CEDA	San Andres	1.78	329	S		Sn	12 17 32.7	+0.2
CEVE	Cerro Verde	1.92	323	*e*P		Pn	12 17 12.7	-0.1
CEVE	Cerro Verde	1.92	323	P		Pn	12 17 11.9	-0.9
CEVE	Cerro Verde	1.92	323	S		Sn	12 17 36.8	+0.4
SBLS	San Blas	1.93	324	*e*P		Pn	12 17 12.6	-0.3
LLGN	La Laguna	1.94	345	P		Pn	12 17 13.2	+0.3
LLGN	La Laguna	1.94	345	S		Sn	12 17 38.2	+1.6
SNJE	San Jose	1.95	325	*e*P		Pn	12 17 12.3	-0.7
SNJE				*e*P			12 17 12.6	
SNJE				*e*S		Sn	12 17 36.3	-0.6
RTR	El Retiro	1.99	324	*e*P		Pn	12 17 13.5	-0.1
UNIC	Universidad Ca	2.01	328	P		Pn	12 17 13.7	-0.1
UNIC	Universidad Ca	2.01	328	S		Sn	12 17 38.5	+0.3
INTHN	La Esperanza I	2.05	9	P		Pn	12 17 15.5	+1.0
NUBE	Las Nubes	2.08	321	*e*P		Pn	12 17 14.3	-0.4
NUBE	Las Nubes	2.08	321	P		Pn	12 17 13.8	-0.9
NUBE	Las Nubes	2.08	321	S		Sn	12 17 40.2	+0.2
TGUH	Tegucigalpa,Un	2.11	33			Pn	12 17 14.4	-0.8
TGUH	Tegucigalpa,Un	2.11	33	P		Pn	12 17 16.0	+0.9
TISN	Laguna Tiscapa	2.13	93	P		Pn	12 17 16.0	+0.7
UNAN	Cigeo UNAN	2.13	94	P		Pn	12 17 16.5	+1.1
UNAN				S		Sn	12 17 42.6	+1.4
R4DEC	Barrio San Lui	2.15	93	S		Sn	12 17 42.3	+0.7
R4DEC	Barrio San Lui	2.15	93	P		Pn	12 17 15.2	-0.4
LOAL	Lomas de Alarc	2.15	323	S		Sn	12 17 42.5	+0.8
MGAN	Managua	2.15	93			Pn	12 17 16.0	+0.3
MGAN	Managua	2.15	93	P		Pn	12 17 14.6	-1.0
MGAN	Managua	2.15	93	S		Sn	12 17 41.6	0.0
FAME	Alcaldia de Sa	2.18	316	P		Pn	12 17 15.8	-0.3
FAME	Alcaldia de Sa	2.18	316	S		Sn	12 17 43.4	+0.9
WILN	Americas 2	2.21	93	P		Pn	12 17 16.8	+0.4
WILN				S		Sn	12 17 44.2	+1.1
MAS3	Al N del Volca	2.23	96	P		Pn	12 17 17.1	+0.3
MAS3				S		Sn	12 17 44.7	+1.0
YUSH	Yuscaran	2.28	43	P		Pn	12 17 18.3	+0.8
MTO3	Montecristo	2.29	337			Pn	12 17 18.0	+0.2
MTO3	Montecristo	2.29	337	*e*P		Pn	12 17 18.1	+0.3
MTO3	Montecristo	2.29	337	S		Sn	12 17 46.8	+1.3
MTO3	Montecristo	2.29	337	P		Pn	12 17 17.8	0.0
NANN	Nandasmo	2.30	98	P		Pn	12 17 18.3	+0.7
NANN	Nandasmo	2.30	98	S		Sn	12 17 46.0	+0.7
OCON	Estacion meteo	2.34	55	P		Pn	12 17 19.1	+0.8
ESQI	Esquipulas	2.43	339			Pn	12 17 20.1	+0.5
ESQI	Esquipulas	2.43	339	*e*P		Pn	12 17 20.4	+0.7
ESQI	Esquipulas	2.43	339	P		Pn	12 17 20.0	+0.3
SARH	Santa Rosa de	2.50	353	P		Pn	12 17 21.6	+1.0
MATN	Matagalpa	2.54	75	P		Pn	12 17 20.1	-1.0
RCVN	Varillal2	2.55	59	P		Pn	12 17 22.0	+0.7
RCPN	Sur Rio San Ju	2.61	61	P		Pn	12 17 23.4	+1.4
RCPN	Sur Rio San Ju	2.61	61	S		Sn	12 17 55.0	+2.0
BOAB	BOACO BROADBAN	2.72	86			Pn	12 17 23.1	-0.3
MORN	Al O del Volca	2.83	105	P		Pn	12 17 25.3	+0.2
MORN				S		Sn	12 17 58.8	+0.3
CONN	Concepcion	2.85	104	P		Pn	12 17 25.3	+0.1
CONN				S		Sn	12 17 58.0	-0.9
ACON	Acoyapa	3.21	95	Pn		Pn	12 17 29.8	-0.5
ACON	Acoyapa	3.21	95	P		Pn	12 17 27.2	-3.1
ACON	Acoyapa	3.21	95	S		Sn	12 18 05.8	-2.1
ELI1	Hacienda Flor	3.27	119	P		Pn	12 17 32.4	+1.4
SIUN	Universidad Ur	3.85	68	P		Pn	12 17 40.1	+1.0
JTS	Las Juntas de	3.95	120			Pn	12 17 41.6	+1.1
JTS	Las Juntas de	3.95	120	Pn		Pn	12 17 43.2	+2.7
	1.2nm,0.3s,baz=278,slow=17,SNR=5.5							
JTS				Sn		Sn	12 18 25.2	-1.0
	1.9nm,0.3s,baz=133,slow=22,SNR=1.9							
JTS				Lg		Lg	12 18 49.3	
	baz=111,slow=20							
JTS				LR		LR	12 19 39.2	
	comp=Z,145nm,21.8s,baz=284,slow=45 4.6nm,0.5s							
JTS	Las Juntas de	3.95	120	P		Pn	12 17 40.4	-0.1
ESPN	Las Esperanzas	4.05	91	Pn		Pn	12 17 41.9	+0.1
SOCE	Pocosol	4.20	116	Pn		Pn	12 17 45.0	+1.1
PIRO	Carate, Puerto	6.33	127			Pn	12 18 14.3	+1.1
CMIG	Matias Romero	7.86	308	Pn		Pn	12 18 40.5	+6.4
	0.1nm,0.3s,baz=111,slow=13,SNR=3.8							
CMIG				Sn		Sn	12 20 12.0	+10
	0.2nm,0.3s,baz=104,slow=18,SNR=2.2 2.3nm,0.6s							
FLOC	Florencia	16.54	129	Pn		P	12 20 32.8	-1.5
FLOC				IAmb		IAmb	12 20 50.1	
	comp=Z,27nm,1.4s							
DWPF	Disney Wildern	17.06	22			Pn	12 20 37.7	-0.6
833A	Chaparral WMA,	18.96	329			P	12 21 00.5	-0.5
833A				IAmb		IAmb	12 21 02.8	
	comp=Z,20nm,0.7s							
HNDO	Hondo	19.91	331	P		P	12 21 11.0	-0.3
HNDO				IAmb		IAmb	12 21 11.8	
	comp=Z,16nm,0.6s							
BAUV	El Baul	20.32	97	P		P	12 21 14.4	-1.5
DRIO	Del Rio	20.48	328			P	12 21 17.4	-0.1
JCT	Junction City	20.95	332	P		P	12 21 22.1	-0.5
BRDY	Brady	21.28	334	P		P	12 21 25.6	-0.5
BRDY				IAmb		IAmb	12 21 26.5	
	comp=Z,6.2nm,0.7s							
OZNA	Ozona	21.95	330			P	12 21 33.0	-0.3
OZNA				IAmb		IAmb	12 21 35.6	
	comp=Z,11nm,0.8s							
TXAR	Lajitas Array	22.11	322	P		P	12 21 35.5	+0.4
	comp=Z,2.1nm,0.6s,baz=147,slow=11,SNR=25 comp=Z,2.1nm,0.6s							
TX31	Lajitas Ar. Si	22.11	322	P		P	12 21 34.7	-0.4
PLPT	Palo Pinto	22.36	338			P	12 21 36.9	-0.8
MIAR	Mount Ida	22.66	349			P	12 21 40.0	-0.8
MNHN	Monahans	23.12	327			P	12 21 44.6	-1.1
MNHN				IAmb		IAmb	12 21 47.3	
	comp=Z,12nm,1.3s							
APMT	Aspermont	23.52	335			P	12 21 48.5	-1.2
APMT				IAmb		IAmb	12 21 48.9	
	comp=Z,7.8nm,0.8s							
X34A	Smith Ranch, M	23.81	341			P	12 21 51.6	-0.8
POST	Post	23.90	332			P	12 21 51.8	-1.6
POST				IAmb		IAmb	12 21 54.5	
	comp=Z,9.2nm,0.6s							
DKNS	Dickens	24.15	334	IAmb		IAmb	12 21 56.8	
	comp=Z,10nm,0.8s							
SMWD	Samnorwood	25.12	337			P	12 22 03.6	-0.9
SMWD				IAmb		IAmb	12 22 05.3	
	comp=Z,18nm,0.8s							
MSTX	Muleshoe	25.24	331	P		P	12 22 05.1	-0.6
MSTX				IAmb		IAmb	12 22 06.8	
	comp=Z,18nm,1.3s							
OK051	E0350 and S346	25.28	344	P		P	12 22 04.7	-1.1
OK051				IAmb		IAmb	12 22 06.5	
	comp=Z,11nm,0.6s							
RTBA	Rita Blanca	27.29	334	IAmb		IAmb	12 22 26.3	
	comp=Z,12nm,1.0s							
SADO	Sadowa	33.35	12	LR		LR	12 37 25.9	
	comp=Z,532nm,18.6s,baz=122,slow=38							
PDAR	Pinedale Array	35.47	333	P		P	12 23 37.7	+1.5
	comp=Z,0.3nm,0.7s,baz=142,slow=7.6,SNR=2.4 comp=Z,0.3nm,0.7s							

NVAR	Mina Array Bea	37.20	320	P		P	12 23 52.4	+1.3
	comp=Z,0.4nm,0.8s,baz=162,slow=4.7,SNR=2.8							
NVAR				PcP		PcP	12 26 12.5	+1.7
	comp=Z,0.5nm,0.6s,baz=134,slow=3.7,SNR=5.0 comp=Z,0.4nm,0.8s							
ULM	Lac du Bonnet	38.35	352	P		P	12 23 57.2	-3.1
	comp=Z,6.0nm,0.7s,baz=186,slow=8.9,SNR=8.4							
ULM				LR		LR	12 40 21.7	
	comp=Z,55nm,18.5s,baz=134,slow=38 comp=Z,6.0nm,0.7s							
ILAR	Eielson Array	65.79	336	P		P	12 27 23.6	-0.6
	comp=Z,0.5nm,1.0s,baz=152,slow=7.0,SNR=4.2 comp=Z,0.5nm,1.0s							
WRA	Warramunga Arr	138.29	254	PKP		PKiKP	12 36 10.7	+3.1
	comp=Z,0.2nm,0.6s,baz=89,slow=2.8,SNR=4.6							
ASAR	Alice Springs	138.30	248	PKP		PKiKP	12 36 10.1	+2.5
	comp=Z,0.2nm,0.7s,baz=88,slow=1.6,SNR=4.6							

NEIC ***20*** *12:32:34.8±0.6, 18˚.18S×0˚.09×172˚.09W±0˚.08, h10km±1km, mb4.6/19, Error ellipse: s-maj=15.9km s-min=11.3km az=30.0*

IDC ***20*** *12:32:34.8±1.1, 18˚.67S×172˚.34W, h0km, mb4.0/7, mbtmp4.1/8, ML3.7/1, MS3.6/12, Error ellipse: s-maj=51.3km s-min=21.7km az=160.0*

ISC 20 12:32:35.4±0.6, 18˚.23S±0˚.08×172˚.22W±0˚.07, h10km, n46, σ1§77/33, mb4.5/15, MS3.6/11, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	Niue	2.33	112			Pn		12 33 11.8	-2.0
AFI	Afiamalu	4.32	6	Sn		Sn		12 34 26.3	-5.4
AFI	Afiamalu	4.32	6	Pn		Pn		12 33 39.8	-1.5
MSVF	Nouvu	9.28	272	Pn		Pn		12 34 49.5	+0.1
RAR	Rarotonga	12.09	106	Pn		Pn		12 35 25.0	-2.8
RAR	Rarotonga	12.09	106	Pn		Pn		12 35 27.3	-0.4
	4.4nm,0.3s,baz=239,slow=5.7,SNR=12								
RAR				LR		LR		12 38 57.8	
	comp=Z,366nm,18.6s,baz=288,slow=32 33nm,0.7s								
PINNC	Pines Island,	19.55	254	P		P		12 37 03.2	-0.2
PINNC				IAmb		IAmb		12 37 05.5	
	comp=Z,32nm,0.8s								
DZM	Mont Dzumac	20.39	256	P		P		12 37 12.8	+0.1
DZM				IAmb		IAmb		12 37 37.3	
	comp=Z,30nm,1.1s								
PPT	Papeete	21.55	92	LR		LR		12 43 20.7	
	comp=Z,157nm,20.8s,baz=295,slow=30								
HNR	Honiara	28.38	284	LR		LR		12 48 00.8	
	comp=Z,176nm,21.8s,baz=92,slow=33								
EIDS	Eidsvold	34.73	252	P		P		12 39 24.1	-1.9
ARMA	Armidale	34.96	243	P		P		12 39 27.3	-0.7
ARMA				IAmb		IAmb		12 39 47.9	
	comp=Z,7.5nm,1.1s								
CAN	Canberra	38.30	236	P		P		12 39 55.8	-0.6
CAN				IAmb		IAmb		12 40 14.1	
	comp=Z,11nm,1.1s								
CTAO	Charters Tower	39.20	260	P		P		12 40 03.1	-1.0
CTAO				IAmb		IAmb		12 40 13.3	
	comp=Z,10nm,0.8s								
PMG	Port Moresby	40.34	277	P		P		12 40 12.6	-0.9
PMG	Port Moresby	40.34	277	LR		LR		12 54 59.2	
	comp=Z,80nm,20.3s,baz=102,slow=33								
COEN	Coen	42.99	269	P		P		12 40 35.0	-0.4
COEN				IAmb		IAmb		12 40 45.9	
	comp=Z,13nm,1.1s								
STKA	Stephens Creek	43.68	243	LR		LR		12 55 21.6	
	comp=Z,73nm,19.9s,baz=37,slow=32								
MGBR	Mount Gambier	45.46	235	P		P		12 40 54.3	-0.6
BBOO	Buckleboo	48.44	242	P		P		12 41 17.6	-0.6
WR0	Warramunga Arr	50.17	259	P		P		12 41 30.9	-0.8
WR0				IAmb		IAmb		12 41 58.1	
	comp=Z,4.1nm,0.9s								
WR8	Warramunga Arr	50.21	259	P		P		12 41 31.2	-0.7
WB0	Warramunga Arr	50.33	259	P		P		12 41 32.2	-0.6
WB2	Warramunga Arr	50.35	259	P		P		12 41 32.6	-0.4
WB2				IAmb		IAmb		12 41 41.8	
	comp=Z,7.6nm,0.8s								
WRAB	Tennant Creek	50.35	259	P		P		12 41 32.2	-0.8
WRAB				IAmb		IAmb		12 41 41.8	
	comp=Z,7.8nm,0.8s								
WRA	Warramunga Arr	50.36	259	P		P		12 41 32.0	-1.1
WRA	Warramunga Arr	50.36	259	P		P		12 41 32.1	-1.0
	comp=Z,3.7nm,0.6s,baz=98,slow=6.0,SNR=98								
WRA				LR		LR		13 00 40.6	
	comp=Z,140nm,20.9s,baz=116,slow=34 comp=Z,3.7nm,0.6s								
AS31	Alice Springs	50.37	254	P		P		12 41 33.0	-0.2
ASAR	Alice Springs	50.37	254	P		P		12 41 32.5	-0.6
ASAR	Alice Springs	50.37	254	P		P		12 41 32.6	-0.5
	comp=Z,6.2nm,0.8s,baz=89,slow=8.2,SNR=56								
ASAR				LR		LR		13 02 00.8	
	comp=Z,46nm,18.7s,baz=109,slow=35 comp=Z,6.2nm,0.8s								
GUMO	Guam	52.83	304	LR		LR		13 01 53.0	
	comp=Z,21nm,21.8s,baz=114,slow=33								
KNRA	Kunurra	56.31	263	P		P		12 42 17.7	+0.9
RPN	Rapa Nui	58.19	111	LR		LR		13 02 47.8	
	comp=Z,94nm,18.7s,baz=202,slow=31								
FITZ	Fitzroy Crossi	58.78	260	P		P		12 42 35.1	+0.9
FITZ	Fitzroy Crossi	58.78	260	LR		LR		13 06 02.8	
	comp=Z,123nm,19.6s,baz=136,slow=34								
MJAR	Matsushiro Arr	71.82	320	LR		LR		13 09 43.0	
	comp=Z,33nm,19.9s,baz=136,slow=31								
QSPA	South Pole Qui	71.83	180	P		P		12 43 57.7	-0.6
QSPA				IAmb		IAmb		12 44 04.9	
	comp=Z,6.6nm,1.1s								
PETK	Petropavlovsk-	75.66	342	P		P		12 44 23.7	+3.2
	comp=Z,6.4nm,1.1s,baz=203,slow=9.5,SNR=3.6 comp=Z,6.4nm,1.1s								
NVAR	Mina Array Bea	75.69	41	P		P		12 44 25.3	+3.9
	comp=Z,0.2nm,0.5s,baz=261,slow=5.3,SNR=3.1 comp=Z,0.2nm,0.5s								
LEM	Lembang	78.59	267	LR		LR		13 20 07.6	
	comp=Z,24nm,18.5s,baz=295,slow=36								
TXAR	Lajitas Array	81.26	55	P		P		12 44 55.6	+3.4
	comp=Z,0.8nm,1.1s,baz=230,slow=7.7,SNR=6.2 comp=Z,0.8nm,1.1s								
H03S2	Juan Fernandez	82.71	123	T		T		14 15 49.7	
	baz=250,slow=75,SNR=8.2								
H03S1	Juan Fernandez	82.72	123	T		T		14 15 51.0	
	baz=250,slow=75,SNR=10								
H03S3	Juan Fernandez	82.72	123	T		T		14 15 49.9	
	baz=250,slow=75,SNR=8.7								
PDAR	Pinedale Array	83.62	41	P		P		12 45 07.5	+3.0
	comp=Z,0.5nm,0.7s,baz=193,slow=3.3,SNR=5.9 comp=Z,0.5nm,0.7s								
ILAR	Eielson Array	85.00	11	P		P		12 45 13.1	+2.5
	comp=Z,0.3nm,0.7s,baz=216,slow=6.1,SNR=4.3 comp=Z,0.3nm,0.7s								

OSPL ***20*** *12:41:50.9±1.3, 18˚.46N×70˚.30W, h2km±8km, ML2.8*
SDD ***20*** *12:41:51.0±2.3, 18˚.48N×70˚.26W, h14km±12km, MD3.1, ML3.0, MW3.5*

ISC 20 12:41:49.8±0.9, 18˚.48N±0˚.03×70˚.26W±0˚.02, h12km±6km, n25, σ1§55/44, 3C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BANI	BANI	0.12	228	*e*Pg		Pg		12 41 54.0	+1.0
BANI				*e*Sg		Sg		12 41 56.8	+1.4
BANI				IAML				12 41 59.2	
	comp=N,12μm,0.1s								
LOSC1	San Cristbal	0.16	115	*i* P		Pg		12 41 51.6	-1.9
LOSC1				*e*S		Sg		12 41 55.4	-0.7
LOSC1				IAML				12 41 58.1	
	comp=Z,5μm,0.6s								
SDD	Santo Domingo	0.33	93	*e*Pg		Pg		12 41 57.3	+0.8
SDD				*e*Sg		Sg		12 42 02.5	+1.6
SDD				IAML				12 42 03.0	
	comp=N,440nm,0.3s								
SDD	Santo Domingo	0.33	93	*i* P		Pg		12 41 57.3	+0.8
SDD				*e*S		Sg		12 42 02.3	+1.3
ABDR	Alto Bandera	0.48	314	*e*Pg		Pg		12 41 59.1	-0.2
ABDR				*e*Sg		Sg		12 42 06.1	+0.3
ABDR				IAML				12 42 08.8	
	comp=N,2μm,0.2s								
SFDR	San Fco. de Ma	0.81	1	*e*Pg		Pg		12 42 05.1	-0.4
SFDR				*e*Sg		Sg		12 42 16.3	+0.3
SFDR				IAML				12 42 18.6	
	comp=N,2μm,0.3s								
PODR	Polo	1.01	253	*e*Pg		Pg		12 42 08.2	-1.2
PODR				*e*Sg		Sg		12 42 23.3	+0.6
PODR				IAML				12 42 27.5	
	comp=N,259nm,0.2s								
PODR	Polo	1.01	253	*i* P		Pg		12 42 08.1	-1.2
SC01	Santiago de lo	1.04	335	*e*Pg		Pg		12 42 08.5	-1.4
SC01				*e*Sg		Sg		12 42 23.9	+0.3
SC01				IAML				12 42 26.2	
	comp=N,444nm,0.2s								
SC01	Santiago de lo	1.04	335	*i* P		Pg		12 42 09.5	-0.5
SC01				*e*S		Sg		12 42 23.5	-0.1
SDDR	Presa de Saban	1.09	298	*e*Pg		Pg		12 42 11.5	+0.6
SDDR				*e*Sg		Sg		12 42 24.9	-0.3
SDDR				IAML				12 42 31.7	
	comp=N,330nm,0.4s								
SDDR	Presa de Saban	1.09	298	*i* P		Pg		12 42 10.2	-0.7
SDDR				IAML				12 42 30.4	
	comp=Z,239nm,0.3s								
NEDR	Neiba UASD	1.10	271	*e*Pg		Pg		12 42 09.9	-1.0
NEDR				*e*Sg		Sg		12 42 25.5	+0.3
NEDR				IAML				12 42 28.8	
	comp=N,200nm,0.5s								
LONE3	El Aguacate, B	1.14	277	*i* P		Pg		12 42 10.2	-1.6
LONE3				*e*S		Sg		12 42 26.4	-0.3
LONE3				IAML				12 42 27.7	
	comp=Z,141nm,0.4s								
LODU1	El Espartillar	1.16	264	*i* P		Pg		12 42 10.9	-1.2
LODU1				IAML				12 42 29.3	
	comp=Z,450nm,0.5s								
LOVI	El Cajuil, Ovi	1.25	238	*i* P		Pn		12 42 12.0	-1.1
LOVI				*e*S		Sb		12 42 28.7	-0.7
MIDR	Miches	1.26	66	*e*Pg		Pn		12 42 12.1	-1.1
MIDR				*e*Sg		Sb		12 42 27.4	-2.2
MIDR				IAML				12 42 28.1	
	comp=N,140nm,0.7s								
REDR	Restauracion	1.27	303	*e*Pg		Pg		12 42 19.4	+5.1
REDR				*e*Sg		Sn		12 42 37.8	+7.2
REDR				IAML				12 42 41.2	
	comp=N,563nm,0.2s								
SMDR	Samana, DR	1.30	51	*e*Pg		Pn		12 42 14.2	+0.3
SMDR				*e*Sg		Sb		12 42 28.6	-2.3
SMDR				IAML				12 42 37.1	
	comp=N,131nm,0.3s								
MADR	Mao Valverde	1.34	324	*e*Pg		Pn		12 42 13.2	-1.3
MADR				*e*Sg		Sb		12 42 31.7	-0.5
MADR				IAML				12 42 38.1	
	comp=N,499nm,0.4s								
LOBH	Bahia de las A	1.44	245	*i* P		Pn		12 42 15.5	-0.3
LOBH				IAML				12 42 45.9	
	comp=Z,116nm,0.7s								
HIDR	Higuey Centro	1.47	85	*e*Pg		Pn		12 42 16.4	+0.2
HIDR				*e*Sg		Sn		12 42 35.9	+0.5
HIDR				IAML				12 42 38.1	
	comp=N,449nm,0.2s								
JIDR	Jimani	1.51	271	*e*Pg		Pn		12 42 16.3	-0.3
JIDR				*e*Sg		Sn		12 42 37.7	+1.4
JIDR				IAML				12 42 53.8	
	comp=N,134nm,0.6s								
LOPP1	Punta Rusia, P	1.63	327	*i* P		Pn		12 42 18.7	+0.3
LOPP1				IAML				12 42 42.5	
	comp=Z,75nm,0.9s								
MLPR	Magueyes Islan	3.10	99	*e*Pg		Pb		12 42 44.0	-0.9
MLPR				*e*Sg		Sb		12 43 23.6	+0.9
MLPR				IAML				12 43 29.2	
	comp=N,11nm,2.2s								

WEL ***20*** *12:52:02.1±0.5, 33˚S×6˚×18˚E±1˚3, h33km, M4.3/13, mB4.9/10, ML4.8/22, MLv4.5/13, Mw(mB)4.2/10, Error ellipse: s-maj=18.4km s-min=3.7km az=110.8, confirmed*

ISC 20 12:52:02.2±1.3, 32˚.65S±0˚.09×180˚.0E±0˚.2, h35km, n50, σ2§76/66, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.82	29	P		Pn		12 52 58.3	-0.3
GLKZ				S		Sn		12 53 42.6	+0.3
MXZ	Matakaoa Point	5.09	195	P		Pn		12 53 19.1	+3.1
MXZ				S		Sn		12 54 17.4	+3.8
WMGZ	Waiomatatini S	5.32	194	P		Pn		12 53 21.1	+2.0
WMGZ				S		Sn		12 54 26.3	+7.2
HAZ	Te Kaha	5.41	199	P		Pn		12 53 20.7	+0.5
HAZ				S		Sn		12 54 24.7	+3.5
PKGZ	Pakihiroa	5.44	196	P		Pn		12 53 22.8	+2.1
PKGZ				S		Sn		12 54 26.9	+4.8
PUZ	Puketiti	5.59	194	P		Pn		12 53 23.6	+0.7
PUZ				P		Sn		12 54 29.8	+3.8
RUGZ

NIUE	Niue	2.86	99	Pn		Pn	13 06 40.4	-2.9	
AFI	Afiamalu	4.85	13	Pn		Pn	13 07 04.4	-6.5	
MSVF	Nonsavu	8.64	275	Pn		Pn	13 08 02.1	-0.8	
RAR	Rarotonga	12.62	104	Pn		Pn	13 08 52.9	-4.4	
RAR	Rarotonga	12.62	104	Pn		Pn	13 08 57.1	-0.2	
	2.0nm,0.3s,baz=259,slow=6.5,SNR=8.0								
RAR				Sn		Sn	13 11 03.3	-14	
	0.7nm,0.3s,baz=131,slow=23,SNR=1.5								
RAR				LR		LR	13 13 14.3		
	comp=Z,351nm,18.7s,baz=286,slow=34								
URZ	Urewera	21.37	202	P		P	13 10 49.6	+4.5	
	6.6nm,0.5s,baz=28,slow=6.9,SNR=12								
	6.6nm,0.5s								
PPT	Papeete	22.21	91	LR		LR	13 17 56.7		
	comp=Z,370nm,18.0s,baz=290,slow=32								
HNR	Honiara	27.84	286	LR		LR	13 21 20.6		
	comp=Z,216nm,18.2s,baz=234,slow=34								
CTAO	Charters Tower	38.48	261	P		P	13 13 18.2	-1.7	
CTAO				IAmb		IAmb	13 13 42.7		
	comp=Z,200nm,1.4s								
PMG	Port Moresby	39.73	278	LR		LR	13 29 08.1		
	comp=Z,257nm,18.4s,baz=90,slow=35								
STKA	Stephens Creek	42.89	243	LR		LR	13 30 38.3		
	comp=Z,170nm,19.0s,baz=36,slow=35								
JAY	Jayapura	48.14	284	LR		LR	13 35 21.6		
	comp=Z,133nm,18.1s,baz=219,slow=37								
WR8	Warramunga Arr	49.47	259	P		P	13 14 46.3	-1.9	
WB0	Warramunga Arr	49.60	260	P		P	13 14 46.8	-2.4	
WB0				IAmb		IAmb	13 14 58.4		
	comp=Z,8.5nm,1.2s								
AS31	Alice Springs	49.61	254	P		P	13 14 47.9	-1.4	
ASAR	Alice Springs	49.62	254	P		P	13 14 47.9	-1.4	
ASAR	Alice Springs	49.62	254	P		P	13 14 49.9	+0.6	
	comp=Z,2.6nm,0.6s,baz=88,slow=8.5,SNR=22								
ASAR				LR		LR	13 35 29.5		
	comp=Z,108nm,18.6s,baz=98,slow=36								
	comp=Z,2.6nm,0.6s								
WB2	Warramunga Arr	49.62	259	P		P	13 14 48.0	-1.3	
WB2				IAmb		IAmb	13 14 58.6		
	comp=Z,9.5nm,1.3s								
WRAB	Tennant Creek	49.62	259	P		P	13 14 47.8	-1.6	
WRAB				IAmb		IAmb	13 15 09.0		
	comp=Z,6.2nm,1.1s								
WRA	Warramunga Arr	49.63	259	P		P	13 14 47.4	-2.0	
WRA	Warramunga Arr	49.63	259	P		P	13 14 49.1	-0.3	
	comp=Z,1.5nm,0.6s,baz=97,slow=8.5,SNR=25								
WRA				LR		LR	13 33 51.2		
	comp=Z,135nm,19.6s,baz=131,slow=34								
	comp=Z,1.5nm,0.6s								
GUMO	Guam	52.52	305	LR		LR	13 35 58.6		
	comp=Z,69nm,18.5s,baz=140,slow=34								
FITZ	Fitzroy Crossi	58.05	260	P		P	13 15 48.7	-2.3	
FITZ				IAmb		IAmb	13 16 01.6		
	comp=Z,2.7nm,1.4s								
FITZ	Fitzroy Crossi	58.05	260	P		P	13 15 51.5	+0.5	
	comp=Z,2.6nm,1.0s,baz=148,slow=17,SNR=2.6								
	comp=Z,2.6nm,1.0s								
RPN	Rapa Nui	58.65	111	LR		LR	13 35 45.9		
	comp=Z,130nm,18.4s,baz=204,slow=30								
VNDA	Vanda	60.20	186	P		P	13 16 05.3	+0.4	
VNDA				IAmb		IAmb	13 16 17.3		
	comp=Z,3.3nm,1.1s								
VNDA	Vanda	60.20	186	LR		LR	13 38 49.4		
	comp=Z,52nm,19.5s,baz=337,slow=33								
DAV	Davao City (W)	65.80	287	LR		LR	13 44 30.5		
	comp=Z,42nm,18.1s,baz=176,slow=35								
QSPA	South Pole Qui	71.40	180	P		P	13 17 16.7	-0.8	
QSPA				IAmb		IAmb	13 17 41.3		
	comp=Z,2.7nm,1.1s								
MJAR	Matsushiro Arr	71.73	320	LR		LR	13 43 41.9		
	comp=Z,59nm,19.6s,baz=123,slow=32								
SHEM	Shemya Is, Ala	71.98	352	LR		LR	13 44 30.2		
	comp=Z,117nm,19.8s,baz=129,slow=32								
LPIG	La Paz	74.37	57	LR		LR	13 46 37.8		
	comp=Z,70nm,18.0s,baz=210,slow=33								
ASAJ	Asahikawa	74.55	328	LR		LR	13 47 01.0		
	comp=Z,33nm,19.6s,baz=170,slow=33								
PFO	Pinyon Flats O	74.82	46	LR		LR	13 45 46.0		
	comp=Z,83nm,18.9s,baz=220,slow=32								
YBH	Yreka Blue Hor	75.92	36	LR		LR	13 45 59.6		
	comp=Z,5.5nm,18.1s,baz=256,slow=32								
NVAR	Mina Array Bea	76.45	41	LR		LR	13 45 59.2		
	comp=Z,62nm,19.0s,baz=262,slow=31								
KDAK	Kodiak Island	78.02	11	LR		LR	13 46 16.4		
	comp=Z,103nm,19.0s,baz=200,slow=31								
BBB	Bella Bella	80.59	26	LR		LR	13 52 00.1		
	comp=Z,70nm,18.6s,baz=200,slow=34								
TXAR	Lajitas Array	82.05	56	P		P	13 18 20.1	+1.9	
	comp=Z,0.4nm,0.8s,baz=176,slow=3.8,SNR=4.5								
TXAR				LR		LR	13 48 29.9		
	comp=Z,45nm,20.0s,baz=213,slow=31								
	comp=Z,0.4nm,0.8s								
ANMO	Albuquerque	82.55	49	LR		LR	13 52 41.9		
	comp=Z,91nm,18.3s,baz=316,slow=34								
NEW	Newport	83.14	34	LR		LR	13 50 12.6		
	comp=Z,125nm,18.5s,baz=218,slow=32								
PDAR	Pinedale Array	84.39	41	P		P	13 18 31.1	+1.0	
	comp=Z,0.4nm,0.8s,baz=129,slow=2.1,SNR=4.2								
PDAR				LR		LR	13 54 22.8		
	comp=Z,37nm,18.6s,baz=25,slow=34								
	comp=Z,0.4nm,0.8s								
CMIG	Matias Romero	84.54	70	LR		LR	13 49 12.7		
	comp=Z,90nm,18.1s,baz=189,slow=31								
IL31		85.54	11	P		P	13 18 29.9	-5.1	
ILAR	Eielson Array	85.54	11	P		P	13 18 30.0	-5.1	
ILAR	Eielson Array	85.54	11	P		P	13 18 36.0	+0.9	
	comp=Z,1.4nm,1.1s,baz=206,slow=3.7,SNR=7.8								
	comp=Z,1.4nm,1.1s								
PLCA	Paso Flores	86.99	132	LR		LR	13 50 45.2		
	comp=Z,76nm,18.2s,baz=224,slow=31								
JTS	Las Juntas de	91.33	80	LR		LR	13 51 45.3		
	comp=Z,117nm,18.3s,baz=290,slow=30								
ATAH	Atahualpa	92.00	98	LR		LR	13 52 22.9		
	comp=Z,84nm,19.1s,baz=266,slow=31								
CMAR	Chiang Mai Arr	94.07	288	LR		LR	14 00 22.3		
	comp=Z,23nm,19.4s,baz=140,slow=35								
ULM	Lac du Bonnet	96.17	39	LR		LR	13 58 57.7		
	comp=Z,97nm,18.9s,baz=276,slow=33								
SONM	Songino Array	97.57	318	LR		LR	14 04 57.0		
	comp=Z,22nm,18.3s,baz=5.0,slow=36								
LPAZ	La Paz	98.26	110	LR		LR	13 55 40.1		
	comp=Z,65nm,19.0s,baz=243,slow=30								
BRTR	Keskin Array B	148.93	318	PKPbc		PKiKP	13 25 48.3	+1.2	
	comp=Z,2.5nm,1.0s,baz=64,slow=3.4,SNR=7.3								
KHC	Kasperske Hory	149.16	352	*e*PKP		PKPbc	13 25 46.0	+0.1	
GERES	GERESS Array B	149.42	351	PKPbc		PKiKP	13 25 49.3	+1.5	
	comp=Z,1.6nm,0.9s,baz=2.6,slow=2.9,SNR=9.2								

*DJA **20** 13:15:28.3±0.7, 7.7°S×3.3°×10.7°E±1°, h21km±6km, M4.1/14, mb4.1/2, MLv4.1/14*
*IDC **20** 13:15:29.9±5.7, 7.7°15S×105.95E, h65km±46km, mb3.5/6, mbtmp3.8/6, Error ellipse: s-maj=50.8km s-min=18.9km az=51.0*
*NEIC **20** 13:15:30.7±0.8, 7.70S±0.2°×106.2E±0.1°, h72km±10km, mb4.5/9, Error ellipse: s-maj=33.0km s-min=10.7km az=208.0*

ISC 20 13:15:28.1±0.7, 7.33S±0.07°×106.05E±0.06, h50km, n46, σ1s82/44, mb4.3/11, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SKJI	Sukabumi	0.60	57	P	Pn	13 15 40.6		0.0
CGJI	Cibinong	0.79	334	P	Pn	13 15 44.0		+0.9
DBJI	Dramaga	1.04	42	P	Pn	13 15 47.2		+0.8
DBJI				S	Sn	13 16 00.9		+1.0
CNJI	Cibinong	1.08	89	P	Pn	13 15 46.6		-0.2
SBJI	Serang	1.21	4	P	Pn	13 15 49.6		+1.0
SBJI				S	Sn	13 16 04.9		+1.0
TNG	Tangerang	1.30	27	P	Pn	13 15 50.9		+1.1
LEM	Lembang	1.64	72	P	Pn	13 15 57.0		+2.4
	408nm,0.5s,baz=237,slow=5.3,SNR=90							
LEM				S	Sn	13 16 18.5		+3.9
	798nm,0.5s,baz=305,slow=20,SNR=7.5							
LEM	Lembang	1.64	72	P	Pn	13 15 55.9		+1.3
KASI	Kota Agung	2.37	319	P	Pn	13 16 07.0		+2.6
KASI				S	Sn	13 16 37.5		+5.2
KPJI	Karang Pucung	2.86	90	P	Pn	13 16 13.2		+2.0
LWLI	Liwa	3.03	319	P	Pn	13 16 17.0		+3.3
MDSI	Maura Dua	3.38	327	P	Pn	13 16 21.1		+2.7
MNAI	Manna	4.26	314	Pn	Pn	13 16 31.4		+0.9
UGM	Wanagama	4.48	98	Pn	Pn	13 16 34.7		+1.2
UGM	Wanagama	4.48	98	P	Pn	13 16 34.1		+0.7
PCJI	Pacitan	5.16	100	P	Pn	13 16 43.9		+1.2
	0.3nm50nm,1.7s							
GMJI	Gumukmas	7.39	98	P	Pn	13 17 14.9		+1.5
FAKI	Fak Fak	26.46	82	P	P	13 20 59.5		-1.2
H01W3	Cape Leeuwin H	28.41	166	T	T	13 50 59.3		
	baz=347,slow=76,SNR=34							
H01W1	Cape Leeuwin H	28.43	166	T	T	13 51 02.6		
	baz=347,slow=76,SNR=48							
H01W2	Cape Leeuwin H	28.43	166	T	T	13 51 00.0		
	baz=347,slow=76,SNR=42							
WB0	Warramunga Arr	30.14	117	P	P	13 21 34.4		+0.8
WB0				IAmb	IAmb	13 22 06.2		
	comp=Z,12nm,1.5s							
WRA	Warramunga Arr	30.16	117	P	P	13 21 34.5		+0.8
	comp=Z,0.6nm,0.7s,baz=302,slow=9.6,SNR=16							
WRA				PcP	PcP	13 24 34.4		+0.2
	comp=Z,0.1nm,0.5s,baz=305,slow=1.9,SNR=1.2							
	comp=Z,0.6nm,0.7s							
WR8	Warramunga Arr	30.30	117	P	P	13 21 35.5		+0.5
WR8				IAmb	IAmb	13 22 06.8		
	comp=Z,7.9nm,1.4s							
ASAR	Alice Springs	31.27	124	P	P	13 21 43.8		+0.3
ASAR	Alice Springs	31.27	124	P	P	13 21 45.9		+2.3
	comp=Z,0.3nm,0.6s,baz=302,slow=7.6,SNR=11							
ASAR				PcP	PcP	13 24 37.9		+0.8
	comp=Z,0.3nm,1.1s,baz=295,slow=2.0,SNR=2.4							
	comp=Z,0.3nm,0.6s							
AS31	Alice Springs	31.28	124	P	P	13 21 43.6		+0.1
H08S2	Diego Garcia H	33.26	267	T	T	13 57 36.7		
	baz=92,slow=76,SNR=64							
H08S3	Diego Garcia H	33.27	267	T	T	13 57 36.7		
	baz=92,slow=76,SNR=85							
H08S1	Diego Garcia H	33.28	267	T	T	13 57 34.6		
	baz=92,slow=76,SNR=60							
STKA	Stephens Creek	41.13	131	P	P	13 23 08.1		+0.6
SONM	Songino Array	54.93	0	P	P	13 24 52.8		-1.2
	comp=Z,0.3nm,0.3s,baz=177,slow=10,SNR=1.2							
SONM				PcP	PcP	13 25 54.7		-0.6
	comp=Z,1.2nm,0.6s,baz=187,slow=3.3,SNR=5.2							
	comp=Z,0.3nm,0.3s							
MK31	Makanchi Array	57.88	341	P	P	13 25 12.2		-2.6
MKAR	Makanchi Array	57.88	341	P	P	13 25 11.8		-3.1
MKAR	Makanchi Array	57.88	341	P	P	13 25 12.6		-2.3
	comp=Z,0.4nm,0.5s,baz=151,slow=8.7,SNR=7.7							
	comp=Z,0.4nm,0.5s							
KKAR	Karatay Array	59.68	330	P	P	13 25 25.7		-1.7
H04N2	CROZET ISLANDS	60.40	220	T	T	14 31 31.9		
	baz=68,slow=75,SNR=36							
H04N1	CROZET ISLANDS	60.41	220	T	T	14 31 47.9		
	baz=68,slow=75,SNR=36							
H04N3	CROZET ISLANDS	60.41	220	T	T	14 31 45.7		
	baz=68,slow=75,SNR=34							
BVAR	Borovoye Array	67.31	338	P	P	13 26 16.7		-0.9
	comp=Z,2.1nm,0.6s,baz=133,slow=8.3,SNR=6.9							
	comp=Z,2.1nm,0.6s							
AB31	Akbulak array	69.22	330	P	P	13 26 27.9		-1.6
AB31				IAmb	IAmb	13 26 29.3		
	comp=Z,4.9nm,0.7s							
ABKAR	Akbulak array	69.22	330	P	P	13 26 28.2		-1.3
ARTI	Arti	74.56	335	P	P	13 27 00.1		-1.3
ARTI				IAmb	IAmb	13 27 01.3		
	comp=Z,9.1nm,0.6s							
BRTR	Keskin Array B	81.34	312	P	P	13 27 39.8		+0.1
	comp=Z,1.4nm,0.7s,baz=131,slow=6.5,SNR=2.9							
	comp=Z,1.4nm,0.7s							
BELA	Belgrano 2	92.19	188	P	P	13 28 32.7		+0.7
BELA				IAmb	IAmb	13 28 54.3		
	comp=Z,3.4nm,1.5s							
TXAR	Lajitas Array	144.49	48	PKP	PKPab	13 34 59.1		+1.0
	comp=Z,0.4nm,0.5s,baz=343,slow=2.7,SNR=6.9							

*JMA **20** 13:25:21.5±0.2, 23.2°N±0.9°×123.2E±0.6°, h59km, MV3.5/17, NEAR ISHIGAKIJIMA ISLAND*

ISC 20 13:25:21.5±1.9, 23.19N±0.08°×123.22E±0.04°, h25km±16km, n23, σ0s80/33, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
HATJ	Hateruma jima	1.01	32	P	Pb	13 25 40.2		-0.1
HATJ				S	Sb	13 25 53.4		+0.2
IRIF	Iriomote-Funau	1.23	22	P	Pn	13 25 43.4		+0.4
IRIF				*e*S	Sb	13 25 59.0		-0.4
JKRS	Kuro-shima	1.26	35	P	Pn	13 25 44.0		+0.5
JKRS				*e*S	Sn	13 25 59.7		0.0
YOJ	Yonaguni jima	1.28	351	*e*P	Pn	13 25 44.1		+0.4
YOJ				S	Sn	13 26 00.6		+0.6
JIJ	Ishigaki jima	1.44	36	P	Pn	13 25 45.8		-0.1
JIJ				S	Sn	13 26 02.9		-1.1
JISG	Ishigakijimahi	1.71	35	P	Pn	13 25 49.6		0.0
JISG				S	Sn	13 26 10.1		-0.6
YULB	Yu-li	1.78	277	P	Pn	13 25 50.3		-0.4
YULB	Yu-li	1.78	277	S	Sn	13 26 11.4		-1.1
NACB	Ninganchiao	1.78	303	P	Pn	13 25 50.1		-0.6
NACB	Ninganchiao	1.78	303	S	Sn	13 26 10.8		-1.7
JTJ	Tarama	1.98	43	*e*P	Pn	13 25 53.6		+0.3
JTJ				*e*S	Sn	13 26 17.0		-0.3
TWGBT	Beinan	2.01	260	P	Pn	13 25 54.2		+0.4
TWGBT	Beinan	2.01	260	S	Sn	13 26 16.9		-1.2
SSLB	Suanglung	2.17	286	P	Pn	13 25 55.9		-0.1
YHNB	Yeheng	2.24	311	P	Pn	13 25 57.8		+0.8
YHNB	Yeheng	2.24	311	S	Sn	13 26 23.7		-0.2
TATO	Taipei	2.38	319	P	Pn	13 26 00.3		+1.4
TPUB	Ta-pu	2.39	273	P	Pn	13 26 00.8		+1.8
TPUB	Ta-pu	2.39	273	S	Sn	13 26 28.9		+1.4
JIRB	Irabujima	2.41	47	*e*P	Pn	13 25 59.5		+0.2
JIRB				*e*S	Sn	13 26 27.6		-0.5
JMJ2	Miyako jima3	2.46	51	*e*P	Pn	13 26 00.4		+0.3
JMJ2				*e*S	Sn	13 26 28.8		-0.5
JIKM	Ikemajima	2.53	47	*e*P	Pn	13 26 01.2		+0.3
JIKM				*e*S	Sn	13 26 31.2		+0.3
JOGS	Gusukube	2.53	52	*e*S	Sn	13 26 31.7		+0.6

*SJA **20** 13:26:53.0±0.6, 24.36S×67.14W, h194km±4km, ML3.5, MW3.5*
*GUC **20** 13:26:55.4±0.7, 24.29S×67.57W, h229km±10km, ML3.9*

ISC 20 13:26:52.6±1.7, 24.33S±0.04°×67.19W±0.04°, h203km±13km, n38, σ1s48/64, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SALTA		0.79	83	*e*P	Pn	13 27 21.4		-0.6
SALTA				*e*P	Pn	13 27 21.5		-0.6
SALTA				*e*P		13 27 21.5		
SLA	San Lorenzo	1.59	105	*e*P	Pn	13 27 28.5		+0.9
SLA				*e*S	Sn	13 27 52.4		-2.3
AF01	San Pedro de A	1.64	326	*e*P	Pn	13 27 43.0		+15
AF01				*e*S	Sn	13 27 55.6		-0.2
AF01				IAML		13 28 14.9		
	comp=Z,107nm,0.4s							
AZAP	Zapla	1.94	87	*e*P	Pn	13 27 31.1		+0.1
AZAP				*e*S	Sn	13 27 59.6		-1.3
HJA	Humahuaca	1.98	56	*e*P	Pn	13 27 32.3		+0.7
HJA				*e*S	Sn	13 28 03.7		+1.8
FSA	Cafayete	2.09	148	*e*P	Pn	13 27 33.2		+0.7
FSA				*e*S		13 28 18.5		
GO02	Mina Guanaco	2.33	249	↑*e*P	Pn	13 27 36.7		+1.6
GO02				*e*S	Sn	13 28 08.5		+0.2
GO02				IAML		13 28 09.6		
	comp=N,272nm,0.3s							
GO02	Mina Guanaco	2.33	249	*e*P	Pn	13 27 36.0		+0.9
GO02				*e*S	Sn	13 28 09.4		+1.1
GO02				IAML		13 28 12.2		
	comp=Z,205nm,0.2s							
YJA	Yavi	2.64	36	*e*P	Pn	13 27 42.3		+3.5
PB06	IPOC Station P	2.71	306	↑*e*P	Pn	13 27 40.9		+1.5
PB06				*e*S	Sn	13 28 14.5		-1.3
PB06				IAML		13 28 16.8		
	comp=N,411nm,0.1s							
PB06	IPOC Station P	2.71	306	*e*P	Pn	13 27 40.8		+1.5
PB06				*e*S	Sn	13 28 14.8		-1.0
PB06				IAML		13 28 18.6		
	comp=Z,195nm,0.1s							
PB14	IPOC Station P	2.94	264	*e*P	Pn	13 27 43.1		+1.1
PB14				*e*S	Sn	13 28 19.0		-1.5
PB14	IPOC Station P	2.94	264	*e*P	Pn	13 27 43.4		+1.3
PB14				*e*S	Sn	13 28 20.2		-0.4
PB14				IAML		13 28 23.8		
	comp=Z,51nm,0.6s							
AC02	Maricunga	3.05	215	*e*P	Pn	13 27 45.2		+1.8
AC02	Maricunga	3.05	215	*e*P	Pn	13 27 45.7		+2.3
PB05	IPOC Station P	3.13	297	*e*P	Pn	13 27 45.3		+1.3
PB05				*e*S	Sn	13 28 22.1		-2.1
PB05				IAML		13 28 25.9		
	comp=N,140nm,0.5s							
PB05	IPOC Station P	3.13	297	*e*P	Pn	13 27 45.3		+1.3
PB05				*e*S	Sn	13 28 23.6		-0.6
PB05				IAML		13 28 25.1		
	comp=Z,71nm,0.3s							
PB09	IPOC Station P	3.15	323	*e*P	Pn	13 27 46.4		+2.1
PB09				*e*S	Sn	13 28 24.3		-0.5
PB09				IAML		13 28 26.7		
	comp=N,127nm,0.3s							
PB09	IPOC Station P	3.15	323	*e*P	Pn	13 27 46.6		+2.3
PB09				*e*S	Sn	13 28 24.6		-0.2
PB09				IAML		13 28 25.1		
	comp=Z,108nm,0.3s							
PB10	IPOC Station P	3.18	284	↓*e*P	Pn	13 27 45.9		+1.4
PB10				*e*S	Sn	13 28 23.8		-1.3
PB10				IAML		13 28 31.1		
	comp=E,96nm,0.2s							
PB10	IPOC Station P	3.18	284	*e*P	Pn	13 27 46.1		+1.6
PB10				*e*S	Sn	13 28 24.8		-0.4
PB10				IAML		13 28 26.6		
	comp=Z,84nm,0.4s							
PB03	IPOC Station P	3.27	313	*e*P	Pn	13 27 47.0		+1.2
PB03				*e*S	Sn	13 28 25.6		-1.8
PB03				IAML		13 28 26.7		
	comp=E,209nm,0.2s							
PB03	IPOC Station P	3.27	313	*e*P	Pn	13 27 47.0		+1.2
PB03				*e*S	Sn	13 28 25.9		-1.6
PB03				IAML		13 28 27.5		
	comp=Z,181nm,0.1s							
AC01	Pan de Azucar	3.58	239	*e*P	Pn	13 27 50.0		+0.7
AC01				*e*S	Sn	13 28 32.0		-1.8
AC01	Pan de Azucar	3.58	239	*e*P	Pn	13 27 50.0		+0.7
AC01				*e*S	Sn	13 28 33.3		-0.5
AC01				IAML		13 28 34.1		
	comp=Z,38nm,2.8s							
PB01	IPOC Station P	3.90	327	*e*P	Pn	13 27 54.2		+0.9
PB01	IPOC Station P	3.90	327	*e*P	Pn	13 27 54.5		+1.2
PB01				*e*S	Sn	13 28 38.9		-2.1
PB01				IAML		13 28 44.7		
	comp=Z,60nm,0.2s							
PB02	IPOC Station P	3.90	320	*e*P	Pn	13 27 54.5		+1.1
PB02	IPOC Station P	3.90	320	*e*P	Pn	13 27 54.4		+1.1
PB02				*e*S	Sn	13 28 38.2		-2.8
PB02				IAML		13 28 41.9		
	comp=Z,181nm,0.2s							
GO03	Copiapo	4.25	219	*e*P	Pn	13 27 58.0		+0.3
GO03	Copiapo	4.25	219	*e*P	Pn	13 27 58.5		+0.9
GO03				*e*S	Sn	13 28 48.1		-0.8
GO03				IAML		13 28 50.0		
	comp=Z,40nm,0.2s							
PB08	IPOC Station P	4.54	336	*e*P	Pn	13 28 03.4		+1.6
PB08				*e*S	Sn	13 28 55.0		-1.1
PB08				IAML		13 29 02.5		
	comp=Z,15nm,0.4s							
TA01	Diego Aracena	4.65	323	*e*P	Pn	13 27 46.1		-17
TA01				*e*S	Sn	13 28 55.6		-2.3
TA01				IAML		13 28 58.7		
	comp=Z,25nm,1.4s							
HMBC	Humberstone	4.74	328	*e*P	Pn	13 28 04.2		+0.2
HMBC				*e*S	Sn	13 28 58.1		-2.1
HMBC				IAML		13 29 01.0		
	comp=Z,45nm,0.3s							
GO01	Chusmiza	4.99	338	*e*P	Pn	13 28 09.2		+1.7
GO01				IAML		13 29 11.4		
	comp=Z,13nm,0.5s							
PB11	IPOC Station P	5.09	333	*e*P	Pn	13 28 08.4		0.0
PB11				*e*S	Sn	13 29 05.3		-2.8
PB11				IAML		13 29 10.2		
	comp=Z,20nm,0.2s							
AC04	Llanos de Chal	5.20	221	*e*P	Pn	13 28 09.5		-0.1
AC04	Llanos de Chal	5.20	221	*e*S	Sn	13 29 09.3		-1.1
AC04				IAML		13 29 10.2		
	comp=Z,23nm,1.4s							

IDC 20 13:31:14.8±5.9, 30.40S×178.59W, h127km±44km, mb3.5/2, mbtmp3.9/2, Error ellipse: s-maj=129.1km s-min=49.3km az=158.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
RAO	Raoul Island	1.28	27	P	Pn	13 31 40.5		+0.2
	181nm,0.4s,baz=102,slow=18,SNR=2.5							
RAO				S	Sn	13 31 59.6		-0.1
	263nm,0.3s,baz=62,slow=23,SNR=4.2							
ASAR	Alice Springs	42.60	267	P	P	13 38 58.1		-0.4
	0.8nm,0.4s,baz=106,slow=7.3,SNR=29							
	0.8nm,0.4s							
WRA	Warramunga Arr	43.59	272	P	P	13 39 06.7		+0.1
	0.6nm,0.3s,baz=111,slow=8.0,SNR=26							
	0.6nm,0.3s							
H03S2	Juan Fernandez	80.89	124	T	T	15 12 04.6		
	baz=238							
H03S1	Juan Fernandez	80.90	124	T	T	15 12 05.8		
	baz=238,slow=74,SNR=2.9							
H03S3	Juan Fernandez	80.90	124	T	T

KOTS	**Kotyrbulak**	**1.63**	**313**	*eP*	**Pg**	**13 48 48.7**	**-0.2**
	5.4nm,0.1s							
KOTS				*eS*	**Sg**	**13 49 11.7**	**+1.6**
	41nm,0.2s							
ULHL	**Ulahol**	**1.86**	**274**	⇓*iP*	**Pg**	**13 48 52.1**	**-1.2**
ULHL				⇓*iS*	**Sg**	**13 49 17.6**	**+0.2**
MTBS	**Maitube**	**1.97**	**301**	Pg	**Pb**	**13 48 53.7**	**0.0**
	11nm,0.2s							
MTBS				Lg	Lg	13 49 20.5		
	27nm,0.2s							
MTBS	**Maitube**	**1.97**	**301**	*eP*	**Pb**	**13 48 53.7**	**0.0**
	11nm,0.2s							
MTBS				*eS*	**Sg**	**13 49 20.5**	**-0.6**
	27nm,0.2s							
BOOM	**Boomskoye usch**	**2.11**	**281**	⇓*iP*	**Pb**	**13 48 56.0**	**-0.1**
BOOM				⇓*iS*	**Sg**	**13 49 24.3**	**-1.1**
CHKK	**Chushkaly**	**2.15**	**324**	Pg	**Pg**	**13 48 57.3**	**-1.5**
	32nm,0.3s							
CHKK				Lg	Lg	13 49 26.5		
	69nm,0.2s							
CHKK	**Chushkaly**	**2.15**	**324**	*eP*	**Pg**	**13 48 57.3**	**-1.5**
	32nm,0.3s							
CHKK				*eS*	**Sg**	**13 49 26.5**	**-0.1**
	69nm,0.2s							
ARXS	**Arharly**	**2.18**	**343**	Pg	**Pb**	**13 48 57.0**	**-0.4**
	30nm,0.6s							
ARXS				Lg	Lg	13 49 25.7		
	27nm,0.8s							
ARXS	**Arharly**	**2.18**	**343**	*eP*	**Pb**	**13 48 57.0**	**-0.4**
ARXS				*eS*	**Sb**	**13 49 25.7**	**+1.3**
KTBS	**Karatobe**	**2.18**	**317**	Pg	**Pg**	**13 48 58.1**	**-1.4**
	19nm,0.2s							
KTBS				Lg	Lg	13 49 27.9		
	33nm,0.4s							
KST	**Kastek**	**2.24**	**295**	Pg	**Pb**	**13 48 58.7**	**+0.3**
	9.2nm,0.3s							
KST				Lg	Lg	13 49 28.9		
	108nm,0.5s							
KST	**Kastek**	**2.24**	**295**	*eP*	**Pb**	**13 48 58.7**	**+0.3**
	9.2nm,0.3s							
KST				*eS*	**Sg**	**13 49 28.9**	**-0.9**
	108nm,0.5s							
KNOS	**Konyrlen**	**2.25**	**8**	Pg	**Pb**	**13 48 57.8**	**-0.7**
	12nm,0.2s							
KNOS				Lg	Lg	13 49 27.3		
	25nm,0.1s							
TKM2	**Tokmak 2**	**2.45**	**290**	⇓*iP*	**Pb**	**13 49 01.1**	**-0.9**
TKM2				⇓*iS*	**Sb**	**13 49 32.8**	**+0.5**
KUU	**Kurty**	**2.49**	**316**	Pg	**Pb**	**13 49 02.4**	**-0.1**
	5.5nm,0.1s							
KUU				Lg	Lg	13 49 35.4		
	35nm,0.4s							
KUU	**Kurty**	**2.49**	**316**	*eP*	**Pb**	**13 49 02.4**	**-0.1**
	5.5nm,0.1s							
KUU				*eS*	**Sg**	**13 49 35.4**	**-2.2**
	35nm,0.4s							
KRBS	**Karabastau**	**2.74**	**306**	Pg	**Pb**	**13 49 07.1**	**+0.3**
	7.3nm,0.3s							
KRBS				Lg	Lg	13 49 43.3		
	16nm,0.5s							
KAPS	**Kapalarasan**	**3.18**	**8**	Pg	**Pb**	**13 49 13.8**	**-0.6**
	9.9nm,0.3s							
KAPS				Lg	Lg	13 49 54.8		
	46nm,0.2s							
AAK	**Ala-Archa**	**3.18**	**281**	⇑Pg	**Pb**	**13 49 14.6**	**+0.2**
	2.2nm,0.7s							
AAK				⇓Lg	Lg	13 49 56.5		
	3.3nm,0.5s							
MRKS	**Merke**	**4.12**	**280**	Pg	**Pb**	**13 49 32.7**	**+2.3**
	5.1nm,0.4s							
MRKS				Lg	Lg	13 50 27.5		
	4.7nm,0.4s							
MRKS	**Merke**	**4.12**	**280**	*eP*	**Pb**	**13 49 32.7**	**+2.3**
	5.1nm,0.4s							
MRKS				*eS*	**Sg**	**13 50 27.5**	**-2.7**
	4.7nm,0.4s							
BTLS	**Baital**	**4.48**	**312**	Pg	**Pg**	**13 49 39.8**	**-3.6**
	1.3nm,0.2s							
BTLS				Lg	Lg	13 50 39.4		
	1.7nm,0.3s							
BTLS	**Baital**	**4.48**	**312**	*eP*	**Pg**	**13 49 39.8**	**-3.6**
	1.3nm,0.2s							
BTLS				*eS*	**Sg**	**13 50 39.4**	**-2.1**
	1.7nm,0.3s							
MAKZ	**Makanchi**	**5.22**	**25**	⇓Pn	**Pn**	**13 49 35.1**	**-0.7**
	1.9nm,1.1s							
MAKZ				⇑Sn	**Sn**	**13 50 39.5**	**+3.6**
	0.5nm,0.5s							
MAKZ				⇑Lg	Lg	13 50 58.9		
	1.1nm,0.7s							
MK31	**Makanchi Array**	**5.31**	**27**	Pn	**Pn**	**13 49 39.8**	**+2.8**
	1.0nm,0.7s,baz=212,slow=13,SNR=17							
MK31				⇑Sn	**Sn**	**13 50 40.7**	**+2.5**
	0.9nm,0.5s							
MK31				⇓Lg	Lg	13 51 03.4		
	1.9nm,0.6s							
KK31	**Karatay Array**	**6.15**	**282**	Pg	**Pg**	**13 50 11.8**	**-3.5**
	0.3nm,0.3s,baz=90,slow=16,SNR=6.0							
KK31				⇑Lg	Lg	13 51 29.7		
	0.6nm,0.3s,baz=99,slow=28,SNR=5.2							

UPA ***20*** *13:51:20.9±0.8, 8°.70N×82°.76W, h32km±2km, MD3.4, ML3.4, MW3.7, Fault plane solution: NP1:φ≈60.00000°, δ88.00000°, λ,32.00000°.*
UCR ***20*** *13:51:20.9±0.7, 8°.64N×82°.78W, h31km±1km, MW3.6*
ISC 20 13:51:20.9±0.9, 8°.66N±0°.02×82°.77W±0°.02, h32km±5km, n55, σ0s63/87, 10C-5D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPPC	**Paso Canoas**	**0.14**	**207**	*eP*	**Pb**	**13 51 26.5**	**-0.2**
LPPC				*eS*	**Sb**	**13 51 31.2**	**+0.4**
BRU2	**Volcan**	**0.15**	**31**	⇓*eP*	**Pn**	**13 51 27.1**	**-0.1**
BRU2				*eP*	**Pn**	**13 51 27.1**	**-0.1**
BRU2				AMP		13 51 27.4	
	comp=Z,5μm,0.1s						
BRU2				*eS*	**Sb**	**13 51 31.7**	**+0.4**
BRU2				*eS*	**Sb**	**13 51 31.7**	**+0.4**
BRU2	**Volcan**	**0.15**	**31**	*eP*	**Pn**	**13 51 27.1**	**-0.1**
BRU2				*eS*	**Sb**	**13 51 31.7**	**+0.4**
NELY	**Ciudad Neily**	**0.17**	**266**	*eP*	**Pb**	**13 51 26.8**	**-0.2**
NELY				*eS*	**Sn**	**13 51 31.6**	**+0.3**
TBS2		**0.17**	**41**	⇓*eP*	**Pn**	**13 51 28.0**	**+0.5**
TBS2				*eS*	**Sn**	**13 51 32.6**	**+1.0**
TBS2		**0.17**	**41**	*eP*	**Pn**	**13 51 27.9**	**+0.5**
BC3P	**Paso Ancho**	**0.22**	**46**	*eP*	**Pb**	**13 51 27.5**	**-0.2**
BC3P				*eS*	**Sb**	**13 51 31.2**	**-1.3**
JEFFS	**S de V. Baru**	**0.24**	**88**	*eP*	**Pn**	**13 51 28.1**	**-0.2**
BANCO	**falda S V. Bar**	**0.25**	**77**	*eP*	**Pb**	**13 51 28.2**	**+0.2**
LESP3	**La Esperanza,**	**0.26**	**184**	⇑*eP*	**Pb**	**13 51 27.8**	**-0.1**
LESP3				*eS*	**Sn**	**13 51 33.5**	**+0.2**
PTAR3	**Potrerillos Ar**	**0.28**	**83**	⇑*eP*	**Pn**	**13 51 28.6**	**-0.3**
PTAR3				*eS*	**Sn**	**13 51 33.7**	**-0.3**
ALCO	**Alturas Coton,**	**0.29**	**348**	*eP*	**Pb**	**13 51 28.1**	**-0.4**
ALCO				*eS*	**Sb**	**13 51 33.4**	**-0.4**
BAGA3	**Bagala, Chiriq**	**0.31**	**129**	*eP*	**Pn**	**13 51 29.1**	**-0.1**
BAGA3				*eS*	**Sn**	**13 51 34.7**	**0.0**
BQTLY	**Boquete Panama**	**0.32**	**73**	⇑*iP*	**Pb**	**13 51 28.9**	**0.0**
BQTLY				*eS*	**Sn**	**13 51 34.9**	**-0.3**
BQTLY	**Boquete Panama**	**0.32**	**73**	*eP*	**Pb**	**13 51 28.9**	**0.0**
BQSF3	**Alto Boquete,**	**0.34**	**77**	⇑*eP*	**Pb**	**13 51 29.2**	**0.0**
BQSF3				*eS*	**Sb**	**13 51 34.4**	**-0.5**
WILLF	**Boquete**	**0.34**	**75**	*eP*	**Pb**	**13 51 29.0**	**-0.2**
LNBQ3	**Los Naranjos,**	**0.35**	**69**	*eP*	**Pb**	**13 51 29.0**	**-0.3**
LNBQ3				*eS*	**Sb**	**13 51 35.0**	**-0.1**
DAP26	**falda E V. Bar**	**0.37**	**70**	*eP*	**Pb**	**13 51 29.2**	**-0.4**
DVD	**David**	**0.39**	**125**	⇑*eP*	**Pb**	**13 51 29.8**	**+0.1**
DVD				*eS*	**Sn**	**13 51 36.4**	**-0.2**
LOCO3	**Loma Colorada,**	**0.43**	**125**	⇑*eP*	**Pb**	**13 51 30.5**	**+0.2**
LOCO3				*eS*	**Sn**	**13 51 38.7**	**+1.0**
LOMA3	**Las Lomas, Chi**	**0.44**	**121**	*eP*	**Pb**	**13 51 30.6**	**+0.1**
PEDE3	**Pedregal, Chir**	**0.44**	**129**	⇑*eP*	**Pb**	**13 51 30.6**	**+0.1**
PEDE3				*eS*	**Sb**	**13 51 37.4**	**+0.3**
PSOM3	**Paja de Sombre**	**0.45**	**87**	⇑*eP*	**Pb**	**13 51 30.4**	**-0.2**
PSOM3				*eS*	**Sb**	**13 51 37.3**	**0.0**
CGUAY	**Guayabal, Coch**	**0.46**	**116**	⇑*iP*	**Pb**	**13 51 30.7**	**-0.1**
CGUAY				*eS*	**Sb**	**13 51 37.9**	**+0.3**
CGUAY	**Guayabal, Coch**	**0.46**	**116**	*eP*	**Pb**	**13 51 30.5**	**-0.3**
PTPM	**Petroterminale**	**0.47**	**193**	*eP*	**Pb**	**13 51 31.1**	**+0.2**
PTPM				*eS*	**Sn**	**13 51 39.6**	**+1.0**
EDP2	**Potrero Grande**	**0.53**	**311**	*eP*	**Pb**	**13 51 31.5**	**-0.4**
LMNES	**Limones**	**0.56**	**189**	⇓*iP*	**Pb**	**13 51 32.6**	**+0.1**
LMNES				*eS*	**Sn**	**13 51 41.4**	**+0.4**
LMNES	**Limones**	**0.56**	**189**	*eP*	**Pb**	**13 51 32.3**	**-0.1**
PIRO	**Carate, Puerto**	**0.61**	**245**	*eP*	**Pb**	**13 51 32.4**	**-0.9**
PIRO				*eP*	**Pn**	**13 51 32.6**	**-0.8**
PIRO				*eS*	**Sn**	**13 51 42.9**	**+0.7**
PIRO				*eS*	**Sb**	**13 51 43.4**	**+1.7**
PIRO	**Carate, Puerto**	**0.61**	**245**	*eP*	**Pb**	**13 51 32.3**	**-0.9**
RBALA	**Bur**	**0.65**	**71**	⇓*iP*	**Pb**	**13 51 33.2**	**-0.6**
RBALA				*eS*	**Sb**	**13 51 42.1**	**-0.5**
RBALA	**Bur**	**0.65**	**71**	*eP*	**Pb**	**13 51 33.1**	**-0.7**
DRK0	**Durika**	**0.76**	**322**	⇑*iP*	**Pn**	**13 51 34.8**	**-0.8**
DRK0				*eP*	**Pb**	**13 51 34.9**	**-0.8**
DRK0				*eS*	**Sb**	**13 51 45.0**	**-0.9**
DRK0				*eS*	**Sb**	**13 51 45.2**	**-0.7**
DRK0	**Durika**	**0.76**	**322**	*eP*	**Pn**	**13 51 34.8**	**-0.8**
DRK0				*eS*	**Sb**	**13 51 45.1**	**-0.7**
CNI2	**El Empalme, Bo**	**0.81**	**21**	*eP*	**Pn**	**13 51 35.9**	**-0.3**
EDPE	**Pejibaye, P**	**0.93**	**302**	*eP*	**Pn**	**13 51 36.5**	**-1.3**
RGM0	**Gandoca**	**0.94**	**10**	*eP*	**Pb**	**13 51 40.1**	**+1.4**
CEUA	**Cerro Uatsi, L**	**0.97**	**350**	*eP*	**Pb**	**13 51 39.4**	**+0.2**
KKNTU	**Kakint²**	**0.97**	**79**	⇓*iP*	**Pn**	**13 51 37.8**	**-0.5**
KKNTU				*eS*	**Sn**	**13 51 50.0**	**-1.1**
KKNTU	**Kakint²**	**0.97**	**79**	*eP*	**Pn**	**13 51 37.7**	**-0.6**
LAES	**El Progreso Va**	**1.13**	**346**	*eP*	**Pb**	**13 51 41.6**	**-0.2**
LAES				*eS*	**Sb**	**13 51 57.6**	**+1.4**
CVEJO	**Cerro Viej**	**1.25**	**109**	*eS*	**Sn**	**13 51 57.6**	**-0.3**
BUS1	**Rivas**	**1.31**	**313**	*eP*	**Pn**	**13 51 43.1**	**-0.3**
VERH	**Veragua Rainfo**	**1.32**	**342**	*eP*	**Pn**	**13 51 43.9**	**+0.6**
PIEC	**Cerro El Cedra**	**1.51**	**309**	*eP*	**Pn**	**13 51 45.7**	**-0.3**
LCOCO	**El Coco**	**1.61**	**331**	*eP*	**Pn**	**13 51 48.5**	**+1.3**
LCR2	**La Lucha 2**	**1.62**	**311**	*eS*	**Sn**	**13 52 07.9**	**+0.5**
ABRB	**Las Abras (San**	**1.63**	**325**	*eP*	**Pn**	**13 51 48.9**	**+1.3**
CVTV	**Tajo**	**1.65**	**324**	*eP*	**Pn**	**13 51 48.9**	**+1.0**
CVTQ	**Turrialba Volc**	**1.66**	**324**	*eP*	**Pn**	**13 51 49.1**	**+1.0**
VTR0	**Volcan Turrial**	**1.66**	**324**	*eP*	**Pn**	**13 51 48.7**	**+0.5**
CVTR	**Volcan Turrial**	**1.67**	**324**	*eP*	**Pn**	**13 51 48.7**	**+0.5**
PICV	**PH. Pirrs**	**1.70**	**304**	*eP*	**Pn**	**13 51 48.2**	**-0.2**

NNC ***20*** *13:51:36.2±2.4, 42°.00N×78°.91E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=17.3km s-min=6.5km az=155.0*
KRNET ***20*** *13:51:40.3±0.1, 42°.11N×78°.75E, h13km, mb2.1*
SOME ***20*** *13:51:40.0, 42°.13N×78°.75E, h5km*
ISC 20 13:51:39.6±1.8, 42°.12N±0°.06×78°.76E±0°.05, h1km±13km, n16, σ1s39/27, 11C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.45**	**324**	⇓*eP*	**Pg**	**13 51 49.5**	**+1.1**
PRZ				⇓*eS*	**Sb**	**13 51 56.5**	**-1.4**
TARG	**Taragay, Kyrgy**	**0.81**	**242**	⇑*iP*	**Pg**	**13 51 55.8**	**+0.6**
TARG				⇑*iS*	**Sb**	**13 52 07.4**	**-0.9**
UZB	**Uzynbulak**	**1.05**	**11**	*eP*	**Pg**	**13 51 59.5**	**-0.3**
	1.7nm,0.2s						
UZB				*eS*	**Sg**	**13 52 13.5**	**+0.2**
	5.5nm,0.4s						
SHLS	**Shalkode**	**1.16**	**26**	*eP*	**Pn**	**13 52 05.0**	**+1.9**
	4.9nm,0.4s						
SHLS				*eS*	**Sn**	**13 52 22.9**	**+3.2**
	6.8nm,0.6s						
KDJ	**Kajisay**	**1.18**	**271**	⇑*iP*	**Pg**	**13 52 02.6**	**+0.4**
KDJ				⇑*iS*	**Sb**	**13 52 18.5**	**-0.1**
PDGK	**Podgornoye**	**1.33**	**24**	⇑P	**Pn**	**13 52 01.6**	**-3.8**
	1.6nm,0.9s						
PDGK				⇑S	**Sg**	**13 52 21.5**	**-0.8**
	3.9nm,0.6s						
KNDC	**Almaty**	**1.72**	**310**	⇓Pn	**Pn**	**13 52 08.6**	**-2.2**
	7.9nm,0.2s						
KNDC				⇑Sn	**Sg**	**13 52 34.7**	**-0.2**
	8.8nm,0.3s						
ULHL	**Ulahol**	**1.88**	**275**	⇑*iP*	**Pb**	**13 52 15.3**	**+0.5**
ULHL				⇑*iS*	**Sg**	**13 52 40.8**	**+0.9**
BOOM	**Boomskoye usch**	**2.12**	**281**	⇑*iP*	**Pb**	**13 52 19.0**	**0.0**
BOOM				⇑*iS*	**Sg**	**13 52 47.4**	**-0.5**
CHKK	**Chushkaly**	**2.17**	**324**	Pg	**Pb**	**13 52 20.6**	**+0.9**
	6.4nm,0.3s						
CHKK				Lg	Lg	13 52 50.0	
	7.5nm,0.3s						
CHKK	**Chushkaly**	**2.17**	**324**	*eP*	**Pb**	**13 52 20.6**	**+0.9**
	6.4nm,0.3s						
CHKK				*eS*	**Sg**	**13 52 50.0**	**+0.7**
	7.5nm,0.3s						
KTBS	**Karatobe**	**2.21**	**317**	Pg	**Pb**	**13 52 21.1**	**+0.8**
	2.9nm,0.2s						
KTBS				Lg	Lg	13 52 50.6	
	3.7nm,0.4s						
KNOS	**Konyrlen**	**2.26**	**8**	Pg	**Pb**	**13 52 21.1**	**-0.2**
	1.8nm,0.1s						
KNOS				Lg	Lg	13 52 51.1	
	3.0nm,0.1s						
KST	**Kastek**	**2.26**	**295**	Pg	**Pg**	**13 52 22.5**	**-0.6**
	1.6nm,0.2s						
KST				Lg	Lg	13 52 53.1	
	13nm,0.4s						
KST	**Kastek**	**2.26**	**295**	*eP*	**Pg**	**13 52 22.5**	**-0.6**
	1.6nm,0.2s						
KST				*eS*	**Sg**	**13 52 53.0**	**+0.7**
	13nm,0.4s						
KRBS	**Karabastau**	**2.76**	**306**	Pg	**Pb**	**13 52 30.7**	**+0.9**
	1.1nm,0.3s						
KRBS				Lg	Lg	13 53 07.2	
	3.1nm,0.4s						

HEL ***20*** *14:08:26.0±0.3, 61°.09N×30°.28E, h0km, ML2.5, Explosion*
MOS ***20*** *14:08:27.0±1.1, 61°.05N±0°.07×30°.37E±0°.06, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC ***20*** *14:08:27.6±0.7, 61°.08N×30°.11E, h0km, mb3.4/4, mbtmp3.5/13, ML3.5/9, Error ellipse: s-maj=9.3km s-min=6.3km az=19.0*
BER ***20*** *14:08:31.4±2.2, 61°.16N×29°.87E, h0km, ML2.5, ML2.5(HEL), Suspected explosion*
UPP ***20*** *14:08:32.2±2.8, 61°.09N×29°.52E, h0km, ML2.4, Presumed earthquake*
ISC 20 14:08:25.1±0.6, 61°.13N±0°.03×30°.09E±0°.03, h0km, n80, σ1s95/105, mb3.4/4, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.63**	**299**	PG	**Pb**	**14 08 39.3**	**+0.3**
RUF				SG	**Sb**	**14 08 48.8**	**+0.5**
RUF				MSG		14 08 48.8	
	comp=Z,104nm,0.2s						
RUF	**Ruokolahti**	**0.63**	**299**	PG	**Pb**	**14 08 39.3**	**+0.3**
RUF				SG	**Sb**	**14 08 48.8**	**+0.5**
RUF				MSG		14 08 48.8	
	comp=Z,104nm,0.2s						
VJF	**Virojoki**	**1.38**	**246**	PG	**Pb**	**14 08 51.7**	**0.0**
	baz=65						
VJF				MSG		14 09 09.6	
	comp=Z,42nm,0.2s						
VJF				SN	**Sn**	**14 09 14.4**	**+4.0**
JOF	**Joensuu**	**1.89**	**17**	*eP*	**Pn**	**14 08 55.4**	**-3.2**
JOF	**Joensuu**	**1.89**	**17**	PG	**Pb**	**14 09 00.1**	**-0.3**
JOF				SG	**Sb**	**14 09 26.2**	**+1.6**
FIA0	**FINESS Array S**	**1.96**	**281**	PG	**Pg**	**14 09 02.3**	**-0.4**
FIA0				MSG		14 09 27.2	
	comp=Z,21nm,0.2s						
FIA0				SG	**Sg**	**14 09 29.1**	**+0.9**
FIA0	**FINESS Array S**	**1.96**	**281**	PG	**Pg**	**14 09 02.3**	**-0.4**
FIA0				MSG		14 09 27.2	
	comp=Z,21nm,0.2s						
FIA0				SG	**Sg**	**14 09 29.1**	**+0.9**
FINES	**FINESS Array B**	**1.96**	**281**	Pg	**Pg**	**14 09 02.4**	**-0.3**
	comp=Z,10nm,0.3s,baz=99,slow=16,SNR=314						
FINES				Lg	Lg	14 09 28.9	
	comp=Z,13nm,0.3s,baz=91,slow=25,SNR=9.9						
FINES				Rg	Rg	14 09 41.6	
	comp=Z,60nm,0.8s,baz=113,slow=36,SNR=9.2						
KAF	**Kangasniemi**	**2.06**	**300**	PG	**Pg**	**14 09 04.6**	**0.0**
KAF				MSG		14 09 30.0	
	comp=Z,47nm,0.2s						
KAF				SG	**Sg**	**14 09 32.6**	**+1.3**
KAF	**Kangasniemi**	**2.06**	**300**	PG	**Pg**	**14 09 04.6**	**0.0**
KAF				MSG		14 09 30.0	
	comp=Z,47nm,0.2s						
KAF				SG	**Sg**	**14 09 32.6**	**+1.3**
PVF	**Pernaja**	**2.15**	**256**	MSG		14 09 32.1	
	comp=Z,30nm,0.2s						
PVF				SG	**Sg**	**14 09 36.1**	**+1.9**
PVF	**Pernaja**	**2.15**	**256**	PG	**Pb**	**14 09 04.7**	**-0.2**
PVF				MSG		14 09 32.1	
	comp=Z,30nm,0.2s						
PVF				SG	**Sg**	**14 09 36.1**	**+1.9**
SUF	**Sumiainen**	**2.45**	**312**	PG	**Pb**	**14 09 10.7**	**+0.6**
SUF				MSG		14 09 41.4	
	comp=Z,16nm,0.2s						
SUF				SG	**Sg**	**14 09 44.3**	**+0.4**
NIF	**Nilsia**	**2.51**	**336**	PG	**Pb**	**14 09 11.0**	**0.0**
NIF				MSG		14 09 42.2	
	comp=Z,16nm,0.2s						
NIF				SG	**Sg**	**14 09 44.8**	**-0.9**
ARBE	**Arbavere**	**2.66**	**232**	*eP*	**Pb**	**14 09 13.9**	**+0.3**
ARBE	**Arbavere**	**2.66**	**232**	PB	**Pb**	**14 09 13.1**	**-0.5**
ARBE				SG	**Sg**	**14 09 50.9**	**+0.5**
KEF	**Keuruu**	**2.70**	**295**	*eP*	**Pb**	**14 09 14.2**	**-0.1**
KEF	**Keuruu**	**2.70**	**295**	PB	**Pb**	**14 09 13.2**	**-1.1**
KEF				SB	**Sb**	**14 09 48.5**	**+0.6**
KEF				MSG		14 09 48.7	
	comp=Z,15nm,0.2s						
HEL1	**Helsinki**	**2.74**	**252**	PN	**Pb**	**14 09 13.0**	**-1.9**
HEL1				MSG		14 09 48.9	
	comp=Z,21nm,0.2s						
HEL1				SG	**Sg**	**14 09 53.8**	**+0.9**
NUR	**Nurmijarvi**	**2.74**	**259**	PN	**Pb**	**14 09 12.8**	**-2.1**
NUR				MSG		14 09 49.2	
	comp=Z,12nm,0.2s						
HEL5	**Espoo, Suvisaa**	**2.83**	**251**	PN	**Pb**	**14 09 14.2**	**-2.2**
	baz=63						
HEL5				MSG		14 09 51.5	
	comp=Z,12nm,0.2s						
HEL5				SG	**Sg**	**14 09 56.0**	**+0.2**
MEF	**Metsahovi**	**2.95**	**254**	*eP*	**Pb**	**14 09 16.8**	**-1.7**
MEF	**Metsahovi**	**2.95**	**254**	PN	**Pb**	**14 09 15.8**	**-2.7**
	baz=67						
MEF				MSG		14 09 54.9	
	comp=Z,11nm,0.2s						
MEF				SG	**Sg**	**14 09 59.6**	**-0.1**
RMF	**Romuvaara**	**3.10**	**359**	PB	**Pn**	**14 09 18.4**	**+3.1**
	baz=172						
VSU	**Vasula**	**3.17**	**214**	*eP*	**Pg**	**14 09 24.4**	**-1.4**
VSU	**Vasula**	**3.17**	**214**	PN	**Pn**	**14 09 18.7**	**+2.6**
TVF	**Tvarminne**	**3.62**	**252**	PN	**Pn**	**14 09 25.2**	**+2.8**
KPF	**Kankaanpaa**	**3.91**	**284**	PB	**Pb**	**14 09 32.9**	**-2.0**
RAF	**Rauma**	**4.05**	**272**	*eP*	**Pn**	**14 09 31.8**	**+3.6**
RAF	**Rauma**	**4.05**	**272**	PN	**Pn**	**14 09 31.6**	**+3.3**
	baz=89						
OUF	**Merijarvi**	**4.08**	**325**	PB	**Pb**	**14 09 34.2**	**-3.6**
OUF				SG	**Sg**	**14 10 34.2**	**-1.8**
OBF0	**Syolatti, Pyha**	**4.32**	**324**	PB	**Pb**	**14 09 40.1**	**-1.7**
OBF4	**Vikkela, Lumij**	**4.34**	**331**	PB	**Pb**	**14 09 41.6**	**-0.6**
OUL	**Oulu**	**4.41**	**336**	PB	**Pb**	**14 09 41.0**	**-2.2**
OUL				SG	**Sb**	**14 10 40.6**	**+3.7**
OBF8	**Ulkokalla**	**4.43**	**319**	PG	**Pg**	**14 09 47.6**	**-2.5**
	baz=132						
OBF8				SN	**Sn**	**14 10 27.9**	**+2.1**
KU1	**Kurvinen**	**4.46**	**357**	PN	**Pn**	**14 09 35.3**	**+1.4**
KU2	**Taivalkoski**	**4.67**	**351**	PN	**Pn**	**14 09 40.1**	**+3.2**
AAL	**Aland**	**5.06**	**264**	P	**Pn**	**14 09 44.6**	**+2.5**
AAL				S	**Sn**	**14 10 39.3**	**-1.9**
AAL	**Aland**	**5.06**	**264**	*eP*	**Pn**	**14 09 44.7**	**+2.6**
UMAU	**Umeaa**	**5.16**	**306**	P	**Pn**	**14 09 46.4**	**+2.9**
KALU	**Kalix**	**5.62**	**331**	P	**Pn**	**14 09 54.2**	**+4.4**
GRAU	**Graesoe**	**5.72**	**267**	P	**Pn**	**14 09 52.7**	**+1.4**
SJUU	**Sjulsmark**	**5.82**	**323**	P	**Pn**	**14 09 56.8**	**+4.2**
SJUU	**Sjulsmark**	**5.82**	**323**	*eP*	**Pn**	**14 09 51.4**	**-1.2**
NRTU	**Norrtaelje**	**5.86**	**261**	P	**Pn**	**14 09 55.4**	**+2.2**
HEMU	**Hemsoen**	**5.91**	**290**	P	**Pn**	**14 09 56.9**	**+3.2**
LANU	**Lannavaara**	**7.76**	**337**	*eP*	**Pn**	**14 10 17.3**	**-1.9**
SALU	**Saltoluokta**	**8.04**	**326**	*eP*	**Pn**	**14 10 24.5**	**+1.5**
HFS	**Hagfors**	**8.12**	**270**	Pn	**Pn**	**14 10 25.8**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=96,slow=15,SNR=26						
HFS				Sn	**Sn**	**14 11 54.2**	**-2.4**
	comp=Z,1.3nm,0.3s,baz=83,slow=26,SNR=8.2						
HFS				Lg	Lg	14 12 41.5	
	comp=Z,2.2nm,0.3s,baz=84,slow=31,SNR=7.7						
	comp=Z,2.7nm,0.4s						
KTK1	**Kautokeino**	**8.42**	**343**	*eP*	**Pn**	**14 10 30.0**	**+1.8**
KTK1				IAML		14 12 54.6	
	comp=Z,9.3nm,0.4s						
ARA0	**ARCESS Array S**	**8.65**	**349**	*eP*	**Pn**	**14 10 32.9**	**+1.4**
ARA0				IAML		14 12 29.6	
	comp=Z,3.8nm,0.5s						
ARCES	**ARCESS Array B**	**8.65**	**349**	Pn	**Pn**	**14 10 33.1**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=160,slow=14,SNR=17						
ARCES				Sn	**Sn**	**14 12 06.6**	**

GAEA	**Gareloi East**	**0.19**	**253**			Pn	14 10 12.6	+0.3
GAEA						Sn	14 10 29.7	-0.6
GANE	**Gareloi Northe**	**0.20**	**265**			Pn	14 10 12.5	+0.1
GANE						Sn	14 10 29.8	-0.5
GALAA	**Gareloi Lava P**	**0.21**	**249**			Pn	14 10 12.8	+0.4
GALAA						Sn	14 10 30.5	+0.2
GANO	**Gareloi North**	**0.22**	**266**			Sn	14 10 30.8	+0.4
TANO	**Tanaga North**	**0.22**	**69**			Pn	14 10 12.7	+0.3
TANO						Sn	14 10 30.3	-0.1
GASW	**Gareloi Southw**	**0.26**	**257**			Pn	14 10 12.7	+0.3
TASE	**Tanaga Southea**	**0.26**	**90**			Pn	14 10 12.8	+0.3
TAFP	**Tanaga Falls P**	**0.30**	**78**			Pn	14 10 12.5	0.0
TAFP						Sn	14 10 30.1	-0.6
TAFL	**Tanaga Flats**	**0.35**	**103**			Pn	14 10 13.3	+0.7
TAFL						Sn	14 10 31.8	+0.9
GAKI	**Gareloi-Kavalg**	**0.36**	**218**			Pn	14 10 13.2	+0.5
GAKI						Sn	14 10 31.1	+0.1
TAPA	**Tanaga Point A**	**0.40**	**93**			Sn	14 10 32.1	+0.7
KIMD	**Kanaga Island**	**0.76**	**95**			Sn	14 10 34.6	+0.3
KICM	**Kanaga Island**	**0.78**	**84**			Pn	14 10 15.3	+0.6
KIKV	**Kanaga Island**	**0.80**	**87**			Sn	14 10 35.2	+0.5
KIWB	**Kanaga Island**	**0.81**	**88**	Pn		Pn	14 10 15.4	+0.6
KIWB				Sn		Sn	14 10 35.2	+0.3
KIRH	**Kanaga Island**	**0.84**	**85**			Pn	14 10 15.7	+0.6
ADK	**Adak**	**1.10**	**87**			Pn	14 10 17.2	+0.3
ADK						Sn	14 10 38.9	+0.3
ETKA	**Kagalaska Isla**	**1.27**	**88**			Sn	14 10 41.6	+0.5
GSSP	**Great Sitkin S**	**1.43**	**79**			Pn	14 10 19.7	-0.1
GSTR	**Great Sitkin T**	**1.50**	**79**			Pn	14 10 20.5	0.0
GSIG	**Igitkin Island**	**1.57**	**84**			Pn	14 10 21.3	+0.1
GSIG						Sn	14 10 46.2	-0.1
ATKA	**Atka Island**	**2.66**	**80**			Pn	14 10 33.4	+0.4
NIKH	**Nikolski High**	**5.98**	**75**			Pn	14 11 15.9	+0.4
UNV	**Unalaska Valle**	**7.51**	**70**			Pn	14 11 36.1	+0.6
SDPT	**Sand Point**	**11.24**	**65**	Pn		Pn	14 12 22.7	-1.6
CNBA	**Chernabura Isl**	**11.66**	**68**	Pn		Pn	14 12 27.8	-2.0
K17K	**Iditarod**	**15.33**	**37**			Pn	14 13 15.4	-0.3
OHAK	**Old Harbor**	**15.52**	**60**	Pn		Pn	14 13 16.6	-1.5
KDAK	**Kodiak Island**	**15.99**	**58**			Pn	14 13 22.3	-1.6
STLK	**Strandline Lak**	**17.41**	**46**	Pn		Pn	14 13 41.8	+0.9
J20K	**Nowinta River**	**17.70**	**36**	P		P	14 13 42.3	-0.2
KTH	**Kantishna Hill**	**18.63**	**40**	P		P	14 13 53.1	+0.2
TRF	**Thorofare Moun**	**18.84**	**41**	P		P	14 13 54.8	-0.4
G21K	**Allakaket**	**19.27**	**31**	P		P	14 13 59.5	-0.2
D19K	**Kuna River**	**19.35**	**23**	P		P	14 14 00.2	-0.3
MLY	**Manley**	**19.40**	**36**	P		P	14 14 00.9	-0.2
RND	**Reindeer**	**19.42**	**42**	P		P	14 14 00.8	-0.5
SCM	**Sheep Creek Mo**	**19.55**	**47**	P		P	14 14 02.3	-0.5
F21K	**Alatna River**	**19.72**	**29**	P		P	14 14 04.0	-0.5
D20K	**Etivluk River**	**19.88**	**24**	P		P	14 14 05.2	-0.9
D22K	**Ayikyak River**	**21.02**	**26**	P		P	14 14 18.2	-0.2
B21K	**Ikpikpuk River**	**21.04**	**23**	P		P	14 14 17.5	-0.9
D23K	**Nanushuk River**	**21.64**	**27**	P		P	14 14 23.8	-1.0
F24K	**Squaw Lake**	**21.66**	**32**	P		P	14 14 25.2	+0.1
C23K	**Itkillik River**	**22.21**	**25**	P		P	14 14 29.4	-1.1
BCAR	**Beaver Creek A**	**22.36**	**46**	P		P	14 14 31.9	-0.1
C24K	**Franklin Bluff**	**22.66**	**27**	P		P	14 14 33.6	-1.0
G26K	**Porcupine Rive**	**22.81**	**35**	P		P	14 14 36.3	+0.3
EGAK	**Eagle**	**23.06**	**42**	P		P	14 14 38.1	-0.2
I28M	**Miner Creek**	**23.75**	**40**	P		P	14 14 44.8	+0.1
TIXI	**Tiksi**	**30.34**	**330**	P		P	14 15 43.2	-0.2

*SOME **20** 14:25:37.7, 41°.03N × 83°.45E, h5km*
*IDC **20** 14:25:39.5±1.6, 41°.37N × 83°.68E, h0km, mb3.5/2, mbtmp3.5/8, ML3.1/5, MS2.7/4, Error ellipse: s-maj=25.0km s-min=16.9km az=59.0*
*NNC **20** 14:25:42.8±1.9, 41°.36N × 83°.52E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=14.3km s-min=8.8km az=149.0*

ISC 20 14:25:41.2±1.2, **41°.30N**±0°.07 × **83°.62E**±0°.05, **h10**km, **n34, σ2s70**/44, **6C-3D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**3.60**	**302**	Pg	**Pb**	**14 26 41.2**	**-3.8**
	30nm,0.4s						
SHLS				Lg	Lg	14 27 28.1	
	625nm,0.5s						
SHLS	**Shalkode**	**3.60**	**302**	*eP*	**Pb**	**14 26 41.2**	**-3.8**
	30nm,0.4s						
SHLS				*eS*	**Sb**	**14 27 28.1**	**-0.7**
	625nm,0.5s						
PDGK	**Podgornoye**	**3.67**	**305**	⇑Pn	**Pn**	**14 26 40.6**	**+2.5**
	6.5nm,0.5s						
PDGK				⇑Pg	**Pg**	**14 26 50.5**	**-1.0**
	21nm,0.6s						
PDGK				⇑Lg	Lg	14 27 36.9	
	183nm,0.6s						
UZB	**Uzynbulak**	**3.88**	**300**	Pg	**Pb**	**14 26 50.7**	**+0.9**
	9.8nm,0.4s						
UZB				Lg	Lg	14 27 43.5	
	128nm,0.6s						
UZB	**Uzynbulak**	**3.88**	**300**	*eP*	**Pb**	**14 26 50.7**	**+0.9**
	9.8nm,0.4s						
UZB				*eS*	**Sg**	**14 27 43.5**	**-2.2**
	128nm,0.6s						
KPKS	**Kokpek**	**4.25**	**302**	Pg	**Pb**	**14 26 57.3**	**+1.3**
	0.5nm,0.3s						
KPKS				Lg	Lg	14 27 55.1	
	143nm,0.5s						
KNOS	**Konyrlen**	**4.47**	**315**	Pg	**Pb**	**14 27 03.1**	**+3.2**
	26nm,0.6s						
KNOS				Lg	Lg	14 28 05.1	
	76nm,0.6s						
ARXS	**Arharly**	**5.16**	**306**	*eP*	**Pb**	**14 27 13.8**	**+2.2**
ARXS				*eS*	**Sg**	**14 28 24.3**	**-2.5**
TNSS	**Tian-Shan**	**5.25**	**291**	*eP*	**Pb**	**14 27 16.4**	**+3.1**
	4.6nm,0.6s						
TNSS				*eS*	**Sg**	**14 28 28.0**	**-1.8**
	24nm,0.7s						
TDK	**Taldyqorghan**	**5.31**	**316**	Pg	**Pb**	**14 27 17.9**	**+3.8**
	70nm,0.3s						
TDK				Lg	Lg	14 28 30.1	
	0.5nm,0.4s						
TDK	**Taldyqorghan**	**5.31**	**316**	*eP*	**Pb**	**14 27 17.9**	**+3.8**
	70nm,0.3s						
TDK				*eS*	**Sg**	**14 28 30.1**	**-1.5**
	0.5nm,0.4s						
CHKK	**Chushkaly**	**5.52**	**300**	Pg	**Pb**	**14 27 19.6**	**+1.9**
	7.5nm,0.4s						
CHKK				Lg	Lg	14 28 33.6	
	35nm,0.4s						
CHKK	**Chushkaly**	**5.52**	**300**	*eP*	**Pb**	**14 27 19.6**	**+1.9**
	7.5nm,0.4s						
CHKK				*eS*	**Sg**	**14 28 33.6**	**-4.8**
	35nm,0.4s						
MK31	**Makanchi Array**	**5.57**	**351**	Pn	**Pn**	**14 27 06.0**	**+1.9**
	0.6nm,0.3s,baz=145,slow=14,SNR=54						
MK31				⇑Pg	**Pg**	**14 27 23.9**	**-3.9**
	5.6nm,0.5s,baz=172,slow=17,SNR=20						
MK31				⇓Sn	**Sn**	**14 28 09.7**	**+1.5**
	5.3nm,0.4s,baz=113,slow=26,SNR=4.5						
MK31				⇓Lg	Lg	14 28 37.6	
	32nm,0.6s,baz=166,slow=27,SNR=3.6						
MKAR	**Makanchi Array**	**5.57**	**351**	Pn	**Pn**	**14 27 06.3**	**+2.2**
	1.1nm,0.3s,baz=176,slow=14,SNR=46						
MKAR				Lg	Lg	14 28 32.7	
	3.5nm,0.3s,baz=164,slow=27,SNR=4.2						
MKAR				LR	LR	14 29 40.2	
	comp=Z,57nm,18.4s,baz=180,slow=44						
	1.2nm,0.3s						
MAKZ	**Makanchi**	**5.63**	**348**	Pn	**Pn**	**14 27 06.3**	**+1.4**
	7.1nm,0.6s						
MAKZ				⇑Sn	**Sn**	**14 28 11.2**	**+1.6**
	10nm,0.4s						
MAKZ				Lg	Lg	14 28 39.3	
	56nm,1.1s						
MTBS	**Maitube**	**5.64**	**291**	*eP*	**Pb**	**14 27 23.2**	**+3.5**
	3.1nm,0.2s						
MTBS				*eS*	**Sg**	**14 28 40.1**	**-2.2**
	43nm,0.5s						
KTBS	**Karatobe**	**5.66**	**297**	Pg	**Pb**	**14 27 23.7**	**+3.5**
	4.1nm,0.5s						
KTBS				Lg	Lg	14 28 40.1	
	122nm,0.7s						
KST	**Kastek**	**5.95**	**290**	Pg	**Pb**	**14 27 26.5**	**+1.5**
	7.5nm,0.7s						
KST				Lg	Lg	14 28 46.0	
	72nm,0.9s						
KST	**Kastek**	**5.95**	**290**	*eP*	**Pb**	**14 27 26.5**	**+1.5**
	7.5nm,0.7s						
KST				*eS*	**Sg**	**14 28 46.0**	**-6.1**
	72nm,0.9s						
KUU	**Kurty**	**5.96**	**298**	Pg	Pb	14 27 29.9	+4.7
	5.6nm,0.4s						
KUU				Lg	Lg	14 28 50.8	
	92nm,0.9s						
KUU	**Kurty**	**5.96**	**298**	*eP*	Pb	14 27 29.9	+4.7
	5.6nm,0.4s						
KUU				*eS*	**Sg**	**14 28 50.8**	**-1.8**
	92nm,0.9s						
ZSN	**Zaisan**	**6.21**	**8**	Pg	**Pg**	**14 27 37.7**	**-2.4**
	7.0nm,0.6s						
ZSN				Lg	Lg	14 29 04.0	
	56nm,1.0s						
KRBS	**Karabastau**	**6.34**	**295**	Pg	**Pb**	**14 27 34.6**	**+3.0**
	1.9nm,0.3s						
KRBS				Lg	Lg	14 28 58.9	
	14nm,0.6s						
AAK	**Ala-Archa**	**6.93**	**284**	⇑Pg	**Pg**	**14 27 49.5**	**-4.4**
	5.5nm,0.8s						
AAK				⇓Lg	Lg	14 29 18.4	
	50nm,1.1s						
AAK	**Ala-Archa**	**6.93**	**284**	Pn	**Pn**	**14 27 25.6**	**+2.7**
	0.5nm,0.3s,baz=51,slow=16,SNR=1.8						
AAK				Lg	Lg	14 29 21.0	
	1.7nm,0.3s,baz=264,slow=8.0,SNR=3.8						
AAK				LR	LR	14 30 38.7	
	comp=Z,52nm,18.1s,baz=107,slow=43						
	1.3nm,0.3s						
KK31	**Karatay Array**	**9.89**	**285**	Lg	Lg	14 30 56.3	
	4.6nm,0.6s,baz=90,slow=26,SNR=3.7						
KURBB	**Kurchatov Arra**	**9.97**	**341**	Pn	**Pn**	**14 28 05.1**	**+0.7**
	0.1nm,0.3s,baz=155,slow=13,SNR=4.2						
KURBB				Lg	Lg	14 30 54.4	
	0.1nm,0.3s,baz=156,slow=28,SNR=4.5						
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**12.68**	**3**	Pn	**Pn**	**14 28 41.1**	**-0.3**
	0.4nm,0.3s,baz=182,slow=12,SNR=12						
ZALV				Sn	**Sn**	**14 30 59.8**	**-2.8**
	0.7nm,0.3s,baz=180,slow=23,SNR=4.2						
	3.0nm,0.6s						
BVAR	**Borovoye Array**	**14.75**	**327**	Pn	**Pn**	**14 29 07.8**	**-2.0**
	baz=130,slow=13,SNR=2.3						
	0.5nm,0.5s						
SONM	**Songino Array**	**17.46**	**60**	P	**Pn**	**14 29 44.6**	**-0.2**
	0.3nm,0.4s,baz=242,slow=14,SNR=1.8						
SONM				LR	LR	14 37 33.2	
	comp=Z,14nm,18.7s,baz=346,slow=41						
ARTI	**Arti**	**22.26**	**321**	P	**P**	**14 30 38.0**	**0.0**
	1.7nm,0.6s,baz=103,slow=14,SNR=2.1						
	1.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**26.28**	**145**	P	**P**	**14 31 16.6**	**-0.2**
	0.4nm,0.6s,baz=327,slow=11,SNR=4.6						
	0.4nm,0.6s						
NOA	**NORSAR Array B**	**46.74**	**320**	LR	LR	14 54 53.3	
	comp=Z,18nm,19.6s,baz=320,slow=38						

*OSPL **20** 14:26:02.7±1.9, 18°.49N × 70°.03W, h55km±15km, ML2.4*
*SDD **20** 14:26:04.7±2.4, 18°.47N × 70°.24W, h13km±15km, MD2.8, ML2.2, MW2.7*

ISC 20 14:26:03.0±0.9, **18°.42N**±0°.05 × **70°.19W**±0°.02, **h17**km±5km, **n14, σ1s53**/26, **1C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOSC1	**San Cristbal**	**0.08**	**98**	*i* P	**Pg**	**14 26 05.6**	**-0.7**
LOSC1				*e*S	**Sg**	**14 26 09.5**	**+1.0**
BANI	**BANI**	**0.16**	**261**	*e*Pg	**Pg**	**14 26 07.8**	**+0.4**
BANI				*e*Sg	**Sg**	**14 26 11.0**	**+0.6**
BANI				IAML		14 26 11.3	
	comp=N,2μm,0.2s						
SDD	**Santo Domingo**	**0.27**	**81**	*i* P	**Pb**	**14 26 10.7**	**+1.4**
SDD				*e*S	**Sn**	**14 26 16.5**	**-1.3**
ABDR	**Alto Bandera**	**0.57**	**313**	⇑*e*Pg	**Pb**	**14 26 13.1**	**-1.7**
ABDR				*e*Sg	**Sg**	**14 26 19.8**	**-2.3**
ABDR				IAML		14 26 20.8	
	comp=N,109nm,0.2s						
SFDR	**San Fco. de Ma**	**0.86**	**357**	*e*Pg	**Pb**	**14 26 19.4**	**-0.1**
SFDR				*i*		14 26 27.7	
SFDR				*e*Sg	**Sb**	**14 26 30.1**	**-0.7**
SFDR				IAML		14 26 38.9	
	comp=N,150nm,0.4s						
PODR	**Polo**	**1.07**	**257**	*e*Pg	**Pb**	**14 26 22.1**	**-1.0**
PODR				*e*Sg	**Sb**	**14 26 36.8**	**-0.1**
SDDR	**Presa de Saban**	**1.18**	**298**	*e*Pg	**Pg**	**14 26 26.6**	**+0.8**
SDDR				*e*Sg	**Sb**	**14 26 39.5**	**-0.6**
SDDR				IAML		14 26 47.2	
	comp=N,22nm,2.6s						
LONE3	**El Aguacate, B**	**1.22**	**279**	*i* P	**Pn**	**14 26 24.5**	**-0.9**
LONE3				*e*S	**Sb**	**14 26 40.6**	**-0.5**
LONE3				IAML		14 26 44.7	
	comp=Z,16nm,4.0s						
MIDR	**Miches**	**1.22**	**62**	*e*Pg	**Pg**	**14 26 26.6**	**0.0**
MIDR				*e*Sg	**Sg**	**14 26 42.4**	**-0.1**
MIDR				IAML		14 26 44.1	
	comp=N,24nm,2.5s						
LODU1	**El Espartillar**	**1.22**	**267**	*i* P	**Pn**	**14 26 25.0**	**-0.3**
LODU1				IAML		14 26 45.1	
	comp=Z,50nm,2.7s						
LOVI	**El Cajuil, Ovi**	**1.28**	**241**	*i* P	**Pn**	**14 26 26.1**	**+0.1**
LOVI				*e*S	**Sn**	**14 26 42.8**	**0.0**
LOVI				IAML		14 26 46.1	
	comp=Z,85nm,1.3s						
REDR	**Restauracion**	**1.36**	**303**	*e*Pg	**Pg**	**14 26 31.5**	**+2.3**
REDR				*e*Sg	**Sg**	**14 26 52.3**	**+5.3**
REDR				IAML		14 27 02.2	
	comp=N,28nm,3.1s						
HIDR	**Higuey Centro**	**1.41**	**83**	*e*Pg	**Pg**	**14 26 30.7**	**+0.5**
HIDR				*e*Sg	**Sb**	**14 26 47.1**	**+0.6**
HIDR				IAML		14 26 52.1	
	comp=N,90nm,0.2s						
LOBH	**Bahia de las A**	**1.48**	**248**	*i* P	**Pn**	**14 26 28.1**	**-0.8**
LOBH				IAML		14 26 51.2	
	comp=Z,50nm,3.0s						

*NEIC **20** 14:55:37.8±1.8, 26°.24S × 0°.07 × 177°.7W ± 0°.1, h85km±5km, mb4.5/17, Error ellipse: s-maj=17.4km s-min=9.1km az=76.0*
*IDC **20** 14:55:44.4±2.0, 26°.53S × 177°.54W, h156km±19km, mb3.5/11, mbtmp4.0/12, Error ellipse: s-maj=22.6km s-min=19.4km az=164.0*

ISC 20 14:55:39.6±0.5, **26°.13S**±0°.07 × **177°.69W**±0°.10, **h100**km, **n48, σ1s45**/39, **mb4.0**/18, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.12**	**184**	P	**Pn**	**14 56 27.5**	**+0.6**
	390nm,0.2s,baz=168,slow=7.8,SNR=9.5						
RAO				S	**Sn**	**14 57 03.8**	**+0.3**
	992nm,0.3s,baz=74,slow=22,SNR=9.0						
MSVF	**Nonsavu**	**9.24**	**334**	Pn	Pn	14 57 47.3	-2.7
NIUE	**Niue**	**10.03**	**47**	Pn	**Pn**	**14 57 59.7**	**-1.0**
FUTU	**Fugatoga**	**11.77**	**358**	Pn	**Pn**	**14 58 23.8**	**-0.4**
URZ	**Urewera**	**12.87**	**199**	P	Pn	14 58 27.5	-11
	4.0nm,0.7s,baz=250,slow=5.7,SNR=6.8						
URZ				S	Sn	15 00 44.8	-15
	7.0nm,0.5s,baz=230,slow=17,SNR=9.8						
AFI	**Afiamalu**	**13.36**	**26**	Pn	Pn	14 58 42.2	-3.1
PINNC	**Pines Island,**	**13.99**	**281**	Pn	Pn	14 58 51.8	-1.5
DZM	**Mont Dzumac**	**15.04**	**282**		**Pn**	**14 59 07.1**	**+0.2**
DZM				IAmb	IAmb	14 59 46.4	
	comp=Z,37nm,1.3s						
DZM	**Mont Dzumac**	**15.04**	**282**	P	P	14 59 21.1	+11
	comp=Z,13nm,0.6s,baz=71,slow=14,SNR=12						
RAR	**Rarotonga**	**17.12**	**77**	P	**Pn**	**14 59 33.6**	**+0.8**
	comp=Z,5.8nm,0.6s,baz=25,slow=7.5,SNR=3.0						
COEN	**Coen**	**38.56**	**281**	P	**P**	**15 02 52.1**	**-0.7**
COEN				IAmb	IAmb	15 02 58.2	
	comp=Z,10nm,1.1s						
AS31	**Alice Springs**	**43.78**	**262**	P	P	15 03 33.7	-1.8
ASAR	**Alice Springs**	**43.78**	**262**	P	**P**	**15 03 34.3**	**-1.3**
ASAR	**Alice Springs**	**43.78**	**262**	P	**P**	**15 03 35.5**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=89,slow=7.0,SNR=18						
	comp=Z,0.3nm,0.4s						
WR8	**Warramunga Arr**	**44.23**	**268**	P	P	15 03 37.2	-2.0
WR8				IAmb	IAmb	15 03 52.2	
	comp=Z,5.0nm,1.4s						
WRAB	**Tennant Creek**	**44.37**	**268**	P	**P**	**15 03 39.2**	**-1.1**
WRAB				IAmb	IAmb	15 03 47.5	
	comp=Z,5.7nm,1.1s						
WRA	**Warramunga Arr**	**44.38**	**268**	P	P	15 03 38.4	-2.0
WRA	**Warramunga Arr**	**44.38**	**268**	P	**P**	**15 03 40.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=101,slow=6.1,SNR=25						
	comp=Z,0.4nm,0.3s						
WB0	**Warramunga Arr**	**44.38**	**268**	P	**P**	**15 03 39.6**	**-0.8**
WB0				IAmb	IAmb	15 04 15.5	
	comp=Z,3.6nm,1.1s						
KNRA	**Kununurra**	**50.79**	**271**	P	**P**	**15 04 30.1**	**+0.1**
KNRA				IAmb	IAmb	15 05 07.8	
	comp=Z,23nm,1.4s						
VNDA	**Vanda**	**52.36**	**186**	P	**P**	**15 04 39.0**	**-1.8**
FITZ	**Fitzroy Crossi**	**52.76**	**266**	P	**P**	**15 04 44.3**	**-0.4**
QSPA	**South Pole Qui**	**63.97**	**180**	P	**P**	**15 06 01.1**	**-0.9**
QSPA				IAmb	IAmb	15 06 44.3	
	comp=Z,2.0nm,1.1s						
QSPA	**South Pole Qui**	**63.97**	**180**	P	P	15 05 57.0	-5.0
	comp=Z,0.6nm,1.0s,baz=303,slow=0.6,SNR=5.3						
	comp=Z,0.6nm,1.0s						
MJAR	**Matsushiro Arr**	**74.91**	**325**	P	**P**	**15 07 09.5**	**0.0**
	comp=Z,1.8nm,0.9s,baz=150,slow=5.6,SNR=3.3						
	comp=Z,1.8nm,0.9s						
PMSA	**Palmer Station**	**76.04**	**156**	P	**P**	**15 07 15.1**	**-0.5**
KIWB	**Kanaga Island**	**77.64**	**0**	P	**P**	**15 07 25.2**	**+0.7**
ADK	**Adak**	**77.67**	**1**	P	**P**	**15 07 25.2**	**+0.5**
KSRS	**Korea Array**	**81.29**	**319**	P	**P**	**15 07 46.2**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=136,slow=5.6,SNR=6.6						
	comp=Z,1.2nm,0.6s						
PEA0B	**Petropavlovsk-**	**81.76**	**345**	P	**P**	**15 07 46.4**	**-0.4**
PEA0B				IAmb	IAmb	15 07 48.1	
	comp=Z,25nm,1.2s						
PETK	**Petropavlovsk-**	**81.76**	**345**	P	**P**	**15 07 46.1**	**-0.7**
PETK	**Petropavlovsk-**	**81.76**	**345**	P	**P**	**15 07 47.5**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=95,slow=6.0,SNR=8.5						
	comp=Z,2.2nm,0.7s						
SNAA	**Sanae**	**82.41**	**178**	P	P	15 07 47.7	-2.5
	comp=Z,0.3nm,0.4s,baz=349,slow=5.2,SNR=1.9						
	comp=Z,0.3nm,0.4s						
USRK	**Ussuriysk Ar.**	**83.77**	**326**	P	**P**	**15 07 57.6**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=116,slow=9.8,SNR=1.6						
	comp=Z,1.1nm,0.5s						
NVAR	**Mina Array Bea**	**84.93**	**43**	P	**P**	**15 08 03.1**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=226,slow=9.0,SNR=4.3						
	comp=Z,1.1nm,0.9s						
K15K	**Wolf Creek Mou**	**89.06**	**7**	P	**P**	**15 08 23.4**	**+0.6**
PDAR	**Pinedale Array**	**92.85**	**43**	P	**P**	**15 08 41.1**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=247,slow=3.9,SNR=3.3						
	comp=Z,0.3nm,0.6s						
ILAR	**Eielson Array**	**93.71**	**13**	P	**P**	**15 08 42.5**	**-1.9**
	comp=Z,0.5nm,0.9s,baz=198,slow=5.7,SNR=3.0						
	comp=Z,0.5nm,0.9s						
J26L	**Joseph Creek**	**94.17**	**14**	P	**P**	**15 08 46.4**	**-0.2**
J26L				IAmb	IAmb	15 09 02.7	
	comp=Z,5.1nm,1.4s						
BVAR	**Borovoye Array**	**123.49**	**318**	PKP	**PKPdf**	**15 14 23.4**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=102,slow=6.2,SNR=3.6						
ARCES	**ARCESS Array B**	**134.47**	**349**	PKP	**PKPdf**	**15 14 43.4**	**-1.8**
	comp=Z,3.4nm,0.8s,baz=4.8,slow=2.9,SNR=5.7						
FINES	**FINESS Array B**	**141.21**	**342**	PKhKP	PKPpre	15 14 50.6	
	comp=Z,1.9nm,0.8s,baz=65,slow=4.7,SNR=7.6						
FINES				PKP	**PKPdf**	**15 14 57.7**	**0.0**
	comp=Z,2.0nm,0.9s,baz=48,slow=2.1,SNR=5.0						
NOA	**NORSAR Array B**	**144.57**	**353**	PKP	**PKPab**	**15 15 02.2**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=15,slow=2.5,SNR=13						
HFS	**Hagfors**	**145.11**	**350**	PKPbc	**PKPbc**	**15 15 04.1**	**-0.3**
	comp=Z,2.8nm,0.4s,baz=67,slow=3.9,SNR=28						
AKASG	**Malin Array Be**	**147.97**	**327**	PKPbc	**PKPdf**	**15 15 11.7**	**+1.9**
	comp=Z,0.9nm,0.4s,baz=47,slow=3.7,SNR=6.4						
MMAI	**Mount Meron Ar**	**150.49**	**291**	PKPbc	**PKPdf**	**15 15 18.8**	**+4.3**
	comp=Z,0.8nm,0.5s,baz=76,slow=6.1,SNR=1.5						
EKA	**Eskdalemuir Ar**	**150.55**	**6**	PKPbc	**PKPdf**	**15 15 18.4**	**+4.6**
	comp=Z,0.3nm,0.5s,baz=356,slow=3.3,SNR=3.6						
BRTR	**Keskin Array B**	**150.57**	**305**	PKPbc	**PKPdf**	**15 15 17.2**	**+2.7**
	comp=Z,0.6nm,0.6s,baz=98,slow=3.7,SNR=1.8						

*SNET **20** 15:15:19.7±1.2, 14°.98N × 87°.58W, h20km, ML3.6*
*CATAC **20** 15:15:20.2±0.3, 15°.N±2°.× 8°.8W±°, h1km, M3.8/7, MLv3.8/7, Error ellipse: s-maj=3.8km s-min=2.8km az=10.6, confirmed*

ISC 20 15:15:19.2±1.5, **14°.91N**±0°.05 × **87°.67W**±0°.04, **h1**km±11km, **n35, σ0s67**/40, **Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARCA	**Marcala la Paz**	**0.82**	**206**	P	**Pg**	**15 15 35.0**	**-0.1**
MARCA	**Marcala la Paz**	**0.82**	**206**	S	**Sg**	**15 15 46.5**	**+0.7**
TGUH	**Tegucigalpa,Un**	**0.92**	**156**	P	**Pg**	**15 15 36.9**	**-0.1**
TGUH				S	**Sg**	**15 15 49.5**	**+0.5**
SARH	**Santa Rosa de**	**1.07**	**263**	P	**Pg**	**15 15 39.2**	**-0.5**
SARH	**Santa Rosa de**	**1.07**	**263**	S	**Sg**	**15 15 54.1**	**+0.6**
IZABA	**Izabal, Puerto**	**1.21**	**313**	P	**Pb**	**15 15 42.5**	**-0.4**
IZABA	**Izabal, Puerto**	**1.21**	**313**	S	**Sn**	**15 16 00.0**	**-0.3**
YUSH	**Y

ASHO	**Ashiyiah** SNR=6.7	**2.78**	**194**	P	**Pn**	**15 34 22.1 +1.5**
ASHO	**Ashiyiah**	**2.78**	**194**	P	**Pn**	**15 34 21.5 +0.9**
FAQ	**Al Faqa, Dubai**	**2.85**	**202**	P	**Pn**	**15 34 23.1 +1.7**
ASUD	**Al Ashush, Dub**	**3.06**	**206**	P	**Pn**	**15 34 25.9 +1.6**
ASUD				S	**Sn**	**15 35 02.8 +1.6**
ASUD	**Al Ashush, Dub**	**3.06**	**206**	P	**Pn**	**15 34 25.3 +1.0**
KRM1	**Kerman Provinc**	**3.12**	**8**	Pn	**Pn**	**15 34 26.2 +0.9**
AJN	**Ajban**	**3.26**	**210**	P	**Pn**	**15 34 28.4 +1.4**
SOHO	**SOHO**	**3.26**	**184**	P	**Pn**	**15 34 27.6 +0.6**
SOHO				S	**Sn**	**15 35 07.6 +1.4**
ALNE	**Al Ain**	**3.46**	**196**	P	**Pn**	**15 34 32.7 +2.9**
ALNE				S	**Sn**	**15 35 10.5 -0.6**
HOQ	**Hoqain** SNR=14	**3.83**	**173**	P	**Pn**	**15 34 35.2 +0.3**
HOQ	**Hoqain**	**3.83**	**173**	Pn	**Pn**	**15 34 35.7 +0.7**
BIDO	**Bidbid**	**4.05**	**162**	P	**Pn**	**15 34 38.2 +0.3**
BIDO				S	**Sn**	**15 35 23.4 -2.3**
ARQ	**Araqi**	**4.05**	**183**	P	**Pn**	**15 34 38.8 +0.9**
ARQ				S	**Sn**	**15 35 29.4 +3.6**
WSAR	**Wadi Sarin**	**4.47**	**158**	P	**Pn**	**15 34 44.1 +0.4**
WSAR				S	**Sn**	**15 35 35.6 -0.3**
SMDO	**Samad**	**4.47**	**165**	P	**Pn**	**15 34 44.7 +0.9**
SMDO				S	**Sn**	**15 35 36.5 +0.3**
JMDO	**Jabal Madar**	**5.15**	**166**	P	**Pn**	**15 34 53.8 +0.7**
JMDO				S	**Sn**	**15 35 52.3 -0.5**
MZR	**Muzera**	**5.31**	**215**	P	**Pn**	**15 34 55.6 +0.4**
MZR				S	**Sn**	**15 35 55.3 -1.4**
TRNA	**Turayna**	**5.67**	**243**	P	**Pn**	**15 34 59.9 -0.3**
JLN	**Jalan Bani Buh**	**5.75**	**155**	P	**Pn**	**15 35 01.8 +0.6**
KLNJ	**Kolanjah**	**5.79**	**310**	Pn	**Pn**	**15 35 02.1 -0.1**
IRAM	**Rameshen**	**5.83**	**320**	Pn	**Pn**	**15 35 03.0 +0.4**
MHTO	**MHTO**	**6.48**	**170**	P	**Pn**	**15 35 12.3 +1.1**
MHTO				S	**Sn**	**15 36 24.5 -1.0**
WHFO	**Wadi Hawf**	**9.84**	**197**	P	**Pn**	**15 35 57.2 -0.3**
ABTO	**Aybut**	**10.51**	**199**	P	**Pn**	**15 36 06.2 -0.4**
RAYN	**Ar Rayn**	**10.90**	**252**	P	**Pn**	**15 36 11.7 -0.3**

*IDC **20** 15:50:25.9±1.4, 1.°11N×125.°22E, h0km, mb3.7/4, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=120.7km s-min=20.1km az=68.0*
*DJA **20** 15:50:33.7±0.9, 1.°1N±3.°×12.°6E±.°, h30km±9km, M4.1/16, mB5.2/2, mb4.3/5, MLv4.1/16, Mw(mB)4.5/2*
ISC 20 15:50:34.3±1.0, 1.°23N±0.°07×125.°75E±0.°06, h79km, n15, σ1s50/16, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.68**	**106**	P	**Pn**	**15 51 01.4**	**-0.6**
KMSI	**Cibinong**	**1.88**	**250**	P	**Pn**	**15 51 03.6**	**-1.1**
KMSI				S	**Sn**	**15 51 26.2**	**-1.5**
SGSI	**Sangihe**	**2.45**	**355**	P	**Pn**	**15 51 11.4**	**-0.9**
SANI	**Sanana**	**3.26**	**176**	P	**Pn**	**15 51 21.4**	**-1.9**
LUWI	**Luwuk**	**3.73**	**233**	P	**Pn**	**15 51 30.9**	**+1.2**
MRSI	**Marisa**	**3.88**	**259**	P	**Pn**	**15 51 31.6**	**-0.1**
APSI	**Ampana**	**4.62**	**243**	P	**Pn**	**15 51 43.1**	**+1.4**
NLAI	**Namlea**	**4.64**	**163**	P	**Pn**	**15 51 41.6**	**-0.4**
MSAI	**Masohi**	**5.54**	**145**	P	**Pn**	**15 51 56.6**	**+2.2**
TTSI	**Tana Toraja** 0.1nm15nm,1.0s	**7.29**	**234**	P	**Pn**	**15 52 16.9**	**-1.3**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=5.2,slow=9.3,SNR=3.7 2.6nm,0.8s	**19.20**	**180**	P	**P**	**15 54 51.8**	**-0.3**
WRA	**Warramunga Arr** 1.4nm,0.5s,baz=335,slow=11,SNR=22 1.4nm,0.5s	**22.66**	**159**	P	**P**	**15 55 28.7**	**-0.6**
ASAR	**Alice Springs** 1.6nm,0.4s,baz=342,slow=11,SNR=81 1.6nm,0.4s	**25.98**	**163**	P	**P**	**15 56 01.4**	**+1.4**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=120,slow=8.7,SNR=6.6 0.2nm,0.4s	**59.06**	**327**	P	**P**	**16 00 25.1**	**-1.2**
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=133,slow=6.3,SNR=1.8 0.2nm,0.3s	**62.38**	**334**	P	**P**	**16 00 51.2**	**+2.6**

*IDC **20** 15:58:30.5±2.3, 44.°22N×105.°42W, h0km, mb3.5/1, mbtmp3.2/2, ML4.0/1, MS3.8/2, Error ellipse: s-maj=56.2km s-min=16.0km az=148.0*
*NEIC **20** 15:58:33.1±1.7, 43.°5N±0.°1×105.°2W±0.°2, h0km±1km, ML3.1/28, Error ellipse: s-maj=24.2km s-min=11.7km az=48.0*
ISC 20 15:58:31.2±1.2, 43.°61N±0.°08×104.°98W±0.°07, h0km, n19, σ1s97/16, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.85**	**53**	Pg	**Pn**	**15 58 52.7**	**+1.9**
K22A	**Casper**	**1.48**	**230**	Pg	**Pb**	**15 58 58.9**	**-0.8**
RLMT	**Red Lodge**	**3.43**	**298**		**Pn**	**15 59 27.4**	**+1.3**
RLMT	43nm,0.8s			IAML		16 00 34.8	
RLMT	38nm,1.3s			IAML		16 00 36.2	
PD31	**Pinedale Array**	**3.45**	**257**		**Pn**	**15 59 28.1**	**+1.7**
PDAR	**Pinedale Array**	**3.45**	**257**		**Pn**	**15 59 28.6**	**+2.2**
PDAR	**Pinedale Array** 1.7nm,0.3s,baz=70,slow=16,SNR=21	**3.45**	**257**	Pn	**Pn**	**15 59 26.6**	**+0.1**
PDAR	7.2nm,0.3s,baz=63,slow=35,SNR=12 1.6nm,0.4s			Lg	Lg	16 00 15.4	
BW06	**Boulder Array**	**3.45**	**257**	Pn	**Pn**	**15 59 27.8**	**+1.4**
ISCO	**Idaho Springs**	**3.83**	**187**		**Pn**	**15 59 33.7**	**+2.0**
ISCO	26nm,4.3s			IAML		16 01 43.9	
YNE	**Yellowstone No**	**3.87**	**293**		**Pn**	**15 59 33.4**	**+1.2**
YNE	comp=E,46nm,0.4s			IAML		16 00 35.0	
YNE	comp=N,42nm,0.7s			IAML		16 00 41.4	
YMP	**Mirror Lake Pl**	**3.89**	**289**		**Pn**	**15 59 34.4**	**+1.8**
LOHW	**Long Hollow**	**4.08**	**272**		**Pn**	**15 59 38.2**	**+3.1**
LOHW	comp=N,23nm,1.2s			IAML		16 00 51.7	
LOHW	comp=N,20nm,1.4s			IAML		16 01 05.2	
YPP	**Pitchstone Pla**	**4.26**	**281**		**Pn**	**15 59 39.2**	**+1.7**
YPP	comp=E,16nm,2.5s			IAML		16 00 58.6	
YPP	comp=N,16nm,2.3s			IAML		16 01 03.3	
TPAW	**Teton Pass**	**4.34**	**271**		**Pn**	**15 59 40.7**	**+2.0**
TPAW	comp=N,20nm,1.4s			IAML		16 01 00.6	
HWUT	**Hardware Ranch**	**5.25**	**250**	Pn	**Pn**	**15 59 53.2**	**+2.0**
BSUT	**Blindstream Ca**	**5.28**	**236**		**Pn**	**15 59 52.4**	**+0.7**
BSUT	comp=E,13nm,3.0s			IAML		16 01 45.4	
BSUT	comp=N,14nm,4.4s			IAML		16 03 09.2	
I56US	**NEWPORT INFRAS** baz=115,slow=322,SNR=1.1	**9.66**	**303**	I	I	16 56 00.0	
TIXI	**Tiksi** comp=N,32nm,18.8s,baz=28,slow=38	**58.93**	**343**	LR	LR	16 35 51.6	
RPN	**Rapa Nui** comp=N,150nm,20.1s,baz=30,slow=31	**70.50**	**184**	LR	LR	16 34 57.8	
MKAR	**Makanchi Array** comp=N,0.1nm,0.5s,baz=5.7,slow=4.3,SNR=2.0 comp=N,0.1nm,0.5s	**89.75**	**355**	P	**P**	**16 11 29.0**	**-2.3**

NOU 20 16:10:37.2, 16.°81S×168.°23E, h65km, MLv4.3/13, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.91**	**183**	P	Pn	16 10 55.1	+0.8
DVP	**Devils Point**	**0.91**	**183**	P	Sn	16 11 08.2	+1.2
RTV	**Rentapao**	**0.99**	**169**	P	Pn	16 10 55.6	+0.2
SANVU	**Saraoutou**	**1.68**	**324**	P	Pn	16 11 03.7	-0.7
YATNC	**Mamie plateau,**	**5.37**	**193**	P	Pn	16 11 53.9	-0.9
DZM	**Mont Dzumac**	**5.50**	**198**	P	Pn	16 11 55.8	-0.8
ONTNC	**Ouen Toro**	**5.72**	**197**	P	Pn	16 11 59.8	+0.2
OUENC	**Ouen Island, N**	**5.73**	**193**	P	Pn	16 11 59.7	0.0
PINNC	**Pines Island,**	**5.82**	**187**	P	Pn	16 12 01.9	+1.0
NGOA	**Tingoa Renbel**	**9.49**	**302**	P	Pn	16 12 52.0	+0.9

*NEIC **20** 16:16:25.2±2.5, 17.°98S±0.°08×172.°19W±0.°08, h10km±2km, mb4.7/16, Error ellipse: s-maj=17.4km s-min=7.4km az=40.0*

*IDC **20** 16:16:27.7±0.6, 18.°34S×172.°54W, h0km, mb4.1/15, mbtmp4.1/15, MS3.6/5, Error ellipse: s-maj=25.6km s-min=17.3km az=129.0*
ISC 20 16:16:25.4±0.5, 17.°94S±0.°07×172.°17W±0.°07, h10km, n89, σ2s77/70, mb4.4/22, MS3.7/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.41**	**118**		**Pn**	**16 17 03.6**	**-1.3**
NIUE	**Niue**	**2.41**	**118**	P	**Pn**	**16 17 03.3**	**-1.6**
AFI	**Afiamalu**	**4.03**	**5**		**Pn**	**16 17 27.5**	**+0.2**
AFI	**Afiamalu**	**4.03**	**5**	P	**Pb**	**16 17 32.4**	**-4.1**
MSVF	**Nonsavu**	**9.32**	**270**		**Pn**	**16 18 38.6**	**-1.4**
RAR	**Rarotonga**	**12.13**	**108**		**Pn**	**16 19 14.6**	**-3.8**
RAR	**Rarotonga** 3.9nm,0.3s,baz=257,slow=7.7,SNR=13	**12.13**	**108**	Pn	**Pn**	**16 19 17.5**	**-0.9**
PINNC	**Pines Island,**	**19.67**	**253**	P	**P**	**16 20 48.1**	**-6.6**
DZM	**Mont Dzumac**	**20.51**	**255**	P	**P**	**16 20 58.1**	**-5.9**
DZM	**Mont Dzumac** 11nm,0.6s,baz=89,slow=19,SNR=9.9 11nm,0.6s	**20.51**	**255**	P	**P**	**16 21 02.8**	**-1.2**
OUZ	**Omahuta**	**21.36**	**214**	P	**P**	**16 21 11.8**	**-1.2**
HAZ	**Te Kaha**	**21.62**	**202**	P	**P**	**16 21 17.9**	**+2.2**
PUZ	**Puketiti**	**21.74**	**201**	P	**P**	**16 21 19.1**	**+2.0**
MBAZ	**Motutapu North**	**21.95**	**209**	P	**P**	**16 21 20.3**	**+1.0**
MKAZ	**Moumakai**	**22.11**	**208**	P	**P**	**16 21 22.0**	**+1.0**
MWZ	**Matawai**	**22.23**	**202**	P	**P**	**16 21 24.2**	**+1.9**
URZ	**Urewera** 16nm,0.9s,baz=208,slow=2.2,SNR=13	**22.31**	**203**	P	**P**	**16 21 22.7**	**-0.4**
URZ	7.9nm,0.8s,baz=220,slow=8.5,SNR=3.0 16nm,0.9s			S	S	16 24 55.4	-33
URZ	**Urewera**	**22.31**	**203**	P	**P**	**16 21 24.0**	**+0.9**
RIGZ	**Rimuhau**	**22.48**	**201**	P	**P**	**16 21 29.0**	**+4.0**
TLZ	**Tolley Road**	**22.98**	**205**	P	**P**	**16 21 31.8**	**+1.5**
BKZ	**Black Stump Fm**	**23.34**	**203**	P	**P**	**16 21 34.9**	**+1.0**
TMVZ	**Te Maari**	**23.59**	**204**	P	**P**	**16 21 37.9**	**+1.4**
OTVZ	**Oturere**	**23.65**	**204**	P	**P**	**16 21 35.6**	**-1.5**
NGZ	**Ngauruhoe**	**23.68**	**204**	P	**P**	**16 21 39.1**	**+1.7**
WHVZ	**Whangaehu Hut**	**23.78**	**204**	P	**P**	**16 21 39.0**	**+0.5**
VRZ	**Vera Road**	**23.98**	**206**	P	**P**	**16 21 40.4**	**+0.3**
TSZ	**Takapari Road**	**24.32**	**203**	P	**P**	**16 21 45.9**	**+2.6**
MRZ	**Mangatainoka R**	**24.98**	**202**	P	**P**	**16 21 44.9**	**-4.4**
MRZ	comp=Z,22nm,1.2s			IAmb	IAmb	16 22 13.8	
MRZ	**Mangatainoka R**	**24.98**	**202**	P	**P**	**16 21 50.9**	**+1.6**
TUWZ	**Tuamarina**	**26.27**	**204**	P	**P**	**16 22 02.6**	**+1.8**
NNZ	**Nelson**	**26.31**	**205**	P	**P**	**16 22 03.8**	**+2.5**
QRZ	**Quartz Range**	**26.34**	**207**	P	**P**	**16 22 03.7**	**+2.1**
THZ	**Tophouse**	**26.96**	**205**	P	**P**	**16 22 13.3**	**+6.0**
KHZ	**Kahutara**	**27.27**	**204**	P	**P**	**16 22 15.8**	**+5.9**
DSZ	**Denniston Nort**	**27.40**	**207**	P	**P**	**16 22 16.3**	**+5.1**
GVZ	**Greta Valley S**	**27.93**	**204**	P	**P**	**16 22 14.5**	**-1.4**
GVZ	**Greta Valley S**	**27.93**	**204**	P	**P**	**16 22 22.1**	**+6.2**
LTZ	**Lake Taylor**	**28.07**	**205**	P	P	16 22 24.0	+6.9
HNR	**Honiara** comp=Z,71nm,18.2s,baz=198,slow=35	**28.35**	**284**	LR	LR	16 32 47.2	
INZ	**Inchbonnie**	**28.36**	**206**		**P**	**16 22 15.7**	**-4.0**
INZ	**Inchbonnie**	**28.36**	**206**	P	P	16 22 25.6	+5.9
OXZ	**Oxford**	**28.62**	**204**	P	P	16 22 28.3	+6.2
MQZ	**McQueen's Vall**	**28.71**	**203**	P	P	16 22 31.2	+8.5
WVZ	**Waitaha Valley**	**28.95**	**206**	P	P	16 22 31.2	+6.3
RPZ	**Rata Peaks**	**29.34**	**205**	P	P	16 22 36.2	+7.8
FOZ	**Fox Glacier**	**29.71**	**207**	P	P	16 22 38.0	+6.4
TMZ	**Timaru**	**29.91**	**205**	P	P	16 22 40.7	+7.2
LBZ	**Lake Benmore**	**30.25**	**206**	P	P	16 22 44.4	+8.0
JCZ	**Jackson Bay**	**30.59**	**208**	P	P	16 22 44.8	+5.2
WKZ	**Wanaka**	**31.09**	**206**	P	P	16 22 52.1	+8.2
EIDS	**Eidsvold**	**34.86**	**251**	P	**P**	**16 23 13.7**	**-3.4**
EIDS	comp=Z,16nm,1.4s			IAmb	IAmb	16 23 19.1	
CTAO	**Charters Tower**	**39.30**	**260**	P	**P**	**16 23 53.7**	**-1.1**
CTAO	comp=Z,13nm,0.7s			IAmb	IAmb	16 23 55.2	
PMG	**Port Moresby** comp=Z,89nm,18.1s,baz=112,slow=34	**40.34**	**277**	LR	LR	16 39 05.1	
STKA	**Stephens Creek** comp=Z,2.9nm,0.8s,baz=32,slow=8.1,SNR=3.5	**43.85**	**242**	P	**P**	**16 24 31.2**	**-0.8**
STKA	comp=Z,103nm,18.3s,baz=34,slow=34 comp=Z,2.9nm,0.8s			LR	LR	16 40 48.5	
WR8	**Warramunga Arr**	**50.31**	**259**		**P**	**16 25 22.1**	**-0.6**
WR8	comp=Z,6.5nm,0.8s			IAmb	IAmb	16 25 35.7	
WB0	**Warramunga Arr**	**50.43**	**259**		**P**	**16 25 23.2**	**-0.4**
WRAB	**Tennant Creek**	**50.45**	**259**	P	**P**	**16 25 22.6**	**-1.2**
WRAB	comp=Z,9.6nm,0.9s			IAmb	IAmb	16 25 25.6	
WRA	**Warramunga Arr**	**50.46**	**259**		**P**	**16 25 23.5**	**-0.3**
WRA	**Warramunga Arr** comp=Z,7.7nm,0.8s,baz=94,slow=8.5,SNR=52 comp=Z,7.7nm,0.8s	**50.46**	**259**	P	**P**	**16 25 23.1**	**-0.7**
AS31	**Alice Springs**	**50.49**	**254**		**P**	**16 25 21.9**	**-2.2**
AS31	comp=Z,5.2nm,0.8s			IAmb	IAmb	16 25 26.1	
ASAR	**Alice Springs**	**50.49**	**254**		**P**	**16 25 23.9**	**-0.2**
ASAR	**Alice Springs** comp=Z,18nm,0.8s,baz=91,slow=7.4,SNR=140	**50.49**	**254**	P	**P**	**16 25 24.1**	**0.0**
ASAR	comp=Z,55nm,19.6s,baz=106,slow=34 comp=Z,18nm,0.8s			LR	LR	16 45 09.4	
MTN	**Manton Dam**	**54.73**	**267**	P	**P**	**16 25 53.3**	**-2.2**
MTN	comp=Z,10nm,0.8s			IAmb	IAmb	16 25 56.6	
KNRA	**Kununurra**	**56.39**	**263**	P	**P**	**16 26 06.7**	**-0.7**
KNRA	comp=Z,9.0nm,0.7s			IAmb	IAmb	16 26 09.4	
FITZ	**Fitzroy Crossi**	**58.87**	**259**	P	**P**	**16 26 23.3**	**-1.6**
VNDA	**Vanda** comp=Z,1.0nm,1.1s,baz=13,slow=5.9,SNR=3.0 comp=Z,1.0nm,1.1s	**60.99**	**186**	P	**P**	**16 26 38.4**	**-0.2**
MJAR	**Matsushiro Arr** comp=Z,1.1nm,0.7s,baz=151,slow=5.3,SNR=2.3 comp=Z,1.1nm,0.7s	**71.63**	**320**	P	**P**	**16 27 51.6**	**+4.3**
QSPA	**South Pole Qui**	**72.12**	**180**	P	**P**	**16 27 53.1**	**+3.1**
QSPA	**South Pole Qui** comp=Z,1.8nm,0.9s,baz=2.3,slow=0.5,SNR=7.1 comp=Z,1.8nm,0.9s	**72.12**	**180**	P	**P**	**16 27 52.9**	**+2.9**
PETK	**Petropavlovsk-** comp=Z,1.9nm,0.9s,baz=190,slow=7.1,SNR=1.5 comp=Z,1.9nm,0.9s	**75.39**	**342**	P	P	16 28 14.7	+5.6
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.2s,baz=239,slow=4.9,SNR=2.2 comp=Z,0.2nm,0.2s	**75.44**	**41**	P	P	16 28 15.1	+5.1
TXAR	**Lajitas Array** comp=Z,0.4nm,0.7s,baz=231,slow=7.9,SNR=4.4 comp=Z,0.4nm,0.7s	**81.06**	**55**	P	P	16 28 47.1	+5.9
PDAR	**Pinedale Array** comp=Z,0.9nm,0.8s,baz=199,slow=2.9,SNR=7.5 comp=Z,0.9nm,0.8s	**83.38**	**41**	P	P	16 28 59.8	+6.6
CMIG	**Matias Romero** comp=Z,46nm,18.4s,baz=346,slow=31	**83.63**	**70**	LR	LR	16 59 19.0	
ILAR	**Eielson Array** comp=Z,0.4nm,0.8s,baz=206,slow=5.9,SNR=2.6 comp=Z,0.4nm,0.8s	**84.70**	**11**	P	P	16 29 06.1	+7.0
SNAA	**Sanae** comp=Z,1.5nm,0.9s,baz=203,slow=6.0,SNR=3.5 comp=Z,1.5nm,0.9s	**90.32**	**177**	P	**P**	**16 29 27.3**	**+0.9**
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,1.0s,baz=105,slow=4.0,SNR=4.7 comp=Z,0.5nm,1.0s	**94.52**	**288**	P	**P**	**16 29 50.9**	**+4.2**
KURBB	**Kurchatov Arra** comp=Z,0.2nm,0.5s,baz=57,slow=2.3,SNR=2.1	**115.88**	**318**	PKP	**PKiKP**	**16 35 11.3**	**+3.0**
BVAR	**Borovoye Array** comp=Z,0.6nm,0.6s,baz=28,slow=2.1,SNR=1.7	**120.59**	**321**	PKP	**PKiKP**	**16 35 21.4**	**+4.0**
GERES	**GERESS Array B** comp=Z,0.8nm,0.7s,baz=54,slow=6.8,SNR=6.7	**148.81**	**353**	PKPbc	**PKPab**	**16 36 19.0**	**+1.9**
BRTR	**Keskin Array B** comp=Z,0.2nm,0.8s,baz=153,slow=3.7,SNR=8.1	**148.85**	**320**	PKPbc	**PKPab**	**16 36 19.1**	**+1.4**
CONA	**Conrad Observa** comp=Z,1.8nm,0.7s	**149.38**	**349**	*i* PKP	**PKPab**	**16 36 21.0**	**+1.5**
RONA	**Rosalia, Austr** comp=Z,0.4nm,0.5s	**149.52**	**349**	*i* PKP	**PKPab**	**16 36 20.3**	**+0.3**
LESA	**Schwarzleotal** comp=Z,1.7nm,1.2s	**150.32**	**353**	*i* PKP	**PKPab**	**16 36 22.0**	**-1.3**
WTTA	**Wattenberg** comp=Z,0.8nm,0.5s	**150.59**	**355**	*i* PKP	**PKPab**	**16 36 23.4**	**-1.1**
SQTA	**Sankt Quirin** comp=Z,5.4nm,1.3s	**150.67**	**355**	*i* PKP	**PKPab**	**16 36 23.7**	**-1.1**
DAVA	**Damuels** comp=Z,6.8nm,0.9s	**150.68**	**357**	*i* PKP	**PKPab**	**16 36 27.9**	**+3.0**
SOKA	**Soboth** comp=Z,1.4nm,0.9s	**150.73**	**350**	*i* PKP	**PKPab**	**16 36 29.9**	**+4.8**
FETA	**Feichten** comp=Z,2.6nm,0.7s	**150.90**	**356**	*i* PKP	**PKPab**	**16 36 24.2**	**-1.6**

*IDC **20** 16:19:58.9±1.2, 19.°28S×172.°13W, h0km, mb3.8/6, mbtmp3.9/7, ML3.0/1, MS2.9/1, Error ellipse: s-maj=68.2km s-min=22.1km az=161.0*
ISC 20 16:20:00.4±0.9, 19.°4S±0.°3×172.°1W±0.°1, h10km, n14, σ0s65/7, mb4.0/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga** 0.9nm,0.3s,baz=280,slow=17,SNR=1.7 5.6nm,0.5s	**11.75**	**101**	Pn	**Pn**	**16 22 48.2**	**0.0**
DZM	**Mont Dzumac** 7.3nm,0.8s,baz=297,slow=23,SNR=2.1 7.3nm,0.8s	**20.22**	**259**	P	**P**	**16 24 35.5**	**-0.3**
H11N3	**WAKE ISLAND Hy** baz=150,slow=76,SNR=6.2	**43.93**	**331**	T	T	17 14 13.1	
H11N1	**WAKE ISLAND Hy** baz=150,slow=76,SNR=6.0	**43.94**	**331**	T	T	17 14 14.2	
H11N2	**WAKE ISLAND Hy** baz=150,slow=76,SNR=6.4	**43.95**	**331**	T	T	17 14 14.9	
ASAR	**Alice Springs** 2.0nm,0.6s,baz=95,slow=7.0,SNR=13 2.0nm,0.6s	**50.15**	**255**	P	**P**	**16 28 57.0**	**+0.5**
WRA	**Warramunga Arr** 1.0nm,0.5s,baz=98,slow=8.1,SNR=7.4 1.0nm,0.5s	**50.23**	**260**	P	**P**	**16 28 56.9**	**-0.2**
GUMO	**Guam** comp=Z,10nm,18.4s,baz=150,slow=35	**53.52**	**304**	LR	LR	16 51 34.6	
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=235,slow=4.1,SNR=2.6 0.2nm,0.5s	**81.84**	**55**	P	**P**	**16 32 20.4**	**+0.2**
H03S2	**Juan Fernandez** baz=250,slow=75,SNR=13	**82.03**	**123**	T	T	18 03 11.0	
H03S1	**Juan Fernandez** baz=250,slow=75,SNR=11	**82.05**	**123**	T	T	18 03 14.6	
H03S3	**Juan Fernandez** baz=250,slow=75,SNR=16	**82.05**	**123**	T	T	18 03 14.0	
PDAR	**Pinedale Array** 0.6nm,0.7s,baz=218,slow=2.6,SNR=6.3 0.6nm,0.7s	**84.42**	**41**	P	**P**	**16 32 32.6**	**-0.9**
ILAR	**Eielson Array** 0.2nm,0.4s,baz=213,slow=4.5,SNR=1.9 0.2nm,0.4s	**86.08**	**11**	P	**P**	**16 32 41.6**	**+0.7**

*GCMT **20** 16:25:59.0±0.3, 9.°05S±0.°02×109.°56W±0.°02, h12km, MW4.8/98, Moment Tensor Solution. s20,c22; s98,c130; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.34±.07; Mθθ=-0.22±.07; Mφφ=0.55±.08; Mrθ=0.34±.21; Mθφ=2.01±.05; Mφr=0.70±.21; Best double couple: M=2.16400×10^16 NP1:φs=86.00000°, δ74.00000°, λ6.00000°. NP2: φs=354.00000°, δ84.00000°, λ164.00000°. Principal axes: T 2.4250, Plg15.0000°, Azm309.0000°; N -0.5220, Plg73.0000°, Azm156.0000°; P -1.9030, Plg7.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
IDC 20 16:25:53.2±1.5, 8.°87S×109.°57W, h0km, mb3.6/4, mbtmp3.6/4, MS4.0/30 Error ellipse: s-maj=172.7km s-min=29.2km az=87.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero** comp=Z,390nm,21.0s,baz=204,slow=31	**29.60**	**29**	LR	LR	16 41 15.6	
ATAH	**Atahualpa** comp=Z,319nm,21.8s,baz=259,slow=30	**30.92**	**89**	LR	LR	16 41 16.5	
JTS	**Las Juntas de** comp=Z,366nm,21.8s,baz=232,slow=30	**31.03**	**53**	LR	LR	16 41 33.2	
NNA	**Nana** comp=Z,346nm,21.6s,baz=273,slow=30	**32.33**	**98**	LR	LR	16 41 47.1	
LPIG	**La Paz** comp=Z,114nm,18.3s,baz=200,slow=30	**32.77**	**359**	LR	LR	16 42 12.5	
H03N2	**Juan Fernandez** baz=307,slow=76,SNR=142	**37.35**	**135**	T	T	17 12 30.6	
H03N3	**Juan Fernandez** baz=307,slow=76,SNR=192	**37.37**	**135**	T	T	17 12 34.4	
H03N1	**Juan Fernandez** baz=307,slow=76,SNR=174	**37.37**	**135**	T	T	17 12 30.8	
ROSC	**El Rosal** comp=Z,116nm,18.4s,baz=264,slow=29	**37.69**	**70**	LR	LR	16 44 09.8	
LPAZ	**La Paz** comp=Z,265nm,18.8s,baz=260,slow=31	**41.05**	**105**	LR	LR	16 47 08.3	
PFO	**Pinyon Flats O** comp=Z,188nm,18.0s,baz=182,slow=30	**42.75**	**352**	LR	LR	16 47 27.9	
CFA	**Coronel Fontan** comp=Z,105nm,18.5s,baz=16,slow=30	**44.52**	**127**	LR	LR	16 48 18.2	
PLCA	**Paso Flores** comp=Z,428nm,18.5s,baz=261,slow=30	**46.92**	**139**	LR	LR	16 49 12.7	
NVAR	**Mina Array Bea** 0.6nm,0.7s,baz=170,slow=10,SNR=4.2	**47.75**	**351**	P	P	16 34 33.6	+1.2
NVAR	comp=Z,186nm,20.5s,baz=178,slow=30 0.6nm,0.7s			LR	LR	16 50 04.1	
SIV	**San Ignacio** comp=Z,223nm,21.0s,baz=302,slow=32	**47.80**	**104**	LR	LR	16 51 29.9	
PCRV	**Puerto La Cruz** comp=Z,88nm,19.7s,slow=33	**48.56**	**68**	LR	LR	16 52 17.2	
TKL	**Tuckaleechee C** comp=Z,71nm,19.7s,baz=188,slow=34	**50.53**	**27**	LR	LR	16 54 43.3	
SJG	**San Juan** comp=Z,78nm,18.2s,baz=232,slow=34	**50.56**	**58**	LR	LR	16 54 21.3	
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=204,slow=7.1,SNR=2.0	**51.38**	**0**	P	P	16 34 58.8	-1.3
PDAR	comp=Z,59nm,19.5s,baz=200,slow=32 0.2nm,0.5s			LR	LR	16 53 33.3	
CPUP	**Villa Florida** comp=Z,77nm,20.8s,baz=165,slow=31	**52.37**	**116**	LR	LR	16 53 09.2	
ULM	**Lac du Bonnet** comp=Z,59nm,21.3s,baz=198,slow=32	**60.07**	**10**	LR	LR	16 57 51.0	
BDFB	**Brasilia** comp=Z,167nm,18.4s,baz=279,slow=34	**60.37**	**103**	LR	LR	16 59 34.8	
BBB	**Bella Bella** comp=Z,88nm,20.3s,baz=192,slow=30	**62.86**	**347**	LR	LR	16 57 16.4	
YKA	**Yellowknife Ar** comp=Z,56nm,18.2s,baz=158,slow=33	**71.25**	**358**	LR	LR	17 04 55.2	
URZ	**Urewera** comp=Z,109nm,18.8s,baz=120,slow=33	**71.47**	**233**	LR	LR	17 05

σ1§05/24, **mb4.2**/13, **Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**6.61**	**71**		**Pn**	**16 34 50.2**	**+1.8**
SLVN	**Son La**	**7.08**	**168**		**Pn**	**16 34 54.6**	**-0.4**
CHTO	**Chiang Mai**	**9.91**	**199**	Pn	**Pn**	**16 35 35.2**	**+1.5**
CMAR	**Chiang Mai Arr**	**10.25**	**198**	Pn	**Pn**	**16 35 39.5**	**+1.1**
	0.1nm,0.3s,baz=12,slow=12,SNR=11						
CMAR				Lg	Lg	16 38 35.4	
	0.1nm,0.3s,baz=19,slow=30,SNR=5.9						
	0.5nm,0.9s						
EVN	**Everest**	**13.64**	**272**	Pn	**Pn**	**16 36 24.5**	**-0.8**
SONM	**Songino Array**	**19.77**	**8**	P	**Pn**	**16 37 43.1**	**+0.1**
	0.1nm,0.3s,baz=191,slow=11,SNR=9.4						
SONM				LR	LR	16 45 32.8	
	comp=Z,52nm,18.6s,baz=179,slow=38						
	0.8nm,0.7s						
KS19	**Wonju Array Si**	**23.32**	**60**	P	**P**	**16 38 18.7**	**-0.6**
KSRS	**Korea Array**	**23.35**	**60**	P	**P**	**16 38 19.4**	**-0.3**
	0.9nm,0.6s,baz=248,slow=11,SNR=7.2						
	0.9nm,0.6s						
TARG	**Taragay, Kyrgy**	**24.01**	**310**	P	**P**	**16 38 25.9**	**-0.7**
TARG				IAmb	IAmb	16 38 40.8	
	comp=Z,10nm,1.5s						
MKAR	**Makanchi Array**	**24.21**	**325**	P	**P**	**16 38 27.2**	**-0.8**
MKAR	**Makanchi Array**	**24.21**	**325**	P	**P**	**16 38 27.8**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=131,slow=10,SNR=16						
	comp=Z,2.8nm,0.9s						
MAKZ	**Makanchi**	**24.38**	**325**	P	**P**	**16 38 30.0**	**+0.5**
BOOM	**Boomskoye usch**	**25.59**	**311**	P	**P**	**16 38 42.4**	**+1.8**
BOOM				IAmb	IAmb	16 38 44.4	
	comp=Z,3.3nm,0.7s						
KURBB	**Kurchatov Arra**	**28.64**	**328**	P	**P**	**16 39 07.2**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=133,slow=10.0,SNR=16						
	comp=Z,1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**28.65**	**338**	P	**P**	**16 39 09.0**	**+1.2**
ZALV	**Zalesovo Beam**	**28.65**	**338**	P	**P**	**16 39 08.1**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=144,slow=10,SNR=2.4						
	comp=Z,0.4nm,0.4s						
KURK	**Kurchatov**	**28.66**	**328**	P	**P**	**16 39 06.4**	**-1.5**
KURK				IAmb	IAmb	16 39 13.0	
	comp=Z,2.5nm,0.7s						
BVAR	**Borovoye Array**	**34.10**	**325**	P	**P**	**16 39 56.0**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=132,slow=9.9,SNR=1.9						
	comp=Z,0.5nm,0.5s						
WRAB	**Tennant Creek**	**57.10**	**143**	P	**P**	**16 42 56.8**	**-1.1**
WRA	**Warramunga Arr**	**57.10**	**143**	P	**P**	**16 42 57.1**	**-0.8**
	comp=Z,3.0nm,0.6s,baz=333,slow=8.1,SNR=33						
	comp=Z,3.0nm,0.6s						
WR8	**Warramunga Arr**	**57.20**	**143**	P	**P**	**16 42 57.4**	**-1.2**
WR8				IAmb	IAmb	16 42 58.9	
	comp=Z,3.6nm,0.6s						
ARCES	**ARCESS Array B**	**59.18**	**337**	P	**P**	**16 43 11.7**	**-0.2**
	comp=Z,3.7nm,1.0s,baz=100,slow=5.8,SNR=1.5						
	comp=Z,3.7nm,1.0s						
ASAR	**Alice Springs**	**59.98**	**146**	P	**P**	**16 43 17.9**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=327,slow=6.9,SNR=51						
	comp=Z,1.0nm,0.4s						
ILAR	**Eielson Array**	**73.05**	**25**	P	**P**	**16 44 39.4**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=305,slow=6.4,SNR=1.8						
	comp=Z,0.2nm,0.4s						
BORG	**Borgarnes**	**77.49**	**339**	LR	LR	17 22 51.2	
	comp=Z,65nm,18.2s,baz=175,slow=38						
TSUM	**Tsumeb**	**94.41**	**251**	LR	LR	17 27 23.3	
	comp=Z,60nm,21.4s,baz=212,slow=34						

IDC ***20*** *16:33:47.9±0.6,28.°57S×71.°25W,h0km,mb4.3/9, mbtmp4.2/14,ML3.9/5,Error ellipse: s-maj=20.7km s-min=15.5km az=87.0*
SJA ***20*** *16:33:52.4±1.2,28.°61S×71.°48W,h58km,ML4.5,MW4.4*
NEIC ***20*** *16:33:53,28.°52S×71.°41W,h45km*
NEIC ***20*** *16:33:53.0±1.7,28.°53S±0.°04×71.°4W±0.°1,h42km±8km, mb4.4/5,Mwr4.1/21,Mwr4.5(GUC),Error ellipse: s-maj=14.0km s-min=5.7km az=93.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.47; $M_{\theta\theta}$0.35; $M_{\phi\phi}$-1.82; $M_{r\theta}$0.53; $M_{\theta\phi}$0.55; $M_{\phi r}$0.51; Fault plane solution: $M_0$1.91000×10^{15} NP1:ϕ_s142.68000°, δ44.35000°, λ52.76000°. NP2:ϕ_s9.43000°, δ56.18000°, λ120.61000°. Principal axes: T 1.8069, Plg64.0000°, Azm335.0000°; N 0.1830, Plg25.0000°, Azm171.0000°; P -1.9899, Plg6.0000°, Azm78.0000°;*
GUC ***20*** *16:33:53.4±0.8,28.°60S×71.°21W,h38km±4km,ML4.5*
ISC 20 16:33:51.1±1.2,**28.°57S**±0.°02×**71.°32W**±0.°04,**h24**km±9km, **n116,** σ2§19/142, **mb4.4**/12, **5C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.42**	**31**		**Pn**	**16 34 03.4**	**+1.7**
AC04				Sn	**Sn**	**16 34 10.1**	**+1.5**
AC04	**Llanos de Chal**	**0.42**	**31**	*eP*	**Pn**	**16 34 03.2**	**+1.6**
AC04				*eS*	**Sn**	**16 34 09.7**	**+1.0**
AC04				IAML		16 34 10.8	
	comp=E,30μm,0.2s						
LCO	**Las Campanas**	**0.70**	**129**	Pn	**Pn**	**16 34 06.2**	**+0.5**
LCO				Sn	**Sn**	**16 34 15.6**	**-0.3**
LCO	**Las Campanas**	**0.70**	**129**	*i*P	**Pn**	**16 34 06.3**	**+0.5**
LCO				IAML		16 34 16.8	
	comp=E,207μm,0.4s						
CO05	**La Serena**	**1.35**	**177**		**Pb**	**16 34 16.0**	**+0.3**
CO05	**La Serena**	**1.35**	**177**	*eP*	**Pb**	**16 34 15.9**	**+0.2**
CO05				*eS*	**Sb**	**16 34 32.9**	**+0.4**
CO05				IAML		16 34 37.5	
	comp=E,13μm,0.3s						
GO03	**Copiapo**	**1.36**	**45**		**Pb**	**16 34 16.6**	**+0.6**
GO03	**Copiapo**	**1.36**	**45**	*eP*	**Pb**	**16 34 16.1**	**+0.1**
GO03				*eS*	**Sn**	**16 34 32.7**	**+0.7**
GO03				IAML		16 34 36.4	
	comp=E,5μm,0.4s						
GO03	**Copiapo**	**1.36**	**45**	*eP*	**Pb**	**16 34 19.5**	**+3.6**
GO03				IAML		16 34 45.5	
	comp=Z,2μm,0.5s						
GO04	**Tololo Observa**	**1.66**	**164**		**Pb**	**16 34 20.9**	**-0.2**
GO04	**Tololo Observa**	**1.66**	**164**	*eP*	**Pb**	**16 34 20.9**	**-0.2**
GO04				*eS*	**Sn**	**16 34 40.3**	**+0.6**
GO04				IAML		16 34 51.2	
	comp=N,21μm,0.5s						
GO04	**Tololo Observa**	**1.66**	**164**	*eP*	**Pb**	**16 34 21.0**	**-0.2**
GO04				*eS*	**Sb**	**16 34 43.6**	**+1.8**
GO04				IAML		16 34 47.5	
	comp=Z,5μm,0.2s						
CO01	**Juntas del Tor**	**1.77**	**143**		**Pb**	**16 34 22.5**	**-0.4**
CO01	**Juntas del Tor**	**1.77**	**143**	*eP*	**Pb**	**16 34 22.5**	**-0.4**
CO01				*eS*	**Sn**	**16 34 43.7**	**+1.4**
CO01				IAML		16 34 45.8	
	comp=N,2μm,0.2s						
CO06	**Fray Jorge**	**2.12**	**187**		**Pn**	**16 34 25.9**	**+0.9**
CO06	**Fray Jorge**	**2.12**	**187**	*eP*	**Pn**	**16 34 26.0**	**+1.0**
CO06				IAML		16 35 06.9	
	comp=N,2μm,0.3s						
AROD	**Rodeo**	**2.27**	**135**	*eP*	**Pb**	**16 34 30.9**	**-0.6**
AROD				*eS*	**Sb**	**16 35 00.4**	**+1.2**
CO03	**El Pedregal**	**2.33**	**167**		**Pn**	**16 34 30.3**	**+2.3**
CO03	**El Pedregal**	**2.33**	**167**	*eP*	**Pn**	**16 34 30.3**	**+2.3**
CO03				IAML		16 35 09.1	
	comp=N,3μm,0.4s						
CO03	**El Pedregal**	**2.33**	**167**	*eP*	**Pn**	**16 34 30.3**	**+2.3**
CO03				*eS*	**Sb**	**16 35 01.6**	**+0.8**
CO03				IAML		16 35 12.3	
	comp=Z,2μm,0.4s						
AC01	**Pan de Azucar**	**2.49**	**15**		**Pn**	**16 34 31.2**	**+1.0**
AC01	**Pan de Azucar**	**2.49**	**15**	*i* P	**Pn**	**16 34 31.2**	**+1.0**
AC01				IAML		16 35 15.7	
	comp=E,2μm,0.5s						
ACDV	**Cuesta del Vie**	**2.50**	**130**	*eP*	**Pb**	**16 34 35.3**	**0.0**
AC02	**Maricunga**	**2.60**	**49**		**Pb**	**16 34 35.3**	**-1.9**
AC02	**Maricunga**	**2.60**	**49**	*eP*	**Pn**	**16 34 34.7**	**+2.6**
AC02				IAML		16 35 15.2	
	comp=N,2μm,0.4s						
AC02	**Maricunga**	**2.60**	**49**	*eP*	**Pb**	**16 34 35.6**	**-1.6**
AC02				*eS*	**Sb**	**16 35 10.2**	**+1.3**
AC02				IAML		16 35 21.9	
	comp=Z,916nm,1.0s						
AGUA	**GUANDACOL**	**2.64**	**111**	*eP*	**Pb**	**16 34 37.3**	**-0.4**
AGUA				*eS*	**Sb**	**16 35 08.5**	**-1.3**
AGUA				IAML		16 35 16.9	
	comp=Z,2μm,0.5s						
CO02	**Combarbal**	**2.64**	**174**		**Pn**	**16 34 34.0**	**+1.7**
CO02	**Combarbal**	**2.64**	**174**	*eP*	**Pn**	**16 34 34.0**	**+1.7**
CO02				IAML		16 35 22.8	
	comp=E,12μm,0.3s						
CO02	**Combarbal**	**2.64**	**174**	*eP*	**Pn**	**16 34 33.9**	**+1.7**
CO02				*eS*	**Sb**	**16 35 16.5**	**+6.7**
CO02				IAML		16 35 18.1	
	comp=Z,3μm,0.5s						
VCA	**Vinchina**	**2.74**	**94**	*eP*	**Pb**	**16 34 38.9**	**-0.6**
VCA				*eS*	**Sb**	**16 35 12.5**	**-0.2**
VCA				IAML		16 35 22.2	
	comp=Z,1μm,0.5s						
ACCO	**Cerro Coronel**	**2.81**	**136**	*eP*	**Pb**	**16 34 38.9**	**-1.9**
ACCO				*eS*	**Sb**	**16 35 19.5**	**+4.6**
CO04	**Los Peladeros**	**3.48**	**175**	IAML		16 35 37.8	
	comp=N,2μm,0.3s						
RTLS	**Leoncito**	**3.66**	**152**	*eP*	**Pn**	**16 34 46.0**	**-0.6**
RTLS				*eS*	**Sb**	**16 35 36.5**	**-2.9**
RTLS				IAML		16 35 51.4	
	comp=Z,3μm,0.5s						
RTLL	**Cerro Villicun**	**3.69**	**139**	*eP*	**Pn**	**16 34 49.6**	**+2.8**
RTLL				*eS*	**Sn**	**16 35 31.5**	**+1.9**
RTLL				IAML		16 35 50.4	
	comp=Z,839nm,0.5s						
GO02	**Mina Guanaco**	**3.73**	**25**		**Pn**	**16 34 49.0**	**+1.6**
GO02	**Mina Guanaco**	**3.73**	**25**	*eP*	**Pn**	**16 34 48.8**	**+1.4**
GO02	**Mina Guanaco**	**3.73**	**25**	*eP*	**Pn**	**16 34 49.2**	**+1.8**
GO02				IAML		16 36 03.1	
	comp=Z,935nm,0.7s						
ZON	**Zonda**	**3.75**	**143**		**Pn**	**16 34 51.5**	**+4.1**
ZON	**Zonda**	**3.75**	**143**	*eP*	**Pn**	**16 34 47.0**	**-0.5**
ZON				*eS*	**Sn**	**16 35 34.5**	**+3.6**
ZON				IAML		16 36 00.8	
	comp=Z,403nm,0.8s						
AANI	**Anillaco**	**3.86**	**95**	*eP*	**Pn**	**16 34 48.0**	**-1.1**
ACLC	**CERRO LA CRUZ**	**3.92**	**104**	*eP*	**Pn**	**16 34 53.0**	**+3.1**
ACLC				*eS*	**Sn**	**16 35 40.0**	**+4.7**
ACLC				IAML		16 35 47.4	
	comp=Z,582nm,1.0s						
AVFE	**Valle Fertil**	**3.96**	**123**	*eP*	**Pn**	**16 34 48.0**	**-2.4**
AVFE				*eP*		16 34 53.3	
AVFE				*eS*	**Sn**	**16 35 36.0**	**-0.1**
AVFE				IAML		16 35 48.2	
	comp=Z,933nm,0.5s						
VA06	**Catapilco**	**3.98**	**180**	Pn	**Pn**	**16 34 52.3**	**+1.7**
VA06	**Catapilco**	**3.98**	**180**	*eP*	**Pn**	**16 34 52.5**	**+1.9**
AUSP	**Uspallata**	**4.01**	**156**	*eP*	**Pn**	**16 34 50.5**	**-0.8**
PB14	**IPOC Station P**	**4.01**	**12**		**Pn**	**16 34 50.5**	**-0.9**
PB14	**IPOC Station P**	**4.01**	**12**	*eP*	**Pn**	**16 34 49.8**	**-1.5**
CFA	**Coronel Fontan**	**4.04**	**139**	Pn	**Pn**	**16 34 52.2**	**+0.8**
	comp=Z,14nm,0.3s,baz=311,slow=14,SNR=111						
CFA				Sn	**Sn**	**16 35 40.7**	**+2.7**
	comp=Z,23nm,0.3s,baz=260,slow=23,SNR=9.6						
	comp=Z,17nm,0.3s						
VA03	**San Esteban**	**4.23**	**171**		**Pn**	**16 34 56.7**	**+2.5**
VA03	**San Esteban**	**4.23**	**171**	*eP*	**Pn**	**16 34 56.4**	**+2.2**
ROC1	**El Roble**	**4.40**	**177**	*eP*	**Pn**	**16 34 58.3**	**+1.7**
ROC1				*eP*		16 34 59.0	
ASAL	**Salagasta**	**4.54**	**153**	*eP*	**Pn**	**16 34 58.0**	**-0.5**
ASAL				*eS*	**Sb**	**16 35 59.0**	**-5.6**
APLL	**PUNTA DE LOS L**	**4.55**	**115**	*eP*	**Pn**	**16 34 55.5**	**-3.1**
APLL				*eS*	**Sn**	**16 35 53.5**	**+2.7**
PEL	**Peldehue**	**4.59**	**173**		**Pn**	**16 35 01.2**	**+2.1**
PEL	**Peldehue**	**4.59**	**173**	*eP*	**Pn**	**16 35 00.7**	**+1.6**
PEL	**Peldehue**	**4.59**	**173**	*eP*	**Pn**	**16 35 01.5**	**+2.4**
PEL				*eS*	**Sb**	**16 36 08.0**	**+2.1**
PEL				IAML		16 36 21.4	
	comp=Z,348nm,0.7s						
MT02	**Curacav**	**4.68**	**178**		**Pn**	**16 35 01.1**	**+0.9**
MT02	**Curacav**	**4.68**	**178**	*eP*	**Pn**	**16 35 00.8**	**+0.6**
ARCO	**CERRO ARCO**	**4.73**	**155**	*eP*	**Pn**	**16 35 06.4**	**+5.3**
ARCO				IAML		16 36 24.3	
	comp=Z,448nm,1.2s						
ACHE	**Chepes**	**4.80**	**124**	*eS*	**Sb**	**16 36 07.0**	**-4.8**
FCH	**Farellones**	**4.83**	**170**	*eP*	**Pn**	**16 35 05.6**	**+3.0**
MT05	**Renca**	**4.83**	**174**		**Pn**	**16 35 04.5**	**+2.0**
CYA	**Choya**	**4.86**	**90**	*eP*	**Pn**	**16 35 04.5**	**+1.8**
CYA				*eS*	**Sn**	**16 36 02.4**	**+4.2**
CYA				IAML		16 36 06.3	
	comp=Z,200nm,1.2s						
MT03	**Universidad Ad**	**4.96**	**172**		**Pn**	**16 35 07.1**	**+2.9**
AAGR	**Agrelo**	**4.99**	**155**	*eP*	**Pn**	**16 35 04.5**	**0.0**
AAGR				*eS*	**Sb**	**16 36 18.1**	**+0.8**
AAGR				IAML		16 36 36.0	
	comp=Z,380nm,0.5s						
MT09	**Talagante**	**5.20**	**177**		**Pn**	**16 35 09.3**	**+1.8**
MT01	**Popeta**	**5.28**	**179**		**Pn**	**16 35 09.2**	**+0.7**
FSA	**Cafayete**	**5.34**	**64**	*eP*	**Pn**	**16 35 11.0**	**+1.5**
BO04	**La Punta**	**5.44**	**174**		**Pn**	**16 35 12.0**	**+1.3**
BO01	**Tunca**	**5.81**	**178**		**Pn**	**16 35 17.0**	**+1.3**
PB06	**IPOC Station P**	**6.05**	**15**	Pn	**Pn**	**16 35 18.8**	**-0.4**
MRA	**San Martin**	**6.17**	**130**	*eP*	**Pn**	**16 35 22.6**	**+1.8**
MRA				IAML		16 36 41.3	
	comp=Z,312nm,0.5s						
BO02	**Sierra Bellavi**	**6.22**	**176**		**Pn**	**16 35 22.6**	**+1.1**
TCA	**Tanti**	**6.45**	**117**	*eS*	**Sn**	**16 36 33.0**	**-4.6**
TCA				IAML		16 36 44.6	
	comp=Z,198nm,0.8s						
BI02	**San Fabin de**	**8.07**	**180**		**Pn**	**16 35 47.5**	**+0.6**
H03N1	**Juan Fernandez**	**8.13**	**231**	Pn	**Pn**	**16 35 47.5**	**+0.2**
	baz=111,slow=17						
H03N1				Sn	**Sn**	**16 37 13.1**	**-5.2**
H03N1				T	T	16 43 52.4	
	baz=58,slow=72						
H03N2	**Juan Fernandez**	**8.14**	**231**	Pn	**Pn**	**16 35 48.0**	**+0.5**
	baz=111,slow=17						
H03N2				Sn	**Sn**	**16 37 13.1**	**-5.5**
H03N2				T	T	16 43 45.5	
	baz=58,slow=72						
H03N3	**Juan Fernandez**	**8.14**	**231**	Pn	**Pn**	**16 35 47.7**	**+0.1**
	baz=111,slow=17						
H03N3				Sn	**Sn**	**16 37 12.9**	**-5.9**
H03N3				T	T	16 43 51.6	
	baz=58,slow=72						
H03S3	**Juan Fernandez**	**8.35**	**229**	Pn	**Pn**	**16 35 54.7**	**+4.3**
	baz=57,slow=77						
H03S3				Sn	**Sn**	**16 37 18.4**	**-5.4**
	baz=196,slow=25						
H03S1	**Juan Fernandez**	**8.36**	**229**	Pn	**Pn**	**16 35 51.0**	**+0.5**
	baz=57,slow=77						
H03S1				Sn	Sn	16 37 15.8	-8.1
	baz=196,slow=25						
H03S2	**Juan Fernandez**	**8.37**	**229**	Pn	Pn	16 35 58.2	+7.6
	baz=57,slow=77						
H03S2				Sn	**Sn**	**16 37 17.5**	**-6.7**
	baz=196,slow=25						
PLCA	**Paso Flores**	**12.15**	**177**	Pn	**Pn**	**16 36 42.1**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=350,slow=17,SNR=2.3						
	comp=Z,3.2nm,1.0s						
TRQA	**Tornquist**	**12.26**	**143**		**Pn**	**16 36 44.0**	**-0.2**
TRQA	**Tornquist**	**12.26**	**143**	*eP*	**Pn**	**16 36 44.8**	**+0.6**
LPAZ	**La Paz**	**12.57**	**14**		**Pn**	**16 36 47.6**	**-1.5**
LPAZ	**La Paz**	**12.57**	**14**	Pn	**Pn**	**16 36 47.9**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=182,slow=8.4,SNR=12						
	comp=Z,0.8nm,0.4s						
CPUP	**Villa Florida**	**12.62**	**83**	Pn	**Pn**	**16 36 48.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=116,slow=5.0,SNR=4.1						
CPUP				Lg	Lg	16 40 08.2	
	comp=Z,0.1nm,0.3s,baz=199,slow=19,SNR=3.2						
	comp=Z,0.6nm,0.5s						
PLTB	**Pedras Altas**	**15.65**	**106**	Pn	**Pn**	**16 37 28.1**	**-2.0**
SIV	**San Ignacio**	**15.69**	**39**	Pn	**Pn**	**16 37 30.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=209,slow=6.4,SNR=5.1						
	comp=Z,1.7nm,0.5s						
ITAB	**Concordia**	**17.01**	**90**	P	**P**	**16 37 51.0**	**+1.8**
ITAB				IAmb	IAmb	16 37 57.1	
	comp=Z,15nm,0.9s						
BOAV	**Boa Vista**	**32.48**	**20**	P	**P**	**16 40 17.2**	**-2.7**
BOAV				IAmb	IAmb	16 40 21.0	
	comp=Z,4.2nm,0.7s						
BAUV	**El Baul**	**37.42**	**5**		**P**	**16 41 01.1**	**-1.4**
VNA3	**Neumayer Olymp**	**54.18**	**159**	⇑P	**P**	**16 43 14.7**	**+0.5**
	comp=Z,1.7nm,0.7s						
VNA1	**Neumayer--Stat**	**54.45**	**159**	⇑P	**P**	**16 43 17.3**	**+1.2**
	comp=Z,1.6nm,0.7s						
VNA2	**Neumayer--Watz**	**54.80**	**159**	⇑P	**P**	**16 43 19.0**	**+0.4**
	comp=Z,3.2nm,0.5s,baz=283,slow=7.9						
SNAA	**Sanae**	**56.40**	**159**	⇑P	**P**	**16 43 30.5**	**+0.3**
	comp=Z,62nm,0.5s						
SNAA	**Sanae**	**56.40**	**159**	P	**P**	**16 43 29.8**	**-0.4**
SNAA				IAmb	IAmb	16 43 43.1	
	comp=Z,15nm,1.5s						
SNAA	**Sanae**	**56.40**	**159**	P	**P**	**16 43 30.6**	**+0.3**
	comp=Z,2.6nm,0.5s,baz=254,slow=7.8,SNR=11						
	comp=Z,2.6nm,0.5s						
TROLL	**Troll, Antarti**	**58.12**	**159**	⇑P	**P**	**16 43 42.9**	**+0.5**
	comp=Z,69nm,0.4s						
QSPA	**South Pole Qui**	**61.65**	**180**	P	**P**	**16 44 07.3**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=322,slow=2.2,SNR=10						
	comp=Z,2.1nm,0.8s						
TXAR	**Lajitas Array**	**65.36**	**329**	P	**P**	**16 44 32.4**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=161,slow=4.4,SNR=5.2						
	comp=Z,0.6nm,0.7s						
DBIC	**Dimbokro**	**72.90**	**72**	P	**P**	**16 45 17.8**	**-0.9**
	comp=Z,7.1nm,0.9s,baz=254,slow=6.9,SNR=3.9						
	comp=Z,7.1nm,0.9s						
MAW	**Mawson**	**78.20**	**164**	P	**P**	**16 45 48.4**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=238,slow=9.5,SNR=2.8						
	comp=Z,1.5nm,0.5s						
PDAR	**Pinedale Array**	**79.23**	**332**	P	**P**	**16 45 56.0**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=127,slow=7.1,SNR=10						
	comp=Z,0.8nm,0.5s						
ULM	**Lac du Bonnet**	**81.44**	**344**	P	**P**	**16 46 05.9**	**+0.1**
	comp=Z,4.1nm,0.8s,baz=124,slow=8.6,SNR=3.5						
	comp=Z,4.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**81.79**	**70**	P	**P**	**16 46 08.8**	**+0.3**
	comp=Z,3.4nm,0.6s,baz=276,slow=4.5,SNR=20						
	comp=Z,3.4nm,0.6s						
BOSA	**Boshof**	**82.06**	**118**	P	**P**	**16 46 10.0**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=262,slow=4.4,SNR=10.0						
	comp=Z,3.5nm,0.7s						
ASAR	**Alice Springs**	**122.66**	**208**	PKP	**PKPdf**	**16 52 45.4**	**0.0**
	comp=Z,0.6nm,0.7s,baz=120,slow=1.6,SNR=8.4						
WRA	**Warramunga Arr**	**125.78**	**210**	PKP	**PKPdf**	**16 52 51.3**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=160,slow=1.6,SNR=15						
H11N3	**WAKE ISLAND Hyl**	**126.58**	**274**	T	T	19 12 08.9	
	baz=113,slow=74						
H11N1	**WAKE ISLAND Hyl**	**126.59**	**274**	T	T	19 12 17.8	
	baz=113						
H11N2	**WAKE ISLAND Hyl**	**126.59**	**274**	T	T	19 12 10.8	
	baz=113,slow=74						
KURBB	**Kurchatov Arra**	**148.34**	**38**	PKPbc	**PKPbc**	**16 53 36.0**	**+0.9**
	comp=Z,4.0nm,0.5s,baz=304,slow=3.1,SNR=49						
ZALV	**Zalesovo Beam**	**149.23**	**28**	PKPbc	**PKPbc**	**16 53 38.0**	**+0.8**
	comp=Z,14nm,0.7s,baz=306,slow=4.2,SNR=39						
MKAR	**Makanchi Array**	**152.50**	**41**	PKPbc	**PKiKP**	**16 53 45.8**	**+0.3**
	comp=Z,2.8nm,0.5s,baz=325,slow=1.9,SNR=39						
MKAR				PKPab	**PKPab**	**16 53 57.0**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=303,slow=2.4,SNR=8.5						

IDC ***20*** *16:57:12.8±0.9,55.°50N×151.°91W,h0km,mb3.7/9, mbtmp3.8/12,ML4.1/4,MS3.5/7,Error ellipse: s-maj=20.2km s-min=18.9km az=1.0*
NEIC ***20*** *16:57:15.6±1.9,55.°75N±0.°07×151.°88W±0.°07,h12km±6km, ML3.8/48,ML3.7(AEIC),Error ellipse: s-maj=10.9km s-min=5.2km az=166.0*
AEIC ***20*** *16:57:19.8±2.3,55.°70N±0.°06×151.°8W±0.°1,h12km±6km, Error ellipse: s-maj=11.9km s-min=5.5km az=134.0*
ISC 20 16:57:14.7±0.6,**55.°74N**±0.°06×**151.°86W**±0.°05,**h10**km, **n151,** σ1§23/140, **mb3.8**/9, **MS3.4**/8, **South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**1.54**	**303**		**Sn**	**16 58 01.4**	**-0.9**
SII	**Sitkinak Islan**	**1.54**	**303**		**Pn**	**16 57 42.4**	**+0.2**
SII				IAML		16 58 02.6	
	comp=E,1μm,0.6s						
SII	**Sitkinak Islan**	**1.54**	**303**	P	**Pn**	**16 57 42.1**	**-0.1**
SII	**Sitkinak Islan**	**1.54**	**303**	P	**Sn**	**16 58 01.5**	**-0.7**
OHAK	**Old Harbor**	**1.69**	**333**		**Sn**	**16 58 04.5**	**-1.3**
OHAK	**Old Harbor**	**1.69**	**333**		**Pn**	**16 57 44.5**	**+0.3**
OHAK	**Old Harbor**	**1.69**	**333**	P	**Pn**	**16 57 44.1**	**0.0**
OHAK	**Old Harbor**	**1.69**	**333**	P	**Sn**	**16 58 04.8**	**-1.0**
KDAK	**Kodiak Island**	**2.09**	**349**		**Sn**	**16 58 13.4**	**-2.3**
KDAK	**Kodiak Island**	**2.09**	**349**		**Pn**	**16 57 50.2**	**+0.6**
KDAK	**Kodiak Island**	**2.09**	**349**	Pn	**Pn**	**16 57 50.3**	**+0.6**
	comp=E,16nm,0.3s,baz=182,slow=10,SNR=576						
KDAK				Sn	**Sn**	**16 58 13.6**	**-2.1**
	comp=E,28nm,0.3s,baz=12,slow=21,SNR=23						
	comp=E,43nm,0.3s						
CHIR	**Chirikof Islan**	**2.13**	**274**		**Sn**	**16 58 14.3**	**-2.4**
CHIR	**Chirikof Islan**	**2.13**	**274**		**Pn**	**16 57 49.7**	**-0.5**
CHIR	**Chirikof Islan**	**2.13**	**274**	P	**Pn**	**16 57 49.7**	**-0.5**
CHIR	**Chirikof Islan**	**2.13**	**274**	S	**Sn**	**16 58 14.5**	**-2.1

O16K	**Kokwok River B**	**5.11**	**322**			**Pn**		**16 58 32.5**	**+1.4**
N19K	**Bonanza Creek**	**5.28**	**346**	IAML				16 59 49.0	
	comp=E,41nm,1.1s								
N19K				IAML				16 59 52.0	
	comp=N,42nm,0.7s								
N18K	**Kilae Creek**	**5.39**	**338**	IAML				16 59 50.3	
	comp=N,32nm,1.0s								
N18K				IAML				16 59 52.9	
	comp=E,39nm,0.8s								
PWL	**Port Wells**	**5.46**	**18**			**Pn**		**16 58 35.5**	**-0.5**
SPU	**Mount Spurr**	**5.46**	**359**			**Pn**		**16 58 36.4**	**+0.4**
HIN	**Hinchinbrook I**	**5.47**	**29**			**Pn**		**16 58 35.6**	**-0.5**
RC01	**Rabbit Creek A**	**5.48**	**11**			**Pn**		**16 58 35.9**	**-0.4**
O15K	**Ungalikthiuk R**	**5.51**	**312**			**Pn**		**16 58 37.9**	**+1.2**
SPWE	**Spurr West**	**5.56**	**357**			**Pn**		**16 58 38.1**	**+0.6**
N17K	**Nushagak Hills**	**5.57**	**332**			**Pn**		**16 58 38.8**	**+1.3**
PS1A	**Pavlof South-1**	**5.62**	**271**			**Pn**		**16 58 38.2**	**+0.1**
SPNN	**North Nagishla**	**5.66**	**356**			**Pn**		**16 58 39.6**	**+0.7**
PS4A	**Pavlof South-4**	**5.69**	**270**			**Pn**		**16 58 39.2**	**0.0**
GLI	**Glacier Island**	**5.73**	**24**			**Pn**		**16 58 39.2**	**-0.6**
PN7A	**Pavlof North-7**	**5.76**	**271**			**Pn**		**16 58 40.1**	**0.0**
S12K	**Black Hills**	**5.77**	**274**			**Pn**		**16 58 40.5**	**+0.3**
FID	**Port Fidalgo**	**5.77**	**27**			**Pn**		**16 58 39.2**	**-1.1**
SUA	**Susitna One**	**5.77**	**5**	Pn		**Pn**		**16 58 40.2**	**-0.2**
STLK	**Strandline Lak**	**5.78**	**0**	Pn		**Pn**		**16 58 40.9**	**+0.5**
EYAK	**Cordova Ski Ar**	**5.81**	**31**	P		**Pn**		**16 58 41.2**	**+0.5**
DT1	**Dutton Round H**	**5.97**	**268**			**Pn**		**16 58 42.7**	**-0.3**
N16K	**Nishlik Lake**	**6.00**	**325**			**Pn**		**16 58 44.9**	**+1.5**
O14K	**Tigyukauivet M**	**6.17**	**309**			**Pn**		**16 58 46.8**	**+1.1**
M20K	**Styx River**	**6.20**	**354**			**Pn**		**16 58 46.6**	**+0.4**
SKT	**Skwentna**	**6.26**	**1**	Pn		**Pn**		**16 58 46.7**	**-0.3**
M17K	**Holitna River**	**6.38**	**335**			**Pn**		**16 58 50.2**	**+1.6**
M16K	**Timber Creek**	**6.48**	**328**			**Pn**		**16 58 51.6**	**+1.6**
KLU	**Klutina**	**6.55**	**26**			**Pn**		**16 58 51.4**	**+0.4**
SCM	**Sheep Creek Mo**	**6.55**	**19**			**Pn**		**16 58 51.6**	**+0.6**
KHIT	**Khitrov Hills**	**6.56**	**41**			**Pn**		**16 58 51.6**	**+0.4**
FALS	**False Pass**	**6.66**	**267**	P		**Pn**		**16 58 52.6**	**+0.2**
WAX	**Waxell Ridge**	**6.71**	**42**			**Pn**		**16 58 53.8**	**+0.5**
N14K	**Kuskokwak Cree**	**6.72**	**313**			**Pn**		**16 58 54.8**	**+1.6**
ISNN	**Isanotski Nort**	**6.87**	**267**			**Pn**		**16 58 55.6**	**+0.3**
TGL	**Tana Glacier**	**6.93**	**40**			**Pn**		**16 58 56.4**	**+0.2**
L19K	**Granite Mounta**	**6.96**	**341**			**Pn**		**16 58 57.6**	**+1.0**
N25K	**Chitina Valde**	**6.99**	**30**			**Pn**		**16 58 57.3**	**+0.2**
L16K	**Owhat River**	**7.18**	**330**			**Pn**		**16 59 01.0**	**+1.5**
KIAG	**Kiagna River**	**7.21**	**40**			**Pn**		**16 59 00.2**	**+0.1**
L17K	**Donlin**	**7.22**	**335**			**Pn**		**16 59 01.5**	**+1.3**
M14K	**Bethel**	**7.32**	**317**			**Pn**		**16 59 02.6**	**+1.1**
PTPK	**Patty Peak**	**7.35**	**38**			**Pn**		**16 59 02.5**	**+0.4**
K17K	**Iditarod**	**7.74**	**337**			**Pn**		**16 59 08.9**	**+1.7**
PNL	**Peninsula**	**7.75**	**54**	P		**Pn**		**16 59 08.3**	**+0.9**
L15K	**Ungalak Mounta**	**7.78**	**324**			**Pn**		**16 59 08.9**	**+1.2**
TRF	**Thorofare Moun**	**7.78**	**5**			**Pn**		**16 59 08.2**	**+0.2**
O28M	**Mount Upton**	**7.95**	**46**			**Pn**		**16 59 10.4**	**0.0**
L14K	**Kuka Creek**	**7.97**	**319**			**Pn**		**16 59 11.8**	**+1.4**
AKSA	**Akutan Strait**	**8.13**	**264**			**Pn**		**16 59 13.1**	**+0.5**
AHB	**Akutan Harbor**	**8.20**	**264**			**Pn**		**16 59 13.7**	**0.0**
K15K	**Wolf Creek Mou**	**8.24**	**327**			**Pn**		**16 59 15.5**	**+1.3**
O29M	**Mount Kennedy**	**8.40**	**52**			**Pn**		**16 59 17.2**	**+0.8**
J19K	**Poorman**	**8.49**	**349**			**Pn**		**16 59 18.9**	**+1.3**
P29M	**Windy Craggy**	**8.51**	**57**			**Pn**		**16 59 18.1**	**+0.3**
S31K	**Pelican**	**8.85**	**69**			**Pn**		**16 59 21.4**	**-1.0**
ILAR	**Eielson Array**	**9.39**	**13**	Pn		**Pn**		**16 59 29.3**	**-0.5**
	comp=E,0.5nm,0.3s,baz=197,slow=13,SNR=22								
ILAR				Sn		**Sn**		**17 01 12.6**	**-2.8**
	comp=E,0.4nm,0.3s,baz=201,slow=24,SNR=7.5 comp=E,1.5nm,0.5s								
M29M	**Somme Creek**	**9.61**	**40**			**Pn**		**16 59 33.8**	**+0.8**
SKAG	**Skagway**	**9.62**	**60**	P		**Pn**		**16 59 35.4**	**+2.4**
H21K	**Melozitna Rive**	**9.96**	**358**			**Pn**		**16 59 38.1**	**+0.4**
L29M	**L29M**	**10.16**	**38**			**Pn**		**16 59 41.7**	**+1.3**
M31M	**Drury Creek, Y**	**11.08**	**47**			**Pn**		**16 59 54.6**	**+1.6**
DLBC	**Dease Lake**	**12.16**	**68**	Pn		**Pn**		**17 00 08.1**	**+0.2**
	comp=E,2.1nm,0.3s,baz=204,slow=6,9,SNR=4.9								
ADK	**Adak**	**15.13**	**266**	P		**Pn**		**17 00 43.8**	**-4.4**
INK	**Inuvik**	**15.16**	**27**	Pn		**P**		**17 00 52.4**	**-1.3**
	comp=E,0.5nm,0.3s,baz=242,slow=7.0,SNR=4.9 comp=E,3.3nm,0.5s								
YKA	**Yellowknife Ar**	**20.04**	**55**	P		**P**		**17 01 48.0**	**+0.6**
	comp=E,3.5nm,0.8s,baz=268,slow=9.5,SNR=7.1 comp=E,3.5nm,0.8s								
YBH	**Yreka Blue Hor**	**23.57**	**114**	LR		LR		17 09 17.7	
	comp=E,4.8nm,19.1s,baz=286,slow=31								
PETK	**Petropavlovsk-**	**28.94**	**286**	P		**P**		**17 03 14.7**	**+1.0**
	comp=E,3.8nm,1.0s,baz=66,slow=12,SNR=11								
PETK				LR		LR		17 15 02.5	
	comp=E,110nm,21.4s,baz=101,slow=37 comp=E,3.8nm,1.0s								
PDAR	**Pinedale Array**	**30.00**	**98**	P		**P**		**17 03 24.6**	**+1.1**
	comp=E,0.3nm,0.6s,baz=305,slow=8.8,SNR=2.3 comp=E,0.3nm,0.6s								
ULM	**Lac du Bonnet**	**33.34**	**76**	LR		LR		17 17 40.4	
	comp=E,30nm,20.1s,baz=132,slow=37								
TXAR	**Lajitas Array**	**43.02**	**107**	P		**P**		**17 05 13.9**	**-0.3**
	comp=E,0.4nm,0.9s,baz=322,slow=7.4,SNR=2.6 comp=E,0.4nm,0.9s								
SCHQ	**Schefferville**	**45.49**	**54**	P		**P**		**17 05 34.8**	**+1.1**
	comp=E,44nm,0.8s,baz=315,slow=1.4,SNR=2.1								
H11N2	**WAKE ISLAND Hy**	**47.36**	**238**	T		T		17 57 17.4	
	baz=30,slow=75,SNR=5.2								
H11N3	**WAKE ISLAND Hy**	**47.37**	**238**	T		T		17 57 18.2	
	baz=30,slow=75,SNR=4.3								
H11N1	**WAKE ISLAND Hy**	**47.38**	**238**	T		T		17 57 18.7	
	baz=30,slow=75,SNR=3.3								
H11S1	**WAKE ISLAND Hy**	**48.51**	**237**	T		T		17 58 46.8	
	baz=29,slow=76,SNR=7.3								
H11S2	**WAKE ISLAND Hy**	**48.52**	**237**	T		T		17 58 47.6	
	baz=29,slow=76,SNR=4.5								
H11S3	**WAKE ISLAND Hy**	**48.52**	**237**	T		T		17 58 48.0	
	baz=29,slow=76,SNR=5.1								
TKL	**Tuckaleechee C**	**49.42**	**84**	LR		LR		17 25 39.4	
	comp=E,66nm,18.4s,baz=73,slow=34								
ARCES	**ARCESS Array B**	**55.02**	**1**	LR		LR		17 32 36.8	
	comp=E,24nm,18.4s,baz=339,slow=38								
SONM	**Songino Array**	**57.87**	**309**	P		**P**		**17 07 08.0**	**+1.6**
	comp=E,0.3nm,0.3s,baz=39,slow=7.1,SNR=1.8								
SONM				LR		LR		17 33 47.3	
	comp=E,127nm,21.4s,baz=51,slow=38 comp=E,0.3nm,0.3s								
KIRV	**Kirov**	**64.76**	**348**	LR		LR		17 39 11.2	
	comp=E,28nm,19.8s,baz=344,slow=39								
EKA	**Eskdalemuir Ar**	**66.38**	**19**	P		**P**		**17 08 03.1**	**-0.1**
	comp=E,0.6nm,0.6s,baz=322,slow=5.3,SNR=4.8 comp=E,0.6nm,0.6s								
MKAR	**Makanchi Array**	**68.18**	**323**	P		**P**		**17 08 14.1**	**-0.7**
	comp=E,0.1nm,0.6s,baz=43,slow=8.7,SNR=1.2 comp=E,0.1nm,0.6s								
AKASG	**Malin Array Be**	**73.93**	**359**	P		**P**		**17 08 49.0**	**-0.5**
	comp=E,0.8nm,0.6s,baz=6.1,slow=6.8,SNR=3.0 comp=E,0.8nm,0.6s								
KVAR	**Kislovodsk Arr**	**79.92**	**349**	LR		LR		17 47 49.1	
	comp=E,25nm,19.3s,baz=283,slow=38								
ESDC	**Sonseca Array**	**81.10**	**25**	P		**P**		**17 09 31.4**	**+1.5**
	comp=E,0.7nm,0.8s,baz=311,slow=4.6,SNR=4.1 comp=E,0.7nm,0.8s								
QSPA	**South Pole Qui**	**145.53**	**180**	PKPbc		**PKPdf**		**17 16 50.0**	**-1.4**
	comp=E,2.0nm,1.2s,baz=54,slow=1.8,SNR=2.2								
BOSA	**Boshof**	**152.81**	**6**	PKP		**PKPdf**		**17 17 04.0**	**-0.4**
	comp=E,2.3nm,0.9s,baz=18,slow=6.4,SNR=1.4								
SNAA	**Sanae**	**159.35**	**152**	PKP		**PKPdf**		**17 17 10.8**	**-0.8**
	comp=E,0.4nm,0.4s,baz=315,slow=1.4,SNR=3.1								

*IDC **20** 17:08:38.5±1.1, 7.°28S×155.°26E, h0km, mb3.8/10, mbtmp3.8/11, ML2.0/1, MS3.4/1, Error ellipse: s-maj=36.8km s-min=19.9km az=113.0*
*NEIC **20** 17:08:42.1±1.8, 7.°10S±0.°10×154.°9E±0.°1, h10km±1km, mb4.6/20, Error ellipse: s-maj=18.5km s-min=14.7km az=127.0*

ISC 20 17:08:45.3±0.7, 7.°2S±0.°1×154.°95E±0.°09, h41km, n38, σ1§40/41, mb4.1/18, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**4.06**	**317**	Pn		**Pn**	**17 09 42.9**	**-2.1**
PMG	**Port Moresby**	**8.02**	**253**			**Pn**	**17 10 37.9**	**-1.4**
PMG				Sn		**Sn**	**17 12 07.9**	**-0.8**
PMG	**Port Moresby**	**8.02**	**253**	Pn		**Pn**	**17 10 40.6**	**+1.4**
	1.1nm,0.3s,baz=0.0,slow=16,SNR=2.4							
PMG				Sn		**Sn**	**17 12 08.2**	**-0.5**
	0.7nm,0.3s,baz=106,slow=23,SNR=3.0 15nm,0.9s							
WB0	**Warramunga Arr**	**23.54**	**236**	P		**P**	**17 13 51.0**	**-1.2**
WR8	**Warramunga Arr**	**23.55**	**235**	P		**P**	**17 13 50.9**	**-1.3**
WRA	**Warramunga Arr**	**23.67**	**236**	P		**P**	**17 13 53.3**	**0.0**
	1.2nm,0.8s,baz=60,slow=9.8,SNR=9.8							
WRA				LR		LR	17 21 26.3	
	comp=E,94nm,20.0s,baz=124,slow=32 1.2nm,0.8s							
INKA	**Innaminka**	**24.48**	**212**	P		**P**	**17 13 59.0**	**-1.7**
INKA				IAmb		IAmb	17 14 24.9	
	comp=E,9.2nm,1.1s							
AS31	**Alice Springs**	**26.01**	**229**	P		**P**	**17 14 13.1**	**-1.6**
ASAR	**Alice Springs**	**26.01**	**229**	P		**P**	**17 14 13.8**	**-0.9**
ASAR	**Alice Springs**	**26.01**	**229**	P		**P**	**17 14 15.2**	**+0.5**
	comp=E,0.5nm,0.7s,baz=58,slow=9.5,SNR=12 comp=E,0.5nm,0.7s							
KNRA	**Kununurra**	**26.99**	**249**	P		**P**	**17 14 23.2**	**-0.4**
KNRA				IAmb		IAmb	17 14 35.0	
	comp=E,22nm,1.4s							
STKA	**Stephens Creek**	**27.55**	**205**	P		**P**	**17 14 28.4**	**0.0**
	comp=Z,1.7nm,0.7s,baz=9.5,slow=12,SNR=3.3 comp=Z,1.7nm,0.7s							
FITZ	**Fitzroy Crossi**	**30.53**	**246**	P		**P**	**17 14 54.0**	**-1.1**
AFI	**Afiamalu**	**33.36**	**104**	P		**P**	**17 15 17.5**	**-2.5**
PETK	**Petropavlovsk-**	**60.10**	**2**	P		**P**	**17 18 47.7**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=216,slow=6.7,SNR=1.4 comp=Z,1.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**60.82**	**296**	P		**P**	**17 18 55.8**	**+1.9**
	comp=E,0.8nm,0.6s,baz=121,slow=5.5,SNR=7.0 comp=E,0.8nm,0.6s							
SONM	**Songino Array**	**69.47**	**327**	P		**P**	**17 19 50.3**	**+0.7**
	comp=E,0.6nm,0.4s,baz=131,slow=4.2,SNR=3.1 comp=E,0.6nm,0.4s							
M16K	**Timber Creek**	**76.91**	**21**	P		**P**	**17 20 34.6**	**+1.6**
M16K				IAmb		IAmb	17 20 43.2	
	comp=Z,11nm,1.3s							
P19K	**Oil Pt**	**78.20**	**24**	P		**P**	**17 20 40.6**	**+0.3**
E19K	**Redstone River**	**81.82**	**17**	P		**P**	**17 21 01.7**	**+2.0**
E19K				IAmb		IAmb	17 21 16.5	
	comp=Z,7.5nm,1.2s							
IMAR	**Indian Mountai**	**81.92**	**19**	P		**P**	**17 21 01.2**	**+0.9**
DHY	**Denali Highway**	**82.48**	**23**	P		**P**	**17 21 04.6**	**+1.1**
DHY				IAmb		IAmb	17 21 25.3	
	comp=Z,12nm,1.4s							
QSPA	**South Pole Qui**	**82.79**	**180**	P		**P**	**17 21 08.4**	**+3.3**
QSPA				IAmb		IAmb	17 21 10.0	
	comp=Z,2.4nm,1.1s							
QSPA	**South Pole Qui**	**82.79**	**180**	P		**P**	**17 21 03.7**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=313,slow=1.2,SNR=5.7 comp=Z,0.3nm,0.8s							
GLB	**Gilahina Butte**	**83.08**	**25**	P		**P**	**17 21 07.9**	**+1.4**
MKAR	**Makanchi Array**	**83.51**	**319**	P		**P**	**17 21 09.8**	**+0.8**
MKAR	**Makanchi Array**	**83.51**	**319**	P		**P**	**17 21 10.3**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=104,slow=5.3,SNR=12 comp=Z,1.3nm,0.8s							
ILAR	**Eielson Array**	**83.57**	**21**	P		**P**	**17 21 08.7**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=237,slow=5.3,SNR=7.0 comp=Z,0.7nm,0.9s							
CTGM	**Chitina Glacie**	**83.92**	**26**	P		**P**	**17 21 12.4**	**+1.5**
DOT	**Dot Lake**	**84.06**	**23**	P		**P**	**17 21 12.1**	**+0.7**
ZALV	**Zalesovo Beam**	**84.31**	**326**	P		**P**	**17 21 12.7**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=114,slow=5.5,SNR=2.4 comp=Z,0.5nm,0.4s							
BMAR	**Burnt Mountain**	**85.75**	**20**	P		**P**	**17 21 21.0**	**+1.2**
H27K	**Steamboat Moun**	**86.23**	**21**	P		**P**	**17 21 24.1**	**+1.8**
H27K				IAmb		IAmb	17 21 41.2	
	comp=Z,8.4nm,1.4s							
E27K	**Coleen River**	**87.11**	**20**	P		**P**	**17 21 27.8**	**+1.3**
E27K				IAmb		IAmb	17 21 40.6	
	comp=Z,5.2nm,1.2s							
I30M	**Mount Dempster**	**87.74**	**23**	P		**P**	**17 21 31.1**	**+1.4**
I30M				IAmb		IAmb	17 21 35.1	
	comp=Z,4.9nm,1.1s							
G29M	**Pine Creek**	**87.79**	**21**	P		**P**	**17 21 31.5**	**+1.7**
H31M	**Peel River**	**88.75**	**23**	P		**P**	**17 21 36.2**	**+1.9**
TORD	**Torodi Ar. Bea**	**153.03**	**285**	PKPbc		**PKiKP**	**17 28 40.0**	**+0.4**
	comp=Z,1.3nm,1.2s,baz=64,slow=3.8,SNR=3.6							
TORD				PKPab		**pPKPbc**	**17 28 49.3**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=90,slow=2.6,SNR=2.4							

*NEIC **20** 17:11:32.0±2.0, 18.°09S±0.°08×172.°0W±0.°1, h10km±1km, mb4.6/17, Error ellipse: s-maj=21.0km s-min=6.7km az=52.0*
*IDC **20** 17:11:33.2±0.8, 18.°22S×172.°46W, h0km, mb3.9/9, mbtmp3.9/9, MS3.3/3, Error ellipse: s-maj=31.9km s-min=20.9km az=133.0*

ISC 20 17:11:32.3±0.6, 18.°14S±0.°07×172.°14W±0.°07, h10km, n40, σ1§82/37, mb4.3/15, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**2.29**	**114**			**Pn**	**17 12 08.8**	**-1.4**
NIUE				Sn		**Sn**	**17 12 33.6**	**-4.9**
AFI	**Afiamalu**	**4.22**	**5**	Pn		**Pn**	**17 12 35.7**	**-1.1**
AFI				Sn		**Sn**	**17 13 24.2**	**-2.0**
RAR	**Rarotonga**	**12.04**	**107**	Pn		**Pn**	**17 14 25.7**	**+1.7**
	1.4nm,0.3s,baz=249,slow=14,SNR=3.6							
RAR				LR		LR	17 17 45.4	
	comp=E,110nm,22.0s,baz=266,slow=30							
PINNC	**Pines Island,**	**19.64**	**253**	P		**P**	**17 16 00.2**	**-1.1**
DZM	**Mont Dzumac**	**20.49**	**255**	P		**P**	**17 16 10.6**	**0.0**
DZM				IAmb		IAmb	17 16 26.5	
	comp=Z,42nm,1.4s							
DZM	**Mont Dzumac**	**20.49**	**255**	P		**P**	**17 16 09.0**	**-1.5**
	comp=Z,7.3nm,1.0s,baz=104,slow=19,SNR=1.8 comp=Z,7.3nm,1.0s							
PPT	**Papeete**	**21.48**	**92**	LR		LR	17 21 41.4	
	comp=Z,56nm,21.8s,baz=304,slow=28							
URZ	**Urewera**	**22.14**	**203**	P		**P**	**17 16 27.0**	**-1.1**
	comp=Z,2.8nm,0.4s,baz=283,slow=2.4,SNR=5.7 comp=Z,2.8nm,0.4s							
TOZ	**Tahuroa Road**	**22.32**	**207**	P		**P**	**17 16 30.0**	**-0.1**
TOZ				IAmb		IAmb	17 16 35.1	
	comp=Z,14nm,1.2s							
BKZ	**Black Stump Fm**	**23.16**	**203**	P		**P**	**17 16 38.6**	**-0.4**
BKZ				IAmb		IAmb	17 17 17.3	
	comp=Z,28nm,1.3s							
TUWZ	**Tuamarina**	**26.10**	**204**	P		**P**	**17 17 06.6**	**+0.4**
QRZ	**Quartz Range**	**26.17**	**207**	P		**P**	**17 17 07.8**	**+0.9**
THZ	**Tophouse**	**26.79**	**205**	P		**P**	**17 17 13.4**	**+0.8**
THZ				IAmb		IAmb	17 17 55.9	
	comp=Z,36nm,1.5s							
LTZ	**Lake Taylor**	**27.90**	**205**	P		**P**	**17 17 22.5**	**0.0**
INZ	**Inchbonnie**	**28.19**	**206**	P		**P**	**17 17 24.2**	**-0.9**
HNR	**Honiara**	**28.43**	**284**	LR		LR	17 26 58.0	
	comp=Z,97nm,18.7s,baz=164,slow=33							
EIDS	**Eidsvold**	**34.83**	**252**	P		**P**	**17 18 22.5**	**-1.1**
EIDS				IAmb		IAmb	17 18 23.9	
	comp=Z,10nm,1.2s							
CTAO	**Charters Tower**	**39.29**	**260**	P		**P**	**17 19 00.3**	**-1.4**
CTAO				IAmb		IAmb	17 19 18.4	
	comp=Z,33nm,1.5s							
WB0	**Warramunga Arr**	**50.42**	**259**	P		**P**	**17 20 29.6**	**-0.8**
WB0				IAmb		IAmb	17 21 07.2	
	comp=Z,5.7nm,1.1s							
WRA	**Warramunga Arr**	**50.45**	**259**	P		**P**	**17 20 30.0**	**-0.6**
WRA				PcP		**PcP**	**17 21 45.5**	**-3.4**
WRA	**Warramunga Arr**	**50.45**	**259**	P		**P**	**17 20 30.1**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=96,slow=6.1,SNR=23 comp=Z,1.6nm,0.6s							
AS31	**Alice Springs**	**50.47**	**254**	P		**P**	**17 20 30.4**	**-0.4**
ASAR	**Alice Springs**	**50.47**	**254**	P		**P**	**17 20 30.1**	**-0.7**
ASAR	**Alice Springs**	**50.47**	**254**	P		**P**	**17 20 30.6**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=97,slow=7.5,SNR=22 comp=Z,1.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**58.86**	**259**	P		**P**	**17 21 32.6**	**+0.9**
SBA	**Scott Base**	**60.64**	**185**	P		**P**	**17 21 44.2**	**+1.3**
SBA				IAmb		IAmb	17 21 54.3	
	comp=Z,5.3nm,1.4s							
VNDA	**Vanda**	**60.79**	**186**	P		**P**	**17 21 45.0**	**+0.9**
VNDA	**Vanda**	**60.79**	**186**	P		**P**	**17 21 45.0**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=330,slow=5.8,SNR=3.9 comp=Z,0.5nm,0.7s							
QSPA	**South Pole Qui**	**71.92**	**180**	P		**P**	**17 22 58.5**	**+2.8**
QSPA				IAmb		IAmb	17 23 00.2	
	comp=Z,4.2nm,1.1s							
QSPA	**South Pole Qui**	**71.92**	**180**	P		**P**	**17 22 59.4**	**+3.7**
	comp=Z,1.9nm,0.8s,baz=24,slow=3.2,SNR=7.4 comp=Z,1.9nm,0.8s							
TXAR	**Lajitas Array**	**81.15**	**55**	P		**P**	**17 23 50.7**	**+2.2**
	comp=Z,0.6nm,0.9s,baz=196,slow=8.7,SNR=4.5 comp=Z,0.6nm,0.9s							
H03S2	**Juan Fernandez**	**82.69**	**123**	T		T	18 54 52.0	
	baz=250							
H03S1	**Juan Fernandez**	**82.71**	**123**	T		T	18 54 53.5	
	baz=250,slow=74							
H03S3	**Juan Fernandez**	**82.71**	**123**	T		T	18 54 51.9	
	baz=250,slow=74							
PDAR	**Pinedale Array**	**83.51**	**41**	P		P	17 24 04.9	+4.2
	comp=Z,0.7nm,0.8s,baz=244,slow=4.7,SNR=5.3 comp=Z,0.7nm,0.8s							
ILAR	**Eielson Array**	**84.89**	**11**	P		**P**	**17 24 09.3**	**+2.4**
	comp=Z,0.3nm,0.8s,baz=231,slow=4.3,SNR=2.3 comp=Z,0.3nm,0.8s							
KIF	**Kilpisjarvi**	**128.51**	**354**	*e*P		**Pdif**	**17 27 19.7**	**-4.2**
HEF	**Hetta**	**128.77**	**353**	*e*P		**Pdif**	**17 27 24.9**	**-0.3**
GERES	**GERESS Array B**	**149.01**	**352**	PKPbc		**PKPab**	**17 31 24.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=52,slow=5.5,SNR=1.8							
BRTR	**Keskin Array B**	**149.02**	**319**	PKPbc		**PKPab**	**17 31 24.7**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=114,slow=2.0,SNR=2.1							

IDC 20 17:14:52.6±999.0, 57.°35N×30.°73E, h0km, Error ellipse: s-maj=644.2km s-min=103.6km az=95.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**3.60**	**97**	I		I	17 39 20.0	
	0.3nm,0.7s,baz=282,slow=319,SNR=0.9							
I48TN	**KESRA INFRASON**	**25.88**	**223**	I		I	20 02 00.0	
	baz=27,slow=320,SNR=0.6							
I46RU	**ZALESOVO INFRA**	**30.04**	**73**	I		I	20 16 00.0	
	baz=296,slow=322,SNR=1.7							

*MEX **20** 17:44:21.1±0.8, 14.°11N×92.°68W, h15km±25km, MD4.0*
*GCG **20** 17:44:22.8±1.4, 14.°25N×92.°62W, h35km±9km, MD3.8, ML3.5, MW3.3*

ISC 20 17:44:18.1±2.0, 14.°18N±0.°07×92.°70W±0.°04, h8km±11km, n23, σ1§60/39, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.84**	**30**	*e*P		**Pb**	**17 44 34.9**	**0.0**
THIG				*e*S		**Sg**	**17 44 45.1**	**-0.1**
SMCA	**Catarina**	**0.91**	**42**	*i* P		**Pb**	**17 44 37.1**	**+1.0**
RTAL	**Retalhuleu**	**1.03**	**70**	*e*P		**Pn**	**17 44 39.5**	**+0.6**
RTAL				*e*S		**Sb**	**17 44 52.7**	**+0.8**
PATR	**El Naranjo**	**1.04**	**26**	*e*P		**Pg**	**17 44 38.2**	**+0.1**
PATR				*e*S		**Sg**	**17 44 52.0**	**+0.5**
CHUJ	**Union Juarez**	**1.08**	**32**	*e*P		**Pg**	**17 44 39.1**	**+0.3**
CHUJ				*e*S		**Sg**	**17 44 52.0**	**-0.8**
PAVE	**Pavencul**	**1.13**	**27**	*e*P		**Pg**	**17 44 39.7**	**-0.1**
PAVE				*e*S		**Sg**	**17 44 53.3**	**-1.3**
SOKI	**Kika Raxquin**	**1.41**	**63**	*i* P		**Pg**	**17 44 45.3**	**+0.1**
SOKI				IAML			17 45 14.4	
	comp=N,492nm,0.7s							
PCIG		**1.60**	**342**	*e*P		**Pn**	**17 44 46.3**	**-0.3**
PCIG				*e*S		**Sn**	**17 45 05.2**	**-2.2**
ESSG	**Sabana Grande**	**1.82**	**83**	*i* S		**Sn**	**17 45 13.1**	**0.0**
QUIS	**Sacapulas**	**1.91**	**54**	*e*P		**Pb**	**17 44 52.7**	**-0.5**
QUIS				IAML			17 45 25.0	
	comp=E,350nm,0.5s							
FG8	**Yepocapa, Chim**	**2.08**	**87**	*e*P		**Pn**	**17 44 49.4**	**-3.9**
FG8				*i* S		Sn	17 45 10.2	-9.2
FG16	**Alotenango, Sa**	**2.13**	**87**	*i

comp=N,82nm,0.1s
PAPH IAML 18 02 06.0
comp=E,68nm,0.1s
PAPH Port-au-Prince 1.31 191 *i* P **Pg 18 01 46.8 +0.9**
LONE3 El Aguacate, B 1.32 155 *i* P **Pg 18 01 46.3 +0.1**
LONE3 *e*S **Sn 18 02 03.3 +0.1**
LONE3 IAML 18 02 06.2
comp=Z,66nm,0.4s
JIDR Jimani 1.33 172 *e*Pg **Pg 18 01 47.4 +1.0**
JIDR IAML 18 02 06.0
comp=E,213nm,0.5s
JIDR IAML 18 02 06.4
comp=N,133nm,0.2s
LODU1 El Espartillar 1.55 160 *i* P **Pg 18 01 50.4 -0.2**
LODU1 IAML 18 02 13.1
comp=Z,100nm,0.5s
ABDR Alto Bandera 1.67 127 *e*Pg **Pb 18 01 51.9 +0.1**
ABDR *e*Sg **Sg 18 02 15.0 +0.5**
ABDR IAML 18 02 20.4
comp=E,65nm,0.6s
ABDR IAML 18 02 28.3
comp=N,58nm,0.5s
PODR Polo 1.79 156 *e*Pg **Pg 18 01 54.8 -0.4**
PODR IAML 18 02 26.8
comp=E,66nm,1.4s
PODR IAML 18 02 47.2
comp=N,41nm,0.9s
PODR Polo 1.79 156 *i* P **Pb 18 01 54.2 +0.4**
LOBH Bahia de las A 1.98 169 *i* P **Pg 18 01 57.9 -0.9**
LOBH IAML 18 02 28.7
comp=Z,52nm,2.1s
MASC Masc 2.09 280 *e*P **Pn 18 01 56.8 +1.0**
MASC *e*S **Sg 18 02 27.8 -0.2**
MASC IAML 18 02 30.8
comp=E,32nm,0.2s
MASC IAML 18 02 30.8
comp=N,64nm,0.3s
MASC Masc 2.09 280 *i* P **Pn 18 01 56.9 +1.0**
MASC IAML 18 02 31.9
comp=N,82nm,0.5s
MASC Masc 2.09 280 *i* P **Pn 18 01 56.8 +1.0**
MASC IAML 18 02 32.5
comp=Z,34nm,1.4s
LOVI El Cajuil, Ovi 2.10 162 *i* P **Pb 18 01 59.6 +0.6**
LOVI IAML 18 02 30.8
comp=Z,48nm,1.1s
BANI BANI 2.13 131 *e*Pg **Pg 18 02 00.7 -1.0**
BANI *e*Sg **Sg 18 02 30.1 +0.8**
BANI IAML 18 02 34.7
comp=N,109nm,0.3s
QMBU Quimbuelo 2.63 279 *e*P **Pn 18 02 03.6 +0.2**
QMBU *e*S **Sn 18 02 36.8 +1.4**
QMBU IAML 18 02 44.8
comp=E,76nm,0.3s
QMBU IAML 18 02 46.9
comp=N,54nm,0.1s
NMDO Nuevo Mundo 2.86 286 *e*P **Pn 18 02 06.4 -0.1**
NMDO *e*S **Sb 18 02 44.0 -3.0**
NMDO IAML 18 02 56.4
comp=E,22nm,0.6s
NMDO IAML 18 02 56.6
comp=N,19nm,0.5s
GTBY Guantanamo Bay 2.89 273 *e*P **Pn 18 02 05.8 -1.1**
GTBY *e*S **Sn 18 02 43.7 +1.9**
GTBY IAML 18 02 46.5
comp=N,26nm,0.8s
GTBY IAML 18 02 48.1
comp=N,20nm,0.8s
RCC Rio Carpintero 3.44 274 *e*P **Pn 18 02 14.6 +0.1**
RCC *e*S **Sn 18 02 56.7 +1.3**
RCC IAML 18 03 02.4
comp=E,7.5nm,0.2s
RCC IAML 18 03 02.6
comp=N,6.3nm,0.3s
PINC Pinares de May 3.59 281 *e*P **Pn 18 02 16.1 -0.3**
PINC *e*S **Sn 18 02 57.8 -1.1**
PINC IAML 18 02 58.0
comp=N,3.1nm,0.1s
PINC IAML 18 02 58.6
comp=E,3.6nm,0.1s
YAR Yar 4.10 278 *e*P **Pn 18 02 22.1 -1.4**
YAR *e*S **Sn 18 03 12.7 +1.1**
YAR IAML 18 03 22.2
comp=N,7.4nm,1.3s
YAR IAML 18 03 22.6
comp=E,19nm,1.9s

IDC ***20*** *18:04:18.8±0.5, 13˚.97N×124˚.61E, h0km, mb4.3/21, mbtmp4.3/21, ML5.5/1, MS3.9/27, Error ellipse: s-maj=21.1km s-min=11.4km az=71.0*

MOS ***20*** *18:04:18.9±1.0, 13˚.92N×124˚.44E, h13km, mb5.0/26, Error ellipse: s-maj=14.3km s-min=6.8km az=124.5*

MAN ***20*** *18:04:19.1, 14˚.15N×124˚.65E, h1km, mb5.7, ML4.7, MS5.0*

BJI ***20*** *18:04:19.2, 13˚.80N×124˚.72E, h22km, mB5.2/12, mb4.5/45, Ms4.6/21, Ms7 4.2/20*

NEIC ***20*** *18:04:22.9±1.0, 13˚.93N±0˚.02×124˚.40E±0˚.05, h24km±5km, mb4.8/60, Error ellipse: s-maj=6.6km s-min=2.5km az=84.0*

GCMT ***20*** *18:04:24.9±0.4, 14˚.11N±0˚.03×124˚.72E±0˚.03, h34km±1km, MW4.9/62, Moment Tensor Solution. s28,c30; s62,c78; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.85±.20; Mθθ 0.78±.12; Mφφ -2.06±.12; Mrθ -0.11±.11; Mθφ 0.52±.05; Mφr 1.33±.10; Best double couple: M0 2.87100×10^16 NP1: φs 157.00000°, δ32.00000°, λ82.00000°. NP2: φs 346.00000°, δ59.00000°, λ95.00000°. Principal axes: T 3.1870, Plg76.0000°, Azm271.0000°; N -0.6240, Plg4.0000°, Azm164.0000°; P -2.5560, Plg14.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***20*** *18:04:27.5±1.4, 14˚.N±6˚×12˚.4E±˚, h54km±12km, M4.8/17, mb4.6/17, mB5.9/3, Mw(mB)5.5/3, MwMwp5.8/1, Mwp5.9/1*

ISC 20 18:04:24.4±0.4, 13˚.96N±0˚.05×124˚.51E±0˚.08, h39km±5km, n166, σ1$35/141, mb4.7/83, MS4.0/32, 11C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.47**	**273**	Pn		**Pn**	**18 05 17.4**	**+1.5**
	388nm,0.3s,baz=98,slow=1.0,SNR=38							
TGY				Sn		**Sn**	**18 06 01.4**	**+5.5**
	173nm,0.3s,baz=172,slow=8.8,SNR=4.4							
TGY				LR		LR	18 07 06.6	
	comp=Z,2μm,18.6s,baz=32,slow=47							
DAV	**Davao City (W)**	**6.93**	**171**	LR		LR	18 09 23.3	
	comp=Z,3μm,18.5s,baz=1.5,slow=44							
YULB	**Yu-li**	**9.86**	**343**	Pn		**Pn**	**18 06 41.7**	**-1.9**
MYLDM	**Lahad Datu**	**10.55**	**215**			**Pn**	**18 06 50.9**	**-2.2**
TOLI2	**Tolitoli**	**13.29**	**196**			**Pn**	**18 07 28.6**	**-2.0**
QIZ	**Qiongzhong**	**14.94**	**292**	P		**P**	**18 07 56.0**	**-1.9**
QIZ				S		**Sn**	**18 10 34.6**	**-2.6**
QIZ				pmax		pmax		
	comp=Z,19nm,2.5s							
QIZ				pmax		pmax		
	comp=Z,510nm,4.8s							
QIZ				LR		LR		
	comp=N,360nm,13.8s							
QIZ				LR		LR		
	comp=E,570nm,17.2s							
QIZ				LR		LR		
	comp=Z,810nm,19.6s							
APSI	**Ampana**	**15.05**	**191**	P		**Pn**	**18 07 56.5**	**+2.2**
	62nm,1.1s							
SBUM	**Sibu**	**16.68**	**228**			**Pn**	**18 08 15.7**	**+0.3**
TTSI	**Tana Toraja**	**17.53**	**196**	P		**P**	**18 08 27.5**	**+0.9**
	396nm33nm,1.0s							
MSAI	**Masohi**	**17.75**	**165**	P		**P**	**18 08 30.8**	**+1.7**
	57nm,1.2s							
SPSI	**Sidrap Palu**	**18.42**	**195**	P		**Pn**	**18 08 36.8**	**0.0**
	17nm,0.9s							
FAKI	**Fak Fak**	**18.45**	**155**	P		**P**	**18 08 35.7**	**-1.1**
NJ2	**Nanjing**	**18.73**	**345**	*e*P		**Pn**	**18 08 40.6**	**+0.1**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
KAPI	**Kappang**	**19.44**	**194**	LR		LR	18 16 23.4	
	comp=Z,227nm,20.5s,baz=26,slow=37							
GUMO	**Guam**	**19.78**	**89**	LR		LR	18 16 18.2	
	comp=Z,297nm,18.7s,baz=260,slow=37							
GYA	**Guiyang**	**20.82**	**309**	⇑P		Pn	18 09 05.3	-0.1
GYA				S		**S**	**18 12 52.1**	**-1.1**
GYA				pmax		pmax		
	comp=Z,20nm,1.6s							
GYA				pmax		pmax		
	comp=Z,470nm,5.2s							
GYA				LR		LR		
	comp=N,630nm,5.5s							
GYA				LR		LR		
	comp=E,520nm,5.0s							
GYA				LR		LR		
	comp=Z,560nm,8.2s							
SLVN	**Son La**	**20.94**	**293**			**P**	**18 09 03.9**	**-0.2**
ENH	**Enshi**	**21.34**	**322**			**P**	**18 09 07.0**	**-1.2**
ENH				IAmb		IAmb	18 09 13.2	
	comp=Z,38nm,1.1s							
EDFI	**Ende, Flores**	**22.74**	**187**	P		**P**	**18 09 23.5**	**+0.2**
	comp=Z,13nm,0.8s							
LYN	**LuoYang**	**23.21**	**334**	P		**P**	**18 09 29.4**	**+1.5**
LYN				sS		S	18 13 45.3	+8.2
LYN				pmax		pmax		
	comp=Z,63nm,1.4s							
KMI	**Kunming**	**23.29**	**302**	P		**P**	**18 09 30.4**	**+1.3**
KMI				pmax		pmax		
	comp=Z,13nm,1.5s							
KMI				LR		LR		
	comp=Z,480nm,15.8s							
KMI				LR		LR		
	comp=Z,600nm,17.5s							
KMI				LR		LR		
	comp=Z,770nm,18.2s							
KSRS	**Korea Array**	**23.59**	**7**	P		**P**	**18 09 31.2**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=188,slow=12,SNR=4.7							
	comp=Z,1.5nm,0.8s							
JHJ	**Hachijo jima 2**	**23.60**	**34**	LR		LR	18 17 51.4	
	comp=Z,301nm,19.2s,baz=230,slow=34							
PLAI	**Plampang**	**23.61**	**197**	P		**P**	**18 09 32.4**	**+0.5**
TWSI	**Taliwang, Sumb**	**23.79**	**199**	P		**P**	**18 09 32.4**	**-1.2**
	comp=Z,55nm,1.1s							
BATI	**Baumata**	**24.03**	**182**	LR		LR	18 19 56.8	
	comp=Z,263nm,21.6s,baz=301,slow=39							
XAN	**Xi'an**	**24.48**	**327**	⇑P		**P**	**18 09 40.3**	**+0.4**
XAN				pP		pP	18 09 45.6	-5.0
XAN				sP		sP	18 09 49.1	-5.9
XAN				pmax		pmax		
	comp=Z,53nm,1.2s							
XAN				pmax		pmax		
	comp=Z,700nm,4.9s							
PZH	**PanZhiHua**	**24.69**	**304**	P		**P**	**18 09 43.9**	**+1.9**
HNS	**HongShan**	**24.92**	**341**	⇑P		**P**	**18 09 44.8**	**+1.0**
HNS				pmax		pmax		
	comp=Z,18nm,1.0s							
CM31	**Chiang Mai Arr**	**24.94**	**284**	P		**P**	**18 09 42.3**	**-1.9**
CMAR	**Chiang Mai Arr**	**24.94**	**284**			**P**	**18 09 43.2**	**-1.0**
CMAR						**PcP**	**18 13 18.0**	**-1.2**
CMAR	**Chiang Mai Arr**	**24.94**	**284**	P		**P**	**18 09 43.9**	**-0.3**
	comp=Z,5.2nm,0.8s,baz=96,slow=7.5,SNR=49							
CMAR				PcP		**PcP**	**18 13 19.5**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=96,slow=2.2,SNR=6.8							
CMAR				LR		LR	18 19 11.3	
	comp=Z,340nm,22.0s,baz=95,slow=36							
	comp=Z,5.2nm,0.8s							
CHTO	**Chiang Mai**	**24.98**	**285**			**P**	**18 09 43.0**	**-1.5**
CHTO	**Chiang Mai**	**24.98**	**285**	P		**P**	**18 09 43.1**	**-1.5**
CHTO				pmax		pmax		
	comp=Z,18nm,1.7s							
CD2	**Chengdu**	**25.46**	**315**	P		**P**	**18 09 49.1**	**+0.2**
CD2				pmax		pmax		
	comp=Z,50nm,1.2s							
CD2				LR		LR		
	comp=Z,940nm,15.2s							
CD2				LR		LR		
	comp=Z,730nm,10.2s							
CD2				LR		LR		
	comp=Z,910nm,12.7s							
MJAR	**Matsushiro Arr**	**25.61**	**26**	LR		LR	18 18 59.8	
	comp=Z,194nm,18.8s,baz=206,slow=34							
LEM	**Lembang**	**26.60**	**220**	LR		LR	18 21 40.3	
	comp=Z,188nm,21.9s,baz=44,slow=39							
TNCH	**TengChong**	**26.81**	**298**	⇑P		**P**	**18 10 01.8**	**+0.5**
TNCH				pmax		pmax		
	comp=Z,18nm,0.6s							
BJI	**Beijing**	**26.99**	**346**	P		**P**	**18 10 02.8**	**+0.3**
BJI				pmax		pmax		
	comp=Z,4.0nm,1.2s							
PSI	**Prapat**	**27.60**	**249**	LR		LR	18 21 08.9	
	comp=Z,319nm,20.8s,baz=90,slow=36							
LZH	**Lanzhou**	**28.79**	**324**	*e*P		**P**	**18 10 20.8**	**+2.0**
LZH				pP		pP	18 10 30.4	+0.7
LZH				sP		sP	18 10 36.6	+2.8
LZH				pmax		pmax		
	comp=Z,16nm,1.2s							
HHC	**Hu-ho-hao-te**	**29.08**	**340**	*e*P		**P**	**18 10 23.8**	**+2.6**
HHC				pmax		pmax		
	comp=Z,13nm,0.9s							
HHC				pmax		pmax		
	comp=Z,170nm,4.8s							
HHC				LR		LR		
	comp=Z,200nm,11.6s							
HHC				LR		LR		
	comp=Z,250nm,11.8s							
HHC				LR		LR		
	comp=Z,280nm,11.2s							
USRK	**Ussuriysk Ar.**	**30.80**	**11**	P		**P**	**18 10 35.5**	**-0.8**
	comp=Z,4.9nm,0.7s,baz=124,slow=4.5,SNR=9.2							
	comp=Z,4.9nm,0.7s							
BNX	**BinXian**	**31.77**	**4**	⇓P		**P**	**18 10 45.8**	**+1.0**
BNX				pmax		pmax		
	comp=Z,9.0nm,0.9s							
BRDH	**Bariadhala**	**32.32**	**290**	LR		LR	18 25 42.8	
	comp=Z,269nm,18.2s,baz=134,slow=40							
SHL	**Shillong**	**32.71**	**296**			**P**	**18 10 53.0**	**-0.6**
SHL	**Shillong**	**32.71**	**296**	P		**P**	**18 10 53.0**	**-0.6**
SHL				pmax		pmax		
	comp=Z,26nm,1.3s							
GTA	**Gaotai**	**33.39**	**324**	*e*P		**P**	**18 11 01.4**	**+2.1**
GTA				pmax		pmax		
	comp=Z,7.0nm,1.5s							
ASAJ	**Asahikawa**	**33.80**	**24**	LR		LR	18 24 01.0	
	comp=Z,128nm,21.9s,baz=211,slow=35							
LSA	**Lhasa**	**34.54**	**302**	P		**P**	**18 11 09.9**	**+0.1**
LSA				IAmb		IAmb	18 11 12.5	
	comp=Z,14nm,0.9s							
LSA	**Lhasa**	**34.54**	**302**	P		**P**	**18 11 09.5**	**-0.3**
LSA				pmax		pmax		
	comp=Z,15nm,0.9s							
LSA	**Lhasa**	**34.54**	**302**	P		**P**	**18 11 09.9**	**+0.1**
LSA				pmax		pmax		
	comp=Z,14nm,0.9s							
GOMU	**GeErMu**	**34.60**	**315**	P		**P**	**18 11 10.8**	**+0.7**
GOMU				pP		pP	18 11 14.1	-6.9
GOMU				sP		sP	18 11 17.6	-7.9
GOMU				S		**S**	**18 16 39.1**	**+1.9**
GOMU				pmax		pmax		
	comp=Z,5.0nm,0.6s							
GOMU				LR		LR		
	comp=Z,330nm,13.9s							
GOMU				LR		LR		
	comp=Z,270nm,13.5s							
GOMU				LR		LR		
	comp=Z,480nm,13.6s							
WRA	**Warramunga Arr**	**35.05**	**164**	P		**P**	**18 11 13.5**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=342,slow=9.3,SNR=6.9							
WRA				PcP		**PcP**	**18 13 45.4**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=338,slow=3.2,SNR=3.2							
WRA				S		**S**	**18 16 48.0**	**+4.4**
	comp=Z,2.0nm,1.0s,baz=348,slow=15,SNR=3.2							
	comp=Z,0.9nm,0.5s							
HEH	**HeiHe**	**36.27**	**3**	*e*P		**P**	**18 11 24.8**	**+1.0**
ULN	**Ulaanbaatar**	**36.79**	**340**	*ce*P		**P**	**18 11 29.7**	**+1.2**
ULN				pmax		pmax		
	comp=Z,16nm,1.7s							
SONM	**Songino Array**	**36.98**	**340**	P		**P**	**18 11 30.7**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=159,slow=8.5,SNR=15							
SONM				LR		LR	18 27 38.0	
	comp=Z,121nm,18.1s,baz=160,slow=38							
	comp=Z,2.8nm,0.7s							
EVN	**Everest**	**37.69**	**298**			**P**	**18 11 36.1**	**-0.8**
EVN				IAmb		IAmb	18 11 41.0	
	comp=Z,21nm,1.4s							
AS31	**Alice Springs**	**38.51**	**166**			**P**	**18 11 42.4**	**-0.7**
ASAR	**Alice Springs**	**38.51**	**166**	P		**P**	**18 11 42.8**	**-0.4**
	comp=Z,3.9nm,0.7s,baz=347,slow=7.0,SNR=31							
ASAR				PcP		**PcP**	**18 13 56.0**	**+0.4**
	comp=Z,1.7nm,1.1s,baz=342,slow=3.5,SNR=4.1							
ASAR				S		**S**	**18 17 34.0**	**-2.3**
	comp=Z,1.9nm,0.9s,baz=355,slow=20,SNR=9.1							
	comp=Z,3.9nm,0.7s							
H11S3	**WAKE ISLAND Hy**	**40.68**	**78**	T		T	18 55 25.1	
	baz=270,slow=75,SNR=229							
H11S1	**WAKE ISLAND Hy**	**40.69**	**78**	T		T	18 55 26.2	
	baz=270,slow=75,SNR=349							
H11S2	**WAKE ISLAND Hy**	**40.70**	**78**	T		T	18 55 26.5	
	baz=270,slow=75,SNR=385							
H11N1	**WAKE ISLAND Hy**	**40.89**	**76**	T		T	18 55 43.4	
	baz=267,slow=74,SNR=182							
H11N2	**WAKE ISLAND Hy**	**40.89**	**76**	T		T	18 55 40.5	
	baz=267,slow=74,SNR=126							
H11N3	**WAKE ISLAND Hy**	**40.91**	**76**	T		T	18 55 44.5	
	baz=267,slow=74,SNR=99							
WMQ	**Urumqi**	**43.28**	**321**	*e*P		**P**	**18 12 24.5**	**+2.2**
WMQ				LR		LR		
	comp=Z,260nm,11.9s							
WMQ				LR		LR		
	comp=Z,310nm,13.3s							
WMQ				LR		LR		
	comp=Z,110nm,13.3s							
INKA	**Innaminka**	**44.34**	**159**			**P**	**18 12 30.8**	**-0.1**
MKAR	**Makanchi Array**	**48.07**	**322**			**P**	**18 13 00.3**	**+0.2**
MKAR	**Makanchi Array**	**48.07**	**322**	P		**P**	**18 13 01.2**	**+1.2**
	comp=Z,3.8nm,0.8s,baz=116,slow=9.1,SNR=35							
	comp=Z,3.8nm,0.8s							
YAK	**Yakutsk**	**48.14**	**3**	P		**P**	**18 13 00.3**	**0.0**
	comp=Z,1.9nm,0.4s,baz=182,slow=23,SNR=5.2							
	comp=Z,1.9nm,0.4s							
YAK	**Yakutsk**	**48.14**	**3**	*e*P		**P**	**18 12 59.3**	**-1.0**
YAK				pmax		pmax		
	comp=Z,14nm,1.5s							
YAK				pmax		pmax		
	comp=N,7.0nm,1.3s							
YAK				pmax		pmax		
	comp=E,2.0nm,1.4s							
STKA	**Stephens Creek**	**48.43**	**160**	P		**P**	**18 13 03.1**	**+0.2**
	comp=E,1.8nm,0.4s,baz=327,slow=11,SNR=3.4							
	comp=E,1.8nm,0.4s							
TARG	**Taragay, Kyrgy**	**48.90**	**314**	IAmb		IAmb	18 13 10.2	
	comp=Z,19nm,1.6s							
KDJ	**Kajisay**	**49.48**	**314**			**P**	**18 13 10.2**	**-0.9**
KDJ				IAmb		IAmb	18 13 14.1	
	comp=Z,19nm,1.6s							
KDJ	**Kajisay**	**49.48**	**314**	P		**P**	**18 13 10.2**	**-0.9**
KDJ				pmax		pmax		
	comp=Z,19nm,1.6s							
KSH	**Kashi**	**49.52**	**310**	P		**P**	**18 13 14.8**	**+3.4**
KSH				sP		pP	18 13 23.8	+1.1
KSH				pmax		pmax		
	comp=Z,10.0nm,1.3s							
KSH				LR		LR		
	comp=Z,130nm,11.5s							
KSH				LR		LR		
	comp=Z,280nm,17.1s							
KSH				LR		LR		
	comp=Z,320nm,15.7s							
NIL	**Nilore**	**50.28**	**302**			**P**	**18 13 16.7**	**-0.5**
NIL				IAmb		IAmb	18 13 19.1	
	comp=Z,9.9nm,0.8s							
NIL	**Nilore**	**50.28**	**302**	P		**P**	**18 13 16.7**	**-0.5**
NIL				pmax		pmax		
	comp=Z,10.0nm,0.9s							
ZAA0	**Zalesovo Array**	**50.58**	**331**			**P**	**18 13 18.7**	**-0.3**
ZALV	**Zalesovo Beam**	**50.58**	**331**			**P**	**18 13 19.0**	**0.0**
ZALV	**Zalesovo Beam**	**50.58**	**331**	P		**P**	**18 13 19.1**	**0.0**
	comp=Z,3.6nm,0.8s,baz=119,slow=7.4,SNR=14							
ZALV				PcP		**PcP**	**18 14 35.8**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=114,slow=3.5,SNR=1.7							
ZALV				LR		LR	18 36 04.9	
	comp=Z,101nm,18.4s,baz=134,slow=38							
	comp=Z,3.6nm,0.8s							
AAK	**Ala-Archa**	**51.53**	**314**	LR		LR	18 37 59.9	
	comp=Z,139nm,18.0s,baz=98,slow=39							
AAK	**Ala-Archa**	**51.53**	**314**	*i* P		**P**	**18 13 28.1**	**+1.5**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.8s							
KURK	**Kurchatov**	**52.07**	**325**			**P**	**18 13 31.1**	**+0.8**
KURK				IAmb		IAmb	18 13 32.3	
	comp=Z,9.3nm,0.7s							
KURK	**Kurchatov**	**52.07**	**325**	*ce*P		**P**	**18 13 31.0**	**+0.8**
KURK				pmax		pmax		
	comp=Z,25nm,1.3s							
KURBB	**Kurchatov Arra**	**52.08**	**325**	P		**P**	**18 13 30.8**	**+0.4**
	comp=Z,5.6nm,0.6s,baz=120,slow=7.5,SNR=24							
	comp=Z,5.6nm,0.6s							
SEY	**Seymchan**	**52.71**	**16**	P		**P**	**18 13 35.6**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=216,slow=18,SNR=4.1							
	comp=Z,1.3nm,0.6s							
GAR	**Garm**	**53.64**	**308**			**P**	**18 13 42.1**	**-0.1**
CHGR	**Chuyangaron**	**54.46**	**308**			**P**	**18 13 47.7**	**-0.5**
CHGR	**Chuyangaron**	**54.46**	**308**	P		**P**	**18 13 47.7**	**-0.5**
CHGR				pmax		pmax		
	comp=Z,21nm,1.2s							
KK31	**Karatay Array**	**54.46**	**313**			**P**	**18 13 48.3**	**+0.2**
KK31				IAmb		IAmb	18 13 50.2	
	comp=Z,13nm,1.1s							
KK31	**Karatay Array**	**54.46**	**313**	P		**P**	**18 13 48.3**	**+0.2**
KK31				pmax		pmax		
	comp=Z,13nm,1.1s							
KKAR	**Karatay Array**	**54.46**	**313**			**P**	**18 13 48.4**	**+0.3**
KKAR	**Karatay Array**	**54.46**	**313**	P		**P**	**18 13 48.4**	**+0.3**
SIMJ	**Simiganj**	**54.57**	**308**			**P**	**18 13 49.2**	**+0.2**
SIMJ				IAmb		IAmb	18 13 52.8	
	comp=Z,7.8nm,1.1s							
BVAR	**Borovoye Array**	**57.67**	**325**	P		**P**	**18 14 12.0**	**+1.3**
	comp=Z,7.4nm,1.0s,baz=111,slow=8.1,SNR=32							
BVAR				LR		LR	18 38 48.5	
	comp=Z,69nm,20.3s,baz=118,slow=36							
	comp=Z,7.4nm,1.0s							
TIXI	**Tiksi**	**57.72**	**2**	P		**P**	**18 14 10.8**	**0.0**
TIXI				IAmb		IAmb	18 14 11.7	
	comp=Z,11nm,1.0s							
TIXI	**Tiksi**	**57.72**	**2**	*ce*P		**P**	**18 14 11.1**	**+0.3**
TIXI				pmax		pmax		
	comp=Z,31nm,2.5s							
BILL	**Bilibino**	**60.36**	**17**	*i* P		**P**	**18 14 32.7**	**+3.6**
BILL				pmax		pmax		
	comp=Z,7.0nm,1.3s							
AB31	**Akbulak array**	**62.98**	**318**			**P**	**18 14 47.2**	**+0.1**
ABKAR	**Akbulak array**	**62.98**	**318**			**P**	**18 14 47.5**	**+0.4**
SVE	**Sverdlovsk**	**64.19**	**327**	‖*e*P		**P**	**18 14 56.4**	**+1.4**
SVE				pmax		pmax		
	comp=Z,35nm,1.2s							
AKTO	**Aktyubinsk**	**64.41**	**319**	LR		LR	18 44 15.3	
	comp=Z,65nm,19.9s,baz=259,slow=37							
ARTI	**Arti**	**65.30**	**326**			**P**	**18 15 02.0**	**-0.2**
ARTI	**Arti**	**65.30**	**326**	LR		LR	18 44 04.0	
	comp=Z,58nm,18.4s,baz=110,slow=36							
ARTI	**Arti**	**65.30**	**326**	*c* P		**P**	**18 15 02.2**	**0.0**
ARTI							18 15 30.6	
ARTI				S		**S**	**18 23 44.1**	**+1.0**
ARTI				pmax		pmax		
	comp=Z,24nm,1.1s							
KIRV	**Kirov**	**70.42**	**328**	LR		LR	18 49 12.4	
	comp=Z,106nm,18.3s,baz=99,slow=38							
K17K	**Iditarod**	**71.82**	**28**	P		**P**	**18 15 43.1**	**+0.3**
H19K	**Roundabout Mou**	**72.85**	**25**	IAmb		IAmb	18 15 52.4	
	comp=Z,12nm,1.1s							
GNI	**Garni**	**73.37**	**308**	*ce*P		**P**	**18 15 52.5**	**-0.2**
GNI				pmax		pmax		
	comp=Z,15nm,1.3s							
I20K	**Naaghedeneel**	**73.64**	**26**	P		**P**	**18 15 54.0**	**+0.5**
G21K	**Allakaket**	**74.10**	**24**	IAmb		IAmb	18 15 59.5	
	comp=Z,16nm,1.4s							
H21K	**Melozitna Rive**	**74.37**	**25**	P		**P**	**18 15 58.8**	**+1.0**
H21K				IAmb		IAmb	18 16 01.4	
	comp=Z,9.3nm,1.1s							
KBZ	**Khabaz**	**74.47**	**312**	P		**P**	**18 15 59.5**	**+0.7**
	comp=Z,5.5nm,1.0s,baz=3.8,slow=6.3,SNR=5.6							
KBZ				LR		LR	18 53 10.8	
	comp=Z,105nm,18.2s,baz=50,slow=39							
	comp=Z,5.5nm,1.0s							
KBZ	**Khabaz**	**74.47**	**312**	*ce*P		**P**	**18 15 59.9**	**+1.2**
KIV	**Kislovodsk**	**74.60**	**312**			**P**	**18 15 60.0**	**+0.3**
KIV	**Kislovodsk**	**74.60**	**312**	*e*P		**P**	**18 16 00.0**	**+0.3**
KIV				pmax		pmax		
	comp=Z,15nm,1.1s							
KIV				MLR		MLR		
	comp=Z,52nm,18.0s							
RAYN	**Ar Rayn**	**74.63**	**291**			**P**	**18 16 00.0**	**-0.2**
RAYN	**Ar Rayn**

MLY					IAmb	IAmb	18 16 05.3		
	comp=Z,11nm,1.1s								
KLMR	**Klimovskoe**	**75.49**	**330**	*eP*	**P**	**P**	**18 16 02.9**	**-1.4**	
KLMR					pmax	pmax			
	comp=Z,24nm,1.3s								
GURO	**Guroymak-BITLI**	**75.61**	**307**	P	**P**	**P**	**18 16 06.0**	**+0.3**	
E23K	**Chandalar**	**75.61**	**23**		**P**	**P**	**18 16 05.8**	**+0.7**	
E23K					IAmb	IAmb	18 16 07.9		
	comp=Z,15nm,1.4s								
NEA2	**Nenana**	**75.97**	**26**	P	**P**	**P**	**18 16 07.4**	**+0.4**	
NEA2					IAmb	IAmb	18 16 10.1		
	comp=Z,9.3nm,1.2s								
ERBR	**Yeremizino-Bor**	**76.00**	**314**	*eP*	**P**	**P**	**18 16 08.2**	**+0.6**	
ERBR					pmax	pmax			
	comp=Z,15nm,0.9s								
ERBR					MLR	MLR			
	comp=Z,99nm,18.0s								
E24K	**Your Creek**	**76.04**	**23**	P	**P**	**P**	**18 16 08.1**	**+0.6**	
VORR	**Voronezh**	**76.28**	**320**	*eP*	**P**	**P**	**18 16 07.7**	**-1.3**	
VORR					pmax	pmax			
	comp=Z,10.0nm,1.1s								
VORD	**Divnogorie**	**76.29**	**320**	*eP*	**P**	**P**	**18 16 07.7**	**-1.4**	
VORD					pmax	pmax			
	comp=Z,10.0nm,1.1s								
VSR	**Storozhevoye**	**76.35**	**320**	*eP*	**P**	**P**	**18 16 07.0**	**-2.4**	
VSR					pmax	pmax			
	comp=Z,9.0nm,1.0s								
LPSR	**Galich'ya Gora**	**76.37**	**321**	*eP*	**P**	**P**	**18 16 06.5**	**-3.0**	
LPSR					pmax	pmax			
	comp=Z,10.0nm,1.0s								
COLA	**College**	**76.47**	**26**	*i* P	**P**	**P**	**18 16 11.3**	**+1.5**	
COLA					pmax	pmax			
	comp=Z,5.0nm,1.0s								
G24K	**Hadweenzic Riv**	**76.50**	**24**		**P**	**P**	**18 16 10.8**	**+0.8**	
G24K					IAmb	IAmb	18 16 12.5		
	comp=Z,9.4nm,1.1s								
D25K	**Kavik River**	**76.73**	**21**		IAmb	IAmb	18 16 13.7		
	comp=Z,6.7nm,0.9s								
ILAR	**Eielson Array**	**76.89**	**26**	P	**P**	**P**	**18 16 12.9**	**+0.6**	
	comp=Z,0.8nm,0.8s,baz=242,slow=6.3,SNR=5.9								
	comp=Z,0.8nm,0.8s								
OBN	**Obninsk**	**77.51**	**324**	*eP*	**P**	**P**	**18 16 16.3**	**+0.5**	
OBN				*e*			18 16 24.0		
OBN				*e*			18 19 13.8		
OBN				*eS*		**SKSac**	**18 26 21.5**	**-4.5**	
OBN					pmax	pmax			
	comp=Z,13nm,1.0s								
OBN					MLR	MLR			
	comp=Z,82nm,19.0s								
BMAR	**Burnt Mountain**	**77.57**	**23**	P	**P**	**P**	**18 16 17.3**	**+1.2**	
C27K	**Jago River**	**77.64**	**21**	P	**P**	**P**	**18 16 16.9**	**+0.6**	
C27K					IAmb	IAmb	18 16 18.7		
	comp=Z,14nm,1.3s								
E27K	**Coleen River**	**78.59**	**22**		IAmb	IAmb	18 16 24.5		
	comp=Z,8.3nm,1.2s								
G27K	**Doyon Strip**	**78.79**	**24**		IAmb	IAmb	18 16 27.4		
	comp=Z,19nm,1.8s								
E28M	**Babbage River**	**79.28**	**22**		**P**	**P**	**18 16 26.2**	**+0.8**	
E28M					IAmb	IAmb	18 16 58.7		
	comp=Z,20nm,1.7s								
F28M	**Old Crow**	**79.33**	**23**		IAmb	IAmb	18 16 28.8		
	comp=Z,13nm,1.3s								
I28M	**Miner Creek**	**79.71**	**25**		**P**	**P**	**18 16 28.8**	**+0.8**	
I28M					IAmb	IAmb	18 16 30.8		
	comp=Z,7.6nm,0.9s								
ARCES	**ARCESS Array B**	**80.15**	**339**	P	**P**	**P**	**18 16 29.3**	**-0.8**	
	comp=Z,7.7nm,1.1s,baz=60,slow=0.9,SNR=6.3								
	comp=Z,7.7nm,1.1s								
G29M	**Pine Creek**	**80.18**	**23**		IAmb	IAmb	18 16 33.3		
	comp=Z,15nm,1.3s								
BNN	**Bunyan**	**80.36**	**308**	P	**P**	**P**	**18 16 31.7**	**-0.3**	
BNN					IAmb	IAmb	18 16 34.5		
	comp=Z,11nm,1.3s								
CASY	**Casey**	**80.69**	**186**			**P**	**18 16 32.2**	**-0.6**	
CASY					IAmb	IAmb	18 16 34.3		
	comp=Z,8.4nm,0.9s								
MMAI	**Mount Meron Ar**	**81.79**	**302**	P	**P**	**P**	**18 16 41.3**	**+1.6**	
	comp=Z,2.2nm,0.7s,baz=64,slow=13,SNR=3.3								
MMAI					LR	LR	18 58 12.6		
	comp=Z,54nm,18.6s,baz=60,slow=40								
	comp=Z,2.2nm,0.7s								
FINES	**FINESS Array B**	**81.84**	**331**	P	**P**	**P**	**18 16 40.1**	**+0.8**	
	comp=Z,4.6nm,1.0s,baz=80,slow=3.3,SNR=9.8								
	comp=Z,4.6nm,1.0s								
BRTR	**Keskin Array B**	**81.88**	**309**	P	**P**	**P**	**18 16 40.3**	**+0.2**	
	comp=Z,0.7nm,0.6s,baz=68,slow=3.9,SNR=2.7								
	comp=Z,0.7nm,0.6s								
AKASG	**Malin Array Be**	**82.64**	**320**	P	**P**	**P**	**18 16 43.2**	**-0.5**	
	comp=Z,1.7nm,0.7s,baz=70,slow=4.1,SNR=5.4								
	comp=Z,1.7nm,0.7s								
EIL	**Elat**	**82.84**	**299**	LR	LR	LR	18 57 27.2		
	comp=Z,55nm,18.6s,baz=164,slow=38								
FURI	**Furi**	**83.88**	**278**	LR	LR	LR	18 54 11.6		
	comp=Z,38nm,18.1s,baz=106,slow=36								
BURAR	**Bucovina Array**	**85.96**	**318**			**P**	**18 17 00.7**	**0.0**	
BUR08	**Bucovina Ar. S**	**85.96**	**318**			**P**	**18 17 00.3**	**-0.4**	
MLR	**Muntele Rosu**	**86.06**	**316**	LR	LR	LR	18 59 07.2		
	comp=Z,60nm,20.3s,baz=74,slow=38								
HFS	**Hagfors**	**88.00**	**332**	P	**P**	**P**	**18 17 10.5**	**+0.3**	
	comp=Z,1.4nm,0.5s,baz=84,slow=4.5,SNR=5.7								
HFS					LR	LR	18 59 43.9		
	comp=Z,94nm,19.7s,baz=18,slow=38								
	comp=Z,1.4nm,0.5s								
NOA	**NORSAR Array B**	**88.70**	**333**	LR	LR	LR	18 59 45.6		
	comp=Z,97nm,20.4s,baz=65,slow=38								
PPT2	**Papeete2**	**90.35**	**108**	*e*LR	LR	LR	18 46 09.8		
	comp=Z,159nm,27.0s								
PPT2				*e*LR	LR	LR	18 46 12.5		
	comp=Z,121nm,23.8s								
TBI	**Tubuai**	**91.88**	**113**	*e*LR	LR	LR	18 46 52.4		
	comp=Z,848nm,26.0s								
TBI				*e*LR	LR	LR	18 46 56.8		
	comp=Z,492nm,26.5s								
CLL	**Collm**	**92.11**	**324**	*i* P	**P**	**P**	**18 17 28.5**	**-1.1**	
CLL				LmV			19 05 00.0		
	comp=Z,100nm,19.4s								
DAVOX	**Davos/Dischmat**	**95.96**	**321**	LR	LR	LR	19 04 22.5		
	comp=Z,80nm,18.1s,baz=32,slow=38								
TAOE	**Nuku Hiva Isla**	**97.24**	**97**	*e*LR	LR	LR	18 49 25.7		
	comp=Z,130nm,27.3s								

TAP 20 18:06:18.7, 24.23N×121.78E, h61km, ML1.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.18**	**253**	*i* P	Pn	18 06 28.1	0.0
NACB				*e*S	Sn	18 06 35.0	+0.2
ENA	**Nanau**	**0.20**	**350**	*i* P	Pn	18 06 28.9	+0.6
ENA				*i* S	Sn	18 06 35.5	+0.4
EWUT	**Wuta**	**0.22**	**360**	P	Pn	18 06 28.5	+0.2
EWUT				*i* S	Sn	18 06 36.0	+0.7
TWD	**Chiawan**	**0.22**	**229**	*i* P	Pn	18 06 28.4	+0.2
TWD				S	Sn	18 06 36.3	+1.1
ETLH	**Xiulin Townshi**	**0.27**	**266**	*i* P	Pn	18 06 28.7	-0.1
ETLH				*i* S	Sn	18 06 36.7	+0.6
ETM	**Tongmen**	**0.37**	**225**	*i* P	Pn	18 06 29.0	-0.4
ETM				*e*S	Sn	18 06 36.9	-0.3
LATG	**Datong**	**0.39**	**323**	*i* P	Pn	18 06 29.7	0.0
LATG				*i* S	Sn	18 06 38.6	+0.9
TWC	**Suao**	**0.39**	**9**	*e*P	Pn	18 06 29.7	+0.2
TWC				*i* S	Sn	18 06 38.5	+1.1
LXIB	**Xiulin Townshi**	**0.39**	**239**	*i* P	Pn	18 06 29.5	-0.3
LXIB				*i* S	Sn	18 06 38.1	+0.3
NNSB	**Datong**	**0.41**	**299**	*e*P	Pn	18 06 30.4	+0.5
NNSB				*i* S	Sn	18 06 39.4	+1.3
EOS2	**EOS2**	**0.46**	**65**	*e*P	Pn	18 06 30.4	+0.4
EOS2				*e*S	Sn	18 06 40.3	+1.9
ENTT	**Nioudou**	**0.46**	**335**	*i* P	Pn	18 06 31.0	+0.8
ENTT				*i* S	Sn	18 06 39.6	+0.9
SHUL	**Shoufeng**	**0.48**	**204**	P	Pn	18 06 30.3	-0.1
SHUL				*e*S	Sn	18 06 40.7	+1.7
FUSS	**Fushou**	**0.49**	**273**	P	Pn	18 06 31.1	+0.3
FUSS				*e*S	Sn	18 06 40.9	+1.2
EOS3	**EOS3**	**0.49**	**83**	*e*P	Pn	18 06 30.1	-0.3
EOS3				*e*S	Sn	18 06 39.6	+0.6
EOS4	**EOS4**	**0.50**	**102**	*e*P	Pn	18 06 31.0	+0.7
EOS4				*i* S	Sn	18 06 39.0	+0.2
ESL	**Shilin**	**0.52**	**218**	*i* P	Pn	18 06 30.2	-0.7
ESL				*i* S	Sn	18 06 39.8	+0.1
TWT	**Tachien**	**0.55**	**273**	*i* P	Pn	18 06 32.4	+0.9
TWT				*i* S	Sn	18 06 42.6	+1.9
FUSB	**Fushanzhiwuyua**	**0.56**	**342**	*e*P	Pn	18 06 32.2	+0.8
FUSB				S	Sn	18 06 41.8	+1.1
OWD	**Renai**	**0.61**	**244**	P	Pn	18 06 31.7	-0.4
OWD				*i* S	Sn	18 06 42.0	+0.1
WARBT	**Fenglin Townsh**	**0.62**	**216**	*i* P	Pn	18 06 31.3	-0.7
WARBT				*i* S	Sn	18 06 41.6	-0.2
WUSB	**Renai**	**0.65**	**249**	*i* P	Pn	18 06 33.0	+0.5
WUSB				S	Sn	18 06 43.7	+1.2
NFF	**Wufeng Townshi**	**0.73**	**304**	*e*P	Pn	18 06 34.5	+1.2
NFF				*e*S	Sn	18 06 45.6	+1.5
TIPB	**Shuangxi**	**0.74**	**3**	P	Pn	18 06 33.8	+0.2
TIPB				*i* S	Sn	18 06 45.8	+1.4
WHP	**Taichung City**	**0.76**	**274**	*i* P	Pn	18 06 34.2	+0.4
WHP				S	Sn	18 06 47.2	+2.3
HGSD	**Ruisui**	**0.80**	**204**	P	Pn	18 06 34.2	0.0
HGSD				S	Sn	18 06 47.0	+1.4
WCS	**Beigang Elemen**	**0.81**	**258**	*i* P	Pn	18 06 35.8	+1.5
WCS				*e*S	Sn	18 06 48.1	+2.3
EHY	**Hungye**	**0.83**	**210**	*i* P	Pn	18 06 34.5	0.0
EHY				*i* S	Sn	18 06 45.6	-0.6
EHYH	**Wanrong**	**0.83**	**209**	P	Pn	18 06 35.0	+0.5
EHYH				*i* S	Sn	18 06 45.5	-0.7
SSLB	**Suanglung**	**0.87**	**240**	Pn	Sn	18 06 49.0	+1.8
SSLB	**Suanglung**	**0.87**	**240**	*e*P	Pn	18 06 36.2	+1.1
SSLB				*e*S	Sn	18 06 48.6	+1.4
SMLT	**Sun Moon Lake**	**0.87**	**247**	*i* P	Pn	18 06 36.6	+1.4
SMLT				*i* S	Sn	18 06 50.5	+3.2
TYC	**Yuchr**	**0.90**	**249**	*e*P	Pn	18 06 37.0	+1.6
TYC				*e*S	Sn	18 06 49.7	+1.9
YULB	**Yu-li**	**0.94**	**208**	*i* P	Pn	18 06 34.9	-1.1
YULB				*e*S	Sn	18 06 47.6	-1.1
WHYT	**Xinyi Township**	**1.00**	**238**	*i* P	Pn	18 06 37.9	+1.2
WHYT				*i* S	Sn	18 06 53.4	+3.3
ALS	**Alishan**	**1.14**	**232**	*i* P	Pn	18 06 40.2	+1.4
ALS				*e*S	Sn	18 06 55.4	+1.6
CHN5	**Tsauling**	**1.19**	**238**	P	Pn	18 06 40.6	+1.3
CHN5				*i* S	Sn	18 06 57.6	+3.0
EHD	**Haiduan**	**1.19**	**206**	*i* P	Pn	18 06 40.0	+0.7
EHD				*e*S	Sn	18 06 53.5	-1.1

*MOS **20** 18:20:06.2±0.9, 17.45S×166.90E, h10km, mb5.2/19, Error ellipse: s-maj=9.8km s-min=8.6km az=24.3*
*IDC **20** 18:20:06.1±0.5, 17.45S×167.03E, h0km, mb5.0/28, mbtmp5.0/30, ML5.5/2, MS4.4/39, Error ellipse: s-maj=16.0km s-min=11.8km az=100.0*
*NEIC **20** 18:20:07.7±1.7, 17.33S±0.04×166.97E±0.08, h10km±1km, mb5.4/255, Mww5.1/12, Error ellipse: s-maj=12.8km s-min=7.4km az=95.0*
*NEIC **20** 18:20:07.7, 17.33S×166.97E, h30km*
*BJI **20** 18:20:07.8, 17.13S×167.05E, h16km, mB5.4/11, mb4.8/45, Ms4.8/3, Ms7 4.5/5*
*NEIC **20** 18:20:07.7, 17.23S×166.97E, h30km, Moment Tensor Solution. Duration: 19 Moment tensor: Scale 10^16 Nm; Mrr3.16; Mθθ-5.68; Mφφ2.52; Mrθ-2.52; Mrφ0.85; Mθφ1.19; Fault plane solution: M0 5.72000×10^16 NP1 ∅s65.55000°, δ37.32000°, λ43.85000°. NP2 ∅s298.17000°, δ65.16000°, λ118.80000°. Principal axes: T 4.3334, Plg59.0000°, Azm250.0000°; N 2.1561, Plg26.0000°, Azm105.0000°; P -6.4895, Plg15.0000°, Azm7.0000°;*
*NOU **20** 18:20:10.6, 17.43S×167.11E, h31km, mb5.5/107, Vanuatu Islands*
*GCMT **20** 18:20:13.7±0.2, 17.43S±0.01×166.96E±0.01, h29km, MW5.2/132, Moment Tensor Solution. s82,c106; s132,c211; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.10±.16; Mθθ-6.02±.12; Mφφ3.91±.12; Mrθ-2.63±.20; Mθφ0.23±.10; Mφφ3.88±.25; Best double couple: M0 7.06900×10^16 NP1 ∅s53.00000°, δ47.00000°, λ18.00000°. NP2 ∅s310.00000°, δ77.00000°, λ135.00000°. Principal axes: T 7.1580, Plg40.0000°, Azm261.0000°; N -0.1890, Plg44.0000°, Azm118.0000°; P -6.9790, Plg19.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 18:20:07.6±0.2, 17.40S±0.03×167.05E±0.03, h12km, n704, σ1 9 45/613, mb5.4/189, MS4.5/44, 15C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.13**	**107**	P	**Pg**	**18 20 29.3**	**0.0**
DVP	**Devils Point**	**1.13**	**107**	S	**Sb**	**18 20 43.3**	**-0.4**
RTV	**Rentapao**	**1.37**	**107**	P	**Pb**	**18 20 33.0**	**-0.1**
RTV	**Rentapao**	**1.37**	**107**	S	**Sn**	**18 20 49.5**	**-1.0**
SANVU	**Saraoutou**	**1.95**	**4**		**Pn**	**18 20 39.9**	**-0.6**
SANVU				Sn	**Sn**	**18 21 01.6**	**-3.3**
SANVU	**Saraoutou**	**1.95**	**4**	P	**Pn**	**18 20 40.3**	**-0.2**
KOUNC	**Koumac, New Ca**	**4.08**	**219**	P	**Pn**	**18 21 11.1**	**+1.3**
DZM	**Mont Dzumac**	**4.68**	**187**	*e*Pn	**Pn**	**18 21 16.7**	**-1.4**
	4μm,1.1s						
DZM				*e*Sn	**Sn**	**18 22 09.6**	**-2.8**
DZM				*e*LR	LR	18 22 15.4	
	11μm,24.1s						
DZM	**Mont Dzumac**	**4.68**	**187**		**Pn**	**18 21 17.6**	**-0.5**
DZM				Sn	**Sn**	**18 22 09.9**	**-2.5**
DZM	**Mont Dzumac**	**4.68**	**187**	Pn	**Pn**	**18 21 17.8**	**-0.3**
	79nm,0.3s,baz=41,slow=6.6,SNR=1372						
DZM				Sn	**Sn**	**18 22 10.7**	**-1.7**
	67nm,0.3s,baz=80,slow=22,SNR=1.9						
DZM				LR	LR	18 22 55.1	
	comp=Z,10μm,19.9s,baz=51,slow=36						
	685nm,0.6s						
DZM	**Mont Dzumac**	**4.68**	**187**	P	**Pn**	**18 21 18.0**	**-0.1**
DZM	**Mont Dzumac**	**4.68**	**187**	S	**Sn**	**18 22 11.0**	**-1.4**
ONTNC	**Ouen Toro**	**4.91**	**186**		**Pn**	**18 21 21.1**	**-0.1**
ONTNC				Sn	**Sn**	**18 22 13.2**	**-4.9**
ONTNC	**Ouen Toro**	**4.91**	**186**	P	**Pn**	**18 21 21.7**	**+0.5**
ONTNC	**Ouen Toro**	**4.91**	**186**	S	**Sn**	**18 22 16.7**	**-1.3**
OUENC	**Ouen Island, N**	**4.99**	**182**	P	**Pn**	**18 21 22.9**	**+0.5**
OUENC	**Ouen Island, N**	**4.99**	**182**	S	**Sn**	**18 22 18.6**	**-1.4**
PINNC	**Pines Island,**	**5.20**	**176**		**Pn**	**18 21 25.3**	**+0.2**
PINNC				Sn	**Sn**	**18 22 22.9**	**-2.1**
PINN	**Pines Island,**	**5.20**	**176**	P	**Pn**	**18 21 25.8**	**+0.7**
LUES	**Luesalemba Tem**	**6.79**	**351**	P	**Pn**	**18 21 48.8**	**+1.7**
HURO	**Huro Makira**	**8.52**	**323**	P	**Pn**	**18 22 11.5**	**+0.7**
MSVF	**Nonsavu**	**10.50**	**93**		**Pn**	**18 22 41.1**	**+3.1**
MSVF	**Nonsavu**	**10.50**	**93**	P	**Pn**	**18 22 39.8**	**+1.8**
MSVF	**Nonsavu**	**10.50**	**93**	P	**Pn**	**18 22 41.1**	**+3.1**
HNR	**Honiara**	**10.51**	**318**		**Pn**	**18 22 37.7**	**-0.5**
HNR				Sn	**Sn**	**18 24 30.9**	**-5.0**
HNR	**Honiara**	**10.51**	**318**	Pn	**Pn**	**18 22 39.2**	**+1.0**
	102nm,0.3s,baz=156,slow=3.3,SNR=79						
HNR				Sn	**Sn**	**18 24 31.3**	**-4.6**
	65nm,0.3s,baz=111,slow=19,SNR=5.3						
	505nm,0.4s						
HNR	**Honiara**	**10.51**	**318**	P	**Pn**	**18 22 38.9**	**+0.8**
ALEG	**Aligegeo Malai**	**10.59**	**323**	P	**Pn**	**18 22 41.0**	**+1.7**
SAVO	**Savo Central**	**10.81**	**318**	P	**Pn**	**18 22 44.2**	**+1.9**
TATA	**Tatamba Isabel**	**11.41**	**321**	P	**Pn**	**18 22 52.8**	**+2.4**
DGTI	**Dogotuki**	**12.20**	**87**	P	**Pn**	**18 23 02.8**	**+1.6**
TAVE	**Taveuni**	**12.49**	**89**	P	**Pn**	**18 23 05.9**	**+0.6**
FUNA	**Funafuti**	**14.76**	**55**	P	**P**	**18 23 39.9**	**-2.3**
FUNA	**Funafuti**	**14.76**	**55**	P	**Pn**	**18 23 37.6**	**+1.4**
GD1S	**Gladstone Soft**	**16.18**	**244**	P	**Pn**	**18 23 56.3**	**+1.4**
GC1S	**Gold Coast 1 S**	**16.43**	**227**	P	**P**	**18 24 00.8**	**0.0**
EIDS	**Eidsvold**	**16.84**	**239**	P	**P**	**18 24 05.8**	**+0.4**
	comp=Z,161nm,1.8s						
EIDS	**Eidsvold**	**16.84**	**239**	S	**Sn**	**18 27 11.0**	**+0.5**
EIDS	**Eidsvold**	**16.84**	**239**		**Pn**	**18 24 01.6**	**-1.7**
EIDS	**Eidsvold**	**16.84**	**239**	P	**P**	**18 24 05.2**	**-0.2**
TW1H	**Toowoomba 1 Ha**	**17.19**	**231**	P	**P**	**18 24 10.3**	**+1.0**
ARMA	**Armidale**	**19.12**	**225**	P	**Pn**	**18 24 32.7**	**+1.3**
	comp=Z,95nm,1.1s						
ARMA	**Armidale**	**19.12**	**225**		**P**	**18 24 28.9**	**-1.7**
ARMA	**Armidale**	**19.12**	**225**	P	**Pn**	**18 24 32.9**	**+1.4**
RMQ	**Roma**	**19.21**	**239**	P	**Pn**	**18 24 34.1**	**+1.7**
TV1H	**Townsville Har**	**19.32**	**261**	P	**Pn**	**18 24 34.4**	**+0.6**
TARA	**Tarawa**	**19.52**	**18**	P	**P**	**18 24 32.5**	**-2.5**
TARA				IAmb	IAmb	18 24 43.2	
	comp=Z,194nm,1.1s						
TARA	**Tarawa**	**19.52**	**18**	P	**Pn**	**18 24 35.9**	**-0.3**
RABL	**Rabaul**	**19.63**	**310**		**P**	**18 24 32.8**	**-3.4**
CTA	**Charters Tower**	**19.87**	**259**	LR	LR	18 31 32.5	
	comp=Z,46nm,18.8s,baz=76,slow=35						
CTA	**Charters Tower**	**19.87**	**259**	P	**Pn**	**18 24 40.7**	**+0.2**
CTAO	**Charters Tower**	**19.87**	**259**		**P**	**18 24 37.3**	**-1.6**
CTAO				IAmb	IAmb	18 24 42.4	
	comp=Z,250nm,1.1s						
CTAO	**Charters Tower**	**19.87**	**259**	P	**Pn**	**18 24 40.4**	**-0.1**
CTAO	**Charters Tower**	**19.87**	**259**	P	**P**	**18 24 37.3**	**-1.6**
CTAO				pmax	pmax		
	comp=Z,250nm,1.1s						
MBAZ	**Motutapu North**	**20.50**	**162**	P	Pn	18 24 48.4	+0.7
MKAZ	**Moumakai**	**20.89**	**162**	P	Pn	18 24 52.6	+0.3
PMG	**Port Moresby**	**20.90**	**290**		**P**	**18 24 48.6**	**-1.4**
PMG				IAmb	IAmb	18 24 53.1	
	comp=Z,128nm,1.1s						
PMG	**Port Moresby**	**20.90**	**290**	P	**P**	**18 24 51.2**	**+1.1**
	comp=Z,59nm,0.9s,baz=109,slow=5.5,SNR=8.9						
PMG				LR	LR	18 32 12.9	
	comp=Z,2μm,18.1s,baz=103,slow=35						
	comp=Z,59nm,0.9s						
PMG	**Port Moresby**	**20.90**	**290**	P	Pn	18 24 51.7	-0.9
MGCD	**Mangrove Creek**	**21.30**	**219**	P	**P**	**18 24 56.9**	**+2.8**
	comp=Z,108nm,0.8s						
MGCD	**Mangrove Creek**	**21.30**	**219**	P	**P**	**18 24 57.0**	**+2.8**
TOZ	**Tahuroa Road**	**21.57**	**162**	P	**P**	**18 24 56.9**	**-0.1**
TOZ	**Tahuroa Road**	**21.57**	**162**	P	**P**	**18 25 00.2**	**+3.2**
MTSU	**Mount Surprise**	**21.66**	**265**	P	**P**	**18 24 59.3**	**+1.1**
	comp=Z,174nm,1.1s						
MTSU	**Mount Surprise**	**21.66**	**265**	P	**P**	**18 24 59.9**	**+1.7**
SYDH	**Sydney Hard Ro**	**21.90**	**219**	P	**P**	**18 25 02.5**	**+1.9**
HIZ	**Hauiti**	**22.11**	**164**	P	**P**	**18 25 03.5**	**+0.7**
HIZ				IAmb	IAmb	18 25 19.6	
	comp=Z,303nm,1.4s						
HIZ	**Hauiti**	**22.11**	**164**	P	**P**	**18 25 06.4**	**+3.5**
HAZ	**Te Kaha**	**22.36**	**157**	P	**P**	**18 25 09.8**	**+4.3**
URZ	**Urewera**	**22.57**	**159**	LR	LR	18 32 50.1	
	comp=Z,1μm,20.0s,baz=304,slow=34						
PUZ	**Puketiti**	**22.82**	**157**	P	**P**	**18 25 13.6**	**+3.2**
RTZ	**Ruatahuna**	**22.85**	**160**	P	**P**	**18 25 11.9**	**+1.1**
OTVZ	**Oturere**	**22.95**	**163**	P	**P**	**18 25 14.1**	**+2.2**
QLP	**Quilpie**	**23.01**	**243**	P	**P**	**18 25 12.6**	**+0.1**
	comp=Z,403nm,1.5s						
QLP	**Quilpie**	**23.01**	**243**	P	**P**	**18 25 12.7**	**+0.1**
MTHZ	**Maungataniwha**	**23.02**	**160**	P	**P**	**18 25 15.3**	**+2.8**
BKZ	**Black Stump Fm**	**23.19**	**161**	P	**P**	**18 25 16.0**	**+1.7**
BKZ				IAmb	IAmb	18 25 33.7	
	comp=Z,201nm,1.7s						
BKZ	**Black Stump Fm**	**23.19**	**161**	P	**P**	**18 25 16.5**	**+2.2**
BKZ	**Black Stump Fm**	**23.19**	**161**	P	**P**	**18 25 16.6**	**+2.2**
MOVZ	**Moawhango**	**23.20**	**163**	P	**P**	**18 25 17.3**	**+2.9**
RIGZ	**Rimuhau**	**23.20**	**158**	P	**P**	**18 25 16.7**	**+2.4**
COEN	**Coen**	**23.24**	**275**	P	**P**	**18 25 14.9**	**0.0**
	comp=Z,137nm,1.1s						
COEN	**Coen**	**23.24**	**275**	P	**P**	**18 25 14.6**	**-0.4**
COEN				IAmb	IAmb	18 25 17.4	
	comp=Z,134nm,1.0s						
COEN	**Coen**	**23.24**	**275**	P	**P**	**18 25 15.6**	**+0.7**
YNG	**Young**	**23.70**	**221**	P	**P**	**18 25 20.1**	**+0.7**
	comp=Z,89nm,1.3s						
CNB	**Canberra Magne**	**23.79**	**218**	P	**P**	**18 25 20.1**	**-0.2**
	comp=Z,245nm,1.2s						
CNB	**Canberra Magne**	**23.79**	**218**	P	**P**	**18 25 21.3**	**+1.0**
PNHZ	**Pukenui**	**23.79**	**162**	P	**P**	**18 25 23.0**	**+2.7**
CMSA	**Cobar Meteorol**	**23.94**	**230**	P	**P**	**18 25 21.8**	**+0.1**
	comp=Z,342nm,0.9s						
CMSA	**Cobar Meteorol**	**23.94**	**230**	P	**P**	**18 25 22.1**	**+0.5**
CAN	**Canberra**	**24.01**	**219**	P	**P**	**18 25 23.0**	**+0.6**
	comp=Z,91nm,1.4s						
CAN	**Canberra**	**24.01**	**219**	P	**P**	**18 25 22.7**	**+0.3**
CAN				IAmb	IAmb	18 25 25.9	
	comp=Z,128nm,1.3s						
CAN	**Canberra**	**24.01**	**219**	P	**P**	**18 25 23.6**	**+1.2**
CAN	**Canberra**	**24.01**	**219**	P	**P**	**18 25 22.7**	**+0.3**
CAN				pmax	pmax		
	comp=Z,128nm,1.3s						
TKNZ	**Takaka Hill**	**24.09**	**169**	P	**P**	**18 25 23.2**	**+0.2**
DVHZ	**Dannevirke**	**24.14**	**163**	P	**P**	**18 25 25.0**	**+1.5**
MRZ	**Mangatainoka R**	**24.32**	**164**	P	**P**	**18 25 25.8**	**+0.7**
MRZ				IAmb	IAmb	18 25 34.6	
	comp=Z,72nm,1.0s						
MRZ	**Mangatainoka R**	**24.32**	**164**	P	**P**	**18 25 25.7**	**+0.6**
NNZ	**Nelson**	**24.35**	**168**	P	**P**	**18 25 26.6**	**+1.2**
NNZ				IAmb	IAmb	18 25 39.9	
	comp=Z,59

comp=Z,2.8nm,0.9s,baz=90,slow=2.4,SNR=3.7
WRA LR LR 18 37 52.4
comp=Z,931nm,20.9s,baz=100,slow=34
comp=Z,48nm,0.8s
RAR Rarotonga 31.51 102 LR LR 18 38 43.6
comp=Z,158nm,19.0s,baz=272,slow=36
AS31 Alice Springs 31.61 253 P **P** **18 26 29.2 -1.4**
ASAR Alice Springs 31.61 253 P **P** **18 26 29.5 -1.1**
ASAR Alice Springs 31.61 253 P **P** **18 26 29.9 -0.7**
comp=Z,64nm,0.8s,baz=80,slow=8.6,SNR=600
ASAR PcP **PcP** **18 29 22.6 -0.3**
comp=Z,2.4nm,0.8s,baz=91,slow=4.0,SNR=3.5
ASAR LR LR 18 38 46.2
comp=Z,2µm,18.7s,baz=86,slow=36
comp=Z,64nm,0.8s
SMPI Sarmi 31.78 296 P **P** **18 26 32.9 +0.8**
BBOO Buckleboo 31.83 235 P **P** **18 26 32.5 +0.1**
comp=Z,198nm,0.9s
BBOO Buckleboo 31.83 235 P **P** **18 26 32.2 -0.2**
BBOO Buckleboo 31.83 235 P **P** **18 26 32.7 +0.3**
KDU Kakadu 33.69 273 P **P** **18 26 48.0 -0.7**
comp=Z,59nm,1.4s
KDU Kakadu 33.69 273 P **P** **18 26 48.1 -0.7**
MTN Manton Dam 34.93 272 P **P** **18 26 58.0 -1.6**
comp=Z,46nm,1.4s
MTN Manton Dam 34.93 272 P **P** **18 26 57.9 -1.7**
MTN IAmb IAmb 18 26 59.6
comp=Z,42nm,1.1s
MTN Manton Dam 34.93 272 P **P** **18 26 59.1 -0.5**
DRS Darwin Rock St 35.24 273 P **P** **18 27 02.9 +0.6**
WAKE Wake Island 36.46 359 P **P** **18 27 12.8 +0.3**
WAKE Wake Island 36.46 359 P **P** **18 27 13.3 +0.8**
KNRA Kununurra 36.70 267 P **P** **18 27 14.1 -0.7**
comp=Z,82nm,1.2s
KNRA Kununurra 36.70 267 P **P** **18 27 13.8 -1.0**
KNRA IAmb IAmb 18 27 15.4
comp=Z,132nm,1.3s
WRKA Warakurna 36.82 251 P **P** **18 27 14.7 -1.1**
comp=Z,25nm,0.8s
FAKI Fak Fak 37.06 289 P **P** **18 27 17.3 -0.6**
FAKI IAmb IAmb 18 27 18.7
comp=Z,107nm,1.0s
FAKI Fak Fak 37.06 289 P **P** **18 27 17.5 -0.3**
GUMO Guam 37.79 323 LR LR 18 41 49.7
comp=Z,229nm,19.9s,baz=141,slow=34
FORT Forrest 37.81 242 P **P** **18 27 23.1 -1.0**
comp=Z,60nm,0.8s
FORT Forrest 37.81 242 P **P** **18 27 23.0 -1.0**
FORT IAmb IAmb 18 27 24.7
comp=Z,35nm,0.7s
FITZ Fitzroy Crossi 39.39 263 P **P** **18 27 37.2 -0.2**
comp=Z,24nm,1.2s
FITZ Fitzroy Crossi 39.39 263 LR LR 18 43 38.6
comp=Z,1µm,18.9s,baz=100,slow=36
FITZ Fitzroy Crossi 39.39 263 P **P** **18 27 37.6 +0.2**
TBI Tubuai 41.08 106 *e*S **S** **18 33 56.9 -7.3**
comp=Z,562nm,29.0s
TBI *e*LQ LQ 18 37 28.4
comp=Z,6µm,30.0s
TBI *e*LR LR 18 39 14.2
comp=Z,3µm,28.0s
PPT2 Papeete2 41.30 97 *e*P **P** **18 27 50.6 -2.8**
comp=Z,34nm,21.2s
PPT2 Papeete2 41.30 97 *e*PP **PP** **18 29 31.6 +2.8**
comp=Z,83nm,25.0s
PPT2 *e*S **S** **18 34 07.6 -0.1**
comp=Z,111nm,24.2s
PPT2 *e*SS **SS** **18 37 09.0 -2.3**
comp=Z,156nm,24.5s
PPT2 *e*LQ LQ 18 37 40.4
comp=Z,1µm,30.0s
PPT2 *e*LR LR 18 39 19.3
comp=Z,1µm,26.8s
PPT2 *e*LR LR 18 39 20.4
comp=Z,696nm,28.0s
PPT Papeete 41.30 97 LR LR 18 40 59.3
comp=Z,556nm,19.3s,baz=274,slow=30
SOEI Soe 42.20 275 P **P** **18 27 59.9 -1.0**
SOEI IAmb IAmb 18 28 02.7
comp=Z,108nm,1.0s
SOEI Soe 42.20 275 P **P** **18 28 01.8 +0.9**
BATI Baumata 42.66 274 P **P** **18 28 05.1 +0.6**
comp=Z,278nm,0.8s,baz=108,slow=6.4,SNR=35
BATI LR LR 18 44 48.4
comp=Z,413nm,21.7s,baz=132,slow=35
SANI Sanana 43.11 286 P **P** **18 28 09.1 +1.0**
MMRI Maumere 44.43 275 P **P** **18 28 17.4 -1.3**
MMRI Maumere 44.43 275 P **P** **18 28 18.3 -0.5**
PSAC2 Pilbara Seismi 44.52 257 P **P** **18 28 19.2 -0.2**
comp=Z,60nm,1.5s
PSA00 Pilbara Seismi 44.57 257 P **P** **18 28 19.7 -0.1**
comp=Z,64nm,1.5s
PSA00 Pilbara Seismi 44.57 257 P **P** **18 28 18.9 -0.9**
PSA00 IAmb IAmb 18 28 20.9
comp=Z,60nm,1.1s
PSA00 Pilbara Seismi 44.57 257 **P** **18 28 18.9 -0.9**
PSA00 IAmb IAmb 18 28 21.1
comp=Z,68nm,1.5s
PSA00 Pilbara Seismi 44.57 257 P **P** **18 28 20.1 +0.3**
MBWA Marble Bar 44.70 257 P **P** **18 28 21.1 +0.3**
comp=Z,109nm,1.2s
MBWA Marble Bar 44.70 257 P **P** **18 28 20.4 -0.4**
MBWA IAmb IAmb 18 28 22.1
comp=Z,79nm,0.9s
MBWA Marble Bar 44.70 257 P **P** **18 28 21.1 +0.3**
MEEK Meekatharra 45.61 250 P **P** **18 28 27.9 -0.1**
comp=Z,156nm,1.1s
MEEK Meekatharra 45.61 250 P **P** **18 28 27.8 -0.3**
LUWI Luwuk 46.46 286 P **P** **18 28 34.4 -0.4**
LUWI Luwuk 46.46 286 P **P** **18 28 35.6 +0.8**
NWAO Narrogin (SRO) 47.24 241 P **P** **18 28 39.8 -0.9**
comp=Z,120nm,1.1s
NWAO Narrogin (SRO) 47.24 241 P **P** **18 28 39.8 -0.9**
NWAO Narrogin (SRO) 47.24 241 LR LR 18 47 57.9
comp=Z,851nm,20.9s,baz=88,slow=35
NWAO Narrogin (SRO) 47.24 241 P **P** **18 28 40.3 -0.4**
NWAO Narrogin (SRO) 47.24 241 P **P** **18 28 39.8 -0.9**
NWAO pmax pmax
comp=Z,98nm,1.0s
BLDU Ballidu 47.47 244 P **P** **18 28 41.6 -1.0**
comp=Z,60nm,1.3s
BLDU Ballidu 47.47 244 P **P** **18 28 41.9 -0.7**
DAV Davao City (W) 47.65 297 LR LR 18 48 31.5
comp=Z,108nm,19.2s,baz=124,slow=36
KAPI Kappang 47.87 279 P **P** **18 28 45.1 -0.7**
KAPI Kappang 47.87 279 P **P** **18 28 45.8 0.0**
comp=Z,65nm,0.9s,baz=90,slow=7.0,SNR=16
KAPI LR LR 18 48 36.8
comp=Z,134nm,20.7s,baz=104,slow=36
comp=Z,65nm,0.9s
KAPI Kappang 47.87 279 P **P** **18 28 46.4 +0.6**
KAPI Kappang 47.87 279 *i*P **P** **18 28 45.0 -0.8**
KAPI pmax pmax
comp=Z,160nm,1.4s
MORW Morawa 47.97 246 P **P** **18 28 45.6 -0.8**
comp=Z,83nm,1.0s
MORW Morawa 47.97 246 P **P** **18 28 45.4 -1.1**
MORW **PP** **18 30 37.3 -1.2**
MORW Morawa 47.97 246 P **P** **18 28 46.0 -0.4**
MUN Mundaring 48.01 242 P **P** **18 28 46.0 -0.7**
comp=Z,66nm,1.0s
MUN Mundaring 48.01 242 P **P** **18 28 46.3 -0.4**
PLAI Plampang 48.62 274 P **P** **18 28 51.6 -0.1**
TOLI2 Tolitoli 49.14 287 P **P** **18 28 54.4 -1.3**
TOLI2 Tolitoli 49.14 287 P **P** **18 28 55.4 -0.3**
AIN Ainahou 51.89 47 P **P** **18 29 16.0 -0.5**
TAOE Nuku Hiva Isla 51.98 88 *e*S **S** **18 36 41.1 +0.3**
comp=Z,193nm,28.8s
TAOE *e*SS **SS** **18 40 13.6 -4.4**
comp=Z,126nm,25.4s
TAOE *e*LR LR 18 44 09.7
comp=Z,1µm,26.5s
HMH Humu'ula Sheep 52.03 47 P **P** **18 29 17.0 -0.6**
STCH Steam Cracks 52.13 47 P **P** **18 29 18.2 0.0**
STCH IAmb IAmb 18 29 19.3
comp=Z,55nm,0.9s
JAGI Jajag, Banyuwa 52.17 273 P **P** **18 29 17.5 -1.1**
JAGI Jajag, Banyuwa 52.17 273 P **P** **18 29 18.0 -0.6**
MYLDM Lahad Datu 52.93 291 P **P** **18 29 21.5 -2.6**
MYLDM IAmb IAmb 18 29 38.5
comp=Z,43nm,1.2s
MYLDM Lahad Datu 52.93 291 P **P** **18 29 25.3 +1.2**
KKM Kota Kinabalu 55.35 290 P **P** **18 29 39.4 -2.5**
KKM IAmb IAmb 18 29 43.8
comp=Z,46nm,1.1s
KKM Kota Kinabalu 55.35 290 P **P** **18 29 42.8 +0.9**

SBUM Sibu 57.53 285 P **P** **18 29 56.7 -0.7**
SBUM Sibu 57.53 285 P **P** **18 29 58.5 +1.1**
BBJI Bungbulang 58.65 272 P **P** **18 30 04.8 -0.5**
LEM Lembang 58.85 273 LR LR 18 56 16.2
comp=Z,293nm,20.4s,baz=130,slow=37
KSM Kuching 58.95 283 P **P** **18 30 06.7 -0.6**
KSM Kuching 58.95 283 P **P** **18 30 08.3 +1.0**
MJAR Matsushiro Arr 60.18 333 P **P** **18 30 13.3 -2.1**
MJAR Matsushiro Arr 60.18 333 P **P** **18 30 15.2 -0.1**
comp=Z,9.4nm,1.0s,baz=162,slow=6.9,SNR=13
comp=Z,9.4nm,1.0s
MAJO Matsushiro 60.18 333 P **P** **18 30 13.8 -1.6**
MAJO Matsushiro 60.18 333 P **P** **18 30 15.6 +0.2**
MAJO Matsushiro 60.18 333 P **P** **18 30 13.8 -1.6**
MAJO pmax pmax
comp=Z,11nm,0.9s
VNDA Vanda 60.20 181 P **P** **18 30 14.3 -0.7**
VNDA Vanda 60.20 181 P **P** **18 30 15.1 +0.2**
comp=Z,2.1nm,0.9s,baz=358,slow=6.8,SNR=14
VNDA LR LR 18 52 56.9
comp=Z,155nm,21.3s,baz=355,slow=33
comp=Z,2.1nm,0.9s
JMM Marumori 60.27 336 P **P** **18 30 14.3 -1.6**
JMM IAmb IAmb 18 30 32.0
comp=Z,43nm,1.3s
SBA Scott Base 60.48 180 P **P** **18 30 16.9 +0.1**
SBA IAmb IAmb 18 30 31.6
comp=Z,20nm,1.1s
SBA Scott Base 60.48 180 P **P** **18 30 16.9 +0.1**
SBA pmax pmax
comp=Z,20nm,1.1s
TPUB Ta-pu 60.78 310 P **P** **18 30 18.1 -1.6**
CASY Casey 60.99 203 P **P** **18 30 20.0 -0.5**
CASY IAmb IAmb 18 30 33.5
comp=Z,21nm,0.8s
YHNB Yeheng 61.08 312 **P** **18 30 21.2 -0.6**
PMBI Palembang 62.70 276 P **P** **18 30 33.3 +0.4**
PMBI Palembang 62.70 276 P **P** **18 30 33.9 +1.0**
JKA Kamikawa-asahi 65.18 341 P **P** **18 30 48.3 -0.2**
JKA IAmb IAmb 18 31 40.3
comp=Z,47nm,1.3s
ASAJ Asahikawa 65.18 341 P **P** **18 30 50.1 +1.6**
comp=Z,14nm,1.0s,baz=166,slow=8.1,SNR=6.0
comp=Z,14nm,1.0s
KSRS Korea Array 65.83 327 P **P** **18 30 53.1 +0.3**
comp=Z,1.5nm,0.7s,baz=131,slow=6.7,SNR=6.5
comp=Z,1.5nm,0.7s
BKNI Bangkinang 67.26 278 P **P** **18 31 03.6 +1.0**
NJ2 Nanjing 67.45 317 *e*P **P** **18 31 04.1 +0.7**
NJ2 pmax pmax
comp=Z,13nm,0.6s
YSS Yuzhno-Sakhali 67.69 342 P **P** **18 31 04.1 -0.5**
YSS IAmb IAmb 18 31 14.1
comp=Z,42nm,1.3s
YSS Yuzhno-Sakhali 67.69 342 P **P** **18 31 05.1 +0.6**
YSS Yuzhno-Sakhali 67.69 342 *e*P **P** **18 31 08.3 +3.8**
YSS *e* 18 31 30.4
YSS *e*S **S** **18 40 03.8 +2.1**
YSS *e*SS **SS** **18 44 31.1 +7.8**
YSS pmax pmax
comp=Z,20nm,1.0s
IPM Ipoh 68.67 282 IAmb IAmb 18 31 12.8
comp=Z,27nm,0.8s
IPM Ipoh 68.67 282 P **P** **18 31 11.6 +0.1**
USRK Uusuriysk Ar. 69.17 334 P **P** **18 31 14.4 +0.6**
comp=Z,2.9nm,0.8s,baz=190,slow=5.7,SNR=7.2
comp=Z,2.9nm,0.8s
KULM Kulim 69.30 283 **P** **18 31 14.8 -0.6**
KULM IAmb IAmb 18 31 16.8
comp=Z,32nm,1.1s
KULM Kulim 69.30 283 P **P** **18 31 15.7 +0.3**
RPSI Rantau Prapat 70.03 280 P **P** **18 31 18.8 -1.1**
PSI Prapat 70.07 280 LR LR 19 03 57.8
comp=Z,242nm,19.4s,baz=111,slow=38
PSI Prapat 70.07 280 P **P** **18 31 19.5 -0.8**
PSI Prapat 70.07 280 P **P** **18 31 18.8 -1.5**
PSI pmax pmax
comp=Z,60nm,1.1s
SHEM Shemya Is, Ala 70.11 5 P **P** **18 31 20.3 +0.9**
comp=Z,100nm,0.9s,baz=262,slow=2.2,SNR=7.5
SHEM LR LR 18 55 59.2
comp=Z,275nm,20.1s,baz=148,slow=31
comp=Z,100nm,0.9s
SMY Shemya 70.11 5 P **P** **18 31 20.4 +1.0**
DL2 Dalian 70.31 324 P **P** **18 31 19.5 -1.5**
DL2 S **S** **18 40 34.6 +1.6**
DL2 pmax pmax
comp=Z,12nm,1.2s
DL2 pmax pmax
comp=Z,540nm,8.9s
DL2 LR LR
comp=Z,370nm,20.9s
DL2 LR LR
comp=Z,340nm,21.5s
DL2 LR LR
comp=Z,370nm,22.4s
ADK Adak 70.44 11 P **P** **18 31 22.6 +1.1**
PET Petropavlovsk 70.51 355 *e*P **P** **18 31 23.3 +1.4**
PET *e*S **S** **18 40 32.7 -2.1**
PET pmax pmax
comp=Z,19nm,0.6s
PET MLR MLR
comp=Z,400nm,18.0s
MDJ Mudanjiang 70.54 333 P **P** **18 31 24.0 +1.8**
MDJ pmax pmax
comp=Z,6.0nm,0.9s
MDJ Mudanjiang 70.54 333 P **P** **18 31 24.1 +1.8**
PETK Petropavlovsk- 70.68 354 P **P** **18 31 23.6 +0.6**
PETK Petropavlovsk- 70.68 354 P **P** **18 31 24.3 +1.3**
comp=Z,16nm,0.8s,baz=159,slow=5.9,SNR=17
PETK LR LR 18 57 21.7
comp=Z,227nm,20.6s,baz=148,slow=32
comp=Z,16nm,0.8s
GSI Gunungsitoli 70.86 278 P **P** **18 31 23.7 -1.3**
GSI Gunungsitoli 70.86 278 P **P** **18 31 25.8 +0.9**
ATKA Atka Island 71.21 12 P **P** **18 31 26.8 +0.6**
TYV Tymovskoe 71.27 344 *e*P P 18 31 34.7 +8.1
TYV pmax pmax
comp=Z,9.0nm,1.3s
TYV pmax pmax
comp=Z,100nm,2.6s
SURA Surathani 71.64 286 P **P** **18 31 31.3 +1.7**
CN2 Changchun 71.83 330 *e*P **P** **18 31 33.3 +3.2**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
BNX BinXian 72.38 332 ⇑P **P** **18 31 33.8 +0.4**
BNX pmax pmax
comp=Z,10.0nm,0.9s
QSPA South Pole Qui 72.64 180 P **P** **18 31 36.1 +1.2**
comp=Z,28nm,0.8s,baz=11,slow=1.4,SNR=137
QSPA LR LR 19 00 51.8
comp=Z,213nm,19.2s,baz=38,slow=34
comp=Z,28nm,0.8s
ENH Enshi 72.91 310 P **P** **18 31 37.3 +0.4**
GYA Guiyang 73.07 305 ⇓P **P** **18 31 39.0 +0.9**
GYA pmax pmax
comp=Z,9.0nm,1.1s
NIKH Nikolski High 73.12 15 P **P** **18 31 38.3 +0.7**
NIKH Nikolski High 73.12 15 P **P** **18 31 38.3 +0.7**
baz=204
LYN LuoYang 73.21 315 *e*P **P** **18 31 40.3 +1.7**
LYN pmax pmax
comp=Z,20nm,1.1s
HNS HongShan 73.46 319 ⇑P P 18 31 46.3 +6.4
HNS pmax pmax
comp=Z,6.0nm,0.6s
BJI Beijing 74.21 322 P **P** **18 31 44.0 -0.3**
BJI sP **pwP** **18 31 50.8 -2.4**
BJI pmax pmax
comp=Z,3.0nm,1.9s
UNV Unalaska Valle 74.51 16 P **P** **18 31 46.0 +0.3**
baz=206
XAN Xi'an 75.34 313 P **P** **18 31 51.3 +0.2**
XAN pmax pmax
comp=Z,11nm,0.9s
KMI Kunming 75.54 302 P **P** **18 31 53.9 +1.2**
KMI pmax pmax
comp=Z,20nm,1.2s
CMAR Chiang Mai Arr 75.86 295 P **P** **18 31 54.9 +0.6**
CMAR Chiang Mai Arr 75.86 295 P **P** **18 31 56.0 +1.7**
comp=Z,9.2nm,0.9s,baz=130,slow=4.5,SNR=57
comp=Z,9.2nm,0.9s
HEH HeiHe 75.87 335 *e*P **P** **18 31 54.6 +0.9**
CHTO Chiang Mai 76.00 295 P **P** **18 31 55.2 +0.1**
CHTO IAmb IAmb 18 31 57.8
comp=Z,31nm,1.4s
CHTO Chiang Mai 76.00 295 P **P** **18 31 56.1 +1.0**
CHTO Chiang Mai 76.00 295 P **P** **18 31 55.2 +0.1**
CHTO pmax pmax
comp=Z,31nm,1.5s
FALS False Pass 76.24 17 P **P** **18 31 56.5 +0.8**
baz=209
P08K Saint George I 76.29 13 P **P** **18 31 56.8 +0.9**
baz=203
SPIA Saint Paul Isl 76.68 12 P **P** **18 31 58.8 +0.7**
baz=202
PZH PanZhiHua 76.97 303 P **P** **18 32 01.6 +1.0**
CHNA Chernabura Isl 77.35 19 P **P** **18 32 02.4 +0.5**
baz=213
S12K Black Hills 77.36 17 P **P** **18 32 02.5 +0.5**
baz=210
CD2 Chengdu 77.47 308 P **P** **18 32 02.8 -0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
HHC Hu-ho-hao-te 77.48 320 *e*P **P** **18 32 04.9 +1.7**
HHC pmax pmax
comp=Z,25nm,0.6s
HHC pmax pmax
comp=Z,70nm,4.2s
SDPT Sand Point 77.52 18 P **P** **18 32 03.1 +0.2**
baz=212
MA2 Magadan 77.84 352 P **P** **18 32 05.5 +0.9**
comp=Z,7.4nm,0.8s,baz=107,slow=4.9,SNR=5.5
MA2 LR LR 19 01 37.5
comp=Z,247nm,21.1s,baz=165,slow=32
comp=Z,7.4nm,0.8s
S14K Fog Glacier 78.59 18 P **P** **18 32 10.2 +1.2**
baz=212
ZEA Zeya 78.66 337 *e*P **P** **18 32 11.0 +1.8**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
CHGN Chignik 78.95 19 P **P** **18 32 11.6 +0.9**
baz=214
MAW Mawson 79.34 202 P **P** **18 32 14.0 +1.1**
comp=Z,5.0nm,1.5s
MAW Mawson 79.34 202 P **P** **18 32 13.4 +0.5**
comp=Z,13nm,1.0s,baz=119,slow=7.0,SNR=15
MAW LR LR 19 02 47.1
comp=Z,332nm,20.2s,baz=89,slow=32
comp=Z,13nm,1.0s
M11K Mekoryuk 80.47 13 P **P** **18 32 20.4 +1.5**
baz=206
SII Sitkinak Islan 80.52 21 P **P** **18 32 20.7 +1.4**
baz=217
O14K Tigyukauivet M 80.65 16 IAmb IAmb 18 32 22.2
comp=Z,24nm,0.8s
O14K Tigyukauivet M 80.65 16 P **P** **18 32 20.8 +0.9**
baz=211
R17L Mt. Peulik Vol 80.69 19 P **P** **18 32 20.9 +0.7**
baz=215
SEY Seymchan 80.90 353 P **P** **18 32 21.8 +0.6**
comp=Z,17nm,1.0s,baz=150,slow=5.5,SNR=20
SEY LR LR 19 03 27.7
comp=Z,261nm,21.5s,baz=159,slow=32
comp=Z,17nm,1.0s
O15K Ungalikthiuk R 80.97 17 P **P** **18 32 22.9 +1.2**
baz=212
N14K Kuskokwak Cree 81.13 15 P **P** **18 32 23.6 +1.2**
baz=210,SNR=5.2
M13K Dall Lake 81.15 14 P **P** **18 32 24.2 +1.7**
baz=209
R18K Karluk 81.24 20 P **P** **18 32 25.2 +2.1**
baz=217
OHAK Old Harbor 81.35 21 P **P** **18 32 25.2 +1.5**
baz=218
Q17K Contact Creek 81.35 19 P **P** **18 32 24.4 +0.5**
baz=216
P16K Nushagak River 81.36 17 P **P** **18 32 25.1 +1.4**
baz=214
N15K Kwethluk River 81.75 16 IAmb IAmb 18 32 29.3
comp=Z,50nm,0.9s
N15K Kwethluk River 81.75 16 P **P** **18 32 27.5 +1.7**
baz=212
M14K Bethel 81.78 15 IAmb IAmb 18 32 28.4
comp=Z,53nm,0.9s
M14K Bethel 81.78 15 P **P** **18 32 27.3 +1.4**
baz=210,SNR=7.4
O16K Kokwok River B 81.80 17 P **P** **18 32 26.9 +0.9**
baz=214
Q18K Katmai Hardscr 81.94 19 P **P** **18 32 27.4 +0.5**
baz=216,SNR=9.4
P17K Kvichak River 81.95 18 P **P** **18 32 28.3 +1.5**
baz=215
KDAK Kodiak Island 82.03 21 LR LR 19 03 02.2
comp=Z,227nm,19.5s,baz=197,slow=31
KDAK Kodiak Island 82.03 21 P **P** **18 32 29.3 +2.1**
baz=219
M15K Kasigluk River 82.04 15 P **P** **18 32 28.7 +1.4**
baz=211,SNR=6.3
L14K Kuka Creek 82.12 14 P **P** **18 32 29.2 +1.6**
baz=209
K13K Kusilvak Mount 82.20 13 IAmb IAmb 18 32 31.0
comp=Z,42nm,1.0s
K13K Kusilvak Mount 82.20 13 P **P** **18 32 29.9 +1.8**
baz=207
O17K Koliganek Bris 82.23 17 P **P** **18 32 29.5 +1.2**
baz=214
N16K Nishlik Lake 82.36 16 P **P** **18 32 30.9 +1.9**
baz=213
P18K Big Mountain, 82.47 18 P **P** **18 32 30.5 +0.9**
baz=216,SNR=10.0
GAMB Gambell 82.59 9 IAmb IAmb 18 32 32.8
comp=Z,30nm,0.9s
GAMB Gambell 82.59 9 P **P** **18 32 31.6 +1.6**
baz=200
Q19K Cape Douglas, 82.59 19 P **P** **18 32 31.4 +1.2**
baz=218
L15K Ungalak Mounta 82.70 15 P **P** **18 32 32.0 +1.3**
baz=210,SNR=10.0
Q20K Shuyak Island 82.74 20 P **P** **18 32 32.3 +1.4**
baz=219
M16K Timber Creek 82.77 16 P **P** **18 32 33.1 +1.9**
baz=213
N17K Nushagak Hills 82.83 17 P **P** **18 32 33.4 +1.9**
baz=214
J14K Nanvaranak Lak 83.16 13 IAmb IAmb 18 32 36.1
comp=Z,42nm,0.9s
J14K Nanvaranak Lak 83.16 13 P **P** **18 32 34.8 +1.8**
baz=208
L16K Owhat River 83.22 15 P **P** **18 32 34.7 +1.3**
baz=212
K15K Wolf Creek Mou 83.22 14 P **P** **18 32 35.0 +1.6**
baz=210,SNR=24
P19K Oil Pt 83.29 19 P **P** **18 32 34.7 +0.8**
baz=218
N18K Kilae Creek 83.33 17 P **P** **18 32 35.2 +1.2**
baz=216
O19K Port Alsworth 83.39 18 P **P** **18 32 35.3 +1.0**
baz=217,SNR=5.5
M17K Holitna River 83.49 16 P **P** **18 32 36.7 +1.8**
baz=214
HOM Homer 83.80 20 P **P** **18 32 37.7 +1.3**
baz=219,SNR=5.9
O20K Slope Mountain 83.82 19 P **P** **18 32 37.5 +0.8**
baz=218,SNR=6.1
N19K Bonanza Creek 83.84 18 P **P** **18 32 37.4 +0.7**
baz=217,SNR=6.1
L17K Donlin 83.88 16 P **P** **18 32 38.8 +2.0**
baz=213
M18K Stony River 84.01 17 P **P** **18 32 39.6 +2.2**
baz=216,SNR=24
RED Redoubt Volcan 84.04 19 P **P** **18 32 37.9 +0.1**
BELA Belgrano 2 84.09 175 IAmb IAmb 18 32 38.9
comp=Z,31nm,0.9s
BRSE Bradley Lake S 84.16 20 P **P** **18 32 39.3 +1.0**
baz=220,SNR=6.2
ULN Ulaanbaatar 84.16 324 *ce*P **P** **18 32 38.5 -0.3**
ULN pmax pmax
comp=Z,3.0nm,0.9s
J16K Anvik River 84.30 14 P **P** **18 32 41.0 +2.1**
baz=211,SNR=11
GTA Gaotai 84.36 314 P **P** **18 32 41.1 +1.1**
GTA pmax pmax
comp=Z,5.0nm,1.2s
K17K Iditarod 84.37 15 P **P** **18 32 41.3 +2.0**
baz=213,SNR=6.6
L18K Granite Mounta 84.37 16 P **P** **18 32 41.5 +2.2**
baz=215,SNR=18
ANM Nome 84.41 12 P **P** **18 32 41.6 +2.2**
baz=206
SONM Songino Array 84.52 324 P **P** **18 32 40.7 +0.2**
comp=Z,2.0nm,0.8s,baz=145,slow=5.4,SNR=11
comp=Z,2.0nm,0.8s

YAK	**Yakutsk**	84.52	343	P		**P**	18 32 40.4	+0.4
	comp=Z,5.4nm,0.5s,baz=139,slow=7.2,SNR=8.6							
	comp=Z,5.4nm,0.5s							
YAK	**Yakutsk**	84.52	343	*e*P		**P**	18 32 40.9	+0.9
YAK				*e*			18 32 44.2	
YAK				*e*			18 35 56.8	
YAK				*e*PPP		PPP	18 37 48.8	
YAK				*e*S		**SKSac**	18 43 00.5	-2.9
YAK				*e*SS		**SS**	18 48 37.0	-0.5
YAK				*e*SSS		SSS	18 52 08.1	
YAK				pmax		pmax		
	comp=Z,8.0nm,1.0s							
YAK				pmax		pmax		
	comp=N,1.0nm,0.9s							
YAK				pmax		pmax		
	comp=E,1.0nm,1.3s							
YAK				pmax		pmax		
	comp=Z,45nm,4.2s							
YAK				pmax		pmax		
	comp=N,69nm,3.3s							
YAK				pmax		pmax		
	comp=E,81nm,3.2s							
YAK				smax		smax		
	comp=N,43nm,3.5s							
YAK				smax		smax		
	comp=E,41nm,3.1s							
SHL	**Shillong**	84.65	299	IAmb		IAmb	18 32 43.5	
	comp=Z,30nm,0.9s							
J17K	**VABM Dome**	84.75	15	P		**P**	18 32 43.0	+1.8
	baz=212,SNR=6.7							
I17K	**Unalakleet**	84.79	14	P		**P**	18 32 43.2	+1.9
	baz=211							
SPCR	**Spurr Chakacha**	84.82	19	P		**P**	18 32 42.4	+0.7
	baz=219							
L19K	**White Mountain**	84.84	17	P		**P**	18 32 43.3	+1.6
	baz=216,SNR=31							
SEW	**Seward**	84.86	20	P		**P**	18 32 43.0	+1.3
	baz=221							
TNA	**Tin City**	84.86	10	P		**P**	18 32 43.2	+1.5
	baz=204							
O22K	**Cooper Landing**	85.05	20	P		**P**	18 32 44.0	+1.3
	baz=221							
G15K	**Niukluk**	85.06	12	P		**P**	18 32 44.1	+1.4
	baz=208							
F14K	**Arctic Creek**	85.06	11	P		**P**	18 32 44.4	+1.7
	baz=206							
M20K	**Styx River**	85.09	18	IAmb		IAmb	18 32 45.9	
	comp=Z,33nm,0.8s							
M20K	**Styx River**	85.09	18	P		**P**	18 32 44.5	+1.4
	baz=218,SNR=8.1							
H16K	**Elim**	85.11	13	P		**P**	18 32 44.8	+1.8
	baz=209,SNR=7.5							
BILL	**Bilibino**	85.20	360	*ce*P		**P**	18 32 44.3	+0.9
BILL				pmax		pmax		
	comp=Z,16nm,0.9s							
L20K	**Farewell, AK**	85.35	17	P		**P**	18 32 45.8	+1.5
	baz=217,SNR=26							
J18K	**Innoko River**	85.39	15	P		**P**	18 32 46.2	+1.7
	baz=215,SNR=20							
Q23K	**Middleton Isla**	85.42	22	P		**P**	18 32 46.4	+1.8
	baz=224							
SUA	**Susitna One**	85.48	19	P		**P**	18 32 46.2	+1.2
	baz=220							
RC01	**Rabbit Creek A**	85.51	19	P		**P**	18 32 46.7	+1.6
	baz=221							
F15K	**North Star Dit**	85.58	11	IAmb		IAmb	18 32 48.4	
	comp=Z,40nm,1.2s							
F15K	**North Star Dit**	85.58	11	P		**P**	18 32 47.2	+1.9
	baz=207							
G16K	**Koyuk River**	85.75	12	P		**P**	18 32 48.1	+2.0
	baz=209							
PWL	**Port Wells**	85.79	20	IAmb		IAmb	18 32 49.6	
	comp=Z,46nm,1.0s							
PWL	**Port Wells**	85.79	20	P		**P**	18 32 48.1	+1.6
	baz=222							
H17K	**Granite Mounta**	85.87	13	P		**P**	18 32 48.6	+1.8
	baz=212,SNR=19							
M22K	**Willow**	85.89	19	P		**P**	18 32 48.6	+1.7
	baz=221							
K20K	**Telida**	86.00	16	P		**P**	18 32 49.0	+1.5
	baz=217,SNR=5.5							
PMR	**Palmer**	86.08	19	P		**P**	18 32 49.5	+1.6
	baz=222							
SYO	**Syowa Base**	86.10	197	⇑*i*P		**P**	18 32 48.4	+0.4
SYO	**Syowa Base**	86.10	197	⇑*e*PcP		**PcP**	18 32 51.0	+0.3
J19K	**Poorman**	86.11	16	P		**P**	18 32 49.7	+1.7
	baz=216,SNR=11							
PPLA	**Purkeypile**	86.16	17	P		**P**	18 32 49.2	+0.7
	baz=219							
KNK	**Knik Glacier**	86.16	20	P		**P**	18 32 49.2	+0.9
	baz=222							
G17K	**Kiwalik Mounta**	86.20	13	P		**P**	18 32 50.2	+1.8
	baz=211,SNR=17							
SMAI	**San Martin Ant**	86.21	162	IAmb		IAmb	18 33 03.5	
	comp=Z,33nm,1.0s							
GLI	**Glacier Island**	86.22	21	P		**P**	18 32 49.6	+1.0
	baz=223							
H18K	**Honhosa River**	86.41	14	IAmb		IAmb	18 32 51.7	
	comp=Z,21nm,0.8s							
H18K	**Honhosa River**	86.41	14	P		**P**	18 32 50.6	+1.2
	baz=213							
GCSA	**Galena City Sc**	86.41	15	P		**P**	18 32 51.2	+1.8
	baz=214,SNR=7.4							
GOMU	**GeErMu**	86.51	309	P		**P**	18 32 51.3	+0.2
GOMU				pP		sP	18 32 54.3	0.0
GOMU				sP		pwP	18 32 58.5	-1.5
GOMU				pmax		pmax		
	comp=Z,1.0nm,0.5s							
J20K	**Nowinta River**	86.64	16	P		**P**	18 32 52.1	+1.6
	baz=217,SNR=8.9							
M23K	**Glacier View**	86.68	20	P		**P**	18 32 52.7	+1.9
	baz=223							
O02D	**Mt. Diablo Mer**	86.72	46	IAmb		IAmb	18 32 54.6	
	comp=Z,15nm,0.8s							
LSA	**Lhasa**	86.80	302	P		**P**	18 32 51.5	-1.3
LSA				pmax		pmax		
	comp=Z,8.0nm,1.2s							
SCM	**Sheep Creek Mo**	86.84	20	P		**P**	18 32 53.1	+1.4
	baz=223							
F17K	**Baldwin Pennin**	86.89	12	P		**P**	18 32 53.2	+1.5
F17K	**Baldwin Pennin**	86.89	12	P		**P**	18 32 53.8	+2.1
	baz=210,SNR=22							
CHUM	**Lake Minchumin**	86.90	17	P		**P**	18 32 53.2	+1.4
	baz=219							
G18K	**Tagagawik**	86.97	13	P		**P**	18 32 53.8	+1.6
	baz=213,SNR=28							
I20K	**Naaghedeneel**	87.05	15	P		**P**	18 32 54.7	+2.1
	baz=217,SNR=5.2							
KLU	**Klutina**	87.05	21	P		**P**	18 32 53.5	+0.7
	baz=224							
N02D	**Trinity Center**	87.12	46	IAmb		IAmb	18 32 56.6	
	comp=Z,58nm,1.8s							
BMRM	**Bremner River**	87.13	21	P		**P**	18 32 54.6	+1.4
	baz=226							
TRF	**Thorofare Moun**	87.14	18	IAmb		IAmb	18 32 55.0	
	comp=Z,27nm,1.0s							
TRF	**Thorofare Moun**	87.14	18	P		**P**	18 32 53.4	+0.1
	baz=220							
H19K	**Roundabout Mou**	87.16	14	P		**P**	18 32 55.1	+2.0
	baz=215,SNR=9.3							
WAT1	**Susitna Watana**	87.19	19	P		**P**	18 32 54.2	+0.8
	baz=222							
WAT6	**Susitna Watana**	87.25	19	P		**P**	18 32 55.5	+1.7
	baz=223							
E17K	**Hotham Inlet**	87.33	12	P		**P**	18 32 55.8	+2.0
	baz=210,SNR=26							
F18K	**Selawik**	87.35	13	P		**P**	18 32 55.6	+1.7
	baz=212,SNR=18							
M24K	**Tolsona, Glenn**	87.41	20	P		**P**	18 32 55.8	+1.3
	baz=224							
WELL	**Weller Preserv**	87.43	48	IAmb		IAmb	18 32 57.8	
	comp=Z,32nm,1.6s							
BPAW	**Bear Paw Mtn.**	87.44	17	P		**P**	18 32 55.7	+1.2
	baz=220							
O03E	**Paynes Creek**	87.45	46	IAmb		IAmb	18 32 57.5	
	comp=Z,31nm,1.4s							
YBH	**Yreka Blue Hor**	87.45	45	LR		LR	19 03 19.6	
	comp=Z,11nm,21.9s,baz=259,slow=30							
CMB	**Columbia Colle**	87.50	49	IAmb		IAmb	18 32 57.8	
	comp=Z,26nm,1.3s							
H20K	**Anotleneega Mo**	87.51	15	P		**P**	18 32 56.6	+1.8
	baz=216,SNR=6.7							
CRQE	**Cirque**	87.52	22	P		**P**	18 32 57.1	+2.0
	baz=227							
G19K	**Purcell Mounta**	87.53	14	P		**P**	18 32 57.3	+2.5
	baz=214,SNR=19							
BUCR	**Buckhorn Ranch**	87.53	49	P		**P**	18 32 56.1	+0.5
BUCR				IAmb		IAmb	18 32 58.1	
	comp=Z,24nm,1.4s							
N25K	**Chitina, Valde**	87.58	21	P		**P**	18 32 56.7	+1.4
	baz=226							
ZAK	**Zakamensk**	87.60	325	*e*P		**P**	18 32 54.7	-1.0
ZAK				pmax		pmax		
	comp=Z,8.0nm,1.6s							
D17K	**Noatak River**	87.64	11	P		**P**	18 32 58.1	+2.8
	baz=208,SNR=6.6							
M03C	**McCloud**	87.65	45	IAmb		IAmb	18 33 06.5	
	comp=Z,18nm,0.9s							
MWC	**Mount Wilson**	87.72	53	IAmb		IAmb	18 32 59.0	
	comp=Z,32nm,1.1s							
DHY	**Denali Highway**	87.73	19	P		**P**	18 32 57.1	+1.0
	baz=223							
MCK	**McKinley**	87.75	18	P		**P**	18 32 57.1	+1.1
	baz=222							
C16K	**Lisburne Hills**	87.76	10	P		**P**	18 32 57.6	+1.7
	baz=206							
TPO	**Tropico Hills**	87.84	53	IAmb		IAmb	18 33 00.0	
	comp=Z,29nm,1.1s							
E18K	**Tukpahlearik C**	87.86	12	P		**P**	18 32 58.3	+1.9
	baz=211,SNR=13							
HATC	**Hat Creek Radi**	87.91	46	P		**P**	18 32 58.5	+1.1
HATC				IAmb		IAmb	18 33 22.7	
	comp=Z,31nm,1.1s							
F19K	**Shaleruckik Mo**	87.95	13	P		**P**	18 32 58.5	+1.6
	baz=214,SNR=21							
HARP	**HAARP**	87.95	20	P		**P**	18 32 59.1	+2.1
	baz=225							
ISA	**Isabella, Lake**	87.96	52	IAmb		IAmb	18 33 00.4	
	comp=Z,19nm,0.9s							
MCARA	**McCarthy VSAT**	87.97	22	P		**P**	18 32 57.9	+0.8
	baz=227							
RDOG	**Red Dog Mine**	87.98	11	IAmb		IAmb	18 33 00.9	
	comp=Z,22nm,0.8s							
I21K	**Tanana**	88.00	16	P		**P**	18 32 58.1	+1.0
	baz=219							
BFSC	**Mount Baldy Ra**	88.03	53	IAmb		IAmb	18 33 00.4	
	comp=Z,14nm,1.1s							
H21K	**Melozitna Rive**	88.17	16	P		**P**	18 32 59.2	+1.2
	baz=218							
IMAR	**Indian Mountai**	88.19	15	P		**P**	18 32 58.3	+0.3
MLY	**Manley**	88.22	17	P		**P**	18 32 58.9	+0.6
	baz=220							
SIT	**Sitka**	88.26	27	P		**P**	18 32 59.7	+1.2
	baz=234							
BEKR	**Beckworth**	88.28	47	IAmb		IAmb	18 33 01.9	
	comp=Z,23nm,1.5s							
MDPB	**Devils Postpil**	88.29	50	IAmb		IAmb	18 33 02.1	
	comp=Z,24nm,1.1s							
CTG	**Chitna Glacier**	88.29	22	P		**P**	18 33 00.0	+1.2
	baz=228							
C17K	**DeLong Mountai**	88.31	11	P		**P**	18 33 00.2	+1.6
	baz=208							
WAKR	**Wiker**	88.38	49	IAmb		IAmb	18 33 02.9	
	comp=Z,36nm,1.3s							
J04A	**Umpqua Nationa**	88.51	44	IAmb		IAmb	18 33 04.0	
	comp=Z,45nm,1.5s							
F20K	**Avaraart Lake**	88.58	14	P		**P**	18 33 00.9	+1.1
F20K				IAmb		IAmb	18 33 03.7	
	comp=Z,17nm,0.8s							
F20K	**Avaraart Lake**	88.58	14	P		**P**	18 33 01.7	+1.9
	baz=215,SNR=8.7							
E19K	**Redstone River**	88.59	13	P		**P**	18 33 01.8	+1.9
	baz=214,SNR=19							
O28M	**Mount Upton**	88.59	23	P		**P**	18 33 01.0	+0.6
	baz=230							
G21K	**Allakaket**	88.67	15	P		**P**	18 33 01.3	+1.0
	baz=217							
WSHM	**Spangler Hills**	88.68	52	P		**P**	18 33 02.0	+0.8
M26K	**Nabesna, AK**	88.68	21	P		**P**	18 33 01.5	+1.0
	baz=227							
U33K	**Whale Pass**	88.71	29	P		**P**	18 33 01.9	+1.3
	baz=236							
PFO	**Pinyon Flats O**	88.72	54	LR		LR	19 05 13.2	
	comp=Z,385nm,19.6s,baz=242,slow=30							
H22K	**Ishtalitna Cre**	88.72	16	P		**P**	18 33 01.7	+1.1
	baz=219							
K24K	**Donnelly Dome**	88.76	19	P		**P**	18 33 01.2	+0.4
	baz=224							
C18K	**Utukok River**	88.81	11	P		**P**	18 33 02.6	+1.6
	baz=210							
HDA	**Harding Lake**	88.84	18	P		**P**	18 33 01.1	0.0
	baz=224							
PAHR	**Pah Rah Range**	88.90	48	IAmb		IAmb	18 33 04.9	
	comp=Z,29nm,1.4s							
COLA	**College**	88.91	18	P		**P**	18 33 00.6	-0.8
COLA	**College**	88.91	18	P		**P**	18 33 01.3	-0.1
COLA	**College**	88.91	18	*i*P		**P**	18 33 01.9	+0.5
COLA				pmax		pmax		
	comp=Z,36nm,0.9s							
COLA	**College**	88.91	18	P		**P**	18 33 01.4	0.0
	baz=223							
LHV	**Little Huntoon**	88.95	49	IAmb		IAmb	18 33 05.4	
	comp=Z,25nm,1.2s							
L26K	**Log Cabin Wild**	88.99	20	P		**P**	18 33 03.0	+1.1
	baz=227							
DSP	**Deep Springs**	89.00	50	IAmb		IAmb	18 33 05.5	
	comp=Z,20nm,0.9s							
RIDG	**Independent Ri**	89.00	19	P		**P**	18 33 02.8	+0.8
	baz=225							
M27K	**Edge Creek, AK**	89.03	21	P		**P**	18 33 03.4	+1.1
	baz=228							
YUK8	**Steele Glacier**	89.08	23	P		**P**	18 33 04.0	+1.3
	baz=230							
RYN	**Ryan**	89.08	49	IAmb		IAmb	18 33 05.8	
	comp=Z,18nm,1.1s							
K05A	**Summer Lake**	89.09	45	IAmb		IAmb	18 33 20.8	
	comp=Z,16nm,1.1s							
BBB	**Bella Bella**	89.10	34	P		**P**	18 33 03.1	+0.5
	comp=Z,4.2nm,0.7s,baz=296,slow=9.1,SNR=3.6							
BBB				LR		LR	19 04 15.2	
	comp=Z,204nm,21.6s,baz=242,slow=30							
	comp=Z,4.2nm,0.7s							
ILAR	**Eielson Array**	89.12	18	P		**P**	18 33 01.7	-0.8
ILAR	**Eielson Array**	89.12	18	P		**P**	18 33 02.5	+0.1
	comp=Z,16nm,0.7s,baz=234,slow=5.4,SNR=20							
ILAR				LR		LR	19 11 01.6	
	comp=Z,254nm,18.1s,baz=230,slow=34							
	comp=Z,16nm,0.7s							
NVAR	**Mina Array Bea**	89.17	49	P		**P**	18 33 04.2	+0.7
NVAR	**Mina Array Bea**	89.17	49	P		**P**	18 33 04.6	+1.0
	comp=Z,10nm,0.9s,baz=228,slow=7.7,SNR=39							
NVAR				LR		LR	19 07 29.8	
	comp=Z,254nm,18.6s,baz=270,slow=32							
	comp=Z,10nm,0.9s							
POKR	**Poker Plat Res**	89.21	18	P		**P**	18 33 03.8	+1.0
	baz=223							
WRAK	**Wrangell Islan**	89.24	29	P		**P**	18 33 04.4	+1.3
	baz=236							
F21K	**Alatna River**	89.24	14	P		**P**	18 33 04.4	+1.4
	baz=217							
NV11	**Mina Array Sit**	89.27	49	IAmb		IAmb	18 33 06.6	
	comp=Z,21nm,1.1s							
D19K	**Kuna River**	89.28	12	IAmb		IAmb	18 33 07.1	
	comp=Z,22nm,0.8s							
D19K	**Kuna River**	89.28	12	P		**P**	18 33 04.6	+1.4
	baz=213,SNR=6.6							
PMSA	**Palmer Station**	89.33	161	LR		LR	19 09 30.9	
	comp=Z,191nm,18.9s,baz=256,slow=33							
P30M	**Million Dollar**	89.42	25	P		**P**	18 33 05.3	+1.3
	baz=232							
SCRK	**Sand Creek**	89.44	19	P		**P**	18 33 04.4	+0.2
	baz=226							
J25K	**Salcha River,**	89.46	19	P		**P**	18 33 04.4	+0.2
	baz=225							
FURC	**Furnace Creek,**	89.47	51	P		**P**	18 33 05.2	+0.5
FURC				IAmb		IAmb	18 33 07.5	
	comp=Z,21nm,0.9s							
E20K	**Nigu River**	89.48	13	P		**P**	18 33 05.0	+0.9
	baz=215,SNR=13							
G22K	**Bettles**	89.49	15	P		**P**	18 33 05.5	+1.4
	baz=219							
C19K	**Lookout Ridge**	89.51	11	P		**P**	18 33 05.8	+1.6
	baz=212							
PINE	**Pine Mountain**	89.51	44	IAmb		IAmb	18 33 08.1	
	comp=Z,56nm,1.7s							
CBB	**Campbell River**	89.56	37	P		**P**	18 33 05.4	+0.5
CBB				IAmb		IAmb	18 33 08.5	
	comp=Z,49nm,1.7s							
G23K	**Bananza Creek**	89.70	16	P		**P**	18 33 06.4	+1.2
	baz=221,SNR=6.2							
SHOC	**Shoshone, Teco**	89.71	52	IAmb		IAmb	18 33 09.0	
	comp=Z,20nm,0.9s							
CLRS	**Cowichan Lake**	89.72	38	IAmb		IAmb	18 34 40.9	
	comp=Z,22nm,1.5s							
D20K	**Etivluk River**	89.76	12	P		**P**	18 33 07.0	+1.6
	baz=214,SNR=10							
WCT	**Wildcat Mounta**	89.77	51	P		**P**	18 33 06.2	-0.1
WCT				IAmb		IAmb	18 33 09.0	
	comp=Z,14nm,0.8s							
F22K	**John River**	89.78	15	P		**P**	18 33 07.0	+1.5
	baz=219							
TPH	**Tonopah**	89.82	50	IAmb		IAmb	18 33 09.2	
	comp=Z,18nm,1.2s							
IRM	**Iron Mountain**	89.94	54	IAmb		IAmb	18 33 10.1	
	comp=Z,23nm,1.3s							
J26L	**Joseph Creek**	89.94	19	P		**P**	18 33 07.8	+1.4
	baz=226							
COLD	**Coldfoot**	90.05	15	IAmb		IAmb	18 33 11.8	
	comp=Z,21nm,0.9s							
COLD	**Coldfoot**	90.05	15	P		**P**	18 33 07.9	+1.2
	baz=220,SNR=8.5							
K27K	**Chicken**	90.09	20	P		**P**	18 33 07.9	+0.9
	baz=228							
E21K	**Killik River**	90.11	13	IAmb		IAmb	18 33 10.5	
	comp=Z,14nm,0.8s							
E21K	**Killik River**	90.11	13	P		**P**	18 33 07.9	+0.9
	baz=217							
TPNV	**Topopah Spring**	90.11	51	IAmb		IAmb	18 33 10.7	
	comp=Z,15nm,0.9s							
O30N	**Mendenhall**	90.16	24	P		**P**	18 33 08.2	+0.7
	baz=233							
N30M	**Aishikik Lake**	90.19	23	P		**P**	18 33 08.4	+0.8
	baz=232							
TROLL	**Troll, Antarti**	90.19	185	⇑P		**P**	18 33 07.8	+0.1
	comp=Z,678nm,0.7s							
BLYC	**Blythe**	90.27	55	IAmb		IAmb	18 33 12.2	
	comp=Z,15nm,1.1s							
M29M	**Somme Creek**	90.30	22	P		**P**	18 33 09.0	+0.8
	baz=231							
E22K	**Anaktuvuk Pass**	90.36	14	IAmb		IAmb	18 33 12.9	
	comp=Z,42nm,1.6s							
E22K	**Anaktuvuk Pass**	90.36	14	P		**P**	18 33 09.6	+1.4
	baz=219							
G24K	**Hadweenzic Riv**	90.37	16	IAmb		IAmb	18 33 13.1	
	comp=Z,14nm,0.8s							
G24K	**Hadweenzic Riv**	90.37	16	P		**P**	18 33 09.8	+1.6
	baz=223							
NVL	**N'lazarevskaya**	90.39	188	*e*P		P	18 32 54.6	-14
NVL				pmax		pmax		
	comp=E,10.0nm,1.0s							
NVL				MLR		MLR		
	comp=Z,122nm,20.0s							
P32M	**Atlin**	90.43	26	P		**P**	18 33 10.1	+1.4
	baz=235							
WVOR	**Wild Horse Val**	90.50	45	P		**P**	18 33 10.0	+0.4
WVOR				IAmb		IAmb	18 33 12.4	
	comp=Z,17nm,1.1s							
WVOR	**Wild Horse Val**	90.50	45	P		**P**	18 33 10.0	+0.4
WVOR				pmax		pmax		
	comp=Z,17nm,1.2s							
C21K	**Knifeblade Rid**	90.51	13	P		**P**	18 33 10.5	+1.7
	baz=216							
LPIG	**La Paz**	90.51	65	LR		LR	19 07 26.4	
	comp=Z,400nm,18.3s,baz=244,slow=31							
NEE2	**Needles Airpor**	90.56	54	IAmb		IAmb	18 33 13.3	
	comp=Z,25nm,1.1s							
S34M	**Telegraph Cree**	90.61	28	P		**P**	18 33 10.7	+1.2
	baz=237							
N31M	**Braeburn, Yuko**	90.71	24	P		**P**	18 33 11.1	+1.1
	baz=233							
B20K	**Meade River**	90.73	12	P		**P**	18 33 11.5	+1.7
	baz=214							
D22K	**Ayikyak River**	90.75	14	IAmb		IAmb	18 33 21.6	
	comp=Z,18nm,1.0s							
D22K	**Ayikyak River**	90.75	14	P		**P**	18 33 11.9	+2.0
	baz=218							
G25K	**Bearman Lake**	90.79	17	P		**P**	18 33 12.1	+2.0
	baz=224							
E23K	**Chandalar**	90.83	15	IAmb		IAmb	18 33 15.6	
	comp=Z,13nm,0.8s							
E23K	**Chandalar**	90.83	15	P		**P**	18 33 12.4	+1.9
	baz=221,SNR=7.7							
F24K	**Squaw Lake**	90.86	16	IAmb		IAmb	18 33 13.7	
	comp=Z,19nm,0.8s							
F24K	**Squaw Lake**	90.86	16	P		**P**	18 33 12.2	+1.7
	baz=223,SNR=8.3							
SNAA	**Sanae**	90.88	183	⇑P		**P**	18 33 10.6	-0.3
	comp=Z,224nm,0.8s							
SNAA	**Sanae**	90.88	183	P		**P**	18 33 10.5	-0.4
SNAA				IAmb		IAmb	18 33 11.8	
	comp=Z,13nm,0.9s							
SNAA	**Sanae**	90.88	183	P		**P**	18 33 10.3	-0.5
	comp=Z,14nm,1.0s,baz=184,slow=4.6,SNR=28							
SNAA				LR		LR	19 12 23.7	
	comp=Z,295nm,18.8s,baz=252,slow=34							
	comp=Z,14nm,1.0s							
SNAA	**Sanae**	90.88	183	*ce*P		**P**	18 33 10.8	-0.1
SNAA				pmax		pmax		
	comp=Z,14nm,1.0s							
EGAK	**Eagle**	90.89	20	P		**P**	18 33 11.8	+1.1
	baz=229							
B21K	**Ikpikpuk River**	90.92	13	IAmb		IAmb	18 33 15.2	
	comp=Z,24nm,0.8s							
B21K	**Ikpikpuk River**	90.92	13	P		**P**	18 33 12.5	+1.8
	baz=216							
J08A	**Circle Bar Ran**	90.97	45	IAmb		IAmb	18 33 14.3	
	comp=Z,19nm,0.9s							
M30M	**Minto, Yukon**	90.99	23	P		**P**	18 33 13.0	+1.7
	baz=233							
LTY	**Liberty**	91.13	40	IAmb		IAmb	18 33 14.4	
	comp=Z,12nm,0.8s							
PRN	**Pahroc Range**	91.17	51	IAmb		IAmb	18 33 15.9	
	comp=Z,21nm,0.9s							
D23K	**Nanushuk River**	91.27	14	IAmb		IAmb	18 33 17.2	
	comp=Z,26nm,1.0s							
D23K	**Nanushuk River**	91.27	14	P		**P**	18 33 14.4	+2.0
	baz=220							
TOLK	**Toolik Lake Re**	91.28	15	P		**P**	18 33 14.1	+1.6
	baz=221							
E07A	**Sunnyside**	91.35	41	IAmb		IAmb	18 33 15.9	
	comp=Z,18nm,0.8s							
DLBC	**Dease Lake**	91.39	28	LR		LR	19 08 57.0	
	comp=Z,2µm,19.1s,baz=200,slow=32							
DLBC	**Dease Lake**	91.39	28	P		**P**	18 33 13.9	+0.7
	baz=238							
G08A	**Pilot Rock**	91.41	43	P		**P**	18 33 14.2	+0.4
G08A				IAmb		IAmb	18 33 16.2	
	comp=Z,16nm,0.9s							
R33M	**Jennings River**	91.49	27	P		**P**	18 33 14.8	+1.0
	baz=238							
HAWA	**Hanford**	91.49	42	IAmb		IAmb	18 33 16.6	
	comp=Z,16nm,0.9s							
F25K	**Christian Rive**	91.51	16	P		**P**	18 33 15.3	+1.7

I29M	**Ogilvie Camp,** comp=Z,46nm,1.8s	**92.19**	**20**	IAmb	IAmb	18 33 22.5		
I29M	**Ogilvie Camp,** baz=231	**92.19**	**20**	P	**P**	**18 33 18.4**	**+1.6**	
C24K	**Franklin Bluff** comp=Z,29nm,1.1s	**92.30**	**14**	IAmb	IAmb	18 33 25.4		
C24K	**Franklin Bluff** baz=222	**92.30**	**14**	P	**P**	**18 33 18.5**	**+1.4**	
J30M	**Hart River** baz=233	**92.37**	**21**	P	**P**	**18 33 18.8**	**+1.1**	
LCMT	**Little Creek M**	**92.38**	**52**	P	**P**	**18 33 18.8**	**+0.3**	
B08A	**Colville Reser** comp=Z,10nm,0.9s	**92.40**	**40**	IAmb	IAmb	18 33 20.0		
TIXI	**Tiksi** comp=Z,112nm,19.4s,baz=122,slow=35	**92.54**	**349**	LR	LR	19 13 47.6		
D25K	**Kavik River** baz=224	**92.56**	**15**	P	**P**	**18 33 19.7**	**+1.2**	
KNB	**Kanab** comp=Z,14nm,1.3s	**92.70**	**52**	IAmb	IAmb	18 33 30.4		
TUC	**Tucson**	**92.75**	**57**	P	**P**	**18 33 20.1**	**-0.1**	
TUC	**Tucson**	**92.75**	**57**	P	**P**	**18 33 20.1**	**-0.1**	
TUC	comp=Z,6.0nm,0.9s			pmax	pmax			
I30M	**Mount Dempster** baz=233	**92.75**	**21**	P	**P**	**18 33 20.5**	**+1.1**	
E27K	**Coleen River** comp=Z,12nm,0.9s	**93.03**	**17**	IAmb	IAmb	18 33 23.0		
E27K	**Coleen River** baz=228,SNR=9.4	**93.03**	**17**	P	**P**	**18 33 21.7**	**+1.1**	
MMPY	**Sheldon Lake,** baz=237	**93.11**	**24**	P	**P**	**18 33 22.1**	**+1.0**	
F28M	**Old Crow** baz=230	**93.15**	**18**	P	**P**	**18 33 22.2**	**+1.1**	
G29M	**Pine Creek** baz=232	**93.26**	**19**	P	**P**	**18 33 22.6**	**+1.0**	
WUAZ	**Wupatki** comp=Z,9.1nm,0.8s	**93.31**	**54**	IAmb	IAmb	18 33 25.7		
EPYK	**Eagle Plains**	**93.33**	**20**	P	**P**	**18 33 21.7**	**-0.3**	
EPYK	comp=Z,18nm,1.1s			IAmb	IAmb	18 33 29.0		
EPYK	**Eagle Plains** baz=233	**93.33**	**20**	P	**P**	**18 33 23.0**	**+1.0**	
C26K	**Camden Bay** baz=225	**93.35**	**15**	P	**P**	**18 33 23.7**	**+1.8**	
C27K	**Jago River** comp=Z,12nm,1.0s	**93.45**	**15**	IAmb	IAmb	18 33 25.1		
C27K	**Jago River** baz=226	**93.45**	**15**	P	**P**	**18 33 23.8**	**+1.3**	
319A	**Douglas** comp=Z,13nm,0.9s	**93.67**	**58**	IAmb	IAmb	18 33 28.0		
NEW	**Newport** comp=Z,101nm,18.0s,baz=236,slow=33	**93.72**	**40**	LR	LR	19 11 29.0		
TGTN	**Hyland Airport** baz=240	**93.74**	**26**	P	**P**	**18 33 24.9**	**+0.8**	
TOAD	**Toad River Com** baz=242	**93.77**	**29**	P	**P**	**18 33 25.5**	**+1.3**	
H31M	**Peel River** baz=235	**93.78**	**21**	P	**P**	**18 33 25.0**	**+0.9**	
G30M	**tAoh Zraii Nji** comp=Z,28nm,1.3s	**93.86**	**19**	IAmb	IAmb	18 33 31.1		
G30M	**tAoh Zraii Nji** baz=233	**93.86**	**19**	P	**P**	**18 33 25.8**	**+1.4**	
E28M	**Babbage River** comp=Z,12nm,0.9s	**93.88**	**17**	IAmb	IAmb	18 33 26.6		
E28M	**Babbage River** baz=230,SNR=9.7	**93.88**	**17**	P	**P**	**18 33 25.6**	**+1.1**	
D27M	**Malcolm River** baz=229	**93.91**	**16**	P	**P**	**18 33 25.6**	**+1.0**	
E29M	**Blow River** baz=232	**94.22**	**18**	P	**P**	**18 33 26.7**	**+0.8**	
F30M	**Barrier River** baz=234	**94.37**	**19**	P	**P**	**18 33 27.7**	**+1.0**	
WMQ	**Urumqi**	**94.44**	**314**	*e*P	**P**	**18 33 28.8**	**+1.1**	
WMQ	comp=Z,140nm,23.8s			LR	LR			
G31M	**Satah River** baz=235	**94.45**	**20**	P	**P**	**18 33 28.1**	**+1.0**	
D28M	**Stokes Point** baz=231	**94.57**	**17**	P	**P**	**18 33 28.7**	**+1.2**	
KOTAN	**Kotaneelee Air** baz=244	**94.89**	**28**	P	**P**	**18 33 30.0**	**+0.7**	
F31M	**Tsiigehtchic** baz=236	**94.91**	**19**	P	**P**	**18 33 30.1**	**+0.9**	
INK	**Inuvik** comp=Z,238nm,18.9s,baz=227,slow=33	**95.47**	**19**	LR	LR	19 12 09.9		
PV10	**Paradox Valley**	**95.98**	**52**	P	**P**	**18 33 34.2**	**-1.0**	
WRGLY	**Wrigley** baz=244	**96.52**	**25**	P	**P**	**18 33 37.8**	**+1.2**	
PDAR	**Pinedale Array** comp=Z,0.6nm,0.9s,baz=46,slow=0.9,SNR=8.2	**96.90**	**47**	P	**P**	**18 33 39.7**	**+0.5**	
PDAR	comp=Z,86nm,20.1s,baz=238,slow=31 comp=Z,0.6nm,0.9s			LR	LR	19 10 05.7		
ANMO	**Albuquerque** comp=Z,229nm,21.4s,baz=340,slow=30	**96.98**	**56**	LR	LR	19 08 40.6		
ANMO	**Albuquerque**	**96.98**	**56**	*ce*P	**P**	**18 33 40.4**	**+0.7**	
ANMO	comp=Z,2.0nm,0.9s			pmax	pmax			
TXAR	**Lajitas Array** comp=Z,0.5nm,0.6s,baz=227,slow=5.6,SNR=5.7	**97.73**	**62**	P	Pdif	18 33 43.4	+0.3	
C36M	**Paulatuk** baz=244	**98.97**	**20**	P	Pdif	18 33 48.6	+1.1	
MKAR	**Makanchi Array** comp=Z,1.0nm,0.8s,baz=101,slow=5.7,SNR=8.0	**98.98**	**316**	P	Pdif	18 33 48.4	+0.2	
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.3s,baz=125,slow=3.2,SNR=2.4	**99.41**	**324**	P	**Pdif**	**18 33 48.8**	**-1.0**	
ZALV	comp=Z,58nm,21.9s,baz=76,slow=35 comp=Z,0.4nm,0.3s			LR	LR	19 17 35.1		
KURK	**Kurchatov**	**102.29**	**319**	*i* P	**Pdif**	**18 34 02.7**	**0.0**	
KURK	comp=Z,1.0nm,1.0s			pmax	pmax			
ARTI	**Arti**	**114.64**	**325**	*i* PKIKP	PKPdf	18 38 47.2	-0.3	
ARTI						18 39 44.0		
ARTI						18 45 59.3		
APA	**Apatity**	**121.83**	**341**	*i* PKIKP	**PKPdf**	**18 38 57.0**	**-4.0**	
APA	comp=Z,9.0nm,1.0s			pmax	pmax			
APA	comp=Z,647nm,4.5s			MLR	MLR			
ARCES	**ARCESS Array B**	**122.77**	**345**	PKP	**PKiKP**	**18 39 03.2**	**+0.1**	
	comp=Z,5.5nm,0.9s,baz=32,slow=4.8,SNR=7.7							
KLMR	**Klimovskoe**	**122.95**	**332**	*e*PKIKP	**PKPdf**	**18 38 56.8**	**-6.6**	
KLMR	comp=Z,14nm,1.6s			pmax	pmax			
RAYN	**Ar Rayn**	**125.20**	**287**		**PKPdf**	**18 39 07.0**	**-1.9**	
RAYN	**Ar Rayn**	**125.20**	**287**	PKIKP	**PKPdf**	**18 39 07.0**	**-1.9**	
KIV	**Kislovodsk**	**126.50**	**312**	*i* PKIKP	**PKiKP**	**18 39 11.7**	**+0.4**	
KIV	comp=Z,6.0nm,1.0s			pmax	pmax			
SHA1	**Shidzhatmaz**	**126.56**	**312**	*i* PKIKP	**PKPdf**	**18 39 10.8**	**-0.4**	
OBN	**Obninsk**	**126.83**	**327**	*ie*PKIKP	**PKiKP**	**18 39 11.4**	**0.0**	
OBN	comp=Z,5.0nm,1.1s			pmax	pmax			
FINES	**FINESS Array B** comp=Z,1.7nm,0.9s,baz=25,slow=6.1,SNR=1.7	**128.10**	**337**	PKP	**PKPdf**	**18 39 13.2**	**0.0**	
AKASG	**Malin Array Be**	**132.80**	**324**	PKP	**PKPdf**	**18 39 22.4**	**-0.1**	
	comp=Z,0.2nm,0.2s,baz=67,slow=1.9,SNR=1.3							
NB2	**NORSAR Subarra**	**133.13**	**344**	PKPdf	PKiKP	18 39 34.2	+10	
	comp=Z,4.7nm,1.2s,baz=31,slow=1.9							
NOA	**NORSAR Array B** comp=Z,0.6nm,0.7s,baz=35,slow=2.1,SNR=2.2	**133.13**	**344**	PKP	**PKiKP**	**18 39 24.4**	**+0.3**	
BRG	**Berggiesshubel**	**140.31**	**333**	*e*PKP	**PKiKP**	**18 39 42.4**	**+3.5**	
BRG	comp=Z,8.5nm,1.4s			Amp		18 39 43.4		
EKA	**Eskdalemuir Ar** comp=Z,0.2nm,0.4s,baz=42,slow=1.2,SNR=2.0	**141.41**	**351**	PKP	**PKPdf**	**18 39 36.1**	**-2.1**	
RONA	**Rosalia, Austr** comp=Z,6.3nm,1.8s	**141.44**	**328**	*i* PKP	**PKPdf**	**18 39 38.7**	**+0.1**	
CONA	**Conrad Observa** comp=Z,0.8nm,0.9s	**141.50**	**329**	*e*PKP	**PKPdf**	**18 39 39.2**	**+0.4**	
KHC	**Kasperske Hory**	**141.75**	**332**	*c i*PKIKP	**PKPdf**	**18 39 38.9**	**-0.2**	
KHC	comp=Z,4.0nm,1.3s			pmax	pmax			
KHC	**Kasperske Hory**	**141.75**	**332**	*e*PKP	**PKPdf**	**18 39 39.5**	**+0.4**	
GERES	**GERESS Array B** comp=Z,1.2nm,0.9s,baz=35,slow=6.1,SNR=5.2	**141.90**	**331**	PKP	**PKPdf**	**18 39 38.2**	**-1.2**	
BIOA	**Bad Ischl, Aus** comp=Z,0.7nm,0.6s	**142.75**	**330**	*e*PKP	**PKPdf**	**18 39 40.4**	**-0.6**	
KBA	**Koelnbreinsper** comp=Z,2.4nm,0.7s	**143.32**	**330**	*ep*PKP	pPKPdf	18 39 44.0	-0.6	
LESA	**Schwarzleotal** comp=Z,1.1nm,0.7s	**143.40**	**330**	*e*PKP	**PKPdf**	**18 39 41.5**	**-0.6**	
MYKA	**Terra Mystica** comp=Z,1.8nm,0.9s	**143.49**	**329**	*ep*PKP	pPKPdf	18 39 44.0	-0.8	
ABTA	**Abfaltersbach** comp=Z,4.7nm,0.9s	**143.96**	**330**	*i* PKP	**PKPdf**	**18 39 43.2**	**0.0**	
WATA	**Walderalm** comp=Z,2.2nm,0.8s	**143.97**	**331**	*ep*PKP	pPKPdf	18 39 45.5	-0.2	
WTTA	**Wattenberg** comp=Z,0.4nm,0.6s	**144.00**	**331**	*i* pPKP	pPKPdf	18 39 44.9	-0.9	
MOTA	**Moosalm** comp=Z,2.2nm,0.8s	**144.18**	**332**	*i* PKP	**PKPdf**	**18 39 43.8**	**+0.2**	
SQTA	**Sankt Quirin** comp=Z,2.7nm,0.7s	**144.23**	**331**	*i* PKP	**PKPdf**	**18 39 44.3**	**+0.7**	
RETA	**Reutte** comp=Z,0.4nm,0.5s	**144.23**	**332**	*i* pPKP	pPKPdf	18 39 44.9	-1.2	
FETA	**Feichten** comp=Z,3.0nm,0.7s	**144.59**	**332**	*e*PKP	**PKPdf**	**18 39 45.3**	**+0.9**	
DAVA	**Damuels** comp=Z,2.1nm,0.7s	**144.77**	**333**	*i* PKP	**PKPab**	**18 39 41.4**	**-2.1**	
BNI	**Bardonecchia**	**147.90**	**333**		**PKPdf**	**18 39 47.8**	**-2.2**	
BNI	**Bardonecchia**	**147.90**	**333**	PKHKP	PKPpre	18 39 47.8		
KEST	**Kesra** comp=Z,5.7nm,0.9s,baz=90,slow=4.4,SNR=4.3	**153.07**	**317**	PKPbc	**PKiKP**	**18 40 08.1**	**+2.3**	
EDA	**Edea**	**153.61**	**242**		**PKPab**	**18 40 18.3**	**-1.5**	
PCAB	**Cabril**	**155.41**	**351**	*e*PKPab	**PKPab**	**18 40 27.9**	**+1.4**	
POLO	**Lamas de Olo**	**155.70**	**351**	*e*PKPab	**PKPab**	**18 40 29.4**	**+1.5**	
MVO	**Moncorvo**	**155.78**	**349**	*e*PKPab	**PKPab**	**18 40 29.9**	**+1.7**	
PVRL	**Vila Real**	**155.79**	**350**	*e*PKPab	**PKPab**	**18 40 29.8**	**+1.6**	
PVIS	**Viseu**	**156.36**	**350**	*e*PKPab	**PKPab**	**18 40 32.1**	**+1.4**	
ESDC	**Sonseca Array** comp=Z,1.1nm,0.8s,baz=21,slow=3.1,SNR=5.0	**156.47**	**342**	PKPab	**PKPab**	**18 40 31.7**	**+0.4**	
MTE	**Manteigas**	**156.61**	**350**	*e*PKPab	**PKPab**	**18 40 33.5**	**+1.6**	
PCAS	**Casmilo, Conde**	**157.10**	**351**	*e*PKPab	**PKPab**	**18 40 35.3**	**+1.5**	
PARRA	**Arraiolos**	**158.39**	**352**	*e*PKPab	**PKPab**	**18 40 37.4**	**-2.0**	
MESJ	**Messejana**	**159.22**	**349**	*e*PKPab	**PKPab**	**18 40 44.9**	**+1.8**	
TORD	**Torodi Ar. Bea** comp=Z,3.3nm,0.9s,baz=13,slow=2.8,SNR=16	**165.25**	**255**	PKP	**PKPdf**	**18 40 12.5**	**-0.3**	
TORD				PKPab	**PKPab**	**18 41 09.9**	**-0.4**	
	comp=Z,5.3nm,0.8s,baz=85,slow=4.6,SNR=15							
DBIC	**Dimbokro** comp=Z,8.8nm,0.9s,baz=150,slow=3.6,SNR=5.0	**166.72**	**218**	PKPab	**PKPab**	**18 41 16.6**	**0.0**	

GCMT 20 18:22:44.0±0.3, 9.15S±0.01×109.53W±0.02, h19km±1km, MW4.9/95, Moment Tensor Solution. s24,c27; s95,c122; Duration: 0 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.40±.12; $M_{\theta\theta}$-0.15±.11; $M_{\phi\phi}$0.55±.11; $M_{r\theta}$0.54±.23; $M_{\theta\phi}$2.70±.09; $M_{\phi r}$-0.14±.19; Best double couple: $M_0$2.78800×10^{16} NP1:ϕ_s357.00000°,δ78.00000°, λ-174.00000°. NP2:ϕ_s266.00000°,δ84.00000°, λ-12.00000°. Principal axes: T 2.9420, Plg4.0000°, Azm312.0000°; N -0.3100, Plg77.0000°, Azm60.0000°; P -2.6330, Plg13.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Central East Pacific Rise

DJA 20 18:28:57.4±0.7, 9°S±7°×11°1E±°, h10km, M3.6/13, MLv3.6/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**0.93**	**12**	P	Pg	18 29 14.1	-1.2
WOJI	**Wonogiri, Jawa**	**1.27**	**357**	P	Pn	18 29 19.7	-1.5
UGM	**Wanagama**	**1.27**	**339**	P	Pn	18 29 20.3	-1.0
NGJI	**Ngawi**	**1.80**	**15**	P	Pb	18 29 30.5	+0.1
SMRI	**Semarang**	**2.12**	**345**	P	Pn	18 29 33.2	+0.3
TBJI	**Tambak Boyo**	**2.43**	**21**	P	Pn	18 29 37.2	0.0
GMJI	**Gumukmas**	**2.57**	**71**	P	Pn	18 29 38.7	-0.5
KPJI	**Karang Pucung**	**2.69**	**311**	P	Pn	18 29 41.2	+0.4
BLJI	**Banyuglugur**	**2.92**	**63**	P	Pn	18 29 44.1	+0.2
JAGI	**Jajag, Banyuwa**	**3.20**	**79**	P	Pn	18 29 47.4	-0.4
CNJI	**Cibinong**	**4.21**	**295**	P	Pn	18 30 01.5	-0.2
CGJI	**Cibinong**	**5.79**	**295**	P	Pn	18 30 19.0	-4.5

*DJA **20** 18:29:23.6±2.2,5°S±4°×13°4E±°, h15km±19km, M4.3/12, mB5.0/3, mb4.6/7, MLv4.2/12, Mw(mB)4.3/3*
*IDC **20** 18:29:44.1±5.2,5.68S×133.37E, h185km±46km, mb3.0/1, mbtmp3.6/4, Error ellipse: s-maj=71.9km s-min=19.7km az=81.0*

ISC 20 18:29:22.8±0.9, 5.03S±0.07×134.22E±0.09, h28km, n15, σ3$09/18, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**1.45**	**339**	P	**Pn**	**18 29 45.5**	**-1.6**
FAKI	**Fak Fak**	**2.87**	**317**	P	**Pn**	**18 30 05.6**	**-1.1**
FAKI				S	**Sn**	**18 30 35.3**	**-5.1**
RKPI	**Ransiki, Papua**	**3.49**	**359**	P	**Pn**	**18 30 13.6**	**-1.7**
BAKI	**Biak**	**4.25**	**26**	P	**Pn**	**18 30 24.6**	**-1.1**
BNDI	**Bandanaira**	**4.33**	**276**	P	**Pn**	**18 30 28.5**	**+1.8**
SWI	**Sorong**	**5.08**	**324**	P	**Pn**	**18 30 36.4**	**-0.7**
SMPI	**Sarmi**	**5.41**	**56**	P	**Pn**	**18 30 42.4**	**+0.8**
MSAI	**Masohi** 0.4nm2µm78nm,0.6s	**5.53**	**287**	P	**Pn**	**18 30 44.0**	**+0.7**
AAI	**Ambon**	**6.15**	**282**	P	**Pn**	**18 30 52.8**	**+1.0**
NLAI	**Namlea** 0.1nm27nm,0.5s	**7.32**	**284**	P	**Pn**	**18 31 09.4**	**+1.5**
SANI	**Sanana**	**8.73**	**290**	P	**Pn**	**18 31 25.9**	**-1.3**
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=358,slow=12,SNR=5.3	**14.83**	**180**	P	**P**	**18 32 56.7**	**+0.5**
WRA	0.7nm,0.7s,baz=347,slow=24,SNR=2.3			S	**Sn**	**18 35 31.0**	**-3.1**
FITZ	**Fitzroy Crossi** 2.1nm,0.7s,baz=38,slow=11,SNR=18	**15.46**	**212**	P	**Pn**	**18 33 00.1**	**+1.0**
FITZ	5.5nm,0.5s,baz=212,slow=17,SNR=10			S	Sn	18 35 40.6	-9.0
ASAR	**Alice Springs** 1.2nm,0.7s,baz=4.3,slow=12,SNR=21	**18.53**	**181**	P	**Pn**	**18 33 41.0**	**+3.4**
ASAR	0.4nm,0.7s,baz=4.7,slow=25,SNR=1.5			S	**Sn**	**18 36 56.3**	**-7.8**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=117,slow=7.1,SNR=2.5 0.3nm,0.5s	**68.97**	**325**	P	**P**	**18 40 29.5**	**+3.9**

GCG 20 18:44:14.9±0.3, 13.08N×89.65W, h30km±4km, MD3.7, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.52**	**38**	*e*P	Pb	18 44 25.3	-0.3
JAYA	**Jayaque - finc**	**0.60**	**19**	*i* S	Sb	18 44 35.7	+0.3
NUBE	**Las Nubes**	**0.83**	**351**	*i* P	Pn	18 44 30.7	0.0
MTO3	**Montecristo**	**1.34**	**12**	*i* P	Pn	18 44 38.3	+0.4

*IDC **20** 19:17:09.2±2.2,24°.3S×179.72E, h492km±22km, mb3.2/6, mbtmp4.1/7, Error ellipse: s-maj=21.4km s-min=17.5km az=8.0*
*NEIC **20** 19:17:10.5±2.2,24°.5S±0.1×179.92E±0.06, h506km±9km, mb4.2/21, Error ellipse: s-maj=16.8km s-min=4.8km az=154.0*

ISC 20 19:17:10.9±0.5, 24°.46S±0.07×179°.91E±0.07, h517km, n44, σ1$30/49, mb4.0/16, 3C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.92**	**345**	P	**P**	**19 18 56.5**	**-0.6**
NIUE	**Niue**	**10.85**	**62**	P	**P**	**19 19 35.7**	**-1.8**
NIUE				S	S	**19 21 36.8**	**-1.2**
DZM	**Mont Dzumac**	**12.61**	**278**	P	**P**	**19 19 56.9**	**+1.0**
DZM	**Mont Dzumac** 8.7nm,0.7s,baz=95,slow=18,SNR=6.3	**12.61**	**278**	P	**P**	**19 19 57.2**	**+1.2**
MXZ	**Matakaoa Point**	**13.13**	**186**	P	**P**	**19 20 02.2**	**+1.1**
URZ	**Urewera** 6.1nm,0.8s,baz=286,slow=5.5,SNR=5.6	**13.96**	**189**	P	**P**	**19 20 08.3**	**-1.4**
URZ	4.1nm,0.5s,baz=208,slow=24,SNR=8.2			S	**S**	**19 22 34.6**	**-2.6**
QRZ	**Quartz Range**	**17.45**	**199**	P	**P**	**19 20 43.3**	**-1.8**
THZ	**Tophouse**	**18.21**	**197**	P	**P**	**19 20 51.0**	**-1.2**
THZ	comp=Z,26nm,1.4s			IAmb	IAmb	19 21 25.1		
DSZ	**Denniston Nort**	**18.51**	**199**	P	**P**	**19 20 53.5**	**-1.4**
ARMA	**Armidale**	**25.75**	**250**	P	**P**	**19 22 01.7**	**+1.4**
ARMA	comp=Z,17nm,1.2s			IAmb	IAmb	19 22 20.1		
CTAO	**Charters Tower**	**31.40**	**271**	P	**P**	**19 22 49.5**	**+0.1**
CTAO	comp=Z,16nm,1.2s			IAmb	IAmb	19 23 11.8		
COEN	**Coen**	**36.13**	**280**	P	**P**	**19 23 30.3**	**+1.0**
COEN	comp=Z,28nm,1.5s			IAmb	IAmb	19 23 46.7		
BBOO	**Buckleboo**	**39.15**	**248**	P	**P**	**19 23 52.6**	**-1.2**
AS31	**Alice Springs**	**41.87**	**261**	P	**P**	**19 24 15.0**	**-0.7**
ASAR	**Alice Springs**	**41.87**	**261**	P	**P**	**19 24 14.7**	**-1.0**
ASAR	**Alice Springs** comp=Z,0.5nm,0.5s,baz=90,slow=6.7,SNR=14	**41.87**	**261**	P	**P**	**19 24 15.1**	**-0.6**
ASAR	comp=Z,1.0nm,1.2s,baz=98,slow=3.8,SNR=1.7			ScP	**ScP**	**19 29 03.5**	**+2.9**
ASAR	comp=Z,0.3nm,0.8s,baz=104,slow=15,SNR=2.4 comp=Z,0.5nm,0.5s			S	**S**	**19 29 54.6**	**-1.7**
WR8	**Warramunga Arr**	**42.14**	**267**	P	**P**	**19 24 16.8**	**-1.1**
WR8	comp=Z,4.8nm,1.2s			IAmb	IAmb	19 24 30.8		
WB0	**Warramunga Arr**	**42.29**	**267**	P	**P**	**19 24 17.8**	**-1.2**
WB0	comp=Z,12nm,1.5s			IAmb	IAmb	19 24 21.3		
WRA	**Warramunga Arr** comp=Z,1.2nm,0.4s,baz=102,slow=8.1,SNR=15	**42.29**	**267**	P	**P**	**19 24 18.0**	**-1.1**
WRA	comp=Z,1.2nm,0.9s,baz=108,slow=3.5,SNR=5.4 comp=Z,1.2nm,0.4s			ScP	**ScP**	**19 29 05.2**	**+2.8**
KNRA	**Kununurra**	**48.61**	**270**	P	**P**	**19 25 06.8**	**-0.6**
KNRA	comp=Z,13nm,1.2s			IAmb	IAmb	19 25 08.2		
FAKI	**Fak Fak**	**50.67**	**287**	P	**P**	**19 25 22.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**50.71**	**266**	P	**P**	**19 25 22.6**	**-0.3**
SBA	**Scott Base**	**53.81**	**183**	P	**P**	**19 25 46.0**	**+1.8**
VNDA	**Vanda**	**53.81**	**185**	P	**P**	**19 25 45.0**	**+0.7**
VNDA	**Vanda** comp=Z,0.5nm,0.7s,baz=20,slow=8.1,SNR=2.7 comp=Z,0.5nm,0.7s	**53.81**	**185**	P	**P**	**19 25 44.7**	**+0.5**
JCJ	**Chichijima**	**62.87**	**322**	P	**P**	**19 26 46.3**	**+0.1**
QSPA	**South Pole Qui**	**65.62**	**180**	P	**P**	**19 27 05.2**	**+1.9**
QSPA	comp=Z,3.9nm,0.9s			IAmb	IAmb	19 27 07.6		
QSPA				PcP	**PcP**	**19 27 31.2**	**+1.3**
QSPA	**South Pole Qui** comp=Z,2.6nm,0.6s,baz=326,slow=0.6,SNR=23 comp=Z,2.6nm,0.6s	**65.62**	**180**	P	**P**	**19 27 05.5**	**+2.2**
SMAI	**San Martin Ant**	**75.61**	**159**	P	**P**	**19 28 02.6**	**+0.6**
SMAI	comp=Z,8.5nm,1.0s			IAmb	IAmb	19 28 03.7		
BELA	**Belgrano 2**	**75.89**	**173**	P	**P**	**19 28 03.1**	**-0.4**
BELA	comp=Z,2.5nm,0.9s			IAmb	IAmb	19 28 20.3		
ATKA	**Atka Island**	**76.51**	**4**	P	**P**	**19 28 08.2**	**+1.2**
KNMB	**Chin-men Tao**	**76.92**	**305**	P	**P**	**19 28 09.2**	**-0.8**
MAW	**Mawson** comp=Z,1.5nm,0.6s,baz=124,slow=8.9,SNR=4.0 comp=Z,1.5nm,0.6s	**77.20**	**200**	P	**P**	**19 28 10.6**	**-0.2**
TROLL	**Troll, Antarti** comp=Z,174nm,0.3s	**83.77**	**181**	⇑P	**P**	**19 28 44.4**	**-0.7**
VNA3	**Neumayer Olymp** comp=Z,0.8nm,0.3s	**84.32**	**177**	⇑P	**P**	**19 28 47.2**	**-0.5**
VNA2	**Neumayer--Watz** comp=Z,3.1nm,0.6s,baz=178,slow=4.8	**84.74**	**178**	⇑P	**P**	**19 28 49.5**	**-0.2**
TXAR	**Lajitas Array** comp=Z,1.3nm,0.9s,baz=283,slow=1.4,SNR=6.0 comp=Z,1.3nm,0.9s	**90.80**	**58**	P	**P**	**19 29 20.5**	**+1.4**
BVAR	**Borovoye Array** comp=Z,0.4nm,0.4s,baz=89,slow=3.4,SNR=4.4	**120.81**	**318**	PKP	**PKPdf**	**19 35 02.8**	**-0.9**
FINES	**FINESS Array B** comp=Z,1.1nm,0.8s,baz=40,slow=2.4,SNR=4.9	**138.95**	**341**	PKP	**PKPdf**	**19 35 37.9**	**+0.2**
HFS	**Hagfors** comp=Z,2.3nm,0.4s,baz=33,slow=5.5,SNR=23	**143.08**	**349**	PKhKP	PKPpre	19 35 41.9		
AKASG	**Malin Array Be** comp=Z,0.5nm,0.5s,baz=46,slow=3.2,SNR=4.5	**145.40**	**327**	PKPbc	**PKPdf**	**19 35 49.7**	**+0.3**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.6s,baz=103,slow=4.8,SNR=3.6	**147.85**	**306**	PKPbc	**PKPbc**	**19 35 56.6**	**-1.3**
MMAI	**Mount Meron Ar** comp=Z,1.6nm,0.5s,baz=81,slow=5.3,SNR=5.4	**147.85**	**294**	PKPbc	**PKPbc**	**19 35 58.8**	**+0.8**
EKA	**Eskdalemuir Ar** comp=Z,0.3nm,0.4s,baz=341,slow=2.9,SNR=5.3	**149.08**	**3**	PKPbc	**PKPbc**	**19 35 59.4**	**-0.7**

*NEIC **20** 19:49:29.0±2.0,23°.5S±0°.1×179°.8W±0°.1, h510km±6km, mb4.4/63, Error ellipse: s-maj=17.4km s-min=13.7km az=139.0*
*NOU **20** 19:49:30.2,23°.48S×179°.61W, h545km, mb4.3/43, South of Fiji Islands*
*IDC **20** 19:49:30.1±1.6,23°.39S×179°.97W, h521km±17km, mb3.6/12, mbtmp4.4/14, Error ellipse: s-maj=16.7km s-min=11.9km az=165.0*

ISC 20 19:49:30.5±0.4, 23°.51S±0°.05×179°.84W±0°.06, h532km, n181, σ1$33/189, mb4.5/43, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**5.34**	**11**	P	**P**	**19 51 02.8**	**+0.5**
GLKZ	**Green Lake**	**5.98**	**164**	P	**P**	**19 51 09.3**	**+1.4**
GLKZ				S	**S**	**19 52 27.6**	**-0.1**
MSVF	**Nonsavu**	**6.08**	**341**		**P**	**19 51 09.3**	**+0.1**
MSVF	**Nonsavu**	**6.08**	**341**	P	**P**	**19 51 09.3**	**+0.1**
NIUE	**Niue**	**10.24**	**66**	P	**P**	**19 51 48.0**	**-2.8**
NIUE				S	**S**	**19 53 45.4**	**-0.7**
PINNC	**Pines Island,**	**11.74**	**272**	P	**P**	**19 52 06.4**	**+0.1**
DZM	**Mont Dzumac** 5.4nm,0.8s,baz=166,slow=19,SNR=5.6	**12.73**	**274**	P	**P**	**19 52 15.2**	**-1.6**
WMGZ	**Waiomatatini S**	**14.34**	**186**	P	**P**	**19 52 34.0**	**+0.8**
WMGZ				S	**S**	**19 55 04.2**	**+0.4**
HAZ	**Te Kaha**	**14.34**	**188**	P	**P**	**19 52 34.1**	**+0.9**
HAZ				S	**S**	**19 55 00.7**	**-3.1**
PKGZ	**Pakihiroa**	**14.42**	**187**	P	**P**	**19 52 36.1**	**+2.1**
RUGZ	**Raukumara Rang**	**14.56**	**188**	P	**P**	**19 52 36.0**	**+0.4**
RUGZ				S	**S**	**19 55 06.3**	**-2.0**
PUZ	**Puketiti**	**14.60**	**186**	P	**P**	**19 52 38.2**	**+2.3**
PUZ				S	**S**	**19 55 06.3**	**-2.6**
TWGZ	**Tauwhareparae**	**14.74**	**187**	P	**P**	**19 52 39.1**	**+1.7**
TWGZ				S	**S**	**19 55 10.0**	**-1.5**
KMRZ	**Kaimai**	**14.74**	**193**	P	**P**

JCZ	**Jackson Bay**	**22.54**	**202**	P	**P**	**19 53 49.9**	**-0.3**
JCZ	**Jackson Bay**	**22.54**	**202**	P	**P**	**19 53 49.7**	**-0.6**
WKZ	**Wanaka**	**23.13**	**200**	P	**P**	**19 53 54.6**	**-0.8**
EAZ	**Earnscleugh**	**23.40**	**200**	P	**P**	**19 53 56.9**	**-0.8**
MLZ	**Mavora Lakes**	**23.90**	**201**		**P**	**19 54 01.1**	**-1.2**
MLZ				IAmb	IAmb	19 54 04.5	
	comp=Z,14nm,0.9s						
MLZ	**Mavora Lakes**	**23.90**	**201**	P	**P**	**19 54 02.3**	**0.0**
DCZ	**Deep Cove**	**24.32**	**203**	P	**P**	**19 54 06.1**	**+0.2**
WHZ	**Wether Hill Ro**	**24.42**	**201**		**P**	**19 54 06.0**	**-0.8**
WHZ	**Wether Hill Ro**	**24.42**	**201**	P	**P**	**19 54 06.8**	**0.0**
SYZ	**Scrubby Hill**	**24.63**	**198**	P	**P**	**19 54 08.8**	**+0.2**
ARMA	**Armidale**	**26.30**	**249**	P	**P**	**19 54 25.2**	**+1.4**
ARMA				IAmb	IAmb	19 54 26.2	
	comp=Z,8.5nm,0.7s						
ARMA	**Armidale**	**26.30**	**249**	P	**P**	**19 54 25.6**	**+1.8**
EIDS	**Eidsvold**	**26.51**	**260**		**P**	**19 54 26.4**	**+0.8**
EIDS	**Eidsvold**	**26.51**	**260**	P	**P**	**19 54 26.5**	**+0.9**
CAN	**Canberra**	**29.46**	**239**	P	**P**	**19 54 52.3**	**+1.0**
CAN				IAmb	IAmb	19 54 53.0	
	comp=Z,15nm,0.8s						
CAN	**Canberra**	**29.46**	**239**	P	**P**	**19 54 52.6**	**+1.3**
TV1H	**Townsville Har**	**31.31**	**271**	P	**P**	**19 55 08.4**	**+1.1**
CMSA	**Cobar Meteorol**	**31.49**	**248**	P	**P**	**19 55 09.2**	**+0.4**
CTA	**Charters Tower**	**31.62**	**270**	P	**P**	**19 55 10.9**	**+0.8**
CTAO	**Charters Tower**	**31.62**	**270**		**P**	**19 55 10.9**	**+0.8**
CTAO	**Charters Tower**	**31.62**	**270**	P	**P**	**19 55 11.0**	**+1.0**
QLP	**Quilpie**	**32.62**	**257**	P	**P**	**19 55 19.6**	**+1.1**
TOO	**Toolangi**	**32.78**	**237**	P	**P**	**19 55 20.6**	**+0.9**
TOO				IAmb	IAmb	19 55 21.3	
	comp=Z,7.1nm,1.2s						
TAU	**Tasmania Unive**	**33.30**	**227**	P	**P**	**19 55 24.8**	**+0.8**
TAU	**Tasmania Unive**	**33.30**	**227**	P	**P**	**19 55 24.2**	**+0.2**
PMG	**Port Moresby**	**34.51**	**288**	P	**P**	**19 55 34.1**	**-0.4**
PMG	**Port Moresby**	**34.51**	**288**	P	**P**	**19 55 34.0**	**-0.4**
	comp=Z,39nm,0.9s,baz=202,slow=9.2,SNR=6.6						
	comp=Z,39nm,0.9s						
PMG	**Port Moresby**	**34.51**	**288**	P	**P**	**19 55 34.7**	**+0.2**
STKA	**Stephens Creek**	**35.00**	**248**		**P**	**19 55 39.2**	**+0.8**
STKA	**Stephens Creek**	**35.00**	**248**	P	**P**	**19 55 39.0**	**+0.6**
	comp=Z,9.9nm,0.5s,baz=96,slow=11,SNR=33						
	comp=Z,9.9nm,0.5s						
STKA	**Stephens Creek**	**35.00**	**248**	P	**P**	**19 55 39.1**	**+0.6**
INKA	**Innaminka**	**35.68**	**255**		**P**	**19 55 45.3**	**+1.2**
INKA				IAmb	IAmb	19 55 46.4	
	comp=Z,7.4nm,0.5s						
COEN	**Coen**	**36.20**	**279**	P	**P**	**19 55 49.0**	**+0.5**
COEN				IAmb	IAmb	19 56 17.5	
	comp=Z,22nm,1.3s						
COEN	**Coen**	**36.20**	**279**	P	**P**	**19 55 49.6**	**+1.1**
HTT	**Hallett**	**37.36**	**245**	P	**P**	**19 55 58.3**	**+0.3**
BBOO	**Buckleboo**	**39.73**	**246**	P	**P**	**19 56 16.7**	**-0.4**
BBOO				IAmb	IAmb	19 56 17.7	
	comp=Z,18nm,0.9s						
AS31	**Alice Springs**	**42.24**	**260**		**P**	**19 56 37.2**	**0.0**
AS31				IAmb	IAmb	19 56 38.5	
	comp=Z,7.2nm,0.5s						
ASAR	**Alice Springs**	**42.24**	**260**	P	**P**	**19 56 37.3**	**0.0**
	comp=Z,16nm,0.5s,baz=101,slow=7.2,SNR=60						
ASAR				ScP	**ScP**	**20 01 21.4**	**+2.4**
	comp=Z,2.4nm,0.9s,baz=104,slow=4.0,SNR=11						
ASAR				S	**S**	**20 02 18.6**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=94,slow=14,SNR=4.2						
	comp=Z,16nm,0.5s						
WR8	**Warramunga Arr**	**42.43**	**266**		**P**	**19 56 38.2**	**-0.5**
WR8				IAmb	IAmb	19 56 39.1	
	comp=Z,19nm,0.9s						
WB0	**Warramunga Arr**	**42.57**	**266**		**P**	**19 56 39.4**	**-0.5**
WRA	**Warramunga Arr**	**42.58**	**266**	P	**P**	**19 56 39.4**	**-0.5**
WRA	**Warramunga Arr**	**42.58**	**266**	P	**P**	**19 56 39.4**	**-0.5**
	comp=Z,21nm,0.5s,baz=103,slow=8.3,SNR=156						
WRA				ScP	**ScP**	**20 01 22.7**	**+2.4**
	comp=Z,1.2nm,0.9s,baz=108,slow=4.0,SNR=8.1						
WRA				S	**S**	**20 02 21.2**	**-3.0**
	comp=Z,0.6nm,0.8s,baz=94,slow=12,SNR=3.6						
	comp=Z,21nm,0.5s						
KDU	**Kakadu**	**46.40**	**275**	P	**P**	**19 57 08.9**	**-0.5**
FORT	**Forrest**	**46.58**	**249**		**P**	**19 57 09.9**	**-0.6**
MTN	**Manton Dam**	**47.57**	**274**	P	**P**	**19 57 17.5**	**-0.7**
MTN				IAmb	IAmb	19 57 43.6	
	comp=Z,22nm,1.4s						
MTN	**Manton Dam**	**47.57**	**274**	P	**P**	**19 57 17.6**	**-0.7**
KNRA	**Kununurra**	**48.83**	**269**		**P**	**19 57 27.4**	**-0.2**
KNRA				IAmb	IAmb	19 57 28.6	
	comp=Z,29nm,1.1s						
FAKI	**Fak Fak**	**50.61**	**286**	P	**P**	**19 57 40.3**	**-0.5**
FAKI	**Fak Fak**	**50.61**	**286**	P	**P**	**19 57 40.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**51.00**	**265**	P	**P**	**19 57 43.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**51.00**	**265**	P	**P**	**19 57 43.9**	**+0.4**
VNDA	**Vanda**	**54.78**	**185**	P	**P**	**19 58 10.8**	**+1.4**
VNDA	**Vanda**	**54.78**	**185**	P	**P**	**19 58 10.9**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=29,slow=7.0,SNR=6.0						
	comp=Z,0.4nm,0.5s						
SOEI	**Soe**	**54.96**	**275**		**P**	**19 58 12.7**	**+0.8**
SOEI				IAmb	IAmb	19 58 14.3	
	comp=Z,25nm,0.9s						
SOEI	**Soe**	**54.96**	**275**	P	**P**	**19 58 12.3**	**+0.4**
MEEK	**Meekatharra**	**55.36**	**253**	P	**P**	**19 58 14.7**	**+0.2**
	comp=Z,12nm,1.9s						
PSA00	**Pilbara Seismi**	**55.38**	**259**	P	**P**	**19 58 13.4**	**-1.2**
PSA00	**Pilbara Seismi**	**55.38**	**259**	P	**P**	**19 58 14.1**	**-0.5**
PSA00				IAmb	IAmb	19 58 44.8	
	comp=Z,24nm,1.2s						
PSA00	**Pilbara Seismi**	**55.38**	**259**	P	**P**	**19 58 14.6**	**0.0**
NWAO	**Narrogin (SRO)**	**55.53**	**245**	P	**P**	**19 58 15.2**	**-0.3**
NWAO				IAmb	IAmb	19 58 27.2	
	comp=Z,48nm,1.4s						
MBWA	**Marble Bar**	**55.58**	**260**	P	**P**	**19 58 14.9**	**-1.1**
MBWA				IAmb	IAmb	19 58 16.1	
	comp=Z,14nm,0.8s						
MBWA	**Marble Bar**	**55.58**	**260**	P	**P**	**19 58 15.9**	**-0.1**
BLDU	**Ballidu**	**56.30**	**248**	P	**P**	**19 58 20.6**	**-0.3**
MUN	**Mundaring**	**56.52**	**246**	P	**P**	**19 58 22.7**	**+0.3**
MORW	**Morawa**	**57.14**	**250**	P	**P**	**19 58 26.4**	**-0.3**
MORW				IAmb	IAmb	19 58 27.1	
	comp=Z,12nm,0.6s						
MORW	**Morawa**	**57.14**	**250**	P	**P**	**19 58 26.6**	**-0.1**
MMRI	**Maumere**	**57.23**	**275**	P	**P**	**19 58 27.1**	**-0.4**
MMRI				IAmb	IAmb	19 58 56.5	
	comp=Z,21nm,0.9s						
GIRL	**Giralia**	**60.14**	**257**	P	**P**	**19 58 47.8**	**+0.8**
CASY	**Casey**	**60.52**	**206**	P	**P**	**19 58 48.0**	**-0.7**
KAPI	**Kappang**	**60.92**	**278**	P	**P**	**19 58 52.4**	**+0.2**
PLAI	**Plampang**	**61.24**	**273**	P	**P**	**19 58 54.3**	**-0.1**
TOLI2	**Tolitoli**	**62.62**	**284**		**P**	**19 59 02.5**	**-0.9**
TOLI2				IAmb	IAmb	19 59 05.0	
	comp=Z,7.9nm,0.6s						
TOLI2	**Tolitoli**	**62.62**	**284**	P	**P**	**19 59 02.7**	**-0.6**
JAGI	**Jajag, Banyuwa**	**64.70**	**272**	P	**P**	**19 59 15.9**	**-0.7**
QSPA	**South Pole Qui**	**66.57**	**180**	P	**P**	**19 59 30.5**	**+2.9**
QSPA	**South Pole Qui**	**66.57**	**180**	P	**P**	**19 59 30.2**	**+2.7**
	comp=Z,1.4nm,1.0s,baz=288,slow=0.4,SNR=6.0						
	comp=Z,1.4nm,1.0s						
UGM	**Wanagama**	**68.24**	**271**	P	**P**	**19 59 38.5**	**-0.1**
KKM	**Kota Kinabalu**	**68.93**	**287**	P	**P**	**19 59 42.6**	**-0.2**
KKM				IAmb	IAmb	19 59 49.6	
	comp=Z,12nm,1.0s						
KIWB	**Kanaga Island**	**75.08**	**2**	P	**P**	**20 00 16.6**	**-0.8**
KIWB				IAmb	IAmb	20 00 53.8	
	comp=Z,24nm,1.1s						
ADK	**Adak**	**75.12**	**2**	P	**P**	**20 00 17.2**	**-0.5**
ADK				IAmb	IAmb	20 00 57.7	
	comp=Z,26nm,1.2s						
ADK	**Adak**	**75.12**	**2**	P	**P**	**20 00 17.1**	**-0.6**
BELA	**Belgrano 2**	**76.80**	**173**	P	**P**	**20 00 26.4**	**-0.4**
NJ2	**Nanjing**	**80.52**	**311**	*eP*	**P**	**20 00 48.6**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
IPM	**Ipoh**	**81.85**	**278**	P	**P**	**20 00 54.4**	**-0.2**
SLBS	**Sierra La Lagu**	**82.49**	**60**	P	**P**	**20 00 57.9**	**+0.2**
KULM	**Kulim**	**82.52**	**279**	P	**P**	**20 00 58.3**	**+0.3**
KULM				IAmb	IAmb	20 01 35.7	
	comp=Z,7.9nm,1.2s						
O02D	**Mt. Diablo Mer**	**82.67**	**40**	P	**P**	**20 00 56.4**	**-1.9**
O02D				IAmb	IAmb	20 01 01.1	
	comp=Z,12nm,1.2s						
BUCR	**Buckhorn Ranch**	**82.75**	**44**	P	**P**	**20 00 58.9**	**+0.1**
CMB	**Columbia Colle**	**82.82**	**43**	P	**P**	**20 00 59.4**	**+0.3**
WSHM	**Spangler Hills**	**83.27**	**47**	P	**P**	**20 01 01.5**	**+0.2**
M02C	**Callahan**	**83.40**	**39**	P	**P**	**20 01 03.6**	**+1.7**
BEKR	**Beckworth**	**83.94**	**42**	P	**P**	**20 01 05.5**	**+0.7**
NVAR	**Mina Array Bea**	**84.38**	**44**	P	**P**	**20 01 07.5**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=222,slow=8.7,SNR=7.1						
	comp=Z,1.4nm,0.8s						

TPNV	**Topopah Spring**	**84.86**	**46**	P	**P**	**20 01 09.7**	**+0.3**
N15K	**Kwethluk River**	**84.93**	**10**	P	**P**	**20 01 09.9**	**+1.0**
N15K				IAmb	IAmb	20 01 10.7	
	comp=Z,7.8nm,0.8s						
J05D	**Fort Rock, OR**	**85.52**	**39**	P	**P**	**20 01 13.9**	**+1.6**
J05D				IAmb	IAmb	20 01 14.5	
	comp=Z,4.7nm,0.7s						
SUA	**Susitna One**	**87.87**	**14**	P	**P**	**20 01 22.8**	**-0.1**
J18K	**Innoko River**	**88.58**	**10**	P	**P**	**20 01 26.2**	**+0.1**
J18K				IAmb	IAmb	20 01 40.5	
	comp=Z,8.4nm,1.4s						
CMAR	**Chiang Mai Arr**	**89.53**	**290**	P	**P**	**20 01 33.4**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=139,slow=3.5,SNR=5.3						
	comp=Z,0.4nm,0.7s						
TRF	**Thorofare Moun**	**89.75**	**13**	P	**P**	**20 01 31.3**	**-0.4**
TRF				IAmb	IAmb	20 01 31.8	
	comp=Z,5.9nm,1.0s						
TX31	**Lajitas Ar. Si**	**90.10**	**58**		**P**	**20 01 35.1**	**+1.0**
TX31				IAmb	IAmb	20 01 36.4	
	comp=Z,1.8nm,0.8s						
TXAR	**Lajitas Array**	**90.11**	**58**	P	**P**	**20 01 35.9**	**+1.8**
TXAR	**Lajitas Array**	**90.11**	**58**	P	**P**	**20 01 35.1**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=214,slow=6.5,SNR=21						
	comp=Z,1.8nm,0.8s						
HHC	**Hu-ho-hao-te**	**90.25**	**315**	*eP*	**P**	**20 01 33.8**	**-0.7**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,150nm,4.4s						
PZH	**PanZhiHua**	**90.62**	**299**	P	**P**	**20 01 36.8**	**+0.2**
ILAR	**Eielson Array**	**91.62**	**13**	P	**P**	**20 01 38.8**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=202,slow=5.2,SNR=2.7						
	comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**92.31**	**44**	P	**P**	**20 01 44.3**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=210,slow=2.1,SNR=7.7						
	comp=Z,1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**115.06**	**316**	PKP	**PKPdf**	**20 07 09.8**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=118,slow=1.9,SNR=2.5						
BVAR	**Borovoye Array**	**120.24**	**319**	PKP	**PKPdf**	**20 07 19.9**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=37,slow=0.7,SNR=4.4						
ARCES	**ARCESS Array B**	**131.54**	**348**	PKP	**PKPdf**	**20 07 41.7**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=40,slow=2.1,SNR=4.9						
NC303	**NORSAR Array S**	**141.52**	**351**	PKPpre	PKPpre	20 07 55.5	
NB201	**NORSAR Array S**	**141.70**	**351**	PKPpre	PKPpre	20 07 56.3	
NOA	**NORSAR Array B**	**141.72**	**351**	PKhKP	PKPpre	20 07 55.9	
	comp=Z,0.8nm,0.8s,baz=17,slow=3.4,SNR=4.0						
HFS	**Hagfors**	**142.19**	**349**	PKhKP	PKPpre	20 07 57.3	
	comp=Z,3.9nm,0.3s,baz=70,slow=4.9,SNR=47						
PABE	**Paberze**	**143.52**	**337**		PKPab	20 08 02.6	-0.1
AKASG	**Malin Array Be**	**144.72**	**328**	PKP	**PKPdf**	**20 08 05.8**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=43,slow=4.0,SNR=8.4						
MMAI	**Mount Meron Ar**	**147.67**	**295**	PKPbc	**PKiKP**	**20 08 16.6**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=69,slow=8.3,SNR=4.1						
EKA	**Eskdalemuir Ar**	**148.12**	**4**	PKPbc	**PKPbc**	**20 08 15.2**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=337,slow=2.5,SNR=12						
BURAR	**Bucovina Array**	**148.73**	**326**	PKPbc	**PKPbc**	**20 08 17.8**	**-0.1**
CLL	**Collm**	**150.53**	**344**		**PKPbc**	**20 08 20.7**	**-1.1**

*SJA **20** 19:55:55.4±0.7,20.°77S×69.°14W,h117km±5km,ML3.7, MW3.7*
*GUC **20** 19:55:57.6±0.7,20.°81S×69.°11W,h105km±4km,ML3.7*
ISC 20 19:55:56.1±1.5,20.°81S±0.°03×69.°18W±0.°07,h119km±9km, n31,σ1°28/55,7C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.37**	**230**	⇑*iP*		**Pn**		**19 56 12.8**	**-0.6**
PB01				*eS*		**Sn**		**19 56 24.7**	**-1.6**
PB01				IAML				19 56 25.3	
	comp=N,11μm,0.2s								
PB01	**IPOC Station P**	**0.37**	**230**	*eP*		**Pn**		**19 56 12.7**	**-0.6**
PB01				*eS*		**Sn**		**19 56 25.2**	**-1.1**
PB01				IAML				19 56 25.2	
	comp=Z,5μm,0.1s								
PB02	**IPOC Station P**	**0.84**	**232**	⇑*iP*		**Pn**		**19 56 17.1**	**+0.5**
PB02				*eS*		**Sn**		**19 56 32.3**	**+0.2**
PB02				IAML				19 56 34.6	
	comp=E,3μm,0.4s								
PB02	**IPOC Station P**	**0.84**	**232**	*eP*		**Pn**		**19 56 17.0**	**+0.4**
PB02				*eS*		**Sn**		**19 56 33.4**	**+1.3**
PB02				IAML				19 56 34.5	
	comp=Z,2μm,0.1s								
HMBC	**Humberstone**	**0.84**	**308**	⇑*iP*		**Pn**		**19 56 16.7**	**0.0**
HMBC				*eS*		**Sn**		**19 56 31.4**	**-0.8**
HMBC				IAML				19 56 32.3	
	comp=N,7μm,0.3s								
HMBC	**Humberstone**	**0.84**	**308**	*eP*		**Pn**		**19 56 16.7**	**0.0**
HMBC				*eS*		**Sn**		**19 56 32.1**	**-0.1**
HMBC				IAML				19 56 34.4	
	comp=Z,3μm,0.3s								
PATCX	**Punta Patache**	**0.91**	**269**	⇑*iP*		**Pn**		**19 56 17.7**	**+0.5**
PATCX				*eS*		**Sn**		**19 56 33.5**	**+0.4**
PATCX				IAML				19 56 34.9	
	comp=E,2μm,0.3s								
PATCX	**Punta Patache**	**0.91**	**269**	*eP*		**Pn**		**19 56 17.1**	**-0.1**
PATCX				*eS*		**Sn**		**19 56 34.4**	**+1.3**
PATCX				IAML				19 56 34.7	
	comp=Z,1μm,0.4s								
TA01	**Diego Aracena**	**0.96**	**284**	⇑*iP*		**Pn**		**19 56 17.9**	**+0.3**
TA01				*eS*		**Sn**		**19 56 33.6**	**-0.3**
TA01	**Diego Aracena**	**0.96**	**284**	*eP*		**Pn**		**19 56 18.1**	**+0.4**
TA01				*eS*		**Sn**		**19 56 34.7**	**+0.8**
TA01				IAML				19 56 38.0	
	comp=Z,431nm,0.5s								
PB09	**IPOC Station P**	**0.98**	**183**	⇑*iP*		**Pn**		**19 56 18.7**	**+0.7**
PB09				*eS*		**Sn**		**19 56 34.7**	**0.0**
PB09				IAML				19 56 35.8	
	comp=E,2μm,0.4s								
PB09	**IPOC Station P**	**0.98**	**183**	*eP*		**Pn**		**19 56 18.5**	**+0.4**
PB09				*eS*		**Sn**		**19 56 35.4**	**+0.7**
PB09				IAML				19 56 38.0	
	comp=Z,1μm,0.6s								
TA02	**Huaiquique**	**1.04**	**301**	*eP*		**Pn**		**19 56 18.7**	**+0.4**
TA02	**Huaiquique**	**1.04**	**301**	*eP*		**Pn**		**19 56 18.9**	**+0.6**
TA02				*eS*		**Sn**		**19 56 35.4**	**+0.2**
TA02				IAML				19 56 36.1	
	comp=Z,1μm,0.9s								
PB11	**IPOC Station P**	**1.13**	**337**	*i* P		**Pn**		**19 56 19.6**	**+0.1**
PB11				*eS*		**Sn**		**19 56 36.7**	**-0.5**
PB11				IAML				19 56 37.8	
	comp=E,3μm,0.4s								
PB11	**IPOC Station P**	**1.13**	**337**	*eP*		**Pn**		**19 56 19.1**	**-0.5**
PB11				*eS*		**Sn**		**19 56 37.0**	**-0.3**
PB11				IAML				19 56 38.0	
	comp=Z,928nm,0.4s								
GO01	**Chusmiza**	**1.13**	**360**	*eP*		**Pn**		**19 56 20.2**	**+0.3**
GO01				*eS*		**Sn**		**19 56 37.2**	**-0.7**
GO01				IAML				19 56 38.9	
	comp=N,2μm,0.2s								
GO01	**Chusmiza**	**1.13**	**360**	*eP*		**Pn**		**19 56 19.6**	**-0.3**
GO01				*eS*		**Sn**		**19 56 37.8**	**0.0**
GO01				IAML				19 56 40.5	
	comp=Z,451nm,0.2s								
PB03	**IPOC Station P**	**1.34**	**203**	⇑*iP*		**Pn**		**19 56 22.5**	**+0.7**
PB03				*eS*		**Sn**		**19 56 41.3**	**-0.1**
PB03				IAML				19 56 43.0	
	comp=N,840nm,0.1s								
PB03	**IPOC Station P**	**1.34**	**203**	*eP*		Pn		19 56 17.1	-4.8
PB03				*eP*				19 56 22.5	
PB03				*eS*		**Sn**		**19 56 41.6**	**+0.3**
PB03				IAML				19 56 43.6	
	comp=Z,650nm,0.2s								
PB06	**IPOC Station P**	**1.92**	**191**	*i* P		**Pn**		**19 56 29.5**	**+0.8**
PB06				*eS*		**Sn**		**19 56 53.6**	**0.0**
PB06				IAML				19 56 55.6	
	comp=E,425nm,0.2s								
PB06	**IPOC Station P**	**1.92**	**191**	*eP*		**Pn**		**19 56 29.6**	**+0.8**
PB06				*eS*		**Sn**		**19 56 54.8**	**+1.1**
PB06				IAML				19 57 00.1	
	comp=Z,417nm,0.3s								
PB05	**IPOC Station P**	**2.24**	**205**	*eP*		**Pn**		**19 56 33.4**	**+0.8**
PB05				IAML				19 57 01.1	
	comp=E,274nm,0.4s								
PB05	**IPOC Station P**	**2.24**	**205**	*eP*		**Pn**		**19 56 33.5**	**+0.8**
PB05				*eS*		**Sn**		**19 57 00.3**	**-0.5**
PB05				IAML				19 57 02.3	
	comp=Z,198nm,0.7s								
AF01	**San Pedro de A**	**2.33**	**157**	*eP*		Pn		19 56 21.9	-12
AF01				*eS*		**Sn**		**19 57 03.2**	**+0.3**
AF01				IAML				19 57 36.0	
	comp=Z,221nm,0.6s								
PB16	**IPOC Station P**	**2.48**	**353**	*eP*		**Pn**		**19 56 37.7**	**+1.6**
PB16				IAML				19 57 38.3	
	comp=E,85nm,0.2s								

PB16	**IPOC Station P**	**2.48**	**353**	*eP*		**Pn**		**19 56 37.9**	**+1.7**
PB16				*eS*		**Sn**		**19 57 04.5**	**-2.2**
PB10	**IPOC Station P**	**2.98**	**205**	*eP*		**Pn**		**19 56 42.4**	**+0.4**
PB10				IAML				19 57 39.0	
	comp=E,81nm,0.2s								
PB10	**IPOC Station P**	**2.98**	**205**	*eP*		**Pn**		**19 56 42.6**	**+0.5**
PB10				*eS*		**Sn**		**19 57 10.1**	**-7.4**
PB14	**IPOC Station P**	**3.96**	**196**	*eP*		**Pn**		**19 56 56.0**	**+0.6**
PB14				IAML				19 58 08.9	
	comp=Z,54nm,0.4s								
GO02	**Mina Guanaco**	**4.35**	**185**	*eP*		**Pn**		**19 57 00.1**	**-0.5**
GO02				*eS*		**Sn**		**19 57 51.0**	**+0.3**
GO02				IAML				19 58 22.9	
	comp=Z,68nm,0.6s								

*SOME **20** 20:19:32.7,42.°08N×81.°17E,h10km*
*NNC **20** 20:19:34.1±1.1,41.°95N×81.°05E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=8.2km s-min=4.9km az=158.0*
ISC 20 20:19:33.5±2.0,42.°12N±0.°09×81.°12E±0.°06,h10km,n33, σ2°29/46,8C-5D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.60**	**311**	P		**Pn**		**20 20 02.2**	**+0.2**
	116nm,0.2s								
SHLS				S		**Sn**		**20 20 23.1**	**+0.3**
	903nm,0.4s								
SHLS	**Shalkode**	**1.60**	**311**	*eP*		**Pn**		**20 20 02.2**	**+0.2**
	116nm,0.2s								
SHLS				*eS*		**Sn**		**20 20 23.1**	**+0.3**
	903nm,0.4s								
PDGK	**Podgornoye**	**1.70**	**316**	⇑P		**Pg**		**20 20 06.7**	**+0.6**
	38nm,0.7s								
UZB	**Uzynbulak**	**1.86**	**304**	Pg		**Pg**		**20 20 09.5**	**+0.4**
	21nm,0.4s								
UZB				Lg		Lg		20 20 35.3	
	97nm,0.3s								
UZB	**Uzynbulak**	**1.86**	**304**	*eP*		**Pg**		**20 20 09.5**	**+0.4**
	21nm,0.4s								
UZB				*eS*		**Sg**		**20 20 35.3**	**+2.1**
	97nm,0.3s								
SATY	**Saty**	**2.21**	**296**	Pg		**Pg**		**20 20 15.9**	**0.0**
	34nm,0.4s								
SATY				Lg		Lg		20 20 46.3	
	174nm,0.2s								
KPKS	**Kokpek**	**2.24**	**308**	Pg		**Pg**		**20 20 16.9**	**+0.4**
	0.5nm,0.3s								
KPKS				Lg		Lg		20 20 47.7	
	159nm,0.3s								
KURS	**Kuram**	**2.56**	**303**	Pg		**Pg**		**20 20 22.3**	**-0.3**
	23nm,0.6s								
KURS				Lg		Lg		20 20 57.2	
	32nm,0.6s								
KOTS	**Kotyrbulak**	**3.16**	**292**	Pg		**Pg**		**20 20 32.4**	**-1.6**
	18nm,0.4s								
KOTS				Lg		Lg		20 21 14.4	
	75nm,0.6s								
KOTS	**Kotyrbulak**	**3.16**	**292**	*eP*		**Pg**		**20 20 32.4**	**-1.6**
	18nm,0.4s								
KOTS				*eS*		**Sg**		**20 21 14.4**	**-0.5**
	75nm,0.6s								
MDOK	**Medeo**	**3.18**	**290**	Pg		**Pg**		**20 20 33.1**	**-1.3**
	6.3nm,0.4s								
MDOK				Lg		Lg		20 21 15.3	
	27nm,0.7s								
ARXS	**Arharly**	**3.19**	**312**	*eP*		**Pg**		**20 20 33.2**	**-1.4**
ARXS				*eS*		**Sg**		**20 21 16.1**	**+0.2**
TNSS	**Tian-Shan**	**3.21**	**288**	Pg		**Pg**		**20 20 33.4**	**-1.8**
	5.1nm,0.5s								
TNSS				Lg		Lg		20 21 15.7	
	12nm,0.4s								
TNSS	**Tian-Shan**	**3.21**	**288**	*eP*		**Pg**		**20 20 33.4**	**-1.8**
	5.1nm,

*DJA **20** 20:34:33.6±1.3,4˚N±10˚×12˚5E±˚, h238km±12km, M4.2/12, mB4.8/4, mb4.3/4, MLv4.2/12, Mw(mB)4.1/4*

ISC 20 20:34:32.5±0.5, 3˚56N±0.05×124˚94E±0.07, h250km, n51, σ1℘39/53, mb4.1/20, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.60**	**78**	P	**Pn**	**20 35 05.4**	**-0.4**
DAV	**Davao City (W)**	**3.54**	**10**	Pn	**Pn**	**20 35 30.7**	**-0.4**
TNTI	**Ternate**	**3.68**	**139**		**Pn**	**20 35 31.9**	**-0.7**
TNTI				Sn	**S**	**20 36 16.6**	**-3.9**
TNTI	**Ternate**	**3.68**	**139**	P	**Pn**	**20 35 32.0**	**-0.7**
MRSI	**Marisa**	**4.28**	**224**	P	**Pn**	**20 35 41.7**	**+2.0**
TOLI2	**Tolitoli**	**4.81**	**240**		**Pn**	**20 35 46.1**	**0.0**
LUWI	**Luwuk**	**5.06**	**205**	Pn	**Pn**	**20 35 49.8**	**+0.7**
LUWI				Sn	**S**	**20 36 47.0**	**-3.1**
MYLDM	**Lahad Datu**	**6.62**	**284**	Pn	**Pn**	**20 36 05.0**	**-3.5**
NLAI	**Namlea**	**7.09**	**162**	P	**Pn**	**20 36 14.6**	**+0.2**
	3μm23nm, 0.4s						
MSAI	**Masohi**	**7.94**	**150**	P	**Pn**	**20 36 25.9**	**+0.8**
FAKI	**Fak Fak**	**9.74**	**131**	Pn	**Pn**	**20 36 47.3**	**-0.6**
SOEI	**Soe**	**13.24**	**183**	P	**P**	**20 37 34.0**	**+0.8**
KNRA	**Kununurra**	**19.48**	**169**	P	**P**	**20 38 41.3**	**+0.1**
KNRA				IAmb	IAmb	20 38 47.9	
	comp=Z,20nm,1.4s						
TPUB	**Ta-pu**	**20.06**	**348**	P	**P**	**20 38 46.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**21.53**	**178**	P	**P**	**20 39 01.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**21.53**	**178**	P	**P**	**20 39 01.9**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=4.3,slow=9.3,SNR=40 comp=Z,1.7nm,0.3s						
WRA	**Warramunga Arr**	**25.12**	**159**	P	**P**	**20 39 31.5**	**-3.5**
WRA	**Warramunga Arr**	**25.12**	**159**	P	**P**	**20 39 38.0**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=330,slow=9.9,SNR=2.4 comp=Z,0.1nm,0.3s						
PSA00	**Pilbara Seismi**	**25.47**	**191**	P	**P**	**20 39 36.7**	**-1.4**
ASAR	**Alice Springs**	**28.44**	**163**	P	**P**	**20 40 05.5**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=342,slow=7.2,SNR=5.3						
ASAR				PcP	**PcP**	**20 43 11.2**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=358,slow=2.5,SNR=5.5 comp=Z,0.1nm,0.4s						
CRAI	**Chiangrai**	**29.11**	**307**	P	**P**	**20 40 09.6**	**-0.9**
CRAI				IAmb	IAmb	20 40 36.0	
	comp=Z,10nm,1.2s						
CHTO	**Chiang Mai**	**29.59**	**303**	P	P	20 40 16.7	+1.9
MORW	**Morawa**	**33.55**	**194**	P	**P**	**20 40 50.8**	**+1.6**
JKA	**Kamikawa-asahi**	**43.30**	**19**	P	**P**	**20 42 11.1**	**+1.2**
JKA				IAmb	IAmb	20 42 44.8	
	comp=Z,38nm,1.4s						
SONM	**Songino Array**	**46.91**	**343**	P	**P**	**20 42 39.1**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=156,slow=7.6,SNR=5.3 comp=Z,0.4nm,0.4s						
PEA0B	**Petropavlovsk-**	**56.27**	**23**	P	**P**	**20 43 48.9**	**+1.8**
MKAR	**Makanchi Array**	**56.69**	**326**	P	**P**	**20 43 50.4**	**+0.2**
MKAR				PcP	**pP**	**20 44 42.8**	**-1.1**
MKAR	**Makanchi Array**	**56.69**	**326**	P	**P**	**20 43 50.5**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=121,slow=7.3,SNR=31 comp=Z,1.1nm,0.3s						
MAKZ	**Makanchi**	**56.87**	**326**	P	**P**	**20 43 52.0**	**+0.6**
MAKZ				IAmb	IAmb	20 44 19.4	
	comp=Z,6.5nm,1.4s						
KDJ	**Kajisay**	**57.29**	**319**	P	**P**	**20 43 55.9**	**+1.2**
MA2	**Magadan**	**59.32**	**15**	P	**P**	**20 44 10.2**	**+2.2**
MA2				IAmb	IAmb	20 44 27.4	
	comp=Z,7.8nm,1.1s						
ARSB	**Arslanbob**	**59.74**	**317**	P	**P**	**20 44 12.4**	**+0.8**
ARSB				IAmb	IAmb	20 44 13.8	
	comp=Z,6.1nm,1.4s						
ZALV	**Zalesovo Beam**	**59.94**	**334**	P	**P**	**20 44 11.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=109,slow=12,SNR=1.5 comp=Z,0.2nm,0.3s						
GAR	**Garm**	**60.73**	**313**	P	**P**	**20 44 17.7**	**-0.5**
KURBB	**Kurchatov Arra**	**60.93**	**328**	P	**P**	**20 44 19.4**	**+0.3**
	comp=Z,1.3nm,0.4s,baz=128,slow=5.4,SNR=36 comp=Z,1.3nm,0.4s						
KURK	**Kurchatov**	**60.93**	**328**	P	**P**	**20 44 19.1**	**-0.1**
KURK				IAmb	IAmb	20 44 20.3	
	comp=Z,3.4nm,0.4s						
KKAR	**Karatay Array**	**62.14**	**318**	P	**P**	**20 44 27.5**	**+0.1**
LBZ	**Lake Benmore**	**62.56**	**145**	P	**P**	**20 44 31.1**	**+0.9**
BVAR	**Borovoye Array**	**66.50**	**328**	P	**P**	**20 44 55.5**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=128,slow=9.3,SNR=3.6 comp=Z,0.8nm,0.6s						
TIXI	**Tiksi**	**68.04**	**1**	P	**P**	**20 45 04.7**	**0.0**
TIXI				IAmb	IAmb	20 45 06.1	
	comp=Z,9.3nm,1.2s						
CASY	**Casey**	**70.45**	**186**	P	**P**	**20 45 19.2**	**-0.2**
CASY				IAmb	IAmb	20 45 21.7	
	comp=Z,4.5nm,1.0s						
AB31	**Akbulak array**	**71.15**	**321**	P	**P**	**20 45 23.5**	**-0.7**
ABKAR	**Akbulak array**	**71.15**	**321**	P	**P**	**20 45 23.5**	**-0.7**
C18K	**Utukok River**	**80.85**	**21**	P	**P**	**20 46 17.9**	**-0.5**
C18K				IAmb	IAmb	20 46 37.3	
	comp=Z,27nm,1.5s						
PLK4	**Peulik 4**	**80.96**	**32**	P	**P**	**20 46 18.3**	**-0.9**
D19K	**Kuna River**	**81.93**	**21**	P	**P**	**20 46 25.0**	**+0.9**
D19K				IAmb	IAmb	20 47 03.9	
	comp=Z,20nm,1.4s						
IMAR	**Indian Mountai**	**83.22**	**24**	P	**P**	**20 46 31.2**	**+0.5**
B21K	**Ikpikpuk River**	**83.35**	**20**	P	**P**	**20 46 31.9**	**+0.7**
BMAR	**Burnt Mountain**	**86.92**	**23**	P	**P**	**20 46 50.5**	**+1.5**
C27K	**Jago River**	**87.16**	**21**	P	**P**	**20 46 51.0**	**+0.9**
C27K				IAmb	IAmb	20 47 23.7	
	comp=Z,6.2nm,1.2s						
ARCES	**ARCESS Array B**	**89.99**	**340**	P	P	20 47 05.9	+2.5
	comp=Z,3.0nm,1.0s,baz=81,slow=4.8,SNR=4.8 comp=Z,3.0nm,1.0s						

*NEIC **20** 20:38:22.4±1.1, 0.˚96S±0.˚06×128.˚62E±0.˚08, h10km±1km, mb4.2/13, Error ellipse: s-maj=15.2km s-min=7.3km az=234.0*

*DJA **20** 20:38:23.6±0.2, 1.˚S±2˚×12.˚9E±˚, h10km, M4.1/13, mB4.8/1, mb4.4/3, MLv3.9/13, Mw(mB)4.0/1*

*IDC **20** 20:38:30.3±5.1, 1.˚20S±128.˚51E, h76km±49km, mb3.5/7, mbtmp3.9/10, ML3.8/3, MS3.2/1, Error ellipse: s-maj=46.9km s-min=17.7km az=70.0*

ISC 20 20:38:23.2±0.5, 0˚98S±0.˚04×128˚59E±0.˚06, h17km, n42, σ1℘39/47, mb4.0/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.13**	**325**		**Pn**	**20 38 57.9**	**-0.1**
TNTI				Sn	**Sn**	**20 39 24.3**	**+0.2**
TNTI	**Ternate**	**2.13**	**325**	P	**Pn**	**20 38 59.3**	**+1.3**
TNTI				S	**Sn**	**20 39 25.8**	**+1.7**
MSAI	**Masohi**	**2.38**	**172**	P	**Pb**	**20 39 03.9**	**-1.7**
MSAI				S	**Sb**	**20 39 34.5**	**-0.2**
SWI	**Sorong**	**2.67**	**88**	P	**Pn**	**20 39 05.6**	**+0.1**
NLAI	**Namlea**	**2.70**	**214**	P	**Pn**	**20 39 07.4**	**+1.5**
NLAI				S	**Sn**	**20 39 40.5**	**+2.4**
AAI	**Ambon**	**2.72**	**188**	P	**Pn**	**20 39 08.7**	**+2.5**
SANI	**Sanana**	**2.81**	**248**	P	**Pn**	**20 39 07.8**	**+0.3**
FAKI	**Fak Fak**	**4.13**	**118**		**Pn**	**20 39 25.6**	**0.0**
FAKI				Sn	**Sn**	**20 40 13.4**	**-0.2**
FAKI	**Fak Fak**	**4.13**	**118**	P	**Pn**	**20 39 26.0**	**+0.4**
LUWI	**Luwuk**	**5.82**	**269**	Pn	**Pn**	**20 39 50.1**	**+1.2**
LUWI				Sn	**Sn**	**20 40 54.5**	**-0.8**
APSI	**Ampana**	**6.95**	**270**	P	**Pn**	**20 40 04.7**	**+0.4**
	600nm46nm,0.8s						
TOLI2	**Tolitoli**	**8.08**	**285**	Pn	**Pn**	**20 40 20.6**	**+0.6**
TOLI2				Sn	**Sn**	**20 41 47.6**	**-3.5**
BKSI	**Bulukumba**	**9.49**	**243**	P	Pn	20 40 44.7	+5.4
KAPI	**Kappang**	**9.70**	**245**	P	**Pn**	**20 40 46.1**	**+4.0**
	0.9nm,0.3s,baz=69,slow=8.8,SNR=3.6 3.5nm,0.3s						
BATI	**Baumata**	**10.40**	**208**	LR	LR	20 45 10.3	
	comp=Z,126nm,18.8s,baz=168,slow=39						
MTN	**Manton Dam**	**12.05**	**168**		**Pn**	**20 41 14.0**	**-0.3**
KNRA	**Kununurra**	**14.61**	**179**	Pn	**Pn**	**20 41 47.3**	**-2.0**
JAGI	**Jajag, Banyuwa**	**16.19**	**242**	Pn	**Pn**	**20 42 09.3**	**-0.9**
JAGI				IAmb	IAmb	20 42 24.4	
	comp=Z,28nm,1.4s						
FITZ	**Fitzroy Crossi**	**17.26**	**190**	Pn	**Pn**	**20 42 23.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**17.26**	**190**	P	**Pn**	**20 42 23.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=20,slow=6.3,SNR=5.8 comp=Z,1.1nm,0.5s						
WB0	**Warramunga Arr**	**19.52**	**163**	P	**P**	**20 42 48.2**	**-1.7**
WRA	**Warramunga Arr**	**19.67**	**164**	P	**P**	**20 42 50.2**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=346,slow=12,SNR=17 comp=Z,3.3nm,0.8s						
WR8	**Warramunga Arr**	**19.73**	**163**	P	**P**	**20 42 51.0**	**-1.3**
WR8				IAmb	IAmb	20 43 23.2	
	comp=Z,13nm,1.5s						
AS31	**Alice Springs**	**23.13**	**168**	P	**P**	**20 43 27.7**	**-1.1**
AS31				IAmb	IAmb	20 43 35.0	
	comp=Z,3.7nm,0.6s						
ASAR	**Alice Springs**	**23.13**	**168**	P	**P**	**20 43 28.3**	**-0.5**
ASAR	**Alice Springs**	**23.13**	**168**	P	**P**	**20 43 28.2**	**-0.6**
	comp=Z,7.8nm,0.8s,baz=346,slow=12,SNR=46 comp=Z,7.8nm,0.8s						
JHJ2	**Mitsune**	**35.52**	**16**	P	**P**	**20 45 18.2**	**-1.1**
MJAR	**Matsushiro Arr**	**38.39**	**13**	P	**P**	**20 45 46.8**	**+3.1**
	comp=Z,2.3nm,0.9s,baz=188,slow=8.0,SNR=4.5 comp=Z,2.3nm,0.9s						
SONM	**Songino Array**	**52.33**	**341**	P	**P**	**20 47 35.6**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=165,slow=11,SNR=2.3 comp=Z,0.3nm,0.3s						
LBZ	**Lake Benmore**	**56.77**	**145**	P	**P**	**20 48 06.4**	**-0.1**
MKAR	**Makanchi Array**	**62.47**	**326**	P	**P**	**20 48 46.3**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=110,slow=7.8,SNR=4.0 comp=Z,0.6nm,0.7s						
KDJ	**Kajisay**	**63.09**	**319**	P	**P**	**20 48 50.1**	**-0.1**
KDJ				IAmb	IAmb	20 49 23.0	
	comp=Z,2.3nm,0.8s						
CASY	**Casey**	**66.42**	**188**	P	**P**	**20 49 12.0**	**+0.8**
KURBB	**Kurchatov Arra**	**66.69**	**328**	P	**P**	**20 49 13.6**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=128,slow=5.9,SNR=7.7 comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**66.69**	**328**	P	**P**	**20 49 12.9**	**-0.3**
KURK				IAmb	IAmb	20 49 18.9	
	comp=Z,2.6nm,1.0s						
KKAR	**Karatay Array**	**67.94**	**318**	P	**P**	**20 49 21.3**	**0.0**
BVAR	**Borovoye Array**	**72.26**	**327**	P	**P**	**20 49 48.2**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=119,slow=12,SNR=2.2 comp=Z,0.4nm,0.6s						
ABKAR	**Akbulak array**	**76.96**	**321**	P	**P**	**20 50 14.4**	**-0.5**
VNDA	**Vanda**	**78.56**	**173**	P	**P**	**20 50 23.7**	**+0.4**
VNDA				IAmb	IAmb	20 50 56.7	
	comp=Z,2.5nm,1.4s						
VNDA	**Vanda**	**78.56**	**173**	P	**P**	**20 50 23.1**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=326,slow=3.6,SNR=3.8 comp=Z,0.7nm,0.9s						
M14K	**Bethel**	**80.93**	**28**	P	**P**	**20 50 35.1**	**-1.4**
F15K	**North Star Dit**	**81.50**	**23**	P	**P**	**20 50 41.0**	**+1.5**

*IDC **20** 20:44:46.0±1.6, 34.˚53N×24.˚05E, h0km, mb3.6/4, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=72.9km s-min=27.2km az=144.0*

*ATH **20** 20:44:49.1, 34.˚52N×23.˚90E, h26km±2km, ML3.2/3, Manual Solution by A.Moschou First location: 2019/09/20 20:45:56, This location: 2019/09/20 21:29:43 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*

*THE **20** 20:44:50.2, 35˚N±8˚×2˚4E±˚, h21km±5km, M2.7/6, MLh2.7/6*

ISC 20 20:44:49.6±1.6, 34˚53N±0.˚09×23˚95E±0.˚05, h26km±9km, n18, σ0℘64/27, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.33**	**21**	P	**Pb**	**20 44 57.1**	**0.0**
GVD				S	**Sb**	**20 45 02.6**	**+0.4**
GVD	**Gavdhos**	**0.33**	**21**	P	**Pb**	**20 44 57.1**	**0.0**
GVD				S	**Sb**	**20 45 02.4**	**+0.1**
KNDR	**Palaiochora Ch**	**0.73**	**343**	P	**Pb**	**20 45 03.5**	**-0.2**
KNDR				S	**Sn**	**20 45 14.4**	**-0.1**
KNDR	**Palaiochora Ch**	**0.73**	**343**	P	**Pb**	**20 45 03.5**	**-0.2**
KNDR				S	**Sb**	**20 45 13.3**	**0.0**
TMBK	**Timbaki Herakl**	**0.86**	**51**	P	**Pn**	**20 45 06.7**	**+0.8**
TMBK				S	**Sn**	**20 45 18.2**	**+0.5**
TMBK	**Timbaki Herakl**	**0.86**	**51**	P	**Pn**	**20 45 07.0**	**+1.0**
PRNS	**Prines Rethymn**	**0.95**	**29**	P	**Pb**	**20 45 06.4**	**-0.9**
PRNS				S	**Sb**	**20 45 19.5**	**0.0**
CHAN	**Chania**	**0.99**	**5**	P	**Pb**	**20 45 07.5**	**-0.5**
CHAN	**Chania**	**0.99**	**5**	P	**Pb**	**20 45 07.6**	**-0.5**
CHAN				S	**Sn**	**20 45 20.9**	**+0.2**
IDI	**Anoyia**	**1.08**	**46**	P	**Pb**	**20 45 09.6**	**-0.1**
IDI	**Anoyia**	**1.08**	**46**	P	**Pb**	**20 45 09.6**	**-0.1**
IDI				S	**Sn**	**20 45 24.1**	**+0.8**
IACM	**Heraklion**	**1.20**	**50**	P	**Pn**	**20 45 10.5**	**-0.2**
IACM				S	**Sn**	**20 45 26.6**	**+0.4**
ANKY	**Antikythira Is**	**1.43**	**339**	P	**Pn**	**20 45 14.3**	**+0.5**
MMAI	**Mount Meron Ar**	**9.66**	**96**	Pn	**Pn**	**20 47 05.0**	**-1.9**
	0.7nm,0.3s,baz=285,slow=12,SNR=5.4						
MMAI				Sn	Sn	20 48 45.7	-8.8
	0.7nm,0.3s,baz=301,slow=23,SNR=1.6 0.3nm,0.3s						
TORD	**Torodi Ar. Bea**	**29.32**	**229**	P	**P**	**20 50 51.0**	**+0.8**
	0.2nm,0.5s,baz=57,slow=9.5,SNR=1.8 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**42.29**	**50**	P	**P**	**20 52 40.7**	**0.0**
	0.4nm,0.4s,baz=272,slow=8.5,SNR=8.9 0.4nm,0.4s						
MKAR	**Makanchi Array**	**44.95**	**56**	P	**P**	**20 53 02.2**	**0.0**
	0.3nm,0.4s,baz=270,slow=6.9,SNR=5.8 0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**46.16**	**46**	P	**P**	**20 53 11.0**	**-0.7**
	0.6nm,0.4s,baz=271,slow=9.2,SNR=3.9 0.6nm,0.4s						

IDC 20 20:50:29.1±7.1, 17˚02S×177˚77W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=309.7km s-min=40.8km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.40**	**259**	P	P	20 58 50.0	+0.1
	0.3nm,0.4s,baz=94,slow=7.6,SNR=5.5 0.3nm,0.4s						
ASAR	**Alice Springs**	**45.62**	**253**	P	P	20 58 51.3	-0.3
	0.6nm,0.6s,baz=88,slow=8.4,SNR=12 0.6nm,0.6s						
ILAR	**Eielson Array**	**84.89**	**13**	P	P	21 03 05.4	0.0
	0.3nm,0.7s,baz=201,slow=6.7,SNR=2.3 0.3nm,0.7s						

*MOS **20** 20:59:13.6±1.2, 0.˚97S×128.˚63E, h11km, mb5.2/31, Error ellipse: s-maj=9.3km s-min=6.0km az=108.0*

*IDC **20** 20:59:14.3±0.4, 0.˚97S×128.˚65E, h0km, mb4.8/22, mbtmp4.9/27, ML4.7/5, MS4.0/51, Error ellipse: s-maj=16.8km s-min=10.0km az=75.0*

*NEIC **20** 20:59:15.4, 0.˚94S×128.˚67E, h12km*

*NEIC **20** 20:59:15.4, 1.˚04S×128.˚67E, h12km, Moment Tensor Solution. Duration: 1℘6 Moment tensor: Scale 10^16^Nm; Mrr-3.39; Mθθ3.05; Mφφ0.34; Mrθ-1.55; Mθφ0.73; Mφr-0.28; Fault plane solution: Mo3.67000×10^16^ NP1: φs254.25000°, δ32.31000°, λ-92.70000°. NP2:φs77.44000°, δ57.73000°, λ-88.29000°. Principal axes: T 3.5882, Plg13.0000°, Azm166.0000°; N 0.1584, Plg1.0000°, Azm257.0000°; P -3.7465, Plg77.0000°, Azm353.0000°;*

*NEIC **20** 20:59:15.4±1.6, 0.˚95S±0.˚06×128.˚65E±0.˚06, h10km±1km, mb5.2/145, Mww5.0/22 Error ellipse: s-maj=11.8km s-min=8.8km az=49.0*

*GCMT **20** 20:59:16.4±0.1, 0.˚93S±0.˚01×128.˚59E±0.˚02, h12km, MW5.0/125, Moment Tensor Solution. s60,c82; s125,c201; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-3.87±.07; Mθθ3.49±.06; Mφφ0.38±.07; Mrθ0.22±.21; Mθφ1.01±.06; Mφr-0.20±.27; Best double couple: Mo3.84100×10^16^ NP1:φs70.00000°, δ44.00000°, λ-95.00000°. NP2:φs257.00000°, δ46.00000°, λ-85.00000°. Principal axes: T 3.7930, Plg1.0000°, Azm344.0000°; N 0.1040, Plg4.0000°, Azm74.0000°; P -3.8900, Plg86.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **20** 20:59:17.2±0.3, 1.˚S±2˚×12˚9E±˚, h12km±2km, M5.0/89, mb5.2/89, mB5.5/54, MLv5.3/24, Mw(mB)5.0/54, MwMwp4.8/9, Mwp5.1/9*

ISC 20 20:59:16.1±0.2, 1.˚01S±0.˚03×128˚56E±0.˚04, h10km, n636, σ1℘45/580, mb5.1/150, MS4.1/57, 12C-4D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.14**	**326**		**Pn**	**20 59 51.5**	**-0.3**
TNTI	**Ternate**	**2.14**	**326**	P	**Pn**	**20 59 52.4**	**+0.5**
TNTI	**Ternate**	**2.14**	**326**	S	**Sn**	**21 00 19.4**	**+0.9**
TNTI	**Ternate**	**2.14**	**326**	P	**Pn**	**20 59 51.6**	**-0.3**
MSAI	**Masohi**	**2.35**	**171**	P	**Pn**	**20 59 56.5**	**+1.7**
NLAI	**Namlea**	**2.65**	**213**	P	**Pn**	**21 00 00.2**	**+1.2**
AAI	**Ambon**	**2.69**	**188**	P	**Pn**	**21 00 01.6**	**+2.1**
SWI	**Sorong**	**2.70**	**87**	P	**Pn**	**20 59 58.8**	**-0.8**
SANI	**Sanana**	**2.77**	**248**	P	**Pn**	**21 00 01.1**	**+0.4**
SANI	**Sanana**	**2.77**	**248**	S	**Sn**	**21 00 35.4**	**+1.1**
SANI	**Sanana**	**2.77**	**248**	P	**Pn**	**21 00 00.6**	**-0.1**
BNDI	**Bandanaira**	**3.74**	**159**	P	**Pn**	**21 00 17.9**	**+4.0**
BNDI	**Bandanaira**	**3.74**	**159**	P	**Pn**	**21 00 16.2**	**+2.3**
FAKI	**Fak Fak**	**4.14**	**117**		**Pn**	**21 00 18.7**	**-0.9**
FAKI	**Fak Fak**	**4.14**	**117**	P	**Pn**	**21 00 19.4**	**-0.1**
FAKI	**Fak Fak**	**4.14**	**117**	S	**Sn**	**21 01 09.4**	**+1.3**
FAKI	**Fak Fak**	**4.14**	**117**	P	**Pn**	**21 00 18.9**	**-0.6**
KMSI	**Cibinong**	**4.84**	**289**	P	**Pn**	**21 00 30.8**	**+1.6**
SGSI	**Sangihe**	**5.56**	**327**	P	**Pn**	**21 00 40.2**	**+1.1**
RKPI	**Ransiki, Papua**	**5.63**	**95**	P	**Pn**	**21 00 40.6**	**+0.6**
	2.9nm3μm6μm376nm,0.8s						
KMPI	**Kaimana, Papua**	**5.77**	**117**	P	**Pn**	**21 00 41.8**	**-0.1**
	3.5nm6μm498nm,0.8s						
LUWI	**Luwuk**	**5.79**	**270**		**Pn**	**21 00 42.1**	**0.0**
LUWI	**Luwuk**	**5.79**	**270**	P	**Pn**	**21 00 43.5**	**+1.3**
LUWI	**Luwuk**	**5.79**	**270**	S	**Sn**	**21 01 47.9**	**-0.8**
LUWI	**Luwuk**	**5.79**	**270**	P	**Pn**	**21 00 43.0**	**+0.8**
KDI	**Kendari**	**6.62**	**244**	P	**Pn**	**21 00 55.9**	**+2.3**
MRSI	**Marisa**	**6.79**	**283**	P	**Pn**	**21 00 56.6**	**+0.7**
	0.8nm2μm203nm,0.8s						
APSI	**Ampana**	**6.91**	**271**	P	**Pn**	**21 00 58.8**	**+1.2**
SAUI	**Saumlaki**	**7.45**	**159**		**Pn**	**21 01 04.5**	**-0.4**
SAUI	**Saumlaki**	**7.45**	**159**	P	**Pn**	**21 01 06.2**	**+1.3**
BBSI	**Bau Bau**	**7.46**	**233**	P	**Pn**	**21 01 08.5**	**+3.4**
	1.6nm6μm471nm,1.1s						
TOLI2	**Tolitoli**	**8.06**	**285**		**Pn**	**21 01 13.9**	**+0.6**
TOLI2	**Tolitoli**	**8.06**	**285**	P	**Pn**	**21 01 16.0**	**+2.6**
TOLI2	**Tolitoli**	**8.06**	**285**	S	**Sn**	**21 02 46.3**	**+1.6**
DAV	**Davao City (W)**	**8.56**	**340**	Pn	**Pn**	**21 01 21.7**	**+1.4**
	56nm,0.3s,baz=115,slow=3.4,SNR=4.0						
DAV				Sn	Sn	21 03 06.8	+10
	19nm,0.3s,baz=52,slow=17,SNR=1.3 124nm,0.4s						
PCI	**Palu**	**8.73**	**271**	P	**Pn**	**21 01 23.9**	**+1.4**
	3μm307nm,0.9s						
TTSI	**Tana Toraja**	**8.97**	**257**	P	**Pn**	**21 01 27.7**	**+1.8**
BNSI	**Bone**	**9.09**	**248**	P	**Pn**	**21 01 29.9**	**+2.3**
	1μm129nm,0.8s						
SPSI	**Sidrap Palu**	**9.26**	**251**	P	**Pn**	**21 01 32.2**	**+2.3**
BKSI	**Bulukumba**	**9.45**	**243**	P	Pn	21 01 37.1	+4.6
BSSI	**Bau Bau, Buton**	**9.53**	**237**	P	**Pn**	**21 01 37.3**	**+3.7**
KAPI	**Kappang**	**9.66**	**245**		**Pn**	**21 01 36.4**	**+1.1**
KAPI	**Kappang**	**9.66**	**245**	Pn	**Pn**	**21 01 37.9**	**+2.6**
	7.3nm,0.3s,baz=68,slow=5.4,SNR=44						
KAPI				Sn	**Sn**	**21 03 26.1**	**+2.2**
	1.5nm,0.3s,baz=269,slow=23,SNR=1.2 102nm,0.7s						
KAPI	**Kappang**	**9.66**	**245**	P	**Pn**	**21 01 39.4**	**+4.1**
KAPI	**Kappang**	**9.66**	**245**	*i* P	**Pn**	**21 01 37.4**	**+2.1**
SOEI	**Soe**	**9.68**	**206**		**Pn**	**21 01 36.2**	**+0.4**
SOEI	**Soe**	**9.68**	**206**	P	**Pn**	**21 01 40.0**	**+4.2**
SOEI	**Soe**	**9.68**	**206**	P	**Pn**	**21 01 38.5**	**+2.7**
	3μm3μm165nm,1.6s						
MMRI	**Maumere**	**9.85**	**220**		**Pn**	**21 01 39.4**	**+1.4**
MMRI	**Maumere**	**9.85**	**220**	P	**Pn**	**21 01 40.2**	**+2.2**
MMRI	**Maumere**	**9.85**	**220**	P	**Pn**	**21 01 39.6**	**+1.6**
	3μm192nm,1.5s						
SMPI	**Sarmi**	**10.19**	**96**	P	**Pn**	**21 01 43.0**	**+0.4**
	61nm,1.2s						
EDFI	**Ende, Flores**	**10.29**	**221**	P	**Pn**	**21 01 47.7**	**+3.6**
	2μm127nm,1.5s						
BATI	**Baumata**	**10.36**	**208**	Pn	Pn	21 01 49.5	+4.6
	3.0nm,0.3s,baz=241,slow=1.9,SNR=5.6						
BATI				LR	LR	21 06 02.7	
	comp=Z,2μm,18.9s,baz=27,slow=39						
BATI	**Baumata**	**10.36**	**208**	P	**Pn**	**21 01 46.2**	**+1.3**
	1μm122nm,0.9s						
SGKI	**Sangatta, Kali**	**10.97**	**272**	P	**Pn**	**21 01 55.9**	**+2.6**
	140nm,0.9s						
DRS	**Darwin Rock St**	**11.58**	**169**	P	**Pn**	**21 02 03.2**	**+1.5**
BKB	**Balikpapan**	**11.67**	**269**	Pn	**Pn**	**21 02 04.1**	**+1.3**
BKB	**Balikpapan**	**11.67**	**269**	P	**Pn**	**21 02 04.2**	**+1.3**
	122nm,1.6s						
GENI	**Genyem**	**11.70**	**98**	P	**Pn**	**21 02 06.1**	**+2.7**
GENI	**Genyem**	**11.70**	**98**	P	**Pn**	**21 02 02.8**	**-0.6**
	3μm198nm,1.2s						
MYLDM	**Lahad Datu**	**11.78**	**302**		**Pn**	**21 02 04.7**	**+0.3**
MYLDM	**Lahad Datu**	**11.78**	**302**	P	**Pn**	**21 02 07.3**	**+2.9**
WSI	**Waingapu**	**11.90**	**223**	P	**Pn**	**21 02 09.0**	**+3

WRAB pmax pmax
comp=Z,39nm,0.9s
WRA Warramunga Arr 19.65 164 P **P** **21 03 42.1 -3.1**
WRA Warramunga Arr 19.65 164 P **P** **21 03 43.5 -1.8**
comp=Z,2.5nm,0.3s,baz=347,slow=12,SNR=85
WRA S **S** **21 07 23.4 -3.7**
comp=Z,12nm,1.0s,baz=337,slow=23,SNR=6.6
WRA LR LR 21 12 12.1
comp=Z,1μm,19.8s,baz=343,slow=40
comp=Z,70nm,0.8s
WR8 Warramunga Arr 19.71 163 P **P** **21 03 42.7 -3.2**
PMG Port Moresby 20.30 115 P **P** **21 03 48.8 -3.5**
PMG Port Moresby 20.30 115 P **P** **21 03 51.4 -1.0**
comp=Z,26nm,0.9s,baz=328,slow=11,SNR=6.4
PMG LR LR 21 14 58.1
comp=Z,642nm,19.5s,baz=288,slow=47
comp=Z,26nm,0.9s
PMG Port Moresby 20.30 115 P **P** **21 03 55.1 +2.7**
PMG Port Moresby 20.30 115 P Pn 21 03 55.9 +1.5
PMG Port Moresby 20.30 115 *ce*P **P** **21 03 50.8 -1.6**
PMG pmax pmax
comp=Z,65nm,1.0s
KPJI Karang Pucung 20.55 252 P **P** **21 03 57.3 +2.1**
comp=Z,2μmcomp=Z,121nm,1.1s
TPI Tanjungpandan 20.97 265 P **P** **21 04 01.9 +2.2**
LEM Lembang 21.67 254 P **P** **21 04 08.0 +0.6**
comp=Z,35nm,0.7s,baz=80,slow=11,SNR=6.9
LEM LR LR 21 14 07.1
comp=Z,532nm,20.4s,baz=64,slow=41
comp=Z,35nm,0.7s
LEM Lembang 21.67 254 P **P** **21 04 10.1 +2.7**
comp=Z,52nm,1.1s
MBWA Marble Bar 21.80 203 P **P** **21 04 09.3 +0.7**
comp=Z,93nm,1.2s
MBWA Marble Bar 21.80 203 P **P** **21 04 06.8 -1.8**
MBWA IAmb IAmb 21 04 16.6
comp=Z,112nm,1.1s
MBWA Marble Bar 21.80 203 P **P** **21 04 11.5 +2.9**
BBJI Bungbulang 21.81 252 P **P** **21 04 08.8 0.0**
PSA00 Pilbara Seismi 22.14 202 P **P** **21 04 12.5 +0.4**
comp=Z,38nm,1.1s
PSA00 Pilbara Seismi 22.14 202 P **P** **21 04 10.5 -1.6**
PSA00 IAmb IAmb 21 04 15.9
comp=Z,102nm,1.4s
PSA00 Pilbara Seismi 22.14 202 P **P** **21 04 10.5 -1.6**
PSA00 IAmb IAmb 21 04 15.9
comp=Z,36nm,1.2s
PSA00 Pilbara Seismi 22.14 202 P **P** **21 04 13.0 +0.9**
QIS Mount Isa 22.23 152 P **P** **21 04 12.2 -0.9**
comp=Z,148nm,1.4s
QIS Mount Isa 22.23 152 P **P** **21 04 12.5 -0.6**
CNJI Cibinong 22.26 253 P **P** **21 04 14.0 +0.4**
DBJI Dramaga 22.44 255 P **P** **21 04 16.7 +1.1**
comp=Z,45nm,1.0s
MTSU Mount Surprise 23.00 139 P **P** **21 04 21.4 0.0**
comp=Z,23nm,1.0s
MTSU Mount Surprise 23.00 139 P **P** **21 04 24.7 +3.3**
AS31 Alice Springs 23.11 167 P **P** **21 04 20.1 -2.3**
ASAR Alice Springs 23.11 167 P **P** **21 04 21.1 -1.4**
ASAR Alice Springs 23.11 167 P **P** **21 04 21.6 -0.8**
comp=Z,151nm,1.0s,baz=347,slow=11,SNR=166
ASAR PcP **PcP** **21 08 11.5 0.0**
comp=Z,4.0nm,1.0s,baz=347,slow=3.0,SNR=5.2
ASAR S **S** **21 08 32.6 -1.3**
comp=Z,6.5nm,0.9s,baz=344,slow=18,SNR=6.2
ASAR LR LR 21 14 31.8
comp=Z,862nm,21.0s,baz=3.5,slow=40
comp=Z,151nm,1.0s
CGJI Cibinong 23.48 256 P **P** **21 04 23.5 -2.8**
DLV Lat 23.73 303 P **P** **21 04 27.1 -1.9**
DLV IAmb IAmb 21 04 34.5
comp=Z,84nm,1.1s
DLV Lat 23.73 303 P **P** **21 04 29.3 +0.3**
RABL Rabaul 23.78 98 P **P** **21 04 25.6 -3.7**
RABL IAmb IAmb 21 04 42.4
comp=Z,76nm,1.1s
PMBI Palembang 23.85 265 P **P** **21 04 30.0 +0.1**
WRKA Warakurna 23.89 181 P **P** **21 04 28.8 -1.4**
comp=Z,37nm,1.2s
KLI Kotabumi 23.98 260 P **P** **21 04 31.5 +0.4**
comp=Z,106nm,1.2s
DSRI Dabo 23.99 271 P **P** **21 04 33.0 +1.8**
comp=Z,47nm,1.1s
TPRI Tanjung Pinang 24.11 274 P **P** **21 04 34.6 +2.2**
comp=Z,1μmcomp=Z,84nm,1.5s
KASI Kota Agung 24.44 259 P **P** **21 04 36.9 +1.5**
MDSI Maura Dua 24.60 261 P **P** **21 04 37.7 +0.9**
comp=Z,1μmcomp=Z,73nm,1.0s
TWG Pinlang 24.79 343 P **P** **21 04 36.2 -2.2**
TWG IAmb IAmb 21 05 02.2
comp=Z,67nm,1.2s
LWLI Liwa 24.79 260 P **P** **21 04 42.8 +4.1**
comp=Z,2μmcomp=Z,173nm,1.0s
MYKOM Kota Tinggi 24.87 276 P **P** **21 04 37.8 -1.5**
MYKOM Kota Tinggi 24.87 276 P **P** **21 04 40.6 +1.3**
BTDF Bukit Timah Da 24.90 275 P **P** **21 04 41.2 +1.6**
LHSI Lahat 25.17 263 P **P** **21 04 44.6 +2.6**
comp=Z,1μmcomp=Z,56nm,1.1s
YULB Yu-li 25.26 344 P **P** **21 04 39.4 -3.3**
YULB IAmb IAmb 21 04 58.3
comp=Z,66nm,1.4s
TPUB Ta-pu 25.37 343 P **P** **21 04 40.8 -2.8**
GIRL Giralia 25.62 212 P **P** **21 04 45.5 -0.5**
CTA Charters Tower 25.67 139 LR LR 21 16 47.3
comp=Z,18nm,19.7s,baz=308,slow=41
CTA Charters Tower 25.67 139 P **P** **21 04 49.2 +2.8**
CTAO Charters Tower 25.67 139 P **P** **21 04 42.9 -3.6**
CTAO Charters Tower 25.67 139 P **P** **21 04 49.3 +2.8**
CTAO Charters Tower 25.67 139 P **P** **21 04 42.9 -3.6**
CTAO pmax pmax
comp=Z,46nm,1.3s
SSLB Suanglung 25.73 344 P **P** **21 04 44.6 -2.4**
SSLB IAmb IAmb 21 04 51.0
comp=Z,76nm,1.1s
SSLB Suanglung 25.73 344 P **P** **21 04 47.5 +0.5**
NACB Ninganchiao 25.93 345 P **P** **21 04 46.2 -2.5**
NACB IAmb IAmb 21 05 18.4
comp=Z,75nm,1.3s
MASI Maura Aman, Be 26.39 265 P **P** **21 04 54.9 +1.8**
comp=Z,168nm,1.3s
YHNB Yeheng 26.46 345 P **P** **21 04 50.8 -2.8**
YHNB Yeheng 26.46 345 P **P** **21 04 55.4 +1.8**
QIZ Qiongzhong 27.11 318 P **P** **21 04 58.5 -1.0**
QIZ S **S** **21 09 37.8 0.0**
QIZ pmax pmax
comp=Z,10.0nm,1.5s
QIZ pmax pmax
comp=Z,290nm,3.8s
QIZ LR LR
comp=Z,360nm,14.1s
QIZ LR LR
comp=Z,270nm,10.4s
QIZ LR LR
comp=Z,330nm,17.2s
KRJI Kerinci 27.11 267 P **P** **21 05 01.3 +1.6**
MEEK Meekatharra 27.22 200 P **P** **21 04 59.9 -0.5**
comp=Z,34nm,1.9s
MEEK Meekatharra 27.22 200 P **P** **21 04 59.5 -0.9**
JOW Kunigami 27.68 359 LR LR 21 16 49.3
comp=Z,700nm,19.2s,baz=133,slow=38
IPM Ipoh 28.05 281 P P 21 05 05.8 -2.2
IPM Ipoh 28.05 281 P **P** **21 05 08.9 +0.9**
PDSI Padang 28.10 270 P **P** **21 05 09.3 +0.8**
comp=Z,21nm,0.9s
KULM Kulim 28.57 283 P **P** **21 05 11.3 -1.3**
KULM IAmb IAmb 21 05 22.4
comp=Z,40nm,1.2s
KULM Kulim 28.57 283 P **P** **21 05 13.3 +0.6**
INKA Innaminka 29.03 157 P **P** **21 05 15.0 -1.6**
QLP Quilpie 29.56 151 P **P** **21 05 21.9 +0.6**
comp=Z,43nm,1.6s
QLP Quilpie 29.56 151 P **P** **21 05 22.0 +0.7**
FORT Forrest 29.61 181 P **P** **21 05 20.6 -1.0**
RPSI Rantau Prapat 29.86 277 P **P** **21 05 22.9 -1.2**
RPSI IAmb IAmb 21 05 26.8
comp=Z,49nm,1.2s
PSI Prapat 29.87 277 P **P** **21 05 25.2 +0.8**
PSI Prapat 29.87 277 P **P** **21 05 22.9 -1.4**
PSI pmax pmax
comp=Z,49nm,1.2s
GSI Gunungsitoli 31.07 274 P **P** **21 05 33.3 -1.5**
GSI IAmb IAmb 21 06 02.4
comp=Z,23nm,0.8s
GSI Gunungsitoli 31.07 274 P **P** **21 05 34.9 +0.1**
comp=Z,30nm,1.2s

KCSI Kotacane, Aceh 31.10 278 P **P** **21 05 34.5 -0.6**
comp=Z,17nm,1.3s
HNR Honiara 32.33 106 LR LR 21 19 51.8
comp=Z,368nm,21.5s,baz=300,slow=38
EIDS Eidsvold 32.54 140 P **P** **21 05 47.5 -0.1**
comp=Z,22nm,1.2s
EIDS Eidsvold 32.54 140 P **P** **21 05 46.2 -1.3**
EIDS IAmb IAmb 21 05 48.9
comp=Z,28nm,1.2s
EIDS Eidsvold 32.54 140 P **P** **21 05 48.4 +0.8**
MLSI Meulaboh, Aceh 32.56 279 P **P** **21 05 48.3 +0.4**
SLVN Son La 32.77 314 P **P** **21 05 48.5 -1.2**
SLVN Son La 32.77 314 P **P** **21 05 51.3 +1.6**
STKA Stephens Creek 33.08 159 P **P** **21 05 50.3 -1.9**
STKA Stephens Creek 33.08 159 P **P** **21 05 50.2 -2.0**
comp=Z,13nm,1.0s,baz=332,slow=10,SNR=13
STKA LR LR 21 20 54.8
comp=Z,618nm,18.3s,baz=350,slow=39
comp=Z,13nm,1.0s
STKA Stephens Creek 33.08 159 P **P** **21 05 53.7 +1.5**
STKA Stephens Creek 33.08 159 P **P** **21 05 50.3 -1.9**
STKA pmax pmax
comp=Z,73nm,1.0s
COCO West Island 33.37 249 P **P** **21 05 54.5 -0.4**
COCO West Island 33.37 249 P **P** **21 05 54.5 -0.4**
COCO pmax pmax
comp=Z,298nm,1.5s
NWAO Narrogin (SRO) 33.49 197 LR LR 21 21 30.4
comp=Z,217nm,18.7s,baz=12,slow=40
HTT Hallett 33.69 164 P **P** **21 06 00.2 +2.6**
NJ2 Nanjing 34.14 345 *e*P **P** **21 06 01.8 +0.4**
NJ2 pmax pmax
comp=Z,20nm,0.5s
WHN Wuhan 34.17 338 P **P** **21 06 03.3 +1.6**
WHN pmax pmax
comp=Z,170nm,1.3s
CMSA Cobar Meteorol 34.41 154 P **P** **21 06 04.2 +0.3**
comp=Z,37nm,1.2s
CMSA Cobar Meteorol 34.41 154 P **P** **21 06 04.7 +0.8**
GYA Guiyang 34.52 324 ⇑P **P** **21 06 06.4 +1.4**
GYA S **S** **21 11 34.9 +0.8**
GYA pmax pmax
comp=Z,18nm,0.9s
GYA pmax pmax
comp=Z,600nm,4.0s
GYA LR LR
comp=Z,260nm,7.0s
GYA LR LR
comp=Z,500nm,6.5s
GYA LR LR
comp=Z,360nm,5.9s
JMN Monobe 34.91 8 P **P** **21 06 06.7 -1.5**
JMN Monobe 34.91 8 P **P** **21 06 09.4 +1.2**
CM31 Chiang Mai Arr 34.96 305 P **P** **21 06 07.2 -1.6**
CM31 IAmb IAmb 21 06 13.1
comp=Z,60nm,1.7s
CMAR Chiang Mai Arr 34.96 305 P **P** **21 06 07.5 -1.2**
CMAR Chiang Mai Arr 34.96 305 P **P** **21 06 08.9 +0.1**
comp=Z,6.8nm,0.9s,baz=128,slow=7.0,SNR=33
CMAR PcP **PcP** **21 08 42.4 +1.0**
comp=Z,6.0nm,1.0s,baz=163,slow=2.1,SNR=15
CMAR ScP **ScP** **21 12 29.0 +1.8**
comp=Z,0.2nm,0.3s,baz=114,slow=2.8,SNR=1.9
CMAR LR LR 21 23 25.7
comp=Z,79nm,19.2s,baz=110,slow=41
comp=Z,6.8nm,0.9s
CHTO Chiang Mai 35.14 306 P **P** **21 06 09.4 -1.0**
CHTO IAmb IAmb 21 06 14.3
comp=Z,86nm,1.8s
CHTO Chiang Mai 35.14 306 P **P** **21 06 10.7 +0.4**
CHTO Chiang Mai 35.14 306 P **P** **21 06 09.4 -1.0**
CHTO pmax pmax
comp=Z,86nm,1.8s
JHJ Hachijo jima 2 35.56 16 LR LR 21 20 26.1
comp=Z,325nm,20.1s,baz=296,slow=36
ENH Enshi 36.03 331 IAmb IAmb 21 06 23.1
comp=Z,35nm,0.7s
ENH Enshi 36.03 331 P **P** **21 06 18.2 +0.4**
KMI Kunming 36.05 318 P **P** **21 06 20.3 +2.0**
KMI pmax pmax
comp=Z,33nm,1.4s
KMI LR LR
comp=Z,410nm,23.6s
ARMA Armidale 36.54 145 P **P** **21 06 22.8 +0.5**
comp=Z,49nm,1.7s
ARMA Armidale 36.54 145 P **P** **21 06 20.1 -2.2**
ARMA IAmb IAmb 21 06 24.9
comp=Z,53nm,1.1s
ARMA Armidale 36.54 145 P **P** **21 06 23.8 +1.5**
INU Inuyama 37.02 12 P **P** **21 06 24.2 -1.9**
INU IAmb IAmb 21 06 30.7
comp=Z,50nm,0.9s
INU Inuyama 37.02 12 P **P** **21 06 26.5 +0.3**
TJN Taejon 37.21 358 P **P** **21 06 29.7 +2.0**
TJN Taejon 37.21 358 *i*P **P** **21 06 25.9 -1.8**
JGF Kuroka 37.34 12 P P 21 06 26.6 -2.2
JGF IAmb IAmb 21 06 32.7
comp=Z,67nm,1.2s
JGF Kuroka 37.34 12 P **P** **21 06 28.8 -0.1**
ARPS Mount Arapiles 37.64 162 P **P** **21 06 32.4 +0.9**
comp=Z,35nm,1.4s
PZH PanZhiHua 37.65 319 P **P** **21 06 32.5 +0.7**
PBA Port Blair 37.75 291 P **P** **21 06 32.1 -0.5**
YNG Young 37.96 153 P **P** **21 06 34.6 +0.4**
KSAR Wonju Array Be 38.26 359 P **P** **21 06 34.8 -1.9**
KSAR Wonju Array Be 38.26 359 P **P** **21 06 34.8 -1.9**
KSRS Korea Array 38.27 359 P **P** **21 06 35.5 -1.2**
comp=Z,3.3nm,0.8s,baz=176,slow=9.5,SNR=16
KSRS PcP **PcP** **21 08 51.2 +0.4**
comp=Z,4.8nm,1.1s,baz=183,slow=4.2,SNR=7.3
KSRS LR LR 21 21 26.6
comp=Z,125μm,21.1s,baz=185,slow=35
comp=Z,3.3nm,0.8s
KS19 Wonju Array Si 38.32 359 P P 21 06 34.6 -2.5
KS19 IAmb IAmb 21 07 40.5
comp=Z,66nm,1.8s
MJAR Matsushiro Arr 38.42 13 P **P** **21 06 36.2 -1.8**
MJAR IAmb IAmb 21 06 43.0
comp=Z,49nm,1.1s
MJAR Matsushiro Arr 38.42 13 P **P** **21 06 36.6 -1.5**
comp=Z,39nm,0.9s,baz=188,slow=9.3,SNR=54
MJAR PcP **PcP** **21 08 51.6 +0.2**
comp=Z,4.0nm,0.9s,baz=218,slow=2.9,SNR=4.6
comp=Z,39nm,0.9s
MAJO Matsushiro 38.42 13 P **P** **21 06 36.3 -1.7**
MAJO IAmb IAmb 21 06 42.0
comp=Z,49nm,0.9s
MAJO Matsushiro 38.42 13 P **P** **21 06 37.1 -0.9**
MAJO Matsushiro 38.42 13 *i*P **P** **21 06 36.0 -2.0**
MAJO pmax pmax
comp=Z,52nm,0.9s
MJB9 Matsu-Tunnel 38.42 13 P **P** **21 06 36.8 -1.3**
MJB9 IAmb IAmb 21 06 42.9
comp=Z,50nm,0.9s
LYN LuoYang 38.46 338 P **P** **21 06 40.6 +2.3**
LYN S **S** **21 12 42.3 +8.6**
LYN pmax pmax
comp=Z,25nm,1.2s
TIA Tai'an 38.53 345 P **P** **21 06 38.8 -0.2**
TIA pmax pmax
comp=Z,7.0nm,0.8s
TNCH TengChong 38.94 314 *e*P **P** **21 06 43.4 +0.6**
TNCH PcP **PcP** **21 08 55.0 +1.5**
TNCH pmax pmax
comp=Z,29nm,1.1s
BRAT Ballarat 39.02 160 P **P** **21 06 44.9 +1.9**
CAN Canberra 39.08 153 P **P** **21 06 42.7 -1.0**
CAN Canberra 39.08 153 P **P** **21 06 42.7 -1.0**
CAN pmax pmax
comp=Z,48nm,1.2s
XAN Xi'an 39.45 334 ⇑P **P** **21 06 46.0 -0.7**
XAN pP pP 21 06 48.3 -1.3
XAN S **S** **21 12 49.0 +0.2**
XAN pmax pmax
comp=Z,40nm,0.9s
XAN pmax pmax
comp=Z,750nm,6.3s
XAN LR LR
comp=Z,660nm,5.2s
XAN LR LR
comp=Z,890nm,6.2s
XAN LR LR
comp=Z,750nm,6.2s
CD2 Chengdu 39.54 326 P **P** **21 06 47.6 0.0**
CD2 pmax pmax
comp=Z,40nm,1.1s
JSD Sado 39.87 12 P **P** **21 06 49.7 -0.4**
JMM Marumori 40.30 15 P **P** **21 06 52.7 -1.0**
JMM Marumori 40.30 15 P **P** **21 06 54.3 +0.6**
HNS HongShan 40.31 343 ⇑P **P** **21 06 56.3 +2.5**
HNS pmax pmax
comp=Z,10.0nm,1.2s
SANVU Saraoutou 40.73 113 P 21 06 54.9 -2.7
BJT Baijiatuau 42.38 346 P **P** **21 07 08.9 -1.8**
BJT Baijiatuau 42.38 346 P **P** **21 07 10.8 +0.1**
BJT Baijiatuau 42.38 346 P **P** **21 07 08.9 -1.8**
BJT pmax pmax
comp=Z,21nm,1.3s
DZM Mont Dzumac 42.39 122 *e*LR LR 21 19 02.9
comp=Z,439nm,22.1s
DZM Mont Dzumac 42.39 122 LR LR 21 25 17.3
comp=Z,405nm,19.8s,baz=38,slow=37
BJI Beijing 42.40 346 P **P** **21 07 09.9 -0.9**
BJI pmax pmax
comp=Z,5.0nm,0.9s
BRDH Bariadhala 42.98 306 LR LR 21 27 42.0
comp=Z,132nm,20.9s,baz=130,slow=40
MSHR Mys Shultsa 43.45 3 *i*P **P** **21 07 17.5 -1.9**
MSHR pmax pmax
comp=Z,16nm,1.1s
LZDM Lanzhou Array 43.47 330 P **P** **21 07 20.1 0.0**
comp=Z,15nm,0.9s,baz=153,slow=10.0,SNR=5.8
LZDM PcP **PcP** **21 09 08.2 0.0**
comp=Z,3.0nm,0.4s,baz=144,slow=5.4,SNR=1.7
LZDM LR LR 21 26 15.1
comp=Z,238nm,21.8s,baz=320,slow=37
comp=Z,15nm,0.9s
LZH Lanzhou 43.50 331 *e*P **P** **21 07 20.6 +0.5**
LZH sP sP 21 07 33.8 +10
LZH S **S** **21 13 48.5 -0.5**
LZH pmax pmax
comp=Z,40nm,1.3s
LZH pmax pmax
comp=Z,380nm,4.1s
LZH LR LR
comp=Z,510nm,14.4s
LZH LR LR
comp=Z,360nm,14.1s
LZH LR LR
comp=Z,820nm,15.1s
HHC Hu-ho-hao-te 44.44 342 *e*P **P** **21 07 27.8 +0.3**
HHC sP sP 21 07 35.6 +4.0
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,120nm,6.1s
HHC LR LR
comp=Z,240nm,15.3s
HHC LR LR
comp=Z,140nm,15.5s
HHC LR LR
comp=Z,230nm,15.6s
USRK Ussuriysk Ar. 45.11 3 P **P** **21 07 32.4 -0.3**
comp=Z,11nm,0.9s,baz=188,slow=5.4,SNR=13
comp=Z,11nm,0.9s
MDJ Mudanjiang 45.44 1 P **P** **21 07 33.2 -2.0**
MDJ Mudanjiang 45.44 1 P **P** **21 07 36.3 +1.1**
MDJ pmax pmax
comp=Z,21nm,1.1s
MDJ Mudanjiang 45.44 1 P **P** **21 07 36.6 +1.4**
XLT XiLinHaoTe 46.09 347 *e*P **P** **21 07 40.5 0.0**
XLT pmax pmax
comp=Z,19nm,0.9s
XLT pmax pmax
comp=Z,160nm,5.3s
BNX BinXian 46.56 359 ⇑P **P** **21 07 43.4 -0.7**
BNX pmax pmax
comp=Z,8.0nm,1.0s
LSA Lhasa 46.97 314 P **P** **21 07 47.1 -1.1**
LSA pmax pmax
comp=Z,11nm,0.9s
GTA Gaotai 48.08 330 P **P** **21 07 57.1 +0.9**
GTA PcP **PcP** **21 09 25.0 +1.0**
GTA pmax pmax
comp=Z,28nm,1.3s
GTA pmax pmax
comp=Z,170nm,5.3s
GTA LR LR
comp=Z,260nm,17.8s
GTA LR LR
comp=Z,290nm,16.4s
GTA LR LR
comp=Z,420nm,20.4s
GOMU GeErMu 48.53 323 P **P** **21 08 00.3 +0.2**
GOMU pP pP 21 08 03.5 +0.5
GOMU sP sP 21 08 07.1 +3.0
GOMU pmax pmax
comp=Z,4.0nm,1.2s
GOMU LR LR
comp=Z,260nm,11.1s
GOMU LR LR
comp=Z,160nm,11.0s
GOMU LR LR
comp=Z,140nm,11.1s
YSS Yuzhno-Sakhali 49.36 13 *e*P **P** **21 08 06.1 +0.4**
YSS *e*S **S** **21 15 10.2 -2.2**
YSS pmax pmax
comp=Z,20nm,1.1s
HEH HeiHe 51.08 359 *e*P **P** **21 08 18.5 -0.2**
HEH pmax pmax
comp=Z,16nm,1.1s
MSVF Nonsavu 51.37 112 P **P** **21 08 23.9 +2.4**
ULN Ulaanbaatar 52.16 342 P **P** **21 08 25.6 -1.5**
ULN PcP **PcP** **21 09 37.4 -1.4**
ULN Ulaanbaatar 52.16 342 *ce*P **P** **21 08 25.8 -1.3**
ULN pmax pmax
comp=Z,18nm,1.1s
SONM Songino Array 52.34 341 P **P** **21 08 27.0 -1.4**
SONM PcP **PcP** **21 09 39.0 -0.5**
SONM Songino Array 52.34 341 P **P** **21 08 28.2 -0.2**
comp=Z,5.6nm,0.8s,baz=160,slow=8.5,SNR=28
SONM PcP **PcP** **21 09 39.3 -0.2**
comp=Z,7.8nm,0.9s,baz=158,slow=3.2,SNR=7.8
SONM LR LR 21 31 59.6
comp=Z,158nm,19.3s,baz=150,slow=38
comp=Z,5.6nm,0.8s
HYB Hyderabad 52.54 293 *e*P **P** **21 08 29.2 -1.0**
DGTI Dogotuki 52.64 110 P **P** **21 08 33.2 +2.3**
TAVE Taveuni 53.05 110 P **P** **21 08 36.6 +2.6**
TYV Tymovskoe 53.06 11 *e*P **P** **21 08 31.2 -2.2**
TYV pmax pmax
comp=Z,100nm,3.5s
TYV pmax pmax
comp=Z,8.0nm,1.0s
CIT Chita 54.34 349 *e*P **P** **21 08 42.0 -0.9**
CIT *e* 21 09 45.2
CIT pmax pmax
comp=Z,44nm,2.8s
ZEA Zeya 54.57 359 *e*P **P** **21 08 44.1 -0.3**
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZAK Zakamensk 55.57 341 *e*P **P** **21 08 51.3 -0.6**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
TOZ Tahuroa Road 56.50 136 P **P** **21 08 58.1 -0.5**
TOZ IAmb IAmb 21 09 02.0
comp=Z,24nm,1.2s
RPZ Rata Peaks 56.86 144 P **P** **21 09 00.2 -0.9**
TUWZ Tuamarina 57.34 141 P **P** **21 09 03.0 -1.6**
MOY Mondy 57.43 340 *e*P **P** **21 09 05.5 +0.3**
MOY pmax pmax
comp=Z,26nm,2.2s
WMQ Urumqi 57.64 326 *e*P **P** **21 09 08.4 +1.7**
WMQ pmax pmax
comp=Z,26nm,0.9s
WMQ pmax pmax
comp=Z,94nm,5.5s
WMQ LR LR
comp=Z,310nm,15.5s
WMQ LR LR
comp=Z,240nm,24.9s
WMQ LR LR
comp=Z,330nm,24.1s
URZ Urewera 57.87 136 P **P** **21 09 07.4 -0.9**
comp=Z,9.9nm,1.0s,baz=326,slow=7.3,SNR=4.5
URZ LR LR 21 35 29.5
comp=Z,285nm,19.3s,baz=306,slow=38

	comp=Z,9,9nm,1.0s								
RTZ	**Ruatahuna**	**57.95**	**136**		P	**P**	**21 09 08.4**	**-0.6**	
PEA0B	**Petropavlovsk-**	**59.16**	**20**		P	**P**	**21 09 16.2**	**-0.9**	
PEA0B	**Petropavlovsk-**	**59.16**	**20**		P	**P**	**21 09 16.2**	**-0.9**	
PEA0B					pmax	pmax			
	comp=Z,74nm,1.4s								
PETK	**Petropavlovsk-**	**59.16**	**20**		P	**P**	**21 09 16.4**	**-0.7**	
PETK	**Petropavlovsk-**	**59.16**	**20**		P	**P**	**21 09 16.9**	**-0.2**	
	comp=Z,23nm,1.0s,baz=215,slow=5.0,SNR=14								
PETK					LR	LR	21 32 19.8		
	comp=Z,74nm,21.9s,baz=206,slow=34								
	comp=Z,23nm,1.0s								
PET	**Petropavlovsk**	**59.43**	**21**	*e*	P	**P**	**21 09 19.6**	**+0.7**	
PET				*e*	S	**S**	**21 17 28.5**	**+0.6**	
PET					pmax	pmax			
	comp=Z,42nm,0.9s								
NIL	**Nilore**	**62.29**	**309**			**P**	**21 09 37.5**	**-1.4**	
NIL					IAmb	IAmb	21 09 45.9		
	comp=Z,29nm,1.5s								
NIL	**Nilore**	**62.29**	**309**		P	**P**	**21 09 37.5**	**-1.4**	
NIL					pmax	pmax			
	comp=Z,29nm,1.5s								
MKAR	**Makanchi Array**	**62.48**	**326**		P	**P**	**21 09 38.8**	**-1.1**	
MKAR	**Makanchi Array**	**62.48**	**326**		P	**P**	**21 09 39.3**	**-0.5**	
	comp=Z,16nm,0.9s,baz=120,slow=7.2,SNR=77								
MKAR					LR	LR	21 38 14.6		
	comp=Z,155nm,20.3s,baz=111,slow=37								
	comp=Z,16nm,0.9s								
TARG	**Taragay, Kyrgy**	**62.49**	**319**		IAmb	IAmb	21 09 44.4		
	comp=Z,16nm,1.1s								
KSH	**Kashi**	**62.69**	**316**		P	**P**	**21 09 42.0**	**+0.4**	
KSH					sP	sP	21 09 49.1	+3.4	
KSH					S	**S**	**21 18 08.4**	**-2.0**	
KSH					pmax	pmax			
	comp=Z,12nm,1.2s								
KSH					pmax	pmax			
	comp=Z,180nm,5.4s								
MA2	**Magadan**	**62.87**	**12**		P	**P**	**21 09 40.9**	**-1.3**	
MA2	**Magadan**	**62.87**	**12**		LR	LR	21 34 17.1		
	comp=Z,74nm,21.1s,baz=201,slow=34								
MA2	**Magadan**	**62.87**	**12**		P	**P**	**21 09 43.6**	**+1.5**	
MA2	**Magadan**	**62.87**	**12**	*ce*	P	**P**	**21 09 42.9**	**+0.8**	
MA2					pmax	pmax			
	comp=Z,20nm,1.0s								
YAK	**Yakutsk**	**62.88**	**1**		P	**P**	**21 09 41.5**	**-0.6**	
YAK	**Yakutsk**	**62.88**	**1**	*d i*	P	**P**	**21 09 42.2**	**+0.1**	
YAK				*e**	PP	**sP**	**21 09 51.5**	**+5.2**	
YAK				*e*			21 10 20.0		
YAK				*e*			21 12 00.6		
YAK				*e*	PPP	PPP	21 13 28.6		
YAK				*e*	S	**S**	**21 18 10.3**	**-1.3**	
YAK				*e**	SS	sS	21 18 26.2	+10	
YAK				*e*			21 19 32.7		
YAK				*e*	SS	**SS**	**21 22 17.0**	**+0.1**	
YAK					pmax	pmax			
	comp=Z,15nm,0.9s								
YAK					pmax	pmax			
	comp=N,11nm,1.4s								
YAK					pmax	pmax			
	comp=E,9.0nm,2.2s								
YAK					pmax	pmax			
	comp=N,40nm,2.5s								
YAK					pmax	pmax			
	comp=Z,37nm,2.3s								
YAK					pmax	pmax			
	comp=E,34nm,2.4s								
YAK					smax	smax			
	comp=N,79nm,3.2s								
YAK					smax	smax			
	comp=E,69nm,4.3s								
YAK					MLR	MLR			
	comp=Z,115nm,16.0s								
YAK					MLR	MLR			
	comp=N,112nm,24.0s								
YAK					MLR	MLR			
	comp=E,87nm,20.0s								
BOOM	**Boomskoye usch**	**64.08**	**319**		IAmb	IAmb	21 09 53.3		
	comp=Z,19nm,1.1s								
AAK	**Ala-Archa**	**65.09**	**319**		LR	LR	21 38 07.0		
	comp=Z,127nm,20.6s,baz=94,slow=36								
AAK	**Ala-Archa**	**65.09**	**319**	*ce*	P	**P**	**21 09 57.5**	**+0.1**	
AAK					pmax	pmax			
	comp=Z,14nm,1.3s								
ARSB	**Arslanbob**	**65.53**	**317**		IAmb	IAmb	21 10 04.2		
	comp=Z,18nm,0.9s								
ZAA0	**Zalesovo Array**	**65.62**	**333**		IAmb	IAmb	21 10 02.4		
	comp=Z,22nm,1.3s								
ZALV	**Zalesovo Beam**	**65.62**	**333**		P	P	21 09 58.0	-2.2	
ZALV	**Zalesovo Beam**	**65.62**	**333**		P	**P**	**21 09 59.0**	**-1.3**	
	comp=Z,13nm,1.1s,baz=112,slow=6.6,SNR=25								
ZALV					LR	LR	21 41 00.3		
	comp=Z,88nm,18.5s,baz=130,slow=38								
	comp=Z,13nm,1.1s								
ZALV	**Zalesovo Beam**	**65.62**	**333**		P	**P**	**21 09 59.0**	**-1.3**	
SHEM	**Shemya Is, Ala**	**65.67**	**28**		LR	LR	21 34 30.9		
	comp=Z,152nm,20.1s,baz=287,slow=32								
CASY	**Casey**	**66.38**	**188**		P	**P**	**21 10 04.1**	**-0.8**	
KURBB	**Kurchatov Arra**	**66.70**	**328**		P	**P**	**21 10 06.6**	**-0.7**	
	comp=Z,24nm,1.0s,baz=126,slow=5.9,SNR=124								
KURBB					LR	LR	21 40 31.7		
	comp=Z,139nm,21.0s,baz=170,slow=37								
	comp=Z,24nm,1.0s								
KURK	**Kurchatov**	**66.70**	**328**		P	**P**	**21 10 05.8**	**-1.5**	
KURK	**Kurchatov**	**66.70**	**328**	*ce*	P	**P**	**21 10 06.2**	**-1.1**	
KURK					pmax	pmax			
	comp=Z,40nm,1.0s								
SIMJ	**Simiganj**	**67.31**	**313**		P	**P**	**21 10 09.7**	**-2.0**	
SIMJ					IAmb	IAmb	21 10 13.5		
	comp=Z,17nm,1.1s								
KK31	**Karatay Array**	**67.94**	**318**		P	**P**	**21 10 13.3**	**-2.0**	
KK31					IAmb	IAmb	21 10 15.8		
	comp=Z,13nm,1.0s								
KK31	**Karatay Array**	**67.94**	**318**		P	**P**	**21 10 13.4**	**-2.0**	
KK31					pmax	pmax			
	comp=Z,13nm,1.0s								
KKAR	**Karatay Array**	**67.94**	**318**		P	P	21 10 13.2	-2.2	
KKAR	**Karatay Array**	**67.94**	**318**		P	P	21 10 13.2	-2.2	
BVAR	**Borovoye Array**	**72.27**	**327**		P	**P**	**21 10 41.0**	**-0.7**	
	comp=Z,14nm,0.9s,baz=130,slow=6.6,SNR=45								
BVAR					LR	LR	21 44 11.9		
	comp=Z,100nm,21.9s,baz=107,slow=37								
	comp=Z,14nm,0.9s								
TIXI	**Tiksi**	**72.54**	**0**		P	P	21 10 40.6	-2.3	
TIXI	**Tiksi**	**72.54**	**0**		LR	LR	21 42 30.7		
	comp=Z,212nm,21.1s,baz=198,slow=36								
TIXI	**Tiksi**	**72.54**	**0**	*ce*	P	**P**	**21 10 43.6**	**+0.7**	
TIXI					pmax	pmax			
	comp=Z,23nm,1.7s								
RAR	**Rarotonga**	**72.56**	**112**		LR	LR	21 42 30.1		
	comp=Z,30nm,19.2s,baz=284,slow=36								
BILL	**Bilibino**	**73.66**	**14**	*i*	P	**P**	**21 10 48.3**	**-1.4**	
BILL					pmax	pmax			
	comp=Z,6.0nm,1.0s								
AB31	**Akbulak array**	**76.96**	**321**		IAmb	IAmb	21 11 11.6		
	comp=Z,49nm,1.8s								
ABKAR	**Akbulak array**	**76.96**	**321**		P	**P**	**21 11 07.2**	**-1.8**	
GAMB	**Gambell**	**77.98**	**23**		P	**P**	**21 11 15.2**	**+0.8**	
	baz=242								
AKTO	**Aktyubinsk**	**78.49**	**322**		LR	LR	21 49 24.8		
	comp=Z,74nm,21.3s,baz=104,slow=38								
VNDA	**Vanda**	**78.53**	**173**		P	**P**	**21 11 16.4**	**-0.8**	
VNDA	**Vanda**	**78.53**	**173**		P	**P**	**21 11 17.1**	**-0.2**	
	comp=Z,5.8nm,0.8s,baz=309,slow=6.2,SNR=34								
VNDA					LR	LR	21 44 25.4		
	comp=Z,93nm,19.7s,baz=342,slow=34								
	comp=Z,5.8nm,0.8s								
SVE	**Sverdlovsk**	**78.93**	**329**	*e*	P	**P**	**21 11 19.3**	**-0.5**	
SVE					pmax	pmax			
	comp=Z,31nm,1.1s								
S12K	**Black Hills**	**79.34**	**33**		P	**P**	**21 11 23.3**	**+1.1**	
	baz=252								
SBA	**Scott Base**	**79.42**	**172**		P	**P**	**21 11 21.2**	**-0.9**	
SBA	**Scott Base**	**79.42**	**172**		P	**P**	**21 11 21.2**	**-0.9**	
SBA					pmax	pmax			
	comp=Z,12nm,1.2s								
ARTI	**Arti**	**79.98**	**328**		P	**P**	**21 11 23.6**	**-1.9**	
ARTI	**Arti**	**79.98**	**328**		LR	LR	21 49 50.9		
	comp=Z,63nm,20.9s,baz=107,slow=38								
ARTI	**Arti**	**79.98**	**328**	*d i*	P	P	21 11 23.1	-2.4	
ARTI							21 14 23.3		
ARTI					S	**S**	**21 21 29.2**	**-0.2**	
ARTI					pmax	pmax			
	comp=Z,22nm,1.4s								
MAW	**Mawson**	**79.99**	**201**		P	**P**	**21 11 26.0**	**+0.7**	
	comp=Z,8.4nm,1.0s,baz=75,slow=8.1,SNR=12								
MAW					LR	LR	21 42 31.4		

	comp=Z,87nm,21.8s,baz=70,slow=32								
	comp=Z,8.4nm,1.0s								
K13K	**Kusilvak Mount**	**80.15**	**26**		P	**P**	**21 11 27.2**	**+0.9**	
	baz=249								
M13K	**Dall Lake**	**80.21**	**28**		P	**P**	**21 11 28.2**	**+1.6**	
	baz=250								
TNA	**Tin City**	**80.23**	**22**		P	**P**	**21 11 26.9**	**+0.2**	
	baz=245								
CHNA	**Chernabura Isl**	**80.45**	**34**		P	**P**	**21 11 28.4**	**+0.3**	
	baz=254								
F14K	**Arctic Creek**	**80.81**	**23**		P	**P**	**21 11 30.7**	**+0.9**	
	baz=247								
L14K	**Kuka Creek**	**80.83**	**27**		IAmb	IAmb	21 11 32.4		
	comp=Z,21nm,1.1s								
L14K	**Kuka Creek**	**80.83**	**27**		P	**P**	**21 11 30.8**	**+0.8**	
	baz=251								
O14K	**Tigyukauivet M**	**80.84**	**29**		P	**P**	**21 11 31.0**	**+0.9**	
	baz=252								
N14K	**Kuskokwak Cree**	**80.84**	**29**		P	**P**	**21 11 29.4**	**-0.6**	
	baz=252								
S14K	**Fog Glacier**	**80.86**	**32**		P	**P**	**21 11 30.3**	**-0.1**	
	baz=254								
J14K	**Nanvaranak Lak**	**80.92**	**26**		P	**P**	**21 11 31.4**	**+0.9**	
	baz=250								
M14K	**Bethel**	**80.97**	**28**		P	**P**	**21 11 31.4**	**+0.6**	
	baz=251								
CHGN	**Chignik**	**81.48**	**33**		P	**P**	**21 11 35.2**	**+1.7**	
	baz=255								
L15K	**Ungalak Mounta**	**81.48**	**27**		P	**P**	**21 11 34.7**	**+1.2**	
	baz=252								
G15K	**Niukluk**	**81.52**	**23**		P	**P**	**21 11 34.4**	**+0.8**	
	baz=249								
O15K	**Ungalikthiuk R**	**81.52**	**30**		P	**P**	**21 11 34.6**	**+0.9**	
	baz=254								
F15K	**North Star Dit**	**81.54**	**23**		P	**P**	**21 11 34.8**	**+1.0**	
	baz=248								
M15K	**Kasigluk River**	**81.55**	**28**		P	**P**	**21 11 35.2**	**+1.4**	
	baz=252								
K15K	**Wolf Creek Mou**	**81.66**	**26**		IAmb	IAmb	21 11 37.5		
	comp=Z,19nm,1.0s								
K15K	**Wolf Creek Mou**	**81.66**	**26**		P	**P**	**21 11 34.9**	**+0.5**	
	baz=252								
N15K	**Kwethluk River**	**81.68**	**29**		P	**P**	**21 11 35.3**	**+0.7**	
	baz=253								
PPT	**Papeete**	**81.94**	**107**		LR	LR	21 46 46.9		
	comp=Z,35nm,18.2s,baz=211,slow=35								
PPT2	**Papeete2**	**81.94**	**108**	*e*	LR	LR	21 37 04.1		
	comp=Z,110nm,27.8s								
PPT2				*e*	LR	LR	21 37 11.2		
	comp=Z,134nm,27.5s								
H16K	**Elim**	**82.12**	**24**		P	**P**	**21 11 37.8**	**+1.0**	
	baz=251								
TBI	**Tubuai**	**82.23**	**113**	*e*	LR	LR	21 37 14.1		
	comp=Z,727nm,28.5s								
R16K	**Pilot Point**	**82.24**	**31**		P	**P**	**21 11 38.1**	**+0.6**	
	baz=256								
C16K	**Lisburne Hills**	**82.26**	**20**		P	**P**	**21 11 38.8**	**+1.4**	
	baz=247								
G16K	**Koyuk River**	**82.32**	**23**			**P**	**21 11 36.3**	**-1.5**	
G16K					IAmb	IAmb	21 11 41.8		
	comp=Z,36nm,1.4s								
G16K	**Koyuk River**	**82.32**	**23**		P	**P**	**21 11 39.5**	**+1.7**	
	baz=250,SNR=5.7								
J16K	**Anvik River**	**82.37**	**26**		IAmb	IAmb	21 11 42.6		
	comp=Z,27nm,1.1s								
J16K	**Anvik River**	**82.37**	**26**		P	**P**	**21 11 39.4**	**+1.3**	
	baz=252								
N16K	**Nishlik Lake**	**82.39**	**28**		P	**P**	**21 11 39.4**	**+1.1**	
	baz=254								
P16K	**Nushagak River**	**82.39**	**30**		P	**P**	**21 11 38.9**	**+0.6**	
	baz=255								
L16K	**Owhat River**	**82.41**	**27**		P	**P**	**21 11 38.9**	**+0.6**	
	baz=254								
M16K	**Timber Creek**	**82.45**	**28**		IAmb	IAmb	21 11 40.9		
	comp=Z,15nm,1.0s								
M16K	**Timber Creek**	**82.45**	**28**		P	**P**	**21 11 39.7**	**+1.1**	
	baz=254								
O16K	**Kokwok River B**	**82.49**	**29**		IAmb	IAmb	21 11 40.8		
	comp=Z,20nm,1.1s								
O16K	**Kokwok River B**	**82.49**	**29**		P	**P**	**21 11 39.5**	**+0.7**	
	baz=255								
I17K	**Unalakleet**	**82.52**	**25**		P	**P**	**21 11 39.7**	**+0.9**	
	baz=252								
D17K	**Noatak River**	**82.84**	**21**		P	**P**	**21 11 41.6**	**+1.1**	
	baz=249,SNR=8.6								
CHIR	**Chirikof Islan**	**82.89**	**33**		P	**P**	**21 11 41.5**	**+0.5**	
	baz=258								
R17L	**Mt. Peulik Vol**	**82.89**	**32**		P	**P**	**21 11 41.7**	**+0.7**	
	baz=257								
O17K	**Koliganek Bris**	**83.03**	**29**		P	**P**	**21 11 43.0**	**+1.4**	
	baz=256								
RDOG	**Red Dog Mine**	**83.03**	**21**		P	**P**	**21 11 42.8**	**+1.3**	
	baz=250								
G17K	**Kiwalik Mounta**	**83.03**	**23**		P	**P**	**21 11 42.4**	**+0.9**	
	baz=252,SNR=9.2								
L17K	**Donlin**	**83.06**	**27**		P	**P**	**21 11 43.1**	**+1.3**	
	baz=254								
J17K	**VABM Dome**	**83.06**	**26**		IAmb	IAmb	21 11 44.5		
	comp=Z,24nm,1.1s								
J17K	**VABM Dome**	**83.06**	**26**		P	**P**	**21 11 42.1**	**+0.4**	
	baz=254,SNR=6.1								
C17K	**DeLong Mountai**	**83.08**	**20**		P	**P**	**21 11 42.9**	**+1.2**	
	baz=249								
E17K	**Hotham Inlet**	**83.09**	**22**		P	**P**	**21 11 42.5**	**+0.7**	
	baz=251,SNR=8.4								
F17K	**Baldwin Pennin**	**83.10**	**22**		P	**P**	**21 11 43.0**	**+1.2**	
	baz=251								
H17K	**Granite Mounta**	**83.16**	**24**		P	**P**	**21 11 43.3**	**+1.1**	
	baz=253,SNR=8.4								
N17K	**Nushagak Hills**	**83.17**	**29**		P	**P**	**21 11 43.3**	**+1.0**	
	baz=256								
P17K	**Kvichak River**	**83.21**	**30**		P	**P**	**21 11 42.7**	**+0.2**	
	baz=256								
K17K	**Iditarod**	**83.22**	**26**		P	**P**	**21 11 41.1**	**-1.5**	
K17K	**Iditarod**	**83.22**	**26**		P	**P**	**21 11 42.6**	**+0.1**	
	baz=254,SNR=9.4								
M17K	**Holitna River**	**83.27**	**28**		P	**P**	**21 11 43.4**	**+0.6**	
	baz=255								
Q17K	**Contact Creek**	**83.28**	**31**		P	**P**	**21 11 43.8**	**+0.7**	
	baz=257								
E18K	**Tukpahlearik C**	**83.65**	**22**		P	**P**	**21 11 45.1**	**+0.5**	
	baz=252,SNR=11								
F18K	**Selawik**	**83.75**	**22**		P	**P**	**21 11 45.5**	**+0.4**	
	baz=253								
L18K	**Granite Mounta**	**83.81**	**27**		P	**P**	**21 11 45.6**	**0.0**	
	baz=256,SNR=10								
Q18K	**Katmai Hardscr**	**83.81**	**31**		P	**P**	**21 11 45.4**	**-0.4**	
	baz=258								
N18K	**Kilae Creek**	**83.82**	**29**		P	**P**	**21 11 45.7**	**0.0**	
	baz=257								
SII	**Sitkinak Islan**	**83.82**	**33**		P	**P**	**21 11 45.4**	**-0.5**	
	baz=259								
C18K	**Utukok River**	**83.83**	**20**		P	**P**	**21 11 46.2**	**+0.5**	
	baz=251								
H18K	**Honhosa River**	**83.85**	**24**		IAmb	IAmb	21 11 47.8		
	comp=Z,17nm,1.0s								
H18K	**Honhosa River**	**83.85**	**24**		P	**P**	**21 11 45.4**	**-0.3**	
	baz=254,SNR=5.2								
B18K	**Kokolik River**	**83.86**	**20**		P	**P**	**21 11 46.5**	**+0.8**	
	baz=250								
P18K	**Big Mountain,**	**83.86**	**30**		P	**P**	**21 11 45.8**	**-0.2**	
	baz=258								
R18K	**Karluk**	**83.88**	**32**		P	**P**	**21 11 46.4**	**+0.4**	
	baz=258								
G18K	**Tagagawik**	**83.94**	**23**		P	**P**	**21 11 46.6**	**+0.4**	
	baz=254,SNR=6.1								
RAYN	**Ar Rayn**	**84.03**	**294**		P	**P**	**21 11 46.0**	**-1.6**	
RAYN	**Ar Rayn**	**84.03**	**294**		P	**P**	**21 11 46.0**	**-1.6**	
RAYN					pmax	pmax			
	comp=Z,11nm,1.2s								
J18K	**Innoko River**	**84.11**	**26**		IAmb	IAmb	21 11 49.1		
	comp=Z,16nm,1.0s								
J18K	**Innoko River**	**84.11**	**26**		P	**P**	**21 11 48.0**	**+0.9**	
	baz=256,SNR=6.8								
GCSA	**Galena City Sc**	**84.35**	**25**		P	**P**	**21 11 48.9**	**+0.6**	
	baz=256								
A19K	**Wainwright**	**84.38**	**19**		P	**P**	**21 11 48.9**	**+0.6**	
	baz=251								
OHAK	**Old Harbor**	**84.43**	**32**		P	**P**	**21 11 49.1**	**+0.3**	
	baz=259								
C19K	**Lookout Ridge**	**84.53**	**20**		P	**P**	**21 11 50.0**	**+0.8**	
	baz=253								
N19K	**Bonanza Creek**	**84.53**	**29**		P	**P**	**21 11 49.2**	**-0.2**	
	baz=258,SNR=10								
F19K	**Shaleruckik Mo**	**84.54**	**22**		P	**P**	**21 11 49.9**	**+0.8**	
	baz=254								
Q19K	**Cape Douglas,**	**84.57**	**31**		P	**P**	**21 11 49.1**	**-0.4**	
	baz=259								

G19K	**Purcell Mounta**	**84.62**	**23**		IAmb	IAmb	21 11 51.9		
	comp=Z,18nm,0.9s								
G19K	**Purcell Mounta**	**84.62**	**23**		P	**P**	**21 11 49.7**	**0.0**	
	baz=255,SNR=11								
L19K	**White Mountain**	**84.64**	**27**		P	**P**	**21 11 50.3**	**+0.4**	
	baz=258,SNR=9.8								
J19K	**Poorman**	**84.70**	**25**		IAmb	IAmb	21 11 52.4		
	comp=Z,21nm,1.2s								
J19K	**Poorman**	**84.70**	**25**		P	**P**	**21 11 50.5**	**+0.4**	
	baz=257,SNR=7.5								
H19K	**Roundabout Mou**	**84.72**	**24**		IAmb	IAmb	21 11 53.9		
	comp=Z,28nm,1.4s								
H19K	**Roundabout Mou**	**84.72**	**24**		P	**P**	**21 11 50.2**	**0.0**	
	baz=256,SNR=6.4								
D19K	**Kuna River**	**84.86**	**21**		P	**P**	**21 11 51.4**	**+0.5**	
	baz=254								
E19K	**Redstone River**	**84.91**	**22**		IAmb	IAmb	21 12 07.3		
	comp=Z,16nm,1.2s								
E19K	**Redstone River**	**84.91**	**22**		P	**P**	**21 11 51.0**	**-0.1**	
	baz=255,SNR=6.0								
KDAK	**Kodiak Island**	**84.91**	**32**		LR	LR	21 43 57.3		
	comp=Z,194nm,21.4s,baz=237,slow=32								
KDAK	**Kodiak Island**	**84.91**	**32**		P	**P**	**21 11 50.1**	**-1.1**	
	baz=260								
P19K	**Oil Pt**	**84.91**	**30**		P	**P**	**21 11 50.3**	**-1.0**	
	baz=259								
L20K	**Farewell, AK**	**85.15**	**27**		P	**P**	**21 11 52.6**	**+0.2**	
	baz=258,SNR=5.9								
Q20K	**Shuyak Island**	**85.15**	**31**		P	**P**	**21 11 53.3**	**+0.9**	
	baz=260								
KIRV	**Kirov**	**85.20**	**329**		LR	LR	21 53 25.4		
	comp=Z,95nm,21.8s,baz=99,slow=38								
K20K	**Telida**	**85.24**	**26**		IAmb	IAmb	21 11 55.3		
	comp=Z,15nm,1.2s								
K20K	**Telida**	**85.24**	**26**		P	**P**	**21 11 53.1**	**+0.2**	
	baz=258								
O20K	**Slope Mountain**	**85.29**	**30**		P	**P**	**21 11 53.2**	**0.0**	
	baz=260								
H20K	**Anotleneega Mo**	**85.35**	**24**		P	**P**	**21 11 54.0**	**+0.6**	
	baz=257								
I20K	**Naaghedeneel**	**85.36**	**25**		P	**P**	**21 11 53.2**	**-0.2**	
	baz=258								
F20K	**Avaraart Lake**	**85.37**	**22**		P	**P**	**21 11 53.7**	**+0.3**	
	baz=256								
J20K	**Nowinta River**	**85.38**	**25**		P	**P**	**21 11 53.8**	**+0.3**	
	baz=258								
M20K	**Styx River**	**85.38**	**28**		P	**P**	**21 11 52.8**	**-0.9**	
M20K					IAmb	IAmb	21 11 58.8		
	comp=Z,21nm,1.2s								
M20K	**Styx River**	**85.38**	**28**		P	**P**	**21 11 53.6**	**0.0**	
	baz=259								
D20K	**Etivluk River**	**85.45**	**21**		P	**P**	**21 11 54.0**	**+0.1**	
	baz=255								
E20K	**Nigu River**	**85.49**	**21**		P	**P**	**21 11 54.3**	**+0.2**	
	baz=256,SNR=8.8								
GNI	**Garni**	**85.92**	**310**		LR	LR	21 57 19.4		
	comp=Z,31nm,18.2s,baz=63,slow=40								
PPLA	**Purkeypile**	**85.99**	**27**		P	**P**	**21 11 56.8**	**0.0**	
	baz=260								
CHUM	**Lake Minchumin**	**86.11**	**26**		P	**P**	**21 11 57.4**	**+0.3**	
	baz=260								
A21K	**Barrow**	**86.11**	**18**		P	**P**	**21 11 57.7**	**+0.7**	
	baz=255								
G21K	**Allakaket**	**86.11**	**23**		P	**P**	**21 11 57.2**	**+0.1**	
	baz=258								
BRSE	**Bradley Lake S**	**86.17**	**30**		P	**P**	**21 11 56.7**	**-0.8**	
	baz=261								
C21K	**Knifeblade Rid**	**86.20**	**20**		P	**P**	**21 11 57.2**	**-0.3**	
	baz=257								
H21K	**Melozitna Rive**	**86.23**	**24**		P	**P**	**21 11 57.1**	**-0.6**	
	baz=259								
F21K	**Alatna River**	**86.27**	**22**		P	**P**	**21 11 57.6**	**-0.3**	
	baz=258								
E21K	**Killik River**	**86.33**	**21**		P	**P**	**21 11 57.2**	**-1.1**	
	baz=258								
B21K	**Ikpikpuk River**	**86.36**	**20**		P	**P**	**21 11 58.0**	**-0.2**	
	baz=257								
SUA	**Susitna One**	**86.43**	**28**		P	**P**	**21 11 58.4**	**-0.5**	
	baz=261								
I21K	**Tanana**	**86.48**	**25**		P	**P**	**21 11 59.0**	**+0.1**	
	baz=260								
BPAW	**Bear Paw Mtn.**	**86.72**	**26**		P	**P**	**21 11 59.9**	**-0.3**	
	baz=261								
M22K	**Willow**	**86.77**	**28**		P	**P**	**21 12 00.0**	**-0.3**	
	baz=262								
CUT	**Chulitna**	**86.79**	**27**		P	**P**	**21 12 00.1**	**-0.3**	
	baz=262								
F22K	**John River**	**86.81**	**22**		P	**P**	**21 12 00.2**	**-0.4**	
	baz=260								
H22K	**Ishtalitna Cre**	**86.85**	**24**		P	**P**	**21 12 00.7**	**-0.1**	
	baz=260								
RC01	**Rabbit Creek A**	**86.86**	**29**		P	**P**	**21 12 00.6**	**-0.3**	
	baz=262								
SEW	**Seward**	**86.86**	**30**		P	**P**	**21 12 00.8**	**-0.1**	
	baz=262								
D22K	**Ayikyak River**	**86.88**	**21**		P	**P**	**21 12 01.1**	**+0.2**	
	baz=259								
TRF	**Thorofare Moun**	**86.93**	**26**		P	**P**	**21 12 00.4**	**-1.0**	
	baz=262								
G22K	**Bettles**	**86.97**	**23**		P	**P**	**21 12 01.1**	**-0.1**	
	baz=260								
MLY	**Manley**	**86.97**	**25**		P	**P**	**21 12 01.6**	**+0.2**	
	baz=261								
E22K	**Anaktuvuk Pass**	**87.06**	**22**		IAmb	IAmb

baz=263
F24K **Squaw Lake** 88.45 22 P P 21 12 08.3 -0.2
baz=264,SNR=5.2
HDA **Harding Lake** 88.51 26 P P 21 12 08.7 -0.1
baz=264
G24K **Hadweenzic Riv** 88.52 23 P P 21 12 09.0 +0.2
baz=264
IL31 88.57 25 IAmb IAmb 21 13 26.5
comp=Z,28nm,1.9s
ILAR **Eielson Array** 88.57 25 P P 21 12 07.2 -1.8
comp=Z,3.2nm,1.0s,baz=269,slow=4.5,SNR=13
ILAR PP PP 21 15 38.7 +1.5
comp=Z,0.6nm,0.9s,baz=274,slow=6.0,SNR=4.2
ILAR LR LR 21 45 40.0
comp=Z,59nm,20.8s,baz=234,slow=32
comp=Z,3.2nm,1.0s
M24K **Tolsona, Glenn** 88.66 28 P P 21 12 09.4 -0.2
baz=265
SYO **Syowa Base** 88.69 201‖ *e*P P 21 12 10.0 +0.5
SYO **Syowa Base** 88.69 201‖ *e*PcP P 21 12 12.0 +2.5
KLU **Klutina** 88.73 29 P P 21 12 09.0 -0.9
baz=266
EYAK **Cordova Ski Ar** 88.74 30 P P 21 12 09.6 -0.2
baz=266
QSPA **South Pole Qui** 88.93 180 P P 21 12 11.1 +0.2
comp=Z,32nm,0.9s,baz=322,slow=3.0,SNR=43
QSPA LR LR 21 52 44.5
comp=Z,202nm,19.1s,baz=356,slow=36
comp=Z,32nm,0.9s
K24K **Donnelly Dome** 88.97 26 P P 21 12 10.4 -0.6
baz=266
PAX **Paxson** 89.05 27 P P 21 12 11.6 +0.2
baz=266
G25K **Bearman Lake** 89.07 23 P P 21 12 11.5 +0.3
baz=265
H25L **Birch Creek** 89.14 24 P P 21 12 11.1 -0.6
baz=266
HARP **HAARP** 89.16 28 P P 21 12 11.1 -0.7
baz=266
D25K **Kavik River** 89.19 21 P P 21 12 11.9 0.0
baz=265
J25K **Salcha River,** 89.21 25 P P 21 12 11.2 -1.0
baz=266
F25K **Christian Rive** 89.31 22 P P 21 12 12.3 -0.2
baz=266
BMRM **Bremner River** 89.33 29 P P 21 12 12.8 +0.1
baz=267
KAIM **Kayak Island** 89.36 30 P P 21 12 12.9 0.0
baz=267
E25K **Arctic Village** 89.38 22 P P 21 12 12.7 -0.1
baz=266
BMAR **Burnt Mountain** 89.71 23 P 21 12 13.2 -1.2
SCRK **Sand Creek** 89.78 26 P P 21 12 14.3 -0.5
baz=267
F26K **Sheenjek River** 89.89 22 P P 21 12 14.5 -0.8
baz=267
BGLC **Bering Glacier** 89.94 30 P P 21 12 15.7 +0.2
baz=268
J26L **Joseph Creek** 89.98 26 P P 21 12 15.4 -0.3
baz=268
G26K **Porcupine Rive** 90.00 23 P P 21 12 15.5 -0.1
baz=267
L26K **Log Cabin Wild** 90.02 27 P P 21 12 15.9 0.0
baz=268
CRQE **Cirque** 90.06 29 P P 21 12 16.4 +0.2
baz=268
MCARA **McCarthy VSAT** 90.11 29 P P 21 12 15.7 -0.6
baz=268
C27K **Jago River** 90.14 20 P P 21 12 16.1 -0.2
baz=267
M26K **Nabesna, AK** 90.16 28 P P 21 12 16.4 -0.2
baz=268
KLMR **Klimovskoe** 90.41 331 *e*P P 21 12 12.1 -5.5
KLMR pmax pmax
comp=Z,25nm,1.7s
MESA **MESA** 90.61 30 P P 21 12 18.7 -0.3
baz=269
K27K **Chicken** 90.62 26 IAmb IAmb 21 12 22.5
comp=Z,12nm,1.1s
K27K **Chicken** 90.62 26 P P 21 12 17.7 -0.9
baz=269
M27K **Edge Creek, AK** 90.68 28 P P 21 12 18.6 -0.5
baz=269
G27K **Doyon Strip** 90.83 23 P P 21 12 19.3 -0.3
baz=269
I27K **Kandik River** 90.84 25 P P 21 12 18.2 -1.4
baz=269
E27K **Coleen River** 90.87 22 P P 21 12 19.4 -0.3
baz=269
H27K **Steamboat Moun** 90.88 24 IAmb IAmb 21 12 26.0
comp=Z,27nm,1.7s
H27K **Steamboat Moun** 90.88 24 P P 21 12 20.4 +0.5
baz=269
CTG **Chitna Glacier** 90.92 29 P P 21 12 20.1 -0.2
baz=270
EGAK **Eagle** 91.03 25 P P 21 12 20.0 -0.5
baz=270
D27M **Malcolm River** 91.11 21 P P 21 12 20.4 -0.5
baz=270
KMBO **Kilima Mbogo** 91.29 269 P P 21 12 23.9 +0.7
comp=Z,1.6nm,0.3s,baz=103,slow=4.2,SNR=5.3
KMBO LR LR 21 48 45.0
comp=Z,52nm,21.1s,baz=108,slow=32
comp=Z,1.6nm,0.3s
O28M **Mount Upton** 91.48 29 P P 21 12 22.0 -1.1
baz=270
ANN **Anapa** 91.51 315 *e*P P 21 12 19.1 -4.0
ANN pmax pmax
comp=Z,29nm,0.8s
F28M **Old Crow** 91.53 23 P P 21 12 22.3 -0.5
baz=271
I28M **Miner Creek** 91.54 25 P P 21 12 22.6 -0.4
baz=271
E28M **Babbage River** 91.63 22 P P 21 12 23.5 +0.3
baz=271
DAWY **Dawson** 91.80 26 P P 21 12 21.8 -2.3
DAWY IAmb IAmb 21 12 25.6
comp=Z,8.0nm,0.9s
DAWY **Dawson** 91.80 26 P P 21 12 23.9 -0.2
baz=271
D28M **Stokes Point** 91.89 21 P P 21 12 24.4 0.0
baz=272
ASF **Jabal al Asfar** 91.94 302 LR LR 22 00 06.6
comp=Z,23nm,19.9s,baz=147,slow=40
OBN **Obninsk** 91.97 325 LR LR 21 58 24.6
comp=Z,25nm,18.6s,baz=96,slow=39
OBN **Obninsk** 91.97 325‖ *e*P P 21 12 23.3 -1.7
OBN *e* 21 16 01.7
OBN *e*PPP PPP 21 18 01.1
OBN *e*S S 21 23 20.4 -6.4
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,160nm,26.0s
H29M **Whitestone** 92.16 24 P P 21 12 25.4 -0.4
baz=272
I29M **Ogilvie Camp,** 92.22 25 IAmb IAmb 21 12 27.1
comp=Z,12nm,0.9s
I29M **Ogilvie Camp,** 92.22 25 P P 21 12 26.0 -0.1
baz=272
YUK4 **Talbot Arm** 92.22 29 P P 21 12 25.9 -0.4
baz=272
G29M **Pine Creek** 92.27 23 P P 21 12 26.3 +0.1
baz=273
M29M **Somme Creek** 92.27 28 P P 21 12 27.0 +0.5
baz=272
L29M **L29M** 92.40 27 P P 21 12 27.5 +0.5
baz=272
K29M **Barlow Dome** 92.63 26 P P 21 12 28.5 +0.4
baz=273
HYT **Haines Junctio** 92.80 29 P P 21 12 28.8 -0.1
baz=273
EPYK **Eagle Plains** 92.82 24 P P 21 12 28.9 +0.1
baz=274
N30M **Aishikik Lake** 92.97 29 P P 21 12 29.6 0.0
baz=273
G30M **tAoh Zraii Nji** 92.97 23 P P 21 12 28.7 -0.8
baz=274
M30M **Minto, Yukon** 93.04 28 P P 21 12 30.2 +0.2
baz=274
I30M **Mount Dempster** 93.04 25 IAmb IAmb 21 12 30.9
comp=Z,8.2nm,1.1s
I30M **Mount Dempster** 93.04 25 P P 21 12 29.5 -0.5
baz=274
F30M **Barrier River** 93.09 22 P P 21 12 28.4 -1.6
F30M **Barrier River** 93.09 22 P P 21 12 30.3 +0.3
baz=275
J30M **Hart River** 93.11 26 P P 21 12 30.3 0.0
baz=274
MMAI **Mount Meron Ar** 93.20 303 LR LR 22 02 12.7
comp=Z,29nm,18.8s,baz=77,slow=40
PLBC **Pleasant Camp** 93.45 31 P P 21 12 31.6 -0.2
baz=274
O30N **Mendenhall** 93.50 29 P P 21 12 31.9 -0.2
baz=274
N31M **Braeburn, Yuko** 93.59 29 P P 21 12 31.4 -1.0
baz=274
S31K **Pelican** 93.62 32 P P 21 12 31.6 -1.0
baz=274
EIL **Elat** 93.64 300 LR LR 21 58 29.8
comp=Z,44nm,21.6s,baz=154,slow=38
G31M **Satah River** 93.74 23 IAmb IAmb 21 12 33.5
comp=Z,11nm,0.9s
G31M **Satah River** 93.74 23 P P 21 12 32.8 -0.1
baz=276
H31M **Peel River** 93.83 24 P P 21 12 33.3 -0.1
baz=276
INK **Inuvik** 93.86 22 LR LR 21 52 10.2
comp=Z,64nm,20.6s,baz=248,slow=34
INK **Inuvik** 93.86 22 P P 21 12 33.4 -0.1
baz=277
F31M **Tsiigehtchic** 93.89 23 P P 21 12 32.9 -0.7
baz=277
SKAG **Skagway** 93.98 31 P P 21 12 33.8 -0.4
baz=275
WHY **Whitehorse** 94.10 29 P P 21 12 34.3 -0.6
baz=275
M31M **Drury Creek, Y** 94.18 28 P P 21 12 34.6 -0.6
baz=276
SPITS **Spitsbergen Ar** 95.45 349 LR LR 22 04 39.5
comp=Z,48nm,18.8s,baz=54,slow=41
ARCES **ARCESS Array B** 95.50 340 LR LR 21 59 21.6
comp=Z,88nm,20.0s,baz=83,slow=38
MMPY **Sheldon Lake,** 95.58 27 P P 21 12 41.6 0.0
baz=278
R33M **Jennings River** 96.20 30 P P 21 12 44.0 -0.5
baz=278
AKASG **Malin Array Be** 96.70 321 LR LR 22 00 57.3
comp=Z,41nm,18.2s,baz=64,slow=38
DLBC **Dease Lake** 96.83 31 P P 21 12 46.8 -0.6
baz=279
FINES **FINESS Array B** 96.85 332 LR LR 21 58 58.9
comp=Z,124nm,19.4s,baz=76,slow=37
TGTN **Hyland Airport** 97.15 28 P P 21 12 48.8 0.0
baz=281
MLR **Muntele Rosu** 99.56 316 LR LR 22 03 54.6
comp=Z,96nm,21.7s,baz=77,slow=39
SNAA **Sanae** 101.11 194 *i* P Pdif 21 13 06.8 +0.5
SNAA pmax pmax
comp=Z,2.0nm,1.2s
ANMO **Albuquerque** 118.74 50 *c i* PKIKP PKPdf 21 18 04.2 -1.3
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ESDC **Sonseca Array** 122.19 318 PKP PKPdf 21 18 11.6 -0.2
comp=Z,0.9nm,1.0s,baz=56,slow=3.2,SNR=4.1
TXAR **Lajitas Array** 122.91 55 PKP PKPdf 21 18 13.9 +0.3
comp=Z,1.0nm,0.8s,baz=330,slow=3.8,SNR=6.8
TORD **Torodi Ar. Bea** 126.04 285 PKP PKPdf 21 18 19.1 -0.7
comp=Z,9.0nm,1.0s,baz=62,slow=1.7,SNR=28
DBIC **Dimbokro** 133.21 278 PKP PKPdf 21 18 33.7 +0.2
comp=Z,8.5nm,1.1s,baz=80,slow=6.7,SNR=3.1
PLCA **Paso Flores** 134.96 159 PKP PKPdf 21 18 36.0 -0.1
comp=Z,3.7nm,1.0s,baz=183,slow=1.3,SNR=4.4
PLCA **Paso Flores** 134.96 159 PKIKP PKPdf 21 18 36.0 -0.1
MT01 **Popeta** 140.62 154 PKPdf PKPdf 21 18 43.6 -3.1
CO02 **Combarbal** 142.96 152 PKPdf PKPdf 21 18 48.3 -2.8
CO03 **El Pedregal** 143.41 152 PKPdf PKPab 21 18 49.1 +1.1
CO01 **Juntas del Tor** 144.41 152 **PKPab** 21 18 50.9 -1.1
LCO **Las Campanas** 144.91 150 **PKPab** 21 18 53.5 -0.3
LCO **Las Campanas** 144.91 150 PKIKP **PKPab** 21 18 53.5 -0.3
JTS **Las Juntas de** 145.43 73 **PKPbc** 21 18 55.5 -0.1
JTS **Las Juntas de** 145.43 73 PKIKP **PKPbc** 21 18 55.5 -0.1
PLTB **Pedras Altas** 147.34 177 **PKPdf** 21 19 00.8 +2.4
CPUP **Villa Florida** 152.23 169 PKP **PKPdf** 21 19 06.6 +0.3
comp=Z,0.9nm,0.7s,baz=163,slow=1.5,SNR=3.9
CPUP PKPbc **sPKPdf** 21 19 13.8 +2.9
comp=Z,5.5nm,1.0s,baz=153,slow=0.4,SNR=12
CPUP PKPab **PKPab** 21 19 23.1 +0.5
comp=Z,4.3nm,0.9s,baz=180,slow=2.0,SNR=7.6
LPAZ **La Paz** 156.19 137 PKP **PKPdf** 21 19 13.7 +0.8
comp=Z,2.7nm,1.0s,baz=220,slow=7.9,SNR=5.1

IDC 20 21:08:32.6±2.6, 0.93S×128.35E, h0km, mb3.4/2, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=194.4km s-min=29.0km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.79**	**163**	P	P	21 13 04.6	-0.1
	0.2nm,0.3s,baz=346,slow=12,SNR=2.3						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**23.24**	**167**	P	P	21 13 41.7	+0.1
	0.8nm,0.6s,baz=342,slow=11,SNR=9.2						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**62.29**	**326**	P	P	21 18 56.5	-0.1
	0.3nm,0.7s,baz=133,slow=7.7,SNR=1.7						
	0.3nm,0.7s						

*NEIC **20** 21:09:23.9±2.0, 18.3S±0.1×172.12W±0.05, h10km±2km, mb4.3/12, Error ellipse: s-maj=24.9km s-min=6.9km az=348.0*
*IDC **20** 21:09:24.2±4.1, 18.48S×172.48W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=267.3km s-min=30.5km az=151.0*

ISC 20 21:09:24.9±0.8, 18.5S±0.2×172.20W±0.07, h10km, n38, σ2s20/30, mb4.4/11, 5C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.22**	**105**	Pn	**Pn**	**21 10 00.6**	**-1.2**
NIUE				Sn	**Sn**	**21 10 25.9**	**-3.5**
MSVF	**Nonsavu**	**9.30**	**273**	Pn	**Pn**	**21 11 41.4**	**+2.1**
PINNC	**Pines Island,**	**19.48**	**254**	P	**P**	**21 13 49.9**	**-2.3**
DZM	**Mont Dzumac**	**20.34**	**256**	eLR	LR	21 18 45.2	
	565nm,33.4s						
DZM	**Mont Dzumac**	**20.34**	**256**	P	**P**	**21 13 58.7**	**-2.9**
DZM				IAmb	IAmb	21 14 08.8	
	comp=Z,16nm,1.0s						
PPT2	**Papeete2**	**21.53**	**91**	eLR	LR	21 19 24.9	
	comp=Z,182nm,24.5s						
PPT2				eLR	LR	21 19 25.0	
	comp=Z,135nm,25.5s						
PPTF	**Pamatai, Papee**	**21.54**	**91**	P	**P**	**21 14 18.1**	**+3.5**
TBI	**Tubuai**	**21.77**	**107**	eLR	LR	21 19 30.9	
	comp=Z,301nm,25.5s						
TBI				eLR	LR	21 19 34.7	
	comp=Z,1μm,26.8s						
BKZ	**Black Stump Fm**	**22.79**	**203**	P	**P**	**21 14 31.0**	**+3.2**
BKZ				IAmb	IAmb	21 14 35.9	
	comp=Z,7.2nm,1.0s						
ARMA	**Armidale**	**34.84**	**243**	P	**P**	**21 16 14.6**	**-1.8**
ARMA				IAmb	IAmb	21 16 19.9	
	comp=Z,9.5nm,1.1s						
CTAO	**Charters Tower**	**39.17**	**261**	P	**P**	**21 16 52.0**	**-1.3**
CTAO				IAmb	IAmb	21 16 53.4	
	comp=Z,5.0nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**42.22**	**329**	T	T	22 03 42.8	
	baz=147,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**42.23**	**329**	T	T	22 03 43.7	
	baz=147,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**42.24**	**329**	T	T	22 03 44.2	
	baz=147,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**43.18**	**331**	T	T	22 04 22.4	
	baz=150,slow=76,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**43.19**	**331**	T	T	22 04 14.3	
	baz=150,slow=76,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**43.20**	**331**	T	T	22 04 20.9	
	baz=150,slow=76,SNR=5.6						
WR8	**Warramunga Arr**	**50.17**	**259**	P	**P**	**21 18 19.8**	**-1.3**
WR8				IAmb	IAmb	21 18 25.6	
	comp=Z,1.4nm,0.8s						
WB0	**Warramunga Arr**	**50.29**	**259**	P	**P**	**21 18 20.6**	**-1.5**
WB0				IAmb	IAmb	21 18 21.4	
	comp=Z,4.0nm,0.8s						
AS31	**Alice Springs**	**50.30**	**254**	P	**P**	**21 18 21.5**	**-0.7**
ASAR	**Alice Springs**	**50.30**	**254**	P	**P**	**21 18 21.2**	**-0.9**
	comp=Z,3.2nm,0.7s,baz=89,slow=8.2,SNR=28						
	comp=Z,3.2nm,0.7s						
WRA	**Warramunga Arr**	**50.32**	**259**		**P**	**21 18 20.9**	**-1.4**
WRA	**Warramunga Arr**	**50.32**	**259**	P	**P**	**21 18 20.7**	**-1.6**
	comp=Z,2.5nm,0.6s,baz=97,slow=8.5,SNR=31						
	comp=Z,2.5nm,0.6s						
KNRA **Kununurra** 56.29 263 P P 21 19 06.4 +0.2
FITZ **Fitzroy Crossi** 58.74 260 P P 21 19 22.8 -0.7
PDAR **Pinedale Array** 83.83 41 P P 21 21 56.4 +1.3
comp=Z,0.8nm,0.8s,baz=204,slow=6.5,SNR=6.0
comp=Z,0.8nm,0.8s
TROLL **Troll, Antarti** 89.62 178 ⇑P P 21 22 24.2 +1.5
comp=Z,87nm,0.8s
TROLL **Troll, Antarti** 89.62 178 P P 21 22 24.2 +1.5
VNA3 **Neumayer Olymp** 89.65 174 ⇑P P 21 22 25.5 +2.8
comp=Z,1.6nm,0.8s
VNA3 **Neumayer Olymp** 89.65 174 P P 21 22 25.5 +2.8
SNAA **Sanae** 89.74 177 ⇑P P 21 22 25.2 +1.9
comp=Z,33nm,0.8s
SNAA **Sanae** 89.74 177 P P 21 22 25.2 +1.9
VNA2 **Neumayer--Watz** 90.16 175 ⇑P P 21 22 27.5 +2.3
comp=Z,2.2nm,0.8s,baz=190,slow=2.9
VNA2 **Neumayer--Watz** 90.16 175 P P 21 22 27.5 +2.3
baz=190,slow=2.9
VNA1 **Neumayer--Stat** 90.35 175 ⇑P P 21 22 29.1 +3.2
comp=Z,3.4nm,0.9s
VNA1 **Neumayer--Stat** 90.35 175 P P 21 22 29.1 +3.2
BRTR **Keskin Array B** 149.28 319 PKPbc **PKiKP** 21 29 14.9 -0.7
comp=Z,0.7nm,0.8s,baz=56,slow=4.2,SNR=2.3
GERES **GERESS Array B** 149.38 352 PKPbc **PKiKP** 21 29 14.5 -1.0
comp=Z,0.4nm,0.8s,baz=29,slow=2.4,SNR=3.7

*IDC **20** 21:10:04.1±4.3, 18.91S×172.44W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=281.6km s-min=32.4km az=151.0*
*NEIC **20** 21:10:05.1±0.9, 19.05S±0.2×172.29W±0.06, h10km±1km, mb4.6/20, Error ellipse: s-maj=35.8km s-min=9.1km az=177.0*

ISC 20 21:10:04.8±0.7, 19.05S±0.2×172.31W±0.10, h13km, n26, σ0s78/26, mb4.5/10, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**11.98**	**102**	Pn	**Pn**	**21 12 55.2**	**-0.1**
PINNC	**Pines Island,**	**19.25**	**256**	P	**Pn**	**21 14 29.8**	**-0.2**
PINNC				IAmb	IAmb	21 14 43.7	
	comp=Z,54nm,1.0s						
SANVU	**Saraoutou**	**19.88**	**277**	P	**P**	**21 14 36.0**	**0.0**
SANVU				IAmb	IAmb	21 14 38.8	
	comp=Z,48nm,1.1s						
CTAO	**Charters Tower**	**38.98**	**261**	P	**P**	**21 17 31.1**	**0.0**
CTAO				IAmb	IAmb	21 17 31.9	
	comp=Z,7.4nm,0.5s						
COEN	**Coen**	**42.89**	**270**	P	**P**	**21 18 02.7**	**-0.7**
COEN				IAmb	IAmb	21 18 08.1	
	comp=Z,9.1nm,1.1s						
BBOO	**Buckleboo**	**47.98**	**243**	P	**P**	**21 18 43.8**	**+0.2**
BBOO				IAmb	IAmb	21 18 56.8	
	comp=Z,16nm,1.1s						
WR8	**Warramunga Arr**	**49.97**	**260**	P	**P**	**21 18 58.7**	**-0.3**
AS31	**Alice Springs**	**50.06**	**255**	P	**P**	**21 18 59.8**	**+0.1**
ASAR	**Alice Springs**	**50.06**	**255**	P	**P**	**21 18 59.5**	**-0.2**
ASAR	**Alice Springs**	**50.06**	**255**	P	**P**	**21 19 00.7**	**+1.0**
	comp=Z,2.6nm,0.5s,baz=89,slow=7.7,SNR=13						
	comp=Z,2.8nm,0.5s						
WB0	**Warramunga Arr**	**50.09**	**260**	P	**P**	**21 18 59.5**	**-0.5**
WB0				IAmb	IAmb	21 19 01.4	
	comp=Z,4.4nm,0.8s						
WB2	**Warramunga Arr**	**50.11**	**260**	P	**P**	**21 19 00.3**	**+0.3**
WB2				IAmb	IAmb	21 19 00.7	
	comp=Z,3.8nm,0.8s						
WRA	**Warramunga Arr**	**50.12**	**260**	P	**P**	**21 18 59.9**	**-0.3**
WRA	**Warramunga Arr**	**50.12**	**260**	P	**P**	**21 19 00.0**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=97,slow=8.5,SNR=11						
	comp=Z,2.1nm,0.5s						
ESJX	**Sierra Juarez**	**74.09**	**47**	P	**P**	**21 21 39.4**	**-1.7**
P08K	**Saint George I**	**75.38**	**2**	P	**P**	**21 21 48.0**	**+0.2**
KEBM	**Edson Butte**	**75.78**	**34**	P	**P**	**21 21 50.5**	**+0.1**
H04D	**Lebanon**	**77.75**	**34**	P	**P**	**21 22 01.8**	**+0.3**
H04D				IAmb	IAmb	21 22 17.9	
	comp=Z,6.9nm,1.2s						
R11B	**Troy Canyon, C**	**78.02**	**42**	P	**P**	**21 22 04.0**	**+0.7**
WVOR	**Wild Horse Val**	**78.65**	**37**	P	**P**	**21 22 08.3**	**+1.6**
WVOR				IAmb	IAmb	21 22 10.7	
	comp=Z,1.6nm,0.5s						
PV02	**Paradox Valley**	**82.42**	**45**	P	**P**	**21 22 27.8**	**+0.6**
PV01	**Paradox Valley**	**82.50**	**46**	P	**P**	**21 22 25.5**	**-2.1**
GRNC	**Granite Creek**	**83.23**	**15**	P	**P**	**21 22 30.6**	**-0.2**
PDAR	**Pinedale Array**	**84.29**	**41**	P	**P**	**21 22 37.4**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=207,slow=5.0,SNR=3.8						
	comp=Z,0.4nm,0.7s						
BRTR	**Keskin Array B**	**149.59**	**318**	PKPbc	**PKiKP**	**21 29 56.1**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=55,slow=1.7,SNR=2.3						
GERES	**GERESS Array B**	**149.87**	**352**	PKPbc	**PKiKP**	**21 29 55.8**	**0.0**
	comp=Z,0.1nm,0.3s,baz=348,slow=1.4,SNR=1.8						

*MEX **20** 21:16:58.0±0.7, 14.07N×93.11W, h15km, MD4.2*
*GCG **20** 21:17:00.2±1.8, 14.24N×92.98W, h38km±341km, MD4.5, ML3.6*

ISC 20 21:16:56.8±1.7, 14.11N±0.08×92.98W±0.04, h32km±13km, n21, σ1s97/38, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.05**	**41**	*e*P	**Pb**	**21 17 16.6**	**+0.1**
THIG				*e*S	**Sb**	**21 17 31.1**	**+1.0**
THIG		**1.05**	**41**	*e*P	**Pb**	**21 17 16.7**	**+0.1**
THIG				*e*S	**Sn**	**21 17 29.6**	**+0.6**
THIG				IAML		21 17 34.2	
	comp=N,2μm,0.6s						
PATR	**El Naranjo**	**1.24**	**36**	*e*P	**Pn**	**21 17 18.6**	**+0.5**
PATR				*e*S	**Sb**	**21 17 35.1**	**-0.4**
CHUJ	**Union Juarez**	**1.29**	**41**	*e*P	**Pn**	**21 17 19.6**	**+0.7**
CHUJ				*e*S	**Sb**	**21 17 37.2**	**0.0**
RTAL	**Retalhuleu**	**1.31**	**71**	*e*P	**Pb**	**21 17 20.9**	**-0.1**
RTAL				*e*S	**Sn**	**21 17 36.7**	**+1.3**
PAVE	**Pavencul**	**1.33**	**36**	*e*P	**Pn**	**21 17 20.1**	**+0.7**
PAVE				*e*S	**Sn**	**21 17 36.6**	**+0.5**
PCIG		**1.60**	**352**	*e*P	**Pn**	**21 17 22.3**	**-0.6**
PCIG				*e*S	**Sn**	**21 17 42.0**	**-0.6**
SOKI	**Kika Raxquin**	**1.68**	**65**	*e*P	**Pb**	**21 17 27.2**	**-0.3**
QUIS	**Sacapulas**	**2.17**	**57**	IAML		21 18 06.9	
	comp=E,538nm,0.4s						
CCIG	**Comitan**	**2.31**	**21**	*e*P	**Pb**	**21 17 36.7**	**-1.3**
CCIG				*e*S	**Sb**	**21 18 04.6**	**-1.6**
CCIG	**Comitan**	**2.31**	**21**	*e*P	**Pb**	**21 17 36.5**	**-1.4**
CCIG				*i* S	**Sb**	**21 18 06.0**	**-0.2**
CCIG				IAML		21 18 11.9	
	comp=N,278nm,0.4s						
FG8	**Yepocapa, Chim**	**2.35**	**86**	*i* S	**Sn**	**21 17 56.7**	**-4.4**
TGIG		**2.66**	**357**	*e*P	**Pn**	**21 17 39.3**	**+1.8**
TGIG				*e*S	**Sn**	**21 18 11.9**	**+3.2**
TGIG		**2.66**	**357**	*e*P	**Pn**	**21 17 39.1**	**+1.5**
TGIG				*e*S	**Sn**	**21 18 08.3**	**-0.4**
UXUV	**UXUV**	**3.38**	**341**	*e*P	**Pn**	**21 17 49.5**	**+2.0**
UXUV				*e*S	**Sn**	**21 18 26.4**	**-0.1**
HUIG	**Huatulco**	**3.45**	**299**	*e*P	**Pn**	**21 17 49.9**	**+1.6**
HUIG				*e*S	**Sn**	**21 18 23.2**	**-4.9**
CMIG	**Matias Romero**	**3.49**	**329**	*e*P	**Pn**	**21 17 49.5**	**+0.6**
CMIG				*e*S	**Sn**	**21 18 28.6**	**-0.5**
NEUV	**Arroyo Zacate**	**4.50**	**323**	*e*P	**Pn**	**21 18 02.9**	**+0.2**
NEUV				*e*S	**Sn**	**21 18 51.7**	**-2.3**
YOIG	**Yosondua**	**5.18**	**302**	*e*P	**Pn**	**21 18 14.9**	**+2.5**
YOIG				*e*S	**Sn**	**21 19 14.6**	**+3.4**
TXIG	**Tlaxiaco**	**5.57**	**305**	*e*P	**Pn**	**21 18 20.9**	**+3.0**
TXIG				*e*S	**Sn**	**21 19 20.6**	**-0.3**
TOIG	**Toxpalan**	**5.58**	**316**	*e*P	**Pn**	**21 18 19.0**	**+1.2**
TOIG				*e*S	**Sn**	**21 19 16.4**	**-4.5**

*IDC **20** 21:22:17.6±0.6, 8.37S×116.83E, h0km, mb4.1/15, mbtmp4.1/18, ML4.0/3, MS3.5/6, Error ellipse: s-maj=18.5km s-min=10.6km az=61.0*
*NEIC **20** 21:22:18.7±1.9, 8.37S±0.08×116.64E±0.05, h10km±1km, mb4.6/12, Error ellipse: s-maj=14.2km s-min=8.7km az=12.0*
*DJA **20** 21:22:19.4±0.2, 8.2S±2.1×117.7E±1.1, h10km, M4.5/23, mB4.9/5, mb4.6/8, MLv4.5/23, Mw(mB)4.2/5*

ISC 20 21:22:18.9±0.4, 8.38S±0.04×116.73E±0.04, h10km, n76, σ1s28/82, mb4.2/20, MS3.6/3, 1C, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.39**	**157**	P	**Pb**	**21 22 28.3**	**+0.4**
TWSI				S	**Sb**	**21 22 34.6**	**+0.7**
PLAI	**Plampang**	**1.13**	**113**	P	**Pn**	**21 22 40.8**	**0.0**

PLAI				S	**Sb**	**21 22 56.9**	**+1.6**
SRBI	**Singaraja**	**1.53**	**281**	P	**Pb**	**21 22 45.9**	**-1.5**
SRBI				S	**Sg**	**21 23 06.7**	**-1.5**
DNP	**Denpasar**	**1.53**	**259**	P	**Pg**	**21 22 48.0**	**-0.3**
ABJI	**Asem Bagus**	**2.54**	**283**	P	**Pn**	**21 23 00.2**	**0.0**
JAGI	**Jajag, Banyuwa**	**2.55**	**268**		**Pn**	**21 22 56.6**	**-3.8**
JAGI	**Jajag, Banyuwa**	**2.55**	**268**	P	**Pn**	**21 23 00.0**	**-0.4**
WBSI	**Waikabubak, Su**	**2.91**	**116**	P	**Pn**	**21 23 06.1**	**+0.7**
KMMI	**Kalianget**	**3.04**	**296**	P	**Pn**	**21 23 07.9**	**+0.8**
BLJI	**Banyuglugur**	**3.17**	**281**	P	**Pn**	**21 23 09.9**	**+1.1**
WSI	**Waingapu**	**3.75**	**110**	P	**Pb**	**21 23 23.4**	**-1.9**
BSSI	**Bau Bau, Buton**	**4.34**	**59**	P	**Pn**	**21 23 24.4**	**-0.7**
KAPI	**Kappang**	**4.49**	**42**		**Pn**	**21 23 26.0**	**-1.1**
KAPI	**Kappang**	**4.49**	**42**	Pn	**Pn**	**21 23 25.9**	**-1.1**
	5.1nm,0.3s,baz=190,slow=6.4,SNR=9.0						
KAPI				Sn	**Sn**	**21 24 16.0**	**-3.5**
	9.1nm,0.3s,baz=218,slow=21,SNR=5.7						
KAPI				Lg	Lg	21 24 37.1	
	9.6nm,0.3s,baz=215,slow=19,SNR=4.7						
	9.7nm,0.2s						
BKSI	**Bulukumba**	**4.54**	**48**	P	**Pn**	**21 23 26.8**	**-0.9**
EDFI	**Ende, Flores**	**4.92**	**95**	P	**Pn**	**21 23 33.2**	**+0.1**
BNSI	**Bone**	**5.19**	**41**	P	**Pn**	**21 23 36.3**	**-0.3**
	0.8nm1µm104nm,0.9s						
SPSI	**Sidrap Palu**	**5.33**	**35**	P	**Pn**	**21 23 38.7**	**+0.1**
	0.3nm888nm21nm,0.8s						
MMRI	**Maumere**	**5.46**	**93**		**Pn**	**21 23 41.2**	**+0.9**
MMRI	**Maumere**	**5.46**	**93**	P	**Pn**	**21 23 40.8**	**+0.5**
	162nm,1.1s						
PCJI	**Pacitan**	**5.50**	**272**	P	**Pn**	**21 23 42.0**	**+1.1**
	0.5nm131nm,1.0s						
WOJI	**Wonogiri, Jawa**	**5.77**	**275**	P	**Pn**	**21 23 46.5**	**+1.8**
	0.6nm51nm,0.8s						
TTSI	**Tana Toraja**	**6.13**	**30**	P	**Pn**	**21 23 50.0**	**+0.4**
	0.2nm19nm,1.0s						
UGM	**Wanagama**	**6.16**	**274**	Pn	**Pn**	**21 23 49.4**	**-0.7**
UGM	**Wanagama**	**6.16**	**274**	P	**Pn**	**21 23 51.0**	**+0.9**
	41nm,1.1s						
BATI	**Baumata**	**7.08**	**105**	Pn	**Pn**	**21 24 01.7**	**-1.0**
	5.9nm,0.3s,baz=300,slow=0.4,SNR=6.3						
BATI				Sn	**Sn**	**21 25 23.1**	**-0.3**
	baz=276,slow=19						
	18nm,0.5s						
SOEI	**Soe**	**7.57**	**101**		**Pn**	**21 24 11.8**	**+2.2**
SOEI	**Soe**	**7.57**	**101**	P	**Pn**	**21 24 11.7**	**+2.2**
LEM	**Lembang**	**9.16**	**279**	LR	LR	21 28 30.2	
	comp=Z,305nm,20.5s,baz=52,slow=40						
FITZ	**Fitzroy Crossi**	**12.98**	**139**	Pn	**Pn**	**21 25 23.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**12.98**	**139**	Pn	**Pn**	**21 25 22.9**	**-0.6**
	0.6nm,0.3s,baz=331,slow=9.9,SNR=17						
FITZ				Sn	**Sn**	**21 27 45.4**	**-2.7**
	1.4nm,0.3s,baz=172,slow=19,SNR=7.8						
FITZ				LR	LR	21 30 42.7	
	comp=Z,194nm,18.3s,baz=350,slow=39						
	4.9nm,0.7s						
MBWA	**Marble Bar**	**13.03**	**167**		**Pn**	**21 25 21.9**	**-2.4**
PSA00	**Pilbara Seismi**	**13.46**	**167**		**Pn**	**21 25 29.7**	**-0.4**
PSA00	**Pilbara Seismi**	**13.46**	**167**		**Pn**	**21 25 29.0**	**-1.1**
KNRA	**Kununurra**	**13.82**	**123**		**Pn**	**21 25 35.8**	**+0.8**
GIRL	**Giralia**	**14.38**	**189**	Pn	**Pn**	**21 25 40.8**	**-1.9**
MTN	**Manton Dam**	**14.84**	**109**		**Pn**	**21 25 49.1**	**+0.2**
FAKI	**Fak Fak**	**16.36**	**72**	Pn	**Pn**	**21 26 08.1**	**-0.9**
DAV	**Davao City (W)**	**17.70**	**30**	LR	LR	21 33 57.5	
	comp=Z,82nm,18.4s,baz=168,slow=40						
WB0	**Warramunga Arr**	**20.51**	**125**		**P**	**21 26 57.0**	**-0.5**
WB0				IAmb	IAmb	21 26 58.1	
	comp=Z,13nm,0.6s						
WRA	**Warramunga Arr**	**20.56**	**126**	P	**P**	**21 26 57.5**	**-0.5**
WRA	**Warramunga Arr**	**20.56**	**126**	P	**P**	**21 26 57.7**	**-0.3**
	comp=Z,12nm,0.7s,baz=302,slow=12,SNR=105						
WRA				S	**S**	**21 30 45.4**	**-2.7**
	comp=Z,1.4nm,0.8s,baz=293,slow=23,SNR=4.7						
WRA				ScP	**ScP**	**21 34 48.3**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=296,slow=2.2,SNR=2.6						
	comp=Z,12nm,0.7s						
WRAB	**Tennant Creek**	**20.56**	**126**	P	**P**	**21 26 57.2**	**-0.8**
WRAB				IAmb	IAmb	21 26 58.7	
	comp=Z,13nm,0.8s						
MORW	**Morawa**	**20.59**	**182**	P	**P**	**21 26 58.3**	**+0.1**
MORW				IAmb	IAmb	21 27 03.7	
	comp=Z,23nm,1.1s						
WR8	**Warramunga Arr**	**20.69**	**126**		**P**	**21 26 59.6**	**+0.2**
WR8				IAmb	IAmb	21 27 00.2	
	comp=Z,21nm,0.7s						
AS31	**Alice Springs**	**22.40**	**135**		**P**	**21 27 17.5**	**-0.3**
ASAR	**Alice Springs**	**22.40**	**135**		**P**	**21 27 17.6**	**-0.2**
ASAR	**Alice Springs**	**22.40**	**135**	P	**P**	**21 27 17.8**	**0.0**
	comp=Z,16nm,0.8s,baz=312,slow=9.2,SNR=139						
ASAR				S	**S**	**21 31 24.5**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=305,slow=22,SNR=5.9						
ASAR				ScP	**ScP**	**21 34 53.7**	**+3.0**
	comp=Z,0.3nm,0.7s,baz=310,slow=2.6,SNR=1.1						
	comp=Z,16nm,0.8s						
FORT	**Forrest**	**24.67**	**156**	P	**P**	**21 27 40.8**	**+0.7**
FORT				IAmb	IAmb	21 27 42.1	
	comp=Z,15nm,0.7s						
BBOO	**Buckleboo**	**30.19**	**146**	P	**P**	**21 28 29.1**	**-0.5**
BBOO				IAmb	IAmb	21 29 05.4	
	comp=Z,36nm,1.4s						
PBA	**Port Blair**	**31.07**	**309**	P	**P**	**21 28 36.1**	**-1.4**
CMAR	**Chiang Mai Arr**	**31.93**	**327**	P	**P**	**21 28 46.1**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=153,slow=8.6,SNR=5.1						
CMAR				LR	LR	21 41 48.1	
	comp=Z,58nm,18.8s,baz=135,slow=37						
	comp=Z,0.3nm,0.4s						
STKA	**Stephens Creek**	**32.88**	**139**	P	**P**	**21 28 53.2**	**0.0**
STKA	**Stephens Creek**	**32.88**	**139**	P	**P**	**21 28 53.3**	**0.0**
	comp=Z,4.9nm,0.6s,baz=314,slow=9.2,SNR=13						
	comp=Z,4.9nm,0.6s						
JOW	**Kunigami**	**36.75**	**17**	P	**P**	**21 29 25.9**	**-0.8**
PZH	**PanZhiHua**	**37.60**	**338**	P	**P**	**21 29 35.0**	**+0.9**
NJ2	**Nanjing**	**40.25**	**3**	*eP*	**P**	**21 29 57.5**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
XAN	**Xi'an**	**42.83**	**350**	P	**P**	**21 30 17.5**	**+0.2**
XAN				pmax	pmax		
	comp=Z,12nm,2.8s						
KSRS	**Korea Array**	**46.78**	**12**	P	**P**	**21 30 49.6**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=194,slow=9.9,SNR=2.5						
	comp=Z,1.3nm,0.9s						
HHC	**Hu-ho-hao-te**	**49.21**	**355**	*eP*	**P**	**21 31 09.8**	**+2.2**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,4.5s						
GTA	**Gaotai**	**50.07**	**343**	*eP*	**P**	**21 31 15.9**	**+1.7**
GTA				pP	sP	21 31 19.5	+0.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
USRK	**Ussuriysk Ar.**	**54.13**	**14**	P	**P**	**21 31 44.4**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=197,slow=7.4,SNR=2.0						
	comp=Z,1.3nm,0.7s						
SONM	**Songino Array**	**56.71**	**352**	P	**P**	**21 32 02.5**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=171,slow=10,SNR=7.4						
	comp=Z,1.2nm,0.8s						
HEH	**HeiHe**	**59.13**	**8**	*eP*	**P**	**21 32 19.8**	**+0.2**
MKAR	**Makanchi Array**	**62.90**	**334**	P	**P**	**21 32 46.1**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=137,slow=8.1,SNR=6.7						
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**67.44**	**335**	P	**P**	**21 33 15.1**	**+0.4**
	comp=Z,0.7nm,0.2s,baz=157,slow=5.0,SNR=1.7						
	comp=Z,0.7nm,0.2s						
ZALV	**Zalesovo Beam**	**67.68**	**340**	P	**P**	**21 33 14.7**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=116,slow=3.4,SNR=6.5						
	comp=Z,0.4nm,0.6s						
MAW	**Mawson**	**69.06**	**199**	P	**P**	**21 33 24.6**	**-0.1**
	comp=Z,3.9nm,1.0s,baz=57,slow=6.4,SNR=6.1						
	comp=Z,3.9nm,1.0s						
BVAR	**Borovoye Array**	**72.71**	**333**	P	**P**	**21 33 48.9**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=108,slow=3.2,SNR=1.9						
	comp=Z,0.4nm,0.6s						
VNDA	**Vanda**	**72.95**	**171**	P	**P**	**21 33 48.4**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=297,slow=8.1,SNR=4.2						
	comp=Z,0.5nm,0.5s						
QSPA	**South Pole Qui**	**81.61**	**180**	P	**P**	**21 34 38.2**	**+1.2**
	comp=Z,2.6nm,0.9s,baz=339,slow=3.1,SNR=5.3						
	comp=Z,2.6nm,0.9s						
MATP	**Matopo**	**85.47**	**250**	LR	LR	22 08 04.0	
	comp=Z,56nm,18.5s,baz=102,slow=32						
LBTB	**Lobatse**	**87.53**	**245**	LR	LR	22 06 42.2	
	comp=Z,27nm,21.3s,baz=238,slow=30						
TROLL	**Troll, Antarti**	**89.34**	**196**	⇑P	**P**	**21 35 16.2**	**+0.7**
	comp=Z,65nm,0.6s						
SNAA	**Sanae**	**90.98**	**196**	P	**P**	**21 35 23.4**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=328,slow=3.0,SNR=4.2						
	comp=Z,1.5nm,0.7s						
CPUP	**Villa Florida**	**145.02**	**189**	PKPbc	**PKPbc**	**21 41 56.4**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=213,slow=2.2,SNR=14						

*PRE **20** 21:30:43.9±0.8, 21°.34S×33°.37E, h5km, ML3.0*
ISC 20 21:30:46.9±2.0, **21°.41S**±0°.07×**33°.2E**±0°.1, **h10**km**, n21,**
σ2**s34**/36**, Mozambique**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**5.39**	**212**	*eP*	**Pn**		**21 32 09.3**	**+1.7**
CRLN				*eS*	**Sn**		**21 33 10.1**	**+0.2**
CRLN				IAML			21 33 47.1	
	comp=Z,18nm,0.6s							
MREMI	**Moremi**	**5.42**	**257**	*i* P	**Pn**		**21 32 11.1**	**+3.1**
MREMI				*i* S	**Sn**		**21 33 12.8**	**+2.4**
MREMI				IAML			21 33 42.8	
	comp=N,377nm,0.3s							
BROLN	**Tlhalogang**	**5.44**	**272**	*i* P	**Pn**		**21 32 10.0**	**+1.8**
BROLN				*i* S	**Sn**		**21 33 10.9**	**+0.1**
BROLN				IAML			21 33 42.2	
	comp=E,57nm,0.6s							
LEPH	**Lephalale, Lim**	**5.52**	**243**	*eP*	**Pn**		**21 32 11.5**	**+2.2**
LEPH				*eS*	**Sn**		**21 33 14.4**	**+1.6**
LEPH				IAML			21 33 53.1	
	comp=E,75nm,0.6s							
SOOWA	**Sowa**	**6.53**	**276**	*i* P	**Pn**		**21 32 25.5**	**+2.2**
SOOWA				*i* S	**Sn**		**21 33 34.5**	**-3.4**
SOOWA				IAML			21 34 27.5	
	comp=E,210nm,0.3s							
HRAO	**HartRAO**	**6.71**	**227**	*eP*	**Pn**		**21 32 27.5**	**+1.8**
HRAO				*eS*	**Sn**		**21 33 42.8**	**+0.5**
HRAO				IAML			21 34 32.8	
	comp=Z,30nm,0.6s							
LPHEP	**Lephephe**	**7.02**	**253**	*i* P	**Pn**		**21 32 32.4**	**+2.4**
LPHEP				*i* S	**Sn**		**21 33 50.5**	**+0.5**
LPHEP				IAML			21 34 43.1	
	comp=N,50nm,1.3s							
KHWEE	**KHWEE**	**7.19**	**264**	*i* P	**Pn**		**21 32 34.1**	**+1.9**
KHWEE				*i* S	**Sn**		**21 33 52.8**	**-1.3**
KHWEE				IAML			21 34 40.9	
	comp=E,349nm,0.6s							
LSZ	**Lusaka**	**7.71**	**321**	*eP*	**Pn**		**21 32 40.2**	**+0.8**
LSZ				*eS*	**Sn**		**21 34 03.0**	**-3.9**
LSZ				IAML			21 34 53.2	
	comp=Z,59nm,0.6s							
LBTB	**Lobatse**	**7.82**	**241**	*eP*	**Pn**		**21 32 43.1**	**+2.2**
LBTB				*eS*	**Sn**		**21 34 08.9**	**-0.8**
LBTB				IAML			21 34 32.7	
	comp=Z,5.9nm,0.5s							
MAKGR	**Makgori**	**8.82**	**239**	*i* P	**Pn**		**21 32 56.1**	**+1.4**
MAKGR				*i* S	**Sn**		**21 34 32.2**	**-2.1**
MAKGR				IAML			21 35 31.7	
	comp=N,100nm,0.7s							
KSTD	**Kokstad**	**9.80**	**200**	*eP*	**Pn**		**21 33 08.9**	**+0.7**
KSTD				*eS*	**Sn**		**21 34 54.2**	**-4.1**
KSTD				IAML			21 35 00.5	
	comp=Z,3.7nm,0.5s							
BOSA	**Boshof**	**10.13**	**223**	*eP*	**Pn**		**21 33 13.5**	**+0.8**
BOSA				*eS*	**Sn**		**21 35 03.6**	**-2.9**
BOSA				IAML			21 35 50.7	
	comp=Z,2.9nm,0.4s							
ALKP	**Alkanpan, Nort**	**12.99**	**227**	*eP*	**Pn**		**21 33 53.1**	**+1.4**
KEIM	**Keimoes**	**13.21**	**234**	*eP*	**Pn**		**21 33 56.2**	**+1.4**
GRAF	**Camdeboo Natio**	**13.30**	**214**	*eP*	**Pn**		**21 33 57.0**	**+1.1**
BRAK	**Brakfontein**	**13.81**	**219**	*eP*	**Pn**		**21 34 04.8**	**+1.9**
BRAK				*eS*	**Sn**		**21 36 31.6**	**-4.8**
BRAK				IAML			21 36 45.8	
	comp=Z,2.3nm,0.5s							
ARMS	**Ukamas**	**13.86**	**239**	*eP*	**Pn**		**21 34 05.4**	**+1.9**
ARMS				*eS*	**Sn**		**21 36 33.1**	**-4.5**
FRAZ	**Fraserburg**	**14.82**	**223**	*eP*	**Pn**		**21 34 19.0**	**+2.2**
CVNA	**Calvinia**	**15.62**	**227**	*eP*	**Pn**		**21 34 29.7**	**+2.3**
KOMG	**Komaggas**	**16.41**	**236**	*eP*	**P**		**21 34 40.3**	**+0.1**

*IDC **20** 21:35:16.5±2.2, 0°.95S×128°.84E, h0km, mb3.9/3, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=187.3km s-min=23.3km az=69.0*
*NEIC **20** 21:35:19.0±2.1, 0°.97S±0°.04×128°.66E±0°.08, h10km±1km, mb4.4/11, Error ellipse: s-maj=14.3km s-min=5.9km az=79.0*
*DJA **20** 21:35:20.8±1.1, 1°.S±2°.×12°.9E±°, h13km±7km, M3.8/10, mb4.0/1, MLv3.7/10*
ISC 20 21:35:19.7±0.7, **0°.98S**±0°.05×**128°.64E**±0°.07, **h17**km**, n29,**
σ1**s39**/32**, mb4.3/7, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.15**	**324**		**Pn**		**21 35 54.9**	**+0.1**
TNTI					Sn		**21 36 21.3**	**+0.2**
TNTI	**Ternate**	**2.15**	**324**		P		**21 35 55.7**	**+0.9**
TNTI					S		**21 36 22.8**	**+1.7**
MSAI	**Masohi**	**2.37**	**173**		P		**21 36 01.2**	**-0.8**
SWI	**Sorong**	**2.62**	**88**		P		**21 36 03.4**	**+2.1**
NLAI	**Namlea**	**2.72**	**214**		P		**21 36 03.8**	**+1.1**
NLAI					S		**21 36 36.2**	**+0.9**
AAI	**Ambon**	**2.73**	**189**		P		**21 36 05.4**	**+2.6**
SANI	**Sanana**	**2.86**	**248**		P		**21 36 04.3**	**-0.2**
FAKI	**Fak Fak**	**4.09**	**118**				**21 36 22.6**	**+1.0**
FAKI	**Fak Fak**	**4.09**	**118**		P		**21 36 22.8**	**+1.3**
LUWI	**Luwuk**	**5.87**	**269**				**21 36 46.9**	**+0.9**
TOLI2	**Tolitoli**	**8.12**	**285**	Pn			**21 37 17.0**	**0.0**
MTN	**Manton Dam**	**12.05**	**168**				**21 38 11.5**	**+0.8**
KNRA	**Kununurra**	**14.61**	**180**	Pn			**21 38 44.0**	**-1.8**
FITZ	**Fitzroy Crossi**	**17.27**	**190**	Pn			**21 39 18.7**	**-1.5**
COEN	**Coen**	**19.32**	**133**	P			**21 39 42.4**	**-1.9**
COEN				IAmb	IAmb		21 39 43.2	
	comp=Z,24nm,1.4s							
WB0	**Warramunga Arr**	**19.51**	**164**	P			**21 39 45.5**	**-0.7**
WB0				IAmb	IAmb		21 39 48.9	
	comp=Z,6.3nm,1.1s							
WRA	**Warramunga Arr**	**19.66**	**164**	P			**21 39 46.4**	**-1.6**
WRA	**Warramunga Arr**	**19.66**	**164**	P			**21 39 47.0**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=348,slow=12,SNR=11							
	comp=Z,1.1nm,0.5s							
WR8	**Warramunga Arr**	**19.72**	**163**	P			**21 39 48.1**	**-0.5**
WR8				IAmb	IAmb		21 39 49.1	
	comp=Z,8.9nm,1.4s							
AS31	**Alice Springs**	**23.13**	**168**	P			**21 40 24.8**	**-0.4**
AS31				IAmb	IAmb		21 40 36.9	
	comp=Z,2.0nm,0.8s							
ASAR	**Alice Springs**	**23.13**	**168**	P			**21 40 25.5**	**+0.3**
ASAR	**Alice Springs**	**23.13**	**168**	P			**21 40 24.4**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=347,slow=12,SNR=29							
	comp=Z,2.5nm,0.5s							
TWG	**Pinlang**	**24.77**	**343**	P			**21 40 39.6**	**-1.2**
TWG				IAmb	IAmb		21 40 58.4	
	comp=Z,36nm,1.1s							
YULB	**Yu-li**	**25.25**	**344**	P			**21 40 45.4**	**+0.3**
YULB				IAmb	IAmb		21 41 24.7	
	comp=Z,48nm,1.2s							
BBOO	**Buckleboo**	**32.43**	**168**	P			**21 41 48.7**	**-0.3**
JNU	**Nakatsue**	**33.98**	**3**	P			**21 42 00.6**	**-2.0**
CM31	**Chiang Mai Arr**	**35.01**	**305**	P			**21 42 15.4**	**+3.8**
CM31				IAmb	IAmb		21 42 16.8	
	comp=Z,7.9nm,0.3s							
MKAR	**Makanchi Array**	**62.49**	**326**	P			**21 45 42.6**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=117,slow=7.8,SNR=2.7							
	comp=Z,0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**66.71**	**328**	P			**21 46 09.7**	**0.0**
	comp=Z,0.5nm,0.2s,baz=116,slow=6.4,SNR=4.5							
	comp=Z,0.5nm,0.2s							

*SJA **20** 21:45:29.0±0.8, 33°.65S×68°.58W, h12km, ML3.6, MW3.4*
*GUC **20** 21:45:33.6±0.8, 33°.54S×68°.82W, h10km, ML3.2*
ISC 20 21:45:29.1±0.8, **33°.64S**±0°.02×**68°.58W**±0°.02, **h10**km**, n59,**
σ1**s43**/99**, 10D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AVIZ	**Vizcacheras**	**0.17**	**18**	*eP*	**Pg**		**21 45 29.4**	**-3.5**
AAGR	**Agrelo**	**0.59**	**339**	*eP*	**Pb**		**21 45 41.5**	**0.0**
AAGR				*eS*	**Pb**		**21 45 41.5**	**0.0**
ARCO	**CERRO ARCO**	**0.85**	**339**	*eP*	Pg		21 45 37.4	-8.0
ARCO				*eS*	Sg		21 45 40.8	-16
ARCO				IAML			21 46 00.1	
	comp=Z,2µm,0.2s							
ASAL	**Salagasta**	**1.06**	**348**	*eP*	**Pn**		**21 45 49.8**	**-0.3**
ASAL				*eS*	**Sn**		**21 46 05.3**	**+0.2**
RFA	**San Rafael**	**1.14**	**175**	*eP*	**Pb**		**21 45 50.5**	**-0.4**
RFA				*eS*	**Sn**		**21 46 07.4**	**+0.6**
RFA				IAML			21 46 08.6	
	comp=Z,2µm,0.3s							
MT08	**Bocatoma Ro**	**1.22**	**279**	⇓*eP*	**Pb**		**21 45 51.9**	**-0.4**
MT08				*eS*	**Sb**		**21 46 06.7**	**-1.5**
MT08				IAML			21 46 10.5	
	comp=N,753nm,0.3s							
MT08	**Bocatoma Ro**	**1.22**	**279**	*eP*	**Pb**		**21 45 51.9**	**-0.4**
MT08				*eS*	**Sg**		**21 46 07.8**	**-0.5**
MT08				IAML			21 46 11.2	
	comp=Z,718nm,0.2s							
MT04	**Ro Olivares**	**1.32**	**280**	⇓*eP*	**Pg**		**21 45 53.9**	**-0.6**
MT04				*eS*	**Sb**		**21 46 10.0**	**-1.3**
MT04				IAML			21 46 11.5	
	comp=E,669nm,0.3s							
MT04	**Ro Olivares**	**1.32**	**280**	*eP*	**Pg**		**21 45 53.9**	**-0.6**
MT04				*eS*	**Sn**		**21 46 12.7**	**+1.1**
LMEL	**Las Melosas**	**1.37**	**261**	⇓*eP*	**Pb**		**21 45 54.6**	**-0.3**
LMEL				*eS*	**Sn**		**21 46 12.0**	**-0.7**
LMEL				IAML			21 46 12.8	
	comp=N,2µm,0.2s							
LMEL	**Las Melosas**	**1.37**	**261**	*eP*	**Pg**		**21 45 54.8**	**-0.6**
LMEL				*eS*	**Sg**		**21 46 12.7**	**-0.5**
LMEL				IAML			21 46 13.4	
	comp=Z,557nm,0.1s							
MT13	**San Alfonso**	**1.43**	**265**	⇓*eP*	**Pb**		**21 45 55.6**	**-0.2**
MT13				IAML			21 46 17.8	
	comp=E,528nm,0.3s							
MT13	**San Alfonso**	**1.43**	**265**	*eP*	**Pb**		**21 45 55.7**	**-0.2**
MT13				*eS*	**Sg**		**21 46 16.9**	**+1.8**
FCH	**Farellones**	**1.46**	**282**	⇓*eP*	**Pg**		**21 45 56.6**	**-0.6**
FCH				*eS*	**Sn**		**21 46 14.4**	**-0.9**
FCH				IAML			21 46 22.4	
	comp=E,277nm,0.3s							
MT15	**Las Vizcachas**	**1.61**	**271**	⇓*eP*	**Pb**		**21 45 58.7**	**-0.2**
MT15				IAML			21 46 21.6	
	comp=N,933nm,0.2s							
MT03	**Universidad Ad**	**1.62**	**274**	*eP*	**Pb**		**21 45 58.8**	**-0.3**
MT03				IAML			21 46 22.9	
	comp=E,2µm,0.2s							
MT03	**Universidad Ad**	**1.62**	**274**	*eP*	**Pb**		**21 45 59.1**	**0.0**
MT03				*eS*	**Sg**		**21 46 21.7**	**+0.6**
MT03				IAML			21 46 22.3	
	comp=Z,739nm,0.4s							
MT12	**Pirque**	**1.65**	**266**	⇓*eP*	**Pb**		**21 45 59.5**	**-0.1**
MT12				IAML			21 46 24.9	
	comp=N,518nm,0.2s							
MT14	**Cerro Calן**	**1.65**	**278**	⇓*eP*	**Pg**		**21 45 59.8**	**-1.0**
MT14				IAML			21 46 24.3	
	comp=E,815nm,0.5s							
MT10	**Hacienda Santa**	**1.68**	**282**	*eP*	**Pg**		**21 46 00.5**	**-0.8**
MT10				*eS*	**Sn**		**21 46 19.7**	**-0.5**
MT10				IAML			21 46 26.0	
	comp=E,817nm,0.4s							
BO04	**La Punta**	**1.73**	**258**	⇓*eP*	**Pb**		**21 46 00.9**	**-0.1**
BO04				IAML			21 46 24.7	
	comp=E,621nm,0.3s							
ACAN	**Cantantal**	**1.79**	**41**	*eP*	**Pb**		**21 46 01.9**	**-0.1**
ACAN				*eS*	**Sg**		**21 46 26.6**	**-0.2**
ACAN				IAML			21 46 29.0	
	comp=Z,2µm,0.2s							
MT05	**Renca**	**1.82**	**277**	*eP*	**Pg**		**21 46 02.8**	**-1.2**
MT05				IAML			21 46 28.9	
	comp=E,763nm,0.6s							
MT05	**Renca**	**1.82**	**277**	*eP*	**Pb**		**21 46 02.2**	**-0.3**
MT05				*eS*	**Sg**		**21 46 28.1**	**+0.5**
MT05				IAML			21 46 29.6	
	comp=Z,244nm,0.9s							
PEL	**Peldehue**	**1.83**	**285**	*eP*	**Pb**		**21 46 02.6**	**0.0**
PEL				IAML			21 46 31.3	
	comp=N,209nm,0.4s							
PEL	**Peldehue**	**1.83**	**285**	*eP*	**Pb**		**21 46 02.7**	**0.0**
PEL				*eS*	**Sg**		**21 46 28.0**	**+0.1**
VA03	**San Esteban**	**1.87**	**297**	*eP*	**Pb**		**21 46 03.7**	**+0.3**
VA03				*eS*	**Sg**		**21 46 28.9**	**-0.3**
RTLS	**Leoncito**	**1.93**	**342**	*eP*	**Pb**		**21 46 04.2**	**-0.3**
RTLS				*eS*	**Sg**		**21 46 31.5**	**+0.3**
RTLS				IAML			21 46 32.6	
	comp=Z,1µm,0.7s							
MT09	**Talagante**	**2.01**	**265**	⇓*eP*	**Pb**		**21 46 05.6**	**-0.3**
MT09				IAML			21 46 32.9	
	comp=N,438nm,0.4s							
CFA

TCA				*e*S	**Sn**	**21 47 23.3**	**+3.9**
TCA				IAML		21 47 43.5	
	comp=Z,156nm,0.6s						
AGUA	**GUANDACOL**	**4.14**	**1**	*e*P	**Pn**	**21 46 35.3**	**+2.9**
AGUA				*e*S	**Sg**	**21 47 39.9**	**-2.1**
AGUA				IAML		21 47 56.0	
	comp=Z,100nm,0.5s						
ACLC	**CERRO LA CRUZ**	**4.42**	**19**	*e*P	**Pn**	**21 46 38.9**	**+2.5**
ACLC				*e*S	**Sg**	**21 47 47.4**	**-3.7**
ACLC				IAML		21 47 54.6	
	comp=Z,59nm,0.3s						
VCA	**Vinchina**	**4.89**	**4**	*e*P	**Pn**	**21 46 46.1**	**+3.2**
VCA				*e*S	**Sb**	**21 47 57.1**	**+3.1**
VCA				IAML		21 48 09.1	
	comp=Z,93nm,0.3s						

NEIC ***20*** *21:46:04.2±1.9,6˚.24S±0˚.08×151˚.9E±0˚.2,h10km±1km, mb4.1/8, Error ellipse: s-maj=32.0km s-min=6.9km az=113.0*
IDC ***20*** *21:46:09.9±6.6,6˚.22S×151˚.71E,h54km±54km,mb3.5/5, mbtmp3.8/6,ML2.2/1,MS3.2/3,Error ellipse: s-maj=55.2km s-min=31.5km az=112.0*

ISC 20 21:46:07.8±0.9, 6˚.1S×151˚.8E±0˚.2, h36km, n20, σ1§26/21, mb3.9/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.97**	**12**	Pn	**Pn**	**21 46 37.7**	**-1.0**
RABL				Sn	**Sn**	**21 47 04.5**	**+2.3**
PMG	**Port Moresby**	**5.60**	**234**	Pn	**Pn**	**21 47 27.9**	**-0.8**
PMG				Sn	**Sn**	**21 48 32.1**	**+0.3**
PMG	**Port Moresby**	**5.60**	**234**	P	**Pn**	**21 47 30.5**	**+1.9**
	4.4nm,0.3s,baz=58,slow=4.4,SNR=6.6						
PMG				S	**Sn**	**21 48 31.6**	**-0.2**
	32nm,0.5s,baz=159,slow=16,SNR=6.9						
PMG				LR	LR	21 49 36.9	
	comp=Z,102nm,20.0s,baz=82,slow=38 19nm,0.4s						
MTN	**Manton Dam**	**21.40**	**250**	P	**P**	**21 50 53.8**	**+1.1**
MTN				IAmb	IAmb	21 51 15.8	
	comp=Z,22nm,1.4s						
WB0	**Warramunga Arr**	**21.65**	**230**	P	**P**	**21 50 53.8**	**-1.5**
WR8	**Warramunga Arr**	**21.68**	**229**	P	**P**	**21 50 55.5**	**-0.2**
WR8				IAmb	IAmb	21 51 30.6	
	comp=Z,5.9nm,1.1s						
WRA	**Warramunga Arr**	**21.79**	**229**	P	**P**	**21 50 56.3**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=55,slow=10,SNR=6.0 comp=Z,0.5nm,0.3s						
KNRA	**Kununurra**	**24.47**	**245**	P	**P**	**21 51 22.7**	**-1.0**
KNRA				IAmb	IAmb	21 51 43.2	
	comp=Z,7.3nm,0.9s						
AS31	**Alice Springs**	**24.47**	**223**	P	**P**	**21 51 22.9**	**-0.9**
ASAR	**Alice Springs**	**24.47**	**223**	P	**P**	**21 51 22.5**	**-1.2**
ASAR	**Alice Springs**	**24.47**	**223**	P	**P**	**21 51 22.9**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=57,slow=8.9,SNR=46 comp=Z,2.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.12**	**243**	P	**P**	**21 51 55.3**	**-1.4**
FITZ				IAmb	IAmb	21 52 30.2	
	comp=Z,2.4nm,1.2s						
JCJ	**Chichijima**	**34.31**	**345**	P	**P**	**21 52 49.4**	**-1.6**
MA2	**Magadan**	**65.51**	**359**	LR	LR	22 26 18.1	
	comp=Z,11nm,18.8s,baz=123,slow=37						
KDAK	**Kodiak Island**	**77.83**	**27**	LR	LR	22 26 01.5	
	comp=Z,41nm,20.9s,baz=166,slow=31						
MKAR	**Makanchi Array**	**80.66**	**319**	P	**P**	**21 58 18.6**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=92,slow=5.3,SNR=1.3 comp=Z,0.1nm,0.5s						
ILAR	**Eielson Array**	**83.78**	**22**	P	**P**	**21 58 32.5**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=259,slow=5.3,SNR=6.3 comp=Z,0.7nm,0.7s						
QSPA	**South Pole Qui**	**83.83**	**180**	P	**P**	**21 58 33.9**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=0.0,slow=7.1,SNR=4.3 comp=Z,1.8nm,0.6s						
SCZ	**Santa Cruz**	**91.08**	**53**		**P**	**21 59 10.3**	**+1.3**
TORD	**Torodi Ar. Bea**	**149.71**	**286**	PKPbc	**PKPbc**	**22 05 53.7**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=109,slow=3.4,SNR=7.9						

IDC ***20*** *21:50:20.2±3.9,8˚.35N×122˚.48E,h129km±40km, mb3.4/8, mbtmp3.9/10,MS3.2/4,Error ellipse: s-maj=54.3km s-min=13.6km az=67.0*

ISC 20 21:50:06.7±0.8, 8˚.4N±0˚.1×122˚.4E±0˚.1, h10km, n14, σ1§41/13, mb3.8/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.44**	**113**	P	**Pg**	**21 51 12.6**	**-0.1**
	160nm,0.3s,baz=279,slow=20,SNR=5.3						
DAV				S	**Sb**	**21 51 50.7**	**+1.0**
	138nm,0.4s,baz=329,slow=17,SNR=4.3						
DAV				LR	LR	21 52 37.0	
	comp=Z,693nm,18.2s,baz=307,slow=41						
KAPI	**Kappang**	**13.62**	**191**	LR	LR	21 58 53.9	
	comp=Z,69nm,18.9s,baz=337,slow=38						
BATI	**Baumata**	**18.57**	**176**	P	**Pn**	**21 54 27.2**	**+3.0**
	25nm,0.8s,baz=306,slow=5.8,SNR=4.9						
LEM	**Lembang**	**21.14**	**225**	LR	LR	22 04 00.6	
	comp=Z,44nm,20.5s,baz=190,slow=39						
CMAR	**Chiang Mai Arr**	**24.85**	**296**	LR	LR	22 05 38.7	
	comp=Z,35nm,18.5s,baz=135,slow=37						
WRA	**Warramunga Arr**	**30.56**	**157**	P	**P**	**21 56 19.1**	**-1.6**
	0.3nm,0.3s,baz=331,slow=10.0,SNR=2.8 0.3nm,0.3s						
ASAR	**Alice Springs**	**33.84**	**161**	P	**P**	**21 56 48.9**	**-0.6**
	1.1nm,0.7s,baz=344,slow=7.3,SNR=19						
ASAR				PcP	**PcP**	**21 59 27.1**	**-1.4**
	0.6nm,0.6s,baz=344,slow=3.3,SNR=7.4 1.1nm,0.7s						
SONM	**Songino Array**	**41.54**	**344**	P	**P**	**21 57 54.8**	**+0.3**
	0.8nm,1.0s,baz=155,slow=7.9,SNR=3.2 0.8nm,1.0s						
STKA	**Stephens Creek**	**44.09**	**156**	P	**P**	**21 58 14.4**	**-0.9**
	0.7nm,0.3s,baz=0.7,slow=5.7,SNR=3.0 0.7nm,0.3s						
MKAR	**Makanchi Array**	**51.25**	**325**	P	**P**	**21 59 12.1**	**+1.3**
	0.8nm,0.8s,baz=136,slow=7.8,SNR=5.8 0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**54.47**	**334**	P	**P**	**21 59 34.2**	**-0.1**
	0.3nm,0.4s,baz=136,slow=6.7,SNR=1.8 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**55.48**	**328**	P	**P**	**21 59 42.5**	**+0.9**
	1.3nm,0.8s,baz=134,slow=6.3,SNR=14 1.3nm,0.8s						
BVAR	**Borovoye Array**	**61.05**	**327**	P	**P**	**22 00 21.3**	**+0.6**
	0.8nm,0.7s,baz=118,slow=8.1,SNR=2.4 0.8nm,0.7s						
PLCA	**Paso Flores**	**145.84**	**162**	PKPbc	**PKPdf**	**22 09 45.1**	**-1.1**
	2.0nm,0.9s,baz=177,slow=1.7,SNR=4.0						

IDC 20 22:25:43.8±5.6, 20˚.00S×179˚.51E, h0km, mb3.8/3, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=242.4km s-min=38.2km az=148.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.37**	**258**	Pn	Pn	22 28 40.3	-1.1
	0.2nm,0.3s,baz=90,slow=20,SNR=1.4 7.3nm,1.0s						
WRA	**Warramunga Arr**	**42.35**	**262**	P	P	22 33 39.7	-0.3
	1.1nm,0.6s,baz=97,slow=8.7,SNR=9.4 1.1nm,0.6s						
ASAR	**Alice Springs**	**42.36**	**256**	P	P	22 33 40.3	+0.3
	1.6nm,0.8s,baz=92,slow=8.2,SNR=17 1.6nm,0.8s						
ILAR	**Eielson Array**	**88.36**	**14**	P	P	22 38 36.8	-0.2
	0.2nm,0.5s,baz=202,slow=4.7,SNR=2.0 0.2nm,0.5s						

NEIC ***20*** *22:32:09.4±1.1,18˚.864N±0˚.007×155˚.21W±0˚.02, h10km±2km, Error ellipse: s-maj=3.2km s-min=2.7km az=290.0*

HVO 20 22:32:10.0±1.0, 18˚.83N±0˚.03×155˚.22W±0˚.03, h17km±1km, ML2.6/27, ML2.7/38(NEIC), Error ellipse: s-maj=6.0km s-min=2.8km az=319.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HPO	**Honuapo**	**0.41**	**309**		Pn	22 32 23.0	+2.0
HTC	**Hot Caves**	**0.44**	**338**		Pg	22 32 18.0	-0.9
HLP	**Hilina Pali**	**0.47**	**350**		Pg	22 32 18.6	-0.9
HLP					Sg	22 32 24.9	-1.0
PUH	**Pauahi**	**0.54**	**1**		Pg	22 32 19.4	-1.5
PUH					Sg	22 32 26.6	-1.5
PUH					IAML	22 32 40.0	
	comp=N,385nm,0.6s						
KNHH	**Kane Nui o Ham**	**0.55**	**5**		Pg	22 32 19.5	-1.5
KHU	**Kahuku**	**0.56**	**318**		Pg	22 32 19.3	-1.9
KHU					Sg	22 32 26.7	-2.0
SDHHI	**Sand Hill**	**0.56**	**353**		Pg	22 32 19.4	-1.8
SDHHI					Sg	22 32 26.7	-2.1
STCH	**Steam Cracks**	**0.56**	**9**		Sg	22 32 26.2	-2.5
STCH	**Steam Cracks**	**0.56**	**9**		Pg	22 32 19.5	-1.6
STCH				IAML		22 32 26.4	
	comp=E,307nm,0.5s						
STCH				IAML		22 32 35.3	
	comp=N,262nm,2.5s						
JCUZ	**Jacuzzi**	**0.56**	**12**		Pn	22 32 26.3	+3.1
RIM	**Rim**	**0.56**	**355**		Pg	22 32 19.6	-1.7
RIM					Sg	22 32 26.3	-2.5
KKO	**Keanakako'i**	**0.56**	**356**		Pg	22 32 19.4	-1.8
KKO					Sg	22 32 26.4	-2.5
NPOC	**North of Pu'u**	**0.57**	**11**		Pg	22 32 19.6	-1.8
NPOC					Sg	22 32 26.5	-2.5
WRMHI	**West Rim**	**0.58**	**353**		Pg	22 32 19.7	-1.8
BYL	**Byron's Ledge**	**0.58**	**356**		Pg	22 32 19.9	-1.6
BYL				IAML		22 32 36.0	
	comp=N,507nm,0.6s						
BYL				IAML		22 32 37.8	
	comp=E,390nm,0.9s						
AIN	**Ainahou**	**0.58**	**338**		Sg	22 32 27.8	-1.7
AIN	**Ainahou**	**0.58**	**338**		Pg	22 32 20.3	-1.3
AIN				IAML		22 32 33.6	
	comp=N,1μm,0.4s						
AIN				IAML		22 32 33.7	
	comp=E,722nm,0.3s						
OBL	**Observatory Le**	**0.59**	**354**		Pg	22 32 19.8	-1.9
OBL					Sg	22 32 28.8	-0.8
HATHI	**Halema'uma'u T**	**0.59**	**356**		Sg	22 32 27.2	-2.4
HATHI	**Halema'uma'u T**	**0.59**	**356**		Pg	22 32 20.0	-1.7
HATHI				IAML		22 32 36.5	
	comp=E,515nm,0.7s						
HATHI				IAML		22 32 38.1	
	comp=N,454nm,0.7s						
UWE	**Uwekahuna**	**0.59**	**353**		Pg	22 32 20.1	-1.7
UWB	**Uwekahuna Bluf**	**0.59**	**355**		Pg	22 32 19.9	-1.9
SBLHI	**Steaming Bluff**	**0.59**	**356**		Sg	22 32 19.7	-2.1
SBLHI					Sg	22 32 26.9	-2.9
RSD	**Rainshed**	**0.63**	**355**		Pg	22 32 21.4	-1.2
JOKA	**Jonika Flow**	**0.63**	**19**		Sg	22 32 28.4	-2.6
JOKA	**Jonika Flow**	**0.63**	**19**		Pg	22 32 20.8	-1.7
JOKA				IAML		22 32 26.7	
	comp=E,138nm,3.6s						
JOKA				IAML		22 32 37.9	
	comp=N,273nm,1.9s						
MLH	**Mauna Loa**	**0.68**	**347**		Pg	22 32 21.1	-2.3
MLH	**Mauna Loa**	**0.68**	**347**		Sg	22 32 29.8	-2.7
MLH				IAML		22 32 34.5	
	comp=E,348nm,0.4s						
MLH				IAML		22 32 34.7	
	comp=N,375nm,0.3s						
MWH	**Mokuaweoweo**	**0.74**	**331**		Pg	22 32 22.6	-2.0
MWH				IAML		22 32 45.3	
	comp=E,391nm,1.2s						
MWH				IAML		22 32 49.8	
	comp=N,328nm,0.5s						
HMH	**Humu'ula Sheep**	**0.81**	**342**		Pb	22 32 23.6	-2.1
HMH				IAML		22 32 43.2	
	comp=N,189nm,1.2s						
HMH				IAML		22 32 52.4	
	comp=E,226nm,2.1s						
ALEP	**Alea Permanent**	**0.81**	**331**		Pb	22 32 23.0	-2.8

IGQ ***20*** *22:54:52.0±0.3, 1˚.N±2˚×8˚.0W±˚, h9km±2km, MLv3.8/25*
RSNC ***20*** *22:55:00.3±0.0, 0˚.N±27˚×7˚.9W±2˚.7, h97km±23km, M3.5, ML3.1*

ISC 20 22:54:51.8±1.0, 0˚.90N±0˚.03×79˚.62W±0˚.04, h16km±7km, n59, σ1§12/70, 5C-10D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AES2	**Ecuador-Puerto**	**0.09**	**345**	↑P	**Pg**	**22 54 55.4**	**+0.4**
AMA1	**Acelerografo,**	**0.11**	**287**	↑P	**Pg**	**22 54 54.5**	**-0.7**
AV21	**Acelerografo,**	**0.25**	**163**	P	**Pb**	**22 54 58.7**	**+0.7**
RVRD	**Rio Verde**	**0.29**	**55**	P	**Pb**	**22 54 59.3**	**+0.7**
BV15	**Puerto Quito-O**	**0.84**	**152**	S	**Sn**	**22 55 22.0**	**+0.9**
BV15				P	**Pg**	**22 55 08.0**	**-0.2**
SNLR	**San Lorenzo-Es**	**0.87**	**63**	S	**Sn**	**22 55 24.7**	**+3.0**
SNLR				P	**Pn**	**22 55 09.5**	**+0.1**
PAC1	**Pacto, Paraso**	**1.04**	**127**	S	**Sn**	**22 55 27.9**	**+1.5**
PAC1				P	**Pb**	**22 55 11.3**	**-0.3**
PAC1	**Pacto, Paraso**	**1.04**	**127**	P	**Pb**	**22 55 11.4**	**-0.3**
PAC1				S	**Sb**	**22 55 24.2**	**-1.0**
ALIT	**Ecuador-Imbabu**	**1.27**	**95**	P	**Pn**	**22 55 14.6**	**-0.4**
CUSE	**Cuicocha Este**	**1.36**	**116**	S	**Sg**	**22 55 37.1**	**+1.2**
CUSE				P	**Pn**	**22 55 16.8**	**+0.3**
CUSE	**Cuicocha Este**	**1.36**	**116**	P	**Pn**	**22 55 16.7**	**+0.1**
CUSE				S	**Sb**	**22 55 29.5**	**-5.0**
CUIC	**Cuicocha-Domo**	**1.40**	**115**	P	**Pb**	**22 55 17.5**	**-0.3**
COTA	**Cotacachi**	**1.40**	**114**	P	**Pn**	**22 55 17.3**	**+0.1**
PULU	**Pululahua**	**1.42**	**128**	S	**Sg**	**22 55 39.1**	**+1.3**
PULU				↓P	**Pb**	**22 55 18.2**	**0.0**
URCU	**Urcuqui**	**1.44**	**109**	↑P	**Pb**	**22 55 18.2**	**-0.3**
YANA	**Yana**	**1.46**	**134**	↑P	**Pb**	**22 55 18.8**	**-0.2**
TERV	**Terraza Guagua**	**1.48**	**136**	↓P	**Pb**	**22 55 18.9**	**-0.3**
GGPC	**Guagua Pichinc**	**1.48**	**136**	↓P	**Pb**	**22 55 19.1**	**-0.3**
GGPT	**Toaza - Volcan**	**1.50**	**138**	↓P	**Pn**	**22 55 19.0**	**+0.6**
JUA2	**San Juan 2**	**1.50**	**137**	P	**Pb**	**22 55 19.3**	**-0.4**
CHMA	**Chilma**	**1.56**	**91**	↓P	**Pn**	**22 55 17.8**	**-1.4**
LNGL	**El Angel-Carch**	**1.63**	**96**	P	**Pn**	**22 55 19.6**	**-0.7**
ECEN	**Cerro Negro**	**1.65**	**93**	P	**Pn**	**22 55 21.3**	**+0.6**
CHL1	**Volc¡n Chiles**	**1.68**	**94**	↓P	**Pn**	**22 55 21.3**	**+0.2**
CHL2	**Volc¡n Chiles**	**1.71**	**93**	P	**Pn**	**22 55 21.7**	**+0.3**
CMBC	**Cumbal**	**1.80**	**89**	P	**Pb**	**22 55 24.3**	**-0.3**
ANGU	**Angureal**	**1.82**	**118**	P	**Pb**	**22 55 24.9**	**-0.3**
ILLI	**Illinizas Sur**	**1.84**	**151**	P	**Pn**	**22 55 23.5**	**+0.3**
TULM	**Tulcn-Chalpat**	**1.84**	**96**	↓P	**Pb**	**22 55 24.5**	**-1.0**
TULM	**Tulcn-Chalpat**	**1.84**	**96**	P	**Pb**	**22 55 25.6**	**+0.1**
SUCR	**Mariscal Sucre**	**1.90**	**144**	P	**Pn**	**22 55 24.9**	**+0.8**
ANTG	**Antisana-Guama**	**1.96**	**136**	↓P	**Pb**	**22 55 26.9**	**-0.5**
VC1	**Cotopaxi 1**	**1.96**	**142**	P	**Pb**	**22 55 28.2**	**+0.8**
BVC2	**Cotopaxi Volca**	**1.97**	**142**	P	**Pn**	**22 55 25.7**	**+0.6**
BTAM	**Cotopaxi Volca**	**1.99**	**142**	P	**Pn**	**22 55 25.8**	**+0.4**
ANTM	**Antisana-La Mi**	**2.00**	**136**	↑P	**Pb**	**22 55 28.1**	**-0.1**
ANTS	**Antisana-Sarah**	**2.01**	**134**	P	**Pb**	**22 55 28.4**	**+0.1**
TAMB	**Tambo**	**2.02**	**142**	P	**Pb**	**22 55 28.5**	**-0.1**
BRRN	**Barrancas-Volc**	**2.03**	**146**	P	**Pb**	**22 55 28.6**	**0.0**
VCES	**Cotopaxi**	**2.09**	**144**	↓P	**Pb**	**22 55 29.0**	**-0.7**
BONI	**La Bonita**	**2.14**	**102**	P	**Pb**	**22 55 29.9**	**-0.5**
PIS1	**Pisayambo**	**2.31**	**148**	↑P	**Pb**	**22 55 33.2**	**-0.1**
PIAT	**Ana Tenorio**	**2.33**	**144**	P	**Pb**	**22 55 33.0**	**-0.6**
PIAT	**Ana Tenorio**	**2.33**	**144**	P	**Pb**	**22 55 32.6**	**-1.0**
CASC	**Dorado de Casc**	**2.41**	**108**	P	**Pb**	**22 55 34.8**	**0.0**
JIPI	**JIPIJAPA**	**2.44**	**203**	P	**Pb**	**22 55 33.9**	**-1.4**
CHSH	**Refugio Sur-Vo**	**2.50**	**162**	P	**Pn**	**22 55 33.2**	**+0.9**
GR1C	**Gorgona, Isla**	**2.54**	**35**	P	**Pb**	**22 55 36.8**	**-0.3**
BBAC	**Balboa, Cauca**	**2.62**	**65**	P	**Pn**	**22 55 34.3**	**+0.6**
BBAC	**Balboa, Cauca**	**2.62**	**65**	P	**Pn**	**22 55 33.5**	**-0.2**
BBAC				S	**Sb**	**22 56 08.1**	**-2.6**
BPAT	**Tungurahua Vol**	**2.67**	**154**	↓P	**Pb**	**22 55 38.8**	**-0.7**
PPLP	**Puerto Lpez**	**2.69**	**205**	P	**Pn**	**22 55 36.3**	**+1.8**
PPLP	**Puerto Lpez**	**2.69**	**205**	P	**Pn**	**22 55 35.2**	**+0.7**
PPLP				S	**Sn**	**22 56 05.3**	**-1.6**
CRUC	**La Cruz**	**2.75**	**76**	P	**Pb**	**22 55 39.5**	**-1.4**
PUYO	**Puyo, Santa Ro**	**2.87**	**146**	P	**Pb**	**22 55 43.8**	**+1.1**
POPC	**Popayan, Colom**	**3.36**	**61**	P	**Pn**	**22 55 44.7**	**+0.7**
POPC				S	**Sn**	**22 56 26.0**	**+2.2**
COHC	**Cochancay**	**3.37**	**174**	P	**Pn**	**22 55 44.1**	**+0.3**
COHC				S	**Sn**	**22 56 25.0**	**+1.5**
PCRA	**Pucara 2**	**4.08**	**178**	P	**Pn**	**22 55 54.2**	**+0.1**
MCRA	**Macar, Loja**	**5.25**	**184**	P	**Pn**	**22 56 11.5**	**+1.8**

TRN ***20*** *23:12:55.5, 11˚.26N×62˚.24W, h115km, MD3.7, North of the Paria peninsula.*
FUNV ***20*** *23:12:56.1, 11˚.27N×62˚.11W, h120km, MW4.2*

ISC 20 23:12:54.7±1.5, 11˚.29N±0˚.04×62˚.25W±0˚.05, h122km±13km, n25, σ1§38/47, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMDM	**Guralp CMG5TDE**	**0.90**	**130**	*e*P	**Pn**	**23 13 16.4**	**+0.5**
DMDM				*e*S	**Sn**	**23 13 30.0**	**-2.0**
GRFF	**Grenada Fort F**	**0.91**	**34**	*e*P	**Pn**	**23 13 16.5**	**+0.4**
GRFF				*e*S	**Sn**	**23 13 32.1**	**-0.1**
PSMG	**Mucurapo Girls**	**0.93**	**131**	*e*P	**Pn**	**23 13 16.8**	**+0.6**
PSMG				*e*S	**Sn**	**23 13 31.4**	**-1.2**
PSKH	**Kent House, Po**	**0.94**	**130**	*e*P	**Pn**	**23 13 16.7**	**+0.5**
PSWS	**West Secondary**	**0.95**	**131**	*e*P	**Pn**	**23 13 17.1**	**+0.7**
PSWS				*e*S	**Sn**	**23 13 31.7**	**-1.1**
GRGR	**Grenville**	**1.02**	**35**	*e*P	**Pn**	**23 13 17.6**	**+0.5**
GRGR				*e*S	**Sn**	**23 13 34.2**	**+0.1**
GRW	**Mount Saint Ca**	**1.04**	**34**	*e*P	**Pn**	**23 13 18.9**	**+1.6**
GRW				*e*S	**Sn**	**23 13 35.6**	**+1.0**
TRN	**Trinidad (W)**	**1.05**	**127**	*e*P	**Pn**	**23 13 17.7**	**+0.4**
TRN				*e*S	**Sn**	**23 13 32.6**	**-1.8**
GRHS	**Sauteurs**	**1.11**	**33**	*e*P	**Pn**	**23 13 18.2**	**+0.3**
GRHS				*e*S	**Sn**	**23 13 35.2**	**-0.4**
GRSS	**Sisters**	**1.18**	**32**	*e*P	**Pn**	**23 13 18.8**	**0.0**
GRSS				*e*S	**Sn**	**23 13 37.0**	**0.0**
TPP	**Pointe-a-Pierr**	**1.24**	**141**	*e*P	**Pn**	**23 13 21.6**	**+2.2**
TPP				*e*S	**Sn**	**23 13 39.2**	**+1.1**
TBH	**Brigand Hill**	**1.41**	**124**	*e*P	**Pn**	**23 13 22.3**	**+1.1**
TBH				*e*S	**Sn**	**23 13 40.3**	**-1.1**
GCMP	**Grenada, Carri**	**1.44**	**34**	*e*P	**Pn**	**23 13 21.7**	**+0.2**
GCMP				*e*S	**Sn**	**23 13 41.2**	**-0.8**
SVB	**Belmont**	**2.20**	**26**	*e*P	**Pn**	**23 13 31.1**	**+0.4**
SVB				*e*S	**Sn**	**23 13 58.8**	**+0.3**
PCRV	**Puerto La Cruz**	**2.59**	**245**	*e*P	**Pn**	**23 13 38.1**	**+2.3**
PCRV				*e*S	**Sn**	**23 14 07.7**	**+0.3**
PCRV	**Puerto La Cruz**	**2.59**	**245**	*e*P	**Pn**	**23 13 37.8**	**+2.0**
PCRV				*e*S	**Sn**	**23 14 05.5**	**-1.8**
SLBI	**Saint Lucia, B**	**2.99**	**24**	*e*P	**Pn**	**23 13 40.9**	**0.0**
SLBI				*e*S	**Sn**	**23 14 15.7**	**-0.9**
BBGH	**Gun Hill**	**3.21**	**55**	*e*P	**Pn**	**23 13 44.6**	**+0.7**
BBGH				*e*S	**Sn**	**23 14 20.2**	**-1.0**
BIM	**Bigot**	**3.41**	**20**	*e*P	**Pn**	**23 13 46.8**	**+0.3**
BIM				*e*S	**Sn**	**23 14 26.2**	**-0.3**
ILAM	**Ilet Lapin Mar**	**3.72**	**21**	*e*P	**Pn**	**23 13 52.3**	**+1.8**
ILAM				*e*S	**Sn**	**23 14 32.2**	**-1.5**
TACV	**Tcata**	**4.83**	**257**	*e*P	**Pn**	**23 14 07.3**	**+1.9**
TACV				*e*S	**Sn**	**23 14 59.1**	**-1.4**
BENV	**Beln**	**5.42**	**256**	*e*P	**Pn**	**23 14 15.3**	**+2.0**
BENV				*e*S	**Sn**	**23 15 12.3**	**-2.4**
CACV	**CAICARA DEL OR**	**5.62**	**229**	*e*P	Pn	23 14 11.1	-4.9
CACV				*e*S	Sn	23 15 08.0	-11
BAUV	**El Baul**	**6.16**	**248**	*e*P	**Pn**	**23 14 23.3**	**0.0**
BAUV				*e*S	**Sn**	**23 15 29.0**	**-3.5**
BAUV	**El Baul**	**6.16**	**248**	*e*P	**Pn**	**23 14 22.5**	**-0.8**
BAUV				*e*S	**Sn**	**23 15 29.6**	**-2.9**

IDC ***20*** *23:16:05.0±0.6,1˚.09S×128˚.44E,h0km,mb4.3/12, mbtmp4.3/14,ML4.2/2,MS3.4/19,Error ellipse: s-maj=39.3km s-min=10.9km az=74.0*
NEIC ***20*** *23:16:06.3±1.4,1˚.02S±0˚.04×128˚.58E±0˚.05,h10km±1km, mb4.6/27, Error ellipse: s-maj=9.1km s-min=5.9km az=113.0*
DJA ***20*** *23:16:07.9±0.2,1˚.S±2˚×12˚.9E±˚,h10km,M4.7/15, mb4.8/13,mB5.4/6,MLv4.5/15,Mw(mB)4.9/6*

ISC 20 23:16:07.3±0.4, 1˚.02S±0˚.04×128˚.63E±0˚.05, h17km, n97, σ1§89/95, mb4.5/28, MS3.4/15, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.18**	**325**		**Pn**	**23 16 42.3**	**-0.5**
TNTI				Sn	**Sn**	**23 17 07.9**	**-1.6**
TNTI	**Ternate**	**2.18**	**325**	P	**Pn**	**23 16 42.4**	**-0.4**
TNTI				S	**Sn**	**23 17 09.2**	**-0.3**
MSAI	**Masohi**	**2.33**	**173**	P	**Pb**	**23 16 47.8**	**-1.0**
MSAI				S	**Sn**	**23 17 14.9**	**+1.8**
SWI	**Sorong**	**2.63**	**87**	P	**Pn**	**23 16 50.7**	**+1.7**
NLAI	**Namlea**	**2.68**	**215**	P	**Pn**	**23 16 50.7**	**+1.0**
NLAI				S	**Sn**	**23 17 23.9**	**+2.1**
AAI	**Ambon**	**2.68**	**189**	P	**Pb**	**23 16 52.6**	**-2.3**
SANI	**Sanana**	**2.83**	**249**	P	**Pn**	**23 16 51.7**	**-0.1**
BNDI	**Bandanaira**	**3.70**	**160**	P	**Pn**	**23 17 07.6**	**+3.8**
FAKI	**Fak Fak**	**4.08**	**118**		**Pn**	**23 17 09.1**	**+0.2**
FAKI	**Fak Fak**	**4.08**	**118**	P	**Pn**	**23 17 10.2**	**+1.3**
FAKI				S	**Sn**	**23 17 58.0**	**+1.7**
RKPI	**Ransiki, Papua**	**5.57**	**95**	P	Pn	23 17 36.0	+6.6
KMPI	**Kaimana, Papua**	**5.71**	**117**	P	**Pn**	**23 17 32.7**	**+1.4**
LUWI	**Luwuk**	**5.86**	**270**		**Pn**	**23 17 32.1**	**-1.2**
LUWI	**Luwuk**	**5.86**	**270**	P	**

	comp=Z,4.7nm,0.8s							
NJ2	**Nanjing**	**34.17 345**	*e*P		**P**		**23 22 53.6**	**+1.9**
NJ2			pmax		pmax			
	comp=Z,13nm,0.6s							
CMAR	**Chiang Mai Arr**	**35.02 305**	P		**P**		**23 22 59.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**35.02 305**	P		**P**		**23 22 59.9**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=130,slow=7.8,SNR=8.9							
	comp=Z,0.7nm,0.4s							
CHTO	**Chiang Mai**	**35.20 306**			**P**		**23 22 59.9**	**-1.0**
PZH	**PanZhiHua**	**37.70 318**	P		**P**		**23 23 24.1**	**+1.9**
PBA	**Port Blair**	**37.81 291**	P		**P**		**23 23 22.6**	**-0.7**
MJAR	**Matsushiro Arr**	**38.42 12**	P		**P**		**23 23 29.5**	**+1.4**
	comp=Z,4.7nm,0.8s,baz=188,slow=9.1,SNR=13							
MJAR			LR		LR		23 37 22.2	
	comp=Z,70nm,21.5s,baz=190,slow=33							
	comp=Z,4.7nm,0.8s							
MAJO	**Matsushiro**	**38.42 12**	P		**P**		**23 23 27.5**	**-0.6**
MAJO			IAmb		IAmb		23 23 31.6	
	comp=Z,9.3nm,0.8s							
MJB9	**Matsu-Tunnel**	**38.42 12**			**P**		**23 23 27.6**	**-0.5**
MJB9			IAmb		IAmb		23 23 32.6	
	comp=Z,9.3nm,0.9s							
XAN	**Xi'an**	**39.49 334**	P		**P**		**23 23 34.3**	**-2.8**
XAN			pmax		pmax			
	comp=Z,8.0nm,0.7s							
JMM	**Marumori**	**40.29 15**	P		**P**		**23 23 44.1**	**+0.5**
JMM			IAmb		IAmb		23 24 00.6	
	comp=Z,32nm,1.1s							
BTO	**Baotou**	**44.77 340**	*e*P		**P**		**23 24 24.1**	**+4.0**
BTO			pP		**sP**		**23 24 28.8**	**+1.7**
BTO			sP		**pP**		**23 24 31.3**	**+6.2**
BTO			pmax		pmax			
	comp=Z,7.0nm,0.7s							
BTO			pmax		pmax			
	comp=Z,260nm,6.0s							
USRK	**Ussuriysk Ar.**	**45.12 3**	P		**P**		**23 24 24.2**	**+1.4**
	comp=Z,4.3nm,0.9s,baz=195,slow=9.0,SNR=3.0							
	comp=Z,4.3nm,0.9s							
ASAJ	**Asahikawa**	**46.64 14**	LR		LR		23 42 34.2	
	comp=Z,40nm,20.9s,baz=161,slow=34							
GTA	**Gaotai**	**48.13 330**	*e*P		**P**		**23 24 50.8**	**+4.2**
GTA			sP		sP		23 24 57.3	+3.7
GTA			pmax		pmax			
	comp=Z,5.0nm,1.2s							
EVN	**Everest**	**49.39 309**			**P**		**23 24 56.1**	**-0.9**
EVN			IAmb		IAmb		23 25 06.0	
	comp=Z,5.5nm,0.8s							
MSVF	**Nonsavu**	**51.30 112**	P		**P**		**23 25 10.5**	**-0.6**
SONM	**Songino Array**	**52.38 341**	P		**P**		**23 25 18.8**	**+0.2**
SONM	**Songino Array**	**52.38 341**	P		**P**		**23 25 19.7**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=147,slow=7.8,SNR=2.1							
SONM			LR		LR		23 50 57.9	
	comp=Z,43nm,18.7s,baz=45,slow=40							
	comp=Z,0.7nm,0.7s							
TUWZ	**Tuamarina**	**57.29 141**	P		**P**		**23 25 52.4**	**-1.8**
PETK	**Petropavlovsk-**	**59.15 20**	LR		LR		23 52 15.4	
	comp=Z,13nm,19.5s,baz=186,slow=37							
MKAR	**Makanchi Array**	**62.52 326**			**P**		**23 26 29.1**	**-1.0**
MKAR	**Makanchi Array**	**62.52 326**	P		**P**		**23 26 29.8**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=120,slow=8.6,SNR=11							
	comp=Z,2.3nm,0.8s							
KSH	**Kashi**	**62.75 316**	P		**P**		**23 26 35.8**	**+3.9**
KSH			pmax		pmax			
	comp=Z,4.0nm,1.1s							
MA2	**Magadan**	**62.86 12**	LR		LR		23 53 52.1	
	comp=Z,26nm,19.7s,baz=125,slow=36							
YAK	**Yakutsk**	**62.89 1**	LR		LR		23 52 44.8	
	comp=Z,26nm,20.7s,baz=148,slow=35							
AAK	**Ala-Archa**	**65.15 319**	LR		LR		23 58 07.0	
	comp=Z,22nm,21.0s,baz=77,slow=39							
ZAA0	**Zalesovo Array**	**65.66 333**	P		**P**		**23 26 49.5**	**-1.0**
ZAA0			IAmb		IAmb		23 26 54.9	
	comp=Z,2.5nm,0.8s							
ZALV	**Zalesovo Beam**	**65.66 333**			**P**		**23 26 49.0**	**-1.5**
ZALV	**Zalesovo Beam**	**65.66 333**	P		**P**		**23 26 49.4**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=115,slow=6.5,SNR=5.5							
ZALV			LR		LR		23 57 08.0	
	comp=Z,45nm,18.3s,baz=102,slow=38							
	comp=Z,0.8nm,0.7s							
GAR	**Garm**	**66.54 314**			**P**		**23 26 55.7**	**-1.0**
KURBB	**Kurchatov Arra**	**66.74 328**	P		**P**		**23 26 56.9**	**-0.7**
	comp=Z,4.8nm,1.0s,baz=125,slow=5.9,SNR=14							
	comp=Z,4.8nm,1.0s							
KURK	**Kurchatov**	**66.75 328**			**P**		**23 26 57.1**	**-0.5**
KURK			IAmb		IAmb		23 27 01.0	
	comp=Z,5.9nm,0.8s							
KK31	**Karatay Array**	**67.99 318**			**P**		**23 27 04.7**	**-1.0**
KK31			IAmb		IAmb		23 27 09.1	
	comp=Z,3.2nm,0.8s							
KKAR	**Karatay Array**	**67.99 318**			**P**		**23 27 05.1**	**-0.6**
PAF	**Port-aux-Franc**	**69.16 217**	P		**P**		**23 27 12.9**	**+0.1**
ATKA	**Atka Island**	**71.36 33**	P		**P**		**23 27 26.9**	**+0.7**
BVAR	**Borovoye Array**	**72.31 327**	P		**P**		**23 27 31.9**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=107,slow=5.0,SNR=10							
	comp=Z,3.1nm,0.9s							
TIXI	**Tiksi**	**72.55 0**	LR		LR		00 01 09.8	
	comp=Z,36nm,18.5s,baz=193,slow=37							
AB31	**Akbulak array**	**77.01 321**	P		**P**		**23 27 57.2**	**-2.1**
AB31			IAmb		IAmb		23 28 02.6	
	comp=Z,4.3nm,1.3s							
VNDA	**Vanda**	**78.51 173**	P		**P**		**23 28 07.4**	**+0.3**
VNDA	**Vanda**	**78.51 173**	P		**P**		**23 28 07.9**	**+0.8**
	comp=Z,1.9nm,1.0s,baz=309,slow=5.7,SNR=10							
	comp=Z,1.9nm,1.0s							
AKTO	**Aktyubinsk**	**78.54 322**	LR		LR		00 05 53.2	
	comp=Z,21nm,21.0s,baz=189,slow=38							
QSPA	**South Pole Qui**	**88.92 180**	P		**P**		**23 29 02.9**	**+2.2**
	comp=Z,6.4nm,1.0s,baz=325,slow=2.3,SNR=10							
	comp=Z,6.4nm,1.0s							
MLR	**Muntele Rosu**	**99.61 316**	LR		LR		00 20 45.2	
	comp=Z,18nm,19.3s,baz=84,slow=39							
TXAR	**Lajitas Array**	**122.86 55**	PKP		**PKiKP**		**23 35 04.0**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=336,slow=3.3,SNR=2.7							
TORD	**Torodi Ar. Bea**	**126.11 285**	PKP		**PKPdf**		**23 35 09.4**	**-0.5**
	comp=Z,1.8nm,0.9s,baz=25,slow=2.6,SNR=7.3							
CPUP	**Villa Florida**	**152.21 168**	PKPbc		**PKiKP**		**23 36 03.6**	**+0.4**
	comp=Z,2.2nm,1.3s,baz=233,slow=1.9,SNR=2.3							

PDG ***20*** *23:34:01.9±0.1, 43.0°09N×17.0°85E, h3km, MD3.3/3, ML3.2/11, Error ellipse: s-maj=0.1km s-min=0.2km az=0.0*
BEO ***20*** *23:34:02.8±0.3, 43.0°07N×17.0°84E, h1km±2km, ML3.0/24*
RHSSO ***20*** *23:34:02.2±0.2, 43.0°06N×17.0°85E, h5km±2km, ML3.2/8*
NEIC ***20*** *23:34:02.5±1.5, 43.0°03N±0.0°06×17.0°96E±0.0°08, h10km±12km, ML3.2/50, Error ellipse: s-maj=8.8km s-min=8.5km az=68.0*
PRU ***20*** *23:34:04.8, 43.0°04N×17.0°73E, h1km*

ISC 20 23:34:01.9±1.0, 43.0°06N±0.0°02×17.0°89E±0.0°01, h4km±9km, n155, σ1s37/248, 16C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STON	**Ston**	**0.24**	**217**	⇓*i*	Pg	**Pg**	**23 34 06.5**	**0.0**
STON				*e*	Sg	**Sg**	**23 34 10.2**	**+0.6**
STON	**Ston**	**0.24**	**217**	*e*	Pg	**Pg**	**23 34 06.4**	**-0.1**
STON					Sg	**Sg**	**23 34 09.8**	**+0.2**
STON	**Ston**	**0.24**	**217**	*e*	Pg	**Pg**	**23 34 06.4**	**-0.1**
STON				*e*	Sg	**Sg**	**23 34 10.4**	**+0.8**
DBRK	**Dubrovnik**	**0.43**	**155**	*i*	Pg	**Pb**	**23 34 10.9**	**-1.2**
DBRK					Sg	**Sb**	**23 34 17.2**	**-1.8**
TREB	**Trebinje**	**0.48**	**136**	⇑*i*	Pg	**Pg**	**23 34 11.4**	**+0.3**
TREB				*e*	Sg	**Sb**	**23 34 19.1**	**-1.2**
TREB	**Trebinje**	**0.48**	**136**	*e*	Pg	**Pg**	**23 34 11.5**	**+0.3**
TREB				*e*	Sg	**Sb**	**23 34 18.9**	**-1.4**
BRY	**Bratogost**	**0.50**	**109**	⇑*i*	Pg	**Pg**	**23 34 11.8**	**+0.3**
BRY				*e*	Sg	**Sb**	**23 34 20.3**	**-0.7**
KLINJ	**Klinje**	**0.52**	**78**	*e*	Pg	**Pg**	**23 34 12.0**	**+0.2**
KLINJ				*e*	Sg	**Sb**	**23 34 20.1**	**-1.4**
MAKA	**Makarska**	**0.68**	**290**	*e*	Pg	**Pg**	**23 34 13.6**	**-1.3**
MAKA					Sg	**Sg**	**23 34 23.3**	**-0.4**
RICI	**Ricice**	**0.70**	**308**	*e*	Pg	**Pg**	**23 34 14.5**	**-0.9**
RICI					Sg	**Sg**	**23 34 24.2**	**-0.3**
UPM	**Unac-Piva**	**0.75**	**79**	⇑*i*	Pg	**Pg**	**23 34 16.2**	**-0.1**
UPM				*e*	Sg	**Sn**	**23 34 28.8**	**-2.6**
HCY	**Herceg Novi**	**0.76**	**144**	*e*	Pg	**Pb**	**23 34 16.6**	**-1.0**
HCY				*e*	Sg	**Sn**	**23 34 28.7**	**-2.5**
LSTV	**Lastovo**	**0.79**	**249**	*e*	Pg	**Pg**	**23 34 15.6**	**-1.4**
LSTV					Sg	**Sg**	**23 34 27.5**	**+0.1**
NKME	**Niksic**	**0.83**	**110**	⇑*i*	Pg	**Pb**	**23 34 18.0**	**-0.9**
NKME				*e*	Sg	**Sn**	**23 34 31.4**	**-1.7**
CEME	**Cevo**	**0.91**	**124**	⇓*i*	Pg	**Pg**	**23 34 19.1**	**-0.3**
CEME				*i*	Sg	**Sn**	**23 34 34.4**	**-0.8**
BUM	**Brajici-Budva**	**1.06**	**136**	*e*	Pg	**Pg**	**23 34 21.8**	**-0.4**
BUM				*e*	Sg	**Sn**	**23 34 39.4**	**+0.6**
PDG	**Podgorica**	**1.19**	**122**			**Pb**	**23 34 23.4**	**-1.5**
PDG	**Podgorica**	**1.19**	**122**	⇑	P	**Pn**	**23 34 25.0**	**-0.2**
PDG	**Podgorica**	**1.19**	**122**	*e*	Pg	**Pn**	**23 34 24.8**	**-0.4**
PDG				*e*	Sg	**Sn**	**23 34 42.3**	**+0.6**
PDG	**Podgorica**	**1.19**	**122**	*e*	Pg	**Pn**	**23 34 24.4**	**-0.8**
PDG				*e*	Sg	**Sn**	**23 34 43.8**	**+2.1**
KOME	**Kolasin**	**1.21**	**100**	⇑*i*	Pg	**Pn**	**23 34 25.1**	**-0.5**
KOME				*e*	Sg	**Sn**	**23 34 44.8**	**+2.3**
RUDO	**Rudo**	**1.21**	**62**	*e*	Pg	**Pb**	**23 34 23.8**	**-1.6**
RUDO				*e*	Sg	**Sn**	**23 34 42.2**	**-0.3**
RUDO	**Rudo**	**1.21**	**62**	*e*	Pg	**Pb**	**23 34 24.0**	**-1.4**
RUDO				*e*	Sg	**Sn**	**23 34 42.8**	**+0.3**
DRME	**Dracevica, Mon**	**1.29**	**132**	*e*	Pg	**Pg**	**23 34 27.2**	**+0.5**
DRME				*e*	Sg	**Sn**	**23 34 45.6**	**+1.1**
DRME	**Dracevica, Mon**	**1.29**	**132**	*e*	Pg	**Pg**	**23 34 26.5**	**-0.2**
DRME				*e*	Sg	**Sn**	**23 34 47.3**	**+2.8**
BBLS	**Lazi&#263i**	**1.36**	**53**	*e*	Pg	**Pg**	**23 34 28.1**	**+0.1**
BBLS				*e*	Sg	**Sg**	**23 34 47.7**	**+2.0**
KIJV	**Kijevo**	**1.44**	**312**	⇑*i*	Pg	**Pn**	**23 34 27.2**	**-1.5**
KIJV				*e*	Sg	**Sn**	**23 34 47.6**	**-0.4**
KIJV	**Kijevo**	**1.44**	**312**	*e*	Pg	**Pn**	**23 34 28.1**	**-0.6**
KIJV					Sg	**Sn**	**23 34 47.4**	**-0.5**
BEY	**Berane**	**1.48**	**97**	*e*	Pn	**Pg**	**23 34 30.5**	**+0.3**
BEY				*e*	Sn	**Sg**	**23 34 52.1**	**+2.7**
IVA	**Berane**	**1.48**	**97**	⇑*i*	Pg	**Pg**	**23 34 30.3**	**+0.1**
IVA				*i*	Sg	**Sg**	**23 34 53.9**	**+4.5**
ULC	**Ulcinj**	**1.48**	**137**	⇓*i*	Pg	**Pg**	**23 34 30.3**	**0.0**
ULC				*e*	Sg	**Sg**	**23 34 54.0**	**+4.4**
SJES	**Sjenica**	**1.54**	**82**	*e*	Pn	**Pg**	**23 34 31.3**	**0.0**
SJES				*e*	Sn	**Sg**	**23 34 53.3**	**+2.1**
PVY	**Plav**	**1.59**	**106**	*e*	Pn	**Pg**	**23 34 32.7**	**+0.4**
PVY				*e*	Sn	**Sg**	**23 34 54.2**	**+1.3**
PVY	**Plav**	**1.59**	**106**	*e*	Pn	**Pn**	**23 34 32.5**	**+0.2**
IVAS	**Ivanjica**	**1.73**	**72**	*e*	Pn	**Pb**	**23 34 33.2**	**-1.0**
IVAS				*e*	Sn	**Sg**	**23 34 58.8**	**+1.5**
ZIRJ	**Zirje**	**1.74**	**291**	*e*	Pn	**Pn**	**23 34 33.5**	**+0.6**
ZIRJ					Sg	**Sb**	**23 34 57.2**	**+0.6**
BLY	**Banja Luka**	**1.76**	**343**	⇑*i*	Pn	**Pn**	**23 34 33.8**	**+0.6**
BLY				*e*	Sn	**Sn**	**23 34 56.0**	**0.0**
BLY	**Banja Luka**	**1.76**	**343**	⇑	P	**Pn**	**23 34 34.0**	**+0.9**
BLY	**Banja Luka**	**1.76**	**343**	*e*	Pn	**Pn**	**23 34 34.2**	**+1.0**
BLY				*e*	Sn	**Sb**	**23 34 58.9**	**+1.7**
MORI	**Morici**	**1.78**	**298**	*e*	Pn	**Pn**	**23 34 34.0**	**+0.5**
MORI					Sn	**Sb**	**23 34 58.9**	**+1.2**
DIVS	**Divibare**	**1.84**	**55**	*e*	Pn	**Pb**	**23 34 35.1**	**-1.1**
DIVS				*e*	Sn	**Sg**	**23 35 01.3**	**+0.2**
SGRT	**San Giovanni R**	**2.06**	**231**			**Pn**	**23 34 37.6**	**+0.2**
SGRT					IAML		23 35 16.1	
	comp=E,160nm,0.7s							
SGRT					IAML		23 35 17.7	
	comp=N,159nm,0.7s							
UDBI	**Udbina**	**2.13**	**314**	*e*	Pn	**Pn**	**23 34 40.2**	**+2.0**
UDBI				*e*	Sn	**Sn**	**23 35 06.8**	**+1.7**
TRUS	**Trudelj**	**2.16**	**57**	*e*	Pn	**Pn**	**23 34 39.5**	**+0.8**
TRUS				*e*	Sn	**Sb**	**23 35 07.2**	**-1.5**
GRUS	**Gruza**	**2.21**	**67**	*e*	Pn	**Pb**	**23 34 40.5**	**-1.9**
GRUS				*e*	Sn	**Sb**	**23 35 09.6**	**-0.6**
GOCS	**Kraljevo Serbi**	**2.23**	**76**	*e*	Pn	**Pb**	**23 34 41.5**	**-1.3**
GOCS				*e*	Sn	**Sb**	**23 35 09.9**	**-0.9**
DUGI	**Dugi Otok**	**2.26**	**295**	*e*	Pn	**Pn**	**23 34 40.6**	**+0.6**
DUGI				*e*	Sn	**Sn**	**23 35 11.1**	**+2.8**
SELS	**Selova**	**2.37**	**85**	*e*	Pn	**Pb**	**23 34 43.8**	**-1.3**
SELS				*e*	Sn	**Sb**	**23 35 14.3**	**-0.3**
VIRC	**Vir**	**2.40**	**302**	*e*	Pn	**Pn**	**23 34 43.7**	**+1.8**
VIRC					Sn	**Sn**	**23 35 13.9**	**+2.2**
PLIT	**Plitvice**	**2.45**	**319**	*e*	Pn	**Pn**	**23 34 44.5**	**+1.9**
PLIT					Sn	**Sn**	**23 35 14.7**	**+1.8**
AVAS	**Avala Beograd**	**2.50**	**48**	*e*	Pn	**Pn**	**23 34 43.6**	**+0.3**
AVAS				*e*	Sn	**Sn**	**23 35 15.3**	**+1.0**
FRGS	**Fruska Gora**	**2.51**	**33**	*e*	Pn	**Pn**	**23 34 44.3**	**+0.9**
FRGS				*e*	Sn	**Sb**	**23 35 16.8**	**-1.9**
BEO	**Beograd**	**2.55**	**46**	*e*	Pn	**Pb**	**23 34 46.1**	**-2.1**
BEO				*e*	Sn	**Sb**	**23 35 17.7**	**-2.2**
MATE	**Matera**	**2.57**	**201**	⇓	P	**Pb**	**23 34 49.5**	**+1.0**
NVLJ	**Novalja**	**2.65**	**305**	*e*	Pn	**Pn**	**23 34 46.8**	**+1.4**
NVLJ					Sn	**Sn**	**23 35 19.7**	**+1.7**
MOSL	**Moslavina**	**2.68**	**343**	*e*	Pn	**Pn**	**23 34 45.7**	**-0.1**
MOSL				*e*	Sn	**Sn**	**23 35 19.2**	**+0.5**
MOSL	**Moslavina**	**2.68**	**343**	*e*	Pn	**Pn**	**23 34 46.1**	**+0.3**
MOSL					Sn	**Sn**	**23 35 19.1**	**+0.5**
SVIS	**Svilajnac**	**2.69**	**62**	*e*	Pn	**Pb**	**23 34 48.6**	**-2.0**
ACER	**Acerenza**	**2.70**	**213**			**Pn**	**23 34 45.1**	**-1.0**
ACER					IAML		23 35 54.9	
	comp=N,173nm,1.0s							
RABC	**Rab**	**2.81**	**308**	*e*	Pn	**Pn**	**23 34 49.5**	**+1.9**
RABC					Sn	**Sn**	**23 35 24.2**	**+2.4**
BOVS	**Bovan**	**2.84**	**77**	⇓	P	**Pn**	**23 34 49.1**	**+1.2**
BOVS	**Bovan**	**2.84**	**77**	*e*	Pn	**Pb**	**23 34 50.5**	**-2.6**
BOVS				*e*	Sn	**Sb**	**23 35 25.1**	**-3.1**
BARS	**Barje**	**2.89**	**94**	*e*	Pn	**Pb**	**23 34 50.9**	**-3.1**
BARS				*e*	Sn	**Sb**	**23 35 25.9**	**-3.8**
OHR	**Ohrid**	**2.91**	**131**	*i*	Pn	**Pb**	**23 34 52.5**	**-1.9**
KUBS	**Kucevo**	**3.05**	**62**	*e*	Pn	**Pn**	**23 34 51.6**	**+0.7**
KUBS				*e*	Sn	**Sn**	**23 35 29.4**	**+1.5**
ZAG	**Zagreb**	**3.08**	**334**	*e*	Pn	**Pn**	**23 34 53.0**	**+1.7**
ZAG					Sn	**Sn**	**23 35 29.2**	**+0.6**
OZLJ	**Ozalj**	**3.09**	**327**	⇑*i*	Pn	**Sn**	**23 34 51.9**	**+0.5**
OZLJ				*e*	Sn	**Sn**	**23 35 28.6**	**-0.1**
OZLJ	**Ozalj**	**3.09**	**327**	*e*	Pn	**Pn**	**23 34 52.9**	**+1.5**
OZLJ					Sn	**Sn**	**23 35 29.9**	**+1.2**
INTR	**Introdacqua**	**3.13**	**252**			**Pn**	**23 34 51.5**	**-0.5**
INTR					IAML		23 35 56.1	
	comp=N,80nm,0.7s							
PTJ	**Puntijarka**	**3.16**	**335**	*e*	Pn	**Pn**	**23 34 53.8**	**+1.4**
PTJ					Sn	**Sn**	**23 35 31.8**	**+1.1**
BORS2	**Bor- Borsko je**	**3.17**	**70**	*e*	Pn	**Pn**	**23 34 54.0**	**+1.5**
BORS2				*e*	Sn	**Sn**	**23 35 32.3**	**+1.6**
PAOL	**Paolisi**	**3.20**	**232**			**Pn**	**23 34 53.1**	**+0.1**
PAOL					IAML		23 35 58.1	
	comp=N,47nm,1.2s							
VRSS	**Vrsac**	**3.22**	**49**	*e*	Pn	**Pn**	**23 34 53.8**	**+0.6**
VRSS				*e*	Sn	**Sn**	**23 35 34.5**	**+2.6**
KALN	**Kalnik**	**3.23**	**342**	*e*	Pn	**Pn**	**23 34 53.7**	**+0.2**
KALN					Sn	**Sn**	**23 35 33.0**	**+0.6**
ZAGS	**Zajecar**	**3.25**	**75**	*e*	Pn	**Pn**	**23 34 56.0**	**+2.4**
ZAGS				*e*	Sn	**Sn**	**23 35 34.6**	**+1.9**
MDVR	**Moldovita**	**3.25**	**57**	⇓	P	**Pn**	**23 34 54.0**	**+0.4**
CRES	**Cresnjevec Ost**	**3.27**	**329**	*i*	Pn	**Pn**	**23 34 55.5**	**+1.6**
RIY	**Rijeka**	**3.34**	**314**	*e*	Pn	**Pn**	**23 34 56.1**	**+1.4**
RIY					Sn	**Sn**	**23 35 36.7**	**+1.9**
RIY	**Rijeka**	**3.34**	**314**	*e*	Pn	**Pn**	**23 34 56.2**	**+1.4**
RIY				*e*	Sn	**Sn**	**23 35 35.8**	**+1.0**
GUMA	**Gualdo di Mace**	**3.34**	**272**			**Pn**	**23 34 54.4**	**-0.5**
CAMP	**Campotosto**	**3.34**	**262**			**Pn**	**23 34 53.8**	**-1.2**
CAMP					IAML		23 35 41.2	
	comp=E,32nm,0.9s							
LOBO	**Lobor**	**3.35**	**338**	*e*	Pn	**Pn**	**23 34 56.1**	**+1.1**
LOBO					Sn	**Sn**	**23 35 36.1**	**+0.8**
AQU	**L'Aquila**	**3.38**	**259**	*e*	Pn	**Pn**	**23 34 55.4**	**-0.1**
AQU				*e*	Sn	**Sn**	**23 35 34.7**	**-1.4**
BOSS	**Bosilegrad**	**3.42**	**98**	*e*	Pn	**Pn**	**23 34 57.8**	**+1.8**
BOSS				*e*	Sn	**Sn**	**23 35 38.1**	**+1.1**
CUC	**Castrocucco**	**3.44**	**208**		Pn	**Pn**	**23 34 55.9**	**-0.4**
ZAPS	**Zavoj**	**3.47**	**85**	*e*	Pn	**Pn**	**23 34 59.0**	**+2.3**
ZAPS				*e*	Sn	**Sn**	**23 35 39.5**	**+1.2**
BEHE	**Becsehely**	**3.50**	**347**			**Pn**	**23 34 58.1**	**+1.0**
BEHE					IAML		23 35 42.7	
	comp=E,34nm,0.9s							
BEHE					IAML		23 36 23.0	
	comp=N,35nm,0.9s							
BEHE	**Becsehely**	**3.50**	**347**	⇑	Pn	**Pn**	**23 34 57.6**	**+0.6**
BEHE				*e*	Sn	**Sn**	**23 35 37.9**	**-1.0**
BRJN	**Brijuni**	**3.51**	**303**	*e*	Pn	**Pn**	**23 34 56.9**	**-0.3**
BRJN				*e*	Sn	**Sn**	**23 35 37.8**	**-1.3**
BRJN	**Brijuni**	**3.51**	**303**	*e*	Pn	**Pn**	**23 34 57.9**	**+0.7**
BRJN					Sn	**Sn**	**23 35 40.5**	**+1.3**
NRCA	**Norcia**	**3.52**	**268**			**Pn**	**23 34 57.3**	**-0.1**
NRCA					IAML		23 35 44.3	
	comp=N,43nm,0.6s							
NRCA					IAML		23 35 50.0	
	comp=E,39nm,0.4s							
FDMO	**Fiordimonte**	**3.52**	**271**			**Pn**	**23 34 58.0**	**+0.6**
FDMO					IAML		23 35 52.0	
	comp=E,30nm,0.4s							
KEK	**Kerkira**	**3.64**	**156**		Pn	**Pn**	**23 34 58.9**	**-0.1**
KEK					IAML		23 35 49.1	
	comp=N,36nm,1.6s							
KEK					IAML		23 36 10.6	
	comp=E,36nm,2.1s							
BZS	**Buzias**	**3.69**	**45**	⇓	P	**Pn**	**23 34 59.6**	**-0.1**
HERR	**Herculane**	**3.74**	**59**	⇑	P	**Pn**	**23 35 01.2**	**+0.9**
VAY	**Valandovo**	**3.89**	**115**	*i*	Pn	**Pn**	**23 35 04.5**	**+2.2**
MURB	**Monte Urbino**	**3.93**	**275**			**Pn**	**23 35 02.8**	**-0.3**
CESX	**Cesi**	**3.93**	**265**			**Pn**	**23 35 03.5**	**+0.5**
CESX					IAML		23 35 56.3	
	comp=E,29nm,0.6s							
CESX					IAML		23 35 56.6	
	comp=N,32nm,0.6s							
TRI	**Trieste**	**3.97**	**313**	Pn		**Pn**	**23 35 03.1**	**-0.3**
TIP	**Timpagrande**	**3.97**	**193**	Pn		**Pn**	**23 35 03.6**	**0.0**
SURR	**Surduc**	**4.05**	**47**	⇑	P	**Pn**	**23 35 03.6**	**-1.1**
PERS	**Pernice**	**4.08**	**332**	*i*	Pn	**Pn**	**23 35 06.4**	**+1.3**
VOJS	**Vojsko**	**4.13**	**317**	*i*	Pn	**Pn**	**23 35 06.8**	**+1.1**
SOKA	**Soboth**	**4.15**	**332**	*e*	Pn	**Pn**	**23 35 07.7**	**+1.7**
	comp=N,7.2nm,0.4s,SNR=29							
SOKA				*e*	Sn	**Sn**	**23 35 54.8**	**-0.2**
	comp=N,8.6nm,0.6s							
SIRR	**Siria**	**4.18**	**39**	⇓	P	**Pn**	**23 35 05.6**	**-0.8**
OBKA	**Obir**	**4.19**	**327**	*i*	Pn	**Pn**	**23 35 07.4**	**+0.8**
	comp=N,4.3nm,1.0s							
OBKA				*i*	Sn	**Sn**	**23 35 58.1**	**+2.1**
	comp=N,29nm,0.6s							
GZR	**Gura Zlata**	**4.21**	**55**	⇑	P	**Pn**	**23 35 07.4**	**+0.5**
SABO	**M.te Sabotino**	**4.24**	**315**	Pn		**Pn**	**23 35 07.5**	**+0.3**
ARSA	**Arzberg**	**4.51**	**339**			**Pn**	**23 35 11.1**	**+0.1**
ARSA	**Arzberg**	**4.51**	**339**	*i*	Pn	**Pn**	**23 35 12.0**	**+1.1**
	comp=N,5.3nm,0.5s,SNR=15							
ARSA				*i*	Sn	**Sn**	**23 36 04.1**	**+0.3**
	comp=N,3.5nm,0.4s							
LIT	**Litokhoron**	**4.54**	**129**	Pn		**Pn**	**23 35 08.3**	**-3.1**
LIT					IAML		23 36 25.2	
	comp=N,21nm,1.2s							
LIT					IAML		23 36 36.5	
	comp=E,21nm,1.2s							
MYKA	**Terra Mystica**	**4.67**	**321**	*e*	Pn	**Pn**	**23 35 15.1**	**+1.8**
	comp=E,0.9nm,0.3s							
MYKA				*i*	Sn	**Sn**	**23 36 09.7**	**+1.7**
	comp=E,9.8nm,0.5s							
RONA	**Rosalia, Austr**	**4.77**	**347**	*i*	Pn	**Pn**	**23 35 16.0**	**+1.4**
	comp=E,1.4nm,0.4s							
RONA				*i*	Sn	**Sn**	**23 36 10.1**	**-0.1**
	comp=E,2.9nm,0.4s							
OSSC	**Osservatorio P**	**4.87**	**278**	Pn		**Pn**	**23 35 16.8**	**+0.9**
OSSC					IAML		23 36 15.2	
	comp=N,16

IUG					S		Sg	23 48 45.0	+2.0	
	27nm,0.4s									
KK31	**Karatay Array**	**2.02**	**342**	⇑	Pn		Pb	23 48 35.7	-0.3	
	0.6nm,0.2s,baz=152,slow=15,SNR=24									
KK31					Sn		Sg	23 49 03.8	+0.3	
	1.9nm,0.3s,baz=156,slow=25,SNR=15									
MRKS	**Merke**	**2.10**	**41**		Pg		Pb	23 48 37.5	0.0	
	1.2nm,0.2s									
MRKS					Lg		Lg	23 49 07.1		
	8.7nm,0.7s									
MRKS	**Merke**	**2.10**	**41**	*eP*			Pb	23 48 37.5	0.0	
	1.2nm,0.2s									
MRKS					*eS*		Sg	23 49 07.1	+1.0	
	8.7nm,0.7s									
BRLS	**Borolday**	**2.16**	**329**		Pg		Pn	23 48 36.4	+0.7	
	1.3nm,0.2s									
BRLS					Lg		Lg	23 49 04.6		
	4.8nm,0.3s									
BRLS	**Borolday**	**2.16**	**329**	*eP*			Pn	23 48 36.4	+0.7	
	1.3nm,0.2s									
BRLS					*eS*		Sb	23 49 04.6	-1.2	
	4.8nm,0.3s									
GAR	**Garm**	**2.32**	**200**	⇑	*iP*		Pb	23 48 40.2	-1.0	
GAR				⇑	*iS*		Sb	23 49 10.9	+0.6	
EKS2	**Erkin-Say**	**2.34**	**50**	⇑	*iP*		Pb	23 48 42.1	+0.5	
EKS2				⇑	*iS*		Sg	23 49 14.4	+0.6	

*GCG **21** 00:00:31.6±2.6, 15°.73N×94°.07W, h32km±217km, MD4.2*
*MEX **21** 00:00:33.3±1.0, 15°.75N×94°.01W, h75km±14km, MD4.3*
ISC 21 00:00:31.2±1.2, 15°.70N±0°.04×94°.03W±0°.03, h69km±19km, n34, σ2ˢ29/66, 1D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**0.78**	**90**	*i*	P	**Pn**	**00 00 47.6**	**+0.6**
PCIG				*i*	S	**Sn**	**00 00 59.8**	**+1.2**
TGIG		**1.38**	**39**	*i*	P	**Pn**	**00 00 54.7**	**0.0**
TGIG				*i*	S	**Sn**	**00 01 11.1**	**-1.2**
TGIG		**1.38**	**39**	*eP*		**Pn**	**00 00 54.7**	**0.0**
TGIG				*eS*		**Sn**	**00 01 12.3**	**-1.0**
TGBT	**Tuxtla Gutierr**	**1.40**	**40**	*eP*		**Pn**	**00 00 54.6**	**-0.2**
TGBT				*eS*		**Sn**	**00 01 11.2**	**-1.4**
CMIG	**Matias Romero**	**1.61**	**329**	*eP*		**Pn**	**00 00 58.4**	**+0.7**
CMIG				*eS*		**Sn**	**00 01 17.9**	**+0.3**
UXUV	**UXUV**	**1.61**	**356**	*eP*		**Pn**	**00 00 58.9**	**+1.2**
UXUV				*eS*		**Sn**	**00 01 18.8**	**+1.2**
PATR	**El Naranjo**	**1.83**	**108**	*eP*		**Pn**	**00 01 01.4**	**+0.6**
PATR				*eS*		**Sn**	**00 01 23.7**	**+0.6**
PAVE	**Pavencul**	**1.86**	**106**	*eP*		**Pn**	**00 01 02.1**	**+1.0**
PAVE				*eS*		**Sn**	**00 01 25.1**	**+1.3**
THIG		**1.88**	**115**	*eP*		**Pn**	**00 01 02.7**	**+1.5**
THIG				*eS*		**Sn**	**00 01 24.8**	**+0.8**
CCIG	**Comitan**	**1.91**	**72**	*eP*		**Pn**	**00 01 02.7**	**+0.9**
CCIG				*eS*		**Sn**	**00 01 18.4**	**-6.7**
CCIG	**Comitan**	**1.91**	**72**	*eP*		**Pn**	**00 01 03.2**	**+1.4**
CCIG				*eS*		**Sn**	**00 01 19.2**	**-5.8**
CHUJ	**Union Juarez**	**1.95**	**108**	*eP*		**Pn**	**00 01 02.9**	**+0.5**
CHUJ				*eS*		**Sn**	**00 01 27.0**	**+0.9**
HUIG	**Huatulco**	**2.00**	**272**	*eP*		**Pn**	**00 01 02.8**	**-0.1**
HUIG				*eS*		**Sn**	**00 01 24.4**	**-2.7**
HUIG	**Huatulco**	**2.00**	**272**	*eP*		**Pn**	**00 01 02.8**	**-0.1**
HUIG				*eS*		**Sn**	**00 01 25.4**	**-1.7**
SMCA	**Catarina**	**2.06**	**114**	*eP*		**Pn**	**00 01 04.9**	**+1.1**
SMCA				*eS*		**Sn**	**00 01 28.4**	**-0.2**
RTAL	**Retalhuleu**	**2.54**	**117**	*eP*		**Pn**	**00 01 10.9**	**+0.7**
RTAL				*eS*		**Sn**	**00 01 40.2**	**+0.1**
NEUV	**Arroyo Zacate**	**2.62**	**320**	*eP*		**Pn**	**00 01 12.8**	**+1.4**
NEUV				*eS*		**Sn**	**00 01 43.1**	**+0.9**
VHO	**Vista Hermosa**	**2.93**	**298**	*eP*		**Pn**	**00 01 17.7**	**+2.0**
VHO				*eS*		**Sn**	**00 01 50.2**	**+0.2**
PEIG	**Puerto Escondi**	**3.02**	**276**	*eP*		**Pn**	**00 01 16.7**	**0.0**
PEIG				*eS*		**Sn**	**00 01 49.1**	**-2.7**
YOIG	**Yosondua**	**3.57**	**289**	*eP*		**Pn**	**00 01 26.7**	**+2.2**
YOIG				*eS*		**Sn**	**00 02 04.5**	**-1.1**
TOIG	**Toxpalan**	**3.76**	**310**	*eP*		**Pn**	**00 01 29.2**	**+2.3**
TOIG				*eS*		**Sn**	**00 02 11.5**	**+1.5**
TXIG	**Tlaxiaco**	**3.91**	**294**	*eP*		**Pn**	**00 01 31.4**	**+2.3**
TXIG				*eS*		**Sn**	**00 02 13.0**	**-0.9**
PETF	**Flores**	**4.17**	**73**	⇓	*eP*	**Pn**	**00 01 33.2**	**+0.8**
PETF					*eS*	**Sn**	**00 02 16.1**	**-3.9**
PETF	**Flores**	**4.17**	**73**		*eP*	**Pn**	**00 01 33.7**	**+1.2**
PETF					*eS*	**Sn**	**00 02 18.0**	**-2.1**
TPIG	**Tehuac#an**	**4.18**	**311**		*eS*	**Sn**	**00 02 22.2**	**+1.8**
HLIG	**Huajuapan de L**	**4.19**	**301**		*eP*	**Pn**	**00 01 35.6**	**+2.7**
HLIG					*eS*	**Sn**	**00 02 16.1**	**-4.7**
FTIG	**Fresnillo de T**	**4.50**	**300**		*eP*	**Pn**	**00 01 40.1**	**+3.0**
FTIG					*eS*	**Sn**	**00 02 28.2**	**0.0**
MGIG	**Malinaltepec**	**4.67**	**290**		*eP*	**Pn**	**00 01 41.2**	**+1.7**
MGIG					*eS*	**Sn**	**00 02 32.2**	**-0.3**
TLIG	**Tlapa**	**4.73**	**294**		*eP*	**Pn**	**00 01 39.5**	**-0.7**
TLIG					*eS*	**Sn**	**00 02 30.5**	**-3.3**
CRIG	**Cruz Grande**	**5.01**	**283**		*eP*	**Pn**	**00 01 43.9**	**0.0**
CRIG					*eS*	**Sn**	**00 02 37.3**	**-2.9**
PPM	**Popocatepetl**	**5.52**	**308**		*eP*	**Pn**	**00 01 56.0**	**+4.7**
PPM					*eS*	**Sn**	**00 02 51.6**	**-2.1**
CXUV	**Coxquihui**	**5.59**	**323**		*eP*	**Pn**	**00 01 53.0**	**+1.0**
CXUV					*eS*	**Sn**	**00 02 54.6**	**-0.2**
YAIG	**Yautepec**	**5.75**	**304**		*eS*	**Sn**	**00 02 57.1**	**-1.7**
ARIG	**Puente Sto Nin**	**6.57**	**294**		*eP*	**Pn**	**00 02 08.6**	**+3.4**
ARIG					*eS*	**Sn**	**00 03 11.4**	**-7.4**

*GRAL **21** 00:17:29.6±0.3, 33°.58N×34°.71E, h25km±4km, MD2.8*
*GII **21** 00:17:30.1±0.0, 33°.641N±0°.002×34°.833E±0°.001, h14km, Mws1.7, confirmed*
ISC 21 00:17:28.7±1.8, 33°.63N±0°.05×34°.77E±0°.09, h12km, n26, σ0ˢ39/28, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNTI	**Hanita**	**0.64**	**148**		P	**Pb**	**00 17 41.9**	**+0.1**
HNTI	**Hanita**	**0.64**	**148**		S	**Sb**	**00 17 50.9**	**+0.2**
QRWL	**Qaraoun**	**0.77**	**96**	*eP*		**Pg**	**00 17 44.1**	**+0.6**
BHL	**Bhannes**	**0.79**	**69**	*eP*		**Pb**	**00 17 44.7**	**+0.3**
MMC7	**Mount Meron ar**	**0.80**	**139**		P	**Pg**	**00 17 44.3**	**+0.2**
MMA0B	**Mount Meron ar**	**0.81**	**139**		P	**Pg**	**00 17 44.6**	**+0.3**
MMA0B	**Mount Meron ar**	**0.81**	**139**		S	**Sb**	**00 17 55.9**	**+0.3**
GEM	**Giv'at Ha'Em**	**0.85**	**119**		P	**Pg**	**00 17 45.1**	**-0.1**
GEM	**Giv'at Ha'Em**	**0.85**	**119**		S	**Sb**	**00 17 57.1**	**+0.3**
SHBL	**Chebaa**	**0.86**	**108**	*eP*		**Pg**	**00 17 45.3**	**0.0**
SHBL				*eS*		**Sb**	**00 17 57.2**	**0.0**
NATI	**Neve Ativ**	**0.89**	**114**		P	**Pg**	**00 17 45.6**	**-0.2**
NATI	**Neve Ativ**	**0.89**	**114**		S	**Sb**	**00 17 57.9**	**+0.1**
RCY	**Rachaya**	**0.90**	**98**	*eP*		**Pg**	**00 17 46.2**	**+0.2**
RCY				*eS*		**Sg**	**00 17 58.4**	**+0.6**
BLGI	**Bet Lehem HaGe**	**0.96**	**158**		P	**Pb**	**00 17 47.5**	**+0.3**
BLGI	**Bet Lehem HaGe**	**0.96**	**158**		S	**Sb**	**00 17 59.9**	**+0.1**
ZAHL	**Zahle**	**0.96**	**76**	*eP*		**Pg**	**00 17 47.4**	**+0.2**
OFRI	**`Ofer**	**1.02**	**170**		P	**Pb**	**00 17 48.4**	**+0.1**
OFRI	**`Ofer**	**1.02**	**170**		S	**Sb**	**00 18 01.9**	**+0.3**
KSHT	**Keshet**	**1.08**	**126**		P	**Pb**	**00 17 49.0**	**-0.4**
KSHT	**Keshet**	**1.08**	**126**		S	**Sb**	**00 18 02.4**	**-1.1**
HWQ	**Hawqa**	**1.18**	**56**	*eP*		**Pb**	**00 17 50.6**	**-0.4**
MMLI	**Mount Malkishu**	**1.30**	**155**		P	**Pn**	**00 17 52.4**	**-0.4**
MMLI	**Mount Malkishu**	**1.30**	**155**		S	**Sb**	**00 18 09.1**	**-0.7**
BEIL	**Beino**	**1.49**	**52**	*eP*		**Pn**	**00 17 55.1**	**-0.2**
HMDT	**Nahal Hemdat**	**1.51**	**155**		P	**Pn**	**00 17 55.6**	**+0.1**
HMDT	**Nahal Hemdat**	**1.51**	**155**		S	**Sn**	**00 18 14.6**	**-0.5**

IDC 21 00:23:57.9±3.6, 13°.77N×124°.21E, h0km, mb3.5/4, mbtmp3.5/4, MS3.1/1, Error ellipse: s-maj=337.3km s-min=22.8km az=65.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAV	**Davao City (W)**	**6.80**	**168**		LR	LR	00 29 09.5	
	comp=Z,148nm,18.0s,baz=340,slow=46							
WRA	**Warramunga Arr**	**34.95**	**163**		P	P	00 30 52.1	+0.2
	0.1nm,0.3s,baz=344,slow=8.6,SNR=1.8							
	0.1nm,0.3s							
ASAR	**Alice Springs**	**38.40**	**166**		P	P	00 31 21.0	-0.3
	0.4nm,0.6s,baz=343,slow=7.8,SNR=9.5							
	0.4nm,0.6s							
H11S3	**WAKE ISLAND Hy 41.00**	**78**			T	T	01 15 07.7	
	baz=270,slow=75,SNR=58							
H11S1	**WAKE ISLAND Hy 41.02**	**78**			T	T	01 15 10.1	
	baz=270,slow=75,SNR=34							
H11S2	**WAKE ISLAND Hy 41.02**	**78**			T	T	01 15 08.8	
	baz=270,slow=75,SNR=39							
H11N1	**WAKE ISLAND Hy 41.21**	**76**			T	T	01 15 22.1	
	baz=267,slow=74,SNR=105							
H11N2	**WAKE ISLAND Hy 41.22**	**76**			T	T	01 15 18.1	
	baz=267,slow=74,SNR=83							
H11N3	**WAKE ISLAND Hy 41.23**	**76**			T	T	01 15 19.0	
	baz=267,slow=74,SNR=78							
MKAR	**Makanchi Array**	**48.04**	**322**		P	P	00 32 39.0	-0.1
	0.4nm,0.7s,baz=111,slow=7.9,SNR=2.4							
	0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**52.06**	**325**		P	P	00 33 09.4	-0.1
	0.9nm,0.7s,baz=122,slow=8.1,SNR=8.2							
	0.9nm,0.7s							

*VAO **21** 00:36:05.9±0.3, 22°.12S×68°.35W, h98km, mb4.7*
*SJA **21** 00:36:05.1±0.8, 22°.11S×68°.45W, h123km±5km, ML4.6, MW4.4*
*NEIC **21** 00:36:06.2, 22°.13S×68°.33W, h89km*
*NEIC **21** 00:36:06.8±1.8, 22°.15S±0°.05×68°.38W±0°.07, h104km±5km, mb4.5/52, Mwr4.5/33, Mwr4.5(GUC), Error ellipse: s-maj=10.0km s-min=7.2km az=87.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=4.34; $M_{\theta\theta}$=2.03; $M_{\phi\phi}$=6.37; $M_{r\theta}$=2.45; $M_{r\phi}$=-1.00; $M_{\theta\phi}$=-0.91; Fault plane solution: M_0=6.29000×10^{15} NP1:ϕ_1=325.93000°, δ=58.80000°, λ_1=-127.43000°. NP2:ϕ_2=201.84000°, δ=47.22000°, λ_2=-44.90000°. Principal axes: T 6.6211, Plg7.0000°, Azm82.0000°; N -0.7226, Plg31.0000°, Azm348.0000°; P -5.8986, Plg58.0000°, Azm182.0000°;*
*GUC **21** 00:36:07.2±0.8, 22°.11S×68°.61W, h125km±4km, ML4.6*
*IDC **21** 00:36:08.5±0.7, 22°.02S×68°.23W, h114km±6km, mb4.0/12, mbtmp4.4/15, MS3.8/2, Error ellipse: s-maj=16.9km s-min=13.7km az=89.0*
ISC 21 00:36:07.1±0.5, 22°.13S±0°.03×68°.42W±0°.04, h111km±4km, n220, σ1ˢ54/244, mb4.5/32, 12C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB09	**IPOC Station P**	**0.83**	**293**			**Pn**	**00 36 26.5**	**-0.4**
PB09					Sn	**Sn**	**00 36 40.8**	**-1.1**
PB09	**IPOC Station P**	**0.83**	**293**	⇓	*iP*	**Pn**	**00 36 27.1**	**+0.2**
PB09					*iS*	**Sn**	**00 36 41.4**	**-0.4**
PB09					IAML		00 36 43.2	
	comp=N,16μm,0.5s							
PB09	**IPOC Station P**	**0.83**	**293**	*eP*		**Pn**	**00 36 26.5**	**-0.4**
PB09				*eS*		**Sn**	**00 36 42.1**	**+0.3**
PB09					IAML		00 36 42.4	
	comp=Z,16μm,0.5s							
AF01	**San Pedro de A**	**0.85**	**165**			**Pn**	**00 36 26.0**	**-1.3**
AF01	**San Pedro de A**	**0.85**	**165**	*eP*		**Pn**	**00 36 28.9**	**+1.7**
AF01				*i*	S	**Sn**	**00 36 45.2**	**+2.8**
AF01					IAML		00 37 01.3	
	comp=N,11μm,0.5s							
AF01	**San Pedro de A**	**0.85**	**165**	*eP*		**Pn**	**00 36 25.8**	**-1.4**
AF01				*eS*		Sn	00 36 55.2	+13
AF01					IAML		00 37 08.3	
	comp=Z,9μm,0.6s							
PB06	**IPOC Station P**	**1.21**	**241**			**Pn**	**00 36 30.6**	**-0.2**
PB06					Sn	**Sn**	**00 36 48.0**	**-0.7**
PB06	**IPOC Station P**	**1.21**	**241**	⇑	*iP*	**Pn**	**00 36 30.6**	**-0.2**
PB06					*iS*	**Sn**	**00 36 47.9**	**-0.7**
PB06					IAML		00 36 49.1	
	comp=N,14μm,0.4s							
PB06	**IPOC Station P**	**1.21**	**241**	*eP*		**Pn**	**00 36 30.6**	**-0.2**
PB06				*eS*		**Sn**	**00 36 48.7**	**0.0**
PB06					IAML		00 36 52.2	
	comp=Z,6μm,0.4s							
PB03	**IPOC Station P**	**1.23**	**274**			**Pn**	**00 36 30.1**	**-1.0**
PB03					Sn	**Sn**	**00 36 47.8**	**-1.5**
PB03	**IPOC Station P**	**1.23**	**274**	⇑	*iP*	**Pn**	**00 36 30.6**	**-0.5**
PB03					*iS*	**Sn**	**00 36 47.6**	**-1.6**
PB03					IAML		00 36 50.7	
	comp=E,12μm,0.5s							
PB03	**IPOC Station P**	**1.23**	**274**	*eP*		**Pn**	**00 36 30.5**	**-0.5**
PB03				*eS*		**Sn**	**00 36 48.6**	**-0.7**
PB03					IAML		00 36 51.6	
	comp=Z,12μm,0.3s							
PB01	**IPOC Station P**	**1.47**	**317**			**Pn**	**00 36 33.4**	**-0.3**
PB01	**IPOC Station P**	**1.47**	**317**	⇓	*iP*	**Pn**	**00 36 33.4**	**-0.3**
PB01					*iS*	**Sn**	**00 36 53.0**	**-0.8**
PB01					IAML		00 36 54.8	
	comp=E,12μm,0.2s							
PB01	**IPOC Station P**	**1.47**	**317**	*eP*		**Pn**	**00 36 33.4**	**-0.3**
PB01				*eS*		**Sn**	**00 36 53.3**	**-0.5**
PB01					IAML		00 36 56.2	
	comp=Z,6μm,0.4s							
PB02	**IPOC Station P**	**1.59**	**300**			**Pn**	**00 36 35.0**	**-0.2**
PB02	**IPOC Station P**	**1.59**	**300**	⇑	*iP*	**Pn**	**00 36 34.6**	**-0.5**
PB02					*iS*	**Sn**	**00 36 54.4**	**-2.0**
PB02	**IPOC Station P**	**1.59**	**300**	*eP*		**Pn**	**00 36 34.6**	**-0.5**
PB02				*eS*		**Sn**	**00 36 55.9**	**-0.5**
PB02					IAML		00 37 01.2	
	comp=Z,15μm,0.3s							
PB05	**IPOC Station P**	**1.79**	**246**			**Pn**	**00 36 36.9**	**-0.8**
PB05	**IPOC Station P**	**1.79**	**246**	⇑	*iP*	**Pn**	**00 36 36.8**	**-0.9**
PB05					*iS*	**Sn**	**00 36 58.6**	**-2.4**
PB05					IAML		00 37 07.9	
	comp=N,4μm,0.6s							
PB05	**IPOC Station P**	**1.79**	**246**	*eP*		**Pn**	**00 36 36.8**	**-0.9**
PB05				*eS*		**Sn**	**00 37 01.2**	**+0.2**
PB05					IAML		00 37 06.0	
	comp=Z,4μm,0.4s							
PATCX	**Punta Patache**	**2.07**	**309**			**Pn**	**00 36 40.5**	**-0.7**
PATCX	**Punta Patache**	**2.07**	**309**	⇑	*iP*	**Pn**	**00 36 40.2**	**-1.0**
PATCX	**Punta Patache**	**2.07**	**309**	*eP*		**Pn**	**00 36 39.9**	**-1.3**
PATCX				*eS*		**Sn**	**00 37 07.2**	**0.0**
PATCX					IAML		00 37 12.5	
	comp=Z,4μm,0.3s							
PB08	**IPOC Station P**	**2.09**	**341**			**Pn**	**00 36 42.7**	**+1.0**
PB08	**IPOC Station P**	**2.09**	**341**	⇓	*iP*	**Pn**	**00 36 42.8**	**+1.1**
PB08					*iS*	**Sn**	**00 37 09.2**	**+1.1**
PB08					IAML		00 37 10.4	
	comp=E,3μm,0.7s							
PB08	**IPOC Station P**	**2.09**	**341**	*eP*		**Pn**	**00 36 42.8**	**+1.1**
PB08				*eS*		**Sn**	**00 37 10.2**	**+2.1**
PB08					IAML		00 37 12.8	
	comp=Z,1μm,0.2s							
TA01	**Diego Aracena**	**2.26**	**313**			**Pn**	**00 36 42.9**	**-0.5**
TA01	**Diego Aracena**	**2.26**	**313**	⇑	*iP*	**Pn**	**00 36 42.2**	**-1.3**
TA01					*iS*	**Sn**	**00 37 09.1**	**-2.1**
TA01					IAML		00 37 11.6	
	comp=N,9μm,0.5s							
TA01	**Diego Aracena**	**2.26**	**313**	*eP*		**Pn**	**00 36 42.2**	**-1.3**
TA01				*eS*		**Sn**	**00 37 10.2**	**-1.0**
TA01					IAML		00 37 16.2	
	comp=Z,4μm,1.1s							
HMBC	**Humberstone**	**2.29**	**323**			**Pn**	**00 36 43.5**	**-0.6**
HMBC	**Humberstone**	**2.29**	**323**	⇑	*iP*	**Pn**	**00 36 43.1**	**-0.9**
HMBC					*iS*	**Sn**	**00 37 10.0**	**-2.3**
HMBC	**Humberstone**	**2.29**	**323**	*eP*		**Pn**	**00 36 43.1**	**-0.9**
HMBC				*eS*		**Sn**	**00 37 11.0**	**-1.3**
HMBC					IAML		00 37 14.7	
	comp=Z,6μm,0.7s							
PB10	**IPOC Station P**	**2.40**	**235**			**Pn**	**00 36 44.8**	**-0.5**
PB10	**IPOC Station P**	**2.40**	**235**	*eP*		**Pn**	**00 36 44.0**	**-1.2**
PB10	**IPOC Station P**	**2.40**	**235**	*eP*		**Pn**	**00 36 44.4**	**-0.8**
PB10				*eS*		**Sn**	**00 37 18.8**	**+4.2**
PB10					IAML		00 37 23.1	
	comp=Z,990nm,0.3s							
TA02	**Huaiquique**	**2.44**	**319**	*eP*		**Pn**	**00 36 44.4**	**-1.4**
TA02				*i*	S	**Sn**	**00 37 13.5**	**-2.0**
TA02	**Huaiquique**	**2.44**	**319**	*eP*		**Pn**	**00 36 44.8**	**-1.0**
TA02				*eS*		**Sn**	**00 37 14.7**	**-0.8**
TA02					IAML		00 37 21.9	
	comp=Z,3μm,0.5s							
GO01	**Chusmiza**	**2.55**	**343**			**Pn**	**00 36 48.1**	**+0.3**
GO01	**Chusmiza**	**2.55**	**343**	*eP*		**Pn**	**00 36 48.1**	**+0.3**
GO01				*i*	S	**Sn**	**00 37 19.0**	**+0.1**
GO01					IAML		00 37 24.8	
	comp=N,3μm,0.2s							
GO01	**Chusmiza**	**2.55**	**343**	*eP*		**Pn**	**00 36 48.7**	**+1.0**
GO01				*eS*		**Sn**	**00 37 15.0**	**-3.8**
GO01					IAML		00 37 21.7	
	comp=Z,2μm,0.5s							
PB11	**IPOC Station P**	**2.62**	**334**			**Pn**	**00 36 47.6**	**-0.8**
PB11	**IPOC Station P**	**2.62**	**334**	*eP*		**Pn**	**00 36 47.8**	**-0.5**
PB11				*i*	S	**Sn**	**00 37 18.2**	**-1.8**
PB11					IAML		00 37 22.3	
	comp=E,4μm,0.3s							
PB11	**IPOC Station P**	**2.62**	**334**	*eP*		**Pn**	**00 36 47.2**	**-1.2**
PB11				*eS*		**Sn**	**00 37 19.2**	**-0.8**
PB11					IAML		00 37 29.0	
	comp=Z,2μm,0.4s							
YJA	**Yavi**	**2.70**	**92**	*eP*		**Pn**	**00 36 53.4**	**+3.8**
YJA				*eS*		**Sn**	**00 37 20.3**	**-1.9**
SALTA		**2.83**	**138**	*eP*		**Pn**	**00 36 49.7**	**-1.7**
SALTA				*eP*			00 36 49.7	
SALTA				*eP*			00 36 50.1	
SALTA				*eS*		**Sn**	**00 37 25.6**	**+0.2**
HJA	**Humahuaca**	**2.98**	**112**	*eP*		**Pn**	**00 36 57.2**	**+3.9**
PB14	**IPOC Station P**	**3.08**	**216**			**Pn**	**00 36 53.1**	**-1.3**
PB14	**IPOC Station P**	**3.08**	**216**	*eP*		**Pn**	**00 36 53.2**	**-1.3**
PB14				*i*	S	**Sn**	**00 37 27.7**	**-3.2**
PB14					IAML		00 37 39.2	
	comp=E,1μm,0.4s							
PB14	**IPOC Station P**	**3.08**	**216**	*eP*		**Pn**	**00 36 53.7**	**-0.8**
PB14				*eS*		Sn	00 37 18.7	-12
PB14					IAML		00 37 38.1	
	comp=Z,2μm,0.9s							
GO02	**Mina Guanaco**	**3.20**	**199**			**Pn**	**00 36 54.8**	**-1.3**
GO02	**Mina Guanaco**	**3.20**	**199**	*eP*		**Pn**	**00 36 56.2**	**+0.1**
GO02				*eS*		**Sn**	**00 37 34.7**	**+0.8**
GO02					IAML		00 38 01.3	
	comp=Z,1μm,0.4s							
SLA	**San Lorenzo**	**3.72**	**134**	*eP*		**Pn**	**00 37 06.8**	**+4.0**
AZAP	**Zapla**	**3.73**	**125**	*eP*		**Pn**	**00 37 00.0**	**-3.0**
PB16	**IPOC Station P**	**3.91**	**345**			**Pn**	**00 37 05.5**	**-0.4**
PB16	**IPOC Station P**	**3.91**	**345**	*eP*		**Pn**	**00 37 05.9**	**+0.1**
PB16	**IPOC Station P**	**3.91**	**345**	*eP*		**Pn**	**00 37 06.0**	**+0.1**
PB16				*eS*		Sn	00 37 34.8	-16
AC01	**Pan de Azucar**	**4.47**	**206**			**Pn**	**00 37 10.7**	**-2.0**
AC01	**Pan de Azucar**	**4.47**	**206**	*eP*		Pn	00 37 05.3	-7.4
AC01				*eP*			00 37 10.4	
PB18	**Visviri**	**4.62**	**347**			**Pn**	**00 37 14.8**	**-0.6**
AC02	**Maricunga**	**4.73**	**188**			**Pn**	**00 37 16.2**	**-0.5**
AC02	**Maricunga**	**4.73**	**188**	*eS*		**Sn**	**00 38 05.3**	**-5.4**
GO03	**Copiapo**	**5.68**	**196**			**Pn**	**00 37 27.0**	**-2.2**
LPAZ	**La Paz**	**5.82**	**3**			**Pn**	**00 37 31.5**	**-0.1**
LPAZ	**La Paz**	**5.82**	**3**	P		**Pn**	**00 37 33.1**	**+1.5**
	comp=Z,12nm,0.3s,baz=172,slow=3.7,SNR=72							
LPAZ					LR	LR	00 39 37.0	
	comp=Z,125nm,18.7s,baz=158,slow=36							
LPAZ	**La Paz**	**5.82**	**3**	*eP*		**Pn**	**00 37 33.4**	**+1.8**
AC04	**Llanos de Chal**	**6.51**	**201**			**Pn**	**00 37 36.5**	**-3.8**
LCO	**Las Campanas**	**7.15**	**196**			**Pn**	**00 37 46.0**	**-3.4**
CO01	**Juntas del Tor**	**7.96**	**191**			**Pn**	**00 37 57.5**	**-2.7**
CO05	**La Serena**	**8.16**	**197**	Pn		**Pn**	**00 38 02.0**	**-0.7**
GO04	**Tololo Observa**	**8.29**	**194**			**Pn**	**00 38 01.0**	**-3.7**
CO03	**El Pedregal**	**8.91**	**193**			**Pn**	**00 38 08.8**	**-4.2**
CO06	**Fray Jorge**	**8.98**	**198**	Pn		**Pn**	**00 38 11.0**	**-2.9**
SIV	**San Ignacio**	**9.25**	**50**	P		**Pn**	**00 38 15.4**	**-2.2**
	comp=Z,37nm,0.6s,baz=248,slow=11,SNR=143							
SIV					S	Sn	00 39 48.3	-12
	comp=Z,4.3nm,0.5s,baz=239,slow=22,SNR=1.1							
CO02	**Combarbal**	**9.33**	**194**	Pn		Pn	00 38 13.6	-5.0
ZON	**Zonda**	**9.38**	**181**			**Pn**	**00 38 16.7**	**-2.7**
CFA	**Coronel Fontan**	**9.44**	**179**	P		**Pn**	**00 38 17.1**	**-3.0**
	comp=Z,6.5nm,0.3s,baz=356,slow=13,SNR=30							
CFA					S	**Sn**	**00 39 57.7**	**-6.7**
	comp=Z,3.1nm,0.4s,baz=93,slow=23,SNR=1.3							
MURT	**Porto Murtinho**	**10.05**	**89**	*eP*		**Pn**	**00 38 26.6**	**-1.8**
VA03	**San Esteban**	**10.76**	**190**			**Pn**	**00 38 36.6**	**-1.5**
CPUP	**Villa Flor

RUSC	**La Rusia**	**28.22**	**350**	P	**P**	**00 41 50.1**	**0.0**
RUSC				IAmb	IAmb	00 42 19.1	
	comp=Z,17nm,1.0s						
MG02	**Cerro Sombrero**	**30.61**	**181**	P	**P**	**00 42 11.3**	**+1.0**
MG03	**Isla Dawson**	**31.71**	**182**	P	**P**	**00 42 20.7**	**+0.7**
RCBR	**Riachuelo**	**35.35**	**68**	P	**P**	**00 42 51.8**	**-0.4**
FDF	**Fort de France**	**37.32**	**12**	P	**P**	**00 43 09.0**	**+0.2**
CELP	**Cerrillos**	**40.00**	**3**	P	**P**	**00 43 28.9**	**-2.2**
SMAI	**San Martin Ant**	**46.01**	**179**		**P**	**00 44 19.9**	**+1.0**
SMAI				IAmb	IAmb	00 44 20.9	
	comp=Z,6.2nm,1.0s						
BELA	**Belgrano 2**	**58.06**	**172**		**P**	**00 45 49.4**	**+1.2**
BELA				IAmb	IAmb	00 45 50.3	
	comp=Z,8.8nm,1.2s						
VNA3	**Neumayer Olymp**	**59.34**	**161**	⇑P	**P**	**00 45 57.8**	**+0.7**
	comp=Z,10.0nm,0.7s						
VNA1	**Neumayer--Stat**	**59.54**	**160**	⇑P	**P**	**00 45 59.8**	**+1.4**
	comp=Z,8.4nm,0.8s						
VNA2	**Neumayer--Watz**	**59.91**	**161**	⇑P	**P**	**00 46 01.6**	**+0.7**
	comp=Z,10nm,0.6s,baz=298,slow=6.3						
TXAR	**Lajitas Array**	**61.40**	**325**	P	**P**	**00 46 12.2**	**+0.5**
TXAR	**Lajitas Array**	**61.40**	**325**	P	**P**	**00 46 12.1**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=154,slow=9.0,SNR=6.8						
TXAR				pP	**pP**	**00 46 41.0**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=170,slow=7.4,SNR=5.9						
TXAR				sP	**sP**	**00 46 53.2**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=147,slow=5.8,SNR=2.5						
	comp=Z,0.5nm,0.6s						
SNAA	**Sanae**	**61.54**	**161**	⇑P	**P**	**00 46 12.9**	**+0.8**
	comp=Z,344nm,0.8s						
SNAA	**Sanae**	**61.54**	**161**		**P**	**00 46 13.0**	**+0.8**
SNAA	**Sanae**	**61.54**	**161**	P	**P**	**00 46 12.9**	**+0.8**
	comp=Z,9.4nm,0.6s,baz=279,slow=6.8,SNR=37						
	comp=Z,9.4nm,0.6s						
VHRN	**Van Horn**	**63.24**	**325**	P	**P**	**00 46 23.2**	**-0.9**
VHRN				IAmb	IAmb	00 46 54.2	
	comp=Z,5.0nm,0.8s						
TROLL	**Troll, Antarti**	**63.26**	**161**	⇑P	**P**	**00 46 24.7**	**+1.1**
	comp=Z,715nm,0.5s						
ANMO	**Albuquerque**	**67.27**	**327**	P	**P**	**00 46 51.4**	**+1.4**
ANMO				IAmb	IAmb	00 46 52.1	
	comp=Z,3.8nm,0.8s						
SADO	**Sadowa**	**67.29**	**352**	LR	LR	01 18 22.8	
	comp=Z,497nm,18.6s,baz=200,slow=38						
TUC	**Tucson**	**67.61**	**322**	P	**P**	**00 46 54.2**	**+2.1**
QSPA	**South Pole Qui**	**68.06**	**180**	P	**P**	**00 46 57.6**	**+3.0**
	comp=Z,13nm,0.5s,baz=324,slow=0.8,SNR=180						
	comp=Z,13nm,0.5s						
DBIC	**Dimbokro**	**68.48**	**73**	P	**P**	**00 46 58.3**	**+0.4**
	comp=Z,8.7nm,0.6s,baz=253,slow=6.5,SNR=11						
	comp=Z,8.7nm,0.6s						
SDCO	**Great Sand Dun**	**69.02**	**329**		pP	00 47 31.6	+1.7
MVCO	**Mesa Verde**	**70.07**	**327**	IAmb	IAmb	00 47 09.6	
	comp=Z,6.6nm,0.8s						
WUAZ	**Wupatki**	**70.30**	**324**	IAmb	IAmb	00 47 12.1	
	comp=Z,6.6nm,0.8s						
PV22	**Blue Mesa, Par**	**71.23**	**328**	IAmb	IAmb	00 47 16.7	
	comp=Z,4.6nm,0.9s						
BC3	**Big Chuckawall**	**71.30**	**320**	P	**P**	**00 47 16.7**	**+1.9**
BC3				IAmb	IAmb	00 47 47.1	
	comp=Z,5.4nm,0.9s						
KNB	**Kanab**	**72.20**	**324**	IAmb	IAmb	00 47 23.3	
	comp=Z,7.7nm,1.0s						
O20A	**White River Ci**	**72.21**	**329**	IAmb	IAmb	00 47 23.1	
	comp=Z,8.9nm,1.0s						
SRU	**San Rafael Swe**	**72.55**	**327**	IAmb	IAmb	00 47 24.3	
	comp=Z,6.6nm,0.8s						
P18A	**Preston Nutter**	**72.80**	**327**	IAmb	IAmb	00 47 26.3	
	comp=Z,5.1nm,0.7s						
CCUT	**Cedar City**	**72.88**	**324**	IAmb	IAmb	00 47 28.0	
	comp=Z,7.7nm,1.1s						
CCUT					pP	00 47 56.3	+2.8
PDAR	**Pinedale Array**	**74.88**	**330**	P	**P**	**00 47 36.5**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=128,slow=6.2,SNR=5.0						
PDAR					pP	**00 48 05.2**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=140,slow=7.1,SNR=2.7						
	comp=Z,0.5nm,0.7s						
NVAR	**Mina Array Bea**	**76.27**	**322**	P	**P**	**00 47 44.6**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=137,slow=4.9,SNR=4.4						
NVAR					pP	**00 48 14.9**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=131,slow=4.2,SNR=2.9						
	comp=Z,0.6nm,0.7s						
VNDA	**Vanda**	**76.31**	**190**	P	**P**	**00 47 45.7**	**+2.4**
	comp=Z,1.3nm,0.8s,baz=130,slow=3.4,SNR=8.5						
	comp=Z,1.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.14**	**70**		**P**	**00 47 49.1**	**+0.1**
TORD				IAmb	IAmb	00 47 51.7	
	comp=Z,5.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P	**P**	**00 47 49.1**	**+0.1**
	comp=Z,6.0nm,0.5s,baz=258,slow=5.2,SNR=61						
	comp=Z,6.0nm,0.5s						
PAHR	**Pah Rah Range**	**77.75**	**322**	IAmb	IAmb	00 47 55.1	
	comp=Z,6.5nm,1.2s						
HLID	**Hailey**	**77.81**	**328**	IAmb	IAmb	00 47 55.6	
	comp=Z,7.3nm,1.1s						
HLID					pP	00 48 24.0	+2.3
TSUM	**Tsumeb**	**79.43**	**106**		**P**	**00 48 00.6**	**-1.2**
PLID	**Pearl Lake**	**79.70**	**328**		**P**	**00 48 01.8**	**-1.0**
BOSA	**Boshof**	**82.75**	**118**	P	**P**	**00 48 19.4**	**+0.1**
	comp=Z,8.8nm,1.1s,baz=278,slow=6.6,SNR=4.6						
	comp=Z,8.8nm,1.1s						
MAW	**Mawson**	**83.60**	**163**	P	**P**	**00 48 23.7**	**+1.1**
	comp=Z,3.3nm,0.5s,baz=205,slow=6.0,SNR=14						
	comp=Z,3.3nm,0.5s						
ESDC	**Sonseca Array**	**85.97**	**44**	P	**P**	**00 48 35.3**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=242,slow=4.3,SNR=4.2						
	comp=Z,0.5nm,0.8s						
CASY	**Casey**	**91.86**	**180**		**P**	**00 49 04.5**	**+2.1**
RPZ	**Rata Peaks**	**94.79**	**219**		P	00 49 25.0	+8.6
ASAR	**Alice Springs**	**129.56**	**207**	PKP	**PKiKP**	**00 55 04.3**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=142,slow=1.8,SNR=18						
WRA	**Warramunga Arr**	**132.64**	**210**	PKP	**PKiKP**	**00 55 10.4**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=147,slow=1.9,SNR=7.5						
BVAR	**Borovoye Array**	**136.05**	**35**	PKP	**PKiKP**	**00 55 15.8**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=268,slow=4.3,SNR=4.4						
KURBB	**Kurchatov Arra**	**141.61**	**34**	PKP	**PKiKP**	**00 55 26.1**	**-1.8**
	comp=Z,0.6nm,0.7s,baz=300,slow=2.8,SNR=7.0						
ZALV	**Zalesovo Beam**	**142.32**	**26**	PKP	**PKPdf**	**00 55 24.9**	**-1.4**
	comp=Z,1.8nm,0.5s,baz=307,slow=2.4,SNR=8.8						
MKAR	**Makanchi Array**	**145.87**	**37**	PKPbc	**PKPab**	**00 55 33.9**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=313,slow=2.5,SNR=20						

IDC 21 00:57:30.4±1.6, 5°51S×126°97E, h0km, mb3.8/2, mbtmp3.5/4, ML3.6/2, MS3.5/2, Error ellipse: s-maj=140.3km s-min=28.1km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.03**	**154**	Pn	P	01 01 19.4	-1.6
	0.2nm,0.3s,baz=333,slow=11,SNR=5.5						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**19.24**	**160**	P	P	01 01 55.6	-0.9
	0.1nm,0.3s,baz=326,slow=10,SNR=4.7						
	0.3nm,0.5s						
HNR	**Honiara**	**32.91**	**99**	LR	LR	01 18 02.0	
	comp=Z,96nm,18.8s,baz=298,slow=37						
BRDH	**Bariadhala**	**44.48**	**310**	LR	LR	01 25 50.5	
	comp=Z,40nm,19.3s,baz=160,slow=38						
MKAR	**Makanchi Array**	**65.36**	**328**	P	P	01 08 15.2	+0.5
	0.4nm,0.5s,baz=115,slow=8.0,SNR=5.7						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**68.95**	**335**	P	P	01 08 36.6	-0.7
	0.6nm,0.5s,baz=123,slow=5.3,SNR=2.2						
	0.6nm,0.5s						

*IDC **21** 01:00:27.1±0.6, 49°.76S×111°.83W, h0km, mb4.1/12, mbtmp4.1/12, MS3.9/32, Error ellipse: s-maj=24.0km s-min=16.8km az=130.0*

*NEIC **21** 01:00:29.9±1.4, 49°.8S±0°.1×111°.67W±0°.09, h10km±1km, mb4.8/23, Error ellipse: s-maj=23.1km s-min=9.7km az=189.0*

*GCMT **21** 01:00:32.1±0.2, 50°.06S±0°.01×111°.51W±0°.02, h22km±1km, MW5.0/108, Moment Tensor Solution. s34,c47; s108,c150; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}-1.56±.17; $M_{\theta\theta}$4.68±.14; $M_{\phi\phi}$-3.12±.12; $M_{r\theta}$1.20±.19; $M_{\theta\phi}$-0.81±.10; $M_{\phi r}$-0.03±.19; Best double couple: M_w4.09500×10¹⁶ NP1:ϕ_{s}141.00000°,δ80.00000°, λ5.00000°. NP2:ϕ_{s}51.00000°,δ85.00000°,λ170.00000°. Principal axes: T 4.9820, Plg10.0000°, Azm6.0000°; N -1.7730, Plg79.0000°, Azm205.0000°; P -3.2090, Plg4.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 01:00:28.9±0.5, 49°.81S±0°.10×111°.8W±0°.1, h10km, n119, σ1§19/90, mb4.5/22, MS4.0/32, 13C-12D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL05	**Los Muermos**	**27.81**	**87**	P	**P**	**01 06 17.4**	**-0.6**
LL02	**Futaleuf**	**28.00**	**92**	P	**P**	**01 06 18.3**	**-1.4**
LL02				IAmb	IAmb	01 06 28.7	
	comp=Z,19nm,1.2s						
SMAI	**San Martin Ant**	**28.48**	**146**	P	**P**	**01 06 23.1**	**-0.6**
SMAI				IAmb	IAmb	01 07 05.8	
	comp=Z,31nm,1.9s						
H03S2	**Juan Fernandez**	**28.92**	**69**	T	T	01 36 54.7	
	baz=224,slow=74,SNR=1851						
H03S1	**Juan Fernandez**	**28.93**	**69**	T	T	01 36 52.7	
	baz=224,slow=74,SNR=2029						
H03S3	**Juan Fernandez**	**28.93**	**69**	T	T	01 36 51.8	
	baz=224,slow=74,SNR=2735						
PMSA	**Palmer Station**	**28.94**	**139**	LR	LR	01 15 02.9	
	comp=Z,334nm,19.6s,baz=280,slow=30						
H03N3	**Juan Fernandez**	**29.18**	**68**	T	T	01 37 07.9	
	baz=227,slow=72,SNR=4751						
H03N2	**Juan Fernandez**	**29.19**	**68**	T	T	01 37 10.4	
	baz=227,slow=72,SNR=7562						
H03N1	**Juan Fernandez**	**29.20**	**68**	T	T	01 37 07.0	
	baz=227,slow=72,SNR=3853						
PLCA	**Paso Flores**	**30.05**	**88**	P	**P**	**01 06 38.4**	**+0.3**
PLCA				IAmb	IAmb	01 06 46.6	
	comp=Z,13nm,1.1s						
PLCA	**Paso Flores**	**30.05**	**88**	P	**P**	**01 06 38.8**	**+0.7**
	comp=Z,4.2nm,1.1s,baz=230,slow=7.9,SNR=3.2						
PLCA				LR	LR	01 15 25.5	
	comp=Z,315nm,21.4s,baz=248,slow=30						
	comp=Z,4.2nm,1.1s						
BO02	**Sierra Bellavi**	**33.36**	**79**	P	**P**	**01 07 06.7**	**-0.5**
BO01	**Tunca**	**33.42**	**78**	P	**P**	**01 07 08.3**	**+0.7**
MT01	**Popeta**	**33.66**	**77**	P	**P**	**01 07 09.5**	**-0.2**
MT09	**Talagante**	**33.88**	**77**	P	**P**	**01 07 10.8**	**-0.9**
BO04	**La Punta**	**33.98**	**78**	P	**P**	**01 07 12.4**	**-0.1**
VA03	**San Esteban**	**34.82**	**76**	P	**P**	**01 07 20.8**	**+0.9**
CO02	**Combarbal**	**35.59**	**74**	P	**P**	**01 07 28.0**	**+1.5**
ZON	**Zonda**	**36.81**	**77**	P	**P**	**01 07 37.5**	**+0.6**
ZON				IAmb	IAmb	01 08 49.5	
	comp=Z,40nm,1.8s						
TRQA	**Tornquist**	**37.07**	**91**		**P**	**01 07 40.2**	**+1.1**
TRQA				IAmb	IAmb	01 07 47.9	
	comp=Z,36nm,1.2s						
BELA	**Belgrano 2**	**39.19**	**161**		**P**	**01 07 57.1**	**+0.7**
QSPA	**South Pole Qui**	**40.39**	**180**	P	**P**	**01 08 09.1**	**+2.3**
QSPA	**South Pole Qui**	**40.39**	**180**	P	**P**	**01 08 08.7**	**+1.9**
	comp=Z,4.9nm,1.0s,baz=102,slow=1.7,SNR=9.2						
QSPA				PcP	**PcP**	**01 10 10.1**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=124,slow=0.5,SNR=5.2						
QSPA				LR	LR	01 22 01.6	
	comp=Z,284nm,21.7s,baz=106,slow=32						
	comp=Z,4.9nm,1.0s						
VNDA	**Vanda**	**41.20**	**199**		**P**	**01 08 14.2**	**+1.1**
VNDA	**Vanda**	**41.20**	**199**	P	**P**	**01 08 13.8**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=95,slow=8.1,SNR=12						
VNDA				LR	LR	01 21 11.6	
	comp=Z,147nm,19.4s,baz=99,slow=30						
	comp=Z,1.9nm,0.9s						
PPT	**Papeete**	**44.22**	**303**	LR	LR	01 23 09.6	
	comp=Z,150nm,18.7s,baz=143,slow=31						
PB16	**IPOC Station P**	**46.08**	**62**	P	**P**	**01 08 54.4**	**+0.7**
PB16				IAmb	IAmb	01 09 03.0	
	comp=Z,11nm,1.2s						
RAR	**Rarotonga**	**47.29**	**289**	LR	LR	01 23 15.9	
	comp=Z,93nm,20.9s,baz=110,slow=29						
NNA	**Nana**	**47.39**	**50**	LR	LR	01 22 56.6	
	comp=Z,147nm,21.3s,baz=184,slow=28						
VNA3	**Neumayer Olymp**	**47.39**	**155**	⇑P	**P**		
	comp=Z,4.4nm,0.8s						
CPUP	**Villa Florida**	**47.60**	**81**	P	**P**	**01 09 04.4**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=102,slow=6.7,SNR=5.0						
CPUP				LR	LR	01 25 42.4	
	comp=Z,62nm,21.6s,baz=81,slow=32						
	comp=Z,1.1nm,0.9s						
VNA1	**Neumayer--Stat**	**48.10**	**154**	⇑P	**P**	**01 09 06.8**	**-1.3**
	comp=Z,5.8nm,1.0s						
VNA2	**Neumayer--Watz**	**48.19**	**155**	⇑P	**P**	**01 09 07.9**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=231,slow=7.8						
LPAZ	**La Paz**	**48.49**	**62**		**P**	**01 09 13.6**	**+1.0**
LPAZ	**La Paz**	**48.49**	**62**	P	**P**	**01 09 11.3**	**-1.2**
	comp=Z,4.2nm,1.0s,baz=181,slow=6.2,SNR=11						
LPAZ				LR	LR	01 24 42.9	
	comp=Z,95nm,21.0s,baz=230,slow=30						
	comp=Z,4.2nm,1.0s						
SNAA	**Sanae**	**48.99**	**157**	LR	LR	01 26 46.2	
	comp=Z,122nm,20.7s,baz=264,slow=32						
TROLL	**Troll, Antarti**	**50.11**	**158**	⇑P	**P**	**01 09 23.5**	**-0.3**
	comp=Z,190nm,0.8s						
URZ	**Urewera**	**50.60**	**255**	LR	LR	01 26 47.1	
	comp=Z,158nm,18.3s,baz=338,slow=31						
ATAH	**Atahualpa**	**50.88**	**45**	LR	LR	01 25 27.6	
	comp=Z,138nm,21.8s,baz=234,slow=30						
SIV	**San Ignacio**	**52.89**	**69**	LR	LR	01 28 34.2	
	comp=Z,114nm,19.5s,baz=268,slow=32						
SYO	**Syowa Base**	**59.62**	**168**	i*eP*	**P**	**01 10 32.2**	**-0.1**
BDFB	**Brasilia**	**61.30**	**80**	P	**P**	**01 10 44.5**	**-0.2**
BDFB	**Brasilia**	**61.30**	**80**	P	**P**	**01 10 44.1**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=211,slow=5.9,SNR=3.4						
BDFB				LR	LR	01 34 40.4	
	comp=Z,142nm,18.8s,baz=191,slow=34						
	comp=Z,2.5nm,0.6s						
MAW	**Mawson**	**62.84**	**178**	P	**P**	**01 10 53.8**	**-0.4**
	comp=Z,3.8nm,0.9s,baz=175,slow=3.4,SNR=5.3						
MAW				LR	LR	01 35 24.8	
	comp=Z,217nm,21.9s,baz=174,slow=33						
	comp=Z,3.8nm,0.9s						
ROSC	**El Rosal**	**63.34**	**43**	LR	LR	01 33 57.9	
	comp=Z,103nm,18.2s,baz=103,slow=32						
MACA	**Manacapuru-AM**	**63.37**	**60**	P	**P**	**01 10 58.0**	**-0.4**
MACA				IAmb	IAmb	01 10 58.0	
	comp=Z,9.3nm,0.7s						
JTS	**Las Juntas de**	**64.29**	**30**	LR	LR	01 32 04.8	
	comp=Z,80nm,20.1s,baz=186,slow=30						
CMIG	**Matias Romero**	**68.26**	**17**	LR	LR	01 33 28.1	
	comp=Z,103nm,21.6s,baz=178,slow=29						
PCRV	**Puerto La Cruz**	**72.53**	**49**	LR	LR	01 38 52.1	
	comp=Z,140nm,21.3s,slow=32						
MDP	**Montagnes des**	**74.69**	**62**	LR	LR	01 39 59.2	
	comp=Z,64nm,21.7s,baz=202,slow=32						
STKA	**Stephens Creek**	**75.97**	**237**	LR	LR	01 38 32.6	
	comp=Z,138nm,21.1s,baz=67,slow=30						
RCBR	**Riachuelo**	**76.45**	**83**	LR	LR	01 43 33.2	
	comp=Z,90nm,20.2s,baz=247,slow=34						
TX31	**Lajitas Ar. Si**	**79.12**	**7**		**P**	**01 12 34.7**	**+1.3**
TX31				IAmb	IAmb	01 12 55.3	
	comp=Z,21nm,2.0s						
TXAR	**Lajitas Array**	**79.12**	**7**	P	**P**	**01 12 35.0**	**+1.5**
TXAR	**Lajitas Array**	**79.12**	**7**	P	**P**	**01 12 34.5**	**+1.1**
	comp=Z,1.6nm,0.9s,baz=192,slow=4.8,SNR=16						
TXAR				LR	LR	01 40 55.6	
	comp=Z,38nm,20.3s,baz=159,slow=31						
	comp=Z,1.6nm,0.9s						
PFO	**Pinyon Flats O**	**83.16**	**356**	LR	LR	01 41 07.6	
	comp=Z,84nm,20.4s,baz=190,slow=29						
ANMO	**Albuquerque**	**84.52**	**4**	LR	LR	01 43 47.5	
	comp=Z,81nm,19.6s,baz=282,slow=31						
LRMC	**Laurel Mtn Rad**	**85.08**	**355**	P	**P**	**01 13 05.7**	**+1.1**
H01W1	**Cape Leeuwin H**	**86.37**	**216**	T	T	02 49 24.8	
	baz=152,slow=76,SNR=420						
H01W2	**Cape Leeuwin H**	**86.37**	**216**	T	T	02 49 25.8	
	baz=152,slow=76,SNR=368						
H01W3	**Cape Leeuwin H**	**86.39**	**216**	T	T	02 49 26.9	
	baz=152,slow=76,SNR=358						
ASAR	**Alice Springs**	**86.60**	**237**	P	**P**	**01 13 10.8**	**-1.8**
	comp=Z,0.7nm,0.9s,baz=131,slow=4.3,SNR=5.2						
ASAR				LR	LR	01 45 04.2	
	comp=Z,104nm,21.4s,baz=114,slow=31						
	comp=Z,0.7nm,0.9s						
NVAR	**Mina Array Bea**	**88.06**	**355**	P	**P**	**01 13 19.8**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=187,slow=6.9,SNR=7.5						
NVAR				LR	LR	01 44 42.7	
	comp=Z,76nm,20.5s,baz=130,slow=30						
	comp=Z,0.6nm,0.7s						
TKL	**Tuckaleechee C**	**88.64**	**22**	LR	LR	01 47 09.4	
	comp=Z,72nm,18.3s,baz=176,slow=32						
WRA	**Warramunga Arr**	**89.35**	**239**	P	**P**	**01 13 23.5**	**-2.3**
	comp=Z,0.8nm,0.8s,baz=146,slow=5.1,SNR=6.5						
	comp=Z,0.8nm,0.8s						
YBH	**Yreka Blue Hor**	**91.67**	**352**	LR	LR	01 46 23.1	
	comp=Z,7.1nm,20.4s,baz=181,slow=30						
PDAR	**Pinedale Array**	**92.22**	**2**	P	**P**	**01 13 38.3**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=203,slow=8.2,SNR=3.8						
PDAR				LR	LR	01 48 23.5	
	comp=Z,32nm,18.6s,baz=145,slow=31						
	comp=Z,0.6nm,0.8s						
NEW	**Newport**	**97.81**	**356**	LR	LR	01 51 05.2	
	comp=Z,79nm,18.5s,baz=202,slow=31						
TSUM	**Tsumeb**	**97.99**	**132**	LR	LR	01 51 53.6	
	comp=Z,36nm,18.6s,baz=162,slow=32						
H11S2	**WAKE ISLAND Hy**	**98.61**	**288**	T	T	03 03 52.9	
	baz=140,slow=76,SNR=2663						
H11S3	**WAKE ISLAND Hy**	**98.62**	**288**	T	T	03 03 48.8	
	baz=140,slow=76,SNR=1476						
H11S1	**WAKE ISLAND Hy**	**98.63**	**288**	T	T	03 03 48.4	
	baz=140,slow=76,SNR=1188						
H11N3	**WAKE ISLAND Hy**	**99.41**	**289**	T	T	03 04 50.7	
	baz=141,slow=76,SNR=85						
H11N1	**WAKE ISLAND Hy**	**99.42**	**289**	T	T	03 04 52.9	
	baz=141,slow=76,SNR=60						
H11N2	**WAKE ISLAND Hy**	**99.43**	**289**	T	T	03 04 52.1	
	baz=141,slow=76,SNR=73						
CMAR	**Chiang Mai Arr**	**140.22**	**229**	PKP	**PKPdf**	**01 19 58.3**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=193,slow=1.8,SNR=2.2						
DAVA	**Damuels**	**142.12**	**71**	*i* PKiKP	**PKiKP**	**01 20 07.5**	**+3.8**
	comp=Z,6.6nm,1.2s						
WTTA	**Wattenberg**	**143.19**	**72**	*i* PKiKP	**PKiKP**	**01 20 08.4**	**+2.5**
	comp=Z,4.0nm,1.0s						
ABTA	**Abfaltersbach**	**143.51**	**73**	*i* PKP	PKPbc	01 20 00.7	+0.3
	comp=Z,2.9nm,0.7s						
ABTA				*i* PKiKP	**PKiKP**	**01 20 08.2**	**+1.8**
	comp=Z,3.1nm,0.8s						
LESA	**Schwarzleotal**	**143.90**	**72**	*i* PKP	PKPab	01 20 00.5	-0.4
	comp=Z,3.7nm,0.8s						
MYKA	**Terra Mystica**	**144.16**	**74**	*i* PKP	**PKPab**	**01 20 01.5**	**-0.4**
	comp=Z,6.6nm,0.7s						
MYKA				*i* PKP	**PKiKP**	**01 20 09.0**	**+1.3**
	comp=Z,8.7nm,0.7s						
KBA	**Koelnbreinsper**	**144.16**	**73**	*i* PKP	**PKPab**	**01 20 01.2**	**-0.8**
	comp=Z,5.9nm,1.0s						
KBA				*i* PKP	**PKiKP**	**01 20 08.5**	**+0.7**
	comp=Z,4.1nm,1.1s						
BIOA	**Bad Ischl, Aus**	**144.60**	**72**	*i* PKP	**PKPab**	**01 20 02.5**	**-1.0**
	comp=Z,8.1nm,1.3s						
OBKA	**Obir**	**144.67**	**74**	*i* PKP	**PKPab**	**01 20 03.5**	**-0.3**
	comp=Z,6.8nm,0.9s						
OBKA				*i* PKiKP	**PKiKP**	**01 20 11.0**	**+2.2**
	comp=Z,9.5nm,0.9s						
SOKA	**Soboth**	**145.04**	**74**	*i* PKP	**PKPbc**	**01 20 04.3**	**-0.9**
	comp=Z,7.3nm,1.4s						
MOA	**Molln**	**145.05**	**72**	*i* PKP	**PKPbc**	**01 20 04.2**	**-0.9**
	comp=Z,13nm,1.6s						
GERES	**GERESS Array B**	**145.10**	**70**	PKPbc	**PKPbc**	**01 20 04.1**	**-1.2**
	comp=Z,3.0nm,1.1s,baz=251,slow=3.0,SNR=13						
CLL	**Collm**	**145.57**	**66**	*i* PKPbc	**PKPdf**	**01 20 05.9**	**-0.4**
	comp=Z,9.0nm,1.3s						
CLL				*i* x	x	01 20 09.0	
	comp=Z,11nm,1.3s						
CLL				*i* PKiKP	**PKiKP**	**01 20 12.4**	**+2.0**
ARSA	**Arzberg**	**145.59**	**74**	*i* PKP	**PKPdf**	**01 20 05.8**	**-0.8**
	comp=Z,3.4nm,1.1s						
ARSA				*i* PKiKP	**PKiKP**	**01 20 14.7**	**+4.1**
	comp=Z,3.7nm,1.0s						
CONA	**Conrad Observa**	**146.07**	**73**	*i* PKP	**PKPdf**	**01 20 07.5**	**0.0**
	comp=Z,4.2nm,1.2s						
CONA				*i* PKiKP	sPKPab	01 20 14.8	+2.6
	comp=Z,4.4nm,1.0s						
RONA	**Rosalia, Austr**	**146.25**	**73**	*e*PKP	**PKPdf**	**01 20 07.5**	**-0.2**
	comp=Z,3.9nm,1.0s						
RONA				*i* PKiKP	sPKPab	01 20 15.5	+2.7
	comp=Z,3.1nm,0.8s						
NB2	**NORSAR Subarra**	**146.83**	**48**	PKP	**PKPbc**	**01 20 09.4**	**-0.7**
	comp=Z,3.1nm,1.0s,baz=262,slow=3.8						
NOA	**NORSAR Array B**	**146.83**	**48**	PKPbc	**PKPdf**	**01 20 09.1**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=271,slow=2.2,SNR=5.4						
MORC	**Moravsky Berou**	**147.78**	**70**	⇓P	**PKPbc**	**01 20 13.6**	**+0.5**
HFS	**Hagfors**	**147.95**	**50**	PKPbc	**PKPbc**	**01 20 11.9**	**-1.3**
	comp=Z,3.4nm,0.8s,baz=180,slow=2.9,SNR=3.8						
MDVR

MJAR			Sn	**Sb**	**01 26 55.4**	**-1.0**
	1.4nm,0.3s,baz=183,slow=30,SNR=3.0						
	4.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**9.80 316**	Pn	Pn	01 28 06.2	+12
	0.2nm,0.3s,baz=320,slow=27,SNR=2.4						
	1.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.38 121**	T	T	02 01 31.1		
	baz=314,slow=75,SNR=72						
H11N1	**WAKE ISLAND Hy**	**28.39 121**	T	T	02 01 35.6		
	baz=314,slow=75,SNR=80						
H11N3	**WAKE ISLAND Hy**	**28.40 121**	T	T	02 01 32.5		
	baz=314,slow=75,SNR=63						
H11S1	**WAKE ISLAND Hy**	**29.11 123**	T	T	02 02 32.5		
	baz=316,slow=76,SNR=60						
H11S3	**WAKE ISLAND Hy**	**29.11 124**	T	T	02 02 04.2		
	baz=316,slow=76,SNR=38						
H11S2	**WAKE ISLAND Hy**	**29.12 123**	T	T	02 02 23.9		
	baz=316,slow=76,SNR=35						
KURBB	**Kurchatov Arra**	**45.73 308**	P	P	01 34 03.7	+10	
	0.5nm,0.5s,baz=82,slow=7.8,SNR=4.3						
	0.5nm,0.5s						
BATI	**Baumata**	**50.23 203**	LR	LR	01 57 49.9		
	comp=Z,63nm,18.4s,baz=196,slow=39						
LEM	**Lembang**	**54.16 223**	LR	LR	01 57 31.4		
	comp=Z,84nm,21.4s,baz=214,slow=36						
WRA	**Warramunga Arr**	**57.47 188**	P	**P**	**01 35 22.8**	**+0.9**	
	0.3nm,0.6s,baz=5.6,slow=7.3,SNR=5.0						
	0.3nm,0.6s						
DZM	**Mont Dzumac**	**63.73 154**	LR	LR	02 02 23.7		
	comp=Z,178nm,18.7s,baz=170,slow=35						
DAVOX	**Davos/Dischmat**	**85.56 329**	LR	LR	02 19 19.6		
	comp=Z,65nm,19.2s,baz=258,slow=37						

*TEH **21** 01:32:34.9,27.°37N×56.°74E,h15km±29km*
*OMAN **21** 01:32:36.6±0.1,27.°34N×56.°73E,h10km,ml3.3/18,Error ellipse: s-maj=1.9km s-min=1.0km az=32.0*
*DSN **21** 01:32:38.0±1.5,27.°36N×56.°70E,h10km,ML3.1/7,Error ellipse: s-maj=49.6km s-min=12.6km az=112.0*

ISC 21 01:32:35.1±1.4,27.°40N±0.°05×56.°77E±0.°04,h4km±12km, n46,σ0s86/63,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.21**	**283**	Pg	**Pg**	**01 32 39.4**	**+0.2**
GENO	**Geno**	**0.53**	**270**	Pg	**Pg**	**01 32 45.4**	**0.0**
KHNJ	**Kahnooj**	**0.99**	**56**	Pg	**Pg**	**01 32 53.8**	**-0.3**
SHME	**Shamm**	**1.46**	**203**	P	**Pn**	**01 33 01.9**	**-0.4**
SHME				S	**Sb**	**01 33 21.4**	**-0.4**
SHME	**Shamm**	**1.46**	**203**	P	**Pn**	**01 33 02.9**	**+0.7**
SHME				S	**Sn**	**01 33 22.9**	**+1.1**
BANOM	**Banah**	**1.53**	**196**	P	**Pn**	**01 33 03.4**	**+0.1**
BANOM				S	**Sn**	**01 33 23.6**	**-0.1**
BANOM	**Banah**	**1.53**	**196**	P	**Pb**	**01 33 04.3**	**+0.3**
BANOM				S	**Sg**	**01 33 25.1**	**+0.8**
MASF	**Masafi**	**2.09**	**195**	P	**Pn**	**01 33 10.7**	**-0.3**
MASF				S	**Sb**	**01 33 39.6**	**-0.5**
MSFE	**Esma-Masafi**	**2.10**	**195**	P	**Pb**	**01 33 13.1**	**-0.7**
UMQ	**Umm Al-Quwin**	**2.12**	**208**	P	**Pn**	**01 33 11.5**	**+0.2**
MDH	**Madha**	**2.13**	**192**	P	**Pn**	**01 33 11.9**	**+0.4**
MDH				S	**Sn**	**01 33 37.7**	**-0.8**
MDH	**Madha**	**2.13**	**192**	P	**Pn**	**01 33 11.2**	**-0.4**
LAR1	**LAR**	**2.15**	**278**	Pn	**Pn**	**01 33 11.7**	**-0.1**
NGRK	**Negar Kerman**	**2.24**	**359**	Pn	**Pn**	**01 33 13.8**	**+0.5**
UOSS	**Minazif**	**2.50**	**192**	P	**Pn**	**01 33 17.7**	**+1.2**
UOSS				S	**Sn**	**01 33 47.5**	**0.0**
UOSS	**Minazif**	**2.50**	**192**	P	**Pn**	**01 33 18.4**	**+1.8**
CHMN	**Cheshme madani**	**2.54**	**15**	Pn	**Pn**	**01 33 18.4**	**+0.9**
KRBR	**Kerman**	**2.57**	**360**	Pn	**Pn**	**01 33 18.6**	**+0.7**
NAZ	**Nazwa, Dubai**	**2.60**	**203**	P	**Pn**	**01 33 18.9**	**+0.9**
NAZ				S	**Sn**	**01 33 51.3**	**+1.2**
NAZ	**Nazwa, Dubai**	**2.60**	**203**	P	**Pn**	**01 33 19.8**	**+1.8**
HATD	**Hatta, Dubai**	**2.63**	**193**	P	**Pn**	**01 33 19.5**	**+1.2**
HATD				S	**Sn**	**01 33 50.9**	**+0.2**
HATD	**Hatta, Dubai**	**2.63**	**193**	P	**Pb**	**01 33 21.1**	**-1.7**
ASHO	**Ashiyiah**	**2.78**	**194**	P	**Pn**	**01 33 21.8**	**+1.3**
	SNR=5.6						
ASHO				S	**Sn**	**01 33 53.7**	**-0.9**
ASHO	**Ashiyiah**	**2.78**	**194**	P	**Pn**	**01 33 22.5**	**+2.0**
KHGB	**Koh Gabri**	**2.98**	**355**	Pn	**Pn**	**01 33 24.4**	**+1.0**
ASUD	**Al Ashush, Dub**	**3.05**	**206**	P	**Pn**	**01 33 25.5**	**+1.3**
	SNR=12						
SOHO	**SOHO**	**3.26**	**184**	P	**Pn**	**01 33 26.6**	**-0.4**
SOHO				S	**Sn**	**01 34 08.2**	**+1.9**
ALNE	**Al Ain**	**3.46**	**196**	P	**Pn**	**01 33 29.7**	**0.0**
HOQ	**Hoqain**	**3.83**	**173**	P	**Pn**	**01 33 35.0**	**0.0**
	SNR=20						
HOQ				S	**Sn**	**01 34 20.1**	**-0.4**
HOQ	**Hoqain**	**3.83**	**173**	Pn	**Pn**	**01 33 34.3**	**-0.6**
ARQ	**Araqi**	**4.05**	**183**	P	**Pn**	**01 33 38.9**	**+1.0**
BIDO	**Bidbid**	**4.05**	**162**	P	**Pn**	**01 33 37.6**	**-0.4**
BIDO				S	**Sn**	**01 34 26.1**	**+0.2**
IBAF	**Bafgh**	**4.31**	**346**	Pn	**Pn**	**01 33 42.0**	**+0.4**
IMEH	**Mehriz**	**4.40**	**335**	Pn	**Pn**	**01 33 42.9**	**-0.1**
WSAR	**Wadi Sarin**	**4.47**	**158**	P	**Pn**	**01 33 44.1**	**+0.3**
WSAR				S	**Sn**	**01 34 35.4**	**-0.9**
SMDO	**Samad**	**4.47**	**165**	P	**Pn**	**01 33 44.1**	**+0.2**
	SNR=7.4						
SMDO				S	**Sn**	**01 34 36.9**	**+0.4**
SRVN	**Saravan**	**5.00**	**89**	Pn	**Pn**	**01 33 52.8**	**+1.7**
JMDO	**Jabal Madar**	**5.15**	**166**	P	**Pn**	**01 33 53.9**	**+0.8**
JMDO				S	**Sn**	**01 34 54.3**	**+1.2**
MZR	**Muzera**	**5.30**	**215**	P	**Pn**	**01 33 55.2**	**+0.1**
MZR				S	**Sn**	**01 34 55.9**	**-0.8**
TRNA	**Turayna**	**5.66**	**243**	P	**Pn**	**01 33 59.9**	**-0.2**
JLN	**Jalan Bani Buh**	**5.75**	**155**	P	**Pn**	**01 34 01.7**	**+0.4**
	SNR=9.0						
MHTO	**MHTO**	**6.48**	**170**	P	**Pn**	**01 34 11.6**	**+0.3**
SHAO	**Shalim**	**9.39**	**187**	P	**Pn**	**01 34 51.9**	**+0.6**
WHFO	**Wadi Hawf**	**9.83**	**197**	P	**Pn**	**01 34 57.9**	**+0.5**
ABTO	**Aybut**	**10.50**	**199**	P	**Pn**	**01 35 06.7**	**+0.1**
RAYN	**Ar Rayn**	**10.89**	**252**	P	**Pn**	**01 35 11.2**	**-0.6**

*IDC **21** 01:38:15.8±1.4,14.°51N×145.°96E,h0km,mb4.1/8, mbtmp4.1/8,MS3.3/1,Error ellipse: s-maj=45.2km s-min=24.3km az=98.0*
*NEIC **21** 01:38:28.2±0.4,14.°46N±0.°08×145.°54E±0.°09,h85km±9km, ML3.8/4,Error ellipse: s-maj=16.3km s-min=6.1km az=131.0*

ISC 21 01:38:29.1±0.9,14.°3N±0.°1×145.°5E±0.°2,h109km,n21, σ1s52/15,mb4.1/8,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.98**	**222**		**Pn**	**01 38 48.5**	**-1.4**
GUMO				Sn	**Sn**	**01 39 03.7**	**-2.0**
GUMO				IAML		01 39 16.9	
	1µm,0.3s						
H11S3	**WAKE ISLAND Hy**	**20.70**	**76**	T	T	02 04 26.6	
	baz=263						
H11S1	**WAKE ISLAND Hy**	**20.72**	**76**	T	T	02 04 25.4	
	baz=263						
H11S2	**WAKE ISLAND Hy**	**20.72**	**76**	T	T	02 04 27.9	
	baz=263						
WAKE	**Wake Island**	**20.80**	**73**		**P**	**01 43 01.6**	**-0.2**
H11N1	**WAKE ISLAND Hy**	**21.10**	**72**	T	T	02 04 43.5	
	baz=254						
H11N2	**WAKE ISLAND Hy**	**21.11**	**72**	T	T	02 04 46.8	
	baz=254						
H11N3	**WAKE ISLAND Hy**	**21.12**	**72**	T	T	02 04 46.3	
	baz=254						
KAPI	**Kappang**	**31.99**	**235**	LR	LR	01 57 11.6	
	comp=Z,53nm,21.8s,baz=130,slow=35						
WR8	**Warramunga Arr**	**35.75**	**198**	P	**P**	**01 45 19.0**	**+1.3**
WRA	**Warramunga Arr**	**35.79**	**198**	P	**P**	**01 45 19.6**	**+1.7**
	0.2nm,0.4s,baz=19,slow=9.3,SNR=2.0						
	0.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**37.72**	**212**	P	**P**	**01 45 36.4**	**+2.0**
	2.3nm,1.0s,baz=38,slow=7.5,SNR=1.9						
	2.3nm,1.0s						
ASAR	**Alice Springs**	**39.43**	**197**	P	**P**	**01 45 50.6**	**+1.9**
ZALV	**Zalesovo Beam**	**61.41**	**324**	P	**P**	**01 48 34.3**	**+0.6**
	0.7nm,0.3s,baz=112,slow=6.9,SNR=4.2						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**61.42**	**316**	P	**P**	**01 48 35.1**	**+1.2**
MKAR	**Makanchi Array**	**61.42**	**316**	P	**P**	**01 48 35.3**	**+1.4**
	0.6nm,0.3s,baz=89,slow=8.7,SNR=18						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**64.49**	**319**	P	**P**	**01 48 55.4**	**+1.3**
	2.4nm,0.7s,baz=98,slow=6.9,SNR=21						
	2.4nm,0.7s						
ILAR	**Eielson Array**	**67.63**	**25**	P	**P**	**01 49 12.3**	**-1.7**
	0.4nm,0.4s,baz=256,slow=5.9,SNR=9.2						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**69.76**	**322**	P	**P**	**01 49 28.3**	**+0.9**
	1.3nm,0.4s,baz=100,slow=8.0,SNR=8.7						
	1.3nm,0.4s						
ABKAR	**Akbulak array**	**76.44**	**318**	P	**P**	**01 50 06.9**	**+0.1**
FINES	**FINESS Array B**	**90.77**	**335**	P	**P**	**01 51 19.1**	**-0.6**
	4.8nm,1.2s,baz=57,slow=5.3,SNR=4.8						
	4.8nm,1.2s						

IDC 21 01:41:09.9±4.9,16.°31S×173.°53W,h0km,mb3.9/3, mbtmp3.9/3,Error ellipse: s-maj=385.2km s-min=34.9km az=151.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.53**	**258**	P	P	01 50 02.3	-0.6
	0.5nm,0.6s,baz=91,slow=7.2,SNR=6.9						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**49.72**	**253**	P	P	01 50 04.6	+0.3
	4.5nm,0.5s,baz=95,slow=8.0,SNR=64						
	4.5nm,0.5s						
PDAR	**Pinedale Array**	**83.02**	**42**	P	P	01 53 37.6	0.0
	0.2nm,0.6s,baz=229,slow=4.0,SNR=3.9						
	0.2nm,0.6s						

*FUNV **21** 01:43:09.2,7.°54N×72.°09W,h32km,MW2.8*
*RSNC **21** 01:43:09.5±0.0,7.°N±7.°×7.°2W±°,h0km±9km,M2.0,ML1.8*

ISC 21 01:43:04.1±1.9,7.°35N±0.°06×71.°89W±0.°06,h2km±14km,n9, σ1s67/18,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.66**	**321**	*e*P	**Pg**	**01 43 17.7**	**+0.9**
CAPV				*e*S	**Sg**	**01 43 25.2**	**-0.2**
PAMC	**Pamplona, Colo**	**0.80**	**269**	P	**Pg**	**01 43 18.6**	**-0.9**
PAMC				S	**Sg**	**01 43 28.7**	**-1.3**
BARC	**Barichara**	**1.49**	**240**	P	**Pg**	**01 43 33.3**	**+0.6**
BARC				S	**Sn**	**01 43 53.0**	**+0.7**
OCAC	**Ocana**	**1.67**	**302**	P	**Pb**	**01 43 35.4**	**-0.3**
OCAC				S	**Sg**	**01 43 57.5**	**-0.3**
RUSC	**La Rusia**	**1.87**	**219**	P	**Pn**	**01 43 38.4**	**+0.7**
RUSC				S	**Sb**	**01 44 03.3**	**-0.1**
BRJC	**Barrancabermej**	**1.88**	**259**	P	**Pb**	**01 43 38.8**	**-0.4**
BRJC				S	**Sg**	**01 44 03.6**	**-0.9**
PTBC	**PUERTO BERRIO,**	**2.67**	**253**	P	**Pn**	**01 43 47.9**	**-0.4**
PTBC				S	**Sn**	**01 44 23.1**	**+1.8**
BAUV	**El Baul**	**4.12**	**67**	*e*P	**Pn**	**01 44 10.4**	**+2.1**
BAUV				*e*S	**Sn**	**01 44 55.3**	**-1.8**
BENV	**Beln**	**4.97**	**58**	*e*P	**Pn**	**01 44 22.2**	**+2.3**
BENV				*e*S	**Sn**	**01 45 14.0**	**-4.1**

*IDC **21** 01:48:51.0±4.9,35.°98N×71.°40E,h81km±44km,mb3.4/10, mbtmp3.8/15,ML3.6/5,Error ellipse: s-maj=33.7km s-min=24.5km az=11.0*
*NNC **21** 01:48:59.4±4.9,36.°74N×70.°99E,h120km±82km,mb3.6, mpv4.2,Error ellipse: s-maj=41.4km s-min=31.3km az=40.0*

ISC 21 01:48:54.7±0.7,36.°39N±0.°06×71.°41E±0.°08,h114km,n27, σ2s84/33,mb3.8/9,5C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRNI	**Srinagar**	**3.63**	**128**	*e*S	**Sn**	**01 50 32.8**	**+1.5**
SRNI				IAML		01 50 34.1	
	comp=N,2µm,0.4s						
SRNI				IAML		01 50 35.1	
	comp=E,2µm,0.2s						
JMU	**Jammu**	**4.66**	**141**	*e*P	**Pn**	**01 50 02.4**	**-0.6**
JMU				*e*S	**Sn**	**01 50 53.8**	**-2.4**
JMU				IAML		01 50 57.6	
	comp=N,865nm,0.7s						
TSSA	**Tissa**	**5.28**	**131**	*e*P	**Pn**	**01 50 10.8**	**-0.7**
TSSA				*e*S	**Sn**	**01 51 07.9**	**-3.4**
TSSA				IAML		01 51 10.9	
	comp=E,531nm,0.2s						
TSSA				IAML		01 51 11.5	
	comp=N,539nm,0.2s						
BHK	**Bhakra**	**6.48**	**139**	*e*S	**Sn**	**01 51 40.5**	**+0.3**
BHK				IAML		01 51 41.1	
	comp=E,306nm,0.2s						
BHK				IAML		01 51 41.2	
	comp=N,301nm,0.3s						
AAK	**Ala-Archa**	**6.68**	**20**	⇓P	**Pn**	**01 50 31.6**	**+1.2**
	comp=N,3.1nm,0.5s						
AAK				⇓S	**Sn**	**01 51 45.2**	**+0.1**
	comp=N,4.2nm,0.8s						
AAK	**Ala-Archa**	**6.68**	**20**	P	**Pn**	**01 50 32.3**	**+1.9**
	comp=N,3.1nm,0.3s,baz=179,slow=6.6,SNR=19						
AAK				S	**Sn**	**01 51 44.2**	**-0.8**
	comp=N,4.5nm,0.3s,baz=317,slow=20,SNR=4.1						
	comp=N,12nm,0.5s						
KK31	**Karatay Array**	**6.74**	**354**	⇑P	**Pn**	**01 50 31.4**	**+0.3**
	comp=N,24nm,0.3s,baz=181,slow=13,SNR=476						
KK31				⇓S	**Sn**	**01 51 43.6**	**-2.8**
	comp=N,3.2nm,0.2s,baz=188,slow=24,SNR=5.0						
SMLA	**Simla**	**7.11**	**136**	*e*P	**Pn**	**01 50 34.6**	**-1.5**
SMLA				*e*S	**Sn**	**01 51 50.3**	**-5.1**
SMLA				IAML		01 51 54.3	
	comp=N,242nm,0.3s						
SMLA				IAML		01 51 57.5	
	comp=E,201nm,0.3s						
KLP	**Kalpa**	**7.47**	**128**	*e*S	Sn	01 51 55.4	-9.2
KLP				IAML		01 52 01.7	
	comp=E,254nm,0.4s						
KLP				IAML		01 52 01.8	
	comp=N,122nm,0.3s						
MKAR	**Makanchi Array**	**13.19**	**35**	P	**Pn**	**01 51 59.3**	**+1.8**
	comp=N,0.1nm,0.3s,baz=213,slow=11,SNR=2.9						
	comp=N,0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**15.12**	**18**	P	**P**	**01 52 26.1**	**+1.5**
	comp=N,0.1nm,0.3s,baz=205,slow=10,SNR=6.9						
	comp=N,0.7nm,0.4s						
AB31	**Akbulak array**	**15.34**	**331**	⇑P	**Pn**	**01 52 23.0**	**-1.9**
	comp=N,1.5nm,0.3s,baz=136,slow=13,SNR=178						
AB31				⇑S	**Sn**	**01 55 06.9**	**-7.5**
	comp=N,1.0nm,0.3s,baz=149,slow=24,SNR=8.4						
BVAR	**Borovoye Array**	**16.65**	**358**	P	**P**	**01 52 43.2**	**+1.7**
	comp=N,0.1nm,0.3s,baz=163,slow=10,SNR=6.7						
	comp=N,1.9nm,0.5s						
AKTO	**Aktyubinsk**	**17.04**	**330**	⇑P	**P**	**01 52 46.2**	**+0.4**
	comp=N,3.3nm,0.6s						
AKTO				⇑S	**Sn**	**01 55 47.4**	**-8.0**
	comp=N,1.8nm,0.7s						
AKTO	**Aktyubinsk**	**17.04**	**330**	P	**P**	**01 52 46.4**	**+0.6**
	comp=N,1.2nm,0.3s,baz=133,slow=14,SNR=16						
	comp=N,6.4nm,0.5s						
ZALV	**Zalesovo Beam**	**19.88**	**24**	P	**P**	**01 53 18.7**	**+1.9**
	comp=N,1.8nm,0.4s,baz=216,slow=11,SNR=8.3						
	comp=N,1.8nm,0.4s						
GNI	**Garni**	**21.24**	**288**	P	**P**	**01 53 32.7**	**+1.0**
	comp=N,1.9nm,0.5s,baz=92,slow=18,SNR=5.2						
	comp=N,1.9nm,0.5s						
ARTI	**Arti**	**21.85**	**340**	P	**P**	**01 53 40.6**	**+2.7**
	comp=N,2.2nm,0.5s,baz=146,slow=7.3,SNR=5.1						
	comp=N,2.2nm,0.5s						
AKASG	**Malin Array Be**	**33.27**	**309**	P	**P**	**01 55 23.3**	**+2.3**
	comp=N,0.3nm,0.4s,baz=83,slow=7.2,SNR=2.7						
	comp=N,0.3nm,0.4s						
FINES	**FINESS Array B**	**37.76**	**326**	P	**P**	**01 56 01.9**	**+2.7**
	comp=N,1.3nm,0.7s,baz=112,slow=7.6,SNR=5.7						
	comp=N,1.3nm,0.7s						
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**01 56 32.0**	**+2.9**
	comp=N,2.0nm,0.9s,baz=106,slow=8.9,SNR=8.5						
	comp=N,2.0nm,0.9s						
HFS	**Hagfors**	**43.35**	**322**	P	**P**	**01 56 47.5**	**+2.2**
	comp=N,0.8nm,0.4s,baz=95,slow=11,SNR=6.0						
	comp=N,0.8nm,0.4s						
NB2	**NORSAR Subarra**	**44.66**	**323**	P	**P**	**01 56 57.9**	**+2.1**
	comp=Z,3.1nm,0.9s,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**44.66**	**323**	P	**P**	**01 56 57.5**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=97,slow=7.8,SNR=3.5						
	comp=Z,0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**66.04**	**269**	P	**P**	**01 59 28.6**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=48,slow=6.6,SNR=10						
	comp=Z,0.3nm,0.3s						
MATP	**Matopo**	**69.55**	**223**	P	P	01 59 58.2	+6.7
	comp=Z,1.8nm,0.5s,baz=21,slow=5.9,SNR=17						
WRA	**Warramunga Arr**	**81.66**	**122**	P	**P**	**02 00 59.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=318,slow=5.4,SNR=1.7						
	comp=Z,0.1nm,0.3s						

*JMA **21** 01:59:33.0±0.2,24.°N±1.°×122.°3E±0.°4,h17km±4km, MV3.4/13,TAIWAN REGION*
*TAP **21** 01:59:33.5,24.°06N×122.°30E,h23km,MJ3.4,C*

ISC 21 01:59:32.3±1.0,23.°99N±0.°02×122.°29E±0.°02,h19km±2km, n96,σ0s75/159,5C-9D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.13**	**13**	*i*P	**Pg**	**01 59 37.3**	**+1.3**
EOS4				*i* S	**Sg**	**01 59 40.4**	**+1.8**
EOS3	**EOS3**	**0.29**	**6**	⇓*i*P	**Pb**	**01 59 39.6**	**+0.7**
EOS3				S	**Sb**	**01 59 44.3**	**+1.1**
EOS2	**EOS2**	**0.43**	**353**	⇓*i*P	**Pb**	**01 59 42.0**	**+0.7**
EOS2				S	**Sb**	**01 59 48.2**	**+0.9**
EAHA	**Aohua**	**0.60**	**304**	*e*P	**Pg**	**01 59 44.8**	**+0.5**
ETL	**Fush Village**	**0.63**	**285**	*e*P	**Pn**	**01 59 46.2**	**0.0**
TWD	**Chiawan**	**0.64**	**278**	*e*P	**Pg**	**01 59 45.6**	**+0.7**
TWD				*e*S	**Sn**	**01 59 55.1**	**-0.8**
EWUT	**Wuta**	**0.65**	**314**	*e*P	**Pg**	**01 59 45.2**	**+0.1**
EWUT				*e*S	**Sg**	**01 59 54.2**	**+0.4**
NACB	**Ninganchiao**	**0.66**	**286**	⇑*i*P	**Pg**	**01 59 46.1**	**+0.8**
ENA	**Nanau**	**0.66**	**311**	⇓P	**Pb**	**01 59 45.2**	**+0.1**
SHUL	**Shoufeng**	**0.69**	**253**	*e*P	**Pn**	**01 59 47.2**	**+0.1**
SHUL				*e*S	**Sn**	**01 59 57.7**	**+0.4**
ESAO	**Su ao**	**0.71**	**325**	*e*P	**Pb**	**01 59 45.7**	**-0.3**
ESAO				*e*S	**Sb**	**01 59 55.3**	**0.0**
ETM	**Tongmen**	**0.72**	**268**	*e*P	**Pg**	**01 59 47.2**	**+0.6**
TWC	**Suao**	**0.73**	**327**	⇓P	**Pb**	**01 59 46.0**	**-0.4**
TWC				*e*S	**Sb**	**01 59 54.7**	**-1.4**
JYNG	**Yonagunijimaku**	**0.76**	**53**	*e*P	**Pg**	**01 59 47.4**	**+0.3**
JYNG				S	**Sn**	**01 59 58.6**	**-0.3**
ETLH	**Xiulin Townshi**	**0.76**	**286**	*e*P	**Pn**	**01 59 47.9**	**-0.3**
ETLH				*e*S	**Sn**	**01 59 59.1**	**-0.2**
LXIB	**Xiulin Townshi**	**0.80**	**272**	*e*P	**Pg**	**01 59 48.3**	**+0.3**
LXIB				*e*S	**Sg**	**01 59 59.5**	**+0.9**
ESL	**Shilin**	**0.80**	**257**	*e*S	**Sg**	**01 59 59.0**	**+0.4**
YOJ	**Yonaguni jima**	**0.81**	**55**	*e*P	**Pg**	**01 59 48.4**	**+0.2**
YOJ				*e*S	**Sg**	**01 59 58.9**	**0.0**
YOJ	**Yonaguni jima**	**0.81**	**55**	P	**Pg**	**01 59 48.5**	**+0.3**
YOJ				*e*S	**Sn**	**02 00 00.1**	**-0.1**
NDS	**Dongshan**	**0.82**	**321**	⇓P	**Pb**	**01 59 48.0**	**0.0**
NDS				*e*S	**Sg**	**01 59 59.2**	**-0.1**
WARBT	**Fenglin Townsh**	**0.87**	**252**	⇓P	**Pb**	**01 59 49.1**	**+0.3**
WARBT				S	**Sg**	**02 00 01.1**	**+0.4**
LATG	**Datong**	**0.88**	**308**	⇓P	**Pg**	**01 59 49.6**	**+0.1**
TWE	**Neicheng**	**0.92**	**322**	*e*P	**Pn**	**01 59 50.4**	**+0.1**
TWE				*e*S	**Sg**	**02 00 02.2**	**-0.1**
ENTT	**Nioudou**	**0.92**	**315**	*e*P	**Pg**	**01 59 50.2**	**0.0**
ENTT				*e*S	**Sb**	**02 00 01.6**	**0.0**
NNSB	**Datong**	**0.93**	**298**	⇑*i*P	**Pg**	**01 59 50.5**	**+0.1**
HGSD	**Ruisui**	**0.93**	**238**	*e*P	**Pb**	**01 59 50.2**	**+0.3**
HGSD				*e*S	**Sg**	**02 00 03.2**	**+0.4**
NNS	**Nan Shan**	**0.94**	**298**	*e*P	**Pn**	**01 59 50.9**	**+0.2**
WHF	**Hehuan Shan**	**0.94**	**279**	⇑P	**Pg**	**01 59 50.7**	**-0.1**
WHF				*e*S	**Sg**	**02 00 03.6**	**+0.3**
FUSS	**Fushou**	**0.98**	**285**	*e*P	**Pg**	**01 59 52.0**	**+0.5**
FUSS				*e*S	**Sg**	**02 00 04.7**	**+0.2**
FUSB	**Fushanzhiwuyua**	**0.99**	**320**	⇓P	**Pn**	**01 59 51.4**	**+0.1**
FUSB				*e*S	**Sg**	**02 00 04.7**	**-0.1**
EHYH	**Wanrong**	**0.99**	**240**	*e*P	**Pg**	**01 59 51.8**	**+0.1**
EHYH				*e*S	**Sn**	**02 00 05.5**	**+0.7**
OWD	**Renai**	**1.01**	**268**	*e*P	**Pn**	**01 59 52.0**	**+0.3**
OWD				*e*S	**Sb**	**02 00 04.9**	**+0.5**
ECBN	**Changbin**	**1.02**	**229**	*e*P	**Pn**	**01 59 51.9**	**+0.3**
ECBN				*e*S	**Sn**	**02 00 05.7**	**+0.2**
TWB1	**Santiao Chiao**	**1.05**	**345**	*e*P	**Pb**	**01 59 51.9**	**+0.1**
TWB1				*e*S	**Sb**	**02 00 04.7**	**-0.4**
TWT	**Tachien**	**1.05**	**285**	*e*P	**Pg**	**01 59 53.1**	**+0.4**
NWLT	**Wulai**	**1.06**	**318**	*e*P	**Pg**	**01 59 52.7**	**-0.2**
TIPB	**Shuangxi**	**1.06**	**337**	*e*P	**Pn**	**01 59 52.3**	**+0.1**
TIPB				*e*S	**Sb**	**02 00 05.0**	**-0.7**
TDCB	**Techi**	**1.06**	**284**	*e*P	**Pg**	**01 59 53.1**	**+0.2**
WUSB	**Renai**	**1.07**	**270**	*e*P	**Pn**	**01 59 52.8**	**+0.4**
WUSB				*e*S	**Sn**	**02 00 06.8**	**0.0**
YHNB	**Yeheng**	**1.07**	**309**	⇓*e*P	**Pg**	**01 59 52.9**	**-0.2**
NSK	**Sanguang**	**1.08**	**309**	*e*P	**Pn**	**01 59 52.9**	**+0.3**
NSK				*e*S	**Sn**	**02 00 07.0**	**-0.1**
YULB	**Yu-li**	**1.08**	**237**	*e*P	**Pb**	**01 59 52.7**	**+0.2**
YULB				*e*S	**Sb**	**02 00 06.6**	**+0.3**
TWF1

PTMZ eS Sn 02 00 53.9 -2.0
XPSS Dashiqiu 3.48 328 eP Pn 02 00 25.6 +0.1
KNMB Chin-men Tao 3.59 278 eP Pn 02 00 27.0 +0.1
KNMB eS Sn 02 01 06.7 -2.1
MHZQ Yeshan 3.62 306 eS Sn 02 01 07.3 -2.3
AXDP Jialang 4.04 284 eP Pn 02 00 33.4 +0.3
AXDP eS Sn 02 01 17.1 -2.7

BJI **21** *02:41:07.9, 46˚.17N× 106˚.82E, h10km, mB4.7/10, mb4.5/29, ML4.7/7, Ms4.3/24, Ms7 4.1/21*
IDC **21** *02:41:08.0±0.5, 46˚.15N× 106˚.73E, h0km, mb4.3/19, mbtmp4.2/25, ML3.5/5, MS3.6/19, Error ellipse: s-maj=14.4km s-min=10.0km az=66.0*
MOS **21** *02:41:08.5±1.3, 46˚.20N× 106˚.79E, h10km, mb4.8/31, Error ellipse: s-maj=7.1km s-min=5.2km az=107.9*
NEIC **21** *02:41:10.3±1.3, 46˚.18N±0˚.06× 106˚.8E±0˚.1, h10km±1km, mb4.8/82, Error ellipse: s-maj=12.8km s-min=10.4km az=255.0*

ISC 21 02:41:08.8±1.6, **46˚.17N**±0˚.04× **106˚.81E**±0˚.04, **h2**km±10km, **n411**, σ1**s31**/386, **mb4.7**/100, **MS3.5**/21, **3C-1D**, **Mongolia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**1.69**	**351**	Pn	**Pn**	**02 41 39.7**	**+0.2**
	228nm,0.3s,baz=174,slow=15,SNR=1188						
SONM				Lg	Lg	02 42 02.0	
	702nm,0.3s,baz=174,slow=16,SNR=22						
ULN	**Ulaanbaatar**	**1.71**	**6**		**Pb**	**02 41 40.3**	**-0.7**
ULN	**Ulaanbaatar**	**1.71**	**6**	P	**Pb**	**02 41 40.3**	**-0.7**
ZAK	**Zakamensk**	**4.83**	**332**	*e*P	**Pn**	**02 42 22.7**	**+0.1**
KPC	**Khapcheranga**	**5.15**	**45**	*i* P	**Pn**	**02 42 27.6**	**+0.7**
BTO	**Baotou**	**6.03**	**156**	*e*Pn	**Pn**	**02 42 37.8**	**-1.2**
BTO				Sn	**Sn**	**02 43 45.0**	**-3.6**
BTO				LR	LR		
	comp=Z,2μm,7.3s						
HHC	**Hu-ho-hao-te**	**6.34**	**145**	*e*Pn	**Pn**	**02 42 44.3**	**+1.0**
HHC				Sn	**Sn**	**02 43 57.8**	**+1.5**
HHC				smax	smax		
	comp=N,480nm,0.5s						
HHC				smax	smax		
	comp=E,560nm,0.5s						
ARS	**Arshan**	**6.44**	**335**	*e*P	**Pn**	**02 42 44.7**	**+0.1**
TRG	**Tyrgan**	**6.61**	**358**	*e*P	**Pn**	**02 42 46.7**	**-0.2**
MOY	**Mondy**	**6.71**	**327**	*e*P	**Pn**	**02 42 49.4**	**+1.1**
MOY				eS	**Sn**	**02 44 03.2**	**-2.1**
XLT	**XiLinHaoTe**	**6.95**	**106**	*e*Pn	**Pn**	**02 42 50.1**	**-1.5**
XLT				Sg	**Sg**	**02 44 49.9**	**-2.0**
XLT				smax	smax		
	comp=N,29nm,0.8s						
XLT				smax	smax		
	comp=E,200nm,0.8s						
CIT	**Chita**	**7.34**	**35**	*e*P	**Pn**	**02 43 00.3**	**+3.3**
OGRR	**Ongureny**	**7.50**	**4**	*e*P	**Pn**	**02 42 59.7**	**+0.6**
SYVR	**Suvo**	**7.78**	**14**	*e*P	**Pn**	**02 43 03.8**	**+0.9**
GTA	**Gaotai**	**8.48**	**220**	P	**Pn**	**02 43 11.4**	**-1.3**
GTA				pmax	pmax		
	comp=Z,21nm,0.7s						
GTA				LR	LR		
	comp=N,1μm,8.4s						
GTA				LR	LR		
	comp=E,730nm,9.8s						
GTA				LR	LR		
	comp=Z,1μm,9.1s						
YLYR	**Ulyunkhan**	**9.15**	**16**	*e*P	**Pn**	**02 43 22.1**	**+0.4**
BJI	**Beijing**	**9.18**	**128**	P	**Pn**	**02 43 21.8**	**-0.4**
BJI				pP		02 43 24.9	
BJI				S	**Sn**	**02 45 06.5**	**+0.5**
BJI				pmax	pmax		
	comp=Z,15nm,0.6s						
BJI				LR	LR		
	comp=N,660nm,8.3s						
BJI				LR	LR		
	comp=E,470nm,7.2s						
BJI				LR	LR		
	comp=Z,680nm,8.3s						
BJT	**Baijiatuau**	**9.20**	**129**		**Pn**	**02 43 22.2**	**-0.2**
BJT	**Baijiatuau**	**9.20**	**129**	P	**Pn**	**02 43 22.2**	**-0.2**
HIA	**Hailar**	**9.26**	**66**	Pn	**Pn**	**02 43 22.9**	**-0.2**
HIA	**Hailar**	**9.26**	**66**	*i* P	**Pn**	**02 43 23.0**	**-0.2**
LZDM	**Lanzhou Array**	**10.46**	**194**	Pn	**Pn**	**02 43 40.3**	**+0.2**
	2.2nm,0.3s,baz=8.7,slow=10,SNR=5.8						
LZDM				Lg	Lg	02 46 35.5	
	baz=124,slow=42						
DL2	**Dalian**	**13.11**	**118**	P	**Pn**	**02 44 14.6**	**-1.2**
DL2				eS	**Sn**	**02 46 38.8**	**-3.3**
DL2				pmax	pmax		
	comp=Z,37nm,0.7s						
DL2				LR	LR		
	comp=N,620nm,10.3s						
DL2				LR	LR		
	comp=E,850nm,11.0s						
DL2				LR	LR		
	comp=Z,830nm,13.2s						
GOMU	**GeErMu**	**13.43**	**226**	P	**Pn**	**02 44 19.6**	**-1.0**
GOMU				LR	LR		
	comp=N,510nm,9.3s						
GOMU				LR	LR		
	comp=E,450nm,9.8s						
GOMU				LR	LR		
	comp=Z,840nm,10.5s						
WMQ	**Urumqi**	**13.73**	**267**	*e*P	**P**	**02 44 29.9**	**-3.4**
WMQ				LR	LR		
	comp=N,490nm,8.7s						
WMQ				LR	LR		
	comp=E,850nm,12.1s						
WMQ				LR	LR		
	comp=Z,200nm,15.9s						
HEH	**HeiHe**	**14.32**	**66**	*e*P	**P**	**02 44 37.3**	**-2.5**
HEH				S	**Sn**	**02 47 16.3**	**+4.5**
HEH				LR	LR		
	comp=N,510nm,8.8s						
HEH				LR	LR		
	comp=E,1μm,8.7s						
HEH				LR	LR		
	comp=Z,2μm,9.2s						
BNX	**BinXian**	**14.34**	**84**	⇑P	**Pn**	**02 44 34.4**	**+1.8**
BNX				pmax	pmax		
	comp=Z,25nm,1.0s						
ZEA	**Zeya**	**15.15**	**53**	*e*P	**P**	**02 44 48.2**	**-0.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZEA				MLR	MLR		
	comp=E,600nm,8.0s						
ZEA				MLR	MLR		
	comp=Z,700nm,8.0s						
ZEA				MLR	MLR		
	comp=N,300nm,7.0s						
ZALV	**Zalesovo Beam**	**16.08**	**307**	Pn	**Pn**	**02 44 56.7**	**+0.9**
	comp=N,0.2nm,0.3s,baz=125,slow=11,SNR=9.7						
ZALV				Lg	Lg	02 49 31.1	
	comp=N,0.1nm,0.3s,baz=123,slow=23,SNR=7.6						
ZALV				LR	LR	02 51 07.4	
	comp=N,141nm,18.2s,baz=98,slow=37						
	comp=N,2.5nm,0.6s						
NJ2	**Nanjing**	**16.88**	**142**	*e*P	**Pn**	**02 45 06.5**	**+0.4**
NJ2				pmax	pmax		
	comp=N,12nm,0.5s						
MK31	**Makanchi Array**	**16.89**	**281**	*i* P	**Pn**	**02 45 06.0**	**-0.1**
MKAR	**Makanchi Array**	**16.89**	**281**		**Pn**	**02 45 04.0**	**-2.1**
MKAR	**Makanchi Array**	**16.89**	**281**	Pn	**Pn**	**02 45 04.0**	**-2.1**
	comp=N,0.2nm,0.3s,baz=87,slow=13,SNR=10						
MKAR				Lg	Lg	02 49 55.6	
	comp=N,0.1nm,0.3s,baz=70,slow=15,SNR=4.1						
MKAR				LR	LR	02 51 38.2	
	comp=N,192nm,19.4s,baz=87,slow=37						
	comp=N,2.0nm,0.7s						
MKAR	**Makanchi Array**	**16.89**	**281**	P	**Pn**	**02 45 04.0**	**-2.1**
MSHR	**Mys Shultsa**	**17.75**	**93**	*i* P	**P**	**02 45 19.6**	**+1.8**
MSHR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**17.84**	**87**	P	**P**	**02 45 19.9**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=292,slow=9.3,SNR=6.6						
USRK				Lg	Lg	02 50 29.4	
	comp=Z,0.1nm,0.3s,baz=287,slow=28,SNR=5.1						
	comp=Z,4.6nm,0.8s						
KSRS	**Korea Array**	**17.95**	**111**	P	**P**	**02 45 20.8**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=297,slow=11,SNR=5.1						
	comp=Z,2.3nm,0.7s						
KSRS	**Korea Array**	**17.95**	**111**	*e*P	**P**	**02 45 22.0**	**+2.1**
KURK	**Kurchatov**	**19.19**	**294**		**P**	**02 45 32.8**	**-0.7**
KURK	**Kurchatov**	**19.19**	**294**	P	**Pn**	**02 45 34.5**	**+0.1**
KURBB	**Kurchatov Arra**	**19.24**	**294**	P	**Pn**	**02 45 34.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=96,slow=12,SNR=32						
KURBB				PcP	**PcP**	**02 49 56.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=59,slow=1.1,SNR=2.3						
KURBB				Lg	Lg	02 51 14.2	
	comp=Z,0.1nm,0.3s,baz=104,slow=32,SNR=6.4						
	comp=Z,18nm,0.9s						
GYA	**Guiyang**	**19.67**	**180**	P	**Pn**	**02 45 41.4**	**+1.0**
GYA				pmax	pmax		
	comp=Z,16nm,0.8s						
PZH	**PanZhiHua**	**20.03**	**193**	P	Pn	02 45 46.6	+1.8
YAK	**Yakutsk**	**20.61**	**31**	LR	LR	02 54 00.5	
	comp=Z,144nm,18.4s,baz=194,slow=37						
YAK	**Yakutsk**	**20.61**	**31**	*e*P	Pn	02 45 50.4	-0.8
YAK				eS	Sn	02 49 42.2	-1.6
YAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				smax	smax		
	comp=E,133nm,5.8s						
YAK				smax	smax		
	comp=N,74nm,2.9s						
YAK				MLR	MLR		
	comp=Z,201nm,21.0s						
YAK				MLR	MLR		
	comp=E,133nm,19.0s						
YAK				MLR	MLR		
	comp=N,588nm,24.0s						
TARG	**Taragay, Kyrgy**	**21.29**	**268**	P	**P**	**02 45 55.6**	**-1.3**
TARG	**Taragay, Kyrgy**	**21.29**	**268**	P	**P**	**02 45 55.6**	**-1.3**
TARG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KDJ	**Kajisay**	**21.58**	**270**	P	**P**	**02 45 59.6**	**-0.2**
KDJ	**Kajisay**	**21.58**	**270**	P	**P**	**02 45 59.6**	**-0.2**
KDJ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BOOM	**Boomskoye usch**	**22.31**	**272**	P	**P**	**02 46 07.2**	**-0.5**
BOOM	**Boomskoye usch**	**22.31**	**272**	P	**P**	**02 46 07.2**	**-0.5**
BOOM				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AAK	**Ala-Archa**	**23.27**	**273**	LR	LR	02 55 19.6	
	comp=Z,163nm,18.8s,baz=78,slow=37						
AAK	**Ala-Archa**	**23.27**	**273**	*i* P	**P**	**02 46 17.9**	**+0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SHL	**Shillong**	**23.77**	**215**	P	**P**	**02 46 24.1**	**+1.3**
SHL	**Shillong**	**23.77**	**215**	P	**P**	**02 46 24.1**	**+1.3**
SHL				pmax	pmax		
	comp=Z,16nm,1.2s						
JMN	**Monobe**	**24.06**	**112**	P	**P**	**02 46 27.5**	**+2.2**
EVN	**Everest**	**24.07**	**228**	P	**P**	**02 46 25.8**	**-0.3**
BVAR	**Borovoye Array**	**24.38**	**300**	P	**P**	**02 46 27.6**	**-0.5**
	comp=Z,11nm,0.8s,baz=102,slow=11,SNR=38						
BVAR				PcP	**PcP**	**02 50 05.4**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=101,slow=4.7,SNR=3.5						
BVAR				LR	LR	02 56 18.1	
	comp=Z,154nm,18.8s,baz=99,slow=37						
	comp=Z,11nm,0.8s						
BORK	**Borovoye**	**24.42**	**300**	*c*eP	**P**	**02 46 28.5**	**0.0**
BORK				pmax	pmax		
	comp=Z,19nm,0.8s						
YSS	**Yuzhno-Sakhali**	**24.60**	**75**	*e*P	**P**	**02 46 31.0**	**+0.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.3s						
YSS				MLR	MLR		
	comp=E,600nm,12.0s						
YSS				MLR	MLR		
	comp=Z,500nm,12.0s						
ASAJ	**Asahikawa**	**25.20**	**82**	LR	LR	02 57 43.5	
	comp=Z,155nm,18.4s,baz=308,slow=39						
ASAJ	**Asahikawa**	**25.20**	**82**	P	**P**	**02 46 33.7**	**-1.8**
MJAR	**Matsushiro Arr**	**25.31**	**101**	P	**P**	**02 46 36.8**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=305,slow=8.7,SNR=1.2						
MJAR				LR	LR	02 56 28.9	
	comp=Z,67nm,19.2s,baz=336,slow=36						
	comp=Z,1.0nm,0.4s						
KK31	**Karatay Array**	**25.87**	**276**		**P**	**02 46 40.7**	**-1.0**
KK31	**Karatay Array**	**25.87**	**276**	P	**P**	**02 46 40.7**	**-1.0**
KK31				pmax	pmax		
	comp=Z,12nm,1.5s						
KKAR	**Karatay Array**	**25.87**	**276**	P	**P**	**02 46 40.5**	**-1.2**
KKAR	**Karatay Array**	**25.87**	**276**	P	**P**	**02 46 40.5**	**-1.2**
TRKS	**Terek-Say**	**25.99**	**273**	P	**P**	**02 46 43.6**	**+0.6**
TRKS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ERM	**Erimo**	**26.29**	**86**	P	**P**	**02 46 45.4**	**0.0**
ERM				pmax	pmax		
	comp=Z,24nm,0.7s						
GAR	**Garm**	**27.62**	**268**	P	**P**	**02 46 58.0**	**+0.3**
GAR				IAmb	IAmb	02 47 08.9	
	comp=Z,7.9nm,0.6s						
TIXI	**Tiksi**	**27.62**	**15**	*i* P	**P**	**02 46 56.7**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**28.39**	**196**	P	**P**	**02 47 05.3**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=4.0,slow=10,SNR=12						
CMAR				PcP	**PcP**	**02 50 14.8**	**-2.2**
	comp=Z,1.8nm,0.3s,baz=13,slow=4.6,SNR=5.3						
	comp=Z,2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**28.39**	**196**	*e*P	**P**	**02 47 07.0**	**+2.6**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CHGR	**Chuyangaron**	**28.58**	**268**	P	**P**	**02 47 05.8**	**-0.4**
CHGR				IAmb	IAmb	02 47 09.2	
	comp=Z,14nm,0.8s						
CHGR	**Chuyangaron**	**28.58**	**268**	P	**P**	**02 47 05.8**	**-0.4**
CHGR				pmax	pmax		
	comp=Z,15nm,0.8s						
SIMJ	**Simiganj**	**28.69**	**269**	P	**P**	**02 47 07.1**	**0.0**
MA2	**Magadan**	**29.13**	**47**	LR	LR	02 59 25.5	
	comp=Z,106nm,18.7s,baz=262,slow=38						
MA2	**Magadan**	**29.13**	**47**	*i* P	**P**	**02 47 12.9**	**+2.2**
MA2				pmax	pmax		
	comp=Z,13nm,1.2s						
SEY	**Seymchan**	**30.47**	**40**	LR	LR	03 01 14.4	
	comp=Z,30nm,18.1s,baz=210,slow=40						
AB31	**Akbulak array**	**31.29**	**293**	P	**P**	**02 47 31.0**	**+1.1**
ABKAR	**Akbulak array**	**31.29**	**293**	P	**P**	**02 47 30.8**	**+0.8**
ARTI	**Arti**	**31.34**	**307**	LR	LR	03 01 12.0	
	comp=Z,144nm,20.0s,baz=102,slow=38						
ARTI	**Arti**	**31.34**	**307**	*c i*P	**P**	**02 47 32.5**	**+2.2**
ARTI						02 48 34.4	
ARTI				S	**S**	**02 52 43.4**	**+5.5**
ARTI				SS	**SnSn**	**02 54 27.7**	**+7.3**
ARTI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PETK	**Petropavlovsk-**	**33.08**	**59**	P	**P**	**02 47 45.2**	**-0.4**
	comp=Z,4.5nm,0.9s,baz=262,slow=6.1,SNR=3.5						
	comp=Z,4.5nm,0.9s						
KIRV	**Kirov**	**36.03**	**311**	LR	LR	03 04 22.7	
	comp=Z,92nm,20.9s,baz=78,slow=39						
BILL	**Bilibino**	**36.96**	**33**	*i* P	**P**	**02 48 20.5**	**+1.6**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KLMR	**Klimovskoe**	**40.68**	**316**	*e*P	**P**	**02 48 48.0**	**-2.1**
KLMR				pmax	pmax		
	comp=Z,22nm,1.8s						
VRH	**Novokhopyorsk**	**42.01**	**302**	*e*P	**P**	**02 48 59.4**	**-1.7**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AKT	**Akhty**	**42.03**	**286**	*e*P	**P**	**02 49 04.1**	**+2.5**
APA	**Apatity**	**42.26**	**327**	‖*e*P	**P**	**02 49 00.6**	**-2.4**
APA				*e*		02 50 37.5	
APA				*e*		02 50 52.1	
APA				eS	**S**	**02 55 20.7**	**-3.1**
APA				eSS	**SS**	**02 58 24.9**	**-6.4**
APA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
LPSR	**Galich'ya Gora**	**43.16**	**304**	*e*P	**P**	**02 49 09.8**	**-0.7**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VORR	**Voronezh**	**43.32**	**303**	*e*P	**P**	**02 49 13.0**	**+1.2**
VORR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VSR	**Storozhevoye**	**43.51**	**302**	*e*P	**P**	**02 49 12.2**	**-1.1**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORD	**Divnogorie**	**43.52**	**302**	*e*P	**P**	**02 49 13.7**	**+0.3**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
OBN	**Obninsk**	**43.66**	**308**	*i* P	**P**	**02 49 14.0**	**-0.4**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBZ	**Khabaz**	**44.21**	**291**	LR	LR	03 09 30.6	
	comp=Z,90nm,18.4s,baz=42,slow=39						
KIV	**Kislovodsk**	**44.24**	**291**	*e*P	**P**	**02 49 19.7**	**+0.2**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
KIV				MLR	MLR		
	comp=Z,62nm,16.0s						
SHA1	**Shidzhatmaz**	**44.36**	**291**	*i* P	**P**	**02 49 20.7**	**+0.2**
ARCES	**ARCESS Array B**	**44.76**	**330**	P	**P**	**02 49 22.8**	**-0.4**
ARCES	**ARCESS Array B**	**44.76**	**330**	P	**P**	**02 49 22.4**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=80,slow=8.8,SNR=13						
ARCES				PcP	**PcP**	**02 51 03.8**	**-1.4**
	comp=Z,2.4nm,0.8s,baz=66,slow=2.9,SNR=5.3						
	comp=Z,1.7nm,0.6s						
ARCES	**ARCESS Array B**	**44.76**	**330**	P	**P**	**02 49 22.8**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,61nm,2.0s						
KTK1	**Kautokeino**	**45.67**	**330**	*e*P	**P**	**02 49 30.1**	**-0.3**
AMKA	**Amchitka**	**46.27**	**56**	P	**P**	**02 49 35.2**	**-0.1**
GAMB	**Gambell**	**46.38**	**37**	P	**P**	**02 49 35.5**	**-0.5**
	baz=288						
JETT	**Jettan, Norway**	**46.49**	**331**	*e*P	**P**	**02 49 36.2**	**-0.6**
FIA1	**FINESS Array S**	**46.81**	**319**	P	**P**	**02 49 39.0**	**-0.4**
FINES	**FINESS Array B**	**46.81**	**319**	P	**P**	**02 49 39.1**	**-0.4**
	comp=Z,3.9nm,0.7s,baz=75,slow=6.7,SNR=15						
FINES				LR	LR	03 10 29.7	
	comp=Z,44nm,20.3s,baz=77,slow=38						
	comp=Z,3.9nm,0.7s						
FINES	**FINESS Array B**	**46.81**	**319**	*e*P	**P**	**02 49 38.7**	**-0.7**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TRO	**Tromsø**	**46.96**	**331**	*e*P	**P**	**02 49 39.4**	**-1.1**
TNA	**Tin City**	**47.34**	**34**	P	**P**	**02 49 43.2**	**-0.3**
	baz=290						
C16K	**Lisburne Hills**	**47.39**	**30**	P	**P**	**02 49 44.7**	**+0.9**
C16K	**Lisburne Hills**	**47.39**	**30**	P	**P**	**02 49 43.2**	**-0.7**
	baz=289						
VSU	**Vasula**	**47.57**	**315**	*i* P	**P**	**02 49 42.4**	**-3.0**
VSU				pmax	pmax		
	comp=Z,19nm,1.2s						
F14K	**Arctic Creek**	**47.99**	**34**	P	**P**	**02 49 48.6**	**0.0**
	baz=291						
C17K	**DeLong Mountai**	**48.07**	**30**	P	**P**	**02 49 48.8**	**-0.4**
	baz=291						
A19K	**Wainwright**	**48.15**	**27**	P	**P**	**02 49 48.9**	**-0.8**
	baz=291						
B18K	**Kokolik River**	**48.22**	**28**	P	**P**	**02 49 50.0**	**-0.2**
	baz=291						
RDOG	**Red Dog Mine**	**48.32**	**30**	P	**P**	**02 49 50.8**	**-0.3**
	baz=292						
D17K	**Noatak River**	**48.39**	**31**	P	**P**	**02 49 51.6**	**0.0**
	baz=292						
MNK	**Minsk**	**48.55**	**310**	*i* P	**P**	**02 49 53.6**	**+0.6**
	comp=E,5.0nm,0.7s						
MNK				*i* P	**P**	**02 49 53.6**	**+0.6**
	comp=N,5.0nm,0.8s						
MNK				*i* P	**P**	**02 49 53.6**	**+0.6**
	comp=Z,7.0nm,0.7s,baz=65						
MNK				*i* PcP	**PcP**	**02 51 16.2**	**-2.5**
MNK				*i* PP	**PP**	**02 51 46.8**	**+1.3**
MNK				*i* PPP	PPP	02 52 36.7	
MNK				*i* S	**S**	**02 56 53.7**	**-1.3**
MNK				*i* SS	SS	03 00 10.2	-14
MNK				*i* SSS	SSS	03 01 23.7	
MNK				*i* LQ	LQ	03 06 34.4	
MNK				*i* LR	LR	03 09 49.3	
MNK				*i* LRM	MLR	03 11 05.0	
	comp=N,173nm,16.8s						
MNK				*i* LRM	MLR	03 11 10.8	
	comp=E,76nm,14.5s						
MNK				*i* LRM	MLR	03 11 43.6	
	comp=Z,41nm,14.9s						
MNK	**Minsk**	**48.55**	**310**	*i* P	**P**	**02 49 53.6**	**+0.6**
MNK				*i*		02 51 16.2	
MNK				*i*		02 51 46.7	
MNK				*i* PPP	PPP	02 52 36.7	
MNK				*i* S	**S**	**02 56 53.7**	**-1.3**
MNK				pmax	pmax		
	comp=E,5.0nm,0.7s						
MNK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MNK				pmax	pmax		
	comp=N,5.0nm,0.8s						
MNK				MLR	MLR		
	comp=N,173nm,17.0s						
MNK				MLR	MLR		
	comp=E,76nm,15.0s						
MNK				MLR	MLR		
	comp=Z,41nm,15.0s						
F15K	**North Star Dit**	**48.55**	**33**	P	**P**	**02 49 52.9**	**0.0**
	baz=292						
C18K	**Utukok River**	**48.69**	**29**	P	**P**	**02 49 52.7**	**-1.3**
	baz=292						
STEI	**Steigen**	**48.81**	**330**	*e*P	**P**	**02 49 53.9**	**-0.9**
FAUS	**Fauske**	**49.01**	**329**	*e*P	**P**	**02 49 56.1**	**-0.3**
C19K	**Lookout Ridge**	**49.05**	**28**	P	**P**	**02 49 57.9**	**+1.2**
C19K	**Lookout Ridge**	**49.05**	**28**	P	**P**	**02 49 56.8**	**+0.1**
	baz=293						
G15K	**Niukluk**	**49.07**	**34**	P	**P**	**02 49 56.1**	**-0.7**
	baz=293						
E17K	**Hotham Inlet**	**49.07**	**31**	P	**P**	**02 49 56.3**	**-0.6**
	baz=293						
LOF	**Lofoten**	**49.32**	**330**	*e*P	**P**	**02 49 58.0**	**-0.7**
E18K	**Tukpahlearik C**	**49.38**	**31**	P	**P**	**02 49 58.0**	**-1.2**
	baz=294						
B20K	**Meade River**	**49.46**	**27**	P	**P**	**02 49 59.4**	**-0.4**
	baz=295						
AKASG	**Malin Array Be**	**49.46**	**305**	P	**P**	**02 49 59.0**	**-1.0**
	comp=Z,1.6nm,0.4s,baz=59,slow=8.7,SNR=11						
AKASG				LR	LR	03 12 10.2	
	comp=Z,59nm,21.6s,baz=32,slow=38						
	comp=Z,1.6nm,0.4s						
AKASG	**Malin Array Be**	**49.46**	**305**	*e*P	**P**	**02 50 01.7**	**+1.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKBB	**Malin Array Si**	**49.46**	**305**	*i* P	**P**	**02 50 00.6**	**+0.5**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
F17K	**Baldwin Pennin**	**49.54**	**32**	P	**P**	**02 50 01.1**	**+0.6**
F17K				IAmb	IAmb	02 50 02.5	
	comp=Z,13nm,0.7s						
F17K	**Baldwin Pennin**	**49.54**	**32**	P	**P**	**02 50 00.2**	**-0.2**
	baz=294						
D19K	**Kuna River**	**49.78**	**29**	P	**P**	**02 50 01.2**	**-1.1**
	baz=295,SNR=7.3						
MOR8	**Moi Rana**	**49.81**	**328**	*e*P	**P**	**02 50 00.1**	**-2.4**
H16K	**Elim**	**49.91**	**34**	P	**P**	**02 50 02.8**	**-0.5**
	baz=295						
VAGH	**Vaagaholmen**	**50.00**	**329**	*e*P	**P**	**02 50 02.7**	**-1.2**
M11K	**Mekoryuk**	**50.05**	**40**	P	**P**	**02 50 04.0**	**-0.3**
	baz=295						
F18K	**Selawik**	**50.06**	**31**	P	**P**	**02 50 03.3**	**-1.0**
	baz=295						
K13K	**Kusilvak Mount**	**50.07**	**38**	P	**P**	**02 50 04.6**	**+0.1**
	baz=295						
G17K	**Kiwalik Mounta**	**50.16**	**33**	P	**P**	**02 50 04.9**	**-0.3**
	baz=295						
J14K	**Nanvaranak Lak**	**50.18**	**37**	P	**P**	**02 50 04.3**	**-1.0**
	baz=295						
D20K	**Etivluk River**	**50.19**	**28**	P	**P**	**02 50 05.1**	**-0.2**

G19K	**Purcell Mounta**	51.19	31	P		P	02 50 12.7	-0.2
	baz=298							
K15K	**Wolf Creek Mou**	51.23	37	P		P	02 50 12.8	-0.5
	baz=297							
F20K	**Avaraart Lake**	51.24	30	P		P	02 50 12.7	-0.6
	baz=298							
D22K	**Ayikyak River**	51.38	27	P		P	02 50 13.9	-0.5
	baz=299							
L15K	**Ungalak Mounta**	51.53	38	P		P	02 50 15.5	0.0
	baz=298							
C23K	**Itkillik River**	51.54	26	P		P	02 50 15.3	-0.2
	baz=300							
H19K	**Roundabout Mou**	51.71	32	IAmb		IAmb	02 50 18.6	
	comp=Z,13nm,0.8s							
H19K	**Roundabout Mou**	51.71	32	P		P	02 50 16.8	+0.1
	baz=299,SNR=7.2							
J17K	**VARM Dome**	51.72	35	P		P	02 50 16.9	0.0
	baz=298							
M14K	**Bethel**	51.76	39	P		P	02 50 16.9	-0.3
	baz=298							
GCSA	**Galena City Sc**	51.92	33	P		P	02 50 18.5	+0.1
	baz=299							
F21K	**Alatna River**	51.93	29	IAmb		IAmb	02 50 20.0	
	comp=Z,7.8nm,0.7s							
F21K	**Alatna River**	51.93	29	P		P	02 50 18.6	+0.1
	baz=300,SNR=8.5							
D23K	**Nanushuk River**	51.96	27	P		P	02 50 18.1	-0.6
	baz=301							
E22K	**Anaktuvuk Pass**	52.03	28	P		P	02 50 18.9	-0.3
	baz=300							
C24K	**Franklin Bluff**	52.17	25	P		P	02 50 20.1	-0.1
	baz=302							
BR131	**Keskin Array S**	52.20	291	P		P	02 50 23.3	+2.2
BR131	**Keskin Array S**	52.20	291	P		P	02 50 23.3	+2.2
BR131				pmax		pmax		
	comp=Z,5.0nm,0.9s							
BRTR	**Keskin Array B**	52.20	291	P		P	02 50 20.5	-0.6
BRTR	**Keskin Array B**	52.20	291	P		P	02 50 20.1	-0.9
	comp=Z,3.6nm,0.7s,baz=78,slow=5.8,SNR=18							
	comp=Z,3.6nm,0.7s							
BRTR	**Keskin Array B**	52.20	291	*e*P		P	02 50 23.5	+2.4
BRTR				pmax		pmax		
	comp=Z,4.0nm,0.7s							
F22K	**John River**	52.22	29	P		P	02 50 20.4	-0.3
	baz=300							
N14K	**Kuskokwak Cree**	52.27	40	P		P	02 50 21.1	+0.1
	baz=299							
G21K	**Allakaket**	52.27	30	IAmb		IAmb	02 50 35.1	
	comp=Z,28nm,1.9s							
G21K	**Allakaket**	52.27	30	P		P	02 50 20.7	-0.4
	baz=300							
H20K	**Anotleneega Mo**	52.30	31	P		P	02 50 20.4	-0.8
	baz=300							
M15K	**Kasigluk River**	52.34	38	P		P	02 50 21.0	-0.5
	baz=299							
K17K	**Iditarod**	52.35	35	P		P	02 50 20.5	-1.1
	baz=299							
L16K	**Owhat River**	52.36	37	P		P	02 50 20.7	-1.0
	baz=299							
D24K	**Happy Valley**	52.44	26	P		P	02 50 21.8	-0.4
	baz=302							
TOLK	**Toolik Lake Re**	52.48	27	IAmb		IAmb	02 50 23.9	
	comp=Z,8.9nm,0.8s							
TOLK	**Toolik Lake Re**	52.48	27	P		P	02 50 22.0	-0.6
	baz=302							
J18K	**Innoko River**	52.61	34	P		P	02 50 23.4	-0.2
	baz=300							
L17K	**Donlin**	52.64	36	P		P	02 50 23.2	-0.5
	baz=300							
G22K	**Bettles**	52.75	29	P		P	02 50 24.1	-0.5
	baz=301,SNR=5.3							
J19K	**Poorman**	52.77	33	P		P	02 50 25.5	+0.7
J19K				IAmb		IAmb	02 51 44.9	
	comp=Z,26nm,1.8s							
J19K	**Poorman**	52.77	33	P		P	02 50 24.4	-0.3
	baz=300							
E23K	**Chandalar**	52.77	27	IAmb		IAmb	02 50 54.5	
	comp=Z,40nm,2.0s							
E23K	**Chandalar**	52.77	27	P		P	02 50 24.1	-0.7
	baz=302							
O14K	**Tigyukauivet M**	52.78	40	P		P	02 50 23.2	-1.6
	baz=299							
I20K	**Naaghedeneel**	52.80	32	P		P	02 50 24.2	-0.6
	baz=300							
N15K	**Kwethluk River**	52.85	39	P		P	02 50 25.2	-0.2
	baz=300							
HFS	**Hagfors**	52.87	321	P		P	02 50 24.3	-1.3
	comp=Z,3.9nm,0.7s,baz=86,slow=7.6,SNR=12							
HFS				LR		LR	03 14 50.9	
	comp=Z,153nm,18.6s,baz=63,slow=38							
	comp=Z,3.9nm,0.7s							
M16K	**Timber Creek**	52.91	38	P		P	02 50 25.9	0.0
	baz=300							
UNV	**Unalaska Valle**	52.92	48	P		P	02 50 25.5	-0.4
	baz=300							
H21K	**Melozitna Rive**	52.96	31	P		P	02 50 25.9	-0.3
	baz=301							
COLD	**Coldfoot**	53.02	28	IAmb		IAmb	02 50 28.1	
	comp=Z,9.7nm,0.8s							
COLD	**Coldfoot**	53.02	28	P		P	02 50 26.5	0.0
	baz=302,SNR=6.7							
D25K	**Kavik River**	53.08	25	IAmb		IAmb	02 50 28.3	
	comp=Z,7.0nm,0.8s							
D25K	**Kavik River**	53.08	25	P		P	02 50 26.9	-0.1
	baz=304							
E24K	**Your Creek**	53.12	27	IAmb		IAmb	02 50 28.5	
	comp=Z,5.2nm,0.7s							
E24K	**Your Creek**	53.12	27	P		P	02 50 26.8	-0.6
	baz=303							
J20K	**Nowinta River**	53.24	33	IAmb		IAmb	02 50 30.0	
	comp=Z,6.1nm,0.8s							
J20K	**Nowinta River**	53.24	33	P		P	02 50 27.9	-0.2
	baz=301,SNR=5.2							
L18K	**Granite Mounta**	53.25	36	P		P	02 50 28.9	+0.6
	baz=301							
BUR08	**Bucovina Ar. S**	53.25	303	P		P	02 50 28.6	-0.1
BUR08				IAmb		IAmb	02 50 28.7	
	comp=Z,13nm,1.5s							
H22K	**Ishtalitna Cre**	53.34	30	P		P	02 50 28.7	-0.2
	baz=302							
G23K	**Bananza Creek**	53.36	29	IAmb		IAmb	02 50 47.7	
	comp=Z,22nm,1.7s							
G23K	**Bananza Creek**	53.36	29	P		P	02 50 28.1	-1.0
	baz=303							
M17K	**Holitna River**	53.36	37	P		P	02 50 28.8	-0.3
	baz=301							
O15K	**Ungalikthiuk R**	53.46	40	P		P	02 50 29.9	0.0
	baz=300							
NB2	**NORSAR Subarra**	53.48	323	P		P	02 50 28.8	-1.2
	comp=Z,5.8nm,0.9s,baz=60,slow=7.4							
NB2	**NORSAR Subarra**	53.48	323	P		P	02 50 28.8	-1.2
	comp=Z,5.8nm,0.9s,baz=60,slow=7.4							
NOA	**NORSAR Array B**	53.48	323	P		P	02 50 29.1	-1.0
	comp=Z,2.4nm,0.7s,baz=58,slow=6.9,SNR=8.8							
NOA				LR		LR	03 14 08.5	
	comp=Z,25nm,20.4s,baz=55,slow=37							
	comp=Z,2.4nm,0.7s							
NOA	**NORSAR Array B**	53.48	323	*e*P		P	02 50 29.0	-1.0
NOA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
I21K	**Tanana**	53.50	31	P		P	02 50 29.9	-0.2
	baz=302							
F24K	**Squaw Lake**	53.62	27	IAmb		IAmb	02 50 37.7	
	comp=Z,29nm,2.0s							
F24K	**Squaw Lake**	53.62	27	P		P	02 50 30.7	-0.3
	baz=304							
C27K	**Jago River**	53.68	24	IAmb		IAmb	02 50 33.2	
	comp=Z,9.7nm,0.8s							
C27K	**Jago River**	53.68	24	P		P	02 50 30.9	-0.4
	baz=306,SNR=5.3							
K20K	**Telida**	53.69	34	P		P	02 50 30.3	-1.3
	baz=302							
RAYN	**Ar Rayn**	53.73	267	P		P	02 50 34.7	+2.3
RAYN	**Ar Rayn**	53.73	267	P		P	02 50 34.7	+2.3
RAYN				pmax		pmax		
	comp=Z,7.0nm,1.2s							
N17K	**Nushagak Hills**	53.92	37	P		P	02 50 33.1	-0.1
	baz=301							
FALS	**False Pass**	53.97	46	P		P	02 50 33.2	-0.4
	baz=301							
M18K	**Stony River**	53.98	36	P		P	02 50 33.6	0.0
	baz=302							
E25K	**Arctic Village**	54.01	26	P		P	02 50 33.5	-0.3
	baz=305							
L19K	**White Mountain**	54.01	35	P		P	02 50 33.3	-0.6
	baz=302							
O16K	**Kokwok River B**	54.01	39	P		P	02 50 33.7	-0.2
	baz=301							
MLY	**Manley**	54.03	31	P		P	02 50 33.1	-0.9
	baz=303							
CHUM	**Lake Minchumin**	54.08	32	P		P	02 50 33.6	-0.7
	baz=303							
G24K	**Hadweenzic Riv**	54.21	28	P		P	02 50 34.4	-0.9
	baz=305							
L20K	**Farewell, AK**	54.23	34	P		P	02 50 35.4	-0.2
	baz=302							
KOLS	**Kolonicke sedl**	54.26	306	*e*P		P	02 50 35.6	-0.3
F25K	**Christian Rive**	54.29	27	IAmb		IAmb	02 50 37.5	
	comp=Z,6.3nm,0.7s							
F25K	**Christian Rive**	54.29	27	P		P	02 50 36.0	+0.1
	baz=305,SNR=5.2							
O17K	**Koliganek Bris**	54.35	38	P		P	02 50 36.2	-0.2
	baz=302							
BPAW	**Bear Paw Mtn.**	54.45	32	P		P	02 50 36.9	-0.2
	baz=304							
H24K	**Noodor Dome**	54.57	29	P		P	02 50 37.4	-0.6
	baz=305							
G25K	**Bearman Lake**	54.62	28	P		P	02 50 37.5	-0.7
	baz=306,SNR=5.1							
PPLA	**Purkeypile**	54.66	33	P		P	02 50 37.5	-1.2
	baz=303							
D27M	**Malcolm River**	54.69	24	IAmb		IAmb	02 50 40.3	
	comp=Z,7.0nm,0.8s							
D27M	**Malcolm River**	54.69	24	P		P	02 50 38.3	-0.5
	baz=308							
F26K	**Sheenjek River**	54.69	26	IAmb		IAmb	02 50 40.0	
	comp=Z,5.0nm,0.8s							
F26K	**Sheenjek River**	54.69	26	P		P	02 50 38.0	-0.8
	baz=306,SNR=5.7							
BMAR	**Burnt Mountain**	54.72	27	P		P	02 50 40.3	+1.3
M20K	**Styx River**	54.85	35	P		P	02 50 39.9	-0.3
	baz=303							
NEA2	**Nenana**	54.87	31	IAmb		IAmb	02 50 41.4	
	comp=Z,8.3nm,0.7s							
NEA2	**Nenana**	54.87	31	P		P	02 50 40.0	-0.1
	baz=305,SNR=5.4							
N19K	**Bonanza Creek**	54.89	36	P		P	02 50 39.8	-0.6
	baz=303							
P17K	**Kvichak River**	54.94	39	P		P	02 50 40.8	+0.2
	baz=303							
OJC	**Ojcow**	54.95	308	P		P	02 50 40.4	-0.5
OJC				pmax		pmax		
	comp=Z,9.0nm,1.0s							
H25L	**Birch Creek**	55.01	28	P		P	02 50 40.4	-0.6
	baz=306							
S14K	**Fog Glacier**	55.09	43	P		P	02 50 40.8	-1.1
	baz=302							
Q16K	**King Salmon**	55.13	39	P		P	02 50 41.5	-0.5
	baz=303							
COLA	**College**	55.13	30	P		P	02 50 42.0	0.0
COLA	**College**	55.13	30	P		P	02 50 42.0	0.0
COLA				pmax		pmax		
	comp=Z,20nm,0.7s							
COLA	**College**	55.13	30	P		P	02 50 42.0	0.0
	baz=305							
POKR	**Poker Plat Res**	55.14	30	P		P	02 50 41.4	-0.7
	baz=306							
E27K	**Coleen River**	55.16	25	IAmb		IAmb	02 50 43.6	
	comp=Z,7.7nm,0.7s							
E27K	**Coleen River**	55.16	25	P		P	02 50 41.9	-0.3
	baz=308,SNR=6.1							
G26K	**Porcupine Rive**	55.25	27	IAmb		IAmb	02 50 44.5	
	comp=Z,5.4nm,0.7s							
G26K	**Porcupine Rive**	55.25	27	P		P	02 50 43.1	+0.3
	baz=307							
CCB	**Clear Creek Bu**	55.28	30	IAmb		IAmb	02 50 44.2	
	comp=Z,11nm,0.7s							
WRH	**Wood River Hil**	55.28	31	IAmb		IAmb	02 50 44.9	
	comp=Z,14nm,1.2s							
P18K	**Big Mountain,**	55.36	38	P		P	02 50 43.5	-0.2
	baz=303							
MCK	**McKinley**	55.41	32	P		P	02 50 44.8	+0.8
	baz=305							
SKT	**Skwentna**	55.43	34	P		P	02 50 43.2	-1.0
	baz=304							
E28M	**Babbage River**	55.49	24	P		P	02 50 43.6	-0.9
	baz=310							
IL31		55.53	30	IAmb		IAmb	02 50 45.8	
	comp=Z,19nm,1.4s							
ILAR	**Eielson Array**	55.53	30	P		P	02 50 44.8	0.0
	comp=Z,2.5nm,0.5s,baz=294,slow=7.2,SNR=51							
	comp=Z,2.5nm,0.5s							
CHGN	**Chignik**	55.62	42	P		P	02 50 45.5	0.0
	baz=303							
CUT	**Chulitna**	55.67	33	P		P	02 50 45.3	-0.6
	baz=305							
Q17K	**Contact Creek**	55.69	39	P		P	02 50 44.8	-1.4
	baz=304							
HDA	**Harding Lake**	55.72	30	P		P	02 50 45.7	-0.5
	baz=306							
R17L	**Mt. Peulik Vol**	55.83	40	P		P	02 50 46.0	-1.2
	baz=304							
CHNA	**Chernabura Isl**	55.86	44	P		P	02 50 47.0	-0.4
	baz=303							
Q18K	**Katmai Hardscr**	55.86	39	P		P	02 50 45.9	-1.5
	baz=304							
G27K	**Doyon Strip**	56.00	26	P		P	02 50 48.3	+0.1
	baz=309							
F28M	**Old Crow**	56.03	25			P	02 50 49.3	+0.9
F28M	**Old Crow**	56.03	25	P		P	02 50 47.8	-0.6
	baz=310							
SUA	**Susitna One**	56.03	34	P		P	02 50 47.9	-0.8
	baz=305							
P19K	**Oil Pt**	56.06	37	P		P	02 50 47.2	-1.6
	baz=304							
O20K	**Slope Mountain**	56.06	36	P		P	02 50 48.4	-0.5
	baz=305							
WAT1	**Susitna Watana**	56.07	32	P		P	02 50 47.7	-1.2
	baz=306							
E29M	**Blow River**	56.09	24	IAmb		IAmb	02 50 50.5	
	comp=Z,8.0nm,0.9s							
E29M	**Blow River**	56.09	24	P		P	02 50 47.7	-1.1
	baz=311,SNR=6.1							
J25K	**Salcha River,**	56.15	30	IAmb		IAmb	02 50 49.4	
	comp=Z,15nm,1.5s							
J25K	**Salcha River,**	56.15	30	P		P	02 50 49.0	-0.4
	baz=307							
CAPN	**Captain Cook N**	56.27	35	P		P	02 50 49.9	-0.2
	baz=305							
Q19K	**Cape Douglas,**	56.29	38	P		P	02 50 49.5	-1.0
	baz=305							
DHY	**Denali Highway**	56.36	32	P		P	02 50 50.2	-0.8
	baz=307,SNR=10							
H27K	**Steamboat Moun**	56.41	27	IAmb		IAmb	02 50 53.4	
	comp=Z,9.5nm,1.0s							
H27K	**Steamboat Moun**	56.41	27	P		P	02 50 50.4	-0.8
	baz=309,SNR=6.8							
K24K	**Donnelly Dome**	56.50	31	P		P	02 50 51.1	-0.7
	baz=307							
WAT6	**Susitna Watana**	56.52	32	P		P	02 50 50.5	-1.7
	baz=307							
HOM	**Homer**	56.71	37	P		P	02 50 52.0	-1.4
	baz=306							
R18K	**Karluk**	56.72	40	P		P	02 50 52.3	-1.1
	baz=305							
I27K	**Kandik River**	56.78	27	P		P	02 50 52.7	-1.1
	baz=310							
J26L	**Joseph Creek**	56.83	29	P		P	02 50 53.9	-0.4
	baz=309,SNR=5.0							
RIDG	**Independent Ri**	56.86	30	P		P	02 50 54.0	-0.4
	baz=308,SNR=9.9							
KNK	**Knik Glacier**	56.95	34	P		P	02 50 54.5	-0.6
	baz=307							
M23K	**Glacier View**	57.00	33	P		P	02 50 54.2	-1.3
	baz=307							
G29M	**Pine Creek**	57.03	25	P		P	02 50 55.2	-0.4
	baz=312							
PAX	**Paxson**	57.12	31	P		P	02 50 55.7	-0.7
	baz=308,SNR=7.5							
SCM	**Sheep Creek Mo**	57.13	33	P		P	02 50 55.4	-1.0
	baz=307							
CHIR	**Chirikof Islan**	57.19	42	P		P	02 50 56.1	-0.7
	baz=305							
DOT	**Dot Lake**	57.19	30	IAmb		IAmb	02 50 57.8	
	comp=Z,8.9nm,0.6s							
F30M	**Barrier River**	57.21	24	P		P	02 50 56.1	-0.7
	baz=313							
PWL	**Port Wells**	57.33	34	P		P	02 50 56.2	-1.6
	baz=307							
SEW	**Seward**	57.34	35	P		P	02 50 57.2	-0.6
	baz=307							
INK	**Inuvik**	57.34	23	P		P	02 50 55.9	-1.8
	baz=314							
H29M	**Whitestone**	57.39	26	P		P	02 50 56.9	-1.2
	baz=312							
M24K	**Tolsona, Glenn**	57.39	32	P		P	02 50 56.8	-1.4
	baz=308							
KDAK	**Kodiak Island**	57.41	39	P		P	02 50 56.7	-1.6
	baz=306							
I28M	**Miner Creek**	57.41	27	IAmb		IAmb	02 51 00.1	
	comp=Z,7.1nm,0.9s							
I28M	**Miner Creek**	57.41	27	P		P	02 50 57.4	-0.9
	baz=311							
OHAK	**Old Harbor**	57.43	39	P		P	02 50 57.2	-1.2
	baz=306							
EGAK	**Eagle**	57.46	28	P		P	02 50 57.1	-1.5
	baz=310							
G30M	**tAoh Zraii Nji**	57.51	25	P		P	02 50 57.3	-1.7
	baz=313							
HARP	**HAARP**	57.59	32	P		P	02 50 58.7	-0.8
	baz=309							
K27K	**Chicken**	57.63	29	IAmb		IAmb	02 51 01.3	
	comp=Z,5.3nm,0.8s							
K27K	**Chicken**	57.63	29	P		P	02 50 58.7	-1.1
	baz=310							
EPYK	**Eagle Plains**	57.78	25	P		P	02 51 00.8	-0.1
	baz=313							
GLI	**Glacier Island**	57.80	34	P		P	02 51 00.6	-0.4
	baz=308							
KLU	**Klutina**	57.87	33	P		P	02 51 00.8	-0.8
	baz=308							
F31M	**Tsiigehtchic**	57.89	23	P		P	02 51 01.1	-0.5
	baz=314							
CLL	**Collm**	57.94	312	*i* P		P	02 51 01.3	-0.9
CLL				*i*			02 51 04.6	
CLL				pmax		pmax		
	comp=Z,3.0nm,1.0s							
CLL	**Collm**	57.94	312	*i* P		P	02 51 01.3	-0.9
	comp=Z,3.0nm,1.0s							
CLL				*i* x		x	02 51 04.6	
	comp=Z,10.0nm,1.3s							
CLL				Lm		MLR	03 17 00.0	
	comp=Z,100nm,18.7s							
I29M	**Ogilvie Camp,**	57.98	27	P		P	02 51 02.0	-0.3
	baz=312							
G31M	**Satah River**	58.11	24	P		P	02 51 02.7	-0.3
	baz=314							
RONA	**Rosalia, Austr**	58.27	307	*i* pP		P	02 51 08.2	+3.6
	comp=Z,4.5nm,1.0s							
N25K	**Chitina, Valde**	58.29	32	P		P	02 51 04.0	-0.6
	baz=309							
L27K	**Beaver Creek,**	58.35	30	P		P	02 51 04.6	-0.3
	baz=311							
M26K	**Nabesna, AK**	58.36	31	P		P	02 51 05.3	+0.3
	baz=310							
CONA	**Conrad Observa**	58.37	308	*i* pP		P	02 51 09.0	+3.6
	comp=Z,6.6nm,1.0s							
DAWY	**Dawson**	58.51	28	P		P	02 51 05.6	-0.4
	baz=312							
EYAK	**Cordova Ski Ar**	58.52	34	P		P	02 51 06.1	+0.1
	baz=309							
J29N	**Klondike Camp**	58.62	27	P		P	02 51 06.5	-0.4
	baz=313							
I30M	**Mount Dempster**	58.67	26	IAmb		IAmb	02 51 07.7	
	comp=Z,7.3nm,1.1s							
I30M	**Mount Dempster**	58.67	26	P		P	02 51 06.7	-0.6
	baz=314							
BMRM	**Bremner River**	58.70	33	P		P	02 51 06.7	-0.6
	baz=310							
M27K	**Edge Creek, AK**	58.79	31	P		P	02 51 07.7	-0.4
	baz=311							
H31M	**Peel River**	58.88	25	P		P	02 51 08.2	-0.3
	baz=315,SNR=5.2							
C36M	**Paulatuk**	58.89	19	P		P	02 51 07.7	-0.8
	baz=321							
Q23K	**Middleton Isla**	59.00	35	P		P	02 51 08.9	-0.5
	baz=309							
GERES	**GERESS Array B**	59.01	310	P		P	02 51 09.2	-0.6
	comp=Z,0.3nm,0.6s,baz=68,slow=7.6,SNR=4.2							
	comp=Z,0.3nm,0.6s							
J30M	**Hart River**	59.14	27	P		P	02 51 09.6	-0.9
	baz=314							
K29M	**Barlow Dome**	59.26	28	P		P	02 51 09.9	-1.4
	baz=313							
CRQE	**Cirque**	59.40	32	P		P	02 51 11.2	-1.2
	baz=311							
L29M	**L29M**	59.57	29	P		P	02 51 12.4	-1.0
	baz=313							
BIOA	**Bad Ischl, Aus**	59.73	309	*e*pP		P	02 51 18.8	+4.1
	comp=Z,5.4nm,1.5s							
CTG	**Chitna Glacier**	59.90	32	P		P	02 51 15.0	-0.9
	baz=312							
M29M	**Somme Creek**	59.91	29	P		P	02 51 15.0	-0.9
	baz=313							
KBA	**Koelnbreinsper**	60.25	308	*i* pP		P	02 51 21.7	+3.2
	comp=Z,3.5nm,0.9s							
MYKA	**Terra Mystica**	60.36	308	*e*pP		P	02 51 21.8	+2.7
	comp=Z,4.8nm,1.0s							
M30M	**Minto, Yukon**	60.38	28	P		P	02 51 17.7	-1.2
	baz=314							
LESA	**Schwarzleotal**	60.41	309	*i* pP		P	02 51 22.5	+3.1
	comp=Z,3.1nm,0.9s							
O28M	**Mount Upton**	60.45	31	P		P	02 51 18.4	-1.4
	baz=313							
N30M	**Aishikik Lake**	61.07	30	P		P	02 51 22.8	-0.9
	baz=315							
WTTA	**Wattenberg**	61.07	309	*e*pP		P	02 51 27.0	+3.0
	comp=Z,6.1nm,1.1s							
MOTA	**Moosalm**	61.30	310	*e*pP		P	02 51 28.5	+2.8
	comp=Z,8.6nm,1.5s							
SQTA	**Sankt Quirin**	61.32	309	*i* pP		P	02 51 28.6	+2.9
	comp=Z,5.6nm,0.9s							
HYT	**Haines Junctio**	61.37	30	P		P	02 51 24.4	-1.5
	baz=315							
RETA	**Reutte**	61.40	310	*e*pP		P	02 51 30.0	+3.9
	comp=Z,4.7nm,1.2s							
M31M	**Drury Creek, Y**	61.44	28	P		P	02 51 25.1	-1.0
	baz=316							
N31M	**Braeburn, Yuko**	61.49	29	P		P	02 51 26.2	-0.3
	baz=316							
PNL	**Peninsula**	61.50	32	P		P	02 51 26.5	-0.1
	baz=314							
O30N	**Mendenhall**	61.90	30	P		P	02 51 29.1	-0.2
	baz=316							
DAVA	**Damuels**	61.99	310	*e*pP		P	02 51 33.1	+2.8
	comp=Z,8.2nm,1.1s							
P30M	**Million Dollar**	62.06	31	P		P	02 51 30.4	0.0
	baz=315							
MMPY	**Sheldon Lake,**	62.12	26	P		P	02 51 30.9	+0.1
MMPY	**Sheldon Lake,**	62.12	26	P		P	02 51 30.7	0.0
	baz=318							
EKA	**Eskdalemuir Ar**	62.97	323	P		P	02 51 36.0	-0.5
	comp=Z,1.0nm,0.6s,baz=48,slow=5.8,SNR=2.5							
	comp=Z,1.0nm,0.6s							
EKA	**Eskdalemuir Ar**	62.97	323	P		P	02 51 36.0	-0.5
SKAG	**Skagway**	63.11	30	P		P	02 51 37.4	+0.1
	baz=317							
P33M	**Teslin, Yukon**	63.42	29	P		P	02 51 39.4	-0.1
	baz=318							
YKA	**Yellowknife Ar**	66.75	20	P		P	02 52 00.2	-0.7
	comp=Z,2.3nm,0.8s,baz=334,slow=7.1,SNR=4.8							
	comp=Z,2.3nm,0.8s							
YKA	**Yellowknife Ar**	66.75	20	*e*P		P	02 52 00.4	-0.5
YKA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
WRA	**Warram

comp=Z,2.5nm,0.6s,baz=317,slow=4.7,SNR=26
NVAR LR LR 03 33 24.3
comp=Z,45nm,19.3s,baz=276,slow=36
comp=Z,2.5nm,0.6s
PV22 Blue Mesa, Par 89.83 27 IAmb IAmb 02 54 10.2
comp=Z,3.6nm,0.7s
PV23 Carpenter Ridg 89.84 27 IAmb IAmb 02 54 18.0
comp=Z,5.9nm,0.8s
PV01 Paradox Valley 90.27 27 IAmb IAmb 02 54 12.4
comp=Z,3.4nm,0.9s
TORD Torodi Ar. Bea 90.80 290 P **P 02 54 12.8 -1.0**
comp=Z,1.7nm,1.0s,baz=24,slow=6.4,SNR=7.0
comp=Z,1.7nm,1.0s
QSPA South Pole Qui 135.91 180 PKP **PKPdf 03 00 30.2 +0.3**
comp=Z,1.2nm,0.8s,baz=290,slow=0.7,SNR=8.9
LPAZ La Paz 149.91 350 PKPbc **PKPbc 03 00 59.6 -1.9**
comp=Z,1.5nm,0.7s,baz=333,slow=4.5,SNR=5.0

*IDC **21** 03:03:17.4±0.9, 18°.15S×172°.84W, h0km, mb4.0/7, mbtmp4.0/7, MS3.3/2, Error ellipse: s-maj=50.3km s-min=22.0km az=152.0*
ISC 21 03:03:21.6±0.9, 18°.15S±0°.3×172°.9W±0°.2, h26km, n10, σ0^{4}4/8, mb4.1/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**12.71**	**106**	LR	LR	03 10 10.4	
	comp=Z,74nm,18.1s,baz=283,slow=33						
WRA	**Warramunga Arr**	**49.77**	**259**	P	**P**	**03 12 12.0**	**-0.4**
	2.9nm,0.6s,baz=97,slow=8.6,SNR=38						
	2.9nm,0.6s						
ASAR	**Alice Springs**	**49.80**	**254**	P	**P**	**03 12 12.6**	**-0.1**
	6.8nm,0.9s,baz=88,slow=8.5,SNR=34						
	6.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**58.18**	**260**	P	**P**	**03 13 14.2**	**+0.4**
	1.6nm,0.8s,baz=51,slow=6.5,SNR=2.2						
	1.6nm,0.8s						
QSPA	**South Pole Qui**	**71.92**	**180**	P	**P**	**03 14 42.4**	**-0.1**
	2.5nm,1.1s,baz=86,slow=3.3,SNR=3.7						
	2.5nm,1.1s						
NVAR	**Mina Array Bea**	**76.03**	**41**	P	**P**	**03 15 06.8**	**-0.2**
	0.3nm,0.7s,baz=203,slow=11,SNR=3.6						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**81.72**	**56**	P	**P**	**03 15 38.9**	**+0.5**
	0.4nm,0.9s,baz=245,slow=4.1,SNR=4.6						
	0.4nm,0.9s						
PDAR	**Pinedale Array**	**83.96**	**41**	P	**P**	**03 15 49.4**	**-0.4**
	0.6nm,0.7s,baz=203,slow=3.1,SNR=6.8						
	0.6nm,0.7s						
CMIG	**Matias Romero**	**84.32**	**70**	LR	LR	03 48 11.7	
	comp=Z,32nm,19.2s,baz=80,slow=32						
BRTR	**Keskin Array B**	**148.56**	**319**	PKPbc	**PKPbc**	**03 23 06.3**	**-0.4**
	1.9nm,0.9s,baz=34,slow=3.2,SNR=7.4						

*NAO **21** 03:26:34.2±0.7, 79°.94N×21°.00E, h16km±2km, ML3.2*
*KOLA **21** 03:26:37.0, 79°.65N×19°.70E, h0km, ML2.2, Spitsbergen*
BER 21 03:26:33.6±1.1, 80°.01N×21°.42E, h13km±14km, ML2.6, 1D, Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**2.05**	**243**	Pn	Pn	03 27 06.3	-1.5
KBS				Pg	Pb	03 27 10.2	-0.4
KBS				Sg	Sb	03 27 35.2	-0.8
KBS	**Kingsbay**	**2.05**	**243**	P	Pn	03 27 06.0	-1.8
KBS				S	Sb	03 27 35.0	-1.0
KBS	**Kingsbay**	**2.05**	**243**	*e*P	Pn	03 27 06.0	-1.8
KBS				*e*Sg	Sb	03 27 34.9	-1.1
KBS				IAML		03 27 38.4	
	comp=Z,140nm,0.3s						
SPA0	**Spitsbergen Ar**	**2.08**	**210**	Pn	Pn	03 27 06.1	-2.0
	baz=34,slow=18						
SPA0				Pg	Pb	03 27 09.6	-1.5
	baz=37,slow=16						
SPA0				Sn	Sn	03 27 31.1	-2.7
	baz=29,slow=14						
SPA0				Lg	Lg	03 27 36.0	
	baz=35,slow=37						
SPA0	**Spitsbergen Ar**	**2.08**	**210**	*e*P	Pn	03 27 06.1	-2.0
SPA0				*e*S	Sn	03 27 30.8	-3.0
SPA0				IAML		03 27 42.4	
	comp=Z,49nm,1.0s						
SPITS	**Spitsbergen Ar**	**2.08**	**210**	P	Pn	03 27 05.9	-2.2
SPITS				S	Sb	03 27 35.4	-1.4
BRBB	**Barentsburg B**	**2.37**	**219**	Pn	Pn	03 27 10.3	-1.7
BRBB				Sn	Sn	03 27 36.8	-4.1
BRBB	**Barentsburg B**	**2.37**	**219**	P	Pn	03 27 10.3	-1.8
BRBB				S	Sb	03 27 46.8	+1.8
BRBB	**Barentsburg B**	**2.37**	**219**	*e*P	Pn	03 27 10.2	-1.8
BRBA	**Barentsburg A**	**2.39**	**219**	Pn	Pn	03 27 10.7	-1.7
BRBA				Sn	Sn	03 27 37.0	-4.5
BRBA	**Barentsburg A**	**2.39**	**219**	*e*P	Pn	03 27 10.7	-1.7
BRBA				IAML		03 27 48.1	
	comp=Z,61nm,0.4s						
HSPB	**Hornsund (broa**	**3.24**	**204**	Pn	Pn	03 27 23.7	-0.4
HSPB				Pg	Pb	03 27 30.5	-0.4
HSPB				Sn	Sn	03 27 59.4	-3.1
HSPB	**Hornsund (broa**	**3.24**	**204**	P	Pn	03 27 22.5	-1.6
HSPB				S	Sn	03 27 59.5	-2.9
HSPB	**Hornsund (broa**	**3.24**	**204**	*e*P	Pn	03 27 23.7	-0.4
HSPB				IAML		03 28 15.2	
	comp=Z,24nm,0.5s						
HOPEN	**Hopen**	**3.59**	**166**	Pn	Pn	03 27 27.4	-1.5
HOPEN				Sn	Sn	03 28 06.8	-4.3
HOPEN				Lg	Lg	03 28 27.2	
HOPEN	**Hopen**	**3.59**	**166**	*e*S	Sg	03 28 32.2	+3.4
HOPEN	**Hopen**	**3.59**	**166**	*e*P	Pn	03 27 27.2	-1.7
HOPEN				*e*S	Sn	03 28 06.9	-4.3
HOPEN				IAML		03 28 31.3	
	comp=Z,48nm,0.3s						
VADS	**Vadso**	**10.13**	**164**	P	Pn	03 28 56.4	-2.2
VADS				S	Sn	03 30 43.4	-8.5
ARA0	**ARCESS Array S**	**10.58**	**172**	Pn	Pn	03 29 02.1	-2.6
	baz=359,slow=11						
ARA0				Sn	Sn	03 30 50.1	-13
	baz=4.9,slow=22						
ARCES	**ARCESS Array B**	**10.58**	**172**	P	Pn	03 29 03.0	-1.7
ARCES				S	Sn	03 30 51.7	-11
HFS	**Hagfors**	**20.11**	**191**	P	P	03 31 05.7	-0.9
	baz=6.8,slow=10						

*IDC **21** 04:25:22.3±1.4, 5°.06S×125°.29E, h0km, mb3.8/5, mbtmp3.9/6, ML4.1/1, MS3.1/6, Error ellipse: s-maj=41.4km s-min=27.5km az=51.0*
*DJA **21** 04:25:23.4±0.3, 5°.5S×3°×12°.5E±°, h10km, M4.5/13, mB5.0/2, mb4.8/7, MLv4.4/13, Mw(mB)4.3/2*
*NEIC **21** 04:25:25.1±1.3, 5°.24S±0°.07×125°.21E±0°.07, h10km±2km, mb4.2/6, Error ellipse: s-maj=15.5km s-min=5.0km az=316.0*
ISC 21 04:25:23.4±0.7, 5°.15S±0°.06×125°.27E±0°.05, h10km, n37, σ1^{8}23/30, mb4.0/5, MS3.0/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**2.63**	**44**	P	**Pn**	**04 26 06.6**	**+0.6**
NLAI				S	**Sn**	**04 26 36.5**	**-1.5**
KDI	**Kendari**	**2.89**	**294**	P	**Pn**	**04 26 09.2**	**-0.4**
SANI	**Sanana**	**3.16**	**13**	P	**Pn**	**04 26 12.2**	**-1.1**
AAI	**Ambon**	**3.26**	**64**	P	**Pn**	**04 26 14.5**	**-0.1**
MMRI	**Maumere**	**4.59**	**221**	P	**Pn**	**04 26 33.4**	**+0.4**
BNDI	**Bandanaira**	**4.66**	**83**	P	**Pn**	**04 26 33.6**	**-0.4**
SOEI	**Soe**	**4.69**	**192**		**Pn**	**04 26 33.6**	**-0.8**
SOEI	**Soe**	**4.69**	**192**	P	**Pn**	**04 26 34.5**	**+0.1**
LUWI	**Luwuk**	**4.78**	**328**		**Pn**	**04 26 36.9**	**+1.3**
LUWI	**Luwuk**	**4.78**	**328**	P	Pn	04 26 33.5	-2.0
BATI	**Baumata**	**5.27**	**197**	LR	LR	04 29 18.4	
	comp=Z,200nm,20.0s,baz=25,slow=44						
KAPI	**Kapang**	**5.50**	**271**	Pn	**Pn**	**04 26 46.5**	**+1.0**
	5.8nm,0.3s,baz=143,slow=4.5,SNR=8.2						
KAPI				Sn	**Sn**	**04 27 48.4**	**-0.4**
	3.8nm,0.3s,baz=158,slow=19,SNR=7.9						
KAPI				LR	LR	04 29 10.6	
	comp=Z,285nm,18.9s,baz=65,slow=41						
	19nm,0.4s						
SPSI	**Sidrap Palu**	**5.61**	**282**	P	**Pn**	**04 26 47.6**	**+0.7**
	0.2nm43nm,0.6s						
KMSI	**Cibinong**	**5.83**	**347**	P	**Pn**	**04 26 50.0**	**0.0**
	0.8nm4µm165nm,0.6s						
MRSI	**Marisa**	**6.50**	**329**	P	**Pn**	**04 26 58.8**	**-0.4**
	0.2nm43nm,0.5s						
FAKI	**Fak Fak**	**7.31**	**73**		**Pn**	**04 27 12.5**	**+2.1**
TOLI2	**Tolitoli**	**7.66**	**324**		**Pn**	**04 27 17.2**	**+2.0**
MTN	**Manton Dam**	**9.59**	**143**		**Pn**	**04 27 42.9**	**+1.1**
KNRA	**Kununurra**	**11.02**	**162**	Pn	**Pn**	**04 28 00.9**	**-0.3**
DAV	**Davao City (W)**	**12.14**	**1**	LR	LR	04 33 11.1	
	comp=Z,64nm,20.0s,baz=157,slow=39						
FITZ	**Fitzroy Crossi**	**12.88**	**178**	Pn	Pn	04 28 24.4	-2.3
FITZ	**Fitzroy Crossi**	**12.88**	**178**	Pn	Pn	04 28 23.9	-2.8
	0.4nm,0.3s,baz=359,slow=17,SNR=11						
WB0	**Warramunga Arr**	**17.04**	**149**		**Pn**	**04 29 19.1**	**-2.9**
WB0				IAmb	IAmb	04 29 24.9	
	comp=Z,17nm,1.2s						
WRA	**Warramunga Arr**	**17.16**	**150**	P	Pn	04 29 19.1	-4.3
	comp=Z,1.3nm,0.6s,baz=320,slow=12,SNR=13						
WR8	**Warramunga Arr**	**17.25**	**149**		**Pn**	**04 29 21.6**	**-3.0**
WR8				IAmb	IAmb	04 29 41.4	
	comp=Z,6.5nm,0.8s						
LEM	**Lembang**	**17.63**	**264**	LR	LR	04 37 21.5	
	comp=Z,105nm,19.2s,baz=18,slow=41						
COEN	**Coen**	**19.70**	**118**	P	**P**	**04 29 54.0**	**+0.8**
COEN				IAmb	IAmb	04 29 55.2	
	comp=Z,28nm,1.4s						
AS31	**Alice Springs**	**20.21**	**157**		**P**	**04 30 00.0**	**+1.3**
ASAR	**Alice Springs**	**20.21**	**157**	P	**P**	**04 29 59.6**	**+1.0**
	comp=Z,7.0nm,0.7s,baz=333,slow=11,SNR=67						
	comp=Z,7.0nm,0.7s						
PMG	**Port Moresby**	**22.12**	**102**	LR	LR	04 41 17.2	
	comp=Z,57nm,19.3s,baz=174,slow=43						
MORW	**Morawa**	**25.35**	**199**	P	**P**	**04 30 51.1**	**+0.4**
FORT	**Forrest**	**25.63**	**174**	P	**P**	**04 30 53.0**	**-0.3**
FORT				IAmb	IAmb	04 30 54.5	
	comp=Z,21nm,1.4s						
CMAR	**Chiang Mai Arr**	**34.98**	**313**	P	**P**	**04 32 16.6**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=118,slow=9.2,SNR=1.2						
CMAR				LR	LR	04 48 23.5	
	comp=Z,12nm,18.5s,baz=230,slow=40						
	comp=Z,0.6nm,0.3s						
MKAR	**Makanchi Array**	**64.15**	**329**	P	**P**	**04 35 58.9**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=122,slow=8.5,SNR=6.5						
	comp=Z,0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**67.90**	**336**	P	**P**	**04 36 21.6**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=126,slow=7.3,SNR=3.8						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**68.52**	**330**	P	**P**	**04 36 25.8**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=120,slow=6.6,SNR=4.1						
	comp=Z,0.3nm,0.7s						
BELG	**Belogornoye**	**86.55**	**323**	LR	LR	05 21 58.8	
	comp=Z,340nm,18.5s,baz=96,slow=39						

*IDC **21** 04:39:17.6±5.5, 35°.53N×141°.01E, h40km±42km, mb3.3/3, mbtmp3.5/6, ML3.0/3, MS2.6/3, Error ellipse: s-maj=50.9km s-min=10.9km az=68.0*
*JMA **21** 04:39:18.8±0.2, 35°.7N±0°.6×140°.7E±0°.9, h48km±1km, MV2.9/35, NEAR CHOSHI CITY*
ISC 21 04:39:17.9±1.9, 35°.64N±0°.06×141°.0E±0°.2, h45km±12km, n20, σ1^{9}43/17, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.42**	**271**	*i* P	**Pn**	**04 39 27.6**	**-0.3**
JSMT				*e*S	**Sn**	**04 39 34.7**	**-0.3**
JIHU	**Itakohorinouch**	**0.48**	**313**	P	**Pn**	**04 39 28.9**	**+0.2**
JIHU				*e*S	**Sn**	**04 39 36.0**	**-0.3**
BSO4	**Boso 4**	**0.82**	**219**	*e*P	**Pn**	**04 39 33.5**	**+0.4**
JYT	**Yasato**	**0.86**	**313**	*e*P	**Pn**	**04 39 32.3**	**-1.3**
JYT				*e*S	**Sn**	**04 39 42.7**	**-2.4**
JAG	**Ashikaga**	**1.46**	**303**	*e*P	**Pn**	**04 39 40.4**	**-1.4**
JOD2	**Odawara 2**	**1.58**	**257**	*e*P	**Pn**	**04 39 42.1**	**-1.4**
MJAR	**Matsushiro Arr**	**2.41**	**293**	P	**Pn**	**04 39 54.8**	**0.0**
	1.1nm,0.3s,baz=99,slow=14,SNR=31						
MJAR				S	**Sn**	**04 40 24.7**	**+1.6**
	7.4nm,0.4s,baz=137,slow=17,SNR=6.5						
MJAR				LR	LR	04 41 09.5	
	comp=Z,74nm,20.4s,baz=122,slow=45						
	4.2nm,0.3s						
JHJ	**Hachijo jima 2**	**2.70**	**202**	P	**Pn**	**04 39 58.6**	**-0.1**
	16nm,0.3s,baz=66,slow=20,SNR=1.5						
JHJ				S	**Sn**	**04 40 27.2**	**-3.0**
	59nm,0.3s,baz=49,slow=20,SNR=1.2						
	42nm,0.3s						
KSRS	**Korea Array**	**10.65**	**284**	P	**Pn**	**04 41 49.5**	**+1.7**
	0.2nm,0.3s,baz=102,slow=13,SNR=2.1						
	0.6nm,0.5s						
PETK	**Petropavlovsk-**	**21.08**	**29**	LR	LR	04 52 38.0	
	comp=Z,22nm,20.3s,baz=105,slow=38						
GUMO	**Guam**	**22.23**	**170**	LR	LR	04 53 13.8	
	comp=Z,22nm,19.3s,baz=152,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.78**	**118**	T	T	05 14 30.5	
	baz=309,slow=75,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**27.79**	**118**	T	T	05 14 27.0	
	baz=309,slow=75,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**27.80**	**118**	T	T	05 14 22.7	
	baz=309,slow=75,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**28.44**	**120**	T	T	05 15 15.4	
	baz=312,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**28.44**	**120**	T	T	05 15 00.4	
	baz=312,slow=75,SNR=8.1						
H11S2	**WAKE ISLAND Hy**	**28.45**	**120**	T	T	05 14 59.1	
	baz=312,slow=75,SNR=6.7						
MKAR	**Makanchi Array**	**44.57**	**303**	P	**P**	**04 47 25.6**	**+0.3**
	0.4nm,0.6s,baz=88,slow=9.7,SNR=2.9						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**46.59**	**309**	P	**P**	**04 47 40.8**	**-0.3**
	0.5nm,0.4s,baz=87,slow=8.4,SNR=6.4						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**55.63**	**188**	P	**P**	**04 48 49.9**	**+0.6**
	0.2nm,0.4s,baz=2.2,slow=7.5,SNR=6.5						
	0.2nm,0.4s						

*GCG **21** 04:40:31.7±0.6, 14°.69N×92°.52W, h82km±5km, MD3.9*
*SNET **21** 04:40:34.4±1.9, 14°.82N×92°.48W, h58km, ML3.7*
*CATAC **21** 04:40:34.4±0.4, 15°.N±4°×9°.3W±°, h44km±4km, M3.5/13, MLv3.5/13, Error ellipse: s-maj=8.6km s-min=4.2km az=25.7, confirmed*
*MEX **21** 04:40:34.0±1.2, 14°.63N×92°.56W, h67km±12km, MD4.0*
ISC 21 04:40:31.7±1.3, 14°.66N±0°.05×92°.61W±0°.03, h72km±8km, n45, σ1^{9}54/64, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.41**	**53**	*i* P	**Pn**	**04 40 44.1**	**+0.1**
THIG				*i* S	**Sn**	**04 40 52.5**	**-0.6**
THIG		**0.41**	**53**	*e*P	**Pn**	**04 40 44.1**	**+0.1**
THIG				*e*S	**Sn**	**04 40 53.0**	**0.0**
SMCA	**Catarina**	**0.55**	**69**	*e*P	**Pn**	**04 40 45.2**	**0.0**
SMCA				*e*S	**Sn**	**04 40 54.9**	**-0.3**
PATR	**El Naranjo**	**0.58**	**38**	*e*P	**Pn**	**04 40 45.5**	**-0.3**
PATR				*i* S	**Sn**	**04 40 55.0**	**-1.2**
CHUJ	**Union Juarez**	**0.65**	**48**	*e*P	**Pn**	**04 40 46.0**	**-0.5**
CHUJ				*i* S	**Sn**	**04 40 56.5**	**-0.9**
PAVE	**Pavencul**	**0.68**	**38**	*e*P	**Pn**	**04 40 46.7**	**-0.1**
PAVE				*e*S	**Sn**	**04 40 57.4**	**-0.5**
RTAL	**Retalhuleu**	**0.89**	**98**	*e*P	**Pn**	**04 40 49.2**	**+0.2**
RTAL				*e*S	**Sn**	**04 41 00.9**	**-1.0**
RTAL	**Retalhuleu**	**0.89**	**98**	*e*P	**Pn**	**04 40 49.1**	**+0.1**
RTAL				*e*S	**Sn**	**04 41 00.4**	**-1.5**
RTAL	**Retalhuleu**	**0.89**	**98**	P	**Pn**	**04 40 49.2**	**+0.2**
RTAL	**Retalhuleu**	**0.89**	**98**	S	**Sn**	**04 41 01.5**	**-0.4**
QUEO	**Labor Ovalle**	**1.08**	**78**	*e*P	**Pn**	**04 40 52.3**	**+0.7**
QUEO				*e*S	**Sn**	**04 41 07.1**	**+0.7**
SOKI	**Kika Raxquin**	**1.18**	**82**	*e*P	**Pn**	**04 40 53.9**	**+0.9**
PCIG		**1.20**	**331**	*e*P	**Pn**	**04 40 54.1**	**+1.3**
PCIG				*e*S	**Sn**	**04 41 09.9**	**+1.3**
HUEH	**Huehuetenango**	**1.25**	**58**	*e*P	**Pn**	**04 40 55.0**	**+1.3**
HUEH				*e*S	**Sn**	**04 41 11.2**	**+0.9**
HUEH	**Huehuetenango**	**1.25**	**58**	*e*P	**Pn**	**04 40 54.8**	**+1.1**
HUEH				*e*S	**Sn**	**04 41 11.3**	**+1.0**
HUEH	**Huehuetenango**	**1.25**	**58**	*e*S	**Sn**	**04 41 10.4**	**+0.1**
HUEH	**Huehuetenango**	**1.25**	**58**	P	**Pn**	**04 40 55.4**	**+1.7**
CCIG	**Comitan**	**1.68**	**16**	*e*P	**Pn**	**04 41 00.8**	**+1.5**
CCIG				*i* S	**Sn**	**04 41 19.2**	**-1.0**
CCIG	**Comitan**	**1.68**	**16**	*e*P	**Pn**	**04 40 59.6**	**+0.2**
CCIG	**Comitan**	**1.68**	**16**	P	**Pn**	**04 41 01.0**	**+1.7**
ESSG	**Sabana Grande**	**1.74**	**99**	*e*P	**Pn**	**04 40 59.1**	**-0.9**
ESSG				*e*S	**Sn**	**04 41 21.0**	**-0.5**
FG8	**Yepocapa, Chim**	**2.02**	**101**	*e*P	Pn	04 40 58.3	-5.5
FG8				*e*S	Sn	04 41 18.8	-9.5
FG16	**Alotenango, Sa**	**2.07**	**100**	*e*P	Pn	04 40 59.9	-4.6
TGIG		**2.17**	**347**	*e*P	**Pn**	**04 41 03.8**	**-1.9**
TGIG				*e*S	**Sn**	**04 41 27.4**	**-4.3**
TGIG		**2.17**	**347**	*e*P	**Pn**	**04 41 06.1**	**+0.3**
FAME	**Alcaldia de Sa**	**2.64**	**107**	P	**Pn**	**04 41 13.7**	**+1.6**
NUBE	**Las Nubes**	**2.84**	**105**	*e*P	**Pn**	**04 41 16.4**	**+1.4**
NUBE	**Las Nubes**	**2.84**	**105**	*e*P	**Pn**	**04 41 14.6**	**-0.3**
NUBE	**Las Nubes**	**2.84**	**105**	P	**Pn**	**04 41 16.7**	**+1.7**
SBLS	**San Blas**	**3.00**	**105**	*e*P	**Pn**	**04 41 19.6**	**+2.3**
SNJE	**San Jose**	**3.01**	**105**	*e*P	**Pn**	**04 41 19.9**	**+2.6**
UXUV	**UXUV**	**3.03**	**331**	*e*P	**Pn**	**04 41 19.4**	**+2.0**
UXUV				*e*S	**Sn**	**04 41 49.8**	**-2.8**
JAYA	**Jayaque - finc**	**3.22**	**108**	*e*P	**Pn**	**04 41 21.5**	**+1.4**
JAYA	**Jayaque - finc**	**3.22**	**108**	*e*S	**Sn**	**04 41 56.8**	**-0.6**
JAYA	**Jayaque - finc**	**3.22**	**108**	P	**Pn**	**04 41 21.8**	**+1.7**
CMIG	**Matias Romero**	**3.27**	**318**	*e*P	**Pn**	**04 41 22.2**	**+1.6**
CMIG				*e*S	**Sn**	**04 41 59.4**	**+1.1**
PETF	**Flores**	**3.47**	**49**	*e*P	**Pn**	**04 41 23.6**	**+0.3**
PETF	**Flores**	**3.47**	**49**	*e*P	**Pn**	**04 41 23.3**	**0.0**
PETF	**Flores**	**3.47**	**49**	P	**Pn**	**04 41 24.0**	**+0.7**
PETF				S	**Sn**	**04 42 00.4**	**-2.8**
HUIG	**Huatulco**	**3.56**	**289**	*e*P	**Pn**	**04 41 25.8**	**+1.3**
HUIG				*i* S	**Sn**	**04 42 02.5**	**-2.9**
NEUV	**Arroyo Zacate**	**4.32**	**315**	*e*P	**Pn**	**04 41 37.0**	**+2.1**
SCIG	**Sabancuy**	**4.50**	**17**	*e*P	**Pn**	**04 41 36.7**	**-0.7**
PEIG	**Puerto Escondi**	**4.58**	**288**	*e*P	**Pn**	**04 41 39.7**	**+1.2**
PEIG				*e*S	**Sn**	**04 42 27.1**	**-3.4**
YOIG	**Yosondua**	**5.23**	**295**	*e*P	Pn	04 41 55.3	+7.6
YOIG				*e*S	**Sn**	**04 42 44.7**	**-2.2**
CXUV	**Coxquihui**	**7.26**	**320**	*e*P	**Pn**	**04 42 17.6**	**+2.4**
CXUV				*i* S	**Sn**	**04 43 38.7**	**+2.5**

*FUNV **21** 05:22:05.7, 7°.26N×71°.93W, h5km, MW3.4*
*RSNC **21** 05:22:06.7±0.0, 7°.N±4°×7°.2W±°, h0km±4km, M2.5, ML2.4*
ISC 21 05:22:01.8±1.6, 7°.21N±0°.05×71°.88W±0°.04, h5km±14km, n14, σ1^{9}71/22, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.78**	**327**	*e*S	**Sb**	**05 22 29.2**	**+0.1**
PAMC	**Pamplona, Colo**	**0.82**	**279**	P	**Pg**	**05 22 16.8**	**-0.8**
BARC	**Barichara**	**1.43**	**245**	P	**Pg**	**05 22 29.7**	**+0.5**
OCAC	**Ocana**	**1.76**	**306**	P	**Pb**	**05 22 33.5**	**-1.1**
OCAC				S	**Sn**	**05 22 55.1**	**-0.8**
RUSC	**La Rusia**	**1.77**	**223**	P	**Pg**	**05 22 36.7**	**+1.0**
RUSC				S	**Sg**	**05 23 00.2**	**+1.5**
PTBC	**PUERTO BERRIO,**	**2.64**	**256**	P	Pn	**05 22 46.1**	**+1.0**
PTBC				S	**Sb**	**05 23 19.8**	**-2.6**
SPBC	**San Pablo de B**	**2.67**	**235**	P	**Pb**	**05 22 48.8**	**-1.3**
SPBC				S	**Sb**	**05 23 22.1**	**-1.1**
MCQV	**Machiques**	**2.90**	**347**	*e*P	Pn	**05 22 50.5**	**+1.9**
MCQV				*e*S	**Sn**	**05 23 24.4**	**+0.5**
CRJC	**Cerrejon, Guaj**	**3.92**	**345**	P	Pn	**05 23 04.0**	**+1.3**
BAUV	**El Baul**	**4.18**	**65**	*e*P	Pn	**05 23 08.9**	**+2.7**
BAUV				*e*S	**Sn**	**05 23 56.1**	**+0.6**
SJCC	**San Jacinto, C**	**4.22**	**310**	P	Pn	**05 23 08.3**	**+1.5**
SJCC				S	**Sn**	**05 23 56.6**	**0.0**
BENV	**Beln**	**5.04**	**57**	*e*P	Pn	**05 23 20.1**	**+1.9**
BENV				*e*S	**Sn**	**05 24 16.4**	**-0.5**
CACV	**CAICARA DEL OR**	**5.31**	**86**	*e*P	**Pb**	**05 23 31.6**	**-3.6**
PCRV	**Puerto La Cruz**	**7.75**	**67**	*e*P	Pn	**05 23 57.5**	**+2.1**

*OSPL **21** 05:24:51.6±0.5, 17°.97N×71°.29W, h35km±3km, ML1.6*
*SDD **21** 05:24:52.6±2.1, 18°.09N×71°.31W, h30km±10km, MD2.6, ML2.0, MW2.4*
ISC 21 05:24:50.8±1.1, 17°.99N±0°.04×71°.29W±0°.05, h32km±7km, n13, σ0^{8}56/21, 11C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PODR	**Polo**	**0.18**	**2↑**	*e*Pg	**Pn**	**05 24 57.2**	**-0.3**
PODR			**↑**	*e*Sg	**Sb**	**05 25 01.3**	**-0.3**
PODR			**↑**	*e*Sg	**Sn**	**05 25 01.5**	**-0.3**
PODR	**Polo**	**0.18**	**2**	*i* P	**Pn**	**05 24 57.1**	**-0.4**
PODR				*e*S	**Sb**	**05 25 01.6**	**-0.1**
LOVI	**El Cajuil, Ovi**	**0.20**	**202**	*i* P	**Pb**	**05 24 57.7**	**+0.4**
LOVI				*e*S	**Sn**	**05 25 02.2**	**+0.2**
LOVI				IAML		05 25 02.8	
	comp=Z,89nm,0.4s						
LOBH	**Bahia de las A**	**0.36**	**250**	*i* P	**Pb**	**05 24 59.3**	**+0.1**
LOBH				*e*S	**Sb**	**05 25 05.1**	**+0.2**
LOBH				IAML		05 25 05.4	
	comp=Z,47nm,0.6s						
LODU1	**El Espartillar**	**0.40**	**334**	*i* P	**Pb**	**05 25 00.0**	**+0.1**
LODU1				*e*S	**Sb**	**05 25 06.6**	**+0.5**
LODU1				IAML		05 25 09.7	
	comp

PRA	**Prague**	**1.82**	**220**	*e*PG	**Pb**	**05 34 44.9**	**0.0**
PRA				*e*SG	**Sb**	**05 35 08.6**	**+0.3**
	comp=Z,92nm,0.8s						
PRU	**Pruhonice**	**1.84**	**217**	*e*PG	**Pg**	**05 34 46.1**	**0.0**
PRU				*e*SG	**Sb**	**05 35 09.3**	**+0.3**
	comp=Z,51nm,0.2s						
MORC	**Moravsky Berou**	**1.89**	**154**	*e*Pn	**Pn**	**05 34 44.4**	**+0.1**
	baz=336						
MORC				*e*Sg	**Sn**	**05 35 08.4**	**-0.5**
	comp=Z,85nm,0.4s,baz=336						
MORC	**Moravsky Berou**	**1.89**	**154**	*e*PN	**Pn**	**05 34 44.5**	**+0.1**
MORC				*e*SG	**Sn**	**05 35 08.5**	**-0.5**
MORC	**Moravsky Berou**	**1.89**	**154**	*e*Pn	**Pn**	**05 34 44.7**	**+0.3**
MORC				*e*Sg	**Sn**	**05 35 09.2**	**+0.3**
FBE	**Freiberg**	**1.91**	**254**	*e*Pn	**Pb**	**05 34 45.7**	**-0.7**
FBE				*e*Pg	**Pg**	**05 34 47.7**	**+0.4**
FBE				*e*Sg	**Sg**	**05 35 12.3**	**+0.3**
OKC	**Ostrava-Krasne**	**2.04**	**143**	*e*PG	**Pg**	**05 34 49.7**	**-0.1**
OKC				*e*SG	**Sb**	**05 35 14.8**	**+0.3**
	comp=Z,68nm,0.8s						
CLL	**Collm**	**2.04**	**267**	*e*Pn	**Pn**	**05 34 47.2**	**+0.8**
CLL				*e*Pg	**Pg**	**05 34 50.8**	**+0.9**
CLL				*e*Sg	**Sg**	**05 35 17.0**	**+0.6**
CLL	**Collm**	**2.04**	**267**	*e*Pn	**Pn**	**05 34 47.0**	**+0.6**
CLL				*e*Pg	**Pg**	**05 34 50.0**	**+0.1**
CLL				*e*Sg	**Sg**	**05 35 17.0**	**+0.7**
	comp=Z,54nm,0.4s						
VRAC	**Vranov**	**2.18**	**174**	Pn	**Pn**	**05 34 49.5**	**+1.1**
	comp=Z,3.0nm,0.3s,baz=352,slow=13,SNR=11						
VRAC				Lg	Lg	05 35 19.3	
	comp=Z,3.7nm,0.3s,baz=259,slow=19,SNR=6.7						
	comp=Z,6.5nm,0.3s						
VRAC	**Vranov**	**2.18**	**174**	*e*Pn	**Pn**	**05 34 48.8**	**+0.5**
	baz=357						
VRAC				*e*Sg	**Sb**	**05 35 18.5**	**-0.2**
	comp=Z,40nm,0.5s,baz=357						
TREC	**Trest**	**2.24**	**193**	*e*PN	**Pn**	**05 34 49.7**	**+0.6**
TREC				*e*PG	**Pg**	**05 34 53.3**	**-0.4**
TREC				*e*SG	**Sg**	**05 35 21.8**	**-0.9**
	comp=Z,57nm,0.3s						
ABG1	**Leinawald**	**2.37**	**259**	*e*Sg	**Sg**	**05 35 27.1**	**+0.2**
KRUC	**Moravsky**	**2.42**	**178**	*e*Pn	**Pn**	**05 34 52.1**	**+0.5**
	baz=0.1						
KRUC				*e*Sg	**Sb**	**05 35 25.7**	**+0.2**
	comp=Z,41nm,0.6s,baz=0.1						
KRUC	**Moravsky**	**2.42**	**178**	*e*PN	**Pn**	**05 34 52.2**	**+0.6**
KRUC				*e*SG	**Sb**	**05 35 25.8**	**+0.2**
ZVC	**Zvikov**	**2.43**	**214**	*e*SG	**Sb**	**05 35 27.3**	**+1.5**
	comp=Z,48nm,0.5s						
SCHF	**Schoenfels**	**2.56**	**253**	*e*Sg	**Sg**	**05 35 32.2**	**-0.7**
OJC	**Ojcow**	**2.58**	**118**	*e*Pg	**Pg**	**05 35 01.3**	**+1.2**
OJC				*e*Sg	**Sg**	**05 35 35.4**	**+1.8**
OJC	**Ojcow**	**2.58**	**118**	*e*Pn	**Pn**	**05 34 54.5**	**+0.8**
OJC				*e*Pg	**Pg**	**05 35 01.4**	**+1.2**
OJC				*e*Sg	**Sg**	**05 35 34.9**	**+1.4**
TANN	**Tannenbergstha**	**2.62**	**248**	*e*Pn	**Pn**	**05 34 55.2**	**+0.8**
TANN				*e*Pg	**Pg**	**05 35 02.2**	**+1.2**
TANN				*e*Sg	**Sg**	**05 35 34.1**	**+1.9**
WERD	**Werda**	**2.70**	**249**	*e*Pn	**Pn**	**05 34 55.5**	**+0.1**
WERD				*e*Pg	**Pg**	**05 35 02.1**	**-0.4**
WERD				*e*Sg	**Sg**	**05 35 37.5**	**+0.1**
JAVC	**Velka Javorina**	**2.77**	**160**	*e*Pn	**Pn**	**05 34 56.7**	**+0.2**
	comp=Z,30nm,0.6s,baz=343						
JAVC				*e*Sg	**Sb**	**05 35 36.2**	**+0.4**
	comp=Z,30nm,0.6s,baz=343						
KHC	**Kasperske Hory**	**2.91**	**217**	*e*PN	**Pn**	**05 35 00.0**	**+1.7**
KHC				*e*PG	**Pg**	**05 35 05.3**	**-1.2**
KHC				*e*SN	**Sn**	**05 35 32.9**	**-1.1**
KHC				*e*SG	**Sg**	**05 35 42.8**	**-1.3**
	comp=Z,34nm,0.5s						
CKRC	**Cesky Krumlov**	**2.94**	**206**	*e*PN	**Pn**	**05 35 00.6**	**+1.9**
CKRC				*e*PG	**Pg**	**05 35 06.1**	**-1.0**
CKRC				*e*SG	**Sb**	**05 35 42.0**	**+1.5**
	comp=Z,34nm,0.4s						
MOX	**Moxa**	**3.04**	**256**	*e*Pg	**Pg**	**05 35 09.8**	**+0.7**
ROTZ	**Rotzenmuhle**	**3.09**	**238**	*e*Pn	**Pn**	**05 35 02.0**	**+1.2**
GEC2	**GERESS Array S**	**3.10**	**213**	*e*Pg	**Pg**	**05 35 08.9**	**-1.3**
GERES	**GERESS Array B**	**3.10**	**213**	Pn	**Pn**	**05 35 02.4**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=34,slow=15,SNR=16						
GERES				Sn	**Sn**	**05 35 38.3**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=35,slow=31,SNR=4.9						
GERES				Lg	Lg	05 35 47.9	
	comp=Z,1.0nm,0.3s,baz=33,slow=30,SNR=9.5						
	comp=Z,1.2nm,0.3s						
NIE	**Niedzica**	**3.31**	**127**	*e*Pg	**Pg**	**05 35 15.0**	**+0.8**
NIE				*e*Sg	**Sg**	**05 35 57.9**	**+0.8**
CONA	**Conrad Observa**	**3.56**	**184**	*i* Pn	**Pn**	**05 35 08.7**	**+1.4**
	comp=Z,1.0nm,0.2s						
CONA				*e*Sg	**Sg**	**05 36 04.5**	**-0.6**
	comp=Z,47nm,0.5s						
RONA	**Rosalia, Austr**	**3.78**	**180**	*i* Pn	**Pn**	**05 35 11.6**	**+1.3**
	comp=Z,0.4nm,0.2s						
RONA				*i* Sg	**Sg**	**05 36 10.7**	**-1.5**
	comp=Z,8.0nm,0.3s						
MOA	**Molln**	**3.85**	**200**	*i* Pn	**Pn**	**05 35 11.9**	**+0.6**
	comp=Z,1.7nm,0.2s						
MOA				*e*Sg	**Sg**	**05 36 13.7**	**-0.8**
	comp=Z,36nm,0.7s						
BIOA	**Bad Ischl, Aus**	**4.15**	**205**	*i* Sg	**Sg**	**05 36 22.7**	**-1.4**
	comp=Z,30nm,0.4s						
ARSA	**Arzberg**	**4.26**	**187**	*e*Sg	**Sg**	**05 36 26.1**	**-1.4**
	comp=Z,9.2nm,0.4s						
LESA	**Schwarzleotal**	**4.68**	**211**	*e*Sg	**Sg**	**05 36 39.4**	**-1.6**
	comp=Z,9.8nm,0.3s						
KBA	**Koelnbreinsper**	**4.79**	**204**	*i* Pn	**Pn**	**05 35 25.3**	**+0.9**
	comp=Z,1.2nm,0.4s						
KBA				*e*Sg	**Sg**	**05 36 44.4**	**-0.4**
	comp=Z,10nm,0.4s						
SOKA	**Soboth**	**4.87**	**190**	*e*Sg	**Sg**	**05 36 45.8**	**-1.3**
	comp=Z,5.3nm,0.6s						
OBKA	**Obir**	**5.10**	**193**	Sg	**Sg**	**05 36 55.3**	**+0.9**
	comp=Z,11nm,0.6s						
MYKA	**Terra Mystica**	**5.14**	**200**	*e*Sg	**Sg**	**05 36 54.9**	**-1.0**
	comp=Z,10nm,0.6s						
WATA	**Walderalm**	**5.15**	**218**	*i* Sg	**Sg**	**05 36 56.6**	**+0.6**
	comp=Z,4.0nm,0.3s						
WTTA	**Wattenberg**	**5.18**	**217**	*e*Sg	**Sg**	**05 36 56.9**	**-0.2**
	comp=Z,9.4nm,0.5s						
DEL	**Delary**	**5.20**	**345**	*e*	**Pn**	**05 35 28.4**	**-1.3**
	baz=144,slow=10						
DEL				*i* P	Pb	05 35 30.0	-12
DEL				*i* S	**Sn**	**05 36 26.0**	**-4.3**
DEL				IAML		05 36 33.8	
	comp=Z,3.0nm,0.4s						
ABTA	**Abfaltersbach**	**5.33**	**209**	Sg	**Sg**	**05 37 01.6**	**-0.4**
	comp=Z,19nm,1.0s						
FETA	**Feichten**	**5.74**	**221**	*e*Sg	**Sg**	**05 37 18.3**	**+3.2**
	comp=Z,4.4nm,0.5s						
FABU	**Falkenberg**	**5.91**	**341**	P	**Pn**	**05 35 40.0**	**+0.6**
FABU				S	**Sn**	**05 36 44.7**	**-3.1**
FABU	**Falkenberg**	**5.91**	**341**	P	**Pn**	**05 35 40.0**	**+0.6**
FABU				*i*		05 35 59.1	
FABU				*i* S	**Sn**	**05 36 44.3**	**-3.5**
FABU				S	Sb	05 36 44.7	-21
FABU				IAML		05 36 49.1	
	comp=Z,2.5nm,0.4s						
GNOU	**Gnosjoe**	**6.00**	**347**	P	**Pn**	**05 35 41.6**	**+0.8**
GNOU	**Gnosjoe**	**6.00**	**347**	P	**Pn**	**05 35 41.6**	**+0.8**
DAVOX	**Davos/Dischmat**	**6.29**	**224**	Pn	**Pn**	**05 35 46.5**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=41,slow=20,SNR=1.6						
DAVOX				Sn	**Sn**	**05 36 57.9**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=52,slow=19,SNR=1.7						
DAVOX				Lg	Lg	05 37 29.4	
	comp=Z,0.8nm,0.3s,baz=18,slow=20,SNR=4.1						
	comp=Z,1.3nm,0.4s						
BORU	**Boraas**	**6.49**	**343**	P	**Pn**	**05 35 49.0**	**+1.5**
BORU				S	**Sn**	**05 37 02.5**	**+0.3**
BORU	**Boraas**	**6.49**	**343**	P	**Pn**	**05 35 49.0**	**+1.5**
BORU				S	**Sn**	**05 37 02.5**	**+0.3**
FKPU	**Falk**	**6.85**	**349**	P	**Pn**	**05 35 53.9**	**+1.5**
FKPU	**Falk**	**6.85**	**349**	P	**Pn**	**05 35 53.9**	**+1.5**
AKASG	**Malin Array Be**	**8.21**	**90**	Pn	**Pn**	**05 36 12.0**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=283,slow=12,SNR=1.7						
	comp=Z,0.3nm,0.3s						
HFS	**Hagfors**	**8.79**	**352**	Pn	**Pn**	**05 36 19.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=166,slow=15,SNR=2.4						
HFS				Sn	**Sn**	**05 37 56.9**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=169,slow=26,SNR=1.8						
	comp=Z,2.1nm,0.7s						
NOA	**NORSAR Array B**	**9.98**	**346**	Pn	**Pn**	**05 36 35.9**	**+0.5**
	baz=156,slow=12,SNR=1.8						
	comp=Z,0.4nm,0.8s						
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	**05 36 52.7**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=206,slow=13,SNR=6.7						
FINES				Sn	**Sn**	**05 38 55.4**	**-6.1**
	comp=Z,0.2nm,0.3s,baz=215,slow=22,SNR=2.0						
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**18.64**	**10**	P	**Pn**	**05 38 30.0**	**+0.1**
	comp=Z,2.8nm,1.0s,baz=198,slow=11,SNR=6.5						

IDC 21 05:35:23.6±8.0, 10°29'N×91°49'E, h0km, mb3.4/3, mbtmp3.4/3, MS2.9/1, Error ellipse: s-maj=397.5km s-min=31.4km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**10.48**	**135**	LR	LR	05 42 31.6	
	comp=Z,66nm,19.2s,baz=343,slow=40						
H08S3	**Diego Garcia H**	**25.98**	**227**	T	T	06 08 18.5	
	baz=47,slow=75,SNR=487						
H08S2	**Diego Garcia H**	**25.98**	**227**	T	T	06 08 18.9	
	baz=47,slow=75,SNR=224						
H08S1	**Diego Garcia H**	**26.00**	**227**	T	T	06 08 26.7	
	baz=47,slow=75,SNR=216						
MKAR	**Makanchi Array**	**37.21**	**350**	P	P	05 42 36.5	-0.1
	0.3nm,0.6s,baz=172,slow=7.4,SNR=3.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**51.79**	**125**	P	P	05 44 33.5	-0.1
	0.3nm,0.5s,baz=305,slow=8.6,SNR=6.2						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**53.47**	**130**	P	P	05 44 45.9	-0.1
	0.3nm,0.7s,baz=307,slow=6.8,SNR=4.5						
	0.3nm,0.7s						
H04N2	**CROZET ISLANDS**	**66.50**	**209**	T	T	06 58 58.9	
	baz=44,slow=75,SNR=226						
H04N1	**CROZET ISLANDS**	**66.51**	**209**	T	T	06 58 58.5	
	baz=44,slow=75,SNR=268						
H04N3	**CROZET ISLANDS**	**66.52**	**209**	T	T	06 58 55.2	
	baz=44,slow=75,SNR=265						

*IDC **21** 05:50:51.6±1.0, 41°.60N×139°.94E, h155km±10km, mb3.4/11, mbtmp3.8/14, Error ellipse: s-maj=16.5km s-min=9.8km az=120.0*
*NEIC **21** 05:50:52.5±1.3, 41°.66N±0°.08×139°.9E±0°.2, h161km±8km, mb4.2/10, Error ellipse: s-maj=18.2km s-min=10.1km az=110.0*
*JMA **21** 05:50:53.1±0.1, 41°.6N±0°.4×140°.0E±0°.8, h163km±1km, MV3.3/40, SW OFF HOKKAIDO*

ISC 21 05:50:52.7±0.7, 41°.60N±0°.04×139°.97E±0°.06, h166km±5km, n55, σ0°70/67, mb3.8/17, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOMM	**Oshimamatsumae**	**0.08**	**160**	*i* P	**Pn**	**05 51 14.8**	**0.0**
JOMM				S	**Sn**	**05 51 31.2**	**-0.3**
JSR	**Shiriuchi**	**0.34**	**102**	*i* P	**Pn**	**05 51 15.3**	**0.0**
JYM2	**Yakumo 2**	**0.59**	**30**	P	**Pn**	**05 51 16.5**	**+0.2**
JYM2				S	**Sn**	**05 51 34.3**	**-0.2**
JOSM	**Okushiri--Mats**	**0.60**	**323**	*i* P	**Pn**	**05 51 16.4**	**0.0**
JOSM				S	**Sn**	**05 51 33.7**	**-0.9**
JSI2	**Shiura 2**	**0.64**	**148**	*i* P	**Pn**	**05 51 16.9**	**+0.3**
JSI2				S	**Sn**	**05 51 35.1**	**+0.3**
JHST	**Hiyamasetana**	**0.82**	**355**	*e*S	**Sn**	**05 51 36.8**	**-0.1**
JOT	**Ohata**	**0.84**	**105**	P	**Pn**	**05 51 17.7**	**-0.1**
JKB	**Kayabe**	**0.84**	**70**	P	**Pn**	**05 51 17.8**	**0.0**
JKB				*e*S	**Sn**	**05 51 36.9**	**-0.2**
JIW	**Iwasaki**	**1.01**	**178**	*i* P	**Pn**	**05 51 19.6**	**+0.4**
JIW				*e*S	**Sn**	**05 51 39.6**	**+0.2**
JSH	**Shimam**	**1.04**	**3**	*i* P	**Pn**	**05 51 19.5**	**+0.2**
JSH				*e*S	**Sn**	**05 51 39.2**	**-0.7**
JTM	**Tenmabayashi**	**1.16**	**134**		**Pn**	**05 51 20.1**	**-0.3**
JTM	**Tenmabayashi**	**1.16**	**134**	*i* P	**Pn**	**05 51 20.4**	**+0.1**
JTM				*e*S	**Sn**	**05 51 41.0**	**-0.6**
JNB	**Noboribetsu**	**1.18**	**42**	*i* P	**Pn**	**05 51 20.2**	**-0.2**
JAH	**Hinai**	**1.50**	**160**	*i* P	**Pn**	**05 51 23.9**	**+0.3**
JAH				*e*S	**Sn**	**05 51 47.9**	**+0.7**
JEW	**Eniwo**	**1.65**	**41**	P	**Pn**	**05 51 25.8**	**+0.8**
JEW				S	**Sn**	**05 51 51.1**	**+1.0**
JANG	**Nango**	**1.70**	**136**	P	**Pn**	**05 51 24.9**	**-0.6**
JNBK	**Urakawa-nobuka**	**2.18**	**71**	P	**Pn**	**05 51 31.0**	**+0.2**
JOM	**Ohasama**	**2.35**	**154**	P	**Pn**	**05 51 32.6**	**-0.3**
ERM	**Erimo**	**2.42**	**79**		**Pn**	**05 51 33.8**	**+0.2**
ASAJ	**Asahikawa**	**3.17**	**37**	P	**Pn**	**05 51 43.0**	**+0.3**
	49nm,0.4s,baz=234,slow=12,SNR=78						
ASAJ				S	**Sn**	**05 52 19.5**	**-2.2**
	19nm,0.5s,baz=322,slow=19,SNR=6.6						
JKA	**Kamikawa-asahi**	**3.17**	**37**		**Pn**	**05 51 42.7**	**0.0**
JMM	**Marumori**	**3.79**	**170**		**Pn**	**05 51 50.2**	**-0.4**
MJB9	**Matsu-Tunnel**	**5.23**	**196**		**Pn**	**05 52 10.2**	**+0.7**
MAJO	**Matsushiro**	**5.24**	**196**		**Pn**	**05 52 09.8**	**+0.3**
MJAR	**Matsushiro Arr**	**5.24**	**196**		**Pn**	**05 52 10.6**	**+1.1**
MJAR	**Matsushiro Arr**	**5.24**	**196**	P	**Pn**	**05 52 09.6**	**+0.1**
	4.4nm,0.6s,baz=5.4,slow=13,SNR=16						
MJAR				S	**Sn**	**05 53 07.3**	**-2.3**
	3.8nm,0.3s,baz=32,slow=26,SNR=5.7						
YSS	**Yuzhno-Sakhali**	**5.71**	**20**		**Pn**	**05 52 14.6**	**-1.0**
JGF	**Kuroka**	**6.33**	**200**	Pn	**Pn**	**05 52 24.8**	**+0.8**
USRK	**Ussuriysk Ar.**	**6.41**	**297**	P	**Pn**	**05 52 25.0**	**+0.1**
	6.3nm,0.9s,baz=102,slow=14,SNR=4.5						
ZALV	**Zalesovo Beam**	**38.11**	**308**	PcP	**PcP**	**06 00 06.5**	**0.0**
	1.0nm,0.4s,baz=103,slow=4.6,SNR=3.8						
MKAR	**Makanchi Array**	**40.88**	**297**	P	**P**	**05 58 17.8**	**-0.4**
MKAR	**Makanchi Array**	**40.88**	**297**	P	**P**	**05 58 18.1**	**-0.1**
	0.8nm,0.5s,baz=83,slow=9.5,SNR=6.8						
	0.8nm,0.5s						
M16K	**Timber Creek**	**41.03**	**40**	P	**P**	**05 58 19.2**	**0.0**
G18K	**Tagagawik**	**41.35**	**33**	P	**P**	**05 58 21.4**	**-0.4**
G18K				IAmb	IAmb	05 58 29.8	
	comp=Z,8.8nm,1.4s						
D19K	**Kuna River**	**41.84**	**29**	P	**P**	**05 58 25.2**	**-0.5**
D19K				IAmb	IAmb	05 59 04.0	
	comp=Z,16nm,1.4s						
L18K	**Granite Mounta**	**42.09**	**39**	P	**P**	**05 58 29.1**	**+1.2**
L18K				IAmb	IAmb	05 59 04.8	
	comp=Z,9.7nm,1.4s						
KURBB	**Kurchatov Arra**	**42.41**	**304**	P	**P**	**05 58 30.1**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=79,slow=9.0,SNR=5.4						
	comp=Z,1.2nm,0.4s						
IMAR	**Indian Mountai**	**43.36**	**33**	P	**P**	**05 58 37.9**	**-0.2**
ILAR	**Eielson Array**	**46.30**	**35**	P	**P**	**05 59 01.6**	**+0.4**
	comp=Z,9nm,0.7s,baz=274,slow=6.6,SNR=10						
	comp=Z,0.9nm,0.7s						
BVAR	**Borovoye Array**	**46.75**	**309**	P	**P**	**05 59 05.0**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=35,slow=8.0,SNR=2.5						
	comp=Z,1.2nm,0.5s						
SCRK	**Sand Creek**	**47.67**	**35**	P	**P**	**05 59 12.5**	**+0.5**
SCRK				IAmb	IAmb	05 59 12.8	
	comp=Z,4.8nm,0.6s						
KK31	**Karatay Array**	**49.98**	**296**	P	**P**	**05 59 28.8**	**-0.9**
KK31				IAmb	IAmb	05 59 29.9	
	comp=Z,4.2nm,1.4s						
KKAR	**Karatay Array**	**49.98**	**296**	P	**P**	**05 59 28.8**	**-0.9**
WRA	**Warramunga Arr**	**61.45**	**186**	P	**P**	**06 00 49.9**	**-1.7**
WRA	**Warramunga Arr**	**61.45**	**186**	P	**P**	**06 00 51.1**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=5.0,slow=7.4,SNR=6.1						
	comp=Z,0.2nm,0.4s						
WR8	**Warramunga Arr**	**61.45**	**186**	P	**P**	**06 00 51.2**	**-0.3**
WR8				IAmb	IAmb	06 00 54.2	
	comp=Z,7.5nm,1.4s						
FINES	**FINESS Array B**	**64.27**	**331**	P	**P**	**06 01 09.2**	**-0.4**
	comp=Z,2.0nm,0.9s,baz=35,slow=6.6,SNR=8.7						
	comp=Z,2.0nm,0.9s						
AS31	**Alice Springs**	**65.18**	**186**	P	**P**	**06 01 16.9**	**+0.9**
ASAR	**Alice Springs**	**65.18**	**186**	P	**P**	**06 01 16.6**	**+0.6**
SUMG	**Summit**	**66.12**	**359**	P	**P**	**06 01 22.5**	**+0.7**
HFS	**Hagfors**	**69.48**	**334**	P	**P**	**06 01 42.2**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=34,slow=4.9,SNR=11						
	comp=Z,1.5nm,0.6s						
NOA	**NORSAR Array B**	**69.55**	**336**	P	**P**	**06 01 43.0**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=50,slow=5.9,SNR=1.3						
	comp=Z,0.5nm,0.7s						
NVAR	**Mina Array Bea**	**73.16**	**53**	P	**P**	**06 02 06.3**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=314,slow=6.7,SNR=6.4						
	comp=Z,0.6nm,0.7s						
PDAR	**Pinedale Array**	**75.26**	**46**	P	**P**	**06 02 17.8**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=265,slow=1.6,SNR=6.8						
	comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**88.19**	**52**	P	**P**	**06 03 25.9**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=267,slow=2.5,SNR=2.3						
	comp=Z,0.2nm,0.5s						

*CATAC **21** 05:55:03.0±0.3, 13°.N±2°×8°.9W±°, h29km±2km, M4.3/31, MLv4.3/31, Error ellipse: s-maj=4.6km s-min=2.4km az=33.0, confirmed*
*SNET **21** 05:55:04.5±1.2, 13°.18N×89°.41W, h52km, ML4.0*
*GCG **21** 05:55:04.6±0.7, 13°.17N×89°.55W, h45km±9km, MD4.3*

ISC 21 05:55:03.4±1.4, 13°.04N±0°.06×89°.50W±0°.04, h42km±17km, n108, σ0°58/129, 23C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.48**	**22**	*e*P	**Pn**	**05 55 14.0**	**0.0**
LALI				*e*S	**Sn**	**05 55 21.9**	**+0.5**
LALI	**Alcalda de L**	**0.48**	**22**	*e*P	**Pn**	**05 55 13.9**	**0.0**
LALI				*e*S	**Sn**	**05 55 22.3**	**+0.9**
LALI	**Alcalda de L**	**0.48**	**22**	⇓P	**Pn**	**05 55 14.0**	**0.0**
JAYA	**Jayaque - finc**	**0.61**	**5**	*e*P	**Pn**	**05 55 15.4**	**-0.5**
JAYA				*e*S	**Sn**	**05 55 23.9**	**-0.9**
JAYA	**Jayaque - finc**	**0.61**	**5**	*e*P	**Pn**	**05 55 15.4**	**-0.5**
JAYA				*e*S	**Sn**	**05 55 23.7**	**-1.0**
JAYA	**Jayaque - finc**	**0.61**	**5**	S	**Sn**	**05 55 24.8**	**+0.1**
JAYA	**Jayaque - finc**	**0.61**	**5**	⇑P	**Pn**	**05 55 15.4**	**-0.5**
PANCS	**Alcalda de**	**0.65**	**29**	P	**Pn**	**05 55 16.0**	**-0.3**
PANCS	**Alcalda de**	**0.65**	**29**	S	**Sn**	**05 55 24.9**	**-0.5**
LOMA	**Loma Larga**	**0.68**	**28**	*e*P	**Pn**	**05 55 16.4**	**-0.4**
LOMA				*e*S	**Sn**	**05 55 26.7**	**+0.3**
LOMA	**Loma Larga**	**0.68**	**28**	⇑P	**Pn**	**05 55 16.4**	**-0.4**
PMON	**Piamonte**	**0.69**	**15**	*e*P	**Pn**	**05 55 16.4**	**-0.5**
PMON	**Piamonte**	**0.69**	**15**	S	**Sn**	**05 55 27.3**	**+0.7**
PMON	**Piamonte**	**0.69**	**15**	⇑P	**Pn**	**05 55 16.5**	**-0.5**
UEES	**Universidad Ev**	**0.72**	**21**	*e*P	**Pn**	**05 55 16.9**	**-0.3**
UEES				*e*S	**Sn**	**05 55 27.1**	**-0.1**
UEES	**Universidad Ev**	**0.72**	**21**	⇑P	**Pn**	**05 55 16.9**	**-0.3**
UTEC	**Universidad Te**	**0.72**	**24**	*e*P	**Pn**	**05 55 16.8**	**-0.4**
UTEC				*e*S	**Sn**	**05 55 26.7**	**-0.4**
UTEC	**Universidad Te**	**0.72**	**24**	⇑P	**Pn**	**05 55 16.9**	**-0.4**
LFRS	**El Faro**	**0.72**	**36**	*e*P	**Pn**	**05 55 16.9**	**-0.4**
BOQS	**Boqueron**	**0.72**	**17**	*e*P	**Pn**	**05 55 17.0**	**-0.4**
UESS	**Universidad de**	**0.74**	**23**	*e*P	**Pn**	**05 55 17.2**	**-0.3**
PIC2	**El Picacho**	**0.74**	**19**	*e*P	**Pn**	**05 55 17.1**	**-0.5**
IGN	**Direccin Gen**	**0.74**	**26**	*e*P	**Pn**	**05 55 17.2**	**-0.4**
IGN				*e*P		05 55 17.4	
IGN	**Direccin Gen**	**0.74**	**26**	P	**Pn**	**05 55 17.4**	**-0.1**
IGN	**Direccin Gen**	**0.74**	**26**	S	**Sn**	**05 55 27.7**	**0.0**
UDBS	**Universidad Do**	**0.75**	**27**	*e*P	**Pn**	**05 55 17.3**	**-0.3**
UDBS				*e*S	**Sn**	**05 55 27.9**	**-0.1**
CEDA	**San Andres**	**0.76**	**8**	*e*P	**Pn**	**05 55 17.4**	**-0.4**
CEDA	**San Andres**	**0.76**	**8**	S	**Sn**	**05 55 28.6**	**+0.3**
CEDA	**San Andres**	**0.76**	**8**	⇑P	**Pn**	**05 55 17.5**	**-0.4**
CEVE	**Cerro Verde**	**0.79**	**351**	*e*P	**Pn**	**05 55 18.0**	**-0.3**
CEVE				*e*S	**Sn**	**05 55 29.6**	**+0.5**
CEVE	**Cerro Verde**	**0.79**	**351**	⇑P	**Pn**	**05 55 18.1**	**-0.3**
LFU	**La Fuente**	**0.80**	**28**	*e*P	**Pn**	**05 55 18.2**	**-0.1**
SBLS	**San Blas**	**0.80**	**352**	*e*P	**Pn**	**05 55 18.2**	**-0.4**
SBLS				*e*S	**Sn**	**05 55 29.5**	**+0.1**
LBRS	**Las Brisas**	**0.82**	**33**	*e*P	**Pn**	**05 55 18.6**	**-0.1**
SNJE	**San Jose**	**0.83**	**353**	*e*P	**Pn**	**05 55 18.4**	**-0.5**
SNJE				*e*S	**Sn**	**05 55 29.9**	**-0.1**
TECO	**Alcaldia de Te**	**0.86**	**55**	*e*P	**Pn**	**05 55 18.3**	**-0.8**
TECO				*e*S	**Sn**	**05 55 30.0**	**-0.5**
TECO	**Alcaldia de Te**	**0.86**	**55**	S	**Sn**	**05 55 30.7**	**+0.2**
TECO	**Alcaldia de Te**	**0.86**	**55**	⇑P	**Pn**	**05 55 18.3**	**-0.8**
SNVI	**San Vicente**	**0.86**	**

comp=Z,731nm,18.0s,baz=332,slow=33
TNTI Ternate 8.04 174 Pn **Pn** **05 59 01.9 +0.2**
KKM Kota Kinabalu 10.60 256 Pn **Pn** **05 59 36.3 -0.6**
FAKI Fak Fak 12.98 154 Pn **Pn** **06 00 08.8 -0.6**
KAPI Kappang 15.32 206 LR LR 06 07 03.9
comp=Z,96nm,20.9s,baz=37,slow=38
SBUM Sibu 15.58 247 **Pn** **06 00 42.6 -1.9**
KNMB Chin-men Tao 17.39 334 Pn **Pn** **06 01 05.4 -1.9**
KNMB IAmb IAmb 06 01 14.2
comp=Z,47nm,1.0s
KSM Kuching 17.73 247 **Pn** **06 01 12.2 +0.7**
JOW Kunigami 17.99 5 LR LR 06 07 31.7
comp=Z,1μm,21.7s,baz=150,slow=34
JAY Jayapura 18.07 128 LR LR 06 06 31.5
comp=Z,292nm,21.6s,baz=300,slow=31
GUMO Guam 18.59 74 LR LR 06 06 58.1
comp=Z,115nm,19.8s,baz=252,slow=32
QIZ Qiongzhong 19.10 304 P **P** **06 01 26.6 -0.6**
QIZ S **S** **06 05 02.9 +0.9**
QIZ LR LR
comp=N,320nm,13.5s
QIZ LR LR
comp=E,280nm,11.9s
QIZ LR LR
comp=Z,410nm,11.3s
MTN Manton Dam 22.01 168 P **P** **06 01 57.7 -1.0**
MTN IAmb IAmb 06 02 05.3
comp=Z,52nm,1.9s
NJ2 Nanjing 24.19 344 *eP* **P** **06 02 21.8 +1.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
KNRA Kununurra 24.44 175 P **P** **06 02 22.6 -0.3**
KNRA IAmb IAmb 06 02 33.9
comp=Z,13nm,0.8s
IPM Ipoh 25.70 262 P **P** **06 02 34.5 0.0**
IPM IAmb IAmb 06 02 40.5
comp=Z,21nm,1.0s
KULM Kulim 25.92 264 P **P** **06 02 37.0 +0.5**
KULM IAmb IAmb 06 02 50.0
comp=Z,15nm,1.1s
FITZ Fitzroy Crossi 26.77 182 P **P** **06 02 43.8 -0.2**
PSI Prapat 28.10 259 LR LR 06 18 08.1
comp=Z,37nm,18.5s,baz=89,slow=44
RPSI Rantau Prapat 28.12 259 **P** **06 02 56.4 +0.1**
RPSI IAmb IAmb 06 03 02.6
comp=Z,20nm,1.2s
CMAR Chiang Mai Arr 28.43 293 P **P** **06 02 58.9 -0.2**
CMAR Chiang Mai Arr 28.43 293 P **P** **06 03 00.9 +1.9**
comp=Z,2.1nm,0.6s,baz=107,slow=6.5,SNR=18
CMAR PcP **PcP** **06 06 10.7 -0.2**
comp=Z,0.5nm,0.3s,baz=101,slow=3.8,SNR=1.4
CMAR LR LR 06 15 59.8
comp=Z,108nm,18.2s,baz=115,slow=40
comp=Z,2.1nm,0.6s
KSRS Korea Array 28.53 2 P **P** **06 02 59.8 +0.1**
comp=Z,1.8nm,0.7s,baz=167,slow=10,SNR=3.8
comp=Z,1.8nm,0.7s
PZH PanZhiHua 29.35 310 P **P** **06 03 09.8 +2.6**
WB0 Warramunga Arr 29.45 165 P **P** **06 03 06.7 -1.2**
WB0 IAmb IAmb 06 03 50.1
comp=Z,27nm,1.8s
MJAR Matsushiro Arr 29.56 19 P **P** **06 03 07.6 -1.2**
MJAR Matsushiro Arr 29.56 19 LR LR 06 16 24.9
comp=Z,56nm,18.2s,baz=186,slow=39
WRA Warramunga Arr 29.60 165 P **P** **06 03 07.3 -2.1**
WRA Warramunga Arr 29.60 165 P **P** **06 03 08.9 -0.4**
comp=Z,0.3nm,0.3s,baz=345,slow=9.5,SNR=5.6
WRA PcP **PcP** **06 06 14.3 +0.6**
comp=Z,0.6nm,0.8s,baz=339,slow=3.4,SNR=2.8
WRA LR LR 06 17 36.3
comp=Z,58nm,18.6s,baz=64,slow=41
comp=Z,0.3nm,0.3s
PSA00 Pilbara Seismi 30.91 192 P **P** **06 03 21.2 +0.3**
PSA00 IAmb IAmb 06 04 03.9
comp=Z,37nm,1.4s
BJI Beijing 32.43 345 P **P** **06 03 33.8 -0.2**
BJI pmax pmax
comp=Z,3.0nm,1.0s
AS31 Alice Springs 33.08 168 P **P** **06 03 39.8 -0.2**
ASAR Alice Springs 33.09 168 P **P** **06 03 40.4 +0.4**
ASAR Alice Springs 33.09 168 P **P** **06 03 40.2 +0.2**
comp=Z,0.5nm,0.3s,baz=351,slow=6.7,SNR=11
ASAR PcP **PcP** **06 06 22.9 -0.2**
comp=Z,0.4nm,0.6s,baz=347,slow=2.9,SNR=2.3
ASAR LR LR 06 17 50.2
comp=Z,64nm,21.0s,baz=86,slow=37
comp=Z,0.5nm,0.3s
HHC Hu-ho-hao-te 34.55 340 *eP* **P** **06 03 53.8 +1.1**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,70nm,7.0s
USRK Ussuriysk Ar. 35.56 7 P **P** **06 04 02.1 +0.9**
comp=Z,10nm,0.8s,baz=194,slow=8.1,SNR=13
comp=Z,10nm,0.8s
MDJ Mudanjiang 35.76 4 P **P** **06 04 03.8 +0.9**
MDJ pmax pmax
comp=Z,16nm,1.1s
XLT XiLinHaoTe 36.11 347 *eP* **P** **06 04 06.6 +0.6**
XLT pmax pmax
comp=Z,14nm,0.8s
BRDH Bariadhala 36.18 296 LR LR 06 22 10.0
comp=Z,70nm,18.4s,baz=132,slow=41
SHL Shillong 36.90 301 P **P** **06 04 12.9 -0.2**
SHL IAmb IAmb 06 04 30.8
comp=Z,14nm,1.0s
ASAJ Asahikawa 37.84 19 LR LR 06 17 28.3
comp=Z,49nm,21.4s,baz=174,slow=32
GTA Gaotai 38.72 326 *eP* **P** **06 04 29.5 +1.3**
GTA pP pP 06 04 35.3 -2.6
GTA pmax pmax
comp=Z,4.0nm,1.5s
GTA LR LR
comp=Z,220nm,15.3s
HEH HeiHe 41.30 1 *eP* **P** **06 04 50.0 +0.6**
HEH pmax pmax
comp=Z,14nm,0.6s
EVN Everest 41.97 302 **P** **06 04 54.7 -1.2**
SONM Songino Array 42.46 340 P **P** **06 04 58.4 -0.6**
comp=Z,0.5nm,0.5s,baz=162,slow=7.3,SNR=4.9
comp=Z,0.5nm,0.5s
STKA Stephens Creek 42.96 161 P **P** **06 05 03.8 +0.7**
comp=Z,1.9nm,0.3s,baz=341,slow=7.2,SNR=8.7
comp=Z,1.9nm,0.3s
PETK Petropavlovsk- 50.84 24 P **P** **06 06 05.3 +0.9**
comp=Z,2.9nm,0.8s,baz=221,slow=7.0,SNR=3.7
comp=Z,2.9nm,0.8s
YAK Yakutsk 53.16 2 LR LR 06 31 54.9
comp=Z,32nm,18.1s,baz=174,slow=39
MKAR Makanchi Array 53.33 323 P **P** **06 06 22.9 -0.2**
comp=Z,9.9nm,0.8s,baz=122,slow=7.7,SNR=47
MKAR PcP **PcP** **06 07 30.2 -0.1**
comp=Z,0.8nm,0.5s,baz=133,slow=4.0,SNR=5.2
MKAR LR LR 06 30 55.1
comp=Z,90nm,20.1s,baz=140,slow=38
comp=Z,9.9nm,0.8s
KDJ Kajisay 54.50 316 P **P** **06 06 31.9 0.0**
KDJ IAmb IAmb 06 06 33.2
comp=Z,5.4nm,0.9s
NIL Nilore 54.77 305 P **P** **06 06 33.3 -0.5**
BOOM Boomskoye usch 55.49 316 P **P** **06 06 38.6 -0.5**
BOOM IAmb IAmb 06 06 53.9
comp=Z,4.8nm,1.2s
ZAA0 Zalesovo Array 56.01 332 P **P** **06 06 41.0 -1.3**
ZALV Zalesovo Beam 56.01 332 **P** **06 06 41.0 -1.3**
ZALV Zalesovo Beam 56.01 332 P **P** **06 06 41.3 -1.1**
comp=Z,3.5nm,0.8s,baz=116,slow=6.8,SNR=12
ZALV LR LR 06 34 22.8
comp=Z,42nm,18.1s,baz=71,slow=40
comp=Z,3.5nm,0.8s
AAK Ala-Archa 56.53 316 LR LR 06 33 04.2
comp=Z,94nm,20.4s,baz=94,slow=38
SEY Seymchan 57.15 14 LR LR 06 34 08.3
comp=Z,29nm,18.0s,baz=154,slow=39
KURK Kurchatov 57.40 326 **P** **06 06 51.4 -0.9**
KURBB Kurchatov Arra 57.41 326 P **P** **06 06 51.9 -0.4**
comp=Z,7.4nm,0.7s,baz=126,slow=6.4,SNR=51
comp=Z,7.4nm,0.7s
GAR Garm 58.42 311 **P** **06 06 58.1 -1.7**
CHGR Chuyangaron 59.20 310 **P** **06 07 04.7 -0.6**
KK31 Karatay Array 59.45 315 **P** **06 07 05.9 -0.9**
KK31 IAmb IAmb 06 07 08.2
comp=Z,2.9nm,0.7s
KKAR Karatay Array 59.45 315 **P** **06 07 05.4 -1.4**
TIXI Tiksi 62.78 1 LR LR 06 34 19.1
comp=Z,61nm,21.8s,baz=196,slow=36
BVAR Borovoye Array 63.00 326 P **P** **06 07 30.6 0.0**
comp=Z,4.9nm,0.8s,baz=120,slow=8.9,SNR=19
comp=Z,4.9nm,0.8s
AB31 Akbulak array 68.14 320 **P** **06 08 03.7 -0.1**
AKTO Aktyubinsk 69.60 321 LR LR 06 41 31.1
comp=Z,101nm,18.9s,baz=146,slow=38
ARTI Arti 70.66 327 P **P** **06 08 18.0 -1.3**
ARTI Arti 70.66 327 LR LR 06 41 21.9
comp=Z,47nm,19.6s,baz=156,slow=38
KDAK Kodiak Island 77.72 33 LR LR 06 39 05.4
comp=Z,55nm,20.4s,baz=205,slow=32
RAYN Ar Rayn 78.35 292 P **P** **06 09 04.1 -0.7**
RAYN IAmb IAmb 06 09 07.1
comp=Z,7.3nm,0.9s
F24K Squaw Lake 80.21 23 P **P** **06 09 14.5 +0.5**
F24K IAmb IAmb 06 09 28.8
comp=Z,4.0nm,0.8s
ILAR Eielson Array 80.62 26 P **P** **06 09 16.0 -0.2**
comp=Z,0.6nm,0.8s,baz=240,slow=4.2,SNR=5.3
comp=Z,0.6nm,0.8s
BMAR Burnt Mountain 81.49 23 P **P** **06 09 20.9 +0.1**
I28M Miner Creek 83.51 25 P **P** **06 09 31.9 +0.5**
H29M Whitestone 84.05 24 P **P** **06 09 34.0 -0.1**
H29M IAmb IAmb 06 09 37.4
comp=Z,14nm,1.0s
G29M Pine Creek 84.08 23 P **P** **06 09 34.6 +0.3**
L29M L29M 84.61 27 P **P** **06 09 37.6 +0.6**
L29M IAmb IAmb 06 09 52.7
comp=Z,15nm,1.1s
EPYK Eagle Plains 84.68 24 P **P** **06 09 37.2 -0.1**
I30M Mount Dempster 85.02 25 P **P** **06 09 38.8 -0.4**
I30M IAmb IAmb 06 09 53.5
comp=Z,16nm,1.3s
ASF Jabal al Asfar 85.06 302 LR LR 06 52 24.1
comp=Z,26nm,19.9s,baz=76,slow=39
G31M Satah River 85.54 23 P **P** **06 09 41.5 0.0**
G31M IAmb IAmb 06 09 43.5
comp=Z,13nm,1.0s
ARCES ARCESS Array B 85.63 340 P **P** **06 09 41.6 -0.4**
comp=Z,2.4nm,0.8s,baz=75,slow=5.6,SNR=6.7
comp=Z,2.4nm,0.8s
FINES FINESS Array B 87.28 332 P **P** **06 09 49.4 -0.7**
comp=Z,0.7nm,0.3s,baz=59,slow=4.2,SNR=12
comp=Z,0.7nm,0.3s
AKASG Malin Array Be 87.84 321 P **P** **06 09 54.2 +1.0**
comp=Z,0.3nm,0.4s,baz=76,slow=4.0,SNR=2.3
comp=Z,0.3nm,0.4s
MLR Muntele Rosu 91.11 316 LR LR 06 55 24.7
comp=Z,81nm,19.5s,baz=76,slow=38
HFS Hagfors 93.44 332 P **P** **06 10 20.0 +0.9**
comp=Z,5.4nm,1.1s,baz=72,slow=9.3,SNR=2.1
comp=Z,5.4nm,1.1s
NOA NORSAR Array B 94.16 334 LR LR 06 55 49.7
comp=Z,22nm,20.6s,baz=290,slow=37
YKA Yellowknife Ar 94.96 24 P **P** **06 10 26.0 +0.1**
comp=Z,1.4nm,0.8s,baz=306,slow=5.0,SNR=4.9
comp=Z,1.4nm,0.8s
TORD Torodi Ar. Bea 121.03 291 PKP **PKPdf** **06 15 57.0 -0.3**
comp=Z,0.4nm,0.3s,baz=44,slow=2.1,SNR=9.4

*KEA **21** 06:11:15.2,38.71N×127.15E,h18km,ML3.6/5*
*KMA **21** 06:11:16.7±0.3,38.67N×127.18E,h16km±1km, Error ellipse: s-maj=1.9km s-min=0.9km az=156.0*
ISC 21 06:11:15.9±1.0,**38.70N**±0.03×**127.16E**±0.03,**h16**km±10km,
n15,σ**0s20**/28,**North Korea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GMHB	**Gimhwa**	**0.49**	**155**	P	**Pb**	**Pb**	**06 11 26.1**	**0.0**
	SNR=566							
GMHB				P	**Pb**	**Pb**	**06 11 26.1**	**0.0**
	SNR=566							
WOSN	**Wonsan**	**0.51**	**24**	Pg	**Pg**	**Pg**	**06 11 26.3**	**+0.2**
WOSN				Sg	**Sg**	**Sg**	**06 11 32.8**	**-0.2**
WOSN				AML	AML	AML		
	comp=N,2μm,0.6s							
WOSN				AML	AML	AML		
	comp=E,2μm,0.1s							
WOSN				AML	AML	AML		
	comp=Z,6.2nm,0.1s							
HWCB	**Hwacheon**	**0.62**	**140**	P	**Pb**	**Pb**	**06 11 28.5**	**+0.1**
	SNR=223							
HWCB				S	**Sg**	**Sg**	**06 11 36.1**	**-0.3**
KSCWO	**Cheorwon**	**0.67**	**155**	P	**Pb**	**Pb**	**06 11 29.5**	**+0.3**
	SNR=815							
KSCWO				P	**Pb**	**Pb**	**06 11 29.5**	**+0.3**
	SNR=815							
KSCWO				S	**Sb**	**Sb**	**06 11 38.4**	**+0.1**
KSCWO				S	**Sb**	**Sb**	**06 11 38.4**	**+0.1**
HWCA	**Hwacheon Acc B**	**0.79**	**142**	P	**Pg**	**Pg**	**06 11 31.7**	**+0.3**
	SNR=116							
KSDDC	**Dongducheon**	**0.80**	**186**	P	**Pg**	**Pg**	**06 11 31.7**	**+0.2**
	SNR=54							
KSMUS	**Musan**	**0.87**	**201**	P	**Pg**	**Pg**	**06 11 32.9**	**+0.1**
	SNR=75							
KSMUS				P	**Pg**	**Pg**	**06 11 32.9**	**+0.1**
	SNR=75							
SGMA	**Sangmyun**	**0.87**	**173**	P	**Pn**	**Pn**	**06 11 33.2**	**-0.3**
	SNR=236							
GAPB	**Gapyeong**	**0.89**	**163**	P	**Pn**	**Pn**	**06 11 33.5**	**-0.2**
	SNR=183							
KOSB	**Goseong**	**0.94**	**95**	P	**Pg**	**Pg**	**06 11 34.2**	**0.0**
	SNR=649							
KOSB				P	**Pg**	**Pg**	**06 11 34.2**	**0.0**
	SNR=649							
GEJB	**geojin**	**1.00**	**106**	P	**Pg**	**Pg**	**06 11 35.3**	**0.0**
	SNR=519							
GEJB				P	**Pg**	**Pg**	**06 11 35.3**	**0.0**
	SNR=519							
PYAG	**Pyongyang**	**1.15**	**288**	Pg	**Pg**	**Pg**	**06 11 38.1**	**0.0**
PYAG				Sg	**Sn**	**Sn**	**06 11 52.7**	**0.0**
PYAG				AML	AML	AML		
	comp=N,3μm,0.5s							
PYAG				AML	AML	AML		
	comp=E,2μm,0.3s							
PYAG				AML	AML	AML		
	comp=Z,2μm,0.5s							
PYS	**Pyongsong**	**1.16**	**299**	Pg	**Pb**	**Pb**	**06 11 37.5**	**0.0**
PYS				Sg	**Sb**	**Sb**	**06 11 52.2**	**-0.1**
PYS				AML	AML	AML		
	comp=N,5μm,0.6s							
PYS				AML	AML	AML		
	comp=E,11μm,0.4s							
PYS				AML	AML	AML		
	comp=Z,3μm,0.5s							
HHU	**Hamhung**	**1.26**	**13**	Pg	**Pn**	**Pn**	**06 11 38.9**	**+0.1**
HHU				Sg	**Sg**	**Sg**	**06 11 56.4**	**-0.3**
HHU				AML	AML	AML		
	comp=N,569nm,0.1s							
HHU				AML	AML	AML		
	comp=E,2μm,0.7s							
HHU				AML	AML	AML		
	comp=Z,485nm,0.5s							
HJU	**Haeju**	**1.30**	**240**	Pg	**Pb**	**Pb**	**06 11 40.3**	**+0.4**
HJU				Sg	**Sg**	**Sg**	**06 11 57.7**	**-0.3**
HJU				AML	AML	AML		
	comp=N,3μm,0.3s							
HJU				AML	AML	AML		
	comp=E,2μm,0.3s							
HJU				AML	AML	AML		
	comp=Z,2μm,0.4s							

*NEIC **21** 06:12:31.8±0.7,37.80S±0.06×74.13W±0.2,h26km±9km, mb4.1/5,ML4.2(GUC),Error ellipse: s-maj=21.9km s-min=8.4km az=96.0*
*GUC **21** 06:12:33.6±0.7,37.83S×73.94W,h24km±5km,ML4.2*
ISC 21 06:12:30.5±1.0,**37.82S**±0.03×**74.17W**±0.09,**h18**km,**n43**,
σ**1s26**/48,**2C**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LC02	**Puerto Saavedr**	**1.15**	**148**			**Pn**	**06 12 51.3**	**-0.4**
LC02	**Puerto Saavedr**	**1.15**	**148**	*eP*		**Pn**	**06 12 51.0**	**-0.8**
LC02				*eS*		**Sb**	**06 13 05.5**	**-1.0**
LC02				IAML			06 13 12.3	
	comp=E,14μm,0.5s							
BI05	**Punta Hualpn**	**1.32**	**36**			**Pn**	**06 12 54.7**	**+0.7**
BI05	**Punta Hualpn**	**1.32**	**36**	*eP*		**Pn**	**06 12 54.7**	**+0.7**
BI05				*eS*		**Sn**	**06 13 10.1**	**-1.1**
LC01	**Cunco**	**2.10**	**122**	↑*eP*		**Pn**	**06 13 05.2**	**+0.4**
LC01				*eS*		**Sn**	**06 13 29.9**	**-0.6**
LR02	**Universidad Au**	**2.11**	**160**	*eP*		**Pn**	**06 13 07.3**	**+2.3**
LR03	**Panguipulli**	**2.31**	**142**			**Pn**	**06 13 08.7**	**+1.1**
LR03	**Panguipulli**	**2.31**	**142**	*eP*		**Pn**	**06 13 08.4**	**+0.8**
LR03				*i* S		**Sn**	**06 13 35.2**	**-0.4**
LR03				IAML			06 13 50.4	
	comp=N,2μm,0.7s							
BI02	**San Fabin de**	**2.58**	**64**			**Pn**	**06 13 13.1**	**+1.6**
BI02	**San Fabin de**	**2.58**	**64**	*eP*		**Pn**	**06 13 12.8**	**+1.4**
BI02				*eS*		**Sn**	**06 13 42.2**	**-0.2**
GO06	**Curarrehue**	**2.75**	**131**	*eP*		**Pn**	**06 13 14.7**	**+0.9**
LR05	**Currie**	**2.94**	**146**			**Pn**	**06 13 17.6**	**+1.3**
LR05	**Currie**	**2.94**	**146**	↑*eP*		**Pn**	**06 13 17.9**	**+1.5**
LR05				IAML			06 14 10.4	
	comp=E,505nm,0.5s							
GO05	**Hualane**	**3.33**	**33**	*eP*		**Pn**	**06 13 23.5**	**+1.8**
LL03	**Petrohue**	**3.59**	**158**	Pn		**Pn**	**06 13 26.6**	**+1.4**
LL05	**Los Muermos**	**3.62**	**172**			**Pn**	**06 13 26.9**	**+1.2**
LL05	**Los Muermos**	**3.62**	**172**	*eP*		**Pn**	**06 13 26.2**	**+0.5**
BO03	**Pichilemu**	**3.76**	**29**	*eP*		**Pn**	**06 13 28.7**	**+1.1**
PLCA	**Paso Flores**	**4.04**	**137**			**Pn**	**06 13 33.1**	**+1.5**
BO02	**Sierra Bellavi**	**4.07**	**43**			**Pn**	**06 13 33.0**	**+1.0**
BO02	**Sierra Bellavi**	**4.07**	**43**	*eP*		**Pn**	**06 13 33.5**	**+1.5**
BO01	**Tunca**	**4.23**	**37**			**Pn**	**06 13 35.2**	**+1.2**
BO01	**Tunca**	**4.23**	**37**	*eP*		**Pn**	**06 13 35.5**	**+1.4**
MT01	**Popeta**	**4.60**	**32**			**Pn**	**06 13 40.3**	**+1.1**
LL01	**San Ignacio de**	**4.75**	**164**	Pn		**Pn**	**06 13 42.9**	**+1.7**
BO04	**La Punta**	**4.79**	**38**			**Pn**	**06 13 42.8**	**+1.0**
BO04	**La Punta**	**4.79**	**38**	*eP*		**Pn**	**06 13 43.3**	**+1.5**
MT09	**Talagante**	**4.79**	**34**			**Pn**	**06 13 42.9**	**+1.0**
LMEL	**Las Melosas**	**5.10**	**40**			**Pn**	**06 13 48.0**	**+1.8**
MT13	**San Alfonso**	**5.14**	**39**			**Pn**	**06 13 48.5**	**+1.8**
MT02	**Curacav**	**5.17**	**29**			**Pn**	**06 13 48.2**	**+1.2**
MT05	**Renca**	**5.22**	**33**	Pn		**Pn**	**06 13 48.6**	**+0.8**
MT03	**Universidad Ad**	**5.24**	**36**			**Pn**	**06 13 48.9**	**+0.9**
MT16	**CCHEN**	**5.29**	**35**			**Pn**	**06 13 49.9**	**+1.2**
PEL	**Peldehue**	**5.46**	**32**			**Pn**	**06 13 50.4**	**-0.6**
MT08	**Bocatoma Ro**	**5.52**	**39**			**Pn**	**06 13 54.0**	**+2.0**
VA03	**San Esteban**	**5.84**	**31**			**Pn**	**06 13 57.0**	**+0.6**
MG03	**Isla Dawson**	**16.24**	**172**	Pn		**Pn**	**06 16 18.8**	**+1.2**
MG03				IAmb	IAmb	IAmb	06 16 57.5	
	comp=Z,47nm,1.1s							
PB16	**IPOC Station P**	**19.83**	**13**	P		**P**	**06 16 59.4**	**-1.5**
PB16				IAmb	IAmb	IAmb	06 17 37.7	
	comp=Z,5.1nm,1.1s							
ITAB	**Concordia**	**21.32**	**67**	P		**P**	**06 17 17.0**	**+0.6**
LPAZ	**La Paz**	**22.10**	**16**	P		**P**	**06 17 23.2**	**-2.3**
BAUV	**El Baul**	**46.87**	**8**	P		**P**	**06 20 59.0**	**-0.7**
SNAA	**Sanae**	**48.74**	**157**	P		**P**	**06 21 14.2**	**+0.4**
SNAA				IAmb	IAmb	IAmb	06 21 44.0	
	comp=Z,2.5nm,1.1s							

*SOME **21** 06:20:24.8,43.47N×86.30E,h5km*
*NNC **21** 06:20:28.2±2.2,43.71N×86.18E,h1km±10km,mb4.0, mpv3.9,Error ellipse: s-maj=15.9km s-min=8.1km az=120.0*
*IDC **21** 06:20:31.0±2.9,44.19N×86.38E,h0km,mbtmp3.4/5, ML2.9/3,Error ellipse: s-maj=25.0km s-min=22.1km az=159.0*
ISC 21 06:20:27.7±1.4,**43.66N**±0.07×**86.16E**±0.06,**h10**km,**n25**,
σ**2s85**/35,**8C-3D**,**Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.90**	**347**	Pg		**Pg**	**06 21 40.7**	**-1.7**
	20nm,0.5s							
ZSN				Lg		Lg	06 22 35.5	
	58nm,0.7s							
ZSN	**Zaisan**	**3.90**	**347**	*eP*		**Pg**	**06 21 40.8**	**-1.7**
	20nm,0.5s							
ZSN				*eS*		**Sg**	**06 22 35.5**	**+2.6**
	58nm,0.7s							
MK31	**Makanchi Array**	**4.16**	**320**	↑Pn		**Pn**	**06 21 32.5**	**+1.2**
	0.6nm,0.3s,baz=136,slow=14,SNR=87							
MK31				↑Pg		**Pb**	**06 21 43.3**	**+2.3**
	2.7nm,0.3s,baz=129,slow=16,SNR=20							
MK31				⇓Lg		Lg	06 22 36.3	
	11nm,0.3s,baz=135,slow=30,SNR=14							
MKAR	**Makanchi Array**	**4.16**	**320**	Pn		**Pn**	**06 21 32.8**	**+1.5**
	1.0nm,0.3s,baz=128,slow=13,SNR=30							
MKAR				Pg		**Pb**	**06 21 41.9**	**+0.8**
	4.3nm,0.3s,baz=132,slow=18,SNR=20							
MKAR				Sn		**Sn**	**06 22 21.3**	**+1.4**
	5.1nm,0.3s,baz=128,slow=24,SNR=2.2							
MKAR				Lg		Lg	06 22 34.8	
	11nm,0.3s,baz=132,slow=30,SNR=3.6							
	1.3nm,0.3s							
MAKZ	**Makanchi**	**4.32**	**318**	↑Pn		**Pn**	**06 21 34.6**	**+1.1**
	0.9nm,0.3s							
MAKZ				Lg		Lg	06 22 42.1	
	21nm,0.7s							
PDGK	**Podgornoye**	**4.86**	**268**	↑Pn		**Pn**	**06 21 43.1**	**+2.0**
	2.6nm,0.6s							
PDGK				⇓Pg		**Pb**	**06 21 55.4**	**+2.4**
	20nm,0.8s							
PDGK				↑Lg		Lg	06 23 04.6	
	34nm,0.7s							
SHLS	**Shalkode**	**4.91**	**266**	Pg		**Pb**	**06 21 51.6**	**-2.2**
	18nm,0.2s							
SHLS				Lg		Lg	06 22 53.9	
	86nm,0.6s							
SHLS	**Shalkode**	**4.91**	**266**	*eP*		**Pb**	**06 21 51.6**	**-2.2**
	18nm,0.2s							
SHLS				*eS*		**Sb**	**06 22 53.9**	**+1.1**
	86nm,0.6s							
KNOS	**Konyrlen**	**5.08**	**280**	Pg		**Pb**	**06 22 00.6**	**+3.8**
	16nm,0.2s							
KNOS				Lg		Lg	06 23 09.0	
	24nm,0.5s							
KAPS	**Kapalarasan**	**5.13**	**291**	Pg		**Pg**	**06 22 02.9**	**-3.1**
	12nm,0.2s							
KAPS				Lg		Lg	06 23 13.4	
	62nm,0.3s							
UZB	**Uzynbulak**	**5.23**	**267**	Pg		**Pb**	**06 22 03.2**	**+3.9**
	3.9nm,0.3s							
UZB				Lg		Lg	06 23 14.1	
	19nm,0.4s							
UZB	**Uzynbulak**	**5.23**	**267**	*eP*		**Pb**	**06 22 03.2**	**+3.9**
	3.9nm,0.3s							
UZB				*eS*		**Sg**	**06 23 14.1**	**-1.3**
	19nm,0.4s							
SATY	**Saty**	**5.69**	**267**	Pg		**Pb**	**06 22 10.7**	**+3.6**
	3.4nm,0.2s							
SATY				Lg		Lg	06 23 27.2	
	25nm,0.3s							
TDK	**Taldyqorghan**	**5.72**	**286**	Pg		**Pg**	**06 22 15.2**	**-2.1**
	48nm,0.3s							
TDK				Lg		Lg	06 23 34.6	
	91nm,0.5s							
TDK	**Taldyqorghan**	**5.72**	**286**	*eP*		**Pg**	**06 22 15.2**	**-2.1**
	48nm,0.3s							
TDK				*eS*		**Sg**	**06 23 34.6**	**+3.2**
	91nm,0.5s							
ARXS	**Arharly**	**6.04**	**278**	Pg		**Pg**	**06 22 19.2**	**-4.2**
	7.0nm,0.3s							
ARXS				Lg		Lg	06 23 42.0	
	21nm,0.3s							
ARXS	**Arharly**	**6.04**	**278**	*eP*		**Pg**	**06 22 19.2**	**-4.2**
ARXS				*eS*		**Sg**	**06 23 42.0**	**+0.3**
CHKK	**Chushkaly**	**6.65**	**275**	Pg		**Pg**	**06 22 31.0**	**-3.9**
	4.9nm,0.2s							
CHKK				Lg		Lg	06 24 02.0	
	13nm,0.4s							
MDOK	**Medeo**	**6.66**	**269**	Pg		**Pg**	**06 22 32.2**	**-3.0**
	3.6nm,0.6s							
MDOK				Lg		Lg	06 24 03.8	
	8.0nm,0.6s							
AAK	**Ala-Archa**	**8.59**	**267**	Pn		Pn	06 22 42.0	+10
	1.3nm,0.4s,baz=82,slow=19,SNR=1.4							
AAK				Sn		Sn	06 24 22.2	+13
	0.3nm,0.3s,baz=156,slow=20,SNR=1.3							
AAK				Lg		Lg	06 25 08.1	
	0.2nm,0.3s,baz=142,slow=19,SNR=2.2							
KURBB	**Kurchatov Arra**	**8.69**	**326**	↑Pn		**Pn**	**06 22 35.3**	**+1.9**
	1.2nm,0.5s							
KURBB				⇓Lg		Lg	06 25 03.4	
	27nm,0.8s							
KURBB	**Kurchatov Arra**	**8.69**	**326**	Pn		**Pn**	**06 22 33.8**	**+0.4**
	0.1nm,0.3s,baz=132,slow=13,SNR=2.1							
KURBB				Sn		**Sn**	**06 24 08.0**	**-3.3**
	0.3nm,0.3s,baz=144,slow=20,SNR=4.7							
KURBB				Lg		Lg	06 24 57.4	
	0.3nm,0.3s,baz=143,slow=28,SNR=6.9							
	0.4nm,0.2s							
KURK	**Kurchatov**	**8.73**	**327**	↑Pn		**Pn**	**06 22 34.3**	**+0.4**
	0.3nm,0.6s							
KURK				↑Lg		Lg	06 24 59.7	
	7.6nm,0.8s							
ZALV	**Zalesovo Beam**	**10.34**	**356**	Pn		**Pn**	**06 22 53.2**	**-2.7**

0.4nm,0.3s,baz=174,slow=16,SNR=4.7
ZALV Sn **Sn** **06 24 45.3 -6.5**
0.9nm,0.3s,baz=167,slow=26,SNR=8.4
0.9nm,0.3s
SONM Songino Array 14.72 66 Pn **Pn** **06 23 57.2 +1.1**
0.8nm,0.8s,baz=262,slow=10.0,SNR=2.3

*NORS **21** 06:32:24.2, 42°.41N×45°.39E, h25km, MPVA4.2*
*DRS **21** 06:32:28.2, 42°.56N×45°.45E, h18km*
MOS 21 06:32:25.2, 42°.54N×45°.44E, h23km, MPVA4.1, 4C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.59**	**78**	*e*Pg	Pn	06 32 38.6	+0.3
BTLR				*e*S	Sn	06 32 46.9	-0.4
BTLR	**Botlikh**	**0.59**	**78**	*e*Pg	Pn	06 32 38.4	+0.1
BTLR				*e*Sg	Sn	06 32 46.9	-0.4
DVE	**Vedeno**	**0.66**	**50**	*d i*PG	Pn	06 32 38.8	-0.4
DVE				*i* S	Sn	06 32 50.4	+1.6
DVE				pmax	pmax		
	comp=Z,68nm,0.7s						
DVE				smax	smax		
	comp=Z,173nm,0.6s						
DVE	**Vedeno**	**0.66**	**50**	*i* Pg	Pn	06 32 38.9	-0.3
DVE				*e*Sg	Sn	06 32 48.2	-0.7
KMGR	**Komgaron**	**0.67**	**321**	*e*PG	Pn	06 32 38.8	-0.5
KMGR				*e*S	Sn	06 32 51.9	+2.9
KMGR	**Komgaron**	**0.67**	**321**	*e*Pg	Pn	06 32 38.8	-0.4
KMGR				*e*Sg	Sn	06 32 50.7	+1.7
GUDG	**Gudauri**	**0.71**	**264**	*e*PG	Pn	06 32 39.7	-0.4
GUDG				*e*S	Sb	06 32 47.8	-0.7
GUDG	**Gudauri**	**0.71**	**264**	*e*Pg	Pn	06 32 39.7	-0.4
GUDG				*e*Sg	Sb	06 32 47.8	-0.7
GROC	**Groznyy**	**0.71**	**22**	*e*PG	Pn	06 32 40.5	+0.6
GROC				*e*S	Sn	06 32 50.6	+0.5
GROC				pmax	pmax		
	comp=Z,176nm,0.2s						
GROC	**Groznyy**	**0.71**	**22**	*e*Pg	Pn	06 32 40.5	+0.7
GROC				*e*Sg	Sn	06 32 50.6	+0.5
TLTR	**Tlyarata**	**0.81**	**122**	*e*PG	Pn	06 32 42.3	+1.0
TLTR				*e*S	Sn	06 32 53.8	+1.2
TLTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TLTR	**Tlyarata**	**0.81**	**122**	*e*Pg	Pn	06 32 42.0	+0.7
TLTR				*e*Sg	Sn	06 32 53.7	+1.0
LACR	**Lac**	**0.89**	**289**	*e*PG	Pb	06 32 42.0	0.0
LACR				*e*S	Sb	06 32 53.2	-0.3
LACR	**Lac**	**0.89**	**289**	*e*Pg	Pb	06 32 42.0	0.0
LACR				*e*Sg	Sb	06 32 53.2	-0.3
XNZR	**Khunzakh**	**0.94**	**89**	*e*Pg	Pn	06 32 45.1	+2.0
XNZR				*e*Sg	Sn	06 32 58.0	+2.0
HNZR	**Khunzah**	**0.95**	**88**	*e*PG	Pn	06 32 45.3	+2.1
HNZR				*e*S	Sn	06 32 58.1	+2.0
UNCR	**Uncukul**	**1.02**	**80**	*e*PG	Pb	06 32 46.0	+1.8
UNCR				*e*S	Sn	06 33 00.2	+2.5
UNCR				pmax	pmax		
	comp=Z,69nm,0.2s						
UNCR	**Uncukul**	**1.02**	**80**	*e*Pg	Pb	06 32 46.0	+1.8
UNCR				*e*Sg	Sn	06 32 59.6	+1.9
DLMR	**Dylym**	**1.03**	**59**	*e*PG	Pb	06 32 45.9	+1.6
DLMR				*e*S	Sn	06 32 59.9	+2.0
DLMR				pmax	pmax		
	comp=Z,17nm,0.1s						
DLMR	**Dylym**	**1.03**	**59**	*e*Pg	Pb	06 32 45.8	+1.5
DLMR				*e*Sg	Sn	06 32 59.9	+2.1
BTKR	**Batakoyurt**	**1.06**	**322**	*e*PG	Pb	06 32 46.0	+1.1
BTKR				*e*S	Sn	06 33 04.3	+5.6
BTKR	**Batakoyurt**	**1.06**	**322**	*e*Pg	Pb	06 32 46.0	+1.2
BTKR				*e*Sg	Sn	06 33 04.3	+5.6
KRNR	**Karanay**	**1.12**	**75**	*e*PG	Pb	06 32 48.1	+2.1
KRNR				*e*S	Sn	06 33 02.9	+2.5
KRNR	**Karanay**	**1.12**	**75**	*e*Pg	Pb	06 32 48.1	+2.1
KRNR				*e*Sg	Sn	06 33 02.9	+2.5
KORR	**Kora**	**1.15**	**299**	*e*PG	Pb	06 32 47.8	+1.5
KORR				*e*S	Sn	06 33 04.0	+3.2
KORR	**Kora**	**1.15**	**299**	*e*Pg	Pb	06 32 47.8	+1.5
KORR				*e*Sg	Sn	06 33 03.5	+2.7
ARKR	**Arakani**	**1.15**	**86**	*e*PG	Pb	06 32 48.6	+2.3
ARKR				*e*S	Sn	06 33 04.8	+3.7
ARKR				pmax	pmax		
	comp=Z,43nm,0.5s						
BUJR	**Buynaksk**	**1.27**	**76**	*e*PG	Pb	06 32 50.6	+2.2
BUJR				*e*S	Sb	06 33 08.1	+3.8
BUJR				pmax	pmax		
	comp=Z,92nm,0.4s						
BUJR	**Buynaksk**	**1.27**	**76**	*e*Pg	Pb	06 32 50.6	+2.2
BUJR				*e*Sg	Sb	06 33 08.1	+3.9
TRKR	**Terskaya**	**1.29**	**337**	*e*PG	Pb	06 32 50.7	+1.9
TRKR				*e*S	Sb	06 33 08.5	+3.6
TRKR	**Terskaya**	**1.29**	**337**	*e*Pg	Pb	06 32 50.7	+1.9
TRKR				*e*Sg	Sb	06 33 08.5	+3.6
KMKR	**Kumukh**	**1.30**	**108**	*e*PG	Pb	06 32 51.3	+2.2
KMKR				*e*S	Sb	06 33 09.3	+3.9
KMKR				pmax	pmax		
	comp=Z,81nm,0.5s						
STDR	**Stavd-Durt**	**1.30**	**310**	*e*PG	Pb	06 32 51.0	+2.0
STDR				*e*S	Sb	06 33 07.7	+2.4
STDR	**Stavd-Durt**	**1.30**	**310**	*e*Pg	Pb	06 32 51.0	+2.0
STDR				*e*Sg	Sb	06 33 07.7	+2.3
LSNR	**Lesken**	**1.39**	**303**	*e*PG	Pb	06 32 51.8	+1.2
LSNR				*e*S	Sb	06 33 11.4	+3.5
LSNR	**Lesken**	**1.39**	**303**	*e*Pg	Pb	06 32 51.5	+0.9
LSNR				*e*Sg	Sb	06 33 10.2	+2.2
DIGR	**Digorskoe uzhe**	**1.41**	**285**	*e*PG	Pb	06 32 51.4	+0.4
DIGR				*e*S	Sb	06 33 08.8	+0.1
DIGR	**Digorskoe uzhe**	**1.41**	**285**	*e*Pg	Pb	06 32 51.4	+0.4
DIGR				*e*Sg	Sb	06 33 08.5	-0.1
PRTR	**Priterechnaya**	**1.48**	**326**	*e*PG	Pb	06 32 53.1	+1.2
PRTR				*e*S	Sb	06 33 14.3	+4.0
PRTR	**Priterechnaya**	**1.48**	**326**	*e*Pg	Pb	06 32 53.1	+1.2
PRTR				*e*Sg	Sb	06 33 14.3	+4.1
MAK	**Makhachkala**	**1.58**	**74**⇑	*i*PG	Pb	06 32 55.7	+2.0
MAK				*e*S	Sb	06 33 16.5	+3.2
MAK				pmax	pmax		
	comp=Z,127nm,0.3s						
MAK				smax	smax		
	comp=E,294nm,0.6s						
MAK				smax	smax		
	comp=E,375nm,0.5s						
SGKR	**Sergokala**	**1.65**	**92**	*e*PN	Pb	06 32 55.7	+0.8
SGKR				*e*S	Sb	06 33 17.8	+2.6
SGKR	**Sergokala**	**1.65**	**92**	*e*Pg	Pb	06 32 55.7	+0.8
SGKR				*e*Sg	Sb	06 33 17.8	+2.6
URKR	**Urkarakh**	**1.67**	**102**	*e*PN	Pb	06 32 56.2	+0.8
URKR				*e*S	Sb	06 33 18.8	+2.8
URKR				pmax	pmax		
	comp=Z,35nm,0.3s						
URKR	**Urkarakh**	**1.67**	**102**	*e*Pg	Pb	06 32 58.7	+3.3
URKR				*e*Sg	Sb	06 33 19.9	+3.9
AKH	**Akhalkalaki**	**1.84**	**233**	*e*PN	Pb	06 32 59.9	+1.7
AKH				*e*S	Sb	06 33 23.8	+3.0
AKH	**Akhalkalaki**	**1.84**	**233**	*e*Pg	Pb	06 32 59.9	+1.7
AKH				*e*Sg	Sb	06 33 23.8	+3.0
KBTC	**Kuba-Taba**	**1.96**	**311**	*e*PN	Pb	06 33 00.5	+0.3
KBTC	**Kuba-Taba**	**1.96**	**311**	*e*Pg	Pb	06 33 00.5	+0.3
KBTC				*e*Sg	Sb	06 33 24.4	+0.3
AKT	**Akhty**	**2.01**	**121**	*e*PN	Pb	06 33 01.8	+0.7
AKT	**Akhty**	**2.01**	**121**	*e*Pg	Pb	06 33 01.8	+0.6
AKT				*e*Sg	Sb	06 33 26.2	+0.4
KBZ	**Khabaz**	**2.21**	**303**	*e*PN	Pb	06 33 04.3	0.0
KBZ				*e*S	Sb	06 33 32.4	+1.2
KBZ	**Khabaz**	**2.21**	**303**	*e*Pg	Pb	06 33 04.3	0.0
KBZ				*e*Sg	Sb	06 33 32.4	+1.2
DRN	**Derbent**	**2.21**	**102**⇑	*e*PN	Pb	06 33 02.5	-1.9
PYA1	**Pyatigorsk**	**2.29**	**313**	*e*PN	Pn	06 33 03.2	+1.7
PYA1				*e*S	Sn	06 33 30.9	+1.9
PYA1	**Pyatigorsk**	**2.29**	**313**	*e*Pn	Pn	06 33 03.2	+1.7
PYA1				*e*Sn	Sn	06 33 30.9	+1.9
SHA1	**Shidzhatmaz**	**2.36**	**301**	*e*PN	Pb	06 33 05.1	-2.0
SHA1				*e*S	Sb	06 33 37.6	+1.7
BEYR	**Belyy Ugol+**	**2.41**	**308**	*e*PN	Pb	06 33 04.9	+1.6
BEYR				*e*S	Sn	06 33 34.5	+2.4
BEYR	**Belyy Ugol+**	**2.41**	**308**	*e*Pn	Pb	06 33 04.9	+1.7
BEYR				*e*Sn	Sn	06 33 34.5	+2.4
GNI	**Garni**	**2.44**	**193**⇑	*e*PN	Pb	06 33 08.9	+0.3
GNI				*e*S	Sb	06 33 44.9	+6.6
GNI				pmax	pmax		
	comp=Z,21nm,0.5s						
KIV	**Kislovodsk**	**2.46**	**306**	*e*PN	Pn	06 33 05.3	+1.4
KIV				*e*S	Sb	06 33 40.8	+2.2
KURK	**Kurchatov**	**24.05**	**59**⇑	*e*P	P	06 37 40.4	+2.0
KURK				pmax	pmax		
	comp=Z,4.0nm,1.6s						

*IDC **21** 06:42:56.4±0.8, 16°.74S×173°.06W, h0km, mb4.1/9, mbtmp4.1/9, MS3.8/29, Error ellipse: s-maj=38.9km s-min=20.2km az=143.0*
ISC 21 06:43:01.6±0.7, 16°.9S±0°.2×172°.8W±0°.1, h41km, n41, σ1°93/17, mb4.0/11, MS3.9/29, 3C, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**20.19**	**252**	*e*LR	LR	06 52 24.5	
	427nm,25.3s						
PPT2	**Papeete2**	**22.22**	**95**	*e*P	**P**	**06 47 50.2**	**-4.7**
	79nm,28.8s						
PPT2				*e*LR	LR	06 52 53.5	
	286nm,27.2s						
PPT2				*e*LR	LR	06 53 01.2	
	167nm,24.0s						
PPT	**Papeete**	**22.22**	**95**	LR	LR	06 54 56.7	
	comp=Z,141nm,18.6s,baz=276,slow=32						
TBI	**Tubuai**	**22.84**	**110**	*e*P	**P**	**06 48 02.0**	**+0.6**
	144nm,26.0s						
TBI				*e*LR	LR	06 53 09.1	
	1μm,26.8s						
HNR	**Honiara**	**27.50**	**282**	LR	LR	06 58 05.9	
	comp=Z,422nm,18.1s,baz=100,slow=33						
TAOE	**Nuku Hiva Isla**	**32.81**	**80**	*e*LR		06 57 47.4	
	159nm,25.6s						
PMG	**Port Moresby**	**39.61**	**276**	LR	LR	07 04 19.2	
	comp=Z,94nm,18.6s,baz=168,slow=33						
STKA	**Stephens Creek**	**43.77**	**241**	P	**P**	**06 51 02.3**	**-1.1**
	2.2nm,0.7s,baz=340,slow=9.7,SNR=3.0						
STKA				LR	LR	07 06 27.2	
	comp=Z,101nm,19.3s,baz=29,slow=32						
	2.2nm,0.7s						
JAY	**Jayapura**	**47.83**	**282**	LR	LR	07 10 54.0	
	comp=Z,85nm,18.3s,baz=138,slow=35						
WRA	**Warramunga Arr**	**50.04**	**258**	P	**P**	**06 51 50.8**	**-1.8**
	0.5nm,0.4s,baz=96,slow=7.0,SNR=9.0						
WRA				PcP	**PcP**	**06 53 13.7**	**+1.6**
	0.7nm,1.0s,baz=99,slow=2.6,SNR=2.4						
WRA				LR	LR	07 12 25.6	
	comp=Z,160nm,18.4s,baz=104,slow=36						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**50.17**	**253**	P	**P**	**06 51 52.1**	**-1.5**
	3.6nm,0.8s,baz=89,slow=8.1,SNR=31						
	3.6nm,0.8s						
GUMO	**Guam**	**51.62**	**303**	LR	LR	07 11 52.2	
	comp=Z,40nm,18.7s,baz=196,slow=34						
FITZ	**Fitzroy Crossi**	**58.44**	**259**	LR	LR	07 17 27.2	
	comp=Z,110nm,19.5s,baz=102,slow=36						
RPN	**Rapa Nui**	**59.21**	**112**	LR	LR	07 13 54.8	
	comp=Z,34nm,18.9s,baz=344,slow=31						
BATI	**Baumata**	**61.88**	**267**	LR	LR	07 18 13.9	
	comp=Z,114nm,19.4s,baz=102,slow=34						
VNDA	**Vanda**	**61.93**	**186**	LR	LR	07 17 42.2	
	comp=Z,31nm,18.9s,baz=15,slow=34						
SHEM	**Shemya Is, Ala**	**70.28**	**352**	LR	LR	07 20 19.1	
	comp=Z,61nm,18.7s,baz=138,slow=32						
MJAR	**Matsushiro Arr**	**70.45**	**320**	LR	LR	07 21 02.4	
	comp=Z,33nm,19.1s,baz=162,slow=33						
QSPA	**South Pole Qui**	**73.13**	**180**	P	**P**	**06 54 30.2**	**+2.5**
	4.3nm,1.0s,baz=55,slow=2.9,SNR=9.4						
QSPA				LR	LR	07 24 27.8	
	comp=Z,53nm,18.4s,baz=42,slow=34						
	4.3nm,1.0s						
PFO	**Pinyon Flats O**	**73.56**	**46**	LR	LR	07 21 23.6	
	comp=Z,52nm,18.5s,baz=238,slow=31						
NVAR	**Mina Array Bea**	**75.09**	**41**	P	**P**	**06 54 40.2**	**+0.5**
	0.7nm,0.8s,baz=230,slow=7.6,SNR=4.1						
NVAR				LR	LR	07 22 44.9	
	comp=Z,70nm,20.1s,baz=256,slow=32						
	0.7nm,0.8s						
ELK	**Elko**	**78.36**	**41**	LR	LR	07 21 40.2	
	comp=Z,147nm,18.8s,baz=323,slow=30						
TXAR	**Lajitas Array**	**81.01**	**56**	P	**P**	**06 55 13.6**	**+1.1**
	1.5nm,1.1s,baz=210,slow=4.2,SNR=4.5						
TXAR				LR	LR	07 24 54.2	
	comp=Z,24nm,18.4s,baz=214,slow=31						
	1.5nm,1.1s						
ANMO	**Albuquerque**	**81.36**	**50**	LR	LR	07 22 42.1	
	comp=Z,60nm,19.2s,baz=344,slow=29						
NEW	**Newport**	**81.66**	**34**	LR	LR	07 28 18.6	
	comp=Z,98nm,19.0s,baz=235,slow=33						
MA2	**Magadan**	**81.77**	**342**	LR	LR	07 28 37.4	
	comp=Z,31nm,20.2s,baz=118,slow=34						
PDAR	**Pinedale Array**	**83.03**	**42**	P	**P**	**06 55 23.3**	**+0.3**
	1.1nm,1.8s,baz=204,slow=3.3,SNR=5.8						
	1.1nm,1.0s						
ILAR	**Eielson Array**	**83.83**	**11**	P	**P**	**06 55 26.2**	**-0.1**
	0.4nm,0.7s,baz=225,slow=6.2,SNR=9.1						
	0.4nm,0.7s						
CMIG	**Matias Romero**	**83.88**	**70**	LR	LR	07 23 28.1	
	comp=Z,44nm,21.0s,baz=226,slow=29						
MAW	**Mawson**	**86.53**	**198**	LR	LR	07 33 10.8	
	comp=Z,120nm,18.8s,baz=96,slow=35						
JTS	**Las Juntas de**	**90.34**	**80**	LR	LR	07 29 29.2	
	comp=Z,47nm,18.3s,baz=310,slow=31						
TROLL	**Troll, Antarti**	**91.24**	**179**	⇑P	**P**	**06 55 59.3**	**-3.0**
	comp=Z,36nm,0.5s						
VNA3	**Neumayer Olymp**	**91.30**	**175**	⇑P	**P**	**06 56 03.4**	**+0.9**
	comp=Z,0.9nm,0.8s						
VNA2	**Neumayer--Watz**	**91.80**	**175**	⇑P	**P**	**06 56 06.1**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=173,slow=2.8						
ATAH	**Atahualpa**	**92.17**	**98**	LR	LR	07 31 11.7	
	comp=Z,60nm,18.0s,baz=323,slow=31						
CMAR	**Chiang Mai Arr**	**93.61**	**288**	P	**P**	**06 56 14.7**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=105,slow=6.8,SNR=2.0						
CMAR				LR	LR	07 33 57.2	
	comp=Z,14nm,21.2s,baz=85,slow=33						
	comp=Z,1.4nm,0.3s						
ULM	**Lac du Bonnet**	**94.77**	**39**	LR	LR	07 35 33.8	
	comp=Z,89nm,20.0s,baz=246,slow=33						
TIXI	**Tiksi**	**96.61**	**344**	LR	LR	07 36 22.9	
	comp=Z,34nm,19.5s,baz=206,slow=33						
LPAZ	**La Paz**	**98.78**	**110**	LR	LR	07 30 52.9	
	comp=Z,49nm,21.8s,baz=308,slow=29						
BRTR	**Keskin Array B**	**147.67**	**320**	PKPbc	**PKiKP**	**07 02 43.8**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=169,slow=3.3,SNR=4.4						
MMAI	**Mount Meron Ar**	**149.93**	**307**	PKPab	**PKPab**	**07 02 54.9**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=83,slow=4.5,SNR=3.6						

*IDC **21** 07:02:11.9±9.3, 17°.66S×175°.11W, h130km±79km, mb4.0/7, mbtmp4.4/7, Error ellipse: s-maj=33.6km s-min=23.2km az=60.0*
*NEIC **21** 07:02:19.9±1.3, 17°.87S±0°.09×175°.1W±0°.1, h195km±6km, mb4.4/20, Error ellipse: s-maj=16.7km s-min=12.3km az=119.0*
ISC 21 07:02:19.8±0.5, 17°.75S±0°.07×175°.16W±0°.07, h200km, n87, σ1°25/86, mb4.3/21, 4C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.02**	**41**		**Pn**	**07 03 35.0**	**+0.4**
AFI	**Afiamalu**	**5.02**	**41**	P	**Pn**	**07 03 35.9**	**+1.3**
AFI				S	**Sn**	**07 04 30.3**	**-3.2**
NIUE	**Niue**	**5.14**	**106**	Pn	**Pn**	**07 03 35.0**	**-1.0**
NIUE	**Niue**	**5.14**	**106**	P	**Pn**	**07 03 37.6**	**+1.5**
NIUE				S	**Sn**	**07 04 36.9**	**+0.7**
MSVF	**Nonsavu**	**6.47**	**269**	Pn	Pn	07 04 02.6	+9.3
DZM	**Mont Dzumac**	**17.82**	**253**	P	**P**	**07 06 14.8**	**+1.0**
	10nm,0.8s,baz=80,slow=18,SNR=5.0						
OUZ	**Omahuta**	**20.07**	**208**	P	**P**	**07 06 37.4**	**-0.5**
WCZ	**Waipu Caves**	**20.37**	**205**	P	**P**	**07 06 41.0**	**-0.1**
MXZ	**Matakaoa Point**	**20.56**	**195**	P	**P**	**07 06 44.5**	**+1.4**
KUZ	**Kuaotunu**	**20.56**	**201**	P	**P**	**07 06 44.1**	**+1.0**
WIAZ	**Waiheke Island**	**20.81**	**202**	P	**P**	**07 06 46.0**	**+0.2**
HAZ	**Te Kaha**	**20.87**	**196**	P	**P**	**07 06 45.9**	**-0.5**
PKGZ	**Pakihiroa**	**20.90**	**195**	P	**P**	**07 06 48.0**	**+1.3**
PUZ	**Puketiti**	**21.05**	**195**	P	**P**	**07 06 50.6**	**+2.3**
MKAZ	**Moumakai**	**21.08**	**202**	P	**P**	**07 06 48.6**	**0.0**
RUGZ	**Raukumara Rang**	**21.10**	**196**	P	**P**	**07 06 49.5**	**+0.6**
TWGZ	**Tauwhareparae**	**21.22**	**195**	P	**P**	**07 06 51.0**	**+0.9**
MWZ	**Matawai**	**21.48**	**196**	P	**P**	**07 06 53.1**	**+0.3**
TKGZ	**Te Karaka**	**21.50**	**195**	P	**P**	**07 06 53.0**	**0.0**
URZ	**Urewera**	**21.52**	**197**	P	**P**	**07 06 51.0**	**-2.2**
	11nm,0.3s,baz=249,slow=2.5,SNR=33						
	11nm,0.3s						
TOZ	**Tahuroa Road**	**21.53**	**201**	P	**P**	**07 06 52.6**	**-0.7**
TOZ	**Tahuroa Road**	**21.53**	**201**	P	**P**	**07 06 53.7**	**+0.4**
RAGZ	**Rawiri**	**21.66**	**196**	P	**P**	**07 06 54.9**	**+0.2**
RTZ	**Ruatahuna**	**21.89**	**197**	P	**P**	**07 06 56.9**	**-0.1**
TLZ	**Tolley Road**	**22.06**	**200**	P	**P**	**07 07 01.6**	**+3.0**
MTHZ	**Maungataniwha**	**22.15**	**197**	P	**P**	**07 07 00.5**	**+1.0**
HIZ	**Hauiti**	**22.45**	**201**	P	**P**	**07 07 03.3**	**+1.2**
BKZ	**Black Stump Fm**	**22.54**	**197**	P	**P**	**07 07 00.6**	**-2.4**
VRZ	**Vera Road**	**23.04**	**200**	P	**P**	**07 07 09.7**	**+2.3**
PXZ	**Pawanui**	**23.25**	**196**	P	**P**	**07 07 10.3**	**+1.0**
NEZ	**North Egmont**	**23.39**	**201**	P	**P**	**07 07 12.2**	**+1.5**
TSZ	**Takapari Road**	**23.52**	**197**	P	**P**	**07 07 11.0**	**-0.9**
BFZ	**Birch Farm**	**24.02**	**196**	P	**P**	**07 07 16.3**	**0.0**
MRZ	**Mangatainoka R**	**24.19**	**197**	P	**P**	**07 07 15.9**	**-1.9**
QRZ	**Quartz Range**	**25.32**	**202**	P	**P**	**07 07 27.1**	**-1.1**
NNZ	**Nelson**	**25.38**	**200**	P	**P**	**07 07 27.4**	**-1.2**
TUWZ	**Tuamarina**	**25.39**	**199**	P	**P**	**07 07 26.7**	**-2.0**
THZ	**Tophouse**	**26.02**	**201**	P	**P**	**07 07 33.8**	**-0.7**
DSZ	**Denniston Nort**	**26.39**	**202**	P	**P**	**07 07 36.4**	**-1.4**
KHZ	**Kahutara**	**26.41**	**199**	P	**P**	**07 07 37.6**	**-0.2**
GVZ	**Greta Valley S**	**27.06**	**199**	P	**P**	**07 07 43.0**	**-0.8**
LTZ	**Lake Taylor**	**27.14**	**201**	P	**P**	**07 07 42.5**	**-1.9**
INZ	**Inchbonnie**	**27.38**	**202**	P	**P**	**07 07 44.5**	**-2.0**
OXZ	**Oxford**	**27.71**	**200**	P	**P**	**07 07 48.4**	**-1.0**
MQZ	**McQueen's Vall**	**27.85**	**199**	P	**P**	**07 07 50.6**	**0.0**
WVZ	**Waitaha Valley**	**27.94**	**202**	P	**P**	**07 07 49.8**	**-1.7**
DCZ	**Deep Cove**	**31.32**	**204**	P	**P**	**07 08 20.6**	**-0.6**
EIDS	**Eidsvold**	**32.23**	**250**	P	**P**	**07 08 29.1**	**-0.4**
EIDS				IAmb	IAmb	07 09 08.2	
	comp=Z,17nm,1.5s						
ARMA	**Armidale**	**32.71**	**241**	P	**P**	**07 08 33.6**	**-0.2**
ARMA				IAmb	IAmb	07 08 34.6	
	comp=Z,7.4nm,0.8s						
CTAO	**Charters Tower**	**36.52**	**260**	P	**P**	**07 09 05.5**	**-0.9**
CTAO				IAmb	IAmb	07 09 08.8	
	comp=Z,12nm,1.1s						
COEN	**Coen**	**40.20**	**269**	P	**P**	**07 09 37.5**	**+0.4**
COEN				IAmb	IAmb	07 09 48.7	
	comp=Z,16nm,1.2s						
STKA	**Stephens Creek**	**41.42**	**242**	P	**P**	**07 09 46.3**	**-0.6**
STKA	**Stephens Creek**	**41.42**	**242**	P	**P**	**07 09 47.0**	**+0.2**
	comp=Z,7.5nm,0.8s,baz=89,slow=9.0,SNR=9.1						
	comp=Z,7.5nm,0.8s						
INKA	**Innaminka**	**41.67**	**248**	P	**P**	**07 09 50.2**	**+1.3**
INKA				IAmb	IAmb	07 09 50.7	
	comp=Z,10nm,1.2s						
WR8	**Warramunga Arr**	**47.55**	**259**		**P**	**07 10 35.5**	**0.0**
WR8				IAmb	IAmb	07 10 37.3	
	comp=Z,7.1nm,0.6s						
WRA	**Warramunga Arr**	**47.70**	**259**		**P**	**07 10 35.9**	**-0.8**
WRA	**Warramunga Arr**	**47.70**	**259**	P	**P**	**07 10 35.9**	**-0.8**
	comp=Z,5.7nm,0.6s,baz=96,slow=7.3,SNR=72						
	comp=Z,5.7nm,0.6s						
AS31	**Alice Springs**	**47.81**	**254**	P	**P**	**07 10 37.1**	**-0.4**
AS31				IAmb	IAmb	07 10 38.4	
	comp=Z,14nm,0.7s						
ASAR	**Alice Springs**	**47.81**	**254**	P	**P**	**07 10 37.1**	**-0.4**
ASAR	**Alice Springs**	**47.81**	**254**	P	**P**	**07 10 37.5**	**0.0**
	comp=Z,55nm,0.6s,baz=90,slow=8.4,SNR=753						
VNDA	**Vanda**	**60.88**	**186**	P	**P**	**07 12 10.6**	**-0.2**
VNDA	**Vanda**	**60.88**	**186**	P	**P**	**07 12 10.8**	**0.0**
	comp=Z,1.1nm,0.8s,baz=7.5,slow=7.5,SNR=8.7						
	comp=Z,1.1nm,0.8s						
CASY	**Casey**	**67.58**	**205**	P	P	07 12 51.1	-3.3
JMZ	**Minamidaito 2**	**67.77**	**308**	P	**P**	**07 12 55.3**	**-1.0**
JNU	**Nakatsue**	**72.20**	**315**	P	**P**	**07 13 23.9**	**+0.8**
QSPA	**South Pole Qui**	**72.31**	**180**	P	**P**	**07 13 24.0**	**+0.6**
QSPA	**South Pole Qui**	**72.31**	**180**	P	**P**	**07 13 24.8**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=327,slow=0.1,SNR=14						
	comp=Z,2.1nm,0.8s						
K15K	**Wolf Creek Mou**	**80.50**	**6**	P	**P**	**07 14 10.8**	**+1.7**
K15K				IAmb	IAmb	07 14 35.5	
	comp=Z,7.4nm,1.2s						
L18K	**Granite Mounta**	**81.04**	**9**	P	**P**	**07 14 12.5**	**+0.6**
L18K				IAmb	IAmb	07 14 52.8	
	comp=Z,10nm,1.5s						
J17K	**VABM Dome**	**81.85**	**7**	P	**P**	**07 14 17.0**	**+0.8**
J17K				IAmb	IAmb	07 14 45.1	
	comp=Z,13nm,1.4s						
BELA	**Belgrano 2**	**81.92**	**172**	P	**P**	**07 14 14.8**	**-1.7**
MAW	**Mawson**	**85.04**	**199**	P	**P**	**07 14 31.8**

s-maj=31.2km s-min=10.1km az=103.9, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCZ	**Waipu Caves**	**5.46**	**217**	P	Pn	07 13 18.1	-0.1
MXZ	**Matakaoa Point**	**5.91**	**181**	P	Pn	07 13 23.7	+0.5
HAZ	**Te Kaha**	**6.12**	**185**	P	Pn	07 13 25.8	+0.1
HAZ				S	S	07 14 41.1	+1.1
PKGZ	**Pakihiroa**	**6.22**	**182**	P	Pn	07 13 27.2	+0.3
RUGZ	**Raukumara Rang**	**6.34**	**185**	P	Pn	07 13 28.3	-0.1
RUGZ				S	S	07 14 44.4	-0.5
PUZ	**Puketiti**	**6.42**	**181**	P	Pn	07 13 28.9	-0.3
PUZ				S	S	07 14 46.9	+0.5
URZ	**Urewera**	**6.69**	**189**	P	Pn	07 13 32.1	-0.2
URZ				S	S	07 14 51.6	-0.5
MWZ	**Matawai**	**6.72**	**186**	P	Pn	07 13 33.0	+0.3
MUGZ	**Murupara**	**6.95**	**191**	P	Pn	07 13 35.9	+0.4
RTZ	**Ruatahuna**	**7.06**	**189**	P	Pn	07 13 38.1	0.0
NMHZ	**Naumai**	**7.55**	**190**	P	Pn	07 13 43.4	+0.8
BKZ	**Black Stump Fm**	**7.67**	**191**	P	Pn	07 13 43.0	-1.0
BKZ				S	S	07 15 15.3	+1.8
OTVZ	**Oturere**	**7.83**	**196**	P	Pn	07 13 47.1	+1.0
KWHZ	**Kaweka Forest**	**7.93**	**191**	P	Pn	07 13 46.4	-0.8
KWHZ				S	S	07 15 21.3	+2.0
WHVZ	**Whangaehu Hut**	**7.96**	**196**	P	Pn	07 13 48.7	+0.9
WNVZ	**Wahianoa**	**8.01**	**196**	P	Pn	07 13 48.8	+0.7
KRHZ	**Kereru**	**8.16**	**191**	P	Pn	07 13 48.8	-1.0
KRHZ				S	S	07 15 24.2	+0.1
KAHZ	**Kahuranaki**	**8.23**	**188**	P	Pn	07 13 49.8	-0.9
PXZ	**Pawanui**	**8.47**	**188**	P	Pn	07 13 52.2	-1.3
TSZ	**Takapari Road**	**8.63**	**193**	P	Pn	07 13 54.1	-1.4
BFZ	**Birch Farm**	**9.19**	**190**	P	Pn	07 14 01.0	-1.1
BFZ				S	S	07 15 46.9	0.0
THZ	**Tophouse**	**11.02**	**202**	P	Pn	07 14 23.3	-0.9
THZ				S	S	07 16 27.1	-0.6

*IDC **21** 07:22:00.9±2.8, 32°.38S×178°.83W, h0^{km}, mb3.8/2, mbtmp3.8/3, ML3.7/1, MS2.9/1, Error ellipse: s-maj=65.2km s-min=43.5km az=121.0*

*WEL **21** 07:22:03.9±1.1, 33°.5±8°×17°.9W±1°.9, h144^{km}±32^{km}, M4.4/6, ML4.8/1, MLv4.4/6, Error ellipse: s-maj=27.2km s-min=5.1km az=111.6, confirmed*

ISC 21 07:22:01.4±1.4, 33°.01S±0°.08×177°.9W±0°.2, h35^{km}, n32, σ2^{s}69/44, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.73**	**0**	P	**Pn**	**07 22 58.5**	**+1.9**
GLKZ				S	**Sn**	**07 23 37.6**	**-1.8**
MXZ	**Matakaoa Point**	**5.49**	**213**	P	**Pn**	**07 23 24.3**	**+3.6**
MXZ				S	**Sn**	**07 24 24.7**	**+2.1**
HAZ	**Te Kaha**	**5.89**	**215**	P	**Pn**	**07 23 29.8**	**+3.6**
HAZ				S	**Sn**	**07 24 33.8**	**+1.4**
PUZ	**Puketiti**	**5.93**	**211**	P	**Pn**	**07 23 30.4**	**+3.6**
PUZ				S	**Sn**	**07 24 36.1**	**+2.5**
MWZ	**Matawai**	**6.47**	**214**	P	**Pn**	**07 23 36.1**	**+1.8**
MWZ				S	**Sn**	**07 24 47.7**	**+0.8**
URZ	**Urewera**	**6.62**	**216**	Pn	**Pn**	**07 23 40.8**	**+4.7**
	1.6nm,0.3s,baz=262,slow=3.6,SNR=24						
URZ				Sn	**Sn**	**07 24 51.3**	**+1.0**
	1.4nm,0.3s,baz=217,slow=6.0,SNR=7.9 3.8nm,0.3s						
URZ	**Urewera**	**6.62**	**216**	P	**Pn**	**07 23 40.2**	**+4.1**
URZ				S	**Sn**	**07 24 50.0**	**-0.2**
RTZ	**Ruatahuna**	**6.96**	**215**	P	**Pn**	**07 23 43.7**	**+2.7**
RTZ				S	**Sn**	**07 24 59.6**	**+0.8**
KNZ	**Kokohu**	**6.98**	**209**	P	**Pn**	**07 23 43.3**	**+2.2**
WCZ	**Waipu Caves**	**7.02**	**243**	P	**Pn**	**07 23 44.0**	**+2.4**
OUZ	**Omahuta**	**7.37**	**250**	P	**Pn**	**07 23 47.6**	**+1.1**
NMHZ	**Naumai**	**7.42**	**214**	P	**Pn**	**07 23 50.3**	**+3.0**
NMHZ				S	**Sn**	**07 25 11.6**	**+1.3**
BKZ	**Black Stump Fm**	**7.62**	**215**	P	**Pn**	**07 23 51.5**	**+1.5**
BKZ				S	**Sn**	**07 25 13.3**	**-1.9**
KAHZ	**Kahuranaki**	**7.96**	**210**	P	**Pn**	**07 23 57.0**	**+2.3**
KAHZ				S	**Sn**	**07 25 24.1**	**+0.6**
NTVZ	**North Tongarir**	**7.98**	**219**	P	**Pn**	**07 23 58.7**	**+3.6**
NTVZ				S	**Sn**	**07 25 23.7**	**-0.4**
OTVZ	**Oturere**	**8.04**	**218**	P	**Pn**	**07 23 58.7**	**+2.9**
OTVZ				S	**Sn**	**07 25 24.3**	**-1.3**
WNVZ	**Wahianoa**	**8.19**	**218**	P	**Pn**	**07 24 01.0**	**+3.0**
WNVZ				S	**Sn**	**07 25 26.8**	**-2.6**
PNHZ	**Pukenui**	**8.36**	**213**	P	**Pn**	**07 24 01.7**	**+1.6**
PNHZ				S	**Sn**	**07 25 29.8**	**-3.4**
BFZ	**Birch Farm**	**8.97**	**210**	P	**Pn**	**07 24 05.6**	**-2.8**
BFZ				S	**Sn**	**07 25 44.2**	**-4.0**
TIWZ	**Tintock**	**9.20**	**211**	P	**Pn**	**07 24 12.0**	**+0.4**
TIWZ				S	**Sn**	**07 25 50.1**	**-3.8**
MRZ	**Mangatainoka R**	**9.24**	**212**	P	**Pn**	**07 24 12.5**	**+0.3**
MRZ				S	**Sn**	**07 25 49.5**	**-5.3**
OGWZ	**Otaki Gorge**	**9.55**	**213**	P	**Pn**	**07 24 16.1**	**-0.3**
OGWZ				S	**Sn**	**07 25 57.2**	**-5.2**
RAR	**Rarotonga**	**19.95**	**58**	LR	LR	07 32 36.4	
	comp=Z,36nm,20.3s,baz=281,slow=31						
ASAR	**Alice Springs**	**43.09**	**270**	P	**P**	**07 29 56.8**	**-1.6**
	0.3nm,0.4s,baz=108,slow=7.5,SNR=10 0.3nm,0.4s						
WRA	**Warramunga Arr**	**44.31**	**275**	P	**P**	**07 30 06.4**	**-1.9**
	1.2nm,0.4s,baz=114,slow=7.6,SNR=18 1.2nm,0.4s						
H03S2	**Juan Fernandez**	**78.98**	**123**	T	T	09 02 39.7	
	baz=236,slow=74,SNR=7.4						
H03S1	**Juan Fernandez**	**79.00**	**123**	T	T	09 02 39.3	
	baz=236,slow=74,SNR=7.5						
H03S3	**Juan Fernandez**	**79.00**	**123**	T	T	09 02 40.9	
	baz=236,slow=74,SNR=6.8						
H03N3	**Juan Fernandez**	**79.19**	**123**	T	T	09 02 43.0	
	baz=240,slow=72,SNR=9.6						
H03N2	**Juan Fernandez**	**79.19**	**123**	T	T	09 02 41.7	
	baz=240,slow=72,SNR=7.0						
H03N1	**Juan Fernandez**	**79.21**	**123**	T	T	09 02 44.3	
	baz=240,slow=72,SNR=14						
FINES	**FINESS Array B**	**147.60**	**339**	PKPbc	**PKiKP**	**07 41 43.3**	**0.0**
	1.9nm,0.8s,baz=46,slow=4.0,SNR=14						

*CNRM **21** 07:25:33.6, 36°.17N×12°.31W, h23^{km}, ML4.2*

*MDD **21** 07:25:34.6±0.3, 36°.48N×12°.67W, h30^{km}, Mb4.6/18, M_mb4.1/18, Error ellipse: s-maj=4.4km s-min=2.5km az=131.0*

*IGIL **21** 07:25:37.1, 36°.45N×12°.51W, h68^{km}, ML3.5*

*INMG **21** 07:25:37.9±1.3, 36°.42N×12°.63W, h20^{km}, ML3.4, Error ellipse: s-maj=4.5km s-min=2.8km az=112.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Gorringe*

ISC 21 07:25:31.4±2.3, 36°.46N±0°.06×12°.5W±0°.1, h10^{km}, n120, σ3^{s}22/157, 16C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.01**	**76**	Pn	**Pn**	**07 26 21.3**	**+2.2**
PFVI				Sn	**Sn**	**07 26 53.7**	**-1.6**
PFVI	**Vila Bisbo**	**3.01**	**76**	*eP*	**Pn**	**07 26 21.3**	**+2.2**
PFVI				*eS*	**Sn**	**07 26 53.8**	**-1.5**
PFVI				*i* IAML		07 26 55.8	
PFVI				*i* IAML		07 26 56.0	
PFVI				*i* IAML		07 26 56.3	
PFVI	**Vila Bisbo**	**3.01**	**76**	P	**Pn**	**07 26 21.2**	**+2.0**
PFVI	**Vila Bisbo**	**3.01**	**76**	S	**Sn**	**07 26 54.9**	**-0.3**
PFVI	**Vila Bisbo**	**3.01**	**76**	P	**Pn**	**07 26 21.6**	**+2.0**
PFVI	**Vila Bisbo**	**3.01**	**76**	P	**Pn**	**07 26 21.2**	**+2.0**
MORF	**Marmelete**	**3.19**	**73**	*eP*	**Pn**	**07 26 24.0**	**+2.4**
MORF				*eS*	**Sn**	**07 26 58.0**	**-1.6**
MORF				IAML		07 27 01.7	
	comp=N,126nm,0.3s						
MORF	**Marmelete**	**3.19**	**73**	*eP*	**Pn**	**07 26 24.0**	**+2.4**
MORF				*eS*	**Sn**	**07 26 58.6**	**-1.0**
MORF				*i* IAML		07 27 00.9	
MORF				*i* IAML		07 27 01.4	
MORF				*i* IAML		07 27 01.6	
PTEO	**Sao Teotonio**	**3.20**	**69**	*eP*	**Pn**	**07 26 24.1**	**+2.4**
PTEO				*eS*	**Sn**	**07 26 57.9**	**-2.0**
PTEO				*i* IAML		07 27 00.4	
PTEO				*i* IAML		07 27 00.5	
PTEO				*i* IAML		07 27 02.3	
LIS	**Lisbon**	**3.48**	**49**	*eS*	**Sn**	**07 27 04.7**	**-2.1**
LIS				IAML		07 27 07.3	
	comp=E,399nm,0.2s						
LIS	**Lisbon**	**3.48**	**49**	*eS*	**Sn**	**07 27 05.6**	**-1.2**
LIS				*i* IAML		07 27 07.1	
LIS				*i* IAML		07 27 07.2	
LIS				*i* IAML		07 27 09.4	
PMAFR	**Mafra**	**3.56**	**45**	Pn	**Pn**	**07 26 28.6**	**+2.0**
PMAFR				Sn	**Sn**	**07 27 07.1**	**-1.7**
PMAFR	**Mafra**	**3.56**	**45**	*eP*	**Pn**	**07 26 28.7**	**+2.0**
PMAFR				*eS*	**Sn**	**07 27 07.1**	**-1.7**
PMAFR				*i* IAML		07 27 07.8	
PMAFR				*i* IAML		07 27 07.9	
PMAFR				*i* IAML		07 27 08.1	
PARRA	**Arraiolos**	**3.61**	**48**	*eP*	**Pb**	**07 26 37.6**	**+2.3**
PARRA				*eS*	**Sb**	**07 27 22.2**	**+3.1**
PARRA				*i* IAML		07 27 23.8	
PARRA				*i* IAML		07 27 24.3	
PARRA				*i* IAML		07 27 26.6	
MESJ	**Messejana**	**3.67**	**67**	*eP*	**Pn**	**07 26 30.4**	**+2.2**
MESJ	**Messejana**			*eS*	**Sn**	**07 27 09.1**	**-2.6**
MESJ				IAML		07 27 14.8	
	comp=N,39nm,0.1s						
MESJ	**Messejana**	**3.67**	**67**	↑*eP*	**Pn**	**07 26 30.5**	**+2.2**
MESJ				*eS*	**Sn**	**07 27 09.3**	**-2.4**
MESJ				*i* IAML		07 27 12.6	
MESJ				*i* IAML		07 27 13.0	
MESJ				*i* IAML		07 27 13.6	
PBDV	**Barranco-do-Ve**	**3.73**	**76**	Pn	**Pn**	**07 26 31.7**	**+2.7**
PBDV				Sn	**Sn**	**07 27 11.3**	**-1.8**
PBDV	**Barranco-do-Ve**	**3.73**	**76**	*eP*	**Pn**	**07 26 31.8**	**+2.7**
PBDV				*eS*	**Sn**	**07 27 11.7**	**-1.5**
PBDV				*i* IAML		07 27 14.6	
PBDV				*i* IAML		07 27 17.1	
PBDV				*i* IAML		07 27 19.1	
PCVE	**Castro Verde**	**3.74**	**70**	Pn	**Pn**	**07 26 31.6**	**+2.3**
PCVE				Sn	**Sn**	**07 27 11.3**	**-2.1**
PCVE	**Castro Verde**	**3.74**	**70**	*eP*	**Pn**	**07 26 31.6**	**+2.3**
PCVE				*eS*	**Sn**	**07 27 11.2**	**-2.2**
PCVE				*i* IAML		07 27 14.4	
PCVE				*i* IAML		07 27 14.5	
PCVE				*i* IAML		07 27 25.4	
PVAQ	**Vaqueiros**	**3.93**	**75**	*eP*	**Pn**	**07 26 34.4**	**+2.6**
PVAQ				*eS*	**Sn**	**07 27 16.3**	**-1.7**
PVAQ				*i* IAML		07 27 19.4	
PVAQ				*i* IAML		07 27 20.3	
PVAQ				*i* IAML		07 27 20.8	
PVAQ	**Vaqueiros**	**3.93**	**75**	P	**Pn**	**07 26 34.3**	**+2.4**
PVAQ	**Vaqueiros**	**3.93**	**75**	S	**Sn**	**07 27 17.3**	**-0.7**
PVAQ	**Vaqueiros**	**3.93**	**75**	P	**Pn**	**07 26 34.3**	**+2.4**
PVAQ	**Vaqueiros**	**3.93**	**75**	P	**Pn**	**07 26 34.3**	**+2.4**
PBEJ	**Beja**	**4.00**	**66**	*eP*	**Pn**	**07 26 35.3**	**+2.5**
PBEJ				*eS*	**Sn**	**07 27 17.0**	**-2.8**
PBEJ				*i* IAML		07 27 18.7	
PBEJ				*i* IAML		07 27 19.6	
PBEJ				*i* IAML		07 27 19.6	
EVO	**Evora**	**4.12**	**58**	Pn	**Pn**	**07 26 36.6**	**+2.3**
EVO				Sn	**Sn**	**07 27 19.7**	**-2.8**
EVO	**Evora**	**4.12**	**58**	*eP*	**Pn**	**07 26 36.8**	**+2.4**
EVO				*eS*	**Sn**	**07 27 19.8**	**-2.7**
EVO				*i* IAML		07 27 20.7	
EVO				*i* IAML		07 27 23.1	
EVO				*i* IAML		07 27 23.5	
EGRO	**El Granado**	**4.14**	**73**	Pn	**Pn**	**07 26 37.6**	**+2.9**
EGRO				Sn	**Sn**	**07 27 21.9**	**-1.3**
EGRO	**El Granado**	**4.14**	**73**	P	**Pn**	**07 26 37.4**	**+2.7**
EGRO				↑*i*Vmb_VC		07 26 40.0	
	comp=N,393nm,SNR=5.2						
EGRO				S	**Sn**	**07 27 21.2**	**-2.0**
PSBE	**So Bento**	**4.22**	**43**	*eP*	**Pn**	**07 26 38.1**	**+2.3**
PSBE				*eS*	**Sn**	**07 27 22.7**	**-2.5**
PSBE				*i* IAML		07 27 24.0	
PSBE				*i* IAML		07 27 26.5	
PSBE				*i* IAML		07 27 30.1	
PMTG	**Montargil**	**4.26**	**51**	*eP*	**Pn**	**07 26 38.2**	**+1.8**
PMTG				*eS*	**Sn**	**07 27 23.2**	**-3.0**
PMTG				*i* IAML		07 27 23.9	
PMTG				*i* IAML		07 27 27.4	
PMTG				*i* IAML		07 27 27.7	
PESTR	**Estremoz**	**4.57**	**57**	Pn	**Pn**	**07 26 42.9**	**+2.3**
PESTR				Sn	**Sn**	**07 27 30.2**	**-3.5**
PESTR	**Estremoz**	**4.57**	**57**	*eP*	**Pn**	**07 26 42.9**	**+2.3**
PESTR				*eS*	**Sn**	**07 27 30.1**	**-3.6**
PESTR				*i* IAML		07 27 35.0	
PESTR				*i* IAML		07 27 36.0	
PESTR				*i* IAML		07 27 40.7	
PESTR	**Estremoz**	**4.57**	**57**	P	**Pn**	**07 26 42.8**	**+2.3**
PESTR	**Estremoz**	**4.57**	**57**	S	**Sn**	**07 27 33.7**	**0.0**
PESTR	**Estremoz**	**4.57**	**57**	P	**Pn**	**07 26 42.8**	**+2.3**
PESTR	**Estremoz**	**4.57**	**57**	P	**Pn**	**07 26 42.8**	**+2.3**
PMPST	**Porto Santo, M**	**4.62**	**224**	*eP*	Pn	07 26 39.2	-2.2
PMPST				*eS*	Sn	07 27 22.8	-12
PMPST				*i* IAML		07 27 27.6	
PMPST				*i* IAML		07 27 27.7	
PMPST				*i* IAML		07 27 28.9	
PSARD	**Sardoal**	**4.64**	**46**	*eP*	**Pn**	**07 26 43.4**	**+1.9**
PSARD				*eS*	**Sn**	**07 27 32.7**	**-2.7**
PSARD				*i* IAML		07 27 33.7	
PSARD				*i* IAML		07 27 34.2	
PSARD				*i* IAML		07 27 36.2	
PMPS	**Porto Santo**	**4.64**	**224**	*eP*	Pn	07 26 39.7	-1.8
PMPS				*eS*	Sn	07 27 24.3	-11
PMPS				*i* IAML		07 27 26.9	
ARNO	**Arenosillo**	**4.66**	**80**	Sn	**Sn**	**07 27 35.5**	**-0.5**
ARNO				Pn	**Pn**	**07 26 44.7**	**+3.0**
PBAR	**Barrancos**	**4.67**	**67**	Pn	**Pn**	**07 26 44.3**	**+2.4**
PBAR				Sn	**Sn**	**07 27 32.7**	**-3.4**
PBAR	**Barrancos**	**4.67**	**67**	*eP*	**Pn**	**07 26 44.0**	**+2.1**
PBAR				*eS*	**Sn**	**07 27 32.8**	**-3.3**
PBAR				*i* IAML		07 27 35.3	
PBAR				*i* IAML		07 27 35.4	
PBAR				*i* IAML		07 27 36.8	
PCAS	**Casmilo, Conde**	**4.77**	**40**	↑*eP*	**Pn**	**07 26 45.3**	**+2.0**
PCAS				*eS*	**Sn**	**07 27 35.4**	**-3.2**
PCAS				*i* IAML		07 27 37.2	
PCAS				*i* IAML		07 27 37.4	
PCAS				*i* IAML		07 27 37.8	
EMIN	**Mina Concepcio**	**4.83**	**73**	Pn	**Pn**	**07 26 46.6**	**+2.6**
EMIN				Sn	**Sn**	**07 27 37.2**	**-2.8**
EMIN	**Mina Concepcio**	**4.83**	**73**	P	**Pn**	**07 26 46.4**	**+2.3**
EMIN				↑*i*Vmb_VC		07 26 47.0	
	comp=N,280nm,SNR=4.1						
EMIN				S	**Sn**	**07 27 38.1**	**-2.0**
EBAD	**Badajoz**	**4.91**	**60**	Pn	**Pn**	**07 26 47.2**	**+1.9**
EBAD				Sn	**Sn**	**07 27 38.6**	**-3.5**
EBAD	**Badajoz**	**4.91**	**60**	P	**Pn**	**07 26 47.2**	**+1.9**
EBAD				↑*i*Vmb_VC		07 26 48.9	
	comp=N,518nm,SNR=5.9						
EBAD				S	**Sn**	**07 27 39.1**	**-3.1**
COI	**Coimbra**	**4.93**	**39**	*eP*	**Pn**	**07 26 48.2**	**+2.8**
COI				*eS*	**Sn**	**07 27 39.2**	**-3.3**
COI				*i* IAML		07 27 40.1	
COI				*i* IAML		07 27 41.0	
COI				*i* IAML		07 27 42.1	
PMRV	**Marv??o**	**5.00**	**52**	*eP*	**Pn**	**07 26 48.1**	**+1.6**
PMRV				*eS*	**Sn**	**07 27 40.4**	**-4.0**
PMRV				*i* IAML		07 27 41.9	
PMRV				*i* IAML		07 27 41.9	
PMRV				*i* IAML		07 27 42.2	
PCBR	**Castelo Branco**	**5.19**	**48**	*eP*	**Pn**	**07 26 51.3**	**+2.2**
PCBR				*eS*	**Sn**	**07 27 45.3**	**-3.8**
PCBR				*i* IAML		07 27 46.5	
PCBR				*i* IAML		07 27 47.7	
PCBR				*i* IAML		07 27 47.8	
PMAR	**Madeira**	**5.22**	**226**	*eP*	Pn	07 26 47.0	-2.6
PMAR				*eS*	Sn	07 27 39.0	-11
PMAR				*i* IAML		07 27 44.0	
PMAR				*i* IAML		07 27 44.2	
PMAR				*i* IAML		07 27 45.6	
PMAR	**Madeira**	**5.22**	**226**	P	Pn	07 26 47.5	-2.1
RTC	**Rabat Centre**	**5.22**	**116**	Sn	**Sn**	**07 27 44.3**	**-5.5**
AVE	**Averroes**	**5.22**	**126**	Pn	**Pn**	**07 26 50.2**	**+0.6**
AVE				Sn	**Sn**	**07 27 44.3**	**-5.6**
AVE	**Averroes**	**5.22**	**126**	P	Pn	07 26 46.2	-2.9
AVE	**Averroes**	**5.22**	**126**	S	**Sn**	**07 27 44.0**	**-5.9**
PMOZ	**Porto Moniz, M**	**5.31**	**228**	Pn	Pn	07 26 48.5	-2.4
PMOZ				Sn	Sn	07 27 37.8	-14
PMOZ	**Porto Moniz, M**	**5.31**	**228**	*eP*	Pn	07 26 49.2	-1.7
PMOZ				*eS*	Sn	07 27 41.4	-11
PMOZ				*i* IAML		07 27 49.9	
PMOZ				*i* IAML		07 27 49.9	
PMOZ				*i* IAML		07 27 54.5	
PMOZ	**Porto Moniz, M**	**5.31**	**228**	P	Pn	07 26 49.0	-1.9
ESPR	**Espera**	**5.34**	**84**	Sn	**Sn**	**07 27 50.8**	**-2.0**
ESPR	**Espera**	**5.34**	**84**	S	**Sn**	**07 27 52.4**	**-0.3**
SRHM	**Skhour des Reh**	**5.49**	**135**	P	**Pn**	**07 26 52.0**	**-1.3**
SRHM	**Skhour des Reh**	**5.49**	**135**	S	**Sn**	**07 27 52.2**	**-4.3**
MTE	**Manteigas**	**5.53**	**43**	*eP*	**Pn**	**07 26 55.5**	**+1.7**
MTE				*eS*	**Sn**	**07 27 53.6**	**-3.8**
MTE				*i* IAML		07 27 55.1	
MTE				*i* IAML		07 27 56.4	
MTE				*i* IAML		07 27 56.9	
PVIS	**Viseu**	**5.57**	**39**	*eS*	**Sn**	**07 27 54.0**	**-4.4**
PTO	**Porto**	**5.57**	**32**	*eP*	**Pn**	**07 26 56.6**	**+2.3**
PTO				*eS*	**Sn**	**07 27 53.9**	**-4.5**
EJIF	**Jimena Fronter**	**5.65**	**88**	P	**Pn**	**07 26 58.1**	**+2.7**
ZHG	**ZHG**	**5.66**	**120**	P	**Pn**	**07 26 53.3**	**-2.3**
ZHG	**ZHG**	**5.66**	**120**	S	**Sn**	**07 27 54.9**	**-5.7**
SMIR	**Smir Dam**	**5.80**	**96**	P	**Pn**	**07 26 55.8**	**-1.7**
SMIR	**Smir Dam**	**5.80**	**96**	S	**Sn**	**07 27 58.0**	**-3.2**
ECAB	**El Cabril**	**5.86**	**72**	Pn	**Pn**	**07 27 00.4**	**+2.1**
ECAB				Sn	**Sn**	**07 28 01.5**	**-4.1**
ECAB	**El Cabril**	**5.86**	**72**	P	**Pn**	**07 27 00.4**	**+2.1**
ECAB				↑*i*Vmb_VC		07 27 01.9	
	comp=N,522nm,SNR=9.6						
ECAB				S	**Sn**	**07 28 01.8**	**-3.8**
PVRL	**Vila Real**	**6.08**	**36**	*eP*	**Pn**	**07 27 03.3**	**+1.9**
PVRL				*eS*	**Sn**	**07 28 05.1**	**-6.0**
PVRL				*i* IAML		07 28 07.5	
PVRL				*i* IAML		07 28 08.0	
PVRL				*i* IAML		07 28 08.5	
POLO	**Lamas de Olo**	**6.12**	**35**	*eP*	**Pn**	**07 27 03.1**	**+1.1**
POLO				*eS*	**Sn**	**07 28 06.2**	**-5.9**
POLO				*i* IAML		07 28 07.7	
POLO				*i* IAML		07 28 09.3	
POLO				*i* IAML		07 28 09.7	
EPLA	**Plasencia**	**6.19**	**52**	P	**Pn**	**07 27 04.8**	**+1.9**
EPLA				↑*i*Vmb_VC		07 27 13.8	
	comp=N,200nm,SNR=1.8						
EPLA				S	**Sn**	**07 28 09.3**	**-4.5**
PCAB	**Cabril**	**6.29**	**32**	*eP*	**Pn**	**07 27 05.3**	**+1.1**
PCAB				*eS*	**Sn**	**07 28 10.3**	**-5.7**
PCAB				*i* IAML		07 28 12.8	
PCAB				*i* IAML		07 28 12.9	
PCAB				*i* IAML		07 28 13.9	
MVO	**Moncorvo**	**6.34**	**41**	*eP*	**Pn**	**07 27 06.4**	**+1.5**
MVO				*eS*	**Sn**	**07 28 11.9**	**-5.6**
MVO				*i* IAML		07 28 13.8	
MVO				*i* IAML		07 28 14.8	
MVO				*i* IAML		07 28 15.4	
EZAM	**Zamans**	**6.40**	**26**	P	**Pn**	**07 27 07.7**	**+2.0**
EZAM				↑*i*Vmb_VC		07 27 10.0	
	comp=N,433nm,SNR=2.3						
EZAM				S	**Sn**	**07 28 12.8**	**-6.0**
ELOB	**Lobios**	**6.40**	**31**	P	**Pn**	**07 27 07.3**	**+1.5**
ELOB				↑*i*Vmb_VC		07 27 10.5	
	comp=N,328nm,SNR=2.0						
ELOB				S	**Sn**	**07 28 13.8**	**-5.2**
OUK	**Oukaimeden**	**6.49**	**142**	P	Pn	07 27 03.8	-3.5
OUK	**Oukaimeden**	**6.49**	**142**	S	Sn	07 28 15.0	-6.6
OUK	**Oukaimeden**	**6.49**	**142**	P	**Pn**	**07 27 09.0**	**+1.7**
OUK	**Oukaimeden**	**6.49**	**142**	P	**Pn**	**07 27 09.0**	**+1.7**
EADA	**Adamuz**	**6.53**	**72**	Pn	**Pn**	**07 27 09.9**	**+2.4**
EADA				Sn	**Sn**	**07 28 17.8**	**-4.2**
EADA	**Adamuz**	**6.53**	**72**	P	**Pn**	**07 27 09.6**	**+2.1**
EADA				↑*i*Vmb_VC		07 27 11.6	
	comp=N,267nm,SNR=3.5						
EADA				S	**Sn**	**07 28 18.4**	**-3.6**
TISM	**Timmit**	**6.88**	**132**	P	Pn	07 27 09.3	-3.1
TISM	**Timmit**	**6.88**	**132**	S	**Sn**	**07 28 23.9**	**-6.9**
EJUZ	**Juzbado, Salam**	**6.92**	**46**	S	**Sn**	**07 28 28.5**	**-3.2**
PBRG	**Braganca**	**6.96**	**38**	*eP*	**Pn**	**07 27 14.8**	**+1.4**
PBRG				*eS*	**Sn**	**07 28 26.3**	**-6.3**
PBRG				*i* IAML		07 28 28.1	
PBRG				*i* IAML		07 28 29.6	
PBRG				*i* IAML		07 28 30.9	
CZD	**Col de Zad**	**7.01**	**117**	P	Pn	07 27 11.4	-3.0
TIO	**Tiouine**	**7.02**	**140**	P	Pn	07 27 11.3	-3.1
TIO	**Tiouine**	**7.02**	**140**	S	Sn	07 28 27.4	-7.0
EMAZ	**Mazaricos**	**7.03**	**22**	P	**Pn**	**07 27 15.6**	**+1.3**
EMAZ				S	**Sn**	**07 28 27.6**	**-6.7**
ECAL	**Calabor**	**7.06**	**37**	Pn	**Pn**	**07 27 16.0**	**+1.1**
ECAL				Sn	**Sn**	**07 28 29.1**	**-6.1**
ECAL	**Calabor**	**7.06**	**37**	P	**Pn**	**07 27 16.3**	**+1.4**
ECAL				↑*i*Vmb_VC		07 27 17.9	
	comp=N,307nm,SNR=1.5						
ECAL				S	**Sn**	**07 28 30.1**	**-5.1**
EAGO	**Agolada(Pontev**	**7.19**	**27**	P	**Pn**	**07 27 17.7**	**+1.2**
EAGO				S	**Sn**	**07 28 31.3**	**-6.9**
AKLM	**AKL**	**7.29**	**103**	P	Pn	07 27 14.4	-3.7

ARTR	**Artybash**	**1.21**	**352**	Pg	**Pg**	07 35 23.0	-0.3		
ARTR				Sg	**Sn**	**07 35 40.3**	**+0.7**		
ARTR	**Artybash**	**1.21**	**352**	Pg	**Pg**	**07 35 23.1**	**-0.3**		
ARTR						07 35 39.9			
TEL	**Teeli**	**1.74**	**75**	Pg	**Pg**	**07 35 33.3**	**-0.1**		
TEL				Sg	**Sg**	**07 35 57.1**	**+1.0**		
TEL	**Teeli**	**1.74**	**75**	PN	**Pg**	**07 35 33.4**	**-0.1**		
TEL						07 35 57.8			
UKR	**Ust'-Kan**	**1.79**	**282**	Pg	**Pg**	**07 35 32.3**	**-2.2**		
UKR				Sg	**Sg**	**07 35 54.9**	**-2.7**		
UKR	**Ust'-Kan**	**1.79**	**282**	PN	**Pg**	**07 35 32.2**	**-2.2**		
UKR						07 35 54.7			
ELT	**Eltsovka**	**2.78**	**344**	Pg	**Pb**	**07 35 48.2**	**-1.7**		
ELT				Sg	**Sg**	**07 36 28.5**	**-0.9**		
KALT2	**Kaltan 2**	**2.81**	**357**	Sg	**Sg**	**07 36 30.6**	**+0.4**		
DJO	**Djoy, Khakassi**	**3.16**	**45**	Pg	**Pg**	**07 36 00.1**	**-0.6**		
DJO				Sg	**Sg**	**07 36 40.7**	**-1.0**		
VEH	**Verkhnyaya Baz**	**3.16**	**32**	Pg	**Pg**	**07 35 58.6**	**-2.1**		
VEH				Sg	**Sg**	**07 36 39.8**	**-1.8**		
LUZB	**Luzhba, Kemero**	**3.18**	**15**	Pn	**Pb**	**07 35 54.2**	**-2.4**		
LUZB				Pg	**Pg**	**07 35 58.6**	**-2.4**		
LUZB				Sg	**Sg**	**07 36 41.6**	**-0.5**		
ZAA0	**Zalesovo Array**	**3.74**	**335**		**Pn**	**07 36 00.2**	**+2.2**		
ZAA0	**Zalesovo Array**	**3.74**	**335**	⇑Pn	**Pn**	**07 36 00.1**	**+2.2**		
	12nm,0.7s								
ZAA0				⇑Lg	Lg	07 36 57.1			
	49nm,0.6s								
ZALV	**Zalesovo Beam**	**3.74**	**335**		**Pn**	**07 36 00.0**	**+2.1**		
ZALV	**Zalesovo Beam**	**3.74**	**335**	Pn	**Pn**	**07 36 00.2**	**+2.3**		
	26nm,0.3s,baz=156,slow=14,SNR=207								
ZALV				Sn	**Sb**	**07 36 46.1**	**-5.5**		
	25nm,0.3s,baz=159,slow=19,SNR=6.4								
ZALV				LR	LR	07 37 42.1			
	comp=Z,73nm,21.8s,baz=54,slow=44								
	54nm,0.3s								
SALR	**Pechorkino, Sa**	**3.98**	**344**	Pn	Pb	07 36 04.6	-5.7		
SALR				Sg	**Sg**	**07 37 08.4**	**+0.5**		
ARDR	**Aradan**	**4.17**	**59**	Pn	**Pb**	**07 36 11.9**	**-1.7**		
ARDR				Pg	**Pg**	**07 36 17.7**	**-2.4**		
ARDR				Sg	**Sg**	**07 37 13.4**	**-0.6**		
ARDR	**Aradan**	**4.17**	**59**	*e*PN	**Pg**	**07 36 07.4**	**+3.5**		
ARDR				*e*PG	**Pg**	**07 36 17.1**	**-2.9**		
ARDR				*e*SG	**Sg**	**07 37 11.8**	**-2.3**		
KHAR	**Kharino, NSO,**	**4.68**	**331**	Sg	**Sg**	**07 37 31.2**	**+0.9**		
NVSII	**Novosibirsk**	**4.99**	**330**	Pn	**Pn**	**07 36 16.1**	**+1.2**		
NVSII				Pg	**Pg**	**07 36 32.9**	**-2.6**		
NVSII				Sg	**Sg**	**07 37 37.8**	**-2.2**		
BRCR	**Berchikul'**	**5.07**	**5**	Pn	Pn	07 36 20.0	+3.9		
BRCR				Pg	**Pb**	**07 36 30.6**	**+1.7**		
BRCR				Sg	**Sg**	**07 37 45.2**	**+2.4**		
MK31	**Makanchi Array**	**5.16**	**224**	⇓Pn	Pn	07 36 20.4	+3.0		
	8.7nm,0.3s,baz=44,slow=13,SNR=640								
MK31				⇓Sn	**Sn**	**07 37 19.3**	**+2.4**		
	68nm,0.6s,baz=63,slow=23,SNR=5.4								
MK31				⇓Lg	Lg	07 37 40.8			
	175nm,0.6s,baz=41,slow=30,SNR=5.8								
MK31	**Makanchi Array**	**5.16**	**224**	PN	Pn	07 36 20.4	+3.0		
MK31				SN	**Sn**	**07 37 19.3**	**+2.4**		
MKAR	**Makanchi Array**	**5.16**	**224**	Pn	Pn	07 36 21.0	+3.6		
	20nm,0.3s,baz=54,slow=12,SNR=309								
MKAR				Sn	**Sn**	**07 37 19.8**	**+2.9**		
	30nm,0.3s,baz=45,slow=27,SNR=5.2								
MKAR				Lg	Lg	07 37 39.5			
	60nm,0.3s,baz=46,slow=34,SNR=12								
	31nm,0.3s								
MAKZ	**Makanchi**	**5.29**	**226**	Pn	Pn	07 36 22.6	+3.4		
MAKZ	**Makanchi**	**5.29**	**226**	Pn	**Pn**	**07 36 21.1**	**+1.9**		
	32nm,0.5s								
MAKZ				Sn	**Sn**	**07 37 22.1**	**+1.9**		
	130nm,0.8s								
MAKZ				Lg	Lg	07 37 42.9			
	159nm,0.8s								
MAKZ	**Makanchi**	**5.29**	**226**	PN	**Pn**	**07 36 21.1**	**+1.9**		
MAKZ				SN	**Sn**	**07 37 22.5**	**+2.4**		
MAKZ				LG	Lg	07 37 42.9			
TDJR	**Todzha**	**5.64**	**68**	Pg	Pg	07 36 43.5	-4.7		
TDJR				Sg	**Sg**	**07 37 58.5**	**-2.6**		
KURK	**Kurchatov**	**5.67**	**275**		**Pn**	**07 36 25.0**	**+0.6**		
KURK	**Kurchatov**	**5.67**	**275**	⇑Pn	**Pn**	**07 36 25.7**	**+1.3**		
	5.4nm,0.5s								
KURK				⇑Lg	Lg	07 37 55.2			
	77nm,0.6s								
KURK	**Kurchatov**	**5.67**	**275**	PN	**Pn**	**07 36 26.7**	**+2.3**		
KURK						07 37 31.4			
KURBB	**Kurchatov Arra**	**5.74**	**274**	⇑Pn	**Pn**	**07 36 26.1**	**+0.8**		
	36nm,0.5s								
KURBB				⇓Lg	Lg	07 37 56.2			
	712nm,0.7s								
KURBB	**Kurchatov Arra**	**5.74**	**274**	Pn	**Pn**	**07 36 26.7**	**+1.4**		
	2.9nm,0.3s,baz=86,slow=14,SNR=299								
KURBB				Sn	**Sn**	**07 37 31.4**	**+0.3**		
	3.1nm,0.3s,baz=83,slow=29,SNR=7.9								
KURBB				Lg	Lg	07 37 56.8			
	5.6nm,0.3s,baz=85,slow=33,SNR=7.3								
KURBB				LR	LR	07 38 44.4			
	comp=Z,192nm,19.8s,baz=180,slow=39								
	28nm,0.5s								
KURBB	**Kurchatov Arra**	**5.74**	**274**	PN	**Pn**	**07 36 26.9**	**+1.6**		
KURBB				LG	Lg	07 37 56.2			
MINR	**Mina**	**5.91**	**41**	Pg	**Pg**	**07 36 49.4**	**-3.7**		
MINR				Sg	**Sg**	**07 38 06.8**	**-2.7**		
KNGR	**Kungurtug, Tuv**	**6.36**	**86**	Pn	Pn	07 36 38.1	+4.2		
KNGR				Pg	Pg	07 36 56.6	-5.1		
KNGR				Sg	**Sg**	**07 38 23.2**	**-0.8**		
WMQ	**Urumqi**	**6.79**	**179**	Pn	Pb	07 36 49.1	-9.1		
WMQ				Sn	Sb	07 38 07.3	-12		
WMQ				smax	smax				
	comp=N,77nm,0.9s								
WMQ				smax	smax				
	comp=E,140nm,1.1s								
MOY	**Mondy**	**8.53**	**78**	*e*P	Pn	07 37 08.4	+4.6		
MOY				*e*S	**Sn**	**07 38 42.4**	**+2.3**		
PDGK	**Podgornoye**	**9.12**	**220**	⇑Pn	**Pn**	**07 37 12.3**	**+0.5**		
	comp=E,14nm,0.7s								
PDGK				⇑Sn	**Sn**	**07 38 56.9**	**+2.4**		
	comp=E,43nm,0.6s								
PDGK				⇓Lg	Lg	07 39 48.0			
	comp=E,117nm,0.8s								
PDGK	**Podgornoye**	**9.12**	**220**	P	**Pn**	**07 37 12.3**	**+0.5**		
PDGK				SN	**Sn**	**07 38 56.9**	**+2.4**		
BVA0	**Borovoye Array**	**10.89**	**289**	⇓Pn	**Pn**	**07 37 35.5**	**-0.4**		
	comp=E,4.5nm,0.5s								
BVA0				Sn	**Sn**	**07 39 41.2**	**+3.4**		
	comp=E,13nm,0.7s,baz=101,slow=19,SNR=9.9								
BVA0	**Borovoye Array**	**10.89**	**289**	P	**Pn**	**07 37 35.5**	**-0.4**		
BVAR	**Borovoye Array**	**10.89**	**289**	Pn	**Pn**	**07 37 36.2**	**+0.3**		
	comp=E,0.2nm,0.3s,baz=94,slow=14,SNR=24								
BVAR				Sn	**Sn**	**07 39 33.6**	**-4.1**		
	comp=E,0.6nm,0.3s,baz=90,slow=24,SNR=9.2								
BVAR				LR	LR	07 42 09.0			
	comp=E,45nm,19.6s,baz=89,slow=39								
	comp=E,3.5nm,0.4s								
KDJ	**Kajisay**	**11.08**	**224**		Pn	07 37 42.2	+3.4		
KDJ	**Kajisay**	**11.08**	**224**	P	Pn	07 37 42.2	+3.4		
TARG	**Taragay, Kyrgy**	**11.14**	**221**		**Pn**	**07 37 42.6**	**+2.8**		
TARG	**Taragay, Kyrgy**	**11.14**	**221**	P	**Pn**	**07 37 42.6**	**+2.8**		
BOOM	**Boomskoye usch**	**11.37**	**229**		**Pn**	**07 37 44.7**	**+2.0**		
BOOM	**Boomskoye usch**	**11.37**	**229**	P	**Pn**	**07 37 44.7**	**+2.0**		
AAK	**Ala-Archa**	**11.98**	**233**	Pn	**Pn**	**07 37 51.8**	**+0.8**		
AAK	**Ala-Archa**	**11.98**	**233**	Pn	**Pn**	**07 37 51.4**	**+0.4**		
	comp=E,0.4nm,0.3s,baz=73,slow=11,SNR=4.1								
AAK				Sn	**Sn**	**07 40 00.2**	**-4.6**		
	comp=E,0.3nm,0.3s,baz=270,slow=14,SNR=2.3								
AAK				Lg	Lg	07 41 16.6			
	comp=E,0.6nm,0.3s,baz=321,slow=21,SNR=7.4								
	comp=E,1.3nm,0.4s								
AAK	**Ala-Archa**	**11.98**	**233**	P	**Pn**	**07 37 51.8**	**+0.8**		
SONM	**Songino Array**	**12.63**	**95**	Lg	Lg	07 41 33.3			
	comp=E,0.1nm,0.3s,baz=297,slow=28,SNR=3.7								
SONM				LR	LR	07 43 12.5			
	comp=E,111nm,20.5s,baz=267,slow=39								
KK31	**Karatay Array**	**13.84**	**244**		**Pn**	**07 38 15.9**	**-0.3**		
KK31	**Karatay Array**	**13.84**	**244**	⇑Pn	**Pn**	**07 38 15.5**	**-0.7**		
	comp=E,0.7nm,0.4s,baz=65,slow=18,SNR=18								
KK31				⇑Sn	**Sn**	**07 40 53.4**	**+3.6**		
	comp=E,14nm,0.7s,baz=41,slow=23,SNR=6.4								
KK31	**Karatay Array**	**13.84**	**244**	P	**Pn**	**07 38 15.5**	**-0.7**		
KK31				SN	**Sn**	**07 40 53.4**	**+3.6**		
KKAR	**Karatay Array**	**13.84**	**244**		**Pn**	**07 38 16.6**	**+0.4**		
KKAR	**Karatay Array**	**13.84**	**244**	*e*P	**Pn**	**07 38 16.6**	**+0.4**		
GAR	**Garm**	**16.80**	**233**		**P**	**07 38 56.6**	**-1.1**		
GAR				IAmb	IAmb	07 39 00.7			
	comp=Z,16nm,1.0s								
CHGR	**Chuyangaron**	**17.66**	**234**	P	**P**	**07 39 08.9**	**+1.8**		
CHGR				IAmb	IAmb	07 39 42.0			
	comp=Z,6.8nm,0.7s								
CHGR	**Chuyangaron**	**17.66**	**234**	P	**P**	**07 39 08.9**	**+1.8**		
CHGR				pmax	pmax				
	comp=Z,7.0nm,0.7s								
SIMJ	**Simiganj**	**17.73**	**235**	P	**P**	**07 39 09.8**	**+1.8**		
AB31	**Akbulak array**	**17.78**	**276**		**Pn**	**07 39 05.8**	**-1.7**		
ABKAR	**Akbulak array**	**17.78**	**276**		**P**	**07 39 06.3**	**-2.0**		
ARTI	**Arti**	**18.20**	**300**	P	**P**	**07 39 12.0**	**-0.8**		
	comp=Z,0.4nm,0.3s,baz=37,slow=5.1,SNR=2.0								
ARTI				S	Sn	07 42 22.8	-13		
	comp=Z,1.8nm,0.4s,baz=139,slow=20,SNR=1.3								
	comp=Z,1.2nm,0.3s								
ARTI	**Arti**	**18.20**	**300**	P	**P**	**07 39 15.2**	**+2.4**		
ARTI				S	**S**	**07 42 39.4**	**-1.5**		
AKTO	**Aktyubinsk**	**18.72**	**281**	P	**Pn**	**07 39 17.9**	**-1.1**		
	comp=Z,0.5nm,0.3s,baz=89,slow=10,SNR=11								
AKTO				LR	LR	07 46 39.7			
	comp=Z,54nm,20.5s,baz=277,slow=37								
	comp=Z,4.4nm,0.6s								
NIL	**Nilore**	**19.92**	**217**	P	**Pn**	**07 39 35.6**	**+2.0**		
NIL				IAmb	IAmb	07 39 50.2			
	comp=Z,9.0nm,0.9s								
NIL	**Nilore**	**19.92**	**217**	P	**Pn**	**07 39 35.6**	**+2.0**		
NIL				pmax	pmax				
	comp=Z,9.0nm,0.9s								
HIA	**Hailar**	**20.69**	**81**	*i* P	Pn	07 39 42.7	+0.2		
HIA				pmax	pmax				
	comp=Z,3.0nm,0.3s								
SEY	**Seymchan**	**35.98**	**45**	LR	LR	07 57 22.7			
	comp=Z,33nm,20.7s,baz=326,slow=37								
AKASG	**Malin Array Be**	**36.13**	**293**	P	**P**	**07 42 01.8**	**-0.3**		
	comp=Z,0.5nm,0.4s,baz=62,slow=9.5,SNR=2.0								
	comp=Z,0.5nm,0.4s								
JMN	**Monobe**	**37.58**	**99**	P	P	07 42 21.7	+7.1		
BR131	**Keskin Array S**	**38.73**	**275**	P	**P**	**07 42 26.5**	**+2.1**		
BR131				IAmb	IAmb	07 42 28.4			
	comp=Z,8.4nm,1.3s								
BR131	**Keskin Array S**	**38.73**	**275**	P	**P**	**07 42 26.5**	**+2.1**		
BR131				pmax	pmax				
	comp=Z,8.0nm,1.3s								
BRTR	**Keskin Array B**	**38.73**	**275**	P	**P**	**07 42 26.9**	**+2.5**		
BRTR	**Keskin Array B**	**38.73**	**275**	P	**P**	**07 42 25.9**	**+1.6**		
	comp=Z,0.7nm,0.4s,baz=50,slow=6.0,SNR=5.1								
	comp=Z,0.7nm,0.4s								
BRTR	**Keskin Array B**	**38.73**	**275**	*e*P	**P**	**07 42 26.9**	**+2.5**		
BURAR	**Bucovina Array**	**39.84**	**291**	P	**P**	**07 42 35.2**	**+1.6**		
BURAR	**Bucovina Array**	**39.84**	**291**	P	**P**	**07 42 35.2**	**+1.6**		
BURAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
HFS	**Hagfors**	**40.89**	**313**	P	**P**	**07 42 43.4**	**+1.4**		
	comp=Z,1.6nm,0.7s,baz=74,slow=11,SNR=2.2								
	comp=Z,1.6nm,0.7s								
NC405	**NORSAR Array S**	**41.45**	**315**	P	**P**	**07 42 47.1**	**+0.5**		
NC405				IAmb	IAmb	07 42 50.1			
	comp=Z,7.2nm,0.8s								
NB2	**NORSAR Subarra**	**41.71**	**315**	P	**P**	**07 42 49.1**	**+0.4**		
	comp=Z,0.5nm,0.5s,baz=63,slow=7.9								
NOA	**NORSAR Array B**	**41.71**	**315**	P	**P**	**07 42 49.5**	**+0.8**		
	comp=Z,0.4nm,0.6s,baz=63,slow=7.8,SNR=4.8								
	comp=Z,0.4nm,0.6s								
JMIC	**Jan Mayen**	**45.08**	**333**	LR	LR	08 03 58.0			
	comp=Z,21nm,21.5s,baz=32,slow=39								
IMAR	**Indian Mountai**	**54.70**	**26**	P	P	07 44 34.5	+5.6		
D27M	**Malcolm River**	**55.28**	**19**	P	P	07 44 37.4	+4.2		
J19K	**Poorman**	**55.60**	**28**	P	P	07 44 41.6	+6.1		
ILAR	**Eielson Array**	**57.49**	**24**	P	**P**	**07 44 49.5**	**+0.7**		
	comp=Z,0.3nm,0.6s,baz=319,slow=5.5,SNR=4.2								
	comp=Z,0.3nm,0.6s								
ESDC	**Sonseca Array**	**61.50**	**299**	P	**P**	**07 45 18.4**	**+1.5**		
	comp=Z,0.3nm,0.5s,baz=59,slow=6.3,SNR=1.5								
	comp=Z,0.3nm,0.5s								
TORD	**Torodi Ar. Bea**	**77.34**	**275**	P	**P**	**07 46 57.0**	**+1.8**		
	comp=Z,0.4nm,0.6s,baz=53,slow=6.6,SNR=2.3								
	comp=Z,0.4nm,0.6s								
WRA	**Warramunga Arr**	**81.43**	**136**	P	**P**	**07 47 17.1**	**-0.1**		
	comp=Z,0.5nm,0.9s,baz=340,slow=5.7,SNR=5.6								
	comp=Z,0.5nm,0.9s								
ASAR	**Alice Springs**	**84.52**	**138**	P	**P**	**07 47 33.5**	**+0.4**		
	comp=Z,0.5nm,1.0s,baz=338,slow=5.4,SNR=4.9								
	comp=Z,0.5nm,1.0s								

IDC 21 07:40:12.6±75.0, 19°76'S×177°23'W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=1384.0km s-min=190.3km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.76**	**243**	P	P	07 47 38.7	-0.3
	3.1nm,0.9s,baz=90,slow=9.1,SNR=3.1						
	3.1nm,0.9s						
ASAR	**Alice Springs**	**45.40**	**256**	P	P	07 48 33.6	+0.3
	0.4nm,0.7s,baz=91,slow=7.5,SNR=4.3						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**45.42**	**261**	P	P	07 48 33.1	-0.4
	0.3nm,0.6s,baz=97,slow=8.2,SNR=4.8						
	0.3nm,0.6s						

*IDC **21** 07:50:54.7±0.9, 30°.93N×142°.60E, h0km, mb3.9/7, mbtmp3.8/8, ML3.0/1, Error ellipse: s-maj=31.7km s-min=19.5km az=84.0*
*JMA **21** 07:50:55.3±0.3, 31°.0N±0°.8×14°.3E±°, h47km, MV4.0/24, FAR E OFF IZU ISLANDS*
*NEIC **21** 07:50:55.9±0.7, 31°.04N±0°.03×142°.9E±0°.2, h10km±1km, mb4.4/10, Error ellipse: s-maj=24.9km s-min=5.1km az=83.0*

ISC 21 07:50:59.1±0.7, 31°.01N±0°.06×142°.7E±0°.1, h35km, n40, σ1s62/46, mb4.2/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMKN	**Mikurajimanish**	**3.89**	**318**	*e*S	**Sn**	**07 52 37.7**	**-3.0**
BSO1	**Boso 1**	**3.91**	**339**	*e*P	**Pn**	**07 51 55.1**	**-1.0**
CBIJ	**Chichi jima**	**3.92**	**187**	*e*P	**Pn**	**07 51 55.0**	**-1.9**
BSO3	**Boso 3**	**4.20**	**335**	*e*P	**Pn**	**07 51 59.7**	**-0.7**
BSO3				*e*S	**Sn**	**07 52 48.9**	**+0.8**
JHH2	**Haha-jima-NKT2**	**4.38**	**186**	*e*S	**Sn**	**07 52 51.3**	**-1.8**
BSO4	**Boso 4**	**4.43**	**334**	*e*S	**Sn**	**07 52 55.0**	**+1.0**
JOD2	**Odawara 2**	**5.20**	**326**	*e*P	**Pn**	**07 52 14.0**	**-0.5**
JOD2				*e*S	**Sn**	**07 53 12.6**	**-0.7**
JHO	**Hitachi**	**5.86**	**343**	*e*P	**Pn**	**07 52 22.5**	**-0.9**
JHO				*e*S	**Sn**	**07 53 24.7**	**-4.6**
JRY	**Ryogami san**	**5.91**	**329**	P	**Pn**	**07 52 24.3**	**+0.1**
JRY				*e*S	**Sn**	**07 53 28.1**	**-2.6**
JAG	**Ashikaga**	**6.03**	**334**	*e*P	**Pn**	**07 52 25.4**	**-0.5**
JAG				*e*S	**Sn**	**07 53 28.6**	**-5.1**
JGF	**Kuroka**	**6.39**	**317**	Pn	**Pn**	**07 52 30.1**	**-0.7**
MJAR	**Matsushiro Arr**	**6.66**	**327**		**Pn**	**07 52 33.9**	**-0.5**
MJAR	**Matsushiro Arr**	**6.66**	**327**	Pn	**Pn**	**07 52 34.3**	**-0.1**
	0.3nm,0.3s,baz=149,slow=11,SNR=12						
MJAR				Sn	**Sn**	**07 53 46.8**	**-2.3**
	0.1nm,0.3s,baz=203,slow=24,SNR=1.5						
	3.4nm,0.6s						
MAJO	**Matsushiro**	**6.66**	**327**		**Pn**	**07 52 33.6**	**-0.9**
MJB9	**Matsu-Tunnel**	**6.66**	**327**		**Pn**	**07 52 34.4**	**-0.1**
JMM	**Marumori**	**7.01**	**348**	Pn	**Pn**	**07 52 37.8**	**-1.6**
JTM	**Tenmabayashi**	**9.84**	**353**	Pn	**Pn**	**07 53 15.7**	**-2.4**
KSRS	**Korea Array**	**13.79**	**302**	Pn	**Pn**	**07 54 15.3**	**+3.2**
	0.1nm,0.3s,baz=109,slow=14,SNR=2.0						
SONM	**Songino Array**	**32.32**	**312**	P	**P**	**07 57 25.0**	**+0.1**
	0.7nm,0.5s,baz=115,slow=9.0,SNR=3.5						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**46.89**	**317**	PcP	**PcP**	**08 00 59.2**	**+1.1**
	0.7nm,0.3s,baz=116,slow=3.4,SNR=3.6						
MKAR	**Makanchi Array**	**48.40**	**307**	P	**P**	**07 59 38.4**	**+0.7**
MKAR	**Makanchi Array**	**48.40**	**307**	P	**P**	**07 59 38.8**	**+1.1**
	1.1nm,0.8s,baz=89,slow=8.7,SNR=8.2						
	1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**50.68**	**312**	P	**P**	**07 59 55.2**	**+0.3**
	0.4nm,0.3s,baz=88,slow=6.6,SNR=6.7						
	0.4nm,0.3s						
D20K	**Etivluk River**	**50.90**	**24**	P	**P**	**07 59 56.0**	**-0.4**
D20K				IAmb	IAmb	08 00 14.1	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**51.11**	**190**	P	**P**	**07 59 58.4**	**-0.1**
WB0				IAmb	IAmb	07 59 59.1	
	comp=Z,5.3nm,0.8s						
WRA	**Warramunga Arr**	**51.29**	**190**	P	**P**	**07 59 59.5**	**-0.3**
WRA	**Warramunga Arr**	**51.29**	**190**	P	**P**	**07 59 59.9**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=9.1,slow=7.8,SNR=35						
	comp=Z,3.7nm,0.7s						
H24K	**Noodor Dome**	**53.75**	**29**	P	**P**	**08 00 17.1**	**-0.5**
H24K				IAmb	IAmb	08 00 21.6	
	comp=Z,3.8nm,1.1s						
ILAR	**Eielson Array**	**54.09**	**30**	P	**P**	**08 00 21.8**	**+1.7**
	comp=Z,0.9nm,0.8s,baz=252,slow=5.9,SNR=9.6						
	comp=Z,0.9nm,0.8s						
AS31	**Alice Springs**	**55.01**	**190**	P	**P**	**08 00 27.5**	**+0.3**
ASAR	**Alice Springs**	**55.01**	**190**	P	**P**	**08 00 26.9**	**-0.2**
ASAR	**Alice Springs**	**55.01**	**190**	P	**P**	**08 00 27.1**	**0.0**
	comp=Z,0.7nm,0.6s,baz=13,slow=7.8,SNR=13						
	comp=Z,0.7nm,0.6s						
KK31	**Karatay Array**	**57.21**	**304**	P	**P**	**08 00 43.7**	**+0.9**
KK31				IAmb	IAmb	08 00 46.3	
	comp=Z,2.2nm,0.8s						
KKAR	**Karatay Array**	**57.21**	**304**	P	**P**	**08 00 43.5**	**+0.7**
I30M	**Mount Dempster**	**58.54**	**29**	P	**P**	**08 00 53.0**	**+1.1**
I30M				IAmb	IAmb	08 01 32.5	
	comp=Z,7.5nm,1.4s						
G31M	**Satah River**	**59.19**	**27**	P	**P**	**08 00 56.7**	**+0.5**
AB31	**Akbulak array**	**62.72**	**313**	P	**P**	**08 01 20.9**	**+0.4**
AB31				IAmb	IAmb	08 01 40.3	
	comp=Z,3.4nm,1.4s						
ABKAR	**Akbulak array**	**62.72**	**313**	P	**P**	**08 01 20.9**	**+0.4**
FORT	**Forrest**	**63.00**	**194**	P	**P**	**08 01 21.9**	**-0.5**
YKA	**Yellowknife Ar**	**68.51**	**29**	P	**P**	**08 01 59.1**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=301,slow=6.8,SNR=4.3						
	comp=Z,0.7nm,0.7s						

*IDC **21** 08:05:33.5±1.6, 8°.37S×128°.52E, h0km, mb3.8/2, mbtmp3.9/5, ML4.0/3, MS3.3/1, Error ellipse: s-maj=87.8km s-min=25.3km az=75.0*

ISC 21 08:05:35.2±1.1, 8°.58S±0°.09×128°.31E±0°.09, h10km, n16, σ3s12/15, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.16**	**253**	P	**Pb**	**08 06 46.9**	**-1.7**
DRS	**Darwin Rock St**	**4.60**	**147**	P	Pb	08 06 50.5	-5.5
DRS	**Darwin Rock St**	**4.60**	**147**	S	**Sn**	**08 07 43.4**	**+5.1**
MTN	**Manton Dam**	**5.07**	**147**	P	Pn	08 06 56.9	+5.6
FITZ	**Fitzroy Crossi**	**9.81**	**195**	Pn	**Pn**	**08 07 59.7**	**+3.2**
	1.3nm,0.3s,baz=24,slow=12,SNR=36						
FITZ				Sn	**Sn**	**08 09 45.6**	**-1.2**
	2.0nm,0.3s,baz=76,slow=12,SNR=14						
	2.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**9.81**	**195**	P	**Pn**	**08 08 00.0**	**+3.5**
FITZ	**Fitzroy Crossi**	**9.81**	**195**	S	**Sn**	**08 09 45.4**	**-1.4**
PLAI	**Plampang**	**10.42**	**268**	P	Pn	08 08 11.5	+6.7
WRA	**Warramunga Arr**	**12.72**	**153**	Pn	**Pn**	**08 08 35.8**	**-0.4**
	1.0nm,0.3s,baz=334,slow=14,SNR=40						
WRA				Sn	**Sn**	**08 10 51.9**	**-6.1**
	0.8nm,0.3s,baz=324,slow=24,SNR=8.7						
	1.1nm,0.3s						
ASAR	**Alice Springs**	**15.93**	**161**	Pn	**Pn**	**08 09 21.1**	**+1.4**
	0.4nm,0.3s,baz=335,slow=10,SNR=22						
ASAR				Sn	**Sn**	**08 12 12.1**	**-4.4**
	0.3nm,0.3s,baz=316,slow=18,SNR=4.9						
	0.4nm,0.3s						
QIS	**Mount Isa**	**16.15**	**139**	P	**P**	**08 09 24.4**	**-1.4**
MTSU	**Mount Surprise**	**18.23**	**123**	P	**P**	**08 09 49.5**	**+0.8**
PSI	**Prapat**	**31.41**	**290**	LR	LR	08 25 04.4	
	comp=Z,48nm,19.2s,baz=170,slow=37						
MKAR	**Makanchi Array**	**68.64**	**328**	P	**P**	**08

comp=Z,11nm,0.9s
JCT Junction City 6.10 199 IAmb_Lg 08 28 36.6
comp=Z,8.6nm,0.9s
CGM3 Cape Girardeau 6.38 79 IAmb_Lg 08 28 38.8
comp=Z,13nm,1.1s

NEIC 21 08:31:33.9±0.9, 37.11N±0.02×97.60W±0.02, h5km±1km, mb_Lg3.0/87, ML3.5/36, Error ellipse: s-maj=3.1km s-min=2.7km az=26.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN01	**Argonia South**	**0.14**	**290**		**Pg**	08 31 37.3	+0.6
KAN01				Sg	Sg	08 31 39.5	+0.9
KAN01				IAML		08 31 39.7	
	comp=N,10μm,0.2s						
KAN08	**Anthony NE Sta**	**0.32**	**292**		**Pg**	08 31 40.7	+0.5
KAN08				Sg	Sg	08 31 45.4	+0.9
KAN08				IAML		08 31 45.7	
	comp=N,5μm,0.3s						
KAN14	**Manchester OK**	**0.33**	**243**		**Pg**	08 31 40.9	+0.6
KAN14				Sg	Sg	08 31 45.5	+0.8
KAN14				IAML		08 31 45.7	
	comp=E,5μm,0.1s						
KAN14				IAML		08 31 47.4	
	comp=N,8μm,0.2s						
GC02	**Grant County #**	**0.33**	**220**		**Pg**	08 31 40.8	+0.5
GC02				Sg	Sg	08 31 45.5	+0.9
CROK	**Carrier**	**0.68**	**208**		**Pg**	08 31 47.0	+0.1
CROK				Sg	Sg	08 31 56.3	+0.6
CROK				IAML		08 31 58.7	
	comp=N,2μm,0.2s						
CROK				IAML		08 32 03.6	
	comp=E,3μm,0.3s						
OK051	**E0350 and S346**	**0.85**	**134**		**Pg**	08 31 50.2	-0.1
OK051				Sg	Sg	08 32 01.3	-0.1
OK051				IAML		08 32 04.2	
	comp=E,2μm,0.2s						
OK051				IAML		08 32 04.2	
	comp=E,2μm,0.2s						
T35A	**Sooner Cattle**	**0.89**	**102**		**Pg**	08 31 50.9	0.0
OK038	**West end E0370**	**1.11**	**236**		**Pg**	08 31 55.3	+0.1
NOKA	**Waynoka**	**1.17**	**247**		**Pg**	08 31 56.2	-0.1
NOKA				IAML		08 32 18.3	
	comp=E,1μm,0.3s						
QUOK	**Quay**	**1.18**	**142**		**Pg**	08 31 56.3	-0.1
OK052	**Battle Ridge R**	**1.28**	**150**		**Pg**	08 31 58.2	-0.3
OK029	**Liberty Lake**	**1.31**	**175**		**Pn**	08 31 58.6	-0.3
OK029				IAML		08 32 19.4	
	comp=E,552nm,0.3s						
ADOK	**Arcadia Dam**	**1.46**	**173**		**Pb**	08 32 01.4	-0.2
DEOK	**Depew**	**1.54**	**145**		**Pn**	08 32 01.8	-0.2
R32A	**Long Quarter.**	**1.58**	**326**		**Pb**	08 32 03.3	-0.4
OKCSW	**OKLAHOMA CITY**	**1.70**	**176**		**Pn**	08 32 04.6	+0.3
CSTR	**Hydro, Custer**	**1.70**	**212**		**Pn**	08 32 04.8	+0.6
FNO	**Franklin**	**1.85**	**175**		**Pn**	08 32 06.1	-0.2
TUL3	**Leonard**	**1.88**	**129**		**Pn**	08 32 07.5	+0.8
KSU1	**Kansas State U**	**2.14**	**21**	IAmb_Lg		08 32 43.2	
	comp=Z,75nm,0.7s						
RLO	**Rose Lookout**	**2.27**	**114**		**Pn**	08 32 13.3	+1.2
X34A	**Smith Ranch, M**	**2.51**	**184**		**Pn**	08 32 16.2	+0.9
WMOK	**Wichita Mounta**	**2.55**	**203**		**Pn**	08 32 16.2	+0.2
U38A	**Gravette**	**2.66**	**104**		**Pn**	08 32 17.8	+0.3
SMWD	**Samnorwood**	**2.93**	**228**		**Pn**	08 32 22.1	+1.0
HHAR	**Hobbs**	**3.05**	**105**		**Pn**	08 32 23.5	+0.7
LOOK	**Love County**	**3.12**	**174**	IAmb_Lg		08 33 14.0	
	comp=Z,32nm,1.0s						
WTFS	**Witchita Falls**	**3.41**	**192**		**Pn**	08 32 27.7	0.0
Z35A	**Perchaven, San**	**3.78**	**176**		**Pn**	08 32 32.8	0.0
AMTX	**Amarillo**	**3.99**	**237**	IAmb_Lg		08 33 42.7	
	comp=Z,40nm,0.8s						
P38A	**Dawn**	**4.07**	**51**	IAmb_Lg		08 33 51.0	
	comp=Z,35nm,0.7s						
FW06	**Azle**	**4.12**	**180**		**Pn**	08 32 38.9	+1.3
MIAR	**Mount Ida**	**4.15**	**127**		**Pn**	08 32 38.3	+0.5
MIAR				IAmb_Lg		08 33 56.7	
	comp=Z,36nm,0.8s						
RTBA	**Rita Blanca**	**4.18**	**262**		**Pn**	08 32 39.2	+0.8
RTBA				IAmb_Lg		08 33 53.2	
	comp=Z,27nm,0.8s						
MGMO	**Mountain Grove**	**4.26**	**88**		**Pn**	08 32 39.5	+0.1
BGNE	**Belgrade**	**4.32**	**354**	IAmb_Lg		08 33 52.2	
	comp=Z,52nm,0.8s						
PLPT	**Palo Pinto**	**4.32**	**188**		**Pn**	08 32 40.8	+0.5
DKNS	**Dickens**	**4.38**	**219**		**Pn**	08 32 41.9	+0.8
DKNS				IAmb_Lg		08 34 04.0	
	comp=Z,28nm,0.8s						
R40A	**Maddies Statio**	**4.39**	**73**		**Pn**	08 32 41.0	-0.2
R40A				IAmb_Lg		08 33 54.7	
	comp=Z,50nm,0.7s						
Z38A	**Mt. Pleasant**	**4.39**	**150**	IAmb_Lg		08 33 53.7	
	comp=Z,46nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.40**	**297**		**Pn**	08 32 41.8	+0.2
KSCO				IAmb_Lg		08 34 03.4	
	comp=Z,36nm,0.8s						
TREL	**Terrell**	**4.54**	**164**	IAmb_Lg		08 34 08.5	
	comp=Z,25nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.57**	**104**		**Pn**	08 32 43.3	-0.4
FCAR				IAmb_Lg		08 33 57.4	
	comp=Z,34nm,0.7s						
WHAR	**Wooly Hollow**	**4.66**	**111**	Pn	Pn	08 32 44.8	-0.1
WHAR				IAmb_Lg		08 34 03.6	
	comp=Z,37nm,0.8s						
X40A	**Basin Creek Fa**	**4.67**	**123**	Pn	Pn	08 32 45.0	0.0
X40A				IAmb_Lg		08 34 00.4	
	comp=Z,34nm,0.9s						
FW13	**Cleburne**	**4.75**	**178**	Pn	Pn	08 32 46.6	+0.5
ABTX	**Abilene, Hawle**	**4.78**	**201**	Pn	Pn	08 32 46.1	-0.5
UALR	**University of**	**4.86**	**117**	IAmb_Lg		08 34 18.6	
	comp=Z,30nm,0.9s						
L34A	**Svendsen Farm,**	**4.95**	**11**	IAmb_Lg		08 34 24.8	
	comp=Z,41nm,0.9s						
WLAR	**White Oak Lake**	**5.00**	**132**	IAmb_Lg		08 34 23.8	
	comp=Z,34nm,0.8s						
N38A	**Joes South For**	**5.01**	**41**		**Pn**	08 32 49.5	-0.2
CCM	**Cathedral Cave**	**5.13**	**77**	IAmb_Lg		08 34 21.9	
	comp=Z,22nm,0.7s						
POST	**Post**	**5.15**	**220**		**Pn**	08 32 51.4	-0.3
POST				IAmb_Lg		08 34 20.2	
	comp=Z,20nm,0.8s						
LCAR	**Lake Charles**	**5.29**	**99**	IAmb_Lg		08 34 24.6	
	comp=Z,21nm,1.1s						
T25A	**Trinidad**	**5.45**	**272**		**Pn**	08 32 55.6	-0.3
T25A				IAmb_Lg		08 34 37.1	
	comp=Z,18nm,0.8s						
Z41A	**Richland Creek**	**5.49**	**133**	Pn	Pn	08 32 55.5	-0.8
Z41A				IAmb_Lg		08 34 36.5	
	comp=Z,24nm,0.7s						
PBMO	**Poplar Bluff**	**5.75**	**91**	IAmb_Lg		08 34 41.4	
	comp=Z,32nm,0.9s						
FVM	**French Village**	**5.76**	**79**	IAmb_Lg		08 34 41.1	
	comp=Z,16nm,0.8s						
NATX	**Nacogdoches**	**5.86**	**155**	IAmb_Lg		08 34 48.5	
	comp=Z,20nm,0.8s						
SCIA	**State Center**	**5.87**	**34**	IAmb_Lg		08 34 52.9	
	comp=Z,40nm,0.7s						
BRDY	**Brady**	**5.92**	**192**		**Pn**	08 33 01.8	-0.5
SGCY	**Sterling City**	**5.94**	**210**	IAmb_Lg		08 34 50.3	
	comp=Z,30nm,0.9s						
435B	**Jarrell**	**6.31**	**180**	IAmb_Lg		08 35 03.0	
	comp=Z,24nm,0.7s						
ECSD	**EROS Data Cent**	**6.66**	**6**		**Pn**	08 33 12.0	-0.5
S44A	**Carbondale**	**6.67**	**82**	Pn	Pn	08 33 12.1	-0.4
S44A				IAmb_Lg		08 35 10.5	
	comp=Z,30nm,1.0s						
ISCO	**Idaho Springs**	**6.84**	**296**	IAmb_Lg		08 35 17.4	
	comp=Z,13nm,0.8s						
JCT	**Junction City**	**6.86**	**196**	IAmb_Lg		08 35 18.7	
	comp=Z,23nm,1.0s						
L40A	**Anamosa**	**6.98**	**43**	IAmb_Lg		08 35 15.5	
	comp=Z,19nm,0.8s						
T45A	**Paducah**	**7.16**	**88**	IAmb_Lg		08 35 40.7	
	comp=Z,25nm,0.7s						
HNDO	**Hondo**	**7.69**	**191**	IAmb_Lg		08 35 51.1	
	comp=Z,12nm,0.9s						
SAND	**Sanderson**	**8.07**	**209**	IAmb_Lg		08 35 59.6	
	comp=Z,13nm,1.1s						
JFWS	**Jewell Farm**	**8.09**	**42**	IAmb_Lg		08 35 52.6	
	comp=Z,16nm,0.8s						
ALPN	**Alpine**	**8.39**	**219**	IAmb_Lg		08 36 08.5	
	comp=Z,16nm,1.3s						
MNTX	**Cornudas Mount**	**8.39**	**232**		**Pn**	08 33 35.7	-0.5
MNTX				IAmb_Lg		08 36 09.9	
	comp=Z,9.6nm,0.8s						
RSSD	**Black Hills**	**8.55**	**327**	IAmb_Lg		08 36 14.9	
	comp=Z,22nm,1.2s						
K22A	**Casper**	**8.82**	**312**	IAmb_Lg		08 36 31.8	
	comp=Z,14nm,0.8s						
L44A	**Lake County Fo**	**9.02**	**53**	IAmb_Lg		08 36 23.2	
	comp=Z,22nm,0.8s						

IDC 21 08:40:14.6±50.0, 16.27S×173.25W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=959.4km s-min=183.3km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.74**	**241**	P	P	08 48 22.4	+0.5
	2.2nm,1.1s,baz=106,slow=15,SNR=1.6						
	2.2nm,1.1s						
WRA	**Warramunga Arr**	**49.80**	**257**	P	P	08 49 09.2	-0.4
	0.7nm,0.4s,baz=95,slow=7.0,SNR=17						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**49.99**	**253**	P	P	08 49 10.8	-0.2
	1.3nm,0.4s,baz=90,slow=8.3,SNR=25						
	1.3nm,0.4s						

IDC 21 08:41:37.0±1.8, 5.25S×152.37E, h0km, mb3.9/9, mbtmp3.9/10, ML1.5/1, Error ellipse: s-maj=65.2km s-min=18.7km az=122.0
ISC 21 08:41:42.0±1.9, 5.3S±0.3×152.4E±0.4, h35km, n11, σ0.98/12, mb3.9/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.62**	**232**	Pn	**Pn**	**08 43 16.9**	**+0.1**
	0.6nm,0.3s,baz=333,slow=6.8,SNR=1.8						
PMG				Sn	**Sn**	**08 44 31.8**	**+0.6**
	3.5nm,0.3s,baz=150,slow=18,SNR=6.2						
	9.7nm,0.6s						
WRA	**Warramunga Arr**	**22.83**	**229**	P	**P**	**08 46 42.4**	**+0.1**
	1.4nm,0.8s,baz=50,slow=9.9,SNR=11						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**25.52**	**223**	P	**P**	**08 47 08.6**	**+1.0**
	1.0nm,0.6s,baz=58,slow=8.9,SNR=26						
	1.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**29.09**	**242**	P	**P**	**08 47 37.5**	**-2.1**
	2.0nm,0.7s,baz=54,slow=7.6,SNR=8.4						
	2.0nm,0.7s						
SONM	**Songino Array**	**66.57**	**328**	P	**P**	**08 52 28.4**	**-0.4**
	0.6nm,0.5s,baz=142,slow=3.3,SNR=1.9						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**80.48**	**319**	P	**P**	**08 53 51.8**	**+1.4**
	0.3nm,0.6s,baz=98,slow=10,SNR=2.2						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**81.38**	**326**	P	**P**	**08 53 55.7**	**+0.7**
	1.1nm,0.5s,baz=130,slow=6.0,SNR=3.8						
	1.1nm,0.5s						
ILAR	**Eielson Array**	**82.78**	**22**	P	**P**	**08 54 02.1**	**0.0**
	0.8nm,0.7s,baz=248,slow=5.8,SNR=17						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**83.98**	**322**	P	**P**	**08 54 08.6**	**-0.1**
	0.6nm,0.6s,baz=110,slow=3.7,SNR=7.1						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**89.44**	**323**	P	**P**	**08 54 35.5**	**+0.2**
	1.1nm,0.5s,baz=133,slow=6.3,SNR=4.9						
	1.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**150.12**	**287**	PKPbc	**PKPbc**	**09 01 29.8**	**-0.4**
	0.5nm,0.8s,baz=79,slow=4.8,SNR=3.6						

IDC 21 08:46:31.0±2.9, 30.05S×178.22W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=83.5km s-min=38.0km az=40.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.94**	**267**	P	P	08 54 31.8	-0.1
	1.0nm,0.5s,baz=106,slow=7.9,SNR=6.8						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**43.90**	**272**	P	P	08 54 39.6	0.0
	1.3nm,0.5s,baz=114,slow=8.2,SNR=3.2						
	1.3nm,0.5s						
QSPA	**South Pole Qui**	**60.06**	**180**	P	P	08 56 39.7	+0.1
	0.7nm,0.7s,baz=64,slow=5.6,SNR=8.1						
	0.7nm,0.7s						
FINES	**FINESS Array B**	**144.75**	**340**	PKP	PKPbc	09 06 08.1	+0.1
	3.1nm,1.0s,baz=64,slow=3.2,SNR=6.4						

IDC 21 08:46:56.5±1.8, 8.33S×128.56E, h0km, mb3.7/2, mbtmp3.7/5, ML3.9/3, Error ellipse: s-maj=92.6km s-min=25.7km az=75.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.12**	**196**	Pn	Pn	08 49 23.2	0.0
	0.8nm,0.3s,baz=19,slow=11,SNR=23						
FITZ				Sn	Sn	08 51 10.0	-7.5
	1.6nm,0.3s,baz=66,slow=11,SNR=14						
	1.9nm,0.3s						
WRA	**Warramunga Arr**	**12.83**	**155**	Pn	Pn	08 49 60.0	-0.4
	0.7nm,0.3s,baz=335,slow=14,SNR=23						
WRA				Sn	Sn	08 52 14.7	-9.3
	1.0nm,0.3s,baz=329,slow=22,SNR=9.7						
	1.0nm,0.3s						
ASAR	**Alice Springs**	**16.09**	**162**	Pn	Pn	08 50 44.6	+0.4
	0.3nm,0.3s,baz=334,slow=9.8,SNR=15						
ASAR				Sn	Sn	08 53 35.4	-8.1
	0.2nm,0.3s,baz=330,slow=22,SNR=4.4						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**68.56**	**328**	P	P	08 58 00.7	-0.5
	0.3nm,0.6s,baz=126,slow=7.3,SNR=1.8						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**72.90**	**329**	P	P	08 58 27.8	+0.3
	0.6nm,0.5s,baz=134,slow=5.4,SNR=9.6						
	0.6nm,0.5s						

IDC 21 08:58:06.0±1.4, 14.10N×51.88E, h0km, mb3.8/5, mbtmp3.8/5, ML2.2/1, MS2.9/5, Error ellipse: s-maj=39.1km s-min=29.1km az=178.0
OMAN 21 08:58:13.6±0.7, 14.64N×51.82E, h30km, mb3.6/12, ml3.8/4, Error ellipse: s-maj=12.7km s-min=3.0km az=19.0
ISC 21 08:58:09.3±1.2, 14.5N±0.1×51.9E±0.1, h15km, n32, σ1.72/28, mb4.0/4, MS2.8/5, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**3.20**	**25**	P	**Pn**	**08 59 00.8**	**+1.7**
	SNR=49						
RBK	**Rabkut**	**3.78**	**36**	P	**Pn**	**08 59 09.6**	**+2.5**
	SNR=141						
WHFO	**Wadi Hawf**	**3.90**	**28**	P	**Pn**	**08 59 10.7**	**+1.8**
	SNR=245						
DOK	**Doka**	**4.68**	**27**	P	**Pn**	**08 59 21.3**	**+1.9**
	SNR=105						
SHAO	**Shalim**	**5.07**	**45**	P	**Pn**	**08 59 26.9**	**+2.1**
	SNR=16						
DQM	**DQM**	**7.69**	**44**	P	**Pn**	**09 00 03.1**	**+2.3**
	SNR=15						
MZR	**Muzera**	**8.64**	**10**	P	**Pn**	**09 00 14.7**	**+0.8**
	SNR=9.9						
MHTO	**MHTO**	**8.72**	**41**	P	**Pn**	**09 00 16.4**	**+1.5**
	SNR=16						
BSY	**Bisya**	**9.67**	**31**	P	**Pn**	**09 00 29.1**	**+1.0**
JMDO	**Jabal Madar**	**9.85**	**36**	P	**Pn**	**09 00 30.9**	**+0.4**
ARQ	**Araqi**	**9.87**	**26**	P	**Pn**	**09 00 31.6**	**+0.8**
	SNR=13						
SMDO	**Samad**	**10.37**	**33**	P	**Pn**	**09 00 38.0**	**+0.3**
	SNR=6.1						
HOQ	**Hoqain**	**10.44**	**29**	P	**Pn**	**09 00 39.7**	**+1.1**
JLN	**Jalan Bani Buh**	**10.48**	**42**	P	**Pn**	**09 00 40.8**	**+1.6**
JLN				P		09 00 41.3	
ASUD	**Al Ashush, Dub**	**10.63**	**17**	P	**Pn**	**09 00 43.2**	**+2.0**
BIDO	**Bidbid**	**10.79**	**32**	P	**Pn**	**09 00 44.4**	**+1.0**
WSAR	**Wadi Sarin**	**10.83**	**35**	Pn	**Pn**	**09 00 44.4**	**+0.5**
	baz=253,slow=24,SNR=14						
WSAR				Sn	**Sn**	**09 02 40.8**	**-4.2**
	baz=218,slow=19,SNR=1.3						
WSAR	**Wadi Sarin**	**10.83**	**35**	P	**Pn**	**09 00 45.0**	**+1.1**
RAYN	**Ar Rayn**	**10.84**	**327**	P	**Pn**	**09 00 43.4**	**-0.7**
ASHO	**Ashiyiah**	**10.92**	**21**	P	**Pn**	**09 00 46.8**	**+1.6**
BANOM	**Banah**	**12.15**	**19**	P	**Pn**	**09 01 02.1**	**+0.1**
SHME	**Shamm**	**12.21**	**19**	P	**Pn**	**09 01 04.1**	**+1.3**
ASF	**Jabal al Asfar**	**22.31**	**325**	LR	LR	09 12 04.3	
	comp=Z,24nm,20.9s,baz=159,slow=37						
MMAI	**Mount Meron Ar**	**23.78**	**324**	LR	LR	09 13 09.2	
	comp=Z,42nm,18.6s,baz=127,slow=38						
GNI	**Garni**	**26.35**	**348**	LR	LR	09 15 53.8	
	comp=Z,18nm,20.6s,baz=206,slow=40						
KBZ	**Khabaz**	**30.17**	**347**	LR	LR	09 18 42.7	
	comp=Z,27nm,18.8s,baz=157,slow=40						
MKAR	**Makanchi Array**	**41.05**	**32**	P	**P**	**09 05 53.8**	**+1.6**
	0.3nm,0.5s,baz=212,slow=5.1,SNR=2.1						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**45.23**	**78**	P	**P**	**09 06 26.4**	**-0.1**
	0.9nm,0.5s,baz=277,slow=8.7,SNR=8.6						
	0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**48.66**	**275**	P	**P**	**09 06 52.5**	**-0.8**
	0.5nm,0.6s,baz=69,slow=8.9,SNR=3.6						
	0.5nm,0.6s						
BOSA	**Boshof**	**49.95**	**211**	LR	LR	09 26 20.5	
	comp=Z,9.7nm,21.1s,baz=196,slow=34						
FINES	**FINESS Array B**	**50.46**	**344**	P	**P**	**09 07 07.9**	**+1.7**
	5.2nm,1.2s,baz=139,slow=13,SNR=1.5						
	5.2nm,1.2s						
ASAR	**Alice Springs**	**88.63**	**115**	P	**P**	**09 11 00.2**	**-2.2**
	0.5nm,0.5s,baz=290,slow=4.8,SNR=9.5						
	0.5nm,0.5s						

IDC 21 09:00:14.5±1.8, 2.88N×125.27E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=199.2km s-min=23.4km az=65.0
DJA 21 09:00:20.1±0.5, 3.1N±5.1×12.6E±.1, h39km±23km, M3.8/5, MLv3.8/5
ISC 21 09:00:18.2±1.5, 3.5N±0.2×126.6E±0.2, h35km, n5, σ0.67/6, mb3.4/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.09**	**281**	P	**Pn**	**09 00 37.3**	**+0.3**
SGSI				S	**Sn**	**09 00 50.5**	**-0.4**
WRA	**Warramunga Arr**	**24.49**	**162**	P	**P**	**09 05 34.0**	**-0.3**
	1.1nm,0.6s,baz=337,slow=10,SNR=14						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**27.91**	**166**	P	**P**	**09 06 05.3**	**+0.2**
	0.3nm,0.6s,baz=344,slow=8.3,SNR=5.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**57.69**	**325**	P	**P**	**09 10 06.0**	**+0.7**
	0.1nm,0.3s,baz=132,slow=8.7,SNR=1.6						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**61.88**	**327**	P	**P**	**09 10 33.2**	**-0.8**
	0.3nm,0.6s,baz=137,slow=5.6,SNR=2.2						
	0.3nm,0.6s						

SNET 21 09:03:59.1±2.6, 12.91N×88.83W, h28km, ML2.6
GCG 21 09:04:01.8±0.3, 13.18N×89.08W, h84km±11km, MD3.5
ISC 21 09:03:59.2±2.2, 12.9N±0.1×88.83W±0.05, h25km±15km, n14, σ0.91/20, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.61**	**5**	*e*P	**Pb**	**09 04 11.7**	**+0.4**
TECO				*e*S	**Sn**	**09 04 21.0**	**-0.4**
LFRS	**El Faro**	**0.73**	**342**	*e*P	**Pb**	**09 04 13.0**	**-0.4**
PACA	**Pacayal**	**0.73**	**42**	*e*P	**Pn**	**09 04 14.4**	**+0.2**
PACA				*e*S	**Sn**	**09 04 25.6**	**+1.0**
SCLA	**Alcaldia de Sa**	**0.78**	**7**	*e*P	**Pb**	**09 04 14.3**	**+0.1**
PAVA	**Las Pavas**	**0.79**	**352**	*e*P	**Pb**	**09 04 14.2**	**-0.2**
PAVA				*e*S	**Sb**	**09 04 25.3**	**+0.6**
LFU	**La Fuente**	**0.86**	**341**	*e*P	**Pn**	**09 04 15.2**	**-0.7**
PMON	**Piamonte**	**0.91**	**329**	*e*P	**Pb**	**09 04 19.3**	**+2.8**
PMON				*e*S	**Sb**	**09 04 27.3**	**-1.0**
JAYA	**Jayaque - finc**	**0.94**	**320**	*e*P	**Pn**	**09 04 16.7**	**-0.4**
JAYA				*e*S	**Sb**	**09 04 28.3**	**-0.8**
JAYA	**Jayaque - finc**	**0.94**	**320**	*e*P	**Pn**	**09 04 16.8**	**-0.2**
JAYA				*e*S	**Sb**	**09 04 28.5**	**-0.7**
LCND	**La Caada**	**0.99**	**67**	*e*P	**Pn**	**09 04 17.5**	**-0.1**
CNCH	**Conchagua**	**1.03**	**70**	*e*P	**Pb**	**09 04 18.3**	**-0.2**
NUBE	**Las Nubes**	**1.34**	**317**	*e*P	**Pn**	**09 04 22.2**	**-0.3**
NUBE	**Las Nubes**	**1.34**	**317**	*i* P	**Pn**	**09 04 21.7**	**-0.8**
SARH	**Santa Rosa de**	**1.84**	**2**	*i* P	**Pn**	**09 04 29.3**	**0.0**

IDC 21 09:04:23.2±1.0, 8.91N×126.54E, h0km, mb4.0/10, mbtmp4.0/10, MS2.9/2, Error ellipse: s-maj=47.2km s-min=19.4km az=69.0
ISC 21 09:04:31.1±1.1, 9.05N±0.10×126.6E±0.2, h54km, n18, σ1.52/11, mb4.1/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.22**	**208**	Pn	**Pn**	**09 05 04.4**	**-1.2**
	46nm,0.3s,baz=234,slow=19,SNR=1.3						
DAV				Sn	**Sn**	**09 05 34.5**	**+2.5**
	78nm,0.3s,baz=313,slow=21,SNR=3.8						
DAV				LR	LR	09 06 02.2	
	comp=Z,343nm,20.6s,baz=326,slow=48						
KAPI	**Kappang**	**15.56**	**206**	LR	LR	09 14 41.6	
	comp=Z,40nm,19.2s,baz=89,slow=40						
FITZ	**Fitzroy Crossi**	**27.00**	**182**	P	**P**	**09 10 06.5**	**-1.7**
	0.6nm,0.4s,baz=36,slow=14,SNR=1.7						
	0.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**28.43**	**292**	P	**P**	**09 10 20.9**	**-0.1**
	0.5nm,0.3s,baz=106,slow=7.7,SNR=4.5						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**29.80**	**165**	P	P	09 10 29.0	-4.1
	0.2nm,0.6s,baz=340,slow=8.3,SNR=2.4						
	0.2nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**39.95**	**72**	T	T	09 54 56.3	
	baz=262,slow=75,SNR=46						
H11S1	**WAKE ISLAND Hy**	**39.96**	**72**	T	T	09 54 57.3	
	baz=262,slow=75,SNR=32						
H11S2	**WAKE ISLAND Hy**	**39.97**	**72**	T	T	09 54 57.9	
	baz=262,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**40.32**	**70**	T	T	09 55 40.4	
	baz=265,slow=74,SNR=15						
H11N2	**WAKE ISLAND Hy**	**40.33**	**70**	T	T	09 55 35.3	
	baz=265,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy**	**40.34**	**70**	T	T	09 55 35.9	
	baz=265,slow=74,SNR=16						
MKAR	**Makanchi Array**	**53.20**	**323**	P	**P**	**09 13 43.4**	**-0.6**
	2.4nm,0.6s,baz=125

UWE	**Uwekahuna**	**0.04**	**306**		Pg		09 31 41.3	+0.8
WRMHI	**West Rim**	**0.04**	**283**		Pg		09 31 41.1	+0.6
WRMHI					Sg		09 31 42.1	+1.0
PUH	**Pauahi**	**0.05**	**120**		Pg		09 31 41.4	+0.8
RSD	**Rainshed**	**0.07**	**344**		Pg		09 31 43.3	+2.2
KNHH	**Kane Nui o Ham**	**0.09**	**102**		Pg		09 31 42.2	+0.8
HLP	**Hilina Pali**	**0.11**	**205**		Pg		09 31 42.7	+0.9
HLP				IAML			09 31 44.8	
	comp=N,1µm,0.6s							
STCH	**Steam Cracks**	**0.13**	**96**		Pg		09 31 42.9	+0.8
NPOC	**North of Pu'u**	**0.14**	**92**		Pg		09 31 43.1	+0.7
NPOC					Sg		09 31 45.5	+1.2
JCUZ	**Jacuzzi**	**0.15**	**95**		Pg		09 31 43.3	+0.8
JCUZ					Sg		09 31 45.7	+1.2
MLH	**Mauna Loa**	**0.15**	**309**		Pg		09 31 43.6	+0.9
MLH				IAML			09 31 47.3	
	comp=N,617nm,0.6s							
AIN	**Ainahou**	**0.19**	**262**		Pg		09 31 44.4	+1.0
AIN				IAML			09 31 50.0	
	comp=E,689nm,0.5s							
JOKA	**Jonika Flow**	**0.24**	**82**		Pg		09 31 44.7	+0.4
JOKA				IAML			09 31 50.8	
	comp=N,512nm,0.8s							
JOKA				IAML			09 31 51.4	
	comp=E,275nm,1.0s							
HMH	**Humu'ula Sheep**	**0.29**	**314**	Pg	Pg		09 31 46.1	+0.8
HMH				IAML			09 31 54.8	
	comp=E,153nm,0.8s							
HMH				IAML			09 31 55.0	
	comp=N,172nm,1.2s							
MWH	**Mokuaweoweo**	**0.33**	**285**	Pg	Pg		09 31 46.8	+0.7
MWH				IAML			09 31 57.2	
	comp=E,395nm,1.4s							
POHA	**Pohakuloa**	**0.44**	**324**	Pg	Pg		09 31 48.8	+0.7
POHA				IAML			09 31 49.9	
	comp=E,115nm,4.2s							
POHA				IAML			09 31 54.4	
	comp=E,129nm,3.6s							
HUH	**Hualalai**	**0.61**	**298**		Pg		09 31 51.5	+0.1

*ISK **21** 09:34:23.3, 38˚.21N×26˚.38E, h8km, ML3.0/23*
*ATH **21** 09:34:23.9, 38˚.20N×26˚.48E, h28km±6km, ML3.3/2,*
Manual Solution by M.Kolligri First location: 2019/09/21 09:35:43, This location: 2019/09/21 10:01:42 ML
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 5 km
*THE **21** 09:34:23.7, 38˚N±1˚×26˚E±˚, h13km±3km, M2.8/5, MLh2.8/5*
*AFAD **21** 09:34:23.1, 38˚.19N×26˚.35E, h10km±1km, ML3.1*

ISC 21 09:34:23.2±0.9, **38˚.21N**±0˚.02×**26˚.36E**±0˚.02, **h17**km±6km, **n57**, σ0**961**/**78**, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZEYE	**Izmir, Urla-Ze**	**0.11**	**77**	P		**Pb**	**09 34 26.6**	**-0.3**
ZEYE				S		**Sb**	**09 34 28.8**	**-0.6**
ZEYE				*i* IAML			09 34 29.0	
	comp=N,8µm,0.2s							
ZEYE				*i* IAML			09 34 30.0	
	comp=E,6µm,0.4s							
CESE	**eme**	**0.13**	**337**	Pg		**Pg**	**09 34 26.9**	**-0.2**
URLA	**Izmir**	**0.23**	**51**	Pg		**Pg**	**09 34 28.6**	**0.0**
URLA				Sg		**Sg**	**09 34 32.4**	**0.0**
URLA	**Izmir**	**0.23**	**51**	P		**Pg**	**09 34 28.6**	**0.0**
URLA				S		**Sg**	**09 34 32.3**	**0.0**
URLA				*i* IAML			09 34 33.0	
	comp=N,3µm,0.2s							
CHOS	**Chios island**	**0.30**	**306**	Pg		**Pb**	**09 34 30.3**	**+0.1**
CHOS	**Chios island**	**0.30**	**306**	P		**Pb**	**09 34 30.2**	**+0.1**
CHOS				S		**Sb**	**09 34 35.1**	**+0.3**
DGB	**zmir**	**0.44**	**111**	P		**Pg**	**09 34 32.0**	**-0.2**
DGB				S		**Sg**	**09 34 37.5**	**-0.6**
DGB				*i* IAML			09 34 43.0	
	comp=E,915nm,0.1s							
KARB	**zmir-Karabur**	**0.45**	**5**	P		**Pg**	**09 34 32.3**	**0.0**
KARB				*i* IAML			09 34 43.0	
	comp=E,852nm,0.1s							
GMLD	**Gumuldur**	**0.46**	**107**	Pg		**Pg**	**09 34 32.3**	**-0.1**
BLCB	**Balcova**	**0.56**	**72**	Pg		**Pg**	**09 34 34.2**	**-0.2**
BLCB				Sg		**Sb**	**09 34 42.3**	**0.0**
BLCB	**Balcova**	**0.56**	**72**	P		**Pg**	**09 34 34.2**	**-0.2**
BLCB				S		**Sg**	**09 34 42.1**	**+0.2**
FOCM	**Foa**	**0.58**	**30**	Pg		**Pg**	**09 34 34.5**	**-0.2**
SMG	**Samos**	**0.63**	**143**	P		**Pg**	**09 34 35.7**	**+0.1**
SMG				S		**Sb**	**09 34 45.0**	**+0.8**
SMG	**Samos**	**0.63**	**143**	P		**Pg**	**09 34 35.5**	**-0.1**
SMG				S		**Sb**	**09 34 44.6**	**+0.3**
GCAM	**G?zelcaml?**	**0.86**	**126**	Pg		**Pb**	**09 34 39.7**	**+0.1**
GCAM				Sg		**Sn**	**09 34 52.3**	**-0.3**
GCAM	**G?zelcaml?**	**0.86**	**126**	P		**Pb**	**09 34 39.8**	**+0.1**
GCAM				S		**Sg**	**09 34 51.7**	**+0.5**
GCAM				*i* IAML			09 34 53.0	
	comp=E,548nm,0.3s							
GCAM				*i* IAML			09 34 55.0	
	comp=N,902nm,0.8s							
IZMD	**zmir-Dikili-**	**0.89**	**30**	P		**Pg**	**09 34 40.5**	**-0.1**
ZEDA	**zmir-Bergama**	**0.94**	**36**	P		**Pb**	**09 34 40.7**	**-0.3**
ZEDA				S		**Sn**	**09 34 54.6**	**0.0**
PRK	**Paraskevi**	**1.03**	**356**	P		**Pn**	**09 34 42.9**	**0.0**
PRK				S		**Sn**	**09 34 57.6**	**+0.6**
PRK	**Paraskevi**	**1.03**	**356**	P		**Pn**	**09 34 42.9**	**0.0**
PRK				S		**Sg**	**09 34 56.7**	**-0.1**
SIGR	**SIGRI**	**1.07**	**338**	Pn		**Pn**	**09 34 43.6**	**+0.1**
SIGR	**SIGRI**	**1.07**	**338**	P		**Pb**	**09 34 43.3**	**0.0**
SIGR				S		**Sn**	**09 34 57.8**	**-0.2**
AYVA	**Ayvalik**	**1.12**	**13**	P		**Pn**	**09 34 43.5**	**-0.6**
AYVA				S		**Sg**	**09 35 01.0**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**1.23**	**102**	Pn		**Pn**	**09 34 45.9**	**+0.1**
GPNR	**Gulpinar-Canak**	**1.25**	**352**	Pn		**Pg**	**09 34 47.8**	**+0.4**
IZMR	**zmir-demi**	**1.25**	**93**	P		**Pb**	**09 34 46.7**	**+0.3**
IZMR				S		**Sb**	**09 35 01.9**	**-0.4**
KOCA	**Canakkale, Ayv**	**1.30**	**352**	P		**Pn**	**09 34 46.8**	**+0.2**
KOCA				S		**Sn**	**09 35 02.8**	**-0.8**
SOMA	**Soma-Manisa**	**1.31**	**44**	Pn		**Pg**	**09 34 48.3**	**-0.3**
SOMA				Sn		**Sg**	**09 35 06.7**	**+1.0**
GOMA	**Golmarmara-Man**	**1.32**	**68**	Pn		**Pg**	**09 34 48.2**	**-0.4**
AKS	**Akhisar**	**1.32**	**59**	Pn		**Pg**	**09 34 48.3**	**-0.3**
AYDN	**Tasoluk**	**1.32**	**114**	P		**Pn**	**09 34 47.2**	**+0.3**
AYDN				S		**Sn**	**09 35 03.4**	**-0.7**
ODEM	**Odemis-Izmir**	**1.35**	**87**	Pn		**Pb**	**09 34 48.6**	**+0.5**
YAYO	**Edremit-Balk**	**1.50**	**21**	Pn		**Pb**	**09 34 51.0**	**+0.4**
KARY	**Karystos**	**1.53**	**264**	P		**Pn**	**09 34 50.4**	**+0.7**
KARY	**Karystos**	**1.53**	**264**	P		**Pb**	**09 34 50.7**	**-0.4**
NAZL	**Nazilli-Aydin**	**1.54**	**99**	Pn		**Pb**	**09 34 51.9**	**+0.6**
GORD	**Gordes-Manisa**	**1.58**	**63**	Pn		**Pb**	**09 34 52.4**	**+0.3**
EZN	**Ezine**	**1.61**	**359**	Pn		**Pb**	**09 34 52.6**	**+0.1**
EZN	**Ezine**	**1.61**	**359**	P		**Pn**	**09 34 51.2**	**+0.3**
BOZC	**Bozcaada**	**1.64**	**352**	Pn		**Pb**	**09 34 53.1**	**0.0**
DAT	**Datca**	**1.77**	**147**	Pn		**Pb**	**09 34 54.7**	**-0.6**
KYMI	**Kymi, Euboea I**	**1.83**	**284**	P		**Pb**	**09 34 55.4**	**-0.7**
KULA	**Kula-Manisa**	**1.83**	**80**	Pn		**Pb**	**09 34 57.3**	**+1.0**
YENI	**Yenice-Canakka**	**1.85**	**21**	Pn		**Pb**	**09 34 56.5**	**-0.1**
CANM	**Can-anakkale**	**1.87**	**16**	Pn		**Pb**	**09 34 56.8**	**-0.2**
COMU	**Canakkale**	**1.89**	**3**	Pn		**Pb**	**09 34 56.6**	**-0.6**
LIA	**Limnos Island**	**1.92**	**332**	P		**Pn**	**09 34 55.6**	**+0.6**
LIA				S		**Sn**	**09 35 16.7**	**-2.0**
DION	**Dionisos Attik**	**1.92**	**267**	P		**Pn**	**09 34 55.7**	**+0.5**
GADA	**Gvkgeada**	**2.01**	**350**	Pn		**Pb**	**09 34 58.2**	**-1.0**
VLY	**Voula,Athens**	**2.06**	**261**	P		**Pn**	**09 34 58.1**	**+1.0**
TURN	**Turunc**	**2.07**	**133**	Pn		**Pb**	**09 34 59.2**	**-1.2**
GONE	**Gonen-Balikesi**	**2.10**	**29**	Pn		**Pb**	**09 34 59.5**	**-1.3**
GELI	**Tayfur-Gelibol**	**2.18**	**2**	Pn		**Pb**	**09 35 01.1**	**-1.1**
KRBG	**Karabiga-Canak**	**2.29**	**18**	Pn		**Pn**	**09 35 02.1**	**+1.9**
SMTH	**Samothraki Isl**	**2.34**	**344**	P		**Pn**	**09 35 01.2**	**+0.3**
ALN	**Alexandroupoli**	**2.69**	**355**	P		**Pn**	**09 35 06.3**	**+0.6**
RDO	**Rodhopi**	**3.00**	**348**	P		**Pn**	**09 35 10.6**	**+0.7**

*TAP **21** 09:34:48.6, 24˚.45N×120˚.94E, h7km, ML4.0, C*
*IDC **21** 09:34:51.6±4.7, 23˚.96N×121˚.90E, h0km, mb3.3/4, mbtmp3.3/4, MS3.0/1, Error ellipse: s-maj=356.3km s-min=25.0km az=61.0*

ISC 21 09:34:49.7±0.8, **24˚.48N**±0˚.01×**120˚.98E**±0˚.01, **h18**km±1km, **n170**, σ0**87**/297, **mb3.4**/4, **42C-21D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NSTT	**Nanjuang**	**0.15**	**8**	⇑*iP*		**Pb**	**09 34 53.1**	**-0.1**
NSTT				*i* S		**Sb**	**09 34 56.4**	**+1.0**
LIOB	**Emei**	**0.17**	**11**	⇑*iP*		**Pb**	**09 34 53.5**	**-0.2**
LIOB				*eS*		**Sb**	**09 34 56.6**	**+0.4**
NMLH	**Miaoli**	**0.18**	**290**	⇓*iP*		**Pb**	**09 34 53.1**	**-0.8**
NMLH				S		**Sb**	**09 34 56.0**	**-0.6**
NFF	**Wufeng Townshi**	**0.20**	**39**	⇑*iP*		**Pb**	**09 34 54.1**	**-0.4**
NFF				*i* S		**Sg**	**09 34 57.9**	**-0.2**
WHP	**Taichung City**	**0.20**	**189**	⇑P		**Pb**	**09 34 53.1**	**-1.4**
WHP				*i* S		**Sb**	**09 34 55.9**	**-1.6**
NSY	**Sanyi**	**0.21**	**253**	⇑*iP*		**Pg**	**09 34 53.1**	**-1.6**
NSY				*eS*		**Sg**	**09 34 56.5**	**-1.8**
TWQ1	**Liyutan**	**0.23**	**236**	⇑*iP*		**Pg**	**09 34 53.4**	**-1.7**
TWQ1				S		**Sg**	**09 34 56.9**	**-1.9**
NJN	**Zhunan**	**0.23**	**334**	P		**Pg**	**09 34 54.5**	**-0.6**
NJN				S		**Sg**	**09 34 58.7**	**0.0**
TDCB	**Techi**	**0.28**	**144**	⇓*iP*		**Pg**	**09 34 55.1**	**-0.9**
TDCB				S		**Sg**	**09 34 58.9**	**-1.3**
NJD	**Zhudong**	**0.28**	**21**	⇑P		**Pb**	**09 34 56.1**	**+0.1**
NJD				S		**Sb**	**09 35 01.2**	**+0.9**
TWT	**Tachien**	**0.29**	**141**	⇓*iP*		**Pg**	**09 34 55.2**	**-0.9**
TWT				*eS*		**Sg**	**09 34 59.4**	**-1.1**
HSN1	**Hsinchu**	**0.30**	**7**	⇑*iP*		**Pg**	**09 34 56.6**	**+0.3**
HSN1				*i* S		**Sb**	**09 35 02.0**	**+0.8**
SBCB	**Hsinchu**	**0.32**	**1**	⇑*iP*		**Pg**	**09 34 56.8**	**+0.3**
SBCB				*eS*		**Sb**	**09 35 02.4**	**+0.9**
HSN	**Hsinchu**	**0.33**	**359**	⇑*iP*		**Pb**	**09 34 57.7**	**+0.7**
HSN				*eS*		**Sb**	**09 35 03.0**	**+1.1**
FUSS	**Fushou**	**0.33**	**133**	⇓*iP*		**Pg**	**09 34 56.6**	**-0.4**
FUSS				S		**Sg**	**09 35 01.3**	**-0.6**
WDJ	**Dajia District**	**0.33**	**248**	⇑*iP*		**Pg**	**09 34 56.1**	**-0.7**
WDJ				*eS*		**Sg**	**09 35 01.2**	**-0.5**
KSHI	**Guanxi Townshi**	**0.35**	**31**	⇑*iP*		**Pb**	**09 34 57.7**	**+0.3**
KSHI				*eS*		**Sb**	**09 35 03.2**	**+0.6**
NNS	**Nan Shan**	**0.36**	**96**	⇓P		**Pb**	**09 34 57.4**	**-0.3**
NNS				*eS*		**Sb**	**09 35 02.6**	**-0.5**
NNSB	**Datong**	**0.37**	**97**	⇓*iP*		**Pb**	**09 34 57.4**	**-0.5**
NNSB				*eS*		**Sb**	**09 35 02.5**	**-0.9**
NSK	**Sanguang**	**0.40**	**60**	⇑*iP*		**Pb**	**09 34 57.8**	**-0.5**
NSK				*eS*		**Sb**	**09 35 03.9**	**-0.2**
YHNB	**Yeheng**	**0.41**	**62**	P		**Pg**	**09 34 57.6**	**-0.6**
YHNB	**Yeheng**	**0.41**	**62**	⇑*iP*		**Pg**	**09 34 57.9**	**-0.3**
YHNB				*eS*		**Sb**	**09 35 03.8**	**-0.6**
WHF	**Hehuan Shan**	**0.42**	**142**	⇓*iP*		**Pg**	**09 34 58.5**	**0.0**
WHF				*eS*		**Sg**	**09 35 04.0**	**-0.5**
WCS	**Beigang Elemen**	**0.42**	**188**	⇑*iP*		**Pg**	**09 34 57.5**	**-0.9**
WCS				*eS*		**Sg**	**09 35 03.2**	**-0.9**
TCU	**Taichung**	**0.43**	**220**	⇑P		**Pg**	**09 34 58.2**	**-0.3**
TCU				*i* S		**Sg**	**09 35 04.5**	**+0.2**
DPDB	**Guoxing**	**0.44**	**186**	P		**Pg**	**09 34 57.9**	**-0.8**
DPDB				*eS*		**Sg**	**09 35 04.4**	**-0.5**
WPL	**Puli Township**	**0.46**	**182**	P		**Pg**	**09 34 58.2**	**-0.9**
WPL				*eS*		**Sg**	**09 35 03.7**	**-1.7**
WUSB	**Renai**	**0.50**	**165**	⇓*iP*		**Pg**	**09 34 59.1**	**-0.7**
WUSB				*eS*		**Sg**	**09 35 05.2**	**-1.4**
LATG	**Datong**	**0.50**	**83**	⇓P		**Pb**	**09 35 00.1**	**+0.1**
LATG				*eS*		**Sb**	**09 35 06.7**	**-0.4**
WWF	**Wufeng**	**0.50**	**211**	*eP*		**Pg**	**09 34 59.8**	**0.0**
WWF				*eS*		**Sg**	**09 35 07.5**	**+0.9**
NCUH	**Zhongli**	**0.52**	**21**	⇑*eP*		**Pb**	**09 35 01.3**	**+0.9**
NCUH				*i* S		**Sn**	**09 35 09.4**	**-1.3**
ETLH	**Xiulin Townshi**	**0.53**	**120**	⇓*iP*		**Pb**	**09 35 00.6**	**+0.1**
ETLH				*eS*		**Sb**	**09 35 07.5**	**-0.3**
NHW	**Xinwu Township**	**0.53**	**7**	P		**Pb**	**09 35 00.9**	**+0.5**
OWD	**Renai**	**0.55**	**161**	⇓*iP*		**Pg**	**09 35 00.2**	**-0.5**
OWD				*i* S		**Sg**	**09 35 07.0**	**-1.2**
WCHH	**Zhanghua**	**0.55**	**224**	⇑*iP*		**Pb**	**09 35 00.7**	**0.0**
WCHH				*eS*		**Sg**	**09 35 08.5**	**+0.4**
ENTT	**Nioudou**	**0.56**	**73**	⇑*iP*		**Pb**	**09 35 01.0**	**+0.1**
ENTT				*eS*		**Sb**	**09 35 08.4**	**-0.1**
NWLT	**Wulai**	**0.56**	**58**	⇑P		**Pb**	**09 35 00.6**	**-0.3**
NWLT				*eS*		**Sn**	**09 35 09.6**	**-2.1**
WCH1	**Changhua City**	**0.56**	**224**	*eP*		**Pb**	**09 35 00.4**	**-0.6**
WCH1				*eS*		**Sb**	**09 35 08.3**	**-0.3**
TYC	**Yuchr**	**0.58**	**191**	⇑*iP*		**Pb**	**09 35 00.4**	**-0.8**
TYC				*eS*		**Sb**	**09 35 08.6**	**-0.5**
SMLT	**Sun Moon Lake**	**0.59**	**187**	⇓*iP*		**Pb**	**09 35 01.0**	**-0.6**
SMLT				*eS*		**Sg**	**09 35 08.8**	**-0.7**
NTY	**Taoyuan**	**0.60**	**29**	⇑*eP*		**Pn**	**09 35 02.6**	**-0.6**
NTY				*eS*		**Sn**	**09 35 12.1**	**-0.4**
LXIB	**Xiulin Townshi**	**0.60**	**139**	⇓*iP*		**Pg**	**09 35 01.7**	**0.0**
LXIB				*eS*		**Sb**	**09 35 09.8**	**0.0**
FUSB	**Fushanzhiwuyua**	**0.62**	**63**	*eP*		**Pb**	**09 35 02.0**	**0.0**
FUSB				*eS*		**Sb**	**09 35 10.2**	**-0.2**
WNT1	**Nantou City**	**0.63**	**206**	⇑*eP*		**Pb**	**09 35 02.3**	**+0.2**
WNT1				*eS*		**Sb**	**09 35 11.1**	**+0.6**
WYL	**Yuanlin Townsh**	**0.63**	**215**	*eP*		**Pb**	**09 35 01.8**	**-0.2**
WYL				*eS*		**Sb**	**09 35 10.9**	**+0.4**
NACB	**Ninganchiao**	**0.64**	**118**	P		**Pg**	**09 35 02.2**	**-0.1**
NACB	**Ninganchiao**	**0.64**	**118**	S		**Sb**	**09 35 11.3**	**+0.5**
NACB	**Ninganchiao**	**0.64**	**118**	⇓*iP*		**Pg**	**09 35 02.5**	**+0.2**
NACB				*eS*		**Sb**	**09 35 10.3**	**-0.4**
WNT	**Mingjian**	**0.65**	**204**	⇑*iP*		**Pb**	**09 35 02.7**	**+0.2**
WNT				*i* S		**Sb**	**09 35 12.1**	**+0.9**
ETL	**Fush Village**	**0.67**	**118**	*eP*		**Pg**	**09 35 02.9**	**+0.1**
ETL				*eS*		**Sg**	**09 35 12.0**	**+0.2**
TWE	**Neicheng**	**0.67**	**69**	⇑*iP*		**Pg**	**09 35 03.1**	**+0.2**
TWE				*eS*		**Sn**	**09 35 12.6**	**-1.7**
TATO	**Taipei**	**0.68**	**43**	P		**Pn**	**09 35 04.0**	**-0.4**
TATO	**Taipei**	**0.68**	**43**	⇑P		**Pn**	**09 35 04.0**	**-0.4**
SSLB	**Suanglung**	**0.69**	**182**	P		**Pb**	**09 35 02.0**	**-1.1**
SSLB	**Suanglung**	**0.69**	**182**	⇓*iP*		**Pb**	**09 35 01.8**	**-1.3**
SSLB				*eS*		**Sb**	**09 35 10.7**	**-1.6**
TWD	**Chiawan**	**0.69**	**125**	⇓*iP*		**Pg**	**09 35 03.4**	**+0.2**
TWD				*i* S		**Sg**	**09 35 12.4**	**0.0**
NDS	**Dongshan**	**0.69**	**77**	*eP*		**Pg**	**09 35 03.2**	**0.0**
NDS				*eS*		**Sn**	**09 35 12.7**	**-2.0**
WJS	**Zhushan**	**0.69**	**199**	⇑*iP*		**Pb**	**09 35 03.4**	**+0.2**
WJS				*eS*		**Sb**	**09 35 13.1**	**+0.8**
ETM	**Tongmen**	**0.69**	**137**	⇓*eP*		**Pb**	**09 35 03.2**	**0.0**
ETM				*eS*		**Sg**	**09 35 12.4**	**-0.1**
NHDH	**Xindian Distri**	**0.69**	**46**	*eP*		**Pn**	**09 35 04.1**	**-0.5**
NHDH				*eS*		**Sn**	**09 35 13.6**	**-1.3**
ENA	**Nanau**	**0.70**	**94**	*eP*		**Pg**	**09 35 03.5**	**+0.1**
ENA				*eS*		**Sg**	**09 35 12.3**	**-0.3**
EAHA	**Aohua**	**0.71**	**102**	*eP*		**Pg**	**09 35 03.6**	**0.0**
EAHA				*eS*		**Sg**	**09 35 13.1**	**+0.1**
EWUT	**Wuta**	**0.73**	**92**	*eP*		**Pg**	**09 35 03.9**	**-0.1**
TAP	**Taipei**	**0.74**	**40**	⇑P		**Pn**	**09 35 05.1**	**0.0**
TAP				*eS*		**Sn**	**09 35 16.4**	**+0.5**
TWS1	**Kuangyinshan**	**0.74**	**33**	⇑P		**Pn**	**09 35 05.4**	**+0.2**
TWS1				*eS*		**Sn**	**09 35 16.5**	**+0.8**
ILA	**Ilan**	**0.76**	**67**	*eP*		**Pn**	**09 35 05.8**	**+0.4**
HWA	**Hwalien**	**0.76**	**131**	*eP*		**Pg**	**09 35 04.7**	**+0.2**
HWA				*eS*		**Sn**	**09 35 15.5**	**-0.9**
NHY	**Taipei**	**0.78**	**44**	*eP*		**Pn**	**09 35 05.8**	**+0.1**
NHY				*eS*		**Sn**	**09 35 17.6**	**+0.7**
ESL	**Shilin**	**0.78**	**148**	⇓*iP*		**Pb**	**09 35 04.8**	**+0.1**
ESL				*eS*		**Sg**	**09 35 15.3**	**0.0**
WHYT	**Xinyi Township**	**0.79**	**188**	⇑*iP*		**Pb**	**09 35 05.1**	**+0.3**
WHYT				*eS*		**Sb**	**09 35 15.8**	**+0.7**
ESAO	**Su ao**	**0.79**	**83**	*eP*		**Pg**	**09 35 05.0**	**-0.2**
ESAO				*eS*		**Sg**	**09 35 15.5**	**-0.3**
TWC	**Suao**	**0.80**	**80**	*eP*		**Pn**	**09 35 05.5**	**-0.6**
TWC				S		**Sn**	**09 35 16.0**	**-1.5**
NTST	**Danshui**	**0.81**	**32**	*eP*		**Pn**	**09 35 06.3**	**+0.2**
NTST				*eS*		**Sn**	**09 35 18.8**	**+1.2**
RLNB	**Erlin**	**0.81**	**224**	⇑P		**Pb**	**09 35 04.8**	**-0.4**
RLNB				*eS*		**Sb**	**09 35 15.8**	**-0.1**
TEYL	**Yanliau Villag**	**0.83**	**137**	*eP*		**Pb**	**09 35 04.7**	**-0.8**
TEYL				*eS*		**Sn**	**09 35 17.2**	**-0.9**
WARBT	**Fenglin Townsh**	**0.84**	**154**	⇓*iP*		**Pb**	**09 35 05.6**	**-0.2**
WARBT				*i* S		**Sb**	**09 35 16.0**	**-0.7**
ZUZH	**Zhuzihu**	**0.85**	**37**	⇑*iP*		**Pn**	**09 35 06.9**	**+0.1**
ZUZH				*i* S		**Sn**	**09 35 19.6**	**+0.7**
WDL	**Douliou City**	**0.86**	**208**	*eP*		**Pb**	**09 35 05.8**	**-0.2**
WDL				*eS*		**Sb**	**09 35 17.2**	**0.0**
ANP	**Anpu**	**0.86**	**35**	*i* P		**Pn**	**09 35 07.0**	**+0.1**
ANP				*i* S		**Sn**	**09 35 19.7**	**+0.5**
SHUL	**Shoufeng**	**0.87**	**142**	⇓P		**Pg**	**09 35 06.9**	**+0.2**
SHUL				*eS*		**Sb**	**09 35 17.2**	**-0.3**
WGK	**Gukeng**	**0.87**	**206**	*i* P		**Pb**	**09 35 06.4**	**+0.1**
WGK				*i* S		**Sb**	**09 35 19.0**	**+1.3**
WDLH	**Douliu**	**0.88**	**207**	*eP*		**Pb**	**09 35 06.3**	**-0.1**
WDLH				*i* S		**Sb**	**09 35 18.7**	**+0.9**
WTCT	**Ta-ch'eng**	**0.88**	**226**	⇑P		**Pb**	**09 35 05.8**	**-0.7**
WTCT				*i* S		**Sb**	**09 35 18.5**	**+0.7**
EGFH	**Guangfu**	**0.90**	**153**	*i* P		**Pb**	**09 35 07.0**	**+0.2**
EGFH				*eS*		**Sb**	**09 35 18.3**	**-0.2**
TIPB	**Shuangxi**	**0.92**	**57**	*eP*		**Pn**	**09 35 07.8**	**+0.1**
TIPB				*eS*		**Sn**	**09 35 19.8**	**-0.6**
CHN5	**Tsauling**	**0.92**	**197**	⇑*iP*		**Pb**	**09 35 07.0**	**-0.1**
CHN5				*i* S		**Sb**	**09 35 19.7**	**+0.7**
NWF	**Wu-fen Shan**	**0.94**	**51**	⇑*iP*		**Pn**	**09 35 08.5**	**+0.5**
NWF				*eS*		**Sn**	**09 35 21.6**	**+0.5**
WFSB	**Wu-fen Shan**	**0.94**	**51**	⇑*iP*		**Pn**	**09 35 08.6**	**+0.6**
WFSB				*eS*		**Sn**	**09 35 21.1**	**+0.2**
EGS		**0.94**	**67**	*eP*		**Pn**	**09 35 08.7**	**+0.7**
WTK	**Tuku**	**0.95**	**215**	*eP*		**Pb**	**09 35 07.1**	**-0.5**
WTK				*eS*		**Sb**	**09 35 21.3**	**+1.4**
ALS	**Alishan**	**0.97**	**189**	*i* P		**Pb**	**09 35 08.3**	**+0.1**
ALS				*i* S		**Sb**	**09 35 22.1**	**+1.3**
TWY	**Chenhua**	**0.97**	**35**	P		**Pg**	**09 35 09.1**	**+0.4**
TWY				*eS*		**Sn**	**09 35 22.4**	**+0.6**
NSM	**Shimen**	**0.98**	**34**	*eP*		**Pg**	**09 35 08.8**	**+0.1**
YUS	**Yu-Shan**	**0.98**	**181**	*eP*		**Pb**	**09 35 08.2**	**-0.3**
TNOU	**National Taiwa**	**0.98**	**47**	*eP*		**Pg**	**09 35 08.8**	**0.0**
TNOU				*eS*		**Sn**	**09 35 21.5**	**-0.6**
EHY	**Hungye**	**1.02**	**162**	⇓*iP*		**Pb**	**09 35 08.4**	**-0.3**
EHY				*eS*		**Sb**	**09 35 22.2**	**+0.4**
SXI1	**Grass Mountain**	**1.02**	**53**	*eP*		**Pg**	**09 35 09.6**	**+0.1**
SXI1				*eS*		**Sn**	**09 35 22.8**	**-0.2**
EHYH	**Wanrong**	**1.03**	**161**	*i* P		**Pb**	**09 35 08.9**	**-0.1**
EHYH				*eS*		**Sb**	**09 35 22.3**	**0.0**
CHN2	**Minshiung**	**1.05**	**206**	*eP*		**Pb**	**09 35 09.1**	**-0.2**
CHN2				*i* S		**Sb**	**09 35 24.0**	**+1.4**
TWB1	**Santiao Chiao**	**1.06**	**60**	P		**Pg**	**09 35 10.4**	**+0.1**
TWB1				*eS*		**Sn**	**09 35 24.0**	**+0.1**
HGSD	**Ruisui**	**1.06**	**157**	*eP*		**Pb**	**09 35 09.9**	**+0.4**
HGSD				*eS*		**Sn**	**09 35 24.0**	**+0.1**
WSF	**Szhu**	**1.08**	**220**	*eP*		**Pn**	**09 35 08.9**	**-1.0**
WSF				*i* S		**Sb**	**09 35 24.0**	**+0.4**
WCKO	**Fanlu**	**1.09**	**198**	⇑*iP*		**Pn**	**09 35 09.7**	**-0.3**
WCKO				*i* S		**Sb**	**09 35 24.4**	**+0.6**
CHY	**Chiayi**	**1.10**	**208**	⇑P		**Pn**	**09 35 09.6**	**-0.5**
CHY				*eS*		**Sb**

TIR	**Tirane**	**0.28**	**94**	P	**Pg**	**09 37 15.4**	**-0.4**
TIR				Sg	**Sg**	**09 37 19.9**	**+0.3**
TIR				AML	AML	09 37 20.3	
	6.0nm,0.3s						
ULC	**Ulcinj**	**0.62**	**343**	*e*Pg	**Pb**	**09 37 22.6**	**-0.5**
ULC				*i* Sg	**Sn**	**09 37 33.9**	**-1.1**
DRME	**Dracevica, Mon**	**0.85**	**344**	*e*Pg	**Pb**	**09 37 27.1**	**+0.2**
DRME				*e*Sg	**Sn**	**09 37 43.0**	**+2.5**
DRME	**Dracevica, Mon**	**0.85**	**344**	⇓*i*Pg	**Pb**	**09 37 26.5**	**-0.4**
DRME				*e*Sg	**Sn**	**09 37 41.7**	**+1.2**
VLO	**Vlora**	**0.90**	**180**	Pg	**Pg**	**09 37 26.3**	**-1.2**
VLO				Sg	**Sb**	**09 37 42.9**	**+3.2**
VLO				AML	AML	09 37 49.7	
	4.8nm,0.3s						
OHR	**Ohrid**	**1.02**	**104**	*i* Pn	**Pg**	**09 37 28.8**	**-0.9**
OHR				*i* Sn	**Sn**	**09 37 45.9**	**+1.2**
BUM	**Brajici-Budva**	**1.03**	**335**	*e*Pg	**Pb**	**09 37 30.6**	**+0.5**
BUM				*i* Sg	**Sn**	**09 37 47.6**	**+2.4**
PDG	**Podgorica**	**1.08**	**351**	⇑P	**Pb**	**09 37 30.8**	**0.0**
PDG	**Podgorica**	**1.08**	**351**	*e*Pg	**Pn**	**09 37 31.6**	**+0.4**
PDG				*e*Sg	**Sn**	**09 37 46.7**	**+0.6**
PDG	**Podgorica**	**1.08**	**351**	⇓*i*Pg	**Pb**	**09 37 30.8**	**0.0**
PDG				*i* Sg	**Sn**	**09 37 49.0**	**+2.9**
KBN	**Korca**	**1.23**	**127**	Pg	**Pg**	**09 37 30.9**	**-2.9**
KBN				Sg	**Sb**	**09 37 50.4**	**+1.1**
KBN				AML	AML	09 37 59.8	
	1.0nm,0.5s						
CEME	**Cevo**	**1.25**	**340**	⇓*i*Pg	**Pb**	**09 37 33.9**	**0.0**
CEME				*e*Sg	**Sn**	**09 37 53.4**	**+2.8**
PVY	**Plav**	**1.27**	**16**	*e*Pg	**Pn**	**09 37 34.3**	**+0.3**
HCY	**Herceg Novi**	**1.31**	**326**	⇑*i*Pg	**Pn**	**09 37 34.9**	**+0.5**
HCY				*e*Sg	**Sn**	**09 37 54.7**	**+2.8**
NKME	**Niksic**	**1.46**	**344**	⇓*i*Pg	**Pb**	**09 37 37.2**	**-0.1**
NKME				*e*Sg	**Sg**	**09 37 58.8**	**+1.8**
KOME	**Kolasin**	**1.48**	**1**	*e*Pg	**Pg**	**09 37 38.2**	**-0.4**
KOME				*e*Sg	**Sg**	**09 38 00.1**	**+2.2**
KOME	**Kolasin**	**1.48**	**1**	⇑*i*Pg	**Pb**	**09 37 37.5**	**-0.3**
KOME				*e*Sg	**Sg**	**09 37 58.9**	**+1.0**
IVA	**Berane**	**1.53**	**11**	*e*Pn	**Pn**	**09 37 38.0**	**+0.5**
IVA				*e*Sn	**Sg**	**09 38 00.0**	**+0.5**
TREB	**Trebinje**	**1.59**	**328**	*e*Pg	**Pn**	**09 37 38.3**	**0.0**
TREB				*e*Sg	**Sn**	**09 37 58.8**	**-0.1**
KEK	**Kerkira**	**1.67**	**172**	Pn	**Pn**	**09 37 40.9**	**+1.6**
KEK				Sn	**Sg**	**09 38 05.5**	**+1.7**
KEK	**Kerkira**	**1.67**	**172**	P	**Pg**	**09 37 42.7**	**+0.5**
BRY	**Bratogost**	**1.69**	**335**	*e*Pn	**Pn**	**09 37 40.4**	**+0.7**
BRY				*e*Sn	**Sg**	**09 38 04.0**	**-0.5**
UPM	**Unac-Piva**	**1.89**	**347**	*e*Pn	**Pn**	**09 37 42.8**	**+0.3**
UPM				*e*Sn	**Sg**	**09 38 09.0**	**-1.8**
KLINJ	**Klinje**	**1.92**	**340**	*e*Pn	**Pn**	**09 37 44.0**	**+1.1**
KLINJ				*e*Sn	**Sn**	**09 38 07.7**	**+0.6**
NOCI	**Noci**	**1.93**	**253**	Pn	**Pn**	**09 37 42.8**	**-0.1**
NOCI				Sn	**Sb**	**09 38 10.4**	**+1.1**
NOCI				AML	AML	09 38 21.5	
	1.2nm,0.4s						
SJES	**Sjenica**	**1.93**	**10**	*e*Pn	**Pb**	**09 37 45.1**	**-0.2**
SJES				*e*Sg	**Sg**	**09 38 12.6**	**+0.5**
IGT	**Igoumenitsa**	**1.94**	**160**	Pn	**Pn**	**09 37 43.7**	**+0.6**
IGT				Sn	**Sb**	**09 38 11.8**	**+2.1**
STON	**Ston**	**2.01**	**319**	*e*Pn	**Pn**	**09 37 43.6**	**-0.4**
STON				*e*Sn	**Sn**	**09 38 08.1**	**-1.0**
STON	**Ston**	**2.01**	**319**	*e*Pn	**Pn**	**09 37 43.7**	**-0.3**
STON				*e*Sn	**Sn**	**09 38 09.3**	**+0.2**
SELS	**Selova**	**2.21**	**33**	*e*Pn	**Pn**	**09 37 47.7**	**+0.9**
SELS				*e*Sn	**Sn**	**09 38 14.2**	**+0.1**
MATE	**Matera**	**2.23**	**252**	⇑P	**Pn**	**09 37 46.8**	**-0.2**
RUDO	**Rudo**	**2.25**	**358**	*e*Pn	**Pn**	**09 37 48.6**	**+1.3**
RUDO				*e*Sn	**Sn**	**09 38 16.6**	**+1.5**
RUDO	**Rudo**	**2.25**	**358**	*e*Pn	**Pb**	**09 37 49.8**	**-1.0**
BARS	**Barje**	**2.25**	**49**	*e*Pn	**Pn**	**09 37 47.8**	**+0.4**
BARS				*e*Sn	**Sn**	**09 38 12.6**	**-2.6**
IVAS	**Ivanjica**	**2.26**	**12**	*e*Pn	**Pn**	**09 37 48.0**	**+0.5**
IVAS				*e*Sn	**Sn**	**09 38 14.7**	**-0.7**
GOCS	**Kraljevo Serbi**	**2.42**	**25**	*e*Pn	**Pn**	**09 37 50.6**	**+0.9**
GOCS				*e*Sn	**Sn**	**09 38 16.8**	**-2.6**
BBLS	**Lazi&#263i**	**2.50**	**359**	*e*Pn	**Pn**	**09 37 51.9**	**+1.1**
BBLS				*e*Sn	**Sn**	**09 38 21.3**	**0.0**
BOSS	**Bosilegrad**	**2.50**	**62**	*e*Pn	**Pn**	**09 37 51.2**	**+0.5**
GRUS	**Gruza**	**2.68**	**19**	*e*Pn	**Pn**	**09 37 54.4**	**+1.2**
LKD2	**Lefkada island**	**2.73**	**160**	Pn	**Pn**	**09 37 53.7**	**-0.2**
LKD2				Sn	**Sn**	**09 38 25.5**	**-1.4**
LKD2				AML	AML	09 38 36.6	
	0.3nm,0.7s						
DIVS	**Divibare**	**2.75**	**7**	*e*Pn	**Pn**	**09 37 55.0**	**+0.7**
AMPL	**Ampelaki**	**2.78**	**151**	P	**Pn**	**09 37 55.1**	**+0.6**
BOVS	**Bovan**	**2.79**	**35**	⇑P	**Pn**	**09 37 54.6**	**-0.2**
BOVS	**Bovan**	**2.79**	**35**	*e*Pn	**Pn**	**09 37 55.7**	**+0.9**
SGRT	**San Giovanni R**	**2.84**	**279**	Pn	**Pn**	**09 37 54.9**	**-0.6**
SGRT				Sn	**Sn**	**09 38 29.5**	**-0.2**
SGRT				AML	AML	09 38 40.9	
	0.2nm,0.3s						
TRUS	**Trudelj**	**2.93**	**13**	*e*Pn	**Pn**	**09 37 57.7**	**+1.0**
ZAPS	**Zavoj**	**3.01**	**50**	*e*Pn	**Pn**	**09 37 58.5**	**+0.7**
ZAPS				*e*Sn	**Sn**	**09 38 31.2**	**-2.6**
FSK	**Fiskardo**	**3.02**	**164**	P	**Pn**	**09 37 56.3**	**-1.6**
TIP	**Timpagrande**	**3.03**	**225**	⇓P	**Pn**	**09 37 57.9**	**-0.2**
VTS	**Vitosha**	**3.06**	**65**	*e*Pn	**Pn**	**09 37 59.3**	**+0.8**
SRS	**Serrai**	**3.10**	**93**	*e*Pn	**Pn**	**09 37 59.2**	**+0.2**
ZAGS	**Zajecar**	**3.17**	**39**	*e*Pn	**Pn**	**09 38 00.6**	**+0.6**
AGG	**Agios Georgios**	**3.19**	**136**	P	**Pn**	**09 37 60.0**	**-0.4**
BLKB	**Belogradchik**	**3.26**	**45**	*e*Pn	**Pn**	**09 38 03.0**	**+1.8**
BORS2	**Bor- Borsko je**	**3.30**	**34**	*e*Pn	**Pn**	**09 38 00.6**	**-1.1**
VLS	**Valsamata**	**3.30**	**165**	P	Pn	09 37 57.4	-4.3
KUBS	**Kucevo**	**3.44**	**27**	*e*Pn	**Pn**	**09 38 02.8**	**-0.9**
KIJV	**Kijevo**	**3.48**	**320**	*e*Pn	**Pn**	**09 38 04.0**	**-0.3**
KIJV				*e*Sn	**Sn**	**09 38 42.8**	**-2.7**
BLY	**Banja Luka**	**3.78**	**334**	*e*Pn	**Pn**	**09 38 09.1**	**+0.8**
BLY				*e*Sn	**Sn**	**09 38 51.5**	**-1.3**
MDVR	**Moldovita**	**3.78**	**25**	⇓P	**Pn**	**09 38 08.9**	**+0.2**
FRGS	**Fruska Gora**	**3.79**	**3**	*e*Pn	**Pn**	**09 38 08.8**	**+0.2**
BZS	**Buzias**	**4.52**	**19**	⇓P	**Pn**	**09 38 18.7**	**+0.2**
BZS	**Buzias**	**4.52**	**19**	*e*Pn	**Pn**	**09 38 18.4**	**-0.1**
GZR	**Gura Zlata**	**4.68**	**30**	⇑P	**Pn**	**09 38 20.7**	**-0.1**
MOSL	**Moslavina**	**4.69**	**336**	*e*Pn	**Pn**	**09 38 20.7**	**-0.1**
MOSL				*e*Sn	**Sn**	**09 39 13.0**	**-2.2**
SIRR	**Siria**	**5.14**	**17**	⇓P	**Pn**	**09 38 27.4**	**+0.3**
OZLJ	**Ozalj**	**5.16**	**327**	*e*Pn	**Pn**	**09 38 26.4**	**-0.8**
OZLJ				*e*Sn	**Sn**	**09 39 24.0**	**-2.7**
BOJS	**Bojanci**	**5.16**	**325**	*e*Pn	**Pn**	**09 38 27.5**	**+0.2**
ARR	**Arges**	**5.48**	**41**	⇑P	**Pn**	**09 38 30.7**	**-1.0**
BRJN	**Brijuni**	**5.49**	**312**	*e*Pn	**Pn**	**09 38 30.4**	**-1.4**
BRJN				*e*Sn	**Sn**	**09 39 30.3**	**-4.6**
VOIR		**5.74**	**43**	⇑P	**Pn**	**09 38 35.0**	**-0.3**
DRGR		**5.90**	**22**	⇑P	**Pn**	**09 38 36.2**	**-1.3**
MARR	**Marisel-Cluj**	**5.92**	**25**	⇑P	**Pn**	**09 38 38.0**	**+0.2**

HEL 21 09:40:12.2±0.4, 67°.86N×20°.00E, h0km, ML1.5,
Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara** baz=260	**0.78**	**75**	PG	Pg	09 40 26.3	-0.7
LANU				SB	Sg	09 40 36.7	-0.3
KIF	**Kilpisjarvi**	**1.19**	**14**	*e*P	Pn	09 40 36.4	+0.4
KIF	**Kilpisjarvi**	**1.19**	**14**	PN	Pn	09 40 36.1	+0.1
KIF				MSG		09 40 49.3	
	comp=Z,3.7nm,0.2s						
KIF				SN	Sn	09 40 52.4	-0.5
PAJU	**Pajala** baz=302	**1.46**	**124**	PG	Pn	09 40 37.7	-2.1
PAJU				SG	Sg	09 40 57.4	-1.8
HEF	**Hetta**	**1.48**	**66**	*e*P	Pn	09 40 38.8	-1.3
HEF	**Hetta**	**1.48**	**66**	PG	Pn	09 40 38.9	-1.1
HEF				MSG		09 40 56.5	
	comp=Z,3.7nm,0.2s						
HEF				SG	Sg	09 40 58.4	-1.1
ERTU	**Ertsjaerv**	**1.56**	**146**	PG	Pn	09 40 40.2	-1.0
ERTU				SG	Sn	09 41 01.0	-1.1
KTK1	**Kautokeino**	**1.66**	**44**	PG	Pb	09 40 43.4	-0.3
KTK1				SN	Sg	09 41 06.9	+1.3
KALU	**Kalix**	**2.41**	**145**	PG	Pn	09 40 53.8	+1.1
KALU				SG	Sb	09 41 24.7	-1.7
TOF	**Tornio**	**2.47**	**134**	PB	Pn	09 40 54.8	+1.2
TOF				MSG		09 41 25.0	
	comp=Z,1.7nm,0.2s						
TOF				SB	Sn	09 41 26.2	+1.9
ARA0	**ARCESS Array S**	**2.62**	**48**	PG	Pb	09 40 58.3	-1.7
ARA0				SG	Sb	09 41 31.4	-1.3
RAJF	**Raja-Jooseppi**	**3.17**	**75**	PG	Pb	09 41 08.3	-1.0
RAJF				SB	Sb	09 41 47.4	-0.9
KEV	**Kevo**	**3.18**	**50**	PG	Pb	09 41 08.1	-1.3
KEV				SN	Sn	09 41 43.6	+1.8
RANF	**Ranua**	**3.25**	**122**	SG	Sb	09 41 52.2	+1.5
VRF	**Varrio**	**3.65**	**87**	PG	Pb	09 41 17.8	+0.3
VRF				SG	Sb	09 42 02.8	+0.7
KU2	**Taivalkoski**	**3.91**	**120**	PN	Pn	09 41 12.9	-0.5
OLKF	**Oulanka, Finla**	**3.98**	**108**	PG	Pb	09 41 24.6	+1.4
OLKF				SG	Sg	09 42 16.5	-3.5
KU6	**Riekki** baz=304	**4.30**	**111**	PG	Pb	09 41 29.6	+1.0
KU6				SG	Sb	09 42 24.6	+3.6
KU1	**Kurvinen**	**4.44**	**117**	SG	Sb	09 42 25.8	+0.9

*SOME **21** 09:43:31.9, 42°.08N×78°.80E, h15km*
*KRNET **21** 09:43:32.2±0.1, 42°.11N×78°.75E, h21km, mb2.7*
*NNC **21** 09:43:33.6±2.2, 42°.18N×78°.81E, h0km, mb3.3, mpv3.0,*
Error ellipse: s-maj=15.1km s-min=8.0km az=163.0
ISC 21 09:43:30.2±1.5, 41°.95N±0°.05×78°.84E±0°.04, h15km±10km,
n33, σ1s 69/55, 12C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.62**	**329**	⇓*e*P	**Pg**	**09 43 41.5**	**-1.0**
PRZ				⇓*e*S	**Sg**	**09 43 48.0**	**-2.9**
TARG	**Taragay, Kyrgy**	**0.80**	**254**	⇑*e*P	**Pn**	**09 43 47.4**	**0.0**
TARG				⇑*e*S	**Sn**	**09 43 58.4**	**-1.0**
SATY	**Saty**	**1.15**	**344**	P	**Pn**	**09 43 50.7**	**-1.3**
SATY	1.5nm,0.1s			S	**Sb**	**09 44 04.0**	**-2.9**
	14nm,0.1s						
SATY	**Saty**	**1.15**	**344**	*e*P	**Pn**	**09 43 50.7**	**-1.3**
SATY				*e*S	**Sb**	**09 44 03.9**	**-2.9**
UZB	**Uzynbulak** 3.8nm,0.3s	**1.20**	**6**	P	**Pn**	**09 43 51.2**	**-1.5**
UZB	22nm,0.3s			S	**Sb**	**09 44 05.1**	**-3.2**
UZB	**Uzynbulak** 3.8nm,0.3s	**1.20**	**6**	*e*P	**Pn**	**09 43 51.2**	**-1.5**
UZB	22nm,0.3s			*e*S	**Sb**	**09 44 05.1**	**-3.2**
KDJ	**Kajisay**	**1.25**	**279**	⇑*e*P	**Pb**	**09 43 53.5**	**-0.1**
KDJ				⇑*e*S	**Sb**	**09 44 08.9**	**-0.7**
SHLS	**Shalkode** 3.5nm,0.1s	**1.29**	**21**	P	**Pg**	**09 43 56.8**	**+1.7**
SHLS	30nm,0.5s			S	**Sg**	**09 44 14.5**	**+2.6**
SHLS	**Shalkode**	**1.29**	**21**	*e*P	**Pg**	**09 43 56.8**	**+1.7**
SHLS				*e*S	**Sg**	**09 44 14.5**	**+2.6**
KPKS	**Kokpek** 0.4nm,0.2s	**1.52**	**356**	P	**Pb**	**09 43 57.6**	**-0.6**
KPKS	25nm,0.5s			S	**Sn**	**09 44 16.3**	**-0.3**
TNSS	**Tian-Shan** 0.7nm,0.2s	**1.77**	**308**	P	**Pb**	**09 44 02.9**	**+0.3**
TNSS	2.8nm,0.2s			S	**Sb**	**09 44 25.3**	**+0.5**
TNSS	**Tian-Shan** 0.7nm,0.2s	**1.77**	**308**	*e*P	**Pb**	**09 44 02.9**	**+0.3**
TNSS	2.8nm,0.2s			*e*S	**Sb**	**09 44 25.3**	**+0.5**
MDOK	**Medeo** 3.1nm,0.1s	**1.79**	**313**	Pg	**Pb**	**09 44 03.7**	**+0.8**
MDOK	15nm,0.7s			Lg	Lg	09 44 26.2	
KOTS	**Kotyrbulak** 3.0nm,0.2s	**1.81**	**316**	P	**Pg**	**09 44 04.3**	**-0.7**
KOTS	34nm,0.2s			S	**Sb**	**09 44 27.9**	**+2.2**
KOTS	**Kotyrbulak** 3.0nm,0.2s	**1.81**	**316**	*e*P	**Pg**	**09 44 04.3**	**-0.7**
KOTS	34nm,0.2s			*e*S	**Sb**	**09 44 27.9**	**+2.2**
ULHL	**Ulahol**	**1.96**	**280**	⇑*e*P	**Pb**	**09 44 05.8**	**+0.1**
ULHL				⇑*e*S	**Sb**	**09 44 30.2**	**+0.2**
MTBS	**Maitube** 4.5nm,0.2s	**2.14**	**304**	Pg	**Pb**	**09 44 09.8**	**+1.1**
MTBS	26nm,0.4s			Lg	Lg	09 44 36.3	
MTBS	**Maitube** 4.5nm,0.2s	**2.14**	**304**	*e*P	**Pb**	**09 44 09.5**	**+0.8**
MTBS	26nm,0.4s			*e*S	**Sb**	**09 44 36.3**	**+1.2**
BOOM	**Boomskoye usch**	**2.22**	**285**	⇑*e*P	**Pb**	**09 44 09.3**	**-0.9**
BOOM				⇑*e*S	**Sn**	**09 44 36.1**	**+2.1**
CHKK	**Chushkaly** 18nm,0.3s	**2.34**	**325**	Pg	**Pb**	**09 44 12.7**	**+0.6**
CHKK	27nm,0.3s			Lg	Lg	09 44 42.2	
CHKK	**Chushkaly** 18nm,0.3s	**2.34**	**325**	*e*P	**Pb**	**09 44 12.7**	**+0.6**
CHKK	27nm,0.3s			*e*S	**Sb**	**09 44 42.2**	**+1.4**
KTBS	**Karatobe** 9.4nm,0.3s	**2.37**	**319**	Pg	**Pb**	**09 44 13.5**	**+0.8**
KTBS	15nm,0.9s			Lg	Lg	09 44 43.6	
ARXS	**Arharly** 15nm,0.7s	**2.38**	**342**	Pg	**Pb**	**09 44 12.6**	**-0.2**
ARXS	14nm,0.6s			Lg	Lg	09 44 42.1	
ARXS	**Arharly**	**2.38**	**342**	*e*P	**Pb**	**09 44 12.6**	**-0.2**
ARXS				*e*S	**Sb**	**09 44 42.1**	**+0.1**
KST	**Kastek** 6.0nm,0.3s	**2.39**	**298**	Pg	**Pg**	**09 44 14.6**	**-1.5**
KST	50nm,0.6s			Lg	Lg	09 44 44.5	
KST	**Kastek** 6.0nm,0.3s	**2.39**	**298**	*e*P	**Pb**	**09 44 13.9**	**+0.8**
KST	50nm,0.6s			*e*S	**Sb**	**09 44 44.5**	**+2.1**
KNOS	**Konyrlen** 4.2nm,0.2s	**2.42**	**6**	Pg	**Pb**	**09 44 13.1**	**-0.4**
KNOS	16nm,0.3s			Lg	Lg	09 44 43.2	
JNKS	**Jany-Kuch**	**2.55**	**251**	⇑*e*P	**Pb**	**09 44 15.3**	**-0.6**
JNKS				⇑*e*S	**Sb**	**09 44 46.7**	**-0.5**
DGS	**Degeres** 3.7nm,0.4s	**2.61**	**301**	Pg	**Pb**	**09 44 17.7**	**+0.9**
DGS	20nm,0.9s			Lg	Lg	09 44 50.8	
KRBS	**Karabastau** 4.2nm,0.3s	**2.91**	**308**	Pg	**Pb**	**09 44 21.9**	**0.0**
KRBS	7.9nm,0.7s			Lg	Lg	09 44 57.9	
MAKZ	**Makanchi** 0.4nm,0.5s	**5.35**	**24**	Pn	**Pb**	**09 45 00.1**	**-3.3**
MAKZ	1.7nm,0.9s			Lg	Lg	09 46 17.8	
MK31	**Makanchi Array** 0.2nm,0.3s,base=202,slow=14,SNR=3.6	**5.44**	**26**	⇓Pn	Pb	09 44 57.2	-7.7
MK31	0.8nm,0.6s			⇑Sn	**Sn**	**09 45 57.2**	**+4.2**
MK31	0.7nm,0.5s,baz=197,slow=27			⇑Lg	Lg	09 46 20.9	

IDC 21 09:47:33.8±4.5, 17°.36S×173°.17W, h0km, mb3.5/3,
mbtmp3.5/3, Error ellipse: s-maj=333.7km
s-min=37.5km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=97,slow=7.1,SNR=6.5 0.3nm,0.5s	**49.64**	**258**	P	P	09 56 27.4	-0.1
ASAR	**Alice Springs** 0.5nm,0.8s,baz=84,slow=9.2,SNR=5.5 0.5nm,0.8s	**49.74**	**253**	P	P	09 56 28.3	-0.1
PDAR	**Pinedale Array** 0.2nm,0.7s,baz=238,slow=5.5,SNR=2.2 0.2nm,0.7s	**83.57**	**42**	P	P	10 00 04.2	0.0

IDC 21 09:50:56.7±1.0, 21°.02S×179°.31E, h0km, mb3.8/3,
mbtmp3.9/4, ML4.1/1, Error ellipse: s-maj=399.7km
s-min=54.9km az=60.0, South of Fiji Islands

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

URZ	**Urewera** 0.7nm,0.3s,baz=265,slow=3.5,SNR=9.4 9.1nm,1.0s	**17.28**	**186**	P	Pn	09 54 59.4	-0.1
STKA	**Stephens Creek** 3.4nm,1.1s,baz=92,slow=8.4,SNR=3.3 3.4nm,1.1s	**35.30**	**244**	P	P	09 57 53.9	+0.3
ASAR	**Alice Springs** 0.9nm,0.8s,baz=98,slow=8.3,SNR=6.3 0.9nm,0.8s	**41.95**	**258**	P	P	09 58 49.3	-0.3
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=100,slow=8.7,SNR=14 0.5nm,0.5s	**42.04**	**263**	P	P	09 58 50.2	-0.2

*KRSC **21** 10:03:28.8±1.0, 52°.72N×158°.66E, h128km±7km, Ml3.9*
*MOS **21** 10:03:29.2±0.7, 52°.71N×158°.64E, h127km, mb3.8/3, Error ellipse: s-maj=18.1km s-min=5.9km az=76.5*
*IDC **21** 10:03:31.0±0.7, 53°.00N×157°.90E, h132km±3km, mb3.3/12, mbtmp3.7/13, Error ellipse: s-maj=21.4km s-min=15.2km az=149.0*
ISC 21 10:03:30.4±0.6, 52°.75N±0°.04×158°.60E±0°.04, h129km±4km,
n83, σ1s 24/128, mb3.6/13, 2C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**0.28**	**6**	⇓*i*PN	**Pn**	**10 03 47.8**	**-0.5**
PET				*i* S	**Sn**	**10 04 01.0**	**-0.8**
PET				pmax	pmax		
	comp=Z,511nm,0.5s						
PET				smax	smax		
	comp=E,2μm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.9s						
PET	**Petropavlovsk**	**0.28**	**6**	*e*P	**Pn**	**10 03 47.7**	**-0.5**
PET				*e*S	**Sn**	**10 04 00.5**	**-1.4**
DALK	**Dalny**	**0.30**	**18**	PN	**Pn**	**10 03 47.9**	**-0.4**
DALK				S	**Sn**	**10 04 00.9**	**-1.0**
DALK	**Dalny**	**0.30**	**18**	*e*P	**Pn**	**10 03 47.9**	**-0.4**
DALK				*e*S	**Sn**	**10 04 01.0**	**-1.0**
KRMR	**Karymshinskiy**	**0.30**	**286**	PN	**Pn**	**10 03 47.6**	**-0.7**
KRMR				S	**Sn**	**10 04 00.7**	**-1.2**
KRMR	**Karymshinskiy**	**0.30**	**286**	*e*P	**Pn**	**10 03 47.6**	**-0.7**
KRMR				*e*S	**Sn**	**10 04 00.7**	**-1.2**
RUS	**Russkaya**	**0.32**	**190**	PN	**Pn**	**10 03 47.9**	**-0.5**
RUS				S	**Sn**	**10 04 01.3**	**-0.7**
RUS	**Russkaya**	**0.32**	**190**	*e*P	**Pn**	**10 03 47.9**	**-0.5**
RUS				*e*S	**Sn**	**10 04 01.3**	**-0.7**
MTVR	**Mutnovka**	**0.37**	**224**	PN	**Pn**	**10 03 48.2**	**-0.6**
MTVR				S	**Sn**	**10 04 03.3**	**+0.6**
MTVR	**Mutnovka**	**0.37**	**224**	*e*P	**Pn**	**10 03 48.3**	**-0.6**
MTVR				*e*S	**Sn**	**10 04 03.3**	**+0.6**
GRL	**Gorelyy**	**0.38**	**239**	PN	**Pn**	**10 03 48.7**	**-0.1**
GRL				S	**Sn**	**10 04 03.1**	**+0.3**
GRL	**Gorelyy**	**0.38**	**239**	*e*P	**Pn**	**10 03 48.8**	**-0.1**
GRL				*e*S	**Sn**	**10 04 03.1**	**+0.3**
UGLR	**Uglovaya**	**0.48**	**16**	PN	**Pn**	**10 03 49.4**	**+0.1**
UGLR				S	**Sn**	**10 04 04.4**	**+0.7**
UGLR	**Uglovaya**	**0.48**	**16**	*e*P	**Pn**	**10 03 49.5**	**+0.1**
UGLR				*e*S	**Sn**	**10 04 04.1**	**+0.4**
AVH	**Avacha**	**0.52**	**9**	PN	**Pn**	**10 03 49.5**	**0.0**
AVH				S	**Sn**	**10 04 04.2**	**+0.1**
AVH	**Avacha**	**0.52**	**9**	*e*P	**Pn**	**10 03 49.6**	**0.0**
AVH				*e*S	**Sn**	**10 04 04.2**	**+0.1**
SMAR	**Somma**	**0.53**	**13**	PN	**Pn**	**10 03 49.6**	**-0.1**
SMAR				S	**Sn**	**10 04 04.1**	**-0.3**
SMAR	**Somma**	**0.53**	**13**	*e*P	**Pn**	**10 03 49.6**	**-0.1**
SMAR				*e*S	**Sn**	**10 04 04.1**	**-0.3**
KOK	**Koryaka**	**0.54**	**2**	PN	**Pn**	**10 03 49.7**	**+0.1**
KOK				S	**Sn**	**10 04 04.4**	**+0.1**
KOK	**Koryaka**	**0.54**	**2**	*e*P	**Pn**	**10 03 49.7**	**+0.1**
KOK				*e*S	**Sn**	**10 04 04.4**	**+0.1**
SDLR	**Sedlovina**	**0.56**	**18**	PN	**Pn**	**10 03 49.6**	**-0.2**
SDLR				S	**Sn**	**10 04 04.0**	**-0.5**
SDLR	**Sedlovina**	**0.56**	**18**	*e*P	**Pn**	**10 03 49.6**	**-0.2**
SDLR				*e*S	**Sn**	**10 04 04.0**	**-0.5**
KRER	**Koryakskii**	**0.56**	**9**	PN	**Pn**	**10 03 50.0**	**+0.1**
KRER				S	**Sn**	**10 04 04.8**	**+0.1**
KRER	**Koryakskii**	**0.56**	**9**	*e*P	**Pn**	**10 03 50.1**	**+0.1**
KRER				*e*S	**Sn**	**10 04 04.9**	**+0.1**
ASAK	**Asacha**	**0.56**	**230**	PN	**Pn**	**10 03 49.7**	**-0.1**
ASAK				S	**Sn**	**10 04 04.2**	**-0.2**
ASAK	**Asacha**	**0.56**	**230**	*e*P	**Pn**	**10 03 49.7**	**-0.1**
ASAK				*e*S	**Sn**	**10 04 04.2**	**-0.2**
KRX	**Arik**	**0.61**	**3**	PN	**Pn**	**10 03 50.0**	**-0.1**
KRX				S	**Sn**	**10 04 04.5**	**-0.7**
KRX	**Arik**	**0.61**	**3**	*e*P	**Pn**	**10 03 50.0**	**-0.1**
KRX				*e*S	**Sn**	**10 04 04.5**	**-0.7**
NLC	**Nalytchevo**	**0.62**	**47**	PN	**Pn**	**10 03 49.4**	**-0.5**
NLC	**Nalytchevo**	**0.62**	**47**	*e*P	**Pn**	**10 03 49.5**	**-0.5**
PEA0B	**Petropavlovsk-**	**0.65**	**304**	PN	**Pn**	**10 03 49.4**	**-0.9**
PEA0B				S	**Sn**	**10 04 03.6**	**-1.8**
PETK	**Petropavlovsk-** comp=N,702nm,0.4s,baz=150,slow=6.1,SNR=504	**0.65**	**304**	P	**Pn**	**10 03 48.7**	**-1.6**
PETK				S	**Sn**	**10 04 04.1**	**-1.3**
	comp=N,195nm,0.7s,baz=248,slow=36,SNR=8.6						
APC	**Apacha**	**0.89**	**282**	PN	**Pn**	**10 03 54.0**	**+1.9**
APC				S	**Sn**	**10 04 09.8**	**+1.2**
APC	**Apacha**	**0.89**	**282**	*e*P	**Pn**	**10 03 54.1**	**+1.9**
APC				*e*S	**Sn**	**10 04 09.9**	**+1.2

MJA0	**Matsu Arr-Jizo**	**21.61**	**230**	*e*P	**P**		**10 08 14.1**	**+4.1**
MJA0				pmax	pmax			
	comp=Z,1.0nm,0.4s							
MAJO	**Matsushiro**	**21.63**	**230**	⇓*e*P	**P**		**10 08 10.2**	**0.0**
MAJO				pmax	pmax			
	comp=Z,5.0nm,1.0s							
MJAR	**Matsushiro Arr**	**21.63**	**230**	P	**P**		**10 08 09.8**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=17,slow=11,SNR=4.9							
	comp=Z,0.8nm,0.3s							
ILAR	**Eielson Array**	**29.70**	**45**	P	**P**		**10 09 24.6**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=248,slow=7.0,SNR=5.7							
	comp=Z,0.4nm,0.8s							
ILAR	**Eielson Array**	**29.70**	**45**	*e*P	**P**		**10 09 23.5**	**-0.1**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**47.48**	**295**	P	**P**		**10 11 48.8**	**-3.2**
	comp=Z,0.3nm,0.4s,baz=48,slow=6.1,SNR=6.3							
	comp=Z,0.3nm,0.4s							
BVAR	**Borovoye Array**	**49.89**	**308**	P	P		10 12 06.2	-4.0
	comp=Z,0.8nm,0.4s,baz=62,slow=9.9,SNR=4.0							
BVAR				PcP	**PcP**		**10 13 27.8**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=67,slow=3.9,SNR=4.6							
	comp=Z,0.8nm,0.4s							
NVAR	**Mina Array Bea**	**56.71**	**69**	P	**P**		**10 13 03.4**	**+2.8**
	comp=Z,0.4nm,0.6s,baz=302,slow=8.3,SNR=4.5							
	comp=Z,0.4nm,0.6s							
PDAR	**Pinedale Array**	**58.48**	**60**	P	**P**		**10 13 15.2**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=297,slow=3.5,SNR=5.5							
	comp=Z,0.4nm,0.7s							
NOA	**NORSAR Array B**	**63.61**	**343**	P	**P**		**10 13 44.0**	**-2.9**
	comp=Z,0.6nm,0.6s,baz=36,slow=7.1,SNR=3.4							
	comp=Z,0.6nm,0.6s							
HFS	**Hagfors**	**63.99**	**341**	P	**P**		**10 13 46.7**	**-2.6**
	comp=Z,1.2nm,0.5s,baz=38,slow=5.6,SNR=6.4							
	comp=Z,1.2nm,0.5s							
EKA	**Eskdalemuir Ar**	**71.23**	**349**	P	**P**		**10 14 33.6**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=19,slow=5.2,SNR=4.1							
	comp=Z,0.4nm,0.3s							
TXAR	**Lajitas Array**	**71.60**	**66**	P	**P**		**10 14 39.9**	**+2.2**
	comp=Z,1.0nm,0.7s,baz=300,slow=4.1,SNR=11							
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**75.40**	**204**	P	**P**		**10 14 59.7**	**0.0**
	comp=Z,0.2nm,0.5s,baz=14,slow=6.0,SNR=1.9							
	comp=Z,0.2nm,0.5s							
ASAR	**Alice Springs**	**79.08**	**203**	P	**P**		**10 15 21.3**	**+1.2**
	comp=Z,0.3nm,0.9s,baz=11,slow=6.1,SNR=2.3							
	comp=Z,0.3nm,0.9s							

*IDC **21** 10:29:37.6±2.1,2˚.52N×127˚.09E,h0km,mb3.5/4, mbtmp3.6/4,MS2.7/1,Error ellipse: s-maj=117.9km s-min=26.8km az=70.0*
*DJA **21** 10:29:43.9±1.4,3˚N±4˚×12˚7E±˚,h24km±14km,M3.4/7, MLv3.4/7*
ISC 21 10:29:42.4±1.8,2˚.7N±0˚.2×127˚.2E±0˚.3,h35km,n7,σ2$04/7, mb3.6/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.88**	**300**	P	**Pn**	**10 30 12.4**	**+0.4**
TNTI	**Ternate**	**1.97**	**174**	P	**Pn**	**10 30 14.7**	**+1.4**
TNTI				S	**Sn**	**10 30 37.8**	**+1.1**
DAV	**Davao City (W)**	**4.58**	**340**	LR	LR	10 33 05.6	
	comp=Z,80nm,19.8s,baz=38,slow=44						
FITZ	**Fitzroy Crossi**	**20.76**	**184**	P	**P**	**10 34 18.6**	**-1.8**
	1.4nm,0.4s,baz=15,slow=12,SNR=6.1						
	1.4nm,0.4s						
WRA	**Warramunga Arr**	**23.62**	**163**	P	**P**	**10 34 49.2**	**-1.3**
	1.2nm,0.5s,baz=341,slow=11,SNR=17						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**27.06**	**166**	P	**P**	**10 35 19.2**	**-2.5**
	0.3nm,0.7s,baz=345,slow=7.5,SNR=5.2						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**58.61**	**325**	P	**P**	**10 39 37.4**	**+1.5**
	0.2nm,0.3s,baz=130,slow=9.7,SNR=2.7						
	0.2nm,0.3s						

RSNC 21 10:43:13.2±0.0,5˚N±1˚×7˚4W±˚,h150km±2km,M2.7,mb3.8, ML2.5,Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPBC	**San Pablo de B**	**0.46**	**319**	P	Pn	10 43 35.0	+0.5
SPBC				S	Sn	10 43 50.6	-0.1
ROSC	**El Rosal**	**0.71**	**230**	P	Pn	10 43 36.8	+0.5
ROSC				S	Sn	10 43 54.4	+0.6
CVER	**Cruz Verde, Cu**	**0.83**	**201**	P	Pn	10 43 37.2	0.0
CVER				S	Sn	10 43 54.8	-0.7
RUSC	**La Rusia**	**0.90**	**49**	P	Pn	10 43 37.7	0.0
RUSC				S	Sn	10 43 55.9	-0.5
NORC	**Norcasia**	**1.12**	**284**	P	Pn	10 43 38.6	-0.5
NORC				S	Sn	10 43 58.4	-0.5
PTBC	**PUERTO BERRIO,**	**1.41**	**331**	P	Pn	10 43 41.2	-0.7
PTBC				S	Sn	10 44 03.4	-0.4
BARC	**Barichara**	**1.41**	**24**	P	Pn	10 43 41.6	-0.5
BARC				S	Sn	10 44 03.1	-1.2
GUY2C	**Guyana, Caldas**	**1.59**	**267**	P	Pn	10 43 43.8	-0.4
GUY2C				S	Sn	10 44 07.0	-0.9
BRJC	**Barrancabermej**	**1.66**	**1**	P	Pn	10 43 44.4	-0.1
BRJC				S	Sn	10 44 08.7	+0.1
NIZA	**Niza - Manizal**	**1.71**	**262**	P	Pn	10 43 45.0	-0.3
NIZA				S	Sn	10 44 09.5	-0.4
PRAC	**Prado**	**1.93**	**215**	P	Pn	10 43 46.8	-0.8
PRAC				S	Sn	10 44 12.7	-1.3
HELC	**Santa Helena**	**1.96**	**297**	P	Pn	10 43 48.2	-0.1
HELC				S	Sn	10 44 14.9	-0.2
URMC	**La Uribe, Meta**	**2.13**	**197**	P	Pn	10 43 49.2	-0.8
URMC				S	Sn	10 44 17.9	-0.3
PAMC	**Pamplona, Colo**	**2.29**	**28**	P	Pn	10 43 52.4	+0.1
PAMC				S	Sn	10 44 22.4	+0.1
CBOC	**Ciudad Bolivar**	**2.30**	**284**	P	Pn	10 43 52.2	+0.1
CBOC				S	Sn	10 44 22.2	+0.2
YOTC	**Yotoco, Valle**	**2.88**	**243**	P	Pn	10 43 57.6	-1.6
OCAC	**Ocana**	**2.95**	**9**	P	Pn	10 43 59.6	-0.6
OCAC				S	Sn	10 44 36.6	+0.1
DBBC	**Dabeiba**	**2.97**	**305**	P	Pn	10 43 59.9	-0.3
DBBC				S	Sn	10 44 37.3	+0.7
UREC	**San Jos de Ur**	**3.00**	**324**	P	Pn	10 43 58.6	-2.0
UREC				S	Sn	10 44 34.9	-2.4
MACC	**Macarena, Meta**	**3.13**	**181**	P	Pn	10 43 59.9	-2.5
MACC				S	Sn	10 44 36.4	-4.0
JAMC	**Jamundi, Valle**	**3.56**	**235**	P	Pn	10 44 08.0	0.0
APAC	**Apartado, Choc**	**3.80**	**313**	P	Pn	10 44 09.8	-1.1
APAC				S	Sn	10 44 54.9	-0.8
FLOC	**Florencia**	**4.14**	**207**	P	Pn	10 44 14.3	-1.1
SJCC	**San Jacinto, C**	**4.78**	**343**	P	Pn	10 44 20.9	-2.9
SJCC				S	Sn	10 45 14.2	-4.6
CRJC	**Cerrejon, Guaj**	**5.75**	**9**	P	Pn	10 44 33.9	-2.8
CRJC				S	Sn	10 45 37.7	-4.3

IDC 21 10:51:39.2±67.0,14˚.29S×167˚.34E,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=1134.0km s-min=119.4km az=64.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.33**	**229**	P	P	10 57 43.7	-0.1
	2.5nm,0.6s,baz=51,slow=6.5,SNR=6.0						
	2.5nm,0.6s						
WRA	**Warramunga Arr**	**32.00**	**255**	P	P	10 58 07.6	+0.1
	0.3nm,0.6s,baz=84,slow=9.3,SNR=2.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**32.89**	**248**	P	P	10 58 15.4	0.0
	0.7nm,0.7s,baz=80,slow=9.1,SNR=19						
	0.7nm,0.7s						

*NEIC **21** 11:05:37.9±2.0,24˚.35N±0˚.04×122˚.42E±0˚.02,h35km±2km, mb4.0/6,Error ellipse: s-maj=6.4km s-min=3.6km az=165.0*
*JMA **21** 11:05:38.1±0.1,24˚.3N±1˚.0×122˚.4E±0˚.3,h55km±1km, MD3.7/18,MV3.6/18,NW OFF ISHIGAKIJIMA IS*
*TAP **21** 11:05:38.4,24˚.42N×122˚.40E,h54km,ML4.5,C*
*IDC **21** 11:05:44.2±7.9,24˚.39N×122˚.18E,h105km±81km,mb3.7/6, mbtmp4.0/7,ML3.8/1,MS3.0/4,Error ellipse: s-maj=79.1km s-min=15.3km az=65.0*
ISC 21 11:05:38.2±0.7,24˚.38N±0˚.02×122˚.44E±0˚.02,h54km±5km, n209,σ1$22/341,mb4.0/8,MS2.8/4,3C-27D,Taiwan region

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

EOS3	**EOS3**	**0.15**	**230**	⇑*i*P		Pn	**11 05 47.3**	**+0.8**
EOS3				S		Sn	**11 05 54.3**	**+1.9**
EOS2	**EOS2**	**0.20**	**280**	*i* P		Pn	**11 05 47.3**	**+0.6**
EOS2				*e*S		Sn	**11 05 54.3**	**+1.4**
EOS4	**EOS4**	**0.29**	**203**	⇑*i*P		Pn	**11 05 47.7**	**+0.6**
EOS4				*e*S		Sn	**11 05 54.9**	**+1.3**
JYNG	**Yonagunijimaku**	**0.46**	**82**	P		Pn	**11 05 49.6**	**+0.3**
JYNG				S		Sn	**11 05 57.8**	**+0.5**
JYNG	**Yonagunijimaku**	**0.46**	**82**	A		A	11 05 49.6	
	comp=N,12nm,0.6s,comp=E,13nm,0.8s							
YOJ	**Yonaguni jima**	**0.52**	**81**			Pn	**11 05 50.1**	**+0.1**
YOJ						Sn	**11 05 57.5**	**-1.0**
YOJ	**Yonaguni jima**	**0.52**	**81**	P		Pn	**11 05 50.3**	**+0.3**
YOJ	**Yonaguni jima**	**0.52**	**81**	S		Sn	**11 05 57.5**	**-1.0**
YOJ	**Yonaguni jima**	**0.52**	**81**	P		Pn	**11 05 50.5**	**+0.5**
YOJ	**Yonaguni jima**	**0.52**	**81**	S		Sn	**11 05 57.8**	**-0.7**
YOJ	**Yonaguni jima**	**0.52**	**81**	*e*P		Pn	**11 05 50.1**	**+0.1**
YOJ				*e*S		Sn	**11 05 58.8**	**+0.3**
YOJ	**Yonaguni jima**	**0.52**	**81**	*i* P		Pn	**11 05 50.2**	**+0.3**
YOJ				S		Sn	**11 05 58.9**	**+0.4**
YOJ	**Yonaguni jima**	**0.52**	**81**	A		A	11 05 50.2	
	comp=N,6.0nm,0.8s,comp=E,7.0nm,0.5s							
ESAO	**Su ao**	**0.58**	**289**	⇓*i*P		Pn	**11 05 50.4**	**-0.3**
ESAO				*e*S		Sn	**11 05 59.1**	**-0.5**
TWC	**Suao**	**0.58**	**293**	⇓*i*P		Pn	**11 05 50.3**	**-0.4**
TWC				*i* S		Sn	**11 05 58.9**	**-0.8**
EWUT	**Wuta**	**0.61**	**276**	*e*P		Pn	**11 05 50.4**	**-0.6**
ENA	**Nanau**	**0.64**	**274**	⇓*i*P		Pn	**11 05 51.2**	**-0.2**
ENA				*e*S		Sn	**11 06 00.9**	**-0.1**
EAHA	**Aohua**	**0.64**	**265**	⇓P		Pn	**11 05 51.4**	**0.0**
EAHA				*e*S		Sn	**11 06 01.9**	**+0.9**
EHP	**Heping Village**	**0.64**	**264**	*e*P		Pn	**11 05 51.6**	**+0.2**
EHP				*e*S		Sn	**11 06 02.2**	**+1.2**
EGS		**0.65**	**315**	*e*P		Pn	**11 05 51.6**	**+0.1**
NDS	**Dongshan**	**0.71**	**291**	P		Pn	**11 05 52.3**	**+0.1**
NDS				*e*S		Sn	**11 06 01.9**	**-0.5**
NTC	**Toucheng**	**0.73**	**310**	*e*P		Pn	**11 05 51.0**	**-1.5**
NTC				*e*S		Sn	**11 06 02.8**	**-0.1**
TWB1	**Santiao Chiao**	**0.75**	**326**	*e*P		Pn	**11 05 52.3**	**-0.4**
TWB1				*e*S		Sn	**11 06 02.2**	**-1.0**
ETL	**Fush Village**	**0.78**	**253**	*e*P		Pn	**11 05 53.0**	**-0.2**
ETL				*e*S		Sn	**11 06 04.0**	**-0.1**
TWE	**Neicheng**	**0.78**	**296**	⇓P		Pn	**11 05 53.0**	**-0.2**
TWE				*e*S		Sn	**11 06 04.2**	**+0.2**
NACB	**Ninganchiao**	**0.80**	**255**			Pn	**11 05 53.1**	**-0.4**
NACB						Sn	**11 06 02.6**	**-2.0**
NACB	**Ninganchiao**	**0.80**	**255**	P		Pn	**11 05 53.2**	**-0.2**
NACB	**Ninganchiao**	**0.80**	**255**	P		Pn	**11 05 53.1**	**-0.4**
NACB	**Ninganchiao**	**0.80**	**255**	⇓*i*P		Pn	**11 05 53.0**	**-0.4**
NACB				*e*S		Sn	**11 06 04.0**	**-0.5**
TIPB	**Shuangxi**	**0.81**	**316**	P		Pn	**11 05 53.3**	**-0.3**
TIPB				S		Sn	**11 06 04.0**	**-0.9**
TWD	**Chiawan**	**0.83**	**249**	⇓*i*P		Pn	**11 05 53.4**	**-0.4**
TWD				*e*S		Sn	**11 06 03.6**	**-1.6**
ENTT	**Nioudou**	**0.84**	**288**	*e*P		Pn	**11 05 54.1**	**+0.2**
ENTT				*e*S		Sn	**11 06 05.9**	**+0.4**
LATG	**Datong**	**0.85**	**280**	⇓*i*P		Pn	**11 05 54.5**	**+0.4**
LATG				*e*S		Sn	**11 06 07.3**	**+1.5**
FUSB	**Fushanzhiwuyua**	**0.86**	**296**	⇓*i*P		Pn	**11 05 54.5**	**+0.2**
FUSB				*e*S		Sn	**11 06 06.0**	**-0.1**
HWA	**Hwalien**	**0.86**	**242**	*e*P		Pn	**11 05 54.3**	**+0.1**
HWA				*e*S		Sn	**11 06 06.0**	**-0.1**
SXI1	**Grass Mountain**	**0.88**	**324**	*e*P		Pn	**11 05 54.3**	**-0.2**
SXI1				S		Sn	**11 06 06.0**	**-0.4**
ETLH	**Xiulin Townshi**	**0.89**	**259**	⇓*i*P		Pn	**11 05 54.5**	**-0.3**
ETLH				*e*S		Sn	**11 06 07.0**	**+0.2**
NWF	**Wu-fen Shan**	**0.91**	**319**	*e*P		Pn	**11 05 54.8**	**-0.1**
NWF				*e*S		Sn	**11 06 06.5**	**-0.7**
WFSB	**Wu-fen Shan**	**0.91**	**319**	⇓*i*P		Pn	**11 05 54.8**	**-0.1**
WFSB				*e*S		Sn	**11 06 06.4**	**-0.7**
TEYL	**Yanliau Villag**	**0.93**	**237**	*e*P		Pn	**11 05 54.7**	**-0.3**
TEYL				*e*S		Sn	**11 06 07.0**	**-0.5**
NWLT	**Wulai**	**0.94**	**295**	*i* P		Pn	**11 05 55.8**	**+0.5**
NWLT				*e*S		Sn	**11 06 07.9**	**0.0**
ETM	**Tongmen**	**0.96**	**245**	P		Pn	**11 05 55.0**	**-0.5**
ETM				*e*S		Sn	**11 06 07.5**	**-0.9**
NNSB	**Datong**	**0.97**	**273**	⇓*i*P		Pn	**11 05 55.9**	**+0.1**
NNSB				*i* S		Sn	**11 06 08.6**	**0.0**
NNS	**Nan Shan**	**0.98**	**273**	⇓*i*P		Pn	**11 05 55.9**	**+0.1**
NNS				S		Sn	**11 06 08.8**	**0.0**
TNOU	**National Taiwa**	**0.98**	**322**	*e*P		Pn	**11 05 55.7**	**-0.2**
TNOU				*i* S		Sn	**11 06 07.7**	**-0.9**
SHUL	**Shoufeng**	**1.00**	**234**	⇓P		Pn	**11 05 55.9**	**-0.1**
SHUL				*e*S		Sn	**11 06 09.4**	**+0.3**
LXIB	**Xiulin Townshi**	**1.01**	**249**	*i* P		Pn	**11 05 55.7**	**-0.5**
LXIB				*e*S		Sn	**11 06 08.8**	**-0.8**
YHNB	**Yeheng**	**1.01**	**287**			Pn	**11 05 56.8**	**+0.5**
YHNB						Sn	**11 06 08.4**	**-1.2**
YHNB	**Yeheng**	**1.01**	**287**	P		Pn	**11 05 56.8**	**+0.5**
YHNB	**Yeheng**	**1.01**	**287**	P		Pn	**11 05 57.1**	**+0.8**
YHNB	**Yeheng**	**1.01**	**287**	S		Sn	**11 06 10.9**	**+1.3**
YHNB	**Yeheng**	**1.01**	**287**	⇓*i*P		Pn	**11 05 57.0**	**+0.8**
YHNB				S		Sn	**11 06 10.3**	**+0.7**
NHDH	**Xindian Distri**	**1.01**	**305**	*e*P		Pn	**11 05 56.6**	**+0.4**
NHDH				*e*S		Sn	**11 06 09.4**	**-0.1**
NHY	**Taipei**	**1.03**	**310**	*e*P		Pn	**11 05 56.9**	**+0.5**
NHY				*e*S		Sn	**11 06 09.5**	**-0.4**
NSK	**Sanguang**	**1.03**	**287**	⇓*i*P		Pn	**11 05 57.1**	**+0.6**
NSK				S		Sn	**11 06 10.4**	**+0.4**
TATO	**Taipei**	**1.05**	**304**			Pn	**11 05 56.7**	**0.0**
TATO						Sn	**11 06 09.4**	**-0.9**
TATO	**Taipei**	**1.05**	**304**	P		Pn	**11 05 57.1**	**+0.4**
TATO	**Taipei**	**1.05**	**304**	S		Sn	**11 06 10.4**	**0.0**
TEGC	**Jichi Village**	**1.06**	**231**	*e*P		Pn	**11 05 56.9**	**0.0**
TEGC				S		Sn	**11 06 10.6**	**-0.1**
ESL	**Shilin**	**1.08**	**239**	⇓*i*P		Pn	**11 05 56.5**	**-0.6**
ESL				*e*S		Sn	**11 06 10.1**	**-1.1**
WHF	**Hehuan Shan**	**1.10**	**258**	⇓*i*P		Pn	**11 05 57.6**	**-0.2**
WHF				*e*S		Sn	**11 06 12.0**	**-0.3**
ZUZH	**Zhuzihu**	**1.12**	**314**	P		Pn	**11 05 57.5**	**-0.3**
ZUZH				*e*S		Sn	**11 06 11.1**	**-1.1**
ANP	**Anpu**	**1.16**	**314**	*e*P		Pn	**11 05 57.9**	**-0.4**
ANP				*e*S		Sn	**11 06 11.5**	**-1.7**
TWT	**Tachien**	**1.16**	**264**	*e*P		Pn	**11 05 59.1**	**+0.7**
TWT				*e*S		Sn	**11 06 13.7**	**+0.3**
EGFH	**Guangfu**	**1.17**	**233**	*e*P		Pn	**11 05 57.9**	**-0.4**
EGFH				*e*S		Sn	**11 06 12.3**	**-0.9**
WARBT	**Fenglin Townsh**	**1.17**	**236**	⇓*i*P		Pn	**11 05 57.6**	**-0.7**
WARBT				*i* S		Sn	**11 06 12.2**	**-1.1**
TWY	**Chenhua**	**1.17**	**319**	*e*P		Pn	**11 05 58.3**	**-0.1**
TWY				*e*S		Sn	**11 06 12.8**	**-0.6**
TWS1	**Kuangyinshan**	**1.17**	**308**	*e*P		Pn	**11 05 58.5**	**+0.1**
TWS1				*e*S		Sn	**11 06 13.1**	**-0.2**
IRIF	**Iriomote-Funau**	**1.18**	**92**	*i* P		Pn	**11 05 58.6**	**+0.2**
IRIF				S		Sn	**11 06 13.8**	**+0.4**
TDCB	**Techi**	**1.18**	**264**	P		Pn	**11 05 59.2**	**+0.6**
TDCB				*e*S		Sn	**11 06 13.6**	**-0.1**
NTST	**Danshui**	**1.19**	**311**	*e*P		Pn	**11 05 58.9**	**+0.3**
NTST				*e*S		Sn	**11 06 13.4**	**-0.3**
KSHI	**Guanxi Townshi**	**1.22**	**289**	*e*P		Pn	**11 06 00.3**	**+1.4**
KSHI				S		Sn	**11 06 16.3**	**+1.9**
NFF	**Wufeng Townshi**	**1.23**	**282**	P		Pn	**11 06 00.1**	**+0.9**
NFF				*e*S		Sn	**11 06 14.4**	**-0.5**
OWD	**Renai**	**1.23**	**250**	*e*P		Pn	**11 05 59.4**	**0.0**
OWD				*e*S		Sn	**11 06 13.2**	**-1.8**
WUSB	**Renai**	**1.27**	**252**	⇓*i*P		Pn	**11 05 59.9**	**+0.1**
WUSB				*e*S		Sn	**11 06 15.8**	**-0.1**
NCUH	**Zhongli**	**1.28**	**297**	*e*P		Pn	**11 06 00.2**	**+0.4**
NCUH				S		Sn	**11 06 17.8**	**+1.8**
PCYT	**Pengchaiyu**	**1.28**	**345**	*e*P		Pn	**11 05 59.6**	**-0.2**
PCYT				*e*S		Sn	**11 06 15.4**	**-0.6**
HATJ	**Hateruma jima**	**1.29**	**104**	P		Pn	**11 06 00.8**	**+1.0**
HGSD	**Ruisui**	**1.29**	**227**	*e*P		Pn	**11 05 59.5**	**-0.4**
HGSD				*e*S		Sn	**11 06 14.4**	**-1.7**
LIOB	**Emei**	**1.32**	**282**	P		Pn	**11 06 01.6**	**+1.2**
LIOB				*i* S		Sn	**11 06 18.6**	**+1.5**
NSTT	**Nanjuang**	**1.34**	**281**	⇑*i*P		Pn	**11 06 01.7**	**+1.2**
NSTT				*i* S		Sn	**11 06 18.7**	**+1.4**
EHYH	**Wanrong**	**1.34**	**229**	*i* P		Pn	**11 06 00.3**	**-0.3**
EHYH				*i* S		Sn	**11 06 16.8**	**-0.6**
EHY	**Hungye**	**1.35**	**230**	⇓*i*P		Pn	**11 06 00.0**	**-0.7**
EHY				*e*S		Sn	**11 06 17.1**	**-0.5**
WHP	**Taichung City**	**1.37**	**266**	P		Pn	**11 06 02.4**	**+1.3**
WHP				*e*S		Sn	**11 06 19.1**	**+0.9**
SBCB	**Hsinchu**	**1.39**	**287**	P		Pn	**11 06 02.0**	**+0.8**
SBCB				*e*S		Sn	**11 06 19.6**	**+1.1**
ECBN	**Changbin**	**1.40**	**221**	*e*P		Pn	**11 06 01.1**	**-0.3**
ECBN				*i* S		Sn	**11 06 17.6**	**-1.1**
HSN	**Hsinchu**	**1.40**	**288**	*e*P		Pn	**11 06 02.1**	**+0.7**
HSN				S		Sn	**11 06 18.8**	**-0.1**
WCS	**Beigang Elemen**	**1.44**	**257**	*e*P		Pn	**11 06 02.9**	**+1.0**
JKRS	**Kuro-shima**	**1.44**	**96**	P		Pn	**11 06 02.7**	**+0.8**
JKRS				S		Sn	**11 06 21.0**	**+1.3**
YULB	**Yu-li**	**1.44**	**227**			Pn	**11 06 01.4**	**-0.6**
YULB						Sn	**11 06 18.6**	**-1.2**
YULB	**Yu-li**	**1.44**	**227**	P		Pn	**11 06 01.7**	**-0.3**
YULB	**Yu-li**	**1.44**	**227**	P		Pn	**11 06 01.5**	**-0.6**
YULB	**Yu-li**	**1.44**	**227**	S		Sn	**11 06 18.5**	**-1.3**
YULB	**Yu-li**	**1.44**	**227**	⇓P		Pn	**11 06 01.4**	**-0.6**
YULB				*e*S		Sn	**11 06 18.2**	**-1.6**
EYUL	**Yuli**	**1.46**	**225**	*e*P		Pn	**11 06 02.2**	**0.0**
TWF1	**Yuli**	**1.47**	**226**	*e*P		Pn	**11 06 01.9**	**-0.4**
TWF1				*i* S		Sn	**11 06 19.4**	**-1.1**
SSLB	**Suanglung**	**1.48**	**247**			Pn	**11 06 02.9**	**+0.2**
SSLB	**Suanglung**	**1.48**	**247**	P		Pn	**11 06 03.1**	**+0.4**
SSLB	**Suanglung**	**1.48**	**247**	P		Pn	**11 06 03.0**	**+0.4**
SSLB	**Suanglung**	**1.48**	**247**	⇓*i*P		Pn	**11 06 02.8**	**+0.2**
SSLB				*e*S		Sn	**11 06 20.1**	**-0.9**
SMLT	**Sun Moon Lake**	**1.50**	**251**	⇓*i*P		Pn	**11 06 03.4**	**+0.5**
SMLT				*i* S		Sn	**11 06 21.5**	**+0.2**
NMLH	**Miaoli**	**1.51**	**276**	*e*P		Pn	**11 06 04.3**	**+1.3**
NMLH				*i* S		Sn	**11 06 23.6**	**+2.0**
TWQ1	**Liyutan**	**1.52**	**269**	*e*P		Pn	**11 06 04.3**	**+1.2**
TWQ1				*e*S		Sn	**11 06 23.5**	**+1.7**
TYC	**Yuchr**	**1.52**	**252**	⇓*i*P		Pn	**11 06 03.7**	**+0.6**
TYC				*e*S		Sn	**11 06 22.7**	**+0.8**
CHKH	**Chenggong**	**1.53**	**219**	*e*P		Pn	**11 06 02.9**	**-0.2**
CHKH				*e*S		Sn	**11 06 21.3**	**-0.6**
JIJ	**Ishigaki jima**	**1.55**	**90**	*i* P		Pn	**11 06 03.6**	**+0.1**
JIJ				S		Sn	**11 06 23.0**	**+0.5**
FULB	**Fuli**	**1.58**	**222**	*e*P		Pn	**11 06 03.0**	**-0.3**
FULB				S		Sn	**11 06 22.3**	**+1.0**
WHYT	**Xinyi Township**	**1.61**	**245**	*e*P		Pn	**11 06 05.4**	**+1.1**
WHYT				*e*S		Sn	**11 06 24.1**	**+0.2**
CHKT	**Chengkung**	**1.61**	**218**	*e*P		Pn	**11 06 03.4**	**-0.9**
CHKT				*i* S		Sn	**11 06 21.1**	**-2.9**
TCU	**Taichung**	**1.63**	**262**	*e*P		Pn	**11 06 06.0**	**+1.5**
TCU				*e*S		Sn	**11 06 26.1**	**+1.6**
WDJ	**Dajia District**	**1.64**	**269**	*i* P		Pn	**11 06 06.2**	**+1.5**
WDJ				*e*S		Sn	**11 06 26.2**	**+1.4**
WJS	**Zhushan**	**1.66**	**251**	*i* P		Pn	**11 06 07.0**	**+2.0**
WJS				*i* S		Sn	**11 06 28.1**	**+2.9**
EHD	**Haiduan**	**1.67**	**223**	*i* P		Pn	**11 06 04.8**	**-0.3**
EHD				S		Sn	**11 06 23.8**	**-1.7**
WNT	**Mingjian**	**1.68**	**253**	⇓*i*P		Pn	**11 06 07.2**	**+1.9**
WNT				*i* S		Sn	**11 06 28.0**	**+2.3**
ECS	**Chishang**	**1.70**	**221**	*e*P		Pn	**11 06 05.9**	**+0.3**
ECS				*e*S		Sn	**11 06 27.0**	**+0.7**
JISG	**Ishigakijimahi**	**1.71**	**83**	*i* P		Pn	**11 06 06.0**	**+0.3**
JISG				S		Sn	**11 06 27.0**	**+0.6**
ALS	**Alishan**	**1.73**	**240**	⇓*i*P		Pn	**11 06 07.0**	**+0.8**
ALS				*e*S		Sn	**11 06 27.3**	**-0.1**
WCHH	**Zhanghua**	**1.75**	**260**	*e*P		Pn	**11 06 07.2**	**+1.1**
WCHH				*e*S		Sn	**11 06 29.6**	**+2.3**
EDH	**Donghe**	**1.75**	**217**

MHZQ	Yeshan	3.53	300	*e*P		Pn	11 06 29.7	-0.8
KNM	Kinmen	3.66	271	*e*P		Pn	11 06 33.2	+1.0
KNMB	Chin-men Tao	3.70	272	Pn		Pn	11 06 32.1	-0.7
KNMB	Chin-men Tao	3.70	272	*e*P		Pn	11 06 31.8	-1.1
AXDP	Jialang	4.10	278	*e*P		Pn	11 06 38.3	-0.1
ZPLA	Ao Xicun	4.31	265	*e*P		Pn	11 06 40.2	-1.1
DSXP	Dongshan	4.63	263	*e*P		Pn	11 06 45.2	-0.5
SXFK	Yanhouchang	4.78	296	*e*P		Pn	11 06 47.4	-0.3
KSRS	Korea Array	13.85	19	P		P	11 08 57.5	-1.0
	comp=E,0.5nm,0.3s,baz=200,slow=11,SNR=14 comp=E,1.7nm,0.5s							
MAJO	Matsushiro	18.18	45	P		P	11 09 45.0	-1.4
MAJO				IAmb	IAmb		11 10 15.1	
	comp=Z,15nm,1.5s							
CMAR	Chiang Mai Arr	22.64	259	LR		LR	11 20 24.7	
	comp=Z,23nm,19.0s,baz=175,slow=39							
GUMO	Guam	23.73	113	LR		LR	11 18 19.0	
	comp=Z,9.0nm,22.0s,baz=346,slow=32							
SONM	Songino Array	26.65	335	P		P	11 11 11.8	-0.1
SONM				IAmb	IAmb		11 11 12.3	
	comp=Z,2.7nm,0.7s							
SONM	Songino Array	26.65	335	P		P	11 11 11.9	-0.1
	comp=Z,5.4nm,0.9s,baz=152,slow=9.0,SNR=14							
SONM				LR		LR	11 22 14.4	
	comp=Z,48nm,20.1s,baz=138,slow=37 comp=Z,5.4nm,0.9s							
FAKI	Fak Fak	28.77	159	P		P	11 11 30.6	-0.4
MK31	Makanchi Array	39.00	315	P		P	11 12 59.3	-0.1
MKAR	Makanchi Array	39.00	315	P		P	11 12 59.3	-0.1
	comp=Z,1.3nm,0.6s,baz=101,slow=11,SNR=18							
MKAR				PcP		PcP	11 15 08.6	-0.3
	comp=Z,0.6nm,0.7s,baz=116,slow=3.4,SNR=4.8 comp=Z,1.3nm,0.6s							
ZALV	Zalesovo Beam	40.71	326	P		P	11 13 11.9	-1.5
ZALV	Zalesovo Beam	40.71	326	P		P	11 13 12.3	-1.1
	comp=Z,1.5nm,0.4s,baz=103,slow=10.0,SNR=5.4 comp=Z,1.5nm,0.4s							
WRA	Warramunga Arr	45.56	164	P		P	11 13 53.8	+0.8
	comp=Z,0.6nm,0.5s,baz=346,slow=8.8,SNR=12 comp=Z,0.6nm,0.5s							
KK31	Karatay Array	46.27	307	P		P	11 13 58.6	+0.3
KK31				IAmb	IAmb		11 13 59.6	
	comp=Z,1.3nm,0.6s							
KKAR	Karatay Array	46.27	307	P		P	11 13 58.9	+0.6
ASAR	Alice Springs	49.04	166	P		P	11 14 21.3	+1.3
	comp=Z,0.6nm,0.3s,baz=344,slow=10,SNR=18 comp=Z,0.6nm,0.3s							
AB31	Akbulak array	54.12	314	P		P	11 14 57.5	-0.2
AB31				IAmb	IAmb		11 14 58.2	
	comp=Z,2.0nm,0.9s							
ABKAR	Akbulak array	54.12	314	P		P	11 14 57.3	-0.4
BMAR	Burnt Mountain	68.87	24	P		P	11 16 38.4	+1.4
BCAR	Beaver Creek A	71.11	29	P		P	11 16 51.8	+1.0
FINES	FINESS Array B	71.85	330	P		P	11 16 54.2	-0.9
	comp=Z,1.0nm,0.8s,baz=112,slow=9.1,SNR=4.5 comp=Z,1.0nm,0.8s							
HFS	Hagfors	77.95	331	LR		LR	11 56 10.7	
	comp=Z,34nm,18.2s,baz=354,slow=39							

IDC ***21*** *11:26:48.5±1.2,49°.47N×153°.81E,h0km,mb3.6/4, mbtmp3.6/6,ML4.7/1,Error ellipse: s-maj=31.5km s-min=24.0km az=97.0*

KRSC ***21*** *11:26:52.3±3.8,49°.01N×154°.74E,h73km±28km,Ml3.9*

ISC 21 11:26:55.6±1.1,**49°.4N**±0°.1×**154°.0E**±0°.1**,h50**km**,n27,** σ1§**63**/24**,mb3.5**/4**,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	Severo-Kuril's	1.90	46	*e*P		Pn	11 27 23.1	-2.4
SKR				*e*S		Sn	11 27 48.5	+0.3
PAU	Pauzhetka	2.77	40	*e*P		Pn	11 27 38.3	+0.9
MIPR	Malaya Ipel'ka	3.39	30	*e*P		Pn	11 27 44.4	-1.6
ASAK	Asacha	3.90	38	*e*P		Pn	11 27 53.3	+0.3
MTVR	Mutnovka	4.09	39	*e*P		Pn	11 27 56.1	+0.5
GRL	Gorelyy	4.10	38	*e*P		Pn	11 27 56.5	+0.8
RUS	Russkaya	4.19	42	*e*S		Sn	11 28 43.9	-0.7
KRMR	Karymshinskiy	4.33	36	*e*P		Pn	11 28 00.5	+1.7
PETK	Petropavlovsk-2.4nm,0.5s,baz=208,slow=11,SNR=26	4.40	31	Pn		Pn	11 27 58.1	-1.7
DALK	Dalny	4.73	38	*e*P		Pn	11 28 04.8	+0.5
DALK				*e*S		Sn	11 28 59.6	+1.8
KOK	Koryaka	4.88	35	*e*P		Pn	11 28 09.3	+2.8
UGLR	Uglovaya	4.89	37	*e*P		Pn	11 28 08.6	+2.0
AVH	Avacha	4.90	36	*e*P		Pn	11 28 08.9	+2.1
KRX	Arik	4.94	35	*e*P		Pn	11 28 09.7	+2.3
SDLR	Sedlovina	4.97	36	*e*P		Pn	11 28 08.3	+0.7
SPN	Mys Shipunski	5.32	43	*e*P		Pn	11 28 10.6	-1.7
SPN				*e*S		Sn	11 29 09.4	-2.8
MA2	Magadan 0.6nm,0.3s,baz=176,slow=19,SNR=1.3 2.0nm,0.4s	10.38	351	Pn		Pn	11 29 20.0	-1.6
H11N2	WAKE ISLAND Hy baz=343,slow=76,SNR=6.8	31.35	156	T		T	12 05 07.3	
H11N1	WAKE ISLAND Hy baz=343,slow=76,SNR=8.4	31.36	156	T		T	12 05 09.1	
H11N3	WAKE ISLAND Hy baz=343,slow=76,SNR=4.6	31.36	156	T		T	12 05 09.7	
H11S1	WAKE ISLAND Hy baz=344,slow=76,SNR=91	32.46	157	T		T	12 06 30.7	
H11S3	WAKE ISLAND Hy baz=344,slow=76,SNR=112	32.47	157	T		T	12 06 35.0	
H11S2	WAKE ISLAND Hy baz=344,slow=76,SNR=72	32.48	157	T		T	12 06 32.2	
KURBB	Kurchatov Arra 1.0nm,0.5s,baz=61,slow=8.3,SNR=4.2 1.0nm,0.5s	46.52	302	P		P	11 35 17.7	0.0
PDAR	Pinedale Array 0.3nm,0.7s,baz=324,slow=4.1,SNR=3.9 0.3nm,0.7s	62.75	55	P		P	11 37 15.8	+0.2
ASAR	Alice Springs 0.4nm,0.9s,baz=10.0,slow=5.5,SNR=5.0 0.4nm,0.9s	74.89	199	P		P	11 38 30.4	-0.4
TXAR	Lajitas Array 0.3nm,0.5s,baz=291,slow=4.8,SNR=6.5 0.3nm,0.5s	75.71	62	P		P	11 38 36.4	+0.5

IDC ***21*** *11:30:54.1±0.8,38°.47N×70°.38E,h0km,mb3.9/16, mbtmp4.0/23,ML3.8/7,MS3.2/10,Error ellipse: s-maj=13.7km s-min=10.3km az=165.0*

MOS ***21*** *11:30:55.7±1.1,38°.55N×70°.27E,h22km,mb4.3/8,Error ellipse: s-maj=7.9km s-min=5.2km az=74.3*

NEIC ***21*** *11:30:56.5±1.4,38°.64N±0°.07×70°.22E±0°.05,h10km±1km, mb4.6/17,Error ellipse: s-maj=11.1km s-min=6.7km az=187.0*

SOME ***21*** *11:30:57.9,38°.53N×70°.00E,h10km*

NNC ***21*** *11:30:57.3±2.3,38°.68N×70°.04E,h0km,mb5.0,mpv4.8, Error ellipse: s-maj=24.1km s-min=11.5km az=23.0*

BJI ***21*** *11:30:58.2,38°.86N×70°.31E,h28km,mB4.5/2,mb4.6/23, ML4.1/4,Ms3.8/6,Ms7 3.7/7*

ISC 21 11:30:58.3±0.4,**38°.60N**±0°.04×**70°.31E**±0°.04**,h23**km**,n165,** σ2§**12**/168**,mb4.3**/33**,MS3.1**/7**,14C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAR	Garm	0.40	1			Pb	11 31 03.1	-3.7
CHGR	Chuyangaron	0.90	274			Pb	11 31 13.7	-1.6
CHGR	Chuyangaron	0.90	274	PG		Pb	11 31 13.7	-1.6
SIMJ	Simiganj	1.02	274			Pb	11 31 15.8	-1.5
IUG	luzhnay 143nm,0.3s	3.55	357	Pg		Pn	11 31 54.3	+2.3
IUG				Lg		Lg	11 32 38.6	
	3μm,0.8s							
IUG	luzhnay	3.55	357	*e*PN		Pn	11 31 55.0	+2.9
CHM	Chimkent 163nm,0.2s	3.75	352	*e*P		Pn	11 31 56.7	+1.9
CHM				*e*S		Sn	11 32 43.0	+4.8
	1μm,0.5s							
DZA	Taraz 227nm,0.1s	4.36	10	Pg		Pn	11 32 06.4	+3.3
DZA				Lg		Lg	11 32 60.0	
	676nm,0.4s							
DZA	Taraz 227nm,0.1s	4.36	10	*e*P		Pn	11 32 06.4	+3.3
DZA				*e*S		Sn	11 32 60.0	+6.8
	676nm,0.4s							
BRLS	Borolday 11nm,0.3s	4.44	356	Pg		Pn	11 32 02.4	-1.8
BRLS				Lg		Lg	11 32 53.1	
	122nm,0.5s							
BRLS	Borolday 11nm,0.3s	4.44	356	*e*P		Pn	11 32 02.5	-1.8
BRLS				*e*S		Sn	11 32 53.1	-2.1
	122nm,0.5s							
BRLS	Borolday	4.44	356	*e*PN		Pb	11 32 13.1	-2.4
KK31	Karatay Array	4.50	2			Pn	11 32 06.8	+1.7
KK31	Karatay Array 21nm,0.4s,baz=189,slow=13,SNR=204	4.50	2	⇑Pn		Pn	11 32 07.0	+2.0
KK31				⇓Lg		Lg	11 33 15.4	
	137nm,0.6s,baz=190,slow=31,SNR=5.3							
KK31	Karatay Array	4.50	2	PN		Pn	11 32 06.8	+1.7
KKAR	Karatay Array	4.50	2			Pn	11 32 06.4	+1.4
KKAR	Karatay Array	4.50	2	PN		Pn	11 32 06.4	+1.4
KSH	Kashi	4.50	77	Pn		Pn	11 32 02.9	-2.3
KSH				smax		smax		
	comp=N,580nm,0.9s							
KSH				smax		smax		
	comp=E,410nm,0.8s							
MRKS	Merke 66nm,0.6s	4.70	27	Pg		Pn	11 32 11.0	+3.1
MRKS				Lg		Lg	11 33 08.5	
	113nm,0.8s							
MRKS	Merke 66nm,0.6s	4.70	27	*e*P		Pn	11 32 11.0	+3.1
MRKS				*e*S		Sn	11 33 08.5	+6.9
	113nm,0.8s							
EKS2	Erkin-Say SNR=7.6	4.84	32	P		Pn	11 32 14.8	+5.0
UCH	Uchtor SNR=8.2	4.84	40	P		Pn	11 32 12.2	+2.1
AAK	Ala-Archa SNR=30	5.14	37	P		Pn	11 32 18.2	+4.3
AAK	Ala-Archa	5.14	37			Pn	11 32 15.4	+1.4
AAK	Ala-Archa 34nm,0.8s	5.14	37	⇑Pn		Pn	11 32 17.0	+3.1
AAK				⇑Lg		Lg	11 33 42.9	
	67nm,1.0s							
AAK	Ala-Archa 9.1nm,0.3s,baz=218,slow=9.2,SNR=34	5.14	37	Pn		Pn	11 32 16.1	+2.2
AAK				Sn		Sn	11 33 12.6	0.0
	4.9nm,0.3s,baz=192,slow=20,SNR=1.3							
AAK				Lg		Lg	11 33 37.8	
	4.3nm,0.3s,baz=335,slow=17,SNR=1.2 47nm,0.6s							
FRU1	Bishkek	5.34	37	Pn		Pn	11 32 17.5	+1.0
FRU1	Bishkek	5.34	37	PN		Pn	11 32 17.5	+1.0
KBK	Karagaybulak SNR=44	5.37	40	P		Pn	11 32 20.1	+2.9
CHMS	Chumysh SNR=17	5.54	36	P		Pn	11 32 24.0	+4.7
CHMS	Chumysh 163nm,0.2s	5.54	36	Pg		Pn	11 31 56.7	-23
CHMS				Lg		Lg	11 32 43.0	
	1μm,0.5s							
USP	Ospenovka SNR=25	5.64	33	P		Pn	11 32 22.0	+1.3
BOOM	Boomskoye usch	5.79	46			Pn	11 32 23.2	+0.3
BOOM	Boomskoye usch	5.79	46	PN		Pn	11 32 23.2	+0.3
SRNI	Srinagar	5.80	139	*e*P		Pn	11 32 30.1	+7.3
SRNI				*e*S		Sn	11 33 33.2	+4.7
ULHL	Ulahol SNR=11	5.81	49	P		Pn	11 32 24.8	+1.5
TKM2	Tokmak 2 SNR=8.2	5.89	41	P		Pn	11 32 26.3	+1.9
KST	Kastek	6.17	42	P		Pn	11 32 33.1	+5.0
KST	Kastek	6.17	42	*e*P		Pn	11 32 33.1	+5.0
DGS	Degeres	6.21	40	P		Pn	11 32 33.2	+4.5
KDJ	Kajisay	6.32	54			Pn	11 32 32.5	+2.3
KDJ	Kajisay	6.32	54	PN		Pn	11 32 32.5	+2.3
MTBS	Maitube	6.48	44	P		Pn	11 32 35.6	+3.3
MTBS	Maitube	6.48	44	*e*P		Pn	11 32 35.6	+3.3
KRBS	Karabastau	6.50	37	P		Pn	11 32 33.5	+0.9
TARG	Taragay, Kyrgy	6.54	59			Pn	11 32 33.5	+0.1
TARG	Taragay, Kyrgy	6.54	59	PN		Pn	11 32 33.5	+0.1
TNSS	Tian-Shan	6.71	47	P		Pn	11 32 38.4	+2.7
TNSS	Tian-Shan	6.71	47	*e*P		Pn	11 32 38.4	+2.7
MDOK	Medeo	6.84	46	Pg		Pn	11 32 39.4	+2.1
KOTS	Kotyrbulak	6.93	46	P		Pn	11 32 41.1	+2.6
KOTS	Kotyrbulak	6.93	46	*e*P		Pn	11 32 41.1	+2.6
JMU	Jammu	6.96	146	*e*P		Pn	11 32 45.4	+6.6
JMU				*e*S		Sn	11 33 59.1	+1.9
JMU				IAML			11 34 06.5	
	comp=N,130nm,0.6s							
JMU				IAML			11 34 08.2	
	comp=E,149nm,0.6s							
BTLS	Baital	7.01	22	P		Pn	11 32 42.3	+2.8
BTLS	Baital	7.01	22	*e*P		Pn	11 32 42.3	+2.8
BTLS	Baital	7.01	22	*i* PN		Pn	11 32 41.7	+2.2
KTBS	Karatobe	7.01	41	P		Pn	11 32 42.1	+2.5
TSSA	Tissa	7.46	139	*e*P		Pn	11 32 52.5	+6.7
TSSA				*e*S		Sn	11 32 13.2	+3.3
TSSA				IAML			11 34 18.8	
	comp=N,135nm,0.1s							
SATY	Saty	7.58	51	P		Pn	11 32 49.6	+2.1
KURS	Kuram	7.69	48	P		Pn	11 32 52.2	+3.3
ARXS	Arharly	7.96	43	P		Pn	11 32 55.9	+3.3
ARXS	Arharly	7.96	43	*e*P		Pn	11 32 55.9	+3.3
DHRM	DHARAMSHALA	8.00	141	*e*P		Pn	11 32 59.5	+6.1
DHRM				*e*S		Sn	11 34 24.8	+1.6
DHRM				IAML			11 34 28.7	
	comp=E,185nm,0.4s							
DHRM				IAML			11 34 31.6	
	comp=N,183nm,0.5s							
UZB	Uzynbulak	8.01	53	P		Pn	11 32 55.1	+1.7
UZB	Uzynbulak	8.01	53	*e*P		Pn	11 32 55.0	+1.7
UZB	Uzynbulak	8.01	53	*i* P		Pn	11 32 54.8	+1.4
SHLS	Shalkode	8.29	54	P		Pn	11 33 03.4	+6.1
SHLS	Shalkode	8.29	54	*e*P		Pn	11 33 03.4	+6.1
SHLS	Shalkode	8.29	54	*i* P		Pn	11 33 02.3	+5.1
BHK	Bhakra	8.74	143	*e*S		Sn	11 34 46.5	+5.4
KNOS	Konyrlen	8.80	46	P		Pn	11 33 06.4	+2.3
SMLA	Simla	9.34	141	*e*P		Pn	11 33 17.7	+6.2
SMLA				*e*S		Sn	11 34 56.2	+0.4
SMLA				IAML			11 34 58.1	
	comp=N,68nm,1.1s							
SMLA				IAML			11 35 12.9	
	comp=E,117nm,0.5s							
KLP	Kalpa	9.59	135	*e*P		Pn	11 33 20.7	+5.4
KLP				*e*S		Sn	11 35 01.9	-0.6
KLP				IAML			11 35 12.0	
	comp=N,61nm,1.1s							
KLP				IAML			11 35 17.5	
	comp=E,69nm,0.6s							
MK31	Makanchi Array	12.02	43	Pn		Pn	11 33 46.5	-1.6
MK31	Makanchi Array	12.02	43	*e*P		Pn	11 33 48.6	+0.5
MKAR	Makanchi Array	12.02	43			Pn	11 33 46.4	-1.8
MKAR	Makanchi Array comp=E,0.3nm,0.3s,baz=228,slow=14,SNR=29	12.02	43	Pn		Pn	11 33 47.6	-0.5
MKAR				Sn		Sn		
	comp=E,0.8nm,0.3s,baz=247,slow=25,SNR=10							
MKAR				LR		LR	11 39 11.3	
	comp=E,39nm,19.6s,baz=246,slow=41 comp=E,3.4nm,0.7s							
AB31	Akbulak array	12.99	328			Pn	11 33 59.2	-2.2
AB31	Akbulak array comp=E,19nm,0.5s,baz=142,slow=12,SNR=258	12.99	328	⇑Pn		Pn	11 33 59.1	-2.3
AB31				⇑Sn		Sn		
	comp=E,25nm,0.8s,baz=152,slow=22,SNR=15							
AB31	Akbulak array	12.99	328	P		Pn	11 33 59.7	-1.7
AB31				SN		Sn	11 36 24.9	-0.2
ABKAR	Akbulak array	12.99	328			Pn	11 33 59.3	-2.1
KURBB	Kurchatov Arra comp=E,0.1nm,0.3s,baz=213,slow=12,SNR=10	13.36	23	Pn		Pn	11 34 03.4	-3.0
KURBB				Lg		Lg	11 37 52.3	
	comp=E,0.1nm,0.3s,baz=204,slow=27,SNR=5.0 comp=E,1.6nm,0.7s							
KURK	Kurchatov	13.47	23	*e*P		Pn	11 34 08.2	+0.4
WMQ	Urumqi	14.08	63	*e*P		Pn	11 34 19.8	+3.4
WMQ				pmax		pmax		
	comp=E,25nm,0.6s							
BVAR	Borovoye Array comp=E,0.2nm,0.3s,baz=166,slow=12,SNR=19	14.43	0	Pn		Pn	11 34 18.8	-2.2
BVAR				Sn		Sn	11 36 57.8	-2.3
	comp=E,0.1nm,0.3s,baz=158,slow=24,SNR=4.0							
BVAR				Lg		Lg	11 38 29.8	
	baz=183,slow=23,SNR=2.3 comp=E,4.8nm,0.6s							
BORK	Borovoye	14.45	0	*e*P		Pn	11 34 21.1	-0.1
BORK				pmax		pmax		
	comp=Z,5.0nm,0.6s							
AKTO	Aktyubinsk comp=Z,6.1nm,0.6s	14.70	328	⇑Pn		Pn	11 34 23.1	-1.6
AKTO				⇑Sn		Sn	11 37 08.1	+1.4
	comp=Z,14nm,1.1s							
AKTO	Aktyubinsk comp=Z,1.3nm,0.3s,baz=135,slow=12,SNR=20	14.70	328	Pn		Pn	11 34 22.8	-1.9
AKTO				Sn		Sn	11 37 02.9	-3.8
	comp=Z,0.9nm,0.3s,baz=198,slow=19,SNR=6.1 comp=Z,9.8nm,0.8s							
AKTO	Aktyubinsk	14.70	328	P		Pn	11 34 23.9	-0.8
AKTO				SN		Sn	11 37 08.1	+1.4
MAK	Makhachkala	17.79	291	*e*P		Pn	11 35 01.1	-3.2
MAK				*e*S		Sn	11 38 19.0	-2.9
MAK				pmax		pmax		
	comp=Z,505nm,1.5s							
MAK				MLR		MLR		
	comp=Z,484nm,14.0s							
ZAA0	Zalesovo Array	18.28	28			P	11 35 08.3	-1.8
ZALV	Zalesovo Beam	18.28	28			P	11 35 08.1	-2.1
ZALV	Zalesovo Beam comp=Z,1.1nm,0.3s,baz=225,slow=12,SNR=24	18.28	28	P		P	11 35 08.2	-2.0
ZALV				LR		LR	11 42 34.7	
	comp=Z,54nm,21.1s,baz=248,slow=38 comp=Z,4.7nm,0.5s							
ARTI	Arti	19.48	340			P	11 35 20.9	-2.4
ARTI	Arti comp=Z,0.7nm,0.3s,baz=162,slow=6.3,SNR=5.5	19.48	340	P		P	11 35 23.4	0.0
ARTI				LR		LR	11 43 39.9	
	comp=Z,139nm,18.6s,baz=166,slow=39 comp=Z,2.9nm,0.6s							
ARTI	Arti	19.48	340	*c i*P		Pn	11 35 24.4	-0.3
ARTI				S		Sn	11 39 06.3	+3.8
ARTI				pmax		pmax		
	comp=Z,7.0nm,1.1s							
GOMU	GeErMu	19.61	89	P		P	11 35 24.8	-0.5
GOMU				pmax		pmax		
	comp=Z,6.0nm,0.9s							
GNI	Garni	19.81	283	LR		LR	11 44 40.6	
	comp=Z,42nm,19.4s,baz=41,slow=42							
NCK	Nalchik	20.69	292	*e*P		P	11 35 37.0	+0.3
NCK				pmax		pmax		
	comp=Z,17nm,0.9s							
BELG	Belogornoye comp=Z,12nm,0.7s,baz=63,slow=6.9,SNR=4.6 comp=Z,12nm,0.7s	20.93	319	P		P	11 35 40.1	+1.0
BELG	Belogornoye	20.93	319	⇑*e*P		P	11 35 39.0	-0.1
BELG				pmax		pmax		
	comp=Z,2.0nm,0.9s							
KBZ	Khabaz comp=Z,2.6nm,0.6s,baz=100,slow=13,SNR=2.8 comp=Z,2.6nm,0.6s	21.21	293	P		P	11 35 42.5	+0.2
KIV	Kislovodsk	21.38	293	*e*P		P	11 35 46.1	+1.9
KIV				pmax		pmax		
	comp=Z,15nm,1.0s							
KIV				MLR		MLR		
	comp=Z,13nm,14.0s							
SHL	Shillong	22.36	119	P		P	11 35 54.2	-0.7
SHL				IAmb		IAmb	11 35 56.9	
	comp=Z,12nm,1.0s							
SHL	Shillong	22.36	119	P		P	11 35 54.2	-0.7
SHL				pmax		pmax		
	comp=Z,12nm,1.0s							
GTA	Gaotai	22.90	79	P		P	11 36 00.1	-0.4
GTA				pP		pP	11 36 06.5	-1.2
GTA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
KIRV	Kirov	24.12	333	⇑*e*P		P	11 36 12.2	+0.2
ZAK	Zakamensk	26.09	52	*e*P		P	11 36 29.6	-0.6
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.2s							
LZH	Lanzhou	26.70	85	*e*P		P	11 36 30.8	-5.1
LZH				pP		pP	11 36 36.6	-6.9
LZH				pmax		pmax		
	comp=Z,11nm,1.1s							
SONM	Songino Array	27.66	59	P		P	11 36 44.6	+0.2
SONM	Songino Array	27.66	59	P		P	11 36 44.4	0.0
	comp=Z,1.4nm,0.6s,baz=262,slow=8.7,SNR=6.0							
SONM				LR		LR	11 48 47.6	
	comp=Z,98nm,18.1s,baz=300,slow=39 comp=Z,1.4nm,0.6s							
SONM	Songino Array	27.66	59	P		P	11 36 44.6	+0.2
SONM				pmax		pmax		
	comp=Z,4.0nm,1.3s							
ASF	Jabal al Asfar	27.88	267	LR		LR	11 50 43.3	
	comp=Z,45nm,18.0s,baz=50,slow=43							
ULN	Ulaanbaatar	28.10	59	⇑*i*P		P	11 36 48.3	0.0
ULN				pmax		pmax		
	comp=Z,3.0nm,1.0s							
PZH	PanZhiHua	28.97	105	P		P	11 36 59.3	+3.1
AKASG	Malin Array Be	31.23	306	P		P	11 37 15.8	0.0
	comp=Z,0.1nm,0.2s,baz=105,slow=10,SNR=2.8							
AKASG				LR		LR	11 52 05.0	
	comp=Z,37nm,20.7s,baz=56,slow=40 comp=Z,0.1nm,0.2s							
HHC	Hu-ho-hao-te	31.61	73	*e*P		P	11 37 21.0	+1.6
HHC				pmax		pmax		
	comp=Z,17nm,0.6s							
CMAR	Chiang Mai Arr	31.97	121	LR		LR	11 52 04.3	
	comp=Z,27nm,19.0s,baz=170,slow=40							
FINES	FINESS Array B	35.44	325	P		P	11 37 52.6	+0.2
	comp=Z,1.3nm,0.7s,baz=104,slow=8.0,SNR=6.0 comp=Z,1.3nm,0.7s							
FINES	FINESS Array B	35.44	325	*e*P		P	11 37 55.8	+3.4
FINES				pmax		pmax		
	comp=Z,2.0nm,0.7s							
ARCES	ARCESS Array B	39.00	337	P		P	11 38 22.5	0.0
	comp=Z,1.2nm,0.7s,baz=111,slow=6.8,SNR=7.3							
ARCES				LR		LR	11 55 53.4	
	comp=Z,32nm,19.1s,baz=207,slow=38 comp=Z,1.2nm,0.7s							
ARCES	ARCESS Array B	39.00	337	*e*P		P	11 38 24.2	+1.7
ARCES				pmax		pmax		
	comp=Z,3.0nm,1.0s							
NJ2	Nanjing	39.77	84	*e*P		P	11 38 29.1	-0.2
NJ2				pmax		pmax		
	comp=Z,5.0nm,0.5s							
HFS	Hagfors	41.09	321	P		P	11 38 40.0	+0.1
	comp=Z,2.7nm,0.5s,baz=98,slow=11,SNR=19 comp=Z,2.7nm,0.5s							
HEH	HeiHe	41.45	55	*e*P		P	11 38 43.6	+0.6
HEH				pmax		pmax		
	comp=Z,20nm,0.5s							
NC303	NORSAR Array S	42.32	322	P		P	11 38 49.6	-0.4
NC303				IAmb		IAmb	11 39 02.2	
	comp=Z,8.8nm,1.4s							
NB2	NORSAR Subarra comp=Z,0.6nm,0.5s,baz=96,slow=8.6	42.38	322	P		P	11 38 51.0	+0.5
NOA	NORSAR Array B comp=Z,0.9nm,0.6s,baz=95,slow=8.1,SNR=7.1 comp=Z,0.9nm,0.6s	42.38	322	P		P	11 38 50.5	-0.1
YAK	Yakutsk	42.60	37	P		P	11 38 51.7	-0.4
YAK	Yakutsk	42.60

PETK	**Petropavlovsk-**	**58.85**	**45**	P	**P**	**11 40 54.7**	**-0.2**
PETK	**Petropavlovsk-**	**58.85**	**45**	P	**P**	**11 40 54.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**65.24**	**267**	P	**P**	**11 41 38.2**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=47,slow=6.1,SNR=10						
	comp=Z,0.8nm,0.5s						
E18K	**Tukpahlearik C**	**67.52**	**19**	P	**P**	**11 41 52.3**	**+0.3**
TOLK	**Toolik Lake Re**	**69.03**	**15**	P	**P**	**11 42 02.1**	**+0.5**
TOLK				IAmb	IAmb	11 42 32.5	
	comp=Z,12nm,1.5s						
E24K	**Your Creek**	**69.73**	**15**	P	**P**	**11 42 06.1**	**+0.2**
E24K				IAmb	IAmb	11 42 23.4	
	comp=Z,6.7nm,1.4s						
IMAR	**Indian Mountai**	**70.34**	**18**	P	**P**	**11 42 09.2**	**-0.5**
BMAR	**Burnt Mountain**	**71.03**	**14**	P	**P**	**11 42 14.3**	**+0.4**
L16K	**Owhat River**	**72.23**	**22**	P	**P**	**11 42 21.6**	**+0.6**
L16K				IAmb	IAmb	11 43 00.9	
	comp=Z,10nm,1.4s						
ILAR	**Eielson Array**	**72.91**	**16**	P	**P**	**11 42 23.8**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=326,slow=7.1,SNR=5.2						
	comp=Z,0.6nm,0.8s						
ILAR	**Eielson Array**	**72.91**	**16**	*eP*	**P**	**11 42 24.0**	**-1.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BCAR	**Beaver Creek A**	**75.47**	**14**	P	**P**	**11 42 41.0**	**+0.9**
WRA	**Warramunga Arr**	**83.56**	**122**	P	**P**	**11 43 24.5**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=324,slow=4.9,SNR=10						
	comp=Z,0.7nm,0.5s						
WRA	**Warramunga Arr**	**83.56**	**122**	*eP*	**P**	**11 43 24.6**	**-0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WB2	**Warramunga Arr**	**83.57**	**122**	P	**P**	**11 43 24.2**	**-0.5**
WB2				IAmb	IAmb	11 43 27.8	
	comp=Z,5.9nm,1.1s						
WR8	**Warramunga Arr**	**83.68**	**122**	P	**P**	**11 43 25.1**	**-0.2**
WR8				IAmb	IAmb	11 44 01.6	
	comp=Z,7.8nm,1.4s						
ASAR	**Alice Springs**	**85.90**	**125**	P	**P**	**11 43 35.6**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=319,slow=5.0,SNR=7.3						
	comp=Z,0.5nm,0.8s						

*IDC **21** 12:01:27.8±1.6,4°.18N×126°.76E,h0km,mb4.1/5, mbtmp4.1/5,Error ellipse: s-maj=149.1km s-min=19.2km az=67.0*
*DJA **21** 12:01:34.2±0.5,5°N±4°×12°7E±°,h63km±12km,M4.2/9, mB5.0/2,mb4.3/4,MLv4.1/9,Mw(mB)4.3/2*
ISC 21 12:01:34.0±1.1,4°.5N±0°.1×127°.46E±0°.09,h50km,n9, σ1s09/10,mb4.0/5,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.10**	**247**	P	**Pn**	**12 02 07.5**	**+0.8**
SGSI				S	**Sn**	**12 02 32.3**	**+0.7**
TNTI	**Ternate**	**3.72**	**181**	P	**Pn**	**12 02 30.2**	**+1.3**
SWI	**Sorong**	**6.55**	**145**	P	**Pn**	**12 03 09.1**	**+1.3**
	0.1nm1µm18nm,0.8s						
SANI	**Sanana**	**6.68**	**193**	P	**Pn**	**12 03 08.9**	**-0.8**
WRA	**Warramunga Arr**	**25.23**	**165**	P	**P**	**12 06 54.1**	**-1.3**
	1.5nm,0.7s,baz=342,slow=10,SNR=11						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**28.70**	**168**	P	**P**	**12 07 25.8**	**-0.9**
	0.6nm,0.5s,baz=352,slow=7.5,SNR=31						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**57.34**	**325**	P	**P**	**12 11 17.6**	**+0.5**
	1.1nm,0.3s,baz=112,slow=7.8,SNR=14						
	1.1nm,0.3s						
KURBB	**Kurchatov Arra**	**61.48**	**327**	P	**P**	**12 11 44.8**	**-0.7**
	1.8nm,0.2s,baz=125,slow=6.5,SNR=7.4						
	1.8nm,0.2s						
BVAR	**Borovoye Array**	**67.07**	**327**	P	**P**	**12 12 22.1**	**0.0**
	0.7nm,0.4s,baz=126,slow=7.3,SNR=4.7						
	0.7nm,0.4s						

IDC 21 12:05:12.0±3.9,8°.74N×126°.33E,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=360.2km s-min=23.9km az=66.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.57**	**165**	P	P	12 11 18.5	-0.4
	0.2nm,0.7s,baz=344,slow=9.0,SNR=2.5						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**33.05**	**167**	P	P	12 11 49.8	+0.3
	0.1nm,0.3s,baz=346,slow=8.9,SNR=4.3						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**53.27**	**323**	P	P	12 14 33.0	+0.3
	0.8nm,0.6s,baz=122,slow=7.9,SNR=6.7						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**57.36**	**326**	P	P	12 15 01.5	-0.5
	0.6nm,0.4s,baz=123,slow=6.5,SNR=4.4						
	0.6nm,0.4s						

IDC 21 12:35:41.9±2.4,30°.56S×177°.70W,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=63.7km s-min=39.7km az=55.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.32**	**352**	Sn	Sg	12 36 19.3	-5.0
	68nm,0.3s,baz=180,slow=20,SNR=1.9						
ASAR	**Alice Springs**	**43.36**	**267**	P	P	12 43 45.6	-0.7
	0.2nm,0.4s,baz=112,slow=8.2,SNR=2.2						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.37**	**272**	P	P	12 43 54.6	+0.3
	0.6nm,0.4s,baz=111,slow=7.9,SNR=6.5						
	0.6nm,0.4s						
VNDA	**Vanda**	**47.96**	**186**	P	P	12 44 21.6	-0.2
	0.6nm,0.3s,baz=354,slow=5.3,SNR=7.9						
	0.6nm,0.3s						
FINES	**FINESS Array B**	**145.39**	**340**	PKPbc	PKPbc	12 55 20.2	-0.7
	1.3nm,0.8s,baz=90,slow=2.8,SNR=3.7						

*IDC **21** 12:49:31.7±8.6,37°.01N×77°.66E,h0km,mb3.7/2, mbtmp3.5/4,ML2.8/2,MS4.5/1,Error ellipse: s-maj=150.0km s-min=42.0km az=133.0*
*SOME **21** 12:49:47.8,39°.30N×75°.27E,h5km*
*NNC **21** 12:49:50.0±1.3,39°.34N×75°.29E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=9.2km s-min=5.5km az=167.0*
*KRNET **21** 12:49:50.7±0.1,39°.35N×75°.28E,mb3.6*
ISC 21 12:49:58.2±1.3,39°.39N±0°.07×75°.25E±0°.04,h28km,n54, σ2s91/76,26C-12D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKS	**Jany-Kuch**	**1.69**	**10**	⇑*eP*	**Pn**	**12 50 22.9**	**-3.3**
JNKS				⇑*eS*	**Sn**	**12 50 46.5**	**-0.6**
ARSB	**Arslanbob**	**2.60**	**319**	⇓*eP*	**Pn**	**12 50 36.2**	**-2.3**
ARSB				⇓*eS*	**Sn**	**12 51 09.5**	**+0.3**
ULHL	**Ulahol**	**2.95**	**14**	⇑*eP*	**Pn**	**12 50 41.1**	**-2.3**
ULHL				⇑*eS*	**Sn**	**12 51 17.9**	**-0.1**
TARG	**Taragay, Kyrgy**	**3.04**	**39**	⇓*eP*	**Pn**	**12 50 42.2**	**-2.6**
TARG				⇓*eS*	**Sn**	**12 51 19.7**	**-0.7**
KDJ	**Kajisay**	**3.10**	**27**	⇑*eP*	**Pn**	**12 50 43.1**	**-2.4**
KDJ				⇑*eS*	**Sn**	**12 51 21.3**	**-0.4**
BOOM	**Boomskoye usch**	**3.14**	**9**	⇑*eP*	**Pn**	**12 50 43.7**	**-2.3**
BOOM				⇑*eS*	**Sn**	**12 51 22.6**	**0.0**
KBK	**Karagaybulak**	**3.27**	**356**	⇑*eP*	**Pn**	**12 50 45.6**	**-2.2**
KBK				⇑*eS*	**Sn**	**12 51 25.9**	**0.0**
AAK	**Ala-Archa**	**3.30**	**350**	⇓Pg	**Pb**	**12 50 53.3**	**-2.7**
	5.7nm,0.5s						
AAK				⇓Lg	Lg	12 51 38.9	
	11nm,0.7s						
AAK	**Ala-Archa**	**3.30**	**350**	⇓*eP*	**Pn**	**12 50 46.0**	**-2.1**
AAK				⇓*eS*	**Sn**	**12 51 26.5**	**+0.1**
FRU1	**Bishkek**	**3.45**	**352**	⇓*eP*	**Pn**	**12 50 48.4**	**-1.7**
FRU1				⇓*eS*	**Sn**	**12 51 30.6**	**+0.5**
EKS2	**Erkin-Say**	**3.46**	**342**	⇑*eP*	**Pn**	**12 50 48.2**	**-2.0**
EKS2				⇑*eS*	**Sn**	**12 51 30.3**	**0.0**
TKM2	**Tokmak 2**	**3.54**	**4**	⇑*eP*	**Pn**	**12 50 49.3**	**-2.2**
TKM2				⇑*eS*	**Sn**	**12 51 32.2**	**-0.3**
CHMS	**Chumysh**	**3.63**	**354**	⇑*eP*	**Pn**	**12 50 50.4**	**-2.1**
CHMS				⇑*eS*	**Sn**	**12 51 34.1**	**-0.3**
MRKS	**Merke**	**3.69**	**336**	Pg	**Pn**	**12 50 57.1**	**+3.7**
	15nm,0.3s						
MRKS				Lg	Lg	12 51 46.6	
	15nm,0.5s						
MRKS	**Merke**	**3.69**	**336**	*eP*	**Pn**	**12 50 57.1**	**+3.7**
	15nm,0.3s						
MRKS				*eS*	**Sb**	**12 51 46.6**	**-0.3**
	15nm,0.5s						
KST	**Kastek**	**3.69**	**8**	Pg	**Pb**	**12 50 58.1**	**-4.6**
	7.3nm,0.7s						
KST				Lg	Lg	12 51 48.5	
	102nm,0.6s						
KST	**Kastek**	**3.69**	**8**	*eP*	**Pb**	**12 50 58.1**	**-4.6**
	7.3nm,0.7s						
KST				*eS*	**Sb**	**12 51 48.5**	**+1.4**
	102nm,0.6s						
TRKS	**Terek-Say**	**3.80**	**306**	⇑*eP*	**Pn**	**12 50 52.2**	**-2.8**
TRKS				⇑*eS*	**Sn**	**12 51 36.8**	**-2.0**
MTBS	**Maitube**	**3.84**	**13**	Pg	**Pb**	**12 51 01.3**	**-3.9**
	6.2nm,0.3s						
MTBS				Lg	Lg	12 51 53.9	
	32nm,0.4s						
MTBS	**Maitube**	**3.84**	**13**	*eP*	**Pb**	**12 51 01.4**	**-3.9**
	6.2nm,0.3s						
MTBS				*eS*	**Sb**	**12 51 53.9**	**+2.5**
	32nm,0.4s						
GAR	**Garm**	**3.86**	**266**	⇑*eP*	**Pn**	**12 50 53.6**	**-2.2**
GAR				⇑*eS*	**Sn**	**12 51 39.5**	**-0.7**
TNSS	**Tian-Shan**	**3.86**	**19**	Pg	Pb	12 51 00.7	-5.2
	2.8nm,0.5s						
TNSS				Lg	Lg	12 51 52.8	
	13nm,0.6s						
TNSS	**Tian-Shan**	**3.86**	**19**	*eP*	Pb	12 51 00.7	-5.2
	2.8nm,0.5s						
TNSS				*eS*	**Sb**	**12 51 52.8**	**+0.6**
	13nm,0.6s						
PRZ	**Przheval'sk**	**3.90**	**37**	⇑*eP*	**Pn**	**12 50 54.3**	**-2.1**
PRZ				⇑*eS*	**Sn**	**12 51 40.6**	**-0.8**
USP	**Ospenovka**	**3.92**	**352**	⇑*eP*	**Pn**	**12 50 54.5**	**-2.0**
USP				⇑*eS*	**Sn**	**12 51 41.2**	**-0.3**
MDOK	**Medeo**	**4.00**	**19**	Pg	**Pb**	**12 51 03.5**	**-4.7**
	4.6nm,0.5s						
MDOK				Lg	Lg	12 51 58.0	
	53nm,0.9s						
KOTS	**Kotyrbulak**	**4.09**	**19**	Pg	**Pb**	**12 51 05.2**	**-4.3**
	4.1nm,0.5s						
KOTS				Lg	Lg	12 52 00.7	
	92nm,0.8s						
KOTS	**Kotyrbulak**	**4.09**	**19**	*eP*	**Pb**	**12 51 05.2**	**-4.3**
	4.1nm,0.5s						
KOTS				*eS*	**Sb**	**12 52 00.7**	**+2.2**
	92nm,0.8s						
KRBS	**Karabastau**	**4.32**	**4**	Pg	**Pb**	**12 51 09.4**	**-3.9**
	7.1nm,0.4s						
KRBS				Lg	Lg	12 52 08.0	
	14nm,0.7s						
SATY	**Saty**	**4.37**	**32**	Pg	**Pb**	**12 51 10.4**	**-3.9**
	9.5nm,1.0s						
SATY				Lg	Lg	12 52 09.1	
	27nm,0.9s						
KTBS	**Karatobe**	**4.45**	**13**	Pg	**Pb**	**12 51 12.3**	**-3.3**
	7.2nm,0.4s						
KTBS				Lg	Lg	12 52 12.8	
	31nm,0.5s						
KUU	**Kurty**	**4.57**	**10**	Pg	**Pb**	**12 51 14.0**	**-3.7**
	4.8nm,0.1s						
KUU				Lg	Lg	12 52 15.5	
	43nm,0.7s						
KUU	**Kurty**	**4.57**	**10**	*eP*	**Pb**	**12 51 14.0**	**-3.7**
	4.8nm,0.1s						
KUU				*eS*	**Sb**	**12 52 15.5**	**+3.2**
	43nm,0.7s						
KURS	**Kuram**	**4.64**	**27**	Pg	**Pb**	**12 51 14.8**	**-4.2**
	4.4nm,0.5s						
KURS				Lg	Lg	12 52 16.9	
	16nm,1.0s						
CHKK	**Chushkaly**	**4.65**	**16**	Pg	**Pb**	**12 51 16.4**	**-2.6**
	57nm,0.7s						
CHKK				Lg	Lg	12 52 19.7	
	50nm,0.7s						
CHKK	**Chushkaly**	**4.65**	**16**	*eP*	**Pb**	**12 51 16.4**	**-2.6**
	57nm,0.7s						
CHKK				*eS*	**Sb**	**12 52 19.7**	**+5.2**
	50nm,0.7s						
UZB	**Uzunbulak**	**4.71**	**36**	Pg	**Pb**	**12 51 16.3**	**-3.8**
	4.9nm,0.6s						
UZB				Lg	Lg	12 52 19.5	
	11nm,0.6s						
UZB	**Uzunbulak**	**4.71**	**36**	*eP*	**Pb**	**12 51 16.3**	**-3.8**
	4.9nm,0.6s						
UZB				*eS*	**Sb**	**12 52 19.6**	**+3.3**
	11nm,0.6s						
KPKS	**Kokpek**	**4.82**	**31**	Pg	**Pb**	**12 51 17.5**	**-4.4**
	0.5nm,0.9s						
KPKS				Lg	Lg	12 52 21.8	
	46nm,0.6s						
IUG	**Iuzhnay**	**4.83**	**306**	Pg	**Pb**	**12 51 18.9**	**-3.2**
	9.2nm,0.4s						
IUG				Lg	Lg	12 52 23.5	
	32nm,0.9s						
SHLS	**Shalkode**	**4.92**	**39**	Pg	**Pb**	**12 51 24.4**	**+0.7**
	11nm,0.2s						
SHLS				Lg	Lg	12 52 33.2	
	22nm,0.8s						
SHLS	**Shalkode**	**4.92**	**39**	*eP*	**Pb**	**12 51 24.4**	**+0.7**
	11nm,0.2s						
SHLS				*eS*	Sb	12 52 33.2	+11
	22nm,0.8s						
PDGK	**Podgornoye**	**5.06**	**38**	⇓Pg	Pb	12 51 20.8	-5.4
	8.3nm,0.8s						
PDGK				⇓Lg	Lg	12 52 35.6	
	32nm,0.9s						
KK31	**Karatay Array**	**5.15**	**318**	⇑Pg	**Pb**	**12 51 24.2**	**-3.3**
	1.6nm,0.5s,baz=125,slow=13,SNR=5.3						
KK31				⇑Lg	Lg	12 52 36.3	
	2.8nm,0.3s,baz=126,slow=28,SNR=5.6						
ARXS	**Arharly**	**5.19**	**21**	Pg	**Pb**	**12 51 25.5**	**-2.7**
	6.1nm,0.6s						
ARXS				Lg	Lg	12 52 35.3	
	19nm,0.7s						
ARXS	**Arharly**	**5.19**	**21**	*eP*	**Pb**	**12 51 25.5**	**-2.7**
ARXS				*eS*	**Sb**	**12 52 35.3**	**+5.2**
BRLS	**Borolday**	**5.47**	**313**	Pg	**Pb**	**12 51 28.8**	**-4.2**
	1.6nm,0.4s						
BRLS				Lg	Lg	12 52 40.8	
	6.4nm,0.5s						
BRLS	**Borolday**	**5.47**	**313**	*eP*	**Pb**	**12 51 28.8**	**-4.2**
	1.6nm,0.4s						
BRLS				*eS*	**Sb**	**12 52 40.8**	**+2.7**
	6.4nm,0.5s						
KNOS	**Konyrlen**	**5.76**	**29**	Pg	**Pb**	**12 51 35.2**	**-2.8**
	4.7nm,0.6s						
KNOS				Lg	Lg	12 52 52.0	
	2.5nm,0.7s						
MKAR	**Makanchi Array**	**9.01**	**33**	Pn	**Pn**	**12 52 02.3**	**-4.1**
	0.1nm,0.3s,baz=206,slow=16,SNR=3.1						
MKAR				Sn	Sn	12 54 00.5	+14
	0.1nm,0.3s,baz=214,slow=23,SNR=1.6						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**14.04**	**348**	Pn	**P**	**12 53 25.2**	**+2.6**
	baz=156,slow=11,SNR=4.8						
	1.1nm,0.7s						
BRTR	**Keskin Array B**	**31.88**	**284**	LR	LR	13 12 48.4	
	comp=Z,786nm,21.7s,baz=315,slow=41						
FINES	**FINESS Array B**	**37.09**	**323**	P	**P**	**12 57 08.7**	**+3.0**
	3.0nm,1.0s,baz=108,slow=8.6,SNR=7.6						
	3.0nm,1.0s						
NOA	**NORSAR Array B**	**44.17**	**321**	P	**P**	**12 58 06.4**	**+2.2**
	0.2nm,0.5s,baz=89,slow=8.0,SNR=1.7						
	0.2nm,0.5s						

*IDC **21** 12:50:51.5±1.0,5°.90S×142°.56E,h0km,mb3.7/6, mbtmp3.8/9,ML3.8/2,Error ellipse: s-maj=34.0km s-min=23.1km az=90.0*
ISC 21 12:50:55.5±0.8,6°.12S±0°.08×142°.56E±0°.10,h28km,n10, σ2s06/13,mb3.9/5,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.03**	**333**	Pn	**Pn**	**12 51 56.0**	**+0.6**
	2.6nm,0.3s,baz=151,slow=3.6,SNR=19						
JAY				Sn	**Sn**	**12 52 40.5**	**-1.3**
	0.6nm,0.3s,baz=340,slow=9.1,SNR=3.7						
PMG	**Port Moresby**	**5.61**	**126**	Pn	**Pn**	**12 52 17.1**	**0.0**
	12nm,0.5s,baz=262,slow=11,SNR=9.1						
PMG				Sn	**Sn**	**12 53 19.8**	**-0.8**
	3.0nm,0.3s,baz=225,slow=22,SNR=8.8						
WRA	**Warramunga Arr**	**15.90**	**209**	Pn	**Pn**	**12 54 37.3**	**-0.2**
	0.3nm,0.3s,baz=30,slow=14,SNR=8.4						
WRA				Sn	Sn	12 57 23.9	-9.1
	0.2nm,0.3s,baz=36,slow=25,SNR=2.0						
WRA				Lg	Lg	12 59 11.0	
	baz=38,slow=24						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**19.34**	**205**	P	**P**	**12 55 21.8**	**+2.8**
	0.5nm,0.3s,baz=25,slow=11,SNR=35						
ASAR				S	**S**	**12 58 51.6**	**-4.7**
	0.6nm,0.6s,baz=22,slow=28,SNR=4.1						
	4.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.36**	**233**	P	**P**	**12 55 30.7**	**+0.6**
	2.0nm,0.8s,baz=44,slow=13,SNR=2.5						
	2.0nm,0.8s						
MKAR	**Makanchi Array**	**74.82**	**322**	P	**P**	**13 02 32.0**	**-1.4**
	0.4nm,0.7s,baz=120,slow=7.3,SNR=5.3						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**78.71**	**324**	P	**P**	**13 02 55.2**	**-0.1**
	0.2nm,0.6s,baz=113,slow=4.4,SNR=2.6						
	0.2nm,0.6s						
QSPA	**South Pole Qui**	**83.85**	**180**	P	**P**	**13 03 24.3**	**+1.8**
	0.8nm,0.9s,baz=358,slow=0.8,SNR=5.1						
	0.8nm,0.9s						
BVAR	**Borovoye Array**	**84.29**	**325**	P	**P**	**13 03 26.1**	**+1.4**
	1.5nm,0.7s,baz=123,slow=5.5,SNR=7.5						
	1.5nm,0.7s						
ILAR	**Eielson Array**	**87.35**	**24**	P	**P**	**13 03 38.0**	**-1.6**
	0.4nm,0.6s,baz=266,slow=4.1,SNR=7.7						
	0.4nm,0.6s						

*NNC **21** 13:15:59.7±4.0,43°.13N×82°.06E,h9km±23km,mb2.8, mpv2.4,Error ellipse: s-maj=28.4km s-min=16.5km az=156.0*
*SOME **21** 13:15:59.8,43°.42N×81°.85E,h5km*
ISC 21 13:15:57.5±3.8,42°.9N±0°.2×82°.0E±0°.2,h10km,n5,σ2s79/9, 2C-4D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.88**	**278**	*eP*	**Pn**	**13 16 28.1**	**-1.7**
	17nm,0.4s						
SHLS				*eS*	**Sn**	**13 16 48.5**	**-5.2**
	18nm,0.3s						
PDGK	**Podgornoye**	**1.89**	**283**	⇓Pn	**Pn**	**13 16 32.2**	**+2.3**
	7.4nm,0.4s						
PDGK				⇑Sn	**Sb**	**13 16 57.3**	**+1.5**
	27nm,0.8s						
UZB	**Uzynbulak**	**2.20**	**277**	*eP*	**Pb**	**13 16 38.7**	**+1.2**
	7.3nm,0.3s						
UZB				*eS*	**Sb**	**13 17 06.8**	**+2.0**
	10nm,0.6s						
MK31	**Makanchi Array**	**3.88**	**3**	⇓Pn	**Pn**	**13 16 57.7**	**+0.6**
	0.1nm,0.3s,baz=188,slow=13,SNR=11						
MK31				⇓Pg	**Pb**	**13 17 07.0**	**+1.0**
	0.6nm,0.5s,baz=180,slow=15,SNR=8.3						
MK31				⇑Lg	Lg	13 17 56.7	
	0.3nm,0.3s,baz=182,slow=25						
MAKZ	**Makanchi**	**3.88**	**360**	⇓Pn	**Pn**	**13 16 55.7**	**-1.6**
	0.4nm,0.5s						
MAKZ				Lg	Lg	13 17 55.3	
	0.5nm,0.5s						

IDC 21 13:18:30.8±1.5,21°.15N×115°.16E,h0km,mb3.3/4, mbtmp3.3/5,ML4.2/1,MS3.1/1,Error ellipse: s-maj=79.3km s-min=23.7km az=56.0,Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.49**	**263**	Pn	Pn	13 22 10.7	-0.1
	0.4nm,0.3s,baz=90,slow=13,SNR=1.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**36.93**	**322**	P	P	13 25 41.5	+0.1
	0.1nm,0.6s,baz=130,slow=7.2,SNR=1.3						
MKAR				LR	LR	13 40 12.3	
	comp=Z,30nm,20.2s,baz=86,slow=35						
	0.1nm,0.6s						
KURBB	**Kurchatov Arra**	**41.09**	**325**	P	P	13 26 15.9	-0.2
	0.2nm,0.4s,baz=122,slow=8.8,SNR=1.8						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.95**	**154**	P	P	13 26 47.6	-0.1
	0.9nm,0.9s,baz=335,slow=8.2,SNR=6.5						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**48.14**	**157**	P	P	13 27 12.7	-0.2
	0.2nm,0.5s,baz=347,slow=8.3,SNR=2.1						
	0.2nm,0.5s						

*KRNET **21** 13:27:36.3±0.1,43°.61N×69°.59E,mb3.2*
*SOME **21** 13:27:36.1,43°.43N×70°.03E*
*NNC **21** 13:27:36.8±0.5,43°.40N×70°.17E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=3.4km s-min=2.5km az=31.0, Suspected Mining explosion.*
ISC 21 13:27:33.8±1.7,43°.57N±0°.06×70°.18E±0°.06,h0km,n27, σ0s95/45,26C-8D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK09	**Karatay Array**	**0.51**	**153**	⇑P	**Pg**	**13 27 43.8**	**+0.3**
KK09				⇑S	**Sg**	**13 27 48.7**	**-1.3**
KK08	**Karatay Array**	**0.52**	**154**	⇓P	**Pg**	**13 27 44.0**	**+0.3**
KK08				⇑S	**Sg**	**13 27 49.3**	**-1.1**
KK05	**Karatay Array**	**0.52**	**151**	⇑P	**Pg**	**13 27 44.0**	**+0.3**
KK05				⇓S	**Sg**	**13 27 49.1**	**-1.3**
KK04	**Karatay Array**	**0.52**	**153**	⇑P	**Pg**	**13 27 44.0**	**+0.3**
KK04				⇑S	**Sg**	**13 27 49.2**	**-1.3**
KK01	**Karatay Array**	**0.52**	**153**	⇓P	**Pg**	**13 27 44.1**	**+0.3**
KK01				⇑S	**Sg**	**13 27 49.1**	**-1.4**
KK03	**Karatay Array**	**0.52**	**154**	⇑P	**Pg**	**13 27 44.1**	**+0.3**
KK03				⇑S	**Sg**	**13 27 49.5**	**-1.1**
KK02	**Karatay Array**	**0.53**	**153**	⇓P	**Pg**	**13 27 44.2**	**+0.3**
KK02				⇑S	**Sg**	**13 27 49.3**	**-1.4**
KK31	**Karatay Array**	**0.53**	**153**	⇓P	**Pg**	**13 27 44.2**	**+0.4**
	4.4nm,0.1s						
KK31				⇑S	**Sg**	**13 27 49.9**	**-0.7**
	211nm,0.5s,baz=310,slow=39,SNR=16						
KK07	**Karatay Array**	**0.54**	**154**	⇑P	**Pg**	**13 27 44.4**	**+0.3**
KK07				⇑S	**Sg**	**13 27 49.4**	**-1.6**
KK06	**Karatay Array**	**0.54**	**152**	⇓P	**Pg**	**13 27 44.5**	**+0.4**
KK06				⇑S	**Sg**	**13 27 49.7**	**-1.4**
BRLS	**Borolday**	**0.60**	**205**	P	**Pn**	**13 27 50.4**	**+0.8**
	8.6nm,0.3s						
BRLS				S	**Sn**	**13 28 00.2**	**+0.1**
	40nm,0.4s						
DZA	**Taraz**	**1.08**	**129**	P	**Pn**	**13 27 57.4**	**+1.2**
	259nm,0.1s						
DZA				S	**Sn**	**13 28 12.3**	**+0.4**
	140nm,0.3s						
IUG	**Iuzhnay**	**1.43**	**185**	P	**Pn**	**13 28 00.2**	**-0.8**
	24nm,0.2s						
IUG				S	**Sg**	**13 28 17.8**	**-1.8**
	49nm,

	2.5nm,0.8s					
KOTS			Lg	Lg	13 30 18.8	
	5.1nm,0.5s					

WEL 21 13:44:31.8±1.3,34°S±7′×17°9W±1°5,h12km,M3.9/5, ML4.1/10,MLv3.9/5,Error ellipse: s-maj=20.5km s-min=8.3km az=102.6,confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.31**	**205**	P	Pn	13 45 36.3	-0.8
MXZ				S	Sn	13 46 28.6	+1.2
WMGZ	**Waiomatatini S**	**4.51**	**202**	P	Pn	13 45 40.5	+0.6
WMGZ				S	Sn	13 46 34.6	+2.3
PKGZ	**Pakihiroa**	**4.67**	**205**	P	Pn	13 45 41.6	-0.5
PKGZ				S	Sn	13 46 38.7	+2.5
HAZ	**Te Kaha**	**4.68**	**208**	P	Pn	13 45 41.3	-0.9
PUZ	**Puketiti**	**4.79**	**203**	P	Pn	13 45 43.5	-0.3
PUZ				S	Sn	13 46 41.3	+2.1
RUGZ	**Raukumara Rang**	**4.90**	**208**	P	Pn	13 45 45.2	-0.2
RUGZ				S	Sn	13 46 43.5	+1.4
TKGZ	**Te Karaka**	**5.26**	**204**	S	Sn	13 46 53.6	+2.9
MWZ	**Matawai**	**5.28**	**207**	P	Pn	13 45 50.4	-0.1
MWZ				S	Sn	13 46 51.1	-0.2
URZ	**Urewera**	**5.38**	**211**	P	Pn	13 45 50.7	-1.2
URZ				S	Sn	13 46 52.6	-1.2
WCZ	**Waipu Caves**	**5.62**	**244**	P	Pn	13 45 56.4	+1.3
RTZ	**Ruatahuna**	**5.74**	**210**	P	Pn	13 45 57.5	+0.7
RTZ				S	Sn	13 47 04.4	+1.7
SNGZ	**Shannon Statio**	**5.74**	**206**	P	Pn	13 45 56.9	0.0
SNGZ				S	Sn	13 47 02.9	+0.2
OUZ	**Omahuta**	**5.98**	**253**	P	Pn	13 46 00.5	+0.4
MTHZ	**Maungataniwha**	**6.00**	**209**	P	Pn	13 45 58.1	-2.3
MTHZ				S	Sn	13 47 06.6	-2.4

*IDC **21** 13:50:17.8±1.1,5°78S×102°51E,h0km,mb4.3/13, mbtmp4.3/13,MS3.2/4,Error ellipse: s-maj=43.7km s-min=15.8km az=52.0*
*NEIC **21** 13:50:21.6±1.8,5°78S±0°10×102°5E±0°1,h27km±8km, mb4.6/15,Error ellipse: s-maj=18.7km s-min=9.2km az=46.0*
*DJA **21** 13:50:22.1±0.5,6°S±4′×10°3E±°,h37km±9km,M4.5/17, mB4.9/3,mb4.7/6,MLv4.5/17,Mw(mB)4.1/3*
ISC 21 13:50:20.3±0.7,5°83S±0°06×102°53E±0°06,h21km,n72, σ1°28/64,mb4.6/22,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.52**	**16**		**Pn**	**13 50 47.0**	**+0.7**
MNAI	**Manna**	**1.52**	**16**	P	**Pb**	**13 50 47.2**	**-0.6**
MNAI				S	**Sb**	13 51 07.6	+1.0
LWLI	**Liwa**	**1.73**	**62**	P	**Pn**	**13 50 49.8**	**+0.6**
LWLI				S	**Sn**	13 51 11.5	+0.8
KASI	**Kota Agung**	**1.98**	**81**	P	**Pn**	**13 50 52.9**	**+0.3**
KASI				S	**Sn**	13 51 17.7	+0.8
MDSI	**Maura Dua**	**2.12**	**51**	P	**Pn**	**13 50 55.7**	**+1.2**
LHSI	**Lahat**	**2.22**	**27**	P	**Pn**	**13 50 56.8**	**+0.9**
KLI	**Kotabumi**	**2.51**	**68**	P	**Pn**	**13 51 00.3**	**+0.4**
MASI	**Maura Aman, Be**	**2.69**	**354**	P	**Pn**	**13 51 03.7**	**+1.4**
BLSI	**Bandar Lampung**	**2.75**	**81**	P	**Pn**	**13 51 03.7**	**+0.6**
CGJI	**Cibinong**	**3.24**	**104**	P	**Pn**	**13 51 10.5**	**+0.5**
CGJI				S	**Sn**	**13 51 44.6**	**-3.4**
KRJI	**Kerinci**	**3.86**	**344**	P	**Pn**	**13 51 20.4**	**+1.8**
PPSI	**Pulau Pagai**	**3.94**	**320**	P	**Pn**	**13 51 21.0**	**+1.4**
CNJI	**Cibinong**	**4.80**	**108**	P	**Pn**	**13 51 31.1**	**-0.3**
LEM	**Lembang**	**5.16**	**101**	Pn	**Pn**	**13 51 40.1**	**+3.6**
	8.4nm,0.3s,baz=280,slow=10,SNR=8.8						
LEM					**Sn**	**13 52 37.1**	**+1.6**
	2.2nm,0.3s,baz=350,slow=19,SNR=2.1						
LEM				LR	LR	13 54 05.0	
	comp=Z,232nm,20.3s,baz=276,slow=44						
LEM	**Lembang**	**5.16**	**101**	P	**Pn**	**13 51 39.3**	**+2.8**
	0.3nm62nm,0.6s						
PDSI	**Padang**	**5.30**	**337**	P	**Pn**	**13 51 39.1**	**+0.8**
	0.4nm1μm55nm,0.5s						
SISI	**Saibi**	**5.63**	**322**	P	**Pn**	**13 51 43.3**	**+0.4**
DSRI	**Dabo**	**5.70**	**21**	P	**Pn**	**13 51 45.1**	**+1.4**
	0.2nm1μm26nm,0.5s						
KPJI	**Karang Pucung**	**6.54**	**104**	P	**Pn**	**13 51 56.7**	**+1.4**
	0.1nm22nm,0.6s						
UGM	**Wanagama**	**8.21**	**105**	Pn	**Pn**	**13 52 19.4**	**+1.2**
UGM	**Wanagama**	**8.21**	**105**	P	**Pn**	**13 52 18.6**	**+0.4**
	82nm,2.1s						
GSI	**Gunungsitoli**	**8.64**	**325**	Pn	**Pn**	**13 52 22.9**	**-1.2**
PCJI	**Pacitan**	**8.90**	**106**	P	**Pn**	**13 52 28.3**	**+0.5**
SBUM	**Sibu**	**12.70**	**50**		**Pn**	**13 53 19.7**	**-0.2**
BKB	**Balikpapan**	**15.04**	**73**	P	**P**	**13 53 56.8**	**-0.1**
KAPI	**Kappang**	**17.17**	**88**	LR	LR	14 01 11.3	
	comp=Z,76nm,19.0s,baz=268,slow=38						
MYLDM	**Lahad Datu**	**19.34**	**56**		**P**	**13 54 42.9**	**-1.6**
MYLDM				IAmb	IAmb	13 54 48.5	
	comp=Z,30nm,1.2s						
TOLI2	**Tolitoli**	**19.49**	**70**	P	**P**	**13 54 42.9**	**-3.3**
SOEI	**Soe**	**21.89**	**102**	P	**P**	**13 55 11.7**	**-0.6**
SOEI				IAmb	IAmb	13 55 45.5	
	comp=Z,28nm,0.9s						
CM31	**Chiang Mai Arr**	**24.39**	**352**	P	**P**	**13 55 37.1**	**-0.2**
CM31				IAmb	IAmb	13 55 38.9	
	comp=Z,12nm,0.7s						
CMAR	**Chiang Mai Arr**	**24.39**	**352**	P	**P**	**13 55 36.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**24.39**	**352**	P	**P**	**13 55 37.6**	**+0.3**
	comp=Z,7.8nm,0.7s,baz=181,slow=9.0,SNR=72						
CMAR				LR	LR	14 04 19.8	
	comp=Z,45nm,21.7s,baz=180,slow=35						
	comp=Z,7.8nm,0.7s						
CHTO	**Chiang Mai**	**24.74**	**352**	P	**P**	**13 55 38.1**	**-2.4**
CHTO				IAmb	IAmb	13 55 41.5	
	comp=Z,8.6nm,0.7s						
KNRA	**Kununurra**	**27.54**	**113**	P	**P**	**13 56 05.4**	**-0.4**
KNRA				IAmb	IAmb	13 56 25.5	
	comp=Z,15nm,1.2s						
H08S2	**Diego Garcia H**	**29.88**	**265**	T	T	14 27 52.9	
	baz=88,slow=75,SNR=184						
H08S3	**Diego Garcia H**	**29.89**	**265**	T	T	14 27 53.6	
	baz=88,slow=75,SNR=209						
H08S1	**Diego Garcia H**	**29.89**	**265**	T	T	14 27 52.9	
	baz=88,slow=75,SNR=174						
NWAO	**Narrogin (SRO)**	**30.24**	**155**	LR	LR	14 07 32.7	
	comp=Z,78nm,21.6s,baz=276,slow=34						
H01W3	**Cape Leeuwin H**	**30.84**	**161**	T	T	14 28 56.8	
	baz=339,slow=76,SNR=60						
H01W2	**Cape Leeuwin H**	**30.85**	**161**	T	T	14 28 57.9	
	baz=339,slow=76,SNR=69						
H01W1	**Cape Leeuwin H**	**30.85**	**161**	T	T	14 28 57.8	
	baz=339,slow=76,SNR=46						
WB0	**Warramunga Arr**	**33.94**	**117**	P	**P**	**13 57 01.6**	**-0.7**
WB0				IAmb	IAmb	13 57 29.5	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**33.95**	**117**	P	**P**	**13 57 02.6**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=292,slow=10,SNR=8.0						
	comp=Z,1.2nm,0.7s						
WR8	**Warramunga Arr**	**34.09**	**117**	P	**P**	**13 57 04.5**	**+0.7**
ASAR	**Alice Springs**	**35.01**	**124**	P	**P**	**13 57 11.4**	**-0.2**
ASAR	**Alice Springs**	**35.01**	**124**	P	**P**	**13 57 12.5**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=304,slow=8.3,SNR=16						
	comp=Z,1.0nm,0.7s						
AS31	**Alice Springs**	**35.01**	**124**	P	**P**	**13 57 12.8**	**+1.2**
STKA	**Stephens Creek**	**44.75**	**130**	P	**P**	**13 58 32.9**	**+0.5**
STKA	**Stephens Creek**	**44.75**	**130**	P	**P**	**13 58 34.1**	**+1.7**
	comp=Z,1.9nm,0.5s,baz=297,slow=9.5,SNR=5.4						
	comp=Z,1.9nm,0.5s						
KSRS	**Korea Array**	**49.15**	**27**	P	**P**	**13 59 06.7**	**0.0**
	comp=Z,1.1nm,0.5s,baz=228,slow=7.1,SNR=9.2						
	comp=Z,1.1nm,0.5s						
SONM	**Songino Array**	**53.54**	**3**		**P**	**13 59 40.0**	**+0.4**
SONM	**Songino Array**	**53.54**	**3**	P	**P**	**13 59 40.8**	**+1.2**
	comp=Z,13nm,0.7s,baz=182,slow=9.1,SNR=48						
	comp=Z,13nm,0.7s						
MJAR	**Matsushiro Arr**	**53.77**	**36**	P	**P**	**13 59 38.6**	**-2.8**
	comp=Z,1.8nm,0.9s,baz=198,slow=7.0,SNR=4.7						
MKAR	**Makanchi Array**	**55.38**	**343**	P	**P**	**13 59 53.2**	**+0.3**
	comp=Z,5.6nm,0.8s,baz=146,slow=8.4,SNR=40						
	comp=Z,5.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**56.43**	**25**	P	**P**	**14 00 00.4**	**0.0**
	comp=Z,6.9nm,0.7s,baz=210,slow=3.7,SNR=7.0						
	comp=Z,6.9nm,0.7s						
H04N2	**CROZET ISLANDS**	**59.32**	**219**	T	T	15 04 43.4	
	baz=64,slow=75,SNR=1316						
H04N1	**CROZET ISLANDS**	**59.33**	**219**	T	T	15 04 44.0	
	baz=64,slow=75,SNR=1508						
H04N3	**CROZET ISLANDS**	**59.34**	**219**	T	T	15 04 42.5	
	baz=64,slow=75,SNR=1529						
H04S1	**CROZET ISLANDS**	**59.55**	**218**	T	T	15 04 58.2	
	baz=62,slow=76,SNR=532						
H04S3	**CROZET ISLANDS**	**59.57**	**218**	T	T	15 04 58.9	
	baz=62,slow=76,SNR=2548						
H04S2	**CROZET ISLANDS**	**59.57**	**218**	T	T	15 05 03.2	
	baz=62,slow=76,SNR=1123						
KURBB	**Kurchatov Arra**	**59.92**	**343**	P	**P**	**14 00 25.3**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=160,slow=6.4,SNR=15						
KURBB				PcP	**PcP**	**14 01 12.0**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=154,slow=3.4,SNR=4.6						
	comp=Z,2.4nm,0.7s						
KURK	**Kurchatov**	**59.98**	**343**		**P**	**14 00 24.2**	**-0.9**
KURK				IAmb	IAmb	14 00 26.4	
	comp=Z,3.3nm,0.7s						
ZAA0	**Zalesovo Array**	**61.39**	**348**		**P**	**14 00 33.2**	**-1.4**
ZAA0				IAmb	IAmb	14 00 35.7	
	comp=Z,3.6nm,0.7s						
ZALV	**Zalesovo Beam**	**61.39**	**348**		**P**	**14 00 34.4**	**-0.3**
ZALV	**Zalesovo Beam**	**61.39**	**348**	P	**P**	**14 00 34.8**	**+0.2**
	comp=Z,3.2nm,0.5s,baz=172,slow=5.4,SNR=13						
	comp=Z,3.2nm,0.5s						
BVAR	**Borovoye Array**	**64.63**	**339**	P	**P**	**14 00 56.3**	**+0.1**
	comp=Z,3.4nm,0.6s,baz=145,slow=7.8,SNR=16						
	comp=Z,3.4nm,0.6s						
AB31	**Akbulak array**	**66.19**	**331**	P	**P**	**14 01 06.2**	**-0.2**
AB31				IAmb	IAmb	14 01 07.5	
	comp=Z,2.5nm,0.7s						
ABKAR	**Akbulak array**	**66.19**	**331**	P	**P**	**14 01 05.9**	**-0.4**
BRTR	**Keskin Array B**	**77.75**	**313**	P	**P**	**14 02 16.4**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=124,slow=5.9,SNR=2.8						
	comp=Z,0.7nm,0.7s						
FINES	**FINESS Array B**	**88.65**	**332**	P	**P**	**14 03 12.4**	**+0.8**
	comp=Z,3.0nm,0.9s,baz=88,slow=4.6,SNR=7.1						
	comp=Z,3.0nm,0.9s						
TXAR	**Lajitas Array**	**145.97**	**44**	PKPbc	**PKPab**	**14 10 00.7**	**+0.9**
	comp=Z,6.7nm,0.8s,baz=298,slow=1.3,SNR=81						

*IDC **21** 13:54:51.1±3.2,9°83S×116°17E,h0km,mb3.4/4, mbtmp3.5/4,Error ellipse: s-maj=219.4km s-min=24.2km az=48.0*
*DJA **21** 13:54:57.8±0.5,10°S±6′×11°7E±°,h10km,M4.3/12, mb4.5/3,MLv4.2/12*
ISC 21 13:54:58.6±1.1,9°64S±0°10×116°78E±0°05,h35km,n17, σ2°18/17,mb3.6/3,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.91**	**6**	P	**Pn**	**13 55 15.8**	**+1.0**
PLAI	**Plampang**	**1.27**	**51**	P	**Pn**	**13 55 20.8**	**+0.9**
DNP	**Denpasar**	**1.82**	**302**	P	**Pn**	**13 55 29.1**	**+1.6**
SRBI	**Singaraja**	**2.19**	**315**	P	**Pn**	**13 55 35.0**	**+2.5**
WBSI	**Waikabubak, Su**	**2.57**	**90**	P	**Pn**	**13 55 39.4**	**+1.6**
JAGI	**Jajag, Banyuwa**	**2.85**	**294**	P	**Pn**	**13 55 42.2**	**+0.6**
ABJI	**Asem Bagus**	**3.12**	**306**	P	**Pn**	**13 55 47.6**	**+2.3**
BLJI	**Banyuglugur**	**3.67**	**301**	P	**Pn**	**13 55 55.3**	**+2.4**
BASI	**Baing, Sumba**	**3.78**	**99**	P	**Pn**	**13 55 56.7**	**+2.3**
EDFI	**Ende, Flores**	**4.93**	**80**	P	**Pn**	**13 56 12.6**	**+2.3**
BSSI	**Bau Bau, Buton**	**5.06**	**47**	P	**Pn**	**13 56 14.3**	**+2.3**
	0.3nm41nm,0.8s						
BKSI	**Bulukumba**	**5.42**	**38**	P	**Pn**	**13 56 19.7**	**+2.7**
	0.2nm21nm,0.7s						
UGM	**Wanagama**	**6.42**	**285**	P	**Pn**	**13 56 32.0**	**+1.2**
WRA	**Warramunga Arr**	**19.80**	**123**	P	**Pn**	**13 59 27.0**	**-0.9**
	0.7nm,0.7s,baz=302,slow=11,SNR=3.8						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**21.49**	**133**	P	**P**	**13 59 45.9**	**+1.3**
	0.8nm,0.5s,baz=306,slow=9.2,SNR=9.6						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**64.06**	**334**	P	**P**	**14 05 26.1**	**-2.8**
	0.5nm,0.6s,baz=148,slow=7.0,SNR=5.9						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**68.60**	**335**	P	**P**	**14 05 55.2**	**-2.7**
	0.4nm,0.6s,baz=150,slow=4.8,SNR=4.1						
	0.4nm,0.6s						

IDC 21 13:57:19.9±3.5,8°46N×125°28E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=369.6km s-min=23.3km az=65.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.60**	**163**	P	P	14 03 26.6	-0.5
	0.1nm,0.3s,baz=341,slow=8.6,SNR=1.6						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**33.03**	**165**	P	P	14 03 57.6	+0.4
	0.2nm,0.6s,baz=347,slow=8.8,SNR=1.8						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**52.89**	**324**	P	P	14 06 38.1	+0.4
	1.1nm,0.6s,baz=120,slow=7.5,SNR=11						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**57.01**	**326**	P	P	14 07 07.0	-0.6
	1.1nm,0.5s,baz=125,slow=6.7,SNR=9.5						
	1.1nm,0.5s						

*PRU **21** 14:04:22.3,41°00N×19°32E,h0km,M5.5*
*IDC **21** 14:04:22.6±0.4,41°41N×19°53E,h0km,mb5.1/29, mbtmp5.1/43,ML4.6/13,MS5.4/84,Error ellipse: s-maj=8.2km s-min=7.5km az=58.0*
*BJI **21** 14:04:22.4,41°22N×19°48E,h22km,mB5.7/58,mb5.4/84, Ms5.9/68,Ms7 5.6/69*
*TIR **21** 14:04:23.2,41°42N×19°51E,h29km±1km,Ml5.8/10*
*MOS **21** 14:04:23.1±1.2,41°37N×19°44E,h13km,mb5.6/53, MS5.4/61,Error ellipse: s-maj=3.5km s-min=2.3km az=77.1*
*SKO **21** 14:04:23.7,41°48N×19°38E,h4km,ML6.1*
*ATH **21** 14:04:24.7±0.5,41°44N×19°41E,h10km,ML5.9/36, Manual Solution by F.Xalaris First location: 2019/09/21 14:05:58, This location: 2019/09/21 20:48:25 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 2 km*
*THE **21** 14:04:24.3,42°N±13°×1°9E±1°6,h20km,M5.8/17, MLh5.8/17*
*IPGP **21** 14:04:24.0,41°38N×19°45E,h22km,Mw5.6,Fault plane solution: NP1:φs357.00000°,δ27.00000°,λ112.00000°. NP2:φs153.00000°,δ65.00000°,λ79.00000°.*
*MCSM **21** 14:04:25.7±0.3,41°N±2′×1°9E±°,h10km±3km,mb5.4, mB5.7,MLv5.7,Mw(mB)5.2*
*NEIC **21** 14:04:25.8±2.3,41°34N±0°02×19°53E±0°06,h20km±1km, mb5.5/631,Ms_20 5.6/635,Mwr5.6/63,Mww5.6/55,Error ellipse: s-maj=7.9km s-min=2.8km az=294.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.32; Mθθ-1.15; Mφφ-1.16; Mrθ0.47; Mθφ1.50; Mφr-1.03; Fault plane solution: M₀2.75000×10¹⁷ NP1: φs304.53000°,δ34.33000°,λ73.23000°. NP2: φs144.58000°,δ57.32000°,λ101.15000°. Principal axes: T 2.6006, Plg75.0000°, Azm86.0000°; N 0.2756, Plg9.0000°, Azm319.0000°; P -2.8761, Plg12.0000°, Azm227.0000°;*
*NEIC **21** 14:04:25.1,41°39N×19°51E,h10km*
*NEIC **21** 14:04:25.1,41°39N×19°51E,h18km*
*NEIC **21** 14:04:25.1,41°29N×19°51E,h18km,Moment Tensor Solution. Duration: 3s2 Moment tensor: Scale 10¹⁷Nm; Mrr3.08; Mθθ-1.14; Mφφ-1.94; Mrθ1.11; Mθφ1.90; Mφr-1.24; Fault plane solution: M₀3.69000×10¹⁷ NP1: φs322.63000°,δ31.59000°,λ92.70000°. NP2: φs139.46000°,δ58.45000°,λ88.34000°. Principal axes: T 3.4763, Plg76.0000°, Azm44.0000°; N 0.3971, Plg1.0000°, Azm140.0000°; P -3.8735, Plg13.0000°, Azm231.0000°;*
*BGS **21** 14:04:25.9±1.5,41°83N×20°10E,h20km,mb5.0,ms5.6*
*SOF **21** 14:04:25.8,41°35N±0°02×19°52E±0°05,h13km±7km, MD5.8/14*
*PDG **21** 14:04:25.9±0.5,41°36N×19°48E,h25km±1km,MD5.4/11, ML5.3/12,Error ellipse: s-maj=0.7km s-min=1.6km az=0.0*
*ISC-PP **21** 14:04:25,41°34N×19°53E,h26km,Mwppsm6.1,Moment Tensor Solution. s46 Moment tensor: Scale 10¹⁸Nm; Mrr0.15±.08; Mθθ-0.76±.14; Mφφ0.53±.13; Mrθ0.12±.20; Mθφ-0.02±.08; Mφr-0.21±.14; Fault plane solution: M₀1.58000×10¹⁸ NP1:φs306.00000°,δ88.70000°, λ188.20000°. NP2:φs215.80000°,δ81.80000°,λ-1.40000°.*
*ROM **21** 14:04:25.5±0.1,41°346N±0°007×19°50E±0°01, h17km±2km,ML5.4/372 Error ellipse: s-maj=1.0km s-min=0.7km az=69.0*
*NAO **21** 14:04:25.2,41°37N×19°45E,h20km,MB5.1*
*BEO **21** 14:04:26.4±0.4,41°32N×19°51E,h17km±3km,ML5.4/22*
*GCMT **21** 14:04:27.8±0.1,41°20N±0°01×19°55E±0°01,h22km, MW5.7/158,Moment Tensor Solution. s129,c249; s158,c327; Duration: 1s7 Moment tensor: Scale 10¹⁷ Nm; Mrr3.61±.04; Mθθ-1.25±.03; Mφφ-2.36±.03; Mrθ2.11±.07; Mθφ2.07±.03; Mφr-1.21±.06; Best double couple: M₀4.50200×10¹⁷ NP1:φs336.00000°,δ31.00000°, λ112.00000°. NP2:φs130.00000°,δ62.00000°,λ77.00000°. Principal axes: T 4.4260, Plg71.0000°, Azm12.0000°; N 0.1510, Plg11.0000°, Azm136.0000°; P -4.5770, Plg16.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **21** 14:04:27.4±1.1,41°37N×19°41E,h10km,ML5.5 Error ellipse: s-maj=21.1km s-min=7.8km az=180.0*
*MED_RC **21** 14:04:27.0±0.1,41°27N×19°50E,h20km,MW5.7/42, Moment Tensor Solution. Body waves: s10,c11;Mantle waves: s42,c86; Duration: 2s1 Moment tensor: Scale 10¹⁷Nm; Mrr3.33±.07; Mθθ-1.01±.06; Mφφ-2.32±.05; Mrθ1.28±.12; Mθφ2.15±.04; Mφr-0.94±.08; Best double couple: M₀3.96000×10¹⁷ NP1:φs333.00000°,δ34.00000°, λ104.00000°. NP2:φs135.00000°,δ57.00000°,λ80.00000°. Principal axes: T 3.7000, Plg76.0000°, Azm17.0000°; N 0.5200, Plg8.0000°, Azm141.0000°; P -4.2200, Plg11.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*RHSSO **21** 14:04:28.8±0.7,41°53N×19°29E,h12km±3km,ML5.4/10*
*AFAD **21** 14:04:28.5,41°27N×20°06E,h7km±4km,MW5.4*
*GII **21** 14:04:30.5±0.0,39°612N±0°002×19°172E±0°001,h10km, confirmed*
ISC 21 14:04:26.0±0.3,41°36N±0°02×19°61E±0°02,h23km±2km, h23km:pP-P,n2262,σ2°01/1937,mb5.5/443,MS5.6/446, 115C-162D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.20**	**94**	Pg	**Pb**	**14 04 30.8**	**-0.6**
TIR				Sg	**Sb**	**14 04 34.9**	**-0.1**
TIR				Sg		14 04 35.7	
TIR				AML	AML	14 04 35.9	
	3μm,0.6s						
TIR				AML	AML	14 04 35.9	
	4μm,0.6s						
ULC	**Ulcinj**	**0.66**	**336**	P	**Pb**	**14 04 37.6**	**-1.3**
ULC				S	**Sn**	**14 04 50.0**	**+0.3**
ULC	**Ulcinj**	**0.66**	**336**	⇓*i*Pg	**Pb**	**14 04 37.6**	**-1.3**
ULC				*i* Sg	**Sb**	**14 04 48.7**	**+1.0**
DRME	**Dracevica, Mon**	**0.88**	**339**	*e*Pg	**Pb**	**14 04 43.0**	**+0.3**
DRME	**Dracevica, Mon**	**0.88**	**339**	⇓*i*Pg	**Pb**	**14 04 42.0**	**-0.7**
DRME				*i* Sg	**Sn**	**14 04 56.1**	**+0.9**
VLO	**Vlora**	**0.90**	**185**	Pg	**Pn**	**14 04 43.3**	**+0.1**
VLO				S	**Sn**	**14 04 57.4**	**+2.0**
VLO				AML	AML	14 05 04.9	
	2μm,0.7s						
VLO				AML	AML	14 05 07.8	
	2μm,0.9s						
VLO	**Vlora**	**0.90**	**185**	P	**Pn**	**14 04 44.6**	**+1.4**
VLO				S	**Sn**	**14 04 59.6**	**+4.2**
VLO	**Vlora**	**0.90**	**185**	P	**Pn**	**14 04 44.6**	**+1.4**
VLO				S	**Sn**	**14 04 57.4**	**+2.0**
VLO	**Vlora**	**0.90**	**185**	⇓P	**Pn**	**14 04 43.5**	**+0.3**
VLO				S	**Sn**	**14 04 57.0**	**+1.6**
VLO				AML	AML		
VLO				AML	AML		
OHR	**Ohrid**	**0.93**	**105**	*i* Pg	**Pn**	**14 04 43.9**	**+0.1**
OHR				*i* Sg	**Sn**	**14 04 59.6**	**+3.1**
OHR				*e*Lg	Lg	14 05 01.1	
	comp=N,321μm,0.7s						
OHR				*e*Lg	Lg	14 05 04.1	
	comp=E,368μm,0.7s						
BUM	**Brajici-Budva**	**1.08**	**331**	⇓*i*Pg	**Pn**	**14 04 45.6**	**-0.2**
BUM				*i* Sg	**Sb**	**14 05 02.1**	**+2.3**
PDG	**Podgorica**	**1.10**	**346**		**Pn**	**14 04 45.3**	**-0.8**
PDG				Sg	**Sb**	**14 05 04.7**	**+4.4**
PDG	**Podgorica**	**1.10**	**346**	⇑P	**Pn**	**14 04 45.7**	**-0.3**
PDG				⇑S	**Sb**	**14 05 01.0**	**+0.8**
PDG	**Podgorica**	**1.10**	**346**	*e*Pg	**Pb**	**14 04 46.6**	**+0.2**
PDG				*e*Sg	**Sb**	**14 05 04.5**	**+4.2**
PDG	**Podgorica**	**1.10**	**346**	⇓P	**Pn**	**14 04 44.8**	**-1.3**
PDG				S	**Sn**	**14 04 59.8**	**-0.7**
PDG				AML	AML		
PDG				AML	AML		
PDG				AML	AML		
PDG				AML	AML		
PDG	**Podgorica**	**1.10**	**346**	⇓*i*Pg	**Pn**	**14 04 45.5**	**-0.5**
PDG				*i* Sg	**Sb**	**14 05 03.2**	**+2.9**
TTG	**Podgorica**	**1.10**	**346**	P	**Pn**	**14 04 45.0**	**-1.0**
TTG				S	**Sb**	**14 05 04.5**	**+4.2**
KBN	**Korca**	**1.16**	**129**	Pn	**Pn**	**14 04 46.6**	**-0.3**
KBN				Sg	**Sb**	**14 05 02.7**	**+0.7**
KBN				AML	AML	14 05 09.6	
	comp=E,2μm,0.8s						
KBN	**Korca**	**1.16**	**129**	P	**Pb**	**14 04 49.8**	**+2.4**
KBN	**Korca**	**1.16**	**129**	P	**Pb**	**14 04 49.8**	**+2.4**
KBN	**Korca**	**1.16**	**129**	⇓P	**Pn**	**14 04 47.4**	**+0.5**
KBN				S	**Sb**	**14 05 06.7**	**+4.7**
PVY	**Plav**	**1.26**	**12**	*e*Pg	**Pb**	**14 04 51.4**	**+2.2**
PVY	**Plav**	**1.26**	**12**	*e*Pg	**Pb**	**14 04 49.5**	**+0.3**
PVY				*i* Sg	**Sb**	**14 05 08.1**	**+3.1**
CEME	**Cevo**	**1.29**	**337**	⇑*i*Pg	**Pb**	**14 04 48.8**	**+0.1**
CEME				*i* Sg	**Sb**	**14 05 07.6**	**+1.7**
HCY	**Herceg Novi**	**1.37**	**323**	P	**Pn**	**14 04 50.1**	**+0.4**
HCY				S	**Sb**	**14 05 10.0**	**+2.0**
HCY	**Herceg Novi**	**1.37**	**323**	⇓*i*Pg	**Pn**	**14 04 50.1**	**+0.4**
HCY				*i* Sg	**Sb**	**14 05 08.8**	**+0.8**
NKME	**Niksic**	**1.49**	**341**	⇑*i*Pg	**Pb**	**14 04 52.6**	**-0.4**
NKME				*i* Sg	**Sb**	**14 05 12.5**	**+1.0**
KOME	**Kolasin**	**1.49**	**357**	*e*Pn	**Pb**	**14 04 53.4**	**+0.

KZN	**Kozani**	**1.95**	**122**	P		**Pb**	**14 05 00.2**	**-0.7**
KZN	**Kozani**	**1.95**	**122**	P		**Pb**	**14 05 01.2**	**+0.3**
KLINJ	**Klinje**	**1.96**	**338**	*e*Pn		**Pn**	**14 04 58.5**	**+0.5**
KLINJ				*e*Sn		**Sn**	**14 05 20.7**	**-1.2**
NOCI	**Noci**	**2.00**	**254**	Pn		**Pn**	**14 04 57.5**	**-0.9**
NOCI				S		**Sn**	**14 05 23.7**	**+0.8**
NOCI				AML	AML		14 05 38.9	
	comp=E,152nm,0.5s							
NOCI				AML	AML		14 05 45.5	
	comp=E,144nm,0.4s							
NOCI	**Noci**	**2.00**	**254**	P		**Pn**	**14 04 57.9**	**-0.6**
NOCI				S		**Sn**	**14 05 22.0**	**-0.9**
NOCI				AML	AML			
	comp=N,49300µm,0.4s							
NOCI				AML	AML			
	comp=E,53850µm,0.5s							
STON	**Ston**	**2.07**	**317**	⇑*i*Pn		**Pn**	**14 04 58.9**	**-0.4**
STON				*e*Sn		**Sn**	**14 05 22.6**	**-1.8**
STON	**Ston**	**2.07**	**317**	*e*Pn		**Pn**	**14 04 59.9**	**+0.5**
STON	**Ston**	**2.07**	**317**	⇑P		**Pn**	**14 04 59.0**	**-0.4**
STON				S		**Sn**	**14 05 24.7**	**+0.2**
STON				AML	AML			
	comp=N,20900µm,0.8s							
STON				AML	AML			
	comp=E,19550µm,0.6s							
KTI	**Kastanea**	**2.13**	**116**	P		**Pb**	**14 05 03.2**	**-0.8**
PRMD	**Pramanda**	**2.15**	**148**	P		**Pb**	**14 05 03.4**	**-1.0**
SELS	**Selova**	**2.17**	**31**	*e*Pn		**Pn**	**14 05 02.9**	**+2.1**
SELS				*e*Sn		**Sb**	**14 05 30.9**	**-0.2**
BARS	**Barje**	**2.20**	**48**	*i* Pn		**Pn**	**14 05 03.1**	**+2.0**
BARS	**Barje**	**2.20**	**48**	*e*Pn		**Pn**	**14 05 03.1**	**+2.0**
BARS				*e*Sn		**Sn**	**14 05 29.4**	**+1.8**
LTRZ	**Laterza**	**2.24**	**251**	⇓P		**Pn**	**14 05 00.7**	**-1.1**
LTRZ				AML	AML			
	comp=N,44450µm,1.5s							
LTRZ				AML	AML			
	comp=E,32700µm,1.1s							
LTRZ	**Laterza**	**2.24**	**251**	P		**Pn**	**14 05 00.8**	**-1.0**
IVAS	**Ivanjica**	**2.25**	**10**	*e*Pn		**Pn**	**14 05 03.4**	**+1.5**
RUDO	**Rudo**	**2.26**	**356**	*e*Pn		**Pn**	**14 05 03.2**	**+1.2**
RUDO				*e*Sn		**Sn**	**14 05 29.5**	**+0.3**
RUDO	**Rudo**	**2.26**	**356**	*e*Pn		**Pn**	**14 05 04.1**	**+2.1**
MATE	**Matera**	**2.31**	**253**	⇓P		**Pn**	**14 05 02.0**	**-0.6**
MATE	**Matera**	**2.31**	**253**	⇓P		**Pn**	**14 05 01.6**	**-1.0**
MATE				AML	AML			
	comp=N,40900µm,0.4s							
MATE				AML	AML			
	comp=E,32800µm,0.6s							
AMUR	**Altamura**	**2.31**	**260**	⇓P		**Pn**	**14 05 01.9**	**-0.8**
AMUR				S		**Sn**	**14 05 28.7**	**-1.7**
AMUR				AML	AML			
	comp=E,26400µm,0.6s							
AMUR				AML	AML			
	comp=N,27650µm,0.5s							
TETR	**Tetrakomo, Epi**	**2.38**	**147**	P		**Pb**	**14 05 06.4**	**-1.9**
TETR	**Tetrakomo, Epi**	**2.38**	**147**	P		**Pb**	**14 05 06.7**	**-1.6**
GOCS	**Kraljevo Serbi**	**2.39**	**23**	*e*Pn		**Pn**	**14 05 05.8**	**+1.9**
GOCS				*e*Sn		**Sn**	**14 05 35.1**	**+2.6**
BOSS	**Bosilegrad**	**2.43**	**61**	*e*Pn		**Pn**	**14 05 06.9**	**+2.6**
BOSS				*e*Sn		**Sb**	**14 05 37.3**	**-1.1**
KNT	**Kendrikon**	**2.49**	**93**	P		**Pn**	**14 05 07.8**	**+2.6**
KNT	**Kendrikon**	**2.49**	**93**	*i* Pn		**Pn**	**14 05 07.5**	**+2.4**
KNT				*i* Sn		**Sb**	**14 05 39.8**	**-0.4**
KNT	**Kendrikon**	**2.49**	**93**	P		**Pn**	**14 05 07.7**	**+2.6**
KNT	**Kendrikon**	**2.49**	**93**	P		**Pn**	**14 05 07.2**	**+2.0**
BBLS	**Lazi&#263i**	**2.51**	**357**	*e*Pn		**Pn**	**14 05 07.2**	**+1.7**
BBLS				*e*Sn		**Sb**	**14 05 38.8**	**-2.1**
MIGL	**Miglionico**	**2.51**	**254**	P		**Pn**	**14 05 04.7**	**-0.8**
MIGL				AML	AML			
MIGL				AML	AML			
LIT	**Litokhoron**	**2.53**	**119**			**Pn**	**14 05 03.9**	**-1.8**
LIT	**Litokhoron**	**2.53**	**119**	P		**Pn**	**14 05 08.4**	**+2.7**
LIT	**Litokhoron**	**2.53**	**119**	*i* Pn		**Pn**	**14 05 08.4**	**+2.7**
LIT				*i* Sn		**Sb**	**14 05 42.8**	**+1.5**
LIT	**Litokhoron**	**2.53**	**119**	P		**Pn**	**14 05 03.9**	**-1.8**
LIT	**Litokhoron**	**2.53**	**119**	P		**Pn**	**14 05 07.7**	**+2.1**
THL	**Klokotos Trika**	**2.57**	**134**	P		**Pn**	**14 05 08.6**	**+2.4**
THL	**Klokotos Trika**	**2.57**	**134**	⇑P		**Pn**	**14 05 08.3**	**+2.1**
THL				AML	AML			
	comp=N,13400µm,1.4s							
THL				AML	AML			
	comp=E,9735µm,0.8s							
THL	**Klokotos Trika**	**2.57**	**134**	P		**Pn**	**14 05 08.3**	**+2.1**
TYRN	**Tyrnavos**	**2.59**	**129**	P		**Pn**	**14 05 09.2**	**+2.6**
TYRN	**Tyrnavos**	**2.59**	**129**	P		**Pn**	**14 05 09.2**	**+2.6**
THE	**Thessaloniki**	**2.64**	**105**	Pn		**Pn**	**14 05 09.2**	**+1.9**
THE				AML	AML		14 05 45.4	
	comp=E,104nm,1.0s							
THE				AML	AML		14 05 49.0	
	comp=E,186nm,0.6s							
THE	**Thessaloniki**	**2.64**	**105**	P		**Pn**	**14 05 09.4**	**+2.2**
THE	**Thessaloniki**	**2.64**	**105**	*i* Pn		**Pn**	**14 05 09.2**	**+1.9**
THE				*i* Sn		**Sb**	**14 05 43.3**	**-1.4**
THE	**Thessaloniki**	**2.64**	**105**	P		**Pn**	**14 05 09.4**	**+2.2**
THE	**Thessaloniki**	**2.64**	**105**	P		**Pn**	**14 05 09.1**	**+1.9**
GRUS	**Gruza**	**2.66**	**18**	*e*Pn		**Pn**	**14 05 09.3**	**+1.9**
GRUS				*e*Sn		**Sb**	**14 05 43.0**	**-2.0**
TSLK	**Tsoukalades, L**	**2.66**	**162**	P		**Pn**	**14 05 08.5**	**+1.1**
KKB	**Krupnik**	**2.69**	**79**	P		**Pb**	**14 05 11.2**	**-2.2**
KKB				S		**Sb**	**14 05 51.9**	**+6.0**
KKB	**Krupnik**	**2.69**	**79**	*i* Pn		**Pn**	**14 05 10.4**	**+2.6**
KKB				*i* Sn		**Sb**	**14 05 44.1**	**-1.7**
LKD2	**Lefkada island**	**2.69**	**162**	Pn		**Pn**	**14 05 09.0**	**+1.0**
LKD2				AML	AML		14 06 01.2	
	comp=E,363nm,0.9s							
LKD2	**Lefkada island**	**2.69**	**162**	P		**Pn**	**14 05 08.6**	**+0.7**
LKD2	**Lefkada island**	**2.69**	**162**	P		**Pn**	**14 05 08.8**	**+0.9**
LRSO	**Larissa Observ**	**2.71**	**128**	P		**Pb**	**14 05 11.6**	**-2.2**
ORI	**Oriolo Calabro**	**2.73**	**243**	⇓P		**Pn**	**14 05 07.8**	**-0.7**
ORI				AML	AML			
	comp=E,51300µm,0.5s							
ORI				AML	AML			
	comp=N,60550µm,0.5s							
AMPL	**Ampelaki**	**2.73**	**153**	P		**Pn**	**14 05 10.6**	**+2.2**
DIVS	**Divibare**	**2.75**	**6**	*e*Pn		**Pn**	**14 05 10.5**	**+1.7**
DIVS				*e*Sn		**Sn**	**14 05 44.8**	**+3.4**
HORT	**Hortiatis**	**2.75**	**105**	P		**Pn**	**14 05 10.7**	**+1.9**
BOVS	**Bovan**	**2.75**	**34**	⇑P		**Pn**	**14 05 11.1**	**+2.3**
BOVS	**Bovan**	**2.75**	**34**	*e*Pn		**Pn**	**14 05 11.0**	**+2.3**
BOVS				*e*Sn		**Sb**	**14 05 45.5**	**-2.3**
PALZ	**Palazzo San Ge**	**2.78**	**263**	P		**Pn**	**14 05 08.7**	**-0.6**
PALZ				AML	AML			
	comp=E,80350µm,0.6s							
PALZ				AML	AML			
	comp=N,74100µm,0.9s							
MSAG	**Monte S. Angel**	**2.80**	**278**	⇓P		**Pn**	**14 05 08.5**	**-0.9**
MSAG				AML	AML			
	comp=N,31300µm,1.2s							
MSAG				AML	AML			
	comp=N,13150µm,1.2s							
MSAG				AML	AML			
	comp=E,16900µm,0.6s							
MSAG				AML	AML			
	comp=E,6880µm,0.7s							
PTRP	**Pietrapertosa**	**2.81**	**254**	⇓P		**Pn**	**14 05 09.6**	**-0.1**
PTRP				AML	AML			
	comp=E,58950µm,1.0s							
PTRP				AML	AML			
	comp=N,65100µm,0.8s							
ACER	**Acerenza**	**2.83**	**260**			**Pn**	**14 05 09.6**	**-0.3**
ACER	**Acerenza**	**2.83**	**260**	⇓P		**Pn**	**14 05 09.3**	**-0.5**
ACER				AML	AML			
	comp=N,63800µm,1.5s							
ACER				AML	AML			
	comp=N,67050µm,1.5s							
ACER				AML	AML			
	comp=E,52000µm,1.1s							
ACER				AML	AML			
	comp=E,49350µm,1.1s							
EVGI	**Lefkada island**	**2.85**	**163**	P		**Pn**	**14 05 10.6**	**+0.5**
CAPA	**Cerignola FG**	**2.86**	**267**	⇓P		**Pn**	**14 05 09.9**	**-0.4**
CAPA				AML	AML			
	comp=E,74650µm,0.9s							
CAPA				AML	AML			
	comp=N,48850µm,0.9s							
CAPA				AML	AML			
	comp=N,95450µm,1.1s							
CAPA				AML	AML			
	comp=E,53300µm,1.1s							
SOH	**Sokhos**	**2.88**	**100**	*i* Pn		**Pn**	**14 05 12.9**	**+2.3**
SOH				*i* Sn		**Sb**	**14 05 50.0**	**-1.6**
SOH	**Sokhos**	**2.88**	**100**	P		**Pn**	**14 05 12.8**	**+2.2**
SOH	**Sokhos**	**2.88**	**100**	P		**Pn**	**14 05 12.8**	**+2.2**
LADO	**San Nicola del**	**2.89**	**225**	⇓P		**Pn**	**14 05 09.7**	**-1.0**
LADO				AML	AML			
	comp=E,1915µm,0.5s							
LADO				AML	AML			
	comp=N,1330µm,1.5s							
SALB	**San Lorenzo Be**	**2.89**	**240**	⇓P		**Pn**	**14 05 09.5**	**-1.3**
SALB				AML	AML			
	comp=E,26550µm,1.1s							
SALB				AML	AML			
	comp=N,21250µm,1.3s							
TRUS	**Trudelj**	**2.92**	**11**	*e*Pn		**Pn**	**14 05 12.7**	**+1.6**
SGRT	**San Giovanni R**	**2.92**	**279**	Pg		**Pn**	**14 05 10.2**	**-0.9**
SGRT				S		**Sn**	**14 05 44.6**	**-1.1**
SGRT				AML	AML		14 06 17.0	
	comp=N,56nm,0.7s							
SGRT	**San Giovanni R**	**2.92**	**279**			**Pn**	**14 05 10.1**	**-1.1**
SGRT	**San Giovanni R**	**2.92**	**279**	⇓P		**Pn**	**14 05 10.3**	**-0.9**
SGRT				AML	AML			
	comp=E,18200µm,0.7s							
SGRT				AML	AML			
	comp=N,18200µm,0.9s							
ZAPS	**Zavoj**	**2.95**	**49**	*e*Pn		**Pn**	**14 05 13.4**	**+1.9**
ZAPS				*e*Sn		**Sn**	**14 05 48.9**	**+2.7**
PZUN	**Potenza**	**2.96**	**257**	⇓P		**Pn**	**14 05 11.9**	**+0.3**
PZUN				AML	AML			
	comp=E,31650µm,1.1s							
PZUN				AML	AML			
	comp=E,32350µm,0.4s							
PZUN				AML	AML			
	comp=N,40350µm,0.6s							
PZUN				AML	AML			
	comp=N,40300µm,0.6s							
EVR	**Evrytania**	**2.97**	**145**	P		**Pn**	**14 05 14.9**	**+3.1**
VTS	**Vitosha**	**2.98**	**64**	P		**Pn**	**14 05 15.3**	**+3.2**
VTS				S		**Sb**	**14 05 52.4**	**-2.2**
VTS	**Vitosha**	**2.98**	**64**	*e*Pn		**Pn**	**14 05 14.8**	**+2.7**
VTS	**Vitosha**	**2.98**	**64**	P		**Pn**	**14 05 14.1**	**+2.0**
VTS				S		**Sn**	**14 05 51.0**	**+3.8**
FSK	**Fiskardo**	**2.99**	**165**	P		**Pn**	**14 05 12.1**	**+0.1**
SRS	**Serrai**	**3.02**	**93**	*i* Pn		**Pn**	**14 05 14.6**	**+2.2**
SRS				*i* Sn		**Sn**	**14 05 51.8**	**+4.0**
SRS	**Serrai**	**3.02**	**93**	*e*Pn		**Pn**	**14 05 14.6**	**+2.2**
SRS	**Serrai**	**3.02**	**93**	P		**Pn**	**14 05 14.4**	**+2.0**
MAKR	**Makrakomi, Fth**	**3.04**	**140**	P		**Pn**	**14 05 15.2**	**+2.5**
VULT	**Monte Vulture**	**3.04**	**264**	⇓P		**Pn**	**14 05 12.3**	**-0.5**
VULT				AML	AML			
	comp=N,35750µm,0.4s							
VULT				AML	AML			
	comp=N,36550µm,0.4s							
VULT				AML	AML			
	comp=E,32600µm,0.9s							
VULT				AML	AML			
	comp=E,31350µm,0.9s							
PLNA	**Plana**	**3.06**	**67**	P		**Pb**	**14 05 16.9**	**-2.9**
MCEL	**Monticello**	**3.07**	**252**	⇓P		**Pn**	**14 05 12.1**	**-1.1**
MCEL				AML	AML			
	comp=E,26250µm,0.9s							
MCEL				AML	AML			
	comp=E,26750µm,0.9s							
MCEL				AML	AML			
	comp=N,25650µm,0.9s							
MCEL				AML	AML			
	comp=N,26300µm,0.9s							
CELI	**Celico**	**3.07**	**231**	⇓P		**Pn**	**14 05 12.2**	**-1.1**
CELI				AML	AML			
	comp=N,34200µm,1.3s							
CELI				AML	AML			
	comp=N,13700µm,1.3s							
CELI				AML	AML			
	comp=E,41000µm,0.9s							
CELI				AML	AML			
	comp=E,16350µm,0.9s							
PLG	**Polygyros**	**3.07**	**107**	P		**Pn**	**14 05 15.0**	**+1.8**
PLG	**Polygyros**	**3.07**	**107**	P		**Pn**	**14 05 15.5**	**+2.3**
SIRI	**Monte Sirino -**	**3.07**	**249**	⇓P		**Pn**	**14 05 12.3**	**-1.0**
SIRI				AML	AML			
	comp=E,17600µm,1.3s							
SIRI				AML	AML			
	comp=E,17250µm,1.3s							
SIRI				AML	AML			
	comp=N,14900µm,1.1s							
SIRI				AML	AML			
	comp=N,14600µm,1.1s							
APRC	**Apricena**	**3.08**	**279**	⇓P		**Pn**	**14 05 12.4**	**-0.8**
APRC				AML	AML			
	comp=N,20450µm,0.6s							
APRC				AML	AML			
	comp=N,8130µm,0.6s							
APRC				AML	AML			
	comp=E,14850µm,1.1s							
APRC				AML	AML			
	comp=E,14850µm,1.2s							
TIP	**Timpagrande**	**3.08**	**226**			**Pn**	**14 05 11.2**	**-2.1**
TIP	**Timpagrande**	**3.08**	**226**	⇑P		**Pn**	**14 05 13.0**	**-0.4**
TIP	**Timpagrande**	**3.08**	**226**	P		**Pn**	**14 05 12.4**	**-0.9**
TIP				AML	AML			
	comp=E,8705µm,1.4s							
TIP				AML	AML			
	comp=E,8840µm,1.4s							
TIP				AML	AML			
	comp=N,9510µm,0.8s							
TIP				AML	AML			
	comp=N,9545µm,0.7s							
TIP	**Timpagrande**	**3.08**	**226**	P		**Pn**	**14 05 13.0**	**-0.4**
SOF	**Sofia**	**3.10**	**64**	P		**Pb**	**14 05 17.6**	**-2.8**
SOF	**Sofia**	**3.10**	**64**	P		**Pb**	**14 05 18.3**	**-2.1**
SOF				S		**Sb**	**14 05 57.6**	**-0.2**
PVO	**Paravola**	**3.11**	**151**	P		**Pn**	**14 05 15.5**	**+1.9**
MMN	**Mormanno**	**3.12**	**243**	⇓P		**Pn**	**14 05 14.2**	**+0.5**
MMN				AML	AML			
	comp=N,21150µm,1.2s							
MMN				AML	AML			
	comp=E,16900µm,0.6s							
MMB	**Musomishta**	**3.12**	**85**	P		**Pb**	**14 05 22.5**	**+1.7**
MMB	**Musomishta**	**3.12**	**85**	*i* Pn		**Pn**	**14 05 16.3**	**+2.5**
ZAGS	**Zajecar**	**3.12**	**37**	*e*Pn		**Pn**	**14 05 16.1**	**+2.2**
ZAGS				*e*Sn		**Sn**	**14 05 52.3**	**+1.8**
AGG	**Agios Georgios**	**3.13**	**137**	P		**Pn**	**14 05 17.3**	**+3.3**
SVIS	**Svilajnac**	**3.13**	**22**	*e*Pn		**Pn**	**14 05 16.3**	**+2.3**
SLCN	**Sala Consilina**	**3.17**	**253**	⇓P		**Pn**	**14 05 13.6**	**-0.9**
SLCN				AML	AML			
	comp=N,24850µm,1.0s							
SLCN				AML	AML			
	comp=N,28050µm,1.0s							
SLCN				AML	AML			
	comp=E,26950µm,0.9s							
SLCN				AML	AML			
	comp=E,25750µm,0.9s							
MRLC	**Muro Lucano**	**3.17**	**260**	⇓P		**Pn**	**14 05 13.9**	**-0.6**
MRLC				AML	AML			
	comp=N,15950µm,0.6s							
MRLC				AML	AML			
	comp=N,7790µm,1.0s							
MRLC				AML	AML			
	comp=E,15750µm,0.4s							
MRLC				AML	AML			
	comp=E,7775µm,0.4s							
DMLN	**Damoulianata-K**	**3.17**	**169**	P		**Pn**	**14 05 14.5**	**-0.1**
CUC	**Castrococco**	**3.19**	**246**			**Pn**	**14 05 14.4**	**-0.4**
BLKB	**Belogradchik**	**3.20**	**44**	⇓S		**Sb**	**14 05 58.2**	**-2.6**
SGTA	**Sant Agata di**	**3.21**	**267**	⇓P		**Pn**	**14 05 14.8**	**-0.2**
SGTA				AML	AML			
	comp=E,22200µm,0.5s							
SGTA				AML	AML			
	comp=E,21550µm,0.5s							
SGTA				AML	AML			
	comp=N,16900µm,0.7s							
SGTA				AML	AML			
	comp=N,16550µm,0.8s							
CLT3	**Calitri**	**3.21**	**263**	P		**Pn**	**14 05 14.9**	**-0.1**
CLT3				AML	AML			
	comp=N,33000µm,1.1s							
CLT3				AML	AML			
	comp=E,36400µm,0.7s							
CLT3	**Calitri**	**3.21**	**263**	AML	AML			
	comp=E,39300µm,0.7s							
CLT3				AML	AML			
	comp=N,39600µm,1.1s							
SPS2	**Spezzano della**	**3.24**	**232**	⇓P		**Pn**	**14 05 14.9**	**-0.6**
SPS2				AML	AML			
	comp=E,6215µm,0.7s							
SPS2				AML	AML			
	comp=N,7160µm,1.0s							
BORS2	**Bor- Borsko je**	**3.26**	**32**	*e*Pn		**Pn**	**14 05 16.1**	**+0.4**
BORS2				*e*Sn		**Sn**	**14 05 56.9**	**+3.2**
VLS	**Valsamata**	**3.27**	**166**	P		**Pn**	**14 05 15.0**	**-0.9**
VLS	**Valsamata**	**3.27**	**166**	P		**Pn**	**14 05 16.2**	**+0.4**
VLS				AML	AML			
	comp=E,37500µm,1.3s							
VLS				AML	AML			
	comp=N,32500µm,1.0s							
VLS	**Valsamata**	**3.27**	**166**	P		**Pn**	**14 05 15.8**	**-0.1**
ANX	**Ano Chora**	**3.29**	**146**	P		**Pn**	**14 05 18.8**	**+2.6**
MGR	**Morigerati**	**3.31**	**250**	⇓P		**Pn**	**14 05 16.2**	**-0.2**
MGR				AML	AML			
	comp=N,14900µm,1.3s							
MGR				AML	AML			
	comp=N,12750µm,1.3s							
MGR				AML	AML			
	comp=E,14850µm,1.3s							
MGR				AML	AML			
	comp=E,15250µm,1.3s							
CAFE	**Carife**	**3.31**	**266**	⇓P		**Pn**	**14 05 16.3**	**-0.2**
CAFE				AML	AML			
	comp=N,12750µm,1.2s							
CAFE				AML	AML			
	comp=N,13250µm,1.2s							
CAFE				AML	AML			
	comp=E,17550µm,0.8s							
CAFE				AML	AML			
	comp=E,18100µm,0.8s							
PSDA	**Pessada-Kefalo**	**3.33**	**167**	P		**Pn**	**14 05 17.0**	**+0.3**
PSDA	**Pessada-Kefalo**	**3.33**	**167**	P		**Pn**	**14 05 16.5**	**-0.1**
CET2	**Cetraro**	**3.33**	**238**	⇓P		**Pn**	**14 05 16.8**	**0.0**
CET2				AML	AML			
	comp=E,45600µm,1.1s							
CET2				AML	AML			
	comp=N,56250µm,1.2s							
CAR1	**CAROLEI**	**3.34**	**232**	⇓P		**Pn**	**14 05 16.5**	**-0.4**
CAR1				AML	AML			
	comp=N,21800µm,1.2s							
CAR1				AML	AML			
	comp=N,22300µm,1.2s							
CAR1				AML	AML			
	comp=E,25550µm,0.9s							
CAR1				AML	AML			
	comp=E,26900µm,0.8s							
SNAL	**S. Angelo Dei**	**3.35**	**264**	⇓P		**Pn**	**14 05 16.4**	**-0.6**
SNAL				AML	AML			
	comp=N,42800µm,1.1s							
SNAL				AML	AML			
	comp=N,41700µm,1.1s							
SNAL				AML	AML			
	comp=E,19000µm,1.0s							
SNAL				AML	AML			
	comp=E,20700µm,0.9s							
CDRU	**Civita di Ruta**	**3.37**	**256**	⇓P		**Pn**	**14 05 16.3**	**-1.1**
CDRU				AML	AML			
	comp=E,8560µm,1.3s							
CDRU				AML	AML			
	comp=N,8405µm,0.9s							
BIOG	**Biogem**	**3.38**	**269**	P		**Pn**	**14 05 18.4**	**+1.0**
BIOG				AML	AML			
	comp=E,45050µm,1.1s							
BIOG				AML	AML			
	comp=E,43450µm,1.0s							
BIOG				AML	AML			
	comp=N,47300µm,1.3s							
BIOG				AML	AML			
	comp=N,35300µm,1.2s							
MELA	**Melanico ??? S**	**3.38**	**277**	⇓P		**Pn**	**14 05 17.1**	**-0.2**
MELA				AML	AML			
	comp=E,24100µm,1.2s							
MELA				AML	AML			
	comp=E,23050µm,1.2s							
MELA				AML	AML			
	comp=N,36350µm,0.8s							
MELA				AML	AML			
	comp=N,35050µm,0.7s							
AVAS	**Avala Beograd**	**3.40**	**11**	*e*Pn		**Pn**	**14 05 18.4**	**+0.7**
RTZL	**Ratzakli, Kefa**	**3.40**	**164**	P		**Pn**	**14 05 18.5**	**+0.8**
MCRV	**Calabrutti - M**	**3.40**	**262**	⇓P		**Pn**	**14 05 16.9**	**-1.0**
MCRV				AML	AML			
	comp=N,9625µm,0.5s							
MCRV				AML	AML			
	comp=E,11165µm,0.9s							
KUBS	**Kucevo**	**3.41**	**26**	*e*Pn		**Pn**	**14 05 17.8**	**0.0**
EFP	**Efpalio**	**3.42**	**148**	P		**Pn**	**14 05 20.4**	**+2.4**
CMPR	**Campora**	**3.43**	**254**	P		**Pn**	**14 05 17.6**	**-0.5**
CMPR				AML	AML			
	comp=E,8770µm,0.4s							
CMPR				AML	AML			
	comp=N,10800µm,1.2s							
AXS	**Araxos**	**3.44**	**156**	P		**Pn**	**14 05 19.4**	**+1.1**
NEO	**Neokhori**	**3.44**	**125**	P		**Pn**	**14 05 19.9**	**+1.6**
BULG	**Bulgheria - Ca**	**3.46**	**250**	⇓P		**Pn**	**14 05 18.3**	**-0.2**
BULG				AML	AML			
	comp=N,16250µm,0.7s							
BULG				AML	AML			
	comp=N,17000µm,0.7s							
BULG				AML	AML			
	comp=E,13700µm,0.7s							
BULG				AML	AML			
	comp=E,14150µm,0.7s							
OUR	**Ouranopolis**	**3.47**	**106**	P		**Pn**	**14 05 20.6**	**+2.0**
AXAR	**Agios Charalam**	**3.49**	**137**	P		**Pn**	**14 05 21.2**	**+2.2**
MRB1	**Monte Rocchett**	**3.50**	**268**	⇓P		**Pn**	**14 05 19.2**	**+0.1**
MRB1				AML	AML			
	comp=E,17100µm,1.3s							
MRB1				AML	AML			
	comp=E,17400µm,1.3s							
MRB1				AML	AML			
	comp=N,25450µm,1.2s							
MRB1				AML	AML			
	comp=N,24650µm,1.2s							
BEO	**Beograd**	**3.50**	**10**	*e*Pn		**Pn**	**14 05 19.7**	**+0.7**
BEO				*e*Sn		**Sn**	**14 06 02.1**	**+2.3**
BEO	**Beograd**	**3.50**	**10**	P		**Pn**	**14 05 19.8**	**+0.7**
BEO				S		**Sn**	**14 06 02.1**	**+2.3**
MTMR	**Montemarano**	**3.50**	**264**	⇓P		**Pn**	**14 05 18.6**	**-0.6**
MTMR				AML	AML			
	comp=E,11450µm,0.8s							
MTMR				AML	AML			
	comp=E,12350µm,0.8s							
MTMR				AML	AML			
	comp=N,7835µm,1.3s							
MTMR				AML	AML			
	comp=N,8755µm,1.6s							
MNT3	**Montella**	**3.52**	**263**	P		**Pn**	**14 05 18.7**	**-0.6**
MNT3				AML	AML			
	comp=E,6820µm,0.8s							
MNT3				AML	AML			
	comp=N,9380µm,0.4s							
MNT3	**Montella**	**3.52**	**263**	AML	AML			
	comp=N,9000µm,0.4s							
MNT3				AML	AML			
	comp=E,7115µm,0.8s							
GRI	**Girifalco**	**3.52**	**225**	⇓P		**Pn**	**14 05 18.6**	**-0.7**
GRI				AML	AML			
	comp=N,9605µm,0.8s							
GRI				AML	AML			
	comp=E,10650µm,0.8s							
GATE	**Gambatesa**	**3.53**	**274**	⇓P		**Pn**	**14 05 20.2**	**+0.7**
GATE				AML	AML			
	comp=E,13220µm,0.4s							
GATE				AML	AML			
	comp=E,13250µm,0.4s							
GATE				AML	AML			
	comp=N,13800µm,1.1s							

SACR					AML	AML			
	comp=E,7935µm,0.8s								
SACR					AML	AML			
	comp=E,8860µm,0.8s								
KAVA	**Kavala**	**3.72**	**94**	P	**Pn**	**14 05 24.2 +2.1**			
ATAL	**Atalanti**	**3.74**	**134**	P	**Pn**	**14 05 24.4 +2.1**			
MDVR	**Moldovita**	**3.75**	**24**	⇓P	**Pn**	**14 05 24.2 +1.7**			
MDVR	**Moldovita**	**3.75**	**24**	*e*Pn	**Pn**	**14 05 24.0 +1.5**			
VITU	**Vitulano (BN)**	**3.75**	**269**	⇓P	**Pn**	**14 05 22.8 +0.2**			
VITU					AML	AML			
	comp=E,7105µm,0.3s								
VITU					AML	AML			
	comp=E,11300µm,1.7s								
VITU					AML	AML			
	comp=N,13100µm,0.5s								
VITU					AML	AML			
	comp=N,12700µm,0.5s								
LKR	**Lokris**	**3.76**	**135**	P	**Pn**	**14 05 24.9 +2.3**			
DRO	**Drossia**	**3.77**	**154**	P	**Pn**	**14 05 24.1 +1.3**			
BSSO	**Busso**	**3.77**	**274**	⇓P	**Pn**	**14 05 22.8 0.0**			
BSSO					AML	AML			
	comp=N,7170µm,0.5s								
BSSO					AML	AML			
	comp=N,2640µm,0.5s								
BSSO					AML	AML			
	comp=E,9550µm,1.4s								
BSSO					AML	AML			
	comp=E,3955µm,1.4s								
PLAC	**Placanica**	**3.79**	**221**	⇓P	**Pn**	**14 05 22.0 -1.1**			
PLAC					AML	AML			
	comp=E,7900µm,1.0s								
PLAC					AML	AML			
	comp=E,8160µm,0.9s								
PLAC					AML	AML			
	comp=N,8720µm,0.9s								
PLAC					AML	AML			
	comp=N,7635µm,0.9s								
FRGS	**Fruska Gora**	**3.80**	**2**	*e*Pn	**Pn**	**14 05 23.6 +0.4**			
PUNG	**Punghina**	**3.81**	**39**	⇓P	**Pn**	**14 05 25.2 +2.1**			
PUNG	**Punghina**	**3.81**	**39**	*e*Pn	**Pn**	**14 05 25.3 +2.1**			
TRIV	**Trivento**	**3.81**	**278**	⇓P	**Pn**	**14 05 23.1 -0.3**			
TRIV					AML	AML			
	comp=E,9100µm,1.1s								
TRIV					AML	AML			
	comp=E,8820µm,1.1s								
TRIV					AML	AML			
	comp=N,12030µm,0.9s								
TRIV					AML	AML			
	comp=N,12730µm,0.9s								
PAOL	**Paolisi**	**3.82**	**267**		**Pn**	**14 05 23.3 -0.1**			
PAOL	**Paolisi**	**3.82**	**267**	⇓P	**Pn**	**14 05 23.9 +0.4**			
PAOL					AML	AML			
	comp=N,17750µm,1.4s								
PAOL					AML	AML			
	comp=N,18150µm,1.4s								
PAOL					AML	AML			
	comp=E,12235µm,0.5s								
PAOL					AML	AML			
	comp=E,11600µm,0.5s								
BLY	**Banja Luka**	**3.82**	**333**	⇑*i*Pn	**Pn**	**14 05 24.3 +0.9**			
BLY				*e*Sn	**Sn**	**14 06 05.5 -2.2**			
BLY	**Banja Luka**	**3.82**	**333**	⇑P	**Pn**	**14 05 24.4 +0.9**			
BLY	**Banja Luka**	**3.82**	**333**	*e*Pn	**Pn**	**14 05 24.7 +1.2**			
BLY	**Banja Luka**	**3.82**	**333**	⇑P	**Pn**	**14 05 24.3 +0.9**			
BLY					AML	AML			
	comp=N,9930µm,1.1s								
BLY					AML	AML			
	comp=N,9825µm,1.2s								
BLY					AML	AML			
	comp=E,13200µm,1.2s								
BLY					AML	AML			
	comp=E,13250µm,1.2s								
BAIL	**Bailesti**	**3.83**	**45**	⇓P	**Pn**	**14 05 26.7 +3.2**			
KLV	**Kalavryta, Ach**	**3.85**	**149**	⇑P	**Pn**	**14 05 26.0 +2.1**			
KLV	**Kalavryta, Ach**	**3.85**	**149**	P	**Pn**	**14 05 26.3 +2.4**			
RZN	**Rozhen**	**3.87**	**83**	P	**Pn**	**14 05 27.6 +3.3**			
PLD	**Plovdiv**	**3.93**	**77**	P	**Pb**	**14 05 37.3 +2.8**			
PLD	**Plovdiv**	**3.93**	**77**	*i* Pn	**Pn**	**14 05 27.7 +2.9**			
PLD	**Plovdiv**	**3.93**	**77**	*e*Pn	**Pn**	**14 05 27.6 +2.7**			
DJES	**Djerdap**	**3.93**	**32**	⇑P	**Pn**	**14 05 26.7 +1.7**			
DJES	**Djerdap**	**3.93**	**32**	*e*Pn	**Pn**	**14 05 26.4 +1.4**			
DJES				*e*Sn	**Sn**	**14 06 11.1 +0.7**			
SGG	**Gregorio Mates**	**3.93**	**272**	⇓P	**Pn**	**14 05 25.3 +0.2**			
SGG					AML	AML			
	comp=E,10140µm,0.6s								
SGG					AML	AML			
	comp=N,9465µm,0.6s								
THAS	**Thassos island**	**3.94**	**99**	P	**Pn**	**14 05 26.4 +1.3**			
VBKN	**Vesuvio Bunker**	**3.95**	**264**	P	**Pn**	**14 05 25.5 +0.2**			
VBKN					AML	AML			
	comp=N,24500µm,1.1s								
VBKN					AML	AML			
	comp=E,22800µm,1.0s								
VCRE	**Vesuvio Crater**	**3.95**	**264**	P	**Pn**	**14 05 25.8 +0.5**			
VCRE					AML	AML			
	comp=E,25250µm,1.3s								
VCRE					AML	AML			
	comp=N,23000µm,1.0s								
VTIR	**Vesuvio Tirone**	**3.96**	**264**	⇓P	**Pn**	**14 05 25.6 +0.3**			
VTIR					AML	AML			
	comp=N,4750µm,1.1s								
VTIR					AML	AML			
	comp=E,4645µm,1.5s								
VRSS	**Vrsac**	**3.96**	**18**	*e*Pn	**Pn**	**14 05 26.3 +0.9**			
VRSS				*e*Sn	**Sn**	**14 06 12.8 +1.6**			
OVO	**Vesuviano**	**3.97**	**264**	P	**Pn**	**14 05 25.7 +0.1**			
OVO					AML	AML			
	comp=N,19200µm,1.2s								
OVO					AML	AML			
	comp=E,15350µm,0.7s								
GUR	**Goura**	**4.02**	**147**	P	**Pn**	**14 05 27.4 +1.2**			
MIDA	**Miranda**	**4.03**	**276**	P	**Pn**	**14 05 26.1 -0.2**			
MIDA					AML	AML			
	comp=N,7495µm,1.4s								
MIDA					AML	AML			
	comp=E,6755µm,1.4s								
MIDA					AML	AML			
	comp=N,6320µm,0.4s								
MIDA					AML	AML			
	comp=E,6620µm,0.4s								
VAGA	**Valle Agricola**	**4.04**	**273**	⇓P	**Pn**	**14 05 27.1 +0.5**			
VAGA					AML	AML			
	comp=N,12000µm,0.7s								
VAGA					AML	AML			
	comp=N,12450µm,0.7s								
VAGA					AML	AML			
	comp=E,8965µm,1.1s								
VAGA					AML	AML			
	comp=E,8620µm,1.1s								
HERR	**Herculane**	**4.08**	**29**	⇓P	**Pn**	**14 05 28.9 +2.0**			
PIGN	**Pignataro Magg**	**4.09**	**270**	⇓P	**Pn**	**14 05 27.3 +0.1**			
PIGN					AML	AML			
	comp=N,4135µm,1.0s								
PIGN					AML	AML			
	comp=N,4385µm,1.0s								
PIGN					AML	AML			
	comp=E,4415µm,1.0s								
PIGN					AML	AML			
	comp=E,4100µm,1.0s								
RNI2	**Rionero Sannit**	**4.11**	**277**	⇓P	**Pn**	**14 05 27.5 0.0**			
RNI2					AML	AML			
	comp=N,7415µm,1.0s								
RNI2					AML	AML			
	comp=N,7245µm,1.0s								
RNI2					AML	AML			
	comp=E,9630µm,1.6s								
RNI2					AML	AML			
	comp=E,9970µm,1.6s								
LPEL	**Lama dei Pelig**	**4.12**	**281**	⇓P	**Pn**	**14 05 27.8 +0.3**			
LPEL					AML	AML			
	comp=N,5420µm,0.4s								
LPEL					AML	AML			
	comp=E,8850µm,0.9s								
LPEL					AML	AML			
	comp=E,9325µm,0.9s								
LPEL					AML	AML			
	comp=N,5305µm,1.4s								
CSFT	**Campi Flegrei**	**4.17**	**264**	P	**Pn**	**14 05 29.0 +0.8**			
CSFT					AML	AML			
	comp=N,12050µm,1.8s								
CSFT					AML	AML			
	comp=E,12050µm,0.2s								
BANR	**Banloc**	**4.17**	**15**	⇑P	**Pn**	**14 05 29.8 +1.6**			
BANR	**Banloc**	**4.17**	**15**	*e*Pn	**Pn**	**14 05 31.0 +2.8**			
CPOZ	**Campi Flegrei,**	**4.18**	**264**	P	**Pn**	**14 05 28.8 +0.4**			
CPOZ					AML	AML			
	comp=E,47450µm,1.1s								
CPOZ					AML	AML			
	comp=N,17300µm,0.6s								
CERA	**Filignano**	**4.21**	**275**	⇓P	**Pn**	**14 05 29.2 +0.5**			
CERA					AML	AML			
	comp=N,17350µm,1.4s								
CERA					AML	AML			
	comp=N,16400µm,1.3s								
CERA					AML	AML			
	comp=E,16050µm,0.8s								
CERA					AML	AML			
	comp=E,15400µm,0.8s								
CEL	**Celeste**	**4.21**	**224**		**Pn**	**14 05 27.7 -1.2**			
CEL	**Celeste**	**4.21**	**224**	⇓P	**Pn**	**14 05 27.8 -1.1**			
CEL					AML	AML			
	comp=E,8310µm,0.7s								
CEL					AML	AML			
	comp=E,8155µm,0.7s								
CEL					AML	AML			
	comp=N,8165µm,1.1s								
CEL					AML	AML			
	comp=N,8060µm,1.1s								
CEL	**Celeste**	**4.21**	**224**	P	**Pn**	**14 05 28.0 -0.9**			
IST3	**Stromboli F**	**4.22**	**234**	P	**Pn**	**14 05 29.1 +0.1**			
IST3					AML	AML			
	comp=E,7895µm,1.2s								
IST3					AML	AML			
	comp=N,6335µm,1.2s								
LTK	**Loutraki**	**4.22**	**141**	P	**Pn**	**14 05 30.0 +1.0**			
VIL2	**Platees**	**4.22**	**137**	P	**Pn**	**14 05 31.0 +2.0**			
SRE	**Strehaia**	**4.22**	**37**	⇑P	**Pn**	**14 05 31.6 +2.6**			
SRE	**Strehaia**	**4.22**	**37**	P	**Pn**	**14 05 31.2 +2.2**			
PLVB	**Pleven**	**4.23**	**60**	⇑P	**Pn**	**14 05 31.9 +2.9**			
LOUT	**Loutraki**	**4.25**	**141**	P	**Pn**	**14 05 30.6 +1.2**			
SOI	**Samo**	**4.28**	**221**	⇓P	**Pn**	**14 05 28.4 -1.3**			
SOI					AML	AML			
	comp=E,6785µm,1.0s								
SOI					AML	AML			
	comp=N,7950µm,0.6s								
SICLA	**Scilla**	**4.31**	**225**	⇓P	**Pn**	**14 05 29.4 -0.8**			
SICLA					AML	AML			
	comp=E,10540µm,0.9s								
SICLA					AML	AML			
	comp=N,10795µm,1.3s								
KDZ	**Kurdzhali**	**4.32**	**85**	P	**Pn**	**14 05 33.6 +3.4**			
GMB	**Gambarie**	**4.32**	**224**	⇓P	**Pn**	**14 05 29.1 -1.2**			
GMB					AML	AML			
	comp=N,33600µm,1.0s								
GMB					AML	AML			
	comp=E,30200µm,1.0s								
INTR	**Introdacqua**	**4.32**	**281**		**Pn**	**14 05 30.2 -0.1**			
INTR	**Introdacqua**	**4.32**	**281**	⇓P	**Pn**	**14 05 30.2 -0.1**			
MODR	**Mondragone**	**4.32**	**269**	⇓P	**Pn**	**14 05 30.0 -0.4**			
MCI	**Monte Cassino**	**4.36**	**274**	⇓P	**Pn**	**14 05 31.2 +0.4**			
MCI					AML	AML			
	comp=N,6940µm,1.2s								
MCI					AML	AML			
	comp=E,9615µm,0.5s								
IOCA	**Ischia Osserva**	**4.36**	**264**	P	**Pn**	**14 05 30.4 -0.4**			
IOCA					AML	AML			
	comp=N,11900µm,1.3s								
IOCA					AML	AML			
	comp=E,12400µm,0.8s								
IMTC	**Ischia Forio M**	**4.38**	**263**	P	**Pn**	**14 05 30.9 -0.2**			
IMTC					AML	AML			
	comp=N,11035µm,1.2s								
IMTC					AML	AML			
	comp=E,7440µm,1.2s								
STFN	**Stefani**	**4.39**	**135**	P	**Pn**	**14 05 33.4 +2.0**			
KYMI	**Kymi, Euboea I**	**4.40**	**127**	P	**Pn**	**14 05 33.4 +2.1**			
IFOR	**Ischia Forio P**	**4.40**	**263**	P	**Pn**	**14 05 31.0 -0.4**			
IFOR					AML	AML			
	comp=N,61450µm,1.0s								
IFOR					AML	AML			
	comp=E,26000µm,1.2s								
VLAD	**Vladila**	**4.41**	**52**	⇓P	**Pn**	**14 05 34.2 +2.6**			
MSRU	**Castanea**	**4.42**	**227**	⇓P	**Pn**	**14 05 29.6 -2.0**			
MSRU					AML	AML			
	comp=E,14150µm,0.9s								
MSRU					AML	AML			
	comp=N,8120µm,0.6s								
VCEL	**Villa Celiera**	**4.43**	**285**	P	**Pn**	**14 05 31.8 0.0**			
VCEL					AML	AML			
	comp=E,12625µm,0.5s								
VCEL					AML	AML			
	comp=N,9470µm,1.2s								
POFI	**Posta Fibreno**	**4.44**	**277**	P	**Pn**	**14 05 32.4 +0.4**			
POFI					AML	AML			
	comp=E,3435µm,0.7s								
POFI					AML	AML			
	comp=E,4285µm,0.7s								
POFI					AML	AML			
	comp=N,3090µm,0.4s								
POFI					AML	AML			
	comp=N,3875µm,0.4s								
T0110	**Collepietro**	**4.44**	**283**	⇓P	**Pn**	**14 05 32.2 +0.1**			
T0110					AML	AML			
	comp=N,9930µm,0.4s								
T0110					AML	AML			
	comp=E,9175µm,0.8s								
MAGU	**Magoula**	**4.45**	**136**	P	**Pn**	**14 05 33.6 +1.5**			
RDO	**Rodhopi**	**4.48**	**91**		**Pn**	**14 05 34.5 +2.1**			
RDO	**Rodhopi**	**4.48**	**91**	P	**Pn**	**14 05 34.6 +2.1**			
TRTR	**Tortoreto Alta**	**4.48**	**291**	P	**Pn**	**14 05 33.6 +1.2**			
TRTR					AML	AML			
	comp=N,15850µm,0.4s								
TRTR					AML	AML			
	comp=E,17200µm,1.5s								
LIA	**Limnos Island**	**4.49**	**107**	P	**Pn**	**14 05 34.2 +1.6**			
BZS	**Buzias**	**4.50**	**18**	⇓P	**Pn**	**14 05 34.1 +1.4**			
BZS	**Buzias**	**4.50**	**18**	*e*Pn	**Pn**	**14 05 33.8 +1.0**			
BZS	**Buzias**	**4.50**	**18**	P	**Pn**	**14 05 33.7 +1.0**			
MTTG	**Motta San Giov**	**4.51**	**223**	⇓P	**Pn**	**14 05 31.5 -1.4**			
MTTG					AML	AML			
	comp=E,12850µm,1.1s								
MTTG					AML	AML			
	comp=N,13900µm,1.1s								
VVLD	**Villa Vallelon**	**4.51**	**278**	⇓P	**Pn**	**14 05 33.2 +0.2**			
VVLD					AML	AML			
	comp=N,5945µm,0.6s								
VVLD					AML	AML			
	comp=N,5665µm,0.7s								
VVLD					AML	AML			
	comp=E,5750µm,0.6s								
VVLD					AML	AML			
	comp=E,5850µm,0.6s								
DIM	**Dimitrovgrad**	**4.52**	**79**	P	**Pn**	**14 05 36.2 +3.1**			
TIM	**Timisoara**	**4.53**	**14**	⇑P	**Pn**	**14 05 34.8 +1.6**			
TIM	**Timisoara**	**4.53**	**14**	P	**Pn**	**14 05 34.7 +1.6**			
LRP	**Arpino**	**4.53**	**276**	P	**Pn**	**14 05 32.7 -0.5**			
LRP					AML	AML			
	comp=N,4205µm,1.4s								
LRP					AML	AML			
	comp=E,3595µm,0.7s								
ITM	**Ithomi**	**4.55**	**156**		**Pn**	**14 05 34.8 +1.4**			
ITM	**Ithomi**	**4.55**	**156**	⇓P	**Pn**	**14 05 34.5 +1.1**			
ITM					AML	AML			
	comp=N,2440µm,0.6s								
ITM					AML	AML			
	comp=E,2260µm,1.2s								
ITM	**Ithomi**	**4.55**	**156**	P	**Pn**	**14 05 34.4 +1.0**			
MPNC	**Port Mandanici**	**4.59**	**227**	⇓P	**Pn**	**14 05 31.7 -2.3**			
MPNC					AML	AML			
	comp=N,18150µm,0.5s								
MPNC					AML	AML			
	comp=E,12850µm,1.5s								
FAGN	**Fagnano**	**4.59**	**283**	P	**Pn**	**14 05 34.0 0.0**			
FAGN					AML	AML			
	comp=E,17600µm,0.5s								
FAGN					AML	AML			
	comp=N,15550µm,0.5s								
LLI	**Lipari**	**4.62**	**232**	P	**Pn**	**14 05 33.5 -0.9**			
LLI					AML	AML			
	comp=N,74850µm,1.2s								
LLI					AML	AML			
	comp=E,59950µm,0.7s								
GIGS	**Gran Sasso**	**4.63**	**286**	P	**Pn**	**14 05 34.3 -0.4**			
GIGS					AML	AML			
	comp=N,2230µm,1.2s								
GIGS					AML	AML			
	comp=E,2055µm,0.9s								
VPL	**Vulcano Piano**	**4.64**	**232**	P	**Pn**	**14 05 32.6 -2.1**			
VPL					AML	AML			
	comp=N,12200µm,0.6s								
VPL					AML	AML			
	comp=E,11850µm,1.3s								
GZR	**Gura Zlata**	**4.65**	**29**	⇑P	**Pn**	**14 05 36.8 +2.0**			
GZR	**Gura Zlata**	**4.65**	**29**	*e*Pn	**Pn**	**14 05 36.7 +1.9**			
GZR	**Gura Zlata**	**4.65**	**29**	P	**Pn**	**14 05 36.0 +1.2**			
TERO	**Teramo**	**4.65**	**288**	P	**Pn**	**14 05 34.7 -0.1**			
TERO					AML	AML			
	comp=N,3360µm,1.5s								
TERO					AML	AML			
	comp=N,4935µm,0.8s								
TERO					AML	AML			
	comp=E,5680µm,0.6s								
TERO					AML	AML			
	comp=E,3360µm,0.4s								
OFFI	**Offida**	**4.67**	**292**	P	**Pn**	**14 05 36.2 +1.0**			
OFFI					AML	AML			
	comp=N,19450µm,1.3s								
OFFI					AML	AML			
	comp=E,14700µm,0.7s								
PTQR	**Pietraquaria**	**4.69**	**280**	P	**Pn**	**14 05 36.1 +0.6**			
PTQR					AML	AML			
	comp=N,2815µm,0.4s								
PTQR					AML	AML			
	comp=E,2665µm,0.6s								
VENT	**Ventotene**	**4.71**	**265**	⇓P	**Pn**	**14 05 34.9 -0.8**			
VENT					AML	AML			
	comp=E,3310µm,0.6s								
VENT					AML	AML			
	comp=N,3110µm,1.2s								
MOSL	**Moslavina**	**4.73**	**335**	⇑*i*Pn	**Pn**	**14 05 35.8 -0.1**			
MOSL				*e*Sn	**Sn**	**14 06 27.0 -3.1**			
AQU	**L'Aquila**	**4.74**	**284**	P	**Pn**	**14 05 36.2 +0.1**			
AQU				S	**Sn**	**14 06 29.5 -0.8**			
AQU	**L'Aquila**	**4.74**	**284**	*e*Pn	**Pn**	**14 05 36.0 -0.1**			
AQU				*e*Sn	**Sn**	**14 06 26.5 -3.9**			
AQU	**L'Aquila**	**4.74**	**284**	P	**Pn**	**14 05 37.2 +1.1**			
GUAR	**Guarcino**	**4.74**	**277**	P	**Pn**	**14 05 36.2 +0.1**			
GUAR					AML	AML			
	comp=N,4565µm,0.7s								
GUAR					AML	AML			
	comp=E,3475µm,0.8s								
SUBS	**Subotica**	**4.75**	**0**	*e*Pn	**Pn**	**14 05 37.9 +1.7**			
IFIL	**Filicudi I Eol**	**4.77**	**236**	⇓P	**Pn**	**14 05 35.0 -1.5**			
IFIL					AML	AML			
	comp=E,16650µm,0.8s								
IFIL					AML	AML			
	comp=N,6145µm,0.6s								
MNTT	**Montottone**	**4.78**	**293**	⇑P	**Pn**	**14 05 37.5 +0.8**			
MNTT					AML	AML			
	comp=N,18150µm,0.4s								
MNTT					AML	AML			
	comp=E,19600µm,0.6s								
AIO	**Antillo**	**4.78**	**226**	⇓P	**Pn**	**14 05 34.7 -2.0**			
AIO					AML	AML			
	comp=E,4060µm,0.4s								
AIO					AML	AML			
	comp=N,5305µm,1.6s								
NOV	**Novara**	**4.79**	**227**	⇓P	**Pn**	**14 05 34.7 -2.1**			
MTRA	**Matera**	**4.83**	**289**	P	**Pn**	**14 05 37.1 -0.2**			
MTRA					AML	AML			
	comp=N,8720µm,0.4s								
MTRA					AML	AML			
	comp=N,8785µm,0.4s								
MTRA					AML	AML			
	comp=E,9145µm,0.4s								
MTRA					AML	AML			
	comp=E,9050µm,0.4s								
ZIMR		**4.84**	**60**	⇑P	**Pn**	**14 05 40.4 +3.1**			
ZIMR		**4.84**	**60**	P	**Pn**	**14 05 40.4 +3.1**			
SMA1	**SAN MARTINO**	**4.84**	**287**	P	**Pn**	**14 05 37.5 -0.1**			
SMA1					AML	AML			
	comp=N,8995µm,0.4s								
SMA1					AML	AML			
	comp=E,8130µm,1.5s								
MF5	**Montefalcone A**	**4.85**	**292**	P	**Pn**	**14 05 37.6 0.0**			
MF5					AML	AML			
	comp=N,8450µm,1.4s								
MF5					AML	AML			
	comp=E,6895µm,0.6s								
ALN	**Alexandroupoli**	**4.88**	**93**		**Pn**	**14 05 40.6 +2.5**			
MNTP	**Montappone**	**4.89**	**293**	P	**Pn**	**14 05 38.3 +0.1**			
MNTP					AML	AML			
	comp=N,8580µm,0.4s								
MNTP					AML	AML			
	comp=E,12250µm,1.1s								
RM33	**Pellescritta (**	**4.90**	**286**	⇓P	**Pn**	**14 05 38.6 +0.2**			
RM33					AML	AML			
	comp=E,7165µm,0.7s								
RM33					AML	AML			
	comp=E,7330µm,0.9s								
RM33					AML	AML			
	comp=N,5535µm,0.7s								
RM33					AML	AML			
	comp=N,5335µm,0.7s								
MMO1	**Montemonaco**	**4.92**	**290**	P	**Pn**	**14 05 38.7 +0.2**			
ELND	**Elena**	**4.92**	**69**	⇓P	**Pn**	**14 05 41.8 +3.3**			
IACL	**Alicudi**	**4.92**	**237**	P	**Pn**	**14 05 37.2 -1.4**			
IACL					AML	AML			
	comp=E,3850µm,1.2s								
IACL					AML	AML			
	comp=N,3760µm,1.0s								
SAP2	**Sant'Angelo in**	**4.92**	**293**	P	**Pn**	**14 05 38.7 +0.1**			
SAP2					AML	AML			
	comp=N,25450µm,0.4s								
SAP2					AML	AML			
	comp=E,5955µm,1.0s								
MUCR	**Ucria**	**4.93**	**229**	⇓P	**Pn**	**14 05 36.8 -2.0**			
MUCR					AML	AML			
	comp=E,4955µm,1.0s								
MUCR					AML	AML			
	comp=N,5935µm,0.7s								
FIAM	**Fiamignano**	**4.93**	**283**	P	**Pn**	**14 05 39.5 +0.7**			
FIAM					AML	AML			
	comp=E,5800µm,0.6s								
FIAM					AML	AML			
	comp=E,2910µm,0.6s								
FIAM					AML	AML			
	comp=N,6730µm,0.8s								
FIAM					AML	AML			
	comp=N,3515µm,0.8s								
GUMA	**Gualdo di Mace**	**4.96**	**292**		**Pn**	**14 05 38.9 -0.2**			
GUMA	**Gualdo di Mace**	**4.96**	**292**	P	**Pn**	**14 05 38.9 -0.2**			
GUMA					AML	AML			
	comp=N,15450µm,1.4s								
GUMA					AML	AML			
	comp=E,16650µm,0.5s								
GUMA					AML	AML			
	comp=E,14450µm,0.5s								
GUMA					AML	AML			
	comp=N,11550µm,0.5s								
LATB	**Latina**	**5.00**	**274**	P	**Pn**	**14 05 38.9 -0.7**			
LATB					AML	AML			
	comp=E,1074µm,0.5s								
LATB					AML	AML			
	comp=N,1208µm,0.8s								
CERT	**Cerreto**	**5.00**	**279**	P	**Pn**	**14 05 39.5 -0.2**			
CERT					AML	AML			
	comp=E,4285µm,0.7s								
CERT					AML	AML			
	comp=N,2665µm,0.6s								
CAVK	**Edirne/Enez-Ca**	**5.01**	**96**	⇑P	**Pn**	**14 05 43.1 +3.4**			
MC2	**Monte Cornacci**	**5.02**	**290**	⇓P	**Pn**	**14 05 40.2 +0.1**			
RCAV	**Rocca di Cave**	**5.02**	**278**	P	**Pn**	**14 05 40.1 +0.1**			
RCAV					AML	AML			
	comp=N,3040µm,0.6s								
RCAV					AML	AML			
	comp=E,2805µm,1.4s								
EMSG	**Monte Spagnolo**	**5.04**	**227**	P	**Pn**	**14 05 40.5 +0.1**			
EMSG					AML	AML			
	comp=N,13000µm,0.9s								
EMSG					AML	AML			
	comp=E,14200µm,1.0s								
NRCA	**Norcia**	**5.05**	**289**		**Pn**	**14 05 40.2 -0.2**			
NRCA	**Norcia**	**5.05**	**289**	⇓P	**Pn**	**14 05 40.4 0.0**			
NRCA					AML	AML			
	comp=N,4890µm,0.5s								
NRCA					AML	AML			
	comp=E,6370µm,0.4s								
NRCA					AML	AML			
	comp=E,6065µm,0.4s								
NRCA					AML	AML			
	comp=N,5180µm,0.4s								
HUMR	**Humele**	**5.06**	**49**	⇑P	**Pn**	**14 05 43.3 +2.9**			
CSP1	**Cessapalombo**	**5.06**	**292**	⇓P	**Pn**	**14

LOT	Lotru	5.09	35	⇑P		Pn	14 05 43.3	+2.4
EPZF	Pizzo Felice	5.09	228	⇓P		Pn	14 05 40.3	-0.7
SZH	Strazhitsa	5.09	66	P		Pn	14 05 44.4	+3.5
MSFR	San Fratello	5.10	231	P		Pn	14 05 39.0	-2.1
MNO	Monte Soro	5.11	230	⇓P		Pn	14 05 41.4	+0.1
MNO	comp=N,9395µm,1.2s			AML	AML			
MNO	comp=E,14950µm,0.9s			AML	AML			
DEV	Deva	5.12	27	⇓P		Pn	14 05 44.1	+2.9
DEV	Deva	5.12	27	P		Pn	14 05 44.1	+2.9
FDMO	Fiordimonte	5.12	291			Pn	14 05 40.5	-0.8
FDMO	Fiordimonte	5.12	291	⇓P		Pn	14 05 41.2	-0.1
FDMO	comp=E,3935µm,0.9s			AML	AML			
FDMO	comp=N,3600µm,0.6s			AML	AML			
SIRR	Siria	5.12	16	*e*Pn		Pn	14 05 42.3	+0.9
ENIC	Nicolosi	5.14	225	P		Pn	14 05 41.6	-0.1
ENIC	comp=E,2855µm,1.3s			AML	AML			
ENIC	comp=N,2495µm,0.7s			AML	AML			
GAVE	Gavelli	5.17	287	P		Pn	14 05 42.4	+0.3
GAVE	comp=N,2915µm,1.6s			AML	AML			
GAVE	comp=N,10315µm,1.6s			AML	AML			
GAVE	comp=E,7620µm,0.5s			AML	AML			
GAVE	comp=E,7335µm,0.3s			AML	AML			
MTCE	Montecelio	5.18	280	P		Pn	14 05 42.4	+0.2
MTCE	comp=N,1840µm,0.8s			AML	AML			
MTCE	comp=E,3030µm,1.1s			AML	AML			
EL6	Elcito	5.21	294	P		Pn	14 05 41.9	-0.6
OZLJ	Ozalj	5.21	326	⇑*i* Pn		Pn	14 05 42.6	+0.1
OZLJ				*e*Sn		Sn	14 06 38.0	-3.8
BOJS	Bojanci	5.21	324	*i* Pn		Pn	14 05 42.8	+0.3
BOJS				*e*			14 05 56.8	
BOJS				*e*Sn		Sn	14 06 41.8	-0.2
BOJS	Bojanci	5.21	324	*e*Pn		Pn	14 05 43.0	+0.4
BOJS	Bojanci	5.21	324	⇑P		Pn	14 05 42.9	+0.3
BOJS	comp=N,8910µm,1.4s			AML	AML			
BOJS	comp=E,8960µm,1.1s			AML	AML			
ESML	S. M. di Licod	5.23	226	P		Pn	14 05 41.6	-1.2
ESML	comp=E,7570µm,1.1s			AML	AML			
ESML	comp=N,5995µm,0.9s			AML	AML			
ARRO	Arrone	5.24	286	P		Pn	14 05 43.8	+0.8
CESI	CESI - Serrava	5.24	290	P		Pn	14 05 43.4	+0.3
CESI	comp=E,4845µm,0.8s			AML	AML			
CESI	comp=E,5085µm,0.8s			AML	AML			
CESI	comp=N,6915µm,0.6s			AML	AML			
CESI	comp=N,6855µm,0.6s			AML	AML			
SENI	Senigallia	5.26	299	P		Pn	14 05 42.9	-0.3
JMB	Yambol	5.29	75	P		Pn	14 05 46.5	+2.9
SNTG	Esanatoglia	5.29	293	P		Pn	14 05 43.1	-0.6
SNTG	comp=N,3885µm,1.0s			AML	AML			
SNTG	comp=N,3840µm,1.0s			AML	AML			
SNTG	comp=E,2705µm,1.2s			AML	AML			
SNTG	comp=E,2680µm,0.7s			AML	AML			
CNKL	anakkale-Mer	5.31	102	P		Pn	14 05 46.2	+2.3
CNKL				P		Pn	14 05 46.3	+2.4
CNKL				S		Sn	14 06 43.5	-0.9
KOCA	Canakkale, Ayv	5.32	108	P		Pn	14 05 46.2	+2.2
AGST	Augusta-Monte	5.32	221	P		Pn	14 05 41.1	-2.9
AGST	comp=N,6155µm,1.1s			AML	AML			
AGST	comp=E,4915µm,0.6s			AML	AML			
GALF	Gagliano Caste	5.33	229	⇓P		Pn	14 05 44.0	-0.3
GALF	comp=E,1176µm,1.1s			AML	AML			
GALF	comp=E,10840µm,0.8s			AML	AML			
GALF	comp=N,1415µm,1.1s			AML	AML			
GALF	comp=N,12550µm,0.9s			AML	AML			
HAGA	Augusta	5.34	222	P		Pn	14 05 41.4	-2.8
HAGA	comp=N,2485µm,1.4s			AML	AML			
HAGA	comp=E,2310µm,0.8s			AML	AML			
EZN	Ezine	5.34	104	⇓P		Pn	14 05 47.2	+2.9
EZN	Ezine	5.34	104	P		Pn	14 05 47.1	+2.9
KESN	Edirne-Kesan	5.37	93	P		Pn	14 05 47.3	+2.3
KESN				S		Sn	14 06 45.3	-1.0
ARVD	Arcevia	5.38	296	⇓P		Pn	14 05 44.3	-0.5
ARVD	comp=E,3250µm,0.8s			AML	AML			
ARVD	comp=N,2390µm,1.0s			AML	AML			
CESX	Cesi	5.38	286			Pn	14 05 44.9	-0.1
CESX	Cesi	5.38	286	P		Pn	14 05 45.3	+0.4
CESX	comp=N,3985µm,1.5s			AML	AML			
CESX	comp=E,4130µm,0.4s			AML	AML			
PLLN	Pollina	5.39	233	P		Pn	14 05 44.0	-1.1
PLLN	comp=E,5150µm,0.9s			AML	AML			
PLLN	comp=N,4750µm,1.0s			AML	AML			
ASSB	Assisi San Ben	5.43	290	P		Pn	14 05 45.8	+0.2
ARR	Arges	5.43	41	⇓P		Pn	14 05 48.5	+2.9
FOSV	Fossato di Vic	5.43	293	⇓P		Pn	14 05 45.2	-0.4
MOMA	Monte Martano	5.43	288	P		Pn	14 05 46.0	+0.4
HLNI	Lentini	5.43	224	P		Pn	14 05 42.1	-3.4
HLNI	comp=E,2605µm,0.6s			AML	AML			
HLNI	comp=N,3765µm,0.6s			AML	AML			
CAGR	Agira	5.43	228	P		Pn	14 05 46.2	+0.6
CAGR	comp=N,9025µm,1.2s			AML	AML			
CAGR	comp=E,6715µm,1.2s			AML	AML			
RIY	Rijeka	5.45	318	*e*Pn		Pn	14 05 45.9	+0.2
SSFR	Montelago di S	5.46	295	P		Pn	14 05 45.6	-0.4
TNR	Turnu Rosu	5.47	37	⇑P		Pn	14 05 49.0	+2.9
TNR				⇑S		Sn	14 06 54.4	+6.1
TNR	Turnu Rosu	5.47	37	P		Pn	14 05 49.0	+2.9
CSLB	Castelbuono	5.48	233	⇓P		Pn	14 05 45.3	-1.0
SSY	Sortino	5.48	221	P		Pn	14 05 43.0	-3.3
ATCC	AVT- Casa Cast	5.48	292	⇓P		Pn	14 05 46.3	0.0
SGRR	Singureni	5.49	56	⇑P		Pn	14 05 49.3	+3.0
SGRR				⇑S		Sn	14 06 53.7	+5.0
BEHE	Becsehely	5.50	339			Pn	14 05 47.2	+0.7
BEHE	Becsehely	5.50	339	⇑*i* Pn		Pn	14 05 47.0	+0.5
BEHE				*e*Sn		Sn	14 06 45.1	-3.9
PETRA	Petralia Sopra	5.51	232	P		Pn	14 05 45.7	-1.2
BAYC	CANAKKALE_Bayr	5.53	105	P		Pn	14 05 49.3	+2.4
BAYC				S		Sn	14 06 47.8	-1.9
FRON	Frontone	5.53	295	P		Pn	14 05 46.3	-0.6
CIOR	Ciorogarla	5.54	54	⇑P		Pn	14 05 50.6	+3.5
MPAG	Monte Paganucc	5.55	296	⇓P		Pn	14 05 46.7	-0.5
LOZB	Loznitsa	5.55	66	⇑P		Pn	14 05 50.9	+3.7
BRJN	Brijuni	5.56	312	⇑*i* Pn		Pn	14 05 46.9	-0.4
BRJN				*e*Sn		Sn	14 06 46.0	-4.4
BRJN	Brijuni	5.56	312	P		Pn	14 05 47.2	-0.1
RAZG	Razgrad	5.56	64	⇑P		Pn	14 05 50.9	+3.5
ATFO	Monte Foce - G	5.58	293	⇓P		Pn	14 05 47.5	-0.2
MURB	Monte Urbino	5.58	292	P		Pn	14 05 47.8	+0.1
VAE	Valguarnera	5.58	228	Pn		Pn	14 05 48.0	+0.2
VAE	comp=E,48nm,0.3s,baz=63,slow=7.3,SNR=11			Sn		Sn	14 06 45.3	-6.0
VAE	comp=E,30nm,0.3s,baz=120,slow=21,SNR=3.9			LR	LR		14 08 49.8	
	comp=E,41µm,18.1s,baz=87,slow=48							

PESA	Pesaro	5.62	300	P		Pn	14 05 47.6	-0.4
KOGS	Kog	5.63	336	P		Pn	14 05 48.4	+0.1
PIEI	Pieia	5.67	295	P		Pn	14 05 48.2	-0.7
RESU	Resuttano	5.67	231	⇓P		Pn	14 05 49.7	+0.7
ATTE	AVT- Monte Tez	5.69	291	P		Pn	14 05 49.3	+0.1
VOIR		5.69	42	⇑P		Pn	14 05 52.1	+2.9
VOIR		5.69	42	P		Pn	14 05 52.0	+2.9
ATVO	AVT- Monte Val	5.70	293	P		Pn	14 05 49.2	-0.1
SOLUN	Solunto	5.71	237	P		Pn	14 05 48.4	-1.0
BARO	Barbarano Roma	5.72	281	P		Pn	14 05 50.0	+0.6
ATPI	Pietralunga -	5.73	294	⇓P		Pn	14 05 50.0	+0.3
PE3	Peglio	5.75	296	P		Pn	14 05 49.9	0.0
APEC	Apecchio	5.75	295	P		Pn	14 05 49.8	-0.2
SART	Tekirdag	5.77	94	P		Pn	14 05 53.6	+3.4
CEY	Cerknica	5.77	321	*e*Pn		Pn	14 05 50.5	+0.2
CPTP	Pietraperzia	5.78	229	P		Pn	14 05 51.7	+1.3
ATMI	Monte Miggiano	5.78	292	P		Pn	14 05 51.3	+0.9
MGAB	Montegabbione	5.78	288	P		Pn	14 05 50.4	-0.1
AYVA	Ayvalik	5.79	108	P		Pn	14 05 53.3	+2.8
AYVA				S		Sn	14 07 00.0	+3.9
RAFF	Raffo Rosso	5.80	226			Pn	14 05 49.1	-1.5
RAFF	Raffo Rosso	5.80	226	P		Pn	14 05 48.7	-1.9
HPAC	Pachino	5.83	218	P		Pn	14 05 48.2	-2.8
SKDS	Skadanscina	5.84	318	*i* Pn		Pn	14 05 50.3	-0.8
SKDS				*i* Sn		Sn	14 06 54.7	-2.7
SKDS	Skadanscina	5.84	318	*e*Pn		Pn	14 05 50.4	-0.8
BADI	Badiali	5.86	294	P		Pn	14 05 52.0	+0.6
ISPIC	ISPICA	5.86	220	P		Pn	14 05 48.3	-3.1
RSM	Repubblica di	5.87	298	P		Pn	14 05 51.6	0.0
DRGR		5.87	21	⇓P		Pn	14 05 52.9	+1.3
DRGR		5.87	21	*e*Pn		Pn	14 05 53.0	+1.3
DRGR		5.87	21	P		Pn	14 05 52.9	+1.3
MARR	Marisel-Cluj	5.89	24	⇑P		Pn	14 05 53.5	+1.6
PLAR	PLOIESTI	5.89	51	⇑P		Pn	14 05 55.8	+4.0
SULR		5.89	54	⇑P		Pn	14 05 55.6	+3.7
MDB	Medias	5.90	34	⇓P		Pn	14 05 55.0	+3.1
MDB	Medias	5.90	34	P		Pn	14 05 55.0	+3.1
CPGN	Carpegna, Ital	5.91	297	P		Pn	14 05 52.6	+0.4
PARC	Parchiule	5.91	295	⇑P		Pn	14 05 52.2	+0.1
SACS	San Casciano d	5.92	287	P		Pn	14 05 51.5	-0.8
BORR	Bors	5.94	15	⇓P		Pn	14 05 55.0	+2.5
LATE	Laterza	5.95	285	P		Pn	14 05 52.8	+0.1
PHSR	Pinarhisar	5.95	85	⇓P		Pn	14 05 55.9	+3.2
LJU	Ljubljana	5.95	324	*i* Pn		Pn	14 05 52.7	-0.1
LJU	Ljubljana	5.95	324	*e*Pn		Pn	14 05 53.1	+0.4
LJU	Ljubljana	5.95	324	P		Pn	14 05 52.6	-0.1
SSP9	Sansepolcro	5.95	294	P		Pn	14 05 53.5	+0.7
CORL	Corleone	5.97	237	P		Pn	14 05 52.2	-0.8
BUHA	Balikesir, Bur	6.00	106	P		Pn	14 05 56.5	+3.2
BUHA				S		Sn	14 07 02.2	+0.9
NEF	NEVSHA	6.00	69	P		Pn	14 05 56.9	+3.6
CROCE	Santa Croce Ca	6.00	223	P		Pn	14 05 51.0	-2.4
PRD	Provadia	6.06	70	P		Pn	14 05 57.3	+3.1
CLTA	Licata	6.07	228	P		Pn	14 05 54.3	0.0
CJR	Cluj-Napoca	6.08	27	⇑P		Pn	14 05 57.6	+3.2
CJR	Cluj-Napoca	6.08	27	P		Pn	14 05 57.6	+3.2
TRI	Trieste	6.08	318			Pn	14 05 52.4	-2.0
TRI	Trieste	6.08	318	P		Pn	14 05 52.4	-2.0
TRI	Trieste	6.08	318	P		Pn	14 05 52.4	-2.0
SF04	Casetta	6.09	287	P		Pn	14 05 54.8	+0.1
CBBR	Cluj-Babes-Bol	6.11	26	⇑P		Pn	14 05 58.3	+3.5
LEHL	Lehliu	6.14	57	⇓P		Pn	14 05 58.8	+3.5
MBFT	Monte Bonifato	6.16	239	P		Pn	14 05 55.1	-0.5
MLR	Muntele Rosu	6.19	46			Pn	14 05 59.8	+3.8
MLR	Muntele Rosu	6.19	46	Pn		Pn	14 05 58.8	+2.7
MLR	comp=E,52nm,0.3s,baz=222,slow=5.1,SNR=225			Sn		Sn	14 07 01.4	-4.8
MLR	baz=260,slow=18			LR	LR		14 09 00.8	
MLR	comp=E,51µm,19.1s,baz=152,slow=45			AML	AML			
MLR	Muntele Rosu	6.19	46	⇑P		Pn	14 06 00.3	+4.1
MLR	Muntele Rosu	6.19	46	*e*Pn		Pn	14 05 59.9	+3.8
MLR	Muntele Rosu	6.19	46	*e*Pn		Pn	14 06 00.2	+4.1
ZEDA	zmir-Bergama	6.20	110	P		Pn	14 05 59.5	+3.3
DOPR	Dopca	6.23	40	⇑P		Pn	14 05 59.9	+3.4
ARCI	Arcidosso	6.23	287	P		Pn	14 05 57.4	+0.8
SOKA	Soboth	6.25	330	*i* Pn		Pn	14 05 56.9	-0.1
SOKA	comp=E,173nm,0.6s,SNR=134			*i* Sn		Sn	14 07 08.6	+0.9
SOKA	comp=E,105nm,0.5s							
SFI	Santa Sofia	6.26	297	P		Pn	14 05 57.0	0.0
ASQU	Asqua	6.26	295	P		Pn	14 05 56.8	-0.3
TGMR	Targu Mures	6.27	33	⇓P		Pn	14 06 00.1	+3.1
ISR	Istrita	6.31	51	⇑P		Pn	14 06 01.4	+3.7
ISR	Istrita	6.31	51	P		Pn	14 06 01.3	+3.7
OBKA	Obir	6.31	326	*i* Pn		Pn	14 05 57.5	-0.2
OBKA	comp=E,110nm,0.3s,SNR=100			*i* Sn		Sn	14 07 09.8	+0.8
OBKA	comp=E,376nm,0.3s							
OBKA	Obir	6.31	326	*e*Pn		Pn	14 05 58.6	+0.9
NEHR	Nehoiu	6.34	48	⇓P		Pn	14 06 02.1	+4.0
SABO	M.te Sabotino	6.35	319			Pn	14 05 57.3	-0.8
SABO	M.te Sabotino	6.35	319	P		Pn	14 05 57.3	-0.8
GORS	Gorjuse	6.40	323	*i* Pn		Pn	14 05 58.2	-0.7
LMD	Lutirano	6.42	298	⇑P		Pn	14 05 59.0	-0.2
BOSR	Bodos	6.44	41	⇓P		Pn	14 06 02.5	+3.1
DRE	Drenchia	6.46	320	⇑P		Pn	14 05 59.1	-0.7
STEP	BALIKESIR_Sava	6.50	105	P		Pn	14 06 03.9	+3.5
STEP				S		Sn	14 07 15.8	+2.0
CSNT	Castellina Chi	6.51	292	P		Pn	14 05 60.0	-0.4
IMOL	Imola, Italy	6.51	300	P		Pn	14 06 00.1	-0.2
OZUR		6.51	41	⇑P		Pn	14 06 03.3	+2.8
BAND	Balkesir-Ban	6.52	96	P		Pn	14 06 03.1	+2.6
BAND				S		Sn	14 07 10.8	-3.3
BAND	Balkesir-Ban	6.52	96	⇑P		Pn	14 06 03.7	+3.2
SRO	Srobarova	6.52	352	*e*P		Pn	14 06 02.7	+2.3
SRO				*e*			14 07 21.8	
CTYL	Yalikoy Yolu	6.53	86	⇑P		Pn	14 06 04.7	+4.0
AMRR	Amara	6.53	58	⇓P		Pn	14 06 03.7	+3.0
AMRR	Amara	6.53	58	P		Pn	14 06 03.6	+3.0
BLKS	Balkesir-Sus	6.53	100	P		Pn	14 06 03.9	+3.2
BLKS				S		Sn	14 07 14.9	+0.4
BKES	Balkesir-Mer	6.54	102	P		Pn	14 06 04.3	+3.5
BKES				S		Sn	14 07 16.0	+1.2
OSSC	Osservatorio P	6.55	292	P		Pn	14 06 00.7	-0.3
COVR	Voineasa-Covas	6.56	45	⇓P		Pn	14 06 04.6	+3.5
PSZ	Piszkesteto	6.56	2			Pn	14 06 01.1	0.0
PSZ	Piszkesteto	6.56	2	⇑P		Pn	14 06 02.1	+1.0
PSZ	Piszkesteto	6.56	2	*e*P		Pn	14 06 02.2	+1.0
PSZ	Piszkesteto	6.56	2	P		Pn	14 06 01.1	0.0
PSZ	Piszkesteto	6.56	2	*e*Pn		Pn	14 06 01.8	+0.7
ARSA	Arzberg	6.58	335			Pn	14 06 01.1	-0.2
ARSA	Arzberg	6.58	335	*i* Pn		Pn	14 06 01.3	+0.1
ARSA	Arzberg	6.58	335	*e*Pn		Pn	14 06 01.5	+0.2
ARSA	Arzberg	6.58	335	*e*Pn		Pn	14 06 02.5	+1.2
BRIS	BRISIGHELLA	6.58	298	P		Pn	14 05 59.1	-2.2
TURR	Turia	6.60	43	⇓P		Pn	14 06 04.9	+3.2
ICOR	Ion Corvin	6.63	63	⇑P		Pn	14 06 05.6	+3.6
SEI	Scarperia	6.65	297	P		Pn	14 06 02.6	+0.3
BISRR	Bisoca	6.65	49	⇑P		Pn	14 06 06.3	+4.0
CASP	Castiglione de	6.66	285	P		Pn	14 06 01.6	-0.8
ARCR	ARCALIA	6.66	29	⇑P		Pn	14 06 06.1	+3.6
PSN	Preselentsi	6.70	67	P		Pn	14 06 06.5	+3.5
GRER		6.71	51	⇓P		Pn	14 06 07.2	+4.2
RONA	Rosalia, Austr	6.76	341	*i* Pn		Pn	14 06 04.5	+0.6
MYKA	comp=E,56nm,0.4s,SNR=19 Terra Mystica	6.80	323	*i* Pn		Pn	14 06 03.8	-0.6
MYKA	comp=E,49nm,0.2s,SNR=50			*i* Sn		Sn	14 07 21.1	0.0
WDD	comp=E,121nm,0.4s Wied Dalam	6.80	217	P		Pn	14 06 01.8	-2.5
PLOR	Plostina	6.80	46	⇑P		Pn	14 06 07.8	+3.4
PLOR	Plostina	6.80	46	P		Pn	14 06 07.8	+3.4
JOSR	Joseni	6.83	37	⇓P		Pn	14 06 08.5	+3.6
KALB	Balgarevo	6.84	70	⇑P		Pn	14 06 09.0	+4.1
VRI	Vrincioaia	6.85	47	⇑P		Pn	14 06 08.4	+3.3
VRI	Vrincioaia	6.85	47	P		Pn	14 06 08.4	+3.3
CVDA	Cernavoda	6.87	62	⇑P		Pn	14 06 09.1	+3.8
BMR	Baia Mare	6.90	22	⇑P		Pn	14 06 07.6	+2.0
BMR	Baia Mare	6.90	22	P		Pn	14 06 07.6	+2.0
HARR	Harsova	6.95	59	⇓P		Pn	14 06 09.3	+2.9
HARR	Harsova	6.95	59	P		Pn	14 06 09.2	+2.9
TLBR	Topalu	6.96	60	⇓P		Pn	14 06 10.0	+3.5
ODBI	Odobesti	6.97	48	⇑P		Pn	14 06 10.9	+4.2
ONER	Baraj Valea Uz	6.98	42	⇑P		Pn	14 06 10.4	+3.6
DURS	Dursunbey	6.99	102	P		Pn	14 06 10.4	+3.4
DURS				S		Sn	14 07 26.4	+0.6
ZST	Bratislava	7.06	346	*e*P		Pn	14 06 10.9	+3.0
ZST				*e*			14 07 28.2	

MANR	Mangalia	7.07	67	⇑P		Pn	14 06 11.8	+3.8
TSMN	Mangalia Port-	7.07	67	⇓P		Pn	14 06 12.2	+4.2
MFTR	Murfatlar	7.07	64	⇓P		Pn	14 06 12.0	+4.0
CONA	Conrad Observa	7.09	339	*i* Pn		Pn	14 06 07.9	-0.4
PANC	comp=E,115nm,0.7s,SNR=15 Panciu	7.09	48	⇓P		Pn	14 06 12.0	+3.7
KECS	Kecovo	7.15	5	*e*P		Pn	14 06 11.0	+1.9
KECS				*e*			14 07 29.5	
TIRR	Tirgusor	7.17	61			Pn	14 06 11.7	+2.4
TIRR	Tirgusor	7.17	61	⇑P		Pn	14 06 12.5	+3.1
TIRR	Tirgusor	7.17	61	P		Pn	14 06 11.7	+2.4
TIRR	Tirgusor	7.17	61	P		Pn	14 06 11.2	+1.8
TIRR	comp=E,13nmcomp=E,9µmcomp=E,512nm,0.8s Tirgusor	7.17	61	*e*Pn		Pn	14 06 12.5	+3.1
EFOR	EFORIE	7.18	65	⇓P		Pn	14 06 13.4	+3.9
BERU	Beregovo	7.20	16	P		Pn	14 06 10.9	+1.0
MODS	Modra-Piesok	7.21	348	*e*P		Pn	14 06 11.3	+1.4
MODS				*e*			14 07 31.5	
TSCT	Constanta Port	7.22	64	⇑P		Pn	14 06 13.4	+3.2
TUDR		7.23	51	⇑P		Pn	14 06 13.8	+3.5
TESR	Tescani	7.23	42	⇑P		Pn	14 06 14.3	+4.0
SCHLR	Schela	7.26	53	⇓P		Pn	14 06 13.4	+2.7
IZVR	Izvoarele	7.26	52	⇓P		Pn	14 06 13.1	+2.5
KBA	Koelnbreinsper	7.27	324	*i* Pn		Pn	14 06 10.7	-0.2
KBA	comp=E,46nm,0.3s,SNR=45			*i* Sn		Sn	14 07 33.6	+0.7
KBA	comp=E,222nm,0.5s Koelnbreinsper	7.27	324	*e*Pn		Pn	14 06 11.8	+0.8
SCHL	Schela	7.28	53	⇑P		Pn	14 06 14.5	+3.6
CFR	Carcaliu	7.30	56	⇑P		Pn	14 06 13.9	+2.7
CFR	Carcaliu	7.30	56	P		Pn	14 06 13.9	+2.7
SMOL	Smolenice	7.32	349	*e*P		Pn	14 06 15.0	+3.6
NEGRR	Negrea	7.32	52	⇑P		Pn	14 06 15.2	+3.7
TPGR	Topolog	7.33	59	⇓P		Pn	14 06 14.6	+2.9
ULDT	Uludag	7.34	96	P		Pn	14 06 15.3	+3.4
VLC	Villacollemand	7.34	295	S		Sn	14 07 32.9	-1.4
VLC				P		Pn	14 06 10.2	-1.6
DEMI	Demirci	7.35	105	P		Pn	14 06 14.5	+2.6
DEMI				S		Sn	14 07 35.3	+0.7
IDI	Anoyia	7.35	144	P		Pn	14 06 10.8	-1.2
IDI				S		Sn	14 07 32.1	-2.5
IDI	Anoyia	7.35	144			Pn	14 06 12.0	+0.1
IDI	Anoyia	7.35	144	Pn		Pn	14 06 11.5	-0.5
IDI	comp=E,66nm,0.4s,baz=322,slow=13,SNR=53			Sn		Sn	14 07 29.4	-5.2
GHRR	comp=E,87nm,0.3s,baz=155,slow=21,SNR=7.0	7.35	48	⇑P		Pn	14 06 15.8	+4.0
BRIU	Brid	7.39	18	P		Pn	14 06 14.2	+1.8
RAKU	Rahkiv	7.41	24	P		Pn	14 06 17.0	+4.2
MUKU	Mukachevo	7.42	16	P		Pn	14 06 14.6	+1.8
ABTA	Abfaltersbach	7.42	319	*i* Pn		Pn	14 06 12.3	-0.6
ABTA	comp=E,130nm,0.4s,SNR=50			*i* Sn		Sn	14 07 34.3	-2.1
BURAR	comp=E,452nm,0.7s Bucovina Array	7.43	31			Pn	14 06 16.1	+3.0
BURAR	Bucovina Array	7.43	31	⇓P		Pn	14 06 16.8	+3.7
BURAR	Bucovina Array	7.43	31	P		Pn	14 06 16.7	+3.7
HOLU	Holmets	7.43	14	P		Pn	14 06 14.7	+1.7
BUR08	Bucovina Ar. S	7.45	31			Pn	14 06 16.5	+3.2
MANT	Manisa	7.45	110	P		Pn	14 06 15.5	+2.0
TATR	Tatarca	7.46	53	⇑P		Pn	14 06 17.1	+3.7
SCTR	Scanteiesti	7.47	52	⇓P		Pn	14 06 17.7	+4.2
UZHM	Uzhgorod	7.51	14	P		Pn	14 06 15.6	+1.5
MOA	Molln	7.52	331	*i* Pn		Pn	14 06 14.8	+0.5
MOA	comp=E,74nm,0.4s,SNR=68			*i* Sn		Sn	14 07 39.6	+0.8
MOA	comp=E,127nm,0.5s							
MOA	Molln	7.52	331	*e*Pn		Pn	14 06 16.0	+1.7
MOA	Molln	7.52	331	*e*Pn		Pn	14 06 15.5	+1.3
SILT	Sile	7.57	88	⇑P		Pn	14 06 18.6	+3.7
BIR	Birlad	7.59	47	⇑P		Pn	14 06 19.1	+3.8
BIR	Birlad	7.59	47	P		Pn	14 06 19.0	+3.8
VLDR	Vladesti	7.61	51	⇓P		Pn	14 06 19.2	+3.7
JAVC	Velka Javorina	7.62	350	*e*PN		Pn	14 06 18.2	+2.5
JAVC	Velka Javorina	7.62	350	*e*Pn		Pn	14 06 18.3	+2.7
BIOA	Bad Ischl, Aus	7.63	328	*e*Pn		Pn	14 06 15.9	+0.2
EMET	comp=E,197nm,0.7s,SNR=75 Ktahya-Emet	7.68	102	P		Pn	14 06 20.5	+4.0
TLCR		7.73	57	⇓P		Pn	14 06 20.8	+3.7
TLCR		7.73	57	P		Pn	14 06 20.7	+3.7
LANS	Liptovska Anna	7.79	359	*e*P		Pn	14 06 21.2	+3.2
KOLS	Kolonicke sedl	7.80	13	*e*P		Pn	14 06 20.5	+2.4
KOLS				*e*			14 07 44.9	
LESA	Schwarzleotal	7.83	323	*i* Pn		Pn

MILM eS Sn 14 08 04.0 -2.2
MILM LgM 14 09 51.0
comp=Z,55µm,15.0s
MILM LRM MLR 14 10 47.0
comp=Z,74µm,16.0s
MILM Milestii Mici 8.64 47 eP Pn **14 06 31.0 +1.5**
MILM eS Sn **14 08 04.0 -2.2**
MILM MLR MLR
comp=Z,74µm,16.0s
KMPD K-Podol'skiy 8.68 32 P Pn **14 06 31.7 +1.6**
KMPD P Pn **14 06 31.7 +1.6**
KIS Kishinev 8.69 46 eP Pn **14 06 32.0 +1.8**
comp=Z,1µm,2.6s
KIS eS Sn **14 08 06.0 -1.5**
KIS eL L 14 09 46.0
KIS LgM 14 10 37.0
comp=Z,23µm,16.5s
KIS LRM MLR 14 10 46.0
comp=Z,31µm,17.0s
KIS Kishinev 8.69 46 eP Pn **14 06 32.0 +1.8**
KIS eS Sn **14 08 06.0 -1.5**
KIS pmax pmax
comp=Z,1µm,2.6s
KIS MLR MLR
comp=Z,31µm,17.0s
RAC Raciborz 8.78 354 eP Pn **14 06 33.8 +2.3**
RAC AMS AMS 14 10 38.0
comp=Z,51nm,15.6s
RAC Raciborz 8.78 354 eP Pn **14 06 33.8 +2.3**
RAC MLR MLR
comp=Z,51µm,15.6s
RETA Reutte 8.80 317 *i* Pn Pn **14 06 31.4 -0.5**
comp=Z,54nm,0.6s,SNR=28
RETA *i* Sn Sn **14 08 09.5 -0.8**
comp=Z,167nm,0.6s
DAVOX Davos/Dischmat 8.85 311 Pn Pn **14 06 32.7 +0.1**
comp=Z,9.9nm,0.3s,baz=134,slow=14,SNR=44
DAVOX Sn Sn **14 08 10.8 -0.9**
comp=Z,22nm,0.3s,baz=349,slow=19,SNR=1.6
DAVOX LR LR 14 11 00.3
comp=Z,18µm,18.0s,baz=121,slow=45
comp=Z,42nm,0.4s
KHC Kasperske Hory 8.85 333 ePN Pn **14 06 32.6 0.0**
KHC eSN Sn **14 08 13.0 +1.4**
KHC AMS AMS 14 10 10.0
comp=Z,48µm,21.0s
KHC Kasperske Hory 8.85 333 eP Pn **14 06 32.6 0.0**
KHC *e* 14 08 13.0
KHC MLR MLR
comp=Z,48µm,21.0s
KHC Kasperske Hory 8.85 333 P Pn **14 06 32.2 -0.3**
comp=Z,2µmcomp=Z,142nm,1.1s
KHC Kasperske Hory 8.85 333 ePn Pn **14 06 32.5 0.0**
OJC Ojcow 8.86 1 eP Pn **14 06 35.0 +2.4**
OJC Ojcow 8.86 1 Pn **14 06 34.6 +2.0**
OJC Ojcow 8.86 1 P Pn **14 06 34.6 +2.0**
OJC Ojcow 8.86 1 P Pn **14 06 34.8 +2.2**
comp=Z,3µmcomp=Z,140nm,0.9s
ZVC Zvikov 8.93 337 ePN Pn **14 06 34.4 +0.9**
ZVC AMS AMS 14 10 10.0
comp=Z,44µm,14.1s
KRLC Kraliky 8.94 348 ePN Pn **14 06 35.4 +1.7**
KRLC AMS AMS 14 10 50.0
comp=Z,90µm,13.2s
KRLC Kraliky 8.94 348 eP Pn **14 06 35.4 +1.7**
KRLC MLR MLR
comp=Z,90µm,13.2s
TUE Stuetta 8.99 308 P Pn **14 06 35.0 +0.4**
comp=Z,13µmcomp=Z,1µm,0.7s
FUR Furstenfeldbru 9.02 322 ePn Pn **14 06 35.7 +1.0**
WET Wettzell 9.11 331 ePn Pn **14 06 35.3 -0.8**
ISP Isparta 9.14 109 eP Pn **14 06 40.0 +3.5**
ISP Isparta 9.14 109*c iP* Pn **14 06 40.0 +3.5**
ISP MLR MLR
comp=Z,50µm,13.0s
DAVA Damuels 9.14 314 *i* Pn Pn **14 06 37.0 +0.3**
comp=Z,74nm,0.4s,SNR=42
DAVA *i* Sn Sn **14 08 17.0 -1.8**
comp=Z,338nm,0.7s
DAVA Damuels 9.14 314 ePn Pn **14 06 37.6 +1.0**
SORM Soroca 9.19 40 ⇑P Pn **14 06 40.2 +3.1**
SORM Soroca 9.19 40 P Pn **14 06 40.2 +3.1**
UBR Ueberruh 9.27 316 ePn Pn **14 06 37.9 -0.3**
DPC Dobruska-Polom 9.28 347 ePN Pn **14 06 39.6 +1.3**
DPC AMS AMS 14 11 00.0
comp=Z,76µm,13.5s
DPC Dobruska-Polom 9.28 347 eP Pn **14 06 39.6 +1.3**
DPC MLR MLR
comp=Z,76µm,13.5s
DPC Dobruska-Polom 9.28 347 ePn Pn **14 06 39.7 +1.4**
PLONS Plons/SG 9.28 311 ePn Pn **14 06 38.6 +0.1**
PRU Pruhonice 9.33 339 ePN Pn **14 06 39.5 +0.5**
PRU AMS AMS 14 10 30.0
comp=Z,41µm,16.8s
PRU Pruhonice 9.33 339 eP Pn **14 06 39.5 +0.5**
PRU MLR MLR
comp=Z,41µm,16.8s
PRU Pruhonice 9.33 339 ePn Pn **14 06 39.7 +0.8**
PRA Prague 9.43 339 ePN Pn **14 06 41.4 +1.0**
PRA AMS AMS 14 10 40.0
comp=Z,43µm,16.5s
PRA Prague 9.43 339 eP Pn **14 06 41.4 +1.0**
PRA MLR MLR
comp=Z,43µm,16.5s
UPC Upice 9.48 346 ePN Pn **14 06 40.5 -0.6**
UPC AMS AMS 14 11 10.0
comp=Z,56µm,12.7s
UPC Upice 9.48 346 eP Pn **14 06 40.5 -0.6**
UPC MLR MLR
comp=Z,56µm,12.7s
OSTC Ostas 9.49 347 ePN Pn **14 06 42.7 +1.4**
OSTC AMS AMS 14 11 10.0
comp=Z,73µm,13.9s
OSTC Ostas 9.49 347 eP Pn **14 06 42.7 +1.4**
OSTC MLR MLR
comp=Z,73µm,13.9s
CHVC Chvalec 9.55 346 ePN Pn **14 06 43.9 +1.8**
CHVC AMS AMS 14 11 10.0
comp=Z,56µm,14.3s
CHVC Chvalec 9.55 346 eP Pn **14 06 43.9 +1.8**
CHVC MLR MLR
comp=Z,56µm,14.3s
WILA Wila 9.76 312 ePn Pn **14 06 45.1 +0.2**
KSP Ksiaz 9.76 348 eP Pn **14 06 46.1 +1.2**
KSP Ksiaz 9.76 348 P Pn **14 06 45.4 +0.5**
comp=Z,2µmcomp=Z,66nm,1.2s
KEST Kesra 9.80 238 Pn Pn **14 06 46.5 +0.9**
comp=Z,2.0nm,0.3s,baz=318,slow=6.4,SNR=15
KEST LR LR 14 11 45.2
comp=Z,46µm,18.3s,baz=62,slow=45
comp=Z,20nm,0.7s
KEST Kesra 9.80 238 P Pn **14 06 46.2 +0.5**
SNR=10
PVCC Panska Ves 9.81 341 ePN Pn **14 06 47.0 +1.4**
PVCC AMS AMS 14 10 50.0
comp=Z,35µm,16.8s
PVCC Panska Ves 9.81 341 eP Pn **14 06 47.0 +1.4**
PVCC MLR MLR
comp=Z,35µm,16.8s
ROTZ Rotzenmuhle 9.87 331 ePn Pn **14 06 46.2 -0.3**
RICC Richard 9.95 339 ePN Pn **14 06 47.7 +0.2**
RICC AMS AMS 14 11 00.0
comp=Z,32µm,14.7s
MANZ Manzenberg 10.09 331 ePn Pn **14 06 49.3 -0.2**
BNI Bardonecchia 10.13 296 Pn **14 06 48.6 -1.6**
BNI Bardonecchia 10.13 296 P Pn **14 06 48.6 -1.6**
ANTO Ankara 10.14 94 P Pn **14 06 54.2 +4.0**
ANTO Ankara 10.14 94 P Pn **14 06 53.0 +2.8**
comp=Z,1µmcomp=Z,65nm,1.1s
GRA1 Grafenberg Arr 10.19 328 Pn **14 06 48.6 -2.2**
GRF Grafenberg Arr 10.19 328 P Pn **14 06 48.6 -2.2**
GRF Grafenberg Arr 10.19 328 ePn Pn **14 06 49.6 -1.2**
GRFO Grafenberg 10.19 328 Pn **14 06 49.1 -1.7**
GRFO Grafenberg 10.19 328 P Pn **14 06 49.1 -1.7**
SULZ Cheisacher 10.27 311 ePn Pn **14 06 51.1 -0.8**
LUBAR Lubar, Ukraine 10.28 31 P Pn **14 06 54.0 +2.0**
BRG Berggiesshubel 10.29 340 ePn Pn **14 06 52.3 +0.2**
BRG Berggiesshubel 10.29 340 *i* P Pn **14 06 52.4 +0.2**
BRG Amp 14 06 54.1
comp=Z,36nm,1.1s
BRG Berggiesshubel 10.29 340 P Pn **14 06 56.6 +4.4**
BRG Amp 14 06 57.0
comp=Z,20nm,0.8s
BRG PP **PnPn** **14 06 60.0 +0.1**
BRG Amp 14 07 01.5
comp=Z,89nm,1.0s
BRG Berggiesshubel 10.29 340 S Sn **14 08 47.0 +0.3**
TANN Tannenbergstha 10.33 334 ePn Pn **14 06 53.9 +1.1**
BALST Balsthal 10.41 309 ePn Pn **14 06 52.8 -1.1**
STU Stuttgart 10.44 319 eP Pn **14 06 53.7 -0.5**
STU Stuttgart 10.44 319 ePn Pn **14 06 54.0 -0.2**
PLN Plauen 10.49 333 ePn Pn **14 06 55.0 +0.1**
BEL Belsk 10.51 4 eP Pn **14 06 58.4 +3.2**
BFO Black Forest 10.61 315 Pn **14 06 54.0 -2.6**
BFO Black Forest 10.61 315 ePn Pn **14 06 55.1 -1.4**
RNPP5 Staryi Chortor 10.78 22 P Pn **14 07 01.6 +2.8**
BR106 Keskin Array S 10.79 94 P Pn **14 07 02.4 +3.2**
comp=Z,646nmcomp=Z,76nm,1.2s
BR105 Keskin Array S 10.79 94 P Pn **14 07 02.5 +3.3**
comp=Z,772nmcomp=Z,92nm,0.7s
BR131 Keskin Array S 10.81 94 Pn **14 07 02.1 +2.8**
BR131 Keskin Array S 10.81 94 P Pn **14 07 00.1 +0.7**
SNR=22
BR131 Keskin Array S 10.81 94 P Pn **14 07 02.2 +2.8**
BRTR Keskin Array B 10.81 94 Pn Pn **14 07 02.5 +3.1**
BRTR Keskin Array B 10.81 94 Pn Pn **14 07 02.2 +2.8**
comp=Z,2.7nm,0.3s,baz=273,slow=12,SNR=68
BRTR Sn **Sn** **14 08 57.0 -2.7**
comp=Z,0.4nm,0.3s,baz=287,slow=20,SNR=2.9
BRTR LR LR 14 12 12.8
comp=Z,18µm,18.4s,baz=287,slow=43
comp=Z,27nm,0.8s
BR104 Keskin Array S 10.81 94 P Pn **14 07 02.9 +3.4**
comp=Z,706nmcomp=Z,95nm,0.9s
MOX Moxa 10.81 332 P Pn **14 06 58.4 -0.9**
MOX Moxa 10.81 332 ePn Pn **14 06 58.6 -0.7**
RNPP8 Varash 10.87 21 P Pn **14 07 02.3 +2.3**
R9F13 Warsaw-Wawer 10.91 5 eP Pn **14 07 04.8 +4.1**
R9F13 e 14 07 14.6
R9F13 ePg 14 07 51.1
R9F13 eS Sn 14 08 19.0 -43
CLL Collm 10.94 338 eP Pn **14 07 02.0 +1.0**
CLL Collm 10.94 338 P Pn **14 07 01.7 +0.7**
comp=Z,929nmcomp=Z,63nm,0.9s
CLL Collm 10.94 338 ePn Pn **14 07 02.0 +1.0**
CLL *ex* x 14 07 08.0
CLL *ex* x 14 07 20.0
CLL *e*Sn Sn 14 08 46.0 -17
CLL *e*Sb 14 09 35.0
CLL *ex* x 14 09 52.0
CLL *e*Sg 14 10 06.0
CLL Lmax 14 11 00.0
RNPP9 Sopachiv 10.95 21 P Pn **14 07 02.7 +1.6**
MI28 Mi28,Pidlybu 11.08 28 P Pn **14 07 05.3 +2.4**
KIRS Kirsehir-Merke 11.16 97 ⇑P Pn **14 07 08.6 +4.3**
SIM Simferopol' 11.19 66*c iP* Pn **14 07 06.6 +2.1**
SIM *e*S **Sn** **14 09 12.0 +3.2**
SIM pmax pmax
comp=Z,104nm,0.7s
AK13 Malin Array Si 11.34 32 P Pn **14 07 08.2 +1.7**
AK07 Malin Array Si 11.35 33 P Pn **14 07 08.4 +1.7**
AK14 Malin Array Si 11.38 32 P Pn **14 07 08.7 +1.7**
AK06 Malin Array Si 11.38 33 P Pn **14 07 08.7 +1.7**
AK17 Malin Array Si 11.40 32 P Pn **14 07 09.0 +1.7**
AK12 Malin Array Si 11.40 32 P Pn **14 07 09.1 +1.7**
AK05 Malin Array Si 11.40 32 P Pn **14 07 09.1 +1.7**
AK16 Malin Array Si 11.40 32 P Pn **14 07 09.1 +1.7**
AK20 Malin Array Si 11.42 32 P Pn **14 07 09.5 +1.9**
AK18 Malin Array Si 11.43 32 P Pn **14 07 09.6 +1.9**
AK15 Malin Array Si 11.43 32 P Pn **14 07 09.7 +1.9**
AK09 Malin Array Si 11.43 33 P Pn **14 07 09.7 +1.9**
AK02 Malin Array Si 11.44 32 P Pn **14 07 09.7 +1.9**
AK11 Malin Array Si 11.44 32 P Pn **14 07 09.7 +1.9**
AK08 Malin Array Si 11.44 33 P Pn **14 07 09.7 +1.9**
AK22 Malin Array Si 11.46 32 P Pn **14 07 10.1 +1.9**
AK21 Malin Array Si 11.46 32 P Pn **14 07 10.1 +1.9**
AK01 Malin Array Si 11.46 32 P Pn **14 07 10.1 +1.9**
KIEV Kiev 11.46 32 Pn **14 07 08.8 +0.6**
KIEV Kiev 11.46 32 *i* P Pn **14 07 10.4 +2.2**
SNR=22
KIEV Kiev 11.46 32 P Pn **14 07 08.8 +0.6**
AKASG Malin Array Be 11.48 32 Pn Pn **14 07 09.8 +1.5**
AKASG Malin Array Be 11.48 32 Pn Pn **14 07 08.6 +0.3**
comp=Z,2.9nm,0.3s,baz=225,slow=13,SNR=47
AKASG LR LR 14 12 22.8
comp=Z,17µm,19.3s,baz=208,slow=42
comp=Z,13nm,0.7s
AKBB Malin Array Si 11.48 32*ce*P Pn **14 07 10.5 +2.1**
SSB Saint Sauveur 11.65 295 Pn **14 07 08.1 -2.7**
SSB Saint Sauveur 11.65 295 P Pn **14 07 08.1 -2.7**
TNS Taunus Mts 11.79 323 ePn Pn **14 07 12.3 -0.4**
RUE Ruedersdorf 11.81 342 eP Pn **14 07 13.2 +0.3**
GKP Gorka Klasztor 12.02 353 eP Pn **14 07 16.4 +0.6**
GKP Gorka Klasztor 12.02 353 eP Pn **14 07 17.6 +1.8**
KASTN Kahler Asten 12.51 326 ePn Pn **14 07 21.7 -0.8**
CSS Mathiatis 12.54 116 Pn **14 07 25.1 +2.1**
CSS Mathiatis 12.54 116 P Pn **14 07 25.1 +2.1**
comp=Z,3µmcomp=Z,219nm,1.4s
CSS Mathiatis 12.54 116 P Pn **14 07 25.4 +2.3**
WLF Walferdange 12.55 316 P Pn **14 07 22.4 -0.7**
WLF Walferdange 12.55 316 *d*P Pn **14 07 23.5 +0.4**
WLF Walferdange 12.55 316 ePn Pn **14 07 25.1 +2.0**
ETOS Mallorca 12.87 268 P Pn **14 07 26.8 -0.7**
SUW Suwalki 12.88 9 eP Pn **14 07 30.6 +3.1**
SUW Suwalki 12.88 9 eP Pn **14 07 30.2 +2.6**
BHOU Houvegnez 13.05 318 *d*P Pn **14 07 28.7 -1.2**
comp=Z,34nm,1.0s
BTNL Ternell 13.13 319 *d*P Pn **14 07 31.4 +0.4**
comp=Z,35nm,1.0s
MEM Membach 13.21 319 *d*P Pn **14 07 33.1 +1.1**
comp=Z,54nm,0.9s
MEM *d*S Sn **14 09 56.2 -1.9**
RCHB Rochefort 13.33 316 *d*P Pn **14 07 32.5 -1.2**
comp=Z,42nm,0.9s
BCLA Clavier 13.45 317 *d*P Pn **14 07 32.0 -3.2**
comp=Z,26nm,0.9s
ANN Anapa 13.48 69 eP Pn **14 07 35.1 -0.6**
ANN eS Sn **14 10 04.8 +0.2**
ANN pmax pmax
comp=Z,146nm,1.1s
ANN pmax pmax
comp=E,77nm,0.8s
ANN pmax pmax
comp=N,66nm,1.3s
ANN MLR MLR
comp=E,11µm,15.0s
ANN MLR MLR
comp=Z,10µm,13.0s
ANN MLR MLR
comp=N,12µm,14.0s
BGES Gesves 13.54 317 *d*P Pn **14 07 35.6 -0.9**
comp=Z,36nm,1.0s
DOU Dourbes 13.63 315 *d*P Pn **14 07 35.7 -2.0**
comp=Z,37nm,0.9s
BMRD Maredsous 13.65 316 *d*P Pn **14 07 36.7 -1.4**
comp=Z,36nm,0.8s
UCC Uccle 14.15 317 *d*P Pn **14 07 45.8 +0.9**
comp=Z,33nm,1.1s
EIBI Ibiza 14.15 267 P Pn **14 07 43.4 -1.6**
MNK Minsk 14.26 20 *i* P Pn **14 07 47.7 +1.4**
comp=E,94nm,0.7s,baz=206
MNK *i* P Pn **14 07 47.7 +1.4**
comp=N,4.0nm,0.7s
MNK *i* P Pn **14 07 47.7 +1.4**
comp=Z,87nm,0.6s
MNK *i* PP **PnPn** **14 07 55.7 +1.5**
MNK *i* S Sn **14 10 26.9 +3.3**
MNK *i* SS **S** **14 10 40.6 -3.2**
MNK *i* LQ LQ 14 12 06.4
MNK *i* LR LR 14 12 16.2
MNK *i* LRM MLR 14 12 42.1
comp=N,15µm,16.6s
MNK *i* LRM MLR 14 13 52.5
comp=Z,30µm,15.2s
MNK *i* LRM MLR 14 13 56.5
comp=E,21µm,15.4s
MNK Minsk 14.26 20 *i* P Pn **14 07 47.7 +1.4**
MNK *i* S Sn **14 10 26.9 +3.3**
MNK pmax pmax
comp=N,4.0nm,0.7s
MNK pmax pmax
comp=E,94nm,0.7s
MNK pmax pmax
comp=Z,87nm,0.6s
MNK MLR MLR
comp=N,15µm,17.0s
MNK MLR MLR
comp=Z,30µm,15.0s
MNK MLR MLR
comp=E,21µm,15.0s
NACGM Naroch 14.36 17 eP P **14 07 51.3 -3.3**
PABE Paberze 14.44 10 eP Pn **14 07 49.1 +0.3**
KHAM Kharkiv 14.46 48 P Pn **14 07 51.4 +2.2**
HWQ Hawqa 14.71 113 eP Pn **14 07 54.5 +1.7**
BHL Bhannes 14.72 115 eP Pn **14 07 53.5 +0.6**
PBUR Paburge 14.75 5 eP Pn **14 07 54.5 +1.4**
ISAL Salakas 14.85 15 eP P **14 07 57.5 -2.5**
HNTI Hanita 14.89 119 P Pn **14 07 54.8 -0.2**
HNTI Hanita 14.89 119 S Sn **14 10 35.0 -4.2**
VSVD Vaisvydziai 14.90 9 eP Pn **14 07 56.5 +1.4**
SOC Sochi 15.01 75 eP Pn **14 07 58.6 +2.0**
SOC *e* 14 10 47.9
SOC pmax pmax
comp=Z,78nm,1.0s
SOC MLR MLR
comp=Z,4µm,17.0s
OFRI `Ofer 15.05 120 P Pn **14 07 56.3 -1.0**
OFRI `Ofer 15.05 120 S Sn **14 10 38.2 -5.1**
MMC7 Mount Meron ar 15.07 118 P Pn **14 07 57.6 +0.1**
MMA0B Mount Meron ar 15.08 118 P Pn **14 07 57.6 -0.1**
MMA0B Mount Meron ar 15.08 118 S Sn **14 10 40.2 -3.8**
MMAI Mount Meron Ar 15.08 118 Pn Pn **14 07 57.0 -0.7**
comp=Z,13nm,0.3s,baz=308,slow=12,SNR=56
MMAI Sn **Sn** **14 10 39.2 -4.8**
comp=Z,8.4nm,0.3s,baz=299,slow=24,SNR=5.4
MMAI LR LR 14 15 10.8
comp=Z,11µm,18.6s,baz=309,slow=43
comp=Z,21nm,0.5s
COP Copenhagen 15.09 344 eP Pn **14 07 57.7 +0.2**
COP IAmb IAmb 14 08 12.1
comp=Z,419nm,1.5s
BLGI Bet Lehem HaGe 15.12 120 P Pn **14 07 57.3 -0.7**
BLGI Bet Lehem HaGe 15.12 120 S Sn **14 10 39.5 -5.3**
GEM Giv'at Ha'Em 15.13 117 P Pn **14 07 58.6 +0.3**
GEM Giv'at Ha'Em 15.13 117 S Sn **14 10 42.0 -3.2**
NATI Neve Ativ 15.15 117 P Pn **14 07 59.4 +0.8**
NATI Neve Ativ 15.15 117 S Sn **14 10 43.8 -1.9**
VSLR Vesyoloye 15.23 75*de*P **P** **14 08 02.3 -2.0**
VSLR MLR MLR
comp=Z,3µm,12.0s
SLTI Sal'it 15.33 121 P Pn **14 08 00.1 -0.9**
SLTI Sal'it 15.33 121 S Sn **14 10 44.8 -5.3**
KSHT Keshet 15.37 118 P Pn **14 08 01.9 +0.4**
KSHT Keshet 15.37 118 S Sn **14 10 47.8 -3.3**
MMLI Mount Malkishu 15.45 120 P Pn **14 08 01.9 -0.7**
MMLI Mount Malkishu 15.45 120 S Sn **14 10 47.8 -5.3**
SALP Salfit 15.54 122 P Pn **14 08 02.4 -1.3**
SALP Salfit 15.54 122 S Sn **14 10 49.5 -5.7**
DEL Delary 15.58 348 *i* P Pn **14 08 04.3 +0.4**
SSRD Sdr. Stenderup 15.58 338 *i* P Pn **14 08 04.8 +0.8**
SSRD IAmb IAmb 14 08 27.2
comp=Z,130nm,1.1s
HMDT Nahal Hemdat 15.64 120 P Pn **14 08 04.1 -0.8**
HMDT Nahal Hemdat 15.64 120 S Sn **14 10 51.8 -5.7**
AMAZ Amatzia 15.72 124 P Pn **14 08 04.1 -2.0**
AMAZ Amatzia 15.72 124 S Sn **14 10 51.5 -8.1**
ERBR Yeremizino-Bor 15.74 67 eP Pn **14 08 07.4 +1.2**
ERBR eS Sn **14 11 04.5 +4.6**
ERBR pmax pmax
comp=Z,199nm,0.9s
ERBR MLR MLR
comp=N,16µm,14.0s
ERBR MLR MLR
comp=Z,6µm,14.0s
ERBR MLR MLR
comp=E,13µm,11.0s
ECHE Chera 15.76 270 P Pn **14 08 07.2 +0.8**
LABN Labinsk 15.79 71 eP P **14 08 13.9 +3.4**
LABN eS S **14 11 13.5 -1.8**
LABN MLR MLR
comp=N,20µm,12.0s
UJAP Al Uja 15.79 121 P Pn **14 08 05.9 -1.0**
UJAP Al Uja 15.79 121 S Sn **14 10 55.5 -5.7**
KZIT Kziot 15.84 126 P Pn **14 08 04.1 -3.4**
KZIT Kziot 15.84 126 S Sn 14 10 51.0 -11
YTIR Yattir 15.97 124 P Pn **14 08 07.4 -1.9**
YTIR Yattir 15.97 124 S Sn **14 10 58.0 -7.6**
DSI Dead Sea 15.99 123 P Pn **14 08 07.9 -1.6**
DSI Dead Sea 15.99 123 S Sn **14 10 58.5 -7.6**
MSBI Mazada 16.15 123 P Pn **14 08 09.4 -2.1**
MSBI Mazada 16.15 123 S Sn **14 11 01.8 -8.1**
RMNI Mount Ramon 16.28 126 P Pn **14 08 10.1 -3.1**
RMNI Mount Ramon 16.28 126 S Sn **14 11 03.5 -10**
GHAJ Ghor Haditha 16.29 123 Pn Pn **14 08 13.1 -0.1**
GHAJ Ghor Haditha 16.29 123 P Pn **14 08 11.4 -1.9**
GHAJ Ghor Haditha 16.29 123 S Sn **14 11 05.5 -7.7**
CART Cartagena 16.35 263 P Pn **14 08 09.9 -4.0**
SLIT Slitere, Latvi 16.38 5 eP Pn **14 08 14.8 +0.7**
IDAN Idan 16.43 125 P Pn **14 08 13.1 -1.9**
IDAN Idan 16.43 125 S Sn **14 11 07.8 -8.9**
EMUR La Murta 16.44 264 P Pn **14 08 12.8 -2.4**
MUD Monsted U'grnd 16.56 339 *i* P Pn **14 08 17.2 +0.7**
MUD *i* P P **14 08 19.0 +0.1**
MUD IAmb IAmb 14 08 48.6
comp=Z,196nm,1.5s
ZFRI Zfri 16.56 126 S Sn **14 11 10.5 -9.4**
ZFRI S S 14 11 10.8 -20
ZFRI Zfri 16.56 126 P Pn **14 08 14.1 -2.6**
ASF Jabal al Asfar 16.59 118 Pn Pn **14 08 16.8 -0.4**
comp=Z,0.8nm,0.3s,baz=288,slow=1.1,SNR=18
ASF Sn **Sn** **14 11 19.1 -1.7**
comp=Z,1.0nm,0.3s,baz=323,slow=20,SNR=2.0
comp=Z,3.3nm,0.4s
KRMI Paran Flat 16.60 128 P Pn **14 08 14.1 -3.2**
KRMI Paran Flat 16.60 128 S Sn **14 11 10.3 -11**
PRNI Paran 16.60 127 P Pn **14 08 14.3 -2.9**
PRNI Paran 16.60 127 S Sn **14 11 11.3 -10**
VORD Divnogorie 16.64 48 eP Pn **14 08 18.1 +0.6**
VORD pmax pmax
comp=Z,180nm,1.0s
VORD MLR MLR
comp=Z,5µm,8.0s
VSR Storozhevoye 16.68 47 eP Pn **14 08 18.4 +0.3**
VSR eS Sn **14 11 24.8 +2.2**
VSR pmax pmax
comp=Z,80nm,0.6s
VSR smax smax
comp=E,690nm,7.3s
VSR MLR MLR
comp=Z,34µm,13.0s
ONAU Onsala 16.79 345 *i* P P **14 08 22.5 +1.0**
HRFI Mount Harif 16.85 127 P Pn **14 08 17.1 -3.3**
HRFI Mount Harif 16.85 127 S Sn **14 11 16.5 -10**
BORU Boraas 16.87 347 *i* P P **14 08 22.7 +0.3**
VORR Voronezh 16.93 46 eP P **14 08 22.3 -0.7**
VORR pmax pmax
comp=Z,150nm,0.5s
VORR MLR MLR
comp=Z,44µm,16.0s
MBRI Mt Berech 16.95 128 P Pn **14 08 18.6 -3.1**
MBRI Mt Berech 16.95 128 S Sn **14 11 18.9 -10**
EIL Elat 17.06 128 LR LR 14 18 20.5
comp=Z,6µm,19.0s,baz=326,slow=49
EIL Elat 17.06 128 P Pn **14 08 19.9 -3.2**
EIL Elat 17.06 128 S Sn **14 11 21.3 -11**
SHA1 Shidzhatmaz 17.14 74*de*P **P** **14 08 27.7 +1.9**
KIV Kislovodsk 17.16 74 *i* P P **14 08 26.3 +0.5**
SNR=12
KIV Kislovodsk 17.16 74 eP P **14 08 26.5 +0.6**
KIV eS S **14 11 39.4 -4.2**
KIV pmax pmax
comp=Z,135nm,1.0s
KIV MLR MLR
comp=Z,3µm,14.0s
KIV Kislovodsk 17.16 74 P P **14 08 27.1 +1.2**
comp=Z,5µmcomp=Z,257nm,0.9s
KVAR Kislovodsk Arr 17.17 74 LR LR 14 16 03.3
comp=Z,5µm,20.0s,baz=20,slow=41
LPSR Galich'ya Gora 17.27 43 eP Pn **14 08 25.1 -0.3**
LPSR eS Sn **14 11 35.2 -1.5**
LPSR pmax pmax
comp=Z,210nm,0.8s
LPSR smax smax
comp=N,250nm,5.2s
LPSR MLR MLR
comp=Z,28µm,14.0s
KBZ Khabaz 17.32 74 P P **14 08 29.9 +2.5**
comp=Z,56nm,0.7s,baz=275,slow=9.2,SNR=58
KBZ LR LR 14 17 10.7
comp=Z,6µm,18.8s,baz=270,slow=44
KBZ Khabaz 17.32 74*de*P **P** **14 08 29.9 +2.5**
KBZ pmax pmax

comp=Z,102nm,1.0s
KBZ MLR MLR
comp=Z,8µm,13.0s
UCM Universidad Co 17.32 274 P **Pn** **14 08 25.1 -1.2**
TJOU Tjoern 17.45 346 *i* P **P** **14 08 28.8 +0.1**
ENIJ Nijar 17.46 263 P **Pn** **14 08 25.7 -2.3**
GOF Gofitskoye 17.46 70*ce*P **P** **14 08 29.6 +0.6**
VSU Vasula 17.71 12 *e*P **P** **14 08 32.2 +0.6**
VSU Vasula 17.71 12*ce*P **Pn** **14 08 28.8 -2.0**
VSU pmax pmax
comp=Z,698nm,0.7s
VSU MLR MLR
comp=Z,22µm,13.0s
OBN Obninsk 17.74 33 P **Pn** **14 08 29.7 -1.5**
comp=Z,19nm,0.3s,baz=164,slow=3.0,SNR=45
OBN LR LR 14 16 00.8
comp=Z,12µm,19.5s,baz=165,slow=39
comp=Z,107nm,0.5s
OBN Obninsk 17.74 33*d* *i*P **Pn** **14 08 31.2 0.0**
OBN *i* S **Sn** **14 11 44.8 -3.2**
OBN pmax pmax
comp=Z,415nm,1.3s
OBN MLR MLR
comp=Z,12µm,13.0s
OBN Obninsk 17.74 33 P **P** **14 08 31.8 -0.1**
comp=Z,5µmcomp=Z,332nm,1.2s
NCK Nalchik 17.83 75‖ *e*P **P** **14 08 35.7 +2.6**
NCK MLR MLR
comp=Z,4µm,13.0s
ESBB Sonseca Array 17.99 272 P **Pn** **14 08 32.1 -2.4**
ESDC Sonseca Array 17.99 272 P **Pn** **14 08 34.1 -0.5**
ESDC Sonseca Array 17.99 272 P **P** **14 08 35.0 +0.1**
comp=Z,0.5nm,0.3s,baz=70,slow=11,SNR=35
ESDC LR LR 14 16 04.0
comp=Z,11µm,18.5s,baz=78,slow=39
comp=Z,7.9nm,0.9s
VRH Novokhopyorsk 18.11 50 *e*P **P** **14 08 37.3 +1.1**
VRH *e*S **Sn** **14 11 55.2 -2.1**
VRH pmax pmax
comp=Z,100nm,0.6s
VRH smax smax
comp=N,720nm,7.8s
VRH MLR MLR
comp=Z,28µm,13.0s
CWF Charnwood Fore 18.16 316 *e*P **Pn** **14 08 35.9 -0.6**
STRD Stroud 18.17 312 *e*P **P** **14 08 37.0 +0.3**
HOMB Homborsund 18.34 341 *e*P **P** **14 08 37.5 -1.0**
HOMB IAmb IAmb 14 08 48.0
comp=Z,36nm,1.0s
HOMB IAMs_20 IAMs_20 14 17 36.7
comp=Z,20µm,13.5s
STRU Stroemstad 18.47 346 *e*P **Pn** **14 08 41.1 +0.9**
ARBE Arbavere 18.53 10 *e*P **P** **14 08 40.8 +0.1**
MONM Monmouth 18.55 312 *e*P **P** **14 08 40.4 -0.5**
UPP Uppsala 18.56 357 *e*P **Pn** **14 08 41.5 +0.2**
MOS Moscow 18.60 33 *e*P **P** **14 08 38.9 -2.6**
MOS *e*S **Sn** **14 12 08.1 -0.9**
MOS pmax pmax
comp=E,182nm,1.0s
MOS pmax pmax
comp=Z,351nm,0.8s
MOS MLR MLR
comp=N,7µm,14.0s
MOS MLR MLR
comp=E,15µm,14.0s
MOS MLR MLR
comp=Z,12µm,14.0s
DYA Yadsworthy 18.66 307 *e*P **Pn** **14 08 43.0 +0.4**
LBWR Ladybower, Pea 18.72 317 *e*P **P** **14 08 42.1 -0.7**
SNART Snartemo 18.73 339 *e*P **P** **14 08 42.8 0.0**
SNART *e*S **S** **14 12 18.5 +4.1**
SNART Snartemo 18.73 339 *e*P **Pn** **14 08 44.4 +1.1**
MCH1 Michaelchurch 18.73 312 *e*P **P** **14 08 42.8 -0.1**
AAL Aland 18.84 1 *e*P **P** **14 08 43.2 -0.9**
HLM1 Long Mynd 18.90 314 *e*P **P** **14 08 44.6 -0.2**
HPK Haverah Park 18.97 319 *e*P **P** **14 08 44.6 -0.9**
GNI Garni 19.07 85 P **Pn** **14 08 48.4 +0.6**
GNI IAmb IAmb 14 08 51.4
comp=Z,500nm,1.2s
GNI Garni 19.07 85 P **Pn** **14 08 48.8 +1.0**
comp=Z,8.4nm,0.3s,baz=323,slow=2.1,SNR=30
GNI LR LR 14 17 30.6
comp=Z,5µm,18.7s,baz=284,slow=41
comp=Z,214nm,1.1s
GNI Garni 19.07 85 P **Pn** **14 08 48.8 +1.0**
GNI Garni 19.07 85*ce*P **Pn** **14 08 48.6 +0.8**
GNI pmax pmax
comp=Z,479nm,1.3s
GNI Garni 19.07 85 P **Pn** **14 08 48.6 +0.8**
comp=Z,5µmcomp=Z,284nm,0.9s
MEF Metsahovi 19.11 7 *e*P **P** **14 08 46.9 -0.1**
HFS Hagfors 19.15 351 P **P** **14 08 46.9 -0.6**
comp=Z,2.4nm,0.3s,baz=156,slow=11,SNR=73
HFS LR LR 14 17 26.2
comp=Z,11µm,18.7s,baz=171,slow=41
comp=Z,41nm,0.8s
FOEL Foel Wyfa 19.24 315 *e*P **P** **14 08 48.2 -0.4**
KONO Kongsberg 19.34 345 *e*P **P** **14 08 49.3 -0.3**
KONO *e*S **Sn** **14 12 29.4 +2.6**
KONO IAMs_20 IAMs_20 14 28 54.9
comp=Z,4µm,17.0s
KONO Kongsberg 19.34 345*ce*P **P** **14 08 48.9 -0.7**
KONO pmax pmax
comp=Z,56nm,1.1s
KONO MLR MLR
comp=Z,13µm,14.0s
CCA1 Carnmenellis 19.37 306 *e*P **P** **14 08 49.9 0.0**
OSL Oslo 19.40 346 *e*P **P** **14 08 50.4 +0.2**
OSL IAmb IAmb 14 08 58.1
comp=Z,178nm,1.3s
OSL *e*S **Sn** **14 12 30.9 +2.8**
PUL Pulkovo 19.60 16‖ *e*P **P** **14 08 52.7 +0.3**
PUL pmax pmax
comp=Z,245nm,0.6s
PUL MLR MLR
comp=Z,21µm,14.0s
EDMD Edmundbyers 19.62 321 *e*P **P** **14 08 51.9 -0.7**
PBRG Braganca 19.69 280 *e*P **P** **14 08 53.7 +0.1**
PBRG *i* IAmb IAmb 14 09 15.2
comp=Z,137nm,1.4s
RAF Rauma 19.73 3 *e*P **P** **14 08 53.4 -0.4**
BLS5 Blasjo 19.86 340 *e*P **Pn** **14 08 57.4 +0.4**
BLS5 IAmb IAmb 14 09 06.5
comp=Z,77nm,1.4s
BLS5 *e*S **Sn** **14 12 39.8 +0.4**
BLS5 IAMs_20 IAMs_20 14 18 40.1
comp=Z,27µm,12.7s
MVO Moncorvo 20.00 278 *e*P **P** **14 08 57.1 +0.1**
MVO *i* IAmb IAmb 14 09 22.6
comp=Z,144nm,1.5s
MVO *e*S **Sn** **14 12 44.4 +1.3**
KMY Karmoy 20.01 338 *e*P **P** **14 08 56.1 -0.7**
KMY IAmb IAmb 14 09 05.8
comp=Z,28nm,0.7s
KMY *e*S Sn 14 12 42.3 -0.5
KMY IAMs_20 IAMs_20 14 18 47.8
comp=Z,21µm,12.2s
NC602 NORSAR Array S 20.02 348 *e*P **P** **14 08 57.4 +0.4**
NC602 IAmb IAmb 14 09 17.0
comp=Z,63nm,0.8s
NC602 *e*S Sn 14 12 43.0 -0.2
NC602 IAMs_20 IAMs_20 14 18 00.3
comp=Z,26µm,15.2s
ODD1 Odda 20.25 341 *e*P Pn 14 09 01.9 +0.5
ODD1 *e*S Sn 14 12 47.4 -1.2
NB201 NORSAR Array S 20.36 348 P **P** **14 08 59.6 -1.1**
NB2 NORSAR Subarra 20.36 348 P **P** **14 08 59.3 -1.4**
comp=Z,157nm,1.4s,baz=162,slow=11
NOA NORSAR Array B 20.36 348 P **P** **14 08 59.4 -1.3**
comp=Z,25nm,0.9s,baz=312,slow=6.8,SNR=23
NOA LR LR 14 18 10.0
comp=Z,12µm,19.5s,baz=170,slow=41
comp=Z,25nm,0.9s
NBO00 NORSAR Array S 20.42 348 P **P** **14 09 01.3 0.0**
EKA Eskdalemuir Ar 20.47 321 P **P** **14 09 01.6 -0.3**
comp=Z,72nm,0.9s,baz=120,slow=9.9,SNR=61
comp=Z,72nm,0.9s
ESK Eskdalemuir 20.48 321 P **P** **14 09 01.1 -0.9**
ESK IAmb IAmb 14 09 03.8
comp=Z,214nm,1.2s
ESK Eskdalemuir 20.48 321 *e*P **P** **14 09 01.7 -0.3**
ESK IAmb IAmb 14 09 03.5
comp=Z,225nm,1.2s
ESK IAMs_20 IAMs_20 14 18 40.5
comp=Z,14µm,17.8s
ESK Eskdalemuir 20.48 321 P **P** **14 09 01.1 -0.9**
ESK pmax pmax
comp=Z,214nm,1.2s
ESK MLR MLR
comp=Z,7µm,21.0s
FINES FINESS Array B 20.49 9 P **P** **14 09 00.4 -1.6**
FINES FINESS Array B 20.49 9 P **P** **14 09 00.8 -1.3**
comp=Z,104nm,0.7s,baz=169,slow=10,SNR=220
FINES LR LR 14 18 03.1
comp=Z,30µm,18.1s,baz=195,slow=40
comp=Z,104nm,0.7s
FIA1 FINESS Array S 20.49 9 P **P** **14 09 01.2 -0.9**
FIA1 IAMs_20 IAMs_20 14 18 00.9
comp=Z,32µm,18.0s
PVRL Vila Real 20.50 279 *e*P **P** **14 09 03.0 +0.6**
PVRL *i* IAmb IAmb 14 09 32.8
comp=Z,184nm,1.5s
NC303 NORSAR Array S 20.52 349 IAmb IAmb 14 09 11.4
comp=Z,162nm,1.1s
MTE Manteigas 20.53 276 *e*P **P** **14 09 03.4 +0.7**
MTE *i* IAmb IAmb 14 09 32.8
comp=Z,211nm,1.8s
MTE *e*S Sn 14 12 55.9 +0.2
MTE Manteigas 20.53 276 *e*P **P** **14 09 01.9 -0.8**
POLO Lamas de Olo 20.54 279 *e*P Pn 14 09 05.1 -0.1
POLO *i* IAmb IAmb 14 09 32.6
comp=Z,99nm,1.6s
PCBR Castelo Branco 20.59 275 *e*P **P** **14 09 03.7 +0.4**
PCBR *i* IAmb IAmb 14 09 25.4
comp=Z,166nm,1.4s
IOMK Kirk Michael 20.61 317 *e*P **P** **14 09 02.7 -0.7**
WIM Isle of Man 20.61 317 *e*P **P** **14 09 03.2 -0.2**
PMRV Marv??o 20.63 274 *e*P **P** **14 09 04.3 +0.6**
PMRV *i* IAmb IAmb 14 09 23.8
comp=Z,251nm,1.7s
PMRV *e*S **S** **14 12 50.7 -2.5**
PCAB Cabril 20.66 280 *e*P Pn 14 09 06.1 -0.4
PCAB *i* IAmb IAmb 14 10 07.5
comp=Z,194nm,2.0s
PBAR Barrancos 20.70 270 *e*P **P** **14 09 04.7 +0.2**
PBAR *i* IAmb IAmb 14 09 40.1
comp=Z,366nm,1.3s
MAK Makhachkala 20.71 76‖ *e*P **P** **14 09 04.7 +0.1**
MAK *e*S **S** **14 12 56.5 +1.8**
MAK pmax pmax
comp=Z,712nm,1.0s
MAK MLR MLR
comp=Z,8µm,13.0s
PVIS Viseu 20.73 277 *e*P **P** **14 09 05.5 +0.6**
EDI Edinburgh 20.82 322 *e*P **P** **14 09 05.3 -0.3**
EDI IAmb IAmb 14 09 10.1
comp=Z,91nm,0.6s
EDI IAMs_20 IAMs_20 14 18 55.3
comp=Z,18µm,16.3s
PESTR Estremoz 20.92 272 P **P** **14 09 03.6 -3.3**
PESTR Estremoz 20.92 272 *e*P **P** **14 09 06.9 -0.1**
PESTR *i* IAmb IAmb 14 09 25.9
comp=Z,246nm,1.3s
BER Bergen 20.98 340 *e*P **P** **14 09 06.1 -1.2**
BER IAmb IAmb 14 09 18.6
comp=Z,59nm,0.9s
BER *e*S **S** **14 13 01.8 +2.1**
BER IAMs_20 IAMs_20 14 19 15.7
comp=Z,20µm,12.9s
IWEX Carrickbyrne, 21.01 311 P **P** **14 09 09.1 +1.3**
AKT Akhty 21.06 80 *e*P **P** **14 09 08.9 +0.4**
AKT *e*PPP PPP 14 09 34.6
AKT *e*S **S** **14 13 04.8 +2.9**
AKT pmax pmax
comp=Z,233nm,1.2s
AKT MLR MLR
comp=Z,3µm,13.0s
MDT Midelt 21.07 254 P **P** **14 09 09.6 +1.0**
comp=Z,28nm,0.9s,baz=74,slow=12,SNR=13
MDT LR LR 14 17 15.4
comp=Z,6µm,19.3s,baz=58,slow=37
comp=Z,28nm,0.9s
KEF Keuruu 21.08 7 *e*P **P** **14 09 08.2 -0.2**
ASK Askoy 21.10 340 *e*P **P** **14 09 08.6 -0.1**
ASK IAmb IAmb 14 09 09.1
comp=Z,48nm,1.1s
ASK *e*S Sn 14 13 06.0 -3.0
ASK IAMs_20 IAMs_20 14 19 20.1
comp=Z,22µm,12.9s
DSB Dublin 21.12 313 P **P** **14 09 10.4 +1.5**
MD01 Midelt array s 21.15 254 P **P** **14 09 08.5 -1.0**
MD31 MD31 21.15 254 P **P** **14 09 09.4 -0.1**
PSARD Sardoal 21.16 274 *e*P **P** **14 09 09.9 +0.4**
PSARD *i* IAmb IAmb 14 09 47.4
comp=Z,309nm,1.9s
COI Coimbra 21.21 276 *e*P **P** **14 09 11.9 +1.9**
COI *i* IAmb IAmb 14 09 31.0
comp=Z,331nm,1.6s
PCAS Casmilo, Conde 21.31 276 *e*P **P** **14 09 11.7 +0.6**
PCAS *i* IAmb IAmb 14 09 31.5
comp=Z,290nm,1.9s
EVO Evora 21.33 272 *e*P **P** **14 09 11.1 -0.2**
EVO *i* IAmb IAmb 14 09 31.1
comp=Z,176nm,1.5s
PMTG Montargil 21.34 273 *e*P **P** **14 09 14.1 +2.7**
PMTG *i* IAmb IAmb 14 09 31.7
comp=Z,401nm,1.7s
PBEJ Beja 21.37 270 *e*P **P** **14 09 12.2 +0.5**
PBEJ *i* IAmb IAmb 14 09 43.8
comp=Z,208nm,1.5s
ILTH Belurgan, Co L 21.43 315 P **P** **14 09 14.3 +2.1**
PVAQ Vaqueiros 21.45 268 IAmb IAmb 14 09 29.5
comp=Z,246nm,1.0s
PVAQ Vaqueiros 21.45 268 *e*P **P** **14 09 12.7 +0.1**
HYA Hoyanger 21.45 342 *e*P **P** **14 09 12.0 -0.4**
HYA IAmb IAmb 14 09 13.4
comp=Z,32nm,0.6s
HYA *e*S **S** **14 13 11.2 +2.2**
HYA IAMs_20 IAMs_20 14 18 45.2
comp=Z,16µm,15.3s
INVG Invergeldie, C 21.50 323 *e*P **P** **14 09 11.5 -1.5**
INVG IAmb IAmb 14 09 17.3
comp=Z,70nm,0.8s
INVG IAMs_20 IAMs_20 14 19 25.9
comp=Z,21µm,17.1s
PCVE Castro Verde 21.62 269 *e*P **P** **14 09 14.3 -0.1**
PCVE *i* IAmb IAmb 14 10 03.6
comp=Z,185nm,1.5s
PSBE So Bento 21.66 275 *e*P **P** **14 09 17.6 +2.7**
PSBE *i* IAmb IAmb 14 09 53.6
comp=Z,307nm,1.5s
DOMB Dombas 21.66 346 *e*P **P** **14 09 17.6 +2.9**
DOMB IAmb IAmb 14 09 18.3
comp=Z,193nm,1.6s
DOMB *e*S **S** **14 13 16.6 +3.3**
DOMB IAMs_20 IAMs_20 14 19 08.6
comp=Z,17µm,14.1s
PBDV Barranco-do-Ve 21.66 268 *e*P **P** **14 09 15.1 +0.2**
PBDV *i* IAmb IAmb 14 09 48.0
comp=Z,322nm,1.5s
MESJ Messejana 21.69 270 *e*P **P** **14 09 14.5 -0.7**
MESJ *e*S **S** **14 13 14.3 +0.1**
MESJ IAMs_20 IAMs_20 14 18 50.2
comp=Z,22µm,18.0s
MESJ Messejana 21.69 270 *e*P **P** **14 09 15.2 0.0**
MESJ *i* IAmb IAmb 14 09 44.6
comp=Z,235nm,1.5s
MESJ Messejana 21.69 270 *e*P **P** **14 09 14.5 -0.7**
MESJ *e*S **S** **14 13 14.3 +0.1**
SUE Sulen 21.70 340 IAmb IAmb 14 09 16.4
comp=Z,31nm,1.2s
SUE *e*P **P** **14 09 16.7 +1.6**
SUE *e*S **S** **14 13 15.8 +1.8**
SUE IAMs_20 IAMs_20 14 19 45.5
comp=Z,16µm,12.5s
CLGH Cloghs, Cushen 21.79 318 *e*P **P** **14 09 15.9 -0.2**
MCD Coleburn Disti 21.84 326 *e*P **P** **14 09 14.2 -2.4**
BELG Belogornoye 21.96 50 P **P** **14 09 18.1 +0.2**
comp=Z,352nm,0.8s,baz=271,slow=0.7,SNR=72
comp=Z,352nm,0.8s
BELG Belogornoye 21.96 50*c* *i*P **P** **14 09 17.7 -0.2**
BELG pmax pmax
comp=Z,232nm,1.1s
BELG MLR MLR
comp=Z,3µm,14.0s
TAM Tamanrasset 21.97 217 P **P** **14 09 20.1 +1.6**
TAM IAmb IAmb 14 09 38.3
comp=Z,132nm,0.9s
TAM Tamanrasset 21.97 217 P **P** **14 09 20.1 +1.6**
TAM pmax pmax
comp=Z,132nm,0.9s
PARRA Arraiolos 22.02 273 *e*P P 14 09 11.1 -7.6
PARRA *i* IAmb IAmb 14 09 58.2
comp=Z,227nm,1.6s
LAWE Loch Awe, Argy 22.04 321 *e*P **P** **14 09 17.2 -1.5**
LAWE IAmb IAmb 14 09 20.4
comp=Z,30nm,1.3s
LAWE IAMs_20 IAMs_20 14 20 58.3
comp=Z,12µm,13.2s
LIS Lisbon 22.13 273 *e*S **S** **14 13 22.9 +0.3**
LIS IAMs_20 IAMs_20 14 19 49.0
comp=E,24µm,12.3s
PTEO Sao Teotonio 22.16 269 *e*P **P** **14 09 20.3 +0.1**
PTEO *i* IAmb IAmb 14 10 07.2
comp=E,201nm,1.3s
PMAFR Mafra 22.17 273 *e*P **P** **14 09 20.1 -0.2**
PMAFR *i* IAmb IAmb 14 10 16.4
comp=E,299nm,1.8s
AKN Aaknes 22.18 344 *e*P **P** **14 09 21.4 +1.1**
MORF Marmelete 22.19 269 *e*P **P** **14 09 19.8 -0.8**
MORF *e*S **S** **14 13 23.9 +0.2**
MORF IAMs_20 IAMs_20 14 19 27.4
comp=Z,10µm,17.5s
MORF Marmelete 22.19 269 *e*P **P** **14 09 20.1 -0.4**
MORF *i* IAmb IAmb 14 10 14.5
comp=Z,202nm,1.5s
MORF Marmelete 22.19 269 *e*P **P** **14 09 19.8 -0.8**
MORF *e*S **S** **14 13 23.9 +0.2**
PFVI Vila Bisbo 22.37 268 *e*P **P** **14 09 23.6 +1.0**
PFVI *i* IAmb IAmb 14 09 46.2
comp=Z,258nm,1.5s
MOL Molde 22.43 345 *e*P **P** **14 09 22.6 -0.2**
MOL *e*S **S** **14 13 30.5 +2.8**
MOL IAMs_20 IAMs_20 14 19 22.2
comp=Z,11µm,16.4s
IDGL Inch Island, C 22.50 317 P **P** **14 09 23.4 -0.3**
JOF Joensuu 22.68 14 *e*P **P** **14 09 25.1 -0.5**
KPL Plockton 22.74 323 *e*P **P** **14 09 24.7 -1.5**
KPL IAmb IAmb 14 09 28.4
comp=Z,22nm,0.7s
KPL IAMs_20 IAMs_20 14 20 30.8
comp=Z,26µm,15.9s
LRW Lerwick 22.76 333 *e*P **P** **14 09 24.4 -2.0**
IGLA Glengowla, Co 22.86 312 P **P** **14 09 26.7 -0.7**
VAL Valentia 22.90 308 P **P** **14 09 28.6 +0.6**
KLMR Klimovskoe 23.00 25*d* *i*P **P** **14 09 24.3 -4.6**
KLMR *e*S **S** **14 13 35.2 -2.7**
KLMR pmax pmax
comp=Z,715nm,1.3s
KLMR MLR MLR
comp=Z,16µm,12.0s
LINV Loch Inver, As 23.00 325 *e*P **P** **14 09 27.2 -1.8**
NSS Namsos 23.63 352 *e*P **P** **14 09 34.2 -0.8**
NSS IAmb IAmb 14 09 43.3
comp=Z,104nm,0.9s
NSS *e*S **S** **14 13 52.8 +4.7**
NSS *e*ScP **ScP** **14 16 57.1 +1.3**
NSS IAMs_20 IAMs_20 14 20 22.2
comp=Z,31µm,12.6s
LEWI Lewis, Hebride 23.73 324 *e*P **P** **14 09 35.5 -0.7**
LEWI IAmb IAmb 14 09 37.4
comp=Z,30nm,0.8s
LEWI IAMs_20 IAMs_20 14 21 01.7
comp=Z,24µm,15.9s
SJUU Sjulsmark 24.22 2 *e*P **P** **14 09 40.3 -0.4**
MOR8 Moi Rana 25.03 355 *e*P **P** **14 09 49.6 +1.6**
MOR8 *e*S **S** **14 14 16.5 +5.9**
LEIR Leirfjorden 25.07 354 *e*P **P** **14 09 48.5 +0.2**
LEIR IAmb IAmb 14 09 58.2
comp=Z,86nm,1.1s
LEIR *e*S **S** **14 14 14.2 +3.1**
LEIR IAMs_20 IAMs_20 14 21 08.7
comp=Z,21µm,15.1s
STOK Stokkvaagen 25.29 354 *e*P **P** **14 09 51.4 +1.1**
STOK *e*S **S** **14 14 19.4 +4.7**
RAUS Rausandaksla 25.32 355 *e*P **P** **14 09 51.0 +0.4**
RAUS IAmb IAmb 14 10 07.7
comp=Z,86nm,1.3s
RAUS *e*S **S** **14 14 18.5 +3.4**
RAUS IAMs_20 IAMs_20 14 20 56.8
comp=Z,15µm,11.5s
KONS Konsvik 25.45 354 *e*P **P** **14 09 53.5 +1.8**
KIRV Kirov 25.46 37 LR LR 14 20 23.1
comp=Z,15µm,18.8s,baz=244,slow=38
KIRV Kirov 25.46 37*ce*P **P** **14 09 50.6 -1.3**
VAGH Vaagaholmen 25.66 354 *e*P **P** **14 09 55.3 +1.6**
FAUS Fauske 26.18 356 *e*P **P** **14 09 57.8 -0.6**
STEI Steigen 26.73 356 *e*P **P** **14 10 01.5 -1.9**
LANU Lannavaara 26.77 2 *e*P **P** **14 10 02.7 -1.1**
APA Apatity 27.32 12‖ *i*P **P** **14 10 07.1 -1.6**
APA *i* S **S** **14 14 45.3 -1.5**
APA MLR MLR
comp=Z,20µm,20.3s
KTK1 Kautokeino 27.78 3 *e*P **P** **14 10 12.2 -0.7**
LVZ Lovozero 27.82 12‖ *e*P **P** **14 10 12.8 -0.4**
LVZ pmax pmax
comp=Z,98nm,1.0s
LVZ MLR MLR
comp=Z,19µm,17.0s
AKTO Aktyubinsk 27.96 58 LR LR 14 25 19.5
comp=Z,9µm,18.0s,baz=250,slow=45
AKTO Aktyubinsk 27.96 58 P **P** **14 10 13.8 -0.8**
RAYN Ar Rayn 28.02 121 P **P** **14 10 15.5 +0.1**
RAYN Ar Rayn 28.02 121 P **P** **14 10 16.5 +1.1**
RAYN Ar Rayn 28.02 121 *i*P **P** **14 10 15.7 +0.3**
SNR=12
RAYN Ar Rayn 28.02 121 P **P** **14 10 15.5 +0.1**
RAYN pmax pmax
comp=Z,38nm,1.1s
RAYN MLR MLR
comp=Z,4µm,18.0s
TRO Tromso 28.34 360 *e*P **P** **14 10 16.1 -1.6**
ARA0 ARCESS Array S 28.41 4 *e*P **P** **14 10 18.4 0.0**
ARCES ARCESS Array B 28.41 4 P **P** **14 10 16.9 -1.5**
ARCES ARCESS Array B 28.41 4 P **P** **14 10 16.6 -1.8**
comp=Z,5.4nm,0.5s,baz=189,slow=9.7,SNR=32
ARCES LR LR 14 23 31.4
comp=Z,12µm,18.5s,baz=188,slow=40
comp=Z,5.4nm,0.5s
ARCES ARCESS Array B 28.41 4 P **P** **14 10 16.9 -1.5**
ARCES pmax pmax
comp=Z,52nm,1.1s
ARTI Arti 29.14 46 P **P** **14 10 24.0 -1.0**
ARTI Arti 29.14 46 LR LR 14 23 07.9
comp=Z,18µm,19.2s,baz=248,slow=39
ARTI Arti 29.14 46*c* *i*P **P** **14 10 24.3 -0.7**
ARTI PPP PPP 14 11 27.7
ARTI 14 13 28.7
ARTI S **S** **14 15 18.4 +2.9**
ARTI SS **SnSn** **14 16 41.5 +1.1**
ARTI pmax pmax
comp=Z,287nm,0.9s
ARTI MLR MLR
comp=Z,18µm,16.0s
AB31 Akbulak array 29.16 61 P **P** **14 10 25.3 0.0**
AB31 Akbulak array 29.16 61 P **P** **14 10 24.8 -0.5**
ABKAR Akbulak array 29.16 61 P **P** **14 10 25.1 -0.1**
VADS Vadso 29.27 7 *e*P **P** **14 10 25.8 -0.2**
SHMA Al-Shehemyia 30.15 111 P **P** **14 10 32.8 -1.5**
SNR=5.4
PMOZ Porto Moniz, M 30.39 266 *e*P **P** **14 10 36.5 +0.1**
PMOZ *e*S **S** **14 15 40.6 +4.8**
SVE Sverdlovsk 30.45 45*de*P **P** **14 10 36.7 +0.1**
SVE *e*S **S** **14 15 36.8 +0.7**
SVE pmax pmax
comp=Z,262nm,0.9s
SVE MLR MLR
comp=Z,18µm,16.0s
SMRA Abu-Samra 30.75 113 P **P** **14 10 38.5 -1.1**
TRNA Turayna 31.03 112 P **P** **14 10 40.9 -1.1**
SLWR Sila 31.79 113 P **P** **14 10 47.8 -0.9**
JRN Qarnain Island 32.05 110 P **P** **14 10 50.4 -0.6**
TORD Torodi Ar. Bea 32.16 214 P **P** **14 10 51.1 -1.0**
TORD IAmb IAmb 14 11 20.4
comp=Z,67nm,1.1s
TORD IAMs_20 IAMs_20 14 26 14.1
comp=Z,9µm,19.0s
TORD Torodi Ar. Bea 32.16 214 P **P** **14 10 52.4 +0.4**
comp=Z,12nm,0.6s,baz=16,slow=10,SNR=46
TORD PcP **PcP** **14 13 41.1 +0.3**
comp=Z,14nm,1.0s,baz=41,slow=3.0,SNR=3.7
TORD LR LR 14 26 25.2
comp=Z,11µm,18.6s,baz=33,slow=41
comp=Z,12nm,0.6s

GHWR **Ruwais** 32.69 112 P **P** 14 10 55.9 -0.7
BORG **Borgarnes** 33.01 329 LR LR 14 26 30.3
comp=Z,7µm,18.3s,baz=125,slow=40
MZWR **Madinat Zayed** 33.52 111 P **P** 14 11 03.5 -0.4
UMQ **Umm Al-Quwin** 33.70 107 P **P** 14 11 05.9 +0.5
UMQ **Umm Al-Quwin** 33.70 107 *i* P **P** 14 11 05.6 +0.2
SNR=5.2
MZR **Muzera** 33.73 112 P **P** 14 11 04.3 -1.5
SNR=5.2
MZR **Muzera** 33.73 112 *i* P **P** 14 11 06.7 +1.0
SNR=6.3
SHME **Shamm** 33.73 105 P **P** 14 11 05.6 -0.1
SNR=8.2
SHME **Shamm** 33.73 105 *i* P **P** 14 11 05.7 -0.1
SNR=9.8
AJN **Ajban** 33.80 109 P **P** 14 11 06.1 -0.2
AJN **Ajban** 33.80 109 *i* P **P** 14 11 07.0 +0.7
SNR=6.1
BANOM **Banah** 33.92 105 P **P** 14 11 06.9 -0.5
BANOM **Banah** 33.92 105 *i* P **P** 14 11 06.7 -0.7
SNR=12
ASUD **Al Ashush, Dub** 34.01 108 P **P** 14 11 08.2 +0.1
SNR=6.1
ASUD **Al Ashush, Dub** 34.01 108 *i* P **P** 14 11 08.0 -0.1
SNR=12
NAZ **Nazwa, Dubai** 34.02 107 P **P** 14 11 08.0 -0.2
SNR=8.6
NAZ **Nazwa, Dubai** 34.02 107 *i* P **P** 14 11 07.7 -0.6
SNR=13
HRA **Herat** 34.10 88 P **P** 14 11 09.0 -0.1
HRA IAmb IAmb 14 11 48.5
comp=Z,91nm,1.1s
FAQ **Al Faqa, Dubai** 34.12 108 P **P** 14 11 08.3 -0.8
SNR=7.3
FAQ **Al Faqa, Dubai** 34.12 108 *i* P **P** 14 11 08.5 -0.7
SNR=12
MASF **Masafi** 34.15 106 P **P** 14 11 08.6 -0.8
SNR=12
MSFE **Esma-Masafi** 34.16 106 *i* P **P** 14 11 08.7 -0.7
SNR=11
MDH **Madha** 34.29 106 P **P** 14 11 09.4 -1.2
SNR=11
MDH **Madha** 34.29 106 *i* P **P** 14 11 09.6 -1.0
SNR=14
UOSS **Minazif** 34.44 107 P **P** 14 11 09.9 -2.0
UOSS IAmb IAmb 14 11 21.9
comp=Z,50nm,0.8s
UOSS **Minazif** 34.44 107 P **P** 14 11 10.6 -1.3
ASHO **Ashiyiah** 34.49 107 P **P** 14 11 11.7 -0.7
SNR=28
ASHO **Ashiyiah** 34.49 107 *i* P **P** 14 11 11.5 -0.9
SNR=15
ALNE **Al Ain** 34.66 109 P **P** 14 11 13.5 -0.3
SNR=28
ALNE **Al Ain** 34.66 109 *i* P **P** 14 11 13.1 -0.8
SNR=12
UMZA **Um Al Zommool** 35.09 111 P **P** 14 11 16.7 -0.9
SOHO **SOHO** 35.17 108 P **P** 14 11 17.4 -0.9
SOHO **SOHO** 35.17 108 *i* P **P** 14 11 17.3 -0.9
SNR=8.1
BORK **Borovoye** 35.65 53*c i* P **P** 14 11 22.6 +0.6
BORK pmax pmax
comp=Z,132nm,0.8s
BORK MLR MLR
comp=Z,8µm,15.0s
ARQ **Araqi** 35.66 109 P **P** 14 11 22.0 -0.4
SNR=24
BVA0 **Borovoye Array** 35.70 53 P **P** 14 11 22.4 0.0
BVAR **Borovoye Array** 35.70 53 P **P** 14 11 23.0 +0.6
comp=Z,108nm,0.8s,baz=270,slow=5.9,SNR=264
BVAR LR LR 14 28 10.0
comp=Z,5µm,18.6s,baz=267,slow=40
comp=Z,108nm,0.8s
ATD **Arta Tunnel** 36.04 139 P **P** 14 11 29.1 +3.4
SNR=13
HOQ **Hoqain** 36.07 108 P **P** 14 11 23.9 -2.1
SNR=9.6
FURI **Furi** 36.47 147 IAMs_20 IAMs_20 14 27 58.8
comp=Z,6µm,18.0s
BIDO **Bidbid** 36.70 107 P **P** 14 11 30.1 -1.2
BRLS **Borolday** 36.80 70 *eP* **P** 14 11 31.6 -0.5
BRLS **Borolday** 36.80 70 *eP* **P** 14 11 31.5 -0.5
SMDO **Samad** 36.93 108 P **P** 14 11 32.1 -1.2
SNR=18
SPITS **Spitsbergen Ar** 36.95 359 P **P** 14 11 32.7 -0.2
comp=Z,6.5nm,0.8s,baz=155,slow=10,SNR=9.7
SPITS LR LR 14 28 52.6
comp=Z,12µm,18.6s,baz=174,slow=40
comp=Z,6.5nm,0.8s
DOK **Doka** 37.15 117 P **P** 14 11 34.3 -0.9
IUG **Iuzhnay** 37.18 72 *eP* **P** 14 11 35.2 -0.2
comp=Z,23nm,0.5s
IUG **Iuzhnay** 37.18 72 *eP* **P** 14 11 35.1 -0.2
IUG pmax pmax
comp=Z,23nm,0.5s
WSAR **Wadi Sarin** 37.23 107 LR LR 14 29 59.7
comp=Z,13nm,19.9s,baz=322,slow=41
WSAR **Wadi Sarin** 37.23 107 P **P** 14 11 35.0 -0.8
SNR=7.9
KK31 **Karatay Array** 37.26 70 *i* P **P** 14 11 35.7 -0.2
KKAR **Karatay Array** 37.26 70 P **P** 14 11 35.5 -0.4
KKAR **Karatay Array** 37.26 70 P **P** 14 11 35.6 -0.4
BRZS **Berezniki** 37.37 58 *eP* **P** 14 11 37.2 +0.4
BRZS **Berezniki** 37.37 58 *eP* **P** 14 11 37.1 +0.4
JMDO **Jabal Madar** 37.40 108 P **P** 14 11 36.4 -0.9
SNR=11
WHFO **Wadi Hawf** 37.41 118 P **P** 14 11 36.6 -0.8
ABTO **Aybut** 37.50 120 P **P** 14 11 38.1 -0.1
SIMJ **Simiganj** 37.53 77 P **P** 14 11 38.3 -0.1
CHGR **Chuyangaron** 37.64 77 P **P** 14 11 38.9 -0.4
CHGR pmax pmax
comp=Z,133nm,0.9s
NGCH **Negor - Chabah** 37.79 102 P **P** 14 11 40.7 +0.2
DZA **Taraz** 37.90 70 *eP* **P** 14 11 41.5 +0.2
DZA **Taraz** 37.90 70 *eP* **P** 14 11 41.5 +0.2
RBK **Rabkut** 37.99 118 P **P** 14 11 41.7 -0.6
TRKS **Terek-Say** 38.15 72 P **P** 14 11 44.1 +0.5
TRKS pmax pmax
comp=Z,37nm,0.9s
MHTO **MHTO** 38.19 110 P **P** 14 11 43.4 -0.5
SNR=16
JLN **Jalan Bani Buh** 38.47 107 P **P** 14 11 45.5 -0.8
SNR=9.4
SHAO **Shalim** 38.58 116 P **P** 14 11 45.8 -1.4
DQM **DQM** 38.59 112 P **P** 14 11 45.8 -1.5
SNR=6.6
DAG **Danmarks Havn** 39.04 347 *i* P **P** 14 11 50.6 +0.1
DAG IAmb IAmb 14 12 01.9
comp=Z,17nm,0.8s
KBU **Kabul Universi** 39.22 83 P P 14 11 47.9 -4.8
BTLS **Baital** 39.23 66 *eP* **P** 14 11 53.1 +0.6
BTLS **Baital** 39.23 66 *i* P **P** 14 11 52.2 -0.2
BTLS pmax pmax
comp=Z,55nm,2.0s
ARSB **Arslanbob** 39.53 72 IAmb IAmb 14 12 17.2
comp=Z,176nm,1.6s
ARSB IAMs_20 IAMs_20 14 31 05.1
comp=Z,7µm,18.0s
EKS2 **Erkin-Say** 39.69 69 P **P** 14 11 57.1 +0.6
SNR=37
ANGG **Ammassalik, Gr** 39.83 327 IAMs_20 IAMs_20 14 28 48.7
comp=Z,8µm,20.0s
USP **Ospenovka** 40.02 68 P **P** 14 11 59.4 +0.2
SNR=9.4
SGDS **Sogindy** 40.06 68 *eP* **P** 14 11 59.9 +0.5
AAK **Ala-Archa** 40.20 69 P **P** 14 12 00.8 +0.1
SNR=33
AAK **Ala-Archa** 40.20 69 P **P** 14 12 01.7 +0.9
AAK **Ala-Archa** 40.20 69 IAMs_20 IAMs_20 14 31 29.8
comp=Z,5µm,19.0s
AAK **Ala-Archa** 40.20 69 LR LR 14 31 30.8
comp=Z,2µm,21.1s,baz=300,slow=40
AAK **Ala-Archa** 40.20 69 P **P** 14 12 00.6 -0.2
AAK **Ala-Archa** 40.20 69 *i* P **P** 14 12 01.3 +0.6
SNR=36
AAK **Ala-Archa** 40.20 69 P **P** 14 12 01.7 +0.9
AAK pmax pmax
comp=Z,28nm,0.6s
AAK MLR MLR
comp=Z,5µm,19.0s
FRU1 **Bishkek** 40.25 69 IAmb IAmb 14 12 03.9
comp=Z,62nm,0.6s
FRU1 IAMs_20 IAMs_20 14 31 20.9
comp=Z,6µm,18.0s
FRU1 **Bishkek** 40.25 69 P **P** 14 12 02.2 +1.2
FRU1 pmax pmax
comp=Z,92nm,0.8s
LODK **Lodwar** 40.34 155 P **P** 14 12 03.9 +1.9
SNR=33
ISOG **Isortoq, Green** 40.37 327 *i* P **P** 14 12 02.1 +0.5
ISOG IAmb IAmb 14 12 11.8
comp=Z,126nm,1.1s
KBK **Karagaybulak** 40.52 69 P **P** 14 12 03.2 -0.2
SNR=9.3
DBIC **Dimbokro** 40.84 219 P **P** 14 12 06.1 +0.1
DBIC IAmb IAmb 14 12 17.7
comp=Z,98nm,1.1s
DBIC **Dimbokro** 40.84 219 P **P** 14 12 06.5 +0.5
comp=Z,13nm,0.5s,baz=50,slow=9.4,SNR=15
DBIC LR LR 14 31 21.9
comp=Z,6µm,18.0s,baz=47,slow=40
comp=Z,13nm,0.5s
DBIC **Dimbokro** 40.84 219 P **P** 14 12 06.1 +0.1
DBIC pmax pmax
comp=Z,98nm,1.2s
TKM2 **Tokmak 2** 40.89 68 P **P** 14 12 08.5 +2.0
SNR=20
KURBB **Kurchatov Arra** 40.98 56 P **P** 14 12 06.8 0.0
comp=Z,52nm,1.1s,baz=286,slow=10.0,SNR=106
KURBB PcP **PcP** 14 14 07.3 +0.6
comp=Z,7.0nm,0.8s,baz=287,slow=4.0,SNR=4.4
comp=Z,52nm,1.1s
KURBB **Kurchatov Arra** 40.98 56 P **P** 14 12 06.4 -0.4
KURK **Kurchatov** 41.02 56 P **P** 14 12 07.0 -0.2
KURK IAmb IAmb 14 12 12.9
comp=Z,52nm,0.8s
KURK **Kurchatov** 41.02 56 IAMs_20 IAMs_20 14 32 19.7
comp=Z,7µm,19.0s
KURK **Kurchatov** 41.02 56 P **P** 14 12 08.1 +0.9
KURK **Kurchatov** 41.02 56*ce* P **P** 14 12 07.0 -0.2
KURK pmax pmax
comp=Z,140nm,1.7s
KURK MLR MLR
comp=Z,6µm,17.0s
KUU **Kurty** 41.12 67 *eP* **P** 14 12 08.6 +0.4
KUU LR LR 14 31 21.2
comp=Z,3µm,12.9s
KUU **Kurty** 41.12 67 *eP* **P** 14 12 08.5 +0.4
KUU MLR MLR
comp=Z,3µm,13.0s
ULHL **Ulahol** 41.55 69 P **P** 14 12 12.7 +0.7
SNR=18
SUMG **Summit** 41.61 337 P **P** 14 12 12.0 -0.2
SUMG IAMs_20 IAMs_20 14 32 09.0
comp=Z,5µm,18.0s
SUMG **Summit** 41.61 337 *i* P **P** 14 12 12.3 +0.1
SUMG IAmb IAmb 14 12 26.9
comp=Z,962nm,3.0s
AAA **Alma-Ata** 41.72 68 *eP* **P** 14 12 13.4 +0.2
comp=Z,30nm,0.7s
AAA **Alma-Ata** 41.72 68 *eP* **P** 14 12 13.3 +0.2
AAA pmax pmax
comp=Z,30nm,0.7s
TNSS **Tian-Shan** 41.80 68 *eP* **P** 14 12 14.3 +0.1
TNSS **Tian-Shan** 41.80 68 *eP* **P** 14 12 14.3 +0.1
MDOK **Medeo** 41.83 68 *eP* **P** 14 12 14.7 +0.5
MDOK LR LR 14 31 35.5
MDOK **Medeo** 41.83 68 *eP* **P** 14 12 14.7 +0.5
ARXS **Arharly** 42.05 66 *i* P **P** 14 12 15.5 -0.4
SEM **Semipalatinsk** 42.10 56 *eP* **P** 14 12 16.5 +0.1
comp=Z,30nm,0.7s
SEM LR LR 14 31 49.1
comp=Z,2µm,12.1s
SEM **Semipalatinsk** 42.10 56 *eP* **P** 14 12 16.4 +0.1
SEM pmax pmax
comp=Z,30nm,0.7s
SEM MLR MLR
comp=Z,2µm,12.0s
TDK **Taldyqorghan** 42.22 65 *eP* **P** 14 12 17.6 +0.5
comp=Z,24nm,0.5s
TDK LR LR 14 31 43.3
comp=Z,3µm,14.2s
TDK **Taldyqorghan** 42.22 65 *eP* **P** 14 12 17.6 +0.5
TDK pmax pmax
comp=Z,24nm,0.5s
TDK MLR MLR
comp=Z,3µm,14.0s
NOR **Nord** 42.24 353 *i* P **P** 14 12 16.1 -0.7
NOR IAmb IAmb 14 12 42.2
comp=Z,66nm,1.3s
KDJ **Kajisay** 42.25 69 P **P** 14 12 18.2 +0.6
KDJ pmax pmax
comp=Z,46nm,1.2s
KSH **Kashi** 42.29 73 P **P** 14 12 17.1 -0.8
KSH sP **pP** 14 12 26.0 +1.0
KSH PcP **PcP** 14 14 13.0 +1.6
KSH S **S** 14 18 34.5 -3.0
KSH pmax pmax
comp=Z,34nm,0.8s
KSH pmax pmax
comp=Z,670nm,6.6s
KSH LR LR
comp=Z,5µm,17.3s
KSH LR LR
comp=Z,5µm,15.5s
KSH LR LR
comp=Z,6µm,16.2s
NIL **Nilore** 42.67 82 P **P** 14 12 20.7 -0.3
NIL **Nilore** 42.67 82 P **P** 14 12 21.8 +0.8
NIL **Nilore** 42.67 82 P **P** 14 12 20.7 -0.3
NIL pmax pmax
comp=Z,209nm,1.3s
SATY **Saty** 42.81 67 *eP* **P** 14 12 22.8 +0.7
SATY **Saty** 42.81 67 *eP* **P** 14 12 22.8 +0.7
MBAR **Mbarara** 42.97 164 P **P** 14 12 25.1 +1.5
MBAR IAMs_20 IAMs_20 14 33 04.5
comp=Z,4µm,20.0s
MBAR **Mbarara** 42.97 164*de* P **P** 14 12 25.1 +1.5
MBAR pmax pmax
comp=Z,36nm,1.1s
MBAR MLR MLR
comp=Z,4µm,19.0s
PRZ **Przheval'sk** 42.99 68 IAMs_20 IAMs_20 14 33 01.3
comp=Z,6µm,18.0s
UZB **Uzynbulak** 43.21 67 *eP* **P** 14 12 25.5 +0.2
UZB **Uzynbulak** 43.21 67 *i* P **P** 14 12 24.4 -0.9
UZB pmax pmax
comp=Z,39nm,2.0s
DY2G **Dye2** 43.41 328 *i* P **P** 14 12 26.8 0.0
DY2G IAmb IAmb 14 12 28.6
comp=Z,112nm,1.3s
PDGK **Podgornoye** 43.47 67 P **P** 14 12 26.0 -1.4
SHLS **Shalkode** 43.51 67 *eP* **P** 14 12 30.6 +2.9
comp=Z,17nm,0.5s
SHLS **Shalkode** 43.51 67 *eP* **P** 14 12 30.6 +2.9
SHLS pmax pmax
comp=Z,17nm,0.5s
SRNI **Srinagar** 43.66 81 *ex* x 14 12 24.9
SRNI *eP* **P** 14 12 24.9 -4.0
SRNI IAML 14 12 25.9
comp=Z,153nm,0.4s
MAKZ **Makanchi** 44.09 61 IAMs_20 IAMs_20 14 33 37.7
comp=Z,6µm,19.0s
ZALV **Zalesovo Beam** 44.15 50 P **P** 14 12 32.2 -0.4
ZALV **Zalesovo Beam** 44.15 50 P **P** 14 12 32.6 +0.1
comp=Z,139nm,0.4s,baz=282,slow=8.9,SNR=404
ZALV LR LR 14 33 22.4
comp=Z,14µm,18.8s,baz=276,slow=39
comp=Z,139nm,0.4s
JASL **Jaisalmer** 44.21 92 *eP* **P** 14 12 29.3 -4.1
JASL IAmb IAmb 14 12 35.4
comp=Z,66nm,0.7s
MK31 **Makanchi Array** 44.30 61 *i* P **P** 14 12 33.9 -0.1
MKAR **Makanchi Array** 44.30 61 P **P** 14 12 33.6 -0.3
MKAR **Makanchi Array** 44.30 61 P **P** 14 12 34.2 +0.3
comp=Z,118nm,0.8s,baz=284,slow=6.1,SNR=411
MKAR PcP **PcP** 14 14 18.5 +0.6
comp=Z,9.5nm,0.6s,baz=314,slow=3.2,SNR=1.9
MKAR LR LR 14 33 55.7
comp=Z,6µm,19.6s,baz=274,slow=40
comp=Z,118nm,0.8s
JMU **Jammu** 44.32 83 *eP* **P** 14 12 29.8 -4.4
IVI **Ivigtut** 44.45 320 IAMs_20 IAMs_20 14 32 24.9
comp=Z,8µm,18.0s
SFJD **Kangerlussuaq** 45.14 329 IAMs_20 IAMs_20 14 32 42.1
comp=Z,8µm,19.0s
SFJD **Kangerlussuaq** 45.14 329 LR LR 14 32 53.1
comp=Z,8µm,19.4s,baz=85,slow=38
SFJD **Kangerlussuaq** 45.14 329 *i* P **P** 14 12 40.4 +0.2
SFJD IAmb IAmb 14 12 42.1
comp=Z,55nm,1.2s
TSSA **Tissa** 45.20 82 *eP* **P** 14 12 37.3 -4.2
ILULI **Ilulissat** 45.28 332 *i* P **P** 14 12 40.4 -0.9
ILULI IAmb IAmb 14 12 52.0
comp=Z,142nm,1.5s
BHUJ **Bhuj** 45.33 98 *eP* **P** 14 12 41.0 -1.3
ALCI **Alchi Leh** 45.34 80 *eP* **P** 14 12 39.8 -3.0
ALCI IAmb IAmb 14 12 44.0
comp=Z,60nm,0.9s
SAATT **Saattut** 45.47 334 *i* P **P** 14 12 43.0 +0.2
SAATT IAmb IAmb 14 12 43.5
comp=Z,66nm,0.9s
TLWR **Talawar** 45.47 83 *eP* **P** 14 12 39.0 -4.4
DHRM **DHARAMSHALA** 45.59 82 *eP* **P** 14 12 40.3 -4.3
SACV **Santiago Islan** 45.64 248 IAMs_20 IAMs_20 14 33 16.8
comp=Z,5µm,18.0s
ZSN **Zaisan** 45.79 59 *eP* **P** 14 12 46.5 +0.7
comp=Z,36nm,0.7s
ZSN *eS* **S** 14 19 31.0 +3.0
ZSN **Zaisan** 45.79 59 *eP* **P** 14 12 46.5 +0.7
ZSN *eS* **S** 14 19 31.0 +3.0
ZSN pmax pmax
comp=Z,36nm,0.7s
NEEM **North Greenlan** 45.83 343 *i* P **P** 14 12 46.0 0.0
NEEM IAmb IAmb 14 12 55.2
comp=Z,95nm,1.2s
BHK **Bhakra** 46.07 83 *eP* **P** 14 12 46.9 -1.3
BHK IAmb IAmb 14 12 48.9
comp=Z,113nm,1.2s
NIAQ **Niaqornat** 46.14 334 *i* P **P** 14 12 48.5 +0.4
NIAQ IAmb IAmb 14 12 58.0
comp=Z,196nm,1.2s
GDH **Godhavn** 46.14 332 *i* P **P** 14 12 48.9 +0.8
GDH IAmb IAmb 14 12 57.6
comp=Z,2µm,3.2s
KIBK **Kibwezi** 46.62 154 P **P** 14 12 52.5 -0.1
KIBK **Kibwezi** 46.62 154 P **P** 14 12 54.1 +1.5
KIBK IAmb IAmb 14 13 06.7
comp=Z,42nm,1.2s
KIBK **Kibwezi** 46.62 154 P **P** 14 12 55.3 +2.7
SNR=7.6
SMLA **Simla** 46.77 83 *eP* **P** 14 12 49.2 -4.4
KLP **Kalpa** 47.38 82 *eP* **P** 14 12 54.4 -4.4
KLP IAmb IAmb 14 13 02.0
comp=Z,85nm,0.9s
JHJR **Jhajjar** 47.65 87 *eP* **P** 14 12 56.6 -3.9
GNR **GANAUR** 47.66 86 *eP* **P** 14 12 56.5 -4.1
KUDL **Kundal** 47.77 87 *eP* **P** 14 12 56.7 -4.8
NDI **New Delhi** 48.04 86 *eP* **P** 14 12 59.6 -3.9
LDR **Lodi Road** 48.09 86 *eP* **P** 14 12 59.6 -4.3
PWAL **Palwal** 48.40 87 *eP* P 14 13 00.1 -6.3
ASOR **Ausora** 48.42 86 *eP* **P** 14 13 02.2 -4.3
UGON **Onchagaon** 48.75 86 *eP* **P** 14 13 06.5 -2.5
JOSI **Joshimath** 48.84 83 *eP* **P** 14 13 05.8 -4.2
WMQ **Urumqi** 48.89 63 *i* P **P** 14 13 10.1 +0.1
WMQ pmax pmax
comp=Z,62nm,1.1s
WMQ pmax pmax
comp=Z,680nm,4.5s
WMQ LR LR
comp=Z,4µm,18.9s
WMQ LR LR
comp=Z,8µm,17.5s
WMQ LR LR
comp=Z,4µm,18.9s
TKRD **Thakurdwara** 49.03 85 *eP* **P** 14 13 07.0 -4.2
AGRA **Agra** 49.35 87 *eP* **P** 14 13 11.8 -1.8
PTH **Pithoragarh** 49.84 83 *eP* **P** 14 13 12.9 -4.7
PTH IAmb IAmb 14 13 21.6
comp=Z,30nm,0.8s
TULEG **Thule** 49.85 342 IAMs_20 IAMs_20 14 35 55.8
comp=Z,5µm,20.0s
JHNI **Jhansi** 50.75 89 *eP* **P** 14 13 20.2 -4.1
JHNI IAmb IAmb 14 13 25.7
comp=Z,82nm,0.6s
NRDN **NARMADA NAGAR** 51.27 93 *eP* **P** 14 13 24.1 -4.1
POO **Poona** 51.30 99 *eP* **P** 14 13 24.5 -4.0
BRCI **Bahraich** 51.90 85 *eP* **P** 14 13 29.0 -3.9
BNDA **BANDA** 52.09 88 *eP* **P** 14 13 30.3 -4.0
KAD **Karad** 52.31 100 *eP* **P** 14 13 31.9 -4.2
KAD IAmb IAmb 14 13 36.3
comp=Z,41nm,0.3s
AKL **Akola** 52.34 95 *eP* **P** 14 13 33.5 -2.7
AKL IAmb IAmb 14 13 36.4
comp=Z,43nm,0.8s
DRLN **Deer Lake** 52.60 306 IAmb IAmb 14 13 47.0
comp=Z,62nm,1.0s
FRB **Frobisher Bay** 53.10 326 LR LR 14 38 47.3
comp=Z,7µm,18.1s,baz=76,slow=39
ALBI **Allahabad** 53.30 87 *eP* P 14 13 38.4 -4.9
MOY **Mondy** 54.18 49 *eP* **P** 14 13 50.4 +0.9
MOY pmax pmax
comp=Z,110nm,2.5s
STMR **SITAMARHI** 55.10 83 *eP* **P** 14 13 52.4 -4.0
BLSP **Bilaspur** 55.35 90 *eP* **P** 14 13 54.3 -4.0
BLSP IAmb IAmb 14 14 00.7
comp=Z,47nm,0.9s
HYB **Hyderabad** 55.49 97 *eP* **P** 14 13 59.6 +0.3
HYB *eP*cP **PcP** 14 14 59.2 0.0
HYB *e*ScP **ScP** 14 18 56.8 +0.2
HYB *eS* **S** 14 21 44.9 +1.6
SCHQ **Schefferville** 55.67 316 P **P** 14 14 00.1 0.0
comp=Z,308nm,0.9s,baz=69,slow=5.7,SNR=12
SCHQ LR LR 14 38 51.2
comp=Z,39µm,18.1s,baz=66,slow=37
IRK **Irkutsk** 55.79 48 *eP* **P** 14 14 00.2 -0.8
IRK pmax pmax
comp=Z,170nm,1.8s
ZAK **Zakamensk** 56.03 50 *eP* **P** 14 14 03.2 +0.4
ZAK pmax pmax
comp=Z,79nm,1.8s
GAYA **Gaya** 56.15 85 *eP* **P** 14 13 59.6 -4.3
GAYA IAmb IAmb 14 14 04.7
comp=Z,81nm,0.9s
RES **Resolute Bay** 56.52 343 LR LR 14 40 09.4
comp=Z,4µm,19.6s,baz=57,slow=38
GBN **Guysborough** 56.70 304 P **P** 14 14 06.6 -0.9
JHSG **JHARSUGUGA** 56.80 89 *eP* **P** 14 14 04.6 -4.0
LSZ **Lusaka** 56.91 170 IAMs_20 IAMs_20 14 39 50.6
comp=Z,3µm,20.0s
LSZ **Lusaka** 56.91 170 LR LR 14 40 11.7
comp=Z,3µm,19.7s,baz=354,slow=38
TIXI **Tiksi** 56.92 21 LR LR 14 41 55.9
comp=Z,11µm,18.2s,baz=328,slow=40
TIXI **Tiksi** 56.92 21 *eP* **P** 14 14 09.2 +0.5
TIXI pmax pmax
comp=Z,34nm,1.3s
TIXI MLR MLR
comp=Z,10µm,17.0s
GOMU **GeErMu** 57.14 69 P **P** 14 14 11.1 -0.2
GOMU S **S** 14 22 07.6 +2.0
GOMU SS **SS** 14 25 57.4 +3.2
GOMU pmax pmax
comp=Z,20nm,1.6s
GOMU pmax pmax
comp=Z,460nm,7.8s
GOMU LR LR
comp=Z,1µm,21.8s
GOMU LR LR
comp=Z,2µm,18.1s
GOMU LR LR
comp=Z,2µm,16.8s
KNTI **KHUNTI** 57.19 87 *eP* P 14 14 05.2 -6.2
BOK **Bokaro** 57.22 86 *eP* **P** 14 14 07.3 -4.2
BOK IAmb IAmb 14 14 10.5
comp=Z,41nm,0.6s
LSA **Lhasa** 57.87 77 IAmb IAmb 14 14 17.5
comp=Z,53nm,0.8s
LSA **Lhasa** 57.87 77 P **P** 14 14 14.4 -2.2
LSA S **S** 14 22 12.6 -2.8
LSA pmax pmax
comp=Z,71nm,0.8s
LSA LR LR
comp=Z,2µm,20.2s
LSA LR LR
comp=Z,1µm,17.5s
LSA LR LR
comp=Z,2µm,17.3s
ASCN **Ascension** 58.12 221 IAMs_20 IAMs_20 14 40 15.7
comp=Z,4µm,19.0s
ICQ **Pointe Anglais** 58.26 310 IAmb IAmb 14 14 20.7
comp=Z,79nm,1.2s
BOD **Bodaibo** 58.32 39 *eP* **P** 14 14 17.8 -1.0
BOD pmax pmax
comp=Z,120nm,1.2s
HAL **Halifax** 58.36 304 P **P** 14 14 19.6 +0.4
HAL **Halifax** 58.36 304 P **P** 14 14 19.6 +0.4

HAL pmax pmax
comp=Z,124nm,1.2s
LMN Caledonia Moun 58.53 305 P **P** **14 14 20.2 -0.3**
HMDM Hanimaadhoo 58.60 111 IAMs_20 IAMs_20 14 41 18.4
comp=Z,3µm,20.0s
BATG Bathurst New B 58.61 307 P **P** **14 14 21.6 +0.6**
BATG IAmb IAmb 14 14 30.5
comp=Z,63nm,1.0s
GTA Gaotai 58.97 63 ⇑P **P** **14 14 23.5 -0.3**
GTA sP **sP** **14 14 34.1 +0.3**
GTA S **S** **14 22 30.0 +1.1**
GTA pmax pmax
comp=Z,51nm,1.0s
GTA pmax pmax
comp=Z,490nm,7.0s
GTA LR LR
comp=Z,2µm,16.7s
GTA LR LR
comp=Z,4µm,18.2s
GTA LR LR
comp=Z,5µm,17.8s
SONM Songino Array 59.01 52 P **P** **14 14 24.3 +0.4**
SONM Songino Array 59.01 52 P **P** **14 14 24.3 +0.4**
comp=Z,52nm,0.9s,baz=291,slow=8.5,SNR=210
SONM LR LR 14 42 16.7
comp=Z,10µm,19.3s,baz=303,slow=38
comp=Z,52nm,0.9s
KSANE Kasane 59.08 174 IAMs_20 IAMs_20 14 42 23.5
comp=Z,5µm,19.0s
BWNR Bhubaneshwar 59.19 89 *e*P **P** **14 14 21.8 -3.6**
BWNR IAmb IAmb 14 14 25.7
comp=Z,37nm,0.6s
KOD Kodaikanal 59.31 104 *e*P P 14 14 21.4 -5.2
KOD IAmb IAmb 14 14 27.6
comp=Z,97nm,0.2s
ULN Ulaanbaatar 59.38 51 P **P** **14 14 26.4 -0.1**
ULN Ulaanbaatar 59.38 51*ce*P **P** **14 14 26.9 +0.3**
ULN pmax pmax
comp=Z,44nm,0.9s
ULN MLR MLR
comp=Z,10µm,19.0s
XAUDM Khaudum 59.62 178 IAMs_20 IAMs_20 14 41 47.5
comp=Z,5µm,19.0s
TRD Trivandrum 60.10 106 *e*P P 14 14 26.4 -5.3
GUWA GUWAHATI 60.20 80 *e*P **P** **14 14 29.0 -3.2**
GUWA IAmb IAmb 14 14 33.7
comp=Z,12nm,0.5s
TSUM Tsumeb 60.28 182 IAMs_20 IAMs_20 14 44 23.0
comp=Z,3µm,18.0s
TSUM Tsumeb 60.28 182 LR LR 14 42 30.6
comp=Z,3µm,18.9s,baz=2.0,slow=38
GMARE Gumare 60.48 177 IAMs_20 IAMs_20 14 43 13.5
comp=Z,4µm,20.0s
D62A Allapoint, All 60.49 308 IAMs_20 IAMs_20 14 43 45.0
comp=Z,5µm,18.0s
G65A Princeton 60.54 306 IAmb IAmb 14 14 35.9
comp=Z,26nm,0.8s
G65A IAMs_20 IAMs_20 14 43 28.4
comp=Z,4µm,19.0s
F64A Sherman 60.68 307 IAmb IAmb 14 14 44.8
comp=Z,44nm,1.1s
SHL Shillong 60.69 81 P **P** **14 14 34.7 -1.1**
SNR=36
SHL Shillong 60.69 81 *e*P **P** **14 14 32.1 -3.7**
SHL Shillong 60.69 81 P **P** **14 14 33.8 -2.1**
SHL pmax pmax
comp=Z,65nm,0.8s
EMMW East Machias 60.72 305 IAmb IAmb 14 14 51.5
comp=Z,49nm,1.0s
EMMW IAMs_20 IAMs_20 14 42 58.3
comp=Z,5µm,18.0s
TEZP TEZPUR 60.78 79 *e*P **P** **14 14 32.2 -4.0**
TEZP IAmb IAmb 14 14 36.6
comp=Z,45nm,0.9s
CIT Chita 60.95 45 *e*P **P** **14 14 37.4 +0.3**
CIT *e* 14 14 46.0
CIT *e* 14 15 26.4
CIT *e* 14 16 52.0
CIT *e* 14 18 25.6
E62A Clayton Lake 61.00 308 IAMs_20 IAMs_20 14 43 36.6
comp=Z,4µm,18.0s
LMQ La Malbaie 61.00 309 IAmb IAmb 14 14 46.7
comp=Z,26nm,1.0s
ZIRO ZIRO 61.04 78 *e*P **P** **14 14 34.6 -3.7**
LDAQ Lac Daran 61.32 310 IAmb IAmb 14 14 41.4
comp=Z,35nm,1.1s
PHDHD Phuduhudu 61.41 175 IAmb IAmb 14 14 57.0
comp=Z,28nm,0.7s
PKME Peaks-Kenny Pk 61.56 307 IAmb IAmb 14 14 52.5
comp=Z,39nm,1.1s
PKME IAMs_20 IAMs_20 14 41 32.3
comp=Z,3µm,18.0s
SILR SILCHAR 61.82 81 *e*P **P** **14 14 39.5 -3.7**
MATP Matopo 62.02 171 LR LR 14 42 31.0
comp=Z,3µm,21.6s,baz=360,slow=37
KOHI KOHIMA 62.25 79 *e*P **P** **14 14 41.9 -4.4**
KOHI IAmb IAmb 14 14 48.2
comp=Z,47nm,1.1s
G62A West of Eustis 62.33 307 P **P** **14 14 45.3 -1.1**
G62A IAmb IAmb 14 15 02.5
comp=Z,50nm,1.1s
G62A IAMs_20 IAMs_20 14 43 51.7
comp=Z,3µm,18.0s
AZL Aizawl 62.34 82 *e*P **P** **14 14 42.8 -4.1**
AZL IAmb IAmb 14 14 55.7
comp=Z,67nm,0.8s
GRTLG Ghanzi 62.42 178 *i* P **P** **14 14 49.1 +1.9**
GRTLG Ghanzi 62.42 178 IAMs_20 IAMs_20 14 43 25.7
comp=Z,4µm,19.0s
BROLN Tlhalogang 62.55 172 *i* P **P** **14 14 49.1 +1.0**
IMP Imphal 62.64 80 *e*P **P** **14 14 44.9 -4.0**
IMP IAmb IAmb 14 14 49.0
comp=Z,37nm,1.0s
YAK Yakutsk 62.70 30 LR LR 14 44 46.9
comp=Z,6µm,18.7s,baz=306,slow=39
YAK Yakutsk 62.70 30 *e*P **P** **14 14 47.9 -0.6**
YAK *e**PP **pP** **14 14 58.0 +2.2**
YAK *e* 14 15 25.8
YAK *e* 14 17 06.6
YAK *e*PPP PPP 14 18 34.3
YAK *e*S **S** **14 23 15.4 0.0**
YAK *e**SS **sS** **14 23 32.5 +5.1**
YAK *e*SS **SS** **14 27 21.3 +2.1**
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,176nm,4.2s
YAK pmax pmax
comp=N,94nm,4.2s
YAK pmax pmax
comp=E,95nm,4.1s
YAK smax smax
comp=N,69nm,2.2s
YAK smax smax
comp=E,53nm,2.2s
YAK MLR MLR
comp=Z,7µm,20.0s
YAK MLR MLR
comp=N,2µm,22.0s
YAK MLR MLR
comp=E,4µm,17.0s
MALK Mahakanadarawa 62.79 103 P **P** **14 14 45.6 -4.3**
I63A Otisfield 62.98 306 IAMs_20 IAMs_20 14 42 15.9
comp=Z,3µm,20.0s
H62A Milan 63.05 307 IAMs_20 IAMs_20 14 45 36.7
comp=Z,4µm,18.0s
BLKN Baker Lake 63.21 334 IAmb IAmb 14 15 06.2
comp=Z,33nm,1.2s
LZDM Lanzhou Array 63.40 64 P **P** **14 14 54.6 +0.5**
comp=Z,22nm,0.5s,baz=291,slow=4.6,SNR=18
LZDM LR LR 14 47 27.9
comp=Z,3µm,18.6s,baz=5.0,slow=41
comp=Z,22nm,0.5s
LZH Lanzhou 63.43 64 *e*P **P** **14 14 53.6 -0.5**
LZH sP **pP** **14 15 03.0 +1.6**
LZH pmax pmax
comp=Z,110nm,1.0s
LZH pmax pmax
comp=Z,730nm,4.1s
LZH LR LR
comp=Z,4µm,15.1s
LZH LR LR
comp=Z,3µm,17.0s
LZH LR LR
comp=Z,6µm,19.2s
I62A Tamworth 63.53 306 IAmb IAmb 14 15 06.5
comp=Z,46nm,1.1s
WIN Windhoek 63.64 183 IAMs_20 IAMs_20 14 46 27.9
comp=Z,4µm,18.0s
PALK Pallekele 63.66 104 P **P** **14 14 54.2 -1.5**
PALK Pallekele 63.66 104 P **P** **14 14 53.9 -1.8**
PALK Pallekele 63.66 104 P **P** **14 14 54.2 -1.5**
PALK pmax pmax
comp=Z,92nm,1.4s
PALK MLR MLR
comp=Z,2µm,21.0s
LBNH Lisbon 63.69 307 IAMs_20 IAMs_20 14 44 51.8
comp=Z,3µm,18.0s
KGCAE Kacgae 63.93 177 *i* P **P** **14 14 59.3 +2.1**
KGCAE Kacgae 63.93 177 IAMs_20 IAMs_20 14 46 34.7
comp=Z,4µm,19.0s
MREMI Moremi 64.02 172 *i* P **P** **14 14 59.8 +2.0**
MREMI Moremi 64.02 172 IAmb IAmb 14 15 35.5
comp=Z,46nm,1.0s
MREMI IAMs_20 IAMs_20 14 44 23.2
comp=Z,3µm,19.0s
KOOLE Kule 64.03 179 *i* P **P** **14 14 60.0 +2.0**
KOOLE Kule 64.03 179 IAMs_20 IAMs_20 14 46 09.1
comp=Z,4µm,20.0s
VT1 Waterbury 64.14 307 IAMs_20 IAMs_20 14 45 16.8
comp=Z,3µm,18.0s
TRQ Mont Tremblant 64.16 310 P **P** **14 14 57.2 -1.4**
TRQ IAmb IAmb 14 15 09.5
comp=Z,36nm,1.0s
HNH Hanover 64.20 306 IAMs_20 IAMs_20 14 46 58.3
comp=Z,3µm,18.0s
A36M Sachs Harbour 64.27 349 IAMs_20 IAMs_20 14 47 41.9
comp=Z,3µm,18.0s
A36M Sachs Harbour 64.27 349 P **P** **14 14 59.1 +0.3**
baz=29
WES Weston 64.34 305 IAMs_20 IAMs_20 14 43 16.9
comp=Z,4µm,20.0s
FRNY Flat Rock 64.36 308 IAmb IAmb 14 15 54.5
comp=Z,86nm,1.9s
M65A Busby, Falmout 64.37 304 IAMs_20 IAMs_20 14 45 20.8
comp=Z,4µm,18.0s
HRV Adam Dziewonsk 64.42 305 IAMs_20 IAMs_20 14 43 11.0
comp=Z,5µm,19.0s
J61A Chester 64.56 306 IAMs_20 IAMs_20 14 44 33.8
comp=Z,3µm,18.0s
KDWAN Kaudwane 64.58 175 *i* P **P** **14 15 02.5 +1.1**
LPHEP Lephephe 64.65 174 *i* P **P** **14 15 03.7 +1.8**
LPHEP Lephephe 64.65 174 IAMs_20 IAMs_20 14 46 04.9
comp=Z,5µm,18.0s
K62A Royalston 64.74 305 IAMs_20 IAMs_20 14 45 16.7
comp=Z,5µm,18.0s
OPO Ambohidratompo 64.88 151 LR LR 14 45 28.5
comp=Z,924nm,19.9s,baz=176,slow=38
BTO Baotou 65.00 57 *e*P **P** **14 15 04.4 +0.2**
BTO pP **pP** **14 15 09.4 -2.1**
BTO sP **sP** **14 15 11.4 -2.9**
BTO PP **PP** **14 17 28.9 +2.0**
BTO S **S** **14 23 44.4 -0.5**
BTO SS **SS** **14 27 56.6 +0.2**
BTO pmax pmax
comp=Z,150nm,0.9s
BTO pmax pmax
comp=Z,1µm,6.2s
BTO LR LR
comp=Z,6µm,17.2s
BTO LR LR
comp=Z,6µm,16.5s
BTO LR LR
comp=Z,10µm,19.7s
LONY Lake Ozonia 65.07 308 IAmb IAmb 14 15 07.3
comp=Z,30nm,1.1s
LONY IAMs_20 IAMs_20 14 43 46.2
comp=Z,5µm,18.0s
L61B Northampton 65.14 305 IAmb IAmb 14 15 07.7
comp=Z,37nm,1.3s
L61B IAMs_20 IAMs_20 14 45 47.1
comp=Z,5µm,18.0s
ACCN Adirondack Com 65.22 307 IAmb IAmb 14 15 08.8
comp=Z,35nm,1.1s
NCB Newcomb 65.22 307 IAmb IAmb 14 15 49.3
comp=Z,62nm,1.8s
M63A Gales Ferry 65.33 304 P **P** **14 15 05.0 -1.1**
M63A IAMs_20 IAMs_20 14 45 39.2
comp=Z,5µm,18.0s
TRY Troy 65.58 306 IAMs_20 IAMs_20 14 46 14.8
comp=Z,3µm,18.0s
J59A Piesco 65.67 307 IAMs_20 IAMs_20 14 46 53.2
comp=Z,3µm,18.0s
HHC Hu-ho-hao-te 65.83 56 *e*P **P** **14 15 11.0 +1.4**
HHC pP **pP** **14 15 16.0 -1.0**
HHC sP **sP** **14 15 21.0 +1.3**
HHC S **S** **14 23 54.4 -0.7**
HHC sS **pS** **14 24 05.3 +1.1**
HHC ScS **ScS** **14 25 04.1 -0.2**
HHC pmax pmax
comp=Z,39nm,0.9s
HHC pmax pmax
comp=Z,450nm,5.4s
HHC LR LR
comp=Z,1µm,11.4s
HHC LR LR
comp=Z,5µm,12.0s
HHC LR LR
comp=Z,6µm,11.5s
TNCH TengChong 65.90 77 *e*P **P** **14 15 10.8 +0.4**
TNCH S **S** **14 23 56.4 -0.2**
TNCH SS **SS** **14 28 13.0 +1.7**
TNCH pmax pmax
comp=Z,73nm,1.0s
TNCH pmax pmax
comp=Z,750nm,3.1s
TNCH LR LR
comp=Z,1µm,15.9s
TNCH LR LR
comp=Z,670nm,16.2s
TNCH LR LR
comp=Z,2µm,16.0s
WSPT Westport, CT 66.26 305 IAMs_20 IAMs_20 14 45 29.8
comp=Z,4µm,20.0s
CD2 Chengdu 66.27 69 P **P** **14 15 12.8 +0.3**
CD2 pmax pmax
comp=Z,100nm,0.9s
CD2 LR LR
comp=Z,2µm,11.4s
CD2 LR LR
comp=Z,3µm,13.3s
CD2 LR LR
comp=Z,3µm,18.4s
LBTB Lobatse 66.27 174 IAmb IAmb 14 15 29.9
comp=Z,37nm,0.9s
LBTB Lobatse 66.27 174 LR LR 14 46 58.1
comp=Z,5µm,18.2s,baz=356,slow=38
C36M Paulatuk 66.40 347 P **P** **14 15 12.6 0.0**
baz=29
N62A Caumsett State 66.48 304 IAMs_20 IAMs_20 14 46 12.7
comp=Z,4µm,18.0s
PHPEN Phepeng 66.56 177 IAMs_20 IAMs_20 14 49 26.4
comp=Z,4µm,20.0s
J57A Williamstown 66.60 308 IAmb IAmb 14 15 58.0
comp=Z,30nm,1.1s
J57A IAMs_20 IAMs_20 14 44 33.6
comp=Z,4µm,20.0s
PAL Palisades 66.71 305 IAmb IAmb 14 15 17.0
comp=Z,29nm,0.9s
PAL IAMs_20 IAMs_20 14 45 43.8
comp=Z,3µm,18.0s
L59A Walton 66.73 306 IAmb IAmb 14 15 27.0
comp=Z,43nm,1.0s
L59A IAMs_20 IAMs_20 14 46 23.1
comp=Z,3µm,18.0s
ZEA Zeya 66.80 38 *e*P **P** **14 15 16.3 +0.9**
ZEA *e* 14 17 42.6
ZEA pmax pmax
comp=E,100nm,5.3s
ZEA pmax pmax
comp=N,100nm,9.0s
ZEA pmax pmax
comp=Z,400nm,5.5s
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA MLR MLR
comp=E,1µm,18.0s
ZEA MLR MLR
comp=N,2µm,15.0s
ZEA MLR MLR
comp=Z,2µm,16.0s
XLT XiLinHaoTe 66.83 51 *e*P **P** **14 15 16.1 +0.2**
XLT S **S** **14 24 02.4 -4.7**
XLT ScS **SKSac** **14 25 05.0 -6.5**
XLT pmax pmax
comp=Z,35nm,0.8s
XLT pmax pmax
comp=Z,510nm,6.0s
XLT LR LR
comp=Z,3µm,20.8s
XLT LR LR
comp=Z,3µm,20.8s
PECO Prince Edward 66.88 309 IAmb IAmb 14 15 26.2
comp=Z,32nm,1.0s
DELO Deloro Mine 66.91 310 IAmb IAmb 14 15 32.3
comp=Z,24nm,1.0s
BINY Binghamton 67.29 307 IAmb IAmb 14 15 35.6
comp=Z,25nm,0.9s
BINY IAMs_20 IAMs_20 14 46 54.1
comp=Z,4µm,19.0s
K57A Scipio Center 67.30 307 IAMs_20 IAMs_20 14 45 24.3
comp=Z,3µm,20.0s
PZH PanZhiHua 67.39 74 P **P** **14 15 19.3 -0.5**
PZH S **S** **14 24 15.9 +1.5**
PZH pmax pmax
comp=Z,60nm,1.0s
PZH pmax pmax
comp=Z,420nm,5.9s
PZH LR LR
comp=Z,2µm,19.4s
PZH LR LR
comp=Z,2µm,20.4s
PZH LR LR
comp=Z,2µm,19.6s
KSPA Keystone Colle 67.53 306 IAmb IAmb 14 15 36.6
comp=Z,27nm,1.0s
A21K Barrow 67.59 359 P **P** **14 15 20.3 +0.1**
baz=3.2
SADO Sadowa 67.64 310 IAmb IAmb 14 15 23.9
comp=Z,72nm,1.4s
SADO Sadowa 67.64 310 LR LR 14 45 22.7
comp=Z,23µm,18.2s,baz=67,slow=36
J55A Hilton 67.76 309 IAmb IAmb 14 15 33.1
comp=Z,50nm,1.0s
VOI Vohitsoka 67.81 153 P **P** **14 15 25.2 +2.9**
A22K Sinclair Lake 67.88 358 P **P** **14 15 22.2 +0.2**
baz=4.5
XAN Xi'an 68.02 64 ⇑P **P** **14 15 23.8 +0.2**
XAN pP **pP** **14 15 28.1 -2.8**
XAN sP **sP** **14 15 31.5 -2.2**
XAN pmax pmax
comp=Z,110nm,1.0s
XAN pmax pmax
comp=Z,2µm,5.5s
XAN LR LR
comp=Z,3µm,17.9s
XAN LR LR
comp=Z,4µm,16.5s
XAN LR LR
comp=Z,4µm,17.2s
P61A Hammonton 68.04 304 IAMs_20 IAMs_20 14 47 28.9
comp=Z,3µm,19.0s
BILL Bilibino 68.08 13 IAMs_20 IAMs_20 14 49 35.5
comp=Z,4µm,18.0s
BILL Bilibino 68.08 13*ce*P **P** **14 15 22.6 -0.7**
BILL pmax pmax
comp=Z,21nm,1.1s
BILL MLR MLR
comp=Z,3µm,17.0s
MMNY Mt. Morris Dam 68.13 308 IAmb IAmb 14 15 26.9
comp=Z,53nm,1.1s
TIY Taiyuan 68.19 59 P **P** **14 15 25.8 +1.2**
TIY pmax pmax
comp=Z,590nm,5.5s
TIY LR LR
comp=Z,3µm,16.5s
TIY LR LR
comp=Z,3µm,16.5s
TIY LR LR
comp=Z,4µm,14.4s
MEDO Medina 68.19 309 IAmb IAmb 14 15 35.8
comp=Z,47nm,0.9s
L56A Greenwood 68.27 307 IAmb IAmb 14 15 36.5
comp=Z,54nm,1.1s
L56A IAMs_20 IAMs_20 14 46 50.1
comp=Z,3µm,19.0s
PSUB Penn St. - Bra 68.30 304 IAmb IAmb 14 15 36.1
comp=Z,27nm,0.8s
C26K Camden Bay 68.46 354 P **P** **14 15 25.7 +0.1**
baz=13
D28M Stokes Point 68.47 352 P **P** **14 15 25.8 0.0**
baz=18
M57A Sunshine Farm, 68.49 307 IAmb IAmb 14 15 43.3
comp=Z,48nm,1.0s
M57A IAMs_20 IAMs_20 14 48 03.8
comp=Z,4µm,18.0s
B22K Teshekpuk Lake 68.50 357 P **P** **14 15 26.8 +0.9**
baz=5.8
N58A Sunbury 68.53 306 IAmb IAmb 14 15 38.0
comp=Z,35nm,0.9s
N58A IAMs_20 IAMs_20 14 45 26.0
comp=Z,4µm,20.0s
C27K Jago River 68.65 354 IAmb IAmb 14 15 29.6
comp=Z,44nm,1.0s
C27K IAMs_20 IAMs_20 14 45 21.7
comp=Z,2µm,20.0s
C27K Jago River 68.65 354 P **P** **14 15 27.2 +0.4**
baz=14,SNR=17
A19K Wainwright 68.75 0 P **P** **14 15 27.7 +0.3**
baz=360
D27M Malcolm River 68.78 353 IAmb IAmb 14 15 29.8
comp=Z,32nm,1.1s
D27M Malcolm River 68.78 353 P **P** **14 15 27.7 -0.1**
baz=16,SNR=11
INK Inuvik 68.81 350 IAmb IAmb 14 15 39.2
comp=Z,29nm,1.1s
INK Inuvik 68.81 350 P **P** **14 15 27.9 0.0**
baz=22,SNR=5.7
MVL Millersville 68.81 305 IAmb IAmb 14 15 39.9
comp=Z,33nm,1.3s
C23K Itkillik River 68.89 356 IAmb IAmb 14 15 30.8
comp=Z,53nm,1.1s
C23K IAMs_20 IAMs_20 14 45 59.0
comp=Z,2µm,20.0s
C23K Itkillik River 68.89 356 P **P** **14 15 28.6 +0.3**
baz=8.0,SNR=7.6
C24K Franklin Bluff 68.90 356 IAmb IAmb 14 15 55.2
comp=Z,58nm,1.2s
C24K IAMs_20 IAMs_20 14 46 01.4
comp=Z,2µm,20.0s
C24K Franklin Bluff 68.90 356 P **P** **14 15 28.7 +0.4**
baz=9.5
B20K Meade River 68.92 359 IAMs_20 IAMs_20 14 45 38.0
comp=Z,3µm,21.0s
B20K Meade River 68.92 359 P **P** **14 15 29.0 +0.5**
baz=2.7
KMI Kunming 68.93 75 P **P** **14 15 29.4 -0.2**
KMI sP **pP** **14 15 37.6 +0.6**
KMI PP **PP** **14 18 07.8 +6.1**
KMI S **S** **14 24 40.1 +7.1**
KMI pmax pmax
comp=Z,29nm,1.2s
KMI LR LR
comp=Z,980nm,14.8s
KMI LR LR
comp=Z,1µm,17.4s
KMI LR LR
comp=Z,2µm,20.0s
DGPR DIGLIPUR 68.93 91 *e*P **P** **14 15 25.8 -3.6**
DGPR IAmb IAmb 14 15 34.3
comp=Z,22nm,0.9s
RCBR Riachuelo 69.04 241 IAMs_20 IAMs_20 14 50 12.3
comp=Z,4µm,18.0s
HEH HeiHe 69.08 41 *e*P **P** **14 15 30.1 +0.2**
HEH pP **pP** **14 15 36.3 -0.9**
HEH PP **PP** **14 18 07.1 +5.0**
HEH pmax pmax
comp=Z,42nm,1.0s
HEH pmax pmax
comp=Z,930nm,4.0s
HEH LR LR
comp=Z,5µm,14.9s
HEH LR LR
comp=Z,10µm,14.7s
HEH LR LR
comp=Z,14µm,15.1s

D25K	**Kavik River**	**69.15**	**355**	IAmb	IAmb	14 16 07.0			
	comp=Z,26nm,0.9s								
D25K				IAMs_20	IAMs_20	14 45 51.9			
	comp=Z,2µm,21.0s								
D25K	**Kavik River**	**69.15**	**355**	P	**P**	**14 15 30.3**	**+0.3**		
	baz=11,SNR=10.0								
BJI	**Beijing**	**69.16**	**55**	P	**P**	**14 15 30.0**	**-0.5**		
BJI				pP	**pP**	**14 15 35.9**	**-2.0**		
BJI				sP	**sP**	**14 15 38.8**	**-1.8**		
BJI				ScP		14 19 55.8			
BJI				S	**S**	**14 24 31.8**	**-3.0**		
BJI				pmax	pmax				
	comp=Z,14nm,1.8s								
BJI				pmax	pmax				
	comp=Z,190nm,5.4s								
BJI				LR	LR				
	comp=Z,2µm,19.0s								
BJI				LR	LR				
	comp=Z,2µm,20.2s								
BJI				LR	LR				
	comp=Z,4µm,20.3s								
R61A	**Willards**	**69.17**	**303**	IAMs_20	IAMs_20	14 48 10.0			
	comp=Z,3µm,18.0s								
E28M	**Babbage River**	**69.25**	**352**	IAmb	IAmb	14 15 32.7			
	comp=Z,30nm,1.1s								
E28M	**Babbage River**	**69.25**	**352**	P	**P**	**14 15 31.7**	**+1.1**		
	baz=17,SNR=12								
B21K	**Ikpikpuk River**	**69.25**	**358**	IAmb	IAmb	14 15 32.9			
	comp=Z,40nm,1.2s								
B21K	**Ikpikpuk River**	**69.25**	**358**	P	**P**	**14 15 31.8**	**+1.2**		
	baz=4.8,SNR=5.4								
E29M	**Blow River**	**69.28**	**351**	P	**P**	**14 15 31.0**	**+0.3**		
E29M	**Blow River**	**69.28**	**351**	P	**P**	**14 15 31.1**	**+0.3**		
	baz=18,SNR=39								
SSPA	**Standing Stone**	**69.37**	**306**	P	**P**	**14 15 32.2**	**+0.4**		
SSPA				IAmb	IAmb	14 15 43.4			
	comp=Z,38nm,0.9s								
SSPA	**Standing Stone**	**69.37**	**306**	IAMs_20	IAMs_20	14 45 53.1			
	comp=Z,3µm,20.0s								
SEY	**Seymchan**	**69.42**	**21**	LR	LR	14 50 28.4			
	comp=Z,5µm,19.5s,baz=327,slow=40								
SEY	**Seymchan**	**69.42**	**21**	⇓*e*P	**P**	**14 15 31.4**	**-0.3**		
SEY				pmax	pmax				
	comp=Z,26nm,0.9s								
SEY				MLR	MLR				
	comp=Z,4µm,17.0s								
D24K	**Happy Valley**	**69.47**	**356**	IAMs_20	IAMs_20	14 46 30.4			
	comp=Z,2µm,20.0s								
D24K	**Happy Valley**	**69.47**	**356**	P	**P**	**14 15 32.5**	**+0.6**		
	baz=9.4								
E46A	**Sault Ste Mari**	**69.54**	**314**	IAMs_20	IAMs_20	14 47 01.3			
	comp=Z,4µm,19.0s								
B18K	**Kokolik River**	**69.59**	**1**	P	**P**	**14 15 33.6**	**+0.9**		
	baz=359,SNR=5.5								
F31M	**Tsiigehtchic**	**69.65**	**349**	P	**P**	**14 15 33.0**	**0.0**		
	baz=21,SNR=20								
C21K	**Knifeblade Rid**	**69.72**	**358**	P	**P**	**14 15 34.3**	**+0.7**		
	baz=4.6								
ERPA	**Erie**	**69.73**	**309**	IAmb	IAmb	14 15 36.3			
	comp=Z,29nm,0.8s								
ERPA				IAMs_20	IAMs_20	14 46 28.5			
	comp=Z,2µm,19.0s								
D23K	**Nanushuk River**	**69.76**	**356**	IAMs_20	IAMs_20	14 46 29.0			
	comp=Z,3µm,21.0s								
D23K	**Nanushuk River**	**69.76**	**356**	P	**P**	**14 15 34.5**	**+0.8**		
	baz=7.9,SNR=16								
F30M	**Barrier River**	**69.76**	**350**	P	**P**	**14 15 32.5**	**-1.3**		
F30M				IAmb	IAmb	14 15 48.4			
	comp=Z,40nm,1.1s								
F30M	**Barrier River**	**69.76**	**350**	P	**P**	**14 15 34.0**	**+0.2**		
	baz=20								
S61A	**Accomac**	**69.77**	**303**	IAMs_20	IAMs_20	14 46 43.9			
	comp=Z,3µm,19.0s								
BOSA	**Boshof**	**69.82**	**175**	P	**P**	**14 15 35.2**	**+0.6**		
BOSA				IAmb	IAmb	14 15 52.3			
	comp=Z,48nm,1.1s								
BOSA	**Boshof**	**69.82**	**175**	P	**P**	**14 15 34.7**	**+0.1**		
	comp=Z,16nm,1.0s,baz=0.6,slow=6.4,SNR=40								
BOSA				LR	LR	14 49 14.1			
	comp=Z,5µm,18.1s,baz=4.5,slow=38								
	comp=Z,16nm,1.0s								
BOSA	**Boshof**	**69.82**	**175**	P	**P**	**14 15 35.2**	**+0.6**		
BOSA				pmax	pmax				
	comp=Z,48nm,1.1s								
HNS	**HongShan**	**69.83**	**58**	⇑P	**P**	**14 15 34.6**	**-0.1**		
HNS				pmax	pmax				
	comp=Z,30nm,1.2s								
HNS				pmax	pmax				
	comp=Z,1µm,6.6s								
HNS				LR	LR				
	comp=Z,3µm,17.2s								
HNS				LR	LR				
	comp=Z,2µm,19.4s								
HNS				LR	LR				
	comp=Z,4µm,18.1s								
C19K	**Lookout Ridge**	**69.85**	**360**	IAmb	IAmb	14 15 37.0			
	comp=Z,46nm,1.3s								
C19K				IAMs_20	IAMs_20	14 46 29.7			
	comp=Z,3µm,21.0s								
C19K	**Lookout Ridge**	**69.85**	**360**	P	**P**	**14 15 35.5**	**+1.2**		
	baz=0.8								
E27K	**Coleen River**	**69.86**	**353**	IAmb	IAmb	14 15 37.1			
	comp=Z,44nm,1.1s								
E27K	**Coleen River**	**69.86**	**353**	P	**P**	**14 15 35.3**	**+0.9**		
	baz=15,SNR=19								
D22K	**Ayikyak River**	**69.93**	**357**	IAMs_20	IAMs_20	14 45 28.6			
	comp=Z,2µm,22.0s								
D22K	**Ayikyak River**	**69.93**	**357**	P	**P**	**14 15 35.4**	**+0.6**		
	baz=6.3,SNR=8.6								
CHTO	**Chiang Mai**	**69.94**	**82**	P	**P**	**14 15 35.0**	**-0.7**		
CHTO	**Chiang Mai**	**69.94**	**82**	P	**P**	**14 15 34.6**	**-1.1**		
TOLK	**Toolik Lake Re**	**70.02**	**356**	IAMs_20	IAMs_20	14 46 48.0			
	comp=Z,2µm,20.0s								
TOLK	**Toolik Lake Re**	**70.02**	**356**	P	**P**	**14 15 36.5**	**+1.0**		
	baz=8.8,SNR=6.0								
LYN	**LuoYang**	**70.08**	**61**	P	**P**	**14 15 35.9**	**-0.4**		
LYN				pP	**pP**	**14 15 40.6**	**-3.1**		
LYN				S	**S**	**14 24 52.3**	**+6.4**		
LYN				pmax	pmax				
	comp=Z,46nm,0.8s								
LYN				pmax	pmax				
	comp=Z,1µm,6.9s								
LYN				LR	LR				
	comp=Z,4µm,19.6s								
LYN				LR	LR				
	comp=Z,2µm,17.5s								
LYN				LR	LR				
	comp=Z,4µm,17.9s								
YKAW3	**Yellowknife Wh**	**70.11**	**339**	IAmb	IAmb	14 15 38.1			
	comp=Z,71nm,1.1s								
YKAW1	**Yellowknife Wh**	**70.14**	**339**	IAmb	IAmb	14 15 38.3			
	comp=Z,39nm,1.0s								
CM31	**Chiang Mai Arr**	**70.16**	**83**	IAmb	IAmb	14 15 46.6			
	comp=Z,35nm,0.9s								
CM31	**Chiang Mai Arr**	**70.16**	**83**	P	**P**	**14 15 36.4**	**-0.6**		
	SNR=24								
CMAR	**Chiang Mai Arr**	**70.16**	**83**	P	**P**	**14 15 36.0**	**-1.0**		
	comp=Z,10nm,0.7s,baz=302,slow=7.9,SNR=70								
CMAR				PKPPKP	**P'P'df**	**14 43 36.5**	**-5.7**		
	comp=Z,0.2nm,0.3s,baz=114,slow=3.9,SNR=5.4								
CMAR				LR	LR	14 53 05.3			
	comp=Z,782nm,18.1s,baz=290,slow=42								
	comp=Z,10nm,0.7s								
YKA	**Yellowknife Ar**	**70.17**	**339**	P	**P**	**14 15 36.8**	**+0.5**		
YKA	**Yellowknife Ar**	**70.17**	**339**	P	**P**	**14 15 36.5**	**+0.2**		
	comp=Z,28nm,0.9s,baz=36,slow=6.8,SNR=40								
YKA				LR	LR	14 48 54.5			
	comp=Z,2µm,18.5s,baz=36,slow=38								
	comp=Z,28nm,0.9s								
YKA	**Yellowknife Ar**	**70.17**	**339**	P	**P**	**14 15 36.8**	**+0.5**		
D20K	**Etivluk River**	**70.21**	**359**	IAmb	IAmb	14 16 45.2			
	comp=Z,75nm,1.4s								
D20K	**Etivluk River**	**70.21**	**359**	P	**P**	**14 15 37.3**	**+0.7**		
	baz=3.1								
G31M	**Satah River**	**70.21**	**349**	IAmb	IAmb	14 16 23.9			
	comp=Z,38nm,1.1s								
G31M	**Satah River**	**70.21**	**349**	P	**P**	**14 15 37.1**	**+0.6**		
	baz=21,SNR=7.5								
I49A	**Point Hope**	**70.24**	**311**	IAMs_20	IAMs_20	14 45 29.9			
	comp=Z,5µm,20.0s								
F28M	**Old Crow**	**70.24**	**352**	P	**P**	**14 15 37.1**	**+0.3**		
	baz=16,SNR=11								
E25K	**Arctic Village**	**70.27**	**354**	IAmb	IAmb	14 15 58.7			
	comp=Z,79nm,1.8s								
E25K				IAMs_20	IAMs_20	14 46 00.6			
	comp=Z,2µm,21.0s								
E25K	**Arctic Village**	**70.27**	**354**	P	**P**	**14 15 37.9**	**+1.0**		
	baz=12,SNR=8.4								
C18K	**Utukok River**	**70.31**	**0**	IAMs_20	IAMs_20	14 46 47.9			
	comp=Z,2µm,20.0s								
C18K	**Utukok River**	**70.31**	**0**	P	**P**	**14 15 38.1**	**+0.9**		
	baz=360,SNR=9.2								
E21K	**Killik River**	**70.42**	**357**	P	**P**	**14 15 38.8**	**+0.9**		
	baz=5.2,SNR=7.1								
G30M	**tAoh Zraii Nji**	**70.42**	**350**	IAmb	IAmb	14 15 51.3			
	comp=Z,32nm,1.1s								
G30M	**tAoh Zraii Nji**	**70.42**	**350**	P	**P**	**14 15 38.4**	**+0.5**		
	baz=19,SNR=6.1								
D19K	**Kuna River**	**70.45**	**359**	IAmb	IAmb	14 15 55.0			
	comp=Z,44nm,1.0s								
D19K				IAMs_20	IAMs_20	14 47 00.5			
	comp=Z,2µm,20.0s								
D19K	**Kuna River**	**70.45**	**359**	P	**P**	**14 15 38.3**	**+0.2**		
	baz=1.9								
C17K	**DeLong Mountai**	**70.47**	**1**	P	**P**	**14 15 39.3**	**+1.2**		
	baz=358,SNR=9.5								
PAMR	**Moraine State**	**70.51**	**308**	IAmb	IAmb	14 15 41.3			
	comp=Z,52nm,1.1s								
E24K	**Your Creek**	**70.52**	**355**	IAMs_20	IAMs_20	14 47 05.1			
	comp=Z,2µm,20.0s								
E24K	**Your Creek**	**70.52**	**355**	P	**P**	**14 15 39.3**	**+0.8**		
	baz=9.6,SNR=11								
CBN	**Corbin Frederi**	**70.53**	**304**	IAmb	IAmb	14 15 54.9			
	comp=Z,37nm,0.7s								
CBN				IAMs_20	IAMs_20	14 49 03.8			
	comp=Z,4µm,18.0s								
F26K	**Sheenjek River**	**70.58**	**353**	IAmb	IAmb	14 16 01.6			
	comp=Z,35nm,1.1s								
F26K	**Sheenjek River**	**70.58**	**353**	P	**P**	**14 15 40.0**	**+1.2**		
	baz=13,SNR=18								
E23K	**Chandalar**	**70.60**	**356**	IAmb	IAmb	14 16 00.8			
	comp=Z,40nm,0.9s								
E23K	**Chandalar**	**70.60**	**356**	P	**P**	**14 15 40.5**	**+1.5**		
	baz=8.7,SNR=11								
C16K	**Lisburne Hills**	**70.62**	**2**	IAMs_20	IAMs_20	14 47 22.2			
	comp=Z,2µm,20.0s								
C16K	**Lisburne Hills**	**70.62**	**2**	P	**P**	**14 15 40.1**	**+1.1**		
	baz=356								
E22K	**Anaktuvuk Pass**	**70.64**	**357**	IAmb	IAmb	14 16 01.9			
	comp=Z,33nm,0.9s								
E22K				IAMs_20	IAMs_20	14 47 17.3			
	comp=Z,2µm,20.0s								
E22K	**Anaktuvuk Pass**	**70.64**	**357**	P	**P**	**14 15 40.5**	**+1.3**		
	baz=7.0,SNR=13								
E20K	**Nigu River**	**70.66**	**358**	P	**P**	**14 15 39.6**	**+0.2**		
	baz=3.5								
GLMI	**Grayling**	**70.68**	**313**	IAMs_20	IAMs_20	14 46 22.6			
	comp=Z,3µm,20.0s								
G29M	**Pine Creek**	**70.71**	**351**	P	**P**	**14 15 40.2**	**+0.6**		
	baz=18,SNR=33								
TBO	**Thunder Bay**	**70.73**	**318**	IAmb	IAmb	14 15 42.8			
	comp=Z,52nm,1.1s								
F25K	**Christian Rive**	**70.80**	**354**	IAMs_20	IAMs_20	14 46 49.4			
	comp=Z,2µm,21.0s								
F25K	**Christian Rive**	**70.80**	**354**	P	**P**	**14 15 41.4**	**+1.2**		
	baz=12,SNR=8.6								
K50A	**Casco**	**70.85**	**310**	IAMs_20	IAMs_20	14 45 26.2			
	comp=Z,4µm,21.0s								
BMAR	**Burnt Mountain**	**70.87**	**354**	P	**P**	**14 15 40.4**	**-0.2**		
M52A	**Chesterland**	**70.89**	**309**	IAMs_20	IAMs_20	14 47 13.2			
	comp=Z,4µm,18.0s								
RDOG	**Red Dog Mine**	**70.89**	**1**	IAmb	IAmb	14 16 34.5			
	comp=Z,39nm,1.2s								
RDOG				IAMs_20	IAMs_20	14 45 56.2			
	comp=Z,2µm,22.0s								
RDOG	**Red Dog Mine**	**70.89**	**1**	P	**P**	**14 15 41.6**	**+0.9**		
	baz=358								
GYA	**Guiyang**	**70.95**	**71**	⇓P	**P**	**14 15 42.3**	**+0.4**		
GYA				S	**S**	**14 24 56.1**	**-0.4**		
GYA				pmax	pmax				
	comp=Z,29nm,1.2s								
GYA				pmax	pmax				
	comp=Z,480nm,3.2s								
GYA				LR	LR				
	comp=Z,620nm,4.9s								
GYA				LR	LR				
	comp=Z,430nm,4.2s								
GYA				LR	LR				
	comp=Z,470nm,6.2s								
R58B	**Mineral**	**70.99**	**304**	IAMs_20	IAMs_20	14 48 31.0			
	comp=Z,3µm,20.0s								
F24K	**Squaw Lake**	**71.03**	**355**	IAmb	IAmb	14 15 44.8			
	comp=Z,38nm,1.1s								
F24K	**Squaw Lake**	**71.03**	**355**	P	**P**	**14 15 42.7**	**+1.1**		
	baz=10.0,SNR=25								
N53A	**Lisbon**	**71.04**	**308**	IAMs_20	IAMs_20	14 45 59.2			
	comp=Z,4µm,20.0s								
EPYK	**Eagle Plains**	**71.06**	**350**	IAmb	IAmb	14 15 56.3			
	comp=Z,31nm,0.8s								
EPYK				IAMs_20	IAMs_20	14 48 36.4			
	comp=Z,2µm,20.0s								
EPYK	**Eagle Plains**	**71.06**	**350**	P	**P**	**14 15 42.4**	**+0.6**		
	baz=19,SNR=7.2								
Q56A	**Snyder Ridge,**	**71.14**	**306**	IAMs_20	IAMs_20	14 47 24.9			
	comp=Z,3µm,20.0s								
O54A	**Avella**	**71.15**	**307**	IAmb	IAmb	14 15 54.2			
	comp=Z,44nm,1.0s								
G27K	**Doyon Strip**	**71.21**	**352**	IAmb	IAmb	14 15 58.0			
	comp=Z,53nm,1.4s								
G27K	**Doyon Strip,**	**71.21**	**352**	P	**P**	**14 15 43.6**	**+1.0**		
	baz=15,SNR=22								
D17K	**Noatak River**	**71.25**	**1**	P	**P**	**14 15 43.2**	**+0.3**		
	baz=358,SNR=17								
G26K	**Porcupine Rive**	**71.27**	**353**	IAmb	IAmb	14 15 46.2			
	comp=Z,49nm,1.1s								
G26K	**Porcupine Rive**	**71.27**	**353**	P	**P**	**14 15 43.9**	**+0.9**		
	baz=13,SNR=26								
H31M	**Peel River**	**71.27**	**349**	IAmb	IAmb	14 16 05.1			
	comp=Z,40nm,1.1s								
H31M				IAMs_20	IAMs_20	14 48 40.9			
	comp=Z,2µm,19.0s								
H31M	**Peel River**	**71.27**	**349**	P	**P**	**14 15 43.7**	**+0.7**		
	baz=20,SNR=5.2								
F22K	**John River**	**71.28**	**357**	P	**P**	**14 15 44.3**	**+1.3**		
	baz=6.6,SNR=8.0								
H29M	**Whitestone**	**71.41**	**351**	IAmb	IAmb	14 15 59.0			
	comp=Z,31nm,0.8s								
H29M				IAMs_20	IAMs_20	14 48 42.6			
	comp=Z,2µm,20.0s								
H29M	**Whitestone**	**71.41**	**351**	P	**P**	**14 15 43.8**	**-0.1**		
	baz=17,SNR=11								
COLD	**Coldfoot**	**71.46**	**356**	IAmb	IAmb	14 15 46.7			
	comp=Z,48nm,1.0s								
COLD				IAMs_20	IAMs_20	14 47 45.0			
	comp=Z,3µm,22.0s								
COLD	**Coldfoot**	**71.46**	**356**	P	**P**	**14 15 45.1**	**+0.9**		
	baz=8.2,SNR=34								
E19K	**Redstone River**	**71.48**	**359**	IAmb	IAmb	14 16 00.1			
	comp=Z,39nm,0.8s								
E19K				IAMs_20	IAMs_20	14 47 34.7			
	comp=Z,2µm,21.0s								
E19K	**Redstone River**	**71.48**	**359**	P	**P**	**14 15 45.2**	**+0.9**		
	baz=2.6,SNR=22								
V61A	**Roper**	**71.50**	**302**	IAMs_20	IAMs_20	14 50 08.5			
	comp=Z,4µm,18.0s								
E18K	**Tukpahlearik C**	**71.55**	**0**	IAmb	IAmb	14 15 46.6			
	comp=Z,32nm,1.0s								
E18K				IAMs_20	IAMs_20	14 47 38.4			
	comp=Z,2µm,21.0s								
E18K	**Tukpahlearik C**	**71.55**	**0**	P	**P**	**14 15 45.5**	**+0.9**		
	baz=360,SNR=14								
O53A	**New Philadelph**	**71.61**	**308**	IAmb	IAmb	14 15 48.6			
	comp=Z,55nm,0.9s								
F21K	**Alatna River**	**71.62**	**357**	IAmb	IAmb	14 15 48.1			
	comp=Z,41nm,0.9s								
F21K	**Alatna River**	**71.62**	**357**	P	**P**	**14 15 46.4**	**+1.2**		
	baz=5.6,SNR=23								
G25K	**Bearman Lake**	**71.65**	**354**	P	**P**	**14 15 46.2**	**+0.9**		
	baz=11,SNR=15								
MA2	**Magadan**	**71.67**	**24**	P	**P**	**14 15 46.2**	**+0.7**		
MA2				IAmb	IAmb	14 15 59.1			
	comp=Z,41nm,1.0s								
MA2	**Magadan**	**71.67**	**24**	LR	LR	14 51 09.7			
	comp=Z,9µm,18.3s,baz=324,slow=39								
MA2	**Magadan**	**71.67**	**24**	P	**P**	**14 15 46.5**	**+1.0**		
MA2	**Magadan**	**71.67**	**24**	⇑*e*P	**P**	**14 15 45.0**	**-0.5**		
MA2				pmax	pmax				
	comp=Z,35nm,1.3s								
MA2				MLR	MLR				
	comp=Z,8µm,17.0s								
WRGLY	**Wrigley**	**71.67**	**343**	P	**P**	**14 15 46.5**	**+1.1**		
	baz=28,SNR=10								
AAM	**Ann Arbor**	**71.74**	**311**	IAMs_20	IAMs_20	14 49 00.8			
	comp=Z,4µm,18.0s								
H27K	**Steamboat Moun**	**71.76**	**352**	P	**P**	**14 15 46.8**	**+0.8**		
	baz=15,SNR=26								
S57A	**Dark Hollow, R**	**71.78**	**304**	IAMs_20	IAMs_20	14 49 24.0			
	comp=Z,3µm,18.0s								
G24K	**Hadweenzic Riv**	**71.81**	**355**	P	**P**	**14 15 47.4**	**+1.1**		
	baz=10,SNR=9.8								
G22K	**Bettles**	**71.83**	**356**	P	**P**	**14 15 46.9**	**+0.5**		
	baz=7.1								
F20K	**Avaraart Lake**	**71.86**	**358**	IAmb	IAmb	14 16 01.7			
	comp=Z,94nm,1.8s								
F20K	**Avaraart Lake**	**71.86**	**358**	P	**P**	**14 15 47.4**	**+0.9**		
	baz=3.8,SNR=13								
E17K	**Hotham Inlet**	**71.88**	**1**	P	**P**	**14 15 47.3**	**+0.7**		
	baz=359,SNR=7.2								
M50A	**Fremont**	**71.96**	**309**	IAMs_20	IAMs_20	14 48 09.5			
	comp=Z,3µm,18.0s								
G23K	**Bananza Creek**	**71.97**	**356**	IAMs_20	IAMs_20	14 48 02.3			
	comp=Z,2µm,21.0s								
G23K	**Bananza Creek**	**71.97**	**356**	P	**P**	**14 15 47.7**	**+0.4**		
	baz=8.3,SNR=16								
F42A	**Maple Grove Fa**	**71.97**	**315**	IAMs_20	IAMs_20	14 45 58.7			
	comp=Z,3µm,20.0s								
BNX	**BinXian**	**72.02**	**45**	⇑P	**P**	**14 15 48.4**	**+0.6**		
BNX				pmax	pmax				
	comp=Z,28nm,1.6s								
O52A	**Adamsville**	**72.06**	**308**	IAMs_20	IAMs_20	14 47 33.7			
	comp=Z,3µm,20.0s								
SLVN	**Son La**	**72.07**	**77**	P	**P**	**14 15 48.9**	**+0.3**		
TIA	**Tai'an**	**72.09**	**57**	P	**P**	**14 15 48.5**	**0.0**		
TIA				S	**S**	**14 25 10.5**	**+1.4**		
TIA				pmax	pmax				
	comp=Z,39nm,1.1s								
TIA				pmax	pmax				
	comp=Z,1µm,5.0s								
FFC	**Flin Flon**	**72.09**	**329**	P	**P**	**14 15 46.6**	**-1.5**		
FFC	**Flin Flon**	**72.09**	**329**	P	**P**	**14 15 46.6**	**-1.5**		
FFC				pmax	pmax				
	comp=Z,23nm,0.9s								
FFC				MLR	MLR				
	comp=Z,6µm,19.0s								
I30M	**Mount Dempster**	**72.11**	**350**	IAmb	IAmb	14 16 03.5			
	comp=Z,50nm,1.0s								
I30M	**Mount Dempster**	**72.11**	**350**	P	**P**	**14 15 48.7**	**+0.5**		
	baz=19,SNR=25								
H25L	**Birch Creek**	**72.12**	**354**	P	**P**	**14 15 48.8**	**+0.7**		
	baz=12,SNR=27								
F19K	**Shaleruckik Mo**	**72.12**	**359**	IAmb	IAmb	14 15 50.0			
	comp=Z,33nm,1.0s								
F19K	**Shaleruckik Mo**	**72.12**	**359**	P	**P**	**14 15 48.4**	**+0.3**		
	baz=2.2,SNR=21								
NBAN	**Anadia - AL**	**72.15**	**239**	*e*P	**P**	**14 15 51.6**	**+2.6**		
Q54A	**Coxs Mills**	**72.17**	**306**	IAmb	IAmb	14 16 00.1			
	comp=Z,47nm,1.0s								
R55A	**Marlinton**	**72.18**	**305**	IAmb	IAmb	14 16 00.5			
	comp=Z,43nm,0.9s								
R55A				IAMs_20	IAMs_20	14 47 56.4			
	comp=Z,4µm,19.0s								
CN2	**Changchun**	**72.23**	**47**	P	**P**	**14 15 49.8**	**+0.7**		
CN2				sP	**pP**	**14 15 56.6**	**+0.1**		
CN2				S	**S**	**14 25 08.5**	**-1.9**		
CN2				pmax	pmax				
	comp=Z,30nm,0.6s								
CN2				pmax	pmax				
	comp=Z,510nm,6.0s								
CN2				LR	LR				
	comp=Z,3µm,14.0s								
CN2				LR	LR				
	comp=Z,4µm,14.0s								
CN2				LR	LR				
	comp=Z,4µm,16.0s								
I29M	**Ogilvie Camp,**	**72.23**	**350**	P	**P**	**14 15 48.2**	**-0.6**		
	baz=17								
EYMN	**Ely**	**72.23**	**319**	IAmb	IAmb	14 15 50.9			
	comp=Z,34nm,1.1s								
EYMN	**Ely**	**72.23**	**319**	IAMs_20	IAMs_20	14 48 06.6			
	comp=Z,4µm,19.0s								
G21K	**Allakaket**	**72.33**	**357**	IAmb	IAmb	14 15 52.1			
	comp=Z,40nm,1.1s								
G21K	**Allakaket**	**72.33**	**357**	P	**P**	**14 15 49.7**	**+0.4**		
	baz=5.5								
I28M	**Miner Creek**	**72.34**	**351**	P	**P**	**14 15 49.9**	**+0.4**		
	baz=16,SNR=19								
F18K	**Selawik**	**72.37**	**360**	P	**P**	**14 15 49.7**	**+0.1**		
	baz=0.7,SNR=13								
I27K	**Kandik River**	**72.37**	**352**	P	**P**	**14 15 49.6**	**-0.1**		
	baz=15,SNR=23								
T57A	**Hurt**	**72.44**	**304**	IAMs_20	IAMs_20	14 50 11.6			
	comp=Z,2µm,18.0s								
SNY	**Shenyang**	**72.45**	**50**	⇓P	**P**	**14 15 51.4**	**+0.9**		
SNY				S	**S**	**14 25 11.6**	**-1.4**		
SNY				pmax	pmax				
	comp=Z,10.0nm,0.5s								
SNY				pmax	pmax				
	comp=Z,460nm,5.9s								
SNY				LR	LR				
	comp=Z,3µm,16.1s								
SNY				LR	LR				
	comp=Z,3µm,13.9s								
SNY				LR	LR				
	comp=Z,5µm,17.3s								
F17K	**Baldwin Pennin**	**72.53**	**0**	P	**P**	**14 15 50.6**	**+0.1**		
	baz=359								
H43A	**Windswept, Lux**	**72.63**	**314**	IAMs_20	IAMs_20	14 48 39.0			
	comp=Z,3µm,20.0s								
ACSO	**Alum Creek Sta**	**72.67**	**308**	IAmb	IAmb	14 16 02.9			
	comp=Z,50nm,1.0s								
H24K	**Noodor Dome**	**72.70**	**355**	P	**P**	**14 15 51.9**	**+0.3**		
	ba

	comp=Z,5µm,17.0s							
S54A	**Dingess, Beckl**	73.21	306	IAMs_20	IAMs_20	14 49 05.8		
	comp=Z,4µm,20.0s							
F15K	**North Star Dit**	73.22	2	IAMs_20	IAMs_20	14 49 02.7		
	comp=Z,2µm,20.0s							
F15K	**North Star Dit**	73.22	2	P	P	14 15 55.6	+1.0	
	baz=357,SNR=6.9							
TNA	**Tin City**	73.25	3	P	P	14 15 54.8	0.0	
	baz=354							
MDP	**Montagnes des**	73.34	262	LR	LR	14 46 39.3		
	comp=Z,1µm,18.8s,baz=72,slow=35							
POKR	**Poker Plat Res**	73.38	354	IAmb	IAmb	14 15 58.4		
	comp=Z,56nm,1.1s							
POKR	**Poker Plat Res**	73.38	354	P	P	14 15 56.4	+0.8	
	baz=10,SNR=9.1							
G40A	**Rib Lake**	73.38	316	IAMs_20	IAMs_20	14 47 04.0		
	comp=Z,2µm,20.0s							
SUR	**Sutherland**	73.38	179	P	P	14 15 57.5	+1.4	
H20K	**Anotleneega Mo**	73.40	358	P	P	14 15 56.9	+1.1	
	baz=4.4,SNR=19							
F14K	**Arctic Creek**	73.40	3	P	P	14 15 56.6	+0.9	
	baz=356							
H19K	**Roundabout Mou**	73.40	358	IAmb	IAmb	14 15 58.5		
	comp=Z,35nm,1.1s							
H19K	**Roundabout Mou**	73.40	358	P	P	14 15 56.7	+1.0	
	baz=3.2,SNR=19							
G17K	**Kiwalik Mounta**	73.47	0	P	P	14 15 57.1	+1.0	
	baz=360,SNR=7.0							
O49A	**Covington**	73.49	309	IAmb	IAmb	14 15 58.9		
	comp=Z,77nm,1.2s							
O49A				IAMs_20	IAMs_20	14 48 34.1		
	comp=Z,4µm,20.0s							
U56A	**King**	73.56	304	IAMs_20	IAMs_20	14 50 47.1		
	comp=Z,2µm,19.0s							
G16K	**Koyuk River**	73.57	1	IAMs_20	IAMs_20	14 47 40.1		
	comp=Z,3µm,22.0s							
G16K	**Koyuk River**	73.57	1	P	P	14 15 57.1	+0.4	
	baz=359,SNR=6.5							
K29M	**Barlow Dome**	73.58	350	IAmb	IAmb	14 16 11.5		
	comp=Z,39nm,1.1s							
K29M				IAMs_20	IAMs_20	14 51 02.9		
	comp=Z,2µm,20.0s							
K29M	**Barlow Dome**	73.58	350	P	P	14 15 57.6	+0.7	
	baz=18,SNR=15							
MAYO	**Mayo, Yukon**	73.59	349	P	P	14 15 57.5	+0.6	
	baz=19,SNR=6.5							
I21K	**Tanana**	73.59	356	IAMs_20	IAMs_20	14 48 53.4		
	comp=Z,2µm,20.0s							
I21K	**Tanana**	73.59	356	P	P	14 15 57.9	+1.1	
	baz=6.7							
DAWY	**Dawson**	73.61	351	IAmb	IAmb	14 15 59.6		
	comp=Z,53nm,1.0s							
DAWY	**Dawson**	73.61	351	P	P	14 15 57.5	+0.5	
	baz=16,SNR=43							
I42A	**Draeger Farm,**	73.62	314	IAMs_20	IAMs_20	14 49 28.5		
	comp=Z,4µm,18.0s							
COLA	**College**	73.65	354	P	P	14 15 58.0	+0.9	
COLA	**College**	73.65	354	*ce*P	P	14 15 58.1	+0.9	
COLA				pmax	pmax			
	comp=Z,29nm,1.0s							
COLA	**College**	73.65	354	P	P	14 15 58.0	+0.9	
	baz=9.9							
J26L	**Joseph Creek**	73.65	352	IAmb	IAmb	14 15 59.6		
	comp=Z,38nm,1.0s							
J26L	**Joseph Creek**	73.65	352	P	P	14 15 57.7	+0.4	
	baz=13,SNR=30							
Q51A	**Peebles**	73.66	308	IAmb	IAmb	14 16 00.1		
	comp=Z,50nm,1.0s							
Q51A				IAMs_20	IAMs_20	14 48 31.5		
	comp=Z,4µm,20.0s							
Y60A	**Bolivia**	73.66	301	IAMs_20	IAMs_20	14 50 34.8		
	comp=Z,2µm,19.0s							
ILAR	**Eielson Array**	73.68	354	P	P	14 15 57.4	+0.1	
ILAR	**Eielson Array**	73.68	354	P	P	14 15 58.0	+0.7	
	comp=Z,7.6nm,0.9s,baz=5.0,slow=5.3,SNR=51							
ILAR				PKPPKP	P'P'df	14 43 33.6	-6.1	
	comp=Z,1.3nm,1.1s,baz=211,slow=1.1,SNR=5.0							
ILAR				LR	LR	14 49 00.0		
	comp=Z,2µm,21.0s,baz=3.0,slow=36							
	comp=Z,7.6nm,0.9s							
ILAR	**Eielson Array**	73.68	354	P	P	14 15 57.4	+0.1	
MLY	**Manley**	73.68	356	IAMs_20	IAMs_20	14 47 52.6		
	comp=Z,4µm,21.0s							
MLY	**Manley**	73.68	356	P	P	14 15 58.7	+1.2	
	baz=7.7,SNR=19							
J25K	**Salcha River,**	73.71	353	P	P	14 15 58.6	+0.9	
	baz=12,SNR=8.0							
WHN	**Wuhan**	73.79	64	P	P	14 15 59.0	+0.4	
WHN				S	S	14 25 30.8	+2.2	
WHN				pmax	pmax			
	comp=Z,140nm,1.2s							
WHN				LR	LR			
	comp=Z,8µm,20.6s							
H18K	**Honhosa River**	73.81	359	IAmb	IAmb	14 16 17.8		
	comp=Z,48nm,1.4s							
H18K	**Honhosa River**	73.81	359	P	P	14 15 59.0	+0.8	
	baz=1.7,SNR=8.1							
N47A	**Urbana**	73.83	310	IAmb	IAmb	14 16 00.7		
	comp=Z,65nm,1.3s							
N47A				IAMs_20	IAMs_20	14 47 45.9		
	comp=Z,4µm,20.0s							
CCB	**Clear Creek Bu**	73.87	354	IAmb	IAmb	14 16 13.1		
	comp=Z,67nm,1.9s							
MDJ	**Mudanjiang**	73.92	44	IAMs_20	IAMs_20	14 54 44.3		
	comp=Z,3µm,19.0s							
MDJ	**Mudanjiang**	73.92	44	P	P	14 16 00.3	+1.2	
MDJ				S	S	14 25 31.3	+1.7	
MDJ				pmax	pmax			
	comp=Z,10.0nm,1.2s							
MDJ				LR	LR			
	comp=Z,8µm,15.8s							
MDJ				LR	LR			
	comp=Z,6µm,14.8s							
MDJ				LR	LR			
	comp=Z,13µm,15.2s							
O48B	**Farmland**	73.92	310	IAmb	IAmb	14 16 01.2		
	comp=Z,39nm,1.1s							
O48B				IAMs_20	IAMs_20	14 48 04.5		
	comp=Z,3µm,20.0s							
G15K	**Niukluk**	73.95	2	P	P	14 15 59.5	+0.6	
	baz=357,SNR=6.9							
K27K	**Chicken**	73.95	352	IAMs_20	IAMs_20	14 50 57.8		
	comp=Z,2µm,20.0s							
K27K	**Chicken**	73.95	352	P	P	14 16 00.1	+1.1	
	baz=14							
NEA2	**Nenana**	74.01	355	P	P	14 15 60.0	+0.7	
	baz=8.9,SNR=5.2							
X58A	**Rowland**	74.03	302	IAMs_20	IAMs_20	14 49 35.7		
	comp=Z,2µm,20.0s							
HDA	**Harding Lake**	74.04	354	IAmb	IAmb	14 16 01.4		
	comp=Z,50nm,1.0s							
HDA	**Harding Lake**	74.04	354	P	P	14 16 00.2	+0.7	
	baz=11,SNR=29							
H17K	**Granite Mounta**	74.04	360	IAMs_20	IAMs_20	14 49 16.4		
	comp=Z,2µm,20.0s							
H17K	**Granite Mounta**	74.04	360	P	P	14 15 60.0	+0.5	
	baz=0.5							
WRH	**Wood River Hil**	74.06	354	IAmb	IAmb	14 16 01.7		
	comp=Z,46nm,1.0s							
W57A	**Gilead**	74.07	303	IAMs_20	IAMs_20	14 51 22.6		
	comp=Z,2µm,18.0s							
I20K	**Naaghedeneel**	74.08	357	IAmb	IAmb	14 16 02.4		
	comp=Z,60nm,1.0s							
I20K				IAMs_20	IAMs_20	14 49 09.3		
	comp=Z,2µm,20.0s							
I20K	**Naaghedeneel**	74.08	357	P	P	14 16 01.2	+1.6	
	baz=4.7,SNR=5.0							
K43A	**Burlington**	74.10	313	IAmb	IAmb	14 16 02.9		
	comp=Z,79nm,1.2s							
K43A				IAMs_20	IAMs_20	14 48 28.1		
	comp=Z,4µm,20.0s							
AGMN	**Agassiz Nation**	74.11	321	IAMs_20	IAMs_20	14 47 47.0		
	comp=Z,4µm,22.0s							
GCSA	**Galena City Sc**	74.20	358	P	P	14 16 01.0	+0.7	
	baz=2.9							
SCRK	**Sand Creek**	74.20	353	P	P	14 16 01.8	+1.2	
	baz=13,SNR=8.3							
TGTN	**Hyland Airport**	74.20	345	P	P	14 16 01.8	+1.3	
	baz=25,SNR=5.9							
H16K	**Elim**	74.33	1	P	P	14 16 01.9	+0.7	
	baz=359,SNR=7.7							
U54A	**Nelsons Funny**	74.34	305	IAmb	IAmb	14 16 12.9		
	comp=Z,52nm,0.9s							
U54A				IAMs_20	IAMs_20	14 50 44.7		
	comp=Z,3µm,18.0s							
ANM	**Nome**	74.34	2	P	P	14 16 02.1	+0.9	
	baz=356							
L29M	**L29M**	74.36	350	IAmb	IAmb	14 16 16.7		
	comp=Z,107nm,1.8s							
L29M				IAMs_20	IAMs_20	14 51 45.6		
	comp=Z,2µm,18.0s							
L29M	**L29M**	74.36	350	P	P	14 16 02.5	+1.0	
	baz=17,SNR=8.2							
V55A	**Taylorsville**	74.39	304	IAmb	IAmb	14 16 05.0		
	comp=Z,38nm,1.1s							
V55A				IAMs_20	IAMs_20	14 51 23.1		
	comp=Z,2µm,19.0s							
HQIL	**Hanson Quary C**	74.44	312	IAMs_20	IAMs_20	14 47 45.1		
	comp=Z,4µm,20.0s							
RIDG	**Independent Ri**	74.52	353	IAmb	IAmb	14 16 13.8		
	comp=Z,48nm,0.9s							
RIDG				IAMs_20	IAMs_20	14 49 20.7		
	comp=Z,2µm,22.0s							
RIDG	**Independent Ri**	74.52	353	P	P	14 16 02.8	+0.5	
	baz=12,SNR=18							
DOT	**Dot Lake**	74.53	353	IAmb	IAmb	14 16 05.3		
	comp=Z,54nm,1.1s							
I40A	**Norwalk**	74.53	315	IAMs_20	IAMs_20	14 50 14.5		
	comp=Z,4µm,18.0s							
K24K	**Donnelly Dome**	74.54	353	IAmb	IAmb	14 16 13.8		
	comp=Z,49nm,0.8s							
K24K				IAMs_20	IAMs_20	14 48 47.3		
	comp=Z,2µm,21.0s							
K24K	**Donnelly Dome**	74.54	353	P	P	14 16 03.0	+0.6	
	baz=12,SNR=10.0							
KOTAN	**Kotaneelee Air**	74.55	342	P	P	14 16 02.1	-0.4	
	baz=28							
P48A	**Milroy**	74.60	309	IAmb	IAmb	14 16 13.4		
	comp=Z,40nm,1.2s							
BPAW	**Bear Paw Mtn.**	74.62	356	P	P	14 16 02.9	0.0	
	baz=7.4,SNR=10							
Y58A	**Scranton**	74.66	302	IAMs_20	IAMs_20	14 51 25.2		
	comp=Z,4µm,18.0s							
M31M	**Drury Creek, Y**	74.67	348	IAMs_20	IAMs_20	14 52 31.8		
	comp=Z,3µm,19.0s							
M31M	**Drury Creek, Y**	74.67	348	P	P	14 16 04.8	+1.5	
	baz=20,SNR=13							
M30M	**Minto, Yukon**	74.69	349	IAMs_20	IAMs_20	14 52 37.2		
	comp=Z,3µm,18.0s							
M30M	**Minto, Yukon**	74.69	349	P	P	14 16 04.1	+0.8	
	baz=18							
J20K	**Nowinta River**	74.69	357	IAmb	IAmb	14 16 18.6		
	comp=Z,96nm,1.9s							
J20K	**Nowinta River**	74.69	357	P	P	14 16 04.3	+1.0	
	baz=5.0,SNR=13							
S51A	**Beattyville**	74.70	307	IAMs_20	IAMs_20	14 50 10.2		
	comp=Z,4µm,19.0s							
SPMN	**Marine on St.**	74.76	317	IAmb	IAmb	14 16 06.4		
	comp=Z,57nm,1.3s							
SPMN				IAMs_20	IAMs_20	14 50 29.3		
	comp=Z,4µm,18.0s							
M44A	**Midewin, Midew**	74.82	312	IAmb	IAmb	14 16 06.8		
	comp=Z,69nm,1.4s							
M44A				IAMs_20	IAMs_20	14 49 07.2		
	comp=Z,4µm,19.0s							
GAMB	**Gambell**	74.82	5	IAMs_20	IAMs_20	14 48 46.1		
	comp=Z,2µm,22.0s							
GAMB	**Gambell**	74.82	5	P	P	14 16 03.6	-0.4	
	baz=351							
MCK	**McKinley**	74.86	355	IAmb	IAmb	14 16 06.3		
	comp=Z,73nm,1.1s							
MCK	**McKinley**	74.86	355	P	P	14 16 04.7	+0.4	
	baz=9.0,SNR=22							
BCAR	**Beaver Creek A**	74.86	351	P	P	14 16 04.7	+0.4	
CHUM	**Lake Minchumin**	74.90	356	P	P	14 16 05.5	+1.0	
	baz=6.4,SNR=12							
J19K	**Poorman**	74.92	358	P	P	14 16 05.9	+1.3	
	baz=3.8,SNR=16							
KMSC	**Kings Mountain**	74.92	304	IAMs_20	IAMs_20	14 51 19.2		
	comp=Z,3µm,19.0s							
SFIN	**Lafyette**	74.96	311	IAmb	IAmb	14 16 07.3		
	comp=Z,58nm,1.4s							
SFIN				IAMs_20	IAMs_20	14 47 56.9		
	comp=Z,4µm,20.0s							
GCPR	**Guaynabo City**	74.97	281	IAmb	IAmb	14 16 15.9		
	comp=Z,42nm,0.8s							
TMAB	**Tom-Au,PA,Br**	75.03	253	*e*P	P	14 16 07.7	+1.7	
Y57A	**Sumter**	75.05	302	IAMs_20	IAMs_20	14 53 01.5		
	comp=Z,2µm,18.0s							
M29M	**Somme Creek**	75.05	350	IAmb	IAmb	14 16 17.8		
	comp=Z,46nm,0.8s							
M29M				IAMs_20	IAMs_20	14 53 01.7		
	comp=Z,2µm,18.0s							
M29M	**Somme Creek**	75.05	350	P	P	14 16 06.9	+1.4	
	baz=17,SNR=27							
L26K	**Log Cabin Wild**	75.07	352	P	P	14 16 06.9	+1.3	
	baz=13,SNR=11							
I17K	**Unalakleet**	75.10	0	P	P	14 16 06.2	+0.6	
	baz=360							
SJG	**San Juan**	75.14	281	LR	LR	14 44 54.9		
	comp=Z,672nm,21.3s,baz=66,slow=32							
KTH	**Kantishna Hill**	75.16	356	IAmb	IAmb	14 16 30.9		
	comp=Z,39nm,1.1s							
RND	**Reindeer**	75.17	355	IAMs_20	IAMs_20	14 49 45.1		
	comp=Z,2µm,22.0s							
R49A	**Shelbyville**	75.22	308	IAmb	IAmb	14 16 09.1		
	comp=Z,58nm,1.4s							
TRF	**Thorofare Moun**	75.22	355	P	P	14 16 07.5	+0.9	
	baz=3.0,SNR=7.3							
L42A	**Oliver, Polo**	75.30	313	IAmb	IAmb	14 16 08.8		
	comp=Z,38nm,1.1s							
L42A				IAMs_20	IAMs_20	14 49 04.0		
	comp=Z,4µm,20.0s							
PAX	**Paxson**	75.33	353	IAMs_20	IAMs_20	14 49 34.2		
	comp=Z,2µm,21.0s							
PAX	**Paxson**	75.33	353	P	P	14 16 08.0	+0.9	
	baz=12,SNR=8.5							
DHY	**Denali Highway**	75.39	354	IAmb	IAmb	14 16 09.8		
	comp=Z,73nm,1.1s							
DHY	**Denali Highway**	75.39	354	P	P	14 16 08.1	+0.6	
	baz=10,SNR=27							
BLO	**Bloomington**	75.43	310	IAmb	IAmb	14 16 18.7		
	comp=Z,56nm,1.1s							
N32M	**Quiet Lake**	75.44	347	IAMs_20	IAMs_20	14 55 38.2		
	comp=Z,2µm,18.0s							
N32M	**Quiet Lake**	75.44	347	P	P	14 16 08.7	+0.9	
	baz=21							
USRK	**Ussuriysk Ar.**	75.45	43	P	P	14 16 08.1	+0.1	
	comp=Z,14nm,0.9s,baz=294,slow=4.4,SNR=22							
	comp=Z,14nm,0.9s							
J18K	**Innoko River**	75.48	358	IAmb	IAmb	14 16 23.4		
	comp=Z,107nm,1.8s							
J18K	**Innoko River**	75.48	358	P	P	14 16 08.4	+0.5	
	baz=3.0							
CELP	**Cerrillos**	75.48	281	IAmb	IAmb	14 16 24.7		
	comp=Z,33nm,1.0s							
V53A	**Saluda**	75.50	305	IAMs_20	IAMs_20	14 51 39.5		
	comp=Z,2µm,19.0s							
K20K	**Telida**	75.51	357	IAmb	IAmb	14 16 10.7		
	comp=Z,40nm,1.1s							
K20K	**Telida**	75.51	357	P	P	14 16 09.3	+1.3	
	baz=5.0,SNR=20							
OBIP	**Obispado Ponce**	75.53	281	IAmb	IAmb	14 16 19.5		
	comp=Z,51nm,0.9s							
P46A	**Eagle**	75.53	310	IAMs_20	IAMs_20	14 50 52.0		
	comp=Z,4µm,20.0s							
M27K	**Edge Creek, AK**	75.56	351	IAmb	IAmb	14 16 32.4		
	comp=Z,42nm,1.1s							
M27K				IAMs_20	IAMs_20	14 55 43.2		
	comp=Z,2µm,19.0s							
M27K	**Edge Creek, AK**	75.56	351	P	P	14 16 10.1	+1.6	
	baz=14,SNR=11							
N31M	**Braeburn, Yuko**	75.57	348	IAmb	IAmb	14 16 19.4		
	comp=Z,40nm,0.9s							
N31M				IAMs_20	IAMs_20	14 52 54.6		
	comp=Z,2µm,19.0s							
N31M	**Braeburn, Yuko**	75.57	348	P	P	14 16 09.7	+1.2	
	baz=19,SNR=7.1							
TYV	**Tymovskoe**	75.58	33	*e*P	P	14 16 08.6	0.0	
TYV				*e*S	S	14 25 51.9	+4.0	
TYV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
TYV				pmax	pmax			
	comp=Z,300nm,4.8s							
TYV				smax	smax			
	comp=N,200nm,7.1s							
TYV				smax	smax			
	comp=E,300nm,7.1s							
TYV				MLR	MLR			
	comp=Z,2µm,17.0s							
J17K	**VABM Dome**	75.58	359	IAmb	IAmb	14 16 24.4		
	comp=Z,41nm,1.0s							
J17K	**VABM Dome**	75.58	359	P	P	14 16 09.5	+1.1	
	baz=1.1,SNR=10							
WTLY	**Watson Lake, Y**	75.60	344	P	P	14 16 10.1	+1.4	
	baz=24,SNR=6.8							
M26K	**Nabesna, AK**	75.64	352	P	P	14 16 09.8	+0.9	
	baz=14,SNR=13							
LIRD	**Liard River Hi**	75.66	343	P	P	14 16 09.4	+0.4	
	baz=26							
J16K	**Anvik River**	75.70	0	P	P	14 16 09.4	+0.3	
	baz=360							
WAT1	**Susitna Watana**	75.72	354	P	P	14 16 09.5	+0.2	
	baz=9.3							
N30M	**Aishikik Lake**	75.80	349	IAmb	IAmb	14 16 25.3		
	comp=Z,40nm,1.2s							
N30M				IAMs_20	IAMs_20	14 53 12.5		
	comp=Z,2µm,19.0s							
N30M	**Aishikik Lake**	75.80	349	P	P	14 16 10.1	+0.3	
	baz=18,SNR=7.4							
NJ2	**Nanjing**	75.82	60 ⇑	P	P	14 16 10.8	+0.5	
NJ2				pP	pP	14 16 17.6	-0.2	
NJ2				pmax	pmax			
	comp=Z,43nm,1.0s							
NJ2				LR	LR			
	comp=Z,4µm,11.3s							
NJ2				LR	LR			
	comp=Z,2µm,12.3s							
NJ2				LR	LR			
	comp=Z,4µm,10.6s							
T50A	**Nancy**	75.86	307	IAMs_20	IAMs_20	14 51 23.8		
	comp=Z,3µm,18.0s							
HARP	**HAARP**	75.86	353	P	P	14 16 10.2	+0.2	
	baz=12							
PPLA	**Purkeypile**	75.88	356	IAmb	IAmb	14 16 27.1		
	comp=Z,40nm,1.0s							
PPLA	**Purkeypile**	75.88	356	P	P	14 16 10.4	0.0	
	baz=6.5,SNR=7.3							
PSTR	**Posyet**	75.90	45	*de*P	P	14 16 10.6	0.0	
I37A	**Lemond, Waseca**	75.90	317	IAmb	IAmb	14 16 13.1		
	comp=Z,65nm,1.1s							
I37A				IAMs_20	IAMs_20	14 50 00.7		
	comp=Z,2µm,19.0s							
WAT6	**Susitna Watana**	75.91	354	P	P	14 16 10.6	+0.1	
	baz=9.9,SNR=7.5							
WCI	**Wyandotte Cave**	75.92	309	P	P	14 16 09.0	-1.8	
WCI				IAmb	IAmb	14 16 12.6		
	comp=Z,41nm,1.0s							
WCI	**Wyandotte Cave**	75.92	309	IAMs_20	IAMs_20	14 49 02.5		
	comp=Z,4µm,20.0s							
WCI	**Wyandotte Cave**	75.92	309	P	P	14 16 09.0	-1.8	
WCI				pmax	pmax			
	comp=Z,41nm,1.0s							
WCI				MLR	MLR			
	comp=Z,4µm,20.0s							
TOAD	**Toad River Com**	75.97	342	P	P	14 16 11.7	+0.9	
	baz=27,SNR=13							
HDIL	**Hopedale**	76.08	312	IAmb	IAmb	14 16 22.3		
	comp=Z,43nm,1.0s							
HDIL				IAMs_20	IAMs_20	14 49 18.5		
	comp=Z,4µm,20.0s							
TKL	**Tuckaleechee C**	76.10	305	LR	LR	14 51 34.4		
	comp=Z,4µm,18.1s,baz=66,slow=37							
L40A	**Anamosa**	76.11	314	IAmb	IAmb	14 16 13.7		
	comp=Z,45nm,1.1s							
YUK4	**Talbot Arm**	76.13	349	P	P	14 16 10.9	-0.9	
	baz=17							
MDND	**Maddock**	76.17	323	IAmb	IAmb	14 16 33.1		
	comp=Z,63nm,1.2s							
MDND				IAMs_20	IAMs_20	14 51 52.5		
	comp=Z,3µm,18.0s							
J14K	**Nanvaranak Lak**	76.21	1	IAMs_20	IAMs_20	14 51 17.9		
	comp=Z,2µm,21.0s							
J14K	**Nanvaranak Lak**	76.21	1	P	P	14 16 12.1	+0.1	
	baz=358							
WHY	**Whitehorse**	76.21	347	IAmb	IAmb	14 16 27.1		
	comp=Z,58nm,1.2s							
WHY	**Whitehorse**	76.21	347	P	P	14 16 12.5	+0.3	
	baz=20,SNR=5.3							
M24K	**Tolsona, Glenn**	76.24	353	P	P	14 16 12.7	+0.4	
	baz=11							
K17K	**Iditarod**	76.26	359	IAmb	IAmb	14 16 28.0		
	comp=Z,51nm,1.1s							
K17K	**Iditarod**	76.26	359	P	P	14 16 13.5	+1.2	
	baz=1.7,SNR=11							
CUT	**Chulitna**	76.26	355	IAmb	IAmb	14 16 28.2		
	comp=Z,71nm,1.2s							
CUT	**Chulitna**	76.26	355	P	P	14 16 12.3	0.0	
	baz=7.9							
P33M	**Teslin, Yukon**	76.28	346	IAMs_20	IAMs_20	14 51 57.3		
	comp=Z,2µm,21.0s							
P33M	**Teslin, Yukon**	76.28	346	P	P	14 16 13.7	+1.1	
	baz=21,SNR=8.4							
O30N	**Mendenhall**	76.30	348	IAMs_20	IAMs_20	14 53 34.8		
	comp=Z,3µm,18.0s							
O30N	**Mendenhall**	76.30	348	P	P	14 16 13.8	+1.2	
	baz=19,SNR=6.7							
YUK8	**Steele Glacier**	76.34	350	P	P	14 16 13.5	+0.4	
	baz=16							
L20K	**Farewell, AK**	76.38	357	P	P	14 16 14.0	+1.0	
	baz=5.2							
HYT	**Haines Junctio**	76.46	349	IAmb	IAmb	14 16 29.2		
	comp=Z,56nm,1.2s							
HYT	**Haines Junctio**	76.46	349	P	P	14 16 14.4	+0.8	
	baz=18,SNR=10							
YUK6	**Outpost Mounta**	76.47	349	P	P	14 16 14.8	+1.0	
	baz=17							
N25K	**Chitina, Valde**	76.59	352	IAmb	IAmb	14 16 29.8		
	comp=Z,52nm,1.3s							
N25K	**Chitina, Valde**	76.59	352	P	P	14 16 15.3	+1.0	
	baz=12,SNR=6.6							
SCM	**Sheep Creek Mo**	76.61	354	P	P	14 16 15.0	+0.6	
	baz=10,SNR=8.3							
OLIL	**Olney**	76.64	310	IAmb	IAmb	14 16 16.3		
	comp=Z,36nm,0.9s							
MCARA	**McCarthy VSAT**	76.64	352	IAmb	IAmb	14 16 31.4		
	comp=Z,66nm,1.3s							
GLB	**Gilahina Butte**	76.67	352	IAMs_20	IAMs_20	14 51 50.5		
	comp=Z,2µm,21.0s							
M23K	**Glacier View**	76.69	354	P	P	14 16 15.8	+1.0	
	baz=9.9,SNR=12							
K15K	**Wolf Creek Mou**	76.69	1	IAMs_20	IAMs_20	14 49 38.5		
	comp=Z,2µm,21.0s							
K15K	**Wolf Creek Mou**	76.69	1	P	P	14 16 15.3	+0.6	
	baz=359							
R33M	**Jennings River**	76.69	345	IAMs_20	IAMs_20	14 53 38.2		
	comp=Z,3µm,19.0s							
R33M	**Jennings River**	76.69	345	P	P	14 16 16.1	+1.1	

	comp=Z,2µm,21.0s								
M20K	**Styx River**	**76.94**	**356**	P	**P**	**14 16 16.7**	**+0.4**		
	baz=5.7								
LOGN	**Logan Glacier**	**76.94**	**350**	IAmb	IAmb	14 16 27.4			
	comp=Z,62nm,1.2s								
LOGN				IAMs_20	IAMs_20	14 53 01.8			
	comp=Z,2µm,21.0s								
PMR	**Palmer**	**76.99**	**354**	IAmb	IAmb	14 16 26.1			
	comp=Z,37nm,1.1s								
PMR	**Palmer**	**76.99**	**354**	P	**P**	**14 16 17.0**	**+0.6**		
PMR	**Palmer**	**76.99**	**354**	P	**P**	**14 16 17.0**	**+0.6**		
	baz=8.8,SNR=9.1								
K13K	**Kusilvak Mount**	**77.00**	**2**	IAMs_20	IAMs_20	14 51 23.7			
	comp=Z,2µm,20.0s								
K13K	**Kusilvak Mount**	**77.00**	**2**	P	**P**	**14 16 17.2**	**+0.8**		
	baz=357								
P32M	**Attin**	**77.02**	**346**	P	**P**	**14 16 17.4**	**+0.6**		
	baz=20								
P30M	**Million Dollar**	**77.05**	**348**	P	**P**	**14 16 17.7**	**+0.7**		
	baz=18								
KNK	**Knik Glacier**	**77.12**	**354**	IAMs_20	IAMs_20	14 51 30.6			
	comp=Z,2µm,21.0s								
KNK	**Knik Glacier**	**77.12**	**354**	P	**P**	**14 16 18.1**	**+0.9**		
	baz=9.3,SNR=6.4								
O29M	**Mount Kennedy**	**77.12**	**349**	IAMs_20	IAMs_20	14 54 06.5			
	comp=Z,2µm,19.0s								
O29M	**Mount Kennedy**	**77.12**	**349**	P	**P**	**14 16 17.8**	**+0.4**		
	baz=17,SNR=6.1								
GRNC	**Granite Creek**	**77.12**	**351**	IAmb	IAmb	14 16 29.2			
	comp=Z,46nm,0.9s								
DIV	**Divide**	**77.17**	**353**	IAmb	IAmb	14 16 42.5			
	comp=Z,52nm,1.5s								
BMRM	**Bremner River**	**77.21**	**352**	P	**P**	**14 16 18.6**	**+0.8**		
	baz=12,SNR=5.0								
SUA	**Susitna One**	**77.23**	**355**	IAmb	IAmb	14 16 20.3			
	comp=Z,72nm,1.1s								
SUA	**Susitna One**	**77.23**	**355**	P	**P**	**14 16 18.5**	**+0.5**		
	baz=7.5,SNR=10								
STLK	**Strandline Lak**	**77.26**	**356**	IAmb	IAmb	14 16 31.9			
	comp=Z,105nm,1.8s								
CRQE	**Cirque**	**77.26**	**351**	P	**P**	**14 16 18.7**	**+0.6**		
	baz=13								
CRQM	**Cirque**	**77.26**	**351**	IAmb	IAmb	14 16 35.9			
	comp=Z,52nm,0.8s								
L16K	**Owhat River**	**77.28**	**360**	P	**P**	**14 16 18.1**	**+0.1**		
L16K	**Owhat River**	**77.28**	**360**	P	**P**	**14 16 19.2**	**+1.1**		
	baz=0.8								
L15K	**Ungalak Mounta**	**77.31**	**1**	P	**P**	**14 16 19.2**	**+1.0**		
	baz=359,SNR=12								
ISLE	**Juniper Island**	**77.32**	**351**	IAmb	IAmb	14 16 31.3			
	comp=Z,59nm,1.1s								
ISLE				IAMs_20	IAMs_20	14 52 01.8			
	comp=Z,2µm,21.0s								
TABL	**Table Mountain**	**77.33**	**350**	IAMs_20	IAMs_20	14 53 24.2			
	comp=Z,2µm,20.0s								
W50A	**Signal Mountai**	**77.35**	**306**	IAmb	IAmb	14 16 30.2			
	comp=Z,38nm,1.0s								
Q32M	**Nakina River**	**77.35**	**346**	IAmb	IAmb	14 16 35.1			
	comp=Z,51nm,1.2s								
Q32M				IAMs_20	IAMs_20	14 53 11.5			
	comp=Z,3µm,20.0s								
Q32M	**Nakina River**	**77.35**	**346**	P	**P**	**14 16 18.9**	**+0.1**		
	baz=21								
DLBC	**Dease Lake**	**77.39**	**344**	LR	LR	14 52 01.6			
	comp=Z,19µm,21.0s,baz=355,slow=37								
DLBC	**Dease Lake**	**77.39**	**344**	P	**P**	**14 16 19.2**	**+0.3**		
	baz=23								
SKAG	**Skagway**	**77.42**	**347**	P	**P**	**14 16 19.6**	**+0.7**		
	baz=19								
M18K	**Stony River**	**77.43**	**358**	P	**P**	**14 16 19.5**	**+0.6**		
	baz=3.6,SNR=10								
Y52A	**Lilburn**	**77.46**	**304**	IAmb	IAmb	14 16 21.7			
	comp=Z,47nm,1.2s								
Y52A				IAMs_20	IAMs_20	14 53 08.4			
	comp=Z,3µm,18.0s								
YAH	**Yahtse**	**77.48**	**351**	IAMs_20	IAMs_20	14 51 55.2			
	comp=Z,2µm,20.0s								
X51A	**Calhoun**	**77.49**	**305**	IAmb	IAmb	14 16 36.3			
	comp=Z,54nm,1.4s								
X51A				IAMs_20	IAMs_20	14 53 01.1			
	comp=Z,3µm,18.0s								
RC01	**Rabbit Creek A**	**77.53**	**355**	IAmb	IAmb	14 16 34.9			
	comp=Z,58nm,0.9s								
RC01	**Rabbit Creek A**	**77.53**	**355**	P	**P**	**14 16 20.1**	**+0.6**		
	baz=8.3,SNR=12								
GLI	**Glacier Island**	**77.54**	**353**	IAmb	IAmb	14 16 21.9			
	comp=Z,54nm,1.0s								
GLI				IAMs_20	IAMs_20	14 50 54.6			
	comp=Z,2µm,22.0s								
GLI	**Glacier Island**	**77.54**	**353**	P	**P**	**14 16 20.0**	**+0.5**		
	baz=10								
PINM	**Pinnacle**	**77.55**	**350**	P	**P**	**14 16 20.1**	**+0.4**		
	baz=16								
M17K	**Holitna River**	**77.56**	**359**	IAmb	IAmb	14 16 22.4			
	comp=Z,51nm,1.0s								
M17K	**Holitna River**	**77.56**	**359**	P	**P**	**14 16 20.5**	**+0.8**		
	baz=2.4,SNR=9.7								
N20K	**Mount Spurr**	**77.58**	**356**	P	**P**	**14 16 19.8**	**0.0**		
	baz=6.4								
SPCR	**Spurr Chakacha**	**77.58**	**356**	P	**P**	**14 16 20.1**	**+0.2**		
	baz=6.4								
SPU	**Mount Spurr**	**77.58**	**356**	IAmb	IAmb	14 17 57.1			
	comp=Z,30nm,0.6s								
PLBC	**Pleasant Camp**	**77.59**	**348**	P	**P**	**14 16 21.1**	**+1.3**		
	baz=18								
E28A	**Huff**	**77.61**	**322**	IAMs_20	IAMs_20	14 52 35.7			
	comp=Z,4µm,18.0s								
L14K	**Kuka Creek**	**77.63**	**1**	P	**P**	**14 16 20.8**	**+0.8**		
	baz=358								
P29M	**Windy Craggy**	**77.64**	**348**	IAMs_20	IAMs_20	14 54 20.3			
	comp=Z,3µm,19.0s								
P29M	**Windy Craggy**	**77.64**	**348**	P	**P**	**14 16 21.8**	**+1.6**		
	baz=17,SNR=6.9								
PWL	**Port Wells**	**77.66**	**354**	IAMs_20	IAMs_20	14 51 45.8			
	comp=Z,2µm,21.0s								
PWL	**Port Wells**	**77.66**	**354**	P	**P**	**14 16 20.5**	**+0.3**		
	baz=9.4,SNR=5.7								
154A	**Montrose**	**77.69**	**303**	IAMs_20	IAMs_20	14 51 05.3			
	comp=Z,2µm,21.0s								
MESA	**MESA**	**77.69**	**351**	P	**P**	**14 16 20.9**	**+0.2**		
	baz=14								
DGMT	**Dagmar**	**77.72**	**326**	IAmb	IAmb	14 16 25.3			
	comp=Z,35nm,1.1s								
DGMT	**Dagmar**	**77.72**	**326**	IAMs_20	IAMs_20	14 49 35.6			
	comp=Z,4µm,22.0s								
EYAK	**Cordova Ski Ar**	**77.74**	**353**	P	**P**	**14 16 21.5**	**+0.9**		
	baz=11								
KSAR	**Wonju Array Be**	**77.84**	**51**	P	**P**	**14 16 21.0**	**-0.6**		
KSAR	**Wonju Array Be**	**77.84**	**51**	P	**P**	**14 16 21.0**	**-0.6**		
PNL	**Peninsula**	**77.85**	**349**	P	**P**	**14 16 21.8**	**+0.4**		
	baz=16								
QIZ	**Qiongzhong**	**77.85**	**75**	IAmb	IAmb	14 16 33.2			
	comp=Z,53nm,1.2s								
QIZ	**Qiongzhong**	**77.85**	**75**	P	**P**	**14 16 21.8**	**-0.2**		
QIZ				S	**S**	**14 26 14.8**	**+1.0**		
QIZ				SS	**SS**	**14 31 19.5**	**+5.4**		
QIZ				pmax	pmax				
	comp=Z,23nm,1.3s								
QIZ				pmax	pmax				
	comp=Z,610nm,3.7s								
QIZ				LR	LR				
	comp=Z,1µm,17.4s								
QIZ				LR	LR				
	comp=Z,990nm,14.9s								
QIZ				LR	LR				
	comp=Z,2µm,16.6s								
KSRS	**Korea Array**	**77.86**	**51**	P	**P**	**14 16 21.4**	**-0.2**		
	comp=Z,11nm,0.9s,baz=316,slow=4.7,SNR=23								
KSRS				LR	LR	14 54 14.7			
	comp=Z,2864µm,18.6s,baz=335,slow=38								
	comp=Z,11nm,0.9s								
V48A	**Smith Brothers**	**77.90**	**307**	IAmb	IAmb	14 16 32.7			
	comp=Z,36nm,1.0s								
V48A				IAMs_20	IAMs_20	14 51 22.9			
	comp=Z,3µm,20.0s								
BGLC	**Bering Glacier**	**77.90**	**351**	P	**P**	**14 16 22.0**	**+0.5**		
	baz=13								
CAPN	**Captain Cook N**	**77.95**	**355**	P	**P**	**14 16 21.8**	**0.0**		
	baz=7.2								
M16K	**Timber Creek**	**77.97**	**359**	P	**P**	**14 16 22.8**	**+0.9**		
	baz=1.2,SNR=5.8								
SIUC	**Southern Illin**	**77.97**	**310**	IAmb	IAmb	14 16 31.6			
	comp=Z,40nm,0.9s								
S44A	**Carbondale**	**78.01**	**310**	IAmb	IAmb	14 16 31.8			
	comp=Z,48nm,1.1s								
N19K	**Bonanza Creek**	**78.07**	**357**	P	**P**	**14 16 21.9**	**-0.7**		
N19K				IAmb	IAmb	14 16 38.2			
	comp=Z,95nm,1.6s								
N19K	**Bonanza Creek**	**78.07**	**357**	P	**P**	**14 16 23.2**	**+0.6**		
	baz=4.7,SNR=6.4								
N38A	**Joes South For**	**78.08**	**314**	IAmb	IAmb	14 16 24.8			
	comp=Z,47nm,1.1s								
S34M	**Telegraph Cree**	**78.10**	**345**	IAMs_20	IAMs_20	14 56 23.5			
	comp=Z,4µm,19.0s								
S34M	**Telegraph Cree**	**78.10**	**345**	P	**P**	**14 16 22.9**	**+0.2**		
	baz=22								
T45A	**Paducah**	**78.11**	**309**	IAMs_20	IAMs_20	14 53 34.6			
	comp=Z,3µm,18.0s								
O22K	**Cooper Landing**	**78.14**	**355**	P	**P**	**14 16 23.2**	**+0.4**		
	baz=8.3								
BESE	**Bessie Mountai**	**78.17**	**347**	IAMs_20	IAMs_20	14 53 27.4			
	comp=Z,3µm,20.0s								
KAIM	**Kayak Island**	**78.22**	**352**	P	**P**	**14 16 23.8**	**+0.5**		
	baz=12								
456A	**Hilliard**	**78.23**	**301**	IAMs_20	IAMs_20	14 54 14.8			
	comp=Z,3µm,19.0s								
M14K	**Bethel**	**78.23**	**1**	IAMs_20	IAMs_20	14 52 09.3			
	comp=Z,2µm,20.0s								
M14K	**Bethel**	**78.23**	**1**	P	**P**	**14 16 23.9**	**+0.6**		
	baz=359,SNR=6.3								
N18K	**Kilae Creek**	**78.25**	**358**	P	**P**	**14 16 23.8**	**+0.3**		
	baz=3.6								
M15K	**Kasigluk River**	**78.30**	**0**	P	**P**	**14 16 24.8**	**+1.0**		
	baz=360,SNR=11								
P40A	**Paris**	**78.32**	**313**	IAMs_20	IAMs_20	14 50 57.7			
	comp=Z,3µm,19.0s								
R32K	**Eaglecrest**	**78.41**	**346**	P	**P**	**14 16 24.6**	**+0.2**		
	baz=20								
N17K	**Nushagak Hills**	**78.44**	**358**	IAMs_20	IAMs_20	14 51 45.4			
	comp=Z,2µm,21.0s								
N17K	**Nushagak Hills**	**78.44**	**358**	P	**P**	**14 16 24.6**	**+0.1**		
	baz=2.6								
SEW	**Seward**	**78.49**	**354**	P	**P**	**14 16 25.2**	**+0.4**		
	baz=8.5								
CMC01	**Camacan, BA**	**78.50**	**238**	*e*P	**P**	**14 16 26.4**	**+0.9**		
M11K	**Mekoryuk**	**78.50**	**3**	P	**P**	**14 16 25.2**	**+0.4**		
	baz=356								
N16K	**Nishlik Lake**	**78.51**	**359**	P	**P**	**14 16 25.8**	**+0.8**		
	baz=1.4,SNR=6.0								
M13K	**Dall Lake**	**78.55**	**1**	P	**P**	**14 16 25.5**	**+0.3**		
	baz=358								
YSS	**Yuzhno-Sakhali**	**78.60**	**36**	P	**P**	**14 16 25.1**	**-0.5**		
YSS	**Yuzhno-Sakhali**	**78.60**	**36**	P	**P**	**14 16 26.4**	**+0.7**		
YSS	**Yuzhno-Sakhali**	**78.60**	**36**	*e*P	**P**	**14 16 25.9**	**+0.2**		
YSS				*e*PPP	PPP	14 21 20.2			
YSS				*e*S	**S**	**14 26 21.2**	**+0.3**		
YSS				pmax	pmax				
	comp=Z,700nm,3.4s								
YSS				pmax	pmax				
	comp=N,300nm,4.0s								
YSS				pmax	pmax				
	comp=E,200nm,3.7s								
YSS				pmax	pmax				
	comp=Z,90nm,1.1s								
YSS				smax	smax				
	comp=N,400nm,5.5s								
YSS				smax	smax				
	comp=E,400nm,6.1s								
YSS				MLR	MLR				
	comp=N,5µm,16.0s								
YSS				MLR	MLR				
	comp=E,6µm,16.0s								
YSS				MLR	MLR				
	comp=Z,7µm,16.0s								
152A	**Waverly Hall**	**78.67**	**304**	IAMs_20	IAMs_20	14 51 04.3			
	comp=Z,2µm,20.0s								
O19K	**Port Alsworth**	**78.68**	**357**	IAMs_20	IAMs_20	14 52 12.8			
	comp=Z,2µm,20.0s								
O19K	**Port Alsworth**	**78.68**	**357**	P	**P**	**14 16 25.3**	**-0.5**		
	baz=4.8								
O20K	**Slope Mountain**	**78.71**	**356**	P	**P**	**14 16 25.8**	**-0.3**		
	baz=6.1								
TIGA	**Tifton**	**78.77**	**302**	IAMs_20	IAMs_20	14 51 50.0			
	comp=Z,2µm,19.0s								
T35M	**Bob Quinn**	**78.79**	**344**	P	**P**	**14 16 26.9**	**+0.4**		
	baz=23								
KCSI	**Kotacane, Aceh**	**78.80**	**95**	P	**P**	**14 16 25.6**	**-1.7**		
N15K	**Kwethluk River**	**78.83**	**360**	IAmb	IAmb	14 16 37.9			
	comp=Z,38nm,1.1s								
N15K	**Kwethluk River**	**78.83**	**360**	P	**P**	**14 16 27.0**	**+0.3**		
	baz=0.3								
PRPB	**Parauapebas**	**78.89**	**252**	*e*P	**P**	**14 16 29.8**	**+2.1**		
L34A	**Svendsen Farm,**	**78.89**	**317**	IAMs_20	IAMs_20	14 51 41.9			
	comp=Z,3µm,19.0s								
CCM	**Cathedral Cave**	**78.90**	**311**	P	**P**	**14 16 26.3**	**-1.2**		
CCM	**Cathedral Cave**	**78.90**	**311**	IAMs_20	IAMs_20	14 50 47.1			
	comp=Z,4µm,20.0s								
CCM	**Cathedral Cave**	**78.90**	**311**	P	**P**	**14 16 26.3**	**-1.2**		
CCM				pmax	pmax				
	comp=Z,34nm,1.1s								
CCM				MLR	MLR				
	comp=Z,4µm,20.0s								
Q23K	**Middleton Isla**	**78.90**	**353**	P	**P**	**14 16 26.6**	**-0.5**		
	baz=11								
X48A	**Hartselle**	**78.90**	**306**	IAmb	IAmb	14 16 47.2			
	comp=Z,59nm,1.1s								
X48A				IAMs_20	IAMs_20	14 52 55.5			
	comp=Z,3µm,20.0s								
Y49A	**Blount Mountai**	**78.92**	**305**	IAMs_20	IAMs_20	14 52 12.9			
	comp=Z,2µm,19.0s								
BRSE	**Bradley Lake S**	**78.94**	**355**	P	**P**	**14 16 27.0**	**-0.4**		
	baz=7.5								
S31K	**Pelican**	**79.00**	**347**	P	**P**	**14 16 28.1**	**+0.5**		
	baz=18								
PCRV	**Puerto La Cruz**	**79.05**	**274**	LR	LR	14 49 22.2			
	comp=Z,772nm,18.7s,slow=34								
P38A	**Dawn**	**79.06**	**314**	IAmb	IAmb	14 16 39.1			
	comp=Z,47nm,1.0s								
N14K	**Kuskokwak Cree**	**79.07**	**1**	IAMs_20	IAMs_20	14 52 55.3			
	comp=Z,2µm,20.0s								
N14K	**Kuskokwak Cree**	**79.07**	**1**	P	**P**	**14 16 28.3**	**+0.4**		
	baz=359								
HOM	**Homer**	**79.08**	**355**	P	**P**	**14 16 27.8**	**-0.2**		
	baz=6.8								
PLAL	**Pickwick Lake**	**79.17**	**307**	IAMs_20	IAMs_20	14 52 31.4			
	comp=Z,3µm,18.0s								
P19K	**Oil Pt**	**79.17**	**356**	P	**P**	**14 16 28.5**	**-0.2**		
	baz=5.6								
O17K	**Koliganek Bris**	**79.19**	**358**	P	**P**	**14 16 29.4**	**+0.7**		
	baz=2.6,SNR=7.4								
SMTB	**Santa Maria do**	**79.19**	**248**	*e*P	**P**	**14 16 30.9**	**+1.6**		
PETK	**Petropavlovsk-**	**79.20**	**24**	P	**P**	**14 16 27.9**	**-0.9**		
	comp=Z,6.3nm,0.9s,baz=316,slow=3.3,SNR=5.4								
PETK				LR	LR	14 56 23.7			
	comp=Z,8µm,18.1s,baz=328,slow=39								
	comp=Z,6.3nm,0.9s								
PETK	**Petropavlovsk-**	**79.20**	**24**	P	**P**	**14 16 28.0**	**-0.9**		
N35A	**Tabor**	**79.31**	**316**	IAmb	IAmb	14 16 32.1			
	comp=Z,51nm,1.2s								
N35A				IAMs_20	IAMs_20	14 50 15.9			
	comp=Z,3µm,22.0s								
O16K	**Kokwok River B**	**79.39**	**359**	IAMs_20	IAMs_20	14 53 13.7			
	comp=Z,2µm,20.0s								
O16K	**Kokwok River B**	**79.39**	**359**	P	**P**	**14 16 30.3**	**+0.6**		
	baz=1.9,SNR=7.9								
TSI	**Tuntungan**	**79.41**	**95**	P	**P**	**14 16 28.3**	**-2.3**		
	comp=Z,90nm,1.1s								
656A	**Willston**	**79.45**	**300**	IAMs_20	IAMs_20	14 55 17.3			
	comp=Z,2µm,19.0s								
P18K	**Big Mountain,**	**79.52**	**357**	P	**P**	**14 16 30.7**	**+0.2**		
	baz=4.1								
DWPF	**Disney Wildern**	**79.56**	**298**	IAMs_20	IAMs_20	14 50 39.2			
	comp=Z,2µm,20.0s								
PET	**Petropavlovsk**	**79.56**	**24**	*e*P	**P**	**14 16 33.2**	**+2.4**		
PET				*e*PPP	PPP	14 21 21.9			
PET				*e*S	**S**	**14 26 31.8**	**+0.9**		
PET				*e*PS	**PnS**	**14 27 24.7**	**+9.2**		
PET				pmax	pmax				
	comp=Z,400nm,12.0s								
PET				pmax	pmax				
	comp=Z,22nm,1.1s								
PET				MLR	MLR				
	comp=Z,1µm,17.0s								
PET				MLR	MLR				
	comp=Z,1µm,17.0s								
352A	**Blakely**	**79.59**	**303**	IAMs_20	IAMs_20	14 54 30.1			
	comp=Z,2µm,18.0s								
SIT	**Sitka**	**79.70**	**346**	P	**P**	**14 16 31.7**	**+0.3**		
	baz=19								
U35K	**Hyder**	**79.72**	**343**	IAMs_20	IAMs_20	14 55 28.3			
	comp=Z,4µm,20.0s								
WRAK	**Wrangell Islan**	**79.74**	**345**	IAMs_20	IAMs_20	14 57 29.8			
	comp=Z,3µm,20.0s								
WRAK	**Wrangell Islan**	**79.74**	**345**	P	**P**	**14 16 32.1**	**+0.5**		
	baz=21								
O14K	**Tigyukauivet M**	**79.74**	**0**	P	**P**	**14 16 32.3**	**+0.6**		
	baz=359								
P17K	**Kvichak River**	**79.75**	**358**	P	**P**	**14 16 32.5**	**+0.8**		
	baz=3.1								
O15K	**Ungalikthiuk R**	**79.82**	**360**	P	**P**	**14 16 32.7**	**+0.6**		
	baz=0.6								
LRAL	**Lakeview Retre**	**79.83**	**305**	IAmb	IAmb	14 16 35.3			
	comp=Z,55nm,1.1s								
LRAL				IAMs_20	IAMs_20	14 53 38.1			
	comp=Z,3µm,20.0s								
SDBA	**SAO DESIDERIO**	**79.87**	**244**	*e*P	**P**	**14 16 33.4**	**+0.4**		
Q19K	**Cape Douglas,**	**79.92**	**356**	IAMs_20	IAMs_20	14 53 14.5			
	comp=Z,2µm,20.0s								
Q19K	**Cape Douglas,**	**79.92**	**356**	P	**P**	**14 16 33.2**	**+0.5**		
	baz=5.3								
P16K	**Nushagak River**	**79.95**	**359**	IAMs_20	IAMs_20	14 53 21.5			
	comp=Z,2µm,20.0s								
P16K	**Nushagak River**	**79.95**	**359**	P	**P**	**14 16 33.2**	**+0.4**		
	baz=1.9								
K30B	**Basset**	**80.00**	**319**	IAMs_20	IAMs_20	14 52 18.1			
	comp=Z,4µm,20.0s								
250A	**Grady**	**80.10**	**304**	IAmb	IAmb	14 16 50.3			
	comp=Z,108nm,1.5s								
250A				IAMs_20	IAMs_20	14 53 45.2			
	comp=Z,1µm,18.0s								
MGMO	**Mountain Grove**	**80.11**	**311**	IAmb	IAmb	14 16 37.1			
	comp=Z,62nm,1.4s								
GSI	**Gunungsitoli**	**80.11**	**97**	P	**P**	**14 16 33.9**	**-0.5**		
	comp=Z,61nm,1.1s								
PSI	**Prapat**	**80.14**	**95**	LR	LR	14 54 33.7			
	comp=Z,566nm,21.6s,baz=302,slow=38								
Q20K	**Shuyak Island**	**80.17**	**356**	P	**P**	**14 16 34.8**	**+0.8**		
	baz=6.2								
U33K	**Whale Pass**	**80.18**	**345**	P	**P**	**14 16 34.6**	**+0.5**		
	baz=21								
QZH	**Quanzhou**	**80.25**	**65**	P	**P**	**14 16 39.3**	**+4.3**		
QZH				S	**S**	**14 26 45.0**	**+5.9**		
QZH				LR	LR				
	comp=Z,3µm,18.1s								
Q18K	**Katmai Hardscr**	**80.25**	**357**	P	**P**	**14 16 35.5**	**+0.9**		
	baz=4.2								
OXF	**Oxford**	**80.29**	**308**	IAmb	IAmb	14 16 50.3			
	comp=Z,61nm,1.2s								
Z47A	**Carrollton**	**80.38**	**306**	IAMs_20	IAMs_20	14 52 48.6			
	comp=Z,2µm,19.0s								
V35K	**Ketchikan**	**80.61**	**344**	IAMs_20	IAMs_20	14 57 45.7			
	comp=Z,3µm,18.0s								
V35K	**Ketchikan**	**80.61**	**344**	P	**P**	**14 16 37.1**	**+0.7**		
	baz=22								
IPM	**Ipoh**	**80.62**	**92**	P	**P**	**14 16 35.8**	**-1.4**		
IPM				IAmb	IAmb	14 16 46.4			
	comp=Z,54nm,1.2s								
IPM	**Ipoh**	**80.62**	**92**	P	**P**	**14 16 36.0**	**-1.2**		
Q17K	**Contact Creek**	**80.67**	**358**	P	**P**	**14 16 37.0**	**+0.2**		
	baz=3.5								
ASAJ	**Asahikawa**	**80.71**	**38**	LR	LR	14 57 06.3			
	comp=Z,4µm,18.1s,baz=348,slow=39								
JKA	**Kamikawa-asahi**	**80.71**	**38**	IAmb	IAmb	14 16 53.3			
	comp=Z,57nm,1.0s								
SKR	**Severo-Kuril's**	**80.77**	**26**	*e*P	**P**	**14 16 38.1**	**+0.8**		
SKR				pmax	pmax				
	comp=Z,1µm,3.2s								
SKR				MLR	MLR				
	comp=Z,3µm,17.0s								
CRAG	**Craig**	**80.79**	**345**	P	**P**	**14 16 37.4**	**0.0**		
	baz=20								
Y45A	**Yeager Farm, C**	**80.81**	**307**	IAmb	IAmb	14 16 48.4			
	comp=Z,61nm,0.9s								
KDAK	**Kodiak Island**	**81.00**	**356**	P	**P**	**14 16 37.9**	**-0.6**		
KDAK	**Kodiak Island**	**81.00**	**356**	LR	LR	14 53 12.0			
	comp=Z,2µm,21.9s,baz=3.3,slow=36								
KDAK	**Kodiak Island**	**81.00**	**356**	P	**P**	**14 16 37.9**	**-0.6**		
KDAK				pmax	pmax				
	comp=Z,452nm,1.9s								
KDAK	**Kodiak Island**	**81.00**	**356**	P	**P**	**14 16 38.5**	**0.0**		
	baz=6.0								
BOAV	**Boa Vista**	**81.01**	**265**	P	**P**	**14 16 39.8**	**+0.5**		
BOAV	**Boa Vista**	**81.01**	**265**	*e*P	**P**	**14 16 41.6**	**+2.4**		
BRAL	**Brewton**	**81.14**	**304**	IAMs_20	IAMs_20	14 55 35.7			
	comp=Z,2µm,19.0s								
R18K	**Karluk**	**81.31**	**357**	P	**P**	**14 16 40.7**	**+0.6**		
	baz=4.6								
R17L	**Mt. Peulik Vol**	**81.31**	**358**	P	**P**	**14 16 41.4**	**+1.2**		
	baz=3.2								
JANB	**Januaria**	**81.39**	**241**	*e*P	**P**	**14 16 43.1**	**+1.9**		
DLV	**Lat**	**81.39**	**82**	IAmb	IAmb	14 16 50.7			
	comp=Z,30nm,0.8s								
R16K	**Pilot Point**	**81.41**	**358**	P	**P**	**14 16 40.7**	**0.0**		
	baz=2.3								
WHAR	**Wooly Hollow**	**81.43**	**310**	IAmb	IAmb	14 16 43.9			
	comp=Z,59nm,1.1s								
SPIA	**Saint Paul Isl**	**81.48**	**5**	IAMs_20	IAMs_20	15 00 04.1			
	comp=Z,3µm,20.0s								
SPIA	**Saint Paul Isl**	**81.48**	**5**	P	**P**	**14 16 41.9**	**+0.9**		
	baz=353			

OK029	Liberty Lake	83.98	313		IAMs_20	IAMs_20	14 54 41.5			
	comp=Z,3µm,20.0s									
FALS	False Pass	84.12	2	P		P	14 16 54.7	-0.1		
	baz=358									
CHNA	Chernabura Isl	84.18	360	P		P	14 16 56.1	+1.1		
	baz=0.7									
CNBA	Chernabura Isl	84.19	360		IAMs_20	IAMs_20	15 00 18.3			
	comp=Z,2µm,21.0s									
MJB9	Matsu-Tunnel	84.25	45		IAmb	IAmb	14 17 08.2			
	comp=Z,42nm,1.0s									
MJB9					IAMs_20	IAMs_20	14 58 13.9			
	comp=Z,3µm,19.0s									
MAJO	Matsushiro	84.26	45		IAMs_20	IAMs_20	14 58 12.9			
	comp=Z,3µm,18.0s									
MAJO	Matsushiro	84.26	45	*de*P		P	14 16 55.5	-0.4		
MAJO					pmax	pmax				
	comp=Z,25nm,1.0s									
MJAR	Matsushiro Arr	84.26	45	P		P	14 16 56.1	+0.2		
MJAR					IAmb	IAmb	14 17 07.4			
	comp=Z,39nm,1.0s									
MJAR	Matsushiro Arr	84.26	45	P		P	14 16 55.8	0.0		
	comp=Z,18nm,0.9s,baz=314,slow=5.0,SNR=39									
MJAR					LR	LR	14 58 15.9			
	comp=Z,3µm,18.0s,baz=334,slow=38									
	comp=Z,18nm,0.9s									
MJAR	Matsushiro Arr	84.26	45	P		P	14 16 56.1	+0.2		
MJAR					pmax	pmax				
	comp=Z,39nm,1.0s									
BDFB	Brasilia	84.28	244		IAMs_20	IAMs_20	14 57 55.0			
	comp=Z,3µm,18.0s									
BDFB	Brasilia	84.28	244	P		P	14 16 57.3	+1.1		
	comp=Z,31nm,0.8s,baz=52,slow=6.0,SNR=29									
BDFB					LR	LR	14 51 39.7			
	comp=Z,950nm,22.0s,baz=60,slow=34									
	comp=Z,31nm,0.8s									
SDV	Santo Domingo	84.38	277		LR	LR	14 49 50.6			
	comp=Z,773nm,21.4s,baz=54,slow=32									
SDV	Santo Domingo	84.38	277	*e*P		P	14 16 59.2	+2.2		
SNOW	Snow King Moun	84.48	326		IAmb	IAmb	14 17 13.5			
	comp=Z,53nm,1.3s									
INU	Inuyama	84.50	47		IAMs_20	IAMs_20	14 57 59.7			
	comp=Z,2µm,19.0s									
PD31	Pinedale Array	84.53	325		IAmb	IAmb	14 16 59.6			
	comp=Z,27nm,1.1s									
PDAR	Pinedale Array	84.53	325	P		P	14 16 57.2	-0.2		
	comp=Z,16nm,1.0s,baz=52,slow=4.1,SNR=58									
PDAR					PP		14 20 10.8	-1.3		
	comp=Z,2.4nm,0.9s,baz=57,slow=6.0,SNR=4.6									
PDAR					LR	LR	14 57 13.2			
	comp=Z,3µm,18.5s,baz=25,slow=38									
	comp=Z,16nm,1.0s									
TPAW	Teton Pass	84.54	326		IAmb	IAmb	14 17 13.8			
	comp=Z,32nm,1.0s									
TPAW					IAMs_20	IAMs_20	14 56 08.9			
	comp=Z,3µm,20.0s									
CLRS	Cowichan Lake	84.67	337		IAmb	IAmb	14 17 08.5			
	comp=Z,31nm,1.1s									
LVA	Lava Point	84.73	3		IAMs_20	IAMs_20	14 57 42.1			
	comp=Z,2µm,20.0s									
AKUT	Akutan	84.77	3		IAMs_20	IAMs_20	14 56 51.1			
	comp=Z,2µm,21.0s									
MACA	Manacapuru-AM	84.80	261	*e*P		P	14 17 01.2	+2.3		
F10A	Beach Ranch, E	84.90	331		IAmb	IAmb	14 17 01.2			
	comp=Z,42nm,1.0s									
OZB	Mount Ozzard	84.94	338		IAmb	IAmb	14 17 01.3			
	comp=Z,38nm,1.0s									
UNV	Unalaska Valle	85.02	4		IAMs_20	IAMs_20	15 02 30.8			
	comp=Z,1µm,19.0s									
UNV	Unalaska Valle	85.02	4	P		P	14 16 59.7	+0.3		
	baz=356									
PLID	Pearl Lake	85.20	330		IAmb	IAmb	14 17 17.6			
	comp=Z,28nm,1.3s									
PLID					IAMs_20	IAMs_20	14 56 23.5			
	comp=Z,3µm,19.0s									
KRJI	Kerinci	85.26	97	P		P	14 17 01.7	+0.4		
PMNB	Patos De Minas	85.30	240	*e*P		P	14 17 03.4	+2.1		
HAYD	Hayden	85.31	322		IAMs_20	IAMs_20	14 55 11.4			
	comp=Z,3µm,22.0s									
E07A	Sunnyside	85.31	333		IAmb	IAmb	14 17 05.1			
	comp=Z,28nm,1.2s									
NATX	Nacogdoches	85.34	309		IAMs_20	IAMs_20	14 54 24.8			
	comp=Z,2µm,21.0s									
JOW	Kunigami	85.40	58		LR	LR	14 58 56.5			
	comp=Z,2µm,18.5s,baz=4.5,slow=38									
D05A	Enumclaw	85.47	335		IAmb	IAmb	14 17 35.4			
	comp=Z,47nm,1.1s									
WMOK	Wichita Mounta	85.49	313		IAmb	IAmb	14 17 12.3			
	comp=Z,38nm,1.1s									
WMOK	Wichita Mounta	85.49	313		IAMs_20	IAMs_20	14 55 49.5			
	comp=Z,3µm,19.0s									
Z35A	Perchaven, San	85.68	311		IAMs_20	IAMs_20	14 55 28.7			
	comp=Z,3µm,19.0s									
NIKH	Nikolski High	85.76	5	P		P	14 17 03.9	+0.9		
	baz=354									
LON	Longmire	85.79	335		IAmb	IAmb	14 17 19.8			
	comp=Z,68nm,1.9s									
NLWA	Neilton Lookou	85.87	336		IAmb	IAmb	14 17 20.4			
	comp=Z,32nm,1.1s									
ATKA	Atka Island	86.05	8		IAMs_20	IAMs_20	14 58 43.0			
	comp=Z,2µm,20.0s									
ADK	Adak	86.06	10		IAMs_20	IAMs_20	14 58 49.7			
	comp=Z,2µm,20.0s									
O20A	White River Ci	86.07	323		IAmb	IAmb	14 17 21.1			
	comp=Z,60nm,1.5s									
IPMB	Ipameri, GO	86.07	242	*e*P		P	14 17 07.4	+2.3		
HWUT	Hardware Ranch	86.34	326		IAmb	IAmb	14 17 16.9			
	comp=Z,26nm,0.9s									
CLDB	Colider	86.39	252	*e*P		P	14 17 08.5	+1.8		
MASI	Maura Aman, Be	86.53	97	P		P	14 17 06.6	-0.9		
E03A	Lebam	86.53	336		IAmb	IAmb	14 17 18.1			
	comp=Z,42nm,1.1s									
TCUT	Toone Canyon	86.67	325		IAmb	IAmb	14 17 23.1			
	comp=Z,45nm,1.5s									
G06A	Carlson Farm,	86.73	333		IAmb	IAmb	14 17 24.1			
	comp=Z,61nm,1.4s									
WHTX	Lake Whitney,	86.79	311		IAmb	IAmb	14 17 18.6			
	comp=Z,39nm,1.0s									
ARAG	Araguaiana, MT	86.91	246	*e*P		P	14 17 11.9	+2.7		
HOOD	Mount Hood Mea	87.00	334		IAmb	IAmb	14 17 12.3			
	comp=Z,32nm,1.1s									
KSI	Kapahiang	87.13	97	P		P	14 17 10.1	-0.4		
HKT	Hockley	87.34	306⇑	*e*P		P	14 17 12.2	+1.0		
HKT					pmax	pmax				
	comp=Z,24nm,1.5s									
HKT					MLR	MLR				
	comp=Z,3µm,17.0s									
P18A	Preston Nutter	87.38	324		IAmb	IAmb	14 17 26.4			
	comp=Z,24nm,1.1s									
ABTX	Abilene, Hawle	87.55	313		IAmb	IAmb	14 17 15.3			
	comp=Z,50nm,1.3s									
ABTX					IAMs_20	IAMs_20	14 56 46.0			
	comp=Z,3µm,19.0s									
PDRB	Porto dos Gac	87.56	252	*e*P		P	14 17 13.9	+1.5		
PV22	Blue Mesa, Par	87.61	322		IAmb	IAmb	14 17 23.0			
	comp=Z,23nm,1.0s									
PV07	Paradox Valley	87.62	322		IAmb	IAmb	14 17 27.7			
	comp=Z,26nm,1.1s									
PV15	Paradox Valley	87.62	322		IAmb	IAmb	14 17 27.7			
	comp=Z,25nm,1.1s									
PV21	Cone Mtn., Par	87.67	322		IAmb	IAmb	14 17 29.0			
	comp=Z,56nm,1.5s									
JHJ	Hachijo jima 2	87.68	47		LR	LR	14 59 53.6			
	comp=Z,2µm,19.2s,baz=28,slow=38									
H04A	Detroit Lake	87.74	334		IAmb	IAmb	14 17 14.6			
	comp=Z,21nm,1.1s									
I05D	Terrebonne, OR	87.76	333		IAmb	IAmb	14 17 29.0			
	comp=Z,51nm,1.6s									
PV14	Lion Creek, Pa	87.85	322		IAmb	IAmb	14 17 28.9			
	comp=Z,43nm,1.3s									
PV16	Nyswonger Mesa	87.85	322		IAmb	IAmb	14 17 29.0			
	comp=Z,35nm,1.0s									
PV03	Paradox Valley	87.86	322		IAmb	IAmb	14 17 28.9			
	comp=Z,35nm,1.2s									
PV13	Radium Mtn., P	87.92	322		IAmb	IAmb	14 17 24.7			
	comp=Z,25nm,1.0s									
SRU	San Rafael Swe	87.93	323		IAmb	IAmb	14 17 24.0			
	comp=Z,22nm,0.9s									
LHSI	Lahat	87.94	97	P		P	14 17 14.3	0.0		
TEFE	Tefe	87.97	264	*e*P		P	14 17 15.3	+0.9		
PINE	Pine Mountain	88.11	333		IAmb	IAmb	14 17 18.0			
	comp=Z,26nm,1.1s									
RUSC	La Rusia	88.17	276		IAmb	IAmb	14 18 07.0			
	comp=Z,26nm,1.4s									
MSTX	Muleshoe	88.22	315		IAMs_20	IAMs_20	14 55 56.7			
	comp=Z,3µm,20.0s									
Q16A	Castle Valley	88.38	324		IAmb	IAmb	14 17 36.1			
	comp=Z,20nm,1.1s									
WVOR	Wild Horse Val	88.46	330		IAMs_20	IAMs_20	14 58 10.7			
	comp=Z,2µm,19.0s									
ELK	Elko	88.59	327		IAmb	IAmb	14 17 33.2			
	comp=Z,20nm,1.1s									
ELK	Elko	88.59	327		LR	LR	14 59 33.1			
	comp=Z,5µm,19.0s,baz=36,slow=37									
J05D	Fort Rock, OR	88.65	333		IAmb	IAmb	14 17 20.3			
	comp=Z,22nm,0.9s									
VAO	Valinhos	88.85	238		IAMs_20	IAMs_20	14 57 24.7			
	comp=Z,2µm,20.0s									
MDSI	Maura Dua	88.86	97	P		P	14 17 17.1	-1.5		
	comp=Z,54nm,1.3s									
SGCY	Sterling City	88.90	313		IAmb	IAmb	14 17 29.9			
	comp=Z,21nm,1.1s									
J04A	Umpqua Nationa	88.99	333		IAmb	IAmb	14 17 35.5			
	comp=Z,42nm,1.3s									
I03D	Drain, OR	89.00	334		IAmb	IAmb	14 17 21.2			
	comp=Z,16nm,0.9s									
K05A	Summer Lake	89.03	332		IAmb	IAmb	14 17 22.7			
	comp=Z,38nm,1.1s									
TGY	Tagaytay City	89.09	72		LR	LR	15 02 50.4			
	comp=Z,923nm,19.9s,baz=348,slow=39									
LWLI	Liwa	89.12	97	P		P	14 17 19.4	-0.6		
JCT	Junction City	89.25	311		IAmb	IAmb	14 18 04.5			
	comp=Z,35nm,1.4s									
735A	Kenedy	89.31	309		IAMs_20	IAMs_20	15 00 19.0			
	comp=Z,2µm,20.0s									
ANMO	Albuquerque	89.35	318		LR	LR	14 57 45.8			
	comp=Z,3µm,19.6s,baz=132,slow=36									
ANMO	Albuquerque	89.35	318⇑	*e*P		P	14 17 21.6	+0.6		
ANMO					pmax	pmax				
	comp=Z,7.0nm,1.1s									
ANMO					MLR	MLR				
	comp=Z,4µm,17.0s									
TEIG	Tepich	89.47	297		IAMs_20	IAMs_20	15 02 25.9			
	comp=Z,1µm,18.0s									
BBOR	Butler Butte	89.50	333	P		P	14 17 21.4	0.0		
BBOR					IAmb	IAmb	14 17 22.6			
	comp=Z,18nm,0.8s									
KSM	Kuching	89.56	88		IAmb	IAmb	14 17 34.2			
	comp=Z,36nm,1.1s									
SPB	Sao Paulo	89.57	238		IAMs_20	IAMs_20	15 00 48.8			
	comp=Z,3µm,20.0s									
OZNA	Ozona	89.66	312		IAmb	IAmb	14 17 33.9			
	comp=Z,27nm,1.0s									
SPR3	Spring Creek 3	89.68	326		IAmb	IAmb	14 17 39.0			
	comp=Z,50nm,1.3s									
SALV	Santo Antonio	89.74	249	*e*P		P	14 17 24.4	+1.7		
ROSC	El Rosal	89.78	276		LR	LR	14 52 48.5			
	comp=Z,1µm,21.9s,baz=55,slow=32									
KASI	Kota Agung	89.78	97	P		P	14 17 23.3	+0.4		
L04D	Klamath Falls	89.97	333		IAmb	IAmb	14 17 26.0			
	comp=Z,36nm,1.1s									
BILN	Bilwi Airport	90.30	289		IAMs_20	IAMs_20	15 02 00.5			
	comp=Z,736nm,19.0s									
KVTX	Kingsville	90.33	308		IAMs_20	IAMs_20	15 01 48.0			
	comp=Z,3µm,20.0s									
PP1B	Ponte de Pedra	90.33	247	*e*P		P	14 17 26.6	+1.2		
TPI	Tanjungpandan	90.33	93	P		P	14 17 24.5	-1.0		
	comp=Z,1µmcomp=Z,82nm,1.2s									
CCUT	Cedar City	90.47	324		IAmb	IAmb	14 17 42.1			
	comp=Z,28nm,1.2s									
L02F	Cave Junction	90.48	334		IAmb	IAmb	14 17 41.6			
	comp=Z,65nm,1.7s									
YBH	Yreka Blue Hor	90.54	333		LR	LR	15 01 39.2			
	comp=Z,201nm,18.3s,baz=28,slow=38									
KBO	Bosley Butte	90.62	334		IAMs_20	IAMs_20	15 00 16.6			
	comp=Z,2µm,20.0s									
833A	Chaparral WMA,	90.63	310		IAmb	IAmb	14 17 36.9			
	comp=Z,20nm,1.1s									
M03C	McCloud	90.74	332		IAmb	IAmb	14 17 29.8			
	comp=Z,37nm,1.0s									
R11B	Troy Canyon, C	90.75	326		IAmb	IAmb	14 17 44.1			
	comp=Z,50nm,1.7s									
PECS	Pecos	90.81	314		IAmb	IAmb	14 17 48.6			
	comp=Z,27nm,1.1s									
KSXB	Camp Six Broad	90.84	334		IAMs_20	IAMs_20	15 01 56.6			
	comp=Z,2µm,18.0s									
M02C	Callahan	90.89	333		IAMs_20	IAMs_20	15 00 09.8			
	comp=Z,3µm,20.0s									
HATC	Hat Creek Radi	90.91	332		IAMs_20	IAMs_20	14 59 36.3			
	comp=Z,3µm,20.0s									
VILB	Vilhena	90.96	254		IAmb	IAmb	14 17 40.4			
	comp=Z,28nm,0.9s									
VILB	Vilhena	90.96	254	*e*P		P	14 17 30.9	+2.5		
KRMB	Red Mountain	91.13	333		IAMs_20	IAMs_20	15 00 52.2			
	comp=Z,2µm,19.0s									
N02D	Trinity Center	91.21	332		IAmb	IAmb	14 17 31.8			
	comp=Z,32nm,1.4s									
N02D					IAMs_20	IAMs_20	15 00 10.2			
	comp=Z,3µm,20.0s									
WUAZ	Wupatki	91.26	322		IAMs_20	IAMs_20	14 58 45.0			
	comp=Z,3µm,21.0s									
PRN	Pahroc Range	91.33	325		IAmb	IAmb	14 17 46.3			
	comp=Z,20nm,1.1s									
BEKR	Beckworth	91.33	330		IAmb	IAmb	14 17 45.5			
	comp=Z,27nm,1.5s									
MNTX	Cornudas Mount	91.36	316		IAMs_20	IAMs_20	15 00 44.9			
	comp=Z,3µm,18.0s									
ALPN	Alpine	91.46	314		IAmb	IAmb	14 17 33.5			
	comp=Z,28nm,1.1s									
O03E	Paynes Creek	91.49	331		IAmb	IAmb	14 17 40.2			
	comp=Z,37nm,1.4s									
KRPM	Rogers	91.49	333		IAMs_20	IAMs_20	15 01 09.8			
	comp=Z,2µm,19.0s									
SIUN	Universidad Ur	91.52	290		IAmb	IAmb	14 18 24.9			
	comp=Z,28nm,0.6s									
SIUN					IAMs_20	IAMs_20	14 58 44.7			
	comp=Z,551nm,20.0s									
KHBM	Hayfork Bally	91.66	333		IAMs_20	IAMs_20	15 00 45.3			
	comp=Z,2µm,19.0s									
NVAR	Mina Array Bea	91.79	328	P		P	14 17 32.1	-0.1		
	comp=Z,1.8nm,0.8s,baz=64,slow=4.2,SNR=11									
NVAR					LR	LR	15 01 45.3			
	comp=Z,4µm,18.5s,baz=32,slow=38									
	comp=Z,1.8nm,0.8s									
JCC	Jacoby Creek,	91.80	333		IAMs_20	IAMs_20	15 02 37.0			
	comp=Z,2µm,18.0s									
PTLB	Pontes e Lacer	91.87	251		IAmb	IAmb	14 17 43.3			
	comp=Z,19nm,0.9s									
PTLB	Pontes e Lacer	91.87	251	*e*P		P	14 17 34.5	+2.0		
ORV	Oroville	92.03	331		IAMs_20	IAMs_20	15 02 14.1			
	comp=Z,2µm,18.0s									
WAKR	Walker	92.17	329		IAmb	IAmb	14 17 50.2			
	comp=Z,21nm,1.3s									
KMPM	Mount Pierce	92.19	333		IAMs_20	IAMs_20	15 01 08.2			
	comp=Z,2µm,19.0s									
X16A	Lo Mia Camp, P	92.19	321		IAmb	IAmb	14 17 51.3			
	comp=Z,25nm,1.5s									
TPNV	Topopah Spring	92.22	326		IAMs_20	IAMs_20	15 00 34.3			
	comp=Z,3µm,20.0s									
TX31	Lajitas Ar. Si	92.28	313		IAmb	IAmb	14 17 44.6			
	comp=Z,25nm,1.1s									
TXAR	Lajitas Array	92.28	313	P		P	14 17 35.0	+0.5		
TXAR	Lajitas Array	92.28	313	P		P	14 17 35.6	+1.1		
	comp=Z,13nm,0.9s,baz=63,slow=3.3,SNR=72									
TXAR					PKKPbc	PKKPbc	14 34 47.0	-0.7		
	comp=Z,0.4nm,0.8s,baz=204,slow=2.6,SNR=2.8									
TXAR					LR	LR	14 59 59.3			
	comp=Z,2µm,20.2s,baz=40,slow=36									
	comp=Z,13nm,0.9s									
SUTB	Sutter Butte	92.42	331		IAMs_20	IAMs_20	15 02 25.4			
	comp=Z,1µm,18.0s									
V12A	Nelson	92.65	324		IAmb	IAmb	14 17 52.1			
	comp=Z,21nm,1.2s									
WELL	Weller Preserv	92.72	330		IAmb	IAmb	14 17 51.9			
	comp=Z,18nm,1.3s									
WELL					IAMs_20	IAMs_20	15 02 11.4			
	comp=Z,2µm,18.0s									
W13A	Hualapai Mount	92.75	323		IAmb	IAmb	14 17 53.8			
	comp=Z,41nm,2.0s									
FURC	Furnace Creek,	92.89	326		IAmb	IAmb	14 17 55.0			
	comp=Z,27nm,1.5s									
FURC					IAMs_20	IAMs_20	15 02 51.9			
	comp=Z,3µm,18.0s									
LEM	Lembang	92.97	96		LR	LR	15 04 50.9			
	comp=Z,588nm,18.1s,baz=324,slow=39									
MNRC	McLaughlin Min	92.97	331		IAMs_20	IAMs_20	15 01 18.9			
	comp=Z,3µm,19.0s									
BOAB	BOACO BROADBA	93.02	289		P	P	14 17 37.1	-0.9		
GWY	Greenwater Val	93.05	326		IAmb	IAmb	14 17 54.1			
	comp=Z,28nm,1.3s									
TGUH	Tegucigalpa,Un	93.05	292		IAMs_20	IAMs_20	14 57 05.1			
	comp=Z,1µm,20.0s									
HOPS	Hopland Field	93.09	332		IAMs_20	IAMs_20	15 03 21.2			
	comp=Z,2µm,18.0s									
GDXM	Geysers	93.16	331		IAmb	IAmb	14 17 42.2			
	comp=Z,23nm,1.2s									
BUCR	Buckhorn Ranch	93.17	329		IAmb	IAmb	14 17 54.2			
	comp=Z,18nm,1.4s									
BUCR					IAMs_20	IAMs_20	15 02 16.3			
	comp=Z,2µm,18.0s									
MYLDM	Lahad Datu	93.26	80		IAmb	IAmb	14 17 58.1			
	comp=Z,25nm,0.9s									
MYLDM					IAMs_20	IAMs_20	15 07 19.7			
	comp=Z,2µm,18.0s									
CVS	Carmenet Viney	93.45	331		IAMs_20	IAMs_20	15 02 57.6			
	comp=Z,3µm,18.0s									
TUC	Tucson	93.61	320	P		P	14 17 42.3	+1.7		
TUC					pmax	pmax				
	comp=Z,11nm,1.4s									
SIV	San Ignacio	93.61	252		LR	LR	15 00 59.9			
	comp=Z,1µm,18.0s,baz=62,slow=36									
HERN	Volcan Telica	93.73	290		IAMs_20	IAMs_20	15 00 57.3			
	comp=Z,1µm,20.0s									
MCCM	Marconi Confer	93.78	331		IAMs_20	IAMs_20	15 01 32.3			
	comp=Z,2µm,20.0s									
JTS	Las Juntas de	93.98	287		LR	LR	14 56 13.4			
	comp=Z,651nm,20.5s,baz=34,slow=33									
LRMC	Laurel Mtn Rad	94.07	326		IAmb	IAmb	14 17 58.4			
	comp=Z,19nm,1.4s									
IRM	Iron Mountain	94.10	324		IAmb	IAmb	14 17 58.8			
	comp=Z,19nm,1.3s									
FARB	Farallon Islan	94.22	331		IAMs_20	IAMs_20	15 01 54.0			
	comp=Z,2µm,20.0s									
ISA	Isabella, Lake	94.25	327		IAmb	IAmb	14 17 54.7			
	comp=Z,77nm,1.0s									
MTO3	Montecristo	94.27	293		IAMs_20	IAMs_20	15 01 11.2			
	comp=Z,1µm,19.0s									
SCZ	Santa Cruz	94.59	329		IAmb	IAmb	14 17 47.2			
	comp=Z,15nm,1.1s									
BC3	Big Chuckawall	94.66	324		IAmb	IAmb	14 18 01.2			
	comp=Z,38nm,1.9s									
BC3					IAMs_20	IAMs_20	15 03 02.1			
	comp=Z,3µm,19.0s									
TPO	Tropico Hills	94.82	326		IAmb	IAmb	14 18 02.1			
	comp=Z,20nm,1.1s									
GLA	Glamis	94.89	323		IAMs_20	IAMs_20	15 01 29.1			
	comp=Z,3µm,20.0s									
PFO	Pinyon Flats O	95.14	324		LR	LR	15 03 59.4			
	comp=Z,3µm,19.1s,baz=30,slow=38									
PFO	Pinyon Flats O	95.14	324⇓	*e*P		P	14 17 48.6	+0.9		
PFO					pmax	pmax				
	comp=Z,19nm,1.0s									
BAR	Barrett	96.03	324		IAMs_20	IAMs_20	15 04 04.2			
	comp=Z,3µm,20.0s									
DAV	Davao City (W)	97.19	74		LR	LR	15 09 59.6			
	comp=Z,1µm,18.7s,baz=329,slow=40									
CPUP	Villa Florida	97.92	242		LR	LR	15 04 55.0			
	comp=Z,963nm,18.3s,baz=274,slow=37									
LPAZ	La Paz	98.91	256	P		P	14 18 05.1	-0.4		
	comp=Z,0.7nm,0.6s,baz=20,slow=8.9,SNR=4.0									
LPAZ					LR	LR	15 02 59.0			
	comp=Z,475nm,19.5s,baz=58,slow=36									
	comp=Z,0.7nm,0.6s									
LPIG	La Paz	100.02	315		LR	LR	15 04 57.9			
	comp=Z,2µm,19.9s,baz=34,slow=36									
PB16	IPOC Station P	101.23	256		IAMs_20	IAMs_20	15 12 26.0			
	comp=Z,2µm,20.0s									
PB11	IPOC Station P	102.25	255		IAMs_20	IAMs_20	15 10 49.9			
	comp=Z,1µm,20.0s									
TA01	Diego Aracena	103.14	254		IAMs_20	IAMs_20	15 08 56.5			
	comp=Z,1µm,18.0s									
PB06	IPOC Station P	104.05	252		IAMs_20	IAMs_20	15 12 08.7			
	comp=Z,2µm,20.0s									
ZON	Zonda	108.87	244		IAMs_20	IAMs_20	15 11 28.7			
	comp=Z,2µm,20.0s									
SYO	Syowa Base	111.05	172⇓	*e*P	diff	Pdif	14 18 56.4	-0.9		
PSA00	Pilbara Seismi	111.42	100		IAMs_20	IAMs_20	15 09 28.1			
	comp=Z,1µm,19.0s									
TROLL	Troll, Antarti	113.71	186	⇑P		PKiKP	14 23 02.2	+0.7		
	comp=Z,72nm,0.8s									
SNAA	Sanae	113.85	188	⇑P		PKiKP	14 23 02.3	+0.6		

h21km:**pP-P**,**n1746**,σ1**92**/1624,**mb5.3**/384,**MS5.2**/19,
123C-154D,**Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.18**	**87**	Pg	**Pb**	**14 15 59.0**	**-0.3**
TIR				Sg	**Sb**	**14 16 02.6**	**-0.7**
TIR				AML	AML	14 16 04.0	
	1μm,0.8s						
TIR				AML	AML	14 16 05.0	
	866nm,0.5s						
ULC	**Ulcinj**	**0.69**	**336**↑	*i*Pg	**Pb**	**14 16 05.8**	**-1.0**
ULC				*i* Sg	**Sb**	**14 16 16.2**	**+0.4**
VLO	**Vlora**	**0.88**	**186**	Pg	**Pn**	**14 16 12.2**	**+1.7**
VLO				Sg	**Sn**	**14 16 24.0**	**+1.4**
VLO				AML	AML	14 16 28.7	
	753nm,0.7s						
VLO	**Vlora**	**0.88**	**186**	P	**Pn**	**14 16 12.6**	**+2.0**
VLO				S	**Sn**	**14 16 27.4**	**+4.8**
VLO	**Vlora**	**0.88**	**186**	P	**Pn**	**14 16 12.5**	**+2.0**
VLO				S	**Sn**	**14 16 27.4**	**+4.8**
VLO	**Vlora**	**0.88**	**186**	⇓P	**Pn**	**14 16 11.3**	**+0.8**
VLO				S	**Sn**	**14 16 25.6**	**+3.0**
VLO				AML	AML		
VLO				AML	AML		
DRME	**Dracevica, Mon**	**0.91**	**339**	*e*Pg	**Pb**	**14 16 10.5**	**0.0**
DRME				*e*Sg	**Sn**	**14 16 24.4**	**+0.9**
DRME	**Dracevica, Mon**	**0.91**	**339**↑	*i*Pg	**Pb**	**14 16 10.0**	**-0.5**
DRME				*i* Sg	**Sn**	**14 16 24.5**	**+0.9**
OHR	**Ohrid**	**0.92**	**104**	*i* Pg	**Pn**	**14 16 11.6**	**+0.4**
OHR				*i* Sg	**Sn**	**14 16 29.2**	**+5.4**
OHR				*e*Lg	Lg	14 16 29.4	
	comp=N,64μm,0.8s						
OHR				*e*Lg	Lg	14 16 32.4	
	comp=E,47μm,0.6s						
BUM	**Brajici-Budva**	**1.10**	**331**⇓	*i*Pg	**Pb**	**14 16 14.1**	**+0.2**
BUM				*i* Sg	**Sn**	**14 16 30.0**	**+1.6**
PDG	**Podgorica**	**1.12**	**346**		**Pn**	**14 16 13.0**	**-0.9**
PDG	**Podgorica**	**1.12**	**346**	↑P	**Pn**	**14 16 13.9**	**-0.1**
PDG	**Podgorica**	**1.12**	**346**	*e*Pg	**Pn**	**14 16 14.0**	**0.0**
PDG				*e*Sg	**Sn**	**14 16 32.2**	**+3.4**
PDG	**Podgorica**	**1.12**	**346**	P	**Pn**	**14 16 13.4**	**-0.6**
PDG				S	**Sn**	**14 16 30.3**	**+1.5**
PDG				AML	AML		
	comp=E,75150μm,0.7s						
PDG				AML	AML		
	comp=E,75750μm,0.7s						
PDG				AML	AML		
	comp=N,77750μm,0.8s						
PDG				AML	AML		
	comp=N,78200μm,0.8s						
PDG	**Podgorica**	**1.12**	**346**↑	*i*Pg	**Pn**	**14 16 13.4**	**-0.6**
PDG				*i* Sg	**Sn**	**14 16 31.6**	**+2.8**
KBN	**Korca**	**1.14**	**129**	Pg	**Pb**	**14 16 16.3**	**+1.9**
KBN				Sg	**Sn**	**14 16 33.9**	**+4.8**
KBN				AML	AML	14 16 37.1	
	comp=N,165nm,0.8s						
KBN	**Korca**	**1.14**	**129**	P	**Pb**	**14 16 16.2**	**+1.9**
KBN				S	**Sn**	**14 16 35.2**	**+6.0**
KBN	**Korca**	**1.14**	**129**	P	**Pb**	**14 16 16.3**	**+1.9**
KBN				S	**Sn**	**14 16 35.1**	**+6.0**
KBN	**Korca**	**1.14**	**129**	P	**Pb**	**14 16 16.8**	**+2.4**
KBN				S	**Sn**	**14 16 33.2**	**+4.1**
PVY	**Plav**	**1.28**	**11**	*e*Pg	**Pb**	**14 16 19.7**	**+2.8**
PVY	**Plav**	**1.28**	**11**↑	*i*Pg	**Pb**	**14 16 19.1**	**+2.2**
PVY				*e*Sg	**Sb**	**14 16 36.4**	**+3.5**
CEME	**Cevo**	**1.32**	**337**↑	*i*Pg	**Pn**	**14 16 17.0**	**+0.3**
CEME				*i* Sg	**Sb**	**14 16 36.7**	**+2.8**
HCY	**Herceg Novi**	**1.39**	**323**↑	*i*Pg	**Pb**	**14 16 18.7**	**0.0**
HCY				*i* Sg	**Sb**	**14 16 37.4**	**+1.4**
NKME	**Niksic**	**1.51**	**341**↑	*i*Pg	**Pb**	**14 16 20.3**	**-0.5**
NKME				*i* Sg	**Sb**	**14 16 42.0**	**+2.5**
KOME	**Kolasin**	**1.51**	**357**	*e*Pg	**Pb**	**14 16 21.3**	**+0.5**
KOME	**Kolasin**	**1.51**	**357**⇓	*i*Pg	**Pb**	**14 16 20.9**	**+0.1**
KOME				*i* Sg	**Sb**	**14 16 43.9**	**+4.3**
MESG	**Mesagne**	**1.54**	**241**	⇓P	**Pn**	**14 16 19.6**	**0.0**
MESG				S	**Sn**	**14 16 39.0**	**0.0**
MESG				AML	AML		
	comp=E,48900μm,1.3s						
MESG				AML	AML		
	comp=N,49250μm,0.8s						
BEY	**Berane**	**1.54**	**7**	*e*Pg	**Pb**	**14 16 21.6**	**+0.2**
IVA	**Berane**	**1.54**	**7**⇓	*i*Pn	**Pb**	**14 16 21.1**	**-0.3**
IVA				*i* Sn	**Sb**	**14 16 44.3**	**+3.8**
PENT	**Pentalofos**	**1.62**	**134**	P	**Pb**	**14 16 25.4**	**+2.7**
KEK	**Kerkira**	**1.63**	**175**	Pn	**Pb**	**14 16 26.4**	**+3.6**
KEK	**Kerkira**	**1.63**	**175**		**Pb**	**14 16 26.3**	**+3.6**
KEK	**Kerkira**	**1.63**	**175**	⇓P	**Pb**	**14 16 26.4**	**+3.6**
TREB	**Trebinje**	**1.67**	**326**↑	*i*Pg	**Pn**	**14 16 22.0**	**+0.5**
TREB				*e*Sg	**Sn**	**14 16 42.8**	**+0.5**
TREB	**Trebinje**	**1.67**	**326**	*e*Pg	**Pn**	**14 16 22.3**	**+0.8**
BRY	**Bratogost**	**1.76**	**333**↑	*i*Pn	**Pn**	**14 16 23.5**	**+0.7**
BRY				*i* Sn	**Sb**	**14 16 47.3**	**+0.6**
IGT	**Igoumenitsa**	**1.88**	**163**	Pn	**Pb**	**14 16 27.8**	**+0.7**
IGT				Sn	**Sb**	**14 16 52.0**	**+1.8**
IGT				AML	AML	14 17 08.5	
	comp=N,72nm,0.6s						
IGT	**Igoumenitsa**	**1.88**	**163**	P	**Pb**	**14 16 27.4**	**+0.3**
IGT	**Igoumenitsa**	**1.88**	**163**	*i* Pn	**Pb**	**14 16 26.9**	**-0.3**
IGT				*i* Sn	**Sb**	**14 16 55.1**	**+4.9**
LFKM	**Lefkimmi**	**1.92**	**170**	P	**Pb**	**14 16 27.6**	**-0.1**
JAN	**Janina**	**1.92**	**150**	P	**Pb**	**14 16 28.3**	**+0.5**
JAN	**Janina**	**1.92**	**150**	P	**Pb**	**14 16 28.3**	**+0.5**
KZN	**Kozani**	**1.93**	**122**	P	**Pb**	**14 16 28.3**	**+0.4**
KZN	**Kozani**	**1.93**	**122**	P	**Pb**	**14 16 28.3**	**+0.4**
UPM	**Unac-Piva**	**1.94**	**344**⇓	*i*Pn	**Pb**	**14 16 26.9**	**-1.2**
SJES	**Sjenica**	**1.94**	**8**	*e*Pg	**Pb**	**14 16 28.8**	**+0.7**
SJES				*e*Sg	**Sb**	**14 16 55.8**	**+3.9**
TAR1	**Taranto**	**1.95**	**246**	⇓P	**Pn**	**14 16 24.9**	**-0.4**
TAR1				AML	AML		
	comp=E,31550μm,1.5s						
TAR1				AML	AML		
	comp=N,32500μm,1.2s						
KLINJ	**Klinje**	**1.98**	**338**↑	*i*Pn	**Pn**	**14 16 27.0**	**+1.1**
NOCI	**Noci**	**2.01**	**255**	Pn	**Pb**	**14 16 25.8**	**-0.4**
NOCI	**Noci**	**2.01**	**255**	⇓P	**Pn**	**14 16 25.8**	**-0.4**
NOCI				AML	AML		
	comp=E,30300μm,1.0s						
NOCI				AML	AML		
	comp=N,34500μm,1.1s						
STON	**Ston**	**2.10**	**318**↑	*i*Pn	**Pn**	**14 16 27.3**	**0.0**
STON				*e*Sn	**Sn**	**14 16 51.7**	**-1.0**
STON	**Ston**	**2.10**	**318**	*e*Pn	**Pn**	**14 16 27.8**	**+0.5**
STON	**Ston**	**2.10**	**318**	↑P	**Pn**	**14 16 27.3**	**0.0**
STON				S	**Sn**	**14 16 52.3**	**-0.5**
STON				AML	AML		
	comp=E,11850μm,0.7s						
STON				AML	AML		
	comp=N,14000μm,1.3s						
KTI	**Kastanea**	**2.11**	**116**	P	**Pb**	**14 16 30.7**	**-0.4**
PRMD	**Pramanda**	**2.13**	**148**	P	**Pb**	**14 16 31.4**	**0.0**
SELS	**Selova**	**2.18**	**30**	*e*Pn	**Pb**	**14 16 30.9**	**-1.3**
SELS				*e*Sn	**Sn**	**14 16 55.8**	**+0.8**
BARS	**Barje**	**2.20**	**47**	*i* Pn	**Pb**	**14 16 31.5**	**-1.0**
BARS				*i* Sn	**Sb**	**14 17 01.6**	**+2.3**
BARS	**Barje**	**2.20**	**47**	*e*Pn	**Pb**	**14 16 31.2**	**-1.3**
BARS				*e*Sn	**Sb**	**14 16 57.5**	**-1.8**
LTRZ	**Laterza**	**2.25**	**252**	P	**Pn**	**14 16 28.9**	**-0.6**
LTRZ				S	**Sn**	**14 16 54.6**	**-2.0**
LTRZ				AML	AML		
	comp=E,19800μm,0.8s						
LTRZ				AML	AML		
	comp=N,121μm,0.6s						
LTRZ				AML	AML		
	comp=N,35450μm,1.2s						
LTRZ				AML	AML		
	comp=E,76500μm,0.4s						
IVAS	**Ivanjica**	**2.27**	**10**	*e*Pn	**Pn**	**14 16 31.5**	**+1.7**
RUDO	**Rudo**	**2.29**	**355**	*e*Pn	**Pn**	**14 16 31.9**	**+1.9**
RUDO				*e*Sn	**Sb**	**14 17 00.4**	**-1.4**
RUDO	**Rudo**	**2.29**	**355**	*e*Pn	**Pn**	**14 16 31.7**	**+1.7**
MATE	**Matera**	**2.31**	**254**	⇓P	**Pn**	**14 16 30.0**	**-0.3**
MATE	**Matera**	**2.31**	**254**	⇓P	**Pn**	**14 16 29.9**	**-0.4**
MATE				AML	AML		
	comp=E,19300μm,1.4s						
MATE				AML	AML		
	comp=N,23900μm,0.5s						
AMUR	**Altamura**	**2.32**	**260**	⇓P	**Pn**	**14 16 30.2**	**-0.3**
AMUR				AML	AML		
	comp=N,15750μm,0.8s						
AMUR				AML	AML		
	comp=E,19750μm,0.7s						
GOCS	**Kraljevo Serbi**	**2.41**	**22**	*e*Pn	**Pb**	**14 16 33.9**	**-2.2**
GOCS				*e*Sn	**Sb**	**14 17 03.8**	**-1.5**
BOSS	**Bosilegrad**	**2.42**	**61**	*e*Pn	**Pb**	**14 16 34.6**	**-1.8**
KNT	**Kendrikon**	**2.48**	**93**	P	**Pb**	**14 16 35.4**	**-1.9**
KNT	**Kendrikon**	**2.48**	**93**	*i* Pn	**Pb**	**14 16 35.4**	**-1.9**
KNT				*i* Sn	**Sb**	**14 17 06.7**	**-0.6**
KNT	**Kendrikon**	**2.48**	**93**	P	**Pb**	**14 16 35.3**	**-1.9**
LIT	**Litokhoron**	**2.51**	**119**		**Pb**	**14 16 35.7**	**-2.0**
LIT	**Litokhoron**	**2.51**	**119**	P	**Pb**	**14 16 36.2**	**-1.5**
LIT	**Litokhoron**	**2.51**	**119**	*i* Pn	**Pb**	**14 16 35.7**	**-2.0**
MIGL	**Miglionico**	**2.52**	**254**	⇓P	**Pn**	**14 16 32.6**	**-0.6**
BBLS	**Lazi&#263i**	**2.53**	**356**	*e*Pn	**Pn**	**14 16 35.1**	**+1.7**
BBLS				*e*Sn	**Sn**	**14 17 04.4**	**+0.8**
THL	**Klokotos Trika**	**2.54**	**133**	P	**Pb**	**14 16 36.5**	**-1.9**
THL	**Klokotos Trika**	**2.54**	**133**	↑P	**Pb**	**14 16 36.5**	**-1.9**
THL				AML	AML		
	comp=N,1755μm,0.4s						
THL				AML	AML		
	comp=E,1570μm,0.9s						
TYRN	**Tyrnavos**	**2.57**	**128**	P	**Pb**	**14 16 36.9**	**-1.9**
THE	**Thessaloniki**	**2.63**	**104**	Pn	**Pn**	**14 16 37.2**	**+2.6**
THE				AML	AML	14 17 15.7	
	comp=E,26nm,1.0s						
THE	**Thessaloniki**	**2.63**	**104**	P	**Pn**	**14 16 37.2**	**+2.6**
THE	**Thessaloniki**	**2.63**	**104**	*i* Pn	**Pn**	**14 16 37.3**	**+2.6**
THE				*i* Sn	**Sb**	**14 17 11.6**	**+0.1**
THE	**Thessaloniki**	**2.63**	**104**	P	**Pn**	**14 16 37.2**	**+2.6**
TSLK	**Tsoukalades, L**	**2.63**	**162**	P	**Pn**	**14 16 36.9**	**+2.2**
LKD2	**Lefkada island**	**2.67**	**162**	Pn	**Pn**	**14 16 37.3**	**+2.0**
LKD2				AML	AML	14 17 20.5	
	comp=E,46nm,0.8s						
LKD2	**Lefkada island**	**2.67**	**162**	P	**Pn**	**14 16 37.2**	**+2.0**
GRUS	**Gruza**	**2.67**	**17**	*e*Pn	**Pn**	**14 16 37.5**	**+2.2**
KKB	**Krupnik**	**2.68**	**78**	P	**Pb**	**14 16 38.5**	**-2.1**
KKB				S	**Sb**	**14 17 11.7**	**-1.3**
KKB	**Krupnik**	**2.68**	**78**	P	**Pb**	**14 16 38.7**	**-2.0**
KKB	**Krupnik**	**2.68**	**78**	*i* Pn	**Pb**	**14 16 38.6**	**-2.0**
KKB				*i* Sn	**Sb**	**14 17 13.5**	**+0.5**
AMPL	**Ampelaki**	**2.70**	**153**	P	**Pb**	**14 16 38.7**	**-2.4**
ORI	**Oriolo Calabro**	**2.73**	**243**	P	**Pn**	**14 16 35.8**	**-0.2**
ORI				AML	AML		
	comp=N,31050μm,1.5s						
ORI				AML	AML		
	comp=E,32600μm,0.5s						
NYDR	**Nydri-Lefkada**	**2.75**	**162**	P	**Pn**	**14 16 38.0**	**+1.8**
BOVS	**Bovan**	**2.76**	**33**	⇓P	**Pn**	**14 16 39.1**	**+2.6**
BOVS	**Bovan**	**2.76**	**33**	*e*Pn	**Pn**	**14 16 38.4**	**+1.9**
BOVS				*e*Sn	**Sn**	**14 17 11.0**	**+1.8**
DIVS	**Divibare**	**2.77**	**6**	*e*Pn	**Pn**	**14 16 38.2**	**+1.5**
DIVS				*e*Sn	**Sn**	**14 17 12.6**	**+3.0**
PALZ	**Palazzo San Ge**	**2.79**	**263**	⇓P	**Pn**	**14 16 36.9**	**-0.1**
PALZ				AML	AML		
	comp=E,50300μm,1.0s						
PALZ				AML	AML		
	comp=N,61900μm,0.9s						
MSAG	**Monte S. Angel**	**2.81**	**279**	⇓P	**Pn**	**14 16 36.9**	**-0.3**
MSAG				AML	AML		
	comp=E,14800μm,0.7s						
MSAG				AML	AML		
	comp=E,5995μm,0.7s						
MSAG				AML	AML		
	comp=N,7580μm,0.6s						
MSAG				AML	AML		
	comp=N,18050μm,0.6s						
PTRP	**Pietrapertosa**	**2.82**	**254**	⇓P	**Pn**	**14 16 37.6**	**+0.2**
PTRP				AML	AML		
	comp=N,29450μm,0.8s						
PTRP				AML	AML		
	comp=E,30150μm,0.4s						
ACER	**Acerenza**	**2.84**	**260**		**Pn**	**14 16 37.9**	**+0.3**
ACER	**Acerenza**	**2.84**	**260**	⇓P	**Pn**	**14 16 37.6**	**0.0**
ACER				AML	AML		
	comp=E,28300μm,1.3s						
ACER				AML	AML		
	comp=E,29600μm,1.3s						
ACER				AML	AML		
	comp=N,32900μm,1.3s						
ACER				AML	AML		
	comp=N,31300μm,1.3s						
SOH	**Sokhos**	**2.87**	**99**	*i* Pn	**Pb**	**14 16 41.1**	**-2.8**
SOH	**Sokhos**	**2.87**	**99**	P	**Pn**	**14 16 39.9**	**+1.9**
CAPA	**Cerignola FG**	**2.88**	**268**	⇓P	**Pn**	**14 16 38.2**	**+0.2**
CAPA				AML	AML		
	comp=N,23650μm,1.0s						
CAPA				AML	AML		
	comp=E,41950μm,1.2s						
CAPA				AML	AML		
	comp=N,48600μm,0.9s						
CAPA				AML	AML		
	comp=E,23450μm,0.8s						
LADO	**San Nicola del**	**2.88**	**225**	⇓P	**Pn**	**14 16 37.9**	**-0.2**
SALB	**San Lorenzo Be**	**2.89**	**241**	⇓P	**Pn**	**14 16 37.8**	**-0.6**
SALB				AML	AML		
	comp=N,10300μm,1.4s						
SALB				AML	AML		
	comp=E,11375μm,1.0s						
TRUS	**Trudelj**	**2.94**	**11**	*e*Pn	**Pn**	**14 16 40.9**	**+2.0**
TRUS				*e*Sn	**Sn**	**14 17 15.0**	**+1.4**
SGRT	**San Giovanni R**	**2.94**	**279**	Pn	**Pn**	**14 16 38.6**	**-0.4**
SGRT				Sn	**Sn**	**14 17 10.2**	**-3.6**
SGRT				AML	AML	14 17 32.7	
	comp=E,25nm,0.8s						
SGRT	**San Giovanni R**	**2.94**	**279**		**Pn**	**14 16 38.6**	**-0.4**
SGRT	**San Giovanni R**	**2.94**	**279**	⇓P	**Pn**	**14 16 38.5**	**-0.6**
SGRT				AML	AML		
	comp=N,9240μm,0.5s						
SGRT				AML	AML		
	comp=E,9295μm,1.6s						
ZAPS	**Zavoj**	**2.95**	**48**	*e*Pn	**Pn**	**14 16 42.3**	**+3.1**
PZUN	**Potenza**	**2.97**	**258**	P	**Pn**	**14 16 40.3**	**+1.0**
PZUN				AML	AML		
	comp=E,22250μm,1.0s						
PZUN				AML	AML		
	comp=E,22800μm,1.0s						
PZUN				AML	AML		
	comp=N,31350μm,0.8s						
PZUN				AML	AML		
	comp=N,30500μm,0.8s						
VTS	**Vitosha**	**2.98**	**63**	P	**Pn**	**14 16 42.8**	**+3.2**
VTS				S	**Sb**	**14 17 19.6**	**-2.3**
VTS	**Vitosha**	**2.98**	**63**	*e*Pn	**Pb**	**14 16 42.9**	**-3.0**
VTS	**Vitosha**	**2.98**	**63**	P	**Pb**	**14 16 43.4**	**-2.5**
SRS	**Serrai**	**3.00**	**93**	*i* Pn	**Pn**	**14 16 42.8**	**+3.0**
SRS	**Serrai**	**3.00**	**93**	*e*Pn	**Pn**	**14 16 42.6**	**+2.8**
VULT	**Monte Vulture**	**3.05**	**264**	P	**Pn**	**14 16 40.6**	**0.0**
VULT				AML	AML		
	comp=E,20650μm,0.9s						
VULT				AML	AML		
	comp=E,20050μm,0.9s						
VULT				AML	AML		
	comp=N,27500μm,0.8s						
VULT				AML	AML		
	comp=N,26800μm,0.8s						
PLG	**Polygyros**	**3.06**	**107**	P	**Pn**	**14 16 43.0**	**+2.4**
PLNA	**Plana**	**3.06**	**67**	P	**Pb**	**14 16 44.9**	**-2.3**
CELI	**Celico**	**3.07**	**232**	⇓P	**Pn**	**14 16 40.4**	**-0.4**
CELI				AML	AML		
	comp=N,18200μm,0.9s						
CELI				AML	AML		
	comp=N,7260μm,0.9s						
CELI				AML	AML		
	comp=E,20000μm,1.2s						
CELI				AML	AML		
	comp=E,7910μm,1.2s						
MCEL	**Monticello**	**3.07**	**252**	⇓P	**Pn**	**14 16 40.0**	**-0.8**
MCEL				AML	AML		
	comp=E,11745μm,0.6s						
MCEL				AML	AML		
	comp=E,11535μm,0.6s						
MCEL				AML	AML		
	comp=N,16200μm,0.7s						
MCEL				AML	AML		
	comp=N,15750μm,0.7s						
TIP	**Timpagrande**	**3.08**	**226**		**Pn**	**14 16 40.7**	**-0.2**
TIP	**Timpagrande**	**3.08**	**226**	P	**Pn**	**14 16 40.7**	**-0.2**
TIP				AML	AML		
	comp=N,5150μm,1.0s						
TIP				AML	AML		
	comp=N,5200μm,1.0s						
TIP				AML	AML		
	comp=E,6750μm,0.9s						
TIP				AML	AML		
	comp=E,6710μm,0.9s						
TIP	**Timpagrande**	**3.08**	**226**	Pn	**Pn**	**14 16 40.5**	**-0.4**
SIRI	**Monte Sirino -**	**3.08**	**249**	⇓P	**Pn**	**14 16 40.5**	**-0.4**

BJI ***21*** *14:15:46.0,41.°04N×19.°06E,h10km,mB5.5/21,mb5.4/80, Ms5.8/32,Ms7 5.5/31*

IDC ***21*** *14:15:50.5±0.4,41.°39N×19.°49E,h0km,mb5.1/28, mbtmp5.1/42,ML4.3/11,MS4.8/13,Error ellipse: s-maj=7.9km s-min=7.7km az=67.0*

NAO ***21*** *14:15:50.9,41.°41N×19.°45E,h10km,MB4.9*

MOS ***21*** *14:15:50.6±1.1,41.°36N×19.°41E,h11km,mb5.5/56, MS4.8/28,Error ellipse: s-maj=3.6km s-min=2.4km az=76.1*

SKO ***21*** *14:15:51.8,41.°26N×19.°28E,h12km,ML5.3*

NEIC ***21*** *14:15:53.0±2.1,41.°47N±0.°04×19.°54E±0.°06,h14km±2km, mb5.4/583,Mwr5.1/30,Error ellipse: s-maj=7.3km s-min=6.0km az=64.0,Moment Tensor Solution. Moment tensor: Scale 10*^{16}*Nm; Mrr4.01; Mθθ-1.04; Mϕϕ-2.96; Mrθ1.46; Mθϕ2.87; Mϕr-1.74; Fault plane solution: Mo5.13000×10*^{16} *NP1:ϕs141.81000°,δ58.36000°, λ87.08000°. NP2:ϕs327.36000°,δ31.76000°,λ94.73000°. Principal axes: T 4.5496, Plg76.0000°, Azm43.0000°; N 1.0125, Plg2.0000°, Azm143.0000°; P -5.5620, Plg13.0000°, Azm234.0000°;*

TIR ***21*** *14:15:52.4,41.°45N×19.°47E,h38km±2km,Ml5.3/9*

MED_RC ***21*** *14:15:53.0±0.2,41.°32N×19.°48E,h19km,MW5.1/23, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s23,c32; Duration: 1s4 Moment tensor: Scale 10*^{16}*Nm; Mrr5.32±.34; Mθθ-1.31±.20; Mϕϕ-4.01±.22; Mrθ2.47±.33; Mθϕ3.51±.16; Mϕr-0.98±.35; Best double couple: Mo6.49000×10*^{16} *NP1:ϕs342.00000°,δ37.00000°, λ116.00000°. NP2:ϕs130.00000°,δ57.00000°,λ71.00000°. Principal axes: T 6.1400, Plg71.0000°, Azm356.0000°; N 0.6900, Plg15.0000°, Azm141.0000°; P -6.8300, Plg11.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*

NEIC ***21*** *14:15:53.3,41.°47N×19.°54E,h13km*

MCSM ***21*** *14:15:53.3±0.6,41.°N±2.°×1.°9E±.°,h10km±4km,mb5.3, mB5.2,MLv5.5,Mw(mB)4.5*

BGR ***21*** *14:15:53.4±0.6,41.°20N×19.°31E,h10km,ML5.1,Error ellipse: s-maj=10.0km s-min=5.6km az=5.0*

PDG ***21*** *14:15:53.7±0.5,41.°34N×19.°42E,h18km±1km,MD5.2/11, ML5.1/11,Error ellipse: s-maj=1.7km s-min=2.8km az=0.0*

THE ***21*** *14:15:53.9,41.°N±7.°×1.°9E±.°,h11km,M5.0/17,MLh5.0/17*

PRU ***21*** *14:15:54.7,41.°30N×19.°19E,h0km,M5.4*

SOF ***21*** *14:15:54.6,41.°32N±0.°02×19.°55E±0.°05,h21km±5km, MD5.5/15*

ROM ***21*** *14:15:54.7±0.2,41.°337N±0.°007×19.°50E±0.°01, h29km±2km,ML5.2/374,Error ellipse: s-maj=1.0km s-min=0.4km az=70.0*

RHSSO ***21*** *14:15:55.0±0.8,41.°36N×19.°25E,h9km±4km,ML5.3/8*

BEO ***21*** *14:15:55.0±0.4,41.°36N×19.°53E,h20km±2km,ML5.2/27*

GII ***21*** *14:15:57.0±0.0,39.°228N±0.°001×18.°806E±0.°001,h10km, confirmed*

GCMT ***21*** *14:15:56.0±0.2,41.°28N±0.°02×19.°50E±0.°02,h22km, MW5.2/125,Moment Tensor Solution. s13,c13; s125,c203; Duration: 1s0 Moment tensor: Scale 10*^{16} *Nm; Mrr6.07±.35; Mθθ-1.72±.19; Mϕϕ-4.35±.20; Mrθ3.62±.30; Mθϕ3.69±.10; Mϕr-1.64±.23; Best double couple: Mo7.66100×10*^{16} *NP1:ϕs342.00000°,δ33.00000°, λ118.00000°. NP2:ϕs129.00000°,δ61.00000°,λ73.00000°. Principal axes: T 7.4950, Plg69.0000°, Azm3.0000°; N 0.3310, Plg15.0000°, Azm137.0000°; P -7.8260, Plg14.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

AFAD ***21*** *14:15:59.0,41.°59N×19.°79E,h35km,MW5.1*

ISC 21 14:15:53.4±0.2,**41.°34N**±0.°02×**19.°62E**±0.°02,**h21**km±1km,

SIRI					AML	AML			
	comp=E,8590µm,0.9s								
SIRI					AML	AML			
	comp=E,8770µm,0.9s								
SIRI					AML	AML			
	comp=N,8695µm,0.6s								
SIRI					AML	AML			
	comp=N,8545µm,0.6s								
APRC	**Apricena**	**3.09**	**279**	P	**Pn**		**14**	**16**	**40.6 -0.5**
APRC					AML	AML			
	comp=N,5180µm,0.4s								
APRC					AML	AML			
	comp=N,13200µm,0.4s								
APRC					AML	AML			
	comp=E,9565µm,0.7s								
APRC					AML	AML			
	comp=E,9705µm,0.7s								
SOF	**Sofia**	**3.10**	**63**	P	**Pb**		**14**	**16**	**45.6 -2.2**
AGG	**Agios Georgios**	**3.11**	**137**	P	**Pb**		**14**	**16**	**44.8 -3.2**
MMB	**Musomishta**	**3.11**	**85**	P	**Pb**		**14**	**16**	**44.9 -3.1**
MMN	**Mormanno**	**3.12**	**244**	P	**Pn**		**14**	**16**	**41.6 +0.2**
MMN					AML	AML			
	comp=N,8945µm,0.8s								
MMN					AML	AML			
	comp=E,9160µm,0.4s								
ZAGS	**Zajecar**	**3.13**	**37**	*e*Pn	**Pn**		**14**	**16**	**44.1 +2.5**
ZAGS				*e*Sn	**Sn**		**14**	**17**	**20.7 +2.3**
SVIS	**Svilajnac**	**3.15**	**21**	*e*Pn	**Pn**		**14**	**16**	**44.3 +2.5**
SLCN	**Sala Consilina**	**3.17**	**254**	P	**Pn**		**14**	**16**	**42.2 0.0**
SLCN					AML	AML			
	comp=N,21650µm,1.2s								
SLCN					AML	AML			
	comp=N,20650µm,1.2s								
SLCN					AML	AML			
	comp=E,21550µm,0.6s								
SLCN					AML	AML			
	comp=E,19050µm,0.6s								
MRLC	**Muro Lucano**	**3.18**	**261**	⇓P	**Pn**		**14**	**16**	**42.1 -0.2**
MRLC					AML	AML			
	comp=N,4785µm,0.9s								
MRLC					AML	AML			
	comp=N,10190µm,0.9s								
MRLC					AML	AML			
	comp=E,4150µm,1.2s								
MRLC					AML	AML			
	comp=E,8560µm,1.3s								
CUC	**Castrocucco**	**3.19**	**246**		**Pn**		**14**	**16**	**42.4 -0.1**
CLT3	**Calitri**	**3.22**	**264**	P	**Pn**		**14**	**16**	**43.5 +0.8**
CLT3					AML	AML			
	comp=N,25200µm,0.8s								
CLT3					AML	AML			
	comp=E,32050µm,1.0s								
CLT3	**Calitri**	**3.22**	**264**	AML	AML				
	comp=E,36150µm,1.0s								
CLT3					AML	AML			
	comp=N,30050µm,0.9s								
SGTA	**Sant Agata di**	**3.22**	**268**	P	**Pn**		**14**	**16**	**43.0 +0.2**
SGTA					AML	AML			
	comp=N,11170µm,0.5s								
SGTA					AML	AML			
	comp=N,11470µm,0.5s								
SGTA					AML	AML			
	comp=E,22300µm,1.1s								
SGTA					AML	AML			
	comp=E,23000µm,1.1s								
SPS2	**Spezzano della**	**3.24**	**232**	⇓P	**Pn**		**14**	**16**	**42.9 -0.2**
SPS2					AML	AML			
	comp=N,3075µm,1.0s								
SPS2					AML	AML			
	comp=E,2715µm,1.3s								
VLS	**Valsamata**	**3.25**	**166**	P	**Pn**		**14**	**16**	**44.0 +0.8**
VLS	**Valsamata**	**3.25**	**166**	⇓P	**Pn**		**14**	**16**	**43.9 +0.8**
VLS					AML	AML			
	comp=N,7225µm,0.6s								
VLS					AML	AML			
	comp=E,6110µm,1.0s								
BORS2	**Bor- Borsko je**	**3.27**	**32**	*e*Pn	**Pn**		**14**	**16**	**44.2 +0.7**
MGR	**Morigerati**	**3.32**	**250**	P	**Pn**		**14**	**16**	**44.4 +0.3**
MGR					AML	AML			
	comp=E,6625µm,0.6s								
MGR					AML	AML			
	comp=N,10600µm,0.5s								
MGR					AML	AML			
	comp=N,8415µm,0.6s								
MGR					AML	AML			
	comp=E,8255µm,0.5s								
CAFE	**Carife**	**3.33**	**266**	⇓P	**Pn**		**14**	**16**	**44.6 +0.3**
CAFE					AML	AML			
	comp=N,7295µm,0.9s								
CAFE					AML	AML			
	comp=N,7070µm,0.6s								
CAFE					AML	AML			
	comp=E,14400µm,1.2s								
CAFE					AML	AML			
	comp=E,13950µm,1.2s								
CET2	**Cetraro**	**3.33**	**238**	⇓P	**Pn**		**14**	**16**	**44.9 +0.5**
CET2					AML	AML			
	comp=N,29450µm,1.2s								
CET2					AML	AML			
	comp=E,16950µm,1.1s								
CAR1	**CAROLEI**	**3.34**	**233**	⇓P	**Pn**		**14**	**16**	**45.0 +0.5**
CAR1					AML	AML			
	comp=E,12850µm,0.8s								
CAR1					AML	AML			
	comp=E,11900µm,0.7s								
CAR1					AML	AML			
	comp=N,13100µm,0.9s								
CAR1					AML	AML			
	comp=N,14300µm,0.9s								
SNAL	**S. Angelo Dei**	**3.36**	**264**	⇓P	**Pn**		**14**	**16**	**44.7 0.0**
SNAL					AML	AML			
	comp=N,19950µm,1.3s								
SNAL					AML	AML			
	comp=N,18500µm,1.3s								
SNAL					AML	AML			
	comp=E,14900µm,0.9s								
SNAL					AML	AML			
	comp=E,13950µm,0.8s								
CDRU	**Civita di Ruta**	**3.38**	**257**	⇓P	**Pn**		**14**	**16**	**44.6 -0.4**
CDRU					AML	AML			
	comp=E,4965µm,1.3s								
CDRU					AML	AML			
	comp=N,5995µm,0.8s								
BIOG	**Biogem**	**3.39**	**269**	P	**Pn**		**14**	**16**	**46.4 +1.2**
BIOG					AML	AML			
	comp=E,19550µm,0.9s								
BIOG					AML	AML			
	comp=E,20100µm,1.1s								
BIOG					AML	AML			
	comp=N,21950µm,1.0s								
BIOG					AML	AML			
	comp=N,21400µm,0.9s								
MELA	**Melanico ??? S**	**3.40**	**278**	⇓P	**Pn**		**14**	**16**	**45.4 +0.3**
MELA					AML	AML			
	comp=E,17050µm,1.0s								
MELA					AML	AML			
	comp=E,17850µm,1.0s								
MELA					AML	AML			
	comp=N,32700µm,1.1s								
MELA					AML	AML			
	comp=N,33850µm,1.1s								
MCRV	**Calabrutti - M**	**3.41**	**262**	P	**Pn**		**14**	**16**	**45.4 -0.2**
MCRV					AML	AML			
	comp=E,7445µm,0.5s								
MCRV					AML	AML			
	comp=N,6985µm,0.7s								
AVAS	**Avala Beograd**	**3.42**	**11**	*e*Pn	**Pn**		**14**	**16**	**46.6 +1.1**
AVAS				*e*Sn	**Sn**		**14**	**17**	**26.5 +1.1**
KUBS	**Kucevo**	**3.42**	**25**	*e*Pn	**Pn**		**14**	**16**	**46.2 +0.6**
KUBS				*e*Sn	**Sn**		**14**	**17**	**25.1 -0.4**
CMPR	**Campora**	**3.43**	**254**	P	**Pn**		**14**	**16**	**45.8 +0.1**
CMPR					AML	AML			
	comp=N,5395µm,1.4s								
CMPR					AML	AML			
	comp=E,6685µm,1.1s								
BULG	**Bulgheria - Ca**	**3.46**	**250**	⇓P	**Pn**		**14**	**16**	**46.6 +0.4**
BULG					AML	AML			
	comp=N,14800µm,1.2s								
BULG					AML	AML			
	comp=N,15350µm,1.2s								
BULG					AML	AML			
	comp=E,8735µm,0.9s								
BULG					AML	AML			
	comp=E,8430µm,0.9s								
MRB1	**Monte Rocchett**	**3.51**	**268**	⇓P	**Pn**		**14**	**16**	**47.5 +0.6**
MRB1					AML	AML			
	comp=E,13200µm,1.2s								
MRB1					AML	AML			
	comp=E,12900µm,1.1s								
MRB1					AML	AML			
	comp=N,15950µm,1.2s								
MRB1					AML	AML			
	comp=N,15500µm,1.2s								
MTMR	**Montemarano**	**3.52**	**265**	⇓P	**Pn**		**14**	**16**	**46.9 0.0**
MTMR					AML	AML			
	comp=E,4885µm,0.9s								
MTMR					AML	AML			
	comp=N,8685µm,1.2s								
MTMR					AML	AML			
	comp=N,9435µm,1.2s								
MTMR					AML	AML			
	comp=E,5070µm,0.4s								
BEO	**Beograd**	**3.52**	**10**	*e*Pn	**Pn**		**14**	**16**	**47.4 +0.5**
BEO				*e*Sn	**Sn**		**14**	**17**	**30.9 +2.9**
BEO	**Beograd**	**3.52**	**10**	*e*P	**Pn**		**14**	**16**	**47.4 +0.5**
BEO				*e*SN	**Sn**		**14**	**17**	**30.9 +2.9**
MNT3	**Montella**	**3.52**	**263**	P	**Pn**		**14**	**16**	**47.1 +0.1**
MNT3	**Montella**	**3.52**	**263**	AML	AML				
	comp=E,6625µm,1.2s								
MNT3					AML	AML			
	comp=N,8400µm,0.8s								
MNT3	**Montella**	**3.52**	**263**	AML	AML				
	comp=E,6720µm,1.2s								
MNT3					AML	AML			
	comp=N,8280µm,0.8s								
GATE	**Gambatesa**	**3.55**	**274**	⇓P	**Pn**		**14**	**16**	**48.5 +1.1**
GATE					AML	AML			
	comp=N,8365µm,0.6s								
GATE					AML	AML			
	comp=E,9605µm,0.7s								
GATE					AML	AML			
	comp=E,9515µm,0.7s								
GATE					AML	AML			
	comp=N,8550µm,0.9s								
KIJV	**Kijevo**	**3.57**	**319**	⇑*i*Pn	**Pn**		**14**	**16**	**48.3 +0.7**
KIJV				*e*Sn	**Sn**		**14**	**17**	**27.1 -2.0**
PGB	**Panagyurishte**	**3.59**	**69**	P	**Pb**		**14**	**16**	**52.2 -4.0**
MPEP	**Malo Peshtene**	**3.66**	**55**	P	**Pn**		**14**	**16**	**52.3 +3.5**
VALD	**Valchedram**	**3.67**	**49**	P	**Pn**		**14**	**16**	**52.3 +3.4**
SACR	**S. Croce Del S**	**3.70**	**273**	⇓P	**Pn**		**14**	**16**	**50.2 +0.7**
SACR					AML	AML			
	comp=N,5800µm,1.1s								
SACR					AML	AML			
	comp=N,5850µm,1.1s								
SACR					AML	AML			
	comp=E,5145µm,0.4s								
SACR					AML	AML			
	comp=E,5415µm,1.0s								
FRES	**Fresagrandinar**	**3.77**	**281**	P	**Pn**		**14**	**16**	**51.0 +0.7**
FRES					AML	AML			
	comp=N,7275µm,1.1s								
FRES					AML	AML			
	comp=E,9270µm,1.1s								
MDVR	**Moldovita**	**3.77**	**23**	⇑P	**Pn**		**14**	**16**	**52.2 +1.9**
MDVR	**Moldovita**	**3.77**	**23**	*e*Pn	**Pn**		**14**	**16**	**52.4 +2.1**
VITU	**Vitulano (BN)**	**3.77**	**269**	P	**Pn**		**14**	**16**	**51.2 +0.9**
VITU					AML	AML			
	comp=E,3630µm,0.2s								
VITU					AML	AML			
	comp=E,10115µm,0.6s								
VITU					AML	AML			
	comp=N,8665µm,0.7s								
VITU					AML	AML			
	comp=N,8940µm,0.7s								
PLAC	**Placanica**	**3.79**	**221**	⇓P	**Pn**		**14**	**16**	**50.3 -0.3**
PLAC					AML	AML			
	comp=E,4575µm,0.7s								
PLAC					AML	AML			
	comp=N,4760µm,0.7s								
PLAC					AML	AML			
	comp=E,3405µm,1.3s								
PLAC					AML	AML			
	comp=N,3260µm,1.3s								
BSSO	**Busso**	**3.79**	**275**	P	**Pn**		**14**	**16**	**51.4 +0.7**
BSSO					AML	AML			
	comp=N,2355µm,1.0s								
BSSO					AML	AML			
	comp=N,5510µm,1.0s								
BSSO					AML	AML			
	comp=E,5100µm,1.0s								
BSSO					AML	AML			
	comp=E,2145µm,1.0s								
PUNG	**Punghina**	**3.81**	**39**	⇑P	**Pn**		**14**	**16**	**53.5 +2.6**
PUNG	**Punghina**	**3.81**	**39**	*e*Pn	**Pn**		**14**	**16**	**53.4 +2.5**
FRGS	**Fruska Gora**	**3.82**	**2**	*e*Pn	**Pn**		**14**	**16**	**51.8 +0.8**
FRGS				*e*Sn	**Sn**		**14**	**17**	**35.5 +0.2**
PAOL	**Paolisi**	**3.83**	**267**		**Pn**		**14**	**16**	**51.9 +0.7**
PAOL	**Paolisi**	**3.83**	**267**	⇓P	**Pn**		**14**	**16**	**52.1 +0.9**
PAOL					AML	AML			
	comp=N,6920µm,1.1s								
PAOL					AML	AML			
	comp=N,7185µm,1.1s								
PAOL					AML	AML			
	comp=E,5595µm,1.3s								
PAOL					AML	AML			
	comp=E,5875µm,1.3s								
TRIV	**Trivento**	**3.83**	**278**	⇓P	**Pn**		**14**	**16**	**52.0 +0.7**
TRIV					AML	AML			
	comp=N,6740µm,1.2s								
TRIV					AML	AML			
	comp=N,7085µm,1.2s								
TRIV					AML	AML			
	comp=E,6805µm,1.0s								
TRIV					AML	AML			
	comp=E,6430µm,1.0s								
BAIL	**Bailesti**	**3.83**	**44**	⇓P	**Pn**		**14**	**16**	**54.2 +3.0**
BLY	**Banja Luka**	**3.85**	**333**	⇑*i*Pn	**Pn**		**14**	**16**	**52.5 +1.1**
BLY				*e*Sn	**Sn**		**14**	**17**	**35.3 -0.7**
BLY	**Banja Luka**	**3.85**	**333**	⇑P	**Pn**		**14**	**16**	**52.7 +1.3**
BLY	**Banja Luka**	**3.85**	**333**	*e*Pn	**Pn**		**14**	**16**	**52.6 +1.1**
BLY	**Banja Luka**	**3.85**	**333**	⇑P	**Pn**		**14**	**16**	**52.7 +1.3**
BLY					AML	AML			
	comp=E,12600µm,1.0s								
BLY					AML	AML			
	comp=E,13050µm,1.0s								
BLY					AML	AML			
	comp=N,8725µm,0.9s								
BLY					AML	AML			
	comp=N,8360µm,0.9s								
RZN	**Rozhen**	**3.86**	**83**	P	**Pn**		**14**	**16**	**55.4 +3.7**
PLD	**Plovdiv**	**3.92**	**76**	P	**Pn**		**14**	**16**	**55.7 +3.4**
PLD	**Plovdiv**	**3.92**	**76**	*e*Pn	**Pn**		**14**	**16**	**55.8 +3.4**
DJES	**Djerdap**	**3.95**	**32**	⇓P	**Pn**		**14**	**16**	**54.9 +2.1**
DJES	**Djerdap**	**3.95**	**32**	*e*Pn	**Pn**		**14**	**16**	**54.4 +1.6**
DJES				*e*Sn	**Sn**		**14**	**17**	**38.7 +0.3**
SGG	**Gregorio Mates**	**3.95**	**272**	⇓P	**Pn**		**14**	**16**	**53.7 +0.8**
SGG					AML	AML			
	comp=N,5180µm,0.6s								
SGG					AML	AML			
	comp=E,5435µm,0.8s								
VCRE	**Vesuvio Crater**	**3.96**	**264**	P	**Pn**		**14**	**16**	**53.7 +0.7**
VCRE					AML	AML			
	comp=N,16650µm,1.2s								
VCRE					AML	AML			
	comp=E,16850µm,0.8s								
VTIR	**Vesuvio Tirone**	**3.97**	**264**	⇓P	**Pn**		**14**	**16**	**53.7 +0.6**
VTIR					AML	AML			
	comp=N,3540µm,1.0s								
VTIR					AML	AML			
	comp=E,3025µm,1.4s								
VRSS	**Vrsac**	**3.98**	**18**	*e*Pn	**Pn**		**14**	**16**	**54.7 +1.5**
MIDA	**Miranda**	**4.04**	**276**	P	**Pn**		**14**	**16**	**54.5 +0.3**
MIDA					AML	AML			
	comp=E,4200µm,1.0s								
MIDA					AML	AML			
	comp=N,3780µm,1.1s								
MIDA					AML	AML			
	comp=N,4655µm,0.7s								
MIDA					AML	AML			
	comp=E,4255µm,0.8s								
VAGA	**Valle Agricola**	**4.05**	**273**	⇓P	**Pn**		**14**	**16**	**55.4 +1.0**
VAGA					AML	AML			
	comp=E,6110µm,1.2s								
VAGA					AML	AML			
	comp=E,5865µm,1.2s								
VAGA					AML	AML			
	comp=N,7445µm,1.1s								
VAGA					AML	AML			
	comp=N,7715µm,1.1s								
HERR	**Herculane**	**4.09**	**29**	⇑P	**Pn**		**14**	**16**	**57.0 +2.3**
PIGN	**Pignataro Magg**	**4.10**	**270**	⇓P	**Pn**		**14**	**16**	**55.5 +0.6**
PIGN					AML	AML			
	comp=E,2710µm,1.0s								
PIGN					AML	AML			
	comp=E,2585µm,1.1s								
PIGN					AML	AML			
	comp=N,3690µm,1.0s								
PIGN					AML	AML			
	comp=N,3515µm,1.0s								
RNI2	**Rionero Sannit**	**4.12**	**277**	P	**Pn**		**14**	**16**	**56.1 +0.8**
RNI2					AML	AML			
	comp=E,5610µm,0.7s								
RNI2					AML	AML			
	comp=E,5440µm,0.7s								
RNI2					AML	AML			
	comp=N,4700µm,0.4s								
RNI2					AML	AML			
	comp=N,4625µm,0.4s								
LPEL	**Lama dei Pelig**	**4.13**	**282**	⇓P	**Pn**		**14**	**16**	**55.9 +0.5**
LPEL					AML	AML			
	comp=N,4530µm,0.9s								
LPEL					AML	AML			
	comp=N,4645µm,0.9s								
LPEL					AML	AML			
	comp=E,7045µm,1.1s								
LPEL					AML	AML			
	comp=E,6845µm,1.1s								
BANR	**Banloc**	**4.19**	**15**	⇓P	**Pn**		**14**	**16**	**58.5 +2.4**
BANR	**Banloc**	**4.19**	**15**	*e*Pn	**Pn**		**14**	**16**	**58.2 +2.1**
CPOZ	**Campi Flegrei,**	**4.19**	**265**	⇓P	**Pn**		**14**	**16**	**56.8 +0.7**
CPOZ					AML	AML			
	comp=N,7920µm,1.0s								
CPOZ					AML	AML			
	comp=E,21200µm,1.0s								
CEL	**Celeste**	**4.21**	**224**		**Pn**		**14**	**16**	**56.0 -0.4**
CEL	**Celeste**	**4.21**	**224**	⇓P	**Pn**		**14**	**16**	**56.1 -0.4**
CEL					AML	AML			
	comp=N,3325µm,1.0s								
CEL					AML	AML			
	comp=N,3280µm,1.0s								
CEL					AML	AML			
	comp=E,2845µm,1.4s								
CEL					AML	AML			
	comp=E,2860µm,1.4s								
CEL	**Celeste**	**4.21**	**224**	Pn	**Pn**		**14**	**16**	**56.2 -0.2**
CFMN	**Campi Flegrei**	**4.21**	**265**	P	**Pn**		**14**	**16**	**56.9 +0.5**
CFMN					AML	AML			
	comp=N,6950µm,0.4s								
CFMN					AML	AML			
	comp=E,7085µm,1.6s								
CERA	**Filignano**	**4.22**	**275**	⇓P	**Pn**		**14**	**16**	**57.5 +1.0**
CERA					AML	AML			
	comp=E,9275µm,0.7s								
CERA					AML	AML			
	comp=E,9600µm,0.7s								
CERA					AML	AML			
	comp=N,10015µm,1.1s								
CERA					AML	AML			
	comp=N,9590µm,1.1s								
PLVB	**Pleven**	**4.23**	**59**	⇑P	**Pn**		**14**	**17**	**00.3 +3.6**
SRE	**Strehaia**	**4.24**	**37**	⇓P	**Pn**		**14**	**17**	**00.6 +3.8**
SRE	**Strehaia**	**4.24**	**37**	P	**Pn**		**14**	**17**	**00.5 +3.8**
SOI	**Samo**	**4.27**	**221**	⇓P	**Pn**		**14**	**16**	**56.6 -0.6**
SOI					AML	AML			
	comp=N,3370µm,1.1s								
SOI					AML	AML			
	comp=E,3450µm,0.8s								
KDZ	**Kurdzhali**	**4.30**	**84**	P	**Pn**		**14**	**17**	**00.9 +3.2**
SICLA	**Scilla**	**4.30**	**226**	⇓P	**Pn**		**14**	**16**	**56.7 -1.0**
SICLA					AML	AML			
	comp=N,4965µm,1.2s								
SICLA					AML	AML			
	comp=E,4135µm,0.5s								
GMB	**Gambarie**	**4.31**	**224**	⇓P	**Pn**		**14**	**16**	**57.3 -0.6**
GMB					AML	AML			
	comp=E,15000µm,1.5s								
GMB					AML	AML			
	comp=N,11000µm,0.4s								
INTR	**Introdacqua**	**4.33**	**281**		**Pn**		**14**	**16**	**58.6 +0.4**
INTR	**Introdacqua**	**4.33**	**281**	⇓P	**Pn**		**14**	**16**	**58.6 +0.4**
INTR					AML	AML			
	comp=N,6365µm,0.9s								
INTR					AML	AML			
	comp=E,38µm,0.8s								
MODR	**Mondragone**	**4.34**	**269**	⇓P	**Pn**		**14**	**16**	**58.3 +0.2**
IOCA	**Ischia Osserva**	**4.37**	**264**	P	**Pn**		**14**	**16**	**59.0 +0.5**
IOCA					AML	AML			
	comp=E,6685µm,0.8s								
IOCA					AML	AML			
	comp=N,5605µm,1.1s								
MCI	**Monte Cassino**	**4.37**	**274**	⇓P	**Pn**		**14**	**16**	**59.7 +1.1**
MCI					AML	AML			
	comp=N,4495µm,0.7s								
MCI					AML	AML			
	comp=E,5760µm,0.9s								
IMTC	**Ischia Forio M**	**4.39**	**264**	⇓P	**Pn**		**14**	**16**	**58.9 +0.1**
IMTC					AML	AML			
	comp=N,4590µm,1.3s								
IMTC					AML	AML			
	comp=E,3185µm,0.8s								
IFOR	**Ischia Forio P**	**4.41**	**264**	P	**Pn**		**14**	**16**	**59.0 -0.1**
IFOR					AML	AML			
	comp=N,23550µm,1.0s								
IFOR					AML	AML			
	comp=E,14000µm,1.1s								
MSRU	**Castanea**	**4.41**	**227**	⇓P	**Pn**		**14**	**16**	**57.9 -1.3**
MSRU					AML	AML			
	comp=E,5255µm,1.1s								
MSRU					AML	AML			
	comp=N,3810µm,0.9s								
VCEL	**Villa Celiera**	**4.45**	**286**	P	**Pn**		**14**	**17**	**00.3 +0.6**
VCEL					AML	AML			
	comp=E,5650µm,1.1s								
VCEL					AML	AML			
	comp=N,7080µm,0.6s								
POFI	**Posta Fibreno**	**4.45**	**277**	⇓P	**Pn**		**14**	**17**	**00.4 +0.6**
POFI					AML	AML			
	comp=N,1725µm,0.8s								
POFI					AML	AML			
	comp=N,2230µm,0.7s								
POFI					AML	AML			
	comp=E,2540µm,1.1s								
POFI					AML	AML			
	comp=E,3175µm,1.1s								
T0110	**Collepietro**	**4.46**	**283**	⇓P	**Pn**		**14**	**17**	**00.6 +0.7**
T0110					AML	AML			
	comp=E,7550µm,0.9s								
T0110					AML	AML			
	comp=N,8565µm,1.1s								
RDO	**Rodhopi**	**4.46**	**91**		**Pn**		**14**	**17**	**02.7 +2.8**
TRTR	**Tortoreto Alta**	**4.50**	**291**	P	**Pn**		**14**	**17**	**01.6 +1.3**
TRTR					AML	AML			
	comp=E,14200µm,1.3s								
TRTR					AML	AML			
	comp=N,10015µm,1.1s								
MTTG	**Motta San Giov**	**4.50**	**224**	⇓P	**Pn**		**14**	**16**	**59.7 -0.8**
MTTG					AML	AML			
	comp=N,5045µm,0.9s								
MTTG					AML	AML			
	comp=E,5230µm,0.9s								
BZS	**Buzias**	**4.51**	**18**	⇑P	**Pn**		**14**	**17**	**02.2 +1.6**
BZS	**Buzias**	**4.51**	**18**	*e*Pn	**Pn**		**14**	**17**	**02.0 +1.4**
DIM	**Dimitrovgrad**	**4.51**	**79**	P	**Pn**		**14**	**17**	**03.5 +2.9**
ITM	**Ithomi**	**4.52**	**156**		**Pn**		**14**	**17**	**02.9 +2.2**
ITM	**Ithomi**	**4.52**	**156**	P	**Pn**		**14**	**17**	**02.9 +2.2**
ITM					AML	AML			
	comp=N,450µm,0.4s								
ITM					AML	AML			
	comp=E,408µm,0.6s								
VVLD	**Villa Vallelon**	**4.53**	**279**	⇓P	**Pn**		**14**	**17**	**01.4 +0.5**
VVLD					AML	AML			
	comp=E,5075µm,0.7s								
VVLD					AML	AML			
	comp=E,4840µm,0.7s								
VVLD					AML	AML			
	comp=N,5315µm,0.8s								
VVLD					AML	AML			
	comp=N,5570µm,0.8s								
LRP	**Arpino**	**4.54**	**276**	⇓P	**Pn**		**14**	**17**	**01.5 +0.5**
LRP					AML	AML			
	comp=N,1920µm,0.6s								
LRP					AML	AML			
	comp=E,2405µm,0.8s								
TIM	**Timisoara**	**4.55**	**14**	⇓P	**Pn**		**14**	**17**	**03.0 +2.0**
TIM	**Timisoara**	**4.55**	**14**	P	**Pn**		**14**	**17**	**03.0 +2.0**
MPNC	**Port Mandanici**	**4.58**	**227**	⇓P	**Pn**		**14**	**16**	**59.9 -1.6**
MPNC					AML	AML			
	comp=E,6120µm,0.5s								
MPNC					AML	AML			

	comp=N,5255µm,0.7s										
FAGN	**Fagnano**	**4.61**	**284**	⇓	P		**Pn**	**14 17 02.4**	**+0.5**
FAGN					AML	AML			
	comp=E,11600µm,0.8s								
FAGN					AML	AML			
	comp=N,8985µm,1.5s								
LLI	**Lipari**	**4.61**	**233**		P		**Pn**	**14 17 00.9**	**-1.1**
LLI					AML	AML			
	comp=N,42150µm,1.2s								
LLI					AML	AML			
	comp=E,28200µm,0.9s								
ATH	**Athens Observa**	**4.61**	**135**		P		**Pn**	**14 17 04.0**	**+2.1**
VPL	**Vulcano Piano**	**4.63**	**232**	⇓	P		**Pn**	**14 17 01.0**	**-1.2**
VPL					AML	AML			
	comp=N,5275µm,1.0s								
VPL					AML	AML			
	comp=E,4710µm,0.7s								
GIGS	**Gran Sasso**	**4.65**	**286**	⇓	P		**Pn**	**14 17 02.8**	**+0.2**
GIGS					AML	AML			
	comp=E,1700µm,1.1s								
GIGS					AML	AML			
	comp=N,1265µm,1.3s								
GZR	**Gura Zlata**	**4.66**	**29**	⇑	P		**Pn**	**14 17 05.1**	**+2.4**
GZR	**Gura Zlata**	**4.66**	**29**	*e*	Pn		**Pn**	**14 17 04.8**	**+2.2**
GZR	**Gura Zlata**	**4.66**	**29**		P		**Pn**	**14 17 05.0**	**+2.4**
TERO	**Teramo**	**4.67**	**288**		P		**Pn**	**14 17 03.2**	**+0.5**
TERO					AML	AML			
	comp=E,3460µm,0.8s								
TERO					AML	AML			
	comp=E,1995µm,1.1s								
TERO					AML	AML			
	comp=N,2215µm,0.7s								
TERO					AML	AML			
	comp=N,3520µm,0.5s								
OFFI	**Offida**	**4.69**	**292**		P		**Pn**	**14 17 04.2**	**+1.1**
OFFI					AML	AML			
	comp=E,10585µm,1.1s								
OFFI					AML	AML			
	comp=N,13050µm,0.7s								
PTQR	**Pietraquaria**	**4.71**	**280**	⇓	P		**Pn**	**14 17 02.9**	**-0.4**
PTQR					AML	AML			
	comp=N,2735µm,0.9s								
PTQR					AML	AML			
	comp=E,2285µm,0.7s								
VENT	**Ventotene**	**4.72**	**265**	⇓	P		**Pn**	**14 17 02.8**	**-0.6**
VENT					AML	AML			
	comp=N,1515µm,1.2s								
VENT					AML	AML			
	comp=E,1875µm,0.6s								
MOSL	**Moslavina**	**4.75**	**335**	⇑	*i* Pn		**Pn**	**14 17 04.2**	**+0.3**
MOSL					*e* Sn		**Sn**	**14 17 57.1**	**-1.3**
AQU	**L'Aquila**	**4.76**	**284**		P		**Pn**	**14 17 04.5**	**+0.6**
AQU	**L'Aquila**	**4.76**	**284**		P		**Pn**	**14 17 04.7**	**+0.8**
GUAR	**Guarcino**	**4.76**	**278**		P		**Pn**	**14 17 04.9**	**+0.9**
GUAR					AML	AML			
	comp=N,2825µm,0.4s								
GUAR					AML	AML			
	comp=E,2010µm,1.2s								
SUBS	**Subotica**	**4.77**	**0**	*e*	Pn		**Pn**	**14 17 05.8**	**+1.7**
AIO	**Antillo**	**4.77**	**227**	⇓	P		**Pn**	**14 17 03.0**	**-1.2**
AIO					AML	AML			
	comp=N,2130µm,1.3s								
AIO					AML	AML			
	comp=E,1745µm,0.3s								
NOV	**Novara**	**4.79**	**228**	⇓	P		**Pn**	**14 17 03.0**	**-1.4**
NOV					AML	AML			
	comp=N,6320µm,0.6s								
NOV					AML	AML			
	comp=E,7060µm,1.3s								
CAMP	**Campotosto**	**4.79**	**287**				**Pn**	**14 17 04.9**	**+0.5**
CAMP	**Campotosto**	**4.79**	**287**	⇓	P		**Pn**	**14 17 04.9**	**+0.5**
CAMP					AML	AML			
	comp=N,1210µm,1.3s								
CAMP					AML	AML			
	comp=E,1073µm,1.2s								
GIUL	**Giuliano Di Ro**	**4.79**	**275**	⇓	P		**Pn**	**14 17 04.1**	**-0.3**
GIUL					AML	AML			
	comp=N,2235µm,0.8s								
GIUL					AML	AML			
	comp=E,2105µm,0.9s								
MNTT	**Montottone**	**4.80**	**293**	⇑	P		**Pn**	**14 17 05.5**	**+1.0**
MNTT					AML	AML			
	comp=N,14800µm,1.0s								
MNTT					AML	AML			
	comp=E,14120µm,0.9s								
MTRA	**Matera**	**4.85**	**289**		P		**Pn**	**14 17 05.3**	**+0.1**
MTRA					AML	AML			
	comp=N,6350µm,0.6s								
MTRA					AML	AML			
	comp=N,6385µm,0.6s								
MTRA					AML	AML			
	comp=E,6795µm,1.0s								
MTRA					AML	AML			
	comp=E,6740µm,1.0s								
SMA1	**SAN MARTINO**	**4.86**	**287**	⇓	P		**Pn**	**14 17 05.9**	**+0.5**
SMA1					AML	AML			
	comp=E,6245µm,1.3s								
SMA1					AML	AML			
	comp=N,6840µm,0.8s								
ALN	**Alexandroupoli**	**4.87**	**93**				**Pn**	**14 17 08.5**	**+3.1**
MNTP	**Montappone**	**4.91**	**294**		P		**Pn**	**14 17 06.4**	**+0.4**
ELND	**Elena**	**4.91**	**69**	⇑	P		**Pn**	**14 17 09.8**	**+3.7**
RM33	**Pellescritta (**	**4.92**	**286**	⇓	P		**Pn**	**14 17 07.0**	**+0.8**
RM33					AML	AML			
	comp=E,8590µm,1.0s								
RM33					AML	AML			
	comp=E,8705µm,1.0s								
RM33					AML	AML			
	comp=N,5630µm,1.0s								
RM33					AML	AML			
	comp=N,5420µm,1.0s								
MUCR	**Ucria**	**4.92**	**230**	⇓	P		**Pn**	**14 17 05.0**	**-1.3**
MUCR					AML	AML			
	comp=N,2515µm,0.7s								
MUCR					AML	AML			
	comp=E,1475µm,1.5s								
MMO1	**Montemonaco**	**4.94**	**290**	⇑	P		**Pn**	**14 17 06.9**	**+0.4**
SAP2	**Sant'Angelo in**	**4.94**	**293**		P		**Pn**	**14 17 06.8**	**+0.3**
SAP2					AML	AML			
	comp=E,5495µm,0.4s								
SAP2					AML	AML			
	comp=N,24050µm,0.5s								
FIAM	**Fiamignano**	**4.95**	**283**	⇓	P		**Pn**	**14 17 07.9**	**+1.3**
FIAM					AML	AML			
	comp=E,6220µm,1.2s								
FIAM					AML	AML			
	comp=N,2180µm,1.1s								
FIAM					AML	AML			
	comp=E,3095µm,0.8s								
FIAM					AML	AML			
	comp=N,4180µm,1.1s								
AOI	**Ancona**	**4.97**	**298**		P		**Pn**	**14 17 06.6**	**-0.3**
AOI					AML	AML			
	comp=E,6000µm,0.9s								
AOI					AML	AML			
	comp=N,5815µm,1.0s								
GUMA	**Gualdo di Mace**	**4.98**	**292**				**Pn**	**14 17 07.1**	**+0.1**
GUMA	**Gualdo di Mace**	**4.98**	**292**	⇑	P		**Pn**	**14 17 07.3**	**+0.3**
GUMA					AML	AML			
	comp=N,9045µm,1.4s								
GUMA					AML	AML			
	comp=N,7935µm,1.2s								
GUMA					AML	AML			
	comp=E,8955µm,0.8s								
GUMA					AML	AML			
	comp=E,7005µm,0.7s								
LATB	**Latina**	**5.01**	**274**		P		**Pn**	**14 17 06.8**	**-0.5**
LATB					AML	AML			
	comp=N,884µm,0.4s								
LATB					AML	AML			
	comp=E,744µm,0.8s								
CERT	**Cerreto**	**5.01**	**279**	⇓	P		**Pn**	**14 17 08.1**	**+0.6**
CERT					AML	AML			
	comp=E,2240µm,1.0s								
CERT					AML	AML			
	comp=N,2710µm,1.0s								
RCAV	**Rocca di Cave**	**5.03**	**278**		P		**Pn**	**14 17 07.8**	**0.0**
RCAV					AML	AML			
	comp=N,1375µm,0.8s								
RCAV					AML	AML			
	comp=E,2210µm,1.5s								
EMSG	**Monte Spagnolo**	**5.04**	**227**		P		**Pn**	**14 17 08.1**	**+0.1**
EMSG					AML	AML			
	comp=N,6345µm,0.9s								
EMSG					AML	AML			
	comp=E,6220µm,1.3s								
HUMR	**Humele**	**5.06**	**49**	⇑	P		**Pn**	**14 17 11.7**	**+3.6**
LNSS	**Leonessa**	**5.07**	**287**	⇓	P		**Pn**	**14 17 09.3**	**+1.0**
LNSS					AML	AML			
	comp=E,5785µm,0.7s								
LNSS					AML	AML			
	comp=E,5930µm,0.7s								
LNSS					AML	AML			
	comp=N,6735µm,1.1s								
LNSS					AML	AML			
	comp=N,6545µm,1.2s								
NRCA	**Norcia**	**5.07**	**289**				**Pn**	**14 17 08.3**	**0.0**
NRCA	**Norcia**	**5.07**	**289**	⇑	P		**Pn**	**14 17 08.8**	**+0.5**
NRCA					AML	AML			
	comp=E,5215µm,1.1s								
NRCA					AML	AML			
	comp=E,5470µm,1.1s								
NRCA					AML	AML			
	comp=N,4300µm,1.1s								
NRCA					AML	AML			
	comp=N,4025µm,0.8s								
CSP1	**Cessapalombo**	**5.08**	**292**	⇑	P		**Pn**	**14 17 08.4**	**0.0**
CSP1					AML	AML			
	comp=N,4465µm,0.9s								
CSP1					AML	AML			
	comp=E,3245µm,1.0s								
EPZF	**Pizzo Felice**	**5.09**	**228**	⇓	P		**Pn**	**14 17 08.5**	**-0.1**
EPZF					AML	AML			
	comp=N,4490µm,0.9s								
EPZF					AML	AML			
	comp=E,6400µm,0.7s								
SZH	**Strazhitsa**	**5.09**	**66**		P		**Pn**	**14 17 13.1**	**+4.6**
LOT	**Lotru**	**5.10**	**35**	⇓	P		**Pn**	**14 17 11.9**	**+3.2**
MNO	**Monte Soro**	**5.10**	**230**		P		**Pn**	**14 17 08.4**	**-0.5**
MNO					AML	AML			
	comp=E,5620µm,0.8s								
MNO					AML	AML			
	comp=N,4070µm,0.8s								
DEV	**Deva**	**5.13**	**27**	⇑	P		**Pn**	**14 17 11.4**	**+2.4**
DEV	**Deva**	**5.13**	**27**		P		**Pn**	**14 17 11.4**	**+2.4**
ENIC	**Nicolosi**	**5.14**	**225**		P		**Pn**	**14 17 09.4**	**+0.2**
ENIC					AML	AML			
	comp=E,1185µm,0.6s								
ENIC					AML	AML			
	comp=N,1345µm,0.9s								
SIRR	**Siria**	**5.14**	**16**	⇑	P		**Pn**	**14 17 10.6**	**+1.4**
SIRR	**Siria**	**5.14**	**16**	*e*	Pn		**Pn**	**14 17 10.7**	**+1.4**
FDMO	**Fiordimonte**	**5.14**	**291**				**Pn**	**14 17 09.4**	**+0.2**
FDMO	**Fiordimonte**	**5.14**	**291**	⇑	P		**Pn**	**14 17 09.4**	**+0.2**
FDMO					AML	AML			
	comp=E,4755µm,0.8s								
FDMO					AML	AML			
	comp=N,2685µm,1.3s								
GAVE	**Gavelli**	**5.19**	**287**		P		**Pn**	**14 17 10.6**	**+0.7**
GAVE					AML	AML			
	comp=E,7195µm,1.0s								
GAVE					AML	AML			
	comp=E,7700µm,1.0s								
GAVE					AML	AML			
	comp=N,6910µm,1.6s								
GAVE					AML	AML			
	comp=N,2135µm,1.6s								
MTCE	**Montecelio**	**5.20**	**280**		P		**Pn**	**14 17 10.1**	**+0.1**
MTCE					AML	AML			
	comp=E,2095µm,1.0s								
MTCE					AML	AML			
	comp=N,1540µm,1.0s								
ZAG	**Zagreb**	**5.21**	**331**		P		**Pn**	**14 17 10.1**	**+0.1**
EL6	**Elcito**	**5.23**	**295**	⇑	P		**Pn**	**14 17 10.2**	**-0.2**
OZLJ	**Ozalj**	**5.24**	**326**	⇑	*i* Pn		**Pn**	**14 17 10.8**	**+0.4**
OZLJ					*e* Sn		**Sn**	**14 18 08.1**	**-2.0**
BOJS	**Bojanci**	**5.24**	**324**		*i* Pn		**Pn**	**14 17 11.1**	**+0.6**
BOJS					*e*			14 17 30.7	
BOJS					*e* Sn		**Sn**	**14 18 09.3**	**-0.9**
BOJS	**Bojanci**	**5.24**	**324**	*e*	Pn		**Pn**	**14 17 11.1**	**+0.6**
BOJS	**Bojanci**	**5.24**	**324**	⇑	P		**Pn**	**14 17 11.1**	**+0.6**
ARRO	**Arrone**	**5.26**	**286**		P		**Pn**	**14 17 12.0**	**+1.2**
ARRO					AML	AML			
	comp=N,2715µm,0.8s								
ARRO					AML	AML			
	comp=E,2520µm,1.3s								
CESI	**CESI - Serrava**	**5.26**	**291**		P		**Pn**	**14 17 11.4**	**+0.5**
CESI					AML	AML			
	comp=N,5685µm,1.0s								
CESI					AML	AML			
	comp=N,5645µm,1.0s								
CESI					AML	AML			
	comp=E,5275µm,0.8s								
CESI					AML	AML			
	comp=E,4975µm,0.8s								
JMB	**Yambol**	**5.28**	**75**		P		**Pn**	**14 17 14.3**	**+3.2**
SENI	**Senigallia**	**5.28**	**299**	⇓	P		**Pn**	**14 17 11.5**	**+0.4**
SENI					AML	AML			
	comp=E,5970µm,1.2s								
SENI					AML	AML			
	comp=E,12100µm,1.1s								
SENI					AML	AML			
	comp=N,3675µm,1.1s								
SENI					AML	AML			
	comp=N,8615µm,0.5s								
SNTG	**Esanatoglia**	**5.31**	**293**	⇑	P		**Pn**	**14 17 11.4**	**-0.1**
SNTG					AML	AML			
	comp=E,2655µm,0.8s								
SNTG					AML	AML			
	comp=E,2745µm,0.8s								
SNTG					AML	AML			
	comp=N,3950µm,0.9s								
SNTG					AML	AML			
	comp=N,3940µm,0.9s								
EZN	**Ezine**	**5.32**	**104**	⇓	P		**Pn**	**14 17 15.0**	**+3.3**
EZN	**Ezine**	**5.32**	**104**		P		**Pn**	**14 17 14.9**	**+3.3**
HAGA	**Augusta**	**5.33**	**222**	⇑	P		**Pn**	**14 17 09.4**	**-2.4**
GALF	**Gagliano Caste**	**5.33**	**229**		P		**Pn**	**14 17 11.5**	**-0.3**
GALF					AML	AML			
	comp=N,4590µm,1.3s								
GALF					AML	AML			
	comp=N,596µm,0.8s								
GALF					AML	AML			
	comp=E,3930µm,0.8s								
GALF					AML	AML			
	comp=E,556µm,1.3s								
PLLN	**Pollina**	**5.39**	**233**		P		**Pn**	**14 17 11.6**	**-1.1**
PLLN					AML	AML			
	comp=E,2460µm,0.9s								
PLLN					AML	AML			
	comp=N,2240µm,1.5s								
ARVD	**Arcevia**	**5.39**	**296**	⇑	P		**Pn**	**14 17 12.5**	**-0.2**
ARVD					AML	AML			
	comp=N,2115µm,1.2s								
ARVD					AML	AML			
	comp=E,2890µm,0.8s								
CESX	**Cesi**	**5.40**	**286**				**Pn**	**14 17 12.9**	**+0.1**
CESX	**Cesi**	**5.40**	**286**	⇓	P		**Pn**	**14 17 13.5**	**+0.7**
CESX					AML	AML			
	comp=N,2320µm,0.9s								
CESX					AML	AML			
	comp=E,2590µm,0.9s								
COR1	**Corinaldo**	**5.41**	**297**		P		**Pn**	**14 17 13.2**	**+0.4**
COR1					AML	AML			
	comp=N,8040µm,1.1s								
COR1					AML	AML			
	comp=N,7840µm,1.1s								
COR1					AML	AML			
	comp=E,7535µm,1.2s								
COR1					AML	AML			
	comp=E,4205µm,1.2s								
ARR	**Arges**	**5.44**	**41**	⇑	P		**Pn**	**14 17 16.1**	**+2.8**
ASSB	**Assisi San Ben**	**5.45**	**291**		P		**Pn**	**14 17 13.9**	**+0.5**
ASSB					AML	AML			
	comp=N,3000µm,1.1s								
ASSB					AML	AML			
	comp=E,2685µm,0.8s								
FOSV	**Fossato di Vic**	**5.45**	**293**	⇑	P		**Pn**	**14 17 13.4**	**-0.1**
MOMA	**Monte Martano**	**5.45**	**288**	⇓	P		**Pn**	**14 17 14.3**	**+0.8**
MOMA					AML	AML			
	comp=N,3165µm,1.3s								
MOMA					AML	AML			
	comp=E,2955µm,1.0s								
MOMA					AML	AML			
	comp=E,3145µm,1.0s								
MOMA					AML	AML			
	comp=N,3085µm,1.0s								
SSY	**Sortino**	**5.47**	**222**		P		**Pn**	**14 17 11.1**	**-2.7**
SSFR	**Montelago di S**	**5.48**	**295**	⇑	P		**Pn**	**14 17 13.9**	**0.0**
SGRR	**Singureni**	**5.49**	**56**	⇓	P		**Pn**	**14 17 17.7**	**+3.7**
ATCC	**AVT- Casa Cast**	**5.50**	**292**	⇑	P		**Pn**	**14 17 14.5**	**+0.4**
PETRA	**Petralia Sopra**	**5.51**	**232**	⇓	P		**Pn**	**14 17 13.7**	**-0.7**
BEHE	**Becsehely**	**5.53**	**339**				**Pn**	**14 17 15.7**	**+1.2**
BEHE	**Becsehely**	**5.53**	**339**	⇑	*i* Pn		**Pn**	**14 17 15.2**	**+0.7**
BEHE					*e* Sn		**Sn**	**14 18 16.7**	**-0.6**
CIOR	**Ciorogarla**	**5.55**	**54**	⇓	P		**Pn**	**14 17 19.2**	**+4.4**
FRON	**Frontone**	**5.55**	**295**	⇑	P		**Pn**	**14 17 14.8**	**0.0**
LOZB	**Loznitsa**	**5.55**	**66**	⇓	P		Pn	14 17 19.7	+4.9
MTUR	**Matau**	**5.55**	**44**	⇓	P		**Pn**	**14 17 18.4**	**+3.5**
MTUR	**Matau**	**5.55**	**44**		P		**Pn**	**14 17 18.4**	**+3.5**
RAZG	**Razgrad**	**5.56**	**64**	⇓	P		**Pn**	**14 17 18.8**	**+3.9**
MPAG	**Monte Paganucc**	**5.57**	**297**	⇑	P		**Pn**	**14 17 14.9**	**-0.2**
VAE	**Valguarnera**	**5.58**	**228**		Pn		**Pn**	**14 17 15.4**	**+0.1**
	comp=N,47nm,0.7s,baz=18,slow=2.9,SNR=12								
VAE					Sn		**Sn**	**14 18 21.5**	**+2.7**
	comp=N,8.9nm,0.3s,baz=346,slow=12,SNR=1.3								
VAE					LR		LR	14 19 46.5	
	comp=N,9µm,19.4s,baz=82,slow=42								
BRJN	**Brijuni**	**5.58**	**312**	⇑	*i* Pn		**Pn**	**14 17 14.9**	**-0.3**
BRJN					*e* Sn		**Sn**	**14 18 14.2**	**-4.5**
BRJN	**Brijuni**	**5.58**	**312**	⇑	P		**Pn**	**14 17 15.5**	**+0.3**
ATFO	**Monte Foce - G**	**5.60**	**294**	⇑	P		**Pn**	**14 17 15.8**	**+0.1**
MURB	**Monte Urbino**	**5.60**	**292**				**Pn**	**14 17 16.0**	**+0.4**
MURB	**Monte Urbino**	**5.60**	**292**		P		**Pn**	**14 17 16.0**	**+0.4**
PESA	**Pesaro**	**5.64**	**300**		P		**Pn**	**14 17 15.7**	**-0.3**
KOGS	**Kog**	**5.66**	**336**	⇑	P		**Pn**	**14 17 16.7**	**+0.5**
PIEI	**Pieia**	**5.69**	**295**	⇑	P		**Pn**	**14 17 16.6**	**-0.1**
VOIR		**5.69**	**42**	⇑	P		**Pn**	**14 17 20.5**	**+3.7**
VOIR		**5.69**	**42**		P		**Pn**	**14 17 20.5**	**+3.7**
ATTE	**AVT- Monte Tez**	**5.70**	**291**		P		**Pn**	**14 17 17.4**	**+0.4**
ATVO	**AVT- Monte Val**	**5.72**	**293**		P		**Pn**	**14 17 17.5**	**+0.3**
ATPI	**Pietralunga -**	**5.75**	**294**	⇑	P		**Pn**	**14 17 17.9**	**+0.3**
AYVA	**Ayvalik**	**5.77**	**108**		P		**Pn**	**14 17 21.6**	**+3.8**
PE3	**Peglio**	**5.77**	**296**		P		**Pn**	**14 17 18.1**	**+0.2**
APEC	**Apecchio**	**5.77**	**295**	⇑	P		**Pn**	**14 17 18.1**	**+0.3**
RAFF	**Raffo Rosso**	**5.79**	**226**				**Pn**	**14 17 17.1**	**-1.1**
RAFF	**Raffo Rosso**	**5.79**	**226**		P		**Pn**	**14 17 16.4**	**-1.8**
CEY	**Cerknica**	**5.80**	**321**	*e*	Pn		**Pn**	**14 17 18.7**	**+0.5**
MGAB	**Montegabbione**	**5.80**	**288**		P		**Pn**	**14 17 18.3**	**0.0**
ATMI	**Monte Miggiano**	**5.80**	**293**		P		**Pn**	**14 17 19.3**	**+0.9**
SKDS	**Skadanscina**	**5.86**	**318**	*i*	Pn		**Pn**	**14 17 18.6**	**-0.5**
SKDS					*e* Sn		**Sn**	**14 18 21.7**	**-3.9**
SKDS	**Skadanscina**	**5.86**	**318**	*e*	Pn		**Pn**	**14 17 18.5**	**-0.5**
BADI	**Badiali**	**5.88**	**294**		P		**Pn**	**14 17 19.8**	**+0.5**
DRGR		**5.89**	**21**	*e*	Pn		**Pn**	**14 17 21.0**	**+1.5**
DRGR		**5.89**	**21**		P		**Pn**	**14 17 20.6**	**+1.1**
PLAR	**PLOIESTI**	**5.89**	**51**	⇓	P		**Pn**	**14 17 24.2**	**+4.7**
SULR		**5.90**	**53**	⇑	P		**Pn**	**14 17 24.1**	**+4.6**
CPGN	**Carpegna, Ital**	**5.93**	**297**		P		**Pn**	**14 17 20.5**	**+0.4**
PARC	**Parchiule**	**5.93**	**295**	⇑	P		**Pn**	**14 17 19.6**	**-0.3**
SACS	**San Casciano d**	**5.93**	**287**		P		**Pn**	**14 17 20.1**	**0.0**
PHSR	**Pinarhisar**	**5.94**	**85**	⇓	P		**Pn**	**14 17 23.6**	**+3.4**
BORR	**Bors**	**5.96**	**14**	⇑	P		**Pn**	**14 17 23.1**	**+2.8**
LATE	**Laterza**	**5.96**	**285**		P		**Pn**	**14 17 20.8**	**+0.2**
SSP9	**Sansepolcro**	**5.97**	**294**		P		**Pn**	**14 17 21.0**	**+0.3**
BSZH	**Besenyszg**	**5.98**	**4**	⇑	P		**Pn**	**14 17 23.1**	**+2.5**
BUHA	**Balikesir, Bur**	**5.98**	**105**		P		**Pn**	**14 17 24.1**	**+3.4**
LJU	**Ljubljana**	**5.98**	**324**	*i*	Pn		**Pn**	**14 17 20.9**	**+0.2**
LJU	**Ljubljana**	**5.98**	**324**	*e*	Pn		**Pn**	**14 17 21.4**	**+0.7**
LJU	**Ljubljana**	**5.98**	**324**		P		**Pn**	**14 17 20.7**	**0.0**
NEF	**NEVSHA**	**5.99**	**69**		P		**Pn**	**14 17 24.5**	**+3.6**
PRD	**Provadia**	**6.06**	**70**		P		**Pn**	**14 17 26.4**	**+4.6**
CJR	**Cluj-Napoca**	**6.09**	**27**	⇑	P		**Pn**	**14 17 25.1**	**+2.9**
CJR	**Cluj-Napoca**	**6.09**	**27**		P		**Pn**	**14 17 25.1**	**+2.9**
TRI	**Trieste**	**6.10**	**318**	⇑	P		**Pn**	**14 17 20.8**	**-1.6**
CBBR	**Cluj-Babes-Bol**	**6.12**	**26**	⇑	P		**Pn**	**14 17 25.2**	**+2.6**
LEHL	**Lehliu**	**6.14**	**57**	⇓	P		**Pn**	**14 17 27.2**	**+4.2**
CICN	**Ciocanesti**	**6.15**	**60**	⇑	P		**Pn**	**14 17 27.2**	**+4.2**
VIZE	**Kirklareli, Vi**	**6.18**	**85**		P		**Pn**	**14 17 25.2**	**+1.8**
MLR	**Muntele Rosu**	**6.20**	**46**				**Pn**	**14 17 26.1**	**+2.3**
MLR	**Muntele Rosu**	**6.20**	**46**		Pn		**Pn**	**14 17 26.8**	**+3.0**
	comp=N,345nm,0.6s,baz=254,slow=5.5,SNR=160								
MLR					Sn		**Sn**	**14 18 37.1**	**+3.1**
	comp=N,26nm,0.3s,baz=278,slow=19,SNR=7.1								
MLR					LR		LR	14 20 57.9	
	comp=N,7µm,18.4s,baz=197,slow=49								
MLR	**Muntele Rosu**	**6.20**	**46**	⇓	P		**Pn**	**14 17 28.1**	**+4.3**
MLR	**Muntele Rosu**	**6.20**	**46**	*e*	Pn		**Pn**	**14 17 28.2**	**+4.4**
MLR	**Muntele Rosu**	**6.20**	**46**	*e*	Pn		**Pn**	**14 17 28.3**	**+4.5**
MLR					*e* Sn		**Sn**	**14 18 40.1**	**+6.1**
DOPR	**Dopca**	**6.24**	**40**	⇓	P		**Pn**	**14 17 27.4**	**+3.1**
TGMR	**Targu Mures**	**6.28**	**33**	⇑	P		**Pn**	**14 17 29.1**	**+4.3**
SOKA	**Soboth**	**6.28**	**330**	*i*	Pn		**Pn**	**14 17 25.0**	**+0.1**
	comp=N,160nm,0.5s,SNR=54								
SOKA				*i*	Sn		**Sn**	**14 18 32.4**	**-3.6**
	comp=N,243nm,0.9s								
MESR	**Meseseni**	**6.28**	**21**	⇓	P		**Pn**	**14 17 27.3**	**+2.5**
ASQU	**Asqua**	**6.28**	**296**		P		**Pn**	**14 17 25.1**	**+0.1**
SFI	**Santa Sofia**	**6.28**	**297**	⇓	P		**Pn**	**14 17 25.6**	**+0.8**
ISR	**Istrita**	**6.31**	**51**	⇑	P		**Pn**	**14 17 29.0**	**+4.5**
ISR	**Istrita**	**6.31**	**51**		P		**Pn**	**14 17 29.7**	**+4.5**
OBKA	**Obir**	**6.33**	**326**	*i*	Pn		**Pn**	**14 17 26.0**	**+0.4**
	comp=N,78nm,0.3s,SNR=22								
OBKA				*e*	Sn		**Sn**	**14 18 38.3**	**+0.9**
	comp=N,868nm,0.8s								
OBKA	**Obir**	**6.33**	**326**	*e*	Pn		**Pn**	**14 17 26.1**	**+0.4**
OBKA				*e*	Sn		**Sn**	**14 18 35.9**	**-1.5**
NEHR	**Nehoiu**	**6.35**	**48**	⇑	P		**Pn**	**14 17 30.1**	**+4.3**
SABO	**M.te Sabotino**	**6.37**	**319**	⇑	P		**Pn**	**14 17 25.5**	**-0.6**
GORS	**Gorjuse**	**6.43**	**323**	*i*	Pn		**Pn**	**14 17 26.5**	**-0.4**
LMD	**Lutirano**	**6.44**	**298**	⇑	P		**Pn**	**14 17 27.1**	**0.0**
BOSR	**Bodos**	**6.45**	**41**	⇓	P		**

VRI Vrincioaia 6.86 46 P Pn 14 17 36.5 +3.7
FNVD Fontana Vidola 6.87 297 P Pn 14 17 33.4 +0.5
BMR Baia Mare 6.91 22 ⇑P Pn 14 17 36.6 +3.2
BMR Baia Mare 6.91 22 P Pn 14 17 36.6 +3.2
HARR Harsova 6.95 58 ⇓P Pn 14 17 37.7 +3.7
HARR Harsova 6.95 58 P Pn 14 17 37.7 +3.7
TLBR Topalu 6.96 60 ⇓P Pn 14 17 38.1 +3.9
DURS Dursunbey 6.97 102 P Pn 14 17 37.4 +3.0
DURS S Sn 14 18 53.1 0.0
FUSE Fusea 6.97 319 P Pn 14 17 33.3 -1.1
ONER Baraj Valea Uz 6.99 42 ⇑P Pn 14 17 38.4 +3.8
STAL STALIGIAL 7.01 317 P Pn 14 17 34.0 -0.9
TEOL Teolo 7.05 307 ⇑P Pn 14 17 34.7 -0.7
CLUD Cludinico 7.06 319 P Pn 14 17 34.0 -1.4
MANR Mangalia 7.07 67 ⇑P Pn 14 17 39.5 +3.9
POPM Popiglio 7.07 295 P Pn 14 17 35.1 -0.6
MFTR Murfatlar 7.07 63 ⇑P Pn 14 17 39.8 +4.1
ZOU Zoufplan 7.09 320 P Pn 14 17 35.4 -0.7
ZST Bratislava 7.09 346 *e*P Pn 14 17 36.4 +0.5
ZST *e* 14 18 53.9
PANC Panciu 7.09 48 ⇑P Pn 14 17 40.6 +4.6
CONA Conrad Observa 7.11 339 *i* Pn Pn 14 17 36.9 +0.6
comp=N,28nm,0.4s
CONA *i* Sn **Sn 14 19 00.2 +3.7**
comp=N,169nm,0.8s
PII Pisa 7.13 293 P Pn 14 17 36.2 -0.2
TRSU Trosnyk 7.16 18 P Pn 14 17 38.7 +1.8
TIRR Tirgusor 7.17 61 P Pn 14 17 39.8 +2.9
TIRR Tirgusor 7.17 61 ⇑P Pn 14 17 40.5 +3.6
TIRR Tirgusor 7.17 61 P Pn 14 17 40.5 +3.6
TIRR Tirgusor 7.17 61 P Pn 14 17 39.9 +2.9
comp=N,2.1nmcomp=N,289nm,0.8s
TIRR Tirgusor 7.17 61 *e*Pn Pn 14 17 40.1 +3.1
KECS Kecovo 7.17 5 *e*P Pn 14 17 39.0 +2.0
KECS *e* 14 19 00.9
EFOR EFORIE 7.18 65 ⇑P Pn 14 17 40.8 +3.7
BERU Beregovo 7.22 16 P Pn 14 17 39.8 +2.1
MODS Modra-Piesok 7.23 347 *e*P Pn 14 17 39.5 +1.7
MODS *e* 14 19 08.2
TESR Tescani 7.24 42 ⇓P Pn 14 17 41.1 +3.1
KORU Korolevo 7.26 19 P Pn 14 17 40.1 +1.9
SCHLR Schela 7.26 53 ⇑P Pn 14 17 41.6 +3.3
KBA Koelnbreinsper 7.30 324 *i* Pn Pn 14 17 38.9 -0.1
comp=N,52nm,0.4s,SNR=30
KBA *e*Sn **Sn 14 18 57.2 -4.0**
comp=N,244nm,0.9s
KBA Koelnbreinsper 7.30 324 *e*Pn Pn 14 17 38.8 -0.1
KBA *e*Sn **Sn** 14 18 57.1 -4.0
CFR Carcaliu 7.30 55 ⇓P Pn 14 17 42.1 +3.2
CFR Carcaliu 7.30 55 P Pn 14 17 42.0 +3.2
IDI Anoyia 7.32 144 Pn 14 17 38.6 -0.6
IDI Anoyia 7.32 144 Pn Pn 14 17 38.9 -0.3
comp=N,16nm,0.4s,baz=336,slow=18,SNR=15
IDI Sn **Sn 14 18 59.0 -2.8**
comp=N,34nm,0.3s,baz=97,slow=22,SNR=7.9
DEMI Demirci 7.33 105 P Pn 14 17 43.2 +3.8
TPGR Topolog 7.33 58 ⇑P Pn 14 17 42.6 +3.3
SMOL Smolenice 7.34 349 *e*P Pn 14 17 41.8 +2.4
GHRR 7.35 47 ⇑P Pn 14 17 44.0 +4.5
BRIU Brid 7.40 18 P Pn 14 17 42.1 +1.9
BURAR Bucovina Array 7.44 31 Pn 14 17 44.4 +3.5
BURAR Bucovina Array 7.44 31 ⇑P Pn 14 17 44.7 +3.8
BURAR Bucovina Array 7.44 31 P Pn 14 17 44.6 +3.8
MUKU Mukachevo 7.44 16 P Pn 14 17 42.6 +1.9
ABTA Abfaltersbach 7.45 319 *i* Pn Pn 14 17 40.2 -0.7
comp=N,54nm,0.3s,SNR=37
ABTA *e*Sn **Sn 14 19 01.8 -2.9**
comp=N,493nm,0.7s
HOLU Holmets 7.45 14 P Pn 14 17 42.7 +1.9
KIRA zmir-Kiraz 7.45 112 P Pn 14 17 45.1 +4.0
BUR08 Bucovina Ar. S 7.46 30 Pn 14 17 44.4 +3.3
TATR Tatarca 7.46 52 ⇑P Pn 14 17 44.9 +3.9
SCTR Scanteiesti 7.47 52 ⇓P Pn 14 17 45.0 +3.8
GIUM Giurgiulesti 7.50 54 ⇑P Pn 14 17 46.0 +4.5
UZHM Uzhgorod 7.53 14 P Pn 14 17 43.5 +1.6
MOA Molln 7.55 331 *i* Pn Pn 14 17 43.0 +0.8
comp=N,99nm,0.6s,SNR=24
MOA *i* Sn **Sn 14 19 07.3 +0.2**
comp=N,177nm,0.8s
MOA Molln 7.55 331 *e*Pn Pn 14 17 43.5 +1.3
MOA Molln 7.55 331 *e*Pn Pn 14 17 43.1 +0.9
MOA *e*Sn **Sn** 14 17 43.4 -2.1
JURR Jurilovca 7.59 60 ⇑P Pn 14 17 46.6 +4.8
BIR Birlad 7.60 47 ⇓P Pn 14 17 46.9 +4.0
BIR Birlad 7.60 47 P Pn 14 17 46.9 +4.0
VLDR Vladesti 7.61 51 ⇓P Pn 14 17 47.2 +4.1
JAVC Velka Javorina 7.64 350 *e*PN Pn 14 17 46.0 +2.4
JAVC Velka Javorina 7.64 350 *e*Pn Pn 14 17 46.2 +2.6
BIOA Bad Ischl, Aus 7.65 328 *i* Pn Pn 14 17 44.1 +0.4
comp=N,80nm,0.3s,SNR=42
BIOA *e*Sn **Sn 14 19 09.2 -0.6**
comp=N,265nm,0.8s
SEMS Kocaeli-K¶rfe 7.66 90 P Pn 14 17 46.8 +3.0
SEMS S **Sn 14 19 08.2 -1.5**
TLCR 7.73 57 ⇑P Pn 14 17 48.6 +3.8
TLCR 7.73 57 P Pn 14 17 48.5 +3.8
LANS Liptovska Anna 7.81 359 *e*P Pn 14 17 49.3 +3.1
KOLS Kolonicke sedl 7.82 13 *e*P Pn 14 17 48.5 +2.5
KOLS *e* 14 19 13.7
LESA Schwarzleotal 7.86 323 *i* Pn Pn 14 17 46.4 -0.2
comp=N,67nm,0.3s,SNR=27
LESA *i* Sn **Sn 14 19 13.2 -1.6**
comp=N,171nm,0.6s
BILE Bilecik/Merkez 7.87 95 P Pn 14 17 50.6 +3.8
VASR Vaslui 7.92 45 ⇑P Pn 14 17 51.6 +4.2
KSV Kosov 7.97 27 P Pn 14 17 51.3 +3.2
RJOB Jochberg 8.04 325 *e*Pn Pn 14 17 49.3 +0.3
RJOB *e*Sn **Sn 14 19 14.7 -4.6**
ANDZ Kutahya, Merke 8.05 100 P Pn 14 17 53.9 +4.7
KRUC Moravsky 8.05 345 *e*PN Pn 14 17 50.9 +1.4
KRUC Moravsky 8.05 345 *e*Pn Pn 14 17 50.9 +1.8
NIE Niedzica 8.09 3 *e*P Pn 14 17 53.4 +3.7
NIE Niedzica 8.09 3 P Pn 14 17 52.2 +2.5
comp=N,94nm,0.8s
PASA Karahalli, USA 8.15 108 P Pn 14 17 53.9 +3.3
IASR Iasi 8.16 42 ⇑P Pn 14 17 54.1 +3.5
WTTA Wattenberg 8.24 319 *i* Pn Pn 14 17 51.7 -0.1
comp=N,170nm,0.4s,SNR=68
WTTA *i* Sn **Sn 14 19 22.3 -2.0**
comp=N,585nm,0.7s
WTTA Wattenberg 8.24 319 *e*Pn Pn 14 17 51.7 -0.1
WTTA *e*Sn **Sn 14 19 22.7 -1.6**
VRAC Vranov 8.25 346 Pn Pn 14 17 52.7 +0.9
comp=N,0.8nm,0.3s,baz=178,slow=12,SNR=32
VRAC Sn **Sn 14 19 23.4 -1.0**
comp=N,1.4nm,0.3s,baz=90,slow=10,SNR=1.5
VRAC LR LR 14 21 30.2
comp=N,5µm,19.5s,baz=158,slow=42
comp=N,38nm,0.8s
VRAC Vranov 8.25 346 *e*PN Pn 14 17 52.5 +0.7
VRAC Vranov 8.25 346 ⇑P Pn 14 17 53.7 +1.8
VRAC Vranov 8.25 346 *e*Pn Pn 14 17 53.1 +1.2
KARP Karpathos 8.27 132 Pn 14 17 54.0 +1.9
KARP Karpathos 8.27 132 *e*P Pn 14 17 55.2 +3.0
KARP Karpathos 8.27 132 P Pn 14 17 54.8 +2.6
comp=N,338nm,0.8s
WATA Walderalm 8.31 319 *i* Pn Pn 14 17 53.1 +0.2
comp=N,167nm,0.4s,SNR=108
WATA *i* Sn **Sn 14 19 23.5 -2.7**
comp=N,628nm,0.8s
MORS Morshin 8.36 20 P Pn 14 17 56.4 +3.1
CKRC Cesky Krumlov 8.37 335 *e*PN Pn 14 17 54.4 +0.9
CKRC AMS AMS 14 21 20.0
comp=N,8µm,13.8s
CKRC Cesky Krumlov 8.37 335 *e*P Pn 14 17 54.4 +0.9
CKRC MLR MLR
comp=Z,8µm,13.8s
CKRC Cesky Krumlov 8.37 335 *e*Pn Pn 14 17 54.3 +0.9
SQTA Sankt Quirin 8.42 317 *i* Pn Pn 14 17 55.0 +0.6
comp=Z,109nm,0.4s,SNR=71
SQTA *i* Sn **Sn 14 19 26.2 -2.6**
comp=Z,166nm,0.5s
TREC Trest 8.47 341 *e*PN Pn 14 17 56.3 +1.4
TREC AMS AMS 14 21 30.0
comp=Z,12µm,14.0s
TREC Trest 8.47 341 *e*P Pn 14 17 56.3 +1.4
TREC MLR MLR
comp=Z,12µm,14.0s
SAHE Sakarya_HENDEK 8.50 90 ⇑P Pn 14 17 59.5 +4.2
FETA Feichten 8.55 315 *i* Pn Pn 14 17 55.7 -0.4
comp=Z,157nm,0.8s,SNR=20
FETA *e*Sn **Sn 14 19 29.0 -2.9**
comp=Z,236nm,1.0s

MOTA Moosalm 8.56 317 *i* Pn Pn 14 17 56.4 +0.2
comp=Z,83nm,0.3s,SNR=51
MOTA *i* Sn **Sn 14 19 31.4 -0.8**
comp=Z,1µm,0.9s
OKC Ostrava-Krasne 8.56 354 *e*PN Pn 14 17 58.6 +2.5
OKC *e*SN **Sn** 14 19 35.7 +3.7
OKC AMS AMS 14 21 50.0
comp=Z,12µm,12.0s
OKC Ostrava-Krasne 8.56 354 *e*P Pn 14 17 58.6 +2.5
OKC *e* 14 19 35.7
OKC MLR MLR
comp=Z,12µm,12.0s
OKC Ostrava-Krasne 8.56 354 *e*Pn Pn 14 17 58.9 +2.8
MORC Moravsky Berou 8.56 351 Pn 14 17 57.6 +1.4
MORC Moravsky Berou 8.56 351 *e*PN Pn 14 17 57.5 +1.3
MORC Moravsky Berou 8.56 351 ⇑P Pn 14 17 58.3 +2.1
MORC Moravsky Berou 8.56 351 P Pn 14 17 58.2 +2.1
MORC Moravsky Berou 8.56 351 *e*Pn Pn 14 17 58.0 +1.9
GEC2 GERESS Array S 8.59 333 *e*Pn Pn 14 17 56.6 -0.1
GERES GERESS Array B 8.59 333 Pn Pn 14 17 56.2 -0.4
comp=Z,0.8nm,0.3s,baz=155,slow=13,SNR=80
GERES Sn **Sn 14 19 30.0 -2.9**
comp=Z,2.0nm,0.3s,baz=148,slow=25,SNR=7.5
GERES LR LR 14 22 03.7
comp=Z,7µm,18.5s,baz=146,slow=44
comp=Z,31nm,0.8s
MILM Milestii Mici 8.64 47 ⇓P Pn 14 18 00.2 +2.9
MILM Milestii Mici 8.64 47 *e*P Pn 14 18 00.0 +2.8
MILM *e*L L 14 21 47.0
MILM LgM 14 22 01.0
MILM LRM MLR 14 22 14.0
MILM Milestii Mici 8.64 47 P Pn 14 18 00.1 +2.9
KIS Kishinev 8.70 46 *e*P Pn 14 18 01.0 +3.1
comp=Z,130nm,0.7s
KIS *e*L L 14 21 47.0
KIS LgM 14 21 50.0
comp=Z,3µm,12.0s
KIS LRM MLR 14 22 14.0
comp=Z,6µm,15.5s
KIS Kishinev 8.70 46 *e*P Pn 14 18 01.0 +3.1
KIS MLR MLR
comp=Z,6µm,15.5s
KMPD K-Podol'skiy 8.70 32 P Pn 14 18 00.6 +2.7
KMPD P Pn 14 18 00.6 +2.7
RAC Raciborz 8.80 354 *e*P Pn 14 18 02.4 +3.0
RAC AMS AMS 14 22 05.0
comp=Z,13nm,15.2s
RAC Raciborz 8.80 354 *e*P Pn 14 18 02.4 +3.0
RAC MLR MLR
comp=Z,13µm,15.2s
RETA Reutte 8.83 317 *i* Pn Pn 14 17 59.5 -0.4
comp=Z,40nm,0.5s,SNR=15
RETA *i* Sn **Sn 14 19 37.1 -1.6**
comp=Z,117nm,0.5s
DAVOX Davos/Dischmat 8.87 311 Pn Pn 14 18 00.6 0.0
comp=Z,12nm,0.3s,baz=125,slow=14,SNR=44
DAVOX Sn **Sn 14 19 35.6 -4.3**
comp=Z,21nm,0.3s,baz=276,slow=21,SNR=7.4
DAVOX LR LR 14 22 18.4
comp=Z,4µm,19.8s,baz=121,slow=44
comp=Z,33nm,0.3s
KHC Kasperske Hory 8.88 333 *e*PN Pn 14 18 00.9 +0.4
KHC *e*SN **Sn** 14 19 37.7 -2.2
KHC AMS AMS 14 21 40.0
comp=Z,8µm,14.1s
KHC Kasperske Hory 8.88 333 *e*P Pn 14 18 00.9 +0.4
KHC *e* 14 19 37.7
KHC MLR MLR
comp=Z,8µm,14.1s
KHC Kasperske Hory 8.88 333 P Pn 14 18 00.4 -0.1
comp=Z,161nm,1.0s
KHC Kasperske Hory 8.88 333 *e*Pn Pn 14 18 00.5 -0.1
OJC Ojcow 8.88 1 *e*P Pn 14 18 02.0 +1.5
OJC Ojcow 8.88 1 P Pn 14 18 02.6 +2.1
OJC Ojcow 8.88 1 P Pn 14 18 01.7 +1.2
comp=Z,79nm,1.4s
ZVC Zvikov 8.95 337 *e*PN Pn 14 18 02.2 +0.7
ZVC AMS AMS 14 21 50.0
comp=Z,9µm,12.6s
KRLC Kraliky 8.96 348 *e*PN Pn 14 18 03.6 +2.0
KRLC AMS AMS 14 22 10.0
comp=Z,19µm,13.4s
KRLC Kraliky 8.96 348 *e*P Pn 14 18 03.6 +2.0
KRLC MLR MLR
comp=Z,19µm,13.4s
TUE Stuetta 9.02 308 P Pn 14 18 02.4 -0.1
comp=Z,744nm,0.7s
LVV L'vov 9.02 19 P Pn 14 18 05.7 +3.3
NDNU Novodnistrovsk 9.09 34 P Pn 14 18 06.5 +3.1
ISP Isparta 9.12 109 *e*P Pn 14 18 09.3 +5.5
ISP Isparta 9.12 109⇑ *e*P Pn 14 18 06.3 +2.4
WET Wettzell 9.14 331 *e*Pn Pn 14 18 03.3 -0.7
DAVA Damuels 9.17 314 *i* Pn Pn 14 18 04.5 0.0
comp=Z,50nm,0.4s,SNR=30
DAVA *e*Sn **Sn 14 19 44.8 -2.3**
comp=Z,284nm,0.6s
DAVA Damuels 9.17 314 *e*Pn Pn 14 18 04.7 +0.1
SORM Soroca 9.20 39 ⇓P Pn 14 18 08.7 +3.8
SORM Soroca 9.20 39 P Pn 14 18 08.6 +3.8
UBR Ueberruh 9.29 316 *e*Pn Pn 14 18 05.0 -0.6
DPC Dobruska-Polom 9.30 347 *e*PN Pn 14 18 07.0 +0.7
DPC AMS AMS 14 22 20.0
comp=Z,17µm,12.7s
DPC Dobruska-Polom 9.30 347 *e*P Pn 14 18 07.0 +0.7
DPC MLR MLR
comp=Z,17µm,12.7s
DPC Dobruska-Polom 9.30 347 P Pn 14 18 07.9 +1.6
comp=Z,41nm,1.0s
DPC Dobruska-Polom 9.30 347 *e*Pn Pn 14 18 07.8 +1.5
PLONS Plons/SG 9.31 311 *e*Pn Pn 14 18 06.9 +0.5
PRU Pruhonice 9.35 339 *e*PN Pn 14 18 08.3 +1.4
PRU AMS AMS 14 22 00.0
comp=Z,9µm,18.2s
PRU Pruhonice 9.35 339 *e*P Pn 14 18 08.3 +1.4
PRU MLR MLR
comp=Z,9µm,18.2s
PRU Pruhonice 9.35 339 *e*Pn Pn 14 18 08.3 +1.4
PRA Prague 9.45 339 *e*PN Pn 14 18 09.9 +1.6
PRA AMS AMS 14 22 10.0
comp=Z,9µm,16.0s
PRA Prague 9.45 339 *e*P Pn 14 18 09.9 +1.6
PRA MLR MLR
comp=Z,9µm,16.0s
UPC Upice 9.51 346 *e*PN Pn 14 18 10.0 +0.9
UPC AMS AMS 14 22 40.0
comp=Z,14µm,13.6s
UPC Upice 9.51 346 *e*P Pn 14 18 10.0 +0.9
UPC MLR MLR
comp=Z,14µm,13.6s
OSTC Ostas 9.52 347 *e*PN Pn 14 18 11.2 +2.0
OSTC AMS AMS 14 22 30.0
comp=Z,16µm,14.1s
OSTC Ostas 9.52 347 *e*P Pn 14 18 11.2 +2.0
OSTC MLR MLR
comp=Z,16µm,14.1s
CHVC Chvalec 9.58 346 *e*PN Pn 14 18 11.5 +1.5
CHVC AMS AMS 14 22 30.0
comp=Z,14µm,11.8s
CHVC Chvalec 9.58 346 *e*P Pn 14 18 11.5 +1.5
CHVC MLR MLR
comp=Z,14µm,11.8s
NE56 Odesa 9.71 53 P Pn 14 18 14.4 +2.5
WILA Wila 9.78 312 *e*Pn Pn 14 18 13.1 +0.2
KSP Ksiaz 9.78 347 *e*P Pn 14 18 14.3 +1.5
KSP Ksiaz 9.78 347 P Pn 14 18 14.9 +2.1
comp=Z,44nm,1.3s
KEST Kesra 9.80 238 Pn Pn 14 18 14.9 +1.7
comp=Z,0.5nm,0.3s,baz=50,slow=1.6,SNR=14
KEST LR LR 14 23 03.1
comp=Z,5µm,20.7s,baz=66,slow=44
KEST Kesra 9.80 238 P Pn 14 18 15.6 +2.3
SNR=8.5
PVCC Panska Ves 9.84 341 *e*PN Pn 14 18 14.5 +0.9
PVCC AMS AMS 14 22 20.0
comp=Z,8µm,15.6s
PVCC Panska Ves 9.84 341 *e*P Pn 14 18 14.5 +0.9
PVCC MLR MLR
comp=Z,8µm,15.6s
ROTZ Rotzenmuhle 9.90 331 *e*Pn Pn 14 18 13.3 -1.1
RICC Richard 9.97 339 *e*PN Pn 14 18 16.1 +0.7
RICC AMS AMS 14 22 30.0
comp=Z,7µm,13.0s
MANZ Manzenberg 10.12 331 *e*Pn Pn 14 18 16.6 -0.8
ANTO Ankara 10.12 94 P Pn 14 18 18.1 +0.4
BNI Bardonecchia 10.15 296 Pn 14 18 16.2 -1.9

BNI Bardonecchia 10.15 296 P Pn 14 18 16.2 -1.9
SLE Schleitheim 10.21 313 *e*Pn Pn 14 18 17.8 -1.0
GRA1 Grafenberg Arr 10.22 328 Pn 14 18 17.2 -1.6
GRF Grafenberg Arr 10.22 328 P Pn 14 18 17.2 -1.6
GRF Grafenberg Arr 10.22 328 *e*Pn Pn 14 18 17.3 -1.5
GRFO Grafenberg 10.22 328 Pn 14 18 17.2 -1.6
GRFO Grafenberg 10.22 328 P Pn 14 18 17.2 -1.6
SULZ Cheisacher 10.29 311 *e*Pn Pn 14 18 18.4 -1.4
LUBAR Lubar, Ukraine 10.29 31 P Pn 14 18 22.3 +2.5
BRG Berggiesshubel 10.31 340 *e*Pn Pn 14 18 20.2 +0.1
BRG Berggiesshubel 10.31 340 *i* P Pn 14 18 20.9 +0.8
BRG Amp 14 18 21.8
comp=Z,44nm,0.9s
BRG PP **PnPn 14 18 27.7 0.0**
BRG Amp 14 18 28.7
comp=Z,70nm,1.0s
TANN Tannenbergstha 10.35 334 *e*Pn Pn 14 18 19.6 -1.1
BALST Balsthal 10.43 309 *e*Pn Pn 14 18 20.0 -1.7
STU Stuttgart 10.46 319 *e*P Pn 14 18 20.6 -1.5
STU Stuttgart 10.46 319 *e*Pn Pn 14 18 20.8 -1.3
PLN Plauen 10.52 333 *e*Pn Pn 14 18 22.0 -0.8
BEL Belsk 10.53 4 *e*P Pn 14 18 27.6 +4.6
CMAH Djebel Manchou 10.60 248 P Pn 14 18 27.8 +3.7
BFO Black Forest 10.63 315 Pn 14 18 22.6 -1.9
BFO Black Forest 10.63 315 *e*Pn Pn 14 18 22.9 -1.5
ABSA Djebel Ababsia 10.74 246 P Pn 14 18 26.8 +0.7
BR106 Keskin Array S 10.77 94 P Pn 14 18 30.3 +3.7
comp=Z,178nmcomp=Z,16nm,0.8s
BR105 Keskin Array S 10.78 94 P Pn 14 18 30.0 +3.4
comp=Z,194nmcomp=Z,19nm,0.8s
BR131 Keskin Array S 10.79 94 P Pn 14 18 29.6 +2.8
BR131 Keskin Array S 10.79 94 *de*P Pn 14 18 30.6 +3.8
BRTR Keskin Array B 10.79 94 Pn 14 18 29.6 +2.8
BRTR Keskin Array B 10.79 94 Pn Pn 14 18 30.6 +3.8
comp=Z,0.7nm,0.3s,baz=273,slow=11,SNR=26
BRTR Sn **Sn 14 20 26.7 -0.3**
comp=Z,0.2nm,0.3s,baz=330,slow=17,SNR=1.5
comp=Z,12nm,0.9s
RNPP5 Staryi Chortor 10.79 21 P Pn 14 18 28.9 +2.2
BR104 Keskin Array S 10.80 94 P Pn 14 18 30.5 +3.6
comp=Z,180nmcomp=Z,20nm,0.8s
MOX Moxa 10.84 332 P Pn 14 18 26.6 -0.7
MOX Moxa 10.84 332 *e*Pn Pn 14 18 26.4 -0.9
RNPP8 Varash 10.88 21 P Pn 14 18 29.8 +1.9
CAEH 'Ain El Ouahch 10.92 250 P Pn 14 18 33.9 +5.4
R9F13 Warsaw-Wawer 10.94 5 *e*P Pn 14 18 32.8 +4.2
RNPP9 Sopachiv 10.96 21 P Pn 14 18 31.1 +2.2
CLL Collm 10.96 338 Pn 14 18 26.8 -2.2
CLL Collm 10.96 338 *e*P Pn 14 18 23.0 -6.0
CLL Collm 10.96 338 P Pn 14 18 29.2 +0.2
comp=Z,38nm,0.8s
CLL Collm 10.96 338 *e*Pn Pn 14 18 28.1 -0.9
CLL Collm 10.96 338 *e*Pn Pn 14 18 23.0 -6.0
CLL *ex* x 14 18 31.0
CLL *ex* x 14 18 38.0
CLL *e*Sn Sn 14 20 22.0 -8.9
CLL *ex* x 14 20 32.0
CLL *e*Sb 14 20 58.0
CLL *ex* x 14 21 25.0
CLL *e*Sg 14 21 48.0
CLL *ex* x 14 21 56.0
CLL *e*Lmax 14 22 15.0
MI28 Mi28,Pidlybu 11.09 27 P Pn 14 18 33.7 +3.0
SIM Simferopol' 11.19 66 *e*P Pn 14 18 33.9 +1.8
SIM *e*S **Sn 14 20 36.0 -0.4**
SIM pmax pmax
comp=Z,110nm,0.7s
SIM MLR MLR
comp=Z,2µm,15.0s
CKFL Kef-Lekhel 11.20 248 P Pn 14 18 33.7 +1.3
AK13 Malin Array Si 11.35 32 P Pn 14 18 36.5 +2.2
AK07 Malin Array Si 11.36 33 P Pn 14 18 36.6 +2.2
AK14 Malin Array Si 11.39 32 P Pn 14 18 36.9 +2.2
AK06 Malin Array Si 11.39 32 P Pn 14 18 36.9 +2.1
AK17 Malin Array Si 11.41 32 P Pn 14 18 37.2 +2.1
AK12 Malin Array Si 11.41 32 P Pn 14 18 37.3 +2.2
AK05 Malin Array Si 11.42 32 P Pn 14 18 37.3 +2.1
AK16 Malin Array Si 11.42 32 P Pn 14 18 37.3 +2.1
AK10 Malin Array Si 11.42 33 P Pn 14 18 37.3 +2.1
AK19 Malin Array Si 11.42 32 P Pn 14 18 37.4 +2.2
AK20 Malin Array Si 11.44 32 P Pn 14 18 37.5 +2.1
AK18 Malin Array Si 11.44 32 P Pn 14 18 37.6 +2.1
AK15 Malin Array Si 11.44 32 P Pn 14 18 37.6 +2.1
AK02 Malin Array Si 11.45 32 P Pn 14 18 37.6 +2.0
AK09 Malin Array Si 11.45 33 P Pn 14 18 37.6 +2.0
KIEV Kiev 11.48 32 Pn 14 18 38.0 +2.0
KIEV Kiev 11.48 32 *i* P Pn 14 18 38.4 +2.4
SNR=25
KIEV Kiev 11.48 32 P Pn 14 18 38.0 +2.0
AKASG Malin Array Be 11.49 32 Pn 14 18 38.7 +2.6
AKASG Malin Array Be 11.49 32 Pn Pn 14 18 35.9 -0.3
comp=Z,1.1nm,0.3s,baz=226,slow=13,SNR=44
AKASG Lg Lg 14 22 06.0
baz=228,slow=27
AKASG LR LR 14 23 22.5
comp=Z,3µm,20.5s,baz=200,slow=39
comp=Z,22nm,0.8s
AKASG Malin Array Be 11.49 32 P Pn 14 18 38.7 +2.6
AKBB Malin Array Si 11.49 32 Pn 14 18 38.1 +2.0
AKBB Malin Array Si 11.49 32 *de*P Pn 14 18 38.5 +2.4
SSB Saint Sauveur 11.67 295 Pn 14 18 36.0 -2.7
SSB Saint Sauveur 11.67 295 P Pn 14 18 36.0 -2.7
DFRA Djebel Bou Aff 11.72 250 P Pn 14 18 36.9 -2.6
TNS Taunus Mts 11.81 323 *e*Pn Pn 14 18 38.9 -1.8
GKP Gorka Klasztor 12.04 353 *e*P Pn 14 18 46.2 +2.5
GKP Gorka Klasztor 12.04 353 *e*P Pn 14 18 45.3 +1.6
SET Setif 12.22 250 P Pn 14 18 30.0 -16
CLZ Clausthal 12.27 332 *e*Pn Pn 14 18 45.5 -1.4
CSS Mathiatis 12.52 116 Pn 14 18 52.4 +2.0
CSS Mathiatis 12.52 116 P Pn 14 18 53.0 +2.7
KASTN Kahler Asten 12.53 326 *e*Pn Pn 14 18 48.7 -1.7
WLF Walferdange 12.58 316 *d*P Pn 14 18 51.7 +0.7
comp=Z,46nm,1.1s
SUW Suwalki 12.90 9 *e*P Pn 14 18 56.8 +1.4
SUW Suwalki 12.90 9 *e*P Pn 14 18 58.0 +2.6
BHOU Houvegnez 13.07 318 *d*P Pn 14 18 57.2 -0.7
comp=Z,26nm,1.1s
BTNL Ternell 13.16 319 *d*P Pn 14 18 58.3 -0.7
comp=Z,28nm,0.9s
MEM Membach 13.23 319 *d*P Pn 14 18 59.3 -0.6
comp=Z,52nm,0.9s
MEM *d*S **Sn 14 21 19.7 -6.6**
RCHB Rochefort 13.35 316 *d*P Pn 14 19 00.8 -0.8
comp=Z,24nm,0.8s
BSTI Sart Tilman 13.44 318 *d*P Pn 14 19 02.8 0.0
comp=Z,6.9nm,0.7s
BCLA Clavier 13.47 317 *d*P Pn 14 19 02.8 -0.4
comp=Z,22nm,0.8s
ANN Anapa 13.47 69 *e*P Pn 14 19 04.0 +0.8
ANN *e*S **Sn 14 21 33.8 +1.6**
ANN pmax pmax
comp=Z,66nm,0.8s
ANN MLR MLR
comp=Z,2µm,13.0s
BGES Gesves 13.56 317 *d*P Pn 14 19 04.4 0.0
comp=Z,30nm,0.9s
DOU Dourbes 13.65 315 *d*P Pn 14 19 04.8 -0.9
comp=Z,30nm,1.0s
BMRD Maredsous 13.68 316 *d*P Pn 14 19 05.6 -0.4
comp=Z,28nm,0.8s
UCC Uccle 14.18 317 *d*P Pn 14 19 13.0 +0.1
comp=Z,27nm,0.9s
MNK Minsk 14.27 20 *i* P Pn 14 19 15.1 +0.9
comp=E,70nm,0.7s
MNK *i* P **Pn 14 19 15.1 +0.9**
comp=N,8.0nm,0.6s
MNK *i* P **Pn 14 19 15.1 +0.9**
comp=Z,103nm,0.7s,baz=206
MNK *i* PP **PnPn 14 19 23.0 +1.0**
MNK *i* S **Sn 14 21 53.8 +2.0**
MNK *i* SS **SnSn 14 22 07.4 +3.3**
MNK *i* LQ LQ 14 23 01.5
MNK *i* LR LR 14 23 50.7
MNK *i* LRM MLR 14 24 09.7
comp=N,3µm,15.2s
MNK *i* LRM MLR 14 25 20.0
comp=Z,4µm,12.8s
MNK *i* LRM MLR 14 25 23.5
comp=E,3µm,14.6s
MNK Minsk 14.27 20 *i* P Pn 14 19 15.0 +0.9
MNK *i* S **Sn 14 21 53.7 +2.0**
MNK pmax pmax
comp=N,8.0nm,0.6s

MNK pmax pmax
comp=E,70nm,0.7s
MNK pmax pmax
comp=Z,103nm,0.7s
MNK MLR MLR
comp=N,3µm,15.0s
MNK MLR MLR
comp=Z,4µm,13.0s
MNK MLR MLR
comp=E,3µm,15.0s
NACGM Naroch 14.38 17 *e*P **Pn** 14 19 18.7 +3.1
PABE Paberze 14.46 10 *e*P **Pn** 14 19 18.0 +1.3
KHAM Kharkiv 14.47 48 P **Pn** 14 19 19.3 +2.4
PBUR Paburge 14.77 5 *e*P **P** 14 19 27.5 +0.7
HNTI Hanita 14.87 119 P **Pn** 14 19 23.6 +1.2
HNTI Hanita 14.87 119 S **Sn** 14 22 05.0 -1.4
ISAL Salakas 14.87 15 *e*P **P** 14 19 25.2 -2.6
VSVD Vaisvydziai 14.92 9 *e*P **P** 14 19 29.2 +0.7
SOC Sochi 15.00 75 *e*P **Pn** 14 19 26.7 +2.6
SOC *e* 14 22 16.8
SOC pmax pmax
comp=Z,53nm,0.8s
MMC7 Mount Meron ar 15.05 118 P **Pn** 14 19 26.1 +1.2
MMA0B Mount Meron ar 15.06 118 P **Pn** 14 19 25.3 +0.3
MMA0B Mount Meron ar 15.06 118 S **Sn** 14 22 10.0 -1.2
MMAI Mount Meron Ar 15.06 118 Pn **Pn** 14 19 24.5 -0.5
comp=Z,3.1nm,0.3s,baz=304,slow=11,SNR=24
MMAI Sn **Sn** 14 22 07.8 -3.4
comp=Z,1.1nm,0.3s,baz=302,slow=20,SNR=1.8
comp=Z,15nm,0.7s
GEM Giv'at Ha'Em 15.11 117 P **Pn** 14 19 26.8 +1.2
GEM Giv'at Ha'Em 15.11 117 S **Sn** 14 22 12.0 -0.4
NATI Neve Ativ 15.13 117 P **Pn** 14 19 27.6 +1.7
NATI Neve Ativ 15.13 117 S **Sn** 14 22 13.0 +0.2
VSLR Vesyoloye 15.23 75⇓ *e*P **Pn** 14 19 29.5 +2.4
KSHT Keshet 15.35 118 P **Pn** 14 19 30.1 +1.3
KSHT Keshet 15.35 118 S **Sn** 14 22 17.7 -0.5
MMLI Mount Malkishu 15.43 120 P **Pn** 14 19 29.8 -0.1
MMLI Mount Malkishu 15.43 120 S **Sn** 14 22 17.2 -3.0
DEL Delary 15.60 348 *i* P **P** 14 19 35.8 -0.2
HMDT Nahal Hemdat 15.62 120 P **Pn** 14 19 32.2 -0.1
HMDT Nahal Hemdat 15.62 120 S **Sn** 14 22 21.7 -2.9
AMAZ Amatzia 15.70 124 P **Pn** 14 19 31.3 -2.1
AMAZ Amatzia 15.70 124 S **Sn** 14 22 20.5 -6.3
ERBR Yeremizino-Bor 15.74 67 *e*P **Pn** 14 19 35.5 +1.7
ERBR *e*S **Sn** 14 22 34.4 +6.9
ERBR pmax pmax
comp=Z,267nm,1.1s
ERBR MLR MLR
comp=N,6µm,13.0s
ERBR MLR MLR
comp=Z,2µm,16.0s
ERBR MLR MLR
comp=E,6µm,13.0s
LABN Labinsk 15.78 71 *e*P **P** 14 19 38.6 +0.5
LABN MLR MLR
comp=N,6µm,11.0s
LABN MLR MLR
comp=E,2µm,10.0s
KZIT Kziot 15.82 126 P **Pn** 14 19 31.6 -3.3
KZIT Kziot 15.82 126 S **Sn** 14 22 20.5 -9.1
KOPT Kop Dagi 15.89 88 P **P** 14 19 41.0 +1.4
YTIR Yattir 15.94 124 P **Pn** 14 19 34.9 -1.7
YTIR Yattir 15.94 124 S **Sn** 14 22 26.2 -6.5
DSI Dead Sea 15.97 123 P **Pn** 14 19 35.8 -1.0
DSI Dead Sea 15.97 123 S **Sn** 14 22 28.0 -5.3
MSBI Mazada 16.13 123 P **Pn** 14 19 37.6 -1.2
MSBI Mazada 16.13 123 S **Sn** 14 22 30.7 -6.3
RMNI Mount Ramon 16.26 126 P **Pn** 14 19 37.8 -2.7
RMNI Mount Ramon 16.26 126 S **Sn** 14 22 31.2 -9.1
GHAJ Ghor Haditha 16.27 123 P **Pn** 14 19 40.8 +0.2
GHAJ Ghor Haditha 16.27 123 P **Pn** 14 19 39.1 -1.5
GHAJ Ghor Haditha 16.27 123 S **Sn** 14 22 34.7 -5.7
FABU Falkenberg 16.30 346 *i* P **Pn** 14 19 41.7 +0.9
SLIT Slitere, Latvi 16.39 5 *e*P **P** 14 19 44.9 +0.1
IDAN Idan 16.41 125 P **Pn** 14 19 40.1 -2.3
IDAN Idan 16.41 125 S **Sn** 14 22 36.0 -7.8
ZFRI Zfri 16.54 126 P **Pn** 14 19 41.3 -2.7
ZFRI Zfri 16.54 126 S **Sn** 14 22 38.4 -8.7
ASF Jabal al Asfar 16.57 118 Pn **P** 14 19 46.4 -0.6
comp=E,0.6nm,0.3s,baz=328,slow=12,SNR=8.0
comp=E,5.4nm,0.6s
PRNI Paran 16.58 127 P **Pn** 14 19 41.6 -3.0
PRNI Paran 16.58 127 S **Sn** 14 22 39.0 -9.1
KRMI Paran Flat 16.58 128 P **Pn** 14 19 41.3 -3.3
KRMI Paran Flat 16.58 128 S **Sn** 14 22 38.0 -10
MUD Monsted U'grnd 16.58 339 *i* P **P** 14 19 46.0 -0.8
MUD *i* P **P** 14 19 46.0 -0.8
MUD IAmb IAmb 14 20 01.1
comp=Z,46nm,1.0s
VORD Divnogorie 16.64 48 *e*P **Pn** 14 19 45.4 +0.2
VORD pmax pmax
comp=Z,180nm,0.9s
VSR Storozhevoye 16.69 47 *e*P **Pn** 14 19 46.5 +0.7
VSR pmax pmax
comp=Z,200nm,0.7s
VSR MLR MLR
comp=Z,7µm,14.0s
ONAU Onsala 16.82 345 *e*P **P** 14 19 48.8 -0.6
HRFI Mount Harif 16.82 127 P **Pn** 14 19 44.6 -3.1
HRFI Mount Harif 16.82 127 S **Sn** 14 22 44.0 -10
MARD Mardin 16.85 97 P **P** 14 19 51.5 +1.4
BORU Boraas 16.89 347 *i* P **P** 14 19 50.0 -0.3
MBRI Mt Berech 16.93 128 P **Pn** 14 19 45.8 -3.2
MBRI Mt Berech 16.93 128 S **Sn** 14 22 46.0 -11
EIL Elat 17.04 128 P **Pn** 14 19 48.0 -2.4
comp=Z,15nm,0.7s,baz=335,slow=13,SNR=11
EIL S **Sn** 14 22 48.7 -10
comp=Z,32nm,0.6s,baz=314,slow=5.5,SNR=6.9
EIL Elat 17.04 128 P **Pn** 14 19 46.6 -3.8
EIL Elat 17.04 128 S Sn 14 22 48.3 -11
SHA1 Shidzhatmaz 17.14 74 *i* P **P** 14 19 55.1 +1.7
KIV Kislovodsk 17.16 74 P **Pn** 14 19 51.6 -0.3
KIV Kislovodsk 17.16 74 P **Pn** 14 19 52.4 +0.5
KIV Kislovodsk 17.16 74 *i* P **P** 14 19 55.9 +2.4
SNR=11
KIV Kislovodsk 17.16 74 *e*P **P** 14 19 55.2 +1.7
KIV pmax pmax
comp=Z,76nm,1.0s
LPSR Galich'ya Gora 17.27 43 *e*P **Pn** 14 19 51.8 -1.4
LPSR pmax pmax
comp=Z,200nm,0.8s
LPSR MLR MLR
comp=Z,5µm,15.0s
KBZ Khabaz 17.31 74 P **P** 14 19 58.1 +3.2
comp=Z,70nm,0.8s,baz=295,slow=8.3,SNR=52
KBZ Khabaz 17.31 74 *ce*P **P** 14 19 57.7 +2.7
GOF Gofitskoye 17.46 70 *ce*P **P** 14 19 58.3 +1.6
TJOU Tjoern 17.47 346 *i* P **P** 14 19 56.2 -0.4
VSU Vasula 17.72 12 *e*P **P** 14 20 00.1 +0.6
VSU Vasula 17.72 12 *de*P **Pn** 14 19 56.9 -1.8
VSU pmax pmax
comp=Z,1µm,0.7s
OBN Obninsk 17.75 33 P **Pn** 14 19 55.9 -3.1
OBN Obninsk 17.75 33 P **Pn** 14 19 57.6 -1.3
comp=Z,13nm,0.3s,baz=153,slow=2.1,SNR=26
OBN LR LR 14 27 19.0
comp=Z,3µm,18.7s,baz=165,slow=39
comp=Z,283nm,0.9s
OBN Obninsk 17.75 33 *d* iP **Pn** 14 19 57.0 -2.0
OBN pmax pmax
comp=Z,464nm,1.0s
OBN MLR MLR
comp=Z,2µm,16.0s
NCK Nalchik 17.82 75⇓ *e*P **P** 14 20 04.1 +3.4
NCK pmax pmax
comp=Z,34nm,0.9s
ESBB Sonseca Array 18.00 272 P **P** 14 20 04.0 +1.2
ESDC Sonseca Array 18.00 272 Pn **Pn** 14 20 00.2 -2.2
ESDC Sonseca Array 18.00 272 P **Pn** 14 20 01.9 -0.5
comp=Z,0.1nm,0.3s,baz=74,slow=10,SNR=13
comp=Z,5.4nm,0.9s
VRH Novokhopyorsk 18.12 50 *e*P **Pn** 14 20 03.5 -0.1
VRH pmax pmax
comp=Z,110nm,0.8s
VRH MLR MLR
comp=Z,6µm,13.0s
HOMB Homborsund 18.36 341 *e*P **P** 14 20 05.2 -1.2
HOMB Homborsund 18.36 341 *i* P **P** 14 20 04.3 -2.1
STRU Stroemstad 18.49 346 *e*P **P** 14 20 07.0 -0.9
STRU Stroemstad 18.49 346 *i* P **P** 14 20 06.7 -1.3
ARBE Arbavere 18.55 10 *e*P **P** 14 20 08.4 -0.1
UPP Uppsala 18.58 357 *e*P **Pn** 14 20 09.0 -0.2

MOS Moscow 18.61 33 *e*P **P** 14 20 06.3 -3.0
MOS *e*S **Sn** 14 23 35.7 -1.3
MOS pmax pmax
comp=Z,506nm,0.8s
MOS pmax pmax
comp=N,207nm,1.0s
MOS pmax pmax
comp=E,314nm,1.0s
MOS MLR MLR
comp=Z,2µm,13.0s
SNART Snartemo 18.75 339 *e*P **Pn** 14 20 11.2 -0.1
SNART Snartemo 18.75 339 *i* P **Pn** 14 20 11.0 -0.2
AAL Aland 18.86 1 *e*P **P** 14 20 11.0 -1.0
GNI Garni 19.06 85 P **P** 14 20 12.9 -1.6
GNI IAmb IAmb 14 20 18.5
comp=Z,272nm,1.0s
GNI Garni 19.06 85 P **Pn** 14 20 16.8 +1.5
comp=Z,2.6nm,0.3s,baz=335,slow=2.5,SNR=41
comp=Z,194nm,0.9s
GNI Garni 19.06 85 P **Pn** 14 20 15.7 +0.4
GNI Garni 19.06 85 P **Pn** 14 20 17.2 +1.9
GNI Garni 19.06 85 *ce*P **Pn** 14 20 16.6 +1.3
GNI pmax pmax
comp=Z,232nm,0.9s
GNI Garni 19.06 85 P **Pn** 14 20 16.8 +1.5
comp=Z,309nm,1.0s
MEF Metsahovi 19.13 7 *e*P **P** 14 20 14.0 -0.9
HFS Hagfors 19.17 351 P **P** 14 20 14.8 -0.5
comp=Z,2.4nm,0.3s,baz=170,slow=10,SNR=37
HFS LR LR 14 27 48.4
comp=Z,2µm,19.8s,baz=167,slow=38
comp=Z,22nm,0.6s
KONO Kongsberg 19.37 345 P **P** 14 20 16.3 -1.2
KONO Kongsberg 19.37 345 *e*P **P** 14 20 16.3 -1.2
KONO Kongsberg 19.37 345⇓ *e*P **P** 14 20 16.2 -1.3
KONO pmax pmax
comp=Z,98nm,2.5s
OSL Oslo 19.42 346 *e*P **P** 14 20 17.7 -0.4
PUL Pulkovo 19.62 16⇑ *e*P **Pn** 14 20 21.9 +0.2
PUL Pulkovo 19.62 16 *de*P **P** 14 20 20.1 -0.1
PUL pmax pmax
comp=Z,383nm,0.7s
PBRG Braganca 19.71 280 *e*P **P** 14 20 22.0 +0.5
PBRG *i* IAmb IAmb 14 21 19.1
comp=Z,60nm,1.6s
RAF Rauma 19.75 3 *e*P **P** 14 20 21.1 -0.6
NAX Nakhchivan 19.84 88 P **Pn** 14 20 24.4 -0.2
BLS5 Blasjo 19.89 340 *e*P **P** 14 20 23.9 +0.7
MVO Moncorvo 20.02 278 *e*P **P** 14 20 24.8 -0.1
MVO *i* IAmb IAmb 14 21 04.5
comp=Z,63nm,1.4s
KMY Karmoy 20.03 338 *e*P **P** 14 20 24.6 -0.2
NC602 NORSAR Array S 20.05 348 P **P** 14 20 23.0 -1.9
NC602 NORSAR Array S 20.05 348 *e*P **P** 14 20 23.6 -1.3
GANJ Ganja 20.14 83 P **P** 14 20 26.5 +0.3
ODD1 Odda 20.27 341 *e*P **P** 14 20 26.0 -1.4
NC405 NORSAR Array S 20.38 349 P **P** 14 20 27.7 -0.9
NB201 NORSAR Array S 20.38 348 P **P** 14 20 27.2 -1.4
NB2 NORSAR Subarra 20.39 348 P **P** 14 20 27.1 -1.5
comp=Z,64nm,1.0s,baz=162,slow=11
NB2 NORSAR Subarra 20.39 348 P **P** 14 20 27.1 -1.5
comp=Z,64nm,1.0s,baz=162,slow=11
NOA NORSAR Array B 20.39 348 P **P** 14 20 27.1 -1.5
comp=Z,28nm,0.9s,baz=36,slow=24,SNR=24
NOA LR LR 14 29 37.2
comp=Z,3µm,20.2s,baz=160,slow=41
comp=Z,28nm,0.9s
EKA Eskdalemuir Ar 20.49 321 P **P** 14 20 29.2 -0.6
comp=Z,81nm,0.9s,baz=117,slow=10.0,SNR=91
comp=Z,81nm,0.9s
ESK Eskdalemuir 20.51 321 P **P** 14 20 28.5 -1.4
ESK IAmb IAmb 14 20 31.5
comp=Z,157nm,0.9s
ESK Eskdalemuir 20.51 321 P **P** 14 20 28.5 -1.4
ESK pmax pmax
comp=Z,157nm,1.0s
PVRL Vila Real 20.51 279 *e*P Pn 14 20 32.0 -0.4
PVRL *i* IAmb IAmb 14 20 53.0
comp=Z,77nm,1.3s
FINES FINESS Array B 20.51 9 P **P** 14 20 29.0 -0.9
FINES FINESS Array B 20.51 9 P **P** 14 20 28.7 -1.2
comp=Z,185nm,0.7s,baz=174,slow=10,SNR=113
FINES LR LR 14 28 56.9
comp=Z,2µm,21.4s,baz=189,slow=38
comp=Z,185nm,0.7s
FINES FINESS Array B 20.51 9 P **P** 14 20 29.0 -0.9
FIA1 FINESS Array S 20.51 9 P **P** 14 20 29.3 -0.7
MTE Manteigas 20.54 276 *e*P Pn 14 20 31.8 -1.0
MTE *i* IAmb IAmb 14 20 42.1
comp=Z,134nm,1.3s
MTE Manteigas 20.54 276 *e*P Pn 14 20 33.1 +0.3
NC303 NORSAR Array S 20.54 349 P **P** 14 20 27.3 -3.0
POLO Lamas de Olo 20.55 279 *e*P Pn 14 20 34.0 +1.0
POLO *i* IAmb IAmb 14 21 18.0
comp=Z,38nm,1.5s
PCBR Castelo Branco 20.61 275 *e*P Pn 14 20 36.2 +2.6
PCBR *i* IAmb IAmb 14 20 52.1
comp=Z,57nm,1.1s
PMRV Marv??o 20.64 274 *e*P Pn 14 20 35.6 +1.7
PMRV *i* IAmb IAmb 14 20 49.0
comp=Z,90nm,1.8s
SFS San Fernando 20.65 265 P **P** 14 20 29.6 -2.1
SFS San Fernando 20.65 265 P **P** 14 20 29.6 -2.1
SFS pmax pmax
comp=Z,251nm,0.9s
PCAB Cabril 20.68 280 *e*P Pn 14 20 33.7 -0.6
PCAB *i* IAmb IAmb 14 21 19.0
comp=Z,87nm,1.2s
MNGR Mingachevir, A 20.69 82 P Pn 14 20 34.5 +0.1
SEKA Sheki 20.70 81 P Pn 14 20 35.6 +1.0
MAK Makhachkala 20.70 76 *e*P **P** 14 20 30.0 -2.2
MAK *e*S **S** 14 24 21.6 -0.8
MAK pmax pmax
comp=Z,351nm,1.1s
MAK MLR MLR
comp=Z,2µm,13.0s
PBAR Barrancos 20.71 270 *e*P Pn 14 20 33.9 -0.9
PBAR *i* IAmb IAmb 14 20 53.1
comp=Z,316nm,1.6s
PVIS Viseu 20.74 277 *e*P Pn 14 20 35.8 +0.7
PESTR Estremoz 20.93 272 *e*P Pn 14 20 38.3 +1.0
PESTR *i* IAmb IAmb 14 20 55.3
comp=Z,115nm,1.3s
BER Bergen 21.00 340 *e*P **P** 14 20 34.8 -0.5
IWEX Carrickbyrne, 21.04 311 P **P** 14 20 35.6 -0.1
AKT Akhty 21.05 80 *e*P **P** 14 20 38.6 +2.5
AKT *e*S Sn 14 24 35.8 -0.3
AKT pmax pmax
comp=Z,92nm,0.8s
MDT Midelt 21.07 254 P **P** 14 20 36.5 +0.1
comp=Z,27nm,0.9s,baz=77,slow=13,SNR=15
comp=Z,27nm,0.9s
KEF Keuruu 21.10 7 *e*P **P** 14 20 35.1 -1.1
ASK Askoy 21.13 340 *e*P **P** 14 20 35.4 -1.1
DSB Dublin 21.14 313 P **P** 14 20 37.2 +0.3
MD01 Midelt array s 21.15 254 P **P** 14 20 36.5 -0.9
MD31 MD31 21.16 254 P **P** 14 20 35.5 -1.8
PSARD Sardoal 21.18 274 *e*P **P** 14 20 38.9 +1.5
PSARD *i* IAmb IAmb 14 21 00.0
comp=Z,132nm,1.4s
COI Coimbra 21.23 276 *e*P **P** 14 20 41.3 +3.4
COI *i* IAmb IAmb 14 21 07.8
comp=Z,148nm,1.2s
PCAS Casmilo, Conde 21.33 276 *e*P **P** 14 20 44.0 +5.0
PCAS *i* IAmb IAmb 14 21 10.3
comp=Z,138nm,1.5s
EVO Evora 21.34 272 *e*P **P** 14 20 39.5 +0.4
EVO *i* IAmb IAmb 14 20 59.6
comp=Z,99nm,1.5s
PMTG Montargil 21.36 273 *e*P **P** 14 20 40.2 +1.0
PMTG *i* IAmb IAmb 14 20 51.7
comp=Z,158nm,1.3s
PBEJ Beja 21.38 270 *e*P **P** 14 20 42.6 +3.1
PBEJ *i* IAmb IAmb 14 21 00.2
comp=Z,100nm,1.5s
HYA Hoyanger 21.48 342 *e*P **P** 14 20 39.8 -0.6
PCVE Castro Verde 21.63 269 *e*P **P** 14 20 43.2 +1.0
PCVE *i* IAmb IAmb 14 21 02.7
comp=Z,114nm,1.5s
PSBE So Bento 21.67 275 *e*P **P** 14 20 46.9 +4.2
PSBE *i* IAmb IAmb 14 21 13.1
comp=Z,127nm,1.5s
PBDV Barranco-do-Ve 21.68 268 *e*P **P** 14 20 42.8 0.0
PBDV *i* IAmb IAmb 14 20 57.8
comp=Z,127nm,1.5s

DOMB Dombas 21.69 346 *e*P **P** 14 20 42.5 -0.1
MESJ Messejana 21.70 270 *e*P **P** 14 20 48.7 +5.7
MESJ *i* IAmb IAmb 14 21 00.1
comp=Z,117nm,1.5s
SUE Sulen 21.73 340 *e*P **P** 14 20 45.2 +2.2
TAM Tamanrasset 21.96 217 P **P** 14 20 46.1 +0.1
TAM IAmb IAmb 14 21 02.5
comp=Z,96nm,0.9s
TAM Tamanrasset 21.96 217 P **P** 14 20 46.1 +0.1
TAM pmax pmax
comp=Z,96nm,0.9s
BELG Belogorsnoye 21.96 50 P **P** 14 20 46.2 +0.6
comp=Z,536nm,0.8s,baz=284,slow=0.5,SNR=122
comp=Z,536nm,0.8s
BELG Belogornoye 21.96 50 *c* iP **P** 14 20 45.9 +0.3
BELG pmax pmax
comp=Z,90nm,0.9s
PARRA Arraiolos 22.04 273 *e*P P 14 20 38.4 -8.2
PARRA *i* IAmb IAmb 14 20 59.1
comp=Z,147nm,1.5s
PTEO Sao Teotonio 22.17 269 *e*P **P** 14 20 50.7 +2.7
PTEO *i* IAmb IAmb 14 21 07.2
comp=Z,146nm,1.7s
AKN Aaknes 22.20 344 *e*P **P** 14 20 48.8 +0.6
PFVI Vila Bisbo 22.39 269 *e*P **P** 14 20 53.8 +3.5
PFVI *i* IAmb IAmb 14 21 08.0
comp=Z,165nm,1.3s
LKRN Lenkeran, Azer 22.44 87 P **P** 14 20 52.1 +1.3
MOL Molde 22.45 345 *e*P **P** 14 20 49.9 -0.9
IDGL Inch Island, C 22.53 317 P **P** 14 20 50.9 -0.7
JOF Joensuu 22.70 14 *e*P **P** 14 20 54.5 +1.1
IGLA Glengowla, Co 22.88 312 P **P** 14 20 54.5 -0.9
VAL Valentia 22.93 308 P **P** 14 20 57.5 +1.6
KLMR Klimovskoe 23.02 25 *e*P **P** 14 20 53.8 -2.9
KLMR pmax pmax
comp=Z,616nm,1.1s
KLMR MLR MLR
comp=Z,4µm,14.0s
NSS Namsos 23.65 352 *e*P **P** 14 21 02.6 -0.4
SJUU Sjulsmark 24.24 2 *e*P **P** 14 21 07.5 -1.1
MOR8 Moi Rana 25.05 355 *e*P **P** 14 21 16.3 +0.4
LEIR Leirfjorden 25.09 354 *e*P **P** 14 21 14.8 -1.4
MSF Maaselka 25.19 9 P **P** 14 21 16.9 -0.2
MSF pmax pmax
comp=Z,138nm,1.0s
STOK Stokkvaagen 25.32 354 *e*P **P** 14 21 20.1 +1.9
RAUS Rausandaksla 25.34 355 *e*P **P** 14 21 18.7 +0.2
KIRV Kirov 25.47 37 LR LR 14 32 00.0
comp=Z,3µm,20.6s,baz=238,slow=38
KIRV Kirov 25.47 37 *de*P **P** 14 21 19.3 -0.4
VAGH Vaagaholmen 25.69 354 *e*P **P** 14 21 21.3 -0.3
FAUS Fauske 26.20 356 *e*P **P** 14 21 25.2 -1.1
STEI Steigen 26.75 356 *e*P **P** 14 21 28.6 -2.7
LANU Lannavaara 26.80 2 *e*P **P** 14 21 29.7 -2.0
LOF Lofoten 27.05 355 *e*P **P** 14 21 33.6 -0.3
APA Apatity 27.34 11⇓ *e*P **P** 14 21 35.2 -1.4
APA *e* 14 24 56.9
APA *e*S **S** **14 26 14.1 -0.8**
APA MLR MLR
comp=Z,5µm,13.4s
KTK1 Kautokeino 27.80 3 *e*P **P** 14 21 38.2 -2.5
LVZ Lovozero 27.84 12 P **P** 14 21 38.0 -3.1
LVZ IAmb IAmb 14 22 03.3
comp=Z,50nm,0.8s
LVZ Lovozero 27.84 12⇑ *e*P **P** 14 21 41.2 +0.1
LVZ pmax pmax
comp=Z,190nm,3.7s
AKTO Aktyubinsk 27.96 58 P **P** 14 21 41.7 -0.6
JETT Jettan, Norway 28.28 1 *e*P **P** 14 21 43.2 -1.9
TRO Tromso 28.36 359 *e*P **P** 14 21 44.1 -1.5
ARA0 ARCESS Array S 28.43 4 *e*P **P** 14 21 44.7 -1.6
ARCES ARCESS Array B 28.43 4 P **P** 14 21 44.7 -1.6
ARCES IAmb IAmb 14 22 39.0
comp=Z,88nm,1.4s
ARCES ARCESS Array B 28.43 4 P **P** 14 21 44.7 -1.6
comp=Z,13nm,0.8s,baz=184,slow=8.0,SNR=16
comp=Z,13nm,0.8s
ARTI Arti 29.14 46 P **P** 14 21 52.5 -0.2
ARTI Arti 29.14 46 LR LR 14 34 35.3
comp=Z,4µm,18.4s,baz=240,slow=38
ARTI Arti 29.14 46 *c* iP **P** 14 21 52.6 -0.2
ARTI 14 22 46.0
ARTI S **S** **14 26 48.2 +4.7**
ARTI SS **SnSn** **14 28 14.4 +6.2**
ARTI pmax pmax
comp=Z,309nm,0.8s
ARTI MLR MLR
comp=Z,4µm,17.0s
AB31 Akbulak array 29.16 60 P **P** 14 21 52.8 -0.2
ABKAR Akbulak array 29.16 60 P **P** 14 21 53.3 +0.3
VADS Vadso 29.29 7 *e*P **P** 14 21 53.2 -0.7
HAMF Hammerfest 29.45 3 *e*P **P** 14 21 53.9 -1.4
SHMA Al-Shehemyia 30.13 111 P **P** 14 22 02.3 +0.6
SVE Sverdlovsk 30.46 45 *d* iP **P** 14 22 05.1 +0.7
SVE *e*S **S** **14 27 08.9 +4.8**
SVE pmax pmax
comp=Z,346nm,0.9s
SVE MLR MLR
comp=Z,4µm,15.0s
TOA0 Torodi Ar. Sit 32.15 214 P **P** 14 22 23.8 +4.2
TORD Torodi Ar. Bea 32.15 214 P **P** 14 22 19.1 -0.5
TORD Torodi Ar. Bea 32.15 214 P **P** 14 22 20.2 +0.6
comp=Z,9.0nm,0.8s,baz=16,slow=11,SNR=25
TORD PcP **PcP** **14 25 08.8 +0.4**
comp=Z,1.5nm,0.8s,baz=25,slow=3.1,SNR=1.9
comp=Z,9.0nm,0.8s
SHME Shamm 33.72 105 P **P** 14 22 32.9 -0.4
SNR=6.3
SHME Shamm 33.72 105 *i* P **P** 14 22 32.7 -0.5
SNR=16
BANOM Banah 33.91 105 P **P** 14 22 34.6 -0.4
BANOM Banah 33.91 105 *i* P **P** 14 22 34.6 -0.4
SNR=17
ASUD Al Ashush, Dub 33.99 108 P **P** 14 22 36.0 +0.3
ASUD Al Ashush, Dub 33.99 108 P **P** 14 22 35.9 +0.3
NAZ Nazwa, Dubai 34.01 107 P **P** 14 22 36.0 +0.2
NAZ Nazwa, Dubai 34.01 107 *i* P **P** 14 22 35.8 0.0
SNR=9.2
HRA Herat 34.09 88 P **P** 14 22 36.7 0.0
FAQ Al Faqa, Dubai 34.10 108 P **P** 14 22 36.3 -0.3
MASF Masafi 34.13 106 P **P** 14 22 36.9 0.0
MSFE Esma-Masafi 34.14 106 *i* P **P** 14 22 36.4 -0.6
SNR=8.1
MDH Madha 34.28 106 P **P** 14 22 38.0 -0.2
MDH Madha 34.28 106 *i* P **P** 14 22 38.0 -0.2
SNR=6.4
UOSS Minazif 34.42 107 P **P** 14 22 38.2 -1.2
UOSS IAmb IAmb 14 22 39.8
comp=Z,32nm,0.8s
UOSS Minazif 34.42 107 P **P** 14 22 38.7 -0.8
ASHO Ashiyiah 34.48 107 P **P** 14 22 39.7 -0.3
ASHO Ashiyiah 34.48 107 *i* P **P** 14 22 39.4 -0.5
SNR=19
ALNE Al Ain 34.64 109 P **P** 14 22 41.2 -0.2
SNR=5.3
ALNE Al Ain 34.64 109 *i* P **P** 14 22 40.7 -0.6
SNR=17
UMZA Um Al Zommool 35.07 111 P **P** 14 22 44.9 -0.1
SOHO SOHO 35.15 108 P **P** 14 22 45.6 -0.1
SOHO SOHO 35.15 108 *i* P **P** 14 22 45.1 -0.6
SNR=15
ARQ Araqi 35.64 109 P **P** 14 22 50.0 0.0
BORK Borovoye 35.66 53 *ce*P **P** 14 22 50.9 +1.1
BORK pmax pmax
comp=Z,204nm,0.8s
BVA0 Borovoye Array 35.70 53 P **P** 14 22 50.9 +0.7
BVAR Borovoye Array 35.70 53 P **P** 14 22 51.2 +1.1
comp=Z,152nm,0.8s,baz=275,slow=6.4,SNR=252
BVAR P3KP 14 55 02.9
comp=Z,1.3nm,0.7s,baz=264,slow=6.0,SNR=5.7
comp=Z,152nm,0.8s
ATD Arta Tunnel 36.01 139 P **P** 14 22 53.2 -0.1
HOQ Hoqain 36.05 108 P **P** 14 22 53.5 0.0
BIDO Bidbid 36.68 107 P **P** 14 22 58.5 -0.3
BRLS Boroldoy 36.80 70 *e*P **P** 14 22 59.6 -0.1
BRLS Boroldoy 36.80 70 *i* P **P** 14 22 59.4 -0.3
BRLS pmax pmax
comp=Z,47nm,3.5s
SMDO Samad 36.91 108 P **P** 14 23 00.4 -0.5
SPA0 Spitsbergen Ar 36.98 359 *e*P **P** 14 23 02.0 +1.2
SPITS Spitsbergen Ar 36.98 359 P **P** 14 22 59.9 -0.9
comp=Z,4.7nm,0.8s,baz=153,slow=11,SNR=1.5
comp=Z,4.7nm,0.8s
DOK Doka 37.13 117 P **P** 14 23 02.3 -0.4

IUG Iuzhnay 37.17 72 *e*P P 14 23 03.2 +0.1
comp=Z,24nm,0.7s
IUG Iuzhnay 37.17 72 *e*P P 14 23 03.1 +0.1
IUG pmax pmax
comp=Z,24nm,0.7s
WSAR Wadi Sarin 37.21 107 P P 14 23 02.9 -0.5
KK31 Karatay Array 37.26 70 P P 14 23 03.9 +0.3
KK31 Karatay Array 37.26 70 P P 14 23 03.9 +0.3
KK31 pmax pmax
comp=Z,18nm,0.7s
KKAR Karatay Array 37.26 70 P P 14 23 03.9 +0.3
KKAR Karatay Array 37.26 70 P P 14 23 03.9 +0.3
BRZS Berezniki 37.37 58 *e*P P 14 23 05.0 +0.4
BRZS Berezniki 37.37 58 *e*P P 14 23 04.9 +0.4
JMDO Jabal Madar 37.38 108 P P 14 23 04.2 -0.6
WHFO Wadi Hawf 37.39 118 P P 14 23 04.5 -0.4
ABTO Aybut 37.48 120 P P 14 23 05.8 +0.1
SIMJ Simiganj 37.52 77 P P 14 23 04.3 -1.8
CHGR Chuyangaron 37.63 77 P P 14 23 07.1 +0.2
CHGR pmax pmax
comp=Z,106nm,0.8s
NGCH Negor - Chabah 37.77 102 P P 14 23 08.6 +0.5
KBS Kingsbay 37.83 358 *de*P P 14 23 08.2 +0.3
KBS pmax pmax
comp=Z,47nm,2.5s
DZA Taraz 37.89 70 *e*P P 14 23 09.2 +0.2
DZA Taraz 37.89 70 *e*P P 14 23 09.2 +0.2
TRKS Terek-Say 38.15 72 P P 14 23 12.0 +0.7
TRKS pmax pmax
comp=Z,22nm,1.2s
MHTO MHTO 38.17 110 P P 14 23 11.3 -0.2
SNR=6.1
JLN Jalan Bani Buh 38.45 107 P P 14 23 13.6 -0.3
DQM DQM 38.57 112 P P 14 23 14.1 -0.8
DAG Danmarks Havn 39.06 347 P P 14 23 18.2 -0.1
DAG pmax pmax
comp=Z,24nm,0.9s
DAG Danmarks Havn 39.06 347 *i* P P 14 23 17.5 -0.8
DAG IAmb IAmb 14 23 18.7
comp=Z,19nm,0.9s
BTLS Baital 39.23 66 *e*P P 14 23 20.6 +0.4
BTLS Baital 39.23 66 *i* P P 14 23 20.1 0.0
BTLS pmax pmax
comp=Z,67nm,2.6s
AAK Ala-Archa 40.20 69 P P 14 23 29.4 +1.0
AAK Ala-Archa 40.20 69 P P 14 23 29.5 +1.0
AAK Ala-Archa 40.20 69 *i* P P 14 23 29.3 +0.9
SNR=17
AAK Ala-Archa 40.20 69 P P 14 23 29.4 +1.0
AAK pmax pmax
comp=Z,19nm,0.8s
FRU1 Bishkek 40.24 69 P P 14 23 30.0 +1.3
FRU1 pmax pmax
comp=Z,60nm,0.7s
ISOG Isortoq, Green 40.39 327 *i* P P 14 23 30.1 +0.6
ISOG IAmb IAmb 14 23 31.9
comp=Z,2µm,2.6s
DBIC Dimbokro 40.83 219 P P 14 23 34.4 +0.7
DBIC IAmb IAmb 14 23 42.5
comp=Z,60nm,0.8s
DBIC Dimbokro 40.83 219 P P 14 23 34.5 +0.9
comp=Z,8.5nm,0.7s,baz=48,slow=7.3,SNR=6.4
comp=Z,8.5nm,0.7s
KURBB Kurchatov Arra 40.98 56 P P 14 23 34.8 +0.3
comp=Z,39nm,1.0s,baz=264,slow=8.6,SNR=92
KURBB PP PP 14 25 09.1 +0.1
comp=Z,14nm,1.1s,baz=282,slow=11,SNR=4.4
KURBB PcP PcP 14 25 33.6 -0.8
comp=Z,10nm,0.8s,baz=293,slow=3.9,SNR=6.1
comp=Z,39nm,1.0s
KURBB Kurchatov Arra 40.98 56 P P 14 23 33.5 -1.1
KURK Kurchatov 41.02 56 P P 14 23 35.4 +0.5
KURK IAmb IAmb 14 23 37.0
comp=Z,80nm,1.1s
KURK Kurchatov 41.02 56 P P 14 23 35.6 +0.7
KURK Kurchatov 41.02 56 P P 14 23 35.4 +0.5
KURK pmax pmax
comp=Z,80nm,1.1s
SUMG Summit 41.63 337 *i* P P 14 23 39.1 -1.0
SUMG IAmb IAmb 14 23 41.4
comp=Z,797nm,2.9s
AAA Alma-Ata 41.72 68 *e*P P 14 23 41.3 +0.4
comp=Z,20nm,0.7s
AAA Alma-Ata 41.72 68 *e*P P 14 23 41.3 +0.4
AAA pmax pmax
comp=Z,20nm,0.7s
TNSS Tian-Shan 41.80 68 *e*P P 14 23 42.0 +0.1
TNSS Tian-Shan 41.80 68 *e*P P 14 23 42.0 +0.1
MDOK Medeo 41.83 68 *e*P P 14 23 42.3 +0.4
MDOK Medeo 41.83 68 *e*P P 14 23 42.2 +0.4
ARXS Arharly 42.05 66 *i* P P 14 23 40.5 -3.1
SEM Semipalatinsk 42.10 56 *e*P P 14 23 44.1 +0.1
comp=Z,50nm,0.9s
SEM Semipalatinsk 42.10 56 *e*P P 14 23 44.1 +0.1
SEM pmax pmax
comp=Z,50nm,0.9s
TDK Taldyqorghan 42.22 65 *e*P P 14 23 45.5 +0.7
comp=Z,78nm,1.1s
TDK Taldyqorghan 42.22 65 *e*P P 14 23 45.5 +0.7
TDK pmax pmax
comp=Z,78nm,1.1s
KDJ Kajisay 42.25 69 P P 14 23 46.4 +1.1
KDJ pmax pmax
comp=Z,34nm,0.7s
NOR Nord 42.26 353 *i* P P 14 23 43.6 -1.1
NOR IAmb IAmb 14 23 44.8
comp=Z,35nm,1.0s
KSH Kashi 42.29 73 P P 14 23 45.0 -0.6
KSH sP sP 14 23 55.0 +0.3
KSH pmax pmax
comp=Z,19nm,0.8s
NIL Nilore 42.66 82 P P 14 23 49.2 +0.6
NIL IAmb IAmb 14 23 50.5
comp=Z,143nm,1.4s
NIL Nilore 42.66 82 P P 14 23 49.4 +0.8
NIL Nilore 42.66 82 P P 14 23 49.2 +0.6
NIL pmax pmax
comp=Z,143nm,1.4s
SATY Saty 42.80 67 *e*P P 14 23 50.5 +0.8
SATY *e*S S 14 30 15.9 +3.1
SATY Saty 42.80 67 *e*P P 14 23 50.5 +0.8
SATY *e*S S 14 30 15.9 +3.1
MBAR Mbarara 42.95 164⇓ *e*P P 14 23 52.7 +1.5
MBAR pmax pmax
comp=Z,9.0nm,1.0s
UZB Uzynbulak 43.20 67⇑ *i*P P 14 23 53.4 +0.4
UZB Uzynbulak 43.20 67 *i* P P 14 23 52.6 -0.4
UZB pmax pmax
comp=Z,21nm,2.0s
PDGK Podgornoye 43.47 67 P P 14 23 54.6 -0.5
SHLS Shalkode 43.50 67 *e*P P 14 23 58.5 +3.0
comp=Z,15nm,0.8s
SHLS Shalkode 43.50 67 *e*P P 14 23 58.4 +3.0
SHLS pmax pmax
comp=Z,15nm,0.8s
ZALV Zalesovo Beam 44.15 50 P P 14 24 00.8 +0.5
ZALV Zalesovo Beam 44.15 50 P P 14 24 00.9 +0.6
comp=Z,228nm,0.7s,baz=280,slow=8.6,SNR=470
ZALV PP PP 14 25 41.0 -2.1
comp=Z,27nm,0.8s,baz=289,slow=9.2,SNR=4.3
comp=Z,228nm,0.7s
MK31 Makanchi Array 44.30 61 *c i*P P 14 24 02.1 +0.4
MK31 pmax pmax
comp=Z,142nm,0.7s
MKAR Makanchi Array 44.30 61 P P 14 24 02.4 +0.8
comp=Z,132nm,0.7s,baz=283,slow=6.6,SNR=627
MKAR PcP PP 14 25 44.9 0.0
comp=Z,7.5nm,0.7s,baz=313,slow=3.2,SNR=3.5
comp=Z,132nm,0.7s
SFJD Kangerlussuaq 45.16 329 *i* P P 14 24 06.7 -1.4
SFJD IAmb IAmb 14 24 09.2
comp=Z,31nm,0.6s
SAATT Saattut 45.49 334 *i* P P 14 24 10.2 -0.5
SAATT IAmb IAmb 14 24 11.3
comp=Z,88nm,0.9s
SAQQ Saqqaq 45.59 333 *i* P P 14 24 11.3 -0.3
SAQQ IAmb IAmb 14 24 12.1
comp=Z,50nm,1.0s
ZSN Zaisan 45.79 59 *e*P P 14 24 14.8 +1.3
comp=Z,32nm,1.0s
ZSN Zaisan 45.79 59 *e*P P 14 24 14.7 +1.3
ZSN pmax pmax
comp=Z,32nm,1.0s
NEEM North Greenlan 45.85 343 *i* P P 14 24 14.3 +0.4
NEEM IAmb IAmb 14 24 14.4
comp=Z,45nm,1.0s
NIAQ Niaqornat 46.16 334 *i* P P 14 24 16.3 +0.3
NIAQ IAmb IAmb 14 24 18.4
comp=Z,179nm,1.3s
WMQ Urumqi 48.89 63 ⇑P P 14 24 38.9 +1.2
WMQ sP sP 14 24 52.4 +5.3
WMQ pmax pmax
comp=Z,64nm,1.1s
WMQ LR LR
comp=Z,4µm,14.3s
WMQ LR LR
comp=Z,7µm,15.7s
WMQ LR LR
comp=Z,4µm,14.7s
MOY Mondy 54.18 49 *e*P P 14 25 18.7 +1.5
MOY pmax pmax
comp=Z,52nm,1.6s
HYB Hyderabad 55.47 97 *e*P P 14 25 28.1 +1.2
SCHQ Schefferville 55.69 316 P P 14 25 26.9 -1.1
SCHQ Schefferville 55.69 316 P P 14 25 27.4 -0.6
comp=Z,267nm,0.8s,baz=77,slow=7.3,SNR=14
IRK Irkutsk 55.80 48 *e*P P 14 25 27.8 -1.0
IRK pmax pmax
comp=Z,89nm,1.6s
ZAK Zakamensk 56.03 50 *e*P P 14 25 31.2 +0.6
ZAK pmax pmax
comp=Z,43nm,1.9s
TIXI Tiksi 56.94 21⇑ *e*P P 14 25 36.2 -0.4
TIXI pmax pmax
comp=Z,30nm,1.7s
GOMU GeErMu 57.14 69 P P 14 25 38.6 -0.4
GOMU pmax pmax
comp=Z,14nm,1.0s
LSA Lhasa 57.86 77 *i* P P 14 25 44.2 -0.1
SNR=24
ICQ Pointe Anglais 58.29 310 IAmb IAmb 14 25 47.9
comp=Z,41nm,1.0s
BOD Bodaibo 58.33 39 *e*P P 14 25 45.7 -0.8
BOD pmax pmax
comp=Z,43nm,1.5s
HAL Halifax 58.38 304 P P 14 25 47.5 +0.4
HAL Halifax 58.38 304 P P 14 25 47.5 +0.4
HAL pmax pmax
comp=Z,65nm,0.9s
LMN Caledonia Moun 58.55 305 P P 14 25 48.3 0.0
LMN IAmb IAmb 14 25 56.6
comp=Z,34nm,0.8s
GTA Gaotai 58.97 63 P P 14 25 51.8 +0.3
GTA pP pP 14 25 57.6 -0.6
GTA pmax pmax
comp=Z,86nm,0.9s
SONM Songino Array 59.02 52 P P 14 25 52.3 +0.6
SONM Songino Array 59.02 52 P P 14 25 52.6 +0.9
comp=Z,62nm,0.8s,baz=292,slow=8.8,SNR=226
comp=Z,62nm,0.8s
SONM Songino Array 59.02 52 P P 14 25 52.3 +0.6
SONM pmax pmax
comp=Z,80nm,0.9s
ULN Ulaanbaatar 59.39 51 P P 14 25 56.0 +1.7
ULN Ulaanbaatar 59.39 51 *de*P P 14 25 54.5 +0.2
ULN pmax pmax
comp=Z,57nm,1.0s
D62A Allapoint, All 60.51 308 IAmb IAmb 14 26 03.7
comp=Z,44nm,1.0s
F64A Sherman 60.70 307 IAmb IAmb 14 26 04.9
comp=Z,34nm,1.1s
EMMW East Machias 60.75 305 IAmb IAmb 14 26 12.6
comp=Z,26nm,0.8s
CIT Chita 60.96 45 *e*P P 14 26 05.4 +0.6
CIT *e* 14 26 12.4
CIT *e* 14 26 44.6
CIT *e* 14 28 17.4
E62A Clayton Lake 61.02 308 IAmb IAmb 14 26 07.0
comp=Z,47nm,1.2s
LMQ La Malbaie 61.02 309 IAmb IAmb 14 26 14.5
comp=Z,22nm,0.9s
LDAQ Lac Daran 61.34 310 P P 14 26 08.2 +0.7
LDAQ IAmb IAmb 14 26 09.2
comp=Z,22nm,0.9s
PKME Peaks-Kenny Pk 61.58 307 P P 14 26 09.7 +0.6
PKME IAmb IAmb 14 26 11.1
comp=Z,27nm,1.0s
YAK Yakutsk 62.71 30 *e*P P 14 26 14.0 -2.3
YAK *e**PP pP 14 26 23.7 +0.7
YAK *e* 14 26 52.5
YAK *e*S S 14 34 41.3 -2.1
YAK *e**SS sS 14 34 58.6 +4.1
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.5s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK smax smax
comp=N,417nm,8.7s
YAK smax smax
comp=E,257nm,6.9s
YAK MLR MLR
comp=Z,1µm,20.0s
YAK MLR MLR
comp=E,2µm,20.0s
YAK MLR MLR
comp=N,1µm,26.0s
LZDM Lanzhou Array 63.40 64 P P 14 26 22.7 +0.9
comp=N,30nm,0.7s,baz=291,slow=4.6,SNR=14
comp=N,30nm,0.7s
LZH Lanzhou 63.43 64 *e*P P 14 26 22.8 +1.0
LZH sP sP 14 26 30.3 -0.7
LZH pmax pmax
comp=N,130nm,1.0s
LZH LR LR
comp=N,4µm,15.6s
LZH LR LR
comp=N,3µm,16.0s
LZH LR LR
comp=N,6µm,18.2s
PALK Pallekele 63.64 104 P P 14 26 22.1 -1.1
PALK IAmb IAmb 14 26 23.4
comp=Z,33nm,0.9s
PALK Pallekele 63.64 104 P P 14 26 22.2 -1.1
PALK Pallekele 63.64 104 P P 14 26 22.2 -1.1
PALK pmax pmax
comp=Z,33nm,0.9s
A36M Sachs Harbour 64.29 349 P P 14 26 25.5 -1.2
baz=29
M65A Busby, Falmout 64.39 304 P P 14 26 27.2 -0.6
baz=56
LPHEP Lephephe 64.63 174 P P 14 26 31.3 +1.7
LPHEP IAmb IAmb 14 26 39.2
comp=Z,29nm,1.0s
BTO Baotou 65.00 57⇓ *i*P P 14 26 32.3 +0.3
BTO pP pP 14 26 36.9 -1.8
BTO sP sP 14 26 39.1 -2.2
BTO PP PP 14 28 56.8 +2.2
BTO S S 14 35 15.8 +2.9
BTO sS sS 14 35 25.0 +0.8
BTO pmax pmax
comp=Z,150nm,1.0s
BTO pmax pmax
comp=Z,930nm,5.9s
HIA Hailar 65.76 45 P P 14 26 38.1 +1.4
HIA Hailar 65.76 45 P P 14 26 37.9 +1.2
HIA pmax pmax
comp=Z,34nm,1.4s
HHC Hu-ho-hao-te 65.83 56 *e*P P 14 26 37.8 +0.4
HHC sP pP 14 26 44.8 +0.7
HHC pmax pmax
comp=Z,31nm,0.6s
HHC pmax pmax
comp=Z,170nm,5.7s
TNCH TengChong 65.89 77 ⇑P P 14 26 38.1 0.0
TNCH pP pP 14 26 42.3 -2.5
TNCH sP sP 14 26 44.4 -2.9
TNCH S S 14 35 19.3 -5.1
TNCH pmax pmax
comp=Z,54nm,1.0s
TNCH pmax pmax
comp=Z,290nm,5.3s
TNCH LR LR
comp=Z,830nm,10.2s
TNCH LR LR
comp=Z,650nm,16.8s
TNCH LR LR
comp=Z,1µm,15.5s
FCC Fort Churchill 66.18 329 P P 14 26 38.6 -0.5
FCC Fort Churchill 66.18 329 P P 14 26 38.6 -0.5
FCC pmax pmax
comp=Z,67nm,0.8s
CD2 Chengdu 66.27 69 P P 14 26 40.6 +0.4
CD2 pmax pmax
comp=Z,100nm,1.0s
C36M Paulatuk 66.43 347 P P 14 26 40.1 -0.4
baz=29
L59A Walton 66.75 306 IAmb IAmb 14 26 53.4
comp=Z,26nm,0.8s
ZEA Zeya 66.81 38 *e*P P 14 26 43.2 0.0
XLT XiLinHaoTe 66.83 51 *e*P P 14 26 44.4 +0.7
XLT pmax pmax
comp=Z,33nm,1.1s
PECO Prince Edward 66.90 309 IAmb IAmb 14 26 46.3
comp=Z,26nm,0.9s
DELO Deloro Mine 66.93 310 IAmb IAmb 14 26 46.5
comp=Z,20nm,0.9s
K57A Scipio Center 67.32 307 IAmb IAmb 14 26 58.3
comp=Z,22nm,0.9s
PZH PanZhiHua 67.38 74 P P 14 26 47.4 -0.1
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,120nm,5.1s
A21K Barrow 67.61 359 P P 14 26 48.1 +0.1
baz=3.1
SADO Sadowa 67.66 310 IAmb IAmb 14 26 51.0
comp=Z,27nm,0.8s
J55A Hilton 67.78 309 IAmb IAmb 14 26 51.9
comp=Z,34nm,0.9s
A22K Sinclair Lake 67.90 358 P P 14 26 50.3 +0.5
baz=4.5
XAN Xi'an 68.02 64 ⇑P P 14 26 52.0 +0.7
XAN sP sP 14 26 59.3 -1.3
XAN pmax pmax
comp=Z,130nm,1.0s
XAN LR LR
comp=Z,3µm,16.5s
XAN LR LR
comp=Z,3µm,15.8s
XAN LR LR
comp=Z,2µm,15.1s
BILL Bilibino 68.09 13⇑ *e*P P 14 26 50.5 -0.6
BILL pmax pmax
comp=Z,15nm,1.0s
MMNY Mt. Morris Dam 68.15 308 IAmb IAmb 14 26 54.2
comp=Z,33nm,0.9s
L56A Greenwood 68.30 307 IAmb IAmb 14 27 03.7
comp=Z,30nm,0.8s
C26K Camden Bay 68.48 354 P P 14 26 54.4 +0.9
baz=12
D28M Stokes Point 68.49 352 P P 14 26 54.0 +0.4
baz=17
B22K Teshekpuk Lake 68.52 357 P P 14 26 54.3 +0.6
baz=5.7
N58A Sunbury 68.56 306 IAmb IAmb 14 27 04.0
comp=Z,19nm,0.8s
C27K Jago River 68.67 354 P P 14 26 55.2 +0.5
baz=13,SNR=20
D27M Malcolm River 68.80 353 IAmb IAmb 14 26 57.6
comp=Z,26nm,0.9s
D27M Malcolm River 68.80 353 P P 14 26 56.5 +0.9
baz=16,SNR=9.4
INK Inuvik 68.83 350 P P 14 26 54.8 -0.9
INK Inuvik 68.83 350 P P 14 26 54.8 -0.9
INK pmax pmax
comp=Z,16nm,1.1s
INK Inuvik 68.83 350 P P 14 26 56.3 +0.6
baz=21
C23K Itkillik River 68.91 356 P P 14 26 56.5 +0.3
baz=7.9,SNR=9.2
KMI Kunming 68.92 75 P P 14 26 57.1 -0.2
KMI sP pP 14 27 03.4 -0.6
KMI pmax pmax
comp=Z,28nm,1.2s
C24K Franklin Bluff 68.92 356 IAmb IAmb 14 26 59.4
comp=Z,28nm,1.1s
C24K Franklin Bluff 68.92 356 P P 14 26 56.0 -0.3
baz=9.4
B20K Meade River 68.94 359 P P 14 26 56.7 +0.3
baz=2.7
RCBR Riachuelo 69.04 241 *e*P P 14 26 56.9 -0.9
HEH HeiHe 69.09 41 *e*P P 14 26 58.3 +0.7
HEH pmax pmax
comp=Z,41nm,1.0s
HEH LR LR
comp=Z,2µm,15.8s
HEH LR LR
comp=Z,2µm,15.7s
HEH LR LR
comp=Z,4µm,16.1s
BJI Beijing 69.17 55 P P 14 26 58.8 +0.5
BJI pP pP 14 27 03.3 -1.7
BJI sP sP 14 27 05.9 -1.8
BJI S S 14 36 00.9 -1.9
BJI pmax pmax
comp=Z,12nm,1.3s
BJI LR LR
comp=Z,2µm,18.8s
BJI LR LR
comp=Z,2µm,20.6s
BJI LR LR
comp=Z,4µm,20.2s
D25K Kavik River 69.17 355 IAmb IAmb 14 26 59.8
comp=Z,33nm,1.1s
D25K Kavik River 69.17 355 P P 14 26 58.7 +0.8
baz=11,SNR=8.9
BJT Baijiatuao 69.17 55 P P 14 26 59.4 +1.0
BJT IAmb IAmb 14 27 00.1
comp=Z,48nm,1.4s
BJT Baijiatuao 69.17 55 P P 14 26 59.1 +0.8
BJT Baijiatuao 69.17 55 P P 14 26 59.4 +1.0
BJT pmax pmax
comp=Z,48nm,1.4s
B21K Ikpikpuk River 69.28 358 IAmb IAmb 14 27 00.7
comp=Z,32nm,1.1s
B21K Ikpikpuk River 69.28 358 P P 14 26 58.8 +0.3
baz=4.7
E28M Babbage River 69.28 352 IAmb IAmb 14 27 00.5
comp=Z,30nm,1.1s
E28M Babbage River 69.28 352 P P 14 26 59.3 +0.8
baz=17,SNR=13
E29M Blow River 69.30 351 P P 14 26 58.8 +0.1
baz=18,SNR=38
SSPA Standing Stone 69.39 306 P P 14 27 01.0 +1.3
SSPA IAmb IAmb 14 27 02.1
comp=Z,38nm,1.1s
SEY Seymchan 69.44 21⇑ *e*P P 14 27 00.0 +0.5
SEY pmax pmax
comp=Z,38nm,2.5s
D24K Happy Valley 69.49 356 IAmb IAmb 14 27 02.0
comp=Z,38nm,1.1s
D24K Happy Valley 69.49 356 P P 14 26 60.0 +0.2
baz=9.3
B18K Kokolik River 69.61 1 P P 14 27 01.2 +0.7
baz=359,SNR=5.3
F31M Tsiigehtchic 69.67 349 P P 14 27 01.3 +0.4
baz=21,SNR=25
C21K Knifeblade Rid 69.75 358 P P 14 27 02.3 +1.0
baz=4.5,SNR=8.5
D23K Nanushuk River 69.78 356 P P 14 27 03.0 +1.4
baz=7.8,SNR=12
F30M Barrier River 69.79 350 IAmb IAmb 14 27 16.9
comp=Z,25nm,1.1s
F30M Barrier River 69.79 350 P P 14 27 01.8 +0.1
baz=20
BOSA Boshof 69.80 175 IAmb IAmb 14 27 12.1
comp=Z,18nm,0.9s
BOSA Boshof 69.80 175 P P 14 27 03.5 +1.3
comp=Z,5.8nm,0.7s,baz=340,slow=4.2,SNR=8.4
comp=Z,5.8nm,0.7s
HNS HongShan 69.83 58 ⇑P P 14 27 02.9 +0.5
HNS pmax pmax
comp=Z,32nm,1.1s
C19K Lookout Ridge 69.87 360 P P 14 27 02.0 -0.2
baz=0.7
E27K Coleen River 69.89 353 IAmb IAmb 14 27 04.3
comp=Z,42nm,1.1s
E27K Coleen River 69.89 353 P P 14 27 03.1 +0.8
baz=15,SNR=22
CHTO Chiang Mai 69.93 82 P P 14 27 01.6 -1.7
CHTO IAmb IAmb 14 27 10.6
comp=Z,39nm,1.0s
CHTO Chiang Mai 69.93 82 P P 14 27 02.9 -0.5
CHTO Chiang Mai 69.93 82 P P 14 27 02.2 -1.1
D22K Ayikyak River 69.95 357 IAmb IAmb 14 27 05.0
comp=Z,30nm,1.1s

D22K Ayikyak River 69.95 357 P P 14 27 03.8 +1.2
baz=6.2,SNR=7.1
TOLK Toolik Lake Re 70.04 356 IAmb IAmb 14 27 27.9
comp=Z,21nm,0.9s
TOLK Toolik Lake Re 70.04 356 P P **14 27 04.3 +1.0**
baz=8.7,SNR=6.3
LYN LuoYang 70.08 61 P P **14 27 04.8 +0.8**
LYN pmax pmax
comp=Z,56nm,1.0s
LYN LR LR
comp=Z,4µm,21.6s
LYN LR LR
comp=Z,2µm,19.6s
LYN LR LR
comp=Z,4µm,17.0s
YKAW3 Yellowknife Wh 70.13 339 IAmb IAmb 14 27 05.3
comp=Z,67nm,0.9s
CM31 Chiang Mai Arr 70.15 83 IAmb IAmb 14 27 14.2
comp=Z,26nm,1.1s
CM31 Chiang Mai Arr 70.15 83 P P **14 27 04.0 -0.7**
SNR=10
CMAR Chiang Mai Arr 70.15 83 P P **14 27 04.2 -0.4**
CMAR Chiang Mai Arr 70.15 83 P P **14 27 03.9 -0.8**
comp=Z,8.7nm,0.7s,baz=304,slow=7.7,SNR=82
comp=Z,8.7nm,0.7s
CMAR Chiang Mai Arr 70.15 83 P P **14 27 04.3 -0.4**
YKAW1 Yellowknife Wh 70.17 339 IAmb IAmb 14 27 05.5
comp=Z,43nm,1.0s
YKA Yellowknife Ar 70.19 339 P P **14 27 03.4 -0.8**
YKA Yellowknife Ar 70.19 339 P P **14 27 04.4 +0.2**
comp=Z,30nm,0.9s,baz=36,slow=6.5,SNR=46
comp=Z,30nm,0.9s
D20K Etivluk River 70.23 359 IAmb IAmb 14 27 06.5
comp=Z,40nm,1.1s
D20K Etivluk River 70.23 359 P P **14 27 04.8 +0.4**
baz=3.1
G31M Satah River 70.23 349 IAmb IAmb 14 27 05.2
comp=Z,24nm,0.8s
G31M Satah River 70.23 349 P P **14 27 04.3 0.0**
baz=21,SNR=7.4
F28M Old Crow 70.27 352 IAmb IAmb 14 27 06.0
comp=Z,21nm,0.8s
F28M Old Crow 70.27 352 P P **14 27 04.9 +0.3**
baz=16,SNR=15
E25K Arctic Village 70.30 354 IAmb IAmb 14 27 07.0
comp=Z,28nm,1.2s
E25K Arctic Village 70.30 354 P P **14 27 05.8 +1.0**
baz=12,SNR=8.4
C18K Utukok River 70.33 0 IAmb IAmb 14 27 07.2
comp=Z,40nm,1.0s
C18K Utukok River 70.33 0 P P **14 27 06.1 +1.0**
baz=359,SNR=8.6
E21K Killik River 70.44 357 P P **14 27 06.3 +0.6**
baz=5.2,SNR=8.6
G30M tAoh Zrail Nji 70.44 350 IAmb IAmb 14 27 12.9
comp=Z,21nm,1.0s
G30M tAoh Zrail Nji 70.44 350 P P **14 27 05.5 -0.3**
baz=19
D19K Kuna River 70.48 359 P P **14 27 06.5 +0.6**
baz=1.9
C17K DeLong Mountai 70.49 1 P P **14 27 06.5 +0.5**
baz=358,SNR=9.1
PAMR Moraine State 70.54 308 IAmb IAmb 14 27 16.3
comp=Z,33nm,0.8s
E24K Your Creek 70.54 355 P P **14 27 06.9 +0.5**
baz=9.5,SNR=8.6
F26K Sheenjek River 70.60 354 IAmb IAmb 14 27 09.0
comp=Z,30nm,1.0s
F26K Sheenjek River 70.60 354 P P **14 27 08.0 +1.3**
baz=13,SNR=18
E23K Chandalar 70.62 356 P P **14 27 07.5 +0.6**
baz=8.6,SNR=12
ENH Enshi 70.64 66 P P **14 27 07.4 -0.1**
C16K Lisburne Hills 70.65 2 P P **14 27 07.7 +0.8**
baz=356
E22K Anaktuvuk Pass 70.66 357 IAmb IAmb 14 27 08.8
comp=Z,28nm,1.0s
E22K Anaktuvuk Pass 70.66 357 P P **14 27 07.7 +0.7**
baz=6.9,SNR=12
E20K Nigu River 70.68 358 P P **14 27 07.9 +0.6**
baz=3.4
G29M Pine Creek 70.73 351 P P **14 27 07.8 +0.3**
baz=18,SNR=29
F25K Christian Rive 70.82 354 P P **14 27 08.9 +0.8**
baz=12,SNR=8.9
BMAR Burnt Mountain 70.89 354 P P **14 27 09.0 +0.5**
RDOG Red Dog Mine 70.92 1 IAmb IAmb 14 27 10.3
comp=Z,22nm,1.0s
RDOG Red Dog Mine 70.92 1 P P **14 27 09.1 +0.5**
baz=358
GYA Guiyang 70.95 71 ⇓P P **14 27 09.6 0.0**
GYA pmax pmax
comp=Z,23nm,1.1s
R58B Mineral 71.01 304 IAmb IAmb 14 27 19.4
comp=Z,21nm,0.8s
F24K Squaw Lake 71.06 355 IAmb IAmb 14 27 12.1
comp=Z,40nm,1.1s
F24K Squaw Lake 71.06 355 P P **14 27 10.9 +1.5**
baz=10.0,SNR=22
EPYK Eagle Plains 71.08 350 IAmb IAmb 14 27 10.7
comp=Z,21nm,0.8s
EPYK Eagle Plains 71.08 350 P P **14 27 09.7 +0.1**
baz=19,SNR=11
O54A Avella 71.17 307 IAmb IAmb 14 27 20.5
comp=Z,26nm,0.7s
G27K Doyon Strip 71.23 352 IAmb IAmb 14 27 12.6
comp=Z,28nm,1.0s
G27K Doyon Strip 71.23 352 P P **14 27 11.1 +0.5**
baz=15,SNR=19
D17K Noatak River 71.27 1 P P **14 27 11.3 +0.7**
baz=358,SNR=17
G26K Porcupine Rive 71.30 353 P P **14 27 12.3 +1.5**
baz=13,SNR=27
H31M Peel River 71.30 349 IAmb IAmb 14 27 37.7
comp=Z,20nm,1.0s
H31M Peel River 71.30 349 P P **14 27 11.3 +0.4**
baz=20,SNR=8.1
F22K John River 71.30 357 P P **14 27 12.2 +1.3**
baz=6.6,SNR=11
T59A Double "B" Far 71.42 303 IAmb IAmb 14 27 21.4
comp=Z,19nm,0.9s
H29M Whitestone 71.44 351 P P **14 27 12.1 +0.4**
baz=17,SNR=17
COLD Coldfoot 71.48 356 P P **14 27 12.9 +0.9**
baz=8.1,SNR=27
E19K Redstone River 71.50 359 P P **14 27 12.7 +0.6**
baz=2.6,SNR=25
E18K Tukpahlearik C 71.57 0 IAmb IAmb 14 27 14.4
comp=Z,32nm,0.9s
E18K Tukpahlearik C 71.57 0 P P **14 27 13.1 +0.6**
baz=360,SNR=14
F21K Alatna River 71.64 357 IAmb IAmb 14 27 15.3
comp=Z,46nm,1.0s
F21K Alatna River 71.64 357 P P **14 27 14.2 +1.2**
baz=5.5,SNR=22
G25K Bearman Lake 71.67 354 P P **14 27 14.7 +1.6**
baz=11,SNR=14
MA2 Magadan 71.68 24 P P **14 27 13.1 -0.2**
MA2 IAmb IAmb 14 27 15.1
comp=Z,27nm,0.9s
MA2 Magadan 71.68 24 P P **14 27 14.0 +0.7**
MA2 Magadan 71.68 24 *ce*P P **14 27 13.8 +0.5**
MA2 pmax pmax
comp=Z,14nm,0.8s
WRGLY Wrigley 71.70 343 P P **14 27 14.1 +0.8**
baz=28,SNR=12
H27K Steamboat Moun 71.78 352 IAmb IAmb 14 27 16.2
comp=Z,36nm,0.9s
H27K Steamboat Moun 71.78 352 P P **14 27 15.0 +1.1**
baz=15,SNR=30
G24K Hadweenzic Riv 71.84 355 P P **14 27 15.2 +1.0**
baz=10,SNR=10
G22K Bettles 71.86 356 P P **14 27 14.8 +0.6**
baz=7.1
F20K Avaraart Lake 71.88 358 IAmb IAmb 14 27 16.5
comp=Z,29nm,1.2s
F20K Avaraart Lake 71.88 358 P P **14 27 15.3 +0.9**
baz=3.7,SNR=12
E17K Hotham Inlet 71.90 1 P P **14 27 14.9 +0.4**
baz=359,SNR=8.7
M50A Fremont 71.98 309 IAmb IAmb 14 27 17.2
comp=Z,28nm,0.9s
G23K Bananza Creek 71.99 356 P P **14 27 16.0 +0.9**
baz=8.2,SNR=16
BNX BinXian 72.02 45 ⇓P P **14 27 16.1 +0.5**
BNX pmax pmax
comp=Z,33nm,1.0s
SLVN Son La 72.06 77 P P **14 27 16.5 +0.2**

TIA Tai'an 72.09 57 P P **14 27 16.1 -0.1**
TIA pmax pmax
comp=Z,35nm,1.3s
TIA LR LR
comp=Z,2µm,15.1s
TIA LR LR
comp=Z,2µm,13.6s
TIA LR LR
comp=Z,4µm,16.7s
FFC Flin Flon 72.12 329 P P **14 27 15.4 -0.5**
FFC IAmb IAmb 14 27 17.5
comp=Z,26nm,0.8s
FFC Flin Flon 72.12 329 P P **14 27 15.5 -0.5**
FFC pmax pmax
comp=Z,26nm,0.8s
I30M Mount Dempster 72.13 350 IAmb IAmb 14 27 17.5
comp=Z,43nm,0.9s
I30M Mount Dempster 72.13 350 P P **14 27 16.4 +0.3**
baz=19,SNR=32
H25L Birch Creek 72.14 354 P P **14 27 17.0 +1.1**
baz=12,SNR=24
F19K Shaleruckik Mo 72.14 359 IAmb IAmb 14 27 17.3
comp=Z,35nm,1.0s
F19K Shaleruckik Mo 72.14 359 P P **14 27 16.1 +0.2**
baz=2.1,SNR=24
NBAN Anadia - AL 72.15 239 *e*P P **14 27 17.1 +0.3**
Q54A Coxs Mills 72.20 306 IAmb IAmb 14 27 27.2
comp=Z,28nm,0.9s
R55A Marlinton 72.20 305 IAmb IAmb 14 27 26.9
comp=Z,31nm,0.8s
CN2 Changchun 72.23 47 P P **14 27 16.4 -0.5**
CN2 pmax pmax
comp=Z,40nm,1.0s
I29M Ogilvie Camp, 72.25 350 IAmb IAmb 14 27 17.9
comp=Z,48nm,0.9s
I29M Ogilvie Camp, 72.25 350 P P **14 27 17.1 +0.4**
baz=17,SNR=16
EYMN Ely 72.26 319 IAmb IAmb 14 27 18.7
comp=Z,26nm,0.8s
G21K Allakaket 72.35 357 IAmb IAmb 14 27 19.3
comp=Z,38nm,1.0s
G21K Allakaket 72.35 357 P P **14 27 17.9 +0.7**
baz=5.5
I28M Miner Creek 72.36 351 IAmb IAmb 14 27 18.9
comp=Z,25nm,0.9s
I28M Miner Creek 72.36 351 P P **14 27 17.5 +0.1**
baz=16,SNR=18
F18K Selawik 72.39 360 P P **14 27 18.1 +0.7**
baz=0.6,SNR=14
I27K Kandik River 72.40 352 P P **14 27 18.6 +1.1**
baz=15,SNR=18
SNY Shenyang 72.45 50 ⇓P P **14 27 18.5 +0.3**
SNY S S **14 36 42.6 +1.6**
SNY pmax pmax
comp=Z,19nm,1.4s
SNY pmax pmax
comp=Z,340nm,3.9s
SNY LR LR
comp=Z,2µm,12.6s
T57A Hurt 72.47 304 IAmb IAmb 14 27 20.7
comp=Z,38nm,1.4s
F17K Baldwin Pennin 72.55 0 P P **14 27 18.7 +0.3**
baz=359
P52A Corning 72.57 308 IAmb IAmb 14 27 28.0
comp=Z,39nm,0.9s
H24K Noodor Dome 72.72 355 IAmb IAmb 14 27 21.5
comp=Z,24nm,1.0s
H24K Noodor Dome 72.72 355 P P **14 27 20.4 +0.9**
baz=9.9,SNR=18
J30M Hart River 72.74 349 P P **14 27 20.7 +1.0**
baz=19,SNR=35
ULM Lac du Bonnet 72.76 323 *c*/P P **14 27 20.2 +0.3**
comp=Z,63nm,0.8s,baz=46,slow=5.6,SNR=73
comp=Z,63nm,0.8s
ULM Lac du Bonnet 72.76 323 *c*/P P **14 27 19.9 0.0**
G19K Purcell Mounta 72.82 359 IAmb IAmb 14 27 22.2
comp=Z,34nm,1.1s
G19K Purcell Mounta 72.82 359 P P **14 27 21.0 +0.9**
baz=2.6,SNR=14
H22K Ishtalitna Cre 72.87 356 P P **14 27 21.4 +1.0**
baz=7.1,SNR=29
IMAR Indian Mountai 72.89 357 P P **14 27 18.8 -1.7**
GRNR Gornyy 72.98 36 ⇓/P P **14 27 21.5 +0.3**
GRNR pmax pmax
comp=Z,20nm,1.0s
G18K Tagagawik 73.09 359 IAmb IAmb 14 27 23.6
comp=Z,40nm,1.0s
G18K Tagagawik 73.09 359 P P **14 27 22.6 +0.9**
baz=1.4,SNR=17
J29N Klondike Camp 73.11 350 IAmb IAmb 14 27 24.0
comp=Z,26nm,1.0s
J29N Klondike Camp 73.11 350 P P **14 27 22.5 +0.7**
baz=17
EGAK Eagle 73.15 352 P P **14 27 22.5 +0.5**
baz=15,SNR=7.1
H21K Melozitna Rive 73.18 357 P P **14 27 23.5 +1.4**
baz=6.0,SNR=10
DL2 Dalian 73.18 53 P P **14 27 25.4 +2.8**
DL2 *e*S **SKiKP 14 36 52.8 -0.4**
DL2 pmax pmax
comp=Z,51nm,1.2s
DL2 pmax pmax
comp=Z,690nm,6.7s
F15K North Star Dit 73.24 2 IAmb IAmb 14 27 24.3
comp=Z,25nm,0.9s
F15K North Star Dit 73.24 2 P P **14 27 23.1 +0.6**
baz=357,SNR=6.5
TNA Tin City 73.27 3 P P **14 27 22.2 -0.4**
baz=354
POKR Poker Plat Res 73.40 354 P P **14 27 24.4 +0.9**
baz=10,SNR=10
G40A Rib Lake 73.41 316 IAmb IAmb 14 27 34.0
comp=Z,29nm,0.8s
H20K Anotlenenega Mo 73.42 358 P P **14 27 24.7 +1.1**
baz=4.4,SNR=19
F14K Arctic Creek 73.42 3 P P **14 27 24.3 +0.8**
baz=355
H19K Roundabout Mou 73.42 358 IAmb IAmb 14 27 25.8
comp=Z,23nm,0.9s
H19K Roundabout Mou 73.42 358 P P **14 27 24.8 +1.2**
baz=3.1,SNR=14
G17K Kiwalik Mounta 73.50 0 P P **14 27 24.3 +0.3**
baz=360,SNR=7.2
U56A King 73.58 304 IAmb IAmb 14 27 34.9
comp=Z,22nm,0.8s
G16K Koyuk River 73.59 1 IAmb IAmb 14 27 26.6
comp=Z,29nm,1.0s
G16K Koyuk River 73.59 1 P P **14 27 25.1 +0.5**
baz=358,SNR=7.6
K29M Barlow Dome 73.60 350 P P **14 27 25.8 +1.0**
baz=18,SNR=12
MAYO Mayo, Yukon 73.61 349 P P **14 27 26.1 +1.3**
baz=19,SNR=9.3
I21K Tanana 73.61 356 IAmb IAmb 14 27 27.2
comp=Z,30nm,1.0s
I21K Tanana 73.61 356 P P **14 27 25.9 +1.2**
baz=6.6,SNR=6.2
DAWY Dawson 73.63 351 P P **14 27 25.9 +1.0**
baz=16,SNR=41
COLA College 73.67 354 P P **14 27 26.2 +1.2**
COLA College 73.67 354 *ce*P P **14 27 25.4 +0.4**
COLA pmax pmax
comp=Z,23nm,0.9s
COLA College 73.67 354 P P **14 27 25.8 +0.8**
baz=9.8
J26L Joseph Creek 73.67 353 P P **14 27 24.8 -0.4**
J26L IAmb IAmb 14 27 26.9
comp=Z,35nm,0.8s
J26L Joseph Creek 73.67 353 P P **14 27 25.8 +0.6**
baz=13,SNR=39
ILAR Eielson Array 73.70 354 P P **14 27 25.1 -0.2**
ILAR Eielson Array 73.70 354 P P **14 27 25.6 +0.4**
comp=Z,8.5nm,0.8s,baz=2.6,slow=5.4,SNR=76
comp=Z,8.5nm,0.8s
MLY Manley 73.70 356 IAmb IAmb 14 27 27.6
comp=Z,42nm,1.1s
MLY Manley 73.70 356 P P **14 27 26.0 +0.8**
baz=7.6,SNR=22
J25K Salcha River, 73.73 353 P P **14 27 25.9 +0.5**
baz=12,SNR=6.6
WHN Wuhan 73.79 64 P P **14 27 26.5 +0.2**
WHN pmax pmax
comp=Z,110nm,1.1s
H18K Honhosa River 73.83 359 IAmb IAmb 14 27 28.3
comp=Z,31nm,1.1s
H18K Honhosa River 73.83 359 P P **14 27 26.8 +0.8**
baz=1.6,SNR=8.0
N47A Urbana 73.85 310 IAmb IAmb 14 27 27.8
comp=Z,34nm,0.9s
MDJ Mudanjiang 73.92 44 P P **14 27 29.3 +2.4**
O48B Farmland 73.94 310 IAmb IAmb 14 27 36.0
comp=Z,32nm,0.9s
G15K Niukluk 73.97 2 P P **14 27 27.2 +0.4**
baz=357,SNR=8.2
K27K Chicken 73.98 352 IAmb IAmb 14 27 29.3
comp=Z,54nm,1.0s
K27K Chicken 73.98 352 P P **14 27 27.7 +0.8**
baz=14
NEA2 Nenana 74.03 355 P P **14 27 27.2 0.0**
baz=8.9
HDA Harding Lake 74.06 354 P P **14 27 27.7 +0.4**
baz=10,SNR=32
H17K Granite Mounta 74.06 360 P P **14 27 27.7 +0.4**
baz=0.4
I20K Naaghedeneel 74.10 357 P P **14 27 28.6 +1.1**
baz=4.7,SNR=5.0
K43A Burlington 74.12 313 IAmb IAmb 14 27 30.0
comp=Z,44nm,1.0s
GCSA Galena City Sc 74.22 358 P P **14 27 29.0 +0.8**
baz=2.8
SCRK Sand Creek 74.22 353 IAmb IAmb 14 27 30.6
comp=Z,96nm,1.9s
SCRK Sand Creek 74.22 353 P P **14 27 29.5 +1.0**
baz=13,SNR=10
TGTN Hyland Airport 74.23 345 P P **14 27 29.7 +1.2**
baz=25,SNR=8.9
L44A Lake County Fo 74.24 313 IAmb IAmb 14 27 30.4
comp=Z,36nm,0.9s
H16K Elim 74.35 1 P P **14 27 29.6 +0.5**
baz=359,SNR=8.0
ANM Nome 74.36 2 P P **14 27 29.5 +0.4**
baz=356
U54A Nelsons Funny 74.36 305 IAmb IAmb 14 27 39.2
comp=Z,35nm,0.8s
L29M L29M 74.39 350 IAmb IAmb 14 27 31.4
comp=Z,24nm,0.9s
L29M L29M 74.39 350 P P **14 27 29.9 +0.6**
baz=17,SNR=9.2
V55A Taylorsville 74.42 304 IAmb IAmb 14 27 40.5
comp=Z,22nm,0.8s
RIDG Independent Ri 74.54 353 P P **14 27 30.7 +0.5**
baz=12,SNR=10
DOT Dot Lake 74.55 353 IAmb IAmb 14 27 32.5
comp=Z,42nm,0.9s
K24K Donnelly Dome 74.56 353 IAmb IAmb 14 27 31.9
comp=Z,43nm,0.9s
K24K Donnelly Dome 74.56 353 P P **14 27 30.9 +0.6**
baz=11,SNR=12
KOTAN Kotaneelee Air 74.58 342 P P **14 27 30.9 +0.5**
baz=28
P48A Milroy 74.62 309 IAmb IAmb 14 27 39.2
comp=Z,21nm,0.8s
BPAW Bear Paw Mtn. 74.64 356 IAmb IAmb 14 27 31.9
comp=Z,26nm,0.9s
BPAW Bear Paw Mtn. 74.64 356 P P **14 27 30.6 -0.1**
baz=7.4,SNR=11
M31M Drury Creek, Y 74.70 348 P P **14 27 32.1 +1.0**
baz=20,SNR=10
M30M Minto, Yukon 74.71 349 P P **14 27 31.7 +0.5**
baz=18
J20K Nowinta River 74.71 357 P P **14 27 32.0 +0.8**
baz=4.9,SNR=12
BIRD Birdtown, Kers 74.71 303 IAmb IAmb 14 27 42.7
comp=Z,35nm,1.3s
SPMN Marine on St. 74.78 317 IAmb IAmb 14 27 33.6
comp=Z,26nm,1.0s
GAMB Gambell 74.84 5 P P **14 27 31.1 -0.8**
baz=351
M44A Midewin, Midew 74.84 312 IAmb IAmb 14 27 33.9
comp=Z,48nm,1.4s
MCK McKinley 74.88 355 P P **14 27 32.8 +0.7**
baz=8.9,SNR=22
BCAR Beaver Creek A 74.88 351 P P **14 27 31.2 -1.0**
CHUM Lake Minchumin 74.93 356 P P **14 27 33.6 +1.2**
baz=6.3,SNR=12
J19K Poorman 74.94 358 IAmb IAmb 14 27 34.8
comp=Z,38nm,1.1s
J19K Poorman 74.94 358 P P **14 27 33.3 +0.8**
baz=3.8,SNR=18
SFIN Lafayette 74.98 311 IAmb IAmb 14 27 42.7
comp=Z,26nm,0.8s
GCPR Guaynabo City 74.99 281 IAmb IAmb 14 27 43.1
comp=Z,29nm,0.8s
TMAB Tom-Au,PA,Br 75.03 253 *e*P P **14 27 34.2 +0.4**
M29M Somme Creek 75.07 350 P P **14 27 34.1 +0.7**
baz=17,SNR=31
L26K Log Cabin Wild 75.09 352 IAmb IAmb 14 27 35.8
comp=Z,31nm,0.9s
L26K Log Cabin Wild 75.09 352 P P **14 27 34.3 +0.9**
baz=13,SNR=19
I17K Unalakleet 75.12 0 P P **14 27 34.1 +0.7**
baz=360
KTH Kantishna Hill 75.18 356 IAmb IAmb 14 27 35.6
comp=Z,31nm,1.2s
R49A Shelbyville 75.24 308 IAmb IAmb 14 27 36.2
comp=Z,44nm,1.4s
TRF Thorofare Moun 75.25 355 IAmb IAmb 14 27 35.7
comp=Z,32nm,1.1s
TRF Thorofare Moun 75.25 355 P P **14 27 35.1 +0.6**
baz=7.9,SNR=10
L42A Oliver, Polo 75.33 313 IAmb IAmb 14 27 43.8
comp=Z,27nm,0.8s
PAX Paxson 75.35 353 P P **14 27 35.7 +0.7**
baz=12,SNR=9.3
TZTN Tazewell 75.41 306 IAmb IAmb 14 27 37.7
comp=Z,31nm,1.2s
DHY Denali Highway 75.41 354 P P **14 27 36.1 +0.7**
baz=10,SNR=24
BLO Bloomington 75.45 310 IAmb IAmb 14 27 45.8
comp=Z,42nm,0.9s
PAULI Pauline 75.45 304 IAmb IAmb 14 27 45.2
comp=Z,29nm,0.9s
USRK Ussuriysk Ar. 75.46 43 P P **14 27 36.1 +0.3**
comp=Z,14nm,0.9s,baz=303,slow=4.9,SNR=20
comp=Z,14nm,0.9s
N32M Quiet Lake 75.47 347 P P **14 27 36.7 +1.0**
baz=21
J18K Innoko River 75.50 358 P P **14 27 36.8 +1.0**
baz=2.9
K20K Telida 75.53 357 IAmb IAmb 14 27 38.4
comp=Z,30nm,1.0s
K20K Telida 75.53 357 P P **14 27 36.7 +0.8**
baz=5.0
OBIP Obispado Ponce 75.54 281 IAmb IAmb 14 27 46.8
comp=Z,39nm,0.9s
P46A Rosedale 75.55 310 IAmb IAmb 14 27 45.9
comp=Z,29nm,0.9s
M27K Edge Creek, AK 75.58 351 IAmb IAmb 14 27 39.1
comp=Z,65nm,1.4s
M27K Edge Creek, AK 75.58 351 P P **14 27 37.8 +1.5**
baz=14,SNR=8.6
N31M Braeburn, Yuko 75.60 348 IAmb IAmb 14 27 38.1
comp=Z,52nm,1.1s
N31M Braeburn, Yuko 75.60 348 P P **14 27 37.4 +1.0**
baz=19,SNR=7.7
J17K VABM Dome 75.60 359 IAmb IAmb 14 27 38.5
comp=Z,47nm,1.1s
J17K VABM Dome 75.60 359 P P **14 27 37.5 +1.2**
baz=1.1,SNR=12
M26K Nabesna, AK 75.66 352 IAmb IAmb 14 27 39.0
comp=Z,41nm,1.1s
M26K Nabesna, AK 75.66 352 P P **14 27 37.3 +0.6**
baz=14,SNR=12
LIRD Liard River Hi 75.69 343 P P **14 27 37.8 +1.0**
baz=26,SNR=12
J16K Anvik River 75.72 0 IAmb IAmb 14 27 38.9
comp=Z,34nm,0.9s
J16K Anvik River 75.72 0 P P **14 27 37.7 +0.7**
baz=360,SNR=6.3
WAT1 Susitna Watana 75.75 354 P P **14 27 37.1 0.0**
baz=9.2
N30M Aishikik Lake 75.82 349 P P **14 27 38.6 +1.0**
baz=18,SNR=6.5
NJ2 Nanjing 75.82 60 *e*P P **14 27 37.8 -0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
T50A Nancy 75.88 307 IAmb IAmb 14 27 47.4
comp=Z,20nm,0.9s
PPLA Purkeypile 75.90 356 IAmb IAmb 14 27 39.7
comp=Z,27nm,0.8s
PPLA Purkeypile 75.90 356 P P **14 27 38.7 +0.5**
baz=6.4,SNR=9.8
WAT6 Susitna Watana 75.93 354 P P **14 27 38.2 -0.2**
baz=9.8,SNR=6.2
WCI Wyandotte Cave 75.94 309 P P **14 27 38.3 -0.4**
WCI IAmb IAmb 14 27 48.0

	comp=Z,35nm,0.8s						
WCI	**Wyandotte Cave**	**75.94**	**309**	P	**P**	**14 27 38.3**	**-0.4**
WCI				pmax	pmax		
	comp=Z,35nm,0.8s						
TOAD	**Toad River Com**	**75.99**	**342**	P	**P**	**14 27 39.2**	**+0.6**
	baz=26,SNR=15						
F33A	**5 Mile Ranch,**	**76.09**	**320**	IAmb	IAmb	14 27 40.9	
	comp=Z,23nm,1.0s						
HDIL	**Hopedale**	**76.10**	**312**	IAmb	IAmb	14 27 41.1	
	comp=Z,44nm,1.1s						
L40A	**Anamosa**	**76.13**	**314**	IAmb	IAmb	14 27 41.0	
	comp=Z,34nm,1.0s						
YUK4	**Talbot Arm**	**76.15**	**349**	P	**P**	**14 27 39.5**	**-0.2**
	baz=17						
VLA	**Vladivostok**	**76.16**	**44***c*	*i*P	**P**	**14 27 40.2**	**+0.4**
VLA				pmax	pmax		
	comp=Z,26nm,1.0s						
J14K	**Nanvaranak Lak**	**76.23**	**2**	P	**P**	**14 27 39.7**	**-0.1**
	baz=358						
WHY	**Whitehorse**	**76.23**	**347**	IAmb	IAmb	14 27 41.1	
	comp=Z,41nm,1.1s						
WHY	**Whitehorse**	**76.23**	**347**	P	**P**	**14 27 40.4**	**+0.3**
	baz=20,SNR=7.6						
M24K	**Tolsona, Glenn**	**76.27**	**353**	IAmb	IAmb	14 27 42.2	
	comp=Z,58nm,1.1s						
M24K	**Tolsona, Glenn**	**76.27**	**353**	P	**P**	**14 27 40.7**	**+0.5**
	baz=11						
K17K	**Iditarod**	**76.28**	**359**	IAmb	IAmb	14 27 42.2	
	comp=Z,40nm,1.1s						
K17K	**Iditarod**	**76.28**	**359**	P	**P**	**14 27 41.1**	**+0.9**
	baz=1.7,SNR=9.3						
CUT	**Chulitna**	**76.28**	**355**	P	**P**	**14 27 40.2**	**0.0**
	baz=7.9						
P33M	**Teslin, Yukon**	**76.30**	**346**	IAmb	IAmb	14 27 42.5	
	comp=Z,31nm,1.1s						
P33M	**Teslin, Yukon**	**76.30**	**346**	P	**P**	**14 27 40.8**	**+0.3**
	baz=21,SNR=10						
O30N	**Mendenhall**	**76.32**	**348**	IAmb	IAmb	14 27 42.2	
	comp=Z,43nm,1.4s						
O30N	**Mendenhall**	**76.32**	**348**	P	**P**	**14 27 40.9**	**+0.4**
	baz=19,SNR=5.8						
YUK8	**Steele Glacier**	**76.36**	**350**	P	**P**	**14 27 41.0**	**0.0**
	baz=16						
L20K	**Farewell, AK**	**76.40**	**357**	P	**P**	**14 27 41.2**	**+0.3**
	baz=5.1						
HYT	**Haines Junctio**	**76.49**	**349**	IAmb	IAmb	14 27 43.7	
	comp=Z,27nm,1.0s						
HYT	**Haines Junctio**	**76.49**	**349**	P	**P**	**14 27 42.8**	**+1.3**
	baz=18,SNR=9.4						
YUK6	**Outpost Mounta**	**76.50**	**349**	P	**P**	**14 27 42.7**	**+0.9**
	baz=17						
W52A	**Murphy**	**76.59**	**305**	IAmb	IAmb	14 27 44.1	
	comp=Z,34nm,1.3s						
N25K	**Chitina, Valde**	**76.61**	**352**	P	**P**	**14 27 42.7**	**+0.5**
	baz=12,SNR=5.3						
SCM	**Sheep Creek Mo**	**76.64**	**354**	IAmb	IAmb	14 27 45.1	
	comp=Z,50nm,1.0s						
SCM	**Sheep Creek Mo**	**76.64**	**354**	P	**P**	**14 27 43.2**	**+0.9**
	baz=10,SNR=7.2						
OLIL	**Olney**	**76.66**	**310**	IAmb	IAmb	14 27 51.2	
	comp=Z,32nm,0.9s						
MCARA	**McCarthy VSAT**	**76.66**	**352**	IAmb	IAmb	14 27 45.4	
	comp=Z,26nm,0.9s						
MCARA	**McCarthy VSAT**	**76.66**	**352**	P	**P**	**14 27 42.3**	**0.0**
	baz=13						
M23K	**Glacier View**	**76.71**	**354**	P	**P**	**14 27 43.2**	**+0.5**
	baz=9.8,SNR=11						
K15K	**Wolf Creek Mou**	**76.71**	**1**	P	**P**	**14 27 43.2**	**+0.6**
	baz=359						
R33M	**Jennings River**	**76.72**	**345**	IAmb	IAmb	14 27 46.1	
	comp=Z,50nm,1.0s						
R33M	**Jennings River**	**76.72**	**345**	P	**P**	**14 27 44.4**	**+1.5**
	baz=22,SNR=16						
L19K	**White Mountain**	**76.73**	**357**	P	**P**	**14 27 43.9**	**+1.1**
	baz=4.3,SNR=19						
L18K	**Granite Mounta**	**76.75**	**358**	IAmb	IAmb	14 27 45.2	
	comp=Z,33nm,0.9s						
L18K	**Granite Mounta**	**76.75**	**358**	P	**P**	**14 27 44.1**	**+1.3**
	baz=2.9,SNR=11						
U49A	**Red Boiling Sp**	**76.78**	**307**	IAmb	IAmb	14 27 52.4	
	comp=Z,22nm,0.8s						
SKT	**Skwentna**	**76.78**	**356**	IAmb	IAmb	14 27 45.4	
	comp=Z,28nm,1.0s						
SKT	**Skwentna**	**76.78**	**356**	P	**P**	**14 27 42.8**	**-0.2**
	baz=6.9,SNR=11						
GHO	**Glory Hole Cre**	**76.82**	**354**	IAmb	IAmb	14 27 45.3	
	comp=Z,39nm,0.9s						
KLU	**Klutina**	**76.85**	**353**	IAmb	IAmb	14 27 45.2	
	comp=Z,26nm,0.9s						
KLU	**Klutina**	**76.85**	**353**	P	**P**	**14 27 44.0**	**+0.5**
	baz=11,SNR=8.7						
P43A	**Skaggs, Pawnee**	**76.85**	**311**	IAmb	IAmb	14 27 52.5	
	comp=Z,21nm,0.8s						
L17K	**Donlin**	**76.86**	**359**	P	**P**	**14 27 44.3**	**+0.8**
	baz=1.7,SNR=11						
N41A	**Harden Midland**	**76.87**	**313**	IAmb	IAmb	14 27 45.1	
	comp=Z,34nm,1.0s						
CTG	**Chitna Glacier**	**76.87**	**351**	P	**P**	**14 27 44.5**	**+0.8**
	baz=15						
O28M	**Mount Upton**	**76.91**	**350**	IAmb	IAmb	14 27 46.2	
	comp=Z,26nm,0.9s						
O28M	**Mount Upton**	**76.91**	**350**	P	**P**	**14 27 44.8**	**+0.6**
	baz=16,SNR=6.5						
M22K	**Willow**	**76.92**	**355**	P	**P**	**14 27 43.7**	**0.0**
	baz=8.0						
USIN	**University of**	**76.92**	**309**	IAmb	IAmb	14 27 52.6	
	comp=Z,28nm,0.7s						
M20K	**Styx River**	**76.96**	**356**	IAmb	IAmb	14 27 45.3	
	comp=Z,24nm,1.0s						
M20K	**Styx River**	**76.96**	**356**	P	**P**	**14 27 44.2**	**0.0**
	baz=5.6						
LOGN	**Logan Glacier**	**76.97**	**350**	IAmb	IAmb	14 27 46.4	
	comp=Z,27nm,0.9s						
PMR	**Palmer**	**77.02**	**355**	P	**P**	**14 27 44.3**	**0.0**
PMR	**Palmer**	**77.02**	**355**	P	**P**	**14 27 44.3**	**0.0**
	baz=8.7,SNR=9.0						
K13K	**Kusilvak Mount**	**77.02**	**2**	P	**P**	**14 27 44.0**	**-0.4**
	baz=357						
P32M	**Atlin**	**77.05**	**346**	IAmb	IAmb	14 27 46.0	
	comp=Z,26nm,1.1s						
P32M	**Atlin**	**77.05**	**346**	P	**P**	**14 27 44.9**	**+0.3**
	baz=20						
P30M	**Million Dollar**	**77.08**	**348**	P	**P**	**14 27 45.1**	**+0.4**
	baz=18						
KNK	**Knik Glacier**	**77.14**	**354**	IAmb	IAmb	14 27 46.9	
	comp=Z,48nm,1.0s						
KNK	**Knik Glacier**	**77.14**	**354**	P	**P**	**14 27 45.6**	**+0.5**
	baz=9.2,SNR=8.0						
O29M	**Mount Kennedy**	**77.14**	**349**	P	**P**	**14 27 45.6**	**+0.4**
	baz=17						
BMRM	**Bremner River**	**77.24**	**352**	IAmb	IAmb	14 27 47.5	
	comp=Z,42nm,1.0s						
BMRM	**Bremner River**	**77.24**	**352**	P	**P**	**14 27 45.8**	**+0.2**
	baz=12,SNR=5.9						
SUA	**Susitna One**	**77.25**	**355**	P	**P**	**14 27 46.4**	**+0.5**
	baz=7.5,SNR=9.2						
CRQE	**Cirque**	**77.28**	**351**	P	**P**	**14 27 46.5**	**+0.5**
	baz=13						
CRQM	**Cirque**	**77.29**	**351**	IAmb	IAmb	14 27 49.2	
	comp=Z,50nm,1.1s						
L16K	**Owhat River**	**77.30**	**360**	P	**P**	**14 27 46.6**	**+0.8**
	baz=0.8,SNR=6.1						
L15K	**Ungalak Mounta**	**77.33**	**1**	P	**P**	**14 27 46.8**	**+0.7**
	baz=359,SNR=14						
ISLE	**Juniper Island**	**77.34**	**351**	IAmb	IAmb	14 27 48.2	
	comp=Z,48nm,1.0s						
W50A	**Signal Mountai**	**77.37**	**306**	IAmb	IAmb	14 27 56.1	
	comp=Z,31nm,0.8s						
Q32M	**Nakina River**	**77.37**	**346**	IAmb	IAmb	14 27 49.4	
	comp=Z,31nm,1.1s						
Q32M	**Nakina River**	**77.37**	**346**	P	**P**	**14 27 47.6**	**+1.0**
	baz=21						
CLTN	**Cedars of Leba**	**77.39**	**307**	IAmb	IAmb	14 27 56.3	
	comp=Z,19nm,0.8s						
DLBC	**Dease Lake**	**77.42**	**344**	P	**P**	**14 27 47.9**	**+1.1**
	baz=23						
SKAG	**Skagway**	**77.45**	**347**	P	**P**	**14 27 48.0**	**+1.3**
	baz=19						
M18K	**Stony River**	**77.46**	**358**	P	**P**	**14 27 47.5**	**+0.7**
	baz=3.6,SNR=12						
Y52A	**Lilburn**	**77.48**	**304**	IAmb	IAmb	14 27 56.7	
	comp=Z,26nm,0.7s						
X51A	**Calhoun**	**77.51**	**305**	IAmb	IAmb	14 27 56.7	
	comp=Z,18nm,0.7s						
RC01	**Rabbit Creek A**	**77.56**	**355**	P	**P**	**14 27 48.0**	**+0.6**
	baz=8.2,SNR=12						
GLI	**Glacier Island**	**77.56**	**353**	P	**P**	**14 27 48.0**	**+0.6**
	baz=10						
PINM	**Pinnacle**	**77.57**	**350**	P	**P**	**14 27 48.3**	**+0.7**
	baz=15,SNR=5.3						
M17K	**Holitna River**	**77.58**	**359**	P	**P**	**14 27 48.7**	**+1.2**
	baz=2.3,SNR=11						
N20K	**Mount Spurr**	**77.60**	**356**	P	**P**	**14 27 47.5**	**-0.2**
	baz=6.3						
SPCR	**Spurr Chakacha**	**77.60**	**356**	P	**P**	**14 27 47.6**	**-0.1**
	baz=6.3						
SPU	**Mount Spurr**	**77.61**	**356**	IAmb	IAmb	14 30 40.2	
	comp=Z,25nm,0.7s						
PLBC	**Pleasant Camp**	**77.62**	**348**	P	**P**	**14 27 48.4**	**+0.7**
	baz=18						
L14K	**Kuka Creek**	**77.66**	**1**	P	**P**	**14 27 48.2**	**+0.3**
	baz=358						
P29M	**Windy Craggy**	**77.67**	**348**	IAmb	IAmb	14 27 50.2	
	comp=Z,44nm,0.9s						
P29M	**Windy Craggy**	**77.67**	**348**	P	**P**	**14 27 48.3**	**+0.3**
	baz=17,SNR=9.5						
PWL	**Port Wells**	**77.68**	**354**	IAmb	IAmb	14 27 49.6	
	comp=Z,44nm,0.9s						
PWL	**Port Wells**	**77.68**	**354**	P	**P**	**14 27 48.2**	**+0.1**
	baz=9.3,SNR=5.2						
MESA	**MESA**	**77.71**	**351**	P	**P**	**14 27 48.5**	**0.0**
	baz=14						
DGMT	**Dagmar**	**77.75**	**326**	IAmb	IAmb	14 27 51.2	
	comp=Z,42nm,1.2s						
ECSD	**EROS Data Cent**	**77.76**	**318**	IAmb	IAmb	14 27 50.5	
	comp=Z,23nm,0.9s						
EYAK	**Cordova Ski Ar**	**77.76**	**353**	P	**P**	**14 27 48.9**	**+0.4**
	baz=11						
KSAR	**Wonju Array Be**	**77.85**	**51**	P	**P**	**14 27 48.6**	**-0.7**
KSAR	**Wonju Array Be**	**77.85**	**51**	P	**P**	**14 27 48.7**	**-0.7**
QIZ	**Qiongzhong**	**77.85**	**75**	P	**P**	**14 27 49.8**	**+0.1**
QIZ				PcP	**sP**	**14 27 59.1**	**+0.1**
QIZ				S	**S**	**14 37 40.8**	**-0.8**
QIZ				pmax	pmax		
	comp=Z,25nm,1.1s						
QIZ				LR	LR		
	comp=Z,550nm,15.8s						
QIZ				LR	LR		
	comp=Z,790nm,15.7s						
QIZ				LR	LR		
	comp=Z,870nm,17.1s						
KSRS	**Korea Array**	**77.86**	**51**	P	**P**	**14 27 49.8**	**+0.3**
	comp=Z,11nm,0.9s,baz=317,slow=5.0,SNR=23						
KSRS				PP	**PP**	**14 30 45.6**	**+0.9**
	comp=Z,4.0nm,0.9s,baz=314,slow=8.2,SNR=5.2						
	comp=Z,11nm,0.9s						
PNL	**Peninsula**	**77.87**	**349**	P	**P**	**14 27 48.5**	**-0.7**
	baz=16						
V48A	**Smith Brothers**	**77.92**	**307**	IAmb	IAmb	14 27 58.6	
	comp=Z,32nm,0.9s						
BGLC	**Bering Glacier**	**77.92**	**351**	P	**P**	**14 27 49.9**	**+0.5**
	baz=13						
CAPN	**Captain Cook N**	**77.97**	**355**	P	**P**	**14 27 50.3**	**+0.6**
	baz=7.1						
M16K	**Timber Creek**	**77.99**	**359**	IAmb	IAmb	14 27 52.3	
	comp=Z,26nm,0.8s						
M16K	**Timber Creek**	**77.99**	**359**	P	**P**	**14 27 50.1**	**+0.4**
	baz=1.1,SNR=7.6						
SIUC	**Southern Illin**	**78.00**	**310**	IAmb	IAmb	14 27 58.9	
	comp=Z,31nm,0.8s						
S44A	**Carbondale**	**78.03**	**310**	IAmb	IAmb	14 27 51.9	
	comp=Z,30nm,1.0s						
N19K	**Bonanza Creek**	**78.09**	**357**	P	**P**	**14 27 50.9**	**+0.5**
	baz=4.6,SNR=5.1						
N38A	**Joes South For**	**78.10**	**314**	IAmb	IAmb	14 28 00.4	
	comp=Z,29nm,0.8s						
S34M	**Telegraph Cree**	**78.13**	**345**	P	**P**	**14 27 51.0**	**+0.4**
	baz=22						
O22K	**Cooper Landing**	**78.16**	**355**	P	**P**	**14 27 50.4**	**-0.3**
	baz=8.2						
SLKM	**Skilak Lake**	**78.17**	**355**	IAmb	IAmb	14 27 52.2	
	comp=Z,26nm,0.9s						
KAIM	**Kasilof Island**	**78.24**	**352**	P	**P**	**14 27 51.0**	**-0.2**
	baz=12						
M14K	**Bethel**	**78.26**	**1**	IAmb	IAmb	14 27 53.1	
	comp=Z,38nm,0.9s						
M14K	**Bethel**	**78.26**	**1**	P	**P**	**14 27 52.1**	**+0.9**
	baz=359,SNR=6.4						
N18K	**Kilae Creek**	**78.27**	**358**	P	**P**	**14 27 51.3**	**-0.1**
N18K	**Kilae Creek**	**78.27**	**358**	P	**P**	**14 27 52.4**	**+1.0**
	baz=3.5						
M15K	**Kagiluk River**	**78.32**	**0**	P	**P**	**14 27 52.1**	**+0.5**
	baz=360,SNR=7.2						
SDDR	**Presa de Saban**	**78.38**	**285**	IAmb	IAmb	14 28 03.8	
	comp=Z,36nm,0.8s						
R32K	**Eaglecrest**	**78.43**	**346**	IAmb	IAmb	14 27 53.5	
	comp=Z,18nm,0.7s						
R32K	**Eaglecrest**	**78.43**	**346**	P	**P**	**14 27 52.2**	**0.0**
	baz=20						
N17K	**Nushagak Hills**	**78.46**	**358**	IAmb	IAmb	14 27 54.9	
	comp=Z,23nm,1.0s						
N17K	**Nushagak Hills**	**78.46**	**358**	P	**P**	**14 27 53.3**	**+0.9**
	baz=2.5,SNR=6.1						
CMC01	**Camacan, BA**	**78.50**	**238**	*e*P	**P**	**14 27 53.5**	**+0.3**
FVM	**French Village**	**78.50**	**311**	IAmb	IAmb	14 28 01.9	
	comp=Z,22nm,0.9s						
R31K	**City Hall, Gus**	**78.51**	**347**	P	**P**	**14 27 53.0**	**+0.4**
	baz=19						
SEW	**Seward**	**78.52**	**354**	IAmb	IAmb	14 27 59.7	
	comp=Z,56nm,1.2s						
SEW	**Seward**	**78.52**	**354**	P	**P**	**14 27 53.1**	**+0.4**
	baz=8.4						
M11K	**Mekoryuk**	**78.52**	**3**	P	**P**	**14 27 52.9**	**+0.2**
	baz=356						
N16K	**Nishlik Lake**	**78.53**	**359**	P	**P**	**14 27 53.8**	**+0.9**
	baz=1.3,SNR=6.6						
CGM3	**Cape Girardeau**	**78.54**	**310**	IAmb	IAmb	14 27 54.6	
	comp=Z,40nm,1.1s						
M13K	**Dall Lake**	**78.57**	**2**	P	**P**	**14 27 53.0**	**0.0**
	baz=358						
YSS	**Yuzhno-Sakhali**	**78.61**	**36**	P	**P**	**14 27 52.7**	**-0.7**
YSS	**Yuzhno-Sakhali**	**78.61**	**36**	P	**P**	**14 27 54.3**	**+0.8**
YSS	**Yuzhno-Sakhali**	**78.61**	**36***ce*	P	**P**	**14 27 53.7**	**+0.2**
YSS				pmax	pmax		
	comp=Z,104nm,1.0s						
O19K	**Port Alsworth**	**78.70**	**357**	P	**P**	**14 27 53.4**	**-0.3**
	baz=4.7						
O20K	**Slope Mountain**	**78.73**	**356**	P	**P**	**14 27 53.7**	**-0.3**
	baz=6.0						
KCSI	**Kotacane, Aceh**	**78.78**	**95**	P	**P**	**14 27 52.7**	**-2.2**
T35M	**Bob Quinn**	**78.81**	**344**	P	**P**	**14 27 54.0**	**-0.4**
	baz=23						
N15K	**Kwethluk River**	**78.85**	**360**	IAmb	IAmb	14 27 56.9	
	comp=Z,30nm,1.1s						
N15K	**Kwethluk River**	**78.85**	**360**	P	**P**	**14 27 54.6**	**0.0**
	baz=0.3						
PRPB	**Parauapebas**	**78.89**	**252**	*e*P	**P**	**14 27 54.9**	**-0.6**
L34A	**Svendsen Farm,**	**78.92**	**317**	IAmb	IAmb	14 27 56.2	
	comp=Z,35nm,0.9s						
CCM	**Cathedral Cave**	**78.92**	**311**	P	**P**	**14 27 54.5**	**-0.8**
CCM				IAmb	IAmb	14 28 03.8	
	comp=Z,18nm,0.7s						
CCM	**Cathedral Cave**	**78.92**	**311**	P	**P**	**14 27 54.5**	**-0.8**
CCM				pmax	pmax		
	comp=Z,18nm,0.7s						
Q23K	**Middleton Isla**	**78.92**	**353**	P	**P**	**14 27 55.4**	**+0.5**
	baz=11						
BRSE	**Bradley Lake S**	**78.96**	**355**	P	**P**	**14 27 55.4**	**+0.2**
	baz=7.4						
S31K	**Pelican**	**79.02**	**347**	P	**P**	**14 27 56.2**	**+0.7**
	baz=18						
N14K	**Kuskokwak Cree**	**79.09**	**1**	P	**P**	**14 27 56.3**	**+0.4**
	baz=359						
P38A	**Dawn**	**79.09**	**314**	IAmb	IAmb	14 28 05.0	
	comp=Z,36nm,0.8s						
HOM	**Homer**	**79.10**	**355**	P	**P**	**14 27 55.9**	**-0.1**
	baz=6.7						
PLAL	**Pickwick Lake**	**79.19**	**307**	IAmb	IAmb	14 27 58.0	
	comp=Z,32nm,1.1s						
SMTB	**Santa Maria do**	**79.19**	**248**	*e*P	**P**	**14 27 56.1**	**-0.9**
P19K	**Oil Pt**	**79.19**	**356**	P	**P**	**14 27 56.3**	**-0.1**
	baz=5.5						
O17K	**Koliganek Bris**	**79.21**	**358**	P	**P**	**14 27 57.1**	**+0.6**
	baz=2.6,SNR=6.9						
PETK	**Petropavlovsk-**	**79.21**	**24**	P	**P**	**14 27 55.6**	**-1.1**
	comp=Z,5.8nm,0.8s,baz=304,slow=3.4,SNR=6.0						
	comp=Z,5.8nm,0.8s						
R40A	**Maddies Statio**	**79.33**	**312**	IAmb	IAmb	14 28 06.5	
	comp=Z,26nm,0.9s						
O16K	**Kokwok River B**	**79.41**	**359**	P	**P**	**14 27 58.4**	**+0.9**
	baz=1.8,SNR=6.2						
T33K	**Petersburg**	**79.51**	**345**	P	**P**	**14 27 57.9**	**-0.3**
	baz=21						
P18K	**Big Mountain,**	**79.54**	**357**	P	**P**	**14 27 58.2**	**-0.1**
	baz=4.0						
SIT	**Sitka**	**79.72**	**346**	P	**P**	**14 27 59.1**	**-0.2**
	baz=19						
U35K	**Hyder**	**79.75**	**343**	P	**P**	**14 27 59.4**	**-0.1**
	baz=23						
WRAK	**Wrangell Islan**	**79.76**	**345**	P	**P**	**14 27 59.1**	**-0.4**
	baz=21						
O14K	**Tigyukauivet M**	**79.77**	**0**	P	**P**	**14 27 59.1**	**-0.4**
	baz=359						
P17K	**Kvichak River**	**79.77**	**358**	P	**P**	**14 27 59.4**	**-0.2**
	baz=3.1						
KULM	**Kulim**	**79.79**	**92**	P	**P**	**14 27 59.0**	**-1.4**
KULM				IAmb	IAmb	14 28 00.7	
	comp=Z,36nm,0.8s						
KULM	**Kulim**	**79.79**	**92**	P	**P**	**14 27 59.7**	**-0.7**
O15K	**Ungalikthiuk R**	**79.84**	**360**	P	**P**	**14 27 59.1**	**-0.9**
	baz=0.5						
LRAL	**Lakeview Retre**	**79.86**	**305**	IAmb	IAmb	14 28 09.6	
	comp=Z,37nm,0.8s						
Q19K	**Cape Douglas,**	**79.94**	**356**	P	**P**	**14 27 59.6**	**-0.9**
	baz=5.2						
P16K	**Nushagak River**	**79.97**	**359**	P	**P**	**14 28 00.0**	**-0.6**
	baz=1.9						
GSI	**Gunungsitoli**	**80.10**	**97**	P	**P**	**14 28 02.2**	**+0.1**
	comp=Z,43nm,0.9s						
PSI	**Prapat**	**80.12**	**95**	P	**P**	**14 28 01.5**	**-0.8**
MGMO	**Mountain Grove**	**80.13**	**311**	IAmb	IAmb	14 28 04.3	
	comp=Z,44nm,1.4s						
RPSI	**Rantau Prapat**	**80.19**	**95**	IAmb	IAmb	14 28 02.6	
	comp=Z,34nm,0.8s						
Q20K	**Shuyak Island**	**80.19**	**356**	P	**P**	**14 28 00.5**	**-1.3**
	baz=6.1						
U33K	**Whale Pass**	**80.20**	**345**	P	**P**	**14 28 01.6**	**-0.3**
	baz=20						
Q18K	**Katmai Hardscr**	**80.27**	**357**	P	**P**	**14 28 01.5**	**-0.9**
	baz=4.2						
Q16K	**King Salmon**	**80.30**	**358**	P	**P**	**14 28 02.0**	**-0.4**
	baz=2.9						
IPM	**Ipoh**	**80.60**	**92**	IAmb	IAmb	14 28 04.7	
	comp=Z,28nm,0.8s						
IPM	**Ipoh**	**80.60**	**92**	P	**P**	**14 28 04.0**	**-0.8**
V35K	**Ketchikan**	**80.63**	**344**	P	**P**	**14 28 03.5**	**-0.8**
	baz=22						
Q17K	**Contact Creek**	**80.69**	**358**	P	**P**	**14 28 04.2**	**-0.4**
	baz=3.5						
JKA	**Kamikawa-asahi**	**80.72**	**38**	IAmb	IAmb	14 28 06.0	
	comp=Z,36nm,1.0s						
CRAG	**Craig**	**80.81**	**345**	P	**P**	**14 28 04.8**	**-0.4**
	baz=20						
KDAK	**Kodiak Island**	**81.03**	**356**	P	**P**	**14 28 05.0**	**-1.4**
KDAK				IAmb	IAmb	14 28 08.3	
	comp=Z,52nm,0.9s						
KDAK	**Kodiak Island**	**81.03**	**356**	P	**P**	**14 28 05.0**	**-1.4**
KDAK				pmax	pmax		
	comp=Z,52nm,1.0s						
KDAK	**Kodiak Island**	**81.03**	**356**	P	**P**	**14 28 05.7**	**-0.6**
	baz=6.0						
RSSD	**Black Hills**	**81.03**	**323**	P	**P**	**14 28 07.1**	**+0.2**
RSSD	**Black Hills**	**81.03**	**323**	P	**P**	**14 28 07.1**	**+0.2**
RSSD				pmax	pmax		
	comp=Z,22nm,1.0s						
R18K	**Karluk**	**81.33**	**357**	P	**P**	**14 28 07.8**	**-0.2**
	baz=4.6						
R17L	**Mt. Peulik Vol**	**81.34**	**358**	P	**P**	**14 28 07.8**	**-0.2**
	baz=3.1						
DLV	**Lat**	**81.38**	**82**	IAmb	IAmb	14 28 10.0	
	comp=Z,23nm,0.8s						
DLV	**Lat**	**81.38**	**82**	P	**P**	**14 28 08.5**	**-0.7**
JANB	**Januaria**	**81.39**	**241**	*e*P	**P**	**14 28 09.1**	**+0.3**
R16K	**Pilot Point**	**81.43**	**358**	P	**P**	**14 28 08.5**	**+0.1**
	baz=2.2						
WHAR	**Wooly Hollow**	**81.46**	**310**	IAmb	IAmb	14 28 11.1	
	comp=Z,42nm,1.0s						
SPIA	**Saint Paul Isl**	**81.50**	**5**	P	**P**	**14 28 08.0**	**-0.8**
	baz=353						
OHAK	**Old Harbor**	**81.62**	**356**	P	**P**	**14 28 09.7**	**+0.2**
	baz=5.4						
U38A	**Gravette**	**81.83**	**312**	IAmb	IAmb	14 28 12.8	
	comp=Z,32nm,1.1s						
ITTB	**Itaituba**	**81.95**	**257**	*e*P	**P**	**14 28 11.9**	**0.0**
SJMB	**Sao Joao De Ma**	**82.05**	**237**	*e*P	**P**	**14 28 12.6**	**+0.4**
P08K	**Saint George I**	**82.12**	**5**	P	**P**	**14 28 12.1**	**0.0**
	baz=353						
SII	**Sitkinak Islan**	**82.33**	**357**	P	**P**	**14 28 13.0**	**-0.2**
	baz=4.8						
RLO	**Rose Lookout**	**82.39**	**312**	IAmb	IAmb	14 28 15.7	
	comp=Z,29nm,1.0s						
BAUV	**El Baul**	**82.42**	**275**	P	**P**	**14 28 12.7**	**-1.7**
BAUV				IAmb	IAmb	14 28 23.7	
	comp=Z,26nm,0.8s						
RLMT	**Red Lodge**	**82.53**	**326**	IAmb	IAmb	14 28 17.5	
	comp=Z,29nm,1.1s						
ERM	**Erimo**	**82.60**	**39**	P	**P**	**14 28 13.7**	**-1.2**
ERM	**Erimo**	**82.60**	**39**	P	**P**	**14 28 16.2**	**+1.3**
ERM	**Erimo**	**82.60**	**39**	P	**P**	**14 28 13.7**	**-1.2**
ERM				pmax	pmax		
	comp=Z,41nm,0.9s						
JEM	**Erimo**	**82.60**	**39**	P	**P**	**14 28 16.1**	**+1.2**
CHGN	**Chignik**	**82.71**	**359**	P	**P**	**14 28 14.4**	**-0.8**
	baz=1.6						
MIAR	**Mount Ida**	**82.73**	**310**	IAmb	IAmb	14 28 25.3	
	comp=Z,24nm,0.9s						
S14K	**Fog Glacier**	**82.74**	**360**	P	**P**	**14 28 14.4**	**-1.1**
	baz=0.7						
NEW	**Newport**	**82.93**	**333**	IAmb	IAmb	14 28 18.5	
	comp=Z,18nm,0.9s						
TUL3	**Leonard**	**83.00**	**312**	IAmb	IAmb	14 28 26.2	
	comp=Z,21nm,0.8s						
BOZ	**Bozeman (W)**	**83.11**	**328**	IAmb	IAmb	14 28 20.4	
	comp=Z,34nm,1.1s						
CHIR	**Chirikof Islan**	**83.12**	**357**	P	**P**	**14 28 17.1**	**-0.3**
	baz=3.7						
ALF01	**

UNV	Unalaska Valle	85.04	4	P		P		14 28 27.5	+0.3
	baz=355								
ISCO	Idaho Springs	85.13	321	IAmb		IAmb		14 28 30.6	
	comp=Z,40nm,2.0s								
B04A	Port Angeles	85.19	336	IAmb		IAmb		14 28 32.0	
	comp=Z,14nm,0.8s								
E07A	Sunnyside	85.34	333	IAmb		IAmb		14 28 32.3	
	comp=Z,19nm,0.8s								
MXC	Moxie City	85.47	334	IAmb		IAmb		14 28 31.7	
	comp=Z,15nm,0.8s								
WMOK	Wichita Mounta	85.51	313	IAmb		IAmb		14 28 32.5	
	comp=Z,30nm,1.1s								
NIKH	Nikolski High	85.78	5	P		P		14 28 30.2	-0.7
	baz=354								
NLWA	Neilton Lookou	85.90	336	IAmb		IAmb		14 28 34.1	
	comp=Z,22nm,1.1s								
BMO	Blue Mountains	85.91	331	IAmb		IAmb		14 28 33.0	
	comp=Z,27nm,0.8s								
WISH	Wishkah	86.11	336	IAmb		IAmb		14 28 35.5	
	comp=Z,38nm,1.2s								
HWUT	Hardware Ranch	86.36	326	IAmb		IAmb		14 28 44.1	
	comp=Z,18nm,0.9s								
CLDB	Colider	86.39	252	*e*P		P		14 28 35.2	+0.7
E03A	Lebam	86.56	336	IAmb		IAmb		14 28 45.4	
	comp=Z,35nm,1.0s								
PLPT	Palo Pinto	86.69	312	IAmb		IAmb		14 28 38.1	
	comp=Z,36nm,1.0s								
G06A	Carlson Farm,	86.76	333	IAmb		IAmb		14 28 38.4	
	comp=Z,26nm,1.0s								
MAN01	Angra dos Reis	86.86	236	*e*P		P		14 28 36.3	-0.3
ARAG	Araguaiana, MT	86.91	246	*e*P		P		14 28 37.2	+0.2
KSI	Kapahiang	87.11	97	P		P		14 28 38.6	+0.5
HKT	Hockley	87.37	308	*ce*P		P		14 28 40.7	+1.7
HKT				pmax		pmax			
	comp=Z,26nm,1.5s								
PDRB	Porto dos Gac	87.56	252	*e*P		P		14 28 40.0	-0.1
ABTX	Abilene, Hawle	87.57	313	IAmb		IAmb		14 28 42.5	
	comp=Z,29nm,1.2s								
PV22	Blue Mesa, Pa	87.63	322	IAmb		IAmb		14 28 41.9	
	comp=Z,15nm,0.9s								
G03D	McMinnville, O	87.65	335	IAmb		IAmb		14 28 43.7	
	comp=Z,30nm,1.1s								
H04A	Detroit Lake	87.77	334	IAmb		IAmb		14 28 42.4	
	comp=Z,14nm,0.9s								
PV04	Paradox Valley	87.80	322	IAmb		IAmb		14 28 42.9	
	comp=Z,14nm,1.0s								
PV11	David Mesa, Pa	87.86	322	IAmb		IAmb		14 28 43.2	
	comp=Z,32nm,1.1s								
PV14	Lion Creek, Pa	87.87	322	IAmb		IAmb		14 28 43.2	
	comp=Z,16nm,0.9s								
PV20	West Nyswonger	87.87	322	IAmb		IAmb		14 28 43.1	
	comp=Z,27nm,0.9s								
PV02	Paradox Valley	87.87	322	IAmb		IAmb		14 28 42.5	
	comp=Z,16nm,1.0s								
PV03	Paradox Valley	87.89	322	IAmb		IAmb		14 28 43.1	
	comp=Z,14nm,1.1s								
PV19	Morning Glory	87.90	322	IAmb		IAmb		14 28 43.3	
	comp=Z,28nm,1.0s								
PV13	Radium Mtn., P	87.95	322	IAmb		IAmb		14 28 51.9	
	comp=Z,13nm,1.0s								
SRU	San Rafael Swe	87.95	323	IAmb		IAmb		14 28 42.9	
	comp=Z,19nm,1.0s								
H04D	Lebanon	88.09	334	IAmb		IAmb		14 28 45.1	
	comp=Z,24nm,1.1s								
PINE	Pine Mountain	88.13	333	IAmb		IAmb		14 28 45.8	
	comp=Z,20nm,1.0s								
WIFE	Three Sisters-	88.20	333	IAmb		IAmb		14 28 45.5	
	comp=Z,23nm,1.0s								
WVOR	Wild Horse Val	88.49	330	IAmb		IAmb		14 28 46.4	
	comp=Z,13nm,0.8s								
MDSI	Maura Dua	88.85	97	P		P		14 28 45.1	-1.2
J04A	Umpqua Nationa	89.02	333	IAmb		IAmb		14 28 49.0	
	comp=Z,27nm,1.1s								
I03D	Drain, OR	89.03	334	IAmb		IAmb		14 28 49.0	
	comp=Z,20nm,0.8s								
LWLI	Liwa	89.11	97	P		P		14 28 47.8	+0.1
ANMO	Albuquerque	89.38	318⇓	*e*P		P		14 28 49.7	+0.9
ANMO				pmax		pmax			
	comp=Z,3.0nm,0.7s								
BBOR	Butler Butte	89.53	333	P		P		14 28 49.1	-0.2
BBOR				IAmb		IAmb		14 28 50.4	
	comp=Z,20nm,0.8s								
ODSA	Odessa	89.54	314	IAmb		IAmb		14 28 51.5	
	comp=Z,13nm,0.9s								
KSM	Kuching	89.55	88	IAmb		IAmb		14 28 51.2	
	comp=Z,21nm,1.0s								
KSM	Kuching	89.55	88	P		P		14 28 50.4	+0.8
OZNA	Ozona	89.68	312	IAmb		IAmb		14 28 59.8	
	comp=Z,16nm,0.8s								
SPR3	Spring Creek 3	89.70	326	IAmb		IAmb		14 28 53.3	
	comp=Z,21nm,0.9s								
SALV	Santo Antonio	89.74	249	*e*P		P		14 28 50.2	-0.2
KASI	Kota Agung	89.77	98	P		P		14 28 51.4	+0.8
L04D	Klamath Falls	89.99	333	IAmb		IAmb		14 28 53.2	
	comp=Z,30nm,1.0s								
K02D	Willamette Mer	90.03	334	IAmb		IAmb		14 28 53.7	
	comp=Z,26nm,1.2s								
SBUM	Sibu	90.35	86	P		P		14 28 54.2	+0.8
DRIO	Del Rio	90.53	311	IAmb		IAmb		14 28 56.8	
	comp=Z,30nm,1.0s								
R11B	Troy Canyon, C	90.78	326	IAmb		IAmb		14 28 57.5	
	comp=Z,27nm,1.7s								
PECS	Pecos	90.83	314	IAmb		IAmb		14 28 58.5	
	comp=Z,20nm,1.1s								
M02C	Callahan	90.91	333	IAmb		IAmb		14 28 57.5	
	comp=Z,44nm,1.9s								
HATC	Hat Creek Radi	90.93	332	IAmb		IAmb		14 28 58.1	
	comp=Z,21nm,1.1s								
SAND	Sanderson	90.97	312	IAmb		IAmb		14 29 05.7	
	comp=Z,12nm,0.9s								
WUAZ	Wupatki	91.28	322	IAmb		IAmb		14 28 59.8	
	comp=Z,15nm,0.9s								
PRN	Pahroc Range	91.35	325	IAmb		IAmb		14 29 00.5	
	comp=Z,16nm,1.1s								
ALPN	Alpine	91.48	314	IAmb		IAmb		14 29 00.8	
	comp=Z,21nm,1.0s								
SIUN	Universidad Ur	91.54	290	IAmb		IAmb		14 29 08.6	
	comp=Z,13nm,1.2s								
NVAR	Mina Array Bea	91.82	328	P		P		14 28 59.8	-0.3
	comp=Z,2.0nm,0.7s,baz=46,slow=4.4,SNR=14								
NVAR				PP		PP		14 32 38.4	+0.2
	comp=Z,1.7nm,1.0s,baz=46,slow=8.5,SNR=4.3								
NVAR				PKKPbc		PKKPbc		14 46 16.2	-0.7
	comp=Z,0.4nm,0.7s,baz=232,slow=2.0,SNR=1.8								
	comp=Z,2.0nm,0.7s								
TX31	Lajitas Ar. Si	92.30	313	IAmb		IAmb		14 29 11.9	
	comp=Z,15nm,0.9s								
TXAR	Lajitas Array	92.30	313	P		P		14 29 02.0	-0.3
TXAR	Lajitas Array	92.30	313	P		P		14 29 03.5	+1.1
	comp=Z,11nm,0.9s,baz=66,slow=3.6,SNR=69								
TXAR				PKKPbc		PKKPbc		14 46 14.9	-0.4
	comp=Z,0.1nm,0.4s,baz=295,slow=3.5,SNR=2.3								
	comp=Z,11nm,0.9s								
CMB	Columbia Colle	92.97	329	IAmb		IAmb		14 29 07.3	
	comp=Z,17nm,1.6s								
GWY	Greenwater Val	93.07	326	IAmb		IAmb		14 29 08.3	
	comp=Z,10nm,0.9s								
MYLDM	Lahad Datu	93.25	80	IAmb		IAmb		14 29 15.2	
	comp=Z,19nm,1.0s								
MYLDM	Lahad Datu	93.25	80	P		P		14 29 07.8	+1.0
PTGB	Pitanga	93.35	240	*e*P		P		14 29 06.0	-1.0
CWC	Cottonwood Cre	93.44	327	IAmb		IAmb		14 29 11.3	
	comp=Z,18nm,1.8s								
TUC	Tucson	93.63	320	P		P		14 29 09.9	+1.5
TUC				pmax		pmax			
	comp=Z,7.0nm,2.3s								
CCCA	Chr Cany lake	93.93	326	IAmb		IAmb		14 29 12.0	
	comp=Z,12nm,1.0s								
ISA	Isabella, Lake	94.27	327	IAmb		IAmb		14 29 14.9	
	comp=Z,12nm,0.9s								
SCZ	Santa Cruz	94.62	329	IAmb		IAmb		14 29 15.0	
	comp=Z,14nm,1.0s								
PFO	Pinyon Flats O	95.17	324⇓	*e*P		P		14 29 16.2	+0.7
PFO				pmax		pmax			
	comp=Z,15nm,0.9s								
KBKI	Kotabaru	97.08	88	P		Pdif		14 29 27.2	+2.8
SYO	Syowa Base	111.03	172⇓	*e*Pdiff		Pdif		14 30 30.0	+5.0
PLCA	Paso Flores	115.43	237	PKP		PKiKP		14 34 33.9	+0.5
	comp=Z,2.0nm,0.8s,baz=45,slow=7.2,SNR=3.7								
WRA	Warramunga Arr	121.29	90			PKiKP		14 34 45.4	+0.1
WRA	Warramunga Arr	121.29	90	PKP		PKPdf		14 34 44.6	-0.6
	comp=Z,4.6nm,0.9s,baz=299,slow=2.1,SNR=19								
WRA				PKKPbc		PKKPab		14 44 47.0	-0.1
	comp=Z,0.3nm,0.8s,baz=120,slow=3.6,SNR=4.9								
WRA	Warramunga Arr	121.29	90	PKIKP		PKiKP		14 34 45.4	+0.1
AS31	Alice Springs	123.13	94			PKPdf		14 34 48.4	-0.2
ASAR	Alice Springs	123.13	94	PKP		PKPdf		14 34 48.1	-0.6
	comp=Z,9.8nm,0.8s,baz=323,slow=1.4,SNR=63								
ASAR				PP		PP		14 36 30.6	+1.7
	comp=Z,1.0nm,0.8s,baz=315,slow=4.6,SNR=4.5								
ASAR				PKKPab		PKKPab		14 44 39.5	+0.7
	comp=Z,0.3nm,0.7s,baz=133,slow=4.5,SNR=6.1								
QIS	Mount Isa	125.61	87	P		PKPdf		14 34 53.4	-0.1
QSPA	South Pole Qui	131.19	180	PKP		PKPdf		14 35 02.9	+0.1
	comp=Z,4.4nm,1.0s,baz=190,slow=0.2,SNR=5.8								
QSPA				SKPbc		SKPab		14 38 28.5	+2.0
	comp=Z,4.0nm,1.2s,baz=266,slow=4.8,SNR=4.0								
QLP	Quilpie	132.52	90	P		PKiKP		14 35 08.0	+0.5
STKA	Stephens Creek	133.24	98	PKP		PKPdf		14 35 06.7	-0.9
	comp=Z,5.2nm,0.9s,baz=339,slow=3.5,SNR=7.5								
CMSA	Cobar Meteorol	136.14	95	P		PKiKP		14 35 14.0	-0.7
VNDA	Vanda	140.51	168	PKP		PKPdf		14 35 19.2	-0.5
	comp=Z,1.0nm,0.8s,baz=225,slow=2.9,SNR=4.5								
DZM	Mont Dzumac	146.14	66			PKPab		14 35 34.0	+1.0
DZM	Mont Dzumac	146.14	66	PKPbc		PKPab		14 35 32.9	-0.2
	baz=350,slow=6.1								
DZM	Mont Dzumac	146.14	66	P		PKPab		14 35 34.0	+1.0
YATNC	Mamie plateau,	146.44	65	P		PKiKP		14 35 35.3	-0.8

*TIR **21** 14:22:26.2, 41°.29N×19°.24E, h74km±6km, Ml3.1/4*
*PDG **21** 14:22:27.2±0.1, 41°.26N×19°.55E, h12km, MD3.1/1,*
ML3.0/9, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0
ISC 21 14:22:27.8±1.1, **41°.31N**±0°.03×**19°.47E**±0°.04, **h11**km±10km, **n17**,σ1**°96**/33, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
TIR	Tirane	0.30	82	Pg		Pg	14 22 33.0		-0.9
TIR				Sg		Sg	14 22 34.6		-3.4
TIR				AML		AML	14 22 36.8		
	14nm,0.4s								
TIR				AML		AML	14 22 36.9		
	15nm,0.3s								
ULC	Ulcinj	0.68	346	*e*Pg		Pg	14 22 41.0		0.0
ULC				*i* Sg		Sn	14 22 52.8		-1.3
VLO	Vlora	0.84	178	Pn		Pb	14 22 44.6		+0.3
VLO				Sn		Sb	14 22 56.7		+1.1
VLO				AML		AML	14 23 06.8		
	1.7nm,0.3s								
DRME	Dracevica, Mon	0.91	347	*e*Pg		Pb	14 22 45.2		-0.4
DRME				*i* Sg		Sn	14 23 00.4		+0.7
OHR	Ohrid	1.02	100	*i* Pn		Pn	14 22 47.9		-0.4
OHR				*i* Sn		Sn	14 23 02.1		-0.5
BUM	Brajici-Budva	1.08	337	*e*Pg		Pb	14 22 48.5		-0.1
BUM				*i* Sg		Sn	14 23 06.7		+2.6
PDG	Podgorica	1.14	352	*e*Pg		Pb	14 22 49.2		-0.3
PDG				*i* Sg		Sg	14 23 08.0		+3.6
KBN	Korca	1.21	124	Pg		Pb	14 22 51.1		+0.3
KBN				Sg		Sg	14 23 08.1		+1.3
KBN				AML		AML	14 23 13.9		
	0.9nm,0.5s								
CEME	Cevo	1.31	342	*e*Pg		Pb	14 22 52.6		+0.1
CEME				*i* Sg		Sg	14 23 13.9		+4.0
KOME	Kolasin	1.54	1	*e*Pn		Pb	14 22 56.3		-0.2
KOME				*i* Sn		Sg	14 23 19.1		+1.6
IVA	Berane	1.60	11	*e*Pn		Pb	14 22 56.8		-0.6
IVA				*i* Sn		Sg	14 23 20.1		+0.9
KEK	Kerkira	1.61	171	Pn		Pg	14 23 00.8		+2.1
BRY	Bratogost	1.74	337	*e*Pn		Pb	14 22 59.2		-0.7
BRY				*i* Sn		Sg	14 23 24.2		+0.5
IGT	Igoumenitsa	1.89	159	Pn		Pn	14 22 58.1		-2.0
IGT				Sn		Sn	14 23 24.3		+0.4
IGT				AML		AML	14 23 35.5		
	0.2nm,0.4s								
UPM	Unac-Piva	1.94	348	*e*Pn		Pn	14 23 01.9		+0.9
UPM				*i* Sn		Sg	14 23 29.0		-1.3
LKD2	Lefkada island	2.67	160	Pn		Pn	14 23 10.4		-0.4
LKD2				Sn		Sn	14 23 43.9		+0.6
SGRT	San Giovanni R	2.83	280	P		Pn	14 23 10.8		-2.3
SGRT				Sn		Sn	14 23 41.2		-6.0

*TIR **21** 14:27:12.4, 41°.50N×19°.60E, h25km±7km, Ml3.0/6*
*SKO **21** 14:27:16.3, 41°.34N×19°.53E, h24km, ML2.9*
*PDG **21** 14:27:17.1±0.4, 41°.37N×19°.53E, h16km±1km, ML2.8/10,*
Error ellipse: s-maj=2.2km s-min=3.7km az=0.0
ISC 21 14:27:14.5±1.0, **41°.27N**±0°.02×**19°.54E**±0°.03, **h9**km±9km, **n30**,σ1**°38**/54, **4C-6D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
TIR	Tirane	0.26	71	Pg		Pg	14 27 19.7		+0.1
TIR				Sg		Sg	14 27 22.4		-0.7
TIR				AML		AML	14 27 22.8		
	7.5nm,0.2s								
TIR				AML		AML	14 27 23.3		
	7.5nm,0.3s								
TIR	Tirane	0.26	71	Pg		Pg	14 27 19.8		+0.1
TIR				Sg		Sg	14 27 21.5		-1.6
TIR				AML		AML	14 27 22.8		
	7.5nm,0.2s								
TIR				AML		AML	14 27 23.3		
	7.5nm,0.3s								
ULC	Ulcinj	0.73	342⇑	*i* Pg		Pg	14 27 29.2		+0.6
ULC				*e*Sg		Sb	14 27 39.5		-0.1
VLO	Vlora	0.80	183	Pg		Pn	14 27 32.7		+0.8
VLO				Sg		Sn	14 27 43.3		-0.5
VLO				AML		AML	14 27 50.6		
	3.5nm,0.3s								
VLO	Vlora	0.80	183	Pg		Pn	14 27 32.7		+0.8
VLO				Sg		Sn	14 27 45.5		+1.7
VLO				AML		AML	14 27 49.6		
	5.5nm,0.3s								
OHR	Ohrid	0.96	99	*i* Pg		Pn	14 27 33.8		-0.4
OHR				*i* Sg		Sn	14 27 48.5		+0.4
OHR				*e*Lg		Lg	14 27 49.3		
	comp=N,209nm,0.8s								
OHR				*e*Lg		Lg	14 27 51.2		
	comp=E,363nm,0.5s								
DRME	Dracevica, Mon	0.96	344⇑	*i* Pg		Pg	14 27 32.5		-0.5
DRME				*e*Sg		Sn	14 27 48.7		+0.7
KBN	Korca	1.14	124	Pg		Pg	14 27 35.4		-1.0
KBN				Sg		Sg	14 27 50.7		-0.4
KBN				AML		AML	14 27 55.5		
	comp=E,0.6nm,0.7s								
KBN	Korca	1.14	124	Pg		Pn	14 27 37.2		+0.5
KBN				Sg		Sn	14 27 52.5		+0.1
KBN				AML		AML	14 27 55.5		
	comp=E,0.6nm,0.7s								
BUM	Brajici-Budva	1.14	335⇓	*i* Pg		Pg	14 27 36.6		+0.1
BUM				*e*Sg		Sn	14 27 53.2		+0.6
PDG	Podgorica	1.18	350⇑	*i* Pg		Pb	14 27 37.1		0.0
PDG				*e*Sg		Sn	14 27 54.2		+0.7
CEME	Cevo	1.36	340⇓	*i* Pg		Pn	14 27 40.3		+0.5
CEME				*e*Sg		Sg	14 27 59.4		+1.0
HCY	Herceg Novi	1.42	327⇓	*i* Pg		Pb	14 27 41.5		+0.4
HCY				*e*Sg		Sg	14 28 01.4		+1.3
KEK	Kerkira	1.56	173	Pn		Pg	14 27 45.5		+1.1
NKME	Niksic	1.56	344⇓	*i* Pg		Pb	14 27 43.4		-0.2
NKME				*e*Sg		Sg	14 28 04.7		-0.1
KOME	Kolasin	1.58	359⇓	*i* Pg		Pb	14 27 44.5		+0.5
KOME				*e*Sg		Sg	14 28 06.3		+0.8
IVA	Berane	1.63	9⇑	*i* Pg		Pb	14 27 44.6		-0.1
IVA				*e*Sg		Sg	14 28 06.4		-0.4
BRY	Bratogost	1.80	336⇓	*i* Pn		Pb	14 27 47.9		+0.2
BRY				*e*Sn		Sb	14 28 11.0		+0.6
IGT	Igoumenitsa	1.83	161	Pn		Pn	14 27 47.3		+1.2
IGT				Sn		Sg	14 28 13.0		-0.4
IGT				AML		AML	14 28 21.0		
	comp=E,0.3nm,0.9s								
IGT	Igoumenitsa	1.83	161	Pn		Pb	14 27 48.5		+0.4
IGT				Sn		Sb	14 28 10.8		-0.4
IGT				AML		AML	14 28 21.0		
	comp=E,0.3nm,0.9s								
IGT	Igoumenitsa	1.83	161	*i* Pn		Pb	14 27 47.6		-0.5
NOCI	Noci	1.94	257	Pn		Pb	14 27 50.3		+0.4
NOCI	Noci	1.94	257	Pn		Pn	14 27 49.0		+1.4
NOCI				Sn		Sb	14 28 15.5		+1.3
NOCI				AML		AML	14 28 28.9		
	comp=E,0.3nm,0.3s								
BARS	Barje	2.29	47	*i* Pn		Pn	14 27 52.8		+0.3
KNT	Kendrikon	2.53	91	*i* Pn		Pn	14 27 56.3		+0.5
KNT				*i* Sn		Sn	14 28 26.6		-0.2
LKD2	Lefkada island	2.62	161	Pn		Pn	14 27 57.3		+0.3
LKD2				Sn		Sn	14 28 27.9		-1.0
LKD2	Lefkada island	2.62	161	Pn		Pn	14 27 57.4		+0.5
THE	Thessaloniki	2.67	103	Pn		Pn	14 27 58.0		+0.3
SGRT	San Giovanni R	2.90	281	Pn		Pn	14 28 00.2		-0.7
SGRT				Sn		Sn	14 28 28.4		-7.4
SGRT	San Giovanni R	2.90	281	Pn		Pn	14 28 00.3		-0.5
SGRT				Sn		Sn	14 28 32.2		-3.7

*GCG **21** 14:29:01.0±0.5, 14°.93N×93°.09W, h81km±11km, MD3.7*
*MEX **21** 14:29:01.7±0.9, 14°.87N×93°.23W, h58km±22km, MD4.1*
ISC 21 14:28:59.5±1.3, **14°.81N**±0°.06×**93°.28W**±0°.04, **h49**km±31km, **n28**,σ1**°50**/54, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
PCIG		0.90	4	*e*P		Pn	14 29 16.0		+0.2
PCIG				*e*S		Sn	14 29 27.1		-0.6
THIG		0.98	84	*e*P		Pn	14 29 17.4		+0.4
THIG				*e*S		Sn	14 29 29.0		-0.8
THIG		0.98	84	*i* P		Pn	14 29 17.7		+0.7
THIG				*i* S		Sn	14 29 30.6		+0.7
PATR	El Naranjo	1.05	73	*e*P		Pn	14 29 17.8		-0.4
PATR				*e*S		Sn	14 29 30.8		-1.1
PAVE	Pavencul	1.13	70	*e*P		Pn	14 29 19.2		0.0
PAVE				*e*S		Sn	14 29 33.5		-0.3
SMCA	Catarina	1.16	87	*e*P		Pn	14 29 19.6		+0.2
SMCA				*e*S		Sn	14 29 34.9		+0.7
CHUJ	Union Juarez	1.17	76	*e*P		Pn	14 29 19.4		-0.3
CHUJ				*e*S		Sn	14 29 33.5		-1.2
RTAL	Retalhuleu	1.56	100	*e*P		Pn	14 29 25.6		+0.8
RTAL				*e*S		Sn	14 29 43.6		-0.3
HUEH	Huehuetenango	1.79	73	*e*P		Pn	14 29 26.5		-1.7
HUEH				*e*S		Sn	14 29 50.7		+0.8
SOKI	Kika Raxquin	1.81	89	*e*P		Pn	14 29 29.9		+1.2
SOKI				*e*S		Sn	14 29 52.1		+1.4
CCIG	Comitan	1.83	37	*e*P		Pn	14 29 30.7		+1.9
CCIG				*e*S		Sn	14 29 52.3		+1.5
TGIG		1.97	4	*e*P		Pn	14 29 31.4		+0.9
TGIG				*e*S		Sn	14 29 53.6		-0.3
TGIG		1.97	4	*e*P		Pn	14 29 31.3		+0.9
TGIG				*e*S		Sn	14 29 54.5		+0.6
UXUV	UXUV	2.63	342	*e*P		Pn	14 29 41.5		+2.0
UXUV				*e*S		Sn	14 30 08.5		-1.8
CMIG	Matias Romero	2.75	326	*e*P		Pn	14 29 41.9		+0.8
CMIG				*e*S		Sn	14 30 13.2		+0.1
HUIG	Huatulco	2.89	290	*e*P		Pn	14 29 43.9		+0.8
HUIG				*e*S		Sn	14 30 13.4		-3.3
NEUV	Arroyo Zacate	3.77	320	*e*P		Pn	14 29 55.4		+0.3
NEUV				*e*S		Sn	14 30 38.6		+0.3
PETF	Flores	3.90	57	*e*S		Sn	14 30 37.4		-3.9
PEIG	Puerto Escondi	3.92	288	*e*P		Pn	14 29 56.7		-0.5
PEIG				*e*S		Sn	14 30 39.8		-2.1
YOIG	Yosondua	4.58	297	*e*P		Pn	14 30 08.4		+1.8
YOIG				*e*S		Sn	14 30 56.4		-2.4
SCIG	Sabancuy	4.60	26	*e*P		Pn	14 30 06.2		-0.2
SCIG				*e*S		Sn	14 30 57.1		-1.5
TOIG	Toxpalan	4.89	313	*e*P		Pn	14 30 11.1		+0.5
TOIG				*e*S		Sn	14 31 01.8		-4.2
TXIG	Tlaxiaco	4.96	300	*e*P		Pn	14 30 12.8		+1.1
TXIG				*e*S		Sn	14 31 08.0		+0.1
HLIG	Huajuapan de L	5.28	305	*e*S		Sn	14 31 17.9		+2.0
FTIG	Fresnillo de T	5.59	304	*e*P		Pn	14 30 22.5		+2.3
FTIG				*e*S		Sn	14 31 22.0		-1.2
JAUV	Jalcomulco	5.65	324	*e*P		Pn	14 30 19.8		-1.2
JAUV				*e*S		Sn	14 31 23.7		-0.9
PPPT	Popocatepetl	6.58	310	*e*P		Pn	14 30 35.1		+0.8
PPPT				*e*S		Sn	14 31 50.1		+1.8
PBPN	Popocatepetl	6.63	310	*e*P		Pn	14 30 35.6		+0.7
PBPN				*e*S		Sn	14 31 51.6		+2.2

*TIR **21** 14:29:48.9, 41°.56N×19°.48E, h13km±5km, Ml3.1/5*
*PDG **21** 14:29:52.6±0.4, 41°.37N×19°.44E, h28km±1km, MD2.9/1,*
ML2.8/12, Error ellipse: s-maj=0.6km s-min=1.7km az=0.0
*BEO **21** 14:29:55.8±0.6, 41°.45N×19°.67E, h20km±4km, ML2.6/8*
*IDC **21** 14:30:44.2±52.0, 45°.00N×27°.22E, h0km, mb3.7/2,*
mbtmp3.7/3, ML2.5/1, Error ellipse: s-maj=923.7km
s-min=45.5km az=48.0
ISC 21 14:29:52.2±1.0, **41°.34N**±0°.02×**19°.47E**±0°.03, **h14**km±8km, **n43**,σ1**°29**/68, **9C-3D, Albania**

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

0.1nm,0.3s,baz=179,slow=11,SNR=2.0
2.1nm,0.9s
ZALV Zalesovo Beam 44.24 50 P **P 14 37 59.3 -1.5**
0.6nm,0.4s,baz=292,slow=9.8,SNR=3.9
0.6nm,0.4s
MKAR Makanchi Array 44.40 61 P **P 14 38 01.3 -0.9**
0.3nm,0.4s,baz=278,slow=7.8,SNR=4.8
0.3nm,0.4s

*TIR **21** 14:39:44.5, 41°.51N× 19°.85E, h47$^{km}_{\pm 1}$, Ml3.1/2*
*BEO **21** 14:39:46.6±0.6, 41°.34N× 19°.75E, h0^{km}, MLE2.8/10*
*PDG **21** 14:39:50.6±0.7, 41°.57N× 19°.32E, h6$^{km}_{\pm 4}$, MD3.1/2, ML3.0/12, Error ellipse: s-maj=3.4km s-min=4.0km az=0.0*
*IDC **21** 14:40:20.8±67.0, 44°.36N× 24°.66E, h0^{km}, mb3.7/2, mbtmp3.9/3, ML2.5/1, Error ellipse: s-maj=1183.0km s-min=71.3km az=52.0*

ISC 21 14:39:46.0±0.9, **41°.34N**±0°.03× **19°.77E**±0°.03, **h23**$^{km}_{\pm 6}$, **n35**, σ1§**79**/61, **7C-9D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.07**	**84**	⇑*P*g	**Pb**	**14 39 49.8**	**-0.5**
TIR				Sg	**Sb**	**14 39 53.8**	**+0.7**
TIR				AML	AML	14 39 54.4	
	4.8nm,0.5s						
ULC	**Ulcinj**	**0.74**	**328**	⇓*i*Pg	**Pb**	**14 39 57.5**	**-2.7**
ULC				*e*Sg	**Sb**	**14 40 06.7**	**-3.2**
VLO	**Vlora**	**0.90**	**194**	⇑*i*Pg	**Pn**	**14 40 04.1**	**+0.9**
VLO				Sg	**Sn**	**14 40 18.5**	**+3.1**
DRME	**Dracevica, Mon**	**0.95**	**333**	*e*Pg	**Pb**	**14 40 03.1**	**-0.8**
DRME				*e*Sg	**Sn**	**14 40 18.0**	**+1.1**
DRME	**Dracevica, Mon**	**0.95**	**333**	⇓*i*Pg	**Pb**	**14 40 03.6**	**-0.3**
DRME				*e*Sg	**Sb**	**14 40 12.3**	**-3.8**
PDG	**Podgorica**	**1.16**	**341**	*e*Pg	**Pb**	**14 40 07.3**	**0.0**
PDG				*e*Sg	**Sn**	**14 40 21.6**	**-0.2**
PDG	**Podgorica**	**1.16**	**341**	⇑*i*Pg	**Pb**	**14 40 07.3**	**0.0**
PDG				*e*Sg	**Sb**	**14 40 22.7**	**+0.8**
BUM	**Brajici-Budva**	**1.16**	**326**	⇓*i*Pg	**Pb**	**14 40 06.4**	**-0.5**
BUM				*e*Sg	**Sn**	**14 40 21.5**	**-0.6**
PVY	**Plav**	**1.26**	**6**	⇓*i*Pg	**Pb**	**14 40 11.8**	**+2.6**
PVY				*e*Sg	**Sb**	**14 40 30.0**	**+4.9**
CEME	**Cevo**	**1.36**	**332**	⇓*i*Pg	**Pn**	**14 40 09.4**	**-0.3**
CEME				*i* Sg	**Sb**	**14 40 27.6**	**-0.3**
HCY	**Herceg Novi**	**1.46**	**320**	⇑*i*Pg	**Pn**	**14 40 10.1**	**-0.9**
HCY				*i* Sg	**Sn**	**14 40 28.5**	**-0.9**
KOME	**Kolasin**	**1.52**	**353**	*e*Pg	**Pb**	**14 40 14.3**	**+0.7**
KOME				*e*Sg	**Sb**	**14 40 34.5**	**+2.0**
KOME	**Kolasin**	**1.52**	**353**	⇓*i*Pg	**Pb**	**14 40 13.9**	**+0.3**
KOME				*i* Sg	**Sb**	**14 40 34.1**	**+1.6**
IVA	**Berane**	**1.53**	**3**	⇑*i*Pg	**Pb**	**14 40 13.7**	**-0.1**
IVA				*e*Sg	**Sb**	**14 40 36.2**	**+3.4**
NKME	**Niksic**	**1.55**	**337**	⇓*i*Pg	**Pn**	**14 40 12.7**	**+0.4**
NKME				*i* Sg	**Sb**	**14 40 32.8**	**-0.5**
BRY	**Bratogost**	**1.81**	**330**	⇓*i*Pg	**Pn**	**14 40 16.6**	**+0.7**
BRY				*e*Sg	**Sb**	**14 40 39.8**	**-1.1**
SJES	**Sjenica**	**1.93**	**4**	*e*Pn	**Pb**	**14 40 20.9**	**+0.4**
SJES				*e*Sg	**Sb**	**14 40 46.3**	**+2.1**
UPM	**Unac-Piva**	**1.97**	**341**	⇓*i*Pn	**Pb**	**14 40 21.6**	**+0.3**
UPM				*e*Sn	**Sb**	**14 40 45.8**	**+0.3**
BARS	**Barje**	**2.12**	**45**	*e*Pn	**Pb**	**14 40 23.0**	**-0.8**
BARS				*e*Sn	**Sb**	**14 40 52.1**	**+2.5**
NOCI	**Noci**	**2.12**	**256**	⇑*i*Pn	**Pn**	**14 40 21.7**	**+1.6**
NOCI				Sn	**Sb**	**14 40 49.4**	**-0.3**
NOCI				AML	AML	14 40 56.6	
	0.5nm,0.4s						
SELS	**Selova**	**2.13**	**28**	*e*Pn	**Pb**	**14 40 22.5**	**-1.4**
SELS				*e*Sn	**Sb**	**14 40 51.4**	**+1.5**
IVAS	**Ivanjica**	**2.25**	**7**	*e*Pn	**Pb**	**14 40 25.3**	**-0.8**
BOSS	**Bosilegrad**	**2.33**	**59**	*e*Pn	**Pb**	**14 40 25.9**	**-1.4**
GOCS	**Kraljevo Serbi**	**2.37**	**20**	*e*Pn	**Pb**	**14 40 26.2**	**-1.8**
BBLS	**Lazi&#263i**	**2.54**	**354**	*e*Pn	**Pb**	**14 40 30.4**	**-0.5**
BBLS				*e*Sn	**Sb**	**14 41 01.8**	**+0.1**
LKD2	**Lefkada island**	**2.64**	**165**	⇑Pn	**Pb**	**14 40 27.8**	**+0.7**
LKD2				Sn	**Sb**	**14 41 04.1**	**-0.5**
GRUS	**Gruza**	**2.64**	**15**	*e*Pn	**Pb**	**14 40 29.8**	**-2.8**
GRUS				*e*Sn	**Sb**	**14 41 04.0**	**-0.6**
ZAPS	**Zavoj**	**2.87**	**47**	*e*Pn	**Pb**	**14 40 33.9**	**-2.7**
ZAPS				*e*Sn	**Sb**	**14 41 07.8**	**-3.4**
VTS	**Vitosha**	**2.88**	**63**	*e*Pn	**Pb**	**14 40 34.3**	**-2.5**
SRS	**Serrai**	**2.89**	**93**	*e*Pn	**Pb**	**14 40 34.2**	**-2.7**
ZAGS	**Zajecar**	**3.07**	**36**	*e*Pn	**Pn**	**14 40 35.7**	**+2.7**
ZAGS				*e*Sn	**Sb**	**14 41 13.9**	**-3.0**
KUBS	**Kucevo**	**3.37**	**24**	*e*Pn	**Pn**	**14 40 37.8**	**+0.5**
FINES	**FINESS Array B**	**20.49**	**9**	P	**P**	**14 44 21.4**	**-0.7**
	0.1nm,0.3s,baz=182,slow=13,SNR=1.3						
	7.0nm,1.2s						
ZALV	**Zalesovo Beam**	**44.07**	**50**	P	**P**	**14 47 51.8**	**-0.1**
	0.8nm,0.4s,baz=277,slow=8.7,SNR=3.8						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**44.20**	**61**	P	**P**	**14 47 53.9**	**+0.8**
	0.4nm,0.5s,baz=293,slow=7.3,SNR=5.1						
	0.4nm,0.5s						

*THE **21** 14:44:55.8, 42°.71× 1°.9E±.6°.1, h20^{km}, M2.9/6, MLh2.9/6*
*TIR **21** 14:45:01.5, 41°.60N× 19°.59E, h15$^{km}_{\pm 3}$, Ml2.9/4*
*PDG **21** 14:45:04.5±0.3, 41°.32N× 19°.39E, h23^{km}, MD3.2/3, ML3.1/8, Error ellipse: s-maj=1.4km s-min=2.6km az=0.0*
*BEO **21** 14:45:06.4±0.6, 41°.37N× 19°.66E, h18$^{km}_{\pm 5}$, ML2.9/9*
*IDC **21** 14:45:11.5±10.0, 41°.62N× 19°.36E, h83$^{km}_{\pm 66}$, mb3.4/3, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=80.1km s-min=58.6km az=10.0*

ISC 21 14:45:03.3±1.1, **41°.32N**±0°.02× **19°.53E**±0°.03, **h12**$^{km}_{\pm}$9km, **n48**, σ1§**69**/71, **7C-6D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.25**	**83**	⇓*P*g	**Pb**	**14 45 09.4**	**-0.4**
TIR				Sg	**Sb**	**14 45 12.9**	**-1.3**
TIR				AML	AML	14 45 13.4	
	6.4nm,0.5s						
TIR				AML	AML	14 45 13.6	
	6.1nm,0.8s						
ULC	**Ulcinj**	**0.68**	**342**	⇓*i*Pg	**Pb**	**14 45 16.6**	**-0.6**
ULC				*e*Sg	**Sb**	**14 45 27.5**	**+0.9**
VLO	**Vlora**	**0.85**	**182**	⇑*i*Pg	**Pn**	**14 45 23.6**	**+2.4**
VLO				Sg	**Sn**	**14 45 37.8**	**+4.3**
VLO				AML	AML	14 45 42.6	
	7.5nm,0.5s						
VLO	**Vlora**	**0.85**	**182**	P	**Pn**	**14 45 23.3**	**+2.2**
DRME	**Dracevica, Mon**	**0.91**	**343**	*e*Pg	**Pn**	**14 45 22.3**	**+0.3**
DRME				*e*Sg	**Sn**	**14 45 36.8**	**+1.8**
DRME	**Dracevica, Mon**	**0.91**	**343**	⇑*i*Pg	**Pb**	**14 45 21.4**	**+0.4**
DRME				*e*Sg	**Sn**	**14 45 35.8**	**+0.8**
BUM	**Brajici-Budva**	**1.09**	**334**	⇓*i*Pg	**Pn**	**14 45 24.7**	**+0.1**
BUM				*i* Sg	**Sn**	**14 45 40.6**	**+0.9**
PDG	**Podgorica**	**1.13**	**349**	*e*Pg	**Pn**	**14 45 25.8**	**+0.8**
PDG				*e*Sg	**Sn**	**14 45 41.9**	**+1.5**
PDG	**Podgorica**	**1.13**	**349**	⇓*i*Pg	**Pn**	**14 45 25.6**	**+0.6**
PDG				*i* Sg	**Sn**	**14 45 42.0**	**+1.5**
KBN	**Korca**	**1.18**	**126**	⇑Pg	**Pn**	**14 45 26.0**	**+0.3**
KBN				Sg	**Sn**	**14 45 45.9**	**+4.1**
CEME	**Cevo**	**1.31**	**340**	⇑*i*Pg	**Pg**	**14 45 28.2**	**-0.3**
CEME				*e*Sg	**Sn**	**14 45 46.5**	**+1.4**
HCY	**Herceg Novi**	**1.37**	**326**	⇓*i*Pg	**Pg**	**14 45 29.3**	**-0.3**
NKME	**Niksic**	**1.51**	**344**	*e*Pg	**Pb**	**14 45 31.0**	**-0.4**
NKME				*i* Sg	**Sb**	**14 45 51.4**	**+0.9**
KOME	**Kolasin**	**1.53**	**360**	*e*Pg	**Pg**	**14 45 32.4**	**-0.3**
KOME				*e*Sg	**Sg**	**14 45 52.9**	**+0.3**
KOME	**Kolasin**	**1.53**	**360**	⇑*i*Pg	**Pb**	**14 45 31.5**	**-0.2**
KOME				*e*Sg	**Sg**	**14 45 53.3**	**+0.7**
IVA	**Berane**	**1.57**	**10**	⇓*i*Pn	**Pn**	**14 45 31.7**	**+0.5**
IVA				*e*Sn	**Sg**	**14 45 54.5**	**+0.5**
KEK	**Kerkira**	**1.62**	**173**	P	Pg	14 45 36.7	+2.4
KEK				S	Sg	14 46 01.5	+6.1
PENT	**Pentalofos**	**1.66**	**132**	P	**Pg**	**14 45 35.8**	**+0.7**
BRY	**Bratogost**	**1.75**	**335**	*e*Pn	**Pn**	**14 45 34.0**	**+0.4**
IGT	**Igoumenitsa**	**1.89**	**161**	⇑Pn	**Pg**	**14 45 38.8**	**-0.7**
IGT				Sn	**Sg**	**14 46 08.3**	**+4.3**
IGT	**Igoumenitsa**	**1.89**	**161**	P	**Pg**	**14 45 37.3**	**-2.2**
UPM	**Unac-Piva**	**1.94**	**346**	*e*Pn	**Pb**	**14 45 36.9**	**+0.5**
NOCI	**Noci**	**1.94**	**255**	⇑Pn	**Pb**	**14 45 36.0**	**-2.6**
NOCI				Sn	**Sg**	**14 46 07.0**	**+1.3**
NOCI				AML	AML	14 46 15.6	
	0.9nm,0.4s						
SJES	**Sjenica**	**1.97**	**9**	*e*Pn	**Pb**	**14 45 39.0**	**-0.2**
SJES				*e*Sg	**Sg**	**14 46 07.4**	**+0.8**
KZN	**Kozani**	**1.98**	**120**	P	**Pg**	**14 45 39.8**	**-1.4**
SELS	**Selova**	**2.23**	**31**	*e*Pn	**Pn**	**14 45 41.0**	**+0.7**
SELS				*e*Sn	**Sn**	**14 46 07.5**	**-0.3**
BARS	**Barje**	**2.26**	**48**	*e*Pn	**Pn**	**14 45 42.0**	**+1.4**
BARS				*e*Sn	**Sn**	**14 46 07.4**	**-1.1**
RUDO	**Rudo**	**2.30**	**357**	*e*Pn	**Pn**	**14 45 42.8**	**+1.6**
IVAS	**Ivanjica**	**2.30**	**11**	*e*Pn	**Pn**	**14 45 41.6**	**+0.4**
IVAS				*e*Sn	**Sn**	**14 46 10.1**	**+0.6**
GOCS	**Kraljevo Serbi**	**2.45**	**23**	*e*Pn	**Pn**	**14 45 43.5**	**+0.2**
GOCS				*e*Sn	**Sn**	**14 46 12.8**	**-0.5**
BOSS	**Bosilegrad**	**2.49**	**61**	*e*Pn	**Pn**	**14 45 45.2**	**+1.4**
KNT	**Kendrikon**	**2.54**	**92**	P	**Pn**	**14 45 45.8**	**+1.3**
BBLS	**Lazi&#263i**	**2.55**	**358**	*e*Pn	**Pb**	**14 45 47.8**	**-1.3**
BBLS				*e*Sn	**Sn**	**14 46 14.6**	**+0.8**
LKD2	**Lefkada island**	**2.67**	**161**	P	**Pb**	**14 45 47.2**	**-3.9**
GRUS	**Gruza**	**2.71**	**18**	*e*Pn	**Pn**	**14 45 47.3**	**+0.5**
AMPL	**Ampelaki**	**2.72**	**151**	P	**Pb**	**14 45 48.6**	**-3.1**
ZAPS	**Zavoj**	**3.02**	**49**	*e*Pn	**Pn**	**14 45 52.3**	**+1.3**
ZAPS				*e*Sn	**Sn**	**14 46 27.0**	**-0.1**
VTS	**Vitosha**	**3.05**	**64**	*e*Pn	**Pn**	**14 45 53.3**	**+1.7**
SRS	**Serrai**	**3.07**	**92**	*e*Pn	**Pn**	**14 45 53.0**	**+1.3**
ZAGS	**Zajecar**	**3.19**	**38**	*e*Pn	**Pn**	**14 45 53.8**	**+0.4**
MLR	**Muntele Rosu**	**6.26**	**46**	P	**Pn**	**14 46 39.8**	**+4.2**
	0.5nm,0.3s,baz=160,slow=9.4,SNR=4.1						
MLR				S	**Sn**	**14 47 49.4**	**+2.2**
	3.5nm,0.8s,baz=274,slow=12,SNR=3.8						
	2.3nm,0.6s						
OBKA	**Obir**		**6.31 327**	*i* Pn	**Pn**	**14 46 38.2**	**+1.9**
	comp=Z,0.4nm,0.1s						
OBKA	**Obir**		**6.31 327**	*e*Sn	**Sn**	**14 47 46.8**	**-1.7**
	comp=N,3.1nm,0.3s						
WTTA	**Wattenberg**		**8.21 319**	*i* Pn	**Pn**	**14 47 04.1**	**+1.6**
	comp=Z,0.6nm,0.1s						
WTTA	**Wattenberg**		**8.21 319**	*i* Sn	**Sn**	**14 48 31.7**	**-3.5**
	comp=N,4.8nm,0.4s						
FINES	**FINESS Array B**	**20.54**	**9**	P	**P**	**14 49 39.9**	**-1.6**
	2.5nm,0.9s,baz=188,slow=9.5,SNR=1.7						
	2.5nm,0.9s						
ZALV	**Zalesovo Beam**	**44.22**	**50**	P	**P**	**14 53 11.3**	**-0.9**
	1.2nm,0.5s,baz=288,slow=7.6,SNR=2.1						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**44.37**	**61**	P	**P**	**14 53 13.0**	**-0.5**
	0.6nm,0.6s,baz=279,slow=7.8,SNR=7.3						
	0.6nm,0.6s						

*IDC **21** 14:47:60.0±2.7, 41°.52N× 19°.04E, h0^{km}, mb3.9/3, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=65.8km s-min=30.2km az=141.0*
*PDG **21** 14:48:03.4±0.5, 41°.28N× 19°.45E, h13$^{km}_{\pm 1}$, MD3.2/1, ML3.1/10, Error ellipse: s-maj=1.1km s-min=2.3km az=0.0*
*TIR **21** 14:48:03.9, 41°.50N× 19°.60E, h15$^{km}_{\pm 1}$, Ml3.7/3*
*SKO **21** 14:48:03.3, 41°.24N× 19°.34E, h18^{km}, ML3.6*
*THE **21** 14:48:04.3, 41°.N±9°.× 1°.9E± 1°.1, h11^{km}, M3.1/9, MLh3.1/9*
*BEO **21** 14:48:06.3±0.5, 41°.37N× 19°.56E, h20$^{km}_{\pm 4}$, ML3.1/12*

ISC 21 14:48:03.9±0.9, **41°.33N**±0°.02× **19°.48E**±0°.02, **h14**$^{km}_{\pm}$7km, **n81**, σ1§**15**/117, **10C-14D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.29**	**87**	P*g*	**Pg**	**14 48 09.5**	**-0.4**
TIR				AML	AML	14 48 13.2	
	29nm,0.3s						
TIR				Sg	**Sg**	**14 48 13.2**	**-0.7**
TIR	**Tirane**	**0.29**	**87**	P*g*	**Pg**	**14 48 09.5**	**-0.4**
TIR				Sg	**Sg**	**14 48 13.3**	**-0.7**
TIR				AML	AML	14 48 14.9	
	21nm,0.3s						
ULC	**Ulcinj**	**0.66**	**344**	⇓*i*Pg	**Pb**	**14 48 17.4**	**+0.2**
ULC				*i* Sg	**Sb**	**14 48 26.9**	**+0.7**
VLO	**Vlora**	**0.86**	**179**	P*g*	**Pn**	**14 48 23.4**	**+1.7**
VLO				Sg	**Sg**	**14 48 31.5**	**-0.4**
VLO				AML	AML	14 48 38.9	
	9.3nm,0.3s						
VLO				AML	AML	14 48 41.5	
	7.4nm,0.4s						
VLO	**Vlora**	**0.86**	**179**	P*g*	**Pn**	**14 48 23.1**	**+1.5**
VLO				Sg	**Sn**	**14 48 37.7**	**+3.7**
VLO				AML	AML	14 48 44.0	
	11nm,0.4s						
VLO	**Vlora**	**0.86**	**179**	P	**Pn**	**14 48 23.1**	**+1.5**
DRME	**Dracevica, Mon**	**0.88**	**345**	*e*Pg	**Pn**	**14 48 22.2**	**+0.3**
DRME				*e*Sg	**Sn**	**14 48 35.4**	**+0.8**
DRME	**Dracevica, Mon**	**0.88**	**345**	*e*Pg	**Pn**	**14 48 22.0**	**+0.1**
DRME				*i* Sg	**Sn**	**14 48 34.2**	**-0.4**
OHR	**Ohrid**	**1.02**	**102**	*i* Pg	**Pb**	**14 48 23.3**	**-0.1**
OHR				*i* Sg	**Sn**	**14 48 38.8**	**+0.8**
OHR				*e*Lg	Lg	14 48 40.4	
	comp=N,1μm,1.0s						
OHR				*e*Lg	Lg	14 48 42.0	
	comp=E,1μm,0.4s						
BUM	**Brajici-Budva**	**1.06**	**336**	⇑*i*Pg	**Pn**	**14 48 25.7**	**+1.2**
BUM				*e*Sg	**Sn**	**14 48 40.6**	**+1.5**
PDG	**Podgorica**	**1.11**	**351**	⇓P	**Pg**	**14 48 26.1**	**+0.8**
PDG				⇓S	**Sn**	**14 48 41.7**	**+1.6**
PDG	**Podgorica**	**1.11**	**351**	*e*Pg	**Pg**	**14 48 25.8**	**+0.5**
PDG				*e*Sg	**Sn**	**14 48 40.8**	**+0.6**
PDG	**Podgorica**	**1.11**	**351**	⇓*i*Pg	**Pg**	**14 48 25.7**	**+0.5**
PDG				*e*Sg	**Sn**	**14 48 41.5**	**+1.3**
KBN	**Korca**	**1.22**	**125**	P*g*	**Pg**	**14 48 27.2**	**-0.1**
KBN				Sg	**Sg**	**14 48 43.1**	**0.0**
KBN				AML	AML	14 48 47.0	
	comp=E,2.8nm,0.5s						
KBN	**Korca**	**1.22**	**125**	P*g*	**Pg**	**14 48 27.9**	**+0.6**
KBN				Sg	**Sg**	**14 48 45.0**	**+2.0**
KBN	**Korca**	**1.22**	**125**	P	**Pg**	**14 48 27.8**	**+0.5**
KBN				S	**Sg**	**14 48 45.1**	**+2.0**
CEME	**Cevo**	**1.28**	**341**	⇓*i*Pg	**Pg**	**14 48 28.9**	**+0.3**
CEME				*e*Sg	**Sg**	**14 48 47.7**	**+2.4**
PVY	**Plav**	**1.31**	**16**	⇑*i*Pg	**Pg**	**14 48 30.2**	**+1.1**
HCY	**Herceg Novi**	**1.34**	**327**	⇑*i*Pg	**Pg**	**14 48 29.9**	**+0.3**
HCY				*i* Sg	**Sg**	**14 48 48.9**	**+1.9**
NKME	**Niksic**	**1.49**	**345**	⇑*i*Pg	**Pb**	**14 48 31.7**	**+0.4**
NKME				*e*Sg	**Sg**	**14 48 52.6**	**+0.8**
KOME	**Kolasin**	**1.52**	**1**	*e*Pg	**Pg**	**14 48 33.1**	**+0.1**
KOME				*e*Sg	**Sg**	**14 48 53.2**	**+0.4**
KOME	**Kolasin**	**1.52**	**1**	⇓*i*Pg	**Pb**	**14 48 32.2**	**+0.3**
KOME				*e*Sg	**Sg**	**14 48 53.7**	**+0.9**
IVA	**Berane**	**1.57**	**11**	⇓*i*Pn	**Pg**	**14 48 33.6**	**-0.4**
IVA				*i* Sn	**Sg**	**14 48 54.9**	**+0.5**
PENT	**Pentalofos**	**1.69**	**132**	P	**Pb**	**14 48 34.9**	**0.0**
BRY	**Bratogost**	**1.72**	**336**	⇑*i*Pn	**Pb**	**14 48 35.7**	**+0.4**
BRY				*e*Sn	**Sg**	**14 48 58.6**	**-0.6**
NOCI	**Noci**	**1.91**	**254**	Pn	**Pn**	**14 48 36.7**	**+0.6**
NOCI				Sn	**Sg**	**14 49 04.4**	**-0.9**
NOCI				AML	AML	14 49 18.2	
	comp=E,1.5nm,0.5s						
NOCI	**Noci**	**1.91**	**254**	Pn	**Pg**	**14 48 41.1**	**+0.7**
NOCI				Sn	**Sg**	**14 49 06.7**	**+1.5**
NOCI				AML	AML	14 49 18.2	
	comp=E,1.5nm,0.5s						
IGT	**Igoumenitsa**	**1.91**	**160**	Pn	**Pb**	**14 48 37.9**	**-0.7**
IGT				Sn	**Sn**	**14 49 00.2**	**+0.2**
IGT				AML	AML	14 49 16.4	
	comp=E,0.8nm,0.9s						
IGT	**Igoumenitsa**	**1.91**	**160**	Pn	**Pg**	**14 48 40.6**	**+0.1**
IGT				Sn	**Sg**	**14 49 08.2**	**+2.9**
IGT	**Igoumenitsa**	**1.91**	**160**	S	**Sn**	**14 49 00.3**	**+0.4**
IGT	**Igoumenitsa**	**1.91**	**160**	*e*Pn	**Pb**	**14 48 38.5**	**-0.1**
UPM	**Unac-Piva**	**1.92**	**347**	⇓*i*Pn	**Pb**	**14 48 38.8**	**0.0**
UPM				*e*Sn	**Sb**	**14 49 02.8**	**+0.1**
SJES	**Sjenica**	**1.96**	**11**	*e*Pg	**Pb**	**14 48 39.7**	**+0.2**
SJES				*e*Sg	**Sg**	**14 49 07.1**	**+0.1**
KZN	**Kozani**	**2.02**	**120**	P	**Pn**	**14 48 38.7**	**+1.2**
STON	**Ston**	**2.03**	**320**	*e*Pn	**Pb**	**14 48 40.6**	**0.0**
KTI	**Kastanea**	**2.21**	**114**	P	**Pn**	**14 48 41.8**	**+1.5**
MATE	**Matera**	**2.21**	**253**	⇓P	**Pn**	**14 48 38.0**	**-2.1**
SELS	**Selova**	**2.24**	**32**	*e*Pn	**Pn**	**14 48 41.9**	**+1.2**
BARS	**Barje**	**2.28**	**49**	*i* Pn	**Pn**	**14 48 42.2**	**+1.0**
BARS				*i* Sn	**Sb**	**14 49 11.9**	**-1.1**
BARS	**Barje**	**2.28**	**49**	*e*Pn	**Pn**	**14 48 42.3**	**+1.1**
BARS				*e*Sn	**Sn**	**14 49 10.9**	**+1.7**
IVAS	**Ivanjica**	**2.30**	**12**	*e*Pn	**Pn**	**14 48 42.3**	**+0.9**
GOCS	**Kraljevo Serbi**	**2.45**	**24**	*e*Pn	**Pn**	**14 48 44.8**	**+1.2**
BOSS	**Bosilegrad**	**2.52**	**62**	*e*Pn	**Pn**	**14 48 45.3**	**+0.8**
KNT	**Kendrikon**	**2.58**	**93**	*i* Pn	**Pn**	**14 48 46.0**	**+0.7**
KNT				*i* Sn	**Sn**	**14 49 17.3**	**+0.8**
TSLK	**Tsoukalades, L**	**2.66**	**160**	P	**Pn**	**14 48 46.7**	**+0.3**
LKD2	**Lefkada island**	**2.70**	**160**	Pn	**Pn**	**14 48 47.2**	**+0.3**
LKD2	**Lefkada island**	**2.70**	**160**	P	**Pn**	**14 48 47.1**	**+0.3**
GRUS	**Gruza**	**2.71**	**19**	*e*Pn	**Pn**	**14 48 48.5**	**+1.4**
GRUS				*e*Sn	**Sn**	**14 49 20.0**	**+0.3**
THE	**Thessaloniki**	**2.73**	**104**	Pn	**Pn**	**14 48 47.8**	**+0.6**
THE				AML	AML	14 49 24.4	

comp=E,0.3nm,0.5s
AMPL Ampelaki 2.75 151 P **Pn 14 48 48.1 +0.5**
NYDR Nydri-Lefkada 2.78 160 P **Pn 14 48 48.2 +0.2**
DIVS Dívibare 2.79 8 *e*Pn **Pn 14 48 49.2 +1.0**
BOVS Bovan 2.83 35 ⇓P **Pn 14 48 50.4 +1.7**
BOVS Bovan 2.83 35 *e*Pn **Pn 14 48 50.0 +1.3**
BOVS *e*Sn **Sn 14 49 21.9 -0.7**
SGRT San Giovanni R 2.84 280 Pn **Pn 14 48 49.2 +0.3**
SOH Sokhos 2.97 99 *i* Pn **Pn 14 48 51.5 +0.8**
SOH *i* Sn **Sn 14 49 27.3 +1.2**
FSK Fiskardo 2.99 164 P **Pn 14 48 50.3 -0.5**
TIP Timpagrande 3.00 225 ⇓P **Pn 14 48 50.6 -0.4**
ZAPS Zavoj 3.04 49 *e*Pn **Pn 14 48 52.7 +1.1**
ZAPS *e*Sn **Sn 14 49 27.5 -0.3**
VTS Vitosha 3.08 64 *e*Pn **Pn 14 48 53.5 +1.2**
SRS Serrai 3.11 93 P **Pn 14 48 53.0 +0.5**
SRS Serrai 3.11 93 *e*Pn **Pn 14 48 53.2 +0.7**
ZAGS Zajecar 3.20 38 *e*Pn **Pn 14 48 54.9 +1.1**
MMB Musomishta 3.21 85 P **Pn 14 48 54.8 +0.8**
BORS2 Bor- Borsko je 3.33 33 *e*Pn **Pn 14 48 55.4 -0.2**
KUBS Kucevo 3.47 27 *e*Pn **Pn 14 48 57.0 -0.6**
MDVR Moldovita 3.81 25 ⇑P **Pn 14 49 02.9 +0.6**
MDVR Moldovita 3.81 25 *e*Pn **Pn 14 49 02.9 +0.6**
FRGS Fruska Gora 3.83 3 *e*Pn **Pn 14 49 03.1 +0.6**
RZN Rozhen 3.96 83 P **Pn 14 49 05.6 +1.2**
HERR Herculane 4.15 30 ⇓P **Pn 14 49 07.6 +0.8**
BZS Buzias 4.55 19 ⇓P **Pn 14 49 13.5 +1.1**
GZR Gura Zlata 4.71 30 ⇑P **Pn 14 49 16.2 +1.5**
SIRR Siria 5.18 17 ⇓P **Pn 14 49 21.3 +0.3**
ARR Arges 5.51 41 ⇑P **Pn 14 49 27.5 +1.9**
VOIR 5.77 43 ⇑P **Pn 14 49 30.9 +1.7**
MLR Muntele Rosu 6.28 46 Pn **Pn 14 49 39.2 +3.0**
comp=E,0.6nm,0.3s,baz=164,slow=9.2,SNR=7.0
MLR Sn **Sn 14 50 48.2 +0.5**
comp=E,0.2nm,0.3s,baz=128,slow=23,SNR=3.9
comp=E,4.1nm,0.6s
MLR Muntele Rosu 6.28 46 ⇑P **Pn 14 49 37.8 +1.6**
FINES FINESS Array B 20.53 9 P **P 14 52 37.7 -3.9**
comp=E,1.6nm,0.7s,baz=182,slow=11,SNR=8.2
comp=E,1.6nm,0.7s
ZALV Zalesovo Beam 44.24 50 P **P 14 56 11.1 -1.4**
comp=E,1.8nm,0.5s,baz=289,slow=9.0,SNR=8.2
comp=E,1.8nm,0.5s
MKAR Makanchi Array 44.40 61 P **P 14 56 12.9 -1.1**
comp=E,1.2nm,0.6s,baz=283,slow=6.9,SNR=14
comp=E,1.2nm,0.6s

*IDC **21** 14:53:17.5±0.7, 7°.15S× 145°.45E, h0^{km}, mb4.2/12, mbtmp4.2/16, ML3.7/3, Error ellipse: s-maj=26.4km s-min=15.4km az=81.0*

ISC 21 14:53:22.7±0.6, **7°.20S**±0°.07× **145°.4E**±0°.1, **h35**^{km}, **n29**, σ1§**40**/28, **mb4.2**/12, **Near south coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**		**2.77 142**	Pn	**Pn**	**14 54 03.4**	**-1.2**
	85nm,0.5s,baz=4.9,slow=3.9,SNR=55						
PMG				Sn	**Sn**	**14 54 36.5**	**-0.4**
	55nm,0.3s,baz=292,slow=13,S

	comp=E,768µm,0.7s						
NRCA				AML	AML		
	comp=N,604µm,0.3s						
NRCA				AML	AML		
	comp=E,768µm,0.7s						
NRCA				AML	AML		
	comp=N,604µm,0.3s						
NRCA				AML	AML		
	comp=N,604µm,1.7s						
NRCA				AML	AML		
	comp=N,424µm,0.1s						
NRCA				AML	AML		
	comp=E,571µm,0.2s						
NRCA				AML	AML		
	comp=N,456µm,0.1s						
NRCA				AML	AML		
	comp=E,618µm,0.1s						
LNSS	**Leonessa**	**0.17**	**234**	⇑P	Pg	14 54 29.5	+0.6
LNSS				S	Sg	14 54 32.6	+1.1
LNSS				AML	AML		
	comp=E,376µm,0.5s						
LNSS				AML	AML		
	comp=N,394µm,0.4s						
LNSS				AML	AML		
	comp=E,375µm,0.5s						
LNSS				AML	AML		
	comp=E,358µm,0.5s						
LNSS				AML	AML		
	comp=N,450µm,0.5s						
LNSS				AML	AML		
	comp=E,375µm,1.5s						
LNSS				AML	AML		
	comp=E,358µm,1.5s						
LNSS				AML	AML		
	comp=N,394µm,1.6s						
LNSS				AML	AML		
	comp=N,450µm,1.5s						
LNSS				AML	AML		
	comp=E,281µm,0.3s						
LNSS				AML	AML		
	comp=E,270µm,0.3s						
LNSS				AML	AML		
	comp=N,358µm,0.2s						
LNSS				AML	AML		
	comp=N,399µm,0.2s						
RM33	**Pellescritta (**	**0.19**	**183**	⇑P	Pg	14 54 29.9	+0.5
RM33				S	Sg	14 54 33.4	+1.2
RM33				AML	AML		
	comp=E,310µm,1.0s						
RM33				AML	AML		
	comp=N,184µm,0.3s						
RM33				AML	AML		
	comp=E,209µm,0.7s						
RM33				AML	AML		
	comp=N,174µm,0.3s						
RM33				AML	AML		
	comp=N,184µm,0.3s						
RM33				AML	AML		
	comp=N,174µm,0.3s						
RM33				AML	AML		
	comp=E,310µm,1.0s						
RM33				AML	AML		
	comp=E,209µm,1.3s						
RM33				AML	AML		
	comp=N,166µm,0.3s						
RM33				AML	AML		
	comp=N,184µm,0.3s						
RM33				AML	AML		
	comp=E,177µm,0.1s						
RM33				AML	AML		
	comp=E,169µm,0.2s						
MMO1	**Montemonaco**	**0.21**	**20**	⇑P	Pg	14 54 30.1	+0.5
MMO1				S	Sg	14 54 33.7	+1.0
MC2	**Monte Cornacci**	**0.21**	**353**	⇑P	Pg	14 54 30.2	+0.5
MC2				S	Sg	14 54 34.2	+1.3
TERO	**Teramo**	**0.29**	**106**	P	Pg	14 54 31.4	+0.3
TERO				AML	AML		
	comp=E,61µm,1.1s						
TERO				AML	AML		
	comp=N,103µm,1.5s						
TERO				AML	AML		
	comp=E,61µm,0.9s						
TERO				AML	AML		
	comp=N,103µm,0.5s						
TERO				AML	AML		
	comp=N,78µm,0.1s						
TERO				AML	AML		
	comp=E,55µm,0.2s						
TERO				AML	AML		
	comp=N,286µm,0.7s						
MF5	**Montefalcone A**	**0.33**	**31**	P	Pb	14 54 32.6	-0.7
MF5				AML	AML		
	comp=E,68µm,0.2s						
MF5				AML	AML		
	comp=N,71µm,0.4s						
MTCL	**Monte Cavallo**	**0.34**	**330**	P	Pg	14 54 32.2	+0.3
FDMO	**Fiordimonte**	**0.35**	**343**	P	Pg	14 54 32.4	+0.3
FDMO				S	Sb	14 54 38.6	-0.5
FDMO				AML	AML		
	comp=N,78µm,0.2s						
FDMO				AML	AML		
	comp=E,53µm,0.6s						
FDMO				AML	AML		
	comp=E,45µm,0.2s						
FDMO				AML	AML		
	comp=N,78µm,0.2s						
GIGS	**Gran Sasso**	**0.36**	**135**	P	Pg	14 54 32.6	+0.3
GIGS				AML	AML		
	comp=E,11µm,0.3s						
GIGS				AML	AML		
	comp=N,14µm,0.2s						
ARRO	**Arrone**	**0.36**	**250**	P	Pg	14 54 32.7	+0.4
ARRO				AML	AML		
	comp=E,46µm,1.0s						
ARRO				AML	AML		
	comp=N,68µm,0.2s						
ARRO				AML	AML		
	comp=E,46µm,1.0s						
ARRO				AML	AML		
	comp=E,40µm,0.2s						
ARRO				AML	AML		
	comp=N,68µm,0.2s						
GUMA	**Gualdo di Mace**	**0.37**	**12**	⇑P	Pb	14 54 33.2	-0.6
GUMA				S	Sb	14 54 39.6	-0.1
GUMA				AML	AML		
	comp=E,193µm,0.7s						
GUMA				AML	AML		
	comp=N,248µm,0.3s						
GUMA				AML	AML		
	comp=N,248µm,1.7s						
GUMA				AML	AML		
	comp=E,193µm,1.3s						
GUMA				AML	AML		
	comp=N,249µm,0.3s						
GUMA				AML	AML		
	comp=E,260µm,0.3s						
GUMA				AML	AML		
	comp=E,182µm,0.3s						
CSP1	**Cessapalombo**	**0.39**	**358**	⇑P	Pg	14 54 33.2	+0.3
CSP1				S	Sb	14 54 39.5	-0.9
CSP1				AML	AML		
	comp=E,64µm,0.3s						
CSP1				AML	AML		
	comp=N,74µm,0.3s						
CSP1				AML	AML		
	comp=N,74µm,0.3s						
CSP1				AML	AML		
	comp=E,64µm,0.3s						
FIAM	**Fiamignano**	**0.44**	**191**	P	Pg	14 54 34.0	+0.2
FIAM				AML	AML		
	comp=E,20µm,0.2s						
FIAM				AML	AML		
	comp=N,24µm,1.2s						
FIAM				AML	AML		
	comp=N,24µm,0.8s						
FIAM				AML	AML		
	comp=E,20µm,0.2s						
FIAM				AML	AML		
	comp=N,17µm,0.2s						
EL6	**Elcito**	**0.63**	**352**	P	Pg	14 54 37.5	+0.1

*IDC **21** 14:54:48.4±0.7, 7.°22S×145.°57E, h0km, mb4.3/15, mbtmp4.3/18, ML2.5/2, MS4.2/1, Error ellipse: s-maj=21.7km s-min=11.7km az=96.0*
*NEIC **21** 14:54:51.9±2.5, 7.°40S±0.°03×145.°47E±0.°08, h35km±2km, mb4.5/13, Error ellipse: s-maj=13.2km s-min=5.5km az=280.0*

ISC 21 14:54:53.4±0.5, 7.°24S±0.°05×145.°44E±0.°06, h35km, n55, σ2s17/55, mb4.3/16, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.74**	**142**	Pn	**Pn**	**14 55 31.3**	**-3.6**
PMG	**Port Moresby**	**2.74**	**142**	Pn	**Pn**	**14 55 34.7**	**-0.2**
	22nn,0.3s,baz=250,slow=22,SNR=3.4						
PMG				Sn	**Sn**	**14 56 07.1**	**+0.3**
	35nn,0.3s,baz=316,slow=19,SNR=6.1						
	246nn,0.7s						
JAY	**Jayapura**	**6.65**	**315**	Pn	**Pn**	**14 56 29.9**	**+1.2**
	0.5nn,0.3s,baz=135,slow=20,SNR=1.3						
JAY				Sn	**Sn**	**14 57 44.0**	**+0.6**
	0.3nn,0.3s,baz=115,slow=14,SNR=1.7						
	2.4nn,0.3s						
COEN	**Coen**	**7.03**	**198**	P	**Pn**	**14 56 34.4**	**+0.5**
RABL	**Rabaul**	**7.35**	**66**	Pn	**Pn**	**14 56 38.9**	**+0.6**
TV1H	**Townsville Har**	**12.02**	**174**	P	**Pn**	**14 57 44.3**	**+2.0**
CTA	**Charters Tower**	**12.79**	**177**	LR	LR	15 03 50.5	
	comp=Z,14nn,18.1s,baz=342,slow=42						
CTAO	**Charters Tower**	**12.79**	**177**	Pn	**Pn**	**14 57 54.0**	**+1.1**
CTAO	**Charters Tower**	**12.79**	**177**	P	**Pn**	**14 57 54.7**	**+1.8**
FAKI	**Fak Fak**	**13.82**	**287**	P	**Pn**	**14 58 06.1**	**-0.8**
TATA	**Tatamba Isabel**	**14.28**	**96**	P	**P**	**14 58 18.0**	**-1.9**
QIS	**Mount Isa**	**14.39**	**203**	P	**Pn**	**14 58 15.3**	**+0.6**
MTN	**Manton Dam**	**15.14**	**247**		**Pn**	**14 58 21.6**	**-3.2**
MTN				IAmb	IAmb	14 58 33.4	
	comp=Z,33nm,0.7s						
WR8	**Warramunga Arr**	**16.50**	**219**		Pn	14 58 36.1	-6.2
WRA	**Warramunga Arr**	**16.59**	**219**	Pn	**Pn**	**14 58 39.3**	**-4.1**
WRA	**Warramunga Arr**	**16.59**	**219**	Pn	**Pn**	**14 58 41.0**	**-2.4**
	comp=Z,1.0nm,0.3s,baz=42,slow=11,SNR=9.3						
WRA				Sn	**Sn**	**15 01 52.7**	**+6.1**
	comp=Z,0.2nm,0.3s,baz=33,slow=26,SNR=1.6						
WRA				LR	LR	15 05 42.9	
	comp=Z,751nm,20.3s,baz=26,slow=39						
KNRA	**Kununurra**	**18.35**	**241**	P	**P**	**14 59 00.8**	**-4.3**
KNRA				IAmb	IAmb	14 59 25.2	
	comp=Z,18nm,0.7s						
PATS	**Pohnpei**	**18.99**	**43**	P	**P**	**14 59 11.0**	**-1.1**
AS31	**Alice Springs**	**19.73**	**213**	P	**P**	**14 59 17.7**	**-2.5**
AS31				IAmb	IAmb	14 59 24.9	
	comp=Z,12nm,0.8s						
ASAR	**Alice Springs**	**19.73**	**213**	P	**P**	**14 59 16.6**	**-3.6**
ASAR	**Alice Springs**	**19.73**	**213**	P	**P**	**14 59 20.3**	**+0.1**
	comp=Z,67nm,1.1s,baz=53,slow=9.2,SNR=17						
ASAR				S	**Sn**	**15 03 05.3**	**+2.7**
	comp=Z,1.1nm,0.8s,baz=32,slow=24,SNR=1.4						
SANI	**Sanana**	**20.05**	**284**	P	**P**	**14 59 24.4**	**+0.7**
GUMO	**Guam**	**20.70**	**358**	P	**P**	**14 59 27.7**	**-3.1**
GUMO	**Guam**	**20.70**	**358**	P	**P**	**14 59 30.2**	**-0.6**
	comp=Z,41nm,0.6s,baz=171,slow=11,SNR=8.3						
	comp=Z,41nm,0.6s						
GUMO	**Guam**	**20.70**	**358**	P	**P**	**14 59 31.3**	**+0.6**
INKA	**Innaminka**	**20.87**	**192**	P	P	14 59 26.4	-6.1
INKA				IAmb	IAmb	14 59 49.2	
	comp=Z,16nm,1.3s						
BATI	**Baunata**	**21.72**	**261**	P	**P**	**14 59 43.3**	**+1.6**
	comp=Z,19nm,0.8s,baz=36,slow=8.7,SNR=2.1						
	comp=Z,19nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.10**	**239**	P	**P**	**14 59 42.2**	**-3.6**
OUZ	**Omahuta**	**37.99**	**141**	P	**P**	**15 02 10.2**	**+2.1**
QRZ	**Quartz Range**	**41.25**	**148**	P	**P**	**15 02 38.0**	**+2.9**
MRNZ	**Matariki Terra**	**41.79**	**149**	P	**P**	**15 02 36.0**	**-3.5**
BKZ	**Black Stump Fm**	**42.31**	**143**	P	**P**	**15 02 48.0**	**+4.1**
RPZ	**Rata Peaks**	**42.70**	**152**	P	**P**	**15 02 48.8**	**+1.8**
KHZ	**Kahutara**	**42.93**	**149**	P	**P**	**15 02 50.8**	**+2.0**
BFZ	**Birch Farm**	**43.17**	**145**	P	**P**	**15 02 48.4**	**-2.4**
BFZ				IAmb	IAmb	15 02 52.7	
	comp=Z,14nm,0.7s						
BFZ	**Birch Farm**	**43.17**	**145**	P	**P**	**15 02 53.0**	**+2.2**
JGF	**Kuroka**	**43.29**	**350**	P	**P**	**15 02 50.4**	**-1.5**
JGF				IAmb	IAmb	15 02 52.0	
	comp=Z,9.1nm,0.7s						
JGF	**Kuroka**	**43.29**	**350**	P	**P**	**15 02 51.8**	**0.0**
MJAR	**Matsushiro Arr**	**44.08**	**352**	P	**P**	**15 02 57.7**	**-0.5**
MJAR				IAmb	IAmb	15 03 03.1	
	comp=Z,5.7nm,1.2s						
MJAR	**Matsushiro Arr**	**44.08**	**352**	P	**P**	**15 02 56.9**	**-1.2**
	comp=Z,4.0nm,0.7s,baz=179,slow=8.3,SNR=17						
	comp=Z,4.0nm,0.7s						
KSRS	**Korea Array**	**47.38**	**341**	P	**P**	**15 03 24.6**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=160,slow=9.1,SNR=12						
	comp=Z,2.1nm,0.6s						
JTM	**Tenmabayashi**	**47.96**	**356**	P	**P**	**15 03 28.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**52.49**	**300**	P	**P**	**15 04 04.5**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=122,slow=5.8,SNR=5.2						
	comp=Z,1.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**52.63**	**348**	P	**P**	**15 04 04.8**	**+0.9**
	comp=Z,8.6nm,0.6s,baz=184,slow=6.9,SNR=16						
	comp=Z,8.6nm,0.6s						
PETK	**Petropavlovsk-**	**61.02**	**8**	P	**P**	**15 05 03.1**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=172,slow=8.6,SNR=4.2						
	comp=Z,2.6nm,0.8s						
SONM	**Songino Array**	**64.75**	**332**	P	**P**	**15 05 29.6**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=158,slow=3.4,SNR=4.0						
	comp=Z,0.9nm,0.6s						
VNDA	**Vanda**	**70.78**	**176**	P	**P**	**15 06 06.2**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=358,slow=6.0,SNR=5.2						
	comp=Z,1.1nm,0.7s						
MKAR	**Makanchi Array**	**77.47**	**321**	P	**P**	**15 06 46.3**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=100,slow=6.4,SNR=4.5						
	comp=Z,0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**79.24**	**328**	P	**P**	**15 06 56.3**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=108,slow=4.7,SNR=2.0						
	comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**81.30**	**324**	P	**P**	**15 07 06.5**	**+0.5**
	comp=Z,0.3nm,0.2s,baz=118,slow=3.9,SNR=2.7						
	comp=Z,0.3nm,0.2s						
QSPA	**South Pole Qui**	**82.73**	**180**	P	**P**	**15 07 14.7**	**+1.2**
	comp=Z,4.1nm,0.7s,baz=302,slow=0.3,SNR=20						
	comp=Z,4.1nm,0.7s						
BVAR	**Borovoye Array**	**86.86**	**324**	P	**P**	**15 07 35.9**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=106,slow=4.7,SNR=2.0						
	comp=Z,0.6nm,0.5s						
ILAR	**Eielson Array**	**87.23**	**23**	P	**P**	**15 07 35.0**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=250,slow=5.2,SNR=17						
	comp=Z,1.7nm,0.6s						
GERES	**GERESS Array B**	**122.03**	**324**	PKP	**PKPdf**	**15 13 44.8**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=359,slow=5.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**143.86**	**282**	PKhKP	PKPpre	15 14 23.1	
	comp=Z,1.1nm,0.7s,baz=68,slow=4.2,SNR=4.4						

*TIR **21** 14:55:42.8, 41.°50N×19.°57E, h36km±3km, Ml3.3/5*
*SKO **21** 14:55:45.9, 41.°37N×19.°56E, h17km, ML3.2*
*PDG **21** 14:55:46.7±0.3, 41.°42N×19.°55E, h5km±1km, ML2.8/11, Error ellipse: s-maj=1.3km s-min=2.5km az=0.0*
*BEO **21** 14:55:46.9±0.5, 41.°42N×19.°79E, h13km±3km, ML2.8/13*

ISC 21 14:55:45.0±0.9, 41.°36N±0.°02×19.°61E±0.°03, h13km±7km, n52, σ1s08/81, 4C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.19**	**94**	Pg	**Pg**	**14 55 48.9**	**-0.4**
TIR				Sg	**Sg**	**14 55 51.6**	**-0.6**
TIR				AML	AML	14 55 52.1	
	13nm,0.4s						
TIR				AML	AML	14 55 52.8	
	15nn,0.3s						
ULC	**Ulcinj**	**0.66**	**335**	⇓*i*Pg	**Pg**	**14 55 57.3**	**-0.6**
ULC				*i* Sg	**Sb**	**14 56 07.8**	**+0.2**
DRME	**Dracevica, Mon**	**0.88**	**339**	*e*Pg	**Pb**	**14 56 02.3**	**0.0**
DRME				*e*Sg	**Sn**	**14 56 15.7**	**-0.3**
DRME	**Dracevica, Mon**	**0.88**	**339**	⇓*i*Pg	**Pb**	**14 56 02.4**	**+0.1**
DRME				*i* Sg	**Sn**	**14 56 15.4**	**-0.6**
VLO	**Vlora**	**0.90**	**186**	Pg	**Pb**	**14 56 02.7**	**+0.2**
VLO				Sg	**Sn**	**14 56 16.7**	**+0.4**
VLO				AML	AML	14 56 22.2	
	4.1nm,0.3s						
VLO	**Vlora**	**0.90**	**186**	S	**Sn**	**14 56 16.6**	**+0.4**
VLO	**Vlora**	**0.90**	**186**	P	**Pb**	**14 56 02.7**	**+0.2**
OHR	**Ohrid**	**0.93**	**105**	*i* Pg	**Pg**	**14 56 03.0**	**0.0**
OHR				*i* Sg	**Sn**	**14 56 18.1**	**+0.9**
OHR				*e*Lg	Lg	14 56 19.4	
	comp=N,474nm,0.8s						
OHR				*e*Lg	Lg	14 56 21.1	
	comp=E,485nm,0.5s						
BUM	**Brajici-Budva**	**1.08**	**330**	⇓*i*Pg	**Pn**	**14 56 05.7**	**-0.3**
BUM				*i* Sg	**Sn**	**14 56 22.3**	**+1.4**
PDG	**Podgorica**	**1.10**	**346**	*e*Pg	**Pn**	**14 56 06.5**	**+0.3**
PDG				*e*Sg	**Sn**	**14 56 20.7**	**-0.6**
PDG	**Podgorica**	**1.10**	**346**	⇓*i*Pg	**Pn**	**14 56 06.1**	**-0.1**
PDG				*e*Sg	**Sn**	**14 56 22.8**	**+1.5**
KBN	**Korca**	**1.16**	**129**	Pn	**Pb**	**14 56 06.7**	**-0.3**
KBN				Sn	**Sn**	**14 56 23.5**	**+0.8**
KBN				AML	AML	14 56 26.1	
	comp=E,2.3nm,0.4s						
KBN	**Korca**	**1.16**	**129**	P	**Pb**	**14 56 06.8**	**-0.2**
CEME	**Cevo**	**1.29**	**337**	⇑*i*Pg	**Pb**	**14 56 08.9**	**-0.4**
CEME				*e*Sg	**Sg**	**14 56 28.2**	**+1.5**
HCY	**Herceg Novi**	**1.37**	**323**	⇓*i*Pg	**Pb**	**14 56 10.5**	**0.0**
HCY				*e*Sg	**Sg**	**14 56 31.6**	**+2.4**
NKME	**Niksic**	**1.49**	**341**	⇓*i*Pg	**Pg**	**14 56 12.8**	**-0.8**
NKME				*i* Sg	**Sg**	**14 56 34.1**	**+1.1**
KOME	**Kolasin**	**1.49**	**357**	*e*Pg	**Pg**	**14 56 13.1**	**-0.6**
KOME				*e*Sg	**Sg**	**14 56 33.0**	**0.0**
KOME	**Kolasin**	**1.49**	**357**	⇑*i*Pg	**Pg**	**14 56 13.0**	**-0.6**
KOME				*e*Sg	**Sg**	**14 56 36.4**	**+3.4**
BEY	**Berane**	**1.52**	**8**	*e*Pg	**Pg**	**14 56 13.7**	**-0.6**
IVA	**Berane**	**1.52**	**8**	⇓*i*Pg	**Pg**	**14 56 13.4**	**-0.9**
IVA				*e*Sg	**Sg**	**14 56 36.9**	**+2.8**
PENT	**Pentalofos**	**1.64**	**135**	P	**Pb**	**14 56 15.0**	**-0.3**
KEK	**Kerkira**	**1.65**	**175**	P	**Pg**	**14 56 16.6**	**-0.2**
BRY	**Bratogost**	**1.73**	**333**	⇑*i*Pn	**Pb**	**14 56 17.1**	**+0.2**
BRY				*e*Sn	**Sg**	**14 56 41.8**	**+1.0**
IGT	**Igoumenitsa**	**1.91**	**163**	Pn	**Pn**	**14 56 17.2**	**-0.1**
IGT				Sn	**Sb**	**14 56 44.1**	**+0.6**
IGT	**Igoumenitsa**	**1.91**	**163**	P	**Pn**	**14 56 17.4**	**+0.1**
IGT	**Igoumenitsa**	**1.91**	**163**	*i* Pn	**Pn**	**14 56 16.5**	**-0.8**
IGT				*i* Sn	**Sb**	**14 56 44.5**	**+1.1**
IGT	**Igoumenitsa**	**1.91**	**163**	*e*Pn	**Pn**	**14 56 17.4**	**+0.1**
UPM	**Unac-Piva**	**1.91**	**344**	⇑*i*Pn	**Pb**	**14 56 20.1**	**+0.2**
UPM				*e*Sn	**Sg**	**14 56 47.3**	**+0.7**
SJES	**Sjenica**	**1.92**	**8**	*e*Pg	**Pb**	**14 56 19.6**	**-0.4**
SJES				*e*Sg	**Sg**	**14 56 46.6**	**-0.1**
NOCI	**Noci**	**2.01**	**254**	Pn	**Pn**	**14 56 19.1**	**+0.4**
NOCI				Sn	**Sn**	**14 56 43.8**	**0.0**
NOCI				AML	AML	14 56 55.5	
	comp=E,0.6nm,0.4s						
PRMD	**Pramanda**	**2.15**	**148**	P	**Pn**	**14 56 21.4**	**+0.7**
SELS	**Selova**	**2.17**	**31**	*e*Pn	**Pn**	**14 56 21.7**	**+0.8**
SELS				*e*Sg	**Sb**	**14 56 50.2**	**-0.8**
BARS	**Barje**	**2.19**	**48**	*i* Pn	**Pn**	**14 56 22.1**	**+0.8**
BARS				*i* Sn	**Sb**	**14 56 51.8**	**+0.1**
BARS	**Barje**	**2.19**	**48**	*e*Pn	**Pn**	**14 56 22.0**	**+0.8**
IVAS	**Ivanjica**	**2.25**	**10**	*e*Pn	**Pn**	**14 56 22.0**	**-0.1**
TETR	**Tetrakomo, Epi**	**2.38**	**147**	P	**Pn**	**14 56 24.9**	**+1.0**
GOCS	**Kraljevo Serbi**	**2.39**	**23**	*e*Pn	**Pn**	**14 56 25.6**	**+1.6**
GOCS				*e*Sn	**Sn**	**14 56 51.5**	**-1.7**
BOSS	**Bosilegrad**	**2.42**	**61**	*e*Pn	**Pn**	**14 56 24.5**	**+0.1**
KNT	**Kendrikon**	**2.48**	**94**	*i* Pn	**Pn**	**14 56 25.4**	**+0.1**
BBLS	**Lazi&#263i**	**2.51**	**357**	*e*Pn	**Pb**	**14 56 28.2**	**-1.8**
BBLS				*e*Sn	**Sn**	**14 56 56.3**	**+0.2**
GRUS	**Gruza**	**2.65**	**17**	*e*Pn	**Pn**	**14 56 28.2**	**+0.7**
LKD2	**Lefkada island**	**2.69**	**162**	Pn	**Pn**	**14 56 26.9**	**-1.2**
LKD2	**Lefkada island**	**2.69**	**162**	P	**Pn**	**14 56 26.6**	**-1.5**
NYDR	**Nydri-Lefkada**	**2.77**	**162**	P	**Pn**	**14 56 27.6**	**-1.6**
SOH	**Sokhos**	**2.88**	**100**	*i* Pn	**Pn**	**14 56 31.2**	**+0.5**
SGRT	**San Giovanni R**	**2.93**	**279**	Pn	**Pn**	**14 56 28.7**	**-2.8**
ZAPS	**Zavoj**	**2.94**	**49**	*e*Pn	**Pn**	**14 56 31.9**	**+0.3**
ZAPS				*e*Sn	**Sn**	**14 57 04.5**	**-2.3**
VTS	**Vitosha**	**2.98**	**64**	*e*Pn	**Pn**	**14 56 33.1**	**+0.9**
FSK	**Fiskardo**	**2.99**	**166**	P	**Pn**	**14 56 29.8**	**-2.3**
SRS	**Serrai**	**3.01**	**93**	*i* Pn	**Pn**	**14 56 32.8**	**+0.3**
SRS				*i* Sn	**Sn**	**14 57 07.0**	**-1.5**
SRS1	**Serrai**	**3.01**	**93**	*e*Pn	**Pn**	**14 56 32.6**	**+0.1**
ZAGS	**Zajecar**	**3.12**	**37**	*e*Pn	**Pn**	**14 56 35.0**	**+1.0**
ZAGS				*e*Sn	**Sn**	**14 57 09.2**	**-1.9**

*IDC **21** 15:00:43.5±2.0, 3.°65N×64.°05E, h0km, mb3.8/7, mbtmp3.8/7, MS4.4/1, Error ellipse: s-maj=59.3km s-min=27.1km az=69.0*

ISC 21 15:00:46.6±2.2, 3.7N±0.°3×63.°9E±0.°4, h23km, n9, σ0s76/8, mb3.7/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**37.27**	**64**	P	**P**	**15 07 57.4**	**+0.3**
	0.4nm,0.6s,baz=247,slow=7.0,SNR=4.4						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**45.84**	**18**	P	**P**	**15 09 05.5**	**-1.3**
	0.5nm,0.8s,baz=199,slow=8.4,SNR=3.1						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**48.40**	**12**	P	**P**	**15 09 27.3**	**+0.5**
	0.3nn,0.4s,baz=208,slow=7.4,SNR=1.9						
	0.3nn,0.4s						
ZALV	**Zalesovo Beam**	**52.98**	**15**	P	**P**	**15 10 00.7**	**-0.5**
	0.3nn,0.3s,baz=223,slow=10,SNR=3.9						
	0.3nn,0.3s						
KIRV	**Kirov**	**55.95**	**351**	LR	LR	15 37 22.2	
	comp=Z,286nm,18.3s,baz=45,slow=39						
SONM	**Songino Array**	**57.13**	**33**	P	**P**	**15 10 32.1**	**+0.5**
	1.1nm,0.8s,baz=227,slow=6.7,SNR=6.0						
	1.1nm,0.8s						
WRA	**Warramunga Arr**	**72.94**	**112**	P	**P**	**15 12 14.4**	**-0.3**
	2.7nm,0.9s,baz=286,slow=5.6,SNR=10						
	2.7nm,0.9s						
ASAR	**Alice Springs**	**73.25**	**116**	P	**P**	**15 12 16.4**	**-0.2**
	1.9nn,0.9s,baz=282,slow=6.5,SNR=11						
	1.9nn,0.9s						
TXAR	**Lajitas Array**	**145.12**	**341**	PKPbc	**PKPdf**	**15 20 23.4**	**+0.3**
	1.8nn,1.0s,baz=18,slow=4.4,SNR=8.8						

*SKO **21** 15:05:56.4, 41.°46N×19.°46E, h22km, ML2.9*
*TIR **21** 15:05:57.5, 41.°46N×19.°59E, h28km±1km, Ml2.9/3*
*BEO **21** 15:05:58.9±0.6, 41.°44N×19.°80E, h6km±4km, ML2.7/8*
*PDG **21** 15:05:58.3±0.3, 41.°41N×19.°39E, h16km, ML3.0/11, Error ellipse: s-maj=1.7km s-min=2.6km az=0.0*

ISC 21 15:05:57.1±1.0, 41.°38N±0.°03×19.°56E±0.°03, h12km±8km, n35, σ0s91/61, 3C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.23**	**97**	Pg	**Pg**	**15 06 01.4**	**-0.6**
TIR				Sg	**Sg**	**15 06 05.7**	**+0.4**
TIR				AML	AML	15 06 07.3	
	5.6nm,0.3s						
ULC	**Ulcinj**	**0.63**	**338**	⇓*i*Pg	**Pg**	**15 06 09.0**	**-0.5**
ULC				*e*Sg	**Sb**	**15 06 19.5**	**+0.5**
DRME	**Dracevica, Mon**	**0.86**	**341**	*e*Pg	**Pb**	**15 06 13.5**	**-0.4**
DRME				*e*Sg	**Sn**	**15 06 27.4**	**-0.2**
DRME	**Dracevica, Mon**	**0.86**	**341**	⇓*i*Pg	**Pb**	**15 06 13.6**	**-0.4**
DRME				*e*Sg	**Sn**	**15 06 26.7**	**-0.9**
**VL

comp=E,0.3nm,0.4s
IGT **Igoumenitsa** 1.93 162 *i* Pn **Pn** 15 06 29.8 -0.1
SELS **Selova** 2.17 32 *e*Pn **Pn** 15 06 33.3 +0.1
SELS *e*Sn **Sn** 15 06 59.6 -0.5
BARS **Barje** 2.21 49 *e*Pn **Pn** 15 06 33.4 -0.3
BARS *e*Sn **Sn** 15 06 59.1 -1.9
GOCS **Kraljevo Serbi** 2.39 24 *e*Pn **Pn** 15 06 35.8 -0.4
BOSS **Bosilegrad** 2.45 62 *e*Pn **Pn** 15 06 36.9 -0.1
BBLS **Lazi&#263i** 2.49 357 *e*Pn **Pb** 15 06 41.1 -0.8
BBLS *e*Sn **Sn** 15 07 08.2 +0.2
KNT **Kendrikon** 2.52 94 *i* Pn **Pn** 15 06 38.3 +0.3
KNT *i* Sn **Sn** 15 07 10.6 +1.9
GRUS **Gruza** 2.65 18 *e*Pn **Pn** 15 06 41.3 +1.6
GRUS *e*Sn **Sn** 15 07 12.9 +1.1
SOH **Sokhos** 2.92 100 *i* Pn **Pn** 15 06 43.5 +0.1
ZAPS **Zavoj** 2.96 49 *e*Pn **Pn** 15 06 44.4 +0.3
VTS **Vitosha** 3.01 64 *e*Pn **Pn** 15 06 45.4 +0.7
SRS **Serrai** 3.05 94 *i* Pn **Pn** 15 06 45.1 -0.1
SRS *i* Sn **Sn** 15 07 18.2 -3.5
SRS **Serrai** 3.05 94 *e*Pn **Pn** 15 06 45.2 0.0
ZAGS **Zajecar** 3.13 38 *e*Pn **Pn** 15 06 46.5 +0.2
KUBS **Kucevo** 3.41 26 *e*Pn **Pn** 15 06 48.4 -1.7

NEIC ***21*** *15:06:12.3±1.8, 17°.6S±0°.1×178°.9W±0°.2, h569km±18km, mb4.0/19, Error ellipse: s-maj=23.7km s-min=15.9km az=85.0*
IDC ***21*** *15:06:14.3±14.0, 17°.39S×179°.23W, h574km±141km, mb3.4/4, mbtmp4.4/4, Error ellipse: s-maj=94.3km s-min=32.8km az=52.0*
ISC 21 15:06:09.8±0.8**, 17°.2S**±0°.2×**178°.9W**±0°.1**, h550**km**, n28, s**1**28/30, mb4.1/15, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.92**	**260**	P	**P**		**15 07 27.7**	**+3.4**
AFI	**Afiamalu**	**7.65**	**65**	P	**P**		**15 08 02.8**	**-1.4**
NIUE	**Niue**	**8.76**	**103**	P	**P**		**15 08 16.2**	**+1.1**
BFZ	**Birch Farm**	**23.74**	**189**	P	**P**		**15 10 36.9**	**-2.3**
EIDS	**Eidsvold**	**29.03**	**249**	P	**P**		**15 11 23.8**	**-2.1**
EIDS				IAmb	IAmb		15 11 25.3	
	comp=Z,3.6nm,0.8s							
ARMA	**Armidale**	**29.85**	**239**	P	**P**		**15 11 33.5**	**+0.3**
ARMA				IAmb	IAmb		15 11 34.6	
	comp=Z,6.0nm,0.7s							
MLZ	**Mavora Lakes**	**30.07**	**198**	P	**P**		**15 11 32.6**	**-2.1**
MLZ				IAmb	IAmb		15 11 52.0	
	comp=Z,5.3nm,1.0s							
COEN	**Coen**	**36.60**	**270**	P	**P**		**15 12 30.1**	**+0.1**
COEN				IAmb	IAmb		15 12 33.3	
	comp=Z,7.6nm,0.9s							
STKA	**Stephens Creek**	**38.52**	**240**	P	**P**		**15 12 46.0**	**+0.4**
STKA	**Stephens Creek**	**38.52**	**240**	P	**P**		**15 12 46.3**	**+0.8**
	comp=Z,3.0nm,0.4s,baz=84,slow=9.9,SNR=19							
	comp=Z,3.0nm,0.4s							
INKA	**Innaminka**	**38.54**	**247**	P	**P**		**15 12 46.2**	**+0.5**
BBOO	**Buckleboo**	**43.30**	**240**	P	**P**		**15 13 23.4**	**-0.1**
WR8	**Warramunga Arr**	**44.11**	**259**	P	**P**		**15 13 30.0**	**+0.1**
WR8				IAmb	IAmb		15 13 34.4	
	comp=Z,2.0nm,0.9s							
WB0	**Warramunga Arr**	**44.23**	**259**	P	**P**		**15 13 30.8**	**0.0**
WB0				IAmb	IAmb		15 13 31.1	
	comp=Z,2.0nm,0.9s							
WRA	**Warramunga Arr**	**44.26**	**259**	P	**P**		**15 13 30.5**	**-0.6**
WRA	**Warramunga Arr**	**44.26**	**259**	P	**P**		**15 13 30.9**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=93,slow=7.1,SNR=17							
WRA				PcP	**PcP**		**15 15 04.6**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=93,slow=3.1,SNR=2.7							
	comp=Z,0.8nm,0.3s							
AS31	**Alice Springs**	**44.49**	**254**	P	**P**		**15 13 33.3**	**+0.5**
AS31				IAmb	IAmb		15 13 33.9	
	comp=Z,3.6nm,0.7s							
ASAR	**Alice Springs**	**44.49**	**254**	P	**P**		**15 13 32.8**	**-0.1**
ASAR	**Alice Springs**	**44.49**	**254**	P	**P**		**15 13 33.4**	**+0.5**
	comp=Z,9.1nm,0.4s,baz=89,slow=7.8,SNR=369							
ASAR				PcP	**PcP**		**15 15 05.2**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=91,slow=3.6,SNR=6.3							
	comp=Z,9.1nm,0.4s							
FORT	**Forrest**	**49.84**	**244**	P	**P**		**15 14 11.2**	**-1.8**
FORT				IAmb	IAmb		15 14 12.9	
	comp=Z,12nm,1.1s							
KNRA	**Kununurra**	**50.06**	**264**	P	**P**		**15 14 15.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**52.64**	**260**	P	**P**		**15 14 34.5**	**+1.1**
PSA00	**Pilbara Seismi**	**57.59**	**255**	P	**P**		**15 15 06.8**	**-1.1**
PSA00				IAmb	IAmb		15 15 08.9	
	comp=Z,5.8nm,0.9s							
MBWA	**Marble Bar**	**57.75**	**256**	P	**P**		**15 15 08.8**	**-0.1**
MBWA				IAmb	IAmb		15 15 14.0	
	comp=Z,10nm,1.1s							
MORW	**Morawa**	**60.29**	**246**	P	**P**		**15 15 24.4**	**-1.4**
MORW				IAmb	IAmb		15 15 42.5	
	comp=Z,11nm,1.1s							
QSPA	**South Pole Qui**	**72.82**	**180**	P	**P**		**15 16 43.7**	**+1.0**
QSPA	**South Pole Qui**	**72.82**	**180**	P	**P**		**15 16 44.1**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=34,slow=2.6,SNR=9.2							
	comp=Z,0.8nm,0.5s							
GERES	**GERESS Array B**	**146.82**	**345**	PKPbc	**PKPab**		**15 24 52.7**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=3.9,slow=5.1,SNR=2.7							

NEIC ***21*** *15:09:03.0±1.1, 17°.8S±0°.2×172°.00W±0°.08, h10km±2km, mb4.4/10, Error ellipse: s-maj=29.0km s-min=12.3km az=8.0*
IDC ***21*** *15:09:05.2±0.8, 18°.27S×172°.52W, h0km, mb4.2/8, mbtmp4.3/8, Error ellipse: s-maj=35.7km s-min=22.1km az=147.0*
ISC 21 15:09:02.7±1.2**, 17°.8S**±0°.2×**172°.06W**±0°.09**, h10**km**, n26, s**1**38/23**, **mb4.4**/12**, 3C, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.40**	**123**	Pn	**Pn**		**15 09 41.2**	**-0.8**
MSVF	**Nonsavu**	**9.43**	**269**	Pn	**Pn**		**15 11 19.6**	**+0.8**
RAR	**Rarotonga**	**12.08**	**108**	Pn	**Pn**		**15 11 53.9**	**-1.1**
PINNC	**Pines Island,**	**19.83**	**253**	P	**P**		**15 13 31.1**	**-2.6**
DZM	**Mont Dzumac**	**20.66**	**255**	P	**P**		**15 13 40.7**	**-2.1**
DZM				IAmb	IAmb		15 13 51.4	
	comp=Z,16nm,0.8s							
DZM	**Mont Dzumac**	**20.66**	**255**	P	**P**		**15 13 41.8**	**-1.0**
	comp=Z,8.2nm,1.0s,baz=106,slow=16,SNR=3.6							
	comp=Z,8.2nm,1.0s							
TOZ	**Tahuroa Road**	**22.69**	**206**	P	**P**		**15 14 04.6**	**+0.2**
TOZ				IAmb	IAmb		15 14 07.9	
	comp=Z,16nm,0.9s							
BKZ	**Black Stump Fm**	**23.54**	**203**	P	**P**		**15 14 11.8**	**-1.3**
BKZ				IAmb	IAmb		15 14 23.9	
	comp=Z,7.2nm,0.9s							
CTAO	**Charters Tower**	**39.43**	**260**	P	**P**		**15 16 32.5**	**-0.8**
CTAO				IAmb	IAmb		15 16 41.5	
	comp=Z,12nm,0.8s							
WB0	**Warramunga Arr**	**50.57**	**259**		**P**		**15 18 01.6**	**-0.3**
WRA	**Warramunga Arr**	**50.60**	**259**		**P**		**15 18 01.3**	**-0.9**
WRA	**Warramunga Arr**	**50.60**	**259**	P	**P**		**15 18 01.3**	**-0.9**
	comp=Z,6.2nm,1.0s,baz=95,slow=8.0,SNR=14							
	comp=Z,6.2nm,1.0s							
AS31	**Alice Springs**	**50.64**	**254**		**P**		**15 18 02.2**	**-0.2**
AS31				IAmb	IAmb		15 18 11.1	
	comp=Z,2.5nm,0.8s							
ASAR	**Alice Springs**	**50.65**	**254**		**P**		**15 18 02.1**	**-0.4**
ASAR	**Alice Springs**	**50.65**	**254**	P	**P**		**15 18 02.5**	**0.0**
	comp=Z,5.9nm,0.9s,baz=91,slow=7.9,SNR=13							
	comp=Z,5.9nm,0.9s							
SBA	**Scott Base**	**61.01**	**185**	P	**P**		**15 19 17.4**	**+1.5**
QSPA	**South Pole Qui**	**72.29**	**180**	P	**P**		**15 20 27.4**	**-0.9**
QSPA				IAmb	IAmb		15 20 34.6	
	comp=Z,2.8nm,0.9s							
QSPA	**South Pole Qui**	**72.29**	**180**	P	**P**		**15 20 30.2**	**+1.9**
	comp=Z,2.3nm,0.9s,baz=311,slow=0.6,SNR=8.0							
	comp=Z,2.3nm,0.9s							
TXAR	**Lajitas Array**	**80.88**	**55**	P	P		15 21 25.3	+7.9
	comp=Z,1.2nm,1.0s,baz=247,slow=5.3,SNR=5.7							
	comp=Z,1.2nm,1.0s							
PDAR	**Pinedale Array**	**83.18**	**41**	P	P		15 21 37.2	+7.9
	comp=Z,1.1nm,0.8s,baz=208,slow=2.9,SNR=9.0							
	comp=Z,1.1nm,0.8s							
ILAR	**Eielson Array**	**84.52**	**11**	P	P		15 21 42.0	+6.5
	comp=Z,2.1nm,1.2s,baz=190,slow=4.6,SNR=4.7							
	comp=Z,2.1nm,1.2s							
TROLL	**Troll, Antarti**	**90.37**	**178**	⇑P	**P**		**15 22 05.7**	**+1.7**
	comp=Z,180nm,0.7s							
VNA3	**Neumayer Olymp**	**90.39**	**174**	⇑P	**P**		**15 22 06.4**	**+2.5**
	comp=Z,3.8nm,0.8s							
SNAA	**Sanae**	**90.48**	**177**	⇑P	**P**		**15 22 05.3**	**+1.5**
	comp=Z,52nm,0.8s							
SNAA	**Sanae**	**90.48**	**177**	P	**P**		**15 22 05.3**	**+0.9**
	comp=Z,3.4nm,1.1s,baz=197,slow=3.8,SNR=8.3							
	comp=Z,3.4nm,1.1s							
BRTR	**Keskin Array B**	**148.79**	**320**	PKPbc	**PKPab**		**15 28 55.6**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=0.0,slow=2.9,SNR=3.8							

CNRM ***21*** *15:10:26.8, 36°.05N×8°.80W, h29km, ML2.2*
IGIL ***21*** *15:10:28.9, 36°.30N×8°.85W, h7km, ML2.0*
INMG ***21*** *15:10:29.3±1.1, 36°.32N×8°.85W, h9km, ML2.2, Error ellipse: s-maj=4.5km s-min=2.6km az=63.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Cabo S.Vicente*
MDD ***21*** *15:10:29.5±1.0, 36°.27N×8°.94W, h39km±22km, mb_Lg2.9/11, Error ellipse: s-maj=11.3km s-min=5.2km az=44.0*
SFS ***21*** *15:10:29.3, 36°.28N×8°.94W, h27km, ML2.9/13, ML2.9/10, MLv2.5/13*
ISC 21 15:10:28.0±2.8**, 36°.39N**±0°.08×**8°.75W**±0°.06**, h12**km±13km**, n58, s**1**39/95, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.75**	**355**	Pn	**Pb**		**15 10 44.2**	**+1.3**
PFVI				Sn	**Sn**		**15 10 55.2**	**-0.5**
PFVI	**Vila Bisbo**	**0.75**	**355**	*e*P	**Pb**		**15 10 44.2**	**+1.3**
PFVI				*e*S	**Sn**		**15 10 55.9**	**+0.3**
PFVI				*i* IAML			15 10 56.9	
PFVI				*i* IAML			15 11 02.0	
PFVI				*i* IAML			15 11 02.2	
PFVI	**Vila Bisbo**	**0.75**	**355**	P	**Pn**		**15 10 46.3**	**+1.9**
PFVI	**Vila Bisbo**	**0.75**	**355**	S	**Sn**		**15 11 00.4**	**+4.8**
MORF	**Marmelete**	**0.92**	**5**	*e*P	**Pn**		**15 10 47.0**	**+0.2**
MORF				*e*S	**Sn**		**15 11 00.1**	**+0.2**
MORF				IAML			15 11 03.0	
	comp=N,47nm,0.2s							
MORF	**Marmelete**	**0.92**	**5**	*e*P	**Pn**		**15 10 47.0**	**+0.2**
MORF				*e*S	**Sn**		**15 11 01.0**	**+1.0**
MORF				*i* IAML			15 11 02.2	
MORF				*i* IAML			15 11 03.3	
MORF				*i* IAML			15 11 06.6	
PBDV	**Barranco-do-Ve**	**1.08**	**37**	Pn	**Pn**		**15 10 50.3**	**+1.4**
PBDV				Sn	**Sn**		**15 11 05.8**	**+1.9**
PBDV	**Barranco-do-Ve**	**1.08**	**37**	*e*P	**Pn**		**15 10 50.4**	**+1.4**
PBDV				*e*S	**Sn**		**15 11 06.1**	**+2.3**
PBDV				*i* IAML			15 11 06.8	
PBDV				*i* IAML			15 11 10.2	
PBDV				*i* IAML			15 11 14.5	
PTEO	**Sao Teotonio**	**1.16**	**1**	*e*P	**Pb**		**15 10 50.4**	**+0.4**
PTEO				*e*S	**Sn**		**15 11 06.8**	**+1.0**
PTEO				*i* IAML			15 11 10.0	
PTEO				*i* IAML			15 11 10.0	
PTEO				*i* IAML			15 11 10.0	
PCVE	**Castro Verde**	**1.37**	**24**	Sn	**Sg**		**15 11 12.0**	**0.0**
PCVE				Pn	**Pn**		**15 10 54.0**	**+1.1**
PCVE	**Castro Verde**	**1.37**	**24**	*e*P	**Pn**		**15 10 54.0**	**+1.1**
PCVE				*e*S	**Sg**		**15 11 13.1**	**+1.1**
PCVE				*i* IAML			15 11 15.2	
PCVE				*i* IAML			15 11 15.7	
PCVE				*i* IAML			15 11 15.7	
MESJ	**Messejana**	**1.51**	**16**	*e*P	**Pn**		**15 10 55.9**	**+1.0**
MESJ				*e*S	**Sg**		**15 11 15.7**	**-1.0**
MESJ				IAML			15 11 17.1	
	comp=N,11nm,0.1s							
MESJ	**Messejana**	**1.51**	**16**	*e*P	**Pn**		**15 10 55.9**	**+1.0**
MESJ				*e*S	**Sg**		**15 11 16.1**	**-0.5**
MESJ				*i* IAML			15 11 17.0	
MESJ				*i* IAML			15 11 17.9	
MESJ				*i* IAML			15 11 18.4	
EGRO	**El Granado**	**1.53**	**41**	Pn	**Pn**		**15 10 56.6**	**+1.5**
EGRO				Sn	**Sb**		**15 11 16.4**	**+0.8**
EGRO	**El Granado**	**1.53**	**41**	P	**Pn**		**15 10 56.5**	**+1.4**
EGRO				S	**Sb**		**15 11 16.4**	**+0.8**
EGRO				*i* IVmb_Lg			15 11 18.1	
PBEJ	**Beja**	**1.78**	**23**	*e*P	**Pn**		**15 11 00.2**	**+1.6**
PBEJ				*e*S	**Sb**		**15 11 22.5**	**-0.5**
PBEJ				*i* IAML			15 11 24.3	
PBEJ				*i* IAML			15 11 24.4	
PBEJ				*i* IAML			15 11 25.1	
EMIN	**Mina Concepcio**	**2.16**	**50**	Pn	**Pn**		**15 11 05.3**	**+1.5**
EMIN				Sn	**Sn**		**15 11 31.3**	**+0.8**
EMIN	**Mina Concepcio**	**2.16**	**50**	P	**Pn**		**15 11 05.3**	**+1.5**
EMIN				S	**Sn**		**15 11 31.4**	**+0.8**
EMIN				*i* IVmb_Lg			15 11 35.2	
EVO	**Evora**	**2.22**	**15**	Pn	**Pn**		**15 11 06.0**	**+1.3**
EVO				Sn	**Sn**		**15 11 32.0**	**0.0**
EVO	**Evora**	**2.22**	**15**	*e*P	**Pn**		**15 11 06.0**	**+1.3**
EVO				*e*S	**Sn**		**15 11 32.8**	**+0.8**
EVO				*i* IAML			15 11 34.4	
EVO				*i* IAML			15 11 34.6	
EVO				*i* IAML			15 11 35.1	
PBAR	**Barrancos**	**2.25**	**37**	Pn	**Pn**		**15 11 05.9**	**+0.9**
PBAR				Sn	**Sn**		**15 11 33.6**	**+1.0**
PBAR	**Barrancos**	**2.25**	**37**	*e*P	**Pn**		**15 11 06.0**	**+0.9**
PBAR				*e*S	**Sn**		**15 11 34.3**	**+1.6**
PBAR				*i* IAML			15 11 36.4	
PBAR				*i* IAML			15 11 36.9	
PBAR				*i* IAML			15 11 37.7	
ESPR	**Espera**	**2.38**	**77**	Pn	**Pn**		**15 11 08.0**	**+1.1**
ESPR				Sn	**Sn**		**15 11 36.7**	**+0.8**
ESPR	**Espera**	**2.38**	**77**	P	**Pn**		**15 11 07.9**	**+1.1**
ESPR				S	**Sn**		**15 11 36.3**	**+0.4**
ESPR				*i* IVmb_Lg			15 11 39.3	
PARRA	**Arraiolos**	**2.44**	**355**	*e*P	**Pn**		**15 11 08.6**	**+1.0**
PARRA				*e*S	**Sb**		**15 11 39.2**	**-2.5**
PARRA				*i* IAML			15 11 40.9	
PARRA				*i* IAML			15 11 40.9	
PARRA				*i* IAML			15 11 41.5	
PMAFR	**Mafra**	**2.60**	**351**	Pn	**Pn**		**15 11 09.8**	**0.0**
PMAFR				Sn	**Sn**		**15 11 40.3**	**-1.0**
PMAFR	**Mafra**	**2.60**	**351**	*e*P	**Pn**		**15 11 10.0**	**+0.2**
PMAFR				*e*S	**Sn**		**15 11 41.1**	**-0.2**
PMAFR				*i* IAML			15 11 42.1	
PMAFR				*i* IAML			15 11 42.2	
PMAFR				*i* IAML			15 11 42.7	
PESTR	**Estremoz**	**2.64**	**20**	*e*S	**Sn**		**15 11 43.6**	**+1.2**
PESTR				*i* IAML			15 11 44.7	
PESTR				*i* IAML			15 11 44.8	
PESTR				*i* IAML			15 11 45.0	
PMTG	**Montargil**	**2.71**	**9**	*e*P	**Pn**		**15 11 12.2**	**+0.9**
PMTG				*e*S	**Sn**		**15 11 42.9**	**-1.1**
PMTG				*i* IAML			15 11 45.8	
PMTG				*i* IAML			15 11 46.0	
PMTG				*i* IAML			15 11 46.3	
EBAD	**Badajoz**	**2.74**	**30**	Pn	**Pn**		**15 11 12.3**	**+0.5**
EBAD				Sn	**Sn**		**15 11 45.6**	**+0.8**
EBAD	**Badajoz**	**2.74**	**30**	P	**Pn**		**15 11 12.2**	**+0.5**
EBAD				P	**Pb**		**15 11 13.2**	**-3.7**
EBAD				S	**Sn**		**15 11 45.8**	**+1.1**
EBAD				*i* IVmb_Lg			15 11 48.1	
E1302	**La Puebla de C**	**2.92**	**74**	P	**Pn**		**15 11 15.8**	**+1.7**
E1302				S	**Sn**		**15 11 48.5**	**-0.7**
E1302				*i* IVmb_Lg			15 11 53.3	
PSBE	**So Bento**	**3.12**	**359**	*e*P	**Pn**		**15 11 18.0**	**+0.9**
PSBE				*e*S	**Sn**		**15 11 54.1**	**-0.2**
PSBE				*i* IAML			15 11 54.4	
PSBE				*i* IAML			15 11 55.2	
PSBE				*i* IAML			15 11 57.1	
ECAB	**El Cabril**	**3.15**	**57**	Pn	**Pn**		**15 11 18.6**	**+1.1**
ECAB				Sn	**Sn**		**15 11 53.8**	**-1.1**
ECAB	**El Cabril**	**3.15**	**57**	P	**Pn**		**15 11 18.4**	**+1.0**
ECAB				S	**Sn**		**15 11 54.0**	**-1.0**
ECAB				*i* IVmb_Lg			15 11 59.6	
PMRV	**Marv??o**	**3.22**	**19**	*e*P	**Pn**		**15 11 19.4**	**+1.0**
PMRV				*e*S	**Sn**		**15 11 56.7**	**0.0**
PMRV				*i* IAML			15 11 57.8	
PMRV				*i* IAML			15 11 58.1	
PMRV				*i* IAML			15 11 58.7	
PSARD	**Sardoal**	**3.24**	**8**	*e*P	**Pn**		**15 11 19.7**	**+1.0**
PSARD				*e*S	**Sn**		**15 11 57.2**	**0.0**
PSARD				*i* IAML			15 11 59.3	
PSARD				*i* IAML			15 11 59.6	
PSARD				*i* IAML			15 12 00.1	
ZHG	**ZHG**	**3.41**	**149**	P	Pn		15 11 15.2	-5.8
ZHG	**ZHG**	**3.41**	**149**	S	Sn		15 11 53.1	-8.2
PCBR	**Castelo Branco**	**3.59**	**16**	*e*S	**Sn**		**15 12 05.9**	**+0.1**
PCBR				*i* IAML			15 12 06.3	
PCBR				*i* IAML			15 12 07.3	
PCBR				*i* IAML			15 12 07.7	
PCAS	**Casmilo, Conde**	**3.67**	**3**	*e*P	**Pn**		**15 11 25.3**	**+0.8**
PCAS				*e*S	**Sn**		**15 12 06.4**	**-1.3**
PCAS				*i* IAML			15 12 09.6	
PCAS				*i* IAML			15 12 11.0	
PCAS				*i* IAML			15 12 11.0	
EADA	**Adamuz**	**3.77**	**61**	Pn	**Pn**		**15 11 27.3**	**+1.2**
EADA				Sn	**Sn**		**15 12 10.4**	**0.0**
EADA	**Adamuz**	**3.77**	**61**	P	**Pn**		**15 11 27.2**	**+1.2**
EADA				S	**Sn**		**15 12 09.3**	**-1.0**
EADA				*i* IVmb_Lg			15 12 13.5	
EGOR	**Sierra Gorda,**	**3.80**	**78**	P	**Pn**		**15 11 27.7**	**+1.3**
EGOR				S	**Sn**		**15 12 09.1**	**-2.1**
MTE	**Manteigas**	**4.12**	**13**	*e*S	**Sn**		**15 12 18.3**	**-0.6**
MTE				*i* IAML			15 12 18.7	
MTE				*i* IAML			15 12 19.3	
MTE				*i* IAML			15 12 19.5	
PVIS	**Viseu**	**4.38**	**9**	*e*S	**Sn**		**15 12 23.9**	**-1.3**
PSIM	**Granatula de C**	**4.65**	**57**	P	**Pn**		**15 11 39.3**	**+1.2**
PSIM				S	**Sn**		**15 12 30.0**	**-2.0**
EQES	**Quesada**	**4.76**	**71**	P	**Pn**		**15 11 40.3**	**+0.7**
EQES				S	**Sn**		**15 12 31.5**	**-3.2**
EQES				*i* IVmb_Lg			15 12 37.0	
MD31	**MD31**	**4.81**	**136**	P	Pn		15 11 34.3	-6.1
MD31	**MD31**	**4.81**	**136**	S	Sn		15 12 28.1	-8.0
MDT	**Midelt**	**4.94**	**135**	P	Pn		15 11 36.4	-5.6
MDT	**Midelt**	**4.94**	**135**	S	Sn		15 12 31.4	-7.7
MVO	**Moncorvo**	**4.96**	**15**	*e*P	**Pn**		**15 11 43.4**	**+1.1**
MVO				*e*S	**Sn**		**15 12 38.3**	**-1.3**
MVO				*i* IAML			15 12 39.9	
MVO				*i* IAML			15 12 40.3	
MVO				*i* IAML			15 12 40.6	
TISM	**Timmit**	**5.03**	**157**	P	Pn		15 11 36.1	-7.1
POLO	**Lamas de Olo**	**5.04**	**8**	*e*P	**Pn**		**15 11 43.9**	**+0.5**
POLO				*e*S	**Sn**		**15 12 41.3**	**-0.3**
POLO				*i* IAML			15 12 41.5	
POLO				*i* IAML			15 12 41.7	
POLO				*i* IAML			15 12 41.7	
ELOB	**Lobios**	**5.50**	**5**	P	**Pn**		**15 11 49.2**	**-0.6**
ELOB				S	**Sn**		**15 12 48.6**	**-4.4**
ELOB				*i* IVmb_Lg			15 12 51.3	
OUZM	**OUZ**	**5.71**	**163**	P	Pn		15 11 47.2	-5.5
UCM	**Universidad Co**	**5.84**	**46**	Pn	**Pn**		**15 11 56.4**	**+2.0**
UCM				Sn	**Sn**		**15 13 00.7**	**-0.5**

NOU 21 15:17:42.2, 21°.77S×170°.08E, h0km, MLv4.6/15, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**2.58**	**251**	P	Pn		15 18 25.3	+0.1
PINNC	**Pines Island,**	**2.58**	**251**	S	Sn		15 18 57.6	+0.3
YATNC	**Mamie plateau,**	**2.98**	**264**	P	Pn		15 18 30.1	-0.6
YATNC	**Mamie plateau,**	**2.98**	**264**	S	Sn		15 19 06.5	-0.6
OUENC	**Ouen Island, N**	**3.07**	**257**	P	Pn		15 18 32.3	+0.3
OUENC	**Ouen Island, N**	**3.07**	**257**	S	Sn		15 19 10.1	+0.6
DZM	**Mont Dzumac**	**3.39**	**264**	P	Pn		15 18 37.0	+0.5
DZM	**Mont Dzumac**	**3.39**	**264**	S	Sn		15 19 17.2	-0.3
ONTNC	**Ouen Toro**	**3.41**	**260**	P	Pn		15 18 37.1	+0.5
ONTNC	**Ouen Toro**	**3.41**	**260**	S	Sn		15 19 18.0	+0.3
RTV	**Rentapao**	**4.25**	**338**	P	Pn		15 18 48.2	-0.1
DVP	**Devils Point**	**4.40**	**336**	P	Pn		15 18 51.2	+0.9
KOUNC	**Koumac, New Ca**	**5.54**	**282**	S	Sn		15 20 12.5	+2.1
KOUNC	**Koumac, New Ca**	**5.54**	**282**	P	Pn		15 19 06.2	+0.2

NEIC ***21*** *15:19:21.9±1.5, 35°.542N±0°.008×117°.41W±0°.02, h5km±2km, Error ellipse: s-maj=3.1km s-min=2.4km az=288.0*
PAS 21 15:19:22.9±1.4**, 35°.54N**±0°.02×**117°.45W**±0°.02**, h5**km±1km**, ML3.4**/178**, ML3.1**/96(NEIC)**, Error ellipse: s-maj=2.4km s-min=2.0km az=211.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.07**	**329**			Pg	15 19 24.5	-0.1
CCCA	**Chr Cany lake**	**0.07**	**103**			Pg	15 19 24.9	+0.3
LRMC	**Laurel Mtn Rad**	**0.20**	**252**			Pg	15 19 26.9	+0.1
LRMC					IAML		15 19 30.4	
	comp=E,7µm,0.2s							
GPO	**China Lake**	**0.20**	**302**			Pg	15 19 27.1	+0.2
GPO						Sg	15 19 30.8	+1.1
SRTC	**Snort**	**0.28**	**302**			Pg	15 19 28.9	+0.4
SRTC						Sg	15 19 33.8	+1.5
TOW	**Tower One**	**0.37**	**316**			Pg	15 19 30.3	+0.2
TOW						Sg	15 19 36.3	+1.4
DTP	**Desert Tortois**	**0.42**	**230**			Pg	15 19 30.9	-0.1
DTP						Sg	15 19 36.7	+0.1
WNMM	**Nine Mile Cany**	**0.48**	**309**			Sg	15 19 38.7	+0.4
WVPM	**Volcano Peak E**	**0.50**	**324**			Pg	15 19 32.1	-

	comp=E,244nm,0.6s							
PASC				IAML		15 20 17.6		
	comp=N,170nm,0.7s							
TPNV	**Topopah Spring**	**1.71**	**34**		Pn	15 19 52.6	-0.9	
TPNV				IAML		15 20 24.7		
	comp=N,138nm,0.5s							
TPNV				IAML		15 20 27.0		
	comp=N,185nm,0.5s							
GMN	**Gold Mountain**	**1.76**	**5**		Pn	15 19 53.6	-0.7	
DSP	**Deep Springs**	**1.87**	**347**		Pn	15 19 55.3	-0.3	
ELS	**Elsinore Mount**	**1.89**	**179**		Pn	15 19 55.2	-0.6	
ELS				IAML		15 20 23.5		
	comp=E,196nm,0.3s							
DANC	**Danby, Needles**	**1.92**	**117**		Pn	15 19 54.4	-1.8	
DANC				IAML		15 20 29.2		
	comp=N,339nm,0.8s							
DANC				IAML		15 20 30.2		
	comp=E,275nm,0.8s							
BELC	**Belle Mtn. Jos**	**1.95**	**142**		Pn	15 19 55.2	-1.5	
BELC				IAML		15 20 27.4		
	comp=E,141nm,0.5s							
BELC				IAML		15 20 27.6		
	comp=N,127nm,0.6s							
PMD	**Palm Desert**	**2.09**	**155**		Pn	15 19 57.6	-0.9	
PMD				IAML		15 20 29.8		
	comp=E,143nm,0.6s							
PMD				IAML		15 20 30.9		
	comp=N,104nm,0.6s							
SHPR	**Sheep Range**	**2.09**	**62**		Pn	15 19 58.0	-0.7	
PFO	**Pinyon Flats O**	**2.09**	**157**		Pn	15 19 57.7	-1.0	
PFO				IAML		15 20 29.3		
	comp=N,94nm,0.5s							
V12A	**Nelson**	**2.13**	**84**		Pn	15 19 57.8	-1.4	
V12A				IAML		15 20 30.6		
	comp=N,106nm,0.9s							
IRM	**Iron Mountain**	**2.35**	**125**		Pn	15 20 00.0	-2.1	
IRM				IAML		15 20 39.2		
	comp=E,84nm,0.5s							
TPH	**Tonopah**	**2.54**	**4**		Pn	15 20 04.4	-0.5	
TPH				IAML		15 20 49.1		
	comp=N,62nm,1.4s							
DPP	**Dos Picos Cty**	**2.57**	**170**		Pn	15 20 04.7	-0.5	
DPP				IAML		15 20 43.4		
	comp=N,62nm,0.6s							
DPP				IAML		15 20 43.8		
	comp=E,166nm,0.5s							
PRN	**Pahroc Range**	**2.68**	**45**		Pn	15 20 06.4	-0.4	
PRN				IAML		15 20 50.0		
	comp=E,152nm,0.7s							
LHV	**Little Huntoon**	**2.83**	**343**		Pn	15 20 09.3	+0.6	
LHV				IAML		15 20 59.9		
	comp=E,56nm,1.0s							
LHV				IAML		15 21 00.8		
	comp=N,45nm,0.7s							
NV11	**Mina Array Sit**	**2.94**	**349**		Pn	15 20 10.3	0.0	
W13A	**Hualapai Mount**	**2.95**	**98**		Pn	15 20 09.3	-1.2	
W13A				IAML		15 21 00.1		
	comp=N,43nm,0.8s							
NVAR	**Mina Array Bea**	**2.96**	**347**		Pn	15 20 10.6	-0.1	
R11B	**Troy Canyon, C**	**3.17**	**28**		Pn	15 20 12.9	-0.7	
KNB	**Kanab**	**4.02**	**67**		Pn	15 20 25.3	0.0	
KNB				IAML		15 21 48.8		
	comp=E,18nm,3.0s							

*TIR **21** 15:31:15.9,41˚.57N×19˚.48E,h46$^{km}_{\pm}$15^{km}, Ml3.2/4*
*SKO **21** 15:31:16.6,41˚.21N×19˚.28E,h15^{km}, ML2.7*
*BEO **21** 15:31:20.1±0.6,41˚.36N×19˚.53E,h16$^{km}_{\pm}$6^{km}, ML2.7/7*
*PDG **21** 15:31:21.3±0.3,41˚.45N×19˚.37E,h20^{km}, ML2.7/11, Error ellipse: s-maj=1.4km s-min=2.1km az=0.0*

ISC 21 15:31:14.3±1.2, 41˚.14N±0˚.03×19˚.31E±0˚.03, h3$^{km}_{\pm}$10^{km}, n39,σ1°41/57, 5C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TIR	**Tirane**	**0.47**	**64**	Pg		**Pg**	**15 31 23.4**	**+0.2**
TIR				Sg		**Sg**	**15 31 25.3**	**-3.9**
TIR				AML		AML	15 31 27.2	
	8.2nm,0.4s							
TIR				AML		AML	15 31 28.0	
	5.3nm,0.3s							
VLO	**Vlora**	**0.69**	**168**	Pg		Pn	15 31 36.9	+6.1
VLO				Sg		Sn	15 31 52.6	+11
VLO				AML		AML	15 31 54.9	
	2.7nm,0.2s							
VLO				AML		AML	15 32 07.8	
	3.1nm,0.3s							
ULC	**Ulcinj**	**0.82**	**357**	⇓*i*Pg		**Pg**	**15 31 30.7**	**+0.7**
ULC				*e*Sg		**Sg**	**15 31 40.8**	**+0.1**
DRME	**Dracevica, Mon**	**1.05**	**355**	*e*Pg		**Pn**	**15 31 36.0**	**+0.2**
DRME	**Dracevica, Mon**	**1.05**	**355**	⇓*i*Pg		**Pb**	**15 31 35.8**	**+0.8**
DRME				*e*Sg		**Sg**	**15 31 47.9**	**0.0**
OHR	**Ohrid**	**1.12**	**91**	*i* Pg		**Pn**	**15 31 37.4**	**+0.5**
OHR				*i* Sg		**Sn**	**15 31 53.3**	**+0.4**
OHR				*e*Lg		Lg	15 31 54.4	
	comp=N,198nm,0.9s							
OHR				*e*Lg		Lg	15 31 54.9	
	comp=E,131nm,0.6s							
BUM	**Brajici-Budva**	**1.20**	**345**	⇑*i*Pg		**Pn**	**15 31 39.0**	**+1.1**
BUM				*i* Sg		**Sg**	**15 31 53.6**	**+0.8**
KBN	**Korca**	**1.23**	**114**	Pn		**Pn**	**15 31 38.7**	**+0.3**
KBN				Sn		**Sn**	**15 31 59.4**	**+3.8**
PDG	**Podgorica**	**1.29**	**358**	*e*Pg		**Pb**	**15 31 40.1**	**+1.0**
PDG				*e*Sg		**Sg**	**15 31 55.2**	**-0.4**
PDG	**Podgorica**	**1.29**	**358**	⇓*i*Pg		**Pb**	**15 31 39.9**	**+0.8**
PDG				*e*Sg		**Sg**	**15 31 55.1**	**-0.5**
CEME	**Cevo**	**1.43**	**348**	⇑*i*Pg		**Pg**	**15 31 42.5**	**+0.8**
CEME				*i* Sg		**Sb**	**15 32 01.1**	**+0.8**
HCY	**Herceg Novi**	**1.44**	**335**	*e*Pg		**Pg**	**15 31 43.0**	**+1.1**
HCY				*i* Sg		**Sg**	**15 32 01.0**	**+0.5**
PVY	**Plav**	**1.53**	**18**	*e*Pg		**Pb**	**15 31 44.0**	**+0.7**
PVY				*e*Sg		**Sn**	**15 32 02.4**	**-0.6**
NKME	**Niksic**	**1.65**	**351**	⇑*i*Pg		**Pg**	**15 31 46.0**	**+0.2**
NKME				*e*Sg		**Sn**	**15 32 06.0**	**+0.3**
KOME	**Kolasin**	**1.71**	**5**	*e*Pg		**Pg**	**15 31 47.4**	**+0.3**
KOME				*e*Sg		**Sn**	**15 32 06.1**	**-1.4**
KOME	**Kolasin**	**1.71**	**5**	*e*Pg		**Pb**	**15 31 47.0**	**+0.6**
KOME				*i* Sg		**Sn**	**15 32 07.3**	**-0.2**
NOCI	**Noci**	**1.74**	**259**	Pn		**Pg**	**15 31 46.7**	**-0.8**
NOCI				Sn		**Sg**	**15 32 09.5**	**-0.5**
NOCI				AML		AML	15 32 27.4	
	comp=E,0.4nm,0.2s							
IVA	**Berane**	**1.78**	**14**	⇑*i*Pg		**Pb**	**15 31 47.6**	**0.0**
IGT	**Igoumenitsa**	**1.79**	**154**	Pn		Pg	15 31 53.5	+5.0
IGT				Sn		**Sg**	**15 32 14.4**	**+2.7**
IGT	**Igoumenitsa**	**1.79**	**154**	*e*Pn		Pg	15 31 52.6	+4.1
BRY	**Bratogost**	**1.85**	**342**	⇑*i*Pn		**Pg**	**15 31 49.6**	**-0.1**
BRY				*e*Sn		**Sb**	**15 32 12.3**	**0.0**
UPM	**Unac-Piva**	**2.08**	**352**	⇓*i*Pn		**Pb**	**15 31 52.3**	**-0.4**
SJES	**Sjenica**	**2.17**	**13**	*e*Pn		**Pb**	**15 31 53.6**	**-0.7**
SJES				*e*Sn		**Sn**	**15 32 14.9**	**-4.0**
SELS	**Selova**	**2.47**	**32**	*e*Pn		**Pn**	**15 31 55.7**	**+0.3**
BARS	**Barje**	**2.51**	**47**	*i* Pn		**Pn**	**15 31 56.9**	**+1.0**
BARS	**Barje**	**2.51**	**47**	*e*Pn		**Pn**	**15 31 55.9**	**0.0**
IVAS	**Ivanjica**	**2.51**	**14**	*e*Pn		**Pn**	**15 31 56.2**	**+0.2**
LKD2	**Lefkada island**	**2.57**	**156**	Pn		**Pg**	**15 32 01.5**	**-2.0**
GOCS	**Kraljevo Serbi**	**2.68**	**25**	*e*Pn		**Pn**	**15 31 58.9**	**+0.6**
GOCS				*e*Sn		**Sn**	**15 32 28.8**	**-2.5**
BBLS	**Lazi&#263i**	**2.72**	**1**	*e*Pn		**Pn**	**15 32 00.8**	**+1.9**
BOSS	**Bosilegrad**	**2.73**	**59**	*e*Pn		**Pn**	**15 31 59.1**	**+0.2**
SGRT	**San Giovanni R**	**2.75**	**284**	Pn		**Pb**	**15 32 02.7**	**-1.3**
GRUS	**Gruza**	**2.93**	**20**	*e*Pn		**Pn**	**15 32 02.5**	**+0.8**
TRUS	**Trudelj**	**3.18**	**14**	*e*Pn		**Pn**	**15 32 06.0**	**+0.8**
SRS	**Serrai**	**3.23**	**89**	*i* Pn		**Pn**	**15 32 07.3**	**+1.4**
SRS	**Serrai**	**3.23**	**89**	*e*Pn		**Pn**	**15 32 07.3**	**+1.4**
ZAPS	**Zavoj**	**3.26**	**48**	*e*Pn		**Pn**	**15 32 07.4**	**+1.2**
ZAPS				*e*Sn		**Sn**	**15 32 43.6**	**-1.9**
VTS	**Vitosha**	**3.28**	**62**	*e*Pn		**Pn**	**15 32 07.4**	**+0.8**
ZAGS	**Zajecar**	**3.43**	**38**	*e*Pn		**Pn**	**15 32 09.6**	**+1.0**
ZAGS				*e*Sn		**Sn**	**15 32 46.6**	**-3.1**

*TIR **21** 15:54:09.7,41˚.45N×19˚.42E,h37$^{km}_{\pm}$3^{km}, Ml3.3/5*
*IDC **21** 15:54:10.3±101.0,41˚.69N×19˚.60E,h0^{km}, mb3.9/3, mbtmp4.0/3, Error ellipse: s-maj=1840.0km s-min=67.1km az=52.0*
*SKO **21** 15:54:10.6,41˚.43N×19˚.42E,h0^{km}, ML3.2*
*PDG **21** 15:54:11.8±0.2,41˚.31N×19˚.47E,h18^{km}, MD3.2/4, ML3.1/12, Error ellipse: s-maj=0.6km s-min=1.1km az=0.0*
*BEO **21** 15:54:11.7±0.6,41˚.30N×19˚.52E,h13$^{km}_{\pm}$3^{km}, ML3.1/14*
*THE **21** 15:54:12.8,41˚.6×1˚.9E±˚,h11^{km}, M3.0/12, MLh3.0/12*

ISC 21 15:54:11.1±1.0, 41˚.32N±0˚.02×19˚.49E±0˚.02, h14$^{km}_{\pm}$7^{km}, n101,σ1°39/152, 16C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TIR	**Tirane**	**0.29**	**84**	Pg		**Pg**	**15 54 16.8**	**-0.3**
TIR				Sg		**Sg**	**15 54 18.5**	**-2.7**
TIR				AML		AML	15 54 20.4	
	11nm,0.3s							
TIR				AML		AML	15 54 23.2	
	10nm,0.3s							
ULC	**Ulcinj**	**0.67**	**344**	*e*Pg		**Pg**	**15 54 24.2**	**0.0**
ULC				*e*Sg		**Sn**	**15 54 35.5**	**-1.1**
VLO	**Vlora**	**0.85**	**180**	Pg		**Pn**	**15 54 31.0**	**+2.3**
VLO				Sg		**Sn**	**15 54 42.0**	**+1.1**
VLO				AML		AML	15 54 47.2	
	4.7nm,0.3s							
VLO	**Vlora**	**0.85**	**180**	P		**Pn**	**15 54 30.7**	**+2.1**
DRME	**Dracevica, Mon**	**0.90**	**345**	*e*Pg		**Pb**	**15 54 28.3**	**-0.2**
DRME				*e*Sg		**Sn**	**15 54 42.5**	**+0.4**
DRME	**Dracevica, Mon**	**0.90**	**345**	⇓*i*Pg		**Pb**	**15 54 28.6**	**+0.1**
DRME				*i* Sg		**Sn**	**15 54 43.0**	**+0.9**
OHR	**Ohrid**	**1.01**	**101**	*i* Pg		**Pb**	**15 54 30.4**	**0.0**
OHR				*i* Sg		**Sn**	**15 54 45.8**	**+0.8**
OHR				*e*Lg		Lg	15 54 47.1	
	comp=N,587nm,0.7s							
OHR				*e*Lg		Lg	15 54 48.6	
	comp=E,487nm,0.6s							
BUM	**Brajici-Budva**	**1.08**	**336**	*e*Pg		**Pn**	**15 54 32.1**	**+0.2**
BUM				*i* Sg		**Sn**	**15 54 48.8**	**+2.1**
PDG	**Podgorica**	**1.12**	**351**	⇓P		**Pg**	**15 54 34.0**	**+1.2**
PDG				⇑S		**Sn**	**15 54 49.8**	**+2.1**
PDG	**Podgorica**	**1.12**	**351**	*e*Pg		**Pg**	**15 54 33.1**	**+0.3**
PDG				*e*Sg		**Sn**	**15 54 49.6**	**+1.9**
PDG	**Podgorica**	**1.12**	**351**	⇓*i*Pg		**Pg**	**15 54 33.1**	**+0.3**
PDG				*i* Sg		**Sn**	**15 54 50.6**	**+2.9**
KBN	**Korca**	**1.21**	**125**	Pg		**Pn**	**15 54 33.3**	**-0.3**
KBN				Sg		**Sg**	**15 54 51.5**	**+1.4**
KBN	**Korca**	**1.21**	**125**	P		**Pg**	**15 54 35.3**	**+0.9**
CEME	**Cevo**	**1.30**	**341**	⇑*i*Pg		**Pg**	**15 54 36.1**	**0.0**
CEME				*e*Sg		**Sg**	**15 54 54.9**	**+1.8**
PVY	**Plav**	**1.32**	**15**	*e*Pg		**Pb**	**15 54 36.2**	**+0.4**
PVY				*e*Sg		**Sg**	**15 54 56.0**	**+2.2**
HCY	**Herceg Novi**	**1.35**	**327**	⇓*i*Pg		**Pg**	**15 54 37.0**	**-0.1**
HCY				*e*Sg		**Sg**	**15 54 56.4**	**+1.7**
NKME	**Niksic**	**1.50**	**345**	*e*Pg		**Pb**	**15 54 39.0**	**+0.2**
NKME				*i* Sg		**Sg**	**15 54 59.9**	**+0.4**
KOME	**Kolasin**	**1.53**	**1**	*e*Pg		**Pg**	**15 54 40.2**	**-0.4**
KOME				*e*Sg		**Sg**	**15 55 00.7**	**+0.2**
KOME	**Kolasin**	**1.53**	**1**	⇓*i*Pg		**Pb**	**15 54 39.5**	**+0.1**
KOME				*e*Sg		**Sg**	**15 55 01.4**	**+0.9**
IVA	**Berane**	**1.58**	**11**	⇓*i*Pn		**Pn**	**15 54 39.6**	**+0.7**
IVA				*i* Sn		**Sg**	**15 55 02.7**	**+0.6**
TREB	**Trebinje**	**1.63**	**329**	*e*Pn		**Pb**	**15 54 40.5**	**-0.6**
PENT	**Pentalofos**	**1.68**	**131**	P		**Pg**	**15 54 43.0**	**-0.4**
PENT				S		**Sg**	**15 55 05.7**	**+0.4**
BRY	**Bratogost**	**1.73**	**336**	⇓*i*Pn		**Pn**	**15 54 42.1**	**+1.1**
BRY				*i* Sn		**Sb**	**15 55 05.6**	**+1.1**
IGT	**Igoumenitsa**	**1.90**	**160**	Pn		**Pb**	**15 54 45.6**	**+0.1**
IGT				Sn		**Sg**	**15 55 11.2**	**-0.9**
IGT	**Igoumenitsa**	**1.90**	**160**	P		**Pb**	**15 54 45.5**	**-0.1**
IGT				S		**Sb**	**15 55 10.8**	**+1.7**
IGT	**Igoumenitsa**	**1.90**	**160**	*i* Pn		**Pb**	**15 54 45.5**	**-0.1**
IGT				*i* Sn		**Sg**	**15 55 13.8**	**+1.6**
NOCI	**Noci**	**1.91**	**255**	Pn		**Pn**	**15 54 43.7**	**+0.5**
NOCI				Sn		**Sn**	**15 55 06.4**	**-0.7**
UPM	**Unac-Piva**	**1.93**	**347**	*e*Pn		**Pn**	**15 54 44.8**	**+1.0**
UPM				*e*Sn		**Sb**	**15 55 10.9**	**+0.6**
KLINJ	**Klinje**	**1.97**	**340**	*e*Pn		**Pb**	**15 54 46.8**	**0.0**
SJES	**Sjenica**	**1.97**	**10**	*e*Pg		**Pb**	**15 54 46.7**	**-0.2**
SJES				*e*Sg		**Sg**	**15 55 13.5**	**-1.2**
KZN	**Kozani**	**2.01**	**120**	P		**Pb**	**15 54 47.3**	**-0.2**
KZN				S		**Sb**	**15 55 13.2**	**+0.9**
STON	**Ston**	**2.04**	**320**	*e*Pn		**Pn**	**15 54 46.1**	**+1.0**
PRMD	**Pramanda**	**2.17**	**145**	P		**Pb**	**15 54 49.4**	**-0.8**
MATE	**Matera**	**2.21**	**253**	⇑P		**Pn**	**15 54 44.9**	**-2.5**
MATE				⇑S		**Sn**	**15 55 14.5**	**0.0**
SELS	**Selova**	**2.25**	**32**	*e*Pn		**Pn**	**15 54 48.8**	**+0.8**
SELS				*e*Sn		**Sn**	**15 55 17.5**	**+1.9**
BARS	**Barje**	**2.29**	**48**	*i* Pn		**Pn**	**15 54 49.5**	**+0.9**
BARS				*i* Sn		**Sb**	**15 55 20.1**	**0.4**
BARS	**Barje**	**2.29**	**48**	*e*Pn		**Pn**	**15 54 49.3**	**+0.8**
RUDO	**Rudo**	**2.30**	**358**	*e*Pn		**Pn**	**15 54 48.5**	**-0.2**
IVAS	**Ivanjica**	**2.31**	**12**	*e*Pn		**Pn**	**15 54 49.7**	**+0.9**
TETR	**Tetrakomo, Epi**	**2.40**	**145**	P		**Pb**	**15 54 52.7**	**-1.5**
GOCS	**Kraljevo Serbi**	**2.47**	**24**	*e*Pn		**Pn**	**15 54 51.9**	**+0.9**
GOCS				*e*Sn		**Sn**	**15 55 21.3**	**+0.3**
BOSS	**Bosilegrad**	**2.52**	**61**	*e*Pn		**Pn**	**15 54 52.3**	**+0.5**
BBLS	**Lazi&#263i**	**2.55**	**359**	*e*Pn		**Pn**	**15 54 53.7**	**+1.6**
BBLS				*e*Sn		**Sn**	**15 55 25.5**	**+2.5**
KNT	**Kendrikon**	**2.58**	**92**	P		**Pn**	**15 54 53.6**	**+1.1**
KNT	**Kendrikon**	**2.58**	**92**	*i* Pn		**Pn**	**15 54 53.5**	**+1.0**
KNT				*i* Sn		**Sn**	**15 55 24.3**	**+0.7**
LIT	**Litokhoron**	**2.59**	**117**	P		**Pn**	**15 54 54.7**	**+2.0**
LIT	**Litokhoron**	**2.59**	**117**	*i* Pn		**Pn**	**15 54 55.0**	**+2.4**
THL	**Klokotos Trika**	**2.61**	**131**	P		**Pn**	**15 54 55.1**	**+2.2**
TYRN	**Tyrnavos**	**2.64**	**127**	P		**Pn**	**15 54 55.4**	**+2.2**
LKD2	**Lefkada island**	**2.68**	**160**	Pn		**Pn**	**15 54 55.1**	**+1.1**
LKD2				Sn		**Sn**	**15 55 26.0**	**-0.2**
LKD2	**Lefkada island**	**2.68**	**160**	P		**Pn**	**15 54 55.2**	**+1.3**
THE	**Thessaloniki**	**2.72**	**103**	Pn		**Pn**	**15 54 55.0**	**+0.6**
THE				AML		AML	15 55 29.8	
	comp=E,0.4nm,0.7s							
THE	**Thessaloniki**	**2.72**	**103**	P		**Pn**	**15 54 55.4**	**+1.0**
THE	**Thessaloniki**	**2.72**	**103**	*i* Pn		**Pn**	**15 54 55.5**	**+1.0**
THE				*i* Sn		**Sn**	**15 55 29.1**	**+2.0**
GRUS	**Gruza**	**2.72**	**19**	*e*Pn		**Pn**	**15 54 55.6**	**+1.1**
GRUS				*e*Sn		**Sn**	**15 55 29.6**	**+2.4**
AMPL	**Ampelaki**	**2.73**	**150**	P		**Pn**	**15 54 56.8**	**+2.1**
KKB	**Krupnik**	**2.78**	**78**	P		**Pn**	**15 54 56.1**	**+0.8**
KKB	**Krupnik**	**2.78**	**78**	*i* Pn		**Pn**	**15 54 56.5**	**+1.2**
DIVS	**Divibare**	**2.80**	**7**	*e*Pn		**Pn**	**15 54 56.9**	**+1.3**
DIVS				*e*Sn		**Sn**	**15 55 29.2**	**-0.1**
BOVS	**Bovan**	**2.84**	**35**	⇑P		**Pn**	**15 54 57.3**	**+1.3**
BOVS				⇑S		**Sn**	**15 55 30.0**	**0.0**
BOVS	**Bovan**	**2.84**	**35**	*e*Pn		**Pn**	**15 54 56.5**	**+0.5**
SGRT	**San Giovanni R**	**2.84**	**280**	Pn		**Pn**	**15 54 56.8**	**+0.6**
SGRT				Sn		**Sn**	**15 55 28.8**	**-1.5**
SGRT				AML		AML	15 55 31.8	
	comp=E,0.3nm,0.2s							
SOH	**Sokhos**	**2.96**	**98**	*i* Pn		**Pn**	**15 54 59.0**	**+1.1**
TRUS	**Trudelj**	**2.98**	**13**	*e*Pn		**Pn**	**15 54 58.9**	**+0.9**
EVR	**Evrytania**	**2.99**	**143**	P		**Pn**	**15 55 00.9**	**+2.7**
TIP	**Timpagrande**	**2.99**	**225**	⇑P		**Pn**	**15 54 59.6**	**+1.4**
ZAPS	**Zavoj**	**3.04**	**49**	*e*Pn		**Pn**	**15 55 00.0**	**+1.1**
ZAPS				*e*Sn		**Sn**	**15 55 36.7**	**+1.5**
VTS	**Vitosha**	**3.08**	**64**	*e*Pn		**Pn**	**15 55 00.6**	**+1.1**
SRS	**Serrai**	**3.10**	**92**	P		**Pn**	**15 55 00.4**	**+0.7**
SRS	**Serrai**	**3.10**	**92**	*i* Pn		**Pn**	**15 55 00.5**	**+0.8**
SRS				*i* Sn		**Sn**	**15 55 37.7**	**+0.6**
SRS	**Serrai**	**3.10**	**92**	*e*Pn		**Pn**	**15 55 00.7**	**+1.0**
AGG	**Agios Georgios**	**3.16**	**136**	P		**Pn**	**15 55 01.9**	**+1.3**
MMB	**Musomishta**	**3.21**	**85**	P		**Pn**	**15 55 02.4**	**+1.2**
ZAGS	**Zajecar**	**3.21**	**38**	*e*Pn		**Pn**	**15 55 02.2**	**+1.0**
ZAGS				*e*Sn		**Sn**	**15 55 40.3**	**+1.0**
BLKB	**Belogradchik**	**3.30**	**45**	⇑S		**Sn**	**15 55 42.9**	**+1.5**
BORS2	**Bor- Borsko je**	**3.34**	**33**	*e*Pn		**Pn**	**15 55 02.2**	**-0.7**
KUBS	**Kucevo**	**3.48**	**27**	*e*Pn		**Pn**	**15 55 04.2**	**-0.7**
KIJV	**Kijevo**	**3.52**	**321**	*e*Pn		**Pn**	**15 55 06.4**	**+1.0**
BLY	**Banja Luka**	**3.82**	**335**	*e*Pn		**Pn**	**15 55 13.9**	**+4.3**
MDVR	**Moldovita**	**3.83**	**24**	⇑P		**Pn**	**15 55 09.8**	**+0.2**
MDVR				⇑S		**Sn**	**15 55 53.7**	**-0.8**
FRGS	**Fruska Gora**	**3.84**	**3**	*e*Pn		**Pn**	**15 55 09.8**	**-0.1**
VRSS	**Vrsac**	**4.03**	**19**	*e*Pn		**Pn**	**15 55 12.7**	**+0.2**
VRSS				*e*Sn		**Sn**	**15 55 57.9**	**-1.6**
BZS	**Buzias**	**4.57**	**19**	⇑P		**Pn**	**15 55 20.2**	**+0.4**
BZS				⇑S		**Sn**	**15 56 10.8**	**-1.9**
GZR	**Gura Zlata**	**4.73**	**29**	⇑P		**Pn**	**15 55 23.1**	**+1.0**
MOSL	**Moslavina**	**4.73**	**336**	*e*Pn		**Pn**	**15 55 21.8**	**-0.3**
SURR	**Surduc**	**4.83**	**22**	⇑P		**Pn**	**15 55 23.6**	**+0.2**
SURR				⇑S		**Sn**	**15 56 18.3**	**-0.8**
SIRR	**Siria**	**5.19**	**17**	⇑P		**Pn**	**15 55 28.2**	**-0.2**
SIRR				⇑S		**Sn**	**15 56 25.8**	**-2.2**
OZLJ	**Ozalj**	**5.20**	**327**	*e*Pn		**Pn**	**15 55 28.6**	**+0.2**
BRJN	**Brijuni**	**5.52**	**312**	*e*Pn		**Pn**	**15 55 34.2**	**+1.3**
SOKA	**Soboth**	**6.25**	**331**	*i* Pn		**Pn**	**15 55 44.8**	**+1.8**
	comp=E,0.8nm,0.4s							
SOKA				*i* Sn		**Sn**	**15 56 50.9**	**-3.3**
	comp=E,0.8nm,0.4s							
OBKA	**Obir**	**6.29**	**327**	*i* Pn		**Pn**	**15 55 46.2**	**+2.6**
	comp=E,0.7nm,0.2s							
OBKA				*i* Sn		**Sn**	**15 56 55.2**	**-0.1**
	comp=E,4.7nm,0.4s							
ABTA	**Abfaltersbach**	**7.39**	**320**	*i* Pn		**Pn**	**15 56 00.4**	**+1.7**
	comp=E,0.7nm,0.2s							
ABTA				*i* Sn		**Sn**	**15 57 19.3**	**-3.1**
	comp=E,3.7nm,0.6s							
LESA	**Schwarzleotal**	**7.81**	**324**	*i* Pn		**Pn**	**15 56 05.4**	**+1.0**
	comp=E,0.5nm,0.2s							
LESA				*e*Sn		**Sn**	**15 57 30.0**	**-2.6**
	comp=E,2.1nm,0.4s							
WTTA	**Wattenberg**	**8.18**	**319**	*i* Pn		**Pn**	**15 56 13.2**	**+3.5**
	comp=E,0.7nm,0.2s							
WTTA				*i* Sn		**Sn**	**15 57 42.3**	**+0.3**
	comp=E,3.6nm,0.4s							
WATA	**Walderalm**	**8.26**	**319**	*i* Pn		**Pn**	**15 56 12.8**	**+2.2**
	comp=E,1.0nm,0.2s							
FETA	**Feichten**	**8.49**	**315**	*i* Sn		**Sn**	**15 57 47.9**	**-1.5**
	comp=E,1.3nm,0.5s							
MOTA	**Moosalm**	**8.51**	**318**	*i* Sn		**Sn**	**15 57 49.9**	**0.0**
	comp=E,2.4nm,0.4s							
CLL	**Collm**	**10.95**	**338**	*e*Sn		Sn	15 58 37.0	-12
CLL				*e*(Sg)			15 59 59.0	
CLL				Lm		MLR	16 04 00.0	
	comp=Z,200nm,18.2s							
FINES	**FINESS Array B**	**20.55**	**9**	P		**P**	**15 58 46.0**	**-3.0**
	comp=Z,3.5nm,0.9s,baz=191,slow=12,SNR=6.3							
	comp=Z,3.5nm,0.8s							
ZALV	**Zalesovo Beam**	**44.24**	**50**	P		**P**	**16 02 18.6**	**-1.2**
	comp=Z,1.6nm,0.3s,baz=287,slow=7.7,SNR=7.4							
	comp=Z,1.6nm,0.3s							
MKAR	**Makanchi Array**	**44.40**	**61**	P		**P**	**16 02 20.4**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=288,slow=6.7,SNR=9.6							
	comp=Z,0.9nm,0.6s							

*CATAC **21** 16:00:38.8±0.6,7˚.N±2˚×7˚.3W±˚, h157$^{km}_{\pm}$5^{km}, M3.8/10, mb3.7/2, MLv3.8/10, Error ellipse: s-maj=10.0km s-min=5.2km az=90.5, confirmed*
*RSNC **21** 16:00:39.6±0.0,7˚.N±1˚×7˚.3W±˚, h153$^{km}_{\pm}$2^{km}, M3.5, mB4.7, mb4.0, ML3.2, Mw(mB)3.9*
*IDC **21** 16:00:47.9±4.2,5˚.30N×76˚.12W, h162$^{km}_{\pm}$56^{km}, mb2.8/1, mbtmp3.2/1, Error ellipse: s-maj=114.5km s-min=37.6km az=56.0*

ISC 21 16:00:38.5±0.8, 6˚.83N±0˚.03×73˚.09W±0˚.04, h159$^{km}_{\pm}$6^{km}, n50,σ1°25/86, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**201**	P		**Pn**	**16 01 00.4**	**+0.1**
BARC				S		**Sn**	**16 01 16.1**	**-0.9**

BEO ***21*** *16:10:38.0±0.5,41°.35N×19°.54E,h8km±2km,ML3.9/22*
MED_RC ***21*** *16:10:38.0±1.1,41°.37N×19°.41E,h10km,MW4.6/7,*
Moment Tensor Solution.Mantle waves: s7,c7; Duration:
1♯1 Moment tensor: Scale 10¹⁶Nm; Mrr0.17±.09;
Mθθ0.14±.11; Mϕϕ-0.32±.05; Mrθ0.96±.28; Mrϕ-0.27±.08;
Mθϕ0.49±.16; Best double couple: M₀1.15000×10¹⁶
NP1:ϕs167.00000°,δ18.00000°,λ15.00000°. NP2:
ϕs62.00000°,δ85.00000°,λ107.00000°. Principal axes: T
1.1400, Plg47.0000°, Azm350.0000°; N 0.0100,
Plg17.0000°, Azm240.0000°; P -1.1500, Plg38.0000°,
Azm136.0000°; nsta1 refers to body waves. nsta2 refers
to surface waves, cutoff=35s.
RHSSO ***21*** *16:10:38.7±0.8,41°.38N×19°.35E,h8km±4km,ML4.3/9*
SOF ***21*** *16:10:39.3,41°.35N±0°.03×19°.57E±0°.09,h28km±5km,*
MD4.2/7
IDC ***21*** *16:10:41.7±1.6,41°.51N×19°.49E,h50km±17km,mb3.9/12,*
mbtmp4.1/20,ML3.7/8,MS2.8/2,Error ellipse:
s-maj=16.9km s-min=11.0km az=146.0
AFAD ***21*** *16:10:45.0,41°.34N×20°.06E,h35km,MW4.2*

ISC 21 16:10:37.2±0.9**, 41°.35N**±0°.02×**19°.47E**±0°.02**, h15**km±6km**, n301**, σ1°**63**/393**, mb4.5**/19**, 29C-21D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.30**	**89**	Pg	**Pg**	**16 10 43.0**	**-0.5**
TIR				AML	AML	16 10 46.6	
	79nm,0.4s						
TIR				Sg	**Sg**	**16 10 46.9**	**-1.0**
TIR				AML	AML	16 10 48.3	
	68nm,0.4s						
ULC	**Ulcinj**	**0.64**	**345** ⇓	*i* Pg	**Pb**	**16 10 50.2**	**0.0**
ULC				*i* Sg	**Sn**	**16 11 01.3**	**-0.4**
DRME	**Dracevica, Mon**	**0.87**	**346**	*e* Pg	**Pb**	**16 10 54.8**	**+0.8**
DRME				*e* Sg	**Sn**	**16 11 07.6**	**+0.3**
DRME	**Dracevica, Mon**	**0.87**	**346**	*e* Pg	**Pb**	**16 10 54.4**	**+0.4**
DRME				*i* Sg	**Sn**	**16 11 08.8**	**+1.5**
VLO	**Vlora**	**0.88**	**179**	Pg	**Pn**	**16 10 56.8**	**+1.9**
VLO				Sg	**Sb**	**16 11 07.5**	**+1.9**
VLO				AML	AML	16 11 12.9	
	48nm,0.6s						
VLO				AML	AML	16 11 15.4	
	54nm,0.3s						
VLO	**Vlora**	**0.88**	**179**	P	**Pn**	**16 10 56.6**	**+1.6**
VLO				S	**Sn**	**16 11 12.0**	**+4.5**
VLO	**Vlora**	**0.88**	**179**	P	**Pn**	**16 10 56.9**	**+1.9**
OHR	**Ohrid**	**1.03**	**103**	*i* Pg	**Pg**	**16 10 55.4**	**-1.8**
OHR				*i* Sg	**Sn**	**16 11 12.8**	**+1.4**
OHR				*e*Lg	Lg	16 11 13.0	
	comp=N,5μm,0.7s						
OHR				*e*Lg	Lg	16 11 15.5	
	comp=E,4μm,0.4s						
BUM	**Brajici-Budva**	**1.05**	**336** ⇓	*i* Pg	**Pn**	**16 10 58.3**	**+0.9**
BUM				*i* Sg	**Sn**	**16 11 14.9**	**+3.1**
PDG	**Podgorica**	**1.10**	**352**		**Pg**	**16 10 58.3**	**-0.1**
PDG				Sn	**Sn**	**16 11 14.6**	**+1.7**
PDG	**Podgorica**	**1.10**	**352**	⇑P	**Pn**	**16 10 59.2**	**+1.2**
PDG				⇓S	**Sn**	**16 11 13.4**	**+0.5**
PDG	**Podgorica**	**1.10**	**352**	*e* Pg	**Pn**	**16 10 58.9**	**+0.9**
PDG				*e*Sg	**Sn**	**16 11 12.9**	**0.0**
PDG	**Podgorica**	**1.10**	**352**	⇑ *i* Pg	**Pg**	**16 10 58.4**	**0.0**
PDG				*i* Sg	**Sn**	**16 11 16.5**	**+3.6**
KBN	**Korca**	**1.23**	**125**	P	**Pn**	**16 10 58.4**	**+0.8**
KBN				Sg	**Sb**	**16 11 17.4**	**+1.4**
KBN				AML	AML	16 11 20.6	
	comp=E,19nm,0.4s						
KBN	**Korca**	**1.23**	**125**	P	**Pn**	**16 11 00.8**	**+0.8**
KBN				S	**Sn**	**16 11 20.0**	**+3.6**
KBN	**Korca**	**1.23**	**125**	P	**Pn**	**16 11 01.1**	**+1.1**
CEME	**Cevo**	**1.27**	**341** ⇓	*i* Pg	**Pg**	**16 11 02.0**	**+0.3**
CEME				*i* Sg	**Sn**	**16 11 21.6**	**+4.3**
PVY	**Plav**	**1.30**	**16** ⇑	*i* Pg	**Pg**	**16 11 02.5**	**+0.2**
PVY				*i* Sg	**Sg**	**16 11 22.5**	**+3.2**
HCY	**Herceg Novi**	**1.32**	**327**	*e* Pg	**Pg**	**16 11 02.6**	**-0.1**
HCY				*i* Sg	**Sg**	**16 11 22.2**	**+2.3**
NKME	**Niksic**	**1.47**	**345** ⇑	*i* Pg	**Pb**	**16 11 05.0**	**+0.7**
NKME				*i* Sg	**Sg**	**16 11 26.3**	**+1.6**
KOME	**Kolasin**	**1.50**	**1**	*e* Pg	**Pb**	**16 11 05.7**	**+0.5**
KOME				*e*Sg	**Sb**	**16 11 24.7**	**+0.8**
KOME	**Kolasin**	**1.50**	**1** ⇑	*i* Pg	**Pb**	**16 11 05.4**	**+0.5**
KOME				*i* Sg	**Sg**	**16 11 28.1**	**+2.3**
IVA	**Berane**	**1.56**	**12** ⇑	*i* Pn	**Pb**	**16 11 05.9**	**+0.1**
IVA				*i* Sn	**Sg**	**16 11 29.1**	**+1.6**
TREB	**Trebinje**	**1.60**	**329** ⇑	*i* Pg	**Pb**	**16 11 06.3**	**-0.3**
TREB				*e*Sg	**Sb**	**16 11 27.2**	**+0.6**
KEK	**Kerkira**	**1.65**	**171**		**Pn**	**16 11 04.5**	**-1.1**
KEK	**Kerkira**	**1.65**	**171**	P	**Pg**	**16 11 10.4**	**+1.5**
KEK				S	**Sn**	**16 11 29.0**	**+2.4**
BRY	**Bratogost**	**1.70**	**336**	*e* Pn	**Pb**	**16 11 08.0**	**-0.3**
BRY				*i* Sn	**Sg**	**16 11 32.1**	**0.0**
PENT	**Pentalofos**	**1.71**	**132**	P	**Pb**	**16 11 09.1**	**+0.6**
PENT				S	**Sb**	**16 11 31.8**	**+2.0**
NOCI	**Noci**	**1.90**	**254**	Pn	**Pn**	**16 11 09.9**	**+0.7**
NOCI				Sn	**Sn**	**16 11 32.7**	**-0.1**
UPM	**Unac-Piva**	**1.90**	**348** ⇑	*i* Pn	**Pb**	**16 11 10.1**	**-0.5**
UPM				*i* Sn	**Sg**	**16 11 36.9**	**-1.6**
IGT	**Igoumenitsa**	**1.93**	**160**	Pn	**Pn**	**16 11 10.5**	**+1.0**
IGT				Sn	**Sb**	**16 11 37.0**	**+1.1**
IGT				AML	AML	16 11 44.0	
	comp=E,3.9nm,0.5s						
IGT	**Igoumenitsa**	**1.93**	**160**	P	**Pn**	**16 11 10.7**	**+1.2**
IGT				S	**Sn**	**16 11 36.1**	**+2.6**
IGT	**Igoumenitsa**	**1.93**	**160**	*i* Pn	**Pn**	**16 11 10.5**	**+1.0**
IGT				*i* Sn	**Sg**	**16 11 39.4**	**+0.2**
KLINJ	**Klinje**	**1.94**	**341**	*e* Pn	**Pn**	**16 11 11.0**	**+1.3**
KLINJ				*e*Sn	**Sn**	**16 11 34.7**	**+0.9**
SJES	**Sjenica**	**1.95**	**11**	*e* Pg	**Pb**	**16 11 13.1**	**+0.5**
SJES				*e*Sg	**Sb**	**16 11 37.6**	**+0.9**
JAN	**Janina**	**1.99**	**148**	P	**Pn**	**16 11 12.1**	**+1.8**
JAN	**Janina**	**1.99**	**148**	P	**Pn**	**16 11 12.9**	**+2.5**
STON	**Ston**	**2.01**	**320**	*e* Pn	**Pn**	**16 11 13.5**	**+0.9**
STON				*e*Sn	**Sn**	**16 11 36.7**	**+1.2**
STON	**Ston**	**2.01**	**320**	*e* Pn	**Pn**	**16 11 11.9**	**+1.3**
KZN	**Kozani**	**2.03**	**120**	P	**Pn**	**16 11 13.2**	**+2.2**
KZN				S	**Sb**	**16 11 39.9**	**+0.9**
KZN	**Kozani**	**2.03**	**120**	P	**Pn**	**16 11 13.0**	**+2.0**
PRMD	**Pramanda**	**2.20**	**145**	P	**Pn**	**16 11 15.7**	**+2.4**
MATE	**Matera**	**2.20**	**253** ⇓	P	**Pn**	**16 11 13.9**	**+0.7**
SELS	**Selova**	**2.24**	**33**	*e* Pn	**Pn**	**16 11 15.0**	**+1.2**
SELS				*e*Sn	**Sn**	**16 11 43.1**	**+1.9**
RUDO	**Rudo**	**2.27**	**358** ⇑	*i* Pn	**Pn**	**16 11 15.8**	**+1.6**
RUDO				*e*Sn	**Sn**	**16 11 44.2**	**+2.2**
BARS	**Barje**	**2.28**	**49**	*i* Pn	**Pn**	**16 11 15.4**	**+1.0**
BARS				*i* Sn	**Sn**	**16 11 45.0**	**+2.7**
BARS	**Barje**	**2.28**	**49**	*e* Pn	**Pn**	**16 11 15.3**	**+0.9**
IVAS	**Ivanjica**	**2.29**	**13**	*e* Pn	**Pn**	**16 11 15.5**	**+1.0**
TETR	**Tetrakomo, Epi**	**2.43**	**145**	P	**Pn**	**16 11 18.9**	**+2.4**
GOCS	**Kraljevo Serbi**	**2.45**	**25**	*e* Pn	**Pn**	**16 11 18.0**	**+1.3**
GOCS				*e*Sn	**Sn**	**16 11 49.4**	**+3.0**
BBLS	**Lazi&#263i**	**2.52**	**359**	*e* Pn	**Pn**	**16 11 19.4**	**+1.7**
BBLS				*e*Sn	**Sn**	**16 11 50.6**	**+2.4**
BOSS	**Bosilegrad**	**2.52**	**62**	*e* Pn	**Pn**	**16 11 18.5**	**+0.8**
BOSS				*e*Sn	**Sn**	**16 11 49.9**	**+1.7**
KNT	**Kendrikon**	**2.59**	**93**	P	**Pn**	**16 11 19.5**	**+0.8**
KNT	**Kendrikon**	**2.59**	**93**	*i* Pn	**Pn**	**16 11 19.3**	**+0.7**
KNT				*i* Sn	**Sn**	**16 11 50.1**	**+0.2**
KNT	**Kendrikon**	**2.59**	**93**	P	**Pn**	**16 11 19.7**	**+1.1**
LIT	**Litokhoron**	**2.61**	**117**		**Pn**	**16 11 19.9**	**+1.0**
LIT				Sn	**Sn**	**16 11 50.9**	**+0.6**
LIT	**Litokhoron**	**2.61**	**117**	P	**Pn**	**16 11 20.1**	**+1.2**
LIT				S	**Sn**	**16 11 50.8**	**+0.4**
LIT				*i* IAML		16 12 06.0	
	comp=E,372nm,0.8s						
LIT	**Litokhoron**	**2.61**	**117**	P	**Pn**	**16 11 19.8**	**+0.9**
LIT	**Litokhoron**	**2.61**	**117**	*i* Pn	**Pn**	**16 11 19.8**	**+0.9**
LIT				*i* Sn	**Sn**	**16 11 54.2**	**+3.9**
LIT	**Litokhoron**	**2.61**	**117**	P	**Pn**	**16 11 19.9**	**+1.0**
LIT						16 11 50.9	
THL	**Klokotos Trika**	**2.63**	**132**	P	**Pn**	**16 11 20.5**	**+1.4**
TYRN	**Tyrnavos**	**2.67**	**127**	P	**Pn**	**16 11 20.9**	**+1.3**
TSLK	**Tsoukalades, L**	**2.68**	**160**	P	**Pn**	**16 11 20.7**	**+0.9**
GRUS	**Gruza**	**2.70**	**20**	*e* Pn	**Pn**	**16 11 21.1**	**+0.9**
GRUS				*e*Sn	**Sn**	**16 11 52.6**	**0.0**
LKD2	**Lefkada island**	**2.71**	**160**	Pn	**Pn**	**16 11 20.9**	**+0.6**
LKD2				AML	AML	16 12 08.2	
	comp=E,3.4nm,0.5s						
LKD2	**Lefkada island**	**2.71**	**160**	P	**Pn**	**16 11 20.8**	**+0.6**
ACER	**Acerenza**	**2.72**	**259**		**Pn**	**16 11 22.3**	**+1.9**
THE	**Thessaloniki**	**2.74**	**104**	Pn	**Pn**	**16 11 20.9**	**+0.2**
THE				AML	AML	16 11 57.7	
	comp=E,1.2nm,0.5s						
THE	**Thessaloniki**	**2.74**	**104**	P	**Pn**	**16 11 21.0**	**+0.3**
THE	**Thessaloniki**	**2.74**	**104**	*i* Pn	**Pn**	**16 11 21.2**	**+0.5**
THE	**Thessaloniki**	**2.74**	**104**	P	**Pn**	**16 11 21.5**	**+0.8**
AMPL	**Ampelaki**	**2.77**	**150**	P	**Pn**	**16 11 22.6**	**+1.6**
DIVS	**Divibare**	**2.78**	**8**	*e* Pn	**Pn**	**16 11 22.6**	**+1.3**
DIVS				*e*Sn	**Sn**	**16 11 57.1**	**+2.5**
KKB	**Krupnik**	**2.79**	**79**	*i* P	**Pn**	**16 11 22.4**	**+1.0**
KKB	**Krupnik**	**2.79**	**79**	P	**Pn**	**16 11 22.5**	**+1.2**
KKB	**Krupnik**	**2.79**	**79**	*i* Pn	**Pn**	**16 11 22.6**	**+1.2**
NYDR	**Nydri-Lefkada**	**2.79**	**160**	P	**Pn**	**16 11 21.6**	**+0.3**
SGRT	**San Giovanni R**	**2.82**	**280**	Pn	**Pn**	**16 11 22.7**	**+0.8**
SGRT	**San Giovanni R**	**2.82**	**280**		**Pn**	**16 11 21.9**	**0.0**
BOVS	**Bovan**	**2.83**	**35**	⇑P	**Pn**	**16 11 23.4**	**+1.6**
BOVS	**Bovan**	**2.83**	**35**	*e* Pn	**Pn**	**16 11 23.2**	**+1.4**
BOVS				*e*Sn	**Sn**	**16 11 55.6**	**0.0**
TRUS	**Trudelj**	**2.96**	**13**	*e* Pn	**Pn**	**16 11 25.1**	**+1.4**
TRUS				*e*Sn	**Sn**	**16 12 01.6**	**+2.7**
SOH	**Sokhos**	**2.98**	**99**	*i* Pn	**Pn**	**16 11 25.1**	**+1.0**
SOH	**Sokhos**	**2.98**	**99**	P	**Pn**	**16 11 25.1**	**+1.0**
TIP	**Timpagrande**	**3.00**	**225**		**Pn**	**16 11 24.6**	**+0.3**
TIP	**Timpagrande**	**3.00**	**225**	⇑P	**Pn**	**16 11 25.1**	**+0.9**
FSK	**Fiskardo**	**3.00**	**163**	P	**Pn**	**16 11 24.0**	**-0.2**
ZAPS	**Zavoj**	**3.04**	**50**	*e* Pn	**Pn**	**16 11 26.3**	**+1.5**
ZAPS				*e*Sn	**Sn**	**16 12 01.2**	**+0.3**
VTS	**Vitosha**	**3.08**	**64**	*i* P	**Pn**	**16 11 26.6**	**+1.1**
VTS	**Vitosha**	**3.08**	**64**	P	**Pn**	**16 11 26.5**	**+0.9**
VTS	**Vitosha**	**3.08**	**64**	*e* Pn	**Pn**	**16 11 26.7**	**+1.2**
CUC	**Castrocucco**	**3.09**	**245**		**Pn**	**16 11 26.6**	**+1.1**
SRS	**Serrai**	**3.12**	**93**	P	**Pn**	**16 11 26.6**	**+0.7**
SRS	**Serrai**	**3.12**	**93**	*i* Pn	**Pn**	**16 11 26.6**	**+0.7**
SRS				*i* Sn	**Sn**	**16 12 02.5**	**-0.3**
SRS	**Serrai**	**3.12**	**93**	*e* Pn	**Pn**	**16 11 26.7**	**+0.8**
PLNA	**Plana**	**3.16**	**68**	*i* P	**Pn**	**16 11 28.4**	**+1.8**
PLG	**Polygyros**	**3.17**	**107**	P	**Pn**	**16 11 28.0**	**+1.4**
SVIS	**Svilajnac**	**3.19**	**23**	*e* Pn	**Pn**	**16 11 28.3**	**+1.5**
AGG	**Agios Georgios**	**3.19**	**136**	P	**Pn**	**16 11 29.1**	**+2.2**
AGG				S	**Sn**	**16 12 03.5**	**-1.2**
AGG				*i* IAML		16 12 42.0	
	comp=E,83nm,1.0s						
AGG	**Agios Georgios**	**3.19**	**136**	P	**Pn**	**16 11 28.6**	**+1.7**
AGG	**Agios Georgios**	**3.19**	**136**	*i* P	**Pn**	**16 11 29.1**	**+2.2**
AGG				*i* S	**Sn**	**16 12 03.5**	**-1.2**
ZAGS	**Zajecar**	**3.20**	**39**	*e* Pn	**Pn**	**16 11 28.1**	**+1.1**
ZAGS				*e*Sn	**Sn**	**16 12 05.8**	**+0.9**
MMB	**Musomishta**	**3.23**	**85**	*i* P	**Pn**	**16 11 28.4**	**+1.1**
MMB	**Musomishta**	**3.23**	**85**	P	**Pn**	**16 11 28.1**	**+0.8**
MMB	**Musomishta**	**3.23**	**85**	*i* Pn	**Pn**	**16 11 28.5**	**+1.1**
VLS	**Valsamata**	**3.28**	**164**	P	**Pn**	**16 11 27.5**	**-0.6**
VLS	**Valsamata**	**3.28**	**164**	P	**Pn**	**16 11 28.0**	**-0.1**
BLKB	**Belogradchik**	**3.29**	**45**	*e* Pn	**Pn**	**16 11 30.0**	**+1.8**
BORS2	**Bor- Borsko je**	**3.33**	**34**	*e* Pn	**Pn**	**16 11 28.2**	**-0.5**
BORS2				*e*Sn	**Sn**	**16 12 08.1**	**+0.1**
ANX	**Ano Chora**	**3.33**	**145**	P	**Pn**	**16 11 31.0**	**+2.1**
PSDA	**Pessada-Kefalo**	**3.34**	**165**	P	**Pn**	**16 11 28.6**	**-0.3**
AVAS	**Avala Beograd**	**3.44**	**13**	*e* Pn	**Pn**	**16 11 30.9**	**+0.7**
AVAS				*e*Sn	**Sn**	**16 12 13.0**	**+2.3**
EFP	**Efpalio**	**3.47**	**146**	P	**Pn**	**16 11 32.3**	**+1.6**
KUBS	**Kucevo**	**3.47**	**27**	*e* Pn	**Pn**	**16 11 30.1**	**-0.6**
KIJV	**Kijevo**	**3.49**	**321** ⇑	*i* Pn	**Pn**	**16 11 32.4**	**+1.5**
KIJV				*e*Sn	**Sn**	**16 12 12.2**	**+0.3**
OUR	**Ouranopolis**	**3.57**	**105**	P	**Pn**	**16 11 32.7**	**+0.7**
OUR	**Ouranopolis**	**3.57**	**105**	P	**Pn**	**16 11 33.4**	**+1.4**
PGB	**Panagyurishte**	**3.70**	**70**	*i* P	**Pn**	**16 11 35.6**	**+1.7**
PAOL	**Paolisi**	**3.71**	**267**		**Pn**	**16 11 35.8**	**+1.7**
MPEP	**Malo Peshtene**	**3.75**	**56**	*i* P	**Pn**	**16 11 36.0**	**+1.5**
BLY	**Banja Luka**	**3.79**	**335** ⇑	*i* Pn	**Pn**	**16 11 36.8**	**+1.7**
BLY				*e*Sn	**Sn**	**16 12 19.7**	**+0.3**
BLY	**Banja Luka**	**3.79**	**335**	⇓P	**Pn**	**16 11 36.1**	**+1.0**
MDVR	**Moldovita**	**3.81**	**25**	⇓P	**Pn**	**16 11 36.5**	**+1.0**
MDVR	**Moldovita**	**3.81**	**25**	*e* Pn	**Pn**	**16 11 36.4**	**+1.0**
FRGS	**Fruska Gora**	**3.82**	**4**	*e* Pn	**Pn**	**16 11 36.0**	**+0.5**
KLV	**Kalavryta, Ach**	**3.89**	**147**	P	**Pn**	**16 11 38.0**	**+1.4**
RZN	**Rozhen**	**3.97**	**83**	*i* P	**Pn**	**16 11 39.5**	**+1.7**
VRSS	**Vrsac**	**4.01**	**19**	*e* Pn	**Pn**	**16 11 38.5**	**+0.4**
PLD	**Plovdiv**	**4.03**	**77**	*e* Pn	**Pn**	**16 11 39.9**	**+1.5**
THAS	**Thassos island**	**4.04**	**99**	P	**Pn**	**16 11 38.5**	**0.0**
CEL	**Celeste**	**4.13**	**223**		**Pn**	**16 11 39.9**	**+0.1**
HERR	**Herculane**	**4.14**	**30**	⇑P	**Pn**	**16 11 41.0**	**+1.1**
INTR	**Introdacqua**	**4.22**	**281**		**Pn**	**16 11 42.9**	**+1.8**
SRE	**Strehaia**	**4.30**	**38**	⇑P	**Pn**	**16 11 43.9**	**+1.7**
SRE	**Strehaia**	**4.30**	**38**	P	**Pn**	**16 11 43.8**	**+1.7**
PLVB	**Pleven**	**4.33**	**60**	⇓P	**Pn**	**16 11 44.3**	**+1.8**
KDZ	**Kurdzhali**	**4.42**	**84**	*i* P	**Pn**	**16 11 44.8**	**+1.0**
KDZ	**Kurdzhali**	**4.42**	**84**	P	**Pn**	**16 11 45.4**	**+1.6**
BZS	**Buzias**	**4.55**	**19**	⇓P	**Pn**	**16 11 46.4**	**+0.9**
BZS	**Buzias**	**4.55**	**19**	*e* Pn	**Pn**	**16 11 46.2**	**+0.7**
BZS	**Buzias**	**4.55**	**19**	P	**Pn**	**16 11 46.3**	**+0.9**
ITM	**Ithomi**	**4.58**	**155**		**Pn**	**16 11 46.5**	**+0.6**
ITM	**Ithomi**	**4.58**	**155**	P	**Pn**	**16 11 46.7**	**+0.8**
RDO	**Rodhopi**	**4.58**	**90**		**Pn**	**16 11 46.6**	**+0.6**
AQU	**L'Aquila**	**4.64**	**285**	P	**Pn**	**16 11 48.4**	**+1.6**
CAMP	**Campotosto**	**4.67**	**287**		**Pn**	**16 11 49.0**	**+1.7**
ATH	**Athens Observa**	**4.70**	**134**	P	**Pn**	**16 11 49.0**	**+1.4**
MOSL	**Moslavina**	**4.70**	**336** ⇑	*i* Pn	**Pn**	**16 11 48.4**	**+0.8**
GZR	**Gura Zlata**	**4.71**	**30**	⇓P	**Pn**	**16 11 49.7**	**+1.9**
GZR	**Gura Zlata**	**4.71**	**30**	*e* Pn	**Pn**	**16 11 49.0**	**+1.2**
GZR	**Gura Zlata**	**4.71**	**30**	P	**Pn**	**16 11 50.3**	**+2.5**
SURD	**Surduc**	**4.81**	**23**	⇓P	**Pn**	**16 11 49.6**	**+0.5**
GUMA	**Guado di Mace**	**4.87**	**293**		**Pn**	**16 11 51.2**	**+1.3**
NRCA	**Norcia**	**4.96**	**290**		**Pn**	**16 11 52.7**	**+1.6**
ALN	**Alexandroupoli**	**4.99**	**93**		**Pn**	**16 11 52.5**	**+1.0**
ALN	**Alexandroupoli**	**4.99**	**93**	P	**Pn**	**16 11 51.8**	**+0.2**
ALN				S	**Sn**	**16 12 46.5**	**-2.4**
ALN				*i* IAML		16 13 26.0	
	comp=E,35nm,1.0s						
ALN	**Alexandroupoli**	**4.99**	**93**	*i* P	**Pn**	**16 11 51.7**	**+0.2**
ALN				*i* S	**Sn**	**16 12 46.5**	**-2.4**
ELND	**Elena**	**5.02**	**70**	⇑P	**Pn**	**16 11 53.5**	**+1.5**
FDMO	**Fiordimonte**	**5.03**	**292**		**Pn**	**16 11 52.3**	**+0.1**
LOT	**Lotru**	**5.16**	**36**	⇓P	**Pn**	**16 11 55.7**	**+1.7**
OZLJ	**Ozalj**	**5.17**	**327**	*e* Pn	**Pn**	**16 11 55.0**	**+1.1**
OZLJ				*e*Sn	**Sn**	**16 12 52.4**	**-0.8**
BOJS	**Bojanci**	**5.17**	**325**	*i* Pn	**Pn**	**16 11 55.4**	**+1.4**
BOJS				*e*Sn	**Sn**	**16 12 51.7**	**-1.5**
BOJS	**Bojanci**	**5.17**	**325**	*e* Pn	**Pn**	**16 11 55.5**	**+1.5**
SIRR	**Siria**	**5.17**	**17**	⇑P	**Pn**	**16 11 54.7**	**+0.7**
CESX	**Cesi**	**5.29**	**286**		**Pn**	**16 11 57.5**	**+1.9**
KOCA	**Canakkale, Ayv**	**5.41**	**108**	P	**Pn**	**16 11 59.8**	**+2.4**
EZN	**Ezine**	**5.44**	**104**	⇓P	**Pn**	**16 12 00.1**	**+2.4**
EZN	**Ezine**	**5.44**	**104**	P	**Pn**	**16 12 00.1**	**+2.4**
KESN	**Edirne-Kesan**	**5.47**	**93**	P	**Pn**	**16 11 58.4**	**-0.2**
BEHE	**Becsehely**	**5.48**	**340**	*e* Pn	**Pn**	**16 11 59.4**	**+1.1**
BEHE				*e*Sn	**Sn**	**16 13 00.6**	**-0.4**
BRJN	**Brijuni**	**5.49**	**312** ⇑	*i* Pn	**Pn**	**16 11 59.3**	**+0.9**
BRJN				*e*Sn	**Sn**	**16 12 59.5**	**-1.8**
MURB	**Monte Urbino**	**5.49**	**293**		**Pn**	**16 12 00.1**	**+1.5**
VAE	**Valguarnera**	**5.50**	**227**	P	**Pn**	**16 12 02.5**	**+3.9**
	comp=E,6.7nm,0.5s,baz=345,slow=12,SNR=1.7						
VAE				S	**Sn**	**16 13 08.0**	**+6.4**
	comp=E,37nm,0.8s,baz=204,slow=14,SNR=3.2						
ARR	**Arges**	**5.51**	**41**	⇓P	**Pn**	**16 12 01.1**	**+2.3**
BAYC	**CANAKKALE_Bayr**	**5.63**	**104**	P	**Pn**	**16 12 00.7**	**+0.4**
CEY	**Cerknica**	**5.72**	**322**	*e* Pn	**Pn**	**16 12 03.1**	**+1.5**
KIRK	**Kirklareli**	**5.74**	**83**	P	**Pn**	**16 12 00.2**	**-1.6**
VOIR		**5.77**	**43**	⇓P	**Pn**	**16 12 04.1**	**+1.8**
VOIR		**5.77**	**43**	P	**Pn**	**16 12 04.1**	**+1.8**
SKDS	**Skadanscina**	**5.78**	**318**	*i* Pn	**Pn**	**16 12 02.8**	**+0.4**
SKDS				*i* Sn	**Sn**	**16 13 06.2**	**-2.2**
LJU	**Ljubljana**	**5.91**	**324**	*i* Pn	**Pn**	**16 12 05.8**	**+1.6**
LJU	**Ljubljana**	**5.91**	**324**	*e* Pn	**Pn**	**16 12 05.5**	**+1.4**
DRGR		**5.92**	**22**	⇑P	**Pn**	**16 12 05.1**	**+0.6**
DRGR		**5.92**	**22**	P	**Pn**	**16 12 05.6**	**+1.1**
MARR	**Marisel-Cluj**	**5.94**	**25**	⇑P	**Pn**	**16 12 05.7**	**+0.9**
ARMN	**Kirklareli, Me**	**5.99**	**82**	P	**Pn**	**16 12 05.4**	**+0.1**
SOKA	**Soboth**	**6.21**	**331**	*i* Pn	**Pn**	**16 12 09.1**	**+0.7**
	comp=E,8.8nm,0.4s,SNR=16						
SOKA				*i* Sn	**Sn**	**16 13 16.0**	**-3.3**
	comp=E,19nm,0.7s						
OBKA	**Obir**	**6.26**	**327**	*i* Pn	**Pn**	**16 12 10.2**	**+1.0**
	comp=E,10.0nm,0.3s,SNR=29						
OBKA				*i* Sn	**Sn**	**16 13 19.8**	**-0.7**
	comp=E,47nm,0.3s						
MLR	**Muntele Rosu**	**6.28**	**47**		**Pn**	**16 12 12.2**	**+2.8**
MLR	**Muntele Rosu**	**6.28**	**47**	P	**Pn**	**16 12 11.5**	**+2.1**
	comp=E,4.2nm,0.3s,baz=309,slow=0.6,SNR=42						
MLR				S	**Sn**	**16 13 20.0**	**-0.9**
	comp=E,8.5nm,0.7s,baz=202,slow=19,SNR=1.4						
MLR	**Muntele Rosu**	**6.28**	**47**	⇑P	**Pn**	**16 12 11.9**	**+2.5**
VIZE	**Kirklareli, Vi**	**6.29**	**85**	P	**Pn**	**16 12 09.7**	**+0.2**
GORS	**Gorjuse**	**6.35**	**323**	*i* Pn	**Pn**	**16 12 10.9**	**+0.5**
ARSA	**Arzberg**	**6.55**	**336**		**Pn**	**16 12 13.1**	**+0.2**
ARSA	**Arzberg**	**6.55**	**336**	*i* Pn	**Pn**	**16 12 13.5**	**+0.6**
	comp=E,6.7nm,0.3s,SNR=11						
ARSA	**Arzberg**	**6.55**	**336**	*e* Pn	**Pn**	**16 12 13.8**	**+0.8**
PSZ	**Piszkesteto**	**6.58**	**3**		**Pn**	**16 12 13.8**	**+0.4**
PSZ	**Piszkesteto**	**6.58**	**3**	⇓P	**Pn**	**16 12 14.3**	**+0.8**
PSZ	**Piszkesteto**	**6.58**	**3**	P	**Pn**	**16 12 14.3**	**+0.8**
MYKA	**Terra Mystica**	**6.75**	**323**	*e* Pn	**Pn**	**16 12 16.2**	**+0.4**
	comp=E,3.2nm,0.2s,SNR=4.4						
MYKA				*i* Sn	**Sn**	**16 13 30.6**	**-1.7**
	comp=E,9.2nm,0.3s						
PLOR	**Plostina**	**6.89**	**47**	⇑P	**Pn**	**16 12 20.1**	**+2.4**
PLOR	**Plostina**	**6.89**	**47**	P	**Pn**	**16 12 20.9**	**+3.2**
STAL	**STALIGIAL**	**6.93**	**317**	Pn	**Pn**	**16 12 18.4**	**+0.2**
VRI	**Vrincioaia**	**6.94**	**47**	⇑P	**Pn**	**16 12 20.4**	**+2.0**
VRI	**Vrincioaia**	**6.94**	**47**	P	**Pn**	**16 12 20.4**	**+2.0**
TEOL	**Teolo**	**6.96**	**308**	Pn	**Pn**	**16 12 19.2**	**+0.6**
HARR	**Harsova**	**7.05**	**59**	⇓P	**Pn**	**16 12 21.6**	**+1.8**
HARR	**Harsova**	**7.05**	**59**	P	**Pn**	**16 12 21.8**	**+2.0**
CONA	**Conrad Observa**	**7.07**	**340**	*

comp=Z,4.4nm,0.9s
KBZ **Khabaz** **17.42** **74**⇑ *e*P **Pn** **16 14 40.3 +0.7**
KBZ pmax pmax
comp=Z,5.0nm,0.8s
VSU **Vasula** **17.74** **13***d iP* **Pn** **16 14 44.0 +0.5**
VSU pmax pmax
comp=Z,23nm,1.3s
OBN **Obninsk** **17.81** **34** *i* P **Pn** **16 14 43.6 -0.7**
OBN pmax pmax
comp=Z,24nm,1.3s
MOS **Moscow** **18.67** **33** *e*P **P** **16 14 52.7 -1.8**
HFS **Hagfors** **19.15** **351** P **P** **16 14 57.9 -1.8**
comp=Z,0.4nm,0.3s,baz=161,slow=14,SNR=12
comp=Z,1.1nm,0.4s
GNI **Garni** **19.17** **85** P **P** **16 14 59.5 -0.8**
comp=Z,0.7nm,0.3s,baz=215,slow=23,SNR=4.0
comp=Z,8.4nm,0.7s
NB2 **NORSAR Subarra** **20.36** **348** P **P** **16 15 12.0 -0.9**
comp=Z,4.9nm,0.7s,baz=167,slow=11
NOA **NORSAR Array B** **20.36** **348** P **P** **16 15 12.2 -0.7**
comp=Z,1.3nm,0.8s,baz=154,slow=10,SNR=5.8
NOA LR LR 16 24 12.7
comp=Z,22nm,18.8s,baz=195,slow=40
EKA **Eskdalemuir Ar** **20.41** **321** P **P** **16 15 12.6 -1.0**
comp=Z,0.8nm,0.4s,baz=113,slow=8.9,SNR=12
comp=Z,0.8nm,0.4s
FINES **FINESS Array B** **20.52** **9** P **P** **16 15 13.0 -1.6**
comp=Z,7.5nm,0.5s,baz=171,slow=12,SNR=52
comp=Z,7.5nm,0.5s
FIA1 **FINESS Array S** **20.52** **9** P **P** **16 15 14.3 -0.4**
FIA1 IAmb IAmb 16 15 54.5
comp=Z,30nm,1.1s
NC204 **NORSAR Array S** **20.65** **348** P **P** **16 15 13.5 -2.6**
NC204 IAmb IAmb 16 15 49.1
comp=Z,14nm,1.4s
AKT **Akhty** **21.16** **80** *e*P **P** **16 15 19.5 -2.4**
AKT *e* 16 15 39.7
AKT pmax pmax
comp=Z,23nm,1.4s
BELG **Belogornoye** **22.05** **50** P **P** **16 15 30.2 -0.9**
comp=Z,20nm,0.8s,baz=307,slow=1.5,SNR=7.7
comp=Z,20nm,0.8s
BELG **Belogornoye** **22.05** **50***d iP* **P** **16 15 30.6 -0.6**
BELG pmax pmax
comp=Z,3.0nm,0.8s
KLMR **Klimovskoe** **23.06** **25** *e*P P 16 15 35.2 -6.6
KLMR pmax pmax
comp=Z,28nm,1.3s
AKTO **Aktyubinsk** **28.05** **58** P **P** **16 16 26.3 -1.5**
comp=Z,1.4nm,0.5s,baz=298,slow=5.6,SNR=4.5
comp=Z,1.4nm,0.5s
ARCES **ARCESS Array B** **28.43** **4** P **P** **16 16 28.9 -2.0**
comp=Z,0.7nm,0.5s,baz=186,slow=11,SNR=5.2
comp=Z,0.7nm,0.5s
ARCES **ARCESS Array B** **28.43** **4** P **P** **16 16 29.0 -2.0**
ARTI **Arti** **29.22** **46** P **P** **16 16 36.1 -2.0**
ARTI **Arti** **29.22** **46***c iP* **P** **16 16 36.6 -1.5**
ARTI 16 17 28.0
ARTI S **S** **16 21 31.7 +1.7**
ARTI SS **SnSn** **16 22 58.4 +3.4**
ARTI pmax pmax
comp=Z,11nm,0.7s
AB31 **Akbulak array** **29.26** **60** P **P** **16 16 37.0 -1.5**
SVE **Sverdlovsk** **30.54** **45** *e*P **P** **16 16 49.4 -0.3**
SVE pmax pmax
comp=Z,14nm,0.8s
TORD **Torodi Ar. Bea** **32.09** **214** P **P** **16 17 05.6 +1.8**
comp=Z,0.3nm,0.4s,baz=26,slow=9.3,SNR=1.9
comp=Z,0.3nm,0.4s
BORK **Borovoye** **35.75** **53***ce*P **P** **16 17 34.9 -0.3**
BORK pmax pmax
comp=Z,6.0nm,0.8s
BVAR **Borovoye Array** **35.79** **53** P **P** **16 17 35.5 -0.1**
comp=Z,5.0nm,0.8s,baz=282,slow=7.3,SNR=17
comp=Z,5.0nm,0.8s
KURBB **Kurchatov Arra** **41.07** **56** P **P** **16 18 19.1 -0.9**
comp=Z,0.7nm,0.4s,baz=267,slow=9.5,SNR=8.0
comp=Z,0.7nm,0.4s
KURK **Kurchatov** **41.11** **56**⇓ *e*P **P** **16 18 19.6 -0.7**
KURK pmax pmax
comp=Z,5.0nm,1.2s
ZAA0 **Zalesovo Array** **44.24** **50** P **P** **16 18 44.2 -1.4**
ZAA0 IAmb IAmb 16 18 45.6
comp=Z,8.3nm,0.6s
ZALV **Zalesovo Beam** **44.24** **50** P **P** **16 18 44.9 -0.7**
comp=Z,9.4nm,0.4s,baz=285,slow=8.4,SNR=47
comp=Z,9.4nm,0.4s
MK31 **Makanchi Array** **44.40** **61***c iP* **P** **16 18 46.2 -0.9**
MKAR **Makanchi Array** **44.40** **61** P **P** **16 18 46.4 -0.7**
comp=Z,5.3nm,0.6s,baz=284,slow=7.0,SNR=70
comp=Z,5.3nm,0.6s
GTA **Gaotai** **59.07** **63** *e*P **P** **16 20 35.6 -1.3**
GTA pmax pmax
comp=Z,5.0nm,1.1s
SONM **Songino Array** **59.10** **52** P **P** **16 20 36.3 -0.7**
comp=Z,2.1nm,0.8s,baz=290,slow=8.7,SNR=8.6
comp=Z,2.1nm,0.8s
ULN **Ulaanbaatar** **59.48** **51**⇓ *e*P **P** **16 20 39.3 -0.3**
ULN pmax pmax
comp=Z,13nm,3.9s
HHC **Hu-ho-hao-te** **65.93** **56** *e*P **P** **16 21 21.6 -1.1**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,190nm,4.5s
PZH **PanZhiHua** **67.49** **74** P **P** **16 21 34.3 +1.4**
ULM **Lac du Bonnet** **72.68** **323** P **P** **16 22 04.2 +0.1**
comp=Z,2.6nm,0.7s,baz=15,slow=6.1,SNR=4.5
comp=Z,2.6nm,0.7s
NJ2 **Nanjing** **75.92** **60** *e*P **P** **16 22 23.1 -0.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
ASAR **Alice Springs** **123.25** **93** PKP **PKPdf** **16 29 32.1 -1.5**
comp=Z,0.5nm,0.5s,baz=302,slow=2.2,SNR=9.1

*HEL **21** 16:12:01.9±0.3, 67°.79N×20°.15E, h0km, ML0.9, Suspected explosion*
UPP 21 16:12:01.2±0.3, 67°.82N×20°.22E, h0km±2km, ML2.5, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**18**	P	Pg	16 12 04.1	+0.2
KUA				S	Sg	16 12 06.1	+0.5
RATU	**Laukkuluspa**	**0.24**	**271**	P	Pg	16 12 05.9	+0.1
RATU				S	Sg	16 12 09.4	+0.5
KOVU	**Salmi** baz=161	**0.40**	**357**	P	Pg	16 12 08.9	0.0
KOVU				S	Sg	16 12 14.3	+0.2
NIKU	**Nikkaluokta**	**0.45**	**276**	P	Pg	16 12 09.8	0.0
NIKU				S	Sg	16 12 16.2	+0.5
LANU	**Lannavaara**	**0.71**	**71**	PG	Pg	16 12 15.5	+0.8
LANU				SG	Sg	16 12 24.6	+0.7
DUNU	**Dundret**	**0.72**	**169**	P	Pg	16 12 14.6	-0.3
KIF	**Kilpisjarvi** comp=Z,0.9nm,0.2s	**1.21**	**10**	MSG		16 12 40.8	
KIF				SG	Sb	16 12 41.2	+0.3
PAJU	**Pajala**	**1.38**	**124**	PG	Pg	16 12 26.3	-1.2
PAJU				SG	Sg	16 12 44.8	-0.5
HEF	**Hetta** baz=247	**1.42**	**64**	PG	Pn	16 12 27.7	-0.5
HEF				MSG		16 12 45.7	
	comp=Z,0.7nm,0.2s						
HEF				SB	Sb	16 12 47.1	+0.1
ERTU	**Ertsjaerv**	**1.49**	**148**	PN	Pn	16 12 29.2	+0.1
ERTU				SN	Sn	16 12 49.1	-0.1
KTK1	**Kautokeino**	**1.63**	**42**	SN	Sg	16 12 55.1	+1.5
TOF	**Tornio** comp=Z,0.3nm,0.2s	**2.38**	**135**	MSG		16 13 12.1	
TOF				SG	Sb	16 13 15.9	+1.2
UMAU	**Umeaa**	**3.96**	**177**	SB	Sb	16 13 58.2	-2.0

IDC 21 16:14:48.4±1.6, 15°.31S×177°.17W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=48.1km s-min=39.6km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=95,slow=7.4,SNR=2.8 0.3nm,0.5s	**46.33**	**257**	P	P	16 23 16.2	-0.3
ASAR	**Alice Springs** 2.3nm,0.4s,baz=86,slow=8.5,SNR=80 2.3nm,0.4s	**46.69**	**252**	P	P	16 23 19.2	-0.1
QSPA	**South Pole Qui**	**74.73**	**180**	P	P	16 26 30.2	+0.2
	0.6nm,0.6s,baz=305,slow=1.7,SNR=6.5 0.6nm,0.6s						
ILAR	**Eielson Array** 0.5nm,0.8s,baz=212,slow=3.2,SNR=3.4 0.5nm,0.8s	**83.10**	**13**	P	P	16 27 15.5	-0.1

*TIR **21** 16:17:49.7, 41°.51N×19°.56E, h32km±5km, Ml2.8/4*
*PDG **21** 16:17:55.8±0.2, 41°.52N×19°.51E, h9km, ML2.5/10, Error ellipse: s-maj=1.0km s-min=1.3km az=0.0*
ISC 21 16:17:51.3±1.2, 41°.29N±0°.03×19°.46E±0°.04, h8km±11km, n17, σ1°09/33, 6C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.31**	**80**	Pg	**Pg**	**16 17 57.4**	**-0.1**
TIR				Sg	**Sg**	**16 18 00.1**	**-1.5**
TIR				AML	AML	16 18 01.1	
	5.7nm,0.3s						
TIR				AML	AML	16 18 02.8	
	3.3nm,0.2s						
ULC	**Ulcinj**	**0.69**	**347**⇑ *i*Pg		**Pb**	**16 18 04.8**	**-0.8**
ULC				*i* Sg	**Sb**	**16 18 12.5**	**-2.9**
VLO	**Vlora**	**0.82**	**178**	Pg	**Pn**	**16 18 09.2**	**0.0**
VLO				Sg	**Sn**	**16 18 23.1**	**+1.6**
DRME	**Dracevica, Mon**	**0.92**	**347**⇑ *i*Pg		**Pb**	**16 18 09.9**	**+0.4**
DRME				*i* Sg	**Sb**	**16 18 20.2**	**-1.7**
BUM	**Brajici-Budva**	**1.09**	**337** *e*Pg		**Pg**	**16 18 13.0**	**+0.7**
BUM				*e*Sg	**Sb**	**16 18 26.9**	**-0.1**
PDG	**Podgorica**	**1.15**	**353**⇓ *i*Pg		**Pn**	**16 18 13.1**	**-0.6**
PDG				*e*Sg	**Sb**	**16 18 27.7**	**-0.8**
KBN	**Korca**	**1.21**	**123**	Pn	**Pn**	**16 18 14.6**	**0.0**
KBN				Sn	**Sb**	**16 18 28.5**	**-1.8**
KBN				AML	AML	16 18 35.0	
	0.4nm,0.4s						
CEME	**Cevo**	**1.32**	**342**⇓ *i*Pg		**Pb**	**16 18 16.4**	**0.0**
CEME				*i* Sg	**Sg**	**16 18 34.9**	**+1.2**
HCY	**Herceg Novi**	**1.36**	**328**⇑ *i*Pg		**Pg**	**16 18 18.1**	**+0.7**
HCY				*e*Sg	**Sg**	**16 18 36.5**	**+1.4**
NKME	**Niksic**	**1.52**	**346**⇓ *i*Pg		**Pb**	**16 18 20.1**	**+0.3**
NKME				*i* Sg	**Sb**	**16 18 40.3**	**+1.0**
KOME	**Kolasin**	**1.56**	**2**⇑ *i*Pg		**Pb**	**16 18 20.1**	**-0.4**
KOME				*e*Sg	**Sg**	**16 18 42.2**	**+0.8**
IVA	**Berane**	**1.61**	**11**⇑ *i*Pg		**Pb**	**16 18 21.4**	**0.0**
IVA				*i* Sg	**Sg**	**16 18 43.7**	**+0.6**
BRY	**Bratogost**	**1.75**	**337**⇓ *i*Pg		**Pb**	**16 18 23.3**	**-0.4**
BRY				*e*Sg	**Sg**	**16 18 47.7**	**+0.2**
NOCI	**Noci**	**1.88**	**255**	Pn	**Pb**	**16 18 23.9**	**-2.0**
NOCI				Sn	**Sg**	**16 18 51.9**	**+0.2**
NOCI				AML	AML	16 19 04.2	
	0.2nm,0.3s						
NOCI				AML	AML	16 19 04.7	
	0.3nm,0.5s						
IGT	**Igoumenitsa**	**1.88**	**159**	Pn	**Pb**	**16 18 26.8**	**+0.9**
IGT				Sn	**Sb**	**16 18 50.2**	**+0.6**
UPM	**Unac-Piva**	**1.95**	**348**⇑ *i*Pn		**Pb**	**16 18 27.4**	**+0.1**
UPM				*e*Sn	**Sb**	**16 18 52.5**	**+0.6**
SGRT	**San Giovanni R**	**2.83**	**281**	Pn	**Pn**	**16 18 35.8**	**-1.1**

*TIR **21** 16:32:39.0, 41°.47N×19°.52E, h37km±5km, Ml3.0/7*
*PDG **21** 16:32:41.7±0.3, 41°.40N×19°.43E, h13km, ML2.7/11, Error ellipse: s-maj=1.3km s-min=2.2km az=0.0*
*BEO **21** 16:32:41.4±0.6, 41°.36N×19°.49E, h20km±5km, ML2.4/7*
ISC 21 16:32:40.3±1.1, 41°.34N±0°.02×19°.49E±0°.03, h7km±9km, n37, σ0°.87/61, 2C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.28**	**89**	Pg	**Pg**	**16 32 45.1**	**-0.7**
TIR				Sg	**Sg**	**16 32 48.5**	**-0.9**
TIR				AML	AML	16 32 49.8	
	2.4nm,0.6s						
TIR				AML	AML	16 32 53.2	
	2.8nm,0.4s						
ULC	**Ulcinj**	**0.65**	**343**⇓ *i*Pg		**Pg**	**16 32 52.4**	**-0.3**
ULC				*e*Sg	**Sg**	**16 33 02.0**	**+0.8**
DRME	**Dracevica, Mon**	**0.87**	**345** *e*Pg		**Pg**	**16 32 57.8**	**0.0**
DRME				*e*Sg	**Sb**	**16 33 09.8**	**+0.1**
DRME	**Dracevica, Mon**	**0.87**	**345**⇓ *i*Pg		**Pg**	**16 32 57.1**	**+0.1**
DRME				*e*Sg	**Sb**	**16 33 09.6**	**-0.1**
VLO	**Vlora**	**0.88**	**180**	Pg	**Pn**	**16 32 59.7**	**+0.7**
VLO				Sg	**Sn**	**16 33 11.5**	**-0.5**
VLO				AML	AML	16 33 18.1	
	2.9nm,0.2s						
VLO				AML	AML	16 33 18.8	
	2.7nm,0.5s						
OHR	**Ohrid**	**1.01**	**103** *i*Pg		**Pg**	**16 32 59.9**	**+0.2**
OHR				*i* Sg	**Sb**	**16 33 14.6**	**+0.9**
BUM	**Brajici-Budva**	**1.06**	**335**⇓ *i*Pg		**Pg**	**16 33 00.5**	**0.0**
BUM				*i* Sg	**Sb**	**16 33 15.7**	**+0.7**
PDG	**Podgorica**	**1.10**	**351** *e*Pg		**Pg**	**16 33 01.4**	**0.0**
PDG				*e*Sg	**Sg**	**16 33 15.4**	**-0.2**
PDG	**Podgorica**	**1.10**	**351**⇓ *i*Pg		**Pg**	**16 33 01.0**	**-0.4**
PDG				*e*Sg	**Sn**	**16 33 17.0**	**-0.6**
KBN	**Korca**	**1.22**	**126**	Pn	**Pn**	**16 33 04.7**	**+0.9**
KBN				Sg	**Sg**	**16 33 18.0**	**-1.3**
KBN				AML	AML	16 33 26.5	
	0.7nm,0.4s						
CEME	**Cevo**	**1.28**	**340**⇑ *i*Pg		**Pn**	**16 33 04.0**	**-0.6**
CEME				*e*Sg	**Sn**	**16 33 22.6**	**+0.5**
HCY	**Herceg Novi**	**1.33**	**326**⇓ *i*Pg		**Pn**	**16 33 04.9**	**-0.4**
HCY				*i* Sg	**Sn**	**16 33 25.1**	**+1.8**
NKME	**Niksic**	**1.48**	**344**⇓ *i*Pg		**Pn**	**16 33 07.6**	**+0.2**
NKME				*e*Sg	**Sg**	**16 33 28.5**	**+0.7**
KOME	**Kolasin**	**1.50**	**1** *e*Pg		**Pb**	**16 33 08.8**	**+0.2**
KOME				*e*Sg	**Sg**	**16 33 28.7**	**0.0**
KOME	**Kolasin**	**1.50**	**1**⇓ *i*Pg		**Pb**	**16 33 08.3**	**-0.3**
KOME				*e*Sg	**Sg**	**16 33 30.5**	**+1.8**
BEY	**Berane**	**1.56**	**11** *e*Pn		**Pn**	**16 33 08.4**	**-0.1**
IVA	**Berane**	**1.56**	**11**⇓ *i*Pg		**Pb**	**16 33 09.5**	**0.0**
IVA				*i* Sg	**Sg**	**16 33 32.0**	**+1.7**
TREB	**Trebinje**	**1.61**	**329** *e*Pn		**Pn**	**16 33 08.4**	**-0.8**
KEK	**Kerkira**	**1.65**	**172**	Pn	**Pg**	**16 33 12.8**	**+1.0**
BRY	**Bratogost**	**1.71**	**336**⇓ *i*Pn		**Pn**	**16 33 10.9**	**+0.2**
BRY				*i* Sn	**Sg**	**16 33 35.2**	**-0.1**
UPM	**Unac-Piva**	**1.91**	**347**⇑ *i*Pn		**Pn**	**16 33 14.3**	**+0.9**
UPM				*e*Sn	**Sb**	**16 33 40.3**	**+0.6**
IGT	**Igoumenitsa**	**1.92**	**160**	Pn	**Pn**	**16 33 14.4**	**+1.0**
IGT				Sn	**Sn**	**16 33 37.8**	**0.0**
IGT	**Igoumenitsa**	**1.92**	**160** *i*Pn		**Pn**	**16 33 13.5**	**+0.1**
IGT	**Igoumenitsa**	**1.92**	**160** *e*Pn		**Pn**	**16 33 12.5**	**-0.9**
NOCI	**Noci**	**1.92**	**254**	Pn	**Pn**	**16 33 12.0**	**-1.4**
NOCI				AML	AML	16 33 49.3	
	0.4nm,0.5s						
SJES	**Sjenica**	**1.95**	**10** *e*Pn		**Pn**	**16 33 13.9**	**0.0**
SJES				*e*Sg	**Sb**	**16 33 41.6**	**+0.9**
STON	**Ston**	**2.03**	**319** *e*Pn		**Pn**	**16 33 13.8**	**-1.1**
SELS	**Selova**	**2.23**	**32** *e*Pn		**Pn**	**16 33 16.7**	**-1.0**
SELS				*e*Sn	**Sn**	**16 33 43.9**	**-1.6**
BARS	**Barje**	**2.27**	**49** *i*Pn		**Pn**	**16 33 19.3**	**+1.1**
BARS	**Barje**	**2.27**	**49** *e*Pn		**Pn**	**16 33 18.5**	**+0.3**
BARS				*e*Sn	**Sn**	**16 33 45.5**	**-1.0**
IVAS	**Ivanjica**	**2.28**	**12** *e*Pn		**Pn**	**16 33 17.6**	**-0.9**
GOCS	**Kraljevo Serbi**	**2.44**	**24** *e*Pn		**Pn**	**16 33 20.8**	**+0.1**
GOCS				*e*Sn	**Sn**	**16 33 50.5**	**-0.3**
BOSS	**Bosilegrad**	**2.51**	**62** *e*Pn		**Pn**	**16 33 20.7**	**-0.8**
BBLS	**Lazi&#263i**	**2.52**	**359** *e*Pn		**Pn**	**16 33 22.3**	**+0.6**
SGRT	**San Giovanni R**	**2.84**	**280**	Pn	**Pn**	**16 33 24.0**	**-2.2**
SGRT				AML	AML	16 34 03.4	
	0.2nm,0.6s						
ZAPS	**Zavoj**	**3.02**	**49** *e*Pn		**Pn**	**16 33 28.4**	**-0.2**
ZAPS				*e*Sn	**Sn**	**16 34 03.3**	**-1.8**
VTS	**Vitosha**	**3.06**	**64** *e*Pn		**Pn**	**16 33 29.0**	**-0.3**

*THE **21** 16:33:00.4, 38°.N±2°.×2°.1E±°, h12km±4km, M1.8/12, MLh1.8/12*
ATH 21 16:33:00.6, 37°.90N×21°.26E, h7km±2km, ML1.9/6, Manual Solution by S.Liakopoulos First location: 2019/09/21 16:34:00, This location: 2019/09/21 17:34:36 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCHA	**Lechaina**	**0.04**	**5**	P	Pg	16 33 02.1	+0.1
LCHA				S	Sg	16 33 04.2	+1.1
CLEM	**Kyllini,Ilia,G**	**0.10**	**267**	P	Pg	16 33 02.3	-0.5
CLEM				S	Sg	16 33 05.4	+1.0
RLS	**Riolos of Patr**	**0.23**	**45**	P	Pg	16 33 05.1	-0.1
RLS				S	Sg	16 33 09.3	+1.0
RLS	**Riolos of Patr**	**0.23**	**45**	P	Pg	16 33 05.1	-0.1
RLS				S	Sg	16 33 08.9	+0.7
AXS	**Araxos**	**0.31**	**17**	S	Sg	16 33 12.3	+1.4
AXS	**Araxos**	**0.31**	**17**	P	Pg	16 33 06.9	+0.2
AXS				S	Sg	16 33 12.0	+1.1
KYPS	**Kipseli, Zakin**	**0.35**	**257**	P	Pb	16 33 08.4	-0.8
KYPS				S	Sg	16 33 12.8	+0.6
DRO	**Drossia**	**0.36**	**81**	P	Pg	16 33 08.0	+0.3
DRO				S	Sb	16 33 14.7	-0.6
DRO	**Drossia**	**0.36**	**81**	P	Pg	16 33 08.0	+0.3
DRO				S	Sg	16 33 12.3	-0.1
KRI1	**kERI**	**0.42**	**236**	P	Pg	16 33 08.9	+0.1
KRI1				S	Sg	16 33 15.2	+1.0
RTZL	**Ratzakli, Kefa**	**0.42**	**295**	P	Pg	16 33 08.9	0.0
ORTH	**Orthonies,Zaky**	**0.45**	**264**	P	Pg	16 33 09.0	-0.3
ORTH	**Orthonies,Zaky**	**0.45**	**264**	P	Pg	16 33 08.9	-0.3
ORTH				S	Sg	16 33 16.2	+1.0
AMT	**Artemida-Makis**	**0.51**	**135**	P	Pg	16 33 10.5	+0.1
AMT				S	Sb	16 33 18.4	-1.1
UPR	**University Cam**	**0.57**	**47**	P	Pb	16 33 12.8	-0.1
PSDA	**Pessada-Kefalo**	**0.58**	**292**	P	Pg	16 33 11.6	-0.1
PSDA	**Pessada-Kefalo**	**0.58**	**292**	P	Pg	16 33 11.6	-0.2
PSDA				S	Sg	16 33 19.9	+0.6
VLS	**Valsamata**	**0.60**	**298**	P	Pg	16 33 11.6	-0.6
VLS	**Valsamata**	**0.60**	**298**	P	Pg	16 33 12.3	+0.2
VLS				S	Sg	16 33 20.1	+0.2
KLV	**Kalavryta, Ach**	**0.72**	**78**	P	Pg	16 33 14.0	-0.4
KLV	**Kalavryta, Ach**	**0.72**	**78**	P	Pg	16 33 14.7	+0.2
EFP	**Efpalio**	**0.73**	**44**	P	Pg	16 33 15.2	+0.4
EFP				S	Sg	16 33 24.9	+0.6
PVO	**Paravola**	**0.75**	**16**	P	Pb	16 33 16.6	+0.6
PVO	**Paravola**	**0.75**	**16**	P	Pb	16 33 16.2	+0.2
PVO				S	Sb	16 33 25.8	-0.7
FSK	**Fiskardo**	**0.79**	**316**	P	Pg	16 33 15.1	-0.6
FSK	**Fiskardo**	**0.79**	**316**	P	Pg	16 33 15.2	-0.5
SERG	**Sergoula**	**0.81**	**50**	P	Pg	16 33 16.0	-0.2
SERG				S	Sg	16 33 27.3	+0.5
KALE	**Kalithea**	**0.85**	**54**	P	Pg	16 33 17.1	+0.1
GUR	**Goura**	**0.86**	**87**	P	Pg	16 33 17.3	+0.3
GUR				S	Sb	16 33 29.8	+0.1
ANX	**Ano Chora**	**0.87**	**37**	P	Pg	16 33 17.6	+0.3
ANX	**Ano Chora**	**0.87**	**37**	P	Pg	16 33 17.5	+0.2
ANX				S	Sb	16 33 29.8	-0.2
ITM	**Ithomi**	**0.89**	**143**	P	Pb	16 33 18.5	+0.1
ITM				S	Sg	16 33 29.8	+0.6
LKD2	**Lefkada island** 0.3nm,0.7s	**1.01**	**332**	AML	AML	16 33 43.5	
LKD2	**Lefkada island**	**1.01**	**332**	P	Pg	16 33 19.5	-0.5
LKD2	**Lefkada island**	**1.01**	**332**	P	Pb	16 33 20.6	+0.2
LKD2	**Lefkada island**	**1.01**	**332**	Pn	Pg	16 33 19.4	-0.6
LKD2	**Lefkada island**	**1.01**	**332**	Sn	Sn	16 33 40.0	+4.2

*IDC **21** 16:43:09.9±4.6, 14°.02S×167°.34E, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=287.7km s-min=53.9km az=148.0*
*NOU **21** 16:43:27.3, 14°.26S×167°.21E, h105km, MLv4.8/11, Vanuatu Islands*
ISC 21 16:43:23.2±2.1, 14°.0S±0°.2×167°.2E±0°.3, h100km, n9, σ1°05/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.45**	**178**	P	**Pn**	**16 43 50.5**	**+1.5**
SANVU	**Saraoutou**	**1.45**	**178**	S	**Sn**	**16 44 07.8**	**-0.6**
DVP	**Devils Point**	**3.85**	**165**	P	**Pn**	**16 44 19.9**	**-0.5**
YATNC	**Mamie plateau,**	**8.03**	**182**	P	**Pn**	**16 45 16.8**	**-0.4**
ONTNC	**Ouen Toro**	**8.30**	**185**	P	**Pn**	**16 45 22.1**	**+1.2**
PINNC	**Pines Island,**	**8.59**	**178**	P	**Pn**	**16 45 25.6**	**+0.9**
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=84,slow=8.9,SNR=1.6 0.2nm,0.4s	**31.91**	**255**	P	**P**	**16 49 39.3**	**-0.3**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=77,slow=9.2,SNR=19 0.3nm,0.4s	**32.84**	**248**	P	**P**	**16 49 46.7**	**-1.0**
ARCES	**ARCESS Array B** 1.7nm,0.8s,baz=68,slow=2.4,SNR=1.3	**119.51**	**345**	PKP	**PKPdf**	**17 02 01.0**	**+0.4**

*TIR **21** 16:48:04.7, 41°.50N×19°.53E, h27km±3km, Ml2.8/6*
*BEO **21** 16:48:10.1±0.6, 41°.26N×19°.63E, h12km±4km, ML2.7/6*
*PDG **21** 16:48:10.2±0.2, 41°.25N×19°.47E, h21km, ML2.8/12, Error ellipse: s-maj=0.8km s-min=1.4km az=0.0*
ISC 21 16:48:09.0±1.1, 41°.23N±0°.02×19°.59E±0°.03, h7km±9km, n43, σ0°.84/68, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.24**	**60**	Pg	**Pg**	**16 48 13.4**	**-0.3**
TIR				Sg	**Sg**	**16 48 16.2**	**-0.7**
TIR				AML	AML	16 48 16.8	
	4.4nm,0.5s						
TIR				AML	AML	16 48 18.3	
	7.3nm,0.2s						
VLO	**Vlora**	**0.76**	**185**	Pg	**Pg**	**16 48 23.3**	**-0.4**
VLO				Sg	**Sn**	**16 48 39.0**	**+1.2**
VLO				AML	AML	16 48 46.5	
	2.1nm,0.3s						
ULC	**Ulcinj**	**0.78**	**341** *e*Pg		**Pg**	**16 48 24.3**	**+0.3**
ULC				*i* Sg	**Sb**	**16 48 35.9**	**+0.3**
OHR	**Ohrid**	**0.92**	**97** *i*Pg		**Pg**	**16 48 25.7**	**-0.9**
OHR				*i* Sg	**Sn**	**16 48 40.8**	**-1.0**
DRME	**Dracevica, Mon**	**1.00**	**343** *e*Pg		**Pg**	**16 48 28.5**	**+0.2**
DRME				*e*Sg	**Sg**	**16 48 42.0**	**+0.7**
DRME	**Dracevica, Mon**	**1.00**	**343** *e*Pg		**Pg**	**16 48 28.5**	**+0.2**
DRME				*i* Sg	**Sn**	**16 48 43.6**	**-0.2**
KBN	**Korca**	**1.09**	**123**	Pn	Pg	16 48 24.6	-5.3
KBN				Sn	**Sn**	**16 48 47.0**	**+1.0**
KBN				AML	AML	16 48 49.8	
	0.6nm,0.6s						
BUM	**Brajici-Budva**	**1.19**	**334** *e*Pg		**Pb**	**16 48 31.9**	**0.0**
BUM				*i* Sg	**Sn**	**16 48 49.6**	**+1.1**
PDG	**Podgorica**	**1.23**	**348** *e*Pg		**Pn**	**16 48 31.6**	**-0.9**
PDG				*e*Sg	**Sg**	**16 48 49.1**	**+0.7**
PDG	**Podgorica**	**1.23**	**348** *e*Pg		**Pn**	**16 48 32.0**	**-0.5**
PDG				*i* Sg	**Sn**	**16 48 50.4**	**+1.1**
PVY	**Plav**	**1.39**	**11** *e*Pg		**Pg**	**16 48 35.9**	**+0.2**
PVY				*i* Sg	**Sg**	**16 48 55.5**	**+1.7**
CEME	**Cevo**	**1.41**	**339** *e*Pg		**Pn**	**16 48 34.7**	**-0.4**
CEME				*i* Sg	**Sg**	**16 48 54.6**	**+0.3**
HCY	**Herceg Novi**	**1.47**	**326** *e*Pg		**Pn**	**16 48 35.

GRUS	**Gruza**	**2.79**	**17**	*e*Pn		**Pn**	**16 48 53.6**	**-0.3**
DIVS	**Divibare**	**2.88**	**6**	*e*Pn		**Pn**	**16 48 55.0**	**-0.4**
SGRT	**San Giovanni R**	**2.94**	**282**	Pn		**Pn**	**16 48 53.6**	**-2.5**
ZAPS	**Zavoj**	**3.05**	**47**	*e*Pn		**Pn**	**16 48 58.2**	**+0.6**
ZAPS				*e*Sn		**Sn**	**16 49 33.8**	**-0.5**
VTS	**Vitosha**	**3.05**	**62**	*e*Pn		**Pn**	**16 48 57.8**	**0.0**
ZAGS	**Zajecar**	**3.24**	**36**	*e*Pn		**Pn**	**16 49 00.2**	**+0.1**
BORS2	**Bor- Borsko je**	**3.37**	**31**	*e*Pn		**Pn**	**16 49 00.2**	**-1.8**
BORS2				*e*Sn		**Sn**	**16 49 40.6**	**-1.7**
KUBS	**Kucevo**	**3.53**	**25**	*e*Pn		**Pn**	**16 49 02.7**	**-1.5**
MDVR	**Moldovita**	**3.88**	**23**	*e*Pn		**Pn**	**16 49 08.5**	**-0.5**

TIR ***21*** *17:12:13.8,41°.62N×19°.66E,h35km,MI3.1/6*
SKO ***21*** *17:12:19.3,41°.26N×19°.33E,h20km,ML3.0*
PDG ***21*** *17:12:20.3±1.0,41°.30N×19°.38E,h20km±3km,MD3.2/3, ML3.1/11, Error ellipse: s-maj=1.5km s-min=2.5km az=0.0*
BEO ***21*** *17:12:20.5±0.4,41°.30N×19°.64E,h14km±3km,ML2.6/17*
IDC ***21*** *17:12:36.2±67.0,42°.94N×22°.06E,h0km,mb3.6/2, mbtmp3.6/3,ML2.7/1, Error ellipse: s-maj=1202.0km s-min=69.7km az=51.0*

ISC 21 17:12:18.9±1.0,41°.26N±0°.02×19°.47E±0°.03,h16km±7km, n73,σ1s50/116,9C-9D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TIR	**Tirane**	**0.31**	**74**	Pg		**Pg**	**17 12 25.2**	**-0.3**
TIR				Sg		**Sg**	**17 12 27.6**	**-2.3**
TIR				AML	AML		17 12 30.0	
	6.8nm,0.4s							
TIR				AML	AML		17 12 30.3	
	4.6nm,0.3s							
ULC	**Ulcinj**	**0.72**	**347**	⇓*i*Pg		**Pg**	**17 12 32.8**	**-0.3**
ULC				*i* Sg		**Sb**	**17 12 43.9**	**+1.0**
VLO	**Vlora**	**0.79**	**179**	Pg		**Pn**	**17 12 38.4**	**+3.0**
VLO				Sg		**Sn**	**17 12 50.8**	**+3.9**
VLO				AML	AML		17 12 55.6	
	4.2nm,0.5s							
VLO				AML	AML		17 12 55.9	
	5.6nm,0.3s							
DRME	**Dracevica, Mon**	**0.95**	**347**	*e*Pg		**Pb**	**17 12 37.5**	**+0.4**
DRME				*e*Sg		**Sn**	**17 12 51.1**	**+0.2**
DRME	**Dracevica, Mon**	**0.95**	**347**	⇓*i*Pg		**Pg**	**17 12 37.2**	**-0.1**
DRME				*i* Sg		**Sn**	**17 12 51.3**	**+0.4**
OHR	**Ohrid**	**1.01**	**98**	*i* Pg		**Pn**	**17 12 39.6**	**+1.1**
OHR				*i* Sg		**Sn**	**17 12 55.0**	**+2.4**
OHR				*e*Lg		Lg	17 12 55.4	
	comp=N,277nm,0.6s							
OHR				*e*Lg		Lg	17 12 59.8	
	comp=E,260nm,0.6s							
BUM	**Brajici-Budva**	**1.12**	**338**	⇑*i*Pg		**Pg**	**17 12 40.8**	**+0.1**
BUM				*i* Sg		**Sn**	**17 12 56.7**	**+1.4**
PDG	**Podgorica**	**1.18**	**352**	⇓P		**Pn**	**17 12 41.0**	**+0.2**
PDG	**Podgorica**	**1.18**	**352**	*e*Pg		**Pb**	**17 12 41.4**	**+0.4**
PDG				*e*Sg		**Sn**	**17 12 57.9**	**+1.3**
PDG	**Podgorica**	**1.18**	**352**	⇓*i*Pg		**Pn**	**17 12 41.0**	**+0.2**
PDG				*i* Sg		**Sn**	**17 12 58.4**	**+1.8**
KBN	**Korca**	**1.18**	**122**	Pg		**Pg**	**17 12 42.8**	**+1.0**
KBN				Sg		**Sb**	**17 12 55.1**	**-1.1**
KBN				AML	AML		17 13 03.9	
	comp=E,0.8nm,0.5s							
CEME	**Cevo**	**1.35**	**342**	⇓*i*Pg		**Pb**	**17 12 44.1**	**+0.2**
CEME				*i* Sg		**Sg**	**17 13 02.7**	**+0.2**
PVY	**Plav**	**1.38**	**15**	⇑*i*Pg		**Pg**	**17 12 46.2**	**+0.6**
PVY				*i* Sg		**Sg**	**17 13 05.2**	**+1.6**
HCY	**Herceg Novi**	**1.39**	**329**	*e*Pg		**Pb**	**17 12 45.1**	**+0.5**
HCY				*i* Sg		**Sg**	**17 13 04.2**	**+0.3**
NKME	**Niksic**	**1.55**	**346**	⇑*i*Pg		**Pb**	**17 12 47.3**	**-0.1**
NKME				*i* Sg		**Sb**	**17 13 08.1**	**+1.2**
KOME	**Kolasin**	**1.59**	**1**	⇓*i*Pg		**Pb**	**17 12 48.6**	**+0.6**
KOME				*e*Sg		**Sb**	**17 13 09.0**	**+1.1**
BEY	**Berane**	**1.64**	**11**	*e*Pg		**Pb**	**17 12 49.0**	**+0.1**
BEY				*e*Sg		**Sb**	**17 13 09.6**	**+0.2**
IVA	**Berane**	**1.64**	**11**	⇑*i*Pn		**Pb**	**17 12 48.7**	**-0.2**
IVA				*i* Sn		**Sg**	**17 13 10.8**	**-1.0**
TREB	**Trebinje**	**1.68**	**331**	*e*Pn		**Pg**	**17 12 51.2**	**0.0**
IGT	**Igoumenitsa**	**1.85**	**159**	Pn		**Pn**	**17 12 46.5**	**-3.5**
IGT				Sn		**Sg**	**17 13 18.0**	**-0.4**
IGT				AML	AML		17 13 29.0	
	comp=E,0.4nm,0.6s							
IGT	**Igoumenitsa**	**1.85**	**159**	*i* Pn		**Pn**	**17 12 48.0**	**-2.0**
IGT				*i* Sn		**Sg**	**17 13 21.3**	**+2.9**
IGT	**Igoumenitsa**	**1.85**	**159**	*e*Pn		**Pn**	**17 12 51.4**	**+1.4**
IGT				*e*Sn		**Sn**	**17 13 13.6**	**+0.5**
UPM	**Unac-Piva**	**1.99**	**348**	*e*Pn		**Pn**	**17 12 53.7**	**+1.6**
UPM				*i* Sn		**Sn**	**17 13 18.1**	**+1.3**
SJES	**Sjenica**	**2.03**	**10**	*e*Pn		**Pn**	**17 12 54.0**	**+1.3**
SJES				*e*Sn		**Sn**	**17 13 18.7**	**+0.9**
STON	**Ston**	**2.08**	**321**	*e*Pn		**Pb**	**17 12 56.4**	**+0.1**
SELS	**Selova**	**2.31**	**31**	*e*Pn		**Pn**	**17 12 56.9**	**+0.5**
SELS				*e*Sn		**Sn**	**17 13 24.8**	**+0.3**
BARS	**Barje**	**2.34**	**48**	*i* Pn		**Pn**	**17 12 58.2**	**+1.4**
BARS	**Barje**	**2.34**	**48**	*e*Pn		**Pn**	**17 12 56.2**	**0.0**
BARS				*e*Sn		**Sn**	**17 13 24.7**	**-0.5**
IVAS	**Ivanjica**	**2.37**	**12**	*e*Pn		**Pn**	**17 12 58.3**	**+1.1**
IVAS				*e*Sn		**Sn**	**17 13 26.3**	**+0.3**
GOCS	**Kraljevo Serbi**	**2.52**	**24**	*e*Pn		**Pn**	**17 12 59.9**	**+0.5**
GOCS				*e*Sn		**Sn**	**17 13 29.6**	**-0.3**
BOSS	**Bosilegrad**	**2.56**	**60**	*e*Pn		**Pn**	**17 13 00.7**	**+0.8**
BOSS				*e*Sn		**Sn**	**17 13 29.6**	**-1.2**
BBLS	**Lazi&#263i**	**2.60**	**359**	*e*Pn		**Pn**	**17 13 00.9**	**+0.4**
BBLS				*e*Sn		**Sn**	**17 13 33.8**	**+2.0**
LKD2	**Lefkada island**	**2.63**	**159**	Pn		**Pn**	**17 13 02.5**	**+1.7**
LKD2				AML	AML		17 13 49.6	
	comp=E,0.3nm,0.6s							
GRUS	**Gruza**	**2.78**	**19**	*e*Pn		**Pn**	**17 13 03.8**	**+0.9**
KKB	**Krupnik**	**2.81**	**77**	*i* Pn		**Pn**	**17 13 04.9**	**+1.7**
SGRT	**San Giovanni R**	**2.84**	**281**	Pn		**Pn**	**17 13 02.1**	**-1.6**
SGRT				Sn		**Sn**	**17 13 37.9**	**+0.2**
DIVS	**Divibare**	**2.86**	**8**	*e*Pn		**Pn**	**17 13 05.7**	**+1.7**
DIVS				*e*Sn		**Sn**	**17 13 39.4**	**+1.2**
BOVS	**Bovan**	**2.89**	**34**	⇓P		**Pn**	**17 13 05.3**	**+0.9**
BOVS	**Bovan**	**2.89**	**34**	*e*Pn		**Pn**	**17 13 04.5**	**+0.1**
BOVS				*e*Sn		**Sn**	**17 13 37.2**	**-1.6**
TRUS	**Trudelj**	**3.04**	**13**	*e*Pn		**Pn**	**17 13 09.1**	**+2.7**
ZAPS	**Zavoj**	**3.09**	**48**	*e*Pn		**Pn**	**17 13 08.3**	**+1.2**
ZAPS				*e*Sn		**Sn**	**17 13 43.5**	**-0.3**
SRS	**Serrai**	**3.11**	**91**	*i* Pn		**Pn**	**17 13 08.8**	**+1.3**
SRS	**Serrai**	**3.11**	**91**	*e*Pn		**Pn**	**17 13 08.4**	**+1.0**
SRS				*e*Sn		**Sn**	**17 13 42.0**	**-2.3**
VTS	**Vitosha**	**3.12**	**63**	*e*Pn		**Pn**	**17 13 08.9**	**+1.3**
MMB	**Musomishta**	**3.23**	**84**	*i* Pn		**Pn**	**17 13 10.8**	**+1.7**
ZAGS	**Zajecar**	**3.27**	**38**	*e*Pn		**Pn**	**17 13 10.4**	**+0.9**
ZAGS				*e*Sn		**Sn**	**17 13 46.2**	**-1.9**
BLKB	**Belogradchik**	**3.35**	**44**	*e*Pn		**Pn**	**17 13 12.8**	**+2.2**
BORS2	**Bor- Borsko je**	**3.40**	**33**	*e*Pn		**Pn**	**17 13 10.3**	**-1.0**
BORS2				*e*Sn		**Sn**	**17 13 49.4**	**-1.9**
AVAS	**Avala Beograd**	**3.52**	**12**	*e*Pn		**Pn**	**17 13 12.8**	**-0.2**
AVAS				*e*Sn		**Sn**	**17 13 53.7**	**-0.6**
KUBS	**Kucevo**	**3.54**	**27**	*e*Pn		**Pn**	**17 13 12.3**	**-1.0**
KUBS				*e*Sn		**Sn**	**17 13 53.1**	**-1.8**
MDVR	**Moldovita**	**3.88**	**24**	⇑P		**Pn**	**17 13 18.6**	**+0.6**
MDVR	**Moldovita**	**3.88**	**24**	*e*Pn		**Pn**	**17 13 18.2**	**+0.2**
FRGS	**Fruska Gora**	**3.90**	**4**	*e*Pn		**Pn**	**17 13 17.8**	**-0.5**
VRSS	**Vrsac**	**4.09**	**19**	*e*Pn		**Pn**	**17 13 22.1**	**+1.2**
VRSS				*e*Sn		**Sn**	**17 14 06.5**	**-1.9**
HERR	**Herculane**	**4.21**	**30**	⇓P		**Pn**	**17 13 23.0**	**+0.5**
BZS	**Buzias**	**4.63**	**19**	⇑P		Pn	17 13 21.8	-6.4
BZS	**Buzias**	**4.63**	**19**	*e*Pn		**Pn**	**17 13 28.5**	**+0.3**
GZR	**Gura Zlata**	**4.78**	**29**	⇑P		**Pn**	**17 13 31.8**	**+1.4**
GZR	**Gura Zlata**	**4.78**	**29**	*e*Pn		**Pn**	**17 13 31.2**	**+0.8**
VOIR		**5.83**	**42**	⇑P		**Pn**	**17 13 47.2**	**+2.4**
SOKA	**Soboth**	**6.29**	**331**	*i* Pn		**Pn**	**17 13 51.9**	**+0.8**
	comp=E,0.4nm,0.2s							
SOKA				*i* Sn		**Sn**	**17 14 58.1**	**-4.6**
	comp=E,1.5nm,0.6s							
MLR	**Muntele Rosu**	**6.33**	**46**	⇑P		**Pn**	**17 13 55.8**	**+4.0**
OBKA	**Obir**	**6.34**	**328**	*i* Pn		**Pn**	**17 13 52.5**	**+0.8**
	comp=E,0.8nm,0.2s							
OBKA				*i* Sn		**Sn**	**17 15 02.2**	**-1.6**
	comp=E,2.2nm,0.3s							
PLOR	**Plostina**	**6.95**	**46**	⇓P		**Pn**	**17 14 02.7**	**+2.7**
ABTA	**Abfaltersbach**	**7.43**	**320**	*i* Pn		**Pn**	**17 14 07.6**	**+0.8**
	comp=E,0.6nm,0.2s							
ABTA				*i* Sn		**Sn**	**17 15 28.1**	**-2.7**
	comp=E,2.2nm,0.4s							
MOA	**Molln**	**7.56**	**332**	*i* Pn		**Pn**	**17 14 09.8**	**+1.2**
	comp=E,0.5nm,0.2s							
MOA				*i* Sn		**Sn**	**17 15 34.1**	**+0.2**
	comp=E,0.2nm,0.1s							
WTTA	**Wattenberg**	**8.22**	**320**	*i* Pn		**Pn**	**17 14 19.4**	**+1.7**
	comp=E,3.0nm,0.4s							
WTTA				*i* Sn		**Sn**	**17 15 47.0**	**-3.3**
	comp=E,2.2nm,0.4s							
WATA	**Walderalm**	**8.30**	**320**	*i* Pn		**Pn**	**17 14 20.3**	**+1.5**
	comp=E,1.3nm,0.3s							
SQTA	**Sankt Quirin**	**8.40**	**318**	*i* Pn		**Pn**	**17 14 21.4**	**+1.3**
	comp=E,1.1nm,0.2s							
MOTA	**Moosalm**	**8.54**	**318**	*i* Pn		**Pn**	**17 14 23.5**	**+1.4**
	comp=E,1.0nm,0.3s							
MOTA				*i* Sn		**Sn**	**17 15 57.1**	**-1.0**
	comp=E,0.9nm,0.3s							
FINES	**FINESS Array B**	**20.61**	**9**	P		**P**	**17 16 55.7**	**-1.5**
	comp=E,0.1nm,0.3s,baz=185,slow=11,SNR=1.7							
	comp=E,1.8nm,0.8s							
ZALV	**Zalesovo Beam**	**44.29**	**50**	P		**P**	**17 20 26.4**	**-1.3**
	comp=E,0.5nm,0.4s,baz=276,slow=8.5,SNR=2.7							
	comp=E,0.5nm,0.4s							
MKAR	**Makanchi Array**	**44.44**	**61**	P		**P**	**17 20 28.6**	**-0.4**
	comp=E,0.4nm,0.5s,baz=278,slow=7.5,SNR=5.9							
	comp=E,0.4nm,0.5s							

IDC ***21*** *17:21:42.7±1.4,3°.58N×126°.96E,h0km,mb3.5/5, mbtmp3.5/5,MS3.3/1, Error ellipse: s-maj=134.5km s-min=20.4km az=69.0*
DJA ***21*** *17:21:45.6±0.5,4°N±15°×12°7E±°,h20km±14km,M3.9/6, mb4.0/3,MLv3.8/6*

ISC 21 17:21:49.4±1.2,3°.5N±0°.1×126°.8E±0°.2,h48km,n7,σ0s96/7, mb3.5/5,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**1.25**	**277**	P		**Pn**	**17 22 10.4**	**-0.1**
SANI	**Sanana**	**5.61**	**188**	P		**Pn**	**17 23 10.5**	**+0.2**
WRA	**Warramunga Arr**	**24.49**	**163**	P		**P**	**17 27 03.2**	**-1.2**
	1.3nm,0.8s,baz=343,slow=10,SNR=9.2							
WRA				LR		LR	17 37 44.4	
	comp=Z,65nm,18.9s,baz=19,slow=39							
	1.3nm,0.8s							
ASAR	**Alice Springs**	**27.92**	**166**	P		**P**	**17 27 35.4**	**+0.1**
	0.2nm,0.7s,baz=348,slow=9.3,SNR=8.2							
	0.2nm,0.7s							
SONM	**Songino Array**	**47.49**	**341**	P		**P**	**17 30 19.1**	**-0.7**
	0.3nm,0.6s,baz=147,slow=8.1,SNR=2.2							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**57.73**	**325**	P		**P**	**17 31 35.6**	**+0.1**
	0.5nm,0.5s,baz=121,slow=8.3,SNR=8.8							
	0.5nm,0.5s							
ZALV	**Zalesovo Beam**	**60.77**	**333**	P		**P**	**17 31 57.6**	**+1.3**
	0.3nm,0.3s,baz=131,slow=7.9,SNR=2.1							
	0.3nm,0.3s							

IDC 21 17:27:00.5±20.0,20°.48S×178°.85W,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=491.9km s-min=46.9km az=37.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**43.74**	**257**	P		P	17 35 07.9	-0.1
	0.6nm,0.7s,baz=89,slow=8.5,SNR=22							
	0.6nm,0.7s							
WRA	**Warramunga Arr**	**43.81**	**262**	P		P	17 35 08.3	-0.2
	0.3nm,0.3s,baz=99,slow=7.9,SNR=5.8							
	0.3nm,0.3s							
VNDA	**Vanda**	**57.86**	**185**	P		P	17 36 53.4	-0.1
	0.6nm,0.4s,baz=342,slow=2.5,SNR=3.8							
	0.6nm,0.4s							

NEIC ***21*** *17:50:45.5±1.9,35°.14N±0°.02×95°.36W±0°.02,h7km±1km, Error ellipse: s-maj=3.0km s-min=2.8km az=145.0*

NEIC 21 17:50:45.3±1.9,35°.13N±0°.02×95°.36W±0°.02,h5km±1km, mb_Lg2.8/52,ML2.9/8,ML3.2/12,Error ellipse: s-maj=3.0km s-min=2.7km az=143.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TUL3	**Leonard**	**0.86**	**336**			Pg	17 51 01.5	-0.2
TUL3				Sg		Sg	17 51 12.9	0.0
RLO	**Rose Lookout**	**1.07**	**15**			Pg	17 51 05.3	-0.5
RLO				Sg		Sg	17 51 19.3	-0.4
DEOK	**Depew**	**1.17**	**308**			Pg	17 51 07.3	-0.4
DEOK				Sg		Sg	17 51 22.9	-0.1
DEOK				IAML			17 51 28.4	
	comp=E,317nm,0.2s							
OK052	**Battle Ridge R**	**1.46**	**307**			Pn	17 51 12.1	-0.2
OK052						Sb	17 51 31.6	-0.3
QUOK	**Quay**	**1.51**	**314**			Pn	17 51 12.9	-0.2
QUOK						Sb	17 51 34.4	0.0
U38A	**Gravette**	**1.53**	**31**			Pn	17 51 13.3	0.0
U38A						Sn	17 51 33.4	-0.2
MIAR	**Mount Ida**	**1.58**	**111**			Pn	17 51 13.3	-0.6
MIAR						Sb	17 51 35.1	0.0
HHAR	**Hobbs**	**1.63**	**45**			Pn	17 51 14.7	0.0
HHAR						Sb	17 51 36.7	0.0
FNO	**Franklin**	**1.68**	**275**			Pn	17 51 15.4	+0.1
FNO						Sg	17 51 39.0	-0.3
OKCSW	**OKLAHOMA CITY**	**1.73**	**280**			Pn	17 51 16.5	+0.6
OKCSW						Sg	17 51 40.1	-0.6
ADOK	**Arcadia Dam**	**1.73**	**288**			Pn	17 51 14.6	-1.4
ADOK						Sb	17 51 39.9	+0.4
OKCFA	**Oklahoma City**	**1.74**	**280**			Pb	17 51 17.1	-0.6
OKCFA						Sg	17 51 40.6	-0.5
OK048	**Pawnee Station**	**1.82**	**315**			Pn	17 51 18.0	+0.7
OK048						Sb	17 51 42.7	+0.5
OK051	**E0350 and S346**	**1.82**	**319**			Pn	17 51 18.1	+0.7
OK051						Sb	17 51 43.1	+0.7
OK029	**Liberty Lake**	**1.84**	**292**			Pn	17 51 18.1	+0.6
OK029						Sb	17 51 43.1	+0.4
LOOK	**Love County**	**1.88**	**234**			Pn	17 51 18.9	+0.7
LOOK						Sb	17 51 44.2	+0.2
Z38A	**Mt. Pleasant**	**1.89**	**171**			Pn	17 51 19.2	+1.0
Z38A						Sg	17 51 45.1	-0.9
Z38A				IAmb_Lg			17 51 49.4	
	comp=Z,54nm,1.0s							
T35A	**Sooner Cattle**	**2.01**	**333**			Pn	17 51 20.6	+0.7
T35A						Sb	17 51 48.1	+0.3
X34A	**Smith Ranch, M**	**2.10**	**256**			Pn	17 51 22.1	+1.0
X34A						Sb	17 51 49.5	-0.9
X40A	**Basin Creek Fa**	**2.17**	**106**			Pn	17 51 22.5	+0.4
BLOK	**Blackwell**	**2.22**	**318**			Pn	17 51 23.3	+0.6
WLAR	**White Oak Lake**	**2.35**	**127**			Pn	17 51 23.1	-0.8
WLAR				IAmb_Lg			17 51 58.1	
	comp=Z,26nm,0.8s							
Z35A	**Perchaven, San**	**2.38**	**222**			Pn	17 51 23.8	-1.3
TREL	**Terrell**	**2.47**	**194**	Pn		Pn	17 51 25.3	-0.9
TREL				IAmb_Lg			17 52 05.2	
	comp=Z,65nm,0.9s							
UALR	**University of**	**2.50**	**97**			Pn	17 51 25.3	-1.3
UALR				IAmb_Lg			17 52 06.3	
	comp=Z,56nm,0.7s							
WHAR	**Wooly Hollow**	**2.52**	**85**			Pn	17 51 25.9	-1.0
CROK	**Carrier**	**2.54**	**303**			Pn	17 51 26.9	-0.3
GC02	**Grant County #**	**2.66**	**311**			Pn	17 51 27.7	-1.8
FCAR	**Ozark Folk Cen**	**2.74**	**73**			Pn	17 51 27.6	-2.4
FCAR				IAmb_Lg			17 52 12.0	
	comp=Z,26nm,0.7s							
CSTR	**Hydro, Custer**	**2.77**	**282**	Pn		Pn	17 51 27.7	-2.7
KAN14	**Manchester OK**	**2.79**	**312**			Pn	17 51 27.1	-3.5
KAN14				IAmb_Lg			17 52 12.9	
	comp=Z,39nm,1.0s							
KAN01	**Argonia South**	**2.80**	**317**			Pn	17 51 29.5	-1.3
FW06	**Azle**	**2.82**	**221**			Pn	17 51 29.9	-1.1
Z41A	**Richland Creek**	**2.82**	**131**			Pn	17 51 29.2	-1.8
WMOK	**Wichita Mounta**	**2.84**	**263**			Pn	17 51 30.7	-0.6
WTFS	**Witchita Falls**	**2.91**	**243**			Pn	17 51 31.6	-0.6
237A	**Washetta, Mont**	**3.14**	**187**	Pn		Pn	17 51 32.7	-2.8
237A				IAmb_Lg			17 52 30.8	
	comp=Z,30nm,0.7s							
CCAR	**Cane Creek**	**3.20**	**111**	Pn		Pn	17 51 35.8	-0.4
MGMO	**Mountain Grove**	**3.21**	**50**			Pn	17 51 34.4	-2.1
MGMO				IAmb_Lg			17 52 35.8	
	comp=Z,27nm,0.8s							
ELIS	**Ellis County**	**3.44**	**287**	IAmb_Lg			17 52 32.5	
	comp=Z,17nm,0.9s							
LCAR	**Lake Charles**	**3.55**	**73**			Pn	17 51 39.2	-1.8
LCAR				IAmb_Lg			17 52 40.8	
	comp=Z,15nm,0.9s							
SMWD	**Samnorwood**	**4.00**	**271**			Pn	17 51 45.5	-1.9
SMWD				IAmb_Lg			17 53 02.0	
	comp=Z,34nm,0.9s							
R40A	**Maddies Statio**	**4.01**	**37**			Pn	17 51 46.8	-0.6
R32A	**Long Quarter,**	**4.25**	**322**			Pn	17 51 49.4	-1.3
R32A				IAmb_Lg			17 53 03.3	
	comp=Z,21nm,0.9s							
PBMO	**Poplar Bluff**	**4.32**	**66**	IAmb_Lg			17 53 00.0	
	comp=Z,24nm,0.8s							
APMT	**Aspermont**	**4.34**	**247**			Pn	17 51 50.0	-1.9
CCM	**Cathedral Cave**	**4.41**	**47**			Pn	17 51 51.7	-1.2
P38A	**Dawn**	**4.72**	**17**			Pn	17 51 56.4	-0.7
P38A				IAmb_Lg			17 53 18.0	
	comp=Z,28nm,0.8s							
435B	**Jarrell**	**4.72**	**204**	IAmb_Lg			17 53 24.1	
	comp=Z,16nm,0.7s							
FVM	**French Village**	**4.88**	**53**	IAmb_Lg			17 53 28.0	
	comp=Z,10nm,0.8s							
BRDY	**Brady**	**4.90**	**220**			Pn	17 51 59.1	-0.6
CBKS	**Cedar Bluff**	**5.08**	**318**			Pn	17 52 00.9	-1.3
CBKS				IAmb_Lg			17 53 32.7	
	comp=Z,16nm,0.8s							
P40A	**Paris**	**5.12**	**30**	IAmb_Lg			17 53 26.4	
	comp=Z,37nm,0.8s							
AMTX	**Amarillo**	**5.20**	**269**			Pn	17 52 00.5	-3.3
AMTX				IAmb_Lg			17 53 36.5	
	comp=Z,18nm,1.0s							
RTBA	**Rita Blanca**	**6.14**	**284**	IAmb_Lg			17 54 17.1	
	comp=Z,10nm,0.7s							
T47A	**Sharon Grove**	**6.94**	**72**	IAmb_Lg			17 54 27.5	
	comp=Z,11nm,0.8s							
SCIA	**State Center**	**6.97**	**13**	IAmb_Lg			17 54 37.2	
	comp=Z,24nm,0.7s							
P46A	**Rosedale**	**7.88**	**53**	IAmb_Lg			17 55 01.6	
	comp=Z,18nm,0.8s							
L42A	**Oliver, Polo**	**8.18**	**31**	IAmb_Lg			17 55 15.0	
	comp=Z,18nm,0.7s							

TIR ***21*** *17:58:12.0,41°.43N×19°.44E,h49km±4km,MI3.0/6*
PDG ***21*** *17:58:12.8±0.3,41°.30N×19°.46E,h16km,ML2.8/12,Error ellipse: s-maj=0.7km s-min=1.5km az=0.0*
BEO ***21*** *17:58:13.7±0.5,41°.34N×19°.62E,h7km±4km,ML2.6/19*
SKO ***21*** *17:58:13.6,41°.43N×19°.47E,h10km,ML3.1*
THE ***21*** *17:58:24.6,41°N±46°×2°0E±3°6,h8km±26km,M2.3/9, MLh2.3/9*

ISC 21 17:58:13.3±1.1,41°.33N±0°.02×19°.50E±0°.03,h9km±9km, n74,σ1s05/114,7C-12D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TIR	**Tirane**	**0.27**	**87**	Pg		**Pg**	**17 58 18.5**	**-0.3**
TIR				S		**Sg**	**17 58 21.6**	**-0.9**
TIR				AML	AML		17 58 22.8	
	4.3nm,0.3s							
TIR				AML	AML		17 58 23.3	
	7.1nm,0.4s							
ULC	**Ulcinj**	**0.66**	**343**	*e*Pg		**Pg**	**17 58 25.5**	**-0.5**
ULC				*i* Sg		**Sb**	**17 58 37.1**	**+0.9**
VLO	**Vlora**	**0.86**	**180**	Pg		**Pn**	**17 58 32.1**	**+0.6**
VLO				Sg		**Sb**	**17 58 43.4**	**+1.3**
VLO				AML	AML		17 58 50.8	
	2.8nm,0.2s							
VLO	**Vlora**	**0.86**	**180**	P		**Pn**	**17 58 32.2**	**+0.6**
DRME	**Dracevica, Mon**	**0.88**	**344**	⇓*i*Pg		**Pg**	**17 58 29.7**	**-0.6**
DRME				*i* Sg		**Sn**	**17 58 44.5**	**-0.4**
OHR	**Ohrid**	**1.00**	**102**	*i* Pg		**Pg**	**17 58 32.1**	**-0.5**
OHR				*i* Sg		**Sn**	**17 58 48.2**	**+0.4**
OHR				*e*Lg		Lg	17 58 48.6	
	comp=N,421nm,0.6s							
OHR				*e*Lg		Lg	17 58 48.9	
	comp=E,331nm,0.6s							
BUM	**Brajici-Budva**	**1.07**	**335**	⇓*i*Pg		**Pb**	**17 58 33.9**	**-0.1**
BUM				*i* Sg		**Sn**	**17 58 50.2**

BORS2	**Bor- Borsko je**	**3.32**	**33**	*e*Pn		**Pn**	17 59 03.7	**-1.7**
BORS2				*e*Sn		**Sn**	17 59 42.6	**-2.3**
AVAS	**Avala Beograd**	**3.44**	**12**	*e*Pn		**Pn**	17 59 06.6	**-0.5**
AVAS				*e*Sn		**Sn**	17 59 46.4	**-1.5**
KUBS	**Kucevo**	**3.47**	**27**	*e*Pn		**Pn**	17 59 05.7	**-1.7**
KUBS				*e*Sn		**Sn**	17 59 48.2	**-0.3**
MDVR	**Moldovita**	**3.81**	**24**	⇓P		**Pn**	17 59 13.8	**+1.7**
MDVR	**Moldovita**	**3.81**	**24**	*e*Pn		**Pn**	17 59 11.5	**-0.6**
FRGS	**Fruska Gora**	**3.83**	**3**	*e*Pn		**Pn**	17 59 11.9	**-0.5**
HERR	**Herculane**	**4.14**	**30**	⇑P		**Pn**	17 59 16.8	**+0.2**
BZS	**Buzias**	**4.55**	**19**	⇓P		**Pn**	17 59 23.3	**+1.0**
BZS	**Buzias**	**4.55**	**19**	*e*Pn		**Pn**	17 59 21.7	**-0.5**
GZR	**Gura Zlata**	**4.71**	**29**	⇓P		**Pn**	17 59 27.0	**+2.5**
VOIR		**5.76**	**43**	⇑P		**Pn**	17 59 40.0	**+1.1**
MLR	**Muntele Rosu**	**6.27**	**46**	⇑P		**Pn**	17 59 49.3	**+3.3**
ONER	**Baraj Valea Uz**	**7.06**	**43**	⇓P		Pn	17 59 47.6	-9.1

*SJA **21** 17:58:55.6±0.7,24˚.30S×67˚.18W,h197km±6km,ML3.4, MW3.5*
*GUC **21** 17:58:58.2±0.6,24˚.23S×67˚.54W,h220km±9km,ML3.6*
ISC 21 17:58:55.3±1.2,**24˚29S**±0˚.04×**67˚.19W**±0˚.04,**h200**km,**n36,** σ1**9**31/56,**2C,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SALTA		**0.78**	**85**	*e*P		Pn	17 59 18.8	-5.5
SALTA				*e*P		**Pn**	**17 59 24.2**	**-0.1**
SLA	**San Lorenzo**	**1.60**	**106**	*e*P		**Pn**	**17 59 31.0**	**+0.9**
SLA				*e*S		**Sn**	**17 59 56.4**	**-0.6**
AF01	**San Pedro de A**	**1.61**	**326**	*e*P		**Pn**	**17 59 32.5**	**+2.1**
AF01				IAML			18 00 03.8	
	comp=Z,76nm,0.5s							
AZAP	**Zapla**	**1.94**	**89**	*e*P		**Pn**	**17 59 34.0**	**+0.5**
HJA	**Humahuaca**	**1.96**	**57**	*e*P		**Pn**	**17 59 35.0**	**+1.2**
FSA	**Cafayete**	**2.12**	**149**	*e*P		**Pn**	**17 59 36.2**	**+1.0**
FSA				*e*S		**Sn**	**18 00 05.6**	**-0.9**
GO02	**Mina Guanaco**	**2.35**	**248**	*e*P		**Pn**	**17 59 39.4**	**+1.5**
GO02				IAML			18 00 12.4	
	comp=E,214nm,0.2s							
GO02	**Mina Guanaco**	**2.35**	**248**	*e*S		**Sn**	**18 00 11.0**	**+0.1**
GO02				IAML			18 00 13.7	
	comp=Z,128nm,0.2s							
PB06	**IPOC Station P**	**2.69**	**305**	⇑*i*P		**Pn**	**17 59 43.1**	**+1.5**
PB06				*e*S		**Sn**	**18 00 16.2**	**-1.4**
PB06	**IPOC Station P**	**2.69**	**305**	*e*P		**Pn**	**17 59 43.0**	**+1.5**
PB06				*e*S		**Sn**	**18 00 17.2**	**-0.4**
PB06				IAML			18 00 19.4	
	comp=Z,140nm,0.2s							
PB14	**IPOC Station P**	**2.95**	**263**	*e*P		**Pn**	**17 59 45.6**	**+1.0**
PB14				IAML			18 00 23.0	
	comp=E,39nm,0.5s							
PB14	**IPOC Station P**	**2.95**	**263**	*e*P		**Pn**	**17 59 45.8**	**+1.1**
PB14				*e*S		**Sn**	**18 00 22.3**	**-0.8**
PB14				IAML			18 00 23.5	
	comp=Z,68nm,0.2s							
AC02	**Maricunga**	**3.08**	**214**	*e*P		**Pn**	**17 59 48.6**	**+2.2**
AC02				*e*S		**Sn**	**18 00 25.5**	**-0.8**
PB05	**IPOC Station P**	**3.11**	**297**	*e*P		**Pn**	**17 59 47.5**	**+1.1**
PB05				*e*S		**Sn**	**18 00 24.1**	**-2.2**
PB05				IAML			18 00 28.2	
	comp=N,71nm,0.2s							
PB05	**IPOC Station P**	**3.11**	**297**	*e*P		**Pn**	**17 59 47.6**	**+1.1**
PB05				*e*S		**Sn**	**18 00 24.9**	**-1.4**
PB05				IAML			18 00 29.2	
	comp=Z,56nm,0.7s							
PB09	**IPOC Station P**	**3.12**	**322**	⇑*e*P		**Pn**	**17 59 48.4**	**+1.8**
PB09				*e*S		**Sn**	**18 00 25.8**	**-0.8**
PB09				IAML			18 00 29.3	
	comp=E,54nm,0.5s							
PB09	**IPOC Station P**	**3.12**	**322**	*e*P		**Pn**	**17 59 48.5**	**+1.9**
PB09				*e*S		**Sn**	**18 00 27.0**	**+0.4**
PB09				IAML			18 00 29.5	
	comp=Z,41nm,0.3s							
PB10	**IPOC Station P**	**3.17**	**283**	*e*P		**Pn**	**17 59 48.5**	**+1.5**
PB10				*e*S		**Sn**	**18 00 24.5**	**-2.9**
PB10				IAML			18 00 30.9	
	comp=E,74nm,0.2s							
PB10	**IPOC Station P**	**3.17**	**283**	*e*P		**Pn**	**17 59 48.8**	**+1.8**
PB10				*e*S		**Sn**	**18 00 26.7**	**-0.7**
PB10				IAML			18 00 30.5	
	comp=Z,54nm,0.5s							
PB03	**IPOC Station P**	**3.25**	**313**	*e*P		**Pn**	**17 59 49.3**	**+1.2**
PB03				*e*S		**Sn**	**18 00 27.7**	**-1.5**
PB03				IAML			18 00 32.6	
	comp=N,135nm,0.1s							
PB03	**IPOC Station P**	**3.25**	**313**	*e*P		**Pn**	**17 59 49.2**	**+1.2**
PB03				*e*S		**Sn**	**18 00 28.6**	**-0.7**
PB03				IAML			18 00 30.4	
	comp=Z,112nm,0.1s							
AC01	**Pan de Azucar**	**3.60**	**238**	*e*P		**Pn**	**17 59 52.7**	**+0.5**
AC01	**Pan de Azucar**	**3.60**	**238**	*e*P		**Pn**	**17 59 52.6**	**+0.4**
AC01				*e*S		**Sn**	**18 00 35.3**	**-1.4**
AC01				IAML			18 01 13.5	
	comp=Z,31nm,2.1s							
PB01	**IPOC Station P**	**3.86**	**326**	*e*P		**Pn**	**17 59 56.1**	**+0.6**
PB01	**IPOC Station P**	**3.86**	**326**	*e*P		**Pn**	**17 59 56.3**	**+0.7**
PB01				*e*S		**Sn**	**18 00 42.0**	**-0.8**
PB01				IAML			18 00 43.9	
	comp=Z,36nm,0.2s							
PB02	**IPOC Station P**	**3.87**	**319**	*e*P		**Pn**	**17 59 56.3**	**+0.7**
PB02	**IPOC Station P**	**3.87**	**319**	*e*P		**Pn**	**17 59 56.4**	**+0.7**
PB02				*e*S		**Sn**	**18 00 41.8**	**-1.1**
PB02				IAML			18 00 45.8	
	comp=Z,143nm,0.2s							
GO03	**Copiapo**	**4.28**	**219**	*e*P		**Pn**	**18 00 01.1**	**+0.4**
GO03				*e*S		**Sn**	**18 00 52.0**	**-0.1**
GO03				IAML			18 01 00.6	
	comp=Z,18nm,1.3s							
PATCX	**Punta Patache**	**4.41**	**321**	*e*P		**Pn**	**18 00 02.3**	**0.0**
TA01	**Diego Aracena**	**4.62**	**323**	*e*P		**Pn**	**18 00 05.8**	**+0.9**
TA01	**Diego Aracena**	**4.62**	**323**	*e*P		**Pn**	**18 00 05.9**	**+0.9**
TA01				IAML			18 01 01.9	
	comp=Z,18nm,0.7s							
HMBC	**Humberstone**	**4.71**	**327**	*e*P		**Pn**	**18 00 06.0**	**-0.2**
HMBC				*e*S		**Sn**	**18 00 59.9**	**-2.1**
HMBC				IAML			18 01 02.4	
	comp=Z,35nm,0.5s							
GO01	**Chusmiza**	**4.96**	**338**	*e*S		**Sn**	**18 01 09.2**	**+0.9**
GO01				IAML			18 01 13.2	
	comp=Z,10.0nm,0.5s							
PB11	**IPOC Station P**	**5.05**	**333**	*e*P		**Pn**	**18 00 10.4**	**-0.2**
PB11				*e*S		**Sn**	**18 01 08.0**	**-1.9**
PB11				IAML			18 01 11.1	
	comp=Z,23nm,1.2s							
ACLC	**CERRO LA CRUZ**	**5.12**	**178**	*e*P		**Pn**	**18 00 13.0**	**+1.6**
AGUA	**GUANDACOL**	**5.31**	**192**	*e*P		**Pn**	**18 00 11.0**	**-2.7**
AGUA				IAML			18 01 25.5	
	comp=Z,14nm,4.0s							

*IDC **21** 18:18:58.9±1.1,49˚.80S×118˚.41E,h0km,mb3.9/6, mbtmp3.9/6,MS3.4/7,Error ellipse: s-maj=57.1km s-min=19.3km az=102.0*
*NEIC **21** 18:19:00.4±0.8,49˚.90S±0˚.05×118˚.2E±0˚.3,h10km±1km, mb4.4/15,Error ellipse: s-maj=29.1km s-min=6.2km az=281.0*
ISC 21 18:18:59.9±0.6,**49˚.90S**±0˚.09×**118˚.2E**±0˚.1,**h10**km,**n34,** σ1**9**35/26,**mb4.1**/10,**MS3.4**/7,**Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.29**	**347**	T		T	18 38 18.3	
	baz=167,slow=74,SNR=400							
H01W1	**Cape Leeuwin H**	**15.29**	**347**	T		T	18 38 18.5	
	baz=167,slow=74,SNR=323							
H01W3	**Cape Leeuwin H**	**15.30**	**347**	T		T	18 38 19.4	
	baz=167,slow=74,SNR=366							
CASY	**Casey**	**16.89**	**191**	Pn		**Pn**	**18 22 50.9**	**-5.1**
CASY				P		**P**	**18 22 58.5**	**+0.4**
TAU	**Tasmania Unive**	**21.17**	**82**	P		**P**	**18 23 45.1**	**+0.1**
BBOO	**Buckleboo**	**21.61**	**44**	P		**P**	**18 23 50.0**	**+0.1**
TOO	**Toolangi**	**23.11**	**68**	P		**P**	**18 24 05.2**	**-0.6**
TOO				IAmb		IAmb	18 24 49.9	
	comp=Z,9.2nm,1.4s							
ASAR	**Alice Springs**	**28.93**	**31**	P		**P**	**18 24 59.1**	**+0.1**
ASAR	**Alice Springs**	**28.93**	**31**	P		**P**	**18 24 59.0**	**-0.1**
	comp=Z,2.3nm,1.0s,baz=200,slow=9.0,SNR=12							
ASAR				LR		LR	18 35 18.9	
	comp=Z,67nm,20.5s,baz=267,slow=34							
	comp=Z,2.3nm,1.0s							

AS31	**Alice Springs**	**28.93**	**31**	P		**P**	**18 24 58.8**	**-0.3**
PYZ	**Puysegur Point**	**32.18**	**102**	P		**P**	**18 25 27.3**	**-0.3**
VNDA	**Vanda**	**32.19**	**164**	P		**P**	**18 25 27.9**	**+0.5**
VNDA				IAmb		IAmb	18 25 35.9	
	comp=Z,3.1nm,0.9s							
VNDA	**Vanda**	**32.19**	**164**	P		**P**	**18 25 28.2**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=303,slow=4.5,SNR=5.3							
VNDA				LR		LR	18 37 55.6	
	comp=Z,70nm,18.0s,baz=9.0,slow=35							
	comp=Z,1.4nm,0.7s							
FITZ	**Fitzroy Crossi**	**32.28**	**13**	P		**P**	**18 25 29.2**	**+0.5**
WRA	**Warramunga Arr**	**32.54**	**29**	P		**P**	**18 25 30.6**	**-0.4**
	comp=Z,2.9nm,1.1s,baz=200,slow=8.3,SNR=4.9							
	comp=Z,2.9nm,1.1s							
WR8	**Warramunga Arr**	**32.58**	**29**	P		**P**	**18 25 31.7**	**+0.4**
WR8				IAmb		IAmb	18 25 33.2	
	comp=Z,7.7nm,1.3s							
WB0	**Warramunga Arr**	**32.72**	**29**	P		**P**	**18 25 32.6**	**0.0**
WB0				IAmb		IAmb	18 25 38.0	
	comp=Z,8.6nm,1.4s							
BATI	**Baumata**	**39.83**	**8**	LR		LR	18 43 37.3	
	comp=Z,76nm,19.4s,baz=216,slow=37							
QSPA	**South Pole Qui**	**40.22**	**180**	P		**P**	**18 26 37.8**	**+1.5**
QSPA				IAmb		IAmb	18 26 47.1	
	comp=Z,7.8nm,1.2s							
QSPA	**South Pole Qui**	**40.22**	**180**	P		**P**	**18 26 39.0**	**+2.7**
	comp=Z,1.4nm,1.0s,baz=359,slow=2.1,SNR=5.2							
	comp=Z,1.4nm,1.0s							
KAPI	**Kappang**	**44.75**	**2**	LR		LR	18 44 25.7	
	comp=Z,42nm,18.8s,baz=242,slow=34							
BELA	**Belgrano 2**	**51.40**	**187**	P		**P**	**18 28 04.6**	**+0.4**
KSM	**Kuching**	**51.62**	**350**	P		**P**	**18 28 06.1**	**-0.4**
KSM				IAmb		IAmb	18 28 10.1	
	comp=Z,8.7nm,1.2s							
SNAA	**Sanae**	**51.82**	**200**	P		**P**	**18 28 08.1**	**+0.7**
SNAA				IAmb		IAmb	18 28 16.8	
	comp=Z,5.1nm,1.0s							
SNAA	**Sanae**	**51.82**	**200**	P		**P**	**18 28 08.7**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=141,slow=9.4,SNR=7.4							
SNAA				LR		LR	18 48 01.6	
	comp=Z,49nm,19.8s,baz=264,slow=34							
	comp=Z,1.8nm,0.7s							
PSI	**Prapat**	**55.07**	**336**	LR		LR	18 47 49.5	
	comp=Z,47nm,20.4s,baz=176,slow=32							
H08S2	**Diego Garcia H**	**56.74**	**302**	T		T	19 30 20.7	
	baz=147							
H08S1	**Diego Carcia H**	**56.76**	**302**	T		T	19 30 14.0	
	baz=147							
H08S3	**Diego Garcia H**	**56.77**	**302**	T		T	19 30 26.9	
	baz=147							
CMAR	**Chiang Mai Arr**	**70.16**	**341**	P		**P**	**18 30 12.9**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=181,slow=5.6,SNR=2.3							
CMAR				LR		LR	18 58 17.0	
	comp=Z,18nm,21.2s,baz=175,slow=34							
	comp=Z,0.4nm,0.6s							
LSA	**Lhasa**	**82.82**	**336**	P		**P**	**18 31 24.2**	**-0.4**
O20A	**White River Ci**	**146.24**	**89**			**PKPbc**	**18 38 40.4**	**+0.1**
PDAR	**Pinedale Array**	**146.74**	**84**	PKPbc		**PKPdf**	**18 38 39.3**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=151,slow=3.4,SNR=4.3							
APMT	**Aspermont**	**147.33**	**106**			**PKPbc**	**18 38 42.4**	**-0.9**

*SJA **21** 18:48:13.0±0.8,30˚.33S×67˚.86W,h22km±2km,ML4.2, MW4.2*
*IDC **21** 18:48:14.5±0.5,30˚.27S×67˚.67W,h42km±3km,mb3.8/6, mbtmp3.8/10,ML3.7/3,MS3.4/4,Error ellipse: s-maj=21.3km s-min=5.8km az=112.0*
*NEIC **21** 18:48:15.6±2.3,30˚.34S±0˚.05×67˚.78W±0˚.09,h60km±4km, mb4.6/13,Error ellipse: s-maj=11.6km s-min=6.8km az=85.0*
ISC 21 18:48:13.4±0.4,**30˚31S**±0˚.03×**67˚.80W**±0˚.03,**h45**km±3km, **n129,**σ2**6**1/168,**mb4.5**/11,**4C,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AVFE	**Valle Fertil**	**0.46**	**140**	*e*P		**Pn**	**18 48 25.5**	**+1.6**
AVFE				*e*S		**Sn**	**18 48 33.8**	**+2.3**
AVFE				IAML			18 48 34.2	
	comp=Z,12μm,0.7s							
AGUA	**GUANDACOL**	**1.02**	**324**	*e*P		**Pn**	**18 48 32.6**	**+1.2**
AGUA				*e*S		**Sn**	**18 48 46.7**	**+2.1**
AGUA				IAML			18 48 50.1	
	comp=Z,11μm,0.2s							
APLL	**PUNTA DE LOS L**	**1.10**	**95**	*e*P		**Pn**	**18 48 35.5**	**+3.0**
ACCO	**Cerro Coronel**	**1.13**	**256**	*e*P		**Pn**	**18 48 33.6**	**+0.5**
ACCO				*e*S		**Sn**	**18 48 46.8**	**-0.8**
ACLC	**CERRO LA CRUZ**	**1.15**	**40**	*e*P		**Pn**	**18 48 36.1**	**+2.8**
ACLC				*e*S		**Sn**	**18 48 53.4**	**+5.5**
ACLC				IAML			18 48 56.5	
	comp=Z,4μm,0.5s							
ACDV	**Cuesta del Vie**	**1.15**	**277**	*e*P		**Pn**	**18 48 34.3**	**+1.0**
ACDV				*e*S		**Sn**	**18 48 47.6**	**-0.4**
ACDV				IAML			18 48 50.5	
	comp=Z,11μm,0.6s							
RTLL	**Cerro Villicun**	**1.17**	**210**	*e*P		**Pn**	**18 48 34.7**	**+1.3**
RTLL				*e*S		**Sn**	**18 48 50.6**	**+2.4**
RTLL				IAML			18 48 51.6	
	comp=Z,3μm,0.3s							
ACHE	**Chepes**	**1.29**	**131**	*e*P		**Pn**	**18 48 38.5**	**+3.2**
CFA	**Coronel Fontan**	**1.34**	**196**	P		**Pn**	**18 48 37.7**	**+2.0**
	comp=Z,278nm,0.3s,baz=32,slow=20,SNR=5681							
CFA				S		**Sn**	**18 48 55.3**	**+2.9**
	comp=Z,4μm,0.4s,baz=295,slow=24,SNR=85							
CFA	**Coronel Fontan**	**1.34**	**196**	*e*P		**Pn**	**18 48 37.8**	**+2.0**
CFA				*e*S		**Sn**	**18 48 55.4**	**+2.9**
CFA				IAML			18 48 55.9	
	comp=Z,4μm,0.3s							
SJA	**San Juan**	**1.38**	**208**	*e*P		**Pn**	**18 48 38.5**	**+2.3**
SJA				*e*S		**Sn**	**18 48 57.0**	**+3.6**
SJA				IAML			18 48 59.5	
	comp=Z,2μm,0.5s							
ZON	**Zonda**	**1.44**	**211**			**Pn**	**18 48 38.9**	**+1.7**
ZON				Sn		**Sn**	**18 48 58.2**	**+3.2**
ZON	**Zonda**	**1.44**	**211**	*e*P		**Pn**	**18 48 39.0**	**+1.8**
ZON				*e*S		**Sn**	**18 48 58.9**	**+3.9**
AROD	**Rodeo**	**1.46**	**275**	*e*P		**Pn**	**18 48 39.2**	**+1.6**
VCA	**Vinchina**	**1.61**	**347**	*e*P		**Pn**	**18 48 36.8**	**-2.8**
VCA				*e*P			18 48 42.5	
VCA				*e*S		**Sn**	**18 49 04.2**	**+5.0**
VCA				IAML			18 49 06.0	
	comp=Z,12μm,0.2s							
AANI	**Anillaco**	**1.67**	**27**	*e*P		**Pn**	**18 48 44.0**	**+3.6**
AANI				*e*S		**Sn**	**18 49 08.2**	**+7.5**
RTLS	**Leoncito**	**1.96**	**221**	*e*P		**Pn**	**18 48 47.1**	**+2.6**
RTLS				*e*P			18 48 47.2	
RTLS				*e*S		**Sn**	**18 49 12.9**	**+4.9**
RTLS				IAML			18 49 14.6	
	comp=Z,2μm,0.3s							
CO01	**Juntas del Tor**	**2.02**	**279**			**Pn**	**18 48 48.2**	**+3.0**
CO01				Sn		**Sn**	**18 49 13.3**	**+4.0**
CO01	**Juntas del Tor**	**2.02**	**279**	*e*P		**Pn**	**18 48 47.6**	**+2.4**
CO01				*e*S		**Sn**	**18 49 13.8**	**+4.5**
CO01				*e*S			18 49 14.8	
CO01				IAML			18 49 20.9	
	comp=Z,2μm,0.7s							
ACAN	**Cantantal**	**2.02**	**165**	*e*P		**Pn**	**18 48 47.7**	**+2.6**
ACAN				IAML			18 49 23.9	
	comp=Z,7μm,0.8s							
ASAL	**Salagasta**	**2.44**	**201**	*e*P		**Pn**	**18 48 53.6**	**+2.7**
ASAL				*e*S		**Sn**	**18 49 20.2**	**+0.8**
CO03	**El Pedregal**	**2.55**	**257**			**Pn**	**18 48 55.5**	**+3.2**
CO03				Sn		**Sn**	**18 49 26.7**	**+4.5**
CO03	**El Pedregal**	**2.55**	**257**	*e*P		**Pn**	**18 48 55.0**	**+2.7**
CO03				*e*P			18 48 55.8	
CO03				*e*S		**Sn**	**18 49 28.4**	**+6.2**
CO03				IAML			18 49 30.1	
	comp=Z,2μm,0.3s							
CYA	**Choya**	**2.55**	**44**	*e*P		Pn	18 48 38.5	-14
CYA				*e*P			18 48 49.8	
CYA				*e*P		**Pn**	**18 48 55.2**	**+2.9**
CYA				*e*S		Sn	18 49 38.5	+16
CYA				IAML			18 49 50.9	
	comp=Z,737nm,0.5s							
GO04	**Tololo Observa**	**2.60**	**272**			**Pn**	**18 48 56.5**	**+3.2**
GO04				Sn		**Sn**	**18 49 27.6**	**+3.9**
GO04	**Tololo Observa**	**2.60**	**272**	*e*P		**Pn**	**18 48 56.0**	**+2.8**
GO04				*e*S		**Sn**	**18 49 29.9**	**+6.3**
GO04				IAML			18 49 33.2	
	comp=Z,4μm,0.3s							
ARCO	**CERRO ARCO**	**2.70**	**201**	*e*P		**Pn**	**18 48 57.5**	**+3.0**
ARCO				*e*S		Sn	18 49 46.0	+20
ARCO				IAML			18 49 49.5	
	comp=Z,1μm,0.4s							
MRA	**San Martin**	**2.75**	**140**	*e*P		**Pn**	**18 48 58.2**	**+3.0**
MRA				*e*S		**Sn**	**18 49 31.2**	**+4.0**
MRA				*e*S			18 49 36.2	
MRA				IAML			18 49 42.0	
	comp=Z,2μm,0.9s							
LCO	**Las Campanas**	**2.84**	**296**			**Pn**	**18 48 59.1**	**+2.6**
LCO	**Las Campanas**	**2.84**	**296**	*e*P		**Pn**	**18 48 59.5**	**+3.0**
LCO				*e*S		**Sn**	**18 49 36.2**	**+6.6**
LCO				IAML			18 49 41.2	
	comp=Z,1μm,1.3s							
CO02	**Combarbal**	**2.90**	**251**			**Pn**	**18 48 59.5**	**+2.4**
CO02				Sn		**Sn**	**18 49 35.4**	**+4.6**
CO02	**Combarbal**	**2.90**	**251**	*e*S		**Sn**	**18 49 35.2**	**+4.5**
CO02				IAML			18 49 43.2	
	comp=Z,933nm,0.3s							
AAGR	**Agrelo**	**2.90**	**197**	*e*P		**Pn**	**18 49 00.1**	**+2.9**
AAGR				*e*S		Sn	18 49 49.8	+19
AAGR				IAML			18 49 53.4	
	comp=Z,532nm,0.9s							
TCA	**Tanti**	**2.94**	**111**	*e*P		**Pn**	**18 48 55.2**	**-2.5**
TCA				*e*P			18 49 00.7	
TCA				*e*S		**Sn**	**18 49 36.9**	**+5.0**
TCA				IAML			18 49 55.1	
	comp=Z,2μm,0.5s							
CO05	**La Serena**	**3.00**	**277**			**Pn**	**18 49 00.3**	**+1.8**
CO05				Sn		**Sn**	**18 49 34.0**	**+0.7**
AVIZ	**Vizcacheras**	**3.21**	**191**	*e*P		**Pn**	**18 49 05.1**	**+3.7**
AVIZ				*e*S		Sn	18 49 57.0	+18
CO06	**Fray Jorge**	**3.33**	**263**			**Pn**	**18 49 04.1**	**+1.1**
VA03	**San Esteban**	**3.39**	**223**			**Pn**	**18 49 06.8**	**+2.9**
VA03	**San Esteban**	**3.39**	**223**	*e*P		**Pn**	**18 49 06.4**	**+2.5**
VA03				IAML			18 50 15.1	
	comp=Z,406nm,0.7s							
GO03	**Copiapo**	**3.45**	**321**			**Pn**	**18 49 06.9**	**+2.2**
GO03	**Copiapo**	**3.45**	**321**	*e*P		**Pn**	**18 49 06.4**	**+1.7**
GO03				IAML			18 50 16.3	
	comp=Z,234nm,1.1s							
AC04	**Llanos de Chal**	**3.55**	**305**			**Pn**	**18 49 07.6**	**+1.6**
AC04	**Llanos de Chal**	**3.55**	**305**	*e*P		Pn	18 48 53.0	-13
AC04				*e*S		Sn	18 50 03.6	+17
AC04				IAML			18 50 13.2	
	comp=Z,322nm,0.3s							
MT08	**Bocatoma Ro**	**3.65**	**211**			**Pn**	**18 49 11.1**	**+3.5**
MT08	**Bocatoma Ro**	**3.65**	**211**	*e*P		**Pn**	**18 49 11.3**	**+3.7**
MT08				*e*S		Sn	18 50 04.2	+15
MT08				IAML			18 50 16.1	
	comp=Z,251nm,0.9s							
AC02	**Maricunga**	**3.66**	**341**			**Pn**	**18 49 11.8**	**+3.9**
AC02	**Maricunga**	**3.66**	**341**	*e*P		**Pn**	**18 49 12.1**	**+4.1**
AC02				*e*S		**Sn**	**18 49 55.8**	**+5.7**
MT04	**Ro Olivares**	**3.67**	**212**	*e*P		**Pn**	**18 49 11.5**	**+3.6**
MT04				*e*S		Sn	18 50 04.4	+14
MT04				IAML			18 50 12.1	
	comp=Z,177nm,0.5s							
VA06	**Catapilco**	**3.74**	**232**			**Pn**	**18 49 09.6**	**+1.0**
PEL	**Peldehue**	**3.74**	**220**			**Pn**	**18 49 10.6**	**+1.8**
MT16	**CCHEN**	**3.88**	**216**			**Pn**	**18 49 13.2**	**+2.7**
MT03	**Universidad Ad**	**3.92**	**215**			**Pn**	**18 49 13.4**	**+2.1**
MT03	**Universidad Ad**	**3.92**	**215**	*e*P		**Pn**	**18 49 14.8**	**+3.6**
MT03				*e*P			18 49 14.8	
MT03				*e*S		Sn	18 50 14.2	+18
MT03				IAML			18 50 24.1	
	comp=Z,223nm,0.8s							
MT05	**Renca**	**3.96**	**218**			**Pn**	**18 49 14.4**	**+2.7**
MT05	**Renca**	**3.96**	**218**	*e*P		**Pn**	**18 49 14.7**	**+2.9**
MT05				IAML			18 50 34.3	
	comp=Z,300nm,0.6s							
MT13	**San Alfonso**	**4.02**	**211**			**Pn**	**18 49 14.8**	**+2.2**
MT13	**San Alfonso**	**4.02**	**211**	*e*P		**Pn**	**18 49 16.1**	**+3.5**
MT13				IAML			18 50 33.7	
	comp=Z,139nm,0.5s							
LMEL	**Las Melosas**	**4.07**	**209**			**Pn**	**18 49 16.0**	**+2.6**
MT02	**Curacav**	**4.09**	**223**			**Pn**	**18 49 14.8**	**+1.4**
MT02	**Curacav**	**4.09**	**223**	*e*P		**Pn**	**18 49 14.8**	**+1.4**
MT02				*e*S		Sn	18 49 45.8	-14
MT02				IAML			18 50 27.9	
	comp=Z,186nm,1.1s							
VA01	**Torpederas**	**4.25**	**230**	Pn		**Pn**	**18 49 16.1**	**+0.5**
BO04	**La Punta**	**4.37**	**212**			**Pn**	**18 49 19.3**	**+1.9**
MT09	**Talagante**	**4.39**	**217**			**Pn**	**18 49 19.4**	**+1.7**
FSA	**Cafayete**	**4.48**	**21**	*e*P		**Pn**	**18 49 23.0**	**+3.9**
FSA				*e*S		Sn	18 50 31.2	+21
RFA	**San Rafael**	**4.48**	**187**	*e*P		**Pn**	**

VNA3	**Neumayer Olymp**	**51.47**	**159**	⇑P		**P**	**18 57 15.3**	**+1.4**
	comp=Z,3.5nm,0.7s							
VNA1	**Neumayer--Stat**	**51.71**	**159**	⇑P		**P**	**18 57 15.3**	**-0.4**
	comp=Z,3.7nm,0.8s							
SNAA	**Sanae**	**53.69**	**159**	⇑P		**P**	**18 57 31.4**	**+1.1**
	comp=Z,35nm,0.4s							
SNAA	**Sanae**	**53.69**	**159**	P		**P**	**18 57 30.0**	**-0.3**
SNAA				IAmb		IAmb	18 57 50.9	
	comp=Z,5.6nm,0.9s							
SNAA	**Sanae**	**53.69**	**159**	P		**P**	**18 57 31.0**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=293,slow=7.3,SNR=19							
SNAA				pP		**pP**	**18 57 42.1**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=321,slow=21,SNR=1.9							
SNAA				sP		**sP**	**18 57 49.3**	**+0.5**
	comp=Z,5.6nm,1.0s,baz=286,slow=5.7,SNR=11							
SNAA				LR		LR	19 17 46.3	
	comp=Z,24nm,21.6s,baz=266,slow=33							
	comp=Z,1.8nm,0.7s							
TROLL	**Troll, Antarti**	**55.41**	**159**	⇑P		**P**	**18 57 44.1**	**+1.3**
	comp=Z,84nm,0.4s							
QSPA	**South Pole Qui**	**59.92**	**180**	P		**P**	**18 58 17.5**	**+2.9**
	comp=Z,3.5nm,0.9s,baz=147,slow=2.4,SNR=18							
QSPA				sP		**sP**	**18 58 34.6**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=141,slow=4.8,SNR=8.0							
	comp=Z,3.5nm,0.9s							
TXAR	**Lajitas Array**	**68.46**	**327**	P		**P**	**18 59 11.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=146,slow=7.8,SNR=1.9							
TXAR				pP		**pP**	**18 59 24.2**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=148,slow=6.5,SNR=4.4							
	comp=Z,0.1nm,0.3s							
WVT	**Waverly**	**68.72**	**343**	P		**P**	**18 59 11.1**	**-1.2**
WVT				IAmb		IAmb	18 59 25.5	
	comp=Z,3.5nm,0.6s							
MAW	**Mawson**	**75.65**	**163**	P		**P**	**18 59 54.5**	**+1.1**
	comp=Z,2.1nm,0.9s,baz=331,slow=10,SNR=3.3							
MAW				sP		**sP**	**19 00 11.7**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=205,slow=7.0,SNR=3.5							
	comp=Z,2.1nm,0.9s							
BOSA	**Boshof**	**78.54**	**116**	P		**P**	**19 00 10.1**	**-0.4**
BOSA	**Boshof**	**78.54**	**116**	P		**P**	**19 00 10.8**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=231,slow=2.1,SNR=6.9							
	comp=Z,2.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**79.54**	**68**	P		**P**	**19 00 14.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**79.54**	**68**	P		**P**	**19 00 17.3**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=282,slow=5.6,SNR=9.9							
TORD				pP		**pP**	**19 00 29.7**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=272,slow=4.6,SNR=6.3							
TORD				LR		LR	19 31 39.2	
	comp=Z,52nm,21.7s,baz=340,slow=33							
	comp=Z,1.1nm,0.6s							
LBTB	**Lobatse**	**80.52**	**113**	P		**P**	**19 00 22.0**	**+0.6**
LBTB				IAmb		IAmb	19 00 59.2	
	comp=Z,13nm,1.5s							
KDWAN	**Kaudwane**	**80.56**	**111**	P		**P**	**19 00 21.9**	**+0.4**
KDWAN				IAmb		IAmb	19 00 36.4	
	comp=Z,9.6nm,1.3s							
CASY	**Casey**	**83.71**	**179**	P		**P**	**19 00 37.2**	**+0.1**
CASY				IAmb		IAmb	19 00 39.2	
	comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**125.68**	**206**	PKP		**PKPdf**	**19 07 09.8**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=146,slow=1.7,SNR=5.0							
WRA				pPKP		**pPKPdf**	**19 07 23.9**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=166,slow=1.4,SNR=2.2							
KURBB	**Kurchatov Arra**	**147.73**	**41**	PKPbc		**PKPbc**	**19 07 53.6**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=289,slow=3.5,SNR=5.4							
KURBB				pPKPbc		**pPKPbc**	**19 08 07.1**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=298,slow=3.2,SNR=4.4							
ZALV	**Zalesovo Beam**	**149.20**	**32**	PKPbc		**PKiKP**	**19 07 57.5**	**-0.2**
	comp=Z,4.0nm,0.5s,baz=311,slow=3.1,SNR=19							
ZALV				pPKPbc		**pPKPbc**	**19 08 11.1**	**+0.1**
	comp=Z,3.8nm,0.5s,baz=303,slow=3.3,SNR=9.7							
MKAR	**Makanchi Array**	**151.63**	**46**	PKPbc		**PKiKP**	**19 08 03.3**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=277,slow=2.2,SNR=9.7							
MKAR				pPKPbc		**sPKPdf**	**19 08 16.2**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=303,slow=2.5,SNR=14							

*BKK **21** 18:50:00.3±9.6,4˚N±70˚×9˚7E±4˚3,h0km, M3.9/3,mb3.9/3*
*DJA **21** 18:50:06.4±0.3,4˚N±2˚×9˚8E± ˚,h10km, M3.8/12,mb3.7/1, MLv3.8/12*
*IDC **21** 18:50:13.0±2.3,4.˚12N×97˚.36E,h88km±9km,mb3.4/6, mbtmp3.6/7,Error ellipse: s-maj=94.9km s-min=15.9km az=63.0*

ISC 21 18:50:10.7±0.7,**4˚51N**±0˙04×**97˚75E**±0˙06,**h50**km,**n18, σ2s08/21,mb3.6/6,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCSI	**Kotacane, Aceh**	**0.98**	**179**	P	Pn	18 50 24.2	-3.9
KCSI				S	**Sn**	**18 50 37.0**	**-4.0**
LHMI	**Lhok Sumawe**	**1.08**	**312**	P	**Pn**	**18 50 27.6**	**-1.9**
LHMI				S	**Sn**	**18 50 43.8**	**+0.5**
TSI	**Tuntungan**	**1.28**	**141**	P	Pn	18 50 29.5	-2.8
MLSI	**Meulaboh, Aceh**	**1.36**	**260**	P	**Pn**	**18 50 31.5**	**-1.9**
MLSI				S	**Sn**	**18 50 51.6**	**+1.3**
PSI	**Prapat**	**2.06**	**145**	P	**Pn**	**18 50 43.0**	**0.0**
	20nm,0.3s,baz=320,slow=14,SNR=22						
PSI				S	**Sn**	**18 51 09.4**	**+1.8**
	30nm,0.4s,baz=329,slow=16,SNR=7.0						
SNSI	**Sinabang, Aceh**	**2.52**	**214**	P	**Pn**	**18 50 47.9**	**-1.3**
GSI	**Gunungsitoli**	**3.18**	**183**	P	**Pn**	**18 50 57.3**	**-1.0**
PKDT	**Phuket**	**3.42**	**10**	P	Pn	18 50 54.8	-6.7
MNSI	**Mandailing Nat**	**4.11**	**154**	P	Pn	18 51 08.2	-2.8
RNTT	**Ranong**	**4.91**	**8**	P	**Pn**	**18 51 19.1**	**-2.9**
	16nm,0.5s						
SURA	**Surathani**	**4.99**	**22**	P	**Pn**	**18 51 20.5**	**-2.6**
	8.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**13.92**	**5**	P	**P**	**18 53 31.2**	**-0.9**
	0.2nm,0.4s,baz=190,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**43.40**	**125**	P	**P**	**18 58 07.3**	**-1.4**
	0.2nm,0.4s,baz=298,slow=8.1,SNR=2.1						
	0.2nm,0.4s						
SONM	**Songino Array**	**43.80**	**8**	P	**P**	**18 58 14.1**	**+2.4**
	0.6nm,0.5s,baz=200,slow=7.3,SNR=3.4						
SONM				pP	**sP**	**18 58 34.5**	**+3.6**
	0.5nm,0.5s,baz=176,slow=11,SNR=3.1						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**44.20**	**345**	P	**P**	**18 58 14.9**	**+0.1**
	0.7nm,0.7s,baz=170,slow=9.4,SNR=6.6						
MKAR				pP	**sP**	**18 58 36.7**	**+2.6**
	0.4nm,0.5s,baz=170,slow=8.1,SNR=3.4						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**45.01**	**130**	P	**P**	**18 58 20.7**	**-1.0**
	0.6nm,0.6s,baz=304,slow=7.8,SNR=11						
ASAR				pP	**sP**	**18 58 41.6**	**+0.6**
	0.3nm,0.5s,baz=301,slow=7.6,SNR=3.0						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**50.41**	**350**	P	**P**	**18 59 03.6**	**+0.6**
	0.9nm,0.5s,baz=169,slow=5.7,SNR=4.9						
	0.9nm,0.5s						
STKA	**Stephens Creek**	**55.20**	**134**	P	**P**	**18 59 37.2**	**-1.5**
	2.0nm,0.7s,baz=315,slow=9.6,SNR=3.6						
	2.0nm,0.7s						

*TIR **21** 18:55:59.5,41˚46N×19˚61E,h26km±3km,Ml2.6/4*
*BEO **21** 18:56:01.9±0.4,41˚39N×19˚74E,h0km,ML2.3/9*

ISC 21 18:56:00.3±1.0,**41˚40N**±0˙02×**19˚64E**±0˙04,**h11**km±8km, **n19,σ1s65/36,Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.18**	**107**	Pg	**Pg**	**18 56 04.0**	**-0.2**
TIR				Sg	**Sg**	**18 56 06.5**	**-0.4**
TIR				AML	AML	18 56 07.6	
	2.8nm,0.2s						
TIR				AML	AML	18 56 10.1	
	2.5nm,0.2s						
DRME	**Dracevica, Mon**	**0.86**	**337**	*e*Pg	**Pg**	**18 56 16.7**	**-0.2**
DRME				*e*Sg	**Sn**	**18 56 31.1**	**+0.1**
VLO	**Vlora**	**0.94**	**187**	Pg	**Pb**	**18 56 17.3**	**-1.3**
VLO				Sg	**Sg**	**18 56 32.5**	**+1.9**
VLO				AML	AML	18 56 36.3	
	0.8nm,0.2s						
PDG	**Podgorica**	**1.07**	**345**	*e*Pg	**Pb**	**18 56 20.8**	**-0.1**
PDG				*e*Sg	**Sn**	**18 56 36.9**	**+0.7**
KBN	**Korca**	**1.17**	**131**	Pg	**Pb**	**18 56 22.2**	**-0.3**
KBN				Sg	**Sn**	**18 56 39.2**	**+0.5**
KBN				AML	AML	18 56 47.4	
	0.3nm,0.7s						
KOME	**Kolasin**	**1.45**	**356**	*e*Pg	**Pg**	**18 56 28.0**	**-0.2**
KOME				*e*Sg	**Sg**	**18 56 48.0**	**+0.9**
BEY	**Berane**	**1.48**	**7**	*e*Pg	**Pb**	**18 56 28.1**	**+0.1**
BEY				*e*Sg	**Sg**	**18 56 49.7**	**+1.6**
SJES	**Sjenica**	**1.88**	**7**	*e*Pg	**Pb**	**18 56 33.9**	**-0.8**
SJES				*e*Sn	**Sg**	**18 57 00.0**	**-0.7**
IGT	**Igoumenitsa**	**1.94**	**164**	Pn	**Pb**	**18 56 35.3**	**-0.4**
IGT				Sn	**Sb**	**18 57 00.8**	**+0.9**
IGT	**Igoumenitsa**	**1.94**	**164**	*e*Pn	**Pn**	**18 56 34.5**	**+1.2**
IGT				*e*Sn	**Sb**	**18 57 00.6**	**+0.7**
NOCI	**Noci**	**2.04**	**253**	Pn	**Pn**	**18 56 35.7**	**+1.1**
NOCI				Sn	**Sn**	**18 56 54.7**	**-5.5**
NOCI				AML	AML	18 56 55.5	
	0.2nm,0.1s						
NOCI				AML	AML	18 57 05.2	
	0.2nm,0.2s						
SELS	**Selova**	**2.12**	**31**	*e*Pn	**Pb**	**18 56 38.3**	**-0.6**
SELS				*e*Sn	**Sb**	**18 57 04.2**	**-1.1**
BARS	**Barje**	**2.15**	**48**	*e*Pn	**Pb**	**18 56 39.4**	**+0.1**
IVAS	**Ivanjica**	**2.21**	**10**	*e*Pn	**Pb**	**18 56 39.9**	**-0.4**
IVAS				*e*Sn	**Sb**	**18 57 07.4**	**-0.3**
GOCS	**Kraljevo Serbi**	**2.35**	**23**	*e*Pn	**Pb**	**18 56 41.6**	**-1.1**
GOCS				*e*Sn	**Sb**	**18 57 10.2**	**-1.5**
BBLS	**Lazi&#263i**	**2.47**	**356**	*e*Pn	**Pb**	**18 56 45.4**	**+0.6**
BBLS				*e*Sn	**Sb**	**18 57 16.4**	**+1.1**
BOVS	**Bovan**	**2.71**	**34**	*e*Pn	**Pb**	**18 56 46.3**	**-2.5**
BOVS				*e*Sn	**Sn**	**18 57 18.3**	**+1.7**
ZAPS	**Zavoj**	**2.90**	**49**	*e*Pn	**Pb**	**18 56 49.9**	**-2.3**
ZAPS				*e*Sn	**Sb**	**18 57 23.7**	**-4.0**
ZAGS	**Zajecar**	**3.08**	**38**	*e*Pn	**Pn**	**18 56 51.0**	**+2.1**

*TIR **21** 19:06:36.2,41˚.42N×19˚.38E,h38km±2km,Ml3.2/4*
*PDG **21** 19:06:37.6±0.1,41˚.32N×19˚.52E,h20km,MD3.2/1, ML3.1/10,Error ellipse: s-maj=0.2km s-min=0.5km az=0.0*
*BEO **21** 19:06:38.9±0.3,41˚.34N×19˚.67E,h0km,ML2.5/15*
*SKO **21** 19:06:39.6,41˚.32N×19˚.50E,h19km,ML2.9*
*THE **21** 19:06:50.0,41˚N±48˚×2˚0E±4˚3,h11km,M2.5/11, MLh2.5/11*

ISC 21 19:06:36.3±1.1,**41˚31N**±0˙02×**19˚46E**±0˙02,**h8**km±9km, **n73,σ1s33/113,2C-2D,Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.31**	**84**	Pg	**Pg**	**19 06 42.9**	**+0.5**
TIR				Sg	**Sg**	**19 06 44.6**	**-1.8**
TIR				AML	AML	19 06 47.1	
	6.5nm,0.2s						
TIR				AML	AML	19 06 47.5	
	6.0nm,0.3s						
ULC	**Ulcinj**	**0.67**	**346**	*e*Pg	**Pb**	**19 06 50.2**	**-0.1**
ULC				*i* Sg	**Sn**	**19 07 01.3**	**+1.5**
VLO	**Vlora**	**0.84**	**178**	Pg	**Pn**	**19 06 56.6**	**+2.1**
VLO				Sg	**Sn**	**19 07 07.7**	**+0.6**
VLO				AML	AML	19 07 16.0	
	3.9nm,0.3s						
VLO				AML	AML	19 07 16.3	
	3.7nm,0.4s						
VLO	**Vlora**	**0.84**	**178**	P	**Pn**	**19 06 56.5**	**+2.1**
DRME	**Dracevica, Mon**	**0.90**	**347**	*e*Pg	**Pn**	**19 06 55.3**	**+0.1**
DRME				*e*Sg	**Sn**	**19 07 08.0**	**-0.4**
DRME	**Dracevica, Mon**	**0.90**	**347**	*e*Pg	**Pn**	**19 06 54.6**	**-0.6**
DRME				*i* Sg	**Sn**	**19 07 08.9**	**+0.5**
OHR	**Ohrid**	**1.03**	**101**	*i* Pg	**Pb**	**19 06 56.4**	**0.0**
OHR				*i* Sg	**Sn**	**19 07 12.7**	**+1.0**
OHR				*e*Lg	Lg	19 07 13.6	
	comp=N,281nm,0.8s						
OHR				eLg	Lg	19 07 15.3	
	comp=E,243nm,0.5s						
BUM	**Brajici-Budva**	**1.07**	**337**	*e*Pg	**Pn**	**19 06 58.1**	**+0.4**
BUM				*i* Sg	**Sn**	**19 07 15.1**	**+2.3**
PDG	**Podgorica**	**1.13**	**352**	*e*Pg	**Pn**	**19 06 59.0**	**+0.6**
PDG				*e*Sg	**Sn**	**19 07 15.8**	**+1.8**
PDG	**Podgorica**	**1.13**	**352**	*e*Pg	**Pn**	**19 06 58.6**	**+0.2**
PDG				*i* Sg	**Sn**	**19 07 16.5**	**+2.5**
KBN	**Korca**	**1.22**	**124**	Pg	**Pg**	**19 06 59.8**	**+0.1**
KBN				Sg	**Sn**	**19 07 17.8**	**+1.3**
KBN				AML	AML	19 07 21.4	
	comp=E,0.9nm,0.6s						
CEME	**Cevo**	**1.30**	**342**	*e*Pg	**Pg**	**19 07 01.6**	**+0.4**
CEME				*i* Sg	**Sg**	**19 07 21.0**	**+3.0**
PVY	**Plav**	**1.33**	**16**	*e*Pg	**Pg**	**19 07 02.8**	**+0.9**
PVY				*e*Sg	**Sg**	**19 07 21.0**	**+1.8**
HCY	**Herceg Novi**	**1.34**	**328**	*e*Pg	**Pg**	**19 07 02.6**	**+0.5**
HCY				*i* Sg	**Sg**	**19 07 22.4**	**+2.9**
KOME	**Kolasin**	**1.54**	**2**	*e*Pg	**Pg**	**19 07 06.3**	**+0.5**
KOME				*e*Sg	**Sg**	**19 07 26.0**	**+0.3**
KOME	**Kolasin**	**1.54**	**2**	*e*Pg	**Pb**	**19 07 05.1**	**0.0**
KOME				*i* Sg	**Sg**	**19 07 26.5**	**+0.8**
BEY	**Berane**	**1.59**	**12**	*e*Pg	**Pb**	**19 07 05.8**	**-0.2**
BEY				*e*Sg	**Sb**	**19 07 26.4**	**+0.1**
IVA	**Berane**	**1.59**	**12**	*e*Pn	**Pb**	**19 07 05.5**	**-0.5**
IVA				*i* Sn	**Sg**	**19 07 27.5**	**+0.1**
PENT	**Pentalofos**	**1.69**	**131**	P	**Pg**	**19 07 08.9**	**+0.1**
BRY	**Bratogost**	**1.73**	**337**	*e*Pn	**Pb**	**19 07 07.9**	**-0.5**
BRY				*i* Sn	**Sg**	**19 07 31.0**	**+0.5**
NOCI	**Noci**	**1.89**	**255**	Pn	**Pn**	**19 07 09.5**	**+0.6**
NOCI				Sn	**Sn**	**19 07 32.2**	**-0.6**
NOCI				AML	AML	19 07 47.0	
	comp=E,1.0nm,0.3s						
IGT	**Igoumenitsa**	**1.90**	**159**	Pn	**Pg**	**19 07 13.2**	**+0.5**
IGT				Sn	**Sg**	**19 07 37.5**	**+0.1**
IGT	**Igoumenitsa**	**1.90**	**159**	P	**Pb**	**19 07 10.5**	**-0.7**
IGT	**Igoumenitsa**	**1.90**	**159**	*i* Pn	**Pb**	**19 07 11.7**	**+0.5**
IGT	**Igoumenitsa**	**1.90**	**159**	*e*Pn	**Pg**	**19 07 13.0**	**+0.3**
IGT				*e*Sn	**Sg**	**19 07 37.3**	**-0.1**
UPM	**Unac-Piva**	**1.93**	**348**	*e*Pn	**Pb**	**19 07 10.5**	**-1.4**
UPM				*i* Sn	**Sb**	**19 07 36.1**	**-0.1**
KLINJ	**Klinje**	**1.96**	**341**	*e*Pn	**Pb**	**19 07 11.7**	**-0.7**
SJES	**Sjenica**	**1.98**	**11**	*e*Pn	**Pb**	**19 07 12.9**	**+0.2**
SJES				*e*Sn	**Sg**	**19 07 39.3**	**-0.7**
SELS	**Selova**	**2.27**	**32**	*e*Pn	**Pn**	**19 07 14.9**	**+0.8**
SELS				*e*Sn	**Sb**	**19 07 44.6**	**-1.1**
RUDO	**Rudo**	**2.30**	**358**	*e*Pn	**Pb**	**19 07 18.0**	**-0.1**
BARS	**Barje**	**2.31**	**49**	*i* Pn	**Pb**	**19 07 17.0**	**-1.2**
BARS				*i* Sn	**Sb**	**19 07 44.8**	**-2.1**
IVAS	**Ivanjica**	**2.32**	**13**	*e*Pn	**Pn**	**19 07 16.1**	**+1.3**
IVAS				*e*Sn	**Sb**	**19 07 46.0**	**-1.2**
TETR	**Tetrakomo, Epi**	**2.41**	**144**	P	**Pb**	**19 07 18.7**	**-1.2**
GOCS	**Kraljevo Serbi**	**2.48**	**24**	*e*Pn	**Pb**	**19 07 19.0**	**-2.1**
GOCS				*e*Sn	**Sb**	**19 07 49.7**	**-2.1**
BOSS	**Bosilegrad**	**2.54**	**61**	*e*Pn	**Pn**	**19 07 18.5**	**+0.6**
BOSS				*e*Sn	**Sn**	**19 07 49.6**	**+0.5**
BBLS	**Lazi&#263i**	**2.55**	**359**	*e*Pn	**Pb**	**19 07 21.9**	**-0.5**
BBLS				*e*Sn	**Sb**	**19 07 53.0**	**-0.9**
KNT	**Kendrikon**	**2.60**	**92**	*i* Pn	**Pn**	**19 07 20.0**	**+1.4**
KNT				*i* Sn	**Sn**	**19 07 50.5**	**+0.1**
LIT	**Litokhoron**	**2.60**	**117**	*i* Pn	**Pb**	**19 07 21.7**	**-1.6**
THL	**Klokotos Trika**	**2.62**	**131**	P	**Pn**	**19 07 21.0**	**+2.1**
TSLK	**Tsoukalades, L**	**2.65**	**159**	P	**Pn**	**19 07 20.5**	**+1.2**
TYRN	**Tyrnavos**	**2.65**	**126**	P	**Pb**	**19 07 21.6**	**-2.5**
LKD2	**Lefkada island**	**2.69**	**160**	Pn	**Pn**	**19 07 20.6**	**+0.8**
LKD2	**Lefkada island**	**2.69**	**160**	P	**Pn**	**19 07 20.8**	**+0.9**
GRUS	**Gruza**	**2.73**	**19**	*e*Pn	**Pb**	**19 07 22.9**	**-2.5**
GRUS				*e*Sn	**Sb**	**19 07 57.4**	**-1.7**
AMPL	**Ampelaki**	**2.74**	**150**	P	**Pn**	**19 07 22.4**	**+1.8**
NYDR	**Nydri-Lefkada**	**2.77**	**160**	P	**Pn**	**19 07 21.6**	**+0.7**
KKB	**Krupnik**	**2.80**	**78**	*i* Pn	**Pn**	**19 07 23.4**	**+1.9**
DIVS	**Divibare**	**2.81**	**8**	*e*Pn	**Pb**	**19 07 25.6**	**-1.2**
DIVS				*e*Sn	**Sn**	**19 07 57.6**	**+1.9**
SGRT	**San Giovanni R**	**2.83**	**280**	Pn	**Pn**	**19 07 21.7**	**-0.1**
SGRT				Sn	**Sn**	**19 07 54.7**	**-1.4**
BOVS	**Bovan**	**2.85**	**35**	⇑P	**Pb**	**19 07 24.8**	**-2.6**
BOVS	**Bovan**	**2.85**	**35**	*e*Pn	**Pb**	**19 07 24.9**	**-2.6**
BOVS				*e*Sn	**Sn**	**19 07 56.5**	**-0.1**
FSK	**Fiskardo**	**2.98**	**163**	P	**Pn**	**19 07 24.4**	**+0.7**
SOH	**Sokhos**	**2.98**	**98**	*i* Pn	**Pn**	**19 07 25.3**	**+1.4**
TRUS	**Trudelj**	**2.99**	**13**	*e*Pn	**Pn**	**19 07 25.6**	**+1.6**
ZAPS	**Zavoj**	**3.06**	**49**	*e*Pn	**Pn**	**19 07 26.7**	**+1.7**
ZAPS				*e*Sn	**Sn**	**19 08 03.1**	**+1.2**
SRS	**Serrai**	**3.12**	**92**	*i* Pn	**Pn**	**19 07 26.7**	**+0.9**
SRS				*i* Sn	**Sn**	**19 08 03.3**	**0.0**
SRS	**Serrai**	**3.12**	**92**	*e*Pn	**Pn**	**19 07 26.6**	**+0.8**
AGG	**Agios Georgios**	**3.17**	**135**	P	**Pn**	**19 07 28.7**	**+2.2**
ZAGS	**Zajecar**	**3.23**	**38**	*e*Pn	**Pn**	**19 07 28.8**	**+1.5**
ZAGS				*e*Sn	**Sn**	**19 08 06.8**	**+0.9**
MMB	**Musomishta**	**3.23**	**84**	*i* Pn	**Pn**	**19 07 28.7**	**+1.3**
MMB				*i* Sn	**Sn**	**19 08 06.0**	**-0.1**
VLS	**Valsamata**	**3.25**	**164**	P	**Pn**	**19 07 27.5**	**-0.1**
PSDA	**Pessada-Kefalo**	**3.31**	**164**	P	**Pn**	**19 07 28.7**	**+0.3**
KUBS	**Kucevo**	**3.50**	**27**	*e*Pn	**Pn**	**19 07 30.3**	**-0.7**
KUBS				*e*Sn	**Sn**	**19 08 12.4**	**-0.2**
KIJV	**Kijevo**	**3.51**	**321**	*e*Pn	**Pn**	**19 07 31.8**	**+0.7**
BLY	**Banja Luka**	**3.82**	**335**	*e*Pn	**Pb**	**19 07 39.6**	**-4.3**
MDVR	**Moldovita**	**3.84**	**25**	⇓P	**Pn**	**19 07 37.0**	**+1.3**
FRGS	**Fruska Gora**	**3.85**	**4**	*e*Pn	**Pn**	**19 07 38.1**	**+2.3**
VRSS	**Vrsac**	**4.04**	**19**	*e*Pn	**Pn**	**19 07 39.9**	**+1.4**
VRSS				*e*Sn	**Sn**	**19 08 27.0**	**+1.0**
BZS	**Buzias**	**4.58**	**19**	⇑P	**Pn**	**19 07 47.0**	**+1.2**
MOSL	**Moslavina**	**4.73**	**336**	*e*Pn	**Pn**	**19 07 47.9**	**0.0**
OZLJ	**Ozalj**	**5.19**	**327**	*e*Pn	**Pn**	**19 07 55.1**	**+0.9**
OZLJ				*e*Pn	**Pn**	**19 07 54.9**	**+0.7**
BRJN	**Brijuni**	**5.51**	**313**	*e*Pn	**Pn**	**19 07 58.7**	**+0.1**
VOIR		**5.79**	**43**	⇓P	Pn	19 08 07.3	+4.7

*GII **21** 19:08:46.2±0.0,29˚.729N±0˙.002×30˚.780E±0˙.001, h1km, Mws3.9,confirmed*
*HLW **21** 19:09:03.4,29˚.86N×31˚.86E,h23km±1km,Ml3.4*

ISC 21 19:09:03.5±1.1,**29˚92N**±0˙06×**31˚83E**±0˙04,**h25**km±8km, **n31,σ2s16/33,Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOT	**Kottamia**	**0.01**	**25**	P	**Pb**	**19 09 07.9**	**0.0**
HHAG	**Hagoal**	**0.24**	**83**	P	**Pb**	**19 09 08.9**	**-0.8**
HHAG				S	**Sb**	**19 09 13.5**	**-0.4**
HMYD	**Mayadein**	**0.90**	**262**	P	**Pn**	**19 09 20.4**	**-0.2**
ZNM	**Zenema**	**1.06**	**121**	P	**Pn**	**19 09 21.4**	**-1.5**
ZNM				S	**Sb**	**19 09 34.8**	**-2.0**
HNAT	**Natroun**	**1.09**	**255**	P	**Pb**	**19 09 23.0**	**-0.7**
NBNS	**Bani Suef**	**1.38**	**200**	P	**Pn**	**19 09 26.3**	**-0.9**
RYAN	**Fayoum**	**1.59**	**239**	P	**Pn**	**19 09 29.3**	**-0.8**
HKAT	**Jabal Katrina**	**2.35**	**126**	P	**Pn**	**19 09 38.9**	**-1.9**
TAMRE	**El Minia**	**2.37**	**200**	P	**Pn**	**19 09 39.7**	**-1.1**
KZIT	**Kziot**	**2.43**	**66**	P	**Pn**	**19 09 40.1**	**-1.5**
KZIT	**Kziot**	**2.43**	**66**	S	**Sb**	**19 10 19.6**	**+3.6**
KRMI	**Paran Flat**	**2.52**	**85**	P	**Pn**	**19 09 40.9**	**-2.0**
KRMI	**Paran Flat**	**2.52**	**85**	S	**Sb**	**19 10 22.9**	**+4.1**
RMNI	**Mount Ramon**	**2.63**	**74**	P	**Pn**	**19 09 42.5**	**-2.0**
HBST	**Basata**	**2.63**	**105**	P	**Pn**	**19 09 43.3**	**-1.0**
MBRI	**Mt Berech**	**2.69**	**92**	P	**Pn**	**19 09 43.4**	**-1.9**
MBRI	**Mt Berech**	**2.69**	**92**	S	**Sb**	**19 10 26.4**	**+2.9**
EIL	**Elat**	**2.73**	**95**	P	**Pn**	**19 09 43.8**	**-1.9**
EIL	**Elat**	**2.73**	**95**	S	**Sb**	**19 10 27.9**	**+3.2**
PRNI	**Paran**	**2.79**	**80**	P	**Pn**	**19 09 44.8**	**-1.8**
PRNI	**Paran**	**2.79**	**80**	S	**Sb**	**19 10 29.6**	**+3.3**
HRFI	**Mount Harif**	**2.79**	**87**	P	**Pn**	**19 09 44.8**	**-1.8**
HRFI	**Mount Harif**	**2.79**	**87**	S	**Sb**	**19 10 29.6**	**+3.2**
ZFRI	**Zfri**	**2.97**	**77**	P	**Pn**	**19 09 47.1**	**-1.9**
ZFRI	**Zfri**	**2.97**	**77**	S	**Sb**	**19 10 34.2**	**+2.7**
HHRG	**Al Ghardaqah**	**3.10**	**150**	P	**Pn**	**19 09 51.6**	**+0.7**
YTIR	**Yattir**	**3.18**	**62**	P	**Pn**	**19 09 50.2**	**-1.8**
GHAJ	**Ghor Haditha**	**3.50**	**66**	P	**Pn**	**19 09 54.7**	**-1.7**
SLTI	**Sal'it**	**3.60**	**49**	P	**Pn**	**19 09 55.9**	**-1.8**
HMDT	**Nahal Hemdat**	**3.93**	**53**	P	**P

MOVZ	Moawhango	7.34	219	P		Pn	19 36 40.8	-0.4
WNVZ	Wahianoa	7.37	220	P		Pn	19 36 41.2	-0.4
PNHZ	Pukenui	7.51	214	P		Pn	19 36 41.9	-1.6
TSZ	Takapari Road	7.74	214	P		Pn	19 36 45.1	-1.5
DVHZ	Dannevirke	7.84	212	P		Pn	19 36 46.0	-2.0
BFZ	Birch Farm	8.12	211	P		Pn	19 36 50.0	-1.8
BFZ	Birch Farm	8.12	211	P		Pn	19 36 48.9	-2.8
MRZ	Mangatainoka R	8.40	213	P		Pn	19 36 53.8	-1.8
TMWZ	Te Maipa	8.62	210	P		Pn	19 36 56.6	-2.1
PAWZ	Paruwai Farm	9.04	211	P		Pn	19 37 01.4	-3.1
MSWZ	Moikau Station	9.15	212	P		Pn	19 37 02.7	-3.2
CTZ	Chatham Island	10.02	173	Pn		Pn	19 37 17.7	-0.1
CTZ	Chatham Island	10.02	173	P		Pn	19 37 17.6	-0.1
THZ	Tophouse	10.54	218	P		Pn	19 37 22.4	-2.7
KHZ	Kahutara	10.72	214	P		Pn	19 37 25.9	-1.5
KHZ	Kahutara	10.72	214	P		Pn	19 37 24.2	-3.2
INZ	Inchbonnie	11.99	219	Pn		Pn	19 37 39.1	-5.6
RPZ	Rata Peaks	12.90	217	Pn		Pn	19 37 52.2	-5.0
	0.3nm,0.3s,baz=332,slow=23,SNR=1.6							
RPZ				Sn		Sn	19 40 07.6	-13
	2.1nm,0.3s,baz=101,slow=21,SNR=6.4							
JCZ	Jackson Bay	14.33	220	P		Pn	19 38 14.5	-2.3
DZM	Mont Dzumac	17.78	307	P		Pn	19 39 01.3	-0.3
DZM				IAmb		IAmb	19 39 26.3	
	comp=Z,39nm,1.3s							
DZM	Mont Dzumac	17.78	307	P		Pn	19 38 55.1	-6.5
	baz=81,slow=19,SNR=2.1							
	comp=Z,10nm,0.9s							
EIDS	Eidsvold	27.81	279	P		P	19 40 41.0	-2.3
EIDS				IAmb		IAmb	19 40 46.9	
	comp=Z,7.5nm,0.9s							
CTAO	Charters Tower	34.21	284	P		P	19 41 38.4	-1.4
INKA	Innaminka	35.50	269	P		P	19 41 49.7	-1.1
INKA				IAmb		IAmb	19 41 52.5	
	comp=Z,7.3nm,1.4s							
COEN	Coen	40.04	290	P		P	19 42 28.1	-1.2
COEN				IAmb		IAmb	19 42 32.6	
	comp=Z,9.0nm,1.0s							
AS31	Alice Springs	42.75	271			P	19 42 49.3	-2.3
ASAR	Alice Springs	42.75	271	P		P	19 42 48.9	-2.7
ASAR	Alice Springs	42.75	271	P		P	19 42 49.4	-2.2
	comp=Z,4.5nm,0.7s,baz=112,slow=7.3,SNR=60							
ASAR				PcP		PcP	19 44 41.5	-1.6
	comp=Z,1.0nm,0.7s,baz=118,slow=4.0,SNR=5.4							
	comp=Z,4.5nm,0.7s							
WRA	Warramunga Arr	44.04	276			P	19 42 59.4	-2.6
WRA	Warramunga Arr	44.04	276	P		P	19 42 59.8	-2.2
	comp=Z,4.0nm,0.6s,baz=118,slow=7.6,SNR=25							
WRA				PcP		PP	19 44 46.0	+1.4
	comp=Z,0.6nm,0.7s,baz=119,slow=2.9,SNR=2.5							
	comp=Z,4.0nm,0.6s							
WB0	Warramunga Arr	44.08	276			P	19 42 59.8	-2.5
WB0				IAmb		IAmb	19 43 00.8	
	comp=Z,11nm,1.0s							
CASY	Casey	52.03	209			P	19 44 03.2	0.0
FITZ	Fitzroy Crossi	52.15	273	P		P	19 44 02.6	-2.2
FITZ	Fitzroy Crossi	52.15	273	P		P	19 44 02.2	-2.5
	comp=Z,1.9nm,0.8s,baz=137,slow=6.0,SNR=2.7							
	comp=Z,1.9nm,0.8s							
QSPA	South Pole Qui	56.33	180	P		P	19 44 38.5	+3.8
QSPA	South Pole Qui	56.33	180	P		P	19 44 39.3	+4.6
	comp=Z,1.5nm,0.9s,baz=70,slow=2.7,SNR=11							
	comp=Z,1.5nm,0.9s							
MAW	Mawson	69.04	201	P		P	19 46 02.4	+3.1
	comp=Z,0.7nm,0.6s,baz=181,slow=9.5,SNR=2.1							
	comp=Z,0.7nm,0.6s							
TROLL	Troll, Antarti	74.49	180	⇑P		P	19 46 30.2	-2.0
	comp=Z,23nm,0.6s							
SNAA	Sanae	74.78	179	⇑P		P	19 46 43.9	+10
	comp=Z,29nm,0.7s							
SNAA	Sanae	74.78	179	P		P	19 46 37.8	+4.0
SNAA				IAmb		IAmb	19 46 54.9	
	comp=Z,2.4nm,1.0s							
SNAA	Sanae	74.78	179	P		P	19 46 38.0	+4.2
	comp=Z,0.6nm,0.8s,baz=329,slow=22,SNR=4.7							
	comp=Z,0.6nm,0.8s							
PETK	Petropavlovsk-	89.02	346	P		P	19 47 46.9	-1.5
	comp=Z,2.1nm,0.9s,baz=184,slow=6.0,SNR=1.5							
	comp=Z,2.1nm,0.9s							
PZH	PanZhiHua	96.61	297	P		P	19 48 25.6	+1.3
HHC	Hu-ho-hao-te	98.37	314	*eP*		P	19 48 32.8	+0.9
HHC				pmax		pmax		
	comp=Z,19nm,0.7s							
HHC				pmax		pmax		
	comp=Z,120nm,4.3s							
MKAR	Makanchi Array	119.69	309	PKP		PKPdf	19 53 42.4	-1.4
	comp=Z,0.2nm,0.6s,baz=114,slow=1.7,SNR=3.6							
KURBB	Kurchatov Arra	123.18	312	PKP		PKPdf	19 53 48.2	-2.1
	comp=Z,0.8nm,0.7s,baz=105,slow=2.0,SNR=10							
BVAR	Borovoye Array	128.58	314	PKP		PKPdf	19 53 58.7	-1.9
	comp=Z,1.0nm,0.7s,baz=188,slow=35,SNR=4.6							
FIA1	FINESS Array S	148.19	338	PKPdf		PKPdf	19 54 37.5	+1.6
FINES	FINESS Array B	148.19	338	PKPdf		PKPdf	19 54 37.8	+1.9
FINES	FINESS Array B	148.19	338	PKPbc		PKPdf	19 54 38.0	+2.1
	comp=Z,6.1nm,0.7s,baz=36,slow=4.0,SNR=29							
MMAI	Mount Meron Ar	151.89	278	PKPbc		PKPbc	19 54 49.1	-0.2
	comp=Z,3.4nm,0.6s,baz=98,slow=3.5,SNR=8.8							
NOA	NORSAR Array B	152.04	350	PKPbc		PKPbc	19 54 47.5	-1.2
	comp=Z,0.7nm,0.7s,baz=15,slow=4.6,SNR=6.5							
HFS	Hagfors	152.49	347	PKPbc		PKPdf	19 54 48.1	+5.4
	comp=Z,1.8nm,0.7s,baz=130,slow=4.6,SNR=3.9							
PABE	Paberze	153.33	331	PKPbc		PKPbc	19 54 51.1	-0.5
AKASG	Malin Array Be	153.73	318	PKPbc		PKPbc	19 54 51.0	-1.6
	comp=Z,0.7nm,0.6s,baz=62,slow=2.5,SNR=4.1							
BRTR	Keskin Array B	153.79	292	PKPbc		PKPbc	19 54 51.9	-1.5
BRTR	Keskin Array B	153.79	292	PKPbc		PKPbc	19 54 52.5	-0.9
	comp=Z,1.3nm,0.7s,baz=159,slow=3.9,SNR=6.0							
TORD	Torodi Ar. Bea	159.45	180	PKPab		PKPab	19 55 31.5	+0.7
	comp=Z,0.3nm,0.6s,baz=179,slow=2.9,SNR=2.7							

*IDC **21** 19:46:18.8±1.1,8.˚16S×130.˚79E, h0km, mb4.1/4, mbtmp4.1/8, ML3.9/4, Error ellipse: s-maj=36.3km s-min=20.4km az=80.0*

*NEIC **21** 19:46:21.4±1.2, 8.˚06S±0.˚07×130.˚56E±0.˚04, h10km±1km, mb4.3/8, Error ellipse: s-maj=12.6km s-min=6.4km az=351.0*

ISC 21 19:46:23.1±0.7,**8.˚23S**±0.˚06×**130.˚73E**±0.˚06,**h35**km,**n29,** σ**2**s**65**/35,**mb4.3/7,Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SAUI	Saumlaki	0.62	67				Pn	19 46 36.2	+0.9
SAUI							Sn	19 46 45.2	+1.2
MTN	Manton Dam	4.60	175				Pn	19 47 33.4	+3.1
MTN				Sn			Sn	19 48 28.8	+6.3
FAKI	Fak Fak	5.49	16				Pn	19 47 39.8	-2.5
SOEI	Soe	6.56	256	Pn			Pn	19 47 57.8	+0.6
BATI	Baumata	7.24	254	Pn			Pn	19 48 09.2	+2.6
	1.2nm,0.3s,baz=94,slow=23,SNR=2.6								
BATI				Sn			Sn	19 49 28.5	+0.9
	3.3nm,0.3s,baz=268,slow=20,SNR=2.3								
	20nm,0.8s								
KNRA	Kununurra	7.65	194				Pn	19 48 15.0	+3.0
FITZ	Fitzroy Crossi	10.99	206				Pn	19 48 57.6	-0.2
FITZ	Fitzroy Crossi	10.99	206	Pn			Pn	19 48 57.3	-0.5
	0.6nm,0.3s,baz=30,slow=11,SNR=19								
FITZ				Sn			Sn	19 50 53.9	-5.7
	0.7nm,0.3s,baz=200,slow=19,SNR=5.3								
	1.4nm,0.4s								
WB0	Warramunga Arr	12.01	163				Pn	19 49 10.7	-1.2
WRA	Warramunga Arr	12.16	164				Pn	19 49 11.2	-2.8
WRA	Warramunga Arr	12.16	164	Pn			Pn	19 49 13.2	-0.7
	0.9nm,0.3s,baz=347,slow=13,SNR=18								
WRA				Sn			Sn	19 51 24.9	-3.4
	0.8nm,0.3s,baz=336,slow=23,SNR=4.8								
	2.9nm,0.5s								
COEN	Coen	13.47	116	Pn			Pn	19 49 31.4	-0.5
AS31	Alice Springs	15.65	169				Pn	19 49 59.1	-2.0
ASAR	Alice Springs	15.65	169	Pn			Pn	19 49 59.1	-2.0
ASAR	Alice Springs	15.65	169	Pn			Pn	19 49 59.9	-1.3
	0.7nm,0.3s,baz=344,slow=9.5,SNR=51								
ASAR				Sn			Sn	19 52 46.3	-7.3
	0.2nm,0.3s,baz=208,slow=31,SNR=5.2								
	3.4nm,0.7s								
INKA	Innaminka	21.60	155	P			P	19 51 13.2	+3.3
FORT	Forrest	22.57	186	P			P	19 51 22.7	+2.2
FORT				IAmb			IAmb	19 51 25.2	
	comp=Z,5.8nm,0.8s								
BBOO	Buckleboo	24.96	169	P			P	19 51 45.5	+2.2
STKA	Stephens Creek	25.61	158	P			P	19 51 51.1	+1.8
STKA				IAmb			IAmb	19 51 55.2	
	comp=Z,23nm,1.1s								
STKA	Stephens Creek	25.61	158	P			P	19 51 51.5	+2.2
	comp=Z,3.3nm,1.1s,baz=322,slow=15,SNR=3.7								
	comp=Z,3.3nm,1.1s								
PEA0B	Petropavlovsk-	65.27	18	P			P	19 57 01.5	+0.4
PETK	Petropavlovsk-	65.27	18	P			P	19 57 01.7	+0.6
PETK	Petropavlovsk-	65.27	18	P			P	19 57 02.1	+0.9
	comp=Z,2.0nm,0.7s,baz=235,slow=4.4,SNR=4.1								
	comp=Z,2.0nm,0.7s								
MKAR	Makanchi Array	69.64	327	P			P	19 57 29.4	+0.5
MKAR	Makanchi Array	69.64	327	P			P	19 57 29.9	+0.9
	comp=Z,1.5nm,0.5s,baz=121,slow=7.6,SNR=20								
	comp=Z,1.5nm,0.5s								
MAKZ	Makanchi	69.82	327	P			P	19 57 30.6	+0.5
MAKZ				IAmb			IAmb	19 57 44.0	
	comp=Z,3.3nm,1.1s								
KURBB	Kurchatov Arra	73.93	328	P			P	19 57 55.1	+0.6
	comp=Z,0.7nm,0.6s,baz=131,slow=4.4,SNR=8.6								
	comp=Z,0.7nm,0.6s								
AB31	Akbulak array	83.91	322	P			P	19 58 49.9	+0.5
AB31				IAmb			IAmb	19 59 13.7	
	comp=Z,1.2nm,1.2s								
ABKAR	Akbulak array	83.91	322	P			P	19 58 49.9	+0.5

*IDC **21** 19:52:09.1±5.0, 8.˚37N×127.˚23E, h0km, mb3.5/3, mbtmp3.5/3, MS5.2/2, Error ellipse: s-maj=462.4km s-min=30.3km az=69.0*

ISC 21 19:52:14.8±1.7,**8.˚3N**±0.˚1×**127.˚1E**±0.˚3,**h39**km,**n8,** σ**0**s**95**/6, **mb3.6**/4,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
KAPI	Kappang	15.14	209	P			Pn	19 55 46.4	+0.3
JAY	Jayapura	17.30	128	LR			LR	20 01 44.3	
	comp=Z,7μm,21.0s,baz=256,slow=33								
JAGI	Jajag, Banyuwa	21.10	218	P			P	19 56 55.9	-0.3
LEM	Lembang	24.58	233	LR			LR	20 07 22.3	
	comp=Z,9μm,21.6s,baz=103,slow=37								
ASAR	Alice Springs	32.47	168	P			P	19 58 41.8	0.0
	156nm,0.6s,baz=351,slow=10,SNR=1.1								
MKAR	Makanchi Array	54.09	323	P			P	20 01 36.5	+0.8
	0.3nm,0.5s,baz=130,slow=7.0,SNR=4.2								
	0.3nm,0.5s								
ZALV	Zalesovo Beam	56.73	332	P			P	20 01 55.1	+0.5
	0.3nm,0.4s,baz=142,slow=7.3,SNR=1.7								
	0.3nm,0.4s								
KURBB	Kurchatov Arra	58.15	326	P			P	20 02 03.4	-1.3
	0.2nm,0.4s,baz=118,slow=7.2,SNR=2.3								
	0.2nm,0.4s								

*BJI **21** 19:53:06.9, 6.˚81S×130.˚67E, h59km, mB6.0/59, mb6.0/88, Ms5.4/70, Ms7 5.1/71*

*MOS **21** 19:53:09.6±1.0, 6.˚44S×130.˚36E, h52km, mb6.3/93, MS5.0/21, Error ellipse: s-maj=6.5km s-min=4.1km az=118.8*

*IPGP **21** 19:53:10.0, 6.˚51S×130.˚45E, h73km, Mw5.9, Fault plane solution: NP1:φs105.00000°, δ44.00000°, λ64.00000°. NP2:φs320.00000°, δ52.00000°, λ113.00000°.*

*NEIC **21** 19:53:11.2, 6.˚50S×130.˚43E, h50km*

*ISC-PP **21** 19:53:13, 6.˚46S×130.˚43E, h84km, Mwppsm6.2, Moment Tensor Solution. s49 Moment tensor: Scale 1018Nm; Mrr0.55±.15; Mθθ-0.12±.18; Mφφ-0.52±.20; Mrθ-0.36±.15; Mθφ0.20±.26; Mrφ0.20±.17; Fault plane solution: M0 2.57000×1018 NP1:φs318.50000°, δ62.50000°, λ72.10000°. NP2:φs173.40000°, δ32.40000°, λ120.50000°.*

*NEIC **21** 19:53:13.5, 6.˚46S×130.˚42E, h70km*

*NEIC **21** 19:53:13.5, 6.˚46S×130.˚52E, h70km, Moment Tensor Solution. Duration: 4s3 Moment tensor: Scale 1017Nm; Mrr7.61; Mθθ-6.72; Mφφ-0.89; Mrθ1.48; Mθφ3.36; Mrφ2.54; Fault plane solution: M0 8.48000×1017 NP1: φs313.43000°, δ47.30000°, λ117.76000°. NP2: φs95.60000°, δ49.43000°, λ63.21000°. Principal axes: T 8.6816, Plg70.0000°, Azm297.0000°; N -0.4217, Plg20.0000°, Azm114.0000°; P -8.2599, Plg1.0000°, Azm204.0000°;*

*NEIC **21** 19:53:13.4±1.9, 6.˚46S±0.˚05×130.˚43E±0.˚06, h65km±1km, mb6.1/180, Mwb5.8/43, Mww5.9/28 Error ellipse: s-maj=9.5km s-min=8.0km az=83.0, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr6.19; Mθθ-6.08; Mφφ-0.11; Mrθ0.93; Mθφ2.99; Mrφ2.34; Fault plane solution: M0 7.27000×1017 NP1:φs313.40000°, δ49.34000°, λ120.22000°. NP2:φs91.61000°, δ49.05000°, λ59.64000°. Principal axes: T 7.2272, Plg68.0000°, Azm292.0000°; N 0.0919, Plg22.0000°, Azm113.0000°; P -7.3191, Plg0.0000°, Azm23.0000°;*

*DJA **21** 19:53:14.8±0.1, 7.˚5±1.˚1×13.˚0E±.˚, h94km±2km, M5.9/152, mB6.3/132, mb6.1/152, MLv6.7/18, Mw5.9/158, Mw(mB)6.0/132, MwMwp5.7/103, Mwp5.8/103*

*IDC **21** 19:53:14.8±1.0, 6.˚47S×130.˚38E, h84km±8km, mb5.7/35, mbtmp6.0/39, MS4.9/46, Error ellipse: s-maj=9.4km s-min=7.8km az=77.0*

*GCMT **21** 19:53:15.4±0.1, 6.˚46S×130.˚50E, h88km, MW5.9/168, Moment Tensor Solution. s163, c354; s168, c491; Duration: 2s1 Moment tensor: Scale 1018Nm; Mrr0.70±.01; Mθθ-0.58±.01; Mφφ-0.12±.01; Mrθ0.05±.01; Mθφ0.46±.01; Mrφ0.24±.00; Best double couple: M0 0.83000×1018 NP1:φs102.00000°, δ45.00000°, λ61.00000°. NP2:φs321.00000°, δ52.00000°, λ116.00000°. Principal axes: T 0.7920, Plg70.0000°, Azm294.0000°; N 0.0770, Plg20.0000°, Azm124.0000°; P -0.8690, Plg3.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 21 19:53:12.5±0.3,**6.˚53S**±0.˚02×**130.˚48E**±0.˚03,**h73**km±2km, **h75**km:**pP-P, n1698,** σ**1**s**81**/1942,**mb6.1**/253,**93C-31D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SAUI	Saumlaki	1.66	151				Pn	19 53 42.1	+2.5
SAUI					Sn		Sn	19 54 02.2	+2.0
SAUI	Saumlaki	1.66	151	P			Pn	19 53 42.2	+2.6
SAUI	Saumlaki	1.66	151	S			Sn	19 54 02.1	+2.0
SAUI	Saumlaki	1.66	151	P			Pn	19 53 42.1	+2.5
SAUI				S			Sn	19 54 01.5	+1.3
BNDI	Bandanaira	2.08	344	P			Pn	19 53 48.5	+3.2
BNDI	Bandanaira	2.08	344	P			Pn	19 53 48.4	+3.2
BNDI				S			Sn	19 54 13.6	+3.4
MSAI	Masohi	3.52	334	P			Pn	19 54 08.7	+3.8
AAI	Ambon	3.63	321	P			Pn	19 54 09.5	+3.2
FAKI	Fak Fak	4.00	26				Pn	19 54 12.3	+0.9
FAKI					Sn		Sn	19 54 55.6	-1.5
FAKI	Fak Fak	4.00	26	P			Pn	19 54 13.0	+1.6
FAKI	Fak Fak	4.00	26	S			Sn	19 54 58.7	+1.6
FAKI	Fak Fak	4.00	26	P			Pn	19 54 12.5	+1.1
KMPI	Kaimana, Papua	4.30	49	P			Pn	19 54 16.8	+1.4
NLAI	Namlea	4.69	314	P			Pn	19 54 24.4	+3.6
SWI	Sorong	5.69	8	P			Pn	19 54 35.1	+0.7
DRS	Darwin Rock St	5.88	176	P			Pn	19 54 37.1	+0.1
DRS	Darwin Rock St	5.88	176	S			Sn	19 55 41.6	-1.4
RKPI	Ransiki, Papua	6.21	37	P			Pn	19 54 43.0	+1.5
MTN	Manton Dam	6.30	174				Pn	19 54 41.8	-1.0
MTN	Manton Dam	6.30	174	P			Pn	19 54 43.8	+0.9
MTN	Manton Dam	6.30	174	S			Sn	19 55 52.0	-1.5
SANI	Sanana	6.31	315	P			Pn	19 54 47.3	+4.3
SANI	Sanana	6.31	315	P			Pn	19 54 48.0	+5.0
SOEI	Soe	6.93	242				Pn	19 54 53.2	+1.6
SOEI					Sn		Sn	19 56 08.9	-0.1
SOEI	Soe	6.93	242	P			Pn	19 54 55.0	+3.4
SOEI	Soe	6.93	242	P			Pn	19 54 53.5	+1.9
SRPI	Serui, Papua	7.38	51	P			Pn	19 54 58.1	+0.5
	10nm30μm21μm2μm,0.9s								
BATI	Baumata	7.67	241	P			Pn	19 55 03.4	+1.8
	1μm,0.4s,baz=102,slow=2.1,SNR=191								
BATI				S			Sn	19 56 29.5	+2.5
	15μm,0.9s,baz=113,slow=22,SNR=14								
BATI	Baumata	7.67	241	P			Pn	19 55 03.2	+1.7
BAKI	Biak	7.72	47	P			Pn	19 55 04.7	+2.4
TNTI	Ternate	7.89	337				Pn	19 55 06.6	+2.0
TNTI	Ternate	7.89	337	P			Pn	19 55 08.1	+3.5
TNTI	Ternate	7.89	337	P			Pn	19 55 07.5	+2.9
	1μm,1.0s								
BBSI	Bau Bau	7.93	277	P			Pn	19 55 11.4	+6.3
MMRI	Maumere	8.43	255				Pn	19 55 13.9	+1.9
MMRI	Maumere	8.43	255	P			Pn	19 55 16.1	+4.1
MMRI	Maumere	8.43	255	P			Pn	19 55 14.6	+2.6
	33μm37μm3μm,1.2s								

EDFI	Ende, Flores	8.98	255	P		Pn	19 55 21.9	+2.3
	33μm14μm875nm,0.8s							
KNRA	Kununurra	9.24	190			Pn	19 55 20.8	-2.2
SMPI	Sarmi	9.37	62	P		Pn	19 55 25.9	+1.2
	39μm24μm2μm,0.9s							
LUWI	Luwuk	9.43	305	Pn		Pn	19 55 30.7	+5.2
LUWI	Luwuk	9.43	305	P		Pn	19 55 30.9	+5.4
	18μm34μm3μm,1.5s							
KMSI	Cibinong	9.59	317	P		Pn	19 55 31.6	+3.9
BSSI	Bau Bau, Buton	9.93	272	P		Pn	19 55 36.8	+4.3
	20nm37μm4μm,1.2s							
MMPI	Merauke	10.01	102	P		Pn	19 55 34.7	+1.2
BKSI	Bulukumba	10.37	276	P		Pn	19 55 42.5	+4.1
	19μm24μm1μm,1.0s							
GENI	Genyem	10.42	68	P		Pn	19 55 41.1	+2.0
GENI	Genyem	10.42	68	S		Sn	19 57 35.4	+1.1
GENI	Genyem	10.42	68	P		Pn	19 55 39.7	+0.6
	32μm29μm3μm,1.0s							
APSI	Ampana	10.43	302	P		Pn	19 55 45.5	+6.3
	4μm,1.6s							
BASI	Baing, Sumba	10.46	249	P		Pn	19 55 41.0	+1.4
	36μm2μm,0.7s							
BNSI	Bone	10.54	281	P		Pn	19 55 44.8	+4.1
	23μm20μm2μm,1.4s							
WSI	Waingapu	10.55	252	P		Pn	19 55 41.6	+0.7
TABU	Tabubil	10.76	84	P		Pn	19 55 44.6	+0.8
KAPI	Kappang	10.78	277			Pn	19 55 47.1	+3.1
KAPI	Kappang	10.78	277	P		Pn	19 55 47.5	+3.5
	812nm,1.2s,baz=176,slow=7.6,SNR=31							
KAPI				LR		LR	20 00 10.1	
	comp=Z,6μm,20.6s,baz=96,slow=39							
KAPI	Kappang	10.78	277	P		Pn	19 55 44.0	0.0
JAY	Jayapura	10.95	69	P		Pn	19 55 48.3	+1.9
	840nm,0.7s,baz=275,slow=8.1,SNR=135							
JAY				S		Sn	19 57 42.4	-4.8
	546nm,0.8s,baz=106,slow=23,SNR=6.1							
JAY	Jayapura	10.95	69	P		Pn	19 55 46.0	-0.4
	15μm1μm,0.8s							
SPSI	Sidrap Palu	10.96	283	P		Pn	19 55 50.7	+4.2
	18μm11μm1μm,1.1s							
MRSI	Marisa	11.00	309	P		Pn	19 55 51.9	+4.8
SGSI	Sangihe	11.29	334	P		Pn	19 55 52.6	+1.6
	21μm14μm2μm,0.8s							
WBSI	Waikabubak, Su	11.40	254	P		Pn	19 55 51.9	-0.7
	24μm18μm2μm,0.8s							
TOLI2	Tolitoli	12.30	308			Pn	19 56 07.7	+2.9
TOLI2	Tolitoli	12.30	308	P		Pn	19 56 08.8	+4.0
FITZ	Fitzroy Crossi	12.43	202			Pn	19 56 02.1	-4.4
FITZ	Fitzroy Crossi	12.43	202	P		Pn	19 56 03.6	-2.8
	2μm,0.6s,baz=24,slow=7.9,SNR=485							
FITZ				S		Sn	19 58 10.2	-13
	7μm,0.9s,baz=107,slow=14,SNR=11							
FITZ				LR		LR	20 01 41.0	
	comp=Z,15μm,18.6s,baz=23,slow=41							
MPSI	Mapaga	12.57	302	P		Pn	19 56 12.8	+4.3
PLAI	Plampang	12.79	259	P		Pn	19 56 11.6	+0.1
PLAI	Plampang	12.79	259	S		Sn	19 58 32.3	+0.2
PLAI	Plampang	12.79	259	P		Pn	19 56 10.9	-0.6
	18μm12μm1μm,0.8s							
TWSI	Taliwang, Sumb	13.65	260	P		Pn	19 56 23.7	+0.8
	17μm6μm521nm,0.8s							
WRA	Warramunga Arr	13.85	165			Pn	19 56 19.8	-5.7
WRA	Warramunga Arr	13.85	165	P		Pn	19 56 21.1	-4.3
	336nm,0.7s,baz=342,slow=13,SNR=218							
WRA				S		Sn	19 58 45.7	-12
	4μm,1.0s,baz=347,slow=22,SNR=15							
WRA				LR		LR	20 02 31.6	
	comp=Z,21μm,19.5s,baz=344,slow=40							
WRA				P3KPbc			20 32 06.2	
	0.7nm,0.5s,baz=169,slow=2.9,SNR=8.3							
WRA	Warramunga Arr	13.85	165	P		Pn	19 56 19.8	-5.7
DAV	Davao City (W)	14.37	340			Pn	19 56 32.1	-0.2
DAV	Davao City (W)	14.37	340	P		Pn	19 56 34.2	+1.9
	142nm,0.4s,baz=67,slow=12,SNR=6.5							
DAV				LR		LR	20 02 35.2	
	comp=Z,6μm,21.4s,baz=108,slow=39							
DAV	Davao City (W)	14.37	340	P		Pn	19 56 34.2	+1.9
DAV	Davao City (W)	14.37	340	P		Pn	19 56 33.0	+0.7
COEN	Coen	14.50	122			Pn	19 56 32.2	-1.9
COEN	Coen	14.50	122	P		Pn	19 56 32.1	-1.9
BKB	Balikpapan	14.52	291			Pn	19 56 34.7	+0.4
BKB	Balikpapan	14.52	291	P		P	19 56 37.0	-1.9
BKB	Balikpapan	14.52	291	P		P	19 56 40.4	+1.5
	2μm,1.1s							
SMKI	Samar

CTAO Charters Tower 20.40 133 P P 19 57 44.6 +1.0
CTAO pmax pmax
comp=Z,562nm,1.0s
KPJI Karang Pucung 21.40 267 P P 19 57 52.6 -1.8
comp=Z,13µmcomp=Z,9µmcomp=Z,776nm,1.1s
KSM Kuching 21.65 291 P P 19 57 57.2 +0.1
KSM Kuching 21.65 291 P P 19 57 58.7 +1.7
RABL Rabaul 21.71 85 P P 19 57 59.1 +1.3
JCJI Jatiwangi 22.07 269 P P 19 58 01.7 +0.2
comp=Z,12µmcomp=Z,22µmcomp=Z,1µm,1.0s
GIRL Giralia 22.40 223 P P 19 58 06.1 +1.0
GIRL IAmb IAmb 19 58 30.4
comp=Z,1µm,1.2s
TGY Tagaytay City 22.58 335 P P 19 58 08.3 +1.2
comp=Z,5µm,0.9s,baz=243,slow=1.7,SNR=63
TGY LR LR 20 08 13.0
comp=Z,2µm,21.2s,baz=156,slow=40
BBJI Bungbulang 22.68 266 P P 19 58 06.5 -1.7
LEM Lembang 22.71 268 P P 19 58 07.9 -0.7
comp=Z,502nm,0.7s,baz=65,slow=9.2,SNR=68
comp=Z,502nm,0.7s
LEM Lembang 22.71 268 P P 19 58 06.6 -2.0
comp=Z,12µmcomp=Z,14µmcomp=Z,871nm,1.1s
MEEK Meekatharra 22.97 208 P P 19 58 11.2 +0.2
TPI Tanjungpandan 23.05 278 P P 19 58 11.6 -0.3
comp=Z,12µmcomp=Z,12µmcomp=Z,786nm,1.3s
INKA Innaminka 23.23 156 P P 19 58 13.9 +0.4
DBJI Dramaga 23.57 269 P P 19 58 14.8 -2.0
comp=Z,12µmcomp=Z,9µmcomp=Z,678nm,1.4s
QLP Quilpie 23.86 148 P P 19 58 19.9 +0.7
SBJI Serang 24.20 270 P P 19 58 21.9 -0.5
comp=Z,7µmcomp=Z,571nm,0.9s
FORT Forrest 24.23 185 P P 19 58 22.9 +0.4
FORT IAmb IAmb 19 58 56.8
comp=Z,740nm,0.7s
GUMO Guam 24.57 36 P P 19 58 26.4 +0.7
GUMO Guam 24.57 36 P P 19 58 26.5 +0.7
GUMO Guam 24.57 36 P P 19 58 26.4 +0.7
GUMO pmax pmax
comp=Z,2µm,1.2s
PPBI Pangkal Pinang 24.65 279 P P 19 58 29.2 +2.7
BLSI Bandar Lampung 25.12 271 P P 19 58 30.2 -0.6
KLI Kotabumi 25.55 272 P P 19 58 35.0 +0.3
comp=Z,8µmcomp=Z,7µmcomp=Z,393nm,0.9s
KASI Kota Agung 25.86 271 P P 19 58 36.4 -1.1
comp=Z,206nm,0.9s
PMBI Palembang 25.86 277 P P 19 58 39.0 +1.5
PMBI Palembang 25.86 277 P P 19 58 39.9 +2.4
MORW Morawa 26.24 210 P P 19 58 41.4 +0.7
MORW IAmb IAmb 19 59 16.8
comp=Z,623nm,0.9s
MORW Morawa 26.24 210 P P 19 58 41.0 +0.3
MDSI Maura Dua 26.25 273 P P 19 58 41.2 +0.1
comp=Z,8µmcomp=Z,214nm,1.2s
LWLI Liwa 26.33 272 P P 19 58 41.4 -0.5
comp=Z,7µmcomp=Z,4µmcomp=Z,525nm,1.0s
DSRI Dabo 26.53 282 P P 19 58 43.9 +0.3
comp=Z,7µmcomp=Z,5µmcomp=Z,188nm,1.0s
BBOO Buckleboo 26.66 169 P P 19 58 44.9 +0.4
BBOO IAmb IAmb 19 59 20.5
comp=Z,804nm,0.9s
BBOO Buckleboo 26.66 169 P P 19 58 45.0 +0.5
TPRI Tanjung Pinang 26.94 285 P P 19 58 47.4 +0.2
comp=Z,8µmcomp=Z,4µmcomp=Z,301nm,0.9s
LHSI Lahat 26.98 274 P P 19 58 48.9 +1.3
comp=Z,8µmcomp=Z,6µmcomp=Z,528nm,1.0s
WHYH Whyalla 27.18 167 P P 19 58 49.8 +0.7
EIDS Eidsvold 27.18 136 P P 19 58 49.5 +0.2
EIDS Eidsvold 27.18 136 P P 19 58 50.1 +0.8
BLDU Ballidu 27.22 207 P P 19 58 49.9 +0.3
STKA Stephens Creek 27.27 159 P P 19 58 50.7 +0.7
STKA Stephens Creek 27.27 159 P P 19 58 50.9 +0.9
comp=Z,131nm,0.7s,baz=332,slow=8.9,SNR=209
STKA S **S** **20 03 32.5 +8.3**
comp=Z,110nm,0.9s,baz=68,slow=12,SNR=2.5
STKA LR LR 20 11 05.5
comp=Z,10µm,18.5s,baz=330,slow=39
STKA P3KPbc 20 31 16.6
comp=Z,3.9nm,1.1s,baz=230,slow=6.0,SNR=4.2
comp=Z,131nm,0.7s
STKA Stephens Creek 27.27 159 P P 19 58 50.6 +0.7
STKA Stephens Creek 27.27 159 P P 19 58 50.7 +0.7
STKA pmax pmax
comp=Z,2µm,1.0s
MNAI Manna 27.48 273 P P 19 58 51.6 -0.5
MNAI IAmb IAmb 19 59 02.1
comp=Z,409nm,1.0s
MNAI Manna 27.48 273 P P 19 58 52.4 +0.3
MNAI Manna 27.48 273 P P 19 58 53.2 +1.1
comp=Z,13µmcomp=Z,483nm,1.0s
MYKOM Kota Tinggi 27.84 286 P P 19 58 55.2 0.0
MYKOM IAmb IAmb 19 59 01.1
comp=Z,880nm,1.6s
MYKOM Kota Tinggi 27.84 286 P P 19 58 55.7 +0.4
HTT Hallett 27.89 165 P P 19 58 56.0 +0.4
KSI Kapahiang 27.92 275 P P 19 58 55.1 -1.0
comp=Z,5µmcomp=Z,311nm,1.4s
MASI Maura Aman, Be 28.33 275 P P 19 58 59.9 +0.1
comp=Z,5µmcomp=Z,366nm,1.1s
DLV Lat 28.55 310 P P 19 59 01.6 -0.2
DLV IAmb IAmb 19 59 04.0
comp=Z,588nm,1.5s
DLV Lat 28.55 310 P P 19 59 02.4 +0.6
DLV Lat 28.55 310 P P 19 59 03.0 +1.2
comp=Z,7µmcomp=Z,5µmcomp=Z,246nm,1.7s
MUN Mundaring 28.61 206 P P 19 59 02.3 +0.4
CMSA Cobar Meteorol 28.66 152 P P 19 59 03.2 +0.8
NWAO Narrogin (SRO) 29.01 203 P P 19 59 06.5 +1.0
NWAO IAmb IAmb 19 59 53.3
comp=Z,321nm,0.9s
NWAO Narrogin (SRO) 29.01 203 P P 19 59 06.5 +1.0
comp=Z,114nm,0.9s,baz=29,slow=9.3,SNR=34
NWAO LR LR 20 11 49.5
comp=Z,9µm,20.2s,baz=18,slow=38
comp=Z,114nm,0.9s
NWAO Narrogin (SRO) 29.01 203 P P 19 59 05.8 +0.3
TATA Tatamba Isabel 29.13 95 P P 19 59 07.3 +0.5
KRJI Kerinci 29.26 277 P P 19 59 07.1 -0.9
comp=Z,8µmcomp=Z,9µmcomp=Z,682nm,1.0s
HNR Honiara 29.32 98 P P 19 59 08.9 +0.5
HNR Honiara 29.32 98 LR LR 20 12 35.3
comp=Z,3µm,18.8s,baz=262,slow=39
HNR Honiara 29.32 98 P P 19 59 08.9 +0.5
HNR pmax pmax
comp=Z,755nm,0.9s
NGOA Tingoa Renbel 29.63 102 P P 19 59 12.2 +1.0
ALEG Aligegeo Malai 30.03 96 P P 19 59 14.3 -0.4
BKNI Bangkinang 30.16 282 P P 19 59 15.4 -0.5
BKNI IAmb IAmb 19 59 19.7
comp=Z,533nm,0.9s
BKNI Bangkinang 30.16 282 P P 19 59 16.1 +0.2
comp=Z,6µmcomp=Z,6µmcomp=Z,694nm,1.1s
PDSI Padang 30.46 279 P P 19 59 17.1 -1.4
comp=Z,6µmcomp=Z,4µmcomp=Z,295nm,1.2s
TWGBT Beinan 30.59 343 P P 19 59 17.4 -2.1
TWG Pinlang 30.59 343 P P 19 59 17.4 -2.1
PPI Padang Panjang 30.61 280 P P 19 59 18.6 -1.3
comp=Z,738nm,1.6s
PATS Pohnpei 30.78 65 P P 19 59 22.9 +1.5
PATS IAmb IAmb 20 00 07.9
comp=Z,315nm,1.0s
PATS Pohnpei 30.78 65 P P 19 59 22.9 +1.5
ARMA Armidale 30.97 143 P P 19 59 23.3 +0.3
ARMA Armidale 30.97 143 P P 19 59 25.1 +2.1
YULB Yu-li 31.07 343 P P 19 59 22.2 -1.5
YULB Yu-li 31.07 343 P P 19 59 21.4 -2.3
TPUB Ta-pu 31.17 342 P P 19 59 23.4 -1.3
TPUB Ta-pu 31.17 342 P P 19 59 24.1 -0.6
HURO Huro Makira 31.31 99 P P 19 59 27.0 +0.9
IPM Ipoh 31.37 290 P P 19 59 26.1 -0.5
IPM Ipoh 31.37 290 P P 19 59 26.4 -0.2
SSLB Suanglung 31.54 343 P P 19 59 26.9 -1.0
MNSI Mandailing Nat 31.69 282 P P 19 59 28.6 -0.7
comp=Z,5µmcomp=Z,6µmcomp=Z,635nm,0.8s
NACB Ninganchiao 31.73 344 P P 19 59 30.5 +1.0
SISI Saibi 31.73 278 P P 19 59 29.2 -0.5
H01W3 Cape Leeuwin H 31.98 206 P P 19 59 33.1 +1.7
baz=38,slow=6.2,SNR=79
H01W1 Cape Leeuwin H 31.98 206 P P 19 59 33.1 +1.7
baz=38,slow=6.2,SNR=47
H01W2 Cape Leeuwin H 32.00 206 P P 19 59 32.1 +0.6
baz=38,slow=6.2,SNR=48
KULM Kulim 32.01 291 P P 19 59 31.7 -0.5
KULM Kulim 32.01 291 P P 19 59 31.5 -0.6
YHNB Yeheng 32.26 344 P P 19 59 34.0 -0.3

MGBR Mount Gambier 32.38 165 P P 19 59 37.1 +2.0
TATO Taipei 32.52 345 P P 19 59 35.6 -0.8
TATO IAmb IAmb 20 00 19.1
comp=Z,536nm,1.6s
TATO PcP **PcP** **20 02 23.0 +1.1**
QIZ Qiongzhong 32.54 322 P P 19 59 36.8 0.0
QIZ IAmb IAmb 19 59 40.5
comp=Z,367nm,1.0s
QIZ Qiongzhong 32.54 322 P P 19 59 37.1 +0.4
QIZ S **S** **20 04 43.8 -3.1**
QIZ pmax pmax
comp=Z,310nm,1.1s
QIZ pmax pmax
comp=Z,2µm,3.2s
QIZ LR LR
comp=Z,3µm,17.3s
QIZ LR LR
comp=Z,2µm,18.4s
QIZ LR LR
comp=Z,3µm,17.8s
QIZ Qiongzhong 32.54 322 P P 19 59 37.6 +0.9
MGCD Mangrove Creek 32.74 147 P P 19 59 41.1 +2.8
PBSI Pulau Batu 32.77 280 P P 19 59 39.1 +0.3
comp=Z,344nm,1.1s
HKPS Hong Kong Po S 32.80 331 P P 19 59 38.7 -0.2
HKPS Hong Kong Po S 32.80 331 P P 19 59 39.7 +0.7
RPSI Rantau Prapat 32.81 285 P P 19 59 37.7 -1.5
RPSI IAmb IAmb 19 59 46.5
comp=Z,322nm,0.8s
PSI Prapat 32.84 285 P P 19 59 38.2 -1.4
comp=Z,162nm,0.8s,baz=90,slow=2.3,SNR=75
PSI LR LR 20 13 12.8
comp=Z,5µm,21.9s,baz=122,slow=37
comp=Z,162nm,0.8s
PSI Prapat 32.84 285 P P 19 59 38.7 -0.9
PSI Prapat 32.84 285 P P 19 59 37.7 -1.9
PSI pmax pmax
comp=Z,322nm,0.8s
BRAT Ballarat 33.22 160 P P 19 59 44.6 +2.2
JOW Kunigami 33.24 356 P P 19 59 43.2 +0.6
JOW IAmb IAmb 20 00 15.8
comp=Z,323nm,0.9s
JOW Kunigami 33.24 356 LR LR 20 11 26.9
comp=Z,3µm,22.0s,baz=166,slow=33
JOW Kunigami 33.24 356 P P 19 59 44.5 +1.8
CAN Canberra 33.33 152 P P 19 59 45.4 +1.8
CAN IAmb IAmb 19 59 47.0
comp=Z,369nm,0.9s
CAN Canberra 33.33 152 P P 19 59 45.3 +1.8
CAN Canberra 33.33 152 P P 19 59 45.4 +1.8
CAN pmax pmax
comp=Z,369nm,0.9s
QZH Quanzhou 33.36 340 P P 19 59 44.8 +1.0
QZH S **S** **20 04 58.6 -0.9**
QZH pmax pmax
comp=Z,190nm,0.8s
QZH LR LR
comp=Z,3µm,22.6s
TSI Tuntungan 33.38 286 P P 19 59 42.7 -1.5
comp=Z,4µmcomp=Z,310nm,0.9s
CNB Canberra Magne 33.50 151 P P 19 59 46.7 +1.7
GSI Gunungsitoli 33.75 282 P P 19 59 45.4 -2.0
GSI PcP **PcP** **20 02 27.3 +1.7**
GSI Gunungsitoli 33.75 282 P P 19 59 46.1 -1.3
GSI Gunungsitoli 33.75 282 P P 19 59 45.0 -2.4
comp=Z,7µmcomp=Z,574nm,1.0s
TOO Toolangi 33.78 158 P P 19 59 48.8 +1.4
TOO Toolangi 33.78 158 P P 19 59 48.8 +1.4
TOO pmax pmax
comp=Z,70nm,1.0s
KCSI Kotacane, Aceh 34.15 286 P P 19 59 47.7 -3.1
SURA Surathani 34.47 297 P P 19 59 54.3 +0.7
SURA Surathani 34.47 297 P P 19 59 52.6 -1.0
PANO Nakornpanom 34.75 313 P P 19 59 56.7 +0.8
comp=Z,275nmcomp=Z,7µmcomp=Z,844nm,0.9s
SNSI Sinabang, Aceh 35.23 284 P P 20 00 00.5 +0.3
comp=Z,6µmcomp=Z,389nm,1.6s
JCJ Chichijima 35.30 18 P P 19 59 59.9 -0.6
LHMI Lhok Sumawe 35.45 288 P P 20 00 00.9 -1.2
LHMI Lhok Sumawe 35.45 288 P P 20 00 01.8 -0.3
LHMI Lhok Sumawe 35.45 288 P P 20 00 00.9 -1.2
comp=Z,6µmcomp=Z,8µmcomp=Z,682nm,0.8s
KHON Khomkaen 35.57 310 P P 20 00 04.3 +1.3
comp=Z,3µmcomp=Z,358nm,0.9s
RNTT Ranong 35.59 296 P P 20 00 03.7 +0.4
MLSI Meulaboh, Aceh 35.67 287 P P 20 00 01.7 -2.2
PHET Kaeng Krachan 36.23 302 P P 20 00 09.5 +0.8
comp=Z,146nm,0.8s
SANVU Saraoutou 37.07 107 P P 20 00 17.4 +1.5
SANVU Saraoutou 37.07 107 P P 20 00 17.0 +1.1
SANVU Saraoutou 37.07 107 P P 20 00 17.6 +1.8
UTHA Uthaitani 37.77 306 P P 20 00 22.6 +0.8
comp=Z,2µmcomp=Z,231nm,0.7s
DZM Mont Dzumac 37.98 118 *e*P **P 20 00 23.9 +0.3**
comp=Z,382nm,1.1s
DZM Mont Dzumac 37.98 118 *e*PP **PP 20 01 49.9 -1.8**
comp=Z,414nm,25.6s
DZM *e*S **S** **20 06 12.1 +1.3**
comp=Z,1µm,23.1s
DZM *e*SS **SnSn** **20 08 58.1 -1.6**
comp=Z,3µm,27.3s
DZM *e*LR LR 20 10 38.4
comp=Z,7µm,31.1s
DZM Mont Dzumac 37.98 118 P **P 20 00 24.9 +1.2**
DZM Mont Dzumac 37.98 118 LR LR 20 17 17.2
comp=Z,3µm,18.8s,baz=288,slow=38
DZM Mont Dzumac 37.98 118 P P 20 00 24.8 +1.2
SLVN Son La 38.04 317 P P 20 00 24.6 +0.6
SLVN IAmb IAmb 20 00 28.4
comp=Z,234nm,0.8s
SLVN Son La 38.04 317 P P 20 00 25.3 +1.3
ONTNC Ouen Toro 38.07 118 P P 20 00 25.4 +1.1
ONTNC IAmb IAmb 20 01 10.4
comp=Z,370nm,1.2s
YATNC Mamie plateau, 38.38 117 P P 20 00 29.2 +2.4
OUENC Ouen Island, N 38.44 118 P P 20 00 29.1 +1.7
CNSH ChangSha 38.45 335 P P 20 00 27.3 +0.1
CNSH S **S** **20 06 15.3 -1.9**
CNSH pmax pmax
comp=Z,110nm,1.0s
CNSH LR LR
comp=Z,3µm,19.2s
CNSH LR LR
comp=Z,3µm,12.4s
CNSH LR LR
comp=Z,4µm,15.5s
MOO Moorlands 38.70 160 P P 20 00 31.3 +2.0
PINNC Pines Island, 39.04 118 P P 20 00 33.9 +1.6
PINNC IAmb IAmb 20 01 02.1
comp=Z,345nm,1.0s
TAU Tasmania Unive 39.16 160 P P 20 00 34.2 +1.1
TAU Tasmania Unive 39.16 160 P P 20 00 35.7 +2.6
TAU Tasmania Unive 39.16 160 P P 20 00 34.2 +1.1
TAU pmax pmax
comp=Z,227nm,1.3s
JNU Nakatsue 39.44 1 P P 20 00 35.3 -0.2
JNU IAmb IAmb 20 00 37.5
comp=Z,265nm,0.9s
JNU Nakatsue 39.44 1 P P 20 00 36.2 +0.7
CM31 Chiang Mai Arr 39.80 309 P P 20 00 39.4 +0.7
CM31 Chiang Mai Arr 39.80 309 P P 20 00 40.0 +1.3
SNR=247
CMAR Chiang Mai Arr 39.80 309 P P 20 00 39.2 +0.4
CMAR Chiang Mai Arr 39.80 309 P P 20 00 40.4 +1.7
comp=Z,229nm,0.7s,baz=138,slow=7.4,SNR=1434
CMAR PcP **PcP** **20 02 45.6 +1.9**
comp=Z,37nm,0.8s,baz=150,slow=2.9,SNR=5.4
CMAR PKiKP **PKiKP** **20 09 55.3 +0.1**
comp=Z,3.4nm,0.7s,baz=204,slow=1.1,SNR=7.1
CMAR LR LR 20 19 26.1
comp=Z,1µm,20.7s,baz=115,slow=40
CMAR P3KP 20 31 58.6
comp=Z,0.6nm,0.6s,baz=274,slow=9.0,SNR=5.1
comp=Z,229nm,0.7s
NJ2 Nanjing 39.94 345 ⇑P **P 20 00 41.0 +1.4**
NJ2 pP **pP** **20 00 51.0 -5.1**
NJ2 sP **pwP** **20 01 00.9 -1.1**
NJ2 pmax pmax
comp=Z,170nm,1.1s
NJ2 pmax pmax
comp=Z,2µm,4.4s
WHN Wuhan 39.98 338 ⇑*i*P **P 20 00 41.3 +1.3**
WHN sP **sP** **20 01 07.1 +2.0**
WHN PcP **PcP** **20 02 46.8 +2.8**
WHN ScP **ScP** **20 06 25.9 -0.8**

WHN S **S** **20 06 37.8 -2.3**
WHN pmax pmax
comp=Z,780nm,0.8s
WHN LR LR
comp=Z,13µm,37.1s
CHTO Chiang Mai 40.01 310 P P 20 00 40.8 +0.4
CHTO Chiang Mai 40.01 310 P P 20 00 41.2 +0.7
CHTO Chiang Mai 40.01 310 P P 20 00 40.8 +0.4
CHTO pmax pmax
comp=Z,665nm,0.8s
CHTO Chiang Mai 40.01 310 P P 20 00 41.1 +0.6
comp=Z,5µmcomp=Z,9µmcomp=Z,910nm,1.4s
CHTO Chiang Mai 40.01 310 P P 20 00 41.3 +0.9
GYA Guiyang 40.11 326 ⇑P **P 20 00 41.8 +0.5**
GYA pP pP 20 00 54.4 -3.9
GYA PcP **PcP** **20 02 45.1 +0.4**
GYA S **S** **20 06 37.1 -5.5**
GYA SS **SS** **20 09 39.3 -3.7**
GYA pmax pmax
comp=Z,240nm,1.2s
GYA pmax pmax
comp=Z,1µm,5.0s
GYA LR LR
comp=Z,2µm,21.2s
JMN Monobe 40.17 4 P P 20 00 42.7 +1.1
JMN IAmb IAmb 20 00 44.3
comp=Z,257nm,0.8s
JMN Monobe 40.17 4 P P 20 00 43.0 +1.4
JHJ Hachijo jima 2 40.41 12 LR LR 20 14 09.4
comp=Z,3µm,21.2s,baz=185,slow=31
KMI Kunming 41.46 320 ⇑P **P 20 00 53.8 +1.3**
KMI PP **PnPn** **20 02 36.5 +1.5**
KMI ScP **ScP** **20 06 33.0 0.0**
KMI S **S** **20 06 54.8 -8.0**
KMI pmax pmax
comp=Z,440nm,0.8s
KMI pmax pmax
comp=Z,2µm,5.0s
KMI LR LR
comp=Z,820nm,15.5s
KMI LR LR
comp=Z,2µm,19.1s
KMI LR LR
comp=Z,2µm,19.5s
PBA Port Blair 41.66 296 P P 20 00 53.1 -0.9
PBA Port Blair 41.66 296 *e*P **P 20 00 50.4 -3.7**
ENH Enshi 41.77 332 P 20 00 54.9 +0.1
ENH IAmb IAmb 20 00 56.3
comp=Z,200nm,0.7s
ENH Enshi 41.77 332 P P 20 00 55.1 +0.4
ENH Enshi 41.77 332 P P 20 00 55.2 +0.4
ENH sP **sP** **20 01 17.9 -2.0**
INU Inuyama 42.11 8 P P 20 00 58.0 +0.6
INU IAmb IAmb 20 01 29.9
comp=Z,852nm,2.0s
INU Inuyama 42.11 8 P P 20 00 58.3 +0.9
JGF Kuroka 42.41 8 P P 20 01 00.6 +0.7
JGF Kuroka 42.41 8 P P 20 01 00.2 +0.3
TJN Taejon 42.78 356 P P 20 01 03.4 +0.6
TJN Taejon 42.78 356 P P 20 01 04.0 +1.2
TJN Taejon 42.78 356 P P 20 01 03.4 +0.6
TJN pmax pmax
comp=Z,2µm,1.7s
PZH PanZhiHua 43.07 321 ⇑P **P 20 01 06.0 +0.5**
PZH PP **PP** **20 02 51.8 +4.9**
PZH S **S** **20 07 24.0 -2.3**
PZH pmax pmax
comp=Z,460nm,0.9s
PZH pmax pmax
comp=Z,540nm,5.5s
PZH LR LR
comp=Z,1µm,17.1s
PZH LR LR
comp=Z,1µm,20.0s
PZH LR LR
comp=Z,2µm,22.9s
TARA Tarawa 43.09 81 P 20 01 06.6 +0.9
TARA IAmb IAmb 20 01 08.7
comp=Z,510nm,1.4s
MAJO Matsushiro 43.46 9 P P 20 01 08.0 -0.4
MAJO IAmb IAmb 20 01 09.7
comp=Z,221nm,0.8s
MAJO Matsushiro 43.46 9 P P 20 01 07.9 -0.4
MAJO Matsushiro 43.46 9*c i*P **P 20 01 07.5 -0.8**
MAJO pmax pmax
comp=Z,230nm,0.9s
MAJO Matsushiro 43.46 9 P P 20 01 08.4 0.0
MJAR Matsushiro Arr 43.46 9 P P 20 01 08.1 -0.2
comp=Z,135nm,0.8s,baz=188,slow=9.7,SNR=300
MJAR ScP **ScP** **20 06 39.5 -1.0**
comp=Z,11nm,1.1s,baz=180,slow=5.3,SNR=4.1
MJAR LR LR 20 16 13.1
comp=Z,2µm,21.6s,baz=196,slow=32
comp=Z,135nm,0.8s
MJB9 Matsu-Tunnel 43.46 9 P P 20 01 08.8 +0.4
MJB9 IAmb IAmb 20 01 10.7
comp=Z,214nm,0.8s
H11S3 WAKE ISLAND Hy 43.52 55 P P 20 01 10.3 +1.4
baz=261,slow=74
H11S2 WAKE ISLAND Hy 43.53 55 P P 20 01 13.7 +4.7
baz=261,slow=74
H11S1 WAKE ISLAND Hy 43.53 54 P P 20 01 12.0 +3.0
baz=261
KSAR Wonju Array Be 43.81 357 P P 20 01 12.5 +1.3
KSAR Wonju Array Be 43.81 357 P P 20 01 12.5 +1.3
KSRS Korea Array 43.82 357 P P 20 01 12.3 +1.2
comp=Z,36nm,0.6s,baz=173,slow=8.9,SNR=180
KSRS PcP **PcP** **20 02 57.7 +1.1**
comp=Z,14nm,0.8s,baz=183,slow=3.5,SNR=4.6
KSRS ScP **ScP** **20 06 40.6 -1.3**
comp=Z,7.0nm,0.8s,baz=182,slow=4.0,SNR=4.8
KSRS LR LR 20 18 51.3
comp=Z,781µm,21.4s,baz=180,slow=35
comp=Z,36nm,0.6s
KS19 Wonju Array Si 43.87 357 P P 20 01 11.7 0.0
KS19 IAmb IAmb 20 01 15.1
comp=Z,428nm,1.9s
WAKE Wake Island 43.91 54 P P 20 01 13.3 +1.1
WAKE Wake Island 43.91 54 P P 20 01 14.0 +1.8
INCN Inchon 43.93 356 P P 20 01 12.4 +0.3
INCN IAmb IAmb 20 01 15.1
comp=Z,629nm,1.7s
INCN Inchon 43.93 356 P P 20 01 13.2 +1.0
INCN Inchon 43.93 356 P P 20 01 12.5 +0.3
INCN pmax pmax
comp=Z,629nm,1.7s
TNCH TengChong 44.18 316 ⇑P **P 20 01 14.9 +0.4**
TNCH pP pP 20 01 28.8 -3.0
TNCH sP pwP 20 01 33.5 -2.0
TNCH PP **PP** **20 02 58.4 -0.4**
TNCH S **S** **20 07 46.0 +3.3**
TNCH sS sS 20 08 07.4 -3.1
TNCH pmax pmax
comp=Z,450nm,1.7s
TNCH pmax pmax
comp=Z,3µm,4.2s
TNCH LR LR
comp=Z,1µm,12.9s
TNCH LR LR
comp=Z,1µm,15.9s
TNCH LR LR
comp=Z,2µm,16.5s
LYN LuoYang 44.27 339 ⇑P **P 20 01 15.6 +0.8**
LYN PcP **PP** **20 02 58.8 -0.6**
LYN ScP **ScP** **20 06 43.4 -0.4**
LYN S **S** **20 07 40.0 -3.3**
LYN pmax pmax
comp=Z,260nm,1.7s
LYN pmax pmax
comp=Z,2µm,4.8s
H11N1 WAKE ISLAND Hy 44.32 53 P P 20 01 13.7 -1.6
baz=341,slow=74
TIA Tai'an 44.33 344 P P 20 01 09.6 -5.7
TIA PP **PP** **20 03 00.3 +0.2**
TIA S **S** **20 07 39.9 -4.3**
TIA SS **SS** **20 11 01.9 -3.6**
TIA Tai'an 44.33 344 ScS ScS 20 11 13.9 +7.2
TIA pmax pmax
comp=Z,16nm,2.3s
TIA pmax pmax
comp=Z,1µm,4.4s
TIA LR LR
comp=N,2µm,11.4s
TIA LR LR
comp=E,2µm,16.6s

TIA LR LR
comp=Z,2μm,16.7s
H11N2 WAKE ISLAND Hy 44.34 53 P P 20 01 17.0 +1.6
H11N2 WAKE ISLAND Hy 44.34 53 P P 20 01 17.0 +1.6
baz=341
H11N3 WAKE ISLAND Hy 44.34 53 P P 20 01 16.4 +1.0
baz=341,slow=74
JSD Sado 44.93 9 P P 20 01 20.7 +0.7
JSD Sado 44.93 9 P P 20 01 20.9 +0.9
CD2 Chengdu 45.17 327 ⇑P P 20 01 22.3 +0.1
CD2 S S 20 07 58.8 +2.2
CD2 pmax pmax
comp=Z,240nm,0.8s
CD2 LR LR
comp=Z,4μm,13.3s
CD2 LR LR
comp=Z,2μm,14.0s
CD2 LR LR
comp=Z,2μm,20.3s
JMM Marumori 45.20 12 P P 20 01 23.0 +0.8
JMM Marumori 45.20 12 P P 20 01 23.1 +0.8
XAN Xi'an 45.22 335 ⇑P P 20 01 22.6 +0.1
XAN pP pP 20 01 40.3 +0.5
XAN PP PP 20 03 10.5 +0.8
XAN ScP ScP 20 06 47.3 -0.6
XAN S S 20 07 55.0 -2.3
XAN ScS ScS 20 11 10.5 -2.1
XAN pmax pmax
comp=Z,390nm,0.9s
XAN LR LR
comp=Z,1μm,12.4s
XAN LR LR
comp=Z,2μm,14.4s
XAN LR LR
comp=Z,1μm,17.2s
DL2 Dalian 45.95 350 P P 20 01 29.0 +0.9
DL2 S S 20 08 07.3 -0.1
DL2 SS SS 20 11 27.9 -5.5
DL2 pmax pmax
comp=Z,150nm,1.0s
DL2 pmax pmax
comp=Z,2μm,6.4s
DL2 LR LR
comp=Z,2μm,19.1s
DL2 LR LR
comp=Z,2μm,17.5s
DL2 LR LR
comp=Z,2μm,19.7s
HNS HongShan 46.12 343 ⇑P P 20 01 30.0 +0.6
HNS S S 20 08 05.0 -4.9
HNS pmax pmax
comp=Z,2μm,5.0s
HNS LR LR
comp=Z,1μm,12.9s
HNS LR LR
comp=Z,1μm,16.2s
TIY Taiyuan 47.13 340 P P 20 01 38.0 +0.6
TIY S S 20 08 21.1 -3.4
TIY ScS ScS 20 11 23.3 -1.6
TIY pmax pmax
comp=Z,150nm,0.8s
TIY pmax pmax
comp=Z,1μm,6.3s
TIY LR LR
comp=Z,940nm,15.8s
TIY LR LR
comp=Z,820nm,15.0s
TIY LR LR
comp=Z,1μm,15.1s
IMP Imphal 47.30 313 eP P 20 01 34.5 -4.5
IMP IAmb IAmb 20 01 39.4
comp=Z,352nm,1.0s
LKP Lekhapani 47.49 317 IAmb IAmb 20 01 34.1
comp=Z,931nm,1.2s
AZL Aizawl 47.60 311 eP P 20 01 36.9 -4.5
MSVF Nonsavu 47.69 108 P P 20 01 44.3 +2.1
MSVF IAmb IAmb 20 01 45.6
comp=Z,159nm,0.9s
MSVF Nonsavu 47.69 108 P P 20 01 44.5 +2.3
MSVF Nonsavu 47.69 108 P P 20 01 44.3 +2.1
MSVF pmax pmax
comp=Z,159nm,1.0s
KOHI KOHIMA 47.71 314 eP P 20 01 37.4 -4.9
BRDH Bariadhala 47.82 309 P P 20 01 44.2 +1.3
comp=Z,236nm,0.4s,baz=88,slow=6.2,SNR=45
BRDH LR LR 20 26 18.9
comp=Z,908nm,18.1s,baz=142,slow=42
comp=Z,236nm,0.4s
JTM Tenmabayashi 48.08 11 P P 20 01 45.6 +0.9
JTM IAmb IAmb 20 01 48.2
comp=Z,186nm,0.8s
JTM Tenmabayashi 48.08 11 P P 20 01 45.6 +0.9
SILR SILCHAR 48.11 312 eP P 20 01 40.8 -4.4
SILR IAmb IAmb 20 01 46.4
BJT Baijiatuau 48.17 345 P 20 01 46.0 +0.7
BJT Baijiatuau 48.17 345 P P 20 01 46.0 +0.7
BJT Baijiatuau 48.17 345 P P 20 01 46.0 +0.7
BJT pmax pmax
comp=Z,697nm,1.6s
BJI Beijing 48.19 345 P P 20 01 46.4 +0.9
BJI pP pP 20 02 02.3 -0.3
BJI PcP PcP 20 03 13.3 +1.5
BJI ScP ScP 20 06 59.3 -0.7
BJI S S 20 08 39.5 +0.3
BJI pmax pmax
comp=Z,120nm,0.7s
BJI pmax pmax
comp=Z,690nm,6.2s
BJI LR LR
comp=Z,590nm,15.0s
BJI LR LR
comp=Z,520nm,16.8s
BJI LR LR
comp=Z,670nm,26.5s
JORH JORHAT 48.23 315 eP P 20 01 41.7 -4.3
JORH IAmb IAmb 20 01 46.9
comp=Z,1μm,1.0s
FUNA Funafuti 48.32 96 P P 20 01 47.0 0.0
SNY Shenyang 48.54 353 ⇑P P 20 01 49.0 +0.8
SNY S S 20 08 40.8 -3.4
SNY pmax pmax
comp=Z,130nm,0.8s
SNY pmax pmax
comp=Z,630nm,3.9s
SNY LR LR
comp=Z,1μm,5.1s
SNY LR LR
comp=Z,900nm,4.7s
SNY LR LR
comp=Z,2μm,12.8s
AGT Agartala 48.77 310 eP P 20 01 46.6 -3.7
OUZ Omahuta 48.80 132 P P 20 01 53.0 +2.6
OUZ Omahuta 48.80 132 P P 20 01 53.1 +2.8
MSHR Mys Shultsa 48.88 1 ceP P 20 01 52.1 +1.3
MSHR pmax pmax
comp=Z,71nm,0.8s
PSTR Posyet 48.95 0 c iP P 20 01 52.3 +1.0
ZIRO ZIRO 48.99 315 eP P 20 01 48.5 -3.7
ZIRO IAmb IAmb 20 01 53.5
comp=Z,884nm,1.1s
TEZP TEZPUR 49.19 314 eP P 20 01 49.4 -4.0
TEZP IAmb IAmb 20 01 54.2
comp=Z,749nm,1.2s
LZDM Lanzhou Array 49.19 331 P P 20 01 54.7 +1.0
comp=Z,109nm,0.6s,baz=170,slow=10,SNR=48
LZDM ScP ScP 20 07 03.8 -1.1
comp=Z,16nm,0.7s,baz=189,slow=8.6,SNR=4.4
LZDM LR LR 20 23 09.3
comp=Z,716nm,21.7s,baz=180,slow=37
comp=Z,109nm,0.6s
LZH Lanzhou 49.22 331 ⇑P P 20 01 55.0 +1.3
LZH pP pP 20 02 11.0 0.0
LZH sP sP 20 02 21.1 +2.2
LZH PP PP 20 03 53.3 +5.0
LZH ScP ScP 20 07 06.4 +1.6
LZH S S 20 08 50.0 -4.4
LZH SS SS 20 12 23.8 -3.1
LZH pmax pmax
comp=Z,290nm,1.1s
LZH pmax pmax
comp=Z,2μm,4.1s
LZH LR LR
comp=Z,2μm,19.6s
LZH LR LR
comp=Z,2μm,19.1s
LZH LR LR
comp=Z,3μm,20.1s
SHL Shillong 49.24 312 P P 20 01 53.6 -0.5
SHL Shillong 49.24 312 P P 20 01 53.8 -0.3
SNR=212
SHL Shillong 49.24 312 eP P 20 01 49.0 -5.1
SHL Shillong 49.24 312 P P 20 01 53.6 -0.5
SHL pmax pmax
comp=Z,772nm,0.9s
VLA Vladivostok 49.43 1 deP P 20 01 55.9 +0.9
VLA pmax pmax
comp=Z,224nm,1.0s
ERM Erimo 49.68 12 P P 20 01 57.5 +0.6
ERM Erimo 49.68 12 P P 20 01 58.2 +1.3
ERM Erimo 49.68 12 P P 20 01 57.5 +0.6
ERM pmax pmax
comp=Z,67nm,0.9s
JEM Erimo 49.69 12 P P 20 01 58.1 +1.2
GUWA GUWAHATI 49.74 312 eP P 20 01 53.8 -3.9
GUWA IAmb IAmb 20 01 58.7
comp=Z,481nm,0.5s
DCZ Deep Cove 50.13 147 P P 20 02 01.9 +1.6
DCZ IAmb IAmb 20 02 27.6
comp=Z,136nm,1.0s
JCZ Jackson Bay 50.19 144 P P 20 02 02.7 +1.8
JCZ Jackson Bay 50.19 144 P P 20 02 03.0 +2.1
HHC Hu-ho-hao-te 50.25 341 eP P 20 02 02.8 +1.4
HHC pP pP 20 02 14.6 -3.6
HHC sP pwP 20 02 20.4 -4.9
HHC S S 20 09 06.5 -2.0
HHC ScS ScS 20 11 46.8 +1.0
HHC SS SS 20 12 40.9 -2.2
HHC pmax pmax
comp=Z,150nm,1.1s
HHC pmax pmax
comp=Z,2μm,6.4s
HHC LR LR
comp=Z,790nm,15.5s
HHC LR LR
comp=Z,410nm,15.3s
HHC LR LR
comp=Z,700nm,15.7s
CN2 Changchun 50.30 355 P P 20 02 01.9 +0.3
CN2 S S 20 09 10.3 +1.4
CN2 pmax pmax
comp=Z,180nm,0.6s
CN2 pmax pmax
comp=Z,1μm,6.0s
CN2 LR LR
comp=Z,1μm,19.0s
CN2 LR LR
comp=Z,1μm,19.0s
CN2 LR LR
comp=Z,2μm,23.0s
PYZ Puysegur Point 50.32 148 P P 20 02 03.1 +1.4
PYZ IAmb IAmb 20 02 36.5
comp=Z,172nm,1.2s
FOZ Fox Glacier 50.47 143 P P 20 02 04.5 +1.6
FOZ IAmb IAmb 20 02 05.7
comp=Z,250nm,1.1s
FOZ Fox Glacier 50.47 143 P P 20 02 04.5 +1.6
USRK Ussuriysk Ar. 50.52 1 P P 20 02 04.0 +0.8
comp=Z,109nm,0.6s,baz=180,slow=7.1,SNR=194
USRK PKPPKP P'P'df 20 32 51.0 +2.4
comp=Z,3.0nm,1.0s,baz=46,slow=4.2,SNR=5.8
comp=Z,109nm,0.6s
USRK Ussuriysk Ar. 50.52 1 P P 20 02 04.0 +0.8
BTO Baotou 50.54 340 eP P 20 02 05.4 +1.8
BTO pP pwP 20 02 24.3 -3.3
BTO PP PP 20 04 04.3 +4.1
BTO S S 20 09 12.9 +0.4
BTO SS SS 20 12 47.9 +0.2
BTO pmax pmax
comp=Z,170nm,2.0s
BTO pmax pmax
comp=Z,3μm,7.6s
BTO LR LR
comp=Z,2μm,19.1s
BTO LR LR
comp=Z,2μm,19.0s
BTO LR LR
comp=Z,3μm,21.8s
GRZ Great Barrier 50.61 132 P P 20 02 06.4 +2.3
QRZ Quartz Range 50.69 139 P P 20 02 06.7 +2.0
QRZ Quartz Range 50.69 139 P P 20 02 07.1 +2.4
DSZ Denniston Nort 50.70 140 P P 20 02 06.4 +1.6
DSZ IAmb IAmb 20 02 09.0
comp=Z,275nm,1.0s
DSZ Denniston Nort 50.70 140 P P 20 02 06.8 +2.0
WVZ Waitaha Valley 50.76 142 P P 20 02 06.6 +1.5
MDJ Mudanjiang 50.92 359 P 20 02 07.0 +0.8
MDJ IAmb IAmb 20 02 08.6
comp=Z,149nm,0.8s
MDJ Mudanjiang 50.92 359 P P 20 02 07.1 +0.8
MDJ S S 20 09 16.3 -1.0
MDJ pmax pmax
comp=Z,220nm,0.7s
MDJ LR LR
comp=Z,2μm,22.7s
MDJ LR LR
comp=Z,2μm,15.8s
MDJ LR LR
comp=Z,3μm,23.4s
MDJ Mudanjiang 50.92 359 P P 20 02 07.5 +1.3
NEZ North Egmont 50.98 136 P P 20 02 10.0 +3.0
INZ Inchbonnie 51.00 142 P P 20 02 08.2 +1.2
KUZ Kuaotunu 51.01 133 P P 20 02 08.9 +1.8
FUTU Fugatoga 51.05 103 P P 20 02 08.5 +0.7
FUTU IAmb IAmb 20 02 12.9
comp=Z,154nm,1.0s
MRNZ Matariki Terra 51.13 139 P P 20 02 09.5 +1.5
LBZ Lake Benmore 51.18 144 P P 20 02 09.7 +1.4
TOZ Tahuroa Road 51.27 134 P P 20 02 11.1 +2.1
RPZ Rata Peaks 51.31 143 LR LR 20 24 45.0
comp=Z,3μm,19.3s,baz=312,slow=37
RPZ Rata Peaks 51.31 143 P P 20 02 10.9 +1.6
BWNR Bhubaneshwar 51.37 302 eP P 20 02 05.9 -4.1
BWNR IAmb IAmb 20 02 11.3
comp=Z,358nm,0.6s
THZ Tophouse 51.41 140 P P 20 02 11.1 +1.0
APZ The Paps 51.44 148 P P 20 02 11.8 +1.6
NNZ Nelson 51.45 139 P P 20 02 10.9 +0.6
PALK Pallekele 51.51 285 P P 20 02 10.3 -0.9
PALK Pallekele 51.51 285 P P 20 02 10.4 -0.9
PALK pmax pmax
comp=Z,79nm,0.7s
PALK Pallekele 51.51 285 P P 20 02 10.6 -0.7
PALK sP pwP 20 02 34.6 +0.3
LTZ Lake Taylor 51.55 141 P P 20 02 12.2 +1.0
TLZ Tolley Road 51.55 135 P P 20 02 13.7 +2.5
ASAJ Asahikawa 51.59 11 LR LR 20 25 53.9
comp=Z,958nm,18.9s,baz=208,slow=38
ASAJ PKPPKP 20 32 51.6
comp=Z,30nm,1.2s,baz=329,slow=5.9,SNR=3.9
ASAJ Asahikawa 51.59 11 P P 20 02 12.0 +0.8
ASAJ pmax pmax
comp=Z,135nm,0.8s
JKA Kamikawa-asahi 51.59 11 P P 20 02 11.9 +0.7
JKA IAmb IAmb 20 02 13.5
comp=Z,135nm,0.8s
OXZ Oxford 51.70 142 P P 20 02 13.0 +0.8
TWVZ Taurewa 51.81 136 P P 20 02 14.9 +1.6
ODZ Otahua Downs 51.83 144 P P 20 02 14.1 +1.0
ODZ Otahua Downs 51.83 144 P P 20 02 14.4 +1.3
XLT XiLinHaoTe 51.86 347 eP P 20 02 13.9 +0.5
XLT PcP PcP 20 03 25.8 +0.5
XLT S S 20 09 24.4 -6.1
XLT ScS ScS 20 11 59.4 +2.7
XLT pmax pmax
comp=Z,140nm,1.1s
XLT pmax pmax
comp=Z,810nm,4.6s
XLT LR LR
comp=Z,1μm,14.7s
XLT LR LR
comp=Z,1μm,20.2s
NGZ Ngauruhoe 51.97 136 P P 20 02 16.8 +2.4
NTVZ North Tongarir 51.99 136 P P 20 02 16.9 +2.3
OTVZ Oturere 52.01 136 P P 20 02 16.4 +1.6
ETVZ East Tongariro 52.03 136 P P 20 02 16.5 +1.6
WNVZ Wahianoa 52.04 136 P P 20 02 17.0 +2.0
BNX BinXian 52.11 357 ⇑P P 20 02 15.0 -0.1
BNX pP pP 20 02 33.1 +1.0
BNX sP sP 20 02 39.4 -0.4
BNX PcP PcP 20 03 25.8 -0.3
BNX S S 20 09 31.4 -2.3
BNX pmax pmax
comp=Z,92nm,0.9s
BNX pmax pmax
comp=Z,720nm,6.0s
BNX LR LR
comp=Z,2μm,27.1s
BNX LR LR
comp=Z,2μm,25.0s
BNX LR LR
comp=Z,3μm,26.8s
GVZ Greta Valley S 52.12 141 P P 20 02 16.9 +1.5
KHZ Kahutara 52.16 140 P P 20 02 16.2 +0.7
KHZ Kahutara 52.16 140 P P 20 02 16.5 +1.0
MOVZ Moawhango 52.18 136 P P 20 02 17.2 +1.2
LSA Lhasa 52.19 316 P P 20 02 17.2 +0.7
LSA Lhasa 52.19 316 P P 20 02 15.4 -1.2
LSA S S 20 09 29.5 -6.8
LSA pmax pmax
comp=Z,480nm,0.7s
LSA LR LR
comp=Z,460nm,16.5s
LSA LR LR
comp=Z,630nm,25.0s
LSA Lhasa 52.19 316 P P 20 02 17.7 +1.2
LSA Lhasa 52.19 316 P P 20 02 17.3 +0.7
LSA pmax pmax
comp=Z,342nm,0.7s
YUK Yuzh-Kuril'sk 52.22 14 deP P 20 02 16.7 +0.8
SHBG Sahibganj 52.24 309 eP P 20 02 13.0 -3.4
MQZ McQueen's Vall 52.28 142 P P 20 02 18.0 +1.6
HHSZ Highcliff Hill 52.29 145 P P 20 02 19.0 +2.4
SNZO South Karori 52.36 138 P P 20 02 17.5 +0.4
WEL Wellington 52.39 138 P P 20 02 17.6 +0.3
BKZ Black Stump Fm 52.59 135 P P 20 02 19.5 +0.6
BKZ Black Stump Fm 52.59 135 P P 20 02 19.6 +0.6
TSZ Takapari Road 52.62 136 P P 20 02 19.9 +0.8
MRZ Mangatainoka R 52.63 137 P P 20 02 19.3 +0.2
URZ Urewera 52.64 134 LR LR 20 26 47.5
comp=Z,2μm,18.7s,baz=298,slow=38
BOK Bokaro 52.93 306 eP P 20 02 17.6 -4.0
BOK IAmb IAmb 20 02 24.9
comp=Z,239nm,1.1s
MWZ Matawai 52.97 134 P P 20 02 21.9 +0.1
KNTI KHUNTI 53.06 305 eP P 20 02 20.1 -2.5
BFZ Birch Farm 53.09 137 P P 20 02 23.2 +0.6
MXZ Matakaoa Point 53.22 133 P P 20 02 24.2 +0.7
PUZ Puketiti 53.39 133 P P 20 02 25.4 +0.6
RAO Raoul Island 53.54 122 LR LR 20 25 13.3
comp=Z,2μm,19.0s,baz=66,slow=36
JHSG JHARSUGUGA 53.72 303 eP P 20 02 23.3 -4.1
GTA Gaotai 53.80 331 P P 20 02 29.3 +1.5
GTA pP pwP 20 02 49.4 -0.6
GTA ScP ScP 20 07 24.4 -0.1
GTA S S 20 09 54.3 -2.9
GTA SS SS 20 13 40.9 +1.6
GTA pmax pmax
comp=Z,250nm,1.6s
GTA pmax pmax
comp=Z,2μm,10.1s
GTA LR LR
comp=Z,2μm,20.0s
GTA LR LR
comp=Z,660nm,20.0s
GTA LR LR
comp=Z,2μm,21.8s
KUR Kuril'sk 53.84 15 deP P 20 02 28.0 +0.2
KUR pmax pmax
comp=Z,222nm,1.1s
GAYA Gaya 53.94 307 eP P 20 02 24.3 -4.6
GOMU GeErMu 54.09 324 P P 20 02 30.8 +0.5
GOMU sP pP 20 02 48.6 +0.8
GOMU S S 20 10 00.3 -1.4
GOMU pmax pmax
comp=Z,73nm,1.6s
GOMU pmax pmax
comp=Z,1μm,7.3s
YSS Yuzhno-Sakhali 54.36 10 P P 20 02 32.2 +0.7
YSS IAmb IAmb 20 02 33.5
comp=Z,131nm,0.6s
YSS Yuzhno-Sakhali 54.36 10 P P 20 02 32.4 +0.9
YSS Yuzhno-Sakhali 54.36 10 aeP P 20 02 32.5 +0.9
YSS eS S 20 10 01.9 -2.2
YSS pmax pmax
comp=Z,700nm,6.2s
YSS pmax pmax
comp=Z,100nm,0.8s
YSS smax smax
comp=N,800nm,4.7s
YSS smax smax
comp=E,400nm,4.2s
YSS MLR MLR
comp=Z,700nm,18.0s
YSS MLR MLR
comp=N,600nm,16.0s
YSS MLR MLR
comp=E,300nm,16.0s
YSS Yuzhno-Sakhali 54.36 10 P P 20 02 32.5 +1.0
BLSP Bilaspur 55.25 303 eP P 20 02 33.9 -4.6
BLSP IAmb IAmb 20 02 39.2
comp=Z,426nm,1.1s
KOD Kodaikanal 55.36 287 eP P 20 02 34.9 -4.9
TRD Trivandrum 55.41 285 eP P 20 02 35.7 -4.1
UGL Uglegorsk 56.30 9 ⇑iP P 20 02 47.1 +1.7
UGL eS S 20 10 27.8 -2.1
UGL pmax pmax
comp=Z,1μm,1.5s
UGL pmax pmax
comp=N,200nm,0.8s
UGL pmax pmax
comp=E,400nm,0.8s
UGL pmax pmax
comp=Z,600nm,1.0s
UGL smax smax
comp=E,600nm,3.1s
UGL smax smax
comp=N,4μm,8.2s
HIA Hailar 56.35 352 P 20 02 46.9 +1.0
HIA Hailar 56.35 352 P P 20 02 47.3 +1.4
HIA Hailar 56.35 352 P P 20 02 46.9 +1.0
HIA pmax pmax
comp=Z,180nm,1.8s
HYB Hyderabad 56.54 296 eP P 20 02 47.4 -0.4
HYB IVmB_BB 20 02 47.7
comp=Z,5μm,1.8s
HYB esP sP 20 03 13.7 0.0
HYB ePcP PcP 20 03 45.0 +1.3
HYB ePP PP 20 04 55.0 +0.6
HYB eScP ScP 20 07 37.9 +1.0
HYB ePcS PcS 20 07 45.2 +0.4
HYB eScS ScS 20 12 31.5 +0.6
HEH HeiHe 56.62 358 eP P 20 02 48.3 +0.6
HEH S S 20 10 29.8 -4.3
HEH ScS ScS 20 12 25.8 -4.2
HEH pmax pmax
comp=Z,190nm,1.5s
HEH pmax pmax
comp=Z,1μm,4.6s
HEH LR LR
comp=Z,2μm,21.5s
HEH LR LR
comp=Z,1μm,20.1s
HEH LR LR
comp=Z,3μm,21.6s
ALBI Allahabad 56.92 306 eP P 20 02 46.1 -4.2
ALBI IAmb IAmb 20 02 51.0
comp=Z,326nm,0.7s
HRYA Harraiya (Bast 57.06 308 eP P 20 02 47.3 -4.0
AIS Amsterdam Isla 57.07 229 P P 20 02 52.8 +1.6
AFI Afiamalu 57.19 102 P P 20 02 53.8 +1.3
AFI Afiamalu 57.19 102 P P 20 02 53.8 +1.3
AFI pmax pmax
comp=Z,312nm,1.1s
GRNR Gornyy 57.30 4 ⇑iP P 20 02 53.5 +0.9
GRNR pmax pmax
comp=N,30nm,0.7s
GRNR pmax pmax
comp=Z,80nm,0.7s
H08S2 Diego Garcia H 57.52 265 P P 20 02 55.3 +0.9
baz=49,slow=8.9,SNR=14
H08S3 Diego Garcia H 57.53 265 P P 20 02 55.0 +0.5
baz=49,slow=8.9,SNR=12
H08S1 Diego Garcia H 57.53 265 P P 20 02 55.6 +1.0
baz=49,slow=8.9,SNR=15

DGAR **Diego Garcia** 57.57 265 P **P** 20 02 55.5 +0.4
DGAR **Diego Garcia** 57.57 265 *ce*P **P** 20 02 55.6 +0.4
DGAR pmax pmax
comp=Z,793nm,1.7s
KAAM Kaadhehdhoo 57.78 275 P **P** 20 02 57.1 +0.5
ULN Ulaanbaatar 57.97 342 P **P** 20 02 58.8 +1.3
ULN Ulaanbaatar 57.97 342 *c iP* **P** 20 02 58.9 +1.3
ULN pmax pmax
comp=Z,271nm,0.8s
ULN Ulaanbaatar 57.97 342 P **P** 20 02 59.1 +1.6
ULN pP **pP** 20 03 15.3 +0.5
BRCI Bahraich 58.14 308 *e*P **P** 20 02 55.0 -3.8
SONM Songino Array 58.15 341 P **P** 20 02 59.6 +0.8
SONM IAmb IAmb 20 03 02.9
comp=Z,112nm,0.9s
SONM Songino Array 58.15 341 P **P** 20 02 59.9 +1.2
comp=Z,74nm,0.7s,baz=156,slow=7.3,SNR=405
SONM PKiKP **PKiKP** **20 10 14.2 +0.7**
comp=Z,1.8nm,0.7s,baz=162,slow=1.7,SNR=4.2
SONM LR LR 20 31 16.5
comp=Z,748nm,18.3s,baz=156,slow=39
SONM PKPPKP **P'P'df** **20 32 40.0 +1.9**
comp=Z,4.2nm,1.0s,baz=312,slow=2.4,SNR=5.7
SONM P4KPbc 20 40 05.5
comp=Z,0.4nm,0.6s,baz=147,slow=3.4,SNR=3.8
comp=Z,74nm,0.7s
SONM Songino Array 58.15 341 P **P** 20 02 59.6 +0.8
SONM pmax pmax
comp=Z,112nm,0.9s
MNGI Mangalore 58.58 289 *e*P **P** 20 02 57.7 -4.4
HMDM Hanimaadhoo 58.67 282 P **P** 20 03 02.9 0.0
AKL Akola 59.06 299 *e*P **P** 20 03 01.5 -4.0
AKL IAmb IAmb 20 03 06.0
comp=Z,272nm,0.8s
JHNI Jhansi 59.64 304 *e*P **P** 20 03 04.8 -4.6
NRDN NARMADA NAGAR 59.69 301 *e*P **P** 20 03 06.2 -3.5
CIT Chita 60.10 348 *e*P **P** 20 03 13.6 +1.6
CIT *e* 20 03 30.0
CIT *e* 20 04 05.8
CIT *e*S **S** **20 11 20.8 +1.3**
CIT pmax pmax
comp=Z,410nm,2.0s
ZEA Zeya 60.11 358 *e*P **P** 20 03 13.0 +1.1
ZEA *e*S **S** **20 11 16.3 -3.1**
ZEA pmax pmax
comp=E,20nm,0.5s
ZEA pmax pmax
comp=N,80nm,0.9s
ZEA pmax pmax
comp=Z,200nm,1.0s
ZEA pmax pmax
comp=E,100nm,3.5s
ZEA pmax pmax
comp=N,200nm,6.2s
ZEA pmax pmax
comp=Z,500nm,4.6s
ZEA smax smax
comp=N,400nm,11.9s
PTH Pithoragarh 60.13 309 *e*P **P** 20 03 08.9 -3.9
GOA Goa 60.23 292 *e*P **P** 20 03 09.4 -4.0
KAD Karad 60.44 294 *e*P **P** 20 03 11.1 -4.0
JOSI Joshimath 61.11 310 *e*P **P** 20 03 15.9 -3.7
POO Poona 61.13 295 *e*P **P** 20 03 16.3 -3.4
SKR Severo-Kuril's 61.14 18⇑ *e*P **P** 20 03 20.0 +1.0
CASY Casey 61.23 189 P **P** 20 03 20.3 +0.8
CASY IAmb IAmb 20 03 22.0
comp=Z,245nm,1.4s
CASY Casey 61.23 189 P **P** 20 03 20.4 +0.9
CASY pP **pP** 20 03 36.4 -0.7
ZAK Zakamensk 61.38 341 *e*P **P** 20 03 21.0 +0.2
ZAK pmax pmax
comp=Z,246nm,2.0s
ASOR Ausora 61.67 307 *e*P **P** 20 03 19.2 -3.9
PWAL Palwal 61.76 307 *e*P **P** 20 03 19.9 -3.8
LDR Lodi Road 62.04 307 *e*P **P** 20 03 21.8 -3.7
AYAN Aya Nagar 62.06 307 *e*P **P** 20 03 21.8 -3.9
NDI New Delhi 62.08 307 *e*P **P** 20 03 22.1 -3.8
NPLP NPLP New Delhi 62.10 307 *e*P **P** 20 03 22.0 -3.9
KUDL Kundal 62.43 306 *e*P **P** 20 03 24.5 -3.7
GNR GANAUR 62.43 308 *e*P **P** 20 03 24.2 -4.0
JHJR Jhajjar 62.50 307 *e*P **P** 20 03 24.6 -4.0
KLP Kalpa 62.56 310 *e*P **P** 20 03 25.2 -4.2
IRK Irkutsk 62.68 342 *e*P **P** 20 03 30.0 +0.7
IRK *e*S **S** **20 11 51.8 -0.3**
IRK pmax pmax
comp=Z,585nm,2.2s
SMLA Simla 63.20 310 *e*P **P** 20 03 29.4 -3.8
MOY Mondy 63.24 340 *e*P **P** 20 03 34.8 +1.6
MOY pmax pmax
comp=Z,538nm,1.9s
WMQ Urumqi 63.27 327 ⇑P **P** 20 03 35.1 +1.6
WMQ S **S** 20 12 02.5 +2.6
WMQ sS sS 20 12 25.5 -4.9
WMQ pmax pmax
comp=Z,210nm,1.1s
WMQ pmax pmax
comp=Z,2μm,5.1s
CGRH CHANDIGARH 63.32 309 *e*P **P** 20 03 30.1 -4.0
UDPR Udaipur 63.32 302 *e*P **P** 20 03 30.2 -4.0
JOHN Johnston Islan 63.65 68 P **P** 20 03 37.9 +1.5
JOHN IAmb IAmb 20 03 39.5
comp=Z,466nm,1.5s
PEA0B Petropavlovsk- 63.74 18 P **P** 20 03 37.8 +1.5
PEA0B Petropavlovsk- 63.74 18 P **P** 20 03 37.8 +1.5
PEA0B pmax pmax
comp=Z,270nm,0.7s
PETK Petropavlovsk- 63.74 18 P **P** 20 03 36.9 +0.5
PETK Petropavlovsk- 63.74 18 P **P** 20 03 37.4 +1.0
comp=Z,210nm,0.7s,baz=175,slow=3.0,SNR=346
PETK LR LR 20 32 06.1
comp=Z,276nm,18.7s,baz=211,slow=37
comp=Z,210nm,0.7s
BHK Bhakra 63.90 310 *e*P P 20 03 31.3 -6.6
PET Petropavlovsk 63.96 19 P **P** 20 03 38.6 +0.9
PET IAmb IAmb 20 03 40.5
comp=Z,352nm,1.2s
PET Petropavlovsk 63.96 19 P **P** 20 03 39.3 +1.5
PET Petropavlovsk 63.96 19 *e*P **P** 20 03 39.2 +1.5
PET *e* 20 04 09.0
PET *e*S **S** **20 12 10.0 +2.0**
PET pmax pmax
comp=Z,281nm,0.9s
PET pmax pmax
comp=Z,900nm,4.3s
PET pmax pmax
comp=Z,500nm,4.9s
PET MLR MLR
comp=Z,300nm,15.0s
PET Petropavlovsk 63.96 19 P **P** 20 03 38.1 +0.3
comp=Z,280nm,0.9s
DHRM DHARAMSHALA 64.36 310 *e*P **P** 20 03 36.9 -4.2
TLWR Talawar 64.49 310 *e*P **P** 20 03 37.9 -3.9
ALCI Alchi Leh 64.60 313 *e*P **P** 20 03 38.7 -4.2
TSSA Tissa 64.73 311 *e*P **P** 20 03 39.6 -4.0
BOD Bodaibo 65.52 350 *e*P **P** 20 03 48.5 +0.7
BOD pmax pmax
comp=Z,305nm,1.7s
JMU Jammu 65.63 310 *e*P **P** 20 03 46.9 -2.2
PAF Port-aux-Franc 65.93 218 P **P** 20 03 52.5 +1.8
PAF Port-aux-Franc 65.93 218 P **P** 20 03 52.5 +1.8
PAF pmax pmax
comp=Z,969nm,1.9s
SRNI Srinagar 66.27 312 *e*P **P** 20 03 49.8 -3.3
ROCAM Rodrigues Isla 66.30 251 P **P** 20 03 55.1 +1.5
ZSN Zaisan 67.13 328 *e*P **P** 20 03 58.8 +0.4
comp=Z,154nm,2.0s
ZSN Zaisan 67.13 328 *e*P **P** 20 03 58.7 +0.4
ZSN pmax pmax
comp=Z,154nm,2.0s
NIL Nilore 67.27 311 P **P** 20 04 00.4 +0.8
NIL Nilore 67.27 311 P **P** 20 04 00.4 +0.8
NIL pmax pmax
comp=Z,332nm,0.6s
SHLS Shalkode 67.64 322 *e*P **P** 20 04 00.3 -1.6
comp=Z,99nm,0.8s
SHLS Shalkode 67.64 322 *e*P **P** 20 04 00.2 -1.6
SHLS pmax pmax
comp=Z,99nm,0.8s
PDGK Podgornoye 67.72 322 P **P** 20 04 02.7 +0.3
MA2 Magadan 67.85 11 P **P** 20 04 04.0 +1.4
MA2 IAmb IAmb 20 04 05.4
comp=Z,156nm,0.8s
MA2 Magadan 67.85 11 LR LR 20 30 40.1
comp=Z,456nm,21.6s,baz=206,slow=33

MA2 Magadan 67.85 11 P **P** 20 04 04.1 +1.4
MA2 Magadan 67.85 11 *c iP* **P** 20 04 03.9 +1.2
MA2 pmax pmax
comp=Z,172nm,0.8s
MA2 Magadan 67.85 11 P **P** 20 04 03.2 +0.5
comp=Z,3μmcomp=Z,286nm,1.0s
UZB Uzynbulak 67.91 322 *e*P **P** 20 04 03.6 +0.1
comp=Z,218nm,1.3s
UZB Uzynbulak 67.91 322 *e*P **P** 20 04 03.6 +0.1
UZB pmax pmax
comp=Z,218nm,1.3s
PRZ Przheval'sk 67.93 321 P **P** 20 04 05.4 +1.6
PRZ Przheval'sk 67.93 321 P **P** 20 04 05.4 +1.6
PRZ pmax pmax
comp=Z,419nm,1.2s
KSH Kashi 68.00 317 P **P** 20 04 06.0 +1.8
KSH pP pP 20 04 19.5 -2.6
KSH sP pwP 20 04 25.0 -3.0
KSH PP **PP** **20 06 37.8 +2.7**
KSH S **S** **20 12 56.0 -2.0**
KSH ScS **SKSac** **20 13 55.1 -1.2**
KSH pmax pmax
comp=Z,200nm,0.9s
KSH LR LR
comp=Z,970nm,22.7s
KSH LR LR
comp=Z,830nm,23.5s
KSH LR LR
comp=Z,2μm,20.2s
MK31 Makanchi Array 68.10 327 *ce*P **P** 20 04 05.7 +1.2
MKAR Makanchi Array 68.10 327 P **P** 20 04 05.3 +0.8
MKAR Makanchi Array 68.10 327 P **P** 20 04 06.0 +1.4
comp=Z,244nm,0.6s,baz=118,slow=6.8,SNR=377
MKAR S **S** **20 12 58.5 -0.2**
comp=Z,4.5nm,0.9s,baz=119,slow=15,SNR=4.1
MKAR PKKP **PKKPdf** **20 24 07.9 -0.5**
comp=Z,0.3nm,0.4s,baz=294,slow=1.4,SNR=5.4
MKAR PKPPKP **P'P'df** **20 32 22.8 +0.2**
comp=Z,2.2nm,0.9s,baz=338,slow=3.4,SNR=6.6
MKAR P4KPbc 20 40 51.8
comp=Z,1.0nm,0.7s,baz=121,slow=5.6,SNR=8.7
comp=Z,244nm,0.6s
SATY Saty 68.24 322 *e*P **P** 20 04 05.7 +0.1
comp=Z,174nm,0.8s
SATY Saty 68.24 322 *e*P **P** 20 04 05.7 +0.1
SATY pmax pmax
comp=Z,174nm,0.8s
MAKZ Makanchi 68.28 326 P **P** 20 04 06.2 +0.5
MAKZ Makanchi 68.28 326 P **P** 20 04 06.2 +0.5
MAKZ pmax pmax
comp=Z,567nm,1.2s
KPKS Kokpek 68.29 322 *e*P **P** 20 04 06.0 +0.1
KPKS Kokpek 68.29 322 *e*P **P** 20 04 05.9 +0.1
YAK Yakutsk 68.36 360 P **P** 20 04 06.3 +0.5
YAK Yakutsk 68.36 360 PKP2bc 20 32 21.2
comp=Z,4.7nm,0.4s,baz=16,slow=3.9,SNR=1.7
YAK LR LR 20 37 56.8
comp=Z,248nm,18.1s,baz=178,slow=39
YAK Yakutsk 68.36 360 *c iP* **P** 20 04 06.7 +0.9
YAK *e* 20 04 31.1
YAK *e**PP **PcP** **20 04 33.6 +2.8**
YAK *e* 20 06 38.2
YAK *e*PPP PPP 20 08 20.8
YAK *e*S **S** **20 13 00.5 -0.6**
YAK *e**SS sS 20 13 42.6 +10
YAK *e* 20 13 55.3
YAK pmax pmax
comp=Z,1μm,0.9s
YAK pmax pmax
comp=N,183nm,1.1s
YAK pmax pmax
comp=E,82nm,0.9s
YAK pmax pmax
comp=Z,236nm,4.9s
YAK pmax pmax
comp=N,261nm,4.0s
YAK pmax pmax
comp=E,159nm,4.0s
YAK smax smax
comp=N,2μm,6.3s
YAK smax smax
comp=E,1μm,5.8s
YAK Yakutsk 68.36 360 P **P** 20 04 06.4 +0.6
KDJ Kajisay 68.52 320 P **P** 20 04 08.6 +1.1
KDJ IAmb IAmb 20 04 09.8
comp=Z,178nm,0.8s
KDJ Kajisay 68.52 320 P **P** 20 04 08.6 +1.1
KDJ pmax pmax
comp=Z,178nm,0.8s
RAR Rarotonga 68.81 110 P **P** 20 04 10.4 +1.1
RAR Rarotonga 68.81 110 P **P** 20 04 10.5 +1.1
RAR pmax pmax
comp=Z,181nm,1.1s
TNSS Tian-Shan 69.14 321 *e*P **P** 20 04 11.3 -0.2
TNSS Tian-Shan 69.14 321 *e*P **P** 20 04 11.3 -0.2
MDOK Medeo 69.14 321 *e*P **P** 20 04 11.3 +0.1
MDOK *e*S **S** **20 13 13.1 +1.7**
MDOK Medeo 69.14 321 *e*P **P** 20 04 11.3 +0.1
MDOK *e*S **S** **20 13 13.1 +1.7**
ULHL Ulahol 69.18 320 P **P** 20 04 12.8 +1.3
SNR=24
ARXS Arharly 69.21 322 *i* P **P** 20 04 11.9 +0.3
AAA Alma-Ata 69.25 321 *e*P **P** 20 04 11.1 -0.7
comp=Z,148nm,0.8s
AAA Alma-Ata 69.25 321 *e*P **P** 20 04 12.0 +0.2
AAA pmax pmax
comp=Z,148nm,0.8s
TDK Taldyqorghan 69.29 323 *e*P **P** 20 04 12.2 +0.3
comp=Z,120nm,0.8s
TDK Taldyqorghan 69.29 323 *e*P **P** 20 04 12.2 +0.3
TDK pmax pmax
comp=Z,120nm,0.8s
BOOM Boomskoye usch 69.49 320 P **P** 20 04 14.1 +0.6
BOOM IAmb IAmb 20 04 16.3
comp=Z,349nm,1.1s
BOOM Boomskoye usch 69.49 320 P **P** 20 04 14.1 +0.6
BOOM pmax pmax
comp=Z,349nm,1.1s
CHKK Chushkaly 69.53 322 *e*P **P** 20 04 13.7 +0.2
CHKK Chushkaly 69.53 322 *e*P **P** 20 04 13.7 +0.2
SHEM Shemya Is, Ala 69.65 27 P **P** 20 04 15.3 +1.4
SHEM IAmb IAmb 20 04 16.8
comp=Z,230nm,0.9s
SHEM Shemya Is, Ala 69.65 27 LR LR 20 32 27.5
comp=Z,370nm,19.2s,baz=278,slow=34
SMY Shemya 69.65 27 P **P** 20 04 15.6 +1.6
SMY IAmb IAmb 20 04 16.8
comp=Z,297nm,1.0s
SMY Shemya 69.65 27 P **P** 20 04 15.6 +1.6
SMY pmax pmax
comp=Z,297nm,1.0s
TKM2 Tokmak 2 69.93 320 P **P** 20 04 17.8 +1.6
SNR=67
KUU Kurty 69.96 321 *e*P **P** 20 04 16.4 +0.2
comp=Z,208nm,1.1s
KUU Kurty 69.96 321 *e*P **P** 20 04 16.3 +0.2
KUU pmax pmax
comp=Z,208nm,1.1s
KBK Karagaybulak 70.21 320 P **P** 20 04 19.7 +1.8
SNR=55
UCH Uchtor 70.28 319 P **P** 20 04 20.4 +1.7
SNR=78
FRU1 Bishkek 70.49 320 P **P** 20 04 20.4 +0.9
FRU1 Bishkek 70.49 320 P **P** 20 04 20.4 +0.9
FRU1 pmax pmax
comp=Z,99nm,0.8s
AAK Ala-Archa 70.50 320 P **P** 20 04 20.7 +1.1
SNR=78
AAK Ala-Archa 70.50 320 P **P** 20 04 20.7 +1.1
AAK IAmb IAmb 20 04 22.6
comp=Z,242nm,1.0s
AAK Ala-Archa 70.50 320 P **P** 20 04 20.5 +0.9
comp=Z,122nm,0.8s,baz=134,slow=5.0,SNR=166
comp=Z,122nm,0.8s
AAK Ala-Archa 70.50 320 P **P** 20 04 21.3 +1.7
AAK Ala-Archa 70.50 320 *i* P **P** 20 04 21.0 +1.4
SNR=78
AAK Ala-Archa 70.50 320 *c iP* **P** 20 04 21.1 +1.5
AAK pmax pmax
comp=Z,488nm,1.7s
CHMS Chumysh 70.51 320 P **P** 20 04 20.4 +0.9
SNR=53
USP Ospenovka 70.80 320 P **P** 20 04 22.3 +1.0
SNR=162
SGDS Sogindy 70.81 320 *e*P **P** 20 04 21.6 +0.2
comp=Z,209nm,1.9s
KBL Kabul 70.83 310 P **P** 20 04 22.1 +0.2
KBL IAmb IAmb 20 04 23.9
comp=Z,267nm,0.9s
KBL Kabul 70.83 310 P **P** 20 04 22.1 +0.2
KBL pmax pmax
comp=Z,267nm,1.0s
EKS2 Erkin-Say 70.97 319 P **P** 20 04 24.0 +1.5
SNR=138
SEY Seymchan 71.26 10 PKPPKP 20 32 17.2
comp=Z,2.0nm,0.7s,baz=41,slow=9.3,SNR=3.8
SEY LR LR 20 32 58.4
comp=Z,552nm,21.6s,baz=200,slow=34
SEY Seymchan 71.26 10 *ce*P **P** 20 04 25.2 +1.6
SEY pmax pmax
comp=Z,321nm,0.9s
SEM Semipalatinsk 71.34 329⇑ *i*P **P** 20 04 24.9 +0.2
comp=Z,293nm,1.9s
SEM Semipalatinsk 71.34 329 *c iP* **P** 20 04 24.8 +0.1
SEM pmax pmax
comp=Z,293nm,1.9s
ZAA0 Zalesovo Array 71.38 334 P **P** 20 04 24.4 -0.1
ZAA0 IAmb IAmb 20 04 25.9
comp=Z,390nm,1.2s
ZALV Zalesovo Beam 71.38 334 P **P** 20 04 24.4 0.0
ZALV Zalesovo Beam 71.38 334 P **P** 20 04 24.7 +0.3
comp=Z,114nm,0.7s,baz=116,slow=4.9,SNR=239
ZALV S **S** **20 13 34.1 -2.7**
comp=Z,7.4nm,0.8s,baz=139,slow=13,SNR=7.4
ZALV PKPPKP **P'P'df** **20 32 14.7 -1.8**
comp=Z,1.0nm,0.6s,baz=282,slow=2.8,SNR=6.5
ZALV LR LR 20 38 44.3
comp=Z,407nm,19.4s,baz=144,slow=38
comp=Z,114nm,0.7s
GAR Garm 71.68 315 P **P** 20 04 27.2 +0.4
BTLS Baital 71.95 322⇑ *i*P **P** 20 04 28.6 +0.5
comp=Z,240nm,1.8s
BTLS Baital 71.95 322 *c iP* **P** 20 04 28.6 +0.5
BTLS pmax pmax
comp=Z,240nm,1.8s
TRKS Terek-Say 72.19 317 P **P** 20 04 30.8 +0.9
TRKS pmax pmax
comp=Z,276nm,0.7s
KURBB Kurchatov Arra 72.36 328 P **P** 20 04 30.9 +0.5
comp=Z,89nm,0.6s,baz=129,slow=4.9,SNR=331
KURBB PKiKP **PKiKP** **20 10 31.8 -0.3**
comp=Z,6.4nm,0.8s,baz=140,slow=2.3,SNR=4.4
KURBB S **S** **20 13 41.4 -6.8**
comp=Z,3.6nm,0.9s,baz=129,slow=13,SNR=4.9
KURBB PKPPKP **P'P'df** **20 32 16.1 +1.0**
comp=Z,2.5nm,0.2s,baz=291,slow=2.2,SNR=4.0
KURBB P4KPbc 20 41 08.3
comp=Z,0.3nm,0.6s,baz=97,slow=31,SNR=4.1
comp=Z,89nm,0.6s
KURBB Kurchatov Arra 72.36 328 P **P** 20 04 30.0 -0.4
KURK Kurchatov 72.37 328 P **P** 20 04 30.8 +0.4
KURK IAmb IAmb 20 05 08.3
comp=Z,181nm,0.9s
KURK Kurchatov 72.37 328 P **P** 20 04 31.4 +1.0
KURK Kurchatov 72.37 328 *c iP* **P** 20 04 31.1 +0.6
KURK pmax pmax
comp=Z,341nm,1.3s
XMAS Kiritimati 72.45 86 P **P** 20 04 33.7 +2.0
XMAS IAmb IAmb 20 05 03.4
comp=Z,307nm,1.1s
SIMJ Simiganj 72.47 314 P **P** 20 04 31.8 +0.3
SIMJ Simiganj 72.47 314 P **P** 20 04 32.3 +0.8
DZA Taraz 72.67 319 *e*P **P** 20 04 32.8 +0.3
comp=Z,97nm,1.0s
DZA Taraz 72.67 319 *e*P **P** 20 04 32.8 +0.3
DZA pmax pmax
comp=Z,97nm,1.0s
VNDA Vanda 72.85 173 P **P** 20 04 34.0 +1.0
VNDA Vanda 72.85 173 P **P** 20 04 33.9 +1.0
comp=Z,53nm,0.8s,baz=317,slow=6.2,SNR=176
VNDA PKPPKP **P'P'df** **20 32 16.1 +1.4**
comp=Z,1.2nm,0.9s,baz=140,slow=3.2,SNR=5.7
VNDA LR LR 20 37 01.6
comp=Z,2μm,18.3s,baz=345,slow=36
comp=Z,53nm,0.8s
VNDA Vanda 72.85 173 P **P** 20 04 34.0 +1.0
VNDA pmax pmax
comp=Z,92nm,1.0s
VNDA Vanda 72.85 173 P **P** 20 04 34.4 +1.4
IUG luznay 73.21 317 *e*P **P** 20 04 35.9 0.0
comp=Z,145nm,0.9s
IUG *e*S **SKiKP** **20 14 00.1 -0.9**
IUG luznay 73.21 317 *e*P **P** 20 04 35.8 0.0
IUG *e*S **SKiKP** **20 14 00.1 -0.9**
IUG pmax pmax
comp=Z,145nm,0.9s
KK31 Karatay Array 73.31 319 P **P** 20 04 36.8 +0.6
KK31 IAmb IAmb 20 04 38.6
comp=Z,237nm,1.0s
KK31 Karatay Array 73.31 319 P **P** 20 04 36.8 +0.6
KK31 pmax pmax
comp=Z,237nm,1.0s
KKAR Karatay Array 73.31 319 P **P** 20 04 36.8 +0.6
KKAR Karatay Array 73.31 319 P **P** 20 04 36.8 +0.6
ADK Adak 73.54 31 P **P** 20 04 37.8 +0.5
ADK IAmb IAmb 20 04 39.9
comp=Z,465nm,1.7s
ADK Adak 73.54 31 P **P** 20 04 38.3 +0.9
ADK Adak 73.54 31 P **P** 20 04 37.8 +0.5
ADK pmax pmax
comp=Z,465nm,1.7s
CHM Chimkent 73.57 318 *e*P **P** 20 04 38.2 +0.4
CHM Chimkent 73.57 318 *e*P **P** 20 04 38.2 +0.4
BRLS Borolday 73.72 318⇑ *i*P **P** 20 04 39.0 +0.2
comp=Z,112nm,0.9s
BRLS Borolday 73.72 318 *c iP* **P** 20 04 38.9 +0.2
BRLS pmax pmax
comp=Z,112nm,0.9s
SBA Scott Base 73.73 172 P **P** 20 04 39.8 +1.7
SBA Scott Base 73.73 172 P **P** 20 04 39.8 +1.7
SBA pmax pmax
comp=Z,141nm,1.1s
NGCH Negor - Chabah 74.39 298 P **P** 20 04 44.5 +1.6
SNR=16
MSEY Mahe Island 74.60 267 P **P** 20 04 44.5 0.0
MSEY Mahe Island 74.60 267 P **P** 20 04 44.8 +0.4
MSEY Mahe Island 74.60 267 P **P** 20 04 44.5 0.0
MSEY pmax pmax
comp=Z,134nm,1.0s
ATKA Atka Island 75.00 32 P **P** 20 04 46.6 +0.7
ATKA IAmb IAmb 20 04 48.0
comp=Z,224nm,0.9s
ATKA Atka Island 75.00 32 P **P** 20 04 46.8 +1.0
JLN Jalan Bani Buh 75.14 295 P **P** 20 04 48.0 +0.7
SNR=49
BRZS Berezniki 75.20 326⇑ *i*P **P** 20 04 47.6 +0.5
BRZS Berezniki 75.20 326 *c iP* **P** 20 04 47.6 +0.5
HON Honolulu 75.36 66 P **P** 20 04 49.7 +1.2
HON Honolulu 75.36 66 P **P** 20 04 49.7 +1.2
HON pmax pmax
comp=Z,476nm,0.9s
KIP Kipapa 75.37 66 P **P** 20 04 49.9 +1.2
KIP IAmb IAmb 20 05 19.1
comp=Z,348nm,1.2s
KIP Kipapa 75.37 66 *ce*P **P** 20 04 50.9 +2.3
KIP pmax pmax
comp=Z,263nm,1.3s
MAW Mawson 75.56 201 P **P** 20 04 50.0 +1.2
comp=Z,155nm,0.9s,baz=71,slow=6.4,SNR=309
MAW PKPPKP **P'P'df** **20 32 04.9 -5.5**
comp=Z,2.7nm,0.8s,baz=266,slow=7.1,SNR=5.8
MAW LR LR 20 34 51.6
comp=Z,1μm,21.4s,baz=62,slow=33
comp=Z,155nm,0.9s
HRA Herat 76.05 308 P **P** 20 04 52.6 +0.1
HRA IAmb IAmb 20 04 54.8
comp=Z,327nm,1.2s
WSAR Wadi Sarin 76.09 296 P **P** 20 04 53.5 +0.8
SNR=82
MHTO MHTO 76.18 293 P **P** 20 04 54.0 +0.7
SNR=68
DQM DQM 76.35 292 P **P** 20 04 55.0 +0.7
SNR=26
JMDO Jabal Madar 76.37 295 P **P** 20 04 55.0 +0.7
SNR=54
SMDO Samad 76.57 295 P **P** 20 04 56.3 +0.8
SNR=50
BIDO Bidbid 76.61 296 P **P** 20 04 57.0 +1.3
SNR=138
POHA Pohakuloa 77.28 68 P **P** 20 05 01.3 +1.5
POHA IAmb IAmb 20 05 30.9

comp=Z,281nm,1.0s
HOQ Hoqain 77.35 296 P P 20 05 01.0 +1.1
SNR=94
H04S1 CROZET ISLANDS 77.44 224 P P 20 04 55.7 -4.0
baz=346
H04S2 CROZET ISLANDS 77.46 224 P P 20 04 58.5 -1.2
baz=346
H04S3 CROZET ISLANDS 77.46 224 P P 20 04 59.1 -0.7
baz=346
H04N2 CROZET ISLANDS 77.47 224 P P 20 05 02.4 +2.6
baz=76
H04N3 CROZET ISLANDS 77.49 224 P P 20 05 00.7 +0.8
baz=76
H04N1 CROZET ISLANDS 77.49 224 P P 20 04 58.5 -1.4
baz=76
KNHH Kane Nui o Ham 77.54 69 P P 20 05 02.6 +1.5
CLES Cleveland East 77.58 32 P P 20 05 01.7 +1.3
SHAO Shalim 77.74 290 P P 20 05 03.2 +1.0
SNR=9.5
SHAO Shalim 77.74 290 *i* P **P 20 05 02.6 +0.5**
SNR=37
BVA0 Borovoye Array 77.92 328 P P 20 05 01.7 -0.7
BVAR Borovoye Array 77.92 328 P P 20 05 02.7 +0.3
comp=Z,133nm,0.9s,baz=123,slow=5.5,SNR=212
BVAR S **S 20 14 50.6 +0.7**
comp=Z,5.3nm,1.1s,baz=129,slow=11,SNR=3.8
comp=Z,133nm,0.9s
BORK Borovoye 77.97 328 *c i*P **P 20 05 03.0 +0.4**
BORK pmax pmax
comp=Z,353nm,1.7s
BORK MLR MLR
comp=Z,489nm,19.0s
ARQ Araqi 78.00 295 P P 20 05 04.2 +0.7
SNR=50
TIXI Tiksi 78.03 359 P P 20 05 02.3 -0.2
TIXI IAmb IAmb 20 05 04.1
comp=Z,172nm,0.7s
TIXI Tiksi 78.03 359 LR LR 20 39 27.4
comp=Z,1μm,21.5s,baz=196,slow=36
TIXI Tiksi 78.03 359 *c i*P **P 20 05 02.3 -0.2**
TIXI pmax pmax
comp=Z,205nm,0.8s
TIXI MLR MLR
comp=Z,1μm,17.0s
TIXI Tiksi 78.03 359 P **P 20 05 02.4 -0.2**
TIXI PcP **PcP 20 05 12.9 +0.9**
SOHO SOHO 78.16 296 *i* P **P 20 05 04.6 +0.2**
SNR=83
NIKH Nikolski High 78.21 33 P P 20 05 04.9 +1.0
NIKH IAmb IAmb 20 05 06.2
comp=Z,156nm,0.9s
NIKH Nikolski High 78.21 33 P **P 20 05 04.9 +1.0**
NIKH Nikolski High 78.21 33 P **P 20 05 05.1 +1.1**
baz=242
TBI Tubuai 78.34 112 *e*P **P 20 05 07.0 +1.7**
comp=Z,211nm,0.9s
TBI *e*pP **pP 20 05 24.0 +0.7**
comp=Z,223nm,0.8s
TBI Tubuai 78.34 112 *e*PP **PP 20 08 00.3 -3.0**
comp=Z,2μm,33.8s
TBI *e*S **S 20 14 54.1 -1.3**
comp=Z,3μm,38.0s
TBI *e*SS **SS 20 19 53.8 -5.7**
comp=Z,2μm,33.0s
TBI *e*LQ LQ 20 26 11.8
comp=Z,3μm,28.0s
TBI *e*LR LR 20 29 24.9
comp=Z,12μm,30.0s
TBI *e*LR LR 20 29 27.7
comp=Z,3μm,27.5s
PAE Paea 78.49 107 *e*P **P 20 05 06.9 +0.6**
comp=Z,88nm,1.2s
PPT2 Papeete2 78.50 107 *e*P **P 20 05 08.1 +1.7**
comp=Z,202nm,1.1s
PPT2 Papeete2 78.50 107 *e*PP **PP 20 08 01.2 -3.7**
comp=Z,271nm,27.5s
PPT2 *e*S **S 20 14 51.4 -6.1**
comp=Z,2μm,42.2s
PPT2 Papeete2 78.50 107 *e*LQ LQ 20 26 15.0
comp=Z,2μm,27.2s
PPT2 *e*LR LR 20 29 35.4
comp=Z,3μm,29.5s
PPT2 *e*LR LR 20 29 36.2
comp=Z,2μm,34.0s
PPT Papeete 78.50 107 P **P 20 05 09.1 +2.8**
comp=Z,221nm,0.9s,baz=335,slow=7.5,SNR=15
comp=Z,221nm,0.9s
PPTF Pamatai, Papee 78.51 107 P **P 20 05 07.8 +1.3**
PPTF IAmb IAmb 20 05 43.4
comp=Z,316nm,1.0s
BILL Bilibino 78.56 13 P **P 20 05 06.4 +0.8**
BILL Bilibino 78.56 13 *ce*P **P 20 05 05.9 +0.3**
BILL pmax pmax
comp=Z,92nm,2.5s
MDH Madha 78.63 297 P **P 20 05 08.0 +1.1**
SNR=14
MDH Madha 78.63 297 *i* P **P 20 05 06.4 -0.5**
SNR=14
UOSS Minazif 78.63 297 P **P 20 05 06.8 -0.1**
UOSS Minazif 78.63 297 *i* P **P 20 05 07.1 +0.1**
SNR=30
UOSS Minazif 78.63 297 P **P 20 05 07.2 +0.3**
HATD Hatta, Dubai 78.67 297 P **P 20 05 08.1 +1.0**
SNR=50
HATD Hatta, Dubai 78.67 297 *i* P **P 20 05 07.8 +0.6**
SNR=66
ASHO Ashiyiah 78.71 297 P **P 20 05 08.2 +0.8**
SNR=40
ASHO Ashiyiah 78.71 297 *i* P **P 20 05 08.0 +0.6**
SNR=59
TIAR Tiarei 78.72 107 *e*P **P 20 05 09.6 +2.0**
comp=Z,523nm,1.3s
MSFE Esma-Masafi 78.77 297 *i* P **P 20 05 08.4 +0.8**
SNR=45
MSFE P **PcP 20 05 08.6 -7.7**
BANOM Banah 78.77 298 *i* P **P 20 05 08.4 +0.8**
SNR=24
MASF Masafi 78.77 297 P **P 20 05 08.9 +1.2**
SNR=56
TVO Taravao 78.80 107 *e*P **P 20 05 08.3 +0.3**
comp=Z,65nm,1.0s
ALNE Al Ain 78.85 296 P **P 20 05 08.8 +0.6**
SNR=82
ALNE Al Ain 78.85 296 *i* P **P 20 05 09.0 +0.9**
SNR=95
SHME Shamm 78.93 298 P **P 20 05 09.5 +1.0**
SNR=42
SHME Shamm 78.93 298 *i* P **P 20 05 09.6 +1.0**
SNR=34
RBK Rabkut 78.98 289 P **P 20 05 10.0 +1.0**
SNR=27
NAZ Nazwa, Dubai 79.12 297 P **P 20 05 09.5 -0.1**
SNR=41
NAZ Nazwa, Dubai 79.12 297 *i* P **P 20 05 10.1 +0.5**
SNR=32
FAQ Al Faqa, Dubai 79.13 297 P **P 20 05 10.0 +0.4**
SNR=48
FAQ Al Faqa, Dubai 79.13 297 *i* P **P 20 05 10.5 +0.8**
SNR=40
UMQ Umm Al-Quwin 79.24 297 P **P 20 05 10.8 +0.6**
SNR=9.0
UMQ Umm Al-Quwin 79.24 297 *i* P **P 20 05 11.7 +1.5**
SNR=5.8
DOK Doka 79.25 290 P **P 20 05 11.0 +0.6**
SNR=38
ASUD Al Ashush, Dub 79.34 296 P **P 20 05 11.3 +0.5**
SNR=35
ASUD Al Ashush, Dub 79.34 296 *i* P **P 20 05 12.0 +1.2**
SNR=61
WHFO Wadi Hawf 79.46 290 P **P 20 05 12.0 +0.4**
SNR=43
SPIA Saint Paul Isl 79.53 28 P **P 20 05 12.8 +1.7**
baz=240
P08K Saint George I 79.58 29 P **P 20 05 13.2 +1.9**
baz=241
AJN Ajban 79.63 296 P **P 20 05 12.4 0.0**
SNR=31
AJN Ajban 79.63 296 *i* P **P 20 05 12.7 +0.3**
SNR=28
ABTO Aybut 79.80 289 P **P 20 05 13.8 +0.3**
SNR=56
UNV Unalaska Valle 79.86 32 P **P 20 05 14.0 +1.0**
UNV Unalaska Valle 79.86 32 P **P 20 05 13.9 +1.0**
UNV Unalaska Valle 79.86 32 P **P 20 05 14.3 +1.4**
baz=244,SNR=23
PMOR Pomariorio Ree 80.28 104 *e*P **P 20 05 13.9 -2.1**
comp=Z,326nm,1.1s
AKUT Akutan 80.37 32 P **P 20 05 16.3 +0.7**
AKUT IAmb IAmb 20 05 18.1
comp=Z,190nm,0.9s
AKUT Akutan 80.37 32 P **P 20 05 16.2 +0.5**
MZR Muzera 80.67 295 P **P 20 05 19.1 +1.0**
SNR=83
MZR Muzera 80.67 295 *i* P **P 20 05 18.9 +0.8**
SNR=158
FOMA Nahampoana Res 81.40 246 P P 20 05 22.4 +0.5
ABPO Ambohimpanom 81.54 252 P P 20 05 23.2 +0.3
ABPO Ambohimpanom 81.54 252 P P 20 05 23.2 +0.3
ABPO pmax pmax
comp=Z,164nm,1.6s
JRN Qarnain Island 81.61 296 P P 20 05 22.7 -0.3
SNR=34
VOI Vohitsoka 81.75 249 P P 20 05 24.1 +0.1
VOI IAmb IAmb 20 05 26.0
comp=Z,237nm,1.3s
VOI Vohitsoka 81.75 249 P P 20 05 25.1 +1.2
SNR=7.4
FALS False Pass 81.92 32 P P 20 05 24.9 +1.0
FALS False Pass 81.92 32 P P 20 05 25.0 +1.2
baz=247,SNR=11
GAMB Gambell 82.31 22 P P 20 05 27.6 +1.9
baz=238
AB31 Akbulak array 82.44 321 P P 20 05 27.2 +0.4
AB31 Akbulak array 82.44 321 *i* P **P 20 05 26.1 -0.7**
ABKAR Akbulak array 82.44 321 P P 20 05 26.9 +0.2
M11K Mekoryuk 82.91 27 P P 20 05 30.9 +2.0
baz=244
S12K Black Hills 82.97 32 P P 20 05 30.4 +1.0
baz=248,SNR=9.3
TRNA Turayna 83.03 296 P P 20 05 31.1 +0.7
SNR=35
SMRA Abu-Samra 83.39 296 P P 20 05 33.0 +0.8
SNR=68
QSPA South Pole Qui 83.44 180 P P 20 05 33.6 +1.8
QSPA IAmb IAmb 20 05 35.6
comp=Z,280nm,1.2s
QSPA South Pole Qui 83.44 180 P P 20 05 34.2 +2.4
comp=Z,125nm,1.0s,baz=316,slow=1.5,SNR=293
QSPA PKKPbc **PKKPbc 20 23 51.9 -1.9**
comp=Z,3.7nm,0.7s,baz=188,slow=1.5,SNR=9.5
QSPA PKPPKP **P'P'df 20 31 54.9 -1.2**
comp=Z,6.9nm,0.9s,baz=284,slow=2.1,SNR=6.0
QSPA LR LR 20 42 59.5
comp=Z,2μm,19.4s,baz=356,slow=36
comp=Z,125nm,1.0s
QSPA South Pole Qui 83.44 180 P P 20 05 34.6 +2.8
SHMA Al-Shehemyia 83.46 297 P P 20 05 34.0 +1.4
SNR=23
SDPT Sand Point 83.67 32 P P 20 05 34.0 +1.0
baz=249,SNR=37
CHNA Chernabura Isl 83.97 33 P P 20 05 35.4 +0.9
CHNA Chernabura Isl 83.97 33 P P 20 05 35.5 +1.0
baz=250,SNR=21
AKTO Aktyubinsk 84.00 322 P P 20 05 35.0 +0.3
comp=Z,93nm,0.7s,baz=92,slow=4.6,SNR=81
AKTO LR LR 20 45 58.7
comp=Z,582nm,22.0s,baz=86,slow=38
comp=Z,93nm,0.7s
M13K Dall Lake 84.20 27 P P 20 05 37.7 +2.2
baz=246,SNR=5.2
K13K Kusilvak Mount 84.26 25 P P 20 05 37.8 +2.0
baz=245,SNR=17
SYO Syowa Base 84.27 201 ⇑ *i*P **P 20 05 36.5 +0.7**
S14K Fog Glacier 84.49 32 P P 20 05 38.5 +1.2
baz=250,SNR=10.0
TNA Tin City 84.61 22 P P 20 05 38.5 +1.0
TNA Tin City 84.61 22 P P 20 05 38.8 +1.3
baz=241
SVE Sverdlovsk 84.62 329 *d i*P **P 20 05 38.1 +0.4**
SVE *e*S **SKSac 20 15 53.4 -1.8**
SVE pmax pmax
comp=Z,303nm,1.3s
O14K Tigyukauivet M 84.71 29 P P 20 05 39.7 +1.5
baz=248,SNR=14
N14K Kuskokwak Cree 84.77 28 P P 20 05 39.9 +1.5
baz=248,SNR=6.1
L14K Kuka Creek 84.87 26 P P 20 05 40.6 +1.7
baz=246
M14K Bethel 84.96 27 P P 20 05 41.2 +1.8
baz=247,SNR=29
J14K Nanvaranak Lak 85.07 25 P P 20 05 41.6 +1.8
baz=246
CHGN Chignik 85.10 32 P P 20 05 40.3 +0.2
CHGN IAmb IAmb 20 05 41.9
comp=Z,140nm,0.9s
CHGN Chignik 85.10 32 P P 20 05 40.9 +0.8
baz=251,SNR=15
ANM Nome 85.11 23 P P 20 05 41.7 +1.6
baz=244,SNR=5.8
F14K Arctic Creek 85.16 22 P P 20 05 42.1 +1.8
baz=243,SNR=17
O15K Ungalikthiuk R 85.38 29 P P 20 05 43.1 +1.7
baz=249,SNR=17
M15K Kasigluk River 85.52 27 P P 20 05 43.8 +1.6
baz=248,SNR=52
L15K Ungalak Mounta 85.53 26 P P 20 05 43.8 +1.6
baz=248,SNR=38
N15K Kwethluk River 85.60 28 P P 20 05 44.4 +1.7
baz=249,SNR=54
ARTI Arti 85.64 328 P P 20 05 42.2 -0.6
ARTI Arti 85.64 328 P P 20 05 42.7 -0.2
comp=Z,173nm,0.7s,baz=115,slow=2.6,SNR=194
ARTI PKiKP **PKiKP 20 10 53.0 +0.7**
comp=Z,5.2nm,0.7s,baz=14,slow=10,SNR=1.5
comp=Z,173nm,0.7s
ARTI Arti 85.64 328 *c i*P **P 20 05 42.1 -0.8**
ARTI *PP **pP 20 05 56.0 -4.9**
ARTI 20 08 56.2
ARTI PPP PPP 20 10 55.5
ARTI S **SKSac 20 16 02.5 +0.8**
ARTI SSS SSS 20 25 10.2
ARTI pmax pmax
comp=Z,218nm,0.8s
K15K Wolf Creek Mou 85.75 26 P P 20 05 45.2 +1.9
baz=248,SNR=43
G15K Niukluk 85.82 23 P P 20 05 45.3 +1.8
baz=245,SNR=9.3
F15K North Star Dit 85.89 22 P P 20 05 45.4 +1.4
baz=244,SNR=14
R16K Pilot Point 85.94 31 P P 20 05 45.9 +1.6
baz=251
P16K Nushagak River 86.21 29 P P 20 05 47.1 +1.5
baz=251,SNR=27
N16K Nishlik Lake 86.33 28 P P 20 05 48.2 +2.0
baz=250,SNR=105
O16K Kokwok River B 86.35 29 P P 20 05 47.7 +1.4
baz=251,SNR=48
H16K Elim 86.37 23 P P 20 05 47.4 +1.1
baz=247,SNR=14
M16K Timber Creek 86.43 27 P P 20 05 48.5 +1.8
baz=250,SNR=68
CHIR Chirikof Islan 86.43 33 P P 20 05 48.1 +1.3
CHIR Chirikof Islan 86.43 33 P P 20 05 48.0 +1.3
baz=253
L16K Owhat River 86.44 27 P P 20 05 48.4 +1.7
baz=249,SNR=86
J16K Anvik River 86.52 25 P P 20 05 48.7 +1.6
baz=248,SNR=34
R17L Mt. Peulik Vol 86.59 31 P P 20 05 48.3 +0.8
baz=252,SNR=20
G16K Koyuk River 86.63 23 P P 20 05 48.8 +1.3
baz=247,SNR=18
I17K Unalakleet 86.71 24 P P 20 05 49.7 +1.8
baz=248,SNR=5.8
Q16K King Salmon 86.76 30 P P 20 05 48.3 0.0
baz=252,SNR=6.1
C16K Lisburne Hills 86.78 20 P P 20 05 48.8 +0.6
baz=244,SNR=15
O17K Koliganek Bris 86.89 29 P P 20 05 50.3 +1.4
baz=252,SNR=35
Q17K Contact Creek 87.02 31 P P 20 05 50.0 +0.2
baz=253
P17K Kvichak River 87.03 30 P P 20 05 50.2 +0.6
baz=252,SNR=9.3
N17K Nushagak Hills 87.08 28 P P 20 05 51.8 +1.9
baz=251,SNR=32
L17K Donlin 87.11 26 P P 20 05 51.9 +1.9
baz=250,SNR=44
J17K VABM Dome 87.20 25 P P 20 05 52.1 +1.7
baz=250,SNR=58
M17K Holitna River 87.25 27 P P 20 05 52.7 +2.0
baz=251,SNR=32
D17K Noatak River 87.30 21 P P 20 05 52.3 +1.6
baz=246,SNR=69
K17K Iditarod 87.30 26 P P 20 05 52.5 +1.6
baz=250,SNR=50
G17K Kiwalik Mounta 87.33 23 P P 20 05 52.2 +1.3
baz=248,SNR=41
H17K Granite Mounta 87.41 24 P P 20 05 52.6 +1.3
baz=249,SNR=64
SII Sitkinak Islan 87.41 32 P P 20 05 53.0 +1.4
SII Sitkinak Islan 87.41 32 P P 20 05 53.2 +1.6
SII Sitkinak Islan 87.41 32 P P 20 05 53.2 +1.6
baz=254,SNR=12
F17K Baldwin Pennin 87.46 22 P P 20 05 52.6 +1.1
baz=248
E17K Hotham Inlet 87.50 21 P P 20 05 53.0 +1.3
baz=247,SNR=23
RDOG Red Dog Mine 87.51 20 P P 20 05 52.7 +1.0
baz=246,SNR=28
R18K Karluk 87.55 31 P P 20 05 53.0 +0.9
baz=254
Q18K Katmai Hardscr 87.57 30 P P 20 05 52.7 +0.3
baz=253,SNR=20
C17K DeLong Mountai 87.59 20 P P 20 05 53.1 +0.9
baz=246,SNR=16
LKRN Lenkeran, Azer 87.60 309 P P 20 05 54.9 +2.1
P18K Big Mountain, 87.68 30 P P 20 05 53.1 +0.3
baz=253,SNR=7.2
N18K Kilae Creek 87.74 28 P P 20 05 54.4 +1.3
baz=253,SNR=16
L18K Granite Mounta 87.85 27 P P 20 05 55.2 +1.7
baz=252,SNR=95
RAYN Ar Rayn 87.99 294 P P 20 05 55.5 +0.4
RAYN Ar Rayn 87.99 294 *i* P **P 20 05 55.6 +0.5**
SNR=25
RAYN Ar Rayn 87.99 294 P P 20 05 55.5 +0.4
RAYN pmax pmax
comp=Z,195nm,0.8s
RAYN Ar Rayn 87.99 294 P P 20 05 55.7 +0.5
RAYN pP **pP 20 06 14.5 +1.2**
M18K Stony River 88.01 27 P P 20 05 56.0 +1.7
baz=253,SNR=74
OHAK Old Harbor 88.06 32 P P 20 05 55.8 +1.2
OHAK Old Harbor 88.06 32 P P 20 05 56.0 +1.4
baz=255,SNR=26
E18K Tukpahlearik C 88.07 21 P P 20 05 55.5 +1.1
baz=248,SNR=31
H18K Honhosa River 88.10 24 P P 20 05 55.1 +0.5
baz=250,SNR=17
F18K Selawik 88.11 22 P P 20 05 55.0 +0.4
baz=249,SNR=7.5
J18K Innoko River 88.23 25 P P 20 05 56.2 +0.9
baz=252,SNR=65
G18K Tagagawik 88.24 23 P P 20 05 55.9 +0.6
baz=250,SNR=21
C18K Utukok River 88.33 20 P P 20 05 56.2 +0.5
baz=248,SNR=9.3
Q19K Cape Douglas, 88.33 30 P P 20 05 56.2 +0.3
baz=255
O19K Port Alsworth 88.35 29 P P 20 05 56.8 +0.9
baz=254
TAOE Nuku Hiva Isla 88.39 99 *e*PKIKP **P 20 05 54.6 -2.7**
comp=Z,508nm,29.6s
TAOE Nuku Hiva Isla 88.39 99 *e*S **S 20 16 31.4 -6.1**
comp=Z,492nm,30.2s
TAOE Nuku Hiva Isla 88.39 99 *e*LQ LQ 20 30 13.0
comp=Z,2μm,30.6s
TAOE *e*LR LR 20 34 13.7
comp=Z,2μm,32.3s
B18K Kokolik River 88.40 19 P P 20 05 57.1 +1.1
baz=247,SNR=6.9
N19K Bonanza Creek 88.44 28 P P 20 05 57.8 +1.3
baz=254,SNR=29
GCSA Galena City Sc 88.56 24 P P 20 05 57.7 +1.0
baz=252,SNR=18
KDAK Kodiak Island 88.58 31 P P 20 05 58.1 +1.1
KDAK Kodiak Island 88.58 31 P P 20 05 58.7 +1.7
comp=Z,161nm,0.8s,baz=244,slow=2.4,SNR=47
KDAK LR LR 20 41 34.1
comp=Z,457nm,21.5s,baz=247,slow=33
comp=Z,161nm,0.8s
KDAK Kodiak Island 88.58 31 *de*P **P 20 05 58.5 +1.5**
KDAK pmax pmax
comp=Z,300nm,0.9s
KDAK Kodiak Island 88.58 31 P P 20 05 58.1 +1.1
baz=256
L19K White Mountain 88.66 27 P P 20 05 58.8 +1.4
baz=253,SNR=110
J19K Poorman 88.85 25 P P 20 05 59.1 +0.9
baz=253,SNR=43
AKT Akhty 88.87 312 *e*P **P 20 05 59.4 +0.4**
AKT *e**PP **pP 20 06 16.3 -1.2**
AKT *e**SP **pwP 20 06 23.4 -0.6**
AKT *e* 20 09 29.4
AKT *e*PPP PPP 20 11 27.0
AKT *e*S **SKSac 20 16 23.2 +0.9**
AKT pmax pmax
comp=Z,123nm,1.0s
Q20K Shuyak Island 88.88 31 P P 20 05 59.2 +0.8
baz=256
F19K Shaleruckik Mo 88.89 22 P P 20 05 58.6 +0.3
baz=251,SNR=30
G19K Purcell Mounta 88.93 23 P P 20 05 59.5 +1.0
baz=251,SNR=49
A19K Wainwright 88.96 18 P P 20 06 00.0 +1.5
baz=248,SNR=6.4
ATD Arta Tunnel 88.98 282 P P 20 06 01.4 +1.4
ATD IAmb IAmb 20 06 03.5
comp=Z,194nm,1.2s
ATD Arta Tunnel 88.98 282 LR LR 20 42 06.0
comp=Z,24nm,21.9s,baz=92,slow=33
ATD Arta Tunnel 88.98 282 P P 20 06 02.5 +2.5
SNR=18
H19K Roundabout Mou 88.98 23 P P 20 05 59.9 +1.1
baz=252,SNR=57
C19K Lookout Ridge 89.04 20 P P 20 06 00.3 +1.2
baz=249,SNR=34
L20K Farewell, AK 89.18 27 P P 20 06 00.9 +1.1
baz=254,SNR=32
SEKA Sheki 89.22 311 P P 20 06 01.3 +0.7
MNGR Mingechevir, A 89.24 311 P P 20 06 01.7 +1.2
MAK Makhachkala 89.28 313 *c i*P **P 20 05 58.2 -2.5**
MAK *e**PP **pP 20 06 15.5 -3.7**
MAK *e**SP **pwP 20 06 21.5 -4.2**
MAK *e* 20 09 32.1
MAK *e*PPP PPP 20 11 27.2
MAK *e*S **SKSac 20 16 21.4 -3.0**
MAK *e**SS **ScS 20 16 52.7 +3.6**
MAK *e*SSS SSS 20 26 07.9
MAK pmax pmax
comp=Z,188nm,1.0s
MAK MLR MLR
comp=Z,874nm,20.0s
E19K Redstone River 89.30 22 P P 20 06 01.1 +0.9
baz=251,SNR=91
D19K Kuna River 89.33 20 P P 20 06 01.1 +0.7
baz=250,SNR=27
K20K Telida 89.33 26 P P 20 06 01.9 +1.4
baz=254,SNR=52
M20K Styx River 89.36 27 P P 20 06 01.9 +1.1
baz=255,SNR=22
HOM Homer 89.51 30 P P 20 06 01.6 +0.3
baz=256
J20K Nowinta River 89.53 25 P P 20 06 02.7 +1.4
baz=254,SNR=47
I20K Naaghedeneel 89.56 24 P P 20 06 02.6 +1.2
baz=254,SNR=6.9
H20K Anotleneega Mo 89.60 24 P P 20 06 02.5 +0.9
baz=253,SNR=17
F20K Avaraart Lake 89.73 22 P P 20 06 03.2 +1.0
baz=253,SNR=42
GANJ Ganja 89.79 311 P P 20 06 04.2 +1.0
STLK Strandline Lak 89.86 28 P P 20 06 02.5 -0.5
D20K Etiviuk River 89.92 20 P P 20 06 03.8 +0.7
baz=252,SNR=31
E20K Nigu River 89.93 21 P P 20 06 03.9 +0.7
baz=252,SNR=76
BRSE Bradley Lake S 89.97 30 P P 20 06 03.9 +0.3
baz=257
PPLA Purkeypile 90.04 27 P P 20 06 04.1 +0.1
baz=256,SNR=7.4
SKT Skwentna 90.11 28 P P 20 06 03.6 -0.6
baz=256,SNR=14
B20K Meade River 90.15 19 P P 20 06 04.8 +0.7
baz=251,SNR=16
IMAR Indian Mountai 90.18 23 P P 20 06 04.8 +0.4
NAX Nakhchivan 90.20 309 P P 20 06 06.2 +1.0
CHUM Lake Minchumin 90.23 26 P P 20 06 05.8 +1.2
baz=256,SNR=31
SUA Susitna One 90.36 28 P P 20 06 05.3 -0.2
baz=257,SNR=25

G21K Allakaket 90.42 23 P P 20 06 06.2 +0.7
baz=255,SNR=20
H21K Melozitna Rive 90.47 24 P P 20 06 06.3 +0.5
baz=255
F21K Alatna River 90.62 22 P P 20 06 06.9 +0.5
baz=255,SNR=13
O22K Cooper Landing 90.63 29 P P 20 06 06.8 +0.3
baz=258,SNR=8.6
C21K Kniteblade Rid 90.68 20 P P 20 06 07.5 +0.8
baz=254,SNR=20
SEW Seward 90.69 30 P P 20 06 07.3 +0.5
SEW IAmb IAmb 20 06 09.1
comp=Z,112nm,1.1s
SEW Seward 90.69 30 P P 20 06 07.1 +0.3
baz=258,SNR=11
M22K Willow 90.72 28 P P 20 06 06.7 -0.2
baz=258,SNR=10
A21K Barrow 90.74 18 P P 20 06 07.6 +0.7
baz=252
RC01 Rabbit Creek A 90.75 29 P P 20 06 07.4 +0.2
baz=258,SNR=14
E21K Killik River 90.77 21 P P 20 06 07.5 +0.4
baz=254
BELG Belogornoye 90.78 323 P P 20 06 06.2 -1.1
comp=Z,96nm,0.8s,baz=233,slow=0.4,SNR=33
BELG PP PP 20 09 45.2 +1.3
comp=Z,48nm,0.9s,baz=219,slow=7.2,SNR=3.5
comp=Z,96nm,0.8s
BELG Belogornoye 90.78 323*c i* P P 20 06 05.9 -1.5
BELG pmax pmax
comp=Z,19nm,0.9s
CUT Chulitna 90.79 27 P P 20 06 07.1 -0.1
baz=258
BPAW Bear Paw Mtn. 90.85 25 P P 20 06 07.7 +0.2
baz=257,SNR=13
B21K Ikpikpuk River 90.87 20 P P 20 06 08.2 +0.7
baz=254,SNR=20
KIRV Kirov 90.88 329 P P 20 06 07.2 -0.5
comp=Z,64nm,0.7s,baz=94,slow=3.3,SNR=17
comp=Z,64nm,0.7s
KIRV Kirov 90.88 329*c i* P P 20 06 06.4 -1.3
GNI Garni 90.92 310 P P 20 06 09.3 +0.7
GNI IAmb IAmb 20 06 48.1
comp=Z,78nm,1.1s
GNI Garni 90.92 310 P P 20 06 09.3 +0.7
comp=Z,28nm,0.9s,baz=9.5,slow=2.3,SNR=9.3
GNI PP PP 20 09 45.5 -0.1
comp=Z,18nm,1.0s,baz=38,slow=7.0,SNR=3.0
GNI LR LR 20 57 05.1
comp=Z,108nm,18.5s,baz=98,slow=42
comp=Z,28nm,0.9s
GNI Garni 90.92 310*ce* P P 20 06 09.4 +0.7
GNI pmax pmax
comp=Z,43nm,0.9s
GNI Garni 90.92 310 P P 20 06 08.8 +0.2
comp=Z,1µmcomp=Z,55nm,0.9s
TRF Thorofare Moun 91.01 26 P P 20 06 08.1 -0.3
baz=258,SNR=12
H22K Ishtalitna Cre 91.10 24 P P 20 06 09.6 +0.9
baz=257,SNR=26
PMR Palmer 91.14 28 P P 20 06 09.1 +0.2
baz=258,SNR=9.4
A22K Sinclair Lake 91.15 18 P P 20 06 09.7 +0.9
baz=253
MLY Manley 91.16 25 P P 20 06 09.7 +0.6
baz=257,SNR=65
F22K John River 91.18 22 P P 20 06 10.1 +1.1
baz=256
G22K Bettles 91.29 23 P P 20 06 10.0 +0.5
baz=256
D22K Ayikyak River 91.34 21 P P 20 06 10.6 +0.9
baz=255,SNR=19
PWL Port Wells 91.38 29 P P 20 06 11.3 +1.2
baz=259,SNR=6.1
KNK Knik Glacier 91.42 28 P P 20 06 10.9 +0.6
baz=259,SNR=22
E22K Anaktuvuk Pass 91.47 21 P P 20 06 11.3 +0.9
baz=256,SNR=49
B22K Teshekpuk Lake 91.47 19 P P 20 06 10.8 +0.6
baz=255,SNR=10.0
BWN Browne 91.52 26 P P 20 06 11.0 +0.4
TRLG Trialeti 91.58 311 P P 20 06 12.6 +1.0
RKT Rikitea 91.63 113 *e*LR LR 20 35 29.5
comp=Z,8µm,36.0s
WAT1 Susitna Watana 91.65 27 P P 20 06 11.5 +0.2
baz=259
MCK McKinley 91.66 26 P P 20 06 11.2 -0.2
baz=259,SNR=25
NEA2 Nenana 91.77 25 P P 20 06 12.9 +1.1
baz=259,SNR=23
G23K Bananza Creek 91.82 23 P P 20 06 13.2 +1.2
baz=258,SNR=86
M23K Glacier View 91.84 28 P P 20 06 12.6 +0.4
baz=260,SNR=21
COLD Coldfoot 91.86 23 P P 20 06 13.3 +1.1
baz=258,SNR=88
WAT6 Susitna Watana 91.97 27 P P 20 06 13.1 +0.1
baz=260,SNR=19
GLI Glacier Island 91.98 29 P P 20 06 13.4 +0.5
baz=260
GEVA Gevas 91.98 308 P P 20 06 14.6 +0.9
SCM Sheep Creek Mo 92.03 28 P P 20 06 13.6 +0.5
baz=260,SNR=14
D23K Nanushuk River 92.06 21 P P 20 06 14.4 +1.4
baz=257,SNR=38
KIBK Kibwezi 92.15 267 P P 20 06 14.8 0.0
KIBK IAmb IAmb 20 06 17.2
comp=Z,137nm,1.5s
KIBK Kibwezi 92.15 267 P P 20 06 15.9 +1.1
SNR=16
NCK Nalchik 92.19 313⇑ *e*P P 20 06 14.5 +0.3
NCK pmax pmax
comp=Z,104nm,2.2s
DHY Denali Highway 92.22 27 P P 20 06 14.6 +0.4
DHY IAmb IAmb 20 06 17.2
comp=Z,50nm,0.8s
DHY Denali Highway 92.22 27 P P 20 06 14.6 +0.4
baz=260,SNR=32
E23K Chandalar 92.25 22 P P 20 06 15.3 +1.2
baz=258,SNR=71
C23K Itkillik River 92.28 20 P P 20 06 14.7 +0.7
baz=257,SNR=16
COLA College 92.34 25*c i* P P 20 06 13.3 -1.0
COLA pmax pmax
comp=Z,32nm,0.9s
COLA College 92.34 25 P P 20 06 13.7 -0.6
baz=260
TOLK Toolik Lake Re 92.39 21 P P 20 06 15.7 +1.0
baz=258,SNR=25
H24K Noodor Dome 92.50 24 P P 20 06 15.9 +0.7
baz=260,SNR=117
POKR Poker Plat Res 92.55 25 P P 20 06 15.9 +0.5
baz=260
EYAK Cordova Ski Ar 92.58 29 P P 20 06 16.4 +0.8
baz=261
M24K Tolsona, Glenn 92.61 28 P P 20 06 17.0 +1.2
baz=261,SNR=9.3
HDA Harding Lake 92.64 26 P P 20 06 15.2 -0.6
baz=260,SNR=61
KLU Klutina 92.64 29 P P 20 06 16.7 +0.7
baz=261,SNR=10.0
E24K Your Creek 92.67 22 P P 20 06 16.6 +0.7
E24K Your Creek 92.67 22 P P 20 06 16.7 +0.7
baz=259,SNR=25
KBZ Khabaz 92.72 314 P P 20 06 16.4 -0.3
comp=Z,7.1nm,0.8s,baz=140,slow=4.6,SNR=9.5
KBZ PP PP 20 09 59.4 -0.1
comp=Z,10nm,1.0s,baz=70,slow=18,SNR=4.2
KBZ LR LR 20 54 34.3
comp=Z,234nm,19.2s,baz=90,slow=40
comp=Z,7.1nm,0.8s
KBZ Khabaz 92.72 314⇑ *e*P P 20 06 16.5 -0.1
KBZ pmax pmax
comp=Z,37nm,2.2s
ILAR Eielson Array 92.72 25 P P 20 06 15.2 -1.0
ILAR Eielson Array 92.72 25 P P 20 06 15.6 -0.6
comp=Z,36nm,0.8s,baz=273,slow=4.3,SNR=257
ILAR PP PP 20 09 57.6 -1.3
comp=Z,2.3nm,0.8s,baz=264,slow=7.5,SNR=4.3
ILAR PKKP PKKPdf 20 23 26.9 -1.4
comp=Z,5.9nm,0.7s,baz=46,slow=0.7,SNR=31
ILAR PKPPKP P'P'df 20 31 40.4 +2.8
comp=Z,0.8nm,0.9s,baz=353,slow=2.0,SNR=4.8
ILAR LR LR 20 45 24.6
comp=Z,109nm,20.2s,baz=252,slow=34
comp=Z,36nm,0.8s
D24K Happy Valley 92.75 21 P P 20 06 17.2 +1.0
baz=259

FURI Furi 92.76 279 P 20 06 18.3 +0.4
FURI IAmb IAmb 20 06 34.2
comp=Z,43nm,0.7s
GOF Gofitskoye 92.76 315 *ce*P P 20 06 16.6 -0.2
F24K Squaw Lake 92.79 22 P P 20 06 17.8 +1.3
baz=260,SNR=92
G24K Hadweenzic Riv 92.81 23 P P 20 06 17.6 +1.1
baz=260,SNR=69
GURO Guroymak-BITLI 92.81 308 P P 20 06 18.1 +0.7
GURO IAmb IAmb 20 06 19.8
comp=Z,97nm,1.0s
KIV Kislovodsk 92.90 314 *e*P P 20 06 15.0 -2.6
KIV *e* 20 09 56.9
KIV *e* 20 16 43.4
KIV *e*SS SS 20 23 31.3 -1.6
KIV pmax pmax
comp=Z,63nm,3.8s
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,429nm,20.0s
C24K Franklin Bluff 92.90 20 P P 20 06 17.5 +0.6
baz=259
K24K Donnelly Dome 93.05 26 P P 20 06 18.0 +0.3
baz=262,SNR=17
PAX Paxson 93.07 27 P P 20 06 18.1 +0.2
PAX IAmb IAmb 20 06 19.8
comp=Z,69nm,1.1s
PAX Paxson 93.07 27 P P 20 06 18.1 +0.2
PAX pmax pmax
comp=Z,69nm,1.1s
PAX Paxson 93.07 27 P P 20 06 18.5 +0.6
baz=262,SNR=37
HARP HAARP 93.13 28 P P 20 06 19.0 +0.9
baz=262
KAIM Kayak Island 93.15 30 P P 20 06 19.4 +1.2
baz=262
BMRM Bremner River 93.19 29 P P 20 06 19.3 +0.8
baz=262,SNR=14
N25K Chitina, Valde 93.28 28 P P 20 06 20.0 +1.0
baz=262,SNR=7.3
J25K Salcha River, 93.34 25 P P 20 06 18.7 -0.4
baz=262,SNR=48
G25K Bearman Lake 93.36 23 P P 20 06 20.4 +1.3
baz=261,SNR=30
H25L Birch Creek 93.40 24 P P 20 06 20.5 +1.2
baz=262,SNR=49
RIDG Independent Ri 93.45 26 P P 20 06 19.9 +0.2
baz=262,SNR=24
D25K Kavik River 93.64 21 P P 20 06 20.8 +0.4
baz=261,SNR=17
F25K Christian Rive 93.66 22 P P 20 06 21.8 +1.3
baz=262,SNR=43
MARD Mardin 93.67 307 P P 20 06 21.5 +0.2
MARD IAmb IAmb 20 06 24.0
comp=Z,52nm,0.8s
BGLC Bering Glacier 93.74 30 P P 20 06 21.8 +0.9
baz=264
E25K Arc Village 93.76 22 P P 20 06 22.0 +1.1
baz=262,SNR=40
SCRK Sand Creek 93.86 26 P P 20 06 21.9 +0.3
baz=263,SNR=15
CRQE Cirque 93.90 29 P P 20 06 22.7 +0.8
baz=264,SNR=13
MCARA McCarthy VSAT 94.00 29 P P 20 06 23.0 +0.8
baz=264
L26K Log Cabin Wild 94.03 27 P P 20 06 23.1 +0.8
baz=264,SNR=8.4
BMAR Burn Mountain 94.04 23 P P 20 06 23.8 +1.5
J26L Joseph Creek 94.10 26 P P 20 06 23.3 +0.6
baz=264,SNR=101
M26K Nabesna, AK 94.13 28 P P 20 06 23.5 +0.7
baz=264,SNR=9.7
KOPT Kop Dagi 94.14 310 P P 20 06 24.4 +0.7
KOPT IAmb IAmb 20 06 30.4
comp=Z,61nm,0.9s
C26K Camden Bay 94.23 20 P P 20 06 24.2 +1.2
baz=263
F26K Sheenjek River 94.24 22 P P 20 06 24.4 +1.3
baz=263,SNR=42
VRH Novokhopyorsk 94.26 321 *e*P P 20 06 20.6 -2.9
VRH pmax pmax
comp=Z,30nm,0.8s
G26K Porcupine Rive 94.29 23 P P 20 06 24.8 +1.4
baz=264,SNR=82
MESA MESA 94.41 30 P P 20 06 25.9 +1.6
baz=265
C27K Jago River 94.61 21 P P 20 06 26.0 +1.2
baz=264,SNR=12
ERBR Yeremizino-Bor 94.62 315 *e*P P 20 06 23.4 -2.0
ERBR MLR MLR
comp=Z,682nm,22.0s
M27K Edge Creek, AK 94.64 28 P P 20 06 26.0 +0.8
baz=265,SNR=9.9
K27K Chicken 94.70 26 P P 20 06 26.9 +1.6
baz=265
TROLL Troll, Antarti 94.73 194 ⇑P P 20 06 27.2 +1.6
comp=Z,4µm,0.8s
TROLL ⇑SKSac SKSac 20 16 52.6 -1.8
comp=E,272nm,1.2s
TROLL ⇑PKKPbc PKKPdf 20 23 22.4 -1.6
comp=Z,284nm,0.8s
BCAR Beaver Creek A 94.75 27 P P 20 06 26.6 +1.0
VSLR Vesyoloye 94.77 313⇑ *e*P P 20 06 26.3 +0.2
VSLR pmax pmax
comp=Z,36nm,0.8s
CTG Chitna Glacier 94.78 29 P P 20 06 27.0 +1.1
baz=265,SNR=19
SOC Sochi 95.00 313 *e*P P 20 06 20.2 -6.9
SOC *e* 20 10 14.1
SOC *e*PPP PPP 20 12 16.7
SOC *e*S SKSac 20 16 50.2 -6.3
SOC *e*SS SS 20 23 55.7 -7.1
SOC pmax pmax
comp=Z,22nm,0.9s
SOC MLR MLR
comp=Z,517nm,21.0s
I27K Kandik River 95.03 25 P P 20 06 28.1 +1.2
baz=265,SNR=124
G27K Doyon Strip 95.11 23 P P 20 06 28.4 +1.2
baz=266,SNR=28
H27K Steamboat Moun 95.12 24 P P 20 06 28.6 +1.3
baz=266,SNR=60
EGAK Eagle 95.16 25 P P 20 06 27.9 +0.5
baz=266,SNR=71
E27K Coleen River 95.24 22 P P 20 06 28.6 +0.8
baz=266,SNR=38
PINM Pinnacle 95.25 30 P P 20 06 29.0 +1.0
baz=266
BELA Belgrano 2 95.31 183 P P 20 06 28.2 +0.2
BELA IAmb IAmb 20 07 03.6
comp=Z,54nm,1.0s
O28M Mount Upton 95.32 30 P P 20 06 29.4 +0.8
baz=266
LODK Lodwar 95.46 273 P P 20 06 29.8 -0.2
LODK Lodwar 95.46 273 P P 20 06 30.5 +0.5
SNR=13
D27M Malcolm River 95.55 21 P P 20 06 29.7 +0.6
baz=266,SNR=8.2
YUK8 Steele Glacier 95.56 29 P P 20 06 30.5 +0.9
baz=267
PNL Peninsula 95.65 31 P P 20 06 29.5 -0.3
PNL Peninsula 95.65 31 P P 20 06 31.1 +1.3
baz=267
I28M Miner Creek 95.72 25 P P 20 06 30.9 +0.8
baz=267,SNR=138
ARPR Arapgir-MALATY 95.73 309 P P 20 06 30.9 +0.1
VORD Divnogorie 95.77 321 *e*P P 20 06 27.3 -3.1
VORD pmax pmax
comp=Z,30nm,0.9s
F28M Old Crow 95.86 23 P P 20 06 31.4 +0.8
baz=267,SNR=34
VORR Voronezh 95.86 321 *e*P P 20 06 28.2 -2.6
VORR pmax pmax
comp=Z,40nm,0.9s
VSR Storozhevoye 95.86 321 *e*P P 20 06 27.6 -3.3
VSR pmax pmax
comp=Z,20nm,0.9s
DAWY Dawson 95.88 26 P P 20 06 31.6 +0.8
DAWY Dawson 95.88 26 P P 20 06 31.9 +1.1
baz=267,SNR=51
E28M Babbage River 96.03 22 P P 20 06 32.3 +1.0
baz=268,SNR=23
LPSR Galich'ya Gora 96.08 322 *e*P P 20 06 28.5 -3.3
LPSR pmax pmax
comp=Z,40nm,0.8s
O29M Mount Kennedy 96.10 30 P P 20 06 32.8 +0.9
baz=268
YUK4 Talbot Arm 96.11 29 P P 20 06 33.2 +1.2
baz=268,SNR=6.0
KLMR Klimovskoe 96.12 331 *e*P P 20 06 24.4 -7.4
KLMR *e* 20 10 24.8
KLMR pmax pmax
comp=Z,156nm,1.4s
SNAA Sanae 96.22 193 ⇑P P 20 06 33.2 +0.9
comp=Z,1µm,0.8s
SNAA ⇑PKKPbc PKKPbc 20 23 17.8 -3.5
comp=Z,137nm,0.8s
SNAA Sanae 96.22 193 P P 20 06 33.2 +0.9
SNAA IAmb IAmb 20 06 34.7
comp=Z,82nm,1.0s
SNAA Sanae 96.22 193 P P 20 06 33.0 +0.7
comp=Z,61nm,1.0s,baz=148,slow=3.4,SNR=162
SNAA PKiKP PKiKP 20 11 10.1 +0.1
comp=Z,7.0nm,0.8s,baz=236,slow=21,SNR=1.6
SNAA PKKPbc PKKPbc 20 23 18.4 -2.8
comp=Z,6.7nm,0.9s,baz=341,slow=2.5,SNR=13
SNAA LR LR 20 49 41.9
comp=Z,2µm,19.8s,baz=99,slow=35
comp=Z,61nm,1.0s
SNAA Sanae 96.22 193 *c i* P P 20 06 33.1 +0.9
SNAA pmax pmax
comp=Z,70nm,1.0s
YUK6 Outpost Mounta 96.23 29 P P 20 06 33.4 +0.7
baz=268
M29M Somme Creek 96.23 28 P P 20 06 33.7 +1.2
baz=268,SNR=13
H29M Whitestone 96.40 24 P P 20 06 33.6 +0.6
baz=268,SNR=10
I29M Ogilvie Camp, 96.40 25 P P 20 06 33.7 +0.7
baz=268,SNR=114
L29M L29M 96.41 27 P P 20 06 34.7 +1.5
baz=268,SNR=17
J29N Klondike Camp 96.41 26 P P 20 06 34.2 +1.0
baz=268
ASF Jabal al Asfar 96.46 302 P P 20 06 35.0 +0.8
comp=Z,35nm,0.8s,baz=114,slow=2.0,SNR=46
ASF PP PP 20 10 29.3 +0.2
comp=Z,8.4nm,0.8s,baz=270,slow=0.4,SNR=4.4
ASF LR LR 20 54 59.3
comp=Z,358nm,20.5s,baz=134,slow=38
comp=Z,35nm,0.8s
ASF Jabal al Asfar 96.46 302 P P 20 06 35.0 +0.8
P29M Windy Craggy 96.49 31 P P 20 06 34.7 +1.1
baz=268
GAZ Gaziantep 96.50 307 P P 20 06 34.1 -0.1
GAZ IAmb IAmb 20 06 38.2
comp=Z,164nm,2.0s
G29M Pine Creek 96.55 23 P P 20 06 34.5 +0.8
baz=269,SNR=35
E29M Blow River 96.63 22 P P 20 06 34.2 +0.2
baz=269,SNR=6.6
HYT Haines Junctio 96.64 30 P P 20 06 35.3 +0.9
baz=269,SNR=7.6
K29M Barlow Dome 96.70 26 P P 20 06 35.7 +1.1
baz=269,SNR=47
ANN Anapa 96.72 314 *e*P P 20 06 33.6 -1.3
ANN *e**PP pP 20 06 48.9 -4.6
ANN pmax pmax
comp=Z,43nm,0.8s
ANN MLR MLR
comp=N,1µm,20.0s
ANN MLR MLR
comp=Z,625nm,19.0s
ANN MLR MLR
comp=E,677nm,13.0s
N30M Aishikik Lake 96.86 29 P P 20 06 36.1 +0.8
baz=269,SNR=6.3
P30M Million Dollar 96.90 30 P P 20 06 36.5 +1.1
baz=269
MOS Moscow 96.96 325 *e*P P 20 06 32.1 -3.6
MOS *e* 20 10 33.7
MOS pmax pmax
comp=Z,57nm,0.9s
M30M Minto, Yukon 97.01 28 P Pdif 20 06 36.9 +0.9
baz=269,SNR=11
EPYK Eagle Plains 97.07 24 P Pdif 20 06 36.3 +0.2
baz=270,SNR=19
PLBC Pleasant Camp 97.19 31 P Pdif 20 06 37.3 +0.5
baz=269
I30M Mount Dempster 97.21 25 P Pdif 20 06 37.5 +0.6
baz=270,SNR=31
J30M Hart River 97.23 26 P Pdif 20 06 38.0 +1.0
baz=270,SNR=43
G30M tAoh Zraii Nji 97.26 23 P P 20 06 36.9 0.0
baz=270,SNR=24
O30N Mendenhall 97.33 30 P Pdif 20 06 38.2 +0.7
baz=270
F30M Barrier River 97.42 23 P Pdif 20 06 38.1 +0.4
baz=271,SNR=17
N31M Braeburn, Yuko 97.49 29 P Pdif 20 06 38.8 +0.7
baz=270
GHAJ Ghor Haditha 97.54 301 P P 20 06 38.7 -0.2
GHAJ IAmb IAmb 20 06 41.5
comp=Z,38nm,0.8s
OBN Obninsk 97.55 325 P P 20 06 37.0 -1.3
OBN IAmb IAmb 20 06 38.0
comp=Z,73nm,0.8s
OBN Obninsk 97.55 325 P P 20 06 37.3 -1.1
comp=Z,41nm,0.6s,baz=337,slow=0.9,SNR=14
OBN LR LR 20 55 04.3
comp=Z,286nm,20.9s,baz=44,slow=38
comp=Z,41nm,0.6s
OBN Obninsk 97.55 325 ⇓P P 20 06 37.7 -0.7
OBN Obninsk 97.55 325 *ce*P P 20 06 36.8 -1.6
OBN pmax pmax
comp=Z,47nm,0.9s
OBN MLR MLR
comp=Z,562nm,19.0s
OBN Obninsk 97.55 325 P P 20 06 37.1 -1.3
comp=Z,83nm,0.9s
SKAG Skagway 97.72 31 P Pdif 20 06 40.1 +1.0
baz=270
SIT Sitka 97.72 33 P Pdif 20 06 40.1 +0.9
baz=270
MMAI Mount Meron Ar 97.77 302 P Pdif 20 06 40.5 +0.4
comp=Z,14nm,0.8s,baz=103,slow=3.8,SNR=24
MMAI PKKP PKKPdf 20 23 17.6 -0.9
comp=Z,4.0nm,0.9s,baz=328,slow=5.1,SNR=3.7
MMAI LR LR 20 55 46.9
comp=Z,588nm,20.8s,baz=106,slow=38
comp=Z,14nm,0.8s
VNA2 Neumayer--Watz 97.79 193 ⇑P Pdif 20 06 40.2 +0.9
comp=Z,16nm,0.6s,baz=129,slow=4.1
VNA2 ⇑SKSac SKSac 20 17 08.2 -1.9
comp=N,6.3nm,0.6s,baz=150,slow=14
WHY Whitehorse 97.93 30 P Pdif 20 06 40.9 +0.7
WHY IAmb IAmb 20 06 42.1
comp=Z,36nm,0.8s
WHY Whitehorse 97.93 30 P Pdif 20 06 40.9 +0.7
baz=271,SNR=6.9
EIL Elat 97.99 299 P Pdif 20 06 41.0 0.0
comp=Z,17nm,0.8s,baz=5.8,slow=3.8,SNR=8.1
EIL LR LR 20 57 50.4
comp=Z,413nm,19.1s,baz=97,slow=40
comp=Z,17nm,0.8s
G31M Satah River 98.03 23 P P 20 06 40.3 0.0
baz=272,SNR=14
VNA3 Neumayer Olymp 98.04 192 ⇑P Pdif 20 06 41.0 +0.6
comp=Z,17nm,0.8s
VNA3 ⇑SKSac SKSac 20 17 08.4 -3.0
comp=E,2.4nm,0.9s
VNA3 ⇑PKKPbc PKKPbc 20 23 12.7 -3.6
comp=Z,13nm,0.8s
H31M Peel River 98.05 24 P Pdif 20 06 40.7 +0.2
baz=272,SNR=17
GRHM Grahamstown, E 98.11 235 P Pdif 20 06 42.8 +1.2
M31M Drury Creek, Y 98.13 28 P Pdif 20 06 41.7 +0.7
baz=272
R32K Eaglecrest 98.15 32 P Pdif 20 06 42.0 +0.9
baz=271
VNA1 Neumayer--Stat 98.19 193 ⇑P Pdif 20 06 42.2 +1.2
comp=Z,29nm,0.9s
VNA1 ⇑PKKPbc PKKPbc 20 23 12.9 -2.8
comp=Z,20nm,0.9s
LVZ Lovozero 98.21 338 P P 20 06 40.1 -1.1
LVZ Lovozero 98.21 338 *ce*P P 20 06 39.7 -1.5
LVZ pmax pmax
comp=Z,37nm,1.0s
F31M Tsiigehtchic 98.21 23 P Pdif 20 06 41.1 0.0
baz=273,SNR=7.5
INK Inuvik 98.25 22 P Pdif 20 06 41.3 0.0
INK IAmb IAmb 20 06 42.4
comp=Z,83nm,1.2s
INK Inuvik 98.25 22 LR LR 20 49 32.0

comp=Z,139nm,19.6s,baz=264,slow=34
INK Inuvik 98.25 22 P Pdif 20 06 41.3 0.0
INK pmax pmax
comp=Z,83nm,1.3s
INK Inuvik 98.25 22 P **P 20 06 41.2 0.0**
baz=273,SNR=19
P32M Atlin 98.54 31 P Pdif 20 06 43.5 +0.7
baz=272
APA Apatity 98.70 337⇓ *e*P **P 20 06 39.8 -3.5**
APA *e* 20 10 43.1
APA *e*S S 20 17 57.2 -9.3
APA MLR MLR
comp=Z,1μm,23.7s
N32M Quiet Lake 98.80 29 P Pdif 20 06 44.7 +0.7
baz=272
MATP Matopo 98.87 248 PKKP 20 23 17.4
comp=Z,9.7nm,1.0s,baz=273,slow=2.8,SNR=9.8
MATP LR LR 20 48 16.1
comp=Z,486nm,19.8s,baz=98,slow=33
U33K Whale Pass 98.96 34 P Pdif 20 06 45.6 +0.9
baz=272
P33M Teslin, Yukon 98.97 30 P Pdif 20 06 45.5 +0.7
baz=273
SIM Simferopol' 99.08 314 *i* P **Pdif 20 06 44.7 -0.8**
SIM 20 10 43.0
SIM S **SKSac 20 17 13.0 -4.4**
SIM PS **PS 20 19 40.0 -6.3**
SIM pmax pmax
comp=Z,45nm,0.6s
SIM pmax pmax
comp=Z,110nm,9.0s
SIM smax smax
comp=E,150nm,13.0s
KIRS Kirsehir-Merke 99.17 308⇓ P **Pdif 20 06 46.0 -0.2**
Q32M Nakina River 99.30 31 P **Pdif 20 06 47.2 +0.7**
baz=273
WRAK Wrangell Islan 99.38 34 P **Pdif 20 06 47.4 +0.8**
baz=272
BR104 Keskin Array S 99.39 309 P **Pdif 20 06 45.9 -1.3**
comp=E,74nmcomp=E,9.2nm,0.8s
BR131 Keskin Array S 99.39 309 P **Pdif 20 06 45.4 -1.8**
BR131 Keskin Array S 99.39 309 P **Pdif 20 06 45.4 -1.8**
BR131 pmax pmax
comp=Z,13nm,0.9s
BRTR Keskin Array B 99.39 309 P **Pdif 20 06 46.3 -1.0**
BRTR Keskin Array B 99.39 309 P **Pdif 20 06 46.4 -0.9**
comp=Z,8.3nm,0.8s,baz=126,slow=5.2,SNR=32
BRTR PP **PP 20 10 51.4 0.0**
comp=Z,4.6nm,0.9s,baz=96,slow=10,SNR=5.0
BRTR PKKPbc **PKKPbc 20 23 12.3 +0.6**
comp=Z,2.4nm,0.9s,baz=211,slow=3.7,SNR=6.6
comp=Z,8.3nm,0.8s
BR106 Keskin Array S 99.41 309 P **Pdif 20 06 46.0 -1.3**
comp=Z,85nmcomp=Z,13nm,0.8s
BR105 Keskin Array S 99.41 309 P **Pdif 20 06 46.0 -1.3**
H02S2 DAWSON INLET T 99.42 37 P **Pdif 20 06 46.8 0.0**
MREMI Moremi 99.44 246 *i* P **Pdif 20 06 48.4 +0.6**
MREMI Moremi 99.44 246 P **Pdif 20 06 47.9 +0.1**
MREMI IAmb IAmb 20 06 49.4
comp=Z,156nm,1.9s
CSS Mathiatis 99.56 304 Pdif 20 06 47.2 -0.8
MMPY Sheldon Lake, 99.57 28 P **Pdif 20 06 48.4 +1.0**
baz=274
MBAR Mbarara 99.61 268⇑ *e*P **Pdif 20 06 47.5 -1.3**
MBAR pmax pmax
comp=Z,18nm,1.1s
BROLN Tlhalogang 99.82 247 *i* P **Pdif 20 06 49.8 +0.3**
V35K Ketchikan 99.84 35 P **Pdif 20 06 49.7 +1.0**
baz=273
VADS Vadso 99.89 340 *e*P **Pdif 20 06 48.8 +0.3**
VADS IVmB_BB 20 06 50.9
comp=Z,636nm,1.9s
VADS *e*SKSac **SKSac 20 17 22.1 +1.8**
VADS *e*SS **SS 20 25 14.2 +4.2**
VADS IVMs_BB IVMs_BB 20 51 36.6
comp=Z,1μm,3.8s
R33M Jennings River 99.95 31 P **Pdif 20 06 50.0 +0.8**
baz=274
S34M Telegraph Cree 99.96 32 P **Pdif 20 06 50.3 +1.2**
baz=274
LSZ Lusaka 100.05 253 PKKPbc PKKPbc 20 23 10.0 +1.0
comp=Z,1.9nm,0.3s,baz=247,slow=4.7,SNR=7.0
LSZ LR LR 20 49 15.0
comp=Z,181nm,19.8s,baz=109,slow=34
BOSA Boshof 100.11 240 Pdif **Pdif 20 06 50.6 0.0**
BOSA Boshof 100.11 240 P **Pdif 20 06 51.2 +0.5**
comp=Z,9.2nm,0.8s,baz=69,slow=4.9,SNR=10.0
BOSA PP **PP 20 10 57.4 +0.4**
comp=Z,6.5nm,1.0s,baz=243,slow=4.2,SNR=3.2
BOSA PKKPbc **PKKPbc 20 23 09.0 -0.2**
comp=Z,2.7nm,0.9s,baz=314,slow=5.6,SNR=4.6
BOSA Boshof 100.11 240 P **Pdif 20 06 50.7 0.0**
T35M Bob Quinn 100.50 33 P **Pdif 20 06 52.7 +1.1**
baz=274
DLBC Dease Lake 100.51 32 P **Pdif 20 06 52.4 +0.7**
comp=Z,58nm,0.8s,baz=268,slow=5.2,SNR=7.9
DLBC PKiKP **PKiKP 20 11 18.9 +1.0**
comp=Z,46nm,0.9s,baz=249,slow=1.9,SNR=4.2
DLBC Dease Lake 100.51 32 P **Pdif 20 06 52.9 +1.2**
baz=275
MSF Maaselka 100.60 336 P **Pdif 20 06 50.4 -1.4**
LBTB Lobatse 100.60 243 Pdif **Pdif 20 06 52.9 0.0**
LBTB Lobatse 100.60 243 PKKPbc PKKPbc 20 23 09.4 +1.8
comp=Z,7.7nm,0.9s,baz=282,slow=4.3,SNR=6.7
LBTB Lobatse 100.60 243 P **Pdif 20 06 52.9 0.0**
LPHEP Lephephe 100.71 245 *i* P **Pdif 20 06 54.2 +0.7**
WTLY Watson Lake, Y 100.98 30 P **Pdif 20 06 54.8 +1.1**
baz=276
TGTN Hyland Airport 101.08 29 P **Pdif 20 06 55.3 +1.2**
baz=277
MAKGR Makgori 101.13 242 *i* P **Pdif 20 06 55.9 +0.5**
SPA0 Spitsbergen Ar 101.20 349 *e*P **Pdif 20 06 54.2 -0.1**
SPA0 IVmB_BB 20 06 54.9
comp=Z,450nm,0.7s
SPA0 *e*SS SS 20 25 32.2 +4.2
SPA0 IVMs_BB IVMs_BB 20 55 48.5
comp=Z,566nm,3.5s
SPITS Spitsbergen Ar 101.20 349 P **Pdif 20 06 54.2 -0.1**
comp=Z,51nm,0.9s,baz=101,slow=7.7,SNR=26
SPITS PP **PP 20 11 04.7 +0.9**
comp=Z,6.5nm,0.8s,baz=75,slow=11,SNR=1.7
SPITS PKiKP **PKiKP 20 11 19.1 +0.5**
comp=Z,11nm,0.9s,baz=30,slow=4.4,SNR=7.1
ARA0 ARCESS Array S 101.31 340 *e*P **Pdif 20 06 54.4 -0.5**
ARA0 IVmB_BB 20 06 55.6
comp=Z,597nm,1.5s
ARA0 *e*SKSac **SKSac 20 17 28.7 +1.3**
ARA0 *e*SS **SS 20 25 35.5 +5.7**
ARA0 IVMs_BB IVMs_BB 20 49 39.9
comp=Z,1μm,4.0s
ARCES ARCESS Array B 101.31 340 P **Pdif 20 06 54.4 -0.5**
comp=Z,23nm,0.6s,baz=79,slow=5.5,SNR=33
ARCES PP **PP 20 11 05.5 +0.8**
comp=Z,5.5nm,0.9s,baz=62,slow=5.3,SNR=2.2
ARCES PKiKP **PKiKP 20 11 19.6 +0.6**
comp=Z,2.2nm,0.4s,baz=102,slow=2.1,SNR=26
ARCES PKKPbc **PKKPbc 20 23 05.0 -2.1**
comp=Z,2.4nm,0.7s,baz=264,slow=2.4,SNR=4.9
KHWEE KHWEE 101.38 246 Pdif **Pdif 20 06 55.8 -0.6**
C36M Paulatuk 101.51 20 P **Pdif 20 06 57.4 +1.7**
baz=282
HAMF Hammerfest 101.67 341 *e*P **Pdif 20 06 56.5 0.0**
HAMF IVmB_BB 20 07 02.0
comp=Z,2μm,3.1s
HAMF *e*SP SP 20 20 09.3 +6.2
HAMF *e*SS **SS 20 25 40.4 +5.7**
HAMF IVMs_BB IVMs_BB 20 54 34.2
comp=Z,1μm,3.7s
KBS Kingsbay 101.69 350 *e*P **Pdif 20 06 56.4 -0.1**
KBS *e*SP SP 20 20 07.7 +4.6
KBS Kingsbay 101.69 350*ce*P **Pdif 20 06 56.0 -0.4**
KBS pmax pmax
comp=Z,23nm,0.9s
KDWAN Kaudwane 101.78 245 *i* P **Pdif 20 06 59.1 +0.8**
HSPB Hornsund (broa 101.83 348 *e*P **Pdif 20 06 56.9 -0.1**
AK09 Malin Array Si 102.12 320 P **Pdif 20 06 57.6 -1.3**
AK08 Malin Array Si 102.14 320 P **Pdif 20 06 57.7 -1.3**
AK10 Malin Array Si 102.14 320 P **Pdif 20 06 57.7 -1.3**
AKASG Malin Array Be 102.15 320 P **Pdif 20 06 58.0 -1.0**
comp=Z,5.7nm,0.8s,baz=72,slow=4.4,SNR=11
AKASG PP **PP 20 11 12.7 +1.0**
comp=Z,8.3nm,0.8s,baz=82,slow=6.8,SNR=5.5
AKASG PKiKP **PKiKP 20 11 21.9 +0.9**
comp=Z,2.3nm,0.6s,baz=96,slow=4.8,SNR=5.0
AKASG PKKPbc **PKKPbc 20 23 02.3 -1.6**
comp=Z,0.2nm,0.3s,baz=286,slow=2.6,SNR=1.4
AKASG PKPPKP **P'P'df 20 31 21.6 +0.9**
comp=Z,0.1nm,0.3s,baz=272,slow=1.7,SNR=5.0
AKBB Malin Array Si 102.15 320⇓ *e*P **Pdif 20 06 57.7 -1.4**
AKBB Malin Array Si 102.15 320 P **Pdif 20 06 57.5 -1.6**
AK01 Malin Array Si 102.16 320 P **Pdif 20 06 57.7 -1.4**
AK02 Malin Array Si 102.17 320 P **Pdif 20 06 57.7 -1.4**
AK05 Malin Array Si 102.17 320 P **Pdif 20 06 57.7 -1.4**
AK07 Malin Array Si 102.18 320 P **Pdif 20 06 57.8 -1.4**
AK06 Malin Array Si 102.18 320 P **Pdif 20 06 57.8 -1.4**
SKOMA Sekoma 102.19 243 *i* P **Pdif 20 07 00.8 +0.8**
AK04 Malin Array Si 102.19 320 P **Pdif 20 06 57.8 -1.4**
AK11 Malin Array Si 102.19 320 P **Pdif 20 06 57.8 -1.4**
AK12 Malin Array Si 102.20 320 P **Pdif 20 06 57.9 -1.4**
KTK1 Kautokeino 102.21 339 IVmB_BB 20 06 51.5
comp=Z,811nm,3.4s
KTK1 *e*P **Pdif 20 06 58.3 -0.7**
KTK1 *e*PP **PP 20 11 12.9 +1.3**
KTK1 IVMs_BB IVMs_BB 20 55 58.8
comp=Z,2μm,4.0s
AK16 Malin Array Si 102.23 320 P **Pdif 20 06 57.9 -1.5**
AK17 Malin Array Si 102.26 320 P **Pdif 20 06 58.0 -1.5**
AK21 Malin Array Si 102.26 320 P **Pdif 20 06 58.0 -1.5**
AK13 Malin Array Si 102.26 320 P **Pdif 20 06 58.0 -1.5**
AK20 Malin Array Si 102.29 320 P **Pdif 20 06 58.1 -1.5**
PHDHD Phuduhudu 102.56 248 Pdif **Pdif 20 07 01.0 -0.8**
FIA1 FINESS Array S 102.58 332 Pdif **Pdif 20 06 59.6 -1.1**
FINES FINESS Array B 102.58 332 P **Pdif 20 06 59.7 -1.0**
comp=Z,13nm,0.8s,baz=95,slow=6.1,SNR=24
FINES PKiKP **PKiKP 20 11 22.2 +0.8**
comp=Z,7.8nm,0.6s,baz=65,slow=2.6,SNR=28
FINES PKKPbc **PKKPbc 20 23 01.6 -1.5**
comp=Z,5.9nm,0.9s,baz=297,slow=5.2,SNR=7.3
MNK Minsk 102.60 324 *i* P **Pdif 20 07 00.8 -0.2**
comp=E,8.0nm,0.8s
MNK *i* P **Pdif 20 07 00.8 -0.2**
comp=N,12nm,0.7s
MNK *i* P **Pdif 20 07 00.8 -0.2**
comp=Z,53nm,0.8s,baz=84
MNK *i* pP **sPdif 20 07 26.9 +0.6**
MNK *i* sP **pPdif 20 07 34.8 +16**
MNK *i* PP **PP 20 11 15.3 +0.5**
MNK *i* PPP PPP 20 13 18.5
MNK *i* SKS SKiKP 20 15 31.0 +40
MNK *i* S **SKSac 20 17 31.9 -2.1**
MNK *i* sS **SKKSac 20 18 15.7 +2.0**
MNK *i* SKKS 20 19 58.5
MNK *i* SP SP 20 22 17.7
MNK *i* PS PKKPbc 20 22 43.4 -19
MNK *i* SS SS 20 24 58.6 -50
MNK *i* SSS SSS 20 29 24.8
MNK Minsk 102.60 324 *i* P **Pdif 20 07 00.7 -0.2**
MNK *i* 20 11 15.3
MNK *i* S **SKSac 20 17 31.9 -2.1**
MNK pmax pmax
comp=N,12nm,0.7s
MNK pmax pmax
comp=Z,53nm,0.8s
MNK pmax pmax
comp=E,8.0nm,0.8s
MILM Milestii Mici 102.71 317 *e*P **Pdif 20 07 13.0 +11**
comp=E,260nm,4.6s
MILM *e*L L 20 45 07.0
MILM LRM MLR 20 55 20.0
comp=E,500nm,17.0s
MILM Milestii Mici 102.71 317 *e*P **Pdif 20 07 13.0 +11**
MILM pmax pmax
comp=Z,260nm,4.6s
MILM MLR MLR
comp=Z,500nm,17.0s
JURR Jurilovca 102.81 314⇑ P **Pdif 20 07 02.4 +0.3**
SORM Soroca 102.93 318⇓ P **Pdif 20 07 02.1 -0.5**
SORM Soroca 102.93 318⇓ P **Pdif 20 07 02.1 -0.5**
WRGLY Wrigley 103.02 27 P **Pdif 20 07 03.7 +1.1**
baz=282
JETT Jettan, Norway 103.04 340 *e*P **Pdif 20 07 02.4 -0.2**
JETT IVmB_BB 20 07 03.1
comp=Z,664nm,0.7s
JETT *e*PP **PP 20 11 18.3 +0.5**
JETT IVMs_BB IVMs_BB 20 52 56.0
comp=Z,2μm,3.8s
TPGR Topolog 103.12 314⇑ P **Pdif 20 07 03.2 -0.4**
TIRR Tirgusor 103.16 314⇑ P **Pdif 20 07 03.9 +0.2**
TIRR Tirgusor 103.16 314⇑ P **Pdif 20 07 03.9 +0.2**
LUBAR Lubar, Ukraine 103.16 320 P **Pdif 20 07 01.7 -1.9**
KOTAN Kotaneelee Air 103.33 30 P **Pdif 20 07 05.1 +1.1**
baz=280
HARR Harsova 103.48 314⇑ P **Pdif 20 07 05.6 +0.5**
HARR Harsova 103.48 314⇑ P **Pdif 20 07 05.6 +0.5**
TRO Tromso 103.51 340 *e*P **Pdif 20 07 04.7 +0.1**
TRO *e*PP **PP 20 11 23.3 +2.1**
TRO *e*SKSac **SKSac 20 17 40.5 +2.9**
TRO *e*PS **PS 20 20 33.0 +0.6**
TRO *e*SS **SS 20 26 03.7 +3.7**
TRO IVMs_BB IVMs_BB 20 54 51.0
comp=Z,2μm,3.8s
KGCAE Kacgae 104.11 245 *i* P **Pdif 20 07 09.5 +0.9**
RNPP9 Sopachiv 104.17 321 P **Pdif 20 07 07.1 -0.9**
RNPP5 Staryi Chortor 104.20 321 P **Pdif 20 07 07.4 -0.7**
RNPP8 Varash 104.20 321 P **Pdif 20 07 06.8 -1.4**
TESR Tescani 104.23 316⇓ P **Pdif 20 07 08.7 +0.3**
VRI Vrincioaia 104.23 316⇑ P **Pdif 20 07 09.4 +0.9**
VRI Vrincioaia 104.23 316⇑ P **Pdif 20 07 09.4 +0.9**
PLOR Plostina 104.29 316⇑ P **Pdif 20 07 07.1 -1.6**
PLOR Plostina 104.29 316⇑ P **Pdif 20 07 07.1 -1.6**
NEHR Nehoiu 104.58 315⇓ P **Pdif 20 07 10.7 +0.7**
TURR Turia 104.71 316⇑ P **Pdif 20 07 09.2 -1.4**
MLR Muntele Rosu 104.82 315⇓ P **Pdif 20 07 11.5 +0.3**
MLR Muntele Rosu 104.82 315⇓ P **Pdif 20 07 11.5 +0.3**
BURAR Bucovina Array 105.08 317⇓ P **Pdif 20 07 13.1 +0.8**
BURAR Bucovina Array 105.08 317⇓ P **Pdif 20 07 13.1 +0.8**
ELND Elena 105.11 313⇑ P **Pdif 20 07 11.7 -0.7**
DOPR Dopca 105.15 316⇑ P **Pdif 20 07 13.5 +0.9**
STEI Steigen 105.35 339 *e*P **Pdif 20 07 11.8 -1.1**
STEI IVmB_BB 20 07 26.1
comp=Z,2μm,3.7s
STEI *e*PP **PP 20 11 37.6 +2.7**
STEI IVMs_BB IVMs_BB 20 56 36.6
comp=Z,2μm,4.0s
FAUS Fauske 105.53 339 *e*P **Pdif 20 07 13.2 -0.5**
LOF Lofoten 105.87 340 *e*P **Pdif 20 07 14.3 -0.8**
MOR8 Moi Rana 106.29 338 *e*PP **PP 20 11 41.4 -0.5**
MOR8 *e*SKSac **SKSac 20 17 52.9 +2.4**
MOR8 *e*SP **SP 20 20 56.0 +4.4**
MOR8 *e*SS **SS 20 26 38.5 +0.3**
MOR8 IVMs_BB IVMs_BB 20 54 18.4
comp=Z,2μm,3.9s
RAUS Rausandaksla 106.34 338 *e*P **Pdif 20 07 18.3 +1.0**
RAUS *e*PP **PP 20 11 45.4 +3.2**
RAUS *e*SKSac **SKSac 20 17 54.5 +3.9**
RAUS IVMs_BB IVMs_BB 20 58 48.6
comp=Z,3μm,4.3s
MARR Marisel-Cluj 106.62 317⇑ P **Pdif 20 07 21.8 +2.6**
STOK Stokkvaagen 106.76 338 *e*PP **PP 20 11 46.6 +1.4**
STOK *e*SP SP 20 21 03.1 +6.7
STOK IVMs_BB IVMs_BB 20 57 28.2
comp=Z,2μm,3.9s
LEIR Leirfjorden 106.81 338 *e*P **Pdif 20 07 19.2 -0.2**
LEIR IVmB_BB 20 07 45.9
comp=Z,2μm,4.1s
LEIR *e*PP **PP 20 11 47.7 +2.0**
LEIR *e*SKSac **SKSac 20 17 56.5 +3.9**
LEIR *e*SP **SP 20 21 02.3 +5.4**
LEIR IVMs_BB IVMs_BB 20 50 03.3
comp=Z,2μm,4.0s
KOLS Kolonicke sedl 106.84 319 *i* P **Pdif 20 07 22.9 +2.9**
YBH Yreka Blue Hor 106.86 48 Pdiff **Pdif 20 07 22.3 +2.0**
comp=Z,0.2nm,0.9s,baz=205,slow=2.1,SNR=5.8
YBH PKiKP **PKiKP 20 11 31.0 +0.9**
comp=Z,0.1nm,0.5s,baz=147,slow=3.6,SNR=3.9
YBH PKKPbc **PKKPbc 20 22 48.1 -1.5**
comp=Z,0.2nm,0.8s,baz=122,slow=1.8,SNR=5.5
YBH PKKPab **PKKPab 20 23 03.1 -0.6**
comp=Z,0.1nm,0.8s,baz=150,slow=3.2,SNR=4.2
DRGR 106.88 317⇑ P **Pdif 20 07 21.5 +1.2**
DRGR 106.88 317⇑ P **Pdif 20 07 21.5 +1.2**
R9F13 Warsaw-Wawer 106.95 323 *e*PKiKP **PKiKP 20 11 31.8 +2.1**
R9F13 *e*PP **PP 20 11 50.9 +3.8**
YKA Yellowknife Ar 107.12 26 Pdiff **Pdif 20 07 21.8 +0.9**
comp=Z,3.3nm,0.9s,baz=298,slow=4.7,SNR=4.2
YKA PKiKP **PKiKP 20 11 30.2 +0.4**
comp=Z,10nm,0.8s,baz=302,slow=1.7,SNR=12
YKA PKKPbc **PKKPbc 20 22 47.2 -2.1**
comp=Z,11nm,0.7s,baz=94,slow=2.6,SNR=16
YKA PKKPab **PKKPdf 20 23 01.7 -0.1**
comp=Z,6.4nm,0.8s,baz=102,slow=5.0,SNR=6.2
HERR Herculane 107.37 315⇑ P **Pdif 20 07 23.3 +0.9**
KNT Kendrikon 107.50 311 P **Pdif 20 07 22.1 -1.0**
DAG Danmarks Havn 107.84 353 P **Pdif 20 07 23.7 -0.1**
DAG Danmarks Havn 107.84 353 *i* P **PKiKP 20 11 30.0 -0.8**
MDVR Moldovita 107.88 315⇓ P **Pdif 20 07 25.0 +0.2**
BOVS Bovan 108.05 314⇓ P **Pdif 20 07 25.5 0.0**
HFS Hagfors 108.78 332 Pdiff **Pdif 20 07 27.3 -1.0**
comp=Z,8.0nm,0.8s,baz=108,slow=4.8,SNR=13
HFS PKiKP **PKiKP 20 11 32.4 -0.6**
comp=Z,4.1nm,0.6s,baz=70,slow=1.7,SNR=6.3
HFS PP **PP 20 12 01.0 +0.8**
comp=Z,7.8nm,0.8s,baz=133,slow=8.3,SNR=3.7
HFS PKKPbc **PKKPbc 20 22 42.2 -1.8**
comp=Z,4.4nm,0.6s,baz=204,slow=3.3,SNR=13
NEEM North Greenlan 109.12 0⇓ *i* P **PKiKP 20 11 34.0 +0.4**
TSUM Tsumeb 109.17 247 PKiKP **PKiKP 20 11 36.1 +1.0**
comp=Z,5.3nm,0.8s,baz=117,slow=5.0,SNR=5.3
OKC Ostrava-Krasne 109.30 321 *e*PP **PP 20 12 08.0 +3.6**
OKC *ex* x 20 21 16.4
OKC AMS AMS 20 56 50.0
comp=Z,500nm,21.8s
NC602 NORSAR Array S 109.55 333 *e*P **Pdif 20 07 29.7 -2.0**
NC602 *e*SKSac **SKSac 20 18 08.8 +4.2**
NC602 *e*SP **SP 20 21 28.4 +3.3**
NC602 IVMs_BB IVMs_BB 20 50 59.1
comp=Z,943nm,3.8s
NB2 NORSAR Subarra 109.58 333 P **Pdif 20 07 30.7 -1.2**
comp=Z,13nm,1.0s,baz=68,slow=4.4
NB2 PKPdf **PKiKP 20 11 34.9 +0.4**
comp=Z,5.2nm,0.8s,baz=68,slow=1.9
NB2 PKKP **PKKPbc 20 22 40.3 -1.3**
comp=Z,1.9nm,0.7s,baz=235,slow=3.0
NOA NORSAR Array B 109.58 333 Pdiff **Pdif 20 07 30.9 -1.1**
comp=Z,5.9nm,0.8s,baz=68,slow=4.5,SNR=24
NOA PKiKP **PKiKP 20 11 34.8 +0.4**
comp=Z,7.2nm,0.8s,baz=262,slow=3.3,SNR=18
NOA PP **PP 20 12 05.8 -0.2**
comp=Z,5.1nm,0.9s,baz=262,slow=3.1,SNR=3.8
NOA PKKPbc **PKKPbc 20 22 40.5 -1.1**
comp=Z,3.5nm,0.8s,baz=67,slow=3.2,SNR=18
NOA PKKPab **PKKPab 20 22 53.1 +1.9**
comp=Z,4.1nm,0.8s,baz=249,slow=4.2,SNR=9.1
MAUC Maruska 109.61 320 *e*PKP **PKiKP 20 11 35.9 +1.0**
MAUC *e*PP **PP 20 12 12.0 +5.3**
MAUC *e*SP SP 20 21 27.6 +1.1
MAUC AMS AMS 20 58 50.0
comp=Z,1μm,23.3s
MORC Moravsky Berou 109.70 321 *e*PKiKP **PKiKP 20 11 35.8 +0.7**
NEW Newport 109.70 41 PKiKP **PKiKP 20 11 35.6 +0.5**
comp=Z,4.6nm,0.7s,baz=57,slow=4.0,SNR=5.4
NEW PP **PP 20 12 09.5 +2.1**
comp=Z,2.7nm,0.8s,baz=306,slow=5.2,SNR=5.4
JAVC Velka Javorina 109.83 320 *e*PKiKP **PKiKP 20 11 37.1 +1.7**
DEL Delary 109.94 328 *i* P **PKiKP 20 11 35.5 +0.2**
KRLC Kraliky 110.10 321 *e*PKP **PKiKP 20 11 36.7 +0.9**
KRLC *e*PP **PP 20 12 14.0 +3.8**
KRLC *e*SP SP 20 21 29.9 -1.3
KRLC AMS AMS 21 03 00.0
comp=Z,800nm,24.5s
DOMB Dombas 110.11 335 *e*P **Pdif 20 07 32.0 -2.3**
DOMB IVmB_BB 20 07 37.5
comp=Z,1μm,3.1s
DOMB *e*SP SP 20 21 36.3 +5.9
DOMB *e*SS **SS 20 27 34.3 +4.5**
DOMB IVMs_BB IVMs_BB 20 53 37.7
comp=Z,1μm,3.9s
MODS Modra-Piesok 110.19 319 *e*PKiKP **PKiKP 20 11 33.8 -2.2**
OSL Oslo 110.24 332 *e*P **Pdif 20 07 33.1 -1.7**
DPC Dobruska-Polom 110.32 321 *e*PKP **PKiKP 20 11 37.3 +1.1**
DPC *e*PP **PP 20 12 14.9 +3.1**
DPC *ex* x 20 21 28.9
DPC AMS AMS 21 01 00.0
comp=Z,800nm,26.5s
DPC Dobruska-Polom 110.32 321 *e*PKiKP **PKiKP 20 11 37.3 +1.1**
DPC *e* 20 12 14.9
DPC *e* 20 21 28.9
DPC MLR MLR
comp=Z,800nm,26.5s
OSTC Ostas 110.33 322 *e*PKP **PKiKP 20 11 37.3 +1.1**
OSTC *e*PP **PP 20 12 14.8 +3.0**
OSTC *e*SP SP 20 21 27.7 -5.6
OSTC AMS AMS 20 58 30.0
comp=Z,500nm,20.6s
OSTC Ostas 110.33 322 *e*PKiKP **PKiKP 20 11 37.3 +1.1**
OSTC *e* 20 12 14.8
OSTC *e* 20 21 27.7
OSTC MLR MLR
comp=Z,500nm,20.6s
FABU Falkenberg 110.35 329 *i* P **PKiKP 20 11 35.9 -0.1**
STRU Stroemstad 110.37 331 *i* P **PKiKP 20 11 36.3 +0.4**
VRAC Vranov 110.41 320 *e*PKiKP **PKiKP 20 11 36.9 +0.5**
CHVC Chvalec 110.42 322 *e*PKP **PKiKP 20 11 37.3 +0.9**
CHVC *e*PP **PP 20 12 18.0 +5.5**
CHVC AMS AMS 20 58 40.0
comp=Z,500nm,19.2s
CHVC Chvalec 110.42 322 *e*PKiKP **PKiKP 20 11 37.3 +0.9**
CHVC *e* 20 12 18.0
CHVC MLR MLR
comp=Z,500nm,19.2s
UPC Upice 110.47 322 *e*PKP **PKiKP 20 11 37.3 +0.8**
UPC *e*PP **PP 20 12 16.8 +4.0**
UPC *ex* x 20 21 35.0
UPC AMS AMS 20 58 50.0
comp=Z,500nm,17.1s
UPC Upice 110.47 322 *e*PKiKP **PKiKP 20 11 37.3 +0.8**
UPC *e* 20 12 16.8
UPC *e* 20 21 35.0
UPC MLR MLR
comp=Z,500nm,17.1s
TJOU Tjoern 110.53 330 *i* P **PKiKP 20 11 36.6 +0.3**
KRUC Moravsky 110.60 320 *e*PKiKP **PKiKP 20 11 37.2 +0.5**
ONAU Onsala 110.62 329 *i* P **PKiKP 20 11 36.5 0.0**
NVAR Mina Array Bea 110.63 51 Pdiff **Pdif 20 07 38.7 +1.3**
comp=Z,3.2nm,0.9s,baz=301,slow=6.1,SNR=13
NVAR PKiKP **PKiKP 20 11 39.4 +2.0**
comp=Z,3.3nm,0.7s,baz=250,slow=2.0,SNR=14
NVAR PKKPbc **PKKPbc 20 22 38.3 +0.7**
comp=Z,3.6nm,0.7s,baz=129,slow=4.0,SNR=12
NVAR PKKPab **PKKPab 20 22 48.3 +1.1**
comp=Z,4.7nm,0.7s,baz=84,slow=5.4,SNR=12
RONA Rosalia, Austr 110.99 319 *i* PKiKP **PKiKP 20 11 38.0 +0.4**
comp=Z,8.2nm,0.9s
RONA *i* PP **PP 20 12 16.0 -0.7**
comp=Z,30nm,1.2s
RONA *e*PKKP **PKKPbc 20 22 35.2 -1.4**
comp=Z,5.0nm,1.4s
TREC Trest 111.11 320 *e*PKP **PKiKP 20 11 38.4 +0.7**
TREC *e*PP **PP 20 12 21.4 +3.9**
TREC *e*SP SP 20 21 41.2 +0.7
TREC AMS AMS 21 00 40.0
comp=Z,700nm,24.1s
TREC Trest 111.11 320 *e*PKiKP **PKiKP 20 11 38.4 +0.7**
TREC *e* 20 12 21.4
TREC *e* 20 21 41.2
TREC MLR MLR
comp=Z,700nm,24.1s
CONA Conrad Observa 111.22 319 *i* PKiKP **PKiKP 20 11 38.1 +0.1**
comp=Z,6.2nm,0.7s
CONA *e*PKKP **PKKPbc 20 22 36.0 +0.1**
comp=Z,8.3nm,1.2s
KOGS Kog 111.32 317 *i* PKiKP **PKiKP 20 11 38.2 0.0**
KOGS *i* 20 12 06.5
KOGS *i* 20 12 12.8
KOGS *i* PP **PP 20 12 21.7 +2.6**
PVCC Panska Ves 111.35 322 *e*PKP **PKiKP 20 11 39.5 +1.4**
PVCC *e*PP **PP 20 12 22.5 +3.4**
PVCC AMS AMS 21 03 40.0
comp=Z,500nm,17.8s
PVCC Panska Ves 111.35 322 *e*PKiKP **PKiKP 20 11 39.5 +1.4**
PVCC *e* 20 12 22.5
PVCC MLR MLR
comp=Z,500nm,17.8s
PRU Pruhonice 111.52 321 *e*PKP **PKiKP 20 11 39.1 +0.7**
PRU *e*PP **PP 20 12 23.2 +2.9**
PRU *e*SP SP 20 21 46.8 +2.7
PRU AMS AMS 21 00 00.0
comp=Z,900nm,34.0s
PRU Pruhonice 111.52 321 *e*PKiKP **PKiKP 20 11 39.1 +0.7**
PRU *e* 20 12 23.2
PRU *e* 20 21 46.8
PRA Prague 111.56 322 *e*PP **PP 20 12 23.2 +2.6**
PRA *e*SP SP 20 21 47.5 +3.0

PRA AMS AMS 20 59 50.0
comp=Z,700nm,25.0s
ARSA Arzberg 111.61 318 *i* PKiKP **PKiKP 20 11 38.9 +0.2**
comp=Z,4.7nm,0.5s
ARSA *i* PP **PP 20 12 20.2 -1.0**
comp=Z,37nm,2.2s
ARSA *i* PKKP **PKKPbc 20 22 34.4 -0.1**
comp=Z,4.1nm,1.0s
BRG Berggiesshubel 111.63 322 PS PS 20 21 41.0 -14
RICC Richard 111.64 322 *e*PP **PP 20 12 25.1 +4.0**
RICC AMS AMS 21 03 10.0
comp=Z,800nm,29.7s
KULLO Kullorsuaq 111.86 2 *i* P **PKiKP 20 11 38.1 -0.2**
ZVC Zvikov 111.89 321 *e*PKP **PKiKP 20 11 39.9 +0.7**
ZVC *e*PP **PP 20 12 25.5 +2.5**
ZVC *e*SP SP 20 21 49.4 +1.8
ZVC AMS AMS 21 04 10.0
comp=Z,800nm,24.9s
HOMB Homborsund 111.96 331 *i* P **PKiKP 20 11 39.2 +0.2**
CKRC Cesky Krumlov 111.99 320 *e*PKP **PKiKP 20 11 40.0 +0.6**
CKRC *e*PP **PP 20 12 26.7 +2.9**
CKRC *ex* x 20 21 48.9
CKRC AMS AMS 20 59 50.0
comp=Z,800nm,25.8s
CKRC Cesky Krumlov 111.99 320 *e*PKiKP **PKiKP 20 11 40.0 +0.6**
CKRC *e* 20 12 26.7
CKRC *e* 20 21 48.9
CKRC MLR MLR
comp=Z,800nm,25.8s
SOKA Soboth 112.08 318 *i* PKiKP **PKiKP 20 11 39.8 +0.1**
comp=Z,12nm,0.8s,SNR=6.7
SOKA *e*PKKP **PKKPbc 20 22 32.0 -1.0**
comp=Z,2.3nm,0.8s
BOJS Bojanci 112.22 317 *i* PKiKP **PKiKP 20 11 40.2 +0.3**
MOA Molln 112.28 319 *i* PKiKP **PKiKP 20 11 39.9 -0.1**
comp=Z,5.8nm,0.6s
MOA *i* PP **PP 20 12 25.4 -0.5**
comp=Z,40nm,1.3s
MOA *e*PKKP **PKKPbc 20 22 32.1 -0.2**
comp=Z,4.4nm,0.7s
KHC Kasperske Hory 112.36 321 *e*PKP **PKiKP 20 11 40.5 +0.4**
KHC *e*PP **PP 20 12 28.8 +2.4**
KHC *e*SP SP 20 21 52.3 +0.3
KHC AMS AMS 20 58 40.0
comp=Z,900nm,30.8s
KHC Kasperske Hory 112.36 321 *e*PKiKP **PKiKP 20 11 40.5 +0.4**
KHC *e* 20 12 28.8
KHC *e* 20 21 52.3
GERES GERESS Array B 112.37 320 Pdiff **Pdif 20 07 45.0 +0.3**
comp=Z,0.2nm,0.3s,baz=94,slow=5.4,SNR=2.2
GERES PKiKP **PKiKP 20 11 40.5 +0.2**
comp=Z,13nm,0.5s,baz=75,slow=1.9,SNR=65
GERES SKP 20 15 08.3
comp=Z,2.0nm,0.7s,baz=64,slow=2.3,SNR=3.8
GERES PKKPbc **PKKPbc 20 22 32.6 +0.5**
comp=Z,0.7nm,0.7s,baz=262,slow=6.6,SNR=3.8
GERES PKKPab **PKKPab 20 22 41.2 +2.1**
comp=Z,2.9nm,0.9s,baz=225,slow=0.8,SNR=9.4
OBKA Obir 112.44 318 *i* PKiKP **PKiKP 20 11 40.3 -0.1**
comp=Z,9.1nm,1.0s
OBKA *e*PKKP **PKKPbc 20 22 31.2 -0.6**
comp=Z,7.5nm,0.8s
SNART Snartemo 112.55 331 *i* P **PKiKP 20 11 40.7 +0.6**
ELK Elko 112.58 49 PKiKP **PKiKP 20 11 42.4 +1.3**
comp=Z,6.7nm,0.8s,baz=275,slow=3.2,SNR=22
ELK PKKPbc **PKKPbc 20 22 31.4 0.0**
comp=Z,0.8nm,0.3s,baz=67,slow=2.2,SNR=4.9
ELK PKKPab **PKKPab 20 22 39.5 +1.0**
comp=Z,7.4nm,0.9s,baz=137,slow=3.1,SNR=11
LJU Ljubljana 112.58 317 *i* PKiKP **PKiKP 20 11 41.2 +0.6**
CEY Cerknica 112.72 317 *i* PKiKP **PKiKP 20 11 41.1 +0.2**
CEY *i* PP **PP 20 12 30.0 +0.8**
BIOA Bad Ischl, Aus 112.73 319 *i* PKiKP **PKiKP 20 11 40.6 -0.3**
comp=Z,8.7nm,0.6s,SNR=6.3
BIOA *e*PKKP **PKKPbc 20 22 31.6 +0.8**
comp=Z,9.3nm,1.0s
PFO Pinyon Flats O 112.77 56 PKiKP **PKiKP 20 11 43.3 +1.8**
comp=Z,14nm,0.9s,baz=298,slow=1.2,SNR=22
PFO PKKPbc **PKKPbc 20 22 29.8 -0.4**
comp=Z,2.2nm,0.8s,baz=139,slow=2.7,SNR=3.9
PFO Pinyon Flats O 112.77 56 *i* PKiKP **PKiKP 20 11 43.4 +1.9**
MYKA Terra Mystica 113.02 318 *i* PKiKP **PKiKP 20 11 41.3 -0.2**
comp=Z,7.7nm,0.6s
MYKA *e*PKKP **PKKPbc 20 22 29.6 -0.3**
comp=Z,4.7nm,0.5s
KBA Koelnbreinsper 113.09 319 *i* PKiKP **PKiKP 20 11 41.2 -0.5**
comp=Z,13nm,0.6s,SNR=8.5
KBA *i* PP **PP 20 12 32.1 +0.2**
comp=Z,17nm,1.2s
KBA *i* PKKP **PKKPbc 20 22 30.4 +0.7**
comp=Z,9.3nm,1.3s
LESA Schwarzleotal 113.43 319 *i* PKiKP **PKiKP 20 11 41.9 -0.3**
comp=Z,18nm,0.6s,SNR=9.0
LESA *e*PP **PP 20 12 32.7 -1.5**
comp=Z,62nm,1.3s
LESA *e*PKKP **PKKPbc 20 22 26.6 -1.9**
comp=Z,4.9nm,0.9s
GRF Grafenberg Arr 113.66 322 *e*PKKPab PKKPab 20 22 35.3 +2.0
SUMG Summit 113.67 356 *i* P **PKiKP 20 11 43.0 +0.6**
UPNV Upernavik 113.69 2 *i* P **PKiKP 20 11 42.3 +0.4**
ABTA Abfaltersbach 113.73 318 *i* PKiKP **PKiKP 20 11 42.6 -0.3**
comp=Z,23nm,0.6s,SNR=12
ABTA *e*PKKP **PKKPbc 20 22 27.3 -0.2**
comp=Z,9.1nm,1.1s
WTTA Wattenberg 114.15 319 *i* PKP **PKiKP 20 11 44.1 +0.3**
comp=Z,92nm,0.6s,SNR=34
WTTA *i* PKKP **PKKPbc 20 22 27.6 +1.4**
comp=Z,10.0nm,1.1s
WATA Walderalm 114.17 319 *i* PKP PKPdf 20 11 43.7 -0.1
comp=Z,23nm,0.6s,SNR=14
WATA *i* PKKP **PKKPbc 20 22 27.4 +1.3**
comp=Z,11nm,1.4s
SQTA Sankt Quirin 114.44 319 *i* PKP **PKiKP 20 11 44.5 +0.2**
comp=Z,16nm,0.5s,SNR=8.4
SQTA *e*PP **PP 20 12 40.6 -0.8**
comp=Z,36nm,1.5s
SQTA *e*PKKP **PKKPbc 20 22 26.4 +1.3**
comp=Z,6.4nm,0.9s
MOTA Moosalm 114.47 319 *i* PKP **PKiKP 20 11 44.4 +0.1**
comp=Z,31nm,0.6s,SNR=11
MOTA *i* PP **PP 20 12 40.3 -1.3**
comp=Z,36nm,1.3s
MOTA *i* PKKP **PKKPbc 20 22 26.2 +1.2**
comp=Z,14nm,1.1s
RETA Reutte 114.65 320 *i* PKP PKPdf 20 11 44.6 0.0
comp=Z,8.9nm,0.5s
RETA *i* PKKP **PKKPbc 20 22 24.5 +0.1**
comp=Z,9.6nm,1.2s
FETA Feichten 114.82 319 *i* PKP PKPdf 20 11 45.3 +0.3
comp=Z,19nm,0.8s,SNR=9.2
FETA *e*PP **PP 20 12 43.0 -1.0**
comp=Z,24nm,1.1s
FETA *i* PKKP **PKKPbc 20 22 25.4 +1.5**
comp=Z,12nm,1.6s
NUUG Nuugaatsiaq 115.03 1 *i* P **PKPdf 20 11 45.3 +0.8**
LOHW Long Hollow 115.26 45 **PKPdf 20 11 47.6 +1.5**
DAVA Damuels 115.28 320 *i* PKP **PKiKP 20 11 45.9 0.0**
comp=Z,47nm,0.6s,SNR=17
DAVA *i* PKKP **PKKPbc 20 22 23.8 +1.5**
comp=Z,14nm,1.6s
MPU Maple Canyon 115.42 49 **PKPdf 20 11 47.4 +0.9**
ZCCA Zocca 115.45 316 **PKPdf 20 11 47.3 +1.1**
PIX Pinacate 115.56 58 **PKiKP 20 11 47.3 +0.6**
Y14A Wickenburg 115.57 56 **PKiKP 20 11 47.5 +0.8**
TUE Stuetta 115.89 319 **PKPdf 20 11 47.0 -0.2**
BFO Black Forest 115.91 321 **PKiKP 20 11 46.7 -0.2**
BFO Black Forest 115.91 321 PKiKP **PKiKP 20 11 46.7 -0.2**
PD31 Pinedale Array 116.23 45 **PKiKP 20 11 48.5 +0.5**
PDAR Pinedale Array 116.23 45 **PKiKP 20 11 48.6 +0.5**
PDAR Pinedale Array 116.23 45 PKP **PKiKP 20 11 48.9 +0.9**
comp=Z,9.0nm,0.7s,baz=230,slow=1.1,SNR=46
PDAR PKKPbc **PKKPbc 20 22 17.7 -1.2**
comp=Z,6.8nm,0.8s,baz=107,slow=5.1,SNR=22
PDAR SKKPbc SKKPbc 20 25 56.9 -2.5
comp=Z,1.0nm,0.8s,baz=69,slow=2.3,SNR=2.8
FFC Flin Flon 116.31 31 **PKiKP 20 11 48.1 +0.6**
FFC Flin Flon 116.31 31 PKiKP **PKiKP 20 11 48.1 +0.6**
BTNL Ternell 116.39 324 *d*PKPdf **PKiKP 20 11 48.4 +0.6**
MEM Membach 116.45 324 *d*PKPdf **PKiKP 20 11 48.4 +0.5**
MSSA Maissana 116.46 317 **PKPdf 20 11 47.3 -0.9**
WUAZ Wupatki 116.60 54 **PKiKP 20 11 50.1 +1.2**
ECH Echery 116.68 321 **PKiKP 20 11 48.5 +0.1**
ECH Echery 116.68 321 PKIKP **PKiKP 20 11 48.5 +0.1**
BSTI Sart Tilman 116.72 324 *d*PKPdf **PKiKP 20 11 48.8 +0.4**
WLF Walferdange 116.74 323 **PKiKP 20 11 48.7 +0.2**
WLF Walferdange 116.74 323 *d*PKPdf **PKiKP 20 11 49.1 +0.7**
WLF Walferdange 116.74 323 PKIKP **PKiKP 20 11 48.7 +0.2**
BGES Gesves 117.08 324 *d*PKPdf **PKiKP 20 11 49.6 +0.5**
BGES *d*PP **PP 20 12 59.3 -0.2**
RCHB Rochefort 117.09 324 *d*PKP **PKiKP 20 11 49.7 +0.6**
LAO LASA Array 117.23 40 **PKiKP 20 11 50.8 +1.2**
SENIN Lac Senin/Sane 117.26 319 PKPdf **PKPdf 20 11 49.5 -0.4**
BMRD Maredsous 117.30 324 *d*PKPdf **PKiKP 20 11 50.2 +0.7**
ILULI Ilulissat 117.40 1 **PKiKP 20 11 49.3 +0.2**
ILULI Ilulissat 117.40 1 PKIKP **PKiKP 20 11 49.3 +0.2**
DOU Dourbes 117.49 324 *d*PKPdf **PKiKP 20 11 50.6 +0.8**
DOU *dp*PKPdf **pPKPdf 20 12 05.2 -3.5**
TUC Tucson 117.69 57 **PKiKP 20 11 51.5 +0.5**
TUC Tucson 117.69 57 PKIKP **PKiKP 20 11 51.5 +0.5**
VSL Villasalto 117.95 311 PKPdf **PKiKP 20 11 51.7 +0.5**
HSIG 118.08 61 **PKiKP 20 11 52.2 +0.5**
BORG Borgarnes 118.54 347 PKPdf **PKiKP 20 11 52.6 +1.1**
BORG Borgarnes 118.54 347 PKIKP **PKiKP 20 11 52.6 +1.1**
KEST Kesra 118.92 307 **PKiKP 20 11 53.6 +0.4**
KEST Kesra 118.92 307 PKP **PKiKP 20 11 54.0 +0.7**
comp=Z,12nm,0.7s,baz=248,slow=2.7,SNR=7.4
KEST PP **PP 20 13 11.0 -2.0**
comp=Z,40nm,0.9s,baz=156,slow=4.8,SNR=6.8
KEST PKKPbc **PKKPab 20 22 10.1 -0.3**
comp=Z,9.3nm,0.8s,baz=231,slow=4.2,SNR=5.5
EKA Eskdalemuir Ar 118.98 332 PKP **PKiKP 20 11 53.1 +0.4**
comp=Z,12nm,0.5s,baz=35,slow=3.1,SNR=57
EKA PP **PP 20 13 12.8 +0.5**
comp=Z,6.2nm,0.9s,baz=54,slow=7.3,SNR=4.1
EKA SKP 20 15 21.2
comp=Z,3.2nm,0.8s,baz=56,slow=2.8,SNR=3.0
EKA PKKPbc **PKKPbc 20 22 08.7 -0.5**
comp=Z,6.4nm,0.7s,baz=246,slow=3.4,SNR=18
ESK Eskdalemuir 119.01 332 PKPdf **PKiKP 20 11 52.7 0.0**
ESK Eskdalemuir 119.01 332 PKIKP **PKiKP 20 11 52.7 0.0**
SSB Saint Sauveur 119.45 319 **PKiKP 20 11 54.0 +0.1**
SSB Saint Sauveur 119.45 319 PKIKP **PKiKP 20 11 54.0 +0.1**
SFJD Kangerlussuaq 119.63 0 **PKiKP 20 11 53.6 +0.1**
SFJD Kangerlussuaq 119.63 0 PKIKP **PKiKP 20 11 53.7 +0.1**
SFJD Kangerlussuaq 119.63 0 *i* P **PKiKP 20 11 54.0 +0.5**
CLF Chambon-Foret 119.76 323 **PKiKP 20 11 54.8 +0.4**
ISCO Idaho Springs 119.94 48 **PKiKP 20 11 55.6 +0.2**
ISCO Idaho Springs 119.94 48 PKIKP **PKiKP 20 11 55.6 +0.2**
DY2G Dye2 120.11 358 *i* P **PKiKP 20 11 55.6 +0.7**
ANGG Ammassalik, Gr 120.43 354 *i* P **PKPdf 20 11 54.9 -0.1**
EDA Edea 120.53 271 PKPdf **PKPdf 20 11 56.2 -0.6**
SDCO Great Sand Dun 120.64 50 **PKiKP 20 11 57.5 +0.7**
ANMO Albuquerque 120.65 53 **PKiKP 20 11 57.5 +0.7**
ANMO Albuquerque 120.65 53 PKP **PKiKP 20 11 58.0 +1.2**
comp=Z,36nm,0.9s,baz=280,slow=1.6,SNR=53
ANMO Albuquerque 120.65 53 *c* i PKiKP **PKiKP 20 11 58.3 +1.5**
ANMO pmax pmax
comp=Z,67nm,1.3s
IDGL Inch Island, C 121.13 333 PKP **PKiKP 20 11 57.0 +0.2**
ILTH Belurgan, Co L 121.24 332 PKP **PKiKP 20 11 57.2 +0.1**
T25A Trinidad 121.64 50 **PKiKP 20 11 59.6 +0.8**
DSB Dublin 121.74 331 PKP **PKiKP 20 11 58.3 +0.2**
DSB Dublin 121.74 331 PKPdf **PKiKP 20 11 58.2 +0.2**
ULM Lac du Bonnet 121.80 33 PKP **PKPdf 20 11 58.1 -0.1**
comp=Z,26nm,0.6s,baz=303,slow=1.7,SNR=49
ULM PKKPbc **PKKPab 20 21 57.0 -0.5**
comp=Z,25nm,0.8s,baz=116,slow=4.9,SNR=24
OGNE Ogallala 122.13 45 **PKiKP 20 11 59.4 0.0**
CORI Orista 122.40 316 **PKiKP 20 12 00.4 +0.7**
IWEX Carrickbyrne, 122.45 330 PKP **PKiKP 20 11 59.5 0.0**
CEST Esterri de Car 122.69 317 **PKiKP 20 12 00.5 +0.1**
SUSD Miller 122.80 40 **PKiKP 20 12 00.7 +0.1**
VHRN Van Horn 122.84 58 **PKiKP 20 12 01.9 +0.7**
HPIG 123.03 62 **PKiKP 20 12 01.6 -0.1**
IGLA Glengowla, Co 123.03 333 PKP **PKPdf 20 12 00.4 0.0**
TXAR Lajitas Array 124.28 59 **PKiKP 20 12 04.6 +0.6**
TXAR Lajitas Array 124.28 59 PKP **PKiKP 20 12 05.0 +1.0**
comp=Z,23nm,1.0s,baz=270,slow=1.3,SNR=67
TXAR PKKPbc **PKKPbc 20 21 48.3 -0.1**
comp=Z,3.0nm,0.8s,baz=106,slow=5.7,SNR=12
TXAR SKKPbc SKKPbc 20 25 31.4 -1.2
comp=Z,1.2nm,0.8s,baz=80,slow=6.9,SNR=4.3
TXAR Lajitas Array 124.28 59 PKIKP **PKiKP 20 12 05.0 +1.0**
COYC Coyhaique 124.34 161 **PKiKP 20 12 04.0 +0.5**
ECSD EROS Data Cent 124.62 40 **PKiKP 20 12 04.0 -0.2**
TAM Tamanrasset 124.67 293 **PKiKP 20 12 05.6 +0.6**
TAM Tamanrasset 124.67 293 PKIKP **PKiKP 20 12 05.6 +0.6**
NRS Narsarsuaq 125.41 358 **PKiKP 20 12 05.1 0.0**
NRS Narsarsuaq 125.41 358 PKIKP **PKiKP 20 12 05.1 0.0**
NRS Narsarsuaq 125.41 358 *i* P **PKPdf 20 12 04.8 +0.1**
IVI Ivigtut 125.44 359 **PKiKP 20 12 05.0 -0.1**
IVI Ivigtut 125.44 359 *i* P **PKiKP 20 12 05.2 +0.1**
TBO Thunder Bay 126.17 32 **PKiKP 20 12 07.6 +0.6**
ZAIG Zacatecas 126.50 67 PKPdf **PKiKP 20 12 10.1 +1.2**
LL02 Futaleuf 126.52 160 **PKiKP 20 12 08.4 +0.4**
LL01 San Ignacio de 127.04 159 **PKiKP 20 12 09.5 +0.5**
JCT Junction City 127.24 57 **PKiKP 20 12 10.4 +0.7**
JCT Junction City 127.24 57 PKIKP **PKiKP 20 12 10.5 +0.7**
ESDC Sonseca Array 127.50 316 **PKiKP 20 12 10.1 0.0**
ESDC Sonseca Array 127.50 316 PKP **PKiKP 20 12 10.7 +0.6**
comp=Z,6.2nm,0.9s,baz=29,slow=2.0,SNR=32
ESDC PP **PP 20 14 10.9 +0.4**
comp=Z,17nm,1.0s,baz=70,slow=6.4,SNR=19
SCIA State Center 127.70 41 **PKiKP 20 12 10.3 0.0**
PAB San Pablo 127.83 316 PKPdf **PKiKP 20 12 11.1 +0.4**
PAB San Pablo 127.83 316 PKIKP **PKiKP 20 12 11.1 +0.4**
MOIG Morelia 128.21 70 PKPdf **PKiKP 20 12 12.4 +0.1**
PBRG Braganca 128.34 320 *e*PKPdf **PKiKP 20 12 12.0 +0.4**
PBRG *e*PP **PP 20 14 18.3 +2.6**
JRQG Juriquilla Cam 128.76 69 PKPdf **PKiKP 20 12 14.2 +0.9**
MVO Moncorvo 128.85 319 *e*PKPdf **PKiKP 20 12 13.3 +0.6**
MVO *e*PP **PP 20 14 21.9 +2.7**
MVO *e*LR LR 21 07 39.3
MVO *i* IAMs_20 IAMs_20 21 16 57.1
comp=Z,318nm,22.0s
LR05 Currie 129.06 158 **PKiKP 20 12 13.3 +0.2**
PLCA Paso Flores 129.15 159 **PKiKP 20 12 13.7 +0.3**
PLCA Paso Flores 129.15 159 PKhKP PKPpre 20 11 58.8
comp=Z,2.7nm,1.0s,baz=267,slow=2.6,SNR=2.7
PLCA PKP **PKiKP 20 12 14.6 +1.2**
comp=Z,3.3nm,1.0s,baz=32,slow=6.0,SNR=4.1
PLCA SKPbc SKPbc 20 15 27.4 -0.4
comp=Z,14nm,1.2s,baz=148,slow=4.6,SNR=3.2
PLCA SKKPbc **SKKPbc 20 25 13.9 -1.7**
comp=Z,5.6nm,1.1s,baz=30,slow=4.5,SNR=3.9
PLCA Paso Flores 129.15 159 PKIKP **PKiKP 20 12 13.7 +0.3**
PLCA Paso Flores 129.15 159 *e*P **PKPdf 20 12 10.2 -2.5**
TORD Torodi Ar. Bea 129.18 282 **PKPdf 20 12 12.8 -0.5**
TORD Torodi Ar. Bea 129.18 282 PKhKP PKPpre 20 12 01.8
comp=Z,1.3nm,0.7s,baz=84,slow=1.9,SNR=7.5
TORD PKP **PKiKP 20 12 13.7 -0.3**
comp=Z,24nm,0.7s,baz=92,slow=1.8,SNR=37
TORD SKPbc SKPab 20 15 26.8 -0.7
comp=Z,12nm,1.0s,baz=60,slow=3.1,SNR=3.5
PCAB Cabril 129.21 320 *e*PKPdf **PKiKP 20 12 14.2 +0.8**
PGAV Gavieira, Arco 129.23 321 *e*PKPdf **PKiKP 20 12 14.1 +0.6**
PGAV *e*LR LR 21 07 52.1
PGAV *i* IAMs_20 IAMs_20 21 19 01.1
comp=Z,365nm,18.0s
POLO Lamas de Olo 129.24 320 *e*PKPdf **PKiKP 20 12 14.6 +1.0**
POLO *e*PP **PP 20 14 25.9 +4.2**
PVRL Vila Real 129.24 320 *e*PKPdf **PKiKP 20 12 14.5 +1.0**
MTE Manteigas 129.57 318 **PKiKP 20 12 14.5 +0.3**
MTE Manteigas 129.57 318 *e*PKPdf **PKiKP 20 12 15.2 +1.0**
MTE *e*PP **PP 20 14 26.9 +2.9**
MTE *i* IAMs_20 IAMs_20 21 20 35.3
comp=Z,320nm,18.0s
PVIS Viseu 129.64 319 *e*PKPdf **PKiKP 20 12 14.9 +0.6**
PVIS *e*PP **PP 20 14 27.3 +3.0**
PCBR Castelo Branco 129.81 318 *e*PKPdf **PKiKP 20 12 15.5 +0.9**
PCBR *e*PP **PP 20 14 29.8 +4.4**
SCHQ Schefferville 129.87 13 PKhKP PKPpre 20 11 59.5
comp=Z,27nm,0.6s,baz=247,slow=14,SNR=2.0
SCHQ PKP **PKiKP 20 12 14.7 +0.4**
comp=Z,238nm,0.7s,baz=352,slow=1.6,SNR=16
SCHQ SKPbc SKPab 20 15 28.6 -0.5
comp=Z,146nm,0.9s,baz=305,slow=3.3,SNR=4.1
SCHQ PKKP **PKKPdf 20 22 15.7 -2.6**
comp=Z,118nm,0.8s,baz=246,slow=0.2,SNR=5.5
PMRV Marv??o 129.96 317 *e*PKPdf **PKiKP 20 12 15.4 +0.5**
PMRV *e*PP **PP 20 14 27.7 +1.3**
PMRV *e*LR LR 21 09 25.6
PMRV *i* IAMs_20 IAMs_20 21 19 18.7
comp=Z,314nm,18.0s
COI Coimbra 130.24 319 *e*PKPdf **PKiKP 20 12 15.8 +0.3**
COI *e*PP **PP 20 14 31.0 +2.9**
PBAR Barrancos 130.32 316 *e*PKPdf **PKiKP 20 12 15.8 +0.2**
PBAR *e*PP **PP 20 14 29.8 +1.0**
PESTR Estremoz 130.37 317 **PKiKP 20 12 16.1 +0.3**
PESTR Estremoz 130.37 317 *e*PKPdf **PKiKP 20 12 15.8 +0.1**
PESTR *e*PP **PP 20 14 30.1 +1.0**
PCAS Casmilo, Conde 130.38 319 *e*PKPdf **PKiKP 20 12 16.4 +0.7**
PSARD Sardoal 130.39 318 *e*PKPdf **PKiKP 20 12 16.4 +0.6**
PSARD *e*PP **PP 20 14 32.3 +3.1**
HKT Hockley 130.68 56 **PKiKP 20 12 17.1 +0.6**
HKT Hockley 130.68 56 PKIKP **PKiKP 20 12 17.1 +0.6**
PMTG Montargil 130.70 317 *e*PKPdf **PKiKP 20 12 16.4 0.0**
PMTG *e*PP **PP 20 14 33.8 +2.7**
MDT Midelt 130.80 308 PKP **PKiKP 20 12 17.6 +0.7**
comp=Z,11nm,0.6s,baz=97,slow=2.3,SNR=21
EVO Evora 130.82 317 *e*PKPdf **PKiKP 20 12 16.9 +0.3**
EVO *e*PP **PP 20 14 33.7 +1.7**
PSBE So Bento 130.85 318 *e*PP **PP 20 14 36.1 +3.9**
MD01 Midelt array s 130.90 308 **PKiKP 20 12 17.8 +0.6**
TLIG Tlapa 130.93 72 PKPdf **PKiKP 20 12 17.7 +0.1**
PBEJ Beja 130.97 316 *e*PKPdf **PKiKP 20 12 17.9 +1.0**
PCVE Castro Verde 131.28 316 *e*PKPdf **PKiKP 20 12 17.9 +0.3**
PCVE *e*PP **PP 20 14 35.7 +0.7**
FCAR Ozark Folk Cen 131.29 47 **PKiKP 20 12 17.4 -0.3**
MESJ Messejana 131.30 316 *e*PKPdf **PKiKP 20 12 17.3 -0.3**
MESJ *e*PP **PP 20 14 36.1 +0.9**
MESJ Messejana 131.30 316 *e*PKPdf **PKiKP 20 12 18.8 +1.1**
MESJ *e*PP **PP 20 14 37.6 +2.5**
PARRA Arraiolos 131.37 317 *e*PKPdf **PKPdf 20 12 16.7 -0.1**
PARRA *e*PP **PP 20 14 32.0 -3.5**
PBDV Barranco-do-Ve 131.39 315 *e*PKPdf **PKiKP 20 12 18.0 +0.1**
PBDV *e*PP **PP 20 14 36.7 +0.9**
PMAFR Mafra 131.46 318 *e*PKPdf **PKiKP 20 12 18.9 +1.0**
PMAFR *e*PP **PP 20 14 39.5 +3.3**
LIS Lisbon 131.50 317 *e*PP **PP 20 14 37.2 +0.9**
PTEO Sao Teotonio 131.79 316 *e*PKPdf **PKiKP 20 12 19.0 +0.3**
MORF Marmelete 131.86 316 *e*PKPdf **PKPdf 20 12 18.3 +0.5**
MORF *e*PP **PP 20 14 39.8 +1.0**
MORF Marmelete 131.86 316 *e*PKPdf **PKiKP 20 12 19.0 +0.1**
MORF *e*PP **PP 20 14 40.2 +1.4**
PFVI Vila Bisbo 132.07 315 PKPdf **PKiKP 20 12 20.1 +0.9**
PFVI Vila Bisbo 132.07 315 *e*PKPdf **PKiKP 20 12 20.3 +1.1**
PFVI *e*PP **PP 20 14 40.7 +0.7**
VLDQ Val d'Or 132.24 25 **PKPdf 20 12 18.1 0.0**
BLO Bloomington 133.47 40 **PKiKP 20 12 22.0 0.0**
BLO Bloomington 133.47 40 PKIKP **PKiKP 20 12 22.0 0.0**
SADO Sadowa 133.99 29 PKhKP PKPpre 20 12 12.1
comp=Z,94nm,0.6s,baz=314,slow=6.7,SNR=13
SADO PKP **PKiKP 20 12 23.4 +0.5**
comp=Z,489nm,0.8s,baz=335,slow=3.3,SNR=26
TRQA Tornquist 134.15 166 PKPdf **PKiKP 20 12 23.0 -0.5**
TRQA Tornquist 134.15 166 PKIKP **PKiKP 20 12 23.0 -0.5**
WVT Waverly 134.23 44 **PKPdf 20 12 22.6 +0.3**
WVT Waverly 134.23 44 PKIKP **PKPdf 20 12 22.6 +0.3**
CMIG Matias Romero 134.48 73 PKhKP PKPpre 20 12 10.0
comp=Z,6.2nm,0.9s,baz=330,slow=4.1,SNR=7.5
CMIG PKP **PKiKP 20 12 24.0 -0.6**
comp=Z,14nm,0.7s,baz=322,slow=2.8,SNR=18
DBIC Dimbokro 135.64 273 **PKPdf 20 12 25.5 0.0**
DBIC Dimbokro 135.64 273 PKhKP PKPpre 20 12 13.4
comp=Z,9.2nm,0.7s,baz=147,slow=2.6,SNR=13
DBIC PKP **PKPdf 20 12 25.8 +0.3**
comp=Z,25nm,0.7s,baz=111,slow=2.4,SNR=16
DBIC SKPbc **SKPbc 20 15 48.8 -1.9**
comp=Z,35nm,0.8s,baz=123,slow=3.1,SNR=9.3
NCB Newcomb 136.88 26 **PKPdf 20 12 27.5 +0.4**
CCIG Comitan 137.20 73 **PKPdf 20 12 28.8 +0.3**
TKL Tuckaleechee C 137.26 42 PKhKP PKPpre 20 12 17.2
comp=Z,9.5nm,0.6s,baz=177,slow=2.5,SNR=15
TKL PKP **PKiKP 20 12 28.9 -0.9**
comp=Z,56nm,0.7s,baz=139,slow=5.5,SNR=26
TKL SKPbc **SKPbc 20 15 53.7 -1.2**
comp=Z,12nm,0.8s,baz=4.5,slow=1.2,SNR=4.6
CFA Coronel Fontan 138.07 156 PKhKP PKPpre 20 12 19.9
comp=Z,17nm,0.8s,baz=127,slow=5.1,SNR=28
WVL Waterville 138.23 22 **PKPdf 20 12 29.8 +0.3**
HRV Adam Dziewonsk 139.21 25 **PKPdf 20 12 32.1 +0.8**
HRV Adam Dziewonsk 139.21 25 PKIKP **PKPdf 20 12 32.1 +0.8**
PMPST Porto Santo, M 139.42 315 *e*PKPdf **PKPdf 20 12 32.8 +0.8**
PMPS Porto Santo 139.43 315 *e*PKPdf **PKPdf 20 12 35.3 +1.0**
PMAR Madeira 140.03 315 *e*PKPdf **PKPdf 20 12 34.4 +1.1**
PMOZ Porto Moniz, M 140.17 315 *e*PKPdf **PKPdf 20 12 34.3 +0.8**
PMOZ *e*LR LR 21 12 51.4
PMOZ *i* IAMs_20 IAMs_20 21 18 36.9
comp=Z,221nm,22.0s
PLTB Pedras Altas 141.72 174 *e*P **PKPdf 20 12 33.5 -2.7**
PSAL Palomas, Salto 141.81 169 *e*P **PKPdf 20 12 32.5 -3.9**
H10N1 ASCENSION HYDR 142.25 248 PKP **PKPdf 20 12 36.3 -0.9**
baz=26
H10N2 ASCENSION HYDR 142.26 248 PKP **PKPdf 20 12 37.4 +0.2**
baz=26
H10N3 ASCENSION HYDR 142.27 248 PKP **PKiKP 20 12 39.1 -1.2**
baz=26
GO02 Mina Guanaco 142.93 149 **PKPdf 20 12 37.2 -1.7**
DWPF Disney Wildern 142.94 51 **PKPdf 20 12 35.9 -2.5**
PB14 IPOC Station P 142.94 147 **PKPdf 20 12 37.1 -1.9**
CPSB Cacapava Do Su 143.08 174 *e*P PKPbc 20 12 36.7 +1.1
MGAN Managua 143.36 78 PKPbc 20 12 37.9 +1.1
H07S1 FLORES T-PHASE 143.37 336 PKhKP PKPpre 20 12 36.3
SNR=6.4
PB10 IPOC Station P 143.75 146 **PKPdf 20 12 39.4 -0.7**
SOR Soroa 143.93 60 **PKPdf 20 12 39.8 -0.5**
SOR Soroa 143.93 60 *e*P PKPab 20 12 37.2 -0.4
SOR Soroa 143.93 60 PKIKP **PKPdf 20 12 39.8 -0.5**
ALIBA Liberia Airpor 144.17 81 *e*P **PKPdf 20 12 41.5 +0.6**
JUD3 Juan Diaz 3 144.20 82 PKPdf **PKPdf 20 12 41.6 +0.5**
JUD3 Juan Diaz 3 144.20 82 *e*P **PKPdf 20 12 40.7 -0.4**
CNLB Canela 144.34 178 *e*P **PKPab 20 12 36.4 -2.7**
ACON Acoyapa 144.42 79 PKPbc 20 12 40.6 +0.6
ACON Acoyapa 144.42 79 *e*P PKPbc 20 12 40.6 +0.6
ACON Acoyapa 144.42 79 PKP **PKPdf 20 12 40.9 -0.5**
PB05 IPOC Station P 144.47 146 **PKPdf 20 12 41.7 +0.2**
COLC Colonia 144.50 81 *e*P **PKPdf 20 12 42.0 +0.5**
MESS Mesas 144.50 81 *e*P **PKPdf 20 12 41.6 0.0**
HORNC Hornillas 144.52 81 *e*P **PKPdf 20 12 42.0 +0.3**
CUI Cuipilapa 144.54 81 *e*P **PKPdf 20 12 42.1 +0.4**
SIUN Universidad Ur 144.60 76 PKPdf **PKPdf 20 12 42.0 +0.3**
MOTZ Rio Naranjo 144.62 81 *e*P **PKPdf 20 12 42.4 +0.6**
INVE Universidad In 144.65 81 *e*P **PKPdf 20 12 42.1 +0.3**
JTS Las Juntas de 144.77 81 PKPdf **PKPdf 20 12 42.7 +0.7**
JTS Las Juntas de 144.77 81 PKIKP **PKPdf 20 12 42.7 +0.7**
JTS Las Juntas de 144.77 81 *i* P **PKPdf 20 12 42.8 +0.7**
PB06 IPOC Station P 144.94 147 PKPdf **PKPdf 20 12 43.2 +0.9**
ARE1 Arenal 1 144.99 81 *e*P **PKPdf 20 12 43.4 +0.9**
VARE2 V. Arenal 144.99 81 *e*P **PKPdf 20 12 43.2 +0.8**
VACR Volcan Arenal 145.03 81 *e*P **PKPdf 20 12 42.9 +0.4**
CAMR Camarioca 145.22 58 *e*P **PKiKP 20 12 44.5 -2.0**
ESPN Las Esperanzas 145.25 78 *e*P **PKPdf 20 12 43.9 +1.1**
ESPN Las Esperanzas 145.25 78 PKP **PKPdf 20 12 44.2 +1.4**
HDC Heredia 145.61 82 PKPdf **PKPab 20 12 45.0 +0.7**
HDC Heredia 145.61 82 *e*P **PKPdf 20 12 40.6 -3.0**
PIEC Cerro El Cedra 145.78 83 *e*P **PKPab 20 12 45.7 +0.6**
PB09 IPOC Station P 145.85 146 **PKPab 20 12 45.4 +0.4**
PB02 IPOC Station P 145.85 145 **PKPab 20 12 45.4 +0.4**
**VICA

PRVC	**Isla de Provid**	**147.94**	**75**			**PKPdf**	**20 12 48.8**	**+1.5**
PRVC	**Isla de Provid**	**147.94**	**75⇑**	*i*P		**PKPdf**	**20 12 48.7**	**+1.5**
PRVC	**Isla de Provid**	**147.94**	**75**	PKP	PKPbc	**PKPbc**	**20 12 49.3**	**-1.1**
MAPC	**Malpelo**	**147.96**	**93**	PKP	PKiKP	**PKiKP**	**20 12 52.2**	**-0.2**
SJPY	**San Joaquin**	**148.01**	**169**	*e*P	PKPdf	**PKPdf**	**20 12 43.0**	**-4.3**
GMAL	**Guarumal, Vera**	**148.52**	**86**	*e*P	PKPdf	**PKPdf**	**20 12 48.4**	**0.0**
SERC	**Banco Serrana,**	**148.73**	**73**	PKP	PKPbc	**PKPbc**	**20 12 50.6**	**-1.9**
CACAO	**El Cacao, Vera**	**148.88**	**87**	*e*P	PKPdf	**PKPdf**	**20 12 50.7**	**+1.8**
COHC	**Cochancay**	**149.00**	**106**	PKPdf	PKPdf	**PKPdf**	**20 12 49.4**	**+0.3**
COHC	**Cochancay**	**149.00**	**106**	PKP	PKPdf	**PKPdf**	**20 12 50.3**	**+1.2**
PET01	**Itanhaem-SP**	**149.29**	**184**	*e*P	PKPdf	**PKPdf**	**20 12 45.3**	**-4.0**
CHIT3	**Chitre**	**149.32**	**85**	*e*P	PKPdf	**PKPdf**	**20 12 50.9**	**+1.3**
PNME	**Penonome**	**149.40**	**84**	*e*P	PKPdf	**PKPdf**	**20 12 50.5**	**+0.7**
AZU	**Azuero**	**149.47**	**86⇑**	*e*P	PKPdf	**PKPdf**	**20 12 50.8**	**+0.9**
MLIR	**Monte Lirio**	**149.84**	**83**	*e*P	PKPdf	**PKPdf**	**20 12 52.0**	**+1.6**
ZANG	**Zanguenga, Cho**	**149.84**	**83**	*e*P	PKPdf	**PKPdf**	**20 12 52.5**	**+2.1**
BCIP	**Isla Barro Col**	**149.86**	**83⇑**	*e*P	PKPdf	**PKPdf**	**20 12 50.9**	**+0.4**
BCIP	**Isla Barro Col**	**149.86**	**83**	PKP	PKPdf	**PKPdf**	**20 12 51.6**	**+1.1**
GAMB1	**Gamboa**	**149.99**	**83**	*e*P	PKPdf	**PKPdf**	**20 12 51.3**	**+0.6**
SPB	**Sao Paulo**	**149.99**	**184**	PKPdf	PKPdf	**PKPdf**	**20 12 51.1**	**+0.6**
SPB	**Sao Paulo**	**149.99**	**184**	*e*P	PKPdf	**PKPdf**	**20 12 47.3**	**-3.1**
SLP01	**Ubatuba-SP**	**150.02**	**188**	*e*P	PKPdf	**PKPdf**	**20 12 47.3**	**-3.4**
PARB	**Paraibuna**	**150.07**	**187**	*e*P	PKPdf	**PKPdf**	**20 12 47.3**	**-3.4**
LMGC	**Las Mercedes**	**150.13**	**61**	*e*P	PKiKP	**PKiKP**	**20 12 56.5**	**-0.1**
PAC1	**Pacto, Paraso**	**150.14**	**101**	PKP	PKPdf	**PKPdf**	**20 12 52.8**	**+1.6**
FLAM	**Flamenco Islan**	**150.17**	**84**	*e*P	PKPdf	**PKPdf**	**20 12 52.4**	**+1.4**
UPA	**Univ. de Panam**	**150.17**	**83**	*e*P	PKPdf	**PKPdf**	**20 12 51.0**	**0.0**
AMBA	**Amambai (Brazi**	**150.24**	**170**	*e*P	PKPdf	**PKPdf**	**20 12 46.7**	**-4.2**
MAN01	**Angra dos Reis**	**150.28**	**190**	*e*P	PKPdf	**PKPdf**	**20 12 49.2**	**-1.8**
MTDJ	**Mount Denham**	**150.33**	**64**	PKPdf	PKPdf	**PKPdf**	**20 12 51.3**	**+0.1**
MTDJ				PKPbc	PKiKP	**PKiKP**	**20 12 57.2**	**-0.1**
MTDJ	**Mount Denham**	**150.33**	**64**	*e*P	PKPdf	**PKPdf**	**20 12 49.2**	**-2.0**
PIAT	**Ana Tenorio**	**150.36**	**104**	PKP	PKPdf	**PKPdf**	**20 12 53.8**	**+2.0**
CUSE	**Cuicocha Este**	**150.53**	**101**	PKP	PKPdf	**PKPdf**	**20 12 54.8**	**+2.7**
VAO	**Valinhos**	**150.54**	**185**		PKPdf	**PKPdf**	**20 12 50.6**	**-0.9**
VAO				PKPbc	PKiKP	**PKiKP**	**20 12 57.6**	**0.0**
VAO	**Valinhos**	**150.54**	**185**	*e*P	PKPdf	**PKPdf**	**20 12 50.0**	**-1.4**
YAR	**Yar**	**150.56**	**60**	*e*P	PKPdf	**PKPdf**	**20 12 51.2**	**-0.2**
HLGC	**Holguin**	**150.60**	**58**	*e*P	PKiKP	**PKiKP**	**20 12 57.9**	**+0.3**
BBSR	**BB Station**	**150.66**	**27**	PKPdf	PKPdf	**PKPdf**	**20 12 51.4**	**+0.2**
CHIV	**Chivirico**	**150.68**	**60**		PKPdf	**PKPdf**	**20 12 52.0**	**+0.4**
TRCB	**Terra Rica**	**150.69**	**174**	PKPdf	PKPdf	**PKPdf**	**20 12 52.3**	**+0.7**
TRCB				PKPbc	PKiKP	**PKiKP**	**20 12 58.4**	**+0.6**
TRCB	**Terra Rica**	**150.69**	**174**	*e*P	PKPdf	**PKPdf**	**20 12 48.4**	**-3.3**
DUB01	**Friburgo-RJ**	**150.71**	**194**	*e*P	PKPdf	**PKPdf**	**20 12 50.0**	**-1.7**
VAS01	**Vassouras-RJ**	**150.75**	**192**	*e*P	PKPdf	**PKPdf**	**20 12 49.5**	**-2.2**
CAM01	**Campos-RJ**	**150.78**	**195**	*e*P	PKPdf	**PKPdf**	**20 12 47.5**	**-4.2**
LPAZ	**La Paz**	**150.79**	**141**	PKP	PKPdf	**PKPdf**	**20 12 54.4**	**+1.8**
	comp=Z,23nm,1.0s,baz=38,slow=0.3,SNR=55							
LPAZ				PKPbc	PKiKP	**PKiKP**	**20 13 00.3**	**+1.4**
	comp=Z,225nm,0.9s,baz=124,slow=0.5,SNR=119							
LPAZ	**La Paz**	**150.79**	**141**	*e*P	PKPdf	**PKPdf**	**20 12 49.0**	**-3.7**
MURT	**Porto Murtinho**	**150.88**	**164**	*e*P	PKPdf	**PKPdf**	**20 12 48.5**	**-3.3**
PINC	**Pinares de May**	**151.00**	**59**	*e*P	PKPdf	**PKPdf**	**20 12 50.5**	**-1.5**
MARVS	**Santiago de Cu**	**151.11**	**60**	*e*P	PKPbc	**PKPbc**	**20 12 58.3**	**+0.1**
RCLB	**Rio Claro- Sao**	**151.16**	**184**	*e*P	PKPdf	**PKPdf**	**20 12 49.0**	**-3.4**
TULM	**Tulcn-Chalpat**	**151.22**	**100**	PKP	PKiKP	**PKiKP**	**20 13 01.6**	**+1.9**
CMBC	**Cumbal**	**151.23**	**100**	PKP	PKPbc	**PKPbc**	**20 12 57.1**	**-2.1**
GR1C	**Gorgona, Isla**	**151.25**	**96**	PKP	PKPdf	**PKPdf**	**20 12 54.8**	**+2.1**
RCC	**Rio Carpintero**	**151.29**	**60**	*e*P	PKPbc	**PKPbc**	**20 12 56.5**	**-2.0**
TOTI	**Torti**	**151.38**	**83**	*e*P	PKPdf	**PKPdf**	**20 12 53.7**	**+0.9**
BONI	**La Bonita**	**151.41**	**101**	PKP	PKPdf	**PKPdf**	**20 12 55.5**	**+2.2**
ALF01	**Guarapari-ES**	**151.67**	**198**	*e*P	PKPdf	**PKPdf**	**20 12 50.5**	**-2.5**
GTBY	**Guantanamo Bay**	**151.82**	**59**	*e*P	PKiKP	**PKiKP**	**20 13 00.7**	**+0.6**
GTBY	**Guantanamo Bay**	**151.82**	**59**	PKP	PKPdf	**PKPdf**	**20 12 50.0**	**-3.3**
PTAC	**Punta Ardita,**	**151.91**	**87⇑**	*i*P		**PKPdf**	**20 12 54.7**	**+1.0**
PTAC	**Punta Ardita,**	**151.91**	**87**	PKP	PKPdf	**PKPdf**	**20 12 55.4**	**+1.8**
QMBU	**Quimbuelo**	**151.96**	**59**	*e*P	PKPdf	**PKPdf**	**20 12 54.5**	**+1.0**
BBAC	**Balboa, Cauca**	**152.00**	**98**	PKP	PKPdf	**PKPdf**	**20 12 56.0**	**+1.9**
CRUC	**La Cruz**	**152.21**	**99**	PKP	PKPdf	**PKPdf**	**20 12 57.5**	**+2.9**
BDQN	**Bodoquena, MS**	**152.26**	**165**	*e*P	PKPdf	**PKPdf**	**20 12 51.8**	**-2.3**
AQDB	**Aquidauana**	**152.48**	**167**	PKPdf	PKPdf	**PKPdf**	**20 12 54.9**	**+0.6**
AQDB				PKPbc	PKiKP	**PKiKP**	**20 13 02.1**	**+0.5**
BB19B	**Bebedouro**	**152.56**	**182**	*e*P	PKPdf	**PKPdf**	**20 12 51.4**	**-3.1**
POPC	**Popayan, Colom**	**152.65**	**97**	PKP	PKPdf	**PKPdf**	**20 12 56.4**	**+1.3**
JAMC	**Jamundi, Valle**	**152.75**	**96**	PKP	PKPdf	**PKPdf**	**20 12 57.0**	**+1.8**
CZSB	**Cruzeiro do Su**	**152.88**	**121**	*e*P	PKPdf	**PKPdf**	**20 12 52.2**	**-2.9**
CZSB	**Cruzeiro do Su**	**152.88**	**121**	PKP	PKPdf	**PKPdf**	**20 12 57.2**	**+2.1**
APAC	**Apartado, Choc**	**153.12**	**85**	PKP	PKPdf	**PKPdf**	**20 12 58.6**	**+3.2**
YOTC	**Yotoco, Valle**	**153.17**	**94**	PKP	PKPdf	**PKPdf**	**20 12 57.1**	**+1.4**
SACV	**Santiago Islan**	**153.22**	**290**	PKPdf	PKPdf	**PKPdf**	**20 12 56.5**	**+0.9**
FLOC	**Florencia**	**153.48**	**100**	PKP	PKPdf	**PKPdf**	**20 12 58.0**	**+2.0**
DBBC	**Dabeiba**	**153.50**	**87**	PKP	PKPdf	**PKPdf**	**20 12 59.0**	**+2.9**
SJMB	**Sao Joao De Ma**	**153.61**	**198**	*e*P	PKPdf	**PKPdf**	**20 12 51.9**	**-4.2**
CBOC	**Ciudad Bolivar**	**153.66**	**90**	PKP	PKPdf	**PKPdf**	**20 12 58.3**	**+1.9**
ITRB	**Iturama**	**153.91**	**178**	*e*P	PKPdf	**PKPdf**	**20 12 53.5**	**-3.0**
MOTC	**Monteria, Cord**	**154.00**	**83**	*i*P	PKPdf	**PKPdf**	**20 12 51.7**	**-5.0**
PTLC	**Puerto Leguiza**	**154.00**	**103**	PKP	PKPdf	**PKPdf**	**20 12 58.8**	**+2.0**
HELC	**Santa Helena**	**154.15**	**89**	*i*P	PKPdf	**PKPdf**	**20 12 58.0**	**+0.6**
HELC	**Santa Helena**	**154.15**	**89**	PKP	PKPdf	**PKPdf**	**20 12 58.9**	**+1.5**
ORTC	**Ortega, Tolima**	**154.25**	**95**	PKP	PKPdf	**PKPdf**	**20 12 58.8**	**+1.7**
GUY2C	**Guyana, Caldas**	**154.26**	**92**	PKP	PKPdf	**PKPdf**	**20 12 59.5**	**+1.8**
SJCC	**San Jacinto, C**	**154.39**	**81**	PKP	PKPdf	**PKPdf**	**20 12 59.5**	**+2.2**
PRAC	**Prado**	**154.59**	**95**	PKP	PKPdf	**PKPdf**	**20 12 59.2**	**+1.6**
DIAM	**Diamantina, MG**	**154.66**	**193**	*e*P	PKPdf	**PKPdf**	**20 12 54.3**	**-3.4**
SIV	**San Ignacio**	**154.87**	**153**	PKP	PKPdf	**PKPdf**	**20 12 59.1**	**+1.2**
	comp=Z,19nm,0.9s,baz=201,slow=1.7,SNR=76							
SIV				PKPbc		**PKPbc**	**20 13 10.4**	**+3.8**
	comp=Z,12nm,0.8s,baz=159,slow=2.6,SNR=8.8							
SIV				PKPab		**sPKPdf**	**20 13 23.5**	**-0.6**
	comp=Z,67nm,0.9s,baz=211,slow=4.4,SNR=9.8							
SMRC	**Santa Marta, M**	**155.17**	**78**	PKP	PKPdf	**PKPdf**	**20 13 00.2**	**+1.9**
PTBC	**PUERTO BERRIO**	**155.23**	**89**	PKP	PKPdf	**PKPdf**	**20 12 58.9**	**+0.5**
ROSC	**El Rosal**	**155.27**	**93**	PKPdf	PKPdf	**PKPdf**	**20 12 59.7**	**+0.8**
ROSC				PKPbc	PKPbc		20 13 09.1	
ROSC	**El Rosal**	**155.27**	**93**	PKP	PKPdf	**PKPdf**	**20 13 00.5**	**+1.5**
	comp=Z,27nm,0.8s,baz=68,slow=5.0,SNR=17							
ROSC				PKPbc	PKPbc		20 13 10.2	
	comp=Z,58nm,0.7s,baz=88,slow=13,SNR=15							
ROSC				PKPab	pPKPbc		20 13 26.0	-0.8
	comp=Z,42nm,0.8s,baz=112,slow=7.3,SNR=7.3							
MACC	**Macarena, Meta**	**155.36**	**99**	PKP	PKPdf	**PKPdf**	**20 13 00.0**	**+1.4**
CMC01	**Camacan, BA**	**156.10**	**204**	*e*P	PKPdf	**PKPdf**	**20 12 55.2**	**-4.3**
PTLB	**Pontes e Lacer**	**156.17**	**157**	PKPdf	PKPdf	**PKPdf**	**20 12 59.9**	**+0.3**
PTLB	**Pontes e Lacer**	**156.17**	**157**	*e*P	PKPdf	**PKPdf**	**20 12 55.0**	**-4.6**
OCAC	**Ocana**	**156.34**	**84**	PKP	PKPdf	**PKPdf**	**20 13 01.7**	**+1.6**
CRJC	**Cerrejon, Guaj**	**156.49**	**77**	PKP	PKPdf	**PKPdf**	**20 13 02.3**	**+2.1**
BANI	**BANI**	**156.52**	**58**	PKPdf	PKPdf	**PKPdf**	**20 13 00.2**	**+0.1**
RUSC	**La Rusia**	**156.57**	**90**		PKPdf	**PKPdf**	**20 12 59.8**	**-1.0**
RUSC	**La Rusia**	**156.57**	**90**	PKP	PKPdf	**PKPdf**	**20 13 02.9**	**+2.1**
SALV	**Santo Antonio**	**156.89**	**165**	*e*P	PKPdf	**PKPdf**	**20 12 56.6**	**-3.9**
PAMC	**Pamplona, Col**	**156.98**	**87**	PKP	PKPdf	**PKPdf**	**20 13 02.6**	**+1.3**
TBTG	**Tabatinga, AM**	**157.03**	**117**	PKPdf	PKPdf	**PKPdf**	**20 13 01.1**	**+0.3**
ARAG	**Araguaiana, MT**	**157.79**	**174**	*e*P	PKPdf	**PKPdf**	**20 12 58.9**	**-2.7**
BDFB	**Brasilia**	**157.92**	**184**	PKP	PKPdf	**PKPdf**	**20 13 02.9**	**+1.0**
	comp=Z,29nm,0.9s,baz=112,slow=0.4,SNR=36							
BDFB				PKPab		**PKPab**	**20 13 36.7**	**+1.8**
	comp=Z,22nm,0.9s,baz=135,slow=3.0,SNR=4.6							
VILB	**Vilhena**	**157.93**	**151**	PKPdf	PKPdf	**PKPdf**	**20 13 03.1**	**+1.2**
VILB	**Vilhena**	**157.93**	**151**	*e*P	PKPdf	**PKPdf**	**20 12 59.5**	**-2.4**
JANB	**Januaria**	**157.94**	**194**	*e*P	PKPdf	**PKPdf**	**20 12 57.5**	**-4.4**
SDV	**Santo Domingo**	**158.95**	**82**	*e*P	PKPdf	**PKPdf**	**20 12 59.1**	**-4.2**
SDV	**Santo Domingo**	**158.95**	**82**	PKP	PKPdf	**PKPdf**	**20 13 04.2**	**+0.8**
NBAN	**Anadia - AL**	**159.19**	**219**	*e*P	PKPdf	**PKPdf**	**20 13 00.1**	**-3.3**
CELP	**Cerrillos**	**159.79**	**54**		PKPdf	**PKPdf**	**20 13 04.1**	**+0.1**
SJG	**San Juan**	**160.12**	**53**	PKP	PKPdf	**PKPdf**	**20 13 04.5**	**+0.2**
PDRB	**Porto dos Gac**	**160.60**	**158**	*e*P	PKPdf	**PKPdf**	**20 13 02.1**	**-2.9**
SDBA	**SAO DESIDERIO**	**160.63**	**194**	*e*P	PKPdf	**PKPdf**	**20 13 03.1**	**-1.9**
SGC2	**Sao Gabriel da**	**161.36**	**110**	PKP	PKPdf	**PKPdf**	**20 13 06.6**	**+0.8**
SNDB	**Serra Nova Dou**	**161.53**	**175**	*e*P	PKPdf	**PKPdf**	**20 13 01.4**	**-4.5**
CLDB	**Colider**	**161.62**	**160**	*e*P	PKPdf	**PKPdf**	**20 13 03.1**	**-2.9**
RCBR	**Riachuelo**	**161.68**	**228**	PKPdf	PKPdf	**PKPdf**	**20 13 05.7**	**-0.5**
RCBR	**Riachuelo**	**161.68**	**228**	PKiKP	PKPdf	**PKPdf**	**20 13 05.7**	**-0.5**
RCBR	**Riachuelo**	**161.68**	**228**	*e*P	PKPdf	**PKPdf**	**20 13 04.1**	**-2.1**
TEFE	**Tefe**	**161.91**	**123**	*e*P	PKPdf	**PKPdf**	**20 13 03.3**	**-3.1**
SMTB	**Santa Maria do**	**164.59**	**187**	*e*P	PKPdf	**PKPdf**	**20 13 05.9**	**-3.0**
MACA	**Manacapuru-AM**	**165.27**	**131**	PKPdf	PKPdf	**PKPdf**	**20 13 09.9**	**+0.4**
MACA	**Manacapuru-AM**	**165.27**	**131**	*e*P	PKPdf	**PKPdf**	**20 13 07.5**	**-2.0**
NPGB	**Novo Progresso**	**165.31**	**157**	*e*P	PKPdf	**PKPdf**	**20 13 05.5**	**-4.0**
PRPB	**Parauapebas**	**167.38**	**179**	*e*P	PKPdf	**PKPdf**	**20 13 07.3**	**-3.9**
ITTB	**Itaituba**	**167.52**	**150**	*e*P	PKPdf	**PKPdf**	**20 13 07.3**	**-3.9**
BOAV	**Boa Vista**	**168.29**	**110**		PKPdf	**PKPdf**	**20 13 11.9**	**+0.1**
BOAV	**Boa Vista**	**168.29**	**110**	*e*P	PKPdf	**PKPdf**	**20 13 07.1**	**-4.7**
BOAV	**Boa Vista**	**168.29**	**110**	PKP	PKPdf	**PKPdf**	**20 13 12.1**	**+0.3**
TMAB	**Tom-Au,PA,Br**	**171.04**	**189**	*e*P	PKPdf	**PKPdf**	**20 13 10.5**	**-2.9**

*OSPL **21** 19:55:26.7±1.9, 18°.41N×70°.47W, h5^{km}±22^{km}, ML2.1*
*SDD **21** 19:55:26.9±1.7, 18°.37N×70°.46W, h16^{km}±8^{km}, MD2.6, ML2.4, MW2.6*

ISC 21 19:55:25.9±1.0, 18°.37N±0°.04×70°.46W±0°.02, h16^{km}±7^{km}, n15, σ1^{s}04/27, 6C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BANI	**BANI**	**0.10**	**79**	⇓*e*P		**Pg**		**19 55 29.6**	**+0.1**
BANI				⇓*e*Sg		**Sg**		**19 55 32.5**	**+0.7**
BANI				IAML				19 55 33.4	
	comp=N,5μm,0.2s								
LOSC1	**San Cristbal**	**0.34**	**84**	*i* P		**Pg**		**19 55 30.3**	**-2.6**
LOSC1				*e*S		**Sg**		**19 55 36.4**	**-1.4**
ABDR	**Alto Bandera**	**0.46**	**340⇑**	*e*Pg		**Pg**		**19 55 35.2**	**-0.1**
ABDR				⇓*e*Sg		**Sg**		**19 55 42.3**	**+0.5**
ABDR				IAML				19 55 44.0	
	comp=N,496nm,0.2s								
SDD	**Santo Domingo**	**0.53**	**81**	⇓*e*Pg		**Pg**		**19 55 36.4**	**0.0**
SDD				*e*Sg		**Sg**		**19 55 44.8**	**+1.2**
SDD				IAML				19 55 44.9	
	comp=N,33nm,0.4s								
SDD	**Santo Domingo**	**0.53**	**81**	*i* P		**Pg**		**19 55 36.4**	**0.0**
PODR	**Polo**	**0.81**	**255⇑**	*e*Pg		**Pg**		**19 55 41.1**	**-0.5**
PODR				*e*Sg		**Sg**		**19 55 52.6**	**+0.3**
PODR				IAML				19 55 57.9	
	comp=N,108nm,0.2s								
PODR	**Polo**	**0.81**	**255**	*i* P		**Pg**		**19 55 41.1**	**-0.5**
PODR				*e*S		**Sg**		**19 55 53.3**	**+0.9**
NEDR	**Neiba UASD**	**0.91**	**277⇑**	*e*Pg		**Pg**		**19 55 42.5**	**-1.2**
NEDR				⇑*e*Sg		**Sb**		**19 55 57.0**	**+1.6**
LODU1	**El Espartillar**	**0.96**	**269**	*i* P		**Pg**		**19 55 44.0**	**-0.5**
LODU1				IAML				19 56 00.1	
	comp=Z,67nm,0.4s								
LONE3	**El Aguacate, B**	**0.97**	**284**	*i* P		**Pg**		**19 55 43.8**	**-1.0**
LONE3				IAML				19 55 59.8	
	comp=Z,47nm,0.2s								
SDDR	**Presa de Saban**	**0.99**	**308⇑**	*e*Pg		**Pg**		**19 55 44.4**	**-0.7**
SDDR				⇑*e*Sg		**Sg**		**19 55 57.4**	**-0.7**
SDDR				IAML				19 55 58.5	
	comp=N,105nm,0.3s								
SDDR	**Presa de Saban**	**0.99**	**308**	*i* P		**Pg**		**19 55 43.9**	**-1.2**
SDDR				*e*S		**Sg**		**19 55 57.2**	**-1.0**
SDDR				IAML				19 55 59.0	
	comp=Z,42nm,0.3s								
LOVI	**El Cajuil, Ovi**	**1.03**	**237**	*i* P		**Pg**		**19 55 44.9**	**-1.0**
LOVI				*e*S		**Sg**		**19 55 58.9**	**-0.6**
LOVI				IAML				19 55 59.2	
	comp=Z,56nm,0.3s								
LOBH	**Bahia de las A**	**1.23**	**246**	*i* P		**Pn**		**19 55 48.5**	**0.0**
LOBH				*e*S		**Sb**		**19 56 05.7**	**+1.3**
LOBH				IAML				19 56 07.6	
	comp=Z,41nm,1.9s								
MIDR	**Miches**	**1.47**	**65**	*e*Pg		**Pn**		**19 55 51.4**	**-0.4**
MIDR				*e*Sg		**Sn**		**19 56 11.2**	**+0.5**

*NAO **21** 19:55:27.1, 40°.43N×14°.96E, h33^{km}, MB4.1*
*BGS **21** 19:55:43.0±1.6, 40°.28N×15°.67E, h299^{km}, mb4.7*
*ROM **21** 19:55:44.2±0.1, 40°.365N±0°.006×15°.15E±0°.01, h328^{km}±1^{km}, ML4.3/418, Error ellipse: s-maj=0.9km s-min=0.5km az=69.0*
*PDG **21** 19:55:45.7±0.7, 40°.45N×15°.01E, h300^{km}±2^{km}, ML4.2/10, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0*
*MCSM **21** 19:55:47.8±0.5, 40°.N±3°×1°.5E±°, h300^{km}±6^{km}, mb4.7, mB4.9, MLv4.5, Mw(mB)4.2*
*MOS **21** 19:55:47.8±0.9, 40°.36N×14°.91E, h313^{km}, mb4.6/24, Error ellipse: s-maj=4.7km s-min=3.0km az=70.2*
*MED_RC **21** 19:55:48.0±0.9, 40°.28N×14°.93E, h296^{km}±6^{km}, MW4.5/16, Moment Tensor Solution. Mantle waves: s16,c24; Duration: 1ꜝ1 Moment tensor: Scale 10^{15}Nm; M_{rr}=5.77±.40; $M_{\theta\theta}$=5.65±.35; $M_{\phi\phi}$=0.12±.48; $M_{r\theta}$=1.51±.40; $M_{\theta\phi}$=0.81±.55; $M_{r\phi}$=2.91±.37; Best double couple: M_o=6.58000×10^{15} NP1:ϕ$_s$=100.00000°, δ39.00000°, λ=-58.00000°. NP2:ϕ$_s$=241.00000°, δ=58.00000°, λ=-113.00000°. Principal axes: T 6.1100, Plg10.0000°, Azm347.0000°; N 0.9500, Plg19.0000°, Azm254.0000°; P -7.0600, Plg68.0000°, Azm103.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*NEIC **21** 19:55:48.5±1.3, 40°.37N±0°.05×14°.95E±0°.08, h300^{km}±3^{km}, mb4.7/59 Error ellipse: s-maj=8.8km s-min=7.1km az=81.0*
*BGR **21** 19:55:48.3±1.9, 40°.56N×14°.85E, h10^{km}, ML4.1, Error ellipse: s-maj=61.2km s-min=17.8km az=0.0*
*IDC **21** 19:55:48.5±0.6, 40°.41N×14°.89E, h306^{km}±6^{km}, mb4.1/30, mbtmp4.8/46, Error ellipse: s-maj=6.2km s-min=5.8km az=62.0*
*LDG **21** 19:55:49.0±0.0, 40°.63N×15°.00E, h300^{km}, Error ellipse: s-maj=13.6km s-min=3.0km az=37.0*

ISC 21 19:55:48.0±0.4, 40°.38N±0°.03×14°.98E±0°.03, h301^{km}±3^{km}, n923, σ1^{s}09/1018, mb4.7/62, 107C-134D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMPR	**Campora**	**0.25**	**105**	⇓P		**Pn**		**19 56 26.6**	**+0.3**
CMPR				S		**S**		**19 56 56.8**	**0.0**
CMPR				AML	AML				
	comp=E,1335μm,0.8s								
CMPR				AML	AML				
	comp=N,1004μm,1.0s								
CMPR				AML	AML				
	comp=E,1335μm,1.2s								
CDRU	**Civita di Ruta**	**0.27**	**67**	⇓P		**Pn**		**19 56 26.8**	**+0.4**
CDRU				S		**S**		**19 56 57.0**	**+0.1**
CDRU				AML	AML				
	comp=N,910μm,0.9s								
CDRU				AML	AML				
	comp=N,910μm,1.1s								
CDRU				AML	AML				
	comp=E,1030μm,1.0s								
MCRV	**Calabrutti - M**	**0.42**	**19**	⇓P		**Pn**		**19 56 27.1**	**+0.4**
MCRV				S		**S**		**19 56 59.4**	**+2.1**
MCRV				AML	AML				
	comp=N,1190μm,0.9s								
MCRV				AML	AML				
	comp=E,1435μm,0.5s								
MCRV				AML	AML				
	comp=N,1190μm,1.1s								
BULG	**Bulgheria - Ca**	**0.43**	**135**	⇓P		**Pn**		**19 56 27.1**	**+0.4**
BULG				S		**S**		**19 56 57.8**	**+0.3**
BULG				AML	AML				
	comp=N,3980μm,0.5s								
BULG				AML	AML				
	comp=N,3815μm,0.5s								
BULG				AML	AML				
	comp=E,1560μm,0.8s								
BULG				AML	AML				
	comp=N,3820μm,0.5s								
BULG				AML	AML				
	comp=N,3980μm,1.5s								
BULG				AML	AML				
	comp=E,1510μm,0.8s								
CAGG	**Caggiano**	**0.44**	**67**	⇓P		**Pn**		**19 56 27.3**	**+0.6**
CAGG				S		**S**		**19 56 58.3**	**+0.9**
MNT3	**Montella**	**0.45**	**2**	AML	AML				
	comp=N,2370μm,0.7s								
MNT3				AML	AML				
	comp=N,2370μm,0.7s								
MNT3				AML	AML				
	comp=E,1825μm,0.6s								
SLCN	**Sala Consilina**	**0.50**	**89**	⇓P		**Pn**		**19 56 27.1**	**+0.3**
SLCN				AML	AML				
	comp=N,2310μm,1.2s								
SLCN				AML	AML				
	comp=N,2625μm,0.4s								
SLCN				AML	AML				
	comp=N,2310μm,0.8s								
SLCN				AML	AML				
	comp=E,2755μm,0.4s								
SLCN				AML	AML				
	comp=E,2490μm,0.4s								
SLCN				AML	AML				
	comp=N,2625μm,1.6s								
MGR	**Morigerati**	**0.50**	**119**	⇓P		**Pn**		**19 56 27.1**	**+0.3**
MGR				S		**S**		**19 56 57.4**	**-0.1**
MGR				AML	AML				
	comp=E,2195μm,0.4s								
MGR				AML	AML				
	comp=N,2975μm,0.4s								
MGR				AML	AML				
	comp=E,2195μm,0.4s								
MGR				AML	AML				
	comp=N,3130μm,0.4s								
MGR				AML	AML				
	comp=E,2265μm,0.4s								
MTMR	**Montemarano**	**0.53**	**2**	⇓P		**Pn**		**19 56 27.4**	**+0.6**
MTMR				AML	AML				
	comp=N,1040μm,0.9s								
MTMR				AML	AML				
	comp=N,952μm,0.8s								
MTMR				AML	AML				
	comp=N,1040μm,0.9s								
MTMR				AML	AML				
	comp=N,951μm,0.8s								
MTMR				AML	AML				
	comp=E,1905μm,0.4s								
MTMR				AML	AML				
	comp=E,1900μm,0.4s								
MTMR				AML	AML				
	comp=N,951μm,1.2s								
MRLC	**Muro Lucano**	**0.54**	**46**	⇓P		**Pn**		**19 56 27.5**	**+0.7**
MRLC				S		**S**		**19 56 58.7**	**+1.0**
MRLC				AML	AML				
	comp=E,452μm,0.5s								
MRLC				AML	AML				
	comp=N,746μm,1.1s								
MRLC				AML	AML				
	comp=E,928μm,1.5s								
MRLC				AML	AML				
	comp=N,746μm,1.1s								
MRLC				AML	AML				
	comp=N,1620μm,1.2s								
MRLC				AML	AML				
	comp=E,452μm,0.5s								
MRLC				AML	AML				
	comp=E,928μm,0.5s							

CPOZ AML AML
comp=N,1720µm,0.4s
CPOZ AML AML
comp=E,3460µm,0.7s
SGTA Sant Agata di 0.80 21 ⇓P Pn 19 56 28.2 +0.5
SGTA AML AML
comp=N,1079µm,0.9s
SGTA AML AML
comp=E,1435µm,0.6s
SGTA AML AML
comp=E,1410µm,0.6s
SGTA AML AML
comp=N,1082µm,0.9s
SGTA AML AML
comp=E,1415µm,0.6s
SGTA AML AML
comp=N,1083µm,0.8s
SGTA AML AML
comp=N,1066µm,0.8s
SGTA AML AML
comp=E,1415µm,1.4s
SGTA AML AML
comp=N,1066µm,1.2s
SGTA AML AML
comp=E,1435µm,1.4s
SGTA AML AML
comp=N,1083µm,1.2s
CFMN Campi Flegrei 0.81 304 P Pn 19 56 28.6 +1.0
BIOG Biogem 0.82 8 ⇓P Pn 19 56 29.2 +1.5
ACER Acerenza 0.83 61 Pn 19 56 27.5 -0.3
ACER Acerenza 0.83 61 ⇓P Pn 19 56 27.6 -0.2
ACER S S 19 56 59.2 -0.2
ACER AML AML
comp=E,912µm,0.6s
ACER AML AML
comp=N,964µm,0.5s
ACER AML AML
comp=E,928µm,1.5s
ACER AML AML
comp=E,914µm,0.6s
ACER AML AML
comp=N,961µm,0.5s
ACER AML AML
comp=E,914µm,0.6s
ACER AML AML
comp=E,928µm,1.5s
ACER AML AML
comp=N,1108µm,0.5s
ACER AML AML
comp=N,960µm,0.5s
ACER AML AML
comp=E,914µm,1.4s
PTRP Pietrapertosa 0.83 80 ⇓P Pn 19 56 27.9 +0.1
PTRP S S 19 56 59.6 0.0
PTRP AML AML
comp=E,872µm,0.5s
PTRP AML AML
comp=N,806µm,0.6s
VITU Vitulano (BN) 0.84 342 ⇓P Pn 19 56 28.5 +0.6
VITU AML AML
comp=N,2200µm,0.5s
VITU AML AML
comp=N,2225µm,0.5s
VITU AML AML
comp=E,1545µm,1.1s
VITU AML AML
comp=N,2225µm,1.5s
VITU AML AML
comp=N,2200µm,1.5s
VITU AML AML
comp=E,1815µm,0.4s
PSB1 Pescosannita 0.85 351 ⇓P Pn 19 56 28.6 +0.7
IOCA Ischia Osserva 0.90 294 ⇓P Pn 19 56 29.0 +1.0
IOCA AML AML
comp=E,9815µm,1.6s
IOCA AML AML
comp=N,11200µm,0.5s
IOCA AML AML
comp=E,9815µm,0.4s
IMTC Ischia Forio M 0.91 292 ⇓P Pn 19 56 29.0 +0.9
IMTC AML AML
comp=E,2645µm,0.6s
IMTC AML AML
comp=N,5175µm,0.8s
IMTC AML AML
comp=N,5175µm,1.2s
IMTC AML AML
comp=E,2645µm,1.4s
MMN Mormanno 0.92 122 ⇓P Pn 19 56 28.1 0.0
MMN AML AML
comp=N,1680µm,1.6s
MMN AML AML
comp=E,1218µm,0.2s
MMN AML AML
comp=N,1680µm,0.4s
IFOR Ischia Forio P 0.92 291 ⇓P Pn 19 56 29.0 +0.9
IFOR AML AML
comp=E,10320µm,0.6s
IFOR AML AML
comp=N,12550µm,0.9s
IFOR AML AML
comp=E,10320µm,1.4s
GRIS Grisolia 0.93 134 ⇓P Pn 19 56 27.9 -0.3
GRIS S S 19 56 58.7 -1.6
PALZ Palazzo San Ge 0.93 53 ⇓P Pn 19 56 28.2 +0.1
PALZ S S 19 57 00.2 +0.2
PALZ AML AML
comp=E,2170µm,1.1s
PALZ AML AML
comp=N,1655µm,1.5s
PALZ AML AML
comp=N,1655µm,0.5s
PALZ AML AML
comp=E,2170µm,0.9s
MOCO Biccari - m.te 0.99 8 ⇓P Pn 19 56 29.2 +0.6
CAPA Cerignola FG 1.00 39 ⇓P Pn 19 56 28.5 +0.1
CAPA S S 19 57 00.9 +0.4
CAPA AML AML
comp=E,676µm,1.0s
CAPA AML AML
comp=E,1120µm,1.1s
CAPA AML AML
comp=N,1395µm,1.1s
CAPA AML AML
comp=N,1395µm,0.9s
CAPA AML AML
comp=N,652µm,1.3s
CAPA AML AML
comp=E,676µm,1.0s
CAPA AML AML
comp=E,1120µm,0.9s
PIGN Pignataro Magg 1.02 323 ⇓P Pn 19 56 29.5 +1.0
PIGN S S 19 57 03.0 +2.3
PIGN AML AML
comp=E,1350µm,1.6s
PIGN AML AML
comp=N,1195µm,0.7s
PIGN AML AML
comp=N,1380µm,0.7s
PIGN AML AML
comp=E,1350µm,1.6s
PIGN AML AML
comp=N,1200µm,0.7s
PIGN AML AML
comp=N,1200µm,1.3s
PIGN AML AML
comp=E,1350µm,0.4s
PIGN AML AML
comp=N,1380µm,1.3s
PIGN AML AML
comp=E,1230µm,0.5s
SACR S. Croce Del S 1.03 348 ⇓P Pn 19 56 29.3 +0.6
SACR S S 19 57 04.3 +3.3
SACR AML AML
comp=E,760µm,0.9s
SACR AML AML
comp=N,918µm,0.9s
PTRJ Pietraroja 1.04 341 ⇓P Pn 19 56 29.4 +0.6
PTRJ AML AML
comp=N,1825µm,1.6s
PTRJ AML AML
comp=N,1825µm,0.4s
PTRJ AML AML
comp=E,1620µm,0.6s
SGG Gregorio Mates 1.10 336 ⇓P Pn 19 56 30.0 +0.9
SGG AML AML
comp=E,2160µm,0.6s
SGG AML AML
comp=E,2365µm,0.6s
SGG AML AML
comp=E,2160µm,1.4s
SGG AML AML
comp=E,2365µm,1.4s
SGG AML AML
comp=N,2550µm,0.5s
SGG AML AML
comp=N,2470µm,0.5s
GATE Gambatesa 1.13 357 ⇓P Pn 19 56 30.1 +1.0
GATE AML AML
comp=N,1240µm,0.6s
GATE AML AML
comp=N,1325µm,0.6s
GATE AML AML
comp=E,2005µm,1.0s
GATE AML AML
comp=N,1240µm,1.4s
GATE AML AML
comp=E,2045µm,1.0s
GATE AML AML
comp=N,1325µm,1.4s
MIGL Miglionico 1.13 78 ⇓P Pn 19 56 28.8 -0.3
MIGL S S 19 57 01.1 -0.8
MIGL AML AML
comp=E,2610µm,1.2s
MIGL AML AML
comp=N,4240µm,1.1s
MIGL AML AML
comp=E,2610µm,0.8s
CET2 Cetraro 1.13 139 ⇓P Pn 19 56 29.1 -0.2
CET2 AML AML
comp=E,3185µm,0.7s
CET2 AML AML
comp=N,6060µm,0.7s
CET2 AML AML
comp=N,6060µm,1.3s
SALB San Lorenzo Be 1.16 115 ⇓P Pn 19 56 29.2 -0.3
SALB S S 19 57 03.0 +0.6
SALB AML AML
comp=N,891µm,0.7s
SALB AML AML
comp=E,1340µm,1.1s
SALB AML AML
comp=N,891µm,1.3s
ORI Oriolo Calabro 1.17 105 ⇓P Pn 19 56 29.7 +0.3
ORI AML AML
comp=E,2425µm,0.6s
ORI AML AML
comp=N,2710µm,1.1s
ORI AML AML
comp=N,2710µm,0.9s
ORI AML AML
comp=E,2425µm,1.4s
VAGA Valle Agricola 1.18 331 ⇓P Pn 19 56 30.5 +1.1
VAGA AML AML
comp=N,2525µm,1.5s
VAGA AML AML
comp=N,2615µm,1.5s
VAGA AML AML
comp=E,1405µm,0.5s
VAGA AML AML
comp=N,2615µm,0.5s
VAGA AML AML
comp=N,2525µm,0.5s
VAGA AML AML
comp=E,1355µm,0.5s
BSSO Busso 1.20 346 ⇓P Pn 19 56 30.5 +1.0
BSSO S S 19 57 04.4 +1.9
BSSO AML AML
comp=N,1710µm,1.6s
BSSO AML AML
comp=E,482µm,0.5s
BSSO AML AML
comp=E,1235µm,1.0s
BSSO AML AML
comp=N,1710µm,0.4s
BSSO AML AML
comp=E,482µm,1.5s
BSSO AML AML
comp=N,703µm,0.9s
VENT Ventotene 1.26 290 ⇓P Pn 19 56 30.7 +1.0
VENT AML AML
comp=E,2305µm,0.4s
VENT AML AML
comp=N,1495µm,0.4s
VENT AML AML
comp=E,2305µm,1.6s
CIGN Sant'Elia a Pi 1.27 357 ⇓P Pn 19 56 30.2 +0.4
CIGN AML AML
comp=E,884µm,1.0s
CIGN AML AML
comp=N,644µm,0.9s
CIGN AML AML
comp=N,644µm,1.1s
MELA Melanico ??? S 1.32 5 ⇓P Pn 19 56 30.1 0.0
MELA S S 19 57 03.0 -0.6
MELA AML AML
comp=E,3055µm,0.7s
MELA AML AML
comp=E,3150µm,0.7s
MELA AML AML
comp=N,3145µm,0.8s
MELA AML AML
comp=N,3340µm,0.8s
AMUR Altamura 1.34 66 ⇓P Pn 19 56 30.3 0.0
AMUR S S 19 57 02.6 -1.2
AMUR AML AML
comp=E,1085µm,1.2s
AMUR AML AML
comp=N,783µm,0.9s
AMUR AML AML
comp=E,1085µm,0.8s
AMUR AML AML
comp=N,783µm,1.1s
MATE Matera 1.34 78 ⇓P Pn 19 56 30.4 +0.2
MATE ⇓S S 19 57 03.1 -0.7
MATE Matera 1.34 78 ⇓P Pn 19 56 30.0 -0.2
MATE S S 19 57 02.1 -1.6
MATE AML AML
comp=E,1032µm,0.9s
MATE AML AML
comp=N,706µm,0.9s
MATE AML AML
comp=N,706µm,1.1s
MIDA Miranda 1.37 337 ⇓P Pn 19 56 31.5 +1.0
MIDA AML AML
comp=N,1171µm,0.5s
MIDA AML AML
comp=E,1320µm,0.5s
MIDA AML AML
comp=N,1880µm,0.9s
MIDA AML AML
comp=E,1870µm,0.9s
MIDA AML AML
comp=N,1171µm,1.5s
MIDA AML AML
comp=E,1320µm,1.5s
MCI Monte Cassino 1.41 322 ⇓P Pn 19 56 32.1 +1.4
MCI AML AML
comp=E,3075µm,0.4s
MCI AML AML
comp=E,3075µm,1.6s
MCI AML AML
comp=N,4655µm,0.7s
CERA Filignano 1.42 329 ⇓P Pn 19 56 31.6 +0.8
CERA AML AML
comp=E,1485µm,0.6s
CERA AML AML
comp=N,1098µm,1.0s
CERA AML AML
comp=E,1535µm,0.6s
CERA AML AML
comp=N,1155µm,1.0s
CERA AML AML
comp=N,1155µm,1.0s
CERA AML AML
comp=N,1098µm,1.0s
LTRZ Laterza 1.42 81 ⇓P Pn 19 56 30.4 -0.4
LTRZ S S 19 57 03.3 -1.4
LTRZ AML AML
comp=E,1020µm,0.7s
LTRZ AML AML
comp=N,808µm,0.6s
LTRZ AML AML
comp=E,1013µm,0.7s
LTRZ AML AML
comp=N,4525µm,1.6s
LTRZ AML AML
comp=N,806µm,0.6s
LTRZ AML AML
comp=N,806µm,1.4s
LTRZ AML AML
comp=E,1018µm,0.7s
TRIV Trivento 1.42 347 ⇓P Pn 19 56 31.5 +0.8
TRIV AML AML
comp=N,778µm,0.9s
TRIV AML AML
comp=N,796µm,0.9s
TRIV AML AML
comp=N,777µm,0.9s
TRIV AML AML
comp=N,796µm,0.9s
TRIV AML AML
comp=E,872µm,0.9s
TRIV AML AML
comp=N,777µm,1.1s
TRIV AML AML
comp=E,878µm,0.9s
APRC Apricena 1.44 17 ⇓P Pn 19 56 30.6 -0.3
APRC S S 19 57 04.0 -0.9
APRC AML AML
comp=E,1190µm,0.8s
APRC AML AML
comp=N,1730µm,0.8s
RNI2 Rionero Sannit 1.46 335 ⇓P Pn 19 56 32.6 +1.6
RNI2 AML AML
comp=N,1104µm,1.6s
RNI2 AML AML
comp=E,1615µm,1.0s
RNI2 AML AML
comp=N,1126µm,0.9s
RNI2 AML AML
comp=N,1104µm,0.4s
RNI2 AML AML
comp=N,1126µm,1.1s
RNI2 AML AML
comp=E,1570µm,1.0s
CAR1 CAROLEI 1.47 140 ⇓P Pn 19 56 30.4 -0.8
CAR1 S S 19 57 03.4 -2.2
CAR1 AML AML
comp=N,3480µm,0.8s
CAR1 AML AML
comp=N,3540µm,0.8s
CAR1 AML AML
comp=E,4230µm,0.7s
CAR1 AML AML
comp=N,3485µm,0.8s
CAR1 AML AML
comp=E,5140µm,0.8s
CAR1 AML AML
comp=N,3485µm,1.2s
CAR1 AML AML
comp=N,3540µm,1.2s
SGRT San Giovanni R 1.48 23 Pn 19 56 31.0 -0.2
SGRT San Giovanni R 1.48 23 ⇓P Pn 19 56 31.0 -0.2
SGRT S S 19 57 03.8 -1.8
SGRT AML AML
comp=E,830µm,0.7s
SGRT AML AML
comp=N,944µm,1.1s
MSAG Monte S. Angel 1.50 28 ⇓P Pn 19 56 31.2 -0.1
MSAG S S 19 57 05.0 -0.7
MSAG AML AML
comp=E,1108µm,0.9s
MSAG AML AML
comp=N,1695µm,0.8s
MSAG AML AML
comp=E,460µm,1.2s
MSAG AML AML
comp=N,710µm,0.3s
MSAG AML AML
comp=E,460µm,0.8s
MSAG AML AML
comp=N,1695µm,1.2s
MSAG AML AML
comp=E,1109µm,0.9s
SPS2 Spezzano della 1.51 136 P Pn 19 56 30.9 -0.5
SPS2 AML AML
comp=N,1075µm,0.8s
SPS2 AML AML
comp=E,1365µm,0.4s
CELI Celico 1.53 129 ⇓P Pn 19 56 31.9 +0.2
CELI S S 19 57 06.2 -0.2
CELI AML AML
comp=E,2250µm,0.7s
CELI AML AML
comp=E,5670µm,0.7s
CELI AML AML
comp=N,2360µm,0.7s
CELI AML AML
comp=N,5855µm,0.7s
CELI AML AML
comp=E,2250µm,1.3s
CELI AML AML
comp=E,5670µm,1.3s
LIK San Giovanni I 1.56 316 ⇓P Pn 19 56 32.6 +1.0
IST3 Stromboli F 1.59 173 AML AML
comp=E,1155µm,0.4s
IST3 AML AML
comp=N,1545µm,0.5s
IST3 AML AML
comp=E,1155µm,1.6s
IST3 AML AML
comp=N,1545µm,1.5s
FRES Fresagrandinar 1.61 352 P Pn 19 56 32.5 +0.6
FRES AML AML
comp=N,1860µm,0.7s
FRES AML AML
comp=E,2955µm,0.7s
NOCI Noci 1.64 75 ⇓P Pn 19 56 32.1 -0.1
NOCI S S 19 57 06.2 -1.1
NOCI AML AML
comp=E,1320µm,0.9s
NOCI AML AML
comp=N,558µm,0.9s
NOCI AML AML
comp=N,558µm,1.1s
NOCI AML AML
comp=E,1320µm,1.1s
POFI Posta Fibreno 1.64 325 ⇓P Pn 19 56 33.4 +1.2
POFI S S 19 57 08.8 +1.4
POFI AML AML
comp=E,882µm,1.4s
POFI AML AML
comp=E,685µm,0.5s
POFI AML AML
comp=N,666µm,0.6s
POFI AML AML
comp=N,858µm,1.0s
LRP Arpino 1.65 321 ⇓P Pn 19 56 33.4 +1.2
LRP AML AML
comp=E,880µm,0.4s
LRP AML AML
comp=N,848µm,0.7s
LRP AML AML
comp=E,880µm,1.6s
GIUL Giuliano Di Ro 1.76 312 ⇓P Pn 19 56 33.9 +0.9
TAR1 Taranto 1.76 85 ⇓P Pn 19 56 32.9 -0.1
TAR1 S S 19 57 06.9 -1.9
TAR1 AML AML
comp=E,1850µm,1.4s
TAR1 AML AML
comp=N,1650µm,0.6s
TAR1 AML AML
comp=E,1850µm,0.6s
LPEL Lama dei Pelig 1.77 340 ⇓P Pn 19 56 33.8 +0.6
LPEL AML AML
comp=E,535µm,1.5s
LPEL AML AML
comp=N,532µm,1.2s
LPEL AML AML
comp=E,593µm,1.5s
LPEL AML AML
comp=E,535µm,0.5s
LPEL AML AML
comp=E,593µm,0.5s
LPEL AML AML
comp=N,530µm,1.2s
VVLD Villa Vallelon 1.81 326 ⇓P Pn 19 56 34.5 +1.1
VVLD AML AML
comp=N,917µm,0.5s
VVLD AML AML

comp=E,558µm,1.5s
INTR Introdacqua 1.82 334 Pn 19 56 34.6 +1.1
INTR Introdacqua 1.82 334 ⇓P **Pn 19 56 34.6 +1.1**
INTR AML AML
comp=E,36µm,0.6s
INTR AML AML
comp=N,943µm,1.0s
INTR AML AML
comp=E,36µm,1.4s
TIP Timpagrande 1.82 131 Pn 19 56 33.3 -0.4
TIP Timpagrande 1.82 131 ⇑P **Pn 19 56 33.5 -0.1**
TIP ⇑S **S 19 57 09.5 -0.4**
TIP Timpagrande 1.82 131 ⇓P **Pn 19 56 33.3 -0.4**
TIP S **S 19 57 07.8 -2.2**
TIP AML AML
comp=E,2300µm,0.7s
TIP AML AML
comp=N,1750µm,0.9s
TIP AML AML
comp=N,1740µm,0.9s
TIP AML AML
comp=E,2315µm,0.7s
TIP Timpagrande 1.82 131 P **Pn 19 56 33.0 -0.7**
TIP S **S 19 57 08.3 -1.7**
IFIL Filicudi I Eol 1.85 190 P **Pn 19 56 34.0 +0.2**
LADO San Nicola del 1.89 125 ⇓P **Pn 19 56 33.7 -0.4**
LADO AML AML
comp=N,204µm,0.6s
LADO AML AML
comp=E,262µm,1.1s
LATB Latina 1.89 307 ⇓P **Pn 19 56 34.8 +0.8**
LATB AML AML
comp=E,292µm,0.7s
LATB AML AML
comp=N,234µm,0.6s
LATB AML AML
comp=E,292µm,1.3s
IACL Alicudi 1.91 195 ⇓P **Pn 19 56 34.5 +0.3**
IACL S **S 19 57 10.5 -0.6**
IACL AML AML
comp=E,1400µm,1.3s
IACL AML AML
comp=N,916µm,0.5s
GRI Girifalco 1.91 144 P **Pn 19 56 34.0 -0.4**
GRI AML AML
comp=E,3930µm,0.4s
GRI AML AML
comp=N,4975µm,0.4s
LLI Lipari 1.94 181 P **Pn 19 56 35.2 +0.8**
LLI AML AML
comp=E,11550µm,0.5s
LLI AML AML
comp=N,16300µm,0.4s
VPL Vulcano Piano 2.00 180 P **Pn 19 56 35.2 +0.2**
VPL AML AML
comp=N,2050µm,0.5s
VPL AML AML
comp=E,2125µm,0.6s
PTQR Pietraquaria 2.03 324 ⇓P **Pn 19 56 36.6 +1.5**
PTQR S **S 19 57 14.4 +1.8**
PTQR AML AML
comp=N,436µm,1.0s
PTQR AML AML
comp=N,436µm,1.0s
PTQR AML AML
comp=E,428µm,0.6s
T0110 Collepietro 2.05 334 ⇓P **Pn 19 56 36.4 +1.1**
T0110 AML AML
comp=E,1180µm,0.7s
T0110 AML AML
comp=E,1180µm,1.3s
T0110 AML AML
comp=N,974µm,0.7s
RCAV Rocca di Cave 2.12 314 P **Pn 19 56 37.0 +1.1**
RCAV AML AML
comp=E,586µm,1.1s
RCAV AML AML
comp=N,646µm,0.7s
RCAV AML AML
comp=E,586µm,0.9s
FAGN Fagnano 2.16 331 ⇓P **Pn 19 56 37.5 +1.4**
FAGN AML AML
comp=E,1525µm,0.4s
FAGN AML AML
comp=N,1050µm,0.5s
FAGN AML AML
comp=N,1050µm,1.5s
MSRU Castanea 2.16 169 ⇑P **Pn 19 56 35.7 -0.5**
MSRU AML AML
comp=N,3100µm,1.1s
MSRU AML AML
comp=E,6415µm,1.1s
MSRU AML AML
comp=N,3100µm,0.9s
LAV9 Lanuvio 2.16 308 P **Pn 19 56 37.7 +1.6**
LAV9 AML AML
comp=E,2485µm,1.4s
LAV9 AML AML
comp=E,2525µm,1.4s
LAV9 AML AML
comp=N,2095µm,1.5s
LAV9 AML AML
comp=N,1980µm,0.5s
LAV9 AML AML
comp=E,2485µm,0.6s
LAV9 AML AML
comp=E,2525µm,0.6s
CERT Cerreto 2.17 317 ⇓P **Pn 19 56 37.4 +1.1**
CERT AML AML
comp=E,634µm,0.7s
CERT AML AML
comp=N,408µm,1.6s
CERT AML AML
comp=E,634µm,1.3s
CERT AML AML
comp=N,408µm,0.4s
USI Ustica 2.18 220 P **Pn 19 56 36.7 +0.3**
VCEL Villa Celiera 2.19 337 ⇓P **Pn 19 56 37.3 +0.9**
VCEL AML AML
comp=E,1135µm,1.4s
VCEL AML AML
comp=N,1540µm,0.9s
VCEL AML AML
comp=E,1135µm,0.6s
VCEL AML AML
comp=N,1540µm,1.1s
MESG Mesagne 2.20 84 ⇓P **Pn 19 56 36.5 +0.1**
MESG S **S 19 57 12.7 -2.2**
RDP Rocca di Papa 2.20 309 P **Pn 19 56 37.8 +1.4**
RDP AML AML
comp=E,1745µm,0.5s
RDP AML AML
comp=N,1920µm,0.6s
SICLA Scilla 2.20 165 P **Pn 19 56 35.7 -0.8**
SICLA AML AML
comp=E,3170µm,0.4s
SICLA AML AML
comp=N,3370µm,1.3s
CEL Celeste 2.24 161 Pn 19 56 35.7 -1.2
CEL Celeste 2.24 161 P **Pn 19 56 35.8 -1.2**
CEL AML AML
comp=E,2930µm,0.6s
CEL AML AML
comp=E,2935µm,0.7s
CEL AML AML
comp=E,2935µm,1.3s
CEL AML AML
comp=E,2930µm,1.4s
CEL AML AML
comp=N,3275µm,0.4s
CEL AML AML
comp=N,3335µm,0.4s
CEL Celeste 2.24 161 P **Pn 19 56 36.0 -1.0**
CEL S **S 19 57 14.7 -1.2**
PLAC Placanica 2.24 149 P **Pn 19 56 36.2 -0.8**
PLAC AML AML
comp=N,3665µm,0.6s
PLAC AML AML
comp=E,3780µm,0.6s
PLAC AML AML
comp=N,5245µm,0.7s
PLAC AML AML
comp=E,4960µm,0.7s
PLAC AML AML
comp=E,3780µm,1.4s
PLAC AML AML
comp=N,3665µm,1.4s
MPNC Port Mandanici 2.25 173 ⇑P **Pn 19 56 36.8 -0.3**
MPNC AML AML
comp=E,6265µm,0.4s
MPNC AML AML
comp=N,4685µm,0.9s
MPNC AML AML
comp=N,4685µm,1.1s
AQU L'Aquila 2.30 329 e**Pn Pn 19 56 38.8 +1.5**
AQU L'Aquila 2.30 329 P **Pn 19 56 38.8 +1.5**
AQU L'Aquila 2.30 329 P **Pn 19 56 38.5 +1.2**
GMB Gambarie 2.31 163 AML AML
comp=N,10305µm,0.9s
GMB AML AML
comp=N,10305µm,1.1s
GMB AML AML
comp=E,11400µm,0.6s
GIGS Gran Sasso 2.32 333 ⇓P **Pn 19 56 38.6 +1.0**
GIGS AML AML
comp=E,190µm,1.4s
GIGS AML AML
comp=N,260µm,1.5s
GIGS AML AML
comp=E,190µm,0.6s
GIGS AML AML
comp=N,260µm,0.5s
MUCR Ucria 2.34 182 ⇑P **Pn 19 56 37.9 0.0**
MUCR AML AML
comp=E,2115µm,0.6s
MUCR AML AML
comp=N,2105µm,0.6s
MUCR AML AML
comp=E,2115µm,1.4s
FIAM Fiamignano 2.35 324 ⇓P **Pn 19 56 39.3 +1.5**
FIAM AML AML
comp=E,356µm,1.5s
FIAM AML AML
comp=E,356µm,0.5s
FIAM AML AML
comp=N,263µm,1.0s
MTCE Montecelio 2.35 315 ⇓P **Pn 19 56 38.9 +1.1**
MTCE S **S 19 57 18.1 +0.7**
MTCE AML AML
comp=E,548µm,0.8s
MTCE AML AML
comp=N,282µm,0.8s
MTCE AML AML
comp=E,548µm,1.2s
NOV Novara 2.36 177 ⇑P **Pn 19 56 38.4 +0.4**
NOV AML AML
comp=N,9360µm,0.6s
NOV AML AML
comp=E,8840µm,0.5s
MSFR San Fratello 2.37 188 ⇓P **Pn 19 56 38.4 +0.2**
MSFR AML AML
comp=E,391µm,1.6s
MSFR AML AML
comp=N,440µm,0.4s
MSFR AML AML
comp=E,391µm,0.4s
AIO Antillo 2.42 175 ⇑P **Pn 19 56 39.0 +0.5**
AIO S **S 19 57 19.9 +1.1**
AIO AML AML
comp=E,2030µm,1.0s
AIO AML AML
comp=N,3125µm,0.5s
MTTG Motta San Giov 2.44 167 ⇑P **Pn 19 56 38.5 -0.3**
MTTG AML AML
comp=E,3840µm,0.6s
MTTG AML AML
comp=E,3840µm,1.4s
MTTG AML AML
comp=N,4255µm,0.6s
CAMP Campotosto 2.45 332 Pn 19 56 39.8 +1.1
SOI Samo 2.45 160 ⇑P **Pn 19 56 37.9 -0.9**
SOI AML AML
comp=E,2235µm,1.1s
SOI AML AML
comp=N,1910µm,0.6s
MNO Monte Soro 2.46 185 ⇑P **Pn 19 56 40.1 +1.0**
PLLN Pollina 2.48 196 P **Pn 19 56 39.3 +0.2**
PLLN AML AML
comp=E,850µm,1.0s
PLLN AML AML
comp=N,940µm,0.5s
PLLN AML AML
comp=N,940µm,1.5s
PLLN AML AML
comp=E,850µm,1.0s
ECTS Castiglione 2.50 178 P **Pn 19 56 39.9 +0.6**
ECTS AML AML
comp=E,2745µm,0.7s
ECTS AML AML
comp=N,1955µm,0.7s
GIB Gibilmanna 2.50 198 P **Pn 19 56 39.4 +0.1**
GIB AML AML
comp=E,931µm,1.6s
GIB AML AML
comp=N,1140µm,0.4s
GIB AML AML
comp=E,931µm,0.4s
RM33 Pellescritta (2.50 329 P **Pn 19 56 40.2 +1.1**
RM33 AML AML
comp=E,504µm,1.0s
RM33 AML AML
comp=N,380µm,1.0s
RM33 AML AML
comp=E,549µm,1.0s
RM33 AML AML
comp=N,332µm,1.0s
RM33 AML AML
comp=N,332µm,1.0s
RM33 AML AML
comp=N,380µm,1.0s
CSLB Castelbuono 2.55 197 P **Pn 19 56 39.7 0.0**
CSLB AML AML
comp=E,221µm,0.8s
CSLB AML AML
comp=N,280µm,0.5s
CSLB AML AML
comp=E,221µm,1.2s
SOLUN Solunto 2.55 207 P **Pn 19 56 40.0 +0.3**
SOLUN AML AML
comp=E,554µm,1.4s
SOLUN AML AML
comp=N,750µm,1.5s
SOLUN AML AML
comp=E,554µm,0.6s
SOLUN AML AML
comp=N,750µm,0.5s
TRTR Tortoreto Alta 2.55 342 P **Pn 19 56 40.7 +1.2**
TRTR AML AML
comp=E,3180µm,0.6s
TRTR AML AML
comp=N,4415µm,0.9s
TRTR AML AML
comp=E,3180µm,1.4s
EPZF Pizzo Felice 2.56 182 P **Pn 19 56 40.4 +0.5**
EPZF AML AML
comp=E,3070µm,0.5s
EPZF AML AML
comp=E,3070µm,1.5s
EPZF AML AML
comp=N,2345µm,0.5s
SMA1 SAN MARTINO 2.56 332 ⇓P **Pn 19 56 41.0 +1.2**
SMA1 AML AML
comp=E,718µm,1.6s
SMA1 AML AML
comp=N,736µm,1.6s
SMA1 AML AML
comp=N,736µm,0.4s
SMA1 AML AML
comp=E,718µm,0.4s
PETRA Petralia Sopra 2.63 195 P **Pn 19 56 41.0 +0.4**
PETRA AML AML
comp=N,702µm,0.4s
PETRA AML AML
comp=E,826µm,0.5s
PETRA AML AML
comp=N,702µm,1.6s
LNSS Leonessa 2.66 327 ⇓P **Pn 19 56 41.7 +1.2**
LNSS AML AML
comp=E,429µm,0.8s
LNSS AML AML
comp=N,548µm,0.8s
LNSS AML AML
comp=N,548µm,1.2s
LNSS AML AML
comp=E,429µm,1.2s
GALF Gagliano Caste 2.69 187 P **Pn 19 56 41.7 +0.7**
GALF AML AML
comp=E,2120µm,0.5s
GALF AML AML
comp=N,1530µm,0.5s
GALF AML AML
comp=E,249µm,0.5s
GALF AML AML
comp=N,226µm,0.5s
ENIC Nicolosi 2.75 179 P **Pn 19 56 42.0 +0.4**
ENIC AML AML
comp=N,740µm,0.6s
ENIC AML AML
comp=E,694µm,0.8s
ENIC AML AML
comp=N,740µm,1.4s
ESML S. M. di Licod 2.76 182 P **Pn 19 56 41.9 +0.3**
ESML AML AML
comp=N,862µm,0.8s
ESML AML AML
comp=E,930µm,0.6s
CAGR Agira 2.78 188 ⇑P **Pn 19 56 43.4 +1.5**
CAGR AML AML
comp=E,1245µm,1.1s
CAGR AML AML
comp=N,1225µm,0.8s
GAVE Gavelli 2.79 326 ⇓P **Pn 19 56 43.0 +1.2**
GAVE AML AML
comp=N,615µm,0.8s
GAVE AML AML
comp=E,292µm,1.1s
GAVE AML AML
comp=N,615µm,1.2s
ALJA Alia 2.80 200 ⇑P **Pn 19 56 43.2 +1.2**
ALJA AML AML
comp=N,1028µm,0.4s
ALJA AML AML
comp=E,768µm,1.2s
MMO1 Montemonaco 2.80 334 P **Pn 19 56 42.9 +0.9**
CORL Corleone 2.81 208 ⇓P **Pn 19 56 43.1 +1.0**
CORL AML AML
comp=E,912µm,1.5s
CORL AML AML
comp=N,1036µm,1.3s
CORL AML AML
comp=N,1036µm,0.7s
CORL AML AML
comp=E,912µm,0.5s
NRCA Norcia 2.82 331 Pn 19 56 43.4 +1.3
NRCA Norcia 2.82 331 ⇓P **Pn 19 56 43.7 +1.6**
NRCA S **S 19 57 26.1 +0.8**
NRCA AML AML
comp=E,601µm,1.0s
NRCA AML AML
comp=N,544µm,1.1s
RESU Resuttano 2.83 195 ⇑P **Pn 19 56 44.0 +1.7**
RESU AML AML
comp=E,700µm,0.5s
RESU AML AML
comp=N,703µm,0.5s
RESU AML AML
comp=E,700µm,1.5s
MF5 Montefalcone A 2.84 337 P **Pn 19 56 43.2 +1.0**
MF5 AML AML
comp=E,1118µm,1.3s
MF5 AML AML
comp=N,1400µm,1.1s
MF5 AML AML
comp=E,1118µm,0.7s
MC2 Monte Cornacci 2.86 333 P **Pn 19 56 43.8 +1.2**
CESX Cesi 2.87 322 Pn 19 56 43.8 +1.4
CESX Cesi 2.87 322 ⇓P **Pn 19 56 43.9 +1.5**
CESX AML AML
comp=E,279µm,1.6s
CESX AML AML
comp=N,215µm,1.5s
CESX AML AML
comp=E,279µm,0.4s
CESX AML AML
comp=N,215µm,0.5s
MNTT Montottone 2.87 339 P **Pn 19 56 43.9 +1.3**
MNTT AML AML
comp=N,2605µm,1.2s
MNTT AML AML
comp=E,970µm,0.7s
MNTT AML AML
comp=N,2605µm,0.8s
BARO Barbarano Roma 2.89 311 P **Pn 19 56 44.4 +1.7**
BARO AML AML
comp=E,436µm,1.1s
BARO AML AML
comp=N,429µm,1.1s
BARO AML AML
comp=E,13210µm,1.6s
BARO AML AML
comp=N,11295µm,1.6s
BARO AML AML
comp=N,11295µm,0.4s
BARO AML AML
comp=E,13210µm,0.4s
BARO AML AML
comp=N,429µm,0.9s
MBFT Monte Bonifato 2.90 214 ⇓P **Pn 19 56 44.1 +1.1**
MBFT AML AML
comp=E,464µm,0.7s
MBFT AML AML
comp=N,360µm,0.7s
VAE Valguarnera 2.94 189 P **Pn 19 56 44.6 +1.2**
comp=N,63nm,0.5s,baz=345,slow=7.9,SNR=33
VAE S **S 19 57 29.6 +2.1**
comp=N,70nm,0.6s,baz=195,slow=23,SNR=3.3
VAE Valguarnera 2.94 189 P **Pn 19 56 44.2 +0.8**
GUMA Gualdo di Mace 2.95 336 Pn 19 56 44.3 +1.0
ERC Erice 2.99 219 P **Pn 19 56 44.8 +0.9**
CRJA Costa Raja 3.00 211 ⇑P **Pn 19 56 45.2 +1.2**
CRJA AML AML
comp=N,708µm,1.3s
CRJA AML AML
comp=N,708µm,0.7s
CRJA AML AML
comp=E,1075µm,1.3s
FDMO Fiordimonte 3.01 332 Pn 19 56 44.9 +1.1
FDMO Fiordimonte 3.01 332 ⇑P **Pn 19 56 45.0 +1.2**
FDMO AML AML
comp=E,386µm,1.6s
FDMO AML AML
comp=N,367µm,1.6s
FDMO AML AML
comp=E,386µm,0.4s
FDMO AML AML
comp=N,367µm,0.4s
CSP1 Cessapalombo 3.02 334 ⇑P **Pn 19 56 44.9 +0.9**
CSP1 AML AML
comp=N,1590µm,1.3s
CSP1 AML AML
comp=E,1335µm,1.0s
MOMA Monte Martano 3.02 324 ⇑P **Pn 19 56 45.6 +1.6**
MOMA S **S 19 57 30.0 +1.2**
MOMA AML AML
comp=N,1925µm,1.6s
MOMA AML AML
comp=N,426µm,1.4s
MOMA AML AML
comp=N,426µm,0.6s
MOMA AML AML
comp=E,500µm,1.1s
MOMA AML AML
comp=E,446µm,1.1s
HLNI Lentini 3.03 182 ⇑P **Pn 19 56 43.9 -0.4**
HLNI AML AML
comp=E,451µm,0.9s
HLNI AML AML
comp=N,650µm,1.6s
CPTP Pietraperzia 3.04 192 ⇑P **Pn 19 56 45.7 +1.3**
CPTP AML AML
comp=E,593µm,1.1s
CPTP AML AML
comp=N,784µm,1.1s
CPTP AML AML
comp=N,784µm,0.9s
CPTP AML AML
comp=E,593µm,0.9s
CMDO Montedoro 3.05 198 P **Pn 19 56 46.1 +1.6**
CMDO AML AML
comp=E,390µm,1.1s

CMDO AML AML
comp=N,511µm,1.6s
CMDO AML AML
comp=E,390µm,0.9s
CMDO AML AML
comp=N,511µm,0.4s
HAGA Augusta 3.10 177 ⇑P **Pn** 19 56 43.9 -1.0
HAGA AML AML
comp=E,938µm,0.7s
HAGA AML AML
comp=N,1011µm,0.8s
HAGA AML AML
comp=E,938µm,1.3s
CLTB Caltabellotta 3.12 207 ⇑P **Pn** 19 56 45.8 +0.6
CLTB AML AML
comp=N,2350µm,0.5s
CLTB AML AML
comp=E,1275µm,0.5s
AGST Augusta-Monte 3.13 176 P **Pn** 19 56 44.5 -0.7
AGST AML AML
comp=E,1350µm,1.2s
AGST AML AML
comp=E,1350µm,0.8s
AGST AML AML
comp=N,1390µm,0.5s
MMGO Monte Magaggia 3.13 211 P **Pn** 19 56 45.8 +0.5
ASSB Assisi San Ben 3.18 328 ⇑P **Pn** 19 56 46.5 +1.0
ASSB AML AML
comp=E,400µm,0.7s
ASSB AML AML
comp=N,920µm,1.1s
RAFF Raffo Rosso 3.19 189 **Pn** 19 56 46.0 +0.1
RAFF Raffo Rosso 3.19 189 ⇑P **Pn** 19 56 46.0 +0.1
RAFF AML AML
comp=N,736µm,0.5s
RAFF AML AML
comp=E,648µm,0.7s
HVZN Vizzini 3.21 184 ⇑P **Pn** 19 56 46.1 0.0
CAVT Castelvetrano 3.21 213 P **Pn** 19 56 46.9 +0.9
CAVT AML AML
comp=E,741µm,1.3s
CAVT AML AML
comp=N,807µm,1.4s
CAVT AML AML
comp=N,807µm,0.6s
CAVT AML AML
comp=E,741µm,0.7s
STON Ston 3.21 38⇑*i*Pn **Pn** 19 56 46.2 +0.4
SCIAC Sciacca 3.22 208 AML AML
comp=N,315µm,0.6s
SCIAC AML AML
comp=E,366µm,1.6s
SCIAC AML AML
comp=E,366µm,0.4s
SSY Sortino 3.23 179 ⇑P **Pn** 19 56 45.5 -0.8
SSY AML AML
comp=E,2120µm,0.8s
SSY AML AML
comp=N,3040µm,0.9s
SSY AML AML
comp=E,2120µm,1.2s
SNTG Esanatoglia 3.25 333 ⇑P **Pn** 19 56 47.3 +1.0
SNTG AML AML
comp=E,572µm,1.0s
SNTG AML AML
comp=N,394µm,1.5s
SNTG AML AML
comp=E,486µm,1.0s
SNTG AML AML
comp=N,416µm,0.8s
SNTG AML AML
comp=N,394µm,0.5s
SNTG AML AML
comp=E,572µm,1.0s
SNTG AML AML
comp=E,486µm,1.0s
EL6 Elcito 3.26 335 ⇑P **Pn** 19 56 47.0 +0.5
EL6 S **S** 19 57 33.2 0.0
EL6 AML AML
comp=E,916µm,0.9s
EL6 AML AML
comp=N,1230µm,0.8s
ATCC AVT- Casa Cast 3.30 329 P **Pn** 19 56 47.9 +1.1
ATCC AML AML
comp=E,738µm,1.1s
ATCC AML AML
comp=N,664µm,1.4s
ATCC AML AML
comp=E,738µm,0.9s
ATCC AML AML
comp=N,664µm,0.6s
CLTA Licata 3.32 194 P **Pn** 19 56 47.5 +0.3
CLTA AML AML
comp=E,624µm,1.0s
CLTA AML AML
comp=N,682µm,1.6s
CLTA AML AML
comp=N,682µm,0.4s
MGAB Montegabbione 3.32 321 P **Pn** 19 56 48.5 +1.5
MGAB AML AML
comp=E,284µm,1.6s
MGAB AML AML
comp=N,306µm,0.9s
MGAB AML AML
comp=E,358µm,0.8s
MGAB AML AML
comp=N,254µm,1.0s
MGAB AML AML
comp=E,284µm,0.4s
MGAB AML AML
comp=N,254µm,1.0s
MGAB AML AML
comp=N,306µm,1.1s
FOSV Fossato di Vic 3.35 331 ⇑P **Pn** 19 56 48.7 +1.4
FOSV S **S** 19 57 35.7 +1.0
FOSV AML AML
comp=E,820µm,0.8s
FOSV AML AML
comp=N,1055µm,0.7s
FOSV AML AML
comp=N,1055µm,1.3s
HCY Herceg Novi 3.35 51 *e*Pn **Pn** 19 56 47.2 -0.1
HCY *i* Sn **S** 19 57 32.2 -2.5
ACATE Acate (RG) 3.38 187 P **Pn** 19 56 47.8 +0.1
ACATE AML AML
comp=E,1196µm,0.5s
ACATE AML AML
comp=N,1085µm,0.5s
ACATE AML AML
comp=N,1112µm,0.5s
ACATE AML AML
comp=E,1275µm,0.5s
MURB Monte Urbino 3.41 328 **Pn** 19 56 48.9 +0.9
MURB Monte Urbino 3.41 328 P **Pn** 19 56 49.1 +1.1
MURB AML AML
comp=N,682µm,1.5s
MURB AML AML
comp=E,556µm,1.1s
MURB AML AML
comp=N,746µm,1.5s
MURB AML AML
comp=N,746µm,0.5s
MURB AML AML
comp=E,546µm,0.9s
MURB AML AML
comp=N,682µm,0.5s
ATTE AVT- Monte Tez 3.43 326 ⇑P **Pn** 19 56 49.2 +1.0
ATTE AML AML
comp=N,114µm,1.2s
ATTE AML AML
comp=N,114µm,0.8s
ATTE AML AML
comp=E,138µm,1.2s
TREB Trebinje 3.44 46 *e*Pn **Pn** 19 56 49.1 +0.9
VLO Vlora 3.44 87 P **Pn** 19 56 49.5 +1.2
SSFR Montelago di S 3.46 332 ⇑P **Pn** 19 56 49.5 +1.0
SSFR AML AML
comp=E,390µm,0.7s
SSFR AML AML
comp=N,674µm,0.7s
SSFR AML AML
comp=N,674µm,1.3s
SSFR AML AML
comp=E,390µm,1.3s
ARVD Arcevia 3.46 335 ⇑P **Pn** 19 56 49.1 +0.7
ARVD AML AML
comp=N,688µm,0.9s
ARVD AML AML
comp=E,330µm,0.7s
ATFO Monte Foce - G 3.48 330 P **Pn** 19 56 50.3 +1.6
ATFO AML AML
comp=E,571µm,0.9s
ATFO AML AML
comp=N,466µm,1.3s
ATFO AML AML
comp=N,466µm,0.7s
ATFO AML AML
comp=E,571µm,1.1s
BUM Brajici-Budva 3.51 56⇓*i*Pn **Pn** 19 56 49.0 0.0
BUM *i* Sn **S** 19 57 35.3 -2.5
ATVO AVT- Monte Val 3.56 328 P **Pn** 19 56 50.2 +0.7
ATVO AML AML
comp=E,266µm,0.9s
ATVO AML AML
comp=N,293µm,1.4s
ATVO AML AML
comp=N,293µm,0.6s
ATVO AML AML
comp=E,266µm,1.1s
CROCE Santa Croce Ca 3.56 186 ⇑P **Pn** 19 56 49.5 -0.1
CROCE AML AML
comp=E,478µm,1.2s
CROCE AML AML
comp=N,494µm,1.6s
CROCE AML AML
comp=E,356µm,1.2s
CROCE AML AML
comp=N,406µm,1.1s
CROCE AML AML
comp=N,494µm,0.4s
CROCE AML AML
comp=N,406µm,0.9s
COR1 Corinaldo 3.57 336 ⇑P **Pn** 19 56 50.5 +1.0
COR1 AML AML
comp=E,404µm,1.6s
COR1 AML AML
comp=E,404µm,0.4s
COR1 AML AML
comp=N,1300µm,0.9s
ATMI Monte Miggiano 3.58 326 P **Pn** 19 56 50.7 +1.0
ATMI AML AML
comp=N,364µm,0.7s
ATMI AML AML
comp=E,312µm,0.8s
ATMI AML AML
comp=N,364µm,1.3s
ULC Ulcinj 3.58 62 *e*Pn **Pn** 19 56 49.6 -0.2
ULC *i* Sn **S** 19 57 37.1 -2.0
ISPIC ISPICA 3.60 181 P **Pn** 19 56 49.4 -0.6
PIEI Pieia 3.64 331 ⇑P **Pn** 19 56 51.3 +0.9
PIEI AML AML
comp=E,209µm,0.8s
PIEI AML AML
comp=N,170µm,1.6s
PIEI AML AML
comp=N,170µm,0.4s
DRME Dracevica, Mon 3.64 59 *e*Pn **Pn** 19 56 50.8 +0.5
DRME *i* Sn **S** 19 57 38.2 -2.0
MPAG Monte Paganucc 3.64 334 ⇑P **Pn** 19 56 51.2 +0.8
MPAG AML AML
comp=E,344µm,0.9s
MPAG AML AML
comp=N,636µm,0.7s
MPAG AML AML
comp=N,636µm,1.3s
MPAG AML AML
comp=E,344µm,1.1s
CEME Cevo 3.66 53 *e*Pn **Pn** 19 56 50.9 +0.3
CEME *i* Sn **S** 19 57 38.3 -2.4
BRY Bratogost 3.66 45 *e*Pn **Pn** 19 56 51.1 +0.4
BRY *i* Sn **S** 19 57 38.4 -2.5
HPAC Pachino 3.68 178 P **Pn** 19 56 50.3 -0.6
NARO Abbazia di Nar 3.69 332 ⇑P **Pn** 19 56 51.6 +0.8
NARO AML AML
comp=E,298µm,1.2s
NARO AML AML
comp=N,380µm,1.2s
NARO AML AML
comp=E,298µm,0.8s
APEC Apecchio 3.70 330 AML AML
comp=E,466µm,1.2s
APEC AML AML
comp=E,466µm,0.8s
APEC AML AML
comp=N,284µm,0.7s
APEC AML AML
comp=N,284µm,1.3s
KEK Kerkira 3.76 99 **Pn** 19 56 55.8 +4.2
KEK Kerkira 3.76 99 P **Pn** 19 56 55.9 +4.2
KEK AML AML
comp=N,672µm,1.1s
KEK AML AML
comp=N,672µm,0.9s
KEK AML AML
comp=E,414µm,1.0s
KIJV Kijevo 3.77 16⇑*i*Pn **Pn** 19 56 52.3 +0.6
PDG Podgorica 3.81 56 **Pn** 19 56 53.1 +1.0
PDG Podgorica 3.81 56 ⇑P **Pn** 19 56 53.6 +1.5
PDG ⇑S **S** 19 57 44.2 +0.8
PDG Podgorica 3.81 56 *e*Pn **Pn** 19 56 52.9 +0.8
PDG *i* Sn **S** 19 57 40.9 -2.5
PARC Parchiule 3.85 329 P **Pn** 19 56 53.8 +1.2
PARC AML AML
comp=E,268µm,1.0s
PARC AML AML
comp=N,207µm,1.6s
PARC AML AML
comp=N,207µm,0.4s
KLINJ Klinje 3.87 43 *e*Pn **Pn** 19 56 53.7 +0.8
CASP Castiglione de 3.91 309 **Pn** 19 56 54.5 +1.2
CPGN Carpegna, Ital 3.95 331 P **Pn** 19 56 55.2 +1.4
CPGN AML AML
comp=E,546µm,1.4s
CPGN AML AML
comp=N,696µm,1.2s
CPGN AML AML
comp=E,438µm,1.6s
CPGN AML AML
comp=N,744µm,1.5s
CPGN AML AML
comp=E,546µm,0.6s
UPM Unac-Piva 4.07 45 *e*Pn **Pn** 19 56 56.3 +1.2
UPM *i* Sn **S** 19 57 45.8 -3.0
OSSC Osservatorio P 4.20 320 **Pn** 19 56 58.0 +1.6
OSSC Osservatorio P 4.20 320 ⇑P **Pn** 19 56 57.8 +1.5
OSSC AML AML
comp=E,225µm,1.5s
OSSC AML AML
comp=E,161µm,1.6s
OSSC AML AML
comp=N,212µm,1.6s
OSSC AML AML
comp=N,198µm,1.6s
OSSC AML AML
comp=E,225µm,0.5s
KOME Kolasin 4.20 53 *e*Pn **Pn** 19 56 57.2 +0.7
KOME *i* Sn **S** 19 57 49.0 -2.3
VSL Villasalto 4.40 260 **Pn** 19 56 59.5 +0.8
VSL Villasalto 4.40 260 ⇓P **Pn** 19 56 59.6 +0.9
VSL AML AML
comp=E,377µm,1.4s
VSL AML AML
comp=N,246µm,0.5s
VSL AML AML
comp=E,377µm,0.6s
KBN Korca 4.43 85 P **Pn** 19 57 00.8 +1.7
IVA Berane 4.44 54 *e*Pn **Pn** 19 56 59.6 +0.4
IVA *i* Sn **S** 19 57 53.7 -2.6
OHR Ohrid 4.48 79 *i* Pn **Pn** 19 57 01.4 +1.8
WDD Wied Dalam 4.55 185 **Pn** 19 57 00.4 -0.1
WDD Wied Dalam 4.55 185 ⇑P **Pn** 19 56 59.9 -0.6
RUDO Rudo 4.60 44 *e*Pn **Pn** 19 57 00.6 -0.3
BRJN Brijuni 4.61 349⇑*i*Pn **Pn** 19 57 01.1 +0.2
BLY Banja Luka 4.66 20⇑*i*Pn **Pn** 19 57 02.0 +0.5
BLY Banja Luka 4.66 20 ⇑P **Pn** 19 57 02.3 +0.9
ZCCA Zocca 4.95 324 **Pn** 19 57 06.4 +1.4
PGF Pioggiola 4.99 298 *e*P **Pn** 19 57 05.8 +0.3
comp=E,79nm,0.5s
BOJS Bojanci 5.12 2 *i* P **Pn** 19 57 08.2 +1.4
BOJS *e*pP 19 58 05.6
BOJS *e*S **S** 19 58 09.2 -1.0
BOJS *e* 19 58 29.8
SKDS Skadanscina 5.21 352 *i* P **Pn** 19 57 08.4 +0.5
SKDS *e*S **S** 19 58 10.8 -1.4
OZLJ Ozalj 5.24 4⇑*i*Pn **Pn** 19 57 09.3 +1.1
MOSL Moslavina 5.39 13⇑*i*Pn **Pn** 19 57 10.0 0.0
TRI Trieste 5.40 351 **Pn** 19 57 10.7 +0.6
TRI Trieste 5.40 351 P **Pn** 19 57 10.7 +0.6
TEOL Teolo 5.54 335 **Pn** 19 57 11.5 -0.3
MSSA Maissana 5.64 316 **Pn** 19 57 13.7 +0.6
LJU Ljubljana 5.67 357 *i* P **Pn** 19 57 14.3 +1.1
SABO M.te Sabotino 5.68 350 **Pn** 19 57 14.2 +0.7
LIT Litokhoron 5.75 90 **Pn** 19 57 14.8 +0.4
LIT Litokhoron 5.75 90 P **Pn** 19 57 14.8 +0.4
AGG Agios Georgios 5.83 101 P **Pn** 19 57 16.7 +1.4
BOVS Bovan 5.97 55 ⇓P **Pn** 19 57 18.6 +1.7
GORS Gorjuse 5.97 353 *i* P **Pn** 19 57 17.6 +0.6
BEO Beograd 6.00 41 P **Pn** 19 57 18.0 +0.8
KNT Kendrikon 6.06 80 P **Pn** 19 57 19.0 +1.0
THE Thessaloniki 6.09 85 P **Pn** 19 57 18.7 +0.3
OBKA Obir 6.13 357 *i* Pn **Pn** 19 57 19.5 +0.6
comp=E,87nm,0.6s,SNR=66
OBKA Obir 6.13 357 *e*Pn **Pn** 19 57 19.7 +0.8
CTI Castel Tesino 6.16 338 **Pn** 19 57 19.4 +0.1
CTI Castel Tesino 6.16 338 P **Pn** 19 57 19.4 +0.1
BEHE Becsehely 6.22 12 **Pn** 19 57 21.0 +1.1
BEHE Becsehely 6.22 12⇑*i*Pn **Pn** 19 57 20.9 +1.1
TRAN Tran 6.25 64 *i* P **Pn** 19 57 18.8 -1.5
SOKA Soboth 6.29 0 *i* Pn **Pn** 19 57 21.5 +0.7
comp=E,72nm,0.6s,SNR=71
ITM Ithomi 6.30 118 **Pn** 19 57 21.1 +0.2
MYKA Terra Mystica 6.32 352 *i* Pn **Pn** 19 57 22.0 +0.9
comp=E,92nm,0.4s,SNR=52
KKB Krupnik 6.32 74 *i* P **Pn** 19 57 22.6 +1.4
SOH Sokhos 6.39 83 P **Pn** 19 57 22.8 +0.8
KEST Kesra 6.43 226 **Pn** 19 57 23.6 +1.0
KEST Kesra 6.43 226 P **Pn** 19 57 23.6 +0.9
comp=E,17nm,0.6s,baz=351,slow=2.8,SNR=12
KEST S **S** 19 58 37.6 -1.4
comp=E,7.7nm,0.8s,baz=4.4,slow=12,SNR=0.6
VTS Vitosha 6.58 67 *i* P **Pn** 19 57 25.7 +1.2
SBF Sospel 6.60 304 *e*P **Pn** 19 57 25.2 +0.7
comp=E,114nm,0.6s
ABTA Abfaltersbach 6.61 345 *i* Pn **Pn** 19 57 25.9 +1.3
comp=E,156nm,0.5s,SNR=123
MDVR Moldovita 6.63 46 ⇑P **Pn** 19 57 26.3 +1.4
PLNA Plana 6.68 69 *i* P **Pn** 19 57 27.3 +1.7
MMB Musomishta 6.74 77 *i* P **Pn** 19 57 26.8 +0.6
KBA Koelnbreinsper 6.80 350 *i* Pn **Pn** 19 57 28.0 +1.1
comp=E,67nm,0.6s,SNR=74
KBA *i* S **S** 19 58 45.5 -1.4
comp=E,19nm,1.0s
KBA Koelnbreinsper 6.80 350 *e*Pn **Pn** 19 57 28.1 +1.1
ARSA Arzberg 6.88 3 **Pn** 19 57 28.7 +0.9
ARSA Arzberg 6.88 3 *i* Pn **Pn** 19 57 28.6 +0.9
comp=E,32nm,0.4s,SNR=49
ARSA Arzberg 6.88 3 *e*Pn **Pn** 19 57 28.7 +0.9
LMR La Mourre 6.98 298 *e*P **Pn** 19 57 29.8 +0.7
comp=E,31nm,0.6s
HERR Herculane 7.09 48 ⇑P **Pn** 19 57 31.4 +1.1
FUORN Ofenpass-Fuorn 7.11 333 **Pn** 19 57 32.1 +1.2
BZS Buzias 7.14 41 ⇑P **Pn** 19 57 31.9 +0.9
BZS Buzias 7.14 41 P **Pn** 19 57 31.9 +0.9
MPEP Malo Peshtene 7.18 63 *i* P **Pn** 19 57 33.1 +1.6
PGB Panagyurishte 7.22 70 *i* P **Pn** 19 57 33.7 +1.6
LESA Schwarzleotal 7.23 347 *i* Pn **Pn** 19 57 33.1 +0.9
comp=E,36nm,0.6s,SNR=25
WTTA Wattenberg 7.29 342 *i* Pn **Pn** 19 57 34.2 +1.3
comp=E,57nm,0.6s,SNR=52
WTTA Wattenberg 7.29 342 *e*Pn **Pn** 19 57 35.1 +2.2
FETA Feichten 7.32 337 *i* Pn **Pn** 19 57 34.2 +1.0
comp=E,199nm,0.7s,SNR=109
TUE Stuetta 7.34 328 **Pn** 19 57 33.9 +0.3
TUE Stuetta 7.34 328 P **Pn** 19 57 33.6 0.0
comp=E,2.1nmcomp=E,7µmcomp=E,778nm,1.0s
SQTA Sankt Quirin 7.36 339 *i* Pn **Pn** 19 57 35.0 +1.3
comp=E,199nm,0.5s,SNR=108
BIOA Bad Ischl, Aus 7.37 353 *i* Pn **Pn** 19 57 34.8 +1.1
comp=E,71nm,0.3s,SNR=82
WATA Walderalm 7.37 342 *i* Pn **Pn** 19 57 35.4 +1.5
comp=E,106nm,0.5s,SNR=118
RONA Rosalia, Austr 7.38 7 *i* Pn **Pn** 19 57 35.3 +1.4
comp=E,29nm,0.5s,SNR=27
SOP Sopron 7.38 8 *e*Pn **Pn** 19 57 35.3 +1.4
DAVOX Davos/Dischmat 7.39 332 P **Pn** 19 57 35.9 +1.7
comp=E,101nm,0.7s,baz=142,slow=14
DAVOX S **S** 19 58 59.9 -0.2
comp=E,5.7nm,0.5s,baz=340,slow=16,SNR=0.8
MBDF Montbardon 7.45 308 *e*P **Pn** 19 57 36.4 +1.4
comp=E,276nm,0.7s
MOA Molln 7.48 356 *i* Pn **Pn** 19 57 36.2 +1.1
comp=E,116nm,0.4s,SNR=103
MOA Molln 7.48 356 *e*Pn **Pn** 19 57 36.7 +1.5
RZN Rozhen 7.49 77 *i* P **Pn** 19 57 36.4 +0.9
SURR Surduc 7.49 42 ⇑P **Pn** 19 57 36.1 +0.9
MOTA Moosalm 7.50 339 *i* Pn **Pn** 19 57 37.0 +1.4
comp=E,200nm,0.8s,SNR=100
RJOB Jochberg 7.52 349 *e*Pn **Pn** 19 57 36.4 +0.8
CONA Conrad Observa 7.57 4 *i* Pn **Pn** 19 57 37.3 +1.1
comp=E,36nm,0.9s,SNR=32
GZR Gura Zlata 7.60 46 ⇑P **Pn** 19 57 37.8 +1.1
GZR Gura Zlata 7.60 46 P **Pn** 19 57 37.7 +1.1
SIRR Siria 7.63 37 ⇑P **Pn** 19 57 38.1 +1.2
BNI Bardonecchia 7.69 310 **Pn** 19 57 39.3 +1.4
BNI Bardonecchia 7.69 310 P **Pn** 19 57 39.3 +1.4
RETA Reutte 7.72 338 *i* Pn **Pn** 19 57 39.3 +1.1
comp=E,51nm,0.5s,SNR=39
PLVB Pleven 7.79 64 ⇑P **Pn** 19 57 40.6 +1.6
PLONS Plons/SG 7.80 331 *e*Pn **Pn** 19 57 40.7 +1.6
SRO Srobarova 7.80 17 *e*P **Pn** 19 57 40.7 +1.7
DAVA Damuels 7.82 334 *i* Pn **Pn** 19 57 40.4 +1.0
comp=E,73nm,0.5s,SNR=37
DAVA Damuels 7.82 334 *e*Pn **Pn** 19 57 40.7 +1.3
SMRF Simiane la Rot 7.85 300 *e*P **Pn** 19 57 41.7 +1.9
comp=E,28nm,0.7s
BSZH Besenyszg 7.90 27 ⇑P **Pn** 19 57 41.8 +1.7
LPG La Plagne 7.91 313 *e*P **Pn** 19 57 42.1 +1.4
comp=E,459nm,0.8s
LPL La Plagne 7.93 313 *e*P **Pn** 19 57 41.5 +0.6
comp=E,230nm,0.6s
LPL La Plagne 7.93 313 P **Pn** 19 57 40.8 -0.1
RDO Rodhopi 8.05 81 **Pn** 19 57 43.1 +1.0
ORIF Oris-en-Rattie 8.09 307 *e*P **Pn** 19 57 43.9 +1.1
comp=E,61nm,0.6s
PVL Pavlikeni 8.09 67 *i* P **Pn** 19 57 44.2 +1.5
UBR Ueberruh 8.09 336 *e*Pn **Pn** 19 57 43.3 +0.7
MODS Modra-Piesok 8.15 11 *e*P **Pn** 19 57 44.2 +0.8
SENIN Lac Senin/Sane 8.19 319 **Pn** 19 57 43.9 0.0
LOT Lotru 8.19 49 ⇓P **Pn** 19 57 46.0 +2.0
FUR Furstenfeldbru 8.22 342 *e*Pn **Pn** 19 57 44.8 +0.6
WILA Wila 8.28 330 *e*Pn **Pn** 19 57 45.6 +0.6
PSZ Piszkesteto 8.32 23 **Pn** 19 57 46.0 +0.7
PSZ Piszkesteto 8.32 23 ⇑P **Pn** 19 57 46.4 +1.0
PSZ Piszkesteto 8.32 23 *e*P **Pn** 19 57 45.8 +0.4
PSZ Piszkesteto 8.32 23 P **Pn** 19 57 46.1 +0.7
PSZ Piszkesteto 8.32 23 *e*Pn **Pn** 19 57 46.2 +0.8
ALN Alexandroupoli 8.43 83 **Pn** 19 57 47.3 +0.5
ALN Alexandroupoli 8.43 83 P **Pn** 19 57 47.3 +0.5
CKRC Cesky Krumlov 8.45 357 *e*PN **Pn** 19 57 47.6 +0.6
CKRC Cesky Krumlov 8.45 357 *e*P **Pn** 19 57 47.6 +0.6
CKRC Cesky Krumlov 8.45 357 *e*Pn **Pn** 19 57 47.6 +0.6
GEC2 GERESS Array S 8.51 354 **Pn** 19 57 48.3 +0.6
GEC2 GERESS Array S 8.51 354 *e*Pn **Pn** 19 57 48.0 +0.3
GERES GERESS Array B 8.51 354 P **Pn** 19 57 48.0 +0.3
comp=E,24nm,0.4s,baz=169,slow=13,SNR=220
GERES S **S** 19 59 25.2 +0.1
comp=E,2.7nm,0.8s,baz=189,slow=24,SNR=1.2
DRGR 8.51 39 ⇑P **Pn** 19 57 49.0 +1.1
DRGR 8.51 39 P **Pn** 19 57 48.9 +1.1
ELND Elena 8.54 69 ⇓P **Pn** 19 57 49.6 +1.4
MARR Marisel-Cluj 8.63 41 ⇓P **Pn** 19 57 50.3 +1.1
ARR Arges 8.66 52 ⇑P **Pn** 19 57 52.1 +2.5
JAVC Velka Javorina 8.69 12 *e*P **Pn** 19 57 51.6 +1.7
SULZ Cheisacher 8.69 328 *e*Pn **Pn** 19 57 50.1 +0.1
BALST Balsthal 8.71 325 *e*Pn **Pn** 19 57 50.1 -0.2
SLE Schleitheim 8.73 330 *e*Pn **Pn** 19 57 50.4 0.0
KRUC Moravsky 8.73 6 *e*P **Pn** 19 57 51.5 +1.1
KRUC Moravsky 8.73 6 *e*Pn **Pn** 19 57 51.6 +1.1
KHC Kasperske Hory 8.80 354 *e*PN **Pn** 19 57 51.7 +0.4
KHC Kasperske Hory 8.80 354*c* P **Pn** 19 57 51.5 +0.1
KHC pmax pmax
comp=Z,65nm,0.8s
KHC Kasperske Hory 8.80 354 P **Pn** 19 57 51.4 +0.1
comp=Z,83nm,0.8s
KHC Kasperske Hory 8.80 354 *e*Pn **Pn** 19 57 51.7 +0.4

VIVF Saint-Julien-I 8.82 304 eP Pn 19 57 51.8 +0.3
comp=Z,45nm,0.8s
MTUR Matau 8.85 54 ⇑P Pn 19 57 54.0 +2.0
MTUR Matau 8.85 54 P Pn 19 57 53.9 +2.0
APE Apeiranthos 8.88 109⇑eP Pn 19 57 51.9 -0.6
WET Wettzelt 8.89 351 ePn Pn 19 57 52.3 -0.1
CJR Cluj-Napoca 8.89 42 ⇑P Pn 19 57 54.6 +2.1
CJR Cluj-Napoca 8.89 42 P Pn 19 57 54.5 +2.1
TREC Trest 8.92 2 ePN Pn 19 57 53.9 +1.2
TREC Trest 8.92 2 eP Pn 19 57 53.9 +1.2
TREC Trest 8.92 2 ePn Pn 19 57 53.9 +1.2
VOIR 8.95 52 ⇑P Pn 19 57 55.5 +2.4
VOIR 8.95 52 P Pn 19 57 55.5 +2.4
CABF La Chapelle 8.97 317 eP Pn 19 57 52.9 -0.6
comp=Z,132nm,0.6s
VRAC Vranov 9.00 7 P Pn 19 57 54.9 +1.2
comp=Z,51nm,0.6s,baz=192,slow=12,SNR=102
VRAC Vranov 9.00 7 eP Pn 19 57 54.7 +1.1
VRAC Vranov 9.00 7 ⇑P Pn 19 57 54.9 +1.2
VRAC Vranov 9.00 7 ePn Pn 19 57 54.8 +1.1
KECS Kecovo 9.00 24 eP Pn 19 57 55.9 +2.2
SGRR Singureni 9.00 61 ⇑P Pn 19 57 55.3 +1.5
LASF Ste Croix 9.04 298 eP Pn 19 57 54.3 0.0
comp=Z,20nm,0.7s
ZVC Zvikov 9.07 357 ePN Pn 19 57 55.3 +0.7
SSB Saint Sauveur 9.10 306 Pn 19 57 55.0 0.0
SSB Saint Sauveur 9.10 306 P Pn 19 57 55.0 0.0
MAUC Maruska 9.20 12 ePN Pn 19 57 58.1 +1.9
BFO Black Forest 9.26 331 Pn 19 57 57.5 +0.5
BFO Black Forest 9.26 331 P Pn 19 57 57.5 +0.5
BFO Black Forest 9.26 331 ePn Pn 19 57 57.4 +0.4
LANS Liptovska Anna 9.32 18 eP P 19 58 00.0 -2.1
IDI Anoyia 9.34 120 P Pn 19 57 59.0 +0.9
comp=Z,35nm,0.5s,baz=293,slow=16,SNR=46
IDI S S 19 59 46.3 +2.2
comp=Z,30nm,0.7s,baz=312,slow=22,SNR=3.9
STU Stuttgart 9.35 336 Pn 19 57 58.3 +0.4
STU Stuttgart 9.35 336 eP Pn 19 57 42.3 -16
STU Stuttgart 9.35 336 P Pn 19 57 58.3 +0.4
DOPR Dopca 9.43 50 ⇓P Pn 19 58 00.7 +1.7
HINF Hinteralfeld 9.45 325 eP Pn 19 57 58.9 -0.4
comp=Z,35nm,0.4s
BMR Baia Mare 9.52 37 ⇓P Pn 19 58 02.1 +2.0
BMR Baia Mare 9.52 37 P Pn 19 58 02.0 +2.0
MLR Muntele Rosu 9.52 54 P 19 58 02.7 -1.6
MLR Muntele Rosu 9.52 54 P P 19 58 02.8 -1.5
comp=Z,46nm,0.9s,baz=223,slow=5.0,SNR=48
MLR S S 19 59 51.6 +3.6
comp=Z,32nm,1.0s,baz=302,slow=20,SNR=9.7
MLR Muntele Rosu 9.52 54 ⇑P P 19 58 02.9 -1.5
MLR Muntele Rosu 9.52 54 ePn P 19 58 03.0 -1.4
MORC Moravsky Berou 9.56 10 Pn 19 58 01.6 +0.9
MORC Moravsky Berou 9.56 10 eP Pn 19 58 01.8 +1.1
MORC Moravsky Berou 9.56 10 ⇑P Pn 19 58 01.7 +0.9
MORC Moravsky Berou 9.56 10 P Pn 19 58 01.6 +0.9
MORC Moravsky Berou 9.56 10 ePn Pn 19 58 02.2 +1.5
BERU Beregovo 9.57 32 P Pn 19 58 01.9 +1.2
ROTZ Rotzenmuhle 9.59 349 ePn Pn 19 58 00.8 -0.1
TRSU Trosnyk 9.60 34 P Pn 19 58 02.8 +1.8
PRU Pruhonice 9.61 358 ePN Pn 19 58 01.9 +0.7
PRU Pruhonice 9.61 358 eP Pn 19 58 01.9 +0.7
PRU Pruhonice 9.61 358 ePn Pn 19 58 02.2 +1.0
ECH Echery 9.63 327 Pn 19 58 01.6 +0.1
ECH Echery 9.63 327 P Pn 19 58 01.6 +0.1
GRA1 Grafenberg Arr 9.68 345 Pn 19 58 02.0 0.0
GRF Grafenberg Arr 9.68 345 P Pn 19 58 02.0 0.0
GRF Grafenberg Arr 9.68 345 ePn Pn 19 58 01.9 -0.2
GRFO Grafenberg Pn 9.68 345 Pn 19 58 02.1 +0.1
GRFO Grafenberg 9.68 345 P Pn 19 58 02.1 +0.1
PRA Prague 9.70 358 ePN Pn 19 58 03.4 +1.2
PRA Prague 9.70 358 eP Pn 19 58 03.4 +1.2
HOLU Holmets 9.70 31 P Pn 19 58 03.5 +1.2
NEHR Nehoiu 9.71 55 ⇑P Pn 19 58 04.1 +1.6
OKC Ostrava-Krasne 9.71 12 ePn Pn 19 58 03.9 +1.5
KORU Korolevo 9.72 34 P Pn 19 58 03.7 +1.2
ISR Istrita 9.73 57 ⇑P P 19 58 04.8 -1.8
ISR Istrita 9.73 57 P P 19 58 04.8 -1.8
OZUR 9.73 51 ⇓P Pn 19 58 04.6 +1.8
CDF Champ du Feu 9.73 328 eP Pn 19 58 03.2 +0.4
comp=Z,182nm,0.6s
MUKU Mukachevo 9.77 32 P Pn 19 58 04.2 +1.1
KRLC Kraliky 9.77 7 ePN Pn 19 58 04.8 +1.6
KRLC Kraliky 9.77 7 eP Pn 19 58 04.8 +1.6
NIE Niedzica 9.79 21 eP P 19 58 06.3 -0.9
NIE Niedzica 9.79 21 P P 19 58 05.6 -1.6
comp=Z,28nm,1.1s
BRIU Brid 9.81 33 P Pn 19 58 04.4 +0.8
MANZ Manzenberg 9.81 349 ePn Pn 19 58 03.8 +0.1
HAU Haudompre 9.82 324 eP Pn 19 58 03.9 +0.1
comp=Z,66nm,0.4s
TURR Turia 9.84 51 ⇑P P 19 58 06.3 -1.5
COVR Voineasa-Covas 9.85 53 ⇑P P 19 58 06.1 -1.8
MTLF Montolieu 9.97 291 eP P 19 58 09.9 +0.6
comp=Z,25nm,0.5s
KOLS Kolonicke sedl 10.00 29 eP P 19 58 08.2 -1.3
BAND Balkesir-Ban 10.01 86 ⇑P Pn 19 58 07.6 +1.4
DPC Dobruska-Polom 10.01 5 ePN Pn 19 58 07.1 +1.0
DPC Dobruska-Polom 10.01 5 eP Pn 19 58 07.1 +1.0
DPC Dobruska-Polom 10.01 5 P Pn 19 58 06.9 +0.8
comp=Z,41nm,0.7s
BISRR Bisoca 10.02 55 ⇑P P 19 58 08.5 -1.4
RAKU Rahkiv 10.08 38 P Pn 19 58 08.4 +1.4
PLOR Plostina 10.12 54 ⇑P P 19 58 09.3 -1.7
PLOR Plostina 10.12 54 P P 19 58 09.3 -1.7
PVCC Panska Ves 10.15 358 ePN Pn 19 58 09.2 +1.4
PVCC Panska Ves 10.15 358 eP Pn 19 58 09.2 +1.4
PVCC Panska Ves 10.15 358 ePn Pn 19 58 09.1 +1.4
UPC Upice 10.15 4 ePN Pn 19 58 09.1 +1.3
UPC Upice 10.15 4 eP Pn 19 58 09.1 +1.3
MEZ Mezhgor'ye 10.15 34 P Pn 19 58 08.6 +0.7
RICC Richard 10.18 357 ePN Pn 19 58 09.3 +1.2
VRI Vrincioaia 10.18 54 ⇑P P 19 58 10.0 -1.6
VRI Vrincioaia 10.18 54 P P 19 58 09.9 -1.6
TANN Tannenbergstha 10.19 351 ePn Pn 19 58 08.5 +0.2
ICOR Ion Corvin 10.21 64 ⇓P P 19 58 10.3 -1.5
OSTC Ostas 10.21 4 ePN Pn 19 58 10.0 +1.4
OSTC Ostas 10.21 4 eP Pn 19 58 10.0 +1.4
ONER Baraj Valea Uz 10.21 51 ⇑P P 19 58 10.8 -1.2
SMF Signal de Mont 10.22 311 eP Pn 19 58 07.3 -1.5
comp=Z,50nm,0.6s
SMF Signal de Mont 10.22 311 P Pn 19 58 07.4 -1.4
CHVC Chvalec 10.23 4 ePN P 19 58 10.5 -1.6
CHVC Chvalec 10.23 4 eP P 19 58 10.5 -1.6
PLN Plauen 10.29 350 ePn Pn 19 58 10.6 +1.1
BURAR Bucovina Array 10.32 42 Pn P 19 58 11.7 -1.5
BURAR Bucovina Array 10.32 42 ⇓P P 19 58 12.5 -0.7
BURAR Bucovina Array 10.32 42 P P 19 58 12.5 -0.7
BUR08 Bucovina Ar. S 10.33 42 P 19 58 11.9 -1.4
OJC Ojcow 10.40 17 eP P 19 58 12.6 -1.4
OJC Ojcow 10.40 17 Pn 19 58 12.3 +1.4
OJC Ojcow 10.40 17 P Pn 19 58 12.3 +1.4
OJC Ojcow 10.40 17 P Pn 19 58 11.5 +0.6
comp=Z,24nm,1.0s
PANC Panciu 10.44 54 ⇑P P 19 58 13.3 -1.1
TESR Tescani 10.46 50 ⇑P P 19 58 14.2 -0.4
KALB Balgarevo 10.46 69 ⇓P P 19 58 13.9 -0.8
HARR Harsova 10.48 62 ⇑P P 19 58 13.5 -1.3
HARR Harsova 10.48 62 P P 19 58 13.5 -1.3
KSP Ksiaz 10.50 5 eP Pn 19 58 13.4 +1.4
KSP Ksiaz 10.50 5 P Pn 19 58 12.6 +0.5
comp=Z,37nm,0.8s
PAGF Fort de Pagny 10.51 324 eP Pn 19 58 12.4 +0.2
comp=Z,69nm,0.7s
TLBR Topalu 10.51 62 ⇓P P 19 58 14.2 -1.0
BRG Berggiesshubel 10.52 356 ePn Pn 19 58 13.3 +1.1
BRG Berggiesshubel 10.52 356 iP Pn 19 58 13.5 +1.2
BRG Amp 19 58 14.8
comp=Z,32nm,0.7s
BRG Berggiesshubel 10.52 356 P P 19 58 17.9 +2.7
BRG Amp 19 58 18.8
comp=Z,73nm,0.7s
BRG ⇓ePif 20 07 42.4
BRG Amp 20 07 43.4
comp=Z,2.9nm,0.9s
MOX Moxa 10.53 348 P Pn 19 58 13.2 +0.8
MOX Moxa 10.53 348 ePn Pn 19 58 13.0 +0.5
CEST Esterri de Car 10.54 287 Pn Pn 19 58 13.0 +0.2
CAF Calviac 10.54 300 eP Pn 19 58 13.2 +0.5
comp=Z,43nm,0.8s
CAF Calviac 10.54 300 P Pn 19 58 13.7 +1.0
SFTF Sexfontaines 10.57 321 eP Pn 19 58 13.0 0.0
comp=Z,29nm,0.5s

LOR Lormes 10.57 314 eP Pn 19 58 11.5 -1.6
comp=Z,41nm,0.5s
AVF Avril sur Loir 10.59 311 eP Pn 19 58 11.7 -1.5
comp=Z,20nm,0.5s
SSF Saint Saulge 10.65 313 eP Pn 19 58 12.3 -1.7
comp=Z,21nm,0.5s
MANR Mangalia 10.68 67 ⇑P P 19 58 15.9 -1.2
KSV Kosov 10.71 39 P Pn 19 58 15.5 +0.7
TIRR Tirgusor 10.73 63 Pn 19 58 15.8 +0.9
TIRR Tirgusor 10.73 63 ⇑P Pn 19 58 16.2 +1.3
TIRR Tirgusor 10.73 63 P Pn 19 58 15.9 +0.9
TIRR Tirgusor 10.73 63 P Pn 19 58 15.6 +0.7
comp=Z,595nmcomp=Z,74nm,0.8s
STNU Starunia 10.74 36 P P 19 58 17.0 -0.7
KARP Karpathos 10.76 113 eP P 19 58 17.6 -0.6
KARP Karpathos 10.76 113 P Pn 19 58 16.3 +0.9
comp=Z,13µmcomp=Z,443nm,0.8s
BGF Bois d'Agland 10.76 309 eP Pn 19 58 14.8 -0.5
comp=Z,55nm,0.5s
MEZF Maizieres J'vi 10.78 322 eP Pn 19 58 15.5 0.0
comp=Z,68nm,0.6s
CFR Carcaliu 10.79 59 ⇑P Pn 19 58 16.7 +1.0
CFR Carcaliu 10.79 59 P Pn 19 58 16.6 +1.0
MORS Morshin 10.79 33 P P 19 58 18.6 +0.3
MORS Morshin 10.79 33 P P 19 58 17.4 -0.9
SAVF Savonnieres en 10.82 323 eP Pn 19 58 16.0 0.0
baz=132
SAVF Savonnieres en 10.82 323 eP Pn 19 58 16.3 +0.3
comp=Z,42nm,0.5s
TNS Taunus Mts 10.86 337 ePn P 19 58 18.4 -0.7
TPGR Topolog 10.86 61 ⇑P P 19 58 18.6 -0.5
SCTR Scanteiesti 10.89 57 ⇑P P 19 58 18.2 -1.2
VARL Varlezi 10.89 55 ⇑P Pn 19 58 17.5 +0.6
UBBA Unterbreizbach 11.00 343 ePn P 19 58 19.8 -0.7
TCF Toulx Ste Croi 11.01 307 eP Pn 19 58 17.4 -1.0
comp=Z,73nm,0.8s
CLL Collm 11.01 353 P P 19 58 19.9 -0.7
CLL Collm 11.01 353 eP P 19 58 20.0 -0.7
CLL pmax pmax
comp=Z,28nm,0.7s
CLL Collm 11.01 353 P Pn 19 58 19.2 +0.9
comp=Z,82nm,0.9s
CLL Collm 11.01 353 ePn P 19 58 20.1 -0.6
CLL Collm 11.01 353 eP P 19 58 20.0 -0.7
comp=Z,28nm,0.7s
CLL i Pmax 19 58 22.8
comp=Z,60nm,0.8s
VLDR Vladesti 11.02 56 ⇑P Pn 19 58 19.3 +0.9
RJF Les Rejaudoux 11.04 301 eP Pn 19 58 19.3 +0.5
comp=Z,10nm,0.6s
NEUB Neuenburg 11.05 349 ePn Pn 19 58 19.8 +1.0
ARG Arkhangelos 11.13 108 Pn Pn 19 58 19.9 -0.1
ARG Arkhangelos 11.13 108 P Pn 19 58 19.9 -0.1
JURR Jurilovca 11.14 62 ⇓P P 19 58 21.6 -0.6
WLF Walferdange 11.18 329 P P 19 58 21.7 -0.9
WLF Walferdange 11.18 329 dP P 19 58 22.8 +0.1
comp=Z,29nm,0.9s
WLF Walferdange 11.18 329 P 19 58 21.7 -0.9
WLF Walferdange 11.18 329 ePn P 19 58 22.7 +0.1
VASR Vaslui 11.20 52 ⇑P P 19 58 23.1 +0.2
TLCR 11.24 60 ⇓P P 19 58 23.1 -0.2
TLCR 11.24 60 P P 19 58 23.0 -0.2
HYF Humbligny 11.26 312 eP P 19 58 23.7 +0.2
comp=Z,35nm,0.3s
EPF Esparros 11.26 288 eP P 19 58 23.5 -0.2
comp=Z,3.4nm,0.4s
LVV L'vov 11.39 31 P P 19 58 26.0 +1.1
LVV L'vov 11.39 31 P Pn 19 58 23.7 +0.8
LFF La Frestale 11.43 298 eP P 19 58 24.6 -0.9
comp=Z,14nm,0.5s
LFF La Frestale 11.43 298 P P 19 58 24.7 -0.8
KMPD K-Podol'skiy 11.57 41 P Pn 19 58 25.9 +0.8
KMPD P Pn 19 58 25.9 +0.8
GTTG Gottingen 11.69 344 ePn P 19 58 28.6 +0.4
KASTN Kahler Asten 11.74 339 ePn P 19 58 29.1 +0.2
BHOU Houvegnez 11.79 331 dP P 19 58 29.3 -0.1
comp=Z,27nm,0.6s
CLF Chambon-Foret 11.89 314 Pn 19 58 28.4 -0.6
CLZ Clausthal 11.89 346 ePn P 19 58 30.4 -0.2
ETSF Etsaut 11.90 287 eP P 19 58 30.5 -0.3
comp=Z,7.6nm,0.4s
BTNL Tenell 11.94 332 dP P 19 58 32.7 +1.6
comp=Z,72nm,0.8s
RCHB Rochefort 11.94 328 dP Pn 19 58 30.0 +0.4
comp=Z,44nm,0.7s
MILM Milestii Mici 11.95 52⇑iP Pn 19 58 30.0 +0.2
comp=Z,370nm,0.7s
MILM i S S 20 00 40.0 -2.7
comp=Z,220nm,1.1s
MILM Milestii Mici 11.95 52c iP Pn 19 58 30.0 +0.2
MILM i S S 20 00 40.0 -2.7
MILM pmax pmax
comp=Z,370nm,0.7s
MILM smax smax
comp=N,220nm,1.1s
MILM smax smax
comp=E,330nm,1.1s
HORU Horodok 11.99 39 P P 19 58 32.9 +1.3
HORU Horodok 11.99 39 P P 19 58 31.9 +0.3
KIS Kishinev 11.99 52 ⇑P P 19 58 31.5 -0.2
KIS Kishinev 11.99 52 eP P 19 58 31.0 -0.6
comp=E,50nm,0.4s
KIS eS S 20 00 44.0 +0.4
KIS eL L 20 10 30.0
KIS LRM MLR 20 11 19.0
comp=E,200nm,15.5s
KIS Kishinev 11.99 52 eP P 19 58 31.0 -0.6
KIS eS S 20 00 44.0 +0.4
KIS pmax pmax
comp=Z,50nm,0.4s
MEM Membach 12.00 331 dP P 19 58 32.9 +1.2
comp=Z,87nm,0.8s
NDNU Novodnistrovsk 12.05 43 P P 19 58 32.3 0.0
GIVF Givet 12.06 327 eP P 19 58 33.0 +0.6
comp=Z,104nm,0.7s
BCLA Clavier 12.11 329 dP P 19 58 33.1 +0.2
RUE Ruedersdorf 12.13 356 eP P 19 58 33.6 +0.5
BEL Belsk 12.14 17 eP P 19 58 35.3 +2.1
BSTI Sart Tilman 12.14 330 dP P 19 58 34.9 +1.7
DOU Dourbes 12.15 327 dP P 19 58 34.2 +0.9
comp=Z,35nm,0.9s
BGES Gesves 12.17 329 dP P 19 58 34.3 +0.7
comp=Z,20nm,0.9s
AKAS Kas 12.21 105 Pn 19 58 33.6 +0.3
FLTG Flechtingen 12.22 349 ePn P 19 58 34.9 +0.8
ELL Elmali 12.23 102 P P 19 58 34.6 0.0
ELL Elmali 12.23 102 P P 19 58 34.6 0.0
BMRD Maredsous 12.23 328 dP Pn 19 58 33.5 +0.3
comp=Z,21nm,0.9s
BEBN Eben Emael 12.27 331 dP P 19 58 36.5 +1.9
comp=Z,66nm,1.0s
BEBN dx x 19 58 46.8
BAIF Baives 12.29 326 eP P 19 58 35.4 +0.5
comp=Z,11nm,0.4s
SORM Soroca 12.31 47 ⇑P P 19 58 35.8 +0.7
SORM Soroca 12.31 47 P P 19 58 35.8 +0.7
MDUB Mudurnu 12.36 84 P Pn 19 58 35.4 +0.5
SJPF Ste Jean 12.41 288 eP P 19 58 36.5 +0.1
comp=Z,9.9nm,0.5s
MFF Saint Martin d 12.61 305 eP P 19 58 38.6 0.0
MFF Saint Martin d 12.61 305 eP P 19 58 38.8 +0.2
comp=Z,38nm,0.5s
UCC Uccle 12.78 328 P P 19 58 40.4 0.0
UCC Uccle 12.78 328 dP Pn 19 58 40.1 +0.3
comp=Z,45nm,0.9s
UCC Uccle 12.78 328 P P 19 58 40.4 0.0
BAL3X Bal3x, Balta 12.91 49 P P 19 58 42.4 +0.5
GKP Gorka Klasztor 12.98 6 eP P 19 58 44.9 +2.4
GKP Gorka Klasztor 12.98 6 eP P 19 58 43.2 +0.6
LUBAR Lubar, Ukraine 13.10 39 P P 19 58 44.2 +0.3
NE56 Odesa 13.14 56 P P 19 58 44.7 +0.3
RNPP5 Staryi Chortor 13.23 31 P P 19 58 46.3 +1.0
RNPP8 Varash 13.30 31 P P 19 58 47.1 +1.0
RNPP9 Sopachiv 13.37 31 P P 19 58 48.0 +1.1
LDF La Druitiere 13.53 312 eP P 19 58 47.9 -0.8
comp=Z,22nm,0.4s
ANTO Ankara 13.64 86 P Pn 19 58 51.1 +0.8
ANTO Ankara 13.64 86 ⇑P Pn 19 58 52.1 +1.8
ANTO Ankara 13.64 86 P Pn 19 58 52.1 +1.8
ANTO Ankara 13.64 86 P Pn 19 58 51.2 +0.8
comp=Z,9.3nm,1.1s
MI28 Mi28,Pidlybu 13.76 36 P Pn 19 58 52.4 +0.9
FLN La Foliniere 13.83 312 eP P 19 58 51.2 -0.7
comp=Z,4.6nm,0.3s

GRR Gorron 13.85 311 eP P 19 58 51.4 -0.8
comp=Z,64nm,0.5s
AK13 Malin Array Si 14.19 39 P Pn 19 58 56.4 -0.2
RGN Rugen 14.21 356 P Pn 19 58 57.0 +0.1
AK07 Malin Array Si 14.22 40 P Pn 19 58 56.8 -0.2
AK14 Malin Array Si 14.22 39 P Pn 19 58 56.8 -0.2
ILGA Ilgaz 14.23 81 P Pn 19 58 58.3 +0.8
AK17 Malin Array Si 14.24 39 P Pn 19 58 56.9 -0.3
AK19 Malin Array Si 14.24 39 P Pn 19 58 57.0 -0.2
AK06 Malin Array Si 14.24 40 P Pn 19 58 57.0 -0.2
AK16 Malin Array Si 14.25 39 P Pn 19 58 57.1 -0.2
AK20 Malin Array Si 14.25 39 P Pn 19 58 57.1 -0.2
AK12 Malin Array Si 14.26 39 P Pn 19 58 57.2 -0.2
AK05 Malin Array Si 14.26 39 P Pn 19 58 57.3 -0.2
BR131 Keskin Array S 14.31 87 P Pn 19 58 59.4 +1.1
BR131 Keskin Array S 14.31 87d iP Pn 19 58 59.6 +1.3
BRTR Keskin Array B 14.31 87 P Pn 19 58 59.3 +1.0
BRTR Keskin Array B 14.31 87 P Pn 19 58 59.6 +1.3
comp=Z,41nm,0.7s,baz=271,slow=11,SNR=227
BRTR Keskin Array B 14.31 87 P Pn 19 58 59.3 +1.0
KIEV Kiev 14.31 39 ⇑P Pn 19 58 57.8 -0.3
KIEV Kiev 14.31 39 iP Pn 19 58 58.7 +0.6
SNR=34
KIEV Kiev 14.31 39 P Pn 19 58 57.8 -0.3
AKASG Malin Array Be 14.33 39 P P 19 58 57.1 -0.3
AKASG Malin Array Be 14.33 39 P P 19 58 57.0 -0.4
comp=Z,11nm,0.3s,baz=232,slow=11,SNR=70
AKASG S S 20 01 31.0 -3.7
comp=Z,15nm,1.0s,baz=232,slow=20,SNR=9.5
AKBB Malin Array Si 14.33 39 P P 19 58 57.3 -0.1
AKBB Malin Array Si 14.33 39ceP P 19 58 57.1 -0.3
ESDC Sonseca Array 14.54 273 P P 19 58 60.0 0.0
ESDC Sonseca Array 14.54 273 P P 19 59 00.4 +0.4
comp=Z,2.7nm,0.8s,baz=75,slow=11,SNR=23
KIRS Kirsehir-Merke 14.62 89 ⇑P Pn 19 59 03.2 +1.2
SUW Suwalki 14.71 19 eP Pn 19 59 02.6 -0.2
SUW Suwalki 14.71 19 P Pn 19 59 02.4 -0.4
SUW Suwalki 14.71 19 eP P 19 59 01.6 0.0
SUW Suwalki 14.71 19 P Pn 19 59 02.4 -0.4
SGMF Saint Gilles 14.79 308 eP P 19 59 01.2 -1.4
PAB San Pablo 14.85 273 P P 19 59 03.5 +0.1
PAB San Pablo 14.85 273 P P 19 59 03.5 +0.1
QUIF Quistinic 15.03 306 eP P 19 59 04.4 -0.7
ROSF Rostrenen 15.26 307 eP P 19 59 07.2 -0.6
comp=Z,25nm,0.4s
COP Copenhagen 15.40 355 i P Pn 19 59 10.1 -0.7
COP IAmb IAmb 19 59 10.7
comp=Z,61nm,0.5s
CSS Mathiatis 15.50 105 P P 19 59 10.2 -0.3
CSS IAmb IAmb 19 59 18.9
comp=Z,23nm,0.7s
SSRD Sdr. Stenderup 15.52 349 i P P 19 59 09.9 -0.5
DEL Delary 16.11 358 i P P 19 59 17.0 +0.1
DEL IAML 19 59 21.5
comp=Z,12nm,0.8s
BNN Bunyan 16.15 89 P Pn 19 59 19.0 -0.9
PABE Paberze 16.26 18 P P 19 58 18.8 +0.2
PABE Paberze 16.26 18 eP P 19 59 18.5 0.0
PBUR Paburge 16.31 14 eP P 19 59 18.6 -0.4
TOKA Tokat 16.39 83 P P 19 59 20.8 +0.6
STRD Stroud 16.43 320 eP P 19 59 19.6 -0.8
PBRG Braganca 16.44 282 eP P 19 59 21.5 +0.8
NACGM Naroch 16.52 25⇑iP P 19 59 21.5 +0.1
comp=Z,26nm,0.8s,baz=214
MUD Monsted U'grnd 16.53 349 i P P 19 59 21.0 -0.4
OLDB Oldbury-Upon-S 16.55 319 eP P 19 59 21.4 -0.3
MNK Minsk 16.56 27 i P P 19 59 21.1 -0.8
comp=E,11nm,0.7s
MNK i P P 19 59 21.1 -0.8
comp=N,15nm,0.7s,baz=217
MNK i P P 19 59 21.1 -0.8
comp=Z,31nm,0.7s
MNK i sP sP 20 00 42.2 -3.3
MNK i S S 20 02 19.3 -0.1
MNK Minsk 16.56 27 i P P 19 59 21.0 -0.8
MNK i S S 20 02 19.2 -0.1
MNK pmax pmax
comp=N,15nm,0.7s
MNK pmax pmax
comp=E,11nm,0.7s
MNK pmax pmax
comp=Z,31nm,0.7s
DYA Yadsworthy 16.61 314 eP P 19 59 21.8 -0.6
CWF Charnwood Fore 16.63 323 eP P 19 59 22.1 -0.5
VSVD Vaisvydziai 16.68 18 eP P 19 59 23.9 +0.8
FABU Falkenberg 16.70 356 i P P 19 59 23.4 +0.1
MONM Monmouth 16.78 319 eP P 19 59 24.2 -0.1
ISAL Salakas 16.89 22 eP P 19 59 25.9 +0.5
MCH1 Michaelchurch 16.97 319 eP P 19 59 26.1 -0.2
ANN Anapa 17.09 68c iP P 19 59 27.8 +0.1
ANN eS S 20 02 30.5 +0.4
ANN pmax pmax
comp=Z,270nm,0.7s
ANN pmax pmax
comp=E,109nm,0.8s
ANN pmax pmax
comp=N,98nm,0.7s
ONAU Onsala 17.14 354 i P P 19 59 28.9 +0.8
PBAR Barrancos 17.19 270 eP P 19 59 29.6 +0.8
PMRV Marv??o 17.19 274 eP Pn 19 59 30.8 -1.2
HTL Hartland 17.20 315 eP P 19 59 29.1 +0.4
HLM1 Long Mynd 17.23 321 eP P 19 59 28.6 +0.5
LBWR Ladybower, Pea 17.26 325 eP P 19 59 29.2 -0.2
BORU Boraas 17.32 356 i P P 19 59 30.0 0.0
PVIS Viseu 17.39 279 eP P 19 59 31.4 +0.4
MDT Midelt 17.43 250 P P 19 59 30.5 -1.1
comp=N,6.3nm,0.5s,baz=80,slow=11,SNR=7.6
PESTR Estremoz 17.45 272 eP Pn 19 59 34.6 -0.4
MD01 Midelt array s 17.51 251 P P 19 59 32.0 -0.5
MD31 MD31 17.51 251 P P 19 59 31.6 -0.9
FOEL Foel Wylfa 17.61 321 eP P 19 59 32.9 -0.3
GAZ Gaziantep 17.62 93 P P 19 59 33.6 0.0
BHL Bhannes 17.69 105 eP P 19 59 34.9 +0.5
HWQ Hawqa 17.73 103 eP P 19 59 35.7 +0.8
PSARD Sardoal 17.75 275 eP P 19 59 35.6 +0.7
TJOU Tjoern 17.80 354 i P P 19 59 34.6 -0.5
LLW Llanuwchllyn 17.81 321 eP P 19 59 34.7 -0.7
RSBS Roseblush, Pemb 17.84 317 eP P 19 59 35.8 +0.1
SLIT Slitere, Latvi 17.89 13 eP P 19 59 36.2 0.0
PMTG Montargil 17.90 273 eP P 19 59 36.5 0.0
PVAQ Vaqueiros 17.91 268 P P 19 59 36.0 -0.6
MMAI Mount Meron Ar 17.93 108 P P 19 59 38.3 +1.3
comp=N,49nm,0.6s,baz=288,slow=11,SNR=88
MMAI S S 20 02 48.2 +1.3
comp=N,1.7nm,0.7s,baz=303,slow=22,SNR=1.8
PCVE Castro Verde 18.09 269 eP P 19 59 39.2 +0.6
PBDV Barranco-do-Ve 18.12 267 eP P 19 59 40.7 +1.8
EDMD Edmundbyers 18.35 328 eP P 19 59 39.8 -1.3
HOMB Homborsund 18.38 349 eP P 19 59 44.0 +2.6
WLF1 Llynfaes 18.43 321 eP P 19 59 41.6 -0.3
WPS Cemaes, Angles 18.54 321 eP P 19 59 43.2 +0.1
PARRA Arraiolos 18.57 273 eP P 19 59 36.3 -7.3
SOC Sochi 18.64 72 eP P 19 59 44.4 0.0
SOC eS S 20 03 02.4 +1.8
SOC pmax pmax
comp=Z,70nm,0.6s
SNART Snartemo 18.65 347 eP P 19 59 45.1 +0.9
SNART Snartemo 18.65 347 iP P 19 59 44.7 +0.5
KESW Keswick, Cumbr 18.66 326 eP P 19 59 44.1 -0.3
PMAFR Mafra 18.73 273 eP P 19 59 46.5 +1.2
STRU Stroemstad 18.82 354 eP P 19 59 48.0 +2.0
STRU Stroemstad 18.82 354 iP P 19 59 43.3 -2.8
VSLR Vesyoloye 18.87 72ceP P 19 59 48.0 +1.2
VSLR pmax pmax
comp=Z,22nm,0.7s
GHAJ Ghor Haditha 18.95 112 P P 19 59 49.4 +1.6
IWEX Carrickbyrne, 19.12 316 P P 19 59 48.4 -1.0
IWEX Carrickbyrne, 19.12 316 eP P 19 59 48.4 -1.0
EKA Eskdalemuir Ar 19.19 327 P P 19 59 49.0 -1.0
comp=Z,3.5nm,0.4s,baz=148,slow=12,SNR=39
ESK Eskdalemuir 19.20 327 P P 19 59 49.3 -0.9
ESK IAmb IAmb 19 59 49.9
comp=Z,16nm,0.6s
ESK Eskdalemuir 19.20 327 eP P 19 59 48.8 -1.4
ESK Eskdalemuir 19.20 327 P P 19 59 49.3 -0.9
ESK pmax pmax
comp=Z,15nm,0.6s
ERBR Yeremizino-Bor 19.34 66 eP P 19 59 51.5 -0.3
ERBR eS S 20 03 14.9 +0.9
ERBR pmax pmax
comp=Z,44nm,0.7s
DSB Dublin 19.38 319 P P 19 59 51.5 -0.6

DSB Dublin 19.38 319 P P 19 59 51.4 -0.6
DSB IAmb IAmb 19 59 53.8
comp=Z,26nm,0.5s
ESY Stoneypath 19.39 329 *e*P P 19 59 50.9 -1.2
LABN Labinsk 19.41 69 *e*P P 19 59 55.1 +2.5
LABN *e*S S 20 03 16.2 +0.9
ASF Jabal al Asfar 19.44 108 P P 19 59 54.1 +1.0
comp=Z,35nm,0.7s,baz=330,slow=8.7,SNR=48
KOPT Kop Dagi 19.48 83 P P 19 59 54.8 +1.2
KOPT IAmb IAmb 20 00 09.9
comp=Z,23nm,0.9s
EIL Elat 19.49 117 P P 19 59 54.5 +0.9
comp=Z,14nm,0.9s,baz=312,slow=8.7,SNR=7.0
EIL S S 20 03 20.8 +3.7
comp=Z,4.9nm,0.8s,baz=20,slow=10,SNR=1.3
NEWG New Galloway 19.50 326 *e*P P 19 59 52.3 -1.1
GAL1 Galloway 19.55 324 *e*P P 19 59 52.1 -1.7
UPP Uppsala 19.57 4 *e*P P 19 59 53.2 -0.8
KONO Kongsberg 19.58 352 P P 19 59 54.0 -0.1
KONO IAmb IAmb 19 59 56.5
comp=Z,32nm,1.1s
KONO Kongsberg 19.58 352 *e*P P 19 59 54.3 +0.1
KONO Kongsberg 19.58 352 *de*P P 19 59 53.4 -0.7
KONO pmax pmax
comp=Z,32nm,1.3s
VSU Vasula 19.59 19 *e*P P 19 59 52.9 -1.3
VSU Vasula 19.59 19 *ce*P P 19 59 52.7 -1.5
VSU pmax pmax
comp=Z,32nm,1.3s
EDI Edinburgh 19.62 328 *e*P P 19 59 53.4 -1.2
OSL Oslo 19.76 354 *e*P P 19 59 55.7 -0.2
HFS Hagfors 19.79 358 P P 19 59 55.4 -1.0
comp=Z,22nm,0.5s,baz=183,slow=11,SNR=128
HFS S S 20 03 20.6 -1.2
comp=Z,1.7nm,0.5s,baz=165,slow=17,SNR=2.7
BLS5 Blasjo 19.80 347 *e*P P 19 59 56.2 -0.4
KMY Karmoy 19.83 345 *e*P P 19 59 55.7 -1.0
VSR Storozhevoye 19.95 49 *e*P P 19 59 54.8 -3.3
VSR pmax pmax
comp=Z,10.0nm,0.9s
AAL Aland 20.06 7 *e*P P 19 59 58.8 -0.3
VORR Voronezh 20.16 48 *e*P P 19 59 57.8 -2.4
VORR pmax pmax
comp=Z,10.0nm,0.9s
ODD1 Odda 20.24 348 *e*P P 20 00 01.3 +0.3
ARBE Arbavere 20.29 16 *e*P P 20 00 00.9 -0.6
MARD Mardin 20.30 90 P P 20 00 02.4 +0.3
MARD IAmb IAmb 20 00 04.7
comp=Z,44nm,0.7s
INVG Invergeldie, C 20.31 329 *e*P P 20 00 00.7 -1.1
INVG IAmb IAmb 20 00 02.1
comp=Z,26nm,0.6s
CLGH Cloghs, Cushen 20.32 323 *e*P P 20 00 00.2 -1.6
LPSR Galich'ya Gora 20.41 45 *e*P P 19 59 59.5 -3.3
LPSR pmax pmax
comp=Z,10.0nm,0.8s
NC602 NORSAR Array S 20.49 355 P P 20 00 02.1 -1.4
NC602 IAmb IAmb 20 00 06.0
comp=Z,39nm,0.9s
NC602 NORSAR Array S 20.49 355 *e*P P 20 00 02.4 -1.1
OBN Obninsk 20.56 37 P P 20 00 02.8 -1.4
comp=Z,29nm,0.4s,baz=339,slow=3.1,SNR=6.7
OBN S S 20 03 31.5 -3.3
comp=Z,18nm,0.4s,baz=277,slow=23,SNR=6.9
comp=Z,29nm,0.4s
OBN Obninsk 20.56 37⇑ *i*P P 20 00 02.1 -2.1
OBN pmax pmax
comp=Z,17nm,0.5s
MEF Metsahovi 20.71 13 *e*P P 20 00 04.7 -0.9
SHA1 Shidzhatmaz 20.78 72 *d*iP P 20 00 07.8 +0.9
KIV Kislovodsk 20.80 71 P P 20 00 06.5 -0.3
KIV IAmb IAmb 20 00 13.6
comp=Z,20nm,0.6s
KIV Kislovodsk 20.80 71 ⇑P P 20 00 07.8 +0.8
KIV Kislovodsk 20.80 71 P P 20 00 08.6 +1.7
KIV Kislovodsk 20.80 71 *e*P P 20 00 07.0 +0.1
KIV pmax pmax
comp=Z,15nm,1.0s
KIV Kislovodsk 20.80 71 P P 20 00 07.7 +0.8
KVAR Kislovodsk Arr 20.81 71 P P 20 00 08.1 +1.1
comp=Z,4.2nm,0.7s,baz=60,slow=20,SNR=1.9
comp=Z,4.2nm,0.7s
NB2 NORSAR Subarra 20.81 355 P P 20 00 05.6 -1.1
comp=Z,5.3nm,0.5s,baz=172,slow=11
NB2 NORSAR Subarra 20.81 355 P P 20 00 05.6 -1.1
comp=Z,5.3nm,0.5s,baz=172,slow=11
NOA NORSAR Array B 20.81 355 P P 20 00 05.6 -1.1
comp=Z,8.1nm,0.7s,baz=168,slow=11,SNR=39
NOA S S 20 03 38.1 -0.8
comp=Z,0.8nm,0.8s,baz=173,slow=19,SNR=3.4
comp=Z,8.1nm,0.7s
NB201 NORSAR Array S 20.82 355 P P 20 00 06.0 -0.7
NB201 IAmb IAmb 20 00 07.9
comp=Z,29nm,0.9s
VAL Valentia 20.83 312 P P 20 00 06.0 -0.9
MCD Coleburn Disti 20.85 332 *e*P P 20 00 05.3 -1.8
MCD IAmb IAmb 20 00 06.0
comp=Z,15nm,0.5s
BER Bergen 20.90 347 *e*P P 20 00 06.0 -1.5
GURO Guroymak-BITLI 20.94 86 P P 20 00 08.7 +0.3
GURO IAmb IAmb 20 00 09.9
comp=Z,40nm,0.9s
KBZ Khabaz 20.95 72 P P 20 00 09.3 +1.1
comp=Z,11nm,0.7s,baz=284,slow=4.0,SNR=25
comp=Z,11nm,0.7s
KBZ Khabaz 20.95 72 *ce*P P 20 00 09.6 +1.4
KBZ pmax pmax
comp=Z,13nm,0.7s
IDGL Inch Island, C 20.96 322 P P 20 00 07.0 -1.1
IDGL Inch Island, C 20.96 322 *e*P P 20 00 07.3 -0.8
IDGL IAmb IAmb 20 00 08.5
comp=Z,36nm,0.8s
IGLA Glengowla, Co 21.01 316 P P 20 00 08.1 -0.5
ASK Askoy 21.02 346 *e*P P 20 00 07.9 -0.7
RAF Rauma 21.08 9 *e*P P 20 00 08.5 -0.7
GOF Gofitskoye 21.09 68 *ce*P P 20 00 10.3 +0.8
MOS Moscow 21.41 37 *e*P P 20 00 09.4 -2.9
MOS *e*S S 20 03 47.8 -0.8
MOS pmax pmax
comp=Z,41nm,0.6s
VRH Novokhopyorsk 21.43 51 *e*P P 20 00 10.5 -2.1
VRH pmax pmax
comp=Z,40nm,0.8s
NCK Nalchik 21.46 72⇑ *e*P P 20 00 14.7 +1.7
NCK pmax pmax
comp=Z,23nm,1.0s
HYA Hoyanger 21.50 348 *e*P P 20 00 12.8 -0.3
KPL Plockton 21.58 329 *e*P P 20 00 12.8 -1.0
KPL IAmb IAmb 20 00 13.1
comp=Z,28nm,0.8s
SUE Sulen 21.64 346 *e*P P 20 00 14.7 +0.4
PUL Pulkovo 21.66 21⇓ *e*P P 20 00 14.8 +0.3
PUL pmax pmax
comp=Z,82nm,0.5s
DOMB Dombas 21.98 353 *e*P P 20 00 18.4 +1.0
FINES FINESS Array B 22.15 14 P P 20 00 18.9 -0.1
FINES FINESS Array B 22.15 14 P P 20 00 19.0 +0.1
comp=Z,14nm,0.3s,baz=190,slow=9.5,SNR=208
FINES PcP PcP 20 04 04.1 -0.3
comp=Z,3.3nm,0.5s,baz=216,slow=2.2,SNR=7.8
comp=Z,14nm,0.3s
FIA1 FINESS Array S 22.16 14 P P 20 00 19.2 +0.2
AKN Aaknes 22.36 350 *e*P P 20 00 19.9 -1.0
KEF Keuruu 22.62 12 *e*P P 20 00 23.4 +0.2
GNI Garni 22.66 81 P P 20 00 23.7 -0.4
GNI IAmb IAmb 20 00 28.5
comp=Z,23nm,0.8s
GNI Garni 22.66 81 P P 20 00 23.8 -0.4
comp=Z,12nm,0.6s,baz=305,slow=6.5,SNR=8.9
comp=Z,12nm,0.6s
GNI Garni 22.66 81 P P 20 00 25.7 +1.6
GNI Garni 22.66 81 *de*P P 20 00 25.5 +1.4
GNI pmax pmax
comp=Z,25nm,1.0s
MOL Molde 22.66 351 *e*P P 20 00 23.4 -0.1
NSS Namsos 24.25 357 *e*P P 20 00 37.9 -0.1
JOF Joensuu 24.59 18 *e*P P 20 00 40.5 -0.5
AKT Akhty 24.69 77 *e*P P 20 00 43.2 +0.9
AKT *e*PP pP 20 01 37.5 +1.6
AKT *e*SP sP 20 02 15.7 +2.1
AKT pmax pmax
comp=Z,27nm,0.6s
BELG Belogornoye 25.29 51 *ce*P P 20 00 48.5 +1.1
BELG pmax pmax
comp=Z,8.0nm,0.9s

SJUU Sjulsmark 25.45 6 *e*P P 20 00 48.1 -0.6
KLMR Klimovskoe 25.45 28 *e*P P 20 00 45.6 -3.2
KLMR pmax pmax
comp=Z,13nm,0.5s
LEIR Leirfjorden 25.80 358 *e*P P 20 00 52.1 +0.3
MOR8 Moi Rana 25.84 359 *e*P P 20 00 53.4 +1.2
KONS Konsvik 26.18 358 *e*P P 20 00 56.1 +0.9
VAGH Vaagaholmen 26.41 358 *e*P P 20 00 57.3 0.0
FAUS Fauske 27.05 0 *e*P P 20 01 02.5 -0.4
STEI Steigen 27.60 0 *e*P P 20 01 07.2 -0.6
LOF Lofoten 27.82 359 *e*P P 20 01 09.1 -0.6
KIRV Kirov 28.39 39 *ce*P P 20 01 14.6 -0.2
KTK1 Kautokeino 29.03 6 *e*P P 20 01 19.5 -0.9
JETT Jettan, Norway 29.38 4 *e*P P 20 01 23.3 -0.2
TRO Tromso 29.39 3 *e*P P 20 01 22.4 -1.1
TORD Torodi Ar. Bea 29.54 207 P P 20 01 24.9 -0.6
comp=Z,1.4nm,0.4s,baz=13,slow=9.8,SNR=25
TORD PP PP 20 02 36.0 -3.2
comp=Z,1.2nm,1.0s,baz=24,slow=13,SNR=3.5
TORD PcP PcP 20 04 21.2 -1.1
comp=Z,1.2nm,0.6s,baz=356,slow=2.2,SNR=7.6
TORD ScP ScP 20 07 33.6 -1.3
comp=Z,0.5nm,0.8s,baz=2.4,slow=8.0,SNR=3.8
comp=Z,1.4nm,0.4s
ARA0 ARCESS Array S 29.74 7 *e*P P 20 01 26.0 -0.6
ARCES ARCESS Array B 29.74 7 P P 20 01 26.1 -0.5
ARCES ARCESS Array B 29.74 7 P P 20 01 26.1 -0.5
comp=Z,1.2nm,0.3s,baz=189,slow=9.6,SNR=30
ARCES PcP PcP 20 04 21.4 -0.6
comp=Z,0.4nm,0.4s,baz=216,slow=3.9,SNR=5.7
comp=Z,1.2nm,0.3s
ARCES ARCESS Array B 29.74 7 P P 20 01 26.1 -0.5
ARCES pmax pmax
comp=Z,4.0nm,0.9s
HAMF Hammerfest 30.66 6 *e*P P 20 01 34.3 -0.3
RAYN Ar Rayn 30.67 114 P P 20 01 36.6 +1.2
RAYN Ar Rayn 30.67 114 *i*P P 20 01 36.6 +1.2
SNR=6.8
RAYN Ar Rayn 30.67 114 P P 20 01 36.6 +1.2
RAYN pmax pmax
comp=Z,5.0nm,0.6s
VADS Vadso 30.73 10 *e*P P 20 01 35.1 -0.2
AKTO Aktyubinsk 31.43 57 P P 20 01 42.1 +0.4
comp=Z,7.8nm,0.4s,baz=260,slow=6.4,SNR=27
comp=Z,7.8nm,0.4s
ARTI Arti 32.33 46 P P 20 01 49.5 +0.2
ARTI Arti 32.33 46 PP PP 20 03 09.8 +0.4
comp=Z,1.7nm,0.3s,baz=256,slow=12,SNR=1.3
ARTI PcP PcP 20 04 29.0 -0.2
comp=Z,2.9nm,0.4s,baz=55,slow=2.7,SNR=3.6
ARTI Arti 32.33 46 *d*iP P 20 01 49.3 0.0
ARTI 20 03 08.1
ARTI 20 04 26.7
ARTI S S 20 06 45.0 +4.8
ARTI pmax pmax
comp=Z,42nm,0.8s
AB31 Akbulak array 32.68 59 P P 20 01 52.9 +0.4
ABKAR Akbulak array 32.68 59 P P 20 01 52.8 +0.3
ABKAR PcP PcP 20 04 30.4 +0.1
SVE Sverdlovsk 33.63 45 *e*P P 20 02 01.2 +0.6
SVE pmax pmax
comp=Z,35nm,0.6s
MZR Muzera 36.71 106 *i*P P 20 02 27.3 +0.1
SNR=17
SHME Shamm 36.94 100 *i*P P 20 02 29.0 0.0
SNR=8.4
ASUD Al Ashush, Dub 37.13 103 *i*P P 20 02 31.4 +0.8
SNR=16
BANOM Banah 37.13 100 *i*P P 20 02 31.0 +0.3
SNR=28
NAZ Nazwa, Dubai 37.17 102 *i*P P 20 02 31.4 +0.5
SNR=15
FAQ Al Faqa, Dubai 37.26 102 P P 20 02 32.1 +0.5
MSFE Esma-Masafi 37.34 101 *i*P P 20 02 32.5 +0.2
SNR=6.4
MDH Madha 37.47 101 P P 20 02 33.4 0.0
UOSS Minazif 37.60 101 P P 20 02 34.2 -0.3
UOSS Minazif 37.60 101 *i*P P 20 02 34.5 -0.1
SNR=20
HATD Hatta, Dubai 37.62 102 *i*P P 20 02 35.0 +0.3
SNR=29
ASHO Ashiyiah 37.64 102 *i*P P 20 02 35.0 +0.1
SNR=43
ALNE Al Ain 37.77 103 *i*P P 20 02 36.2 +0.3
SNR=26
SPITS Spitsbergen Ar 37.91 0 P P 20 02 36.9 +0.5
comp=Z,9.1nm,0.5s,baz=154,slow=12,SNR=46
SPITS PP PP 20 04 09.8 -0.3
comp=Z,12nm,1.0s,baz=161,slow=18,SNR=2.3
SPITS PcP PcP 20 04 45.1 -0.2
comp=Z,2.7nm,0.6s,baz=156,slow=7.3,SNR=1.5
comp=Z,9.1nm,0.5s
DBIC Dimbokro 37.98 213 P P 20 02 37.1 -0.6
comp=Z,5.2nm,0.5s,baz=59,slow=8.2,SNR=13
comp=Z,5.2nm,0.5s
SOHO SOHO 38.31 102 *i*P P 20 02 40.8 +0.4
SNR=15
BORK Borovoye 39.03 52 *d*iP P 20 02 47.0 +1.0
BORK pmax pmax
comp=Z,31nm,0.8s
BVAR Borovoye Array 39.08 52 P P 20 02 47.3 +0.9
comp=Z,6.9nm,0.3s,baz=280,slow=7.5,SNR=80
comp=Z,6.9nm,0.3s
KK31 Karatay Array 40.88 67 P P 20 03 01.8 +0.5
KK31 IAmb IAmb 20 03 03.5
comp=Z,23nm,0.6s
KK31 Karatay Array 40.88 67 P P 20 03 01.8 +0.5
KK31 pmax pmax
comp=Z,23nm,0.6s
KKAR Karatay Array 40.88 67 P P 20 03 01.9 +0.6
KKAR Karatay Array 40.88 67 P P 20 03 01.9 +0.6
SIMJ Simiganj 41.16 74 P P 20 03 04.3 +0.5
CHGR Chuyangaron 41.28 74 P P 20 03 05.1 +0.5
CHGR IAmb IAmb 20 03 06.0
comp=Z,38nm,0.6s
CHGR Chuyangaron 41.28 74 P P 20 03 05.1 +0.5
CHGR pmax pmax
comp=Z,38nm,0.6s
GAR Garm 42.01 73 P P 20 03 11.5 +1.0
GAR IAmb IAmb 20 03 13.6
comp=Z,40nm,0.7s
ARSB Arslanbob 43.16 69 P P 20 03 20.7 +0.9
ARSB Arslanbob 43.16 69 P P 20 03 20.7 +0.9
ARSB pmax pmax
comp=Z,14nm,1.0s
EKS2 Erkin-Say 43.31 67 P P 20 03 22.4 +1.5
SNR=20
USP Ospenovka 43.63 66 P P 20 03 23.6 +0.2
SNR=7.8
AAK Ala-Archa 43.82 67 P P 20 03 26.1 +1.1
SNR=6.4
AAK Ala-Archa 43.82 67 P P 20 03 26.0 +1.1
AAK Ala-Archa 43.82 67 P P 20 03 26.3 +1.3
comp=Z,7.3nm,0.5s,baz=246,slow=4.8,SNR=8.7
comp=Z,7.3nm,0.5s
AAK Ala-Archa 43.82 67 *i*P P 20 03 26.2 +1.3
SNR=6.7
AAK Ala-Archa 43.82 67 *d*iP P 20 03 26.0 +1.0
AAK pmax pmax
comp=Z,7.0nm,0.7s
CHMS Chumysh 43.89 66 P P 20 03 25.9 +0.6
SNR=5.7
KBK Karagaybulak 44.13 67 P P 20 03 28.2 +0.7
SNR=6.8
KURBB Kurchatov Arra 44.42 55 P P 20 03 29.5 +0.2
comp=Z,12nm,0.8s,baz=276,slow=9.7,SNR=128
comp=Z,12nm,0.8s
KURK Kurchatov 44.45 54 P P 20 03 30.1 +0.4
KURK IAmb IAmb 20 03 30.7
comp=Z,27nm,0.5s
KURK Kurchatov 44.45 54 *d*iP P 20 03 29.8 +0.2
KURK pmax pmax
comp=Z,30nm,0.8s
BOOM Boomskoye usch 44.88 66 P P 20 03 34.4 +1.0
BOOM Boomskoye usch 44.88 66 P P 20 03 34.4 +1.0
BOOM pmax pmax
comp=Z,9.0nm,0.9s
KDJ Kajisay 45.86 66 P P 20 03 42.1 +1.1
KDJ IAmb IAmb 20 03 43.0
comp=Z,18nm,0.7s
KDJ Kajisay 45.86 66 P P 20 03 42.1 +1.1
KDJ pmax pmax
comp=Z,18nm,0.7s
ZAA0 Zalesovo Array 47.45 49 P P 20 03 53.3 +0.4
ZAA0 IAmb IAmb 20 03 53.5
comp=Z,17nm,0.5s

ZALV Zalesovo Beam 47.45 49 P P 20 03 53.2 +0.4
ZALV Zalesovo Beam 47.45 49 P P 20 03 53.1 +0.3
comp=Z,15nm,0.3s,baz=280,slow=7.0,SNR=90
comp=Z,15nm,0.3s
MAKZ Makanchi 47.62 59 P P 20 04 03.3 +9.1
MK31 Makanchi Array 47.82 59 *d*iP P 20 03 56.0 +0.2
MKAR Makanchi Array 47.82 59 P P 20 03 56.2 +0.3
comp=Z,28nm,0.5s,baz=280,slow=6.9,SNR=442
comp=Z,28nm,0.5s
SCHQ Schefferville 53.89 315 P P 20 04 40.0 -0.7
comp=Z,53nm,0.3s,baz=75,slow=5.5,SNR=14
HAL Halifax 55.95 302 P P 20 04 55.2 -0.2
E62A Clayton Lake 58.80 307 P P 20 05 15.1 0.0
PHDHD Phuduhudu 60.92 170 P P 20 05 30.0 +0.2
GRTLG Ghanzi 61.70 173 P P 20 05 35.2 +0.2
GRTLG IAmb IAmb 20 05 35.7
comp=Z,11nm,0.5s
SONM Songino Array 62.34 50 P P 20 05 39.7 +0.6
comp=Z,7.7nm,0.7s,baz=280,slow=6.1,SNR=1.8
comp=Z,7.7nm,0.7s
WIN Windhoek 62.66 178 P P 20 05 41.8 +0.4
WIN IAmb IAmb 20 05 42.6
comp=Z,9.9nm,0.9s
KOOLE Kule 63.24 175 P P 20 05 45.2 +0.1
KOOLE IAmb IAmb 20 05 46.1
comp=Z,17nm,0.8s
KGCAE Kacgae 63.27 173 P P 20 05 45.5 +0.3
KGCAE IAmb IAmb 20 05 46.5
comp=Z,24nm,0.9s
LPHEP Lephephe 64.22 169 P P 20 05 51.5 +0.1
LPHEP IAmb IAmb 20 05 52.7
comp=Z,13nm,0.8s
SADO Sadowa 65.56 309 P P 20 05 59.5 -0.2
comp=Z,37nm,0.7s,baz=37,slow=5.1,SNR=5.7
comp=Z,37nm,0.7s
LBTB Lobatse 65.81 169 P P 20 06 01.9 +0.4
LBTB IAmb IAmb 20 06 02.8
comp=Z,12nm,0.9s
PALK Pallekele 66.87 100 P P 20 06 08.1 -0.4
PALK IAmb IAmb 20 06 09.3
comp=Z,19nm,0.9s
PALK Pallekele 66.87 100 P P 20 06 08.1 -0.4
PALK pmax pmax
comp=Z,19nm,0.9s
LZDM Lanzhou Array 66.97 62 P P 20 06 09.5 +0.3
comp=Z,4.2nm,0.4s,baz=254,slow=2.6,SNR=2.4
comp=Z,4.2nm,0.4s
LZH Lanzhou 67.00 62 *e*P P 20 06 08.3 -0.9
LZH pP pP 20 07 04.9 -12
LZH pmax pmax
comp=Z,24nm,0.9s
HHC Hu-ho-hao-te 69.26 54 *e*P P 20 06 25.3 +2.3
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,300nm,4.3s
BOSA Boshof 69.31 170 P P 20 06 23.2 -0.1
BOSA Boshof 69.31 170 P P 20 06 23.4 +0.2
comp=Z,12nm,0.5s,baz=350,slow=6.1,SNR=57
comp=Z,12nm,0.5s
PZH PanZhiHua 71.03 71 P P 20 06 35.4 +1.5
ULM Lac du Bonnet 71.32 321 P P 20 06 35.5 +0.4
comp=Z,7.2nm,0.4s,baz=54,slow=5.7,SNR=20
comp=Z,7.2nm,0.4s
PDPR Patillas Dam, 71.82 278 P P 20 06 38.8 +0.3
CHTO Chiang Mai 73.56 79 P P 20 06 48.2 -0.5
CHTO IAmb IAmb 20 07 03.5
comp=Z,15nm,1.1s
CHTO Chiang Mai 73.56 79 P P 20 06 48.3 -0.5
CHTO pmax pmax
comp=Z,15nm,1.1s
CMAR Chiang Mai Arr 73.78 79 P P 20 06 49.9 -0.1
comp=Z,7.1nm,0.6s,baz=304,slow=7.3,SNR=11
comp=Z,7.1nm,0.6s
ENH Enshi 74.23 64 P P 20 06 52.3 -0.3
T47A Sharon Grove 75.02 306 P P 20 06 56.9 0.0
T47A IAmb IAmb 20 06 57.8
comp=Z,15nm,0.8s
ECSD EROS Data Cent 76.07 316 P P 20 07 03.3 +0.6
ECSD IAmb IAmb 20 07 03.9
comp=Z,9.2nm,0.7s
X48A Hartselle 76.59 304 P P 20 07 06.0 +0.3
X48A IAmb IAmb 20 07 06.6
comp=Z,13nm,0.6s
USRK Ussuriysk Ar. 78.53 41 P P 20 07 16.3 +0.1
comp=Z,11nm,0.7s,baz=296,slow=5.5,SNR=8.8
comp=Z,11nm,0.7s
WHAR Wooly Hollow 79.30 307 P P 20 07 20.8 +0.2
WHAR IAmb IAmb 20 07 21.9
comp=Z,9.7nm,0.7s
BDFB Brasilia 80.72 240 P P 20 07 28.5 +0.1
BDFB Brasilia 80.72 240 P P 20 07 28.9 +0.5
comp=Z,3.9nm,0.5s,baz=49,slow=9.1,SNR=6.1
comp=Z,3.9nm,0.5s
KS19 Wonju Array Si 81.08 48 P P 20 07 30.7 +0.7
KSAR Wonju Array Be 81.14 48 P P 20 07 30.1 -0.1
KSAR Wonju Array Be 81.14 48 P P 20 07 30.1 -0.1
KSRS Korea Array 81.15 48 P P 20 07 30.6 +0.4
comp=Z,5.7nm,0.7s,baz=325,slow=4.2,SNR=14
comp=Z,5.7nm,0.7s
YSS Yuzhno-Sakhali 81.39 33 P P 20 07 31.7 +0.3
NEW Newport 82.07 330 P P 20 07 34.4 -0.6
comp=Z,3.5nm,0.8s,baz=122,slow=3.2,SNR=6.7
comp=Z,3.5nm,0.8s
NEW Newport 82.07 330 P P 20 07 34.4 -0.6
PD31 Pinedale Array 83.24 322 P P 20 07 41.5 +0.2
PDAR Pinedale Array 83.24 322 P P 20 07 41.9 +0.5
comp=Z,2.1nm,0.6s,baz=55,slow=5.9,SNR=25
comp=Z,2.1nm,0.6s
ISCO Idaho Springs 83.57 318 P P 20 07 44.2 +1.1
ISCO IAmb IAmb 20 07 45.3
comp=Z,5.5nm,0.8s
ISCO Idaho Springs 83.57 318 P P 20 07 44.3 +1.1
ISCO pmax pmax
comp=Z,6.0nm,0.8s
ASAJ Asahikawa 83.57 35 P P 20 07 42.3 -0.4
ASAJ pmax pmax
comp=Z,17nm,0.9s
JKA Kamikawa-asahi 83.58 35 P P 20 07 42.3 -0.4
JKA IAmb IAmb 20 07 42.9
comp=Z,17nm,0.9s
PSI Prapat 83.58 92 P P 20 07 42.6 -0.7
comp=Z,9.0nm,0.8s,baz=308,slow=2.6,SNR=3.7
comp=Z,9.0nm,0.8s
RPSI Rantau Prapat 83.64 92 P P 20 07 42.6 -0.9
MJAR Matsushiro Arr 87.39 42 P P 20 08 00.9 -0.6
comp=Z,2.8nm,0.6s,baz=326,slow=3.6,SNR=8.0
comp=Z,2.8nm,0.6s
TXAR Lajitas Array 90.30 310 P P 20 08 16.4 +1.0
comp=Z,0.7nm,0.6s,baz=37,slow=3.8,SNR=12
comp=Z,0.7nm,0.6s
WRA Warramunga Arr 124.83 87 PKP PKPdf 20 14 11.3 -1.2
comp=Z,0.8nm,0.3s,baz=328,slow=1.8,SNR=5.2
ASAR Alice Springs 126.61 91 PKP PKPdf 20 14 15.2 -0.6
comp=Z,1.5nm,0.4s,baz=305,slow=1.5,SNR=14
QSPA South Pole Qui 130.24 180 PKP PKiKP 20 14 22.3 0.0
comp=Z,2.9nm,0.9s,baz=5.3,slow=2.7,SNR=1.4

TIR **21** *20:00:48.6,41.˚55N×19.˚49E,h36km±4km,Ml3.5/7*
SKO **21** *20:00:52.3,41.˚36N×19.˚38E,h18km,ML3.4*
BEO **21** *20:00:52.9±0.4,41.˚31N×19.˚71E,h2km±2km,ML2.8/14*
PDG **21** *20:00:52.3±0.4,41.˚29N×19.˚40E,h15km±1km,MD3.4/1,*
ML3.3/10,Error ellipse: s-maj=1.1km s-min=2.7km az=0.0
THE **21** *20:00:53.9,41.˚N±4.˚×2.˚0E±.˚,h11km,M3.0/11,MLh3.0/11*
ISC 21 20:00:52.0±1.0,**41.˚34N**±0.˚02×**19.˚48E**±0.˚02,**h12**km±8km,
n87,σ1s17/135,**5C-6D,Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.29**	**89**	Pg		**Pg**	**Pg**	**20 00 57.5**	**-0.5**
TIR				AML		AML	AML	20 01 01.3	
	28nm,0.4s								
TIR				Sg		**Sg**	**Sg**	**20 01 01.9**	**-0.1**
ULC	**Ulcinj**	**0.65**	**345**	⇑*i*Pg		**Pb**	**Pb**	**20 01 04.8**	**-0.4**
ULC				*e*Sg		**Sn**	**Sn**	**20 01 16.0**	**-1.2**
DRME	**Dracevica, Mon**	**0.87**	**346**	*e*Pg		**Pn**	**Pn**	**20 01 10.2**	**+0.1**
DRME				*e*Sg		**Sn**	**Sn**	**20 01 23.7**	**+0.9**
DRME	**Dracevica, Mon**	**0.87**	**346**	⇓*i*Pg		**Pb**	**Pb**	**20 01 09.0**	**-0.1**
DRME				*e*Sg		**Sn**	**Sn**	**20 01 23.5**	**+0.7**
VLO	**Vlora**	**0.87**	**179**	Pg		**Pn**	**Pn**	**20 01 11.1**	**+1.1**
VLO				Sg		**Sn**	**Sn**	**20 01 23.8**	**+1.2**
VLO				AML		AML	AML	20 01 32.1	
	9.3nm,0.4s								
VLO	**Vlora**	**0.87**	**179**	P		**Pn**	**Pn**	**20 01 10.8**	**+0.7**
VLO				S		**Sn**	**Sn**	**20 01 23.4**	**+0.7**

OHR	**Ohrid**	**1.02**	**103**	*i* Pg		**Pg**	**20 01 10.4**	**-1.3**
OHR				*i* Sg		**Sn**	**20 01 29.0**	**+2.4**
OHR				*e*Lg		Lg	20 01 29.2	
	comp=N,498nm,0.5s							
OHR				*e*Lg		Lg	20 01 29.9	
	comp=E,959nm,0.4s							
BUM	**Brajici-Budva**	**1.05**	**336**	⇓ *i* Pg		**Pn**	**20 01 13.1**	**+0.5**
BUM				*i* Sg		**Sn**	**20 01 29.4**	**+2.1**
PDG	**Podgorica**	**1.10**	**352**	*e*Pg		**Pn**	**20 01 13.2**	**0.0**
PDG				*e*Sg		**Sn**	**20 01 30.2**	**+1.9**
PDG	**Podgorica**	**1.10**	**352**	⇑ *i* Pg		**Pn**	**20 01 13.8**	**+0.6**
PDG				*i* Sg		**Sn**	**20 01 30.8**	**+2.5**
KBN	**Korca**	**1.23**	**125**	Pg		**Pg**	**20 01 15.4**	**-0.1**
KBN				Sg		**Sb**	**20 01 30.1**	**-0.8**
KBN				AML		AML	20 01 35.9	
	comp=E,2.9nm,0.6s							
KBN	**Korca**	**1.23**	**125**	P		**Pg**	**20 01 15.7**	**+0.1**
KBN				S		**Sn**	**20 01 33.0**	**+1.4**
CEME	**Cevo**	**1.27**	**341**	⇓ *i* Pg		**Pg**	**20 01 16.3**	**-0.2**
CEME				*e*Sg		**Sn**	**20 01 36.5**	**+3.7**
PVY	**Plav**	**1.30**	**16**	*e*Pg		**Pg**	**20 01 18.0**	**+1.0**
PVY				*e*Sg		**Sn**	**20 01 34.5**	**+0.9**
PVY	**Plav**	**1.30**	**16**	⇑ *i* Pg		**Pg**	**20 01 18.7**	**+1.7**
HCY	**Herceg Novi**	**1.33**	**327**	⇓ *i* Pg		**Pg**	**20 01 17.6**	**+0.1**
HCY				*i* Sg		**Sg**	**20 01 37.0**	**+2.3**
NKME	**Niksic**	**1.48**	**345**	⇓ *i* Pg		**Pg**	**20 01 19.9**	**-0.4**
NKME				*e*Sg		**Sg**	**20 01 41.2**	**+1.7**
KOME	**Kolasin**	**1.51**	**1**	*e*Pg		**Pg**	**20 01 20.5**	**-0.5**
KOME				*e*Sg		**Sg**	**20 01 42.2**	**+1.7**
KOME	**Kolasin**	**1.51**	**1**	⇑ *i* Pg		**Pg**	**20 01 20.3**	**-0.7**
KOME				*e*Sg		**Sg**	**20 01 42.7**	**+2.2**
BEY	**Berane**	**1.56**	**11**	*e*Pg		**Pb**	**20 01 20.6**	**-0.3**
BEY				*e*Sg		**Sg**	**20 01 43.2**	**+1.0**
IVA	**Berane**	**1.56**	**11**	⇑ *i* Pn		**Pb**	**20 01 20.8**	**-0.1**
IVA				*e*Sn		**Sg**	**20 01 44.4**	**+2.2**
TREB	**Trebinje**	**1.61**	**329**	*e*Pn		**Pb**	**20 01 21.1**	**-0.5**
TREB	**Trebinje**	**1.61**	**329**	*e*Pn		**Pb**	**20 01 22.1**	**+0.5**
KEK	**Kerkira**	**1.65**	**171**	P		**Pg**	**20 01 24.7**	**+1.2**
PENT	**Pentalofos**	**1.71**	**132**	S		**Sn**	**20 01 44.1**	**+0.7**
BRY	**Bratogost**	**1.71**	**336**	⇓ *i* Pn		**Pb**	**20 01 23.5**	**+0.1**
BRY				*e*Sn		**Sg**	**20 01 47.5**	**+0.6**
NOCI	**Noci**	**1.90**	**254**	Pn		**Pn**	**20 01 22.6**	**-1.7**
NOCI				Sn		**Sn**	**20 01 46.8**	**-1.5**
NOCI				AML		AML	20 02 03.5	
	comp=E,1.8nm,0.5s							
UPM	**Unac-Piva**	**1.91**	**347**	*e*Pn		**Pb**	**20 01 26.5**	**-0.3**
UPM				*i* Sn		**Sg**	**20 01 52.0**	**-1.4**
IGT	**Igoumenitsa**	**1.92**	**160**	Pn		**Pn**	**20 01 25.9**	**+1.3**
IGT				Sn		**Sb**	**20 01 51.8**	**+0.9**
IGT	**Igoumenitsa**	**1.92**	**160**	P		**Pn**	**20 01 25.8**	**+1.3**
IGT	**Igoumenitsa**	**1.92**	**160**	*i* Pn		**Pb**	**20 01 26.6**	**-0.3**
IGT				*i* Sn		**Sg**	**20 01 53.4**	**-0.4**
IGT	**Igoumenitsa**	**1.92**	**160**	*e*Pn		**Pb**	**20 01 26.8**	**-0.2**
IGT				*e*Sn		**Sn**	**20 01 50.3**	**+1.7**
KLINJ	**Klinje**	**1.94**	**340**	*e*Pn		**Pg**	**20 01 28.1**	**-1.1**
SJES	**Sjenica**	**1.95**	**11**	*e*Pn		**Pb**	**20 01 27.5**	**-0.1**
SJES				*e*Sn		**Sb**	**20 01 52.2**	**+0.2**
STON	**Ston**	**2.02**	**320**	*e*Pn		**Pn**	**20 01 25.4**	**-0.4**
KZN	**Kozani**	**2.03**	**120**	P		**Pn**	**20 01 27.4**	**+1.3**
PRMD	**Pramanda**	**2.19**	**145**	P		**Pn**	**20 01 29.3**	**+1.5**
SELS	**Selova**	**2.24**	**32**	*e*Pn		**Pn**	**20 01 29.3**	**+0.4**
SELS				*e*Sn		**Sb**	**20 01 58.9**	**-1.2**
RUDO	**Rudo**	**2.28**	**358**	*e*Pn		**Pb**	**20 01 31.1**	**-1.9**
RUDO	**Rudo**	**2.28**	**358**	*e*Pn		**Pb**	**20 01 31.1**	**-1.9**
BARS	**Barje**	**2.28**	**49**	*i* Pn		**Pn**	**20 01 30.3**	**+0.8**
BARS				*i* Sn		**Sb**	**20 01 59.2**	**-2.1**
BARS	**Barje**	**2.28**	**49**	*e*Pn		**Pn**	**20 01 29.9**	**+0.4**
BARS				*e*Sn		**Sn**	**20 01 56.4**	**-1.1**
IVAS	**Ivanjica**	**2.29**	**12**	*e*Pn		**Pn**	**20 01 30.7**	**+1.1**
IVAS				*e*Sn		**Sb**	**20 02 00.7**	**-0.9**
TETR	**Tetrakomo, Epi**	**2.42**	**145**	P		**Pn**	**20 01 32.9**	**+1.4**
GOCS	**Kraljevo Serbi**	**2.45**	**25**	*e*Pn		**Pb**	**20 01 34.1**	**-1.9**
GOCS				*e*Sn		**Sb**	**20 02 04.3**	**-1.9**
BOSS	**Bosilegrad**	**2.52**	**62**	*e*Pn		**Pn**	**20 01 33.4**	**+0.6**
BOSS				*e*Sn		**Sn**	**20 02 03.0**	**-0.5**
BBLS	**Lazi&#263i**	**2.52**	**359**	*e*Pn		**Pb**	**20 01 35.2**	**-2.1**
BBLS				*e*Sn		**Sg**	**20 02 10.5**	**-2.6**
KNT	**Kendrikon**	**2.59**	**93**	P		**Pn**	**20 01 33.8**	**+0.1**
KNT	**Kendrikon**	**2.59**	**93**	*i* Pn		**Pn**	**20 01 34.0**	**+0.4**
KNT				*i* Sn		**Sn**	**20 02 05.7**	**+0.6**
LIT	**Litokhoron**	**2.60**	**117**	P		**Pn**	**20 01 34.3**	**+0.4**
TSLK	**Tsoukalades, L**	**2.67**	**160**	P		**Pn**	**20 01 35.0**	**+0.2**
GRUS	**Gruza**	**2.71**	**19**	*e*Pn		**Pn**	**20 01 36.7**	**+1.4**
LKD2	**Lefkada island**	**2.71**	**160**	Pn		**Pn**	**20 01 35.6**	**+0.2**
LKD2				Sn		**Sn**	**20 02 06.3**	**-1.7**
LKD2				AML		AML	20 02 19.6	
	comp=E,0.4nm,0.4s							
LKD2	**Lefkada island**	**2.71**	**160**	P		**Pn**	**20 01 35.5**	**+0.2**
THE	**Thessaloniki**	**2.73**	**104**	Pn		**Pn**	**20 01 35.7**	**0.0**
THE				Sn		**Sn**	**20 02 08.0**	**-0.7**
THE				AML		AML	20 02 13.7	
	comp=E,0.3nm,0.5s							
THE	**Thessaloniki**	**2.73**	**104**	*i* Pn		**Pn**	**20 01 35.8**	**+0.2**
THE				*i* Sn		**Sn**	**20 02 09.2**	**+0.5**
AMPL	**Ampelaki**	**2.76**	**151**	P		**Pn**	**20 01 36.9**	**+0.9**
DIVS	**Divibare**	**2.78**	**8**	*e*Pn		**Pb**	**20 01 40.3**	**-1.4**
KKB	**Krupnik**	**2.79**	**78**	*i* Pn		**Pn**	**20 01 36.7**	**+0.3**
NYDR	**Nydri-Lefkada**	**2.79**	**160**	P		**Pn**	**20 01 36.3**	**0.0**
BOVS	**Bovan**	**2.82**	**35**	*e*Pn		**Pn**	**20 01 37.4**	**+0.5**
BOVS				*e*Sn		**Sn**	**20 02 11.9**	**+1.0**
SGRT	**San Giovanni R**	**2.83**	**280**	Pn		**Pn**	**20 01 37.2**	**+0.1**
SGRT				Sn		**Sn**	**20 02 08.5**	**-2.6**
TRUS	**Trudelj**	**2.96**	**13**	*e*Pn		**Pn**	**20 01 39.7**	**+0.9**
SOH	**Sokhos**	**2.98**	**99**	*i* Pn		**Pn**	**20 01 39.6**	**+0.6**
SOH				*i* Sn		**Sn**	**20 02 15.7**	**+1.0**
ZAPS	**Zavoj**	**3.04**	**49**	*e*Pn		**Pn**	**20 01 40.8**	**+0.9**
ZAPS				*e*Sn		**Sn**	**20 02 16.1**	**-0.1**
VTS	**Vitosha**	**3.08**	**64**	P		**Pn**	**20 01 41.5**	**+1.0**
VTS	**Vitosha**	**3.08**	**64**	*e*Pn		**Pn**	**20 01 41.4**	**+0.8**
SRS	**Serrai**	**3.11**	**93**	*i* Pn		**Pn**	**20 01 41.3**	**+0.4**
SRS				*i* Sn		**Sn**	**20 02 18.6**	**+0.6**
SRS	**Serrai**	**3.11**	**93**	*e*Pn		**Pn**	**20 01 41.1**	**+0.2**
SRS				*e*Sn		**Sn**	**20 02 15.4**	**-2.6**
ZAGS	**Zajecar**	**3.20**	**39**	*e*Pn		**Pn**	**20 01 43.0**	**+0.9**
ZAGS				*e*Sn		**Sn**	**20 02 20.0**	**-0.2**
MMB	**Musomishta**	**3.22**	**85**	*i* Pn		**Pn**	**20 01 43.2**	**+0.8**
MMB				*i* Sn		**Sn**	**20 02 20.9**	**+0.2**
VLS	**Valsamata**	**3.27**	**164**	P		**Pn**	**20 01 42.5**	**-0.6**
BLKB	**Belogradchik**	**3.29**	**45**	*e*Pn		**Pn**	**20 01 44.7**	**+1.4**
BORS2	**Bor- Borsko je**	**3.33**	**33**	*e*Pn		**Pn**	**20 01 44.0**	**+0.2**
BORS2				*e*Sn		**Sn**	**20 02 22.6**	**-0.7**
AVAS	**Avala Beograd**	**3.44**	**12**	*e*Pn		**Pn**	**20 01 46.6**	**+1.2**
AVAS				*e*Sn		**Sn**	**20 02 28.1**	**+2.0**
KUBS	**Kucevo**	**3.47**	**27**	*e*Pn		**Pn**	**20 01 45.3**	**-0.5**
KIJV	**Kijevo**	**3.49**	**321**	*e*Pn		**Pn**	**20 01 46.7**	**+0.6**
BLJ	**Banja Luka**	**3.80**	**335**	*e*Pn		**Pn**	**20 01 58.0**	**-0.4**
MDVR	**Moldovita**	**3.81**	**25**	*e*Pn		**Pn**	**20 01 51.0**	**+0.5**
FRGS	**Fruska Gora**	**3.82**	**4**	*e*Pn		**Pn**	**20 01 52.7**	**+2.0**
VRSS	**Vrsac**	**4.01**	**19**	*e*Pn		**Pn**	**20 01 53.9**	**+0.6**
THAS	**Thassos island**	**4.04**	**99**	P		**Pn**	**20 01 53.2**	**-0.3**
BZS	**Buzias**	**4.55**	**19**	*e*Pn		**Pn**	**20 02 00.9**	**+0.3**
AQU	**L'Aquila**	**4.65**	**285**	*e*Pn		**Pn**	**20 02 02.6**	**+0.6**
MOSL	**Moslavina**	**4.71**	**336**	*e*Pn		**Pn**	**20 02 02.8**	**0.0**
OZLJ	**Ozalj**	**5.17**	**327**	*e*Pn		**Pn**	**20 02 10.2**	**+1.1**
BRJN	**Brijuni**	**5.50**	**312**	*e*Pn		**Pn**	**20 02 14.0**	**+0.4**

*SNET **21** 20:03:46.9±1.2, 12.°94N×88.°35W, h70km, ML3.1*
CATAC 21 20:03:46.4±0.5, **13.°N±3.°×8.°8W±.°, h32**km±4km, **M3.0**/10, **MLv3.0**/10, **Error ellipse: s-maj=7.8km s-min=3.0km az=24.9, confirmed, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.69**	**40**	*e*P	Pb	20 04 00.8	+0.8
LCND				*e*S	Sn	20 04 10.5	+1.0
LCND	**La Caada**	**0.69**	**40**	P	Pn	20 03 59.9	0.0
PACA	**Pacayal**	**0.69**	**1**	*e*P	Pb	20 04 00.7	+0.6
PACA	**Pacayal**	**0.69**	**1**	P	Pb	20 04 00.6	+0.5
PACA	**Pacayal**	**0.69**	**1**	S	Sn	20 04 11.1	+1.4
CNCH	**Conchagua**	**0.70**	**45**	*e*P	Pb	20 04 00.8	+0.5
CNCH				*e*S	Sn	20 04 11.9	+1.9
CNCH	**Conchagua**	**0.70**	**45**	P	Pb	20 04 00.7	+0.4
CNCH	**Conchagua**	**0.70**	**45**	S	Sn	20 04 10.8	+0.8
CNRM	**Centro Naciona**	**0.71**	**14**	S	Sn	20 04 12.0	+1.8
POTN	**Potosi Cosigui**	**0.84**	**75**	P	Pb	20 04 02.9	+0.3
POTN				S	Sb	20 04 14.6	+1.0
PQSS	**Presa 15 de Se**	**0.87**	**346**	S	Sb	20 04 15.3	+1.0
TECO	**Alcaldia de Te**	**0.87**	**330**	P	Pn	20 04 02.5	+0.1
TECO	**Alcaldia de Te**	**0.87**	**330**	S	Sn	20 04 13.8	-0.3
UESV	**Universidad de**	**0.96**	**333**	S	Sb	20 04 16.8	-0.1
UESV	**Universidad de**	**0.96**	**333**	P	Pn	20 04 03.5	-0.2
SCLA	**Alcaldia de Sa**	**0.99**	**338**	*e*P	Pb	20 04 04.7	-0.4
SCLA	**Alcaldia de Sa**	**0.99**	**338**	P	Pn	20 04 04.2	0.0
SCLA	**Alcaldia de Sa**	**0.99**	**338**	S	Sb	20 04 17.9	0.0
LFRS	**El Faro**	**1.09**	**320**	*e*P	Pn	20 04 05.1	-0.5
PAVA	**Las Pavas**	**1.09**	**328**	S	Sb	20 04 20.5	-0.4
LOMA	**Loma Larga**	**1.18**	**317**	S	Sn	20 04 22.2	+0.2
LOMA	**Loma Larga**	**1.18**	**317**	P	Pb	20 04 07.8	-0.5
BOQS	**Boqueron**	**1.32**	**316**	*e*P	Pn	20 04 09.4	+0.6
PMON	**Piamonte**	**1.33**	**314**	S	Sn	20 04 25.7	+0.2
PKGN	**Cerro Pekin**	**1.34**	**95**	P	Pb	20 04 10.1	-0.8
PKGN				S	Sn	20 04 25.9	+0.4
JAYA	**Jayaque - finc**	**1.39**	**309**	*e*P	Pn	20 04 09.5	-0.2
JAYA				*e*S	Sn	20 04 25.3	-1.7
JAYA	**Jayaque - finc**	**1.39**	**309**	S	Sn	20 04 27.6	+0.5
TGUH	**Tegucigalpa,Un**	**1.64**	**39**	P	Pn	20 04 12.1	-1.2
TGUH				S	Sn	20 04 34.0	+0.7
COPN	**Copaltepe**	**1.81**	**109**	P	Pn	20 04 14.3	-1.1
YUSH	**Yuscaran**	**1.87**	**51**	P	Pn	20 04 16.4	+0.1
YUSH	**Yuscaran**	**1.87**	**51**	S	Sn	20 04 39.2	+0.3

*IDC **21** 20:09:28.3±2.2, 7.°13S×128.°93E, h0km, mb3.5/1, mbtmp3.7/3, Error ellipse: s-maj=155.4km s-min=32.8km az=67.0*
*DJA **21** 20:09:35.7±2.0, 7.°S±3.°×13.°1E±.°, h28km±20km, M4.2/11, mb4.3/6, MLv4.2/11*
ISC 21 20:09:34.1±1.1, **6.°51S**±0.°07×**130.°50E**±0.°09, **h35**km, **n11**, σ**2s 85**/11, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.67**	**151**	P	**Pn**	**20 10 03.6**	**+2.8**
SAUI				S	**Sn**	**20 10 23.2**	**+2.2**
BNDI	**Bandanaira**	**2.06**	**343**	P	**Pn**	**20 10 09.0**	**+2.8**
FAKI	**Fak Fak**	**3.97**	**26**	P	**Pn**	**20 10 34.4**	**+1.8**
KMPI	**Kaimana, Papua**	**4.27**	**49**	P	**Pn**	**20 10 37.4**	**+0.8**
NLAI	**Namlea**	**4.69**	**314**	P	**Pn**	**20 10 44.8**	**+2.4**
SWI	**Sorong**	**5.66**	**8**	P	**Pn**	**20 10 56.9**	**+1.1**
	0.2nm17nm,1.0s						
RKPI	**Ransiki, Papua**	**6.17**	**37**	P	**Pn**	**20 11 04.7**	**+1.8**
	0.2nm33nm,0.8s						
BATI	**Baumata**	**7.69**	**241**	P	**Pn**	**20 11 26.1**	**+2.3**
WRA	**Warramunga Arr**	**13.87**	**165**	Pn	Pn	20 12 44.5	-3.8
	2.1nm,0.9s,baz=340,slow=14,SNR=0.8						
WRA				Sn	Sn	20 15 07.8	-13
	0.5nm,0.3s,baz=268,slow=28,SNR=5.0						
ASAR	**Alice Springs**	**17.37**	**169**	P	**Pn**	**20 13 29.6**	**-4.4**
	3.8nm,1.1s,baz=344,slow=8.9,SNR=1.2						
ASAR				S	Sn	20 16 32.9	-13
	2.3nm,1.0s,baz=350,slow=27,SNR=2.0						
MKAR	**Makanchi Array**	**68.09**	**326**	P	**P**	**20 20 27.9**	**-2.5**
	0.2nm,0.4s,baz=115,slow=8.1,SNR=7.1						
	0.2nm,0.4s						

IDC 21 20:12:52.7±4.7, **19.°13S×172.°22W, h0**km, **mb4.0**/3, **mbtmp4.0**/3, **Error ellipse: s-maj=333.0km s-min=36.2km az=153.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**50.13**	**255**	P	P	20 21 50.3	+0.1
	1.9nm,0.8s,baz=93,slow=8.3,SNR=10						
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**50.19**	**260**	P	P	20 21 50.5	-0.2
	1.1nm,0.6s,baz=97,slow=8.4,SNR=14						
	1.1nm,0.6s						
PDAR	**Pinedale Array**	**84.30**	**41**	P	P	20 25 26.8	-0.1
	1.0nm,0.7s,baz=228,slow=4.9,SNR=3.4						
	1.0nm,0.7s						

*FUNV **21** 20:14:45.0, 7.°35N×71.°90W, h10km, MW3.5*
*RSNC **21** 20:14:47.0±0.0, 7.°N±2.°×7.°2W±.°, h0km±4km, M2.4, ML2.2*
ISC 21 20:14:43.2±1.3, **7.°35N**±0.°05×**71.°94W**±0.°03, **h9**km±11km, **n12**, σ**2s 38**/23, **Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.63**	**324**	*e*P	**Pb**	**20 14 56.1**	**-0.4**
CAPV				*e*S	**Sn**	**20 15 07.2**	**-1.6**
PAMC	**Pamplona, Colo**	**0.75**	**269**	P	**Pg**	**20 14 56.6**	**-1.1**
PAMC				S	**Sn**	**20 15 11.9**	**-0.2**
BARC	**Barichara**	**1.44**	**239**	P	**Pn**	**20 15 09.4**	**-0.3**
BARC				S	**Sg**	**20 15 31.8**	**+2.1**
OCAC	**Ocana**	**1.62**	**303**	P	**Pb**	**20 15 13.3**	**-0.1**
OCAC				S	**Sg**	**20 15 37.0**	**+1.5**
BRJC	**Barrancabermej**	**1.82**	**258**	P	**Pb**	**20 15 16.6**	**-0.2**
BRJC				S	**Sg**	**20 15 42.0**	**+0.1**
RUSC	**La Rusia**	**1.84**	**218**	P	**Pb**	**20 15 16.4**	**-0.9**
RUSC				S	**Sg**	**20 15 41.5**	**-1.0**
SDV	**Santo Domingo**	**2.00**	**40**	P	**Pg**	**20 15 21.9**	**+0.3**
SDV				S	**Sg**	**20 15 48.4**	**+0.8**
PTBC	**PUERTO BERRIO,**	**2.62**	**252**	P	**Pn**	**20 15 26.0**	**+0.2**
PTBC				S	**Sn**	**20 15 56.5**	**-1.2**
ZARC	**Zaragoza, Cauc**	**2.89**	**273**	P	**Pn**	**20 15 31.0**	**+1.5**
ZARC				S	**Sn**	**20 16 07.2**	**+2.8**
BAUV	**El Baul**	**4.17**	**67**	*e*P	**Pn**	**20 15 47.0**	**-0.1**
BAUV				*e*S	**Sn**	**20 16 32.8**	**-3.3**
BENV	**Beln**	**5.02**	**59**	*e*P	**Pn**	**20 15 58.8**	**0.0**
BENV				*e*S	**Sn**	**20 16 52.6**	**-4.4**
CACV	**CAICARA DEL OR**	**5.36**	**87**	*e*P	Pb	20 16 10.6	-6.6
CACV				*e*S	**Sn**	**20 17 12.6**	**+7.2**

*FUNV **21** 20:17:38.8, 7.°40N×72.°04W, h16km, MW3.6*
*RSNC **21** 20:17:39.5±0.0, 7.°N±3.°×7.°2W±.°, h2km±4km, M2.4, ML2.2*
ISC 21 20:17:35.3±1.3, **7.°33N**±0.°04×**71.°93W**±0.°03, **h9**km±11km, **n11**, σ**1s 52**/21, **Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.65**	**325**	*e*P	**Pb**	**20 17 48.9**	**0.0**
CAPV				*e*S	**Sb**	**20 17 57.1**	**-1.0**
PAMC	**Pamplona, Colo**	**0.76**	**270**	P	**Pg**	**20 17 49.3**	**-0.7**
PAMC				S	**Sn**	**20 18 06.8**	**+2.4**
BARC	**Barichara**	**1.44**	**239**	P	**Pn**	**20 18 02.1**	**+0.3**
BARC				S	**Sg**	**20 18 23.8**	**+2.1**
OCAC	**Ocana**	**1.64**	**303**	P	**Pg**	**20 18 05.9**	**-0.9**
OCAC				S	**Sg**	**20 18 27.7**	**-0.4**
BRJC	**Barrancabermej**	**1.83**	**259**	P	**Pb**	**20 18 08.8**	**-0.2**
BRJC				S	**Sg**	**20 18 33.0**	**-1.2**
RUSC	**La Rusia**	**1.83**	**219**	P	**Pb**	**20 18 09.3**	**+0.1**
RUSC				S	**Sg**	**20 18 34.5**	**+0.2**
SDV	**Santo Domingo**	**2.01**	**40**	P	**Pg**	**20 18 14.7**	**+0.8**
SDV				S	**Sg**	**20 18 40.5**	**+0.6**
PTBC	**PUERTO BERRIO,**	**2.62**	**253**	P	**Pb**	**20 18 23.1**	**+0.6**
PTBC				S	**Sb**	**20 18 53.5**	**-1.4**
BAUV	**El Baul**	**4.17**	**67**	*e*P	**Pn**	**20 18 40.4**	**+1.3**
BAUV				*e*S	**Sn**	**20 19 28.1**	**0.0**
BENV	**Beln**	**5.02**	**58**	*e*P	**Pn**	**20 18 52.9**	**+2.0**
BENV				*e*S	**Sn**	**20 19 47.1**	**-2.0**
CACV	**CAICARA DEL OR**	**5.35**	**87**	*e*P	Pb	20 19 05.0	-4.1
CACV				*e*S	**Sb**	**20 20 10.0**	**-3.5**

*IDC **21** 20:24:51.8±0.8, 19.°19N×60.°72E, h0km, mb4.0/15, mbtmp4.0/15, ML2.4/1, MS4.4/2, Error ellipse: s-maj=23.2km s-min=18.4km az=50.0*
*NEIC **21** 20:24:54.6±1.5, 19.°4N±0.°1×60.°7E±0.°1, h10km±1km, mb4.3/21, Error ellipse: s-maj=21.5km s-min=15.5km az=62.0*
*DSN **21** 20:24:58.4±4.2, 19.°44N×60.°43E, h10km, ML3.5/13, Error ellipse: s-maj=46.7km s-min=7.5km az=127.0*
*OMAN **21** 20:25:02.2±0.1, 19.°57N×60.°20E, h10km, mb4.9/18, ml4.3/8, Error ellipse: s-maj=2.1km s-min=1.5km az=285.0*
ISC 21 20:24:54.3±0.7, **19.°39N**±0.°05×**60.°67E**±0.°07, **h10**km, **n92**, σ**1s 56**/103, **mb4.3**/35, **Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHTO	**MHTO**	**3.00**	**303**	P	**Pn**	**20 25 42.7**	**+0.8**
	SNR=656						
MHTO				S	**Sn**	**20 26 16.1**	**-1.8**
DQM	**DQM**	**3.00**	**281**	P	**Pn**	**20 25 43.2**	**+1.2**
	SNR=442						
JMDO	**Jabal Madar**	**3.82**	**322**	P	**Pn**	**20 25 54.8**	**+1.6**
	SNR=44						
JMDO				S	**Sn**	**20 26 38.1**	**-0.1**
	SNR=6.0						
WSAR	**Wadi Sarin**	**4.28**	**334**	Pn	**Pn**	**20 26 00.0**	**+0.4**
	0.2nm,0.3s,baz=334,slow=24,SNR=129						
WSAR				Sn	**Sn**	**20 26 46.9**	**-2.7**
	0.3nm,0.3s,baz=23,slow=24,SNR=7.0						
SMDO	**Samad**	**4.40**	**327**	P	**Pn**	**20 26 02.6**	**+1.4**
	SNR=60						
SMDO				S	**Sn**	**20 26 51.2**	**-1.4**
BIDO	**Bidbid**	**4.75**	**331**	P	**Pn**	**20 26 07.6**	**+1.6**
	SNR=12						
BIDO				S	**Sn**	**20 27 00.2**	**-0.9**
	SNR=6.7						
SHAO	**Shalim**	**4.97**	**255**	P	**Pn**	**20 26 11.6**	**+2.5**
	SNR=684						
SHAO				S	**Sn**	**20 27 06.9**	**+0.3**
SHAO	**Shalim**	**4.97**	**255**	*i* P	**Pn**	**20 26 10.7**	**+1.6**
	SNR=685						
SHAO				S	**Sn**	**20 27 06.7**	**0.0**
HOQ	**Hoqain**	**5.22**	**324**	P	**Pn**	**20 26 14.1**	**+1.7**
	SNR=82						
ARQ	**Araqi**	**5.51**	**316**	P	**Pn**	**20 26 18.4**	**+1.9**
	SNR=363						
ARQ				S	**Sn**	**20 27 17.7**	**-2.3**
SOHO	**SOHO**	**6.09**	**322**	P	**Pn**	**20 26 26.9**	**+2.5**
SOHO				S	**Sn**	**20 27 34.2**	**-0.1**
SOHO	**SOHO**	**6.09**	**322**	*i* P	**Pn**	**20 26 26.7**	**+2.2**
	SNR=23						
UMZA	**Um Al Zommool**	**6.12**	**304**	P	**Pn**	**20 26 26.9**	**+2.1**
DOK	**Doka**	**6.23**	**264**	P	**Pn**	**20 26 28.8**	**+2.4**
	SNR=87						
RBK	**Rabkut**	**6.42**	**254**	P	**Pn**	**20 26 30.5**	**+1.5**
	SNR=12						
ALNE	**Al Ain**	**6.52**	**316**	P	**Pn**	**20 26 32.2**	**+1.9**
	SNR=18						
ALNE				S	**Sn**	**20 27 44.1**	**-0.8**
ALNE	**Al Ain**	**6.52**	**316**	*i* P	**Pn**	**20 26 32.2**	**+1.9**
	SNR=18						
ASHO	**Ashiyiah**	**6.79**	**322**	*i* P	**Pn**	**20 26 35.5**	**+1.4**
	SNR=18						
HATD	**Hatta, Dubai**	**6.85**	**323**	P	**Pn**	**20 26 38.0**	**+3.1**
HATD	**Hatta, Dubai**	**6.85**	**323**	P	**Pn**	**20 26 36.2**	**+1.2**
UOSS	**Minazif**	**6.91**	**324**			**20 26 36.6**	**+0.9**
UOSS	**Minazif**	**6.91**	**324**	P	**Pn**	**20 26 37.9**	**+2.2**
UOSS	**Minazif**	**6.91**	**324**	P	**Pn**	**20 26 37.0**	**+1.2**
MDH	**Madha**	**7.14**	**326**	P	**Pn**	**20 26 39.8**	**+1.0**
ASUD	**Al Ashush, Dub**	**7.19**	**317**	*i* P	**Pn**	**20 26 41.9**	**+2.3**
	SNR=6.6						
NAZ	**Nazwa, Dubai**	**7.25**	**321**	P	**Pn**	**20 26 43.2**	**+2.7**
NAZ	**Nazwa, Dubai**	**7.25**	**321**	P	**Pn**	**20 26 43.0**	**+2.5**
MSFE	**Esma-Masafi**	**7.26**	**326**	P	**Pn**	**20 26 43.8**	**+3.2**
MASF	**Masafi**	**7.27**	**326**	P	**Pn**	**20 26 44.1**	**+3.4**
MZR	**Muzera**	**7.61**	**299**	P	**Pn**	**20 26 46.6**	**+1.3**
	SNR=41						
MZR				S	**Sn**	**20 28 09.1**	**-2.6**
MZR	**Muzera**	**7.61**	**299**	*i* P	**Pn**	**20 26 46.6**	**+1.3**
	SNR=41						
BANOM	**Banah**	**7.65**	**329**	P	**Pn**	**20 26 46.6**	**+0.6**
MZWR	**Madinat Zayed**	**7.67**	**306

comp=Z,1.0nm,0.6s
ESDC Sonseca Array 58.54 305 P P 20 34 51.0 -0.2
comp=Z,0.9nm,0.8s,baz=71,slow=6.6,SNR=6.0
comp=Z,0.9nm,0.8s
BOSA Boshof 58.72 217 P P 20 34 52.6 0.0
BOSA IAmb IAmb 20 35 14.0
comp=Z,7.7nm,1.4s
KNRA Kununurra 75.48 113 P P 20 36 37.7 -1.6
WB0 Warramunga Arr 82.06 114 P P 20 37 13.1 -2.3
WB0 IAmb IAmb 20 37 46.8
comp=Z,8.2nm,1.4s
WRA Warramunga Arr 82.08 114 P P 20 37 13.6 -1.9
comp=Z,1.0nm,0.7s,baz=310,slow=4.1,SNR=8.5
comp=Z,1.0nm,0.7s
WR8 Warramunga Arr 82.22 114 P P 20 37 14.2 -2.1
ASAR Alice Springs 83.23 118 P P 20 37 19.8 -1.7
comp=Z,0.7nm,0.8s,baz=300,slow=5.3,SNR=6.4
comp=Z,0.7nm,0.8s

*TAP **21** 20:39:49.3,24.7S 47.0N 122.9E 90.0E, h90km, ML2.8, C*
*JMA **21** 20:39:49.6±0.1, 24°N±4'×122.9E±0.8, h90km, MV2.3/8,*
NW OFF ISHIGAKIJIMA IS
ISC 21 20:39:49.9±1.4, 24°40'N±0'.04×122°89'E±0'.03, h87km±9km, n90, σ0.991/179, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.12**	**62**	P		**Pn**	**20 40 02.5**	**+0.2**
EOS3	**EOS3**	**0.54**	**257**	*i* P		**Pn**	**20 40 05.1**	**+0.7**
EOS3				*i* S		**Sn**	**20 40 17.2**	**+1.9**
EOS4	**EOS4**	**0.60**	**242**	*i* P		**Pn**	**20 40 05.3**	**+0.6**
EOS4				*i* S		**Sn**	**20 40 17.0**	**+1.2**
EOS2	**EOS2**	**0.60**	**272**	*i* P		**Pn**	**20 40 05.2**	**+0.2**
EOS2				*i* S		**Sn**	**20 40 17.7**	**+1.4**
IRIF	**Iriomote-Funau**	**0.77**	**95**	P		**Pn**	**20 40 07.0**	**+0.2**
IRIF				S		**Sn**	**20 40 19.7**	**+0.3**
ESAO	**Su ao**	**0.97**	**280**	*i* P		**Pn**	**20 40 08.9**	**-0.1**
ESAO				*i* S		**Sn**	**20 40 22.2**	**-1.1**
TWC	**Suao**	**0.97**	**282**	*i* P		**Pn**	**20 40 08.5**	**-0.5**
TWC				*i* S		**Sn**	**20 40 21.8**	**-1.5**
JKRS	**Kuro-shima**	**1.03**	**99**	*e*P		**Pn**	**20 40 10.5**	**+0.8**
JKRS				S		**Sn**	**20 40 25.6**	**+0.9**
ENA	**Nanau**	**1.05**	**272**	*i* P		**Pn**	**20 40 09.5**	**-0.4**
ENA				S		**Sn**	**20 40 24.4**	**-0.6**
EAHA	**Aohua**	**1.05**	**266**	*i* P		**Pn**	**20 40 09.9**	**-0.1**
EAHA				*e*S		**Sn**	**20 40 24.7**	**-0.3**
NDS	**Dongshan**	**1.10**	**282**	*i* P		**Pn**	**20 40 10.8**	**+0.3**
NDS				S		**Sn**	**20 40 25.1**	**-0.8**
ILA	**Ilan**	**1.10**	**289**	*e*P		**Pn**	**20 40 10.7**	**+0.2**
ILA				*e*S		**Sn**	**20 40 27.2**	**+1.1**
TIPB	**Shuangxi**	**1.12**	**300**	*i* P		**Pn**	**20 40 10.4**	**-0.4**
TIPB				*i* S		**Sn**	**20 40 25.4**	**-1.2**
JIJ	**Ishigaki jima**	**1.14**	**92**	*e*P		**Pn**	**20 40 10.9**	**-0.1**
JIJ				S		**Sn**	**20 40 25.8**	**-1.1**
SXI1	**Grass Mountain**	**1.15**	**307**	*e*P		**Pn**	**20 40 11.7**	**+0.4**
SXI1				*e*S		**Sn**	**20 40 26.9**	**-0.4**
TWE	**Neicheng**	**1.16**	**286**	*i* P		**Pn**	**20 40 11.1**	**-0.1**
TWE				*i* S		**Sn**	**20 40 26.2**	**-1.1**
ETL	**Fush Village**	**1.18**	**258**	*i* P		**Pn**	**20 40 11.1**	**-0.5**
ETL				*e*S		**Sn**	**20 40 27.4**	**-0.5**
NACB	**Ninganchiao**	**1.21**	**259**	*i* P		**Pn**	**20 40 11.3**	**-0.5**
NACB				*i* S		**Sn**	**20 40 27.4**	**-0.9**
TWD	**Chiawan**	**1.23**	**255**	*i* P		**Pn**	**20 40 11.4**	**-0.7**
TWD				*i* S		**Sn**	**20 40 28.1**	**-0.7**
ENTT	**Nioudou**	**1.23**	**281**	*i* P		**Pn**	**20 40 12.5**	**+0.4**
ENTT				*e*S		**Sn**	**20 40 28.1**	**-0.8**
FUSB	**Fushanzhiwuyua**	**1.24**	**287**	*i* P		**Pn**	**20 40 12.2**	**-0.1**
FUSB				*i* S		**Sn**	**20 40 28.3**	**-0.8**
HWA	**Hwalien**	**1.25**	**250**	*i* P		**Pn**	**20 40 12.3**	**0.0**
HWA				*e*S		**Sn**	**20 40 28.7**	**-0.5**
LATG	**Datong**	**1.25**	**276**	*i* P		**Pn**	**20 40 12.4**	**-0.1**
LATG				S		**Sn**	**20 40 29.0**	**-0.5**
ETLH	**Xiulin Townshi**	**1.30**	**262**	*i* P		**Pn**	**20 40 12.6**	**-0.5**
ETLH				*i* S		**Sn**	**20 40 29.6**	**-0.9**
JISG	**Ishigakijimahi**	**1.30**	**82**	*e*P		**Pn**	**20 40 12.9**	**-0.1**
JISG				S		**Sn**	**20 40 29.7**	**-0.8**
NWLT	**Wulai**	**1.32**	**287**	*i* P		**Pn**	**20 40 12.9**	**-0.3**
NWLT				*i* S		**Sn**	**20 40 29.3**	**-1.5**
ETM	**Tongmen**	**1.35**	**251**	*i* P		**Pn**	**20 40 13.0**	**-0.6**
ETM				*i* S		**Sn**	**20 40 29.9**	**-1.6**
NHDH	**Xindian Distri**	**1.36**	**294**	*i* P		**Pn**	**20 40 13.6**	**-0.1**
NHDH				S		**Sn**	**20 40 30.9**	**-0.8**
SHUL	**Shoufeng**	**1.36**	**243**	*i* P		**Pn**	**20 40 13.6**	**-0.2**
SHUL				S		**Sn**	**20 40 32.5**	**+0.8**
NNSB	**Datong**	**1.38**	**271**	*i* P		**Pn**	**20 40 13.6**	**-0.5**
NNSB				*e*S		**Sn**	**20 40 31.6**	**-0.7**
NNS	**Nan Shan**	**1.39**	**272**	*i* P		**Pn**	**20 40 13.8**	**-0.4**
NNS				*i* S		**Sn**	**20 40 32.0**	**-0.5**
TATO	**Taipei**	**1.40**	**294**	*i* P		**Pn**	**20 40 13.9**	**-0.3**
TATO				S		**Sn**	**20 40 31.6**	**-1.0**
LXIB	**Xiulin Townshi**	**1.40**	**255**	*i* P		**Pn**	**20 40 14.0**	**-0.4**
LXIB				*i* S		**Sn**	**20 40 32.2**	**-0.8**
YHNB	**Yeheng**	**1.41**	**281**	*i* P		**Pn**	**20 40 14.1**	**-0.2**
YHNB				*i* S		**Sn**	**20 40 32.5**	**-0.4**
YM01	**YM01**	**1.41**	**302**	*i* P		**Pn**	**20 40 14.2**	**-0.1**
YM01				*i* S		**Sn**	**20 40 32.2**	**-0.7**
NSK	**Sanguang**	**1.42**	**281**	*i* P		**Pn**	**20 40 14.6**	**0.0**
NSK				*i* S		**Sn**	**20 40 32.0**	**-1.2**
ZUZH	**Zhuzihu**	**1.44**	**302**	*i* P		**Pn**	**20 40 14.5**	**-0.2**
ZUZH				*i* S		**Sn**	**20 40 32.4**	**-1.1**
ESL	**Shilin**	**1.46**	**247**	*i* P		**Pn**	**20 40 14.3**	**-0.6**
ESL				S		**Sn**	**20 40 32.2**	**-1.7**
WHF	**Hehuan Shan**	**1.51**	**260**	*i* P		**Pn**	**20 40 15.6**	**-0.4**
WHF				S		**Sn**	**20 40 34.2**	**-1.5**
TWS1	**Kuangyinshan**	**1.51**	**298**	*i* P		**Pn**	**20 40 15.6**	**0.0**
TWS1				*e*S		**Sn**	**20 40 34.5**	**-0.6**
FUSS	**Fushou**	**1.51**	**264**	*i* P		**Pn**	**20 40 16.1**	**+0.3**
FUSS				*i* S		**Sn**	**20 40 34.6**	**-0.9**
EGFH	**Guangfu**	**1.53**	**242**	*i* P		**Pn**	**20 40 15.4**	**-0.4**
EGFH				*i* S		**Sn**	**20 40 35.0**	**-0.5**
WARBT	**Fenglin Townsh**	**1.54**	**244**	*i* P		**Pn**	**20 40 15.3**	**-0.7**
WARBT				*i* S		**Sn**	**20 40 34.9**	**-0.8**
TWT	**Tachien**	**1.57**	**265**	*i* P		**Pn**	**20 40 17.1**	**+0.5**
TWT				*i* S		**Sn**	**20 40 36.6**	**-0.2**
TDCB	**Techi**	**1.59**	**265**	*i* P		**Pn**	**20 40 17.0**	**+0.3**
TDCB				*i* S		**Sn**	**20 40 36.5**	**-0.6**
KSHI	**Guanxi Townshi**	**1.61**	**284**	*i* P		**Pn**	**20 40 17.2**	**+0.4**
KSHI				*e*S		**Sn**	**20 40 37.3**	**0.0**
HGSD	**Ruisui**	**1.62**	**236**	*i* P		**Pn**	**20 40 16.5**	**-0.5**
HGSD				S		**Sn**	**20 40 37.0**	**-0.7**
OWD	**Renai**	**1.63**	**254**	*i* P		**Pn**	**20 40 16.3**	**-1.0**
OWD				*i* S		**Sn**	**20 40 36.3**	**-1.7**
NFF	**Wufeng Townshi**	**1.63**	**278**	*i* P		**Pn**	**20 40 17.5**	**+0.2**
NFF				*i* S		**Sn**	**20 40 37.6**	**-0.4**
NCUH	**Zhongli**	**1.65**	**290**	*e*P		**Pn**	**20 40 17.7**	**+0.3**
NCUH				*e*S		**Sn**	**20 40 38.1**	**-0.3**
WUSB	**Renai**	**1.67**	**256**	*i* P		**Pn**	**20 40 17.9**	**+0.1**
WUSB				*i* S		**Sn**	**20 40 38.6**	**-0.4**
EHYH	**Wanrong**	**1.68**	**238**	*i* P		**Pn**	**20 40 17.4**	**-0.4**
EHYH				*i* S		**Sn**	**20 40 38.8**	**-0.3**
EHY	**Hungye**	**1.69**	**238**	*i* P		**Pn**	**20 40 17.5**	**-0.5**
EHY				*i* S		**Sn**	**20 40 38.0**	**-1.3**
LIOB	**Emei**	**1.73**	**278**	*i* P		**Pn**	**20 40 18.8**	**+0.4**
LIOB				*i* S		**Sn**	**20 40 40.1**	**0.0**
NSTT	**Nanjuang**	**1.74**	**278**	*i* P		**Pn**	**20 40 18.9**	**+0.4**
NSTT				*i* S		**Sn**	**20 40 40.0**	**-0.4**
YULB	**Yu-li**	**1.77**	**236**	*i* P		**Pn**	**20 40 18.6**	**-0.4**
YULB				*i* S		**Sn**	**20 40 40.4**	**-0.8**
WHP	**Taichung City**	**1.78**	**266**	*i* P		**Pn**	**20 40 20.2**	**+1.0**
WHP				*i* S		**Sn**	**20 40 42.0**	**+0.6**
EYUL	**Yuli**	**1.78**	**234**	*i* P		**Pn**	**20 40 19.4**	**+0.2**
EYUL				*e*S		**Sn**	**20 40 40.7**	**-0.7**
TWF1	**Yuli**	**1.80**	**235**	*i* P		**Pn**	**20 40 19.1**	**-0.2**
TWF1				*i* S		**Sn**	**20 40 41.4**	**-0.4**
CHKH	**Chenggong**	**1.83**	**229**	P		**Pn**	**20 40 19.0**	**-0.7**
CHKH				*e*S		**Sn**	**20 40 40.8**	**-1.6**
WCS	**Beigang Elemen**	**1.84**	**260**	*i* P		**Pn**	**20 40 20.7**	**+0.8**
WCS				*e*S		**Sn**	**20 40 42.6**	**-0.1**
SSLB	**Suanglung**	**1.88**	**251**	*i* P		**Pn**	**20 40 20.6**	**+0.2**
SSLB				*e*S		**Sn**	**20 40 42.7**	**-0.9**
FULB	**Fuli**	**1.89**	**231**	*i* P		**Pn**	**20 40 20.1**	**-0.5**
FULB				*i* S		**Sn**	**20 40 43.8**	**-0.2**
SMLT	**Sun Moon Lake**	**1.89**	**254**	*i* P		**Pn**	**20 40 21.2**	**+0.5**
SMLT				*e*S		**Sn**	**20 40 43.6**	**-0.5**
CHKT	**Chengkung**	**1.91**	**227**	P		**Pn**	**20 40 20.0**	**-0.8**
CHKT				*i* S		**Sn**	**20 40 42.8**	**-1.5**
NMLH	**Miaoli**	**1.92**	**274**	*i* P		**Pn**	**20 40 21.3**	**+0.4**
NMLH				*e*S		**Sn**	**20 40 44.9**	**+0.3**
TYC	**Yuchr**	**1.93**	**255**	*i* P		**Pn**	**20 40 21.6**	**+0.7**
TYC				*e*S		**Sn**	**20 40 44.2**	**-0.4**
NSY	**Sanyi**	**1.94**	**271**	*i* P		**Pn**	**20 40 21.8**	**+0.6**
NSY				*e*S		**Sn**	**20 40 44.0**	**-1.2**
EHD	**Haiduan**	**1.99**	**231**	*i* P		**Pn**	**20 40 21.2**	**-0.6**
EHD				*i* S		**Sn**	**20 40 45.0**	**-1.2**
WHYT	**Xinyi Township**	**1.99**	**250**	*i* P		**Pn**	**20 40 23.0**	**+1.1**
WHYT				*i* S		**Sn**	**20 40 47.8**	**+1.4**
ECS	**Chishang**	**2.01**	**230**	P		**Pn**	**20 40 22.3**	**+0.1**
ECS				*e*S		**Sn**	**20 40 45.9**	**-0.9**
EDH	**Donghe**	**2.04**	**226**	*i* P		**Pn**	**20 40 21.6**	**-0.9**
EDH				*i* S		**Sn**	**20 40 45.5**	**-1.9**
WJS	**Zhushan**	**2.06**	**254**	*i* P		**Pn**	**20 40 24.5**	**+1.8**
WJS				*e*S		**Sn**	**20 40 48.8**	**+0.9**
WNT	**Mingjian**	**2.08**	**256**	P		**Pn**	**20 40 24.6**	**+1.5**
WNT				*i* S		**Sn**	**20 40 50.7**	**+2.2**
ELDTW	**Lidau**	**2.10**	**235**	*i* P		**Pn**	**20 40 23.1**	**-0.4**
ELDTW				*i* S		**Sn**	**20 40 48.0**	**-1.0**
ALS	**Alishan**	**2.11**	**245**	*i* P		**Pn**	**20 40 24.4**	**+0.8**
ALS				*e*S		**Sn**	**20 40 49.2**	**-0.2**
CHN5	**Tsauling**	**2.18**	**249**	*i* P		**Pn**	**20 40 25.5**	**+1.0**
CHN5				*i* S		**Sn**	**20 40 52.9**	**+2.1**
LONT	**Longtian**	**2.20**	**228**	*i* P		**Pn**	**20 40 24.1**	**-0.5**
LONT				*i* S		**Sn**	**20 40 50.2**	**-0.9**
WDLH	**Douliu**	**2.27**	**252**	*i* P		**Pn**	**20 40 26.6**	**+1.1**
WDLH				*i* S		**Sn**	**20 40 55.1**	**+2.4**
TWGBT	**Beinan**	**2.29**	**227**	*i* P		**Pn**	**20 40 25.4**	**-0.5**
TWGBT				*i* S		**Sn**	**20 40 52.5**	**-0.9**
STYH	**Taoyuan**	**2.29**	**238**	*i* P		**Pn**	**20 40 26.8**	**+0.9**
STYH				*i* S		**Sn**	**20 40 53.9**	**+0.5**
TWG	**Pinlang**	**2.30**	**227**	*i* P		**Pn**	**20 40 25.1**	**-0.8**
TWG				S		**Sn**	**20 40 52.3**	**-1.2**
WCKO	**Fanlu**	**2.30**	**246**	*i* P		**Pn**	**20 40 27.2**	**+1.2**
WCKO				*e*S		**Sn**	**20 40 56.0**	**+2.3**
TPUB	**Ta-pu**	**2.34**	**243**	*i* P		**Pn**	**20 40 27.6**	**+1.0**
TPUB				*i* S		**Sn**	**20 40 56.6**	**+1.9**
WTP	**Ta-pu**	**2.38**	**242**	*i* P		**Pn**	**20 40 28.2**	**+1.1**
WTP				S		**Sn**	**20 40 58.3**	**+2.6**
WTK	**Tuku**	**2.40**	**253**	*i* P		**Pn**	**20 40 27.7**	**+0.5**
WTK				*e*S		**Sn**	**20 40 57.2**	**+1.4**
TWK	**Hsinying**	**2.48**	**243**	*i* P		**Pn**	**20 40 29.8**	**+1.4**
TWK				S		**Sn**	**20 40 59.9**	**+2.0**
SNST	**Tainan City**	**2.49**	**242**	*i* P		**Pn**	**20 40 29.9**	**+1.4**
SNST				*e*S		**Sn**	**20 40 58.9**	**+0.8**
SSD	**Sandimen**	**2.65**	**232**	*i* P		**Pn**	**20 40 31.8**	**+1.2**
SSD				*e*S		**Sn**	**20 41 02.4**	**+0.4**
EAST	**Anshuo**	**2.75**	**223**	P		**Pn**	**20 40 31.6**	**-0.4**
EAST				*e*S		**Sn**	**20 41 03.1**	**-1.3**

IDC 21 20:46:26.0±2.2, 3°30N×64°13E, h0km, mb3.6/4,
mbtmp3.6/4, MS3.8/1, Error ellipse: s-maj=61.7km
s-min=43.1km az=67.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**37.25**	**64**	P		P	20 53 40.0	+0.2
	0.2nm,0.3s,baz=251,slow=8.9,SNR=4.9							
	0.2nm,0.3s							
LZDM	**Lanzhou Array**	**48.86**	**43**	LR		LR	21 16 16.6	
	comp=Z,91nm,18.2s,baz=20,slow=37							
SONM	**Songino Array**	**57.31**	**33**	P		P	20 56 15.5	-0.4
	0.5nm,0.8s,baz=232,slow=8.8,SNR=3.7							
	0.5nm,0.8s							
WRA	**Warramunga Arr**	**72.63**	**112**	P		P	20 57 55.8	-0.3
	1.0nm,0.8s,baz=284,slow=5.4,SNR=6.5							
	1.0nm,0.8s							
ASAR	**Alice Springs**	**72.93**	**116**	P		P	20 57 58.1	+0.3
	0.8nm,1.0s,baz=280,slow=5.5,SNR=4.3							
	0.8nm,1.0s							
TXAR	**Lajitas Array**	**145.50**	**341**	PKPbc		PKPbc	21 06 06.4	-0.7
	0.6nm,0.9s,baz=114,slow=1.5,SNR=5.1							

*SNET **21** 20:55:46.8±1.6, 14°.01N×91°.72W, h18km, ML4.4*
*CATAC **21** 20:55:47.0±0.6, 14°N±.3°×92W±°, h28km±5km, M4.5/12,*
MLv4.5/12, Error ellipse: s-maj=8.1km s-min=4.4km
az=42.5, confirmed
*GCG **21** 20:55:48.0±1.0, 13°.97N×91°.73W, h42km±27km, MD3.8*
ISC 21 20:55:47.2±2.5, 13°96N±0°.07×91°71W±0°.06, h25km±19km,
n34, σ1.967/52, 4C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.56**	**2**	P		**Pn**	**20 55 59.9**	**+0.3**
RTAL				S		**Sn**	**20 56 09.5**	**+1.3**
ESSG	**Sabana Grande**	**0.95**	**64**	*e*P		**Pn**	**20 56 04.9**	**-0.2**
ESSG				*e*S		**Sn**	**20 56 18.2**	**+0.2**
SMCA	**Catarina**	**0.95**	**338**	*i*P		**Pn**	**20 56 04.3**	**-0.8**
SMCA				*e*S		**Sn**	**20 56 16.5**	**-1.4**
THIG		**1.08**	**330**	*i*P		**Pn**	**20 56 06.0**	**-0.8**
THIG				*e*S		**Sn**	**20 56 20.3**	**-0.7**
FG8	**Yepocapa, Chim**	**1.16**	**75**	*e*P		**Pn**	**20 56 04.3**	**-3.7**
FG8				*e*S		**Sn**	**20 56 17.0**	**-6.1**
FG16	**Alotenango, Sa**	**1.21**	**75**	*e*P		**Pn**	**20 56 07.1**	**-3.4**
FG16				*e*S		**Sn**	**20 56 19.0**	**-5.4**
GCG4	**OSOP**	**1.30**	**61**	*e*P		**Pn**	**20 56 10.8**	**+0.8**
GCG4				*e*S		**Sb**	**20 56 28.6**	**+1.1**
HUEH	**Huehuetenango**	**1.36**	**9**	*e*P		**Pn**	**20 56 11.4**	**+0.4**
HUEH				*e*S		**Sb**	**20 56 29.9**	**+0.6**
HUEH	**Huehuetenango**	**1.36**	**9**	*e*P		**Pn**	**20 56 11.3**	**+0.4**
HUEH				*e*S		**Sn**	**20 56 29.3**	**+1.0**
HUEH	**Huehuetenango**	**1.36**	**9**	P		**Pn**	**20 56 11.3**	**+0.4**
QUIS	**Sacapulas**	**1.45**	**24**	*e*P		**Pn**	**20 56 12.7**	**+0.7**
QUIS				*e*S		**Sn**	**20 56 31.8**	**+1.5**
FAME	**Alcaldia de Sa**	**1.65**	**94**	P		**Pn**	**20 56 14.3**	**-0.4**
LOAL	**Lomas de Alarc**	**1.88**	**89**	*e*P		**Pn**	**20 56 18.8**	**+0.9**
LOAL				*e*S		**Sn**	**20 56 42.4**	**+1.6**
LOAL	**Lomas de Alarc**	**1.88**	**89**	P		**Pn**	**20 56 18.4**	**+0.6**
NUBE	**Las Nubes**	**1.88**	**92**	P		**Pn**	**20 56 18.2**	**+0.3**
NUBE	**Las Nubes**	**1.88**	**92**	S		**Sn**	**20 56 41.4**	**+0.4**
JUAM	**Asuncion Mita**	**1.98**	**79**	*e*S		**Sn**	**20 56 45.7**	**+2.4**
CEVE	**Cerro Verde**	**2.03**	**94**	*e*P		**Pn**	**20 56 20.9**	**+0.8**
CEVE				*e*S		**Sn**	**20 56 47.1**	**+2.2**
CEVE				*e*S		**Sb**	**20 56 47.7**	**-0.9**
CEVE	**Cerro Verde**	**2.03**	**94**	P		**Pn**	**20 56 20.9**	**+0.8**
JAYA	**Jayaque - finc**	**2.22**	**98**	*e*P		**Pn**	**20 56 23.1**	**+0.5**
JAYA				*e*S		**Sn**	**20 56 49.7**	**+0.3**
JAYA	**Jayaque - finc**	**2.22**	**98**	*e*P		**Pn**	**20 56 23.2**	**+0.5**
JAYA				*e*S		**Sn**	**20 56 49.0**	**-0.4**
CEDA	**San Andres**	**2.26**	**94**	*e*S		**Sn**	**20 56 50.8**	**+0.7**
CCIG	**Comitan**	**2.34**	**350**	*e*P		**Pn**	**20 56 25.4**	**+1.1**
CCIG				*e*S		**Sb**	**20 56 56.2**	**-1.3**
LALI	**Alcalda de L**	**2.37**	**101**	*e*P		**Pn**	**20 56 25.3**	**+0.8**
LALI				*e*S		**Sn**	**20 56 53.9**	**+1.0**
LALI	**Alcalda de L**	**2.37**	**101**	*e*P		**Pn**	**20 56 25.4**	**+0.8**
LALI				*e*S		**Sn**	**20 56 52.6**	**-0.2**
BOQS	**Boqueron**	**2.37**	**95**	*e*P		**Pn**	**20 56 25.7**	**+0.9**
ESQI	**Esquipulas**	**2.37**	**75**	*e*P		**Pn**	**20 56 25.7**	**+1.0**
LOMA	**Loma Larga**	**2.49**	**97**	*e*P		**Pn**	**20 56 27.4**	**+1.0**
LFU	**La Fuente**	**2.53**	**95**	*e*P		**Pn**	**20 56 27.5**	**+0.7**
LFRS	**El Faro**	**2.60**	**97**	*e*P		**Pn**	**20 56 29.0**	**+1.2**
LBRS	**Las Brisas**	**2.60**	**95**	*e*P		**Pn**	**20 56 28.7**	**+0.8**
TGIG		**3.11**	**334**	*e*P		**Pn**	**20 56 35.2**	**+0.4**
PETF	**Flores**	**3.43**	**31**	*e*P		**Pn**	**20 56 39.8**	**+0.6**
SCIG	**Sabancuy**	**5.00**	**6**	*e*P		**Pn**	**20 56 59.8**	**-0.9**

*JMA **21** 21:01:46.1±0.3, 36°.3N±0°.4×14°2E±°, h46km, MV2.8/35,*
FAR E OFF IBARAKI PREF
*IDC **21** 21:01:57.0±7.1, 36°.19N×140°.86E, h82km±52km, mb3.2/5,*
mbtmp3.4/6, ML1.9/1, Error ellipse: s-maj=71.9km
s-min=29.2km az=62.0
ISC 21 21:01:48.0±1.2, 36°34N±0°.06×141°45E±0°.09, h26km, n23,
σ1.922/18, mb3.3/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.70**	**270**	P		**Pn**	**21 02 02.9**	**+0.7**
JHO	**Hitachi**	**0.76**	**291**	P		**Pn**	**21 02 03.5**	**+0.4**
JIHU	**Itakohorinouch**	**0.83**	**244**	*e*P		**Pn**	**21 02 04.3**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.92**	**326**	P		**Pn**	**21 02 05.3**	**-0.1**
JFK	**Kawauchi**	**1.12**	**336**	P		**Pn**	**21 02 07.8**	**-0.3**
JOTO	**OTAMA OYAMA**	**1.51**	**324**	P		**Pb**	**21 02 14.8**	**-0.7**
JMM	**Marumori**	**1.61**	**341**	P		**Pn**	**21 02 14.7**	**-0.1**
JAG	**Ashikaga**	**1.61**	**274**	*e*P		**Pb**	**21 02 16.0**	**-1.1**
BSO1	**Boso 1**	**1.73**	**193**	*e*P		**Pn**	**21 02 15.0**	**-0.9**
JFY	**Yanaizu**	**1.76**	**308**	*e*P		**Pb**	**21 02 18.4**	**-1.2**
JKT	**Katashina**	**1.82**	**284**	*e*P		**Pb**	**21 02 20.0**	**-0.8**
MJAR	**Matsushiro Arr**	**2.62**	**275**	P		**Pn**	**21 02 30.8**	**+2.1**
	0.4nm,0.3s,baz=92,slow=9.1,SNR=46							
MJAR				S		**Sn**	**21 02 57.1**	**-2.6**
	2.9nm,0.4s,baz=218,slow=7.7,SNR=4.3							
	3.0nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**27.77**	**120**	T		T	21 36 15.2	
	baz=312,slow=74							
H11N1	**WAKE ISLAND Hy**	**27.78**	**120**	T		T	21 36 09.3	
	baz=312,slow=74							
H11N3	**WAKE ISLAND Hy**	**27.79**	**120**	T		T	21 36 12.9	
	baz=312							
SONM	**Songino Array**	**28.20**	**305**	P		**P**	**21 07 38.6**	**0.0**
	0.3nm,0.6s,baz=109,slow=7.8,SNR=2.7							
	0.3nm,0.6s							
H11S1	**WAKE ISLAND Hy**	**28.46**	**122**	T		T	21 37 03.1	
	baz=314,slow=74							
H11S3	**WAKE ISLAND Hy**	**28.46**	**122**	T		T	21 37 04.3	
	baz=314,slow=74							
H11S2	**WAKE ISLAND Hy**	**28.48**	**122**	T		T	21 37 10.7	
	baz=314							
ZALV	**Zalesovo Beam**	**42.41**	**313**	P		**P**	**21 09 42.2**	**+2.1**
	0.4nm,0.5s,baz=90,slow=10.0,SNR=1.9							
	0.4nm,0.5s							
MKAR	**Makanchi Array**	**44.52**	**303**	P		**P**	**21 09 57.5**	**+0.1**
	0.3nm,0.7s,baz=91,slow=7.2,SNR=2.1							
	0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**46.45**	**309**	P		**P**	**21 10 12.7**	**+0.2**
	0.4nm,0.3s,baz=92,slow=8.3,SNR=1.3							
	0.4nm,0.3s							
WRA	**Warramunga Arr**	**56.38**	**188**	P		**P**	**21 11 28.2**	**+1.1**
	0.1nm,0.3s,baz=6.1,slow=7.3,SNR=1.8							
	0.1nm,0.3s							

*TIR **21** 21:02:07.0, 41°.37N×19°.39E, h42km±6km, Ml3.0/4*
*SKO **21** 21:02:07.5, 41°.49N×19°.51E, h10km, ML2.9*
*BEO **21** 21:02:08.8±0.4, 41°.37N×19°.66E, h13km±2km, ML2.6/18*
*PDG **21** 21:02:09.0±0.1, 41°.47N×19°.63E, h9km, ML2.9/11, Error*
ellipse: s-maj=0.2km s-min=0.3km az=0.0
*IDC **21** 21:02:14.8±9.8, 41°.69N×19°.49E, h77km±65km, mb3.4/3,*
mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=78.9km
s-min=57.3km az=9.0
*THE **21** 21:02:17.6, 41°N±35°×2°0E±2°9, h16km±31km, M2.5/12,*
MLh2.5/12
ISC 21 21:02:07.5±0.9, 41°39N±0°02×19°53E±0°02, h15km±7km,
n96, σ1.924/146, 15C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.25**	**100**		⇓Pg	**Pg**	**21 02 12.2**	**-0.8**
TIR					Sg	**Sg**	**21 02 15.3**	**-1.5**
TIR					AML	AML	21 02 17.5	
	4.6nm,0.4s							
ULC	**Ulcinj**	**0.61**	**339**	*e*Pg		**Pg**	**21 02 19.5**	**0.0**
ULC				*i* Sg		**Sb**	**21 02 28.7**	**+0.4**
DRME	**Dracevica, Mon**	**0.83**	**342**	*e*Pg		**Pg**	**21 02 24.3**	**+0.6**
DRME				*e*Sg		**Sn**	**21 02 38.7**	**+2.0**
DRME	**Dracevica, Mon**	**0.83**	**342**	*e*Pg		**Pg**	**21 02 23.7

VTS	Vitosha	3.02	65	*e*Pn		Pn	21 02 56.2	+1.4	
TIP	Timpagrande	3.06	225	⇑P		Pn	21 02 54.5	-0.9	
SRS	Serrai	3.07	94	*i* Pn		Pn	21 02 56.1	+0.7	
SRS				*i* Sn		Sn	21 03 32.4	+0.5	
SRS	Serrai	3.07	94	*e*Pn		Pn	21 02 55.9	+0.5	
SRS				*e*Sn		Sn	21 03 31.0	-0.9	
ZAGS	Zajecar	3.13	39	*e*Pn		Pn	21 02 57.8	+1.5	
ZAGS				*e*Sn		Sn	21 03 33.5	+0.1	
MMB	Musomishta	3.17	86	P		Pn	21 02 57.2	+0.4	
MMB	Musomishta	3.17	86	*i* Pn		Pn	21 02 57.9	+1.0	
AGG	Agios Georgios	3.19	137	P		Pn	21 02 58.3	+1.1	
VLS	Valsamata	3.31	165	P		Pn	21 02 57.4	-1.4	
AVAS	Avala Beograd	3.38	12	*e*Pn		Pn	21 03 00.6	+0.9	
AVAS				*e*Sn		Sn	21 03 40.1	+0.6	
KUBS	Kucevo	3.40	27	*e*Pn		Pn	21 02 59.8	-0.2	
KUBS				*e*Sn		Sn	21 03 39.2	-0.9	
EFP	Efpalio	3.48	148	P		Pn	21 03 02.2	+1.2	
KIJV	Kijevo	3.48	320	*e*Pn		Pn	21 03 00.8	-0.3	
MDVR	Moldovita	3.75	25	⇑P		Pn	21 03 05.6	+0.9	
MDVR	Moldovita	3.75	25	*e*Pn		Pn	21 03 05.7	+0.9	
BLY	Banja Luka	3.77	334	*e*Pn		Pn	21 03 06.6	+1.6	
VRSS	Vrsac	3.95	19	*e*Pn		Pn	21 03 08.2	+0.7	
VRSS				*e*Sn		Sn	21 03 53.2	-0.4	
HERR	Herculane	4.08	30	⇑P		Pn	21 03 10.1	+0.9	
BZS	Buzias	4.49	19	⇓P		Pn	21 03 15.5	+0.7	
BZS	Buzias	4.49	19	*e*Pn		Pn	21 03 15.5	+0.7	
GZR	Gura Zlata	4.64	29	⇓P		Pn	21 03 18.9	+1.9	
GZR	Gura Zlata	4.64	29	*e*Pn		Pn	21 03 19.0	+1.9	
MOSL	Moslavina	4.68	335	*e*Pn		Pn	21 03 17.2	-0.3	
SURR	Surduc	4.75	22	⇓P		Pn	21 03 18.7	+0.2	
SIRR	Siria	5.11	17	⇓P		Pn	21 03 24.1	+0.7	
BRJN	Brijuni	5.50	312	*e*Pn		Pn	21 03 29.3	+0.6	
VOIR		5.70	43	⇑P		Pn	21 03 32.6	+1.0	
MLR	Muntele Rosu	6.21	47	P		Pn	21 03 41.5	+2.9	
	comp=E,0.9nm,0.3s,baz=102,slow=20,SNR=6.9								
MLR				S		Sn	21 04 49.7	+0.4	
	comp=E,1.3nm,0.8s,baz=150,slow=12,SNR=0.9								
	comp=E,2.5nm,0.5s								
MLR	Muntele Rosu	6.21	47	⇑P		Pn	21 03 39.8	+1.2	
OBKA	Obir	6.25	327	*e*Pn		Pn	21 03 37.4	-1.8	
	comp=E,0.3nm,0.3s								
OBKA				*i* Sn		Sn	21 04 47.8	-2.6	
	comp=E,2.9nm,0.3s								
FINES	FINESS Array B	20.47	9	P		P	21 06 42.6	-1.6	
	comp=E,2.4nm,0.9s,baz=191,slow=11,SNR=4.4								
	comp=E,2.4nm,0.9s								
ZALV	Zalesovo Beam	44.17	50	P		P	21 10 14.5	-0.8	
	comp=E,0.7nm,0.4s,baz=282,slow=6.7,SNR=4.6								
	comp=E,0.7nm,0.4s								
MKAR	Makanchi Array	44.34	61	P		P	21 10 15.7	-1.1	
	comp=E,0.6nm,0.6s,baz=284,slow=7.1,SNR=4.2								
	comp=E,0.6nm,0.6s								

IDC ***21*** *21:13:48.7±1.5,0.˚40S×128.˚11E,h0km,mb3.5/4, mbtmp3.7/5,ML3.2/1,Error ellipse: s-maj=64.5km s-min=16.5km az=82.0*

DJA ***21*** *21:13:53.1±0.2,1.˚S±2.˚×12.˚8E±.˚,h10km,M4.1/11,mB5.0/1, mb4.5/4,MLv3.8/11,Mw(mB)4.3/1*

ISC 21 21:13:55.3±0.9,**0.˚57S**±0.˚05×**127.˚78E**±0.˚06,**h35**km,**n16,** σ1§**29**/20,**mb3.7**/3,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h	m	s	Res ISC
TNTI	**Ternate**	**1.39**	**343**	P			**Pn**	**21**	**14**	**18.4**	**+0.1**
TNTI				S			**Sn**	**21**	**14**	**37.9**	**+2.5**
SANI	**Sanana**	**2.32**	**231**	P			**Pn**	**21**	**14**	**31.2**	**+0.2**
NLAI	**Namlea**	**2.74**	**194**	P			**Pn**	**21**	**14**	**37.7**	**+0.9**
NLAI				S			**Sn**	**21**	**15**	**10.6**	**+1.9**
MSAI	**Masohi**	**2.99**	**157**	P			**Pn**	**21**	**14**	**41.7**	**+1.5**
AAI	**Ambon**	**3.13**	**172**	P			**Pn**	**21**	**14**	**42.4**	**+0.3**
SWI	**Sorong**	**3.49**	**95**	P			**Pn**	**21**	**14**	**47.6**	**+0.5**
SWI				S			**Sn**	**21**	**15**	**29.3**	**+2.1**
KMSI	**Cibinong**	**3.97**	**287**	P			**Pn**	**21**	**14**	**53.5**	**-0.2**
LUWI	**Luwuk**	**5.03**	**265**	P			**Pn**	**21**	**15**	**09.6**	**+1.3**
	35nm,0.6s										
FAKI	**Fak Fak**	**5.04**	**118**	P			**Pn**	**21**	**15**	**07.6**	**-0.8**
	27nm,1.0s										
APSI	**Ampana**	**6.14**	**267**	P			**Pn**	**21**	**15**	**24.6**	**+1.0**
	30nm,0.6s										
SPSI	**Sidrap Palu**	**8.69**	**247**	P			**Pn**	**21**	**15**	**58.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**17.55**	**187**	P			**P**	**21**	**17**	**57.5**	**-0.6**
	0.1nm,0.3s,baz=0.0,slow=14,SNR=2.3										
FITZ				S			**S**	**21**	**21**	**17.5**	**-1.2**
	2.3nm,1.0s,baz=14,slow=12,SNR=2.3										
	2.8nm,1.0s										
WRA	**Warramunga Arr**	**20.30**	**162**	P			**P**	**21**	**18**	**26.5**	**-1.8**
	0.8nm,0.6s,baz=344,slow=12,SNR=7.7										
	0.8nm,0.6s										
ASAR	**Alice Springs**	**23.72**	**166**	P			**P**	**21**	**19**	**03.8**	**-0.5**
	1.6nm,0.6s,baz=346,slow=12,SNR=32										
	1.6nm,0.6s										
MKAR	**Makanchi Array**	**61.67**	**326**	P			**P**	**21**	**24**	**08.6**	**-1.2**
	0.2nm,0.5s,baz=121,slow=7.2,SNR=4.8										
	0.2nm,0.5s										
KURBB	**Kurchatov Arra**	**65.91**	**328**	P			**P**	**21**	**24**	**37.0**	**-0.6**
	0.4nm,0.3s,baz=128,slow=7.2,SNR=1.4										
	0.4nm,0.3s										

MOS ***21*** *21:32:30.3±0.9,5.˚48N×126.˚29E,h43km,mb5.1/40,Error ellipse: s-maj=10.9km s-min=4.7km az=118.0*

NEIC ***21*** *21:32:31.8±2.3,5.˚41N±0.˚05×126.˚46E±0.˚07,h35km±1km, mb4.9/92,Error ellipse: s-maj=12.5km s-min=7.3km az=72.0*

DJA ***21*** *21:32:32.7±1.1,5.˚N±4.˚×12.˚7E±.˚,h27km±14km,M4.8/22, mb4.9/22,mB5.2/12,MLv5.1/13,Mw(mB)4.6/12*

IDC ***21*** *21:32:32.8±1.1,5.˚49N×126.˚40E,h48km±9km, mb4.3/27, mbtmp4.6/30,ML4.5/4,MS3.7/13,Error ellipse: s-maj=20.4km s-min=7.9km az=70.0*

ISC 21 21:32:33.3±0.4,**5.˚43N**±0.˚03×**126.˚38E**±0.˚05,**h54**km±3km, **h55**km:**pP-P,n310,**σ1§**18**/346,**mb4.9**/114,**MS3.6**/14, **11C-4D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h	m	s	Res ISC
DAV	**Davao City (W)**	**1.81**	**334**				**Pn**	**21**	**33**	**01.9**	**-0.3**
DAV					Sn		**Sn**	**21**	**33**	**24.3**	**+0.3**
DAV	**Davao City (W)**	**1.81**	**334**	P			**Pn**	**21**	**33**	**02.5**	**+0.3**
	735nm,0.3s,baz=188,slow=1.2,SNR=43										
DAV				S			**Sn**	**21**	**33**	**23.0**	**-1.0**
	640nm,0.3s,baz=270,slow=20,SNR=8.1										
DAV				LR		LR	21	33	58.6		
	comp=Z,4μm,18.9s,baz=154,slow=48										
SGSI	**Sangihe**	**1.93**	**206**	P			**Pn**	**21**	**33**	**02.8**	**-0.9**
SGSI				S			**Sn**	**21**	**33**	**26.9**	**+0.1**
TNTI	**Ternate**	**4.73**	**168**				**Pn**	**21**	**33**	**41.9**	**-0.2**
TNTI					Sn		**Sn**	**21**	**34**	**34.2**	**-1.5**
TNTI	**Ternate**	**4.73**	**168**	P			**Pn**	**21**	**33**	**41.6**	**-0.5**
TNTI				S			**Sn**	**21**	**34**	**36.1**	**+0.4**
KMSI	**Cibinong**	**5.38**	**206**	P			**Pn**	**21**	**33**	**52.5**	**+1.4**
MRSI	**Marisa**	**6.62**	**222**	P			**Pn**	**21**	**34**	**08.0**	**0.0**
TOLI2	**Tolitoli**	**7.04**	**233**				**Pn**	**21**	**34**	**12.5**	**-1.3**
TOLI2					Sn		**Sn**	**21**	**35**	**31.5**	**-1.1**
LUWI	**Luwuk**	**7.37**	**209**				**Pn**	**21**	**34**	**19.6**	**+1.4**
LUWI	**Luwuk**	**7.37**	**209**	P			**Pn**	**21**	**34**	**20.7**	**+2.4**
SANI	**Sanana**	**7.44**	**183**	P			**Pn**	**21**	**34**	**17.7**	**-1.6**
	0.4nm1μm45nm,1.0s										
MYLDM	**Lahad Datu**	**7.85**	**269**				**Pn**	**21**	**34**	**26.1**	**+1.3**
APSI	**Ampana**	**7.87**	**217**	P			**Pn**	**21**	**34**	**27.0**	**+1.8**
	0.8nm2μm192nm,1.3s										
SWI	**Sorong**	**7.93**	**142**	P			**Pn**	**21**	**34**	**23.3**	**-2.6**
	0.2nm49nm,0.7s										
NLAI	**Namlea**	**8.64**	**175**	P			**Pn**	**21**	**34**	**33.8**	**-1.9**
	2μm114nm,0.6s										
MSAI	**Masohi**	**9.08**	**164**	P			**Pn**	**21**	**34**	**40.8**	**-1.0**
	65nm,0.8s										
AAI	**Ambon**	**9.23**	**169**	P			**Pn**	**21**	**34**	**42.3**	**-1.6**
	52nm,0.6s										
TGY	**Tagaytay City**	**10.15**	**329**	P			**Pn**	**21**	**34**	**56.7**	**+0.2**
	27nm,0.3s,baz=3.6,slow=22,SNR=1.4										
FAKI	**Fak Fak**	**10.16**	**145**				**Pn**	**21**	**34**	**55.2**	**-1.4**
FAKI	**Fak Fak**	**10.16**	**145**	P			**Pn**	**21**	**34**	**55.1**	**-1.4**
	44nm,0.8s										
RKPI	**Ransiki, Papua**	**10.40**	**131**	P			**Pn**	**21**	**35**	**00.2**	**+0.3**
	2μm57nm,0.7s										
SPSI	**Sidrap Palu**	**11.43**	**215**	P			**Pn**	**21**	**35**	**13.2**	**-0.7**
	25nm,0.8s										
BNSI	**Bone**	**11.60**	**213**	P			**Pn**	**21**	**35**	**18.6**	**+2.4**
	34nm,1.1s										
KAPI	**Kappang**	**12.30**	**213**				**Pn**	**21**	**35**	**26.2**	**+0.3**
KAPI	**Kappang**	**12.30**	**213**	P			**Pn**	**21**	**35**	**26.8**	**+1.0**
	0.7nm,0.3s,baz=24,slow=7.7,SNR=8.0										
	10nm,0.7s										
SMPI	**Sarmi**	**14.35**	**121**	P			**Pn**	**21**	**35**	**52.5**	**-1.2**
	27nm,1.2s										
SBUM	**Sibu**	**14.43**	**259**				**Pn**	**21**	**35**	**55.3**	**+0.6**
BBKI	**Banjar Baru**	**14.52**	**233**	P			**P**	**21**	**35**	**58.2**	**-2.9**
MMRI	**Maumere**	**14.57**	**196**	Pn			**Pn**	**21**	**35**	**55.1**	**-1.3**
EDFI	**Ende, Flores**	**14.84**	**198**	P			**Pn**	**21**	**36**	**00.3**	**+0.2**
	24nm,1.0s										
SOEI	**Soe**	**15.23**	**188**				**Pn**	**21**	**36**	**04.4**	**-0.8**
SOEI	**Soe**	**15.23**	**188**	P			**Pn**	**21**	**36**	**05.8**	**+0.6**
	83nm,0.8s										
BATI	**Baumata**	**15.77**	**190**	P			**Pn**	**21**	**36**	**13.2**	**+1.2**
	3.6nm,0.3s,baz=277,slow=2.3,SNR=7.3										
	22nm,0.5s										
BATI	**Baumata**	**15.77**	**190**	P			**Pn**	**21**	**36**	**12.9**	**+0.9**
	55nm,0.6s										
JAY	**Jayapura**	**16.34**	**119**	P			**Pn**	**21**	**36**	**20.0**	**+0.7**
	0.4nm,0.3s,baz=340,slow=8.8,SNR=3.7										
	4.9nm,0.8s										
KSM	**Kuching**	**16.51**	**257**	P			**P**	**21**	**36**	**22.9**	**-0.4**
TWSI	**Taliwang, Sumb**	**16.96**	**214**	P			**P**	**21**	**36**	**29.4**	**+1.2**
JAGI	**Jajag, Banyuwa**	**18.42**	**222**	P			**Pn**	**21**	**36**	**46.7**	**+1.8**
YULB	**Yu-li**	**18.52**	**345**	P			**P**	**21**	**36**	**44.9**	**-0.4**
YULB						IAmb	IAmb	21	36	49.0	
	comp=Z,84nm,1.7s										
MTN	**Manton Dam**	**18.76**	**165**	P			**P**	**21**	**36**	**46.4**	**-1.6**
DLV	**Lat**	**18.82**	**291**	P			**Pn**	**21**	**36**	**50.9**	**+0.9**
GUMO	**Guam**	**19.94**	**65**	LR			LR	21	43	20.0	
	comp=Z,218nm,21.1s,baz=233,slow=32										
QIZ	**Qiongzhong**	**21.04**	**311**	P			**P**	**21**	**37**	**14.2**	**+1.4**
QIZ	**Qiongzhong**	**21.04**	**311**	P			**P**	**21**	**37**	**14.4**	**+1.6**
QIZ				S			**S**	**21**	**41**	**06.0**	**+1.8**
QIZ				LR			LR				
	comp=Z,390nm,14.7s										
KNRA	**Kununurra**	**21.10**	**174**	P			**P**	**21**	**37**	**13.4**	**-0.1**
KNRA						IAmb	IAmb	21	37	16.3	
	comp=Z,39nm,0.7s										
JOW	**Kunigami**	**21.36**	**5**	LR			LR	21	45	46.4	
	comp=Z,140nm,20.1s,baz=288,slow=37										
LEM	**Lembang**	**22.33**	**237**	LR			LR	21	48	28.6	
	comp=Z,112nm,18.2s,baz=83,slow=43										
MYKOM	**Kota Tinggi**	**22.77**	**262**	P			**P**	**21**	**37**	**33.0**	**+1.6**
MYKOM						IAmb	IAmb	21	37	38.2	
	comp=Z,77nm,1.5s										
PMBI	**Palembang**	**23.12**	**249**	P			**P**	**21**	**37**	**36.8**	**+1.8**
FITZ	**Fitzroy Crossi**	**23.39**	**182**	P			**P**	**21**	**37**	**36.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**23.39**	**182**	PcP			**PcP**	**21**	**41**	**22.4**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=215,slow=22,SNR=7.8										
IPM	**Ipoh**	**25.27**	**269**	P			**P**	**21**	**37**	**55.1**	**+0.3**
IPM						IAmb	IAmb	21	38	12.8	
	comp=Z,21nm,1.0s										
PMG	**Port Moresby**	**25.42**	**125**	LR			LR	21	47	28.4	
	comp=Z,119nm,20.5s,baz=272,slow=35										
COEN	**Coen**	**25.47**	**139**	P			**P**	**21**	**37**	**56.0**	**-0.6**
COEN						IAmb	IAmb	21	37	59.5	
	comp=Z,72nm,1.9s										
KULM	**Kulim**	**25.62**	**271**	P			**P**	**21**	**37**	**59.3**	**+1.4**
KULM						IAmb	IAmb	21	38	03.5	
	comp=Z,45nm,1.3s										
BKNI	**Bangkinang**	**25.80**	**260**	P			**P**	**21**	**38**	**01.0**	**+1.4**
WB0	**Warramunga Arr**	**26.25**	**163**	P			**P**	**21**	**38**	**03.8**	**+0.2**
WB0						IAmb	IAmb	21	38	24.1	
	comp=Z,50nm,1.1s										
WRAB	**Tennant Creek**	**26.39**	**163**	P			**P**	**21**	**38**	**05.0**	**+0.2**
WRAB						IAmb	IAmb	21	38	40.4	
	comp=Z,20nm,0.9s										
WRAB	**Tennant Creek**	**26.39**	**163**	P			**P**	**21**	**38**	**05.1**	**+0.2**
WRAB						pmax	pmax				
	comp=Z,20nm,0.9s										
WRA	**Warramunga Arr**	**26.40**	**163**	P			**P**	**21**	**38**	**04.4**	**-0.5**
WRA	**Warramunga Arr**	**26.40**	**163**	P			**P**	**21**	**38**	**06.0**	**+1.1**
	comp=Z,7.9nm,0.7s,baz=343,slow=10,SNR=40										
WRA				PcP			**PcP**	**21**	**41**	**30.1**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=324,slow=2.2,SNR=5.5										
WRA				S			**S**	**21**	**42**	**35.3**	**+0.6**
	comp=Z,0.9nm,1.1s,baz=337,slow=19,SNR=2.7										
WRA				ScP			**ScP**	**21**	**45**	**07.8**	**+2.7**
	comp=Z,4.2nm,0.7s,baz=339,slow=3.2,SNR=19										
	comp=Z,7.9nm,0.7s										
MBWA	**Marble Bar**	**27.22**	**194**	P			**P**	**21**	**38**	**11.5**	**-0.7**
MBWA						IAmb	IAmb	21	38	42.2	
	comp=Z,53nm,1.3s										
NJ2	**Nanjing**	**27.41**	**346**	*e*P			**P**	**21**	**38**	**15.6**	**+1.8**
NJ2						pmax	pmax				
	comp=Z,9.0nm,0.5s										
PSI	**Prapat**	**27.50**	**266**	LR			LR	21	50	08.5	
	comp=Z,171nm,21.0s,baz=91,slow=38										
PSA00	**Pilbara Seismi**	**27.59**	**193**	P			**P**	**21**	**38**	**14.7**	**-0.9**
PSA00						IAmb	IAmb	21	38	16.6	
	comp=Z,34nm,1.1s										
PSA00	**Pilbara Seismi**	**27.59**	**193**				**P**	**21**	**38**	**15.1**	**-0.5**
PSA00						IAmb	IAmb	21	38	16.6	
	comp=Z,14nm,0.9s										
GSI	**Gunungsitoli**	**29.04**	**263**	P			**P**	**21**	**38**	**28.1**	**-0.5**
GSI						IAmb	IAmb	21	38	32.9	
	comp=Z,65nm,1.3s										
CM31	**Chiang Mai Arr**	**29.74**	**298**	P			**P**	**21**	**38**	**35.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**29.74**	**298**	P			**P**	**21**	**38**	**34.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**29.74**	**298**	P			**P**	**21**	**38**	**34.2**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=120,slow=7.4,SNR=14										
CMAR				PcP			**PcP**	**21**	**41**	**39.1**	**+1.3**
	comp=Z,2.9nm,0.9s,baz=137,slow=1.0,SNR=13										
CMAR				ScP			**ScP**	**21**	**45**	**18.7**	**+3.2**
	comp=Z,1.2nm,0.9s,baz=112,slow=1.1,SNR=7.5										
CMAR				LR			LR	21	50	53.1	
	comp=Z,119nm,18.6s,baz=115,slow=37										
	comp=Z,1.6nm,0.6s										
AS31	**Alice Springs**	**29.84**	**166**	P			**P**	**21**	**38**	**35.2**	**-0.4**
ASAR	**Alice Springs**	**29.84**	**166**	P			**P**	**21**	**38**	**34.7**	**-0.9**
ASAR	**Alice Springs**	**29.84**	**166**	P			**P**	**21**	**38**	**35.2**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=344,slow=6.9,SNR=33										
ASAR				PcP			**PcP**	**21**	**41**	**38.8**	**+0.8**
	comp=Z,5.0nm,0.6s,baz=348,slow=2.1,SNR=16										
ASAR				ScP			**ScP**	**21**	**45**	**18.6**	**+3.0**
	comp=Z,3.9nm,0.6s,baz=344,slow=2.9,SNR=23										
	comp=Z,1.7nm,0.5s										
CHTO	**Chiang Mai**	**29.88**	**299**	P			**P**	**21**	**38**	**36.5**	**+0.5**
CHTO	**Chiang Mai**	**29.88**	**299**	P			**P**	**21**	**38**	**36.5**	**+0.5**
CHTO						pmax	pmax				
	comp=Z,4.0nm,0.9s										
INU	**Inuyama**	**31.35**	**17**	P			**P**	**21**	**38**	**46.7**	**-2.0**
PZH	**PanZhiHua**	**31.50**	**314**	P			**P**	**21**	**38**	**52.6**	**+2.2**
KSAR	**Wonju Array Be**	**31.89**	**2**	P			**P**	**21**	**38**	**54.8**	**+1.3**
KSAR	**Wonju Array Be**	**31.89**	**2**	P			**P**	**21**	**38**	**54.8**	**+1.3**
KSRS	**Korea Array**	**31.91**	**2**	P			**P**	**21**	**38**	**53.5**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=188,slow=9.1,SNR=10										
KSRS				PcP			**PcP**	**21**	**41**	**43.8**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=146,slow=2.4,SNR=4.4										
	comp=Z,3.0nm,0.6s										
KS19	**Wonju Array Si**	**31.95**	**2**	P			**P**	**21**	**38**	**54.6**	**+0.6**
CTAO	**Charters Tower**	**32.01**	**143**	P			**P**	**21**	**38**	**54.9**	**+0.1**
CTAO						IAmb	IAmb	21	40	05.5	
	comp=Z,24nm,1.4s										
CTAO	**Charters Tower**	**32.01**	**143**	P			**P**	**21**	**38**	**54.9**	**+0.1**
CTAO						pmax	pmax				
	comp=Z,24nm,1.4s										
XAN	**Xi'an**	**32.75**	**333**	⇓P			**P**	**21**	**39**	**00.8**	**-0.4**
XAN						pP	pwP	21	39	19.4	+2.0
XAN						pmax	pmax				
	comp=Z,27nm,0.7s										
XAN	**Xi'an**	**32.75**	**333**	P			**P**	**21**	**39**	**00.6**	**-0.5**
XAN						pP	**pP**	**21**	**39**	**10.3**	**-4.0**
MJAR	**Matsushiro Arr**	**32.81**	**18**	P			**P**	**21**	**39**	**02.5**	**+0.9**
MJAR	**Matsushiro Arr**	**32.81**	**18**	P			**P**	**21**	**39**	**00.3**	**-1.3**
	comp=Z,2.7nm,0.9s,baz=197,slow=9.3,SNR=6.6										
MJAR				ScP			**ScP**	**21**	**45**	**25.1**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=192,slow=3.9,SNR=4.2										
	comp=Z,2.7nm,0.9s										
MJAR	**Matsushiro Arr**	**32.81**	**18**	P			**P**	**21**	**39**	**02.5**	**+0.9**
MJAR						pmax	pmax				
	comp=Z,9.0nm,1.6s										
CD2	**Chengdu**	**33.08**	**323**	P			**P**	**21**	**39**	**05.3**	**+1.2**
CD2						pmax	pmax				
	comp=Z,20nm,0.7s										
HNS	**HongShan**	**33.56**	**343**	⇓P			**P**	**21**	**39**	**09.8**	**+1.7**
HNS						pmax	pmax				
	comp=Z,21nm,0.9s										
DL2	**Dalian**	**33.60**	**353**	P			**P**	**21**	**39**	**09.0**	**+0.6**
DL2						pmax	pmax				
	comp=Z,57nm,1.2s										
JMM	**Marumori**	**34.86**	**20**	P			**P**	**21**	**39**	**18.6**	**-0.7**
JMM						IAmb	IAmb	21	39	24.3	
	comp=Z,31nm,1.1s										
BJT	**Baijiatuau**	**35.65**	**346**	P			**P**	**21**	**39**	**25.7**	**-0.4**
BJT						IAmb	IAmb	21	39	36.7	
	comp=Z,20nm,0.8s										
BJT	**Baijiatuau**	**35.65**	**346**	P			**P**	**21**	**39**	**25.7**	**-0.4**
BJT						pmax	pmax				
	comp=Z,20nm,0.8s										
BJT	**Baijiatuau**	**35.65**	**346**	P			**P**	**21**	**39**	**27.2**	**+1.2**
BJT						pP	**pP**	**21**	**39**	**36.5**	**-2.8**
BJI	**Beijing**	**35.66**	**347**	P			**P**	**21**	**39**	**27.0**	**+0.8**
BJI						pP	**pwP**	**21**	**39**	**42.8**	**+0.6**
BJI						sP	**sP**	**21**	**39**	**49.3**	**+3.7**
BJI						PcP	**PcP**	**21**	**41**	**55.4**	**+1.7**
BJI						pmax	pmax				
	comp=Z,9.0nm,0.8s										
MORW	**Morawa**	**35.71**	**196**	P			**P**	**21**	**39**	**26.2**	**-0.5**
MORW						IAmb	IAmb	21	39	28.2	
	comp=Z,12nm,0.8s										
INKA	**Innaminka**	**35.78**	**158**	P			**P**	**21**	**39**	**27.5**	**+0.2**
HNR	**Honiara**	**36.57**	**114**	LR			LR	21	55	04.9	
	comp=Z,116nm,18.8s,baz=313,slow=37										
LZDM	**Lanzhou Array**	**36.85**	**329**	P			**P**	**21**	**39**	**36.8**	**-0.1**
	comp=Z,1.8nm,0.3s,baz=150,slow=10,SNR=4.6										
LZDM				PcP			**PcP**	**21**	**41**	**59.1**	**+1.2**
	comp=Z,2.4nm,0.4s,baz=166,slow=7.6,SNR=3.9										
LZDM				LR			LR	21	56	39.3	
	comp=Z,149nm,18.8s,baz=290,slow=39										
	comp=Z,1.8nm,0.3s										
LZH	**Lanzhou**	**36.87**	**329**	*e*P			**P**	**21**	**39**	**38.3**	**+1.5**
LZH						pP	pP	21	39	49.6	-0.5
LZH						pmax	pmax				
	comp=Z,29nm,1.1s										
JTM	**Tenmabayashi**	**37.59**	**18**	P			**P**	**21**	**39**	**42.0**	**-0.6**
JTM						IAmb	IAmb	21	39	49.6	
	comp=Z,28nm,1.3s										
BRDH	**Bariadhala**	**37.66**	**301**	LR			LR	21	56	48.7	
	comp=Z,75nm,18.1s,baz=182,slow=39										
HHC	**Hu-ho-hao-te**	**37.69**	**342**	*e*P			**P**	**21**	**39**	**46.0**	**+2.4**
HHC						pmax	pmax				
	comp=Z,9.0nm,0.6s										
HHC						pmax	pmax				
	comp=Z,140nm,6.0s										
VLA	**Vladivostok**	**37.85**	**7**	⇑*e*P			**P**	**21**	**39**	**42.0**	**-2.8**
SHL	**Shillong**	**38.61**	**305**

WMQ					LR	LR			
	comp=Z,180nm,24.5s								
PETK	**Petropavlovsk-**	**54.00**	**23**		P	**P**	**21 41 51.0**	**-0.8**	
PETK	**Petropavlovsk-**	**54.00**	**23**		P	**P**	**21 41 51.9**	**+0.1**	
	comp=Z,5.3nm,0.9s,baz=211,slow=4.7,SNR=4.8								
	comp=Z,5.3nm,0.9s								
ZSN	**Zaisan**	**54.90**	**327**		*e*P	**P**	**21 41 57.8**	**-0.7**	
ZSN	**Zaisan**	**54.90**	**327**		*e*P	**P**	**21 41 57.8**	**-0.7**	
SHLS	**Shalkode**	**55.83**	**320**		*e*P	**P**	**21 42 03.1**	**-2.3**	
	comp=Z,8.9nm,0.7s								
SHLS	**Shalkode**	**55.83**	**320**		*e*P	**P**	**21 42 03.1**	**-2.3**	
SHLS					pmax	pmax			
	comp=Z,9.0nm,0.7s								
MK31	**Makanchi Array**	**55.97**	**325**	*c*	*i*P	**P**	**21 42 05.7**	**-0.5**	
MKAR	**Makanchi Array**	**55.97**	**325**		P	**P**	**21 42 06.0**	**-0.2**	
	comp=Z,13nm,0.5s,baz=120,slow=7.8,SNR=194								
MKAR					PcP	**PcP**	**21 43 04.3**	**+0.2**	
	comp=Z,4.1nm,0.7s,baz=111,slow=4.8,SNR=5.1								
MKAR					ScP	**ScP**	**21 47 00.3**	**+1.4**	
	comp=Z,2.0nm,0.9s,baz=130,slow=5.8,SNR=5.9								
MKAR					LR	LR	22 07 00.2		
	comp=Z,106nm,21.4s,baz=356,slow=37								
	comp=Z,13nm,0.5s								
UZB	**Uzynbulak**	**56.11**	**320**		*e*P	**P**	**21 42 07.1**	**-0.3**	
	comp=Z,5.6nm,0.6s								
UZB	**Uzynbulak**	**56.11**	**320**		*e*P	**P**	**21 42 07.1**	**-0.3**	
UZB					pmax	pmax			
	comp=Z,6.0nm,0.6s								
MAKZ	**Makanchi**	**56.16**	**325**		P	**P**	**21 42 06.6**	**-0.9**	
MAKZ					lAmb	lAmb	21 42 08.0		
	comp=Z,11nm,0.7s								
MAKZ	**Makanchi**	**56.16**	**325**		P	**P**	**21 42 06.6**	**-0.9**	
MAKZ					pmax	pmax			
	comp=Z,11nm,0.7s								
MAKZ	**Makanchi**	**56.16**	**325**		P	**P**	**21 42 07.2**	**-0.4**	
PRZ	**Przheval'sk**	**56.20**	**319**		P	**P**	**21 42 08.4**	**+0.3**	
PRZ	**Przheval'sk**	**56.20**	**319**		P	**P**	**21 42 08.4**	**+0.3**	
PRZ					pmax	pmax			
	comp=Z,20nm,0.7s								
TARG	**Taragay, Kyrgy**	**56.26**	**318**		P	**P**	**21 42 08.5**	**-0.3**	
TARG	**Taragay, Kyrgy**	**56.26**	**318**		P	**P**	**21 42 08.5**	**-0.3**	
TARG					pmax	pmax			
	comp=Z,7.0nm,1.0s								
SATY	**Saty**	**56.46**	**319**		*e*P	**P**	**21 42 09.6**	**-0.4**	
	comp=Z,7.4nm,0.6s								
SATY	**Saty**	**56.46**	**319**		*e*P	**P**	**21 42 09.5**	**-0.4**	
SATY					pmax	pmax			
	comp=Z,7.0nm,0.6s								
YAK	**Yakutsk**	**56.53**	**2**		P	**P**	**21 42 10.1**	**+0.2**	
YAK	**Yakutsk**	**56.53**	**2**		*e*P	**P**	**21 42 09.3**	**-0.5**	
YAK					*e**PP	**pP**	**21 42 25.2**	**+1.4**	
YAK					*e*		21 43 05.4		
YAK					*e*		21 44 15.1		
YAK					*e*PPP	PPP	21 45 30.1		
YAK					*e*S	**S**	**21 49 56.4**	**-0.8**	
YAK					*e*		21 51 52.5		
YAK					*e*SS	**SS**	**21 53 45.7**	**+0.4**	
YAK					pmax	pmax			
	comp=Z,75nm,1.0s								
YAK					pmax	pmax			
	comp=N,20nm,1.1s								
YAK					pmax	pmax			
	comp=E,8.0nm,1.2s								
YAK					pmax	pmax			
	comp=Z,150nm,5.3s								
YAK					pmax	pmax			
	comp=N,121nm,4.6s								
YAK					pmax	pmax			
	comp=E,118nm,4.6s								
YAK					smax	smax			
	comp=N,160nm,5.8s								
YAK					smax	smax			
	comp=E,92nm,4.3s								
YAK	**Yakutsk**	**56.53**	**2**		P	**P**	**21 42 09.8**	**0.0**	
KSH	**Kashi**	**56.61**	**314**		P	**P**	**21 42 12.4**	**+1.4**	
KSH					pmax	pmax			
	comp=E,11nm,1.1s								
NIL	**Nilore**	**56.62**	**307**			**P**	**21 42 10.3**	**-0.8**	
NIL					lAmb	lAmb	21 42 12.5		
	comp=Z,29nm,1.1s								
NIL	**Nilore**	**56.62**	**307**		P	**P**	**21 42 10.3**	**-0.8**	
NIL					pmax	pmax			
	comp=Z,29nm,1.1s								
KDJ	**Kajisay**	**56.86**	**318**			**P**	**21 42 12.5**	**-0.3**	
KDJ					lAmb	lAmb	21 42 13.8		
	comp=Z,13nm,0.6s								
KDJ	**Kajisay**	**56.86**	**318**		P	**P**	**21 42 12.5**	**-0.3**	
KDJ					pmax	pmax			
	comp=Z,13nm,0.6s								
TDK	**Taldyqorghan**	**57.38**	**321**		*e*P	**P**	**21 42 16.0**	**-0.3**	
TDK	**Taldyqorghan**	**57.38**	**321**		*e*P	**P**	**21 42 15.9**	**-0.3**	
MDOK	**Medeo**	**57.40**	**319**		*e*P	**P**	**21 42 16.3**	**-0.3**	
MDOK	**Medeo**	**57.40**	**319**		*e*P	**P**	**21 42 16.2**	**-0.3**	
TNSS	**Tian-Shan**	**57.41**	**319**		*e*P	**P**	**21 42 16.2**	**-0.7**	
TNSS	**Tian-Shan**	**57.41**	**319**		*e*P	**P**	**21 42 16.2**	**-0.7**	
AAA	**Alma-Ata**	**57.51**	**319**		*e*P	**P**	**21 42 17.0**	**-0.2**	
AAA	**Alma-Ata**	**57.51**	**319**		*e*P	**P**	**21 42 17.0**	**-0.2**	
BOOM	**Boomskoye usch**	**57.84**	**318**		P	**P**	**21 42 19.3**	**-0.4**	
BOOM					lAmb	lAmb	21 42 58.8		
	comp=Z,7.6nm,1.2s								
BOOM	**Boomskoye usch**	**57.84**	**318**		P	**P**	**21 42 19.3**	**-0.4**	
BOOM					pmax	pmax			
	comp=Z,8.0nm,1.2s								
KUU	**Kurty**	**58.18**	**319**		*e*P	**P**	**21 42 21.6**	**-0.3**	
KUU	**Kurty**	**58.18**	**319**		*e*P	**P**	**21 42 21.6**	**-0.3**	
AAK	**Ala-Archa**	**58.88**	**317**		P	**P**	**21 42 26.8**	**-0.1**	
AAK	**Ala-Archa**	**58.88**	**317**	‖	*e*P	**P**	**21 42 25.8**	**-1.1**	
AAK					pmax	pmax			
	comp=Z,13nm,2.3s								
ZAA0	**Zalesovo Array**	**58.93**	**333**			**P**	**21 42 25.7**	**-1.1**	
ZAA0					lAmb	lAmb	21 42 30.0		
	comp=Z,7.5nm,1.1s								
ZALV	**Zalesovo Beam**	**58.93**	**333**		P	**P**	**21 42 25.8**	**-1.0**	
	comp=Z,3.4nm,0.4s,baz=129,slow=6.3,SNR=19								
ZALV					PcP	**PcP**	**21 43 14.6**	**-0.9**	
	comp=Z,4.6nm,0.8s,baz=170,slow=2.7,SNR=5.2								
	comp=Z,3.4nm,0.4s								
SGDS	**Sogindy**	**59.12**	**318**		*e*P	**P**	**21 42 27.8**	**-0.7**	
KURBB	**Kurchatov Arra**	**60.13**	**327**		P	**P**	**21 42 34.5**	**-0.6**	
	comp=Z,12nm,0.6s,baz=125,slow=6.4,SNR=142								
	comp=Z,12nm,0.6s								
KURK	**Kurchatov**	**60.13**	**327**			**P**	**21 42 34.4**	**-0.8**	
KURK	**Kurchatov**	**60.13**	**327**	*c*	*i*P	**P**	**21 42 34.6**	**-0.5**	
KURK					pmax	pmax			
	comp=Z,12nm,0.7s								
KURK	**Kurchatov**	**60.13**	**327**		P	**P**	**21 42 34.6**	**-0.5**	
KURK					pP	**pP**	**21 42 46.2**	**-3.0**	
BTLS	**Baital**	**60.16**	**320**		*e*P	**P**	**21 42 34.9**	**-0.6**	
	comp=Z,5.9nm,1.0s								
BTLS	**Baital**	**60.16**	**320**		*e*P	**P**	**21 42 34.9**	**-0.6**	
BTLS					pmax	pmax			
	comp=Z,6.0nm,1.0s								
KBL	**Kabul**	**60.22**	**307**		P	**P**	**21 42 35.8**	**-0.6**	
KBL					lAmb	lAmb	21 42 36.7		
	comp=Z,8.9nm,0.8s								
KBL	**Kabul**	**60.22**	**307**		P	**P**	**21 42 35.8**	**-0.6**	
KBL					pmax	pmax			
	comp=Z,9.0nm,0.8s								
GAR	**Garm**	**60.53**	**312**			**P**	**21 42 37.7**	**-0.6**	
DZA	**Taraz**	**61.12**	**317**		*e*P	**P**	**21 42 41.5**	**-0.7**	
DZA	**Taraz**	**61.12**	**317**		*e*P	**P**	**21 42 41.4**	**-0.7**	
CHGR	**Chuyangaron**	**61.28**	**311**			**P**	**21 42 42.7**	**-0.7**	
CHGR					lAmb	lAmb	21 43 05.9		
	comp=Z,12nm,0.7s								
CHGR	**Chuyangaron**	**61.28**	**311**		P	**P**	**21 42 42.7**	**-0.7**	
CHGR					pmax	pmax			
	comp=Z,12nm,0.7s								
SIMJ	**Simiganj**	**61.40**	**311**			**P**	**21 42 43.4**	**-0.8**	
SIMJ					lAmb	lAmb	21 42 44.5		
	comp=Z,8.6nm,1.2s								
KK31	**Karatay Array**	**61.76**	**317**			**P**	**21 42 45.6**	**-0.8**	
KK31					lAmb	lAmb	21 42 46.8		
	comp=Z,13nm,1.1s								
KK31	**Karatay Array**	**61.76**	**317**		P	**P**	**21 42 45.6**	**-0.8**	
KK31					pmax	pmax			
	comp=Z,13nm,1.1s								
KKAR	**Karatay Array**	**61.76**	**317**			**P**	**21 42 45.7**	**-0.7**	
KKAR	**Karatay Array**	**61.76**	**317**		P	**P**	**21 42 45.7**	**-0.7**	
IUG	**luzhnay**	**61.76**	**315**		*e*P	**P**	**21 42 46.3**	**-0.3**	
	comp=Z,14nm,1.1s								
IUG	**luzhnay**	**61.76**	**315**		*e*P	**P**	**21 42 46.3**	**-0.3**	
IUG					pmax	pmax			
	comp=Z,14nm,1.1s								
BRLS	**Boroldav**	**62.20**	**316**		*e*P	**P**	**21 42 48.9**	**-0.6**	
	comp=Z,6.2nm,1.1s								
BRLS	**Boroldav**	**62.20**	**316**		*e*P	**P**	**21 42 48.8**	**-0.6**	
BRLS					pmax	pmax			
	comp=Z,6.0nm,1.1s								
BRZS	**Berezniki**	**63.11**	**324**		*e*P	**P**	**21 42 55.3**	**0.0**	
BRZS	**Berezniki**	**63.11**	**324**		*e*P	**P**	**21 42 55.3**	**0.0**	
LBZ	**Lake Benmore**	**63.28**	**146**		P	**P**	**21 42 56.0**	**-0.5**	
BVAR	**Borovoye Array**	**65.72**	**327**		P	**P**	**21 43 11.8**	**-0.4**	
	comp=Z,11nm,0.8s,baz=120,slow=8.8,SNR=35								
	comp=Z,11nm,0.8s								
BORK	**Borovoye**	**65.76**	**327**	*c*	*e*P	**P**	**21 43 11.9**	**-0.6**	
BORK					pmax	pmax			
	comp=Z,14nm,0.9s								
TIXI	**Tiksi**	**66.16**	**1**			**P**	**21 43 14.8**	**0.0**	
TIXI					lAmb	lAmb	21 43 21.5		
	comp=Z,15nm,0.8s								
TIXI	**Tiksi**	**66.16**	**1**	‖	*e*P	**P**	**21 43 15.1**	**+0.4**	
TIXI					pmax	pmax			
	comp=Z,15nm,1.0s								
TIXI	**Tiksi**	**66.16**	**1**		P	**P**	**21 43 14.4**	**-0.3**	
AB31	**Akbulak array**	**70.62**	**320**			**P**	**21 43 42.4**	**-0.6**	
AB31					lAmb	lAmb	21 43 43.1		
	comp=Z,7.6nm,0.8s								
ABKAR	**Akbulak array**	**70.62**	**320**			**P**	**21 43 42.1**	**-0.9**	
SVE	**Sverdlovsk**	**72.34**	**328**		*e*P	**P**	**21 43 52.6**	**-0.6**	
SVE					pmax	pmax			
	comp=Z,14nm,0.9s								
CASY	**Casey**	**72.45**	**187**		P	**P**	**21 43 54.8**	**+1.2**	
CASY					lAmb	lAmb	21 44 10.1		
	comp=Z,6.9nm,0.8s								
DRV	**Dumont d'Urvil**	**72.59**	**174**		P	**P**	**21 43 54.4**	**0.0**	
ARTI	**Arti**	**73.41**	**327**		P	**P**	**21 43 58.2**	**-1.4**	
ARTI					lAmb	lAmb	21 43 59.1		
	comp=Z,10.0nm,0.8s								
ARTI	**Arti**	**73.41**	**327**	*c*	*i*P	**P**	**21 43 58.4**	**-1.2**	
ARTI					*PP	**PcP**	**21 44 15.0**	**-0.6**	
ARTI					S	**S**	**21 53 22.6**	**-2.0**	
ARTI					SS	**SS**	**21 58 02.7**	**-5.0**	
ARTI					pmax	pmax			
	comp=Z,11nm,1.0s								
ARTI	**Arti**	**73.41**	**327**		P	**P**	**21 43 58.3**	**-1.2**	
M16K	**Timber Creek**	**77.86**	**29**		P	**P**	**21 44 25.2**	**+0.2**	
M16K					lAmb	lAmb	21 44 25.8		
	comp=Z,36nm,1.4s								
AKT	**Akhty**	**77.92**	**311**		*e*P	**P**	**21 44 25.8**	**-0.1**	
AKT					*e*		21 44 35.0		
AKT					*e**PP	**pP**	**21 44 41.9**	**+1.4**	
AKT					*e*		21 47 25.3		
AKT					pmax	pmax			
	comp=Z,25nm,1.2s								
K17K	**Iditarod**	**78.48**	**27**		P	**P**	**21 44 28.3**	**0.0**	
K17K					lAmb	lAmb	21 45 01.9		
	comp=Z,34nm,1.6s								
KIRV	**Kirov**	**78.60**	**329**	*c*	*e*P	**P**	**21 44 28.2**	**-0.8**	
BELG	**Belogornoye**	**78.86**	**322**	*c*	*e*P	**P**	**21 44 29.3**	**-1.3**	
BELG					pmax	pmax			
	comp=Z,4.0nm,0.9s								
RAYN	**Ar Rayn**	**79.50**	**293**		P	**P**	**21 44 33.6**	**-1.2**	
RAYN	**Ar Rayn**	**79.50**	**293**		P	**P**	**21 44 33.6**	**-1.2**	
RAYN					pmax	pmax			
	comp=Z,4.0nm,0.8s								
H19K	**Roundabout Mou**	**79.78**	**24**			**P**	**21 44 36.9**	**+1.6**	
H19K					lAmb	lAmb	21 47 09.9		
	comp=Z,42nm,1.9s								
CCD	**Concordia, Ant**	**80.42**	**181**		P	**P**	**21 44 40.0**	**+0.9**	
IMAR	**Indian Mountai**	**80.94**	**24**		P	**P**	**21 44 41.9**	**+0.2**	
PPLA	**Purkeypile**	**81.29**	**27**		P	**P**	**21 44 44.8**	**+1.1**	
KBZ	**Khabaz**	**81.57**	**313**		P	**P**	**21 44 45.9**	**+0.6**	
	comp=Z,1.9nm,0.8s,baz=80,slow=21,SNR=1.9								
	comp=Z,1.9nm,0.8s								
GURO	**Guroymak-BITLI**	**82.23**	**308**		P	**P**	**21 44 49.5**	**+0.3**	
GURO					lAmb	lAmb	21 44 51.5		
	comp=Z,6.0nm,0.6s								
VOI	**Vohitsoka**	**82.40**	**247**		P	**P**	**21 44 50.6**	**+0.3**	
VRH	**Novokhopyorsk**	**82.45**	**321**		*e*P	**P**	**21 44 46.6**	**-3.3**	
VRH					pmax	pmax			
	comp=Z,10.0nm,0.9s								
G24K	**Hadweenzic Riv**	**83.52**	**24**			**P**	**21 44 56.1**	**+0.9**	
G24K					lAmb	lAmb	21 45 05.6		
	comp=Z,9.1nm,1.1s								
ILAR	**Eielson Array**	**83.73**	**25**		P	**P**	**21 44 54.9**	**-1.4**	
	comp=Z,1.8nm,0.9s,baz=250,slow=4.6,SNR=11								
ILAR					LR	LR	22 19 07.0		
	comp=Z,90nm,21.4s,baz=88,slow=33								
	comp=Z,1.8nm,0.9s								
KLMR	**Klimovskoe**	**83.76**	**331**		*e*P	P	21 44 51.6	-4.8	
KLMR					pmax	pmax			
	comp=Z,31nm,1.0s								
VORD	**Divnogorie**	**83.98**	**321**		*e*P	**P**	**21 44 55.9**	**-1.9**	
VORD					pmax	pmax			
	comp=Z,5.0nm,0.9s								
VORR	**Voronezh**	**84.02**	**321**		*e*P	**P**	**21 44 54.2**	**-3.8**	
VORR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
VSR	**Storozhevoye**	**84.06**	**321**		*e*P	**P**	**21 44 56.2**	**-2.0**	
VSR					pmax	pmax			
	comp=Z,6.0nm,0.9s								
LPSR	**Galich'ya Gora**	**84.17**	**322**		*e*P	**P**	**21 44 57.5**	**-1.2**	
LPSR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
BMAR	**Burnt Mountain**	**84.66**	**23**			**P**	**21 45 02.2**	**+1.3**	
VNDA	**Vanda**	**85.14**	**173**		P	**P**	**21 45 03.4**	**+0.3**	
VNDA	**Vanda**	**85.14**	**173**		P	**P**	**21 45 03.4**	**+0.3**	
	comp=Z,2.2nm,0.7s,baz=302,slow=5.8,SNR=7.4								
	comp=Z,2.2nm,0.7s								
VNDA	**Vanda**	**85.14**	**173**		P	**P**	**21 45 03.4**	**+0.3**	
VNDA					pmax	pmax			
	comp=Z,3.0nm,0.8s								
MAW	**Mawson**	**85.22**	**200**		P	**P**	**21 45 04.7**	**+1.2**	
	comp=Z,2.7nm,0.8s,baz=35,slow=4.8,SNR=7.3								
	comp=Z,2.7nm,0.8s								
OBN	**Obninsk**	**85.48**	**325**		P	**P**	**21 45 04.1**	**-1.1**	
OBN	**Obninsk**	**85.48**	**325**	*c*	*i*P	**P**	**21 45 04.2**	**-1.0**	
OBN					*i* *PP	**pP**	**21 45 16.6**	**-3.3**	
OBN					pmax	pmax			
	comp=Z,24nm,0.9s								
OBN	**Obninsk**	**85.48**	**325**		P	**P**	**21 45 04.4**	**-0.8**	
BCAR	**Beaver Creek A**	**86.03**	**27**		P	**P**	**21 45 08.5**	**+0.6**	
MMAI	**Mount Meron Ar**	**87.89**	**303**		P	**P**	**21 45 19.4**	**+1.7**	
	comp=Z,1.0nm,0.7s,baz=98,slow=2.9,SNR=1.5								
	comp=Z,1.0nm,0.7s								
KEV	**Kevo**	**88.19**	**340**		P	**P**	**21 45 17.9**	**-0.2**	
KEV	**Kevo**	**88.19**	**340**		P	**P**	**21 45 17.9**	**-0.2**	
KEV					pmax	pmax			
	comp=Z,109nm,2.0s								
BR131	**Keskin Array S**	**88.67**	**310**	‖	*e*P	**P**	**21 45 18.4**	**-2.9**	
BRTR	**Keskin Array B**	**88.67**	**310**		P	**P**	**21 45 19.8**	**-1.5**	
	comp=Z,1.0nm,0.7s,baz=119,slow=4.9,SNR=5.6								
	comp=Z,1.0nm,0.7s								
ARA0	**ARCESS Array S**	**88.74**	**340**		*e*P	**P**	**21 45 20.8**	**0.0**	
ARCES	**ARCESS Array B**	**88.74**	**340**		P	**P**	**21 45 20.5**	**-0.2**	
ARCES	**ARCESS Array B**	**88.74**	**340**		P	**P**	**21 45 20.7**	**-0.1**	
	comp=Z,16nm,0.7s,baz=84,slow=6.1,SNR=40								
	comp=Z,16nm,0.7s								
ARCES	**ARCESS Array B**	**88.74**	**340**		P	**P**	**21 45 20.5**	**-0.2**	
ARCES					pmax	pmax			
	comp=Z,19nm,0.8s								
SPB2	**Spitsbergen Ar**	**88.75**	**349**		P	**P**	**21 45 21.0**	**+0.3**	
SPITS	**Spitsbergen Ar**	**88.75**	**349**		P	**P**	**21 45 20.3**	**-0.4**	
	comp=Z,12nm,0.7s,baz=92,slow=8.3,SNR=16								
	comp=Z,12nm,0.7s								
SPITS	**Spitsbergen Ar**	**88.75**	**349**		P	**P**	**21 45 20.7**	**0.0**	
SPITS					pmax	pmax			
	comp=Z,26nm,1.0s								
KTK1	**Kautokeino**	**89.65**	**339**		*e*P	**P**	**21 45 24.9**	**-0.1**	
FIA1	**FINESS Array S**	**90.18**	**332**		P	**P**	**21 45 26.7**	**-0.9**	
FINES	**FINESS Array B**	**90.18**	**332**		P	**P**	**21 45 26.9**	**-0.7**	
	comp=Z,4.6nm,0.6s,baz=46,slow=6.0,SNR=28								
	comp=Z,4.6nm,0.6s								
AKASG	**Malin Array Be**	**90.36**	**321**		P	**P**	**21 45 27.9**	**-0.7**	
	comp=Z,0.8nm,0.5s,baz=68,slow=4.7,SNR=5.4								
	comp=Z,0.8nm,0.5s								
AKASG	**Malin Array Be**	**90.36**	**321**		P	**P**	**21 45 28.0**	**-0.7**	
MNK	**Minsk**	**90.54**	**325**		*i* P	**P**	**21 45 28.2**	**-1.3**	
	comp=E,6.0nm,0.8s								
MNK					*i* P	**P**	**21 45 28.2**	**-1.3**	
	comp=N,6.0nm,0.9s								
MNK					*i* P	**P**	**21 45 28.2**	**-1.3**	
	comp=Z,14nm,0.8s,baz=80								
MNK					*i* pP	**pP**	**21 45 45.2**	**+0.9**	
MNK					*i* sP	sP	21 46 00.6	+11	
MNK					*i* PP	**PP**	**21 49 03.6**	**-0.9**	
MNK					*i* PPP	PPP	21 51 01.4		
MNK					*i* SKS		21 55 10.4		
MNK					*i* S	**SKSac**	**21 55 53.8**	**-2.6**	
MNK					*i* sS	**ScS**	**21 56 24.2**	**+0.1**	
MNK					*i* SKKS		21 57 45.1		
MNK					*i* PS	PnS	21 58 01.7	+27	
MNK					*i* SS	SS	22 02 32.6	+10	
MNK					*i* SSS	SSS	22 08 54.4		
MNK	**Minsk**	**90.54**	**325**		*i* P	**P**	**21 45 28.1**	**-1.3**	
MNK					*i* *PP	**pP**	**21 45 45.1**	**+0.9**	
MNK					*i*		21 49 03.6		
MNK					*i* PPP	PPP	21 51 01.4		
MNK					*i* S	**SKSac**	**21 55 53.8**	**-2.6**	
MNK					*i* *SS	**ScS**	**21 56 24.2**	**+0.1**	
MNK					*i* PS	PnS	21 58 01.6	+27	
MNK					*i* SS	SS	22 02 32.5	+10	
MNK					pmax	pmax			
	comp=N,6.0nm,0.9s								
MNK					pmax	pmax			
	comp=E,6.0nm,0.8s								
MNK					pmax	pmax			
	comp=Z,14nm,0.8s								
TRO	**Tromso**	**90.94**	**340**		*e*P	**P**	**21 45 30.5**	**-0.5**	
STEI	**Steigen**	**92.79**	**339**		*e*P	**P**	**21 45 39.4**	**-0.1**	
FAUS	**Fauske**	**92.97**	**339**		*e*P	**P**	**21 45 39.6**	**-0.9**	
SUW	**Suwalki**	**93.34**	**325**		P	**P**	**21 45 41.3**	**-1.1**	
SUW	**Suwalki**	**93.34**	**325**		P	**P**	**21 45 41.3**	**-1.1**	
MLR	**Muntele Rosu**	**93.44**	**316**		P	**P**	**21 45 42.9**	**-0.4**	
MLR					lAmb	lAmb	21 45 55.9		
	comp=Z,5.5nm,1.0s								
MLR	**Muntele Rosu**	**93.44**	**316**		P	**P**	**21 45 42.9**	**-0.4**	
MLR					pmax	pmax			
	comp=Z,6.0nm,1.0s								
BURAR	**Bucovina Array**	**93.51**	**318**		P	**P**	**21 45 43.0**	**-0.5**	
LEIR	**Leirfjorden**	**94.26**	**338**		*e*P	**P**	**21 45 45.4**	**-0.9**	
QSPA	**South Pole Qui**	**95.32**	**180**		P	**P**	**21 45 53.1**	**+1.8**	
QSPA					lAmb	lAmb	21 45 57.0		
	comp=Z,6.5nm,1.2s								
QSPA	**South Pole Qui**	**95.32**	**180**		P	**P**	**21 45 51.9**	**+0.5**	
	comp=Z,2.6nm,1.0s,baz=334,slow=2.3,SNR=6.2								
	comp=Z,2.6nm,1.0s								
HFS	**Hagfors**	**96.36**	**332**		P	**P**	**21 45 55.1**	**-1.0**	
	comp=Z,1.8nm,0.6s,baz=95,slow=7.4,SNR=9.2								
	comp=Z,1.8nm,0.6s								
NB2	**NORSAR Subarra**	**97.12**	**334**		P	**P**	**21 45 58.0**	**-1.6**	
	comp=Z,3.3nm,0.8s,baz=66,slow=4.6								
NB2	**NORSAR Subarra**	**97.12**	**334**		P	**P**	**21 45 58.0**	**-1.6**	
	comp=Z,3.3nm,0.8s,baz=66,slow=4.6								
NOA	**NORSAR Array B**	**97.12**	**334**		P	**P**	**21 45 58.0**	**-1.6**	
	comp=Z,2.2nm,0.7s,baz=65,slow=4.6,SNR=12								
	comp=Z,2.2nm,0.7s								
NOA	**NORSAR Array B**	**97.12**	**334**		P	**P**	**21 45 58.0**	**-1.6**	
GERES	**GERESS Array B**	**100.55**	**322**		P	**Pdif**	**21 46 13.3**	**-1.9**	
	comp=Z,0.4nm,0.6s,baz=39,slow=8.6,SNR=4.1								
SCHQ	**Schefferville**	**118.95**	**9**		PKP	**PKiKP**	**21 51 15.6**	**-0.3**	
	comp=Z,29nm,0.7s,baz=359,slow=3.7,SNR=1.6								
TXAR	**Lajitas Array**	**120.83**	**51**		PKP	**PKPdf**	**21 51 19.7**	**-0.6**	
	comp=Z,0.2nm,0.6s,baz=324,slow=2.3,SNR=4.1								
TORD	**Torodi Ar. Bea**	**122.05**	**289**		PKP	**PKPdf**	**21 51 21.3**	**-1.5**	
	comp=Z,2.5nm,0.7s,baz=36,slow=2.9,SNR=16								
DBIC	**Dimbokro**	**129.87**	**283**		PKP	**PKiKP**	**21 51 38.1**	**-0.6**	
	comp=Z,3.3nm,0.7s,baz=0.1,slow=5.5,SNR=3.8								
PLCA	**Paso Flores**	**141.71**	**159**		PKP	**PKPdf**	**21 52 00.1**	**+0.9**	
	comp=Z,4.2nm,0.7s,baz=257,slow=1.9,SNR=16								
DSLB	**Salisbury**	**157.88**	**20**		*e*P	**PKPdf**	**21 52 26.3**	**+1.3**	
CPUP	**Villa Florida**	**158.91**	**171**		PKP	**PKPdf**	**21 52 25.6**	**-0.3**	
	comp=Z,0.2nm,0.4s,baz=169,slow=15,SNR=3.0								
CPUP					PKPab	**PKPab**	**21 53 01.1**	**-0.9**	
	comp=Z,0.2nm,0.4s,baz=57,slow=11,SNR=1.6								
LPAZ	**La Paz**	**162.14**	**128**		PKP	**PKPdf**	**21 52 30.9**	**+0.4**	
	comp=Z,1.3nm,0.6s,baz=45,slow=5.4,SNR=5.7								
LPAZ					PKPab	**PKPab**	**21 53 17.8**	**+0.5**	
	comp=Z,1.5nm,1.0s,baz=219,slow=3.1,SNR=3.6				

H04N2	**CROZET ISLANDS**	**61.73**	**215**	T	T	23 00 50.6		
	baz=56,slow=75,SNR=9.9							
H04N1	**CROZET ISLANDS**	**61.75**	**215**	T	T	23 00 46.8		
	baz=56,slow=75,SNR=12							
H04N3	**CROZET ISLANDS**	**61.75**	**215**	T	T	23 00 47.1		
	baz=56,slow=75,SNR=9.0							
H04S1	**CROZET ISLANDS**	**62.05**	**214**	T	T	23 01 04.2		
	baz=55							
H04S3	**CROZET ISLANDS**	**62.07**	**214**	T	T	23 01 04.5		
	baz=55,slow=74							
H04S2	**CROZET ISLANDS**	**62.07**	**214**	T	T	23 01 04.8		
	baz=55,slow=74							
FINES	**FINES Array B**	**81.54**	**332**	P	**P**	**21 56 13.6**		**-0.2**
	3.5nm,1.1s,baz=115,slow=6.6,SNR=1.5							
	3.5nm,1.1s							

IDC ***21*** *21:57:28.8±1.0,3°.54N×64°.02E, h0km, mb3.8/10, mbtmp3.8/10, MS3.9/2, Error ellipse: s-maj=32.7km s-min=20.5km az=30.0*

ISC 21 21:57:32.4±1.2,3°.5N±0°.2×64°.0E±0°.2, h23km, n16, σ0§89/11, mb3.9/9, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRDH	**Bariadhala**	**32.83**	**52**	LR	LR	22 18 50.3	
	comp=Z,117nm,19.2s,baz=270,slow=39						
CMAR	**Chiang Mai Arr**	**37.24**	**64**	P	**P**	**22 04 42.9**	**+0.3**
	0.4nm,0.5s,baz=263,slow=9.6,SNR=6.4						
	0.4nm,0.5s						
ASF	**Jabal al Asfar**	**38.20**	**321**	LR	LR	22 19 14.5	
	comp=Z,273nm,19.3s,baz=320,slow=34						
BRTR	**Keskin Array B**	**45.32**	**327**	P	**P**	**22 05 50.0**	**+1.1**
	0.6nm,0.8s,baz=152,slow=9.4,SNR=2.8						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**48.49**	**12**	P	**P**	**22 06 12.8**	**-0.4**
	0.7nm,0.9s,baz=214,slow=8.0,SNR=3.7						
	0.7nm,0.9s						
ZALV	**Zalesovo Beam**	**53.06**	**15**	P	**P**	**22 06 45.6**	**-2.0**
	0.5nm,0.3s,baz=208,slow=5.9,SNR=4.2						
	0.5nm,0.3s						
SONM	**Songino Array**	**57.17**	**33**	P	**P**	**22 07 18.1**	**+0.5**
	1.4nm,0.9s,baz=247,slow=6.4,SNR=5.7						
	1.4nm,0.9s						
H01W3	**Cape Leeuwin H**	**60.58**	**134**	T	T	23 13 12.5	
	baz=299						
H01W2	**Cape Leeuwin H**	**60.58**	**134**	T	T	23 13 06.5	
	baz=299						
H01W1	**Cape Leeuwin H**	**60.59**	**134**	T	T	23 13 08.3	
	baz=299						
TORD	**Torodi Ar. Bea**	**62.26**	**283**	P	**P**	**22 07 52.5**	**-0.6**
	0.7nm,1.1s,baz=95,slow=4.9,SNR=4.0						
	0.7nm,1.1s						
HFS	**Hagfors**	**68.16**	**335**	P	**P**	**22 08 30.7**	**+0.2**
	1.5nm,0.7s,baz=116,slow=6.6,SNR=4.3						
	1.5nm,0.7s						
ESDC	**Sonseca Array**	**70.86**	**311**	P	**P**	**22 08 47.7**	**-0.1**
	1.0nm,1.0s,baz=82,slow=9.4,SNR=4.0						
	1.0nm,1.0s						
WRA	**Warramunga Arr**	**72.82**	**112**	P	**P**	**22 08 60.0**	**+0.1**
	2.8nm,0.9s,baz=287,slow=5.4,SNR=11						
	2.8nm,0.9s						
ASAR	**Alice Springs**	**73.13**	**116**	P	**P**	**22 09 01.6**	**-0.1**
	1.7nm,0.9s,baz=279,slow=6.0,SNR=11						
	1.7nm,0.9s						
TXAR	**Lajitas Array**	**145.24**	**341**	PKPbc	**PKPdf**	**22 17 09.5**	**+0.4**
	1.7nm,0.9s,baz=52,slow=2.6,SNR=13						

PRU ***21*** *22:07:25.7, 40°.36N×19°.45E, h104km, M4.8*
TIR ***21*** *22:07:27.6, 41°.59N×19°.46E, h10km±1km, Ml4.9/4*
BJI ***21*** *22:07:27.0, 41°.40N×19°.40E, h10km±1km, mB5.3/5, mb4.8/37, Ms4.3/2, Ms7 4.0/2*
SOF ***21*** *22:07:28.8, 41°.32N±0°.02×19°.42E±0°.07, h6km±5km, MD4.7/9*
IDC ***21*** *22:07:28.7±0.4, 41°.32N×19°.47E, h0km, mb4.4/25, mbtmp4.4/41, ML4.2/13, MS3.9/32, Error ellipse: s-maj=8.4km s-min=7.6km az=8.0*
MOS ***21*** *22:07:29.0±1.1, 41°.36N×19°.40E, h12km, mb4.9/23, Error ellipse: s-maj=3.9km s-min=2.7km az=86.7*
NEIC ***21*** *22:07:30.5±1.2, 41°.32N±0°.05×19°.53E±0°.07, h10km±1km, mb4.8/81, Error ellipse: s-maj=8.9km s-min=8.3km az=188.0*
NAO ***21*** *22:07:30.7, 41°.36N×19°.42E, h10km, MB3.7*
THE ***21*** *22:07:30.6, 41°.N±6°×1°.9E±1°.1, h12km, M4.3/27, MLh4.3/27*
SKO ***21*** *22:07:31.1, 41°.32N×19°.37E, h13km, ML4.7*
MCSM ***21*** *22:07:31.3±0.6, 41°.N±4°×1°.9E±°, h10km±4km, mb4.8, mB5.1, MLv4.8, Mw(mB)4.5*
MED_RC ***21*** *22:07:31.0±0.3, 41°.44N×19°.48E, h22km, MW4.6/21, Moment Tensor Solution.Mantle waves: s21,c32; Duration: 1§1 Moment tensor: Scale 10^16Nm; Mrr0.91±.10; Mθθ0.03±.06; Mϕϕ-0.93±.06; Mrθ0.13±.07; Mθϕ0.58±.04; Mϕr0.01±.07; Best double couple: M◎1.07000×10^16 NP1:ϕs346.00000°, δ45.00000°, λ106.00000°. NP2:ϕs144.00000°, δ47.00000°, λ75.00000°. Principal axes: T 0.9300, Plg79.0000°, Azm341.0000°; N 0.2700, Plg11.0000°, Azm154.0000°; P -1.2100, Plg1.0000°, Azm245.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
PDG ***21*** *22:07:31.1±0.3, 41°.31N×19°.48E, h18km, MD4.7/11, ML4.6/11 Error ellipse: s-maj=0.9km s-min=2.0km az=0.0*
BEO ***21*** *22:07:32.6±0.3, 41°.34N×19°.55E, h12km±2km, ML4.5/28*
BGR ***21*** *22:07:33.5±0.5, 41°.39N×19°.49E, h10km, ML4.5, Error ellipse: s-maj=8.9km s-min=5.6km az=19.0*
AFAD ***21*** *22:07:34.0, 41°.29N×19°.74E, h54km, MW4.4*
RHSSO ***21*** *22:07:34.2±0.8, 41°.51N×19°.37E, h10km±3km, ML4.7/9*

ISC 21 22:07:31.2±0.6, 41°.34N±0°.02×19°.53E±0°.02, h17km±3km, n943, σ1§63/1053, mb4.8/79, MS4.1/24, 67C-49D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.25**	**89**	⇓P	**Pg**	**22 07 36.8**	**-0.1**
TIR				Sg	**Sg**	**22 07 40.4**	**-0.4**
TIR				AML	AML	22 07 42.9	
	205nm,0.4s						
ULC	**Ulcinj**	**0.66**	**341**	⇑*i* Pg	**Pg**	**22 07 44.0**	**-0.2**
ULC				*i* Sg	**Sn**	**22 07 54.7**	**-1.0**
VLO	**Vlora**	**0.87**	**182**	⇑Pg	**Pn**	**22 07 50.7**	**+2.1**
VLO				Sg	**Sn**	**22 08 04.3**	**+3.5**
VLO				AML	AML	22 08 10.2	
	226nm,0.7s						
VLO	**Vlora**	**0.87**	**182**	P	**Pn**	**22 07 50.6**	**+1.9**
VLO				S	**Sn**	**22 08 04.4**	**+3.5**
VLO	**Vlora**	**0.87**	**182**	P	**Pn**	**22 07 49.8**	**+1.1**
DRME	**Dracevica, Mon**	**0.88**	**343**	*e*Pg	**Pn**	**22 07 49.2**	**+0.4**
DRME				*e*Sg	**Sn**	**22 08 02.7**	**+1.5**
DRME	**Dracevica, Mon**	**0.88**	**343**	⇓*i* Pg	**Pg**	**22 07 48.2**	**-0.2**
DRME				*i* Sg	**Sn**	**22 08 03.3**	**+2.1**
OHR	**Ohrid**	**0.98**	**103**	*i* Pg	**Pb**	**22 07 49.4**	**-0.4**
OHR				*i* Sg	**Sn**	**22 08 07.5**	**+3.7**
OHR				*e*Lg	Lg	22 08 08.1	
	comp=N,25μm,1.0s						
OHR				*e*Lg	Lg	22 08 09.9	
	comp=E,11μm,0.5s						
BUM	**Brajici-Budva**	**1.07**	**334**	⇑*i* Pg	**Pg**	**22 07 51.8**	**-0.2**
BUM				*i* Sg	**Sn**	**22 08 08.6**	**+2.7**
PDG	**Podgorica**	**1.11**	**349**		**Pb**	**22 07 51.7**	**-0.2**
PDG				Sg	**Sg**	**22 08 09.2**	**+2.1**
PDG	**Podgorica**	**1.11**	**349**	⇑P	**Pg**	**22 07 53.4**	**+0.8**
PDG				⇑S	**Sg**	**22 08 07.8**	**+0.7**
PDG	**Podgorica**	**1.11**	**349**	*e*Pg	**Pg**	**22 07 53.3**	**+0.7**
PDG				*e*Sg	**Sg**	**22 08 08.4**	**+1.3**
PDG	**Podgorica**	**1.11**	**349**	⇑*i* Pg	**Pg**	**22 07 51.8**	**-0.1**
PDG				*i* Sg	**Sg**	**22 08 10.2**	**+3.1**
KBN	**Korca**	**1.19**	**127**	⇑Pg	**Pg**	**22 07 53.9**	**-0.4**
KBN				Sg	**Sg**	**22 08 13.2**	**+3.4**
KBN	**Korca**	**1.19**	**127**	P	**Pg**	**22 07 55.0**	**+0.7**
KBN				S	**Sg**	**22 08 14.2**	**+4.3**
KBN	**Korca**	**1.19**	**127**	P	**Pg**	**22 07 54.0**	**-0.3**
CEME	**Cevo**	**1.29**	**339**	⇑*i* Pg	**Pb**	**22 07 55.3**	**+0.3**
CEME				*e*Sg	**Sg**	**22 08 15.1**	**+2.2**
PVY	**Plav**	**1.29**	**14**	⇓*i* Pg	**Pg**	**22 07 56.0**	**-0.2**
HCY	**Herceg Novi**	**1.35**	**325**	⇑*i* Pg	**Pg**	**22 07 57.0**	**-0.2**
HCY				*i* Sg	**Sg**	**22 08 16.0**	**+1.2**
NKME	**Niksic**	**1.49**	**343**	⇑*i* Pg	**Pb**	**22 07 58.8**	**+0.4**
NKME				*i* Sg	**Sg**	**22 08 20.5**	**+1.2**
KOME	**Kolasin**	**1.51**	**360**	*e*Pg	**Pg**	**22 08 00.5**	**+0.2**
KOME				*e*Sg	**Sg**	**22 08 21.1**	**+1.2**
KOME	**Kolasin**	**1.51**	**360**	⇓*i* Pg	**Pb**	**22 07 58.4**	**-0.4**
KOME				*e*Sg	**Sg**	**22 08 21.3**	**+1.4**
BEY	**Berane**	**1.55**	**10**	*e*Pg	**Pb**	**22 08 00.3**	**+0.8**
BEY				*e*Sg	**Sb**	**22 08 19.9**	**+1.0**
IVA	**Berane**	**1.55**	**10**	*e*Pn	**Pb**	**22 07 59.2**	**-0.3**
IVA				*i* Sn	**Sg**	**22 08 21.6**	**+0.3**
TREB	**Trebinje**	**1.63**	**328**	*e*Pg	**Pb**	**22 08 00.0**	**-0.8**
TREB				*e*Sg	**Sn**	**22 08 19.4**	**-0.3**
TREB	**Trebinje**	**1.63**	**328**	*e*Pn	**Pb**	**22 08 00.7**	**-0.1**
KEK	**Kerkira**	**1.64**	**173**		**Pg**	**22 08 03.6**	**+0.8**
BRY	**Bratogost**	**1.72**	**335**	⇑*i* Pn	**Pb**	**22 08 02.0**	**-0.5**
BRY				*i* Sn	**Sg**	**22 08 25.8**	**-1.0**
IGT	**Igoumenitsa**	**1.91**	**161**	⇑Pn	**Pb**	**22 08 05.3**	**-0.3**
IGT				Sn	**Sg**	**22 08 36.5**	**+3.8**
IGT	**Igoumenitsa**	**1.91**	**161**	P	**Pb**	**22 08 04.5**	**-1.1**
IGT	**Igoumenitsa**	**1.91**	**161**	*i* Pn	**Pb**	**22 08 04.5**	**-1.1**
IGT				*i* Sn	**Sg**	**22 08 32.9**	**+0.2**
IGT	**Igoumenitsa**	**1.91**	**161**	*e*Pn	**Pb**	**22 08 04.6**	**-0.9**
IGT				*e*Sn	**Sb**	**22 08 29.6**	**+0.5**
UPM	**Unac-Piva**	**1.92**	**346**	⇓*i* Pn	**Pb**	**22 08 05.4**	**-0.4**
UPM				*i* Sn	**Sb**	**22 08 30.6**	**+1.1**
SJES	**Sjenica**	**1.94**	**10**	*e*Pn	**Pb**	**22 08 07.0**	**+0.8**
SJES				*e*Sn	**Sb**	**22 08 30.8**	**+0.6**
NOCI	**Noci**	**1.95**	**254**	⇑Pn	**Pn**	**22 08 04.2**	**+0.7**
NOCI				Sn	**Sb**	**22 08 31.3**	**+1.1**
NOCI				AML	AML	22 08 43.5	
	comp=E,50nm,0.4s						
JAN	**Janina**	**1.96**	**149**	P	**Pb**	**22 08 06.0**	**-0.5**
JAN	**Janina**	**1.96**	**149**	P	**Pb**	**22 08 06.0**	**-0.5**
KZN	**Kozani**	**1.99**	**121**	P	**Pb**	**22 08 06.7**	**-0.3**
KZN	**Kozani**	**1.99**	**121**	P	**Pb**	**22 08 07.0**	**0.0**
STON	**Ston**	**2.05**	**319**	⇑*i* Pn	**Pn**	**22 08 05.4**	**+0.6**
STON				*e*Sn	**Sn**	**22 08 29.4**	**-0.5**
STON	**Ston**	**2.05**	**319**	*e*Pn	**Pn**	**22 08 06.2**	**+1.4**
PRMD	**Pramanda**	**2.17**	**146**	P	**Pb**	**22 08 09.0**	**-1.0**
SELS	**Selova**	**2.21**	**32**	*e*Pn	**Pb**	**22 08 09.4**	**-1.4**
SELS				*e*Sn	**Sb**	**22 08 37.6**	**-0.3**
BARS	**Barje**	**2.25**	**48**	*i* Pn	**Pb**	**22 08 10.1**	**-1.3**
BARS				*i* Sn	**Sb**	**22 08 39.9**	**+1.0**
BARS	**Barje**	**2.25**	**48**	*e*Pn	**Pb**	**22 08 09.9**	**-1.5**
BARS				*e*Sn	**Sb**	**22 08 37.7**	**-1.2**
MATE	**Matera**	**2.25**	**253**	⇓P	**Pn**	**22 08 08.1**	**+0.6**
RUDO	**Rudo**	**2.28**	**357**	*e*Pn	**Pn**	**22 08 09.4**	**+1.4**
RUDO				*e*Sn	**Sn**	**22 08 35.9**	**+0.3**
RUDO	**Rudo**	**2.28**	**357**	*e*Pn	**Pb**	**22 08 10.3**	**-1.5**
IVAS	**Ivanjica**	**2.28**	**11**	*e*Pn	**Pn**	**22 08 09.9**	**+1.8**
IVAS				*e*Sn	**Sn**	**22 08 36.9**	**+1.1**
TETR	**Tetrakomo, Epi**	**2.40**	**146**	P	**Pb**	**22 08 12.2**	**-1.8**
GOCS	**Kraljevo Serbi**	**2.43**	**24**	*e*Pn	**Pn**	**22 08 10.4**	**+2.2**
GOCS				*e*Sn	**Sb**	**22 08 42.6**	**-1.6**
BOSS	**Bosilegrad**	**2.48**	**61**	*e*Pn	**Pn**	**22 08 12.5**	**+1.7**
BOSS				*e*Sn	**Sn**	**22 08 42.4**	**+1.7**
BBLS	**Lazi&#263i**	**2.52**	**358**	*e*Pn	**Pn**	**22 08 13.8**	**+2.4**
BBLS				*e*Sn	**Sb**	**22 08 45.6**	**-1.2**
KNT	**Kendrikon**	**2.54**	**93**	P	**Pn**	**22 08 13.3**	**+1.7**
KNT	**Kendrikon**	**2.54**	**93**	*i* Pn	**Pn**	**22 08 13.5**	**+1.9**
KNT				*i* Sn	**Sn**	**22 08 44.2**	**+2.0**
KNT	**Kendrikon**	**2.54**	**93**	P	**Pn**	**22 08 13.6**	**+1.9**
LIT	**Litokhoron**	**2.57**	**118**		**Pn**	**22 08 13.7**	**+1.6**
LIT	**Litokhoron**	**2.57**	**118**	P	**Pn**	**22 08 14.0**	**+2.0**
LIT				S	**Sn**	**22 08 43.3**	**+0.5**
LIT				*i* IAML		22 08 51.0	
	comp=E,1μm,0.6s						
LIT				*i* IAML		22 09 04.0	
	comp=E,909nm,0.8s						
LIT	**Litokhoron**	**2.57**	**118**	P	**Pn**	**22 08 13.6**	**+1.6**
LIT	**Litokhoron**	**2.57**	**118**	*i* Pn	**Pn**	**22 08 14.0**	**+2.0**
LIT				*i* Sn	**Sb**	**22 08 48.0**	**-0.1**
LIT	**Litokhoron**	**2.57**	**118**	P	**Pn**	**22 08 13.7**	**+1.6**
THL	**Klokotos Trika**	**2.60**	**132**	P	**Pn**	**22 08 14.1**	**+1.7**
TYRN	**Tyrnavos**	**2.63**	**127**	P	**Pn**	**22 08 14.8**	**+2.0**
TSLK	**Tsoukalades, L**	**2.66**	**161**	P	**Pn**	**22 08 14.6**	**+1.3**
GRUS	**Gruza**	**2.69**	**19**	*e*Pn	**Pn**	**22 08 16.0**	**+2.3**
GRUS				*e*Sn	**Sn**	**22 08 48.9**	**+3.1**
LKD2	**Lefkada island**	**2.69**	**161**	⇑Pn	**Pn**	**22 08 15.1**	**+1.4**
LKD2				Sn	**Sg**	**22 08 57.0**	**-0.8**
LKD2	**Lefkada island**	**2.69**	**161**	P	**Pn**	**22 08 14.6**	**+0.9**
THE	**Thessaloniki**	**2.69**	**104**	P	**Pn**	**22 08 15.3**	**+1.6**
THE	**Thessaloniki**	**2.69**	**104**	*i* Pn	**Pn**	**22 08 15.2**	**+1.6**
THE				*i* Sn	**Sn**	**22 08 48.8**	**+2.9**
THE	**Thessaloniki**	**2.69**	**104**	P	**Pn**	**22 08 15.3**	**+1.6**
AMPL	**Ampelaki**	**2.74**	**151**	P	**Pn**	**22 08 16.3**	**+2.0**
KKB	**Krupnik**	**2.74**	**78**	*i* P	**Pn**	**22 08 16.2**	**+1.8**
KKB	**Krupnik**	**2.74**	**78**	P	**Pn**	**22 08 16.3**	**+1.9**
KKB	**Krupnik**	**2.74**	**78**	*i* Pn	**Pn**	**22 08 16.4**	**+2.0**
ACER	**Acerenza**	**2.77**	**260**		**Pn**	**22 08 16.0**	**+1.2**
DIVS	**Divibare**	**2.77**	**7**	*e*Pn	**Pn**	**22 08 16.7**	**+1.8**
DIVS				*e*Sn	**Sb**	**22 08 51.5**	**-2.6**
NYDR	**Nydri-Lefkada**	**2.77**	**161**	P	**Pn**	**22 08 15.6**	**+0.8**
BOVS	**Bovan**	**2.80**	**34**	⇑P	**Pn**	**22 08 17.2**	**+2.0**
BOVS	**Bovan**	**2.80**	**34**	*e*Pn	**Pn**	**22 08 17.0**	**+1.9**
BOVS				*e*Sn	**Sn**	**22 08 49.0**	**+0.5**
SGRT	**San Giovanni R**	**2.87**	**279**	⇑Pn	**Pn**	**22 08 16.8**	**+0.5**
SGRT				Sn	**Sn**	**22 08 50.6**	**+0.1**
SGRT	**San Giovanni R**	**2.87**	**279**		**Pn**	**22 08 16.5**	**+0.2**
SOH	**Sokhos**	**2.94**	**99**	P	**Pn**	**22 08 19.0**	**+1.8**
SOH	**Sokhos**	**2.94**	**99**	*i* Pn	**Pn**	**22 08 18.9**	**+1.8**
SOH				*i* Sn	**Sn**	**22 08 55.6**	**+3.7**
SOH	**Sokhos**	**2.94**	**99**	P	**Pn**	**22 08 19.2**	**+2.1**
TRUS	**Trudelj**	**2.95**	**12**	*e*Pn	**Pn**	**22 08 19.3**	**+2.1**
TRUS				*e*Sn	**Sn**	**22 08 55.3**	**+3.1**
EVR	**Evrytania**	**2.99**	**143**	P	**Pn**	**22 08 20.3**	**+2.5**
FSK	**Fiskardo**	**2.99**	**164**	P	**Pn**	**22 08 18.0**	**+0.3**
ZAPS	**Zavoj**	**3.00**	**49**	*e*Pn	**Pn**	**22 08 20.3**	**+2.3**
ZAPS				*e*Sn	**Sn**	**22 08 55.2**	**+1.6**
TIP	**Timpagrande**	**3.03**	**225**		**Pn**	**22 08 18.8**	**+0.5**
TIP	**Timpagrande**	**3.03**	**225**	⇓P	**Pn**	**22 08 19.6**	**+1.2**
TIP	**Timpagrande**	**3.03**	**225**	Pn	**Pn**	**22 08 18.9**	**+0.5**
VTS	**Vitosha**	**3.04**	**64**	*i* P	**Pn**	**22 08 20.3**	**+1.7**
VTS	**Vitosha**	**3.04**	**64**	P	**Pn**	**22 08 20.5**	**+1.8**
VTS	**Vitosha**	**3.04**	**64**	*e*Pn	**Pn**	**22 08 20.6**	**+2.0**
MAKR	**Makrakomi, Fth**	**3.06**	**139**	P	**Pn**	**22 08 21.5**	**+2.7**
SRS	**Serrai**	**3.07**	**93**	P	**Pn**	**22 08 20.4**	**+1.5**
SRS	**Serrai**	**3.07**	**93**	*i* Pn	**Pn**	**22 08 20.5**	**+1.5**
SRS				*i* Sn	**Sn**	**22 08 57.3**	**+2.1**
SRS	**Serrai**	**3.07**	**93**	*e*Pn	**Pn**	**22 08 20.4**	**+1.5**
SRS				*e*Sn	**Sn**	**22 08 57.1**	**+1.9**
PLNA	**Plana**	**3.12**	**67**	*i* P	**Pn**	**22 08 22.3**	**+2.6**
PLG	**Polygyros**	**3.12**	**107**	P	**Pn**	**22 08 21.6**	**+2.0**
PLG	**Polygyros**	**3.12**	**107**	P	**Pn**	**22 08 21.6**	**+2.0**
PVO	**Paravola**	**3.12**	**150**	P	**Pn**	**22 08 21.8**	**+2.2**
CUC	**Castrocucco**	**3.13**	**246**		**Pn**	**22 08 20.7**	**+0.9**
AGG	**Agios Georgios**	**3.16**	**136**	P	**Pn**	**22 08 21.6**	**+1.5**
AGG				S	**Sn**	**22 08 59.1**	**+1.8**
AGG				*i* IAML		22 09 07.0	
	comp=E,368nm,0.5s						
AGG				*i* IAML		22 09 37.0	
	comp=E,385nm,1.0s						
AGG	**Agios Georgios**	**3.16**	**136**	P	**Pn**	**22 08 22.1**	**+2.0**
AGG	**Agios Georgios**	**3.16**	**136**	P	**Pn**	**22 08 22.1**	**+2.0**
SVIS	**Svilajnac**	**3.17**	**22**	*e*Pn	**Pn**	**22 08 22.7**	**+2.4**
SVIS				*e*Sn	**Sn**	**22 08 59.2**	**+1.5**
ZAGS	**Zajecar**	**3.17**	**38**	*e*Pn	**Pn**	**22 08 22.7**	**+2.4**
ZAGS				*e*Sn	**Sn**	**22 09 00.3**	**+2.6**
MMB	**Musomishta**	**3.18**	**85**	*i* P	**Pn**	**22 08 22.4**	**+2.0**
MMB	**Musomishta**	**3.18**	**85**	P	**Pn**	**22 08 22.3**	**+2.0**
MMB	**Musomishta**	**3.18**	**85**	*i* Pn	**Pn**	**22 08 22.4**	**+2.0**
MMB				*i* Sn	**Sn**	**22 09 00.3**	**+2.4**
BLKB	**Belogradchik**	**3.25**	**45**	*e*Pn	**Pn**	**22 08 24.4**	**+2.9**
VLS	**Valsamata**	**3.27**	**165**	P	**Pn**	**22 08 21.7**	**+0.1**
VLS	**Valsamata**	**3.27**	**165**	P	**Pn**	**22 08 21.8**	**+0.2**
BORS2	**Bor- Borsko je**	**3.30**	**33**	*e*Pn	**Pn**	**22 08 22.6**	**+0.5**
BORS2				*e*Sn	**Sn**	**22 09 01.8**	**+0.9**
AVAS	**Avala Beograd**	**3.43**	**12**	*e*Pn	**Pn**	**22 08 25.2**	**+1.4**
AVAS				*e*Sn	**Sn**	**22 09 06.5**	**+2.5**
EFP	**Efpalio**	**3.44**	**147**	P	**Pn**	**22 08 25.6**	**+2.6**
KUBS	**Kucevo**	**3.45**	**26**	*e*Pn	**Pn**	**22 08 24.2**	**+0.1**
KUBS				*e*Sn	**Sn**	**22 09 06.2**	**+1.7**
KIJV	**Kijevo**	**3.52**	**320**	⇑*i* Pn	**Pn**	**22 08 26.3**	**+1.2**
KIJV				*e*Sn	**Sn**	**22 09 05.3**	**-1.0**
OUR	**Ouranopolis**	**3.52**	**105**	P	**Pn**	**22 08 26.9**	**+1.8**
BEO	**Beograd**	**3.53**	**11**	*e*Pn	**Pn**	**22 08 26.3**	**+1.1**
BEO	**Beograd**	**3.53**	**11**	P	**Pn**	**22 08 26.4**	**+1.2**
PGB	**Panagyurishte**	**3.66**	**70**	*i* P	**Pn**	**22 08 29.6**	**+2.6**
MPEP	**Malo Peshtene**	**3.71**	**56**	*i* P	**Pn**	**22 08 30.5**	**+2.8**
VALD	**Valchedram**	**3.72**	**50**	P	**Pn**	**22 08 30.4**	**+2.6**
PAOL	**Paolisi**	**3.76**	**267**		**Pn**	**22 08 30.2**	**+1.8**
LKR	**Lokris**	**3.79**	**134**	P	**Pn**	**22 08 30.6**	**+1.9**
MDVR	**Moldovita**	**3.79**	**24**	⇑P	**Pn**	**22 08 30.5**	**+1.6**
MDVR	**Moldovita**	**3.79**	**24**	*e*Pn	**Pn**	**22 08 30.6**	**+1.8**
BLY	**Banja Luka**	**3.81**	**334**	⇑*i* Pn	**Pn**	**22 08 30.5**	**+1.4**
BLY				*e*Sn	**Sn**	**22 09 12.4**	**-1.1**
BLY	**Banja Luka**	**3.81**	**334**	⇓P	**Pn**	**22 08 30.7**	**+1.6**
BLY	**Banja Luka**	**3.81**	**334**	*e*Pn	**Pn**	**22 08 31.0**	**+1.9**
FRGS	**Fruska Gora**	**3.82**	**3**	*e*Pn	**Pn**	**22 08 30.3**	**+1.1**
PUNG	**Punghina**	**3.86**	**39**	⇓P	**Pn**	**22 08 31.8**	**+2.2**
PUNG	**Punghina**	**3.86**	**39**	*e*Pn	**Pn**	**22 08 32.1**	**+2.4**
RZN	**Rozhen**	**3.93**	**83**	*i* P	**Pn**	**22 08 33.1**	**+2.3**
DJES	**Djerdap**	**3.98**	**32**	⇓P	**Pn**	**22 08 33.2**	**+1.8**
DJES	**Djerdap**	**3.98**	**32**	*e*Pn	**Pn**	**22 08 33.1**	**+1.7**
DJES				*e*Sn	**Sn**	**22 09 18.7**	**+1.1**
PLD	**Plovdiv**	**3.98**	**77**	*i* P	**Pn**	**22 08 33.6**	**+2.1**
PLD	**Plovdiv**	**3.98**	**77**	*i* Pn	**Pn**	**22 08 33.6**	**+2.1**
PLD	**Plovdiv**	**3.98**	**77**	*e*Pn	**Pn**	**22 08 33.5**	**+2.1**
THAS	**Thassos island**	**4.00**	**99**	P	**Pn**	**22 08 32.6**	**+1.0**
VRSS	**Vrsac**	**4.00**	**19**	*e*Pn	**Pn**	**22 08 32.8**	**+1.2**
VRSS				*e*Sn	**Sn**	**22 09 19.0**	**+0.9**
RMGR	**Halanga-Turnu**	**4.05**	**34**	⇓P	**Pn**	**22 08 35.0**	**+2.7**
HERR	**Herculane**	**4.12**	**30**	⇓P	**Pn**	**22 08 35.2**	**+1.9**
CEL	**Celeste**	**4.16**	**223**		**Pn**	**22 08 34.1**	**+0.1**
CEL	**Celeste**	**4.16**	**223**	Pn	**Pn**	**22 08 34.2**	**+0.2**
BANR	**Banloc**	**4.20**	**16**	⇓P	**Pn**	**22 08 36.4**	**+2.0**
BANR	**Banloc**	**4.20**	**16**	*e*Pn	**Pn**	**22 08 36.5**	**+2.0**
INTR	**Introdacqua**	**4.27**	**281**		**Pn**	**22 08 36.3**	**+0.9**
SRE	**Strehaia**	**4.27**	**38**	⇑P	**Pn**	**22 08 37.9**	**+2.4**
SRE	**Strehaia**	**4.27**	**38**	P	**Pn**	**22 08 37.8**	**+2.4**
PLVB	**Pleven**	**4.29**	**60**	⇓P	**Pn**	**22 08 38.2**	**+2.6**
KDZ	**Kurdzhali**	**4.37**	**84**	*i* P	**Pn**	**22 08 38.9**	**+2.1**
VLAD	**Vladila**	**4.47**	**52**	⇓P	**Pn**	**22 08 40.5**	**+2.5**
BZS	**Buzias**	**4.53**	**19**	⇓P	**Pn**	**22 08 40.2**	**+1.2**
BZS	**Buzias**	**4.53**	**19**	*e*Pn	**Pn**	**22 08 40.3**	**+1.3**
BZS	**Buzias**	**4.53**	**19**	P	**Pn**	**22 08 40.1**	**+1.2**
RDO	**Rodhopi**	**4.53**	**91**		**Pn**	**22 08 40.9**	**+1.9**
ITM	**Ithomi**	**4.55**	**155**		**Pn**	**22 08 40.7**	**+1.4**
DIM	**Dimitrovgrad**	**4.58**	**79**	*i* P	**Pn**	**22 08 41.8**	**+2.2**
ATH	**Athens Observa**	**4.67**	**135**	P	**Pn**	**22 08 42.0**	**+1.2**
AQU	**L'Aquila**	**4.69**	**284**	⇑*i* Pn	**Pn**	**22 08 42.9**	**+1.8**
AQU				*e*Sn	**Sn**	**22 09 34.1**	**-1.1**
AQU	**L'Aquila**	**4.69**	**284**	P	**Pn**	**22 08 43.0**	**+1.8**
GZR	**Gura Zlata**	**4.69**	**29**	⇓P	**Pn**	**22 08

TURR Turia 6.65 43 ⇑P Pn **22 09 10.8 +2.7**
ICOR Ion Corvin 6.69 63 ⇓P Pn **22 09 11.3 +2.7**
ARCR ARCALIA 6.70 29 ⇓P Pn **22 09 11.1 +2.3**
BISRR Bisoca 6.70 49 ⇑P Pn **22 09 11.5 +2.6**
WDD Wied Dalam 6.75 217 Pn Pn **22 09 08.6 -0.8**
GRER 6.76 51 ⇓P Pn **22 09 11.7 +2.2**
RONA Rosalia, Austr 6.76 341 *i* Pn Pn **22 09 11.0 +1.4**
comp=E,8.1nm,0.3s,SNR=9.6
RONA *i* Sn **Sn** **22 10 27.2 +1.0**
comp=E,19nm,0.4s
MYKA Terra Mystica 6.78 323 *i* Pn Pn **22 09 10.7 +0.9**
comp=E,29nm,0.3s,SNR=18
MYKA *i* Sn **Sn** **22 10 25.5 -1.2**
comp=E,30nm,0.3s
PLOR Plostina 6.86 47 ⇑P Pn **22 09 13.7 +2.8**
PLOR Plostina 6.86 47 P Pn **22 09 13.7 +2.8**
KALB Balgarevo 6.89 70 ⇑P Pn **22 09 14.8 +3.4**
VRI Vrincioaia 6.91 47 ⇓P Pn **22 09 14.4 +2.7**
VRI Vrincioaia 6.91 47 P Pn **22 09 14.3 +2.7**
BMR Baia Mare 6.93 23 ⇑P Pn **22 09 14.4 +2.4**
BMR Baia Mare 6.93 23 P Pn **22 09 14.3 +2.4**
STAL STALIGIAL 6.96 317 Pn **22 09 11.9 -0.5**
ZCCA Zocca 6.97 298 Pn **22 09 14.2 +1.7**
TEOL Teolo 7.00 308 Pn **22 09 12.7 -0.1**
HARR Harsova 7.00 59 ⇓P Pn **22 09 15.5 +2.5**
HARR Harsova 7.00 59 P Pn **22 09 15.4 +2.5**
ONER Baraj Valea Uz 7.04 43 ⇑P Pn **22 09 16.2 +2.8**
DURS Dursunbey 7.04 101 P Pn **22 09 16.0 +2.5**
ZST Bratislava 7.07 347 *e*P Pn **22 09 17.0 +3.2**
ZST *e* 22 10 30.6
CONA Conrad Observa 7.08 340 *i* Pn Pn **22 09 15.8 +1.7**
comp=E,11nm,0.4s
MFTR Murfatlar 7.13 64 ⇑P Pn **22 09 17.4 +2.8**
KECS Kecovo 7.17 5 *e*P Pn **22 09 17.8 +2.6**
KECS *e* 22 10 36.0
MODS Modra-Piesok 7.21 348 *e*P Pn **22 09 18.6 +2.9**
MODS *e* 22 10 36.5
TIRR Tirgusor 7.23 62 Pn **22 09 17.8 +1.9**
TIRR Tirgusor 7.23 62 ⇑P Pn **22 09 17.9 +1.9**
TIRR Tirgusor 7.23 62 P Pn **22 09 17.8 +1.9**
TIRR Tirgusor 7.23 62 P Pn **22 09 17.7 +1.8**
comp=E,0.4nmcomp=E,478nmcomp=E,27nm,0.8s
TIRR Tirgusor 7.23 62 *e*Pn Pn **22 09 18.0 +2.1**
TIRR *e*Sn **Sn** **22 10 37.1 -0.4**
BERU Beregovo 7.24 17 P Pn **22 09 17.5 +1.4**
KBA Koelnbreinsper 7.25 324 *i* Pn Pn **22 09 17.5 +0.9**
comp=E,25nm,0.4s,SNR=23
KBA *i* Sn **Sn** **22 10 35.5 -3.0**
comp=E,44nm,0.5s
KBA Koelnbreinsper 7.25 324 *e*Pn Pn **22 09 17.4 +0.9**
KBA *e*Sn **Sn** **22 10 35.4 -3.1**
TESR Tescani 7.29 42 ⇑P Pn **22 09 18.7 +2.0**
CFR Carcaliu 7.36 56 ⇓P Pn **22 09 19.9 +2.1**
CFR Carcaliu 7.36 56 P Pn **22 09 19.8 +2.1**
IDI Anoyia 7.37 143 Pn Pn **22 09 17.3 -0.7**
IDI Anoyia 7.37 143 Pn Pn **22 09 16.7 -1.3**
comp=E,8.5nm,0.3s,baz=337,slow=19,SNR=15
IDI Sn **Sn** **22 10 35.5 -5.7**
comp=E,7.1nm,0.3s,baz=87,slow=18,SNR=5.4
TPGR Topolog 7.39 59 ⇑P Pn **22 09 20.7 +2.5**
CTI Castel Tesino 7.40 312 Pn **22 09 18.3 -0.1**
CTI Castel Tesino 7.40 312 P Pn **22 09 18.3 -0.1**
ABTA Abfaltersbach 7.40 319 *i* Pn Pn **22 09 18.8 +0.4**
comp=E,22nm,0.2s,SNR=29
ABTA *i* Sn **Sn** **22 10 39.3 -2.6**
comp=E,95nm,0.5s
GHRR 7.40 48 ⇑P Pn **22 09 20.4 +2.1**
BRIU Brid 7.42 18 P Pn **22 09 20.9 +2.3**
MUKU Mukachevo 7.45 16 P Pn **22 09 21.3 +2.3**
HOLU Holmets 7.46 15 P Pn **22 09 21.4 +2.2**
BURAR Bucovina Array 7.47 31 Pn **22 09 22.6 +3.1**
BURAR Bucovina Array 7.47 31 ⇑P Pn **22 09 22.5 +3.1**
BURAR Bucovina Array 7.47 31 P Pn **22 09 22.5 +3.1**
BDRM Kayabasi 7.48 122 P Pn **22 09 19.8 +0.3**
MOA Molln 7.51 332 *i* Pn Pn **22 09 21.5 +1.7**
comp=E,21nm,0.3s,SNR=21
MOA *i* Sn **Sn** **22 10 44.5 -0.1**
comp=E,24nm,0.3s
MOA Molln 7.51 332 *e*Pn Pn **22 09 22.1 +2.3**
MOA Molln 7.51 332 *e*Pn Pn **22 09 22.2 +2.3**
MOA *e*Sn **Sn** **22 10 43.9 -0.7**
KIRA zmir-Kiraz 7.52 112 P Pn **22 09 22.5 +2.4**
PRMA PARMA 7.57 300 Pn **22 09 21.8 +1.2**
BIOA Bad Ischl, Aus 7.62 328 *i* Pn Pn **22 09 22.7 +1.3**
comp=E,45nm,0.3s,SNR=50
BIOA *i* Sn **Sn** **22 10 48.0 +0.8**
comp=E,60nm,0.5s
JAVC Velka Javorina 7.63 351 *e*PN Pn **22 09 25.1 +3.6**
USAK Uak-Merkez 7.74 107 P Pn **22 09 25.8 +2.7**
TLCR 7.79 57 ⇑P Pn **22 09 26.1 +2.4**
TLCR 7.79 57 P Pn **22 09 26.0 +2.4**
LANS Liptovska Anna 7.81 360 *e*P Pn **22 09 26.8 +2.8**
LESA Schwarzleotal 7.81 323 *i* Pn Pn **22 09 24.8 +0.7**
comp=E,40nm,0.3s,SNR=44
LESA *i* Sn **Sn** **22 10 50.4 -1.7**
comp=E,57nm,0.4s
KOLS Kolonicke sedl 7.83 13 *e*P Pn **22 09 27.1 +2.8**
KOLS *e* 22 10 53.8
MSSA Maissana 7.94 295 Pn **22 09 25.9 +0.1**
GDZ Gediz 7.94 103 P Pn **22 09 29.0 +3.1**
VSL Villasalto 7.96 260 Pn Pn **22 09 26.1 0.0**
RJOB Jochberg 8.00 325 *e*Pn Pn **22 09 27.7 +1.1**
RJOB *e*Sn **Sn** **22 10 55.6 -1.0**
KRUC Moravsky 8.03 345 *e*PN Pn **22 09 28.1 +1.1**
KRUC Moravsky 8.03 345 *e*Sn **Sn** **22 10 54.2 -3.1**
NIE Niedzica 8.09 4 *e*P Pn **22 09 30.2 +4.1**
NIE Niedzica 8.09 4 P Pn **22 09 30.4 +2.5**
comp=E,18nm,0.8s
MAUC Maruska 8.11 352 *e*PN Pn **22 09 31.3 +3.2**
MAUC *e*SN **Sn** **22 11 01.0 +1.6**
MAUC AMS AMS 22 13 10.0
comp=E,3µm,16.3s
ANDZ Kutahya, Merke 8.12 100 P Pn **22 09 30.6 +2.3**
TURN Turunc 8.17 121 P Pn 22 09 33.9 +5.0
WTTA Wattenberg 8.19 319 *i* Pn Pn **22 09 30.0 +0.7**
comp=E,205nm,0.5s,SNR=122
WTTA *e*Sn **Sn** **22 11 00.8 -0.7**
comp=E,126nm,0.5s
WTTA Wattenberg 8.19 319 *e*Pn Pn **22 09 31.9 +2.6**
WTTA *e*Sn **Sn** **22 11 00.0 -1.4**
PASA Karahalli, USA 8.22 108 P Pn **22 09 31.7 +2.0**
VRAC Vranov 8.23 346 Pn Pn **22 09 30.4 +0.7**
comp=E,0.7nm,0.3s,baz=176,slow=12,SNR=12
VRAC Sn **Sn** **22 11 00.3 -2.0**
comp=E,0.9nm,0.3s,baz=204,slow=15,SNR=1.6
VRAC LR LR 22 13 08.1
comp=E,631nm,19.0s,baz=168,slow=41
comp=E,4.4nm,0.5s
VRAC Vranov 8.23 346 *e*PN Pn **22 09 31.3 +1.6**
VRAC Vranov 8.23 346 ⇑P Pn **22 09 31.4 +1.7**
VRAC Vranov 8.23 346 P Pn **22 09 31.4 +1.7**
VRAC Vranov 8.23 346 *e*Pn Pn **22 09 31.9 +2.2**
WATA Walderalm 8.27 319 *i* Pn Pn **22 09 31.2 +0.8**
comp=E,57nm,0.2s,SNR=60
WATA *e*Sn **Sn** **22 11 01.3 -2.1**
comp=E,67nm,0.4s
KARP Karpathos 8.32 132 Pn Pn **22 09 33.1 +2.1**
CKRC Cesky Krumlov 8.34 335 *e*PN Pn **22 09 32.8 +1.6**
CKRC *e*SN **Sn** **22 11 00.8 -4.1**
CKRC AMS AMS 22 13 00.0
comp=E,1µm,14.2s
CKRC Cesky Krumlov 8.34 335 *e*P Pn **22 09 32.8 +1.6**
CKRC *e* 22 11 00.8
CKRC MLR MLR
comp=Z,1µm,14.2s
CKRC Cesky Krumlov 8.34 335 *e*Pn Pn **22 09 33.2 +2.0**
SQTA Sankt Quirin 8.37 317 *i* Pn Pn **22 09 33.1 +1.3**
comp=Z,36nm,0.3s,SNR=30
SQTA *i* Sn **Sn** **22 11 03.6 -2.3**
comp=Z,106nm,0.7s
TREC Trest 8.45 342 *e*PN Pn **22 09 35.2 +2.5**
TREC *e*SN **Sn** **22 11 07.3 -0.3**
TREC AMS AMS 22 13 10.0
comp=Z,1µm,14.2s
TREC Trest 8.45 342 *e*P Pn **22 09 35.2 +2.5**
TREC *e* 22 11 07.3
TREC MLR MLR
comp=Z,1µm,14.2s
FETA Feichten 8.49 315 *i* Pn Pn **22 09 34.5 +0.9**
comp=Z,15nm,0.4s,SNR=9.8
FETA *i* Sn **Sn** **22 11 07.3 -1.7**
comp=Z,46nm,0.8s
MOTA Moosalm 8.51 318 *i* Pn Pn **22 09 34.8 +1.1**
comp=Z,53nm,0.3s,SNR=31
MOTA *i* Sn **Sn** **22 11 08.1 -1.3**
comp=Z,58nm,0.4s
FUORN Ofenpass-Fuorn 8.51 311 Pn **22 09 34.4 +0.6**
MORC Moravsky Berou 8.55 351 Pn **22 09 35.4 +1.3**
MORC Moravsky Berou 8.55 351 *e*PN Pn **22 09 35.7 +1.6**
MORC Moravsky Berou 8.55 351 P Pn **22 09 35.4 +1.3**
OKC Ostrava-Krasne 8.55 354 *e*PN Pn **22 09 37.5 +3.4**
OKC *e*SN **Sn** **22 11 08.1 -2.0**
OKC AMS AMS 22 13 40.0
comp=Z,1µm,13.1s
OKC Ostrava-Krasne 8.55 354 *e*P Pn **22 09 37.5 +3.4**
OKC *e* 22 11 08.1
OKC MLR MLR
comp=Z,1µm,13.1s
GEC2 GERESS Array S 8.56 333 Pn **22 09 34.6 +0.3**
GEC2 GERESS Array S 8.56 333 *e*Pn Pn **22 09 35.2 +0.9**
GEC2 *e*Sn **Sn** **22 11 08.1 -2.3**
GERES GERESS Array B 8.56 333 Pn Pn **22 09 35.3 +1.0**
comp=Z,0.7nm,0.3s,baz=159,slow=14,SNR=84
GERES Sn **Sn** **22 11 09.8 -0.6**
comp=Z,0.8nm,0.3s,baz=144,slow=23,SNR=7.4
GERES LR LR 22 13 42.3
comp=Z,918nm,19.7s,baz=155,slow=44
comp=Z,5.6nm,0.3s
SABU Mula-Dalaman 8.61 119 P Pn **22 09 39.3 +4.3**
MILM Milestii Mici 8.69 47 ⇓P Pn **22 09 38.3 +2.3**
MILM Milestii Mici 8.69 47 *e*P Pn **22 09 39.5 +3.5**
comp=Z,110nm,2.0s
MILM *e*S **Sn** **22 11 17.0 +3.4**
MILM *e*L L 22 13 25.0
MILM LRM MLR 22 13 52.0
comp=Z,2µm,16.0s
MILM Milestii Mici 8.69 47 *e*P Pn **22 09 39.5 +3.5**
MILM *e*S **Sn** **22 11 17.0 +3.4**
MILM pmax pmax
comp=Z,110nm,2.0s
MILM MLR MLR
comp=Z,2µm,16.0s
KMPD K-Podol'skiy 8.73 32 P Pn **22 09 39.2 +2.7**
KMPD P Pn **22 09 39.2 +2.7**
KIS Kishinev 8.74 47 *e*P Pn **22 09 39.0 +2.3**
KIS *e*L L 22 13 25.0
KIS LRM MLR 22 14 00.0
comp=Z,700nm,16.0s
KIS Kishinev 8.74 47 *e*P Pn **22 09 39.0 +2.3**
KIS MLR MLR
comp=Z,700nm,16.0s
RETA Reutte 8.78 317 *i* Pn Pn **22 09 38.2 +0.9**
comp=Z,14nm,0.4s,SNR=8.3
RETA *e*Sn **Sn** **22 11 14.5 -1.3**
comp=Z,35nm,0.4s
DAVOX Davos/Dischmat 8.82 311 Pn Pn **22 09 39.1 +1.2**
comp=Z,8.7nm,0.3s,baz=123,slow=11,SNR=63
DAVOX Sn **Sn** **22 11 10.7 -6.3**
comp=Z,7.4nm,0.3s,baz=285,slow=14,SNR=3.9
DAVOX LR LR 22 13 57.4
comp=Z,524nm,20.1s,baz=122,slow=44
comp=Z,23nm,0.4s
KHC Kasperske Hory 8.85 334 *e*PN Pn **22 09 39.2 +1.0**
KHC *e*SN **Sn** **22 11 14.3 -3.1**
KHC AMS AMS 22 13 20.0
comp=Z,1µm,13.3s
KHC Kasperske Hory 8.85 334 *e*P Pn **22 09 39.2 +1.0**
KHC *e* 22 11 14.3
KHC MLR MLR
comp=Z,1µm,13.3s
KHC Kasperske Hory 8.85 334 P Pn **22 09 38.6 +0.4**
comp=Z,24nm,1.1s
KHC Kasperske Hory 8.85 334 *e*Pn Pn **22 09 39.4 +1.2**
OJC Ojcow 8.88 1 *e*P Pn **22 09 41.6 +3.0**
OJC Ojcow 8.88 1 Pn **22 09 40.7 +2.1**
OJC Ojcow 8.88 1 P Pn **22 09 40.7 +2.1**
OJC Ojcow 8.88 1 P Pn **22 09 40.2 +1.6**
comp=Z,14nm,0.7s
ZVC Zvikov 8.92 337 *e*PN Pn **22 09 41.1 +1.9**
ZVC *e*SN **Sn** **22 11 16.7 -2.5**
ZVC AMS AMS 22 13 30.0
comp=Z,1µm,12.7s
KRLC Kraliky 8.94 349 *e*PN Pn **22 09 42.3 +2.8**
KRLC AMS AMS 22 13 50.0
comp=Z,2µm,13.1s
KRLC Kraliky 8.94 349 *e*P Pn **22 09 42.3 +2.8**
KRLC MLR MLR
comp=Z,2µm,13.1s
TUE Stuetta 8.96 308 Pn **22 09 40.1 +0.2**
TUE Stuetta 8.96 308 P Pn **22 09 40.5 +0.6**
comp=Z,4µmcomp=Z,220nm,0.6s
FUR Furstenfeldbru 9.00 322 *e*Pn Pn **22 09 40.6 +0.4**
FUR *e*Sn **Sn** **22 11 15.5 -5.6**
WET Wettzell 9.10 331 *e*Pn Pn **22 09 42.1 +0.5**
WET *e*Sn **Sn** **22 11 22.8 -0.8**
DAVA Damuels 9.12 314 *i* Pn Pn **22 09 43.5 +1.5**
comp=Z,42nm,0.5s,SNR=22
DAVA *e*Sn **Sn** **22 11 22.1 -2.2**
comp=Z,49nm,0.5s
DAVA Damuels 9.12 314 *e*Pn Pn **22 09 44.3 +2.3**
ISP Isparta 9.18 109⇑ *e*P Pn **22 09 44.7 +1.8**
UBR Ueberruh 9.24 316 *e*Pn Pn **22 09 44.1 +0.5**
UBR *e*Sn **Sn** **22 11 22.4 -4.8**
PLONS Plons/SG 9.25 311 *e*Pn Pn **22 09 45.3 +1.5**
DPC Dobruska-Polom 9.28 347 *e*PN Pn **22 09 46.5 +2.3**
DPC AMS AMS 22 14 00.0
comp=Z,2µm,13.5s
DPC Dobruska-Polom 9.28 347 *e*P Pn **22 09 46.5 +2.3**
DPC MLR MLR
comp=Z,2µm,13.5s
PRU Pruhonice 9.32 340 *e*PN Pn **22 09 46.8 +2.1**
PRU AMS AMS 22 13 50.0
comp=Z,1µm,15.2s
PRU Pruhonice 9.32 340 *e*P Pn **22 09 46.8 +2.1**
PRU MLR MLR
comp=Z,1µm,15.2s
PRU Pruhonice 9.32 340 *e*Pn Pn **22 09 46.8 +2.1**
PRA Prague 9.43 340 *e*PN Pn **22 09 48.5 +2.4**
PRA AMS AMS 22 13 50.0
comp=Z,1µm,16.2s
PRA Prague 9.43 340 *e*P Pn **22 09 48.5 +2.4**
PRA MLR MLR
comp=Z,1µm,16.2s
UPC Upice 9.49 346 AMS AMS 22 14 20.0
comp=Z,2µm,14.1s
OSTC Ostas 9.50 347 *e*PN Pn **22 09 51.7 +4.6**
OSTC AMS AMS 22 14 10.0
comp=Z,2µm,13.0s
OSTC Ostas 9.50 347 *e*P Pn **22 09 51.7 +4.6**
OSTC MLR MLR
comp=Z,2µm,13.0s
CHVC Chvalec 9.56 347 *e*PN Pn **22 09 50.6 +2.7**
CHVC AMS AMS 22 14 20.0
comp=Z,2µm,12.5s
CHVC Chvalec 9.56 347 *e*P Pn **22 09 50.6 +2.7**
CHVC MLR MLR
comp=Z,2µm,12.5s
WILA Wila 9.73 312 *e*Pn Pn **22 09 51.3 +1.0**
KEST Kesra 9.75 238 Pn Pn **22 09 50.7 +0.1**
comp=Z,2.0nm,0.7s,baz=4.0,slow=14,SNR=1.3
KSP Ksiaz 9.76 348 *e*P Pn 22 09 55.6 +4.9
PVCC Panska Ves 9.81 341 AMS AMS 22 14 00.0
comp=Z,900nm,16.1s
ROTZ Rotzenmuhle 9.86 331 *e*Pn Pn **22 09 51.7 -0.3**
RICC Richard 9.95 340 AMS AMS 22 14 10.0
comp=Z,900nm,12.9s
MANZ Manzenberg 10.08 332 *e*Pn Pn **22 09 55.9 +0.9**
MANZ *e*Sn **Sn** **22 11 42.0 -5.6**
BNI Bardonecchia 10.09 296 Pn Pn **22 09 54.1 -1.3**
BNI Bardonecchia 10.09 296 P Pn **22 09 54.1 -1.3**
SENIN Lac Senin/Sane 10.16 304 Pn **22 09 56.2 -0.1**
SLE Schleitheim 10.16 313 *e*Pn Pn **22 09 56.6 +0.5**
GRA1 Grafenberg Arr 10.18 328 Pn **22 09 55.7 -0.7**
GRF Grafenberg Arr 10.18 328 P Pn **22 09 55.7 -0.7**
GRFO Grafenberg 10.18 328 Pn **22 09 56.3 -0.1**
GRFO Grafenberg 10.18 328 P Pn **22 09 56.3 -0.1**
LPL La Plagne 10.20 298 P Pn **22 09 55.7 -1.2**
SULZ Cheisacher 10.24 311 *e*Pn Pn **22 09 57.9 +0.6**
BRG Berggiesshubel 10.29 340 *e*Pn Pn **22 09 59.6 +1.7**
BRG Berggiesshubel 10.29 340 *e*P Pn **22 09 59.3 +1.5**
BRG Amp 22 10 00.1
comp=Z,6.8nm,0.8s
BRG PP **PnPn** **22 10 06.1 +0.5**
BRG Amp 22 10 07.1
comp=Z,12nm,1.0s
TANN Tannenbergstha 10.32 334 *e*Pn Pn **22 10 00.9 +2.5**
LUBAR Lubar, Ukraine 10.33 31 P Pn **22 10 01.4 +3.0**
BALST Balsthal 10.38 309 *e*Pn Pn **22 09 59.4 +0.2**
STU Stuttgart 10.42 319 Pn **22 09 59.2 -0.5**
STU Stuttgart 10.42 319 P Pn **22 09 59.2 -0.5**
STU Stuttgart 10.42 319 *e*Pn Pn **22 09 59.6 0.0**
BFO Black Forest 10.58 315 Pn **22 10 01.3 -0.7**
BFO Black Forest 10.58 315 P Pn **22 10 01.3 -0.7**
BFO Black Forest 10.58 315 *e*Pn Pn **22 10 01.6 -0.4**
MOX Moxa 10.80 332 P Pn **22 10 04.8 -0.2**
MOX Moxa 10.80 332 *e*Pn Pn **22 10 05.3 +0.3**
BR131 Keskin Array S 10.86 94 Pn Pn **22 10 07.0 +1.1**
BR131 Keskin Array S 10.86 94⇑ *e*P Pn **22 10 09.2 +3.3**
BRTR Keskin Array B 10.86 94 Pn Pn **22 10 09.0 +3.1**
comp=Z,0.3nm,0.3s,baz=269,slow=12,SNR=9.9
BRTR Sn **Sn** **22 12 05.8 -1.2**
comp=Z,0.1nm,0.3s,baz=285,slow=24,SNR=2.3
BRTR Lg Lg 22 13 18.2
baz=291,slow=17
comp=Z,2.5nm,0.8s
RNPP8 Varash 10.90 21 P Pn **22 10 08.4 +2.1**
CLL Collm 10.94 338 Pn **22 10 06.3 -0.5**
CLL Collm 10.94 338 *e*P Pn **22 10 08.0 +1.3**
CLL Collm 10.94 338 P Pn **22 10 07.1 +0.4**
comp=Z,8.1nm,0.8s
CLL Collm 10.94 338 *e*Pn Pn **22 10 08.0 +1.3**
CLL *ex* x 22 10 17.0
CLL *e*Sn **Sn** **22 12 00.0 -8.6**
CLL *ex* x 22 12 19.0
CLL *ex* x 22 12 51.0
CLL *ex* x 22 12 59.0
CLL LmH 22 13 00.0
comp=N,400nm,18.6s
CLL LmH 22 13 00.0
comp=E,800nm,18.1s
CLL *e*Sg 22 13 13.0
CLL *ex* x 22 13 21.0
CLL Lmax 22 14 00.0
R9F13 Warsaw-Wawer 10.94 5 *e*P Pn 22 09 43.1 -24
RNPP9 Sopachiv 10.98 21 P Pn **22 10 09.5 +2.1**
ECH Echery 11.15 312 Pn **22 10 09.5 -0.3**
ECH Echery 11.15 312 P Pn **22 10 09.5 -0.3**
AK07 Malin Array Si 11.40 33 P Pn **22 10 13.6 +0.5**
AK14 Malin Array Si 11.42 32 P Pn **22 10 14.4 +1.0**
AK06 Malin Array Si 11.42 33 P Pn **22 10 14.4 +1.0**
AK17 Malin Array Si 11.44 32 P Pn **22 10 14.7 +1.0**
AK12 Malin Array Si 11.45 32 P Pn **22 10 14.8 +1.0**
AK05 Malin Array Si 11.45 33 P Pn **22 10 14.7 +0.9**
AK16 Malin Array Si 11.45 32 P Pn **22 10 14.7 +0.9**
AK19 Malin Array Si 11.45 32 P Pn **22 10 14.7 +0.9**
AK10 Malin Array Si 11.45 33 P Pn **22 10 14.8 +1.0**
KIEV Kiev 11.51 32 Pn **22 10 15.3 +0.7**
KIEV Kiev 11.51 32 P Pn **22 10 15.3 +0.7**
AKASG Malin Array Be 11.52 32 Pn Pn **22 10 14.7 0.0**
AKASG Malin Array Be 11.52 32 Pn Pn **22 10 16.0 +1.2**
comp=E,0.9nm,0.3s,baz=224,slow=12,SNR=13
AKASG Lg Lg 22 13 36.7
baz=229,slow=29
AKASG LR LR 22 15 37.7
comp=E,157nm,21.7s,baz=217,slow=42
comp=E,2.8nm,0.7s
AKASG Malin Array Be 11.52 32 P Pn **22 10 16.0 +1.2**
AKBB Malin Array Si 11.52 32 Pn **22 10 15.1 +0.4**
AKBB Malin Array Si 11.52 32⇓ *e*P Pn **22 10 16.5 +1.7**
SSB Saint Sauveur 11.61 295 Pn **22 10 14.2 -1.8**
SSB Saint Sauveur 11.61 295 P Pn **22 10 14.2 -1.8**
TNS Taunus Mts 11.77 323 *e*Pn Pn **22 10 18.3 +0.1**
GKP Gorka Klasztor 12.03 353 *e*P Pn **22 10 24.9 +3.2**
SMF Signal de Mont 12.47 300 P Pn **22 10 24.8 -3.0**
WLF Walferdange 12.53 316 Pn **22 10 28.6 +0.1**
WLF Walferdange 12.53 316 *d*P Pn **22 10 28.9 +0.4**
WLF Walferdange 12.53 316 P Pn **22 10 28.6 +0.1**
CSS Mathiatis 12.58 116 Pn Pn **22 10 29.6 +0.2**
SSF Saint Saulge 12.83 302 P Pn **22 10 30.2 -2.5**
SUW Suwalki 12.91 10 *e*P Pn **22 10 35.2 +1.5**
SUW Suwalki 12.91 10 Pn **22 10 33.1 -0.6**
SUW Suwalki 12.91 10 P Pn **22 10 33.1 -0.6**
BTNL Ternell 13.11 319 *d*P Pn **22 10 37.6 +1.1**
MEM Membach 13.18 319 *d*P Pn **22 10 39.0 +1.6**
comp=Z,9.6nm,0.4s
MEM *d*S **Sn** **22 12 56.4 -7.1**
CAF Calviac 13.25 292 P Pn **22 10 37.7 +0.7**
BGES Gesves 13.51 317 *d*P Pn **22 10 43.2 +1.3**
BMRD Maredsous 13.63 316 *d*P Pn **22 10 44.4 +0.9**
CLF Chambon-Foret 13.97 304 Pn Pn **22 10 47.6 -0.6**
MNK Minsk 14.29 20 *i* P Pn **22 10 53.4 +0.8**
comp=E,16nm,0.7s
MNK *i* P **Pn** **22 10 53.4 +0.8**
comp=N,4.0nm,0.7s
MNK *i* P **Pn** **22 10 53.4 +0.8**
comp=Z,17nm,0.7s,baz=206
MNK *i* PP **PnPn** **22 11 01.3 +0.8**
MNK *i* S **Sn** **22 13 32.2 +1.7**
MNK *i* LQ LQ 22 15 19.4
MNK *i* LR LR 22 15 41.4
MNK *i* LRM MLR 22 16 48.7
comp=N,263nm,13.1s
MNK *i* LRM MLR 22 16 51.1
comp=E,470nm,12.5s
MNK *i* LRM MLR 22 16 57.3
comp=Z,510nm,13.0s
MNK Minsk 14.29 20 *i* P Pn **22 10 53.3 +0.8**
MNK *i* S **Sn** **22 13 32.2 +1.7**
MNK pmax pmax
comp=N,4.0nm,0.7s
MNK pmax pmax
comp=E,16nm,0.7s
MNK pmax pmax
comp=Z,17nm,0.7s
MNK MLR MLR
comp=N,263nm,13.0s
MNK MLR MLR
comp=E,470nm,13.0s
MNK MLR MLR
comp=Z,510nm,13.0s
NACGM Naroch 14.39 17 *e*P Pn **22 10 56.1 +2.1**
comp=Z,19nm,0.9s,baz=203
PABE Paberze 14.47 10 Pn Pn **22 10 56.5 +1.5**
PABE Paberze 14.47 10 *e*P P **22 11 02.0 +0.3**
PBUR Paburge 14.78 5 *e*P P **22 11 05.1 +0.1**
ISAL Salakas 14.88 15 *e*P P **22 11 07.8 +1.6**
VSVD Vaisvydziai 14.93 10 *e*P P **22 11 07.1 +0.4**
SOC Sochi 15.06 75 *e*P Pn **22 11 02.4 -0.7**
SOC *e* 22 13 50.6
SOC pmax pmax
comp=Z,27nm,0.9s
SOC MLR MLR
comp=Z,125nm,16.0s
MFF Saint Martin d 15.10 297 P Pn **22 11 00.7 -2.9**
MMAI Mount Meron Ar 15.12 118 Pn Pn **22 11 03.0 -1.1**
comp=Z,1.6nm,0.3s,baz=304,slow=12,SNR=12
MMAI Sn **Sn** **22 13 46.4 -4.6**
comp=Z,0.6nm,0.3s,baz=300,slow=12,SNR=1.5
MMAI LR LR 22 18 15.6
comp=Z,319nm,18.9s,baz=314,slow=43
comp=Z,1.2nm,0.3s
DEL Delary 15.58 348 *i* P P **22 11 14.0 0.0**
KOPT Kop Dagi 15.96 88 Pn Pn **22 11 16.3 +1.1**
FABU Falkenberg 16.28 347 *e*P P **22 11 21.0 -0.7**
GHAJ Ghor Haditha 16.33 123 Pn Pn **22 11 19.9 +0.4**
MUD Monsted U'grnd 16.55 339 *i* P P **22 11 24.4 -0.4**
MUD IAML 22 11 26.1
comp=Z,5.6nm,0.8s
ASF Jabal al Asfar 16.63 118 Pn P **22 11 25.6 -0.3**
comp=Z,0.2nm,0.3s,baz=360,slow=3.4,SNR=3.6
comp=Z,2.1nm,0.7s
VORD Divnogorie 16.69 48 *e*P Pn **22 11 24.1 +0.1**
VORD pmax pmax
comp=Z,20nm,1.0s
VSR Storozhevoye 16.74 47 *e*P Pn **22 11 23.9 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.9s
BORU Boraas 16.87 347 *i* P P **22 11 29.1 +0.8**
MARD Mardin 16.92 97 P **22 11 28.7 -0.4**
VORR Voronezh 16.98 46 *e*P Pn **22 11 27.9 +0.2**
VORR pmax pmax
comp=Z,20nm,1.1s
EIL Elat 17.09 128 Pn Pn **22 11 25.0 -4.3**
comp=Z,0.7nm,0.3s,baz=219,slow=6.2,SNR=5.6
EIL Sn Sn 22 14 25.8 -13
comp=Z,1.1nm,0.3s,baz=320,slow=18,SNR=4.9
SHA1 Shidzhatmaz 17.20 74⇑ *e*P P **22 11 32.3 0.0**
KIV Kislovodsk 17.22 74 Pn **22 11 31.5 +0.6**
KIV Kislovodsk 17.22 74 *e*P P **22 11 33.0 +0.6**
KIV pmax pmax
comp=Z,11nm,1.1s

KIV MLR MLR
comp=Z,73nm,14.0s
KVAR Kislovodsk Arr 17.23 74 LR LR 22 21 13.6
comp=Z,121nm,19.7s,baz=164,slow=48
LPSR Galich'ya Gora 17.32 43 *eP* **Pn 22 11 30.2 -1.7**
LPSR pmax pmax
comp=Z,20nm,0.9s
KBZ Khabaz 17.38 74 P **Pn 22 11 33.1 +0.4**
comp=Z,0.3nm,0.3s,baz=280,slow=9.4,SNR=12
KBZ LR LR 22 20 16.5
comp=Z,180nm,19.2s,baz=297,slow=44
comp=Z,8.0nm,0.8s
KBZ Khabaz 17.38 74⇑ *eP* **Pn 22 11 33.1 +0.4**
KBZ pmax pmax
comp=Z,12nm,0.8s
GURO Guroymak-BITLI 17.47 92 P **P 22 11 34.9 -0.3**
VSU Vasula 17.73 12 *eP* **P 22 11 38.9 +1.1**
VSU Vasula 17.73 12 *ceP* **Pn 22 11 36.2 -0.8**
VSU pmax pmax
comp=Z,246nm,0.7s
OBN Obninsk 17.78 33 **Pn 22 11 36.8 -0.8**
OBN IAmb IAmb 22 11 40.0
comp=Z,154nm,1.4s
OBN Obninsk 17.78 33 P **Pn 22 11 36.8 -0.8**
comp=Z,5.0nm,0.3s,baz=177,slow=4.1,SNR=19
comp=Z,15nm,0.3s
OBN Obninsk 17.78 33 *eP* **Pn 22 11 37.7 +0.1**
OBN pmax pmax
comp=Z,57nm,1.1s
OBN MLR MLR
comp=Z,307nm,17.0s
NCK Nalchik 17.89 75⇑ *eP* **P 22 11 40.6 +1.0**
NCK pmax pmax
comp=Z,61nm,2.7s
ESBB Sonseca Array 17.93 272 **Pn 22 11 39.5 -0.2**
ESDC Sonseca Array 17.94 272 P **Pn 22 11 39.6 -0.1**
comp=Z,0.1nm,0.3s,baz=73,slow=11,SNR=14
ESDC LR LR 22 19 09.5
comp=Z,319nm,18.1s,baz=80,slow=39
comp=Z,0.7nm,0.6s
VRH Novokhopyorsk 18.17 50 *eP* **Pn 22 11 41.1 -1.3**
VRH pmax pmax
comp=Z,10.0nm,1.0s
PAB San Pablo 18.25 272 **P 22 11 44.1 +0.3**
PAB San Pablo 18.25 272 P **P 22 11 44.1 +0.3**
PAB pmax pmax
comp=Z,20nm,1.8s
HOMB Homborsund 18.34 341 *iP* **Pn 22 11 44.2 -0.2**
STRU Stroemstad 18.47 346 *iP* **P 22 11 45.3 -0.6**
ARBE Arbavere 18.56 10 *eP* **Pn 22 11 49.4 +2.2**
UPP Uppsala 18.58 357 *eP* **Pn 22 11 48.0 +0.7**
MOS Moscow 18.65 33 *eP* **P 22 11 46.5 -1.4**
MOS *eS* **Sn 22 15 12.8 -3.4**
MOS pmax pmax
comp=Z,78nm,0.8s
AAL Aland 18.86 1 *eP* **P 22 11 50.1 -0.1**
GNI Garni 19.12 85 P **Pn 22 11 54.3 0.0**
GNI IAmb IAmb 22 11 56.6
comp=Z,49nm,1.0s
GNI Garni 19.12 85 P **Pn 22 11 54.7 +0.4**
comp=Z,0.7nm,0.3s,baz=350,slow=0.6,SNR=18
GNI LR LR 22 19 47.2
comp=Z,100nm,18.5s,baz=288,slow=38
comp=Z,34nm,0.9s
GNI Garni 19.12 85 *dP* **Pn 22 11 55.1 +0.8**
GNI pmax pmax
comp=Z,42nm,0.8s
MEF Metsahovi 19.14 7 *eP* **Pn 22 11 54.5 +0.4**
HFS Hagfors 19.16 351 P **P 22 11 53.5 0.0**
comp=Z,1.5nm,0.3s,baz=165,slow=14,SNR=52
HFS LR LR 22 20 30.8
comp=Z,227nm,20.8s,baz=166,slow=41
comp=Z,3.7nm,0.3s
KONO Kongsberg 19.35 345 P **P 22 11 54.2 -1.3**
KONO Kongsberg 19.35 345 *eP* **P 22 11 55.3 -0.2**
KONO Kongsberg 19.35 345 P **P 22 11 54.2 -1.3**
KONO pmax pmax
comp=Z,14nm,1.2s
PBRG Braganca 19.64 280 *eP* **Pn 22 12 00.4 0.0**
RAF Rauma 19.75 3 *eP* **P 22 11 59.6 -0.3**
BLS5 Blasjo 19.86 340 *eP* **Pn 22 12 02.7 -0.1**
MVO Moncorvo 19.95 278 *eS* **Sn 22 15 50.7 +2.8**
MVO *i* IAMs_20 IAMs_20 22 21 17.7
comp=Z,202nm,18.0s
KMY Karmoy 20.00 338 *eP* **P 22 12 03.1 +0.4**
NC602 NORSAR Array S 20.03 348 P **P 22 12 02.1 -0.9**
NC602 IAmb IAmb 22 12 05.1
comp=Z,46nm,1.7s
NC602 NORSAR Array S 20.03 348 *eP* **P 22 12 02.1 -0.9**
NC405 NORSAR Array S 20.36 349 **P 22 12 06.2 -0.5**
NB2 NORSAR Subarra 20.37 348 P **P 22 12 05.7 -1.0**
comp=Z,2.4nm,0.6s,baz=162,slow=11
NOA NORSAR Array B 20.37 348 P **P 22 12 05.7 -1.0**
comp=Z,2.4nm,0.7s,baz=154,slow=10,SNR=16
NOA LR LR 22 21 14.7
comp=Z,303nm,19.3s,baz=55,slow=40
comp=Z,2.4nm,0.7s
EKA Eskdalemuir Ar 20.45 321 P **P 22 12 08.1 +0.6**
comp=Z,3.7nm,0.3s,baz=114,slow=8.9,SNR=70
comp=Z,3.7nm,0.3s
ESK Eskdalemuir 20.46 321 P **P 22 12 08.2 +0.5**
ESK IAmb IAmb 22 12 09.8
comp=Z,29nm,0.9s
ESK Eskdalemuir 20.46 321 P **P 22 12 08.2 +0.5**
ESK pmax pmax
comp=Z,29nm,1.0s
MTE Manteigas 20.47 276 *eP* Pn 22 12 11.1 +0.9
MTE *i* IAmb IAmb 22 12 22.0
comp=Z,42nm,1.6s
MTE *i* IAMs_20 IAMs_20 22 22 02.4
comp=Z,218nm,16.0s
FINES FINESS Array B 20.52 9 P **P 22 12 07.2 -1.1**
FINES FINESS Array B 20.52 9 P **P 22 12 07.5 -0.8**
comp=Z,25nm,0.5s,baz=173,slow=12,SNR=144
FINES LR LR 22 21 07.6
comp=Z,771nm,18.5s,baz=194,slow=40
comp=Z,25nm,0.5s
FIA1 FINESS Array S 20.52 9 P **P 22 12 07.2 -1.0**
PMRV Marv??o 20.57 274 *eP* Pn 22 12 11.7 +0.3
PMRV *i* IAmb IAmb 22 12 42.9
comp=Z,28nm,1.9s
PMRV *i* IAMs_20 IAMs_20 22 20 55.0
comp=Z,179nm,18.0s
PBAR Barrancos 20.64 270 *eP* Pn 22 12 12.5 +0.4
PBAR *i* IAmb IAmb 22 12 36.6
comp=Z,36nm,1.7s
PGAV Gavieira, Arco 20.75 281 *i* IAMs_20 IAMs_20 22 22 48.7
comp=Z,240nm,16.0s
MAK Makhachkala 20.77 76 *eP* **P 22 12 07.5 -3.6**
MAK *eS* **S 22 15 57.3 -4.9**
MAK pmax pmax
comp=Z,88nm,0.7s
MAK MLR MLR
comp=Z,395nm,14.0s
PESTR Estremoz 20.86 272 *eP* Pn 22 12 16.7 +2.0
BER Bergen 20.98 340 *eP* **P 22 12 13.3 +0.1**
MDT Midelt 21.01 254 P **P 22 12 13.6 -0.3**
comp=Z,1.8nm,0.6s,baz=60,slow=12,SNR=5.5
MDT LR LR 22 20 10.5
comp=Z,167nm,18.7s,baz=52,slow=36
comp=Z,1.8nm,0.6s
MD01 Midelt array s 21.09 254 **P 22 12 14.7 -0.1**
MD31 MD31 21.09 254 P **P 22 12 14.4 -0.4**
DSB Dublin 21.09 313 P **P 22 12 14.8 +0.3**
DSB IAmb IAmb 22 12 20.5
comp=Z,83nm,1.6s
ASK Askoy 21.10 340 *eP* **P 22 12 14.6 +0.1**
KEF Keuruu 21.10 7 *eP* **P 22 12 14.1 -0.5**
PSARD Sardoal 21.11 274 *eP* **P 22 12 17.2 +2.3**
PSARD *i* IAmb IAmb 22 12 21.1
comp=Z,42nm,1.6s
AKT Akhty 21.12 80 *eP* **P 22 12 17.4 +2.4**
EVO Evora 21.27 272 *eP* **P 22 12 16.4 -0.2**
EVO *i* IAmb IAmb 22 12 44.9
comp=Z,33nm,1.6s
PMTG Montargil 21.29 273 *eP* **P 22 12 19.1 +2.4**
PMTG *i* IAmb IAmb 22 12 37.9
comp=Z,40nm,1.8s
HYA Hoyanger 21.45 342 *eP* **P 22 12 18.7 +0.4**
DOMB Dombas 21.67 347 *eP* **P 22 12 21.1 +0.4**
SUE Sulen 21.70 340 *eP* **P 22 12 20.9 0.0**
TAM Tamanrasset 21.93 217 P **P 22 12 23.4 -0.4**
TAM Tamanrasset 21.93 217 P **P 22 12 23.4 -0.4**
TAM pmax pmax
comp=Z,11nm,0.7s
PARRA Arraiolos 21.97 273 *eP* **P 22 12 19.2 -4.9**
PARRA *i* IAmb IAmb 22 12 24.2
comp=Z,36nm,1.6s
BELG Belogornoye 22.02 50 P **P 22 12 24.6 +0.3**
comp=Z,69nm,0.9s,baz=100,slow=1.8,SNR=17
comp=Z,69nm,0.9s
BELG Belogornoye 22.02 50 *dP* **P 22 12 24.7 +0.3**
BELG pmax pmax
comp=Z,11nm,0.9s
AKN Aaknes 22.18 344 *eP* **P 22 12 26.6 +0.5**
KLMR Klimovskoe 23.04 25 *eP* **P 22 12 30.3 -4.9**
KLMR pmax pmax
comp=Z,113nm,1.3s
KLMR MLR MLR
comp=Z,761nm,16.0s
NSS Namsos 23.64 352 *eP* **P 22 12 40.7 -0.4**
LEIR Leirfjorden 25.08 354 *eP* **P 22 12 56.0 +1.7**
RAUS Rausandaksla 25.33 355 *eP* **P 22 12 57.4 +0.7**
KIRV Kirov 25.51 37⇓ *eP* **P 22 12 57.4 -0.9**
KTK1 Kautokeino 27.80 3 *eP* **P 22 13 18.8 -0.2**
AKTO Aktyubinsk 28.01 58 LR LR 22 25 01.1
comp=Z,158nm,21.1s,baz=292,slow=38
JETT Jettan, Norway 28.28 1 *eP* **P 22 13 22.3 -1.0**
TRO Tromso 28.36 360 *eP* **P 22 13 22.9 -0.9**
ARA0 ARCESS Array S 28.43 4 *eP* **P 22 13 23.4 -1.2**
ARCES ARCESS Array B 28.43 4 P **P 22 13 23.2 -1.4**
ARCES IAmb IAmb 22 14 12.2
comp=Z,38nm,1.6s
ARCES ARCESS Array B 28.43 4 P **P 22 13 23.1 -1.4**
comp=Z,0.7nm,0.3s,baz=192,slow=11,SNR=19
comp=Z,0.7nm,0.3s
ARCES ARCESS Array B 28.43 4 P **P 22 13 23.2 -1.4**
ARCES pmax pmax
comp=Z,38nm,1.6s
ARTI Arti 29.19 46 P **P 22 13 30.8 -0.7**
ARTI Arti 29.19 46 LR LR 22 26 30.7
comp=Z,511nm,18.1s,baz=256,slow=39
ARTI Arti 29.19 46 *cP* **P 22 13 30.9 -0.5**
ARTI 22 14 22.7
ARTI 22 16 34.1
ARTI S **S 22 18 25.5 +2.7**
ARTI pmax pmax
comp=Z,43nm,0.9s
ARTI MLR MLR
comp=Z,515nm,17.0s
AB31 Akbulak array 29.22 60 P **P 22 13 31.2 -0.6**
ABKAR Akbulak array 29.22 60 **P 22 13 31.4 -0.3**
VADS Vadso 29.29 7 *eP* **P 22 13 31.5 -0.6**
SVE Sverdlovsk 30.50 45 *ceP* **P 22 13 43.6 +0.6**
SVE pmax pmax
comp=Z,50nm,0.8s
SVE MLR MLR
comp=Z,561nm,19.0s
TORD Torodi Ar. Bea 32.12 214 P **P 22 13 57.0 -0.6**
TORD Torodi Ar. Bea 32.12 214 P **P 22 13 58.2 +0.6**
comp=Z,0.7nm,0.4s,baz=20,slow=9.5,SNR=14
TORD LR LR 22 29 30.5
comp=Z,233nm,18.8s,baz=1.5,slow=41
comp=Z,0.7nm,0.4s
BORG Borgarnes 32.99 329 LR LR 22 29 17.6
comp=Z,171nm,18.3s,baz=137,slow=40
HRA Herat 34.16 88 **P 22 14 14.9 -0.7**
UOSS Minazif 34.49 107 P **P 22 14 17.0 -1.3**
UOSS IAmb IAmb 22 14 17.8
comp=Z,7.2nm,0.8s
BORK Borovoye 35.71 53 *cP* **P 22 14 28.8 +0.3**
BORK pmax pmax
comp=Z,24nm,0.9s
BVAR Borovoye Array 35.75 53 P **P 22 14 29.6 +0.7**
comp=Z,20nm,0.8s,baz=276,slow=7.0,SNR=86
comp=Z,20nm,0.8s
FURI Furi 36.49 147 P **P 22 14 35.1 -0.7**
FURI IAmb IAmb 22 14 56.2
comp=Z,20nm,0.6s
SPITS Spitsbergen Ar 36.97 359 P **P 22 14 38.9 -0.1**
comp=Z,2.8nm,0.6s,baz=171,slow=10,SNR=1.6
comp=Z,2.8nm,0.6s
WSAR Wadi Sarin 37.28 107 P **P 22 14 41.6 -0.6**
baz=319,slow=24,SNR=4.7
KK31 Karatay Array 37.32 70 **P 22 14 42.1 -0.3**
KK31 Karatay Array 37.32 70 P **P 22 14 42.1 -0.3**
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 37.32 70 **P 22 14 42.0 -0.4**
KKAR Karatay Array 37.32 70 P **P 22 14 42.0 -0.4**
SIMJ Simiganj 37.59 77 P **P 22 14 44.4 -0.4**
CHGR Chuyangaron 37.70 77 P **P 22 14 45.5 -0.2**
CHGR IAmb IAmb 22 14 46.4
comp=Z,14nm,0.7s
CHGR Chuyangaron 37.70 77 P **P 22 14 45.5 -0.2**
CHGR pmax pmax
comp=Z,14nm,0.7s
GAR Garm 38.43 76 P **P 22 14 51.7 -0.2**
GAR IAmb IAmb 22 15 03.8
comp=Z,9.9nm,0.8s
ARSB Arslanbob 39.59 72 P **P 22 15 01.9 +0.2**
ARSB IAmb IAmb 22 15 02.6
comp=Z,28nm,1.8s
ARSB Arslanbob 39.59 72 P **P 22 15 01.9 +0.2**
ARSB pmax pmax
comp=Z,28nm,1.8s
AAK Ala-Archa 40.26 69 P **P 22 15 07.5 +0.3**
AAK Ala-Archa 40.26 69 *ceP* **P 22 15 08.1 +0.9**
AAK pmax pmax
comp=Z,5.0nm,1.0s
DBIC Dimbokro 40.79 219 P **P 22 15 11.5 -0.1**
DBIC IAmb IAmb 22 15 30.7
comp=Z,49nm,1.9s
DBIC Dimbokro 40.79 219 P **P 22 15 11.8 +0.2**
comp=Z,2.1nm,0.6s,baz=54,slow=6.2,SNR=6.4
DBIC LR LR 22 35 05.8
comp=Z,165nm,18.4s,baz=28,slow=41
comp=Z,2.1nm,0.6s
DBIC Dimbokro 40.79 219 P **P 22 15 11.5 -0.1**
DBIC pmax pmax
comp=Z,49nm,2.0s
KURBB Kurchatov Arra 41.03 56 P **P 22 15 13.6 +0.3**
comp=Z,12nm,1.2s,baz=285,slow=10.0,SNR=31
KURBB PP **PnPn 22 16 53.0 +0.8**
comp=Z,1.6nm,0.9s,baz=280,slow=11,SNR=4.4
KURBB PcP **PcP 22 17 13.1 +0.2**
comp=Z,1.2nm,0.7s,baz=281,slow=3.8,SNR=5.5
KURBB LR LR 22 35 44.5
comp=Z,220nm,18.6s,baz=180,slow=41
comp=Z,12nm,1.2s
KURK Kurchatov 41.07 56 P **P 22 15 13.7 +0.1**
KURK IAmb IAmb 22 15 15.1
comp=Z,21nm,1.2s
KURK Kurchatov 41.07 56 P **P 22 15 13.7 +0.1**
KURK pmax pmax
comp=Z,21nm,1.2s
BOOM Boomskoye usch 41.32 69 P **P 22 15 16.1 +0.1**
BOOM Boomskoye usch 41.32 69 P **P 22 15 16.1 +0.1**
BOOM pmax pmax
comp=Z,6.0nm,0.8s
KDJ Kajisay 42.31 69 P **P 22 15 24.2 +0.1**
KDJ Kajisay 42.31 69 P **P 22 15 24.2 +0.1**
KDJ pmax pmax
comp=Z,12nm,1.4s
KSH Kashi 42.35 73 P **P 22 15 23.4 -1.0**
KSH pmax pmax
comp=Z,4.0nm,0.9s
NIL Nilore 42.73 82 **P 22 15 26.9 -0.5**
NIL IAmb IAmb 22 15 29.2
comp=Z,25nm,1.4s
NIL Nilore 42.73 82 P **P 22 15 26.9 -0.5**
NIL pmax pmax
comp=Z,25nm,1.4s
TARG Taragay, Kyrgy 42.88 69 P **P 22 15 29.8 +0.7**
TARG Taragay, Kyrgy 42.88 69 P **P 22 15 29.8 +0.7**
TARG pmax pmax
comp=Z,7.0nm,1.2s
MAKZ Makanchi 44.15 61 P **P 22 15 38.5 -0.2**
MAKZ IAmb IAmb 22 15 39.9
comp=Z,15nm,1.0s
MAKZ Makanchi 44.15 61 P **P 22 15 38.5 -0.2**
MAKZ pmax pmax
comp=Z,15nm,1.0s
ZAA0 Zalesovo Array 44.20 50 **P 22 15 39.1 +0.1**
ZALV Zalesovo Beam 44.20 50 P **P 22 15 38.9 0.0**
ZALV Zalesovo Beam 44.20 50 P **P 22 15 39.3 +0.3**
comp=Z,26nm,0.4s,baz=284,slow=8.4,SNR=123
MK31 Makanchi Array 44.36 61 *cP* **P 22 15 40.6 +0.2**
MKAR Makanchi Array 44.36 61 **P 22 15 40.3 -0.1**
MKAR Makanchi Array 44.36 61 P **P 22 15 40.8 +0.4**
comp=Z,18nm,0.6s,baz=282,slow=7.6,SNR=123
MKAR PcP **PcP 22 17 24.1 0.0**
comp=Z,1.7nm,0.7s,baz=298,slow=4.4,SNR=3.6
comp=Z,18nm,0.6s
SFJD Kangerlussuaq 45.12 329 LR LR 22 35 46.9
comp=Z,242nm,18.5s,baz=86,slow=38
WMQ Urumqi 48.95 63 *eP* P 22 16 23.5 +7.1
WMQ PcP **PcP 22 17 46.0 +5.6**
WMQ PP **PP 22 18 16.6 +7.0**
WMQ pmax pmax
comp=Z,25nm,0.9s
DRLN Deer Lake 52.57 306 P **P 22 16 43.8 +0.3**
FRB Frobisher Bay 53.09 326 LR LR 22 41 43.3
comp=Z,197nm,18.3s,baz=92,slow=39
SCHQ Schefferville 55.64 316 P **P 22 17 06.2 +0.3**
SCHQ Schefferville 55.64 316 P **P 22 17 06.4 +0.5**
comp=Z,45nm,0.6s,baz=54,slow=7.2,SNR=8.6
LSZ Lusaka 56.90 170 LR LR 22 43 07.1
comp=Z,98nm,18.0s,baz=328,slow=38
TIXI Tiksi 56.96 21 LR LR 22 44 51.7
comp=Z,197nm,18.6s,baz=328,slow=39
LSA Lhasa 57.93 77 P **P 22 17 22.7 -0.4**
LSA IAmb IAmb 22 17 23.5
comp=Z,10nm,0.8s
LSA Lhasa 57.93 77 P **P 22 17 20.8 -2.3**
LSA pmax pmax
comp=Z,13nm,0.8s
LSA Lhasa 57.93 77 P **P 22 17 22.7 -0.4**
LSA pmax pmax
comp=Z,10.0nm,0.8s
LMN Caledonia Moun 58.49 305 P **P 22 17 26.7 +0.5**
BATG Bathurst New B 58.58 307 P **P 22 17 27.8 +1.0**
GTA Gaotai 59.03 63 P **P 22 17 30.3 +0.1**
GTA sP sP 22 17 37.5 -0.4
GTA pmax pmax
comp=Z,15nm,1.1s
SONM Songino Array 59.07 52 P **P 22 17 31.1 +0.8**
SONM IAmb IAmb 22 17 31.9
comp=Z,12nm,1.0s
SONM Songino Array 59.07 52 P **P 22 17 31.1 +0.8**
comp=Z,10nm,0.9s,baz=289,slow=8.9,SNR=50
comp=Z,10nm,0.9s
ULN Ulaanbaatar 59.44 51 P **P 22 17 33.7 +0.8**
ULN IAmb IAmb 22 17 34.6
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 59.44 51 *ceP* **P 22 17 33.8 +0.8**
ULN pmax pmax
comp=Z,11nm,1.7s
SHL Shillong 60.75 81 P **P 22 17 40.8 -1.5**
SHL IAmb IAmb 22 17 41.0
comp=Z,12nm,1.0s
SHL Shillong 60.75 81 P **P 22 17 40.8 -1.5**
SHL pmax pmax
comp=Z,12nm,1.0s
LZDM Lanzhou Array 63.46 64 P **P 22 18 00.5 -0.1**
comp=Z,2.4nm,0.4s,baz=324,slow=7.3,SNR=4.7
comp=Z,2.4nm,0.4s
LZH Lanzhou 63.49 64 *eP* **P 22 18 01.3 +0.8**
LZH sP sP 22 18 09.0 +0.7
LZH pmax pmax
comp=Z,22nm,1.0s
KOOLE Kule 64.01 179 P **P 22 18 04.3 +0.5**
A36M Sachs Harbour 64.28 349 P **P 22 18 03.3 -1.5**
baz=29
LPHEP Lephephe 64.64 174 P **P 22 18 08.4 +0.6**
BTO Baotou 65.06 57 *eP* **P 22 18 10.3 -0.3**
BTO pP **pP 22 18 15.0 -1.3**
BTO sP **sP 22 18 17.4 -1.0**
BTO pmax pmax
comp=Z,36nm,1.0s
BTO pmax pmax
comp=Z,490nm,7.7s
LKGWB Lokgwabe 65.14 178 P **P 22 18 11.5 +0.3**
HHC Hu-ho-hao-te 65.89 56 *eP* **P 22 18 16.3 +0.3**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,190nm,5.5s
LBTB Lobatse 66.26 174 LR LR 22 50 02.6
comp=Z,128nm,18.3s,baz=356,slow=39
CD2 Chengdu 66.33 69 P **P 22 18 19.5 +0.6**
CD2 pmax pmax
comp=Z,20nm,0.6s
C36M Paulatuk 66.41 347 P **P 22 18 17.5 -1.2**
baz=29
PZH PanZhiHua 67.45 74 P **P 22 18 28.3 +2.1**
XAN Xi'an 68.08 64⇓ P **P 22 18 30.6 +0.6**
XAN pmax pmax
comp=Z,26nm,1.3s
C27K Jago River 68.66 354 P **P 22 18 32.1 -0.9**
baz=14
A19K Wainwright 68.77 0 P **P 22 18 32.5 -1.1**
baz=360
D27M Malcolm River 68.79 353 P **P 22 18 32.7 -1.1**
baz=16
INK Inuvik 68.82 350 P **P 22 18 31.9 -2.0**
baz=21
C23K Itkillik River 68.90 356 P **P 22 18 33.7 -0.8**
baz=8.0
C24K Franklin Bluff 68.92 356 P **P 22 18 33.1 -1.4**
baz=9.5
B20K Meade River 68.94 359 P **P 22 18 35.6 +1.0**
B20K Meade River 68.94 359 P **P 22 18 33.2 -1.4**
baz=2.7
HEH HeiHe 69.14 41 *eP* **P 22 18 36.9 +0.7**
D25K Kavik River 69.16 355 P **P 22 18 35.6 -0.5**
baz=11
E28M Babbage River 69.26 352 P **P 22 18 36.3 -0.5**
baz=17
B21K Ikpikpuk River 69.27 358 P **P 22 18 35.6 -1.1**
baz=4.7
E29M Blow River 69.29 351 **P 22 18 37.5 +0.6**
E29M IAmb IAmb 22 18 38.6
comp=Z,17nm,1.2s
E29M Blow River 69.29 351 P **P 22 18 36.3 -0.6**
baz=18
D24K Happy Valley 69.48 356 P **P 22 18 37.9 -0.2**
baz=9.3
B18K Kokolik River 69.61 1 P **P 22 18 38.6 -0.2**
baz=359
F31M Tsiigehtchic 69.66 349 P **P 22 18 38.9 -0.2**
baz=21
C21K Knifeblade Rid 69.74 358 P **P 22 18 39.7 0.0**
baz=4.6
D23K Nanushuk River 69.77 356 P **P 22 18 39.8 0.0**
baz=7.8
F30M Barrier River 69.77 350 P **P 22 18 40.1 +0.2**
baz=20
BOSA Boshof 69.81 175 P **P 22 18 41.2 +0.7**
BOSA Boshof 69.81 175 P **P 22 18 41.0 +0.5**
comp=Z,1.4nm,0.6s,baz=355,slow=6.7,SNR=3.6
BOSA LR LR 22 51 52.6
comp=Z,110nm,18.3s,baz=18,slow=38
comp=Z,1.4nm,0.6s
BOSA Boshof 69.81 175 P **P 22 18 41.3 +0.7**
BOSA pmax pmax
comp=Z,36nm,1.7s
C19K Lookout Ridge 69.87 360 P **P 22 18 40.8 +0.3**
baz=0.7
E27K Coleen River 69.87 353 P **P 22 18 40.7 +0.2**
baz=15
D22K Ayikyak River 69.94 357 P **P 22 18 40.7 -0.2**
baz=8.2
CHTO Chiang Mai 70.00 82 **P 22 18 40.8 -1.3**
CHTO IAmb IAmb 22 18 48.2
comp=Z,6.4nm,1.1s
CHTO Chiang Mai 70.00 82 P **P 22 18 40.8 -1.3**
CHTO pmax pmax
comp=Z,6.0nm,1.1s
TOLK Toolik Lake Re 70.03 356 P **P 22 18 41.5 -0.1**
baz=8.7
YKA Yellowknife Ar 70.16 339 P **P 22 18 42.7 +0.4**
comp=Z,9.7nm,1.1s,baz=22,slow=10,SNR=6.0
comp=Z,9.7nm,1.1s
G31M Satah River 70.22 349 P **P 22 18 42.6 0.0**
baz=21
CMAR Chiang Mai Arr 70.22 83 P **P 22 18 42.3 -1.1**
CMAR Chiang Mai Arr 70.22 83 P **P 22 18 42.4 -1.0**
comp=Z,1.6nm,0.6s,baz=304,slow=7.8,SNR=18
comp=Z,1.6nm,0.6s
D20K Ettivluk River 70.23 359 P **P 22 18 42.7 0.0**
baz=3.1
F28M Old Crow 70.25 352 P **P 22 18 43.3 +0.5**
F28M IAmb IAmb 22 18 44.1
comp=Z,4.2nm,0.8s
F28M Old Crow 70.25 352 P **P 22 18 42.8 0.0**
baz=16
E25K Arctic Village 70.28 354 P **P 22 18 42.8 -0.3**

	baz=12								
C18K	**Utukok River**	70.33	0	P		P	22 18 43.0	-0.3	
	baz=359								
G30M	**tAoh Zraii Nji**	70.42	350	P		P	22 18 44.2	+0.3	
	baz=19								
E21K	**Killik River**	70.43	357	P		P	22 18 44.3	+0.4	
	baz=5.2								
D19K	**Kuna River**	70.47	359	P		P	22 18 44.3	+0.1	
	baz=1.9								
C17K	**DeLong Mountai**	70.48	1	P		P	22 18 44.2	0.0	
	baz=358								
E24K	**Your Creek**	70.53	355	P		P	22 18 44.9	+0.3	
	baz=9.6								
F26K	**Sheenjek River**	70.59	353	P		P	22 18 45.7	+0.8	
F26K				IAmb		IAmb	22 18 55.6		
	comp=Z,22nm,1.8s								
F26K	**Sheenjek River**	70.59	353	P		P	22 18 44.9	-0.1	
	baz=13								
E23K	**Chandalar**	70.62	356	P		P	22 18 45.0	-0.1	
	baz=8.7								
C16K	**Lisburne Hills**	70.64	2	P		P	22 18 45.8	+0.6	
C16K	**Lisburne Hills**	70.64	2	P		P	22 18 44.9	-0.3	
	baz=356								
E22K	**Anaktuvuk Pass**	70.65	357			P	22 18 46.0	+0.7	
E22K				IAmb		IAmb	22 19 01.3		
	comp=Z,20nm,1.7s								
E22K	**Anaktuvuk Pass**	70.65	357	P		P	22 18 45.6	+0.3	
	baz=6.9								
E20K	**Nigu River**	70.68	358	P		P	22 18 45.6	+0.1	
	baz=3.4								
ENH	**Enshi**	70.70	66	P		P	22 18 46.1	-0.1	
G29M	**Pine Creek**	70.72	351	P		P	22 18 45.4	-0.3	
	baz=18								
F25K	**Christian Rive**	70.81	354	P		P	22 18 45.5	-0.8	
	baz=12								
F24K	**Squaw Lake**	71.05	355	P		P	22 18 47.8	0.0	
	baz=10.0,SNR=5.7								
EPYK	**Eagle Plains**	71.07	350	P		P	22 18 47.8	-0.1	
	baz=19								
G27K	**Doyon Strip**	71.22	352	P		P	22 18 48.9	+0.2	
	baz=15								
D17K	**Noatak River**	71.27	1	P		P	22 18 48.9	-0.1	
	baz=358								
H31M	**Peel River**	71.28	349	P		P	22 18 48.7	-0.4	
	baz=20								
G26K	**Porcupine Rive**	71.28	353	P		P	22 18 49.5	+0.5	
	baz=13								
F22K	**John River**	71.29	357	P		P	22 18 49.1	0.0	
	baz=6.6								
H29M	**Whitestone**	71.42	351	P		P	22 18 49.6	-0.4	
	baz=17								
COLD	**Coldfoot**	71.47	356	P		P	22 18 49.9	-0.4	
	baz=8.1								
E19K	**Redstone River**	71.50	359	P		P	22 18 50.0	-0.4	
	baz=2.6								
E18K	**Tukpahlearik C**	71.56	0	P		P	22 18 50.4	-0.3	
	baz=360								
F21K	**Alatna River**	71.63	357	P		P	22 18 51.5	+0.3	
	baz=5.5								
G25K	**Bearman Lake**	71.66	354	P		P	22 18 51.6	+0.2	
	baz=11								
WRGLY	**Wrigley**	71.67	343	P		P	22 18 51.9	+0.5	
	baz=28								
H27K	**Steamboat Moun**	71.77	352	P		P	22 18 52.2	+0.1	
	baz=15,SNR=6.9								
G24K	**Hadweenzic Riv**	71.83	355	P		P	22 18 52.1	-0.3	
	baz=10								
G22K	**Bettles**	71.85	356	P		P	22 18 52.7	+0.2	
	baz=7.1								
F20K	**Avaraart Lake**	71.88	358	P		P	22 18 52.5	-0.1	
	baz=3.8								
E17K	**Hotham Inlet**	71.90	1	P		P	22 18 52.1	-0.7	
	baz=359								
G23K	**Bananza Creek**	71.98	356	P		P	22 18 53.2	-0.2	
	baz=8.3								
I30M	**Mount Dempster**	72.12	350	P		P	22 18 54.7	+0.4	
I30M				IAmb		IAmb	22 18 55.6		
	comp=Z,5.5nm,0.8s								
I30M	**Mount Dempster**	72.12	350	P		P	22 18 54.4	+0.1	
	baz=19								
H25L	**Birch Creek**	72.13	354	P		P	22 18 53.6	-0.6	
	baz=12								
F19K	**Shaleruckik Mo**	72.13	359	P		P	22 18 53.9	-0.3	
	baz=2.1								
CN2	**Changchun**	72.28	47	P		P	22 18 56.3	+0.8	
CN2				pmax		pmax			
	comp=Z,10.0nm,1.2s								
G21K	**Allakaket**	72.34	357	P		P	22 18 55.4	0.0	
	baz=5.5								
I28M	**Miner Creek**	72.35	351	P		P	22 18 55.5	-0.2	
	baz=16								
I27K	**Kandik River**	72.38	352	P		P	22 18 55.4	-0.5	
	baz=15								
F18K	**Selawik**	72.39	360	P		P	22 18 55.6	-0.1	
	baz=0.7								
F17K	**Baldwin Pennin**	72.55	0	P		P	22 18 56.7	0.0	
	baz=359								
H24K	**Noodor Dome**	72.71	355	P		P	22 18 57.7	0.0	
	baz=9.9								
ULM	**Lac du Bonnet**	72.71	323	P		P	22 18 58.6	+0.7	
	comp=Z,9.8nm,0.7s,baz=52,slow=6.3,SNR=14								
	comp=Z,9.8nm,0.7s								
ULM	**Lac du Bonnet**	72.71	323	*de*P		P	22 18 59.0	+1.1	
J30M	**Hart River**	72.72	349	P		P	22 18 58.0	0.0	
	baz=19,SNR=7.4								
G19K	**Purcell Mounta**	72.81	359	P		P	22 18 57.5	-0.8	
	baz=2.7								
H22K	**Ishtalitna Cre**	72.86	356	P		P	22 18 58.3	-0.3	
	baz=7.2,SNR=5.8								
IMAR	**Indian Mountai**	72.88	357	P		P	22 18 59.4	+0.7	
G18K	**Tagagawik**	73.09	359	P		P	22 18 59.7	-0.3	
	baz=1.4,SNR=5.2								
J29N	**Klondike Camp**	73.09	350	P		P	22 19 00.0	0.0	
	baz=17								
EGAK	**Eagle**	73.14	351	P		P	22 19 00.3	+0.1	
	baz=15								
H21K	**Melozitna Rive**	73.17	357	P		P	22 18 59.1	-1.3	
	baz=6.0								
F15K	**North Star Dit**	73.23	2	P		P	22 19 00.3	-0.5	
	baz=357								
TNA	**Tin City**	73.27	3	P		P	22 19 00.7	-0.3	
	baz=354								
POKR	**Poker Plat Res**	73.39	354	P		P	22 19 01.9	+0.1	
	baz=10								
H20K	**Anotleneega Mo**	73.41	358	P		P	22 19 02.6	+0.7	
	baz=4.4								
H19K	**Roundabout Mou**	73.42	358	P		P	22 19 02.4	+0.6	
	baz=3.2								
F14K	**Arctic Creek**	73.42	3	P		P	22 19 02.2	+0.3	
	baz=355								
G17K	**Kiwalik Mounta**	73.49	0	P		P	22 19 02.6	+0.3	
	baz=360								
K29M	**Barlow Dome**	73.59	350	P		P	22 19 03.2	+0.1	
	baz=18								
G16K	**Koyuk River**	73.59	1	P		P	22 19 03.0	+0.2	
	baz=358								
DAWY	**Dawson**	73.61	351			P	22 19 03.8	+0.7	
DAWY				IAmb		IAmb	22 19 05.0		
	comp=Z,11nm,1.0s								
DAWY	**Dawson**	73.61	351	P		P	22 19 02.9	-0.2	
	baz=16,SNR=5.2								
J26L	**Joseph Creek**	73.66	352	P		P	22 19 03.0	-0.4	
	baz=13								
COLA	**College**	73.66	354	*e*P		P	22 19 04.8	+1.6	
COLA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
ILAR	**Eielson Array**	73.69	354	P		P	22 19 04.2	+0.7	
ILAR	**Eielson Array**	73.69	354	P		P	22 19 03.9	+0.4	
	comp=Z,1.3nm,0.8s,baz=0.4,slow=5.0,SNR=10								
	comp=Z,1.3nm,0.8s								
ILAR	**Eielson Array**	73.69	354	P		P	22 19 04.2	+0.7	
MLY	**Manley**	73.69	356	P		P	22 19 03.2	-0.3	
	baz=7.6								
J25K	**Salcha River,**	73.72	353	P		P	22 19 02.8	-0.9	
	baz=12								
MMPY	**Sheldon Lake,**	73.76	346	P		P	22 19 03.4	-0.6	
	baz=22								
H18K	**Honhosa River**	73.83	359	P		P	22 19 03.8	-0.5	
	baz=1.7								
K27K	**Chicken**	73.96	352	P		P	22 19 05.0	0.0	
	baz=14								
G15K	**Niukluk**	73.97	2	P		P	22 19 04.7	-0.3	
	baz=357								
NEA2	**Nenana**	74.02	355	P		P	22 19 05.0	-0.4	
	baz=8.9								
HDA	**Harding Lake**	74.05	354	P		P	22 19 06.0	+0.4	
	baz=11,SNR=5.9								
H17K	**Granite Mounta**	74.06	360	P		P	22 19 06.0	+0.4	
	baz=0.5								
I20K	**Naaghedeneel**	74.09	357	P		P	22 19 05.8	0.0	
	baz=4.7								
TGTN	**Hyland Airport**	74.20	345	P		P	22 19 06.5	-0.1	
	baz=25								
SCRK	**Sand Creek**	74.21	353	P		P	22 19 05.9	-0.8	
	baz=13								
GCSA	**Galena City Sc**	74.21	358	P		P	22 19 05.9	-0.5	
	baz=2.8								
H16K	**Elim**	74.35	1	P		P	22 19 06.2	-1.1	
	baz=359								
L29M	**L29M**	74.37	350	P		P	22 19 07.5	0.0	
	baz=17								
RIDG	**Independent Ri**	74.53	353	P		P	22 19 08.6	+0.1	
	baz=12,SNR=5.6								
K24K	**Donnelly Dome**	74.55	353	P		P	22 19 08.1	-0.4	
	baz=11								
KOTAN	**Kotaneelee Air**	74.55	342	P		P	22 19 08.0	-0.6	
	baz=28								
BPAW	**Bear Paw Mtn.**	74.63	356	P		P	22 19 08.1	-0.9	
	baz=7.4								
M31M	**Drury Creek, Y**	74.68	348	P		P	22 19 08.7	-0.7	
	baz=20								
M30M	**Minto, Yukon**	74.69	349	P		P	22 19 09.5	+0.1	
	baz=18								
J20K	**Nowinta River**	74.70	357	P		P	22 19 09.4	0.0	
	baz=4.9								
GAMB	**Gambell**	74.84	5	P		P	22 19 10.2	0.0	
	baz=351								
MCK	**McKinley**	74.87	355	P		P	22 19 10.5	+0.2	
	baz=9.0								
BCAR	**Beaver Creek A**	74.87	351	P		P	22 19 11.6	+1.2	
L27K	**Beaver Creek,**	74.88	351	P		P	22 19 10.0	-0.4	
	baz=14								
CHUM	**Lake Minchumin**	74.92	356	P		P	22 19 10.6	0.0	
	baz=6.3								
J19K	**Poorman**	74.94	358	P		P	22 19 10.8	+0.1	
	baz=3.8								
M29M	**Somme Creek**	75.06	350	P		P	22 19 11.2	-0.4	
	baz=17,SNR=5.3								
L26K	**Log Cabin Wild**	75.08	352	P		P	22 19 11.1	-0.5	
	baz=13								
I17K	**Unalakleet**	75.11	0	P		P	22 19 10.4	-1.4	
	baz=360								
TRF	**Thorofare Moun**	75.24	355	P		P	22 19 12.0	-0.7	
	baz=7.9								
PAX	**Paxson**	75.34	353	P		P	22 19 12.3	-0.9	
	baz=12								
DHY	**Denali Highway**	75.40	354	P		P	22 19 13.6	0.0	
	baz=10								
CELP	**Cerrillos**	75.43	281	P		P	22 19 15.5	+1.1	
CELP				IAmb		IAmb	22 20 00.6		
	comp=Z,33nm,1.5s								
N32M	**Quiet Lake**	75.45	347	P		P	22 19 14.0	+0.2	
	baz=21								
J18K	**Innoko River**	75.49	358	P		P	22 19 13.9	-0.1	
	baz=2.9								
USRK	**Ussuriysk Ar.**	75.50	43	P		P	22 19 14.5	+0.2	
	comp=Z,1.2nm,0.7s,baz=296,slow=4.3,SNR=2.5								
	comp=Z,1.2nm,0.7s								
K20K	**Telida**	75.52	357	P		P	22 19 14.8	+0.6	
	baz=5.0								
M27K	**Edge Creek, AK**	75.57	351	P		P	22 19 14.8	+0.2	
	baz=14								
N31M	**Braeburn, Yuko**	75.58	348	P		P	22 19 15.2	+0.7	
	baz=19								
J17K	**VABM Dome**	75.60	359	P		P	22 19 14.3	-0.3	
	baz=1.1								
M26K	**Nabesna, AK**	75.65	352	P		P	22 19 15.2	+0.2	
	baz=14								
WAT1	**Susitna Watana**	75.73	354	P		P	22 19 15.8	+0.4	
	baz=9.2								
N30M	**Aishikik Lake**	75.80	349	P		P	22 19 16.0	+0.2	
	baz=18								
HARP	**HAARP**	75.87	353	P		P	22 19 16.3	+0.1	
	baz=12								
NJ2	**Nanjing**	75.88	60	*e*P		P	22 19 17.1	+0.4	
NJ2				pmax		pmax			
	comp=Z,18nm,0.6s								
PPLA	**Purkeypile**	75.90	356	P		P	22 19 16.7	+0.2	
	baz=6.4								
WAT6	**Susitna Watana**	75.92	354	P		P	22 19 16.2	-0.4	
	baz=9.8								
TOAD	**Toad River Com**	75.97	342	P		P	22 19 16.9	+0.1	
	baz=27								
YUK4	**Talbot Arm**	76.14	349	P		P	22 19 17.1	-0.8	
	baz=17								
WHY	**Whitehorse**	76.22	347	P		P	22 19 18.1	-0.2	
	baz=20								
J14K	**Nanvaranak Lak**	76.23	1	P		P	22 19 18.3	+0.2	
	baz=358								
K17K	**Iditarod**	76.27	359	P		P	22 19 18.6	+0.2	
	baz=1.7								
P33M	**Teslin, Yukon**	76.28	346	P		P	22 19 18.1	-0.5	
	baz=21								
O30N	**Mendenhall**	76.31	348	P		P	22 19 18.1	-0.6	
	baz=19								
YUK8	**Steele Glacier**	76.34	350	P		P	22 19 18.3	-0.9	
	baz=16								
HYT	**Haines Junctio**	76.47	349	P		P	22 19 19.5	-0.2	
	baz=18								
YUK6	**Outpost Mounta**	76.48	349	P		P	22 19 20.1	+0.2	
	baz=17								
N25K	**Chitina, Valde**	76.60	352	P		P	22 19 20.4	+0.1	
	baz=12								
SCM	**Sheep Creek Mo**	76.62	354	P		P	22 19 20.9	+0.4	
	baz=10								
MCARA	**McCarthy VSAT**	76.65	351	P		P	22 19 21.2	+0.6	
	baz=13								
M23K	**Glacier View**	76.70	354	P		P	22 19 20.7	-0.2	
	baz=9.8								
R33M	**Jennings River**	76.70	345	P		P	22 19 22.0	+0.9	
	baz=22								
K15K	**Wolf Creek Mou**	76.71	1	P		P	22 19 20.7	-0.1	
	baz=359								
L19K	**White Mountain**	76.73	357	P		P	22 19 20.8	-0.2	
	baz=4.3								
L18K	**Granite Mounta**	76.74	358	P		P	22 19 21.0	0.0	
	baz=2.9								
SKT	**Skwentna**	76.77	356	P		P	22 19 21.0	-0.3	
	baz=6.9								
KLU	**Klutina**	76.84	353	P		P	22 19 21.3	-0.4	
	baz=11								
CTG	**Chitna Glacier**	76.86	351	P		P	22 19 21.5	-0.5	
	baz=15								
L17K	**Donlin**	76.86	359	P		P	22 19 21.6	-0.2	
	baz=1.7								
O28M	**Mount Upton**	76.90	350	P		P	22 19 20.4	-1.9	
	baz=16								
M22K	**Willow**	76.91	355	P		P	22 19 21.1	-0.9	
	baz=8.0								
M20K	**Styx River**	76.95	356	P		P	22 19 21.1	-1.3	
	baz=5.7								
PMR	**Palmer**	77.00	354	P		P	22 19 21.5	-1.0	
	baz=8.7								
P32M	**Atlin**	77.03	346	P		P	22 19 22.0	-0.8	
	baz=20								
P30M	**Million Dollar**	77.06	348	P		P	22 19 22.5	-0.5	
	baz=18								
O29M	**Mount Kennedy**	77.13	349	P		P	22 19 23.0	-0.5	
	baz=17								
KNK	**Knik Glacier**	77.13	354	P		P	22 19 23.0	-0.3	
	baz=9.2								
SUA	**Susitna One**	77.24	355	P		P	22 19 23.4	-0.7	
	baz=7.5								
CRQE	**Cirque**	77.27	351	P		P	22 19 23.5	-0.8	
	baz=13								
L16K	**Owhat River**	77.30	360	P		P	22 19 23.2	-0.9	
	baz=0.8								
L15K	**Ungalak Mounta**	77.33	0	P		P	22 19 23.4	-0.9	
	baz=359								
Q32M	**Nakina River**	77.35	345	P		P	22 19 23.7	-1.1	
	baz=21								
DLBC	**Dease Lake**	77.39	344	P		P	22 19 25.0	0.0	
	baz=23								
SKAG	**Skagway**	77.43	347	P		P	22 19 24.2	-0.7	
	baz=19								
M18K	**Stony River**	77.45	358	P		P	22 19 24.8	-0.3	
	baz=3.6								
RC01	**Rabbit Creek A**	77.55	355	P		P	22 19 24.8	-0.8	
	baz=8.2								
GLI	**Glacier Island**	77.55	353	P		P	22 19 25.2	-0.4	
	baz=10								
PINM	**Pinnacle**	77.56	350	P		P	22 19 25.8	0.0	
	baz=15								
M17K	**Holitna River**	77.58	359	P		P	22 19 25.2	-0.6	
	baz=2.4								
P29M	**Windy Craggy**	77.65	348	P		P	22 19 25.7	-0.6	
	baz=17								
L14K	**Kuka Creek**	77.65	1	P		P	22 19 25.7	-0.5	
	baz=358								
PWL	**Port Wells**	77.67	354	P		P	22 19 25.8	-0.6	
	baz=9.3								
KSRS	**Korea Array**	77.91	51	P		P	22 19 28.1	+0.1	
	comp=Z,2.2nm,0.9s,baz=308,slow=4.9,SNR=6.4								
	comp=Z,2.2nm,0.9s								
N19K	**Bonanza Creek**	78.08	357	P		P	22 19 28.3	-0.4	
	baz=4.6								
S34M	**Telegraph Cree**	78.11	344	P		P	22 19 27.4	-1.4	
	baz=22								
N18K	**Kilae Creek**	78.26	358	P		P	22 19 28.6	-1.0	
	baz=3.5								
M15K	**Kasigluk River**	78.32	0	P		P	22 19 30.1	+0.2	
	baz=360								
R32K	**Eaglecrest**	78.41	346	P		P	22 19 29.2	-1.2	
	baz=20								
N17K	**Nushagak Hills**	78.45	358	P		P	22 19 31.3	+0.6	
	baz=2.5								
SEW	**Seward**	78.50	354	P		P	22 19 31.5	+0.6	
	baz=8.4								
M11K	**Mekoryuk**	78.52	3	P		P	22 19 31.5	+0.6	
	baz=356								
N16K	**Nishlik Lake**	78.53	359	P		P	22 19 30.9	-0.2	
	baz=1.3								
YSS	**Yuzhno-Sakhali**	78.65	36	*e*P		P	22 19 33.1	+1.1	
YSS				pmax		pmax			
	comp=Z,20nm,1.2s								
YSS				MLR		MLR			
	comp=Z,400nm,13.0s								
O19K	**Port Alsworth**	78.69	357	P		P	22 19 32.3	+0.4	
	baz=4.7								
BRSE	**Bradley Lake S**	78.95	355	P		P	22 19 34.2	+0.8	
	baz=7.5								
S31K	**Pelican**	79.00	347	P		P	22 19 34.0	+0.3	
	baz=18								
N14K	**Kuskokwak Cree**	79.09	1	P		P	22 19 34.1	0.0	
	baz=359								
P19K	**Oil Pt**	79.19	356	P		P	22 19 35.7	+1.0	
	baz=5.5								
O17K	**Koliganek Bris**	79.20	358	P		P	22 19 35.4	+0.7	
	baz=2.6								
PETK	**Petropavlovsk-**	79.23	24	PP		PP	22 22 32.4	-1.6	
	comp=Z,5.2nm,1.1s,baz=262,slow=10,SNR=3.6								
O16K	**Kokwok River B**	79.40	359	P		P	22 19 35.7	-0.1	
	baz=1.8								
P18K	**Big Mountain,**	79.53	357	P		P	22 19 36.4	-0.2	
	baz=4.0								
SIT	**Sitka**	79.70	346	P		P	22 19 37.3	-0.2	
	baz=19								
WRAK	**Wrangell Islan**	79.74	345	P		P	22 19 37.0	-0.7	
	baz=21								
P17K	**Kvichak River**	79.77	358	P		P	22 19 37.1	-0.7	
	baz=3.1								
O15K	**Ungalikthiuk R**	79.84	360	P		P	22 19 37.6	-0.6	
	baz=0.5								
KULM	**Kulim**	79.86	92	P		P	22 19 37.9	-1.2	
KULM				IAmb		IAmb	22 19 38.8		
	comp=Z,7.6nm,0.7s								
Q19K	**Cape Douglas,**	79.93	356	P		P	22 19 38.8	0.0	
	baz=5.2								
P16K	**Nushagak River**	79.97	359	P		P	22 19 38.7	-0.2	
	baz=1.9								
U33K	**Whale Pass**	80.18	345	P		P	22 19 40.1	0.0	
	baz=20								
Q20K	**Shuyak Island**	80.18	356	P		P	22 19 39.7	-0.4	
	baz=6.2								
PSI	**Prapat**	80.19	95	P		P	22 19 40.2	-0.8	
PSI				pmax		pmax			
	comp=Z,7.0nm,0.7s								
RPSI	**Rantau Prapat**	80.26	95	P		P	22 19 40.2	-1.0	
RPSI				IAmb		IAmb	22 19 40.6		
	comp=Z,7.1nm,0.7s								
EGMT	**Eagleton**	80.35	328	P		P	22 19 42.9	+1.6	
V35K	**Ketchikan**	80.61	344	P		P	22 19 42.2	-0.3	
	baz=22								
IPM	**Ipoh**	80.67	92	P		P	22 19 42.0	-1.4	
IPM				IAmb		IAmb	22 19 43.2		
	comp=Z,6.4nm,0.7s								
Q17K	**Contact Creek**	80.68	358	P		P	22 19 42.0	-0.9	
	baz=3.5								
CRAG	**Craig**	80.79	345	P		P	22 19 42.6	-0.7	
	baz=20								
KDAK	**Kodiak Island**	81.02	356	P		P	22 19 44.0	-0.6	
	baz=6.0								
RLMT	**Red Lodge**	82.49	326	P		P	22 19 54.8	+1.9	
YNE	**Yellowstone No**	82.89	327	P		P	22 19 56.8	+1.8	
YNE				IAmb		IAmb	22 19 57.7		
	comp=Z,8.6nm,0.8s								
NEW	**Newport**	82.89	332	LR		LR	23 01 43.1		
	comp=Z,80nm,19.4s,baz=18,slow=39								
CHIR	**Chirikof Islan**	83.12	357	P		P	22 19 55.1	-0.5	
	baz=3.7								
S12K	**Black Hills**	83.31	1	P		P	22 19 56.1	-0.6	
	baz=359								
OK052	**Battle Ridge R**	83.44	313	P		P	22 19 58.8	+1.1	
BDFB	**Brasilia**	84.22	244	P		P	22 20 03.2	+1.2	
BDFB	**Brasilia**	84.22	244	P		P	22 20 03.1	+1.1	
	comp=Z,3.3nm,0.5s,baz=89,slow=7.2,SNR=5.1								
	comp=Z,3.3nm,0.5s								
BDFB	**Brasilia**	84.22	244	P		P	22 20 03.2	+1.2	
BDFB				pmax		pmax			
	comp=Z,56nm,2.0s								
MJAR	**Matsushiro Arr**	84.31	45	P		P	22 20 02.0	-0.2	
	comp=Z,5.4nm,1.1s,baz=312,slow=5.0,SNR=6.9								
	comp=Z,5.4nm,1.1s								
PD31	**Pinedale Array**	84.51	325			P	22 20 04.2	+0.8	
PD31				IAmb		IAmb	22 20 04.8		
	comp=Z,11nm,1.5s								
PDAR	**Pinedale Array**	84.51	325	P		P	22 20 03.8	+0.4	
PDAR	**Pinedale Array**	84.51	325	P		P	22 20 04.0	+0.7	
	comp=Z,1.6nm,0.7s,baz=61,slow=8.4,SNR=18								
PDAR				LR		LR	23 00 00.9		
	comp=Z,86nm,18.9s,baz=50,slow=37								
	comp=Z,1.6nm,0.7s								
UNV	**Unalaska Valle**	85.04	4	P		P	22 20 04.7	-0.8	
	baz=356								
PLID	**Pearl Lake**	85.19	330	P		P	22 20 06.2	-0.6	
PLID				IAmb		IAmb	22 20 07.2		
	comp=Z,8.8nm,1.4s								
GNW	**Green Mountain**	85.39	335			P	22 20 08.5	+1.2	
GNW				IAmb		IAmb	22 20 09.7		
	comp=Z,10nm,0.9s								
NIKH	**Nikolski High**	85.78	5	P		P	22 20 08.6	-0.6	
	baz=354								
BMO	**Blue Mountains**	85.88	331			P	22 20 10.0	0.0	
BMO				IAmb		IAmb	22 20 11.2		
	comp=Z,4.8nm,0.8s								
BMO	**Blue Mountains**	85.88	331	P		P	22 20 10.0	0.0	
BMO				pmax		pmax			
	comp=Z,5.0nm,0.8s								
J05D	**F

HURO	**Huro Makira**	**0.61**	**302**	P	**Pn**	**22 08 19.0**	**-2.2**
HURO	**Huro Makira**	**0.61**	**302**	S	**Sn**	**22 08 30.4**	**-3.3**
NGOA	**Tingoa Renbel**	**2.44**	**252**	P	**Pn**	**22 08 41.6**	**-1.3**
NGOA	**Tingoa Renbel**	**2.44**	**252**	S	**Sn**	**22 09 09.7**	**-2.7**
ALEG	**Aligegeo Malai**	**2.65**	**320**	P	**Pn**	**22 08 44.5**	**-1.2**
HNR	**Honiara**	**2.79**	**299**	Pn	**Pn**	**22 08 46.9**	**-0.7**
HNR				Sn	**Sn**	**22 09 19.4**	**-1.3**
HNR	**Honiara**	**2.79**	**299**	P	**Pn**	**22 08 48.1**	**+0.5**
	753nm,0.4s,baz=152,slow=8.1,SNR=24						
HNR				S	**Sn**	**22 09 20.1**	**-0.6**
	1µm,0.7s,baz=198,slow=17,SNR=15						
HNR				LR	LR	22 10 02.2	
	comp=Z,230nm,19.9s,baz=64,slow=45						
HNR	**Honiara**	**2.79**	**299**	P	**Pn**	**22 08 48.2**	**+0.6**
HNR	**Honiara**	**2.79**	**299**	S	**Sn**	**22 09 20.1**	**-0.6**
SAVO	**Savo Central**	**3.05**	**302**	P	**Pn**	**22 08 51.3**	**+0.3**
LUES	**Luesalemba Tem**	**3.43**	**88**	P	**Pn**	**22 08 54.9**	**-1.1**
LUES	**Luesalemba Tem**	**3.43**	**88**	S	**Sn**	**22 09 32.7**	**-3.1**
TATA	**Tatamba Isabel**	**3.52**	**312**	P	**Pn**	**22 08 56.6**	**-0.8**
TATA	**Tatamba Isabel**	**3.52**	**312**	S	**Sn**	**22 09 36.9**	**-1.3**
SANVU	**Saraoutou**	**6.56**	**135**	Pn	**Pn**	**22 09 38.7**	**+0.2**
SANVU				Sn	**Sn**	**22 10 50.8**	**-1.1**
DZM	**Mont Dzumac**	**11.86**	**162**	P	Pn	22 10 54.7	+4.2
	5.7nm,0.8s,baz=90,slow=18,SNR=1.7						
DZM				S	**Sn**	**22 12 59.9**	**-1.0**
	12nm,1.0s,baz=137,slow=22,SNR=1.8						
RABL	**Rabaul**	**12.11**	**302**	Pn	**Pn**	**22 10 53.3**	**-0.5**
EIDS	**Eidsvold**	**18.05**	**215**		**Pn**	**22 12 09.5**	**+0.5**
CTAO	**Charters Tower**	**18.11**	**237**	P	**Pn**	**22 12 10.4**	**+0.7**
CTAO				IAmb	IAmb	22 12 12.8	
	comp=Z,11nm,0.8s						
COEN	**Coen**	**19.07**	**259**	P	**Pn**	**22 12 20.8**	**-0.4**
COEN				IAmb	IAmb	22 12 25.7	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**28.53**	**248**	P	**P**	**22 13 50.0**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=78,slow=9.4,SNR=6.1						
	comp=Z,0.9nm,0.6s						
H11S2	**WAKE ISLAND Hy**	**29.40**	**8**	T	T	22 45 07.7	
	baz=188,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**29.40**	**8**	T	T	22 45 16.9	
	baz=188,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**29.42**	**8**	T	T	22 45 09.8	
	baz=188,slow=76,SNR=15						
ASAR	**Alice Springs**	**30.03**	**241**	P	**P**	**22 14 03.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=63,slow=10,SNR=6.7						
	comp=Z,0.4nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**30.63**	**8**	T	T	22 46 45.6	
	baz=188,slow=76,SNR=8.7						
H11N3	**WAKE ISLAND Hy**	**30.64**	**8**	T	T	22 46 45.8	
	baz=188,slow=76,SNR=9.9						
H11N2	**WAKE ISLAND Hy**	**30.65**	**8**	T	T	22 46 37.0	
	baz=188,slow=76,SNR=6.5						
FITZ	**Fitzroy Crossi**	**36.31**	**254**	P	**P**	**22 14 58.6**	**-0.2**
FITZ				IAmb	IAmb	22 15 15.1	
	comp=Z,1.9nm,1.2s						
FITZ	**Fitzroy Crossi**	**36.31**	**254**	P	**P**	**22 14 58.3**	**-0.5**
	comp=Z,3.5nm,0.6s,baz=91,slow=7.1,SNR=3.8						
	comp=Z,3.5nm,0.6s						
SSLB	**Suanglung**	**53.15**	**311**	P	**P**	**22 17 12.9**	**+0.4**
SONM	**Songino Array**	**76.56**	**325**	P	**P**	**22 19 45.5**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=142,slow=3.3,SNR=9.6						
	comp=Z,2.3nm,0.8s						
QSPA	**South Pole Qui**	**79.21**	**180**	P	P	22 20 01.0	+2.5
QSPA				IAmb	IAmb	22 20 06.1	
	comp=Z,4.1nm,1.4s						
QSPA	**South Pole Qui**	**79.21**	**180**	P	**P**	**22 20 00.7**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=231,slow=13,SNR=1.7						
	comp=Z,0.5nm,0.8s						
ILAR	**Eielson Array**	**84.33**	**19**	P	**P**	**22 20 26.7**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=241,slow=3.0,SNR=3.1						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**91.12**	**317**	P	**P**	**22 20 57.9**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=113,slow=3.2,SNR=3.5						
	comp=Z,0.5nm,0.6s						

*PDG **21** 22:15:47.4±0.3,41°.29N×19°.52E,h14km,ML2.8/11,Error ellipse: s-maj=0.8km s-min=1.6km az=0.0*
*TIR **21** 22:15:47.5,41°.46N×19°.57E,h19km±4km,Ml3.1/3*
*BEO **21** 22:15:48.8±0.4,41°.34N×19°.57E,h10km±2km,ML2.3/15*

ISC 21 22:15:48.2±1.1,**41°.33N**±0°.02×**19°.54E**±0°.03,**h9**km±9km, **n52,σ0°89/88,6C-4D,Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.24**	**85**	⇓P		**Pg**	**Pg**	**22 15 53.1**	**0.0**
TIR				Sg		**Sg**	**Sg**	**22 15 56.3**	**-0.1**
TIR				AML		AML	AML	22 15 57.7	
	3.0nm,0.1s								
ULC	**Ulcinj**	**0.67**	**341**	*e*Pg		**Pg**	**Pg**	**22 16 00.3**	**-0.9**
ULC				*i* Sg		**Sb**	**Sb**	**22 16 11.8**	**+0.2**
VLO	**Vlora**	**0.86**	**182**	⇑P		**Pg**	**Pn**	**22 16 06.9**	**+0.5**
VLO				Sg		**Sn**	**Sn**	**22 16 19.3**	**+0.1**
VLO				AML		AML	AML	22 16 32.0	
	2.7nm,0.3s								
VLO	**Vlora**	**0.86**	**182**	P		**Pn**	**Pn**	**22 16 06.3**	**-0.2**
DRME	**Dracevica, Mon**	**0.90**	**343**	*e*Pg		**Pg**	**Pg**	**22 16 05.7**	**+0.2**
DRME				*e*Sg		**Sg**	**Sg**	**22 16 17.5**	**+0.4**
DRME	**Dracevica, Mon**	**0.90**	**343**	*e*Pg		**Pg**	**Pg**	**22 16 04.7**	**-0.8**
DRME				*e*Sg		**Sn**	**Sn**	**22 16 19.9**	**-0.3**
BUM	**Brajici-Budva**	**1.08**	**334**	*e*Pg		**Pg**	**Pg**	**22 16 08.7**	**-0.3**
BUM				*e*Sg		**Sn**	**Sn**	**22 16 25.7**	**+0.8**
PDG	**Podgorica**	**1.12**	**349**	*e*Pg		**Pg**	**Pg**	**22 16 08.5**	**-1.2**
PDG				*e*Sg		**Sg**	**Sg**	**22 16 24.2**	**-0.1**
PDG	**Podgorica**	**1.12**	**349**	*e*Pg		**Pg**	**Pg**	**22 16 08.9**	**-0.8**
PDG				*e*Sg		**Sn**	**Sn**	**22 16 27.1**	**+1.4**
KBN	**Korca**	**1.18**	**126**	⇑Pg		**Pn**	**Pn**	**22 16 11.5**	**+0.6**
KBN				Sg		**Sn**	**Sn**	**22 16 28.1**	**+0.9**
KBN	**Korca**	**1.18**	**126**	P		**Pn**	**Pn**	**22 16 11.3**	**+0.3**
CEME	**Cevo**	**1.30**	**339**	⇑*i*Pg		**Pn**	**Pn**	**22 16 12.2**	**-0.5**
CEME				*e*Sg		**Sn**	**Sn**	**22 16 32.4**	**+2.1**
PVY	**Plav**	**1.30**	**14**	*e*Pg		**Pg**	**Pg**	**22 16 13.3**	**+0.1**
PVY	**Plav**	**1.30**	**14**	⇓*i*Pg		**Pn**	**Pn**	**22 16 12.3**	**-0.4**
HCY	**Herceg Novi**	**1.36**	**325**	⇓*i*Pg		**Pg**	**Pg**	**22 16 12.9**	**-0.6**
HCY				*i* Sg		**Sg**	**Sg**	**22 16 33.7**	**+1.6**
NKME	**Niksic**	**1.50**	**343**	⇓*i*Pg		**Pn**	**Pn**	**22 16 15.2**	**-0.2**
NKME				*i* Sg		**Sg**	**Sg**	**22 16 37.4**	**+0.9**
KOME	**Kolasin**	**1.52**	**359**	*e*Pg		**Pb**	**Pb**	**22 16 16.6**	**-0.1**
KOME				*e*Sg		**Sn**	**Sn**	**22 16 35.4**	**-0.3**
KOME	**Kolasin**	**1.52**	**359**	*e*Pg		**Pn**	**Pn**	**22 16 15.7**	**0.0**
KOME				*e*Sg		**Sg**	**Sg**	**22 16 37.9**	**+0.8**
BEY	**Berane**	**1.56**	**10**	*e*Pg		**Pn**	**Pn**	**22 16 16.3**	**0.0**
BEY				*e*Sg		**Sg**	**Sg**	**22 16 38.7**	**+0.2**
IVA	**Berane**	**1.56**	**10**	*e*Pn		**Pn**	**Pn**	**22 16 16.1**	**-0.2**
IVA				*e*Sn		**Sg**	**Sg**	**22 16 39.1**	**+0.6**
TREB	**Trebinje**	**1.65**	**328**	*e*Pn		**Pn**	**Pn**	**22 16 16.6**	**-0.8**
PENT	**Pentalofos**	**1.66**	**132**	P		**Pg**	**Pg**	**22 16 19.7**	**-0.3**
BRY	**Bratogost**	**1.74**	**335**	*e*Pn		**Pn**	**Pn**	**22 16 19.0**	**+0.2**
BRY				*e*Sn		**Sb**	**Sb**	**22 16 43.5**	**+1.1**
IGT	**Igoumenitsa**	**1.89**	**161**	⇑Pn		**Pb**	**Pb**	**22 16 23.4**	**+0.4**
IGT				Sn		**Sg**	**Sg**	**22 16 49.2**	**+0.2**
IGT	**Igoumenitsa**	**1.89**	**161**	P		**Pn**	**Pn**	**22 16 21.2**	**+0.4**
IGT	**Igoumenitsa**	**1.89**	**161**	*e*Pn		**Pn**	**Pn**	**22 16 21.2**	**+0.4**
IGT				*e*Sn		**Sb**	**Sb**	**22 16 47.0**	**+0.3**
UPM	**Unac-Piva**	**1.93**	**346**	⇑*i*Pn		**Pn**	**Pn**	**22 16 22.6**	**+1.2**
UPM				*e*Sn		**Sb**	**Sb**	**22 16 48.8**	**+0.8**
NOCI	**Noci**	**1.95**	**255**	⇑Pn		**Pn**	**Pn**	**22 16 19.1**	**-2.4**
NOCI				Sn		**Sb**	**Sb**	**22 16 49.9**	**+1.6**
NOCI				AML		AML	AML	22 16 56.7	
	0.4nm,0.3s								
SJES	**Sjenica**	**1.96**	**9**	*e*Pn		**Pb**	**Pb**	**22 16 23.3**	**-0.8**
SJES				*e*Sn		**Sn**	**Sn**	**22 16 46.4**	**-0.1**
STON	**Ston**	**2.06**	**319**	*e*Pn		**Pn**	**Pn**	**22 16 22.2**	**-0.8**
SELS	**Selova**	**2.22**	**31**	*e*Pn		**Pn**	**Pn**	**22 16 25.1**	**-0.2**
SELS				*e*Sn		**Sn**	**Sn**	**22 16 53.2**	**+0.3**
BARS	**Barje**	**2.25**	**48**	*e*Pn		**Pn**	**Pn**	**22 16 25.9**	**+0.2**
BARS				*e*Sn		**Sn**	**Sn**	**22 16 54.1**	**+0.5**
IVAS	**Ivanjica**	**2.29**	**11**	*e*Pn		**Pn**	**Pn**	**22 16 25.9**	**-0.4**
IVAS				*e*Sn		**Sn**	**Sn**	**22 16 55.2**	**+0.5**
GOCS	**Kraljevo Serbi**	**2.44**	**23**	*e*Pn		**Pn**	**Pn**	**22 16 30.2**	**+1.8**
GOCS				*e*Sn		**Sn**	**Sn**	**22 16 59.3**	**+0.9**
BOSS	**Bosilegrad**	**2.48**	**61**	*e*Pn		**Pn**	**Pn**	**22 16 28.7**	**-0.2**
BOSS				*e*Sn		**Sn**	**Sn**	**22 16 57.2**	**-2.2**
BBLS	**Lazi&#263i**	**2.54**	**358**	*e*Pn		**Pn**	**Pn**	**22 16 29.9**	**+0.2**
BBLS				*e*Sn		**Sn**	**Sn**	**22 17 01.6**	**+0.8**
TYRN	**Tyrnavos**	**2.61**	**127**	P		**Pn**	**Pn**	**22 16 31.5**	**+0.9**
LKD2	**Lefkada island**	**2.68**	**161**	P		**Pn**	**Pn**	**22 16 31.2**	**-0.4**
GRUS	**Gruza**	**2.70**	**18**	*e*Pn		**Pn**	**Pn**	**22 16 32.4**	**+0.6**
GRUS				*e*Sn		**Sn**	**Sn**	**22 17 05.1**	**+0.4**
NYDR	**Nydri-Lefkada**	**2.76**	**161**	P		**Pn**	**Pn**	**22 16 31.8**	**-0.8**
DIVS	**Divibare**	**2.79**	**7**	*e*Pn		**Pn**	**Pn**	**22 16 33.9**	**+0.8**
DIVS				*e*Sn		**Sn**	**Sn**	**22 17 06.8**	**-0.1**
BOVS	**Bovan**	**2.81**	**34**	*e*Pn		**Pn**	**Pn**	**22 16 32.5**	**-0.8**
BOVS				*e*Sn		**Sn**	**Sn**	**22 17 06.3**	**-1.0**
TRUS	**Trudelj**	**2.96**	**12**	*e*Pn		**Pn**	**Pn**	**22 16 36.1**	**+0.7**
TRUS				*e*Sn		**Sn**	**Sn**	**22 17 09.8**	**-1.3**
ZAPS	**Zavoj**	**3.01**	**49**	*e*Pn		**Pn**	**Pn**	**22 16 36.3**	**+0.2**
ZAPS				*e*Sn		**Sn**	**Sn**	**22 17 13.0**	**+0.7**
VTS	**Vitosha**	**3.04**	**64**	*e*Pn		**Pn**	**Pn**	**22 16 36.8**	**+0.2**
SRS	**Serrai**	**3.06**	**93**	*e*Pn		**Pn**	**Pn**	**22 16 36.4**	**-0.4**
SRS				*e*Sn		**Sn**	**Sn**	**22 17 11.2**	**-2.4**
ZAGS	**Zajecar**	**3.18**	**38**	*e*Pn		**Pn**	**Pn**	**22 16 38.3**	**-0.1**
ZAGS				*e*Sn		**Sn**	**Sn**	**22 17 15.4**	**-1.1**
VLS	**Valsamata**	**3.25**	**165**	P		**Pn**	**Pn**	**22 16 37.9**	**-1.5**
KUBS	**Kucevo**	**3.46**	**26**	*e*Pn		**Pn**	**Pn**	**22 16 40.4**	**-1.9**
KUBS				*e*Sn		**Sn**	**Sn**	**22 17 22.0**	**-1.4**
MDVR	**Moldovita**	**3.80**	**24**	*e*Pn		**Pn**	**Pn**	**22 16 46.4**	**-0.6**
BZS	**Buzias**	**4.54**	**19**	*e*Pn		**Pn**	**Pn**	**22 16 56.2**	**-1.0**
BOJS	**Bojanci**	**5.21**	**325**	*e*Pn		**Pn**	**Pn**	**22 17 05.4**	**-0.9**

*NEIC **21** 22:26:06.7±1.8,6°.6N±0°.1×126°.1E±0°.1,h79km±6km, mb4.0/6,Error ellipse: s-maj=22.4km s-min=12.0km az=52.0*
*IDC **21** 22:26:06.3±0.8,6°.45N×125°.93E,h89km±7km,mb3.6/6, mbtmp4.0/7,MS3.7/1,Error ellipse: s-maj=36.8km s-min=15.1km az=69.0*

ISC 21 22:26:06.8±0.8,**6°.58N**±0°.08×**126°.1E**±0°.1,**h97**km,**n22, σ1§29/22,mb3.9/10,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.73**	**312**	P		**Pn**	**Pn**	**22 26 22.3**	**-2.0**
	1µm,0.4s,baz=152,slow=0.2,SNR=59								
DAV				S		**Sn**	**Sn**	**22 26 36.5**	**-0.8**
	1µm,0.6s,baz=73,slow=20,SNR=18								
TNTI	**Ternate**	**5.90**	**168**	Pn		**Pn**	**Pn**	**22 27 31.5**	**-0.3**
TOLI2	**Tolitoli**	**7.61**	**225**			**Pn**	**Pn**	**22 27 53.8**	**-1.3**
LUWI	**Luwuk**	**8.28**	**204**	Pn		**Pn**	**Pn**	**22 28 02.8**	**-1.3**
FAKI	**Fak Fak**	**11.24**	**147**	Pn		**Pn**	**Pn**	**22 28 43.1**	**-1.4**
SBUM	**Sibu**	**14.45**	**254**			**P**	**P**	**22 29 32.1**	**+1.2**
BATI	**Baumata**	**16.85**	**188**	P		**Pn**	**Pn**	**22 29 54.6**	**-2.3**
	15nm,0.7s,baz=68,slow=11,SNR=2.5								
KNRA	**Kununurra**	**22.27**	**173**	P		**P**	**P**	**22 30 57.2**	**+1.1**
KNRA				IAmb		IAmb	IAmb	22 30 58.7	
	comp=Z,7.4nm,0.7s								
FITZ	**Fitzroy Crossi**	**24.52**	**181**	P		**P**	**P**	**22 31 18.4**	**+1.0**
WB0	**Warramunga Arr**	**27.41**	**163**	P		**P**	**P**	**22 31 45.8**	**+2.3**
WB0				IAmb		IAmb	IAmb	22 32 09.2	
	comp=Z,7.3nm,1.2s								
WRA	**Warramunga Arr**	**27.57**	**163**	P		**P**	**P**	**22 31 44.7**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=342,slow=10,SNR=6.0								
	comp=Z,0.7nm,0.7s								
WR8	**Warramunga Arr**	**27.62**	**163**	P		**P**	**P**	**22 31 46.7**	**+1.3**
WR8				IAmb		IAmb	IAmb	22 32 03.4	
	comp=Z,5.8nm,1.2s								
AS31	**Alice Springs**	**31.00**	**166**	P		**P**	**P**	**22 32 15.7**	**+0.4**
AS31				IAmb		IAmb	IAmb	22 32 21.1	
	comp=Z,1.3nm,1.2s								
ASAR	**Alice Springs**	**31.00**	**166**	P		**P**	**P**	**22 32 16.1**	**+0.7**
ASAR	**Alice Springs**	**31.00**	**166**	P		**P**	**P**	**22 32 15.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=340,slow=7.0,SNR=11								
	comp=Z,0.3nm,0.3s								
NWAO	**Narrogin (SRO)**	**40.19**	**192**	LR		LR		22 53 04.2	
	comp=Z,88nm,18.2s,baz=85,slow=40								
BBOO	**Buckleboo**	**40.29**	**167**	P		**P**	**P**	**22 33 36.1**	**+1.5**
STKA	**Stephens Creek**	**40.99**	**160**	P		**P**	**P**	**22 33 39.9**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=341,slow=10.0,SNR=5.5								
	comp=Z,1.6nm,0.5s								
MKAR	**Makanchi Array**	**54.90**	**324**	P		**P**	**P**	**22 35 28.5**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=120,slow=7.1,SNR=11								
	comp=Z,0.5nm,0.5s								
KURBB	**Kurchatov Arra**	**59.04**	**327**	P		**P**	**P**	**22 35 55.7**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=126,slow=6.3,SNR=5.6								
	comp=Z,0.5nm,0.7s								
ABKAR	**Akbulak array**	**69.58**	**320**	P		**P**	**P**	**22 37 05.6**	**+0.2**
FINES	**FINESS Array B**	**89.05**	**332**	P		**P**	**P**	**22 38 51.4**	**+0.6**
	comp=Z,3.3nm,1.0s,baz=114,slow=6.2,SNR=2.3								
	comp=Z,3.3nm,1.0s								

*NEIC **21** 22:32:45.6±1.6,2°.58N±0°.06×95°.73E±0°.09,h10km±1km, mb4.3/31,Error ellipse: s-maj=16.6km s-min=7.2km az=244.0*
*DJA **21** 22:32:48.6±0.5,3°.N±2°.×9°.6E±°,h30km±4km,M4.6/19, mB5.1/4,mb4.8/13,MLv4.5/19,Mw(mB)4.5/4*
*IDC **21** 22:32:51.9±5.2,2°.75N×95°.98E,h53km±42km,mb3.8/14, mbtmp4.1/16,ML4.3/2,MS3.0/1,Error ellipse: s-maj=40.6km s-min=14.3km az=56.0*

ISC 21 22:32:48.0±1.9,**2°.55N**±0°.05×**95°.77E**±0°.07,**h31**km±13km, **n95,σ0°89/92,mb4.3/33,1D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.57**	**104**	P		**Pb**	**Pb**	**22 32 59.6**	**0.0**
SNSI				S		**Sn**	**Sn**	**22 33 08.4**	**+0.1**
MLSI	**Meulaboh, Aceh**	**1.82**	**20**	P		**Pn**	**Pn**	**22 33 16.9**	**-0.2**
MLSI				S		**Sn**	**Sn**	**22 33 40.1**	**+1.0**
GSI	**Gunungsitoli**	**2.19**	**124**			**Pn**	**Pn**	**22 33 23.5**	**+1.2**
GSI				Sn		**Sn**	**Sn**	**22 33 48.0**	**-0.2**
GSI	**Gunungsitoli**	**2.19**	**124**	P		**Pn**	**Pn**	**22 33 23.4**	**+1.2**
GSI	**Gunungsitoli**	**2.19**	**124**	P		**Pn**	**Pn**	**22 33 23.4**	**+1.2**
GSI				S		**Sn**	**Sn**	**22 33 47.7**	**-0.5**
KCSI	**Kotacane, Aceh**	**2.22**	**64**	P		**Pn**	**Pn**	**22 33 22.8**	**+0.2**
KCSI				S		**Sn**	**Sn**	**22 33 49.1**	**+0.1**
LHMI	**Lhok Sumawe**	**2.91**	**24**			**Pn**	**Pn**	**22 33 32.1**	**0.0**
LHMI				Sn		**Sn**	**Sn**	**22 34 08.3**	**+2.3**
LHMI	**Lhok Sumawe**	**2.91**	**24**	P		**Pn**	**Pn**	**22 33 32.9**	**+0.8**
LHMI	**Lhok Sumawe**	**2.91**	**24**	P		**Pn**	**Pn**	**22 33 32.7**	**+0.6**
TSI	**Tuntungan**	**2.94**	**71**	P		**Pn**	**Pn**	**22 33 32.4**	**-0.2**
RPSI	**Rantau Prapat**	**3.15**	**87**			**Pn**	**Pn**	**22 33 36.2**	**+0.7**
RPSI	**Rantau Prapat**	**3.15**	**87**			**Pn**	**Pn**	**22 33 36.6**	**+1.2**
RPSI						**Sn**	**Sn**	**22 34 11.0**	**-1.0**
PSI	**Prapat**	**3.16**	**85**	P		**Pn**	**Pn**	**22 33 36.6**	**+1.0**
	7.4nm,0.3s,baz=289,slow=6.1,SNR=23								
PSI				S		**Sn**	**Sn**	**22 34 11.0**	**-1.4**
	29nm,0.5s,baz=291,slow=15,SNR=3.6								
	24nm,0.4s								
PSI	**Prapat**	**3.16**	**85**	P		**Pn**	**Pn**	**22 33 36.5**	**+0.8**
PBSI	**Pulau Batu**	**3.60**	**136**	P		**Pn**	**Pn**	**22 33 42.5**	**+0.8**
MNSI	**Mandailing Nat**	**4.18**	**115**	P		**Pn**	**Pn**	**22 33 51.5**	**+1.8**
MNSI				S		**Sn**	**Sn**	**22 34 37.3**	**-0.3**
SISI	**Saibi**	**5.08**	**139**	P		**Pn**	**Pn**	**22 34 03.6**	**+1.6**
	0.4nm89nm,0.8s								
PPI	**Padang Panjang**	**5.50**	**123**	P		**Pn**	**Pn**	**22 34 08.2**	**+0.4**
KULM	**Kulim**	**5.57**	**61**			**Pn**	**Pn**	**22 34 09.0**	**+0.2**
KULM	**Kulim**	**5.57**	**61**	P		**Pn**	**Pn**	**22 34 09.1**	**+0.3**
IPM	**Ipoh**	**5.58**	**70**			**Pn**	**Pn**	**22 34 09.3**	**+0.4**
IPM	**Ipoh**	**5.58**	**70**	P		**Pn**	**Pn**	**22 34 09.3**	**+0.4**
BKNI	**Bangkinang**	**5.71**	**113**	P		**Pn**	**Pn**	**22 34 10.9**	**+0.2**
	0.5nm68nm,0.5s								
PDSI	**Padang**	**5.81**	**126**	P		**Pn**	**Pn**	**22 34 11.6**	**-0.5**
PPSI	**Pulau Pagai**	**6.77**	**141**	P		**Pn**	**Pn**	**22 34 25.1**	**-0.1**
	154nm,1.2s								
SURA	**Surathani**	**7.61**	**30**	P		**Pn**	**Pn**	**22 34 36.5**	**-0.3**
MYKOM	**Kota Tinggi**	**8.11**	**95**	Pn		**Pn**	**Pn**	**22 34 44.5**	**+0.9**
MASI	**Maura Aman, Be**	**8.59**	**131**	P		**Pn**	**Pn**	**22 34 51.0**	**+0.7**
	44nm,1.2s								
KSI	**Kapahiang**	**9.19**	**132**	P		**Pn**	**Pn**	**22 34 58.8**	**+0.3**
	7µm50nm,0.4s								
MNAI	**Manna**	**9.93**	**134**	Pn		**Pn**	**Pn**	**22 35 09.5**	**+0.8**
MNAI	**Manna**	**9.93**	**134**	P		**Pn**	**Pn**	**22 35 08.8**	**+0.1**
MDSI	**Maura Dua**	**10.93**	**130**	P		**Pn**	**Pn**	**22 35 22.3**	**0.0**
CM31	**Chiang Mai Arr**	**16.11**	**11**	Pn		**Pn**	**Pn**	**22 36 32.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**16.11**	**11**	P		**Pn**	**Pn**	**22 36 31.9**	**-0.4**
	1.5nm,0.3s,baz=198,slow=11,SNR=20								
CMAR				LR		LR		22 43 02.8	
	comp=Z,60nm,20.4s,baz=95,slow=38								
	2.6nm,0.5s								
SBUM	**Sibu**	**16.43**	**90**	Pn		**Pn**	**Pn**	**22 36 35.6**	**-0.8**
CHTO	**Chiang Mai**	**16.46**	**11**			**Pn**	**Pn**	**22 36 35.4**	**-1.4**
MYLDM	**Lahad Datu**	**22.82**	**83**	P		**P**	**P**	**22 37 48.9**	**+0.2**
MYLDM				IAmb		IAmb	IAmb	22 37 53.1	
	comp=Z,10nm,0.7s								
MYLDM	**Lahad Datu**	**22.82**	**83**	P		**P**	**P**	**22 37 50.3**	**+1.7**
SHL	**Shillong**	**23.19**	**351**	P		**P**	**P**	**22 37 49.4**	**-3.0**
SHL				IAmb		IAmb	IAmb	22 38 03.4	
	comp=Z,5.1nm,0.7s								
PZH	**PanZhiHua**	**24.50**	**13**	P		**P**	**P**	**22 38 06.8**	**+2.1**
TOLI2	**Tolitoli**	**25.04**	**93**	P		**P**	**P**	**22 38 08.6**	**-1.1**
TOLI2				IAmb		IAmb	IAmb	22 38 17.2	
	comp=Z,3.7nm,0.7s								
H08S2	**Diego Garcia H**	**25.34**	**246**	T		T		23 04 29.0	
	baz=67,slow=75,SNR=772								
H08S3	**Diego Garcia H**	**25.34**	**246**	T		T		23 04 27.6	
	baz=67,slow=75,SNR=1126								
H08S1	**Diego Garcia H**	**25.36**	**246**	T		T		23 04 28.5	
	baz=67,slow=75,SNR=420								
LSA	**Lhasa**	**27.36**	**351**	P		**P**	**P**	**22 38 29.7**	**-1.2**
LSA				IAmb		IAmb	IAmb	22 38 32.6	
	comp=Z,4.6nm,1.0s								
LZDM	**Lanzhou Array**	**34.04**	**12**	P		**P**	**P**	**22 39 28.0**	**-1.7**
	comp=Z,6.6nm,0.7s,baz=188,slow=9.0,SNR=7.2								
	comp=Z,6.6nm,0.7s								
GTA	**Gaotai**	**36.87**	**5**	*e*P		**P**	**P**	**22 39 53.9**	**+0.1**
GTA				pP		pP	pP	22 40 00.3	-2.7
GTA				pmax		pmax	pmax		
	comp=Z,8.0nm,1.0s								
NIL	**Nilore**	**37.42**	**328**			**P**	**P**	**22 39 57.3**	**-1.2**
NIL				IAmb		IAmb	IAmb	22 40 01.7	
	comp=Z,4.7nm,0.6s								
HNS	**HongShan**	**38.80**	**24**	⇓P		**P**	**P**	**22 40 10.6**	**+0.6**
HNS				pmax		pmax	pmax		
	comp=Z,22nm,0.7s								
HHC	**Hu-ho-hao-te**	**40.71**	**18**	*e*P		**P**	**P**	**22 40 27.5**	**+1.6**
HHC				pmax		pmax	pmax		
	comp=Z,13nm,0.7s								
HHC				pmax		pmax	pmax		
	comp=Z,98nm,5.9s								
KSH	**Kashi**	**40.97**	**336**	P		**P**	**P**	**22 40 29.1**	**+1.0**
K

RAFI				AML	AML	22 41 26.7	
	comp=N,216nm,0.1s						
BDRS	**Dareh Seyedi**	**2.67**	**96**	Pn	**Pn**	**22 40 34.8**	**+0.3**
HGHA	**Hamedan- Ghaye**	**2.88**	**64**	Pn	**Pn**	**22 40 38.2**	**+0.7**
HAGD	**Aghdareh**	**2.91**	**78**	Pn	**Pn**	**22 40 38.4**	**+0.6**
MSL	**Mosul**	**3.00**	**316**	*e*Pn	**Pn**	**22 40 39.0**	**+0.2**
MSL				*e*Sn	**Sn**	**22 41 15.0**	**-0.1**
IAZR	**Azarshahr**	**3.42**	**4**	Pn	**Pn**	**22 40 45.4**	**+0.6**
ISHB	**Shabestar**	**4.02**	**359**	Pn	**Pn**	**22 40 52.9**	**-0.2**
IPIR	**Pirpir**	**4.63**	**108**	Pn	**Pn**	**22 41 01.7**	**+0.1**
JHBN	**Jahan bin**	**4.64**	**114**	Pn	**Pn**	**22 41 01.9**	**+0.3**
QAMS	**Qamsar**	**4.78**	**95**	Pn	**Pn**	**22 41 04.1**	**+0.6**
IBRJ	**Brojen**	**5.24**	**115**	Pn	**Pn**	**22 41 10.4**	**+0.5**

*JMA **21** 22:43:20.3±0.8, 46˚N±8˚×15˚3E±˚, h30km, MV3.9/11, KURILE ISLANDS REGION*
SKHL 21 22:43:19.9±0.1, 44.70N×153.20E, h48km±2km, mb4.7/2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.82**	**280**	*e*P	Pn	22 44 16.9	+0.7
KUR				AMB	AMB	22 44 17.5	
	60nm,0.3s						
KUR				*e*S	Sn	22 44 59.8	0.0
KUR				A	A	22 45 02.7	
	60nm,0.3s						
KUR				A	A	22 45 02.7	
	50nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.30**	**265**	*e*P	Pn	22 44 37.3	+0.8
YUK				AMB	AMB	22 44 41.2	
	100nm,0.8s						
YUK				*e*S	Sn	22 45 35.5	-0.7
YUK				A	A	22 45 39.7	
	280nm,0.8s						
YUK				A	A	22 45 39.7	
	160nm,0.8s						
NEM2	**Nemuro 2**	**5.54**	**259**	*e*P	Pn	22 44 40.5	+0.8
NEM2				*e*S	Sn	22 45 41.2	-0.8
NMR	**Nemuro--Hokkai**	**5.55**	**259**	*e*P	Pn	22 44 40.8	+1.0
NMR				*e*S	Sn	22 45 41.4	-0.9
JRA	**Rausu**	**5.85**	**265**	*e*P	Pn	22 44 46.0	+2.1
JRA				*e*S	Sn	22 45 50.6	+1.0
JNK	**Nakash**	**6.20**	**263**	*e*P	Pn	22 44 50.5	+1.7
JNK				*e*S	Sn	22 45 58.3	-0.1
AKK	**Akkeshi**	**6.27**	**257**	*e*S	Sn	22 45 59.1	-1.0
JOB	**Onbets**	**7.01**	**258**	P	Pn	22 45 01.3	+1.4
JOB				*e*S	Sn	22 46 18.0	-0.2
JCH	**Churui**	**7.43**	**257**	*e*P	Pn	22 45 06.7	+1.0
JCH				*e*S	Sn	22 46 26.0	-2.6
JNBK	**Urakawa-nobuka**	**7.97**	**256**	*e*P	Pn	22 45 13.8	+0.8
JANG	**Nango**	**9.65**	**247**	*e*S	Sn	22 47 18.9	-4.0

*IDC **21** 22:51:06.5±0.7, 12˚.30N×87˚.28W, h0km, mb4.1/11, mbtmp4.1/13, ML3.7/2, MS3.7/9, Error ellipse: s-maj=32.8km s-min=13.7km az=52.0*
*SNET **21** 22:51:08.2±1.4, 11˚.86N×87˚.93W, h13km, ML4.2*
*CATAC **21** 22:51:08.9±0.4, 12˚N±2˚×8˚8W±˚, h26km±3km, M4.5/43, MLv4.5/43, Error ellipse: s-maj=4.0km s-min=1.8km az=34.3, confirmed*
*NEIC **21** 22:51:11.4±1.6, 11˚.99N±0˚.06×87˚.75W±0˚.05, h35km±2km, mb4.6/47, Error ellipse: s-maj=10.2km s-min=8.4km az=196.0*
ISC 21 22:51:08.8±1.3, 11˚.89N±0˚.04×87˚.84W±0˚.03, h25km±9km, n178, σ1§26/189, mb4.5/33, MS3.7/10, 14C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALEN	**Leon**	**1.11**	**59**	P	**Pb**	**22 51 29.2**	**-0.1**
ALEN	**Leon**	**1.11**	**59**	S	**Sn**	**22 51 46.1**	**+2.8**
CRIN	**San Cristobal**	**1.12**	**44**	Pn	**Pb**	**22 51 30.5**	**+0.9**
CRIN				Sn	**Sb**	**22 51 41.4**	**-2.4**
CRIN	**San Cristobal**	**1.12**	**44**	⇑P	**Pb**	**22 51 30.5**	**+0.9**
PKGN	**Cerro Pekin**	**1.15**	**47**	⇑P	**Pb**	**22 51 30.5**	**+0.4**
PKGN				S	**Sn**	**22 51 46.0**	**+1.6**
POTN	**Potosi Cosigui**	**1.16**	**17**	⇑P	**Pb**	**22 51 30.3**	**+0.2**
POTN				S	**Sn**	**22 51 47.4**	**+2.9**
HERN	**Volcan Telica**	**1.22**	**54**	Pn	**Pb**	**22 51 31.0**	**-0.3**
HERN				Sn	**Sb**	**22 51 42.9**	**-3.9**
COPN	**Copaltepe**	**1.26**	**76**	⇑P	**Pn**	**22 51 30.6**	**-0.3**
PLRN	**Geotermica Pol**	**1.26**	**56**	P	**Pb**	**22 51 31.9**	**-0.1**
PLRN				S	**Sb**	**22 51 50.0**	**+2.2**
CNGA	**Al SSO del Vol**	**1.27**	**61**	⇑P	**Pb**	**22 51 31.9**	**-0.2**
CNGN	**Cerro Negro**	**1.28**	**61**		**Pb**	**22 51 31.7**	**-0.5**
CNGN	**Cerro Negro**	**1.28**	**61**	⇑P	**Pb**	**22 51 31.9**	**-0.3**
CNCH	**Conchagua**	**1.38**	**0**	*e*P	**Pb**	**22 51 33.4**	**-0.7**
CNCH				*e*S	**Sb**	**22 51 54.2**	**+2.8**
CNCH	**Conchagua**	**1.38**	**0**	⇑P	**Pb**	**22 51 33.4**	**-0.7**
LCND	**La Caada**	**1.42**	**358**	*e*P	**Pb**	**22 51 33.8**	**-0.8**
LCND	**La Caada**	**1.42**	**358**	⇑P	**Pb**	**22 51 33.8**	**-0.8**
AMTN	**Mateare**	**1.43**	**76**	S	**Sb**	**22 51 53.0**	**+0.5**
MOM3	**MOM3**	**1.44**	**64**	⇓P	**Pb**	**22 51 34.2**	**-0.8**
MOM3				S	**Sb**	**22 51 54.2**	**+1.3**
USIM	**UNAN**	**1.55**	**81**		**Pb**	**22 51 35.8**	**-1.1**
UNAN	**Cigeo UNAN**	**1.56**	**82**	⇑P	**Pb**	**22 51 35.6**	**-1.4**
UNAN				S	**Sb**	**22 51 57.5**	**+1.2**
ALLN	**Telcor Managua**	**1.56**	**80**	S	**Sb**	**22 51 57.3**	**+1.0**
ALLN	**Telcor Managua**	**1.56**	**80**	P	**Pb**	**22 51 36.0**	**-1.0**
TISN	**Laguna Tiscapa**	**1.56**	**80**	P	**Pb**	**22 51 35.8**	**-1.3**
R4DEC	**Barrio San Lui**	**1.58**	**80**	S	**Sb**	**22 51 58.1**	**+1.0**
R4DEC	**Barrio San Lui**	**1.58**	**80**	P	**Pb**	**22 51 36.1**	**-1.4**
MGAN	**Managua**	**1.58**	**80**		**Pn**	**22 51 35.5**	**+0.2**
MGAN	**Managua**	**1.58**	**80**	S	**Sb**	**22 51 58.3**	**+1.2**
MGAN	**Managua**	**1.58**	**80**	P	**Pb**	**22 51 35.9**	**-1.5**
BLLM	**Bellamira**	**1.59**	**346**	*e*P	**Pn**	**22 51 36.2**	**+0.6**
MAS3	**Al N del Volca**	**1.64**	**85**	P	**Pn**	**22 51 36.5**	**+0.4**
MAS3				S	**Sb**	**22 51 58.9**	**+0.3**
PACA	**Pacayal**	**1.64**	**344**	*e*P	**Pn**	**22 51 37.0**	**+0.7**
PACA	**Pacayal**	**1.64**	**344**	S	**Sb**	**22 51 58.4**	**-0.5**
PACA	**Pacayal**	**1.64**	**344**	⇓P	**Pn**	**22 51 36.7**	**+0.4**
WILN	**Americas 2**	**1.64**	**80**	⇑P	**Pb**	**22 51 36.9**	**-1.6**
WILN				S	**Sb**	**22 51 59.7**	**+0.9**
SABN	**Sabanita**	**1.65**	**87**	P	**Pn**	**22 51 35.4**	**-0.9**
MASN	**Masaya**	**1.66**	**86**	P	**Pn**	**22 51 36.8**	**+0.4**
NANN	**Nandasmo**	**1.69**	**88**	S	**Sb**	**22 52 00.6**	**+0.6**
NANN	**Nandasmo**	**1.69**	**88**	⇑P	**Pb**	**22 51 38.1**	**-1.1**
NADN	**Granada**	**1.78**	**94**	P	**Pn**	**22 51 38.1**	**0.0**
NADN				S	**Sb**	**22 52 01.4**	**-1.3**
TECO	**Alcaldia de Te**	**1.88**	**331**	*e*P	**Pn**	**22 51 39.5**	**+0.1**
TECO	**Alcaldia de Te**	**1.88**	**331**	S	**Sn**	**22 52 04.0**	**+1.6**
TECO	**Alcaldia de Te**	**1.88**	**331**	P	**Pn**	**22 51 40.0**	**+0.6**
UESV	**Universidad de**	**1.97**	**332**	S	**Sb**	**22 52 07.3**	**-0.8**
UESV	**Universidad de**	**1.97**	**332**	P	**Pn**	**22 51 41.4**	**+0.7**
SCLA	**Alcaldia de Sa**	**2.00**	**335**	*e*P	**Pn**	**22 51 41.8**	**+0.6**
SCLA	**Alcaldia de Sa**	**2.00**	**335**	S	**Sb**	**22 52 08.1**	**-1.0**
SCLA	**Alcaldia de Sa**	**2.00**	**335**	⇑P	**Pn**	**22 51 41.8**	**+0.6**
LFRS	**El Faro**	**2.10**	**326**	*e*P	**Pn**	**22 51 42.1**	**-0.4**
PAVA	**Las Pavas**	**2.11**	**330**	*e*P	**Pn**	**22 51 43.2**	**+0.5**
PAVA	**Las Pavas**	**2.11**	**330**	S	**Sn**	**22 52 10.4**	**+2.3**
PAVA	**Las Pavas**	**2.11**	**330**	P	**Pn**	**22 51 43.2**	**+0.5**
MATN	**Matagalpa**	**2.14**	**61**	⇑P	**Pn**	**22 51 43.0**	**-0.1**
JAPN	**Al SSO del Vol**	**2.15**	**99**	P	**Pn**	**22 51 42.8**	**-0.3**
LOMA	**Loma Larga**	**2.17**	**324**	*e*P	**Pn**	**22 51 43.5**	**-0.2**
MORN	**Al O del Volca**	**2.18**	**99**	P	**Pn**	**22 51 43.6**	**0.0**
MORN				S	**Sb**	**22 52 11.4**	**-2.7**
OCON	**Estacion meteo**	**2.19**	**37**	P	**Pn**	**22 51 45.1**	**+1.4**
CONN	**Concepcion**	**2.20**	**98**	P	**Pn**	**22 51 44.3**	**+0.5**
CONN				S	**Sn**	**22 52 11.4**	**+1.2**
TGUH	**Tegucigalpa,Un**	**2.23**	**14**		**Pn**	**22 51 45.5**	**+1.2**
TGUH	**Tegucigalpa,Un**	**2.23**	**14**	⇑P	**Pn**	**22 51 45.9**	**+1.5**
TGUH				S	**Sb**	**22 52 14.2**	**-1.6**
BOQS	**Boqueron**	**2.31**	**323**	*e*P	**Pn**	**22 51 45.6**	**0.0**
PMON	**Piamonte**	**2.31**	**322**	S	**Sn**	**22 52 14.3**	**+1.0**
PMON	**Piamonte**	**2.31**	**322**	P	**Pn**	**22 51 46.3**	**+0.8**
RCVN	**Varillal2**	**2.33**	**43**	S	**Sb**	**22 52 17.6**	**-1.2**
RCVN	**Varillal2**	**2.33**	**43**	⇓P	**Pn**	**22 51 47.5**	**-2.8**
JAYA	**Jayaque - finc**	**2.35**	**318**	*e*P	**Pn**	**22 51 46.3**	**+0.2**
JAYA	**Jayaque - finc**	**2.35**	**318**	S	**Sn**	**22 52 13.7**	**-0.7**
RCPN	**Sur Rio San Ju**	**2.36**	**46**	P	**Pn**	**22 51 48.3**	**-2.5**
CARN	**Rivas**	**2.38**	**107**	P	**Pn**	**22 51 48.0**	**+1.7**
CARN				S	**Sn**	**22 52 15.3**	**+0.6**
LLGN	**La Laguna**	**2.50**	**335**	*e*P	**Pn**	**22 51 49.1**	**+1.0**
ELI1	**Hacienda Flor**	**2.56**	**119**	P	**Pn**	**22 51 50.4**	**+1.6**
ELI1	**Hacienda Flor**	**2.56**	**119**	S	**Sn**	**22 52 20.9**	**+1.7**
CEVE	**Cerro Verde**	**2.60**	**318**	*e*P	**Pn**	**22 51 49.8**	**+0.2**
CEVE				*e*S	**Sn**	**22 52 21.3**	**+0.9**
SBLS	**San Blas**	**2.60**	**318**	*e*P	**Pn**	**22 51 49.5**	**-0.1**
SNJE	**San Jose**	**2.61**	**319**	*e*P	**Pn**	**22 51 49.5**	**-0.3**
ACON	**Acoyapa**	**2.62**	**88**		**Pn**	**22 51 48.2**	**-1.4**
ACON	**Acoyapa**	**2.62**	**88**	P	**Pn**	**22 51 48.7**	**-0.8**
ACON	**Acoyapa**	**2.62**	**88**	S	**Sn**	**22 52 21.1**	**+0.6**
NUBE	**Las Nubes**	**2.75**	**317**	S	**Sn**	**22 52 23.8**	**-0.4**
NUBE	**Las Nubes**	**2.75**	**317**	P	**Pn**	**22 51 52.0**	**+0.4**
FAME	**Alcaldia de Sa**	**2.88**	**313**	P	**Pn**	**22 51 53.7**	**+0.5**
FAME	**Alcaldia de Sa**	**2.88**	**313**	S	**Sn**	**22 52 26.8**	**-0.2**
MTO3	**Montecristo**	**2.90**	**330**		**Pn**	**22 51 54.4**	**+0.7**
MTO3	**Montecristo**	**2.90**	**330**	*e*P	**Pn**	**22 51 54.1**	**+0.4**
MTO3	**Montecristo**	**2.90**	**330**	P	**Pn**	**22 51 54.5**	**+0.7**
MTO3	**Montecristo**	**2.90**	**330**	S	**Sn**	**22 52 29.3**	**+1.3**
ESQI	**Esquipulas**	**3.03**	**331**		**Pn**	**22 51 56.0**	**+0.6**
ESQI	**Esquipulas**	**3.03**	**331**	*e*P	**Pn**	**22 51 55.2**	**-0.2**
JTS	**Las Juntas de**	**3.25**	**119**		**Pn**	**22 51 59.7**	**+1.4**
JTS	**Las Juntas de**	**3.25**	**119**	Pn	**Pn**	**22 51 56.0**	**-2.4**
	4.4nm,0.3s,baz=113,slow=23,SNR=18						
JTS				Sn	**Sn**	**22 52 32.9**	**-3.4**
	31nm,0.3s,baz=284,slow=19,SNR=8.9 5.5nm,0.2s						
JTS	**Las Juntas de**	**3.25**	**119**	P	**Pn**	**22 51 59.4**	**+1.1**
SOCE	**Pocosol**	**3.50**	**115**		**Pn**	**22 52 02.8**	**+1.0**
SIUN	**Universidad Ur**	**3.50**	**58**	Pn	**Pn**	**22 52 02.1**	**+0.3**
HDC	**Heredia**	**4.11**	**117**	Pn	**Pn**	**22 52 12.1**	**+1.8**
OCHAL	**Ojochal**	**4.97**	**123**	P	**Pn**	**22 52 24.3**	**+2.3**
DRK0	**Durika**	**5.22**	**120**	P	**Pn**	**22 52 27.6**	**+2.1**
DRK0	**Durika**	**5.22**	**120**	S	**Sn**	**22 53 23.3**	**-1.7**
PIRO	**Carate, Puerto**	**5.63**	**128**		**Pn**	**22 52 32.8**	**+1.8**
PIRO	**Carate, Puerto**	**5.63**	**128**	S	**Sn**	**22 53 35.0**	**+0.2**
PIRO	**Carate, Puerto**	**5.63**	**128**	P	**Pn**	**22 52 33.3**	**+2.3**
BRU2	**Volcan**	**5.93**	**121**		**Pn**	**22 52 37.5**	**+2.2**
CCIG	**Comitan**	**6.04**	**317**		**Pn**	**22 52 38.9**	**+2.2**
PRVC	**Isla de Provid**	**6.50**	**76**	Pn	**Pn**	**22 52 43.6**	**+0.7**
TEIG	**Tepich**	**8.30**	**357**	Pn	**Pn**	**22 53 08.9**	**+1.2**
CMIG	**Matias Romero**	**8.56**	**308**	Pn	**Pn**	**22 53 12.4**	**+1.1**
	1.6nm,0.3s,baz=143,slow=9.2,SNR=12						
CMIG				Sn	**Sn**	**22 54 46.0**	**-1.0**
	0.4nm,0.3s,baz=264,slow=18,SNR=2.0 3.6nm,0.3s						
TLIG	**Tlapa**	**11.80**	**300**		**Pn**	**22 53 57.5**	**+1.6**
RUSC	**La Rusia**	**15.75**	**111**		**Pn**	**22 54 50.0**	**+0.4**
FLOC	**Florencia**	**15.84**	**129**		**Pn**	**22 54 51.0**	**+0.6**
SDV	**Santo Domingo**	**17.19**	**98**	Pn	**Pn**	**22 55 07.0**	**-0.7**
SDV	**Santo Domingo**	**17.19**	**98**	Pn	**Pn**	**22 55 06.0**	**-1.7**
	1.6nm,0.3s,baz=3.1,slow=4.3,SNR=3.2						
ZAIG	**Zacatecas**	**17.72**	**310**		**P**	**22 55 15.4**	**+0.3**
HBVL	**Hebbronville**	**18.21**	**328**		**P**	**22 55 20.6**	**+0.5**
HBVL				IAmb	IAmb	22 55 31.5	
	comp=Z,26nm,0.8s						
833A	**Chaparral WMA,**	**19.60**	**328**		**P**	**22 55 35.9**	**+0.5**
MLDN	**Muldoon**	**19.77**	**336**	P	**P**	**22 55 37.4**	**+0.3**
MLDN				IAmb	IAmb	22 55 46.6	
	comp=Z,20nm,0.6s						
VBMS	**Vicksburg**	**20.39**	**353**	P	**P**	**22 55 44.9**	**+1.0**
VBMS				IAmb	IAmb	22 55 49.4	
	comp=Z,25nm,0.8s						
152A	**Waverly Hall**	**20.88**	**7**	P	**P**	**22 55 49.9**	**+0.7**
152A				IAmb	IAmb	22 55 54.5	
	comp=Z,24nm,0.8s						
LRAL	**Lakeview Retre**	**21.07**	**2**		**P**	**22 55 51.6**	**+0.4**
LRAL				IAmb	IAmb	22 55 56.1	
	comp=Z,19nm,0.9s						
ATAH	**Atahualpa**	**21.10**	**153**	P	**P**	**22 55 55.3**	**+3.1**
	comp=Z,3.7nm,0.6s,baz=41,slow=9.3,SNR=2.2						
ATAH				LR	LR	23 02 49.8	
	comp=Z,117nm,18.8s,baz=341,slow=33 comp=Z,3.7nm,0.6s						
DRIO	**Del Rio**	**21.12**	**328**		**P**	**22 55 51.5**	**-0.4**
JCT	**Junction City**	**21.57**	**331**	P	**P**	**22 55 56.7**	**0.0**
JCT				IAmb	IAmb	22 56 08.9	
	comp=Z,16nm,0.8s						
Z41A	**Richland Creek**	**21.75**	**349**	P	**P**	**22 55 57.9**	**-0.7**
GOGA	**Godfrey**	**21.80**	**10**	P	**P**	**22 55 59.2**	**+0.1**
GOGA				IAmb	IAmb	22 56 02.4	
	comp=Z,34nm,1.1s						
BRDY	**Brady**	**21.89**	**334**		**P**	**22 55 59.5**	**-0.6**
BRDY				IAmb	IAmb	22 56 10.3	
	comp=Z,15nm,1.0s						
Y49A	**Blount Mountai**	**21.91**	**3**	P	**P**	**22 56 00.9**	**+0.6**
Y49A				IAmb	IAmb	22 56 01.9	
	comp=Z,15nm,1.0s						
TXAR	**Lajitas Array**	**22.77**	**322**	P	**P**	**22 56 10.2**	**+0.6**
TXAR	**Lajitas Array**	**22.77**	**322**	P	**P**	**22 56 11.0**	**+1.3**
	comp=Z,5.3nm,0.6s,baz=139,slow=9.7,SNR=63						
TXAR				PcP	**PcP**	**23 00 03.0**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=134,slow=3.6,SNR=5.0 comp=Z,5.3nm,0.6s						
TX31	**Lajitas Ar. Si**	**22.77**	**322**		**P**	**22 56 10.4**	**+0.7**
TX31				IAmb	IAmb	22 56 19.3	
	comp=Z,16nm,0.7s						
JSC	**Jenkinsville**	**23.09**	**14**	P	**P**	**22 56 12.5**	**-0.3**
JSC				IAmb	IAmb	22 56 14.7	
	comp=Z,24nm,1.2s						
UALR	**University of**	**23.15**	**351**	P	**P**	**22 56 13.0**	**-0.4**
UALR				IAmb	IAmb	22 56 15.0	
	comp=Z,20nm,0.8s						
MIAR	**Mount Ida**	**23.15**	**348**	P	**P**	**22 56 13.2**	**-0.2**
H06E1	**SOCORRO T-PHAS**	**23.27**	**290**	T	T	23 20 51.2	
	SNR=5.1						
SWET	**Sewanee**	**23.29**	**4**	P	**P**	**22 56 14.3**	**-0.6**
KOOL	**Love County**	**23.60**	**340**	P	**P**	**22 56 18.4**	**+0.6**
TKL	**Tuckaleechee C**	**23.95**	**8**	LR	LR	23 04 49.1	
	comp=Z,149nm,18.4s,baz=169,slow=35						
WVT	**Waverly**	**24.14**	**0**	P	**P**	**22 56 21.6**	**-1.3**
FCAR	**Ozark Folk Cen**	**24.21**	**352**	P	**P**	**22 56 22.4**	**-1.1**
FCAR				IAmb	IAmb	22 56 24.6	
	comp=Z,14nm,0.8s						
CZSB	**Cruzeiro do Su**	**24.63**	**142**	P	**P**	**22 56 27.9**	**+0.4**
CZSB				IAmb	IAmb	22 56 52.1	
	comp=Z,19nm,1.1s						
WMOK	**Wichita Mounta**	**24.83**	**338**	P	**P**	**22 56 28.8**	**-0.5**
TZTN	**Tazewell**	**24.86**	**8**	P	**P**	**22 56 29.2**	**-0.3**
TZTN				IAmb	IAmb	22 56 33.2	
	comp=Z,14nm,0.8s						
CCM	**Cathedral Cave**	**26.24**	**354**	P	**P**	**22 56 40.6**	**-1.3**
CCM				IAmb	IAmb	22 56 41.8	
	comp=Z,13nm,0.8s						
WCI	**Wyandotte Cave**	**26.27**	**3**	P	**P**	**22 56 40.9**	**-1.3**
WCI				IAmb	IAmb	22 56 43.0	
	comp=Z,16nm,0.8s						
ACSO	**Alum Creek Sta**	**28.56**	**8**	P	**P**	**22 57 02.3**	**-0.5**
ACSO				IAmb	IAmb	22 57 02.6	
	comp=Z,7.8nm,0.9s						
O52A	**Adamsville**	**28.61**	**10**	P	**P**	**22 57 02.4**	**-0.9**
O52A				IAmb	IAmb	22 57 03.3	
	comp=Z,12nm,1.0s						
SSPA	**Standing Stone**	**29.95**	**15**	P	**P**	**22 57 15.0**	**-0.1**
SSPA				IAmb	IAmb	22 57 21.5	
	comp=Z,16nm,1.4s						
MACA	**Manacapuru-AM**	**30.86**	**117**	P	**P**	**22 57 22.6**	**-0.8**
ECSD	**EROS Data Cent**	**32.63**	**348**	P	**P**	**22 57 37.0**	**-1.7**
ECSD				IAmb	IAmb	22 57 38.1	
	comp=Z,10nm,0.9s						
SADO	**Sadowa**	**33.61**	**11**	P	**P**	**22 57 45.5**	**-1.7**
SADO				IAmb	IAmb	22 57 47.8	
	comp=Z,6.1nm,0.6s						
SADO	**Sadowa**	**33.61**	**11**	LR	LR	23 11 56.3	
	comp=Z,1µm,18.0s,baz=198,slow=38						
SUSD	**Miller**	**33.82**	**346**	P	**P**	**22 57 48.0**	**-1.1**
NCB	**Newcomb**	**34.06**	**18**	P	**P**	**22 57 50.4**	**-0.8**
LPAZ	**La Paz**	**34.12**	**145**	P	**P**	**22 57 53.1**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=7.8,slow=1.3,SNR=2.6 comp=Z,0.9nm,0.8s						
BUKO	**Buck Lake**	**34.21**	**11**	P	**P**	**22 57 51.2**	**-1.2**
LONY	**Lake Ozonia**	**34.55**	**17**	P	**P**	**22 57 54.4**	**-1.0**
LONY				IAmb	IAmb	22 57 55.6	
	comp=Z,6.5nm,0.8s						
F33A	**5 Mile Ranch,**	**34.60**	**350**	P	**P**	**22 57 54.1**	**-1.6**
I62A	**Tamworth**	**34.91**	**21**	P	**P**	**22 57 57.8**	**-0.7**
MDP	**Montagnes des**	**35.44**	**90**	LR	LR	23 14 24.1	
	comp=Z,54nm,19.6s,baz=4.0,slow=40						
PDAR	**Pinedale Array**	**36.09**	**332**	P	**P**	**22 58 09.1**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=129,slow=12,SNR=6.6						
PDAR				PcP	**PcP**	**23 00 34.7**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=136,slow=3.3,SNR=5.8 comp=Z,0.4nm,0.4s						
VILB	**Vilhena**	**36.89**	**131**	P	**P**	**22 58 16.1**	**+0.3**
AGMN	**Agassiz Nation**	**36.91**	**351**		**P**	**22 58 14.2**	**-1.4**
LOHW	**Long Hollow**	**37.23**	**332**	P	**P**	**22 58 19.2**	**+0.6**
LOHW				IAmb	IAmb	22 58 34.8	
	comp=Z,9.4nm,1.3s						
NVAR	**Mina Array Bea**	**37.88**	**320**	P	**P**	**22 58 27.3**	**+3.1**
	comp=Z,0.9nm,0.7s,baz=137,slow=7.9,SNR=5.0 comp=Z,0.9nm,0.7s						
ULM	**Lac du Bonnet**	**38.82**	**352**	P	**P**	**22 58 29.7**	**-2.0**
	comp=Z,11nm,0.6s,baz=164,slow=9.6,SNR=20						
ULM				LR	LR	23 15 09.6	
	comp=Z,45nm,21.9s,baz=168,slow=38 comp=Z,11nm,0.6s						
BOZ	**Bozeman (W)**	**39.23**	**333**	P	**P**	**22 58 35.7**	**+0.3**
BATG	**Bathurst New B**	**39.76**	**23**	P	**P**	**22 58 39.0**	**-0.6**
BATG				IAmb	IAmb	22 58 39.7	
	comp=Z,10nm,1.1s						
NEW	**Newport**	**43.72**	**332**	LR	LR	23 20 14.0	
	comp=Z,98nm,18.0s,baz=32,slow=40						
H03N2	**Juan Fernandez**	**45.87**	**170**	T	T	23 48 43.7	
	baz=348,slow=76,SNR=3.8						
H03N1	**Juan Fernandez**	**45.87**	**170**	T	T	23 48 44.7	
	baz=348,slow=76,SNR=4.4						
H03N3	**Juan Fernandez**	**45.88**	**170**	T	T	23 48 42.1	
	baz=348,slow=76,SNR=6.4						
SCHQ	**Schefferville**	**45.93**	**17**	P	**P**	**22 59 27.4**	**-2.1**
	comp=Z,64nm,0.5s,baz=211,slow=6.3,SNR=18						
SCHQ				LR	LR	23 20 11.8	
	comp=Z,1µm,18.2s,baz=136,slow=38						
BDFB	**Brasilia**	**47.98**	**124**	P	**P**	**22 59 45.8**	**-0.4**
	comp=Z,4.5nm,0.7s,baz=278,slow=9.4,SNR=7.4						
BDFB				LR	LR	23 21 20.6	
	comp=Z,97nm,18.4s,baz=253,slow=38 comp=Z,4.5nm,0.7s						
ILAR	**Eielson Array**	**66.38**	**336**	P	**P**	**23 01 55.1**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=99,slow=4.5,SNR=7.9 comp=Z,0.9nm,0.9s						
ESDC	**Sonseca Array**	**77.84**	**52**	P	**P**	**23 03 02.2**	**-2.4**
	comp=Z,0.7nm,0.8s,baz=278,slow=4.8,SNR=6.0						
ESDC				LR	LR	23 32 00.1	
	comp=Z,44nm,19.4s,baz=290,slow=32 comp=Z,0.7nm,0.8s						
MDT	**Midelt**	**78.03**	**59**	LR	LR	23 36 08.1	
	comp=Z,28nm,18.3s,baz=294,slow=35						
ARCES	**ARCESS Array B**	**86.84**	**19**	P	**P**	**23 03 49.1**	**-1.9**
	comp=Z,2.8nm,0.9s,baz=10,slow=7.4,SNR=3.7 comp=Z,2.8nm,0.9s						
SEY	**Seymchan**	**92.31**	**337**	P	**P**	**23 04 18.0**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=176,slow=9.2,SNR=3.6 comp=Z,1.7nm,0.8s						
ASAR	**Alice Springs**	**138.70**	**248**	PKhKP	PKPpre	23 10 27.6	
	comp=Z,0.2nm,0.4s,baz=97,slow=3.0,SNR=4.2						
ASAR				PKP	**PKiKP**	**23 10 37.7**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=104,slow=1.8,SNR=8.1						
WRA	**Warramunga Arr**	**138.74**	**253**	PKhKP	PKPpre	23 10 30.7	
	comp=Z,0.3nm,0.3s,baz=117,slow=7.6,SNR=4.9						
WRA				PKP	**PKiKP**	**23 10 37.4**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=82,slow=1.8,SNR=7.2						
FITZ	**Fitzroy Crossi**	**147.11**	**255**	PKPbc	**PKiKP**	**23 10 53.8**	**+0.7**
	comp=Z,3nm,0.9s,baz=140,slow=4.9,SNR=2.5						
CMAR	**Chiang Mai Arr**	**149.12**	**347**	PKPbc	**PKPbc**	**23 10 57.0**	**+1.0**
	comp=Z,4.6nm,0.9s,baz=342,slow=3.3,SNR=24						

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SPIA	Saint Paul Isl	8.69	42	P	Pn	23 02 49.7	+0.4
	baz=230						
MAPS	Pakushin South	8.94	67		Pn	23 02 54.8	+2.0
MSW	Makushin Switc	9.05	67		Pn	23 02 56.3	+1.9
MREP	Makushin Rep't	9.05	67		Pn	23 02 56.3	+1.9
UNV	Unalaska Valle	9.20	67		Pn	23 02 58.3	+1.9
UNV	Unalaska Valle	9.20	67	P	Pn	23 02 56.7	+0.3
	baz=258						
AKRB	Akutan Reef Bi	9.51	66		Pn	23 03 03.3	+2.7
AKMO	Akutan Morgan	9.53	66		Pn	23 03 03.6	+2.6
LVA	Lava Point	9.53	66		Pn	23 03 03.5	+2.5
FALS	False Pass	11.17	64	P	Pn	23 03 23.8	+0.4
	baz=258						
S12K	Black Hills	12.12	61	Pn	Pn	23 03 37.9	+1.4
S12K	Black Hills	12.12	61	P	Pn	23 03 37.1	+0.7
	baz=256						
M11K	Mekoryuk	12.39	36	Pn	Pn	23 03 43.1	+3.2
M11K	Mekoryuk	12.39	36	P	Pn	23 03 41.0	+1.1
	baz=228						
PET	Petropavlovsk	12.70	286	↑eP	Pn	23 03 45.0	+0.8
SDPT	Sand Point	12.93	63	Pn	Pn	23 03 47.0	-0.4
SDPT	Sand Point	12.93	63	P	Pn	23 03 48.1	+0.8
SDPT	Sand Point	12.93	63	P	Pn	23 03 47.8	+0.4
	baz=255						
PEA0B	Petropavlovsk-	13.27	287	deP	Pn	23 03 51.8	-0.3
PETK	Petropavlovsk-	13.27	287	Pn	Pn	23 03 52.2	0.0
	comp=N,0.7nm,0.3s,baz=85,slow=16,SNR=9.0						
PETK				Sn	Sn	23 06 17.4	-1.0
	comp=N,0.4nm,0.3s,baz=26,slow=14,SNR=1.8						
PETK				LR	LR	23 10 21.7	
	comp=N,205nm,18.2s,baz=94,slow=44 comp=N,7.2nm,0.8s						
CHNA	Chernabura Isl	13.35	66	P	Pn	23 03 53.3	+0.1
	baz=263						
CNBA	Chernabura Isl	13.35	66	Pn	Pn	23 03 52.1	-1.0
M13K	Dall Lake	13.51	40	P	Pn	23 03 55.7	+0.4
	baz=234						
GAMB	Gambell	13.57	18	P	Pn	23 03 56.1	+0.1
	baz=206						
S14K	Fog Glacier	13.63	60	P	Pn	23 03 56.9	-0.1
	baz=257						
O14K	Tigyukauivet M	13.80	46	Pn	Pn	23 04 01.8	+2.5
O14K	Tigyukauivet M	13.80	46	P	Pn	23 03 59.4	+0.1
	baz=242						
N14K	Kuskokwak Cree	13.94	44	P	Pn	23 04 01.4	+0.3
	baz=239						
K13K	Kusilvak Mount	13.99	33	Pn	Pn	23 04 02.8	+0.9
K13K	Kusilvak Mount	13.99	33	P	Pn	23 04 01.9	+0.1
	baz=227						
CHGN	Chignik	14.25	60	Pn	Pn	23 04 05.2	-0.2
CHGN	Chignik	14.25	60	P	Pn	23 04 05.8	+0.4
	baz=258						
M14K	Bethel	14.27	40	P	Pn	23 04 05.2	-0.4
	baz=236						
L14K	Kuka Creek	14.33	38	P	Pn	23 04 07.1	+0.7
	baz=233						
O15K	Ungalikthiuk R	14.43	48		Pn	23 04 09.7	+1.8
O15K	Ungalikthiuk R	14.43	48	P	Pn	23 04 07.8	-0.1
	baz=245						
N15K	Kwethluk River	14.76	44		P	23 04 15.8	-2.1
N15K	Kwethluk River	14.76	44	P	Pn	23 04 12.7	+0.4
	baz=241,SNR=9.5						
M15K	Kasigluk River	14.76	42	P	Pn	23 04 12.6	+0.2
	baz=239						
J14K	Nanvaranak Lak	14.92	32	P	Pn	23 04 15.3	+0.8
	baz=227						
L15K	Ungalak Mounta	14.99	38	P	Pn	23 04 15.8	+0.5
	baz=234						
P16K	Nushagak River	15.25	50	Pn	Pn	23 04 21.1	+2.3
P16K	Nushagak River	15.25	50	P	Pn	23 04 19.0	+0.3
	baz=249						
K15K	Wolf Creek Mou	15.34	36	P	P	23 04 23.0	-1.3
K15K				IAmb	IAmb	23 04 28.2	
	comp=Z,48nm,0.9s						
K15K	Wolf Creek Mou	15.34	36	P	Pn	23 04 20.3	+0.4
	baz=232,SNR=7.1						
O16K	Kokwok River B	15.41	48		Pn	23 04 22.7	+1.8
O16K	Kokwok River B	15.41	48	P	Pn	23 04 20.6	-0.3
	baz=247,SNR=5.7						
N16K	Nishlik Lake	15.48	44	P	Pn	23 04 22.3	+0.5
	baz=243						
R17L	Mt. Peulik Vol	15.65	56	P	Pn	23 04 24.2	+0.2
	baz=256						
M16K	Timber Creek	15.66	42		P	23 04 26.3	-1.6
M16K	Timber Creek	15.66	42	P	Pn	23 04 24.4	+0.3
	baz=241						
ANM	Nome	15.71	25	P	Pn	23 04 25.3	+0.5
	baz=218						
Q16K	King Salmon	15.79	52	P	Pn	23 04 26.2	+0.5
	baz=252						
L16K	Owhat River	15.80	40	P	Pn	23 04 26.5	+0.6
	baz=238,SNR=5.8						
TNA	Tin City	15.92	20	P	Pn	23 04 28.1	+0.7
	baz=211						
O17K	Koliganek Bris	15.95	48	P	Pn	23 04 28.2	+0.4
	baz=248						
Q17K	Contact Creek	16.05	54	P	Pn	23 04 30.0	+0.8
	baz=254						
P17K	Kvichak River	16.06	50	P	Pn	23 04 30.0	+0.8
	baz=250						
F14K	Arctic Creek	16.20	22	P	Pn	23 04 31.6	+0.6
	baz=215						
N17K	Nushagak Hills	16.21	45	P	P	23 04 33.3	-0.7
N17K	Nushagak Hills	16.21	45	P	Pn	23 04 31.3	+0.2
	baz=245						
J16K	Anvik River	16.29	34		P	23 04 35.2	+0.3
J16K	Anvik River	16.29	34	P	Pn	23 04 33.0	+0.8
	baz=231						
ACHA	Angle Creek He	16.32	54	Pn	Pn	23 04 33.3	+0.6
G15K	Niukluk	16.41	26	P	Pn	23 04 34.9	+1.2
	baz=220						
M17K	Holitna River	16.49	42	P	P	23 04 37.3	+0.3
M17K	Holitna River	16.49	42	P	Pn	23 04 35.9	+1.2
	baz=242,SNR=6.4						
L17K	Donlin	16.50	40	P	Pn	23 04 35.9	+1.1
	baz=238						
Q18K	Katmai Hardscr	16.60	53	P	Pn	23 04 36.4	+0.2
	baz=254						
SII	Sitkinak Islan	16.61	61	Pn	Pn	23 04 36.4	+0.1
SII				IAmb	IAmb	23 04 42.2	
	comp=Z,205nm,1.5s						
SII	Sitkinak Islan	16.61	61	P	Pn	23 04 36.9	+0.6
	baz=262						
R18K	Karluk	16.64	57	P	Pn	23 04 37.3	+0.7
	baz=258						
I17K	Unalakleet	16.65	32	P	P	23 04 37.9	-0.8
	baz=229						
H16K	Elim	16.67	29	P	P	23 04 38.3	-0.7
	baz=225,SNR=5.8						
P18K	Big Mountain,	16.71	50	P	Pn	23 04 38.0	+0.5
	baz=252						
F15K	North Star Dit	16.81	24	P	P	23 04 40.3	-0.2
	baz=218						
K17K	Iditarod	16.81	38	P	P	23 04 40.7	+0.1
K17K	Iditarod	16.81	38	P	P	23 04 40.5	-0.1
	baz=237,SNR=6.4						
N18K	Kilae Creek	16.86	46	P	P	23 04 41.4	+0.3
N18K	Kilae Creek	16.86	46	P	P	23 04 40.5	-0.7
	baz=247						
J17K	VABM Dome	16.91	35	P	Pn	23 04 41.0	+1.0
	baz=234,SNR=8.2						
G16K	Koyuk River	17.18	27	P	P	23 04 45.2	+0.6
G16K	Koyuk River	17.18	27	P	P	23 04 44.9	+0.2
	baz=223,SNR=12						
L18K	Granite Mounta	17.19	41	P	P	23 04 44.6	-0.2
	baz=241						
OHAK	Old Harbor	17.20	59	P	Pn	23 04 40.9	-2.6
OHAK	Old Harbor	17.20	59	P	Pn	23 04 44.2	+0.7
	baz=261						
M18K	Stony River	17.22	43	P	P	23 04 45.0	-0.1
	baz=244						
Q19K	Cape Douglas,	17.36	53	P	P	23 04 46.7	-0.1
	baz=255						
O19K	Port Alsworth	17.40	48	P	P	23 04 47.4	+0.2
	baz=250,SNR=6.2						
N19K	Bonanza Creek	17.55	46	P	P	23 04 48.8	-0.1
	baz=248						
H17K	Granite Mounta	17.60	30		P	23 04 50.9	+1.6
H17K	Granite Mounta	17.60	30	P	P	23 04 49.3	0.0
	baz=228						
KDAK	Kodiak Island	17.66	57	P	Pn	23 04 47.4	-1.9
	comp=Z,2.5nm,0.3s,baz=248,slow=4.4,SNR=21						
KDAK				S	Sn	23 08 00.5	-4.3
	comp=Z,7.0nm,0.8s,baz=261,slow=8.3,SNR=1.5 comp=Z,6.5nm,0.4s						
KDAK	Kodiak Island	17.66	57	P	P	23 04 49.9	-0.1
	baz=260						
G17K	Kiwalik Mounta	17.75	28	P	P	23 04 51.7	+0.7
	baz=226						
P19K	Oil Pt	17.76	51	P	P	23 04 51.7	+0.6
	baz=254						
J18K	Innoko River	17.82	37		P	23 04 52.8	+1.0
J18K	Innoko River	17.82	37	P	P	23 04 52.0	+0.2
	baz=238,SNR=9.0						
Q20K	Shuyak Island	17.92	54	P	Pn	23 04 52.7	+0.3
	baz=258						
L19K	White Mountain	17.94	42	P	P	23 04 54.0	+0.9
	baz=244,SNR=11						
MA2	Magadan	18.04	309	LR	LR	23 11 33.6	
	comp=Z,257nm,18.2s,baz=107,slow=36						
BILL	Bilibino	18.06	344	ceP	P	23 04 57.4	+3.0
BILL				pmax	pmax		
	comp=Z,28nm,0.8s						
O20K	Slope Mountain	18.18	50	P	P	23 04 56.4	+0.6
	baz=253						
H18K	Honhosa River	18.24	31	P	Pn	23 04 57.6	+1.2
	baz=230,SNR=6.0						
F17K	Baldwin Pennin	18.26	26	P	Pn	23 04 57.8	+1.2
F17K	Baldwin Pennin	18.26	26	P	Pn	23 04 57.1	+0.5
	baz=222						
L20K	Farewell, AK	18.48	42	P	Pn	23 04 59.8	+0.5
	baz=244,SNR=6.3						
GCSA	Galena City Sc	18.49	33	P	Pn	23 04 59.9	+0.5
	baz=234						
J19K	Poorman	18.52	36	P	Pn	23 05 00.1	+0.3
	baz=238						
HOM	Homer	18.54	51	P	P	23 04 59.9	+0.3
	baz=256						
SEY	Seymchan	18.54	320	P	P	23 04 57.5	-2.1
	comp=Z,0.2nm,0.3s,baz=133,slow=12,SNR=8.1						
SEY				LR	LR	23 11 51.5	
	comp=Z,221nm,18.0s,baz=114,slow=36 comp=Z,1.0nm,0.3s						
SEY	Seymchan	18.54	320	↑eP	Pn	23 05 00.7	+0.7
SEY				pmax	pmax		
	comp=Z,7.0nm,1.0s						
M20K	Styx River	18.55	44	P	Pn	23 05 00.9	+0.6
	baz=247						
E17K	Hotham Inlet	18.59	24	P	Pn	23 05 01.4	+0.8
	baz=220,SNR=14						
G18K	Tagagawik	18.63	29	P	Pn	23 05 01.8	+0.7
	baz=228,SNR=6.2						
CNPM	China Poot	18.71	52	P	P	23 05 01.8	+0.2
SPCR	Spurr Chakacha	18.72	46	P	Pn	23 05 02.6	+0.2
	baz=250						
C16K	Lisburne Hills	18.77	18	P	Pn	23 05 03.4	+0.6
	baz=212,SNR=5.7						
D17K	Noatak River	18.78	21	P	Pn	23 05 03.2	+0.4
	baz=217,SNR=12						
K20K	Telida	18.80	39	P	Pn	23 05 03.1	-0.1
	baz=242,SNR=6.6						
F18K	Selawik	18.82	27	P	Pn	23 05 04.0	+0.6
	baz=225						
STLK	Strandline Lak	18.99	46	P	Pn	23 05 05.9	+0.3
STLK				IAmb	IAmb	23 05 09.5	
	comp=Z,38nm,1.0s						
BRSE	Bradley Lake S	19.00	51	P	Pn	23 05 06.2	+0.5
	baz=256						
CAPN	Captain Cook N	19.07	48	P	Pn	23 05 07.3	+0.9
	baz=253						
H19K	Roundabout Mou	19.10	32	P	Pn	23 05 07.3	+0.5
	baz=233,SNR=6.8						
RDOG	Red Dog Mine	19.10	21	P	Pn	23 05 07.1	+0.3
RDOG				IAmb	IAmb	23 05 13.9	
	comp=Z,45nm,1.0s						
RDOG	Red Dog Mine	19.10	21	P	Pn	23 05 07.2	+0.4
	baz=216						
E18K	Tukpahlearik C	19.16	24	P	Pn	23 05 07.5	0.0
	baz=222,SNR=11						
J20K	Nowinta River	19.17	37	P	Pn	23 05 07.6	0.0
	baz=240,SNR=9.3						
G19K	Purcell Mounta	19.28	30	P	Pn	23 05 09.0	+0.1
	baz=230,SNR=13						
SKT	Skwentna	19.29	45		Pn	23 05 08.9	-0.2
SKT				IAmb	IAmb	23 05 11.1	
	comp=Z,41nm,1.0s						
SKT	Skwentna	19.29	45	P	Pn	23 05 09.4	+0.3
	baz=249,SNR=25						
PPLA	Purkeypile	19.36	42	P	Pn	23 05 10.7	+0.6
PPLA	Purkeypile	19.36	42	P	P	23 05 09.4	+0.6
	baz=246						
I20K	Naaghedeneel	19.37	35	P	Pn	23 05 09.9	0.0
	baz=238						
C17K	DeLong Mountai	19.39	20	P	Pn	23 05 10.3	+0.1
	baz=215,SNR=14						
SUA	Susitna One	19.47	46	P	P	23 05 10.9	+0.9
	baz=252						
F19K	Shaleruckik Mo	19.52	28	P	Pn	23 05 11.7	-0.1
	baz=228,SNR=35						
H20K	Anotleneega Mo	19.61	33	P	Pn	23 05 12.6	-0.3
	baz=235,SNR=34						
O22K	Cooper Landing	19.68	50	P	P	23 05 13.0	+0.9
	baz=256						
SEW	Seward	19.72	51	P	Pn	23 05 14.4	+0.3
	baz=257						
CHUM	Lake Minchumin	19.73	39	P	P	23 05 13.7	+1.0
	baz=243,SNR=8.3						
RC01	Rabbit Creek A	19.83	48	P	P	23 05 14.6	+0.9
	baz=254						
M22K	Willow	19.85	46	P	Pn	23 05 15.4	-0.3
	baz=252						
C18K	Utukok River	19.96	21		Pn	23 05 16.8	-0.3
C18K				IAmb	IAmb	23 05 21.8	
	comp=Z,58nm,0.9s						
C18K	Utukok River	19.96	21	P	Pn	23 05 16.6	-0.5
	baz=218,SNR=15						
CUT	Chulitna	20.00	44	P	Pn	23 05 17.1	-0.4
	baz=250						
E19K	Redstone River	20.10	27	P	Pn	23 05 18.4	-0.3
	baz=227,SNR=21						
KTH	Kantishna Hill	20.15	41	P	P	23 05 18.5	+1.1
KTH				IAmb	IAmb	23 05 20.0	
	comp=Z,53nm,0.9s						
PMR	Palmer	20.25	47	P	Pn	23 05 19.7	-0.8
	baz=253						
IMAR	Indian Mountai	20.27	33		Pn	23 05 19.9	-0.8
F20K	Avaraart Lake	20.28	29	P	P	23 05 19.7	+1.2
	baz=231						
BPAW	Bear Paw Mtn.	20.36	39	P	P	23 05 20.6	+1.1
	baz=244,SNR=12						
TRF	Throfare Moun	20.37	41	P	P	23 05 20.8	+1.0
	baz=247,SNR=12						
B18K	Kokolik River	20.40	19	P	P	23 05 21.0	+1.1
	baz=216,SNR=5.6						
H21K	Melozitna Rive	20.42	34	P	P	23 05 20.9	+0.7
	baz=238,SNR=5.2						
PWL	Port Wells	20.43	49	P	P	23 05 21.1	+0.8
	baz=256						
KNK	Knik Glacier	20.51	47	P	P	23 05 21.9	+0.7
	baz=255						
D19K	Kuna River	20.59	24		P	23 05 23.2	+1.1
D19K				IAmb	IAmb	23 05 24.6	
	comp=Z,65nm,1.1s						
D19K	Kuna River	20.59	24	P	Pn	23 05 23.7	-0.7
	baz=224,SNR=23						
G21K	Allakaket	20.66	32	P	P	23 05 24.1	+1.4
	baz=235,SNR=30						
C19K	Lookout Ridge	20.69	22	P	P	23 05 24.1	+1.0
	baz=226,SNR=9.8						
MLY	Manley	20.87	37		P	23 05 25.9	+0.8
MLY	Manley	20.87	37	P	Pn	23 05 26.7	-0.9
	baz=243,SNR=11						
WAT1	Susitna Watana	20.89	44	P	P	23 05 26.1	+0.8
	baz=251						
E20K	Nigu River	20.94	26	P	P	23 05 27.0	+1.2
	baz=228,SNR=18						
M23K	Glacier View	20.95	47	P	P	23 05 26.5	+0.6
	baz=255						
GLI	Glacier Island	21.02	49	P	P	23 05 27.1	+0.4
	baz=258						
MCK	McKinley	21.04	41	P	P	23 05 27.3	+0.4
	baz=248,SNR=7.9						
H22K	Ishtalitna Cre	21.05	34	P	P	23 05 27.0	0.0
	baz=240,SNR=12						
F21K	Alatna River	21.07	30	P	P	23 05 27.5	+0.3
	baz=234,SNR=21						
D20K	Etivluk River	21.14	25		P	23 05 29.0	+1.1
D20K	Etivluk River	21.14	25	P	P	23 05 28.6	+0.7
	baz=226,SNR=26						
Q23K	Middleton Isla	21.14	54	P	P	23 05 28.6	+0.6
	baz=262						
SCM	Sheep Creek Mo	21.14	47	P	P	23 05 27.4	-0.7
SCM				IAmb	IAmb	23 05 33.3	
	comp=Z,49nm,1.2s						
SCM	Sheep Creek Mo	21.14	47	P	P	23 05 27.4	-0.7
SCM				pmax	pmax		
	comp=Z,49nm,1.2s						
SCM	Sheep Creek Mo	21.14	47	P	P	23 05 28.1	+0.1
	baz=255						
WAT6	Susitna Watana	21.17	45	P	P	23 05 28.7	+0.3
	baz=253,SNR=13						
A19K	Wainwright	21.23	19	P	P	23 05 29.9	+1.1
	baz=216						
NEA2	Nenana	21.32	39	P	P	23 05 30.0	+0.1
NEA2				IAmb	IAmb	23 05 31.8	
	comp=Z,42nm,0.9s						
NEA2	Nenana	21.32	39	P	P	23 05 31.2	+1.4
	baz=246,SNR=26						
DHY	Denali Highway	21.48	43	P	P	23 05 32.8	+1.1
	baz=252,SNR=14						
G22K	Bettles	21.54	32	P	P	23 05 33.4	+1.2
	baz=237						
EYAK	Cordova Ski Ar	21.61	51	P	P	23 05 33.8	+0.8
	baz=260						
F22K	John River	21.65	30	P	P	23 05 34.3	+0.8
	baz=235						
E21K	Killik River	21.68	27	P	P	23 05 34.3	+0.6
E21K	Killik River	21.68	27	P	P	23 05 34.9	+1.2
	baz=231						
KLU	Klutina	21.71	48	P	P	23 05 34.5	+0.3
KLU	Klutina	21.71	48	P	P	23 05 35.1	+1.0
	baz=257						
M24K	Tolsona, Glenn	21.74	46	P	P	23 05 35.3	+0.9
	baz=256						
COLA	College	21.91	39	P	P	23 05 36.6	+0.4
COLA				IAmb	IAmb	23 05 39.6	
	comp=Z,23nm,0.8s						
COLA	College	21.91	39	deP	P	23 05 36.8	+0.6
COLA				pmax	pmax		
	comp=Z,26nm,0.9s						
COLA	College	21.91	39	P	P	23 05 37.2	+1.0
	baz=247						
C21K	Knifeblade Rid	21.93	25	P	P	23 05 37.5	+1.2
	baz=228,SNR=9.2						
B20K	Meade River	21.93	22	P	P	23 05 36.9	+0.6
	baz=223						
G23K	Bananza Creek	21.93	33	P	P	23 05 37.2	+0.8
	baz=240,SNR=44						
HDA	Harding Lake	22.10	40	P	P	23 05 39.0	+0.7
	baz=249						
RAGM	Ragged Mountai	22.11	51	P	P	23 05 39.5	+1.1
RAGM				IAmb	IAmb	23 05 41.3	
	comp=Z,35nm,1.1s						
E22K	Anaktuvuk Pass	22.13	29	P	P	23 05 39.5	+1.0
	baz=234,SNR=16						
COLD	Coldfoot	22.14	32	P	P	23 05 39.9	+1.2
	baz=239,SNR=12						
POKR	Poker Plat Res	22.17	38	P	P	23 05 39.4	+0.4
	baz=247						
BMRM	Bremner River	22.24	50	P	P	23 05 40.9	+1.2
BMRM				IAmb	IAmb	23 05 48.8	
	comp=Z,31nm,1.1s						
BMRM	Bremner River	22.24	50	P	P	23 05 39.9	+0.1
	baz=260						
IL31		22.26	39	P	P	23 05 39.4	-0.5
ILAR	Eielson Array	22.26	39	P	P	23 05 38.2	-1.7
	comp=Z,2.9nm,0.6s,baz=244,slow=9.8,SNR=19						
ILAR				PcP	PcP	23 09 34.1	-0.6
	comp=Z,1.1nm,0.7s,baz=267,slow=3.2,SNR=7.0						
ILAR				ScP	ScP	23 13 11.2	+2.0
	comp=Z,0.5nm,0.7s,baz=273,slow=3.2,SNR=5.0 comp=Z,2.9nm,0.6s						
HARP	HAARP	22.27	46	P	P	23 05 40.1	-0.1
	baz=256						
PAX	Paxson	22.28	44		P	23 05 40.3	0.0
PAX	Paxson	22.28	44	P	P	23 05 40.3	0.0
PAX				pmax	pmax		
	comp=Z,11nm,0.8s						
PAX	Paxson	22.28	44	P	P	23 05 40.0	-0.2
	baz=254,SNR=9.7						
B21K	Ikpikpuk River	22.28	24	P	P	23 05 41.0	+0.8
	baz=227,SNR=9.3						
H24K	Noodor Dome	22.30	36	P	P	23 05 41.1	+0.7
	baz=245,SNR=23						
D22K	Ayikyak River	22.32	27	P	P	23 05 41.1	+0.4
	baz=232,SNR=19						
N25K	Chitina, Valde	22.36	48	P	P	23 05 41.9	+0.8
	baz=259						
K24K	Donnelly Dome	22.39	42	P	P	23 05 41.6	+0.3
	baz=252						
GLB	Gilahina Butte	22.70	49		P	23 05 43.4	-1.3
GLB				IAmb	IAmb	23 05 51.1	
	comp=Z,56nm,1.7s						
RIDG	Independent Ri	22.76	43	P	P	23 05 45.3	-0.1
	baz=253						
BGLC	Bering Glacier	22.76	52	P	P	23 05 45.7	+0.4
	baz=264						
E23K	Chandalar	22.77	30	P	P	23 05 46.2	+0.8
	baz=238,SNR=6.7						
J25K	Salcha River,	22.81	40	P	P	23 05 46.1	+0.3
	baz=251						
G24K	Hadweenzic Riv	22.82	34	P	P	23 05 46.9	+0.9
	baz=243,SNR=32						
CRQE	Cirque	22.94	51	P	P	23 05 47.6	+0.3
	baz=262						
D23K	Nanushuk River	22.95	28		P	23 05 47.9	+0.7
D23K				IAmb	IAmb	23 05 50.0	
	comp=Z,22nm,0.7s						
D23K	Nanushuk River	22.95	28	P	P	23 05 48.0	+0.8
	baz=234						
A21K	Barrow	23.03	20	P	P	23 05 49.0	+1.0
	baz=222						
MCARA	McCarthy VSAT	23.06	49	P	P	23 05 48.9	+0.5
	baz=261						
F24K	Squaw Lake	23.06	32	P	P	23 05 49.4	+1.0
F24K				IAmb	IAmb	23 05 51.2	
	comp=Z,35nm,0.8s						
F24K	Squaw Lake	23.06	32	P	P	23 05 48.5	+0.1
	baz=241,SNR=30						
DOT	Dot Lake	23.07	43	P	P	23 05 47.6	-0.9
B22K	Teshekpuk Lake	23.07	23	P	P	23 05 49.5	+1.1
	baz=228						
TOLK	Toolik Lake Re	23.10	29	P	P	23 05 49.0	+0.2
TOLK	Toolik Lake Re	23.10	29	P	P	23 05 49.6	+0.8
	baz=237,SNR=8.4						
E24K	Your Creek	23.14	31	P	P	23 05 50.1	+0.9
	baz=239						
A22K	Sinclair Lake	23.16	21	P	P	23 05 50.2	+1.0
	baz=224						
SCRK	Sand Creek	23.19	42	P	P	23 05 49.5	-0.3
	baz=254,SNR=7.0						
L26K	Log Cabin Wild	23.23	45	P	P	23 05 50.5	+0.4
	baz=257						
H25L	Birch Creek	23.24	36	P	P	23 05 50.9	+0.8
	baz=247,SNR=23						
M26K	Nabesna, AK	23.25	46	P	P	23 05 50.6	+0.2
	baz=259						
G25K	Bearman Lake	23.34	35	P	P	23 05 51.5	+0.4
	baz=245,SNR=14						
C23K	Itkillik River	23.49	26	P	P	23 05 52.6	+0.1
	baz=233						
J26L	Joseph Creek	23.52	41	P	P	23 05 51.9	-1.1
	baz=253,SNR=20						
D24K	Happy Valley	23.61	28	P	P	23 05 54.1	+0.4
	baz=237,SNR=24						
M27K	Edge Creek, AK	23.76	47	P	P	23 05 55.5	+0.1
	baz=260,SNR=6.7						
CTG	Chitna Glacier	23.81	50	P	P	23 05 56.1	+0.2
	baz=264						
F25K	Christian Rive	23.86	33	P	P	23 05 56.3	+0.1
	baz=244,SNR=35						
L27K	Beaver Creek,	23.91	45	P	P	23 05 56.6	-0.1
	baz=258						
BCAR	Beaver Creek A	23.93	45		P	23 05 56.2	-0.6
C24K	Franklin Bluff	23.96	27	P	P	23 05 57.4	+0.4
C24K				IA

baz=267
O28M Mount Upton 24.35 51 P P 23 06 01.1 +0.1
baz=265
F26K Sheenjek River 24.42 34 P P 23 06 01.7 +0.4
baz=246,SNR=18
D25K Kavik River 24.44 29 P P 23 06 01.3 -0.2
baz=240
EGAK Eagle 24.59 41 P P 23 06 02.5 -0.3
EGAK IAmb IAmb 23 06 04.1
comp=Z,51nm,1.2s
EGAK Eagle 24.59 41 P P 23 06 02.5 -0.3
baz=255,SNR=16
YUK8 Steele Glacier 24.61 50 P P 23 06 03.4 +0.1
baz=264
I27K Kandik River 24.63 39 P P 23 06 03.7 +0.4
baz=253
PNL Peninsula 24.69 54 P P 23 06 04.3 +0.6
baz=268
H27K Steamboat Moun 24.86 38 P P 23 06 05.8 +0.6
baz=252
G27K Doyon Strip 24.99 36 P P 23 06 07.2 +0.8
baz=251,SNR=6.1
O29M Mount Kennedy 25.12 52 P P 23 06 08.3 +0.5
baz=268
YUK4 Talbot Arm 25.15 50 P P 23 06 07.9 -0.2
baz=265
DAWY Dawson 25.18 43 P P 23 06 09.0 +0.8
baz=259,SNR=15
C26K Camden Bay 25.18 29 P P 23 06 08.6 +0.5
baz=240
I28M Miner Creek 25.26 40 P P 23 06 08.4 -0.6
baz=255,SNR=12
M29M Somme Creek 25.34 47 P P 23 06 09.8 0.0
baz=263,SNR=5.0
JKA Kamikawa-asahi 25.37 268 P 23 06 09.7 -0.3
ASAJ Asahikawa 25.37 268 LR LR 23 19 34.6
comp=Z,53nm,18.1s,baz=143,slow=45
ASAJ Asahikawa 25.37 268 P P 23 06 09.7 -0.3
ASAJ pmax pmax
comp=Z,59nm,0.9s
C27K Jago River 25.41 30 P P 23 06 10.2 0.0
baz=242
E27K Coleen River 25.50 33 P P 23 06 11.1 +0.1
baz=248,SNR=17
P29M Windy Craggy 25.53 54 P P 23 06 11.3 -0.1
baz=270
L29M L29M 25.58 46 P P 23 06 11.8 -0.1
baz=262
HYT Haines Junctio 25.67 51 P P 23 06 12.4 -0.4
HYT Haines Junctio 25.67 51 P P 23 06 12.9 +0.1
baz=268
I29M Ogilvie Camp, 25.91 41 P P 23 06 15.1 +0.3
baz=257
N30M Aishikik Lake 25.91 50 P P 23 06 15.4 +0.6
baz=267
F28M Old Crow 25.91 35 P P 23 06 15.6 +0.8
baz=251,SNR=21
K29M Barlow Dome 25.96 44 P P 23 06 15.4 +0.1
baz=261
H29M Whitestone 26.08 39 P P 23 06 16.4 +0.1
baz=256
ERM Erimo 26.10 264 P P 23 06 15.9 -0.7
ERM IAmb IAmb 23 06 18.6
comp=Z,23nm,1.0s
ERM Erimo 26.10 264 P P 23 06 15.9 -0.7
ERM pmax pmax
comp=Z,23nm,1.0s
D27M Malcolm River 26.12 31 P P 23 06 17.4 +0.7
baz=247
M30M Minto, Yukon 26.13 47 P P 23 06 17.4 +0.6
baz=265
PLBC Pleasant Camp 26.23 54 P P 23 06 18.6 +0.9
baz=271
O30N Mendenhall 26.36 51 P P 23 06 19.2 +0.2
baz=269
E28M Babbage River 26.37 33 P P 23 06 19.3 +0.4
baz=250
G29M Pine Creek 26.39 37 P P 23 06 19.5 +0.4
baz=255
N31M Braeburn, Yuko 26.53 50 P P 23 06 20.7 +0.2
baz=268
J30M Hart River 26.58 43 P P 23 06 21.0 -0.1
baz=261
I30M Mount Dempster 26.67 41 P P 23 06 22.1 +0.3
baz=260
SKAG Skagway 26.76 54 P P 23 06 22.5 0.0
baz=272
EPYK Eagle Plains 26.77 39 P P 23 06 22.5 0.0
baz=257
E29M Blow River 26.86 34 P P 23 06 23.4 +0.1
baz=252
G30M tAoh Zraii Nji 27.10 37 P P 23 06 26.3 +0.8
baz=256
M31M Drury Creek, Y 27.22 48 P P 23 06 26.5 -0.1
baz=268
R32K Eaglecrest 27.26 57 P P 23 06 27.4 +0.4
baz=275
F30M Barrier River 27.41 36 P P 23 06 28.6 +0.3
baz=256
P32M Atlin 27.57 54 P P 23 06 29.8 -0.1
baz=273
H31M Peel River 27.61 40 P P 23 06 30.1 0.0
baz=261
G31M Satah River 27.84 38 P P 23 06 32.3 +0.3
baz=259
P33M Teslin, Yukon 27.99 52 P P 23 06 33.7 +0.1
baz=273
JTM Tenmabayashi 28.09 263 P P 23 06 33.4 -1.1
JTM IAmb IAmb 23 07 03.2
comp=Z,16nm,1.1s
Q32M Nakina River 28.36 55 P P 23 06 36.3 -0.7
baz=276
INK Inuvik 28.41 35 P 23 06 37.3 +0.2
INK IAmb IAmb 23 06 43.3
comp=Z,13nm,0.8s
INK Inuvik 28.41 35 LR LR 23 17 28.7
comp=Z,76nm,20.8s,baz=232,slow=36
INK Inuvik 28.41 35 P P 23 06 37.3 +0.2
INK pmax pmax
comp=Z,13nm,0.9s
YAK Yakutsk 28.57 312 P 23 06 37.3 -1.3
YAK IAmb IAmb 23 06 39.2
comp=Z,23nm,1.1s
YAK Yakutsk 28.57 312 LR LR 23 17 54.9
comp=Z,152nm,18.3s,baz=102,slow=36
YAK Yakutsk 28.57 312 *e*P P 23 06 37.1 -1.5
YAK *e**PP **pP** 23 06 46.9 -1.0
YAK *e*PPP PPP 23 07 35.4
YAK *e*S **S** 23 11 24.0 -0.1
YAK *e**SS **sS** 23 11 39.8 -0.5
YAK *e*SS **SnSn** 23 12 43.7 -1.2
YAK *e*SSS SSS 23 13 01.9
YAK pmax pmax
comp=Z,27nm,1.1s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=N,8.0nm,1.5s
YAK smax smax
comp=N,278nm,5.9s
YAK smax smax
comp=E,150nm,5.8s
YAK MLR MLR
comp=Z,180nm,18.0s
YAK MLR MLR
comp=E,123nm,20.0s
YAK MLR MLR
comp=N,169nm,20.0s
WRAK Wrangell Islan 28.67 60 P P 23 06 40.1 +0.5
baz=280
MMPY Sheldon Lake, 28.69 47 P P 23 06 40.1 +0.4
baz=270
R33M Jennings River 28.99 54 P P 23 06 42.6 +0.1
baz=276
DLBC Dease Lake 29.59 56 LR LR 23 19 38.3
comp=N,839nm,18.9s,baz=214,slow=39
TGTN Hyland Airport 30.13 49 P P 23 06 52.9 +0.3
baz=274
TIXI Tiksi 30.18 331 LR LR 23 19 31.8
comp=N,127nm,18.5s,baz=128,slow=38
TOAD Toad River Com 31.99 54 P P 23 07 09.3 +0.3
baz=281
USRK Ussuriysk Ar. 32.00 276 P P 23 07 08.1 -1.0
comp=N,2.8nm,0.6s,baz=52,slow=3.1,SNR=4.6
comp=N,2.8nm,0.6s
HEH HeiHe 32.19 289 *e*P P 23 07 11.1 +0.5
WRGLY Wrigley 32.23 46 P P 23 07 11.4 +0.6
baz=275

KOTAN Kotaneelee Air 32.35 52 P P 23 07 12.4 +0.4
baz=280
MJAR Matsushiro Arr 32.43 259 P P 23 07 13.1 +0.1
comp=N,4.4nm,0.9s,baz=52,slow=7.7,SNR=10
MJAR PcP **PcP** 23 09 59.8 +0.2
comp=N,2.1nm,0.8s,baz=57,slow=2.1,SNR=4.8
MJAR LR LR 23 18 19.8
comp=N,83nm,20.6s,baz=69,slow=33
comp=N,4.4nm,0.9s
MAJO Matsushiro 32.44 259 P P 23 07 12.8 -0.2
MAJO IAmb IAmb 23 07 14.8
comp=Z,20nm,1.1s
MAJO Matsushiro 32.44 259⇑ *e*P P 23 07 13.2 +0.2
MAJO pmax pmax
comp=Z,23nm,1.2s
H11N2 WAKE ISLAND Hy 32.80 202 T T 23 42 23.2
baz=10,slow=76,SNR=49
H11N3 WAKE ISLAND Hy 32.81 202 T T 23 42 25.1
baz=10,slow=76,SNR=50
H11N1 WAKE ISLAND Hy 32.82 202 T T 23 42 09.5
baz=10,slow=76,SNR=61
PSTR Posyet 33.53 275 *de*P P 23 07 23.6 +1.1
JGF Kuroka 33.57 259 P P 23 07 23.3 +0.3
H11S1 WAKE ISLAND Hy 34.02 201 T T 23 43 58.6
baz=19,slow=76,SNR=48
H11S2 WAKE ISLAND Hy 34.04 201 T T 23 44 07.6
baz=19,slow=76,SNR=33
H11S3 WAKE ISLAND Hy 34.04 201 T T 23 44 07.6
baz=19,slow=76,SNR=28
BNX BinXian 34.11 282 ⇓P P 23 07 26.9 -0.6
BNX pmax pmax
comp=Z,16nm,0.9s
CLRS Cowichan Lake 35.81 71 P P 23 07 42.9 +0.8
CLRS IAmb IAmb 23 08 22.1
comp=Z,37nm,1.6s
YKA Yellowknife Ar 36.35 46 P P 23 07 46.3 -0.2
comp=Z,3.4nm,0.7s,baz=285,slow=8.3,SNR=4.0
YKA PcP **PcP** 23 10 10.0 -0.3
comp=Z,4.2nm,1.0s,baz=290,slow=2.6,SNR=3.7
comp=Z,3.4nm,0.7s
NLWA Neilton Lookou 36.61 73 P P 23 07 50.3 +1.2
NLWA IAmb IAmb 23 07 51.7
comp=Z,7.9nm,0.8s
HIA Hailar 37.13 291 P P 23 07 52.6 -0.8
HIA IAmb IAmb 23 07 54.0
comp=Z,23nm,1.3s
HIA Hailar 37.13 291 P P 23 07 52.6 -0.8
HIA pmax pmax
comp=Z,23nm,1.3s
LON Longmire 38.16 73 P P 23 08 02.6 +0.4
LON Longmire 38.16 73 P P 23 08 02.6 +0.4
LON pmax pmax
comp=Z,5.0nm,0.7s
KSRS Korea Array 38.31 269 P P 23 08 04.7 +1.3
comp=Z,7.5nm,0.8s,baz=59,slow=8.3,SNR=14
KSRS PcP **PcP** 23 10 17.8 +1.0
comp=Z,3.2nm,0.9s,baz=56,slow=2.6,SNR=5.7
comp=Z,7.5nm,0.8s
H04A Detroit Lake 38.96 76 P P 23 08 09.2 +0.2
H04A IAmb IAmb 23 08 23.1
comp=Z,12nm,0.9s
TJN Taejon 39.32 269⇑ *e*P P 23 08 12.5 +0.6
HAWA Hanford 39.70 72 P 23 08 15.7 +0.7
HAWA IAmb IAmb 23 08 16.7
comp=Z,10nm,0.8s
NEW Newport 40.21 68 P 23 08 19.8 +0.6
NEW Newport 40.21 68 P P 23 08 19.8 +0.6
NEW pmax pmax
comp=Z,7.0nm,0.9s
RES Resolute Bay 40.49 24 LR LR 23 27 52.4
comp=Z,58nm,19.0s,baz=3.5,slow=40
G08A Pilot Rock 40.61 73 P 23 08 23.0 +0.4
BMO Blue Mountains 41.83 73 P 23 08 32.9 +0.2
BMO Blue Mountains 41.83 73 P P 23 08 32.9 +0.2
BMO pmax pmax
comp=Z,6.0nm,0.9s
XLT XiLinHaoTe 41.98 286 *e*P P 23 08 34.8 +0.9
XLT pmax pmax
comp=Z,31nm,0.9s
WVOR Wild Horse Val 42.35 77 P P 23 08 37.6 +0.6
WVOR Wild Horse Val 42.35 77 P P 23 08 37.6 +0.6
WVOR pmax pmax
comp=Z,5.0nm,0.8s
PLID Pearl Lake 42.49 72 P 23 08 38.2 0.0
BEKR Beckworth 42.76 81 P 23 08 40.7 +0.3
BPMT Black Pine Rid 43.29 69 P 23 08 44.4 -0.3
BJI Beijing 44.11 281 P P 23 08 52.3 +1.2
BJI PcP **PcP** 23 10 36.0 +0.3
BJI pmax pmax
comp=Z,6.0nm,0.9s
BJT Baijiatuau 44.13 281 P 23 08 51.5 +0.3
BJT IAmb IAmb 23 08 53.9
comp=Z,9.6nm,0.9s
BJT Baijiatuau 44.13 281 P P 23 08 51.5 +0.3
BJT pmax pmax
comp=Z,10.0nm,0.9s
WAKR Walker 44.15 82 P P 23 08 52.9 +1.2
WAKR IAmb IAmb 23 09 05.9
comp=Z,24nm,1.7s
HLID Hailey 44.28 73 P 23 08 52.8 +0.2
HLID IAmb IAmb 23 08 54.3
comp=Z,9.5nm,0.9s
BOZ Bozeman (W) 44.81 69 P P 23 08 56.5 -0.3
BOZ IAmb IAmb 23 08 58.1
comp=Z,7.2nm,0.7s
BOZ Bozeman (W) 44.81 69 P P 23 08 56.5 -0.3
BOZ pmax pmax
comp=Z,7.0nm,0.7s
NVAR Mina Array Bea 44.90 81 P P 23 08 58.5 +0.8
comp=Z,2.1nm,0.7s,baz=290,slow=7.5,SNR=12
comp=Z,2.1nm,0.7s
ULN Ulaanbaatar 45.16 295 P 23 08 59.8 +0.2
ULN IAmb IAmb 23 09 01.2
comp=Z,10nm,0.8s
ULN Ulaanbaatar 45.16 295 *c* iP P 23 09 00.1 +0.6
ULN pmax pmax
comp=Z,12nm,1.0s
ULN Ulaanbaatar 45.16 295 P P 23 09 00.1 +0.6
ELK Elko 45.40 76 P 23 09 02.2 +0.5
ELK Elko 45.40 76 LR LR 23 25 16.2
comp=Z,58nm,18.9s,baz=354,slow=32
ELK Elko 45.40 76 P P 23 09 02.2 +0.5
ELK pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 45.55 296 P 23 09 03.0 +0.4
SONM IAmb IAmb 23 09 04.5
comp=Z,11nm,1.2s
SONM Songino Array 45.55 296 P P 23 09 03.8 +1.2
comp=Z,7.8nm,0.9s,baz=58,slow=9.9,SNR=27
SONM PcP **PcP** 23 10 41.0 +0.3
comp=Z,2.3nm,0.8s,baz=68,slow=3.1,SNR=4.9
SONM LR LR 23 29 27.1
comp=Z,64nm,18.3s,baz=56,slow=38
comp=Z,7.8nm,0.9s
SONM Songino Array 45.55 296 P P 23 09 03.0 +0.4
SONM pmax pmax
comp=Z,11nm,1.2s
YHH Holmes Hill 45.71 69 P P 23 09 04.2 +0.1
TPH Tonopah 45.79 81 P P 23 09 05.8 +1.1
TPH IAmb IAmb 23 09 18.9
comp=Z,8.5nm,0.9s
TPH Tonopah 45.79 81 P P 23 09 05.8 +1.1
TPH pmax pmax
comp=Z,8.0nm,0.9s
ZAK Zakamensk 45.92 300 *e*P P 23 09 04.4 -1.1
ZAK pmax pmax
comp=Z,9.0nm,1.6s
RLMT Red Lodge 46.45 68 P 23 09 10.2 +0.3
RLMT IAmb IAmb 23 09 31.6
comp=Z,18nm,1.2s
HHC Hu-ho-hao-te 46.46 285 *e*P P 23 09 10.3 +0.4
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,310nm,5.3s
HNS HongShan 46.63 279 ⇓P P 23 09 12.3 +1.3
HNS pmax pmax
comp=Z,18nm,0.9s
TPNV Topopah Spring 47.10 81 P P 23 09 15.7 +0.8
TPNV IAmb IAmb 23 09 40.5
comp=Z,9.9nm,0.8s
TPNV Topopah Spring 47.10 81 P P 23 09 15.7 +0.8
TPNV pmax pmax
comp=Z,10.0nm,0.9s
NOR Nord 47.22 3 *i* P P 23 09 14.3 -0.8
NOR IAmb IAmb 23 09 15.5

comp=Z,5.5nm,0.8s
NJ2 Nanjing 47.48 270 *e*P P 23 09 18.0 +0.2
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
TCUT Toone Canyon 47.51 74 P P 23 09 18.6 +0.4
TCUT IAmb IAmb 23 09 19.9
comp=Z,9.5nm,0.8s
BTO Baotou 47.55 285 *e*P P 23 09 19.0 +0.7
BTO pP **sP** 23 09 31.4 -0.3
BTO sP pP 23 09 36.6 +8.6
BTO PP **PP** 23 11 10.0 +0.2
BTO pmax pmax
comp=Z,87nm,0.9s
BTO pmax pmax
comp=Z,310nm,9.5s
PD31 Pinedale Array 47.64 71 P 23 09 19.3 +0.2
PD31 IAmb IAmb 23 09 20.3
comp=Z,13nm,0.9s
PDAR Pinedale Array 47.64 71 P P 23 09 19.4 +0.2
comp=Z,16nm,0.9s,baz=312,slow=3.5,SNR=105
comp=Z,16nm,0.9s
NEEM North Greenlan 47.96 13 *i* P P 23 09 20.9 -0.4
NEEM IAmb IAmb 23 09 22.5
comp=Z,49nm,0.8s
KULLO Kullorsuaq 49.08 17 *i* P P 23 09 29.1 -0.4
KULLO IAmb IAmb 23 09 30.1
comp=Z,15nm,0.8s
KBS Kingsbay 49.95 357 *ce*P P 23 09 36.0 -0.1
KBS pmax pmax
comp=Z,14nm,1.0s
KBS Kingsbay 49.95 357 *i* P P 23 09 36.1 -0.1
SPITS Spitsbergen Ar 50.50 355 P P 23 09 39.8 -0.5
comp=Z,3.1nm,0.3s,baz=39,slow=6.8,SNR=46
comp=Z,3.1nm,0.3s
SPITS Spitsbergen Ar 50.50 355 P P 23 09 40.0 -0.3
SPITS pmax pmax
comp=Z,109nm,1.9s
SPB2 Spitsbergen Ar 50.50 355 P P 23 09 39.9 -0.4
ULM Lac du Bonnet 50.91 55 P P 23 09 42.0 -1.8
comp=Z,0.7nm,0.3s,baz=293,slow=10,SNR=1.7
ULM LR LR 23 31 12.6
comp=Z,84nm,19.6s,baz=303,slow=36
comp=Z,0.7nm,0.3s
ULM Lac du Bonnet 50.91 55 P P 23 09 42.0 -1.8
WUAZ Wupatki 51.04 79 P P 23 09 45.6 +0.5
WUAZ IAmb IAmb 23 09 59.3
comp=Z,7.3nm,0.8s
ISCO Idaho Springs 51.81 71 P 23 09 51.4 +0.4
ISCO Idaho Springs 51.81 71 P P 23 09 51.4 +0.4
ISCO pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 51.85 5 *i* P P 23 09 49.0 -1.4
DAG IAmb IAmb 23 09 50.5
comp=Z,7.4nm,0.6s
SSLB Suanglung 51.96 261 P 23 09 51.9 -0.1
XAN Xi'an 52.39 280 ⇑P P 23 09 55.1 0.0
XAN pP pwP 23 10 08.3 +3.4
XAN pmax pmax
comp=Z,21nm,0.9s
XAN Xi'an 52.39 280 P P 23 09 54.9 -0.1
ZAA0 Zalesovo Array 53.21 313 P P 23 10 00.4 -0.4
ZALV Zalesovo Beam 53.21 313 P 23 10 00.4 -0.4
ZALV Zalesovo Beam 53.21 313 P P 23 10 00.1 -0.6
comp=Z,2.2nm,0.4s,baz=52,slow=6.3,SNR=12
ZALV PcP **PcP** 23 11 08.3 0.0
comp=Z,5.1nm,0.8s,baz=22,slow=5.3,SNR=6.5
ZALV LR LR 23 34 11.7
comp=Z,107nm,18.1s,baz=46,slow=38
comp=Z,2.2nm,0.4s
SUMG Summit 53.83 13 P 23 10 05.5 0.0
SUMG Summit 53.83 13 P P 23 10 05.6 0.0
SUMG pmax pmax
comp=Z,22nm,1.0s
SUMG Summit 53.83 13 *i* P P 23 10 05.2 -0.3
SUMG IAmb IAmb 23 10 06.4
comp=Z,44nm,1.4s
LZH Lanzhou 54.16 285 *e*P P 23 10 09.4 +1.2
LZH sP pP 23 10 19.4 +1.4
LZH pmax pmax
comp=Z,29nm,1.2s
LZDM Lanzhou Array 54.34 285 P P 23 10 10.1 +0.4
comp=Z,2.3nm,0.4s,baz=38,slow=2.6,SNR=7.6
comp=Z,2.3nm,0.4s
GTA Gaotai 54.41 291 P P 23 10 10.4 +0.5
GTA pP sP 23 10 22.3 -1.1
GTA pmax pmax
comp=Z,42nm,0.8s
GTA LR LR
comp=Z,330nm,17.5s
ANMO Albuquerque 54.44 77 LR LR 23 31 46.4
comp=Z,56nm,19.7s,baz=34,slow=34
ANMO Albuquerque 54.44 77⇑ *e*P P 23 10 10.0 -0.3
ANMO pmax pmax
comp=Z,3.0nm,1.8s
ZSN Zaisan 57.38 307⇑ *i*P P 23 10 31.1 +0.1
ZSN Zaisan 57.38 307 *c* iP P 23 10 31.0 +0.1
CD2 Chengdu 57.71 280 P P 23 10 33.8 +0.3
CD2 pmax pmax
comp=Z,30nm,0.5s
ARCES ARCESS Array B 58.08 349 P P 23 10 34.5 -1.0
ARCES ARCESS Array B 58.08 349 P P 23 10 34.3 -1.2
comp=Z,2.0nm,0.6s,baz=41,slow=5.8,SNR=8.5
ARCES LR LR 23 39 09.1
comp=Z,78nm,18.1s,baz=342,slow=40
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 58.08 349 P P 23 10 34.5 -1.0
ARCES pmax pmax
comp=Z,56nm,1.7s
SMWD Samnorwood 58.11 72 P 23 10 36.2 -0.1
SMWD IAmb IAmb 23 10 37.7
comp=Z,11nm,0.8s
KURK Kurchatov 58.20 313 P 23 10 36.4 -0.1
KURK Kurchatov 58.20 313 *c* iP P 23 10 36.5 -0.1
KURK pmax pmax
comp=Z,22nm,0.9s
KURK Kurchatov 58.20 313 P P 23 10 36.8 +0.1
KURK PcP **PcP** 23 11 28.6 +0.9
KURBB Kurchatov Arra 58.31 313 P P 23 10 37.5 +0.2
comp=Z,16nm,0.6s,baz=42,slow=6.5,SNR=93
KURBB LR LR 23 36 09.4
comp=Z,62nm,18.9s,baz=176,slow=36
comp=Z,16nm,0.6s
LVZ Lovozero 58.32 345 P P 23 10 36.4 -0.9
LVZ Lovozero 58.32 345 P P 23 10 36.4 -0.9
LVZ pmax pmax
comp=Z,52nm,1.4s
WMQ Urumqi 58.34 302 *e*P P 23 10 40.5 +2.7
WMQ LR LR
comp=Z,340nm,17.3s
WMQ LR LR
comp=Z,160nm,19.1s
APA Apatity 58.82 345 ⇓ *e*P P 23 10 41.1 +0.4
APA *e* 23 11 29.9
APA *e* 23 12 50.2
APA *e*S **S** 23 18 41.3 -1.9
APA *e*SS **SS** 23 22 30.8 -5.0
APA MLR MLR
comp=Z,691nm,4.2s
MK31 Makanchi Array 59.12 307 P P 23 10 42.6 -0.5
MK31 IAmb IAmb 23 10 43.5
comp=Z,5.4nm,0.8s
MK31 Makanchi Array 59.12 307 P P 23 10 42.6 -0.5
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 59.12 307 P 23 10 42.6 -0.5
MKAR Makanchi Array 59.12 307 P P 23 10 42.9 -0.2
comp=Z,7.9nm,0.8s,baz=53,slow=6.4,SNR=40
MKAR LR LR 23 36 55.4
comp=Z,100nm,18.9s,baz=34,slow=37
comp=Z,7.9nm,0.8s
WMOK Wichita Mounta 59.23 72 P P 23 10 43.7 -0.4
WMOK IAmb IAmb 23 10 45.3
comp=Z,7.5nm,0.8s
WMOK Wichita Mounta 59.23 72 P P 23 10 43.7 -0.4
WMOK pmax pmax
comp=Z,8.0nm,0.9s
MAKZ Makanchi 59.27 308 P P 23 10 43.7 -0.4
MAKZ IAmb IAmb 23 10 44.5
comp=Z,7.5nm,0.7s
MAKZ Makanchi 59.27 308 P P 23 10 43.7 -0.4
MAKZ pmax pmax
comp=Z,7.0nm,0.7s
GOMU GeErMu 59.49 291 P P 23 10 45.4 -0.9
GOMU pmax pmax
comp=Z,14nm,0.9s
TX31 Lajitas Ar. Si 60.00 80 P 23 10 49.2 -0.3

TX31 IAmb IAmb 23 11 14.4
comp=Z,12nm,1.5s
TXAR Lajitas Array 60.00 80 P **P** **23 10 49.8 +0.3**
comp=Z,0.8nm,0.7s,baz=303,slow=4.9,SNR=8.4
comp=Z,0.8nm,0.7s
BVAR Borovoye Array 60.19 319 P **P** **23 10 50.8 +0.5**
comp=Z,16nm,0.5s,baz=48,slow=6.1,SNR=68
BVAR LR LR 23 38 34.0
comp=Z,85nm,19.9s,baz=58,slow=38
comp=Z,16nm,0.5s
BORK Borovoye 60.20 319*c i*P **P** **23 10 50.7 +0.3**
BORK pmax pmax
comp=Z,15nm,1.0s
BORK Borovoye 60.20 319 P **P** **23 10 51.0 +0.6**
HDIL Hopedale 60.69 61 P **P** **23 10 52.8 -1.1**
SCHQ Schefferville 61.00 37 P **P** **23 10 55.1 -0.7**
SCHQ Schefferville 61.00 37 P **P** **23 10 55.3 -0.5**
comp=Z,56nm,0.9s,baz=300,slow=8.1,SNR=5.4
SVE Sverdlovsk 61.06 326*e*P **P** **23 10 58.0 +1.8**
FVM French Village 61.85 64 **P** **23 11 01.1 -0.7**
FVM IAmb IAmb 23 11 14.4
comp=Z,4.8nm,0.6s
FVM French Village 61.85 64 P **P** **23 11 01.1 -0.7**
FVM pmax pmax
comp=Z,5.0nm,0.6s
PZH PanZhiHua 62.06 278 P **P** **23 11 05.3 +1.7**
ARTI Arti 62.18 327 **P** **23 11 04.2 +0.5**
ARTI Arti 62.18 327 LR LR 23 40 45.7
comp=Z,109nm,18.4s,baz=26,slow=39
ARTI Arti 62.18 327*d i*P **P** **23 11 04.4 +0.7**
ARTI *PP **sP** **23 11 16.7 -0.3**
ARTI 23 11 42.7
ARTI 23 13 19.9
ARTI S **S** **23 19 31.0 +4.6**
ARTI SS **SS** **23 23 27.8 -0.9**
ARTI pmax pmax
comp=Z,36nm,1.2s
ARTI Arti 62.18 327 P **P** **23 11 04.2 +0.5**
ARTI pP **pwP** **23 11 16.1 +2.1**
ARTI PcP **PcP** **23 11 44.1 +0.6**
DAV Davao City (W) 62.18 244 LR LR 23 34 27.1
comp=Z,45nm,20.0s,baz=159,slow=32
TDK Taldyqorghan 62.31 308*e*P **P** **23 11 04.9 +0.1**
comp=Z,13nm,1.2s
TDK Taldyqorghan 62.31 308*e*P **P** **23 11 04.9 +0.1**
TDK pmax pmax
comp=Z,13nm,1.2s
MIAR Mount Ida 62.45 68 P **P** **23 11 05.9 0.0**
MIAR IAmb IAmb 23 11 07.5
comp=Z,11nm,0.9s
MIAR Mount Ida 62.45 68 P **P** **23 11 05.9 0.0**
MIAR pmax pmax
comp=Z,11nm,0.9s
LCAR Lake Charles 62.78 66 **P** **23 11 06.9 -1.1**
LCAR IAmb IAmb 23 11 13.8
comp=Z,7.9nm,1.2s
SHLS Shalkode 63.10 306*e*P **P** **23 11 08.9 -1.4**
comp=Z,5.8nm,0.7s
SHLS Shalkode 63.10 306*e*P **P** **23 11 08.8 -1.4**
SHLS pmax pmax
comp=Z,6.0nm,0.7s
ARXS Arharly 63.17 308 *i* P **P** **23 11 09.8 -0.8**
KIRV Kirov 63.18 333 LR LR 23 42 36.2
comp=Z,44nm,19.0s,baz=29,slow=40
UZB Uzynbulak 63.33 306*e*P **P** **23 11 11.8 0.0**
UZB Uzynbulak 63.33 306 *i* P **P** **23 11 10.7 -1.1**
UZB pmax pmax
comp=Z,10.0nm,1.7s
BORG Borgarnes 63.35 10 LR LR 23 40 04.1
comp=Z,44nm,18.0s,baz=313,slow=37
SATY Saty 63.71 307*e*P **P** **23 11 14.4 +0.1**
comp=Z,6.4nm,1.2s
SATY Saty 63.71 307*e*P **P** **23 11 14.3 0.0**
SATY pmax pmax
comp=Z,6.0nm,1.2s
MDOK Medeo 64.32 307*e*P **P** **23 11 18.5 +0.1**
MDOK Medeo 64.32 307*e*P **P** **23 11 18.4 +0.1**
AAA Alma-Ata 64.35 308*e*P **P** **23 11 18.6 +0.2**
comp=Z,8.5nm,0.6s
AAA Alma-Ata 64.35 308*e*P **P** **23 11 18.6 +0.2**
AAA pmax pmax
comp=Z,9.0nm,0.6s
HKT Hockley 64.36 74⇑*e*P **P** **23 11 18.9 +0.4**
HKT pmax pmax
comp=Z,9.0nm,1.1s
BTLS Baital 64.41 311⇑*i*P **P** **23 11 18.7 +0.1**
BTLS Baital 64.41 311 *i* P **P** **23 11 18.5 -0.2**
BTLS pmax pmax
comp=Z,3.0nm,0.7s
TNSS Tian-Shan 64.46 307*e*P **P** **23 11 19.5 0.0**
TNSS Tian-Shan 64.46 307*e*P **P** **23 11 19.5 0.0**
TARG Taragay, Kyrgy 64.98 306 P **P** **23 11 23.9 +0.9**
TARG Taragay, Kyrgy 64.98 306 P **P** **23 11 23.9 +0.9**
TARG pmax pmax
comp=Z,3.0nm,0.8s
KDJ Kajisay 65.01 307 **P** **23 11 23.5 +0.6**
KDJ IAmb IAmb 23 11 24.4
comp=Z,11nm,0.9s
KDJ Kajisay 65.01 307 P **P** **23 11 23.5 +0.6**
KDJ pmax pmax
comp=Z,11nm,0.9s
SGDS Sogindy 65.30 309*e*P **P** **23 11 25.0 +0.4**
BOOM Boomskoye usch 65.36 308 P **P** **23 11 25.6 +0.4**
BOOM IAmb IAmb 23 11 27.0
comp=Z,10nm,0.8s
BOOM Boomskoye usch 65.36 308 P **P** **23 11 25.6 +0.4**
BOOM pmax pmax
comp=Z,10.0nm,0.8s
FINES FINESS Array B 65.70 346 P **P** **23 11 25.5 -1.2**
FINES FINESS Array B 65.70 346 P **P** **23 11 25.2 -1.5**
comp=Z,3.8nm,0.8s,baz=6.2,slow=7.4,SNR=10
comp=Z,3.8nm,0.8s
FINES FINESS Array B 65.70 346 P **P** **23 11 25.5 -1.2**
AAK Ala-Archa 65.97 309 **P** **23 11 28.9 -0.2**
AAK IAmb IAmb 23 11 32.7
comp=Z,7.5nm,0.7s
AAK Ala-Archa 65.97 309 LR LR 23 41 03.8
comp=Z,62nm,18.9s,baz=28,slow=37
AAK Ala-Archa 65.97 309*c i*P **P** **23 11 29.6 +0.6**
AAK pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 65.97 309 P **P** **23 11 29.7 +0.6**
LSA Lhasa 66.25 288 P **P** **23 11 31.4 0.0**
LSA Lhasa 66.25 288 P **P** **23 11 31.5 0.0**
LSA pmax pmax
comp=Z,13nm,0.7s
LSA Lhasa 66.25 288 P **P** **23 11 33.0 +1.5**
LSA pP **sP** **23 11 44.8 -0.3**
LSA PcP **PcP** **23 12 01.1 -0.3**
AKTO Aktyubinsk 67.09 324 LR LR 23 43 41.3
comp=Z,153nm,18.0s,baz=77,slow=38
AB31 Akbulak array 67.30 322 P **P** **23 11 38.1 +0.9**
ABKAR Akbulak array 67.30 322 P **P** **23 11 38.1 +0.9**
NC204 NORSAR Array S 67.53 354 P **P** **23 11 38.1 -0.5**
KK31 Karatay Array 67.54 311 P **P** **23 11 39.4 +0.5**
KK31 Karatay Array 67.54 311 P **P** **23 11 39.4 +0.5**
KK31 pmax pmax
comp=Z,13nm,0.8s
KKAR Karatay Array 67.54 311 P **P** **23 11 39.2 +0.3**
KKAR Karatay Array 67.54 311 P **P** **23 11 39.2 +0.3**
KSH Kashi 67.56 305 P **P** **23 11 43.3 +4.1**
KSH pP sP 23 11 54.6 +2.5
KSH pmax pmax
comp=Z,12nm,0.9s
KSH LR LR
comp=Z,190nm,8.6s
KSH LR LR
comp=Z,240nm,12.6s
KSH LR LR
comp=Z,190nm,10.4s
ARSB Arslanbob 67.70 309 **P** **23 11 40.9 +0.8**
ARSB IAmb IAmb 23 11 42.4
comp=Z,9.4nm,0.8s
ARSB Arslanbob 67.70 309 P **P** **23 11 40.9 +0.8**
ARSB pmax pmax
comp=Z,9.0nm,0.8s
NB2 NORSAR Subarra 67.73 354 P **P** **23 11 39.0 -0.8**
comp=Z,2.0nm,0.6s,baz=6.6,slow=6.5
NOA NORSAR Array B 67.73 354 P **P** **23 11 39.0 -0.8**
comp=Z,3.8nm,0.8s,baz=8.4,slow=6.3,SNR=18
NOA LR LR 23 43 03.7
comp=Z,27nm,18.3s,baz=255,slow=38
comp=Z,3.8nm,0.8s
NOA NORSAR Array B 67.73 354 P **P** **23 11 39.0 -0.8**
MYLDM Lahad Datu 67.81 250 P **P** **23 11 41.4 +0.6**

BRLS Boroldaу 67.92 312*e*P **P** **23 11 43.0 +1.7**
BRLS Boroldaу 67.92 312*e*P **P** **23 11 43.0 +1.7**
HFS Hagfors 68.44 352 P **P** **23 11 42.3 -1.9**
comp=Z,2.5nm,0.6s,baz=27,slow=6.8,SNR=10
HFS LR LR 23 42 35.7
comp=Z,47nm,18.7s,baz=340,slow=37
comp=Z,2.5nm,0.6s
TRKS Terek-Say 68.44 310 P **P** **23 11 45.7 +0.9**
TRKS pmax pmax
comp=Z,15nm,1.0s
IUG Iuzhnay 68.50 311*e*P **P** **23 11 45.7 +0.6**
comp=Z,15nm,1.0s
IUG Iuzhnay 68.50 311*e*P **P** **23 11 45.7 +0.6**
IUG pmax pmax
comp=Z,15nm,1.0s
CHM Chimkent 68.57 311*e*P **P** **23 11 46.0 +0.6**
comp=Z,15nm,0.9s
CHM Chimkent 68.57 311*e*P **P** **23 11 46.0 +0.6**
CHM pmax pmax
comp=Z,15nm,0.9s
SHL Shillong 68.83 285 **P** **23 11 46.8 -0.6**
SHL Shillong 68.83 285 P **P** **23 11 46.8 -0.6**
SHL pmax pmax
comp=Z,30nm,0.9s
BELG Belogornoye 69.00 331*ce*P **P** **23 11 47.2 -0.6**
BELG pmax pmax
comp=Z,6.0nm,0.9s
KONO Kongsberg 69.22 354 P **P** **23 11 48.8 -0.3**
KONO Kongsberg 69.22 354 P **P** **23 11 48.8 -0.3**
KONO pmax pmax
comp=Z,57nm,1.7s
TAOE Nuku Hiva Isla 69.36 136*e*LR LR 23 32 47.6
comp=Z,444nm,26.8s
CHTO Chiang Mai 69.44 275 **P** **23 11 50.5 -0.6**
CHTO Chiang Mai 69.44 275 P **P** **23 11 50.5 -0.6**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
OBN Obninsk 69.59 338*e*P **P** **23 11 49.7 -1.7**
OBN *i* 23 11 58.1
OBN *i* 23 12 14.5
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,160nm,18.0s
CMAR Chiang Mai Arr 69.71 274 P **P** **23 11 52.3 -0.4**
CMAR Chiang Mai Arr 69.71 274 P **P** **23 11 52.0 -0.7**
comp=Z,2.6nm,0.5s,baz=27,slow=7.3,SNR=12
CMAR LR LR 23 43 57.0
comp=Z,14nm,20.2s,baz=75,slow=37
comp=Z,2.6nm,0.5s
CMAR Chiang Mai Arr 69.71 274 P **P** **23 11 52.3 -0.4**
TOLI2 Tolitoli 69.77 245 **P** **23 11 51.9 -1.1**
TOLI2 IAmb IAmb 23 11 53.2
comp=Z,7.7nm,0.9s
GAR Garm 70.79 309 P **P** **23 11 59.5 +0.2**
CHGR Chuyangaron 71.63 309 **P** **23 12 04.4 +0.1**
CHGR Chuyangaron 71.63 309 P **P** **23 12 04.4 +0.1**
CHGR pmax pmax
comp=Z,47nm,0.8s
SIMJ Simiganj 71.70 309 P **P** **23 12 04.4 -0.3**
SIMJ Simiganj 71.70 309 P **P** **23 12 05.1 +0.3**
MNK Minsk 72.00 343 *i* P **P** **23 12 05.5 -0.5**
MNK *i* 23 12 23.4
MNK *i* 23 14 45.6
MNK *i* PPP PPP 23 16 29.6
MNK *i* S **S** **23 21 28.8 +4.1**
MNK *i* SS **SS** **23 25 56.7 -3.8**
MNK pmax pmax
comp=N,4.0nm,0.9s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK pmax pmax
comp=E,6.0nm,0.8s
NIL Nilore 73.43 303 **P** **23 12 15.2 +0.2**
NIL IAmb IAmb 23 12 17.0
comp=Z,24nm,1.2s
NIL Nilore 73.43 303 P **P** **23 12 15.2 +0.2**
NIL pmax pmax
comp=Z,24nm,1.2s
PPT Papeete 73.73 149 LR LR 23 38 11.0
comp=Z,80nm,19.9s,baz=348,slow=30
PPT2 Papeete2 73.75 149*e*LR LR 23 34 59.0
comp=Z,85nm,22.0s
EKA Eskdalemuir Ar 73.86 1 P **P** **23 12 17.0 -0.1**
comp=Z,1.0nm,0.4s,baz=357,slow=5.1,SNR=10
comp=Z,1.0nm,0.4s
RAR Rarotonga 74.42 160 LR LR 23 40 36.3
comp=Z,172nm,19.2s,baz=287,slow=32
KBL Kabul 74.91 307 P **P** **23 12 22.8 -1.0**
KBL IAmb IAmb 23 12 24.3
comp=Z,14nm,0.8s
KBL Kabul 74.91 307 P **P** **23 12 22.8 -1.0**
KBL pmax pmax
comp=Z,14nm,0.8s
AKASG Malin Array Be 75.34 341 P **P** **23 12 25.2 -0.5**
AKASG Malin Array Be 75.34 341 P **P** **23 12 25.1 -0.6**
comp=Z,3.7nm,0.5s,baz=24,slow=5.8,SNR=14
comp=Z,3.7nm,0.5s
AKASG Malin Array Be 75.34 341 P **P** **23 12 25.2 -0.5**
AKASG pmax pmax
comp=Z,7.0nm,1.4s
AKBB Malin Array Si 75.34 341 **P** **23 12 25.1 -0.6**
AKBB IAmb IAmb 23 12 26.7
comp=Z,8.2nm,0.7s
AKBB Malin Array Si 75.34 341 P **P** **23 12 25.1 -0.6**
AKBB pmax pmax
comp=Z,8.0nm,0.7s
KIEV Kiev 75.35 341 P **P** **23 12 24.9 -0.8**
KIEV pP **pP** **23 12 36.8 +0.4**
DSB Dublin 75.87 3 P **P** **23 12 28.1 -0.6**
CLL Collm 77.23 351*e*P **P** **23 12 36.0 -0.5**
CLL *i* 23 12 44.9
CLL Collm 77.23 351*e*P **P** **23 12 36.0 -0.5**
CLL *i* x x 23 12 44.9
SORM Soroca 77.95 340⇑P **P** **23 12 40.3 -0.3**
SORM Soroca 77.95 340 P **P** **23 12 40.2 -0.3**
KIV Kislovodsk 78.00 329 **P** **23 12 40.4 -0.6**
KIV IAmb IAmb 23 12 43.4
comp=Z,14nm,1.0s
KIV Kislovodsk 78.00 329*e*P **P** **23 12 41.2 +0.2**
KIV pmax pmax
comp=Z,11nm,1.1s
NCK Nalchik 78.11 329⇑*i*P **P** **23 12 43.0 +1.4**
NCK pmax pmax
comp=Z,9.0nm,0.5s
KBZ Khabaz 78.13 329 P **P** **23 12 41.9 +0.3**
comp=Z,5.7nm,0.8s,baz=120,slow=3.0,SNR=6.1
KBZ LR LR 23 52 25.9
comp=Z,64nm,18.8s,baz=90,slow=40
comp=Z,5.7nm,0.8s
KBZ Khabaz 78.13 329*de*P **P** **23 12 42.9 +1.3**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KOLS Kolonicke sedl 78.33 345*e*P **P** **23 12 43.2 +0.5**
HRA Herat 78.37 311 **P** **23 12 43.4 +0.1**
HRA IAmb IAmb 23 12 46.0
comp=Z,7.0nm,0.8s
AKT Akhty 78.47 325*e*P **P** **23 12 42.7 -1.0**
AKT *e* 23 12 51.6
AKT pmax pmax
comp=Z,21nm,1.0s
LANS Liptovska Anna 78.56 347*e*P **P** **23 12 45.0 +1.0**
BUR08 Bucovina Ar. S 79.05 342 **P** **23 12 46.8 +0.1**
BUR08 IAmb IAmb 23 12 49.1
comp=Z,8.3nm,0.8s
BURAR Bucovina Array 79.08 342 **P** **23 12 47.0 +0.1**
BURAR IAmb IAmb 23 12 49.1
comp=Z,10nm,0.8s
BURAR Bucovina Array 79.08 342⇓P **P** **23 12 47.0 +0.1**
BURAR Bucovina Array 79.08 342 P **P** **23 12 46.9 +0.1**
TBI Tubuai 79.19 151*e*LR LR 23 37 19.9
comp=Z,552nm,24.8s
GERES GERESS Array B 79.60 350 P **P** **23 12 49.4 -0.3**
comp=Z,1.1nm,0.8s,baz=28,slow=6.0,SNR=4.3
comp=Z,1.1nm,0.8s
MODS Modra-Piesok 79.63 348*e*P **P** **23 12 48.4 -1.4**
ARCR ARCALIA 79.75 343⇓P **P** **23 12 51.4 +0.9**
CJR Cluj-Napoca 80.25 343⇓P **P** **23 12 54.0 +0.8**
CJR Cluj-Napoca 80.25 343 P **P** **23 12 54.0 +0.8**
CONA Conrad Observa 80.25 349 *i* P **P** **23 12 54.0 +0.8**
comp=Z,1.6nm,0.6s
DRGR 80.33 344⇑P **P** **23 12 53.4 -0.3**
DRGR 80.33 344 P **P** **23 12 53.3 -0.3**
MARR Marisel-Cluj 80.37 343⇑P **P** **23 12 54.2 +0.3**
OZUR 80.42 342⇑P **P** **23 12 55.3 +1.1**

COVR Voineasa-Covas 80.58 341⇓P **P** **23 12 55.8 +0.8**
DOPR Dopca 80.63 342⇓P **P** **23 12 55.8 +0.6**
GNI Garni 80.71 326 P **P** **23 12 56.1 +0.1**
GNI IAmb IAmb 23 13 31.8
comp=Z,16nm,1.1s
GNI Garni 80.71 326 LR LR 23 54 21.2
comp=Z,109nm,18.2s,baz=68,slow=40
GNI Garni 80.71 326⇑*e*P **P** **23 12 56.9 +1.0**
GNI pmax pmax
comp=Z,13nm,1.0s
BIOA Bad Ischl, Aus 80.74 350 *i* P **P** **23 12 55.9 +0.1**
comp=Z,6.3nm,1.4s
WB0 Warramunga Arr 80.76 222 P **P** **23 12 55.4 -0.7**
CFR Carcaliu 80.81 340⇓P **P** **23 12 57.1 +1.0**
CFR Carcaliu 80.81 340 P **P** **23 12 57.1 +1.0**
WR8 Warramunga Arr 80.88 222 P **P** **23 12 56.0 -0.8**
WR8 IAmb IAmb 23 15 41.4
comp=Z,28nm,1.6s
WRA Warramunga Arr 80.94 222 P **P** **23 12 56.3 -0.7**
comp=Z,3.1nm,0.7s,baz=34,slow=6.1,SNR=19
comp=Z,3.1nm,0.7s
ARSA Arzberg 80.96 349*e*P **P** **23 12 57.9 +0.9**
comp=Z,3.0nm,1.1s
MLR Muntele Rosu 80.97 341 **P** **23 12 58.0 +0.8**
MLR IAmb IAmb 23 12 59.9
comp=Z,6.3nm,0.7s
MLR Muntele Rosu 80.97 341 LR LR 23 54 26.6
comp=Z,78nm,18.0s,baz=25,slow=40
MLR Muntele Rosu 80.97 341⇑P **P** **23 12 57.3 +0.1**
MLR Muntele Rosu 80.97 341 P **P** **23 12 58.0 +0.8**
MLR pmax pmax
comp=Z,6.0nm,0.7s
SIRR Siria 81.02 344⇑P **P** **23 12 56.9 -0.4**
LESA Schwarzleotal 81.11 351*e*P **P** **23 12 58.2 +0.4**
comp=Z,2.1nm,0.8s
VOIR 81.20 342⇓P **P** **23 12 59.3 +0.9**
VOIR 81.20 342 P **P** **23 12 59.3 +0.9**
RETA Reutte 81.23 352*e*P **P** **23 12 58.7 +0.2**
comp=Z,5.5nm,1.4s
MOTA Moosalm 81.34 352 *i* P **P** **23 12 59.4 +0.3**
comp=Z,6.0nm,1.2s
WTTA Wattenberg 81.37 351*e*P **P** **23 12 59.2 -0.2**
comp=Z,5.8nm,1.0s
KBA Koelnbreinsper 81.38 350*e*P **P** **23 12 59.5 +0.1**
comp=Z,8.2nm,0.8s
SURR Surduc 81.44 344⇓P **P** **23 12 59.8 +0.3**
SQTA Sankt Quirin 81.45 352 *i* P **P** **23 13 00.2 +0.5**
comp=Z,3.6nm,0.9s
DAVA Damuels 81.50 353*e*P **P** **23 12 58.6 -1.4**
comp=Z,11nm,1.6s
SOKA Soboth 81.58 349 *i* P **P** **23 13 00.5 +0.1**
comp=Z,9.2nm,1.1s
BZS Buzias 81.66 344⇑P **P** **23 13 00.5 -0.2**
BZS Buzias 81.66 344 P **P** **23 13 00.4 -0.2**
GZR Gura Zlata 81.67 343⇑P **P** **23 13 00.8 0.0**
GZR Gura Zlata 81.67 343 P **P** **23 13 00.8 0.0**
ABTA Abfaltersbach 81.79 351 *i* P **P** **23 13 01.7 +0.3**
comp=Z,4.4nm,1.0s
OBKA Obir 81.81 349 *i* P **P** **23 13 00.4 -1.1**
comp=Z,3.6nm,0.9s
FUORN Ofenpass-Fuorn 82.13 352 P **P** **23 13 04.0 +0.5**
FUORN IAmb IAmb 23 14 04.6
comp=Z,7.9nm,1.1s
TUE Stuetta 82.35 353 P **P** **23 13 04.4 -0.2**
TUE IAmb IAmb 23 13 21.9
comp=Z,20nm,1.7s
MDVR Moldovita 82.45 344⇑P **P** **23 13 04.5 -0.4**
TEOL Teolo 83.25 351 P **P** **23 13 08.9 -0.1**
PLVB Pleven 83.26 342⇑P **P** **23 13 08.9 -0.1**
FITZ Fitzroy Crossi 83.28 230 P **P** **23 13 09.2 0.0**
FITZ IAmb IAmb 23 14 29.3
comp=Z,2.5nm,0.4s
FITZ Fitzroy Crossi 83.28 230 P **P** **23 13 09.3 0.0**
comp=Z,5.3nm,0.9s,baz=176,slow=3.7,SNR=5.0
comp=Z,5.3nm,0.9s
BOVS Bovan 83.57 344⇓P **P** **23 13 10.6 0.0**
AS31 Alice Springs 84.43 221 P **P** **23 13 15.3 +0.2**
AS31 IAmb IAmb 23 15 52.7
comp=Z,3.1nm,0.3s
ASAR Alice Springs 84.43 221 **P** **23 13 14.9 -0.2**
ASAR Alice Springs 84.43 221 P **P** **23 13 15.2 0.0**
comp=Z,2.4nm,0.8s,baz=24,slow=5.7,SNR=25
comp=Z,2.4nm,0.8s
BR131 Keskin Array S 84.58 334 **P** **23 13 16.2 +0.2**
BR131 IAmb IAmb 23 13 17.4
comp=Z,4.9nm,0.7s
BR131 Keskin Array S 84.58 334 P **P** **23 13 16.2 +0.2**
BR131 pmax pmax
comp=Z,5.0nm,0.7s
BRTR Keskin Array B 84.58 334 **P** **23 13 16.0 0.0**
BRTR Keskin Array B 84.58 334 P **P** **23 13 16.7 +0.7**
comp=Z,4.2nm,0.8s,baz=45,slow=2.7,SNR=19
comp=Z,4.2nm,0.8s
MARD Mardin 84.61 328 **P** **23 13 16.8 +0.6**
BNN Bunyan 84.76 332 **P** **23 13 17.4 +0.4**
BNN IAmb IAmb 23 13 19.1
comp=Z,10nm,0.9s
RDO Rodhopi 85.22 340 P **P** **23 13 19.4 +0.3**
RDO IAmb IAmb 23 13 20.4
comp=Z,15nm,1.2s
MURB Monte Urbino 85.24 350 P **P** **23 13 20.4 +1.2**
NRCA Norcia 85.60 350 P **P** **23 13 21.3 +0.3**
ESDC Sonseca Array 89.51 2 P **P** **23 13 38.7 -1.2**
comp=Z,0.8nm,0.8s,baz=338,slow=4.6,SNR=5.4
comp=Z,0.8nm,0.8s
ASF Jabal al Asfar 90.59 329 LR LR 00 00 12.8
comp=Z,40nm,18.3s,baz=81,slow=39
EIL Elat 93.53 329 LR LR 00 02 49.9
comp=Z,60nm,18.6s,baz=338,slow=40
RAYN Ar Rayn 95.18 318 **P** **23 14 06.0 -0.3**
RAYN IAmb IAmb 23 14 06.9
comp=Z,3.1nm,0.9s
RAYN Ar Rayn 95.18 318 P **P** **23 14 06.0 -0.3**
RAYN pmax pmax
comp=Z,3.0nm,1.0s
TORD Torodi Ar. Bea 115.93 357 PKP **PKiKP** **23 19 24.6 -1.0**
comp=Z,0.4nm,0.5s,baz=355,slow=2.0,SNR=5.4
DBIC Dimbokro 122.31 5 PKP **PKPdf** **23 19 37.8 0.0**
comp=Z,2.7nm,0.8s,baz=20,slow=2.9,SNR=5.6
H03N2 Juan Fernandez 122.37 104 T T 01 33 58.6
baz=316,slow=77,SNR=47
H03N1 Juan Fernandez 122.39 104 T T 01 34 10.9
baz=316,slow=77,SNR=38
H03N3 Juan Fernandez 122.39 104 T T 01 34 11.7
baz=316,slow=77,SNR=37
QSPA South Pole Qui 140.91 180 PKP **PKPdf** **23 20 10.7 -0.5**
comp=Z,2.7nm,0.9s,baz=30,slow=0.8,SNR=8.2
LPHEP Lephephe 145.38 313 *i* P **PKPab** **23 20 21.4 +0.7**
MAW Mawson 145.49 217 PKPbc **PKPbc** **23 20 19.3 0.0**
comp=Z,2.1nm,0.7s,baz=129,slow=6.2,SNR=5.4
GRTLG Ghanzi 145.60 322 *i* P **PKPab** **23 20 22.3 +0.7**
KDWAN Kaudwane 145.94 315 *i* P **PKPab** **23 20 23.0 +0.2**
KGCAE Kacgae 146.53 319 *i* P **PKPab** **23 20 25.0 0.0**
SKOMA Sekoma 147.25 315 *i* P **PKPbc** **23 20 26.7 +0.7**
KOOLE Kule 147.47 322 *i* P **PKPab** **23 20 27.9 -0.9**
MAKGR Makgori 147.97 312 *i* P **PKPbc** **23 20 28.3 +0.4**
BOSA Boshof 150.11 309 PKPbc **PKPbc** **23 20 33.1 -0.1**
comp=Z,10nm,0.9s,baz=35,slow=2.9,SNR=20

JMA 21 23:07:45.5±0.2,**24°8.8N**±0.8×**123°4.4E**±0.4,**h21**km±3km,
MV2.5/11,**NW OFF ISHIGAKIJIMA IS,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.49**	**221**	P	Pb	23 07 55.1	-0.3
YOJ				*e*S	Sb	23 08 02.3	+0.1
JYNG	**Yonagunijimaku**	**0.54**	**225**	P	Pb	23 07 56.1	-0.3
JYNG				*e*S	Sb	23 08 03.1	-0.6
IRIF	**Iriomote-Funau**	**0.60**	**146**	*e*P	Pb	23 07 57.1	-0.3
IRIF				*e*S	Sb	23 08 04.9	-0.5
JKRS	**Kuro-shima**	**0.84**	**135**	P	Pb	23 08 01.2	-0.1
JKRS				*e*S	Sb	23 08 12.0	-0.2
JIJ	**Ishigaki jima**	**0.85**	**123**	*e*P	Pb	23 08 01.0	-0.6
JIJ				*e*S	Sb	23 08 11.9	-0.7
HATJ	**Hateruma jima**	**0.87**	**152**	*e*P	Pb	23 08 01.8	-0.2
HATJ				*e*S	Sb	23 08 13.0	-0.2
JISG	**Ishigakijimahi**	**0.90**	**106**	*e*S	Sb	23 08 13.7	-0.2
JTJ	**Tarama**	**1.23**	**99**	S	Sn	23 08 23.1	-0.4

*DJA **21** 23:11:37.2±0.2,7°S±2°×13°1E±°,h103km±6km,M4.6/16, mB5.1/6,mb4.6/12,MLv4.7/16,Mw(mB)4.4/6*

*NEIC **21** 23:11:38.1±1.9, 6°.60S±0°.07×130°.7E±0°.1, h104km±9km, mb4.3/13, Error ellipse: s-maj=15.3km s-min=9.7km az=77.0*

*IDC **21** 23:11:38.7±3.0, 7°.00S×130°.67E, h128km±34km, mb3.7/5, mbtmp4.3/10, Error ellipse: s-maj=28.8km s-min=24.9km az=175.0*

ISC 21 23:11:36.9±0.5, 6°.60S±0°.05×130°.64E±0°.06, h100km, n57, σ1§43/56, mb4.2/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.53**	**155**			**Pn**	**23 12 05.4**	**+1.8**
SAUI				Sn		**Sn**	**23 12 24.7**	**+1.0**
SAUI	**Saumlaki**	**1.53**	**155**	**P**		**Pn**	**23 12 05.4**	**+1.8**
SAUI				S		**Sn**	**23 12 24.2**	**+0.5**
BNDI	**Bandanaira**	**2.18**	**340**	**P**		**Pn**	**23 12 11.8**	**-0.1**
BNDI				S		**Sn**	**23 12 38.0**	**-0.7**
MSAI	**Masohi**	**3.65**	**332**	**P**		**Pn**	**23 12 32.0**	**+0.6**
AAI	**Ambon**	**3.78**	**320**	**P**		**Pn**	**23 12 33.0**	**-0.1**
FAKI	**Fak Fak**	**3.99**	**24**			**Pn**	**23 12 35.9**	**-0.1**
FAKI	**Fak Fak**	**3.99**	**24**	**P**		**Pn**	**23 12 35.7**	**-0.3**
KMPI	**Kaimana, Papua**	**4.22**	**46**	**P**		**Pn**	**23 12 39.3**	**+0.2**
NLAI	**Namlea**	**4.85**	**313**	**P**		**Pn**	**23 12 48.3**	**+0.6**
SWI	**Sorong**	**5.73**	**6**	**P**		**Pn**	**23 13 00.0**	**+0.4**
RKPI	**Ransiki, Papua**	**6.16**	**35**	**P**		**Pn**	**23 13 06.1**	**+0.6**
MTN	**Manton Dam**	**6.23**	**176**	**Pn**		**Pn**	**23 13 06.5**	**+0.1**
SANI	**Sanana**	**6.47**	**314**	**P**		**Pn**	**23 13 09.3**	**-0.4**
	0.3nm1µm105nm,1.1s							
SOEI	**Soe**	**7.04**	**243**			**Pn**	**23 13 18.0**	**+0.4**
SOEI	**Soe**	**7.04**	**243**	**P**		**Pn**	**23 13 17.9**	**+0.3**
	0.4nm69nm,0.7s							
BAKI	**Biak**	**7.65**	**46**	**P**		**Pn**	**23 13 28.2**	**+2.4**
	0.4nm100nm,0.6s							
BATI	**Baumata**	**7.78**	**242**	**P**		**Pn**	**23 13 27.3**	**-0.2**
	72nm,0.3s,baz=129,slow=4.5,SNR=20							
BATI				S		Sn	23 14 44.9	-9.0
	36nm,0.4s,baz=88,slow=19,SNR=6.2							
BATI	**Baumata**	**7.78**	**242**	**P**		**Pn**	**23 13 27.2**	**-0.2**
TNTI	**Ternate**	**8.01**	**336**	**Pn**		**Pn**	**23 13 27.6**	**-3.1**
EDFI	**Ende, Flores**	**9.12**	**256**	**P**		**Pn**	**23 13 47.1**	**+1.2**
KNRA	**Kununurra**	**9.21**	**191**	**Pn**		**Pn**	**23 13 45.1**	**-1.8**
BASI	**Baing, Sumba**	**10.58**	**249**	**P**		**Pn**	**23 14 05.5**	**-0.1**
	89nm,0.8s							
JAY	**Jayapura**	**10.82**	**68**	**P**		**Pn**	**23 14 11.9**	**+3.0**
	8.1nm,0.7s,baz=224,slow=9.6,SNR=6.3							
JAY				S		**Sn**	**23 16 04.0**	**-4.1**
	6.1nm,0.9s,baz=168,slow=17,SNR=3.3							
WBSI	**Waikabubak, Su**	**11.54**	**254**	**P**		**Pn**	**23 14 18.2**	**-0.4**
	27nm,1.1s							
FITZ	**Fitzroy Crossi**	**12.43**	**203**			Pn	23 14 25.7	-4.6
FITZ	**Fitzroy Crossi**	**12.43**	**203**	**P**		Pn	23 14 26.4	-3.9
	10nm,0.3s,baz=24,slow=11,SNR=64							
FITZ				S		Sn	23 16 30.2	-17
	11nm,0.4s,baz=74,slow=13,SNR=4.7							
TOLI2	**Tolitoli**	**12.46**	**308**	**Pn**		**Pn**	**23 14 30.2**	**-0.6**
PLAI	**Plampang**	**12.94**	**259**	**P**		**Pn**	**23 14 36.4**	**-0.7**
	23nm,1.0s							
WRA	**Warramunga Arr**	**13.75**	**165**			Pn	23 14 43.9	-3.7
WRA	**Warramunga Arr**	**13.75**	**165**	**P**		Pn	23 14 42.6	-5.0
	4.1nm,0.4s,baz=349,slow=13,SNR=26							
WRA				S		Sn	23 17 01.1	-18
	11nm,0.6s,baz=344,slow=22,SNR=11							
COEN	**Coen**	**14.34**	**122**	**Pn**		**Pn**	**23 14 55.3**	**0.0**
AS31	**Alice Springs**	**17.26**	**170**	**P**		**P**	**23 15 30.9**	**-0.9**
ASAR	**Alice Springs**	**17.26**	**170**	**P**		**P**	**23 15 31.7**	**-0.1**
ASAR	**Alice Springs**	**17.26**	**170**	**P**		**P**	**23 15 27.6**	**-4.2**
	1.4nm,0.5s,baz=347,slow=8.1,SNR=42							
ASAR				S		Sn	23 18 24.4	-20
	1.3nm,0.5s,baz=348,slow=18,SNR=5.2							
MBWA	**Marble Bar**	**17.92**	**215**	**P**		**P**	**23 15 37.6**	**-1.4**
PSA00	**Pilbara Seismi**	**18.18**	**214**	**P**		**P**	**23 15 42.4**	**+0.5**
PSA00				IAmb	IAmb		23 15 54.5	
	comp=Z,9.7nm,0.7s							
CTAO	**Charters Tower**	**20.24**	**133**	**P**		**P**	**23 16 03.0**	**-1.4**
CTAO				IAmb	IAmb		23 16 32.9	
	comp=Z,21nm,1.4s							
BBOO	**Buckleboo**	**26.57**	**170**	**P**		**P**	**23 17 06.2**	**+0.6**
BBOO				IAmb	IAmb		23 17 20.8	
	comp=Z,16nm,1.2s							
CMAR	**Chiang Mai Arr**	**39.96**	**309**	**P**		**P**	**23 19 03.1**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=133,slow=7.0,SNR=13							
	comp=Z,1.5nm,0.6s							
CHTO	**Chiang Mai**	**40.17**	**310**	**P**		**P**	**23 19 03.6**	**-0.1**
CHTO				IAmb	IAmb		23 19 05.2	
	comp=Z,3.6nm,0.8s							
PZH	**PanZhiHua**	**43.22**	**321**	**P**		**P**	**23 19 30.5**	**+2.0**
SHL	**Shillong**	**49.40**	**312**	**P**		**P**	**23 20 16.9**	**-0.1**
HHC	**Hu-ho-hao-te**	**50.36**	**341**	*eP*		**P**	**23 20 26.6**	**+2.6**
TCW	**Tory Channel**	**51.88**	**139**	**P**		**P**	**23 20 33.5**	**-1.7**
LSA	**Lhasa**	**52.35**	**316**	**P**		**P**	**23 20 39.9**	**+0.5**
GTA	**Gaotai**	**53.93**	**331**	*eP*		P	23 20 56.3	+5.9
GTA				pmax	pmax			
	comp=Z,5.0nm,1.5s							
MKAR	**Makanchi Array**	**68.24**	**326**	**P**		**P**	**23 22 28.4**	**+1.5**
MKAR	**Makanchi Array**	**68.24**	**326**	**P**		**P**	**23 22 28.9**	**+1.9**
	comp=Z,2.0nm,0.4s,baz=113,slow=8.5,SNR=72							
	comp=Z,2.0nm,0.4s							
MAKZ	**Makanchi**	**68.42**	**326**	**P**		**P**	**23 22 29.1**	**+1.0**
MAKZ				IAmb	IAmb		23 22 37.8	
	comp=Z,8.5nm,1.4s							
KDJ	**Kajisay**	**68.67**	**320**	**P**		**P**	**23 22 31.0**	**+1.1**
KDJ				IAmb	IAmb		23 22 41.5	
	comp=Z,2.2nm,0.9s							
BOOM	**Boomskoye usch**	**69.64**	**320**	**P**		**P**	**23 22 37.3**	**+1.4**
ZALV	**Zalesovo Beam**	**71.50**	**333**	**P**		**P**	**23 22 46.8**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=130,slow=4.5,SNR=3.5							
	comp=Z,0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**72.50**	**328**	**P**		**P**	**23 22 52.8**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=124,slow=4.9,SNR=11							
	comp=Z,0.8nm,0.6s							
KURK	**Kurchatov**	**72.51**	**328**	**P**		**P**	**23 22 53.8**	**+1.0**
SIMJ	**Simiganj**	**72.63**	**314**	**P**		**P**	**23 22 54.1**	**+0.1**
SIMJ				IAmb	IAmb		23 22 56.3	
	comp=Z,3.8nm,0.9s							
ABKAR	**Akbulak array**	**82.59**	**321**	**P**		**P**	**23 23 49.5**	**+0.6**
ILAR	**Eielson Array**	**92.71**	**25**	**P**		**P**	**23 24 37.8**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=270,slow=5.0,SNR=1.9							
	comp=Z,0.3nm,0.5s							

*MOS **21** 23:15:41.8±1.0, 48°.52N×151°.04E, h260km, mb4.5/31, Error ellipse: s-maj=7.7km s-min=5.5km az=85.9*

*SKHL **21** 23:15:42.0±0.8, 48°.20N×151°.50E, h282km±7km, mb5.4/8, msha5.8/7*

*NEIC **21** 23:15:44.2±1.5, 48°.5N±0°.1×151°.1E±0°.1, h268km±4km, mb4.5/85, Error ellipse: s-maj=15.2km s-min=9.6km az=157.0*

*IDC **21** 23:15:44.9±1.5, 48°.60N×151°.01E, h273km±14km, mb3.9/36, mbtmp4.6/42, Error ellipse: s-maj=10.0km s-min=7.4km az=156.0*

*JMA **21** 23:15:45.4±1.0, 47°.N±4°.×15°.2E±°., h296km, MV4.6/17, KURILE ISLANDS REGION*

ISC 21 23:15:42.4±0.6, 48°.31N±0°.05×151°.23E±0°.05, h261km±6km, n523, σ1§40/558, mb4.3/111, 23C-15D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.85**	**218**	*e*PN		**Pn**	**23 16 46.7**	**+1.8**
KUR				*e*S		**S**	**23 17 36.6**	**+1.9**
KUR				pmax	pmax			
	comp=Z,176nm,0.6s							
KUR				pmax	pmax			
	comp=N,32nm,0.3s							
KUR				pmax	pmax			
	comp=E,13nm,0.2s							
KUR				smax	smax			
	comp=N,275nm,0.2s							
KUR				smax	smax			
	comp=E,184nm,0.4s							
KUR	**Kuril'sk**	**3.85**	**218**	*e*P		**Pn**	**23 16 46.1**	**+1.2**
KUR				AMB	AMB		23 16 47.1	
	comp=E,240nm,0.7s							
KUR				*e*S		**S**	**23 17 36.0**	**+1.3**
KUR				A	A		23 17 42.7	
	comp=E,310nm,0.3s							
KUR				A	A		23 17 42.7	
	comp=E,240nm,0.3s							
SKR	**Severo-Kuril's**	**3.97**	**51**	*e*PN		**Pn**	**23 16 46.6**	**+0.4**
SKR				*e*S		**S**	**23 17 35.6**	**-1.5**
SKR				pmax	pmax			
	comp=Z,683nm,0.6s							
SKR				smax	smax			
	comp=E,476nm,0.3s							
SKR				smax	smax			
	comp=N,393nm,0.4s							
SKR				MLR	MLR			
	comp=Z,600nm,13.0s							
SKR	**Severo-Kuril's**	**3.97**	**51**	*e*P		**Pn**	**23 16 45.7**	**-0.5**
SKR				AMB	AMB		23 16 47.5	
	comp=Z,570nm,0.6s							
SKR				*e*S		**S**	**23 17 35.8**	**-1.3**
SKR				A	A		23 17 42.6	
	comp=Z,390nm,0.3s							
SKR				A	A		23 17 42.6	
	comp=Z,480nm,0.3s							
PAU	**Pauzhetka**	**4.80**	**47**	*e*P		**Pn**	**23 16 55.8**	**-0.1**
PAU				AMB	AMB		23 16 56.2	
	comp=Z,320nm,0.5s							
PAU				*e*S		**S**	**23 17 54.6**	**-0.1**
PAU				A	A		23 17 55.7	
	comp=Z,480nm,0.3s							
PAU				A	A		23 17 55.7	
	comp=Z,440nm,0.3s							
SHO	**Shikotan**	**5.39**	**216**	*e*P		**Pn**	**23 17 06.7**	**+3.5**
SHO				AMB	AMB		23 17 07.7	
	comp=Z,330nm,0.3s							
SHO				*e*S		**S**	**23 18 06.8**	**-1.1**
SHO				A	A		23 18 09.6	
	comp=Z,300nm,0.3s							
SHO				A	A		23 18 09.6	
	comp=Z,290nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**5.67**	**223**	*d* iPN		**Pn**	**23 17 07.8**	**+1.2**
YUK				*i* S		**S**	**23 18 15.1**	**+1.0**
YUK				pmax	pmax			
	comp=Z,3µm,0.3s							
YUK				pmax	pmax			
	comp=N,305nm,0.2s							
YUK				pmax	pmax			
	comp=E,652nm,0.2s							
YUK				smax	smax			
	comp=N,170nm,0.2s							
YUK				smax	smax			
	comp=E,278nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.67**	**223**	*e*P		**Pn**	**23 17 07.8**	**+1.2**
YUK				AMB	AMB		23 17 08.6	
	comp=E,4µm,0.4s							
YUK				*e*S		**S**	**23 18 15.3**	**+1.2**
YUK				A	A		23 18 19.0	
	comp=E,170nm,0.3s							
YUK				A	A		23 18 19.0	
	comp=E,280nm,0.3s							
YSS	**Yuzhno-Sakhali**	**5.89**	**260**			**Pn**	**23 17 11.2**	**+1.9**
YSS	**Yuzhno-Sakhali**	**5.89**	**260**	P		**Pn**	**23 17 11.6**	**+2.3**
YSS	**Yuzhno-Sakhali**	**5.89**	**260**	*e*PN		**Pn**	**23 17 11.6**	**+2.3**
YSS				pmax	pmax			
	comp=Z,300nm,4.2s							
YSS				pmax	pmax			
	comp=Z,90nm,1.0s							
YSS	**Yuzhno-Sakhali**	**5.89**	**260**	*e*P		**Pn**	**23 17 11.6**	**+2.3**
YSS				AMB	AMB		23 17 13.1	
	comp=Z,90nm,0.5s							
YSS				*e*S		**S**	**23 18 22.3**	**+3.4**
YSS				A	A		23 18 24.7	
	comp=Z,20nm,0.4s							
YSS				A	A		23 18 24.7	
	comp=Z,20nm,0.4s							
RUSJ	**Misakicho**	**5.91**	**227**	*e*PN		**Pn**	**23 17 10.6**	**+1.0**
RUSJ				S		**S**	**23 18 25.3**	**+5.9**
GLVR	**Golovnino**	**6.06**	**223**	*e*PN		**Pn**	**23 17 11.4**	**0.0**
GLVR				*e*S		**S**	**23 18 19.9**	**-2.9**
GLVR				pmax	pmax			
	comp=Z,545nm,0.2s							
GLVR				pmax	pmax			
	comp=N,37nm,0.1s							
GLVR				smax	smax			
	comp=E,373nm,0.3s							
GLVR				smax	smax			
	comp=N,340nm,0.4s							
GLVR	**Golovnino**	**6.06**	**223**	*e*P		**Pn**	**23 17 11.4**	**0.0**
GLVR				AMB	AMB		23 17 12.5	
	comp=N,550nm,0.3s							
GLVR				*e*S		**S**	**23 18 19.9**	**-2.9**
GLVR				A	A		23 18 24.4	
	comp=N,340nm,0.3s							
GLVR				A	A		23 18 24.4	
	comp=N,370nm,0.3s							
JRA	**Rausu**	**6.09**	**226**	P		**Pn**	**23 17 12.3**	**+0.5**
UGL	**Uglegorsk**	**6.12**	**281**	*e*P		**Pn**	**23 17 14.7**	**+2.6**
NEM2	**Nemuro 2**	**6.25**	**220**	P		**Pn**	**23 17 11.6**	**-2.2**
NEM2				*e*S		**S**	**23 18 19.6**	**-7.7**
NMR	**Nemuro--Hokkai**	**6.26**	**220**	i *i* PN		**Pn**	**23 17 11.6**	**-2.3**
NMR	**Nemuro--Hokkai**	**6.26**	**220**	*e*P		**Pn**	**23 17 11.8**	**-2.1**
PEA0B	**Petropavlovsk-**	**6.32**	**38**			**Pn**	**23 17 14.3**	**-0.2**
PEA0B	**Petropavlovsk-**	**6.32**	**38**	*c* iPN		**Pn**	**23 17 14.9**	**+0.4**
PETK	**Petropavlovsk-**	**6.32**	**38**			**Pn**	**23 17 14.0**	**-0.5**
PETK	**Petropavlovsk-**	**6.32**	**38**	P		**Pn**	**23 17 14.1**	**-0.5**
	comp=N,59nm,0.5s,baz=222,slow=9.4,SNR=206							
JNK	**Nakash**	**6.55**	**226**	*e*P		**Pn**	**23 17 17.6**	**+0.1**
PET	**Petropavlovsk**	**6.67**	**42**			**Pn**	**23 17 18.1**	**-0.7**
PET	**Petropavlovsk**	**6.67**	**42**	P		**Pn**	**23 17 18.4**	**-0.5**
PET	**Petropavlovsk**	**6.67**	**42**	*e*PN		**Pn**	**23 17 18.4**	**-0.5**
PET				*e*S		**S**	**23 18 33.0**	**-3.4**
PET				pmax	pmax			
	comp=Z,46nm,0.5s							
PET				smax	smax			
	comp=E,47nm,0.5s							
PET				smax	smax			
	comp=N,64nm,0.6s							
PET	**Petropavlovsk**	**6.67**	**42**	*e*P		**Pn**	**23 17 18.7**	**-0.2**
JTKR	**Abashiri--Toko**	**6.68**	**232**	P		**Pn**	**23 17 20.3**	**+1.1**
AKK	**Akkeshi**	**6.93**	**223**	*e*P		**Pn**	**23 17 21.3**	**-0.9**
JAK	**Akkeshi**	**7.01**	**223**	*e*P		**Pn**	**23 17 21.4**	**-1.9**
JAK				*e*S		**S**	**23 18 37.5**	**-6.9**
JWK2	**Keihoku**	**7.07**	**248**	*e*P		**Pn**	**23 17 27.7**	**+3.8**
JAR	**Ashorobuto**	**7.23**	**229**	P		**Pn**	**23 17 26.5**	**+0.5**
JAR				*e*S		**S**	**23 18 49.0**	**-0.4**
JKA	**Kamikawa-asahi**	**7.31**	**238**			**Pn**	**23 17 29.5**	**+2.5**
JKA	**Kamikawa-asahi**	**7.31**	**238**	*e*P		**Pn**	**23 17 29.8**	**+2.8**
ASAJ	**Asahikawa**	**7.31**	**238**	P		**Pn**	**23 17 29.8**	**+2.8**
	comp=N,146nm,0.6s,baz=70,slow=12,SNR=126							
JKK2	**Kamakawa 2**	**7.38**	**236**	*e*P		**Pn**	**23 17 29.4**	**+1.5**
JOB	**Onbets**	**7.49**	**227**	*e*P		**Pn**	**23 17 28.2**	**-1.1**
JOB				*e*S		**S**	**23 18 50.0**	**-5.3**
JRBN	**Rebuntou**	**7.54**	**251**	P		**Pn**	**23 17 32.6**	**+2.8**
JAB	**Ashibetsu**	**7.91**	**236**	*e*P		**Pn**	**23 17 36.5**	**+2.1**
JCH	**Churui**	**7.94**	**227**	*i* P		**Pn**	**23 17 33.0**	**-1.8**
JCH				*e*S		**S**	**23 18 57.7**	**-7.9**
NKL	**Nikolayevsk**	**8.26**	**310**	*e*P		**Pn**	**23 17 39.6**	**+0.8**
JNBK	**Urakawa-nobuka**	**8.48**	**228**	*i* P		**Pn**	**23 17 39.0**	**-2.7**
JNBK				*e*S		S	23 19 09.1	-9.1
ERM	**Erimo**	**8.49**	**225**			**Pn**	**23 17 40.0**	**-1.8**
ERM	**Erimo**	**8.49**	**225**	P		**Pn**	**23 17 40.7**	**-1.1**
ERM	**Erimo**	**8.49**	**225**	PN		**Pn**	**23 17 40.0**	**-1.8**
JEM	**Erimo**	**8.49**	**225**	P		**Pn**	**23 17 41.8**	**0.0**
JANG	**Nango**	**10.54**	**225**	*i* P		**Pn**	**23 18 03.8**	**-3.8**
JANG				*e*S		S	23 19 52.2	-14
TEY	**Ternei**	**10.57**	**257**	*e*PN		Pn	23 17 56.0	-12
JTH	**Tanohata**	**10.73**	**222**	*e*P		Pn	23 18 05.3	-4.6
JTH				*e*S		S	23 19 56.3	-14
JMM	**Marumori**	**12.91**	**220**			**Pn**	**23 18 35.2**	**-1.7**
USRK	**Ussuriysk Ar.**	**13.93**	**260**	P		**P**	**23 18 50.7**	**+1.2**
	comp=N,6.7nm,0.6s,baz=70,slow=11,SNR=6.1							
JSD	**Sado**	**13.94**	**227**	P		**P**	**23 18 50.5**	**+0.7**
SEY	**Seymchan**	**14.68**	**2**	P		**P**	**23 18 56.9**	**-0.7**
	comp=N,4.3nm,0.7s,baz=176,slow=9.9,SNR=8.6							
SEY	**Seymchan**	**14.68**	**2**	i *e*P		**Pn**	**23 18 58.2**	**+0.3**
SEY				pmax	pmax			
	comp=Z,19nm,1.3s							
MJB9	**Matsu-Tunnel**	**15.16**	**224**	P		**Pn**	**23 19 06.1**	**+2.0**
MAJO	**Matsushiro**	**15.16**	**224**	P		**Pn**	**23 19 05.1**	**+1.1**
MAJO	**Matsushiro**	**15.16**	**224**	P		**Pn**	**23 19 05.2**	**+1.1**
MAJO	**Matsushiro**	**15.16**	**224**	P		**Pn**	**23 19 05.1**	**+1.1**
MAJO				pmax	pmax			
	comp=Z,54nm,0.5s							
SHEM	**Shemya Is, Ala**	**15.18**	**64**	P		**Pn**	**23 19 04.1**	**+0.1**
SHEM	**Shemya Is, Ala**	**15.18**	**64**	P		**Pn**	**23 19 06.4**	**+2.4**
	comp=Z,58nm,0.8s,baz=277,slow=16,SNR=3.5							
SMY	**Shemya**	**15.18**	**64**	P		**Pn**	**23 19 04.2**	**+0.2**
SMY	**Shemya**	**15.18**	**64**	P		**Pn**	**23 19 04.2**	**+0.2**
SMY				pmax	pmax			
	comp=Z,75nm,1.0s							
PSTR	**Posyet**	**15.39**	**256**	i *e*P		**Pn**	**23 19 07.2**	**+0.6**
PSTR	**Posyet**	**15.39**	**256**	*e*P		**Pn**	**23 19 07.2**	**+0.6**
HEH	**HeiHe**	**15.65**	**286**	*e*P		**Pn**	**23 19 11.4**	**+1.7**
HEH				pmax	pmax			
	comp=Z,35nm,0.8s							
ZEA	**Zeya**	**16.00**	**299**	*e*P		**Pn**	**23 19 13.4**	**-0.3**
ZEA				pmax	pmax			
	comp=E,10.0nm,0.7s							
ZEA				pmax	pmax			
	comp=N,10.0nm,0.5s							
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.6s							
ZEA	**Zeya**	**16.00**	**299**	*e*P		**Pn**	**23 19 13.4**	**-0.3**
JGF	**Kuroka**	**16.33**	**224**	P		**Pn**	**23 19 17.6**	**-0.3**
JGF				IAmb	IAmb		23 19 22.6	
	comp=Z,15nm,0.8s							
INU	**Inuyama**	**16.69**	**224**	P		**Pn**	**23 19 21.5**	**-0.5**
INU				IAmb	IAmb		23 19 25.0	
	comp=Z,17nm,0.6s							
INU	**Inuyama**	**16.69**	**224**	P		**Pn**	**23 19 22.4**	**+0.4**
YAK	**Yakutsk**	**18.32**	**327**			**P**	**23 19 36.1**	**-1.2**
YAK	**Yakutsk**	**18.32**	**327**	P		**P**	**23 19 35.6**	**-1.7**
	comp=Z,40nm,0.6s,baz=113,slow=1.1,SNR=14							
YAK	**Yakutsk**	**18.32**	**327**	*e*P		**P**	**23 19 36.4**	**-0.9**
YAK				*e*S		**S**	**23 22 52.6**	**+0.1**
YAK				pmax	pmax			
	comp=Z,38nm,1.0s							
YAK				pmax	pmax			
	comp=N,7.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,18nm,1.3s							
YAK				smax	smax			
	comp=N,88nm,3.0s							
YAK				smax	smax			
	comp=E,72nm,2.8s							
KSRS	**Korea Array**	**20.15**	**246**	P		**P**	**23 19 59.4**	**+2.2**
	comp=E,4.3nm,0.6s,baz=48,slow=9.8,SNR=16							
	comp=E,4.3nm,0.6s							
KIWB	**Kanaga Island**	**20.51**	**68**	P		**P**	**23 20 00.4**	**-0.4**
SPIA	**Saint Paul Isl**	**24.65**	**54**	P		**P**	**23 20 38.6**	**-0.5**
	baz=266							
P08K	**Saint George I**	**25.00**	**56**	P		**P**	**23 20 42.3**	**+0.1**
	baz=268							
GAMB	**Gambell**	**25.36**	**39**	P		**P**	**23 20 44.3**	**-1.0**
	baz=250							
F14K	**Arctic Creek**	**28.09**	**37**	P		**P**	**23 21 09.9**	**+0.3**
	baz=254							
G15K	**Niukluk**	**28.90**	**38**	P		**P**	**23 21 16.6**	**-0.2**
	baz=257							
HHC	**Hu-ho-hao-te**	**28.96**	**270**	*e*P		**P**	**23 21 19.9**	**+2.1**
HHC				pmax	pmax			
	comp=Z,17nm,0.6s							
HHC				pmax	pmax			
	comp=Z,160nm,4.8s							
HHC				pmax	pmax			
	comp=Z,9.0nm,0.5s							
HHC				pmax	pmax			
	comp=Z,240nm,4.4s							
M14K	**Bethel**	**29.20**	**47**	P		**P**	**23 21 19.1**	**-0.4**
	baz=267							
C16K	**Lisburne Hills**	**29.37**	**31**	P		**P**	**23 21 21.0**	**+0.2**
C16K				IAmb	IAmb		23 21 47.9	
	comp=Z,30nm,1.4s							
C16K	**Lisburne Hills**	**29.37**	**31**	P		**P**	**23 21 20.5**	**-0.3**
	baz=250							
O14K	**Tigyukauivet M**	**29.49**	**50**	P		**P**	**23 21 22.4**	**+0.3**
	baz=270							
L15K	**Ungalak Mounta**	**29.50**	**45**	P		**P**	**23 21 22.6**	**+0.5**
	baz=265							
K15K	**Wolf Creek Mou**	**29.54**	**44**	P		**P**	**23 21 22.6**	**+0.1**
	baz=264							
H16K	**Elim**	**29.57**	**39**	P		**P**	**23 21 23.4**	**+0.6**
	baz=259							
SONM	**Songino Array**	**29.64**	**286**	P		**P**	**23 21 23.1**	**-0.7**
SONM	**Songino Array**	**29.64**	**286**	P		**P**	**23 21 22.9**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=50,slow=11,SNR=12							
SONM				PcP		**PcP**	**23 24 21.6**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=101,slow=2.4,SNR=7.4							
	comp=Z,1.0nm,0.4s							
SONM	**Songino Array**	**29.64**	**286**	P		**P**	**23 21 23.1**	**-0.7**
SONM				pmax	pmax			
	comp=Z,1.0nm,1.1s							
M15K	**Kasigluk River**	**29.82**	**47**	P		**P**	**23 21 25.6**	**+0.7**
	baz=268							
D17K	**Noatak River**	**29.99**	**33**	P		**P**	**23 21 26.6**	**+0.2**
	baz=253							
J16K	**Anvik River**	**30.07**	**42**	P		**P**	**23 21 27.1**	**0.0**
	baz=263							
N15K	**Kwethluk River**	**30.10**	**48**	P		**P**	**23 21 28.9**	**+1.5**
N15K	**Kwethluk River**	**30.10**	**48**	P		**P**	**23 21 27.8**	**+0.3**
	baz=269							
SDPT	**Sand Point**	**30.14**	**58**	P		**P**	**23 21 28.8**	**+1.0**
	baz=277							
RDOG	**Red Dog Mine**	**30.16**	**32**	P		**P**	**23 21 27.7**	**-0.2**
	baz=253							
C17K	**DeLong Mountai**	**30.19**	**32**	P		**P**	**23 21 28.2**	**0.0**
	baz=252							
O15K	**Ungalikthiuk R**	**30.23**	**50**	P		**P**	**23 21 29.6**	**+1.0**
O15K				IAmb	IAmb		23 21 54.2	
	comp=Z,18nm,1.1s							
O15K	**Ungalikthiuk R**	**30.23**	**50**	P		**P**	**23 21 30.0**	**+1.4**
	baz=271							
E17K	**Hotham Inlet**	**30.28**	**35**	P		**P**	**23 21 29.5**	**+0.6**
	baz=256							
F17K	**Baldwin Pennin**	**30.35**

baz=264,SNR=12
R17L Mt. Peulik Vol 32.15 53 P P 23 21 46.1 +0.7
baz=277
N18K Kilae Creek 32.18 47 P P 23 21 46.4 +0.7
baz=272
M18K Stony River 32.20 46 P P 23 21 46.6 +0.9
baz=271
Q17K Contact Creek 32.33 52 P P 23 21 47.6 +0.5
baz=276
J19K Poorman 32.35 41 P P 23 21 47.7 +0.6
baz=267
P18K Big Mountain, 32.58 50 P P 23 21 49.4 +0.3
baz=275
D20K Etivluk River 32.58 32 P P 23 21 49.3 +0.3
baz=259,SNR=8.3
F20K Avaraart Lake 32.62 36 P P 23 21 50.0 +0.7
baz=262
ACHA Angle Creek He 32.63 52 P P 23 21 50.2 +0.6
ACHA IAmb IAmb 23 21 52.4
comp=Z,8.4nm,1.1s
E20K Nigu River 32.64 33 P P 23 21 50.3 +0.7
baz=260,SNR=9.1
B20K Meade River 32.68 30 P P 23 21 50.5 +0.7
baz=256
Q18K Katmai Hardscr 32.76 51 P P 23 21 51.7 +0.9
baz=276
H20K Anotleneega Mo 32.78 38 P P 23 21 51.6 +0.8
baz=265,SNR=7.7
J20K Nowinta River 33.01 41 P P 23 21 53.4 +0.7
baz=268
K20K Telida 33.02 42 P P 23 21 53.8 +0.9
baz=270
L20K Farewell, AK 33.10 44 P P 23 21 54.3 +0.7
baz=271
IMAR Indian Mountai 33.29 38 P P 23 21 55.8 +0.7
C21K Knifeblade Rid 33.31 32 P P 23 21 56.1 +0.8
baz=260
G21K Allakaket 33.43 37 P 23 21 57.4 +1.0
G21K IAmb IAmb 23 21 58.6
comp=Z,8.3nm,0.7s
G21K Allakaket 33.43 37 P P 23 21 57.1 +0.8
baz=265,SNR=6.9
Q19K Cape Douglas, 33.43 51 P P 23 21 57.5 +1.0
baz=277
B21K Ikpikpuk River 33.46 31 P P 23 21 57.0 +0.5
baz=259,SNR=8.1
M20K Styx River 33.47 45 P P 23 21 58.0 +1.1
baz=273
E21K Killik River 33.48 33 P P 23 21 57.6 +0.8
baz=262
F21K Alatna River 33.51 35 P P 23 21 57.6 +0.5
baz=264
CHUM Lake Minchumin 33.81 42 P P 23 22 00.7 +1.1
baz=270
O20K Slope Mountain 33.84 48 P P 23 22 01.2 +1.2
baz=276
OHAK Old Harbor 33.85 54 P P 23 21 59.9 -0.1
B22K Teshekpuk Lake 34.00 30 P P 23 22 01.8 +0.7
B22K Teshekpuk Lake 34.00 30 P P 23 22 01.6 +0.5
baz=260
D22K Ayikyak River 34.02 33 P P 23 22 02.0 +0.7
baz=262
F22K John River 34.04 35 P P 23 22 02.5 +0.9
baz=265
SKT Skwentna 34.22 45 P P 23 22 04.9 +1.7
baz=274
E22K Anaktuvuk Pass 34.24 34 P P 23 22 04.7 +1.3
baz=264,SNR=7.1
H22K Ishtalitna Cre 34.25 38 P P 23 22 04.5 +1.1
baz=268,SNR=7.4
G22K Bettles 34.26 36 P P 23 22 04.6 +1.2
baz=266
BPAW Bear Paw Mtn. 34.39 41 P P 23 22 05.5 +0.9
BPAW Bear Paw Mtn. 34.39 41 P P 23 22 06.0 +1.4
baz=271
MLY Manley 34.50 39 P P 23 22 07.1 +1.5
baz=270
SUA Susitna One 34.63 46 P P 23 22 07.5 +0.7
baz=275
TRF Thorofare Moun 34.72 42 P 23 22 08.8 +1.2
TRF IAmb IAmb 23 22 09.6
comp=Z,6.5nm,0.6s
TRF Thorofare Moun 34.72 42 P P 23 22 08.7 +1.2
baz=273
D23K Nanushuk River 34.74 33 P P 23 22 08.3 +0.8
baz=264
COLD Coldfoot 34.78 36 P P 23 22 08.9 +0.9
baz=267,SNR=6.1
CUT Chulitna 34.78 44 P P 23 22 09.0 +1.1
baz=274
BRSE Bradley Lake S 34.81 49 P P 23 22 09.8 +1.5
baz=278
G23K Bananza Creek 34.83 37 P P 23 22 09.8 +1.4
baz=268,SNR=6.3
C23K Itkillik River 34.87 31 P P 23 22 09.8 +1.2
baz=263
E23K Chandalar 35.06 34 P P 23 22 11.5 +1.1
baz=267,SNR=6.7
TOLK Toolik Lake Re 35.12 33 P P 23 22 12.3 +1.5
baz=266,SNR=6.0
NEA2 Nenana 35.22 40 P P 23 22 13.1 +1.5
baz=272,SNR=6.8
MCK McKinley 35.31 42 P P 23 22 13.7 +1.3
baz=273
PMR Palmer 35.39 45 P P 23 22 14.9 +1.8
baz=276
SEW Seward 35.41 48 P P 23 22 15.1 +1.8
baz=278
D24K Happy Valley 35.43 32 P P 23 22 14.3 +1.0
baz=266
E24K Your Creek 35.48 34 P P 23 22 15.1 +1.2
baz=268
C24K Franklin Bluff 35.52 31 P P 23 22 15.2 +1.1
baz=265
WAT1 Susitna Watana 35.55 43 P P 23 22 15.7 +1.2
baz=275
H24K Noodor Dome 35.69 38 P P 23 22 17.0 +1.4
baz=271,SNR=5.8
F24K Squaw Lake 35.69 35 P P 23 22 16.9 +1.3
baz=269,SNR=6.4
COLA College 35.73 40 *c* *i* P P 23 22 17.0 +1.1
COLA pmax pmax
comp=Z,16nm,0.9s
COLA College 35.73 40 P P 23 22 17.4 +1.5
baz=273
KNK Knik Glacier 35.73 46 P P 23 22 17.5 +1.5
baz=277
CCB Clear Creek Bu 35.76 40 P 23 22 17.0 +0.8
G24K Hadweenzic Riv 35.84 37 P P 23 22 18.5 +1.6
baz=270,SNR=11
PWL Port Wells 35.86 47 P P 23 22 18.7 +1.6
baz=278
POKR Poker Plat Res 35.90 39 P P 23 22 19.1 +1.7
baz=273
WAT6 Susitna Watana 35.94 44 P P 23 22 18.8 +0.8
baz=276
M23K Glacier View 36.03 45 P P 23 22 19.9 +1.3
baz=277
DHY Denali Highway 36.06 43 P P 23 22 19.9 +0.9
baz=276
HDA Harding Lake 36.14 40 P P 23 22 20.2 +0.7
baz=274,SNR=8.5
ILAR Eielson Array 36.15 40 P P 23 22 20.4 +0.9
comp=Z,5.2nm,0.8s,baz=270,slow=8.3,SNR=48
comp=Z,5.2nm,0.8s
SCM Sheep Creek Mo 36.22 45 P P 23 22 21.3 +1.1
baz=277
D25K Kavik River 36.31 32 P P 23 22 21.9 +1.0
D25K IAmb IAmb 23 22 22.5
comp=Z,12nm,0.8s
D25K Kavik River 36.31 32 P P 23 22 21.6 +0.8
baz=268
G25K Bearman Lake 36.39 36 P P 23 22 21.5 0.0
baz=272
H25L Birch Creek 36.52 37 P P 23 22 23.6 +1.1
baz=273
F25K Christian Rive 36.55 35 P P 23 22 23.9 +0.9
baz=271
E25K Arctic Village 36.58 34 P P 23 22 23.9 +0.8
baz=270
LZH Lanzhou 36.61 268 *e*P P 23 22 24.5 +0.5
LZH pmax pmax
comp=Z,18nm,1.3s
K24K Donnelly Dome 36.70 41 P P 23 22 25.6 +1.3
baz=276
M24K Tolsona, Glenn 36.72 44 P P 23 22 25.9 +1.5
baz=278
LZDM Lanzhou Array 36.78 268 P P 23 22 26.4 +0.8
comp=Z,1.8nm,0.3s,baz=90,slow=3.5,SNR=6.5
comp=Z,1.8nm,0.3s
J25K Salcha River, 36.81 40 P P 23 22 26.0 +0.9
baz=275
KLU Klutina 36.93 45 P P 23 22 27.9 +1.7
baz=279
PAX Paxson 36.94 43 P P 23 22 27.1 +0.8
baz=277
BMAR Burnt Mountain 36.97 35 P 23 22 28.0 +1.6
F26K Sheenjek River 37.12 35 P P 23 22 29.1 +1.4
baz=272,SNR=5.0
RIDG Independent Ri 37.12 41 P P 23 22 29.1 +1.3
baz=277
HARP HAARP 37.15 44 P P 23 22 28.9 +0.9
baz=278
C27K Jago River 37.26 32 P P 23 22 29.5 +0.8
baz=270
G26K Porcupine Rive 37.30 36 P P 23 22 30.6 +1.5
baz=274,SNR=11
GTA Gaotai 37.50 276 P P 23 22 31.9 +0.5
GTA pmax pmax
comp=Z,10.0nm,1.2s
N25K Chitina, Valde 37.53 45 P P 23 22 32.3 +1.0
baz=280
J26L Joseph Creek 37.60 40 P P 23 22 32.8 +1.1
baz=277
BMRM Bremner River 37.64 46 P P 23 22 33.2 +1.0
baz=281
L26K Log Cabin Wild 37.89 42 P P 23 22 35.7 +1.5
baz=279
G27K Doyon Strip 38.15 36 P P 23 22 37.8 +1.6
G27K Doyon Strip 38.15 36 P P 23 22 38.1 +1.8
baz=276
M26K Nabesna, AK 38.15 43 P P 23 22 38.7 +2.3
baz=280,SNR=5.5
D27M Malcolm River 38.23 32 P P 23 22 38.7 +1.7
baz=273
H27K Steamboat Moun 38.25 37 P P 23 22 39.2 +2.1
baz=276,SNR=6.3
I27K Kandik River 38.29 38 P P 23 22 39.5 +2.1
baz=277
K27K Chicken 38.30 41 P P 23 22 39.0 +1.5
baz=279
MCARA McCarthy VSAT 38.32 45 P P 23 22 39.3 +1.6
baz=281
CRQE Cirque 38.41 46 P P 23 22 39.8 +1.2
baz=282
L27K Beaver Creek, 38.57 42 P P 23 22 41.0 +1.3
baz=280
BCAR Beaver Creek A 38.58 42 P 23 22 42.0 +2.0
EGAK Eagle 38.59 39 P P 23 22 40.8 +0.9
baz=279,SNR=8.1
M27K Edge Creek, AK 38.67 43 P P 23 22 42.6 +1.8
baz=281,SNR=6.6
F28M Crow 38.76 35 P P 23 22 42.8 +1.5
baz=276
E28M Babbage River 38.79 33 P P 23 22 42.6 +1.1
baz=275
I28M Miner Creek 39.00 38 P P 23 22 45.3 +1.9
baz=279,SNR=9.6
MESA MESA 39.09 47 P P 23 22 45.5 +1.2
baz=284
CTG Chitna Glacier 39.20 45 P P 23 22 47.2 +2.0
baz=283
E29M Blow River 39.41 33 P P 23 22 48.3 +1.7
baz=277
DAWY Dawson 39.46 40 P P 23 22 48.7 +1.5
baz=281
H29M Whitestone 39.52 37 P P 23 22 49.4 +1.8
H29M IAmb IAmb 23 22 50.3
comp=Z,8.6nm,0.8s
H29M Whitestone 39.52 37 P P 23 22 49.4 +1.8
baz=279
G29M Pine Creek 39.56 36 P P 23 22 49.9 +2.0
baz=279
I29M Ogilvie Camp, 39.69 38 P P 23 22 50.7 +1.7
baz=280,SNR=11
O28M Mount Upton 39.80 46 P P 23 22 52.2 +1.9
baz=284
YUK8 Steele Glacier 39.88 45 P P 23 22 52.8 +1.9
baz=284
EPYK Eagle Plains 40.16 36 P P 23 22 54.5 +1.7
baz=280
L29M L29M 40.21 42 P P 23 22 55.0 +1.8
baz=283,SNR=10
M29M Somme Creek 40.21 43 P P 23 22 55.2 +1.8
baz=284,SNR=5.4
G30M tAoh Zraii Nji 40.25 35 P P 23 22 55.5 +2.0
baz=280
F30M Barrier River 40.31 34 P P 23 22 55.8 +1.8
baz=280,SNR=6.3
K29M Barlow Dome 40.31 40 P P 23 22 56.3 +2.1
baz=283
YUK4 Talbot Arm 40.38 44 P P 23 22 57.1 +2.2
baz=285
I30M Mount Dempster 40.51 38 P P 23 22 57.6 +1.8
baz=282,SNR=17
YUK6 Outpost Mounta 40.62 45 P P 23 22 58.4 +1.5
baz=285
J30M Hart River 40.67 39 P P 23 22 58.8 +1.7
baz=283
ZAA0 Zalesovo Array 40.68 304 P 23 22 56.4 -0.8
ZAA0 IAmb IAmb 23 22 57.1
comp=Z,14nm,0.6s
ZAA0 PcP PcP 23 24 54.3 +1.2
ZALV Zalesovo Beam 40.68 304 P 23 22 56.4 -0.7
comp=Z,16nm,0.4s,baz=62,slow=6.9,SNR=80
ZALV PcP PcP 23 24 54.0 +0.8
comp=Z,3.6nm,0.4s,baz=56,slow=2.6,SNR=12
comp=Z,16nm,0.4s
O29M Mount Kennedy 40.69 46 P P 23 22 59.0 +1.7
baz=286
M30M Minto, Yukon 40.93 42 P P 23 23 00.8 +1.7
baz=285
G31M Satah River 41.01 35 P P 23 23 00.8 +1.1
baz=282
INK Inuvik 41.03 33 P P 23 23 01.0 +1.2
INK IAmb IAmb 23 23 01.5
comp=Z,7.6nm,0.3s
INK Inuvik 41.03 33 P P 23 23 01.0 +1.2
INK pmax pmax
comp=Z,8.0nm,0.4s
INK Inuvik 41.03 33 P P 23 23 01.6 +1.8
baz=281
HYT Haines Junctio 41.05 45 P 23 23 02.9 +2.6
HYT IAmb IAmb 23 23 04.2
comp=Z,14nm,0.9s
HYT Haines Junctio 41.05 45 P P 23 23 01.9 +1.6
baz=286,SNR=5.7
MAYO Mayo, Yukon 41.08 41 P P 23 23 02.0 +1.6
baz=284
N30M Aishikik Lake 41.08 44 P P 23 23 02.0 +1.6
baz=286
F31M Tsiigehtchic 41.11 35 P P 23 23 02.2 +1.7
baz=282
H31M Peel River 41.22 37 P P 23 23 02.9 +1.4
baz=283
P29M Windy Craggy 41.28 47 P P 23 23 03.5 +1.4
baz=287
P30M Million Dollar 41.51 46 P P 23 23 04.6 +0.7
baz=287
N31M Braeburn, Yuko 41.68 44 P P 23 23 06.6 +1.3
baz=287
O30N Mendenhall 41.74 45 P P 23 23 07.4 +1.7
baz=287
PLBC Pleasant Camp 42.00 47 P P 23 23 08.8 +1.0
baz=288
M31M Drury Creek, Y 42.11 42 P P 23 23 10.7 +2.0
M31M Drury Creek, Y 42.11 42 P P 23 23 09.3 +0.6
baz=287
WHY Whitehorse 42.34 45 P P 23 23 11.8 +1.1
baz=288
GOMU GeErMu 42.57 275 P P 23 23 11.8 -1.3
GOMU pmax pmax
comp=Z,14nm,0.6s
R31K City Hall, Gus 42.64 48 P P 23 23 14.9 +2.0
baz=290
A36M Sachs Harbour 43.03 27 P P 23 23 16.4 +0.6
baz=284
WMQ Urumqi 43.20 289 *e*P P 23 23 19.5 +1.8
WMQ pmax pmax
comp=Z,11nm,0.6s
WMQ LR LR
comp=Z,160nm,17.9s
P32M Atlin 43.23 46 P P 23 23 19.4 +1.7
baz=290
MMPY Sheldon Lake, 43.37 41 P P 23 23 20.6 +1.8
baz=289
P33M Teslin, Yukon 43.45 45 P P 23 23 21.1 +1.6
baz=290
PZH PanZhiHua 44.02 259 P P 23 23 26.4 +1.9
C36M Paulatuk 44.11 30 P P 23 23 25.5 +1.1
C36M IAmb IAmb 23 23 46.5
comp=Z,45nm,1.2s
R33M Jennings River 44.62 45 P P 23 23 30.0 +1.2
baz=292
WRAK Wrangell Islan 45.08 50 P P 23 23 33.1 +0.8
baz=294
S34M Telegraph Cree 45.10 47 P P 23 23 33.7 +1.3
baz=293
MK31 Makanchi Array 45.11 295 *d* *i* P P 23 23 31.9 -0.8
MKAR Makanchi Array 45.11 295 P 23 23 32.2 -0.5
MKAR PcP PcP 23 25 08.6 +0.3
MKAR Makanchi Array 45.11 295 P P 23 23 32.1 -0.6
comp=Z,5.3nm,0.5s,baz=68,slow=7.9,SNR=25
MKAR PcP PcP 23 25 08.5 +0.2
comp=Z,0.9nm,0.3s,baz=63,slow=5.2,SNR=7.8
comp=Z,5.3nm,0.5s
MAKZ Makanchi 45.29 295 P P 23 23 33.6 -0.5
MAKZ Makanchi 45.29 295 P P 23 23 33.6 -0.5
MAKZ pmax pmax
comp=Z,5.0nm,0.6s
DLBC Dease Lake 45.43 46 P P 23 23 36.6 +1.5
comp=Z,21nm,0.6s,baz=307,slow=5.1,SNR=4.7
comp=Z,21nm,0.6s
DLBC Dease Lake 45.43 46 P P 23 23 35.9 +0.8
baz=294
KURK Kurchatov 45.45 302 P 23 23 34.4 -0.8
KURK Kurchatov 45.45 302 P P 23 23 34.4 -0.8
KURK pmax pmax
comp=Z,31nm,0.8s
KURK Kurchatov 45.45 302 *e*P P 23 23 34.3 -0.9
KURBB Kurchatov Arra 45.54 302 P P 23 23 35.4 -0.6
comp=Z,27nm,0.6s,baz=69,slow=8.4,SNR=142
KURBB PcP PcP 23 25 10.1 +0.4
comp=Z,2.3nm,0.7s,baz=68,slow=3.4,SNR=6.8
comp=Z,27nm,0.6s
T35M Bob Quinn 45.91 48 P P 23 23 40.2 +1.4
baz=295
TOAD Toad River Com 47.54 44 P P 23 23 52.4 +1.0
baz=296
BVAR Borovoye Array 48.89 308 P P 23 24 01.4 -0.2
comp=Z,9.0nm,0.4s,baz=54,slow=7.4,SNR=67
BVAR PcP PcP 23 25 22.1 +0.4
comp=Z,4.4nm,0.5s,baz=58,slow=2.9,SNR=11
comp=Z,9.0nm,0.4s
BORK Borovoye 48.92 308 *de*P P 23 24 01.1 -0.8
BORK pmax pmax
comp=Z,20nm,1.3s
LSA Lhasa 48.95 270 P P 23 24 04.6 +1.6
LSA IAmb IAmb 23 24 05.8
comp=Z,16nm,0.6s
LSA Lhasa 48.95 270 P P 23 24 04.6 +1.6
LSA pmax pmax
comp=Z,16nm,0.6s
YKA Yellowknife Ar 50.44 37 P P 23 24 13.9 +0.8
comp=Z,9.9nm,0.7s,baz=306,slow=16,SNR=4.4
comp=Z,2.9nm,0.7s
TARG Taragay, Kyrgy 50.49 292 P P 23 24 14.5 +0.1
TARG Taragay, Kyrgy 50.49 292 P P 23 24 14.5 +0.1
TARG pmax pmax
comp=Z,5.0nm,0.9s
KDJ Kajisay 50.65 292 P P 23 24 15.2 -0.1
KDJ Kajisay 50.65 292 P P 23 24 15.2 -0.1
KDJ pmax pmax
comp=Z,8.0nm,0.9s
SPITS Spitsbergen Ar 50.85 349 P P 23 24 14.4 -1.6
comp=Z,4.0nm,0.8s,baz=256,slow=14,SNR=5.6
comp=Z,4.0nm,0.8s
SHL Shillong 51.17 266 P P 23 24 19.3 0.0
SHL IAmb IAmb 23 24 20.8
comp=Z,20nm,0.7s
SHL Shillong 51.17 266 P P 23 24 19.3 0.0
SHL pmax pmax
comp=Z,20nm,0.7s
BOOM Boomskoye usch 51.22 293 P P 23 24 19.4 0.0
BOOM IAmb IAmb 23 24 20.4
comp=Z,8.3nm,0.7s
BOOM Boomskoye usch 51.22 293 P P 23 24 19.4 0.0
BOOM pmax pmax
comp=Z,8.0nm,0.7s
CHTO Chiang Mai 51.28 254 P 23 24 20.7 +0.7
CHTO Chiang Mai 51.28 254 P P 23 24 20.7 +0.7
CHTO pmax pmax
comp=Z,5.0nm,0.6s
CMAR Chiang Mai Arr 51.54 254 P P 23 24 23.1 +1.2
CMAR Chiang Mai Arr 51.54 254 P P 23 24 23.6 +1.7
comp=Z,2.8nm,0.7s,baz=30,slow=7.5,SNR=19
CMAR PcP PcP 23 25 33.9 +1.9
comp=Z,1.2nm,0.6s,baz=9.6,slow=3.7,SNR=5.7
comp=Z,2.8nm,0.7s
SVE Sverdlovsk 51.82 316 *e*P P 23 24 23.3 -0.2
SVE pmax pmax
comp=Z,18nm,0.6s
AAK Ala-Archa 52.01 294 P P 23 24 24.9 -0.4
AAK IAmb IAmb 23 24 25.9
comp=Z,8.9nm,0.8s
AAK Ala-Archa 52.01 294 P P 23 24 25.4 +0.1
comp=Z,8.3nm,0.7s,baz=79,slow=6.7,SNR=6.4
comp=Z,8.3nm,0.7s
AAK Ala-Archa 52.01 294 *d* *i* P P 23 24 25.0 -0.3
AAK pmax pmax
comp=Z,7.0nm,0.6s
AAK Ala-Archa 52.01 294 *e*P P 23 24 25.0 -0.3
KSH Kashi 52.90 290 P P 23 24 35.3 +3.5
KSH pmax pmax
comp=Z,6.0nm,1.1s
KSH LR LR
comp=N,190nm,9.9s
KSH LR LR
comp=E,160nm,11.7s
KSH LR LR
comp=Z,190nm,10.1s
ARTI Arti 53.11 316 P 23 24 31.8 -1.1
ARTI PcP PcP 23 25 37.3 0.0
ARTI Arti 53.11 316 P P 23 24 31.9 -1.1
comp=Z,21nm,0.5s,baz=58,slow=3.8,SNR=54
comp=Z,21nm,0.5s
ARTI Arti 53.11 316 *c* *i* P P 23 24 31.7 -1.1
ARTI 23 25 36.6
ARTI 23 26 30.1
ARTI S S 23 31 39.6 -2.5
ARTI SS SKiKP 23 35 19.4 -1.2
ARTI pmax pmax
comp=Z,23nm,0.7s
FAKI Fak Fak 53.64 204 P P 23 24 38.9 +1.7
FAKI IAmb IAmb 23 24 53.0
comp=Z,19nm,1.2s
KK31 Karatay Array 54.15 297 P 23 24 39.9 -0.7
KK31 IAmb IAmb 23 24 40.9
comp=Z,7.0nm,0.7s
KK31 Karatay Array 54.15 297 P P 23 24 39.9 -0.7
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 54.15 297 P 23 24 39.7 -0.9
KKAR Karatay Array 54.15 297 P P 23 24 39.7 -0.9
TRKS Terek-Say 54.69 295 P P 23 24 44.7 0.0
TRKS pmax pmax
comp=Z,18nm,0.9s
KEV Kevo 55.44 340 P P 23 24 49.0 -0.4
KEV IAmb IAmb 23 25 26.6
comp=Z,35nm,1.4s
KEV Kevo 55.44 340 P P 23 24 49.0 -0.4
KEV pmax pmax
comp=Z,35nm,1.4s
KIRV Kirov 55.77 322 *de*P P 23 24 50.7 -1.1
ARA0 ARCESS Array S 55.96 340 *e*P P 23 24 52.7 -0.4
ARCES ARCESS Array B 55.96 340 P P 23 24 52.5 -0.6
ARCES IAmb IAmb 23 25 08.7
comp=Z,20nm,1.5s
ARCES ARCESS Array B 55.96 340 P P 23 24 52.0 -1.1
comp=Z,1.8nm,0.3s,baz=30,slow=7.1,SNR=36
comp=Z,1.8nm,0.3s
ARCES ARCESS Array B 55.96 340 P P 23 24 52.5 -0.6
ARCES pmax pmax
comp=Z,20nm,1.5s
BLKN Baker Lake 56.12 29 P P 23 24 53.5 -0.7
BLKN IAmb IAmb 23 24 59.7
comp=Z,22nm,1.4s
ILON Igloolik, Nuna 56.36 20 P P 23 24 55.1 -0.7
ILON IAmb IAmb 23 25 34.7
comp=Z,21nm,1.3s
AB31 Akbulak array 56.46 308 P 23 24 56.2 -0.7
AB31 IAmb IAmb 23 24 57.1

comp=Z,7.2nm,0.7s
ABKAR **Akbulak array** 56.46 308 P 23 24 56.2 -0.6
KEBM **Edson Butte** 56.47 61 P P 23 24 58.5 +1.4
GAR **Garm** 56.72 293 P 23 24 59.5 +0.4
GAR IAmb IAmb 23 24 59.6
comp=Z,20nm,0.8s
AKTO **Aktyubinsk** 56.74 310 P P 23 24 58.6 -0.3
comp=Z,2.4nm,0.5s,baz=3.0,slow=3.5,SNR=6.7
AKTO PcP PcP 23 25 51.4 -0.2
comp=Z,3.4nm,0.6s,baz=100,slow=2.2,SNR=6.4
comp=Z,2.4nm,0.5s
KTK1 **Kautokeino** 56.88 340 eP P 23 24 59.4 -0.1
JETT **Jettan, Norway** 57.07 342 eP P 23 24 60.0 -0.9
TRO **Tromso** 57.31 342 eP P 23 25 01.1 -1.4
CHGR **Chuyangaron** 57.64 293 P 23 25 04.7 -0.7
CHGR **Chuyangaron** 57.64 293 P P 23 25 04.7 -0.7
CHGR pmax pmax
comp=Z,31nm,0.8s
SIMJ **Simiganj** 57.73 293 P 23 25 05.5 -0.6
SIMJ IAmb IAmb 23 25 06.9
comp=Z,16nm,0.8s
J05D **Fort Rock, OR** 58.02 59 P P 23 25 10.1 +2.0
KLMR **Klimovskoe** 58.11 328 eP P 23 25 04.3 -3.9
KLMR pmax pmax
comp=Z,11nm,0.7s
YBH **Yreka Blue Hor** 58.12 62 P P 23 25 10.5 +1.7
comp=Z,0.1nm,0.8s,baz=228,slow=1.5,SNR=4.0
NIL **Nilore** 58.23 286 P 23 25 09.5 0.0
NIL IAmb IAmb 23 25 11.4
comp=Z,20nm,1.0s
NIL **Nilore** 58.23 286 P P 23 25 09.5 0.0
NIL pmax pmax
comp=Z,20nm,1.0s
SUMG **Summit** 59.23 3 P P 23 25 16.1 -0.1
SUMG **Summit** 59.23 3 P P 23 25 16.1 -0.1
SUMG pmax pmax
comp=Z,5.0nm,1.0s
LOF **Lofoten** 59.65 343 eP P 23 25 18.2 -0.4
PLID **Pearl Lake** 59.83 55 P 23 25 22.0 +1.5
FAUS **Fauske** 59.94 342 eP P 23 25 19.0 -1.5
BELG **Belogornoye** 60.52 317 dP P 23 25 23.9 -0.8
VAGH **Vaagaholmen** 60.91 342 eP P 23 25 25.9 -1.2
KONS **Konsvik** 61.14 342 eP P 23 25 28.5 -0.2
MOR8 **Moi Rana** 61.15 341 eP P 23 25 26.2 -2.6
STOK **Stokkvaagen** 61.30 342 eP P 23 25 28.9 -0.9
LEIR **Leirfjorden** 61.48 342 eP P 23 25 30.5 -0.4
BOZ **Bozeman (W)** 61.84 52 P P 23 25 35.5 +1.6
BOZ **Bozeman (W)** 61.84 52 P P 23 25 35.5 +1.6
BOZ pmax pmax
comp=Z,3.0nm,0.5s
FIA1 **FINESS Array S** 62.08 334 P 23 25 34.0 -1.0
FIA1 PcP PcP 23 26 12.2 -0.4
FINES **FINESS Array B** 62.08 334 P P 23 25 33.8 -1.2
FINES PcP PcP 23 26 12.3 -0.4
FINES **FINESS Array B** 62.08 334 P P 23 25 33.7 -1.2
comp=Z,8.5nm,0.4s,baz=32,slow=7.2,SNR=97
FINES PcP PcP 23 26 11.8 -0.9
comp=Z,3.3nm,0.5s,baz=62,slow=3.4,SNR=7.1
comp=Z,8.5nm,0.4s
FINES **FINESS Array B** 62.08 334 P P 23 25 33.8 -1.2
FINES 23 26 12.3
NVAR **Mina Array Bea** 62.83 62 P P 23 25 41.7 +1.1
NVAR **Mina Array Bea** 62.83 62 P P 23 25 41.9 +1.2
comp=Z,1.8nm,0.7s,baz=296,slow=7.5,SNR=9.2
comp=Z,1.8nm,0.7s
ELK **Elko** 63.08 58 P P 23 25 43.7 +1.4
comp=Z,0.5nm,0.4s,baz=264,slow=2.5,SNR=4.5
comp=Z,0.5nm,0.4s
NSS **Namsos** 63.09 342 eP P 23 25 40.7 -0.9
OBN **Obninsk** 63.30 324 eP P 23 25 42.6 -0.5
OBN *i* 23 26 16.2
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN **Obninsk** 63.30 324 eP P 23 25 42.6 -0.5
VRH **Novokhopyorsk** 64.00 319 eP P 23 25 45.0 -2.7
VRH pmax pmax
comp=Z,10.0nm,0.8s
LPSR **Galich'ya Gora** 64.19 321 eP P 23 25 46.8 -2.1
LPSR pmax pmax
comp=Z,10.0nm,0.8s
HRA **Herat** 64.64 294 P P 23 25 52.4 -0.1
PD31 **Pinedale Array** 64.85 53 P 23 25 54.5 +0.7
PDAR **Pinedale Array** 64.85 53 P P 23 25 55.1 +1.4
comp=Z,1.9nm,0.5s,baz=319,slow=1.0,SNR=31
comp=Z,1.9nm,0.5s
VSR **Storozhevoye** 65.10 320 eP P 23 25 52.2 -2.6
VSR pmax pmax
comp=Z,8.0nm,0.9s
VORD **Divnogorie** 65.23 320 eP P 23 25 54.4 -1.2
VORD pmax pmax
comp=Z,9.0nm,0.9s
GSI **Gunungsitoli** 65.65 242 P P 23 25 59.7 +0.9
MOL **Molde** 65.75 342 eP P 23 25 59.0 +0.2
DOMB **Dombas** 65.91 342 eP P 23 25 59.2 -0.7
NC405 **NORSAR Array S** 66.16 340 P P 23 26 00.6 -0.9
AKN **Aaknes** 66.22 343 eP P 23 26 02.7 +0.9
NC204 **NORSAR Array S** 66.23 340 P 23 26 01.1 -0.8
NB2 **NORSAR Subarra** 66.33 340 P P 23 26 01.5 -1.1
comp=Z,6.2nm,0.6s,baz=30,slow=6.5
NB2 **NORSAR Subarra** 66.33 340 P P 23 26 01.5 -1.1
comp=Z,6.2nm,0.6s,baz=30,slow=6.5
NOA **NORSAR Array B** 66.33 340 P P 23 26 01.8 -0.8
comp=Z,4.6nm,0.5s,baz=29,slow=6.7,SNR=43
comp=Z,4.6nm,0.5s
NC602 **NORSAR Array S** 66.53 340 eP P 23 26 02.9 -0.9
HFS **Hagfors** 66.55 338 P P 23 26 02.5 -1.4
comp=Z,9.6nm,0.5s,baz=46,slow=6.4,SNR=46
comp=Z,9.6nm,0.5s
SRU **San Rafael Swe** 66.84 57 P P 23 26 07.4 +1.0
SRU IAmb IAmb 23 26 09.6
comp=Z,4.9nm,0.9s
SRU **San Rafael Swe** 66.84 57 P P 23 26 07.4 +1.0
SRU pmax pmax
comp=Z,5.0nm,0.9s
MNK **Minsk** 67.00 328 *i* P P 23 26 06.6 -0.2
MNK *i* 23 26 31.8
MNK *i* 23 28 38.7
MNK *i* PPP PPP 23 30 20.3
MNK *i* S S 23 34 38.1 -0.3
MNK *i* PS 23 35 16.3
MNK *i* SS SS 23 39 04.8 +3.4
MNK pmax pmax
comp=N,5.0nm,0.8s
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=E,14nm,0.9s
HYA **Hoyanger** 67.30 342 eP P 23 26 09.3 +0.8
SUE **Sulen** 67.68 343 eP P 23 26 11.4 +0.4
KONO **Kongsberg** 67.94 340 P P 23 26 12.3 -0.3
KONO IAmb IAmb 23 26 13.2
comp=Z,12nm,1.2s
KONO **Kongsberg** 67.94 340 eP P 23 26 12.8 +0.2
KONO **Kongsberg** 67.94 340 P P 23 26 12.3 -0.3
KONO pmax pmax
comp=Z,12nm,1.2s
ASK **Askoy** 68.12 343 eP P 23 26 13.1 -0.6
BER **Bergen** 68.19 343 eP P 23 26 14.2 +0.2
ODD1 **Odda** 68.35 342 eP P 23 26 14.5 -0.7
KIV **Kislovodsk** 68.80 313 P P 23 26 18.1 -0.2
KIV IAmb IAmb 23 26 21.0
comp=Z,10nm,0.7s
KBZ **Khabaz** 68.86 312 P P 23 26 18.2 -0.4
comp=Z,4.7nm,0.8s,baz=113,slow=5.1,SNR=8.7
comp=Z,4.7nm,0.8s
WB0 **Warramunga Arr** 69.42 197 P P 23 26 23.4 +1.3
WB0 IAmb IAmb 23 26 24.5
comp=Z,9.1nm,1.3s
AKASG **Malin Array Be** 69.54 325 P P 23 26 21.7 -0.9
AKASG **Malin Array Be** 69.54 325 P P 23 26 21.4 -1.2
comp=Z,6.7nm,0.5s,baz=37,slow=6.0,SNR=43
comp=Z,6.7nm,0.5s
AKASG **Malin Array Be** 69.54 325 P P 23 26 21.7 -0.9
AKASG pmax pmax
comp=Z,3.0nm,1.2s
AKBB **Malin Array Si** 69.54 325⇑ eP P 23 26 21.4 -1.2
KIEV **Kiev** 69.55 325 P 23 26 21.1 -1.5
KIEV IAmb IAmb 23 26 22.4
comp=Z,9.3nm,0.7s
KIEV **Kiev** 69.55 325 ⇑P P 23 26 21.4 -1.3
KIEV **Kiev** 69.55 325 P P 23 26 21.1 -1.5
KIEV pmax pmax
comp=Z,9.0nm,0.7s
WR8 **Warramunga Arr** 69.58 197 P P 23 26 24.6 +1.4
WRA **Warramunga Arr** 69.60 197 P P 23 26 24.9 +1.7
comp=Z,1.0nm,0.7s,baz=13,slow=7.6,SNR=5.2
comp=Z,1.0nm,0.7s
WRA **Warramunga Arr** 69.60 197 P P 23 26 25.0 +1.7
IVI **Ivigtut** 69.72 10 P P 23 26 23.3 -0.2
FITZ **Fitzroy Crossi** 69.95 206 P P 23 26 27.1 +1.8
FITZ **Fitzroy Crossi** 69.95 206 P P 23 26 27.0 +1.7
comp=Z,2.3nm,0.5s,baz=19,slow=6.2,SNR=6.4
comp=Z,2.3nm,0.5s
SORM **Soroca** 71.94 324 ⇑P P 23 26 35.6 -1.4
SORM **Soroca** 71.94 324 P P 23 26 35.6 -1.4
MILM **Milestii Mici** 72.74 323 ⇑P P 23 26 40.0 -1.8
MILM **Milestii Mici** 72.74 323 P P 23 26 40.0 -1.8
AS31 **Alice Springs** 73.31 197 P P 23 26 47.2 +1.9
ASAR **Alice Springs** 73.31 197 P P 23 26 47.3 +2.0
ASAR **Alice Springs** 73.31 197 P P 23 26 47.8 +2.4
comp=Z,1.8nm,0.5s,baz=11,slow=5.5,SNR=23
comp=Z,1.8nm,0.5s
BUR08 **Bucovina Ar. S** 73.57 325 P 23 26 46.2 -0.6
BUR08 IAmb IAmb 23 26 47.4
comp=Z,7.4nm,0.5s
KOLS **Kolonicke sedl** 73.57 328 eP P 23 26 46.5 -0.1
BURAR **Bucovina Array** 73.58 325 P 23 26 46.2 -0.6
BURAR **Bucovina Array** 73.58 325 ⇓P P 23 26 46.1 -0.7
BURAR **Bucovina Array** 73.58 325 P P 23 26 46.1 -0.7
TESR **Tescani** 73.94 324 ⇑P P 23 26 47.9 -0.8
GHRR 74.00 323 ⇑P P 23 26 47.7 -1.4
LANS **Liptovska Anna** 74.36 329 eP P 23 26 51.4 +0.2
ODBI **Odobesti** 74.39 323 ⇓P P 23 26 50.3 -1.0
CFR **Carcaliu** 74.43 322 ⇑P P 23 26 49.8 -1.8
CFR **Carcaliu** 74.43 322 P P 23 26 49.8 -1.8
VRI **Vrincioaia** 74.44 323 ⇑P P 23 26 51.4 -0.4
VRI **Vrincioaia** 74.44 323 P P 23 26 51.3 -0.4
MORC **Moravsky Berou** 74.46 331 P P 23 26 51.1 -0.7
MORC pmax pmax
comp=Z,5.0nm,0.9s
CLL **Collm** 74.51 334 P 23 26 50.8 -1.2
CLL IAmb IAmb 23 26 53.0
comp=Z,5.6nm,0.9s
CLL **Collm** 74.51 334 P P 23 26 50.8 -1.2
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL **Collm** 74.51 334 *i* P P 23 26 50.9 -1.1
comp=Z,3.0nm,0.6s
CLL *e*PcP PcP 23 27 04.0 -1.1
EKA **Eskdalemuir Ar** 74.52 345 P P 23 26 50.7 -1.2
comp=Z,0.8nm,0.3s,baz=18,slow=5.1,SNR=14
comp=Z,0.8nm,0.3s
TURR **Turia** 74.56 324 ⇑P P 23 26 51.3 -1.1
TPGR **Topolog** 74.57 322 ⇑P P 23 26 51.8 -0.7
OZUR 74.62 324 ⇓P P 23 26 52.9 +0.1
DOPR **Dopca** 74.88 324 ⇑P P 23 26 53.9 -0.3
HARR **Harsova** 74.91 322 ⇑P P 23 26 52.4 -2.0
HARR **Harsova** 74.91 322 P P 23 26 52.3 -2.0
MLR **Muntele Rosu** 75.06 324 P P 23 26 55.2 -0.2
comp=Z,7.3nm,0.5s,baz=31,slow=5.9
comp=Z,7.3nm,0.5s
MLR **Muntele Rosu** 75.06 324 ⇑P P 23 26 55.0 -0.3
MARR **Marisel-Cluj** 75.16 326 ⇑P P 23 26 55.1 -0.8
VRAC **Vranov** 75.18 331 P P 23 26 55.5 -0.3
comp=Z,0.7nm,0.3s,baz=27,slow=4.5,SNR=2.0
comp=Z,0.7nm,0.3s
DRGR 75.21 326 ⇓P P 23 26 55.4 -0.8
DRGR 75.21 326 P P 23 26 55.4 -0.8
ILGA **Ilgaz** 75.30 316 P P 23 26 57.2 +0.3
ILGA IAmb IAmb 23 27 37.8
comp=Z,17nm,1.2s
VOIR 75.45 324 ⇑P P 23 26 57.6 0.0
VOIR 75.45 324 P P 23 26 57.6 0.0
ARR **Arges** 75.67 324 ⇓P P 23 26 58.0 -0.8
BNN **Bunyan** 76.02 313 P P 23 27 00.7 -0.3
BNN IAmb IAmb 23 27 17.4
comp=Z,8.3nm,1.2s
SIRR **Siria** 76.05 327 ⇑P P 23 27 00.7 -0.1
SURR **Surduc** 76.31 326 ⇓P P 23 27 01.7 -0.6
GZR **Gura Zlata** 76.37 325 ⇓P P 23 27 02.0 -0.8
GZR **Gura Zlata** 76.37 325 P P 23 27 01.9 -0.8
BRTR **Keskin Array B** 76.38 315 P P 23 27 02.6 -0.4
comp=Z,1.4nm,0.7s,baz=82,slow=3.8,SNR=7.6
comp=Z,1.4nm,0.7s
BRTR **Keskin Array B** 76.38 315 P P 23 27 02.7 -0.3
GERES **GERESS Array B** 76.49 333 P P 23 27 02.6 -0.8
comp=Z,0.4nm,0.4s,baz=46,slow=5.8,SNR=6.4
comp=Z,0.4nm,0.4s
BZS **Buzias** 76.61 326 ⇑P P 23 27 03.2 -0.7
BZS **Buzias** 76.61 326 P P 23 27 03.2 -0.7
CONA **Conrad Observa** 76.62 331 P P 23 27 06.3 +2.2
comp=Z,1.3nm,0.5s
HERR **Herculane** 76.94 325 ⇑P P 23 27 04.7 -1.1
LDAQ **Lac Daran** 77.27 28 P P 23 27 08.0 +0.3
LDAQ IAmb IAmb 23 27 14.1
comp=Z,10.0nm,1.3s
ARSA **Arzberg** 77.32 331 *i* P P 23 27 07.4 -0.5
comp=Z,1.5nm,0.6s
BIOA **Bad Ischl, Aus** 77.53 332 *i* P P 23 27 08.8 -0.3
comp=Z,1.1nm,0.5s
TXAR **Lajitas Array** 77.82 60 P P 23 27 12.2 +1.2
TXAR **Lajitas Array** 77.82 60 P P 23 27 12.8 +1.7
comp=Z,1.0nm,0.7s,baz=298,slow=4.9,SNR=17
comp=Z,1.0nm,0.7s
LMQ **La Malbaie** 77.92 27 P P 23 27 11.4 +0.2
LMQ IAmb IAmb 23 27 51.0
comp=Z,5.7nm,1.1s
SOKA **Soboth** 77.99 331 *i* P P 23 27 11.3 -0.3
comp=Z,1.4nm,0.6s
LESA **Schwarzleotal** 78.07 333 *i* P P 23 27 12.2 +0.1
comp=Z,1.3nm,0.6s
KBA **Koelnbreinsper** 78.17 332 *i* P P 23 27 13.0 +0.2
comp=Z,3.9nm,0.5s
OBKA **Obir** 78.29 331 *i* P P 23 27 12.9 -0.4
comp=Z,2.3nm,0.7s
MYKA **Tesa Mystica** 78.48 332 *i* P P 23 27 15.1 +0.7
comp=Z,1.4nm,0.4s
WATA **Walderalm** 78.48 333 *i* P P 23 27 14.5 0.0
comp=Z,1.9nm,0.5s
WTTA **Wattenberg** 78.53 333 *i* P P 23 27 14.9 +0.2
comp=Z,3.9nm,0.4s
RETA **Reutte** 78.59 334 *i* P P 23 27 15.9 +1.0
comp=Z,3.0nm,0.9s
MOTA **Moosalm** 78.62 334 *i* P P 23 27 15.0 -0.2
comp=Z,1.9nm,0.7s
DAVA **Damuels** 79.03 334 *i* P P 23 27 17.7 +0.3
comp=Z,4.0nm,1.1s
PDG **Podgorica** 80.22 326 ⇓P P 23 27 22.6 -1.0
MMAI **Mount Meron Ar** 80.83 310 P P 23 27 27.4 +0.3
comp=Z,2.1nm,0.5s,baz=39,slow=5.5,SNR=18
comp=Z,2.1nm,0.5s
G65A **Princeton** 80.87 27 P P 23 27 27.6 +0.6
RAYN **Ar Rayn** 82.57 297 P P 23 27 36.1 -0.3
RAYN **Ar Rayn** 82.57 297 P P 23 27 36.1 -0.3
RAYN pmax pmax
comp=Z,5.0nm,1.2s
ESDC **Sonseca Array** 89.67 341 P P 23 28 09.1 -1.5
comp=Z,0.5nm,0.7s,baz=21,slow=3.5,SNR=2.8
comp=Z,0.5nm,0.7s
KEST **Kesra** 89.69 330 P P 23 28 09.8 -1.0
comp=Z,3.7nm,0.6s,baz=86,slow=3.1,SNR=7.1
comp=Z,3.7nm,0.6s
CPUP **Villa Florida** 148.72 56 PKPbc PKPbc 23 34 58.7 +0.1
comp=Z,0.6nm,0.5s,baz=122,slow=2.4,SNR=6.3
PLCA **Paso Flores** 149.57 91 PKPbc PKiKP 23 35 01.1 -0.2
comp=Z,1.4nm,0.7s,baz=172,slow=1.2,SNR=4.1

TIR **21** *23:22:16.5,41.44N×19.68E,h38km±6km,Ml2.7/3*
BEO **21** *23:22:16.8±0.3,41.34N×19.81E,h0km,ML1.8/11*
PDG **21** *23:22:19.9±0.3,41.55N×19.58E,h0km±11km,ML2.2/9,*
Error ellipse: s-maj=1.1km s-min=1.9km az=0.0
ISC 21 23:22:16.5±1.1,41.40N±0.02×19.69E±0.03,h4km±9km,
n35,σ0992/64,4C-8D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s ISC
TIR	**Tirane**	0.14	112	⇑Pg		**Pg**	23 22 19.6 +0.3
TIR				Sg		**Sg**	23 22 21.9 +0.7
TIR				AML		AML	23 22 23.0
	2.4nm,0.2s						
ULC	**Ulcinj**	0.65	329	⇓*i*Pg		**Pg**	23 22 28.7 -0.4
DRME	**Dracevica, Mon**	0.87	334	*e*Pg		**Pb**	23 22 33.9 -0.4
DRME				*e*Sg		**Sn**	23 22 48.4 -0.4
DRME	**Dracevica, Mon**	0.87	334	*e*Pg		**Pg**	23 22 33.0 -0.3
VLO	**Vlora**	0.94	189	⇑Pg		**Pg**	23 22 34.1 -0.5
VLO				Sg		**Sg**	23 22 48.5 +1.7
VLO				AML		AML	23 22 51.0
	0.7nm,0.4s						
BUM	**Brajici-Budva**	1.08	327	⇓*i*Pg		**Pg**	23 22 36.7 -0.5
BUM				*e*Sg		**Sg**	23 22 51.1 -0.1
PDG	**Podgorica**	1.08	343	*e*Pg		**Pg**	23 22 36.9 -0.3
PDG				*e*Sg		**Sn**	23 22 53.8 -0.1
PDG	**Podgorica**	1.08	343	⇑*i*Pg		**Pg**	23 22 36.8 -0.4
PDG				*e*Sg		**Sn**	23 22 53.9 0.0
KBN	**Korca**	1.14	133	⇑Pg		**Pg**	23 22 37.2 -1.1
KBN				Sg		**Sg**	23 22 54.1 +1.0
CEME	**Cevo**	1.28	334	⇓*i*Pg		**Pg**	23 22 40.3 -0.8
CEME				*e*Sg		**Sn**	23 22 59.2 +0.2
HCY	**Herceg Novi**	1.38	320	⇓*i*Pg		**Pg**	23 22 41.6 -1.3
HCY				*i* Sg		**Sn**	23 23 02.1 +0.9
KOME	**Kolasin**	1.45	355	*e*Pg		**Pb**	23 22 44.6 +0.4
KOME				*e*Sg		**Sn**	23 23 05.5 +2.2
KOME	**Kolasin**	1.45	355	⇓*i*Pg		**Pg**	23 22 44.0 -0.4
KOME				*e*Sg		**Sn**	23 23 04.8 +1.5
NKME	**Niksic**	1.47	338	*e*Pg		**Pn**	23 22 44.0 +0.1
NKME				*i* Sg		**Sn**	23 23 04.8 +1.1
BEY	**Berane**	1.48	6	*e*Pg		**Pb**	23 22 44.7 +0.1
BEY				*e*Sg		**Sn**	23 23 04.6 +0.7
IVA	**Berane**	1.48	6	⇓*i*Pg		**Pb**	23 22 44.6 0.0
IVA				*e*Sg		**Sn**	23 23 06.0 +2.1
TREB	**Trebinje**	1.65	323	*e*Pn		**Pn**	23 22 45.9 -0.4
BRY	**Bratogost**	1.73	331	⇓*i*Pg		**Pn**	23 22 47.5 0.0
BRY				*e*Sg		**Sg**	23 23 13.4 +1.4
SJES	**Sjenica**	1.87	6	*e*Pn		**Pb**	23 22 50.8 -0.6
SJES				*e*Sn		**Sg**	23 23 15.8 -0.8
UPM	**Unac-Piva**	1.89	342	⇓*i*Pn		**Pn**	23 22 50.8 +1.0
UPM				*i* Sn		**Sg**	23 23 17.8 +0.5
IGT	**Igoumenitsa**	1.93	165	Pn		**Pn**	23 22 51.2 +1.0
IGT				Sn		**Sn**	23 23 15.5 +0.6
IGT	**Igoumenitsa**	1.93	165	*e*Pn		**Pn**	23 22 49.3 -0.9
IGT				*e*Sn		**Sn**	23 23 14.4 -0.5
NOCI	**Noci**	2.08	254	Pn		**Pn**	23 22 52.7 +0.5
NOCI				Sn		**Sn**	23 23 18.5 0.0
NOCI				AML		AML	23 23 28.4
	0.2nm,0.4s						
SELS	**Selova**	2.10	30	*e*Pn		**Pn**	23 22 52.7 +0.1
SELS				*e*Sn		**Sb**	23 23 21.3 -0.5
BARS	**Barje**	2.12	47	*e*Pn		**Pn**	23 22 52.7 -0.1
BARS				*e*Sn		**Sn**	23 23 20.3 +0.7
IVAS	**Ivanjica**	2.20	9	*e*Pn		**Pb**	23 22 56.2 -0.7
IVAS				*e*Sn		**Sb**	23 23 24.5 -0.1
RUDO	**Rudo**	2.23	354	*e*Pn		**Pn**	23 22 55.5 +1.2
GOCS	**Kraljevo Serbi**	2.33	22	*e*Pn		**Pn**	23 22 56.2 +0.4
GOCS				*e*Sn		**Sn**	23 23 26.1 +1.2
BOSS	**Bosilegrad**	2.35	61	*e*Pn		**Pn**	23 22 54.8 -1.2
BOSS				*e*Sn		**Sn**	23 23 24.6 -0.7
BBLS	**Lazi&#263i**	2.47	355	*e*Pn		**Pb**	23 23 00.7 -0.9
BBLS				*e*Sn		**Sb**	23 23 32.2 -0.2
GRUS	**Gruza**	2.60	17	*e*Pn		**Pn**	23 23 00.0 +0.6
GRUS				*e*Sn		**Sb**	23 23 33.9 -2.1
TRUS	**Trudelj**	2.87	10	*e*Pn		**Pn**	23 23 04.7 +1.6
ZAPS	**Zavoj**	2.87	48	*e*Pn		**Pn**	23 23 04.9 +1.7
ZAPS				*e*Sn		**Sn**	23 23 37.9 -0.4
VTS	**Vitosha**	2.91	64	*e*Pn		**Pn**	23 23 04.6 +0.8
ZAGS	**Zajecar**	3.05	37	*e*Pn		**Pn**	23 23 06.5 +0.9
ZAGS				*e*Sn		**Sn**	23 23 41.8 -0.8

IDC **21** *23:30:33.7±0.6,51.26N×179.08E,h0km,mb4.2/28,*
mbtmp4.2/31,ML4.8/2,MS3.5/17,Error ellipse:
s-maj=18.6km s-min=12.0km az=167.0
AEIC **21** *23:30:37.7±1.8,51.04N±0.05×179.01E±0.07,h27km±5km,*
Error ellipse: s-maj=8.2km s-min=6.0km az=203.0
NEIC **21** *23:30:39.3±1.6,51.14N±0.07×179.04E±0.08,h33km±6km,*
mb4.3/59,ML4.3/12,ML4.0(AEIC),Error ellipse:
s-maj=10.6km s-min=7.1km az=175.0
ISC 21 23:30:39.1±0.6,51.10N±0.07×179.03E±0.04,h36km±1km,
n173,σ1509/167,mb4.3/52,MS3.7/14,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s ISC
AMKA	**Amchitka**	0.33	32			**Pn**	23 30 45.7 -1.5
AMKA						**Sn**	23 30 51.4 -2.6
CESW	**Semis' Southwe**	0.87	22			**Pn**	23 30 54.5 -0.2
LSSE	**Little Sitkin**	0.88	341			**Pn**	23 30 54.7 -0.2
LSPA	**Little Sitkin**	0.90	342			**Pn**	23 30 55.0 -0.3
LSPA						**Sn**	23 31 07.2 +0.2
CERB	**Semis' Cerberu**	0.91	24			**Pn**	23 30 55.1 -0.2
CERB						**Sn**	23 31 08.0 +0.7
CETU	**Semis' Tuman**	0.92	18			**Pn**	23 30 55.4 +0.1
LSNW	**Little Sitkin**	0.93	340			**Pn**	23 30 55.1 -0.5
GAKI	**Gareloi-Kavalg**	1.43	71			**Pn**	23 31 01.4 -1.0
GAKI						**Sn**	23 31 20.6 +0.7
GASW	**Gareloi Southw**	1.49	62			**Pn**	23 31 03.0 -0.2
GASW						**Sn**	23 31 22.7 +1.2
GALAA	**Gareloi Lava P**	1.53	63			**Pn**	23 31 03.7 -0.1
GALAA						**Sn**	23 31 24.5 +2.1
GANO	**Gareloi North**	1.54	61			**Pn**	23 31 03.9 -0.1
GANO						**Sn**	23 31 24.5 +1.9
GAEA	**Gareloi East**	1.55	63			**Pn**	23 31 03.9 -0.2
TANO	**Tanaga North**	1.96	64			**Pn**	23 31 09.8 +0.1
TASE	**Tanaga Southea**	1.98	67			**Pn**	23 31 10.0 0.0
TAFP	**Tanaga Falls P**	2.03	66			**Pn**	23 31 10.8 0.0
TAFL	**Tanaga Flats**	2.03	70			**Pn**	23 31 10.8 +0.1
TAPA	**Tanaga Point A**	2.10	69			**Pn**	23 31 12.1 +0.4
KICM	**Kanaga Island**	2.50	69			**Pn**	23 31 17.4 +0.3
KIKV	**Kanaga Island**	2.50	70			**Pn**	23 31 17.6 +0.4
KIWB	**Kanaga Island**	2.51	71			**Pn**	23 31 18.1 +0.9
KIWB					Sn	**Sn**	23 31 48.7 +2.2
KIWB					IAML		23 31 59.1
	comp=E,1μm,0.6s						
KINC	**Kanaga Island**	2.54	69			**Pn**	23 31 18.6 +0.9
KIRH	**Kanaga Island**	2.55	70			**Pn**	23 31 18.4 +0.6
ADK	**Adak**	2.79	72			**Pn**	23 31 21.7 +0.6
ADK					Sn	**Sn**	23 31 55.0 +1.4
ETKA	**Kagalaska Isla**	2.96	73			**Pn**	23 31 23.6 +0.3
GSSP	**Great Sitkin S**	3.15	70			**Pn**	23 31 26.6 +0.5
GSTD	**Great Sitkin T**	3.16	70			**Pn**	23 31 26.6 +0.3
GSMY	**Great Sitkin M**	3.21	71			**Pn**	23 31 27.0 +0.2
GSTR	**Great Sitkin T**	3.22	70			**Pn**	23 31 27.5 +0.5
GSTR					IAML		23 32 29.4
	comp=E,823nm,0.7s						
SHEM	**Shemya Is, Ala**	3.46	300		Pn	**Pn**	23 31 31.2 +1.0
SHEM					IAML		23 32 26.9
	comp=E,751nm,0.7s						
SHEM					IAML		23 32 28.4
	comp=N,630nm,0.9s						
SHEM	**Shemya Is, Ala**	3.46	300		Pn	**Pn**	23 31 29.3 -0.9
	comp=N,202nm,0.3s,baz=91,slow=2.4,SNR=62						
SHEM					Sn	**Sn**	23 32 11.4 +1.5
	comp=N,74nm,0.3s,baz=289,slow=23,SNR=8.8						
SHEM					LR	LR	23 32 52.1
	comp=N,702nm,19.1s,baz=168,slow=41						
	comp=N,281nm,0.4s						
SMY	**Shemya**	3.46	300			**Pn**	23 31 31.1 +0.8
ATKA	**Atka Island**	4.36	73			**Pn**	23 31 43.4 +0.8
ATKA					Sn	**Sn**	23 32 32.8 +0.6
ATKA					IAML		23 32 52.2
	comp=N,339nm,0.9s						
ATKA					IAML		23 32 53.9
	comp=E,345nm,1.5s						
NIKH	**Nikolski High**	7.71	71			**Pn**	23 32 30.5 +1.9
P08K	**Saint George I**	8.71	46	Pn		**Pn**	23 32 44.1 +1.8
SPIA	**Saint Paul Isl**	8.75	42	Pn		**Pn**	23 32 45.4 +2.5
UNV	**Unalaska Valle**	9.25	67			**Pn**	23 32 50.6 +0.9
LVA	**Lava Point**	9.59	66	Pn		**Pn**	23 32 55.7 +1.3
AKUT	**Akutan**	9.73	66	Pn		**Pn**	23 32 57.0 +0.8
M11K	**Mekoryuk**	12.45	36	Pn		**Pn**	23 33 35.7 +2.3
SDPT	**Sand Point**	12.98	63	Pn		**Pn**	23 33 40.6 -0.1
PEA0B	**Petropavlovsk-**	13.26	287			**Pn**	23 33 44.9 +0.4
PETK	**Petropavlovsk-**	13.26	287	Pn		**Pn**	23 33 44.2 -0.3
PETK	**Petropavlovsk-**	13.26	287	Pn		**Pn**	23 33 44.0 -0.5
	comp=E,2.8nm,0.8s,baz=88,slow=17,SNR=6.5						
PETK					LR	LR	23 38 36.9
	comp=E,100nm,21.8s,baz=106,slow=36						
CNBA	**Chernabura Isl**	13.40	66			**Pn**	23 33 45.2 -1.3
CHGN	**Chignik**	14.31	60	Pn		**Pn**	23 33 57.2 -1.6
O15K	**Ungalikthiuk R**	14.50	48	Pn		**Pn**	23 34 03.2 +1.9
M16K	**Timber Creek**	15.72	42			**P**	23 34 20.6 -0.6
L16K	**Owhat River**	15.86	40			**P**	23 34 21.3 -1.4
L16K					IAmb	IAmb	23 34 24.9
	comp=Z,30nm,1.4s		

K17K	**Iditarod**	**16.87**	**38**	P	**P**	**23 34 32.8**	**+1.0**		
K17K				IAmb	IAmb	23 34 36.5			
	comp=Z,18nm,1.1s								
J17K	**VABM Dome**	**16.97**	**35**	P	**P**	**23 34 35.3**	**+0.4**		
J17K				IAmb	IAmb	23 34 38.2			
	comp=Z,28nm,1.2s								
G16K	**Koyuk River**	**17.25**	**27**	P	**P**	**23 34 38.7**	**+0.8**		
G16K				IAmb	IAmb	23 34 41.0			
	comp=Z,23nm,1.2s								
H17K	**Granite Mounta**	**17.66**	**30**		**P**	**23 34 43.2**	**+0.7**		
KDAK	**Kodiak Island**	**17.72**	**57**	Pn	**Pn**	**23 34 39.6**	**-3.0**		
KDAK	**Kodiak Island**	**17.72**	**57**	P	**Pn**	**23 34 39.2**	**-3.4**		
	comp=Z,1.7nm,0.3s,baz=230,slow=3.9,SNR=22								
	comp=Z,5.4nm,0.4s								
J18K	**Innoko River**	**17.89**	**37**	P	**P**	**23 34 45.8**	**+0.8**		
L19K	**White Mountain**	**18.00**	**42**	P	**P**	**23 34 46.8**	**+0.5**		
MA2	**Magadan**	**18.05**	**309**	LR	LR	23 41 28.8			
	comp=Z,141nm,18.4s,baz=118,slow=36								
F17K	**Baldwin Pennin**	**18.33**	**26**	P	**Pn**	**23 34 50.1**	**+0.2**		
SEY	**Seymchan**	**18.56**	**320**	LR	LR	23 41 16.9			
	comp=Z,144nm,21.7s,baz=86,slow=35								
J19K	**Poorman**	**18.58**	**36**	P	**Pn**	**23 34 53.1**	**0.0**		
G18K	**Tagagawik**	**18.69**	**29**	P	**P**	**23 34 53.5**	**-0.4**		
SPU	**Mount Spurr**	**18.85**	**46**	P	**Pn**	**23 34 56.8**	**+0.4**		
SPU				IAmb	IAmb	23 35 10.1			
	comp=Z,16nm,1.2s								
STLK	**Strandline Lak**	**19.05**	**46**	P	**P**	**23 34 57.6**	**-0.3**		
STLK				IAmb	IAmb	23 35 12.6			
	comp=Z,13nm,0.8s								
E18K	**Tukpahlearik C**	**19.23**	**24**	P	**Pn**	**23 35 01.2**	**+0.4**		
E18K				IAmb	IAmb	23 35 03.0			
	comp=Z,9.9nm,0.7s								
SKT	**Skwentna**	**19.36**	**44**		**Pn**	**23 35 02.4**	**-0.1**		
SKT				IAmb	IAmb	23 35 16.2			
	comp=Z,25nm,1.0s								
PPLA	**Purkeypile**	**19.42**	**42**	P	**Pn**	**23 35 02.9**	**-0.5**		
PPLA				IAmb	IAmb	23 35 08.0			
	comp=Z,12nm,0.8s								
C18K	**Utukok River**	**20.03**	**21**	P	**Pn**	**23 35 09.4**	**-1.0**		
C18K				IAmb	IAmb	23 35 14.3			
	comp=Z,19nm,0.9s								
E19K	**Redstone River**	**20.17**	**27**	P	Pn	23 35 10.7	-1.2		
E19K				IAmb	IAmb	23 35 12.4			
	comp=Z,18nm,1.0s								
IMAR	**Indian Mountai**	**20.34**	**33**	P	**P**	**23 35 11.9**	**+0.2**		
BPAW	**Bear Paw Mtn.**	**20.42**	**39**	P	**P**	**23 35 12.8**	**0.0**		
BPAW				IAmb	IAmb	23 35 14.2			
	comp=Z,9.2nm,1.0s								
TRF	**Thorofare Moun**	**20.44**	**41**		**P**	**23 35 12.8**	**-0.3**		
TRF				IAmb	IAmb	23 35 18.0			
	comp=Z,15nm,1.0s								
SCM	**Sheep Creek Mo**	**21.20**	**47**	P	**P**	**23 35 20.0**	**-1.3**		
SCM				IAmb	IAmb	23 35 33.2			
	comp=Z,22nm,1.0s								
DHY	**Denali Highway**	**21.54**	**43**		**P**	**23 35 24.4**	**-0.5**		
DHY				IAmb	IAmb	23 35 38.6			
	comp=Z,13nm,0.8s								
E21K	**Killik River**	**21.74**	**27**	P	**P**	**23 35 27.1**	**+0.2**		
E21K				IAmb	IAmb	23 35 29.7			
	comp=Z,9.7nm,0.7s								
B20K	**Meade River**	**22.00**	**22**	P	**P**	**23 35 29.5**	**-0.1**		
ILAR	**Eielson Array**	**22.32**	**39**	P	**P**	**23 35 33.3**	**+0.1**		
ILAR	**Eielson Array**	**22.32**	**39**	P	**P**	**23 35 30.6**	**-2.5**		
	comp=Z,1.5nm,0.5s,baz=240,slow=8.9,SNR=19								
ILAR				PcP	**PcP**	**23 39 26.8**	**-0.5**		
	comp=Z,0.6nm,0.7s,baz=280,slow=3.7,SNR=6.1								
	comp=Z,1.5nm,0.5s								
B21K	**Ikpikpuk River**	**22.35**	**24**	P	**P**	**23 35 32.9**	**-0.5**		
RIDG	**Independent Ri**	**22.82**	**43**	P	**P**	**23 35 36.6**	**-1.9**		
RIDG				IAmb	IAmb	23 36 11.3			
	comp=Z,13nm,1.3s								
F24K	**Squaw Lake**	**23.13**	**32**		**P**	**23 35 41.9**	**+0.3**		
TOLK	**Toolik Lake Re**	**23.17**	**29**	P	**P**	**23 35 41.8**	**-0.1**		
TOLK				IAmb	IAmb	23 35 43.7			
	comp=Z,7.5nm,0.6s								
M26K	**Nabesna, AK**	**23.32**	**46**	P	**P**	**23 35 42.4**	**-1.1**		
J26L	**Joseph Creek**	**23.58**	**41**	P	**P**	**23 35 44.2**	**-1.9**		
J26L				IAmb	IAmb	23 35 45.8			
	comp=Z,11nm,0.8s								
BCAR	**Beaver Creek A**	**24.00**	**45**	P	**P**	**23 35 49.3**	**-0.6**		
K27K	**Chicken**	**24.08**	**43**	P	**P**	**23 35 49.9**	**-0.8**		
K27K				IAmb	IAmb	23 35 53.7			
	comp=Z,11nm,1.2s								
BMAR	**Burnt Mountain**	**24.23**	**34**	P	**P**	**23 35 51.7**	**-0.3**		
D25K	**Kavik River**	**24.51**	**29**	P	**P**	**23 35 54.4**	**-0.1**		
D25K				IAmb	IAmb	23 35 56.4			
	comp=Z,15nm,1.1s								
EGAK	**Eagle**	**24.66**	**41**	P	**P**	**23 35 55.5**	**-0.4**		
JKA	**Kamikawa-asahi**	**25.33**	**268**	P	**P**	**23 36 03.2**	**+1.0**		
ASAJ	**Asahikawa**	**25.33**	**268**	P	**P**	**23 36 02.8**	**+0.5**		
	comp=Z,19nm,0.8s,baz=52,slow=4.2,SNR=7.9								
ASAJ				LR	LR	23 45 49.4			
	comp=Z,44nm,21.4s,baz=146,slow=36								
	comp=Z,19nm,0.8s								
YAK	**Yakutsk**	**28.58**	**312**	LR	LR	23 47 49.3			
	comp=Z,98nm,20.4s,baz=80,slow=36								
MJAR	**Matsushiro Arr**	**32.39**	**259**	P	**P**	**23 37 05.5**	**+0.4**		
	comp=Z,1.4nm,0.8s,baz=40,slow=8.0,SNR=3.1								
	comp=Z,1.4nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**32.73**	**201**	T	T	00 12 13.4			
	baz=10,slow=76,SNR=26								
H11N3	**WAKE ISLAND Hy**	**32.74**	**201**	T	T	00 12 14.5			
	baz=10,slow=76,SNR=26								
H11N1	**WAKE ISLAND Hy**	**32.75**	**201**	T	T	00 12 07.4			
	baz=10,slow=76,SNR=18								
H11S1	**WAKE ISLAND Hy**	**33.96**	**201**	T	T	00 13 50.7			
	baz=20,slow=76,SNR=23								
H11S2	**WAKE ISLAND Hy**	**33.98**	**201**	T	T	00 13 51.4			
	baz=20,slow=76,SNR=13								
H11S3	**WAKE ISLAND Hy**	**33.98**	**201**	T	T	00 13 44.2			
	baz=20,slow=76,SNR=8.5								
YKA	**Yellowknife Ar**	**36.41**	**46**	P	**P**	**23 37 38.1**	**-1.5**		
	comp=Z,2.6nm,0.7s,baz=286,slow=8.4,SNR=4.9								
	comp=Z,2.6nm,0.7s								
LON	**Longmire**	**38.21**	**73**	P	**P**	**23 37 54.7**	**-0.4**		
LON				IAmb	IAmb	23 38 23.7			
	comp=Z,3.1nm,0.9s								
KSRS	**Korea Array**	**38.27**	**269**	P	**P**	**23 37 56.4**	**+0.8**		
	comp=Z,2.0nm,0.9s,baz=60,slow=8.5,SNR=3.7								
	comp=Z,2.0nm,0.9s								
HAWA	**Hanford**	**39.75**	**72**	P	**P**	**23 38 08.1**	**+0.2**		
HAWA				IAmb	IAmb	23 38 09.8			
	comp=Z,6.4nm,1.1s								
RES	**Resolute Bay**	**40.56**	**24**	LR	LR	23 56 36.6			
	comp=Z,56nm,20.3s,baz=14,slow=39								
BMO	**Blue Mountains**	**41.88**	**73**		**P**	**23 38 25.6**	**0.0**		
HLID	**Hailey**	**44.33**	**73**		**P**	**23 38 44.8**	**-0.7**		
HLID				IAmb	IAmb	23 38 46.8			
	comp=Z,3.9nm,0.8s								
BOZ	**Bozeman (W)**	**44.86**	**69**	P	**P**	**23 38 49.0**	**-0.7**		
BOZ				IAmb	IAmb	23 38 50.4			
	comp=Z,3.2nm,0.7s								
NVAR	**Mina Array Bea**	**44.94**	**81**	P	**P**	**23 38 50.5**	**-0.1**		
NVAR	**Mina Array Bea**	**44.94**	**81**	P	**P**	**23 38 51.3**	**+0.8**		
	comp=Z,0.7nm,0.6s,baz=294,slow=7.6,SNR=5.4								
	comp=Z,0.7nm,0.6s								
ELK	**Elko**	**45.45**	**76**	P	**P**	**23 38 55.0**	**+0.5**		
ELK	**Elko**	**45.45**	**76**	P	**P**	**23 38 55.3**	**+0.8**		
	comp=Z,1.9nm,0.9s,baz=300,slow=8.9,SNR=5.9								
	comp=Z,1.9nm,0.9s								
SONM	**Songino Array**	**45.54**	**296**	P	**P**	**23 38 54.8**	**-0.3**		
SONM	**Songino Array**	**45.54**	**296**	P	**P**	**23 38 55.8**	**+0.8**		
	comp=Z,1.8nm,0.5s,baz=68,slow=7.5,SNR=12								
SONM				LR	LR	23 59 57.3			
	comp=Z,89nm,18.1s,baz=87,slow=39								
	comp=Z,1.8nm,0.5s								
HHC	**Hu-ho-hao-te**	**46.45**	**285**	*eP*	**P**	**23 39 04.4**	**+2.2**		
HHC				pmax	pmax				
	comp=Z,16nm,0.6s								
HHC				pmax	pmax				
	comp=Z,140nm,5.6s								
TPNV	**Topopah Spring**	**47.14**	**81**	P	**P**	**23 39 08.1**	**+0.3**		
TPNV				IAmb	IAmb	23 39 23.9			
	comp=Z,4.2nm,0.9s								
HWUT	**Hardware Ranch**	**47.17**	**73**		**P**	**23 39 08.1**	**+0.1**		
HWUT				IAmb	IAmb	23 39 26.2			
	comp=Z,5.3nm,1.2s								
PDAR	**Pinedale Array**	**47.69**	**71**	P	**P**	**23 39 11.7**	**-0.4**		
PDAR	**Pinedale Array**	**47.69**	**71**	P	**P**	**23 39 12.2**	**+0.2**		
	comp=Z,4.8nm,0.7s,baz=311,slow=3.2,SNR=52								
	comp=Z,4.8nm,0.7s								
SPITS	**Spitsbergen Ar**	**50.55**	**355**	P	**P**	**23 39 32.4**	**-0.8**		
	comp=Z,2.1nm,0.3s,baz=45,slow=6.0,SNR=33								
	comp=Z,2.1nm,0.3s								
SPB2	**Spitsbergen Ar**	**50.55**	**355**	P	**P**	**23 39 32.4**	**-0.8**		
ULM	**Lac du Bonnet**	**50.97**	**55**	LR	LR	00 01 18.4			
	comp=Z,92nm,18.7s,baz=258,slow=36								
ZALV	**Zalesovo Beam**	**53.22**	**313**	P	**P**	**23 39 53.0**	**-0.3**		
	comp=Z,1.1nm,0.4s,baz=54,slow=6.9,SNR=6.5								
ZALV				PcP	**PcP**	**23 41 01.5**	**+0.7**		
	comp=Z,1.4nm,0.6s,baz=39,slow=5.7,SNR=5.0								
	comp=Z,1.1nm,0.4s								
SUMG	**Summit**	**53.89**	**13**	*i* P	**P**	**23 39 56.0**	**-2.5**		
GTA	**Gaotai**	**54.39**	**291**	*eP*	**P**	**23 40 02.9**	**+0.6**		
GTA				sP	pwP	23 40 14.8	-1.4		
GTA				pmax	pmax				
	comp=Z,14nm,0.9s								
ARCES	**ARCESS Array B**	**58.12**	**349**	P	**P**	**23 40 26.7**	**-1.6**		
	comp=Z,3.0nm,0.9s,baz=12,slow=7.1,SNR=4.5								
ARCES				LR	LR	00 05 20.4			
	comp=Z,22nm,21.9s,baz=24,slow=36								
	comp=Z,3.0nm,0.9s								
KURK	**Kurchatov**	**58.22**	**313**	P	**P**	**23 40 29.2**	**0.0**		
KURBB	**Kurchatov Arra**	**58.32**	**313**	P	**P**	**23 40 30.1**	**+0.2**		
	comp=Z,6.1nm,0.5s,baz=42,slow=6.6,SNR=90								
	comp=Z,6.1nm,0.5s								
WMQ	**Urumqi**	**58.34**	**302**	*eP*	**P**	**23 40 33.8**	**+3.6**		
WMQ				LR	LR				
	comp=Z,78nm,24.0s								
MKAR	**Makanchi Array**	**59.13**	**307**		**P**	**23 40 35.0**	**-0.7**		
MKAR	**Makanchi Array**	**59.13**	**307**	P	**P**	**23 40 35.2**	**-0.5**		
	comp=Z,1.9nm,0.5s,baz=49,slow=6.0,SNR=26								
MKAR				LR	LR	00 06 50.0			
	comp=Z,58nm,20.5s,baz=42,slow=37								
	comp=Z,1.9nm,0.5s								
MAKZ	**Makanchi**	**59.27**	**308**	P	**P**	**23 40 36.3**	**-0.4**		
MAKZ				IAmb	IAmb	23 40 41.0			
	comp=Z,4.2nm,0.9s								
BVAR	**Borovoye Array**	**60.21**	**319**	P	**P**	**23 40 43.5**	**+0.5**		
	comp=Z,6.2nm,0.4s,baz=48,slow=5.8,SNR=51								
BVAR				LR	LR	00 08 08.3			
	comp=Z,67nm,21.8s,baz=76,slow=38								
	comp=Z,6.2nm,0.4s								
PZH	**PanZhiHua**	**62.04**	**278**	P	**P**	**23 40 57.6**	**+1.7**		
ARTI	**Arti**	**62.20**	**327**		**P**	**23 40 57.1**	**+0.7**		
KIRV	**Kirov**	**63.22**	**333**	LR	LR	00 12 56.3			
	comp=Z,39nm,18.4s,baz=52,slow=40								
FINES	**FINESS Array B**	**65.74**	**346**	P	**P**	**23 41 17.9**	**-1.5**		
	comp=Z,2.5nm,0.9s,baz=35,slow=7.0,SNR=6.6								
	comp=Z,2.5nm,0.9s								
AKTO	**Aktyubinsk**	**67.11**	**323**	LR	LR	00 13 26.8			
	comp=Z,99nm,18.9s,baz=218,slow=38								
AB31	**Akbulak array**	**67.32**	**322**	P	**P**	**23 41 30.7**	**+0.9**		
ABKAR	**Akbulak array**	**67.32**	**322**	P	**P**	**23 41 30.6**	**+0.8**		
KK31	**Karatay Array**	**67.55**	**311**	P	**P**	**23 41 31.6**	**+0.1**		
KKAR	**Karatay Array**	**67.55**	**311**	P	**P**	**23 41 32.1**	**+0.6**		
KSH	**Kashi**	**67.56**	**305**	P	**P**	**23 41 35.1**	**+3.4**		
KSH				pmax	pmax				
	comp=Z,5.0nm,0.8s								
NC204	**NORSAR Array S**	**67.58**	**354**	P	**P**	**23 41 30.5**	**-0.8**		
ARSB	**Arslanbob**	**67.71**	**309**	P	**P**	**23 41 33.8**	**+1.2**		
ARSB				IAmb	IAmb	23 41 35.4			
	comp=Z,3.4nm,0.8s								
NOA	**NORSAR Array B**	**67.78**	**354**	P	**P**	**23 41 30.9**	**-1.7**		
	comp=Z,1.5nm,0.7s,baz=8.4,slow=6.3,SNR=7.8								
NOA				LR	LR	00 10 42.3			
	comp=Z,9.1nm,20.7s,baz=275,slow=36								
	comp=Z,1.5nm,0.7s								
HFS	**Hagfors**	**68.49**	**352**	P	**P**	**23 41 35.4**	**-1.6**		
	comp=Z,1.0nm,0.6s,baz=27,slow=3.6,SNR=4.9								
	comp=Z,1.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**69.68**	**274**	P	**P**	**23 41 44.9**	**-0.1**		
	comp=Z,1.1nm,0.3s,baz=29,slow=6.9,SNR=8.8								
	comp=Z,1.1nm,0.3s								
SIMJ	**Simiganj**	**71.71**	**309**	P	**P**	**23 41 57.1**	**-0.1**		
EKA	**Eskdalemuir Ar**	**73.92**	**1**	P	**P**	**23 42 09.0**	**-0.9**		
	comp=Z,0.9nm,0.5s,baz=1.9,slow=4.5,SNR=5.1								
	comp=Z,0.9nm,0.5s								
AKASG	**Malin Array Be**	**75.38**	**341**	P	**P**	**23 42 17.2**	**-1.1**		
	comp=Z,1.0nm,0.4s,baz=26,slow=6.2,SNR=6.3								
	comp=Z,1.0nm,0.4s								
KBZ	**Khabaz**	**78.16**	**329**	P	**P**	**23 42 33.0**	**-1.2**		
	comp=Z,4.1nm,1.0s,baz=5.7,slow=10,SNR=3.0								
	comp=Z,4.1nm,1.0s								
GERES	**GERESS Array B**	**79.64**	**350**	P	**P**	**23 42 40.3**	**-2.1**		
	comp=Z,0.1nm,0.4s,baz=29,slow=6.2,SNR=1.7								
	comp=Z,0.1nm,0.4s								
GNI	**Garni**	**80.73**	**326**	LR	LR	00 24 05.7			
	comp=Z,40nm,18.2s,baz=96,slow=40								
WRA	**Warramunga Arr**	**80.88**	**222**	P	**P**	**23 42 49.1**	**0.0**		
	comp=Z,1.3nm,0.6s,baz=35,slow=6.0,SNR=8.4								
	comp=Z,1.3nm,0.6s								
MOTA	**Moosalm**	**81.39**	**352**	*i* P	**P**	**23 42 51.7**	**-0.2**		
	comp=Z,0.9nm,0.6s								
KBA	**Koelnbreinsper**	**81.43**	**350**	*i* P	**P**	**23 42 52.7**	**+0.6**		
	comp=Z,1.1nm,0.5s								
SOKA	**Soboth**	**81.63**	**349**	*eP*	**P**	**23 42 53.5**	**+0.4**		
	comp=Z,1.6nm,0.7s								
ABTA	**Abfaltersbach**	**81.84**	**351**	*i* P	**P**	**23 42 54.2**	**0.0**		
	comp=Z,0.4nm,0.4s								
OBKA	**Obir**	**81.85**	**349**	*i* P	**P**	**23 42 54.7**	**+0.4**		
	comp=Z,0.5nm,0.4s								
FITZ	**Fitzroy Crossi**	**83.22**	**230**	P	**P**	**23 43 01.7**	**+0.3**		
	comp=Z,2.2nm,0.9s,baz=9.5,slow=6.1,SNR=2.2								
	comp=Z,2.2nm,0.9s								
ASAR	**Alice Springs**	**84.37**	**221**	P	**P**	**23 43 08.0**	**+0.7**		
	comp=Z,1.0nm,0.7s,baz=19,slow=5.2,SNR=7.2								
	comp=Z,1.0nm,0.7s								
BRTR	**Keskin Array B**	**84.61**	**334**	P	**P**	**23 43 08.2**	**-0.5**		
	comp=Z,2.1nm,0.8s,baz=54,slow=4.0,SNR=8.2								
	comp=Z,2.1nm,0.8s								
STKA	**Stephens Creek**	**88.97**	**211**	LR	LR	00 19 06.5			
	comp=Z,40nm,19.5s,baz=24,slow=33								
ESDC	**Sonseca Array**	**89.57**	**2**	P	**P**	**23 43 31.5**	**-1.0**		
	comp=Z,0.5nm,0.8s,baz=345,slow=6.9,SNR=2.9								
	comp=Z,0.5nm,0.8s								
TORD	**Torodi Ar. Bea**	**115.98**	**357**	PKP	**PKiKP**	**23 49 16.9**	**-1.2**		
	comp=Z,0.3nm,0.7s,baz=5.9,slow=2.1,SNR=2.1								
H03N2	**Juan Fernandez**	**122.39**	**104**	T	T	02 03 50.6			
	baz=316,slow=77,SNR=26								
H03N1	**Juan Fernandez**	**122.41**	**104**	T	T	02 03 55.8			
	baz=316,slow=77,SNR=31								
H03N3	**Juan Fernandez**	**122.41**	**104**	T	T	02 03 51.4			
	baz=316,slow=77,SNR=25								
QSPA	**South Pole Qui**	**140.85**	**180**	PKP	**PKPdf**	**23 50 04.4**	**+0.8**		
	comp=Z,1.6nm,0.7s,baz=327,slow=2.1,SNR=6.2								
BOSA	**Boshof**	**150.12**	**309**	PKPbc	**PKPbc**	**23 50 26.2**	**+0.4**		
	comp=Z,3.9nm,0.8s,baz=25,slow=3.0,SNR=14								

TRN 21 23:31:39.2, 14.59N×60.34W, h24km, MD3.7, East of Martinique., Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIM	**Bigot**	**0.72**	**264**	*eP*	Pn	23 31 55.2	+1.3
BIM				*eS*	Sn	23 32 06.6	+2.5
SLBI	**Saint Lucia, B**	**0.84**	**228**	*eP*	Pn	23 31 56.2	+0.7
SLBI				*eS*	Sn	23 32 08.8	+1.8
SVN	**Savane Anatole**	**0.84**	**287**	*eP*	Pn	23 31 57.1	+1.5
SVN				*eS*	Sn	23 32 09.7	+2.4
DLPL	**La Plaine**	**1.15**	**310**	*eP*	Pb	23 32 01.1	+0.6
DLPL				*eS*	Sb	23 32 17.0	+2.0
MDN	**Morne-Daniel**	**1.25**	**305**	*eP*	Pb	23 32 02.6	+0.4
MDN				*eS*	Sb	23 32 19.3	+1.3
DSLB	**Salisbury**	**1.35**	**309**	*eP*	Pb	23 32 03.9	+0.1
DSLB				*eS*	Sb	23 32 21.7	+1.1
DWS	**Wesley**	**1.35**	**316**	*eP*	Pb	23 32 03.9	0.0
DWS				*eS*	Sb	23 32 22.3	+1.4
SVB	**Belmont**	**1.58**	**214**	*eP*	Pn	23 32 06.6	+0.8
SVB				*eS*	Sb	23 32 26.9	-0.6
BBGH	**Gun Hill**	**1.62**	**152**	*eP*	Pb	23 32 08.6	+0.1
BBGH				*eS*	Sb	23 32 29.2	+0.6
TBG	**Guadaloupe-3**	**1.78**	**315**	*eP*	Pn	23 32 09.7	+1.2
TBG				*eS*	Sn	23 32 31.0	+0.6
DSDZ	**La Diserade, G**	**1.85**	**338**	*eP*	Pn	23 32 10.0	+0.5
DSDZ				*eS*	Sn	23 32 33.5	+1.3
MMLZ	**Guadeloupe Bro**	**1.94**	**318**	*eP*	Pn	23 32 11.5	+0.9
MMLZ				*eS*	Sn	23 32 35.4	+1.1
ATGZ	**Broadband at L**	**2.01**	**318**	*eP*	Pn	23 32 13.1	+1.5
DHSZ	**Broadband at M**	**2.17**	**321**	*eP*	Pn	23 32 15.0	+1.2
DHSZ				*eS*	Sb	23 32 43.1	-1.2
GCMP	**Grenada, Carri**	**2.34**	**207**	*eP*	Pn	23 32 17.3	+1.0
GCMP				*eS*	Sn	23 32 45.4	+1.1
GRSS	**Sisters**	**2.59**	**209**	*eP*	Pn	23 32 21.2	+1.5
GRSS				*eS*	Sn	23 32 52.9	+2.4
GRHS	**Sauteurs**	**2.67**	**209**	*eP*	Pn	23 32 21.6	+0.8
GRHS				*eS*	Sn	23 32 52.6	+0.2
GRW	**Mount Saint Ca**	**2.74**	**208**	*eP*	Pn	23 32 23.8	+2.0
GRW				*eS*	Sn	23 32 55.6	+1.4
GRGR	**Grenville**	**2.76**	**208**	*eP*	Pn	23 32 23.2	+1.2
GRGR				*eS*	Sn	23 32 56.2	+1.6
GRFF	**Grenada Fort F**	**2.87**	**209**	*eP*	Pn	23 32 24.1	+0.6
ANWB	**Willy Bob**	**3.36**	**336**	*eP*	Pn	23 32 31.5	+1.2
ANWB				*eS*	Sn	23 33 10.3	+0.8

*NEIC **21** 23:38:08.7±0.7, 35.897N×0.009×98.53W×0.01, h7km±3km, Error ellipse: s-maj=1.7km s-min=1.4km az=81.0*
*NEIC **21** 23:38:08.5±0.7, 35.894N×0.010×98.53W×0.01, h5km±1km, mb_Lg3.3/107, ML3.1/29, ML3.4/44, Error ellipse: s-maj=2.2km s-min=2.0km az=112.0*
*IDC **21** 23:38:08.5±1.2, 35.69N×98.59W, h0km, mbtmp3.3/5, ML3.1/5, Error ellipse: s-maj=15.2km s-min=12.6km az=148.0*

ISC 21 23:38:08.0±1.3, 35.89N±0.02×98.54W±0.02, h4km±12km, n92, σ0.94/75, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSTR	**Hydro, Custer**	**0.28**	**207**		**Pb**	**23 38 14.5**	**-1.1**
CSTR				Sg	Sb	23 38 19.3	-1.4
OK038	**West end E0370**	**0.61**	**344**		**Pb**	**23 38 20.4**	**-0.8**
OK038				Sg	Sb	23 38 29.1	-1.1
ELIS	**Ellis County**	**0.74**	**284**		**Pb**	**23 38 22.7**	**-0.8**
ELIS					**Sb**	**23 38 33.4**	**-0.5**
ELIS				IAML		23 38 47.8	
	comp=E,2μm,0.3s						
CROK	**Carrier**	**0.76**	**36**		**Pb**	**23 38 23.0**	**-0.8**
CROK					**Sb**	**23 38 33.6**	**-0.9**
CROK				IAML		23 38 38.9	
	comp=N,2μm,0.3s						
BCOK	**Bluff Creek, N**	**0.79**	**107**		**Pg**	**23 38 23.6**	**+0.4**
BCOK					**Sb**	**23 38 34.7**	**-0.6**
NOKA	**Waynoka**	**0.81**	**337**		**Pb**	**23 38 24.0**	**-0.6**
NOKA					**Sb**	**23 38 35.4**	**-0.5**
OK029	**Liberty Lake**	**0.88**	**96**		**Pg**	**23 38 25.2**	**+0.2**
OK029					**Sb**	**23 38 37.4**	**-0.7**
OK004	**Okla Sci Mus**	**0.94**	**113**		**Pg**	**23 38 26.3**	**+0.3**
OK004					**Sb**	**23 38 39.2**	**-0.5**
ADOK	**Arcadia Dam**	**0.98**	**104**		**Pg**	**23 38 26.9**	**+0.1**
OKCFA	**Oklahoma City**	**1.00**	**118**		**Pg**	**23 38 27.3**	**0.0**
OKCFA					**Sg**	**23 38 40.9**	**+0.6**
OKCSW	**OKLAHOMA CITY**	**1.02**	**118**		**Pb**	**23 38 28.0**	**-0.3**
OKCSW					**Sg**	**23 38 41.2**	**+0.5**
OKCSW				IAML		23 38 44.0	
	comp=N,1μm,0.2s						
OKCSW				IAML		23 38 49.6	
	comp=E,902nm,0.3s						
GC02	**Grant County #**	**1.10**	**29**		**Pb**	**23 38 29.2**	**-0.4**
GC02					**Sb**	**23 38 44.0**	**-0.4**
FNO	**Franklin**	**1.12**	**124**		**Pb**	**23 38 29.7**	**-0.3**
FNO				IAML		23 38 45.6	
	comp=E,1μm,0.2s						
FNO				IAML		23 38 50.4	
	comp=N,1μm,0.4s						
KAN14	**Manchester OK**	**1.16**	**23**		**Pg**	**23 38 29.9**	**-0.3**
KAN14					**Sb**	**23 38 45.6**	**-0.4**
KAN14				IAML		23 38 49.2	
	comp=N,990nm,0.2s						
KAN14				IAML		23 38 49.2	
	comp=E,1μm,0.3s						
BLOK	**Blackwell**	**1.37**	**51**		**Pn**	**23 38 33.6**	**-0.4**
OK048	**Pawnee Station**	**1.39**	**67**		**Pb**	**23 38 34

ANMO	**Albuquerque**	**6.54**	**264**	Pn	**Pn**	**23 39 46.0**	**+0.8**		
	comp=Z,0.2nm,0.3s,baz=174,slow=18,SNR=2.2								
ANMO				Pg	Pb	23 40 07.2	+4.8		
	comp=Z,0.6nm,0.3s,baz=173,slow=17,SNR=17								
ANMO				Lg	Lg	23 41 30.7			
	comp=Z,2.4nm,0.3s,baz=243,slow=12,SNR=6.7								
	comp=Z,0.8nm,0.4s								
PBMO	**Poplar Bluff**	**6.60**	**80**	lAmb_Lg		23 41 50.6			
	comp=Z,67nm,0.9s								
EF04	**Eagle Ford 04**	**6.69**	**174**	lAmb_Lg		23 41 50.8			
	comp=Z,45nm,0.8s								
FVM	**French Village**	**6.82**	**70**	lAmb_Lg		23 41 55.5			
	comp=Z,40nm,0.8s								
ISCO	**Idaho Springs**	**6.82**	**307**	lAmb_Lg		23 41 49.0			
	comp=Z,28nm,0.9s								
735A	**Kenedy**	**7.04**	**175**	lAmb_Lg		23 41 47.0			
	comp=Z,36nm,0.7s								
Y22A	**Socorro**	**7.19**	**257**	lAmb_Lg		23 42 08.3			
	comp=Z,22nm,0.9s								
CGM3	**Cape Girardeau**	**7.28**	**76**	lAmb_Lg		23 42 13.0			
	comp=Z,28nm,0.8s								
HALT	**Halls**	**7.46**	**87**	lAmb_Lg		23 42 25.8			
	comp=Z,52nm,0.9s								
833A	**Chaparral WMA,**	**7.58**	**186**	lAmb_Lg		23 42 28.1			
	comp=Z,30nm,1.1s								
EPT	**El Paso**	**7.80**	**240**	lAmb_Lg		23 42 31.0			
	comp=Z,25nm,1.1s								
TXAR	**Lajitas Array**	**7.84**	**215**	Pn	**Pn**	**23 40 00.1**	**-2.8**		
	comp=Z,0.1nm,0.3s,baz=36,slow=11,SNR=8.0								
TXAR				Lg	Lg	23 42 06.8			
	comp=Z,1.6nm,0.3s,baz=56,slow=27,SNR=10								
	comp=Z,0.2nm,0.4s								
ECSD	**EROS Data Cent**	**7.97**	**10**	lAmb_Lg		23 42 32.4			
	comp=Z,22nm,1.1s								
HAYD	**Hayden**	**8.28**	**307**	lAmb_Lg		23 42 48.4			
	comp=Z,18nm,0.9s								
L40A	**Anamosa**	**8.39**	**41**	lAmb_Lg		23 42 51.3			
	comp=Z,46nm,0.7s								
SUSD	**Miller**	**8.55**	**358**	lAmb_Lg		23 42 56.3			
	comp=Z,30nm,0.9s								
I37A	**Lemond, Waseca**	**9.02**	**24**	lAmb_Lg		23 43 03.7			
	comp=Z,41nm,1.0s								
K22A	**Casper**	**9.16**	**320**	lAmb_Lg		23 43 17.9			
	comp=Z,30nm,0.9s								
L42A	**Oliver, Polo**	**9.21**	**46**	lAmb_Lg		23 43 13.3			
	comp=Z,33nm,0.8s								
JFWS	**Jewell Farm**	**9.50**	**40**	lAmb_Lg		23 43 22.4			
	comp=Z,33nm,0.8s								
PDAR	**Pinedale Array**	**10.95**	**312**	Pn	**Pn**	**23 40 49.6**	**+4.0**		
	comp=Z,0.1nm,0.3s,baz=106,slow=11,SNR=1.4								
PDAR				Lg	Lg	23 43 51.2			
	comp=Z,0.8nm,0.3s,baz=114,slow=29,SNR=8.3								
	comp=Z,0.1nm,0.4s								
TKL	**Tuckaleechee C**	**11.99**	**87**	Pn	**Pn**	**23 40 59.3**	**-0.5**		
	comp=Z,0.1nm,0.3s,baz=258,slow=9.3,SNR=1.6								
TKL				Lg	Lg	23 44 21.3			
	comp=Z,0.6nm,0.3s,baz=178,slow=22,SNR=4.1								
	comp=Z,2.8nm,1.0s								
ULM	**Lac du Bonnet**	**14.48**	**7**	Pn	**Pn**	**23 41 32.8**	**-0.8**		
	comp=Z,0.2nm,0.3s,baz=184,slow=14,SNR=1.9								
	comp=Z,0.9nm,0.5s								

CATAC 21 23:38:40.9±0.7, 12°N±3°×8°8W±°, h22km±6km, M4.0/15, MLv4.0/15, 5C-1D, Error ellipse: s-maj=7.0km s-min=3.6km az=33.5, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALEN	**Leon**	**1.27**	**56**	S	Sb	23 39 19.8	-0.1
ALEN	**Leon**	**1.27**	**56**	P	Pn	23 39 02.2	-1.0
CRIN	**San Cristobal**	**1.29**	**43**	P	Pn	23 39 03.8	+0.2
CRIN	**San Cristobal**	**1.29**	**43**	S	Sb	23 39 21.3	+0.7
POTN	**Potosi Cosigui**	**1.31**	**19**	⇑P	Pn	23 39 03.6	-0.3
POTN				S	Sb	23 39 21.2	-0.1
PKGN	**Cerro Pekin**	**1.32**	**46**	⇑P	Pn	23 39 03.8	-0.1
PKGN				S	Sn	23 39 21.0	+0.2
COPN	**Copaltepe**	**1.39**	**72**	⇑P	Pn	23 39 03.8	-1.1
PLRN	**Geotermica Pol**	**1.42**	**54**	P	Pn	23 39 04.9	-0.4
PLRN				S	Sb	23 39 24.0	-0.4
CNGA	**Al SSO del Vol**	**1.42**	**58**	⇑P	Pn	23 39 05.2	-0.3
CNGN	**Cerro Negro**	**1.43**	**58**	P	Pn	23 39 05.3	-0.2
LCND	**La Caada**	**1.55**	**2**	P	Pn	23 39 07.1	-0.1
MOM3	**MOM3**	**1.59**	**61**	P	Pn	23 39 07.5	-0.1
MOM3				S	Sn	23 39 28.3	+0.8
PACA	**Pacayal**	**1.75**	**348**	S	Sn	23 39 32.8	+1.1
PACA	**Pacayal**	**1.75**	**348**	P	Pn	23 39 10.2	+0.2
MAS3	**Al N del Volca**	**1.75**	**81**	P	Pn	23 39 09.7	-0.2
MAS3				S	Sn	23 39 31.8	+0.1
NANN	**Nandasmo**	**1.79**	**84**	P	Pn	23 39 11.5	+1.0
NANN	**Nandasmo**	**1.79**	**84**	S	Sn	23 39 33.9	+1.2
MORN	**Al O del Volca**	**2.26**	**95**	P	Pn	23 39 16.9	0.0
MORN				S	Sn	23 39 44.5	+0.4
MATN	**Matagalpa**	**2.30**	**59**	P	Pn	23 39 16.4	-1.1
TGUH	**Tegucigalpa,Un**	**2.39**	**16**	P	Pn	23 39 18.9	+0.2
TGUH				S	Sn	23 39 47.5	0.0
YUSH	**Yuscaran**	**2.44**	**26**	S	Sn	23 39 49.9	+1.2
YUSH	**Yuscaran**	**2.44**	**26**	⇑P	Pn	23 39 19.7	+0.2
RCVN	**Varillal2**	**2.50**	**43**	S	Sn	23 39 50.7	+0.5
RCVN	**Varillal2**	**2.50**	**43**	⇓P	Pn	23 39 20.8	+0.5
RCPN	**Sur Rio San Ju**	**2.53**	**45**	P	Pn	23 39 21.3	+0.6
NUBE	**Las Nubes**	**2.79**	**320**	P	Pn	23 39 25.2	+0.8
NUBE	**Las Nubes**	**2.79**	**320**	S	Sn	23 39 56.9	-0.6

*TIR **21** 23:40:08.1, 41°.47N×19°.55E, h16km, Ml2.6/3*
*BEO **21** 23:40:09.9±0.4, 41°.46N×19°.59E, h4km±3km, ML2.0/13*
*PDG **21** 23:40:10.5±0.4, 41°.51N×19°.52E, h11km±1km, ML2.5/11, Error ellipse: s-maj=1.8km s-min=2.3km az=0.0*
ISC 21 23:40:09.6±1.0, 41°.47N±0°.02×19°.56E±0°.03, h8km±9km, n39, σ0s87/73, 8C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.26**	**118**	⇓Pg	**Pg**	**23 40 14.4**	**-0.4**
TIR				Sg	**Sg**	**23 40 18.1**	**-0.3**
TIR				AML	AML	23 40 18.8	
	2.3nm,0.2s						
ULC	**Ulcinj**	**0.55**	**335**	⇑*i*Pg	**Pg**	**23 40 19.9**	**-0.3**
ULC				*i* Sg	**Sg**	**23 40 27.5**	**+0.2**
DRME	**Dracevica, Mon**	**0.77**	**339**	*e*Pg	**Pg**	**23 40 23.7**	**-0.6**
DRME				*e*Sg	**Sb**	**23 40 35.9**	**0.0**
DRME	**Dracevica, Mon**	**0.77**	**339**	⇑*i*Pg	**Pg**	**23 40 23.8**	**-0.6**
DRME				*e*Sg	**Sb**	**23 40 35.4**	**-0.5**
BUM	**Brajici-Budva**	**0.96**	**329**	*e*Pg	**Pg**	**23 40 27.8**	**-0.4**
BUM				*e*Sg	**Sb**	**23 40 42.0**	**+0.4**
PDG	**Podgorica**	**0.98**	**347**	*e*Pg	**Pg**	**23 40 28.1**	**-0.4**
PDG				*e*Sg	**Sn**	**23 40 42.8**	**-1.1**
PDG	**Podgorica**	**0.98**	**347**	⇓*i*Pg	**Pg**	**23 40 28.1**	**-0.4**
PDG				*e*Sg	**Sn**	**23 40 43.3**	**-0.6**
VLO	**Vlora**	**1.00**	**183**	⇑Pg	**Pg**	**23 40 29.4**	**+0.2**
VLO				Sg	**Sg**	**23 40 40.6**	**-1.2**
VLO				AML	AML	23 40 46.8	
	0.6nm,0.1s						
PVY	**Plav**	**1.16**	**15**	*e*Pg	**Pb**	**23 40 31.1**	**-1.0**
CEME	**Cevo**	**1.18**	**336**	⇓*i*Pg	**Pb**	**23 40 31.7**	**-0.5**
CEME				*i* Sg	**Sn**	**23 40 49.1**	**+0.4**
HCY	**Herceg Novi**	**1.26**	**321**	⇓*i*Pg	**Pn**	**23 40 33.0**	**-0.5**
HCY				*e*Sg	**Sg**	**23 40 51.2**	**+1.2**
KBN	**Korca**	**1.26**	**132**	⇑Pg	**Pg**	**23 40 34.2**	**+0.5**
KBN				Sg	**Sb**	**23 40 49.0**	**-1.0**
NKME	**Niksic**	**1.37**	**341**	⇓*i*Pg	**Pn**	**23 40 34.9**	**-0.2**
NKME				*i* Sg	**Sg**	**23 40 55.0**	**+1.3**
KOME	**Kolasin**	**1.38**	**359**	*e*Pg	**Pn**	**23 40 35.3**	**0.0**
KOME				*e*Sg	**Sg**	**23 40 55.0**	**+1.0**
KOME	**Kolasin**	**1.38**	**359**	⇑*i*Pg	**Pb**	**23 40 35.5**	**-0.2**
KOME				*e*Sg	**Sg**	**23 40 56.7**	**+2.7**
BEY	**Berane**	**1.42**	**10**	*e*Pg	**Pn**	**23 40 36.0**	**+0.1**
BEY				*e*Sg	**Sn**	**23 40 53.8**	**-1.1**
IVA	**Berane**	**1.42**	**10**	⇓*i*Pg	**Pn**	**23 40 35.6**	**-0.3**
IVA				*i* Sg	**Sg**	**23 40 58.0**	**+2.6**
TREB	**Trebinje**	**1.54**	**325**	*e*Pn	**Pn**	**23 40 37.7**	**+0.4**
BRY	**Bratogost**	**1.62**	**332**	⇑*i*Pg	**Pn**	**23 40 38.6**	**0.0**
BRY				*e*Sg	**Sg**	**23 41 02.8**	**+1.2**
UPM	**Unac-Piva**	**1.80**	**345**	⇑*i*Pn	**Pb**	**23 40 42.5**	**-0.4**
UPM				*e*Sn	**Sg**	**23 41 08.5**	**+1.1**
SJES	**Sjenica**	**1.82**	**10**	*e*Pn	**Pb**	**23 40 42.5**	**-0.7**
SJES				*e*Sn	**Sb**	**23 41 06.1**	**0.0**
STON	**Ston**	**1.96**	**316**	*e*Pn	**Pn**	**23 40 42.5**	**-0.7**
NOCI	**Noci**	**2.00**	**251**	Pn	**Pn**	**23 40 44.7**	**+0.9**
NOCI				Sn	**Sb**	**23 41 11.6**	**+0.2**
NOCI				AML	AML	23 41 20.6	
	0.1nm,0.4s						

IGT	**Igoumenitsa**	**2.02**	**163**	⇑Pn	**Pn**	**23 40 44.5**	**+0.5**		
IGT				Sn	**Sb**	**23 41 12.5**	**+0.4**		
IGT	**Igoumenitsa**	**2.02**	**163**	*e*Pn	**Pn**	**23 40 44.8**	**+0.7**		
IGT				*e*Sn	**Sb**	**23 41 10.7**	**-1.3**		
SELS	**Selova**	**2.10**	**33**	*e*Pn	**Pn**	**23 40 45.4**	**+0.3**		
SELS				*e*Sn	**Sb**	**23 41 12.7**	**-1.4**		
IVAS	**Ivanjica**	**2.15**	**12**	*e*Pn	**Pn**	**23 40 46.1**	**+0.2**		
IVAS				*e*Sn	**Sb**	**23 41 14.8**	**-0.9**		
BARS	**Barje**	**2.15**	**51**	*e*Pn	**Pn**	**23 40 46.3**	**+0.5**		
BARS				*e*Sn	**Sn**	**23 41 13.0**	**+0.3**		
GOCS	**Kraljevo Serbi**	**2.31**	**25**	*e*Pn	**Pn**	**23 40 48.5**	**+0.5**		
GOCS				*e*Sn	**Sn**	**23 41 17.2**	**+0.5**		
BBLS	**Lazi&#263i**	**2.40**	**357**	*e*Pn	**Pn**	**23 40 50.1**	**+0.8**		
BBLS				*e*Sn	**Sb**	**23 41 20.6**	**-2.2**		
BOSS	**Bosilegrad**	**2.41**	**64**	*e*Pn	**Pn**	**23 40 49.5**	**+0.1**		
BOSS				*e*Sn	**Sn**	**23 41 19.3**	**+0.2**		
GRUS	**Gruza**	**2.56**	**19**	*e*Pn	**Pn**	**23 40 52.1**	**+0.6**		
GRUS				*e*Sn	**Sn**	**23 41 23.5**	**+0.6**		
BOVS	**Bovan**	**2.68**	**36**	*e*Pn	**Pn**	**23 40 53.2**	**+0.1**		
BOVS				*e*Sn	**Sn**	**23 41 26.8**	**+1.0**		
TRUS	**Trudelj**	**2.82**	**13**	*e*Pn	**Pn**	**23 40 55.6**	**+0.6**		
TRUS				*e*Sn	**Sn**	**23 41 30.6**	**+1.4**		
ZAPS	**Zavoj**	**2.91**	**51**	*e*Pn	**Pn**	**23 40 57.3**	**+1.1**		
ZAPS				*e*Sn	**Sn**	**23 41 32.0**	**+0.6**		
VTS	**Vitosha**	**2.97**	**66**	*e*Pn	**Pn**	**23 40 57.7**	**+0.5**		
SRS	**Serrai**	**3.06**	**95**	*e*Pn	**Pn**	**23 40 58.7**	**+0.4**		
ZAGS	**Zajecar**	**3.06**	**39**	*e*Pn	**Pn**	**23 40 58.1**	**-0.2**		
ZAGS				*e*Sn	**Sn**	**23 41 35.3**	**+0.2**		
KUBS	**Kucevo**	**3.33**	**27**	*e*Pn	**Pn**	**23 41 00.8**	**-1.2**		
KUBS				*e*Sn	**Sn**	**23 41 41.1**	**-0.6**		

*KRNET **21** 23:43:56.5±0.1, 39°.39N×73°.94E, mb3.0*
*SOME **21** 23:44:00.1, 39°.73N×73°.18E, h5km*
*NNC **21** 23:44:03.3±4.7, 39°.80N×73°.45E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=34.9km s-min=21.5km az=163.0*
ISC 21 23:44:01.0±1.5, 39°.66N±0°.07×73°.59E±0°.05, h10km, n17, σ2s16/26, 10C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.73**	**345**	⇑*e*P	**Pg**	**23 44 34.6**	**+0.4**
ARSB				⇑*e*S	**Sg**	**23 45 02.4**	**+5.8**
GAR	**Garm**	**2.62**	**257**	⇓*e*P	**Pn**	**23 44 45.2**	**+1.7**
GAR				⇓*e*S	**Sb**	**23 45 20.9**	**+0.5**
TRKS	**Terek-Say**	**2.64**	**316**	⇑*e*P	**Pb**	**23 44 47.0**	**-1.5**
TRKS				⇑*e*S	**Sg**	**23 45 23.8**	**-2.1**
EKS2	**Erkin-Say**	**3.01**	**3**	⇑*e*P	**Pn**	**23 44 51.3**	**+2.5**
EKS2				⇑*e*S	**Sb**	**23 45 31.3**	**-0.2**
AAK	**Ala-Archa**	**3.06**	**13**	⇑Pg	**Pb**	**23 44 55.1**	**-0.5**
	3.9nm,0.8s						
AAK				⇑Lg	Lg	23 45 37.0	
	5.0nm,0.8s						
AAK	**Ala-Archa**	**3.06**	**13**	⇑*e*P	**Pn**	**23 44 51.3**	**+1.7**
AAK				⇑*e*S	**Sb**	**23 45 31.4**	**-1.6**
MRKS	**Merke**	**3.10**	**355**	Pg	**Pb**	**23 44 56.3**	**+0.1**
	2.7nm,0.2s						
MRKS				Lg	Lg	23 45 36.1	
	17nm,0.6s						
MRKS	**Merke**	**3.10**	**355**	*e*P	**Pb**	**23 44 56.3**	**+0.1**
	2.7nm,0.2s						
MRKS				*e*S	**Sg**	**23 45 36.1**	**-4.4**
	17nm,0.6s						
BOOM	**Boomskoye usch**	**3.34**	**31**	⇓*e*P	**Pn**	**23 44 53.8**	**+0.3**
BOOM				⇓*e*S	**Sn**	**23 45 35.7**	**+2.3**
IUG	**Iuzhnay**	**3.67**	**314**	Pg	**Pb**	**23 45 03.4**	**-2.6**
	5.1nm,0.2s						
IUG				Lg	Lg	23 45 48.6	
	95nm,1.2s						
KST	**Kastek**	**3.83**	**27**	Pg	**Pg**	**23 45 12.8**	**-1.6**
	1.0nm,0.2s						
KST				Lg	Lg	23 46 04.8	
	7.7nm,0.6s						
KST	**Kastek**	**3.83**	**27**	*e*P	**Pg**	**23 45 12.8**	**-1.6**
	1.0nm,0.2s						
KST				*e*S	**Sg**	**23 46 04.8**	**+0.8**
	7.7nm,0.6s						
KK31	**Karatay Array**	**4.15**	**327**	Pg	**Pb**	**23 45 13.5**	**-0.6**
	0.5nm,0.3s,baz=144,slow=13,SNR=10.0						
KK31				⇓Lg	Lg	23 46 15.7	
	1.4nm,0.4s,baz=141,slow=28,SNR=3.7						
KRBS	**Karabastau**	**4.33**	**20**	Pg	**Pg**	**23 45 22.2**	**-1.7**
	1.4nm,0.4s						
KRBS				Lg	Lg	23 46 21.2	
	3.1nm,0.6s						
KOTS	**Kotyrbulak**	**4.45**	**35**	Pg	**Pg**	**23 45 24.7**	**-1.5**
	1.9nm,0.3s						
KOTS				Lg	Lg	23 46 25.1	
	6.8nm,0.9s						
KOTS	**Kotyrbulak**	**4.45**	**35**	*e*P	**Pg**	**23 45 24.7**	**-1.5**
	1.9nm,0.3s						
KOTS				*e*S	**Sg**	**23 46 25.1**	**+1.3**
	6.8nm,0.9s						
KTBS	**Karatobe**	**4.67**	**29**	Pg	**Pg**	**23 45 28.1**	**-2.3**
	1.3nm,0.4s						
KTBS				Lg	Lg	23 46 31.4	
	3.2nm,0.7s						

*IDC **21** 23:52:43.5±0.6, 31°.24N×140°.35E, h0km, mb4.0/22, mbtmp4.0/22, MS3.3/5, Error ellipse: s-maj=22.4km s-min=13.7km az=81.0*
*NEIC **21** 23:52:48.0±1.7, 31°.30N±0°.06×140°.6E±0°.1, h29km±5km, mb4.7/39, Error ellipse: s-maj=13.0km s-min=8.3km az=75.0*
*NIED **21** 23:52:49.2, 31°.90N×140°.92E, h0km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=1.08; Mθθ=3.85; Mϕϕ=4.92; Mrθ=0.04; Mθϕ=0.03; Mϕr=0.72; Fault plane solution: M₀4.43000×10¹⁵ NP1: ϕs135.00000°, δ85.00000°, λ176.00000°. NP2: ϕs225.00000°, δ86.00000°, λ5.00000°.*
*JMA **21** 23:52:49.2±0.2, 32°N±1°×140°.9E±0°.6, h0km, MV5.3/42, NEAR TORISHIMA IS*
ISC 21 23:52:48.2±0.4, 31°.34N±0°.04×140°.77E±0°.07, h35km, n134, σ1s95/129, mb4.5/43, MS3.3/5, 3D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.41**	**323**	P	**Pn**	**23 53 11.2**	**-0.2**
JAOM	**Aogashimamukai**	**1.41**	**323**	A	A	23 53 11.2	
	comp=N,31nm,0.5s,comp=E,30nm,0.5s						
JHCJ	**Hachijojimakas**	**1.92**	**335**	⇓P	**Pn**	**23 53 17.4**	**-0.9**
JHCJ				⇓*e*S	**Sn**	**23 53 37.7**	**-3.4**
JHJ2	**Mitsune**	**1.94**	**336**		**Pn**	**23 53 17.8**	**-0.9**
JHJ2				Sn	**Sn**	**23 53 33.3**	**-8.6**
JHJ2	**Mitsune**	**1.94**	**336**	⇓P	**Pn**	**23 53 17.9**	**-0.8**
JHJ	**Hachijo jima 2**	**1.96**	**335**	Pn	**Pn**	**23 53 17.9**	**-1.0**
	comp=E,254nm,0.3s,baz=59,slow=20,SNR=76						
JHJ				Sn	**Sn**	**23 53 39.4**	**-2.9**
	comp=E,636nm,0.3s,baz=196,slow=23,SNR=12						
JMKN	**Mikurajimanish**	**2.73**	**339**	P	**Pn**	**23 53 29.2**	**-0.4**
JMYK	**Miyake Tsubota**	**2.90**	**339**	P	**Pn**	**23 53 32.3**	**+0.5**
JMYK				S	**Sn**	**23 54 04.8**	**-0.7**
BSO1	**Boso 1**	**3.31**	**3**	P	**Pn**	**23 53 35.2**	**-1.7**
JSG	**Sagara**	**3.97**	**327**	Pn	**Pn**	**23 53 44.9**	**-1.7**
JSG	**Sagara**	**3.97**	**327**	P	**Pn**	**23 53 50.0**	**+3.4**
TTO1	**TONANKAI O.B.S**	**4.07**	**305**	*e*P	**Pn**	**23 53 48.7**	**+1.1**
JOD2	**Odawara 2**	**4.16**	**341**	P	**Pn**	**23 53 49.5**	**+0.3**
JOD2				*e*S	**Sn**	**23 54 34.0**	**-2.5**
CBIJ	**Chichi jima**	**4.41**	**163**	*e*P	**Pn**	**23 53 53.9**	**+1.4**
CBIJ				*e*S	**Sn**	**23 54 36.5**	**-6.2**
JCJ	**Chichijima**	**4.41**	**163**		**Pn**	**23 53 52.6**	**+0.1**
JYN	**Shimob**	**4.55**	**336**	P	**Pn**	**23 53 56.5**	**+2.0**
JIE	**Ise**	**4.58**	**313**	*e*P	**Pn**	**23 53 56.0**	**+1.1**
JNY	**Yasuok**	**4.69**	**329**	*e*P	**Pn**	**23 53 58.7**	**+2.2**
JHH2	**Haha-jima-NKT2**	**4.85**	**165**	*e*P	**Pn**	**23 53 59.5**	**+0.9**
JHH2				*e*S	**Sn**	**23 54 49.4**	**-4.2**
JRY	**Ryogami san**	**4.92**	**342**	P	**Pn**	**23 54 00.5**	**+0.9**
INU	**Inuyama**	**5.08**	**323**		**Pn**	**23 54 03.8**	**+2.0**
INU	**Inuyama**	**5.08**	**323**	P	**Pn**	**23 54 05.3**	**+3.4**
JGF	**Kuroka**	**5.12**	**327**		**Pn**	**23 54 02.1**	**-0.3**
JGF	**Kuroka**	**5.12**	**327**	P	**Pn**	**23 54 05.3**	**+2.9**
JAG	**Ashikaga**	**5.19**	**348**	*i* P	**Pn**	**23 54 02.8**	**-0.5**
JWY	**Kouya**	**5.22**	**305**	S	**Sn**	**23 55 07.3**	**+4.4**
JYTA	**Yamagatataniai**	**5.42**	**323**	*e*P	**Pn**	**23 54 09.8**	**+3.4**
MJAR	**Matsushiro Arr**	**5.61**	**338**		**Pn**	**23 54 10.5**	**+1.5**
MJAR	**Matsushiro Arr**	**5.61**	**338**	Pn	**Pn**	**23 54 11.0**	**+1.9**
	comp=E,6.7nm,0.3s,baz=162,slow=13,SNR=342						
MAJO	**Matsushiro**	**5.61**	**338**		**Pn**	**23 54 11.7**	**+2.6**
MAJO	**Matsushiro**	**5.61**	**338**	P	**Pn**	**23 54 12.2**	**+3.1**
MAT	**Matsushiro**	**5.61**	**338**	P	**Pn**	**23 54 12.2**	**+3.1**

JFK	**Kawauchi**	**6.01**	**1**	*e*P	**Pn**	**23 54 13.6**	**-1.0**		
JOTO	**OTAMA OYAMA**	**6.21**	**357**	*e*P	**Pn**	**23 54 17.3**	**-0.1**		
JMN	**Monobe**	**6.29**	**294**	Pn	**Pn**	**23 54 16.6**	**-1.9**		
JMN	**Monobe**	**6.29**	**294**	P	**Pn**	**23 54 18.9**	**+0.4**		
JMM	**Marumori**	**6.51**	**0**		**Pn**	**23 54 20.8**	**-0.7**		
JMM	**Marumori**	**6.51**	**0**	P	**Pn**	**23 54 21.1**	**-0.3**		
JSD	**Sado**	**6.99**	**343**	Pn	**Pn**	**23 54 28.1**	**0.0**		
JSD	**Sado**	**6.99**	**343**	P	**Pn**	**23 54 29.5**	**+1.5**		
JNU	**Nakatsue**	**8.57**	**285**	Pn	**Pn**	**23 54 48.3**	**-1.4**		
JTM	**Tenmabayashi**	**9.43**	**1**		**Pn**	**23 54 59.4**	**-2.1**		
JTM	**Tenmabayashi**	**9.43**	**1**	P	**Pn**	**23 54 59.9**	**-1.5**		
ERM	**Erimo**	**10.82**	**9**		**Pn**	**23 55 18.6**	**-1.9**		
JOW	**Kunigami**	**11.82**	**251**	P	Pn	23 55 17.1	-17		
JKA	**Kamikawa-asahi**	**12.83**	**6**		**Pn**	**23 55 45.2**	**-2.8**		
YSS	**Yuzhno-Sakhali**	**15.67**	**5**		**Pn**	**23 56 23.6**	**-2.5**		
YSS				lAmb	lAmb	23 56 32.9			
	comp=Z,34nm,0.6s								
GUMO	**Guam**	**18.07**	**167**		**P**	**23 56 57.9**	**+1.3**		
GUMO	**Guam**	**18.07**	**167**	LR	LR	00 02 54.6			
	comp=Z,128nm,19.2s,baz=152,slow=34								
NJ2	**Nanjing**	**18.67**	**278**	*e*P	**Pn**	**23 57 01.3**	**-2.4**		
NJ2				pmax	pmax				
	comp=Z,6.0nm,0.5s								
HEH	**HeiHe**	**21.37**	**336**	*e*P	**P**	**23 57 35.5**	**+3.1**		
PETK	**Petropavlovsk-**	**24.98**	**25**	P	**P**	**23 58 10.1**	**+1.8**		
HHC	**Hu-ho-hao-te**	**25.34**	**300**	*e*P	**P**	**23 58 11.8**	**-0.1**		
HHC				pmax	pmax				
	comp=Z,6.0nm,1.0s								
HHC				pmax	pmax				
	comp=Z,210nm,5.5s								
H11N2	**WAKE ISLAND Hy**	**26.18**	**110**	T	T	00 27 32.3			
	baz=303,slow=74								
H11N1	**WAKE ISLAND Hy**	**26.19**	**110**	T	T	00 27 32.0			
	baz=303								
H11N3	**WAKE ISLAND Hy**	**26.20**	**110**	T	T	00 27 31.5			
	baz=303,slow=74								
H11S3	**WAKE ISLAND Hy**	**26.68**	**113**	T	T	00 26 53.4			
	baz=304,slow=75,SNR=1087								
H11S1	**WAKE ISLAND Hy**	**26.68**	**112**	T	T	00 26 52.3			
	baz=304,slow=75,SNR=991								
H11S2	**WAKE ISLAND Hy**	**26.69**	**113**	T	T	00 27 04.0			
	baz=304,slow=75,SNR=752								
SONM	**Songino Array**	**30.88**	**312**	P	**P**	**23 59 00.7**	**-0.6**		
	comp=Z,0.4nm,0.4s,baz=104,slow=7.6,SNR=3.1								
	comp=Z,0.4nm,0.4s								
SEY	**Seymchan**	**32.47**	**10**	LR	LR	00 12 02.7			
	comp=Z,52nm,21.3s,baz=190,slow=36								
PZH	**PanZhiHua**	**34.38**	**272**	P	**P**	**23 59 31.6**	**-0.5**		
CMAR	**Chiang Mai Arr**	**39.82**	**261**	P	**P**	**00 00 16.2**	**-2.1**		
	comp=Z,0.4nm,0.3s,baz=47,slow=7.9,SNR=1.5								
	comp=Z,0.4nm,0.3s								
WMQ	**Urumqi**	**43.18**	**302**	*e*P	**P**	**00 00 47.1**	**+1.5**		
WMQ				LR	LR				
	comp=Z,89nm,18.9s								
MTN	**Manton Dam**	**44.90**	**193**	P	**P**	**00 00 58.4**	**-1.1**		
MTN				lAmb	lAmb	00 01 37.2			
	comp=Z,20nm,1.4s								
COEN	**Coen**	**45.

BLKN					IAmb	IAmb	00 04 38.0			
	comp=Z,16nm,1.4s									
AKASG	**Malin Array Be**	**78.49**	**323**		P	**P**	**00 04 45.8**	**+0.3**		
	comp=Z,1.8nm,0.5s,baz=50,slow=5.8,SNR=16									
	comp=Z,1.8nm,0.5s									
AKBB	**Malin Array Si**	**78.49**	**323**			**P**	**00 04 44.4**	**-1.1**		
AKBB					IAmb	IAmb	00 04 46.3			
	comp=Z,4.7nm,0.7s									
KIEV	**Kiev**	**78.50**	**323**		P	**P**	**00 04 44.6**	**-1.0**		
KIEV					IAmb	IAmb	00 04 46.3			
	comp=Z,4.2nm,0.7s									
NVAR	**Mina Array Bea**	**78.87**	**52**		P	**P**	**00 04 50.9**	**+2.8**		
	comp=Z,0.4nm,0.6s,baz=291,slow=6.7,SNR=2.7									
	comp=Z,0.4nm,0.6s									
HFS	**Hagfors**	**79.05**	**336**		P	**P**	**00 04 49.2**	**+0.8**		
	comp=Z,1.5nm,0.6s,baz=62,slow=4.4,SNR=9.1									
HFS					LR	LR	00 39 53.4			
	comp=Z,9.5nm,21.7s,baz=4.5,slow=36									
	comp=Z,1.5nm,0.6s									
NB2	**NORSAR Subarra**	**79.23**	**338**		P	**P**	**00 04 50.2**	**+0.8**		
	comp=Z,3.9nm,0.8s,baz=43,slow=5.3									
NOA	**NORSAR Array B**	**79.23**	**338**		P	**P**	**00 04 50.4**	**+0.9**		
	comp=Z,0.9nm,0.6s,baz=47,slow=5.2,SNR=7.4									
NOA					LR	LR	00 41 39.2			
	comp=Z,14nm,18.7s,baz=270,slow=37									
	comp=Z,0.9nm,0.6s									
TPNV	**Topopah Spring**	**81.03**	**52**		P	**P**	**00 05 02.1**	**+2.3**		
PDAR	**Pinedale Array**	**82.06**	**44**		P	**P**	**00 05 05.5**	**+0.3**		
PDAR	**Pinedale Array**	**82.06**	**44**		P	**P**	**00 05 08.3**	**+3.1**		
	comp=Z,0.3nm,0.7s,baz=246,slow=0.6,SNR=2.6									
	comp=Z,0.3nm,0.7s									
BRTR	**Keskin Array B**	**82.24**	**312**		P	**P**	**00 05 06.6**	**+0.5**		
	comp=Z,0.9nm,0.8s,baz=116,slow=4.8,SNR=5.2									
	comp=Z,0.9nm,0.8s									
RAYN	**Ar Rayn**	**82.34**	**293**		P	**P**	**00 05 06.5**	**-0.3**		
BUR08	**Bucovina Ar. S**	**82.44**	**322**		P	**P**	**00 05 07.3**	**+0.3**		
BURAR	**Bucovina Array**	**82.45**	**322**		P	**P**	**00 05 07.3**	**+0.3**		
GERES	**GERESS Array B**	**87.26**	**328**		P	**P**	**00 05 30.7**	**-0.5**		
	comp=Z,0.2nm,0.3s,baz=57,slow=7.2,SNR=2.0									
	comp=Z,0.2nm,0.3s									
TXAR	**Lajitas Array**	**94.02**	**52**		P	**P**	**00 06 06.5**	**+3.4**		
	comp=Z,0.7nm,0.7s,baz=318,slow=4.6,SNR=4.4									
	comp=Z,0.7nm,0.7s									
QSPA	**South Pole Qui**	**121.10**	**180**		PKP	**PKiKP**	**00 11 38.6**	**+2.2**		
	comp=Z,1.2nm,0.9s,baz=280,slow=2.6,SNR=5.1									
H03N2	**Juan Fernandez**	**146.54**	**104**		T	T	02 57 20.1			
	baz=281,slow=75,SNR=6.2									
H03N3	**Juan Fernandez**	**146.55**	**104**		T	T	02 57 03.5			
	baz=281,slow=75,SNR=25									
H03N1	**Juan Fernandez**	**146.56**	**104**		T	T	02 57 18.2			
	baz=281,slow=75,SNR=6.3									

TIR ***22*** *00:18:02.9, 41˚.43N×19˚.63E, h35km±1km, Ml2.5/4*
BEO ***22*** *00:18:03.0±0.4, 41˚.23N×19˚.68E, h7km±2km, ML2.4/18*
PDG ***22*** *00:18:04.7±0.2, 41˚.41N×19˚.58E, h0km±11km, ML2.6/11,*
Error ellipse: s-maj=1.0km s-min=1.5km az=0.0

ISC 22 00:18:02.4±1.0, 41˚.27N±0˚.02×19˚.55E±0˚.03, h10km±8km, n53, σ1§11/88, 7C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.25**	**72**	⇓Pg		**Pg**	**00 18 07.3**	**-0.2**
TIR				Sg		**Sg**	**00 18 10.2**	**-0.7**
TIR				AML		AML	00 18 13.8	
	2.0nm,3.4s							
ULC	**Ulcinj**	**0.73**	**342**	⇑*i*Pg		**Pb**	**00 18 15.8**	**-1.5**
ULC				*e*Sg		**Sb**	**00 18 25.9**	**-1.5**
VLO	**Vlora**	**0.80**	**183**	⇓Pg		**Pn**	**00 18 20.9**	**+1.1**
VLO				Sg		**Sn**	**00 18 34.3**	**+2.5**
VLO				AML		AML	00 18 38.3	
	2.5nm,0.3s							
VLO	**Vlora**	**0.80**	**183**	P		**Pn**	**00 18 21.1**	**+1.3**
DRME	**Dracevica, Mon**	**0.96**	**343**	*e*Pg		**Pg**	**00 18 21.6**	**+0.8**
DRME				*e*Sg		**Sn**	**00 18 37.1**	**+1.5**
DRME	**Dracevica, Mon**	**0.96**	**343**	*e*Pg		**Pb**	**00 18 20.4**	**-0.7**
DRME				*e*Sg		**Sb**	**00 18 33.2**	**-0.6**
KBN	**Korca**	**1.14**	**124**	⇑Pg		**Pn**	**00 18 24.5**	**0.0**
KBN				Sg		**Sn**	**00 18 41.4**	**+1.2**
KBN	**Korca**	**1.14**	**124**	P		**Pn**	**00 18 24.5**	**0.0**
BUM	**Brajici-Budva**	**1.14**	**335**	*e*Pg		**Pb**	**00 18 24.1**	**-0.2**
BUM				*e*Sg		**Sg**	**00 18 39.8**	**+0.6**
PDG	**Podgorica**	**1.18**	**349**	*e*Pg		**Pn**	**00 18 24.7**	**-0.3**
PDG				*e*Sg		**Sg**	**00 18 42.7**	**+2.3**
PDG	**Podgorica**	**1.18**	**349**	⇓*i*Pg		**Pn**	**00 18 24.7**	**-0.3**
PDG				*e*Sg		**Sn**	**00 18 40.7**	**-0.4**
CEME	**Cevo**	**1.36**	**340**	⇓*i*Pg		**Pb**	**00 18 27.6**	**-0.4**
CEME				*i* Sg		**Sg**	**00 18 47.1**	**+0.9**
HCY	**Herceg Novi**	**1.42**	**326**	⇑*i*Pg		**Pg**	**00 18 28.9**	**-0.7**
HCY				*i* Sg		**Sg**	**00 18 49.2**	**+1.2**
NKME	**Niksic**	**1.56**	**344**	⇓*i*Pg		**Pb**	**00 18 30.6**	**-0.8**
NKME				*i* Sg		**Sg**	**00 18 53.2**	**+0.6**
KEK	**Kerkira**	**1.57**	**173**	P		**Pg**	**00 18 34.4**	**+1.9**
KOME	**Kolasin**	**1.58**	**359**	*e*Pg		**Pb**	**00 18 31.4**	**-0.4**
KOME				*e*Sg		**Sg**	**00 18 54.7**	**+1.5**
KOME	**Kolasin**	**1.58**	**359**	⇑*i*Pg		**Pb**	**00 18 31.4**	**-0.4**
KOME				*i* Sg		**Sg**	**00 18 54.3**	**+1.1**
BEY	**Berane**	**1.62**	**9**	*e*Pg		**Pn**	**00 18 31.8**	**+0.7**
BEY				*e*Sg		**Sb**	**00 18 55.4**	**+2.4**
IVA	**Berane**	**1.62**	**9**	*e*Pg		**Pn**	**00 18 32.0**	**+0.8**
IVA				*i* Sg		**Sg**	**00 18 56.1**	**+1.6**
TREB	**Trebinje**	**1.70**	**329**	*e*Pn		**Pb**	**00 18 32.6**	**-0.2**
BRY	**Bratogost**	**1.80**	**335**	*e*Pn		**Pb**	**00 18 35.1**	**-0.4**
BRY				*i* Sn		**Sg**	**00 19 01.5**	**+1.3**
IGT	**Igoumenitsa**	**1.83**	**161**	⇑Pn		**Pb**	**00 18 35.3**	**-0.8**
IGT				Sn		**Sg**	**00 19 02.9**	**+1.5**
IGT	**Igoumenitsa**	**1.83**	**161**	P		**Pb**	**00 18 34.6**	**-1.5**
IGT	**Igoumenitsa**	**1.83**	**161**	*e*Pn		**Pn**	**00 18 34.4**	**+0.4**
IGT				*e*Sn		**Sb**	**00 18 57.7**	**-1.4**
NOCI	**Noci**	**1.94**	**256**	⇑Pn		**Pg**	**00 18 38.6**	**-1.0**
NOCI				Sn		**Sg**	**00 19 04.3**	**-0.5**
NOCI				AML		AML	00 19 17.2	
	0.1nm,3.9s							
UPM	**Unac-Piva**	**1.99**	**346**	⇑*i*Pn		**Pb**	**00 18 38.6**	**-0.2**
UPM				*i* Sn		**Sg**	**00 19 06.0**	**-0.4**
SJES	**Sjenica**	**2.01**	**9**	*e*Pn		**Pb**	**00 18 38.6**	**-0.6**
SJES				*e*Sn		**Sn**	**00 19 01.6**	**-0.3**
STON	**Ston**	**2.11**	**320**	*e*Pn		**Pn**	**00 18 37.7**	**-0.1**
SELS	**Selova**	**2.27**	**30**	*e*Pn		**Pn**	**00 18 40.1**	**+0.1**
SELS				*e*Sn		**Sn**	**00 19 08.7**	**+0.7**
BARS	**Barje**	**2.29**	**47**	*e*Pn		**Pn**	**00 18 40.4**	**+0.2**
BARS				*e*Sn		**Sn**	**00 19 08.5**	**+0.1**
IVAS	**Ivanjica**	**2.35**	**11**	*e*Pn		**Pn**	**00 18 41.3**	**+0.2**
IVAS				*e*Sn		**Sn**	**00 19 12.3**	**+2.3**
GOCS	**Kraljevo Serbi**	**2.49**	**23**	*e*Pn		**Pn**	**00 18 44.5**	**+1.4**
GOCS				*e*Sn		**Sn**	**00 19 14.3**	**+0.7**
BOSS	**Bosilegrad**	**2.50**	**60**	*e*Pn		**Pn**	**00 18 43.4**	**+0.2**
BOSS				*e*Sn		**Sn**	**00 19 13.7**	**-0.2**
BBLS	**Lazi&#263i**	**2.60**	**358**	*e*Pn		**Pb**	**00 18 47.5**	**-1.6**
BBLS				*e*Sn		**Sb**	**00 19 19.0**	**-2.1**
LKD2	**Lefkada island**	**2.62**	**161**	P		**Pn**	**00 18 45.0**	**+0.2**
GRUS	**Gruza**	**2.75**	**18**	*e*Pn		**Pn**	**00 18 47.0**	**+0.4**
GRUS				*e*Sn		**Sn**	**00 19 20.8**	**+0.8**
DIVS	**Divibare**	**2.84**	**6**	*e*Pn		**Pn**	**00 18 50.3**	**+2.3**
DIVS				*e*Sn		**Sb**	**00 19 26.2**	**-2.0**
BOVS	**Bovan**	**2.85**	**33**	*e*Pn		**Pn**	**00 18 48.8**	**+0.8**
BOVS				*e*Sn		**Sn**	**00 19 22.6**	**+0.3**
SGRT	**San Giovanni R**	**2.90**	**281**	Pn		**Pn**	**00 18 48.0**	**-0.7**
FSK	**Fiskardo**	**2.91**	**164**	P		**Pn**	**00 18 48.3**	**-0.5**
TRUS	**Trudelj**	**3.02**	**12**	*e*Pn		**Pn**	**00 18 50.6**	**+0.3**
TRUS				*e*Sn		**Sn**	**00 19 29.1**	**+2.6**
ZAPS	**Zavoj**	**3.04**	**48**	*e*Pn		**Pn**	**00 18 51.2**	**+0.6**
ZAPS				*e*Sn		**Sn**	**00 19 25.3**	**-1.7**
SRS	**Serrai**	**3.05**	**92**	P		**Pn**	**00 18 51.0**	**+0.2**
SRS	**Serrai**	**3.05**	**92**	*e*Pn		**Pn**	**00 18 50.5**	**-0.3**
SRS				*e*Sn		**Sn**	**00 19 25.0**	**-2.3**
VTS	**Vitosha**	**3.06**	**63**	*e*Pn		**Pn**	**00 18 52.0**	**+1.0**
VLS	**Valsamata**	**3.19**	**165**	P		**Pn**	**00 18 52.1**	**-0.6**
ZAGS	**Zajecar**	**3.22**	**37**	*e*Pn		**Pn**	**00 18 53.7**	**+0.6**
ZAGS				*e*Sn		**Sn**	**00 19 31.3**	**-0.2**
AVAS	**Avala Beograd**	**3.50**	**11**	*e*Pn		**Pn**	**00 18 57.5**	**+0.6**
KUBS	**Kucevo**	**3.51**	**26**	*e*Pn		**Pn**	**00 18 56.8**	**-0.2**
MDVR	**Moldovita**	**3.85**	**24**	*e*Pn		**Pn**	**00 19 01.7**	**-0.1**
FRGS	**Fruska Gora**	**3.89**	**3**	*e*Pn		**Pn**	**00 19 03.0**	**+0.7**
PLD	**Plovdiv**	**3.99**	**76**	*e*Pn		**Pn**	**00 19 04.3**	**+0.7**
BZS	**Buzias**	**4.60**	**18**	*e*Pn		**Pn**	**00 19 11.3**	**-0.7**

AEIC ***22*** *00:24:20.4±1.9, 51˚.10N±0˚.04×179˚.00E±0˚.06, h18km±4km,*
Error ellipse: s-maj=6.0km s-min=5.2km az=174.0
NEIC ***22*** *00:24:21.2±1.4, 51˚.12N±0˚.06×179˚.01E±0˚.07, h32km±1km,*
mb4.2/29, ML4.1/12, ML3.6(AEIC), Error ellipse:
s-maj=8.9km s-min=5.9km az=200.0
IDC ***22*** *00:24:24.9±2.7, 51˚.27N×179˚.16E, h65km±21km, mb3.6/19,*
mbtmp3.9/21, MS3.3/11, Error ellipse: s-maj=24.4km
s-min=12.7km az=178.0

ISC 22 00:24:21.6±0.6, 51˚.09N±0˚.07×179˚.04E±0˚.04, h36km±1km, n112, σ1§19/110, mb4.2/32, MS3.6/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.33**	**29**			**Pn**	**00 24 28.0**	**-1.8**
AMKA				Sg		**Sn**	**00 24 33.7**	**-2.7**
LSSE	**Little Sitkin**	**0.90**	**341**			**Pn**	**00 24 37.1**	**-0.5**
LSPA	**Little Sitkin**	**0.92**	**342**			**Pn**	**00 24 37.2**	**-0.7**
LSPA						**Sn**	**00 24 49.6**	**-0.3**
CERB	**Semis' Cerberu**	**0.92**	**23**			**Pn**	**00 24 37.8**	**-0.2**
CERB						**Sn**	**00 24 50.4**	**+0.4**
CETU	**Semis' Tuman**	**0.92**	**18**			**Pn**	**00 24 37.8**	**-0.2**
LSNW	**Little Sitkin**	**0.94**	**340**			**Pn**	**00 24 37.4**	**-0.8**
CEPE	**Semis' Perret**	**0.96**	**23**			**Pn**	**00 24 38.1**	**-0.4**
CEAP	**Semis' Anvil P**	**0.97**	**20**			**Pn**	**00 24 38.4**	**-0.3**
GAKI	**Gareloi-Kavalg**	**1.43**	**70**			**Pn**	**00 24 44.1**	**-0.8**
GAKI						**Sn**	**00 25 02.9**	**+0.6**
GASW	**Gareloi Southw**	**1.49**	**61**			**Pn**	**00 24 45.4**	**-0.3**
GASW						**Sn**	**00 25 06.1**	**+2.2**
GALAA	**Gareloi Lava P**	**1.53**	**63**			**Pn**	**00 24 47.5**	**+1.2**
GALAA						**Sn**	**00 25 07.8**	**+2.9**
GANO	**Gareloi North**	**1.54**	**61**			**Pn**	**00 24 46.9**	**+0.5**
GANO						**Sn**	**00 25 07.4**	**+2.3**
GANE	**Gareloi Northe**	**1.55**	**61**			**Sn**	**00 25 07.2**	**+1.8**
GAEA	**Gareloi East**	**1.55**	**62**			**Pn**	**00 24 47.3**	**+0.7**
GAEA						**Sn**	**00 25 08.0**	**+2.5**
TANO	**Tanaga North**	**1.96**	**64**			**Pn**	**00 24 53.2**	**+1.1**
TAFL	**Tanaga Flats**	**2.03**	**70**			**Pn**	**00 24 53.9**	**+0.7**
TAFP	**Tanaga Falls P**	**2.03**	**65**			**Pn**	**00 24 54.0**	**+0.8**
KIMD	**Kanaga Island**	**2.43**	**72**			**Pn**	**00 24 59.4**	**+0.8**
KICM	**Kanaga Island**	**2.50**	**69**			**Pn**	**00 25 00.7**	**+1.2**
KIWB	**Kanaga Island**	**2.50**	**71**			**Pn**	**00 25 00.3**	**+0.6**
KIWB				Sn		**Sn**	**00 25 30.9**	**+2.0**
KIWB				IAML			00 25 37.3	
	comp=E,674nm,0.6s							
KINC	**Kanaga Island**	**2.54**	**69**			**Pn**	**00 25 01.4**	**+1.3**
ADK	**Adak**	**2.79**	**72**			**Pn**	**00 25 04.1**	**+0.5**
ADK	**Adak**	**2.79**	**72**	IAML			00 25 51.7	
	comp=E,571nm,1.1s							
ADAG	**Mount Adagdak**	**2.86**	**70**			**Pn**	**00 25 06.0**	**+1.4**
ETKA	**Kagalaska Isla**	**2.95**	**73**			**Pn**	**00 25 06.3**	**+0.4**
GSTR	**Great Sitkin T**	**3.22**	**70**			**Pn**	**00 25 09.8**	**+0.3**
GSTR				IAML			00 26 04.4	
	comp=E,680nm,0.6s							
SHEM	**Shemya Is, Ala**	**3.47**	**300**	Pn		**Pn**	**00 25 13.8**	**+0.8**
SHEM				IAML			00 26 12.1	
	comp=E,274nm,1.1s							
SHEM	**Shemya Is, Ala**	**3.47**	**300**	P		**Pn**	**00 25 15.6**	**+2.6**
	comp=E,231nm,0.3s,baz=102,slow=1.1,SNR=57							
SHEM				S		**Sn**	**00 25 56.9**	**+4.1**
	comp=E,213nm,0.6s,baz=281,slow=23,SNR=8.3							
SHEM				LR		LR	00 26 34.7	
	comp=E,386nm,19.9s,baz=134,slow=38							
SMY	**Shemya**	**3.47**	**300**			**Pn**	**00 25 14.4**	**+1.4**
ATKA	**Atka Island**	**4.36**	**73**			**Pn**	**00 25 25.7**	**+0.6**
ATKA				IAML			00 26 31.3	
	comp=N,178nm,1.0s							
ATKA				IAML			00 26 35.6	
	comp=E,186nm,1.0s							
NIKH	**Nikolski High**	**7.70**	**71**	Pn		**Pn**	**00 26 12.2**	**+1.1**
UNV	**Unalaska Valle**	**9.25**	**67**	Pn		**Pn**	**00 26 33.0**	**+0.9**
PETK	**Petropavlovsk-**	**13.27**	**287**	P		**Pn**	**00 27 28.8**	**+1.6**
	comp=E,4.4nm,1.1s,baz=96,slow=16,SNR=2.5							
PETK				LR		LR	00 33 51.5	
	comp=E,42nm,18.3s,baz=104,slow=43							
N15K	**Kwethluk River**	**14.82**	**44**	Pn		**Pn**	**00 27 49.0**	**+0.8**
O16K	**Kokwok River B**	**15.48**	**48**			**P**	**00 27 59.2**	**-1.6**
L16K	**Owhat River**	**15.87**	**40**			**P**	**00 28 03.8**	**-1.5**
N17K	**Nushagak Hills**	**16.27**	**45**			**P**	**00 28 09.1**	**-0.6**
ACHA	**Angle Creek He**	**16.38**	**54**	Pn		**Pn**	**00 28 08.7**	**+0.2**
M17K	**Holitna River**	**16.55**	**42**			**P**	**00 28 12.2**	**-0.6**
M17K				IAmb		IAmb	00 28 18.0	
	comp=Z,27nm,1.5s							
J17K	**VABM Dome**	**16.98**	**35**	Pn		**Pn**	**00 28 15.5**	**-0.4**
J17K				IAmb		IAmb	00 28 28.8	
	comp=Z,24nm,1.4s							
G16K	**Koyuk River**	**17.25**	**27**	Pn		**Pn**	**00 28 18.6**	**-0.7**
G16K				IAmb		IAmb	00 28 24.4	
	comp=Z,23nm,1.3s							
OHAK	**Old Harbor**	**17.25**	**58**	Pn		**Pn**	**00 28 17.3**	**-2.1**
L18K	**Granite Mounta**	**17.26**	**40**	Pn		**Pn**	**00 28 18.1**	**-1.4**
N19K	**Bonanza Creek**	**17.61**	**46**			**P**	**00 28 24.4**	**-0.2**
N19K				IAmb		IAmb	00 28 41.9	
	comp=Z,25nm,1.4s							
KDAK	**Kodiak Island**	**17.72**	**57**	P		**Pn**	**00 28 23.0**	**-2.1**
	comp=Z,6.9nm,0.8s,baz=219,slow=3.4,SNR=7.3							
SKT	**Skwentna**	**19.36**	**44**			**P**	**00 28 44.1**	**+0.4**
SKT				IAmb		IAmb	00 28 46.1	
	comp=Z,14nm,1.1s							
KTH	**Kantishna Hill**	**20.22**	**40**	P		**P**	**00 28 53.2**	**+0.1**
KTH				IAmb		IAmb	00 28 54.4	
	comp=Z,14nm,1.0s							
IMAR	**Indian Mountai**	**20.34**	**33**			**P**	**00 28 54.1**	**-0.3**
TRF	**Thorofare Moun**	**20.44**	**41**	P		**P**	**00 28 55.7**	**0.0**
G21K	**Allakaket**	**20.73**	**31**	P		**P**	**00 28 58.5**	**0.0**
SCM	**Sheep Creek Mo**	**21.21**	**47**	P		**P**	**00 29 03.4**	**-0.4**
SCM				IAmb		IAmb	00 29 14.1	
	comp=Z,13nm,1.2s							
NEA2	**Nenana**	**21.39**	**39**	P		**P**	**00 29 05.1**	**-0.6**
NEA2				IAmb		IAmb	00 29 07.3	
	comp=Z,17nm,1.3s							
DHY	**Denali Highway**	**21.54**	**43**	P		**P**	**00 29 06.9**	**-0.6**
DHY				IAmb		IAmb	00 29 09.6	
	comp=Z,16nm,1.3s							
G23K	**Bananza Creek**	**22.00**	**33**			**P**	**00 29 11.4**	**-0.9**
G23K				IAmb		IAmb	00 29 15.0	
	comp=Z,9.9nm,0.9s							
ILAR	**Eielson Array**	**22.32**	**39**	P		**P**	**00 29 13.8**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=241,slow=8.0,SNR=8.4							
	comp=Z,0.6nm,0.6s							
BCAR	**Beaver Creek A**	**24.00**	**45**	P		**P**	**00 29 31.3**	**-1.3**
BMAR	**Burnt Mountain**	**24.23**	**34**	P		**P**	**00 29 33.7**	**-0.9**
EGAK	**Eagle**	**24.66**	**41**			**P**	**00 29 37.6**	**-0.8**
DAWY	**Dawson**	**25.25**	**43**			**P**	**00 29 43.8**	**0.0**
DAWY				IAmb		IAmb	00 29 47.5	
	comp=Z,7.8nm,1.1s							
F28M	**Old Crow**	**25.98**	**35**	P		**P**	**00 29 49.9**	**-0.5**
F28M				IAmb		IAmb	00 30 05.6	
	comp=Z,5.6nm,0.9s							
INK	**Inuvik**	**28.48**	**35**	P		**P**	**00 30 11.9**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=292,slow=5.4,SNR=0.9							
	comp=Z,0.6nm,0.5s							
TIXI	**Tiksi**	**30.23**	**331**	LR		LR	00 43 16.7	
	comp=Z,63nm,18.4s,baz=136,slow=38							
MJAR	**Matsushiro Arr**	**32.40**	**259**	LR		LR	00 44 45.8	
	comp=Z,32nm,18.2s,baz=132,slow=38							
H11N2	**WAKE ISLAND Hy**	**32.73**	**202**	T		T	01 05 58.8	
	baz=11,slow=76,SNR=8.5							
H11N3	**WAKE ISLAND Hy**	**32.74**	**201**	T		T	01 05 58.8	
	baz=11,slow=76,SNR=8.0							
H11N1	**WAKE ISLAND Hy**	**32.75**	**202**	T		T	01 06 01.5	
	baz=11,slow=76,SNR=7.2							
H11S1	**WAKE ISLAND Hy**	**33.95**	**201**	T		T	01 07 22.9	
	baz=19							
H11S2	**WAKE ISLAND Hy**	**33.97**	**201**	T		T	01 07 32.9	
	baz=19							
H11S3	**WAKE ISLAND Hy**	**33.97**	**201**	T		T	01 07 35.5	
	baz=19							
NVAR	**Mina Array Bea**	**44.94**	**81**	P		**P**	**00 32 33.3**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=310,slow=7.2,SNR=2.6							
	comp=Z,0.6nm,0.7s							
SONM	**Songino Array**	**45.56**	**296**	P		**P**	**00 32 38.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=72,slow=9.5,SNR=3.8							
SONM				LR		LR	00 53 39.7	
	comp=Z,64nm,18.1s,baz=35,slow=38							
	comp=Z,0.3nm,0.3s							
HHC	**Hu-ho-hao-te**	**46.46**	**285**	*e*P		**P**	**00 32 44.3**	**-0.5**
HHC				pmax		pmax		
	comp=Z,18nm,0.6s							
HHC				pmax		pmax		
	comp=Z,130nm,4.6s							
PD31	**Pinedale Array**	**47.69**	**71**	P		**P**	**00 32 54.4**	**-0.2**
PD31				IAmb		IAmb	00 33 13.2	
	comp=Z,2.5nm,0.9s							
PDAR	**Pinedale Array**	**47.69**	**71**	P		**P**	**00 32 54.9**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=307,slow=3.6,SNR=19							
	comp=Z,2.0nm,0.7s							
W13A	**Hualapai Mount**	**49.78**	**81**	P		**P**	**00 33 10.0**	**-0.8**
W13A				IAmb		IAmb	00 33 19.8	
	comp=Z,2.4nm,0.8s							
SPITS	**Spitsbergen Ar**	**50.56**	**355**	P		**P**	**00 33 14.6**	**-1.3**
	comp=Z,7.6nm,0.9s,baz=61,slow=6.8,SNR=4.5							
	comp=Z,7.6nm,0.9s							
ZALV	**Zalesovo Beam**	**53.24**	**313**	P		**P**	**00 33 35.5**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=46,slow=8.3,SNR=2.0							
ZALV				LR		LR	00 57 02.8	
	comp=Z,59nm,18.6s,baz=15,slow=37							
	comp=Z,0.7nm,0.5s							
LZH	**Lanzhou**	**54.15**	**285**	*e*P		**P**	**00 33 43.9**	**+0.7**
LZH				pmax		pmax		
	comp=Z,18nm,1.4s							
GTA	**Gaotai**	**54.41**	**291**	*e*P		**P**	**00 33 45.6**	**+0.7**
GTA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
KURK	**Kurchatov**	**58.23**	**313**	P		**P**	**00 34 11.9**	**+0.1**
KURBB	**Kurchatov Arra**	**58.33**	**313**	P		**P**	**00 34 12.9**	**+0.4**
	comp=Z,2.0nm,0.2s,baz=43,slow=6.7,SNR=9.3							
	comp=Z,2.0nm,0.2s							
WMQ	**Urumqi**	**58.35**	**302**	*e*P		**P**	**00 34 13.8**	**+0.9**
WMQ				pmax		pmax		
	comp=Z,42nm,1.1s							
WMQ				LR		LR		
	comp=Z,310nm,23.3s							
MKAR	**Makanchi Array**	**59.14**	**307**	P		**P**	**00 34 17.9**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=47,slow=5.2,SNR=2.6							
	comp=Z,1.2nm,0.7s							
TXAR	**Lajitas Array**	**60.04**	**79**	P		**P**	**00 34 23.9**	**-1.0**
TXAR	**Lajitas Array**	**60.04**	**79**	P		**P**	**00 34 25.0**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=330,slow=8.7,SNR=3.0							
	comp=Z,0.2nm,0.7s							
BVAR	**Borovoye Array**	**60.22**	**319**	P		**P**	**00 34 25.9**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=45,slow=6.2,SNR=16							
BVAR				LR		LR	01 01 39.9	
	comp=Z,59nm,21.4s,baz=138,slow=37							
	comp=Z,2.9nm,0.5s							
PZH	**PanZhiHua**	**62.05**	**278**	P		**P**	**00 34 39.3**	**+0.8**
DAV	**Davao City (W)**	**62.12**	**244**	LR		LR	01 03 21.4	
	comp=Z,14nm,18.9s,baz=3.0,slow=38							
ARTI	**Arti**	**62.22**	**327**	P		**P**	**00 34 39.4**	**+0.4**
FINES	**FINESS Array B**	**65.75**	**346**	P		**P**	**00 35 00.6**	**-1.6**
	comp=Z,1.9nm,0.9s,baz=359,slow=8.8,SNR=1.3							
FINES				LR		LR	01 09 15.2	
	comp=Z,12nm,18.4s,baz=311,slow=41							
	comp=Z,1.9nm,0.9s							
AKTO	**Aktyubinsk**	**67.12**	**324**	LR		LR	01 07 01.6	
	comp=Z,38nm,18.8s,baz=186,slow=38							
AB31	**Akbulak array**	**

PDG eSg Sn 00 28 48.9 +3.6
CEME Cevo 1.25 341 ⇑*i* Pg Pg 00 28 35.2 +1.8
CEME *i* Sg Sn 00 28 54.9 +5.3
KBN Korca 1.25 126 ⇑ Pg Pn 00 28 31.9 -1.0
KBN Sg Sb 00 28 49.1 -0.1
KBN Korca 1.25 126 P Pn 00 28 33.4 +0.5
KBN S Sn 00 28 52.0 +2.3
KBN Korca 1.25 126 P Pn 00 28 32.4 -0.5
PVY Plav 1.28 17 *e* Pg Pg 00 28 35.1 +1.0
PVY eSg Sn 00 28 51.2 +0.6
PVY Plav 1.28 17 *e* Pg Pg 00 28 36.1 +2.0
HCY Herceg Novi 1.30 327 ⇑*i* Pg Pg 00 28 36.2 +1.8
HCY *i* Sg Sn 00 28 56.7 +5.9
NKME Niksic 1.45 345 ⇑ Pg Pg 00 28 38.4 +1.1
NKME *i* Sg Sg 00 28 59.9 +3.8
KOME Kolasin 1.48 2 *e* Pg Pg 00 28 40.0 +2.0
KOME Kolasin 1.48 2 ⇓*i* Pg Pg 00 28 39.0 +1.0
KOME *i* Sg Sg 00 29 02.0 +4.8
BEY Berane 1.54 12 *e* Pg Pg 00 28 39.7 +0.7
BEY eSg Sg 00 28 59.9 +0.9
IVA Berane 1.54 12 ⇑*i* Pn Pg 00 28 39.6 +0.6
IVA eSn Sg 00 29 02.9 +3.9
TREB Trebinje 1.58 329 ⇑*i* Pn Pg 00 28 39.7 -0.1
TREB eSg Sg 00 29 01.0 +0.7
TREB Trebinje 1.58 329 *e* Pn Pg 00 28 39.9 +0.1
KEK Kerkira 1.67 171 Pg 00 28 42.3 +0.8
KEK Kerkira 1.67 171 P Pg 00 28 42.8 +1.3
KEK S Sn 00 29 01.3 +1.3
BRY Bratogost 1.68 336 ⇓*i* Pn Pg 00 28 41.4 -0.3
BRY eSn Sg 00 29 05.3 +1.8
PENT Pentalofos 1.73 132 P Pn 00 28 41.3 +1.8
UPM Unac-Piva 1.88 348 ⇑*i* Pn Pg 00 28 44.9 -0.6
UPM *i* Sn Sg 00 29 10.3 +0.3
NOCI Noci 1.90 253 ⇓ Pn Pb 00 28 43.1 -1.0
NOCI Sn Sg 00 29 10.8 +0.3
NOCI AML AML 00 29 21.3
comp=E,7.3nm,0.4s
KLINJ Klinje 1.92 341 *e* Pn Pg 00 28 44.4 -1.8
KLINJ eSn Sg 00 29 08.5 -2.5
SJES Sjenica 1.93 11 *e* Pn Pg 00 28 45.8 -0.7
SJES eSn Sg 00 29 10.0 -1.6
IGT Igoumenitsa 1.95 160 ⇑ Pn Pn 00 28 43.4 +1.0
IGT Igoumenitsa 1.95 160 P Pn 00 28 43.0 +0.6
IGT S Sn 00 29 08.0 +1.1
IGT Igoumenitsa 1.95 160 *i* Pn Pn 00 28 42.9 +0.6
IGT *i* Sn Sn 00 29 10.0 +3.1
IGT Igoumenitsa 1.95 160 *e* Pn Pn 00 28 43.2 +0.8
IGT eSn Sn 00 29 09.5 +2.7
STON Ston 1.99 320 ⇑*i* Pn Pb 00 28 45.0 -0.6
STON eSn Sg 00 29 10.7 -2.8
STON Ston 1.99 320 *e* Pn Pg 00 28 48.3 +0.6
JAN Janina 2.01 148 P Pn 00 28 44.7 +1.4
JAN Janina 2.01 148 P Pn 00 28 45.0 +1.7
KZN Kozani 2.05 120 P Pn 00 28 45.2 +1.4
KZN Kozani 2.05 120 P Pn 00 28 45.0 +1.1
MATE Matera 2.20 252 ⇑ P Pb 00 28 48.2 -1.1
MATE ⇑ S Sg 00 29 18.1 -2.1
PRMD Pramanda 2.22 145 P Pn 00 28 48.0 +1.8
SELS Selova 2.23 33 *e* Pn Pb 00 28 48.4 -1.2
SELS eSn Sn 00 29 13.5 -0.2
RUDO Rudo 2.25 358 ⇑*i* Pn Pb 00 28 49.2 -0.9
RUDO eSn Sb 00 29 17.1 -0.8
RUDO Rudo 2.25 358 *e* Pn Pg 00 28 50.8 -1.8
IVAS Ivanjica 2.27 13 *e* Pn Pb 00 28 49.1 -1.3
BARS Barje 2.28 50 *i* Pn Pn 00 28 49.1 +1.3
BARS *i* Sn Sn 00 29 17.2 +2.3
BARS Barje 2.28 50 *e* Pn Pn 00 28 48.4 +1.5
GOCS Kraljevo Serbi 2.43 25 *e* Pn Pn 00 28 51.2 +2.1
GOCS eSn Sn 00 29 19.4 +0.5
TETR Tetrakomo, Epi 2.45 145 P Pn 00 28 50.9 +1.6
BBLS Lazi&#263i 2.50 359 *e* Pn Pb 00 28 53.1 -1.2
BBLS eSn Sb 00 29 25.1 0.0
BOSS Bosilegrad 2.52 62 *e* Pn Pn 00 28 51.6 +1.3
BOSS eSn Sn 00 29 18.8 -2.2
KNT Kendrikon 2.60 93 P Pn 00 28 52.1 +0.7
KNT Kendrikon 2.60 93 *i* Pn Pn 00 28 51.7 +0.3
KNT *i* Sn Sn 00 29 21.8 -1.2
KNT Kendrikon 2.60 93 P Pn 00 28 52.1 +0.7
LIT Litokhoron 2.63 118 Pn 00 28 51.9 +0.1
LIT Litokhoron 2.63 118 *i* Pn Pn 00 28 53.1 +1.4
LIT Litokhoron 2.63 118 P Pn 00 28 51.9 +0.1
THL Klokotos Trika 2.65 132 P Pn 00 28 52.8 +0.8
TYRN Tyrnavos 2.69 127 P Pn 00 28 53.5 +1.0
GRUS Gruza 2.69 20 *e* Pn Pn 00 28 54.9 +2.4
TSLK Tsoukalades, L 2.70 160 P Pn 00 28 53.0 +0.2
ACER Acerenza 2.72 259 Pb 00 28 54.9 -3.2
LKD2 Lefkada island 2.73 160 ⇓ Pn Pn 00 28 53.6 +0.4
LKD2 Lefkada island 2.73 160 P Pn 00 28 53.3 +0.1
THE Thessaloniki 2.75 104 P Pn 00 28 53.7 +0.2
THE Thessaloniki 2.75 104 *i* Pn Pn 00 28 53.7 +0.2
THE Thessaloniki 2.75 104 P Pn 00 28 53.9 +0.4
DIVS Divibare 2.76 8 *e* Pn Pb 00 28 56.4 -2.4
DIVS eSn Sb 00 29 29.1 -3.5
AMPL Ampelaki 2.79 151 P Pn 00 28 54.7 +0.8
KKB Krupnik 2.79 79 *i* P Pn 00 28 54.8 +0.7
KKB Krupnik 2.79 79 P Pn 00 28 55.0 +0.9
KKB Krupnik 2.79 79 *i* Pn Pn 00 28 54.7 +0.7
BOVS Bovan 2.81 36 ⇑ P Pn 00 28 56.6 +2.3
BOVS ⇓ S Sn 00 29 30.6 +2.5
BOVS Bovan 2.81 36 *e* Pn Pn 00 28 56.2 +1.9
BOVS eSn Sn 00 29 28.5 +0.4
SGRT San Giovanni R 2.81 279 ⇓ Pn Pb 00 28 56.1 -3.6
SGRT San Giovanni R 2.81 279 Pb 00 28 56.1 -3.6
NYDR Nydri-Lefkada 2.82 160 P Pn 00 28 54.0 -0.3
HORT Hortiatis 2.86 104 P Pn 00 28 54.9 -0.2
TRUS Trudelj 2.94 13 *e* Pn Pn 00 28 58.4 +2.4
TRUS eSn Sn 00 29 33.3 +2.0
SOH Sokhos 3.00 99 P Pn 00 28 57.7 +0.9
SOH Sokhos 3.00 99 *i* Pn Pn 00 28 57.8 +0.9
SOH Sokhos 3.00 99 P Pn 00 28 57.8 +0.9
TIP Timpagrande 3.01 224 Pn 00 28 57.8 +0.8
TIP Timpagrande 3.01 224 ⇓ P Pn 00 28 58.3 +1.3
TIP ⇑ S Sn 00 29 35.4 +2.4
FSK Fiskardo 3.02 163 P Pn 00 28 56.4 -0.7
ZAPS Zavoj 3.03 50 *e* Pn Pn 00 28 59.1 +1.8
ZAPS eSn Sn 00 29 34.3 +0.7
EVR Evrytania 3.04 143 P Pn 00 28 58.8 +1.3
VTS Vitosha 3.08 65 P Pn 00 29 01.1 +1.0
VTS Vitosha 3.08 65 *e* Pn Pn 00 28 59.3 +1.0
CUC Castrocucco 3.09 245 Pn 00 29 00.1 +1.9
MAKR Makrakomi, Fth 3.12 138 P Pn 00 28 59.8 +1.3
SRS Serrai 3.13 93 P Pn 00 28 58.8 +0.1
SRS Serrai 3.13 93 *i* Pn Pn 00 28 59.0 +0.3
SRS *i* Sn Sn 00 29 33.4 -2.6
SRS Serrai 3.13 93 *e* Pn Pn 00 28 59.1 +0.5
PLNA Plana 3.16 68 *i* P Pn 00 29 00.8 +1.6
PVO Paravola 3.17 149 P Pn 00 29 00.2 +1.0
SVIS Svilajnac 3.17 23 *e* Pn Pn 00 29 02.1 +2.9
PLG Polygyros 3.18 107 P Pn 00 29 00.1 +0.7
PLG Polygyros 3.18 107 P Pn 00 29 00.3 +0.9
ZAGS Zajecar 3.19 39 *e* Pn Pn 00 29 01.5 +2.0
ZAGS eSn Sn 00 29 36.8 -0.6
DMLN Damoulianata-K 3.20 167 P Pn 00 28 59.1 -0.6
AGG Agios Georgios 3.21 136 P Pn 00 29 00.7 +0.9
AGG Agios Georgios 3.21 136 P Pn 00 29 00.9 +1.1
MMB Musomishta 3.23 85 *i* P Pn 00 29 00.9 +0.8
MMB Musomishta 3.23 85 *i* Pn Pn 00 29 01.2 +1.4
BLKB Belogradchik 3.28 45 ⇑ S Sn 00 29 43.5 +3.8
VLS Valsamata 3.30 164 P Pn 00 29 00.2 -0.8
BORS2 Bor- Borsko je 3.31 34 *e* Pn Pn 00 29 02.0 +0.8
BORS2 eSn Sn 00 29 40.0 -0.5
AVAS Avala Beograd 3.42 13 *e* Pn Pn 00 29 04.5 +1.9
KUBS Kucevo 3.45 27 *e* Pn Pn 00 29 03.6 +0.5
KIJV Kijevo 3.47 321 ⇑*i* Pn Pb 00 29 06.0 -4.8
KIJV eSn Sn 00 29 46.1 +1.8
PAIG Paliouri 3.52 113 P Pn 00 29 03.8 -0.2
SERG Sergoula 3.56 145 P Pn 00 29 06.2 +1.6
OUR Ouranopolis 3.58 105 P Pn 00 29 05.5 +0.7
OUR Ouranopolis 3.58 105 P Pn 00 29 05.9 +1.1
ORTH Orthonies,Zaky 3.64 164 P Pn 00 29 04.9 -0.8
PGB Panagyurishte 3.70 70 *i* P Pn 00 29 08.1 +1.6
PAOL Paolisi 3.70 266 Pn 00 29 09.3 +2.7
MPEP Malo Peshtene 3.75 57 *i* P Pn 00 29 08.9 +1.8
BLY Banja Luka 3.77 335 ⇑*i* Pn Pn 00 29 10.2 +2.8
BLY eSn Sn 00 29 52.9 +1.2
BLY Banja Luka 3.77 335 ⇑ P Pn 00 29 10.4 +2.9
BLY Banja Luka 3.77 335 *e* Pn Pn 00 29 10.3 +2.8
MDVR Moldovita 3.79 25 ⇑ P Pn 00 29 09.9 +2.1
MDVR Moldovita 3.79 25 *e* Pn Pn 00 29 09.4 +1.6

FRGS Fruska Gora 3.80 4 *e* Pn Pn 00 29 09.6 +1.7
ATAL Atalanti 3.82 133 P Pn 00 29 09.0 +0.8
DRO Drossia 3.83 152 P Pn 00 29 08.9 +0.6
PUNG Punghina 3.87 40 ⇓ P Pn 00 29 11.3 +2.5
PUNG Punghina 3.87 40 *e* Pn Pn 00 29 11.2 +2.4
KLV Kalavryta, Ach 3.92 147 P Pn 00 29 10.4 +1.0
RZN Rozhen 3.98 84 *i* P Pn 00 29 11.5 +1.0
DJES Djerdap 3.99 33 ⇓ P Pn 00 29 12.5 +2.0
DJES Djerdap 3.99 33 *e* Pn Pn 00 29 12.7 +2.2
VRSS Vrsac 4.00 19 *e* Pn Pn 00 29 12.2 +1.7
PLD Plovdiv 4.03 77 *i* P Pn 00 29 12.3 +1.2
PLD Plovdiv 4.03 77 *e* Pn Pn 00 29 12.9 +1.8
RMGR Halanga-Turnu 4.06 35 ⇓ P Pn 00 29 14.3 +2.9
RMGR ⇓ S Sn 00 30 04.0 +5.1
HERR Herculane 4.13 31 ⇑ P Pn 00 29 14.5 +2.2
CEL Celeste 4.14 223 Pn 00 29 12.8 +0.2
BANR Banloc 4.20 16 ⇓ P Pn 00 29 16.3 +3.1
INTR Introdacqua 4.21 281 Pn 00 29 16.2 +2.6
SRE Strehaia 4.29 39 ⇑ P Pn 00 29 17.3 +2.7
SRE Strehaia 4.29 39 P Pn 00 29 17.3 +2.7
PLVB Pleven 4.33 60 ⇑ P Pn 00 29 16.9 +1.8
KDZ Kurdzhali 4.43 85 *i* P Pn 00 29 17.6 +1.1
KDZ Kurdzhali 4.43 85 P Pn 00 29 17.4 +0.9
VLAD Vladila 4.50 53 ⇓ P Pn 00 29 20.0 +2.6
BZS Buzias 4.53 20 ⇓ P Pn 00 29 20.0 +2.1
BZS Buzias 4.53 20 *e* Pn Pn 00 29 19.4 +1.5
BZS Buzias 4.53 20 P Pn 00 29 19.9 +2.1
RDO Rodhopi 4.59 91 Pn 00 29 19.2 +0.5
PVL Pavlikeni 4.59 66 P Pn 00 29 21.7 +3.0
ITM Ithomi 4.60 155 Pn 00 29 18.9 +0.1
ITM Ithomi 4.60 155 Pn 00 29 19.0 +0.1
AQU L'Aquila 4.63 284 *e* Pn Pn 00 29 21.8 +2.5
AQU eSn Sn 00 30 14.1 +1.1
AQU L'Aquila 4.63 284 P Pn 00 29 22.2 +2.9
CAMP Campotosto 4.66 287 Pn 00 29 22.3 +2.6
MOSL Moslavina 4.68 336 ⇑*i* Pn Pn 00 29 21.7 +1.8
MOSL *e* Sn Sn 00 30 14.8 +0.6
GZR Gura Zlata 4.70 30 ⇑ P Pn 00 29 23.1 +2.8
GZR ⇑ S Sn 00 30 17.9 +3.2
GZR Gura Zlata 4.70 30 *e* Pn Pn 00 29 23.3 +3.1
GZR Gura Zlata 4.70 30 P Pn 00 29 23.0 +2.8
GZR S Sn 00 30 17.9 +3.2
SURR Surduc 4.79 23 ⇑ P Pn 00 29 22.9 +1.4
GUMA Gualdo di Mace 4.85 292 Pn 00 29 24.6 +2.2
ZIMR 4.93 60 ⇓ P Pn 00 29 25.4 +2.1
ZIMR 4.93 60 P Pn 00 29 25.4 +2.1
NRCA Norcia 4.94 289 Pn 00 29 26.2 +2.6
ALN Alexandroupoli 5.00 93 Pn 00 29 25.2 +0.9
ALN Alexandroupoli 5.00 93 P Pn 00 29 25.2 +0.9
FDMO Fiordimonte 5.02 292 Pn 00 29 27.1 +2.4
ELND Elena 5.02 70 ⇑ P Pn 00 29 26.0 +1.4
HUMR Humele 5.14 50 ⇑ P Pn 00 29 28.6 +2.4
OZLJ Ozalj 5.14 327 *e* Pn Pn 00 29 28.4 +2.1
OZLJ eSn Sn 00 30 26.1 +0.6
BOJS Bojanci 5.14 325 *i* Pn Pn 00 29 28.8 +2.5
BOJS eSn Sn 00 30 26.0 +0.3
BOJS IAML 00 31 19.1
comp=Z,281nm,1.3s
BOJS Bojanci 5.14 325 *e* Pn Pn 00 29 28.9 +2.6
LOT Lotru 5.15 36 ⇓ P Pn 00 29 29.1 +2.6
SIRR Siria 5.15 17 ⇑ P Pn 00 29 29.1 +2.6
SIRR Siria 5.15 17 *e* Pn Pn 00 29 27.9 +1.5
DEV Deva 5.16 28 ⇑ P Pn 00 29 29.4 +2.9
DEV Deva 5.16 28 P Pn 00 29 29.4 +2.9
CESX Cesi 5.27 286 Pn 00 29 30.7 +2.6
RIY Rijeka 5.37 319 *e* Pn Pn 00 29 31.9 +2.5
EZN Ezine 5.45 104 ⇓ P Pn 00 29 32.2 +1.7
EZN Ezine 5.45 104 P Pn 00 29 32.2 +1.7
BEHE Becsehely 5.46 340 Pn 00 29 33.9 +3.3
BEHE Becsehely 5.46 340 ⇑*i* Pn Pn 00 29 32.9 +2.3
BEHE *e* Sn Sn 00 30 33.3 0.0
BRJN Brijuni 5.47 312 ⇑*i* Pn Pn 00 29 32.9 +2.1
BRJN eSn Sn 00 30 33.3 -0.3
MURB Monte Urbino 5.48 293 Pn 00 29 33.6 +2.6
ARR Arges 5.50 42 ⇓ P Pn 00 29 34.1 +2.8
VAE Valguarnera 5.51 227 P Pn 00 29 37.9 +6.5
comp=Z,8.1nm,0.6s,baz=217,slow=17,SNR=3.8
VAE S Sn 00 30 38.7 +4.1
comp=Z,16nm,0.7s,baz=156,slow=19,SNR=3.2
SGRR Singureni 5.58 57 ⇓ P Pn 00 29 34.4 +2.2
MTUR Matau 5.62 45 ⇑ P Pn 00 29 36.0 +3.1
MTUR Matau 5.62 45 P Pn 00 29 36.0 +3.1
LOZB Loznitsa 5.65 67 ⇑ P Pn 00 29 35.0 +1.6
RAZG Razgrad 5.66 65 ⇑ P Pn 00 29 34.8 +1.4
CEY Cerknica 5.70 322 *i* Pn Pn 00 29 36.4 +2.5
CEY Cerknica 5.70 322 *e* Pn Pn 00 29 36.5 +2.5
PDKS Podkum 5.70 327 *i* Pn Pn 00 29 36.2 +2.2
RAFF Raffo Rosso 5.72 225 Pn Pn 00 29 33.9 -0.4
SKDS Skadanscina 5.76 318 *e* Pn Pn 00 29 36.3 +1.5
VOIR 5.76 43 ⇑ P Pn 00 29 37.4 +2.5
VOIR 5.76 43 P Pn 00 29 37.3 +2.5
GROS Grobnik 5.84 332 *i* Pn Pn 00 29 37.7 +1.7
LJU Ljubljana 5.88 324 *i* Pn Pn 00 29 39.0 +2.5
LJU Ljubljana 5.88 324 *e* Pn Pn 00 29 39.0 +2.5
DRGR 5.91 22 ⇑ P Pn 00 29 39.4 +2.5
DRGR 5.91 22 *e* Pn Pn 00 29 38.2 +1.3
DRGR 5.91 22 P Pn 00 29 39.3 +2.5
MARR Marisel-Cluj 5.93 25 ⇑ P Pn 00 29 39.7 +2.5
MDB Medias 5.96 35 ⇓ P Pn 00 29 40.9 +3.4
MDB Medias 5.96 35 P Pn 00 29 40.9 +3.4
SULR 5.98 54 ⇑ P Pn 00 29 40.4 +2.6
TRI Trieste 6.00 318 Pn Pn 00 29 39.2 +1.2
TRI Trieste 6.00 318 P Pn 00 29 39.2 +1.2
CJR Cluj-Napoca 6.12 28 ⇑ P Pn 00 29 43.0 +3.2
CJR Cluj-Napoca 6.12 28 P Pn 00 29 43.0 +3.2
CBBR Cluj-Babes-Bol 6.15 27 ⇑ P Pn 00 29 43.7 +3.6
SOKA Soboth 6.19 331 *i* Pn Pn 00 29 42.6 +1.8
comp=Z,11nm,0.7s,SNR=25
SOKA *e* Sn Sn 00 30 52.6 +1.0
comp=Z,4.6nm,0.4s
LEHL Lehliu 6.23 58 ⇓ P Pn 00 29 43.5 +2.2
OBKA Obir 6.24 327 *i* Pn Pn 00 29 43.8 +2.3
comp=Z,2.6nm,0.2s,SNR=21
OBKA *e* Sn Sn 00 30 54.9 +2.1
comp=Z,13nm,0.4s
OBKA Obir 6.24 327 *e* Pn Pn 00 29 44.1 +2.6
OBKA *e* Sn Sn 00 30 54.4 +1.5
CICN Ciocanesti 6.25 61 ⇓ P Pn 00 29 43.6 +2.1
SABO M.te Sabotino 6.27 319 Pn 00 29 43.3 +1.5
MLR Muntele Rosu 6.27 47 Pn 00 29 43.6 +1.7
MLR Muntele Rosu 6.27 47 P Pn 00 29 44.9 +3.0
comp=Z,4.3nm,0.3s,baz=269,slow=6.7,SNR=65
MLR S Sn 00 30 52.8 -0.7
comp=Z,5.7nm,0.5s,baz=240,slow=15,SNR=0.9
MLR Muntele Rosu 6.27 47 ⇑ P Pn 00 29 44.8 +3.0
MLR Muntele Rosu 6.27 47 *e* Pn Pn 00 29 44.7 +2.8
MLR Muntele Rosu 6.27 47 *e* Pn Pn 00 29 44.6 +2.7
MLR *e* Sn Sn 00 30 54.7 +1.2
DOPR Dopca 6.30 41 ⇑ P Pn 00 29 44.8 +2.7
ISR Istrita 6.39 52 ⇓ P Pn 00 29 46.7 +3.2
ISR Istrita 6.39 52 P Pn 00 29 46.6 +3.2
NEHR Nehoiu 6.42 49 ⇓ P Pn 00 29 47.1 +3.2
OSSC Osservatorio P 6.45 292 Pn 00 29 45.3 +1.1
SRO Srobarova 6.50 353 *e* P Pn 00 29 50.1 +5.2
SRO *e* 00 31 09.3
BOSR Bodos 6.51 42 ⇑ P Pn 00 29 47.8 +2.8
ARSA Arzberg 6.52 336 Pn 00 29 47.6 +2.3
ARSA Arzberg 6.52 336 *i* Pn Pn 00 29 47.8 +2.5
comp=Z,3.7nm,0.5s,SNR=6.2
ARSA Arzberg 6.52 336 *e* Pn Pn 00 29 47.9 +2.6
ARSA Arzberg 6.52 336 *e* Pn Pn 00 29 47.1 +1.9
PSZ Piszkesteto 6.56 3 Pn 00 29 47.1 +1.3
PSZ Piszkesteto 6.56 3 ⇑ P Pn 00 29 48.0 +2.2
PSZ Piszkesteto 6.56 3 P Pn 00 29 48.0 +2.2
PSZ Piszkesteto 6.56 3 *e* Pn Pn 00 29 47.4 +1.5
PSZ *e* Sn Sn 00 31 02.5 +2.0
OZUR 6.58 42 ⇑ P Pn 00 29 48.8 +2.7
AMRR Amara 6.62 58 ⇑ P Pn 00 29 48.1 +1.5
AMRR Amara 6.62 58 P Pn 00 29 48.1 +1.5
COVR Voineasa-Covas 6.63 45 ⇓ P Pn 00 29 49.6 +2.8
TURR Turia 6.67 43 ⇑ P Pn 00 29 50.0 +2.7
RONA Rosalia, Austr 6.72 341 *e* Pn Pn 00 29 50.8 +2.8
comp=Z,0.9nm,0.4s
MYKA Terra Mystica 6.73 323 *e* Sn Sn 00 31 05.5 +0.8
comp=Z,8.2nm,0.5s
ICOR Ion Corvin 6.73 63 ⇑ P Pn 00 29 50.3 +2.3
PLOR Plostina 6.88 47 ⇓ P Pn 00 29 53.3 +3.1
PLOR Plostina 6.88 47 P Pn 00 29 53.2 +3.1
STAL STALIGIAL 6.91 317 Pn 00 29 51.5 +0.9
ZCCA Zocca 6.91 298 Pn Pn 00 29 52.7 +2.1

VRI Vrincioaia 6.93 47 ⇓ P Pn 00 29 54.0 +3.1
VRI Vrincioaia 6.93 47 P Pn 00 29 54.0 +3.1
TEOL Teolo 6.94 308 Pn 00 29 52.4 +1.5
HARR Harsova 7.04 59 ⇑ P Pn 00 29 53.7 +1.4
HARR Harsova 7.04 59 P Pn 00 29 53.7 +1.4
CONA Conrad Observa 7.04 340 *e* Pn Pn 00 29 54.4 +2.0
comp=Z,0.1nm,0.2s
TLBR Topalu 7.06 60 ⇓ P Pn 00 29 54.8 +2.3
KECS Kecovo 7.15 6 *e* P Pn 00 29 57.2 +3.3
KECS *e* 00 31 13.4
MFTR Murfatlar 7.17 64 ⇑ P Pn 00 29 56.2 +2.1
KBA Koelnbreinsper 7.20 325 *i* Pn Pn 00 29 56.9 +2.2
comp=Z,1.4nm,0.2s,SNR=14
KBA *e* Sn Sn 00 31 18.2 +1.7
comp=Z,6.2nm,0.4s
KBA Koelnbreinsper 7.20 325 *e* Pn Pn 00 29 57.1 +2.4
KBA *e* Sn Sn 00 31 15.5 -1.0
TIRR Tirgusor 7.26 62 Pn Pn 00 29 56.6 +1.2
TIRR Tirgusor 7.26 62 P Pn 00 29 56.6 +1.2
TESR Tescani 7.31 43 ⇑ P Pn 00 29 58.6 +2.6
CTI Castel Tesino 7.34 312 Pn 00 29 57.9 +1.3
CTI Castel Tesino 7.34 312 P Pn 00 29 57.9 +1.3
ABTA Abfaltersbach 7.34 319 *e* Sn Sn 00 31 21.2 +1.3
comp=Z,16nm,0.5s
CFR Carcaliu 7.39 56 ⇓ P Pn 00 29 58.9 +1.7
CFR Carcaliu 7.39 56 P Pn 00 29 58.8 +1.7
IDI Anoyia 7.42 143 Pn Pn 00 29 57.5 -0.2
IDI Anoyia 7.42 143 P Pn 00 29 56.4 -1.2
comp=Z,16nm,1.0s,baz=190,slow=1.6,SNR=6.0
IDI S Sn 00 31 13.3 -8.5
comp=Z,6.4nm,0.6s,baz=89,slow=18,SNR=0.9
TPGR Topolog 7.43 59 ⇑ P Pn 00 29 59.9 +2.2
MOA Molln 7.46 332 *e* Pn Pn 00 30 01.0 +2.9
comp=Z,1.0nm,0.3s,SNR=12
MOA *e* Sn Sn 00 31 26.0 +3.2
comp=Z,4.3nm,0.5s
MOA Molln 7.46 332 *e* Pn Pn 00 30 01.7 +3.5
MOA Molln 7.46 332 *e* Pn Pn 00 30 01.5 +3.4
MOA *e* Sn Sn 00 31 21.2 -1.5
BURAR Bucovina Array 7.48 31 Pn 00 30 01.2 +2.8
BURAR Bucovina Array 7.48 31 ⇑ P Pn 00 30 01.4 +2.9
BURAR Bucovina Array 7.48 31 P Pn 00 30 01.3 +2.8
BUR08 Bucovina Ar. S 7.50 31 Pn 00 30 01.6 +2.9
GIRR Girov 7.54 40 ⇓ P Pn 00 30 01.9 +2.7
SCTR Scanteiesti 7.55 52 ⇓ P Pn 00 30 01.5 +2.2
BIOA Bad Ischl, Aus 7.57 329 *i* Pn Pn 00 30 02.1 +2.5
comp=Z,2.2nm,0.2s,SNR=7.9
BIOA *e* Sn Sn 00 31 27.0 +1.8
comp=Z,6.4nm,0.5s
JAVC Velka Javorina 7.60 351 *e* PN Pn 00 30 04.4 +4.3
VLDR Vladesti 7.69 52 ⇑ P Pn 00 30 04.3 +3.1
LESA Schwarzleotal 7.76 324 *i* Pn Pn 00 30 04.4 +2.1
comp=Z,1.7nm,0.3s,SNR=13
LESA *e* Sn Sn 00 31 30.0 -0.2
comp=Z,10nm,0.5s
LANS Liptovska Anna 7.79 0 *e* P Pn 00 30 07.3 +4.7
KOLS Kolonicke sedl 7.82 14 *e* P Pn 00 30 06.4 +3.3
KOLS *e* 00 31 31.5
MSSA Maissana 7.88 295 Pn Pn 00 30 05.3 +1.4
RJOB Jochberg 7.95 326 *e* Pn Pn 00 30 07.1 +2.2
RJOB *e* Sn Sn 00 31 36.2 +1.5
KRUC Moravsky 7.99 345 *e* PN Pn 00 30 08.0 +2.6
WTTA Wattenberg 8.13 319 *i* Pn Pn 00 30 09.0 +1.5
comp=Z,11nm,0.6s,SNR=24
WTTA *e* Sn Sn 00 31 40.2 +0.7
comp=Z,40nm,0.5s
WTTA Wattenberg 8.13 319 *e* Pn Pn 00 30 09.7 +2.2
WTTA *e* Sn Sn 00 31 40.1 +0.6
WATA Walderalm 8.21 319 *i* Pn Pn 00 30 11.0 +2.4
comp=Z,5.3nm,0.3s,SNR=31
WATA *e* Sn Sn 00 31 41.9 +0.5
comp=Z,20nm,0.4s
CKRC Cesky Krumlov 8.29 336 *e* PN Pn 00 30 12.2 +2.7
CKRC Cesky Krumlov 8.29 336 *e* P Pn 00 30 12.2 +2.7
SQTA Sankt Quirin 8.32 317 *i* Pn Pn 00 30 12.8 +2.8
comp=Z,1.7nm,0.2s,SNR=12
SQTA *e* Sn Sn 00 31 44.4 +0.5
comp=Z,10nm,0.5s
FETA Feichten 8.44 315 *e* Pn Pn 00 30 13.2 +1.5
comp=Z,1.5nm,0.4s
FUORN Ofenpass-Fuorn 8.45 311 Pn 00 30 14.5 +2.6
MOTA Moosalm 8.46 318 *e* Pn Pn 00 30 13.7 +1.8
comp=Z,5.7nm,0.4s,SNR=16
MOTA *e* Sn Sn 00 31 48.9 +1.6
comp=Z,18nm,0.7s
GEC2 GERESS Array S 8.51 333 *e* Sn Sn 00 31 50.2 +1.6
GERES GERESS Array B 8.51 333 P Pn 00 30 14.8 +2.2
comp=Z,0.1nm,0.3s,baz=162,slow=11,SNR=8.6
GERES S Sn 00 31 49.0 +0.4
comp=Z,3.8nm,0.4s,baz=150,slow=22,SNR=8.1
comp=Z,0.6nm,0.3s
MORC Moravsky Berou 8.52 352 Pn Pn 00 30 15.0 +2.3
MORC Moravsky Berou 8.52 352 P Pn 00 30 15.0 +2.3
RETA Reutte 8.72 317 *e* Pn Pn 00 30 17.1 +1.6
comp=Z,1.6nm,0.3s,SNR=7.9
RETA *e* Sn Sn 00 31 53.6 -0.1
comp=Z,13nm,0.5s
DAVOX Davos/Dischmat 8.76 311 P Pn 00 30 19.5 +3.4
comp=Z,1.2nm,0.3s,baz=113,slow=7.0,SNR=16
DAVOX S Sn 00 31 56.1 +1.2
comp=Z,11nm,0.6s,baz=125,slow=21,SNR=4.5
comp=Z,2.9nm,0.3s
KHC Kasperske Hory 8.80 334 *e* PN Pn 00 30 18.7 +2.2
KHC *e* SN Sn 00 31 57.5 +1.9
KHC Kasperske Hory 8.80 334 *e* P Pn 00 30 18.7 +2.2
KHC *e* 00 31 57.5
OJC Ojcow 8.86 1 Pn Pn 00 30 20.6 +3.3
OJC Ojcow 8.86 1 P Pn 00 30 20.6 +3.3
ZVC Zvikov 8.88 337 *e* PN Pn 00 30 20.8 +3.2
TUE Stuetta 8.90 308 Pn 00 30 19.9 +1.9
KRLC Kraliky 8.91 349 *e* SN Sn 00 32 00.0 +1.7
DAVA Damuels 9.06 314 *e* Pn Pn 00 30 23.0 +2.8
comp=Z,2.3nm,0.3s,SNR=8.0
DAVA *e* Sn Sn 00 32 02.5 +0.4
comp=Z,9.8nm,0.6s
DAVA Damuels 9.06 314 *e* Pn Pn 00 30 23.6 +3.4
DAVA *e* Sn Sn 00 32 02.0 -0.2
UBR Ueberruh 9.19 317 *e* Pn Pn 00 30 23.7 +1.9
PLONS Plons/SG 9.20 312 *e* Pn Pn 00 30 24.9 +3.0
PLONS *e* Sn Sn 00 32 01.9 -3.5
WILA Wila 9.67 312 *e* Pn Pn 00 30 31.6 +3.2
BNI Bardonecchia 10.03 296 Pn Pn 00 30 33.9 +0.5
BNI Bardonecchia 10.03 296 P Pn 00 30 33.9 +0.5
SENIN Lac Senin/Sane 10.10 304 Pn 00 30 35.5 +1.0
SLE Schleitheim 10.10 313 *e* Pn Pn 00 30 35.5 +1.2
BFO Black Forest 10.52 315 Pn Pn 00 30 40.8 +0.7
BFO Black Forest 10.52 315 P Pn 00 30 40.8 +0.7
BFO Black Forest 10.52 315 *e* Pn Pn 00 30 40.8 +0.7
CLL Collm 10.89 338 *e* P Pn 00 30 45.0 -0.1
CLL *e* 00 32 47.0
CLL Collm 10.89 338 *e* Pn Pn 00 30 45.0 -0.1
CLL *ex* x 00 30 53.0
CLL *e*(Sn) Sn 00 32 47.0 +0.1
CLL *ex* x 00 33 16.0
CLL *ex* x 00 33 53.0
CLL eSg Sn 00 34 01.0
BRTR Keskin Array B 10.92 94 P Pn 00 30 47.5 +1.9
comp=Z,0.1nm,0.3s,baz=264,slow=11,SNR=2.2
comp=Z,1.1nm,1.0s
ECH Echery 11.10 312 Pn Pn 00 30 49.5 +1.6
ECH Echery 11.10 312 P Pn 00 30 49.5 +1.6
AKASG Malin Array Be 11.53 33 P Pn 00 30 54.3 +0.5
comp=Z,0.3nm,0.3s,baz=224,slow=14,SNR=1.3
comp=Z,0.2nm,0.2s
**SSB Saint Sauve

	comp=Z,0.5nm,0.9s								
NCK	**Nalchik**	**17.93**	**75**	⇑	*eP*		**Pn**	**00 32 19.8**	**+1.1**
NCK					pmax		pmax		
	comp=Z,16nm,1.3s								
HFS	**Hagfors**	**19.13**	**351**		P		**Pn**	**00 32 33.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=150,slow=9.9,SNR=6.2								
	comp=Z,1.0nm,0.5s								
HFS	**Hagfors**	**19.13**	**351**		P		**Pn**	**00 32 33.0**	**0.0**
GNI	**Garni**	**19.18**	**85**		P		**P**	**00 32 33.7**	**+0.6**
GNI					IAmb		IAmb	00 32 34.7	
	comp=Z,17nm,1.2s								
GNI	**Garni**	**19.18**	**85**	⇓	*eP*		**P**	**00 32 34.0**	**+0.9**
GNI					pmax		pmax		
	comp=Z,12nm,1.0s								
NB2	**NORSAR Subarra**	**20.33**	**348**		P		**P**	**00 32 44.8**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=162,slow=11								
NOA	**NORSAR Array B**	**20.33**	**348**		P		**P**	**00 32 44.9**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=160,slow=11,SNR=1.8								
	comp=Z,0.3nm,0.5s								
EKA	**Eskdalemuir Ar**	**20.39**	**321**		P		Pn	00 32 47.5	-0.6
	comp=Z,0.4nm,0.3s,baz=120,slow=8.2,SNR=6.9								
	comp=Z,0.4nm,0.3s								
FINES	**FINESS Array B**	**20.50**	**9**		P		**P**	**00 32 47.0**	**-0.1**
FINES	**FINESS Array B**	**20.50**	**9**		P		**P**	**00 32 47.0**	**-0.1**
	comp=Z,4.6nm,0.7s,baz=173,slow=10,SNR=14								
FINES					LR		LR	00 42 33.8	
	comp=Z,34nm,20.7s,baz=282,slow=42								
	comp=Z,4.6nm,0.7s								
FINES	**FINESS Array B**	**20.50**	**9**		P		**P**	**00 32 47.1**	**-0.1**
FIA1	**FINESS Array S**	**20.51**	**9**		P		**P**	**00 32 46.6**	**-0.5**
NC204	**NORSAR Array S**	**20.63**	**348**		P		Pn	00 32 50.4	-0.4
MDT	**Midelt**	**20.96**	**254**		P		Pn	00 32 55.4	+0.4
	comp=Z,1.3nm,0.5s,baz=161,slow=10,SNR=5.5								
	comp=Z,1.3nm,0.5s								
MD01	**Midelt array s**	**21.04**	**254**		P		**P**	**00 32 54.6**	**+1.3**
AKT	**Akhty**	**21.17**	**80**	⇓	*iP*		**P**	**00 32 52.0**	**-2.7**
AKT					*eS*		**P**	**00 32 54.4**	**-0.3**
AKT					pmax		pmax		
	comp=Z,3.0nm,0.1s								
BELG	**Belogornoye**	**22.04**	**50**		P		**P**	**00 33 04.2**	**+0.5**
	comp=Z,7.6nm,0.8s,baz=204,slow=4.9,SNR=3.9								
	comp=Z,7.6nm,0.8s								
BELG	**Belogornoye**	**22.04**	**50**	⇑	*eP*		**P**	**00 33 03.2**	**-0.6**
BELG					pmax		pmax		
	comp=Z,4.0nm,1.3s								
KLMR	**Klimovskoe**	**23.05**	**25**		*eP*		**P**	**00 33 15.4**	**+1.1**
KLMR					pmax		pmax		
	comp=Z,5.0nm,0.7s								
ARTI	**Arti**	**29.21**	**46**		P		**P**	**00 34 09.7**	**-1.1**
ARTI	**Arti**	**29.21**	**46**	*c*	*iP*		**P**	**00 34 09.6**	**-1.2**
ARTI								00 35 00.9	
ARTI					S		**S**	**00 39 04.1**	**+1.2**
ARTI					SS		**SnSn**	**00 40 29.3**	**+1.6**
ARTI					pmax		pmax		
	comp=Z,4.0nm,0.6s								
AB31	**Akbulak array**	**29.25**	**61**		P		**P**	**00 34 10.2**	**-1.0**
ABKAR	**Akbulak array**	**29.25**	**61**		P		**P**	**00 34 10.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**32.10**	**214**		P		**P**	**00 34 37.7**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=27,slow=10.0,SNR=4.1								
	comp=Z,0.6nm,0.6s								
BVAR	**Borovoye Array**	**35.78**	**53**		P		**P**	**00 35 08.2**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=267,slow=5.9,SNR=7.6								
	comp=Z,1.9nm,0.7s								
ZAA0	**Zalesovo Array**	**44.23**	**50**				**P**	**00 36 17.8**	**-0.6**
ZAA0					IAmb		IAmb	00 36 34.2	
	comp=Z,3.8nm,0.7s								
ZALV	**Zalesovo Beam**	**44.23**	**50**				**P**	**00 36 17.6**	**-0.7**
ZALV	**Zalesovo Beam**	**44.23**	**50**		P		**P**	**00 36 18.0**	**-0.4**
	comp=Z,3.0nm,0.4s,baz=282,slow=8.2,SNR=17								
	comp=Z,3.0nm,0.4s								
SONM	**Songino Array**	**59.10**	**52**		P		**P**	**00 38 08.9**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=219,slow=11,SNR=6.3								
	comp=Z,1.4nm,0.8s								
HHC	**Hu-ho-hao-te**	**65.92**	**56**		*eP*		**P**	**00 38 54.3**	**-1.1**
HHC					pmax		pmax		
	comp=Z,13nm,0.7s								
HHC					pmax		pmax		
	comp=Z,150nm,5.6s								
PZH	**PanZhiHua**	**67.50**	**74**		P		**P**	**00 39 07.6**	**+1.9**
ASAR	**Alice Springs**	**123.26**	**93**		PKP		**PKPdf**	**00 47 05.1**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=328,slow=1.6,SNR=5.6								

*SOME **22** 00:29:36.2,42.2°22N×84.4°95E,h5km*
*NNC **22** 00:29:55.4±5.1,42.2°32N×84.2°25E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=44.6km s-min=27.4km az=136.0*
ISC 22 00:29:39.2±3.2,41.9°N±0.1°×85.2°E±0.1°,h10km,n10, σ2s75/16,3C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**4.46**	**289**	*eP*	**Pn**	**00 30 48.0**	**+1.0**
	3.5nm,0.3s						
SHLS				*eS*	**Sn**	**00 31 40.0**	**+1.0**
	57nm,0.7s						
PDGK	**Podgornoye**	**4.49**	**291**	⇑Pn	**Pn**	**00 30 51.1**	**+3.7**
	1.6nm,0.5s						
PDGK				⇓Pg	**Pg**	**00 31 04.4**	**-0.8**
	4.1nm,0.5s						
PDGK				⇓Lg	Lg	00 31 49.9	
	53nm,0.8s						
UZB	**Uzynbulak**	**4.77**	**288**	*eP*	**Pb**	**00 30 58.7**	**-4.2**
	3.3nm,0.3s						
UZB				*eS*	**Sb**	**00 31 58.2**	**-2.3**
	18nm,0.4s						
MK31	**Makanchi Array**	**5.37**	**338**	⇑Pn	**Pn**	**00 31 02.5**	**+3.2**
	0.3nm,0.2s,baz=167,slow=15,SNR=8.3						
MK31				Pg	**Pg**	**00 31 19.6**	**-2.3**
	1.0nm,0.2s,baz=154,slow=16,SNR=24						
MK31				⇓Lg	Lg	00 32 24.8	
	2.1nm,0.2s,baz=161,slow=27,SNR=6.2						
ZSN	**Zaisan**	**5.59**	**357**	*eP*	**Pb**	**00 31 14.8**	**-2.1**
	3.4nm,0.3s						
ZSN				*eS*	**Sb**	**00 32 26.1**	**+2.0**
	12nm,0.7s						
TDK	**Taldyqorghan**	**5.88**	**305**	*eP*	**Pb**	**00 31 19.1**	**-2.7**
	19nm,0.3s						
TDK				*eS*	**Sb**	**00 32 33.6**	**+1.3**
	34nm,0.5s						
ARXS	**Arharly**	**5.92**	**296**	*eP*	**Pb**	**00 31 20.1**	**-2.4**
ARXS				*eS*	**Sb**	**00 32 34.9**	**+1.6**
TNSS	**Tian-Shan**	**6.24**	**284**	*eP*	**Pb**	**00 31 27.2**	**-1.0**
	0.8nm,0.4s						
TNSS				*eS*	**Sb**	**00 32 47.1**	**+4.0**
	3.2nm,0.5s						
KURBB	**Kurchatov Arra**	**9.91**	**334**	⇑Lg	Lg	00 34 51.6	
	6.7nm,0.7s						
KURK	**Kurchatov**	**9.96**	**335**	⇓Lg	Lg	00 34 51.6	
	2.5nm,0.8s						

*NNC **22** 00:35:43.3±0.7,44.9°96N×80.7°77E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=6.4km s-min=4.2km az=123.0*
*SOME **22** 00:35:44.1,45.0°00N×80.8°2E,h25km*
ISC 22 00:35:41.8±0.8,44.9°98N±0.0°03×80.9°6E±0.0°03,h10km,n50, σ1s57/72,8C-4D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPS	**Kapalarasan**	**1.17**	**286**	P	**Pb**	**00 36 03.8**	**-0.4**
	38nm,0.1s						
KAPS				S	**Sb**	**00 36 18.5**	**-0.9**
	736nm,0.2s						
KNOS	**Konyrlen**	**1.41**	**245**	P	**Pn**	**00 36 07.8**	**+0.1**
	75nm,0.3s						
KNOS				S	**Sn**	**00 36 25.5**	**-0.9**
	143nm,0.3s						
TDK	**Taldyqorghan**	**1.81**	**272**	P	**Pb**	**00 36 15.0**	**0.0**
	335nm,0.3s						
TDK				S	**Sb**	**00 36 37.8**	**+0.1**
	528nm,0.3s						
TDK	**Taldyqorghan**	**1.81**	**272**	*eP*	**Pb**	**00 36 15.0**	**0.0**
	335nm,0.3s						
TDK				*eS*	**Sb**	**00 36 37.8**	**+0.1**
	528nm,0.3s						
PDGK	**Podgornoye**	**1.96**	**213**	⇓P	**Pb**	**00 36 16.7**	**-1.0**
	25nm,0.6s						
PDGK				⇓S	**Sb**	**00 36 41.9**	**-0.3**
	171nm,0.4s						
MK31	**Makanchi Array**	**2.04**	**27**	P	**Pg**	**00 36 19.1**	**-1.8**
	12nm,0.2s,baz=209,slow=11,SNR=257						
MK31				⇑S	**Sg**	**00 36 45.9**	**-1.4**
	62nm,0.1s,baz=210,slow=26,SNR=17						
SHLS	**Shalkode**	**2.12**	**211**	P	**Pn**	**00 36 18.2**	**+0.9**
	41nm,0.2s						
SHLS				S	**Sn**	**00 36 43.0**	**-0.8**
	425nm,0.3s						
SHLS	**Shalkode**	**2.12**	**211**	*eP*	**Pn**	**00 36 18.2**	**+0.9**
	41nm,0.2s						
SHLS				*eS*	**Sn**	**00 36 43.0**	**-0.8**
	425nm,0.3s						
KPKS	**Kokpek**	**2.23**	**228**	Pg	**Pb**	**00 36 22.5**	**+0.3**
	0.3nm,0.2s						
KPKS				Lg	Lg	00 36 50.2	
	337nm,0.5s						
UZB	**Uzynbulak**	**2.30**	**218**	Pg	**Pb**	**00 36 23.2**	**-0.3**
	6.8nm,0.2s						
UZB				Lg	Lg	00 36 51.9	
	160nm,0.4s						
UZB	**Uzynbulak**	**2.30**	**218**	*eP*	**Pb**	**00 36 23.2**	**-0.3**
	6.8nm,0.2s						
UZB				*eS*	**Sb**	**00 36 51.9**	**-0.1**
	160nm,0.4s						
ARXS	**Arharly**	**2.36**	**252**	Pg	**Pb**	**00 36 24.4**	**-0.1**
	34nm,0.3s						
ARXS				Lg	Lg	00 36 53.9	
	77nm,0.3s						
ARXS	**Arharly**	**2.36**	**252**	*eP*	**Pb**	**00 36 24.4**	**-0.1**
ARXS				*eS*	**Sb**	**00 36 53.9**	**+0.1**
KURS	**Kuram**	**2.50**	**234**	Pg	**Pb**	**00 36 26.6**	**-0.2**
	16nm,0.3s						
KURS				Lg	Lg	00 36 57.3	
	85nm,0.5s						
SATY	**Saty**	**2.66**	**225**	Pg	**Pb**	**00 36 29.7**	**+0.1**
	18nm,0.2s						
SATY				Lg	Lg	00 37 02.6	
	159nm,0.2s						
CHKK	**Chushkaly**	**3.06**	**250**	Pg	**Pb**	**00 36 36.2**	**-0.1**
	25nm,0.2s						
CHKK				Lg	Lg	00 37 14.0	
	118nm,0.3s						
CHKK	**Chushkaly**	**3.06**	**250**	*eP*	**Pb**	**00 36 36.2**	**-0.1**
	25nm,0.2s						
CHKK				*eS*	**Sb**	**00 37 14.0**	**+0.3**
	118nm,0.3s						
KOTS	**Kotyrbulak**	**3.27**	**239**	Pg	**Pb**	**00 36 40.4**	**+0.3**
	18nm,0.3s						
KOTS				Lg	Lg	00 37 21.1	
	86nm,0.4s						
KOTS	**Kotyrbulak**	**3.27**	**239**	*eP*	**Pb**	**00 36 40.4**	**+0.3**
	18nm,0.3s						
KOTS				*eS*	**Sb**	**00 37 21.1**	**+1.1**
	86nm,0.4s						
KTBS	**Karatobe**	**3.32**	**249**	Pg	**Pb**	**00 36 40.8**	**+0.1**
	8.6nm,0.4s						
KTBS				Lg	Lg	00 37 21.8	
	38nm,0.5s						
MDOK	**Medeo**	**3.35**	**239**	Pg	**Pb**	**00 36 41.9**	**+0.5**
	8.5nm,0.6s						
MDOK				Lg	Lg	00 37 23.6	
	36nm,0.6s						
KNDC	**Almaty**	**3.37**	**240**	⇑Pn	**Pb**	**00 36 40.7**	**-0.9**
	20nm,0.6s						
KNDC				⇑Pg	**Pg**	**00 36 47.8**	**+1.5**
	31nm,0.6s						
KNDC				⇑Lg	Lg	00 37 23.2	
	25nm,0.5s						
AAA	**Alma-Ata**	**3.41**	**240**	Pg	**Pb**	**00 36 42.8**	**+0.6**
	15nm,0.2s						
AAA				Lg	Lg	00 37 25.0	
	3.5nm,0.1s						
AAA	**Alma-Ata**	**3.41**	**240**	*eP*	**Pb**	**00 36 42.8**	**+0.6**
	15nm,0.2s						
AAA				*eS*	**Sb**	**00 37 25.0**	**+1.2**
	3.5nm,0.1s						
KUU	**Kurty**	**3.48**	**253**	Pg	**Pb**	**00 36 43.8**	**+0.3**
	6.4nm,0.1s						
KUU				Lg	Lg	00 37 26.7	
	58nm,0.3s						
KUU	**Kurty**	**3.48**	**253**	*eP*	**Pb**	**00 36 43.8**	**+0.3**
	6.4nm,0.1s						
KUU				*eS*	**Sb**	**00 37 26.7**	**+0.9**
	58nm,0.3s						
TNSS	**Tian-Shan**	**3.48**	**238**	Pg	**Pb**	**00 36 44.1**	**+0.3**
	2.7nm,0.4s						
TNSS				Lg	Lg	00 37 27.8	
	7.4nm,0.4s						
TNSS	**Tian-Shan**	**3.48**	**238**	*eP*	**Pb**	**00 36 44.1**	**+0.3**
	2.7nm,0.4s						
TNSS				*eS*	**Sb**	**00 37 27.8**	**+1.5**
	7.4nm,0.4s						
ZSN	**Zaisan**	**3.67**	**46**	Pg	**Pg**	**00 36 50.1**	**-1.9**
	8.4nm,0.3s						
ZSN				Lg	Lg	00 37 38.2	
	57nm,0.4s						
ZSN	**Zaisan**	**3.67**	**46**	*eP*	**Pg**	**00 36 50.1**	**-1.9**
	8.4nm,0.3s						
ZSN				*eS*	**Sg**	**00 37 38.2**	**-1.4**
	57nm,0.4s						
MTBS	**Maitube**	**3.75**	**242**	Pg	**Pb**	**00 36 49.0**	**+0.9**
	6.0nm,0.3s						
MTBS				Lg	Lg	00 37 35.5	
	72nm,0.4s						
MTBS	**Maitube**	**3.75**	**242**	*eP*	**Pb**	**00 36 49.0**	**+0.9**
	6.0nm,0.3s						
MTBS				*eS*	**Sb**	**00 37 35.5**	**+1.8**
	72nm,0.4s						
KRBS	**Karabastau**	**4.00**	**253**	Pg	**Pb**	**00 36 53.6**	**+1.2**
	4.7nm,0.5s						
KRBS				Lg	Lg	00 37 43.7	
	3.6nm,0.3s						
KST	**Kastek**	**4.09**	**243**	Pg	**Pb**	**00 36 55.4**	**+1.4**
	7.5nm,0.4s						
KST				Lg	Lg	00 37 46.9	
	45nm,0.7s						
KST	**Kastek**	**4.09**	**243**	*eP*	**Pb**	**00 36 55.4**	**+1.4**
	7.5nm,0.4s						
KST				*eS*	**Sb**	**00 37 46.9**	**+3.5**
	45nm,0.7s						
DGS	**Degeres**	**4.12**	**247**	Pg	**Pb**	**00 36 55.7**	**+1.3**
	6.6nm,0.5s						
DGS				Lg	Lg	00 37 47.5	
	30nm,0.6s						
SGDS	**Sogindy**	**4.80**	**254**	Pg	**Pb**	**00 37 08.4**	**+2.5**
	3.5nm,0.4s						
SGDS				Lg	Lg	00 38 09.2	
	5.9nm,0.2s						
BTLS	**Baital**	**4.90**	**273**	Pg	**Pb**	**00 37 10.3**	**+2.6**
	3.3nm,0.3s						
BTLS				Lg	Lg	00 38 12.6	
	3.3nm,0.3s						
BTLS	**Baital**	**4.90**	**273**	*eP*	**Pb**	**00 37 10.3**	**+2.6**
	3.3nm,0.3s						
BTLS				*eS*	**Sb**	**00 38 12.6**	**+6.0**
	3.3nm,0.3s						
WMQ	**Urumqi**	**4.97**	**101**	*eP*	**Pn**	**00 36 58.8**	**+2.3**
WMQ					LR	LR	
	comp=Z,310nm,24.1s						
AAK	**Ala-Archa**	**5.23**	**246**	⇑Pg	**Pg**	**00 37 20.2**	**-1.8**
	comp=Z,2.0nm,0.6s						
AAK				⇑Lg	Lg	00 38 23.2	
	comp=Z,2.7nm,0.5s						
SEM	**Semipalatinsk**	**5.45**	**355**	Pg	**Pg**	**00 37 25.3**	**-0.8**
	comp=Z,2.8nm,0.1s						
SEM				Lg	Lg	00 38 37.8	
	comp=Z,10nm,0.2s						
SEM	**Semipalatinsk**	**5.45**	**355**	*eP*	**Pg**	**00 37 25.3**	**-0.8**
	comp=Z,2.8nm,0.1s						
SEM				*eS*	**Sg**	**00 38 37.8**	**+1.1**
	comp=Z,10nm,0.2s						
KURK	**Kurchatov**	**5.95**	**346**	⇓Pn	**Pn**	**00 37 11.0**	**+1.1**
	comp=Z,0.2nm,0.5s						
KURK				⇑Sn	**Sn**	**00 38 17.3**	**-0.7**
	comp=Z,4.0nm,0.7s						
KURK				⇓Lg	Lg	00 38 52.1	
	comp=Z,4.9nm,0.7s						
MRKS	**Merke**	**6.02**	**251**	Pg	**Pg**	**00 37 33.9**	**-3.1**
	comp=Z,2.7nm,0.5s						
MRKS				Lg	Lg	00 38 53.0	
	comp=Z,7.0nm,0.3s						
MRKS	**Merke**	**6.02**	**251**	*eP*	**Pg**	**00 37 33.9**	**-3.1**
	comp=Z,2.7nm,0.5s						
MRKS				*eS*	**Sg**	**00 38 53.0**	**-1.9**
	comp=Z,7.0nm,0.3s						
BRZS	**Berezniki**	**7.51**	**315**	Pg	**Pg**	**00 38 02.2**	**-3.4**
	comp=Z,1.1nm,0.6s						
BRZS				Lg	Lg	00 39 41.4	
	comp=Z,12nm,0.5s						
BRZS	**Berezniki**	**7.51**	**315**	*eP*	**Pg**	**00 38 02.2**	**-3.4**
	comp=Z,1.1nm,0.6s						
BRZS				*eS*	**Sg**	**00 39 41.4**	**-1.4**
	comp=Z,12nm,0.5s						
KK31	**Karatay Array**	**7.76**	**260**	⇑Lg	Lg	00 39 44.7	
	comp=Z,3.0nm,0.5s,baz=71,slow=26,SNR=4.1						
IUG	**Iuzhnay**	**8.42**	**254**	Pg	Pg	00 38 18.4	-4.6
	comp=Z,4.2nm,0.3s						
IUG				Lg	Lg	00 40 09.3	
	comp=Z,14nm,1.2s						

*CATAC **22** 00:36:42.9±1.0,7°N±5°×7°3W±°,h172km±12km,M5.5/7, MLv5.5/7,confirmed*
*VAO **22** 00:36:44.0±0.2,6.71N×73.00W,h158km±1km,mb4.8*
*RSNC **22** 00:36:44.7±0.0,7°N±1°×7°3W±°,h153km±2km,M5.2, mB5.7,mb5.7,ML4.8,Mw(mB)5.2*
*IDC **22** 00:36:44.3±0.4,6.78N×72.98W,h156km±3km,mb4.1/22, mbtmp4.6/27,MS3.6/9,Error ellipse: s-maj=8.5km s-min=6.1km az=125.0*
*NEIC **22** 00:36:45.0±1.7,6.80N±0.06×73.02W±0.06,h158km±7km, mb4.9/111,Error ellipse: s-maj=9.8km s-min=7.8km az=120.0*
ISC 22 00:36:43.6±0.3,6.82N±0.03×73.01W±0.03,h154km±3km, h155km:pP-P,n583,σ1s29/651,mb4.9/79,5C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.29**	**217**	P	**Pn**	**00 37 05.4**	**+0.4**
BARC				S	**Sn**	**00 37 20.1**	**-1.1**
PAMC	**Pamplona, Colo**	**0.60**	**31**	P	**Pn**	**00 37 08.3**	**+1.7**
PAMC				S	**Sn**	**00 37 25.2**	**+1.1**
BRJC	**Barrancabermej**	**0.75**	**282**	P	**Pn**	**00 37 07.0**	**+0.1**
BRJC				S	**Sn**	**00 37 24.3**	**-0.3**
RUSC	**La Rusia**	**0.93**	**185**		**Pn**	**00 37 09.3**	**+0.5**
RUSC	**La Rusia**	**0.93**	**185**	P	**Pn**	**00 37 09.5**	**+0.7**
RUSC	**La Rusia**	**0.93**	**185**	P	**Pn**	**00 37 09.2**	**+0.4**
RUSC				S	**Sn**	**00 37 27.9**	**-0.1**
OCAC	**Ocana**	**1.44**	**348**	P	**Pn**	**00 37 13.5**	**+0.4**
OCAC				S	**Sn**	**00 37 35.5**	**-0.3**
PTBC	**PUERTO BERRIO,**	**1.47**	**259**	P	**Pn**	**00 37 11.8**	**-1.4**
PTBC				S	**Sn**	**00 37 33.3**	**-2.5**
SPBC	**San Pablo de B**	**1.57**	**222**	P	**Pn**	**00 37 14.2**	**-0.2**
SPBC				S	**Sn**	**00 37 36.6**	**-1.4**
ZARC	**Zaragoza, Cauc**	**1.95**	**290**	P	**Pn**	**00 37 17.5**	**-1.0**
ZARC				S	**Sn**	**00 37 43.5**	**-1.8**
NORC	**Norcasia**	**2.23**	**236**	P	**Pn**	**00 37 21.0**	**-0.8**
NORC				S	**Sn**	**00 37 49.4**	**-1.8**
ROSC	**El Rosal**	**2.36**	**214**		**Pn**	**00 37 25.1**	**+1.4**
ROSC				Sn	**Sn**	**00 37 55.4**	**+0.8**
ROSC	**El Rosal**	**2.36**	**214**	P	**Pn**	**00 37 25.2**	**+1.5**
	3μm,0.3s,baz=198,slow=1.4,SNR=2789						
ROSC				S	**Sn**	**00 37 55.2**	**+0.6**
	22μm,0.4s,baz=29,slow=22,SNR=29						
ROSC	**El Rosal**	**2.36**	**214**	P	**Pn**	**00 37 25.0**	**+1.3**
ROSC				S	**Sn**	**00 37 54.5**	**-0.1**
BOG	**Bogota**	**2.42**	**206**	P	**Pn**	**00 37 26.2**	**+1.8**
BOG				S	**Sn**	**00 37 56.4**	**+0.6**
CVER	**Cruz Verde, Cu**	**2.52**	**205**	P	**Pn**	**00 37 26.9**	**+1.2**
CVER				S	**Sn**	**00 37 58.4**	**+0.3**
HELC	**Santa Helena**	**2.58**	**256**	P	**Pn**	**00 37 25.2**	**-1.2**
HELC	**Santa Helena**	**2.58**	**256**	P	**Pn**	**00 37 24.9**	**-1.4**
HELC				S	**Sn**	**00 37 57.3**	**-1.9**
MEDEC	**Medelln, Ant**	**2.62**	**258**	P	**Pn**	**00 37 26.4**	**-0.2**
MEDEC				S	**Sn**	**00 37 58.0**	**-1.8**
UREC	**San Jos de Ur**	**2.67**	**290**	P	**Pn**	**00 37 25.0**	**-2.1**
UREC				S	**Sn**	**00 37 55.9**	**-4.7**
PTGC	**Puerto Gaitan,**	**2.75**	**161**	P	**Pn**	**00 37 28.6**	**+0.6**
PTGC				S	**Sn**	**00 38 02.0**	**-0.4**
GUY2C	**Guyana, Caldas**	**2.83**	**236**	P	**Pn**	**00 37 29.2**	**-0.3**
GUY2C				S	**Sn**	**00 38 04.6**	**-0.3**
NIZA	**Niza - Manizal**	**3.01**	**235**	P	**Pn**	**00 37 32.5**	**+0.9**
NIZA				S	**Sn**	**00 38 10.0**	**+1.3**
CMAN1	**Manizales, Cal**	**3.05**	**235**	P	**Pn**	**00 37 31.4**	**-0.7**
CMAN1				S	**Sn**	**00 38 09.3**	**-0.2**
SDV	**Santo Domingo**	**3.12**	**49**		**Pn**	**00 37 35.0**	**+2.1**
SDV				Sn	**Sn**	**00 38 11.9**	**+0.8**
SDV	**Santo Domingo**	**3.12**	**49**	P	**Pn**	**00 37 35.0**	**+2.1**
	2μm,0.3s,baz=165,slow=3.4,SNR=602						
SDV				S	**Sn**	**00 38 12.2**	**+1.1**
	3μm,0.5s,baz=218,slow=15,SNR=26						
SDV				LR	LR	00 38 51.9	
	comp=Z,237nm,20.6s,baz=106,slow=41						
SDV	**Santo Domingo**	**3.12**	**49**	*eP*	**Pn**	**00 37 35.0**	**+2.1**
SDV				*eS*	**Sn**	**00 38 12.1**	**+1.0**
SDV	**Santo Domingo**	**3.12**	**49**	P	**Pn**	**00 37 34.9**	**+2.1**
SDV				S	**Sn**	**00 38 12.2**	**+1.1**
CBOC	**Ciudad Bolivar**	**3.13**	**253**	P	**Pn**	**00 37 32.9**	**-0.1**
CBOC				S	**Sn**	**00 38 10.1**	**-1.2**
DBBC	**Dabeiba**	**3.19**	**274**	P	**Pn**	**00 37 32.7**	**-0.9**
DBBC				S	**Sn**	**00 38 08.6**	**-3.7**
PRAC	**Prado**	**3.61**	**211**	P	**Pn**	**00 37 38.4**	**-0.7**
PRAC	**Prado**	**3.61**	**211**	P	**Pn**	**00 37 38.2**	**-0.8**
PRAC				S	**Sn**	**00 38 21.1**	**-0.9**
ORTC	**Ortega, Tolima**	**3.65**	**218**	P	**Pn**	**00 37 39.1**	**-0.5**
ORTC				S	**Sn**	**00 38 22.6**	**-0.4**
APAC	**Apartado, Choc**	**3.70**	**287**	P	**Pn**	**00 37 39.2**	**-0.9**
APAC				S	**Sn**	**00 38 20.4**	**-3.6**
SJCC	**San Jacinto, C**	**3.74**	**325**	P	**Pn**	**00 37 39.1**	**-1.5**
SJCC	**San Jacinto, C**	**3.74**	**325**	P	**Pn**	**00 37 39.0**	**-1.6**
SJCC				S	**Sn**	**00 38 19.6**	**-5.4**
URMC	**La Uribe, Meta**	**3.80**	**201**	P	**Pn**	**00 37 41.9**	**+0.3**
URMC				S	**Sn**	**00 38 27.2**	**+0.6**
CRJC	**Cerrejon, Guaj**	**4.17**	**2**	P	**Pn**	**00 37 45.6**	**-0.8**
GUVC	**San Jose del G**	**4.26**	**175**	P	**Pn**	**00 37 47.4**	**-0.1**
YOTC	**Yotoco, Valle**	**4.36**	**230**	P	**Pn**	**00 37 47.6**	**-1.2**
SOLC	**Bahia Solano**	**4.41**	**263**	P	**Pn**	**00 37 49.3**	**-0.1**
SMRC	**Santa Marta, M**	**4.48**	**345**		**Pn**	**00 37 49.4**	**-0.9**
SMRC	**Santa Marta, M**	**4.48**	**345**	P	**Pn**	**00 37 49.4**	**-0.9**
SMRC				S	**Sn**	**00 38 38.3**	**-4.0**
MACC	**Macarena, Meta**

JTS LR LR 00 45 55.6
comp=Z,118nm,18.4s,baz=92,slow=45
ESPN Las Esperanzas 12.35 296 Pn 00 39 32.1 -2.2
GRGR Grenville 12.38 64 Pn 00 39 37.1 +2.3
GRGR Grenville 12.38 64 *eP* **P 00 39 39.5 -1.0**
GRW Mount Saint Ca 12.38 64 *eP* **P 00 39 40.1 -0.5**
GRSS Sisters 12.48 63 *eP* **P 00 39 40.8 -0.9**
CRPR Cabo Rojo, PR 12.52 27 Pn 00 39 33.9 -2.6
PRSN Puerto Rico Se 12.69 26 Pn 00 39 36.5 -2.2
SC01 Santiago de lo 12.72 10 Pn 00 39 38.1 -1.1
GCMP Grenada, Carri 12.73 63 *eP* **P 00 39 43.3 -1.0**
OBIP Obispado Ponce 12.78 29 Pn 00 39 38.2 -1.7
JUD3 Juan Diaz 3 12.83 286 Pn Pn 00 39 41.7 +1.0
ACON Acoyapa 13.04 294 Pn 00 39 41.9 -1.4
SJG San Juan 13.06 30 Pn Pn 00 39 43.0 -0.5
SJG San Juan 13.06 30 P Pn 00 39 43.5 0.0
42nm,0.4s,baz=211,slow=15,SNR=19
SJG S Sn 00 41 57.5 -11
32nm,0.9s,baz=197,slow=24,SNR=6.5
CARN Rivas 13.10 290 P P 00 39 50.2 +1.7
GTBY Guantanamo Bay 13.19 351 Pn 00 39 46.1 +1.0
BOAV Boa Vista 13.20 109 Pn 00 39 43.9 -1.4
BOAV Boa Vista 13.20 109 *eP* **Pn 00 39 43.6 -1.7**
TEFE Tefe 13.23 141 *eP* **Pn 00 39 44.6 -1.2**
HUMP Col San Antoni 13.24 31 Pn 00 39 45.0 -0.8
GCPR Guaynabo City 13.26 30 Pn 00 39 45.2 -0.9
CONN Concepcion 13.31 292 P P 00 39 50.5 -0.5
SIUN Universidad Ur 13.45 302 Pn 00 39 45.8 -2.7
CHIV Chivirico 13.49 346 Pn 00 39 49.2 +0.2
CZSB Cruzeiro do Su 14.46 179 *eP* **Pn 00 40 00.7 -0.5**
GDHS Morne Mazeau, 14.47 49 Pn Pn 00 40 02.1 +0.7
RCPN Sur Rio San Ju 14.50 298 P P 00 40 04.8 +0.7
CNGN Cerro Negro 14.62 294 Pn 00 40 03.3 -0.1
MAGL Barre de l'ile 14.63 51 Pn P 00 40 04.6 -1.0
ATAH Atahualpa 14.87 201 P P 00 40 08.1 -0.5
14nm,0.7s,baz=11,slow=8.2,SNR=10
GDSD La Desirade Is 15.02 50 Pn 00 40 08.6 +0.4
TGUH Tegucigalpa,Un 15.76 298 Pn 00 40 17.0 -0.4
MACA Manacapuru-AM 15.80 128 P Pn 00 40 17.8 -0.1
MACA Manacapuru-AM 15.80 128 *eP* **Pn 00 40 17.5 -0.4**
MACA eS Sn **00 43 12.3 -1.8**
MTO3 Montecristo 17.74 296 P P 00 40 39.6 -0.5
ESQI Esquipulas 17.79 297 P P 00 40 41.1 +0.6
PAYG Puerto Ayora 18.78 247 P P 00 40 52.0 +0.7
NNA Nana 19.07 192 P P 00 40 54.4 0.0
5.1nm,0.3s,baz=0.0,slow=5.1,SNR=2.5
PETF Flores 19.29 303 P P 00 40 56.7 -0.1
TEIG Tepich 19.92 313 P P 00 41 03.9 +0.4
TEIG Tepich 19.92 313 P P 00 41 05.1 +1.6
baz=130,slow=24,SNR=18
MDP Montagnes des 20.33 94 P P 00 41 08.8 +0.8
84nm,1.0s,baz=279,slow=11,SNR=18
84nm,1.0s
ITTB Itaituba 20.51 122 *eP* **P 00 41 09.7 -0.2**
MAL2 Monte Alegre, 20.74 114 P P 00 41 13.4 +1.0
NPGB Novo Progresso 22.36 128 *eP* **P 00 41 28.4 -0.8**
NPGB epP **pP 00 41 57.4 +0.1**
VILB Vilhena 23.41 147 P P 00 41 39.5 +0.6
VILB Vilhena 23.41 147 *eP* **P 00 41 38.9 0.0**
VILB epP **pP 00 42 09.4 +0.8**
LPAZ La Paz 23.46 168 P P 00 41 40.1 +0.1
LPAZ IAmb IAmb 00 42 14.2
comp=Z,29nm,0.8s
LPAZ La Paz 23.46 168 P P 00 41 40.8 +0.7
comp=Z,2.4nm,0.3s,baz=345,slow=13,SNR=12
LPAZ pP **pP 00 42 10.9 +1.1**
comp=Z,28nm,0.7s,baz=343,slow=14,SNR=15
LPAZ LR LR 00 52 04.8
comp=Z,58nm,18.1s,baz=328,slow=39
comp=Z,2.4nm,0.3s
LPAZ La Paz 23.46 168 *eP* **P 00 41 39.0 -1.0**
LPAZ epP **pP 00 42 04.7 -5.2**
656A Willston 24.16 339 P P 00 41 46.8 +1.2
PDRB Porto dos Gac 24.45 138 *eP* **P 00 41 48.8 +0.4**
PDRB epP **pP 00 42 18.7 -1.0**
CLDB Colider 24.55 136 *eP* **P 00 41 48.4 -0.9**
PB16 IPOC Station P 25.23 172 P P 00 41 54.2 -1.8
SIV San Ignacio 25.56 153 LR LR 00 53 27.0
comp=Z,148nm,19.9s,baz=305,slow=39
553A Crawfordville 25.61 337 P P 00 41 59.0 +0.3
PTLB Pontes e Lacer 26.05 148 P P 00 42 02.8 0.0
PTLB IAmb IAmb 00 42 38.1
comp=Z,23nm,1.0s
PTLB Pontes e Lacer 26.05 148 *eP* **P 00 42 01.8 -1.0**
PTLB epP **pP 00 42 34.2 -1.2**
TIGA Tifton 26.42 339 P P 00 42 06.5 +0.5
TIGA IAmb IAmb 00 42 09.7
comp=Z,42nm,1.0s
PRPB Parauapebas 26.50 119 *eP* **P 00 42 07.5 +0.6**
GO01 Chusmiza 26.59 172 P P 00 42 06.9 -1.3
GO01 IAmb IAmb 00 42 44.5
comp=Z,22nm,0.9s
PB11 IPOC Station P 26.62 173 P P 00 42 07.5 -0.5
PB11 IAmb IAmb 00 42 43.0
comp=Z,30nm,0.8s
HMBC Humberstone 27.10 174 P P 00 42 10.7 -1.7
HMBC IAmb IAmb 00 42 47.4
comp=Z,40nm,1.1s
154A Montrose 27.33 341 P P 00 42 15.3 +1.2
Y60A Bolivia 27.48 351 P P 00 42 17.0 +1.6
PB01 IPOC Station P 27.91 173 P P 00 42 18.2 -1.2
PB01 IAmb IAmb 00 42 56.4
comp=Z,52nm,1.3s
152A Waverly Hall 27.93 339 P P 00 42 21.0 +1.5
PB02 IPOC Station P 28.13 174 P P 00 42 20.9 -0.5
GOGA Godfrey 28.18 341 P P 00 42 23.1 +1.4
GOGA IAmb IAmb 00 42 24.8
comp=Z,22nm,0.8s
SALV Santo Antonio 28.35 143 *eP* **P 00 42 23.8 +0.4**
JSC Jenkinsville 28.37 346 P P 00 42 24.7 +1.4
JSC IAmb IAmb 00 42 26.3
comp=Z,36nm,0.9s
SNDB Serra Nova Dou 28.55 131 *eP* **P 00 42 25.2 0.0**
PB09 IPOC Station P 28.68 173 P P 00 42 25.5 -0.9
PB09 IAmb IAmb 00 43 03.4
comp=Z,45nm,1.3s
PB03 IPOC Station P 28.87 174 P P 00 42 26.9 -1.1
PB03 IAmb IAmb 00 43 05.0
comp=Z,23nm,1.0s
W57A Gilead 28.92 348 P P 00 42 29.1 +0.9
LRAL Lakeview Retre 29.14 335 P P 00 42 31.5 +1.3
LRAL IAmb IAmb 00 42 33.4
comp=Z,34nm,0.9s
SMTB Santa Maria do 29.74 121 *eP* **P 00 42 36.0 +0.3**
FPAL Fort Paine 29.94 339 P P 00 42 38.5 +1.2
FPAL IAmb IAmb 00 42 40.2
comp=Z,26nm,1.1s
PP1B Ponte de Pedra 30.16 144 *eP* **P 00 42 38.6 -0.8**
TKL Tuckaleechee C 30.36 342 P P 00 42 41.9 +1.0
TKL IAmb IAmb 00 42 44.5
comp=Z,19nm,1.1s
TKL Tuckaleechee C 30.36 342 LR LR 00 54 11.7
comp=Z,88nm,19.8s,baz=158,slow=34
ARAG Araguaiana, MT 30.69 137 *eP* **P 00 42 43.8 -0.2**
TZTN Tazewell 31.11 343 P P 00 42 49.0 +1.4
TZTN IAmb IAmb 00 42 50.7
comp=Z,32nm,1.1s
BDQN Bodoquena, MS 31.46 150 *eP* **P 00 42 50.8 0.0**
BDQN epP **pP 00 43 23.9 -0.3**
HKT Hockley 31.46 320 P P 00 42 50.6 0.0
CBN Corbin Frederi 31.49 353 P P 00 42 52.0 +1.2
CBN IAmb IAmb 00 42 53.7
comp=Z,52nm,1.4s
CLTN Cedars of Leba 31.59 339 P P 00 42 53.0 +1.3
CLTN IAmb IAmb 00 42 54.8
comp=Z,26nm,1.2s
AQDB Aquidauana 32.02 148 P P 00 42 55.4 -0.3
AQDB Aquidauana 32.02 148 *eP* **P 00 42 55.4 -0.3**
AQDB epP **pP 00 43 28.8 -0.5**
MURT Porto Murtinho 32.08 152 *eP* **P 00 42 54.4 -1.8**
MURT epP **pP 00 43 28.3 -1.2**
Z41A Richland Creek 32.08 328 P P 00 42 55.8 -0.2
Z41A IAmb IAmb 00 42 57.9
comp=Z,27nm,0.9s
WVT Waverly 32.17 337 P P 00 42 57.8 +1.0
WVT Waverly 32.17 337 P P 00 42 58.2 +1.3
WLAR White Oak Lake 32.58 328 P P 00 43 00.9 +0.5
WLAR IAmb IAmb 00 43 03.3
comp=Z,33nm,0.9s
ZAIG Zacatecas 32.58 302 P P 00 43 00.8 -0.2
SDMD Soldier's Deli 32.63 354 P P 00 43 01.0 +0.3
GLAT Glass 32.88 335 P P 00 43 03.7 +0.7
WUPA West Chester U 33.05 356 P P 00 43 05.7 +1.3
MCWV Mont Chateau 33.27 350 P P 00 43 07.3 +1.0
MCWV IAmb IAmb 00 43 10.0
comp=Z,22nm,0.8s
BDFB Brasilia 33.33 132 P P 00 43 07.9 +0.6
BDFB IAmb IAmb 00 43 09.3
comp=Z,17nm,0.8s
BDFB Brasilia 33.33 132 P P 00 43 08.3 +1.0
comp=Z,9.3nm,0.5s,baz=305,slow=7.8,SNR=18
BDFB pP **pP 00 43 40.0 -0.6**
comp=Z,1.6nm,0.5s,baz=27,slow=25,SNR=1.1
comp=Z,9.3nm,0.5s
MIAR Mount Ida 33.48 328 P P 00 43 08.1 -0.2
WCI Wyandotte Cave 33.51 341 P P 00 43 09.6 +1.2
WCI Wyandotte Cave 33.51 341 P P 00 43 10.0 +1.6
WCI pP **pP 00 43 42.5 +1.0**
LCAR Lake Charles 33.52 333 P P 00 43 09.4 +0.8
AC02 Maricunga 33.67 174 P P 00 43 09.7 -0.7
SDBA SAO DESIDERIO 33.85 124 *eP* **P 00 43 10.7 -1.0**
SDBA epP **pP 00 43 44.3 -0.9**
SSPA Standing Stone 33.95 353 P P 00 43 13.4 +1.1
SSPA IAmb IAmb 00 43 15.9
comp=Z,46nm,1.3s
SSPA Standing Stone 33.95 353 P P 00 43 14.7 +2.4
SSPA pP **pP 00 43 46.9 +1.0**
WSPT Westport, CT 34.20 360 P P 00 43 16.1 +1.7
WSPT IAmb IAmb 00 43 17.1
comp=Z,38nm,1.2s
BRDY Brady 34.40 318 P P 00 43 16.3 +0.1
BRDY IAmb IAmb 00 43 18.2
comp=Z,26nm,0.9s
AMBA Amambai (Brazi 34.42 150 *eP* **P 00 43 14.9 -1.6**
AMBA epP **pP 00 43 49.6 -0.7**
ACSO Alum Creek Sta 34.45 346 P P 00 43 18.3 +1.8
ITRB Iturama 34.52 140 *eP* **P 00 43 17.6 +0.1**
CCM Cathedral Cave 35.22 335 P P 00 43 24.2 +1.0
CCM Cathedral Cave 35.22 335 P P 00 43 24.2 +1.0
CCM sP **sP 00 44 16.2 +2.2**
BINY Binghamton 35.33 356 P P 00 43 26.0 +1.9
BINY IAmb IAmb 00 43 27.5
comp=Z,37nm,1.1s
WES Weston 35.45 2 P P 00 43 26.7 +1.7
RLO Rose Lookout 35.48 328 P P 00 43 25.5 +0.1
TRCB Terra Rica 35.55 146 *eP* **P 00 43 25.2 -1.1**
TRCB epP **pP 00 43 58.7 -1.4**
HRV Adam Dziewonsk 35.56 2 P P 00 43 27.9 +1.9
HRV IAmb IAmb 00 43 29.2
comp=Z,41nm,1.2s
SJPY San Joaquin 35.65 153 *eP* **P 00 43 24.1 -2.9**
SJPY epP **pP 00 43 59.5 -1.6**
CPUP Villa Florida 36.30 156 LR LR 01 00 43.7
comp=Z,30nm,18.7s,baz=202,slow=40
CPUP Villa Florida 36.30 156 *epP* pP 00 44 05.1 -1.5
PMNB Patos De Minas 36.36 134 *eP* **P 00 43 32.8 -0.4**
TXAR Lajitas Array 36.55 312 P P 00 43 35.2 +0.4
TXAR Lajitas Array 36.55 312 P P 00 43 35.4 +0.7
comp=Z,9.4nm,0.7s,baz=123,slow=8.5,SNR=117
TXAR pP **pP 00 44 09.3 +1.3**
comp=Z,1.8nm,0.7s,baz=131,slow=7.0,SNR=2.1
TXAR PcP **PcP 00 45 57.1 +2.1**
comp=Z,3.3nm,0.8s,baz=135,slow=7.9,SNR=5.1
comp=Z,9.4nm,0.7s
WMOK Wichita Mounta 36.55 323 P P 00 43 34.2 -0.3
WMOK IAmb IAmb 00 43 35.4
comp=Z,22nm,0.8s
BB19B Bebedouro 36.69 140 *eP* **P 00 43 35.1 -0.9**
BB19B epP **pP 00 44 08.1 -1.7**
GO04 Tololo Observa 36.84 177 P P 00 43 36.1 -1.2
LDASE Londrina, Braz 36.87 145 *eP* **P 00 43 36.3 -1.1**
LDASE epP **pP 00 44 10.4 -1.1**
PECO Prince Edward 37.13 355 P P 00 43 40.5 +1.2
PECO IAmb IAmb 00 43 41.8
comp=Z,21nm,1.0s
HQIL Hanson Quary C 37.25 342 P P 00 43 40.7 +0.3
LBNH Lisbon 37.28 1 P P 00 43 42.4 +1.8
LBNH IAmb IAmb 00 43 43.8
comp=Z,25nm,0.8s
PTGB Pitanga 37.40 148 *eP* **P 00 43 40.0 -2.0**
PTGB epP **pP 00 44 14.3 -2.0**
FRTB Fartura 37.73 143 *eP* **P 00 43 43.4 -1.3**
FRTB epP **pP 00 44 17.8 -1.0**
WBO Williamsburg 38.08 357 P P 00 43 49.0 +1.8
WBO IAmb IAmb 00 43 50.2
comp=Z,38nm,1.0s
SADO Sadowa 38.18 353 LR LR 01 01 33.1
comp=Z,507nm,18.3s,baz=113,slow=39
DIAM Diamantina, MG 38.22 131 *eP* **P 00 43 47.9 -1.1**
GGN Saint George 38.53 7 P P 00 43 52.6 +1.7
GGN IAmb IAmb 00 43 54.0
comp=Z,32nm,0.9s
JFWS Jewell Farm 39.03 340 P P 00 43 55.7 +0.4
VAO Valinhos 39.08 140 *eP* **P 00 43 56.0 -0.1**
RCBR Riachuelo 39.10 108 P P 00 43 57.1 +0.7
RCBR IAmb IAmb 00 44 55.9
comp=Z,38nm,1.3s
BSCB Bom Sucesso 39.16 136 *eP* **P 00 43 56.1 -0.5**
SCIA State Center 39.27 336 P P 00 43 57.9 +0.6
CBKS Cedar Bluff 39.96 327 P P 00 44 03.0 -0.1
CBKS IAmb IAmb 00 44 04.3
comp=Z,45nm,1.2s
NBAN Anadia - AL 40.09 114 *eP* **P 00 44 04.6 +0.2**
SJMB Sao Joao De Ma 40.35 129 *eP* **P 00 44 05.7 -0.7**
PSAL Palomas, Salto 40.47 159 *eP* **P 00 44 03.9 -3.3**
MT01 Popeta 40.50 178 P P 00 44 06.5 -0.9
LMQ La Malbaie 40.65 3 P P 00 44 10.4 +1.9
LMQ IAmb IAmb 00 44 11.4
comp=Z,25nm,0.6s
121A Cookes Peak, D 41.22 313 P P 00 44 14.9 +1.2
BO02 Sierra Bellavi 41.44 177 P P 00 44 15.0 -0.2
CPSB Cacapava Do Su 41.50 154 *eP* **P 00 44 12.6 -3.1**
ANMO Albuquerque 41.59 317 P P 00 44 17.5 +0.8
ANMO Albuquerque 41.59 317 P P 00 44 17.8 +1.1
ANMO pP **pP 00 44 52.6 +2.0**
319A Douglas 41.77 311 P P 00 44 19.1 +1.0
319A IAmb IAmb 00 44 20.8
comp=Z,20nm,0.9s
ECSD EROS Data Cent 42.20 334 P P 00 44 20.9 -0.4
ECSD IAmb IAmb 00 44 22.2
comp=Z,35nm,1.1s
PLTB Pedras Altas 42.61 155 *eP* **P 00 44 21.4 -3.3**
SDCO Great Sand Dun 42.62 321 P P 00 44 26.4 +1.3
SDCO IAmb IAmb 00 44 27.7
comp=Z,20nm,0.8s
ICQ Pointe Anglais 42.83 5 P P 00 44 27.0 +0.8
TUC Tucson 43.33 311 P P 00 44 31.0 +0.3
TUC Tucson 43.33 311 P P 00 44 31.4 +0.8
TUC pP **pP 00 45 06.2 +1.4**
EYMN Ely 43.90 342 P P 00 44 35.3 +0.5
ISCO Idaho Springs 43.97 323 P P 00 44 37.2 +1.3
ISCO IAmb IAmb 00 44 38.6
comp=Z,28nm,0.9s
WUAZ Wupatki 45.30 315 P P 00 44 47.7 +1.4
RSSD Black Hills 46.00 329 P P 00 44 52.3 +0.5
RSSD Black Hills 46.00 329 P P 00 44 52.5 +0.8
SRU San Rafael Swe 46.61 319 P P 00 44 57.3 +0.7
SRU IAmb IAmb 00 44 58.9
comp=Z,31nm,1.0s
GLA Glamis 46.72 310 P P 00 44 58.2 +0.9
GLA IAmb IAmb 00 44 59.7
comp=Z,23nm,0.8s
ULM Lac du Bonnet 47.32 340 P P 00 45 01.6 -0.1
comp=Z,55nm,0.8s,baz=145,slow=7.8,SNR=57
ULM LR LR 01 05 22.7
comp=Z,67nm,19.2s,baz=165,slow=36
comp=Z,55nm,0.8s
PLCA Paso Flores 47.37 177 P P 00 45 00.7 -1.5
PLCA Paso Flores 47.37 177 P P 00 45 01.2 -1.0
comp=Z,1.9nm,0.6s,baz=351,slow=8.3,SNR=7.3
PLCA pP **pP 00 45 37.8 -0.1**
comp=Z,5.7nm,1.0s,baz=344,slow=8.2,SNR=4.9
comp=Z,1.9nm,0.6s
PLCA Paso Flores 47.37 177 *eP* **P 00 45 01.1 -1.1**
PLCA epP **pP 00 45 37.9 +0.1**
CBX Cerro Bola 47.85 308 P P 00 45 06.9 +0.7
BELC Belle Mtn. Jos 48.00 310 P P 00 45 07.8 +0.4
SCHQ Schefferville 48.13 5 P P 00 45 09.3 +1.5
comp=Z,398nm,0.7s,baz=190,slow=6.6,SNR=66
PDAR Pinedale Array 48.14 324 P P 00 45 08.4 +0.4
PDAR Pinedale Array 48.14 324 P P 00 45 08.9 +0.5
comp=Z,12nm,0.9s,baz=128,slow=9.6,SNR=72
PDAR PcP **PcP 00 46 33.8 +0.3**
comp=Z,0.7nm,0.6s,baz=156,slow=3.3,SNR=1.3
comp=Z,12nm,0.9s
HWUT Hardware Ranch 48.67 322 P P 00 45 12.7 +0.3
HWUT IAmb IAmb 00 45 14.1
comp=Z,16nm,0.8s
LAO LASA Array 48.89 330 P P 00 45 13.9 0.0
GSC Goldstone, Bar 49.15 312 P P 00 45 16.6 +0.5
GSC IAmb IAmb 00 45 18.3
comp=Z,16nm,0.8s
DGMT Dagmar 49.20 333 P P 00 45 17.1 +0.9
SNOW Snow King Moun 49.26 324 P P 00 45 17.9 +0.9
SNOW IAmb IAmb 00 45 19.7
comp=Z,25nm,0.8s
YNE Yellowstone No 49.78 326 P P 00 45 21.3 +0.4
QLMT Earthquake Lak 50.47 325 P P 00 45 27.2 +1.2
TPH Tonopah 50.64 315 P P 00 45 27.9 +0.5
BOZ Bozeman (W) 51.04 326 P P 00 45 31.0 +0.7
HLID Hailey 51.51 322 P P 00 45 34.5 +0.8
NVAR Mina Array Bea 51.56 315 P P 00 45 34.6 +0.3
NVAR Mina Array Bea 51.56 315 P P 00 45 35.4 +1.1
comp=Z,5.6nm,0.7s,baz=124,slow=7.2,SNR=44
NVAR PcP **PcP 00 46 47.6 +1.4**
comp=Z,1.3nm,0.6s,baz=108,slow=2.8,SNR=3.7
comp=Z,5.6nm,0.7s
FFC Flin Flon 53.13 339 P P 00 45 45.4 +0.2
FFC IAmb IAmb 00 45 46.5
comp=Z,24nm,1.2s
FFC Flin Flon 53.13 339 P P 00 45 45.5 +0.2
WVOR Wild Horse Val 53.60 319 P P 00 45 49.7 +0.6
WVOR IAmb IAmb 00 45 52.5
comp=Z,30nm,1.0s
J08A Circle Bar Ran 53.94 320 P P 00 45 51.9 +0.4
J08A IAmb IAmb 00 45 53.6
comp=Z,19nm,1.1s
NEW Newport 55.66 326 P P 00 46 03.6 -0.1
J05D Fort Rock, OR 55.69 319 P P 00 46 04.9 +0.7
COR Corvallis 57.60 319 P P 00 46 18.4 +1.0
CBB Campbell River 61.23 324 P P 00 46 43.3 +1.1
CBB IAmb IAmb 00 46 44.7
comp=Z,23nm,0.9s
DY2G Dye2 62.35 12 *i* P P **00 46 47.7 -2.0**
DY2G IAmb IAmb 00 46 51.0
comp=Z,45nm,1.3s
YKA Yellowknife Ar 63.30 340 P P 00 46 56.0 +0.2
YKA Yellowknife Ar 63.30 340 P P 00 46 56.2 +0.5
comp=Z,22nm,0.8s,baz=128,slow=6.8,SNR=41
comp=Z,22nm,0.8s
TOAD Toad River Com 65.36 333 P P 00 47 09.7 +0.4
baz=120,SNR=7.7
KOTAN Kotaneelee Air 65.50 335 P P 00 47 11.2 +1.0
baz=122
NUUG Nuugaatsiaq 65.83 7 *i* P P 00 47 05.0 -7.0
NUUG IAmb IAmb 00 47 06.4
comp=Z,42nm,0.6s
LIRD Liard River Hi 66.02 333 P P 00 47 14.9 +1.4
baz=120
T35M Bob Quinn 66.86 330 P P 00 47 20.9 +2.0
baz=115
V35K Ketchikan 66.89 328 P P 00 47 20.4 +1.3
baz=113
WRGLY Wrigley 66.95 338 P P 00 47 20.4 +1.1
baz=124,SNR=6.4
DLBC Dease Lake 67.38 331 LR LR 01 18 27.2
comp=Z,325nm,19.0s,baz=166,slow=37
DLBC Dease Lake 67.38 331 P P 00 47 23.3 +1.1
baz=116
WTLY Watson Lake, Y 67.56 333 P P 00 47 24.0 +0.8
WTLY IAmb IAmb 00 47 25.4
comp=Z,27nm,0.8s
WTLY Watson Lake, Y 67.56 333 P P 00 47 25.0 +1.7
baz=117,SNR=11
DBIC Dimbokro 67.62 86 P P 00 47 24.3 -0.2
DBIC IAmb IAmb 00 47 25.3
comp=Z,14nm,0.8s
DBIC Dimbokro 67.62 86 P P 00 47 24.5 0.0
comp=Z,14nm,0.7s,baz=304,slow=3.9,SNR=27
comp=Z,14nm,0.7s
DBIC Dimbokro 67.62 86 P P 00 47 24.4 0.0
DBIC pP **pP 00 48 01.7 -0.4**
S34M Telegraph Cree 67.69 331 P P 00 47 25.5 +1.5
baz=114,SNR=7.2
WRAK Wrangell Islan 67.70 329 P P 00 47 25.7 +1.7
baz=113
CRAG Craig 67.75 328 P P 00 47 25.8 +1.4
baz=112
TGTN Hyland Airport 67.99 335 P P 00 47 27.2 +1.2
baz=118,SNR=6.0
R33M Jennings River 68.23 332 P P 00 47 28.8 +1.3
baz=115,SNR=6.9
Q32M Nakina River 68.66 331 P P 00 47 31.4 +1.1
baz=114
SUMG Summit 68.97 11 P P 00 47 32.9 +0.7
SUMG Summit 68.97 11 *i* P P **00 47 31.1 -1.2**
SUMG IAmb IAmb 00 47 34.4
comp=Z,65nm,1.3s
P33M Teslin, Yukon 69.42 333 P P 00 47 36.5 +1.6
baz=114,SNR=6.4
SIT Sitka 69.46 329 P P 00 47 36.8 +1.9
baz=110
R32K Eaglecrest 69.48 330 P P 00 47 36.2 +1.0
baz=111
ESDC Sonseca Array 69.57 50 P P 00 47 35.1 -1.1
comp=Z,0.3nm,0.6s,baz=268,slow=6.4,SNR=5.2
comp=Z,0.3nm,0.6s
P32M Atlin 69.59 332 P P 00 47 36.8 +0.9
baz=112
MMPY Sheldon Lake, 69.75 335 P P 00 47 38.2 +1.4
baz=116
N32M Quiet Lake 69.91 333 P P 00 47 38.9 +1.0
baz=114
S31K Pelican 70.23 330 P P 00 47 40.7 +1.1
baz=110
WHY Whitehorse 70.53 333 P P 00 47 42.3 +0.6
baz=112
C36M Paulatuk 70.63 343 P P 00 47 43.1 +1.2
baz=125
PLBC Pleasant Camp 70.80 331 P P 00 47 43.9 +0.7
baz=110
M31M Drury Creek, Y 70.90 334 P P 00 47 44.8 +1.1
baz=113,SNR=8.6
O30N Mendenhall 71.13 332 P P 00 47 46.2 +1.0
baz=111,SNR=9.4
N31M Braeburn, Yuko 71.24 333 P P 00 47 47.0 +1.1
baz=111,SNR=10
P30M Million Dollar 71.31 332 P P 00 47 47.4 +1.1
baz=110
P29M Windy Craggy 71.52 331 P P 00 47 48.7 +1.2
baz=109
NEEM North Greenlan 71.54 5 *i* P P **00 47 46.5 -1.1**
NEEM IAmb IAmb 00 47 49.4
comp=Z,40nm,0.7s
HYT Haines Junctio 71.80 332 P P 00 47 50.1 +0.8
baz=109
N30M Aishikik Lake 71.82 333 P P 00 47 50.3 +1.0
baz=110,SNR=8.7
MAYO Mayo, Yukon 72.07 335 P P 00 47 52.0 +1.3
baz=112
M30M Minto, Yukon 72.08 334 P P 00 47 51.9 +1.0
baz=111,SNR=15
O29M Mount Kennedy 72.13 332 P P 00 47 52.4 +1.1
baz=108
YUK6 Outpost Mounta 72.23 332 P P 00 47 52.8 +0.7
baz=109
H31M Peel River 72.31 338 P P 00 47 52.9 +0.8
baz=114,SNR=7.8
PNL Peninsula 72.33 331 P P 00 47 53.7 +1.3
baz=107
YUK4 Talbot Arm 72.49 333 P P 00 47 54.6 +1.1
baz=109
J30M Hart River 72.61 336 P P 00 47 55.4 +1.4
baz=112
G31M Satah River 72.74 339 P P 00 47 55.7 +1.1
baz=114
M29M Somme Creek 72.77 334 P P 00 47 56.1 +1.1
baz=109
F31M Tsiigehtchic 72.77 339 P P 00 47 55.9 +1.1
baz=115
K29M Barlow Dome 72.83 335 P P 00 47 56.1 +0.7
baz=110,SNR=12
L29M L29M 72.84 334 P P 00 47 56.8 +1.4
baz=110
I30M Mount Dempster 72.87 337 P P 00 47 56.6 +1.1
baz=112,SNR=9.3
PINM Pinnacle 72.87 331 P P 00 47 56.6 +1.0

baz=107
YUK8 **Steele Glacier** 72.99 332 P P 00 47 58.0 +1.5
baz=108
EKA **Eskdalemuir Ar** 73.00 34 P P 00 47 55.6 -0.8
comp=Z,0.5nm,0.4s,baz=265,slow=3.2,SNR=6.8
comp=Z,0.5nm,0.4s
O28M **Mount Upton** 73.03 332 P P 00 47 57.7 +0.9
baz=107
INK **Inuvik** 73.07 340 P P 00 47 57.1 +0.7
INK **Inuvik** 73.07 340 P P 00 47 57.7 +1.2
baz=115
J29N **Klondike Camp** 73.33 336 P P 00 47 59.2 +1.0
baz=110
EPYK **Eagle Plains** 73.43 338 P P 00 47 59.3 +0.6
EPYK IAmb IAmb 00 48 00.8
comp=Z,21nm,1.1s
EPYK **Eagle Plains** 73.43 338 P P 00 47 59.9 +1.2
baz=112
G30M **tAoh Zraii Nji** 73.47 339 P P 00 47 59.9 +1.0
baz=112
F30M **Barrier River** 73.56 339 P P 00 48 00.4 +1.0
baz=113,SNR=6.1
TORD **Torodi Ar. Bea** 73.63 78 P P 00 47 59.6 -1.2
TORD **Torodi Ar. Bea** 73.63 78 P P 00 48 00.3 -0.5
comp=Z,0.8nm,0.3s,baz=285,slow=6.7,SNR=19
TORD pP pP 00 48 40.5 +1.4
comp=Z,0.5nm,0.4s,baz=286,slow=6.2,SNR=2.5
comp=Z,0.8nm,0.3s
CTG **Chitna Glacier** 73.63 332 P P 00 48 00.6 +0.5
baz=106
I29M **Ogilvie Camp,** 73.67 337 P P 00 48 01.2 +1.1
baz=110
DAWY **Dawson** 73.69 335 P P 00 48 01.2 +0.9
baz=109
MESA **MESA** 73.71 331 P P 00 48 01.8 +1.2
baz=105
H29M **Whitestone** 74.00 337 P P 00 48 03.2 +1.2
baz=110,SNR=5.3
G29M **Pine Creek** 74.11 338 P P 00 48 03.4 +0.7
baz=111,SNR=5.7
M27K **Edge Creek, AK** 74.26 333 P P 00 48 04.8 +1.0
baz=106,SNR=13
I28M **Miner Creek** 74.35 336 P P 00 48 05.0 +0.8
baz=108,SNR=8.9
CRQE **Cirque** 74.40 331 P P 00 48 05.8 +1.2
baz=104
BCAR **Beaver Creek A** 74.41 334 P P 00 48 05.8 +1.3
L27K **Beaver Creek,** 74.43 334 P P 00 48 06.1 +1.5
baz=106
MCARA **McCarthy VSAT** 74.53 332 P P 00 48 06.2 +1.1
baz=104
E29M **Blow River** 74.59 340 P P 00 48 07.0 +1.6
baz=111,SNR=13
EGAK **Eagle** 74.64 336 P P 00 48 06.4 +0.7
EGAK **Eagle** 74.64 336 P P 00 48 06.8 +1.1
baz=107,SNR=9.4
M26K **Nabesna, AK** 74.77 333 P P 00 48 07.7 +1.1
baz=105
K27K **Chicken** 74.80 335 P P 00 48 07.9 +1.2
baz=106
KAIM **Kayak Island** 74.85 330 P P 00 48 08.5 +1.5
baz=103
F28M **Old Crow** 75.02 339 P P 00 48 08.5 +0.6
baz=109,SNR=6.4
I27K **Kandik River** 75.06 336 P P 00 48 09.5 +1.3
baz=107,SNR=10
L26K **Log Cabin Wild** 75.09 334 P P 00 48 10.0 +1.6
baz=105
BMRM **Bremner River** 75.17 331 P P 00 48 10.6 +1.7
baz=103,SNR=5.1
H27K **Steamboat Moun** 75.21 337 P P 00 48 09.9 +0.9
baz=107
E28M **Babbage River** 75.23 340 P P 00 48 09.8 +0.7
baz=110,SNR=6.0
N25K **Chitina, Valde** 75.31 332 P P 00 48 11.0 +1.3
baz=103
G27K **Doyon Strip** 75.43 338 P P 00 48 11.2 +0.9
baz=107
J26L **Joseph Creek** 75.56 335 P P 00 48 12.8 +1.7
baz=105
SCRK **Sand Creek** 75.60 334 P P 00 48 12.8 +1.4
baz=104,SNR=10
EYAK **Cordova Ski Ar** 75.63 331 P P 00 48 12.7 +1.3
baz=102
DAG **Danmarks Havn** 75.64 11 *i* P P 00 48 10.8 -0.4
Q23K **Middleton Isla** 75.70 330 P P 00 48 12.5 +0.7
baz=101
HARP **HAARP** 75.75 333 P P 00 48 12.9 +0.8
baz=103
E27K **Coleen River** 75.82 339 P P 00 48 13.4 +0.9
baz=108
KLU **Klutina** 75.91 332 P P 00 48 14.2 +1.0
baz=102
RIDG **Independent Ri** 75.92 334 P P 00 48 14.2 +1.1
baz=103,SNR=10
D27M **Malcolm River** 75.93 340 P P 00 48 14.5 +1.4
baz=108
PAX **Paxson** 76.02 333 P P 00 48 14.9 +1.2
baz=103,SNR=8.9
M24K **Tolsona, Glenn** 76.15 332 P P 00 48 15.9 +1.4
baz=102
G26K **Porcupine Rive** 76.28 337 P P 00 48 16.6 +1.6
baz=105
K24K **Donnelly Dome** 76.33 334 P P 00 48 16.7 +1.2
baz=103
J25K **Salcha River,** 76.34 335 P P 00 48 16.7 +1.2
baz=103,SNR=7.8
GLI **Glacier Island** 76.34 331 P P 00 48 16.1 +0.5
baz=101
F26K **Sheenjek River** 76.61 338 P P 00 48 18.0 +1.1
baz=105
SCM **Sheep Creek Mo** 76.63 332 P P 00 48 18.2 +1.0
SCM IAmb IAmb 00 48 20.0
comp=Z,40nm,1.0s
SCM **Sheep Creek Mo** 76.63 332 P P 00 48 18.5 +1.3
baz=101,SNR=8.3
BMAR **Burnt Mountain** 76.70 338 P P 00 48 18.0 +0.6
M23K **Glacier View** 76.81 332 P P 00 48 19.3 +1.1
baz=100,SNR=6.2
DHY **Denali Highway** 76.89 333 P P 00 48 19.7 +1.0
baz=101
H25L **Birch Creek** 76.90 337 P P 00 48 19.6 +1.2
baz=103
PWL **Port Wells** 76.94 331 P P 00 48 19.8 +1.0
baz=100
WAT6 **Susitna Watana** 76.96 333 P P 00 48 20.0 +0.8
baz=100,SNR=6.3
HDA **Harding Lake** 76.96 335 P P 00 48 19.1 +0.2
HDA IAmb IAmb 00 48 20.6
comp=Z,16nm,0.9s
HDA **Harding Lake** 76.96 335 P P 00 48 20.2 +1.3
baz=102,SNR=13
C27K **Jago River** 76.97 340 P P 00 48 20.1 +1.2
baz=106
ILAR **Eielson Array** 77.01 335 P P 00 48 19.4 +0.2
ILAR **Eielson Array** 77.01 335 P P 00 48 19.6 +0.5
comp=Z,3.7nm,0.8s,baz=107,slow=4.2,SNR=25
ILAR pP pP 00 48 59.5 +2.2
comp=Z,1.6nm,0.7s,baz=108,slow=4.1,SNR=3.3
ILAR PP PP 00 51 15.8 +1.3
comp=Z,1.4nm,0.9s,baz=85,slow=7.1,SNR=5.3
comp=Z,3.7nm,0.8s
KNK **Knik Glacier** 77.09 331 P P 00 48 20.6 +0.8
baz=100,SNR=5.7
G25K **Bearman Lake** 77.12 337 P P 00 48 21.0 +1.3
baz=103
F25K **Christian Rive** 77.14 338 P P 00 48 21.0 +1.1
baz=104,SNR=5.6
E25K **Arctic Village** 77.24 338 P P 00 48 21.9 +1.4
baz=104
POKR **Poker Plat Res** 77.31 335 P P 00 48 21.9 +1.1
baz=101
SEW **Seward** 77.37 330 P P 00 48 22.3 +1.1
baz=98
WAT1 **Susitna Watana** 77.37 333 P P 00 48 22.1 +0.8
baz=100
PMR **Palmer** 77.44 332 P P 00 48 22.4 +0.8
baz=99
C26K **Camden Bay** 77.45 340 P P 00 48 22.7 +1.2
baz=105
H24K **Noodor Dome** 77.63 336 P P 00 48 23.9 +1.2
baz=101,SNR=7.8
G24K **Hadweenzic Riv** 77.64 337 P P 00 48 24.0 +1.3
baz=102,SNR=6.8
RC01 **Rabbit Creek A** 77.65 331 P P 00 48 24.0 +1.2
baz=98
MCK **McKinley** 77.70 334 P P 00 48 23.9 +0.9
baz=100
D25K **Kavik River** 77.80 340 P P 00 48 24.6 +1.1
baz=103
NEA2 **Nenana** 77.90 335 P P 00 48 24.9 +0.8
baz=100,SNR=9.0
M22K **Willow** 77.93 332 P P 00 48 25.5 +1.3
baz=98
F24K **Squaw Lake** 77.96 338 P P 00 48 26.1 +1.6
baz=102,SNR=6.8
CUT **Chulitna** 78.09 332 P P 00 48 26.3 +1.1
baz=98
SUA **Susitna One** 78.19 331 P P 00 48 26.8 +0.9
SUA IAmb IAmb 00 48 27.9
comp=Z,22nm,0.8s
SUA **Susitna One** 78.19 331 P P 00 48 26.4 +0.5
baz=98,SNR=8.7
TRF **Thorofare Moun** 78.25 333 P P 00 48 27.1 +0.8
baz=98
CAPN **Captain Cook N** 78.29 331 P P 00 48 27.3 +1.0
baz=97
E24K **Your Creek** 78.30 338 P P 00 48 27.6 +1.2
baz=101
HOM **Homer** 78.41 329 P P 00 48 28.6 +1.6
baz=96
NOR **Nord** 78.60 7 *i* P P 00 48 27.2 -0.5
SKT **Skwentna** 78.62 332 P P 00 48 29.3 +1.1
baz=97,SNR=7.2
G23K **Bananza Creek** 78.64 337 P P 00 48 29.4 +1.2
baz=98,SNR=11
BPAW **Bear Paw Mtn.** 78.65 334 P P 00 48 29.3 +1.0
baz=98,SNR=8.3
MLY **Manley** 78.67 335 P P 00 48 29.5 +1.1
baz=98
Q20K **Shuyak Island** 78.68 328 P P 00 48 29.7 +1.2
baz=96
C24K **Franklin Bluff** 78.69 340 P P 00 48 29.5 +1.2
baz=101
KDAK **Kodiak Island** 78.70 328 P P 00 48 29.9 +1.2
baz=95
E23K **Chandalar** 78.71 338 P P 00 48 30.0 +1.4
baz=100
COLD **Coldfoot** 78.79 337 P P 00 48 30.6 +1.6
baz=99,SNR=6.7
TOLK **Toolik Lake Re** 78.80 339 P P 00 48 30.7 +1.7
baz=100
SPCR **Spurr Chakacha** 78.85 331 P P 00 48 30.6 +1.1
baz=96
O20K **Slope Mountain** 78.94 330 P P 00 48 30.7 +0.7
baz=96
PPLA **Purkeypile** 79.03 333 P P 00 48 31.1 +0.5
baz=97,SNR=6.0
OHAK **Old Harbor** 79.03 327 P P 00 48 30.9 +0.4
baz=94
H22K **Ishtalitna Cre** 79.06 336 P P 00 48 31.6 +1.1
baz=98
CHUM **Lake Minchumin** 79.20 334 P P 00 48 32.1 +0.9
baz=97
P19K **Oil Pt** 79.21 329 P P 00 48 31.9 +0.5
baz=95
D23K **Nanushuk River** 79.25 339 P P 00 48 32.7 +1.3
baz=99
G22K **Bettles** 79.25 337 P P 00 48 32.5 +1.1
baz=98
M20K **Styx River** 79.36 332 P P 00 48 33.1 +0.8
baz=96
C23K **Itkillik River** 79.36 340 P P 00 48 33.1 +1.1
baz=99
E22K **Anaktuvuk Pass** 79.54 338 P P 00 48 33.6 +0.5
baz=98
F22K **John River** 79.59 337 P P 00 48 34.3 +1.0
baz=97
H21K **Melozitna Rive** 79.61 335 P P 00 48 33.8 +0.3
baz=96
R18K **Karluk** 79.69 327 P P 00 48 34.6 +0.6
baz=94
L20K **Farewell, AK** 79.77 332 P P 00 48 35.0 +0.6
baz=95,SNR=5.7
O19K **Port Alsworth** 79.80 330 P P 00 48 35.3 +0.8
baz=94
N19K **Bonanza Creek** 79.92 331 P P 00 48 36.2 +0.9
baz=94
K20K **Telida** 79.93 333 P P 00 48 35.7 +0.5
baz=95,SNR=5.2
D22K **Ayikyak River** 79.95 339 P P 00 48 35.6 +0.3
baz=97
G21K **Allakaket** 79.99 336 P P 00 48 36.4 +0.9
baz=96,SNR=6.0
J20K **Nowinta River** 80.03 334 P P 00 48 36.2 +0.5
baz=95,SNR=9.5
Q18K **Katmai Hardscr** 80.05 328 P P 00 48 36.6 +0.6
baz=93
F21K **Alatna River** 80.06 337 P P 00 48 37.1 +1.3
F21K **Alatna River** 80.06 337 P P 00 48 37.2 +1.3
baz=96,SNR=9.4
L19K **White Mountain** 80.20 332 P P 00 48 38.0 +1.3
baz=94
P18K **Big Mountain,** 80.20 329 P P 00 48 37.5 +0.7
baz=93
I20K **Naaghedeneel** 80.23 335 P P 00 48 38.0 +1.2
baz=95
CHIR **Chirikof Islan** 80.25 325 P P 00 48 38.1 +1.1
baz=92
E21K **Killik River** 80.37 338 P P 00 48 38.5 +1.0
baz=96
B22K **Teshekpuk Lake** 80.39 340 P P 00 48 38.5 +1.0
baz=97
H20K **Anotleneega Mo** 80.46 335 P P 00 48 38.7 +0.7
baz=95
Q17K **Contact Creek** 80.49 328 P P 00 48 38.5 +0.1
baz=92
N18K **Kilae Creek** 80.60 330 P P 00 48 39.6 +0.7
baz=93
M18K **Stony River** 80.61 331 P P 00 48 40.0 +1.1
baz=93
J19K **Poorman** 80.67 334 P P 00 48 40.2 +1.0
baz=94
B21K **Ikpikpuk River** 80.72 339 P P 00 48 40.2 +1.0
baz=96
R17L **Mt. Peulik Vol** 80.72 327 P P 00 48 40.6 +1.1
baz=92
C21K **Knifeblade Rid** 80.73 339 P P 00 48 40.8 +1.4
baz=95
P17K **Kvichak River** 80.81 329 P P 00 48 40.8 +0.9
baz=92
Q16K **King Salmon** 80.91 328 P P 00 48 41.0 +0.5
baz=92
F20K **Avaraart Lake** 80.92 337 P P 00 48 41.4 +1.0
baz=94
L18K **Granite Mounta** 81.06 332 P P 00 48 41.6 +0.4
baz=92
NC204 **NORSAR Array S** 81.06 29 P P 00 48 42.5 +1.1
NC204 IAmb IAmb 00 51 46.4
comp=Z,46nm,1.9s
H19K **Roundabout Mou** 81.11 335 P P 00 48 42.3 +0.9
baz=93
J18K **Innoko River** 81.12 333 P P 00 48 42.2 +0.6
baz=93
O17K **Koliganek Bris** 81.17 329 P P 00 48 42.6 +0.7
baz=96
E20K **Nugu River** 81.17 338 P P 00 48 43.3 +1.5
baz=94,SNR=16
N17K **Nushagak Hills** 81.24 330 P P 00 48 43.8 +1.6
baz=92
NB2 **NORSAR Subarra** 81.27 29 P P 00 48 43.7 +1.2
comp=Z,2.1nm,0.6s,baz=267,slow=5.3
NB2 pP sP 00 49 30.2 -8.2
comp=Z,1.6nm,0.6s,baz=268,slow=5.6
NOA **NORSAR Array B** 81.27 29 P P 00 48 43.9 +1.4
comp=Z,2.4nm,0.7s,baz=267,slow=5.3,SNR=15
comp=Z,2.4nm,0.7s
D20K **Etivluk River** 81.36 338 P P 00 48 44.0 +1.3
baz=94,SNR=5.3
M17K **Holitna River** 81.38 331 P P 00 48 44.0 +1.1
baz=92
G19K **Purcell Mounta** 81.41 336 P P 00 48 44.2 +1.2
baz=93
E19K **Redstone River** 81.52 337 P P 00 48 44.9 +1.3
baz=93
P16K **Nushagak River** 81.61 329 P P 00 48 45.3 +1.2
baz=91
B20K **Meade River** 81.63 340 P P 00 48 45.9 +1.8
baz=93
O16K **Kokwok River B** 81.67 329 P P 00 48 45.8 +1.3
baz=91
F19K **Shaleruckik Mo** 81.71 337 P P 00 48 45.3 +0.7
baz=92
L17K **Donlin** 81.81 332 P P 00 48 45.9 +0.7
baz=91
CHGN **Chignik** 81.82 326 P P 00 48 46.2 +0.9
baz=90
K17K **Iditarod** 81.82 332 P P 00 48 47.0 +1.8
baz=91
H18K **Honhosa River** 81.90 335 P P 00 48 47.4 +1.8
baz=91
D19K **Kuna River** 81.90 338 P P 00 48 47.6 +2.0
baz=92,SNR=7.3
N16K **Nishlik Lake** 82.02 330 P P 00 48 47.2 +0.9
baz=90
G18K **Tagagawik** 82.04 336 P P 00 48 47.2 +0.9
baz=91,SNR=7.5
M16K **Timber Creek** 82.11 331 P P 00 48 47.6 +0.8
baz=90
J17K **VABM Dome** 82.18 333 P P 00 48 48.4 +1.3
baz=90
CLL **Collm** 82.23 39 *e*P P 00 48 48.0 +0.4
L16K **Owhat River** 82.36 331 P P 00 48 49.0 +0.9
baz=90
C19K **Lookout Ridge** 82.45 339 P P 00 48 49.7 +1.2
baz=91,SNR=5.9
F18K **Selawik** 82.45 336 P P 00 48 49.9 +1.5
baz=90
S14K **Fog Glacier** 82.45 326 P P 00 48 49.6 +0.8
baz=89
HFS **Hagfors** 82.49 30 P P 00 48 49.4 +0.7
comp=Z,1.4nm,0.5s,baz=264,slow=4.5,SNR=8.8
comp=Z,1.4nm,0.5s
CHNA **Chernabura Isl** 82.50 324 P P 00 48 49.7 +0.8
baz=89
H17K **Granite Mounta** 82.55 335 P P 00 48 49.7 +0.6
baz=90
O15K **Ungalikthiuk R** 82.56 329 P P 00 48 50.0 +0.9
baz=89
N15K **Kwethluk River** 82.68 330 P P 00 48 51.2 +1.4
baz=89
GERES **GERESS Array B** 82.75 42 P P 00 48 51.1 +0.6
comp=Z,0.7nm,0.7s,baz=267,slow=2.4,SNR=6.2
comp=Z,0.7nm,0.7s
E18K **Tukpahlearik C** 82.82 337 P P 00 48 51.4 +1.0
baz=90
G17K **Kiwalik Mounta** 82.86 335 P P 00 48 51.7 +1.1
baz=89
J16K **Anvik River** 82.87 333 P P 00 48 51.5 +0.8
baz=89
I17K **Unalakleet** 82.90 334 P P 00 48 51.9 +1.1
baz=89
C18K **Utukok River** 83.03 338 P P 00 48 52.5 +1.0
baz=89
F17K **Baldwin Pennin** 83.09 336 P P 00 48 53.1 +1.4
baz=89
B18K **Kokolik River** 83.24 339 P P 00 48 53.5 +1.1
baz=89
SPITS **Spitsbergen Ar** 83.24 12 P P 00 48 53.8 +1.4
comp=Z,1.0nm,0.4s,baz=249,slow=2.5,SNR=7.8
comp=Z,1.0nm,0.4s
O14K **Tigyukauivet M** 83.30 329 P P 00 48 53.3 +0.4
baz=88
E17K **Hotham Inlet** 83.31 337 P P 00 48 54.0 +1.1
baz=88,SNR=8.7
K15K **Wolf Creek Mou** 83.32 332 P P 00 48 54.7 +1.7
baz=88
L15K **Ungalak Mounta** 83.32 331 P P 00 48 54.3 +1.3
baz=88
N14K **Kuskokwak Cree** 83.48 330 P P 00 48 55.4 +1.6
baz=88
H16K **Elim** 83.56 334 P P 00 48 55.6 +1.4
baz=88
G16K **Koyuk River** 83.58 335 P P 00 48 55.9 +1.7
baz=88
M14K **Bethel** 83.59 330 P P 00 48 56.1 +1.7
baz=88
C17K **DeLong Mountai** 83.77 338 P P 00 48 56.3 +1.1
baz=87
D17K **Noatak River** 83.77 337 P P 00 48 56.2 +1.0
baz=87
J14K **Nanvaranak Lak** 84.24 332 P P 00 48 58.9 +1.3
baz=86
M13K **Dall Lake** 84.29 330 P P 00 48 59.5 +1.6
baz=86
G15K **Niukluk** 84.31 335 P P 00 48 59.4 +1.5
baz=86
F15K **North Star Dit** 84.51 335 P P 00 49 00.4 +1.4
baz=86
C16K **Lisburne Hills** 84.58 338 P P 00 49 00.7 +1.5
baz=85
K13K **Kusilvak Mount** 84.81 332 P P 00 49 02.2 +1.7
baz=85
ANM **Nome** 84.91 334 P P 00 49 02.0 +1.0
baz=85
F14K **Arctic Creek** 85.23 335 P P 00 49 04.0 +1.5
baz=84
TNA **Tin City** 85.88 335 P P 00 49 06.8 +1.0
baz=83
UNV **Unalaska Valle** 86.61 324 P P 00 49 10.7 +1.1
baz=83
ARCES **ARCESS Array B** 86.63 20 P P 00 49 10.3 +0.9
ARCES **ARCESS Array B** 86.63 20 P P 00 49 10.1 +0.6
comp=Z,1.8nm,0.6s,baz=270,slow=3.7,SNR=30
comp=Z,1.8nm,0.6s
GAMB **Gambell** 87.77 334 P P 00 49 16.1 +1.3
baz=79
NIKH **Nikolski High** 88.12 323 P P 00 49 17.6 +0.8
baz=81
VNA3 **Neumayer Olymp** 88.14 163 ⇑P P 00 49 15.6 -0.9
comp=Z,6.8nm,0.7s
VNA1 **Neumayer--Stat** 88.28 162 ⇑P P 00 49 13.9 -3.2
comp=Z,6.4nm,1.1s
FINES **FINESS Array B** 88.39 28 P P 00 49 18.2 +0.4
comp=Z,1.4nm,0.8s,baz=298,slow=4.1,SNR=6.0
comp=Z,1.4nm,0.8s
VNA2 **Neumayer--Watz** 88.66 163 ⇑P P 00 49 23.4 +4.5
comp=Z,13nm,0.6s,baz=336,slow=3.0
SNAA **Sanae** 90.31 163 ⇑P P 00 49 25.8 -0.9
comp=Z,30nm,0.6s
SNAA **Sanae** 90.31 163 P P 00 49 26.0 -0.7
comp=Z,1.4nm,0.8s,baz=279,slow=8.9,SNR=7.4
comp=Z,1.4nm,0.8s
TROLL **Troll, Antarti** 92.01 162 ⇑P P 00 49 34.2 -0.5
comp=Z,213nm,0.8s
QSPA **South Pole Qui** 96.83 180 P P 00 49 57.1 +0.3
comp=Z,2.0nm,0.9s,baz=155,slow=3.2,SNR=5.3
comp=Z,2.0nm,0.9s
ZALV **Zalesovo Beam** 116.64 14 PKP PKiKP 00 55 09.8 +0.3
comp=Z,1.2nm,0.3s,baz=304,slow=1.9,SNR=10
KURBB **Urchatov Arra** 117.72 20 PKP PKiKP 00 55 11.8 +0.2
comp=Z,0.2nm,0.3s,baz=321,slow=2.6,SNR=6.5
MKAR **Makanchi Array** 122.28 20 PKP PKiKP 00 55 20.7 0.0
comp=Z,1.1nm,0.3s,baz=315,slow=2.5,SNR=24
SONM **Songino Array** 125.58 0 PKP PKiKP 00 55 28.1 +0.7
comp=Z,1.8nm,0.4s,baz=320,slow=2.1,SNR=10.0
WMQ **Urumqi** 126.65 17 *e*PKP PKPdf 00 55 26.3 -2.8
WMQ LR LR
comp=N,910nm,21.7s
WMQ LR LR
comp=E,730nm,22.9s
WMQ LR LR
comp=Z,200nm,24.0s
HHC **Hu-ho-hao-te** 132.38 355 *e*P PKPdf 00 55 39.8 -0.3
NJ2 **Nanjing** 139.72 344 *e*P PKPdf 00 55 53.1 -0.7
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
PZH **PanZhiHua** 146.49 9 PKPbc PKPdf 00 56 05.3 -0.8
ASAR **Alice Springs** 149.20 234 PKP PKPdf 00 56 10.9 +0.4
comp=Z,5.6nm,0.7s,baz=111,slow=2.6,SNR=28
ASAR PKPbc PKPbc 00 56 13.9 -1.0
comp=Z,5.9nm,0.7s,baz=115,slow=3.4,SNR=43
WRA **Warramunga Arr** 150.44 241 PKP PKPdf 00 56 12.8 +0.3
comp=Z,3.7nm,0.4s,baz=105,slow=3.1,SNR=6.3
WRA PKPbc PKPbc 00 56 17.3 -0.6
comp=Z,4.9nm,0.4s,baz=109,slow=2.5,SNR=47
WRA pPKPbc pPKPbc 00 56 57.5 -1.4
comp=Z,3.8nm,0.6s,baz=110,slow=2.6,SNR=2.8
CMAR **Chiang Mai Arr** 153.66 17 PKP PKPdf 00 56 19.4 +2.1
comp=Z,0.7nm,0.5s,baz=277,slow=2.2,SNR=5.6
CMAR PKPbc PKiKP 00 56 26.6 +1.3
comp=Z,1.7nm,0.4s,baz=324,slow=3.4,SNR=9.3
CMAR pPKPbc pPKPbc 00 57 06.0 -0.8
comp=Z,1.1nm,0.7s,baz=312,slow=2.2,SNR=1.8

CATAC ***22*** *00:46:15.6±0.3, 9˚N±9˚×7˚8W±˚, h20km, M3.3/9, MLv3.3/9, Error ellipse: s-maj=19.4km s-min=3.8km az=175.8, confirmed*

RSNC ***22*** *00:46:16.6±0.6, 9˚N±4˚×7˚8W±˚, h70km±21km, M2.9, mb4.0, ML2.7*

UPA ***22*** *00:46:18.5±1.0, 9˚17N×78˚49W, h62km, MD3.8, MW3.7*

ISC 22 00:46:16.5±1.0, **9˚31N**±0˚06×**78˚39W**±0˚03, **h69**km±12km,

n29,σ1⁰53/45, 1C-6D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOTI	**Torti**	**0.39**	**168**	⇓*i*P	**Pn**	**00 46 28.4**	**+0.2**
TOTI				*i* S	**Sn**	**00 46 36.5**	**-0.3**
UPA	**Univ. de Panam**	**1.17**	**254**	⇓*e*P	**Pn**	**00 46 36.9**	**-0.2**
UPA				*i* S	**Sn**	**00 46 50.9**	**-1.7**
FLAM	**Flamenco Islan**	**1.20**	**251**	*e*P	**Pn**	**00 46 36.9**	**-0.5**
GAMB1	**Gamboa**	**1.31**	**262**	⇓*e*P	**Pn**	**00 46 39.3**	**+0.3**
GAMB1				*i* S	**Sn**	**00 46 54.9**	**-0.9**
BCIP	**Isla Barro Col**	**1.43**	**264**	⇑*i*P	**Pn**	**00 46 40.9**	**+0.4**
BCIP				*i* S	**Sn**	**00 46 58.7**	**+0.2**
BCIP	**Isla Barro Col**	**1.43**	**264**	P	**Pn**	**00 46 40.9**	**+0.4**
BCIP				S	**Sn**	**00 46 58.3**	**-0.4**
BCIP	**Isla Barro Col**	**1.43**	**264**	P	**Pn**	**00 46 40.8**	**+0.3**
BCIP				S	**Sn**	**00 46 58.2**	**-0.4**
MLIR	**Monte Lirio**	**1.44**	**267**	⇓*e*P	**Pn**	**00 46 41.4**	**+0.8**
MLIR				*i* S	**Sn**	**00 46 58.5**	**-0.3**
ZANG	**Zanguenga, Cho**	**1.50**	**256**	⇓*e*P	**Pn**	**00 46 41.4**	**0.0**
ZANG				*i* S	**Sn**	**00 46 59.1**	**-1.0**
PNME	**Penonome**	**2.08**	**247**	*e*P	**Pn**	**00 46 52.5**	**+3.3**
APAC	**Apartado, Choc**	**2.28**	**128**	P	**Pn**	**00 46 54.3**	**+2.4**
APAC				S	**Sn**	**00 47 22.4**	**+3.5**
AZU	**Azuero**	**2.40**	**231**	⇓*e*P	**Pn**	**00 46 53.2**	**-0.2**
AZU				*i* S	**Sn**	**00 47 19.5**	**-2.3**
CHIT3	**Chitre**	**2.41**	**236**	*e*P	**Pn**	**00 46 53.9**	**+0.2**
CACAO	**El Cacao, Vera**	**3.13**	**232**	*e*P	**Pn**	**00 47 05.0**	**+1.6**
DBBC	**Dabeiba**	**3.14**	**136**	P	**Pn**	**00 47 05.1**	**+1.4**
SJCC	**San Jacinto, C**	**3.22**	**79**	P	**Pn**	**00 47 06.2**	**+1.5**
SJCC				S	**Sn**	**00 47 41.3**	**-0.8**
SJCC	**San Jacinto, C**	**3.22**	**79**	P	**Pn**	**00 47 06.1**	**+1.3**
SJCC				S	**Sn**	**00 47 40.1**	**-2.0**
UREC	**San Jos de Ur**	**3.23**	**119**	P	**Pn**	**00 47 05.2**	**+0.4**
URIC				S	**Sn**	**00 47 40.4**	**-1.7**
ZARC	**Zaragoza, Cauc**	**3.94**	**117**	P	**Pn**	**00 47 14.3**	**-0.2**
ZARC				S	**Sn**	**00 47 57.3**	**-2.2**
PTBC	**PUERTO BERRIO,**	**4.78**	**125**	P	**Pn**	**00 47 26.1**	**+0.1**
PTBC				S	**Sn**	**00 48 18.1**	**-1.9**
GUY2C	**Guyana, Caldas** 7.3nm,1.3s	**5.05**	**143**	P	**Pn**	**00 47 31.9**	**+1.7**
GUY2C	7.3nm,1.3s			S	**Sn**	**00 48 24.2**	**-3.3**
OCAC	**Ocana** 32nm,0.7s	**5.13**	**102**	P	**Pn**	**00 47 29.9**	**-1.0**
CRJC	**Cerrejon, Guaj**	**5.69**	**72**	P	**Pn**	**00 47 38.4**	**-0.1**
MARVS	**Santiago de Cu**	**10.89**	**13**	*e*P	**Pn**	**00 48 52.0**	**+2.4**
RCC	**Rio Carpintero**	**10.94**	**13**	*e*P	**Pn**	**00 48 48.7**	**-1.5**
YAR	**Yar**	**11.17**	**10**	*e*P	**Pn**	**00 48 51.2**	**-2.1**
QMBU	**Quimbuelo**	**11.36**	**17**	*e*P	**Pn**	**00 48 57.6**	**+1.6**
PINC	**Pinares de May**	**11.39**	**12**	*e*P	**Pn**	**00 48 56.9**	**+0.6**
MASC	**Masc**	**11.52**	**20**	*e*P	**Pn**	**00 48 59.2**	**+1.0**

*IDC **22** 00:48:55.2±5.3,41˚.25N×19˚.44E, h0km, mb3.7/5, mbtmp3.6/6, ML2.4/1, MS3.0/2, Error ellipse: s-maj=96.7km s-min=17.1km az=39.0*
*TIR **22** 00:48:56.3,41˚.55N×19˚.55E, h26km±1km, Ml3.7/4*
*PDG **22** 00:48:57.8±0.2, 41˚.26N×19˚.49E, h13km, MD3.6/5, ML3.5/9, Error ellipse: s-maj=0.6km s-min=1.3km az=0.0*
*SKO **22** 00:48:59.9, 41˚.28N×19˚.43E, h18km, ML3.5*
*BEO **22** 00:48:59.9±0.4, 41˚.32N×19˚.52E, h14km±2km, ML3.0/17*
*THE **22** 00:49:00.5, 41˚N±4˚×1˚9E±˚, h11km, M3.1/10, MLh3.1/10*
*PRU **22** 00:49:04.7, 42˚.24N×20˚.17E, h0km, M3.5*

ISC 22 00:48:59.1±1.0, 41˚.32N±0˚.02×19˚.48E±0˚.02, h14km±7km, n167, σ1⁰18/224, mb3.8/4, 25C-26D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.29**	**84**	⇓Pg	**Pg**	**00 49 04.3**	**-0.9**
TIR				Sg	**Sg**	**00 49 08.1**	**-1.2**
TIR				AML	AML	00 49 09.4	
	26nm,0.3s						
ULC	**Ulcinj**	**0.67**	**345**	⇓*i*Pg	**Pg**	**00 49 11.5**	**-0.8**
ULC				*i* Sg	**Sb**	**00 49 22.8**	**+1.0**
VLO	**Vlora**	**0.85**	**179**	⇑Pg	**Pn**	**00 49 17.6**	**+1.1**
VLO				Sg	**Sn**	**00 49 30.8**	**+2.1**
VLO				AML	AML	00 49 37.2	
	10nm,0.6s						
VLO	**Vlora**	**0.85**	**179**	P	**Pn**	**00 49 17.5**	**+0.9**
VLO				S	**Sn**	**00 49 29.9**	**+1.2**
DRME	**Dracevica, Mon**	**0.90**	**346**	*e*Pg	**Pg**	**00 49 16.7**	**+0.2**
DRME				*e*Sg	**Sb**	**00 49 29.9**	**+1.6**
DRME	**Dracevica, Mon**	**0.90**	**346**	⇑*i*Pg	**Pg**	**00 49 15.7**	**-0.8**
DRME				*i* Sg	**Sn**	**00 49 31.1**	**+1.0**
OHR	**Ohrid**	**1.01**	**101**	*i* Pg	**Pb**	**00 49 18.6**	**+0.2**
OHR				*i* Sg	**Sn**	**00 49 33.7**	**+0.7**
OHR				*e*Lg	Lg	00 49 35.4	
	comp=N,1μm,0.8s						
OHR				*e*Lg	Lg	00 49 36.6	
	comp=E,1μm,0.6s						
BUM	**Brajici-Budva**	**1.08**	**336**	⇓*i*Pg	**Pb**	**00 49 19.8**	**+0.2**
BUM				*i* Sg	**Sn**	**00 49 37.4**	**+2.8**
PDG	**Podgorica**	**1.13**	**351**	⇑P	**Pb**	**00 49 20.6**	**+0.2**
PDG				⇓S	**Sn**	**00 49 36.8**	**+1.2**
PDG	**Podgorica**	**1.13**	**351**	*e*Pg	**Pb**	**00 49 20.5**	**+0.2**
PDG				*e*Sg	**Sg**	**00 49 36.2**	**+0.7**
PDG	**Podgorica**	**1.13**	**351**	⇓*i*Pg	**Pb**	**00 49 19.8**	**-0.5**
PDG				*i* Sg	**Sn**	**00 49 38.5**	**+2.8**
KBN	**Korca**	**1.21**	**125**	⇑Pg	**Pn**	**00 49 21.0**	**-0.6**
KBN				Sg	**Sn**	**00 49 38.6**	**+0.9**
KBN	**Korca**	**1.21**	**125**	P	**Pn**	**00 49 21.2**	**-0.3**
KBN				S	**Sg**	**00 49 40.5**	**+2.4**
CEME	**Cevo**	**1.30**	**341**	⇓*i*Pg	**Pn**	**00 49 22.9**	**0.0**
CEME				*i* Sg	**Sg**	**00 49 42.9**	**+1.8**
PVY	**Plav**	**1.32**	**15**	*e*Pg	**Pn**	**00 49 23.1**	**-0.2**
PVY				*e*Sg	**Sb**	**00 49 41.3**	**+0.6**
PVY	**Plav**	**1.32**	**15**	⇓*i*Pg	**Pn**	**00 49 23.1**	**-0.2**
HCY	**Herceg Novi**	**1.35**	**327**	⇓*i*Pg	**Pn**	**00 49 23.9**	**+0.4**
HCY				*i* Sg	**Sg**	**00 49 45.0**	**+2.3**
NKME	**Niksic**	**1.50**	**345**	*e*Pg	**Pn**	**00 49 26.7**	**+1.0**
NKME				*i* Sg	**Sg**	**00 49 48.7**	**+1.1**
KOME	**Kolasin**	**1.53**	**1**	*e*Pg	**Pn**	**00 49 27.4**	**+1.3**
KOME				*e*Sg	**Sg**	**00 49 49.0**	**+0.4**
KOME	**Kolasin**	**1.53**	**1**	⇓*i*Pn	**Pn**	**00 49 26.3**	**+0.2**
KOME				*e*Sn	**Sg**	**00 49 49.2**	**+0.6**
BEY	**Berane**	**1.58**	**11**	*e*Pg	**Pn**	**00 49 27.5**	**+0.7**
BEY				*e*Sg	**Sg**	**00 49 50.4**	**+0.2**
IVA	**Berane**	**1.58**	**11**	⇓*i*Pn	**Pn**	**00 49 27.5**	**+0.7**
IVA				*i* Sn	**Sg**	**00 49 51.1**	**+0.9**
TREB	**Trebinje**	**1.64**	**329**	*e*Pn	**Pn**	**00 49 27.7**	**+0.3**
TREB	**Trebinje**	**1.64**	**329**	*e*Pn	**Pn**	**00 49 27.9**	**+0.5**
PENT	**Pentalofos**	**1.68**	**131**	P	**Pb**	**00 49 30.2**	**+0.3**
PENT				S	**Sb**	**00 49 52.9**	**+1.9**
BRY	**Bratogost**	**1.73**	**336**	*e*Pn	**Pn**	**00 49 29.6**	**+0.7**
BRY				*i* Sn	**Sg**	**00 49 54.6**	**-0.4**
IGT	**Igoumenitsa**	**1.90**	**160**	⇑Pn	**Pb**	**00 49 33.2**	**-0.2**
IGT				Sn	**Sg**	**00 50 00.4**	**+0.3**
IGT	**Igoumenitsa**	**1.90**	**160**	P	**Pn**	**00 49 32.3**	**+1.3**
IGT				S	**Sb**	**00 49 57.1**	**+0.1**
IGT	**Igoumenitsa**	**1.90**	**160**	*i* Pn	**Pn**	**00 49 32.9**	**+1.9**
IGT	**Igoumenitsa**	**1.90**	**160**	*e*Pn	**Pn**	**00 49 32.6**	**+1.6**
IGT				*e*Sn	**Sn**	**00 49 56.6**	**+1.9**
NOCI	**Noci**	**1.90**	**255**	⇑Pn	**Pn**	**00 49 31.2**	**0.0**
NOCI				Sn	**Sb**	**00 49 59.2**	**+1.9**
NOCI				AML	AML	00 50 10.3	
	comp=E,2.0nm,0.4s						
UPM	**Unac-Piva**	**1.93**	**347**	⇓*i*Pn	**Pn**	**00 49 32.3**	**+0.6**
UPM				*i* Sn	**Sb**	**00 49 59.3**	**+1.0**
KLINJ	**Klinje**	**1.97**	**340**	*e*Pn	**Pn**	**00 49 33.1**	**+1.0**
SJES	**Sjenica**	**1.98**	**10**	*e*Pn	**Pn**	**00 49 34.2**	**+2.0**
SJES				*e*Sn	**Sn**	**00 49 56.9**	**0.0**
KZN	**Kozani**	**2.01**	**119**	P	**Pn**	**00 49 33.7**	**+1.0**
STON	**Ston**	**2.04**	**320**	*e*Pn	**Pn**	**00 49 32.9**	**-0.1**
STON	**Ston**	**2.04**	**320**	*e*Pn	**Pn**	**00 49 33.3**	**+0.3**
PRMD	**Pramanda**	**2.17**	**145**	P	**Pn**	**00 49 36.8**	**+2.0**
KTI	**Kastanea**	**2.20**	**114**	P	**Pn**	**00 49 37.0**	**+1.7**
MATE	**Matera**	**2.21**	**253**	⇑P	**Pn**	**00 49 35.8**	**+0.6**
MATE				⇑S	**Sn**	**00 50 01.7**	**-0.6**
SELS	**Selova**	**2.26**	**32**	*e*Pn	**Pn**	**00 49 36.5**	**+0.5**
SELS				*e*Sn	**Sn**	**00 50 05.8**	**+2.2**
BARS	**Barje**	**2.29**	**48**	*i* Pn	**Pn**	**00 49 36.9**	**+0.4**
BARS				*i* Sn	**Sb**	**00 50 07.9**	**-0.6**
BARS	**Barje**	**2.29**	**48**	*e*Pn	**Pn**	**00 49 37.0**	**+0.5**
BARS				*e*Sn	**Sn**	**00 50 03.1**	**-1.4**
RUDO	**Rudo**	**2.30**	**358**	*e*Pn	**Pn**	**00 49 37.5**	**+0.9**
RUDO	**Rudo**	**2.30**	**358**	*e*Pn	**Pn**	**00 49 38.0**	**+1.4**
IVAS	**Ivanjica**	**2.31**	**12**	*e*Pn	**Pn**	**00 49 37.2**	**+0.4**
IVAS				*e*Sn	**Sn**	**00 50 06.7**	**+1.7**
TETR	**Tetrakomo, Epi**	**2.40**	**145**	P	**Pn**	**00 49 39.7**	**+1.7**
GOCS	**Kraljevo Serbi**	**2.47**	**24**	*e*Pn	**Pn**	**00 49 39.4**	**+0.4**
GOCS				*e*Sn	**Sn**	**00 50 09.3**	**+0.3**
BOSS	**Bosilegrad**	**2.53**	**61**	*e*Pn	**Pn**	**00 49 40.0**	**+0.3**
BOSS				*e*Sn	**Sn**	**00 50 10.8**	**+0.5**
BBLS	**Lazi&#263i**	**2.55**	**359**	*e*Pn	**Pn**	**00 49 41.3**	**+1.2**
BBLS				*e*Sn	**Sn**	**00 50 12.5**	**+1.6**
KNT	**Kendrikon**	**2.58**	**92**	P	**Pn**	**00 49 41.1**	**+0.7**
KNT	**Kendrikon**	**2.58**	**92**	*i* Pn	**Pn**	**00 49 40.9**	**+0.5**
KNT				*i* Sn	**Sn**	**00 50 12.2**	**+0.6**
LIT	**Litokhoron**	**2.59**	**117**	*i* Pn	**Pn**	**00 49 41.8**	**+1.3**
TYRN	**Tyrnavos**	**2.64**	**127**	P	**Pn**	**00 49 42.1**	**+0.9**
TSLK	**Tsoukalades, L**	**2.65**	**160**	P	**Pn**	**00 49 42.1**	**+0.8**
LKD2	**Lefkada island**	**2.68**	**160**	Pn	**Pn**	**00 49 42.5**	**+0.7**
LKD2	**Lefkada island**	**2.68**	**160**	P	**Pn**	**00 49 42.1**	**+0.3**
THE	**Thessaloniki**	**2.72**	**103**	Pn	**Pn**	**00 49 42.5**	**+0.2**
THE	**Thessaloniki**	**2.72**	**103**	*i* Pn	**Pn**	**00 49 42.6**	**+0.2**
THE				*i* Sn	**Sn**	**00 50 16.2**	**+1.2**
GRUS	**Gruza**	**2.73**	**19**	*e*Pn	**Pn**	**00 49 43.2**	**+0.8**
AMPL	**Ampelaki**	**2.73**	**150**	P	**Pn**	**00 49 44.0**	**+1.5**
NYDR	**Nydri-Lefkada**	**2.76**	**160**	P	**Pn**	**00 49 42.9**	**0.0**
KKB	**Krupnik**	**2.78**	**78**	*i* P	**Pn**	**00 49 44.3**	**+1.1**
KKB	**Krupnik**	**2.78**	**78**	*i* Pn	**Pn**	**00 49 44.0**	**+0.8**
KKB				*i* Sn	**Sn**	**00 50 18.0**	**+1.4**
TRAN	**Tran**	**2.80**	**56**	*i* P	**Pn**	**00 49 41.5**	**-2.0**
DIVS	**Divibare**	**2.81**	**7**	*e*Pn	**Pn**	**00 49 44.3**	**+0.7**
BOVS	**Bovan**	**2.84**	**35**	⇑P	**Pn**	**00 49 45.1**	**+1.1**
BOVS				⇓S	**Sn**	**00 50 21.0**	**+3.1**
BOVS	**Bovan**	**2.84**	**35**	*e*Pn	**Pn**	**00 49 45.0**	**+1.1**
BOVS				*e*Sn	**Sn**	**00 50 18.5**	**+0.5**
SGRT	**San Giovanni R**	**2.84**	**280**	P	**Pn**	**00 49 44.0**	**-0.1**
SOH	**Sokhos**	**2.97**	**98**	*i* Pn	**Pn**	**00 49 46.2**	**+0.4**
SOH				*i* Sn	**Sn**	**00 50 23.0**	**+1.4**
FSK	**Fiskardo**	**2.97**	**163**	P	**Pn**	**00 49 45.7**	**0.0**
TRUS	**Trudelj**	**2.98**	**13**	*e*Pn	**Pn**	**00 49 46.7**	**+0.7**
TRUS				*e*Sn	**Sn**	**00 50 21.7**	**+0.2**
TIP	**Timpagrande**	**2.98**	**225**	⇑P	**Pn**	**00 49 46.3**	**+0.2**
EVR	**Evrytania**	**2.99**	**143**	P	**Pn**	**00 49 48.2**	**+2.1**
ZAPS	**Zavoj**	**3.05**	**49**	*e*Pn	**Pn**	**00 49 47.8**	**+0.9**
ZAPS				*e*Sn	**Sn**	**00 50 23.8**	**+0.7**
VTS	**Vitosha**	**3.08**	**64**	*i* P	**Pn**	**00 49 48.1**	**+0.6**
VTS	**Vitosha**	**3.08**	**64**	P	**Pn**	**00 49 47.9**	**+0.5**
VTS	**Vitosha**	**3.08**	**64**	*e*Pn	**Pn**	**00 49 48.2**	**+0.7**
SRS	**Serrai**	**3.10**	**92**	P	**Pn**	**00 49 48.0**	**+0.4**
SRS	**Serrai**	**3.10**	**92**	*i* Pn	**Pn**	**00 49 47.8**	**+0.1**
SRS				*i* Sn	**Sn**	**00 50 24.4**	**-0.2**
SRS	**Serrai**	**3.10**	**92**	*e*Pn	**Pn**	**00 49 47.7**	**+0.1**
SRS				*e*Sn	**Sn**	**00 50 23.2**	**-1.3**
PLNA	**Plana**	**3.16**	**67**	*i* P	**Pn**	**00 49 50.0**	**+1.5**
MMB	**Musomishta**	**3.21**	**84**	*i* P	**Pn**	**00 49 49.9**	**+0.7**
MMB	**Musomishta**	**3.21**	**84**	P	**Pn**	**00 49 49.9**	**+0.7**
MMB	**Musomishta**	**3.21**	**84**	*i* Pn	**Pn**	**00 49 50.0**	**+0.8**
MMB				*i* Sn	**Sn**	**00 50 27.2**	**-0.1**
ZAGS	**Zajecar**	**3.22**	**38**	*e*Pn	**Pn**	**00 49 49.8**	**+0.7**
ZAGS				*e*Sn	**Sn**	**00 50 27.1**	**-0.1**
VLS	**Valsamata**	**3.25**	**164**	P	**Pn**	**00 49 49.3**	**-0.3**
BLKB	**Belogradchik**	**3.30**	**45**	⇑S	**Sn**	**00 50 31.4**	**+2.0**
PSDA	**Pessada-Kefalo**	**3.31**	**165**	P	**Pn**	**00 49 50.4**	**0.0**
BORS2	**Bor- Borsko je**	**3.34**	**33**	*e*Pn	**Pn**	**00 49 50.1**	**-0.8**
BORS2				*e*Sn	**Sn**	**00 50 30.9**	**+0.5**
RTZL	**Ratzakli, Kefa**	**3.38**	**163**	P	**Pn**	**00 49 51.8**	**+0.3**
AVAS	**Avala Beograd**	**3.46**	**12**	*e*Pn	**Pn**	**00 49 52.8**	**+0.3**
AVAS				*e*Sn	**Sn**	**00 50 32.6**	**-0.7**
KUBS	**Kucevo**	**3.49**	**27**	*e*Pn	**Pn**	**00 49 51.8**	**-1.1**
KUBS				*e*Sn	**Sn**	**00 50 33.8**	**-0.2**
KIJV	**Kijevo**	**3.52**	**321**	*e*Pn	**Pn**	**00 49 54.1**	**+0.8**
MPEP	**Malo Peshtene**	**3.76**	**56**	*i* P	**Pn**	**00 49 57.6**	**+1.0**
BLY	**Banja Luka**	**3.82**	**335**	ePn	**Pn**	**00 49 58.1**	**+0.6**
BLY	**Banja Luka**	**3.82**	**335**	⇓P	**Pn**	**00 49 58.8**	**+1.3**
BLY	**Banja Luka**	**3.82**	**335**	*e*Pn	**Pn**	**00 49 58.3**	**+0.8**
MDVR	**Moldovita**	**3.83**	**24**	⇓P	**Pn**	**00 49 58.2**	**+0.6**
MDVR	**Moldovita**	**3.83**	**24**	ePn	**Pn**	**00 49 57.8**	**+0.2**
FRGS	**Fruska Gora**	**3.85**	**3**	*e*Pn	**Pn**	**00 49 58.0**	**+0.1**
RZN	**Rozhen**	**3.96**	**83**	*i* P	**Pn**	**00 50 00.7**	**+1.1**
DJES	**Djerdap**	**4.02**	**33**	⇓P	**Pn**	**00 50 01.3**	**+1.0**
DJES				⇓S	**Sn**	**00 50 48.0**	**+0.9**
DJES	**Djerdap**	**4.02**	**33**	*e*Pn	**Pn**	**00 50 00.5**	**+0.3**
PLD	**Plovdiv**	**4.03**	**76**	*i* Pn	**Pn**	**00 50 01.3**	**+1.0**
PLD	**Plovdiv**	**4.03**	**76**	*e*Pn	**Pn**	**00 50 01.6**	**+1.3**
VRSS	**Vrsac**	**4.04**	**19**	*e*Pn	**Pn**	**00 50 00.0**	**-0.4**
HERR	**Herculane**	**4.16**	**30**	⇑P	**Pn**	**00 50 03.0**	**+0.9**
SRE	**Strehaia**	**4.32**	**38**	⇑P	**Pn**	**00 50 05.5**	**+1.2**
PLVB	**Pleven**	**4.33**	**60**	⇓P	**Pn**	**00 50 05.8**	**+1.3**
BZS	**Buzias**	**4.57**	**19**	⇓P	**Pn**	**00 50 08.1**	**+0.4**
BZS	**Buzias**	**4.57**	**19**	*e*Pn	**Pn**	**00 50 07.6**	**-0.2**
AOU	**L'Aquila**	**4.66**	**285**	ePn	**Pn**	**00 50 12.6**	**+0.9**
GZR	**Gura Zlata**	**4.73**	**29**	⇓P	**Pn**	**00 50 11.3**	**+1.3**
GZR	**Gura Zlata**	**4.73**	**29**	*e*Pn	**Pn**	**00 50 10.8**	**+0.8**
MOSL	**Moslavina**	**4.73**	**336**	*e*Pn	**Pn**	**00 50 10.0**	**0.0**
SURR	**Surduc**	**4.83**	**23**	⇑P	**Pn**	**00 50 12.2**	**+0.8**
ELND	**Elena**	**5.02**	**69**	⇓P	**Pn**	**00 50 15.1**	**+1.2**
LOT	**Lotru**	**5.18**	**36**	⇓P	**Pn**	**00 50 17.3**	**+1.1**
SIRR	**Siria**	**5.19**	**17**	⇓P	**Pn**	**00 50 16.8**	**+0.4**
SIRR	**Siria**	**5.19**	**17**	*e*Pn	**Pn**	**00 50 16.4**	**+0.1**
OZLJ	**Ozalj**	**5.20**	**327**	*e*Pn	**Pn**	**00 50 16.1**	**-0.2**
BOJS	**Bojanci**	**5.20**	**325**	*i* Pn	**Pn**	**00 50 16.7**	**+0.3**
BOJS	**Bojanci**	**5.20**	**325**	*e*Pn	**Pn**	**00 50 16.9**	**+0.5**
EZN	**Ezine**	**5.42**	**104**	⇑P	**Pn**	**00 50 21.2**	**+1.9**
RIY	**Rijeka**	**5.42**	**319**	*e*Pn	**Pn**	**00 50 20.0**	**+0.6**
ARR	**Arges**	**5.52**	**41**	⇓P	**Pn**	**00 50 22.9**	**+2.0**
BRJN	**Brijuni**	**5.52**	**312**	*e*Pn	**Pn**	**00 50 21.0**	**+0.2**
LOZB	**Loznitsa**	**5.65**	**66**	⇑P	**Pn**	**00 50 24.1**	**+1.4**
CEY	**Cerknica**	**5.75**	**322**	*e*Pn	**Pn**	**00 50 24.8**	**+0.8**
VOIR		**5.78**	**43**	⇑P	**Pn**	**00 50 26.4**	**+1.9**
SKDS	**Skadanscina**	**5.81**	**319**	*e*Pn	**Pn**	**00 50 24.3**	**-0.5**
GBAS	**Gorenja Brezov**	**5.89**	**323**	*i* Pn	**Pn**	**00 50 26.2**	**+0.3**
VNDS	**Vrh nad Dolski**	**5.91**	**326**	*i* Pn	**Pn**	**00 50 26.6**	**+0.4**
DRGR		**5.95**	**22**	⇑P	**Pn**	**00 50 28.7**	**+2.0**
MARR	**Marisel-Cluj**	**5.96**	**25**	⇓P	**Pn**	**00 50 27.9**	**+0.9**
CJR	**Cluj-Napoca**	**6.16**	**27**	⇑P	**Pn**	**00 50 31.9**	**+2.3**
SOKA	**Soboth**	**6.25**	**331**	*e*Pn	**Pn**	**00 50 30.7**	**-0.2**
SOKA	comp=E,1.1nm,0.3s			*e*Sn	**Sn**	**00 51 38.0**	**-4.1**
MLR	**Muntele Rosu**	**6.29**	**46**	⇑P	**Pn**	**00 50 33.5**	**+2.0**
OBKA	**Obir**	**6.30**	**327**	*i* Pn	**Pn**	**00 50 32.4**	**+0.8**
	comp=E,0.5nm,0.1s						
NEHR	**Nehoiu**	**6.44**	**48**	⇑P	**Pn**	**00 50 35.4**	**+1.9**
BOSR	**Bodos**	**6.53**	**41**	⇓P	**Pn**	**00 50 36.5**	**+1.7**
TURR	**Turia**	**6.70**	**43**	⇑P	**Pn**	**00 50 38.8**	**+1.8**
ICOR	**Ion Corvin**	**6.73**	**63**	⇓P	**Pn**	**00 50 39.0**	**+1.5**
PLOR	**Plostina**	**6.90**	**47**	⇓P	**Pn**	**00 50 42.2**	**+2.5**
VRI	**Vrincioaia**	**6.95**	**47**	⇑P	**Pn**	**00 50 42.5**	**+2.0**
KBA	**Koelnbreinsper** comp=E,1.2nm,0.5s	**7.25**	**325**	*e*Pn	**Pn**	**00 50 45.1**	**+0.3**
KBA	comp=E,0.7nm,0.3s			*e*Sn	**Sn**	**00 52 03.2**	**-3.7**
ABTA	**Abfaltersbach** comp=E,0.3nm,0.1s,SNR=4.5	**7.39**	**320**	*e*Pn	**Pn**	**00 50 46.1**	**-0.5**
BURAR	**Bucovina Array**	**7.51**	**31**	⇑P	**Pn**	**00 50 50.1**	**+1.9**
MOA	**Molln** comp=E,0.5nm,0.2s	**7.52**	**332**	*e*Pn	**Pn**	**00 50 48.6**	**+0.3**
BIOA	**Bad Ischl, Aus** comp=E,0.9nm,0.4s	**7.62**	**329**	*e*Pn	**Pn**	**00 50 50.0**	**+0.4**
LESA	**Schwarzleotal** comp=E,0.9nm,0.3s	**7.81**	**324**	*e*Pn	**Pn**	**00 50 52.2**	**-0.2**
LESA	comp=E,3.9nm,0.7s			*e*Sn	**Sn**	**00 52 17.4**	**-3.1**
WTTA	**Wattenberg** comp=E,6.0nm,0.4s,SNR=15	**8.19**	**319**	*e*Pn	**Pn**	**00 50 57.8**	**+0.2**
WTTA	comp=E,3.2nm,0.5s			*e*Sn	**Sn**	**00 52 27.1**	**-2.7**
WATA	**Walderalm** comp=E,2.5nm,0.4s,SNR=5.0	**8.26**	**319**	*i* Pn	**Pn**	**00 50 59.4**	**+0.8**
SQTA	**Sankt Quirin** comp=E,1.3nm,0.2s,SNR=4.7	**8.37**	**318**	*e*Pn	**Pn**	**00 51 01.0**	**+1.0**
MOTA	**Moosalm** comp=E,2.6nm,0.4s,SNR=5.9	**8.51**	**318**	*e*Pn	**Pn**	**00 51 02.2**	**+0.3**
MOTA	comp=E,10nm,0.9s			*e*Sn	**Sn**	**00 52 35.9**	**-1.8**
GERES	**GERESS Array B** baz=155,slow=14,SNR=4.8	**8.56**	**333**	Pn	**Pn**	**00 51 02.4**	**-0.3**
GERES	baz=148,slow=25,SNR=4.4 comp=E,0.3nm,0.3s			Sn	**Sn**	**00 52 38.5**	**-0.6**
RETA	**Reutte** comp=E,0.5nm,0.3s	**8.77**	**318**	*e*Pn	**Pn**	**00 51 06.1**	**+0.6**
RETA	comp=E,1.6nm,0.5s			*e*Sn	**Sn**	**00 52 42.2**	**-2.0**
KHC	**Kasperske Hory**	**8.85**	**334**	*e*SN	Sn	00 52 35.9	-10
DAVA	**Damuels** comp=E,0.9nm,0.3s	**9.11**	**314**	*e*Pn	**Pn**	**00 51 10.4**	**+0.2**
KEST	**Kesra**	**9.70**	**238**	LR	LR	00 55 55.7	
	comp=E,40nm,18.8s,baz=20,slow=44						
FINES	**FINESS Array B** comp=E,1.4nm,0.7s,baz=175,slow=12,SNR=5.0 comp=E,1.4nm,0.7s	**20.55**	**9**	P	**P**	**00 53 35.6**	**-1.3**
BVAR	**Borovoye Array** comp=E,0.6nm,0.5s,baz=273,slow=8.5,SNR=3.6 comp=E,0.6nm,0.5s	**35.80**	**53**	P	**P**	**00 55 56.8**	**-0.8**
KURBB	**Kurchatov Arra** comp=E,0.2nm,0.5s,baz=289,slow=8.5,SNR=1.8 comp=E,0.2nm,0.5s	**41.08**	**56**	P	**P**	**00 56 40.4**	**-1.6**
ZALV	**Zalesovo Beam** comp=E,1.9nm,0.4s,baz=285,slow=8.7,SNR=8.8 comp=E,1.9nm,0.4s	**44.25**	**50**	P	**P**	**00 57 06.5**	**-1.3**
MKAR	**Makanchi Array** comp=E,1.1nm,0.6s,baz=288,slow=7.0,SNR=6.6 comp=E,1.1nm,0.6s	**44.41**	**61**	P	**P**	**00 57 07.9**	**-1.3**
RCBR	**Riachuelo** comp=E,16nm,18.3s,baz=194,slow=36	**68.94**	**241**	LR	LR	01 30 33.5	

*IDC **22** 01:01:04.8±0.8, 58˚.44S×25˚.15W, h0km, mb4.0/7, mbtmp4.1/8, ML4.4/1, MS3.3/6, Error ellipse: s-maj=27.2km s-min=20.5km az=67.0*

ISC 22 01:01:08.7±0.8, 58˚.5S±0˚.1×25˚.1W±0˚.2, h28km, n19, σ1⁰25/14, mb4.0/6, MS3.4/5, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat** comp=Z,24nm,0.6s	**14.07**	**157**	⇑P	**Pn**	**01 04 25.0**	**-0.8**
VNA3	**Neumayer Olymp** comp=Z,26nm,0.6s	**14.27**	**160**	⇑P	**Pn**	**01 04 26.8**	**-1.8**
VNA2	**Neumayer--Watz** comp=Z,11nm,0.7s,baz=319,slow=13	**14.47**	**156**	⇑P	**Pn**	**01 04 29.3**	**

RUGZ S **Sn** **01 28 41.0 +0.2**
TWGZ Tauwhareparae 7.87 216 P **Pn** **01 27 10.1 -1.7**
TWGZ S **Sn** **01 28 41.2 +0.3**
CNGZ Carnagh Statio 8.00 213 P **Pn** **01 27 12.4 -1.2**
TKGZ Te Karaka 8.14 215 P **Pn** **01 27 14.5 -0.9**
TKGZ S **Sn** **01 28 45.6 -1.8**
MWZ Matawai 8.22 217 P **Pn** **01 27 15.9 -0.6**
MWZ S **Sn** **01 28 48.0 -1.5**
KUZ Kuaotunu 8.24 232 P **Pn** **01 27 20.3 +3.5**
KUZ Kuaotunu 8.24 232 P **Pn** **01 27 20.0 +3.2**
URZ Urewera 8.38 219 Pn **Pn** **01 27 18.6 -0.1**
3.4nm,0.3s,baz=260,slow=4.4,SNR=31
URZ Sn **Sn** **01 28 51.7 -1.6**
74nm,0.3s,baz=162,slow=18,SNR=27
URZ LR LR 01 32 02.8
comp=Z,458nm,19.0s,baz=26,slow=47
URZ Urewera 8.38 219 P **Pn** **01 27 18.0 -0.7**
URZ Urewera 8.38 219 P **Pn** **01 27 18.0 -0.7**
URZ S **Sn** **01 28 51.4 -2.0**
RIGZ Rimuhau 8.39 214 P **Pn** **01 27 18.0 -0.9**
RIGZ S **Sn** **01 28 52.3 -1.4**
OPRZ Ohinepanea 8.39 223 P **Pn** **01 27 20.2 +1.2**
OPRZ S **Sn** **01 28 53.0 -0.8**
RAGZ Rawiri 8.40 217 P **Pn** **01 27 17.7 -1.4**
RAGZ S **Sn** **01 28 52.3 -1.6**
PRGZ Paritu Road 8.51 213 P **Pn** **01 27 19.3 -1.2**
PRGZ S **Sn** **01 28 54.3 -2.3**
SNGZ Shannon Statio 8.65 216 P **Pn** **01 27 23.0 +0.4**
SNGZ S **Sn** **01 28 59.8 -0.4**
WIAZ Waiheke Island 8.66 233 P Pn 01 27 26.8 +4.2
MHGZ Mahia Peninsul 8.68 212 P **Pn** **01 27 20.1 -2.8**
MHGZ S **Sn** **01 29 01.0 +0.1**
KNZ Kokohu 8.68 213 P **Pn** **01 27 19.7 -3.2**
KNZ S **Sn** **01 28 55.1 -5.8**
RTZ Ruatahuna 8.71 218 P **Pn** **01 27 22.2 -1.2**
RTZ S **Sn** **01 28 58.6 -3.1**
MUGZ Murupara 8.72 219 P **Pn** **01 27 23.1 -0.4**
MUGZ S **Sn** **01 28 58.5 -3.3**
MBAZ Motutapu North 8.81 234 P **Pn** **01 27 24.5 -0.1**
MKAZ Moumakai 8.81 231 P **Pn** **01 27 27.1 +2.5**
WCZ Waipu Caves 8.82 240 P Pn 01 27 29.0 +4.2
ETAZ East Tamaki Re 8.88 233 P Pn 01 27 30.1 +4.4
TOZ Tahuroa Road 8.96 227 P **Pn** **01 27 28.0 +1.4**
TOZ S **Sn** **01 29 10.5 +3.0**
OUZ Omahuta 9.12 246 P Pn 01 27 33.3 +4.3
OUZ Omahuta 9.12 246 P Pn 01 27 33.2 +4.3
BKZ Black Stump Fm 9.38 217 P **Pn** **01 27 31.7 -0.8**
BKZ Black Stump Fm 9.38 217 S **Sn** **01 29 17.6 -0.4**
BKZ Black Stump Fm 9.38 217 P **Pn** **01 27 30.9 -1.6**
BKZ S **Sn** **01 29 14.2 -3.7**
HIZ Hauiti 9.84 225 P **Pn** **01 27 40.5 +1.7**
NGZ Ngauruhoe 9.86 220 P **Pn** **01 27 37.4 -1.7**
NGZ P **Sn** **01 29 27.5 -2.5**
PXZ Pawanui 9.87 213 P **Pn** **01 27 34.8 -4.3**
PXZ P **Sn** **01 29 24.9 -5.0**
VRZ Vera Road 10.30 223 P **Pn** **01 27 46.5 +1.5**
WAZ Wanganui 10.60 220 P **Pn** **01 27 50.8 +1.5**
WAZ P **Sn** **01 29 46.2 -1.9**
BFZ Birch Farm 10.67 213 P **Pn** **01 27 47.8 -2.3**
BFZ Birch Farm 10.67 213 S **Sn** **01 29 45.1 -4.5**
BFZ Birch Farm 10.67 213 P **Pn** **01 27 46.3 -3.8**
BFZ P **Sn** **01 29 43.5 -6.2**
NEZ North Egmont 10.78 224 P **Pn** **01 27 54.7 +2.9**
MRZ Mangatainoka R 10.97 215 P **Pn** **01 27 51.3 -2.9**
MRZ S **Sn** **01 29 50.9 -6.0**
CTZ Chatham Island 11.83 181 P **Pn** **01 28 03.3 -2.7**
CTZ S Sn 01 30 03.4 -15
SNZO South Karori 11.89 215 P **Pn** **01 28 06.1 -0.7**
NNZ Nelson 12.50 219 P **Pn** **01 28 13.4 -1.8**
NNZ P **Sn** **01 30 26.8 -7.7**
BSWZ Blackbirch Sta 12.60 216 P **Pn** **01 28 14.6 -2.0**
BSWZ S **Sn** **01 30 28.9 -8.1**
QRZ Quartz Range 12.71 222 P **Pn** **01 28 18.2 +0.2**
QRZ Quartz Range 12.71 222 P **Pn** **01 28 14.3 -3.7**
THZ Tophouse 13.14 218 P **Pn** **01 28 21.0 -2.9**
THZ S Sn 01 30 40.7 -9.5
KHZ Kahutara 13.29 215 P **Pn** **01 28 23.9 -2.1**
KHZ Kahutara 13.29 215 P **Pn** **01 28 23.8 -2.1**
KHZ P Sn 01 30 41.2 -13
DSZ Denniston Nort 13.72 221 P **Pn** **01 28 29.6 -2.3**
DSZ P Sn 01 30 53.7 -11
GVZ Greta Valley S 13.95 215 P **Pn** **01 28 33.3 -1.7**
LTZ Lake Taylor 14.20 217 P **Pn** **01 28 37.0 -1.4**
LTZ S Sn 01 31 02.7 -13
AMCZ Amberley 14.30 215 P **Pn** **01 28 38.8 -0.9**
AMCZ P Sn 01 31 06.6 -12
OKCZ Okains Bay 14.52 213 P Pn 01 28 37.3 -5.5
OKCZ S Sn 01 31 11.2 -13
INZ Inchbonnie 14.59 219 P **Pn** **01 28 41.6 -2.0**
MQZ McQueen's Vall 14.70 213 P **Pn** **01 28 42.0 -3.2**
MQZ S Sn 01 31 13.2 -15
OXZ Oxford 14.71 216 P **Pn** **01 28 41.1 -4.3**
OXZ S Sn 01 31 14.6 -14
MHCZ Mount Hutt 15.09 216 P **Pn** **01 28 49.3 -1.3**
MHCZ S Sn 01 31 23.6 -14
WVZ Waitaha Valley 15.21 219 P **Pn** **01 28 50.1 -1.8**
RPZ Rata Peaks 15.48 217 Pn **Pn** **01 28 54.4 -1.3**
12nm,0.3s,baz=45,slow=2.3,SNR=23
RPZ Sn Sn 01 31 34.0 -13
5.2nm,0.3s,baz=248,slow=20,SNR=13
RPZ LR LR 01 34 44.7
comp=Z,296nm,20.5s,baz=40,slow=36
RPZ Rata Peaks 15.48 217 P **Pn** **01 28 55.3 -0.4**
TMZ Timaru 15.99 215 P **Pn** **01 28 57.7 -4.5**
TMZ S Sn 01 31 45.0 -15
FOZ Fox Glacier 16.01 220 P **Pn** **01 28 59.7 -2.7**
FOZ S Sn 01 31 43.8 -16
LBZ Lake Benmore 16.40 217 P **Pn** **01 29 04.5 -3.0**
ODZ Otahua Downs 16.65 214 P **Pn** **01 29 08.7 -2.0**
JCZ Jackson Bay 16.93 220 P **Pn** **01 29 11.4 -2.9**
JCZ Jackson Bay 16.93 220 P **Pn** **01 29 11.4 -2.9**
TUZ Tuapeka 17.80 214 P **P** **01 29 26.8 +1.0**
RAR Rarotonga 18.13 58 P Pn 01 29 21.3 -8.0
8.5nm,0.5s,baz=182,slow=15,SNR=1.5
RAR S Sn 01 32 26.2 -25
19nm,0.8s,baz=298,slow=16,SNR=2.0
RAR LR LR 01 35 32.5
comp=Z,195nm,19.3s,baz=286,slow=34
RAR Rarotonga 18.13 58 P **Pn** **01 29 26.4 -2.9**
MLZ Mavora Lakes 18.14 218 P **P** **01 29 29.1 -0.5**
DZM Mont Dzumac 18.26 298 eLR LR 01 33 39.5
825nm,31.9s
DZM Mont Dzumac 18.26 298 P **P** **01 29 33.1 +2.0**
0.8nm,0.3s,baz=204,slow=21,SNR=7.4
DZM LR LR 01 35 53.0
comp=Z,349nm,18.9s,baz=64,slow=35
14nm,1.0s
SYZ Scrubby Hill 18.46 213 P **Pn** **01 29 27.6 -5.5**
SYZ Scrubby Hill 18.46 213 P **P** **01 29 35.1 +2.1**
WHZ Wether Hill Ro 18.59 217 P **Pn** **01 29 34.5 -0.2**
APZ The Paps 19.22 215 P **Pn** **01 29 38.6 +2.2**
PYZ Puysegur Point 19.43 218 P **P** **01 29 38.8 -4.8**
TBI Tubuai 25.14 77 eLR LR 01 36 41.9
3µm,24.0s
TBI eLR LR 01 36 44.9
1µm,28.8s
PPT2 Papeete2 27.98 66 *e*P P 01 31 01.6 -6.8
66nm,25.0s
PPT2 eLR LR 01 37 47.9
818nm,30.0s
PPT2 eLR LR 01 37 55.0
522nm,22.8s
PPT Papeete 27.99 66 LR LR 01 39 08.0
comp=Z,211nm,21.5s,baz=200,slow=30
TARA Tarawa 34.63 341 **P** **01 32 06.6 -0.2**
CTA Charters Tower 35.55 280 LR LR 01 45 55.2
comp=Z,5.2nm,18.1s,baz=54,slow=35
CTA Charters Tower 35.55 280 P **P** **01 32 15.3 +0.5**
CTAO Charters Tower 35.55 280 P **P** **01 32 15.1 +0.3**
CTAO pmax pmax
comp=Z,5.0nm,1.7s
STKA Stephens Creek 35.65 259 **P** **01 32 18.2 +2.7**
STKA IAmb IAmb 01 32 19.8
comp=Z,37nm,1.0s
STKA Stephens Creek 35.65 259 P **P** **01 32 17.9 +2.3**
comp=Z,8.9nm,1.0s,baz=112,slow=9.4,SNR=7.4
STKA LR LR 01 45 18.6
comp=Z,257nm,21.7s,baz=47,slow=34
comp=Z,8.9nm,1.0s
STKA Stephens Creek 35.65 259 P **P** **01 32 18.2 +2.7**
STKA pmax pmax
comp=Z,37nm,1.0s

RKT Rikitea 37.43 87 *e*LR LR 01 42 27.4
comp=Z,3µm,28.5s
BBOO Buckleboo 40.05 256 P **P** **01 32 53.6 +0.8**
BBOO IAmb IAmb 01 34 15.1
comp=Z,105nm,1.9s
PMG Port Moresby 40.62 295 LR LR 01 46 01.4
comp=Z,100nm,21.5s,baz=154,slow=31
AS31 Alice Springs 44.56 268 **P** **01 33 29.2 -0.4**
ASAR Alice Springs 44.56 268 P **P** **01 33 29.5 -0.1**
ASAR Alice Springs 44.56 268 P **P** **01 33 30.5 +0.9**
comp=Z,2.7nm,0.6s,baz=105,slow=7.1,SNR=29
ASAR PcP **PP** **01 35 14.1 +0.5**
comp=Z,2.0nm,0.5s,baz=109,slow=4.5,SNR=7.3
comp=Z,2.7nm,0.6s
WR8 Warramunga Arr 45.54 273 P **P** **01 33 38.0 +0.6**
WRAB Tennant Creek 45.68 273‖ *e*P **P** **01 33 40.2 +1.7**
WRAB pmax pmax
comp=Z,13nm,1.0s
WRA Warramunga Arr 45.68 273 P **P** **01 33 38.8 +0.3**
comp=Z,4.8nm,0.5s,baz=113,slow=7.7,SNR=44
WRA PcP **PcP** **01 35 17.8 +1.2**
comp=Z,1.9nm,0.9s,baz=113,slow=4.1,SNR=3.0
WRA LR LR 01 52 05.9
comp=Z,145nm,18.7s,baz=150,slow=35
comp=Z,4.8nm,0.5s
WB0 Warramunga Arr 45.71 273 P **P** **01 33 39.2 +0.4**
WB0 IAmb IAmb 01 33 44.1
comp=Z,53nm,2.0s
VNDA Vanda 46.78 186 LR LR 01 49 06.9
comp=Z,98nm,21.0s,baz=22,slow=30
JAY Jayapura 49.93 297 LR LR 01 53 06.2
comp=Z,48nm,21.3s,baz=209,slow=33
KNRA Kununurra 52.34 274 P **P** **01 34 29.0 -0.6**
FITZ Fitzroy Crossi 53.88 270 P **P** **01 34 41.0 +0.1**
FITZ Fitzroy Crossi 53.88 270 LR LR 01 57 04.9
comp=Z,277nm,20.1s,baz=112,slow=35
NWAO Narrogin (SRO) 55.31 250 LR LR 01 58 47.7
comp=Z,53nm,18.1s,baz=96,slow=36
KIP Kipapa 55.81 21‖ *e*P **P** **01 34 55.3 +0.6**
KIP pmax pmax
comp=Z,156nm,1.5s
RPN Rapa Nui 57.59 104 LR LR 01 53 31.8
comp=Z,84nm,20.3s,baz=264,slow=30
QSPA South Pole Qui 58.23 180 P P 01 35 16.7 +5.2
QSPA IAmb IAmb 01 35 19.4
comp=Z,24nm,1.1s
QSPA South Pole Qui 58.23 180 P **P** **01 35 14.3 +2.8**
comp=Z,14nm,1.0s,baz=80,slow=11,SNR=24
QSPA LR LR 01 55 56.2
comp=Z,172nm,21.7s,baz=47,slow=32
comp=Z,14nm,1.0s
GUMO Guam 58.61 314 LR LR 01 59 37.1
comp=Z,34nm,18.8s,baz=177,slow=35
BATI Baumata 59.35 277 LR LR 02 01 25.2
comp=Z,80nm,18.6s,baz=112,slow=36
GIRL Giralia 61.58 260 P **P** **01 35 33.8 -1.3**
KAPI Kappang 65.37 280 LR LR 02 04 06.8
comp=Z,69nm,19.6s,baz=99,slow=36
DAV Dao City (W) 67.63 294 LR LR 02 07 32.7
comp=Z,32nm,18.1s,baz=162,slow=38
PMSA Palmer Station 70.28 155 LR LR 02 00 06.6
comp=Z,170nm,20.5s,baz=246,slow=30
MAW Mawson 71.45 200 P **P** **01 36 40.0 +2.6**
comp=Z,5.5nm,1.1s,baz=120,slow=6.1,SNR=8.3
MAW LR LR 02 07 56.5
comp=Z,53nm,18.3s,baz=114,slow=36
comp=Z,5.5nm,1.1s
LEM Lembang 74.68 271 LR LR 02 11 35.1
comp=Z,114nm,18.6s,baz=204,slow=37
SYO Syowa Base 76.00 193‖ *e*P **P** **01 37 06.2 +2.1**
SYO Syowa Base 76.00 193‖ *e*pP pP 01 37 09.0 +3.5
SYO Syowa Base 76.00 193‖ *e*PcP **PcP** **01 37 16.7 +0.3**
TROLL Troll, Antarti 76.39 180 ⇓P **P** **01 37 07.6 +1.1**
comp=Z,540nm,1.0s
SNAA Sanae 76.62 178 ⇑P **P** **01 37 09.3 +1.5**
comp=Z,140nm,0.8s
SNAA Sanae 76.62 178 **P** **01 37 09.1 +1.3**
SNAA Sanae 76.62 178 P **P** **01 37 08.8 +1.1**
comp=Z,7.6nm,1.0s,baz=198,slow=5.3,SNR=21
SNAA LR LR 02 09 08.5
comp=Z,116nm,18.7s,baz=260,slow=34
comp=Z,7.6nm,1.0s
SNAA Sanae 76.62 178 P **P** **01 37 09.1 +1.3**
SNAA pmax pmax
comp=Z,15nm,1.1s
VNA3 Neumayer Olymp 76.71 176 ⇑P **P** **01 37 09.3 +1.1**
comp=Z,14nm,0.8s
VNA2 Neumayer–Natz 77.17 176 ⇑P **P** **01 37 11.9 +1.1**
comp=Z,11nm,0.7s,baz=176,slow=5.2
VNA1 Neumayer--Stat 77.39 176 ⇑P **P** **01 37 13.7 +1.8**
comp=Z,21nm,1.0s
PLCA Paso Flores 80.38 132 P **P** **01 37 29.6 +0.5**
comp=Z,3.4nm,1.0s,baz=291,slow=9.8,SNR=4.8
comp=Z,3.4nm,1.0s
BO02 Sierra Bellavi 83.56 127 P **P** **01 37 45.8 -0.1**
BO02 IAmb IAmb 01 38 05.0
comp=Z,21nm,1.1s
ASAJ Asahikawa 84.47 332 LR LR 02 09 24.9
comp=Z,58nm,19.4s,baz=94,slow=31
SHEM Shemya Is, Ala 84.69 354 LR LR 02 06 22.7
comp=Z,42nm,21.8s,baz=296,slow=29
ELS Elsinore Mount 85.54 46 P **P** **01 37 55.9 +0.1**
ELS IAmb IAmb 01 37 57.1
comp=Z,15nm,1.2s
BFSC Mount Baldy Ra 85.81 45 IAmb IAmb 01 37 58.3
comp=Z,27nm,1.2s
MTOS Mt Oso, Westle 85.97 41 **P** **01 37 56.8 -0.9**
MTOS IAmb IAmb 01 37 59.4
comp=Z,26nm,1.2s
DNR Dunn Ranch,Anz 85.98 46 IAmb IAmb 01 37 59.6
comp=Z,23nm,0.9s
PFO Pinyon Flats O 86.11 46 P **P** **01 37 58.0 -0.6**
PFO IAmb IAmb 01 38 00.1
comp=Z,16nm,1.2s
PFO Pinyon Flats O 86.11 46 P **P** **01 37 58.8 +0.3**
comp=Z,16nm,1.0s,baz=229,slow=4.2,SNR=7.8
comp=Z,7.6nm,1.0s
PFO Pinyon Flats O 86.11 46‖ *e*P **P** **01 37 58.7 +0.1**
PFO pmax pmax
comp=Z,26nm,1.3s
ISA Isabella, Lake 86.30 44 IAmb IAmb 01 38 01.2
comp=Z,30nm,1.3s
KSRS Korea Array 86.47 319 LR LR 02 16 30.5
comp=Z,11µm,18.1s,baz=5.0,slow=36
LRMC Laurel Mtn Ran 86.64 44 IAmb IAmb 01 38 02.8
comp=Z,27nm,1.4s
PIX Pinacate 86.64 49 IAmb IAmb 01 38 02.4
comp=Z,15nm,1.2s
BELC Belle Mtn. Jos 86.66 46 IAmb IAmb 01 38 03.0
comp=Z,17nm,1.0s
BUCR Buckhorn Ranch 86.74 41 IAmb IAmb 01 38 02.7
comp=Z,15nm,1.1s
GLA Glamis 86.75 48 IAmb IAmb 01 38 03.7
comp=Z,30nm,1.4s
YSS Yuzhno-Sakhali 86.75 333 *e*P **P** **01 38 03.3 +2.1**
YSS pmax pmax
comp=Z,20nm,1.2s
BC3 Big Chuckawall 86.76 47 IAmb IAmb 01 38 03.9
comp=Z,24nm,1.2s
CCCA Chr Cany lake 86.86 44 IAmb IAmb 01 38 04.0
comp=Z,27nm,1.3s
CMB Columbia Colle 86.87 41 IAmb IAmb 01 38 03.2
comp=Z,14nm,1.0s
GSC Goldstone, Bar 87.04 45 IAmb IAmb 01 38 04.8
comp=Z,23nm,1.2s
PSI Prapat 87.09 275 LR LR 02 19 14.8
comp=Z,115nm,18.9s,baz=114,slow=37
O02D Mt. Diablo Mer 87.11 38 **P** **01 38 03.5 +0.2**
MPMC Manual Prospec 87.15 44 IAmb IAmb 01 38 05.4
comp=Z,17nm,1.2s
113A Mohawk Valley, 87.23 48 IAmb IAmb 01 38 05.6
comp=Z,19nm,1.5s
BLYC Blythe 87.40 47 **P** **01 38 04.7 0.0**
BLYC IAmb IAmb 01 38 06.7
comp=Z,16nm,1.2s
QSM Queen of Sheba 87.46 44 IAmb IAmb 01 38 06.5
comp=Z,17nm,1.1s
PEA0B Petropavlovsk- 87.64 345*ce*P **P** **01 38 06.5 +1.1**
PETK Petropavlovsk- 87.64 345 P **P** **01 38 05.4 +0.1**
PETK Petropavlovsk- 87.64 345 P **P** **01 38 05.8 +0.5**
comp=Z,14nm,0.9s,baz=128,slow=6.4,SNR=16
comp=Z,14nm,0.9s
O03E Paynes Creek 87.71 39 IAmb IAmb 01 38 07.0
comp=Z,20nm,1.1s
N02D Trinity Center 87.73 38 **P** **01 38 05.5 -0.7**
DSP Deep Springs 87.77 43 IAmb IAmb 01 38 08.0
comp=Z,11nm,1.0s

FURC Furnace Creek, 87.80 44 IAmb IAmb 01 38 07.5
comp=Z,15nm,1.2s
LHV Little Huntoon 88.08 42 IAmb IAmb 01 38 09.5
comp=Z,18nm,1.1s
GMN Gold Mountain 88.14 43 IAmb IAmb 01 38 09.8
comp=Z,12nm,1.1s
WCT Wildcat Mounta 88.16 44 IAmb IAmb 01 38 10.1
comp=Z,14nm,1.4s
YBH Yreka Blue Hor 88.28 37 **P** **01 38 08.6 -0.3**
YBH Yreka Blue Hor 88.28 37 P **P** **01 38 08.8 0.0**
comp=Z,0.4nm,0.9s,baz=161,slow=3.2,SNR=8.0
YBH LR LR 02 11 11.2
comp=Z,8.0nm,18.4s,baz=223,slow=31
YBH Yreka Blue Hor 88.28 37 P **P** **01 38 08.6 -0.3**
YBH pmax pmax
comp=Z,9.0nm,1.1s
NVAR Mina Array Bea 88.31 42 P **P** **01 38 09.2 -0.1**
comp=Z,10nm,1.0s,baz=219,slow=7.8,SNR=48
NVAR LR LR 02 12 59.9
comp=Z,128nm,18.2s,baz=220,slow=32
comp=Z,10nm,1.0s
RYN Ryan 88.33 41 IAmb IAmb 01 38 10.5
comp=Z,19nm,1.3s
NJ2 Nanjing 88.37 310 *e*P **P** **01 38 11.8 +2.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NV11 Mina Array Sit 88.40 42 IAmb IAmb 01 38 10.8
comp=Z,14nm,1.1s
Y14A Wickenburg 88.48 48 IAmb IAmb 01 38 11.8
comp=Z,21nm,1.3s
TPNV Topopah Spring 88.49 44 IAmb IAmb 01 38 11.8
comp=Z,15nm,1.0s
V12A Nelson 88.51 46 IAmb IAmb 01 38 12.1
comp=Z,13nm,1.2s
W13A Hualapai Mount 88.69 47 IAmb IAmb 01 38 13.1
comp=Z,12nm,1.1s
SHPR Sheep Range 88.84 45 P **P** **01 38 12.6 +0.9**
TUC Tucson 88.87 50 P **P** **01 38 11.8 0.0**
TUC IAmb IAmb 01 38 14.0
comp=Z,12nm,1.1s
TUC Tucson 88.87 50 P **P** **01 38 11.8 0.0**
TUC pmax pmax
comp=Z,12nm,1.1s
USRK Ussuriysk Ar. 89.24 326 P **P** **01 38 14.2 +1.1**
comp=Z,6.2nm,0.9s,baz=142,slow=2.3,SNR=6.2
comp=Z,6.2nm,0.9s
319A Douglas 89.28 52 IAmb IAmb 01 38 15.8
comp=Z,15nm,1.2s
X16A Lo Mia Camp, P 89.78 48 IAmb IAmb 01 38 18.5
comp=Z,21nm,1.1s
K05A Summer Lake 89.93 37 IAmb IAmb 01 38 18.2
comp=Z,21nm,1.2s
J05D Fort Rock, OR 90.16 37 IAmb IAmb 01 38 19.1
comp=Z,16nm,1.2s
LCMT Little Creek M 90.33 45 IAmb IAmb 01 38 20.7
comp=Z,14nm,1.0s
WIFE Three Sisters- 90.42 36 IAmb IAmb 01 38 20.2
comp=Z,15nm,1.1s
CCUT Cedar City 90.61 45 IAmb IAmb 01 38 22.3
comp=Z,17nm,1.2s
H04A Detroit Lake 90.69 35 IAmb IAmb 01 38 20.8
comp=Z,16nm,1.1s
SZCU Shurtz Canyon 90.80 45 IAmb IAmb 01 38 23.1
comp=Z,22nm,1.3s
X18A Snowflake 90.80 49 IAmb IAmb 01 38 23.0
comp=Z,19nm,1.2s
I05D Terrebonne, OR 90.86 36 IAmb IAmb 01 38 22.1
comp=Z,22nm,1.2s
WVOR Wild Horse Val 90.91 39 IAmb IAmb 01 38 22.4
comp=Z,14nm,1.3s
NNA Nana 91.56 105 LR LR 02 08 55.4
comp=Z,54nm,21.5s,baz=216,slow=29
ELK Elko 91.62 42 P **P** **01 38 23.5 -1.2**
comp=Z,3.6nm,1.0s,baz=227,slow=5.5,SNR=12
comp=Z,3.6nm,1.0s
J08A Circle Bar Ran 91.64 38 IAmb IAmb 01 38 26.2
comp=Z,14nm,1.2s
CMIG Matias Romero 91.78 71 LR LR 02 13 12.0
comp=Z,81nm,18.3s,baz=198,slow=31
VHRN Van Horn 91.85 55 IAmb IAmb 01 38 27.6
comp=Z,21nm,1.9s
G06A Carlson Farm, 91.85 36 IAmb IAmb 01 38 26.5
comp=Z,12nm,1.0s
TXAR Lajitas Array 91.92 56 P **P** **01 38 26.7 +0.5**
comp=Z,1.2nm,0.9s,baz=211,slow=7.1,SNR=9.0
TXAR LR LR 02 11 58.6
comp=Z,55nm,18.5s,baz=217,slow=31
comp=Z,1.2nm,0.9s
LON Longmire 92.37 34 IAmb IAmb 01 39 25.5
comp=Z,22nm,1.9s
GNW Green Mountain 92.48 33 IAmb IAmb 01 38 29.5
comp=Z,9.4nm,1.1s
ALPN Alpine 92.55 56 IAmb IAmb 01 38 30.1
comp=Z,9.4nm,1.1s
ATAH Atahualpa 92.87 100 LR LR 02 14 48.2
comp=Z,54nm,18.5s,baz=292,slow=32
PB11 IPOC Station P 92.97 115 P **P** **01 38 31.8 +0.4**
MXC Moxie City 92.97 35 IAmb IAmb 01 38 31.7
comp=Z,12nm,1.0s
TMUT Trail Mountain 93.03 45 IAmb IAmb 01 38 33.1
comp=Z,9.3nm,1.0s
MFID Camas Ranch 93.08 39 IAmb IAmb 01 38 32.2
comp=Z,9.6nm,1.0s
HAWA Hanford 93.22 35 IAmb IAmb 01 38 32.8
comp=Z,12nm,1.1s
SRU San Rafael Swe 93.32 45 IAmb IAmb 01 38 33.7
comp=Z,8.4nm,0.9s
ANMO Albuquerque 93.33 51 P **P** **01 38 32.5 -0.2**
ANMO Albuquerque 93.33 51 P **P** **01 38 32.0 -0.7**
comp=Z,3.4nm,1.0s,baz=207,slow=4.8,SNR=7.8
ANMO LR LR 02 14 12.3
comp=Z,168nm,18.5s,baz=297,slow=32
comp=Z,3.4nm,1.0s
ANMO Albuquerque 93.33 51⇑ *i*P **P** **01 38 33.1 +0.4**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
WAH2 Wahluke Slope 93.45 35 IAmb IAmb 01 38 33.8
comp=Z,9.6nm,0.9s
PV10 Paradox Valley 93.77 47 IAmb IAmb 01 38 35.5
comp=Z,8.3nm,1.0s
PV18 Skein Mesa, Pa 93.77 47 IAmb IAmb 01 38 37.6
comp=Z,13nm,1.2s
PV20 West Nyswonger 93.79 47 IAmb IAmb 01 38 36.2
comp=Z,9.3nm,1.1s
PV02 Paradox Valley 93.85 47 IAmb IAmb 01 38 35.9
comp=Z,10.0nm,1.1s
PV12 Saucer Basin, 93.88 47 IAmb IAmb 01 38 36.3
comp=Z,18nm,1.2s
D08A Wollman Farm, 93.98 35 IAmb IAmb 01 38 36.1
comp=Z,8.6nm,0.8s
E09A Wood Farm, Sta 93.99 36 IAmb IAmb 01 38 35.8
comp=Z,12nm,1.0s
F10A Beach Ranch, E 94.08 37 IAmb IAmb 01 38 35.9
comp=Z,8.5nm,0.8s
PLID Pearl Lake 94.12 38 IAmb IAmb 01 38 36.8
comp=Z,15nm,1.1s
CMAR Chiang Mai Arr 95.32 288 P **P** **01 38 42.5 +0.6**
comp=Z,0.5nm,0.3s,baz=173,slow=1.8,SNR=4.4
comp=Z,0.5nm,0.3s
SDCO Great Sand Dun 95.61 49 IAmb IAmb 01 38 45.7
comp=Z,13nm,1.9s
NEW Newport 95.69 35 LR LR 02 13 55.0
comp=Z,146nm,19.8s,baz=210,slow=31
TPAW Teton Pass 95.83 42 IAmb IAmb 01 39 05.0
comp=Z,14nm,1.7s
DLMT Dillon 96.11 39 IAmb IAmb 01 38 46.8
comp=Z,12nm,1.4s
LPAZ La Paz 96.15 113 P **P** **01 38 47.3 +0.6**
comp=Z,1.7nm,1.0s,baz=214,slow=3.6,SNR=4.5
comp=Z,1.7nm,1.0s
PDAR Pinedale Array 96.17 43 P **P** **01 38 45.4 -0.2**
comp=Z,1.4nm,0.8s,baz=219,slow=3.8,SNR=10
comp=Z,1.4nm,0.8s
JTS Las Juntas de 96.42 82 LR LR 02 15 06.4
comp=Z,72nm,18.8s,baz=308,slow=31
YHL Hebgen Lake 96.56 40 IAmb IAmb 01 38 49.0
comp=Z,13nm,1.4s
BOZ Bozeman (W) 96.78 40 IAmb IAmb 01 38 49.8
comp=Z,9.4nm,1.4s
YNE Yellowstone No 97.31 41 IAmb IAmb 01 38 52.1
comp=Z,6.5nm,1.0s
PZH PanZhiHua 97.34 297 P Pdif 01 38 52.6 +1.4
CPUP Villa Florida 97.87 128 LR LR 02 17 52.6
comp=Z,18nm,19.2s,baz=71,slow=32
HHC Hu-ho-hao-te 98.36 313 *e*P Pdif 01 38 56.3 +0.9
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax

comp=Z,160nm,6.4s
COLA College 98.97 12 *i* P **Pdif** 01 38 57.2 -0.1
COLA pmax pmax
comp=Z,4.0nm,0.9s
ILAR Eielson Array 99.04 12 P **Pdif** 01 38 57.1 -0.6
comp=Z,1.1nm,1.0s,baz=214,slow=4.8,SNR=6.0
comp=Z,1.1nm,1.0s
WMQ Urumqi 115.34 307 *e*PKP **PKiKP** 01 43 59.8 +0.8
WMQ LR LR
comp=Z,340nm,22.3s
MK31 Makanchi Array 119.89 309 *d* PKIKP **PKiKP** 01 44 07.9 +0.2
MKAR Makanchi Array 119.89 309 **PKPdf** 01 44 05.9 -1.7
MKAR Makanchi Array 119.89 309 PKP **PKPdf** 01 44 06.6 -1.0
comp=Z,2.7nm,1.0s,baz=64,slow=2.8,SNR=8.4
PKME Peaks-Kenny Pk 123.17 54 PKPdf **PKPdf** 01 44 13.7 -0.3
KURK Kurchatov 123.18 313 *c* PKIKP **PKPdf** 01 44 13.7 0.0
KURK pmax pmax
comp=Z,7.0nm,1.7s
KURBB Kurchatov Arra 123.21 313 PKP **PKPdf** 01 44 13.2 -0.6
comp=Z,2.8nm,0.8s,baz=105,slow=2.0,SNR=27
AAK Ala-Archa 124.20 303 *c* PKIKP **PKiKP** 01 44 16.9 +0.4
AAK pmax pmax
comp=Z,2.0nm,0.7s
KK31 Karatay Array 127.16 302 **PKPdf** 01 44 21.8 +0.1
KK31 Karatay Array 127.16 302 PKIKP **PKPdf** 01 44 21.8 +0.1
KKAR Karatay Array 127.16 302 PKPdf **PKPdf** 01 44 20.9 -0.8
KKAR Karatay Array 127.16 302 PKIKP **PKPdf** 01 44 20.9 -0.8
BVAR Borovoye Array 128.53 315 PKP **PKiKP** 01 44 25.0 +0.4
comp=Z,4.2nm,0.9s,baz=64,slow=3.4,SNR=11
BORK Borovoye 128.58 315 *e*PKIKP **PKiKP** 01 44 24.9 +0.2
BORK pmax pmax
comp=Z,12nm,1.7s
ARTI Arti 135.31 320 *i* PKIKP **PKPdf** 01 44 37.5 +0.9
ARCES ARCESS Array B 140.36 348 PKhKP PKPpre 01 44 41.2
comp=Z,1.8nm,0.7s,baz=14,slow=2.7,SNR=3.7
VAGH Vaagaholmen 144.67 353 *e*PKPdf **PKPab** 01 44 51.5 -0.4
RAUS Rausandaksla 144.87 353 *e*PKPbc **PKPab** 01 44 52.9 +0.2
KONS Konsvik 144.91 353 *e*PKPbc **PKPab** 01 44 53.1 +0.3
STOK Stokkvaagen 145.08 353 *e*PKPbc **PKPbc** 01 44 53.3 -0.1
MOR8 Moi Rana 145.09 352 *e*PKPbc **PKPbc** 01 44 52.8 -0.7
LEIR Leirfjorden 145.28 353 *e*PKPbc **PKPbc** 01 44 54.2 +0.1
VRH Novokhopyorsk 146.17 316 *e*PKIKP **PKPdf** 01 44 55.8 -0.5
VRH pmax pmax
comp=Z,40nm,1.0s
MOS Moscow 146.42 325 *i* PKIKP **PKPdf** 01 44 56.2 -0.4
MOS pmax pmax
comp=Z,81nm,1.3s
NSS Namsos 146.94 354 *e*PKPdf **PKPdf** 01 44 58.0 +0.8
FINES FINESS Array B 147.06 340 **PKPbc** 01 44 59.2 -0.4
FINES FINESS Array B 147.06 340 PKPbc **PKPbc** 01 44 59.4 -0.2
comp=Z,14nm,0.8s,baz=51,slow=3.1,SNR=52
KBZ Khabaz 147.20 302 PKPbc **PKPbc** 01 45 01.3 +0.8
comp=Z,5.1nm,0.9s,baz=127,slow=2.6,SNR=5.2
KBZ Khabaz 147.20 302 ||*e*PKP2 **PKPbc** 01 45 01.1 +0.6
LPSR Galich'ya Gora 147.23 320 *e*PKP2 **PKPdf** 01 44 59.2 +1.2
LPSR pmax pmax
comp=Z,40nm,1.0s
OBN Obninsk 147.26 325 ||*e*PKIKP **PKPdf** 01 44 57.3 -0.7
OBN *i* 01 44 59.8
OBN 01 48 30.0
OBN pmax pmax
comp=Z,3.0nm,0.5s
OBN pmax pmax
comp=Z,33nm,1.1s
KIV Kislovodsk 147.32 303 *i* PKP2 **PKPbc** 01 45 01.2 +0.2
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,43nm,25.0s
VORR Voronezh 147.46 318 *e*PKIKP **PKPdf** 01 44 59.5 +1.0
VORR pmax pmax
comp=Z,20nm,1.1s
VSR Storozhevoye 147.66 317 *e*PKIKP **PKPdf** 01 44 58.9 +0.1
VSR pmax pmax
comp=Z,20nm,1.0s
VORD Divnogorie 147.68 317 *e*PKIKP **PKPdf** 01 45 00.2 +1.3
VORD pmax pmax
comp=Z,20nm,1.0s
VSU Vasula 149.20 336 *ce*PKIKP **PKPbc** 01 45 04.0 -1.3
MARD Mardin 149.20 290 **PKiKP** 01 45 07.0 -0.4
MOL Molde 149.21 357 *e*PKPdf **PKPdf** 01 45 02.4 +1.4
AKN Aaknes 149.63 357 *e*PKPbc **PKPbc** 01 45 07.0 +0.6
DOMB Dombas 149.64 355 *e*PKPbc **PKPbc** 01 45 06.9 +0.5
NB2 NORSAR Subarra 150.43 353 PKP **PKPbc** 01 45 08.6 +0.2
comp=Z,3.0nm,0.7s,baz=10,slow=2.6
NB2 NORSAR Subarra 150.43 353 PKP **PKPbc** 01 45 08.6 +0.2
comp=Z,3.0nm,0.7s,baz=10,slow=2.6
NOA NORSAR Array B 150.43 353 PKPbc **PKPbc** 01 45 08.2 -0.2
comp=Z,9.1nm,0.9s,baz=14,slow=4.2,SNR=25
NC602 NORSAR Array S 150.69 352 *e*PKPbc **PKPbc** 01 45 09.3 +0.4
HFS Hagfors 150.99 350 PKPbc **PKPbc** 01 45 09.5 -0.2
comp=Z,16nm,0.9s,baz=252,slow=0.5,SNR=22
ASK Askoy 151.38 359 *e*PKPbc **PKPbc** 01 45 11.0 +0.5
BER Bergen 151.48 358 *e*PKPbc **PKPbc** 01 45 10.4 -0.4
OSL Oslo 151.57 353 *e*PKPbc **PKiKP** 01 45 11.7 +0.3
MNK Minsk 151.63 330 *i* PKIKP **PKiKP** 01 45 12.2 +0.5
MNK *i* 01 48 50.8
MNK *i* 01 52 13.5
MNK *i* PPP PPP 01 52 15.9
MNK *i* SS SS 02 08 18.4 +2.2
MNK *i* SSS SSS 02 14 05.7
MNK pmax pmax
comp=E,7.0nm,0.7s
MNK pmax pmax
comp=Z,28nm,0.9s
MNK pmax pmax
comp=N,10.0nm,0.7s
ODD1 Odda 151.91 357 *e*PKPbc **PKPbc** 01 45 12.2 +0.4
KONO Kongsberg 151.96 354 *e*PKPbc **PKiKP** 01 45 12.3 +0.1
KMY Karmoy 152.66 358 *e*PKPbc **PKiKP** 01 45 13.9 +0.2
BNN Bunyan 153.04 294 **PKiKP** 01 45 15.7 +0.4
MMAI Mount Meron Ar 153.34 281 PKPbc **PKiKP** 01 45 18.0 +1.9
comp=N,5.0nm,0.7s,baz=72,slow=5.5,SNR=8.1
MMAI PKPab **pPKPab** 01 45 28.9 -0.5
comp=N,5.2nm,0.8s,baz=113,slow=6.6,SNR=6.2
AKASG Malin Array Be 153.41 322 **PKPbc** 01 45 15.3 -0.1
AKASG Malin Array Be 153.41 322 PKPbc **PKiKP** 01 45 15.9 +0.4
comp=N,4.8nm,0.9s,baz=44,slow=2.7,SNR=20
AKASG PKPab **PKPab** 01 45 27.4 -0.1
comp=N,3.8nm,0.9s,baz=47,slow=3.6,SNR=8.1
AKBB Malin Array Si 153.41 322 *c* PKIKP **PKiKP** 01 45 16.2 +0.7
KIEV Kiev 153.42 322 **PKPbc** 01 45 14.9 -0.5
KIEV Kiev 153.42 322 PKIKP **PKPbc** 01 45 14.9 -0.5
HOMB Homborsund 153.42 354 *e*PKPbc **PKPbc** 01 45 15.1 0.0
DBIC Dimbokro 153.65 160 PKPbc **PKiKP** 01 45 17.4 +0.2
comp=N,7.7nm,0.9s,baz=198,slow=4.7,SNR=6.2
BRTR Keskin Array B 154.64 296 PKPbc **PKiKP** 01 45 19.2 +0.6
comp=N,1.8nm,1.0s,baz=90,slow=2.5,SNR=6.1
BRTR PKPab **pPKPab** 01 45 34.4 -0.4
comp=N,1.7nm,0.8s,baz=57,slow=4.6,SNR=6.4
OSTC Ostas 159.19 337 *e*PKPAB **PKPab** 01 45 53.4 +1.0
OSTC Ostas 159.19 337 *e*PKP2 **PKPab** 01 45 53.4 +1.0
UPC Upice 159.30 337 *e*PKPAB **PKPab** 01 45 53.9 +1.1
UPC Upice 159.30 337 *e*PKP2 **PKPab** 01 45 53.9 +1.1
DPC Dobruska-Polom 159.33 337 *e*PKPAB **PKPab** 01 45 53.8 +0.8
DPC Dobruska-Polom 159.33 337 *e*PKP2 **PKPab** 01 45 53.8 +0.8
KRLC Kraliky 159.40 336 *e*PKPAB **PKPab** 01 45 54.3 +0.9
KRLC Kraliky 159.40 336 *e*PKP2 **PKPab** 01 45 54.3 +0.9
CLL Collm 159.44 343 *i* PKP2 **PKPab** 01 45 52.9 -0.5
CLL Collm 159.44 343 *i* PKPab **PKPab** 01 45 52.9 -0.5
BRG Berggiesshubel 159.59 341 Amp 01 45 55.2
comp=Z,7.3nm,1.1s
BRG Berggiesshubel 159.59 341 *e*PKP **PKPab** 01 45 54.3 +0.2
VRAC Vranov 160.11 335 *e*PKP **PKPab** 01 45 56.7 +0.3
KRUC Moravsky 160.39 335 *e*PKP **PKPab** 01 45 57.7 +0.1
ZVC Zvikov 160.81 339 *e*PKPAB **PKPab** 01 46 00.5 +1.1
TORD Torodi Ar. Bea 161.25 174 **PKPdf** 01 45 19.3 +0.6
TORD Torodi Ar. Bea 161.25 174 PKP **PKPdf** 01 45 19.2 +0.4
comp=Z,2.2nm,0.9s,baz=138,slow=0.2,SNR=12
TORD PKPab **PKPab** 01 46 00.8 -1.3
comp=Z,2.8nm,0.9s,baz=177,slow=2.4,SNR=10
KHC Kasperske Hory 161.26 340 *e*PKPAB **PKPab** 01 46 02.6 +1.1
KHC Kasperske Hory 161.26 340 *e*PKP2 **PKPab** 01 46 02.6 +1.1
CKRC Cesky Krumlov 161.31 338 *e*PKPAB **PKPab** 01 46 02.5 +0.8
CKRC Cesky Krumlov 161.31 338 *e*PKP2 **PKPab** 01 46 02.5 +0.8
GERES GERESS Array B 161.48 339 PKPab **PKPab** 01 46 02.6 +0.1
comp=Z,0.6nm,0.6s,baz=3.8,slow=4.0,SNR=5.9
CONA Conrad Observa 161.53 334 *e*PKP **PKPab** 01 46 03.0 +0.2
comp=Z,4.3nm,1.1s
MOA Molln 162.17 336 *e*PKP **PKPab** 01 46 05.5 0.0
comp=Z,3.5nm,1.2s
BIOA Bad Ischl, Aus 162.52 337 *e*PKP **PKPab** 01 46 07.2 +0.2
comp=Z,6.9nm,1.0s
SOKA Soboth 162.88 333 *e*PKP **PKPab** 01 46 08.9 +0.2
comp=Z,4.0nm,1.3s
LESA Schwarzleotal 163.06 339 *e*PKP **PKPab** 01 46 09.7 +0.2
comp=Z,4.6nm,1.0s
WATA Walderalm 163.46 341 *e*PKP **PKPab** 01 46 11.0 -0.2
comp=Z,8.2nm,1.2s
WTTA Wattenberg 163.51 341 *e*PKP **PKPab** 01 46 12.2 +0.6
comp=Z,3.9nm,0.9s
MOTA Moosalm 163.58 342 *e*PKP **PKPab** 01 46 11.4 -0.4
comp=Z,6.9nm,1.3s
ESDC Sonseca Array 170.01 37 PKPab **PKPab** 01 46 37.8 -2.5
comp=Z,0.5nm,0.9s,baz=285,slow=2.9,SNR=4.2

*JMA **22** 01:29:17.7±0.1, 23.°0N±0.°7×12.°7E±., h36km±4km, MV3.6/9, TAIWAN REGION*
*TAP **22** 01:29:18.2, 22.°99N×121.°45E, h22km, ML3.1, B*
ISC 22 01:29:17.5±0.9, **22.°96N**±0.°02×**121.°51E**±0.°03, **h25**km±5km, **n87**, σ0°**93**/141, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EDH	**Donghe**	**0.19**	**273**	*i* P		**Pb**		**01 29 23.1**	**+0.1**
EDH				*i* S		**Sb**		**01 29 26.4**	**-0.3**
CHKT	**Chengkung**	**0.19**	**316**	*i* P		**Pb**		**01 29 23.0**	**0.0**
CHKT				*i* S		**Sb**		**01 29 26.3**	**-0.4**
CHKH	**Chenggong**	**0.25**	**336**	*i* P		**Pb**		**01 29 24.0**	**+0.2**
CHKH				*i* S		**Sb**		**01 29 27.6**	**-0.4**
LDUT	**Ludao**	**0.29**	**187**	*i* P		**Pb**		**01 29 25.1**	**+0.8**
LDUT				S		**Sb**		**01 29 30.3**	**+1.3**
ECS	**Chishang**	**0.30**	**297**	*i* P		**Pb**		**01 29 24.8**	**+0.4**
ECS				*i* S		**Sb**		**01 29 30.4**	**+1.2**
FULB	**Fuli**	**0.31**	**320**	*i* P		**Pb**		**01 29 24.4**	**-0.1**
FULB				S		**Sb**		**01 29 29.0**	**-0.5**
EHD	**Haiduan**	**0.33**	**304**	*i* P		**Pb**		**01 29 24.7**	**-0.3**
EHD				*i* S		**Sb**		**01 29 29.8**	**+0.3**
LONT	**Longtian**	**0.35**	**261**	*i* P		**Pb**		**01 29 25.9**	**+0.6**
LONT				S		**Sn**		**01 29 31.7**	**-1.6**
ECBN	**Changbin**	**0.36**	**352**	P		**Pb**		**01 29 25.6**	**+0.3**
ECBN				*e*S		**Sb**		**01 29 31.0**	**+0.3**
TTN	**Taitung**	**0.39**	**238**	*i* P		**Pb**		**01 29 26.3**	**+0.5**
TTN				S		**Sb**		**01 29 32.4**	**+0.8**
TWGBT	**Beinan**	**0.42**	**250**	*e*P		**Pb**		**01 29 26.5**	**+0.2**
TWGBT				*e*S		**Sb**		**01 29 32.7**	**+0.3**
EYUL	**Yuli**	**0.42**	**336**	*e*S		**Sn**		**01 29 33.3**	**-1.7**
TWG	**Pinlang**	**0.42**	**251**	P		**Pb**		**01 29 26.6**	**+0.1**
TWG				*e*S		**Sb**		**01 29 32.7**	**+0.1**
TWF1	**Yuli**	**0.43**	**334**	*i* P		**Pb**		**01 29 26.8**	**+0.2**
TWF1				*e*S		**Sb**		**01 29 32.8**	**+0.1**
YULB	**Yu-li**	**0.47**	**336**	*e*P		**Pb**		**01 29 27.2**	**0.0**
YULB				*e*S		**Sb**		**01 29 34.2**	**+0.4**
ELDTW	**Lidau**	**0.50**	**297**	*i* P		**Pb**		**01 29 27.1**	**-0.7**
ELDTW				*e*S		**Sb**		**01 29 33.5**	**-1.3**
HGSD	**Ruisui**	**0.53**	**352**	P		**Pb**		**01 29 27.3**	**-0.4**
HGSD				*e*S		**Sb**		**01 29 36.3**	**+0.7**
EHYH	**Wanrong**	**0.55**	**344**	*e*P		**Pn**		**01 29 29.1**	**-0.7**
EHYH				*e*S		**Sb**		**01 29 36.4**	**+0.3**
EHY	**Hungye**	**0.57**	**343**	P		**Pb**		**01 29 28.7**	**-0.1**
EHY				S		**Sb**		**01 29 36.5**	**-0.1**
ECL	**Taimali**	**0.63**	**235**	*i* P		**Pb**		**01 29 29.2**	**-0.6**
STYH	**Taoyuan**	**0.70**	**287**	*i* P		**Pb**		**01 29 30.8**	**-0.4**
STYH				*e*S		**Sb**		**01 29 39.5**	**-0.9**
EGFH	**Guangfu**	**0.71**	**354**	*e*P		**Pb**		**01 29 31.1**	**0.0**
WARBT	**Fenglin Townsh**	**0.76**	**352**	*i* P		**Pb**		**01 29 31.5**	**-0.6**
SHUL	**Shoufeng**	**0.82**	**4**	*e*P		**Pn**		**01 29 32.9**	**-0.6**
SHUL				*e*S		**Sn**		**01 29 44.6**	**-0.3**
SSD	**Sandimen**	**0.83**	**255**	*e*P		**Pn**		**01 29 32.8**	**-0.9**
SSD				*e*S		**Sb**		**01 29 42.7**	**-1.5**
EAST	**Anshuo**	**0.84**	**227**	*e*P		**Pn**		**01 29 32.7**	**-1.1**
TAWH	**Dawu Township**	**0.84**	**223**	*e*P		**Pn**		**01 29 32.9**	**-1.0**
ALS	**Alishan**	**0.84**	**310**	P		**Pn**		**01 29 32.8**	**-0.3**
SGST	**Jiashian**	**0.86**	**278**	*e*P		**Pn**		**01 29 33.4**	**-0.6**
SGST				*e*S		**Sn**		**01 29 45.5**	**-0.4**
WTP	**Ta-pu**	**0.87**	**289**	*e*P		**Pb**		**01 29 34.2**	**+0.2**
WTP				*e*S		**Sn**		**01 29 45.8**	**-0.4**
TPUB	**Ta-pu**	**0.88**	**293**	*e*P		**Pb**		**01 29 34.3**	**+0.3**
TPUB				*e*S		**Sn**		**01 29 45.8**	**-0.5**
MASBT	**Mashibuluo**	**0.88**	**247**	*e*P		**Pn**		**01 29 33.6**	**-0.7**
LAY	**Lan-yu**	**0.92**	**177**	*e*P		**Pn**		**01 29 33.9**	**-1.0**
LAY				*e*S		**Sn**		**01 29 47.1**	**-0.3**
SCST	**Cishan**	**0.94**	**265**	*e*P		**Pb**		**01 29 35.8**	**+0.7**
WHYT	**Xinyi Township**	**0.94**	**321**	*e*P		**Pb**		**01 29 35.6**	**+0.4**
WHYT				*e*S		**Sn**		**01 29 48.0**	**-0.1**
WCKO	**Fanlu**	**0.96**	**300**	*e*P		**Pb**		**01 29 36.1**	**+0.7**
WCKO				*e*S		**Sn**		**01 29 49.0**	**+0.7**
LYUB	**Lan-yu**	**0.96**	**176**	*e*P		**Pn**		**01 29 33.6**	**-1.8**
LYUB				*e*S		**Sn**		**01 29 46.7**	**-1.6**
SNST	**Tainan City**	**0.96**	**286**	*e*P		**Pb**		**01 29 36.1**	**+0.5**
SNST				*e*S		**Sb**		**01 29 49.8**	**+2.3**
SSLB	**Suanglung**	**0.96**	**328**	*e*P		**Pb**		**01 29 35.4**	**-0.2**
SSLB				*e*S		**Sn**		**01 29 47.0**	**-1.5**
TWK	**Hsinying**	**0.99**	**288**	P		**Pb**		**01 29 36.2**	**+0.3**
TWK				*e*S		**Sb**		**01 29 50.1**	**+1.5**
CHN5	**Tsauling**	**0.99**	**310**	*e*P		**Pb**		**01 29 36.6**	**+0.6**
CHN5				*e*S		**Sb**		**01 29 49.4**	**+0.7**
ETM	**Tongmen**	**1.00**	**359**	P		**Pn**		**01 29 35.5**	**-0.5**
SCZT	**Fangliau**	**1.01**	**235**	*e*P		**Pn**		**01 29 35.8**	**-0.3**
TWM1	**Shoushan**	**1.01**	**262**	*e*P		**Pb**		**01 29 38.2**	**+1.9**
TWM1				*e*S		**Sb**		**01 29 52.9**	**+3.7**
OWD	**Renai**	**1.03**	**343**	*e*P		**Pn**		**01 29 35.2**	**-1.3**
LXIB	**Xiulin Townshi**	**1.06**	**355**	P		**Pn**		**01 29 36.0**	**-0.9**
LXIB				*e*S		**Sn**		**01 29 49.4**	**-1.5**
SHHT	**Tainan City**	**1.07**	**273**	*e*P		**Pb**		**01 29 39.2**	**+1.9**
SMLT	**Sun Moon Lake**	**1.07**	**329**	*e*P		**Pb**		**01 29 37.4**	**0.0**
SMLT				*e*S		**Sb**		**01 29 52.0**	**+0.9**
WUSB	**Renai**	**1.08**	**341**	*e*P		**Pn**		**01 29 37.2**	**-0.1**
WUSB				*e*S		**Sn**		**01 29 50.0**	**-1.6**
TWD	**Chiawan**	**1.11**	**4**	*e*P		**Pn**		**01 29 37.0**	**-0.6**
TWD				*e*S		**Sn**		**01 29 51.7**	**-0.4**
WJS	**Zhushan**	**1.11**	**320**	*e*P		**Pb**		**01 29 39.4**	**+1.3**
WJS				*e*S		**Sb**		**01 29 54.9**	**+2.6**
CHY	**Chiayi**	**1.13**	**298**	*e*P		**Pb**		**01 29 39.2**	**+0.8**
CHY				*e*S		**Sb**		**01 29 53.9**	**+1.3**
WDLH	**Douliu**	**1.15**	**309**	*e*P		**Pb**		**01 29 39.7**	**+1.1**
WDLH				*e*S		**Sb**		**01 29 55.1**	**+2.0**
WHF	**Hehuan Shan**	**1.20**	**349**	*e*P		**Pn**		**01 29 39.1**	**0.0**
TWKBT	**Hengchun**	**1.20**	**212**	*e*P		**Pn**		**01 29 38.5**	**-0.3**
TWK1	**Hengchun**	**1.20**	**213**	*e*P		**Pn**		**01 29 38.6**	**-0.2**
NACB	**Ninganchiao**	**1.21**	**4**	*e*P		**Pn**		**01 29 38.2**	**-0.6**
WCS	**Beigang Elemen**	**1.22**	**333**	*e*P		**Pb**		**01 29 39.9**	**0.0**
ETLH	**Xiulin Townshi**	**1.24**	**359**	*e*P		**Pn**		**01 29 38.5**	**-0.8**
WTK	**Tuku**	**1.26**	**305**	*e*P		**Pb**		**01 29 41.7**	**+1.2**
WTK				*e*S		**Sb**		**01 29 57.5**	**+1.3**
FUSS	**Fushou**	**1.30**	**349**	*e*P		**Pn**		**01 29 40.6**	**+0.3**
WSL	**Shuilin Townsh**	**1.30**	**296**	*e*P		**Pb**		**01 29 41.8**	**+0.5**
WSL				*e*S		**Sb**		**01 29 58.5**	**+1.0**
TDCB	**Techi**	**1.32**	**346**	*e*P		**Pb**		**01 29 41.2**	**-0.6**
EOS4	**EOS4**	**1.37**	**33**	*e*P		**Pn**		**01 29 40.7**	**0.0**
EOS4				*e*S		**Sn**		**01 29 57.4**	**-0.5**
WHP	**Taichung City**	**1.41**	**339**	*e*P		**Pb**		**01 29 43.6**	**+0.5**
EOS3	**EOS3**	**1.51**	**29**	*e*P		**Pn**		**01 29 42.9**	**0.0**
EOS3				*e*S		**Sn**		**01 30 01.1**	**-0.6**
TWQ1	**Liyutan**	**1.53**	**334**	*e*P		**Pb**		**01 29 45.8**	**+0.5**
TWQ1				*e*S		**Sb**		**01 30 05.9**	**+1.6**
LATG	**Datong**	**1.56**	**1**	*e*P		**Pn**		**01 29 44.2**	**+0.3**
EOS2	**EOS2**	**1.59**	**24**	*e*P		**Pn**		**01 29 44.8**	**+0.7**
TWC	**Suao**	**1.67**	**11**	*e*P		**Pn**		**01 29 45.3**	**+0.1**
ENTT	**Nioudou**	**1.67**	**2**	*e*P		**Pn**		**01 29 45.6**	**+0.4**
NFF	**Wufeng Townshi**	**1.70**	**348**	*e*P		**Pb**		**01 29 47.8**	**-0.3**
NFF				*e*S		**Sb**		**01 30 09.7**	**+0.6**
NMLH	**Miaoli**	**1.70**	**337**	*e*P		**Pb**		**01 29 47.4**	**-0.6**
NMLH				*e*S		**Sb**		**01 30 09.7**	**+0.7**
YHNB	**Yeheng**	**1.70**	**356**	*e*P		**Pn**		**01 29 46.8**	**+1.1**
NSK	**Sanguang**	**1.71**	**355**	*e*P		**Pn**		**01 29 47.0**	**-1.3**
NSK				*e*S		**Sn**		**01 30 07.4**	**+0.4**
NSTT	**Nanjuang**	**1.72**	**345**	*e*P		**Pb**		**01 29 49.0**	**+0.5**
NSTT				*e*S		**Sb**		**01 30 10.3**	**+0.5**
WDGT	**Dungji**	**1.73**	**280**	*e*P		**Pb**		**01 29 47.2**	**-1.3**
LIOB	**Emei**	**1.73**	**345**	*e*P		**Pb**		**01 29 48.3**	**-0.4**
LIOB				*e*S		**Sb**		**01 30 09.9**	**-0.2**
FUSB	**Fushanzhiwuyua**	**1.79**	**2**	*e*P		**Pn**		**01 29 47.6**	**+0.7**
NWLT	**Wulai**	**1.81**	**360**	*e*P		**Pb**		**01 29 48.6**	**-1.3**
KSHI	**Guanxi Townshi**	**1.83**	**351**	*e*P		**Pb**		**01 29 50.3**	**0.0**
KSHI				*e*S		**Sb**		**01 30 11.6**	**-1.2**
VCHM	**Qimei**	**1.93**	**278**	*e*P		**Pn**		**01 29 49.4**	**+0.7**
VCHM				*e*S		**Sb**		**01 30 13.8**	**-1.8**
SXI1	**Grass Mountain**	**2.15**	**9**	*e*P		**Pn**		**01 29 52.9**	**+1.0**
HATJ	**Hateruma jima**	**2.37**	**62**	*e*S		**Sn**		**01 30 22.7**	**-0.5**
IRIF	**Iriomote-Funau**	**2.45**	**56**	*e*P		**Pn**		**01 29 57.4**	**+1.4**
IRIF				*e*S		**Sn**		**01 30 25.8**	**+0.6**
JKRS	**Kuro-shima**	**2.62**	**61**	*e*P		**Pn**		**01 29 59.3**	**+1.0**
JKRS				*e*S		**Sn**		**01 30 29.4**	**0.0**
JISG	**Ishigakijimahi**	**3.04**	**57**	P		**Pn**		**01 30 04.6**	**+0.6**

ROM 22 01:43:29.1±0.1, **42.°821N**±0.°004×**13.°170E**±0.°009, **h10**km, **ML0.2**/10, **3D, Error ellipse: s-maj=0.8km s-min=0.2km az=68.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMO1	**Montemonaco**	**0.14**	**56**	P		**Pg**		**01 43 32.9**	**+0.6**
MMO1				S		**Sg**		**01 43 35.3**	**+0.7**
FDMO	**Fiordimonte**	**0.22**	**344**	P		**Pg**		**01 43 34.6**	**+0.9**
FDMO				S		**Sg**		**01 43 38.2**	**+1.3**
FDMO				AML		AML			
	comp=E,9μm,0.1s								
FDMO				AML		AML			
	comp=N,8μm,0.2s								
SMA1	**SAN MARTINO**	**0.23**	**147**	||P	**Pg**		**01 43 34.7**	**+0.9**
SMA1				S		**Sg**		**01 43 38.3**	**+1.4**
SMA1				AML		AML			
	comp=E,12μm,0.1s								
SMA1				AML		AML			
	comp=N,12μm,1.1s								
MF5	**Montefalcone A**	**0.27**	**52**	||P	**Pb**		**01 43 35.5**	**-0.7**
MF5				AML		AML			
	comp=E,5μm,0.1s								
MF5				AML		AML			
	comp=N,5μm,0.1s								
CSP1	**Cessapalombo**	**0.27**	**5**	||P	**Pg**		**01 43 35.3**	**+0.7**
CSP1				AML		AML			
	comp=E,5μm,0.2s								
CSP1				AML		AML			
	comp=N,8μm,0.1s								
TERO	**Teramo**	**0.38**	**122**	P		**Pg**		**01 43 37.0**	**+0.5**
TERO				AML		AML			
	comp=E,5μm,0.1s								
TERO				AML		AML			
	comp=N,5μm,0.1s								

*CATAC **22** 01:47:41.4±0.7, 8.°N±4.°×8.°3W±., h9km±2km, M3.8/10, MLv3.8/10, Error ellipse: s-maj=8.8km s-min=6.7km az=22.4, confirmed*
*UCR **22** 01:47:42.1±1.2, 8.°34N×82.°81W, h25km±2km, MW3.8*
*UPA **22** 01:47:43.2±2.3, 8.°42N×82.°79W, h21km±10km, MW4.2, Fault plane solution: NP1:φs109.00000°, δ58.00000°, λ-22.00000°.*
ISC 22 01:47:43.0±0.9, **8.°36N**±0.°03×**82.°82W**±0.°02, **h29**km±6km, **n95**, σ1°**42**/109, **4C-7D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.17**	**201**	||*i* P		**Pn**		**01 47 49.0**	**-0.7**
PTPM				*i* S		**Sb**		**01 47 54.2**	**+1.6**
LPPC	**Paso Canoas**	**0.17**	**354**	*e*P		**Pb**		**01 47 48.3**	**-0.5**
LPPC				*e*S		**Sb**		**01 47 53.3**	**+0.6**
CDITO	**Canoas**	**0.22**	**346**	P		**Pb**		**01 47 49.0**	**-0.3**
CDITO	**Canoas**	**0.22**	**346**	S		**Sb**		**01 47 53.5**	**0.0**
NELY	**Ciudad Neily**	**0.31**	**336**	*e*P		**Pb**		**01 47 49.3**	**-1.2**
NELY				*e*S		**Sb**		**01 47 56.0**	**+0.3**
DVD	**David**	**0.37**	**78**	||*i* P		**Pb**	**01 47 50.9**	**-0.5**
EDAD	**Golfito**	**0.45**	**310**	*e*P		**Pb**		**01 47 50.8**	**-1.8**
EDAD				*e*S		**Sb**		**01 47 57.4**	**-1.7**
BRU2	**Volcan**	**0.45**	**16**	||*e*P		**Pb**	**01 47 51.8**	**-0.8**
BRU2	**Volcan**	**0.45**	**16**	*e*P		**Pb**		**01 47 51.8**	**-0.8**
BRU2	**Volcan**	**0.45**	**16**	P		**Pb**		**01 47 51.9**	**-0.8**
BRU2	**Volcan**	**0.45**	**16**	S		**Sb**		**01 47 57.9**	**-1.4**
TBS2		**0.46**	**21**	*e*P		**Pb**		**01 47 52.8**	**-0.1**
CGUAY	**Guayabal, Coch**	**0.47**	**78**	||*i* P		**Pb**	**01 47 52.1**	**-0.8**
CGUAY	**Guayabal, Coch**	**0.47**	**78**	*e*P		**Pb**		**01 47 52.1**	**-0.8**
PIRO	**Carate, Puerto**	**0.51**	**275**	||*i* P		**Pb**	**01 47 52.2**	**-1.3**
PIRO	**Carate, Puerto**	**0.51**	**275**	*e*P		**Pb**		**01 47 52.2**	**-1.3**
BQTLY	**Boquete Panama**	**0.53**	**42**	||*i* P		**Pb**	**01 47 53.0**	**-1.0**
BQTLY				*e*S		**Sb**		**01 48 00.1**	**-1.4**
BQTLY	**Boquete Panama**	**0.53**	**42**	*e*P		**Pb**		**01 47 52.9**	**-1.0**
JIME	**

GAMB1	Gamboa	3.17	76	*e*P		Pn	01 48 28.6	-2.3
CUI	Cuipilapa	3.25	315	*e*P		Pn	01 48 33.4	+1.3
UPA	Univ. de Panam	3.31	79	*e*P		Pn	01 48 33.3	+0.5

ISN ***22*** *01:49:30.5±0.4, 36°.30N×43°.36E, h17km±81km, ML3.9*
TEH ***22*** *01:49:30.6, 36°.21N×43°.37E, h11km±25km*
AFAD ***22*** *01:49:31.8, 36°.25N×43°.37E, h24km±3km, MW3.9*
GII ***22*** *01:49:35.9±0.0, 36°.23N×43°.40E, h2km, confirmed*
ISK ***22*** *01:49:39.2, 36°.54N×43°.65E, h6km, ML3.8/12*

ISC 22 01:49:35.8±1.5,36°.28N±0°.03×43°.54E±0°.05,h24km±16km, n73,σ1°.46/83,Iraq

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSL	**Mosul**	**0.36**	**289**	*e*Pg		Pb	01 49 35.5	-8.2
MSL				*e*Sg		Sb	01 49 38.5	-11
CUKT	**Cukurca**	**0.96**	**3**	P		Pn	01 49 41.5	-13
CUKT				S		Sn	01 49 54.7	-12
IKRK	**Kirkuk**	**1.10**	**143**	*e*Pn		**Pn**	**01 49 54.3**	**-1.4**
IKRK				*e*Sn		**Sb**	**01 50 11.7**	**+1.7**
IKRK				AML	AML		01 50 16.5	
	comp=E,3μm,0.6s							
IKRK				AML	AML		01 50 21.2	
	comp=N,3μm,0.5s							
HAKT	**HAKKARI**	**1.28**	**6**	P		**Pn**	**01 49 57.2**	**-1.2**
HAKT				S		**Sn**	**01 50 15.4**	**+0.5**
HAKT				*i* IAML			01 50 18.0	
	comp=N,2μm,0.5s							
HAKT				*i* IAML			01 50 18.0	
	comp=N,2μm,0.4s							
HAKT	**HAKKARI**	**1.28**	**6**	Pg		**Pn**	**01 49 57.2**	**-1.2**
YOVA	**Hakkari_Yksek**	**1.44**	**25**	P		**Pn**	**01 49 59.7**	**-0.8**
YOVA				S		**Sb**	**01 50 20.1**	**+0.2**
YOVA				*i* IAML			01 50 25.0	
	comp=N,682nm,1.1s							
YOVA				*i* IAML			01 50 27.0	
	comp=N,538nm,0.7s							
YOVA	**Hakkari_Yksek**	**1.44**	**25**	Pg		**Pn**	**01 49 59.7**	**-0.8**
SIRN	**Sırnak**	**1.51**	**324**	P		**Pn**	**01 49 58.3**	**-3.1**
SIRN				S		**Sn**	**01 50 19.6**	**-0.8**
SIRN				*i* IAML			01 50 25.0	
	comp=N,958nm,0.5s							
SIRN				*i* IAML			01 50 27.0	
	comp=N,1μm,0.5s							
SIRN	**Sırnak**	**1.51**	**324**	Pg		**Pn**	**01 49 58.3**	**-3.1**
MAHB	**Mahabad**	**1.81**	**74**	Pn		**Pn**	**01 50 05.9**	**+0.2**
PERV	**Siirt/Pervari-**	**1.84**	**335**	P		**Pn**	**01 50 04.1**	**-1.9**
PERV				S		**Sn**	**01 50 29.5**	**+0.9**
PERV				*i* IAML			01 50 37.0	
	comp=N,1μm,0.6s							
PERV				*i* IAML			01 50 44.0	
	comp=N,951nm,0.7s							
MIDY	**Mardin/Midyat-**	**2.05**	**304**	P		**Pn**	**01 50 06.3**	**-2.5**
MIDY				S		**Sn**	**01 50 32.6**	**-1.1**
MIDY				*i* IAML			01 50 41.0	
	comp=N,628nm,0.3s							
GEVA	**Gevas**	**2.06**	**350**	P		**Pn**	**01 50 10.2**	**+1.1**
AKDM	**Akdamar-Van**	**2.09**	**348**	Pn		**Pn**	**01 50 09.8**	**+0.3**
SRTM	**Siirt_Merkez**	**2.14**	**323**	P		**Pn**	**01 50 08.3**	**-1.9**
SRTM				S		**Sn**	**01 50 35.6**	**-0.3**
SRTM				*i* IAML			01 50 56.0	
	comp=N,426nm,0.7s							
SRTM	**Siirt_Merkez**	**2.14**	**323**	Pn		**Pn**	**01 50 08.2**	**-1.9**
TVAN	**Van**	**2.24**	**357**	P		**Pn**	**01 50 11.0**	**-0.7**
TVAN				S		**Sn**	**01 50 37.5**	**-1.2**
TVAN				*i* IAML			01 50 54.0	
	comp=N,353nm,0.7s							
TVAN	**Van**	**2.24**	**357**	Pn		**Pn**	**01 50 11.0**	**-0.7**
VANB	**Van**	**2.31**	**357**	Pn		**Pn**	**01 50 11.5**	**-1.0**
OZAP	**Van, Ozalp-Mer**	**2.40**	**9**	P		**Pn**	**01 50 14.9**	**+1.0**
IAZR	**Azarshahr**	**2.40**	**54**	Pn		**Pn**	**01 50 14.5**	**+0.6**
BLIS	**Bitlis-Merkez**	**2.41**	**332**	P		**Pn**	**01 50 13.8**	**-0.1**
BTMN	**Batman**	**2.42**	**312**	P		**Pn**	**01 50 11.3**	**-2.7**
MARD	**Mardin**	**2.44**	**296**	P		Pn	01 50 09.9	-4.4
MARD				S		**Sn**	**01 50 42.2**	**-1.2**
MARD				*i* IAML			01 50 48.0	
	comp=N,894nm,0.6s							
MARD				*i* IAML			01 50 52.0	
	comp=N,951nm,0.5s							
KGS1	**Ghasr-e-Shirin**	**2.44**	**136**	Pn		**Pn**	**01 50 13.3**	**-0.9**
GURO	**Guroymak-BITLI**	**2.56**	**333**	Pn		**Pn**	**01 50 17.2**	**+1.3**
GURO				Sn		**Sn**	**01 50 45.2**	**-1.2**
ISHB	**Shabestar**	**2.60**	**39**	Pn		**Pn**	**01 50 16.4**	**-0.2**
SVAN	**Silvan-Diyarba**	**2.64**	**316**	Pn		**Pn**	**01 50 18.1**	**+1.2**
SVAN				Sn		**Sn**	**01 50 48.8**	**+0.6**
SVAN	**Silvan-Diyarba**	**2.64**	**316**	P		**Pn**	**01 50 16.8**	**-0.1**
IDHR	**Dehrash**	**2.81**	**123**	Pn		**Pn**	**01 50 18.8**	**-0.6**
GLG1	**Gilan-e-Gharb**	**2.91**	**137**	Pn		**Pn**	**01 50 19.3**	**-1.4**
MUSM	**Mu-Merkez**	**2.92**	**327**	P		**Pn**	**01 50 17.1**	**-3.8**
MLAZ	**Malazgirt-MUS**	**2.96**	**345**	Pn		**Pn**	**01 50 22.6**	**+1.2**
BHD	**Baghdad**	**3.08**	**167**	*e*Pn		**Pn**	**01 50 21.0**	**-2.0**
BHD				*e*Sn		**Sn**	**01 50 58.0**	**-1.1**
BHD				AML	AML		01 51 21.4	
	comp=E,568nm,0.6s							
IGHG	**Ghaleghazi**	**3.15**	**127**	Pn		**Pn**	**01 50 23.8**	**-0.4**
DORK	**Agr/Tutak/Do**	**3.16**	**349**	P		**Pb**	**01 50 29.3**	**-2.1**
IHSH	**Hashtrud**	**3.16**	**70**	Pn		**Pn**	**01 50 25.1**	**+0.8**
DYBB	**Diyarbakir**	**3.19**	**303**	Pn		**Pn**	**01 50 28.0**	**+3.5**
AGRB	**Hanur-Agry**	**3.31**	**353**	Pn		**Pn**	**01 50 27.2**	**+0.8**
KCHF	**Cheshme Sefid,**	**3.50**	**124**	Pn		**Pn**	**01 50 28.1**	**-0.8**
KARO	**Karliova-Bingo**	**3.61**	**328**	Pn		**Pn**	**01 50 32.6**	**+2.2**
SNQR	**Sonqor, Kerman**	**3.63**	**112**	Pn		**Pn**	**01 50 30.2**	**-0.5**
IBDR	**Badra**	**3.73**	**147**	*e*Pn		**Pn**	**01 50 30.5**	**-1.4**
IBDR				*e*Sn		**Sn**	**01 51 14.5**	**-0.5**
KOPR	**Koprukoy-ERZUR**	**3.93**	**341**	Pn		**Pn**	**01 50 36.6**	**+1.8**
EJDE	**Erzurum, Palan**	**3.96**	**334**	P		**Pb**	**01 50 45.0**	**-0.1**
IBZA	**Bozab**	**3.97**	**116**	Pn		**Pn**	**01 50 35.2**	**-0.3**
GNI	**Garni**	**3.98**	**13**	Pn		**Pn**	**01 50 36.1**	**+0.7**
SENK	**Senkaya-Erzuru**	**4.37**	**348**	Pn		**Pn**	**01 50 42.4**	**+1.5**
HGHA	**Hamedan- Ghaye**	**4.39**	**99**	Pn		**Pn**	**01 50 41.1**	**-0.1**
RAFI	**Al-Rafai**	**5.03**	**154**	*e*Pn		**Pn**	**01 50 48.3**	**-1.4**
RAFI				*e*Sn		**Sn**	**01 51 45.0**	**-2.0**
RAFI				AML	AML		01 52 03.0	
	comp=E,108nm,0.4s							
RAFI				AML	AML		01 52 03.1	
	comp=N,118nm,0.7s							
GAZ	**Gaziantep**	**5.16**	**282**	Pn		Pn	01 50 56.6	+5.0
QAMS	**Qamsar**	**6.93**	**109**	Pn		**Pn**	**01 51 16.2**	**+0.1**
IPIR	**Pirpir**	**7.05**	**118**	Pn		**Pn**	**01 51 16.8**	**-1.1**
NATI	**Neve Ativ**	**7.09**	**247**	P		**Pn**	**01 51 19.4**	**+1.3**
GEM	**Giv'at Ha'Em**	**7.17**	**247**	P		**Pn**	**01 51 20.3**	**+1.1**
KSHT	**Keshet**	**7.17**	**345**	P		**Pn**	**01 51 20.1**	**+0.9**
IKLH	**Kolahrood**	**7.25**	**112**	Pn		**Pn**	**01 51 20.3**	**-0.2**
MMA0B	**Mount Meron ar**	**7.45**	**246**	P		**Pn**	**01 51 24.4**	**+1.3**
HNTI	**Hanita**	**7.59**	**248**	P		**Pn**	**01 51 26.3**	**+1.3**
MMLI	**Mount Malkishu**	**7.73**	**243**	P		**Pn**	**01 51 28.6**	**+1.7**
HMDT	**Nahal Hemdat**	**7.75**	**241**	P		**Pn**	**01 51 28.8**	**+1.7**
OFRI	**`Ofer**	**7.95**	**245**	P		**Pn**	**01 51 30.9**	**+1.0**
IZEF	**Zefreh**	**8.00**	**112**	Pn		**Pn**	**01 51 31.1**	**+0.3**
SLTI	**Sal'it**	**8.10**	**243**	P		**Pn**	**01 51 33.5**	**+1.5**
DSI	**Dead Sea**	**8.25**	**238**	P		**Pn**	**01 51 34.5**	**+0.6**
GHAJ	**Ghor Haditha**	**8.28**	**235**	P		**Pn**	**01 51 35.9**	**+1.5**
MSBI	**Mazada**	**8.42**	**236**	P		**Pn**	**01 51 38.1**	**+1.9**
YTIR	**Yattir**	**8.55**	**237**	P		**Pn**	**01 51 40.3**	**+2.1**
ZFRI	**Zfri**	**9.02**	**233**	P		**Pn**	**01 51 45.7**	**+1.2**
PRNI	**Paran**	**9.27**	**233**	P		**Pn**	**01 51 49.6**	**+1.6**
KZIT	**Kziot**	**9.32**	**237**	P		**Pn**	**01 51 49.5**	**+0.8**
HRFI	**Mount Harif**	**9.46**	**231**	P		**Pn**	**01 51 52.0**	**+1.4**
MBRI	**Mt Berech**	**9.70**	**231**	P		**Pn**	**01 51 55.5**	**+1.6**

IDC ***22*** *01:50:23.5±0.5, 15°.98N×94°.04W, h85km±3km, mb4.3/22, mbtmp4.7/24, MS3.5/9, Error ellipse: s-maj=15.9km s-min=5.8km az=54.0*
NEIC ***22*** *01:50:23.0±2.5, 15°.89N±0°.05×94°.19W±0°.04, h79km±6km, mb4.8/305, Md5.0/176(MEX), Error ellipse: s-maj=7.4km s-min=5.2km az=203.0*
CATAC ***22*** *01:50:24.9±0.2, 16°.N±2°.×9°.4W±°, h96km±2km, M5.2/51, mb5.1/51, mB5.6/33, MLv5.3/42, Mw(mB)5.1/33, Error ellipse: s-maj=4.1km s-min=2.5km az=47.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.42; Mθθ-1.23; Mφφ-0.19; Mrθ 0.73; Mθφ 0.04; Mrφ 0.20; Fault plane solution: Mo1.53683×10¹⁶ NP1:ϕs84.28281°, δ59.76036°, λ,82.99929°. NP2:ϕs277.98585°, δ30.96457°, λ101.80932°. Principal axes: T 1.6340, Plg74.2479°, Azm335.7732°; N -0.2174, Plg6.0443°, Azm87.8216°; P -1.4165, Plg14.4907°, Azm179.3898°; confirmed*
MEX ***22*** *01:50:24.2±0.9, 15°.88N×94°.20W, h76km±13km, MD5.0*

GCMT ***22*** *01:50:28.0±0.5, 16°.11N±0°.03×93°.91W±0°.03, h84km±5km, MW4.7/84, Moment Tensor Solution.. s10,c11; s84,c116; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.81±.10; Mθθ0.66±.09; Mφφ-1.47±.07; Mrθ1.05±.04; Mθφ-0.05±.08; Mφr-0.13±.05; Best double couple: Mo1.63500×10¹⁶ NP1:ϕs35.00000°, δ56.00000°, λ145.00000°. NP2: ϕs147.00000°, δ62.00000°, λ40.00000°. Principal axes: T 1.7930, Plg47.0000°, Azm23.0000°; N -0.3160, Plg43.0000°, Azm177.0000°; P -1.4770, Plg3.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 01:50:23.1±0.4,15°.96N±0°.03×94°.08W±0°.03,h87km±3km, h87km:pP-P,n878,σ2°.11/870,mb4.8/207,7C-47D,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCIG		**0.86**	**107**			**Pn**	**01 50 41.2**	**+0.2**
PCIG						**Sn**	**01 50 54.9**	**+0.4**
PCIG		**0.86**	**107**	*e*P		**Pn**	**01 50 41.2**	**+0.2**
PCIG				*e*S		**Sn**	**01 50 54.9**	**+0.4**
TGIG		**1.23**	**48**			**Pn**	**01 50 46.1**	**+0.7**
TGIG						**Sn**	**01 51 02.3**	**+0.1**
TGIG		**1.23**	**48**	⇓*e*P		**Pn**	**01 50 46.1**	**+0.7**
TGIG				*e*S		**Sn**	**01 51 02.3**	**+0.1**
TGBT	**Tuxtla Gutierr**	**1.25**	**49**			**Pn**	**01 50 46.4**	**+0.8**
TGBT						**Sn**	**01 51 02.7**	**+0.2**
TGBT	**Tuxtla Gutierr**	**1.25**	**49**	*e*P		**Pn**	**01 50 46.4**	**+0.8**
TGBT				*e*S		**Sn**	**01 51 02.7**	**+0.2**
UXUV	**UXUV**	**1.35**	**357**			**Pn**	**01 50 48.1**	**+1.2**
UXUV						**Sn**	**01 51 06.1**	**+1.3**
UXUV	**UXUV**	**1.35**	**357**	⇓*e*P		**Pn**	**01 50 48.1**	**+1.2**
UXUV				*e*S		**Sn**	**01 51 06.1**	**+1.3**
CMIG	**Matias Romero**	**1.36**	**326**			**Pn**	**01 50 47.1**	**+0.1**
CMIG						**Sn**	**01 51 04.5**	**-0.6**
CMIG	**Matias Romero**	**1.36**	**326**	P		**Pn**	**01 50 47.2**	**+0.1**
	3μm,0.3s,baz=162,slow=11,SNR=6622							
CMIG					S	**Sn**	**01 51 05.1**	**0.0**
	2μm,0.3s,baz=186,slow=20,SNR=89							
CMIG	**Matias Romero**	**1.36**	**326**	⇓*e*P		**Pn**	**01 50 47.1**	**+0.1**
CMIG				*e*S		**Sn**	**01 51 04.5**	**-0.6**
CCIG	**Comitan**	**1.89**	**80**			**Pn**	**01 50 54.7**	**+0.7**
CCIG	**Comitan**	**1.89**	**80**	*e*P		**Pn**	**01 50 54.7**	**+0.7**
CCIG				*e*S		**Sn**	**01 51 15.5**	**-2.0**
CCIG	**Comitan**	**1.89**	**80**	P		**Pn**	**01 50 54.7**	**+0.7**
CCIG	**Comitan**	**1.89**	**80**	S		**Sn**	**01 51 14.9**	**-2.6**
HUIG	**Huatulco**	**1.96**	**265**			**Pn**	**01 50 52.3**	**-2.4**
HUIG						**Sn**	**01 51 13.5**	**-5.4**
HUIG	**Huatulco**	**1.96**	**265**	*e*P		**Pn**	**01 50 52.3**	**-2.4**
HUIG				*e*S		**Sn**	**01 51 13.5**	**-5.4**
PATR	**El Naranjo**	**1.96**	**115**			**Pn**	**01 50 55.2**	**+0.2**
PATR						**Sn**	**01 51 19.4**	**+0.1**
PATR	**El Naranjo**	**1.96**	**115**	⇓*e*P		**Pn**	**01 50 55.2**	**+0.2**
PATR				*e*S		**Sn**	**01 51 19.4**	**+0.1**
PAVE	**Pavencul**	**1.98**	**112**			**Pn**	**01 50 55.8**	**+0.6**
PAVE						**Sn**	**01 51 21.5**	**+1.6**
PAVE	**Pavencul**	**1.98**	**112**	⇓*e*P		**Pn**	**01 50 55.8**	**+0.6**
PAVE				*e*S		**Sn**	**01 51 21.3**	**+1.6**
THIG		**2.04**	**121**			**Pn**	**01 50 55.6**	**-0.1**
THIG						**Sn**	**01 51 20.9**	**+0.3**
THIG		**2.04**	**121**	*e*P		**Pn**	**01 50 55.6**	**-0.1**
THIG				*e*S		**Sn**	**01 51 20.9**	**+0.3**
MIHL	**Minatitlan**	**2.07**	**348**			**Pn**	**01 50 57.1**	**+1.0**
MIHL						**Sn**	**01 51 23.6**	**+2.3**
MIHL	**Minatitlan**	**2.07**	**348**	*e*P		**Pn**	**01 50 57.1**	**+1.0**
MIHL				*e*S		**Sn**	**01 51 23.6**	**+2.3**
CHUJ	**Union Juarez**	**2.08**	**114**	⇓*e*P		**Pn**	**01 50 57.0**	**+0.4**
CHUJ				*e*S		**Sn**	**01 51 22.9**	**+0.8**
TUIG	**Tuzandepetl**	**2.09**	**351**	*e*P		**Pn**	**01 50 57.0**	**+0.6**
TUIG				*e*S		**Sn**	**01 51 20.5**	**-1.3**
VHSA	**Villahermosa**	**2.29**	**28**			**Pn**	**01 51 01.2**	**+2.1**
VHSA						**Sn**	**01 51 27.1**	**+0.6**
VHSA	**Villahermosa**	**2.29**	**28**	*e*P		**Pn**	**01 51 01.2**	**+2.1**
VHSA				*e*S		**Sn**	**01 51 27.1**	**+0.6**
NEUV	**Arroyo Zacate**	**2.40**	**317**			**Pn**	**01 51 00.4**	**-0.2**
NEUV						**Sn**	**01 51 28.0**	**-1.2**
NEUV	**Arroyo Zacate**	**2.40**	**317**	⇓*e*P		**Pn**	**01 51 00.4**	**-0.2**
NEUV				*e*S		**Sn**	**01 51 28.0**	**-1.2**
HUEH	**Huehuetenango**	**2.56**	**104**			**Pn**	**01 51 03.9**	**+0.9**
HUEH	**Huehuetenango**	**2.56**	**104**	*e*P		**Pn**	**01 51 03.8**	**+0.9**
HUEH				*e*S		**Sn**	**01 51 33.3**	**-0.1**
HUEH	**Huehuetenango**	**2.56**	**104**	P		**Pn**	**01 51 04.2**	**+1.3**
RTAL	**Retalhuleu**	**2.71**	**121**			**Pn**	**01 51 04.9**	**+0.3**
RTAL	**Retalhuleu**	**2.71**	**121**	*e*P		**Pn**	**01 51 05.0**	**+0.3**
RTAL				*e*S		**Sn**	**01 51 35.1**	**-1.5**
RTAL	**Retalhuleu**	**2.71**	**121**	S		**Sn**	**01 51 36.7**	**+0.1**
RTAL	**Retalhuleu**	**2.71**	**121**	P		**Pn**	**01 51 04.8**	**+0.1**
OXLC	**Oaxaca**	**2.75**	**294**			**Pn**	**01 51 04.6**	**-0.8**
OXLC						**Sn**	**01 51 35.3**	**-2.6**
OXLC	**Oaxaca**	**2.75**	**294**	*e*P		**Pn**	**01 51 04.6**	**-0.8**
OXLC				*e*S		**Sn**	**01 51 35.3**	**-2.6**
PMUV	**Sontecomapan**	**2.76**	**339**			**Pn**	**01 51 04.4**	**-1.0**
PMUV						**Sn**	**01 51 33.5**	**-4.4**
PMUV	**Sontecomapan**	**2.76**	**339**	*e*P		**Pn**	**01 51 04.4**	**-1.0**
PMUV				*e*S		**Sn**	**01 51 33.5**	**-4.4**
OXBJ	**Oaxaca**	**2.77**	**294**			**Pn**	**01 51 06.2**	**+0.5**
OXBJ						**Sn**	**01 51 36.5**	**-1.8**
OXBJ	**Oaxaca**	**2.77**	**294**	*e*P		**Pn**	**01 51 06.2**	**+0.5**
OXBJ				*e*S		**Sn**	**01 51 36.5**	**-1.8**
OXIG	**Oaxaca**	**2.78**	**294**			**Pn**	**01 51 06.7**	**+0.9**
OXIG						**Sn**	**01 51 37.0**	**-1.6**
VHO	**Vista Hermosa**	**2.78**	**294**	⇓*e*P		**Pn**	**01 51 06.7**	**+0.9**
VHO				*e*S		**Sn**	**01 51 37.0**	**-1.6**
PEIG	**Puerto Escondi**	**2.95**	**271**			**Pn**	**01 51 05.9**	**-2.1**
PEIG						**Sn**	**01 51 36.2**	**-6.3**
PEIG	**Puerto Escondi**	**2.95**	**271**	*e*P		**Pn**	**01 51 05.9**	**-2.1**
PEIG				*e*S		**Sn**	**01 51 36.2**	**-6.3**
YOIG	**Yosondua**	**3.44**	**285**			**Pn**	**01 51 14.8**	**-0.1**
YOIG						**Sn**	**01 51 50.4**	**-4.5**
YOIG	**Yosondua**	**3.44**	**285**	⇓*e*P		**Pn**	**01 51 14.8**	**-0.1**
YOIG				*e*S		**Sn**	**01 51 50.4**	**-4.5**
TOIG	**Toxpalan**	**3.56**	**307**			**Pn**	**01 51 17.2**	**+0.9**
TOIG						**Sn**	**01 51 55.2**	**-2.1**
TOIG	**Toxpalan**	**3.56**	**307**	*e*P		**Pn**	**01 51 17.2**	**+0.9**
TOIG				*e*S		**Sn**	**01 51 55.2**	**-2.1**
TXIG	**Tlaxiaco**	**3.76**	**291**			**Pn**	**01 51 20.0**	**+0.9**
TXIG						**Sn**	**01 51 59.1**	**-3.5**
TXIG	**Tlaxiaco**	**3.76**	**291**	⇓*e*P		**Pn**	**01 51 20.0**	**+0.9**
TXIG				*e*S		**Sn**	**01 51 59.1**	**-3.5**
TPIG	**Tehuac#an**	**3.98**	**308**			**Pn**	**01 51 23.4**	**+1.4**
TPIG						**Sn**	**01 52 06.9**	**-0.8**
TPIG	**Tehuac#an**	**3.98**	**308**	⇑*e*P		**Pn**	**01 51 23.4**	**+1.4**
TPIG				*e*S		**Sn**	**01 52 06.9**	**-0.8**
HLIG	**Huajuapan de L**	**4.02**	**298**			**Pn**	**01 51 24.0**	**+1.4**
HLIG						**Sn**	**01 52 05.5**	**-3.3**
HLIG	**Huajuapan de L**	**4.02**	**298**	⇓*e*P		**Pn**	**01 51 24.0**	**+1.4**
HLIG				*e*S		**Sn**	**01 52 05.5**	**-3.3**
SCIG	**Sabancuy**	**4.07**	**42**	⇑*e*P		**Pn**	**01 51 23.6**	**+0.5**
SCIG				*e*S		**Sn**	**01 52 04.4**	**-5.2**
SCIG	**Sabancuy**	**4.07**	**42**	S		**Sn**	**01 52 08.2**	**-1.4**
SCIG	**Sabancuy**	**4.07**	**42**	P		**Pn**	**01 51 24.2**	**+1.1**
PETF	**Flores**	**4.15**	**76**			**Pn**	**01 51 24.7**	**+0.5**
PETF	**Flores**	**4.15**	**76**	*e*P		**Pn**	**01 51 24.8**	**+0.6**
PETF				*e*S		**Sn**	**01 52 10.6**	**-1.0**
PETF	**Flores**	**4.15**	**76**	S		**Sn**	**01 52 09.5**	**-2.1**
PETF	**Flores**	**4.15**	**76**	P		**Pn**	**01 51 24.4**	**+0.2**
JAUV	**Jalcomulco**	**4.27**	**323**			**Pn**	**01 51 25.0**	**-0.9**
JAUV						**Sn**	**01 52 10.8**	**-3.7**
JAUV	**Jalcomulco**	**4.27**	**323**	⇑*e*P		**Pn**	**01 51 25.0**	**-0.9**
JAUV				*e*S		**Sn**	**01 52 10.8**	**-3.7**
FTIG	**Fresnillo de T**	**4.34**	**297**			**Pn**	**01 51 28.3**	**+1.5**
FTIG						**Sn**	**01 52 11.4**	**-4.9**
FTIG	**Fresnillo de T**	**4.34**	**297**	⇓*e*P		**Pn**	**01 51 28.3**	**+1.5**
FTIG				*e*S		**Sn**	**01 52 11.4**	**-4.9**
LVIG	**Laguna Verde**	**4.36**	**330**	*e*P		**Pn**	**01 51 25.5**	**-1.4**
LVIG				*e*S		**Sn**	**01 52 10.3**	**-6.3**
FAME	**Alcaldia de Sa**	**4.46**	**118**	S		**Sn**	**01 52 17.7**	**-1.4**
FAME	**Alcaldia de Sa**	**4.46**	**118**	P		**Pn**	**01 51 28.7**	**+0.3**
TLIG	**Tlapa**	**4.59**	**291**	⇓*e*P		**Pn**	**01 51 31.3**	**+1.1**
TLIG				*e*S		**Sn**	**01 52 18.5**	**-3.9**
LOAL	**Lomas de Alarc**	**4.59**	**115**	P		**Pn**	**01 51 31.6**	**+1.4**
NUBE	**Las Nubes**	**4.63**	**116**	P		**Pn**	**01 51 31.8**	**+0.9**
HMTT	**Tlapaneco**	**4.66**	**294**			**Pn**	**01 51 33.1**	**+1.9**
HMTT						**Sn**	**01 52 23.7**	**-0.5**
HMTT	**Tlapaneco**	**4.66**	**294**	*e*P		**Pn**	**01 51 33.1**	**+1.9**
HMTT				*e*S		**Sn**	**01 52 23.7**	**-0.5**
ESQI	**Esquipulas**	**4.78**	**106**			**Pn**	**01 51 32.7**	**-0.1**
ESQI	**Esquipulas**	**4.78**	**106**	P		**Pn**	**01 51 33.0**	**+0.1**

UNIC	**Universidad Ca**	**4.80**	**114**	P		**Pn**	**01 51 34.3**	**+1.3**
CEVE	**Cerro Verde**	**4.80**	**116**	P		**Pn**	**01 51 35.1**	**+1.9**
CEVE	**Cerro Verde**	**4.80**	**116**	S		**Sn**	**01 52 30.9**	**+3.2**
MTO3	**Montecristo**	**4.81**	**108**			**Pn**	**01 51 32.9**	**-0.5**
MTO3	**Montecristo**	**4.81**	**108**	P		**Pn**	**01 51 33.0**	**-0.5**
CRIG	**Cruz Grande**	**4.91**	**280**			**Pn**	**01 51 33.5**	**-1.0**
CRIG						**Sn**	**01 52 23.3**	**-6.9**
CRIG	**Cruz Grande**	**4.91**	**280**	⇓*e*P		**Pn**	**01 51 33.5**	**-1.0**
CRIG				*e*S		**Sn**	**01 52 23.3**	**-6.9**
PHPU	**Puebla**	**4.96**	**309**			**Pn**	**01 51 34.4**	**-1.1**
PHPU						**Sn**	**01 52 24.2**	**-7.6**
PHPU	**Puebla**	**4.96**	**309**	*e*P		**Pn**	**01 51 34.4**	**-1.1**
PHPU				*e*S		**Sn**	**01 52 24.2**	**-7.6**
CEDA	**San Andres**	**5.01**	**115**	P		**Pn**	**01 51 36.3**	**+0.4**
JAYA	**Jayaque - finc**	**5.03**	**116**	P		**Pn**	**01 51 36.7**	**+0.4**
JAYA	**Jayaque - finc**	**5.03**	**116**	S		**Sn**	**01 52 33.8**	**+0.6**
PMON	**Piamonte**	**5.12**	**115**	P		**Pn**	**01 51 38.6**	**+1.1**
UEES	**Universidad Ev**	**5.18**	**115**	P		**Pn**	**01 51 39.4**	**+1.1**
UEES	**Universidad Ev**	**5.18**	**115**	S		**Sn**	**01 52 38.9**	**+2.0**
LALI	**Alcalda de L**	**5.22**	**117**	P		**Pn**	**01 51 38.8**	**+0.1**
LALI	**Alcalda de L**	**5.22**	**117**	S		**Sn**	**01 52 39.1**	**+1.5**
UTEC	**Universidad Te**	**5.22**	**115**	P		**Pn**	**01 51 39.6**	**+0.7**
PPCL	**Tochimilco**	**5.23**	**305**	*e*P		**Pn**	**01 51 41.8**	**+2.6**
PPCL				*e*S		**Sn**	**01 52 32.0**	**-6.4**
IGN	**Direccin Gen**	**5.25**	**115**	P		**Pn**	**01 51 39.2**	**0.0**
IGN	**Direccin Gen**	**5.25**	**115**	S		**Sn**	**01 52 41.0**	**+2.6**
PPSX	**Xalitzintla**	**5.25**	**307**	⇓*e*P		**Pn**	**01 51 42.9**	**+3.4**
PPSX				*e*S		**Sn**	**01 52 31.2**	**-7.6**
UDBS	**Universidad Do**	**5.26**	**114**	S		**Sn**	**01 52 43.4**	**+4.7**
UDBS	**Universidad Do**	**5.26**	**114**	P		**Pn**	**01 51 40.4**	**+1.0**
SARH	**Santa Rosa de**	**5.26**	**102**	P		**Pn**	**01 51 39.8**	**+0.4**
SARH	**Santa Rosa de**	**5.26**	**102**	S		**Sn**	**01 52 37.1**	**-1.3**
LLGN	**La Laguna**	**5.27**	**109**	P		**Pn**	**01 51 39.2**	**-0.3**
PPPT	**Popocatepetl**	**5.27**	**305**	⇓*e*P		**Pn**	**01 51 42.7**	**+2.8**
PPPT				*e*S		**Sn**	**01 52 34.7**	**-4.9**
LOMA	**Loma Larga**	**5.28**	**115**	P		**Pn**	**01 51 40.4**	**+0.7**
LOMA	**Lo

OCON	Estacion meteo	7.71	106	P		Pn	01 52 13.0	+0.3	
MOIG	Morelia	7.72	300			Pn	01 52 16.3	+3.3	
MOIG	Morelia	7.72	300	‖	eP	Pn	01 52 16.3	+3.3	
MOIG					eS	Sn	01 53 37.9	-1.0	
MOIG	Morelia	7.72	300		P	Pn	01 52 16.5	+3.5	
POLN	Al Sur del Vol	7.77	114		P	Pn	01 52 03.9	-10	
PLRN	Geotermica Pol	7.84	114		P	Pn	01 52 15.4	+0.9	
CNGA	Al SSO del Vol	7.94	115		P	Pn	01 52 15.4	-0.5	
CNGN	Cerro Negro	7.94	115			Pn	01 52 16.1	+0.2	
CNGN	Cerro Negro	7.94	115		P	Pn	01 52 16.1	+0.2	
RCVN	Varillal2	7.98	106		P	Pn	01 52 16.7	+0.1	
MOM3	MOM3	8.09	114		P	Pn	01 52 19.3	+1.3	
RPIG	Rio Verde	8.12	317			Pn	01 52 21.6	+3.3	
RPIG						Sn	01 53 46.9	-1.7	
RPIG	Rio Verde	8.12	317		eP	Pn	01 52 21.6	+3.3	
RPIG					eS	Sn	01 53 46.9	-1.7	
COPN	Copaltepe	8.18	116		P	Pn	01 52 16.9	-2.2	
IGIG	Irapuato, Guan	8.37	306			Pn	01 52 25.3	+3.4	
IGIG	Irapuato, Guan	8.37	306		eP	Pn	01 52 25.3	+3.4	
APQ2	Apoyeque	8.40	115		P	Pn	01 52 23.3	+1.2	
MATN	Matagalpa	8.45	110		P	Pn	01 52 22.8	-0.2	
TISN	Laguna Tiscapa	8.47	116		P	Pn	01 52 23.1	0.0	
UNAN	Cigeo UNAN	8.49	116		P	Pn	01 52 23.1	-0.2	
R4DEC	Barrio San Lui	8.49	116		P	Pn	01 52 23.1	-0.2	
MGAN	Managua	8.49	116			Pn	01 52 23.4	+0.1	
MGAN	Managua	8.49	116		P	Pn	01 52 23.5	+0.1	
GTIG	Gomez Farias	8.54	327			Pn	01 52 25.2	+1.1	
GTIG						Sn	01 53 52.0	-6.8	
GTIG	Gomez Farias	8.54	327		eP	Pn	01 52 25.2	+1.1	
GTIG					eS	Sn	01 53 52.0	-6.8	
MAS3	Al N del Volca	8.61	116		P	Pn	01 52 25.1	+0.1	
NANN	Nandasmo	8.70	116		P	Pn	01 52 27.4	+1.2	
NADN	Granada	8.86	117		P	Pn	01 52 29.6	+1.1	
MMIG	Aquila	9.16	286			Pn	01 52 33.4	+1.0	
MMIG						Sn	01 54 07.9	-5.9	
MMIG	Aquila	9.16	286		eP	Pn	01 52 33.4	+1.0	
MMIG					eS	Sn	01 54 07.9	-5.9	
SIUN	Universidad Ur	9.27	103			Pn	01 52 34.8	+0.8	
SIUN	Universidad Ur	9.27	103		P	Pn	01 52 32.1	-1.9	
JAPN	Al SSO del Vol	9.27	117		P	Pn	01 52 32.5	-1.6	
ACON	Acoyapa	9.51	114			Pn	01 52 36.0	-1.2	
ACON	Acoyapa	9.51	114		P	Pn	01 52 35.8	-1.5	
CARN	Rivas	9.57	119		P	Pn	01 52 37.5	-0.6	
MNGA	Volcan de Coli	9.74	292	‖	eP	Pn	01 52 44.1	+3.5	
MNGA					eS	Sn	01 54 23.7	-4.6	
INCO	Volcan de Coli	9.74	293	‖	eP	Pn	01 52 44.4	+3.6	
INCO					eS	Sn	01 54 32.1	+3.4	
SOMAC	Volcano de Col	9.77	293	‖	eP	Pn	01 52 44.5	+3.5	
SOMAC					eS	Sn	01 54 35.4	+6.2	
ELI1	Hacienda Flor	9.84	121		P	Pn	01 52 43.2	+1.5	
CEGR	Campo Tres	9.93	292	‖	eP	Pn	01 52 45.9	+2.9	
CEGR					eS	Sn	01 54 32.1	-0.7	
CDAR	Ciudad de Arme	9.93	289	‖	eP	Pn	01 52 44.4	+1.4	
CDAR					eS	Sn	01 54 30.2	-2.5	
LNIG	Linares	10.22	331		eP	Pn	01 52 43.2	-3.8	
LNIG					eS	Sn	01 54 31.3	-8.5	
ZAIG	Zacatecas	10.49	312			Pn	01 52 53.6	+2.7	
ZAIG	Zacatecas	10.49	312		eP	Pn	01 52 52.5	+1.7	
ZAIG	Zacatecas	10.49	312		P	Pn	01 52 52.5	+1.7	
JTS	Las Juntas de	10.52	121		P	Pn	01 52 51.4	+0.3	
	63nm,0.3s,baz=305,slow=18,SNR=34								
JTS					S	Sn	01 54 44.6	-2.6	
	6.2nm,0.4s,baz=302,slow=17,SNR=1.2								
JTS	Las Juntas de	10.52	121		P	Pn	01 52 51.9	+0.8	
SOCE	Pocosol	10.75	120			Pn	01 52 54.6	+0.4	
SOCE	Pocosol	10.75	120		P	Pn	01 52 53.7	-0.5	
COVE	Coope Vega, Sa	10.76	118		P	Pn	01 52 52.7	-1.6	
VPL2	V. Platanar	10.99	120		eP	Pn	01 52 57.3	-0.3	
CJM	Chamela	11.03	290		eP	Pn	01 52 59.4	+1.6	
CJM					eS	Sn	01 54 53.3	-6.0	
ANIG	Ahuacatlan	11.12	299			Pn	01 53 00.6	+1.2	
ANIG	Ahuacatlan	11.12	299		eP	Pn	01 53 00.6	+1.2	
TCS1	Tacares	11.20	121		P	Pn	01 52 59.9	-0.4	
MNIG	Monterrey	11.22	330			Pn	01 53 02.1	+1.5	
MNIG						Sn	01 54 55.0	-9.1	
MNIG	Monterrey	11.22	330		eP	Pn	01 53 02.1	+1.5	
MNIG					eS	Sn	01 54 55.0	-9.1	
TRT2	Tortugero	11.41	117		P	Pn	01 53 02.0	-1.1	
ACOS	Acosta	11.44	121		eP	Pn	01 53 03.8	+0.1	
PICV	PH. Pirrs	11.51	122		eP	Pn	01 53 05.2	+0.7	
VICA	Volcano Irazu	11.61	120		eP	Pn	01 53 05.7	-0.5	
CVTQ	Turrialba Volc	11.66	119		eP	Pn	01 53 06.2	-0.7	
CVTV	Tajo	11.68	119		eP	Pn	01 53 05.2	-1.8	
ABRB	Las Abras (San	11.70	119		eP	Pn	01 53 07.2	-0.1	
PIEC	Cerro El Cedra	11.71	121		eP	Pn	01 53 07.8	+0.4	
RESJ	San Isidro (Tu	11.75	119		eP	Pn	01 53 07.2	-0.6	
VERB	Verbena	11.75	119		eP	Pn	01 53 08.1	+0.2	
HBVL	Hebbronville	11.85	340			Pn	01 53 14.3	+5.3	
BUS1	Rivas	11.92	121		eP	Pn	01 53 10.0	-0.4	
KVTX	Kingsville	12.06	344		eP	Pn	01 53 16.1	+4.2	
VERH	Veragua Rainfo	12.19	118		eP	Pn	01 53 12.8	-0.9	
EDPE	Pejibaye, P	12.28	122		eP	Pn	01 53 15.3	+0.4	
LAES	El Progreso Va	12.39	118		eP	Pn	01 53 16.6	+0.3	
SOR	Soroa	12.46	55			Pn	01 53 14.7	-2.5	
DRK0	Durika	12.49	121		eP	Pn	01 53 17.4	-0.5	
DRK0	Durika	12.49	121		P	Pn	01 53 16.8	-1.1	
PRVC	Isla de Provid	12.57	100			Pn	01 53 17.1	-1.7	
PRVC	Isla de Provid	12.57	100		P	Pn	01 53 16.6	-2.1	
FSCY	Frank Sound, G	12.74	73		eP	Pn	01 53 08.5	-12	
FSCY	Frank Sound, G	12.74	73		P	Pn	01 53 08.3	-13	
FSCY					S	Sn	01 55 19.5	-22	
PIRO	Carate, Puerto	12.90	124			Pn	01 53 25.4	+2.2	
PIRO	Carate, Puerto	12.90	124		P	Pn	01 53 24.6	+1.3	
ALCO	Alturas Coton,	13.00	121		eP	Pn	01 53 23.8	-0.9	
BRU2	Volcan	13.20	121			Pn	01 53 27.0	-0.4	
BRU2	Volcan	13.20	121		eP	Pn	01 53 26.9	-0.4	
BRU2	Volcan	13.20	121		P	Pn	01 53 24.4	-3.0	
833A	Chaparral WMA,	13.25	339			Pn	01 53 29.5	+1.7	
BQTLY	Boquete Panama	13.41	121		eP	Pn	01 53 26.1	-4.0	
PBNVO	Pueblo Nuevo,	13.56	120		eP	Pn	01 53 30.7	-1.2	
RBALA	Bur	13.60	120		eP	Pn	01 53 31.0	-1.5	
MCIG	Muzquiz	13.70	331		P	Pn	01 53 35.3	+1.6	
MCIG	Muzquiz	13.70	331		eP	Pn	01 53 35.3	+1.6	
PDIG	Papasquiaro	13.92	312		P	P	01 53 40.1	-2.0	
PDIG	Papasquiaro	13.92	312		eP	P	01 53 40.1	-2.0	
HKT	Hockley	14.02	354			Pn	01 53 38.1	+0.3	
HKT	Hockley	14.02	354		P	Pn	01 53 38.0	+0.3	
HKT					S	Sn	01 56 03.8	-8.0	
CBCY	The Bluff, Cay	14.14	72		P	P	01 53 41.9	-2.4	
CBCY					S	Sn	01 56 09.4	-5.7	
HNDO	Hondo	14.33	341			Pn	01 53 42.9	+1.1	
MGV	Manicaragua	14.66	63		eP	Pn	01 53 48.0	+1.8	
DRIO	Del Rio	14.69	337			Pn	01 53 46.8	+0.3	
435B	Jarrell	15.10	348			Pn	01 53 53.1	+1.4	
HPIG		15.34	317			P	01 53 58.4	+0.7	
HPIG		15.34	317		eP	P	01 53 59.7	+1.9	
HPIG		15.34	317		P	P	01 53 58.6	+0.8	
JCT	Junction City	15.38	341			Pn	01 53 56.1	+0.9	
JCT	Junction City	15.38	341		eP	P	01 53 56.6	-1.4	
BCIG	La Boquilla	15.60	320		P	P	01 54 04.0	+3.4	
BCIG	La Boquilla	15.60	320	‖	eP	P	01 54 04.0	+3.4	
NATX	Nacogdoches	15.74	358			P	01 54 00.9	-1.1	
SAND	Sanderson	15.77	333			P	01 54 02.3	-0.1	
BRDY	Brady	15.90	344			Pn	01 54 02.6	+0.7	
TXAR	Lajitas Array	15.97	328		P	P	01 54 06.1	+1.4	
TXAR	Lajitas Array	15.97	328		P	P	01 54 04.8	+0.1	
	12nm,0.9s,baz=149,slow=15,SNR=48								
MTDJ	Mount Denham	15.98	80		P	Pn	01 54 03.5	+0.5	
MTDJ	Mount Denham	15.98	80		eP	P	01 54 07.4	+2.6	
MTDJ	Mount Denham	15.98	80		P	P	01 54 03.9	-0.9	
OZNA	Ozona	16.23	338		P	P	01 54 08.4	+1.0	
DWPF	Disney Wildern	16.82	42		P	Pn	01 54 13.0	-0.3	
DWPF	Disney Wildern	16.82	42		eP	P	01 54 13.7	-0.3	
LPIG	La Paz	17.26	301		LR	LR	02 00 38.1		
	comp=Z,255nm,20.7s,baz=164,slow=36								
YAR	Yar	17.40	73		eP	P	01 54 20.9	+0.5	
250A	Grady	17.46	23		P	Pn	01 54 22.4	+1.4	
MARVS	Santiago de Cu	17.75	74		eP	P	01 54 23.7	-0.6	
HLGC	Holguin	17.78	71		eP	Pn	01 54 27.8	+2.7	
RCC	Rio Carpintero	17.94	74		eP	P	01 54 18.6	-7.8	
PINC	Pinares de May	17.94	73		eP	P	01 54 25.7	-0.7	
Y45A	Yeager Farm, C	18.29	12		P	Pn	01 54 30.9	-0.2	
GTBY	Guantanamo Bay	18.47	75		eP	P	01 54 31.2	-1.0	
GTBY	Guantanamo Bay	18.47	75		P	P	01 54 32.1	-0.1	
MIAR	Mount Ida	18.51	1		P	P	01 54 32.4	-0.2	
MNTX	Cornudas Mount	18.75	329		eP	Pn	01 54 36.7	+0.1	
QMBU	Quimbuelo	18.79	74		eP	P	01 54 30.4	-5.4	
QMBU	Quimbuelo	18.79	74		P	P	01 54 36.0	+0.2	
MASC	Masc	19.33	75		P	P	01 54 41.0	-0.5	
SJCC	San Jacinto, C	19.37	106		P	P	01 54 39.1	-3.1	
SJCC	San Jacinto, C	19.37	106		P	P	01 54 38.4	-3.8	
	20nm,1.0s								
NZIG	Nacozari, Sono	20.17	318			Pn	01 54 53.2	-0.2	
NZIG	Nacozari, Sono	20.17	318		eP	Pn	01 54 53.2	-0.2	
HSIG		20.26	313	‖	eP	Pn	01 54 54.4	+0.1	
HSIG		20.26	313		P	Pn	01 54 54.8	+0.4	
CBOC	Ciudad Bolivar	20.36	118		P	P	01 54 52.4	-0.6	
	32nm,1.1s								
HELC	Santa Helena	20.61	116		P	P	01 54 57.1	+1.2	
WVT	Waverly	20.85	14		P	P	01 54 56.6	-1.2	
YOTC	Yotoco, Valle	21.11	122		P	P	01 55 01.0	0.0	
	31nm,0.9s								
GUY2C	Guyana, Caldas	21.24	118		P	P	01 55 01.7	-1.1	
	437nm61nm,0.8s								
JAMC	Jamundi, Valle	21.30	125		P	P	01 55 03.3	+0.2	
	34nm,1.1s								
PTBC	PUERTO BERRIO,	21.38	114		P	P	01 55 02.4	-1.4	
	5.7nm,0.9s								
Y22D	IRIS PASSCAL I	21.43	330		P	P	01 55 07.0	+2.7	
	baz=144								
NORC	Norcasia	21.49	117		P	P	01 55 05.1	+0.1	
	15nm,0.9s								
BBAC	Balboa, Cauca	21.61	128		P	P	01 55 07.5	+1.1	
	481nm50nm,1.0s								
TKL	Tuckaleechee C	21.67	23		P	P	01 55 07.2	+0.5	
	2.0nm,0.3s,baz=232,slow=7.2,SNR=15								
TKL					S	S	01 59 03.8	+2.0	
	3.1nm,0.4s,baz=102,slow=2.3,SNR=4.0								
TKL					LR	LR	02 03 21.8		
	comp=Z,119nm,21.5s,baz=188,slow=36								
	2.0nm,0.3s								
POPC	Popayan, Colom	21.71	126		P	P	01 55 08.4	+0.8	
	26nm,0.9s								
T47A	Sharon Grove	21.84	15		P	P	01 55 06.4	-2.0	
URI	Uribia	21.86	98		P	P	01 55 06.9	-2.0	
ANMO	Albuquerque	21.93	332			P	01 55 11.4	+1.8	
ANMO	Albuquerque	21.93	332		P	P	01 55 11.7	+2.1	
	16nm,0.8s,baz=240,slow=12,SNR=59								
	16nm,0.8s								
ORTC	Ortega, Tolima	22.05	121		P	P	01 55 10.3	-0.7	
	855nm88nm,1.1s								
SPBC	San Pablo de B	22.14	115		P	P	01 55 10.3	-1.6	
	7.2nm,0.7s								
CCM	Cathedral Cave	22.15	6			P	01 55 10.9	-0.9	
CCM	Cathedral Cave	22.15	6		P	P	01 55 10.0	-1.8	
TUC	Tucson	22.25	320			P	01 55 15.5	+2.5	
TUC	Tucson	22.25	320	‖	eP	P	01 55 15.7	+2.7	
TUC	Tucson	22.25	320		P	P	01 55 15.0	+2.0	
ROSC	El Rosal	22.33	118			P	01 55 16.0	+1.7	
ROSC	El Rosal	22.33	118		P	P	01 55 16.4	+2.1	
	17nm,0.7s,baz=99,slow=23,SNR=8.7								
	17nm,0.7s								
PRAC	Prado	22.45	121		P	P	01 55 16.8	+1.5	
PRAC	Prado	22.45	121		P	P	01 55 14.3	-1.0	
	24nm,0.9s								
TZTN	Tazewell	22.54	23		IAmb	IAmb	01 55 37.8		
	comp=Z,25nm,0.7s								
USIN	University of	22.64	13		IAmb	IAmb	01 55 18.5		
	comp=Z,23nm,0.6s								
RUSC	La Rusia	22.89	114			P	01 55 18.9	-1.3	
RUSC	La Rusia	22.89	114		P	P	01 55 20.9	+0.6	
RUSC	La Rusia	22.89	114		P	P	01 55 19.0	-1.3	
	comp=Z,17nm,1.2s								
FLOC	Florencia	23.11	126			P	01 55 22.8	+0.9	
FLOC					IAmb	IAmb	01 55 26.0		
	comp=Z,53nm,1.3s								
FLOC	Florencia	23.11	126		P	P	01 55 22.8	+0.9	
	comp=Z,31nm,1.2s								
WCI	Wyandotte Cave	23.22	16			P	01 55 20.2	-2.5	
WCI					IAmb	IAmb	01 55 47.3		
	comp=Z,22nm,0.7s								
Q44A	Meyer Farm, Va	23.29	10		IAmb	IAmb	01 55 24.3		
	comp=Z,31nm,0.9s								
OLIL	Olney	23.29	12		IAmb	IAmb	01 55 24.4		
	comp=Z,27nm,0.9s								
214A	Organ Pipe Nat	23.32	316		IAmb	IAmb	01 55 28.1		
	comp=Z,35nm,0.9s								
X18A	Snowflake	23.35	325		IAmb	IAmb	01 55 28.5		
	comp=Z,35nm,0.9s								
S51A	Beattyville	23.50	21		IAmb	IAmb	01 55 52.8		
	comp=Z,45nm,1.5s								
PIX	Pinacate	23.52	315		IAmb	IAmb	01 55 30.0		
	comp=Z,34nm,1.2s								
P38A	Dawn	23.58	1		IAmb	IAmb	01 55 27.1		
	comp=Z,16nm,0.5s								
SDV	Santo Domingo	23.93	104		LR	LR	02 05 17.7		
	comp=Z,172nm,20.2s,baz=255,slow=37								
X16A	Lo Mia Camp, P	24.11	323		IAmb	IAmb	01 55 36.1		
	comp=Z,27nm,0.9s								
MACC	Marena, Meta	24.20	123		P	P	01 55 32.1	+0.3	
P46A	Rosedale	24.32	13		IAmb	IAmb	01 55 54.3		
	comp=Z,34nm,0.9s								
113A	Mohawk Valley,	24.46	317		IAmb	IAmb	01 55 39.0		
	comp=Z,34nm,0.9s								
SPIG	San Pedro Mart	24.63	311		eP	sP	01 56 05.7	-0.3	
Y14A	Wickenburg	24.72	320		IAmb	IAmb	01 55 41.9		
	comp=Z,45nm,1.4s								
MVCO	Mesa Verde	24.72	332		IAmb	IAmb	01 55 39.9		
	comp=Z,32nm,0.9s								
N41A	Hardin Midland	24.82	6		IAmb	IAmb	01 55 38.0		
	comp=Z,64nm,1.4s								
N35A	Tabor	24.85	357		IAmb	IAmb	01 55 39.0		
	comp=Z,34nm,0.7s								
HDIL	Hopedale	24.86	9		IAmb	IAmb	01 55 38.4		
	comp=Z,36nm,1.2s								
WUAZ	Wupatki	24.87	325		IAmb	IAmb	01 56 11.4		
	comp=Z,36nm,0.9s								
Q52A	Bidwell	25.15	22		IAmb	IAmb	01 56 02.8		
	comp=Z,31nm,0.8s								
GLA	Glamis	25.34	316		IAmb	IAmb	01 56 15.0		
	comp=Z,40nm,1.2s								
Q48B	Farmland	25.43	16		IAmb	IAmb	01 55 42.9		
	comp=Z,32nm,1.2s								
PV01	Paradox Valley	25.52	333		IAmb	IAmb	01 56 17.1		
	comp=Z,42nm,1.1s								
BLYC	Blythe	25.57	318		P	P	01 55 45.0	+1.1	
O49A	Covington	25.59	17		IAmb	IAmb	01 56 16.9		
	comp=Z,25nm,1.1s								
PV13	Radium Mtn., P	25.65	332		IAmb	IAmb	01 55 50.6		
	comp=Z,32nm,0.9s								
PV15	Paradox Valley	25.65	333		IAmb	IAmb	01 55 49.0		
	comp=Z,34nm,1.1s								
PV05	Paradox Valley	25.71	332		IAmb	IAmb	01 55 48.7		
	comp=Z,30nm,0.9s								
PV03	Paradox Valley	25.74	332		IAmb	IAmb	01 56 18.9		
	comp=Z,40nm,1.1s								
PV11	David Mesa, Pa	25.79	332		IAmb	IAmb	01 56 19.5		
	comp=Z,28nm,1.2s								
PV07	Paradox Valley	25.80	333		IAmb	IAmb	01 55 50.1		
	comp=Z,36nm,0.9s								
PV17	East Wray Mesa	25.81	332		IAmb	IAmb	01 55 49.7		
	comp=Z,23nm,0.9s								
PV16	Nyswonger Mesa	25.82	332		IAmb	IAmb	01 56 19.8		
	comp=Z,44nm,1.2s								
OGNE	Ogallala	25.84	346			P	01 55 47.8	+1.4	
PV19	Morning Glory	25.84	332		IAmb	IAmb	01 55 50.0		
	comp=Z,41nm,0.9s								
PV20	West Nyswonger	25.86	332		IAmb	IAmb	01 55 50.1		
	comp=Z,79nm,1.3s								
SCIA	State Center	25.87	1		IAmb	IAmb	01 55 48.5		
	comp=Z,38nm,0.8s								
PV04	Paradox Valley	25.88	333		IAmb	IAmb	01 55 50.5		
	comp=Z,49nm,0.9s								
PV14	Lion Creek, Pa	25.91	332		IAmb	IAmb	01 55 50.7		
	comp=Z,32nm,1.0s								
PV10	Paradox Valley	25.92	332		IAmb	IAmb	01 55 50.1		
	comp=Z,36nm,0.9s								
PV22	Blue Mesa, Par	25.94	333		IAmb	IAmb	01 55 51.0		
	comp=Z,31nm,0.9s								
BC3	Big Chuckawall	26.12	316		IAmb	IAmb	01 55 52.8		
	comp=Z,23nm,1.0s								
L40A	Anamosa	26.13	5			P	01 55 47.8	-1.1	
L40A					IAmb	IAmb	01 56 10.8		
	comp=Z,23nm,0.8s								
L42A	Oliver, Polo	26.23	7		IAmb	IAmb	01 55 50.3		
	comp=Z,21nm,0.7s								
O52A	Adamsville	26.33	22		IAmb	IAmb	01 56 18.6		
	comp=Z,22nm,0.9s								
HMU	Henry Mountain	26.37	329		IAmb	IAmb	01 55 55.1		
	comp=Z,33nm,1.2s								
SJG	San Juan	26.78	81		LR	LR	02 05 44.1		
	comp=Z,81nm,21.9s,baz=258,slow=34								
V12A	Nelson	27.04	321		IAmb	IAmb	01 56 01.1		
	comp=Z,32nm,1.0s								
JFWS	Jewell Farm	27.06	6		IAmb	IAmb	01 56 20.6		
	comp=Z,34nm,0.7s								
P18A	Preston Nutter	27.49	332		IAmb	IAmb	01 56 04.9		
	comp=Z,54nm,1.9s								
ECSD	EROS Data Cent	27.77	356		IAmb	IAmb	01 56 04.1		
	comp=Z,16nm,0.9s								
I37A	Lemond, Waseca	27.97	1		IAmb	IAmb	01 56 44.5		
	comp=Z,70nm,1.8s								
I40A	Norwalk	28.00	5		IAmb	IAmb	01 56 07.5		
	comp=Z,27nm,1.5s								
K22A	Casper	28.66	341		IAmb	IAmb	01 56 14.6		
	comp=Z,45nm,1.6s								
SPMN	Marine on St.	29.19	2			P	01 56 15.4	-0.9	
TCUT	Toone Canyon	29.21	333		IAmb	IAmb	01 56 21.8		
	comp=Z,44nm,1.0s								
RSSD	Black Hills	29.32	345			P	01 56 19.6	+2.0	
CWC	Cottonwood Cre	29.52	318			P	01 56 21.3	+1.8	
PDAR	Pinedale Array	29.83	337		P	P	01 56 23.4	+1.2	
PDAR	Pinedale Array	29.83	337		P	P	01 56 23.3	+1.1	
	comp=Z,5.1nm,0.9s,baz=138,slow=9.8,SNR=33								
PDAR					pP	pP	01 56 43.4	+1.1	
	comp=Z,2.0nm,0.8s,baz=133,slow=10,SNR=3.7								
PDAR					PcP	PcP	01 59 22.9	-0.8	
	comp=Z,0.5nm,0.7s,baz=176,slow=4.5,SNR=4.1								
	comp=Z,5.1nm,0.9s								
F33A	5 Mile Ranch,	29.85	357		IAmb	IAmb	01 56 21.6		
	comp=Z,58nm,1.8s								
DSP	Deep Springs	30.02	320		IAmb	IAmb	01 56 27.9		
	comp=Z,17nm,1.2s								
E38A	The Farm, Brul	30.63	3		IAmb	IAmb	01 56 29.7		
	comp=Z,15nm,0.8s								
NV11	Mina Array Sit	30.81	321		IAmb	IAmb	01 56 35.2		
	comp=Z,32nm,1.1s								
NVAR	Mina Array Bea	30.89	321		P	P	01 56 34.6	+2.9	
NVAR	Mina Array Bea	30.89	321		P	P	01 56 33.5	+1.8	
	comp=Z,20nm,0.8s,baz=136,slow=9.0,SNR=147								
NVAR					pP	pP	01 56 53.0	+1.3	
	comp=Z,3.9nm,0.7s,baz=135,slow=9.0,SNR=3.9								
NVAR					sP	sP	01 57 02.5	+0.7	
	comp=Z,3.7nm,0.7s,baz=130,slow=8.4,SNR=3.1								
NVAR					PcP	PcP	01 59 27.6	+1.1	
	comp=Z,1.7nm,0.9s,baz=135,slow=3.3,SNR=4.0								
	comp=Z,20nm,0.8s								
LHV	Little Huntoon	30.90	321		IAmb	IAmb	01 56 36.2		
	comp=Z,17nm,0.9s								
LOHW	Long Hollow	30.95	336		IAmb	IAmb	01 56 35.2		
	comp=Z,36nm,1.0s								
RYN	Ryan	31.15	321		IAmb	IAmb	01 56 38.0		
	comp=Z,14nm,1.0s								
SADO	Sadowa	31.37	21		LR	LR	02 11 04.9		
	comp=Z,1µm,18.9s,baz=224,slow=40								
BUCR	Buckhorn Ranch	31.58	318			P	01 56 39.6	+2.0	
H17A	Grant Village	31.60	337		IAmb	IAmb	01 56 43.3		
	comp=Z,16nm,1.1s								
WAKR	Walker	31.63	320		IAmb	IAmb	01 56 42.6		
	comp=Z,17nm,1.2s								
LKWY	Lake	31.68	338		IAmb	IAmb	01 56 42.6		
	comp=Z,29nm,0.9s								
YFT	Old Faithful	31.75	337		IAmb	IAmb	01 56 43.5		
	comp=Z,20nm,1.0s								
YNR	Norris Junctio	31.91	337		IAmb	IAmb	01 56 45.7		
	comp=Z,15nm,1.0s								
YNE	Yellowstone No	31.92	338		IAmb	IAmb	01 56 46.2

R32K	Eaglecrest baz=127	51.77 334	P	P	01 59 23.5	+1.8
P32M	Atlin baz=129	52.26 336	P	P	01 59 28.0	+2.7
P33M	Teslin, Yukon comp=Z,13nm,1.1s	52.31 337	IAmb	IAmb	01 59 29.1	
P33M	Teslin, Yukon baz=130	52.31 337	P	P	01 59 27.3	+1.6
N32M	Quiet Lake baz=131	53.02 338	P	P	01 59 33.1	+2.2
MMPY	Sheldon Lake, baz=133,SNR=13	53.37 340	P	P	01 59 35.6	+2.2
WHY	Whitehorse baz=128	53.38 336	P	P	01 59 35.8	+2.1
P30M	Million Dollar baz=126	53.88 335	P	P	01 59 39.5	+2.3
P29M	Windy Craggy baz=125	53.92 334	P	P	01 59 39.9	+2.4
O30N	Mendenhall baz=127	53.92 336	P	P	01 59 38.4	+0.9
M31M	Drury Creek, Y comp=Z,16nm,1.4s	54.18 338	IAmb	IAmb	01 59 42.5	
M31M	Drury Creek, Y baz=130	54.18 338	P	P	01 59 41.0	+1.6
N31M	Braeburn, Yuko baz=128	54.24 337	P	P	01 59 41.4	+1.6
HYT	Haines Junctio baz=126	54.51 336	P	P	01 59 43.2	+1.3
PNL	Peninsula baz=123	54.64 334	P	P	01 59 44.6	+1.9
O29M	Mount Kennedy baz=124	54.65 335	P	P	01 59 44.7	+1.8
N30M	Aishikik Lake comp=Z,31nm,1.6s	54.73 336	IAmb	IAmb	01 59 47.0	
N30M	Aishikik Lake baz=126	54.73 336	P	P	01 59 45.1	+1.8
YUK6	Outpost Mounta baz=125	54.92 335	P	P	01 59 46.9	+1.9
CPUP	Villa Florida comp=Z,0.2nm,0.4s,baz=184,slow=7.3,SNR=4.3	55.17 139	P	P	01 59 49.2	+2.3
CPUP	comp=Z,1.4nm,0.8s,baz=178,slow=7.2,SNR=5.4		pP	pP	02 00 07.8	-0.7
PINM	Pinnacle baz=122	55.23 334	P	P	01 59 48.4	+1.3
BDFB	Brasilia comp=Z,3.2nm,0.5s,baz=290,slow=12,SNR=9.4	55.26 122	P	P	01 59 47.7	-0.2
BDFB	comp=Z,6.0nm,0.8s,baz=270,slow=5.9,SNR=5.5 comp=Z,3.2nm,0.5s		pP	pP	02 00 09.3	-0.2
YUK4	Talbot Arm baz=125	55.27 336	P	P	01 59 49.4	+1.9
M30M	Minto, Yukon comp=Z,12nm,1.1s	55.29 338	IAmb	IAmb	01 59 50.8	
M30M	Minto, Yukon baz=127	55.29 338	P	P	01 59 49.4	+2.0
O28M	Mount Upton baz=123	55.57 335	P	P	01 59 51.8	+2.1
YUK8	Steele Glacier baz=123	55.68 335	P	P	01 59 50.7	+0.3
M29M	Somme Creek comp=Z,15nm,0.8s	55.83 337	IAmb	IAmb	01 59 54.4	
M29M	Somme Creek baz=125,SNR=12	55.83 337	P	P	01 59 52.4	+1.0
MESA	MESA baz=120	56.00 333	P	P	01 59 54.0	+1.3
L29M	L29M comp=Z,21nm,1.2s	56.10 338	IAmb	IAmb	01 59 55.8	
L29M	L29M baz=126,SNR=9.8	56.10 338	P	P	01 59 54.3	+1.1
CTG	Chitna Glacier baz=122	56.15 334	P	P	01 59 54.9	+1.2
K29M	Barlow Dome baz=127	56.32 339	P	P	01 59 56.2	+1.3
J30M	Hart River baz=129	56.37 340	P	P	01 59 56.6	+1.4
H31M	Peel River baz=132	56.53 341	P	P	01 59 57.4	+1.2
BGLC	Bering Glacier baz=119	56.55 333	P	P	01 59 57.9	+1.6
C36M	Paulatuk baz=145	56.56 348	P	P	01 59 58.0	+1.7
CRQE	Cirque baz=120	56.78 334	P	P	01 59 59.7	+1.6
I30M	Mount Dempster comp=Z,6.7nm,0.9s	56.79 340	IAmb	IAmb	02 00 00.2	
I30M	Mount Dempster baz=129,SNR=5.2	56.79 340	P	P	01 59 59.6	+1.4
KAIM	Kayak Island baz=118	56.96 332	P	P	02 00 01.1	+1.8
MCARA	McCarthy VSAT comp=Z,10.0nm,0.8s	57.07 334	IAmb	IAmb	02 00 03.4	
MCARA	McCarthy VSAT baz=120	57.07 334	P	P	02 00 01.7	+1.7
M27K	Edge Creek, AK baz=122	57.11 336	P	P	02 00 01.7	+1.3
DAWY	Dawson baz=125	57.12 338	P	P	02 00 01.6	+1.2
G31M	Satah River baz=132,SNR=5.9	57.26 342	P	P	02 00 02.4	+1.2
L27K	Beaver Creek, baz=122	57.46 336	P	P	02 00 04.6	+1.8
F31M	Tsiigehtchic baz=133	57.47 343	P	P	02 00 04.4	+1.7
I29M	Ogilvie Camp, baz=127	57.52 340	P	P	02 00 04.3	+1.2
BMRM	Bremner River baz=118	57.53 333	P	P	02 00 04.9	+1.5
M26K	Nabesna, AK baz=121	57.57 335	P	P	02 00 04.8	+1.2
Q23K	Middleton Isla baz=116	57.61 331	P	P	02 00 05.2	+1.4
EPYK	Eagle Plains baz=129	57.63 341	P	P	02 00 04.9	+1.0
EYAK	Cordova Ski Ar baz=117	57.83 333	P	P	02 00 06.5	+1.2
N25K	Chitina, Valde baz=118	57.83 334	P	P	02 00 06.5	+1.0
G30M	tAoh Zraii Nji baz=130	57.88 342	P	P	02 00 06.8	+1.2
INK	Inuvik baz=134,SNR=5.8	58.01 344	P	P	02 00 07.4	+1.0
L26K	Log Cabin Wild baz=121	58.03 336	P	P	02 00 08.2	+1.4
H29M	Whitestone comp=Z,11nm,0.9s	58.06 341	IAmb	IAmb	02 00 08.9	
H29M	Whitestone baz=128	58.06 341	P	P	02 00 08.2	+1.3
K27K	Chicken comp=Z,26nm,1.7s	58.08 337	IAmb	IAmb	02 00 10.0	
K27K	Chicken baz=122	58.08 337	P	P	02 00 08.4	+1.4
I28M	Miner Creek baz=126	58.12 339	P	P	02 00 08.6	+1.2
EGAK	Eagle comp=Z,5.6nm,0.9s	58.16 338	IAmb	IAmb	02 00 09.2	
EGAK	Eagle baz=124	58.16 338	P	P	02 00 08.5	+0.9
F30M	Barrier River baz=131	58.16 343	P	P	02 00 09.1	+1.6
KLU	Klutina baz=117	58.34 334	P	P	02 00 09.8	+0.8
G29M	Pine Creek baz=128	58.38 341	P	P	02 00 10.2	+1.1
HARP	HAARP baz=118	58.45 335	P	P	02 00 10.6	+1.0
GLI	Glacier Island baz=116	58.57 333	P	P	02 00 11.9	+1.3
M24K	Tolsona, Glenn baz=117	58.73 334	P	P	02 00 13.2	+1.5
SCRK	Sand Creek baz=120	58.77 337	P	P	02 00 12.5	+0.5
I27K	Kandik River baz=124,SNR=6.2	58.78 339	P	P	02 00 12.3	+0.4
PAX	Paxson comp=Z,9.7nm,1.0s	58.85 335	IAmb	IAmb	02 00 14.2	
PAX	Paxson baz=118,SNR=5.4	58.85 335	P	P	02 00 13.1	+0.5
J26L	Joseph Creek comp=Z,20nm,1.4s	58.88 337	IAmb	IAmb	02 00 15.5	
J26L	Joseph Creek baz=121,SNR=7.3	58.88 337	P	P	02 00 13.7	+1.0
RIDG	Independent Ri comp=Z,14nm,1.0s	58.98 336	IAmb	IAmb	02 00 16.0	
RIDG	Independent Ri baz=119,SNR=7.0	58.98 336	P	P	02 00 14.2	+0.8
H27K	Steamboat Moun comp=Z,14nm,1.2s	59.10 340	IAmb	IAmb	02 00 16.6	
H27K	Steamboat Moun baz=124	59.10 340	P	P	02 00 15.0	+0.8
PWL	Port Wells baz=114	59.12 332	P	P	02 00 15.3	+1.0
M23K	Glacier View baz=116	59.25 334	P	P	02 00 16.5	+1.3
E29M	Blow River comp=Z,15nm,1.1s	59.27 343	IAmb	IAmb	02 00 46.5	
E29M	Blow River baz=129	59.27 343	P	P	02 00 16.5	+1.2
SEW	Seward baz=113	59.32 331	P	P	02 00 16.9	+1.3
K24K	Donnelly Dome baz=118,SNR=5.1	59.37 336	P	P	02 00 17.2	+1.2
F28M	Old Crow baz=127,SNR=9.6	59.38 341	P	P	02 00 17.0	+1.0
KNK	Knik Glacier baz=114	59.40 333	P	P	02 00 17.9	+1.6
G27K	Doyon Strip comp=Z,6.8nm,0.9s	59.48 340	IAmb	IAmb	02 00 18.6	
G27K	Doyon Strip baz=124,SNR=9.6	59.48 340	P	P	02 00 17.9	+1.1
WAT6	Susitna Watana baz=116	59.60 334	P	P	02 00 18.9	+1.1
J25K	Salcha River, comp=Z,31nm,2.0s	59.61 337	IAmb	IAmb	02 00 28.6	
J25K	Salcha River, baz=119	59.61 337	P	P	02 00 19.2	+1.5
DHY	Denali Highway baz=116	59.67 335	P	P	02 00 19.2	+0.9
PMR	Palmer baz=114	59.77 333	P	P	02 00 19.5	+0.8
BRSE	Bradley Lake S baz=111	59.78 331	P	P	02 00 20.0	+1.1
RC01	Rabbit Creek A baz=113	59.83 332	P	P	02 00 20.4	+1.2
E28M	Babbage River comp=Z,11nm,1.0s	59.88 342	IAmb	IAmb	02 00 21.3	
E28M	Babbage River baz=127	59.88 342	P	P	02 00 20.6	+1.2
KDAK	Kodiak Island baz=109	60.00 328	P	P	02 00 21.9	+1.5
WAT1	Susitna Watana baz=115	60.04 334	P	P	02 00 22.1	+1.4
HDA	Harding Lake baz=118,SNR=5.0	60.11 336	P	P	02 00 22.2	+1.1
HOM	Homer baz=110	60.17 330	P	P	02 00 22.1	+0.6
Q20K	Shuyak Island baz=109	60.18 329	P	P	02 00 22.7	+1.1
E27K	Coleen River comp=Z,13nm,1.0s	60.25 341	IAmb	IAmb	02 00 23.8	
E27K	Coleen River baz=125,SNR=7.5	60.25 341	P	P	02 00 22.7	+0.7
G26K	Porcupine Rive baz=122,SNR=6.2	60.26 340	P	P	02 00 23.3	+1.3
IL31	comp=Z,12nm,1.1s	60.26 337	IAmb	IAmb	02 00 24.0	
ILAR	Eielson Array	60.26 337	P	P	02 00 22.3	+0.2
ILAR	Eielson Array comp=Z,3.9nm,0.9s,baz=135,slow=4.0,SNR=33	60.26 337	P	P	02 00 22.6	+0.6
ILAR	comp=Z,1.3nm,0.6s,baz=157,slow=4.7,SNR=3.7		pP	pP	02 00 44.4	+0.3
ILAR	comp=Z,2.4nm,0.7s,baz=134,slow=5.8,SNR=4.6		sP	sP	02 00 53.5	-0.2
ILAR	comp=Z,2.1nm,0.9s,baz=112,slow=7.1,SNR=7.5 comp=Z,3.9nm,0.9s		PP	PP	02 02 37.1	+1.4
SUA	Susitna One baz=112	60.43 333	P	P	02 00 24.6	+1.2
SII	Sitkinak Islan baz=106	60.46 327	P	P	02 00 24.8	+1.2
PLCA	Paso Flores comp=Z,2.3nm,0.8s,baz=354,slow=10,SNR=4.4	60.49 160	P	P	02 00 24.8	+0.8
PLCA	comp=Z,15nm,1.0s,baz=339,slow=7.7,SNR=16		pP	pP	02 00 46.1	+0.3
PLCA	comp=Z,48nm,20.1s,baz=266,slow=31 comp=Z,2.3nm,0.8s		LR	LR	02 21 16.4	
CCB	Clear Creek Bu comp=Z,26nm,2.0s	60.55 337	IAmb	IAmb	02 01 12.9	
MCK	McKinley baz=115	60.59 335	P	P	02 00 25.4	+1.1
CUT	Chulitna baz=113	60.59 334	P	P	02 00 25.4	+1.1
H25L	Birch Creek baz=120	60.60 339	P	P	02 00 25.7	+1.3
POKR	Poker Plat Res baz=118	60.63 337	P	P	02 00 25.5	+1.0
COLA	College baz=117	60.67 337	P	P	02 00 26.2	+1.4
D27M	Malcolm River baz=126	60.68 343	P	P	02 00 25.7	+0.8
F26K	Sheenjek River comp=Z,11nm,1.1s	60.77 340	IAmb	IAmb	02 00 28.0	
F26K	Sheenjek River baz=122	60.77 340	P	P	02 00 26.5	+0.9
BMAR	Burnt Mountain	60.77 340	P	P	02 00 26.7	+1.1
O20K	Slope Mountain baz=110	60.79 331	P	P	02 00 26.7	+0.9
R18K	Karluk baz=107	60.89 328	P	P	02 00 27.0	+0.6
Q19K	Cape Douglas, baz=108	60.90 329	P	P	02 00 27.3	+0.7
SPU	Mount Spurr comp=Z,14nm,1.0s	60.91 332	IAmb	IAmb	02 00 28.6	
P19K	Oil Pt baz=109	60.93 330	P	P	02 00 27.6	+0.8
G25K	Bearman Lake baz=120	60.94 339	P	P	02 00 27.3	+0.7
SKT	Skwentna baz=112	60.97 333	P	P	02 00 27.7	+0.7
SPCR	Spurr Chakacha baz=111	60.99 332	P	P	02 00 28.4	+1.2
NEA2	Nenana comp=Z,7.0nm,1.0s	61.01 336	IAmb	IAmb	02 00 30.7	
NEA2	Nenana baz=116	61.01 336	P	P	02 00 27.9	+0.7
TRF	Thorofare Moun baz=114,SNR=6.4	61.02 335	P	P	02 00 28.3	+0.9
CHIR	Chirikof Islan baz=105	61.04 325	P	P	02 00 28.4	+0.9
H24K	Noodor Dome baz=117,SNR=9.8	61.13 338	P	P	02 00 29.1	+1.1
F25K	Christian Rive comp=Z,13nm,1.1s	61.21 340	IAmb	IAmb	02 00 31.3	
F25K	Christian Rive baz=120,SNR=6.6	61.21 340	P	P	02 00 29.8	+1.2
KTH	Kantishna Hill comp=Z,11nm,1.0s	61.32 335	IAmb	IAmb	02 00 30.6	
G24K	Hadweenzic Riv comp=Z,11nm,1.0s	61.39 339	IAmb	IAmb	02 00 32.0	
G24K	Hadweenzic Riv baz=118,SNR=7.5	61.39 339	P	P	02 00 30.3	+0.6
E25K	Arctic Village comp=Z,10nm,1.2s	61.46 340	IAmb	IAmb	02 01 15.4	
E25K	Arctic Village baz=121	61.46 340	P	P	02 00 31.2	+1.0
Q18K	Katmai Hardscr baz=107	61.49 329	P	P	02 00 31.4	+0.7
BPAW	Bear Paw Mtn. comp=Z,17nm,1.0s	61.57 335	IAmb	IAmb	02 00 32.6	
BPAW	Bear Paw Mtn. baz=113,SNR=9.3	61.57 335	P	P	02 00 32.1	+1.1
PPLA	Purkeypile baz=112	61.60 334	P	P	02 00 32.0	+0.7
O19K	Port Alsworth baz=108	61.63 330	P	P	02 00 32.5	+1.1
M20K	Styx River baz=110	61.64 333	P	P	02 00 33.0	+1.4
C27K	Jago River baz=124	61.70 342	P	P	02 00 32.9	+1.2
P18K	Big Mountain, baz=107	61.82 329	P	P	02 00 33.3	+0.6
Q17K	Contact Creek baz=106	61.83 328	P	P	02 00 34.1	+1.2
MLY	Manley baz=114,SNR=6.5	61.85 336	P	P	02 00 33.9	+1.0
N19K	Bonanza Creek baz=108	61.90 331	P	P	02 00 34.2	+0.8
R17L	Mt. Peulik Vol baz=105	61.90 327	P	P	02 00 34.5	+1.1
F24K	Squaw Lake baz=118	61.92 339	P	P	02 00 34.6	+1.2
CHUM	Lake Minchumin baz=112	62.02 335	P	P	02 00 35.3	+1.3
L20K	Farewell, AK baz=110,SNR=7.6	62.18 333	P	P	02 00 35.7	+0.6
C26K	Camden Bay baz=122	62.21 342	P	P	02 00 35.8	+0.7
G23K	Bananza Creek comp=Z,7.5nm,0.9s	62.30 338	IAmb	IAmb	02 00 38.0	
G23K	Bananza Creek baz=116,SNR=5.7	62.30 338	P	P	02 00 36.7	+0.9
Q16K	King Salmon baz=105	62.33 328	P	P	02 00 37.2	+1.1
D25K	Kavik River baz=121	62.33 341	P	P	02 00 36.7	+0.6
P17K	Kvichak River baz=106	62.36 329	P	P	02 00 37.3	+1.0
E24K	Your Creek comp=Z,9.8nm,1.1s	62.39 340	IAmb	IAmb	02 00 39.1	
E24K	Your Creek baz=118	62.39 340	P	P	02 00 37.5	+1.1
H22K	Ishtalitna Cre baz=114,SNR=8.0	62.45 337	P	P	02 00 37.6	+0.8
L19K	White Mountain baz=109	62.51 333	P	P	02 00 38.2	+0.9
N18K	Kilae Creek baz=107	62.52 331	P	P	02 00 38.2	+0.8
K20K	Telida comp=Z,18nm,1.2s	62.56 334	IAmb	IAmb	02 00 39.1	
K20K	Telida baz=110	62.56 334	P	P	02 00 38.3	+0.7
COLD	Coldfoot comp=Z,6.4nm,1.0s	62.59 339	IAmb	IAmb	02 00 39.9	
COLD	Coldfoot baz=116	62.59 339	P	P	02 00 38.2	+0.5
CHGN	Chignik baz=102	62.67 326	P	P	02 00 39.1	+0.6
M18K	Stony River baz=107	62.73 332	P	P	02 00 39.2	+0.5
E23K	Chandalar comp=Z,14nm,1.1s	62.76 340	IAmb	IAmb	02 00 41.2	
E23K	Chandalar baz=117,SNR=5.7	62.76 340	P	P	02 00 40.2	+1.3
O17K	Koliganek Bris baz=105	62.84 330	P	P	02 00 40.5	+1.1
J20K	Nowinta River comp=Z,15nm,1.1s	62.88 335	IAmb	IAmb	02 00 40.5	
J20K	Nowinta River baz=110,SNR=5.8	62.88 335	P	P	02 00 40.5	+0.8
H21K	Melozitna Rive baz=112	62.89 337	P	P	02 00 40.9	+1.1
G22K	Bettles baz=114	62.92 338	P	P	02 00 40.5	+0.6
D24K	Happy Valley comp=Z,23nm,1.3s	63.01 341	IAmb	IAmb	02 00 42.8	
D24K	Happy Valley baz=118	63.01 341	P	P	02 00 41.2	+0.7
TOLK	Toolik Lake Re baz=117	63.01 340	P	P	02 00 41.2	+0.6
CHNA	Chernabura Isl baz=101	63.03 324	P	P	02 00 41.8	+1.0
N17K	Nushagak Hills baz=106	63.09 330	P	P	02 00 42.1	+0.9
I20K	Naaghedeneel baz=110	63.23 335	P	P	02 00 43.0	+1.0
C24K	Franklin Bluff baz=118	63.24 341	P	P	02 00 42.6	+0.6
O16K	Kokwok River B baz=104	63.28 329	P	P	02 00 43.4	+1.0
S14K	Fog Glacier baz=101	63.29 325	P	P	02 00 43.5	+0.8
L18K	Granite Mounta baz=107	63.34 332	P	P	02 00 43.7	+0.9
F22K	John River baz=114	63.40 339	P	P	02 00 43.9	+0.8
J19K	Poorman comp=Z,18nm,1.0s	63.43 334	IAmb	IAmb	02 00 44.6	
J19K	Poorman baz=109,SNR=8.4	63.43 334	P	P	02 00 43.6	+0.3
M17K	Holitna River baz=106	63.44 331	P	P	02 00 44.3	+0.8
G21K	Allakaket comp=Z,29nm,1.8s	63.48 337	IAmb	IAmb	02 02 56.7	
G21K	Allakaket baz=112	63.48 337	P	P	02 00 44.5	+0.8
D23K	Nanushuk River baz=116	63.51 340	P	P	02 00 44.9	+1.0
E22K	Anaktuvuk Pass comp=Z,12nm,1.1s	63.53 339	IAmb	IAmb	02 00 46.2	
E22K	Anaktuvuk Pass baz=114,SNR=5.6	63.53 339	P	P	02 00 44.6	+0.6
SDPT	Sand Point baz=100	63.62 324	P	P	02 00 45.8	+1.1
H20K	Anotleneega Mo baz=110	63.63 336	P	P	02 00 45.3	+0.6
J18K	Innoko River baz=108	63.72 334	P	P	02 00 45.7	+0.4
F21K	Alatna River baz=112,SNR=17	63.75 338	P	P	02 00 46.1	+0.6
N16K	Nishlik Lake baz=104	63.83 330	P	P	02 00 46.6	+0.5
C23K	Itkillik River comp=Z,23nm,1.0s	63.88 341	IAmb	IAmb	02 00 48.7	
C23K	Itkillik River baz=116	63.88 341	P	P	02 00 46.8	+0.6
L17K	Donlin baz=105	64.04 332	P	P	02 00 48.6	+1.3
O15K	Ungalikthiuk R baz=103	64.04 329	P	P	02 00 48.6	+1.1
M16K	Timber Creek baz=104	64.06 331	P	P	02 00 47.5	0.0
D22K	Ayikyak River comp=Z,14nm,1.0s	64.13 340	IAmb	IAmb	02 00 50.0	
D22K	Ayikyak River baz=114	64.13 340	P	P	02 00 48.7	+0.8
GCSA	Galena City Sc baz=108	64.19 335	P	P	02 00 48.8	+0.5
K17K	Iditarod baz=106	64.20 333	P	P	02 00 48.9	+0.5
H19K	Roundabout Mou comp=Z,14nm,1.1s	64.26 336	IAmb	IAmb	02 00 50.2	
H19K	Roundabout Mou baz=109	64.26 336	P	P	02 00 49.5	+0.7
E21K	Killik River comp=Z,9.1nm,1.0s	64.39 339	IAmb	IAmb	02 00 51.2	
E21K	Killik River baz=112	64.39 339	P	P	02 00 50.3	+0.6
N15K	Kwethluk River baz=103	64.39 330	P	P	02 00 50.4	+0.7
L16K	Owhat River baz=104	64.47 331	P	P	02 00 50.2	0.0
F20K	Avaraart Lake comp=Z,14nm,0.9s	64.50 338	IAmb	IAmb	02 00 52.5	
F20K	Avaraart Lake baz=110	64.50 338	P	P	02 00 50.8	+0.5
G19K	Purcell Mounta comp=Z,10nm,1.0s	64.71 336	IAmb	IAmb	02 00 53.4	
G19K	Purcell Mounta baz=108	64.71 336	P	P	02 00 52.3	+0.6
O14K	Tigyukauivet M baz=101	64.78 328	P	P	02 00 53.1	+0.8
M15K	Kasigluk River baz=102	64.80 330	P	P	02 00 52.5	+0.1
H18K	Honhosa River baz=107	64.91 335	P	P	02 00 53.8	+0.8
C21K	Knifeblade Rid baz=112	64.94 340	P	P	02 00 54.5	+1.3
B22K	Teshekpuk Lake baz=114	64.97 341	P	P	02 00 54.5	+1.3
B21K	Ikpikpuk River baz=112	65.06 340	P	P	02 00 54.8	+0.9
E20K	Nigu River baz=110,SNR=6.2	65.09 339	P	P	02 00 55.1	+0.9
N14K	Kuskokwak Cree baz=101	65.12 329	P	P	02 00 55.4	+0.9
NEEM	North Greenlan	65.13 9	*i* P	P	02 00 53.2	-1.5
NEEM	comp=Z,40nm,0.9s		IAmb	IAmb	02 00 55.1	
E19K	Redstone River baz=109	65.19 338	P	P	02 00 55.7	+0.9
F19K	Shaleruckik Mo comp=Z,13nm,1.1s	65.19 337	IAmb	IAmb	02 00 56.2	
F19K	Shaleruckik Mo baz=108,SNR=5.9	65.19 337	P	P	02 00 55.3	+0.6
FALS	False Pass baz=97	65.22 323	P	P	02 00 55.9	+0.8
G18K	Tagagawik baz=107	65.24 336	P	P	02 00 56.2	+1.0
J16K	Anvik River baz=104	65.36 333	P	P	02 00 57.7	+1.8
L15K	Ungalak Mounta baz=102	65.39 331	P	P	02 00 57.8	+1.6
D20K	Etivluk River baz=110	65.39 339	P	P	02 00 57.8	+1.6
M14K	Bethel	65.42 330	P	P	02 00 57.6	+1.3

baz=101
H17K Granite Mounta 65.48 335 P P 02 00 57.7 +1.0
H17K IAmb IAmb 02 00 59.2
comp=Z,23nm,1.3s
H17K Granite Mounta 65.48 335 P P 02 00 57.5 +0.8
baz=105
I17K Unalakleet 65.54 333 P P 02 00 58.0 +0.9
baz=104
K15K Wolf Creek Mou 65.55 332 P P 02 00 58.8 +1.7
baz=102
A22K Sinclair Lake 65.71 342 P P 02 00 59.4 +1.4
baz=113
F18K Selawik 65.83 337 P P 02 01 00.4 +1.5
baz=106
D19K Kuna River 65.84 339 P P 02 01 00.7 +1.7
baz=108
L14K Kuka Creek 65.89 331 P P 02 01 00.9 +1.6
baz=101
G17K Kiwalik Mounta 65.93 335 P P 02 01 01.1 +1.6
baz=105
B20K Meade River 66.02 340 P P 02 01 01.3 +1.2
baz=110
M13K Dall Lake 66.03 329 P P 02 01 02.1 +1.8
baz=100
A21K Barrow 66.32 342 P P 02 01 03.7 +1.7
baz=111
H16K Elim 66.38 334 P P 02 01 03.8 +1.3
baz=103
F17K Baldwin Pennin 66.41 336 P P 02 01 03.7 +1.1
baz=104
E18K Tukpahlearik C 66.42 337 P P 02 01 03.8 +1.1
baz=106
C19K Lookout Ridge 66.54 339 P P 02 01 05.1 +1.6
baz=107
J14K Nanvaranak Lak 66.56 332 P P 02 01 05.0 +1.4
baz=101
G16K Koyuk River 66.59 335 P P 02 01 05.0 +1.2
baz=103
E17K Hotham Inlet 66.79 337 P P 02 01 05.9 +0.9
baz=104,SNR=8.5
UNV Unalaska Valle 66.91 322 P P 02 01 07.1 +1.1
baz=94
K13K Kusilvak Mount 66.92 331 P P 02 01 06.2 +0.3
baz=99
C18K Utukok River 66.97 338 P P 02 01 07.3 +1.1
baz=106
G15K Niukluk 67.20 334 P P 02 01 08.9 +1.2
baz=101
A19K Wainwright 67.36 340 P P 02 01 09.7 +1.1
baz=106
B18K Kokolik River 67.37 339 P P 02 01 09.8 +1.1
baz=105
D17K Noatak River 67.41 337 P P 02 01 10.3 +1.3
baz=103
M11K Mekoryuk 67.43 329 P P 02 01 10.3 +1.1
baz=97
F15K North Star Dit 67.59 335 P P 02 01 10.8 +0.6
baz=101
C17K DeLong Mountai 67.63 338 P P 02 01 11.0 +0.7
baz=104
ANM Nome 67.69 334 P P 02 01 11.5 +0.7
baz=100
ALE Alert 67.77 4 P P 02 01 10.1 -0.9
F14K Arctic Creek 68.24 335 P P 02 01 15.0 +0.8
baz=99
NIKH Nikolski High 68.26 321 P P 02 01 15.0 +0.5
baz=92
C16K Lisburne Hills 68.37 338 P P 02 01 15.4 +0.5
baz=101
P08K Saint George I 68.83 325 P P 02 01 18.7 +0.7
baz=93
TNA Tin City 68.91 335 P P 02 01 19.2 +0.9
baz=98
GAMB Gambell 70.34 333 P P 02 01 27.7 +0.5
baz=94
DAG Danmarks Havn 71.24 14 *i* P **P 02 01 31.0 -1.4**
DAG IAmb IAmb 02 01 32.6
comp=Z,29nm,1.0s
NOR Nord 72.47 9 *i* P **P 02 01 38.0 -1.8**
NOR IAmb IAmb 02 01 40.1
comp=Z,8.8nm,0.7s
KBS Kingsbay 77.48 11 P P 02 02 10.6 +2.0
KBS Kingsbay 77.48 11 *i* P **P 02 02 09.3 +0.7**
EKA Eskdalemuir Ar 77.56 36 P P 02 02 09.4 -0.1
comp=Z,6.7nm,0.7s,baz=291,slow=4.7,SNR=30
comp=Z,6.7nm,0.7s
SPITS Spitsbergen Ar 78.58 11 P P 02 02 15.6 +0.8
comp=Z,18nm,0.8s,baz=309,slow=0.5,SNR=9.9
SPITS LR LR 02 39 32.0
comp=Z,32nm,18.6s,baz=308,slow=38
comp=Z,18nm,0.8s
HSPB Hornsund (broa 78.87 13 *e*PKP **P 02 02 18.2 +1.9**
HSPB Hornsund (broa 78.87 13 *e*P **P 02 02 18.3 +2.0**
ESDC Sonseca Array 80.08 52 P **P 02 02 23.7 0.0**
comp=Z,2.6nm,0.8s,baz=293,slow=5.7,SNR=16
comp=Z,2.6nm,0.8s
AKN Aaknes 81.11 28 *e*P **P 02 02 28.0 -0.6**
KMY Karmoy 81.13 31 *e*P **P 02 02 28.4 -0.4**
ODD1 Odda 81.61 30 *e*P **P 02 02 32.4 +1.0**
BLS5 Blasjo 81.67 31 *e*P **P 02 02 32.4 +0.7**
LOF Lofoten 81.71 21 *e*P **P 02 02 32.4 +0.7**
DOMB Dombas 82.07 28 *e*P **P 02 02 34.0 +0.3**
LEIR Leirfjorden 82.31 23 *e*P **P 02 02 35.2 +0.3**
SNART Snartemo 82.37 31 *e*P **P 02 02 35.8 +0.5**
STEI Steigen 82.37 21 *e*P **P 02 02 35.8 +0.6**
FAUS Fauske 82.61 22 *e*P **P 02 02 37.6 +1.2**
MOR8 Moi Rana 82.79 23 *e*P **P 02 02 38.0 +0.6**
TRO Tromso 82.86 19 *e*P **P 02 02 39.2 +1.5**
UCC Uccle 83.02 39 *d*P **P 02 02 38.6 -0.2**
comp=Z,8.5nm,1.1s
HOMB Homborsund 83.04 31 *e*P **P 02 02 39.4 +0.7**
KONO Kongsberg 83.11 30 P **P 02 02 39.5 +0.4**
KONO Kongsberg 83.11 30 *e*P **P 02 02 40.2 +1.1**
NBO00 NORSAR Array S 83.19 28 IAmb IAmb 02 02 41.7
comp=Z,16nm,0.9s
JETT Jettan, Norway 83.35 19 *e*P **P 02 02 40.8 +0.5**
DOU Dourbes 83.36 40 *d*P **P 02 02 40.1 -0.5**
comp=Z,6.7nm,0.9s
NB2 NORSAR Subarra 83.38 28 P **P 02 02 41.3 +0.7**
comp=Z,24nm,1.1s,baz=293,slow=5.3
NB2 NORSAR Subarra 83.38 28 P **P 02 02 41.3 +0.7**
comp=Z,24nm,1.1s,baz=293,slow=5.3
NOA NORSAR Array B 83.38 28 P **P 02 02 41.5 +0.9**
comp=Z,8.4nm,0.8s,baz=291,slow=5.2,SNR=41
comp=Z,8.4nm,0.8s
BMRD Maredsous 83.41 40 *d*P **P 02 02 41.0 +0.1**
comp=Z,6.8nm,0.8s
OSL Oslo 83.55 29 *e*P **P 02 02 41.9 +0.6**
BGES Gesves 83.58 39 *d*P **P 02 02 42.0 +0.2**
comp=Z,13nm,0.6s
NC405 NORSAR Array S 83.58 28 IAmb IAmb 02 02 44.2
comp=Z,23nm,1.1s
NC602 NORSAR Array S 83.64 28 *e*P **P 02 02 42.7 +0.8**
RCHB Rochefort 83.73 40 *d*P **P 02 02 41.9 -0.6**
comp=Z,8.4nm,0.9s
HAMF Hammerfest 83.79 17 *e*P **P 02 02 41.1 -1.3**
BSTI Sart Tilman 83.81 39 *d*P **P 02 02 43.0 +0.1**
MUD Monsted U'grnd 83.98 33 *i* P **P 02 02 42.1 -1.5**
MUD IAmb IAmb 02 02 45.6
comp=Z,8.5nm,0.9s
MEM Membach 84.07 39 *d*P **P 02 02 44.5 +0.2**
BHOU Houvegnez 84.15 39 *d*P **P 02 02 44.8 +0.1**
comp=Z,6.3nm,0.0s
BTNL Ternell 84.15 39 *d*P **P 02 02 44.8 +0.1**
WLF Walferdange 84.45 40 *d*P **P 02 02 46.5 +0.3**
comp=Z,9.3nm,0.9s
SSRD Sdr. Stenderup 84.56 34 *i* P **P 02 02 45.7 -0.8**
SSRD IAmb IAmb 02 02 48.0
comp=Z,37nm,0.9s
HFS Hagfors 84.86 29 P **P 02 02 48.6 +0.6**
comp=Z,6.5nm,0.8s,baz=266,slow=2.4,SNR=25
comp=Z,6.5nm,0.8s
ARCES ARCESS Array B 84.91 18 P **P 02 02 47.7 -0.5**
ARCES ARCESS Array B 84.91 18 P **P 02 02 48.7 +0.6**
comp=Z,6.6nm,0.4s,baz=291,slow=5.0,SNR=99
ARCES pP **pP 02 03 11.4 +0.1**
comp=Z,2.1nm,0.6s,baz=318,slow=3.4,SNR=2.0
comp=Z,6.6nm,0.4s
ECH Echery 85.54 41 IAmb IAmb 02 02 52.8
comp=Z,20nm,1.1s
ECH Echery 85.54 41 P **P 02 02 51.6 -0.1**
SENIN Lac Senin/Sane 86.23 43 P **P 02 02 55.6 +0.2**
SENIN IAmb IAmb 02 02 56.4
comp=Z,12nm,1.0s
BFO Black Forest 86.24 41 P **P 02 02 54.9 -0.2**
BFO IAmb IAmb 02 02 55.8
comp=Z,19nm,1.2s
DBIC Dimbokro 87.45 84 P **P 02 03 01.4 -0.2**
comp=Z,4.4nm,0.8s,baz=302,slow=4.4,SNR=6.8
comp=Z,4.4nm,0.8s
TUE Stuetta 87.53 42 P **P 02 03 02.2 +0.5**
TUE IAmb IAmb 02 03 03.3
comp=Z,8.0nm,0.8s
GRF Grafenberg Arr 87.54 39 *e*P **P 02 03 01.6 +0.2**
comp=Z,13nm,1.3s,baz=292,slow=5.4
DAVA Damuels 87.58 41 *e*P **P 02 03 02.1 +0.2**
comp=Z,16nm,1.1s,SNR=6.8
PETK Petropavlovsk- 87.90 325 LR LR 02 42 05.2
comp=Z,29nm,19.6s,baz=127,slow=35
CLL Collm 87.97 37 *i* P **P 02 03 03.2 -0.2**
comp=Z,9.0nm,1.1s
CLL *e*sP **pP 02 03 30.0 +3.2**
CLL *e*PP **PP 02 06 28.0 -2.4**
FUORN Ofenpass-Fuorn 88.07 42 IAmb IAmb 02 03 05.7
comp=Z,7.5nm,0.9s
RETA Reutte 88.07 41 *i* P **P 02 03 04.2 +0.2**
comp=Z,2.7nm,0.7s
FETA Feichten 88.22 41 *e*PcP **P 02 03 05.3 +0.4**
comp=Z,4.0nm,0.6s,SNR=5.1
FETA Feichten 88.22 41 P **P 02 03 05.3 +0.4**
comp=Z,4.0nm,0.6s,SNR=5.1
MOTA Moosalm 88.34 41 *e*P **P 02 03 05.6 +0.1**
comp=Z,4.4nm,0.8s
SQTA Sankt Quirin 88.45 41 *e*P **P 02 03 06.0 +0.1**
BRG Berggiesshubel 88.69 37 *e*P **P 02 03 07.3 +0.5**
BRG Amp 02 03 08.2
comp=Z,6.9nm,1.0s
KHC Kasperske Hory 89.17 39 *e*P **P 02 03 10.1 +0.9**
LESA Schwarzleotal 89.30 41 *e*P **P 02 03 09.9 0.0**
comp=Z,2.0nm,0.9s
GEC2 GERESS Array S 89.36 39 IAmb IAmb 02 03 11.3
comp=Z,7.5nm,1.0s
GERES GERESS Array B 89.36 39 P **P 02 03 10.5 +0.3**
comp=Z,3.7nm,0.9s,baz=305,slow=4.7,SNR=21
comp=Z,3.7nm,0.9s
PRU Pruhonice 89.40 38 *e*P **P 02 03 10.7 +0.5**
ABTA Abfaltersbach 89.45 41 P **P 02 03 10.5 -0.1**
comp=Z,5.9nm,1.0s,SNR=5.9
GKP Gorka Klasztor 89.52 34 *e*PKP **P 02 03 11.4 +0.8**
FINES FINESS Array B 89.57 25 P **P 02 03 11.5 +0.8**
comp=Z,2.4nm,0.6s,baz=254,slow=2.6,SNR=14
FINES LR LR 02 44 25.3
comp=Z,25nm,18.6s,baz=14,slow=36
comp=Z,2.4nm,0.6s
CKRC Cesky Krumlov 89.74 39 *e*P **P 02 03 10.1 -1.7**
STAL STALIGIAL 89.77 42 IAmb IAmb 02 03 13.2
comp=Z,8.7nm,1.1s
BIOA Bad Ischl, Aus 89.79 40 *e*P **P 02 03 11.8 -0.3**
comp=Z,3.6nm,0.8s
KBA Koelnbreinsper 89.85 41 P **P 02 03 12.3 -0.3**
comp=Z,3.7nm,0.8s,SNR=4.8
CHVC Chvalec 90.03 37 *e*P **P 02 03 13.6 +0.4**
UPC Upice 90.04 37 *e*P **P 02 03 13.7 +0.5**
KSP Ksiaz 90.06 36 *e*PKP **P 02 03 14.2 +1.0**
MOA Molln 90.11 40 P **P 02 03 13.5 -0.1**
comp=Z,3.1nm,0.8s,SNR=7.7
OSTC Ostas 90.14 37 *e*P **P 02 03 14.2 +0.6**
TREC Trest 90.25 38 *e*P **P 02 03 14.4 +0.2**
DPC Dobruska-Polom 90.29 37 *e*P **P 02 03 15.0 +0.6**
OBKA Obir 90.84 41 P **P 02 03 16.6 -0.5**
comp=Z,4.7nm,0.9s,SNR=5.5
KRUC Moravsky 90.89 38 *e*P **P 02 03 17.0 -0.1**
VRAC Vranov 90.90 38 *e*P **P 02 03 17.3 +0.1**
CONA Conrad Observa 91.06 39 *e*PcP **P 02 03 18.3 +0.2**
comp=Z,2.1nm,0.7s,SNR=4.9
SOKA Soth 91.07 41 *e*P **P 02 03 17.6 -0.6**
comp=Z,3.9nm,0.8s
ARSA Arzberg 91.14 40 *i* P **P 02 03 18.0 -0.3**
comp=Z,3.5nm,0.7s
MORC Moravsky Berou 91.25 37 IAmb IAmb 02 03 20.4
comp=Z,10nm,1.2s
MORC Moravsky Berou 91.25 37 *e*P **P 02 03 19.1 +0.3**
KEST Kesra 91.31 52 P **P 02 03 19.7 +0.2**
comp=Z,4.0nm,0.8s,baz=293,slow=3.3,SNR=6.4
comp=Z,4.0nm,0.8s
RONA Rosalia, Austr 91.42 39 *e*PcP **P 02 03 20.0 +0.3**
comp=Z,6.7nm,0.7s
TORD Torodi Ar. Bea 91.86 76 P **P 02 03 20.7 -1.6**
comp=Z,0.2nm,0.5s,baz=284,slow=6.4,SNR=1.6
OJC Ojcow 92.33 36 *e*PKP **P 02 03 24.2 +0.4**
NIE Niedzica 93.00 37 *e*PKP **P 02 03 28.4 +1.4**
AKASG Malin Array Be 97.18 32 P **P 02 03 44.6 -1.3**
comp=Z,0.4nm,0.4s,baz=288,slow=3.6,SNR=4.8
comp=Z,0.4nm,0.4s
KURBB Kurchatov Arra 113.39 5 PKiKP **PKiKP 02 08 50.5 -0.4**
comp=Z,0.4nm,0.8s,baz=346,slow=1.9,SNR=4.3
KURBB PP **PP 02 09 38.5 -3.2**
comp=Z,0.8nm,0.8s,baz=352,slow=6.8,SNR=5.8
MKAR Makanchi Array 117.45 3 PP **PP 02 10 07.8 -2.5**
comp=Z,0.8nm,0.8s,baz=27,slow=5.6,SNR=4.0
HHC Hu-ho-hao-te 118.67 338 *e*P **PKPdf 02 09 00.4 -1.2**
BOSA Boshof 122.99 114 PKP **PKPdf 02 09 09.7 -0.4**
comp=Z,3.5nm,0.8s,baz=102,slow=7.3,SNR=5.4
STKA Stephens Creek 127.24 242 PKP **PKPdf 02 09 18.1 +0.2**
comp=Z,1.0nm,0.3s,baz=85,slow=10,SNR=3.0
WRA Warramunga Arr 133.89 258 PKP **PKPdf 02 09 31.4 +0.4**
comp=Z,1.5nm,1.0s,baz=64,slow=2.0,SNR=5.9
ASAR Alice Springs 134.38 252 PKP **PKPdf 02 09 32.0 +0.2**
comp=Z,0.5nm,0.7s,baz=37,slow=2.0,SNR=5.1
PZH PanZhiHua 135.08 340 PKP **PKPdf 02 09 32.6 -0.6**
CMAR Chiang Mai Arr 143.47 339 PKhKP PKPpre 02 09 45.4
comp=Z,0.6nm,0.3s,baz=22,slow=2.3,SNR=4.7
PSI Prapat 157.35 324 PKPab **PKPab 02 10 41.5 -0.1**
comp=Z,3.0nm,0.4s,baz=246,slow=3.1,SNR=3.8
RPSI Rantau Prapat 157.44 324 PKPab 02 10 41.5 -0.3

*NEIC **22** 01:53:39.8±0.3, 35.961N±0.009×97.24W±0.01, h7km±5km, Error ellipse: s-maj=1.7km s-min=1.1km az=120.0*
NEIC 22 01:53:39.7±0.2, 35.960N±0.009×97.24W±0.01, h5km±1km, ML2.1/72, ML2.2/23, Error ellipse: s-maj=3.0km s-min=1.9km az=212.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.24**	**227**		Pg	01 53 44.8	+0.4
OK052	**Battle Ridge R**	**0.35**	**84**		Pg	01 53 47.2	+0.6
OK052					Sg	01 53 52.4	+1.2
OK052				IAML		01 53 52.6	
	206nm,0.2s						
BCOK	**Bluff Creek, N**	**0.43**	**225**		Pg	01 53 48.2	+0.3
BCOK					Sg	01 53 54.4	+0.9
OK004	**Okla Sci Mus**	**0.48**	**204**		Pg	01 53 49.2	+0.3
OK004					Sg	01 53 56.0	+0.9
QUOK	**Quay**	**0.48**	**64**		Pg	01 53 49.4	+0.5
QUOK					Sg	01 53 56.0	+0.9
QUOK				IAML		01 54 02.7	
	comp=E,110nm,0.2s						
OK048	**Pawnee Station**	**0.51**	**28**		Pg	01 53 50.0	+0.4
OK048				IAML		01 53 57.2	
	comp=E,162nm,0.3s						
OKCFA	**Oklahoma City**	**0.57**	**198**		Pg	01 53 51.2	+0.5
OKCFA					Sg	01 53 59.0	+0.9
OKCSW	**OKLAHOMA CITY**	**0.58**	**196**		Pg	01 53 51.2	+0.4
OKCSW					Sg	01 53 59.1	+0.8
OKCSW				IAML		01 53 59.3	
	comp=N,174nm,0.3s						
DEOK	**Depew**	**0.61**	**101**		Pg	01 53 51.8	+0.4
DEOK					Sg	01 54 00.3	+0.9
DEOK				IAML		01 54 01.4	
	comp=E,95nm,0.1s						
OK051	**E0350 and S346**	**0.63**	**31**		Pg	01 53 52.2	+0.3
FNO	**Franklin**	**0.71**	**191**		Pg	01 53 53.4	0.0
FNO					Sg	01 54 03.4	+0.8
CROK	**Carrier**	**0.81**	**312**		Pg	01 53 54.7	-0.6
CROK					Sg	01 54 06.2	+0.4
CROK				IAML		01 54 08.7	
	comp=E,96nm,0.4s						
GC02	**Grant County #**	**1.02**	**331**		Pg	01 53 59.0	-0.3
GC02					Sb	01 54 13.1	-0.5
T35A	**Sooner Cattle**	**1.12**	**31**		Pg	01 54 00.9	-0.3
T35A					Sg	01 54 15.8	+0.1
T35A				IAML		01 54 20.4	
	comp=E,61nm,0.1s						
TUL3	**Leonard**	**1.17**	**92**		Pg	01 54 01.3	-0.9
TUL3					Sg	01 54 17.5	0.0
TUL3				IAML		01 54 19.1	
	comp=E,28nm,0.2s						
CSTR	**Hydro, Custer**	**1.22**	**256**		Pg	01 54 02.1	-1.0
X34A	**Smith Ranch, M**	**1.44**	**200**		Pn	01 54 06.5	0.0

IDC 22 01:55:31.7±53.0, 3.66N×64.59E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=1573.0km s-min=52.1km az=79.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**56.77**	**32**	P	P	02 05 17.7	-0.1
	0.7nm,0.7s,baz=248,slow=7.6,SNR=2.2						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**72.33**	**112**	P	P	02 06 59.9	-0.1
	1.1nm,0.9s,baz=277,slow=6.1,SNR=5.0						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**72.67**	**116**	P	P	02 07 02.1	+0.2
	0.5nm,0.8s,baz=283,slow=5.7,SNR=4.8						
	0.5nm,0.8s						

*FUNV **22** 02:00:57.7, 7.33N×71.97W, h5km, MW3.9*
*RSNC **22** 02:00:58.3±0.0, 7.1N±1°×7.2W±°, h0km±3km, M3.2, mb4.5, ML3.0*
*IDC **22** 02:01:00.9±1.1, 7.23N×71.97W, h58km±12km, mb3.1/5, mbtmp3.5/8, Error ellipse: s-maj=25.0km s-min=7.5km az=131.0*
ISC 22 02:00:55.1±1.3, 7.30N±0.04×71.89W±0.03, h7km±9km, n38, σ1$48/56, mb3.4/4, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.71**	**323**	*e*P	**Pg**	**02 01 08.1**	**-0.7**
CAPV				*e*S	**Sg**	**02 01 18.6**	**+0.6**
PAMC	**Pamplona, Colo**	**0.81**	**273**	P	**Pg**	**02 01 09.0**	**-1.7**
PAMC				S	**Sn**	**02 01 25.9**	**+0.1**
BARC	**Barichara**	**1.46**	**242**	P	**Pn**	**02 01 21.7**	**-0.4**
BARC				S	**Sg**	**02 01 43.4**	**+1.2**
OCAC	**Ocana**	**1.70**	**304**	P	**Pn**	**02 01 25.6**	**+0.3**
OCAC				S	**Sn**	**02 01 47.9**	**+0.5**
RUSC	**La Rusia**	**1.83**	**220**	P	**Pn**	**02 01 29.0**	**+1.6**
RUSC				S	**Sn**	**02 01 52.0**	**+0.9**
BRJC	**Barrancabermej**	**1.87**	**260**	P	**Pn**	**02 01 28.7**	**+1.2**
BRJC				S	**Sn**	**02 01 52.5**	**+1.1**
SDV	**Santo Domingo**	**2.01**	**38**	P	**Pb**	**02 01 32.9**	**+0.8**
	320nm,0.4s,baz=214,slow=4.4,SNR=32						
SDV				S	**Sg**	**02 02 00.1**	**+0.3**
	903nm,0.4s,baz=319,slow=14,SNR=38						
SDV	**Santo Domingo**	**2.01**	**38**	P	**Pb**	**02 01 33.1**	**+1.0**
SDV				S	**Sb**	**02 01 59.0**	**+1.6**
PTBC	**PUERTO BERRIO,**	**2.66**	**254**	P	**Pn**	**02 01 38.3**	**-0.1**
PTBC				S	**Sn**	**02 02 11.4**	**+0.5**
SPBC	**San Pablo de B**	**2.72**	**233**	P	**Pn**	**02 01 41.0**	**+1.8**
SPBC				S	**Sb**	**02 02 16.5**	**-1.2**
MCQV	**Machiques**	**2.81**	**347**	*e*P	**Pn**	**02 01 42.0**	**+1.6**
MCQV				*e*S	**Sn**	**02 02 14.9**	**+0.2**
ZARC	**Zaragoza, Cauc**	**2.95**	**274**	P	**Pn**	**02 01 43.0**	**+0.6**
ZARC				S	**Sn**	**02 02 18.2**	**+0.1**
NORC	**Norcasia**	**3.43**	**240**	P	**Pn**	**02 01 49.9**	**+0.9**
NORC				S	**Sn**	**02 02 32.9**	**+3.0**
ROSC	**El Rosal**	**3.44**	**225**	P	**Pn**	**02 01 50.1**	**+0.7**
	11nm,0.3s,baz=78,slow=17,SNR=8.1						
ROSC				S	**Sn**	**02 02 30.6**	**+0.1**
	42nm,0.7s,baz=16,slow=22,SNR=5.1						
ROSC	**El Rosal**	**3.44**	**225**	P	**Pn**	**02 01 52.7**	**+3.3**
UREC	**San Jos de Ur**	**3.64**	**277**	P	**Pn**	**02 01 53.7**	**+1.8**
HELC	**Santa Helena**	**3.78**	**253**	P	**Pn**	**02 01 54.9**	**+0.8**
CRJC	**Cerrejon, Guaj**	**3.83**	**345**	P	**Pn**	**02 01 54.5**	**-0.1**
GUY2C	**Guyana, Caldas**	**4.02**	**239**	P	**Pn**	**02 01 59.1**	**+1.5**
BAUV	**El Baul**	**4.14**	**66**	*e*P	**Pn**	**02 02 00.2**	**+1.4**
BAUV				*e*S	**Sn**	**02 02 48.4**	**+0.8**
SJCC	**San Jacinto, C**	**4.16**	**309**	P	**Pn**	**02 02 00.5**	**+1.5**
URIC	**Uribia, Colomb**	**4.38**	**359**	P	**Pn**	**02 02 01.6**	**-0.5**
PRAC	**Prado**	**4.64**	**220**	P	**Pn**	**02 02 06.9**	**+1.2**
APAC	**Apartado, Choc**	**4.69**	**278**	P	**Pn**	**02 02 07.3**	**+1.0**
JACV	**Jacura**	**4.83**	**38**	*e*P	**Pn**	**02 02 09.9**	**+1.6**
BENV	**Beln**	**5.00**	**58**	*e*P	**Pn**	**02 02 13.3**	**+2.6**
BENV				*e*S	**Sn**	**02 03 08.4**	**-0.4**
CACV	**CAICARA DEL OR**	**5.31**	**87**	*e*P	Pb	02 02 24.3	-4.0
CACV				*e*S	**Sb**	**02 03 28.3**	**-4.0**
MACC	**Macarena, Meta**	**5.48**	**201**	P	**Pn**	**02 02 16.5**	**-0.7**
TACV	**Tcata**	**5.57**	**59**	*e*P	**Pn**	**02 02 18.3**	**-0.3**
TACV				*e*S	**Sn**	**02 03 21.4**	**-1.5**
PCRV	**Puerto La Cruz**	**7.72**	**68**	P	**Pn**	**02 02 50.7**	**+2.7**
	6.3nm,0.5s,baz=310,slow=3.1,SNR=18						
PCRV				S	**Sn**	**02 04 15.0**	**-0.8**
	11nm,0.5s,baz=156,slow=21,SNR=6.9						
PCRV	**Puerto La Cruz**	**7.72**	**68**	*e*P	**Pn**	**02 02 49.9**	**+1.9**
LPAZ	**La Paz**	**23.73**	**171**	P	**P**	**02 06 08.5**	**-0.2**
	0.6nm,0.5s,baz=276,slow=5.3,SNR=3.4						
	0.6nm,0.5s						
TXAR	**Lajitas Array**	**37.08**	**310**	P	**P**	**02 08 06.2**	**0.0**
	0.2nm,0.3s,baz=123,slow=9.4,SNR=1.7						
	0.2nm,0.3s						
NVAR	**Mina Array Bea**	**52.03**	**314**	P	**P**	**02 10 03.8**	**-2.0**
	0.2nm,0.5s,baz=73,slow=7.5,SNR=1.8						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**72.44**	**79**	P	**P**	**02 12 22.6**	**-0.3**
	0.3nm,0.6s,baz=278,slow=3.9,SNR=5.3						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**77.05**	**335**	P	**P**	**02 12 47.7**	**-1.0**
	0.3nm,0.7s,baz=116,slow=6.8,SNR=2.3						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**150.38**	**234**	PKPbc	**PKPdf**	**02 20 46.2**	**+3.1**
	0.5nm,0.6s,baz=122,slow=4.1,SNR=5.6						
WRA	**Warramunga Arr**	**151.64**	**241**	PKPbc	**PKPbc**	**02 20 49.8**	**-1.4**
	0.4nm,0.5s,baz=106,slow=3.7,SNR=5.7						

*KMA **22** 02:07:27.1±0.2, 34.16N×125.16E, h18km±1km, Error ellipse: s-maj=1.8km s-min=1.3km az=87.0*
*KEA **22** 02:07:30.6, 34.69N×124.84E, h3km, ML3.3/2*
ISC 22 02:07:28.1±1.0, 34.27N±0.04×125.19E±0.07, h10km, n9, σ2$20/14, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GGDB	**Gageodo**	**0.22**	**193**	P	**Pg**	**02 07 31.0**	**-1.6**
	SNR=376						
GGDB				S	**Sg**	**02 07 33.5**	**-2.2**
HGDB	**Hongdo**	**0.44**	**2**	P	**Pb**	**02 07 38.3**	**+0.4**
	SNR=79						
HGDB				P	**Pb**	**02 07 38.4**	**+0.4**
	SNR=86						
HGDB				S	**Sb**	**02 07 45.8**	**+1.1**
HUK2	**Heuksan-myeon**	**0.47**	**27**	P	**Pb**	**02 07 38.8**	**+0.2**
	SNR=50						
BGDB	**Bigeumdo**	**0.81**	**51**	P	**Pn**	**02 07 48.5**	**+2.9**
	SNR=17						
CJD	**Chujado**	**0.97**	**108**	P	**Pg**	**02 07 45.2**	**-1.6**
	SNR=52						
HAWA0	**Hwawon**	**1.03**	**67**	P	**Pg**	**02 07 47.4**	**-0.5**
	SNR=52						
HJU	**Haeju**	**3.79**	**6**	Pg	**Pb**	**02 08 36.7**	**+1.6**
HJU				Sg	**Sg**	**02 09 26.4**	**-3.5**
HJU				AML	AML		
	comp=N,97nm,0.3s						
HJU				AML	AML		
	comp=E,118nm,0.2s						
HJU				AML	AML		
	comp=Z,84nm,0.5s						
PYS	**Pyongsong**	**5.00**	**6**	Sg	**Sb**	**02 09 56.4**	**+0.4**
PYS				Sg	**Sg**	**02 10 04.8**	**-4.0**
PYS				AML	AML		
	comp=N,61nm,0.3s						
PYS				AML	AML		
	comp=E,110nm,0.3s						
PYS				AML	AML		
	comp=Z,62nm,0.5s						
NJ2	**Nanjing**	**5.75**	**249**	*e*P	**Pb**	**02 09 09.8**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						

IDC 22 02:14:26.0±2.6, 3.57N×64.11E, h0km, mb3.9/3, mbtmp3.9/3, MS3.1/1, Error ellipse: s-maj=91.3km s-min=42.0km az=63.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**37.15**	**64**	LR	LR	02 36 14.5	
	comp=Z,28nm,20.8s,baz=230,slow=35						
SONM	**Songino Array**	**57.10**	**33**	P	P	02 24 14.3	-0.1
	1.1nm,0.9s,baz=236,slow=6.8,SNR=4.6						
	1.1nm,0.9s						
WRA	**Warramunga Arr**	**72.75**	**112**	P	P	02 25 56.6	-0.1
	1.6nm,0.9s,baz=286,slow=5.2,SNR=7.0						
	1.6nm,0.9s						

ASAR	**Alice Springs**	**73.06**	**116**	P	P	02 25 58.8	+0.2
	1.1nm,0.9s,baz=279,slow=6.8,SNR=6.4						
	1.1nm,0.9s						
TXAR	**Lajitas Array**	**145.25**	**341**	PKPbc	PKPbc	02 34 05.3	-0.8
	0.9nm,0.9s,baz=64,slow=2.9,SNR=4.8						

ATH 22 02:19:16.0, 39°.61N×21°.02E, h16km±2km, ML1.8/6, Manual Solution by F.Xalaris First location: 2019/09/22 02:20:24, This location: 2019/09/22 02:44:05 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.14**	**289**	P	Pb	02 19 20.1	-0.1
JAN				S	Sg	02 19 22.8	+0.3
MSVA	**Metsovo**	**0.20**	**39**	P	Pg	02 19 21.1	+0.2
MSVA				S	Sg	02 19 24.6	+0.3
TETR	**Tetrakomo, Epi**	**0.33**	**143**	P	Pg	02 19 23.2	+0.2
TETR				S	Sg	02 19 28.2	+0.4
ARTB	**Arta**	**0.46**	**184**	P	Pg	02 19 25.2	0.0
IGT	**Igoumenitsa**	**0.54**	**262**	P	Pg	02 19 27.2	+0.2
IGT				S	Sb	02 19 34.5	0.0
PENT	**Pentalofos**	**0.59**	**9**	P	Pg	02 19 27.8	+0.1
KZN	**Kozani**	**0.90**	**40**	P	Pn	02 19 35.8	+1.6
EVR	**Evrytania**	**0.93**	**138**	P	Pg	02 19 34.0	0.0
MAKR	**Makrakomi, Fth**	**1.05**	**124**	P	Pg	02 19 37.0	+0.7
PVO	**Paravola**	**1.07**	**158**	P	Pg	02 19 37.6	+0.9
ANX	**Ano Chora**	**1.24**	**145**	P	Pg	02 19 40.0	+0.1
EFP	**Efpalio**	**1.37**	**149**	P	Pg	02 19 43.2	+0.8

*IDC **22** 02:19:33.7±2.3, 41°.25N×19°.51E, h0km, mb3.7/3, mbtmp3.5/7, ML2.7/3, MS3.0/2, Error ellipse: s-maj=35.1km s-min=21.4km az=29.0*
*SKO **22** 02:19:37.1, 41°.49N×19°.45E, h14km, ML3.1*
*THE **22** 02:19:37.5, 41°.N±8°×1°.9E±1°.3, h11km, M2.9/16, MLh2.9/16*
*PDG **22** 02:19:37.9±0.2, 41°.31N×19°.42E, h16km, ML3.1/11, Error ellipse: s-maj=0.8km s-min=1.3km az=0.0*
*BEO **22** 02:19:37.7±0.4, 41°.28N×19°.61E, h10km±2km, ML2.8/15*

ISC 22 02:19:37.4±1.1, 41°.30N±0°.02×19°.50E±0°.03, h19km±3km, n116, σ1§39/155, 16C-12D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.69**	**344**	⇑*i*Pg	**Pg**	**02 19 50.5**	**-0.6**
ULC				*i* Sg	**Sg**	**02 19 59.8**	**+0.5**
VLO	**Vlora**	**0.83**	**180**	P	**Pn**	**02 19 55.8**	**+1.7**
VLO				S	**Sn**	**02 20 10.4**	**+4.6**
DRME	**Dracevica, Mon**	**0.92**	**345**	*e*Pg	**Pb**	**02 19 54.9**	**+0.2**
DRME				*e*Sg	**Sn**	**02 20 08.6**	**+0.6**
DRME	**Dracevica, Mon**	**0.92**	**345**	⇑*i*Pg	**Pb**	**02 19 54.4**	**-0.3**
DRME				*i* Sg	**Sn**	**02 20 09.7**	**+1.7**
OHR	**Ohrid**	**1.00**	**100**	*i* Pg	**Pb**	**02 19 56.1**	**-0.1**
OHR				*i* Sg	**Sn**	**02 20 12.4**	**+2.2**
OHR				*e*Lg	Lg	02 20 13.6	
	comp=N,287nm,0.4s						
OHR				*e*Lg	Lg	02 20 14.6	
	comp=E,408nm,0.5s						
BUM	**Brajici-Budva**	**1.10**	**336**	*e*Pg	**Pg**	**02 19 58.4**	**-0.3**
BUM				*i* Sg	**Sg**	**02 20 16.2**	**+3.1**
PDG	**Podgorica**	**1.14**	**351**	⇑P	**Pn**	**02 19 57.8**	**-0.7**
PDG	**Podgorica**	**1.14**	**351**	*e*Pg	**Pb**	**02 19 59.1**	**+0.4**
PDG				*e*Sg	**Sg**	**02 20 15.6**	**+1.0**
PDG	**Podgorica**	**1.14**	**351**	⇓*i*Pg	**Pb**	**02 19 59.0**	**+0.4**
PDG				*i* Sg	**Sg**	**02 20 16.1**	**+1.5**
KBN	**Korca**	**1.19**	**124**	P	**Pg**	**02 20 00.8**	**+0.3**
KBN				S	**Sg**	**02 20 18.3**	**+2.2**
CEME	**Cevo**	**1.32**	**341**	⇓*i*Pg	**Pb**	**02 20 02.2**	**+0.6**
CEME				*i* Sg	**Sg**	**02 20 21.8**	**+1.6**
PVY	**Plav**	**1.34**	**15**	*e*Pg	**Pb**	**02 20 01.8**	**-0.2**
PVY				*e*Sg	**Sg**	**02 20 20.5**	**-0.4**
PVY	**Plav**	**1.34**	**15**	⇓*i*Pg	**Pg**	**02 20 02.7**	**-0.6**
HCY	**Herceg Novi**	**1.37**	**327**	⇓*i*Pg	**Pb**	**02 20 02.7**	**+0.2**
HCY				*i* Sg	**Sg**	**02 20 22.5**	**+0.7**
NKME	**Niksic**	**1.52**	**345**	*e*Pg	**Pb**	**02 20 05.3**	**+0.2**
NKME				*i* Sg	**Sg**	**02 20 27.1**	**+0.5**
KOME	**Kolasin**	**1.55**	**1**	*e*Pg	**Pb**	**02 20 05.8**	**+0.2**
KOME				*e*Sg	**Sg**	**02 20 27.1**	**-0.4**
KOME	**Kolasin**	**1.55**	**1**	⇑*i*Pg	**Pg**	**02 20 05.8**	**+0.2**
KOME				*e*Sg	**Sg**	**02 20 28.0**	**+0.5**
BEY	**Berane**	**1.60**	**11**	*e*Pg	**Pb**	**02 20 06.0**	**-0.4**
BEY				*e*Sg	**Sg**	**02 20 28.4**	**-0.7**
IVA	**Berane**	**1.60**	**11**	⇓*i*Pn	**Pb**	**02 20 06.7**	**+0.3**
IVA				*i* Sn	**Sg**	**02 20 28.9**	**-0.2**
TREB	**Trebinje**	**1.65**	**329**	*e*Pn	**Pn**	**02 20 06.3**	**+0.8**
TREB	**Trebinje**	**1.65**	**329**	*e*Pn	**Pn**	**02 20 06.5**	**+1.0**
PENT	**Pentalofos**	**1.67**	**131**	P	**Pb**	**02 20 08.3**	**+0.7**
PENT				S	**Sg**	**02 20 31.2**	**0.0**
BRY	**Bratogost**	**1.75**	**336**	⇑*i*Pn	**Pb**	**02 20 08.2**	**-0.9**
BRY				*i* Sn	**Sb**	**02 20 32.4**	**+1.7**
IGT	**Igoumenitsa**	**1.88**	**160**	P	**Pn**	**02 20 10.0**	**+1.4**
IGT	**Igoumenitsa**	**1.88**	**160**	*i* Pn	**Pn**	**02 20 10.0**	**+1.4**
IGT				*i* Sn	**Sg**	**02 20 38.6**	**+0.7**
IGT	**Igoumenitsa**	**1.88**	**160**	*e*Pn	**Pn**	**02 20 10.0**	**+1.4**
IGT				*e*Sn	**Sb**	**02 20 33.0**	**-0.8**
JAN	**Janina**	**1.94**	**147**	P	**Pn**	**02 20 11.4**	**+0.8**
UPM	**Unac-Piva**	**1.95**	**347**	⇑*i*Pn	**Pb**	**02 20 11.3**	**-1.2**
UPM				*i* Sn	**Sb**	**02 20 37.5**	**+1.0**
KLINJ	**Klinje**	**1.99**	**340**	*e*Pn	**Pb**	**02 20 12.7**	**-0.3**
KZN	**Kozani**	**1.99**	**119**	P	**Pb**	**02 20 12.1**	**-1.0**
SJES	**Sjenica**	**1.99**	**10**	*e*Pn	**Pb**	**02 20 12.5**	**-0.6**
SJES				*e*Sn	**Sb**	**02 20 37.4**	**-0.2**
STON	**Ston**	**2.06**	**320**	*e*Pn	**Pn**	**02 20 11.4**	**+0.4**
STON	**Ston**	**2.06**	**320**	*e*Pn	**Pn**	**02 20 12.1**	**+1.1**
KTI	**Kastanea**	**2.19**	**114**	P	**Pn**	**02 20 14.7**	**+1.8**
MATE	**Matera**	**2.21**	**254**	⇑P	**Pn**	**02 20 10.6**	**-2.5**
SELS	**Selova**	**2.27**	**32**	*e*Pn	**Pn**	**02 20 14.8**	**+0.9**
SELS				*e*Sn	**Sn**	**02 20 43.0**	**+1.6**
RUDO	**Rudo**	**2.32**	**358**	*e*Pn	**Pn**	**02 20 15.4**	**+0.8**
RUDO	**Rudo**	**2.32**	**358**	*e*Pn	**Pn**	**02 20 16.2**	**+1.6**
IVAS	**Ivanjica**	**2.33**	**12**	*e*Pn	**Pn**	**02 20 16.0**	**+1.2**
IVAS				*e*Sn	**Sb**	**02 20 45.6**	**-1.6**
TETR	**Tetrakomo, Epi**	**2.38**	**145**	P	**Pb**	**02 20 18.0**	**-1.7**
GOCS	**Kraljevo Serbi**	**2.48**	**24**	*e*Pn	**Pn**	**02 20 18.0**	**+1.1**
GOCS				*e*Sn	**Sn**	**02 20 48.4**	**+1.6**
BOSS	**Bosilegrad**	**2.53**	**61**	*e*Pn	**Pn**	**02 20 18.4**	**+0.9**
BOSS				*e*Sn	**Sn**	**02 20 47.6**	**-0.2**
BBLS	**Lazi&#263i**	**2.57**	**359**	*e*Pn	**Pn**	**02 20 19.5**	**+1.4**
BBLS				*e*Sn	**Sn**	**02 20 50.9**	**+2.1**
KNT	**Kendrikon**	**2.57**	**92**	P	**Pn**	**02 20 19.0**	**+1.0**
KNT	**Kendrikon**	**2.57**	**92**	*i* Pn	**Pn**	**02 20 19.1**	**+1.0**
KNT				*i* Sn	**Sn**	**02 20 49.9**	**+1.1**
LIT	**Litokhoron**	**2.57**	**117**	P	**Pn**	**02 20 20.0**	**+1.8**
LIT	**Litokhoron**	**2.57**	**117**	*i* Pn	**Pn**	**02 20 19.8**	**+1.7**
THL	**Klokotos Trika**	**2.59**	**131**	P	**Pn**	**02 20 20.4**	**+2.1**
TYRN	**Tyrnavos**	**2.62**	**126**	P	**Pn**	**02 20 20.9**	**+2.1**
TSLK	**Tsoukalades, L**	**2.63**	**160**	P	**Pn**	**02 20 20.1**	**+1.2**
LKD2	**Lefkada island**	**2.66**	**160**	P	**Pn**	**02 20 20.5**	**+1.2**
THE	**Thessaloniki**	**2.71**	**103**	*i* Pn	**Pn**	**02 20 20.9**	**+1.0**
THE				*i* Sn	**Sn**	**02 20 55.4**	**+3.1**
AMPL	**Ampelaki**	**2.71**	**150**	P	**Pn**	**02 20 22.0**	**+1.9**
GRUS	**Gruza**	**2.74**	**19**	*e*Pn	**Pn**	**02 20 21.5**	**+1.1**
NYDR	**Nydri-Lefkada**	**2.74**	**160**	P	**Pn**	**02 20 21.3**	**+0.9**
KKB	**Krupnik**	**2.78**	**78**	P	**Pn**	**02 20 22.1**	**+1.2**
KKB	**Krupnik**	**2.78**	**78**	*i* Pn	**Pn**	**02 20 22.3**	**+1.3**
KKB				*i* Sn	**Sn**	**02 20 55.6**	**+1.6**
DIVS	**Divibare**	**2.82**	**7**	*e*Pn	**Pn**	**02 20 23.9**	**+2.3**
BOVS	**Bovan**	**2.85**	**34**	⇓P	**Pn**	**02 20 23.8**	**+1.9**
BOVS	**Bovan**	**2.85**	**34**	*e*Pn	**Pn**	**02 20 23.2**	**+1.3**
BOVS				*e*Sn	**Sn**	**02 20 56.2**	**+0.5**
FSK	**Fiskardo**	**2.95**	**164**	P	**Pn**	**02 20 23.5**	**+0.2**
SOH	**Sokhos**	**2.96**	**98**	P	**Pn**	**02 20 24.5**	**+1.1**
SOH	**Sokhos**	**2.96**	**98**	*i* Pn	**Pn**	**02 20 24.5**	**+1.1**
SOH				*i* Sn	**Sn**	**02 20 59.4**	**+1.0**
TIP	**Timpagrande**	**2.98**	**226**	⇑P	**Pn**	**02 20 24.4**	**+0.7**
TRUS	**Trudelj**	**3.00**	**13**	*e*Pn	**Pn**	**02 20 25.8**	**+1.8**
ZAPS	**Zavoj**	**3.05**	**49**	*e*Pn	**Pn**	**02 20 25.8**	**+1.1**
ZAPS				*e*Sn	**Sn**	**02 21 00.4**	**-0.3**
VTS	**Vitosha**	**3.08**	**63**	*e*Pn	**Pn**	**02 20 26.6**	**+1.3**
SRS	**Serrai**	**3.10**	**92**	*i* Pn	**Pn**	**02 20 26.1**	**+0.8**
SRS				*i* Sn	**Sn**	**02 21 00.6**	**-1.2**
SRS	**Serrai**	**3.10**	**92**	*e*Pn	**Pn**	**02 20 25.8**	**+0.5**
SRS				*e*Sn	**Sn**	**02 21 00.1**	**-1.7**
MMB	**Musomishta**	**3.21**	**84**	P	**Pn**	**02 20 28.1**	**+1.2**
MMB	**Musomishta**	**3.21**	**84**	*i* Pn	**Pn**	**02 20 28.2**	**+1.4**
MMB				*i* Sn	**Sn**	**02 21 05.5**	**+0.9**
ZAGS	**Zajecar**	**3.23**	**38**	*e*Pn	**Pn**	**02 20 28.4**	**+1.4**
ZAGS				*e*Sn	**Sn**	**02 21 05.5**	**+0.6**
VLS	**Valsamata**	**3.23**	**165**	P	**Pn**	**02 20 27.4**	**+0.2**
PSDA	**Pessada-Kefalo**	**3.29**	**165**	P	**Pn**	**02 20 28.4**	**+0.4**
BORS2	**Bor- Borsko je**	**3.35**	**33**	*e*Pn	**Pn**	**02 20 29.0**	**+0.2**
BORS2				*e*Sn	**Sn**	**02 21 09.0**	**+0.9**
EFP	**Efpalio**	**3.42**	**146**	P	**Pn**	**02 20 32.0**	**+2.3**
AVAS	**Avala Beograd**	**3.48**	**12**	*e*Pn	**Pn**	**02 20 31.3**	**+0.8**
AVAS				*e*Sn	**Sn**	**02 21 13.3**	**+2.1**
KUBS	**Kucevo**	**3.50**	**27**	*e*Pn	**Pn**	**02 20 30.1**	**-0.7**
KUBS				*e*Sn	**Sn**	**02 21 10.5**	**-1.2**
KIJV	**Kijevo**	**3.54**	**321**	*e*Pn	**Pn**	**02 20 31.6**	**+0.3**
BLY	**Banja Luka**	**3.84**	**335**	*e*Pn	**Pn**	**02 20 36.7**	**+1.2**
BLY	**Banja Luka**	**3.84**	**335**	⇓P	**Pn**	**02 20 33.2**	**-2.3**
BLY	**Banja Luka**	**3.84**	**335**	*e*Pn	**Pn**	**02 20 37.1**	**+1.6**
MDVR	**Moldovita**	**3.84**	**24**	⇑P	**Pn**	**02 20 36.7**	**+1.1**
MDVR	**Moldovita**	**3.84**	**24**	*e*Pn	**Pn**	**02 20 35.9**	**+0.3**
FRGS	**Fruska Gora**	**3.86**	**3**	*e*Pn	**Pn**	**02 20 36.7**	**+0.8**
PLD	**Plovdiv**	**4.02**	**76**	*e*Pn	**Pn**	**02 20 35.9**	**-2.1**
HERR	**Herculane**	**4.17**	**30**	⇑P	**Pn**	**02 20 41.3**	**+1.3**
PLVB	**Pleven**	**4.33**	**60**	⇑P	**Pn**	**02 20 45.1**	**+2.8**
BZS	**Buzias**	**4.58**	**19**	⇓P	**Pn**	**02 20 46.5**	**+0.8**
BZS	**Buzias**	**4.58**	**19**	*e*Pn	**Pn**	**02 20 46.2**	**+0.5**
AQU	**L'Aquila**	**4.67**	**285**	*e*Pn	**Pn**	**02 20 48.5**	**+1.5**
GZR	**Gura Zlata**	**4.74**	**29**	⇑P	**Pn**	**02 20 49.8**	**+1.9**
GZR	**Gura Zlata**	**4.74**	**29**	*e*Pn	**Pn**	**02 20 49.0**	**+1.1**
MOSL	**Moslavina**	**4.75**	**336**	*e*Pn	**Pn**	**02 20 47.1**	**-0.9**
LOT	**Lotru**	**5.19**	**35**	⇓P	**Pn**	**02 20 55.5**	**+1.4**
SIRR	**Siria**	**5.21**	**17**	⇑P	**Pn**	**02 20 55.3**	**+0.9**
SIRR	**Siria**	**5.21**	**17**	*e*Pn	**Pn**	**02 20 54.9**	**+0.6**
OZLJ	**Ozalj**	**5.21**	**327**	*e*Pn	**Pn**	**02 20 55.1**	**+0.7**
BOJS	**Bojanci**	**5.22**	**325**	*e*Pn	**Pn**	**02 20 55.7**	**+1.3**
BRJN	**Brijuni**	**5.54**	**313**	*e*Pn	**Pn**	**02 20 59.5**	**+0.7**
LOZB	**Loznitsa**	**5.65**	**66**	⇓P	**Pn**	**02 21 04.2**	**+3.8**
CEY	**Cerknica**	**5.77**	**322**	*e*Pn	**Pn**	**02 21 03.1**	**+1.1**
VOIR		**5.79**	**43**	⇑P	**Pn**	**02 21 04.7**	**+2.4**
MLR	**Muntele Rosu**	**6.29**	**46**	Pn	**Pn**	**02 21 10.4**	**+1.1**
	comp=E,0.4nm,0.3s,baz=145,slow=10,SNR=8.0						
	comp=E,1.6nm,0.5s						
MLR	**Muntele Rosu**	**6.29**	**46**	⇑P	**Pn**	**02 21 10.5**	**+1.2**
DOPR	**Dopca**	**6.33**	**41**	⇓P	**Pn**	**02 21 12.6**	**+2.9**
PLOR	**Plostina**	**6.91**	**46**	⇑P	**Pn**	**02 21 19.5**	**+1.8**
VRI	**Vrincioaia**	**6.96**	**47**	⇓P	**Pn**	**02 21 21.3**	**+3.0**
IDI	**Anoyia**	**7.35**	**143**	Pn	**Pn**	**02 21 21.8**	**-2.0**
	comp=E,18nm,1.1s,baz=330,slow=16,SNR=1.7						
GERES	**GERESS Array B**	**8.58**	**333**	Pn	**Pn**	**02 21 41.3**	**+0.6**
	baz=151,slow=13,SNR=1.8						
	comp=E,0.1nm,0.3s						
DAVOX	**Davos/Dischmat**	**8.83**	**312**	Pn	**Pn**	**02 21 44.0**	**-0.1**
	comp=E,0.1nm,0.3s,baz=135,slow=17,SNR=1.4						
	comp=E,0.4nm,0.4s						
MMAI	**Mount Meron Ar**	**15.12**	**118**	LR	LR	02 31 00.7	
	comp=E,23nm,19.4s,baz=272,slow=46						
FINES	**FINESS Array B**	**20.57**	**9**	P	**P**	**02 24 13.5**	**-1.3**
	comp=E,1.7nm,0.8s,baz=187,slow=9.8,SNR=3.6						
	comp=E,1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**44.25**	**50**	P	**P**	**02 27 44.7**	**-0.7**
	comp=E,1.1nm,0.5s,baz=280,slow=8.6,SNR=5.1						
	comp=E,1.1nm,0.5s						
MKAR	**Makanchi Array**	**44.41**	**61**	P	**P**	**02 27 45.6**	**-1.2**
	comp=E,0.5nm,0.7s,baz=275,slow=7.1,SNR=3.4						
	comp=E,0.5nm,0.7s						
LBTB	**Lobatse**	**66.22**	**174**	LR	LR	03 01 44.5	
	comp=E,28nm,18.3s,baz=256,slow=38						

*IDC **22** 02:20:44.8±2.1, 41°.47N×19°.46E, h0km, mb3.6/3, mbtmp3.6/8, ML3.1/4, Error ellipse: s-maj=33.3km s-min=16.3km az=32.0*
*TIR **22** 02:20:45.6, 41°.51N×19°.48E, h11km, Ml3.4/4*
*THE **22** 02:20:47.1, 41°.N±5°×1°.9E±°, h11km, M3.0/6, MLh3.0/6*
*BEO **22** 02:20:48.7±0.4, 41°.37N×19°.63E, h11km±2km, ML2.9/16*
*PDG **22** 02:20:49.1±0.3, 41°.42N×19°.40E, h13km, MD3.5/5, ML3.4/11, Error ellipse: s-maj=1.3km s-min=2.0km az=0.0*
*PRU **22** 02:20:49.5, 40°.92N×18°.17E, h0km*

ISC 22 02:20:47.1±0.9, 41°.36N±0°.02×19°.50E±0°.03, h18km±6km, n80, σ1§55/122, 6C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.27**	**92**	⇓Pg	**Pg**	**02 20 52.1**	**-1.0**
TIR				Sg	**Sg**	**02 20 55.6**	**-1.6**
TIR				AML	AML	02 20 58.0	
	14nm,0.4s						
ULC	**Ulcinj**	**0.64**	**342**	⇑*i*Pg	**Pg**	**02 20 59.0**	**-0.7**
ULC				*i* Sg	**Sb**	**02 21 08.9**	**+0.6**
DRME	**Dracevica, Mon**	**0.86**	**344**	*e*Pg	**Pn**	**02 21 04.5**	**+0.1**
DRME				*e*Sg	**Sn**	**02 21 17.0**	**+0.4**
DRME	**Dracevica, Mon**	**0.86**	**344**	⇓*i*Pg	**Pb**	**02 21 03.8**	**+0.2**
DRME				*e*Sg	**Sn**	**02 21 16.6**	**0.0**
VLO	**Vlora**	**0.89**	**180**	⇑Pg	**Pn**	**02 21 05.2**	**+0.5**
VLO				Sg	**Sn**	**02 21 19.5**	**+2.4**
VLO				AML	AML	02 21 23.6	
	15nm,0.7s						
VLO	**Vlora**	**0.89**	**180**	P	**Pn**	**02 21 05.9**	**+1.2**
VLO				S	**Sn**	**02 21 20.4**	**+3.3**
BUM	**Brajici-Budva**	**1.05**	**334**	⇓*i*Pg	**Pb**	**02 21 07.1**	**+0.3**
BUM				*i* Sg	**Sn**	**02 21 22.7**	**+1.5**
PDG	**Podgorica**	**1.09**	**350**	*e*Pg	**Pg**	**02 21 08.2**	**0.0**
PDG				*e*Sg	**Sg**	**02 21 23.9**	**+1.5**
PDG	**Podgorica**	**1.09**	**350**	⇓*i*Pg	**Pn**	**02 21 08.1**	**+0.6**
PDG				*e*Sg	**Sg**	**02 21 23.9**	**+1.5**
KBN	**Korca**	**1.22**	**127**	⇑Pg	**Pg**	**02 21 10.3**	**-0.3**
KBN				Sg	**Sg**	**02 21 28.9**	**+2.4**
KBN	**Korca**	**1.22**	**127**	P	**Pg**	**02 21 10.5**	**-0.1**
KBN				S	**Sg**	**02 21 29.2**	**+2.7**
CEME	**Cevo**	**1.27**	**340**	⇑*i*Pg	**Pb**	**02 21 10.9**	**+0.4**
CEME				*i* Sg	**Sg**	**02 21 29.2**	**+1.1**
PVY	**Plav**	**1.28**	**15**	*e*Sg	**Pn**	**02 21 10.7**	**+0.4**
PVY	**Plav**	**1.28**	**15**	*e*Pg	**Sg**	**02 21 29.0**	**+0.4**
PVY	**Plav**	**1.28**	**15**	⇑*i*Pg	**Pg**	**02 21 12.4**	**+0.5**
HCY	**Herceg Novi**	**1.32**	**326**	⇓*i*Pg	**Pb**	**02 21 11.7**	**+0.2**
HCY				*i* Sg	**Sg**	**02 21 31.4**	**+1.4**
NKME	**Niksic**	**1.47**	**344**	⇓*i*Pg	**Pb**	**02 21 14.6**	**+0.7**
NKME				*i* Sg	**Sg**	**02 21 35.5**	**+1.0**
KOME	**Kolasin**	**1.49**	**0**	*e*Pg	**Pg**	**02 21 15.9**	**+0.1**
KOME				*e*Sg	**Sg**	**02 21 35.9**	**+0.6**
KOME	**Kolasin**	**1.49**	**0**	⇓*i*Pg	**Pg**	**02 21 15.6**	**-0.2**
KOME				*i* Sg	**Sg**	**02 21 36.5**	**+1.2**
BEY	**Berane**	**1.54**	**11**	*e*Pg	**Pb**	**02 21 15.1**	**-0.1**
BEY				*e*Sg	**Sg**	**02 21 36.7**	**-0.2**
IVA	**Berane**	**1.54**	**11**	⇓*i*Pg	**Pn**	**02 21 14.7**	**+0.9**
IVA				*i* Sg	**Sg**	**02 21 38.9**	**+2.0**
TREB	**Trebinje**	**1.61**	**328**	*e*Pn	**Pb**	**02 21 17.0**	**+0.7**
PENT	**Pentalofos**	**1.70**	**133**	P	**Pb**	**02 21 18.1**	**+0.2**
BRY	**Bratogost**	**1.70**	**335**	⇓*i*Pn	**Pb**	**02 21 18.6**	**+0.6**
BRY				*e*Sn	**Sg**	**02 21 42.2**	**+0.2**
UPM	**Unac-Piva**	**1.90**	**347**	*e*Pn	**Pb**	**02 21 21.3**	**0.0**
UPM				*e*Sn	**Sb**	**02 21 46.6**	**+1.8**
IGT	**Igoumenitsa**	**1.93**	**161**	⇑Pn	**Pg**	**02 21 23.3**	**-0.8**
IGT				Sn	**Sg**	**02 21 52.2**	**+3.1**
IGT	**Igoumenitsa**	**1.93**	**161**	P	**Pb**	**02 21 20.3**	**-1.4**
IGT	**Igoumenitsa**	**1.93**	**161**	*e*Pn	**Pb**	**02 21 21.2**	**-0.5**
IGT				*e*Sn	**Sb**	**02 21 46.2**	**+0.7**
NOCI	**Noci**	**1.93**	**254**	Pn	**Pb**	**02 21 22.1**	**+0.4**
NOCI				Sn	**Sg**	**02 21 48.8**	**-0.4**
NOCI				AML	AML	02 21 57.1	
	1.6nm,0.5s						
SJES	**Sjenica**	**1.94**	**10**	*e*Pn	**Pb**	**02 21 22.3**	**+0.4**
SJES				*e*Sn	**Sb**	**02 21 46.1**	**+0.3**
KZN	**Kozani**	**2.01**	**121**	P	**Pb**	**02 21 22.0**	**-1.2**
KTI	**Kastanea**	**2.20**	**115**	P	**Pb**	**02 21 25.0**	**-1.5**
SELS	**Selova**	**2.21**	**32**	*e*Pn	**Pn**	**02 21 24.6**	**+1.6**
SELS				*e*Sn	**Sn**	**02 21 51.0**	**+1.1**
IVAS	**Ivanjica**	**2.27**	**12**	*e*Pn	**Pn**	**02 21 24.8**	**+1.0**
IVAS				*e*Sn	**Sn**	**02 21 53.2**	**+1.8**
GOCS	**Kraljevo Serbi**	**2.43**	**24**	*e*Pn	**Pn**	**02 21 27.1**	**+1.7**
GOCS				*e*Sn	**Sn**	**02 21 55.9**	**+0.6**
BOSS	**Bosilegrad**	**2.50**	**62**	*e*Pn	**Pn**	**02 21 28.0**	**+1.2**
BOSS				*e*Sn	**Sn**	**02 21 57.0**	**+0.1**
BBLS	**Lazi&#263i**	**2.51**	**358**	*e*Pn	**Pb**	**02 21 30.6**	**-1.1**
BBLS				*e*Sn	**Sn**	**02 22 00.1**	**+2.8**
KNT	**Kendrikon**	**2.57**	**93**	P	**Pn**	**02 21 29.1**	**+1.3**
GRUS	**Gruza**	**2.68**	**19**	*e*Pn	**Pn**	**02 21 31.4**	**+2.0**
GRUS				*e*Sn	**Sn**	**02 22 04.1**	**+2.6**
LKD2	**Lefkada island**	**2.71**	**161**	P	**Pn**	**02 21 30.1**	**+0.3**
THE	**Thessaloniki**	**2.72**	**104**	Pn	**Pn**	**02 21 30.6**	**+0.8**
KKB	**Krupnik**	**2.76**	**79**	P	**Pn**	**02 21 31.0**	**+0.5**
DIVS	**Divibare**	**2.76**	**7**	*e*Pn	**Pb**	**02 21 33.7**	**-2.3**
DIVS				*e*Sn	**Sn**	**02 22 05.3**	**+1.7**
NYDR	**Nydri-Lefkada**	**2.79**	**160**	P	**Pn**	**02 21 30.9**	**0.0**
BOVS	**Bovan**	**2.80**	**35**	*e*Pn	**Pn**	**02 21 32.4**	**+1.4**
BOVS				*e*Sn	**Sn**	**02 22 05.0**	**+0.7**
TRUS	**Trudelj**	**2.94**	**13**	*e*Pn	**Pg**	**02 21 41.7**	**-1.7**
TRUS				*e*Sn	**Sn**	**02 22 10.0**	**+2.2**
SOH	**Sokhos**	**2.96**	**99**	P	**Pn**	**02 21 34.1**	**+0.9**
ZAPS	**Zavoj**	**3.01**	**49**	*e*Pn	**Pn**	**02 21 35.8**	**+1.9**
ZAPS				*e*Sn	**Sn**	**02 22 10.6**	**+1.0**
VTS	**Vitosha**	**3.05**	**64**	*e*Pn	**Pn**	**02 21 35.7**	**+1.1**
SRS	**Serrai**	**3.09**	**93**	*e*Pn	**Pn**	**02 21 36.1**	**+1.1**
SRS				*e*Sn	**Sn**	**02 22 10.9**	**-0.7**
ZAGS	**Zajecar**	**3.17**	**38**	*e*Pn	**Pn**	**02 21 37.8**	**+1.6**
ZAGS				*e*Sn	**Sn**	**02 22 14.4**	**+0.8**
BORS2	**Bor- Borsko je**	**3.30**	**33**	*e*Pn	**Pn**	**02 21 38.3**	**+0.4**
BORS2				*e*Sn	**Sn**	**02 22 17.4**	**+0.7**
KUBS	**Kucevo**	**3.44**	**27**	*e*Pn	**Pn**	**02 21 40.1**	**+0.2**
KUBS				*e*Sn	**Sn**	**02 22 19.8**	**-0.5**
MDVR	**Moldovita**	**3.79**	**25**	*e*Pn	**Pn**	**02 21 45.6**	**+1.0**
FRGS	**Fruska Gora**	**3.81**	**3**	*e*Pn	**Pn**	**02 21 46.9**	**+2.0**
BZS	**Buzias**	**4.53**	**19**	*e*Pn	**Pn**	**02 21 55.7**	**+1.0**
BOJS	**Bojanci**	**5.17**	**325**	*e*Pn	**Pn**	**02 22 04.2**	**+0.6**
RIY	**Rijeka**	**5.40**	**319**	*e*Pn	**Pn**	**02 22 07.1**	**+0.4**
SOKA	**Soboth**	**6.22**	**330**	*e*Pn	**Pn**	**02 22 17.4**	**-0.6**
	2.0nm,0.3s,SNR=4.8						
MLR	**Muntele Rosu**	**6.25**	**46**	Pn	**Pn**	**02 22 19.9**	**+1.4**
	1.0nm,0.3s,baz=311,slow=4.0,SNR=10						
MLR				Sn	**Sn**	**02 23 30.4**	**+0.8**
	0.2nm,0.3s,baz=131,slow=9.8,SNR=3.6						
	4.1nm,0.6s

GKN	**Gorkha**	**8.86**	**297**	Pg	**Pn**	**02 33 28.1**	**-1.4**
	baz=304,slow=0.0						
GKN				Sn	**Sn**	**02 35 04.8**	**-3.2**
	comp=E,82nm,0.3s,baz=304,slow=0.0						
DANN	**Dangsing**	**9.71**	**297**	Pg	**Pn**	**02 33 39.3**	**-2.0**
	baz=304,slow=0.0						
DANN				Sn	**Sn**	**02 35 23.7**	**-5.2**
	comp=E,15nm,0.3s,baz=304,slow=0.0						
PYUN	**Piuthan**	**10.25**	**294**	Pg	**Pn**	**02 33 46.6**	**-2.0**
	baz=300,slow=0.0						
PYUN				Sn	**Sn**	**02 35 36.9**	**-5.2**
	comp=E,63nm,0.8s,baz=300,slow=0.0						
LZH	**Lanzhou**	**14.75**	**35**	*e*P	**Pn**	**02 34 50.8**	**+1.6**
LZH				pP	P	02 35 00.6	+6.9
LZH				pmax	pmax		
	comp=Z,22nm,1.5s						
NIL	**Nilore**	**20.07**	**302**		**P**	**02 35 53.4**	**+1.1**
NIL				IAmb	IAmb	02 35 54.6	
	comp=Z,22nm,0.7s						
WMQ	**Urumqi**	**20.11**	**348**	*e*P	Pn	02 35 55.8	+0.9
KSH	**Kashi**	**21.27**	**320**	P	**P**	**02 36 06.3**	**+1.0**
KSH				pP	sP	02 36 26.4	-0.9
KSH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TARG	**Taragay, Kyrgy**	**21.82**	**327**	P	**P**	**02 36 11.8**	**+0.4**
TARG				IAmb	IAmb	02 36 32.3	
	comp=Z,15nm,1.1s						
HHC	**Hu-ho-hao-te**	**22.37**	**38**	*e*P	**P**	**02 36 15.3**	**-1.7**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,4.1s						
KDJ	**Kajisay**	**22.43**	**327**	P	**P**	**02 36 17.5**	**-0.2**
KDJ				IAmb	IAmb	02 36 35.3	
	comp=Z,14nm,1.2s						
BOOM	**Boomskoye usch**	**23.32**	**326**	P	**P**	**02 36 26.4**	**-0.4**
BOOM				IAmb	IAmb	02 36 49.6	
	comp=Z,11nm,1.3s						
NJ2	**Nanjing**	**23.56**	**65**	*e*P	**P**	**02 36 27.9**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,23nm,0.5s						
MKAR	**Makanchi Array**	**24.25**	**341**		**P**	**02 36 35.9**	**+1.0**
MKAR	**Makanchi Array**	**24.25**	**341**	P	**P**	**02 36 36.1**	**+1.1**
	comp=Z,3.2nm,0.7s,baz=149,slow=12,SNR=18						
	comp=Z,3.2nm,0.7s						
MAKZ	**Makanchi**	**24.36**	**340**	P	**P**	**02 36 36.5**	**+0.6**
GAR	**Garm**	**24.57**	**312**		**P**	**02 36 39.4**	**+1.3**
GAR				IAmb	IAmb	02 36 40.2	
	comp=Z,17nm,0.7s						
CHGR	**Chuyangaron**	**25.20**	**311**	P	**P**	**02 36 44.2**	**+0.4**
CHGR				IAmb	IAmb	02 36 51.4	
	comp=Z,17nm,1.1s						
SIMJ	**Simiganj**	**25.31**	**310**		**P**	**02 36 45.5**	**+0.7**
SONM	**Songino Array**	**25.64**	**20**	P	**P**	**02 36 48.9**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=192,slow=10,SNR=3.0						
SONM				pP	**pP**	**02 37 04.5**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=198,slow=10,SNR=6.0						
SONM				LR	LR	02 47 55.8	
	comp=Z,44nm,19.0s,baz=320,slow=39						
	comp=Z,0.4nm,0.4s						
KK31	**Karatay Array**	**26.73**	**320**	P	**P**	**02 36 58.3**	**+0.9**
KKAR	**Karatay Array**	**26.73**	**320**	P	**P**	**02 36 58.5**	**+1.1**
KURBB	**Kurchatov Arra**	**28.80**	**340**	P	**P**	**02 37 16.7**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=159,slow=8.0,SNR=10						
KURBB				pP	**pP**	**02 37 33.2**	**+1.6**
	comp=Z,1.0nm,0.9s,baz=160,slow=8.1,SNR=2.8						
	comp=Z,1.1nm,0.5s						
ZALV	**Zalesovo Beam**	**30.38**	**350**	P	**P**	**02 37 30.2**	**+0.5**
ZALV	**Zalesovo Beam**	**30.38**	**350**	P	**P**	**02 37 31.1**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=172,slow=8.1,SNR=3.9						
ZALV				pP	**pP**	**02 37 47.3**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=158,slow=4.7,SNR=2.1						
	comp=Z,0.8nm,0.5s						
BVAR	**Borovoye Array**	**33.66**	**335**	P	**P**	**02 37 59.5**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=132,slow=11,SNR=6.8						
	comp=Z,1.8nm,0.8s						
AB31	**Akbulak array**	**36.25**	**322**	P	**P**	**02 38 21.5**	**+0.7**
AB31				IAmb	IAmb	02 38 23.1	
	comp=Z,3.9nm,1.1s						
ABKAR	**Akbulak array**	**36.25**	**322**	P	**P**	**02 38 22.1**	**+1.3**
AKASG	**Malin Array Be**	**55.50**	**316**	P	**P**	**02 40 52.0**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=80,slow=7.3,SNR=2.9						
AKASG				pP	**pP**	**02 41 09.7**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=86,slow=6.0,SNR=3.4						
	comp=Z,0.4nm,0.4s						
MLR	**Muntele Rosu**	**57.68**	**310**	P	**P**	**02 41 08.2**	**+0.1**
FINES	**FINESS Array B**	**58.26**	**329**	P	**P**	**02 41 12.7**	**+1.1**
FINES	**FINESS Array B**	**58.26**	**329**	P	**P**	**02 41 11.9**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=110,slow=11,SNR=6.4						
	comp=Z,1.1nm,0.6s						
WB0	**Warramunga Arr**	**59.12**	**134**	P	**P**	**02 41 16.1**	**-2.0**
WRA	**Warramunga Arr**	**59.21**	**134**	P	**P**	**02 41 16.7**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=322,slow=7.4,SNR=5.1						
	comp=Z,0.2nm,0.3s						
ARCES	**ARCESS Array B**	**59.85**	**338**	P	**P**	**02 41 23.7**	**+1.1**
	comp=Z,3.3nm,0.9s,baz=97,slow=9.9,SNR=5.0						
	comp=Z,3.3nm,0.9s						
ASAR	**Alice Springs**	**61.64**	**138**	P	**P**	**02 41 33.6**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=314,slow=6.2,SNR=11						
ASAR				pP	**pP**	**02 41 50.4**	**-2.4**
	comp=Z,0.6nm,0.5s,baz=319,slow=6.6,SNR=5.0						
	comp=Z,0.3nm,0.3s						
HFS	**Hagfors**	**64.29**	**327**	P	**P**	**02 41 52.9**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=101,slow=6.2,SNR=10						
HFS				pP	**pP**	**02 42 10.3**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=90,slow=6.5,SNR=2.6						
	comp=Z,2.4nm,0.7s						
NB2	**NORSAR Subarra**	**65.43**	**328**	P	**P**	**02 41 59.5**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=84,slow=6.5						
NOA	**NORSAR Array B**	**65.43**	**328**	P	**P**	**02 42 00.0**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=83,slow=6.4,SNR=3.4						
NOA				pP	**pP**	**02 42 17.3**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=104,slow=4.0,SNR=3.1						
	comp=Z,0.4nm,0.6s						
NC204	**NORSAR Array S**	**65.62**	**328**	P	**P**	**02 42 01.4**	**+0.2**
NC204				IAmb	IAmb	02 42 02.6	
	comp=Z,7.4nm,1.2s						
GERES	**GERESS Array B**	**65.63**	**314**	P	**P**	**02 42 02.1**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=60,slow=6.2,SNR=3.2						
GERES				pP	**pP**	**02 42 20.2**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=76,slow=5.6,SNR=6.0						
	comp=Z,0.4nm,0.5s						
F17K	**Baldwin Pennin**	**73.86**	**24**	P	**P**	**02 42 52.4**	**+0.9**
F17K				IAmb	IAmb	02 43 00.7	
	comp=Z,9.3nm,1.1s						

FUNV ***22*** *02:44:00.7, 7˚.76N×72˚.36W, h89km, MW3.1*
RSNC ***22*** *02:44:03.9-0.0, 7˚.N±3˚×7˚.3W±˚, h170km±6km, M2.1, ML1.9*
ISC 22 02:43:57.8±1.4, 7˚.83N±0˚.08×72˚.36W±0˚.06, h106km±11km, n13, σ2§85/17, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.05**	**53**	*e*P	**Pn**	**02 44 12.7**	**-0.2**
CAPV				*e*S	**Sn**	**02 44 23.1**	**-0.9**
OCAC	**Ocana**	**1.03**	**293**	P	Pn	02 44 30.7	+11
OCAC				S	Sn	02 44 52.1	+17
BARC	**Barichara**	**1.48**	**214**	P	**Pn**	**02 44 28.0**	**+3.5**
BARC				S	**Sn**	**02 44 46.4**	**+1.8**
BRJC	**Barrancabermej**	**1.62**	**238**	P	Pn	02 44 32.8	+6.9
BRJC				S	**Sn**	**02 44 49.6**	**+2.3**
RUSC	**La Rusia**	**2.06**	**201**	P	**Pn**	**02 44 33.4**	**+1.5**
RUSC				S	**Sn**	**02 44 54.5**	**-3.4**
PTBC	**PUERTO BERRIO,**	**2.45**	**238**	P	**Pn**	**02 44 38.0**	**+1.5**
PTBC				S	**Sn**	**02 44 59.2**	**-7.0**
SPBC	**San Pablo de B**	**2.76**	**218**	P	**Pn**	**02 44 40.3**	**-0.3**
SPBC				S	Sn	02 45 02.2	-11
UREC	**San Jos de Ur**	**3.15**	**269**	P	**Pn**	**02 44 47.4**	**+1.7**
UREC				S	**Sn**	**02 45 21.9**	**-0.8**
SJCC	**San Jacinto, C**	**3.46**	**307**	P	Pn	02 45 05.3	+15
SJCC				S	Sn	02 45 46.5	+16
GUY2C	**Guyana, Caldas**	**3.96**	**229**	P	**Pn**	**02 44 56.6**	**-0.4**
GUY2C				S	Sn	02 45 31.4	-11
BAUV	**El Baul**	**4.41**	**75**	*e*P	**Pn**	**02 45 04.4**	**+1.7**
BAUV				*e*S	**Sn**	**02 45 51.7**	**-1.3**
BENV	**Beln**	**5.16**	**65**	*e*P	**Pn**	**02 45 14.8**	**+2.0**
BENV				*e*S	**Sn**	**02 46 08.5**	**-2.7**
CACV	**CAICARA DEL OR**	**5.77**	**92**	*e*P	Pn	02 45 29.6	+8.5

SJA ***22*** *03:43:09.2±0.6, 31˚.46S×71˚.95W, h14km, ML3.6, MW3.6*
GUC ***22*** *03:43:12.4±0.9, 31˚.47S×71˚.65W, h40km±4km, ML3.7*
ISC 22 03:43:09.7±1.4, 31˚.48S±0˚.02×71˚.92W±0˚.04, h3km±10km, n71, σ1§65/121, 1C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.83**	**71**	⇓*i*P	**Pg**	**03 43 26.1**	**+0.4**
CO02				*i* S	**Sg**	**03 43 35.8**	**-0.6**
CO02				IAML		03 43 41.2	
	comp=N,6μm,0.3s						
CO02	**Combarbal**	**0.83**	**71**	*e*P	**Pg**	**03 43 25.3**	**-0.3**
CO02				*e*S	**Sg**	**03 43 37.3**	**+0.9**
CO02				IAML		03 43 38.7	
	comp=Z,2μm,0.5s						
CO06	**Fray Jorge**	**0.84**	**17**	⇓*i*P	**Pb**	**03 43 28.1**	**+1.2**
CO06				*i* S	**Sb**	**03 43 39.4**	**+0.8**
CO06				IAML		03 43 40.6	
	comp=E,4μm,0.2s						
CO04	**Los Peladeros**	**0.98**	**125**	⇓*i*P	**Pg**	**03 43 28.7**	**+0.2**
CO04				*i* S	**Sg**	**03 43 40.0**	**-1.2**
CO04				IAML		03 43 43.3	
	comp=N,4μm,0.3s						
VA06	**Catapilco**	**1.20**	**154**	⇓*i*P	**Pb**	**03 43 32.8**	**-0.3**
VA06				*i* S	**Sb**	**03 43 47.7**	**-1.3**
VA06				IAML		03 43 51.0	
	comp=E,4μm,0.4s						
CO03	**El Pedregal**	**1.23**	**59**	⇓*i*P	**Pn**	**03 43 32.5**	**-1.4**
CO03				*i* S	**Sb**	**03 43 47.4**	**-2.6**
CO03	**El Pedregal**	**1.23**	**59**	*e*P	**Pn**	**03 43 31.9**	**-2.0**
CO03				*e*S	**Sb**	**03 43 48.7**	**-1.2**
CO03				IAML		03 43 50.5	
	comp=Z,904nm,0.4s						
VA01	**Torpederas**	**1.56**	**172**	*e*P	**Pb**	**03 43 39.5**	**+0.3**
VA01				*i* S	**Sn**	**03 43 56.8**	**-2.1**
VA01	**Torpederas**	**1.56**	**172**	*e*P	**Pb**	**03 43 39.8**	**+0.6**
VA01				*e*S	**Sg**	**03 44 02.6**	**+2.8**
GO04	**Tololo Observa**	**1.62**	**37**	⇑*i*P	**Pn**	**03 43 39.2**	**-0.1**
GO04				*i* S	**Sn**	**03 43 59.6**	**-1.3**
GO04				IAML		03 44 05.9	
	comp=N,5μm,0.4s						
GO04	**Tololo Observa**	**1.62**	**37**	*e*P	**Pn**	**03 43 38.7**	**-0.7**
GO04				*e*S	**Sn**	**03 44 00.3**	**-0.5**
CO05	**La Serena**	**1.66**	**21**	*e*P	**Pn**	**03 43 40.1**	**+0.5**
CO05				*i* S	**Sn**	**03 44 01.0**	**-0.5**
CO05				IAML		03 44 07.4	
	comp=E,947nm,0.6s						
ROCH	**El Roble**	**1.68**	**153**	*e*P	**Pn**	**03 43 40.5**	**+0.3**
ROCH				*i* S	**Sn**	**03 44 01.4**	**-0.8**
ROCH				IAML		03 44 06.5	
	comp=N,2μm,0.3s						
ROC1	**El Roble**	**1.68**	**153**	*e*P	**Pn**	**03 43 40.2**	**0.0**
ROC1				*e*S	**Sb**	**03 44 03.1**	**+0.1**
VA03	**San Esteban**	**1.73**	**138**	*e*P	**Pn**	**03 43 40.9**	**+0.1**
VA03				*i* S	**Sn**	**03 44 01.6**	**-1.8**
VA03				IAML		03 44 03.9	
	comp=E,2μm,0.2s						
VA03	**San Esteban**	**1.73**	**138**	*e*P	**Pn**	**03 43 40.5**	**-0.2**
VA03				*e*S	**Sb**	**03 44 03.6**	**-0.7**
VA03				IAML		03 44 07.4	
	comp=Z,577nm,0.7s						
MT02	**Curacav**	**1.89**	**160**	*e*P	**Pn**	**03 43 43.0**	**0.0**
MT02	**Curacav**	**1.89**	**160**	*e*P	**Pn**	**03 43 42.5**	**-0.4**
MT02				*e*S	**Sb**	**03 44 08.8**	**-0.2**
MT02				IAML		03 44 11.2	
	comp=Z,150nm,0.3s						
PEL	**Peldehue**	**1.96**	**148**	*e*P	**Pn**	**03 43 44.5**	**+0.6**
PEL	**Peldehue**	**1.96**	**148**	*e*P	**Pn**	**03 43 44.6**	**+0.8**
PEL				*e*S	**Sb**	**03 44 10.8**	**-0.1**
PEL				IAML		03 44 17.2	
	comp=Z,308nm,0.4s						
MT10	**Hacienda Santa**	**2.14**	**147**	*e*P	**Pn**	**03 43 47.1**	**+0.7**
MT05	**Renca**	**2.15**	**153**	*e*P	**Pn**	**03 43 48.1**	**+1.5**
MT05	**Renca**	**2.15**	**153**	*e*P	**Pn**	**03 43 47.4**	**+0.9**
MT05				*e*S	**Sb**	**03 44 16.6**	**+0.1**
MT05				IAML		03 44 19.8	
	comp=Z,207nm,0.2s						
MT14	**Cerro Cal¡n**	**2.24**	**149**	*e*P	**Pn**	**03 43 48.8**	**+1.0**
RTLS	**Leoncito**	**2.26**	**99**	*e*P	**Pn**	**03 43 49.8**	**+1.6**
RTLS				*e*S	**Sb**	**03 44 19.4**	**-0.3**
RTLS				IAML		03 44 22.7	
	comp=Z,569nm,0.5s						
MT16	**CCHEN**	**2.27**	**149**	*e*P	**Pn**	**03 43 50.0**	**+1.8**
FCH	**Farellones**	**2.30**	**144**	*e*P	**Pn**	**03 43 49.5**	**+0.7**
MT03	**Universidad Ad**	**2.33**	**150**	*e*P	**Pn**	**03 43 49.8**	**+0.7**
MT03	**Universidad Ad**	**2.33**	**150**	*e*P	**Pn**	**03 43 50.0**	**+0.9**
MT03				*e*S	**Sb**	**03 44 20.1**	**-1.7**
MT03				IAML		03 44 26.7	
	comp=Z,337nm,0.3s						
MT09	**Talagante**	**2.42**	**161**	*e*P	**Pn**	**03 43 51.2**	**+0.8**
MT15	**Las Vizcachas**	**2.43**	**151**	*e*P	**Pn**	**03 43 51.0**	**+0.7**
MT04	**Ro Olivares**	**2.44**	**142**	*e*P	**Pn**	**03 43 52.0**	**+1.4**
MT04	**Ro Olivares**	**2.44**	**142**	*e*P	**Pn**	**03 43 52.1**	**+1.4**
MT04				*e*S	**Sb**	**03 44 23.7**	**-1.3**
MT04				IAML		03 44 29.2	
	comp=Z,112nm,0.5s						
MT01	**Popeta**	**2.44**	**167**	*e*P	**Pn**	**03 43 50.9**	**+0.4**
MT01	**Popeta**	**2.44**	**167**	*e*P	**Pn**	**03 43 51.2**	**+0.7**
MT01				IAML		03 44 28.8	
	comp=Z,124nm,0.7s						
MT01				*e*S	**Sg**	**03 44 28.9**	**+0.6**
AROD	**Rodeo**	**2.48**	**59**	*e*P	**Pb**	**03 43 53.7**	**-1.3**
AROD				*e*S	**Sb**	**03 44 25.3**	**-0.7**
MT12	**Pirque**	**2.53**	**153**	*e*P	**Pn**	**03 43 52.4**	**+0.7**
MT08	**Bocatoma Ro**	**2.53**	**141**	*e*P	**Pn**	**03 43 54.0**	**+2.1**
MT08	**Bocatoma Ro**	**2.53**	**141**	*e*P	**Pn**	**03 43 53.7**	**+1.8**
MT08				*e*S	**Sb**	**03 44 27.2**	**-0.4**
MT08				IAML		03 44 35.0	
	comp=Z,210nm,0.6s						
ACCO	**Cerro Coronel**	**2.60**	**71**	*e*P	**Pb**	**03 43 55.5**	**-1.7**
ACCO				*e*S	**Sb**	**03 44 30.1**	**+0.4**
MT13	**San Alfonso**	**2.65**	**149**	*e*P	**Pn**	**03 43 54.5**	**+1.1**
MT13	**San Alfonso**	**2.65**	**149**	*e*P	**Pn**	**03 43 54.7**	**+1.3**
MT13				*e*S	**Sb**	**03 44 28.2**	**-2.5**
MT13				IAML		03 44 39.7	
	comp=Z,153nm,0.4s						
LCO	**Las Campanas**	**2.67**	**23**	*e*P	**Pn**	**03 43 53.8**	**-0.2**
LCO	**Las Campanas**	**2.67**	**23**	*e*P	**Pn**	**03 43 54.8**	**+0.9**
LCO				*e*S	**Sb**	**03 44 29.9**	**-1.8**
LCO				IAML		03 44 37.4	
	comp=Z,411nm,0.4s						
BO04	**La Punta**	**2.73**	**157**	*e*P	**Pn**	**03 43 55.3**	**+0.8**
ACDV	**Cuesta del Vie**	**2.74**	**62**	*e*P	**Pn**	**03 43 57.3**	**+2.7**
ACDV				*e*S	**Sb**	**03 44 33.8**	**+0.4**
ACDV				IAML		03 44 35.4	
	comp=Z,154nm,0.4s						
ZON	**Zonda**	**2.77**	**92**	*e*P	**Pb**	**03 43 57.7**	**-2.1**
ZON				*e*S	**Sb**	**03 44 33.3**	**-0.9**
ZON				IAML		03 44 38.1	
	comp=Z,156nm,0.5s						
LMEL	**Las Melosas**	**2.77**	**149**	*e*P	**Pn**	**03 43 56.2**	**+1.1**
LMEL	**Las Melosas**	**2.77**	**149**	*e*P	**Pn**	**03 43 56.4**	**+1.3**
LMEL				*e*S	**Sn**	**03 44 31.0**	**+1.8**
LMEL				IAML		03 44 39.2	
	comp=Z,283nm,0.5s						
ASAL	**Salagasta**	**2.84**	**114**	*e*P	**Pb**	**03 43 59.3**	**-1.8**
ASAL				*e*S	**Sb**	**03 44 33.1**	**-3.2**
SJA	**San Juan**	**2.87**	**92**	*e*P	**Pb**	**03 43 59.8**	**-1.7**
SJA				*e*S	**Sb**	**03 44 39.1**	**+2.1**
SJA				IAML		03 44 45.8	
	comp=Z,127nm,1.2s						
ARCO	**CERRO ARCO**	**2.87**	**119**	*e*P	**Pn**	**03 43 55.8**	**-0.8**
ARCO				*e*S	**Sg**	**03 44 43.9**	**+1.9**
ARCO				IAML		03 44 44.8	
	comp=Z,140nm,0.4s						
RTLL	**Cerro Villicun**	**2.95**	**88**	*e*P	**Pn**	**03 43 59.1**	**+1.7**
RTLL				*e*S	**Sn**	**03 44 34.7**	**+1.4**
RTLL				IAML		03 44 43.0	
	comp=Z,238nm,0.4s						
BO01	**Tunca**	**2.99**	**167**	*e*P	**Pn**	**03 43 58.8**	**+0.8**
BO01				*e*S	**Sn**	**03 44 36.5**	**+2.2**
BO01				IAML		03 44 46.6	
	comp=Z,99nm,0.8s						
BO03	**Pichilemu**	**3.01**	**181**	*e*P	**Pn**	**03 43 57.8**	**-0.4**
AAGR	**Agrelo**	**3.07**	**122**	*e*P	**Pb**	**03 44 02.8**	**-2.2**
AAGR				*e*S	**Sg**	**03 44 48.5**	**+0.2**
AAGR				IAML		03 44 54.1	
	comp=Z,123nm,4.6s						
CFA	**Coronel Fontan**	**3.14**	**93**	*e*P	**Pn**	**03 44 02.1**	**+2.0**
CFA				*e*S	**Sb**	**03 44 44.7**	**-0.3**
AC04	**Llanos de Chal**	**3.34**	**13**	*e*P	**Pn**	**03 44 03.0**	**+0.1**
AC04				*e*S	**Sn**	**03 44 46.8**	**+3.6**
AC04				IAML		03 45 02.1	
	comp=Z,94nm,0.5s						
BO02	**Sierra Bellavi**	**3.44**	**164**	*e*P	**Pn**	**03 44 05.7**	**+1.5**
BO02				*e*S	**Sb**	**03 44 49.6**	**-4.0**
BO02				IAML		03 44 57.4	
	comp=Z,145nm,0.6s						
GO05	**Hualane**	**3.52**	**180**	*e*P	Pn	03 43 50.1	-15
GO05				*e*S	**Sn**	**03 44 44.3**	**-3.2**
GO05				IAML		03 45 08.8	
	comp=Z,47nm,0.8s						
AGUA	**GUANDACOL**	**3.56**	**57**	*e*P	**Pn**	**03 44 09.1**	**+3.1**
AGUA				*e*S	**Sb**	**03 44 55.0**	**-2.1**
AGUA				IAML		03 45 09.3	
	comp=Z,230nm,0.8s						
AVFE	**Valle Fertil**	**3.91**	**79**	*e*P	**Pn**	**03 44 12.2**	**+1.5**
AVFE				*e*S	**Sn**	**03 44 59.5**	**+2.3**
AVFE				IAML		03 45 14.9	
	comp=Z,181nm,0.7s						
ACAN	**Cantantal**	**4.10**	**102**	*e*P	**Pn**	**03 44 14.2**	**+0.9**
ACAN				IAML		03 45 20.9	
	comp=Z,205nm,0.6s						
GO03	**Copiapo**	**4.14**	**21**	*e*P	**Pn**	**03 44 15.6**	**+1.7**
GO03				*e*S	**Sb**	**03 45 09.2**	**-4.5**
GO03				IAML		03 45 21.1	
	comp=Z,79nm,0.8s						
VCA	**Vinchina**	**4.22**	**51**	*e*P	**Pn**	**03 44 18.1**	**+3.0**
VCA				*e*S	**Sn**	**03 45 06.8**	**+1.8**
VCA				*e*S	**Sb**	**03 45 16.6**	**+0.5**
VCA				IAML		03 45 22.8	
	comp=Z,172nm,0.3s						
RFA	**San Rafael**	**4.38**	**140**	*e*P	**Pn**	**03 44 19.1**	**+2.0**
RFA				*e*S	**Sb**	**03 45 21.2**	**+0.7**
RFA				IAML		03 45 31.7	
	comp=Z,25nm,0.5s						
ACHE	**Chepes**	**4.51**	**87**	*e*P	**Pn**	**03 44 20.8**	**+1.8**
ACHE				*e*S	**Sn**	**03 45 14.1**	**+2.1**
ACLC	**CERRO LA CRUZ**	**4.75**	**66**	*e*P	**Pn**	**03 44 18.2**	**-4.1**
ACLC				*e*P	Pb	03 44 23.8	-10
ACLC				*e*S	**Sn**	**03 45 18.2**	**+0.2**
ACLC				IAML		03 45 26.9	
	comp=Z,108nm,0.6s						
APLL	**PUNTA DE LOS L**	**4.75**	**78**	*e*P	**Pn**	**03 44 23.6**	**+1.3**
APLL				*e*S	**Sn**	**03 45 19.9**	**+1.9**
APLL				IAML		03 45 25.3	
	comp=Z,14nm,0.5s						
AC02	**Maricunga**	**5.23**	**28**	*e*P	**Pn**	**03 44 26.2**	**-3.0**
AC02				*e*S	**Sn**	**03 45 33.7**	**+3.4**
AC02				IAML		03 45 57.0	
	comp=Z,48nm,0.8s						
BI05	**Punta Hualpn**	**5.36**	**191**	*e*P	**Pn**	**03 44 33.2**	**+2.6**
BI05				IAML		03 46 26.2	
	comp=Z,46nm,2.5s						

FUNV ***22*** *03:45:21.8, 10˚.67N×62˚.28W, h74km, MW3.6*
TRN ***22*** *03:45:21.4, 10˚.80N×62˚.37W, h38km, MD3.5, North of the Paria peninsula.*
ISC 22 03:45:17.0±2.3, 10˚.63N±0˚.08×62˚.3W±0˚.1, h111km±23km, n12, σ2§06/23, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMDM	**Guralp CMG5TDE**	**0.70**	**84**	*e*P	**Pn**	**03 45 37.2**	**+1.8**
DMDM				*e*S	**Sn**	**03 45 47.7**	**-1.6**
PSWS	**West Secondary**	**0.72**	**87**	*e*P	**Pn**	**03 45 36.1**	**+0.5**
PSWS				*e*S	**Sn**	**03 45 48.1**	**-1.6**
TRN	**Trinidad (W)**	**0.84**	**88**	*e*P	**Pn**	**03 45 39.2**	**+2.5**
TRN				*e*S	**Sn**	**03 45 51.6**	**+0.1**
GRFF	**Grenada Fort F**	**1.50**	**20**	*e*P	**Pn**	**03 45 44.3**	**+0.4**
GRFF				*e*S	**Sn**	**03 46 01.2**	**-3.2**
GRW	**Mount Saint Ca**	**1.63**	**21**	*e*P	**Pn**	**03 45 46.9**	**+1.3**
GRW				*e*S	**Sn**	**03 46 05.2**	**-2.1**
GRSS	**Sisters**	**1.78**	**21**	*e*P	**Pn**	**03 45 48.5**	**+1.3**
GRSS				*e*S	**Sn**	**03 46 08.5**	**-1.8**
GCMP	**Grenada, Carri**	**2.02**	**24**	*e*P	**Pn**	**03 45 51.4**	**+1.1**
GCMP				*e*S	**Sn**	**03 46 13.9**	**-1.8**
PCRV	**Puerto La Cruz**	**2.38**	**259**	*e*P	**Pn**	**03 45 57.5**	**+2.6**
PCRV				*e*S	**Sn**	**03 46 23.6**	**-0.5**
SVB	**Belmont**	**2.81**	**20**	*e*P	**Pn**	**03 46 02.9**	**+2.4**
SVB				*e*S	**Sn**	**03 46 33.0**	**-1.0**
CACV	**CAICARA DEL OR**	**5.21**	**235**	*e*P	**Pn**	**03 46 30.4**	**-2.2**
CACV				*e*S	Sn	03 47 21.8	-10
BENV	**Beln**	**5.30**	**263**	*e*P	**Pn**	**03 46 37.3**	**+3.3**
BENV				*e*S	**Sn**	**03 47 32.2**	**-1.6**
BAUV	**El Baul**	**5.94**	**254**	*e*P	**Pn**	**03 46 44.0**	**+1.4**
BAUV				*e*S	**Sn**	**03 47 47.1**	**-2.3**

AZER ***22*** *03:50:28.8, 38˚.33N×46˚.69E, h2km, ml3.1*
NSSP ***22*** *03:50:29.7, 38˚.27N×46˚.65E, h10km, Ms

DGRG				S	Sg	03 52 18.2	-2.1
QUBA	Quba, Azerbaij	3.46	24	P	Pn	03 51 26.1	+0.7
QUBA				S	Sn	03 52 09.4	+2.8
QSAR	Qusar	3.54	20	P	Pn	03 51 26.9	+0.4
QSAR				S	Sn	03 52 11.1	+2.6
TRLG	Trialeti	3.86	331	P	Pb	03 51 40.2	+0.5

IDC ***22*** *03:59:26.6±2.0,57.˚15S×142.˚78W, h0km, mb3.9/5, mbtmp3.9/5, MS3.7/15, Error ellipse: s-maj=61.9km s-min=30.7km az=53.0*

ISC 22 03:59:27.8±2.0, 57.˚1S±0.˚3×142.˚6W±0.˚4, h10km, n36, σ0=63/11, mb4.3/8, MS3.7/15, 5C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	27.75	203	LR	LR	04 13 18.6	
	comp=Z,73nm,19.8s,baz=72,slow=30						
URZ	Urewera	32.39	288	LR	LR	04 15 57.9	
	comp=Z,127nm,21.4s,baz=195,slow=31						
QSPA	South Pole Qui	33.06	180	P	P	04 06 03.2	0.0
	0.8nm,0.9s,baz=86,slow=4.0,SNR=4.4						
QSPA				LR	LR	04 17 04.7	
	comp=Z,108nm,21.6s,baz=67,slow=32						
	0.8nm,0.9s						
TBI	Tubuai	34.08	349	eLR	LR	04 14 42.7	
	1μm,29.2s						
PMSA	Palmer Station	36.53	135	LR	LR	04 17 10.1	
	comp=Z,109nm,19.9s,baz=262,slow=29						
PPT2	Papeete2	39.79	350	eLR	LR	04 17 24.8	
	201nm,24.8s						
PPT2				eLR	LR	04 17 26.6	
	204nm,28.5s						
PPT	Papeete	39.81	350	LR	LR	04 18 32.0	
	comp=Z,98nm,19.4s,baz=141,slow=29						
VNA3	Neumayer Olymp	47.73	161	⇑P	P	04 08 03.3	-0.9
	comp=Z,5.0nm,0.8s						
H03S2	Juan Fernandez	48.24	89	T	T	04 59 32.5	
	baz=219,slow=74,SNR=23						
H03S1	Juan Fernandez	48.25	89	T	T	04 59 34.0	
	baz=219,slow=74,SNR=23						
H03S3	Juan Fernandez	48.26	89	T	T	04 59 31.3	
	baz=219,slow=74,SNR=22						
VNA2	Neumayer--Watz	48.40	162	⇑P	P	04 08 08.6	-0.6
	comp=Z,8.3nm,0.6s,baz=196,slow=8.5						
SNAA	Sanae	48.47	164	⇑P	P	04 08 09.4	-0.4
	comp=Z,72nm,0.5s						
SNAA	Sanae	48.47	164	P	P	04 08 09.5	-0.4
	comp=Z,2.6nm,0.5s,baz=212,slow=8.0,SNR=38						
SNAA				LR	LR	04 26 09.7	
	comp=Z,35nm,19.6s,baz=276,slow=33						
	comp=Z,2.6nm,0.5s						
VNA1	Neumayer--Stat	48.48	161	⇑P	P	04 08 09.5	-0.4
	comp=Z,6.2nm,0.7s						
H03N3	Juan Fernandez	48.53	89	T	T	04 59 54.1	
	baz=222,slow=72,SNR=33						
H03N2	Juan Fernandez	48.54	89	T	T	04 59 49.3	
	baz=222,slow=72,SNR=29						
H03N1	Juan Fernandez	48.55	89	T	T	04 59 49.0	
	baz=222,slow=72,SNR=32						
TROLL	Troll, Antarti	48.91	166	⇑P	P	04 08 13.6	+0.3
	comp=Z,115nm,0.5s						
MAW	Mawson	54.19	192	P	P	04 08 53.5	+0.8
	comp=Z,0.9nm,0.7s,baz=185,slow=12,SNR=2.3						
MAW				LR	LR	04 29 22.5	
	comp=Z,53nm,21.1s,baz=138,slow=33						
	comp=Z,0.9nm,0.7s						
ASAR	Alice Springs	66.98	262	P	P	04 10 20.4	-0.2
	comp=Z,1.7nm,1.1s,baz=148,slow=6.0,SNR=6.5						
ASAR				LR	LR	04 37 38.8	
	comp=Z,42nm,19.6s,baz=110,slow=34						
	comp=Z,1.7nm,1.1s						
H01W1	Cape Leeuwin H	68.02	240	T	T	05 26 07.8	
	baz=145,slow=76,SNR=112						
H01W2	Cape Leeuwin H	68.03	240	T	T	05 26 08.2	
	baz=145,slow=76,SNR=107						
LPAZ	La Paz	68.04	86	LR	LR	04 35 27.2	
	comp=Z,56nm,18.4s,baz=340,slow=32						
H01W3	Cape Leeuwin H	68.04	240	T	T	05 26 04.9	
	baz=145,slow=76,SNR=86						
NWAO	Narrogin (SRO)	68.15	243	LR	LR	04 33 07.3	
	comp=Z,75nm,20.0s,baz=249,slow=30						
WRA	Warramunga Arr	69.76	264	P	P	04 10 37.4	-0.6
	comp=Z,0.7nm,0.9s,baz=145,slow=6.0,SNR=3.1						
	comp=Z,0.7nm,0.9s						
JTS	Las Juntas de	82.02	57	LR	LR	04 41 05.3	
	comp=Z,92nm,18.4s,baz=301,slow=30						
PCRV	Puerto La Cruz	92.00	74	LR	LR	04 48 44.4	
	comp=Z,74nm,18.2s,slow=32						
BOSA	Boshof	94.01	169	LR	LR	04 51 56.1	
	comp=Z,46nm,18.2s,baz=194,slow=34						
NVAR	Mina Array Bea	97.35	19	LR	LR	04 49 49.6	
	comp=Z,78nm,18.0s,baz=211,slow=31						
LBTB	Lobatse	97.51	169	LR	LR	04 54 23.3	
	comp=Z,29nm,18.7s,baz=187,slow=34						
H10N3	ASCENSION HYDR	102.71	127	T	T	06 08 40.5	
	baz=206,slow=75,SNR=5.9						
H10N1	ASCENSION HYDR	102.72	127	T	T	06 08 39.7	
	baz=206,slow=75,SNR=6.0						
H10N2	ASCENSION HYDR	102.73	127	T	T	06 08 37.0	
	baz=206,slow=75,SNR=7.1						
ILAR	Eielson Array	121.58	358	PKP	PKiKP	04 18 20.7	+0.6
	comp=Z,0.5nm,0.9s,baz=173,slow=2.6,SNR=4.1						

IDC ***22*** *04:10:16.5±5.3,7.˚18S×129.˚61E, h188km±52km, mb3.1/1, mbtmp3.8/5, MS3.4/1, Error ellipse: s-maj=50.8km s-min=22.8km az=53.0*

ISC 22 04:10:18.2±1.5, 7.˚4S±0.˚1×129.˚6E±0.˚1, h200km, n6, σ=90/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.49	244	P	Pn	04 11 52.4	+0.5
	21nm,0.4s,baz=74,slow=13,SNR=1.4						
BATI				S	Sn	04 13 06.3	+0.2
	29nm,0.4s,baz=59,slow=18,SNR=2.3						
FITZ	Fitzroy Crossi	11.32	199	P	Pn	04 12 55.5	+1.2
	1.8nm,0.3s,baz=21,slow=10,SNR=39						
FITZ				S	Sn	04 14 57.8	-2.9
	2.5nm,0.4s,baz=44,slow=18,SNR=6.5						
WRA	Warramunga Arr	13.30	160	P	Pn	04 13 20.7	+1.2
	0.7nm,0.5s,baz=343,slow=13,SNR=7.9						
WRA				S	S	04 15 44.5	-3.4
	1.3nm,0.6s,baz=333,slow=23,SNR=6.8						
ASAR	Alice Springs	16.71	166	P	P	04 14 01.1	+1.1
	0.4nm,0.6s,baz=346,slow=9.4,SNR=14						
ASAR				S	S	04 17 09.2	+4.9
	0.5nm,0.7s,baz=350,slow=26,SNR=4.5						
STKA	Stephens Creek	26.81	157	LR	LR	04 28 14.9	
	comp=Z,86nm,21.0s,baz=45,slow=40						
MKAR	Makanchi Array	68.33	327	P	P	04 20 56.3	-1.5
	0.3nm,0.5s,baz=124,slow=7.2,SNR=2.4						
	0.3nm,0.5s						

IDC 22 04:15:22.1±8.0, 22.˚44S×169.˚40E, h225km±32km, mb3.5/3, mbtmp4.1/3, Error ellipse: s-maj=96.0km s-min=80.3km az=41.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.76	277	P	Pn	04 16 10.9	+0.4
	6.6nm,0.9s,baz=82,slow=15,SNR=1.7						
DZM				S	S	04 16 48.8	+0.5
	6.1nm,0.4s,baz=324,slow=23,SNR=14						
STKA	Stephens Creek	26.40	243	P	P	04 20 37.1	-1.0
	1.4nm,0.5s,baz=90,slow=8.1,SNR=6.3						
	1.4nm,0.5s						
ASAR	Alice Springs	32.63	261	P	P	04 21 33.1	0.0
	2.6nm,0.7s,baz=93,slow=7.9,SNR=24						
	2.6nm,0.7s						
WRA	Warramunga Arr	32.74	268	P	P	04 21 34.5	+0.5
	0.7nm,0.4s,baz=95,slow=8.0,SNR=15						
	0.7nm,0.4s						

IDC ***22*** *04:26:30.3±4.0,20.˚62S×177.˚65W, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=102.3km s-min=40.6km az=27.0*

NEIC ***22*** *04:27:39.4±1.1,22.˚3S±0.˚2×179.˚5W±0.˚2, h587km±17km, mb4.4/15, Error ellipse: s-maj=25.3km s-min=22.0km az=180.0*

ISC 22 04:27:39.0±0.8, 22.˚1S±0.˚2×179.˚5W±0.˚1, h600km, n23, σ=98/23, mb4.2/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.95	331	P	P	04 29 11.8	+0.1
NIUE	Niue	9.42	73	P	P	04 29 52.5	+0.3
WHZ	Wether Hill Ro	25.85	200	P	P	04 32 22.4	-2.1
ARMA	Armidale	27.16	246	P	P	04 32 36.8	+0.4
ARMA				IAmb	IAmb	04 32 50.1	
	comp=Z,22nm,1.5s						
CAN	Canberra	30.50	237	P	P	04 33 04.9	-0.2
CAN				IAmb	IAmb	04 33 13.0	
	comp=Z,18nm,1.5s						
CTAO	Charters Tower	32.02	267	P	P	04 33 19.0	+0.9
CTAO				IAmb	IAmb	04 33 52.6	
	comp=Z,21nm,1.5s						
TOO	Toolangi	33.86	235	P	P	04 33 33.0	-0.4
TOO				IAmb	IAmb	04 33 40.5	
	comp=Z,8.1nm,1.4s						
STKA	Stephens Creek	35.88	246	P	P	04 33 50.3	+0.1
STKA	Stephens Creek	35.88	246	P	P	04 33 50.1	-0.1
	comp=Z,2.7nm,0.5s,baz=82,slow=7.1,SNR=9.4						
	comp=Z,2.7nm,0.5s						
BBOO	Buckleboo	40.63	245	P	P	04 34 27.8	-0.7
BBOO				IAmb	IAmb	04 34 51.0	
	comp=Z,33nm,1.4s						
AS31	Alice Springs	42.85	259	P	P	04 34 46.1	0.0
ASAR	Alice Springs	42.85	259	P	P	04 34 46.2	+0.1
ASAR	Alice Springs	42.85	259	P	P	04 34 46.2	+0.1
	comp=Z,3.6nm,0.7s,baz=99,slow=7.4,SNR=38						
	comp=Z,3.6nm,0.7s						
WR8	Warramunga Arr	42.91	264	P	P	04 34 46.4	-0.2
WR8				IAmb	IAmb	04 35 29.1	
	comp=Z,9.1nm,1.4s						
WB0	Warramunga Arr	43.05	264	P	P	04 34 47.6	0.0
WB0				IAmb	IAmb	04 34 49.7	
	comp=Z,7.3nm,1.1s						
WRA	Warramunga Arr	43.06	264	P	P	04 34 47.4	-0.4
	comp=Z,1.2nm,0.3s,baz=96,slow=8.3,SNR=21						
	comp=Z,1.2nm,0.3s						
KNRA	Kununurra	49.23	268	P	P	04 35 35.0	+0.7
KNRA				IAmb	IAmb	04 35 45.0	
	comp=Z,16nm,1.4s						
FITZ	Fitzroy Crossi	51.49	264	P	P	04 35 52.0	+1.3
MBWA	Marble Bar	56.20	259	P	P	04 36 23.7	-0.1
MBWA				IAmb	IAmb	04 36 31.1	
	comp=Z,32nm,1.3s						
QSPA	South Pole Qui	67.96	180	P	P	04 37 40.9	+1.7
QSPA	South Pole Qui	67.96	180	P	P	04 37 40.4	+1.3
	comp=Z,1.2nm,0.9s,baz=44,slow=0.1,SNR=5.8						
	comp=Z,1.2nm,0.9s						
YOJ	Yonaguni jima	72.57	306	P	P	04 38 06.5	-0.3
HFS	Hagfors	140.89	350	PKP	PKPdf	04 45 58.8	-2.4
	comp=Z,1.0nm,0.7s,baz=35,slow=5.3,SNR=4.3						

PRU ***22*** *04:28:32.8,42.˚37N×19.˚27E, h221km*

NEIC ***22*** *04:28:53.9±1.3,44.˚71N±0.˚04×18.˚53E±0.˚07, h10km±2km, ML2.9/26, Error ellipse: s-maj=10.4km s-min=3.5km az=306.0*

RHSSO ***22*** *04:28:55.2±0.5,44.˚60N×18.˚49E, h5km±3km, ML2.8/10*

PDG ***22*** *04:28:55.1±0.7,44.˚75N×18.˚47E, h31km±5km, ML2.7/10, Error ellipse: s-maj=1.4km s-min=1.7km az=0.0*

BEO 22 04:28:55.5±0.2, 44.˚58N×18.˚49E, h0km, ML2.7/21, 14C-11D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	Banja Luka	0.95	281	⇑iPg	Pg	04 29 12.3	-1.4
BLY				eSg	Sg	04 29 25.8	-0.2
BLY	Banja Luka	0.95	281	⇑P	Pg	04 29 13.9	+0.3
BLY	Banja Luka	0.95	281	ePg	Pg	04 29 13.1	-0.6
BLY				eSg	Sg	04 29 25.8	-0.2
BBLS	Lazi&#263i	0.97	137	ePg	Pg	04 29 13.0	-1.1
BBLS				eSg	Sg	04 29 27.2	+0.6
FRGS	Fruska Gora	1.10	58	ePg	Pg	04 29 14.5	-2.1
FRGS				eSg	Sg	04 29 31.0	+0.1
RUDO	Rudo	1.15	146	⇑iPg	Pg	04 29 15.5	-2.0
RUDO				eSg	Sg	04 29 32.3	-0.2
RUDO	Rudo	1.15	146	ePg	Pg	04 29 15.8	-1.7
RUDO				eSg	Sg	04 29 31.2	-1.3
DIVS	Divibare	1.18	114	ePg	Pg	04 29 16.9	-1.2
DIVS				eSg	Sg	04 29 32.6	-0.8
UPM	Unac-Piva	1.41	168	⇓iPn	Pg	04 29 21.6	-0.9
UPM				i Sn	Sn	04 29 42.7	+0.8
KLINJ	Klinje	1.41	177	ePg	Pn	04 29 21.6	-0.9
KLINJ				eSg	Sg	04 29 39.9	-0.9
TRUS	Trudelj	1.42	104	ePg	Pn	04 29 20.4	-2.1
TRUS				eSg	Sg	04 29 39.7	-1.3
BEO	Beograd	1.43	80	ePg	Pn	04 29 20.7	-2.0
BEO				eSg	Sg	04 29 40.8	-0.6
AVAS	Avala Beograd	1.45	85	ePg	Pn	04 29 21.9	-1.1
AVAS				eSg	Sb	04 29 42.2	-0.1
RICI	Ricice	1.46	223	ePn	Pn	04 29 22.7	0.5
RICI				Sg	Sn	04 29 43.2	+0.2
IVAS	Ivanjica	1.56	129	ePg	Pn	04 29 22.3	-2.3
IVAS				eSg	Sn	04 29 43.9	-1.6
KIJV	Kijevo	1.60	250	⇑iPn	Pn	04 29 24.1	-1.0
KIJV				eSn	Sn	04 29 45.6	-0.9
KIJV	Kijevo	1.60	250	ePn	Pn	04 29 24.3	-0.9
KIJV				Sn	Sg	04 29 47.1	+0.1
MOSL	Moslavina	1.61	311	⇑iPn	Pn	04 29 23.1	-2.1
MOSL				eSn	Sn	04 29 44.6	-2.0
MOSL	Moslavina	1.61	311	ePn	Pn	04 29 23.2	-1.9
MOSL				Sn	Sn	04 29 44.6	-2.0
MAKA	Makarska	1.67	220	ePn	Pn	04 29 25.8	-0.3
MAKA				Sn	Sg	04 29 49.7	+0.4
BRY	Bratogost	1.68	179	⇓iPn	Pn	04 29 25.3	-0.9
BRY				i Sn	Sb	04 29 49.1	0.0
SJES	Sjenica	1.70	140	ePg	Pn	04 29 25.7	-0.8
SJES				eSg	Sg	04 29 51.0	+1.0
SUBS	Subotica	1.74	28	ePg	Pb	04 29 27.8	-0.4
SUBS				eSg	Sb	04 29 50.5	-0.1
GRUS	Gruza	1.74	113	ePg	Pn	04 29 25.4	-1.6
GRUS				eSg	Sg	04 29 51.3	-0.1
STON	Ston	1.80	199	ePn	Pn	04 29 27.4	-0.4
STON				eSn	Sn	04 29 50.3	-1.0
STON	Ston	1.80	199	ePn	Pn	04 29 28.1	+0.4
STON				Sn	Sb	04 29 52.5	+0.1
STON	Ston	1.80	199	ePn	Pb	04 29 29.0	-0.3
NKME	Niksic	1.84	169	ePn	Pn	04 29 28.8	+0.4
NKME				i Sn	Sn	04 29 52.1	-0.4
TREB	Trebinje	1.86	183	ePn	Pn	04 29 28.3	-0.4
TREB				eSn	Sn	04 29 52.9	0.0
TREB	Trebinje	1.86	183	ePn	Pn	04 29 28.5	-0.2
TREB				eSn	Sn	04 29 53.4	+0.5
KOME	Kolasin	1.88	156	ePn	Pn	04 29 29.1	+0.1
KOME	Kolasin	1.88	156	ePn	Pn	04 29 28.2	-0.8
KOME				i Sn	Sb	04 29 54.9	0.0
DBRK	Dubrovnik	1.93	188	ePn	Pn	04 29 29.5	0.0
DBRK				Sn	Sn	04 29 54.9	+0.5
UDBI	Udbina	1.95	269	ePn	Pn	04 29 30.2	+0.3
UDBI				Sn	Sn	04 29 55.6	+0.4
BEY	Berane	1.99	149	ePn	Pn	04 29 30.5	+0.1
IVA	Berane	1.99	149	⇓iPn	Pn	04 29 30.5	+0.1
IVA				eSn	Sn	04 29 56.6	+0.5
GOCS	Kraljevo Serbi	2.00	120	ePg	Pn	04 29 30.1	-0.5
GOCS				eSg	Sb	04 29 58.5	+0.4
CEME	Cevo	2.06	171	⇑iPn	Pn	04 29 31.9	+0.5
CEME				eSn	Sn	04 29 58.4	+0.7
PLIT	Plitvice	2.07	279	ePn	Pn	04 29 30.8	-0.7
PLIT				Sn	Sn	04 29 57.3	-0.7
VRSS	Vrsac	2.09	74	ePn	Pb	04 29 33.1	-1.1
VRSS				eSn	Sn	04 29 58.8	+0.4
MORI	Morici	2.12	251	ePn	Pn	04 29 32.2	0.0
MORI				Sn	Sn	04 30 00.1	+0.7
HCY	Herceg Novi	2.13	180	⇓iPn	Pn	04 29 33.0	+0.6
HCY				i Sn	Sn	04 30 00.3	+0.8
LSTV	Lastovo	2.15	213	ePn	Pn	04 29 32.3	-0.3
LSTV				Sn	Sn	04 30 00.4	+0.5
PDG	Podgorica	2.22	165		Pn	04 29 31.5	-2.1
PDG				IAML		04 30 07.2	
	comp=E,48nm,0.5s						
PDG	Podgorica	2.22	165	⇑P	Pn	04 29 31.9	-1.6
PDG	Podgorica	2.22	165	⇑iPn	Pb	04 29 36.4	-0.1
PDG				eSn	Sn	04 30 02.3	+0.7
BEHE	Becsehely	2.24	328		Pn	04 29 29.0	-4.8
BEHE				IAML		04 30 17.1	
	comp=E,65nm,1.2s						
BEHE				IAML		04 30 18.5	
	comp=N,59nm,0.7s						
BEHE	Becsehely	2.24	328	ePn	Pn	04 29 32.3	-1.6
BEHE				eSn	Sn	04 30 00.7	-1.6
ZIRJ	Zirje	2.25	247	ePn	Pn	04 29 34.1	+0.1
ZIRJ				Sn	Sn	04 30 02.6	+0.2
PVY	Plav	2.25	151	⇓iPn	Pn	04 29 33.6	-0.5
KUBS	Kucevo	2.28	93	ePn	Pn	04 29 34.9	+0.4
KUBS				eSn	Sn	04 30 04.5	+1.2
BUM	Brajici-Budva	2.30	173	ePn	Pn	04 29 34.5	-0.2
BUM				i Sn	Sn	04 30 04.2	+0.5
MDVR	Moldovita	2.31	84	⇑P	Pn	04 29 32.4	-2.4
MDVR	Moldovita	2.31	84	ePn	Pb	04 29 37.9	-0.1
SELS	Selova	2.34	125	ePn	Pn	04 29 33.6	-1.6
SELS				eSn	Sn	04 30 05.2	+0.6
OZLJ	Ozalj	2.38	297	⇑iPn	Pn	04 29 35.4	-0.3
OZLJ				eSn	Sn	04 30 04.3	-1.3
BZS	Buzias	2.44	64	⇓P	Pn	04 29 33.6	-3.1
BZS	Buzias	2.44	64	ePn	Pn	04 29 34.5	-2.1
DRME	Dracevica, Mon	2.44	168	ePn	Pn	04 29 37.6	+0.9
DRME	Dracevica, Mon	2.44	168	⇓iPn	Pn	04 29 37.2	+0.5
DRME				i Sn	Sb	04 30 09.4	-1.6
BOJS	Bojanci	2.48	293	ePn	Pn	04 29 38.0	+0.9
VIRC	Vir	2.48	265	ePn	Pn	04 29 36.4	-0.7
VIRC				Sn	Sn	04 30 08.2	+0.1
BOVS	Bovan	2.50	111	⇑P	Pn	04 29 35.9	-1.5
BOVS	Bovan	2.50	111	ePn	Pn	04 29 35.8	-1.6
BOVS				eSn	Sn	04 30 09.6	+1.0
DUGI	Dugi Otok	2.54	258	ePn	Pn	04 29 37.4	-0.5
DUGI				Sn	Sn	04 30 09.4	-0.1
BORS2	Bor- Borsko je	2.58	100	ePn	Pn	04 29 36.7	-1.8
BORS2				eSn	Sn	04 30 11.5	+1.0
NVLJ	Novalja	2.59	271	ePn	Pn	04 29 38.1	-0.5
NVLJ				Sn	Sn	04 30 10.0	-0.7
RABC	Rab	2.65	275	ePn	Pn	04 29 38.1	-1.4
RABC				Sn	Sn	04 30 12.1	-0.3
SIRR	Siria	2.80	52	⇑P	Pn	04 29 40.2	-1.4
ZAGS	Zajecar	2.80	105	ePn	Pn	04 29 40.3	-1.2
ZAGS				eSn	Sn	04 30 16.7	+0.8
HERR	Herculane	2.81	82	⇓P	Pn	04 29 39.0	-2.7
SURR	Surduc	2.83	64	⇑P	Pn	04 29 38.6	-3.3
RIY	Rijeka	2.94	286	ePn	Pn	04 29 44.8	+1.3
CEY	Cerknica	3.10	293	ePn	Pn	04 29 45.5	-0.2
GZR	Gura Zlata	3.15	74	⇓P	Pn	04 29 41.1	-5.2
SOKA	Soboth	3.21	312	ePn	Pn	04 29 44.6	-2.6
SOKA	comp=N,0.6nm,0.2s						
	comp=N,3.8nm,0.4s			eSn	Sn	04 30 21.5	-4.7
ZAPS	Zavoj	3.27	112	ePn	Pn	04 29 46.6	-1.4
ZAPS				eSn	Sn	04 30 28.0	+0.5
SKDS	Skadanscina	3.32	289	ePn	Pn	04 29 48.7	0.0
OBKA	Obir	3.38	306	ePn	Pn	04 29 46.9	-2.7
	comp=N,0.5nm,0.1s						
ARSA	Arzberg	3.38	323		Pn	04 29 45.6	-3.9
ARSA	Arzberg	3.38	323	i Pn	Pn	04 29 47.4	-2.1
	comp=N,6.8nm,0.3s,SNR=23						
ARSA				eSn	Sn	04 30 24.7	-5.7
	comp=N,4.3nm,0.4s						
ARSA	Arzberg	3.38	323	ePn	Pn	04 29 47.3	-2.2
BRJN	Brijuni	3.39	277	ePn	Pn	04 29 49.3	-0.4
BRJN				eSn	Sn	04 30 28.1	-2.5
SGRT	San Giovanni R	3.47	216	Pn	Pn	04 29 49.1	-1.7
SGRT				IAML		04 31 05.5	
	comp=E,18nm,1.5s						
RONA	Rosalia, Austr	3.47	335	i Pn	Pn	04 29 48.5	-2.4
	comp=E,3.8nm,0.3s,SNR=11						
RONA				eSn	Sn	04 30 28.5	-4.2
	comp=E,2.4nm,0.2s						
PSZ	Piszkesteto	3.48	16		Pn	04 29 45.9	-5.0
PSZ	Piszkesteto	3.48	16	⇑P	Pn	04 29 49.2	-1.7
BOSS	Bosilegrad	3.57	124	ePn	Pn	04 29 50.4	-1.7
BOSS				eSn	Sn	04 30 34.4	-0.6
DRGR		3.69	52	⇓P	Pn	04 29 52.0	-1.8
DRGR		3.69	52	ePn	Pn	04 29 53.0	-0.1
SABO	M.te Sabotino	3.73	294	Pn	Pn	04 29 51.2	-3.1
SABO				IAML		04 31 07.5	
	comp=N,24nm,0.9s						
SABO				IAML		04 31 11.2	
	comp=E,19nm,0.8s						
CONA	Conrad Observa	3.81	332	ePn	Pn	04 29 53.3	-2.2
	comp=E,1.0nm,0.3s						
CONA				eSn	Sn	04 30 36.9	-4.2
	comp=E,5.9nm,0.5s						
ACER	Acerenza	4.23	207	Pn	Pn	04 29 59.6	-1.7
ACER				IAML		04 31 45.7	
	comp=N,18nm,1.6s						
KBA	Koelnbreinsper	4.38	307	ePn	Pn	04 30 00.2	-3.2
	comp=N,0.4nm,0.3s						
MOA	Molln	4.39	320	i Pn	Pn	04 30 01.9	-1.6
	comp=N,0.6nm,0.2s						
MOA				eSn	Sn	04 30 51.3	-4.1
	comp=N,3.1nm,0.5s						
MOA	Molln	4.39	320	ePn	Pn	04 30 02.4	-1.1
MUBB	Monte Urbino	4.51	255	Pn	Pn	04 30 01.3	-3.8
PAOL	Paolisi	4.57	220	Pn	Pn	04 30 04.8	-1.1
PAOL				IAML		04 32 59.3	
	comp=E,7.5nm,1.8s						
PAOL				IAML		04 33 06.8	
	comp=N,9.4nm,1.0s						
BIOA	Bad Ischl, Aus	4.59	314	ePn	Pn	04 30 05.5	-0.6
	comp=N,1.9nm,0.3s						
BIOA				eSn	Sn	04 30 56.8	-3.4
	comp=N,5.2nm,0.4s						
KRUC	Moravsky	4.71	343	ePN	Pn	04 30 05.5	-2.3
VOIR		4.73	77	⇓P	Pn	04 30 06.0	-2.1
LESA	Schwarzleotal	4.95	307	ePn	Pn	04 30 09.7	-1.5
	comp=N,0.6nm,0.3s						
LESA				eSn	Sn	04 31 05.8	-3.3
	comp=N,2.2nm,0.5s						
KEK	Kerkira	4.96	168	Pn	Pn	04 30 11.0	-0.3
CUC	Castrocuco	5.00	204	Pn	Pn	04 30 11.5	-0.3
CUC				IAML		04 32 17.7	
	comp=N,9.1nm,1.1s						
CTI	Castel Tesino	5.04	289	Pn	Pn	04 30 09.4	-3.1

SNAA					LR	LR	04 48 18.7		
	comp=Z,50nm,21.6s,baz=40,slow=32								
	comp=Z,11nm,0.3s								
TROLL	**Troll, Antarti**	**17.39**	**152**	⇑P		**Pn**	**04 43 48.1**	**+0.2**	
	comp=Z,498nm,0.3s								
BELA	**Belgrano 2**	**19.71**	**186**	P		**P**	**04 44 13.5**	**-1.0**	
QSPA	**South Pole Qui**	**31.70**	**180**	P		**P**	**04 46 10.5**	**+1.6**	
QSPA				IAmb		IAmb	04 46 11.9		
	comp=Z,2.0nm,0.6s								
QSPA	**South Pole Qui**	**31.70**	**180**	P		**P**	**04 46 10.6**	**+1.7**	
	comp=Z,1.6nm,0.5s,baz=214,slow=1.6,SNR=20								
	comp=Z,1.6nm,0.5s								
MAW	**Mawson**	**37.32**	**141**	P		**P**	**04 46 57.5**	**+0.3**	
	comp=Z,1.3nm,0.5s,baz=248,slow=10,SNR=4.9								
MAW				LR		LR	05 00 45.9		
	comp=Z,40nm,18.4s,baz=236,slow=34								
	comp=Z,1.3nm,0.5s								
SPB	**Sao Paulo**	**38.52**	**325**			**P**	**04 47 07.3**	**-0.5**	
VNDA	**Vanda**	**44.13**	**182**	P		**P**	**04 47 53.0**	**-0.2**	
VNDA				IAmb		IAmb	04 47 54.3		
	comp=Z,1.4nm,0.7s								
VNDA	**Vanda**	**44.13**	**182**	P		**P**	**04 47 53.1**	**-0.2**	
	comp=Z,1.2nm,0.5s,baz=179,slow=6.5,SNR=4.4								
	comp=Z,1.2nm,0.5s								
H04S2	**CROZET ISLANDS**	**45.32**	**110**	T		T	05 38 31.2		
	baz=225,slow=75,SNR=17								
H04S3	**CROZET ISLANDS**	**45.33**	**110**	T		T	05 38 31.8		
	baz=225,slow=75,SNR=16								
H04S1	**CROZET ISLANDS**	**45.34**	**110**	T		T	05 38 34.0		
	baz=225,slow=75,SNR=16								
H10N1	**ASCENSION HYDR**	**51.18**	**13**	T		T	05 44 14.1		
	baz=181,slow=72,SNR=7.8								
H10N3	**ASCENSION HYDR**	**51.18**	**13**	T		T	05 44 34.0		
	baz=181,slow=72,SNR=12								
H10N2	**ASCENSION HYDR**	**51.20**	**13**	T		T	05 44 24.7		
	baz=181,slow=72,SNR=13								
LPAZ	**La Paz**	**52.94**	**304**	P		**P**	**04 49 03.3**	**+0.8**	
	comp=Z,1.5nm,0.3s,baz=266,slow=7.5,SNR=23								
	comp=Z,1.5nm,0.3s								
DBIC	**Dimbokro**	**66.92**	**21**	P		**P**	**04 50 37.9**	**+0.1**	
	comp=Z,0.9nm,0.3s,baz=190,slow=7.8,SNR=2.3								
	comp=Z,0.9nm,0.3s								
TORD	**Torodi Ar. Bea**	**74.61**	**27**	IAmb		IAmb	04 51 22.9		
	comp=Z,2.3nm,1.4s								
TORD				P		**P**	**04 51 24.4**	**-0.1**	
TORD	**Torodi Ar. Bea**	**74.61**	**27**	P		**P**	**04 51 24.6**	**+0.2**	
	comp=Z,1.0nm,0.4s,baz=199,slow=5.9,SNR=20								
	comp=Z,1.0nm,0.4s								
ILAR	**Eielson Array**	**152.78**	**308**	PKPbc		**PKPbc**	**04 59 39.1**	**-1.8**	
	comp=Z,0.4nm,0.3s,baz=90,slow=2.0,SNR=13								

*PRU **22** 04:46:43.0,40˚.45N×20˚.00E,h92km*
*THE **22** 04:46:49.8,41˚.1N±10˝×1˚.9E±1˚.2,h11km,M3.0/15, MLh3.0/15*
*TIR **22** 04:46:49.5,41˚.39N×19˚.43E,h44km±2km,Ml3.7/3*
*PDG **22** 04:46:50.2±0.3,41˚.31N×19˚.44E,h13km,MD3.5/5, ML3.4/11,Error ellipse: s-maj=0.9km s-min=1.9km az=0.0*
*BEO **22** 04:46:50.3±0.4,41˚.28N×19˚.63E,h12km±2km, ML3.0/16*
*SKO **22** 04:46:51.0,41˚.42N×19˚.57E,h16km, ML3.4*
ISC 22 04:46:50.0±0.9,**41˚.32N**±0˚.02×**19˚.55E**±0˚.02,**h14**km±7km, **n125,σ1s17**/180,**21C-12D,Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.24**	**82**	⇓Pg	**Pg**	**04 46 54.7**	**-0.4**
TIR				Sg	**Sg**	**04 46 56.7**	**-1.9**
TIR				AML	AML	04 46 59.6	
	26nm,0.2s						
ULC	**Ulcinj**	**0.69**	**340**	⇑*i*Pg	**Pg**	**04 47 03.0**	**-0.4**
ULC				*e*Sg	**Sb**	**04 47 13.2**	**0.0**
VLO	**Vlora**	**0.85**	**183**	⇑Pg	**Pn**	**04 47 08.5**	**+1.0**
VLO				Sg	**Sn**	**04 47 19.4**	**-0.4**
VLO				AML	AML	04 47 28.7	
	8.4nm,0.4s						
VLO	**Vlora**	**0.85**	**183**	P	**Pn**	**04 47 08.7**	**+1.2**
VLO				S	**Sn**	**04 47 23.2**	**+3.4**
DRME	**Dracevica, Mon**	**0.91**	**343**	*e*Pg	**Pb**	**04 47 07.8**	**+0.1**
DRME				*e*Sg	**Sn**	**04 47 22.8**	**+1.3**
DRME	**Dracevica, Mon**	**0.91**	**343**	⇑*i*Pg	**Pb**	**04 47 06.9**	**-0.8**
DRME				*i* Sg	**Sn**	**04 47 21.1**	**-0.4**
OHR	**Ohrid**	**0.96**	**102**	*i* Pg	**Pb**	**04 47 08.1**	**-0.4**
OHR				*i* Sg	**Sn**	**04 47 23.0**	**+0.3**
OHR				*e*Lg	Lg	04 47 24.2	
	comp=N,531nm,0.7s						
OHR				*e*Lg	Lg	04 47 26.4	
	comp=E,1μm,0.6s						
BUM	**Brajici-Budva**	**1.10**	**334**	*e*Pg	**Pb**	**04 47 10.9**	**0.0**
BUM				*i* Sg	**Sg**	**04 47 26.7**	**+1.1**
PDG	**Podgorica**	**1.14**	**349**	⇓P	**Pn**	**04 47 11.3**	**-0.2**
PDG				⇑S	**Sg**	**04 47 28.8**	**+2.1**
PDG	**Podgorica**	**1.14**	**349**	*e*Pg	**Pb**	**04 47 11.7**	**+0.3**
PDG				*e*Sg	**Sg**	**04 47 28.3**	**+1.6**
PDG	**Podgorica**	**1.14**	**349**	⇓*i*Pg	**Pn**	**04 47 11.4**	**-0.1**
PDG				*i* Sg	**Sg**	**04 47 28.4**	**+1.7**
KBN	**Korca**	**1.16**	**126**	⇓Pg	**Pb**	**04 47 12.1**	**+0.1**
KBN				Sg	**Sg**	**04 47 30.2**	**+2.7**
KBN	**Korca**	**1.16**	**126**	P	**Pg**	**04 47 12.3**	**0.0**
KBN				S	**Sg**	**04 47 30.2**	**+2.7**
PVY	**Plav**	**1.31**	**13**	*e*Pg	**Pb**	**04 47 15.0**	**+0.4**
PVY				*e*Sg	**Sg**	**04 47 32.2**	**-0.2**
PVY	**Plav**	**1.31**	**13**	⇑*i*Pg	**Pb**	**04 47 14.7**	**+0.1**
CEME	**Cevo**	**1.32**	**339**	⇑*i*Pg	**Pn**	**04 47 14.2**	**+0.1**
CEME				*i* Sg	**Sg**	**04 47 33.8**	**+1.3**
HCY	**Herceg Novi**	**1.38**	**325**	⇑*i*Pg	**Pn**	**04 47 14.8**	**-0.1**
HCY				*i* Sg	**Sg**	**04 47 36.8**	**+2.3**
NKME	**Niksic**	**1.52**	**343**	⇓*i*Pg	**Pb**	**04 47 17.7**	**-0.3**
NKME				*i* Sg	**Sg**	**04 47 38.8**	**-0.1**
KOME	**Kolasin**	**1.54**	**359**	*e*Pg	**Pb**	**04 47 18.3**	**0.0**
KOME	**Kolasin**	**1.54**	**359**	⇑*i*Pg	**Pb**	**04 47 18.6**	**+0.3**
KOME				*e*Sg	**Sg**	**04 47 40.2**	**+0.8**
BEY	**Berane**	**1.58**	**9**	*e*Pg	**Pb**	**04 47 19.0**	**0.0**
BEY				*e*Sg	**Sb**	**04 47 39.8**	**+0.9**
IVA	**Berane**	**1.58**	**9**	⇑*i*Pn	**Pb**	**04 47 19.0**	**0.0**
IVA				*i* Sn	**Sg**	**04 47 42.5**	**+1.7**
PENT	**Pentalofos**	**1.64**	**132**	P	**Pb**	**04 47 20.3**	**+0.2**
PENT				S	**Sg**	**04 47 42.0**	**-0.9**
TREB	**Trebinje**	**1.66**	**328**	*e*Pn	**Pn**	**04 47 18.8**	**0.0**
TREB	**Trebinje**	**1.66**	**328**	*e*Pn	**Pn**	**04 47 19.0**	**+0.2**
BRY	**Bratogost**	**1.76**	**335**	⇓*i*Pn	**Pn**	**04 47 20.7**	**+0.5**
BRY				*e*Sn	**Sb**	**04 47 45.4**	**+1.3**
IGT	**Igoumenitsa**	**1.88**	**161**	⇑Pn	**Pn**	**04 47 22.7**	**+1.0**
IGT				Sn	**Sb**	**04 47 48.3**	**+0.9**
IGT	**Igoumenitsa**	**1.88**	**161**	P	**Pn**	**04 47 22.1**	**+0.4**
IGT	**Igoumenitsa**	**1.88**	**161**	*i* Pn	**Pn**	**04 47 22.1**	**+0.4**
IGT				*i* Sn	**Sg**	**04 47 50.0**	**-0.4**
IGT	**Igoumenitsa**	**1.88**	**161**	*e*Pn	**Pn**	**04 47 22.1**	**+0.4**
IGT				*e*Sn	**Sn**	**04 47 45.7**	**+0.5**
JAN	**Janina**	**1.93**	**149**	P	**Pb**	**04 47 23.7**	**-1.3**
JAN				S	**Sb**	**04 47 47.7**	**-1.3**
UPM	**Unac-Piva**	**1.95**	**346**	⇓*i*Pn	**Pb**	**04 47 24.7**	**-0.7**
UPM				*i* Sn	**Sg**	**04 47 52.2**	**-0.4**
NOCI	**Noci**	**1.95**	**255**	⇑Pn	**Pn**	**04 47 22.2**	**-0.6**
NOCI				Sn	**Sn**	**04 47 46.1**	**-1.0**
NOCI				AML	AML	04 47 57.7	
	comp=E,1.3nm,0.3s						
SJES	**Sjenica**	**1.97**	**9**	*e*Pn	**Pb**	**04 47 25.2**	**-0.5**
SJES				*e*Sn	**Sb**	**04 47 50.6**	**+0.4**
KLNJ	**Klinje**	**1.99**	**339**	*e*Pn	**Pn**	**04 47 23.2**	**-0.1**
STON	**Ston**	**2.08**	**319**	*e*Pn	**Pn**	**04 47 24.4**	**-0.1**
STON	**Ston**	**2.08**	**319**	*e*Pn	**Pn**	**04 47 24.6**	**+0.1**
PRMD	**Pramanda**	**2.14**	**146**	P	**Pn**	**04 47 26.4**	**+1.0**
SELS	**Selova**	**2.23**	**31**	*e*Pn	**Pn**	**04 47 27.1**	**+0.5**
SELS				*e*Sn	**Sn**	**04 47 54.4**	**+0.4**
MATE	**Matera**	**2.26**	**254**	⇑P	**Pb**	**04 47 32.2**	**+1.7**
IVAS	**Ivanjica**	**2.30**	**11**	*e*Pn	**Pn**	**04 47 28.2**	**+0.6**
IVAS				*e*Sn	**Sb**	**04 47 57.9**	**-1.8**
RUDO	**Rudo**	**2.31**	**357**	*e*Pn	**Pn**	**04 47 28.1**	**+0.5**
RUDO	**Rudo**	**2.31**	**357**	*e*Pn	**Pb**	**04 47 30.4**	**-1.0**
GOCS	**Kraljevo Serbi**	**2.45**	**23**	*e*Pn	**Pn**	**04 47 30.4**	**+0.7**
GOCS				*e*Sn	**Sn**	**04 48 00.9**	**+1.4**
BOSS	**Bosilegrad**	**2.48**	**61**	*e*Pn	**Pn**	**04 47 30.9**	**+0.8**
BOSS				*e*Sn	**Sn**	**04 48 01.3**	**+1.1**
KNT	**Kendrikon**	**2.53**	**92**	P	**Pn**	**04 47 31.3**	**+0.7**
KNT	**Kendrikon**	**2.53**	**92**	*i* Pn	**Pn**	**04 47 31.2**	**+0.6**
KNT				*i* Sn	**Sn**	**04 48 01.2**	**-0.1**
LIT	**Litokhoron**	**2.54**	**118**	*i* Pn	**Pn**	**04 47 32.2**	**+1.4**
BBLS	**Lazi&#263i**	**2.55**	**358**	*e*Pn	**Pn**	**04 47 32.2**	**+1.1**
BBLS				*e*Sn	**Sn**	**04 48 02.9**	**+0.9**
THL	**Klokotos Trika**	**2.57**	**132**	P	**Pn**	**04 47 32.1**	**+0.9**
TYRN	**Tyrnavos**	**2.60**	**127**	P	**Pn**	**04 47 32.6**	**+1.0**
TSLK	**Tsoukalades, L**	**2.63**	**161**	P	**Pn**	**04 47 32.2**	**+0.2**
LKD2	**Lefkada island**	**2.66**	**161**	P	**Pn**	**04 47 32.5**	**0.0**
AMPL	**Ampelaki**	**2.71**	**151**	P	**Pn**	**04 47 34.1**	**+0.9**
GRUS	**Gruza**	**2.71**	**18**	*e*Pn	**Pn**	**04 47 34.2**	**+1.0**
KKB	**Krupnik**	**2.73**	**78**	P	**Pn**	**04 47 34.3**	**+0.8**
KKB	**Krupnik**	**2.73**	**78**	*i* Pn	**Pn**	**04 47 34.3**	**+0.8**
KKB				*i* Sn	**Sn**	**04 48 07.3**	**+1.0**
NYDR	**Nydri-Lefkada**	**2.74**	**161**	P	**Pn**	**04 47 33.2**	**-0.4**
DIVS	**Divibare**	**2.80**	**6**	*e*Pn	**Pn**	**04 47 35.6**	**+1.1**
DIVS				*e*Sn	**Sn**	**04 48 10.5**	**+2.4**
BOVS	**Bovan**	**2.81**	**34**	⇓P	**Pn**	**04 47 35.4**	**+0.8**
BOVS				⇑S	**Sn**	**04 48 09.4**	**+1.1**
BOVS	**Bovan**	**2.81**	**34**	*e*Pn	**Pn**	**04 47 35.4**	**+0.8**
BOVS				*e*Sn	**Sn**	**04 48 06.8**	**-1.5**
SGRT	**San Giovanni R**	**2.89**	**280**	⇓Pn	**Pn**	**04 47 35.0**	**-0.8**
SOH	**Sokhos**	**2.92**	**98**	*i* Pn	**Pn**	**04 47 37.5**	**+1.4**
SOH				*i* Sn	**Sn**	**04 48 11.5**	**+0.6**
EVR	**Evrytania**	**2.96**	**143**	P	**Pn**	**04 47 37.7**	**+1.0**
FSK	**Fiskardo**	**2.96**	**164**	P	**Pn**	**04 47 35.7**	**-0.8**
TRUS	**Trudelj**	**2.97**	**12**	*e*Pn	**Pn**	**04 47 37.6**	**+0.8**
TRUS				*e*Sn	**Sn**	**04 48 14.4**	**+2.1**
ZAPS	**Zavoj**	**3.01**	**48**	*e*Pn	**Pn**	**04 47 38.2**	**+0.9**
ZAPS				*e*Sn	**Sn**	**04 48 12.4**	**-0.8**
VTS	**Vitosha**	**3.04**	**63**	*e*Pn	**Pn**	**04 47 38.5**	**+0.7**
SRS	**Serrai**	**3.05**	**92**	*i* Pn	**Pn**	**04 47 38.4**	**+0.5**
SRS				*i* Sn	**Sn**	**04 48 11.1**	**-3.2**
SRS	**Serrai**	**3.05**	**92**	*e*Pn	**Pn**	**04 47 38.2**	**+0.3**
SRS				*e*Sn	**Sn**	**04 48 11.2**	**-3.1**
MMB	**Musomishta**	**3.16**	**84**	P	**Pn**	**04 47 40.3**	**+0.9**
MMB	**Musomishta**	**3.16**	**84**	*i* Pn	**Pn**	**04 47 40.3**	**+0.9**
MMB				*i* Sn	**Sn**	**04 48 16.9**	**-0.1**
ZAGS	**Zajecar**	**3.19**	**38**	*e*Pn	**Pn**	**04 47 40.7**	**+1.0**
ZAGS				*e*Sn	**Sn**	**04 48 16.9**	**-0.6**
VLS	**Valsamata**	**3.23**	**165**	P	**Pn**	**04 47 39.2**	**-1.2**
PSDA	**Pessada-Kefalo**	**3.29**	**166**	P	**Pn**	**04 47 40.4**	**-0.7**
BORS2	**Bor- Borsko je**	**3.31**	**32**	*e*Pn	**Pn**	**04 47 40.5**	**-1.0**
BORS2				*e*Sn	**Sn**	**04 48 19.5**	**-1.2**
RTZL	**Ratzakli, Kefa**	**3.37**	**163**	P	**Pn**	**04 47 41.7**	**-0.5**
AVAS	**Avala Beograd**	**3.45**	**11**	*e*Pn	**Pn**	**04 47 43.6**	**+0.2**
AVAS				*e*Sn	**Sn**	**04 48 23.6**	**-0.5**
KUBS	**Kucevo**	**3.47**	**26**	*e*Pn	**Pn**	**04 47 43.0**	**-0.6**
KIJV	**Kijevo**	**3.55**	**320**	*e*Pn	**Pn**	**04 47 44.4**	**-0.3**
MDVR	**Moldovita**	**3.81**	**24**	⇑P	**Pn**	**04 47 48.6**	**+0.3**
MDVR	**Moldovita**	**3.81**	**24**	*e*Pn	**Pn**	**04 47 48.5**	**+0.2**
KLV	**Kalavryta, Ach**	**3.83**	**148**	P	**Pn**	**04 47 49.5**	**+0.9**
BLY	**Banja Luka**	**3.85**	**334**	*e*Pn	**Pn**	**04 47 48.7**	**-0.1**
FRGS	**Fruska Gora**	**3.85**	**3**	*e*Pn	**Pn**	**04 47 48.7**	**-0.1**
PLD	**Plovdiv**	**3.98**	**76**	*e*Pn	**Pn**	**04 47 48.5**	**-2.0**
VRSS	**Vrsac**	**4.02**	**18**	*e*Pn	**Pn**	**04 47 51.6**	**+0.4**
VRSS				*e*Sn	**Sn**	**04 48 38.1**	**0.0**
SRS	**Strehaia**	**4.29**	**37**	⇓P	**Pn**	**04 47 56.2**	**+1.4**
BZS	**Buzias**	**4.55**	**19**	⇓P	**Pn**	**04 47 58.5**	**+0.1**
BZS	**Buzias**	**4.55**	**19**	*e*Pn	**Pn**	**04 47 58.6**	**+0.1**
GZR	**Gura Zlata**	**4.71**	**29**	*e*Pn	**Pn**	**04 48 02.0**	**+1.4**
AQU	**L'Aquila**	**4.71**	**285**	*e*Pn	**Pn**	**04 48 00.4**	**-0.3**
SIRR	**Siria**	**5.18**	**16**	⇑P	**Pn**	**04 48 07.0**	**0.0**
SIRR	**Siria**	**5.18**	**16**	*e*Pn	**Pn**	**04 48 07.1**	**0.0**
OZLJ	**Ozalj**	**5.23**	**327**	*e*Pn	**Pn**	**04 48 07.2**	**-0.5**
BOJS	**Bojanci**	**5.23**	**325**	*i* Pn	**Pn**	**04 48 08.1**	**+0.3**
BOJS	**Bojanci**	**5.23**	**325**	*e*Pn	**Pn**	**04 48 08.0**	**+0.3**
CRES	**Cresnjevec Ost**	**5.40**	**328**	*i* Pn	**Pn**	**04 48 10.1**	**0.0**
ARR	**Arges**	**5.49**	**41**	⇑P	**Pn**	**04 48 13.0**	**+1.6**
BEHE	**Becsehely**	**5.53**	**340**	*e*Pn	**Pn**	**04 48 11.7**	**-0.2**
BRJN	**Brijuni**	**5.56**	**312**	*e*Pn	**Pn**	**04 48 11.7**	**-0.6**
VOIR		**5.75**	**42**	⇑P	**Pn**	**04 48 16.8**	**+1.9**
CEY	**Cerknica**	**5.78**	**322**	*e*Pn	**Pn**	**04 48 15.6**	**+0.2**
SKDS	**Skadanscina**	**5.84**	**318**	*e*Pn	**Pn**	**04 48 15.3**	**-0.9**
DRGR		**5.93**	**21**	⇑P	**Pn**	**04 48 17.5**	**0.0**
DRGR		**5.93**	**21**	*e*Pn	**Pn**	**04 48 17.5**	**0.0**
JAVS	**Javornik**	**6.07**	**321**	*e*Pn	**Pn**	**04 48 18.9**	**-0.5**
MLR	**Muntele Rosu**	**6.25**	**46**	⇑P	**Pn**	**04 48 23.3**	**+1.4**
SOKA	**Soboth**	**6.27**	**330**	*e*Pn	**Pn**	**04 48 22.2**	**0.0**
	comp=E,1.2nm,0.3s						
OBKA	**Obir**	**6.33**	**327**	*e*Pn	**Pn**	**04 48 23.2**	**+0.3**
	comp=E,0.6nm,0.3s						
OBKA				*e*Sn	**Sn**	**04 49 34.3**	**-0.7**
	comp=E,3.5nm,0.4s						
ARSA	**Arzberg**	**6.60**	**335**	*e*Pn	**Pn**	**04 48 27.1**	**+0.5**
	comp=E,1.1nm,0.4s						
PSZ	**Piszkesteto**	**6.61**	**2**	⇓P	**Pn**	**04 48 25.4**	**-1.3**
PLOR	**Plostina**	**6.86**	**46**	⇑P	**Pn**	**04 48 32.4**	**+2.1**
VRI	**Vrincioaia**	**6.91**	**46**	⇓P	**Pn**	**04 48 33.3**	**+2.4**
KBA	**Koelnbreinsper**	**7.29**	**324**	*e*Pn	**Pn**	**04 48 36.6**	**+0.5**
	comp=E,0.8nm,0.4s						
KBA				*e*Sn	**Sn**	**04 49 56.1**	**-2.7**
	comp=E,1.3nm,0.4s						
ABTA	**Abfaltersbach**	**7.43**	**319**	*e*Pn	**Pn**	**04 48 38.8**	**+0.8**
	comp=E,0.4nm,0.2s						
MOA	**Molln**	**7.54**	**332**	*e*Pn	**Pn**	**04 48 40.0**	**+0.5**
	comp=E,0.6nm,0.4s						
BIOA	**Bad Ischl, Aus**	**7.65**	**328**	*e*Pn	**Pn**	**04 48 41.9**	**+1.0**
	comp=E,0.7nm,0.3s						
LESA	**Schwarzleotal**	**7.84**	**323**	*i* Pn	**Pn**	**04 48 43.7**	**0.0**
	comp=E,0.8nm,0.3s						
LESA				*e*Sn	**Sn**	**04 50 07.9**	**-4.5**
	comp=E,3.3nm,0.5s						
WTTA	**Wattenberg**	**8.22**	**319**	*e*Pn	**Pn**	**04 48 49.5**	**+0.5**
	comp=E,1.8nm,0.2s,SNR=5.9						
WTTA				*e*Sn	**Sn**	**04 50 18.2**	**-3.5**
	comp=E,5.7nm,0.6s						
WATA	**Walderalm**	**8.30**	**319**	*e*Pn	**Pn**	**04 48 50.5**	**+0.5**
	comp=E,1.6nm,0.3s,SNR=6.0						
WATA				*e*Sn	**Sn**	**04 50 21.5**	**-2.1**
	comp=E,3.5nm,0.4s						
SQTA	**Sankt Quirin**	**8.40**	**317**	*e*Pn	**Pn**	**04 48 52.5**	**+1.0**
	comp=E,0.6nm,0.2s						
MOTA	**Moosalm**	**8.54**	**318**	*e*Pn	**Pn**	**04 48 53.7**	**+0.3**
	comp=E,0.4nm,0.3s						
MOTA				*e*Sn	**Sn**	**04 50 26.5**	**-3.1**
	comp=E,2.3nm,0.6s						
KHC	**Kasperske Hory**	**8.88**	**334**	*e*SN	**Sn**	**04 50 35.3**	**-2.4**
DAVA	**Damuels**	**9.15**	**314**	*e*Pn	**Pn**	**04 49 01.6**	**-0.1**
	comp=E,0.4nm,0.2s						

*IDC **22** 04:50:32.7±2.0,35˚.44N×141˚.36E,h0km,mb3.5/3, mbtmp3.6/6,ML3.2/3,MS2.8/1,Error ellipse: s-maj=41.3km s-min=24.0km az=76.0*
*JMA **22** 04:50:39.0±0.2,35˚.4N±0˚.5×141˚.0E±0˚.9,h36km±1km, MV3.1/39,E OFF BOSO PENINSULA*
ISC 22 04:50:38.2±1.8,**35˚.39N**±0˚.05×**141˚.02E**±0˚.09,**h32**km±12km, **n25,σ0s87/21,mb3.7/3,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.53**	**298**	P	**Pn**	**04 50 50.1**	**+0.6**
JSMT				*e*S	**Sn**	**04 50 58.6**	**+1.2**
KTR	**Katsuura**	**0.62**	**247**	P	**Pn**	**04 50 51.2**	**+0.3**
KTR				*e*S	**Sb**	**04 50 60.0**	**+0.6**
BSO4	**Boso 4**	**0.69**	**234**	P	**Pn**	**04 50 52.3**	**+0.6**
BSO4				*e*X		04 51 02.5	
JIHU	**Itakohorinouch**	**0.70**	**325**	*e*P	**Pn**	**04 50 52.8**	**+0.9**
JKUC	**kamogawauchiur**	**0.71**	**251**	P	**Pn**	**04 50 52.2**	**+0.2**
JKUC				*e*S	**Sb**	**04 51 01.4**	**-0.3**
BSO3	**Boso 3**	**0.72**	**215**	*i* P	**Pn**	**04 50 52.5**	**+0.6**
BSO3				*e*X		04 51 02.3	
BSO1	**Boso 1**	**0.74**	**183**	P	**Pn**	**04 50 52.6**	**+0.7**
BSO1				*e*X		04 51 03.5	
JYT	**Yasato**	**1.07**	**321**	*e*P	**Pb**	**04 50 57.8**	**-0.4**
JIM2	**Oshima 3**	**1.47**	**243**	*e*P	**Pn**	**04 51 01.8**	**-0.7**
JOD2	**Odawara 2**	**1.58**	**266**	P	**Pn**	**04 51 04.1**	**0.0**
JHJ	**Hachijo jima 2**	**2.49**	**205**	Pn	**Pn**	**04 51 17.1**	**+0.6**
	13nm,0.3s,baz=308,slow=24,SNR=7.2						
JHJ				Sn	**Sn**	**04 51 44.0**	**-1.8**
	51nm,0.3s,baz=87,slow=22,SNR=6.4						
	36nm,0.3s						
MJAR	**Matsushiro Arr**	**2.55**	**298**	Pn	**Pn**	**04 51 18.9**	**+1.5**
	0.8nm,0.3s,baz=110,slow=14,SNR=42						
MJAR				Sn	**Sb**	**04 51 54.2**	**0.0**
	0.5nm,0.3s,baz=142,slow=14,SNR=5.8						
MJAR				LR	LR	04 52 41.7	
	comp=Z,178nm,20.7s,baz=152,slow=46						
	4.3nm,0.3s						
ASAJ	**Asahikawa**	**8.80**	**7**	Pn	**Pn**	**04 52 41.7**	**-1.4**
	0.7nm,0.3s,baz=169,slow=16,SNR=1.7						
	3.0nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.63**	**118**	T	T	05 25 28.2	
	baz=310,slow=75,SNR=71						
H11N1	**WAKE ISLAND Hy**	**27.64**	**118**	T	T	05 25 25.7	
	baz=310,slow=75,SNR=67						
H11N3	**WAKE ISLAND Hy**	**27.65**	**118**	T	T	05 25 26.5	
	baz=310,slow=75,SNR=70						
H11S1	**WAKE ISLAND Hy**	**28.28**	**120**	T	T	05 26 14.1	
	baz=312,slow=76,SNR=285						
H11S3	**WAKE ISLAND Hy**	**28.28**	**120**	T	T	05 26 14.1	
	baz=312,slow=76,SNR=207						
H11S2	**WAKE ISLAND Hy**	**28.30**	**120**	T	T	05 26 13.1	
	baz=312,slow=76,SNR=226						
MKAR	**Makanchi Array**	**44.74**	**303**	P	**P**	**04 58 48.3**	**-0.2**
	0.2nm,0.4s,baz=85,slow=9.8,SNR=2.1						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**46.77**	**309**	P	**P**	**04 59 04.5**	**+0.1**
	0.5nm,0.5s,baz=84,slow=7.9,SNR=6.1						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**55.40**	**188**	P	**P**	**05 00 09.4**	**0.0**
	0.4nm,0.6s,baz=5.3,slow=7.8,SNR=2.7						
	0.4nm,0.6s						
H03N2	**Juan Fernandez**	**147.14**	**98**	T	T	07 54 54.7	
	baz=290,slow=76						
H03N3	**Juan Fernandez**	**147.15**	**98**	T	T	07 54 50.6	
	baz=290,slow=76						
H03N1	**Juan Fernandez**	**147.15**	**98**	T	T	07 54 54.7	
	baz=290,slow=76						

*KRNET **22** 04:53:05.7±0.1,42˚.55N×79˚.56E,h23km,mb2.7*
*NNC **22** 04:53:05.4±0.8,42˚.88N×79˚.48E,h0km,mb3.0,mpv3.0, Error ellipse: s-maj=6.0km s-min=2.5km az=155.0*
*SOME **22** 04:53:05.1,42˚.83N×79˚.47E,h15km*
ISC 22 04:53:04.0±1.8,**42˚.78N**±0˚.05×**79˚.47E**±0˚.05,**h4**km±11km, **n35,σ1s59/62,22C-4D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.38**	**359**	P	**Pb**	**04 53 13.4**	**-0.1**
	68nm,0.2s						
SHLS				S	**Sb**	**04 53 19.5**	**-0.3**
	95nm,0.4s						
SHLS	**Shalkode**	**0.38**	**359**	*e*P	**Pb**	**04 53 13.4**	**-0.1**
	68nm,0.2s						
SHLS				*e*S	**Sb**	**04 53 19.5**	**-0.3**
	95nm,0.4s						
UZB	**Uzynbulak**	**0.49**	**318**	*e*P	**Pg**	**04 53 14.2**	**+0.7**
	4.8nm,0.1s						
UZB				*e*S	**Sg**	**04 53 20.8**	**+0.8**
	61nm,0.1s						
PDGK	**Podgornoye**	**0.55**	**1**	⇑P	**Pg**	**04 53 14.2**	**-0.5**
	6.9nm,0.4s						
PDGK				⇓S	**Sg**	**04 53 21.6**	**-0.2**
	40nm,0.3s						
SATY	**Saty**	**0.83**	**290**	P	**Pb**	**04 53 21.4**	**+0.2**

NEIC 22 05:02:48.5±1.3,36.08N±0.06×68.43E±0.08,h28km±5km, mb4.9/114, Error ellipse: s-maj=9.2km s-min=8.9km az=62.0

BGR 22 05:02:50.8,36.29N×69.34E,h33km, mb4.5, Ms3.9

ISC 22 05:02:46.9±0.7,36.14N±0.04×68.45E±0.03,h16km±3km, n709,σ1ᵽ56/664,mb4.8/130,MS4.1/48,29C-28D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIMJ	**Simiganj**	**2.56**	**10**			**Pn**	**Pn**	**05 03 29.7**	**+1.8**
CHGR	**Chuyangaron**	**2.58**	**13**			**Pn**	**Pn**	**05 03 29.8**	**+1.7**
CHGR	**Chuyangaron**	**2.58**	**13**	PN		**Pn**	**Pn**	**05 03 29.8**	**+1.7**
GAR	**Garm**	**3.22**	**27**			**Pn**	**Pn**	**05 03 37.6**	**+0.6**
NIL	**Nilore**	**4.67**	**121**			**Pn**	**Pn**	**05 03 58.1**	**+1.3**
NIL	**Nilore**	**4.67**	**121**	P		**Pn**	**Pn**	**05 03 59.8**	**+3.0**
NIL	**Nilore**	**4.67**	**121**	PN		**Pn**	**Pn**	**05 03 58.1**	**+1.3**
HRA	**Herat**	**5.37**	**253**			**Pn**	**Pn**	**05 04 06.7**	**+0.2**
SRNI	**Srinagar**	**5.63**	**109**	*e*P			Pn	05 04 16.8	+6.9
SRNI				*e*S		**Sn**	**Sn**	**05 05 15.8**	**+1.5**
SRNI	comp=N,3μm,1.0s			IAML				05 05 44.8	
SRNI	comp=E,3μm,0.8s			IAML				05 05 45.3	
TRKS	**Terek-Say**	**5.78**	**21**	PN		**Pn**	**Pn**	**05 04 13.5**	**+1.3**
IUG	**luzhnay**	**6.12**	**11**	*e*P		**Pn**	**Pn**	**05 04 17.5**	**+0.6**
IUG				*e*S		**Sn**	**Sn**	**05 05 26.1**	**-0.6**
IUG	**luzhnay**	**6.12**	**11**	*e*PN		**Pn**	**Pn**	**05 04 17.4**	**+0.6**
IUG				*e*S		**Sn**	**Sn**	**05 05 26.9**	**+0.2**
CHM	**Chimkent**	**6.24**	**8**	*e*P		**Pn**	**Pn**	**05 04 19.4**	**+1.1**
CHM	**Chimkent**	**6.24**	**8**	*e*PN		**Pn**	**Pn**	**05 04 19.4**	**+1.1**
JMU	**Jammu**	**6.33**	**121**	*e*P			Pn	05 04 25.6	+6.0
JMU				*e*S		**Sn**	**Sn**	**05 05 30.4**	**-1.2**
JMU	comp=E,771nm,0.4s			IAML				05 05 34.9	
JMU	comp=N,917nm,0.8s			IAML				05 05 49.7	
KSH	**Kashi**	**6.85**	**58**	Pn		**Pn**	**Pn**	**05 04 24.8**	**-2.0**
KSH				Sn		**Sn**	**Sn**	**05 05 38.5**	**-6.0**
KSH	comp=N,900nm,0.8s			smax		smax			
KSH	comp=E,760nm,0.8s			smax		smax			
BRLS	**Boroldav**	**6.97**	**8**	*e*P		**Pn**	**Pn**	**05 04 24.8**	**-3.5**
BRLS	**Boroldav**	**6.97**	**8**	*e*PN		**Pn**	**Pn**	**05 04 25.1**	**-3.2**
BRLS	comp=Z,34nm,0.7s			pmax		pmax			
KK31	**Karatay Array**	**7.14**	**12**			**Pn**	**Pn**	**05 04 32.1**	**+1.4**
KK31	**Karatay Array**	**7.14**	**12**	P		**Pn**	**Pn**	**05 04 32.5**	**+1.8**
KK31	comp=E,24nm,0.4s,baz=200,slow=14,SNR=501			S		**Sn**	**Sn**	**05 05 53.5**	**+2.1**
KK31	comp=E,63nm,0.6s,baz=205,slow=27,SNR=6.7 **Karatay Array**	**7.14**	**12**	PN		**Pn**	**Pn**	**05 04 32.5**	**+1.8**
KK31				S		**Sn**	**Sn**	**05 05 53.6**	**+2.1**
KKAR	**Karatay Array**	**7.14**	**12**			**Pn**	**Pn**	**05 04 32.1**	**+1.5**
KKAR	**Karatay Array**	**7.14**	**12**	PN		**Pn**	**Pn**	**05 04 32.1**	**+1.5**
TSSA	**Tissa**	**7.16**	**115**	*e*P			Pn	05 04 38.7	+7.5
TSSA				*e*S		**Sn**	**Sn**	**05 05 52.9**	**+0.5**
TSSA	comp=N,1μm,0.4s			IAML				05 06 00.3	
TSSA	comp=E,823nm,0.9s			IAML				05 06 00.8	
DHRM	**DHARAMSHALA**	**7.58**	**119**	*e*P			Pn	05 04 43.5	+6.6
DHRM				*e*S		**Sn**	**Sn**	**05 06 01.9**	**-0.7**
DHRM	comp=E,790nm,0.9s			IAML				05 06 06.9	
DHRM	comp=N,523nm,0.9s			IAML				05 06 07.2	
UCH	**Uchtor** SNR=39	**7.69**	**36**	P		**Pn**	**Pn**	**05 04 40.5**	**+1.8**
EKS2	**Erkin-Say** SNR=32	**7.71**	**31**	P		**Pn**	**Pn**	**05 04 40.2**	**+1.6**
AAK	**Ala-Archa** SNR=93	**8.00**	**34**	P		**Pn**	**Pn**	**05 04 44.4**	**+1.8**
AAK	**Ala-Archa**	**8.00**	**34**			**Pn**	**Pn**	**05 04 44.0**	**+1.3**
AAK	**Ala-Archa**	**8.00**	**34**	⇓P		**Pn**	**Pn**	**05 04 44.4**	**+1.8**
AAK	comp=N,33nm,0.5s			⇓S		**Sn**	**Sn**	**05 06 16.1**	**+3.2**
AAK	comp=N,82nm,0.7s **Ala-Archa**	**8.00**	**34**	Pn		**Pn**	**Pn**	**05 04 44.5**	**+1.8**
AAK	comp=N,22nm,0.3s,baz=216,slow=9.4,SNR=148			Sn		**Sn**	**Sn**	**05 06 13.9**	**+1.0**
AAK	comp=N,9.5nm,0.3s,baz=318,slow=23,SNR=10			Lg		Lg		05 07 02.3	
AAK	comp=N,1.9nm,0.3s,baz=314,slow=12,SNR=4.5 **Ala-Archa**	**8.00**	**34**	P		**Pn**	**Pn**	**05 04 43.9**	**+1.3**
AAK	comp=N,78nm,0.4s			S		**Sn**	**Sn**	**05 06 14.3**	**+1.4**
BHK	**Bhakra**	**8.14**	**123**	*e*P			Pb	05 04 56.2	-11
BHK				*e*S		**Sn**	**Sn**	**05 06 23.6**	**+7.5**
BHK	comp=N,543nm,1.0s			IAML				05 06 38.8	
BHK	comp=E,260nm,0.5s			IAML				05 06 39.9	
FRU1	**Bishkek**	**8.20**	**34**			**Pn**	**Pn**	**05 04 46.0**	**+0.7**
FRU1	**Bishkek**	**8.20**	**34**	P		**Pn**	**Pn**	**05 04 46.0**	**+0.7**
KBK	**Karagaybulak** SNR=58	**8.23**	**36**	P		**Pn**	**Pn**	**05 04 48.3**	**+2.5**
CHMS	**Chumysh** SNR=10	**8.40**	**33**	P		**Pn**	**Pn**	**05 04 50.4**	**+2.3**
USP	**Ospenovka** SNR=13	**8.51**	**31**	P		**Pn**	**Pn**	**05 04 52.0**	**+2.5**
ULHL	**Ulahol** SNR=15	**8.59**	**42**	P		**Pn**	**Pn**	**05 04 52.3**	**+1.5**
BOOM	**Boomskoye usch**	**8.60**	**40**	Pn		**Pn**	**Pn**	**05 04 52.0**	**+1.1**
BOOM	**Boomskoye usch**	**8.60**	**40**	P		**Pn**	**Pn**	**05 04 52.0**	**+1.1**
SGDS	**Sogindy**	**8.71**	**31**	*e*P		**Pn**	**Pn**	**05 04 52.7**	**+0.4**
TKM2	**Tokmak 2** SNR=39	**8.74**	**37**	P		**Pn**	**Pn**	**05 04 53.9**	**+1.1**
KDJ	**Kajisay**	**9.04**	**46**			**Pn**	**Pn**	**05 04 58.1**	**+1.1**
KDJ	**Kajisay**	**9.04**	**46**	P		**Pn**	**Pn**	**05 04 58.1**	**+1.1**
TARG	**Taragay, Kyrgy**	**9.18**	**50**			**Pn**	**Pn**	**05 04 59.1**	**0.0**
TARG	**Taragay, Kyrgy**	**9.18**	**50**	P		**Pn**	**Pn**	**05 04 59.1**	**0.0**
HNLY	**HANLEY**	**9.32**	**108**	*e*P			Pn	05 05 07.3	+6.2
HNLY				*e*S		**Sn**	**Sn**	**05 06 43.6**	**-2.2**
KLP	**Kalpa**	**9.36**	**117**	*e*P			Pn	05 05 07.6	+6.2
KLP				*e*S		**Sn**	**Sn**	**05 06 44.4**	**-2.2**
KLP	comp=N,224nm,0.4s			IAML				05 06 47.1	
KLP	comp=E,199nm,0.5s			IAML				05 06 50.0	
TNSS	**Tian-Shan**	**9.51**	**41**	*e*P		**Pn**	**Pn**	**05 05 03.8**	**+0.2**
TNSS				*e*S		**Sn**	**Sn**	**05 06 51.0**	**+0.7**
TNSS	**Tian-Shan**	**9.51**	**41**	*e*P		**Pn**	**Pn**	**05 05 03.8**	**+0.2**
TNSS				*e*S		**Sn**	**Sn**	**05 06 51.0**	**+0.7**
MDOK	**Medeo**	**9.65**	**41**	*e*P		**Pn**	**Pn**	**05 05 06.3**	**+1.0**
MDOK				*e*S		**Sn**	**Sn**	**05 06 54.5**	**+1.0**
MDOK	**Medeo**	**9.65**	**41**	*e*P		**Pn**	**Pn**	**05 05 06.2**	**+1.0**
MDOK				*e*S		**Sn**	**Sn**	**05 06 54.4**	**+1.0**
PRZ	**Przheval'sk**	**9.98**	**48**			**Pn**	**Pn**	**05 05 10.0**	**+0.2**
PRZ	**Przheval'sk**	**9.98**	**48**	P		**Pn**	**Pn**	**05 05 10.0**	**+0.2**
SATY	**Saty**	**10.33**	**45**	*e*P		**Pn**	**Pn**	**05 05 15.2**	**+0.6**
SATY	**Saty**	**10.33**	**45**	*e*P		**Pn**	**Pn**	**05 05 15.2**	**+0.6**
UZB	**Uzynbulak**	**10.74**	**46**	*e*P		**Pn**	**Pn**	**05 05 21.4**	**+1.2**
UZB	**Uzynbulak**	**10.74**	**46**	*e*P		**Pn**	**Pn**	**05 05 21.4**	**+1.2**
ARXS	**Arharly**	**10.79**	**39**	*e*P		**Pn**	**Pn**	**05 05 21.3**	**+0.5**
PDGK	**Podgornoye** comp=E,24nm,0.8s	**11.12**	**46**	⇑P		**Pn**	**Pn**	**05 05 24.7**	**-0.7**
PDGK	comp=E,48nm,1.1s			⇓S		**Sn**	**Sn**	**05 07 30.1**	**+0.6**
PDGK	**Podgornoye**	**11.12**	**46**	P		**Pn**	**Pn**	**05 05 24.7**	**-0.7**
PDGK				S		**Sn**	**Sn**	**05 07 30.1**	**+0.6**
TDK	**Taldyqorghan**	**11.64**	**37**	*e*P		**Pn**	**Pn**	**05 05 32.1**	**+0.2**
TDK	**Taldyqorghan**	**11.64**	**37**	*e*P		**Pn**	**Pn**	**05 05 32.6**	**+0.2**
NGCH	**Negor - Chabah**	**12.44**	**212**	P		**Pn**	**Pn**	**05 05 44.5**	**+1.1**
AB31	**Akbulak array**	**14.51**	**337**			**Pn**	**Pn**	**05 06 08.3**	**-3.2**
AB31	**Akbulak array** comp=E,7.6nm,0.3s,baz=161,slow=13,SNR=566	**14.51**	**337**	P		**Pn**	**Pn**	**05 06 08.6**	**-2.9**
AB31	**Akbulak array**	**14.51**	**337**	P		**Pn**	**Pn**	**05 06 08.6**	**-2.9**
ABKAR	**Akbulak array**	**14.51**	**337**			**Pn**	**Pn**	**05 06 08.5**	**-3.0**
BANOM	**Banah**	**14.55**	**229**	P		**Pn**	**Pn**	**05 06 12.8**	**+0.5**
SHME	**Shamm**	**14.55**	**230**	P		**Pn**	**Pn**	**05 06 12.4**	**+0.2**
MAKZ	**Makanchi**	**14.69**	**39**	Pn		**Pn**	**Pn**	**05 06 12.4**	**-1.7**
MAKZ	**Makanchi** comp=E,19nm,0.7s	**14.69**	**39**	⇓P		**Pn**	**Pn**	**05 06 16.9**	**+2.8**
MAKZ	**Makanchi**	**14.69**	**39**	P		**Pn**	**Pn**	**05 06 12.4**	**-1.7**
MK31	**Makanchi Array** comp=E,18nm,0.8s,baz=236,slow=17,SNR=60	**14.84**	**40**	P		**Pn**	**Pn**	**05 06 14.4**	**-1.7**
MK31	**Makanchi Array**	**14.84**	**40**	*ce*P		**Pn**	**Pn**	**05 06 15.5**	**-0.6**
MKAR	**Makanchi Array**	**14.84**	**40**			**Pn**	**Pn**	**05 06 14.7**	**-1.4**
MKAR	**Makanchi Array** comp=E,0.5nm,0.3s,baz=230,slow=14,SNR=58	**14.84**	**40**	Pn		**Pn**	**Pn**	**05 06 15.2**	**-0.9**
MKAR	comp=E,0.2nm,0.3s,baz=231,slow=31,SNR=2.5			Lg		Lg		05 10 40.7	
MKAR	comp=E,324nm,21.8s,baz=224,slow=41			LR		LR		05 12 59.0	
MDH	**Madha**	**15.01**	**227**	P		**Pn**	**Pn**	**05 06 19.3**	**+0.8**
MASF	**Masafi**	**15.04**	**228**	P		**Pn**	**Pn**	**05 06 19.8**	**+0.9**
UMQ	**Umm Al-Quwin**	**15.23**	**230**	P		**Pn**	**Pn**	**05 06 22.2**	**+0.8**
UOSS	**Minazif**	**15.34**	**227**			**Pn**	**Pn**	**05 06 21.1**	**-1.7**
UOSS	**Minazif**	**15.34**	**227**	P		**Pn**	**Pn**	**05 06 23.4**	**+0.7**
WSAR	**Wadi Sarin**	**15.41**	**216**	P		**Pn**	**Pn**	**05 06 25.7**	**+1.9**
BIDD	**Bidbid**	**15.42**	**218**	P		**Pn**	**Pn**	**05 06 25.5**	**+1.6**
HATD	**Hatta, Dubai**	**15.47**	**227**	P		**Pn**	**Pn**	**05 06 25.7**	**+1.2**
ASHO	**Ashiyiah** SNR=21	**15.62**	**226**	P		**Pn**	**Pn**	**05 06 28.0**	**+1.5**
NAZ	**Nazwa, Dubai** SNR=12	**15.63**	**228**	P		**Pn**	**Pn**	**05 06 27.6**	**+1.1**
SOHO	**SOHO**	**15.77**	**224**	P		**Pn**	**Pn**	**05 06 29.3**	**+0.9**
HOQ	**Hoqain**	**15.79**	**221**	P		**Pn**	**Pn**	**05 06 30.3**	**+1.6**
SMDO	**Samad**	**15.85**	**217**	P		**Pn**	**Pn**	**05 06 30.6**	**+1.1**
JLN	**Jalan Bani Buh**	**16.00**	**212**	P		**P**	**P**	**05 06 33.2**	**-1.6**
ASUD	**Al Ashush, Dub**	**16.10**	**228**	P		**Pn**	**Pn**	**05 06 33.5**	**+0.9**
AKTO	**Aktyubinsk** comp=E,50nm,1.1s	**16.16**	**335**	⇑P		**Pn**	**Pn**	**05 06 31.0**	**-2.2**
AKTO	**Aktyubinsk**	**16.16**	**335**	Pn		**Pn**	**Pn**	**05 06 31.2**	**-2.0**
AKTO	comp=E,3.1nm,0.3s,baz=151,slow=10,SNR=53			Sn		**Sn**	**Sn**	**05 09 26.8**	**-5.2**
AKTO	comp=E,1.0nm,0.3s,baz=128,slow=18,SNR=1.5			Lg		Lg		05 11 17.1	
AKTO	baz=76,slow=23			LR		LR		05 13 29.3	
KURBB	comp=E,871nm,18.1s,baz=162,slow=40 **Kurchatov Arra**	**16.20**	**24**	⇓P		**Pn**	**Pn**	**05 06 30.4**	**-3.4**
KURBB	comp=E,23nm,0.7s **Kurchatov Arra**	**16.20**	**24**	Pn		**Pn**	**Pn**	**05 06 30.6**	**-3.2**
KURBB	comp=E,42nm,0.7s comp=E,0.1nm,0.3s,baz=212,slow=12,SNR=31			Lg		Lg		05 11 24.7	
KURBB	comp=E,0.1nm,0.3s,baz=207,slow=33,SNR=4.5 **Kurchatov Arra**	**16.20**	**24**	P		**Pn**	**Pn**	**05 06 30.4**	**-3.4**
ALNE	comp=E,4.4nm,0.8s **Al Ain**	**16.28**	**226**	P		**Pn**	**Pn**	**05 06 35.8**	**+0.8**
KURK	SNR=24 **Kurchatov**	**16.31**	**24**			**Pn**	**Pn**	**05 06 32.0**	**-3.1**
KURK	**Kurchatov**	**16.31**	**24**	*ce*P		**Pn**	**Pn**	**05 06 34.8**	**-0.4**
KURK	comp=Z,6.0nm,0.5s			pmax		pmax			
AJN	**Ajban**	**16.35**	**229**	P		**Pn**	**Pn**	**05 06 36.1**	**+0.2**
JMDO	**Jabal Madar** SNR=5.8	**16.40**	**216**	P		**P**	**P**	**05 06 38.0**	**-1.3**
ARQ	**Araqi** SNR=7.5	**16.41**	**222**	P		**Pn**	**Pn**	**05 06 37.0**	**+0.4**
BSY	**Bisya** SNR=8.8	**16.54**	**219**	P		**P**	**P**	**05 06 39.7**	**-1.1**
WMQ	**Urumqi**	**16.61**	**57**	*e*P		**P**	**P**	**05 06 42.9**	**+1.4**
WMQ	comp=Z,210nm,18.9s			LR		LR			
BVA0	**Borovoye Array** comp=Z,49nm,1.3s,baz=252,slow=35,SNR=12	**16.94**	**4**	P		**Pn**	**Pn**	**05 06 40.4**	**-2.7**
BVAR	**Borovoye Array** comp=E,0.4nm,0.3s,baz=173,slow=13,SNR=52	**16.94**	**4**	Pn		**Pn**	**Pn**	**05 06 41.0**	**-2.1**
BVAR	comp=E,0.2nm,0.3s,baz=172,slow=24,SNR=2.8			Sn		**Sn**	**Sn**	**05 09 43.6**	**-7.4**
BVAR	baz=184,slow=33			Lg		Lg		05 11 49.0	
BORK	comp=Z,9.5nm,0.4s **Borovoye**	**16.96**	**4**	P		**Pn**	**Pn**	**05 06 41.5**	**-1.9**
BORK	comp=Z,34nm,1.0s			pmax		pmax			
AKT	**Akhty**	**16.99**	**295**	*e*P		**P**	**P**	**05 06 47.0**	**+1.2**
AKT				*e*S		**Sn**	**Sn**	**05 09 56.2**	**+3.6**
AKT	comp=Z,22nm,0.5s			pmax		pmax			
AKT	comp=N,15nm,0.5s			smax		smax			
AKT	comp=E,14nm,0.4s			smax		smax			
AKT	comp=Z,343nm,12.0s			MLR		MLR			
JRN	**Qarnain Island**	**17.44**	**235**	P		**Pn**	**Pn**	**05 06 49.5**	**0.0**
MAK	**Makhachkala**	**17.50**	**299**	*d*	iP	**Pn**	**Pn**	**05 06 47.1**	**-3.1**
MAK				*e*S		**Sn**	**Sn**	**05 10 00.9**	**-3.9**
MAK	comp=Z,199nm,1.0s			pmax		pmax			
MAK	comp=Z,1μm,13.0s			MLR		MLR			
MZWR	**Madinat Zayed**	**17.62**	**230**	P		**Pn**	**Pn**	**05 06 51.7**	**-0.1**
MHTO	**MHTO**	**17.66**	**214**	P		**P**	**P**	**05 06 54.1**	**+0.9**
UMZA	**Um Al Zommool**	**17.66**	**224**	P		**P**	**P**	**05 06 53.1**	**-0.1**
GHWR	**Ruwais**	**18.11**	**232**	P		**P**	**P**	**05 06 58.2**	**+0.1**
SHMA	**Al-Shehemyia**	**18.13**	**240**	P		**Pn**	**Pn**	**05 06 57.0**	**-1.0**
SAKB	**Bahrain**	**18.36**	**242**	P		**P**	**P**	**05 07 00.9**	**0.0**
MZR	**Muzera** SNR=6.8	**18.43**	**229**	P		**Pn**	**Pn**	**05 07 01.9**	**+0.1**
TRNA	**Turayna**	**18.68**	**237**	P		**P**	**P**	**05 07 04.1**	**-0.3**
DQM	**DQM**	**18.78**	**214**	P		**Pn**	**Pn**	**05 07 06.2**	**+0.2**
SLWR	**Sila**	**18.80**	**235**	P		**P**	**P**	**05 07 05.6**	**-0.2**
SMRA	**Abu-Samra**	**18.93**	**238**	P		**P**	**P**	**05 07 07.1**	**-0.1**
GNI	**Garni**	**19.05**	**289**			**P**	**P**	**05 07 08.5**	**-0.2**
GNI	**Garni**	**19.05**	**289**	P		**P**	**P**	**05 07 08.1**	**-0.5**
GNI	comp=Z,0.8nm,0.3s,baz=234,slow=5.6,SNR=6.5			LR		LR		05 16 46.6	
GNI	comp=Z,198nm,18.7s,baz=96,slow=44 comp=Z,3.7nm,0.3s			LR		LR			
GNI	**Garni**	**19.05**	**289**	*ce*P		**Pn**	**Pn**	**05 07 12.3**	**+2.9**
GNI	comp=Z,42nm,1.0s			pmax		pmax			
LSA	**Lhasa**	**20.09**	**102**	P		**P**	**P**	**05 07 19.8**	**-0.6**
LSA	**Lhasa**	**20.09**	**102**	P		**P**	**P**	**05 07 19.3**	**-1.1**
LSA	comp=Z,33nm,1.0s			pmax		pmax			
LSA	comp=Z,200nm,13.1s			LR		LR			
LSA	comp=Z,380nm,14.4s			LR		LR			
LSA	**Lhasa**	**20.09**	**102**	P		Pn		05 07 21.9	-0.3
LSA	**Lhasa**	**20.09**	**102**	P		**P**	**P**	**05 07 19.8**	**-0.6**
LSA	comp=Z,26nm,0.8s			pmax		pmax			
NCK	**Nalchik**	**20.41**	**299**	⇓*e*P		**P**	**P**	**05 07 24.1**	**+0.9**
NCK	comp=Z,31nm,1.4s			pmax		pmax			
KBZ	**Khabaz** comp=Z,3.5nm,0.6s,baz=132,slow=6.0,SNR=12	**20.95**	**299**	P		**P**	**P**	**05 07 27.3**	**-1.8**
KBZ	comp=Z,3.5nm,0.6s **Khabaz**	**20.95**	**299**	*ce*P		**P**	**P**	**05 07 28.3**	**-0.7**
KBZ	comp=Z,15nm,1.0s			pmax		pmax			
SHA1	**Shidzhatmaz**	**21.12**	**299**	*ce*P		**P**	**P**	**05 07 30.8**	**-0.4**
KVAR	**Kislovodsk Arr** comp=Z,4.1nm,0.6s,baz=76,slow=19,SNR=1.6	**21.14**	**300**	P		**P**	**P**	**05 07 30.5**	**-0.8**
KVAR	comp=Z,3.1nm,0.6s,baz=341,slow=23,SNR=1.5 comp=Z,4.1nm,0.6s			S		**S**	**S**	**05 11 15.9**	**-10**
ZAA0	**Zalesovo Array**	**21.14**	**28**				**P**	**05 07 30.6**	**-0.4**
ZAA0	comp=Z,40nm,0.9s			IAmb		IAmb	IAmb	05 07 38.1	
ZAA0	**Zalesovo Array** comp=Z,7.3nm,0.9s	**21.14**	**28**	⇑P		**P**	**P**	**05 07 31.3**	**+0.3**
ZALV	**Zalesovo Beam**	**21.14**	**28**			**P**	**P**	**05 07 31.1**	**0.0**
ZALV	**Zalesovo Beam**	**21.14**	**28**	P		**P**	**P**	**05 07 31.2**	**+0.2**
ZALV	comp=Z,16nm,0.4s,baz=225,slow=9.9,SNR=43			Lg		Lg		05 13 59.0	
KIV	baz=239,slow=25 comp=Z,16nm,0.4s **Kislovodsk**	**21.15**	**300**	P		**P**	**P**	**05 07 30.8**	**-0.5**
KIV				IAmb		IAmb	IAmb	05 07 35.4	
KIV	comp=Z,38nm,0.7s **Kislovodsk**	**21.15**	**300**	P		**P**	**P**	**05 07 30.0**	**-1.4**
KIV				S		**S**	**S**	**05 11 23.7**	**-2.4**
KIV	**Kislovodsk**	**21.15**	**300**	*e*P		**P**	**P**	**05 07 31.0**	**-0.3**
KIV				*e*S		**S**	**S**	**05 11 26.3**	**+0.2**
KIV	comp=Z,33nm,1.0s			pmax		pmax			
KIV	comp=Z,179nm,14.0s			MLR		MLR			
KIV	**Kislovodsk** comp=Z,35nm,0.9s	**21.15**	**300**	P		**P**	**P**	**05 07 30.8**	**-0.5**
KIV	comp=Z,35nm,0.9s			pP		**pP**	**pP**	**05 07 34.3**	**-1.8**
GOF	**Gofitskoye**	**21.18**	**303**	*ce*P		**P**	**P**	**05 07 31.9**	**+0.4**
GOMU	**GeErMu**	**21.27**	**82**	P		**P**	**P**	**05 07 33.3**	**+0.3**
GOMU	comp=Z,12nm,0.8s			pmax		pmax			
SHAO	**Shalim**	**21.31**	**216**	P		**P**	**P**	**05 07 34.4**	**+1.3**
SHAO				S		**S**	**S**	**05 11 32.4**	**+3.0**
SVE	**Sverdlovsk**	**21.35**	**348**	*e*P		**P**	**P**	**05 07 33.6**	**+0.3**
SVE				*e*S		**S**	**S**	**05 11 27.0**	**-2.7**
SVE	comp=Z,50nm,1.2s			pmax		pmax			
SVE	comp=Z,2μm,13.0s			MLR		MLR			
ARTI	**Arti**	**21.37**	**345**			**P**	**P**	**05 07 33.3**	**-0.2**
ARTI	**Arti**	**21.37**	**345**	P		**P**	**P**	**05 07 33.9**	**+0.5**
ARTI	comp=Z,20nm,0.6s,baz=166,slow=5.8,SNR=25			Sn		**S**	**S**	**05 11 32.1**	**+2.0**
ARTI	comp=Z,0.4nm,0.3s,baz=311,slow=23,SNR=3.0			Lg		Lg		05 14 04.3	
ARTI	comp=Z,0.1nm,0.3s,baz=319,slow=8.4,SNR=2.1			LR		LR		05 17 23.7	
ARTI	comp=Z,250nm,18.6s,baz=141,slow=41 comp=Z,20nm,0.6s **Arti**	**21.37**	**345**	*c*	*i*P	**P**	**P**	**05 07 33.8**	**+0.3**
ARTI								05 07 55.3	
ARTI				PPP		PPP	PPP	05 08 02.6	
ARTI				S		**S**	**S**	**05 11 32.7**	**+2.6**
ARTI				SS		**SnSn**	**SnSn**	**05 11 57.7**	**+4.8**
ARTI				SSS		SSS	SSS	05 12 10.9	
ARTI	comp=Z,67nm,1.2s			pmax		pmax			
ARTI	comp=Z,829nm,13.0s			MLR		MLR			
DOK	**Doka**	**21.55**	**220**	P		**P**	**P**	**05 07 34.7**	**-0.9**
DOK				S		**S**	**S**	**05 11 36.9**	**+2.9**
BELG	**Belogornoye**	**21.93**	**324**	*d*	iP	**P**	**P**	**05 07 38.6**	**-0.8**
BELG	comp=Z,9.0nm,0.6s			pmax		pmax			
MARD	**Mardin**	**22.18**	**281**			**P**	**P**	**05 07 43.5**	**+1.0**
KOPT	**Kop Dagi**	**22.30**	**288**			**P**	**P**	**05 07 43.6**	**-0.3**
KOPT	comp=Z,51nm,1.3s			IAmb		IAmb	IAmb	05 07 51.1	
WHFO	**Wadi Hawf**	**22.32**	**219**	P		**P**	**P**	**05 07 43.0**	**-0.9**
RBK	**Rabkut**	**22.45**	**218**	P		**P**	**P**	**05 07 44.3**	**-1.0**
SHL	**Shillong**	**22.66**	**111**			**P**	**P**	**05 07 46.1**	**-1.6**
SHL	comp=Z,45nm,1.0s			IAmb		IAmb	IAmb	05 07 52.0	
SHL	**Shillong** SNR=17	**22.66**	**111**	P		**P**	**P**	**05 07 46.8**	**-0.9**
SHL	**Shillong**	**22.66**	**111**	P		**P**	**P**	**05 07 46.1**	**-1.6**
SHL	comp=Z,45nm,1.0s			pmax		pmax			
VSLR	**Vesyoloye**	**22.95**	**297**	⇓*e*P		**P**	**P**	**05 07 52.6**	**+2.2**
VSLR	comp=Z,42nm,1.1s			pmax		pmax			
ABTO	**Aybut** SNR=5.3	**23.03**	**220**	P		**P**	**P**	**05 07 50.9**	**-0.6**
SOC	**Sochi**	**23.19**	**298**	*e*P		**P**	**P**	**05 07 52.6**	**-0.3**
SOC				*e*PPP		PPP	PPP	05 08 26.6	
SOC				*e*S		**S**	**S**	**05 12 06.6**	**+2.5**
SOC				*e*SSS		SSS	SSS	05 12 51.7	
SOC	comp=Z,106nm,12.0s			MLR		MLR			
RAYN	**Ar Rayn**	**23.47**	**244**			**P**	**P**	**05 07 54.8**	**-1.1**
RAYN	**Ar Rayn**	**23.47**	**244**	P		**P**	**P**	**05 07 55.4**	**-0.5**
RAYN	**Ar Rayn**	**23.47**	**244**	P		**P**	**P**	**05 07 54.8**	**-1.1**
RAYN	comp=Z,10.0nm,1.0s			pmax		pmax			
VRH	**Novokhopyorsk**	**24.32**	**317**	*e*P		**P**	**P**	**05 08 06.5**	**+2.8**
VRH	comp=Z,10.0nm,1.1s			pmax		pmax			
GTA	**Gaotai**	**24.95**	**73**	*e*P		**P**	**P**	**05 08 11.3**	**+1.6**
GTA				pP		pP	pP	05 08 16.0	+1.4
GTA	comp=Z,14nm,1.4s			pmax		pmax			
ANN	**Anapa**	**25.01**	**300**	*e*P		**P**	**P**	**05 08 08.5**	**-1.5**
ANN				*e*S		**S**	**S**	**05 12 34.1**	**+0.8**
ANN	comp=Z,68nm,1.0s			pmax		pmax			
ANN	comp=Z,445nm,18.0s			MLR		MLR			
VORD	**Divnogorie**	**25.59**	**315**	*e*P		**P**	**P**	**05 08 14.0**	**-1.2**
VORD	comp=Z,10.0nm,1.1s			pmax		pmax			
KIRV	**Kirov** comp=Z,82nm,22.0s,baz=155,slow=42	**25.71**	**337**	LR		LR	LR	05 20 46.3	
KIRV	**Kirov**	**25.71**	**337**	⇓*e*P		**P**	**P**	**05 08 18.7**	**+2.5**
VSR	**Storozhevoye**	**25.77**	**315**	*e*P		**P**	**P**	**05 08 14.8**	**-2.0**
VSR	comp=Z,20nm,1.0s			pmax		pmax			
VORR	**Voronezh**	**25.94**	**316**	*e*P		**P**	**P**	**05 08 14.8**	**-3.5**
VORR	comp=Z,30nm,1.0s			pmax		pmax			
ASF	**Jabal al Asfar** comp=Z,109nm,19.7s,baz=88,slow=41

KIEV **Kiev** **31.59 310** ⇑P **P** **05 09 08.7 +0.1**
KIEV **Kiev** **31.59 310** P **P** **05 09 08.6 -0.1**
KIEV pmax pmax
comp=Z,27nm,1.1s
KIEV **Kiev** **31.59 310** P **P** **05 09 07.6 -1.0**
comp=Z,94nm,1.2s
AK11 Malin Array Si 31.61 310 P **P** **05 09 08.5 -0.3**
AK12 Malin Array Si 31.61 310 P **P** **05 09 08.5 -0.3**
AK04 Malin Array Si 31.62 310 P **P** **05 09 08.6 -0.3**
AK14 Malin Array Si 31.64 310 P **P** **05 09 08.8 -0.3**
AK15 Malin Array Si 31.64 310 P **P** **05 09 08.8 -0.3**
AK16 Malin Array Si 31.64 310 P **P** **05 09 08.9 -0.3**
AK23 Malin Array Si 31.65 310 P **P** **05 09 08.9 -0.3**
AK13 Malin Array Si 31.66 310 P **P** **05 09 09.0 -0.3**
AK17 Malin Array Si 31.68 310 P **P** **05 09 09.1 -0.4**
AK18 Malin Array Si 31.68 310 P **P** **05 09 09.2 -0.3**
AK22 Malin Array Si 31.68 310 P **P** **05 09 09.2 -0.3**
SORM Soroca 31.70 305 ⇑P **P** **05 09 10.3 +0.6**
SORM Soroca 31.70 305 ⇑P **P** **05 09 10.3 +0.6**
AK21 Malin Array Si 31.71 310 P **P** **05 09 09.4 -0.3**
AK19 Malin Array Si 31.71 310 P **P** **05 09 09.5 -0.3**
AK20 Malin Array Si 31.72 310 P **P** **05 09 09.5 -0.3**
CM31 Chiang Mai Arr 32.13 115 P **P** **05 09 13.4 -0.4**
CMAR Chiang Mai Arr 32.13 115 **P** **05 09 12.6 -1.2**
CMAR Chiang Mai Arr 32.13 115 P **P** **05 09 12.8 -1.0**
comp=Z,3.8nm,0.9s,baz=302,slow=8.5,SNR=22
CMAR LR LR 05 26 08.0
comp=Z,114nm,18.6s,baz=305,slow=44
comp=Z,3.8nm,0.9s
LUBAR Lubar, Ukraine 32.35 308 P **P** **05 09 15.1 -0.3**
VRI Vrincioaia 32.62 300 ⇓P **P** **05 09 20.0 +2.2**
VRI Vrincioaia 32.62 300 ⇓P **P** **05 09 20.0 +2.2**
PLOR Plostina 32.68 300 ⇑P **P** **05 09 21.2 +2.8**
PLOR Plostina 32.68 300 P P 05 09 24.0 +5.6
TESR Tescani 32.71 302 ⇓P **P** **05 09 21.6 +3.0**
ISR Istrita 32.73 299 ⇓P P 05 09 25.4 +6.5
ISR Istrita 32.73 299 ⇓P P 05 09 25.4 +6.5
COVR Voineasa-Covas 32.99 300 ⇑P P 05 09 25.8 +4.7
XAN Xi'an 33.02 82 ⇑P **P** **05 09 21.3 -0.2**
XAN pmax pmax
comp=Z,9.0nm,0.9s
MLR Muntele Rosu 33.16 300 **P** **05 09 24.5 +1.8**
MLR Muntele Rosu 33.16 300 LR LR 05 26 04.3
comp=Z,400nm,19.4s,baz=60,slow=42
MLR Muntele Rosu 33.16 300 ⇓P P 05 09 30.1 +7.4
MLR Muntele Rosu 33.16 300 P **P** **05 09 24.5 +1.8**
MLR pmax pmax
comp=Z,56nm,1.1s
MNK Minsk 33.32 316 *i* P **P** **05 09 24.1 +0.2**
comp=E,9.0nm,0.8s
MNK *i* P **P** **05 09 24.1 +0.2**
comp=N,50nm,1.1s
MNK *i* P **P** **05 09 24.1 +0.2**
comp=Z,46nm,1.0s,baz=106
MNK *i* PP **PnPn** **05 10 35.4 +1.1**
MNK *i* PPP PPP 05 10 44.7
MNK *i* S **S** **05 14 44.7 +1.1**
MNK *i* SS **SnSn** **05 16 48.7 +4.4**
MNK *i* LR LR 05 23 38.2
MNK *i* LRM MLR 05 25 17.1
comp=E,353nm,18.0s
MNK *i* LRM MLR 05 25 19.2
comp=N,394nm,15.3s
MNK *i* LRM MLR 05 25 28.0
comp=Z,464nm,15.8s
MNK Minsk 33.32 316 *i* P **P** **05 09 24.0 +0.2**
MNK *i* 05 10 35.3
MNK *i* S **S** **05 14 44.7 +1.1**
MNK *i* SS **SnSn** **05 16 48.7 +4.4**
MNK pmax pmax
comp=E,9.0nm,0.8s
MNK pmax pmax
comp=Z,46nm,1.0s
MNK pmax pmax
comp=N,50nm,1.1s
DOPR Dopca 33.56 301 ⇑P P 05 09 30.7 +4.6
RNPP5 Staryi Chortor 33.75 310 P **P** **05 09 28.0 +0.4**
BURAR Bucovina Array 33.76 303 **P** **05 09 27.4 -0.4**
BURAR Bucovina Array 33.76 303 ⇓P P 05 09 32.6 +4.8
BURAR Bucovina Array 33.76 303 ⇓P P 05 09 32.6 +4.8
BUR08 Bucovina Ar. S 33.77 304 **P** **05 09 28.5 +0.5**
RNPP9 Sopachiv 33.78 310 P **P** **05 09 28.2 +0.4**
RNPP8 Varash 33.79 310 P **P** **05 09 28.3 +0.4**
VOIR 33.79 300 ⇑P **P** **05 09 29.0 +0.9**
VOIR 33.79 300 ⇑P **P** **05 09 29.0 +0.9**
HHC Hu-ho-hao-te 33.82 69 *eP* **P** **05 09 30.5 +2.0**
HHC pmax pmax
comp=N,7.0nm,0.6s
NACGM Naroch 34.05 317 *eP* **P** **05 09 30.5 +0.4**
comp=Z,40nm,0.9s,baz=105
ARR Arges 34.08 299 ⇓P **P** **05 09 32.6 +2.0**
SLVN Son La 34.20 106 **P** **05 09 30.7 -1.2**
STNU Starunia 34.32 305 P **P** **05 09 33.2 +0.6**
ENH Enshi 34.65 88 P **P** **05 09 35.0 -0.6**
ENH IAmb IAmb 05 09 41.6
comp=Z,20nm,1.0s
CJR Cluj-Napoca 34.82 302 ⇑P P 05 09 42.1 +5.1
CJR Cluj-Napoca 34.82 302 ⇑P P 05 09 42.1 +5.1
MARR Marisel-Cluj 35.15 302 ⇓P **P** **05 09 41.9 +2.0**
DEV Deva 35.30 300 ⇓P P 05 09 46.4 +5.3
DEV Deva 35.30 300 ⇓P P 05 09 46.4 +5.4
GZR Gura Zlata 35.39 300 ⇑P **P** **05 09 45.9 +3.9**
GZR Gura Zlata 35.39 300 ⇑P **P** **05 09 45.9 +3.9**
DRGR 35.43 302 ⇑P **P** **05 09 45.9 +3.7**
DRGR 35.43 302 P P 05 09 47.4 +5.1
LYN LuoYang 35.72 79 P **P** **05 09 45.8 +1.0**
LYN pmax pmax
comp=Z,20nm,1.0s
PABE Paberze 35.76 317 **P** **05 09 44.3 -0.6**
KOLS Kolonicke sedl 35.80 306 *eP* P 05 09 50.2 +4.8
KOLS pmax pmax
comp=Z,12nm,1.0s
SURR Surduc 35.84 300 ⇑P **P** **05 09 48.4 +2.7**
SUW Suwalki 35.88 314 *eP* **P** **05 09 49.6 +3.7**
SUW Suwalki 35.88 314 P P **05 09 45.7 -0.2**
SUW Suwalki 35.88 314 P **P** **05 09 45.7 -0.2**
SIRR Siria 36.16 301 ⇓P **P** **05 09 52.2 +3.8**
MDVR Moldovita 36.16 299 ⇓P P 05 09 43.4 -5.2
BZS Buzias 36.20 300 ⇑P **P** **05 09 52.6 +3.8**
BZS Buzias 36.20 300 ⇑P **P** **05 09 52.6 +3.8**
FINES FINESS Array B 36.65 327 P **P** **05 09 52.8 +0.4**
FINES FINESS Array B 36.65 327 P **P** **05 09 52.4 0.0**
comp=Z,2.0nm,0.6s,baz=128,slow=10.0,SNR=8.6
FINES LR LR 05 26 35.4
comp=Z,551nm,18.5s,baz=113,slow=39
comp=Z,2.0nm,0.6s
FINES FINESS Array B 36.65 327 P **P** **05 09 52.8 +0.4**
R9F13 Warsaw-Wawer 36.81 311 *eP* **P** **05 09 58.2 +4.3**
KECS Kecovo 36.97 305 *eP* **P** **05 09 59.1 +3.8**
KECS pmax pmax
comp=Z,15nm,0.7s
LVZ Lovozero 37.05 340 P **P** **05 09 55.4 -0.5**
LVZ Lovozero 37.05 340 P **P** **05 09 55.4 -0.5**
LVZ pmax pmax
comp=Z,51nm,1.4s
NIE Niedzica 37.12 306 *eP* P 05 10 02.0 +5.4
PSZ Piszkesteto 37.35 304 P P 05 10 03.8 +5.1
PSZ pmax pmax
comp=Z,10.0nm,1.4s
OJC Ojcow 37.48 308 *eP* **P** **05 10 03.6 +4.0**
OJC Ojcow 37.48 308 **P** **05 09 59.0 -0.7**
OJC Ojcow 37.48 308 P **P** **05 09 59.0 -0.7**
SRO Srobarova 38.42 304 *eP* P 05 10 12.5 +4.9
SRO pmax pmax
comp=Z,18nm,1.0s
OKC Ostrava-Krasne 38.53 307 AMS AMS 05 31 00.0
comp=Z,100nm,13.7s
MORC Moravsky Berou 38.92 307 **P** **05 10 10.6 -1.3**
MORC Moravsky Berou 38.92 307 *eP* **P** **05 10 16.4 +4.5**
MORC Moravsky Berou 38.92 307 P **P** **05 10 10.6 -1.3**
MORC pmax pmax
comp=Z,8.0nm,0.9s
MODS Modra-Piesok 39.10 305 *eP* **P** **05 10 17.9 +4.5**
MODS pmax pmax
comp=Z,12nm,1.2s
GKP Gorka Klasztor 39.28 312 *eP* **P** **05 10 18.9 +4.1**
KRLC Kraliky 39.42 307 *eP* P 05 10 04.0 -12
KRLC AMS AMS 05 30 00.0
comp=Z,200nm,8.6s
VRAC Vranov 39.54 306 LR LR 05 29 09.5
comp=Z,87nm,20.3s,baz=86,slow=40
VRAC Vranov 39.54 306 *eP* P 05 10 21.7 +4.7
KRUC Moravsky 39.67 306 *eP* **P** **05 10 22.5 +4.4**

DPC Dobruska-Polom 39.71 308 *eP* **P** **05 10 22.9 +4.4**
DPC AMS AMS 05 31 00.0
comp=Z,300nm,19.3s
DPC Dobruska-Polom 39.71 308 *eP* **P** **05 10 22.9 +4.4**
DPC MLR MLR
comp=Z,300nm,19.3s
KSP Ksiaz 39.74 308 *eP* **P** **05 10 22.6 +4.0**
RONA Rosalia, Austr 39.78 304 *epP* **P** **05 10 22.9 +3.8**
comp=Z,3.7nm,0.8s
OSTC Ostas 39.78 308 *eP* P 05 10 24.8 +5.8
OSTC AMS AMS 05 31 10.0
comp=Z,300nm,18.1s
OSTC Ostas 39.78 308 *eP* P 05 10 24.8 +5.8
OSTC MLR MLR
comp=Z,300nm,18.1s
CHVC Chvalec 39.89 308 *eP* P 05 10 24.9 +5.0
CHVC AMS AMS 05 30 00.0
comp=Z,200nm,14.0s
CHVC Chvalec 39.89 308 *eP* P 05 10 24.9 +5.0
CHVC MLR MLR
comp=Z,200nm,14.0s
UPC Upice 39.91 308 *eP* P 05 10 25.1 +5.0
UPC AMS AMS 05 31 20.0
comp=Z,200nm,15.4s
UPC Upice 39.91 308 *eP* P 05 10 25.1 +5.0
UPC MLR MLR
comp=Z,200nm,15.4s
CONA Conrad Observa 40.06 304 *epP* **P** **05 10 25.8 +4.4**
comp=Z,8.6nm,1.0s
TREC Trest 40.26 306 *eP* P 05 10 28.5 +5.5
TREC AMS AMS 05 31 20.0
comp=Z,200nm,12.3s
TREC Trest 40.26 306 *eP* P 05 10 28.5 +5.5
TREC MLR MLR
comp=Z,200nm,12.3s
ARSA Arzberg 40.33 303 P **P** **05 10 21.7 -1.9**
ARSA Arzberg 40.33 303 *epP* **P** **05 10 27.7 +4.1**
comp=Z,5.6nm,1.2s
ARCES ARCESS Array B 40.71 338 P **P**
05 10 27.0 +0.6
comp=Z,5.4nm,0.8s,baz=125,slow=6.4,SNR=8.3
ARCES LR LR 05 29 25.8
comp=Z,164nm,19.7s,baz=122,slow=39
comp=Z,5.4nm,0.8s
ARCES ARCESS Array B 40.71 338 P **P** **05 10 27.0 +0.6**
SOKA Soboth 40.71 302 *epP* **P** **05 10 31.1 +4.3**
comp=Z,8.7nm,1.1s
PVCC Panska Ves 40.84 308 AMS AMS 05 31 50.0
comp=Z,200nm,15.9s
PRU Pruhonice 40.86 307 *eP* P 05 10 32.9 +5.0
PRU AMS AMS 05 31 40.0
comp=Z,200nm,14.1s
PRU Pruhonice 40.86 307 *eP* P 05 10 32.9 +5.0
PRU MLR MLR
comp=Z,200nm,14.1s
PRA Prague 40.93 307 AMS AMS 05 31 50.0
comp=Z,300nm,11.8s
CKRC Cesky Krumlov 41.05 305 *eP* P 05 10 34.3 +4.7
CKRC AMS AMS 05 30 20.0
comp=Z,300nm,5.0s
CKRC Cesky Krumlov 41.05 305 *eP* P 05 10 34.3 +4.7
CKRC MLR MLR
comp=Z,300nm,5.0s
OBKA Obir 41.06 302 *epP* **P** **05 10 33.3 +3.6**
comp=Z,8.4nm,1.7s
ZVC Zvikov 41.10 306 *eP* P 05 10 34.9 +5.0
ZVC AMS AMS 05 31 50.0
comp=Z,200nm,13.6s
CUC Castrocucco 41.12 292 P **P** **05 10 29.5 -0.8**
CUC IAmb IAmb 05 10 35.7
comp=Z,30nm,1.5s
RICC Richard 41.14 308 AMS AMS 05 32 10.0
comp=Z,400nm,19.6s
MOA Molln 41.14 304 *epP* **P** **05 10 34.2 +3.9**
comp=Z,6.1nm,1.1s
BRG Berggiesshubel 41.23 308 *i* P P 05 10 35.7 +4.8
BRG Amp 05 10 37.0
comp=Z,18nm,1.2s
GERES GERESS Array B 41.45 305 P **P** **05 10 33.2 +0.3**
comp=Z,2.6nm,0.9s,baz=79,slow=6.9,SNR=14
GERES LR LR 05 31 02.4
comp=Z,115nm,18.4s,baz=63,slow=41
comp=Z,2.6nm,0.9s
KHC Kasperske Hory 41.52 306 AMS AMS 05 32 10.0
comp=Z,200nm,11.1s
NJ2 Nanjing 41.57 80 *eP* **P** **05 10 35.5 +1.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
CLL Collm 41.82 309 *i* P **P** **05 10 39.3 +3.6**
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 41.82 309 *i* P **P** **05 10 39.3 +3.6**
comp=Z,10.0nm,1.2s
CLL *eP*P **PP** **05 12 12.0 -0.3**
CLL *eS* **S** **05 16 54.0 +1.4**
CLL *ex* x 05 17 42.0
KBA Koelnbreinsper 41.83 303 *epP* **P** **05 10 39.3 +3.2**
comp=Z,6.8nm,1.2s
HFS Hagfors 42.09 322 P **P** **05 10 37.8 0.0**
comp=Z,16nm,0.9s,baz=89,slow=12,SNR=14
HFS LR LR 05 31 49.5
comp=Z,394nm,18.4s,baz=104,slow=41
comp=Z,16nm,0.9s
LESA Schwarzleotal 42.25 303 *epP* **P** **05 10 43.1 +3.7**
comp=Z,11nm,1.3s
MOX Moxa 42.71 308 *eL* L 05 32 27.7
comp=Z,149nm,18.5s
VAE Valguarnera 42.78 289 LR LR 05 34 09.6
comp=Z,78nm,19.0s,baz=304,slow=44
WATA Walderalm 43.00 303 *epP* **P** **05 10 48.5 +2.9**
comp=Z,7.3nm,1.3s
GRF Grafenberg Arr 43.02 307 *eP* P 05 10 50.4 +4.8
comp=Z,11nm,1.1s,baz=96,slow=7.5
GRF *eL* L 05 32 30.0
comp=Z,138nm,18.1s
NC405 NORSAR Array S 43.20 324 **P** **05 10 46.3 -0.6**
NC405 IAmb IAmb 05 10 51.4
comp=Z,25nm,1.1s
NC602 NORSAR Array S 43.23 323 P **P** **05 10 46.9 -0.2**
NC602 IAmb IAmb 05 10 50.6
comp=Z,36nm,1.4s
NC303 NORSAR Array S 43.39 324 P **P** **05 10 48.5 +0.1**
NC303 IAmb IAmb 05 10 52.8
comp=Z,26nm,1.1s
NB201 NORSAR Array S 43.40 323 P **P** **05 10 48.4 -0.1**
NB201 IAmb IAmb 05 10 52.7
comp=Z,27nm,1.2s
NB2 NORSAR Subarra 43.43 323 P **P** **05 10 48.1 -0.7**
comp=Z,3.3nm,0.8s,baz=99,slow=8.6
NOA NORSAR Array B 43.43 323 P **P** **05 10 48.3 -0.5**
comp=Z,11nm,0.9s,baz=99,slow=8.1,SNR=15
NOA LR LR 05 30 25.3
comp=Z,302nm,18.6s,baz=100,slow=38
comp=Z,11nm,0.9s
IPM Ipoh 43.48 129 P **P** **05 10 47.5 -2.2**
IPM IAmb IAmb 05 10 53.7
comp=Z,42nm,1.7s
FETA Feichten 43.61 303 *epP* **P** **05 10 53.7 +3.2**
comp=Z,7.9nm,1.3s
NBO00 NORSAR Array S 43.64 323 P **P** **05 10 50.6 +0.1**
NBO00 IAmb IAmb 05 10 54.6
comp=Z,20nm,1.1s
NC204 NORSAR Array S 43.68 324 **P** **05 10 50.5 -0.3**
NC204 IAmb IAmb 05 10 55.0
comp=Z,22nm,1.1s
ZEA Zeya 43.83 47 *eP* P 05 10 57.3 +5.3
KONO Kongsberg 44.07 321 P **P** **05 10 54.0 +0.2**
KONO Kongsberg 44.07 321 P **P** **05 10 54.0 +0.2**
KONO pmax pmax
comp=Z,13nm,1.1s
HEH HeiHe 44.10 52 *eP* **P** **05 10 54.6 +0.3**
DAVOX Davos/Dischmat 44.22 303 LR LR 05 32 41.1
comp=Z,104nm,19.7s,baz=73,slow=40
YAK Yakutsk 45.46 35 P **P** **05 11 05.4 +0.5**
YAK Yakutsk 45.46 35 LR LR 05 31 52.2
comp=Z,170nm,18.9s,baz=263,slow=38
YAK Yakutsk 45.46 35 *eP* **P** **05 11 06.0 +1.2**
YAK *e*PP **sP** **05 11 16.1 +3.9**
YAK *e* 05 12 53.1
YAK *eS* **S** **05 17 47.5 +2.0**
YAK *e*SS sS 05 18 05.5 +12
comp=Z,9.0nm,0.8s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=Z,266nm,5.4s
YAK pmax pmax
comp=N,169nm,4.3s
YAK pmax pmax
comp=E,258nm,5.4s
YAK smax smax
comp=E,83nm,3.0s
YAK smax smax
comp=N,210nm,5.3s
YAK MLR MLR
comp=Z,399nm,13.0s
YAK MLR MLR
comp=E,294nm,13.0s
YAK MLR MLR
comp=N,124nm,12.0s
WLF Walferdange 46.30 307 P **P** **05 11 10.8 -0.9**
WLF Walferdange 46.30 307 P **P** **05 11 10.8 -0.9**
WLF pmax pmax
comp=Z,34nm,1.3s
TIXI Tiksi 46.88 22 P **P** **05 11 16.6 +0.6**
TIXI Tiksi 46.88 22 LR LR 05 32 44.5
comp=Z,181nm,18.5s,baz=204,slow=38
TIXI Tiksi 46.88 22⇓*eP* **P** **05 11 18.1 +2.1**
TIXI pmax pmax
comp=Z,30nm,0.9s
KSRS Korea Array 46.94 70 P **P** **05 11 15.7 -1.3**
comp=Z,1.1nm,0.8s,baz=276,slow=7.0,SNR=5.3
comp=Z,1.1nm,0.8s
SPITS Spitsbergen Ar 47.38 347 P **P** **05 11 21.0 +1.2**
comp=Z,3.8nm,0.5s,baz=122,slow=11,SNR=9.1
SPITS LR LR 05 33 52.2
comp=Z,144nm,18.7s,baz=116,slow=39
comp=Z,3.8nm,0.5s
KBS Kingsbay 48.51 348 P **P** **05 11 29.6 +1.1**
KBS Kingsbay 48.51 348⇓*eP* **P** **05 11 28.1 -0.4**
KBS pmax pmax
comp=Z,7.0nm,1.0s
EKA Eskdalemuir Ar 51.11 316 P **P** **05 11 48.2 -0.4**
comp=Z,9.2nm,0.9s,baz=93,slow=8.3,SNR=12
comp=Z,9.2nm,0.9s
MJAR Matsushiro Arr 55.00 67 P **P** **05 12 17.9 +0.3**
MJAR Matsushiro Arr 55.00 67 P **P** **05 12 16.6 -1.0**
comp=Z,3.0nm,1.0s,baz=293,slow=9.8,SNR=5.1
MJAR LR LR 05 37 02.8
comp=Z,41nm,18.0s,baz=188,slow=37
comp=Z,3.0nm,1.0s
MJAR Matsushiro Arr 55.00 67 P **P** **05 12 17.9 +0.3**
MJAR pmax pmax
comp=Z,5.0nm,1.2s
ESDC Sonseca Array 55.79 297 P **P** **05 12 23.1 -0.2**
ESDC Sonseca Array 55.79 297 P **P** **05 12 22.7 -0.6**
comp=Z,4.8nm,1.1s,baz=61,slow=7.8,SNR=10.0
ESDC LR LR 05 40 19.4
comp=Z,35nm,18.4s,baz=36,slow=40
comp=Z,4.8nm,1.1s
SEY Seymchan 55.86 33 LR LR 05 38 14.4
comp=Z,138nm,18.5s,baz=289,slow=38
SEY Seymchan 55.86 33 *eP* **P** **05 12 26.7 +3.4**
SEY pmax pmax
comp=Z,8.0nm,1.3s
MA2 Magadan 55.91 38 LR LR 05 38 03.7
comp=Z,65nm,21.4s,baz=292,slow=38
MVO Moncorvo 57.43 300 *eP* **P** **05 12 36.1 +1.1**
PBAR Barrancos 58.58 297 *eP* **P** **05 12 46.1 +3.1**
PBAR *i* IAmb IAmb 05 12 46.7
comp=Z,24nm,1.4s
MD01 Midelt array s 59.07 290 **P** **05 12 46.5 -0.1**
BILL Bilibino 59.83 26⇓*eP* **P** **05 12 50.8 -0.3**
BILL pmax pmax
comp=Z,11nm,1.5s
PETK Petropavlovsk- 61.65 43 LR LR 05 42 00.3
comp=Z,96nm,18.4s,baz=296,slow=38
TORD Torodi Ar. Bea 63.64 267 P **P** **05 13 15.4 -2.3**
TORD Torodi Ar. Bea 63.64 267 P **P** **05 13 15.7 -1.9**
comp=Z,1.4nm,0.4s,baz=48,slow=6.9,SNR=22
comp=Z,1.4nm,0.4s
LSZ Lusaka 63.74 224 LR LR 05 40 31.0
comp=Z,47nm,21.4s,baz=199,slow=36
SFJD Kangerlussuaq 67.33 338 LR LR 05 43 35.6
comp=Z,107nm,18.3s,baz=51,slow=36
A19K Wainwright 68.10 16 P **P** **05 13 46.4 +0.9**
baz=318
A21K Barrow 68.18 14 P **P** **05 13 46.5 +0.5**
baz=322
C16K Lisburne Hills 68.47 19 P **P** **05 13 47.9 0.0**
C16K Lisburne Hills 68.47 19 P **P** **05 13 48.3 +0.5**
baz=315
B18K Kokolik River 68.56 17 P **P** **05 13 49.1 +0.7**
baz=318
A22K Sinclair Lake 68.76 14 P **P** **05 13 50.5 +1.0**
baz=323
C17K DeLong Mountai 68.88 18 P **P** **05 13 50.9 +0.4**
baz=317
RES Resolute Bay 68.90 355 LR LR 05 47 18.2
comp=Z,121nm,19.2s,baz=34,slow=39
B20K Meade River 69.11 15 P **P** **05 13 50.5 -1.3**
B20K Meade River 69.11 15 P **P** **05 13 52.6 +0.8**
baz=322
C18K Utukok River 69.24 17 **P** **05 13 53.1 +0.3**
C18K Utukok River 69.24 17 P **P** **05 13 53.2 +0.5**
baz=319
RDOG Red Dog Mine 69.26 18 P **P** **05 13 53.6 +0.8**
baz=318
C19K Lookout Ridge 69.28 17 P **P** **05 13 53.7 +0.8**
C19K Lookout Ridge 69.28 17 P **P** **05 13 53.5 +0.6**
baz=320
D17K Noatak River 69.48 19 P **P** **05 13 54.3 +0.2**
baz=317,SNR=6.0
B22K Teshekpuk Lake 69.61 14 P **P** **05 13 55.2 +0.4**
baz=325
TNA Tin City 69.67 22 P **P** **05 13 55.8 +0.5**
baz=314
GAMB Gambell 69.69 24 P **P** **05 13 55.7 +0.3**
baz=312
B21K Ikpikpuk River 69.95 15 P **P** **05 13 57.3 +0.3**
B21K Ikpikpuk River 69.95 15 P **P** **05 13 58.3 +1.3**
baz=324
D19K Kuna River 70.09 17 **P** **05 13 58.1 +0.2**
D19K Kuna River 70.09 17 P **P** **05 13 58.4 +0.5**
baz=321,SNR=5.9
F14K Arctic Creek 70.20 21 P **P** **05 13 59.0 +0.4**
baz=315
D20K Etivluk River 70.26 16 **P** **05 13 58.9 0.0**
D20K IAmb IAmb 05 14 03.8
comp=Z,14nm,1.0s
D20K Etivluk River 70.26 16 P **P** **05 13 59.3 +0.4**
baz=322
E17K Hotham Inlet 70.27 19 P **P** **05 13 59.2 +0.2**
baz=319
C21K Knifeblade Rid 70.30 15 P **P** **05 13 59.8 +0.6**
baz=324
E18K Tukpahlearik C 70.32 18 **P** **05 13 59.1 -0.1**
E18K IAmb IAmb 05 14 04.0
comp=Z,12nm,0.9s
E18K Tukpahlearik C 70.32 18 P **P** **05 13 59.3 0.0**
baz=320
F15K North Star Dit 70.52 21 P **P** **05 14 00.4 -0.2**
baz=317
C23K Itkillik River 70.56 13 P **P** **05 14 01.6 +0.9**
baz=327
E20K Nigu River 70.72 16 P **P** **05 14 01.8 0.0**
baz=323,SNR=6.7
F17K Baldwin Pennin 70.90 19 P **P** **05 14 03.2 +0.4**
F17K IAmb IAmb 05 14 07.8
comp=Z,9.5nm,0.8s
F17K Baldwin Pennin 70.90 19 P **P** **05 14 03.4 +0.6**
baz=319
D22K Ayikyak River 70.96 15 **P** **05 14 02.9 -0.3**
D22K IAmb IAmb 05 14 08.3
comp=Z,18nm,1.1s
D22K Ayikyak River 70.96 15 P **P** **05 14 03.4 +0.2**
baz=326
C24K Franklin Bluff 71.01 13 P **P** **05 14 04.0 +0.6**
baz=329
E21K Killik River 71.05 15 P **P** **05 14 04.0 +0.3**
baz=325
E19K Redstone River 71.11 17 P **P** **05 14 04.4 +0.2**
E19K IAmb IAmb 05 14 09.8
comp=Z,24nm,1.6s
E19K Redstone River 71.11 17 P **P** **05 14 04.9 +0.7**
baz=322
ANM Nome 71.14 22 P **P** **05 14 05.4 +1.1**
baz=316
F18K Selawik 71.19 18 P **P** **05 14 05.5 +0.9**
baz=320
G15K Niukluk 71.22 21 P **P** **05 14 05.4 +0.7**

baz=317
D23K Nanushuk River 71.29 14 P P 05 14 05.8 +0.6
baz=327
G16K Koyuk River 71.40 20 P P 05 14 06.7 +0.9
baz=319
D24K Happy Valley 71.48 13 P P 05 14 06.7 +0.4
baz=329
F19K Shaleruckik Mo 71.48 18 P P 05 14 05.8 -0.5
F19K IAmb IAmb 05 14 10.2
comp=Z,20nm,1.6s
F19K Shaleruckik Mo 71.48 18 P P 05 14 06.8 +0.4
baz=322
C26K Camden Bay 71.49 12 P P 05 14 06.8 +0.5
baz=332
E22K Anaktuvuk Pass 71.76 15 P 05 14 08.3 +0.2
E22K IAmb IAmb 05 14 12.8
comp=Z,12nm,0.9s
E22K Anaktuvuk Pass 71.76 15 P P 05 14 07.8 -0.3
baz=327,SNR=6.3
D25K Kavik River 71.77 12 P P 05 14 07.8 -0.3
baz=331,SNR=6.6
TOLK Toolik Lake Re 71.78 14 P P 05 14 08.5 +0.3
TOLK IAmb IAmb 05 14 13.2
comp=Z,17nm,0.8s
TOLK Toolik Lake Re 71.78 14 P P 05 14 07.8 -0.3
baz=328,SNR=6.3
G17K Kiwalik Mounta 71.78 19 P P 05 14 08.9 +0.8
baz=320
F20K Avaraart Lake 71.80 17 P P 05 14 08.1 -0.1
baz=324
C27K Jago River 71.94 11 P P 05 14 08.8 -0.3
baz=333
G18K Tagagawik 72.00 18 P P 05 14 09.4 -0.1
G18K Tagagawik 72.00 18 P P 05 14 10.0 +0.5
baz=322
H16K Elim 72.00 21 P P 05 14 09.6 +0.1
baz=319
F21K Alatna River 72.16 16 P 05 14 10.4 -0.1
F21K Alatna River 72.16 16 P P 05 14 11.2 +0.7
baz=325,SNR=5.1
G19K Purcell Mounta 72.20 18 P 05 14 10.5 -0.2
G19K IAmb IAmb 05 14 15.6
comp=Z,10.0nm,0.8s
G19K Purcell Mounta 72.20 18 P P 05 14 11.3 +0.6
baz=323,SNR=7.1
F22K John River 72.21 15 P P 05 14 11.9 +1.2
baz=326
E23K Chandalar 72.27 14 P P 05 14 11.2 +0.1
baz=328
H17K Granite Mounta 72.42 20 P P 05 14 12.3 +0.3
baz=321
E24K Your Creek 72.47 14 P P 05 14 12.8 +0.5
E24K IAmb IAmb 05 14 17.9
comp=Z,24nm,1.5s
E24K Your Creek 72.47 14 P P 05 14 12.9 +0.6
baz=329
H18K Honhosa River 72.66 19 P P 05 14 13.8 +0.4
baz=322
D27M Malcolm River 72.71 11 P P 05 14 13.6 -0.1
baz=335
G21K Allakaket 72.74 16 P P 05 14 14.4 +0.5
baz=326,SNR=5.1
G22K Bettles 72.84 15 P P 05 14 15.3 +0.9
baz=327
H19K Roundabout Mou 72.85 18 P P 05 14 14.9 +0.4
H19K Roundabout Mou 72.85 18 P P 05 14 14.9 +0.4
baz=323
COLD Coldfoot 72.86 15 P P 05 14 14.8 +0.2
COLD IAmb IAmb 05 14 20.0
comp=Z,18nm,0.9s
COLD Coldfoot 72.86 15 P P 05 14 15.6 +1.0
baz=328,SNR=9.1
E25K Arctic Village 72.97 13 IAmb IAmb 05 14 20.3
comp=Z,10nm,0.9s
E25K Arctic Village 72.97 13 P P 05 14 14.8 -0.4
baz=332,SNR=5.7
I17K Unalakleet 73.01 20 P P 05 14 15.8 +0.3
baz=320
J14K Nanvaranak Lak 73.03 22 P P 05 14 16.1 +0.4
baz=318
F24K Squaw Lake 73.07 14 P P 05 14 16.1 +0.2
baz=330
IMAR Indian Mountai 73.13 17 P P 05 14 16.0 -0.2
H20K Anotleneega Mo 73.26 17 P P 05 14 17.2 +0.1
baz=325,SNR=5.5
K13K Kusilvak Mount 73.29 23 P P 05 14 16.5 -0.7
baz=318
G23K Bananza Creek 73.34 15 P P 05 14 16.3 -1.2
G23K IAmb IAmb 05 14 22.9
comp=Z,9.9nm,0.9s
G23K Bananza Creek 73.34 15 P P 05 14 17.5 0.0
baz=328,SNR=7.3
GCSA Galena City Sc 73.37 19 P P 05 14 17.6 0.0
baz=323
F25K Christian Rive 73.42 13 P P 05 14 18.7 +0.7
F25K IAmb IAmb 05 14 25.1
comp=Z,25nm,1.3s
F25K Christian Rive 73.42 13 P P 05 14 18.1 +0.1
baz=332,SNR=7.3
J16K Anvik River 73.50 21 P P 05 14 18.5 0.0
baz=320
E28M Babbage River 73.51 10 P P 05 14 18.1 -0.3
baz=337
E27K Coleen River 73.58 11 P P 05 14 19.4 +0.6
baz=335
F26K Sheenjek River 73.60 12 P P 05 14 19.3 +0.3
baz=333
H21K Melozitna Rive 73.62 17 IAmb IAmb 05 14 24.3
comp=Z,13nm,1.1s
H21K Melozitna Rive 73.62 17 P P 05 14 19.2 +0.1
baz=326
H22K Ishtalitna Cre 73.74 16 P P 05 14 19.7 -0.1
baz=327
BMAR Burnt Mountain 73.76 13 P 05 14 20.1 +0.1
J17K VABM Dome 73.85 20 P P 05 14 20.5 0.0
baz=322
G24K Hadweenzic Riv 73.86 14 P P 05 14 20.4 -0.1
baz=330,SNR=5.5
M11K Mekoryuk 73.92 25 P P 05 14 20.4 -0.5
baz=317
I20K Naaghedeneel 73.93 18 P P 05 14 21.1 +0.2
baz=325
E29M Blow River 73.94 10 P P 05 14 19.9 -1.1
baz=338,SNR=5.8
K15K Wolf Creek Mou 73.99 22 P P 05 14 22.2 +0.8
baz=320
G25K Bearman Lake 74.07 14 P P 05 14 21.4 -0.3
baz=332
J19K Poorman 74.30 19 IAmb IAmb 05 14 29.0
comp=Z,17nm,1.1s
J19K Poorman 74.30 19 P P 05 14 23.4 +0.3
baz=324,SNR=5.0
G26K Porcupine Rive 74.33 13 P P 05 14 23.3 +0.1
baz=333
L14K Kuka Creek 74.36 23 P P 05 14 23.7 +0.2
baz=319
F28M Old Crow 74.37 11 P P 05 14 23.7 +0.2
baz=336,SNR=5.5
C36M Paulatuk 74.42 5 P P 05 14 22.9 -0.7
C36M Paulatuk 74.42 5 P P 05 14 23.7 0.0
baz=350
J18K Innoko River 74.44 19 P P 05 14 23.7 -0.2
baz=324
L15K Ungalak Mounta 74.48 22 P P 05 14 24.8 +0.6
baz=320
J20K Nowinta River 74.52 18 P 05 14 24.7 +0.3
J20K IAmb IAmb 05 14 29.3
comp=Z,9.7nm,0.9s
J20K Nowinta River 74.52 18 P P 05 14 24.3 -0.1
baz=325
H24K Noodor Dome 74.53 15 P P 05 14 24.6 +0.1
baz=330,SNR=5.8
H25L Birch Creek 74.56 14 P P 05 14 25.1 +0.5
baz=332
INK Inuvik 74.58 8 P 05 14 25.0 +0.4
INK IAmb IAmb 05 14 29.6
comp=Z,14nm,0.9s
INK Inuvik 74.58 8 LR LR 05 51 33.6
comp=Z,152nm,18.9s,baz=52,slow=39
INK Inuvik 74.58 8 P P 05 14 25.0 +0.4
INK pmax pmax
comp=Z,14nm,0.9s
INK Inuvik 74.58 8 P P 05 14 24.2 -0.4
baz=342,SNR=5.4
K17K Iditarod 74.61 20 P 05 14 25.1 +0.2
K17K Iditarod 74.61 20 P P 05 14 25.0 +0.2
baz=322
MLY Manley 74.61 16 P P 05 14 24.7 -0.3
baz=328
SPIA Saint Paul Isl 74.73 29 P P 05 14 26.1 +0.4
baz=314
G27K Doyon Strip 74.82 12 IAmb IAmb 05 14 31.7
comp=Z,9.1nm,0.9s
G27K Doyon Strip 74.82 12 P P 05 14 26.4 +0.2
baz=335,SNR=6.8
F30M Barrier River 74.95 9 IAmb IAmb 05 14 32.5
comp=Z,18nm,1.1s
F30M Barrier River 74.95 9 P P 05 14 27.0 +0.1
baz=340
M14K Bethel 75.04 23 P P 05 14 27.6 +0.2
baz=320
L16K Owhat River 75.06 21 P P 05 14 27.8 +0.3
baz=322
L17K Donlin 75.07 21 P P 05 14 28.3 +0.7
baz=322
CHUM Lake Minchumin 75.22 17 P P 05 14 29.0 +0.6
baz=327,SNR=5.1
K20K Telida 75.22 18 IAmb IAmb 05 14 33.4
comp=Z,16nm,0.9s
K20K Telida 75.22 18 P P 05 14 28.6 +0.1
baz=326
POKR Poker Plat Res 75.25 15 P P 05 14 29.1 +0.5
baz=331
G29M Pine Creek 75.30 10 P P 05 14 29.2 +0.3
baz=338
BPAW Bear Paw Mtn. 75.35 17 P P 05 14 29.3 +0.1
baz=328,SNR=5.6
NEA2 Nenana 75.36 16 IAmb IAmb 05 14 34.1
comp=Z,17nm,0.8s
NEA2 Nenana 75.36 16 P P 05 14 29.6 +0.4
baz=329,SNR=10.0
H27K Steamboat Moun 75.37 12 IAmb IAmb 05 14 34.8
comp=Z,14nm,0.9s
H27K Steamboat Moun 75.37 12 P P 05 14 29.5 +0.2
baz=335,SNR=7.8
F31M Tsiigehtchic 75.38 9 P P 05 14 30.0 +0.8
baz=342
COLA College 75.38 15 P P 05 14 30.2 +0.9
baz=330
L18K Granite Mounta 75.45 20 P P 05 14 30.2 +0.4
baz=324
M15K Kasigluk River 75.49 23 P P 05 14 29.9 -0.1
baz=321
G30M tAoh Zraii Nji 75.49 10 P P 05 14 30.1 +0.1
baz=340,SNR=6.6
CCB Clear Creek Bu 75.59 15 IAmb IAmb 05 14 38.3
comp=Z,26nm,1.9s
IL31 75.67 15 IAmb IAmb 05 14 35.5
comp=Z,13nm,1.1s
ILAR Eielson Array 75.67 15 P 05 14 30.9 -0.1
ILAR Eielson Array 75.67 15 P P 05 14 30.7 -0.3
comp=Z,7.2nm,1.0s,baz=317,slow=4.7,SNR=30
ILAR LR LR 05 52 17.8
comp=Z,92nm,19.5s,baz=317,slow=39
comp=Z,7.2nm,1.0s
ILAR Eielson Array 75.67 15 P P 05 14 31.0 -0.1
M16K Timber Creek 75.76 22 P P 05 14 32.3 +0.7
baz=322
N14K Kuskokwak Cree 75.77 24 P P 05 14 31.9 +0.3
baz=320
G31M Salcha River 75.80 9 P P 05 14 32.1 +0.4
baz=341
KTH Kantishna Hill 75.83 17 IAmb IAmb 05 14 38.0
comp=Z,25nm,1.2s
H29M Whitestone 75.89 11 P P 05 14 31.9 -0.3
baz=338
M17K Holitna River 75.90 21 P P 05 14 32.4 0.0
baz=323
I27K Kandik River 75.93 12 P P 05 14 32.7 +0.2
baz=335,SNR=6.7
HDA Harding Lake 75.98 15 P P 05 14 34.0 +1.3
baz=331
L19K White Mountain 75.99 19 P P 05 14 32.9 0.0
baz=325
EPYK Eagle Plains 75.99 10 IAmb IAmb 05 14 39.7
comp=Z,12nm,1.1s
EPYK Eagle Plains 75.99 10 P P 05 14 33.4 +0.5
baz=339
L20K Farewell, AK 76.00 19 P P 05 14 32.1 -0.8
baz=326
TRF Thorofare Moun 76.07 17 P P 05 14 33.2 -0.3
baz=329
PPLA Purkeypile 76.08 18 P P 05 14 33.4 -0.2
baz=327
N15K Kwethluk River 76.08 23 P P 05 14 33.2 -0.2
baz=321
J25K Salcha River, 76.12 14 P P 05 14 33.9 +0.3
baz=332,SNR=6.9
MCK McKinley 76.14 16 IAmb IAmb 05 15 54.0
comp=Z,38nm,1.9s
MCK McKinley 76.14 16 P P 05 14 33.0 -0.7
baz=330
N16K Nishlik Lake 76.25 22 P P 05 14 34.2 -0.2
baz=322
M18K Stony River 76.29 20 P P 05 14 34.2 -0.3
baz=324
I28M Miner Creek 76.36 12 P 05 14 35.2 +0.1
I28M IAmb IAmb 05 14 39.6
comp=Z,11nm,0.8s
I28M Miner Creek 76.36 12 P P 05 14 35.6 +0.6
baz=337,SNR=8.0
FITZ Fitzroy Crossi 76.36 125 P 05 14 34.2 -1.3
O14K Tigyukauivet M 76.42 24 P P 05 14 35.5 +0.2
baz=321
RND Reindeer 76.44 16 IAmb IAmb 05 14 40.7
comp=Z,17nm,1.1s
J26L Joseph Creek 76.57 14 IAmb IAmb 05 14 41.3
comp=Z,13nm,0.8s
J26L Joseph Creek 76.57 14 P P 05 14 36.4 +0.1
baz=334,SNR=8.8
N17K Nushagak Hills 76.68 21 P P 05 14 36.7 -0.1
baz=324
M20K Styx River 76.69 19 P P 05 14 37.0 0.0
baz=327
I29M Ogilvie Camp, 76.70 11 P P 05 14 37.3 +0.4
baz=338
K24K Donnelly Dome 76.76 15 P P 05 14 37.4 +0.2
baz=332,SNR=7.4
EGAK Eagle 76.76 13 P P 05 14 37.2 0.0
baz=336
KNRA Kununurra 76.79 121 P 05 14 36.6 -1.4
KNRA IAmb IAmb 05 14 42.9
comp=Z,12nm,0.8s
H31M Peel River 76.86 9 P 05 14 37.6 -0.2
H31M IAmb IAmb 05 14 46.5
comp=Z,14nm,1.1s
H31M Peel River 76.86 9 P P 05 14 37.5 -0.2
baz=341
N18K Kilae Creek 76.93 21 P P 05 14 37.9 -0.4
baz=325
O15K Ungalikthiuk R 76.94 23 P P 05 14 38.0 -0.3
baz=322
SCRK Sand Creek 76.96 14 IAmb IAmb 05 14 43.3
comp=Z,8.2nm,0.9s
SCRK Sand Creek 76.96 14 P P 05 14 38.4 -0.2
baz=334,SNR=6.3
CUT Chulitna 76.97 17 P P 05 14 38.2 -0.2
baz=329
RIDG Independent Ri 77.00 15 P P 05 14 38.8 +0.2
baz=333
WAT1 Susitna Watana 77.01 16 P P 05 14 38.6 0.0
baz=330
SKT Skwentna 77.02 18 IAmb IAmb 05 14 42.9
comp=Z,16nm,0.9s
SKT Skwentna 77.02 18 P P 05 14 38.5 -0.3
baz=328,SNR=8.1
DHY Denali Highway 77.06 16 IAmb IAmb 05 14 44.0
comp=Z,8.7nm,0.7s
DHY Denali Highway 77.06 16 P P 05 14 38.2 -0.9
baz=331,SNR=5.8
I30M Mount Dempster 77.12 10 IAmb IAmb 05 14 44.5
comp=Z,14nm,0.9s
I30M Mount Dempster 77.12 10 P P 05 14 38.5 -1.0
baz=340,SNR=8.4
O16K Kokwok River B 77.16 22 P P 05 14 39.2 -0.3
baz=323
N19K Bonanza Creek 77.22 20 P P 05 14 39.6 -0.3
baz=326
K27K Chicken 77.28 13 P P 05 14 39.8 -0.3
baz=335
O17K Koliganek Bris 77.31 22 P P 05 14 40.0 -0.4
baz=324
WAT6 Susitna Watana 77.41 16 P P 05 14 40.7 -0.4
baz=331
N20K Mount Spurr 77.50 19 P P 05 14 41.5 -0.1
baz=327
SPCR Spurr Chakacha 77.50 19 P P 05 14 41.3 -0.2
baz=327
J29N Klondike Camp 77.56 11 P P 05 14 41.8 0.0
baz=338
PAX Paxson 77.56 15 P P 05 14 41.4 -0.5
baz=332,SNR=5.7
M22K Willow 77.56 18 P P 05 14 41.4 -0.3
baz=329
P16K Nushagak River 77.64 23 P P 05 14 42.6 +0.4
baz=323
SUA Susitna One 77.66 18 IAmb IAmb 05 14 47.8
comp=Z,17nm,1.0s
SUA Susitna One 77.66 18 P P 05 14 42.6 +0.2
baz=328,SNR=5.6
DAWY Dawson 77.73 12 P 05 14 42.4 -0.4
DAWY IAmb IAmb 05 14 47.9
comp=Z,16nm,1.0s
DAWY Dawson 77.73 12 P P 05 14 43.3 +0.6
baz=337,SNR=8.5
J30M Hart River 77.74 11 IAmb IAmb 05 14 47.9
comp=Z,8.9nm,0.8s
J30M Hart River 77.74 11 P P 05 14 42.7 -0.2
baz=340,SNR=7.2
O19K Port Alsworth 77.77 20 P P 05 14 43.0 0.0
baz=326
PMR Palmer 77.94 17 IAmb IAmb 05 14 47.8
comp=Z,9.1nm,0.9s
PMR Palmer 77.94 17 P P 05 14 44.7 +0.8
baz=330
L26K Log Cabin Wild 77.95 14 P P 05 14 44.0 +0.1
baz=334
P17K Kvichak River 77.98 22 P P 05 14 44.7 +0.6
baz=324
M23K Glacier View 78.10 17 P P 05 14 45.3 +0.5
baz=331,SNR=5.8
HARP HAARP 78.14 15 P P 05 14 45.5 +0.5
baz=333,SNR=5.8
CAPN Captain Cook N 78.15 19 P P 05 14 44.9 -0.1
baz=328
SCM Sheep Creek Mo 78.16 16 P P 05 14 44.7 -0.4
baz=331
M24K Tolsona, Glenn 78.18 16 P P 05 14 45.3 0.0
baz=332
P18K Big Mountain, 78.18 21 P P 05 14 45.5 +0.3
baz=325
L27K Beaver Creek, 78.21 14 P P 05 14 45.6 +0.2
baz=335
RC01 Rabbit Creek A 78.23 18 P P 05 14 45.6 +0.1
baz=329
K29M Barlow Dome 78.24 11 IAmb IAmb 05 14 51.1
comp=Z,10nm,0.8s
K29M Barlow Dome 78.24 11 P P 05 14 45.4 -0.3
baz=339,SNR=6.1
KNK Knik Glacier 78.26 17 P P 05 14 45.4 -0.3
baz=330
NIKH Nikolski High 78.28 31 P P 05 14 44.3 -1.6
baz=316
Q16K King Salmon 78.34 22 P P 05 14 46.2 +0.2
baz=324
O20K Slope Mountain 78.34 20 P P 05 14 45.2 -1.0
baz=327
P19K Oil Pt 78.53 20 P P 05 14 46.9 -0.3
baz=327
M26K Nabesna, AK 78.58 14 P P 05 14 47.1 -0.4
baz=334
UNV Unalaska Valle 78.61 30 P P 05 14 47.8 +0.2
baz=318
PWL Port Wells 78.77 17 P P 05 14 47.6 -0.9
baz=330
KLU Klutina 78.78 16 P P 05 14 47.7 -0.9
baz=332
L29M L29M 78.83 12 P P 05 14 48.3 -0.5
baz=338,SNR=7.4
M27K Edge Creek, AK 78.84 14 P P 05 14 48.0 -1.0
baz=335,SNR=8.7
Q18K Katmai Hardscr 78.86 22 P P 05 14 48.2 -0.9
baz=326
Q17K Contact Creek 78.91 22 P P 05 14 48.2 -1.2
baz=325
N25K Chitina, Valde 78.97 15 P P 05 14 49.2 -0.5
baz=333
Q19K Cape Douglas, 79.02 21 P P 05 14 49.8 -0.2
baz=326
GLI Glacier Island 79.05 17 P P 05 14 48.5 -1.5
baz=331
BRSE Bradley Lake S 79.13 19 P P 05 14 50.3 -0.2
baz=329
SEW Seward 79.15 18 P P 05 14 49.2 -1.3
baz=330
R17L Mt. Peulik Vol 79.28 23 P P 05 14 51.2 -0.2
baz=325
S14K Fog Glacier 79.32 25 P P 05 14 51.0 -0.7
baz=322
M29M Somme Creek 79.39 12 P P 05 14 51.5 -0.5
baz=338
MCARA McCarthy VSAT 79.50 15 P P 05 14 53.0 +0.5
baz=335
BMRM Bremner River 79.54 16 P P 05 14 52.6 -0.1
baz=333
M30M Minto, Yukon 79.55 12 P P 05 14 53.9 +1.2
baz=340
Q20K Shuyak Island 79.64 20 P P 05 14 53.9 +0.7
baz=328
EYAK Cordova Ski Ar 79.66 16 P P 05 14 53.7 +0.5
baz=332
SDPT Sand Point 79.74 26 P P 05 14 54.2 +0.4
baz=322
R18K Karluk 79.92 22 P P 05 14 54.9 +0.1
baz=326
CRQE Cirque 80.06 15 P P 05 14 55.9 +0.3
baz=335
CTG Chitna Glacier 80.22 14 P P 05 14 56.3 -0.2
baz=336
YUK8 Steele Glacier 80.23 13 P P 05 14 56.5 -0.3
baz=337
M31M Drury Creek, Y 80.28 11 P P 05 14 56.3 -0.4
baz=341
KDAK Kodiak Island 80.29 21 LR LR 05 57 07.8
comp=Z,81nm,19.3s,baz=345,slow=41
KDAK Kodiak Island 80.29 21 P P 05 14 58.0 +1.2
baz=327
YUK4 Talbot Arm 80.38 13 P P 05 14 57.6 +0.1
baz=338
CHNA Chernabura Isl 80.46 26 P P 05 14 59.1 +1.4
baz=322
Q23K Middleton Isla 80.51 17 P P 05 14 58.1 +0.3
baz=332
KAIM Kayak Island 80.51 16 P P 05 14 58.8 +0.9
baz=334
WRGLY Wrigley 80.51 5 P P 05 14 58.0 +0.1
baz=350
N30M Aishikik Lake 80.55 12 P P 05 14 59.1 +0.9
baz=339
OHAK Old Harbor 80.56 22 P P 05 14 58.9 +0.7
baz=327
O28M Mount Upton 80.62 14 P P 05 14 59.4 +0.5
baz=337
N31M Braeburn, Yuko 80.74 12 P P 05 15 00.1 +0.9
baz=340
YUK6 Outpost Mounta 80.81 13 P P 05 14 59.2 -0.6
baz=338
MESA MESA 80.82 15 P P 05 15 00.1 +0.3
baz=336
SII Sitkinak Islan 80.84 22 P P 05 15 00.9 +1.1
baz=326
CHIR Chirikof Islan 81.00 23 P P 05 15 00.7 +0.1
baz=325
HYT Haines Junctio 81.07 13 P P 05 15 01.4 +0.3
baz=339
PINM Pinnacle 81.24 14 P P 05 15 01.7 -0.3
baz=337
O30N Mendenhall 81.36 12 P P 05 15 02.9 +0.3
baz=340
O29M Mount Kennedy 81.37 13 P P 05 15 02.8 +0.1
baz=338
N32M Quiet Lake 81.47 10 P P 05 15 03.3 +0.2
baz=343
SCHQ Schefferville 81.60 336 LR LR 05 50 29.0
comp=Z,1µm,20.8s,baz=58,slow=35
WHY Whitehorse 81.67 11 P P 05 15 03.9 -0.3
baz=341
YKA Yellowknife Ar 81.68 1 P P 05 15 03.5 -0.6
comp=Z,7.5nm,0.9s,baz=354,slow=5.7,SNR=11
YKA LR LR 05 55 48.0
comp=Z,128nm,19.2s,baz=3.0,slow=39
comp=Z,7.5nm,0.9s
TGTN Hyland Airport 81.73 8 P P 05 15 04.7 +0.2
baz=346

PNL	**Peninsula**	**81.80**	**14**	P	**P**	05 15 05.3	+0.5
	baz=338						
P30M	**Million Dollar**	**81.83**	**13**	P	**P**	05 15 05.1	+0.1
	baz=340						
P29M	**Windy Craggy**	**82.15**	**13**	P	**P**	05 15 07.5	+0.8
	baz=339						
P33M	**Teslin, Yukon**	**82.41**	**11**	P	**P**	05 15 08.8	+0.7
	baz=343						
PLBC	**Pleasant Camp**	**82.56**	**12**	P	**P**	05 15 10.1	+1.3
	baz=340						
SKAG	**Skagway**	**82.73**	**12**	P	**P**	05 15 11.0	+1.3
	baz=341						
P32M	**Atlin**	**82.87**	**11**	P	**P**	05 15 10.9	+0.4
	baz=342						
R33M	**Jennings River**	**83.46**	**10**	P	**P**	05 15 14.4	+0.8
	baz=344						
WRA	**Warramunga Arr**	**83.57**	**120**	P	**P**	05 15 11.1	-3.5
	comp=Z,2.0nm,0.8s,baz=321,slow=4.9,SNR=14						
	comp=Z,2.0nm,0.8s						
Q32M	**Nakina River**	**83.69**	**11**	P	**P**	05 15 14.2	-0.7
	baz=343						
S31K	**Pelican**	**83.99**	**13**	P	**P**	05 15 15.3	-0.8
	baz=340						
R32K	**Eaglecrest**	**83.99**	**12**	P	**P**	05 15 15.5	-0.7
	baz=342						
DLBC	**Dease Lake**	**84.52**	**10**	P	**P**	05 15 19.8	+0.8
	comp=Z,39nm,1.0s,baz=273,slow=6.5,SNR=5.0						
DLBC	**Dease Lake**	**84.52**	**10**	P	**P**	05 15 19.4	+0.5
	baz=345						
TOAD	**Toad River Com**	**84.68**	**7**	P	**P**	05 15 19.9	+0.2
	baz=349						
S34M	**Telegraph Cree**	**84.87**	**10**	P	**P**	05 15 21.2	+0.6
	baz=344						
ASAR	**Alice Springs**	**85.76**	**123**	P	**P**	05 15 23.1	-2.5
	comp=Z,1.8nm,0.7s,baz=311,slow=4.9,SNR=20						
	comp=Z,1.8nm,0.7s						
T35M	**Bob Quinn**	**85.90**	**10**	P	**P**	05 15 25.4	-0.5
	baz=345						
WRAK	**Wrangell Islan**	**86.12**	**11**	P	**P**	05 15 26.7	-0.2
	baz=343						
U33K	**Whale Pass**	**86.29**	**12**	P	**P**	05 15 26.6	-1.0
	baz=343						
CRAG	**Craig**	**86.91**	**12**	P	**P**	05 15 29.6	-1.1
	baz=343						
V35K	**Ketchikan**	**87.29**	**11**	P	**P**	05 15 31.3	-1.3
	baz=344						
BBB	**Bella Bella**	**90.86**	**10**	LR	LR	06 03 24.7	
	comp=Z,66nm,18.0s,baz=352,slow=40						
ULM	**Lac du Bonnet**	**92.87**	**350**	LR	LR	06 00 53.7	
	comp=Z,84nm,19.1s,baz=344,slow=38						
M65A	**Busby, Falmout**	**94.07**	**330**	P	**P**	05 16 02.7	-1.8
	baz=32						
Y22D	**IRIS PASSCAL I**	**110.02**	**356**	P	**PKiKP**	05 21 16.8	-1.2
	baz=4.0						
QSPA	**South Pole Qui**	**125.94**	**180**	PKP	**PKPdf**	05 21 45.9	-1.3
	comp=Z,1.6nm,1.0s,baz=359,slow=3.9,SNR=3.6						
PLCA	**Paso Flores**	**147.77**	**249**	PKPbc	**PKPbc**	05 22 29.4	-1.5
	comp=Z,3.2nm,0.9s,baz=181,slow=4.3,SNR=4.7						

*IDC **22** 05:15:01.2±1.8, 3°.52N×64°.01E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=55.9km s-min=32.9km az=46.0*

ISC 22 05:15:04.6±1.8, 3°.5N±0°.3×64°.0E±0°.3, h23km, n6, σ0.9 16/6, mb4.0/5, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**37.28**	**64**	P	**P**	**05 22 15.2**	**0.0**
	0.8nm,0.3s,baz=248,slow=8.7,SNR=4.7						
	0.8nm,0.3s						
SONM	**Songino Array**	**57.20**	**33**	P	**P**	05 24 50.1	0.0
	1.1nm,0.9s,baz=239,slow=8.6,SNR=4.2						
	1.1nm,0.9s						
HFS	**Hagfors**	**68.14**	**335**	P	**P**	05 26 02.6	-0.1
	0.9nm,0.6s,baz=133,slow=8.1,SNR=1.9						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**72.86**	**112**	P	**P**	05 26 32.3	0.0
	1.1nm,0.8s,baz=286,slow=5.3,SNR=6.5						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**73.17**	**116**	P	**P**	05 26 34.0	-0.1
	0.7nm,0.8s,baz=292,slow=6.9,SNR=4.1						
	0.7nm,0.8s						
TXAR	**Lajitas Array**	**145.23**	**341**	PKPbc	**PKPdf**	05 34 41.6	+0.2
	0.6nm,0.7s,baz=83,slow=2.9,SNR=4.7						

*BEO **22** 05:19:07.3±0.3, 41°.27N×19°.60E, h11km±2km, ML2.3/11*
*TIR **22** 05:19:08.1, 41°.37N×19°.69E, h29km±1km, Ml2.9/3*

ISC 22 05:19:08.5±1.0, 41°.35N±0°.02×19°.70E±0°.03, h8km±8km, n30, σ0.98/52, 4C, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.13**	**92**	⇑Pg	**Pg**	**05 19 11.5**	**+0.2**
TIR				Sg	**Sg**	**05 19 14.1**	**+0.9**
TIR				AML	AML	05 19 14.8	
	3.5nm,0.1s						
VLO	**Vlora**	**0.90**	**190**	⇑Pg	**Pg**	**05 19 24.7**	**-1.0**
VLO				Sg	**Sg**	**05 19 37.8**	**+0.5**
VLO				AML	AML	05 19 44.6	
	1.5nm,0.2s						
DRME	**Dracevica, Mon**	**0.92**	**335**	*e*Pg	**Pg**	**05 19 24.7**	**-1.4**
DRME				*e*Sg	**Sg**	**05 19 39.1**	**+1.1**
KBN	**Korca**	**1.10**	**131**	P	**Pg**	**05 19 28.9**	**-0.7**
KBN				S	**Sn**	**05 19 45.7**	**0.0**
PDG	**Podgorica**	**1.13**	**343**	*e*Pg	**Pg**	**05 19 28.4**	**-1.7**
PDG				*e*Sg	**Sg**	**05 19 44.5**	**-0.2**
PVY	**Plav**	**1.26**	**9**	*e*Pg	**Pg**	**05 19 32.1**	**-0.5**
PVY				*e*Sg	**Sn**	**05 19 51.7**	**+2.1**
KOME	**Kolasin**	**1.50**	**355**	*e*Pg	**Pn**	**05 19 35.8**	**0.0**
KOME				*e*Sg	**Sg**	**05 19 58.0**	**+1.2**
BEY	**Berane**	**1.52**	**5**	*e*Pg	**Pn**	**05 19 36.2**	**+0.1**
BEY				*e*Sg	**Sg**	**05 19 58.7**	**+1.2**
PENT	**Pentalofos**	**1.59**	**136**	P	**Pn**	**05 19 37.3**	**+0.2**
PENT				S	**Sg**	**05 19 59.3**	**-0.3**
TREB	**Trebinje**	**1.69**	**324**	*e*Pg	**Pn**	**05 19 37.3**	**-1.1**
TREB				*e*Sg	**Sn**	**05 20 00.9**	**+0.7**
IGT	**Igoumenitsa**	**1.88**	**165**	⇑Pn	**Pn**	**05 19 41.5**	**+0.6**
IGT				S	**Sn**	**05 20 07.1**	**+2.2**
IGT	**Igoumenitsa**	**1.88**	**165**	P	**Pn**	**05 19 39.3**	**-1.7**
IGT				S	**Sn**	**05 20 05.5**	**+0.6**
IGT	**Igoumenitsa**	**1.88**	**165**	*e*Pg	**Pn**	**05 19 39.6**	**-1.4**
IGT				*e*Sg	**Sn**	**05 20 05.7**	**+0.8**
KZN	**Kozani**	**1.89**	**123**	P	**Pn**	**05 19 42.1**	**+0.9**
JAN	**Janina**	**1.91**	**152**	P	**Pn**	**05 19 43.0**	**+1.6**
JAN				S	**Sg**	**05 20 09.3**	**-0.6**
SJES	**Sjenica**	**1.92**	**6**	*e*Pn	**Pn**	**05 19 42.0**	**+0.4**
SJES				*e*Sn	**Sn**	**05 20 07.1**	**+1.2**
NOCI	**Noci**	**2.07**	**255**	⇑Pn	**Pn**	**05 19 44.6**	**+1.0**
NOCI				Sn	**Sn**	**05 20 11.1**	**+1.6**
NOCI				AML	AML	05 20 18.3	
	0.3nm,0.3s						
PRMD	**Pramanda**	**2.11**	**149**	P	**Pb**	**05 19 46.3**	**-0.7**
SELS	**Selova**	**2.14**	**29**	*e*Pn	**Pn**	**05 19 44.5**	**-0.1**
SELS				*e*Sn	**Sn**	**05 20 10.8**	**+0.6**
IVAS	**Ivanjica**	**2.25**	**8**	*e*Pn	**Pn**	**05 19 45.2**	**-0.8**
RUDO	**Rudo**	**2.28**	**354**	*e*Pn	**Pn**	**05 19 47.7**	**+1.3**
RUDO				*e*Sn	**Sn**	**05 20 15.7**	**+1.1**
BOSS	**Bosilegrad**	**2.37**	**60**	*e*Pn	**Pn**	**05 19 46.9**	**-0.8**
GOCS	**Kraljevo Serbi**	**2.37**	**21**	*e*Pn	**Pn**	**05 19 46.9**	**-0.9**
GOCS				*e*Sn	**Sn**	**05 20 17.7**	**+0.6**
BBLS	**Lazi&#263i**	**2.52**	**355**	*e*Pn	**Pn**	**05 19 50.3**	**+0.5**
BBLS				*e*Sn	**Sn**	**05 20 21.0**	**+0.3**
GRUS	**Gruza**	**2.64**	**16**	*e*Pn	**Pn**	**05 19 51.3**	**-0.1**
GRUS				*e*Sn	**Sn**	**05 20 24.6**	**+0.9**
BOVS	**Bovan**	**2.72**	**32**	*e*Pn	**Pn**	**05 19 52.2**	**-0.3**
BOVS				*e*Sn	**Sn**	**05 20 25.3**	**-0.3**
ZAPS	**Zavoj**	**2.90**	**48**	*e*Pn	**Pn**	**05 19 55.6**	**+0.6**
VTS	**Vitosha**	**2.92**	**63**	*e*Pn	**Pn**	**05 19 55.0**	**-0.4**
ZAGS	**Zajecar**	**3.09**	**36**	*e*Pn	**Pn**	**05 19 57.3**	**-0.2**
BLKB	**Belogradchik**	**3.16**	**43**	*e*Pn	**Pn**	**05 19 59.1**	**+0.5**

*TAP **22** 05:23:06.9, 21°.14N×121°.89E, h180km, ML4.1, C*

ISC 22 05:23:08.4±3.5, 21°.2N±0°.1×121°.86E±0°.09, h174km±13km, n105, σ0.9 74/185, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LYUB	**Lan-yu**	**0.81**	**342**	P	**Pn**	**05 23 33.4**	**-0.8**
LYUB				S	**Sn**	**05 23 53.3**	**-0.8**
LAY	**Lan-yu**	**0.86**	**341**	*e*P	**Pn**	**05 23 34.5**	**0.0**
LAY				*e*S	**Sn**	**05 23 54.1**	**-0.6**
TSEB	**Hengchuen, Pin**	**1.11**	**307**	*e*P	**Pn**	**05 23 37.4**	**+1.0**
TSEB				*e*S	**Sn**	**05 23 59.1**	**+1.1**
TWKBT	**Hengchun**	**1.20**	**306**	P	**Pn**	**05 23 37.5**	**+0.3**
TWKBT				S	**Sn**	**05 23 59.4**	**+0.1**
TWK1	**Hengchun**	**1.21**	**306**	P	**Pn**	**05 23 37.6**	**+0.4**
TWK1				S	**Sn**	**05 23 59.5**	**+0.1**
SMST	**Manzhou Townsh**	**1.23**	**310**	P	**Pn**	**05 23 37.6**	**+0.2**
SMST				S	**Sn**	**05 23 59.9**	**+0.1**
HEN	**Hengchun**	**1.30**	**307**	*e*P	**Pn**	**05 23 37.9**	**0.0**
HEN				*e*S	**Sn**	**05 24 00.8**	**0.0**
SLIU	**Shizi**	**1.39**	**315**	P	**Pn**	**05 23 38.8**	**0.0**
SLIU				S	**Sn**	**05 24 02.0**	**-0.4**
TAWH	**Dawu Township**	**1.43**	**321**	P	**Pn**	**05 23 38.9**	**-0.3**
TAWH				S	**Sn**	**05 24 02.3**	**-0.7**
TAW	**Tawu**	**1.44**	**322**	*e*P	**Pn**	**05 23 39.1**	**-0.1**
TAW				*e*S	**Sn**	**05 24 02.7**	**-0.5**
EAST	**Anshuo**	**1.48**	**321**	P	**Pn**	**05 23 39.5**	**-0.3**
EAST				S	**Sn**	**05 24 03.3**	**-0.7**
LDUT	**Ludao**	**1.48**	**346**	*e*P	**Pn**	**05 23 39.9**	**+0.2**
LDUT				*e*S	**Sn**	**05 24 03.9**	**-0.1**
ECL	**Taimali**	**1.60**	**329**	*e*P	**Pn**	**05 23 40.0**	**-0.8**
ECL				*e*S	**Sn**	**05 24 04.8**	**-1.2**
SCZT	**Fangliau**	**1.62**	**315**	P	**Pn**	**05 23 41.4**	**+0.4**
SCZT				S	**Sn**	**05 24 06.0**	**-0.3**
TTN	**Taitung**	**1.66**	**337**	*e*P	**Pn**	**05 23 42.0**	**+0.6**
TTN				*e*S	**Sn**	**05 24 08.2**	**+1.1**
TWGBT	**Beinan**	**1.74**	**336**	P	**Pn**	**05 23 41.9**	**-0.4**
TWGBT	**Beinan**	**1.74**	**336**	S	**Sn**	**05 24 09.1**	**+0.5**
TWGBT	**Beinan**	**1.74**	**336**	P	**Pn**	**05 23 41.8**	**-0.5**
TWGBT				S	**Sn**	**05 24 07.3**	**-1.3**
TWG	**Pinlang**	**1.75**	**336**	P	**Pn**	**05 23 41.7**	**-0.6**
TWG				S	**Sn**	**05 24 07.5**	**-1.2**
MASBT	**Mashibuluo**	**1.79**	**321**	*i* P	**Pn**	**05 24 08.7**	**+0.3**
MASBT				*i* S	**Sn**	**05 24 08.7**	**-0.8**
LONT	**Longtian**	**1.80**	**338**	*e*P	**Pn**	**05 23 43.0**	**+0.1**
LONT				S	**Sn**	**05 24 09.4**	**-0.4**
EDH	**Donghe**	**1.81**	**344**	P	**Pn**	**05 23 43.0**	**0.0**
EDH				S	**Sn**	**05 24 09.9**	**-0.1**
SSD	**Sandimen**	**1.89**	**323**	*e*P	**Pn**	**05 23 44.1**	**+0.2**
SSD				*e*S	**Sn**	**05 24 11.1**	**-0.4**
CHKT	**Chengkung**	**1.92**	**346**	*e*P	**Pn**	**05 23 44.9**	**+0.7**
CHKT				*e*S	**Sn**	**05 24 12.3**	**+0.3**
ECS	**Chishang**	**1.95**	**343**	*e*S	**Sn**	**05 24 13.9**	**+1.2**
SGLT	**Jiouru**	**1.96**	**320**	*e*P	**Pn**	**05 23 45.6**	**+1.0**
SGLT				*e*S	**Sn**	**05 24 14.4**	**+1.8**
CHKH	**Chenggong**	**2.00**	**348**	*e*P	**Pn**	**05 23 45.0**	**0.0**
CHKH				*e*S	**Sn**	**05 24 13.7**	**+0.1**
EHD	**Haiduan**	**2.01**	**343**	*e*P	**Pn**	**05 23 45.0**	**-0.2**
EHD				*e*S	**Sn**	**05 24 12.7**	**-1.0**
FULB	**Fuli**	**2.03**	**345**	*e*P	**Pn**	**05 23 45.9**	**+0.5**
FULB				*e*S	**Sn**	**05 24 14.9**	**+0.6**
WSSB	**Gushan**	**2.04**	**314**	*e*P	**Pn**	**05 23 46.4**	**+0.8**
WSSB				*e*S	**Sn**	**05 24 14.7**	**+0.3**
TWM1	**Shoushan**	**2.07**	**320**	*e*P	**Pn**	**05 23 47.3**	**+1.5**
TWM1				*e*S	**Sn**	**05 24 16.0**	**+1.0**
SCST	**Cishan**	**2.08**	**323**	P	**Pn**	**05 23 47.0**	**+1.1**
SCST				*e*S	**Sn**	**05 24 15.9**	**+0.8**
ELDTW	**Lidau**	**2.10**	**338**	*e*P	**Pn**	**05 23 46.9**	**+0.6**
ELDTW				*e*S	**Sn**	**05 24 15.1**	**-0.8**
STYH	**Taoyuan**	**2.18**	**333**	*e*P	**Pn**	**05 23 47.4**	**+0.4**
STYH				*e*S	**Sn**	**05 24 17.0**	**-0.1**
TWF1	**Yuli**	**2.18**	**346**	*e*P	**Pn**	**05 23 47.9**	**+0.9**
TWF1				*e*S	**Sn**	**05 24 17.4**	**+0.2**
STYT	**Tauyuan**	**2.18**	**332**	*e*P	**Pn**	**05 23 47.2**	**+0.1**
STYT				*e*S	**Sn**	**05 24 17.2**	**-0.1**
SGST	**Jiashian**	**2.19**	**328**	*e*P	**Pn**	**05 23 47.1**	**-0.1**
SGST				*e*S	**Sn**	**05 24 17.1**	**-0.3**
YULB	**Yu-li**	**2.22**	**347**	P	**Pn**	**05 23 47.4**	**-0.1**
YULB	**Yu-li**	**2.22**	**347**	*e*P	**Pn**	**05 23 47.4**	**-0.1**
YULB				*e*S	**Sn**	**05 24 17.4**	**-0.6**
HGSD	**Ruisui**	**2.29**	**350**	*e*P	**Pn**	**05 23 48.1**	**-0.2**
HGSD				*e*S	**Sn**	**05 24 21.4**	**+2.0**
EHYH	**Wanrong**	**2.31**	**348**	*e*P	**Pn**	**05 23 49.1**	**+0.6**
EHYH				*e*S	**Sn**	**05 24 19.4**	**-0.3**
WTP	**Ta-pu**	**2.32**	**330**	*i* P	**Pn**	**05 23 48.9**	**+0.2**
WTP				S	**Sn**	**05 24 19.9**	**-0.1**
EHY	**Hungye**	**2.32**	**348**	*e*P	**Pn**	**05 23 48.5**	**-0.2**
EHY				*e*S	**Sn**	**05 24 18.9**	**-1.2**
TAI	**Tainan**	**2.34**	**319**	*e*S	**Sn**	**05 24 21.3**	**+1.0**
SNST	**Tainan City**	**2.35**	**328**	*e*P	**Pn**	**05 23 49.4**	**+0.4**
SNST				*e*S	**Sn**	**05 24 20.5**	**-0.1**
TPUB	**Ta-pu**	**2.36**	**331**	P	**Pn**	**05 23 49.2**	**+0.1**
TPUB	**Ta-pu**	**2.36**	**331**	*i* P	**Pn**	**05 23 49.2**	**+0.1**
TPUB				*i* S	**Sn**	**05 24 20.1**	**-0.7**
TWK	**Hsinying**	**2.39**	**328**	*e*P	**Pn**	**05 23 49.6**	**+0.1**
TWK				*e*S	**Sn**	**05 24 20.0**	**-0.6**
YUS	**Yu-Shan**	**2.40**	**340**	*e*P	**Pn**	**05 23 50.5**	**+0.4**
YUS				*e*S	**Sn**	**05 24 22.2**	**-0.3**
EGFH	**Guangfu**	**2.46**	**351**	*e*S	**Sn**	**05 24 22.9**	**-0.1**
ALS	**Alishan**	**2.47**	**337**	P	**Pn**	**05 23 50.9**	**+0.1**
ALS				S	**Sn**	**05 24 23.6**	**-0.1**
SCLT	**Jiali**	**2.48**	**322**	S	**Sn**	**05 24 24.0**	**+0.8**
WCKO	**Fanlu**	**2.49**	**332**	*e*S	**Sn**	**05 24 23.4**	**-0.1**
WARBT	**Fenglin Townsh**	**2.52**	**350**	*e*P	**Pn**	**05 23 50.8**	**-0.2**
WARBT				*e*S	**Sn**	**05 24 23.0**	**-1.2**
TSCK	**Chigu Township**	**2.52**	**320**	*e*P	**Pn**	**05 23 51.7**	**+0.7**
TSCK				S	**Sn**	**05 24 24.3**	**+0.2**
SHUL	**Shoufeng**	**2.56**	**354**	*e*P	**Pn**	**05 23 52.8**	**+1.3**
CHY	**Chiayi**	**2.62**	**330**	*e*S	**Sn**	**05 24 26.1**	**-0.2**
CHN2	**Minshiung**	**2.63**	**331**	*e*P	**Pn**	**05 23 53.7**	**+1.5**
CHN2				*e*S	**Sn**	**05 24 27.2**	**+0.8**
WHYT	**Xinyi Township**	**2.63**	**340**	P	**Pn**	**05 23 52.4**	**+0.1**
WHYT				S	**Sn**	**05 24 26.4**	**-0.1**
SSLB	**Suanglung**	**2.68**	**342**	P	**Pn**	**05 23 53.0**	**+0.1**
SSLB	**Suanglung**	**2.68**	**342**	P	**Pn**	**05 23 53.1**	**+0.1**
SSLB				S	**Sn**	**05 24 27.1**	**-0.6**
WGK	**Gukeng**	**2.73**	**334**	*e*S	**Sn**	**05 24 27.9**	**-0.6**
WDLH	**Douliu**	**2.74**	**334**	*e*P	**Pn**	**05 23 54.4**	**+0.8**
WDLH				*e*S	**Sn**	**05 24 28.6**	**-0.2**
WSL	**Shuilin Townsh**	**2.74**	**327**	*e*P	**Pn**	**05 23 54.2**	**+0.6**
WSL				*e*S	**Sn**	**05 24 28.3**	**-0.5**
ETM	**Tongmen**	**2.75**	**353**	*e*P	**Pn**	**05 23 54.2**	**+0.5**
ETM				*e*S	**Sn**	**05 24 28.9**	**-0.2**
WJS	**Zhushan**	**2.79**	**338**	*e*P	**Pn**	**05 23 55.3**	**+1.2**
WJS				*e*S	**Sn**	**05 24 30.0**	**+0.1**
OWD	**Renai**	**2.79**	**347**	*e*P	**Pn**	**05 23 54.8**	**+0.5**
OWD				*e*S	**Sn**	**05 24 30.1**	**-0.1**
SMLT	**Sun Moon Lake**	**2.79**	**342**	*e*P	**Pn**	**05 23 56.1**	**+1.8**
SMLT				*e*S	**Sn**	**05 24 30.1**	**0.0**
WTK	**Tuku**	**2.80**	**331**	*e*P	**Pn**	**05 23 54.9**	**+0.6**
WTK				*e*S	**Sn**	**05 24 29.9**	**-0.2**
LXIB	**Xiulin Townshi**	**2.81**	**352**	*e*P	**Pn**	**05 23 55.3**	**+0.6**
LXIB				*e*S	**Sn**	**05 24 30.3**	**-0.4**
TYC	**Yuchr**	**2.82**	**341**	*e*P	**Pn**	**05 23 55.0**	**+0.5**
TYC				*e*S	**Sn**	**05 24 30.1**	**-0.5**
WSF	**Szhu**	**2.84**	**328**	*e*S	**Sn**	**05 24 30.2**	**-0.7**
WUSB	**Renai**	**2.84**	**346**	*e*P	**Pn**	**05 23 55.6**	**+0.7**
WUSB				*e*S	**Sn**	**05 24 31.9**	**+0.7**
WNT	**Mingjian**	**2.85**	**338**	*e*P	**Pn**	**05 23 55.5**	**+0.6**
WNT				*e*S	**Sn**	**05 24 30.9**	**-0.4**
WDGT	**Dungji**	**2.87**	**315**	*e*P	**Pn**	**05 23 55.0**	**-0.2**
WDGT				*e*S	**Sn**	**05 24 31.1**	**-0.5**
DPDB	**Guoxing**	**2.92**	**343**	*e*P	**Pn**	**05 23 56.3**	**+0.4**
DPDB				*e*S	**Sn**	**05 24 33.3**	**+0.3**
NACB	**Ninganchiao**	**2.94**	**355**	P	**Pn**	**05 23 55.2**	**-0.9**
NACB	**Ninganchiao**	**2.94**	**355**	S	**Sn**	**05 24 35.7**	**+2.4**
NACB	**Ninganchiao**	**2.94**	**355**	*e*P	**Pn**	**05 23 55.9**	**-0.2**
NACB				*e*S	**Sn**	**05 24 32.4**	**-0.9**
WCS	**Beigang Elemen**	**2.95**	**343**	*e*P	**Pn**	**05 23 56.7**	**+0.6**
WCS				*e*S	**Sn**	**05 24 33.6**	**+0.2**
WHF	**Hehuan Shan**	**2.96**	**349**	*e*P	**Pn**	**05 23 57.1**	**+0.4**
WHF				*e*S	**Sn**	**05 24 33.2**	**-1.0**
ETLH	**Xiulin Townshi**	**2.99**	**353**	*e*P	**Pn**	**05 23 57.1**	**+0.4**
ETLH				*e*S	**Sn**	**05 24 34.5**	**+0.1**
RLNB	**Erlin**	**2.99**	**333**	*e*S	**Sn**	**05 24 34.4**	**+0.1**
VCHM	**Qimei**	**2.99**	**312**	*e*P	**Pn**	**05 23 57.0**	**+0.3**
VCHM				*e*S	**Sn**	**05 24 33.8**	**-0.4**
WWF	**Wufeng**	**3.00**	**339**	*e*S	**Sn**	**05 24 35.0**	**+0.4**
FUSS	**Fushou**	**3.06**	**349**	*e*P	**Pn**	**05 23 59.2**	**+1.5**
FUSS				*e*S	**Sn**	**05 24 37.2**	**+0.9**
WCH1	**Changhua City**	**3.08**	**337**	*e*P	**Pn**	**05 23 57.9**	**+0.2**
WCH1				*e*S	**Sn**	**05 24 36.8**	**+0.6**
TDCB	**Techi**	**3.08**	**348**	*e*S	**Sn**	**05 24 36.3**	**-0.3**
WCHH	**Zhanghua**	**3.08**	**337**	*e*P	**Pn**	**05 23 58.2**	**+0.5**
WCHH				*e*S	**Sn**	**05 24 35.8**	**-0.5**
TCU	**Taichung**	**3.11**	**340**	*e*S	**Sn**	**05 24 36.9**	**+0.1**
PHUB	**P'eng-hu**	**3.11**	**318**	*e*P	**Pn**	**05 23 57.3**	**-0.7**
PHUB				*e*S	**Sn**	**05 24 36.0**	**-0.8**
WHP	**Taichung City**	**3.15**	**345**	*e*P	**Pn**	**05 23 59.2**	**+0.5**
WHP				*e*S	**Sn**	**05 24 38.8**	**+0.7**
PNG	**Penghu**	**3.16**	**318**	*e*P	**Pn**	**05 23 58.0**	**-0.7**
PNG				*e*S	**Sn**	**05 24 36.7**	**-1.2**
NNSB	**Datong**	**3.22**	**352**	*e*P	**Pn**	**05 23 59.6**	**+0.1**
NNSB				*e*S	**Sn**	**05 24 39.4**	**-0.2**
NNS	**Nan Shan**	**3.23**	**352**	*e*P	**Pn**	**05 24 00.4**	**+0.7**
NNS				*e*S	**Sn**	**05 24 40.1**	**+0.2**
TWQ1	**Liyutan**	**3.27**	**342**	*e*S	**Sn**	**05 24 41.1**	**+0.7**
LATG	**Datong**	**3.31**	**355**	*e*P	**Pn**	**05 23 59.6**	**-1.1**
YHNB	**Yeheng**	**3.46**	**353**	P	**Pn**	**05 24 04.4**	**+1.9**
YHNB	**Yeheng**	**3.46**	**353**	S	**Sn**	**05 24 45.7**	**+0.9**
YHNB	**Yeheng**	**3.46**	**353**	*e*P	**Pn**	**05 24 03.6**	**+1.1**
YHNB				*e*S	**Sn**	**05 24 44.3**	**-0.5**
NSK	**Sanguang**	**3.46**	**352**	*e*P	**Pn**	**05 24 03.6**	**+1.0**
NSK				*e*S	**Sn**	**05 24 43.9**	**-1.1**
TWY	**Chenhua**	**4.04**	**357**	*e*S	**Sn**	**05 24 55.5**	**-2.4**
VWUC	**VWUC**	**4.35**	**330**	*e*P	**Pn**	**05 24 14.1**	**+0.2**
VWUC				*e*S	**Sn**	**05 25 03.9**	**-1.2**
KNMB	**Chin-men Tao**	**4.54**	**316**	*e*P	**Pn**	**05 24 16.9**	**+0.6**
KNMB				*e*S	**Sn**	**05 25 07.8**	**-1.7**
PTMZ	**Houxiangcun**	**4.56**	**327**	*e*P	**Pn**	**05 24 16.2**	**-0.2**
PTMZ				*e*S	**Sn**	**05 25 08.7**	**-1.1**

*VAO **22** 05:28:23.5±0.3, 14°.64S×73°.54W, h67km, mb4.2*
*IDC **22** 05:28:23.3±1.7, 14°.53S×73°.45W, h63km±15km, mb4.4/15, mbtmp4.6/21, MS3.6/9, Error ellipse: s-maj=16.1km s-min=9.7km az=50.0*
*NEIC **22** 05:28:24.2±1.0, 14°.69S±0°.03×73°.57W±0°.10, h67km±7km, mb4.9/88, Error ellipse: s-maj=14.2km s-min=0.8km az=72.0*

ISC 22 05:28:25.5±0.3, 14°.62S±0°.05×73°.50W±0°.05, h87km, n205, σ1.9 34/184, mb4.9/56, 5C, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.17**	**308**	P	**Pn**	**05 29 24.6**	**-2.4**
	296nm,0.4s,baz=141,slow=11,SNR=80						
NNA				S	**Sn**	**05 30 11.7**	**-2.9**
	768nm,0.4s,baz=46,slow=17,SNR=9.2						
PB16	**IPOC Station P**	**5.32**	**134**		**Pn**	**05 29 43.7**	**+0.7**
PB16				Sn	**Sn**	**05 30 41.8**	**-1.5**
LPAZ	**La Paz**	**5.44**	**108**		**Pn**	**05 29 47.7**	**+3.0**
LPAZ	**La Paz**	**5.44**	**108**	P	**Pn**	**05 29 47.6**	**+2.9**
	76nm,0.4s,baz=288,slow=9.9,SNR=395						
LPAZ				S	**Sn**	**05 30 46.1**	**-0.2**
	100nm,0.8s,baz=19,slow=25,SNR=3.9						
LPAZ				LR	LR	05 31 51.5	
	comp=Z,424nm,18.1s,baz=292,slow=38						
LPAZ	**La Paz**	**5.44**	**108**	*e*P	**Pn**	**05 29 42.5**	**-2.1**
PB11	**IPOC Station P**	**6.29**	**145**		**Pn**	**05 29 53.8**	**-2.1**
GO01	**Chusmiza**	**6.49**	**141**		**Pn**	**05 29 57.9**	**-1.0**
TA01	**Diego Aracena**	**6.71**	**152**		**Pn**	**05 29 58.6**	**-2.7**
PB08	**IPOC Station P**	**6.88**	**143**		**Pn**	**05 30 02.2**	**-1.9**
CZSB	**Cruzeiro do Su**	**6.90**	**7**		**Pn**	**05 30 03.5**	**-0.5**
PATCX	**Punta Patache**

comp=Z,33nm,0.8s
PLTB Pedras Altas 24.94 137 eP P 05 33 41.1 +0.4
TRQA Tornquist 25.48 158 P P 05 33 44.6 -0.9
CNLB Canela 25.52 129 eP P 05 33 46.2 +0.1
LR05 Currie 25.54 177 P P 05 33 45.1 -1.0
LR05 IAmb IAmb 05 33 47.0
comp=Z,47nm,0.8s
RCLB Rio Claro- Sao 25.79 111 eP P 05 33 49.3 +0.7
SMTB Santa Maria do 26.00 80 eP P 05 33 50.4 -0.1
PLCA Paso Flores 26.14 175 P 05 33 51.5 -0.1
PLCA Paso Flores 26.14 175 P P 05 33 51.6 +0.1
comp=Z,10nm,0.8s,baz=350,slow=10,SNR=34
PLCA PcP PcP 05 37 15.8 -1.1
comp=Z,2.5nm,0.8s,baz=16,slow=5.9,SNR=3.5
comp=Z,10nm,0.8s
PLCA Paso Flores 26.14 175 eP P 05 33 51.6 +0.1
PMNB Patos De Minas 26.22 102 eP P 05 33 53.3 +0.7
VAO Valinhos 26.43 112 P P 05 33 53.2 -1.3
VAO IAmb IAmb 05 34 03.6
comp=Z,46nm,1.4s
VAO Valinhos 26.43 112 eP P 05 33 53.4 -1.1
JANB Januaria 28.21 95 eP P 05 34 09.8 -0.6
GO07 Milladeo Hill, 28.39 180 P P 05 34 10.9 -0.7
LL02 Futaleuf 28.50 177 P P 05 34 11.7 -0.9
COYC Coyhaique 30.87 178 P 05 34 32.7 -0.9
COYC IAmb IAmb 05 34 34.1
comp=Z,31nm,1.1s
COYC Coyhaique 30.87 178 P P 05 34 33.2 -0.3
RPN Rapa Nui 35.59 244 LR LR 05 45 45.9
comp=Z,191nm,18.3s,baz=58,slow=29
NBAN Anadia - AL 36.70 87 eP P 05 35 25.2 +0.7
BIRD Birdtown, Kers 49.44 352 IAmb IAmb 05 37 09.3
comp=Z,13nm,1.0s
PAULI Pauline 49.80 351 IAmb IAmb 05 37 10.7
comp=Z,18nm,1.1s
HNDO Hondo 50.46 331 P P 05 37 15.0 +0.4
W50A Signal Mountai 50.80 348 IAmb IAmb 05 37 17.5
comp=Z,10nm,1.1s
U56A King 51.11 353 IAmb IAmb 05 37 21.4
comp=Z,19nm,1.2s
T59A Double "B" Far 51.46 356 IAmb IAmb 05 37 23.8
comp=Z,10nm,0.9s
WLAR White Oak Lake 51.55 339 IAmb IAmb 05 37 31.1
comp=Z,10nm,0.8s
T57A Hurt 51.63 354 IAmb IAmb 05 37 25.4
comp=Z,9.6nm,1.0s
V48A Smith Brothers 51.65 346 IAmb IAmb 05 37 24.1
comp=Z,13nm,1.3s
S57A Dark Hollow, R 52.36 355 IAmb IAmb 05 37 57.9
comp=Z,9.2nm,1.0s
TXAR Lajitas Array 52.52 326 P P 05 37 30.2 +0.1
comp=Z,0.6nm,0.5s,baz=154,slow=8.4,SNR=14
comp=Z,0.6nm,0.5s
SMAI San Martin Ant 53.63 177 P P 05 37 37.6 +0.1
SMAI IAmb IAmb 05 37 39.7
comp=Z,7.8nm,1.0s
WCI Wyandotte Cave 53.92 348 P P 05 37 39.4 -0.7
WCI IAmb IAmb 05 38 09.1
comp=Z,12nm,0.9s
APMT Aspermont 54.03 332 P P 05 37 41.5 +0.5
APMT IAmb IAmb 05 38 10.7
comp=Z,6.6nm,0.8s
S44A Carbondale 54.10 345 IAmb IAmb 05 37 42.3
comp=Z,13nm,1.0s
SIUC Southern Illin 54.12 345 IAmb IAmb 05 37 48.1
comp=Z,8.6nm,0.7s
DKNS Dickens 54.68 332 P 05 37 49.0 +3.2
DKNS IAmb IAmb 05 37 52.7
comp=Z,5.5nm,0.7s
Q44A Meyer Farm, Va 55.19 345 IAmb IAmb 05 38 13.5
comp=Z,13nm,0.7s
SMWD Samnorwood 55.59 333 IAmb IAmb 05 38 17.6
comp=Z,14nm,1.2s
PAOC Oil Creek Stat 56.15 354 IAmb IAmb 05 37 57.4
comp=Z,11nm,1.1s
L59A Walton 56.55 359 IAmb IAmb 05 38 00.6
comp=Z,9.3nm,0.9s
HRV Adam Dziewonsk 56.87 2 P P 05 38 01.9 +0.7
G62A West of Eustis 59.62 2 P 05 38 21.7 +1.4
G62A IAmb IAmb 05 38 22.4
comp=Z,13nm,1.0s
HAL Halifax 59.66 8 P P 05 38 21.9 +1.3
PKME Peaks-Kenny Pk 59.73 3 P P 05 38 21.9 +0.9
PKME IAmb IAmb 05 38 22.2
comp=Z,8.6nm,0.8s
G65A Princeton 59.78 5 P 05 38 22.1 +0.7
MNTQ Montreal, Queb 59.84 360 P P 05 38 22.4 +0.7
MNTQ IAmb IAmb 05 38 23.1
comp=Z,11nm,0.9s
SDCO Great Sand Dun 60.14 331 P 05 38 24.0 -0.4
SDCO IAmb IAmb 05 38 50.1
comp=Z,17nm,1.4s
F64A Sherman 60.38 4 P P 05 38 26.4 +1.0
F64A IAmb IAmb 05 38 27.7
comp=Z,8.2nm,0.9s
LMN Caledonia Moun 60.70 7 P P 05 38 28.1 +0.4
E62A Clayton Lake 61.06 3 P P 05 38 31.1 +1.0
E62A IAmb IAmb 05 38 32.0
comp=Z,12nm,1.0s
D62A Allapoint, All 61.55 3 P 05 38 34.4 +1.0
SHPR Sheep Range 64.27 324 P P 05 38 52.0 +0.1
PDAR Pinedale Array 66.01 332 P P 05 39 03.7 +0.6
comp=Z,0.1nm,0.4s,baz=140,slow=7.3,SNR=2.5
BELA Belgrano 2 66.14 172 P 05 39 04.1 +0.9
BELA IAmb IAmb 05 39 05.4
comp=Z,15nm,1.2s
MDND Maddock 66.42 341 P P 05 39 05.6 +0.4
NVAR Mina Array Bea 67.41 323 P P 05 39 12.4 +0.4
comp=Z,0.2nm,0.5s,baz=129,slow=6.6,SNR=3.8
ULM Lac du Bonnet 67.52 345 P P 05 39 10.8 -1.4
comp=Z,3.5nm,0.7s,baz=92,slow=9.3,SNR=3.6
comp=Z,3.5nm,0.7s
VNA3 Neumayer Olymp 67.95 162 ⇑P P 05 39 15.2 +0.5
comp=Z,10nm,0.9s
YNE Yellowstone No 67.97 333 IAmb IAmb 05 39 41.6
comp=Z,21nm,1.1s
VNA1 Neumayer--Stat 68.18 161 ⇑P P 05 39 16.6 +0.5
comp=Z,19nm,1.0s
VNA2 Neumayer--Watz 68.54 161 ⇑P P 05 39 19.4 +1.0
comp=Z,12nm,0.7s,baz=286,slow=6.8
SCHQ Schefferville 69.41 4 P P 05 39 22.5 -1.4
comp=Z,74nm,0.9s,baz=171,slow=3.6,SNR=3.6
SNAA Sanae 70.16 161 ⇑P P 05 39 29.0 +0.6
comp=Z,336nm,0.5s
SNAA Sanae 70.16 161 P 05 39 29.3 +0.8
SNAA Sanae 70.16 161 P P 05 39 29.2 +0.7
comp=Z,15nm,0.6s,baz=277,slow=7.3,SNR=173
comp=Z,15nm,0.6s
DBIC Dimbokro 71.27 78 P P 05 39 35.7 -0.4
comp=Z,12nm,0.5s,baz=277,slow=6.1,SNR=27
DBIC LR LR 06 09 36.4
comp=Z,34nm,18.1s,baz=268,slow=35
comp=Z,12nm,0.5s
TROLL Troll, Antarti 71.88 161 ⇑P P 05 39 39.7 +0.7
comp=Z,312nm,0.5s
QSPA South Pole Qui 75.53 180 P P 05 40 03.3 +2.9
comp=Z,18nm,0.7s,baz=159,slow=1.1,SNR=148
comp=Z,18nm,0.7s
QSPA South Pole Qui 75.53 180 P P 05 40 03.6 +3.3
FRB Frobisher Bay 78.22 2 LR LR 06 14 14.4
comp=Z,35nm,20.7s,baz=30,slow=35
TORD Torodi Ar. Bea 79.39 73 P 05 40 21.1 -1.5
TORD IAmb IAmb 05 40 23.6
comp=Z,15nm,0.8s
TORD Torodi Ar. Bea 79.39 73 P P 05 40 22.8 +0.2
comp=Z,17nm,0.8s,baz=263,slow=5.1,SNR=70
comp=Z,17nm,0.8s
MD01 Midelt array s 80.80 53 P 05 40 30.7 +0.6
MD31 MD31 80.80 53 P P 05 40 31.1 +1.1
PBAR Barrancos 81.36 47 eP P 05 40 34.4 +1.6
PBAR i IAmb IAmb 05 40 36.3
comp=Z,23nm,1.4s
MVO Moncorvo 82.69 44 eP P 05 40 40.6 +0.9
VNDA Vanda 82.81 190 P P 05 40 41.1 +1.4
comp=Z,3.5nm,0.9s,baz=118,slow=5.3,SNR=6.9
comp=Z,3.5nm,0.9s
VNDA Vanda 82.81 190 P P 05 40 41.1 +1.4
PBRG Braganca 83.17 44 eP P 05 40 43.5 +1.4
YKA Yellowknife Ar 83.31 342 P P 05 40 42.0 -0.3
comp=Z,2.1nm,0.8s,baz=139,slow=4.3,SNR=4.8
comp=Z,2.1nm,0.8s
ESDC Sonseca Array 84.17 47 P 05 40 48.5 +1.2
ESDC IAmb IAmb 05 40 49.7
comp=Z,10nm,1.2s
ESDC Sonseca Array 84.17 47 P P 05 40 48.6 +1.2
comp=Z,6.9nm,1.0s,baz=255,slow=5.4,SNR=28
comp=Z,6.9nm,1.0s
TAM Tamanrasset 85.79 65 P 05 40 56.6 +0.6
LKGWB Lokgwabe 88.33 114 P P 05 41 10.8 +2.5
GRTLG Ghanzi 89.05 112 P P 05 41 11.8 +0.1
KGCAE Kacgae 89.54 113 P P 05 41 14.6 +0.6
CCD Concordia, Ant 89.85 184 P P 05 41 15.7 +1.0
SUMG Summit 90.03 10 i P P 05 41 16.0 +0.6
BOSA Boshof 90.58 120 P P 05 41 18.6 -0.1
comp=Z,6.2nm,1.0s,baz=55,slow=1.4,SNR=3.4
BOSA LR LR 06 19 25.3
comp=Z,32nm,18.5s,baz=208,slow=34
comp=Z,6.2nm,1.0s
EKA Eskdalemuir Ar 91.14 33 P P 05 41 20.3 -0.1
comp=Z,1.8nm,0.7s,baz=245,slow=4.4,SNR=3.4
comp=Z,1.8nm,0.7s
LBTB Lobatse 91.92 116 LR LR 06 19 41.1
comp=Z,20nm,18.1s,baz=208,slow=34
MAW Mawson 92.11 165 P P 05 41 25.6 +0.8
comp=Z,13nm,0.8s,baz=208,slow=4.9,SNR=32
comp=Z,13nm,0.8s
ILAR Eielson Array 96.20 336 P P 05 41 43.3 -0.2
comp=Z,0.5nm,0.9s,baz=109,slow=4.5,SNR=3.9
comp=Z,0.5nm,0.9s
KBZ Khabaz 119.00 48 PKP PKiKP 05 47 04.5 +0.2
comp=Z,3.3nm,1.0s,baz=143,slow=2.1,SNR=2.2
STKA Stephens Creek 122.82 216 PKP PKiKP 05 47 12.1 -0.2
comp=Z,2.4nm,0.6s,baz=165,slow=3.5,SNR=5.7
PETK Petropavlovsk- 124.46 325 PKP PKPdf 05 47 14.4 -0.1
comp=Z,1.8nm,0.9s,baz=100,slow=1.7,SNR=1.8
AB31 Akbulak array 128.73 38 PKiKP 05 47 24.1 +0.7
ABKAR Akbulak array 128.73 38 PKiKP 05 47 24.1 +0.7
BVAR Borovoye Array 132.25 29 PKP PKiKP 05 47 30.7 +0.3
comp=Z,1.5nm,0.7s,baz=326,slow=1.0,SNR=7.6
AS31 Alice Springs 133.46 216 PKPdf 05 47 32.7 +0.1
ASAR Alice Springs 133.46 216 PKPdf 05 47 31.8 -0.8
ASAR Alice Springs 133.46 216 PKP PKPdf 05 47 32.1 -0.4
comp=Z,2.7nm,0.6s,baz=126,slow=2.1,SNR=32
WR8 Warramunga Arr 135.96 219 PKPdf 05 47 37.9 +0.6
WRA Warramunga Arr 136.07 219 PKPdf 05 47 38.0 +0.5
WRA Warramunga Arr 136.07 219 PKP PKPdf 05 47 37.8 +0.2
comp=Z,4.5nm,0.7s,baz=139,slow=1.7,SNR=5.6
WB0 Warramunga Arr 136.17 220 PKPdf 05 47 38.3 +0.6
ZALV Zalesovo Beam 137.23 19 PKP PKiKP 05 47 39.9 -0.6
comp=Z,11nm,0.7s,baz=323,slow=1.4,SNR=15
KURK Kurchatov 137.53 26 PKiKP 05 47 40.8 -0.4
KURBB Kurchatov Arra 137.56 26 PKP PKiKP 05 47 40.7 -0.5
comp=Z,0.6nm,0.3s,baz=288,slow=1.0,SNR=3.3
MKAR Makanchi Array 142.08 27 PKhKP PKPpre 05 47 43.0
comp=Z,1.6nm,0.8s,baz=333,slow=3.1,SNR=7.9
FITZ Fitzroy Crossi 142.40 211 PKhKP PKPpre 05 47 43.5
comp=Z,5.1nm,0.7s,baz=296,slow=2.3,SNR=8.1
TARG Taragay, Kyrgy 143.32 37 PKPdf 05 47 49.6 -0.9
MJAR Matsushiro Arr 144.28 314 PKPbc 05 47 50.8 +0.4
MJAR Matsushiro Arr 144.28 314 PKhKP PKPpre 05 47 49.3
comp=Z,4.4nm,0.8s,baz=75,slow=1.4,SNR=10
MAJO Matsushiro 144.28 314 PKPbc 05 47 50.9 +0.6
SONM Songino Array 146.89 0 PKPdf 05 47 56.8 +0.7
SONM Songino Array 146.89 0 PKPbc PKPbc 05 47 58.8 +0.7
comp=Z,10.0nm,0.6s,baz=12,slow=2.6,SNR=36
KSRS Korea Array 150.30 324 PKPbc PKiKP 05 48 08.0 +0.1
comp=Z,2.2nm,0.7s,baz=52,slow=2.4,SNR=12
CMAR Chiang Mai Arr 171.82 61 PKP PKPdf 05 48 25.2 +0.3
comp=Z,0.8nm,0.6s,baz=300,slow=5.4,SNR=7.2

*UCR **22** 06:01:20.3±1.0, 7.°87N×82.°92W, h2km±8km, MW4.1*
*UPA **22** 06:01:22.2±1.7, 7.°98N×82.°89W, h10km±5km, MD4.1, MW4.0*
*CATAC **22** 06:01:23.2±0.4, 8.°N±2.°×8.°3W×.°, h8km±2km, M4.0/23, mb4.1/5, MLv4.0/23, Error ellipse: s-maj=5.8km s-min=3.7km az=30.8, confirmed*
ISC 22 06:01:20.1±1.4, **7.°84N**±0.°05×**82.°91W**±0.°03, **h18**km±3km, **n105**, σ1§34/116, **3C-4D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	Petroterminale	0.36	6	i P	Pb	06 01 28.9	+0.8
LPPC	Paso Canoas	0.69	6	eP	Pg	06 01 33.7	0.0
LPPC				eS	Sg	06 01 43.0	0.0
PIRO	Carate, Puerto	0.70	323	⇑eP	Pg	06 01 33.9	0.0
PIRO	Carate, Puerto	0.70	323	eP	Pg	06 01 33.9	0.0
PIRO	Carate, Puerto	0.70	323	S	Sg	06 01 43.5	+0.3
PIRO	Carate, Puerto	0.70	323	P	Pg	06 01 33.9	0.0
CDITO	Canoas	0.73	3	P	Pg	06 01 34.5	0.0
CDITO	Canoas	0.73	3	S	Sg	06 01 43.7	-0.5
DVD	David	0.75	38	‖i P	Pg	06 01 35.0	+0.2
DVD				i S	Sb	06 01 43.8	-0.6
JIME	Puerto Jimenez	0.80	330	eP	Pg	06 01 35.9	0.0
JIME				eS	Sn	06 01 47.5	-0.5
NELY	Ciudad Neily	0.80	358	eP	Pg	06 01 35.7	-0.2
NELY				eS	Sg	06 01 46.6	+0.1
FITO	Golfito	0.81	343	eP	Pb	06 01 35.1	-0.6
CGUAY	Guayabal, Coch	0.83	42	‖i P	Pg	06 01 34.4	+0.1
CGUAY				eS	Sg	06 01 46.9	+1.5
CGUAY	Guayabal, Coch	0.83	42	eP	Pg	06 01 36.3	-0.1
EDAD	Golfito	0.84	343	eP	Pb	06 01 35.5	-0.8
EDAD				eS	Sb	06 01 47.2	0.0
BRU2	Volcan	0.97	13	‖i P	Pg	06 01 38.6	-0.5
BRU2	Volcan	0.97	13	eP	Pg	06 01 38.6	-0.5
BRU2	Volcan	0.97	13	P	Pg	06 01 38.7	-0.5
BRU2	Volcan	0.97	13	S	Sg	06 01 51.5	-0.4
VITO	San Vito	0.97	357	eP	Pg	06 01 39.0	-0.1
TBS2		0.98	15	eP	Pg	06 01 39.7	+0.4
BQTLY	Boquete Panama	1.01	26	eP	Pb	06 01 39.2	-0.1
BQTLY				eS	Sb	06 01 51.1	-1.2
BQTLY	Boquete Panama	1.01	26	eP	Pb	06 01 39.1	-0.1
ALCO	Alturas Coton,	1.10	4	eP	Pn	06 01 40.8	-0.1
EDP2	Potrero Grande	1.19	347	eP	Pg	06 01 42.7	-0.6
PBNVO	Pueblo Nuevo,	1.26	34	eP	Pn	06 01 42.4	-0.5
RBALA	Bur	1.28	36	eP	Pn	06 01 43.0	0.0
RBALA	Bur	1.28	36	eP	Pn	06 01 43.0	0.0
CHGR2	Aguacate	1.33	35	eP	Pb	06 01 44.1	-0.5
CHGR2				i S	Sn	06 01 59.4	-1.6
BURE	Buenos Aires	1.39	342	eP	Pb	06 01 45.1	-0.4
OCHAL	Ojochal	1.44	330	P	Pn	06 01 45.4	+0.1
OCHAL	Ojochal	1.44	330	S	Sb	06 02 04.2	-0.3
DRK0	Durika	1.45	347	⇑i P	Pn	06 01 45.8	+0.2
DRK0				i S	Sn	06 02 04.1	-0.1
DRK0	Durika	1.45	347	eP	Pn	06 01 45.9	+0.4
DRK0	Durika	1.45	347	P	Pn	06 01 46.0	+0.4
EDPE	Pejibaye, P	1.46	334	eP	Pn	06 01 46.0	+0.4
KKNTU	Kakint²	1.48	48	‖i P	Pn	06 01 46.0	+0.2
KKNTU	Kakint²	1.48	48	eP	Pn	06 01 46.0	+0.2
CNI2	El Empalme, Bo	1.63	16	eP	Pb	06 01 49.3	-0.4
GMAL	Guarumal, Vera	1.67	93	eP	Pb	06 01 50.0	-0.3
GMAL				i S	Sn	06 02 09.9	+0.5
ZEDO	Perez Zeledon	1.68	333	eP	Pb	06 01 50.4	-0.3
RGM0	Gandoca	1.76	10	eP	Pg	06 01 53.0	-1.1
RGM0	Gandoca	1.76	10	S	Sg	06 02 16.3	-0.8
RGM0	Gandoca	1.76	10	P	Pn	06 01 52.8	+0.8
CEUA	Cerro Uatsi, L	1.77	359	eP	Pb	06 01 52.9	+0.8
BUS1	Rivas	1.89	334	eP	Pn	06 01 52.8	+0.8
LAES	El Progreso Va	1.91	356	eP	Pb	06 01 53.9	-0.6
LLNJ	Naranjito	2.00	324	eP	Pn	06 01 53.5	+0.4
QUEP	Quepos	2.00	322	S	Sb	06 02 21.5	+0.9
QUEP	Quepos	2.00	322	P	Pn	06 01 52.7	-0.3
VERH	Veragua Rainfo	2.09	353	eP	Pn	06 01 56.0	-1.6
CACAO	El Cacao, Vera	2.09	104	eP	Pn	06 01 55.8	+1.5
RAZU	San Marcos de	2.11	329	eP	Pn	06 01 55.3	+0.6
LCR2	La Lucha 2	2.17	330	P	Pb	06 01 57.5	-1.6
PICV	PH. Pirrs	2.18	325	eP	Pn	06 01 56.3	+0.8
REPA	Paraso	2.19	335	eP	Pn	06 01 57.3	+1.6
PAR1A	Puntarenas Pro	2.19	323	eP	Pn	06 01 56.5	+0.9
TURIB	Turrialba	2.19	340	eP	Pn	06 01 57.3	+1.6
VINA	Juan Vinas	2.20	338	eP	Pb	06 01 58.0	-1.5
VERB	Verbena	2.23	340	eP	Pb	06 01 58.4	-1.6
PCAYA	Pacayas	2.24	337	eP	Pn	06 01 57.9	+1.3
RAFA	San Farael, Vo	2.28	337	eP	Pn	06 01 58.3	+1.1
RESJ	San Isidro (Tu	2.29	342	eP	Pb	06 01 59.3	-1.7
ABRB	Las Abras (San	2.29	340	eP	Pb	06 01 59.2	-1.9
ACOS	Acosta	2.30	328	eP	Pn	06 01 58.1	+0.8
CVTV	Tajo	2.30	339	eP	Pb	06 01 59.4	-1.9
CVTQ	Turrialba Volc	2.31	339	eP	Pn	06 01 59.2	+1.6
IRES	Siquirres	2.31	345	eP	Pb	06 01 59.6	-1.7
LCOCO	El Coco	2.32	344	eP	Pb	06 02 00.0	-1.3
VTR0	Volcan Turrial	2.32	339	eP	Pn	06 01 59.6	+1.8
VICA	Volcano Irazu	2.32	337	eP	Pn	06 01 59.3	+1.5
CVTR	Volcan Turrial	2.32	339	eP	Pn	06 01 59.6	+1.8
RVLA	Villa Bonita	2.35	344	eP	Pb	06 02 00.1	-1.8
SJS3	Mercedes San J	2.37	332	eP	Pn	06 02 00.2	+2.0
CVIMO	Finca Echandi	2.39	335	eP	Pn	06 02 00.4	+1.7
DOMI	Santo Domingo	2.42	331	eP	Pn	06 02 00.9	+1.9
SANTA	Santa Ana	2.43	329	eP	Pn	06 02 00.2	+1.2
HDC	Heredia	2.45	331	eP	Pn	06 02 01.1	+1.8
HEME	Heredia, Merce	2.46	331	eP	Pb	06 02 01.8	-2.0
BELE	Belen	2.46	329	eP	Pn	06 02 00.7	+1.2
CHIT3	Chitre	2.48	87	eP	Pb	06 02 03.2	-0.8
PILE	Guapiles	2.51	340	eP	Pn	06 02 02.2	+2.1
ATEO	Atenas	2.57	326	eP	Pn	06 02 01.8	+0.9
TCS1	Tacares	2.58	328	P	Pn	06 02 02.9	+1.8
AZU	Azuero	2.62	91	eP	Pb	06 02 04.2	-2.3
AZU				eS	Sb	06 02 35.7	-2.6
VPS8	V Poas	2.67	331	eP	Pn	06 02 04.2	+1.7
TRT2	Tortugero	2.82	343	P	Pn	06 02 06.5	+2.3
SOCE	Pocosol	3.03	326	eP	Pn	06 02 08.8	+1.6
SOCE	Pocosol	3.03	326	P	Pn	06 02 09.3	+2.0
MTEVE	Monteverde	3.10	323	eP	Pn	06 02 09.6	+1.3
VACR	Volcan Arenal	3.14	326	eP	Pn	06 02 10.8	+2.0
VARE2	V. Arenal	3.15	326	eP	Pn	06 02 11.4	+2.4
JTS	Las Juntas de	3.16	321	i P	Pn	06 02 09.6	+0.6
JTS	Las Juntas de	3.16	321	eP	Pn	06 02 09.5	+0.6
CEDE	Laguna Cedeo	3.17	326	eP	Pn	06 02 11.5	+2.4
ZANG	Zanguenga, Cho	3.21	70	eP	Pn	06 02 12.4	+2.7
BCIP	Isla Barro Col	3.31	66	i P	Pn	06 02 14.2	+3.0
BCIP	Isla Barro Col	3.31	66	eP	Pn	06 02 14.1	+3.0
ACON	Acoyapa	4.67	332	P	Pn	06 02 31.6	+1.9
COPN	Copaltepe	5.63	320	P	Pn	06 02 44.6	+1.7
PRVC	Isla de Provid	5.71	15	P	Pn	06 02 45.5	+1.5
PRVC				S	Sn	06 03 50.8	+1.7
MATN	Matagalpa	5.86	330	P	Pn	06 02 49.3	+3.1
SIUN	Universidad Ur	6.12	343	P	Pn	06 02 51.5	+1.8
HELC	Santa Helena	7.51	102	P	Pn	06 03 14.9	+5.7
SJCC	San Jacinto, C	7.91	74	P	Pn	06 03 17.2	+2.8

*NEIC **22** 06:05:22.1±0.7, 36.°76N±0.°01×98.°063W±0.°001, h6km±2km, Error ellipse: s-maj=1.5km s-min=0.2km az=175.0*
NEIC 22 06:05:22.1±0.5, **36.°762N**±0.°010×**98.°07W**±0.°01, **h5**km±1km, **mb_Lg2.3**/17, **ML2.3**/21, **ML2.6**/64, **Error ellipse: s-maj=2.6km s-min=1.8km az=94.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	Grant County #	0.19	62		Pg	06 05 26.4	+0.5
KAN14	Manchester OK	0.21	24		Pg	06 05 26.8	+0.5
CROK	Carrier	0.27	165		Pg	06 05 27.6	+0.3
CROK				IAML		06 05 33.7	
comp=N,1μm,0.3s							
KAN01	Argonia South	0.46	32	Pg	Pg	06 05 31.4	+0.3
KAN01					Sg	06 05 37.8	+0.7
KAN01				IAML		06 05 37.9	
comp=E,344nm,0.3s							
KAN01				IAML		06 05 38.9	
comp=N,341nm,0.1s							
KAN08	Anthony NE Sta	0.47	10		Pg	06 05 31.6	+0.4
KAN08					Sg	06 05 38.3	+1.0
KAN08				IAML		06 05 40.2	
comp=N,364nm,0.3s							
KAN13	South Haven SW	0.54	62		Pg	06 05 32.6	+0.1
KAN13					Sg	06 05 40.1	+0.6
OK038	West end E0370	0.61	243		Pg	06 05 34.2	+0.4
OK038					Sb	06 05 43.5	-0.6
OK038				IAML		06 05 45.0	
comp=N,411nm,0.4s							
OK038				IAML		06 05 50.8	
comp=N,368nm,0.3s							
BLOK	Blackwell	0.69	90		Pg	06 05 35.3	0.0
BLOK					Sg	06 05 44.6	+0.3
BLOK				IAML		06 05 47.8	
comp=E,196nm,0.3s							
BLOK				IAML		06 05 48.0	
comp=N,306nm,0.3s							
NOKA	Waynoka	0.70	260		Pg	06 05 35.9	+0.3
NOKA				IAML		06 05 57.0	
comp=N,258nm,0.5s							
NOKA				IAML		06 05 57.0	
comp=E,206nm,0.3s							
OK048	Pawnee Station	0.97	111		Pg	06 05 40.6	-0.2
OK051	E0350 and S346	1.02	104		Pg	06 05 41.4	-0.4
OK029	Liberty Lake	1.08	153		Pg	06 05 42.6	-0.3
OK029					Sg	06 05 56.7	-0.3
CSTR	Hydro, Custer	1.22	204		Pg	06 05 45.0	-0.5
ADOK	Arcadia Dam	1.24	153	Pg	Pg	06 05 45.5	-0.5
QUOK	Quay	1.25	118		Pg	06 05 45.6	-0.5
T35A	Sooner Cattle	1.26	83		Pg	06 05 45.8	-0.5
T35A				IAML		06 06 06.7	
comp=E,84nm,0.2s							
T35A				IAML		06 06 08.1	
comp=E,95nm,0.2s							
OK052	Battle Ridge R	1.28	126		Pg	06 05 46.2	-0.4
ELIS	Ellis County	1.29	238	Pg	Pn	06 05 46.8	-0.1
ELIS				IAML		06 06 10.4	
comp=E,116nm,0.2s							
DEOK	Depew	1.57	125		Pn	06 05 50.4	-0.3
FNO	Franklin	1.60	160		Pn	06 05 50.9	-0.2
TUL3	Leonard	2.03	114	IAmb_Lg		06 06 27.3	
comp=Z,12nm,0.8s							
WMOK	Wichita Mounta	2.10	196	IAmb_Lg		06 06 32.6	
comp=Z,12nm,0.7s							
CBKS	Cedar Bluff	2.44	328	IAmb_Lg		06 06 43.4	
comp=Z,9.6nm,0.8s							
AMTX	Amarillo	3.48	238	IAmb_Lg		06 07 20.5	
comp=Z,6.8nm,0.8s							
DKNS	Dickens	3.87	218	IAmb_Lg		06 07 26.2	
comp=Z,4.8nm,0.7s							
POST	Post	4.64	218	IAmb_Lg		06 08 02.4	
comp=Z,5.0nm,0.9s							
BRDY	Brady	5.52	188	IAmb_Lg		06 08 23.2	
comp=Z,4.2nm,1.0s							
JCT	Junction City	6.43	193	IAmb_Lg		06 08 52.0	
comp=Z,5.8nm,1.0s							
ALPN	Alpine	7.88	218	IAmb_Lg		06 09 43.2	
comp=Z,3.9nm,0.8s							

*IDC **22** 06:17:50.6±0.7, 28.°05S×178.°47W, h257km±7km, mb3.5/12, mbtmp4.1/12, Error ellipse: s-maj=19.3km s-min=17.4km az=108.0*
*NEIC **22** 06:17:51.8±0.8, 28.°24S±0.°10×178.°4W±0.°2, h267km±7km, mb4.1/16, Error ellipse: s-maj=30.0km s-min=12.4km az=77.0*
ISC 22 06:17:50.2±0.5, **28.°43S**±0.°06×**178.°6W**±0.°1, **h250**km, **n98**, σ2§44/114, **mb3.9**/18, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	1.01	144	P	Pn	06 18 29.3	+4.0
RAO	Raoul Island	1.03	144	Pn	Pn	06 18 29.1	+3.8
RAO	Raoul Island	1.03	144	P	Pn	06 18 29.3	+4.0
3μm,0.2s,baz=36,slow=17,SNR=72							
RAO				S	S	06 18 57.6	+4.6
2μm,0.2s,baz=98,slow=19,SNR=6.6							
RAO	Raoul Island	1.03	144	P	Pn	06 18 29.2	+3.8
GLKZ	Green Lake	1.03	144	P	Pn	06 18 29.2	+3.8
GLKZ				S	S	06 18 59.5	+6.4
MXZ	Matakaoa Point	9.47	195	P	Pn	06 19 59.6	-2.4
MXZ				S	S	06 21 45.7	-3.1
OUZ	Omahuta	9.47	222	P	Pn	06 20 04.9	+2.9
WMGZ	Waiomatatini S	9.69	194	P	Pn	06 20 02.5	-2.2
WMGZ				S	S	06 21 51.1	-2.8
HAZ	Te Kaha	9.78	197	P	Pn	06 20 03.8	-2.1
HAZ				S	S	06 21 53.5	-2.5
PKGZ	Pakihiroa	9.81	196	P	P

RAGZ Rawiri 10.57 197 P Pn 06 20 11.3 -4.7
RAGZ S **S** **06 22 10.8 -3.8**
RIGZ Rimuhau 10.69 195 P **Pn** **06 20 16.0 -1.4**
RIGZ S **S** **06 22 11.5 -5.6**
MUGZ Murupara 10.74 200 P **Pn** **06 20 18.2 +0.2**
MUGZ S **S** **06 22 13.1 -5.1**
SNGZ Shannon Statio 10.86 197 P Pn 06 20 15.2 -4.3
SNGZ S **S** **06 22 18.0 -3.2**
PRGZ Paritu Road 10.87 195 P Pn 06 20 16.5 -3.1
PRGZ S S 06 22 10.1 -11
RAHZ Arahi 11.06 198 P **Pn** **06 20 22.1 +0.1**
RAHZ S **S** **06 22 22.4 -3.2**
MSVF Nonsavu 11.07 343 **Pn** **06 20 22.2 -0.3**
NMHZ Naumai 11.30 198 P **Pn** **06 20 22.8 -2.3**
NMHZ S **S** **06 22 29.3 -2.1**
ARHZ Aropaoanui 11.41 197 P **Pn** **06 20 24.2 -2.1**
ARHZ S **S** **06 22 30.6 -3.1**
BKZ Black Stump Fm 11.46 199 P **Pn** **06 20 25.6 -1.4**
BKZ S **S** **06 22 31.0 -3.9**
NTVZ North Tongarir 11.65 203 P **Pn** **06 20 27.9 -1.6**
NTVZ S **S** **06 22 39.3 -0.3**
MCHZ McNeill Hill 11.66 198 P **Pn** **06 20 29.1 -0.3**
MCHZ S **S** **06 22 37.1 -2.4**
TMVZ Te Maari 11.66 202 P **Pn** **06 20 29.5 -0.1**
TMVZ S **S** **06 22 36.2 -3.5**
ETVZ East Tongariro 11.68 202 P **Pn** **06 20 30.5 +0.8**
ETVZ S **S** **06 22 37.6 -2.5**
NNVZ North Ngauruho 11.70 203 P **Pn** **06 20 31.6 +1.4**
NNVZ S **S** **06 22 42.3 +1.5**
OTVZ Oturere 11.71 202 P Pn 06 20 27.4 -2.9
OTVZ S **S** **06 22 39.3 -1.7**
NGZ Ngauruhoe 11.75 203 P **Pn** **06 20 30.3 -0.4**
MAVZ Matarangi 11.84 203 P **Pn** **06 20 31.2 -0.8**
MAVZ S **S** **06 22 44.5 +0.2**
WNVZ Wahianoa 11.88 202 P **Pn** **06 20 30.5 -1.9**
WNVZ S **S** **06 22 41.2 -3.8**
KRHZ Kereru 11.93 199 P Pn 06 20 28.0 -4.9
KRHZ S S 06 22 38.0 -7.9
KAHZ Kahuranaki 11.94 197 P **Pn** **06 20 30.7 -2.3**
KAHZ S **S** **06 22 42.0 -4.0**
PKVZ Pokaka 11.94 203 P **Pn** **06 20 33.9 +0.9**
PKVZ S **S** **06 22 45.2 -0.9**
PXZ Pawanui 12.16 197 P Pn **06 20 33.9 -1.8**
PXZ S S 06 22 43.2 -7.9
PNHZ Pukenui 12.23 199 P Pn 06 20 31.1 -5.5
PNHZ S S 06 22 45.7 -7.1
TSZ Takapari Road 12.44 200 P **Pn** **06 20 37.9 -1.2**
TSZ S S 06 22 46.0 -12
DVHZ Dannevirke 12.60 199 P Pn 06 20 35.8 -5.3
DVHZ S S 06 22 54.4 -6.9
PRWZ Pori Road 12.89 199 P **Pn** **06 20 43.4 -1.3**
PRWZ S **S** **06 23 03.3 -4.6**
BFZ Birch Farm 12.94 198 P Pn 06 20 42.3 -2.9
BFZ S S 06 23 01.6 -7.3
MRZ Mangatainoka R 13.11 200 P Pn 06 20 41.8 -5.5
HOWZ Holdsworth Sta 13.34 200 P Pn 06 20 46.7 -3.5
OGWZ Otaki Gorge 13.37 201 P Pn 06 20 45.0 -5.6
TMWZ Te Maipa 13.43 198 P **Pn** **06 20 48.5 -2.8**
MTW Mount Morrison 13.59 199 P **Pn** **06 20 51.4 -1.8**
CAW Cannon Point 13.67 201 P Pn 06 20 50.5 -3.7
DUWZ D'Urville Isla 13.78 204 P **Pn** **06 20 53.2 -2.4**
MSWZ Moikau Station 13.90 200 P Pn 06 20 53.6 -3.3
TCW Tory Channel 14.02 203 P **Pn** **06 20 56.4 -2.0**
NNZ Nelson 14.35 205 P **Pn** **06 21 00.4 -1.9**
CAN Canberra 28.26 248 P **P** **06 23 21.8 +1.3**
ASAR Alice Springs 42.71 265 P **P** **06 25 23.7 +0.6**
ASAR Alice Springs 42.71 265 P **P** **06 25 24.1 +0.9**
0.6nm,0.4s,baz=97,slow=6.9,SNR=10
ASAR PcP **PP** **06 27 09.5 +1.8**
0.5nm,0.5s,baz=94,slow=4.1,SNR=2.1
ASAR ScP **ScP** **06 30 35.5 -1.3**
0.8nm,1.0s,baz=108,slow=3.6,SNR=2.8
0.6nm,0.4s
WR8 Warramunga Arr 43.37 270 P **P** **06 25 29.2 +0.8**
WR8 IAmb IAmb 06 25 29.5
comp=Z,4.4nm,0.8s
WRAB Tennant Creek 43.51 270 P **P** **06 25 30.1 +0.6**
WRAB IAmb IAmb 06 25 54.5
comp=Z,6.7nm,0.9s
WRA Warramunga Arr 43.52 270 P **P** **06 25 30.1 +0.6**
WRA Warramunga Arr 43.52 270 P **P** **06 25 30.1 +0.6**
comp=Z,3.1nm,0.5s,baz=109,slow=7.5,SNR=35
WRA ScP **ScP** **06 30 39.0 -1.1**
comp=Z,0.3nm,0.5s,baz=104,slow=3.4,SNR=2.1
comp=Z,3.1nm,0.5s
WB0 Warramunga Arr 43.53 271 P **P** **06 25 30.3 +0.7**
WB0 IAmb IAmb 06 25 30.6
comp=Z,4.8nm,0.6s
KNRA Kununurra 50.04 273 P **P** **06 26 20.4 +0.5**
KNRA IAmb IAmb 06 26 59.8
comp=Z,6.8nm,1.1s
FITZ Fitzroy Crossi 51.85 269 P **P** **06 26 33.7 +0.4**
CASY Casey 56.64 207 P **P** **06 27 07.7 +0.6**
QSPA South Pole Qui 61.68 180 P **P** **06 27 44.2 +2.5**
QSPA South Pole Qui 61.68 180 P **P** **06 27 44.3 +2.6**
comp=Z,0.9nm,0.7s,baz=86,slow=2.3,SNR=9.7
comp=Z,0.9nm,0.7s
BELA Belgrano 2 71.81 172 P **P** **06 28 46.0 +0.9**
BELA IAmb IAmb 06 28 59.5
comp=Z,5.5nm,1.5s
MAW Mawson 73.96 201 P **P** **06 28 59.8 +1.9**
comp=Z,0.3nm,0.3s,baz=148,slow=13,SNR=1.4
comp=Z,0.3nm,0.3s
JGF Kuroka 76.02 324 P **P** **06 29 09.4 -0.6**
JGF IAmb IAmb 06 29 10.2
comp=Z,12nm,0.9s
JMM Marumori 76.12 328 P **P** **06 29 09.6 -0.8**
MJAR Matsushiro Arr 76.32 325 P **P** **06 29 10.6 -1.0**
MJAR IAmb IAmb 06 29 11.7
comp=Z,3.0nm,0.9s
MJAR Matsushiro Arr 76.32 325 P **P** **06 29 09.8 -1.9**
comp=Z,2.5nm,0.7s,baz=170,slow=6.6,SNR=4.1
comp=Z,2.5nm,0.7s
SSLB Suanglung 77.98 305 P **P** **06 29 19.1 -2.1**
SNAA Sanae 80.14 179 P **P** **06 29 33.5 +1.4**
SNAA IAmb IAmb 06 29 54.3
comp=Z,6.7nm,1.5s
SNAA Sanae 80.14 179 P **P** **06 29 33.6 +1.4**
comp=Z,0.5nm,0.6s,baz=235,slow=14,SNR=1.7
comp=Z,0.5nm,0.6s
KSRS Korea Array 82.50 320 P **P** **06 29 44.4 -0.5**
comp=Z,1.1nm,0.5s,baz=138,slow=7.7,SNR=2.8
comp=Z,1.1nm,0.5s
PEA0B Petropavlovsk- 83.77 346 P **P** **06 29 49.9 -1.0**
PETK Petropavlovsk- 83.77 346 P **P** **06 29 49.7 -1.3**
PETK Petropavlovsk- 83.77 346 P **P** **06 29 48.7 -2.3**
comp=Z,5.1nm,0.8s,baz=116,slow=8.0,SNR=6.1
comp=Z,5.1nm,0.8s
USRK Ussuriysk Ar. 85.22 327 P **P** **06 29 57.6 -0.8**
comp=Z,2.1nm,0.6s,baz=139,slow=5.6,SNR=4.2
comp=Z,2.1nm,0.6s
NVAR Mina Array Bea 87.16 43 P **P** **06 30 06.8 -1.5**
comp=Z,1.0nm,0.7s,baz=220,slow=8.9,SNR=12
comp=Z,1.0nm,0.7s
PDAR Pinedale Array 95.08 44 P **P** **06 30 42.6 -2.4**
comp=Z,0.2nm,0.6s,baz=260,slow=4.1,SNR=2.5
comp=Z,0.2nm,0.6s
ILAR Eielson Array 96.13 13 P **P** **06 30 46.5 -2.4**
comp=Z,0.3nm,0.8s,baz=208,slow=5.8,SNR=4.1
comp=Z,0.3nm,0.8s
MKAR Makanchi Array 116.09 311 PKP **PKPdf** **06 36 01.4 -1.9**
comp=Z,0.4nm,0.5s,baz=108,slow=2.7,SNR=2.8
BVAR Borovoye Array 124.61 317 PKP **PKPdf** **06 36 17.9 -1.5**
comp=Z,1.6nm,0.6s,baz=104,slow=2.3,SNR=6.2
ARCES ARCESS Array B 136.55 348 PKhKP PKPpre 06 36 36.9
comp=Z,2.1nm,0.8s,baz=57,slow=8.8,SNR=1.4
ARCES PKP **PKPdf** **06 36 40.9 -0.6**
comp=Z,2.1nm,0.9s,baz=43,slow=1.6,SNR=5.9
FINES FINESS Array B 143.11 340 PKhKP PKPpre 06 36 48.4
comp=Z,1.6nm,0.6s,baz=38,slow=5.2,SNR=12
NOA NORSAR Array B 146.72 351 PKPbc **PKPdf** **06 36 59.5 -0.5**
comp=Z,0.2nm,0.4s,baz=20,slow=3.0,SNR=10
HFS Hagfors 147.21 349 PKPbc **PKPdf** **06 37 01.0 +0.3**
comp=Z,5.0nm,0.6s,baz=32,slow=2.7,SNR=15
AKASG Malin Array Be 149.40 324 PKPbc **PKPdf** **06 37 07.6 +3.1**
comp=Z,3.4nm,0.5s,baz=46,slow=3.2,SNR=21
AKASG PKPab **PKiKP** **06 37 13.2 +3.0**
comp=Z,2.9nm,0.4s,baz=49,slow=4.6,SNR=16
MMAI Mount Meron Ar 150.48 287 PKPbc **PKPbc** **06 37 11.6 -0.9**
comp=Z,2.5nm,0.5s,baz=96,slow=2.9,SNR=6.2
BRTR Keskin Array B 151.15 301 PKPbc **PKPbc** **06 37 12.8 -1.2**
comp=Z,0.8nm,0.4s,baz=82,slow=2.0,SNR=5.5
EKA Eskdalemuir Ar 152.91 6 PKPbc **PKPbc** **06 37 15.4 -1.8**
comp=Z,0.4nm,0.5s,baz=342,slow=3.0,SNR=1.6

*TIR **22** 06:25:35.8,41.°40N×19.°47E,h32km±3km,Ml3.2/6*
*PDG **22** 06:25:37.9±0.3,41.°30N×19.°41E,h17km,MD3.3/1,*
ML3.2/11,Error ellipse: s-maj=1.2km s-min=2.4km az=0.0
*SKO **22** 06:25:38.7,41.°51N×19.°50E,h16km,ML3.1*
*BEO **22** 06:25:38.1±0.5,41.°30N×19.°45E,h19km±2km,ML3.0/21*
*THE **22** 06:25:40.0,41.°N±11.°×2.°E±1.°4,h2km±25km,M2.9/15,*
ML h2.9/15

ISC 22 06:25:37.3±1.1,41.°35N±0.°02×19.°46E±0.°02,h9km±9km,
n88,σ1s22/135,14C-12D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.30**	**90**	⇓P	**Pg**	**06 25 43.1**	**-0.3**
TIR				Sg	**Sg**	**06 25 44.7**	**-2.7**
TIR				AML	AML	06 25 47.0	
	11nm,0.4s						
TIR				AML	AML	06 25 47.0	
	8.0nm,0.4s						
ULC	**Ulcinj**	**0.64**	**345**	⇑*i*Pg	**Pb**	**06 25 50.3**	**-0.4**
ULC				*i* Sg	**Sn**	**06 26 01.7**	**-1.2**
DRME	**Dracevica, Mon**	**0.86**	**346**	*e*Pg	**Pn**	**06 25 55.7**	**0.0**
DRME				*e*Sg	**Sn**	**06 26 08.3**	**-0.2**
DRME	**Dracevica, Mon**	**0.86**	**346**	⇓*i*Pg	**Pb**	**06 25 54.4**	**-0.1**
DRME				*e*Sg	**Sn**	**06 26 10.2**	**+1.7**
VLO	**Vlora**	**0.88**	**178**	Pg	**Pn**	**06 25 56.3**	**+0.5**
VLO				Sg	**Sb**	**06 26 07.6**	**+1.0**
VLO				AML	AML	06 26 17.8	
	8.3nm,0.6s						
VLO	**Vlora**	**0.88**	**178**	P	**Pn**	**06 25 56.9**	**+1.0**
VLO				S	**Sn**	**06 26 10.1**	**+1.3**
OHR	**Ohrid**	**1.03**	**103**	*i* Pg	**Pn**	**06 25 57.9**	**-0.3**
OHR				*i* Sg	**Sn**	**06 26 12.5**	**-0.2**
OHR				*e*Lg	Lg	06 26 13.0	
	comp=N,647nm,1.0s						
OHR				*e*Lg	Lg	06 26 15.2	
	comp=E,380nm,0.5s						
BUM	**Brajici-Budva**	**1.04**	**336**	⇓*i*Pg	**Pn**	**06 25 58.3**	**+0.1**
BUM				*i* Sg	**Sn**	**06 26 15.5**	**+2.5**
PDG	**Podgorica**	**1.09**	**352**	*e*Pg	**Pn**	**06 25 59.3**	**+0.4**
PDG				*e*Sg	**Sn**	**06 26 14.3**	**+0.2**
PDG	**Podgorica**	**1.09**	**352**	⇓*i*Pg	**Pn**	**06 25 59.2**	**+0.4**
PDG				*e*Sg	**Sn**	**06 26 14.8**	**+0.7**
KBN	**Korca**	**1.24**	**125**	Pn	**Pn**	**06 25 58.9**	**-2.0**
KBN				Sn	**Sb**	**06 26 16.7**	**-0.3**
KBN				AML	AML	06 26 21.6	
	comp=E,1.3nm,0.7s						
KBN	**Korca**	**1.24**	**125**	P	**Pg**	**06 26 02.0**	**+0.9**
KBN				S	**Sn**	**06 26 18.8**	**+1.0**
CEME	**Cevo**	**1.27**	**341**	⇓*i*Pg	**Pg**	**06 26 01.6**	**0.0**
CEME				*e*Sg	**Sn**	**06 26 21.5**	**+3.0**
PVY	**Plav**	**1.30**	**16**	*e*Pg	**Pg**	**06 26 02.7**	**+0.4**
PVY	**Plav**	**1.30**	**16**	⇓*i*Pg	**Pg**	**06 26 03.3**	**+1.0**
HCY	**Herceg Novi**	**1.31**	**327**	⇑*i*Pg	**Pg**	**06 26 02.9**	**+0.3**
HCY				*i* Sg	**Sn**	**06 26 22.9**	**+3.3**
NKME	**Niksic**	**1.47**	**345**	⇑*i*Pg	**Pg**	**06 26 05.2**	**-0.3**
NKME				*i* Sg	**Sg**	**06 26 26.3**	**+1.7**
KOME	**Kolasin**	**1.50**	**1**	*e*Pg	**Pg**	**06 26 05.7**	**-0.4**
KOME				*e*Sg	**Sg**	**06 26 26.8**	**+1.1**
KOME	**Kolasin**	**1.50**	**1**	⇓*i*Pg	**Sg**	**06 26 05.8**	**-0.4**
KOME				*e*Sg	**Sg**	**06 26 28.0**	**+2.3**
BEY	**Berane**	**1.56**	**12**	*e*Pg	**Pb**	**06 26 06.2**	**-0.2**
BEY				*e*Sg	**Sg**	**06 26 28.6**	**+1.2**
IVA	**Berane**	**1.56**	**12**	⇑*i*Pn	**Pb**	**06 26 06.1**	**-0.3**
IVA				*e*Sn	**Sg**	**06 26 29.0**	**+1.6**
TREB	**Trebinje**	**1.60**	**329**	*e*Pg	**Pg**	**06 26 07.3**	**-0.7**
TREB				*e*Sg	**Sg**	**06 26 29.6**	**+0.8**
KEK	**Kerkira**	**1.65**	**171**	S	**Sg**	**06 26 31.9**	**+1.5**
BRY	**Bratogost**	**1.70**	**336**	⇓*i*Pn	**Pb**	**06 26 08.9**	**+0.1**
BRY				*i* Sn	**Sg**	**06 26 33.9**	**+2.0**
PENT	**Pentalofos**	**1.72**	**132**	P	**Pb**	**06 26 09.4**	**+0.2**
PENT				S	**Sb**	**06 26 31.9**	**+1.1**
NOCI	**Noci**	**1.90**	**254**	⇑Pn	**Pn**	**06 26 09.8**	**-0.1**
NOCI				Sn	**Sn**	**06 26 34.2**	**+0.3**
NOCI				AML	AML	06 26 50.5	
	comp=E,1.3nm,0.3s						
UPM	**Unac-Piva**	**1.90**	**348**	⇓*i*Pn	**Pb**	**06 26 11.8**	**-0.5**
UPM				*i* Sn	**Sg**	**06 26 36.9**	**-1.5**
IGT	**Igoumenitsa**	**1.93**	**160**	⇑Pn	**Pg**	**06 26 13.8**	**-0.5**
IGT				Sn	**Sb**	**06 26 36.2**	**-0.7**
IGT	**Igoumenitsa**	**1.93**	**160**	P	**Pb**	**06 26 13.0**	**+0.3**
IGT	**Igoumenitsa**	**1.93**	**160**	*i* Pn	**Pn**	**06 26 11.6**	**+1.3**
IGT				*i* Sn	**Sg**	**06 26 39.3**	**0.0**
SJES	**Sjenica**	**1.95**	**11**	*e*Pn	**Pb**	**06 26 12.8**	**-0.3**
SJES				*e*Sn	**Sn**	**06 26 34.9**	**-0.5**
JAN	**Janina**	**1.99**	**147**	P	**Pb**	**06 26 13.4**	**-0.4**
STON	**Ston**	**2.01**	**320**	*e*Pn	**Pn**	**06 26 12.1**	**+0.7**
KZN	**Kozani**	**2.04**	**120**	P	**Pn**	**06 26 13.3**	**+1.4**
PRMD	**Pramanda**	**2.20**	**145**	P	**Pb**	**06 26 16.4**	**-1.0**
KTI	**Kastanea**	**2.23**	**114**	P	**Pn**	**06 26 15.8**	**+1.2**
SELS	**Selova**	**2.24**	**33**	*e*Pn	**Pn**	**06 26 14.9**	**+0.3**
SELS				*e*Sn	**Sb**	**06 26 43.9**	**-1.9**
RUDO	**Rudo**	**2.27**	**358**	*e*Pn	**Pn**	**06 26 16.0**	**+0.9**
RUDO				*e*Sn	**Sn**	**06 26 43.6**	**+0.4**
IVAS	**Ivanjica**	**2.29**	**13**	*e*Pn	**Pn**	**06 26 15.9**	**+0.6**
IVAS				*e*Sn	**Sn**	**06 26 44.2**	**+0.6**
TETR	**Tetrakomo, Epi**	**2.43**	**145**	P	**Pb**	**06 26 19.9**	**-1.4**
GOCS	**Kraljevo Serbi**	**2.45**	**25**	*e*Pn	**Pn**	**06 26 17.7**	**+0.1**
GOCS				*e*Sn	**Sn**	**06 26 47.1**	**-0.6**
BBLS	**Lazi&#263i**	**2.52**	**359**	*e*Pn	**Pn**	**06 26 19.3**	**+0.8**
BBLS				*e*Sn	**Sn**	**06 26 50.8**	**+1.4**
BOSS	**Bosilegrad**	**2.53**	**62**	*e*Pn	**Pn**	**06 26 18.5**	**-0.1**
BOSS				*e*Sn	**Sn**	**06 26 49.9**	**+0.4**
KNT	**Kendrikon**	**2.60**	**93**	P	**Pn**	**06 26 19.6**	**0.0**
KNT	**Kendrikon**	**2.60**	**93**	*i* Pn	**Pn**	**06 26 19.8**	**+0.2**
KNT				*i* Sn	**Sn**	**06 26 51.4**	**+0.1**
LIT	**Litokhoron**	**2.62**	**117**	*i* Pn	**Pn**	**06 26 21.9**	**+2.1**
LIT				*i* Sn	**Sn**	**06 26 53.4**	**+1.6**
THL	**Klokotos Trika**	**2.64**	**132**	P	**Pn**	**06 26 22.3**	**+2.2**
GRUS	**Gruza**	**2.70**	**20**	*e*Pn	**Pn**	**06 26 22.9**	**+1.9**
LKD2	**Lefkada island**	**2.71**	**160**	⇑Pn	**Pn**	**06 26 21.1**	**-0.1**
LKD2	**Lefkada island**	**2.71**	**160**	P	**Pn**	**06 26 21.0**	**-0.1**
THE	**Thessaloniki**	**2.75**	**104**	Pn	**Pn**	**06 26 21.6**	**+0.1**
THE				AML	AML	06 26 57.4	
	comp=E,0.2nm,0.5s						
AMPL	**Ampelaki**	**2.77**	**150**	P	**Pn**	**06 26 23.0**	**+1.1**
DIVS	**Divibare**	**2.78**	**8**	*e*Pn	**Pn**	**06 26 22.2**	**+0.1**
KKB	**Krupnik**	**2.79**	**79**	P	**Pn**	**06 26 22.9**	**+0.7**
KKB	**Krupnik**	**2.79**	**79**	*i* Pn	**Pn**	**06 26 22.9**	**+0.7**
NYDR	**Nydri-Lefkada**	**2.80**	**160**	P	**Pn**	**06 26 21.9**	**-0.4**
SGRT	**San Giovanni R**	**2.82**	**280**	⇑Pn	**Pn**	**06 26 22.7**	**0.0**
BOVS	**Bovan**	**2.82**	**35**	⇑P	**Pn**	**06 26 23.7**	**+1.0**
BOVS	**Bovan**	**2.82**	**35**	*e*Pn	**Pn**	**06 26 22.8**	**+0.1**
BOVS				*e*Sn	**Sn**	**06 26 56.8**	**0.0**
SOH	**Sokhos**	**2.99**	**99**	*i* Pn	**Pn**	**06 26 25.3**	**+0.3**
TIP	**Timpagrande**	**3.00**	**225**	⇑P	**Pn**	**06 26 24.9**	**-0.2**
FSK	**Fiskardo**	**3.01**	**163**	P	**Pn**	**06 26 25.2**	**0.0**
ZAPS	**Zavoj**	**3.04**	**50**	*e*Pn	**Pn**	**06 26 26.0**	**+0.4**
ZAPS				*e*Sn	**Sn**	**06 27 02.3**	**+0.1**
VTS	**Vitosha**	**3.09**	**64**	*e*Pn	**Pn**	**06 26 26.4**	**0.0**
VTS				*e*Sn	**Sn**	**06 27 02.8**	**-0.7**
SRS	**Serrai**	**3.12**	**93**	*i* Pn	**Pn**	**06 26 26.8**	**0.0**
SRS				*i* Sn	**Sn**	**06 27 02.8**	**-1.4**
SRS	**Serrai**	**3.12**	**93**	*e*Pn	**Pn**	**06 26 26.5**	**-0.3**
SRS				*e*Sn	**Sn**	**06 27 02.1**	**-2.1**
PLG	**Polygyros**	**3.17**	**107**	P	**Pn**	**06 26 27.4**	**-0.1**
ZAGS	**Zajecar**	**3.20**	**39**	*e*Pn	**Pn**	**06 26 27.9**	**+0.1**
ZAGS				*e*Sn	**Sn**	**06 27 05.1**	**-1.0**
MMB	**Musomishta**	**3.23**	**85**	P	**Pn**	**06 26 28.4**	**+0.2**
MMB	**Musomishta**	**3.23**	**85**	*i* Pn	**Pn**	**06 26 28.8**	**+0.5**
VLS	**Valsamata**	**3.28**	**164**	P	**Pn**	**06 26 27.5**	**-1.5**
BLKB	**Belogradchik**	**3.29**	**45**	⇑S	**Sn**	**06 27 11.7**	**+3.4**
BLKB	**Belogradchik**	**3.29**	**45**	*e*Pn	**Pn**	**06 26 28.8**	**+0.4**
BLKB				*e*Sn	**Sn**	**06 27 08.3**	**0.0**
BORS2	**Bor- Borsko je**	**3.33**	**34**	*e*Pn	**Pn**	**06 26 28.2**	**-1.4**
ORTH	**Orthonies,Zaky**	**3.62**	**164**	P	**Pn**	**06 26 32.7**	**-0.9**
BLY	**Banja Luka**	**3.79**	**335**	⇓P	**Pg**	**06 26 48.8**	**-1.1**
MDVR	**Moldovita**	**3.81**	**25**	*e*Pn	**Pn**	**06 26 36.3**	**+0.1**
FRGS	**Fruska Gora**	**3.82**	**4**	*e*Pn	**Pn**	**06 26 36.1**	**-0.2**
HERR	**Herculane**	**4.14**	**30**	⇓P	**Pn**	**06 26 41.3**	**+0.5**
BZS	**Buzias**	**4.55**	**19**	⇓P	**Pn**	**06 26 46.5**	**+0.1**
BZS	**Buzias**	**4.55**	**19**	*e*Pn	**Pn**	**06 26 46.1**	**-0.2**
BZS				*e*Sn	**Sn**	**06 27 36.3**	**-3.0**
GZR	**Gura Zlata**	**4.71**	**30**	⇑P	**Pn**	**06 26 49.1**	**+0.4**
GZR	**Gura Zlata**	**4.71**	**30**	*e*Pn	**Pn**	**06 26 47.9**	**-0.7**
GZR				*e*Sn	**Sn**	**06 27 42.8**	**-0.6**
BOJS	**Bojanci**	**5.16**	**325**	*e*Pn	**Pn**	**06 26 54.7**	**-0.1**
BOJS				*e*Sn	**Sn**	**06 27 51.8**	**-2.7**
CEY	**Cerknica**	**5.71**	**322**	*e*Pn	**Pn**	**06 27 02.4**	**0.0**
CEY				*e*Sn	**Sn**	**06 28 05.6**	**-2.5**
VOIR		**5.77**	**43**	⇑P	**Pn**	**06 27 05.1**	**+1.9**
SKDS	**Skadanscina**	**5.77**	**318**	*e*Pn	**Pn**	**06 27 01.9**	**-1.3**
SKDS				*e*Sn	**Sn**	**06 28 05.7**	**-3.9**
MLR	**Muntele Rosu**	**6.28**	**47**	⇑P	**Pn**	**06 27 13.7**	**+3.4**

*FUNV **22** 06:27:30.2,7.°83N×72.°33W,h84km,MW2.8*
*RSNC **22** 06:27:31.9±0.0,7.°N±4.°×7.°2W±.°,h12km±4km,M1.9,ML1.8*

ISC 22 06:27:28.6±1.8,7.°38N±0.°05×71.°92W±0.°06,h6km±13km,n7,
σ0s83/14,Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.62**	**321**	*e*P	**Pb**	**06 27 42.2**	**+0.2**
CAPV				*e*S	**Sb**	**06 27 51.0**	**-0.1**
PAMC	**Pamplona, Colo**	**0.78**	**267**	P	**Pg**	**06 27 42.7**	**-0.9**
PAMC				S	**Sn**	**06 27 57.8**	**-1.0**
BARC	**Barichara**	**1.48**	**238**	P	**Pg**	**06 27 57.0**	**0.0**
BARC				S	**Sn**	**06 28 17.2**	**+1.3**
OCAC	**Ocana**	**1.63**	**302**	P	**Pg**	**06 28 00.4**	**+0.6**
OCAC				S	**Sg**	**06 28 21.1**	**+0.1**
RUSC	**La Rusia**	**1.88**	**218**	P	**Pn**	**06 28 02.3**	**+0.5**
RUSC				S	**Sb**	**06 28 27.6**	**0.0**
SPBC	**San Pablo de B**	**2.75**	**231**	P	**Pn**	**06 28 12.5**	**-0.8**
SPBC				S	**Sn**	**06 28 47.3**	**+0.3**
BAUV	**El Baul**	**4.14**	**68**	*e*P	**Pn**	**06 28 33.0**	**+0.6**
BAUV				*e*S	**Sn**	**06 29 19.9**	**-1.2**

*SNET **22** 06:54:46.1±1.6,14.°55N×89.°10W,h5km,ML3.0*
*GCG **22** 06:54:46.2±1.4,14.°61N×89.°11W,h14km±278km,MD3.9,*
ML2.6
*CATAC **22** 06:54:46.9±0.2,15.°N±1.°×8.°9W±.°,h2km±1km,M2.8/19,*
MLv2.8/19,Error ellipse: s-maj=2.6km s-min=2.3km
az=154.8,confirmed

ISC 22 06:54:46.8±0.9,14.°54N±0.°03×89.°09W±0.°02,h12km±8km,
n54,σ0s42/66,1C,Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESQI	**Esquipulas**	**0.24**	**275**	⇑*i*P	**Pg**	**06 54 51.8**	**-0.1**
ESQI				*e*S	**Sg**	**06 54 55.9**	**+0.5**
ESQI	**Esquipulas**	**0.24**	**275**	P	**Pg**	**06 54 51.8**	**-0.1**
MTO3	**Montecristo**	**0.29**	**242**	*e*P	**Pg**	**06 54 52.8**	**-0.1**
MTO3				*e*S	**Sb**	**06 54 57.8**	**-1.4**
MTO3	**Montecristo**	**0.29**	**242**	*i* P	**Pg**	**06 54 52.8**	**-0.1**
MTO3	**Montecristo**	**0.29**	**242**	*i* S	**Sg**	**06 54 56.9**	**-0.1**
MTO3	**Montecristo**	**0.29**	**242**	P	**Pg**	**06 54 52.7**	**-0.2**
SARH	**Santa Rosa de**	**0.40**	**54**	*i* P	**Pg**	**06 54 54.5**	**-0.2**
SARH				*i* S	**Sg**	**06 55 00.0**	**0.0**
SARH	**Santa Rosa de**	**0.40**	**54**	P	**Pg**	**06 54 54.6**	**-0.1**
SARH	**Santa Rosa de**	**0.40**	**54**	S	**Sg**	**06 54 59.8**	**-0.2**
LLGN	**La Laguna**	**0.40**	**159**	*e*P	**Pg**	**06 54 54.6**	**-0.2**
LLGN				*e*S	**Sg**	**06 55 00.6**	**+0.5**
LLGN	**La Laguna**	**0.40**	**159**	P	**Pg**	**06 54 54.5**	**-0.2**
LLGN	**La Laguna**	**0.40**	**159**	S	**Sg**	**06 54 59.8**	**-0.3**
JUAM	**Asuncion Mita**	**0.63**	**251**	*i* P	**Pb**	**06 54 59.1**	**-0.6**
JUAM				*i* S	**Sg**	**06 55 07.3**	**0.0**
JUAM				IAML		06 55 07.6	
	comp=N,420nm,0.3s						
CEDA	**San Andres**	**0.79**	**202**	P	**Pg**	**06 55 01.7**	**-0.3**
CEDA	**San Andres**	**0.79**	**202**	S	**Sg**	**06 55 12.6**	**+0.2**
UDBS	**Universidad Do**	**0.82**	**184**	P	**Pg**	**06 55 02.0**	**-0.6**
UDBS	**Universidad Do**	**0.82**	**184**	S	**Sg**	**06 55 13.8**	**+0.3**
UEES	**Universidad Ev**	**0.83**	**190**	P	**Pg**	**06 55 02.9**	**0.0**
PAVA	**Las Pavas**	**0.83**	**170**	*e*P	**Pg**	**06 55 02.6**	**-0.3**
PAVA				*e*S	**Sb**	**06 55 14.8**	**+0.3**
PAVA	**Las Pavas**	**0.83**	**170**	P	**Pg**	**06 55 02.5**	**-0.5**
PMON	**Piamonte**	**0.85**	**195**	P	**Pg**	**06 55 03.0**	**-0.2**
LOAL	**Lomas de Alarc**	**0.86**	**231**	P	**Pb**	**06 55 03.4**	**-0.2**
LOAL	**Lomas de Alarc**	**0.86**	**231**	S	**Sb**	**06 55 15.0**	**-0.1**
SBLS	**San Blas**	**0.86**	**217**	*e*P	**Pb**	**06 55 03.7**	**-0.2**
CEVE	**Cerro Verde**	**0.88**	**216**	P	**Pn**	**06 55 05.1**	**-0.1**
LOMA	**Loma Larga**	**0.89**	**185**	P	**Pg**	**06 55 04.0**	**0.0**
LOMA	**Loma Larga**	**0.89**	**185**	S	**Sb**	**06 55 16.1**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.90**	**157**	P	**Pg**	**06 55 04.0**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.90**	**157**	S	**Sb**	**06 55 17.0**	**+0.5**
NUBE	**Las Nubes**	**0.92**	**227**	*e*P	**Pb**	**06 55 04.4**

KBN				S	Sn	07 06 33.7	+2.3		
CEME	**Cevo**	**1.27**	**341**	*i* Pg	Pg	07 06 16.0	+0.2		
CEME				*i* Sg	Sn	07 06 35.6	+3.5		
PVY	**Plav**	**1.29**	**16**	*e*Pg	Pg	07 06 16.8	+0.4		
PVY				*e*Sg	Sn	07 06 36.3	+3.3		
PVY	**Plav**	**1.29**	**16**	*e*Pg	Pg	07 06 16.9	+0.5		
HCY	**Herceg Novi**	**1.32**	**327**	⇓*i* Pg	Pg	07 06 17.0	+0.2		
HCY				*i* Sg	Sg	07 06 36.2	+2.3		
NKME	**Niksic**	**1.47**	**345**	*e*Pg	Pg	07 06 19.2	-0.4		
NKME				*e*Sg	Sg	07 06 40.5	+1.8		
KOME	**Kolasin**	**1.50**	**1**	*e*Pg	Pb	07 06 19.5	+0.1		
KOME				*e*Sg	Sg	07 06 41.9	+2.2		
BEY	**Berane**	**1.55**	**11**	*e*Pn	Pb	07 06 20.0	-0.3		
BEY				*e*Sn	Sg	07 06 40.8	-0.6		
IVA	**Berane**	**1.55**	**11**	⇓*i* Pn	Pb	07 06 20.2	-0.1		
IVA				*e*Sn	Sg	07 06 43.5	+2.1		
SKO	**Skopje**	**1.60**	**67**	*i* Pn	Pb	07 06 20.9	-0.1		
SKO				*i* Sn	Sg	07 06 43.7	+0.8		
SKO				*e*Lg	Lg	07 06 44.6			
	comp=N,46nm,0.4s								
TREB	**Trebinje**	**1.60**	**329**	*e*Pn	Pb	07 06 20.4	-0.6		
TREB	**Trebinje**	**1.60**	**329**	*e*Pg	Pb	07 06 20.9	-0.1		
TREB				*e*Sg	Sg	07 06 43.5	+0.5		
BRY	**Bratogost**	**1.70**	**336**	*e*Pn	Pb	07 06 22.1	-0.7		
BRY				*i* Sn	Sg	07 06 46.2	+0.1		
PENT	**Pentalofos**	**1.71**	**132**	P	Pn	07 06 22.8	+1.5		
PENT				S	Sb	07 06 45.0	+0.4		
UPM	**Unac-Piva**	**1.90**	**347**	*e*Pn	Pb	07 06 25.8	-0.4		
UPM				*i* Sn	Sg	07 06 52.7	+0.2		
NOCI	**Noci**	**1.91**	**254**	Pn	Pn	07 06 24.4	+0.5		
NOCI				Sn	Sn	07 06 48.6	+0.7		
NOCI				AML	AML	07 07 01.7			
	comp=N,2.5nm,0.3s								
IGT	**Igoumenitsa**	**1.93**	**160**	Pn	Pn	07 06 25.3	+1.0		
IGT				Sn	Sn	07 06 48.1	-0.4		
IGT				AML	AML	07 06 53.8			
	comp=N,0.7nm,0.4s								
IGT	**Igoumenitsa**	**1.93**	**160**	P	Pn	07 06 24.6	+0.3		
IGT				S	Sn	07 06 49.7	+1.3		
IGT	**Igoumenitsa**	**1.93**	**160**	*i* Pn	Pn	07 06 24.8	+0.6		
IGT				*i* Sn	Sg	07 06 54.0	+0.5		
IGT	**Igoumenitsa**	**1.93**	**160**	*e*Pn	Pn	07 06 24.7	+0.5		
KLINJ	**Klinje**	**1.93**	**340**	*e*Pn	Pb	07 06 27.1	+0.3		
SJES	**Sjenica**	**1.94**	**11**	*e*Pn	Pb	07 06 26.6	-0.4		
SJES				*e*Sn	Sb	07 06 50.0	-1.3		
JAN	**Janina**	**1.99**	**148**	P	Pn	07 06 26.3	+1.2		
STON	**Ston**	**2.01**	**320**	*e*Pn	Pn	07 06 25.2	-0.1		
STON	**Ston**	**2.01**	**320**	*e*Pn	Pn	07 06 26.0	+0.7		
KZN	**Kozani**	**2.03**	**120**	P	Pn	07 06 27.1	+1.5		
PRMD	**Pramanda**	**2.20**	**145**	P	Pn	07 06 29.2	+1.2		
MATE	**Matera**	**2.21**	**252**	⇑P	Pn	07 06 29.5	+1.5		
SELS	**Selova**	**2.23**	**33**	*e*Pn	Pn	07 06 29.4	+1.0		
SELS				*e*Sn	Sn	07 06 57.0	+1.1		
RUDO	**Rudo**	**2.27**	**358**	*e*Pn	Pn	07 06 29.6	+0.7		
RUDO	**Rudo**	**2.27**	**358**	*e*Pn	Pb	07 06 31.0	-1.4		
RUDO				*e*Sn	Sb	07 06 58.5	-1.9		
IVAS	**Ivanjica**	**2.28**	**13**	*e*Pn	Pn	07 06 30.0	+0.9		
IVAS				*e*Sn	Sn	07 06 56.7	-0.5		
VAY	**Valandovo**	**2.33**	**90**	*i* Pn	Pn	07 06 30.6	+0.9		
VAY				*i* Sn	Sn	07 07 00.1	+1.8		
VAY				*e*Lg	Lg	07 07 00.3			
	comp=E,142nm,0.7s								
VAY				*e*Lg	Lg	07 07 00.9			
	comp=N,203nm,0.8s								
TETR	**Tetrakomo, Epi**	**2.43**	**145**	P	Pn	07 06 32.5	+1.3		
GOCS	**Kraljevo Serbi**	**2.44**	**25**	*e*Pn	Pn	07 06 32.3	+1.0		
GOCS				*e*Sn	Sn	07 07 01.1	-0.1		
BBLS	**Lazi&#263i**	**2.51**	**359**	*e*Pn	Pn	07 06 33.9	+1.6		
BOSS	**Bosilegrad**	**2.52**	**62**	*e*Pn	Pn	07 06 32.9	+0.6		
BOSS				*e*Sn	Sn	07 07 02.8	-0.2		
KNT	**Kendrikon**	**2.59**	**93**	P	Pn	07 06 34.4	+1.1		
KNT	**Kendrikon**	**2.59**	**93**	*i* Pn	Pn	07 06 34.3	+1.1		
KNT				*i* Sn	Sn	07 07 05.5	+0.7		
LIT	**Litokhoron**	**2.61**	**118**	P	Pn	07 06 35.1	+1.5		
LIT	**Litokhoron**	**2.61**	**118**	*i* Pn	Pn	07 06 35.0	+1.4		
THL	**Klokotos Trika**	**2.63**	**132**	P	Pn	07 06 35.3	+1.4		
TYRN	**Tyrnavos**	**2.67**	**127**	P	Pn	07 06 35.2	+0.9		
TSLK	**Tsoukalades, L**	**2.68**	**160**	P	Pn	07 06 35.2	+0.6		
GRUS	**Gruza**	**2.70**	**19**	*e*Pn	Pn	07 06 36.0	+1.2		
LKD2	**Lefkada island**	**2.72**	**160**	Pn	Pn	07 06 35.3	+0.3		
LKD2				Sn	Sn	07 07 07.3	-0.6		
LKD2	**Lefkada island**	**2.72**	**160**	P	Pn	07 06 35.0	-0.1		
THE	**Thessaloniki**	**2.74**	**104**	Pn	Pn	07 06 35.9	+0.6		
THE				AML	AML	07 07 12.9			
	comp=N,0.5nm,0.5s								
THE	**Thessaloniki**	**2.74**	**104**	P	Pn	07 06 35.6	+0.3		
THE	**Thessaloniki**	**2.74**	**104**	*i* Pn	Pn	07 06 35.6	+0.3		
THE				*i* Sn	Sn	07 07 08.9	+0.5		
AMPL	**Ampelaki**	**2.77**	**151**	P	Pn	07 06 36.7	+0.9		
DIVS	**Divibare**	**2.77**	**8**	*e*Pn	Pn	07 06 36.8	+0.9		
KKB	**Krupnik**	**2.79**	**79**	P	Pn	07 06 36.5	+0.6		
KKB	**Krupnik**	**2.79**	**79**	*i* Pn	Pn	07 06 36.0	+1.0		
NYDR	**Nydri-Lefkada**	**2.80**	**160**	P	Pn	07 06 36.3	+0.2		
BOVS	**Bovan**	**2.82**	**35**	⇑P	Pn	07 06 38.0	+1.6		
BOVS	**Bovan**	**2.82**	**35**	*e*Pn	Pn	07 06 36.6	+0.2		
BOVS				*e*Sn	Sn	07 07 10.0	-0.3		
SGRT	**San Giovanni R**	**2.83**	**279**	Pn	Pn	07 06 37.4	+0.8		
SGRT				Sn	Sb	07 07 13.9	-2.7		
SGRT				AML	AML	07 07 43.4			
	comp=N,0.7nm,0.5s								
HORT	**Hortiatis**	**2.85**	**104**	P	Pn	07 06 37.5	+0.6		
SOH	**Sokhos**	**2.98**	**99**	P	Pn	07 06 39.4	+0.7		
SOH	**Sokhos**	**2.98**	**99**	*i* Pn	Pn	07 06 39.5	+0.7		
SOH				*i* Sn	Sn	07 07 15.1	+0.6		
TIP	**Timpagrande**	**3.00**	**225**	⇑P	Pn	07 06 39.4	+0.4		
TIP				⇓S	Sn	07 07 16.0	+1.0		
EVR	**Evrytania**	**3.02**	**143**	P	Pn	07 06 40.9	+1.5		
ZAPS	**Zavoj**	**3.03**	**50**	*e*Pn	Pn	07 06 40.9	+1.5		
ZAPS				*e*Sn	Sn	07 07 14.7	-1.0		
VTS	**Vitosha**	**3.08**	**64**	P	Pn	07 06 40.6	+0.4		
VTS	**Vitosha**	**3.08**	**64**	*e*Pn	Pn	07 06 40.7	+0.6		
VTS				*e*Sn	Sn	07 07 17.2	+0.2		
MAKR	**Makrakomi, Fth**	**3.10**	**138**	P	Pn	07 06 41.6	+1.3		
SRS	**Serrai**	**3.12**	**93**	*i* Pn	Pn	07 06 41.0	+0.5		
SRS				*i* Sn	Sn	07 07 17.0	-0.7		
SRS	**Serrai**	**3.12**	**93**	*e*Pn	Pn	07 06 41.0	+0.5		
SRS				*e*Sn	Sn	07 07 16.2	-1.5		
PVO	**Paravola**	**3.15**	**149**	P	Pn	07 06 42.0	+1.0		
PLG	**Polygyros**	**3.17**	**107**	P	Pn	07 06 42.3	+1.1		
AGG	**Agios Georgios**	**3.19**	**136**	P	Pn	07 06 42.4	+0.8		
ZAGS	**Zajecar**	**3.19**	**39**	*e*Pn	Pn	07 06 42.6	+1.0		
ZAGS				*e*Sn	Sn	07 07 20.0	+0.4		
MMB	**Musomishta**	**3.22**	**85**	P	Pn	07 06 42.7	+0.7		
MMB	**Musomishta**	**3.22**	**85**	*i* Pn	Pn	07 06 43.3	+1.3		
MMB				*i* Sn	Sn	07 07 21.2	+0.9		
BLKB	**Belogradchik**	**3.28**	**45**	*e*Pn	Pn	07 06 44.6	+1.8		
BLKB				*e*Sn	Sn	07 07 21.4	-0.4		
BORS2	**Bor- Borsko je**	**3.32**	**34**	*e*Pn	Pn	07 06 42.8	-0.5		
BORS2				*e*Sn	Sn	07 07 21.9	-0.8		
ANX	**Ano Chora**	**3.33**	**145**	P	Pn	07 06 44.5	+0.9		
PSDA	**Pessada-Kefalo**	**3.34**	**165**	P	Pn	07 06 43.3	-0.4		
AVAS	**Avala Beograd**	**3.43**	**13**	*e*Pn	Pn	07 06 45.1	+0.3		
KUBS	**Kucevo**	**3.46**	**27**	*e*Pn	Pn	07 06 44.6	-0.7		
KUBS				*e*Sn	Sn	07 07 25.4	-0.8		
KIJV	**Kijevo**	**3.49**	**321**	*e*Pn	Pn	07 06 45.7	+0.1		
BLY	**Banja Luka**	**3.79**	**334**	*e*Pn	Pn	07 06 51.1	+1.3		
BLY	**Banja Luka**	**3.79**	**334**	⇓P	Pn	07 06 51.1	+1.3		
BLY	**Banja Luka**	**3.79**	**334**	*e*Pn	Pn	07 06 51.0	+1.3		
MDVR	**Moldovita**	**3.80**	**25**	⇑P	Pn	07 06 51.1	+1.1		
MDVR	**Moldovita**	**3.80**	**25**	*e*Pn	Pn	07 06 50.5	+0.5		
MDVR				*e*Sn	Sn	07 07 34.0	-0.7		
FRGS	**Fruska Gora**	**3.81**	**4**	*e*Pn	Pn	07 06 49.9	-0.2		
HERR	**Herculane**	**4.13**	**30**	⇑P	Pn	07 06 53.0	+0.8		
BZS	**Buzias**	**4.54**	**19**	⇓P	Pn	07 07 00.9	+0.8		
BZS	**Buzias**	**4.54**	**19**	*e*Pn	Pn	07 07 00.2	+0.1		
BZS				*e*Sn	Sn	07 07 50.7	-2.1		
AQU	**L'Aquila**	**4.64**	**284**	*e*Pn	Pn	07 07 01.7	+0.1		
MOSL	**Moslavina**	**4.70**	**336**	*e*Pn	Pn	07 07 01.9	-0.4		
GZR	**Gura Zlata**	**4.70**	**30**	⇑P	Pn	07 07 04.1	+1.7		
GZR	**Gura Zlata**	**4.70**	**30**	*e*Pn	Pn	07 07 03.4	+1.0		
SURR	**Surduc**	**4.80**	**23**	⇓P	Pn	07 07 03.9	+0.2		
OZLJ	**Ozalj**	**5.16**	**327**	*e*Pn	Pn	07 07 08.1	-0.5		
SIRR	**Siria**	**5.16**	**17**	⇑P	Pn	07 07 10.1	+1.4		
SIRR	**Siria**	**5.16**	**17**	*e*Pn	Pn	07 07 08.6	-0.1		
SIRR				*e*Sn	Sn	07 08 06.0	-2.2		
BOJS	**Bojanci**	**5.17**	**325**	*i* Pn	Pn	07 07 09.6	+0.9		
BOJS	**Bojanci**	**5.17**	**325**	*e*Pn	Pn	07 07 09.2	+0.6		
BOJS				*e*Sn	Sn	07 08 06.0	-2.2		
GBRS	**Gornja Briga**	**5.38**	**322**	*i* Pn	Pn	07 07 12.9	+1.2		
RIY	**Rijeka**	**5.39**	**319**	*e*Pn	Pn	07 07 11.9	+0.2		
EZN	**Ezine**	**5.43**	**104**	⇑P	Pn	07 07 14.6	+2.3		
BRJN	**Brijuni**	**5.49**	**312**	*e*Pn	Pn	07 07 13.2	+0.1		
ARR	**Arges**	**5.50**	**41**	⇑P	Pn	07 07 15.8	+2.4		
CEY	**Cerknica**	**5.72**	**322**	*i* Pn	Pn	07 07 17.1	+0.8		
CEY	**Cerknica**	**5.72**	**322**	*e*Pn	Pn	07 07 16.9	+0.6		
VOIR		**5.76**	**43**	⇓P	Pn	07 07 18.4	+1.5		
SKDS	**Skadanscina**	**5.78**	**318**	*e*Pn	Pn	07 07 16.9	-0.2		
SKDS				*e*Sn	Sn	07 08 21.1	-2.2		
DRGR		**5.92**	**22**	⇑P	Pn	07 07 20.4	+1.3		
DRGR		**5.92**	**22**	*e*Pn	Pn	07 07 18.8	-0.3		
MARR	**Marisel-Cluj**	**5.94**	**25**	⇓P	Pn	07 07 21.6	+2.2		
VOJS	**Vojsko**	**6.19**	**321**	*i* Pn	Pn	07 07 23.2	+0.4		
SOKA	**Soboth**	**6.21**	**330**	*e*Pn	Pn	07 07 23.9	+0.8		
	comp=N,1.7nm,0.4s,SNR=5.2								
SOKA				*e*Sn	Sn	07 08 31.0	-3.1		
	comp=N,1.6nm,0.5s								
OBKA	**Obir**	**6.26**	**327**	*e*Pn	Pn	07 07 24.3	+0.5		
	comp=N,0.5nm,0.2s								
OBKA				*e*Sn	Sn	07 08 35.8	+0.5		
	comp=N,4.6nm,0.5s								
MLR	**Muntele Rosu**	**6.27**	**47**	⇑P	Pn	07 07 26.4	+2.4		
MLR	**Muntele Rosu**	**6.27**	**47**	*e*Pn	Pn	07 07 24.3	+0.3		
DOPR	**Dopca**	**6.30**	**41**	⇑P	Pn	07 07 26.7	+2.4		
ARSA	**Arzberg**	**6.54**	**336**	*e*Pn	Pn	07 07 28.5	+0.9		
	comp=N,1.0nm,0.3s								
VRI	**Vrincioaia**	**6.93**	**47**	⇑P	Pn	07 07 34.4	+1.5		
KBA	**Koelnbreinsper**	**7.22**	**325**	*e*Pn	Pn	07 07 37.9	+0.9		
	comp=N,1.4nm,0.4s								
KBA				*e*Sn	Sn	07 08 58.0	-1.1		
	comp=N,1.8nm,0.4s								
MOA	**Molln**	**7.48**	**332**	*e*Pn	Pn	07 07 42.2	+1.7		
	comp=N,0.5nm,0.2s								
MOA				*e*Sn	Sn	07 09 06.8	+1.5		
	comp=N,3.3nm,0.6s								
LESA	**Schwarzleotal**	**7.78**	**324**	*e*Pn	Pn	07 07 45.1	+0.5		
	comp=N,1.4nm,0.4s								
WTTA	**Wattenberg**	**8.15**	**319**	*i* Pn	Pn	07 07 50.4	+0.6		
	comp=N,4.8nm,0.4s,SNR=6.8								
WTTA				*e*Sn	Sn	07 09 19.3	-2.7		
	comp=N,7.3nm,0.7s								
WATA	**Walderalm**	**8.23**	**319**	*e*Pn	Pn	07 07 51.8	+1.0		
	comp=N,1.5nm,0.2s								
WATA				*e*Sn	Sn	07 09 21.9	-2.0		
	comp=N,4.5nm,0.6s								
SQTA	**Sankt Quirin**	**8.34**	**317**	*e*Pn	Pn	07 07 53.6	+1.3		
	comp=N,1.5nm,0.2s								
SQTA				*e*Sn	Sn	07 09 25.0	-1.5		
	comp=N,1.7nm,0.4s								
FETA	**Feichten**	**8.46**	**315**	*e*Pn	Pn	07 07 55.0	+1.0		
	comp=N,3.7nm,1.0s								
FETA				*e*Sn	Sn	07 09 28.5	-1.0		
	comp=N,1.4nm,0.4s								
MOTA	**Moosalm**	**8.47**	**318**	*e*Pn	Pn	07 07 55.2	+1.0		
	comp=N,0.3nm,0.1s								
MOTA				*e*Sn	Sn	07 09 29.4	-0.5		
	comp=N,9.7nm,0.8s								
GERES	**GERESS Array B**	**8.53**	**333**	Pn	Pn	07 07 55.1	+0.2		
	baz=133,slow=12,SNR=2.7								
GERES				Sn	Sn	07 09 28.6	-2.6		
	baz=153,slow=22,SNR=5.8								
	comp=N,0.3nm,0.4s								
DAVOX	**Davos/Dischmat**	**8.78**	**311**	LR	LR	07 12 23.8			
	comp=N,38nm,21.7s,baz=78,slow=45								
KHC	**Kasperske Hory**	**8.82**	**334**	*e*PN	Pn	07 07 58.0	-0.8		
KHC				*e*SN	Sn	07 09 37.9	-0.3		
HFS	**Hagfors**	**19.14**	**351**	P	Pn	07 10 15.0	-0.3		
	comp=N,0.1nm,0.3s,baz=178,slow=14,SNR=1.4								
	comp=N,0.7nm,0.7s								
FINES	**FINESS Array B**	**20.52**	**9**	P	P	07 10 27.7	-1.6		
	comp=N,0.2nm,0.3s,baz=187,slow=9.5,SNR=8.7								
	comp=N,2.6nm,0.7s								
MDT	**Midelt**	**20.97**	**254**	LR	LR	07 19 50.7			
	comp=N,28nm,18.6s,baz=200,slow=39								
ARTI	**Arti**	**29.21**	**46**	P	P	07 11 51.2	-1.7		
	comp=N,1.2nm,0.3s,baz=238,slow=7.5,SNR=3.9								
	comp=N,1.2nm,0.3s								
TORD	**Torodi Ar. Bea**	**32.10**	**214**	P	P	07 12 28.6	+10		
	comp=N,0.5nm,0.8s,baz=20,slow=11,SNR=2.4								
	comp=N,0.5nm,0.8s								
BVAR	**Borovoye Array**	**35.78**	**53**	P	P	07 12 49.4	-1.0		
	comp=N,1.3nm,0.8s,baz=282,slow=7.3,SNR=5.6								
	comp=N,1.3nm,0.8s								
ZALV	**Zalesovo Beam**	**44.23**	**50**	P	P	07 13 59.6	-0.8		
	comp=N,1.9nm,0.4s,baz=280,slow=8.3,SNR=6.4								
	comp=N,1.9nm,0.4s								
SONM	**Songino Array**	**59.10**	**52**	P	P	07 15 51.5	-0.3		
	comp=N,0.3nm,0.3s,baz=274,slow=8.5,SNR=2.0								
	comp=N,0.3nm,0.3s								
TXAR	**Lajitas Array**	**92.21**	**313**	P	P	07 19 05.5	+3.9		
	comp=N,0.5nm,1.0s,baz=66,slow=3.5,SNR=2.6								
	comp=N,0.5nm,1.0s								

*THE **22** 07:09:49.8,42°N±69″×1°9E±13″8, h11km, M2.9/7, MLh2.9/7*
*TIR **22** 07:09:53.0, 41°.34N×19°.35E, h44km±3km, Ml3.4/4*
*BEO **22** 07:09:54.0±0.4, 41°.27N×19°.54E, h20km±3km, ML2.5/12*
*PDG **22** 07:09:54.0±0.4, 41°.31N×19°.40E, h17km±1km, ML2.7/11, Error ellipse: s-maj=1.2km s-min=2.8km az=0.0*

ISC 22 07:09:53.2±1.1, 41°.33N±0°.02×19°.47E±0°.03, h7km±9km, n54, σ1ˢ32/83, 2C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.30**	**87**	Pg	**Pg**	**07 09 58.6**	**-0.5**
TIR				Sg	**Sg**	**07 10 01.9**	**-1.2**
TIR				AML	AML	07 10 02.4	
	13nm,0.4s						
TIR				AML	AML	07 10 03.0	
	7.2nm,0.3s						
ULC	**Ulcinj**	**0.65**	**345**	⇓*i* Pg	**Pb**	**07 10 06.6**	**-0.3**
ULC				*e*Sg	**Sb**	**07 10 16.9**	**+0.7**
VLO	**Vlora**	**0.86**	**179**	Pn	**Pg**	**07 10 09.5**	**-0.2**
VLO				Sn	**Sg**	**07 10 21.8**	**+0.9**
VLO				AML	AML	07 10 30.7	
	4.0nm,0.2s						
VLO	**Vlora**	**0.86**	**179**	P	**Pb**	**07 10 10.4**	**-0.1**
DRME	**Dracevica, Mon**	**0.88**	**346**	*e*Pg	**Pn**	**07 10 10.9**	**-1.1**
DRME	**Dracevica, Mon**	**0.88**	**346**	⇑*i* Pg	**Pb**	**07 10 10.6**	**-0.2**
DRME				*e*Sg	**Sn**	**07 10 24.9**	**-0.1**
BUM	**Brajici-Budva**	**1.06**	**336**	*e*Pg	**Pn**	**07 10 14.0**	**-0.5**
BUM				*i* Sg	**Sn**	**07 10 30.9**	**+1.4**
PDG	**Podgorica**	**1.11**	**352**	*e*Pg	**Pn**	**07 10 15.0**	**-0.1**
PDG				*e*Sg	**Sn**	**07 10 31.7**	**+1.1**
PDG	**Podgorica**	**1.11**	**352**	⇓*i* Pg	**Pb**	**07 10 14.3**	**-0.4**
PDG				*e*Sg	**Sn**	**07 10 31.7**	**+1.1**
KBN	**Korca**	**1.22**	**125**	Pn	**Pg**	**07 10 16.3**	**-0.4**
KBN				Sn	**Sg**	**07 10 33.4**	**+0.9**
KBN	**Korca**	**1.22**	**125**	P	**Pn**	**07 10 17.3**	**+0.5**
CEME	**Cevo**	**1.28**	**342**	⇑*i* Pg	**Pn**	**07 10 17.5**	**0.0**
CEME				*e*Sg	**Sn**	**07 10 37.1**	**+2.1**
PVY	**Plav**	**1.31**	**16**	*e*Pg	**Pn**	**07 10 19.0**	**+0.9**
HCY	**Herceg Novi**	**1.33**	**327**	⇓*i* Pg	**Pn**	**07 10 18.9**	**+0.7**
HCY				*i* Sg	**Sn**	**07 10 38.7**	**+2.6**
NKME	**Niksic**	**1.48**	**345**	*e*Pg	**Pg**	**07 10 21.0**	**-0.7**
NKME				*i* Sg	**Sn**	**07 10 42.3**	**+2.3**
KOME	**Kolasin**	**1.52**	**1**	*e*Sg	**Sn**	**07 10 44.7**	**+3.8**
KOME	**Kolasin**	**1.52**	**1**	⇓*i* Pg	**Pg**	**07 10 21.7**	**-0.6**
KOME				*e*Sg	**Sn**	**07 10 43.7**	**+2.8**
BEY	**Berane**	**1.57**	**11**	*e*Pg	**Pg**	**07 10 23.4**	**+0.1**
BEY				*e*Sg	**Sg**	**07 10 46.0**	**+2.3**
IVA	**Berane**	**1.57**	**11**	*e*Pn	**Pg**	**07 10 22.3**	**-1.0**
IVA				*i* Sn	**Sg**	**07 10 47.1**	**+3.4**
TREB	**Trebinje**	**1.61**	**329**	*e*Pn	**Pn**	**07 10 22.0**	**-0.1**
TREB				*e*Sn	**Sg**	**07 10 44.4**	**-0.7**
KEK	**Kerkira**	**1.64**	**171**	Pn	**Pg**	**07 10 25.6**	**+1.1**
KEK	**Kerkira**	**1.64**	**171**	Sn	**Sg**	**07 10 45.4**	**+0.9**
PENT	**Pentalofos**	**1.70**	**131**	P	**Pn**	**07 10 24.5**	**+1.2**
BRY	**Bratogost**	**1.71**	**337**	⇓*i* Pn	**Pb**	**07 10 24.4**	**-0.7**
BRY				*i* Sn	**Sg**	**07 10 50.5**	**+2.2**
NOCI	**Noci**	**1.90**	**254**	Pn	**Pn**	**07 10 25.2**	**-0.7**
NOCI				Sn	**Sn**	**07 10 47.6**	**-2.5**
NOCI				AML	AML	07 11 00.3	
	0.9nm,0.3s						
IGT	**Igoumenitsa**	**1.92**	**160**	Pn	**Pn**	**07 10 27.3**	**+1.1**
IGT				Sn	**Sn**	**07 10 51.5**	**+1.0**
IGT	**Igoumenitsa**	**1.92**	**160**	P	**Pn**	**07 10 25.8**	**-0.4**
IGT	**Igoumenitsa**	**1.92**	**160**	*e*Pn	**Pn**	**07 10 25.9**	**-0.3**
IGT				*e*Sg	**Sn**	**07 10 52.4**	**+1.9**
UPM	**Unac-Piva**	**1.92**	**348**	*e*Pn	**Pg**	**07 10 28.5**	**-1.4**
UPM				*i* Sn	**Sg**	**07 10 56.5**	**+1.7**
SJES	**Sjenica**	**1.96**	**11**	*e*Pn	**Pb**	**07 10 28.6**	**-0.7**
SJES				*e*Sn	**Sn**	**07 10 52.8**	**+0.9**
STON	**Ston**	**2.02**	**320**	*e*Pn	**Pn**	**07 10 27.7**	**0.0**
SELS	**Selova**	**2.25**	**32**	*e*Pn	**Pn**	**07 10 31.0**	**+0.2**
SELS				*e*Sn	**Sn**	**07 10 59.7**	**+0.9**
RUDO	**Rudo**	**2.29**	**358**	*e*Pn	**Pn**	**07 10 32.3**	**+1.0**
RUDO				*e*Sn	**Sb**	**07 11 01.4**	**-1.8**
IVAS	**Ivanjica**	**2.30**	**13**	*e*Pn	**Pn**	**07 10 31.5**	**0.0**
GOCS	**Kraljevo Serbi**	**2.46**	**25**	*e*Pn	**Pn**	**07 10 33.6**	**-0.2**
GOCS				*e*Sn	**Sn**	**07 11 03.6**	**-0.5**
BOSS	**Bosilegrad**	**2.53**	**62**	*e*Pn	**Pn**	**07 10 34.4**	**-0.3**
BBLS	**Lazi&#263i**	**2.53**	**359**	*e*Pn	**Pn**	**07 10 35.9**	**+1.1**
LKD2	**Lefkada island**	**2.70**	**160**	Pn	**Pn**	**07 10 36.4**	**-0.6**
GRUS	**Gruza**	**2.72**	**19**	*e*Pn	**Pn**	**07 10 36.7**	**-0.5**
GRUS				*e*Sn	**Sn**	**07 11 10.4**	**+0.1**
NYDR	**Nydri-Lefkada**	**2.78**	**160**	P	**Pn**	**07 10 37.4**	**-0.6**
DIVS	**Divibare**	**2.79**	**8**	*e*Pn	**Pn**	**07 10 38.3**	**0.0**
DIVS				*e*Sn	**Sn**	**07 11 12.3**	**0.0**
SGRT	**San Giovanni R**	**2.83**	**280**	Pn	**Pn**	**07 10 38.3**	**-0.5**
SGRT				Sn	**Sn**	**07 11 10.4**	**-2.7**
BOVS	**Bovan**	**2.83**	**35**	*e*Sn	**Sn**	**07 11 10.8**	**-2.4**
FSK	**Fiskardo**	**2.99**	**163**	P	**Pn**	**07 10 39.9**	**-1.1**
ZAPS	**Zavoj**	**3.05**	**49**	*e*Pn	**Pn**	**07 10 41.7**	**-0.1**
ZAPS				*e*Sn	**Sn**	**07 11 17.3**	**-1.2**
VTS	**Vitosha**	**3.09**	**64**	*e*Pn	**Pn**	**07 10 42.1**	**-0.4**
SRS	**Serrai**	**3.12**	**93**	P	**Pn**	**07 10 42.3**	**-0.4**
SRS	**Serrai**	**3.12**	**93**	*e*Pn	**Pn**	**07 10 41.9**	**-0.8**
ZAGS	**Zajecar**	**3.21**	**39**	*e*Pn	**Pn**	**07 10 43.7**	**-0.3**
ZAGS				*e*Sn	**Sn**	**07 11 20.0**	**-2.5**
VLS	**Valsamata**	**3.27**	**164**	P	**Pn**	**07 10 43.3**	**-1.4**
BLKB	**Belogradchik**	**3.30**	**45**	*e*Pn	**P

s-min=13.7km az=122.0
MOS ***22*** *07:32:32.6±1.4, 15°.39S×173°.36W,h10km,mb5.4/36, MS5.2/17, Error ellipse: s-maj=10.2km s-min=9.0km az=61.7*
NEIC ***22*** *07:32:33.4, 15°.55S×173°.06W,h30km*
NEIC ***22*** *07:32:33.4±1.6, 15°.56S±0°.08×173°.06W±0°.08,h10km±1km, mb5.2/423,Ms_20 5.3/782,Mww5.6/30, Error ellipse: s-maj=13.4km s-min=13.0km az=7.0*
IPGP ***22*** *07:32:33.0, 15°.55S×173°.13W,h29km,Mw5.6, Fault plane solution: NP1:ϕs155.00000°,δ35.00000°,λ65.00000°. NP2:ϕs5.00000°,δ58.00000°,λ106.00000°.*
NEIC ***22*** *07:32:33.4, 15°.35S×172°.85W,h30km, Moment Tensor Solution. Duration: 29 Moment tensor: Scale 10¹⁷Nm; Mrr3.27; Mθθ-0.77; Mϕϕ-2.50; Mrθ-0.09; Mθϕ-0.03; Mϕr-0.52; Fault plane solution: M0 3.01000×10¹⁷ NP1: ϕs359.94000°,δ39.91000°,λ88.18000°. NP2: ϕs182.31000°,δ50.11000°,λ91.52000°. Principal axes: T 3.3185, Plg85.0000°, Azm104.0000°; N -0.7760, Plg1.0000°, Azm1.0000°; P -2.5425, Plg5.0000°, Azm271.0000°;*
BJI ***22*** *07:32:33.1, 14°.67S×172°.68W,h7km,mB5.9/14, mb5.3/30, Ms5.5/17,Ms7 5.4/20*
NOU ***22*** *07:32:38.2, 15°.54S×172°.69W,h49km,mb5.1/20,Samoa Islands Region*
GCMT ***22*** *07:32:41.5±0.1, 15°.34S±0°.01×172°.93W±0°.01,h28km, MW5.6/146,Moment Tensor Solution. s134,c261; s146,c305; Duration: 19.6 Moment tensor: Scale 10¹⁷ Nm; Mrr2.75±.03; Mθθ0.17±.03; Mϕϕ-2.92±.03; Mrθ0.72±.06; Mθϕ0.55±.02; Mϕr2.04±.05; Best double couple: M0 3.61100×10¹⁷ NP1:ϕs153.00000°,δ31.00000°, λ60.00000°. NP2:ϕs7.00000°,δ64.00000°,λ106.00000°. Principal axes: T 3.6190, Plg67.0000°, Azm308.0000°; N -0.0120, Plg15.0000°, Azm180.0000°; P -3.6030, Plg17.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 07:32:35.9±0.2, 15°.65S±0°.05×173°.08W±0°.04, h29km, n1192, σ1°44/679, mb5.2/263, MS5.3/439, 60C-18D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
NIUE	**Niue**	**4.55**	**139**	P	**Pn**		**07 33 42.4**	**-0.4**
NIUE	**Niue**	**4.55**	**139**		**Pn**		**07 33 42.3**	**-0.6**
NIUE	**Niue**	**4.55**	**139**	P	**Pn**		**07 33 43.0**	**+0.2**
NIUE	**Niue**	**4.55**	**139**	P	**Pn**		**07 33 42.4**	**-0.4**
NIUE				S	**Sn**		**07 34 32.1**	**-2.7**
LKBA	**Tubou, Lakemba**	**6.06**	**244**	P	Pn		07 34 10.0	+6.4
TAVE	**Taveuni**	**6.64**	**260**	P	Pn		07 34 18.9	+7.3
DGTI	**Dogotuki**	**6.94**	**264**	P	Pn		07 34 22.4	+6.7
MSVF	**Nonsavu**	**8.74**	**255**	Pn	**Pn**		**07 34 40.1**	**-0.5**
MSVF	**Nonsavu**	**8.74**	**255**	P	Pn		07 34 48.1	+8.3
MSVF	**Nonsavu**	**8.74**	**255**	P	**Pn**		**07 34 40.1**	**-0.5**
RAR	**Rarotonga**	**13.79**	**116**		**Pn**		**07 35 47.7**	**-1.8**
RAR	**Rarotonga**	**13.79**	**116**	Pn	**Pn**		**07 35 47.2**	**-2.3**
	3.1nm,0.3s,baz=256,slow=7.8,SNR=13							
RAR				Sn	Sn		07 38 12.0	-10
	2.7nm,0.3s,baz=315,slow=12,SNR=2.3							
RAR				LR	LR		07 40 04.7	
	comp=Z,7μm,18.7s,baz=300,slow=32							
RAR	**Rarotonga**	**13.79**	**116**	P	**Pn**		**07 35 47.2**	**-2.3**
RAR	**Rarotonga**	**13.79**	**116**	P	**Pn**		**07 35 47.7**	**-1.8**
RAR	**Rarotonga**	**13.79**	**116**	P	**Pn**		**07 35 47.7**	**-1.8**
RAO	**Raoul Island**	**14.25**	**197**	LR	LR		07 40 52.3	
	comp=Z,8μm,18.9s,baz=35,slow=34							
SANVU	**Saraoutou**	**19.00**	**268**		**P**		**07 36 54.4**	**-1.0**
PINNC	**Pines Island,**	**19.64**	**246**		**P**		**07 37 02.3**	**-0.2**
YATNC	**Mamie plateau,**	**19.98**	**248**	P	**Pn**		**07 37 10.1**	**+2.1**
OUENC	**Ouen Island, N**	**20.12**	**247**	P	Pn		07 37 10.7	+1.0
DZM	**Mont Dzumac**	**20.39**	**249**	*e*P	**P**		**07 37 11.5**	**+0.8**
	235nm,1.4s							
DZM				*e*S	**S**		**07 40 48.5**	**-9.3**
	3μm,27.1s							
DZM				*e*LR	LR		07 41 57.4	
	14μm,24.2s							
DZM	**Mont Dzumac**	**20.39**	**249**	P	**P**		**07 37 09.8**	**-0.9**
DZM	**Mont Dzumac**	**20.39**	**249**	P	**P**		**07 37 10.2**	**-0.4**
	34nm,0.9s,baz=61,slow=18,SNR=11							
DZM				LR	LR		07 43 54.6	
	comp=Z,10μm,20.0s,baz=80,slow=34							
	34nm,0.9s							
DZM	**Mont Dzumac**	**20.39**	**249**	P	Pn		07 37 13.8	+0.9
ONTNC	**Ouen Toro**	**20.44**	**248**		**P**		**07 37 11.2**	**0.0**
ONTNC				IAmb	IAmb		07 37 21.6	
	comp=Z,166nm,0.9s							
TARA	**Tarawa**	**21.84**	**319**		**P**		**07 37 24.6**	**-1.6**
TARA				IAmb	IAmb		07 37 28.8	
	comp=Z,171nm,1.1s							
PPT	**Papeete**	**22.61**	**98**	LR	LR		07 43 55.4	
	comp=Z,4μm,21.4s,baz=267,slow=30							
PPT2	**Papeete2**	**22.61**	**98**	*e*P	**P**		**07 37 34.7**	**+0.1**
	comp=Z,2μm,31.5s							
PPT2				*e*S	**S**		**07 41 41.0**	**+0.3**
	comp=Z,12μm,28.5s							
PPT2				*e*LR	LR		07 42 57.4	
	comp=Z,7μm,24.2s							
PPT2				*e*LR	LR		07 42 58.2	
	comp=Z,12μm,25.2s							
OUZ	**Omahuta**	**22.86**	**209**	IAMs_20	IAMs_20		07 46 00.5	
	comp=Z,9μm,18.0s							
OUZ	**Omahuta**	**22.86**	**209**	P	**P**		**07 37 41.6**	**+4.7**
GRZ	**Great Barrier**	**22.92**	**204**	P	**P**		**07 37 41.1**	**+3.5**
WCZ	**Waipu Caves**	**23.12**	**207**	P	**P**		**07 37 43.7**	**+4.1**
MXZ	**Matakaoa Point**	**23.12**	**198**	P	**P**		**07 37 42.8**	**+3.2**
MXZ	**Matakaoa Point**	**23.12**	**198**	P	**P**		**07 37 44.3**	**+4.7**
KUZ	**Kuaotunu**	**23.25**	**203**	P	**P**		**07 37 44.2**	**+3.3**
KUZ	**Kuaotunu**	**23.25**	**203**	P	**P**		**07 37 43.9**	**+3.0**
WMGZ	**Waiomatatini S**	**23.33**	**197**	P	P		07 37 49.5	+7.9
XMAS	**Kiritimati**	**23.41**	**43**	P	**P**		**07 37 40.8**	**-2.0**
XMAS				IAmb	IAmb		07 37 57.6	
	comp=Z,83nm,1.1s							
HAZ	**Te Kaha**	**23.45**	**198**	P	**P**		**07 37 47.8**	**+4.9**
HAZ				S	**S**		**07 42 01.2**	**+6.6**
PKGZ	**Pakihiroa**	**23.47**	**198**	P	**P**		**07 37 47.2**	**+4.1**
TBI	**Tubuai**	**23.53**	**113**	*e*P	**P**		**07 37 41.5**	**-2.3**
	comp=Z,4μm,38.8s							
TBI				*e*S	**S**		**07 41 55.6**	**-0.4**
	comp=Z,48μm,30.2s							
TBI				*e*LR	LR		07 43 23.6	
	comp=Z,49μm,25.2s							
TBI				*e*LR	LR		07 43 26.2	
	comp=Z,10μm,24.0s							
PUZ	**Puketiti**	**23.61**	**197**	P	P		07 37 52.0	+7.5
RUGZ	**Raukumara Rang**	**23.68**	**198**	P	**P**		**07 37 50.3**	**+5.1**
MKAZ	**Moumakai**	**23.78**	**204**	P	**P**		**07 37 49.2**	**+3.2**
TWGZ	**Tauwhareparae**	**23.79**	**198**	P	**P**		**07 37 51.2**	**+5.1**
OPRZ	**Ohinepanea**	**23.93**	**201**	P	P		07 37 55.0	+7.6
MWZ	**Matawai**	**24.07**	**198**	P	**P**		**07 37 50.8**	**+2.0**
URZ	**Urewera**	**24.13**	**199**	P	**P**		**07 37 50.7**	**+1.4**
URZ	**Urewera**	**24.13**	**199**	P	**P**		**07 37 51.6**	**+2.3**
TOZ	**Tahuroa Road**	**24.20**	**203**	P	**P**		**07 37 54.7**	**+4.7**
RIGZ	**Rimuhau**	**24.34**	**198**	P	**P**		**07 37 55.7**	**+4.4**
RTZ	**Ruatahuna**	**24.49**	**199**	P	**P**		**07 37 54.6**	**+1.8**
SNGZ	**Shannon Statio**	**24.53**	**198**	P	**P**		**07 37 58.6**	**+5.5**
TLZ	**Tolley Road**	**24.72**	**202**	P	**P**		**07 37 59.8**	**+5.0**
RAHZ	**Arahi**	**24.73**	**199**	P	**P**		**07 37 59.5**	**+4.6**
MTHZ	**Maungataniwha**	**24.75**	**199**	P	**P**		**07 37 59.9**	**+4.9**
HIZ	**Hauiti**	**25.13**	**203**	P	**P**		**07 38 02.9**	**+4.5**
HIZ	**Hauiti**	**25.13**	**203**	P	**P**		**07 38 03.7**	**+5.2**
BKZ	**Black Stump Fm**	**25.15**	**199**	P	**P**		**07 38 01.7**	**+3.0**
BKZ	**Black Stump Fm**	**25.15**	**199**	P	**P**		**07 38 02.8**	**+4.2**
VRZ	**Vera Road**	**25.70**	**202**	P	**P**		**07 38 09.4**	**+5.8**
PXZ	**Pawanui**	**25.83**	**198**	P	**P**		**07 38 09.4**	**+4.7**
BFZ	**Birch Farm**	**26.61**	**198**	P	**P**		**07 38 14.5**	**+2.7**
HNR	**Honiara**	**27.02**	**280**	IAMs_20	IAMs_20		07 47 21.5	
	comp=Z,6μm,18.0s							
HNR	**Honiara**	**27.02**	**280**	LR	LR		07 47 32.4	
	comp=Z,6μm,18.4s,baz=118,slow=34							
SNZO	**South Karori**	**27.67**	**200**	IAMs_20	IAMs_20		07 49 24.6	
	comp=Z,6μm,19.0s							
QRZ	**Quartz Range**	**28.02**	**204**	P	**P**		**07 38 27.5**	**+3.0**
KHZ	**Kahutara**	**29.05**	**201**	P	**P**		**07 38 34.8**	**+1.2**
DSZ	**Denniston Nort**	**29.09**	**204**	IAMs_20	IAMs_20		07 50 10.0	
	comp=Z,5μm,20.0s							
INZ	**Inchbonnie**	**30.07**	**203**	IAMs_20	IAMs_20		07 50 59.9	
	comp=Z,6μm,19.0s							
FOZ	**Fox Glacier**	**31.39**	**204**	IAMs_20	IAMs_20		07 51 14.7	
	comp=Z,5μm,18.0s							
LBZ	**Lake Benmore**	**31.96**	**203**	IAMs_20	IAMs_20		07 52 18.0	
	comp=Z,5μm,19.0s							
JCZ	**Jackson Bay**	**32.25**	**205**	P	**P**		**07 39 02.7**	**+0.7**
WKZ	**Wanaka**	**32.78**	**204**	IAMs_20	IAMs_20		07 52 19.7	
	comp=Z,6μm,21.0s							
TAOE	**Nuku Hiva Isla**	**32.85**	**82**	*e*S	**S**		**07 44 27.9**	**+4.3**
	comp=Z,1μm,27.0s							
TAOE				*e*LR	LR		07 47 41.6	
	comp=Z,7μm,26.3s							
MLZ	**Mavora Lakes**	**33.59**	**204**	IAMs_20	IAMs_20		07 52 40.9	
	comp=Z,6μm,21.0s							
WHZ	**Wether Hill Ro**	**34.09**	**204**	IAMs_20	IAMs_20		07 53 07.2	
	comp=Z,5μm,20.0s							
EIDS	**Eidsvold**	**34.83**	**248**	P	**P**		**07 39 23.5**	**-1.1**
	comp=Z,11nm,0.8s							
EIDS	**Eidsvold**	**34.83**	**248**	P	**P**		**07 39 23.7**	**-0.9**
ARMA	**Armidale**	**35.48**	**239**	P	**P**		**07 39 29.1**	**-1.1**
	comp=Z,19nm,0.7s							
ARMA	**Armidale**	**35.48**	**239**	P	**P**		**07 39 30.3**	**+0.1**
PATS	**Pohnpei**	**36.08**	**306**	IAMs_20	IAMs_20		07 49 59.5	
	comp=Z,5μm,21.0s							
RKT	**Rikitea**	**36.63**	**108**	*e*S	**S**		**07 45 18.2**	**-3.2**
	comp=Z,3μm,27.2s							
RKT				*e*SS	**SS**		**07 48 02.3**	**+0.2**
	comp=Z,6μm,28.8s							
RKT				*e*LR	LR		07 49 24.4	
	comp=Z,18μm,25.5s							
CNB	**Canberra Magne**	**38.84**	**233**	P	**P**		**07 39 58.5**	**-0.2**
	comp=Z,41nm,0.9s							
CTAO	**Charters Tower**	**38.88**	**257**	IAMs_20	IAMs_20		07 53 26.6	
	comp=Z,4μm,21.0s							
CTAO	**Charters Tower**	**38.88**	**257**	P	**P**		**07 39 56.4**	**-2.8**
PMG	**Port Moresby**	**39.26**	**274**	LR	LR		07 54 00.7	
	comp=Z,2μm,19.3s,baz=94,slow=33							
PMG	**Port Moresby**	**39.26**	**274**	*i* P	**P**		**07 39 59.8**	**-2.5**
PMG				pmax	pmax			
	comp=Z,40nm,1.1s							
H11S2	**WAKE ISLAND Hy**	**39.33**	**329**	T	T		08 21 19.3	
	baz=149,slow=76,SNR=80							
H11S3	**WAKE ISLAND Hy**	**39.35**	**329**	T	T		08 21 24.4	
	baz=149,slow=76,SNR=81							
H11S1	**WAKE ISLAND Hy**	**39.35**	**329**	T	T		08 21 28.0	
	baz=149,slow=76,SNR=59							
KIP	**Kipapa**	**39.70**	**22**	*i* P	**P**		**07 40 04.2**	**-1.6**
WAKE	**Wake Island**	**40.03**	**329**	P	**P**		**07 40 08.1**	**-0.5**
H11N3	**WAKE ISLAND Hy**	**40.28**	**330**	T	T		08 22 49.0	
	baz=150,slow=76,SNR=39							
H11N1	**WAKE ISLAND Hy**	**40.28**	**330**	T	T		08 22 32.8	
	baz=150,slow=76,SNR=52							
H11N2	**WAKE ISLAND Hy**	**40.30**	**330**	T	T		08 22 50.4	
	baz=150,slow=76,SNR=40							
CMSA	**Cobar Meteorol**	**40.69**	**240**	P	**P**		**07 40 12.7**	**-1.3**
	comp=Z,31nm,0.9s							
MTSU	**Mount Surprise**	**40.77**	**260**	P	**P**		**07 40 14.0**	**-0.9**
	comp=Z,33nm,0.8s							
QLP	**Quilpie**	**41.10**	**247**	P	**P**		**07 40 16.4**	**-1.2**
	comp=Z,44nm,0.8s							
COEN	**Coen**	**42.27**	**266**	P	**P**		**07 40 27.1**	**-0.1**
	comp=Z,53nm,0.8s							
COEN	**Coen**	**42.27**	**266**	P	**P**		**07 40 26.8**	**-0.4**
COEN				IAmb	IAmb		07 40 28.6	
	comp=Z,61nm,1.1s							
COEN				IAMs_20	IAMs_20		07 54 20.0	
	comp=Z,3μm,22.0s							
TOO	**Toolangi**	**42.55**	**231**	P	**P**		**07 40 28.9**	**-0.3**
	comp=Z,16nm,0.9s							
TOO	**Toolangi**	**42.55**	**231**	P	**P**		**07 40 29.3**	**+0.1**
TOO	**Toolangi**	**42.55**	**231**	P	**P**		**07 40 29.3**	**+0.1**
TOO				pmax	pmax			
	comp=Z,21nm,1.2s							
STKA	**Stephens Creek**	**44.18**	**240**	P	**P**		**07 40 41.6**	**-0.8**
	comp=Z,133nm,0.9s							
STKA	**Stephens Creek**	**44.18**	**240**	P	**P**		**07 40 42.0**	**-0.4**
STKA	**Stephens Creek**	**44.18**	**240**	P	**P**		**07 40 41.6**	**-0.8**
	comp=Z,24nm,0.9s,baz=78,slow=8.7,SNR=29							
STKA				LR	LR		07 59 44.3	
	comp=Z,1μm,18.1s,baz=75,slow=37							
	comp=Z,24nm,0.9s							
STKA	**Stephens Creek**	**44.18**	**240**	P	**P**		**07 40 42.0**	**-0.4**
STKA				pmax	pmax			
	comp=Z,141nm,1.1s							
ARPS	**Mount Arapiles**	**45.09**	**233**	P	**P**		**07 40 49.3**	**-0.3**
	comp=Z,12nm,1.1s							
QIS	**Mount Isa**	**45.12**	**256**	P	**P**		**07 40 48.3**	**-1.8**
	comp=Z,0.0nmcomp=Z,13nm,0.9s							
HTT	**Hallett**	**46.67**	**239**	P	**P**		**07 41 01.7**	**-0.6**
	comp=Z,8.5nm,0.9s							
JAY	**Jayapura**	**47.33**	**281**	LR	LR		07 59 38.4	
	comp=Z,3μm,20.5s,baz=88,slow=35							
BBOO	**Buckleboo**	**48.95**	**240**	P	**P**		**07 41 19.1**	**-0.8**
BBOO				IAmb	IAmb		07 41 20.2	
	comp=Z,20nm,0.9s							
WR8	**Warramunga Arr**	**49.93**	**257**	P	**P**		**07 41 25.6**	**-1.9**
WR8				IAmb	IAmb		07 41 28.5	
	comp=Z,35nm,1.4s							
WB0	**Warramunga Arr**	**50.05**	**257**	P	**P**		**07 41 26.5**	**-1.9**
WB0				IAmb	IAmb		07 41 27.8	
	comp=Z,57nm,1.4s							
WB2	**Warramunga Arr**	**50.07**	**257**	P	**P**		**07 41 26.9**	**-1.7**
WB2				IAmb	IAmb		07 41 28.0	
	comp=Z,51nm,1.4s							
WRAB	**Tennant Creek**	**50.07**	**257**	P	**P**		**07 41 26.8**	**-1.8**
WRAB				IAmb	IAmb		07 41 27.9	
	comp=Z,62nm,1.6s							
WRAB	**Tennant Creek**	**50.07**	**257**	*i* P	**P**		**07 41 26.8**	**-1.8**
WRAB				pmax	pmax			
	comp=Z,46nm,1.5s							
WRA	**Warramunga Arr**	**50.08**	**257**	P	**P**		**07 41 26.8**	**-1.9**
WRA	**Warramunga Arr**	**50.08**	**257**	P	**P**		**07 41 26.8**	**-1.9**
	comp=Z,12nm,0.5s,baz=91,slow=6.7,SNR=113							
WRA				PcP	**PcP**		**07 42 48.8**	**+0.6**
	comp=Z,6.5nm,0.8s,baz=85,slow=3.5,SNR=7.4							
WRA				LR	LR		08 01 11.1	
	comp=Z,4μm,20.2s,baz=98,slow=34							
	comp=Z,12nm,0.5s							
AS31	**Alice Springs**	**50.32**	**252**	P	**P**		**07 41 29.5**	**-1.0**
ASAR	**Alice Springs**	**50.32**	**252**	P	**P**		**07 41 28.9**	**-1.6**
ASAR	**Alice Springs**	**50.32**	**252**	P	**P**		**07 41 29.1**	**-1.4**
	comp=Z,43nm,0.7s,baz=86,slow=8.2,SNR=179							
ASAR				PcP	**PcP**		**07 42 49.6**	**+0.6**
	comp=Z,4.4nm,0.9s,baz=93,slow=3.8,SNR=0.8							
ASAR				LR	LR		08 01 20.8	
	comp=Z,7μm,20.6s,baz=93,slow=34							
	comp=Z,43nm,0.7s							
GUMO	**Guam**	**50.73**	**303**	LR	LR		08 00 52.7	
	comp=Z,999nm,19.0s,baz=140,slow=34							
MTN	**Manton Dam**	**54.02**	**265**	P	**P**		**07 41 56.1**	**-1.9**
	comp=Z,0.0nmcomp=Z,20nm,0.9s							
MTN	**Manton Dam**	**54.02**	**265**	P	**P**		**07 41 56.7**	**-1.3**
MTN				IAmb	IAmb		07 42 05.7	
	comp=Z,17nm,0.9s							
MTN				IAMs_20	IAMs_20		08 01 32.0	
	comp=Z,2μm,20.0s							
SAUI	**Saumlaki**	**54.84**	**271**	IAMs_20	IAMs_20		08 02 27.8	
	comp=Z,3μm,20.0s							
FAKI	**Fak Fak**	**55.25**	**277**	IAMs_20	IAMs_20		08 03 52.4	
	comp=Z,4μm,21.0s							
WRKA	**Warakurna**	**55.40**	**250**	P	**P**		**07 42 06.2**	**-1.7**
	comp=Z,16nm,0.7s							
FORT	**Forrest**	**55.58**	**243**	P	**P**		**07 42 07.6**	**-1.5**
	comp=Z,22nm,0.8s							
FORT	**Forrest**	**55.58**	**243**	P	**P**		**07 42 08.5**	**-0.6**
FORT				IAmb	IAmb		07 42 20.6	
	comp=Z,15nm,0.8s							
KNRA	**Kununurra**	**55.83**	**261**	IAMs_20	IAMs_20		08 04 37.2	
	comp=Z,2μm,18.0s							
SWI	**Sorong**	**56.81**	**279**	P	**P**		**07 42 17.4**	**-0.7**
	comp=Z,58nm,0.8s							
FITZ	**Fitzroy Crossi**	**58.46**	**258**	P	**P**		**07 42 30.4**	**+0.7**
	comp=Z,3.5nm,2.1s							
FITZ	**Fitzroy Crossi**	**58.46**	**258**	P	**P**		**07 42 29.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**58.46**	**258**	LR	LR		08 05 46.4	
	comp=Z,4μm,21.0s,baz=102,slow=34							
RPN	**Rapa Nui**	**59.91**	**113**	LR	LR		08 01 56.1	
	comp=Z,1μm,21.6s,baz=276,slow=29							
SOEI	**Soe**	**61.22**	**267**	P	**P**		**07 42 48.7**	**-0.2**
SOEI	**Soe**	**61.22**	**267**	P	**P**		**07 42 49.3**	**+0.4**
BATI	**Baumata**	**61.71**	**267**	LR	LR		08 07 38.4	
	comp=Z,3μm,20.9s,baz=118,slow=34							
SBA	**Scott Base**	**63.03**	**185**	P	**P**		**07 43 00.3**	**+0.5**
SBA				IAmb	IAmb		07 43 06.5	
	comp=Z,17nm,0.8s							
SBA	**Scott Base**	**63.03**	**185**	P	**P**		**07 43 00.3**	**+0.5**
SBA				pmax	pmax			
	comp=Z,17nm,0.9s							
VNDA	**Vanda**	**63.16**	**186**	P	**P**		**07 43 02.5**	**+1.8**
VNDA	**Vanda**	**63.16**	**186**	P	**P**		**07 43 04.5**	**+3.8**
	comp=Z,6.2nm,0.8s,baz=15,slow=5.6,SNR=16							
VNDA				LR	LR		08 07 35.8	
	comp=Z,253nm,19.2s,baz=10.0,slow=33							
	comp=Z,6.2nm,0.8s							
VNDA	**Vanda**	**63.16**	**186**	P	**P**		**07 43 02.5**	**+1.8**
VNDA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PSAC2	**Pilbara Seismi**	**63.38**	**253**	P	**P**		**07 42 59.8**	**-3.4**
PSAB3	**Pilbara Seismi**	**63.41**	**253**	P	**P**		**07 43 01.7**	**-1.7**
	comp=Z,26nm,0.9s							
PSA00	**Pilbara Seismi**	**63.43**	**253**	P	**P**		**07 43 02.6**	**-0.8**
	comp=Z,30nm,0.9s							
PSA00	**Pilbara Seismi**	**63.43**	**253**	P	**P**		**07 43 02.7**	**-0.8**
PSA00				IAmb	IAmb		07 43 04.9	
	comp=Z,32nm,1.2s							
PSA00	**Pilbara Seismi**	**63.43**	**253**	P	**P**		**07 43 02.6**	**-0.8**
PSA00				IAmb	IAmb		07 43 16.4	
	comp=Z,8.8nm,0.9s							
PSA00				IAMs_20	IAMs_20		08 10 25.8	
	comp=Z,3μm,18.0s							
PSAC1	**Pilbara Seismi**	**63.47**	**253**	P	**P**		**07 43 03.4**	**-0.3**
	comp=Z,28nm,1.0s							
MBWA	**Marble Bar**	**63.58**	**254**	P	**P**		**07 43 04.2**	**-0.2**
MBWA	**Marble Bar**	**63.58**	**254**	IAMs_20	IAMs_20		08 10 12.0	
	comp=Z,2μm,19.0s							
EDFI	**Ende, Flores**	**63.92**	**268**	P	**P**		**07 43 05.0**	**-1.9**
	comp=Z,435nmcomp=Z,37nm,0.8s							
MEEK	**Meekatharra**	**64.00**	**248**	P	P		07 43 02.4	-4.8
NWAO	**Narrogin (SRO)**	**64.76**	**241**	P	**P**		**07 43 11.8**	**-0.2**
NWAO				IAmb	IAmb		07 43 13.1	
	comp=Z,36nm,1.3s							
NWAO	**Narrogin (SRO)**	**64.76**	**241**	IAMs_20	IAMs_20		08 08 13.1	
	comp=Z,2μm,22.0s							
NWAO	**Narrogin (SRO)**	**64.76**	**241**	LR	LR		08 10 49.7	
	comp=Z,1μm,18.7s,baz=90,slow=36							
NWAO	**Narrogin (SRO)**	**64.76**	**241**	P	**P**		**07 43 11.8**	**-0.2**
NWAO				pmax	pmax			
	comp=Z,36nm,1.3s							
DAV	**Davao City (W)**	**64.80**	**286**	IAMs_20	IAMs_20		08 09 27.2	
	comp=Z,20.0s							
DAV	**Davao City (W)**	**64.80**	**286**	LR	LR		08 10 05.7	
	comp=Z,1μm,18.1s,baz=90,slow=35							
MUN	**Mundaring**	**65.68**	**242**	P	**P**		**07 43 17.3**	**-0.7**
	comp=Z,31nm,0.8s							
MORW	**Morawa**	**66.05**	**245**	P	**P**		**07 43 19.7**	**-0.7**
MORW				IAmb	IAmb		07 43 21.1	
	comp=Z,42nm,1.4s							
MORW				IAMs_20	IAMs_20		08 12 43.6	
	comp=Z,2μm,19.0s							
JHJ	**Hachijo jima 2**	**66.16**	**318**	LR	LR		08 09 04.6	
	comp=Z,432nm,18.0s,baz=100,slow=33							
KAPI	**Kappang**	**66.69**	**271**	LR	LR		08 10 56.4	
	comp=Z,666nm,20.9s,baz=96,slow=35							
GIRL	**Giralia**	**68.44**	**252**	P	**P**		**07 43 35.4**	**-0.3**
GIRL				IAMs_20	IAMs_20		08 12 24.8	
	comp=Z,2μm,20.0s							
NIKH	**Nikolski High**	**68.44**	**3**	P	**P**		**07 43 34.4**	**-0.4**
	baz=184							
SHEM	**Shemya Is, Ala**	**68.99**	**352**	LR	LR		08 07 03.5	
	comp=Z,2μm,21.7s,baz=134,slow=30							
SMY	**Shemya**	**68.99**	**352**	IAMs_20	IAMs_20		08 08 23.7	
	comp=Z,2μm,20.0s							
MJAR	**Matsushiro Arr**	**69.33**	**320**	P	**P**		**07 43 40.1**	**-0.7**
MJAR				IAmb	IAmb		07 43 40.6	
	comp=Z,23nm,1.4s							
MJAR	**Matsushiro Arr**	**69.33**	**320**	P	**P**		**07 43 39.5**	**-1.4**
	comp=Z,9.5nm,1.0s,baz=152,slow=4.7,SNR=13							
MJAR				LR	LR		08 08 27.8	
	comp=Z,2μm,21.6s,baz=110,slow=31							
	comp=Z,9.5nm,1.0s							
MJAR	**Matsushiro Arr**	**69.33**	**320**	P	**P**		**07 43 40.2**	**-0.7**
MJAR				pmax	pmax			
	comp=Z,23nm,1.4s							
MAJO	**Matsushiro**	**69.33**	**320**	P	**P**		**07 43 39.5**	**-1.3**
MAJO	**Matsushiro**	**69.33**	**320**	P	**P**		**07 43 39.5**	**-1.3**
MAJO				pmax	pmax			
	comp=Z,88nm,1.9s							
MJB9	**Matsu-Tunnel**	**69.33**	**320**	P	**P**		**07 43 39.5**	**-1.3**
UNV	**Unalaska Valle**	**69.44**	**4**	P	**P**		**07 43 40.9**	**-0.1**
	baz=187							
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O02D	Mt. Diablo Mer	72.59	38	IAMs_20	IAMs_20	08 09 38.3				
	comp=Z,2µm,20.0s									
SPIA	Saint Paul Isl	72.59	2	P	P	07 43 58.0	-2.1			
	baz=183									
PET	Petropavlovsk	72.61	343	eP	P	07 43 57.8	-2.5			
PET				e		07 46 49.2				
PET				eS	S	07 53 23.7	+0.6			
PET				ePS	PnS	07 54 05.4	+8.7			
PET				eSS	SS	07 58 06.0	+2.9			
PET				pmax	pmax					
	comp=Z,25nm,1.8s									
PET				pmax	pmax					
	comp=Z,400nm,10.1s									
PET				pmax	pmax					
	comp=Z,400nm,16.6s									
PET				MLR	MLR					
	comp=Z,600nm,19.0s									
PET				MLR	MLR					
	comp=Z,600nm,18.0s									
PET	Petropavlovsk	72.61	343	P	P	07 43 59.1	-1.2			
	comp=Z,18nm,1.2s									
ISA	Isabella, Lake	72.62	44	IAMs_20	IAMs_20	08 09 28.4				
	comp=Z,2µm,20.0s									
BORC	Borrego Spring	72.71	47	IAMs_20	IAMs_20	08 10 58.0				
	comp=Z,2µm,19.0s									
DNR	Dunn Ranch,Anz	72.72	47	IAMs_20	IAMs_20	08 11 08.3				
	comp=Z,2µm,19.0s									
CHGN	Chignik	72.73	9	IAMs_20	IAMs_20	08 12 49.3				
	comp=Z,1µm,19.0s									
CHGN	Chignik	72.73	9	P	P	07 43 59.5	-1.4			
	baz=195									
YUH	Yuha Desert	72.73	48	IAMs_20	IAMs_20	08 09 43.6				
	comp=Z,1µm,19.0s									
WELL	Weller Preserv	72.78	41	IAMs_20	IAMs_20	08 11 25.8				
	comp=Z,1µm,19.0s									
KRMB	Red Mountain	72.79	37	IAMs_20	IAMs_20	08 09 53.6				
	comp=Z,2µm,20.0s									
SRIG	Santa Rosalia	72.83	54	IAMs_20	IAMs_20	08 11 15.4				
	comp=Z,2µm,18.0s									
PFO	Pinyon Flats O	72.87	47	P	P	07 44 02.3	-0.2			
PFO	Pinyon Flats O	72.87	47	IAMs_20	IAMs_20	08 10 54.2				
	comp=Z,2µm,19.0s									
PFO	Pinyon Flats O	72.87	47	LR	LR	08 11 05.8				
	comp=Z,2µm,18.3s,baz=243,slow=32									
PFO	Pinyon Flats O	72.87	47	P	P	07 44 02.3	-0.2			
PFO				pmax	pmax					
	comp=Z,10.0nm,1.4s									
LPIG	La Paz	72.91	58	LR	LR	08 09 38.9				
	comp=Z,1µm,19.3s,baz=243,slow=30									
PEA0B	Petropavlovsk-	72.96	342	P	P	07 44 01.5	-0.9			
PEA0B	Petropavlovsk-	72.96	342	P	P	07 44 01.5	-0.9			
PEA0B				pmax	pmax					
	comp=Z,48nm,1.2s									
PETK	Petropavlovsk-	72.96	342	P	P	07 44 01.7	-0.8			
PETK	Petropavlovsk-	72.96	342	P	P	07 44 01.4	-1.1			
	comp=Z,25nm,0.9s,baz=186,slow=7.0,SNR=22									
PETK				LR	LR	08 12 36.5				
	comp=Z,503nm,19.6s,baz=162,slow=33									
	comp=Z,25nm,0.9s									
PETK	Petropavlovsk-	72.96	342	P	P	07 44 01.7	-0.8			
ORV	Oroville	72.98	39	IAMs_20	IAMs_20	08 11 12.6				
	comp=Z,1µm,19.0s									
KSXB	Camp Six Broad	73.01	36	IAMs_20	IAMs_20	08 10 18.3				
	comp=Z,2µm,19.0s									
SALN	Salton City	73.02	47	IAMs_20	IAMs_20	08 09 26.3				
	comp=Z,1µm,20.0s									
LRMC	Laurel Mtn Rad	73.05	45	P	P	07 44 03.8	+0.2			
KBO	Bosley Butte	73.06	36	IAMs_20	IAMs_20	08 12 00.6				
	comp=Z,2µm,19.0s									
N02D	Trinity Center	73.14	38	IAMs_20	IAMs_20	08 09 46.8				
	comp=Z,2µm,20.0s									
WSHM	Spangler Hills	73.24	45	IAMs_20	IAMs_20	08 11 13.9				
	comp=Z,2µm,19.0s									
O03E	Paynes Creek	73.25	39	IAMs_20	IAMs_20	08 11 06.8				
	comp=Z,1µm,19.0s									
CCCA	Chr Cany lake	73.29	45	IAMs_20	IAMs_20	08 10 08.2				
	comp=Z,2µm,20.0s									
M02C	Callahan	73.31	37	IAMs_20	IAMs_20	08 10 11.5				
	comp=Z,1µm,20.0s									
MDPB	Devils Postpil	73.35	42	IAMs_20	IAMs_20	08 10 01.6				
	comp=Z,1µm,20.0s									
L02F	Cave Junction	73.37	36	IAMs_20	IAMs_20	08 10 30.8				
	comp=Z,2µm,20.0s									
BELC	Belle Mtn. Jos	73.40	47	IAMs_20	IAMs_20	08 10 27.2				
	comp=Z,2µm,19.0s									
KEBM	Edson Butte	73.43	35	IAMs_20	IAMs_20	08 11 16.4				
	comp=Z,2µm,19.0s									
MPMC	Manual Prospec	73.50	44	IAmb	IAmb	07 44 20.2				
	comp=Z,23nm,1.3s									
TIN	Tinemaha, Big	73.57	43	IAMs_20	IAMs_20	08 09 29.5				
	comp=Z,2µm,20.0s									
BC3	Big Chuckawall	73.60	47	IAMs_20	IAMs_20	08 11 09.5				
	comp=Z,1µm,19.0s									
YBH	Yreka Blue Hor	73.61	37	LR	LR	08 10 32.1				
	comp=Z,95nm,19.3s,baz=251,slow=31									
SII	Sitkinak Islan	73.66	11	P	P	07 44 05.5	-1.1			
	baz=199									
M03C	McCloud	73.67	38	IAmb	IAmb	07 44 22.6				
	comp=Z,22nm,1.0s									
M03C				IAMs_20	IAMs_20	08 10 23.9				
	comp=Z,1µm,20.0s									
K02D	Willamette Mer	73.69	36	IAMs_20	IAMs_20	08 10 58.3				
	comp=Z,2µm,19.0s									
HATC	Hat Creek Radi	73.78	38	IAMs_20	IAMs_20	08 11 05.7				
	comp=Z,2µm,20.0s									
YSS	Yuzhno-Sakhali	73.85	330	P	P	07 44 07.4	-0.4			
YSS	Yuzhno-Sakhali	73.85	330	eP	P	07 44 08.1	+0.3			
YSS				e		07 44 29.2				
YSS				e		07 46 52.4				
YSS				eS	S	07 53 40.7	+3.2			
YSS				e		07 54 08.6				
YSS				eSS	SS	07 58 26.7	+4.3			
YSS				pmax	pmax					
	comp=Z,50nm,0.8s									
YSS				pmax	pmax					
	comp=Z,300nm,4.6s									
R16K	Pilot Point	74.07	9	P	P	07 44 07.2	-1.7			
	baz=196									
LHV	Little Huntoon	74.08	42	IAmb	IAmb	07 44 25.5				
	comp=Z,24nm,1.1s									
IRM	Iron Mountain	74.08	47	IAMs_20	IAMs_20	08 10 37.3				
	comp=Z,2µm,19.0s									
L04D	Klamath Falls	74.16	37	IAmb	IAmb	07 44 36.2				
	comp=Z,44nm,1.3s									
L04D				IAMs_20	IAMs_20	08 10 48.7				
	comp=Z,1µm,20.0s									
DANC	Danby, Needles	74.17	46	IAmb	IAmb	07 44 35.3				
	comp=Z,18nm,1.0s									
DANC				IAMs_20	IAMs_20	08 10 42.6				
	comp=Z,1µm,19.0s									
NVAR	Mina Array Bea	74.31	42	P	P	07 44 11.2	+0.2			
NVAR	Mina Array Bea	74.31	42	P	P	07 44 11.4	+0.4			
	comp=Z,4.6nm,1.0s,baz=230,slow=9.0,SNR=17									
NVAR				LR	LR	08 10 49.3				
	comp=Z,1µm,19.6s,baz=238,slow=31									
	comp=Z,4.6nm,1.0s									
R17L	Mt. Peulik Vol	74.32	9	P	P	07 44 09.4	-0.9			
	baz=197									
PLK4	Peulik 4	74.32	9	IAmb	IAmb	07 44 12.5				
	comp=Z,37nm,0.9s									
PLK4				IAMs_20	IAMs_20	08 09 49.2				
	comp=Z,2µm,20.0s									
QSPA	South Pole Qui	74.40	180	P	P	07 44 16.0	+5.0			
	comp=Z,25nm,0.9s,baz=40,slow=2.2,SNR=64									
QSPA				LR	LR	08 12 49.1				
	comp=Z,419nm,20.7s,baz=42,slow=32									
	comp=Z,25nm,0.9s									
OHAK	Old Harbor	74.45	11	IAMs_20	IAMs_20	08 11 08.8				
	comp=Z,1µm,21.0s									
OHAK	Old Harbor	74.45	11	P	P	07 44 09.8	-1.2			
	baz=200									
I03D	Drain, OR	74.51	35	IAMs_20	IAMs_20	08 12 02.0				
	comp=Z,1µm,20.0s									
R18K	Karluk	74.57	10	P	P	07 44 10.6	-1.1			
	baz=199									
214A	Organ Pipe Nat	74.64	50	IAmb	IAmb	07 44 16.5				
	comp=Z,34nm,1.8s									
K04D	Chiloquin, OR	74.73	37	IAMs_20	IAMs_20	08 10 57.9				
	comp=Z,1µm,20.0s									
NEE2	Needles Airpor	74.77	47	IAMs_20	IAMs_20	08 11 09.5				
	comp=Z,1µm,19.0s									
Q17K	Contact Creek	75.00	9	P	P	07 44 13.9	-0.5			
	baz=197									
BUCK	Buck Mountain	75.03	35	IAMs_20	IAMs_20	08 12 37.9				
	comp=Z,1µm,19.0s									
KDAK	Kodiak Island	75.11	11	IAMs_20	IAMs_20	08 12 00.2				
	comp=Z,1µm,19.0s									
KDAK	Kodiak Island	75.11	11	LR	LR	08 09 57.3				
	comp=Z,1µm,22.0s,baz=202,slow=30									
KDAK	Kodiak Island	75.11	11	iP	P	07 44 14.1	-0.8			
KDAK				pmax	pmax					
	comp=Z,106nm,2.2s									
KDAK	Kodiak Island	75.11	11	P	P	07 44 14.1	-0.8			
	baz=200									
COR	Corvallis	75.11	34	IAMs_20	IAMs_20	08 12 11.9				
	comp=Z,2µm,19.0s									
O14K	Tigyukauivet M	75.26	6	IAMs_20	IAMs_20	08 11 33.1				
	comp=Z,1µm,20.0s									
Q16K	King Salmon	75.28	9	P	P	07 44 15.6	-0.2			
	baz=196									
K05A	Summer Lake	75.29	37	IAmb	IAmb	07 44 35.1				
	comp=Z,33nm,1.0s									
K05A				IAMs_20	IAMs_20	08 11 36.7				
	comp=Z,2µm,20.0s									
O15K	Ungalikthiuk R	75.34	7	IAMs_20	IAMs_20	08 10 42.4				
	comp=Z,1µm,20.0s									
O15K	Ungalikthiuk R	75.34	7	P	P	07 44 15.5	-0.7			
	baz=193									
H04D	Lebanon	75.38	35	IAmb	IAmb	07 44 51.1				
	comp=Z,21nm,1.0s									
H04D				IAMs_20	IAMs_20	08 12 02.0				
	comp=Z,1µm,19.0s									
P16K	Nushagak River	75.43	8	P	P	07 44 15.4	-1.3			
	baz=195									
J05D	Fort Rock, OR	75.44	36	IAmb	IAmb	07 44 36.3				
	comp=Z,25nm,1.0s									
J05D				IAMs_20	IAMs_20	08 12 08.6				
	comp=Z,2µm,19.0s									
W13A	Hualapai Mount	75.46	47	IAMs_20	IAMs_20	08 12 35.5				
	comp=Z,1µm,18.0s									
Y14A	Wickenburg	75.49	48	IAMs_20	IAMs_20	08 11 48.6				
	comp=Z,1µm,19.0s									
Q18K	Katmai Hardscr	75.50	10	P	P	07 44 16.3	-1.0			
	baz=198									
WIFE	Three Sisters-	75.59	35	IAmb	IAmb	07 44 21.3				
	comp=Z,16nm,1.0s									
WIFE				IAMs_20	IAMs_20	08 13 40.7				
	comp=Z,1µm,18.0s									
H04A	Detroit Lake	75.78	35	IAmb	IAmb	07 44 36.8				
	comp=Z,24nm,1.1s									
H04A				IAMs_20	IAMs_20	08 12 33.8				
	comp=Z,1µm,19.0s									
P17K	Kvichak River	75.81	9	P	P	07 44 18.1	-0.8			
	baz=197									
N14K	Kuskokwak Cree	75.87	6	P	P	07 44 18.5	-0.7			
	baz=191									
Q20K	Shuyak Island	75.92	11	P	P	07 44 18.6	-0.9			
	baz=201									
PINE	Pine Mountain	75.92	36	P	P	07 44 20.8	+0.6			
PINE				IAmb	IAmb	07 44 24.0				
	comp=Z,44nm,1.2s									
PINE				IAMs_20	IAMs_20	08 12 24.4				
	comp=Z,2µm,20.0s									
O16K	Kokwok River B	75.96	8	P	P	07 44 18.2	-1.5			
	baz=195									
Q19K	Cape Douglas,	76.00	10	IAMs_20	IAMs_20	08 12 21.7				
	comp=Z,2µm,20.0s									
I05D	Terrebonne, OR	76.03	35	IAmb	IAmb	07 44 38.2				
	comp=Z,29nm,1.2s									
I05D				IAMs_20	IAMs_20	08 13 47.4				
	comp=Z,1µm,19.0s									
P18K	Big Mountain,	76.18	9	P	P	07 44 20.2	-0.9			
	baz=198									
M13K	Dall Lake	76.20	5	P	P	07 44 20.9	-0.2			
	baz=190									
O17K	Koliganek Bris	76.27	8	P	P	07 44 21.3	-0.2			
	baz=196									
N15K	Kwethluk River	76.28	7	IAMs_20	IAMs_20	08 12 35.2				
	comp=Z,1µm,20.0s									
N15K	Kwethluk River	76.28	7	P	P	07 44 21.4	-0.1			
	baz=193									
TUC	Tucson	76.31	51	P	P	07 44 22.7	+0.2			
TUC	Tucson	76.31	51	P	P	07 44 22.7	+0.2			
TUC				pmax	pmax					
	comp=Z,16nm,1.1s									
WVOR	Wild Horse Val	76.44	38	P	P	07 44 22.9	-0.2			
WVOR				IAmb	IAmb	07 44 41.2				
	comp=Z,24nm,1.1s									
WVOR	Wild Horse Val	76.44	38	P	P	07 44 22.9	-0.2			
WVOR				pmax	pmax					
	comp=Z,24nm,1.2s									
HOOD	Mount Hood Mea	76.48	35	P	P	07 44 22.8	-0.4			
HOOD				IAMs_20	IAMs_20	08 13 06.2				
	comp=Z,2µm,19.0s									
KSRS	Korea Array	76.55	315	P	P	07 44 23.1	-0.5			
	comp=Z,1.7nm,0.9s,baz=136,slow=5.6,SNR=8.4									
	comp=Z,1.7nm,0.9s									
G05A	Wamic	76.61	35	IAMs_20	IAMs_20	08 12 51.7				
	comp=Z,2µm,19.0s									
M14K	Bethel	76.66	6	P	P	07 44 23.6	-0.1			
	baz=191,SNR=6.9									
TYV	Tymovskoe	76.71	333	eP	P	07 44 24.0	-0.2			
TYV				pmax	pmax					
	comp=Z,30nm,1.0s									
TYV				pmax	pmax					
	comp=Z,400nm,5.4s									
TYV				MLR	MLR					
	comp=Z,700nm,17.0s									
M15K	Kasigluk River	76.73	6	P	P	07 44 23.9	-0.2			
	baz=192,SNR=6.5									
N16K	Nishlik Lake	76.73	7	P	P	07 44 23.4	-0.7			
	baz=194									
P19K	Oil Pt	76.75	10	IAMs_20	IAMs_20	08 12 44.7				
	comp=Z,2µm,21.0s									
P19K	Oil Pt	76.75	10	P	P	07 44 23.8	-0.5			
	baz=200									
X16A	Lo Mia Camp, P	76.85	48	IAmb	IAmb	07 44 45.0				
	comp=Z,23nm,1.3s									
LCMT	Little Creek M	76.89	45	P	P	07 44 25.5	-0.2			
N17K	Nushagak Hills	76.98	8	P	P	07 44 25.0	-0.5			
	baz=196									
G06A	Carlson Farm,	76.99	35	IAMs_20	IAMs_20	08 13 31.6				
	comp=Z,2µm,20.0s									
CNPM	China Poot	76.99	11	IAMs_20	IAMs_20	08 11 17.0				
	comp=Z,2µm,21.0s									
HOM	Homer	77.04	11	P	P	07 44 24.5	-1.3			
	baz=201									
ILSW	Iliamna Southw	77.08	10	IAMs_20	IAMs_20	08 11 45.4				
	comp=Z,2µm,20.0s									
J08A	Circle Bar Ran	77.08	38	IAmb	IAmb	07 44 30.2				
	comp=Z,21nm,1.1s									
J08A				IAMs_20	IAMs_20	08 13 15.2				
	comp=Z,2µm,19.0s									
O19K	Port Alsworth	77.09	9	IAmb	IAmb	07 44 40.2				
	comp=Z,44nm,1.3s									
O19K				IAMs_20	IAMs_20	08 12 07.5				
	comp=Z,1µm,21.0s									
O19K	Port Alsworth	77.09	9	P	P	07 44 25.6	-0.5			
	baz=199									
L14K	Kuka Creek	77.18	5	P	P	07 44 26.4	-0.2			
	baz=190									
M16K	Timber Creek	77.24	7	IAmb	IAmb	07 44 44.4				
	comp=Z,25nm,1.1s									
M16K				IAMs_20	IAMs_20	08 12 01.7				
	comp=Z,1µm,21.0s									
M16K	Timber Creek	77.24	7	P	P	07 44 27.2	+0.2			
	baz=194									
O20K	Slope Mountain	77.26	10	P	P	07 44 26.3	-0.9			
	baz=200									
BRLK	Bradley Lake	77.28	11	IAmb	IAmb	07 44 29.2				
	comp=Z,40nm,1.1s									
BRLK				IAMs_20	IAMs_20	08 11 26.1				
	comp=Z,2µm,21.0s									
BRSE	Bradley Lake S	77.28	11	P	P	07 44 27.1	-0.2			
	baz=202									
GNW	Green Mountain	77.30	32	IAmb	IAmb	07 44 40.4				
	comp=Z,25nm,1.5s									
MSHR	Mys Shultsa	77.31	321	ceP	P	07 44 26.4	-1.4			
MSHR				pmax	pmax					
	comp=Z,28nm,1.7s									
N18K	Kilae Creek	77.31	9	P	P	07 44 26.9	-0.5			
	baz=197									
KSM	Kuching	77.51	275	P	P	07 44 29.1	-0.5			
KSM				IAmb	IAmb	07 44 32.5				
	comp=Z,33nm,1.2s									
RED	Redoubt Volcan	77.55	10	IAMs_20	IAMs_20	08 11 07.9				
	comp=Z,2µm,21.0s									
ELK	Elko	77.57	41	IAMs_20	IAMs_20	08 11 39.3				
	comp=Z,1µm,19.0s									
ELK	Elko	77.57	41	LR	LR	08 14 32.1				
	comp=Z,908nm,18.4s,baz=239,slow=32									
K13K	Kusilvak Mount	77.61	4	IAMs_20	IAMs_20	08 15 27.4				
	comp=Z,1µm,19.0s									
K13K	Kusilvak Mount	77.61	4	P	P	07 44 29.1	+0.1			
	baz=188									
L15K	Ungalak Mounta	77.62	6	P	P	07 44 29.0	0.0			
	baz=192,SNR=8.0									
N19K	Bonanza Creek	77.65	9	IAmb	IAmb	07 44 45.3				
	comp=Z,36nm,1.4s									
N19K				IAMs_20	IAMs_20	08 13 43.4				
	comp=Z,1µm,19.0s									
N19K	Bonanza Creek	77.65	9	P	P	07 44 28.8	-0.6			
	baz=198,SNR=5.5									
USRK	Ussuriysk Ar.	77.77	323	P	P	07 44 30.5	+0.2			
	comp=Z,12nm,0.8s,baz=114,slow=4.6,SNR=19									
	comp=Z,12nm,0.8s									
F07A	Phinny Hill Vi	77.78	35	IAmb	IAmb	07 44 43.2				
	comp=Z,32nm,1.5s									
F07A				IAMs_20	IAMs_20	08 14 05.7				
	comp=Z,2µm,19.0s									
M17K	Holitna River	77.80	8	IAmb	IAmb	07 44 33.1				
	comp=Z,24nm,1.1s									
M17K				IAMs_20	IAMs_20	08 12 40.3				
	comp=Z,1µm,21.0s									
M17K	Holitna River	77.80	8	P	P	07 44 29.8	-0.2			
	baz=196									
L16K	Owhat River	77.86	7	IAmb	IAmb	07 44 33.4				
	comp=Z,21nm,1.0s									
L16K				IAMs_20	IAMs_20	08 13 42.9				
	comp=Z,1µm,20.0s									
L16K	Owhat River	77.86	7	P	P	07 44 30.5	+0.1			
	baz=193,SNR=5.3									
SEW	Seward	77.87	12	IAMs_20	IAMs_20	08 14 47.2				
	comp=Z,1µm,19.0s									
SEW	Seward	77.87	12	P	P	07 44 30.7	+0.2			
	baz=203									
HPIG		77.91	57	IAmb	IAmb	07 44 35.3				
	comp=Z,46nm,1.9s									
HPIG				IAMs_20	IAMs_20	08 12 43.2				
	comp=Z,1µm,19.0s									
LEM	Lembang	77.92	266	LR	LR	08 18 48.1				
	comp=Z,887nm,19.8s,baz=156,slow=36									
G08A	Pilot Rock	77.96	36	IAmb	IAmb	07 44 34.9				
	comp=Z,28nm,1.1s									
BBB	Bella Bella	77.97	26	LR	LR	08 12 31.3				
	comp=Z,706nm,19.4s,baz=234,slow=31									
MXC	Moxie City	78.01	34	IAmb	IAmb	07 44 35.0				
	comp=Z,24nm,1.4s									
M18K	Stony River	78.10	8	P	P	07 44 32.0	+0.3			
	baz=197									
A04D	Lummi Island	78.11	31	IAmb	IAmb	07 44 35.6				
	comp=Z,31nm,1.0s									
CAPN	Captain Cook N	78.17	11	P	P	07 44 32.1	0.0			
	baz=202									
O22K	Cooper Landing	78.17	12	P	P	07 44 32.1	0.0			
	baz=203									
K15K	Wolf Creek Mou	78.22	5	IAMs_20	IAMs_20	08 15 43.5				
	comp=Z,1µm,19.0s									
K15K	Wolf Creek Mou	78.22	5	P	P	07 44 32.8	+0.4			
	baz=191,SNR=9.3									
E07A	Sunnyside	78.23	34	IAmb	IAmb	07 44 36.3				
	comp=Z,33nm,1.1s									
E07A				IAMs_20	IAMs_20	08 13 52.5				
	comp=Z,1µm,19.0s									
HAWA	Hanford	78.31	35	IAmb	IAmb	07 44 36.7				
	comp=Z,27nm,1.2s									
HAWA				IAMs_20	IAMs_20	08 14 22.5				
	comp=Z,2µm,19.0s									
N20K	Mount Spurr	78.38	10	P	P	07 44 33.5	+0.1			
	baz=201									
SPCR	Spurr Chakacha	78.39	10	P	P	07 44 34.2	+0.8			
	baz=201									
L17K	Donlin	78.40	7	P	P	07 44 33.8	+0.4			
	baz=195,SNR=7.5									
YPT	Yellepit	78.41	35	IAMs_20	IAMs_20	08 14 45.3				
	comp=Z,1µm,20.0s									
CRAG	Craig	78.46	22	P	P	07 44 34.0	+0.2			
	baz=219									
J14K	Nanvaranak Lak	78.50	4	P	P	07 44 34.4	+0.5			
	baz=189									
WAH2	Wahluke Slope	78.51	34	IAmb	IAmb	07 44 47.9				
	comp=Z,31nm,1.4s									
WAH2				IAMs_20	IAMs_20	08 14 46.9				
	comp=Z,1µm,20.0s									
E08A	Dider Farm, El	78.63	35	IAmb	IAmb	07 44 48.5				
	comp=Z,25nm,1.2s									
E08A				IAMs_20	IAMs_20	08 16 39.0				
	comp=Z,2µm,19.0s									
BMO	Blue Mountains	78.64	37	IAmb	IAmb	07 44 48.6				
	comp=Z,19nm,1.1s									
BMO				IAMs_20	IAMs_20	08 13 53.4				
	comp=Z,1µm,20.0s									
121A	Cookes Peak, D	78.66	52	IAmb	IAmb	07 44 51.4				
	comp=Z,22nm,1.2s									
121A				IAMs_20	IAMs_20	08 15 16.8				
	comp=Z,1µm,18.0s									
LNOR	Lincton Mounta	78.68	36	IAMs_20	IAMs_20	08 13 50.5				
	comp=Z,1µm,19.0s									
L18K	Granite Mounta	78.69	8	IAmb	IAmb	07 45 03.8				
	comp=Z,46nm,1.4s									
L18K	Granite Mounta	78.69	8	P	P	07 44 35.2	+0.2			
	baz=196,SNR=9.5									
MFID	Camas Ranch	78.69	39	IAmb	IAmb	07 44 38.9				
	comp=Z,24nm,1.1s									
MFID				IAMs_20	IAMs_20	08 16 02.8				
	comp=Z,1µm,19.0s									
RC01	Rabbit Creek A	78.72	11	IAmb	IAmb	07 45 01.4				
	comp=Z,44nm,1.4s									
RC

SKT	Skwentna baz=201	79.23	10	P	P	07 44 38.0	0.0		
M22K	Willow comp=Z,1µm,20.0s	79.27	11	IAMs_20	IAMs_20	08 12 43.2			
M22K	Willow baz=202,SNR=8.9	79.27	11	P	P	07 44 38.3	+0.1		
KNK	Knik Glacier comp=Z,46nm,1.4s	79.27	12	IAmb	IAmb	07 45 05.1			
KNK	Knik Glacier baz=204	79.27	12	P	P	07 44 37.9	-0.3		
J16K	Anvik River baz=192,SNR=10	79.28	6	P	P	07 44 39.0	+0.8		
EPT	El Paso comp=Z,1µm,19.0s	79.30	53	IAMs_20	IAMs_20	08 14 08.7			
PMR	Palmer comp=Z,28nm,1.2s	79.30	11	IAmb	IAmb	07 44 40.7			
PMR	Palmer baz=204,SNR=6.4	79.30	11	P	P	07 44 38.6	+0.3		
L20K	Farewell, AK baz=199,SNR=7.1	79.33	9	P	P	07 44 38.0	-0.5		
S31K	Pelican baz=216	79.39	19	P	P	07 44 39.1	+0.2		
MDJ	Mudanjiang	79.41	322	P	P	07 44 39.3	0.0		
MDJ	comp=Z,21nm,1.6s			pmax	pmax				
MDJ	comp=Z,600nm,5.0s			pmax	pmax				
TMUT	Trail Mountain comp=Z,56nm,1.4s	79.44	44	IAmb	IAmb	07 44 53.8			
WRAK	Wrangell Islan baz=220	79.47	22	P	P	07 44 39.4	+0.1		
GHO	Glory Hole Cre comp=Z,33nm,1.0s	79.51	11	IAmb	IAmb	07 44 41.9			
GRNR	Gornyy	79.51	330	⇑*i*P	P	07 44 39.8	0.0		
GRNR	comp=Z,20nm,1.2s			pmax	pmax				
J17K	VABM Dome comp=Z,28nm,1.1s	79.54	6	IAmb	IAmb	07 44 53.8			
J17K	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	08 13 55.5			
J17K	VABM Dome baz=194	79.54	6	P	P	07 44 39.9	+0.3		
DIV	Divide comp=Z,26nm,0.8s	79.57	13	IAmb	IAmb	07 44 41.3			
DIV	comp=Z,1µm,22.0s			IAMs_20	IAMs_20	08 12 06.1			
HLID	Hailey comp=Z,27nm,1.1s	79.63	39	IAmb	IAmb	07 44 44.6			
MESA	MESA baz=210	79.63	15	P	P	07 44 40.7	+0.2		
BMRM	Bremner River comp=Z,44nm,1.1s	79.69	14	IAmb	IAmb	07 44 52.0			
BMRM	comp=Z,1µm,19.0s			IAMs_20	IAMs_20	08 15 34.2			
BMRM	Bremner River baz=208,SNR=7.3	79.69	14	P	P	07 44 40.4	-0.1		
SRU	San Rafael Swe comp=Z,28nm,1.3s	79.81	45	IAmb	IAmb	07 44 55.9			
CUT	Chulitna comp=Z,2µm,20.0s	79.85	11	IAMs_20	IAMs_20	08 14 25.5			
CUT	Chulitna baz=202,SNR=5.9	79.85	11	P	P	07 44 41.4	+0.2		
CRQE	Cirque baz=209	79.85	14	P	P	07 44 41.5	-0.1		
I17K	Unalakleet baz=192	79.86	6	P	P	07 44 41.3	0.0		
KLU	Klutina comp=Z,1µm,21.0s	79.86	13	IAMs_20	IAMs_20	08 13 08.9			
KLU	Klutina baz=207	79.86	13	P	P	07 44 41.1	-0.4		
PNL	Peninsula baz=213	79.87	17	P	P	07 44 41.5	-0.1		
SCM	Sheep Creek Mo comp=Z,65nm,1.4s	79.88	12	IAmb	IAmb	07 44 54.4			
SCM	comp=Z,993nm,19.0s			IAMs_20	IAMs_20	08 11 57.3			
SCM	Sheep Creek Mo baz=205,SNR=6.2	79.88	12	P	P	07 44 41.6	0.0		
J18K	Innoko River baz=196	79.88	7	P	P	07 44 42.0	+0.5		
ISLE	Juniper Island comp=Z,28nm,1.0s	79.90	15	IAmb	IAmb	07 44 43.4			
Y22A	Socorro comp=Z,59nm,1.9s	79.90	51	IAmb	IAmb	07 44 57.2			
R31K	City Hall, Gus baz=216	79.91	19	P	P	07 44 41.9	+0.2		
TGL	Tana Glacier comp=Z,34nm,1.0s	79.92	15	IAmb	IAmb	07 44 44.5			
U35K	Hyder baz=222	79.94	23	P	P	07 44 41.6	-0.3		
PPLA	Purkeypile comp=Z,1µm,20.0s	79.98	10	IAMs_20	IAMs_20	08 13 28.0			
PPLA	Purkeypile baz=200	79.98	10	P	P	07 44 41.4	-0.8		
PINM	Pinnacle baz=212	80.00	16	P	P	07 44 42.3	0.0		
MNTX	Cornudas Mount comp=Z,1µm,19.0s	80.13	53	IAMs_20	IAMs_20	08 14 16.0			
K20K	Telida comp=Z,23nm,0.9s	80.13	9	IAmb	IAmb	07 44 55.3			
K20K	Telida baz=199,SNR=12	80.13	9	P	P	07 44 42.1	-0.8		
GRNC	Granite Creek comp=Z,28nm,1.0s	80.16	15	IAmb	IAmb	07 44 49.0			
GRNC	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	08 14 40.8			
VRDI	Verde Repeater comp=Z,34nm,1.2s	80.18	14	IAmb	IAmb	07 44 46.0			
VRDI	comp=Z,1µm,19.0s			IAMs_20	IAMs_20	08 15 40.3			
ANM	Nome comp=Z,1µm,20.0s	80.18	3	IAMs_20	IAMs_20	08 15 14.4			
P18A	Preston Nutter comp=Z,22nm,1.1s	80.25	44	IAmb	IAmb	07 44 58.5			
N25K	Chitina, Valde comp=Z,26nm,1.1s	80.25	13	IAmb	IAmb	07 44 57.9			
N25K	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	08 14 18.3			
N25K	Chitina, Valde baz=208,SNR=7.5	80.25	13	P	P	07 44 43.1	-0.6		
PV05	Paradox Valley comp=Z,50nm,1.3s	80.28	46	IAmb	IAmb	07 44 58.4			
GLB	Gilahina Butte comp=Z,1µm,19.0s	80.29	14	IAMs_20	IAMs_20	08 16 11.1			
MVCO	Mesa Verde comp=Z,1µm,18.0s	80.29	47	IAMs_20	IAMs_20	08 15 20.6			
P29M	Windy Craggy comp=Z,1µm,20.0s	80.31	17	IAMs_20	IAMs_20	08 12 44.2			
P29M	Windy Craggy baz=214	80.31	17	P	P	07 44 43.7	-0.2		
M24K	Tolsona, Glenn comp=Z,32nm,0.8s	80.36	12	IAmb	IAmb	07 44 56.9			
M24K	Tolsona, Glenn baz=206	80.36	12	P	P	07 44 43.8	-0.4		
HWUT	Hardware Ranch comp=Z,2µm,19.0s	80.38	42	IAMs_20	IAMs_20	08 15 43.6			
MCARA	McCarthy VSAT comp=Z,1µm,20.0s	80.42	14	IAMs_20	IAMs_20	08 16 33.6			
MCARA	McCarthy VSAT baz=209	80.42	14	P	P	07 44 44.4	-0.1		
LOGN	Logan Glacier comp=Z,30nm,1.1s	80.43	15	IAmb	IAmb	07 44 48.9			
LOGN	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	08 13 59.9			
CTG	Chitna Glacier baz=211	80.46	15	P	P	07 44 44.2	-0.7		
PV10	Paradox Valley comp=Z,36nm,0.9s	80.46	46	IAmb	IAmb	07 44 48.8			
BARN	Barnard Glacie comp=Z,35nm,1.1s	80.47	15	IAmb	IAmb	07 44 47.7			
CTGM	Chitina Glacie comp=Z,25nm,1.0s	80.47	15	IAmb	IAmb	07 44 50.5			
CTGM	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	08 14 10.8			
H16K	Elim baz=191	80.47	5	P	P	07 44 43.8	-0.8		
PV19	Morning Glory comp=Z,49nm,1.1s	80.47	46	IAmb	IAmb	07 44 59.4			
PV17	East Wray Mesa comp=Z,28nm,1.2s	80.47	46	IAmb	IAmb	07 45 01.4			
PV17	comp=Z,2µm,21.0s			IAMs_20	IAMs_20	08 15 21.4			
PV14	Lion Creek, Pa comp=Z,26nm,1.0s	80.47	46	IAmb	IAmb	07 44 49.1			
WAT6	Susitna Watana baz=205,SNR=11	80.48	12	P	P	07 44 44.2	-0.8		
PV18	Skein Mesa, Pa comp=Z,39nm,1.0s	80.49	46	IAmb	IAmb	07 44 49.2			
MA2	Magadan comp=Z,628nm,20.2s,baz=144,slow=33	80.49	342	LR	LR	08 16 01.2			
TX31	Lajitas Ar. Si comp=Z,32nm,1.4s	80.50	56	IAmb	IAmb	07 44 50.0			
TXAR	Lajitas Array comp=Z,5.5nm,1.0s,baz=219,slow=9.0,SNR=31	80.50	56	P	P	07 44 47.0	+1.3		
TXAR	comp=Z,710nm,19.0s,baz=244,slow=31 comp=Z,5.5nm,1.0s			LR	LR	08 14 11.0			
TXAR	Lajitas Array	80.50	56	P	P	07 44 47.0	+1.3		
PV13	Radium Mtn., P comp=Z,57nm,1.5s	80.51	46	IAmb	IAmb	07 44 59.0			
PV13	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	08 15 21.4			
PV16	Nyswonger Mesa comp=Z,1µm,21.0s	80.52	46	IAMs_20	IAMs_20	08 15 07.6			
J19K	Poorman comp=Z,74nm,1.9s	80.53	8	IAmb	IAmb	07 44 59.4			
J19K	Poorman baz=197	80.53	8	P	P	07 44 44.2	-0.8		
PV03	Paradox Valley comp=Z,37nm,1.4s	80.54	46	IAmb	IAmb	07 44 59.0			
PV03	comp=Z,2µm,19.0s			IAMs_20	IAMs_20	08 16 19.1			
PV11	David Mesa, Pa comp=Z,33nm,1.0s	80.54	46	IAmb	IAmb	07 44 59.9			
WAT1	Susitna Watana baz=204	80.55	11	P	P	07 44 44.1	-1.1		
NJ2	Nanjing	80.56	307	*e*P	P	07 44 47.6	+1.8		
NJ2	comp=Z,28nm,0.6s			pmax	pmax				
UNM	Universidad Na comp=Z,1µm,20.0s	80.56	67	IAMs_20	IAMs_20	08 11 59.9			
PLBC	Pleasant Camp baz=216	80.56	18	P	P	07 44 45.0	-0.3		
PV04	Paradox Valley comp=Z,23nm,0.9s	80.56	46	IAmb	IAmb	07 44 49.7			
O28M	Mount Upton comp=Z,2µm,20.0s	80.59	16	IAMs_20	IAMs_20	08 14 25.3			
O28M	Mount Upton baz=212	80.59	16	P	P	07 44 45.1	-0.6		
PV02	Paradox Valley comp=Z,56nm,1.2s	80.59	46	IAmb	IAmb	07 44 59.5			
O29M	Mount Kennedy comp=Z,46nm,1.5s	80.63	17	IAmb	IAmb	07 44 48.9			
O29M	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	08 14 54.3			
O29M	Mount Kennedy baz=214	80.63	17	P	P	07 44 45.2	-0.5		
T35M	Bob Quinn comp=Z,1µm,19.0s	80.65	22	IAMs_20	IAMs_20	08 14 52.0			
T35M	Bob Quinn baz=222	80.65	22	P	P	07 44 45.6	-0.2		
PV01	Paradox Valley comp=Z,1µm,19.0s	80.67	46	IAMs_20	IAMs_20	08 14 37.8			
G15K	Niukluk baz=189	80.69	4	P	P	07 44 45.5	-0.3		
PV22	Blue Mesa, Par comp=Z,2µm,19.0s	80.71	46	IAMs_20	IAMs_20	08 15 18.8			
ANMO	Albuquerque	80.73	50	P	P	07 44 47.2	+0.3		
ANMO	Albuquerque comp=Z,1µm,18.1s,baz=340,slow=32	80.73	50	LR	LR	08 15 45.1			
ANMO	Albuquerque	80.73	50	P	P	07 44 47.3	+0.3		
ANMO	comp=Z,19nm,1.3s			pmax	pmax				
NEW	Newport comp=Z,1µm,19.0s	80.74	34	IAMs_20	IAMs_20	08 15 26.9			
NEW	Newport comp=Z,1µm,18.9s,baz=229,slow=32	80.74	34	LR	LR	08 15 39.0			
PV07	Paradox Valley comp=Z,28nm,1.4s	80.76	46	IAmb	IAmb	07 45 00.3			
KTH	Kantishna Hill comp=Z,22nm,1.0s	80.80	10	IAmb	IAmb	07 44 49.1			
KTH	comp=Z,2µm,22.0s			IAMs_20	IAMs_20	08 13 22.7			
TRF	Thorofare Moun comp=Z,41nm,1.2s	80.81	10	IAmb	IAmb	07 45 00.8			
TRF	Thorofare Moun baz=202,SNR=18	80.81	10	P	P	07 44 46.3	-0.4		
PV15	Paradox Valley comp=Z,68nm,1.8s	80.83	46	IAmb	IAmb	07 45 00.6			
PV15	comp=Z,1µm,19.0s			IAMs_20	IAMs_20	08 14 43.0			
HARP	HAARP baz=207	80.84	13	P	P	07 44 46.8	+0.1		
SKAG	Skagway baz=217	80.88	18	P	P	07 44 46.5	-0.4		
CHUM	Lake Minchumin baz=200,SNR=8.6	80.89	9	P	P	07 44 46.0	-0.9		
J20K	Nowinta River comp=Z,18nm,0.8s	80.90	8	IAmb	IAmb	07 44 59.5			
J20K	Nowinta River baz=198,SNR=16	80.90	8	P	P	07 44 46.3	-0.6		
P30M	Million Dollar baz=215,SNR=6.3	80.94	17	P	P	07 44 47.4	+0.1		
ALPN	Alpine comp=Z,22nm,1.2s	80.94	55	IAmb	IAmb	07 45 01.7			
H17K	Granite Mounta comp=Z,1µm,19.0s	80.97	6	IAMs_20	IAMs_20	08 17 29.1			
H17K	Granite Mounta baz=193	80.97	6	P	P	07 44 47.0	-0.3		
DHY	Denali Highway baz=205	81.00	12	P	P	07 44 47.9	+0.3		
RND	Reindeer comp=Z,23nm,1.0s	81.03	11	IAmb	IAmb	07 44 59.1			
RND	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	08 15 11.6			
F14K	Arctic Creek baz=187	81.04	3	P	P	07 44 48.5	+0.8		
S34M	Telegraph Cree baz=221	81.04	21	P	P	07 44 49.0	+1.2		
TNA	Tin City baz=185	81.06	2	P	P	07 44 47.8	+0.1		
GCSA	Galena City Sc baz=196	81.10	7	P	P	07 44 47.7	-0.2		
YUK8	Steele Glacier baz=212	81.14	16	P	P	07 44 48.1	-0.5		
G16K	Koyuk River baz=190	81.21	5	P	P	07 44 48.9	+0.4		
YUK6	Outpost Mounta baz=214	81.22	16	P	P	07 44 49.2	+0.1		
PAX	Paxson comp=Z,1µm,22.0s	81.28	12	IAMs_20	IAMs_20	08 12 52.4			
PAX	Paxson baz=207	81.28	12	P	P	07 44 49.2	+0.1		
BPAW	Bear Paw Mtn. baz=202	81.30	10	P	P	07 44 48.6	-0.5		
MCK	McKinley comp=Z,1µm,21.0s	81.31	11	IAMs_20	IAMs_20	08 14 09.1			
MCK	McKinley baz=204,SNR=23	81.31	11	P	P	07 44 48.8	-0.4		
M26K	Nabesna, AK comp=Z,22nm,1.0s	81.32	14	IAmb	IAmb	07 45 03.8			
M26K	Nabesna, AK baz=209,SNR=17	81.32	14	P	P	07 44 49.3	+0.1		
BNX	BinXian	81.32	322	⇑P	P	07 44 49.3	-0.3		
BNX	comp=Z,35nm,1.0s			pmax	pmax				
H18K	Honhosa River comp=Z,1µm,20.0s	81.33	6	IAMs_20	IAMs_20	08 15 12.3			
H18K	Honhosa River baz=194	81.33	6	P	P	07 44 49.5	+0.2		
HYT	Haines Junctio	81.36	17	P	P	07 44 49.7	+0.1		
HYT	Haines Junctio baz=215,SNR=6.7	81.36	17	P	P	07 44 49.9	+0.2		
F15K	North Star Dit baz=188	81.36	4	P	P	07 44 49.6	+0.3		
SMAI	San Martin Ant	81.42	159	P	P	07 44 51.4	+1.6		
SMAI	comp=Z,41nm,1.3s			IAmb	IAmb	07 45 06.8			
I20K	Naaghedeneel comp=Z,35nm,1.1s	81.45	8	IAmb	IAmb	07 45 24.6			
I20K	Naaghedeneel baz=198	81.45	8	P	P	07 44 49.8	0.0		
G17K	Kiwalik Mounta baz=192	81.45	5	P	P	07 44 49.6	-0.2		
Q32M	Nakina River baz=220	81.46	20	P	P	07 44 50.2	0.0		
CN2	Changchun	81.47	320	*e*P	P	07 44 50.8	+0.4		
CN2	comp=Z,30nm,1.1s			pmax	pmax				
YUK4	Talbot Arm baz=214	81.48	16	P	P	07 44 50.7	+0.3		
P32M	Atlin comp=Z,1µm,20.0s	81.48	19	IAMs_20	IAMs_20	08 15 06.0			
P32M	Atlin baz=218	81.48	19	P	P	07 44 50.0	-0.2		
M27K	Edge Creek, AK	81.54	14	IAmb	IAmb	07 44 53.9			
M27K	comp=Z,28nm,1.2s			IAMs_20	IAMs_20	08 16 51.6			
M27K	Edge Creek, AK baz=210,SNR=10	81.54	14	P	P	07 44 50.3	-0.2		
DLMT	Dillon comp=Z,41nm,1.2s	81.69	38	IAmb	IAmb	07 45 07.5			
DLMT	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	08 15 33.3			
MSO	Missoula comp=Z,32nm,1.2s	81.70	37	IAmb	IAmb	07 44 54.4			
MSO	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	08 14 11.3			
O30N	Mendenhall comp=Z,21nm,1.0s	81.72	17	IAmb	IAmb	07 44 54.1			
O30N	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	08 14 18.0			
O30N	Mendenhall baz=216,SNR=7.5	81.72	17	P	P	07 44 51.4	0.0		
TPAW	Teton Pass comp=Z,25nm,1.0s	81.73	41	IAmb	IAmb	07 45 07.3			
L26K	Log Cabin Wild comp=Z,1µm,20.0s	81.78	13	IAMs_20	IAMs_20	08 14 30.7			
L26K	Log Cabin Wild baz=209,SNR=7.3	81.78	13	P	P	07 44 51.3	-0.4		
DLBC	Dease Lake comp=Z,8µm,20.4s,baz=226,slow=31	81.82	21	LR	LR	08 14 41.1			
DLBC	Dease Lake baz=222	81.82	21	P	P	07 44 51.4	-0.7		
SNOW	Snow King Moun comp=Z,24nm,0.9s	81.84	41	IAmb	IAmb	07 45 09.3			
O20A	White River Ci comp=Z,22nm,1.3s	81.84	45	IAmb	IAmb	07 45 26.9			
O20A	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	08 14 47.6			
H19K	Roundabout Mou comp=Z,21nm,1.0s	81.91	7	IAmb	IAmb	07 45 04.6			
H19K	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	08 15 58.9			
H19K	Roundabout Mou baz=196,SNR=8.6	81.91	7	P	P	07 44 52.5	+0.3		
K24K	Donnelly Dome comp=Z,31nm,1.0s	81.97	12	IAmb	IAmb	07 44 55.5			
K24K	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	08 15 58.9			
K24K	Donnelly Dome baz=207,SNR=8.8	81.97	12	P	P	07 44 52.8	+0.2		
WHY	Whitehorse	81.98	18	P	P	07 44 52.9	0.0		
WHY	Whitehorse baz=217	81.98	18	P	P	07 44 52.6	-0.3		
N30M	Aishikik Lake comp=Z,1µm,21.0s	82.00	17	IAMs_20	IAMs_20	08 13 49.5			
N30M	Aishikik Lake baz=215	82.00	17	P	P	07 44 53.0	+0.1		
LOHW	Long Hollow comp=Z,40nm,1.5s	82.01	41	IAmb	IAmb	07 45 06.7			
G18K	Tagagawik comp=Z,17nm,0.9s	82.02	6	IAmb	IAmb	07 45 06.2			
G18K	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	08 18 31.0			
G18K	Tagagawik baz=194	82.02	6	P	P	07 44 52.5	-0.3		
H20K	Anotteega Mo baz=198,SNR=5.9	82.06	8	P	P	07 44 53.2	+0.1		
NEA2	Nenana baz=203,SNR=9.3	82.08	10	P	P	07 44 53.1	-0.1		
RIDG	Independent Ri comp=Z,24nm,1.2s	82.10	12	IAmb	IAmb	07 45 15.2			
RIDG	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	08 16 30.0			
RIDG	Independent Ri baz=207,SNR=6.8	82.10	12	P	P	07 44 53.3	-0.1		
WRH	Wood River Hil comp=Z,1µm,20.0s	82.14	11	IAMs_20	IAMs_20	08 14 46.1			
L27K	Beaver Creek, comp=Z,1µm,19.0s	82.16	14	IAMs_20	IAMs_20	08 17 32.3			
L27K	Beaver Creek, baz=210	82.16	14	P	P	07 44 53.3	-0.4		
BCAR	Beaver Creek A	82.17	14	P	P	07 44 52.9	-0.9		
DOT	Dot Lake comp=Z,20nm,1.0s	82.18	13	IAmb	IAmb	07 44 55.8			
DOT	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	08 15 45.1			
MLY	Manley comp=Z,20nm,1.2s	82.21	9	IAmb	IAmb	07 45 04.8			
MLY	Manley baz=202,SNR=8.0	82.21	9	P	P	07 44 52.8	-1.1		
YPP	Pitchstone Pla comp=Z,26nm,1.4s	82.22	40	IAmb	IAmb	07 45 10.2			
R33M	Jennings River baz=221	82.22	20	P	P	07 44 53.0	-1.2		
PD31	Pinedale Array comp=Z,25nm,1.1s	82.25	42	IAmb	IAmb	07 45 08.3			
PDAR	Pinedale Array	82.25	42	P	P	07 44 54.9	0.0		
PDAR	Pinedale Array comp=Z,2.2nm,0.6s,baz=213,slow=3.5,SNR=26	82.25	42	P	P	07 44 55.0	+0.2		
PDAR	comp=Z,0.3nm,0.7s,baz=48,slow=2.2,SNR=3.5			PKKPbc	PKKPbc	08 03 25.3	+0.7		
PDAR	comp=Z,1µm,18.4s,baz=234,slow=33 comp=Z,2.2nm,0.6s			LR	LR	08 17 24.1			
P33M	Teslin, Yukon baz=219	82.25	19	P	P	07 44 53.7	-0.6		
YFT	Old Faithful comp=Z,32nm,1.2s	82.29	40	IAmb	IAmb	07 45 12.0			
HDA	Harding Lake comp=Z,27nm,1.0s	82.29	11	IAmb	IAmb	07 44 56.1			
HDA	Harding Lake baz=205,SNR=17	82.29	11	P	P	07 44 54.2	-0.1		
F17K	Baldwin Pennin comp=Z,20nm,0.9s	82.33	5	IAmb	IAmb	07 44 57.0			
F17K	Baldwin Pennin baz=192	82.33	5	P	P	07 44 54.4	+0.1		
CCB	Clear Creek Bu comp=Z,32nm,1.0s	82.35	11	IAmb	IAmb	07 44 56.7			
CCB	comp=Z,1µm,21.0s			IAMs_20	IAMs_20	08 14 29.6			
N31M	Braeburn, Yuko comp=Z,28nm,1.0s	82.39	17	IAmb	IAmb	07 44 58.0			
N31M	comp=Z,1µm,19.0s			IAMs_20	IAMs_20	08 15 40.2			
N31M	Braeburn, Yuko baz=216,SNR=6.0	82.39	17	P	P	07 44 55.0	+0.1		
BOZ	Bozeman (W)	82.40	38	P	P	07 44 55.6	+0.1		
BOZ	comp=Z,39nm,1.4s			IAmb	IAmb	07 45 08.6			
BOZ	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	08 16 05.9			
BOZ	Bozeman (W)	82.40	38	P	P	07 44 55.6	+0.1		
BOZ	comp=Z,39nm,1.4s			pmax	pmax				
H17A	Grant Village comp=Z,24nm,1.1s	82.42	40	IAmb	IAmb	07 45 10.7			
G19K	Purcell Mounta baz=196,SNR=9.0	82.43	6	P	P	07 44 55.0	0.0		
M29M	Somme Creek comp=Z,2µm,20.0s	82.45	15	IAMs_20	IAMs_20	08 15 55.8			
M29M	Somme Creek baz=214,SNR=9.3	82.45	15	P	P	07 44 55.2	-0.1		
SCRK	Sand Creek comp=Z,19nm,1.0s	82.49	12	IAmb	IAmb	07 44 57.6			
SCRK	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	08 16 32.2			
SCRK	Sand Creek baz=208,SNR=10	82.49	12	P	P	07 44 55.5	0.0		
H21K	Melozitna Rive comp=Z,24nm,1.2s	82.50	8	IAmb	IAmb	07 45 09.6			
H21K	Melozitna Rive baz=200	82.50	8	P	P	07 44 55.0	-0.4		
YNR	Norris Junctio	82.52	40	P	P	07 44 57.8	+1.5		
COLA	College	82.55	11	P	P	07 44 54.3	-1.3		
COLA	College comp=Z,2µm,21.0s	82.55	11	IAMs_20	IAMs_20	08 14 47.9			
COLA	College comp=Z,50nm,1.0s	82.55	11	P	P	07 44 54.3	-1.3		
COLA	College baz=204	82.55	11	P	P	07 44 55.0	-0.5		
F18K	Selawik baz=193	82.62	5	P	P	07 44 55.6	-0.3		
IL31	comp=Z,20nm,1.1s	82.63	11	IAmb	IAmb	07 45 09.4			
ILAR	Eielson Array	82.63	11	P	P	07 44 55.1	-0.9		
ILAR	Eielson Array comp=Z,2.5nm,0.7s,baz=214,slow=4.5,SNR=32	82.63	11	P	P	07 44 55.0	-1.1		
ILAR	comp=Z,515nm,18.6s,baz=197,slow=33 comp=Z,2.5nm,0.7s			LR	LR	08 18 26.8			

ILAR	Eielson Array	82.63	11	P	P	07 44 55.1	-0.9		
SDCO	Great Sand Dun	82.66	48	IAmb	IAmb	07 45 00.8			
	comp=Z,16nm,1.1s								
IMAR	Indian Mountai	82.68	8	P	P	07 44 55.7	-0.6		
HAYD	Hayden	82.69	45	IAmb	IAmb	07 45 10.6			
	comp=Z,17nm,1.1s								
J25K	Salcha River,	82.78	12	IAmb	IAmb	07 45 10.5			
	comp=Z,34nm,1.3s								
J25K	Salcha River,	82.78	12	P	P	07 44 56.4	-0.5		
	baz=207,SNR=17								
SEY	Seymchan	82.84	345	P	P	07 44 56.5	-0.7		
	comp=Z,16nm,1.0s,baz=127,slow=6.3,SNR=9.2								
SEY				LR	LR	08 16 51.4			
	comp=Z,1µm,20.8s,baz=162,slow=32								
	comp=Z,16nm,1.0s								
SEY	Seymchan	82.84	345	*e*P	P	07 44 57.1	0.0		
SEY				pmax	pmax				
	comp=Z,41nm,1.7s								
POKR	Poker Plat Res	82.85	11	IAMs_20	IAMs_20	08 15 07.0			
	comp=Z,1µm,20.0s								
POKR	Poker Plat Res	82.85	11	P	P	07 44 56.1	-1.1		
	baz=205,SNR=8.4								
N32M	Quiet Lake	82.91	18	P	P	07 44 57.7	0.0		
	baz=219								
E17K	Hotham Inlet	82.91	4	P	P	07 44 57.8	+0.4		
	baz=191								
H22K	Ishtalitna Cre	82.92	9	P	P	07 44 57.7	+0.1		
	baz=201,SNR=7.9								
K27K	Chicken	82.94	13	IAMs_20	IAMs_20	08 17 50.7			
	comp=Z,1µm,20.0s								
K27K	Chicken	82.94	13	P	P	07 44 57.7	+0.1		
	baz=210								
DRIO	Del Rio	82.98	57	IAmb	IAmb	07 45 11.9			
	comp=Z,26nm,1.3s								
M30M	Minto, Yukon	83.00	16	P	P	07 44 58.1	+0.1		
	baz=215,SNR=6.1								
F19K	Shaleruckik Mo	83.03	6	IAmb	IAmb	07 45 03.2			
	comp=Z,22nm,1.1s								
F19K	Shaleruckik Mo	83.03	6	P	P	07 44 58.3	+0.3		
	baz=195,SNR=10								
J26L	Joseph Creek	83.04	12	IAmb	IAmb	07 45 12.7			
	comp=Z,33nm,1.2s								
J26L				IAMs_20	IAMs_20	08 14 29.8			
	comp=Z,1µm,22.0s								
J26L	Joseph Creek	83.04	12	P	P	07 44 58.5	+0.2		
	baz=209,SNR=12								
L29M	L29M	83.09	15	P	P	07 44 58.5	0.0		
	baz=214,SNR=24								
OZNA	Ozona	83.14	55	IAmb	IAmb	07 45 12.6			
	comp=Z,19nm,1.1s								
T25A	Trinidad	83.17	49	IAmb	IAmb	07 45 12.8			
	comp=Z,33nm,1.3s								
G21K	Allakaket	83.21	8	P	P	07 44 59.5	+0.5		
	baz=199								
QIZ	Qiongzhong	83.28	292	P	P	07 45 01.6	+1.2		
QIZ				S	SKSac	07 55 25.8	+4.6		
QIZ				pmax	pmax				
	comp=Z,690nm,12.8s								
QIZ				LR	LR				
	comp=Z,490nm,16.9s								
QIZ				LR	LR				
	comp=Z,880nm,19.4s								
QIZ				LR	LR				
	comp=Z,1µm,25.5s								
E18K	Tukpahlearik C	83.34	5	P	P	07 44 59.9	+0.2		
	baz=192								
M31M	Drury Creek, Y	83.36	17	IAMs_20	IAMs_20	08 16 37.8			
	comp=Z,1µm,20.0s								
M31M	Drury Creek, Y	83.36	17	P	P	07 44 59.7	-0.2		
	baz=217								
H24K	Noodor Dome	83.43	10	P	P	07 45 00.6	+0.3		
	baz=204								
D17K	Noatak River	83.44	4	P	P	07 45 00.9	+0.8		
	baz=190								
F20K	Avaraart Lake	83.45	7	IAmb	IAmb	07 45 33.7			
	comp=Z,24nm,1.5s								
F20K				IAMs_20	IAMs_20	08 16 38.8			
	comp=Z,1µm,20.0s								
F20K	Avaraart Lake	83.45	7	P	P	07 45 00.5	+0.2		
	baz=197								
ISCO	Idaho Springs	83.48	46	IAmb	IAmb	07 45 18.5			
	comp=Z,19nm,1.1s								
ISCO				IAMs_20	IAMs_20	08 16 52.1			
	comp=Z,1µm,19.0s								
WTLY	Watson Lake, Y	83.49	21	P	P	07 45 00.6	-0.1		
	baz=223								
DAWY	Dawson	83.59	14	IAmb	IAmb	07 45 15.2			
	comp=Z,27nm,1.2s								
DAWY	Dawson	83.59	14	P	P	07 45 01.4	+0.3		
	baz=213,SNR=11								
CMIG	Matias Romero	83.68	70	LR	LR	08 14 07.8			
	comp=Z,1µm,19.8s,baz=241,slow=30								
E19K	Redstone River	83.69	6	P	P	07 45 01.7	+0.2		
	baz=195								
BELA	Belgrano 2	83.71	172	P	P	07 45 02.5	+0.8		
BELA				IAmb	IAmb	07 45 12.2			
	comp=Z,19nm,1.1s								
HEH	HeiHe	83.78	326	*e*P	P	07 45 01.8	-0.5		
EGAK	Eagle	83.79	13	IAmb	IAmb	07 45 16.1			
EGAK	comp=Z,25nm,1.4s			IAMs_20	IAMs_20	08 17 21.8			
	comp=Z,1µm,20.0s								
EGAK	Eagle	83.79	13	P	P	07 45 02.3	+0.3		
	baz=211								
RDOG	Red Dog Mine	83.80	4	P	P	07 45 02.2	+0.2		
	baz=190								
PMSA	Palmer Station	83.83	156	LR	LR	08 13 08.0			
	comp=Z,989nm,21.5s,baz=218,slow=29								
TOAD	Toad River Com	83.85	23	P	P	07 45 02.3	-0.3		
	baz=226,SNR=16								
K29M	Barlow Dome	83.86	15	IAmb	IAmb	07 45 05.2			
	comp=Z,17nm,1.0s								
K29M				IAMs_20	IAMs_20	08 16 22.5			
	comp=Z,2µm,20.0s								
K29M	Barlow Dome	83.86	15	P	P	07 45 02.3	-0.3		
	baz=214,SNR=9.6								
G22K	Bettles	83.87	8	P	P	07 45 01.9	-0.5		
	baz=201								
F21K	Alatna River	83.89	8	P	P	07 45 02.0	-0.5		
	baz=199								
G23K	Bananza Creek	83.89	9	IAmb	IAmb	07 45 16.6			
	comp=Z,18nm,1.1s								
G23K	Bananza Creek	83.89	9	P	P	07 45 02.4	-0.1		
	baz=202,SNR=7.8								
LIRD	Liard River Hi	83.93	22	P	P	07 45 02.7	-0.2		
	baz=225								
JCT	Junction City	84.03	56	P	P	07 45 04.0	-0.1		
JCT				IAMs_20	IAMs_20	08 16 23.3			
	comp=Z,1µm,20.0s								
JCT	Junction City	84.03	56	P	P	07 45 04.0	-0.1		
JCT				pmax	pmax				
	comp=Z,9.0nm,0.9s								
HNDO	Hondo	84.10	57	IAmb	IAmb	07 45 24.8			
	comp=Z,25nm,1.1s								
K22A	Casper	84.16	43	IAMs_20	IAMs_20	08 17 16.8			
	comp=Z,2µm,20.0s								
SN07	Snyder 07	84.17	53	IAmb	IAmb	07 45 07.0			
	comp=Z,14nm,0.9s								
H25L	Birch Creek	84.18	11	P	P	07 45 03.3	-0.6		
	baz=206								
J29N	Klondike Camp	84.19	14	IAMs_20	IAMs_20	08 18 34.8			
	comp=Z,1µm,20.0s								
J29N	Klondike Camp	84.19	14	P	P	07 45 04.3	+0.1		
	baz=214								
C17K	DeLong Mountai	84.20	4	P	P	07 45 03.7	-0.4		
	baz=190								
AMTX	Amarillo	84.26	52	IAMs_20	IAMs_20	08 18 21.3			
	comp=Z,1µm,19.0s								
G24K	Hadweenzic Riv	84.28	10	IAMs_20	IAMs_20	08 17 52.8			
	comp=Z,2µm,20.0s								
G24K	Hadweenzic Riv	84.28	10	P	P	07 45 04.0	-0.5		
	baz=205								
F22K	John River	84.33	8	P	P	07 45 04.7	-0.1		
	baz=200								
COLD	Coldfoot	84.34	9	IAmb	IAmb	07 45 19.4			
	comp=Z,30nm,1.2s								
COLD	Coldfoot	84.34	9	P	P	07 45 05.0	+0.2		
	baz=202,SNR=12								
I27K	Kandik River	84.41	13	P	P	07 45 04.5	-0.7		
	baz=210								
C18K	Utukok River	84.50	4	P	P	07 45 05.7	0.0		
	baz=192								
E20K	Nigu River	84.57	6	P	P	07 45 06.1	+0.1		
	baz=196								
G25K	Bearman Lake	84.58	10	P	P	07 45 05.9	-0.1		
	baz=206								
D19K	Kuna River	84.61	5	IAMs_20	IAMs_20	08 18 57.9			
	comp=Z,1µm,20.0s								
D19K	Kuna River	84.61	5	P	P	07 45 06.6	+0.4		
	baz=194								
I28M	Miner Creek	84.64	13	IAmb	IAmb	07 45 11.5			
	comp=Z,14nm,1.1s								
I28M				IAMs_20	IAMs_20	08 19 21.1			
	comp=Z,1µm,19.0s								
I28M	Miner Creek	84.64	13	P	P	07 45 06.4	-0.1		
	baz=212,SNR=9.1								
TGTN	Hyland Airport	84.71	20	P	P	07 45 06.6	-0.3		
	baz=223,SNR=9.1								
EGMT	Eagleton	84.74	37	IAMs_20	IAMs_20	08 17 28.2			
	comp=Z,1µm,20.0s								
J30M	Hart River	84.76	15	P	P	07 45 06.6	-0.5		
	baz=215								
BILL	Bilibino	84.80	352	IAMs_20	IAMs_20	08 16 17.5			
	comp=Z,2µm,20.0s								
BILL	Bilibino	84.80	352	*e*P	P	07 45 04.1	-3.0		
BILL				pmax	pmax				
	comp=Z,5.0nm,0.9s								
H03S2	Juan Fernandez	84.81	124	T	T	09 18 59.9			
	baz=251,slow=75,SNR=9.4								
H03S1	Juan Fernandez	84.83	124	T	T	09 18 49.8			
	baz=251,slow=75,SNR=7.3								
H03S3	Juan Fernandez	84.83	124	T	T	09 19 07.0			
	baz=251,slow=75,SNR=6.4								
I29M	Ogilvie Camp,	84.93	14	IAMs_20	IAMs_20	08 16 57.3			
	comp=Z,1µm,20.0s								
I29M	Ogilvie Camp,	84.93	14	P	P	07 45 08.2	+0.3		
	baz=214								
ABTX	Abilene, Hawle	84.96	54	IAMs_20	IAMs_20	08 16 43.7			
	comp=Z,1µm,20.0s								
D20K	Etivluk River	84.96	6	P	P	07 45 08.3	+0.4		
	baz=196								
F24K	Squaw Lake	84.96	9	IAmb	IAmb	07 45 22.5			
	comp=Z,52nm,1.9s								
F24K				IAMs_20	IAMs_20	08 15 41.7			
	comp=Z,1µm,22.0s								
F24K	Squaw Lake	84.96	9	P	P	07 45 08.7	+0.7		
	baz=204,SNR=5.5								
E22K	Anaktuvuk Pass	84.97	8	IAmb	IAmb	07 45 13.4			
	comp=Z,15nm,0.8s								
E22K				IAMs_20	IAMs_20	08 16 45.8			
	comp=Z,1µm,21.0s								
E22K	Anaktuvuk Pass	84.97	8	P	P	07 45 08.5	+0.5		
	baz=201,SNR=11								
H27K	Steamboat Moun	84.97	12	IAmb	IAmb	07 45 28.1			
	comp=Z,16nm,1.2s								
H27K	Steamboat Moun	84.97	12	P	P	07 45 08.1	+0.1		
	baz=210								
BRDY	Brady	84.97	56	IAmb	IAmb	07 45 22.6			
	comp=Z,26nm,1.2s								
E21K	Killik River	84.99	7	IAMs_20	IAMs_20	08 17 16.5			
	comp=Z,1µm,20.0s								
E21K	Killik River	84.99	7	P	P	07 45 08.4	+0.3		
	baz=198								
735A	Kenedy	85.06	58	IAMs_20	IAMs_20	08 16 58.6			
	comp=Z,1µm,20.0s								
C19K	Lookout Ridge	85.08	5	IAMs_20	IAMs_20	08 17 57.6			
	comp=Z,1µm,20.0s								
C19K	Lookout Ridge	85.08	5	P	P	07 45 08.9	+0.3		
	baz=193								
G26K	Porcupine Rive	85.16	11	P	P	07 45 09.3	+0.4		
	baz=208,SNR=16								
B18K	Kobuk River	85.17	4	P	P	07 45 09.6	+0.7		
	baz=191								
KOTAN	Kotaneelee Air	85.18	22	P	P	07 45 09.4	+0.2		
	baz=227								
E23K	Chandalar	85.20	9	IAmb	IAmb	07 45 23.5			
	comp=Z,23nm,1.1s								
E23K	Chandalar	85.20	9	P	P	07 45 09.4	+0.1		
	baz=203,SNR=11								
I30M	Mount Dempster	85.28	15	IAMs_20	IAMs_20	08 17 56.4			
	comp=Z,1µm,20.0s								
I30M	Mount Dempster	85.28	15	P	P	07 45 09.8	0.0		
	baz=215,SNR=10								
E24K	Your Creek	85.38	9	IAmb	IAmb	07 45 28.0			
	comp=Z,15nm,1.1s								
E24K				IAMs_20	IAMs_20	08 16 29.8			
	comp=Z,1µm,21.0s								
E24K	Your Creek	85.38	9	P	P	07 45 10.4	+0.3		
	baz=204								
F25K	Christian Rive	85.40	10	IAmb	IAmb	07 45 24.8			
	comp=Z,40nm,1.7s								
F25K				IAMs_20	IAMs_20	08 16 46.3			
	comp=Z,2µm,21.0s								
F25K	Christian Rive	85.40	10	P	P	07 45 10.7	+0.5		
	baz=206,SNR=5.5								
SMWD	Samnorwood	85.44	52	IAmb	IAmb	07 45 24.6			
	comp=Z,14nm,1.1s								
BMAR	Burnt Mountain	85.44	11	P	P	07 45 10.6	+0.2		
G27K	Doyon Strip	85.44	12	IAMs_20	IAMs_20	08 18 46.5			
	comp=Z,992nm,20.0s								
G27K	Doyon Strip	85.44	12	P	P	07 45 10.7	+0.3		
	baz=210								
USHA	Ushuaia	85.55	146	LR	LR	08 14 24.8			
	comp=Z,2µm,21.3s,baz=234,slow=29								
D22K	Ayikyak River	85.56	7	P	P	07 45 11.3	+0.4		
	baz=200,SNR=8.7								
C21K	Knifeblade Rid	85.58	6	P	P	07 45 11.4	+0.4		
	baz=198								
H29M	Whitestone	85.64	13	IAmb	IAmb	07 45 14.2			
	comp=Z,34nm,1.2s								
H29M				IAMs_20	IAMs_20	08 19 59.9			
	comp=Z,1µm,20.0s								
H29M	Whitestone	85.64	13	P	P	07 45 11.6	+0.3		
	baz=213,SNR=5.7								
TOLK	Toolik Lake Re	85.75	8	IAmb	IAmb	07 45 29.4			
	comp=Z,32nm,1.4s								
TOLK	Toolik Lake Re	85.75	8	P	P	07 45 12.2	+0.3		
	baz=203								
F26K	Sheenjek River	85.75	11	IAmb	IAmb	07 45 24.8			
	comp=Z,25nm,1.4s								
F26K				IAMs_20	IAMs_20	08 16 56.6			
	comp=Z,1µm,21.0s								
F26K	Sheenjek River	85.75	11	P	P	07 45 13.0	+1.1		
	baz=208,SNR=5.5								
ZEA	Zeya	85.79	329	*e*P	P	07 45 12.2	-0.1		
ZEA				pmax	pmax				
	comp=Z,20nm,1.3s								
HNS	HongShan	85.85	311	⇑P	P	07 45 15.9	+2.9		
HNS				pmax	pmax				
	comp=Z,17nm,1.1s								
E25K	Arctic Village	85.89	10	IAmb	IAmb	07 45 27.2			
	comp=Z,28nm,1.3s								
E25K				IAMs_20	IAMs_20	08 17 02.2			
	comp=Z,2µm,21.0s								
E25K	Arctic Village	85.89	10	P	P	07 45 13.7	+1.2		
	baz=207								
D23K	Nanushuk River	85.90	8	IAmb	IAmb	07 45 19.7			
	comp=Z,18nm,0.9s								
D23K				IAMs_20	IAMs_20	08 17 26.4			
	comp=Z,1µm,20.0s								
D23K	Nanushuk River	85.90	8	P	P	07 45 13.5	+0.9		
	baz=202								
435B	Jarrell	85.92	57	IAmb	IAmb	07 45 17.2			
	comp=Z,22nm,1.0s								
CCIG	Comitan	85.94	72	IAmb	IAmb	07 45 18.8			
	comp=Z,17nm,1.2s								
A19K	Wainwright	86.04	4	P	P	07 45 13.9	+0.7		
	baz=192								
B21K	Ikpikpuk River	86.04	6	IAMs_20	IAMs_20	08 18 24.3			
	comp=Z,1µm,20.0s								
B21K	Ikpikpuk River	86.04	6	P	P	07 45 14.2	+1.0		
	baz=198								
EPYK	Eagle Plains	86.14	14	IAMs_20	IAMs_20	08 19 39.8			
	comp=Z,945nm,19.0s								
EPYK	Eagle Plains	86.14	14	P	P	07 45 15.0	+1.2		
	baz=215								
B20K	Meade River	86.16	5	IAMs_20	IAMs_20	08 21 16.5			
	comp=Z,1µm,20.0s								
B20K	Meade River	86.16	5	P	P	07 45 14.5	+0.7		
	baz=195								
H31M	Peel River	86.25	15	P	P	07 45 14.5	+0.1		
	baz=217								
G29M	Pine Creek	86.29	13	IAmb	IAmb	07 45 16.8			
	comp=Z,18nm,1.1s								
G29M				IAMs_20	IAMs_20	08 18 02.9			
	comp=Z,1µm,20.0s								
G29M	Pine Creek	86.29	13	P	P	07 45 14.9	+0.3		
	baz=214								
D24K	Happy Valley	86.33	8	P	P	07 45 14.9	+0.3		
	baz=203								
WMOK	Wichita Mounta	86.41	53	IAMs_20	IAMs_20	08 18 43.0			
	comp=Z,1µm,18.0s								
RSSD	Black Hills	86.44	42	P	P	07 45 14.5	-1.6		
RSSD				IAmb	IAmb	07 45 28.3			
	comp=Z,35nm,1.4s								
RSSD	Black Hills	86.44	42	P	P	07 45 14.5	-1.6		
	comp=Z,35nm,1.4s								
				pmax	pmax				
OGNE	Ogallala	86.45	46	IAMs_20	IAMs_20	08 19 42.5			
	comp=Z,944nm,19.0s								
WHTX	Lake Whitney,	86.45	56	P	P	07 45 16.0	-0.2		
WHTX				IAMs_20	IAMs_20	08 17 30.3			
	comp=Z,1µm,20.0s								
LYN	LuoYang	86.45	307	*e*P	P	07 45 17.0	+0.9		
LYN				pmax	pmax				
	comp=Z,27nm,0.6s								
LYN				pmax	pmax				
	comp=Z,800nm,8.0s								
LYN				LR	LR				
	comp=Z,1µm,17.2s								
LYN				LR	LR				
	comp=Z,1µm,16.2s								
LYN				LR	LR				
	comp=Z,2µm,18.6s								
F28M	Old Crow	86.50	12	IAmb	IAmb	07 45 29.8			
	comp=Z,45nm,1.9s								
F28M				IAMs_20	IAMs_20	08 18 41.2			
	comp=Z,1µm,20.0s								
F28M	Old Crow	86.50	12	P	P	07 45 16.0	+0.4		
	baz=212								
E27K	Coleen River	86.65	11	IAmb	IAmb	07 45 18.0			
	comp=Z,17nm,1.2s								
E27K	Coleen River	86.65	11	P	P	07 45 16.9	+0.6		
	baz=210								
C23K	Itkillik River	86.72	8	IAMs_20	IAMs_20	08 18 04.1			
	comp=Z,2µm,22.0s								
C23K	Itkillik River	86.72	8	P	P	07 45 16.9	+0.4		
	baz=202								
G30M	tAoh Zraii Nji	86.75	14	IAMs_20	IAMs_20	08 20 44.0			
	comp=Z,925nm,19.0s								
G30M	tAoh Zraii Nji	86.75	14	P	P	07 45 16.6	-0.3		
	baz=215								
D25K	Kavik River	86.84	9	IAMs_20	IAMs_20	08 17 38.4			
	comp=Z,1µm,21.0s								
D25K	Kavik River	86.84	9	P	P	07 45 16.4	-0.9		
	baz=206								
B22K	Teshekpuk Lake	86.86	7	IAMs_20	IAMs_20	08 21 13.8			
	comp=Z,995nm,19.0s								
B22K	Teshekpuk Lake	86.86	7	P	P	07 45 17.3	+0.1		
	baz=199								
C24K	Franklin Bluff	86.86	8	P	P	07 45 17.1	-0.2		
	baz=204								
HKT	Hockley	87.06	58	IAMs_20	IAMs_20	08 21 28.4			
	comp=Z,1µm,18.0s								
HKT	Hockley	87.06	58	*e*P	P	07 45 19.3	+0.3		
HKT				pmax	pmax				
	comp=Z,15nm,1.5s								
Z35A	Perchaven, San	87.09	54	IAMs_20	IAMs_20	08 18 29.0			
	comp=Z,1µm,19.0s								
G31M	Satah River	87.16	14	IAmb	IAmb	07 45 21.3			
	comp=Z,22nm,1.1s								
G31M				IAMs_20	IAMs_20	08 18 45.9			
	comp=Z,1µm,20.0s								
G31M	Satah River	87.16	14	P	P	07 45 18.2	-0.6		
	baz=217								
IPM	Ipoh	87.25	275	IAmb	IAmb	07 45 22.2			
	comp=Z,12nm,0.9s								
LL01	San Ignacio de	87.26	133	IAMs_20	IAMs_20	08 24 59.4			
	comp=Z,1µm,20.0s								
F30M	Barrier River	87.36	13	P	P	07 45 19.6	-0.2		
	baz=216								
E28M	Babbage River	87.41	12	IAMs_20	IAMs_20	08 19 57.3			
	comp=Z,1µm,20.0s								
E28M	Babbage River	87.41	12	P	P	07 45 20.0	+0.1		
	baz=212								
XLT	XiLinHaoTe	87.51	317	*e*P	P	07 45 21.5	+0.4		
XLT				pmax	pmax				
	comp=Z,14nm,1.7s								
XLT				pmax	pmax				
	comp=Z,730nm,7.0s								
C27K	Jago River	87.54	10	IAMs_20	IAMs_20	08 17 55.9			
	comp=Z,1µm,21.0s								
C27K	Jago River	87.54	10	P	P	07 45 20.4	-0.2		
	baz=208								
E29M	Blow River	87.55	12	IAMs_20	IAMs_20	08 19 14.2			
	comp=Z,1µm,20.0s								
E29M	Blow River	87.55	12	P	P	07 45 21.0	+0.3		
	baz=214								
MAW	Mawson	87.65	199	P	P	07 45 23.7	+2.4		
	comp=Z,13nm,1.1s,baz=136,slow=5.3,SNR=20								
MAW				LR	LR	08 25 05.8			
	comp=Z,1µm,18.2s,baz=114,slow=36								
	comp=Z,13nm,1.1s								
D27M	Malcolm River	87.68	11	IAMs_20	IAMs_20	08 22 53.6			
	comp=Z,845nm,19.0s								
D27M	Malcolm River	87.68	11	P	P	07 45 21.2	-0.1		
	baz=211								
F31M	Tsiigehtchic	87.70	14	IAMs_20	IAMs_20	08 20 00.1			
	comp=Z,1µm,20.0s								
F31M	Tsiigehtchic	87.70	14	P	P	07 45 20.7	-0.6		
	baz=218,SNR=6.9								
OK029	Liberty Lake	87.81	52	IAMs_20	IAMs_20	08 19 47.9			
	comp=Z,1µm,20.0s								
R32A	Long Quarter,	87.83	49	IAMs_20	IAMs_20	08 17 48.2			
	comp=Z,947nm,19.0s								
MTO3	Montecristo	87.95	75	IAmb	IAmb	07 45 28.1			
MTO3	comp=Z,12nm,1.1s			IAMs_20	IAMs_20	08 15 36.0			
	comp=Z,975nm,20.0s								
PETF	Flores	88.20	72	IAMs_20	IAMs_20	08 15 24.5			
	comp=Z,2µm,22.0s								
OK052	Battle Ridge R	88.37	52	IAMs_20	IAMs_20	08 21 14.9			
	comp=Z,1µm,19.0s								
GYA	Guiyang	88.43	298	⇓P	P	07 45 26.9	+0.9		
GYA				S	S	07 56 11.3	+1.2		
GYA				pmax	pmax				
	comp=Z,12nm,0.6s								
GYA				pmax	pmax				
	comp=Z,370nm,4.8s								
GYA				LR	LR				
	comp=Z,1µm,5.3s								
GYA				LR	LR				
	comp=Z,640nm,5.9s								
GYA				LR	LR				
	comp=Z,690nm,5.7s								
INK	Inuvik	88.44	14	IAmb	IAmb	07 45 38.3			
	comp=Z,15nm,1.2s								
INK	Inuvik	88.44	14	LR	LR	08 19 19.0			
	comp=Z,620nm,20.0s,baz=222,slow=32								
NATX	Nacogdoches	88.61	57	IAMs_20	IAMs_20	08 20 02.5			
	comp=Z,1µm,19.0s								
TUL3	Leonard	89.11	52	IAMs_20	IAMs_20	08 20 55.5			
	comp=Z,1µm,18.0s								
PLCA	Paso Flores	89.12	132	LR	LR	08 16 43.1			
	comp=Z,1µm,20.9s,baz=262,slow=30								
BGNE	Belgrade	89.33	47	IAMs_20	IAMs_20	08 19 48.8			
	comp=Z,1µ

	comp=Z,17nm,0.8s							
HHAR	**Hobbs**	**90.65**	**53**	IAms_20	IAms_20	08 23 14.2		
	comp=Z,988nm,18.0s							
L34A	**Svendsen Farm,**	**90.77**	**47**	IAms_20	IAms_20	08 23 20.9		
	comp=Z,1µm,19.0s							
X40A	**Basin Creek Fa**	**90.94**	**55**	IAms_20	IAms_20	08 21 46.9		
	comp=Z,868nm,20.0s							
JTS	**Las Juntas de**	**90.95**	**80**	LR	LR	08 17 07.0		
	comp=Z,1µm,20.2s,baz=244,slow=29							
MT09	**Talagante**	**91.13**	**125**	IAms_20	IAms_20	08 16 24.3		
	comp=Z,1µm,21.0s							
ACON	**Acoyapa**	**91.19**	**78**	IAms_20	IAms_20	08 17 04.1		
	comp=Z,1µm,21.0s							
ECSD	**EROS Data Cent**	**91.22**	**45**	IAms_20	IAms_20	08 20 19.7		
	comp=Z,916nm,20.0s							
ECSD	**EROS Data Cent**	**91.22**	**45**	IAmb	IAmb	07 45 57.8		
	comp=Z,24nm,1.9s							
UALR	**University of**	**91.41**	**54**	IAmb	IAmb	07 45 53.0		
	comp=Z,23nm,1.2s							
C36M	**Paulatuk**	**91.52**	**16**	P	**P**	**07 45 39.5**	**+0.3**	
	baz=227							
S39A	**Bolivar**	**91.57**	**51**	IAmb	IAmb	07 45 54.3		
	comp=Z,12nm,1.3s							
HDC	**Heredia**	**91.67**	**80**	IAms_20	IAms_20	08 18 22.9		
	comp=Z,974nm,20.0s							
FCAR	**Ozark Folk Cen**	**91.92**	**53**	IAmb	IAmb	07 45 55.4		
	comp=Z,19nm,1.4s							
FCAR				IAms_20	IAms_20	08 22 00.9		
	comp=Z,1µm,19.0s							
P38A	**Dawn**	**92.03**	**49**	IAmb	IAmb	07 45 54.1		
	comp=Z,12nm,1.1s							
SIUN	**Universidad Ur**	**92.04**	**76**	IAmb	IAmb	07 45 53.1		
	comp=Z,20nm,0.6s							
SIUN				IAms_20	IAms_20	08 16 42.4		
	comp=Z,480nm,21.0s							
ESPN	**Las Esperanzas**	**92.08**	**78**	IAms_20	IAms_20	08 18 21.5		
	comp=Z,1µm,20.0s							
MGMO	**Mountain Grove**	**92.20**	**52**	IAmb	IAmb	07 45 56.6		
	comp=Z,16nm,0.9s							
MGMO				IAms_20	IAms_20	08 23 45.1		
	comp=Z,1µm,18.0s							
CD2	**Chengdu**	**92.20**	**301**	*e*P	**P**	**07 45 43.4**	**0.0**	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CIT	**Chita**	**92.31**	**324**	*e*P	**P**	**07 45 44.0**	**+0.6**	
CIT				*e*		07 45 50.8		
CIT				pmax	pmax			
	comp=Z,92nm,1.9s							
SYO	**Syowa Base**	**92.42**	**191**	⇓*e*PcP	**PcP**	**07 45 45.2**	**+0.9**	
SYO	**Syowa Base**	**92.42**	**191**	⇓*e*pP	**P**	**07 45 47.0**	**+3.4**	
TROLL	**Troll, Antarti**	**92.50**	**179**	⇑P	**P**	**07 45 46.0**	**+1.9**	
	comp=Z,559nm,0.8s							
VNA3	**Neumayer Olymp**	**92.58**	**175**	⇑P	**P**	**07 45 46.6**	**+2.2**	
	comp=Z,19nm,0.9s							
ATAH	**Atahualpa**	**92.58**	**98**	LR	LR	08 17 34.4		
	comp=Z,2µm,20.9s,baz=260,slow=29							
N38A	**Joes South For**	**92.61**	**48**	IAmb	IAmb	07 45 57.1		
	comp=Z,16nm,1.1s							
SNAA	**Sanae**	**92.64**	**177**	⇑P	**P**	**07 45 46.8**	**+2.1**	
	comp=Z,111nm,0.8s							
SNAA	**Sanae**	**92.64**	**177**	P	**P**	**07 45 45.6**	**+0.9**	
SNAA				IAmb	IAmb	07 46 01.4		
	comp=Z,20nm,1.1s							
SNAA	**Sanae**	**92.64**	**177**	P	**P**	**07 45 46.8**	**+2.1**	
	comp=Z,7.5nm,1.1s,baz=188,slow=3.8,SNR=13							
SNAA				LR	LR	08 21 48.0		
	comp=Z,544nm,21.9s,baz=234,slow=32							
	comp=Z,7.5nm,1.1s							
SNAA	**Sanae**	**92.64**	**177**	P	**P**	**07 45 45.6**	**+0.9**	
SNAA				pmax	pmax			
	comp=Z,20nm,1.1s							
PZH	**PanZhiHua**	**92.66**	**297**	P	**P**	**07 45 47.0**	**+1.3**	
PZH				S	**S**	**07 56 46.9**	**-2.1**	
PZH				pmax	pmax			
	comp=Z,20nm,1.0s							
PZH				pmax	pmax			
	comp=Z,220nm,6.7s							
PZH				LR	LR			
	comp=Z,630nm,19.0s							
PZH				LR	LR			
	comp=Z,710nm,23.1s							
PZH				LR	LR			
	comp=Z,880nm,22.7s							
NNA	**Nana**	**92.70**	**103**	LR	LR	08 18 14.0		
	comp=Z,466nm,21.4s,baz=231,slow=30							
LCAR	**Lake Charles**	**92.73**	**53**	IAmb	IAmb	07 45 58.2		
	comp=Z,18nm,1.2s							
LCAR				IAms_20	IAms_20	08 20 40.2		
	comp=Z,1µm,20.0s							
SCIA	**State Center**	**92.97**	**47**	IAms_20	IAms_20	08 23 32.3		
	comp=Z,1µm,19.0s							
CMAR	**Chiang Mai Arr**	**92.98**	**288**	P	**P**	**07 45 46.4**	**-0.8**	
CMAR	**Chiang Mai Arr**	**92.98**	**288**	P	**P**	**07 45 47.7**	**+0.5**	
	comp=Z,1.5nm,0.3s,baz=88,slow=3.1,SNR=15							
CMAR				LR	LR	08 22 36.6		
	comp=Z,512nm,21.6s,baz=105,slow=32							
	comp=Z,1.5nm,0.3s							
A36M	**Sachs Harbour**	**93.07**	**13**	IAms_20	IAms_20	08 22 47.0		
	comp=Z,989nm,20.0s							
VNA2	**Neumayer--Watz**	**93.08**	**175**	⇑P	**P**	**07 45 49.9**	**+3.2**	
	comp=Z,14nm,0.8s,baz=174,slow=2.5							
P40A	**Paris**	**93.09**	**50**	IAmb	IAmb	07 45 59.8		
	comp=Z,16nm,1.1s							
P40A				IAms_20	IAms_20	08 22 20.5		
	comp=Z,1µm,20.0s							
CCM	**Cathedral Cave**	**93.25**	**52**	P	**P**	**07 45 47.5**	**-0.5**	
CCM				IAmb	IAmb	07 46 00.3		
	comp=Z,16nm,1.2s							
CCM	**Cathedral Cave**	**93.25**	**52**	IAms_20	IAms_20	08 22 50.8		
	comp=Z,1µm,19.0s							
CCM	**Cathedral Cave**	**93.25**	**52**	P	**P**	**07 45 47.5**	**-0.5**	
CCM				pmax	pmax			
	comp=Z,16nm,1.3s							
VNA1	**Neumayer--Stat**	**93.28**	**175**	⇑P	**P**	**07 45 50.9**	**+3.4**	
	comp=Z,40nm,1.0s							
Y45A	**Yeager Farm, C**	**93.35**	**56**	IAms_20	IAms_20	08 21 56.0		
	comp=Z,1µm,20.0s							
BILN	**Bilwi Airport**	**93.44**	**76**	IAms_20	IAms_20	08 18 08.4		
	comp=Z,454nm,20.0s							
PBMO	**Poplar Bluff**	**93.49**	**53**	IAmb	IAmb	07 46 02.1		
	comp=Z,16nm,1.2s							
PBMO				IAms_20	IAms_20	08 20 21.4		
	comp=Z,1µm,21.0s							
LZDM	**Lanzhou Array**	**93.69**	**306**	LR	LR	08 25 02.6		
	comp=Z,352nm,20.4s,baz=90,slow=34							
FVM	**French Village**	**93.84**	**52**	IAms_20	IAms_20	08 22 41.6		
	comp=Z,1µm,20.0s							
ULM	**Lac du Bonnet**	**93.93**	**39**	LR	LR	08 24 13.5		
	comp=Z,2µm,18.4s,baz=254,slow=33							
SLM	**Saint Louis**	**94.17**	**51**	IAms_20	IAms_20	08 24 20.3		
	comp=Z,965nm,18.0s							
CGM3	**Cape Girardeau**	**94.23**	**53**	IAmb	IAmb	07 46 04.8		
	comp=Z,13nm,0.9s							
SPMN	**Marine on St.**	**94.28**	**44**	IAms_20	IAms_20	08 22 33.8		
	comp=Z,1µm,20.0s							
SIUC	**Southern Illin**	**94.68**	**52**	IAmb	IAmb	07 46 07.2		
	comp=Z,17nm,1.1s							
ULN	**Ulaanbaatar**	**94.82**	**318**	IAms_20	IAms_20	08 22 10.7		
	comp=Z,975nm,20.0s							
ULN	**Ulaanbaatar**	**94.82**	**318**	*ce*P	**P**	**07 45 52.9**	**-2.3**	
ULN				pmax	pmax			
	comp=Z,14nm,1.6s							
T45A	**Paducah**	**94.93**	**53**	IAms_20	IAms_20	08 24 20.6		
	comp=Z,1µm,19.0s							
SONM	**Songino Array**	**95.23**	**318**	P	**P**	**07 45 56.2**	**-0.8**	
	comp=Z,1.0nm,0.6s,baz=109,slow=3.5,SNR=4.8							
SONM				PP	**PP**	**07 49 52.4**	**+5.0**	
	comp=Z,0.8nm,0.9s,baz=111,slow=6.7,SNR=3.6							
SONM				LR	LR	08 23 43.3		
	comp=Z,618nm,21.9s,baz=104,slow=32							
	comp=Z,1.0nm,0.6s							
TIXI	**Tiksi**	**95.32**	**344**	LR	LR	08 25 10.8		
	comp=Z,915nm,20.8s,baz=144,slow=33							
TIXI	**Tiksi**	**95.32**	**344**	*i* P	**P**	**07 45 54.1**	**-2.6**	
TIXI				pmax	pmax			
	comp=Z,9.0nm,1.1s							
JFWS	**Jewell Farm**	**95.37**	**47**	IAms_20	IAms_20	08 23 17.7		
	comp=Z,1µm,20.0s							
X48A	**Hartselle**	**95.51**	**56**	IAms_20	IAms_20	08 23 41.0		
	comp=Z,1µm,20.0s							
L42A	**Oliver, Polo**	**95.53**	**48**	IAms_20	IAms_20	08 20 20.1		
	comp=Z,942nm,22.0s							
Y49A	**Blount Mountai**	**95.86**	**57**	IAms_20	IAms_20	08 22 37.4		
	comp=Z,1µm,21.0s							
EYMN	**Ely**	**95.95**	**42**	IAms_20	IAms_20	08 24 04.7		
	comp=Z,1µm,20.0s							
G40A	**Rib Lake**	**96.06**	**45**	IAms_20	IAms_20	08 22 26.7		
	comp=Z,1µm,21.0s							

T47A	**Sharon Grove**	**96.11**	**53**	IAmb	IAmb	07 46 03.9		
	comp=Z,6.1nm,0.9s							
CLTN	**Cedars of Leba**	**96.49**	**54**	IAms_20	IAms_20	08 25 53.9		
	comp=Z,752nm,19.0s							
I42A	**Draeger Farm,**	**96.57**	**46**	IAms_20	IAms_20	08 23 58.5		
	comp=Z,980nm,20.0s							
SWET	**Sewanee**	**96.59**	**55**	IAms_20	IAms_20	08 24 17.5		
	comp=Z,916nm,20.0s							
SFIN	**Lafayette**	**96.98**	**50**	IAms_20	IAms_20	08 25 33.5		
	comp=Z,1µm,20.0s							
WCI	**Wyandotte Cave**	**97.05**	**52**	IAms_20	IAms_20	08 24 43.5		
	comp=Z,1µm,20.0s							
X51A	**Calhoun**	**97.28**	**56**	IAms_20	IAms_20	08 25 15.1		
	comp=Z,1µm,20.0s							
GTA	**Gaotai**	**97.57**	**309**	*e*P	Pdif	07 46 14.3	+6.4	
GTA				pP	sP	07 46 18.4	-1.6	
GTA				pmax	pmax			
	comp=Z,4.0nm,1.5s							
GTA				LR	LR			
	comp=Z,380nm,16.7s							
GTA				LR	LR			
	comp=Z,800nm,19.6s							
GTA				LR	LR			
	comp=Z,1µm,20.0s							
F42A	**Maple Grove Fa**	**97.59**	**45**	IAms_20	IAms_20	08 22 40.2		
	comp=Z,1µm,21.0s							
CPCT	**Cooper Cave**	**97.76**	**55**	IAms_20	IAms_20	08 25 02.7		
	comp=Z,906nm,20.0s							
T50A	**Nancy**	**97.88**	**54**	IAms_20	IAms_20	08 25 05.7		
	comp=Z,1µm,20.0s							
R49A	**Shelbyville**	**97.92**	**53**	IAms_20	IAms_20	08 25 18.7		
	comp=Z,1µm,20.0s							
P48A	**Milroy**	**98.00**	**51**	IAms_20	IAms_20	08 26 48.7		
	comp=Z,1µm,19.0s							
GOGA	**Godfrey**	**98.14**	**58**	IAms_20	IAms_20	08 28 40.8		
	comp=Z,810nm,19.0s							
W52A	**Murphy**	**98.15**	**56**	IAms_20	IAms_20	08 24 15.0		
	comp=Z,804nm,19.0s							
TKL	**Tuckaleechee C**	**98.40**	**55**	LR	LR	08 25 53.2		
	comp=Z,924nm,18.9s,baz=260,slow=32							
BG3	**Lake Jocassee**	**98.92**	**56**	IAms_20	IAms_20	08 24 30.5		
	comp=Z,873nm,21.0s							
V53A	**Saluda**	**99.17**	**56**	IAms_20	IAms_20	08 25 47.9		
	comp=Z,887nm,20.0s							
LPAZ	**La Paz**	**99.44**	**110**	LR	LR	08 21 55.7		
	comp=Z,546nm,21.8s,baz=258,slow=30							
Q51A	**Peebles**	**99.48**	**52**	IAms_20	IAms_20	08 23 25.9		
	comp=Z,976nm,22.0s							
ROSC	**El Rosal**	**99.71**	**88**	LR	LR	08 21 57.7		
	comp=Z,728nm,21.7s,baz=250,slow=30							
PAULI	**Pauline**	**99.78**	**57**	IAms_20	IAms_20	08 25 16.3		
	comp=Z,1µm,20.0s							
JSC	**Jenkinsville**	**100.12**	**57**	IAms_20	IAms_20	08 29 02.2		
	comp=Z,1µm,18.0s							
KMSC	**Kings Mountain**	**100.24**	**56**	IAms_20	IAms_20	08 25 21.3		
	comp=Z,1µm,20.0s							
V55A	**Taylorsville**	**100.48**	**56**	IAms_20	IAms_20	08 26 58.6		
	comp=Z,953nm,20.0s							
P52A	**Corning**	**100.53**	**52**	IAms_20	IAms_20	08 26 59.5		
	comp=Z,858nm,20.0s							
S54A	**Dingess, Beckl**	**100.79**	**54**	IAms_20	IAms_20	08 26 08.7		
	comp=Z,1µm,20.0s							
O52A	**Adamsville**	**100.84**	**51**	IAms_20	IAms_20	08 28 20.1		
	comp=Z,903nm,19.0s							
P53A	**Whipple**	**101.06**	**52**	IAms_20	IAms_20	08 26 39.7		
	comp=Z,910nm,19.0s							
U56A	**King**	**101.23**	**55**	IAms_20	IAms_20	08 27 21.6		
	comp=Z,984nm,20.0s							
CHIV	**Chivirico**	**101.32**	**72**	IAms_20	IAms_20	08 22 22.1		
	comp=Z,359nm,20.0s							
Y58A	**Scranton**	**101.34**	**58**	IAms_20	IAms_20	08 28 22.6		
	comp=Z,950nm,20.0s							
N53A	**Lisbon**	**101.72**	**51**	IAms_20	IAms_20	08 29 39.1		
	comp=Z,1µm,18.0s							
X58A	**Rowland**	**101.73**	**57**	IAms_20	IAms_20	08 28 47.9		
	comp=Z,942nm,20.0s							
R55A	**Marlinton**	**101.81**	**53**	IAms_20	IAms_20	08 27 31.6		
	comp=Z,1µm,20.0s							
V58A	**Windy Hill, Pi**	**102.14**	**56**	IAms_20	IAms_20	08 28 07.6		
	comp=Z,825nm,19.0s							
MCWV	**Mont Chateau**	**102.26**	**52**	IAms_20	IAms_20	08 25 56.6		
	comp=Z,1µm,20.0s							
PAMR	**Moraine State**	**102.30**	**51**	IAms_20	IAms_20	08 27 17.4		
	comp=Z,1µm,19.0s							
Y60A	**Bolivia**	**102.54**	**58**	IAms_20	IAms_20	08 29 17.4		
	comp=Z,1µm,20.0s							
W59A	**Clinton**	**102.57**	**57**	IAms_20	IAms_20	08 27 32.0		
	comp=Z,902nm,20.0s							
ERPA	**Erie**	**102.58**	**50**	IAms_20	IAms_20	08 29 07.7		
	comp=Z,714nm,19.0s							
R58B	**Mineral**	**103.49**	**54**	IAms_20	IAms_20	08 28 03.2		
	comp=Z,1µm,20.0s							
SSPA	**Standing Stone**	**103.91**	**51**	IAms_20	IAms_20	08 28 11.9		
	comp=Z,1µm,21.0s							
V61A	**Roper**	**104.17**	**56**	IAms_20	IAms_20	08 26 15.5		
	comp=Z,707nm,20.0s							
WUPA	**West Chester U**	**105.53**	**52**	IAms_20	IAms_20	08 30 04.1		
	comp=Z,872nm,19.0s							
WMQ	**Urumqi**	**107.26**	**312**	Pdif	**Pdif**	**07 46 52.9**	**+2.1**	
WMQ				LR	LR			
	comp=Z,440nm,22.3s							
M63A	**Gales Ferry**	**108.38**	**51**	IAms_20	IAms_20	08 32 01.4		
	comp=Z,1µm,20.0s							
M65A	**Busby, Falmout**	**109.44**	**51**	P	**PKiKP**	**07 51 03.4**	**-0.4**	
	baz=266							
ZALV	**Zalesovo Beam**	**109.61**	**322**	PKiKP	**PKiKP**	**07 51 04.6**	**+1.0**	
	comp=Z,0.6nm,0.3s,baz=300,slow=3.3,SNR=3.8							
ZALV				PKKP	**PKKPdf**	**08 02 27.6**	**+1.6**	
	comp=Z,1.0nm,0.4s,baz=303,slow=2.8,SNR=6.1							
AOPR	**Arecibo Observ**	**109.95**	**76**	IAms_20	IAms_20	08 27 08.9		
	comp=Z,805nm,21.0s							
MKAR	**Makanchi Array**	**111.22**	**315**	PKiKP	**PKiKP**	**07 51 06.8**	**-0.2**	
	comp=Z,0.6nm,0.5s,baz=295,slow=0.5,SNR=6.2							
HYB	**Hyderabad**	**111.69**	**283**	*e*PKiKP	**PKiKP**	**07 51 08.1**	**-0.7**	
HYB				*e*PP	**PP**	**07 51 49.9**	**-1.1**	
KURK	**Kurchatov**	**113.53**	**319**	IAms_20	IAms_20	08 36 55.6		
	comp=Z,738nm,19.0s							
KURK	**Kurchatov**	**113.53**	**319**	*c* iPKiKP	**PKiKP**	**07 51 11.5**	**+0.3**	
KURK				pmax	pmax			
	comp=Z,8.0nm,1.7s							
KURBB	**Kurchatov Arra**	**113.59**	**319**	PKiKP	**PKiKP**	**07 51 11.2**	**-0.1**	
	comp=Z,2.4nm,0.2s,baz=99,slow=1.9,SNR=7.1							
SPITS	**Spitsbergen Ar**	**117.28**	**358**	PKP	**PKiKP**	**07 51 18.0**	**+0.2**	
	comp=Z,24nm,1.2s,baz=66,slow=14,SNR=4.1							
BVAR	**Borovoye Array**	**118.27**	**322**	PKP	**PKPdf**	**07 51 20.0**	**-0.3**	
	comp=Z,2.7nm,0.8s,baz=82,slow=3.1,SNR=8.2							
BVAR	**Borovoye Array**	**118.27**	**322**	PKiKP	**PKPdf**	**07 51 20.0**	**-0.3**	
BORK	**Borovoye**	**118.30**	**322**	*e*PKiKP	**PKPdf**	**07 51 19.3**	**-1.0**	
BORK				pmax	pmax			
	comp=Z,5.0nm,1.3s							
ARTI	**Arti**	**123.82**	**328**		**PKPdf**	**07 51 30.7**	**-0.1**	
ARTI	**Arti**	**123.82**	**328**	*i* PKiKP	**PKiKP**	**07 51 31.1**	**0.0**	
ARTI						07 53 18.2		
ARTI						07 58 42.6		
ARTI				SP	SP	08 03 15.4	+7.9	
ARTI				SS	**SS**	**08 10 01.0**	**+0.2**	
ARTI				MLR	MLR			
	comp=Z,942nm,21.0s							
ARCES	**ARCESS Array B**	**124.90**	**352**	PKP	**PKiKP**	**07 51 33.3**	**+0.4**	
	comp=Z,4.7nm,0.9s,baz=288,slow=0.4,SNR=9.3							
APA	**Apatity**	**125.34**	**348**	*i* PKiKP	PKiKP	07 51 42.1	+8.3	
APA				pmax	pmax			
	comp=Z,12nm,1.3s							
APA				MLR	MLR			
	comp=Z,1µm,21.2s							
AB31	**Akbulak array**	**125.60**	**320**		**PKiKP**	**07 51 34.7**	**-0.1**	
ABKAR	**Akbulak array**	**125.60**	**320**		**PKiKP**	**07 51 34.7**	**-0.2**	
KIRV	**Kirov**	**126.90**	**334**	*ce*PKiKP	**PKiKP**	**07 51 37.5**	**+0.4**	
MSEY	**Mahe Island**	**127.86**	**251**	IAms_20	IAms_20	08 44 17.5		
	comp=Z,685nm,20.0s							
KLMR	**Klimovskoe**	**129.13**	**340**	*e*PKiKP	**PKPdf**	**07 51 36.6**	**-4.2**	
KLMR				pmax	pmax			
	comp=Z,27nm,1.4s							
BELG	**Belogornoye**	**131.25**	**328**	*i* PKiKP	**PKPdf**	**07 51 43.3**	**-1.8**	
FIA1	**FINESS Array S**	**132.25**	**348**	IAms_20	IAms_20	08 46 01.9		
	comp=Z,753nm,20.0s							
FINES	**FINESS Array B**	**132.25**	**348**	PKP	**PKiKP**	**07 51 48.0**	**+0.2**	
	comp=Z,3.3nm,0.9s,baz=82,slow=4.0,SNR=6.3							
OBN	**Obninsk**	**134.46**	**337**	IAms_20	IAms_20	08 52 07.0		
	comp=Z,769nm,21.0s							
OBN	**Obninsk**	**134.46**	**337**	⇑*i* PKiKP	**PKiKP**	**07 51 51.9**	**-0.5**	
OBN				*i*		07 54 21.1		
OBN				*e*PPP	PPP	07 57 21.5		
OBN				*i*		07 59 01.2		
OBN				PS	**PS**	**08 04 41.0**	**-3.5**	
OBN				pmax	pmax			
	comp=Z,8.0nm,0.5s							

OBN				MLR	MLR			
	comp=Z,575nm,20.0s							
NOA	**NORSAR Array B**	**134.57**	**357**	PKhKP	PKPpre	07 51 46.1		
	comp=Z,0.3nm,0.6s,baz=41,slow=2.2,SNR=4.8							
NOA				PKP	**PKPdf**	**07 51 51.6**	**+0.4**	
	comp=Z,0.7nm,0.7s,baz=50,slow=6.9,SNR=3.4							
HFS	**Hagfors**	**135.31**	**355**	PKhKP	PKPpre	07 51 44.0		
	comp=Z,2.3nm,1.0s,baz=32,slow=4.1,SNR=5.2							
HFS				PKP	**PKiKP**	**07 51 53.4**	**-0.7**	
	comp=Z,3.7nm,0.9s,baz=151,slow=3.4,SNR=4.5							
MAK	**Makhachkala**	**135.98**	**317**	*e*P	**Pdif**	**07 48 54.3**	**-4.1**	
MAK				*i*		07 51 50.9		
MAK				*e*PPP	PPP	07 57 31.5		
MAK				*e*		07 59 02.7		
MAK				*e*SS	SS	08 12 32.9	+1.9	
MAK				pmax	pmax			
	comp=Z,129nm,0.9s							
KONO	**Kongsberg**	**136.03**	**358**	IAms_20	IAms_20	09 00 39.7		
	comp=Z,462nm,20.0s							
MNK	**Minsk**	**137.94**	**342**	*i* PKiKP	**PKPdf**	**07 51 55.1**	**-2.5**	
MNK				*i*		07 54 41.7		
MNK				*i* PPP	PPP	07 57 41.8		
MNK				*i* SSS	SSS	08 18 04.7		
MNK				pmax	pmax			
	comp=N,14nm,0.9s							
MNK				pmax	pmax			
	comp=E,12nm,1.0s							
MNK				pmax	pmax			
	comp=Z,3.0nm,0.5s							
MNK				MLR	MLR			
	comp=N,464nm,22.0s							
MNK				MLR	MLR			
	comp=Z,682nm,20.0s							
MNK				MLR	MLR			
	comp=E,626nm,21.0s							
KIV	**Kislovodsk**	**138.59**	**320**	IAms_20	IAms_20	08 58 24.3		
	comp=Z,581nm,20.0s							
KIV	**Kislovodsk**	**138.59**	**320**	*i* PKiKP	**PKiKP**	**07 52 00.6**	**-0.8**	
KIV				*e*		07 54 46.8		
KIV				*e*SS	SS	08 12 59.3	-2.7	
KIV				pmax	pmax			
	comp=Z,5.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,534nm,24.0s							
GNI	**Garni**	**139.06**	**314**	IAms_20	IAms_20	08 56 35.5		
	comp=Z,433nm,21.0s							
AK03	**Malin Array Si**	**140.66**	**338**	PKP	**PKPdf**	**07 52 02.8**	**+0.1**	
AKASG	**Malin Array Be**	**140.69**	**338**	PKP	**PKPdf**	**07 52 02.7**	**0.0**	
	comp=Z,5.2nm,0.9s,baz=39,slow=1.8,SNR=12							
AKBB	**Malin Array Si**	**140.69**	**338**	PKP	**PKPdf**	**07 52 02.6**	**-0.1**	
KIEV	**Kiev**	**140.70**	**338**	PKP	**PKPdf**	**07 52 02.4**	**-0.3**	
AK18	**Malin Array Si**	**140.72**	**338**	PKP	**PKPdf**	**07 52 02.8**	**0.0**	
RGN	**Rugen**	**140.87**	**354**	IAms_20	IAms_20	08 51 37.6		
	comp=Z,664nm,22.0s							
RNPP9	**Sopachiv**	**141.22**	**341**	PKP	**PKPdf**	**07 52 04.9**	**+1.3**	
LSZ	**Lusaka**	**142.77**	**215**	PKP	**PKPdf**	**07 52 07.0**	**-0.7**	
	comp=Z,4.6nm,0.8s,baz=132,slow=1.9,SNR=6.3							
LSZ	**Lusaka**	**142.77**	**215**	PKiKP	**PKPdf**	**07 52 07.0**	**-0.7**	
SIM	**Simferopol'**	**142.87**	**327**	*e*PKHKP	PKPpre	07 51 54.8		
SIM				pmax	pmax			
	comp=Z,14nm,0.6s							
RAYN	**Ar Rayn**	**142.90**	**288**	IAms_20	IAms_20	09 00 16.7		
	comp=Z,469nm,20.0s							
TSUM	**Tsumeb**	**143.81**	**197**	PKP	**PKPdf**	**07 52 09.8**	**+0.3**	
	comp=Z,10nm,0.9s,baz=114,slow=5.9,SNR=4.0							
MILM	**Milestii Mici**	**143.90**	**334**	*e*PKP	PKPab	07 52 01.0	-4.7	
	comp=Z,280nm,15.0s							
MILM	**Milestii Mici**	**143.90**	**334**	*i* PP	PP	07 55 24.0	+2.6	
MILM				*e*L	L	08 42 51.0		
MILM				LRM	MLR	08 54 18.0		
	comp=Z,500nm,21.0s							
MILM	**Milestii Mici**	**143.90**	**334**	*e*PKHKP	PKPpre	07 52 01.0		
MILM				pmax	pmax			
	comp=Z,280nm,13.0s							
OJC	**Ojcow**	**143.97**	**346**	*e*PKP	PKPab	07 52 06.0	+0.1	
KSP	**Ksiaz**	**144.09**	**350**	*e*PKP	PKPbc	07 52 07.3	+0.6	
CLL	**Collm**	**144.10**	**353**	IAms_20	IAms_20	09 00 17.1		
	comp=Z,549nm,21.0s							
CLL	**Collm**	**144.10**	**353**	*i* PKiKP	PKPbc	07 52 07.3	+0.5	
CLL				*i*		07 52 10.4		
CLL				*e*		07 55 23.0		
CLL				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CLL		

VRAC	Vranov	145.51	349	*e*PKP	PKPbc	07 52 11.4	0.0		
VRAC	Vranov	145.51	349	⇑P	PKPab	07 52 11.7	+0.1		
VRAC	Vranov	145.51	349	⇑PKIKP	PKPab	07 52 11.7	+0.1		
ODBI	Odobesti	145.55	335	⇓P	PKPab	07 52 13.3	+1.5		
CFR	Carcaliu	145.56	333	⇑P	PKPab	07 52 11.8	-0.1		
CFR	Carcaliu	145.56	333	⇑PKIKP	PKPab	07 52 11.8	-0.1		
DOU	Dourbes	145.59	3	*d*PKIKP	PKPab	07 52 11.8	0.0		
VRI	Vrincioaia	145.60	335	⇑P	PKPdf	07 52 11.6	0.0		
VRI	Vrincioaia	145.60	335	⇑PKIKP	PKPdf	07 52 11.6	0.0		
PLOR	Plostina	145.64	335	⇑P	PKPbc	07 52 11.8	-0.1		
PLOR	Plostina	145.64	335	⇑PKIKP	PKPbc	07 52 11.8	-0.1		
TPGR	Topolog	145.69	332	⇑P	PKPab	07 52 12.6	+0.1		
KMBO	Kilima Mbogo	145.70	244	PKPbc	PKPab	07 52 14.3	+0.6		
	comp=Z,6.8nm,0.5s,baz=105,slow=3.3,SNR=16								
TREC	Trest	145.72	350	*e*PKP	PKPbc	07 52 12.0	-0.1		
TREC				AMS	AMS	08 54 20.0			
	comp=Z,1μm,29.6s								
TREC	Trest	145.72	350	*e*PKIKP	PKPbc	07 52 12.0	-0.1		
JAVC	Velka Javorina	145.73	347	*e*PKP	PKPab	07 52 13.3	+0.8		
OZUR		145.78	336	⇓P	PKPab	07 52 13.0	+0.3		
ZVC	Zvikov	145.78	352	*e*PKP	PKPab	07 52 12.5	-0.1		
ZVC				AMS	AMS	08 55 00.0			
	comp=Z,900nm,20.9s								
KRUC	Moravsky	145.79	349	*e*PKP	PKPbc	07 52 12.0	-0.2		
COVR	Voineasa-Covas	145.82	336	⇑P	PKPbc	07 52 12.6	+0.1		
GRF	Grafenberg Arr	145.87	355	*e*PKPab	PKPbc	07 52 12.3	-0.2		
	baz=7.4,slow=3.2								
GRFO	Grafenberg	145.87	355		PKPab	07 52 13.3	+0.4		
GRFO	Grafenberg	145.87	355	PKIKP	PKPab	07 52 13.3	+0.4		
TIRR	Tirgusor	146.00	332		PKPab	07 52 13.4	-0.1		
TIRR	Tirgusor	146.00	332	⇑P	PKPab	07 52 13.7	+0.1		
TIRR	Tirgusor	146.00	332	PKIKP	PKPab	07 52 13.4	-0.1		
TIRR				MLR	MLR				
	comp=Z,800nm,20.0s								
TIRR	Tirgusor	146.00	332	PKP	PKPdf	07 52 11.6	-0.6		
HARR	Harsova	146.03	333	⇓P	PKPab	07 52 13.5	-0.2		
HARR	Harsova	146.03	333	⇓PKP2	PKPab	07 52 13.5	-0.2		
DOPR	Dopca	146.04	337	⇑P	PKPab	07 52 14.1	+0.4		
WLF	Walferdange	146.07	1		PKPab	07 52 13.6	-0.1		
WLF	Walferdange	146.07	1	*d*PKPdf	PKPbc	07 52 13.5	-0.2		
WLF	Walferdange	146.07	1	PKP2	PKPab	07 52 13.6	-0.1		
WLF				MLR	MLR				
	comp=Z,700nm,20.0s								
PSZ	Piszkesteto	146.08	344		PKPbc	07 52 13.1	-0.2		
PSZ				IAMs_20	IAMs_20	08 57 13.9			
	comp=Z,390nm,18.0s								
PSZ	Piszkesteto	146.08	344	⇑P	PKPab	07 52 14.6	+0.7		
PSZ	Piszkesteto	146.08	344	PKP2	PKPbc	07 52 13.1	-0.2		
PSZ				MLR	MLR				
	comp=Z,400nm,18.0s								
TLBR	Topalu	146.10	332	⇑P	PKPab	07 52 13.7	-0.2		
SMOL	Smolenice	146.11	347	*e*PKP2	PKPab	07 52 15.0	+1.2		
KHC	Kasperske Hory	146.17	352	*e*PKP	PKPab	07 52 13.8	-0.3		
KHC				x	x	07 52 24.0			
KHC				AMS	AMS	08 55 50.0			
	comp=Z,700nm,18.5s								
KHC	Kasperske Hory	146.17	352	*e*PKP2	PKPab	07 52 13.8	-0.3		
KHC				MLR	MLR				
	comp=Z,700nm,18.5s								
KHC	Kasperske Hory	146.17	352	PKP	PKPdf	07 52 12.3	-0.2		
MFTR	Murfatlar	146.21	332	⇑P	PKPab	07 52 14.5	+0.2		
MLR	Muntele Rosu	146.22	336	⇑P	PKPab	07 52 14.9	+0.4		
MLR	Muntele Rosu	146.22	336	⇑PKP2	PKPab	07 52 14.9	+0.4		
MARR	Marisel-Cluj	146.24	340	⇑P	PKPbc	07 52 13.7	-0.2		
MODS	Modra-Piesok	146.27	348	*e*PKP2	PKPab	07 52 15.3	+0.8		
DRGR		146.28	340	⇑P	PKPbc	07 52 13.6	-0.3		
DRGR		146.28	340	⇑PKP2	PKPbc	07 52 13.6	-0.3		
ISR	Istrita	146.28	335	⇑P	PKPab	07 52 14.6	-0.1		
ISR	Istrita	146.28	335	⇑PKP2	PKPab	07 52 14.6	-0.1		
CKRC	Cesky Krumlov	146.37	351	*e*PKP	PKPbc	07 52 13.6	-0.4		
CKRC				AMS	AMS	08 55 30.0			
	comp=Z,1μm,22.6s								
CKRC	Cesky Krumlov	146.37	351	*e*PKP2	PKPbc	07 52 13.6	-0.4		
GERES	GERESS Array B	146.43	352	PKPbc	PKPbc	07 52 13.7	-0.6		
	comp=Z,7.0nm,1.0s,baz=26,slow=3.4,SNR=37								
ZST	Bratislava	146.48	348	*e*PKP2	PKPab	07 52 16.2	+1.0		
BRTR	Keskin Array B	146.54	321	PKPbc	PKPbc	07 52 14.9	-0.1		
	comp=Z,27nm,0.9s,baz=107,slow=1.7,SNR=57								
KIRS	Kirsehir-Merke	146.73	320	⇑P	PKPbc	07 52 15.6	+0.1		
ARR	Arges	146.83	337	⇑P	PKPab	07 52 16.2	-0.6		
STU	Stuttgart	146.92	357	IAMs_20	IAMs_20	08 55 40.7			
	comp=Z,662nm,21.0s								
CONA	Conrad Observa	146.97	349	*e*pPKP	PKPbc	07 52 16.4	+0.5		
	comp=Z,15nm,1.1s,SNR=11								
DEV	Deva	147.01	339	⇑P	PKPab	07 52 17.1	-0.3		
DEV	Deva	147.01	339	⇑PKP2	PKPab	07 52 17.1	-0.3		
SIRR	Siria	147.08	341	⇑P	PKPbc	07 52 16.3	+0.2		
LOT	Lotru	147.08	338	⇑P	PKPbc	07 52 16.6	+0.3		
RONA	Rosalia, Austr	147.11	348	*e*pPKP	PKPbc	07 52 16.8	+0.6		
	comp=Z,17nm,1.0s,SNR=5.4								
MOA	Molln	147.32	351	*e*PKP	PKPbc	07 52 16.9	+0.1		
	comp=Z,12nm,1.2s								
SURR	Surduc	147.38	340	⇑P	PKPbc	07 52 16.1	-0.8		
BFO	Black Forest	147.39	358	IAMs_20	IAMs_20	08 55 57.3			
	comp=Z,482nm,22.0s								
GZR	Gura Zlata	147.48	339	⇑P	PKPbc	07 52 16.6	-0.8		
GZR	Gura Zlata	147.48	339	⇑PKP2	PKPbc	07 52 16.6	-0.8		
BIOA	Bad Ischl, Aus	147.57	352	*e*PKP	PKPbc	07 52 17.3	-0.2		
	comp=Z,6.1nm,1.1s,SNR=6.8								
BZS	Buzias	147.67	341	⇑P	PKPdf	07 52 14.2	-0.8		
BZS	Buzias	147.67	341	⇑PKIKP	PKPdf	07 52 14.2	-0.8		
ARSA	Arzberg	147.68	349	*e*PKP	PKPbc	07 52 17.7	-0.2		
	comp=Z,12nm,1.4s,SNR=7.9								
LESA	Schwarzleotal	147.96	353	*i* PKP	PKPbc	07 52 18.4	-0.3		
	comp=Z,5.9nm,0.9s								
SZH	Strazhitsa	148.02	333	*i* P	PKPbc	07 52 18.9	+0.1		
HERR	Herculane	148.05	339	⇑P	PKPbc	07 52 19.0	+0.1		
RETA	Reutte	148.09	355	*i* pPKP	PKPbc	07 52 19.1	+0.1		
	comp=Z,16nm,1.3s								
WATA	Walderalm	148.17	354	*i* PKP	PKPbc	07 52 19.0	-0.3		
	comp=Z,11nm,1.1s								
MOTA	Moosalm	148.21	355	*i* PKP	PKPbc	07 52 19.1	-0.2		
	comp=Z,14nm,1.1s								
KBA	Koelnbreinsper	148.21	352	*e*pPKP	PKPbc	07 52 18.8	-0.7		
	comp=Z,9.2nm,1.0s								
WTTA	Wattenberg	148.24	354	*i* PKP	PKPbc	07 52 19.3	-0.2		
	comp=Z,18nm,1.2s								
FURI	Furi	148.28	262	IAMs_20	IAMs_20	08 59 25.7			
	comp=Z,584nm,19.0s								
SQTA	Sankt Quirin	148.32	354	*e*PKP	PKPbc	07 52 19.8	+0.1		
	comp=Z,10nm,1.0s,SNR=6.5								
SOKA	Soboth	148.33	349	*e*pPKP	PKPbc	07 52 19.0	-0.6		
	comp=Z,13nm,1.1s,SNR=8.2								
ELND	Elena	148.34	333	⇑P	PKPbc	07 52 20.1	+0.4		
PERS	Pernice	148.36	349	*i* PKPbc	PKPbc	07 52 19.1	-0.5		
DAVA	Damuels	148.36	356	*i* PKP	PKPbc	07 52 19.9	+0.1		
	comp=Z,20nm,1.2s								
JMB	Yambol	148.39	332	*i* P	PKPbc	07 52 19.6	-0.2		
FETA	Feichten	148.56	355	*i* PKP	PKPbc	07 52 20.3	0.0		
	comp=Z,10nm,1.2s								
OBKA	Obir	148.58	350	*i* pPKP	PKPbc	07 52 19.6	-0.7		
	comp=Z,3.4nm,0.9s								
MYKA	Terra Mystica	148.61	351	*e*pPKP	PKPbc	07 52 19.6	-0.8		
	comp=Z,3.7nm,0.7s								
ABTA	Abfaltersbach	148.65	353	*e*pPKP	PKPbc	07 52 19.9	-0.6		
	comp=Z,9.7nm,0.8s,SNR=7.1								
MPEP	Malo Peshtene	148.87	336	*i* P	PKiKP	07 52 21.9	-0.5		
MMAI	Mount Meron Ar	148.96	309	PKP	PKPdf	07 52 17.6	-0.1		
	comp=Z,0.7nm,0.3s,baz=171,slow=36,SNR=1.5								
MMAI				PKPbc	PKiKP	07 52 22.4	-0.6		
	comp=Z,1.7nm,0.4s,baz=81,slow=4.8,SNR=8.1								
FUORN	Ofenpass-Fuorn	149.00	356	IAMs_20	IAMs_20	08 58 57.7			
	comp=Z,480nm,20.0s								
LJU	Ljubljana	149.03	350	*e*PKPbc	PKPbc	07 52 20.9	-0.4		
STAL	STALIGIAL	149.10	352		PKPbc	07 52 21.4	-0.2		
TUE	Stuetta	149.20	357		PKPbc	07 52 22.4	+0.3		
SENIN	Lac Senin/Sane	149.38	359	IAMs_20	IAMs_20	09 00 37.9			
	comp=Z,490nm,20.0s								
BOVS	Bovan	149.39	339	⇓P	PKPbc	07 52 21.8	-0.5		
PGB	Panagyurishte	149.40	334	*i* P	PKPbc	07 52 22.7	+0.3		
BOJS	Bojanci	149.42	348	*e*PKPdf	PKPdf	07 52 18.1	+0.2		
BOJS				*e*PKPbc	PKPbc	07 52 22.6	+0.3		
CTI	Castel Tesino	149.44	354	IAMs_20	IAMs_20	08 56 06.3			
	comp=Z,684nm,22.0s								
LODK	Lodwar	149.49	249	IAMs_20	IAMs_20	08 54 48.5			
	comp=Z,531nm,20.0s								
TRI	Trieste	149.49	351	IAMs_20	IAMs_20	08 58 44.7			
	comp=Z,649nm,21.0s								
KDZ	Kurdzhali	149.61	332	*i* P	PKPbc	07 52 22.9	0.0		
ISP	Isparta	149.63	321	IAMs_20	IAMs_20	09 13 01.3			
	comp=Z,504nm,20.0s								
VTS	Vitosha	149.69	336	*i* P	PKPbc	07 52 22.9	-0.4		
BLY	Banja Luka	149.72	345	⇑P	PKiKP	07 52 24.1	0.0		
PLNA	Plana	149.74	335	*i* P	PKiKP	07 52 24.3	-0.1		
ALN	Alexandroupoli	149.86	330	IAMs_20	IAMs_20	09 02 04.3			
	comp=Z,430nm,20.0s								
RDO	Rodhopi	149.91	331	IAMs_20	IAMs_20	09 02 12.1			
	comp=Z,520nm,20.0s								
MMB	Musomishta	150.38	334	*i* P	PKPbc	07 52 24.8	0.0		
KKB	Krupnik	150.39	335	*i* P	PKPbc	07 52 24.9	+0.1		
EZN	Ezine	150.55	329	⇑P	PKPbc	07 52 23.8	-1.4		
EZN	Ezine	150.55	329	⇑PKIKP	PKPbc	07 52 23.8	-1.4		
PGAV	Gavieira, Arco	150.69	24	*e*LR	LR	08 50 59.8			
PGAV				*i* IAMs_20	IAMs_20	08 55 28.1			
	comp=Z,777nm,20.0s								
PCAB	Cabril	151.00	23	*e*PKPbc	PKiKP	07 52 26.9	0.0		
ZCCA	Zocca	151.18	354	IAMs_20	IAMs_20	08 55 02.6			
	comp=Z,486nm,18.0s								
POLO	Lamas de Olo	151.38	24	*e*PKPbc	PKPbc	07 52 27.2	-0.1		
POLO				*e*tx	tx	07 52 46.5			
PBRG	Braganca	151.40	22	*e*PKPbc	PKPbc	07 52 26.7	-0.5		
PBRG				*e*tx	tx	07 52 46.9			
MVO	Moncorvo	151.85	23	*e*PKPdf	PKPdf	07 52 22.4	+0.5		
MVO				*e*PKPbc	PKiKP	07 52 28.6	-0.1		
MVO				*e*tx	tx	07 52 48.6			
MVO				*e*SS	SS	08 15 41.5	+9.2		
MVO				*e*LR	LR	08 48 27.1			
MVO				*i* IAMs_20	IAMs_20	08 56 23.4			
	comp=Z,458nm,20.0s								
LIT	Litokhoron	152.11	334	IAMs_20	IAMs_20	09 04 01.1			
	comp=Z,510nm,20.0s								
PMOZ	Porto Moniz, M	152.25	48	*e*PKPab	PKPab	07 52 40.4	+1.1		
PMOZ				*e*LR	LR	08 47 37.5			
PMOZ				*i* IAMs_20	IAMs_20	08 53 18.6			
	comp=Z,455nm,20.0s								
MTE	Manteigas	152.31	24	*e*PKPbc	PKiKP	07 52 30.7	+1.1		
MTE				*e*tx	tx	07 52 47.4			
MTE				*e*SS	SS	08 15 41.4	+3.9		
MTE				*e*LR	LR	08 50 23.2			
MTE				*i* IAMs_20	IAMs_20	08 55 44.7			
	comp=Z,599nm,18.0s								
PSBE	So Bento	152.53	27	*e*PKPbc	PKiKP	07 52 30.1	0.0		
PCBR	Castelo Branco	152.82	25	*e*PKPbc	PKPbc	07 52 30.4	0.0		
PMTG	Montargil	153.15	27	*e*PKPab	PKPab	07 52 45.9	+3.2		
PMRV	Marv??o	153.20	25	*e*PKPbc	PKiKP	07 52 32.0	+0.5		
PMRV				*e*LR	LR	08 50 15.9			
PMRV				*i* IAMs_20	IAMs_20	09 07 34.9			
	comp=Z,504nm,18.0s								
KEK	Kerkira	153.51	337	IAMs_20	IAMs_20	09 06 38.0			
	comp=Z,557nm,20.0s								
PESTR	Estremoz	153.59	26	*e*PKPab	PKPab	07 52 45.2	+0.5		
EVO	Evora	153.69	27	*e*PKPbc	PKPbc	07 52 30.5	-1.9		
EVO				*e*PKPab	PKPab	07 52 45.1	+0.1		
MESJ	Messejana	154.16	28	*e*PP	PP	07 56 22.6	+1.5		
MESJ				IAMs_20	IAMs_20	08 52 51.0			
	comp=Z,676nm,20.1s								
MESJ	Messejana	154.16	28	*e*PKPdf	PKPdf	07 52 25.4	+0.2		
MESJ				*e*PKPbc	pPKPdf	07 52 34.6	+0.1		
ESDC	Sonseca Array	154.24	20	PKP	PKPdf	07 52 25.9	+0.5		
	comp=Z,1.1nm,0.9s,baz=1.8,slow=4.1,SNR=6.4								
ESDC				PKPbc	pPKPdf	07 52 34.4	-0.2		
	comp=Z,0.9nm,0.8s,baz=318,slow=2.4,SNR=5.3								
ESDC				PKPab	PKPab	07 52 47.3	-0.1		
	comp=Z,2.3nm,0.9s,baz=326,slow=3.1,SNR=8.4								
MORF	Marmelete	154.39	30	*e*PKPbc	PKiKP	07 52 35.1	+1.1		
CUC	Castrocucco	154.53	344	IAMs_20	IAMs_20	09 00 10.5			
	comp=Z,590nm,22.0s								
PVAQ	Vaqueiros	154.75	28	*e*PKPab	PKPab	07 52 54.0	+4.4		
PVAQ				*e*SS	SS	08 16 23.7	+20		
PVAQ				*e*LR	LR	08 48 11.8			
PVAQ				*i* IAMs_20	IAMs_20	08 54 18.0			
	comp=Z,602nm,22.0s								
ITM	Ithomi	154.76	331	IAMs_20	IAMs_20	09 04 00.6			
	comp=Z,486nm,20.0s								
CART	Cartagena	157.05	16	IAMs_20	IAMs_20	08 57 30.0			
	comp=Z,472nm,21.0s								
TORD	Torodi Ar. Bea	174.36	116	PKP	PKPdf	07 52 42.8	-1.0		
	comp=Z,1.7nm,1.0s,baz=286,slow=4.2,SNR=7.3								
TORD				PKPab	PKPab	07 54 17.0	+0.7		
	comp=Z,1.2nm,0.9s,baz=310,slow=3.1,SNR=4.1								

*IDC **22** 07:42:34.8±1.3,31°.87S×68°.02W,h0km,mb3.9/4, mbtmp3.5/8,ML3.5/4,Error ellipse: s-maj=44.7km s-min=17.9km az=113.0*

*SJA **22** 07:42:36.6±0.5,31°.89S×68°.00W,h8km,ML3.5,MW3.3*

ISC 22 07:42:36.1±1.1,31°.88S±0°.02×68°.01W±0°.02,h8km±8km, n52,σ1°965/93,mb3.9/3,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
CFA	Coronel Fontan	0.34	325	*e*P	Pb	07 42 44.3	-0.2
CFA				*e*S	Sb	07 42 49.9	-0.2
SJA	San Juan	0.59	307	*e*P	Pb	07 42 49.1	+0.4
SJA				*e*S	Sb	07 42 58.3	+1.0
SJA				IAML		07 43 01.8	
	comp=Z,2μm,0.2s						
ZON	Zonda	0.67	300	*e*P	Pb	07 42 50.0	0.0
ZON				*e*S	Sb	07 43 00.0	+0.6
ZON				IAML		07 43 01.9	
	comp=Z,1μm,0.2s						
RTLL	Cerro Villicun	0.68	324	*e*P	Pb	07 42 50.5	+0.2
RTLL				*e*S	Sb	07 43 01.4	+1.4
RTLL				IAML		07 43 03.7	
	comp=Z,1μm,0.4s						
ACAN	Cantantal	0.80	120	*e*P	Pb	07 42 51.6	-0.7
ACAN				*e*S	Sb	07 43 03.5	+0.2
RTLS	Leoncito	1.10	274	*e*P	Pb	07 42 57.8	+0.1
RTLS				*e*S	Sn	07 43 14.2	+0.4
RTLS				IAML		07 43 14.4	
	comp=Z,1μm,0.9s						
ARCO	CERRO ARCO	1.24	219	*e*P	Pn	07 43 00.1	+0.2
ARCO				*e*S	Sn	07 43 19.8	+2.9
ARCO				IAML		07 43 23.4	
	comp=Z,1μm,0.4s						
AVFE	Valle Fertil	1.31	21	*e*P	Pb	07 43 01.9	+0.9
AVFE				*e*S	Sn	07 43 20.3	+1.8
AVFE				IAML		07 43 20.6	
	comp=Z,600nm,0.2s						
ACHE	Chepes	1.35	58	*e*P	Pb	07 43 02.8	+0.9
AAGR	Agrelo	1.39	210	*e*P	Pg	07 43 03.1	+0.4
AAGR				*e*S	Sn	07 43 23.2	+2.6
AAGR				IAML		07 43 24.8	
	comp=Z,486nm,0.2s						
ACCO	Cerro Coronel	1.58	325	*e*P	Pg	07 43 06.8	+0.4
ACCO				*e*P	Pb	07 43 06.9	+1.2
ACCO				*e*S	Sn	07 43 23.8	-1.7
AVIZ	Vizcacheras	1.64	195	*e*P	Pb	07 43 06.8	+0.1
AVIZ				*e*S	Sg	07 43 29.1	+0.1
APLL	PUNTA DE LOS L	1.95	41	*e*P	Pb	07 43 12.4	+0.5
APLL				*e*S	Sg	07 43 39.9	+1.0
ACDV	Cuesta del Vie	1.96	330	*e*P	Pg	07 43 13.1	-0.5
ACDV				*e*S	Sb	07 43 37.6	+0.8
ACDV				IAML		07 43 43.1	
	comp=Z,427nm,0.4s						
MRA	San Martin	2.01	106	*e*P	Pb	07 43 13.1	+0.1
MRA				*e*S	Sg	07 43 40.7	-0.2
AROD	Rodeo	2.12	323	*e*P	Pg	07 43 16.2	-0.6
AROD				*e*S	Sg	07 43 46.1	+1.7
MT08	Bocatoma Ro	2.30	227	*e*P	Pb	07 43 17.9	-0.2
MT08				*e*S	Sn	07 43 44.3	+1.0
MT08				*e*S	Sg	07 43 49.0	-1.2
MT08				IAML		07 43 51.7	
	comp=Z,294nm,0.2s						
VA03	San Esteban	2.33	247	*e*P	Pb	07 43 19.0	+0.6
VA03				*e*S	Sb	07 43 47.3	0.0
VA03				IAML		07 43 54.2	
	comp=Z,411nm,0.5s						
MT04	Ro Olivares	2.35	229	*e*P	Pb	07 43 19.0	+0.1
MT04				*e*S	Sg	07 43 50.2	-1.5
MT04				IAML		07 43 52.7	
	comp=Z,148nm,0.4s						
AGUA	GUANDACOL	2.42	350	*e*P	Pb	07 43 20.9	+0.8
AGUA				*e*S	Sg	07 43 54.1	+0.1
AGUA				IAML		07 43 57.9	
	comp=Z,456nm,0.2s						
CO03	El Pedregal	2.52	294	*e*P	Pn	07 43 17.0	-0.5
CO03				*e*S	Sg	07 43 55.9	-1.2
CO03				IAML		07 43 56.0	
	comp=Z,306nm,0.7s						
PEL	Peldehue	2.59	240	*e*P	Pb	07 43 22.9	+0.1
PEL				*e*S	Sb	07 43 53.1	-1.7
PEL				IAML		07 44 03.1	
	comp=Z,150nm,1.2s						
ACLC	CERRO LA CRUZ	2.61	21	*e*P	Pb	07 43 22.3	-1.0
ACLC				*e*S	Sg	07 44 01.2	+1.1
ACLC				IAML		07 44 03.2	
	comp=Z,302nm,0.2s						
CO02	Combarbal	2.65	284	*e*P	Pb	07 43 24.0	+0.2
CO02				*e*S	Sg	07 44 00.7	-0.4
CO02				IAML		07 44 12.0	
	comp=Z,321nm,0.8s						
MT03	Universidad Ad	2.65	232	*e*P	Pb	07 43 23.8	-0.2
MT03				*e*S	Sb	07 43 56.6	-0.2
MT03				IAML		07 44 02.4	
	comp=Z,220nm,0.3s						
MT13	San Alfonso	2.67	225	*e*P	Pb	07 43 23.4	-0.9
MT13				*e*S	Sb	07 43 57.0	-0.3
MT13				IAML		07 44 06.0	
	comp=Z,110nm,0.6s						
LMEL	Las Melosas	2.69	223	*e*P	Pb	07 43 23.5	-1.2
LMEL				*e*S	Sb	07 43 56.4	-1.6
LMEL				IAML		07 44 15.1	
	comp=Z,97nm,0.5s						
MT05	Renca	2.75	236	*e*P	Pb	07 43 24.6	-1.0
MT05				*e*S	Sg	07 44 05.2	+0.6
MT05				IAML		07 44 07.0	
	comp=Z,155nm,0.3s						
ROC1	El Roble	2.77	246	*e*P	Pb	07 43 24.5	-1.5
ROC1				*e*S	Sb	07 43 59.1	-1.1
RFA	San Rafael	2.91	187	*e*P	Pn	07 43 23.5	+0.7
RFA				*e*S	Sb	07 44 01.3	-2.7
GO04	Tololo Observa	2.94	305	*e*P	Pb	07 43 28.1	-0.8
GO04				*e*S	Sg	07 44 09.8	-0.9
GO04				IAML		07 44 12.8	
	comp=Z,390nm,0.6s						
TCA	Tanti	2.96	80	*e*P	Pn	07 43 25.3	+1.7
TCA				*e*S	Sn	07 43 53.2	-6.2
TCA				IAML		07 44 16.3	
	comp=Z,361nm,0.4s						
MT02	Curacav	2.98	242	*e*P	Pb	07 43 26.9	-2.5
MT02				*e*S	Sb	07 44 03.5	-2.5
MT02				IAML		07 44 12.4	
	comp=Z,99nm,0.8s						
VCA	Vinchina	3.14	357	*e*P	Pb	07 43 30.8	-1.5
VCA				*e*S	Sb	07 44 09.3	-1.6
MT01	Popeta	3.37	233	*e*P	Pn	07 43 31.8	+2.7
MT01				*e*S	Sb	07 44 16.8	-0.5
MT01				IAML		07 44 24.6	
	comp=Z,87nm,0.5s						
PIL	Pilar	3.52	88	*e*P	Pn	07 43 33.1	+2.0
PIL				*e*S	Sb	07 44 22.4	+0.9
BO01	Tunca	3.60	225	*e*P	Pn	07 43 35.2	+3.0
BO01				*e*S	Sg	07 44 31.4	-0.2
BO01				IAML		07 44 35.9	
	comp=Z,40nm,0.7s						
LCO	Las Campanas	3.69	320	*e*P	Pb	07 43 38.1	-3.7
LCO				*e*S	Sg	07 44 35.1	+0.4
LCO				IAML		07 44 38.3	
	comp=Z,217nm,0.2s						
BO02	Sierra Bellavi	3.72	218	*e*P	Pn	07 43 37.9	+3.9
BO02				IAML		07 44 42.5	
	comp=Z,44nm,0.7s						
CYA	Choya	3.92	30	*e*P	Pn	07 43 39.7	+2.9
CYA				*e*S	Sb	07 44 32.3	-1.0
CYA				IAML		07 44 51.9	
	comp=Z,139nm,0.5s						
AC04	Llanos de Chal	4.53	323	*e*P	Pn	07 43 48.3	+3.3
AC04				*e*S	Sg	07 44 59.0	-2.6
AC04				IAML		07 45 02.0	
	comp=Z,84nm,1.1s						
AC02	Maricunga	5.12	349	*e*P	Pn	07 43 58.8

2.2nm,0.5s,baz=87,slow=7.8,SNR=14
2.2nm,0.5s
NVAR Mina Array Bea 74.22 42 P **P** **08 07 13.5 +0.2**
0.6nm,0.7s,baz=227,slow=8.9,SNR=5.6
0.6nm,0.7s
QSPA South Pole Qui 74.85 180 P **P** **08 07 16.7 +0.2**
2.7nm,1.0s,baz=106,slow=1.3,SNR=6.4
2.7nm,1.0s
TXAR Lajitas Array 80.55 56 P **P** **08 07 48.7 -0.1**
1.5nm,0.9s,baz=216,slow=6.2,SNR=6.7
1.5nm,0.9s
PDAR Pinedale Array 82.15 42 P **P** **08 07 56.6 -0.6**
1.9nm,1.1s,baz=231,slow=3.9,SNR=10
1.9nm,1.1s
ILAR Eielson Array 82.25 11 P **P** **08 07 56.8 -0.2**
0.6nm,0.9s,baz=213,slow=6.5,SNR=4.1
0.6nm,0.9s
GERES GERESS Array B 145.93 352 PKPbc **PKPab** **08 15 16.5 +0.3**
0.2nm,0.4s,baz=10,slow=5.2,SNR=3.8
BRTR Keskin Array B 145.96 321 PKPbc **PKPab** **08 15 17.5 +0.8**
1.8nm,0.8s,baz=82,slow=3.1,SNR=8.2

*BKK **22** 07:55:46.7±0.7,22°N±7°×10°2E±°,h10km,M4.4/18,*
mb4.1/2,Mjma4.1/18,ML5.0/12,MLv4.3/17
*PLV **22** 07:55:46.7±1.6,22°.21N×101°.75E,h14km,ML3.9*
*IDC **22** 07:55:47.4±1.4,22°.08N×101°.98E,h0km,mb3.6/3,*
mbtmp3.5/4,ML4.0/1,Error ellipse: s-maj=29.2km
s-min=18.9km az=110.0
ISC 22 07:55:48.5±0.9,22°.03N±0°.08×101°.79E±0°.05,h10km,n15,
σ1§13/18,mb3.6/3,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MLAV	**Muong La stati**	**1.27**	**90**	*e*Pg			**Pn**	**07 56 10.8**	**-1.5**
MLAV				*e*Sg			**Sb**	**07 56 28.2**	**-0.6**
DBV	**Dienbien**	**1.32**	**119**	*e*Pg			**Pb**	**07 56 14.2**	**+0.9**
DBV				*e*Sg			**Sg**	**07 56 32.7**	**+1.9**
DBV				IAML				07 56 33.8	
	comp=E,2μm,0.6s								
DBV				IAML				07 56 34.1	
	comp=N,3μm,0.7s								
CHTO	**Chiang Mai**	**4.17**	**220**	P			**Pn**	**07 56 51.3**	**-0.9**
CM09	**Chiang Mai Arr**	**4.43**	**217**	P			**Pn**	**07 56 56.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**4.45**	**217**	Pn			**Pn**	**07 56 56.5**	**+0.5**
	comp=N,2.0nm,0.3s,baz=30,slow=12,SNR=11								
CMAR				Pg			**Pg**	**07 57 11.7**	**-2.1**
	comp=N,2.4nm,0.3s,baz=29,slow=17,SNR=30								
CMAR				Lg			Lg	07 58 13.8	
	comp=N,1.9nm,0.3s,baz=40,slow=29,SNR=11								
	comp=N,1.6nm,0.5s								
CM02	**Chiang Mai Arr**	**4.47**	**217**	P			**Pn**	**07 56 55.8**	**-0.5**
CM01	**Chiang Mai Arr**	**4.47**	**217**	P			**Pn**	**07 56 56.7**	**+0.3**
CM04	**Chiang Mai Arr**	**4.48**	**217**	P			**Pn**	**07 56 56.9**	**+0.4**
CM05	**Chiang Mai Arr**	**4.49**	**217**	P			**Pn**	**07 56 57.2**	**+0.5**
CM13	**Chiang Mai Arr**	**4.50**	**217**	P			**Pn**	**07 56 57.1**	**+0.3**
SKNT	**Sakolnakorn**	**5.44**	**157**	P			**Pn**	**07 57 08.3**	**-1.4**
SONM	**Songino Array**	**26.01**	**7**	P			**P**	**08 01 22.2**	**+0.5**
	comp=N,1.0nm,0.7s,baz=183,slow=7.2,SNR=3.5								
	comp=N,1.0nm,0.7s								
MKAR	**Makanchi Array**	**29.32**	**332**	P			**P**	**08 01 51.2**	**0.0**
	comp=N,0.5nm,0.7s,baz=129,slow=10,SNR=1.5								
	comp=N,0.5nm,0.7s								
WRA	**Warramunga Arr**	**52.46**	**140**	P			**P**	**08 05 01.8**	**+0.1**
	comp=N,0.5nm,0.7s,baz=332,slow=8.3,SNR=6.5								
	comp=N,0.5nm,0.7s								
ASAR	**Alice Springs**	**55.13**	**144**	PcP			**PcP**	**08 06 24.3**	**+1.8**
	comp=N,0.3nm,0.6s,baz=312,slow=3.0,SNR=2.0								

GCG 22 08:20:41.4±0.5,14°.28N×91°.37W,h72km±4km,MD3.6,
ML3.3,MW3.0,1D,Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.53**	**78**	*i* P			Pn	08 20 54.9	+0.2
ESSG				⇓*i* S			Sn	08 21 05.2	+0.7
ESSG				IAML				08 21 05.5	
	comp=N,772nm,0.3s								
SOKI	**Kika Raxquin**	**0.54**	**356**	*i* P			Pn	08 20 56.2	+1.0
SOKI				*e*S			Sn	08 21 08.0	+2.6
SOKI				IAML				08 21 15.3	
	comp=N,606nm,0.3s								
FG8	**Yepocapa, Chim**	**0.78**	**91**	*i* P			Pn	08 20 54.4	-3.1
FG8				*i* S			Sn	08 21 04.4	-4.9
FG16	**Alotenango, Sa**	**0.83**	**90**	*i* P			Pn	08 20 55.4	-2.7
FG16				*i* S			Sn	08 21 06.3	-4.2
FG16				IAML				08 21 08.1	
	comp=N,7μm,0.3s								
SMCA	**Catarina**	**0.90**	**310**	*i* P			Pn	08 20 59.1	+0.3
SMCA				*e*S			Sn	08 21 11.8	+0.2
SMCA				IAML				08 21 14.9	
	comp=E,145nm,0.2s								
NUBE	**Las Nubes**	**1.58**	**103**	*i* P			Pn	08 21 07.9	+0.2

*IDC **22** 08:25:08.8±0.7,13°.20N×124°.73E,h0km,mb4.1/12,*
mbtmp4.2/13,ML4.4/1,MS3.7/1,Error ellipse:
s-maj=26.8km s-min=13.3km az=57.0
*NEIC **22** 08:25:15.5±1.0,13°.1N±0°.1×124°.7E±0°.1,h40km±8km,*
mb4.3/25,Error ellipse: s-maj=19.0km s-min=14.6km
az=63.0
ISC 22 08:25:15.1±0.5,13°.14N±0°.08×124°.6E±0°.1,h44km,n51,
σ0§68/47,mb4.3/23,Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.72**	**285**	Pn			**Pn**	**08 26 10.0**	**-0.2**
	28nm,0.3s,baz=136,slow=11,SNR=4.3								
TGY				Lg			Lg	08 27 09.2	
	30nm,0.3s,baz=10,slow=11,SNR=1.2								
	80nm,0.3s								
DAV	**Davao City (W)**	**6.10**	**171**	LR			LR	08 29 54.2	
	comp=Z,537nm,18.0s,baz=343,slow=46								
SBUM	**Sibu**	**16.24**	**230**				**P**	**08 29 01.8**	**-1.0**
KSM	**Kuching**	**18.32**	**232**	P			**Pn**	**08 29 27.0**	**+0.9**
KSRS	**Korea Array**	**24.39**	**6**	P			**P**	**08 30 28.9**	**-0.4**
	1.1nm,0.5s,baz=181,slow=11,SNR=2.8								
	1.1nm,0.5s								
CMAR	**Chiang Mai Arr**	**25.27**	**285**	P			**P**	**08 30 37.0**	**-0.5**
	1.2nm,0.3s,baz=90,slow=8.1,SNR=8.0								
	1.2nm,0.3s								
FITZ	**Fitzroy Crossi**	**31.05**	**178**	P			**P**	**08 31 29.4**	**+0.3**
WB0	**Warramunga Arr**	**34.08**	**163**	P			**P**	**08 31 55.4**	**-0.3**
WRA	**Warramunga Arr**	**34.23**	**164**	P			**P**	**08 31 55.9**	**-1.0**
	0.3nm,0.3s,baz=340,slow=9.2,SNR=5.3								
WRA				PcP			**PcP**	**08 34 32.8**	**-0.2**
	0.4nm,0.5s,baz=342,slow=3.0,SNR=5.3								
	0.3nm,0.3s								
WR8	**Warramunga Arr**	**34.29**	**163**	P			**P**	**08 31 56.8**	**-0.6**
WR8				IAmb			IAmb	08 32 00.9	
	comp=Z,2.9nm,0.9s								
AS31	**Alice Springs**	**37.68**	**166**	P			**P**	**08 32 27.5**	**+1.0**
AS31				IAmb			IAmb	08 32 28.9	
	comp=Z,1.8nm,0.3s								
ASAR	**Alice Springs**	**37.69**	**166**	P			**P**	**08 32 27.4**	**+0.9**
ASAR	**Alice Springs**	**37.69**	**166**	P			**P**	**08 32 26.1**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=344,slow=7.2,SNR=33								
ASAR				PcP			**PcP**	**08 34 43.5**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=344,slow=2.7,SNR=6.1								
	comp=Z,1.4nm,0.3s								
SONM	**Songino Array**	**37.79**	**340**	P			**P**	**08 32 27.2**	**0.0**
SONM				IAmb			IAmb	08 32 27.8	
	comp=Z,3.4nm,1.1s								
SONM	**Songino Array**	**37.79**	**340**	P			**P**	**08 32 25.4**	**-1.9**
	comp=Z,1.3nm,0.5s,baz=163,slow=7.0,SNR=5.4								
	comp=Z,1.3nm,0.5s								
CTAO	**Charters Tower**	**39.28**	**147**	P			**P**	**08 32 38.5**	**-1.4**
CTAO				IAmb			IAmb	08 32 59.0	
	comp=Z,6.5nm,1.1s								
H11S3	**WAKE ISLAND Hy 40.74**	**77**		T			T	09 16 16.3	
	baz=269,slow=75,SNR=107								
H11S1	**WAKE ISLAND Hy 40.75**	**77**		T			T	09 16 03.0	
	baz=269,slow=75,SNR=53								
H11S2	**WAKE ISLAND Hy 40.76**	**77**		T			T	09 16 03.0	
	baz=269,slow=75,SNR=71								
H11N1	**WAKE ISLAND Hy 40.97**	**75**		T			T	09 16 36.9	
	baz=267,slow=74,SNR=171								
H11N2	**WAKE ISLAND Hy 40.98**	**75**		T			T	09 16 42.9	
	baz=267,slow=74,SNR=98								
H11N3	**WAKE ISLAND Hy 40.99**	**75**		T			T	09 16 43.7	
	baz=267,slow=74,SNR=139								
MORW	**Morawa**	**42.77**	**191**	P			**P**	**08 33 08.4**	**-0.1**
MORW				IAmb			IAmb	08 33 33.2	
	comp=Z,7.6nm,1.0s								
PALK	**Pallekele**	**43.59**	**267**	P			**P**	**08 33 15.3**	**-0.2**
FORT	**Forrest**	**43.79**	**176**	P			**P**	**08 33 16.8**	**+0.1**
FORT				IAmb			IAmb	08 33 41.1	
	comp=Z,4.2nm,0.8s								
BBOO	**Buckleboo**	**46.98**	**167**	P			**P**	**08 33 42.8**	**+0.9**
STKA	**Stephens Creek**	**47.62**	**160**	P			**P**	**08 33 47.2**	**+0.3**
STKA	**Stephens Creek**	**47.62**	**160**	P			**P**	**08 33 48.0**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=333,slow=9.1,SNR=4.0								
	comp=Z,2.5nm,0.8s								
MK31	**Makanchi Array**	**48.79**	**322**	P			**P**	**08 33 56.4**	**+0.5**
MK31				IAmb			IAmb	08 33 58.0	
	comp=Z,2.5nm,0.8s								
MKAR	**Makanchi Array**	**48.79**	**322**				**P**	**08 33 56.4**	**+0.5**
MKAR	**Makanchi Array**	**48.79**	**322**	P			**P**	**08 33 56.2**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=119,slow=8.7,SNR=21								
MKAR				PcP			**PcP**	**08 35 19.7**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=119,slow=4.7,SNR=3.9								
	comp=Z,3.2nm,0.8s								
ZALV	**Zalesovo Beam**	**51.36**	**331**	P			**P**	**08 34 15.1**	**0.0**
	comp=Z,2.0nm,0.7s,baz=123,slow=7.3,SNR=7.3								
	comp=Z,2.0nm,0.7s								
KURK	**Kurchatov**	**52.81**	**325**	P			**P**	**08 34 26.8**	**+0.7**
KURBB	**Kurchatov Arra**	**52.82**	**325**	P			**P**	**08 34 26.4**	**+0.3**
	comp=Z,7.2nm,0.8s,baz=121,slow=7.7,SNR=61								
	comp=Z,7.2nm,0.8s								
KKAR	**Karatay Array**	**55.12**	**314**	P			**P**	**08 34 44.2**	**+1.1**
BVAR	**Borovoye Array**	**58.41**	**325**	P			**P**	**08 35 06.9**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=114,slow=7.6,SNR=10								
	comp=Z,2.1nm,0.5s								
AB31	**Akbulak array**	**63.68**	**319**	P			**P**	**08 35 42.0**	**+0.1**
AB31				IAmb			IAmb	08 35 42.5	
	comp=Z,1.8nm,0.8s								
ABKAR	**Akbulak array**	**63.68**	**319**	P			**P**	**08 35 42.0**	**0.0**
B20K	**Meade River**	**73.70**	**21**	P			**P**	**08 36 44.6**	**+0.6**
D20K	**Etivluk River**	**73.76**	**22**	P			**P**	**08 36 45.1**	**+0.6**
D20K				IAmb			IAmb	08 36 45.5	
	comp=Z,5.2nm,1.1s								
B21K	**Ikpikpuk River**	**74.55**	**21**	P			**P**	**08 36 49.7**	**+0.7**
E21K	**Killik River**	**74.70**	**22**	P			**P**	**08 36 50.0**	**0.0**
E21K				IAmb			IAmb	08 37 11.4	
	comp=Z,3.6nm,1.1s								
D22K	**Ayikyak River**	**75.20**	**22**	P			**P**	**08 36 53.5**	**+0.7**
D22K				IAmb			IAmb	08 37 04.6	
	comp=Z,3.2nm,0.9s								
E23K	**Chandalar**	**76.32**	**23**	P			**P**	**08 36 59.9**	**+0.6**
E23K				IAmb			IAmb	08 37 10.1	
	comp=Z,2.6nm,0.9s								
TOLK	**Toolik Lake Re**	**76.33**	**22**	P			**P**	**08 37 00.1**	**+0.8**
CASY	**Casey**	**79.88**	**186**	P			**P**	**08 37 18.8**	**0.0**
ARCES	**ARCESS Array B**	**80.96**	**339**	P			**P**	**08 37 24.6**	**-0.1**
ARCES				IAmb			IAmb	08 37 53.0	
	comp=Z,4.5nm,0.9s								
ARCES	**ARCESS Array B**	**80.96**	**339**	P			**P**	**08 37 24.3**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=79,slow=6.5,SNR=5.8								
	comp=Z,2.2nm,0.8s								
FINES	**FINESS Array B**	**82.62**	**331**	P			**P**	**08 37 34.0**	**+0.5**
FINES	**FINESS Array B**	**82.62**	**331**	P			**P**	**08 37 32.9**	**-0.6**
	comp=Z,2.2nm,0.9s,baz=62,slow=5.2,SNR=5.5								
	comp=Z,2.2nm,0.9s								
PLCA	**Paso Flores**	**149.46**	**157**	PKPbc			**PKiKP**	**08 45 01.2**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=220,slow=4.2,SNR=7.0								

IDC 22 08:41:37.6±2.0,15°.20S×173°.68W,h0km,mb4.0/4,
mbtmp4.0/4,MS3.9/2,Error ellipse: s-maj=57.9km
s-min=49.1km az=4.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**38.65**	**274**	LR			LR	09 03 05.9	
	comp=Z,170nm,18.5s,baz=171,slow=33								
H11S2	**WAKE ISLAND Hy 38.65**	**329**		T			T	09 31 08.2	
	baz=156								
H11S3	**WAKE ISLAND Hy 38.67**	**329**		T			T	09 31 09.8	
	baz=156,slow=74								
H11S1	**WAKE ISLAND Hy 38.67**	**329**		T			T	09 31 08.8	
	baz=156,slow=74								
H11N3	**WAKE ISLAND Hy 39.60**	**331**		T			T	09 31 34.8	
	baz=150,slow=76,SNR=7.6								
H11N1	**WAKE ISLAND Hy 39.61**	**331**		T			T	09 31 39.6	
	baz=150,slow=76,SNR=6.5								
H11N2	**WAKE ISLAND Hy 39.62**	**331**		T			T	09 31 36.9	
	baz=150,slow=76,SNR=8.3								
STKA	**Stephens Creek**	**43.90**	**240**	P			P	08 49 47.2	+1.0
	0.7nm,0.4s,baz=71,slow=6.8,SNR=2.9								
	0.7nm,0.4s								
WRA	**Warramunga Arr**	**49.62**	**257**	P			P	08 50 31.1	-0.1
	1.3nm,0.6s,baz=91,slow=6.9,SNR=28								
WRA				PcP			PcP	08 51 52.1	-0.8
	0.3nm,0.5s,baz=94,slow=3.0,SNR=2.2								
	1.3nm,0.6s								
ASAR	**Alice Springs**	**49.91**	**252**	P			P	08 50 32.9	-0.5
	1.3nm,0.4s,baz=88,slow=7.9,SNR=45								
ASAR				PcP			PcP	08 51 52.6	-1.4
	0.3nm,0.6s,baz=118,slow=4.5,SNR=1.7								
ASAR				LR			LR	09 10 22.5	
	comp=Z,95nm,18.9s,baz=90,slow=35								
	1.3nm,0.4s								
QSPA	**South Pole Qui**	**74.84**	**180**	P			P	08 53 19.9	+0.1
	1.1nm,0.8s,baz=356,slow=3.8,SNR=3.2								
	1.1nm,0.8s								
BRTR	**Keskin Array B**	**145.83**	**321**	PKPbc			PKPbc	09 01 19.2	-0.1
	0.9nm,0.7s,baz=46,slow=4.2,SNR=5.3								

*NEIC **22** 08:58:54.6±1.4,4°.71S±0°.08×155°.1E±0°.1,h492km±9km,*
mb4.5/41,Error ellipse: s-maj=18.4km s-min=12.2km
az=85.0
*IDC **22** 08:58:54.2±1.0,4°.79S×155°.03E,h488km±11km,mb3.7/20,*
mbtmp4.6/23,Error ellipse: s-maj=10.5km s-min=7.8km
az=90.0
ISC 22 08:58:54.8±0.4,4°.78S±0°.05×155°.10E±0°.06,h500km,n94,
σ0§98/102,mb4.4/38,Bougainville-Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.99**	**281**				**P**	**09 00 04.4**	**-1.4**
TATA	**Tatamba Isabel**	**5.89**	**128**	P			**P**	**09 00 29.4**	**-0.7**
SAVO	**Savo Central**	**6.38**	**133**	P			**P**	**09 00 34.0**	**-0.9**
HNR	**Honiara**	**6.67**	**134**	P			**P**	**09 00 37.1**	**-0.6**
	437nm,0.4s,baz=278,slow=14,SNR=22								
HNR				S			**S**	**09 01 59.8**	**-2.1**
	218nm,0.8s,baz=332,slow=13,SNR=3.7								
HNR	**Honiara**	**6.67**	**134**	P			**P**	**09 00 37.0**	**-0.7**
ALEG	**Aligegeo Malai**	**6.81**	**126**	P			**P**	**09 00 38.3**	**-0.9**
MANU	**Manus Island**	**8.19**	**289**	P			**P**	**09 00 54.0**	**+0.7**
NGOA	**Tingoa Renbel**	**8.33**	**144**	P			**P**	**09 00 53.9**	**-0.8**
HURO	**Huro Makira**	**8.79**	**130**	P			**P**	**09 00 57.2**	**-2.3**
PMG	**Port Moresby**	**9.13**	**239**	P			**P**	**09 01 02.1**	**-0.9**
PMG	**Port Moresby**	**9.13**	**239**	P			**P**	**09 01 02.9**	**-0.1**
	20nm,0.9s,baz=31,slow=18,SNR=2.1								
PMG				S			**S**	**09 02 48.0**	**-0.3**
	26nm,1.1s,baz=4.1,slow=14,SNR=1.6								
PATS	**Pohnpei**	**11.97**	**16**	P			**P**	**09 01 31.9**	**-1.2**
JAY	**Jayapura**	**14.54**	**278**	P			**P**	**09 01 58.8**	**-1.6**
	7.2nm,0.5s,baz=112,slow=6.3,SNR=4.6								
COEN	**Coen**	**14.88**	**231**				**P**	**09 02 04.4**	**+0.5**
COEN	**Coen**	**14.88**	**231**	P			**P**	**09 02 04.2**	**+0.3**
TV1H	**Townsville Har**	**16.52**	**209**	P			**P**	**09 02 21.4**	**+0.5**
CTAO	**Charters Tower**	**17.49**	**209**				**P**	**09 02 30.0**	**-0.5**
CTAO				IAmb			IAmb	09 02 32.5	
	comp=Z,16nm,0.9s								
CTAO	**Charters Tower**	**17.49**	**209**	P			**P**	**09 02 30.4**	**-0.1**
DZM	**Mont Dzumac**	**20.40**	**148**	P			**P**	**09 02 58.1**	**+0.8**
	comp=Z,12nm,0.5s,baz=307,slow=8.3,SNR=24								
	comp=Z,12nm,0.5s								
DZM	**Mont Dzumac**	**20.40**	**148**	P			**P**	**09 02 57.7**	**+0.4**
ONTNC	**Ouen Toro**	**20.60**	**149**	P			**P**	**09 02 59.7**	**+0.8**
EIDS	**Eidsvold**	**20.84**	**190**	P			**P**	**09 03 01.5**	**+0.4**
EIDS				IAmb			IAmb	09 03 02.0	
	comp=Z,7.8nm,0.7s								
GUMO	**Guam**	**20.88**	**331**	P			**P**	**09 02 59.9**	**-1.6**
GUMO	**Guam**	**20.88**	**331**	P			**P**	**09 03 01.0**	**-0.5**
	comp=Z,51nm,0.6s,baz=176,slow=16,SNR=6.8								
	comp=Z,51nm,0.6s								
QIS	**Mount Isa**	**21.75**	**223**	P			**P**	**09 03 09.8**	**+0.4**
FAKI	**Fak Fak**	**22.88**	**274**	P			**P**	**09 03 17.9**	**-1.8**
FAKI				IAmb			IAmb	09 03 28.1	
	comp=Z,23nm,0.9s								
QLP	**Quilpie**	**24.05**	**204**	P			**P**	**09 03 30.0**	**+0.1**
WB0	**Warramunga Arr**	**25.08**	**232**				**P**	**09 03 39.1**	**0.0**
WR8	**Warramunga Arr**	**25.10**	**231**				**P**	**09 03 39.3**	**0.0**
WRAB	**Tennant Creek**	**25.21**	**232**	P			**P**	**09 03 40.2**	**-0.1**
WRA	**Warramunga Arr**	**25.22**	**232**	P			**P**	**09 03 39.3**	**-1.1**
WRA	**Warramunga Arr**	**25.22**	**232**	P			**P**	**09 03 40.3**	**-0.1**
	comp=Z,24nm,0.5s,baz=56,slow=9.2,SNR=254								
WRA				PcP			**PcP**	**09 06 58.0**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=59,slow=2.7,SNR=7.8								
WRA				S			**S**	**09 07 29.3**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=55,slow=15,SNR=7.3								
WRA				ScP			**ScP**	**09 09 51.9**	**+2.7**
	comp=Z,1.5nm,0.9s,baz=59,slow=3.3,SNR=5.9								
	comp=Z,24nm,0.5s								
ARMA	**Armidale**	**25.72**	**187**	P			**P**	**09 03 45.7**	**+0.9**
ARMA				IAmb			IAmb	09 03 46.2	
	comp=Z,8.2nm,0.9s								
INKA	**Innaminka**	**26.62**	**209**				**P**	**09 03 52.7**	**+0.1**
INKA				IAmb			IAmb	09 03 53.3	
	comp=Z,11nm,1.4s								
AS31	**Alice Springs**	**27.76**	**225**				**P**	**09 04 02.4**	**-0.3**
AS31				IAmb			IAmb	09 04 02.7	
	comp=Z,9.2nm,0.5s								
ASAR	**Alice Springs**	**27.76**	**225**	P			**P**	**09 04 02.4**	**-0.4**
ASAR	**Alice Springs**	**27.76**	**225**	P			**P**	**09 04 02.1**	**-0.7**
	comp=Z,18nm,0.5s,baz=56,slow=8.9,SNR=486								
ASAR				PcP			**PcP**	**09 07 03.9**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=59,slow=2.7,SNR=9.1								
ASAR				S			**S**	**09 08 08.0**	**-1.9**
	comp=Z,1.3nm,0.6s,baz=61,slow=14,SNR=9.8								
ASAR				ScP			**ScP**	**09 09 59.6**	**+2.8**
	comp=Z,0.9nm,0.8s,baz=46,slow=3.1,SNR=6.1								
	comp=Z,18nm,0.5s								
CMSA	**Cobar Meteorol**	**28.05**	**197**	P			**P**	**09 04 05.0**	**-0.2**
KNRA	**Kununurra**	**28.05**	**245**				**P**	**09 04 04.8**	**-0.6**
KNRA				IAmb			IAmb	09 04 05.5	
	comp=Z,12nm,1.1s								
STKA	**Stephens Creek**	**29.79**	**204**	P			**P**	**09 04 20.2**	**-0.1**
STKA	**Stephens Creek**	**29.79**	**204**	P			**P**	**09 04 19.9**	**-0.4**
	comp=Z,5.3nm,0.5s,baz=14,slow=7.7,SNR=15								
	comp=Z,5.3nm,0.5s								
STKA	**Stephens Creek**	**29.79**	**204**	P			**P**	**09 04 20.1**	**-0.2**
CAN	**Canberra**	**30.92**	**190**	P			**P**	**09 04 31.1**	**+1.0**
CAN				IAmb			IAmb	09 04 33.8	
	comp=Z,36nm,1.4s								
FITZ	**Fitzroy Crossi**	**31.70**	**243**	P			**P**	**09 04 36.2**	**-0.8**
FITZ				IAmb			IAmb	09 04 36.7	
	comp=Z,8.0nm,1.0s								
FITZ	**Fitzroy Crossi**	**31.70**	**243**	P			**P**	**09 04 36.0**	**-1.0**
	comp=Z,19nm,0.5s,baz=55,slow=7.5,SNR=24								
	comp=Z,19nm,0.5s								
BBOO	**Buckleboo**	**33.08**	**210**	P			**P**	**09 04 48.4**	**-0.2**
BBOO				IAmb			IAmb	09 04 48.6	
	comp=Z,16nm,0.6s								
TOO	**Toolangi**	**33.80**	**194**	P			**P**	**09 04 56.0**	**+1.4**
KAPI	**Kappang**	**35.22**	**268**	P			**P**	**09 05 07.1**	**+0.3**
KAPI				IAmb			IAmb	09 05 27.8	
	comp=Z,30nm,1.2s								
FORT	**Forrest**	**36.29**	**221**	P			**P**	**09 05 15.4**	**-0.1**
FORT				IAmb			IAmb	09 05 15.9	
	comp=Z,24nm,0.7s								
MBWA	**Marble Bar**	**37.99**	**241**	P			**P**	**09 05 29.0**	**-0.6**
MBWA				IAmb			IAmb	09 05 29.4	
	comp=Z,14nm,0.7s								
PSA00	**Pilbara Seismi**	**38.03**	**241**	P			**P**	**09 05 29.2**	**-0.7**
URZ	**Urewera**	**38.89**	**152**	P			**P**	**09 05 37.4**	**+0.7**
	comp=Z,2.8nm,0.3s,baz=260,slow=2.7,SNR=8.5								
	comp=Z,2.8nm,0.3s								
RPZ	**Rata Peaks**	**41.26**	**162**	P			**P**	**09 05 55.4**	**-0.3**
	comp=Z,6.3nm,0.7s,baz=326,slow=3.6,SNR=2.4								
	comp=Z,6.3nm,0.7s								
GIRL	**Giralia**	**43.29**	**242**	P			**P**	**09 06 12.2**	**+0.1**
JGF	**Kuroka**	**43.48**	**339**	P			**P**	**09 06 12.9**	**-0.4**
JGF				IAmb			IAmb	09 06 15.7	
	comp=Z,28nm,1.4s								
MJAR	**Matsushiro Arr**	**44.03**	**340**	P			**P**	**09 06 15.3**	**-2.3**
MJAR	**Matsushiro Arr**	**44.03**	**340**	P			**P**	**09 06 16.6**	**-1.0**
	comp=Z,3.9nm,0.7s,baz=168,slow=8.1,SNR=9.4								
	comp=Z,3.9nm,0.7s								
MORW	**Morawa**	**44.16**	**232**	P			**P**	**09 06 18.0**	**-0.7**
MORW				IAmb			IAmb	09 06 18.3	
	comp=Z,13nm,0.7s								
UGM	**

are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km
*THE **22** 09:03:27.2,38°N±1″×2″1E±°, h11km±1km, M3.0/15, MLh3.0/15*

ISC 22 09:03:26.1±1.4, 37°60′N±0′.04×20°64′E±0′.04, h10km±6km, n50, σ0s61/76, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.16**	**65**	P	**Pg**	**09 03 30.0**	**+0.3**
KRI1				S	**Sg**	**09 03 31.8**	**-0.3**
LTHK	**Lithakia**	**0.20**	**54**	P	**Pg**	**09 03 30.4**	**+0.2**
LTHK				S	**Sg**	**09 03 32.6**	**-0.5**
LTHK	**Lithakia**	**0.20**	**54**	P	**Pg**	**09 03 30.5**	**+0.2**
LTHK				S	**Sg**	**09 03 32.6**	**-0.5**
ORTH	**Orthonies,Zaky**	**0.26**	**10**	P	**Pg**	**09 03 31.7**	**+0.2**
ORTH				S	**Sg**	**09 03 35.3**	**+0.2**
ORTH	**Orthonies,Zaky**	**0.26**	**10**	P	**Pg**	**09 03 31.6**	**+0.2**
ORTH				S	**Sg**	**09 03 35.0**	**-0.1**
KYPS	**Kipseli, Zakin**	**0.27**	**34**	P	**Pg**	**09 03 32.1**	**+0.5**
KYPS				S	**Sg**	**09 03 36.3**	**+1.0**
ZAK2	**Zakynthos**	**0.28**	**47**	P	**Pg**	**09 03 32.1**	**+0.2**
CLEM	**Kyllini,Ilia,G**	**0.49**	**53**	P	**Pg**	**09 03 35.8**	**0.0**
CLEM				S	**Sg**	**09 03 42.6**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.49**	**13**	P	**Pg**	**09 03 35.8**	**+0.1**
RTZL				S	**Sg**	**09 03 42.9**	**+0.6**
PSDA	**Pessada-Kefalo**	**0.52**	**355**	P	**Pg**	**09 03 36.5**	**+0.3**
PSDA				S	**Sg**	**09 03 43.8**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.52**	**355**	P	**Pg**	**09 03 36.4**	**+0.1**
PSDA				S	**Sb**	**09 03 44.6**	**-0.3**
VLS	**Valsamata**	**0.58**	**356**	P	**Pg**	**09 03 37.4**	**-0.1**
VLS	**Valsamata**	**0.58**	**356**	P	**Pg**	**09 03 37.5**	**-0.1**
VLS				S	**Sg**	**09 03 46.1**	**+0.9**
ARG2	**Argostoli**	**0.59**	**349**	P	**Pg**	**09 03 38.0**	**+0.3**
ARG2	**Argostoli**	**0.59**	**349**	P	**Pg**	**09 03 37.8**	**+0.1**
ARG2				S	**Sb**	**09 03 46.7**	**-0.3**
LCHA	**Lechaina**	**0.60**	**55**	P	**Pg**	**09 03 38.2**	**+0.3**
LCHA				S	**Sb**	**09 03 47.3**	**0.0**
SMHA	**Samh**	**0.66**	**1**	P	**Pg**	**09 03 37.4**	**-1.5**
SMHA				S	**Sg**	**09 03 47.0**	**-0.4**
DMLN	**Damoulianata-K**	**0.68**	**342**	P	**Pg**	**09 03 39.7**	**+0.5**
RLS	**Riolos of Patr**	**0.80**	**55**	P	**Pg**	**09 03 41.1**	**-0.5**
RLS	**Riolos of Patr**	**0.80**	**55**	P	**Pg**	**09 03 41.0**	**-0.6**
RLS				S	**Sg**	**09 03 52.3**	**+0.2**
ZARO	**Zacharo**	**0.81**	**97**	P	**Pb**	**09 03 42.2**	**0.0**
ZARO				S	**Sb**	**09 03 54.3**	**+1.0**
VSK1	**VASILIKIADES**	**0.81**	**356**	P	**Pg**	**09 03 41.5**	**-0.3**
AXS	**Araxos**	**0.84**	**44**	P	**Pg**	**09 03 41.5**	**-0.8**
AXS				S	**Sg**	**09 03 53.3**	**+0.1**
AMT	**Artemida-Makis**	**0.85**	**94**	P	**Pg**	**09 03 42.4**	**-0.3**
AMT				S	**Sb**	**09 03 55.1**	**+0.5**
FSK	**Fiskardo**	**0.86**	**356**	P	**Pg**	**09 03 42.3**	**-0.5**
FSK	**Fiskardo**	**0.86**	**356**	P	**Pg**	**09 03 42.1**	**-0.7**
FSK				S	**Sb**	**09 03 55.2**	**+0.3**
DRO	**Drossia**	**0.92**	**67**	P	**Pg**	**09 03 43.3**	**-0.6**
DRO	**Drossia**	**0.92**	**67**	P	**Pg**	**09 03 43.1**	**-0.8**
DRO				S	**Sb**	**09 03 57.1**	**+0.6**
PYL1	**Pylos**	**1.08**	**128**	P	**Pg**	**09 03 47.0**	**0.0**
ITM	**Ithomi**	**1.11**	**112**	P	**Pg**	**09 03 46.9**	**-0.5**
ITM	**Ithomi**	**1.11**	**112**	P	**Pg**	**09 03 46.7**	**-0.7**
ITM				S	**Sb**	**09 04 02.5**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.12**	**2**	P	**Pg**	**09 03 46.9**	**-0.7**
LKD2	**Lefkada island**	**1.19**	**1**	P	**Pb**	**09 03 47.8**	**-1.0**
LKD2	**Lefkada island**	**1.19**	**1**	P	**Pb**	**09 03 47.7**	**-1.1**
LKD2				S	**Sn**	**09 04 05.6**	**+0.5**
TSLK	**Tsoukalades, L**	**1.23**	**1**	P	**Pn**	**09 03 48.6**	**-0.7**
PVO	**Paravola**	**1.24**	**34**	P	**Pn**	**09 03 48.8**	**-0.6**
PVO	**Paravola**	**1.24**	**34**	P	**Pn**	**09 03 48.8**	**-0.6**
PVO				S	**Sn**	**09 04 07.5**	**+1.3**
KLV	**Kalavryta, Ach**	**1.28**	**69**	P	**Pn**	**09 03 49.3**	**-0.7**
EFP	**Efpalio**	**1.30**	**50**	P	**Pn**	**09 03 49.7**	**-0.6**
EFP				S	**Sg**	**09 04 08.2**	**+0.1**
SERG	**Sergoula**	**1.39**	**54**	P	**Pn**	**09 03 51.0**	**-0.6**
GUR	**Goura**	**1.39**	**75**	P	**Pn**	**09 03 51.2**	**-0.5**
AMPL	**Ampelaki**	**1.40**	**19**	P	**Pn**	**09 03 51.0**	**-0.7**
ANX	**Ano Chora**	**1.42**	**45**	P	**Pn**	**09 03 51.5**	**-0.6**
ANX	**Ano Chora**	**1.42**	**45**	P	**Pn**	**09 03 51.5**	**-0.6**
ANX				S	**Sg**	**09 04 12.8**	**+1.0**
KALE	**Kalithea**	**1.43**	**56**	P	**Pn**	**09 03 51.7**	**-0.5**
KALE				S	**Sg**	**09 04 12.8**	**+0.6**
EVR	**Evrytania**	**1.61**	**35**	P	**Pn**	**09 03 55.2**	**+0.6**
TETR	**Tetrakomo, Epi**	**1.82**	**16**	P	**Pn**	**09 03 58.8**	**+1.3**
MAKR	**Makrakomi, Fth**	**1.84**	**39**	P	**Pb**	**09 03 59.4**	**-0.5**
LTK	**Loutraki**	**1.90**	**76**	P	**Pb**	**09 04 00.5**	**-0.3**
IGT	**Igoumenitsa**	**1.95**	**353**	P	**Pn**	**09 04 00.0**	**+0.8**

*TIR **22** 09:08:56.1,41°.31N×19°.29E, h40km±4km, Ml2.7/5*
*PDG **22** 09:08:58.6±0.3,41°.40N×19°.38E, h15km±1km, ML2.5/10, Error ellipse: s-maj=1.9km s-min=3.6km az=0.0*
*BEO **22** 09:08:58.5±0.4,41°.39N×19°.53E, h14km±2km, ML2.3/10*

ISC 22 09:08:56.4±1.1, 41°33′N±0′.02×19°47′E±0′.03, h10km±9km, n37, σ1s06/67, 6C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.30**	**86**	Pg	**Pg**	**09 09 01.6**	**-0.8**
TIR				Sg	**Sg**	**09 09 04.8**	**-1.6**
TIR				AML	AML	09 09 06.2	
	2.7nm,0.2s						
TIR				AML	AML	09 09 07.1	
	2.4nm,0.2s						
ULC	**Ulcinj**	**0.66**	**345**	↑*i*Pg	**Pg**	**09 09 08.7**	**-0.5**
ULC				*i* Sg	**Sn**	**09 09 20.7**	**-1.5**
VLO	**Vlora**	**0.86**	**179**	Pg	**Pg**	**09 09 13.6**	**+0.7**
VLO				Sg	**Sn**	**09 09 29.1**	**+2.0**
VLO				AML	AML	09 09 31.3	
	1.4nm,0.1s						
DRME	**Dracevica, Mon**	**0.88**	**346**	*e*Pg	**Pb**	**09 09 13.9**	**+0.1**
DRME				*e*Sg	**Sn**	**09 09 26.6**	**-1.1**
DRME	**Dracevica, Mon**	**0.88**	**346**	↓*i*Pg	**Pg**	**09 09 13.1**	**-0.4**
DRME				*e*Sg	**Sb**	**09 09 26.4**	**+0.7**
BUM	**Brajici-Budva**	**1.06**	**336**	↑*i*Pg	**Pg**	**09 09 17.1**	**+0.2**
BUM				*i* Sg	**Sn**	**09 09 33.7**	**+1.4**
PDG	**Podgorica**	**1.11**	**352**	*e*Pg	**Pn**	**09 09 18.4**	**+0.4**
PDG				*e*Sg	**Sn**	**09 09 33.6**	**+0.2**
PDG	**Podgorica**	**1.11**	**352**	↑*i*Pg	**Pn**	**09 09 18.1**	**+0.1**
PDG				*i* Sg	**Sn**	**09 09 34.2**	**+0.8**
KBN	**Korca**	**1.22**	**125**	Pn	**Pn**	**09 09 19.5**	**0.0**
CEME	**Cevo**	**1.29**	**341**	↑*i*Pg	**Pn**	**09 09 20.4**	**0.0**
CEME				*i* Sg	**Sg**	**09 09 39.5**	**+1.7**
PVY	**Plav**	**1.32**	**16**	*e*Pg	**Pb**	**09 09 21.4**	**+0.1**
HCY	**Herceg Novi**	**1.33**	**327**	↓*i*Pg	**Pb**	**09 09 21.8**	**+0.3**
HCY				*i* Sg	**Sg**	**09 09 41.0**	**+1.6**
NKME	**Niksic**	**1.49**	**345**	↓*i*Pg	**Pg**	**09 09 24.1**	**-0.1**
NKME				*i* Sg	**Sg**	**09 09 44.7**	**+0.4**
KOME	**Kolasin**	**1.52**	**1**	↑*i*Pg	**Pg**	**09 09 25.4**	**-0.2**
KOME				*i* Sg	**Sg**	**09 09 46.5**	**+1.1**
BEY	**Berane**	**1.57**	**11**	*e*Pg	**Pb**	**09 09 25.8**	**+0.2**
BEY				*e*Sg	**Sb**	**09 09 45.7**	**+0.1**
IVA	**Berane**	**1.57**	**11**	↓*i*Pg	**Pb**	**09 09 26.3**	**+0.7**
IVA				*i* Sg	**Sg**	**09 09 48.2**	**+1.1**
TREB	**Trebinje**	**1.62**	**329**	*e*Pn	**Pn**	**09 09 25.0**	**0.0**
TREB				*e*Sn	**Sn**	**09 09 45.5**	**-0.4**
BRY	**Bratogost**	**1.72**	**337**	↑*i*Pn	**Pb**	**09 09 27.6**	**-0.5**
BRY				*i* Sn	**Sg**	**09 09 52.8**	**+1.1**
NOCI	**Noci**	**1.90**	**254**	Pn	**Pn**	**09 09 27.7**	**-1.1**
NOCI				Sn	**Sn**	**09 09 49.5**	**-3.3**
NOCI				AML	AML	09 10 07.5	
	0.3nm,0.3s						
IGT	**Igoumenitsa**	**1.91**	**160**	Pn	**Pn**	**09 09 30.4**	**+1.4**
IGT				Sn	**Sn**	**09 09 54.1**	**+1.0**
IGT				AML	AML	09 09 58.0	
	0.1nm,0.6s						
IGT	**Igoumenitsa**	**1.91**	**160**	*e*Pn	**Pn**	**09 09 30.3**	**+1.4**
IGT				*e*Sn	**Sg**	**09 09 58.1**	**+0.3**
SJES	**Sjenica**	**1.97**	**11**	*e*Pn	**Pb**	**09 09 31.3**	**-1.1**
SJES				*e*Sn	**Sb**	**09 09 56.0**	**-1.0**
STON	**Ston**	**2.03**	**320**	*e*Pn	**Pn**	**09 09 30.7**	**+0.1**
SELS	**Selova**	**2.25**	**32**	*e*Pn	**Pn**	**09 09 33.4**	**-0.3**
SELS				*e*Sn	**Sn**	**09 10 01.5**	**0.0**
RUDO	**Rudo**	**2.29**	**358**	*e*Pn	**Pn**	**09 09 35.8**	**+1.6**
RUDO				*e*Sn	**Sn**	**09 10 02.4**	**0.0**
IVAS	**Ivanjica**	**2.30**	**12**	*e*Pn	**Pn**	**09 09 34.5**	**+0.1**
IVAS				*e*Sn	**Sn**	**09 10 03.3**	**+0.5**
GOCS	**Kraljevo Serbi**	**2.46**	**24**	*e*Pn	**Pn**	**09 09 37.1**	**+0.4**
GOCS				*e*Sn	**Sn**	**09 10 06.0**	**-0.8**
BOSS	**Bosilegrad**	**2.53**	**62**	*e*Pn	**Pn**	**09 09 37.1**	**-0.4**
BBLS	**Lazi&#263i**	**2.54**	**359**	*e*Pn	**Pn**	**09 09 39.0**	**+1.3**
BBLS				*e*Sn	**Sn**	**09 10 08.6**	**0.0**
LKD2	**Lefkada island**	**2.69**	**160**	Pn	**Pn**	**09 09 39.5**	**-0.3**
GRUS	**Gruza**	**2.72**	**19**	*e*Pn	**Pn**	**09 09 39.7**	**-0.4**
GRUS				*e*Sn	**Sn**	**09 10 14.0**	**+1.0**
SGRT	**San Giovanni R**	**2.83**	**280**	Pn	**Pn**	**09 09 41.1**	**-0.6**
SGRT				Sn	**Sn**	**09 10 12.5**	**-3.3**
SGRT				AML	AML	09 10 16.2	
	0.1nm,0.4s						
BOVS	**Bovan**	**2.84**	**35**	*e*Pn	**Pn**	**09 09 42.3**	**+0.6**
ZAPS	**Zavoj**	**3.05**	**49**	*e*Pn	**Pn**	**09 09 44.6**	**0.0**
ZAPS				*e*Sn	**Sn**	**09 10 20.0**	**-1.1**
VTS	**Vitosha**	**3.09**	**64**	*e*Pn	**Pn**	**09 09 46.0**	**+0.7**
VTS				*e*Sn	**Sn**	**09 10 20.4**	**-1.9**
ZAGS	**Zajecar**	**3.21**	**38**	*e*Pn	**Pn**	**09 09 46.6**	**-0.3**
ZAGS				*e*Sn	**Sn**	**09 10 24.2**	**-1.0**
BLKB	**Belogradchik**	**3.30**	**45**	*e*Sn	**Sn**	**09 10 26.3**	**-1.0**

*TIR **22** 09:14:54.9,41°.29N×19°.60E, h19km±14km, Ml2.5/3*
*BEO **22** 09:14:55.6±0.6,41°.33N×19°.55E, h3km±5km, ML2.1/6*
*PDG **22** 09:14:57.1±0.3,41°.39N×19°.40E, h16km±1km, ML2.5/9, Error ellipse: s-maj=2.0km s-min=3.5km az=0.0*

ISC 22 09:14:55.3±1.0, 41°33N±0′.02×19°55E±0′.04, h12km±8km, n27, σ0s97/48, 4C-3D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.24**	**87**	Pg	**Pg**	**09 15 00.1**	**-0.2**
TIR				Sg	**Sg**	**09 15 02.7**	**-1.0**
TIR				AML	AML	09 15 04.3	
	1.7nm,0.4s						
TIR				AML	AML	09 15 04.9	
	1.3nm,0.2s						
ULC	**Ulcinj**	**0.67**	**340**	*e*Pg	**Pg**	**09 15 07.9**	**-0.4**
ULC				*i* Sg	**Sb**	**09 15 18.6**	**+0.3**
DRME	**Dracevica, Mon**	**0.90**	**342**	*e*Pg	**Pb**	**09 15 12.8**	**-0.1**
DRME				*e*Sg	**Sg**	**09 15 25.2**	**+0.9**
DRME	**Dracevica, Mon**	**0.90**	**342**	↓*i*Pg	**Pb**	**09 15 12.7**	**-0.1**
DRME				*e*Sg	**Sn**	**09 15 25.8**	**-0.9**
BUM	**Brajici-Budva**	**1.08**	**333**	*e*Pg	**Pb**	**09 15 15.2**	**-0.9**
BUM				*i* Sg	**Sn**	**09 15 31.5**	**0.0**
PDG	**Podgorica**	**1.12**	**349**	*e*Pg	**Pb**	**09 15 16.2**	**-0.4**
PDG				*e*Sg	**Sg**	**09 15 32.4**	**+1.0**
PDG	**Podgorica**	**1.12**	**349**	↑*i*Pg	**Pg**	**09 15 16.5**	**-0.1**
PDG				*i* Sg	**Sg**	**09 15 33.3**	**+1.9**
CEME	**Cevo**	**1.30**	**339**	↑*i*Pg	**Pn**	**09 15 19.1**	**-0.3**
CEME				*e*Sg	**Sg**	**09 15 38.2**	**+1.0**
HCY	**Herceg Novi**	**1.36**	**325**	↓*i*Pg	**Pb**	**09 15 20.7**	**-0.1**
HCY				*e*Sg	**Sg**	**09 15 39.9**	**+0.7**
NKME	**Niksic**	**1.50**	**343**	*e*Pg	**Pb**	**09 15 22.7**	**-0.5**
NKME				*i* Sg	**Sg**	**09 15 43.7**	**+0.1**
KOME	**Kolasin**	**1.52**	**359**	*e*Pg	**Pb**	**09 15 23.0**	**-0.5**
KOME				*e*Sg	**Sn**	**09 15 42.1**	**-0.1**
KOME	**Kolasin**	**1.52**	**359**	↑*i*Pg	**Pn**	**09 15 22.8**	**+0.4**
KOME				*i* Sg	**Sg**	**09 15 45.1**	**+1.0**
BEY	**Berane**	**1.56**	**9**	*e*Pg	**Pb**	**09 15 23.8**	**-0.4**
IVA	**Berane**	**1.56**	**9**	↓*i*Pg	**Pb**	**09 15 24.9**	**+0.7**
KEK	**Kerkira**	**1.63**	**173**	Pn	**Pg**	**09 15 28.2**	**+1.6**
KEK				Sn	**Sg**	**09 15 50.3**	**+2.6**
TREB	**Trebinje**	**1.65**	**328**	*e*Pg	**Pn**	**09 15 23.5**	**-0.6**
TREB				*e*Sg	**Sb**	**09 15 46.3**	**+0.1**
BRY	**Bratogost**	**1.74**	**335**	↑*i*Pn	**Pb**	**09 15 26.5**	**-0.8**
BRY				*i* Sn	**Sg**	**09 15 51.4**	**+0.2**
IGT	**Igoumenitsa**	**1.90**	**161**	Pn	**Pb**	**09 15 29.3**	**-0.6**
IGT				Sn	**Sb**	**09 15 52.8**	**-0.7**
IGT	**Igoumenitsa**	**1.90**	**161**	*e*Pn	**Pn**	**09 15 28.4**	**+0.8**
IGT				*e*Sn	**Sb**	**09 15 52.9**	**-0.7**
SJES	**Sjenica**	**1.95**	**9**	*e*Pn	**Pb**	**09 15 29.8**	**-1.1**
SJES				*e*Sn	**Sb**	**09 15 55.7**	**+0.4**
NOCI	**Noci**	**1.96**	**255**	Pn	**Pb**	**09 15 30.6**	**-0.3**
NOCI				Sn	**Sg**	**09 15 57.0**	**-1.2**
NOCI				AML	AML	09 16 06.9	
	0.2nm,0.5s						
SELS	**Selova**	**2.21**	**31**	*e*Pn	**Pn**	**09 15 32.3**	**+0.3**
SELS				*e*Sn	**Sn**	**09 16 00.5**	**+1.2**
IVAS	**Ivanjica**	**2.29**	**11**	*e*Pn	**Pn**	**09 15 32.6**	**-0.4**
GOCS	**Kraljevo Serbi**	**2.43**	**23**	*e*Sn	**Sn**	**09 16 05.9**	**+1.1**
BBLS	**Lazi&#263i**	**2.53**	**358**	*e*Pn	**Pb**	**09 15 39.4**	**-1.4**
LKD2	**Lefkada island**	**2.68**	**161**	Pn	**Pn**	**09 15 38.0**	**-0.4**
LKD2				Sn	**Sn**	**09 16 08.6**	**-2.2**
LKD2				AML	AML	09 16 09.6	
	0.1nm,1.1s						
GRUS	**Gruza**	**2.69**	**18**	*e*Pn	**Pb**	**09 15 41.6**	**-1.9**

*UPP **22** 09:36:43.4±0.0,67°.84N×20°.20E, h0km, ML2.0, Confirmed Induced event*
*HEL **22** 09:36:43.6±0.1,67°.83N×20°.17E, h0km, ML1.9, Suspected explosion*
*IDC **22** 09:36:44.9±1.4,67°.85N×20°.77E, h0km, mbtmp2.8/3, ML1.9/2, Error ellipse: s-maj=20.4km s-min=8.1km az=114.0*

ISC 22 09:36:43.7±0.8, 67°83N±0′.02×20°24E±0′.02, h0km, n38, σ0s80/57, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**16**	P	**Pg**	**09 36 46.0**	**-0.1**
KUA				S	**Sg**	**09 36 47.8**	**0.0**
RATU	**Laukkuluspa**	**0.25**	**269**	P	**Pg**	**09 36 48.0**	**-0.4**
RATU				S	**Sg**	**09 36 51.3**	**-0.2**
KOVU	**Salmi**	**0.40**	**356**	P	**Pg**	**09 36 50.8**	**-0.4**
	baz=170						
KOVU				S	**Sg**	**09 36 56.0**	**-0.4**
NIKU	**Nikkaluokta**	**0.46**	**275**	P	**Pg**	**09 36 51.9**	**-0.6**
NIKU				S	**Sg**	**09 36 58.1**	**-0.2**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pg**	**09 36 56.8**	**-0.3**
LANU				S	**Sg**	**09 37 06.0**	**-0.1**
LANU	**Lannavaara**	**0.70**	**71**	PG	**Pg**	**09 36 56.7**	**-0.3**
LANU				SG	**Sg**	**09 37 06.0**	**-0.1**
DUNU	**Dundret**	**0.72**	**170**	P	**Pg**	**09 36 57.1**	**-0.4**
DUNU				S	**Sg**	**09 37 07.0**	**+0.1**
MASU	**Masugnsbyn**	**0.77**	**118**	P	**Pg**	**09 36 58.3**	**-0.1**
SALU	**Saltoluokta**	**0.80**	**237**	P	**Pg**	**09 36 58.3**	**-0.8**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	**Pg**	**09 37 06.6**	**0.0**
KIF	**Kilpisjarvi**	**1.20**	**10**	PG	**Pg**	**09 37 06.0**	**-0.6**
KIF				MSG		09 37 21.2	
	comp=Z,13nm,0.2s						
KIF				SB	**Sg**	**09 37 22.1**	**0.0**
PAJU	**Pajala**	**1.37**	**125**	P	**Pg**	**09 37 08.8**	**-1.1**
PAJU	**Pajala**	**1.37**	**125**	PG	**Pg**	**09 37 08.5**	**-1.4**
	baz=302						
PAJU				SB	**Sg**	**09 37 27.3**	**-0.4**
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pn**	**09 37 10.2**	**-0.3**
HEF	**Hetta**	**1.41**	**64**	PG	**Pn**	**09 37 09.2**	**-1.3**
HEF				MSG		09 37 26.6	
	comp=Z,7.4nm,0.2s						
HEF				SG	**Sg**	**09 37 27.7**	**-1.1**
ERTU	**Ertsjaerv**	**1.49**	**148**	P	**Pn**	**09 37 10.8**	**-0.8**
ERTU	**Ertsjaerv**	**1.49**	**148**	PG	**Pn**	**09 37 10.6**	**-1.0**
ERTU				SN	**Sg**	**09 37 31.1**	**-0.4**
KTK1	**Kautokeino**	**1.62**	**42**	PG	**Pn**	**09 37 13.6**	**+0.1**
KTK1				SN	**Sn**	**09 37 35.2**	**0.0**
HARU	**Harads**	**1.70**	**170**	P	**Pn**	**09 37 14.5**	**0.0**
TRO	**Tromso**	**1.87**	**346**	PG	**Pn**	**09 37 17.0**	**+0.1**
TRO				SG	**Sn**	**09 37 41.7**	**+0.5**
KALU	**Kalix**	**2.33**	**147**	PB	**Pn**	**09 37 24.0**	**+0.8**
KALU				SG	**Sb**	**09 37 55.1**	**-0.7**
TOF	**Tornio**	**2.38**	**136**	PB	**Pn**	**09 37 25.1**	**+1.2**
TOF				MSG		09 37 54.6	
	comp=Z,4.8nm,0.2s						
TOF				SG	**Sb**	**09 37 56.4**	**-0.9**
ARA0	**ARCESS Array S**	**2.58**	**46**	PB	**Pn**	**09 37 28.1**	**+1.6**
	baz=229						
ARA0				SB	**Sb**	**09 38 00.9**	**-2.0**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**09 37 27.0**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=226,slow=15,SNR=27						
ARCES				Lg	Lg	09 38 00.3	
	comp=Z,0.9nm,0.3s,baz=228,slow=26,SNR=14						
	comp=Z,0.8nm,0.3s						
RAJF	**Raja-Jooseppi**	**3.09**	**74**	PN	**Pn**	**09 37 33.6**	**0.0**
RAJF				SB	**Sb**	**09 38 16.3**	**-1.3**
KEV	**Kevo**	**3.13**	**49**	SN	**Sn**	**09 38 12.7**	**+0.6**
RANF	**Ranua**	**3.16**	**122**	PB	**Pn**	**09 37 36.0**	**+1.4**
RANF				SG	**Sb**	**09 38 20.6**	**+1.0**
VRF	**Varrio**	**3.56**	**87**	PG	**Pb**	**09 37 48.1**	**+0.6**
OUL	**Oulu**	**3.57**	**138**	PG	**Pb**	**09 37 48.0**	**+0.4**
KU2	**Taivalkoski**	**3.81**	**120**	PN	**Pn**	**09 37 44.7**	**+1.1**
OLKF	**Oulanka, Finla**	**3.89**	**109**	PN	**Pn**	**09 37 45.5**	**+0.9**
UMAU	**Umeaa**	**3.97**	**177**	SN	**Sn**	**09 38 33.7**	**+0.9**
MSF	**Maaselka**	**3.97**	**115**	PN	**Pn**	**09 37 46.8**	**+1.1**
	baz=298						
KU6	**Riekki**	**4.21**	**111**	PG	**Pb**	**09 37 59.2**	**+0.7**
	baz=296						
KU1	**Kurvinen**	**4.34**	**117**	PN	**Pn**	**09 37 52.5**	**+1.6**
HUSU	**Husum**	**4.53**	**186**	SN	**Sn**	**09 38 46.8**	**+0.1**
FINES	**FINESS Array B**	**6.88**	**156**	Pn	**Pn**	**09 38 26.2**	**+0.6**
	comp=Z,3.0nm,1.0s,baz=349,slow=13,SNR=2.1						
FINES				Sn	**Sn**	**09 39 44.1**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=345,slow=22,SNR=2.2						
FINES				Lg	Lg	09 40 17.2	
	comp=Z,0.3nm,0.3s,baz=340,slow=26,SNR=5.0						
NOA	**NORSAR Array B**	**7.85**	**214**	Pn	**Pn**	**09 38 39.5**	**+0.5**
	baz=23,slow=12,SNR=1.6						
NOA				Lg	Lg	09 40 46.6	
	baz=6.7,slow=4.1,SNR=4.8						
	comp=Z,0.2nm,0.7s						

TRN 22 09:45:21.0, 17°77N×60°97W, h15km, MD3.9, Far North-east of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.78**	**263**	*e*P	Pn	09 45 38.4	+0.9
ANWB				*e*S	Sn	09 45 51.8	+3.0
DSDZ	**La Diserade, G**	**1.45**	**183**	*e*P	Pb	09 45 48.0	+0.3
DHSZ	**Broadband at M**	**1.67**	**207**	*e*P	Pb	09 45 51.5	0.0
DHSZ				*e*S	Sb	09 46 13.6	+1.3
SKI	**Saint Kitts**	**1.74**	**256**	*e*P	Pb	09 45 52.5	-0.2
SKI				*e*S	Sb	09 46 15.6	+1.3
ATGZ	**Broadband at L**	**1.82**	**203**	*e*P	Pb	09 45 53.6	-0.3
MMLZ	**Guadeloupe Bro**	**1.84**	**201**	*e*P	Pn	09 45 53.1	+1.1
MMLZ				*e*S	Sb	09 46 17.6	+0.4
TBG	**Guadaloupe-3**	**2.02**	**199**	*e*P	Pb	09 45 57.4	+0.1
TBG				*e*S	Sb	09 46 22.9	+0.7
DSLB	**Salisbury**	**2.36**	**191**	*e*P	Pb	09 46 01.6	-1.6
DSLB				*e*S	Sb	09 46 30.2	-1.9

*IDC **22** 09:45:56.5±1.7,52°.63N×169°.24W, h0km, mb3.6/7, mbtmp3.6/10, ML3.3/3, Error ellipse: s-maj=41.4km s-min=19.5km az=175.0*
*AEIC **22** 09:45:58.5±2.1,52°.08N±0°.06×169°.34W±0°.08, h37km±8km, Error ellipse: s-maj=9.2km s-min=6.8km az=169.0*
*NEIC **22** 09:45:58.9±1.9,52°.09N±0°.07×169°.38W±0°.04, h42km±12km, mb3.5/9, ML3.5/18, ML3.1(AEIC), Error ellipse: s-maj=10.4km s-min=2.0km az=160.0*

ISC 22 09:45:58.5±0.9, 52°14N±0°.08×169°36W±0°.05, h30km, n60, σ1s77/57, mb3.6/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.69**	**341**			**09 46 12.6**	**+0.4**
CLCO					**Sn**	**09 46 22.8**	**+0.9**
CLES	**Cleveland East**	**0.76**	**335**		**Pb**	**09 46 13.6**	**+0.4**
CLES	**Cleveland East**	**0.76**	**335**		**Sn**	**09 46 27.0**	**+3.3**
NIKH	**Nikolski High**	**0.89**	**20**		**Pn**	**09 46 14.9**	**-0.1**
NIKH				IAML		09 46 30.2	
	comp=E,1μm,0.7s						
NIKH				IAML		09 46 30.7	
	comp=N,1μm,0.5s						
NIKH	**Nikolski High**	**0.89**	**20**		**Sb**	**09 46 29.9**	**+3.0**
NIKH	**Nikolski High**	**0.89**	**20**	P	**Pn**	**09 46 14.8**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**1.48**	**32**		**Pn**	**09 46 24.0**	**+0.8**
OKTU					**Sb**	**09 46 44.4**	**+0.5**
OKWE	**Okmok W'ng Wal**	**1.50**	**26**		**Pn**	**09 46 24.4**	**+1.0**
OKNC	**Okmok New Cone**	**1.52**	**29**		**Pn**	**09 46 24.9**	**-1.2**
OKFG	**Magazine

	comp=Z,1.7nm,0.7s						
NOA	**NORSAR Array B**	**67.17**	**360**	P	**P**	**09 56 49.6**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=21,slow=8.6,SNR=1.8						
	comp=Z,0.2nm,0.6s						
HFS	**Hagfors**	**68.06**	**358**	P	**P**	**09 56 54.0**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=23,slow=4.8,SNR=5.6						
	comp=Z,0.8nm,0.5s						

*IDC **22** 09:58:48.4±1.9, 41.˚14S×174.˚88E, h0km, mb3.7/2, mbtmp3.6/4, ML3.2/2, Error ellipse: s-maj=52.5km s-min=15.2km az=132.0*
*NOU **22** 09:58:52.8, 41.˚32S×175.˚03E, h24km, MLv4.1/18, North Island, New Zealand*
*WEL **22** 09:58:54.1±0.4, 41.˚S±2.˚×17.˚5E±.˚, h26km±3km, M4.0/13, ML4.3/13, MLv4.0/13, Error ellipse: s-maj=4.4km s-min=2.9km az=112.8, confirmed*
*NEIC **22** 09:58:54.2, 41.˚115S×174.˚83E, h31km*
*NEIC **22** 09:58:54.2±1.6, 41.˚10S±0.˚03×174.˚82E±0.˚05, h31km±7km, mb3.9/6, Mwr3.7/12, Error ellipse: s-maj=5.8km s-min=3.5km az=115.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=3.45; Mθθ 0.39; Mϕϕ 3.06; Mrθ 0.59; Mθϕ 0.98; Mϕr 2.60; Fault plane solution: Mo 4.33000×10¹⁴ NP1:ϕs 21.16000°, δ 26.11000°, λ -84.41000°. NP2:ϕs 194.94000°, δ 64.03000°, λ -92.73000°. Principal axes: T 4.2906, Plg 19.0000°, Azm 287.0000°; N 0.0857, Plg 2.0000°, Azm 196.0000°; P -4.3763, Plg 71.0000°, Azm 99.0000°;*

ISC 22 09:58:54.4±0.8, **41.˚18S**±0.˚02×**174.˚84E**±0.˚02, **h33**km±2km, **n90**, σ1ϕ03/114, **mb3.9**/6, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHBS	**Lower Hutt Nor**	**0.04**	**111**	P	**Pb**	**09 59 00.2**	**+0.2**
LHBS				S	**Sb**	**09 59 03.8**	**+0.1**
PTOS	**Petone Overbri**	**0.04**	**160**	P	**Pb**	**09 59 00.1**	**+0.2**
PTOS				S	**Sb**	**09 59 04.0**	**+0.3**
LHRS	**Lower Hutt Nor**	**0.05**	**120**	P	**Pb**	**09 59 00.2**	**+0.2**
LHRS				S	**Sb**	**09 59 04.0**	**+0.2**
PVCS	**Petone Victori**	**0.05**	**150**	P	**Pb**	**09 59 00.3**	**+0.4**
PVCS				S	**Sb**	**09 59 04.6**	**+0.8**
NEWS	**Newlands**	**0.05**	**196**	P	**Pb**	**09 59 00.3**	**+0.3**
BMTS	**Belmont**	**0.07**	**99**	P	**Pb**	**09 59 00.1**	**+0.1**
BMTS				S	**Sb**	**09 59 03.8**	**0.0**
LRSS	**Randwick Schoo**	**0.07**	**135**	P	**Pb**	**09 59 00.1**	**+0.1**
WANS	**Wainuiomata Hi**	**0.08**	**126**	P	**Pb**	**09 59 00.6**	**+0.5**
NBSS	**St Bernadette"**	**0.09**	**104**	P	**Pb**	**09 59 00.4**	**+0.3**
NBSS				S	**Sb**	**09 59 04.6**	**+0.6**
DAVS	**Collett Street**	**0.09**	**106**	P	**Pb**	**09 59 00.5**	**+0.4**
PIPS	**Aotea Quay Pip**	**0.10**	**206**	P	**Pb**	**09 59 00.4**	**+0.2**
HSSS	**Lower Hutt Hay**	**0.11**	**74**	P	**Pb**	**09 59 00.3**	**+0.1**
HSSS				S	**Sb**	**09 59 04.3**	**+0.1**
HIBS	**Hutt Internati**	**0.15**	**74**	P	**Pb**	**09 59 00.6**	**+0.1**
SNZO	**South Karori**	**0.16**	**218**	Pg	**Pb**	**09 59 00.9**	**+0.2**
SNZO				Sg	**Sb**	**09 59 05.4**	**+0.5**
SNZO	**South Karori**	**0.16**	**218**	P	**Pn**	**09 59 00.5**	**+0.8**
SNZO	**South Karori**	**0.16**	**218**	S	**Sb**	**09 59 05.6**	**+0.7**
CAW	**Cannon Point**	**0.19**	**67**	P	**Pb**	**09 59 01.1**	**+0.2**
BHW	**Baring Head**	**0.23**	**174**	Pg	**Pb**	**09 59 01.8**	**+0.6**
BHW				Sg	**Sb**	**09 59 06.7**	**+0.7**
BHW	**Baring Head**	**0.23**	**174**	P	**Pb**	**09 59 01.9**	**+0.6**
BHW				S	**Sb**	**09 59 06.9**	**+0.9**
KIW	**Kapiti Island**	**0.33**	**9**	P	**Pb**	**09 59 02.3**	**-0.2**
KIW				S	**Sn**	**09 59 07.4**	**-0.7**
FTPS	**Featherston Pr**	**0.37**	**80**	P	**Pb**	**09 59 03.6**	**+0.5**
FTPS				S	**Sb**	**09 59 10.5**	**+1.5**
MSWZ	**Moikau Station**	**0.39**	**127**		**Pb**	**09 59 04.1**	**+0.7**
MSWZ				Sg	**Sn**	**09 59 11.0**	**+1.1**
MSWZ	**Moikau Station**	**0.39**	**127**	P	**Pb**	**09 59 03.9**	**+0.6**
MSWZ				S	**Sn**	**09 59 11.3**	**+1.4**
TCW	**Tory Channel**	**0.43**	**266**		**Pb**	**09 59 04.0**	**+0.1**
TCW				Sg	**Sb**	**09 59 10.2**	**-0.2**
TCW	**Tory Channel**	**0.43**	**266**	P	**Pb**	**09 59 04.0**	**+0.1**
OGWZ	**Otaki Gorge**	**0.44**	**35**	P	**Pb**	**09 59 03.7**	**-0.4**
OGWZ				S	**Sb**	**09 59 10.6**	**-0.2**
OTKS	**Otaki School**	**0.48**	**28**	P	**Pb**	**09 59 04.4**	**-0.3**
OTKS				S	**Sb**	**09 59 12.4**	**+0.6**
PAWZ	**Paruwai Farm**	**0.48**	**115**	P	**Pb**	**09 59 05.4**	**+0.6**
PLWZ	**Palliser**	**0.50**	**141**		**Pn**	**09 59 05.7**	**+0.4**
PLWZ					**Sn**	**09 59 14.2**	**+1.5**
PLWZ	**Palliser**	**0.50**	**141**	P	**Pn**	**09 59 05.7**	**+0.4**
PLWZ				S	**Sn**	**09 59 14.2**	**+1.5**
MTW	**Mount Morrison**	**0.50**	**87**	P	**Pb**	**09 59 05.5**	**+0.5**
HOWZ	**Holdsworth Sta**	**0.58**	**61**	P	**Pn**	**09 59 06.3**	**0.0**
TRWZ	**Traveller**	**0.67**	**109**	P	**Pn**	**09 59 07.8**	**+0.2**
TRWZ				S	**Sb**	**09 59 18.3**	**+1.3**
SDNS	**Seddon**	**0.71**	**227**	P	**Pb**	**09 59 09.5**	**+1.0**
TUWZ	**Tuamarina**	**0.72**	**250**	Pn	**Pn**	**09 59 09.0**	**+0.8**
TUWZ	**Tuamarina**	**0.72**	**250**	P	**Pn**	**09 59 09.0**	**+0.8**
CMWZ	**Cape Campbell**	**0.74**	**220**	Pn	**Pb**	**09 59 09.7**	**+0.8**
MRZ	**Mangatainoka R**	**0.76**	**47**	Pn	**Pn**	**09 59 08.8**	**-0.1**
MRZ	**Mangatainoka R**	**0.76**	**47**	P	**Pn**	**09 59 08.9**	**+0.1**
MRZ				S	**Sn**	**09 59 18.8**	**-0.5**
FXBS	**Foxton Beach S**	**0.78**	**22**	P	**Pn**	**09 59 09.2**	**+0.2**
FXBS				S	**Sb**	**09 59 21.7**	**+1.9**
BSWZ	**Blackbirch Sta**	**0.90**	**233**	Pn	**Pn**	**09 59 11.3**	**+0.6**
NNZ	**Nelson**	**1.10**	**268**	Pn	**Pn**	**09 59 13.9**	**+0.4**
NNZ	**Nelson**	**1.10**	**268**	P	**Pn**	**09 59 14.1**	**+0.6**
BFZ	**Birch Farm**	**1.18**	**65**	Pn	**Pn**	**09 59 13.6**	**-1.0**
BFZ	**Birch Farm**	**1.18**	**65**	P	**Pn**	**09 59 13.5**	**-1.0**
BFZ	**Birch Farm**	**1.18**	**65**	P	**Pn**	**09 59 14.1**	**-0.5**
TKNZ	**Takaka Hill**	**1.43**	**275**	Pn	**Pn**	**09 59 10.8**	**+0.8**
THZ	**Tophouse**	**1.57**	**248**	Pn	**Pn**	**09 59 20.4**	**+0.5**
KHZ	**Kahutara**	**1.57**	**218**	Pn	**Pn**	**09 59 19.9**	**0.0**
KHZ	**Kahutara**	**1.57**	**218**	P	**Pn**	**09 59 19.5**	**-0.4**
KHZ	**Kahutara**	**1.57**	**218**	S	**Sn**	**09 59 39.2**	**+0.1**
MRNZ	**Matariki Terra**	**1.58**	**261**	Pn	**Pn**	**09 59 21.1**	**+0.9**
QRZ	**Quartz Range**	**1.79**	**281**	Pn	**Pn**	**09 59 23.8**	**+0.9**
QRZ	**Quartz Range**	**1.79**	**281**	P	**Pn**	**09 59 24.3**	**+1.4**
KHEZ	**Kahui Hut**	**1.99**	**341**	P	**Pn**	**09 59 28.3**	**+2.5**
KHEZ	**Kahui Hut**	**1.99**	**341**	S	**Sb**	**09 59 54.4**	**0.0**
GVZ	**Greta Valley S**	**2.23**	**216**	Pn	**Pn**	**09 59 28.5**	**-0.6**
DSZ	**Denniston Nort**	**2.35**	**255**	Pn	**Pn**	**09 59 31.1**	**+0.4**
BKZ	**Black Stump Fm**	**2.38**	**33**	Pn	**Pn**	**09 59 29.8**	**-1.3**
BKZ	**Black Stump Fm**	**2.38**	**33**	P	**Pn**	**09 59 30.4**	**-0.7**
LTZ	**Lake Taylor**	**2.50**	**229**	Pn	**Pn**	**09 59 32.2**	**-0.5**
HIZ	**Hauiti**	**2.67**	**0**	Pn	**Pn**	**09 59 35.9**	**+0.9**
HIZ	**Hauiti**	**2.67**	**0**	P	**Pn**	**09 59 36.0**	**+1.0**
HIZ	**Hauiti**	**2.67**	**0**	S	**Sn**	**10 00 09.3**	**+3.1**
INZ	**Inchbonnie**	**2.96**	**238**	Pn	**Pn**	**09 59 38.9**	**-0.2**
OXZ	**Oxford**	**2.99**	**223**	Pn	**Pn**	**09 59 38.0**	**-1.4**
MQZ	**McQueen's Vall**	**3.00**	**212**	Pn	**Pn**	**09 59 37.7**	**-1.8**
URZ	**Urewera**	**3.40**	**32**	Pn	**Pn**	**09 59 42.7**	**-2.5**
	2.2nm,0.3s,baz=232,slow=8.6,SNR=11						
URZ				Pg		09 59 49.9	
	3.7nm,0.3s,baz=210,slow=13,SNR=12						
URZ				Sn	**Sn**	**10 00 22.4**	**-2.0**
	8.6nm,0.3s,baz=216,slow=7.6,SNR=6.4						
	4.7nm,0.3s						
URZ	**Urewera**	**3.40**	**32**	P	**Pn**	**09 59 44.7**	**-0.5**
TOZ	**Tahuroa Road**	**3.48**	**9**	Pn	**Pn**	**09 59 46.0**	**-0.2**
RPZ	**Rata Peaks**	**3.78**	**227**	Pn	**Pn**	**09 59 49.0**	**-1.3**
	1.6nm,0.3s,baz=47,slow=0.7,SNR=7.4						
RPZ				Pg		09 59 59.1	
	13nm,0.3s,baz=24,slow=19,SNR=36						
RPZ				Sn	**Sn**	**10 00 29.4**	**-4.1**
	15nm,0.3s,baz=334,slow=23,SNR=18						
RPZ				Lg	Lg	10 00 48.7	
	8.2nm,0.3s,baz=43,slow=19,SNR=3.9						
	3.6nm,0.3s						
RPZ	**Rata Peaks**	**3.78**	**227**	P	**Pn**	**09 59 50.0**	**-0.3**
KUZ	**Kuaotunu**	**4.48**	**9**	P	**Pn**	**10 00 00.4**	**+0.4**
LBZ	**Lake Benmore**	**4.69**	**225**	Pn	**Pn**	**10 00 01.6**	**-1.3**
ODZ	**Otahua Downs**	**4.93**	**217**	P	**Pn**	**10 00 04.7**	**-1.5**
JCZ	**Jackson Bay**	**5.32**	**235**	P	**Pn**	**10 00 11.1**	**-0.5**
OUZ	**Omahuta**	**6.03**	**350**	P	**Pn**	**10 00 23.7**	**+2.4**
SYZ	**Scrubby Hill**	**6.75**	**216**	P	**Pn**	**10 00 29.9**	**-1.2**
CTZ	**Chatham Island**	**6.81**	**115**	Pn	**Pn**	**10 00 30.8**	**-1.2**
WHZ	**Wether Hill Ro**	**6.87**	**224**	Pn	**Pn**	**10 00 33.6**	**+0.8**
AS31	**Alice Springs**	**38.31**	**284**	P	**P**	**10 06 10.3**	**-1.7**
ASAR	**Alice Springs**	**38.31**	**284**	P	**P**	**10 06 10.9**	**-1.1**
	0.4nm,0.4s,baz=126,slow=7.1,SNR=20						
	0.4nm,0.4s						
WR8	**Warramunga Arr**	**40.20**	**289**	P	**P**	**10 06 26.2**	**-1.6**
WR8				IAmb	IAmb	10 06 34.6	
	comp=Z,2.4nm,1.0s						
WRAB	**Tennant Creek**	**40.33**	**289**	P	**P**	**10 06 28.5**	**-0.4**
WRA	**Warramunga Arr**	**40.33**	**289**	P	**P**	**10 06 27.8**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=126,slow=8.1,SNR=12						
	comp=Z,0.7nm,0.5s						
WB0	**Warramunga Arr**	**40.40**	**290**	P	**P**	**10 06 28.4**	**-1.1**
WB0				IAmb	IAmb	10 06 39.7	
	comp=Z,1.9nm,0.8s						
QSPA	**South Pole Qui**	**48.95**	**180**	P	**P**	**10 07 38.6**	**+1.4**
QSPA				IAmb	IAmb	10 07 50.3	
	comp=Z,1.8nm,1.1s						
SNAA	**Sanae**	**67.44**	**181**	P	**P**	**10 09 46.1**	**-0.1**
SNAA				IAmb	IAmb	10 10 15.0	
	comp=Z,1.5nm,1.1s						
ARCES	**ARCESS Array B**	**147.39**	**341**	PKPbc	**PKPdf**	**10 18 31.4**	**+0.5**
	comp=Z,2.9nm,0.9s,baz=50,slow=2.1,SNR=5.8						
BRTR	**Keskin Array B**	**150.60**	**280**	PKPbc	**PKPbc**	**10 18 41.7**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=125,slow=4.2,SNR=3.9						

*SOF **22** 10:14:18.6, 41.˚63N±0.˚01×25.˚33E±0.˚01, h12km±1km, MD2.6/7*
*ISK **22** 10:14:18.7, 41.˚58N×25.˚38E, h6km, ML2.1/13*
*BEO **22** 10:14:22.7±1.1, 41.˚66N×25.˚18E, h0km, ML2.2/6*
*AFAD **22** 10:14:22.3, 41.˚54N×25.˚58E, h12km±3km, ML2.0*

ISC 22 10:14:18.0±0.8, **41.˚63N**±0.˚02×**25.˚38E**±0.˚02, **h14**km±4km, **n33**, σ0875/54, **Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDZ	**Kurdzhali**	**0.03**	**264**	*i* P	**Pg**	**10 14 20.8**	**+0.2**
KDZ				*i* S	**Sg**	**10 14 21.9**	**-0.4**
KDZ	**Kurdzhali**	**0.03**	**264**	Pg	**Pg**	**10 14 20.7**	**+0.2**
KDZ				Sg	**Sg**	**10 14 21.9**	**-0.4**
DIM	**Dimitrovgrad**	**0.44**	**20**	*i* P	**Pb**	**10 14 27.9**	**+0.3**
DIM				*i* S	**Sb**	**10 14 34.2**	**+0.2**
RZN	**Rozhen**	**0.48**	**277**	*i* P	**Pg**	**10 14 27.8**	**+0.1**
RZN				*i* S	**Sg**	**10 14 33.9**	**-0.3**
RDO	**Rodhopi**	**0.50**	**166**	Pg	**Pb**	**10 14 28.1**	**-0.5**
RDO				Sg	**Sg**	**10 14 34.3**	**-0.3**
PLD	**Plovdiv**	**0.70**	**318**	*i* P	**Pb**	**10 14 32.0**	**0.0**
PLD				*i* S	**Sg**	**10 14 41.0**	**+0.2**
PLD	**Plovdiv**	**0.70**	**318**	Pg	**Pb**	**10 14 32.2**	**+0.2**
PLD	**Plovdiv**	**0.70**	**318**	*e*Pg	**Pg**	**10 14 31.5**	**-0.1**
PLD				*e*Sg	**Sg**	**10 14 40.8**	**0.0**
ALN	**Alexandroupoli**	**0.89**	**145**	Pg	**Pb**	**10 14 35.7**	**+0.4**
ALN				Sg	**Sb**	**10 14 47.3**	**+0.3**
EDRB	**Edirne**	**1.04**	**78**	Pg	**Pn**	**10 14 38.8**	**+0.5**
UKOP	**Uzunkopru-Edir**	**1.07**	**118**	Pg	**Pn**	**10 14 39.2**	**+0.6**
CAVK	**Edirne/Enez-Ca**	**1.11**	**147**	P	**Pn**	**10 14 39.7**	**+0.5**
CAVK				S	**Sb**	**10 14 52.3**	**-1.1**
CAVK				*i* IAML		10 14 57.0	
	comp=N,93nm,0.2s						
CAVK				*i* IAML		10 14 57.0	
	comp=E,148nm,0.2s						
MMB	**Musomishta**	**1.23**	**267**	*i* P	**Pn**	**10 14 41.1**	**+0.3**
MMB				*i* S	**Sn**	**10 14 58.4**	**+1.2**
KESN	**Edirne-Kesan**	**1.27**	**129**	P	**Pg**	**10 14 42.3**	**-0.3**
KESN				S	**Sg**	**10 14 58.6**	**-0.5**
ERIK	**Erikli-Kesan**	**1.29**	**138**	Pn	**Pg**	**10 14 43.2**	**+0.4**
KIRK	**Kırklareli**	**1.30**	**83**	P	**Pb**	**10 14 42.5**	**+0.3**
KIRK				S	**Sb**	**10 14 58.5**	**-0.2**
KIRK				*i* IAML		10 15 02.0	
	comp=N,16nm,0.3s						
SRS	**Serrai**	**1.44**	**250**	*e*Pg	**Pg**	**10 14 47.3**	**+1.6**
SRS				*e*Sg	**Sb**	**10 15 03.3**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.49**	**146**	Pn	**Pb**	**10 14 45.8**	**+0.4**
GADA	**Gvkgeada**	**1.49**	**165**	Pn	**Pg**	**10 14 46.0**	**-0.7**
GOAD	**anakkale-G¶**	**1.52**	**164**	P	**Pg**	**10 14 46.8**	**-0.5**
GOAD				S	**Sn**	**10 15 03.7**	**-0.8**
GOAD				*i* IAML		10 15 08.0	
	comp=E,48nm,0.4s						
GOAD				*i* IAML		10 15 37.0	
	comp=N,42nm,1.4s						
ARMN	**Kirklareli, Me**	**1.55**	**81**	P	**Pb**	**10 14 46.8**	**+0.2**
ARMN				S	**Sn**	**10 15 04.7**	**-0.5**
OUR	**Ouranopolis**	**1.67**	**220**	Pn	**Pb**	**10 14 48.2**	**-0.4**
KKB	**Krupnik**	**1.70**	**278**	*i* P	**Pg**	**10 14 49.9**	**-0.7**
KKB				*i* S	**Sg**	**10 15 12.3**	**-0.3**
COMU	**Canakkale**	**1.74**	**151**	Pn	**Pb**	**10 14 49.4**	**-0.4**
VIZE	**Kirklareli, Vi**	**1.85**	**91**	P	**Pn**	**10 14 49.4**	**+0.1**
VTS	**Vitosha**	**1.87**	**302**	*i* P	**Pg**	**10 14 53.6**	**-0.5**
VTS				*i* S	**Sg**	**10 15 17.3**	**-1.0**
VTS	**Vitosha**	**1.87**	**302**	*e*Pn	**Pg**	**10 14 53.5**	**-0.5**
VTS				*e*Sn	**Sb**	**10 15 16.2**	**+0.7**
KRBG	**Karabiga-Canak**	**1.91**	**130**	Pn	**Pb**	**10 14 52.4**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**2.09**	**154**	P	**Pn**	**10 14 54.0**	**+1.3**
BAYC				*i* IAML		10 15 22.0	
	comp=E,13nm,1.5s						
BAYC				*i* IAML		10 15 37.0	
	comp=N,7.0nm,0.8s						
BOSS	**Bosilegrad**	**2.32**	**293**	*e*Pn	**Pb**	**10 15 00.4**	**+0.7**
BOSS				*e*Sn	**Sb**	**10 15 28.6**	**+0.3**
YAYO	**Edremit-Balk**	**2.40**	**147**	Pn	**Pn**	**10 14 58.8**	**+2.0**
ZAPS	**Zavoj**	**2.61**	**310**	*e*Pn	**Pb**	**10 15 04.7**	**+0.1**
ZAPS				*e*Sn	**Sb**	**10 15 35.8**	**-0.8**
BARS	**Barje**	**2.90**	**295**	*e*Pn	**Pb**	**10 15 07.9**	**-1.6**
BARS				*e*Sn	**Sb**	**10 15 42.6**	**-2.2**

*IDC **22** 10:28:38.6±3.0, 5.˚70S×102.˚32E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=130.6km s-min=21.0km az=53.0*

ISC 22 10:28:43.6±3.1, **5.˚7S**±0.˚5×**102.˚4E**±0.˚7, **h34**km, **n20**, σ0915/8, **mb3.6/7, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**24.23**	**352**	P	**P**	**10 33 57.4**	**0.0**
	1.1nm,0.7s,baz=182,slow=9.4,SNR=7.7						
	1.1nm,0.7s						
H08S2	**Diego Garcia H**	**29.72**	**265**	T	T	11 06 02.1	
	baz=88,slow=75,SNR=29						
H08S3	**Diego Garcia H**	**29.73**	**265**	T	T	11 05 55.1	
	baz=88,slow=75,SNR=28						
H08S1	**Diego Carcia H**	**29.74**	**265**	T	T	11 06 02.8	
	baz=88,slow=75,SNR=14						
H01W3	**Cape Leeuwin H**	**31.02**	**161**	T	T	11 07 31.4	
	baz=338,slow=76,SNR=9.9						
H01W2	**Cape Leeuwin H**	**31.04**	**161**	T	T	11 07 31.9	
	baz=338,slow=76,SNR=13						
H01W1	**Cape Leeuwin H**	**31.04**	**161**	T	T	11 07 32.0	
	baz=338,slow=76,SNR=14						
WRA	**Warramunga Arr**	**34.16**	**117**	P	**P**	**10 35 25.8**	**-0.1**
	0.1nm,0.3s,baz=294,slow=7.6,SNR=1.9						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**35.23**	**124**	P	**P**	**10 35 35.2**	**+0.1**
	0.4nm,0.7s,baz=300,slow=8.3,SNR=8.3						
	0.4nm,0.7s						
SONM	**Songino Array**	**53.41**	**3**	P	**P**	**10 38 00.2**	**0.0**
	1.4nm,0.6s,baz=180,slow=7.7,SNR=4.7						
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**55.20**	**343**	P	**P**	**10 38 13.1**	**+0.1**
	0.5nm,0.6s,baz=138,slow=9.3,SNR=4.4						
	0.5nm,0.6s						
H04N2	**CROZET ISLANDS**	**59.32**	**219**	T	T	11 43 09.9	
	baz=63,slow=75,SNR=77						
H04N1	**CROZET ISLANDS**	**59.34**	**219**	T	T	11 43 10.3	
	baz=63,slow=75,SNR=80						
H04N3	**CROZET ISLANDS**	**59.34**	**219**	T	T	11 43 07.7	
	baz=63,slow=75,SNR=74						
H04S1	**CROZET ISLANDS**	**59.56**	**218**	T	T	11 43 25.8	
	baz=62,slow=75,SNR=16						
H04S3	**CROZET ISLANDS**	**59.58**	**218**	T	T	11 43 27.1	
	baz=62,slow=75,SNR=49						
H04S2	**CROZET ISLANDS**	**59.58**	**218**	T	T	11 43 25.6	
	baz=62,slow=75,SNR=24						
KURBB	**Kurchatov Arra**	**59.74**	**343**	P	**P**	**10 38 45.2**	**+0.3**
	0.2nm,0.4s,baz=167,slow=7.4,SNR=4.6						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**64.44**	**339**	P	**P**	**10 39 16.3**	**-0.1**
	0.7nm,0.4s,baz=153,slow=9.7,SNR=3.4						
	0.7nm,0.4s						
TXAR	**Lajitas Array**	**145.98**	**43**	PKPbc	**PKPab**	**10 48 21.1**	**0.0**
	0.4nm,0.8s,baz=323,slow=3.7,SNR=4.6						

*IDC **22** 10:56:22.5±0.9, 62.˚34S×160.˚32W, h0km, mb3.9/6, mbtmp3.8/7, ML3.4/1, MS3.8/22, Error ellipse: s-maj=27.2km s-min=23.5km az=69.0*

ISC 22 10:56:23.9±0.9, **62.˚3S**±0.˚1×**160.˚4W**±0.˚2, **h10**km, **n36**, σ0964/9, **mb3.9**/7, **MS3.8**/21, **Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**19.36**	**204**	P	**P**	**11 00 48.8**	**-0.3**
	0.1nm,0.3s,baz=74,slow=11,SNR=4.8						
VNDA				LR	LR	11 06 29.3	
	comp=Z,279nm,18.3s,baz=44,slow=31						
	1.7nm,0.8s						
URZ	**Urewera**	**27.76**	**320**	LR	LR	11 10 47.1	
	comp=Z,177nm,21.0s,baz=151,slow=31						
QSPA	**South Pole Qui**	**27.79**	**180**	P	**P**	**11 02 12.3**	**-0.3**
	1.9nm,1.0s,baz=49,slow=5.8,SNR=3.9						
QSPA				LR	LR	11 11 14.4	
	comp=Z,137nm,19.7s,baz=49,slow=32						
	1.9nm,1.0s						
PMSA	**Palmer Station**	**39.02**	**137**	LR	LR	11 17 18.5	
	comp=Z,96nm,18.1s,baz=222,slow=32						
TBI	**Tubuai**	**39.67**	**16**	*e*LR	LR	11 14 36.2	
	854nm,28.0s						
PPT2	**Papeete2**	**45.34**	**15**	*e*LR	LR	11 17 10.9	
	276nm,26.8s						
PPT2				*e*LR	LR	11 17 23.7	
	251nm,27.5s						
PPT	**Papeete**	**45.36**	**15**	P	**P**	**11 04 41.2**	**-0.8**
	23nm,0.6s,baz=252,slow=19,SNR=6.3						
PPT				LR	LR	11 20 32.9	
	comp=Z,74nm,19.0s,baz=114,slow=32						
SNAA	**Sanae**	**45.38**	**170**	P	**P**	**11 04 41.4**	**-0.4**
	0.8nm,0.8s,baz=207,slow=6.8,SNR=4.5						
SNAA				LR	LR	11 22 41.9	
	comp=Z,207nm,18.3s,baz=258,slow=35						
	0.8nm,0.8s						
DZM	**Mont Dzumac**	**46.14**	**315**	*e*LR	LR	11 18 17.9	
	91nm,21.0s						
DZM	**Mont Dzumac**	**46.14**	**315**	LR	LR	11 22 53.1	
	comp=Z,89nm,18.6s,baz=176,slow=34						
MAW	**Mawson**	**46.64**	**201**	LR	LR	11 22 05.8	
	comp=Z,83nm,20.3s,baz=144,slow=33						
STKA	**Stephens Creek**	**47.53**	**282**	LR	LR	11 20 34.1	
	comp=Z,83nm,22.0s,baz=176,slow=30						
RPN	**Rapa Nui**	**48.51**	**68**	LR	LR	11 20 39.1	
	comp=Z,112nm,20.7s,baz=252,slow=30						
PLCA	**Paso Flores**	**54.84**	**112**	LR	LR	11 23 23.7	
	comp=Z,60nm,21.3s,baz=202,slow=30						
H03S2	**Juan Fernandez**	**56.79**	**100**	T	T	12 07 44.7	
	baz=211,slow=74,SNR=58						
H03S1	**Juan Fernandez**	**56.79**	**100**	T	T	12 07 42.9	
	baz=211,slow=74,SNR=63						
H03S3	**Juan Fernandez**	**56.80**	**100**	T	T	12 07 44.6	
	baz=211,slow=74,SNR=61						
H03N3	**Juan Fernandez**	**57.10**	**100**	T	T	12 08 09.3	
	baz=214,slow=72,SNR=11						
H03N2	**Juan Fernandez**	**57.11**	**100**	T	T	12 08 05.2	
	baz=214,slow=72,SNR=18						
H03N1	**Juan Fernandez**	**57.12**	**100**	T	T	12 08 13.6	
	baz=214,slow=72,SNR=9.5						
H01W1	**Cape Leeuwin H**	**57.72**	**256**	T	T	12 09 11.4	
	baz=147,slow=76,SNR=8.1						
H01W2	**Cape Leeuwin H**	**57.72**	**256**	T	T	12 09 11.8	
	baz=147,slow=76,SNR=9.0						
H01W3	**Cape Leeuwin H**	**57.73**	**256**	T	T	12 09 12.7	
	baz=147,slow=76,SNR=8.7						
ASAR	**Alice Springs**	**58.05**	**280**	P	**P**	**11 06 17.0**	**+0.1**
	1.7nm,1.1s,baz=151,slow=7.7,SNR=5.3						
ASAR				LR	LR	11 28 36.5	
	comp=Z,90nm,19.1s,baz=122,slow=33						
	1.7nm,1.1s						
WRA	**Warramunga Arr**	**61.08**	**283**	P	**P**	**11 06 38.7**	**+0.9**
	1.0nm,0.9s,baz=153,slow=7.0,SNR=4.3						
WRA				LR	LR	11 30 39.6	
	comp=Z,57nm,18.1s,baz=150,slow=34						
	1.0nm,0.9s						
CPUP	**Villa Florida**	**72.82**	**114**	P	**P**	**11 07 53.0**	**+0.6**
	0.6nm,0.6s,baz=216,slow=3.3,SNR=3.7						
CPUP				LR	LR	11 36 21.0	

IPM	Ipoh	7.66	71	P		Pn	11 19 06.1	+1.1
PPSI	Pulau Pagai	7.78	127	P		Pn	11 19 06.7	+0.1
	245nm,0.9s							
KRJI	Kerinci	8.66	117	P		Pn	11 19 19.4	+0.7
MYKOM	Kota Tinggi	10.07	91	Pn		Pn	11 19 38.2	+0.3
MYKOM	Kota Tinggi	10.07	91	P		Pn	11 19 38.9	+1.0
KSI	Kapahiang	10.41	122	P		Pn	11 19 42.7	0.0
MNAI	Manna	11.10	124	Pn		Pn	11 19 51.8	-0.3
MNAI	Manna	11.10	124	P		Pn	11 19 53.2	+1.1
LHSI	Lahat	11.29	120	P		Pn	11 19 54.9	+0.2
	41nm,0.7s							
MDSI	Maura Dua	12.19	122	P		Pn	11 20 07.6	+0.6
	18nm,0.7s							
PALK	Pallekele	14.07	293	Pn		Pn	11 20 31.2	-1.6
BBJI	Bungbulang	16.69	124	P		Pn	11 21 06.9	-0.3
CMAR	Chiang Mai Arr	17.19	17	P		Pn	11 21 09.9	-3.4
	0.3nm,0.3s,baz=210,slow=12,SNR=26							
CMAR				LR		LR	11 26 53.7	
	comp=Z,50nm,19.1s,baz=190,slow=35							
CHTO	Chiang Mai	17.52	16	P		P	11 21 19.4	+1.1
H08S2	Diego Garcia H	23.27	246	T		T	11 48 05.7	
	baz=63,slow=75,SNR=20							
H08S3	Diego Garcia H	23.27	246	T		T	11 48 17.6	
	baz=63,slow=75,SNR=27							
H08S1	Diego Garcia H	23.29	246	T		T	11 48 19.1	
	baz=63,slow=75,SNR=18							
SHL	Shillong	23.57	356	P		P	11 22 24.7	+1.2
SHL				IAmb		IAmb	11 22 36.8	
	comp=Z,10.0nm,0.6s							
MYLDM	Lahad Datu	24.88	82	P		P	11 22 35.4	-0.1
KAPI	Kappang	26.85	105	P		P	11 22 54.2	+0.9
KAPI				IAmb		IAmb	11 23 05.9	
	comp=Z,20nm,1.3s							
YHNB	Yeheng	34.94	47	P		P	11 24 06.0	+1.3
BOOM	Boomskoye usch	43.43	341	P		P	11 25 17.0	+1.6
WRA	Warramunga Arr	45.33	121	P		P	11 25 31.7	+0.9
	comp=Z,0.7nm,0.8s,baz=302,slow=8.9,SNR=3.6							
	comp=Z,0.7nm,0.8s							
WR8	Warramunga Arr	45.48	121	P		P	11 25 31.9	-0.1
WR8				IAmb		IAmb	11 25 52.1	
	comp=Z,6.2nm,1.2s							
MKAR	Makanchi Array	45.79	349	P		P	11 25 35.4	+1.3
	comp=Z,1.2nm,0.8s,baz=174,slow=7.8,SNR=12							
	comp=Z,1.2nm,0.6s							
ASAR	Alice Springs	46.58	126	P		P	11 25 41.5	+0.8
	comp=Z,0.2nm,0.3s,baz=297,slow=7.7,SNR=8.9							
	comp=Z,0.2nm,0.3s							
SONM	Songino Array	47.01	12	P		P	11 25 40.8	-3.0
	comp=Z,1.6nm,0.5s,baz=197,slow=8.7,SNR=7.1							
	comp=Z,1.6nm,0.5s							
KURBB	Kurchatov Arra	50.21	347	P		P	11 26 08.8	+0.8
	comp=Z,0.6nm,0.6s,baz=168,slow=7.4,SNR=5.9							
	comp=Z,0.6nm,0.6s							
ZALV	Zalesovo Beam	52.37	353	P		P	11 26 23.8	-0.4
	comp=Z,0.7nm,0.4s,baz=165,slow=6.2,SNR=3.9							
	comp=Z,0.7nm,0.4s							
H04N2	CROZET ISLANDS	60.51	212	T		T	12 35 06.8	
	baz=51,slow=75,SNR=13							
H04N1	CROZET ISLANDS	60.52	212	T		T	12 35 10.6	
	baz=51,slow=75,SNR=11							
H04N3	CROZET ISLANDS	60.53	212	T		T	12 34 59.3	
	baz=51,slow=75,SNR=12							
CASY	Casey	69.11	173	P		P	11 28 18.0	0.0
CASY				IAmb		IAmb	11 28 34.7	
	comp=Z,5.9nm,1.4s							
LBTB	Lobatse	71.16	243	P		P	11 28 32.3	+0.8
LBTB				IAmb		IAmb	11 28 39.5	
	comp=Z,5.0nm,1.1s							
LBTB	Lobatse	71.16	243	P		P	11 28 45.9	+14
	comp=Z,2.7nm,0.7s,baz=49,slow=7.1,SNR=3.5							
	comp=Z,2.7nm,0.7s							
TXAR	Lajitas Array	144.71	27	PKP		PKPbc	11 36 49.5	+0.9
	comp=Z,0.7nm,0.6s,baz=323,slow=3.8,SNR=16							

KRSC ***22*** *11:18:06.6±1.1,54.06N×169.18E,h66km±35km, Ml4.1*
IDC ***22*** *11:18:06.9±1.3,54.32N×169.21E,h0km,mb3.7/9,*
mbtmp3.7/11,ML3.6/2,MS3.3/2, Error ellipse:
s-maj=47.9km s-min=15.7km az=7.0

ISC 22 11:18:09.5±0.8, 54°03N±0.1°×169°11E±0.1°, h25km, n42, σ1s16/51, mb3.6/9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
BKI	Bering	2.17	304	*e*P		Pn	11 18 42.6	-1.3
BKI				*e*S		Sn	11 19 09.2	-0.8
SHEM	Shemya Is, Ala	3.26	112	Pn		Pn	11 18 59.4	+0.5
	11nm,0.3s,baz=294,slow=18,SNR=9.6							
SHEM				Sn		Sn	11 19 36.4	-0.5
	11nm,0.3s,baz=347,slow=17,SNR=7.1							
	34nm,0.4s							
MKZ	Mys Kozlova	4.35	280	*e*P		Pn	11 19 14.5	+0.5
TUMD	Tumrok D	5.20	287	*e*P		Pn	11 19 25.8	+0.2
TUMD				*e*S		Sn	11 20 24.3	-0.3
BZGR	Bezymyannyi-Gr	5.21	295	*e*P		Pn	11 19 25.9	+0.1
BZGR				*e*S		Sn	11 20 24.5	-0.6
BZMR	Bezymyannaya	5.32	295	*e*P		Pn	11 19 27.6	+0.3
BZWR	Bezymyannyi-We	5.32	295	*e*P		Pn	11 19 27.3	-0.1
KMNR	Kamenistaya	5.40	292	*e*P		Pn	11 19 28.4	-0.1
KMNR				*e*S		Sn	11 20 29.3	-0.5
KPT	Kopyto	5.47	294	*e*S		Sn	11 20 31.6	+0.1
SPN	Mys Shipunski	5.49	264	*e*P		Pn	11 19 30.6	+1.0
SPN				*e*S		Sn	11 20 29.4	-2.5
KII	Karymskiy	5.69	274	*e*S		Sn	11 20 36.5	-0.5
NLC	Nalytchevo	5.88	266	*e*P		Pn	11 19 35.4	+0.5
NLC				*e*S		Sn	11 20 38.1	-3.2
SDLR	Sedlovina	6.13	267	*e*P		Pn	11 19 39.5	+1.1
SDLR				*e*S		Sn	11 20 45.3	-2.4
UGLR	Uglovaya	6.17	267	*e*P		Pn	11 19 40.1	+1.1
UGLR				*e*S		Sn	11 20 47.9	-1.0
SMAR	Somma	6.18	267	*e*P		Pn	11 19 40.5	+1.3
SMAR				*e*S		Sn	11 20 48.7	-0.4
AVH	Avacha	6.21	267	*e*P		Pn	11 19 41.2	+1.6
AVH				*e*S		Sn	11 20 48.5	-1.3
KRX	Arik	6.25	268	*e*P		Pn	11 19 41.5	+1.4
KRX				*e*S		Sn	11 20 49.3	-1.5
DALK	Dalny	6.25	265	*e*P		Pn	11 19 40.7	+0.7
DALK				*e*S		Sn	11 20 50.1	-0.6
KOK	Koryaka	6.27	267	*e*P		Pn	11 19 41.7	+1.3
KOK				*e*S		Sn	11 20 50.3	-0.8
GNL	Ganaly	6.61	272	*e*P		Pn	11 19 45.7	+0.6
KRMR	Karymshinskiy	6.67	264	*e*S		Sn	11 20 59.5	-1.3
MTVR	Mutnovka	6.74	261	*e*P		Pn	11 19 48.2	+1.4
GRL	Gorelyy	6.78	262	*e*P		Pn	11 19 46.2	-1.2
PETK	Petropavlovsk-	6.86	267	Pn		Pn	11 19 50.5	+2.2
	2.8nm,0.3s,baz=93,slow=18,SNR=65							
PETK				Sn		Sn	11 21 05.8	+0.2
	1.1nm,0.3s,baz=89,slow=16,SNR=5.9							
PETK				LR		LR	11 22 29.8	
	comp=Z,37nm,18.6s,baz=115,slow=38							
	4.6nm,0.5s							
ASAK	Asacha	6.93	261	*e*P		Pn	11 19 51.2	+1.8
ASAK				*e*S		Sn	11 21 06.5	-1.0
KMSK	Kamenskaya	8.60	351	*e*P		Pn	11 20 11.6	-0.5
YAK	Yakutsk	22.04	307	P		P	11 23 02.0	+0.2
	13nm,0.7s,baz=92,slow=1.1,SNR=4.5							
	13nm,0.7s							
ILAR	Eielson Array	24.30	46	P		P	11 23 23.4	-1.1
	1.4nm,1.1s,baz=254,slow=7.3,SNR=10							
	1.4nm,1.1s							
H11N2	WAKE ISLAND Hy	34.28	184	T		T	12 01 10.5	
	baz=2.9,slow=76,SNR=215							
H11N3	WAKE ISLAND Hy	34.29	184	T		T	12 01 14.6	
	baz=2.9,slow=76,SNR=165							
H11N1	WAKE ISLAND Hy	34.30	184	T		T	12 01 11.8	
	baz=2.9,slow=76,SNR=183							
H11S1	WAKE ISLAND Hy	35.50	184	T		T	12 02 48.9	
	baz=2.8,slow=76,SNR=78							
H11S3	WAKE ISLAND Hy	35.52	184	T		T	12 02 48.1	
	baz=2.8,slow=76,SNR=42							
H11S2	WAKE ISLAND Hy	35.52	184	T		T	12 02 48.3	
	baz=2.8,slow=76,SNR=101							
SONM	Songino Array	38.84	287	P		P	11 25 33.2	+0.9
	0.6nm,0.5s,baz=61,slow=10,SNR=2.3							
	0.6nm,0.5s							
NVAR	Mina Array Bea	50.33	77	P		P	11 27 05.2	+1.0
	0.4nm,0.6s,baz=292,slow=7.8,SNR=4.1							
	0.4nm,0.6s							
KURBB	Kurchatov Arra	51.78	306	P		P	11 27 15.0	+0.4
	0.7nm,0.6s,baz=51,slow=7.6,SNR=6.3							
	0.7nm,0.6s							
PDAR	Pinedale Array	52.29	67	P		P	11 27 17.9	-0.9
	0.3nm,0.7s,baz=306,slow=4.0,SNR=2.7							
	0.3nm,0.7s							
MKAR	Makanchi Array	52.47	300	P		P	11 27 19.4	-0.5
	0.4nm,0.6s,baz=56,slow=11,SNR=1.9							
	0.4nm,0.6s							
BVAR	Borovoye Array	53.88	312	P		P	11 27 30.3	+0.2
	1.2nm,0.7s,baz=101,slow=12,SNR=2.9							
	1.2nm,0.7s							
OBN	Obninsk	64.42	332	LR		LR	11 59 33.2	
	comp=Z,117nm,18.4s,baz=24,slow=39							
TXAR	Lajitas Array	65.26	74	P		P	11 28 49.8	+0.8
	0.6nm,0.5s,baz=309,slow=4.9,SNR=15							
	0.6nm,0.5s							

TIR ***22*** *11:18:13.0,41.33Nx19.51E,h33km±3km, Ml2.3/2*
BEO ***22*** *11:18:15.6±0.5,41.34Nx19.58E,h11km±3km, ML2.1/10*
PDG ***22*** *11:18:17.2±0.1,41.46Nx19.48E,h15km,ML2.5/11, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*

ISC 22 11:18:14.7±1.1, 41.33N±0.03°×19.50E±0.03, h9km±9km, n30, σ0s64/56, 2C-1D, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
TIR	Tirane	0.27	86	Pg		Pg	11 18 20.2	+0.1
TIR				Sg		Sg	11 18 23.3	-0.5
TIR				AML		AML	11 18 24.1	
	0.9nm,0.4s							
TIR				AML		AML	11 18 24.6	
	1.2nm,0.4s							
ULC	Ulcinj	0.67	343	*e*Pg		Pg	11 18 27.4	-0.1
ULC				*i* Sg		Sg	11 18 35.9	-0.3
DRME	Dracevica, Mon	0.89	345	*e*Pg		Pb	11 18 31.9	-0.4
DRME				*e*Sg		Sg	11 18 44.8	+1.4
DRME	Dracevica, Mon	0.89	345	*e*Pg		Pb	11 18 31.4	-0.9
DRME				*i* Sg		Sb	11 18 43.5	-0.8
OHR	Ohrid	1.00	102	*i* Pg		Pb	11 18 34.8	+0.6
OHR				*i* Sg		Sn	11 18 50.1	+1.0
BUM	Brajici-Budva	1.07	335	⇓*i* Pg		Pb	11 18 34.9	-0.5
BUM				*i* Sg		Sg	11 18 49.8	+0.5
PDG	Podgorica	1.12	351	*e*Pg		Pb	11 18 35.1	-1.0
PDG				*e*Sg		Sn	11 18 52.1	+0.2
PDG	Podgorica	1.12	351	*e*Pg		Pb	11 18 35.4	-0.7
PDG				*i* Sg		Sg	11 18 51.1	+0.5
CEME	Cevo	1.29	340	*e*Pg		Pn	11 18 38.7	-0.2
CEME				*i* Sg		Sg	11 18 57.2	+0.9
HCY	Herceg Novi	1.35	326	*e*Pg		Pn	11 18 40.0	+0.4
HCY				*i* Sg		Sg	11 18 59.4	+1.3
NKME	Niksic	1.50	344	⇑*i* Pg		Pb	11 18 42.4	-0.2
NKME				*i* Sg		Sg	11 19 03.2	+0.4
KOME	Kolasin	1.52	0	*e*Pg		Pn	11 18 42.6	+0.5
KOME	Kolasin	1.52	0	*e*Pg		Pb	11 18 43.0	-0.1
KOME				*i* Sg		Sg	11 19 03.4	-0.2
BEY	Berane	1.57	10	*e*Pg		Pn	11 18 43.3	+0.5
BEY				*e*Sg		Sg	11 19 04.9	-0.3
IVA	Berane	1.57	10	⇑*i* Pg		Pb	11 18 43.8	-0.1
IVA				*i* Sg		Sb	11 19 04.8	+0.9
TREB	Trebinje	1.63	329	*e*Pn		Pn	11 18 43.5	0.0
TREB				*e*Sn		Sb	11 19 05.6	0.0
BRY	Bratogost	1.73	336	*e*Pn		Pn	11 18 45.9	+0.9
BRY				*i* Sn		Sb	11 19 08.7	+0.2
IGT	Igoumenitsa	1.90	160	Pn		Pn	11 18 46.2	-1.0
IGT				Sn		Sb	11 19 13.6	+0.3
IGT	Igoumenitsa	1.90	160	*e*Pn		Pn	11 18 48.1	+0.9
IGT				*e*Sn		Sb	11 19 12.6	-0.7
NOCI	Noci	1.92	255	Pn		Pn	11 18 46.6	-0.9
NOCI				Sn		Sn	11 19 11.8	0.0
NOCI				AML		AML	11 19 25.5	
	0.1nm,0.4s							
UPM	Unac-Piva	1.93	347	*e*Pn		Pn	11 18 48.7	+1.0
UPM				*i* Sn		Sb	11 19 13.4	-0.8
SJES	Sjenica	1.96	10	*e*Pn		Pn	11 18 48.4	+0.2
SJES				*e*Sn		Sn	11 19 13.7	+0.7
SELS	Selova	2.24	32	*e*Pn		Pn	11 18 51.2	-0.7
SELS				*e*Sn		Sn	11 19 19.4	-0.2
BARS	Barje	2.27	48	*e*Pn		Pn	11 18 52.4	0.0
RUDO	Rudo	2.29	358	*e*Sn		Sn	11 19 21.4	+0.5
IVAS	Ivanjica	2.30	12	*e*Pn		Pn	11 18 52.8	+0.1
IVAS				*e*Sn		Sn	11 19 20.8	-0.4
GOCS	Kraljevo Serbi	2.45	24	*e*Pn		Pn	11 18 54.8	-0.1
GOCS				*e*Sn		Sn	11 19 24.4	-0.6
BOSS	Bosilegrad	2.51	61	*e*Pn		Pn	11 18 54.6	-1.0
LKD2	Lefkada island	2.69	160	Pn		Pn	11 18 57.9	-0.1
LKD2				Sn		Sn	11 19 31.4	+0.8
ZAPS	Zavoj	3.03	49	*e*Pn		Pn	11 19 02.6	-0.2
ZAPS				*e*Sn		Sn	11 19 38.8	-0.3

IDC ***22*** *11:32:50.6±1.1,29.05Nx141.28E,h0km,mb3.6/7,*
mbtmp3.6/8, ML2.9/1, MS3.2/4, Error ellipse: s-maj=39.1km
s-min=22.3km az=83.0

ISC 22 11:32:56.1±1.0, 29.3N±0.1°×141.1E±0.2, h35km, n11, σ2s30/9, mb3.5/7, MS3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
MJAR	Matsushiro Arr	7.65	342	Pn		Pn	11 34 44.5	-0.6
	0.2nm,0.3s,baz=155,slow=11,SNR=7.8							
MJAR				Sn		Sn	11 36 07.9	-2.6
	0.2nm,0.3s,baz=113,slow=9.6,SNR=5.9							
	1.4nm,0.4s							
ASAJ	Asahikawa	14.87	4	LR		LR	11 43 05.1	
	comp=Z,29nm,19.9s,baz=174,slow=41							
CMAR	Chiang Mai Arr	39.82	264	LR		LR	11 57 54.0	
	comp=Z,12nm,18.1s,baz=190,slow=38							
MKAR	Makanchi Array	48.36	308	P		P	11 41 37.3	+2.9
	0.7nm,0.5s,baz=97,slow=8.7,SNR=5.8							
	0.7nm,0.5s							
WRA	Warramunga Arr	49.35	188	P		P	11 41 40.5	-1.6
	0.2nm,0.4s,baz=9.5,slow=8.2,SNR=6.2							
	0.2nm,0.4s							
KURBB	Kurchatov Arra	50.84	313	P		P	11 41 55.8	+2.6
	0.1nm,0.3s,baz=96,slow=6.9,SNR=1.7							
KURBB				LR		LR	12 03 55.2	
	comp=Z,54nm,19.4s,baz=176,slow=36							
	0.1nm,0.3s							
ASAR	Alice Springs	53.08	188	P		P	11 42 07.8	-2.3
	0.4nm,0.9s,baz=21,slow=9.4,SNR=5.2							
	0.4nm,0.9s							
ILAR	Eielson Array	56.29	29	P		P	11 42 33.0	0.0
	0.4nm,0.7s,baz=246,slow=7.2,SNR=4.0							
	0.4nm,0.7s							
BRTR	Keskin Array B	83.82	312	P		P	11 45 22.0	-0.3
	0.7nm,0.6s,baz=64,slow=3.4,SNR=4.3							
	0.7nm,0.6s							
GERES	GERESS Array B	89.16	328	LR		LR	12 28 15.4	
	comp=Z,56nm,19.5s,baz=56,slow=37							
TXAR	Lajitas Array	95.07	52	P		P	11 46 17.2	+1.2
	0.3nm,0.7s,baz=290,slow=4.3,SNR=3.6							
	0.3nm,0.7s							

NEIC ***22*** *11:33:52.4±1.2,60.0S±0.1°×27.6W±0.3, h89km±7km,*
mb4.7/22, Error ellipse: s-maj=23.1km s-min=17.0km
az=215.0
IDC ***22*** *11:33:52.8±6.8,59.86Sx27.59W,h95km±65km, mb3.8/7,*
mbtmp4.1/8, ML4.2/1, MS3.0/5, Error ellipse: s-maj=27.0km
s-min=17.8km az=35.0

ISC 22 11:33:52.4±0.6, 59.9S±0.1°×27.6W±0.1, h93km, n48, σ0s94/42, mb4.7/16, 7C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
HOPE	Hope Point	7.45	315	Pn		Pn	11 35 45.5	+7.3
VNA1	Neumayer--Stat	13.37	152	⇑P		Pn	11 36 57.7	-0.2
	comp=Z,29nm,0.4s							
VNA3	Neumayer Olymp	13.47	155	⇑P		Pn	11 36 58.4	-1.0
	comp=Z,64nm,0.5s							
VNA3				⇑S		Sn	11 39 16.2	-11
	comp=E,5.4nm,0.4s							
VNA2	Neumayer--Watz	13.76	152	⇑P		Pn	11 37 02.9	-0.2
	comp=Z,10nm,0.5s,baz=309,slow=16							
ESPZ	Base Esperanza	14.34	243	P		P	11 37 14.4	-0.5
SNAA	Sanae	15.37	150	⇑P		Pn	11 37 24.3	+0.6
	comp=Z,121nm,0.5s							
SNAA				⇑S		Sn	11 40 02.7	-10
	comp=E,135nm,0.8s							
SNAA	Sanae	15.37	150			Pn	11 37 23.4	-0.4
SNAA	Sanae	15.37	150	P		Pn	11 37 23.6	-0.1
	comp=E,1.1nm,0.3s,baz=312,slow=14,SNR=70							
SNAA				S		Sn	11 39 59.4	-14
	comp=E,2.2nm,0.6s,baz=302,slow=16,SNR=7.5							
SNAA				LR		LR	11 41 57.3	
	comp=E,35nm,18.1s,baz=252,slow=31							
	comp=E,3.3nm,0.4s							
TROLL	Troll, Antarti	16.96	148	⇑P		P	11 37 45.3	+1.3
	comp=Z,198nm,0.7s							

PMSA	Palmer Station	17.44	238	LR		LR	11 42 58.3	
	comp=Z,86nm,19.8s,baz=344,slow=31							
EFI	East Falkland	18.89	282	P		P	11 38 05.4	+0.3
EFI				IAmb		IAmb	11 38 14.1	
	comp=Z,34nm,1.1s							
SYO	Syowa Base	28.80	136	⇓*e*P		P	11 39 37.6	-3.4
QSPA	South Pole Qui	30.33	180	P		P	11 39 56.4	+1.6
QSPA	South Pole Qui	30.33	180	P		P	11 39 56.2	+1.4
	comp=Z,1.2nm,0.7s,baz=273,slow=0.7,SNR=14							
	comp=Z,1.2nm,0.7s							
TRQA	Tornquist	30.87	300	P		P	11 39 59.7	0.0
TRQA				IAmb		IAmb	11 40 01.0	
	comp=Z,9.9nm,1.0s							
PLCA	Paso Flores	32.70	286	P		P	11 40 15.1	-0.6
PLCA	Paso Flores	32.70	286	P		P	11 40 15.5	-0.2
	comp=Z,0.8nm,0.5s,baz=134,slow=6.8,SNR=7.8							
PLCA				LR		LR	11 53 60.0	
	comp=Z,33nm,18.5s,baz=216,slow=37							
	comp=Z,0.8nm,0.5s							
PLTB	Pedras Altas	33.06	317	P		P	11 40 19.2	+0.4
PLTB				IAmb		IAmb	11 40 21.8	
	comp=Z,8.8nm,1.0s							
BI05	Punta Hualpn	37.11	288	P		P	11 40 54.0	+0.5
MAW	Mawson	37.21	141	P		P	11 40 54.4	+0.4
	comp=Z,1.7nm,0.7s,baz=238,slow=6.0,SNR=4.1							
	comp=Z,1.7nm,0.7s							
BO02	Sierra Bellavi	37.56	292	P		P	11 40 56.3	-1.1
BO02				IAmb		IAmb	11 40 57.7	
	comp=Z,7.0nm,0.8s							
MT08	Bocatoma Ro	38.32	294			P	11 41 04.5	+0.5
MT08				IAmb		IAmb	11 41 07.1	
	comp=Z,9.4nm,0.8s							
MT09	Talagante	38.49	293	P		P	11 41 04.9	-0.5
MT09				IAmb		IAmb	11 41 05.5	
	comp=Z,17nm,0.9s							
PEL	Peldehue	38.88	294	P		P	11 41 09.0	+0.5
MT02	Curacav	38.99	293	P		P	11 41 08.9	-0.5
MT02				IAmb		IAmb	11 41 09.9	
	comp=Z,12nm,0.7s							
ZON	Zonda	39.31	298	P		P	11 41 12.0	-0.1
ZON				IAmb		IAmb	11 41 13.0	
	comp=Z,7.9nm,0.6s							
CPUP	Villa Florida	39.33	315	P		P	11 41 10.8	-1.4
	comp=Z,0.3nm,0.3s,baz=212,slow=17,SNR=2.9							
CPUP				LR		LR	11 58 16.1	
	comp=Z,8.6nm,18.3s,baz=0.0,slow=37							
	comp=Z,0.3nm,0.3s							
CO05	La Serena	41.85	296	P		P	11 41 32.5	-0.4
AC04	Llanos de Chal	43.24	297	P		P	11 41 44.3	+0.1
H04S2	CROZET ISLANDS	46.24	111	T		T	12 32 51.2	
	baz=223,slow=74,SNR=5.1							
H04S3	CROZET ISLANDS	46.25	111	T		T	12 32 57.2	
	baz=223,slow=74,SNR=4.5							
H04S1	CROZET ISLANDS	46.26	111	T		T	12 32 46.7	
	baz=223,slow=74,SNR=3.3							
BOSA	Boshof	47.21	73	P		P	11 42 16.0	+0.3
BOSA	Boshof	47.21	73	P		P	11 42 15.5	-0.3
	comp=Z,5.1nm,1.0s,baz=209,slow=7.1,SNR=5.4							
	comp=Z,5.1nm,1.0s							
GO01	Chusmiza	49.92	305	P		P	11 42 37.1	+0.1
GO01				IAmb		IAmb	11 42 38.3	
	comp=Z,6.2nm,0.5s							
LBTB	Lobatse	50.40	70	P		P	11 42 39.9	-0.3
LBTB	Lobatse	50.40	70	LR		LR	11 59 41.1	
	comp=Z,31nm,19.8s,baz=167,slow=31							
KGCAE	Kacgae	50.67	66	P		P	11 42 42.5	+0.3
KGCAE				IAmb		IAmb	11 43 06.7	
	comp=Z,14nm,1.1s							
LPAZ	La Paz	52.54	308	P		P	11 42 56.7	0.0
LPAZ				IAmb		IAmb	11 42 58.0	
	comp=Z,4.1nm,0.6s							
LPAZ	La Paz	52.54	308	P		P	11 42 57.2	+0.5
	comp=Z,3.5nm,0.5s,baz=109,slow=4.0,SNR=35							
	comp=Z,3.5nm,0.5s							
TORD	Torodi Ar. Bea	76.53	29	P		P	11 45 32.6	+0.6
	comp=Z,1.3nm,0.4s,baz=199,slow=5.9,SNR=16							
	comp=Z,1.3nm,0.4s							
WR8	Warramunga Arr	99.08	163	P		Pdif	11 47 21.6	-1.3
WR8				IAmb		IAmb	11 47 38.7	
	comp=Z,2.8nm,1.1s							
SPITS	Spitsbergen Ar	140.39	13	PKP		PKPdf	11 53 10.0	+1.5
	comp=Z,8.1nm,1.0s,baz=209,slow=2.6,SNR=5.3							
N32M	Quiet Lake	145.17	305	PKPbc		PKPbc	11 53 16.8	-0.5
M31M	Drury Creek, Y	146.25	306	PKPdf		PKPdf	11 53 18.6	-0.6
N30M	Aishikik Lake	146.99	304	PKPdf		PKPdf	11 53 21.5	+0.9
K29M	Barlow Dome	148.28	308	PKPdf		PKPdf	11 53 23.9	+1.2
ILAR	Eielson Array	152.41	306	PKPbc		PKPbc	11 53 34.5	-1.3
	comp=Z,0.7nm,0.4s,baz=156,slow=1.1,SNR=16							

*IDC

WRA	**Warramunga Arr**	**48.24**	**173**	P		**P**	**11 45 16.8**	**-0.4**
	1.4nm,0.7s,baz=353,slow=8.4,SNR=9.5							
	1.4nm,0.7s							
ASAR	**Alice Springs**	**51.88**	**174**	P		**P**	**11 45 44.8**	**+0.1**
	0.2nm,0.5s,baz=4.9,slow=14,SNR=12							
	0.2nm,0.5s							
ILAR	**Eielson Array**	**62.41**	**29**	P		**P**	**11 46 58.1**	**-0.4**
	0.3nm,0.6s,baz=287,slow=9.0,SNR=8.6							
	0.3nm,0.6s							

DJA 22 11:45:48.0±2.7, 6°S±4°×13°4E±°, h21km±24km, M4.3/7, mb4.2/6, MLv4.3/7, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**2.55**	**359**	P		Pn	11 46 29.0	+0.8
KMPI				S		Sn	11 46 53.5	-5.1
FAKI	**Fak Fak**	**3.61**	**336**	P		Pn	11 46 42.0	-0.7
FAKI				S		Sn	11 47 18.0	-6.8
BNDI	**Bandanaira**	**4.18**	**294**	P		Pn	11 46 51.2	+0.6
RKPI	**Ransiki, Papua**	**4.71**	**5**	P		Pn	11 46 57.2	-0.7
SWI	**Sorong**	**5.88**	**335**	P		Pn	11 47 14.3	+0.4
	0.4nm18nm,0.7s							
AAI	**Ambon**	**6.08**	**294**	P		Pn	11 47 16.3	-0.3
	0.1nm23nm,1.0s							

*TIR **22** 11:46:15.2, 41°.45N×19°.55E, h48km±6km, Ml2.9/4*
*BEO **22** 11:46:16.8±0.4, 41°.29N×19°.70E, h10km±3km, ML2.4/12*
*PDG **22** 11:46:16.6±0.1, 41°.32N×19°.54E, h11km, ML2.7/11, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*
ISC 22 11:46:16.0±1.0, 41°29N±0°.02×19°.60E±0°.03, h10km±8km, n43, σ1s04/72, 1C-1D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.21**	**74**	Pg	**Pg**	**11 46 20.5**	**+0.2**
TIR				Sn	**Sg**	**11 46 22.1**	**-1.2**
TIR				AML	AML	11 46 23.8	
	5.4nm,0.3s						
TIR				AML	AML	11 46 23.8	
	8.4nm,0.2s						
ULC	**Ulcinj**	**0.72**	**338**	*e*Pg	**Pg**	**11 46 29.4**	**-0.6**
ULC				*i* Sg	**Sg**	**11 46 40.0**	**+0.5**
VLO	**Vlora**	**0.83**	**186**	Pg	**Pn**	**11 46 34.9**	**+1.3**
VLO				Sg	**Sn**	**11 46 47.4**	**+1.6**
VLO				AML	AML	11 46 51.3	
	2.1nm,0.2s						
DRME	**Dracevica, Mon**	**0.95**	**341**	*e*Pg	**Pg**	**11 46 34.1**	**-0.1**
DRME				*e*Sg	**Sn**	**11 46 48.2**	**-0.7**
DRME	**Dracevica, Mon**	**0.95**	**341**	*e*Pg	**Pg**	**11 46 33.5**	**-0.7**
DRME				*i* Sg	**Sb**	**11 46 47.7**	**+0.6**
KBN	**Korca**	**1.12**	**126**	Pn	**Pn**	**11 46 38.3**	**+0.6**
KBN				Sn	**Sn**	**11 46 55.6**	**+2.5**
BUM	**Brajici-Budva**	**1.14**	**333**	*e*Pg	**Pb**	**11 46 36.8**	**-1.0**
BUM				*i* Sg	**Sn**	**11 46 54.0**	**+0.3**
PDG	**Podgorica**	**1.17**	**347**	*e*Pg	**Pb**	**11 46 37.7**	**-0.5**
PDG				*e*Sg	**Sn**	**11 46 54.5**	**+0.2**
PDG	**Podgorica**	**1.17**	**347**	*e*Pg	**Pb**	**11 46 37.5**	**-0.7**
PDG				*i* Sg	**Sn**	**11 46 55.4**	**+1.1**
CEME	**Cevo**	**1.35**	**338**	*e*Pg	**Pn**	**11 46 40.8**	**-0.2**
CEME				*i* Sg	**Sg**	**11 47 01.4**	**+1.8**
HCY	**Herceg Novi**	**1.42**	**325**	*e*Pg	**Pn**	**11 46 41.9**	**+0.1**
HCY				*i* Sg	**Sg**	**11 47 03.5**	**+1.8**
NKME	**Niksic**	**1.55**	**342**	*e*Pg	**Pb**	**11 46 44.5**	**-0.3**
NKME				*i* Sg	**Sg**	**11 47 06.9**	**+1.0**
KOME	**Kolasin**	**1.56**	**358**	*e*Pg	**Pg**	**11 46 45.5**	**-0.4**
KOME	**Kolasin**	**1.56**	**358**	⇑*i*Pg	**Pb**	**11 46 45.0**	**0.0**
KOME				*i* Sg	**Sg**	**11 47 07.5**	**+1.3**
BEY	**Berane**	**1.59**	**8**	*e*Pg	**Pb**	**11 46 45.5**	**0.0**
BEY				*e*Sg	**Sg**	**11 47 08.4**	**+1.1**
IVA	**Berane**	**1.59**	**8**	⇓*i*Pg	**Pb**	**11 46 45.5**	**0.0**
IVA				*i* Sg	**Sg**	**11 47 08.4**	**+1.1**
TREB	**Trebinje**	**1.70**	**327**	*e*Pg	**Pb**	**11 46 46.7**	**-0.7**
TREB				*e*Sg	**Sg**	**11 47 11.3**	**+0.6**
BRY	**Bratogost**	**1.79**	**334**	*e*Pn	**Pn**	**11 46 47.9**	**+0.8**
BRY				*i* Sn	**Sb**	**11 47 12.5**	**+0.9**
IGT	**Igoumenitsa**	**1.84**	**162**	Pn	**Pb**	**11 46 49.5**	**-0.3**
IGT				Sn	**Sb**	**11 47 12.9**	**+0.1**
IGT				AML	AML	11 47 16.1	
	0.2nm,0.5s						
IGT	**Igoumenitsa**	**1.84**	**162**	*e*Pn	**Pn**	**11 46 48.0**	**+0.4**
IGT				*e*Sn	**Sb**	**11 47 12.0**	**-0.8**
UPM	**Unac-Piva**	**1.98**	**345**	*e*Pn	**Pn**	**11 46 50.6**	**+0.9**
UPM				*i* Sn	**Sb**	**11 47 17.2**	**+0.2**
NOCI	**Noci**	**1.98**	**256**	Pn	**Pn**	**11 46 53.3**	**+0.7**
NOCI				Sn	**Sn**	**11 47 10.9**	**-3.5**
SJES	**Sjenica**	**1.99**	**8**	*e*Pn	**Pb**	**11 46 51.4**	**-0.9**
SJES				*e*Sn	**Sb**	**11 47 15.9**	**-1.2**
STON	**Ston**	**2.12**	**319**	*e*Pn	**Pb**	**11 46 53.9**	**-0.6**
SELS	**Selova**	**2.23**	**30**	*e*Pn	**Pn**	**11 46 53.5**	**+0.5**
SELS				*e*Sn	**Sn**	**11 47 20.4**	**-0.2**
BARS	**Barje**	**2.25**	**46**	*e*Pn	**Pn**	**11 46 52.8**	**-0.3**
BARS				*e*Sn	**Sn**	**11 47 21.4**	**+0.5**
IVAS	**Ivanjica**	**2.32**	**10**	*e*Pn	**Pn**	**11 46 54.0**	**-0.2**
RUDO	**Rudo**	**2.33**	**356**	*e*Sn	**Pn**	**11 46 56.4**	**+2.0**
RUDO	**Rudo**	**2.33**	**356**	*e*Pn	**Sn**	**11 47 23.6**	**+0.6**
GOCS	**Kraljevo Serbi**	**2.46**	**22**	*e*Pn	**Pn**	**11 46 56.0**	**-0.2**
GOCS				*e*Sn	**Sn**	**11 47 26.7**	**+0.4**
BOSS	**Bosilegrad**	**2.46**	**60**	*e*Pn	**Pn**	**11 46 56.3**	**+0.2**
BBLS	**Lazi&#263i**	**2.58**	**357**	*e*Pn	**Pn**	**11 46 59.0**	**+1.2**
LKD2	**Lefkada island**	**2.63**	**162**	Pn	**Pn**	**11 46 58.6**	**+0.2**
THE	**Thessaloniki**	**2.63**	**103**	Pn	**Pn**	**11 46 58.6**	**+0.2**
GRUS	**Gruza**	**2.72**	**17**	*e*Pn	**Pn**	**11 47 59.2**	**-0.5**
BOVS	**Bovan**	**2.81**	**33**	*e*Sn	**Sn**	**11 47 34.2**	**-0.7**
DIVS	**Divibare**	**2.82**	**6**	*e*Pn	**Pn**	**11 47 03.6**	**+2.5**
DIVS				*e*Sn	**Sn**	**11 47 34.7**	**-0.5**
SGRT	**San Giovanni R**	**2.93**	**280**	Pn	**Pn**	**11 47 00.9**	**-1.8**
ZAPS	**Zavoj**	**3.00**	**48**	*e*Pn	**Pn**	**11 47 03.7**	**+0.2**
ZAPS				*e*Sn	**Sn**	**11 47 38.1**	**-1.4**
SRS	**Serrai**	**3.02**	**92**	*e*Pn	**Pn**	**11 47 03.3**	**-0.4**
VTS	**Vitosha**	**3.02**	**63**	*e*Pn	**Pn**	**11 47 03.3**	**-0.6**
VTS				*e*Sn	**Sn**	**11 47 38.3**	**-1.8**
ZAGS	**Zajecar**	**3.18**	**37**	*e*Pn	**Pn**	**11 47 06.5**	**+0.5**
ZAGS				*e*Sn	**Sn**	**11 47 42.8**	**-1.2**
BORS2	**Bor- Borsko je**	**3.32**	**32**	*e*Pn	**Pn**	**11 47 07.5**	**-0.4**

*ISK **22** 12:13:21.3, 41°.58N×25°.31E, h9km, ML3.7/15*
*SOF **22** 12:13:21.8, 41°.63N±0°.01×25°.34E±0°.01, h13km±1km, MD3.5/7*
*ATH **22** 12:13:22.2, 41°.60N×25°.36E, h18km±2km, ML3.7/6, Manual Solution by A.Moschou First location: 2019/09/22 12:14:51, This location: 2019/09/22 17:15:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*BEO **22** 12:13:22.6±0.5, 41°.68N×25°.33E, h10km±2km, ML3.5/16*
*THE **22** 12:13:22.1, 41°.6N±0°.9×2°.5E±°, h8km±1km, M3.4/14, MLh3.4/14*
*AFAD **22** 12:13:24.6, 41°.48N×25°.56E, h10km±2km, MW3.6*
ISC 22 12:13:21.6±0.8, 41°.61N±0°.01×25°.34E±0°.01, h14km±4km, n152, σ1s20/220, 20C-18D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDZ	**Kurdzhali**	**0.02**	**9**	*i* P	**Pg**	**12 13 24.1**	**0.0**
KDZ				*i* S	**Sg**	**12 13 25.3**	**0.5**
KDZ	**Kurdzhali**	**0.02**	**9**	P	**Pg**	**12 13 24.1**	**0.0**
KDZ				S	**Sg**	**12 13 25.2**	**-0.5**
RZN	**Rozhen**	**0.46**	**281**	*i* P	**Pg**	**12 13 31.2**	**+0.4**
RZN				*i* S	**Sg**	**12 13 37.7**	**+0.8**
RZN	**Rozhen**	**0.46**	**281**	P	**Pg**	**12 13 31.1**	**+0.4**
RZN				S	**Sg**	**12 13 37.2**	**+0.3**
DIM	**Dimitrovgrad**	**0.47**	**22**	*i* P	**Pg**	**12 13 31.1**	**+0.1**
DIM				*i* S	**Sg**	**12 13 37.7**	**+0.4**
DIM	**Dimitrovgrad**	**0.47**	**22**	P	**Pg**	**12 13 31.3**	**+0.3**
DIM				S	**Sg**	**12 13 38.2**	**+0.8**
RDO	**Rodhopi**	**0.49**	**162**	Pg	**Pg**	**12 13 30.9**	**-0.3**
RDO				Sg	**Sg**	**12 13 37.7**	**0.0**
RDO	**Rodhopi**	**0.49**	**162**	P	**Pg**	**12 13 31.5**	**+0.3**
RDO				S	**Sg**	**12 13 37.8**	**+0.1**
RDO	**Rodhopi**	**0.49**	**162**	P	**Pg**	**12 13 31.4**	**+0.2**
RDO				S	**Sg**	**12 13 37.8**	**+0.1**
PLD	**Plovdiv**	**0.69**	**321**	*i* P	**Pg**	**12 13 35.1**	**-0.1**
PLD				*i* S	**Sg**	**12 13 43.9**	**-0.4**
PLD	**Plovdiv**	**0.69**	**321**	Pg	**Pg**	**12 13 35.2**	**+0.1**
PLD	**Plovdiv**	**0.69**	**321**	P	**Pg**	**12 13 35.3**	**+0.1**
PLD	**Plovdiv**	**0.69**	**321**	*e*Pg	**Pg**	**12 13 35.0**	**-0.1**
PLD				*e*Sg	**Sg**	**12 13 43.8**	**-0.5**
TRGA	**Dikaia**	**0.72**	**82**	P	**Pb**	**12 13 36.0**	**0.0**
TRGA				S	**Sg**	**12 13 45.0**	**-0.3**
ALEX	**Alexandroupoli**	**0.86**	**150**	P	**Pb**	**12 13 38.6**	**+0.2**
ALEX				S	**Sb**	**12 13 50.0**	**+0.2**
KAVA	**Kavala**	**0.87**	**226**	P	**Pg**	**12 13 38.2**	**-0.2**
KAVA	**Kavala**	**0.87**	**226**	P	**Pg**	**12 13 38.4**	**0.0**
KAVA				S	**Sg**	**12 13 49.7**	**-0.2**
ALN	**Alexandroupoli**	**0.89**	**143**	Pg	**Pg**	**12 13 38.9**	**+0.1**
ALN				Sg	**Sb**	**12 13 50.6**	**0.0**
ALN	**Alexandroupoli**	**0.89**	**143**	P	**Pg**	**12 13 38.9**	**+0.1**
ALN				S	**Sb**	**12 13 50.9**	**+0.3**
ALN	**Alexandroupoli**	**0.89**	**143**	P	**Pg**	**12 13 38.9**	**+0.1**
ALN				S	**Sg**	**12 13 50.0**	**-0.4**
KVLA	**Kavala**	**0.98**	**227**	P	**Pb**	**12 13 41.8**	**+0.6**
KVLA				S	**Sb**	**12 13 53.4**	**+0.2**
DRA2	**DRAMA**	**1.00**	**244**	P	**Pn**	**12 13 41.8**	**+0.6**
DRA2				S	**Sb**	**12 13 54.0**	**+0.3**
THS1	**Thassos, Thass**	**1.04**	**214**	P	**Pg**	**12 13 41.8**	**+0.1**
THS1				S	**Sg**	**12 13 55.4**	**+0.1**
EDRB	**Edirne**	**1.08**	**77**	Pn	**Pb**	**12 13 41.8**	**-0.3**
UKOP	**Uzunkopru-Edir**	**1.09**	**116**	Pn	**Pg**	**12 13 43.0**	**+0.4**
UKOP				Sn	**Sn**	**12 13 58.1**	**+0.8**
THAS	**Thassos island**	**1.10**	**205**	P	**Pb**	**12 13 42.4**	**-0.1**
THAS	**Thassos island**	**1.10**	**205**	P	**Pg**	**12 13 43.0**	**+0.1**
THAS				S	**Sg**	**12 13 57.3**	**0.0**
CAVK	**Edirne/Enez-Ca**	**1.11**	**145**	P	**Pg**	**12 13 43.2**	**+0.2**
CAVK				S	**Sb**	**12 13 56.8**	**-0.1**
CAVK	**Edirne/Enez-Ca**	**1.11**	**145**	⇑P	**Pg**	**12 13 43.4**	**+0.3**
CAVK				⇓S	**Sn**	**12 13 58.3**	**+0.4**
SMTH	**Samothraki Isl**	**1.15**	**173**	P	**Pb**	**12 13 43.3**	**+0.1**
SMTH	**Samothraki Isl**	**1.15**	**173**	P	**Pb**	**12 13 43.3**	**0.0**
SMTH				S	**Sb**	**12 13 58.3**	**+0.3**
ENZZ	**Sultanice-Enez**	**1.17**	**148**	Pn	**Pb**	**12 13 43.9**	**+0.3**
ENZZ				Sn	**Sn**	**12 14 00.4**	**+1.1**
MMB	**Musomishta**	**1.19**	**268**	*i* P	**Pg**	**12 13 44.6**	**0.0**
MMB				*i* S	**Sg**	**12 14 01.2**	**+1.1**
MMB	**Musomishta**	**1.19**	**268**	P	**Pn**	**12 13 44.0**	**+0.1**
MMB				S	**Sg**	**12 14 01.2**	**+1.1**
JMB	**Yambol**	**1.25**	**45**	*i* P	**Pb**	**12 13 45.4**	**+0.3**
JMB				*i* S	**Sn**	**12 14 01.9**	**+0.5**
JMB	**Yambol**	**1.25**	**45**	Pn	**Pg**	**12 13 45.6**	**-0.1**
JMB	**Yambol**	**1.25**	**45**	P	**Pn**	**12 13 45.1**	**+0.3**
JMB	**Yambol**	**1.25**	**45**	*e*Pg	**Pn**	**12 13 45.0**	**+0.3**
JMB				*e*Sg	**Sb**	**12 14 00.3**	**-0.8**
KESN	**Edirne-Kesan**	**1.28**	**127**	P	**Pn**	**12 13 45.5**	**0.0**
KESN				S	**Sb**	**12 14 01.8**	**-0.5**
ERIK	**Erikli-Kesan**	**1.29**	**136**	Pn	**Pn**	**12 13 45.7**	**0.0**
KIRK	**Kirklareli**	**1.33**	**82**	P	**Pn**	**12 13 46.0**	**+0.2**
KIRK				S	**Sb**	**12 14 01.6**	**-1.7**
ELND	**Elena**	**1.38**	**17**	⇑P	**Pn**	**12 13 47.1**	**+0.6**
SRS	**Serrai**	**1.40**	**250**	P	**Pb**	**12 13 47.5**	**-0.1**
SRS	**Serrai**	**1.40**	**250**	*e*Pg	**Pb**	**12 13 47.9**	**+0.3**
SRS				*e*Sg	**Sg**	**12 14 07.0**	**+0.2**
SRS	**Serrai**	**1.40**	**250**	P	**Pb**	**12 13 47.5**	**-0.1**
SRS				S	**Sn**	**12 14 05.2**	**+0.1**
GADA	**Gvkgeada**	**1.48**	**163**	Pn	**Pn**	**12 13 48.4**	**+0.6**
GADA				Sn	**Sb**	**12 14 07.9**	**+0.3**
GADA	**Gvkgeada**	**1.48**	**163**	P	**Pn**	**12 13 48.1**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.48**	**144**	Pn	**Pn**	**12 13 48.4**	**+0.5**
GELI				Sn	**Sb**	**12 14 08.2**	**+0.5**
GOAD	**anakkale-G¶**	**1.51**	**163**	P	**Pn**	**12 13 48.6**	**+0.3**
GOAD				S	**Sn**	**12 14 06.5**	**-1.3**
ARMN	**Kirklareli, Me**	**1.59**	**80**	P	**Pn**	**12 13 49.8**	**+0.4**
ARMN				S	**Sn**	**12 14 07.9**	**-1.8**
OUR	**Ouranopolis**	**1.63**	**219**	Pn	**Pn**	**12 13 49.7**	**-0.2**
OUR	**Ouranopolis**	**1.63**	**219**	P	**Pn**	**12 13 50.0**	**0.0**
PHSR	**Pinarhisar**	**1.64**	**89**	Pn	**Pn**	**12 13 50.4**	**+0.3**
PHSR	**Pinarhisar**	**1.64**	**89**	⇑P	**Pn**	**12 13 50.5**	**+0.4**
KKB	**Krupnik**	**1.67**	**279**	*i* P	**Pg**	**12 13 53.4**	**-0.2**
KKB				*i* S	**Sg**	**12 14 16.6**	**+1.3**
SART	**Tekirdag**	**1.67**	**123**	P	**Pn**	**12 13 50.8**	**+0.3**
SART				S	**Sn**	**12 14 12.0**	**+0.2**
ECEA	**Canakkale, Ece**	**1.69**	**158**	P	**Pn**	**12 13 50.8**	**+0.2**
ECEA				S	**Sn**	**12 14 11.0**	**-1.1**
SOH	**Sokhos**	**1.69**	**243**	P	**Pn**	**12 13 51.5**	**+0.7**
SOH				S	**Sn**	**12 14 11.7**	**-0.6**
LIA	**Limnos Island**	**1.71**	**184**	P	**Pn**	**12 13 51.2**	**+0.2**
LIA	**Limnos Island**	**1.71**	**184**	P	**Pn**	**12 13 51.1**	**+0.1**
LIA				S	**Sn**	**12 14 12.1**	**-0.6**
CNKL	**anakkale-Mer**	**1.73**	**152**	P	**Pn**	**12 13 52.1**	**+0.8**
CNKL				S	**Sn**	**12 14 12.5**	**-0.8**
COMU	**Canakkale**	**1.74**	**150**	Pn	**Pn**	**12 13 52.2**	**+0.8**
TKR	**Tekirdag**	**1.77**	**110**	Pn	**Pn**	**12 13 52.2**	**+0.9**
BOZC	**Bozcaada**	**1.85**	**163**	Pn	**Pn**	**12 13 53.4**	**+0.5**
BOZC	**Bozcaada**	**1.85**	**163**	P	**Pn**	**12 13 52.8**	**-0.1**
PLVB	**Pleven**	**1.85**	**344**	⇑P	**Pb**	**12 13 54.9**	**-0.4**
VTS	**Vitosha**	**1.86**	**304**	*i* P	**Pb**	**12 13 55.2**	**-0.3**
VTS				*i* S	**Sg**	**12 14 20.6**	**-0.9**
VTS	**Vitosha**	**1.86**	**304**	*e*Pg	**Pb**	**12 13 54.8**	**-0.7**
VTS				*e*Sg	**Sb**	**12 14 19.5**	**+0.8**
VIZE	**Kirklareli, Vi**	**1.88**	**90**	P	**Pn**	**12 13 53.0**	**-0.3**
KNT	**Kendrikon**	**1.89**	**257**	P	**Pn**	**12 13 54.4**	**+1.0**
KRBG	**Karabiga-Canak**	**1.92**	**129**	Pn	**Pn**	**12 13 54.6**	**+0.7**
EZN	**Ezine**	**1.93**	**157**	Pn	**Pn**	**12 13 54.6**	**+0.5**
EZN	**Ezine**	**1.93**	**157**	⇑P	**Pn**	**12 13 55.2**	**+1.1**
LOZB	**Loznitsa**	**1.99**	**27**	⇑P	**Pb**	**12 13 56.5**	**-1.1**
EZNE	**Ezine-Canakkal**	**2.01**	**157**	Pn	**Pn**	**12 13 55.8**	**+0.7**
CANM	**Can-anakkale**	**2.06**	**140**	Pn	**Pn**	**12 13 56.6**	**+0.8**
BAYC	**CANAKKALE_Bayr**	**2.08**	**153**	P	**Pn**	**12 13 57.2**	**+1.1**
BAYC				S	**Sn**	**12 14 17.5**	**-4.4**
PAIG	**Paliouri**	**2.10**	**217**	P	**Pn**	**12 13 56.4**	**0.0**
PAIG	**Paliouri**	**2.10**	**217**	P	**Pn**	**12 13 56.3**	**0.0**
PAIG				S	**Sn**	**12 14 21.8**	**-0.5**
VAY	**Valandovo**	**2.10**	**263**	*i* Pn	**Pg**	**12 14 01.7**	**-0.2**
VAY				*i* Sn	**Sg**	**12 14 30.1**	**+1.0**
MPEP	**Malo Peshtene**	**2.11**	**326**	*i* P	**Pn**	**12 13 57.5**	**+1.0**
RAZG	**Razgrad**	**2.14**	**23**	⇓P	**Pb**	**12 13 59.5**	**-0.7**
PRD	**Provadia**	**2.18**	**44**	*i* P	**Pn**	**12 13 58.7**	**+1.2**
SLVT	**Silivri**	**2.19**	**99**	Pn	**Pn**	**12 13 58.8**	**+1.1**
YENI	**Yenice-Canakka**	**2.21**	**138**	Pn	**Pn**	**12 13 58.8**	**+0.9**
CTYL	**Yalikoy Yolu**	**2.22**	**92**	Pn	**Pn**	**12 13 59.5**	**+1.5**
CTYL	**Yalikoy Yolu**	**2.22**	**92**	⇑P	**Pn**	**12 13 59.5**	**+1.5**
BOSS	**Bosilegrad**	**2.30**	**294**	*e*Pn	**Pb**	**12 14 01.6**	**-1.4**
BOSS				*e*Sg	**Sg**	**12 14 35.9**	**+0.2**
ELBA	**Catalca**	**2.38**	**100**	P	**Pn**	**12 14 01.3**	**+1.1**
YAYO	**Edremit-Balk**	**2.39**	**146**	Pn	**Pn**	**12 14 01.6**	**+1.2**
SIGR	**SIGRI**	**2.43**	**170**	Pn	**Pn**	**12 14 01.6**	**+0.7**
BAND	**Balkesir-Ban**	**2.44**	**120**	P	**Pn**	**12 14 00.4**	**-0.7**
BAND	**Balkesir-Ban**	**2.44**	**120**	⇓P	**Pn**	**12 14 01.8**	**+0.8**
BUHA	**Balikesir, Bur**	**2.49**	**147**	P	**Pn**	**12 14 03.2**	**+1.5**
VALD	**Valchedram**	**2.51**	**327**	*i* P	**Pn**	**12 14 04.1**	**+2.1**
AYVA	**Ayvalik**	**2.52**	**155**	P	**Pn**	**12 14 02.9**	**+0.8**
AYVA				S	**Sn**	**12 14 30.9**	**-1.7**
ZAPS	**Zavoj**	**2.60**	**311**	*e*Pn	**Pn**	**12 14 04.6**	**+1.3**
ZAPS				*e*Sg	**Sg**	**12 14 44.9**	**-0.3**
BLKS	**Balkesir-Sus**	**2.65**	**130**	P	**Pn**	**12 14 04.6**	**+0.6**
BLKS				S	**Sn**	**12 14 32.5**	**-3.4**
AOS	**Alonnisos**	**2.68**	**205**	P	**Pn**	**12 14 04.4**	**0.0**
BKES	**Balkesir-Mer**	**2.72**	**133**	P	**Pn**	**12 14 06.1**	**+1.2**
BKES				S	**Sn**	**12 14 36.9**	**-0.8**
BLKB	**Belogradchik**	**2.81**	**317**	⇑S	**Sn**	**12 14 43.4**	**+3.4**
BLKB	**Belogradchik**	**2.81**	**317**	*e*Pn	**Pn**	**12 14 07.1**	**+0.9**
CICN	**Ciocanesti**	**2.87**	**25**	⇓P	**Pn**	**12 14 09.2**	**+2.3**
STEP	**BALIKESIR_Sava**	**2.88**	**140**	P	**Pn**	**12 14 08.4**	**+1.3**
STEP				S	**Sn**	**12 14 40.9**	**-0.6**
BARS	**Barje**	**2.88**	**296**	*e*Pn	**Pn**	**12 14 08.2**	**+2.0**
BARS				*e*Sg	**Sg**	**12 14 52.2**	**+1.9**
HUMR	**Humele**	**2.93**	**355**	⇑P	**Pn**	**12 14 10.1**	**+2.3**
KURT	**Yalova, Merkez**	**3.10**	**108**	P	**Pn**	**12 14 08.5**	**-1.6**
KURT				S	**Sn**	**12 14 49.3**	**+2.4**
KYMI	**Kymi, Euboea I**	**3.12**	**198**	P	**Pn**	**12 14 10.3**	**-0.1**
SULR		**3.14**	**12**	⇓P	**Pn**	**12 14 13.1**	**+2.4**
ZAGS	**Zajecar**	**3.17**	**315**	*e*Pn	**Pn**	**12 14 11.6**	**+0.4**
ZAGS				*e*Sg	**Sg**	**12 15 01.2**	**-2.4**
CHOS	**Chios island**	**3.27**	**170**	P	**Pn**	**12 14 13.2**	**+0.7**
SILT	**Sile**	**3.27**	**97**	⇓P	**Pn**	**12 14 14.5**	**+1.9**
BOVS	**Bovan**	**3.36**	**308**	⇓P	**Pn**	**12 14 15.1**	**+1.4**
BOVS	**Bovan**	**3.36**	**308**	*e*Pn	**Pn**	**12 14 15.1**	**+1.4**
BOVS				*e*Sg	**Sg**	**12 15 06.9**	**-2.5**
SRE	**Strehaia**	**3.43**	**334**	⇓P	**Pn**	**12 14 16.3**	**+1.6**
OHR	**Ohrid**	**3.45**	**263**	*i* Pn	**Pg**	**12 14 26.5**	**-1.3**
OHR				*i* Sn	**Sg**	**12 15 13.5**	**+1.0**
BORS2	**Bor- Borsko je**	**3.48**	**317**	*e*Pn	**Pn**	**12 14 14.6**	**-0.8**
BORS2				*e*Sg	**Sg**	**12 15 10.6**	**-2.7**
SELS	**Selova**	**3.51**	**299**	*e*Pn	**Pn**	**12 14 16.8**	**+1.0**
SELS				*e*Sg	**Sg**	**12 15 13.1**	**-1.3**
ISR	**Istrita**	**3.62**	**14**	⇓P	**Pn**	**12 14 19.8**	**+2.5**
TIRR	**Tirgusor**	**3.63**	**37**	⇓P	**Pn**	**12 14 19.7**	**+2.2**
ARR	**Arges**	**3.79**	**352**	⇑P	**Pn**	**12 14 21.1**	**+1.4**
GOCS	**Kraljevo Serbi**	**3.83**	**302**	*e*Pn	**Pn**	**12 14 21.7**	**+1.4**
VOIR		**3.83**	**357**	⇑P	**Pn**	**12 14 21.8**	**+1.5**
KUBS	**Kucevo**	**3.88**	**317**	*e*Pn	**Pn**	**12 14 20.3**	**-0.6**
NEHR	**Nehoiu**	**3.88**	**10**	⇑P	**Pn**	**12 14 23.1**	**+2.2**
MLR	**Muntele Rosu**	**3.91**	**6**	⇑P	**Pn**	**12 14 23.9**	**+2.6**
MLR	**Muntele Rosu**	**3.91**	**6**	*e*Pn	**Pn**	**12 14 23.3**	**+2.0**
LOT	**Lotru**	**4.00**	**344**	⇓P	**Pn**	**12 14 23.3**	**+0.6**
BISRR	**Bisoca**	**4.06**	**14**	⇓P	**Pn**	**12 14 26.1**	**+2.7**
GRUS	**Gruza**	**4.09**	**305**	*e*Pn	**Pn**	**12 14 23.8**	**0.0**
CFR	**Carcaliu**	**4.11**	**29**	⇓P	**Pn**	**12 14 25.8**	**+1.8**
MDVR	**Moldovita**	**4.13**	**321**	⇓P	**Pn**	**12 14 25.1**	**+0.7**
MDVR	**Moldovita**	**4.13**	**321**	*e*Pn	**Pn**	**12 14 24.5**	**+0.1**
GZR	**Gura Zlata**	**4.22**	**335**	⇑P	**Pn**	**12 14 25.9**	**+0.3**
GZR	**Gura Zlata**	**4.22**	**335**	*e*Pn	**Pn**	**12 14 25.8**	**+0.3**
GZR				*e*Sn	**Sn**	**12 15 12.4**	**-2.2**
SAHE	**Sakarya_HENDEK**	**4.23**	**98**	⇑P	**Pn**	**12 14 27.0**	**+1.3**
COVR	**Voineasa-Covas**	**4.28**	**8**	⇓P	**Pn**	**12 14 29.1**	**+2.7**
IVAS	**Ivanjica**	**4.30**	**299**	*e*Pn	**Pn**	**12 14 28.6**	**+1.9**
IVAS				*e*Sg	**Sg**	**12 15 38.3**	**-1.4**
PLOR	**Plostina**	**4.35**	**12**	⇓P	**Pn**	**12 14 29.9**	**+2.6**
DOPR	**Dopca**	**4.36**	**0**	⇑P	**Pn**	**12 14 29.8**	**+2.4**
VRI	**Vrincioaia**	**4.37**	**13**	⇑P	**Pn**	**12 14 30.7**	**+3.0**
TLCR		**4.38**	**34**	⇑P	**Pn**	**12 14 30.1**	**+2.4**
TRUS	**Trudelj**	**4.46**	**307**	*e*Pn	**Pn**	**12 14 29.2**	**+0.3**
TRUS				*e*Sg	**Sg**	**12 15 44.7**	**-0.2**
TURR	**Turia**	**4.47**	**6**	⇑P	**Pn**	**12 14 30.8**	**+1.8**
VRSS	**Vrsac**	**4.57**	**322**	*e*Pn	**Pn**	**12 14 29.5**	**-0.8**
DIVS	**Divibare**	**4.65**	**304**	*e*Pn	**Pn**	**12 14 32.1**	**+0.6**
DIVS				*e*Sg	**Sg**	**12

IGT eSn Sb 12 57 37.9 -0.4
SELS Selova 2.15 30 ePn Pb 12 57 18.4 -0.4

*VIE **22** 12:58:42.8±0.1,46˚.46N×12˚.98E,h11^{km}±1^{km},mb3.4/23, ml4.0/22, Error ellipse: s-maj=1.2km s-min=0.8km az=4.0 6 km NNW of Tolmezzo*
*IDC **22** 12:58:42.2±1.8,46˚.39N×13˚.24E,h0^{km},mbtmp3.5/9, ML3.2/6, Error ellipse: s-maj=19.5km s-min=12.7km az=154.0*
*ROM **22** 12:58:42.8±0.0,46˚.438N±0˚.002×12˚.998E±0˚.003, h12^{km},ML3.8/270,Mw3.4, Error ellipse: s-maj=0.2km s-min=0.1km az=204.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M$_{rr}$1.33; M$_{\theta\theta}$-1.04; M$_{\phi\phi}$-0.29; M$_{r\theta}$0.76; M$_{\theta\phi}$-0.72; M$_{\phi r}$0.59; Fault plane solution: M$_o$1.70651×10^{14} NP1:ϕ_s55.00000˚,δ62.00000˚, λ86.00000˚. NP2:ϕ_s243.00000˚,δ28.00000˚,λ98.00000˚.*
*PDG **22** 12:58:43.1±0.8,46˚.38N×13˚.01E,h12^{km},ML3.9/11 Error ellipse: s-maj=0.7km s-min=0.7km az=90.0*
*LDG **22** 12:58:43.0±0.0,46˚.43N×12˚.90E,h13^{km},Ml3.6/40, Error ellipse: s-maj=4.7km s-min=1.8km az=3.0*
*BEO **22** 12:58:44.9±0.6,46˚.43N×13˚.01E,h16^{km}±3^{km}, ML3.7/16*
*PRU **22** 12:58:44.9,46˚.53N×13˚.08E,h0^{km}*
*BGR **22** 12:58:45.5±0.3,46˚.54N×13˚.04E,h10^{km},ML3.8/25, Error ellipse: s-maj=4.4km s-min=4.4km az=13.0*

ISC 22 12:58:43.3±0.7,**46˚41N**±0˚.01×**12˚99E**±0˚.01,**h18**^{km}±3^{km}, **n249,**σ**2s32**/421**,12C-41D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUSE	**Fusea**	**0.01**	**42**	⇑*e*Pg	**Pg**	**12 58 45.4**	**-1.1**
FUSE				*e*Sg	**Sg**	**12 58 47.1**	**-1.5**
FUSE	**Fusea**	**0.01**	**42**	⇑P	**Pg**	**12 58 45.4**	**-1.1**
FUSE				S	**Sg**	**12 58 47.1**	**-1.5**
CLUD	**Cludinico**	**0.09**	**305**	⇑*e*Pg	**Pg**	**12 58 45.9**	**-1.1**
CLUD				*e*Sg	**Sg**	**12 58 47.7**	**-1.7**
CLUD	**Cludinico**	**0.09**	**305**	⇑P	**Pg**	**12 58 45.8**	**-1.1**
CLUD				S	**Sg**	**12 58 47.7**	**-1.7**
CLUD				AML	AML		
CLUD				AML	AML		
	comp=N,97850µm,0.5s						
CLUD				AML	AML		
CLUD				AML	AML		
	comp=N,93950µm,0.5s						
CLUD				AML	AML		
	comp=N,97850µm,1.5s						
CLUD				AML	AML		
	comp=N,93950µm,1.5s						
CLUD				AML	AML		
CLUD				AML	AML		
BOO	**Bordano**	**0.12**	**138**	⇓*e*Pg	**Pg**	**12 58 46.7**	**-0.5**
BOO				*e*Sg	**Sg**	**12 58 49.4**	**-0.3**
BOO	**Bordano**	**0.12**	**138**	⇓P	**Pg**	**12 58 46.7**	**-0.5**
BOO				S	**Sg**	**12 58 49.4**	**-0.3**
ZOU	**Zoufplan**	**0.15**	**356**	⇑*e*Pg	**Pg**	**12 58 46.4**	**-1.4**
ZOU				*e*Sg	**Sg**	**12 58 48.7**	**-2.1**
ZOU	**Zoufplan**	**0.15**	**356**	⇑P	**Pg**	**12 58 46.4**	**-1.4**
ZOU				S	**Sg**	**12 58 48.7**	**-2.1**
ZOU				AML	AML		
ZOU				AML	AML		
ZOU				AML	AML		
ZOU				AML	AML		
ZOU				AML	AML		
ZOU				AML	AML		
MPRI	**Monte Prat**	**0.16**	**180**	⇓*e*Pg	**Pg**	**12 58 47.6**	**-0.2**
MPRI				*e*Sg	**Sb**	**12 58 51.3**	**+0.7**
MPRI	**Monte Prat**	**0.16**	**180**	⇓P	**Pg**	**12 58 47.6**	**-0.2**
MPRI				S	**Sb**	**12 58 51.2**	**+0.6**
MPRI				AML	AML		
	comp=E,69350µm,0.7s						
MPRI				AML	AML		
	comp=N,73150µm,0.3s						
MPRI				AML	AML		
	comp=N,56200µm,0.3s						
MPRI				AML	AML		
	comp=E,52750µm,0.7s						
GEPF	**Gemona**	**0.17**	**141**	⇓P	**Pg**	**12 58 47.4**	**-0.3**
GEPF				S	**Sg**	**12 58 50.7**	**0.0**
GEPF				AML	AML		
	comp=N,50350µm,1.5s						
GEPF				AML	AML		
	comp=E,35000µm,0.4s						
PLRO	**Paularo**	**0.18**	**37**	⇑*e*Pg	**Pg**	**12 58 46.9**	**-1.2**
PLRO				*e*Sg	**Sg**	**12 58 49.5**	**-1.8**
PLRO	**Paularo**	**0.18**	**37**	⇑P	**Pg**	**12 58 46.9**	**-1.2**
PLRO				S	**Sg**	**12 58 49.5**	**-1.8**
BUA	**Buia**	**0.21**	**154**	⇓*e*Pg	**Pg**	**12 58 48.2**	**-0.2**
BUA				*e*Sg	**Sb**	**12 58 52.4**	**+0.3**
STAL	**STALIGIAL**	**0.24**	**233**	⇑P	**Pg**	**12 58 48.7**	**-0.2**
STAL				S	**Sg**	**12 58 52.9**	**+0.2**
STAL				AML	AML		
	comp=E,36750µm,0.2s						
STAL				AML	AML		
	comp=E,30300µm,0.4s						
STAL				AML	AML		
	comp=N,30650µm,0.3s						
STAL				AML	AML		
	comp=E,30300µm,0.4s						
STAL				AML	AML		
	comp=E,36750µm,0.2s						
STAL				AML	AML		
	comp=N,50700µm,0.2s						
BAD	**Bernadia**	**0.24**	**134**	*e*Sg	**Sb**	**12 58 53.3**	**+0.1**
BAD	**Bernadia**	**0.24**	**134**	⇓P	**Pg**	**12 58 48.5**	**-0.4**
BAD				S	**Sb**	**12 58 53.2**	**+0.1**
BAD	**Bernadia**	**0.24**	**134**	⇓*e*Pg	**Pg**	**12 58 48.6**	**-0.4**
VINO	**Villanova**	**0.25**	**126**	*e*Sg	**Sg**	**12 58 53.2**	**+0.3**
VINO	**Villanova**	**0.25**	**126**	⇓*e*Pg	**Pg**	**12 58 48.5**	**-0.5**
PTCC	**Patocco-Chiusa**	**0.25**	**90**	⇓P	**Pg**	**12 58 48.3**	**-0.8**
PTCC				S	**Sg**	**12 58 52.4**	**-0.6**
PTCC				AML	AML		
	comp=N,25250µm,1.3s						
PTCC				AML	AML		
	comp=E,20250µm,0.5s						
PTCC				AML	AML		
	comp=N,25250µm,0.7s						
CSMI	**Casera Mimoias**	**0.26**	**295**	⇓*e*Pg	**Pg**	**12 58 48.5**	**-0.8**
CSMI				*e*Sg	**Sg**	**12 58 52.5**	**-0.8**
FDS	**Forni di Sopra**	**0.30**	**279**	⇑P	**Pg**	**12 58 49.4**	**-0.5**
FDS				S	**Sg**	**12 58 53.9**	**-0.5**
DANT	**Danta di Cador**	**0.36**	**297**	⇓P	**Pg**	**12 58 50.4**	**-0.6**
DANT				S	**Sg**	**12 58 55.8**	**-0.4**
MLNI	**Malnisio**	**0.37**	**226**	*e*Pg	**Pg**	**12 58 51.1**	**+0.1**
MLNI				*e*Sg	**Sb**	**12 58 57.3**	**+0.5**
LSR	**Lussari**	**0.38**	**79**	*e*Sg	**Sg**	**12 58 56.2**	**-0.5**
LSR	**Lussari**	**0.38**	**79**	⇓*e*Pg	**Pg**	**12 58 50.2**	**-1.1**
COLI	**Coloredo**	**0.38**	**135**	⇓*e*Pg	**Pg**	**12 58 51.0**	**-0.3**
ACOM	**Acomizza, Ital**	**0.39**	**68**	*e*Sg	**Sg**	**12 58 56.6**	**-0.4**
ACOM	**Acomizza, Ital**	**0.39**	**68**	⇑P	**Pg**	**12 58 50.6**	**-0.9**
ACOM				S	**Sg**	**12 58 56.6**	**-0.4**
ACOM				AML	AML		
	comp=E,24000µm,0.3s						
ACOM				AML	AML		
	comp=N,28550µm,0.7s						
ACOM				AML	AML		
	comp=E,23750µm,0.3s						
ACOM				AML	AML		
	comp=N,28450µm,0.8s						
ACOM	**Acomizza, Ital**	**0.39**	**68**	⇓*e*Pg	**Pg**	**12 58 50.6**	**-0.9**
CIMO	**Cimolais**	**0.39**	**256**	*e*Pg	**Pg**	**12 58 51.2**	**-0.3**
CIMO	**Cimolais**	**0.39**	**256**	⇓P	**Pg**	**12 58 50.8**	**-0.7**
CIMO				S	**Sg**	**12 58 56.6**	**-0.4**
CIMO				AML	AML		
	comp=E,3360µm,0.9s						
CIMO				AML	AML		
	comp=N,6390µm,0.5s						
CIMO				AML	AML		
	comp=N,6285µm,0.5s						
CIMO				AML	AML		
	comp=E,3405µm,0.9s						
ROBS	**Robic**	**0.40**	**114**	⇓*i*Pg	**Pg**	**12 58 50.6**	**-0.9**
ROBS				*i* Sg	**Sb**	**12 58 58.2**	**+0.7**
ROBS				IAML		12 58 59.4	
	comp=Z,535nm,0.1s						
PRED	**Cave del Predi**	**0.40**	**84**	*e*Pg	**Pg**	**12 58 51.1**	**-0.5**
ABTA	**Abfaltersbach**	**0.47**	**316**	*e*Pg	**Pg**	**12 58 51.9**	**-1.1**
	comp=Z,1µm,0.3s,SNR=456						
ABTA				*e*Sg	**Sg**	**12 58 58.0**	**-1.4**
	comp=Z,430nm,0.1s						
CSO	**Casso**	**0.48**	**254**	*e*Pg	**Pg**	**12 58 52.8**	**-0.3**
APGO	**Alpago**	**0.50**	**240**	*e*Pg	**Pg**	**12 58 53.2**	**-0.2**
MYKA	**Terra Mystica**	**0.50**	**63**	*e*Pg	**Pg**	**12 58 52.4**	**-1.1**
	comp=Z,30nm,0.1s,SNR=183						
MYKA				*e*Sg	**Sg**	**12 58 58.9**	**-1.4**
	comp=Z,1µm,0.3s						
DRE	**Drenchia**	**0.51**	**117**	*e*Pg	**Pg**	**12 58 53.0**	**-0.6**
DRE	**Drenchia**	**0.51**	**117**	⇓P	**Pg**	**12 58 52.6**	**-1.0**
DRE				S	**Sb**	**12 59 01.5**	**+0.6**
POLC	**Polcenigo**	**0.51**	**222**	P	**Pb**	**12 58 53.9**	**+0.1**
PNAL	**Ponte nelle Va**	**0.53**	**244**	P	**Pg**	**12 58 53.6**	**-0.4**
CADS	**Cadrg**	**0.55**	**109**	⇓*e*Pg	**Pg**	**12 58 52.9**	**-1.4**
CADS				*i* Sg	**Sb**	**12 59 02.7**	**+0.7**
CADS				IAML		12 59 05.0	
	comp=Z,1µm,0.2s						
CAE	**Caneva**	**0.55**	**224**	*e*Pg	**Pg**	**12 58 54.9**	**+0.3**
CAE	**Caneva**	**0.55**	**224**	P	**Pg**	**12 58 54.5**	**+0.1**
CAE				S	**Sn**	**12 59 04.1**	**-1.1**
AFL	**Alpe Faloria**	**0.57**	**283**	*e*Pg	**Pg**	**12 58 54.6**	**-0.2**
FRE8	**Fregona**	**0.59**	**229**	P	**Pg**	**12 58 55.0**	**0.0**
SABO	**M.te Sabotino**	**0.60**	**135**	*e*Pg	**Pg**	**12 58 55.5**	**+0.2**
SABO	**M.te Sabotino**	**0.60**	**135**	P	**Pg**	**12 58 54.7**	**-0.5**
SABO				AML	AML		
	comp=E,44900µm,0.6s						
SABO				AML	AML		
	comp=N,53650µm,0.6s						
SABO				AML	AML		
	comp=E,9620µm,0.6s						
SABO				AML	AML		
	comp=N,14250µm,0.6s						
SABO				AML	AML		
	comp=N,53650µm,1.4s						
SABO				AML	AML		
	comp=N,14250µm,1.4s						
AGOR	**Agordo**	**0.66**	**260**	*e*Pg	**Pg**	**12 58 56.6**	**+0.2**
AGOR	**Agordo**	**0.66**	**260**	P	**Pg**	**12 58 56.0**	**-0.4**
AGOR				S	**Sb**	**12 59 06.2**	**+0.9**
GORS	**Gorjuse**	**0.70**	**97**	*i* Pg	**Pg**	**12 58 55.7**	**-1.4**
GORS				*i* Sg	**Sb**	**12 59 07.0**	**+0.5**
GORS				IAML		12 59 08.6	
	comp=Z,982nm,0.2s						
KBA	**Koelnbreinsper**	**0.72**	**20**	*i* Pg	**Pg**	**12 58 56.2**	**-1.3**
	comp=Z,24nm,0.1s,SNR=188						
KBA				*e*Sg	**Sg**	**12 59 05.2**	**-1.9**
	comp=Z,1µm,0.3s						
KBA	**Koelnbreinsper**	**0.72**	**20**	*e*Pg	**Pg**	**12 58 56.4**	**-1.1**
KBA				*e*Sg	**Sg**	**12 59 05.1**	**-1.9**
FAU	**Forcella Aurin**	**0.72**	**256**	*e*Pg	**Pg**	**12 58 57.7**	**+0.2**
VOJS	**Vojsko**	**0.72**	**121**	*e*Pg	**Pg**	**12 58 56.3**	**-1.2**
VOJS				*i* Sg	**Sn**	**12 59 10.0**	**+0.5**
VOJS				IAML		12 59 14.8	
	comp=Z,648nm,0.2s						
VARN	**Col Varnada, M**	**0.74**	**236**	*e*Pg	**Pg**	**12 58 57.9**	**+0.1**
VARN	**Col Varnada, M**	**0.74**	**236**	P	**Pg**	**12 58 57.2**	**-0.6**
VARN				AML	AML		
	comp=N,5975µm,0.9s						
VARN				AML	AML		
	comp=N,6070µm,0.9s						
VARN				AML	AML		
	comp=E,11100µm,0.3s						
VARN				AML	AML		
	comp=N,5975µm,1.1s						
VARN				AML	AML		
	comp=N,6070µm,1.1s						
VARN				AML	AML		
	comp=E,10900µm,0.3s						
ED06	**Collalto TV**	**0.77**	**225**	*e*Pg	**Pn**	**12 58 59.2**	**-0.2**
CRND	**Cornuda**	**0.85**	**228**	P	**Pn**	**12 59 01.0**	**+0.5**
TRI	**Trieste**	**0.88**	**142**	P	**Pg**	**12 59 00.7**	**+0.2**
JAVS	**Javornik**	**0.91**	**124**	*i* Pg	**Pb**	**12 58 59.4**	**-1.2**
JAVS				*e*Sg	**Sn**	**12 59 15.2**	**+1.2**
JAVS				IAML		12 59 18.7	
	comp=Z,775nm,0.1s						
BRES	**Bressanone**	**0.92**	**289**	⇓P	**Pb**	**12 59 00.2**	**-0.7**
BRES				AML	AML		
	comp=E,4295µm,0.8s						
BRES				AML	AML		
	comp=N,4430µm,0.3s						
BRES				AML	AML		
	comp=E,4295µm,1.2s						
CRNS	**Crni Vrh**	**0.94**	**110**	*i* Pg	**Pb**	**12 59 00.2**	**-1.0**
CRNS				*e*Sg	**Sn**	**12 59 17.0**	**+2.3**
CRNS				IAML		12 59 20.3	
	comp=Z,742nm,0.1s						
ASOL	**Asolo**	**0.97**	**232**	P	**Pg**	**12 59 02.3**	**+0.1**
ASOL				AML	AML		
	comp=E,21950µm,0.2s						
ASOL				AML	AML		
	comp=N,16400µm,0.5s						
CGRP	**Cima Grappa**	**0.98**	**238**	P	**Pg**	**12 59 02.5**	**+0.1**
CGRP				AML	AML		
	comp=E,7010µm,1.1s						
CGRP				AML	AML		
	comp=N,5945µm,0.5s						
CGRP				AML	AML		
	comp=E,7115µm,1.1s						
CGRP				AML	AML		
	comp=E,7005µm,1.1s						
CGRP				AML	AML		
	comp=N,6040µm,0.5s						
CGRP				AML	AML		
	comp=E,7115µm,0.9s						
CGRP				AML	AML		
	comp=E,7005µm,0.9s						
CTI	**Castel Tesino**	**1.00**	**249**	P	**Pb**	**12 59 02.3**	**+0.2**
CTI				AML	AML		
	comp=N,13250µm,0.3s						
CTI				AML	AML		
	comp=E,14000µm,0.4s						
ZIAN	**Ziano**	**1.00**	**263**	⇓P	**Pb**	**12 59 02.4**	**+0.2**
ZIAN				AML	AML		
	comp=E,3185µm,0.4s						
ZIAN				AML	AML		
	comp=N,3125µm,0.7s						
ZIAN				AML	AML		
	comp=E,2585µm,0.4s						
ZIAN				AML	AML		
	comp=N,2595µm,0.4s						
MOZS	**Mozjanca**	**1.01**	**96**	*i* Pg	**Pb**	**12 59 01.7**	**-0.7**
MOZS				IAML		12 59 20.6	
	comp=Z,313nm,0.2s						
LESA	**Schwarzleotal**	**1.04**	**348**	*e*Pg	**Pb**	**12 59 02.1**	**-0.8**
	comp=Z,418nm,0.3s,SNR=391						
LESA				*e*Sg	**Sb**	**12 59 15.7**	**-0.6**
	comp=Z,1µm,0.3s						
OBKA	**Obir**	**1.08**	**84**	*e*Pg	**Pb**	**12 59 02.6**	**-1.0**
	comp=Z,67nm,0.1s,SNR=109						
OBKA				Sg	**Sb**	**12 59 18.1**	**+0.6**
	comp=Z,709nm,0.4s						
OBKA	**Obir**	**1.08**	**84**	*e*Pg	**Pb**	**12 59 03.1**	**-0.5**
OBKA				*e*Sg	**Sb**	**12 59 18.3**	**+0.8**
SKDS	**Skadanscina**	**1.12**	**140**	*e*Pg	**Pg**	**12 59 04.9**	**-0.1**
SKDS				*e*Sg	**Sn**	**12 59 21.7**	**+2.6**
LJU	**Ljubljana**	**1.13**	**108**	*e*Pg	**Pb**	**12 59 04.4**	**+0.1**
LJU				*e*Sg	**Sg**	**12 59 21.2**	**+1.3**
CEY	**Cerknica**	**1.20**	**123**	*e*Pg	**Pb**	**12 59 06.0**	**+0.4**
CEY				*e*Sg	**Sg**	**12 59 24.1**	**+1.8**
WTTA	**Wattenberg**	**1.27**	**313**	*e*Pg	**Pn**	**12 59 06.3**	**-0.1**
	comp=Z,122nm,0.3s,SNR=107						
WTTA				*e*Sg	**Sb**	**12 59 22.3**	**-0.5**
	comp=Z,307nm,0.2s						
WTTA	**Wattenberg**	**1.27**	**313**	*e*Pg	**Pn**	**12 59 06.4**	**+0.1**
RJOB	**Jochberg**	**1.34**	**354**	*e*Sg	**Sn**	**12 59 25.6**	**+0.9**
WATA	**Walderalm**	**1.34**	**314**	*e*Pg	**Pn**	**12 59 07.7**	**+0.3**
	comp=Z,80nm,0.2s,SNR=106						
WATA				Sn	**Sn**	**12 59 24.9**	**0.0**
	comp=Z,241nm,0.2s						
BIOA	**Bad Ischl, Aus**	**1.36**	**19**	*e*Pg	**Pn**	**12 59 07.7**	**+0.2**
	comp=Z,107nm,0.2s,SNR=141						
BIOA				*e*Sg	**Sn**	**12 59 26.4**	**+1.3**
	comp=Z,649nm,0.3s						
SOKA	**Soboth**	**1.44**	**78**	*e*Pn	**Pn**	**12 59 09.0**	**+0.4**
	comp=Z,29nm,0.3s,SNR=96						
SOKA				Sn	**Sb**	**12 59 28.6**	**+1.0**
	comp=Z,163nm,0.3s						
SQTA	**Sankt Quirin**	**1.47**	**304**	*e*Pn	**Pn**	**12 59 09.9**	**+0.8**
	comp=Z,280nm,0.3s,SNR=206						
SQTA				Sn	**Sn**	**12 59 28.6**	**+0.6**
	comp=Z,137nm,0.2s						
RIY	**Rijeka**	**1.50**	**135**	*e*Pg	**Pb**	**12 59 11.0**	**+0.3**
RIY				*e*Sg	**Sg**	**12 59 33.3**	**+1.5**
BRJN	**Brijuni**	**1.59**	**160**	*e*Pn	**Pn**	**12 59 11.3**	**+0.7**
MOTA	**Moosalm**	**1.60**	**307**	*e*Pg	**Pn**	**12 59 12.1**	**+1.2**
	comp=Z,93nm,0.4s,SNR=76						
MOTA				Sn	**Sn**	**12 59 32.6**	**+1.5**
	comp=Z,83nm,0.3s						
FETA	**Feichten**	**1.67**	**292**	*e*Pg	**Pb**	**12 59 13.5**	**-0.2**
	comp=Z,45nm,0.3s,SNR=89						
FETA				Sn	**Sb**	**12 59 35.7**	**+1.1**
	comp=Z,142nm,0.5s						
MOA	**Molln**	**1.69**	**31**	*e*Pg	**Pn**	**12 59 13.8**	**+1.8**
	comp=Z,102nm,0.5s,SNR=63						
MOA				Sn	**Sb**	**12 59 35.3**	**+0.5**
	comp=Z,100nm,0.3s						
MOA	**Molln**	**1.69**	**31**	*e*Pn	**Pb**	**12 59 13.9**	**0.0**
MOA				*e*Sn	**Sn**	**12 59 35.0**	**+1.8**
MOA	**Molln**	**1.69**	**31**	*e*Pn	**Pb**	**12 59 14.0**	**+0.1**
MOA				*e*Pg	**Pn**	**12 59 14.7**	**+2.7**
BOJS	**Bojanci**	**1.82**	**119**	*e*Pn	**Pn**	**12 59 15.4**	**+1.7**
BOJS				*e*Sn	**Sb**	**12 59 39.6**	**+1.1**
RETA	**Reutte**	**1.87**	**306**	Pn	**Pn**	**12 59 15.0**	**+0.4**
	comp=Z,76nm,0.3s,SNR=91						
RETA				Sg	**Sg**	**12 59 44.2**	**+0.6**
	comp=Z,192nm,0.2s						
OZLJ	**Ozalj**	**1.90**	**114**	*e*Pn	**Pn**	**12 59 16.1**	**+1.3**
ARSA	**Arzberg**	**1.93**	**63**	*e*Pn	**Pn**	**12 59 16.7**	**+1.3**
	comp=Z,21nm,0.3s,SNR=77						
ARSA				Sg	**Sb**	**12 59 44.3**	**+2.4**
	comp=Z,49nm,0.3s						
ARSA	**Arzberg**	**1.93**	**63**	*e*Pn	**Pn**	**12 59 16.8**	**+1.4**
ARSA				*e*Sn	**Sb**	**12 59 42.3**	**+0.4**
ARSA	**Arzberg**	**1.93**	**63**	*e*Pg	**Pn**	**12 59 17.1**	**+1.7**
FUR	**Furstenfeldbru**	**2.11**	**327**	*e*Pn	**Pn**	**12 59 19.9**	**+2.1**
FUR				*e*Pg	**Pg**	**12 59 23.2**	**-0.6**
FUR				*e*Sg	**Sb**	**12 59 49.9**	**+2.9**
DAVOX	**Davos/Dischmat**	**2.18**	**281**	Pn	**Pb**	**12 59 22.3**	**-0.1**
	comp=Z,180nm,0.3s,baz=76,slow=8.7,SNR=264						
DAVOX				Sn	**Sb**	**12 59 51.5**	**+2.4**
	comp=Z,62nm,0.3s,baz=186,slow=20,SNR=11						
KOGS	**Kog**	**2.26**	**88**	*e*Pn	**Pn**	**12 59 20.4**	**+0.7**
KOGS				*e*		12 59 25.4	
KOGS				*i* Sn	**Sn**	**12 59 49.9**	**+2.8**
KOGS				*e*		12 59 58.5	
DAVA	**Damuels**	**2.31**	**294**	*e*Pn	**Pn**	**12 59 22.3**	**+1.6**
	comp=Z,62nm,0.2s,SNR=77						
DAVA				Sg	**Sg**	**12 59 57.4**	**-0.2**
	comp=Z,256nm,0.5s						
DAVA	**Damuels**	**2.31**	**294**	*e*Pn	**Pb**	**12 59 23.9**	**-0.7**
UBR	**Ueberruh**	**2.35**	**304**	*e*Pn	**Pb**	**12 59 24.0**	**-1.2**
UBR				*e*Sg	**Sg**	**12 59 57.9**	**-0.9**
CONA	**Conrad Observa**	**2.48**	**51**	*e*Pn	**Pn**	**12 59 24.5**	**+1.5**
	comp=Z,13nm,0.2s,SNR=28						
CONA				*e*Sn	**Sn**	**12 59 55.4**	**+2.6**
	comp=Z,65nm,0.5s						
GEC2	**GERESS Array S**	**2.49**	**11**	*e*Pn	**Pn**	**12 59 24.4**	**+1.3**
GEC2				*e*Sg	**Sb**	**13 00 00.9**	**+2.9**
GERES	**GERESS Array B**	**2.49**	**11**	Pn	**Pn**	**12 59 24.1**	**+1.0**
	comp=Z,3.1nm,0.3s,baz=192,slow=14,SNR=369						
GERES				Sn	**Sn**	**12 59 54.8**	**+1.8**
	comp=Z,3.3nm,0.3s,baz=176,slow=23,SNR=7.0						
GERES				Lg	Lg	13 00 01.0	
	comp=Z,13nm,0.3s,baz=182,slow=26,SNR=20						
	comp=Z,41nm,0.4s						
CKRC	**Cesky Krumlov**	**2.58**	**20**	*e*PN	**Pn**	**12 59 25.6**	**+1.4**
CKRC				*e*PG	**Pb**	**12 59 30.7**	**+1.7**
CKRC				*e*SG	**Sb**	**13 00 02.3**	**+1.9**
	comp=Z,301nm,0.5s						
RONA	**Rosalia, Austr**	**2.61**	**59**	*e*Pn	**Pn**	**12 59 25.8**	**+1.2**
	comp=Z,6.2nm,0.2s,SNR=12						
RONA				Sn	**Sn**	**12 59 57.6**	**+1.7**
	comp=Z,33nm,0.4s						
BEHE	**Becsehely**	**2.62**	**87**	*e*Pn	**Pn**	**12 59 25.2**	**+0.4**
MOSL	**Moslavina**	**2.74**	**105**	*e*Pn	**Pn**	**12 59 26.7**	**+0.2**
WET	**Wettzell**	**2.74**	**358**	*e*Pn	**Pn**	**12 59 27.8**	**+1.3**
WET				*e*Pg	**Pb**	**12 59 34.0**	**+2.1**
WET				*e*Sn	**Sn**	**13 00 00.2**	**+1.0**
WET				*e*Sg	**Sb**	**13 00 08.3**	**+3.2**
KHC	**Kasperske Hory**	**2.76**	**8**	*e*PN	**Pn**	**12 59 28.1**	**+1.4**
KHC				*e*PG	**Pb**	**12 59 33.7**	**+1.6**
KHC				*e*SG	**Sb**	**13 00 09.3**	**+3.7**
	comp=Z,299nm,0.7s						
ZVC	**Zvikov**	**3.14**	**14**	*e*SG	**Sb**	**13 00 20.4**	**+3.8**
	comp=Z,224nm,0.3s						
TREC	**Trest**	**3.34**	**29**	*e*PN	**Pn**	**12 59 35.6**	**+0.8**
TREC				*e*PG	**Pb**	**12 59 43.4**	**+1.3**
TREC				*e*SG	**Sb**	**13 00 25.0**	**+2.5**
BLY	**Banja Luka**	**3.38**	**118**	*e*Pn	**Pn**	**12 59 36.4**	**+1.2**
BLY	**Banja Luka**	**3.38**	**118**	*e*Pn	**Pn**	**12 59 36.4**	**+1.2**
KIJV	**Kijevo**	**3.40**	**134**	*e*Pn	**Pn**	**12 59 37.4**	**+1.8**
ROTZ	**Rotzenmuhle**	**3.41**	**351**	*e*Pn	**Pn**	**12 59 36.0**	**+0.5**
ROTZ				*e*Pg	**Pb**	**12 59 46.0**	**+2.8**
ROTZ				*e*Sn	**Sn**	**13 00 15.4**	**-0.1**
ROTZ				*e*Sg	**Sg**	**13 00 30.4**	**-2.2**
STU	**Stuttgart**	**3.49**	**314**	*e*Pn	**Pn**	**12 59 38.5**	**+1.8**
GRF	**Grafenberg Arr**	**3.50**	**341**	*e*Pn	**Pn**	**12 59 37.4**	**+0.6**
GRF				*e*Pg	**Pg**	**12 59 48.6**	**-1.7**
KRUC	**Moravsky**	**3.51**	**40**	*e*PN	**Pn**	**12 59 37.4**	**+0.3**
KRUC				*e*SG	**Sb**	**13 00 31.7**	**+4.4**
MANZ	**Manzenberg**	**3.63**	**351**	*e*Pn	**Pn**	**12 59 39.1**	**+0.4**
MANZ				*e*Sn	**Sn**	**13 00 18.9**	**-2.2**
BFO	**Black Forest**	**3.71**	**303**	*e*Pn	**Pn**	**12 59 41.6**	**+1.8**
BFO				*e*Sn	**Sn**	**13 00 23.0**	**+0.4**
PRU	**Pruhonice**	**3.73**	**16**	*e*PN	**Pn**	**12 59 41.2**	**+1.1**
PRU				*e*PG	**Pb**	**12 59 52.4**	**+3.7**
PRU				*e*SG	**Sb**	**13 00 39.0**	**+5.4**
	comp=Z,195nm,0.5s						
VRAC	**Vranov**	**3.79**	**39**	Pn	**Pn**	**12 59 41.2**	**+0.5**
	comp=Z,2.3nm,0.3s,baz=222,slow=12,SNR=7.0						
VRAC				Pg	**Pb**	**12 59 49.4**	**-0.2**
	comp=Z,3.1nm,0.3s,baz=231,slow=13,SNR=6.2						
VRAC				Sn	**Sn**	**13 00 24.2**	**-0.7**
	comp=Z,2.6nm,0.3s,baz=310,slow=19,SNR=6.4						
VRAC				Lg	Lg	13 00 39.9

OSTC				*e*PG	**Pb**	**13 00 06.4**	**+1.6**
OSTC				*e*SG	**Sg**	**13 01 08.7**	**-4.6**
	comp=Z,107nm,0.6s						
MBDF	**Montbardon**	**4.68**	**251**	*e*P	**Pn**	**12 59 53.4**	**+0.2**
MBDF				*e*Sn	**Sn**	**13 00 42.4**	**-4.7**
	comp=Z,22nm,0.5s						
SBF	**Sospel**	**4.68**	**239**	*e*P	**Pn**	**12 59 54.5**	**+1.3**
SBF				*e*Sn	**Sn**	**13 00 42.1**	**-4.9**
	comp=Z,39nm,0.3s						
CABF	**La Chapelle**	**4.77**	**275**	*e*P	**Pn**	**12 59 56.3**	**+1.9**
	comp=Z,86nm,0.4s						
CABF				*e*Sn	**Sn**	**13 00 46.6**	**-2.7**
	comp=Z,14nm,0.4s						
PGF	**Pioggiola**	**4.80**	**218**	*e*P	**Pn**	**12 59 55.6**	**+0.8**
PGF				*e*Sn	**Sn**	**13 00 45.5**	**-4.5**
	comp=Z,19nm,0.4s						
HAU	**Haudompre**	**4.80**	**292**	*e*P	**Pn**	**12 59 56.3**	**+1.5**
HAU				*e*Sn	**Sn**	**13 00 43.4**	**-6.5**
	comp=Z,237nm,0.6s						
HAU				*e*S	**Sn**	**13 00 51.8**	**+1.9**
UBBA	**Unterbreizbach**	**4.84**	**337**	*e*Pn	**Pn**	**12 59 56.9**	**+1.8**
OKC	**Ostrava-Krasne**	**4.87**	**43**	*e*PN	**Pn**	**12 59 56.9**	**+1.2**
OKC				*e*SG	**Sg**	**13 01 16.3**	**-3.3**
	comp=Z,56nm,0.7s						
TNS	**Taunus Mts**	**4.88**	**323**	*e*Pn	**Pn**	**12 59 57.2**	**+1.4**
STON	**Ston**	**4.88**	**135**	*e*Pn	**Pn**	**12 59 56.5**	**+0.8**
STON	**Ston**	**4.88**	**135**	*e*Pn	**Pn**	**12 59 57.4**	**+1.7**
CLL	**Collm**	**4.91**	**0**	*e*Pn	**Pn**	**12 59 56.9**	**+0.8**
CLL	**Collm**	**4.91**	**0**	*e*Pn	**Pn**	**12 59 57.0**	**+0.8**
CLL				*ex*	x	13 00 14.0	
CLL				*e*Pg	**Pg**	**13 00 16.0**	**-1.2**
CLL				*e*Sn	**Sn**	**13 00 53.0**	**+0.5**
CLL				*e*Sg	Sb	13 01 15.0	+7.7
	comp=Z,65nm,0.6s						
FRGS	**Fruska Gora**	**4.93**	**102**	*e*Pn	**Pn**	**12 59 56.7**	**+0.1**
FRGS				*e*Sn	**Sn**	**13 00 51.4**	**-1.8**
KLINJ	**Klinje**	**5.13**	**127**	*e*Pn	**Pn**	**13 00 01.8**	**+2.4**
BBLS	**Lazi&#263i**	**5.20**	**117**	*e*Pn	**Pn**	**13 00 02.3**	**+2.0**
ORIF	**Oris-en-Rattie**	**5.20**	**256**	*e*P	**Pn**	**13 00 03.0**	**+2.7**
ORIF				*e*Sn	**Sn**	**13 00 55.1**	**-4.8**
	comp=Z,15nm,0.4s						
BRY	**Bratogost**	**5.29**	**130**	⇓*i*Pn	**Pn**	**13 00 03.1**	**+1.6**
BRY				*i* Sn	**Sn**	**13 01 03.1**	**+1.0**
UPM	**Unac-Piva**	**5.29**	**125**	*e*Pn	**Pn**	**13 00 03.1**	**+1.5**
UPM				*i* Sn	**Sn**	**13 01 03.1**	**+0.9**
RUDO	**Rudo**	**5.31**	**119**	*e*Pn	**Pn**	**13 00 03.1**	**+1.3**
RUDO	**Rudo**	**5.31**	**119**	*e*Pn	**Pn**	**13 00 03.1**	**+1.3**
TREB	**Trebinje**	**5.32**	**132**	*e*Pn	**Pn**	**13 00 02.9**	**+1.1**
TREB	**Trebinje**	**5.32**	**132**	*e*Pn	**Pn**	**13 00 03.0**	**+1.1**
PAGF	**Fort de Pagny**	**5.37**	**296**	*e*P	**Pn**	**13 00 05.1**	**+2.5**
PAGF				*e*Sn	**Sn**	**13 00 57.8**	**-6.2**
	comp=Z,37nm,0.3s						
PAGF				*e*S	**Sn**	**13 01 05.6**	**+1.6**
DIVS	**Divibare**	**5.46**	**112**	*e*Pn	**Pn**	**13 00 04.8**	**+1.0**
LMR	**La Mourre**	**5.54**	**239**	*e*P	**Pn**	**13 00 05.3**	**+0.5**
LMR				*e*Sn	**Sn**	**13 01 02.2**	**-5.8**
	comp=Z,15nm,0.3s						
HCY	**Herceg Novi**	**5.58**	**133**	*e*Pn	**Pn**	**13 00 07.0**	**+1.5**
HCY				*i* Sn	**Sn**	**13 01 10.1**	**+0.9**
NKME	**Niksic**	**5.60**	**128**	*e*Pn	**Pn**	**13 00 07.3**	**+1.5**
NKME				*i* Sn	**Sn**	**13 01 10.6**	**+0.9**
WLF	**Walferdange**	**5.63**	**308**	*d*P	**Pn**	**13 00 09.1**	**+3.1**
WLF	**Walferdange**	**5.63**	**308**	*e*Pn	**Pn**	**13 00 09.3**	**+3.2**
TRUS	**Trudelj**	**5.67**	**110**	*e*Pn	**Pn**	**13 00 07.5**	**+0.9**
TRUS				*e*Sn	**Sn**	**13 01 09.9**	**-1.4**
KASTN	**Kahler Asten**	**5.67**	**329**	*e*Pn	**Pn**	**13 00 08.3**	**+1.6**
SFTF	**Sexfontaines**	**5.70**	**291**	*e*P	**Pn**	**13 00 08.9**	**+1.8**
SFTF				*e*Sn	**Sn**	**13 01 06.0**	**-6.0**
	comp=Z,28nm,0.4s						
CLZ	**Clausthal**	**5.71**	**343**	*e*Pn	**Pn**	**13 00 09.0**	**+1.8**
CEME	**Cevo**	**5.73**	**130**	⇑*i*Pn	**Pn**	**13 00 09.3**	**+1.7**
CEME				*i* Sn	**Sn**	**13 01 13.7**	**+0.7**
SAVF	**Savonnieres en**	**5.77**	**295**	*e*P	**Pn**	**13 00 10.6**	**+2.6**
SAVF				*e*Sn	**Sn**	**13 01 07.3**	**-6.4**
	comp=Z,13nm,0.5s						
SMRF	**Simiane la Rot**	**5.78**	**248**	*e*P	**Pn**	**13 00 10.2**	**+2.0**
SMRF				*e*Sn	**Sn**	**13 01 07.5**	**-6.5**
	comp=Z,8.3nm,0.4s						
MEZF	**Maizieres J'vi**	**5.78**	**294**	*e*P	**Pn**	**13 00 11.0**	**+2.9**
	baz=107						
MEZF				*e*Sn	**Sn**	**13 01 07.3**	**-6.6**
	comp=Z,20nm,0.4s						
MEZF				*e*S	**Sn**	**13 01 14.3**	**+0.4**
IVAS	**Ivanjica**	**5.81**	**117**	*e*Pn	**Pn**	**13 00 09.9**	**+1.2**
KOME	**Kolasin**	**5.86**	**125**	*e*Pn	**Pn**	**13 00 11.4**	**+2.1**
KOME	**Kolasin**	**5.86**	**125**	*e*Pn	**Pn**	**13 00 11.0**	**+1.7**
KOME				*i* Sn	**Sn**	**13 01 16.7**	**+0.6**
SJES	**Sjenica**	**5.88**	**120**	*e*Pn	**Pn**	**13 00 11.8**	**+2.2**
BUM	**Brajici-Budva**	**5.89**	**132**	*e*Pn	**Pn**	**13 00 11.1**	**+1.3**
BUM				*i* Sn	**Sn**	**13 01 17.4**	**+0.4**
VRSS	**Vrsac**	**5.97**	**99**	*e*Sn	**Sn**	**13 01 16.2**	**-2.5**
PDG	**Podgorica**	**5.99**	**129**	*e*Pn	**Pn**	**13 00 13.1**	**+2.0**
PDG	**Podgorica**	**5.99**	**129**	*e*Pn	**Pn**	**13 00 12.8**	**+1.7**
PDG				*i* Sn	**Sn**	**13 01 20.0**	**+0.8**
GRUS	**Gruza**	**6.01**	**112**	*e*Pn	**Pn**	**13 00 12.9**	**+1.5**
GRUS				*e*Sn	**Sn**	**13 01 19.1**	**-0.7**
VIVF	**Saint-Julien-l**	**6.03**	**258**	*e*P	**Pn**	**13 00 12.6**	**+0.9**
VIVF				*e*Sn	**Sn**	**13 01 15.7**	**-4.7**
	comp=Z,1.8nm,0.2s						
IVA	**Berane**	**6.06**	**123**	*e*Pn	**Pn**	**13 00 13.8**	**+1.7**
IVA				*i* Sn	**Sn**	**13 01 21.7**	**+0.6**
BHOU	**Houvegnez**	**6.10**	**313**	*d*P	**Pn**	**13 00 15.1**	**+2.5**
BHOU				*d*S	**Sn**	**13 01 21.4**	**-0.6**
DRME	**Dracevica, Mon**	**6.13**	**131**	*e*Pn	**Pn**	**13 00 14.4**	**+1.4**
DRME	**Dracevica, Mon**	**6.13**	**131**	*e*Pn	**Pn**	**13 00 14.7**	**+1.7**
DRME				*i* Sn	**Sn**	**13 01 23.2**	**+0.6**
BTNL	**Ternell**	**6.19**	**315**	*d*P	**Pn**	**13 00 15.8**	**+2.0**
BTNL				*d*S	**Sn**	**13 01 21.0**	**-3.0**
MEM	**Membach**	**6.26**	**315**	*d*P	**Pn**	**13 00 17.4**	**+2.6**
GOCS	**Kraljevo Serbi**	**6.27**	**114**	*e*Pn	**Pn**	**13 00 16.4**	**+1.4**
BUG	**Bochum--Univer**	**6.29**	**325**	*e*Pn	**Pn**	**13 00 17.4**	**+2.2**
SMF	**Signal de Mont**	**6.32**	**275**	*e*P	**Pn**	**13 00 16.8**	**+1.2**
SMF				*e*Sn	**Sn**	**13 01 19.8**	**-7.5**
	comp=Z,32nm,0.5s						
SMF				*e*S	**Sn**	**13 01 28.8**	**+1.5**
ULC	**Ulcinj**	**6.32**	**132**	*e*Pn	**Pn**	**13 00 17.3**	**+1.7**
ULC				*i* Sn	**Sn**	**13 01 28.0**	**+0.7**
LOR	**Lormes**	**6.32**	**281**	*e*P	**Pn**	**13 00 17.0**	**+1.3**
	baz=96						
LOR				*e*Sn	Sn	13 01 18.9	-8.5
	comp=Z,16nm,0.3s						
LOR				*e*S	**Sn**	**13 01 27.9**	**+0.5**
MDVR	**Moldovita**	**6.33**	**102**	*e*Pn	**Pn**	**13 00 15.7**	**-0.1**
RCHB	**Rochefort**	**6.39**	**309**	*d*P	**Pn**	**13 00 19.7**	**+3.1**
RCHB				*d*S	**Sn**	**13 01 28.0**	**-1.1**
KUBS	**Kucevo**	**6.43**	**105**	*e*Pn	**Pn**	**13 00 16.8**	**-0.3**
BSTI	**Sart Tilman**	**6.46**	**313**	*d*P	**Pn**	**13 00 20.6**	**+3.1**
BSTI				*d*S	**Sn**	**13 01 31.8**	**+1.0**
BCLA	**Clavier**	**6.50**	**311**	*d*P	**Pn**	**13 00 21.1**	**+3.0**
BCLA				*d*S	**Sn**	**13 01 31.2**	**-0.6**
BEBN	**Eben Emael**	**6.54**	**315**	*d*P	**Pn**	**13 00 21.2**	**+2.6**
BEBN				*d*S	**Sn**	**13 01 33.4**	**+0.7**
SSF	**Saint Saulge**	**6.55**	**279**	*e*P	**Pn**	**13 00 19.8**	**+1.0**
SSF				*e*Sn	Sn	13 01 24.5	-8.5
	comp=Z,0.5nm,0.2s						
SSF				*e*S	**Sn**	**13 01 33.8**	**+0.8**
GIVF	**Givet**	**6.59**	**307**	*e*P	**Pn**	**13 00 22.4**	**+3.1**
GIVF				*e*Sn	Sn	13 01 25.7	-8.2
	comp=Z,4.1nm,0.4s						
GIVF				*e*S	**Sn**	**13 01 35.1**	**+1.2**
BGES	**Gesves**	**6.60**	**310**	*d*P	**Pn**	**13 00 22.5**	**+3.1**
BGES				*d*S	**Sn**	**13 01 34.0**	**-0.1**
SELS	**Selova**	**6.60**	**116**	*e*Pn	**Pn**	**13 00 20.9**	**+1.4**
AVF	**Avril sur Loir**	**6.65**	**277**	*e*P	**Pn**	**13 00 21.7**	**+1.6**
AVF				*e*Sn	**Sn**	**13 01 28.3**	**-7.2**
	comp=Z,4.6nm,0.3s						
DRGR		**6.71**	**83**	*e*Pn	**Pn**	**13 00 22.1**	**+1.1**
DOU	**Dourbes**	**6.71**	**306**	*d*P	**Pn**	**13 00 24.1**	**+3.2**
DOU				*d*S	**Sn**	**13 01 35.1**	**-1.8**
BMRD	**Maredsous**	**6.72**	**308**	*d*P	**Pn**	**13 00 24.0**	**+2.9**
RETH	**Rethem/Aller,**	**6.76**	**341**	*e*Pn	**Pn**	**13 00 23.2**	**+1.6**
BOVS	**Bovan**	**6.77**	**111**	*e*Pn	**Pn**	**13 00 23.1**	**+1.3**
BORS2	**Bor- Borsko je**	**6.78**	**107**	*e*Pn	**Pn**	**13 00 22.6**	**+0.7**
BORS2				*e*Sn	**Sn**	**13 01 35.6**	**-3.1**
LASF	**Ste Croix**	**6.86**	**253**	*e*P	**Pn**	**13 00 23.9**	**+0.9**
LASF				*e*Sn	**Sn**	**13 01 35.7**	**-4.8**
	comp=Z,7.5nm,0.6s						
BAIF	**Baives**	**6.91**	**305**	*e*P	**Pn**	**13 00 26.8**	**+3.1**
BAIF				*e*Sn	**Sn**	**13 01 37.0**	**-4.8**
	comp=Z,13nm,0.4s						
BGF	**Bois d'Agland**	**7.01**	**275**	*e*P	**Pn**	**13 00 26.5**	**+1.5**
BGF				*e*Sn	Sn	13 01 34.7	-10
	comp=Z,68nm,0.4s						
BGF				*e*S	**Sn**	**13 01 45.2**	**+1.0**
ZAGS	**Zajecar**	**7.04**	**108**	*e*Pn	**Pn**	**13 00 25.8**	**+0.4**
HYF	**Humbligny**	**7.15**	**281**	*e*P	**Pn**	**13 00 28.9**	**+1.9**
HYF				*e*Sn	**Sn**	**13 01 41.3**	**-6.5**
	comp=Z,29nm,0.2s						
HYF				*e*S	**Sn**	**13 01 49.9**	**+2.1**
BARS	**Barje**	**7.25**	**117**	*e*Pn	**Pn**	**13 00 30.1**	**+1.7**
TCF	**Toulx Ste Croi**	**7.46**	**273**	*e*P	**Pn**	**13 00 32.1**	**+0.8**
TCF				*e*Sn	Sn	13 01 46.8	-8.7
	comp=Z,17nm,0.5s						
TCF				*e*S	**Sn**	**13 01 56.3**	**+0.8**
ZAPS	**Zavoj**	**7.54**	**111**	*e*Pn	**Pn**	**13 00 33.6**	**+1.3**
CAF	**Calviac**	**7.80**	**263**	*e*P	**Pn**	**13 00 37.4**	**+1.5**
CAF				*e*Sn	**Sn**	**13 01 59.6**	**-4.1**
	comp=Z,3.7nm,0.4s						
BOSS	**Bosilegrad**	**7.83**	**117**	*e*Pn	**Pn**	**13 00 37.8**	**+1.4**
RJF	**Les Rejaudoux**	**8.09**	**266**	*e*P	**Pn**	**13 00 41.3**	**+1.5**
RJF				*e*Sn	**Sn**	**13 02 03.3**	**-7.5**
	comp=Z,2.3nm,0.5s						
MTLF	**Montolieu**	**8.24**	**252**	*e*P	**Pn**	**13 00 43.1**	**+1.1**
LFF	**La Frestale**	**8.70**	**265**	*e*P	**Pn**	**13 00 50.5**	**+2.2**
LFF				*e*Sn	Sn	13 02 17.3	-8.6
	comp=Z,5.0nm,0.5s						
MFF	**Saint Martin d**	**9.06**	**276**	*e*P	**Pn**	**13 00 54.9**	**+1.7**
MFF	**Saint Martin d**	**9.06**	**276**	*e*P	**Pn**	**13 00 55.0**	**+1.7**
MFF				*e*Sn	Sn	13 02 24.1	-11
	comp=Z,2.2nm,0.4s						
MFF				*e*Sn	Sn	13 02 25.9	-8.9
	comp=Z,3.1nm,0.4s						
LDF	**La Druitiere**	**9.14**	**289**	*e*P	**Pn**	**13 00 55.6**	**+1.3**
LDF				*e*Sn	Sn	13 02 26.6	-10
	comp=Z,3.1nm,0.5s						
LDF				*e*S	**Sn**	**13 02 38.1**	**+1.4**
FLN	**La Foliniere**	**9.41**	**289**	*e*P	**Pn**	**13 01 01.0**	**+3.1**
	baz=99						
GRR	**Gorron**	**9.60**	**287**	*e*P	**Pn**	**13 01 02.4**	**+1.8**
GRR				*e*Sn	**Sn**	**13 02 41.2**	**-6.7**
	comp=Z,6.2nm,0.5s						
EPF	**Esparros**	**9.62**	**254**	*e*P	**Pn**	**13 01 02.6**	**+1.7**
ETSF	**Etsaut**	**10.27**	**255**	*e*P	**Pn**	**13 01 13.6**	**+3.8**
ETSF				*e*Sn	**Sn**	**13 02 57.3**	**-7.2**
	comp=Z,1.4nm,0.5s						
SJPF	**Ste Jean**	**10.63**	**257**	*e*P	**Pn**	**13 01 16.3**	**+1.6**
SGMF	**Saint Gilles**	**10.72**	**286**	*e*P	**Pn**	**13 01 17.8**	**+2.0**
SGMF				*e*Sn	**Sn**	**13 03 07.8**	**-7.5**
	comp=Z,1.5nm,0.3s						
QUIF	**Quistinic**	**11.11**	**284**	*e*P	**Pn**	**13 01 21.5**	**+0.3**
QUIF				*e*Sn	Sn	13 03 13.0	-12
	comp=Z,2.5nm,0.5s						
ROSF	**Rostrenen**	**11.20**	**286**	*e*P	**Pn**	**13 01 24.0**	**+1.6**
AKASG	**Malin Array Be**	**11.58**	**62**	Pn	**Pn**	**13 01 26.0**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=253,slow=9.6,SNR=2.1						
	comp=Z,0.1nm,0.3s						
EKA	**Eskdalemuir Ar**	**13.53**	**317**	Pn	**Pn**	**13 01 56.7**	**+2.5**
	comp=Z,0.9nm,0.3s,baz=124,slow=13,SNR=17						
EKA				Sn	**Sn**	**13 04 30.7**	**+6.7**
	baz=122,slow=25						
HFS	**Hagfors**	**13.76**	**1**	Pn	**Pn**	**13 01 57.8**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=163,slow=10,SNR=1.1						
ESDC	**Sonseca Array**	**14.09**	**248**	Pn	**Pn**	**13 02 04.7**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=55,slow=12,SNR=9.0						
	comp=Z,0.5nm,0.8s						
NOA	**NORSAR Array B**	**14.70**	**357**	Pn	**Pn**	**13 02 08.8**	**-1.5**
	baz=121,slow=13,SNR=3.8						
	comp=Z,0.1nm,0.3s						
FINES	**FINESS Array B**	**16.87**	**22**	Pn	**Pn**	**13 02 36.1**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=211,slow=12,SNR=6.9						
	comp=Z,1.0nm,0.6s						

NEIC ***22*** *13:09:54.7±1.4,* **19°.828N±0°.007×155°.697W±0°.008,** *h10km±1km, Error ellipse: s-maj=2.9km s-min=1.4km az=40.0*

HVO 22 13:09:54.6±1.4, 19°.827N±0°.007×155°.707W±0°.010, h10km±4km, ML3.3/45, ML3.3/42(NEIC), Error ellipse: s-maj=1.3km s-min=1.0km az=109.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.18**	**113**		Pg	13 09 58.6	+0.1
POHA				IAML		13 10 02.0	
	5µm,0.5s						
POHA	**Pohakuloa**	**0.18**	**113**		Sg	13 10 01.6	+0.3
HUH	**Hualalai**	**0.19**	**221**		Pg	13 09 59.8	+1.1
HUH				IAML		13 10 05.1	
	comp=E,12µm,0.5s						
HUH				IAML		13 10 05.9	
	comp=N,10µm,0.2s						
HUH	**Hualalai**	**0.19**	**221**		Sg	13 10 04.0	+2.5
HPAH	**Hawaii Prepara**	**0.20**	**3**		Pg	13 09 59.1	+0.2
HPAH	**Hawaii Prepara**	**0.20**	**3**		Sg	13 10 02.2	+0.4
ALEP	**Alea Permanent**	**0.29**	**168**		Pg	13 10 01.2	+0.6
ALEP					Sb	13 10 06.2	-1.0
HMH	**Humu'ula Sheep**	**0.31**	**136**		Pg	13 10 00.9	0.0
HMH				IAML		13 10 06.1	
	comp=N,3µm,0.3s						
HMH	**Humu'ula Sheep**	**0.31**	**136**		Sg	13 10 05.8	+0.7
KKH	**Kailua Kona**	**0.34**	**240**		Pg	13 10 01.3	0.0
KKH	**Kailua Kona**	**0.34**	**240**		Sg	13 10 06.2	+0.4
MWH	**Mokuaweoweo**	**0.35**	**163**		Pg	13 10 01.7	-0.2
MWH	**Mokuaweoweo**	**0.35**	**163**		Sg	13 10 07.2	+0.5
CPH	**Captain Cook**	**0.39**	**211**		Pg	13 10 02.1	-0.2
MHA	**Mahukona**	**0.40**	**333**	Pg	Pg	13 10 02.6	+0.1
MLH	**Mauna Loa**	**0.45**	**137**		Pg	13 10 02.9	-0.6
MLH	**Mauna Loa**	**0.45**	**137**		Sg	13 10 09.6	+0.2
AIN	**Ainahou**	**0.51**	**152**		Pg	13 10 04.0	-0.6
AIN	**Ainahou**	**0.51**	**152**		Sg	13 10 11.4	0.0
RSD	**Rainshed**	**0.54**	**132**		Sg	13 10 11.9	-0.5
UWE	**Uwekahuna**	**0.56**	**136**		Pg	13 10 04.5	-1.1
UWE	**Uwekahuna**	**0.56**	**136**		Sg	13 10 12.1	-0.9
WRMHI	**West Rim**	**0.57**	**137**		Pg	13 10 04.6	-1.1
WRMHI					Sg	13 10 11.9	-1.3
UWB	**Uwekahuna Bluf**	**0.57**	**135**		Pg	13 10 04.5	-1.2
UWB					Sg	13 10 12.1	-1.2
OBL	**Observatory Le**	**0.57**	**135**		Pg	13 10 04.6	-1.1
OBL					Sg	13 10 12.2	-1.1
SBLHI	**Steaming Bluff**	**0.57**	**134**		Pg	13 10 04.6	-1.2
SBLHI					Sg	13 10 12.2	-1.2
HATHI	**Halema'uma'u T**	**0.58**	**134**		Pg	13 10 04.7	-1.3
HATHI					Sg	13 10 12.2	-1.4
HATHI	**Halema'uma'u T**	**0.58**	**134**	IAML		13 10 20.3	
	comp=E,2µm,0.8s						
HATHI				IAML		13 10 24.4	
	comp=N,2µm,0.5s						
KHU	**Kahuku**	**0.58**	**171**		Pg	13 10 04.8	-1.2
KHU					Sg	13 10 12.2	-1.5
SDHHI	**Sand Hill**	**0.58**	**138**		Pg	13 10 04.8	-1.2
SDHHI					Sg	13 10 12.6	-1.1
BYL	**Byron's Ledge**	**0.59**	**134**		Pg	13 10 04.7	-1.4
BYL				IAML		13 10 20.3	
	comp=E,2µm,0.5s						
BYL	**Byron's Ledge**	**0.59**	**134**		Sg	13 10 12.6	-1.3
RIM	**Rim**	**0.59**	**136**		Pg	13 10 04.9	-1.3
RIM					Sg	13 10 12.7	-1.2
KKO	**Keanakako'i**	**0.60**	**136**		Pg	13 10 04.9	-1.3
KKO					Sg	13 10 13.0	-1.0
PUH	**Pauahi**	**0.65**	**134**		Pg	13 10 05.4	-1.8
PUH					Sg	13 10 14.2	-1.5
PUH	**Pauahi**	**0.65**	**134**	IAML		13 10 20.3	
	comp=N,1µm,0.3s						
HLP	**Hilina Pali**	**0.65**	**144**		Pg	13 10 05.8	-1.4
HLP					Sg	13 10 14.0	-1.8
HLP	**Hilina Pali**	**0.65**	**144**	IAML		13 10 20.1	
	comp=E,2µm,0.5s						
HTC	**Hot Caves**	**0.66**	**153**		Pg	13 10 05.9	-1.4
KNHH	**Kane Nui o Ham**	**0.68**	**131**		Pg	13 10 06.0	-1.8
STCH	**Steam Cracks**	**0.70**	**129**		Pg	13 10 06.3	-1.9
STCH					Sg	13 10 15.1	-2.4
STCH	**Steam Cracks**	**0.70**	**129**	IAML		13 10 18.2	
	comp=N,2µm,0.2s						
STCH				IAML		13 10 22.3	
	comp=E,1µm,0.4s						
NPOC	**North of Pu'u**	**0.71**	**127**		Sg	13 10 15.5	-2.2
JCUZ	**Jacuzzi**	**0.72**	**128**		Pg	13 10 06.5	-2.1
JCUZ					Sg	13 10 15.7	-2.3
HPO	**Honuapo**	**0.75**	**169**		Pg	13 10 07.1	-2.0
JOKA	**Jonika Flow**	**0.77**	**120**		Pg	13 10 07.2	-2.3
JOKA					Sg	13 10 17.8	-1.8
JOKA	**Jonika Flow**	**0.77**	**120**	IAML		13 10 22.7	
	comp=E,2µm,0.5s						

TIR ***22*** *13:23:33.7, 41°.33N×19°.42E, h50km±2km, Ml2.8/4*
BEO ***22*** *13:23:34.6±0.5, 41°.30N×19°.63E, h11km±3km, ML2.1/8*
PDG ***22*** *13:23:35.8±0.1, 41°.40N×19°.49E, h18km, ML2.6/10, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*

ISC 22 13:23:33.6±1.1, 41°.31N±0°.02×19°.51E±0°.03, h11km±9km, n32, σ0°88/56, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.27**	**83**		Pg	**13 23 38.6**	**-0.6**
TIR					Sg	**13 23 42.5**	**-0.5**
TIR				AML	AML	13 23 43.5	
	3.3nm,0.3s						
ULC	**Ulcinj**	**0.68**	**343**	*e*Pg	**Pb**	**13 23 47.1**	**-0.4**
ULC				*i* Sg	**Sg**	**13 23 56.8**	**+1.1**
VLO	**Vlora**	**0.84**	**181**	P	**Pb**	**13 23 50.9**	**+0.6**
VLO				S	**Sb**	**13 24 02.1**	**+0.5**
DRME	**Dracevica, Mon**	**0.90**	**345**	*e*Pg	**Pb**	**13 23 51.4**	**+0.1**
DRME				*e*Sg	**Sn**	**13 24 06.8**	**+1.5**
DRME	**Dracevica, Mon**	**0.90**	**345**	*e*Pg	**Pb**	**13 23 51.3**	**0.0**
DRME				*i* Sg	**Sn**	**13 24 04.2**	**-1.1**
BUM	**Brajici-Budva**	**1.09**	**335**	*e*Pg	**Pn**	**13 23 54.7**	**-0.1**
BUM				*i* Sg	**Sg**	**13 24 10.6**	**+1.9**
PDG	**Podgorica**	**1.13**	**351**	*e*Pg	**Pb**	**13 23 55.4**	**+0.3**
PDG				*e*Sg	**Sn**	**13 24 10.3**	**+0.5**
PDG	**Podgorica**	**1.13**	**351**	*e*Pg	**Pb**	**13 23 55.3**	**+0.2**
PDG				*i* Sg	**Sg**	**13 24 11.9**	**+1.8**
KBN	**Korca**	**1.19**	**125**	P	**Pn**	**13 23 55.9**	**-0.3**
KBN				Sn	**Sn**	**13 24 13.1**	**+0.6**
CEME	**Cevo**	**1.31**	**341**	*e*Pg	**Pb**	**13 23 58.6**	**+0.4**
CEME				*i* Sg	**Sg**	**13 24 17.6**	**+1.9**
HCY	**Herceg Novi**	**1.36**	**327**	*e*Pg	**Pb**	**13 23 59.6**	**+0.5**
HCY				*i* Sg	**Sg**	**13 24 19.1**	**+1.7**
NKME	**Niksic**	**1.51**	**344**	*e*Pg	**Pb**	**13 24 01.9**	**+0.3**
NKME				*i* Sg	**Sg**	**13 24 22.3**	**+0.1**
KOME	**Kolasin**	**1.54**	**0**	*e*Pg	**Pb**	**13 24 02.2**	**+0.1**
KOME				*i* Sg	**Sg**	**13 24 22.9**	**-0.1**
BEY	**Berane**	**1.58**	**10**	*e*Pg	**Pb**	**13 24 02.9**	**0.0**
IVA	**Berane**	**1.58**	**10**	*e*Pg	**Pb**	**13 24 02.9**	**0.0**
IVA				*i* Sg	**Sg**	**13 24 24.3**	**-0.3**
TREB	**Trebinje**	**1.65**	**329**	*e*Pn	**Pn**	**13 24 02.9**	**+0.5**
TREB				*e*Sn	**Sg**	**13 24 26.3**	**-0.2**
IGT	**Igoumenitsa**	**1.89**	**160**	P	**Pn**	**13 24 06.2**	**+0.4**
IGT				Sn	**Sn**	**13 24 30.6**	**+1.1**
IGT				AML	AML	13 24 40.0	
	0.1nm,0.5s						
IGT	**Igoumenitsa**	**1.89**	**160**	*e*Pn	**Pn**	**13 24 06.5**	**+0.7**
IGT				*e*Sn	**Sn**	**13 24 29.5**	**-0.1**
NOCI	**Noci**	**1.92**	**255**	Pn	**Pn**	**13 24 05.2**	**-1.0**
NOCI				Sn	**Sn**	**13 24 29.2**	**-1.1**
NOCI				AML	AML	13 24 44.4	
	0.3nm,0.4s						
NOCI				AML	AML	13 24 46.0	
	0.3nm,0.5s						
UPM	**Unac-Piva**	**1.94**	**347**	*e*Pn	**Pn**	**13 24 07.7**	**+1.0**
UPM				*i* Sn	**Sb**	**13 24 32.7**	**-0.6**
SJES	**Sjenica**	**1.98**	**10**	*e*Pn	**Pb

comp=N,177nm,0.7s
BHK IAML 13 45 06.7
comp=E,239nm,0.6s
BHK eS Sn **13 45 07.9 +2.9**
ULHL Ulahol 6.85 34 P Pn **13 43 49.4 +0.9**
SNR=11
BOOM Boomskoye usch 6.92 31 Pn **13 43 50.0 +0.6**
BOOM Boomskoye usch 6.92 31 PN Pn **13 43 50.0 +0.6**
CHMS Chumysh 6.94 22 P Pn **13 43 50.8 +1.3**
SNR=10
USP Ospenovka 7.11 20 P Pn **13 43 53.0 +1.3**
SNR=12
TKM2 Tokmak 2 7.15 27 P Pn **13 43 53.6 +1.1**
SNR=24
KDJ Kajisay 7.20 39 Pn **13 43 53.9 +0.8**
KDJ Kajisay 7.20 39 PN Pn **13 43 53.9 +0.8**
TARG Taragay, Kyrgy 7.25 43 Pn **13 43 54.2 +0.3**
TARG Taragay, Kyrgy 7.25 43 PN Pn **13 43 54.2 +0.3**
SGDS Sogindy 7.31 20 eP Pn **13 43 54.6 +0.1**
HRA Herat 7.60 255 Pn **13 43 58.5 0.0**
KLP Kalpa 7.78 129 eP Pn **13 44 01.7 +0.9**
KLP eS Sn **13 45 23.3 -5.5**
KLP IAML 13 45 27.1
comp=N,218nm,0.6s
KLP IAML 13 45 28.8
comp=E,307nm,0.6s
TNSS Tian-Shan 7.79 33 eP Pn **13 44 01.2 +0.2**
TNSS Tian-Shan 7.79 33 ePN Pn **13 44 01.2 +0.2**
AAA Alma-Ata 7.92 32 eP Pn **13 44 02.9 +0.5**
AAA Alma-Ata 7.92 32 ePN Pn **13 44 02.8 +0.5**
MDOK Medeo 7.94 33 eP Pn **13 44 03.3 +0.7**
MDOK Medeo 7.94 33 ePN Pn **13 44 03.3 +0.7**
PRZ Przheval'sk 8.09 42 Pn **13 44 04.8 +0.2**
PRZ Przheval'sk 8.09 42 PN Pn **13 44 04.8 +0.2**
UZB Uzynbulak 8.88 40 eP Pn **13 44 15.3 +0.4**
UZB Uzynbulak 8.88 40 ePN Pn **13 44 15.3 +0.4**
SHLS Shalkode 9.12 42 eP Pn **13 44 21.0 +3.0**
SHLS Shalkode 9.12 42 eP Pn **13 44 20.9 +3.0**
PDGK Podgornoye 9.25 41 ⇑P Pn **13 44 19.6 -0.1**
comp=E,14nm,0.8s
PDGK ⇓S Sn **13 46 01.1 -2.2**
comp=E,31nm,1.1s
PDGK Podgornoye 9.25 41 P Pn **13 44 19.6 -0.1**
PDGK S Sn **13 46 01.9 -1.4**
TDK Taldyqorghan 10.00 31 eP Pn **13 44 29.9 +0.6**
TDK Taldyqorghan 10.00 31 eP Pn **13 44 29.8 +0.6**
MK31 Makanchi Array 13.11 36 ⇓P Pn **13 45 08.8 -0.1**
comp=E,18nm,0.8s,baz=215,slow=12,SNR=76
MK31 Makanchi Array 13.11 36 ceP Pn **13 45 09.2 +0.3**
MKAR Makanchi Array 13.11 36 Pn **13 45 08.8 -0.1**
MKAR Makanchi Array 13.11 36 P Pn **13 45 09.2 +0.3**
comp=E,13nm,0.7s,baz=216,slow=8.9,SNR=38
MKAR S Sn **13 47 36.7 +1.6**
comp=E,0.4nm,0.6s,baz=221,slow=26,SNR=0.9
WMQ Urumqi 14.52 55 eP P **13 45 27.8 +0.2**
KURBB Kurchatov Arra 14.96 18 ⇓P Pn **13 45 29.6 -2.0**
comp=E,6.4nm,0.5s
KURBB Kurchatov Arra 14.96 18 P Pn **13 45 30.7 -0.9**
comp=E,4.2nm,0.4s,baz=206,slow=11,SNR=41
KURBB S Sn **13 48 19.3 +0.4**
comp=E,2.3nm,0.9s,baz=206,slow=19,SNR=4.1
KURBB Kurchatov Arra 14.96 18 P Pn **13 45 29.6 -2.0**
AB31 Akbulak array 15.03 331 Pn **13 45 31.1 -1.4**
AB31 Akbulak array 15.03 331 P Pn **13 45 31.4 -1.1**
comp=E,2.4nm,0.5s,baz=142,slow=12,SNR=44
AB31 Akbulak array 15.03 331 P Pn **13 45 31.4 -1.1**
ABKAR Akbulak array 15.03 331 Pn **13 45 30.9 -1.6**
KURK Kurchatov 15.07 19 Pn **13 45 31.3 -1.6**
KURK Kurchatov 15.07 19 ⇑P Pn **13 45 31.9 -1.0**
comp=E,1.6nm,0.6s
KURK Kurchatov 15.07 19 P Pn **13 45 30.7 -2.2**
KURK S S **13 48 19.3 -0.8**
BVA0 Borovoye Array 16.40 358 ⇓P Pn **13 45 49.6 +0.6**
comp=E,4.6nm,0.5s,baz=171,slow=11,SNR=6.0
BVA0 Borovoye Array 16.40 358 P Pn **13 45 49.6 +0.6**
BVAR Borovoye Array 16.40 358 P P **13 45 49.1 +0.9**
comp=E,9.2nm,0.4s,baz=158,slow=11,SNR=27
BVAR S S **13 48 48.6 -0.9**
comp=E,3.8nm,0.9s,baz=162,slow=20,SNR=4.2
BORK Borovoye 16.42 358 eP P **13 45 49.2 +0.7**
BORK pmax pmax
comp=Z,8.0nm,0.6s
BANOM Banah 16.57 234 P P **13 45 50.8 +0.4**
BANOM Banah 16.57 234 *i* P P **13 45 50.7 +0.3**
SNR=10
SHME Shamm 16.59 235 P P **13 45 50.5 0.0**
SHME Shamm 16.59 235 *i* P P **13 45 50.9 +0.4**
SNR=6.9
AKTO Aktyubinsk 16.73 330 ⇓P P **13 45 52.5 +0.7**
comp=Z,2.2nm,0.4s
AKTO Aktyubinsk 16.73 330 P Pn **13 45 53.1 +0.2**
comp=Z,5.3nm,0.4s,baz=147,slow=10,SNR=13
AKTO S S **13 48 53.5 -2.7**
comp=Z,3.6nm,0.8s,baz=98,slow=7.1,SNR=6.8
MDH Madha 17.00 233 P P **13 45 53.8 -1.3**
MDH Madha 17.00 233 P P **13 45 54.8 -0.3**
MASF Masafi 17.04 233 P Pn **13 45 57.5 +0.5**
MSFE Esma-Masafi 17.05 233 P Pn **13 45 56.7 -0.4**
WSAR Wadi Sarin 17.18 222 P Pn **13 45 58.2 -0.3**
comp=Z,0.1nm,0.7s,baz=66,slow=24,SNR=8.7
WSAR Wadi Sarin 17.18 222 P Pn **13 45 58.9 +0.3**
UOSS Minazif 17.32 232 P **13 45 58.2 -0.3**
UOSS Minazif 17.32 232 P P **13 45 59.2 +0.6**
UOSS Minazif 17.32 232 *i* P P **13 45 58.9 +0.4**
SNR=6.2
HATD Hatta, Dubai 17.45 232 P Pn **13 46 01.0 -0.7**
HATD Hatta, Dubai 17.45 232 *i* P Pn **13 46 01.7 0.0**
SNR=7.5
ASHO Ashiyiah 17.59 232 P Pn **13 46 03.0 -0.5**
SNR=11
ASHO Ashiyiah 17.59 232 *i* P P **13 46 02.5 +0.9**
SNR=11
NAZ Nazwa, Dubai 17.63 233 P P **13 46 01.6 -0.4**
NAZ Nazwa, Dubai 17.63 233 P P **13 46 03.0 +1.0**
SMDO Samad 17.64 224 P Pn **13 46 03.5 -0.6**
JLN Jalan Bani Buh 17.67 218 P Pn **13 46 04.7 +0.4**
SOHO SOHO 17.70 229 P P **13 46 02.8 +0.1**
LKRN Lenkeran, Azer 17.83 283 P Pn **13 46 05.5 -0.6**
FAQ Al Faqa, Dubai 17.85 233 P Pn **13 46 06.0 -0.4**
ASUD Al Ashush, Dub 18.10 233 P Pn **13 46 08.7 -0.7**
ASUD Al Ashush, Dub 18.10 233 P Pn **13 46 08.3 -1.0**
JMDO Jabal Madar 18.17 222 P Pn **13 46 10.3 +0.1**
ALNE Al Ain 18.24 231 P P **13 46 07.9 -0.8**
ALNE Al Ain 18.24 231 *i* P P **13 46 09.3 +0.6**
SNR=9.1
ARQ Araqi 18.31 228 P P **13 46 08.9 -0.5**
SNR=7.4
AJN Ajban 18.36 234 P P **13 46 09.8 -0.2**
BSY Bisya 18.37 225 P Pn **13 46 11.5 -1.1**
AKT Akhty 18.81 292 eP P **13 46 14.8 +0.1**
AKT S S **13 49 37.7 -0.2**
AKT pmax pmax
comp=Z,28nm,1.2s
SEKA Sheki 19.17 291 P P **13 46 19.1 +0.5**
MNGR Mingechevir, A 19.22 290 P P **13 46 20.5 +1.5**
MHTO MHTO 19.37 220 P Pn **13 46 22.7 -1.7**
JRN Qarnain Island 19.54 239 P P **13 46 21.6 -1.0**
ZAA0 Zalesovo Array 19.74 24 P **13 46 23.9 -0.6**
ZALV Zalesovo Beam 19.74 24 P **13 46 24.2 -0.3**
ZALV Zalesovo Beam 19.74 24 P P **13 46 24.7 +0.2**
comp=Z,17nm,0.3s,baz=221,slow=11,SNR=90
ZALV S S **13 49 52.1 -3.7**
comp=Z,0.7nm,0.3s,baz=187,slow=24,SNR=3.5
GANJ Ganja 19.79 289 P P **13 46 26.5 +1.3**
GHWR Ruwais 20.17 236 P P **13 46 29.6 +0.2**
NAX Nakhchivan 20.39 285 P P **13 46 33.2 +1.5**
MZR Muzera 20.44 233 P P **13 46 31.1 -1.1**
SAKB Bahrain 20.53 245 P P **13 46 32.6 -0.6**
TRNA Turayna 20.80 241 P P **13 46 34.2 -1.9**
SNR=13
SHL Shillong 20.85 116 P **13 46 36.8 0.0**
SHL Shillong 20.85 116 P P **13 46 36.8 0.0**
SHL pmax pmax
comp=Z,24nm,1.0s
SLWR Sila 20.90 239 P P **13 46 35.7 -1.4**
GNI Garni 20.97 288 *i* P P **13 46 40.1 +2.2**
GNI pmax pmax
comp=Z,24nm,1.6s
KBD Kabd 21.02 256 P P **13 46 33.8 -4.5**
SMRA Abu-Samra 21.07 241 P P **13 46 37.4 -1.5**
ARTI Arti 21.56 340 P **13 46 43.2 -0.5**
ARTI IAmb IAmb 13 46 46.6
comp=Z,12nm,1.0s
ARTI Arti 21.56 340 P P **13 46 44.4 +0.7**
comp=Z,3.7nm,0.5s,baz=139,slow=4.5,SNR=6.0
comp=Z,3.7nm,0.5s
ARTI Arti 21.56 340 *c* *i* P P **13 46 44.1 +0.4**
ARTI *PP pP **13 47 15.6 -2.4**
ARTI S S **13 50 32.0 +3.0**
ARTI pmax pmax
comp=Z,8.0nm,0.9s
NCK Nalchik 22.12 297 *i* P P **13 46 50.0 +0.7**
NCK pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 22.65 297 P P **13 46 54.6 +0.5**
comp=Z,3.0nm,0.6s,baz=142,slow=11,SNR=5.3
comp=Z,3.0nm,0.6s
KBZ Khabaz 22.65 297 *ce* P P **13 46 54.4 +0.2**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
GTA Gaotai 22.71 74 P P **13 46 57.1 +2.2**
GTA pP pP 13 47 38.1 +6.4
GTA pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 22.84 298 eP P **13 46 56.5 +0.5**
KIV eS S **13 50 52.1 +2.1**
KIV pmax pmax
comp=Z,7.0nm,0.9s
DOK Doka 23.38 224 P P **13 47 01.6 +0.6**
DMTO DMTO 23.66 222 P P **13 47 06.2 +2.7**
WHFO Wadi Hawf 24.14 224 P P **13 47 08.1 +0.2**
ABTO Aybut 24.86 224 P P **13 47 16.1 +1.6**
RAYN Ar Rayn 25.66 247 P **13 47 21.2 -0.5**
RAYN Ar Rayn 25.66 247 P P **13 47 22.1 +0.4**
RAYN Ar Rayn 25.66 247 *i* P P **13 47 21.9 +0.2**
SNR=24
RAYN Ar Rayn 25.66 247 P P **13 47 21.2 -0.5**
RAYN pmax pmax
comp=Z,19nm,0.4s
LZH Lanzhou 26.27 81 eP P **13 47 32.4 +5.3**
LZH sP sP 13 48 36.0 +3.5
LZH pmax pmax
comp=Z,9.0nm,1.1s
PZH PanZhiHua 27.84 103 P P **13 47 43.6 +2.4**
SONM Songino Array 28.16 55 P P **13 47 44.4 +0.6**
SONM Songino Array 28.16 55 P P **13 47 45.1 +1.3**
comp=Z,4.6nm,0.8s,baz=259,slow=9.8,SNR=17
comp=Z,4.6nm,0.8s
SONM Songino Array 28.16 55 P P **13 47 44.4 +0.6**
SONM pmax pmax
comp=Z,2.0nm,0.8s
ULN Ulaanbaatar 28.60 56 *ce* P P **13 47 48.3 +0.6**
ULN pmax pmax
comp=Z,3.0nm,0.6s
BRTR Keskin Array B 29.51 288 P P **13 47 56.9 +1.0**
comp=Z,0.6nm,0.5s,baz=102,slow=10,SNR=4.9
comp=Z,0.6nm,0.6s
CMAR Chiang Mai Arr 30.41 119 P P **13 48 04.5 +0.6**
comp=Z,2.3nm,0.8s,baz=299,slow=8.5,SNR=13
comp=Z,2.3nm,0.8s
XAN Xi'an 30.79 83 ⇑P P **13 48 08.3 +1.2**
XAN pmax pmax
comp=Z,8.0nm,0.8s
HHC Hu-ho-hao-te 31.60 70 eP P **13 48 17.1 +2.9**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,280nm,4.6s
AKASG Malin Array Be 32.96 309 P P **13 48 26.0 +0.3**
comp=Z,1.3nm,0.5s,baz=83,slow=6.8,SNR=6.2
comp=Z,1.3nm,0.5s
AKASG Malin Array Be 32.96 309 P P **13 48 26.0 +0.3**
BURAR Bucovina Array 35.32 303 P P **13 48 44.7 -1.5**
BURAR Bucovina Array 35.32 303 P P **13 48 44.7 -1.5**
BURAR pmax pmax
comp=Z,1.0nm,0.9s
BUR08 Bucovina Ar. S 35.33 303 P P **13 48 44.2 -2.1**
FINES FINESS Array B 37.45 326 P P **13 49 04.2 +0.4**
FINES FINESS Array B 37.45 326 P P **13 49 04.4 +0.6**
comp=Z,1.5nm,0.6s,baz=116,slow=9.8,SNR=8.2
comp=Z,1.5nm,0.6s
NJ2 Nanjing 39.33 82 eP P **13 49 20.3 +0.4**
NJ2 pmax pmax
comp=Z,13nm,0.5s
VADS Vadso 40.24 339 eP P **13 49 28.0 +1.2**
KEV Kevo 40.73 338 P P **13 49 31.1 +0.2**
KEV Kevo 40.73 338 P P **13 49 31.1 +0.2**
KEV pmax pmax
comp=Z,40nm,1.5s
ARA0 ARCESS Array S 41.07 337 eP P **13 49 34.6 +0.9**
ARCES ARCESS Array B 41.07 337 P P **13 49 34.5 +0.7**
ARCES IAmb IAmb 13 49 46.5
comp=Z,28nm,1.4s
ARCES ARCESS Array B 41.07 337 P P **13 49 34.4 +0.7**
comp=Z,3.0nm,0.5s,baz=113,slow=8.1,SNR=29
comp=Z,3.0nm,0.5s
ARCES ARCESS Array B 41.07 337 P P **13 49 34.5 +0.7**
ARCES pmax pmax
comp=Z,28nm,1.4s
KTK1 Kautokeino 41.55 336 eP P **13 49 38.1 +0.5**
HEH HeiHe 42.07 53 eP P **13 49 43.4 +1.4**
HEH pmax pmax
comp=Z,27nm,0.8s
HAMF Hammerfest 42.15 339 eP P **13 49 43.2 +0.8**
JETT Jettan, Norway 42.69 336 eP P **13 49 47.8 +0.9**
HFS Hagfors 43.04 322 P P **13 49 50.2 +0.5**
comp=Z,4.0nm,0.5s,baz=98,slow=11,SNR=27
comp=Z,4.0nm,0.5s
TRO Tromso 43.20 336 eP P **13 49 51.3 +0.5**
FAUS Fauske 43.74 332 eP P **13 49 55.7 +0.5**
MOR8 Moi Rana 43.76 331 eP P **13 49 55.2 -0.2**
YAK Yakutsk 43.79 36 P **13 49 55.4 -0.3**
YAK IAmb IAmb 13 49 56.9
comp=Z,19nm,0.7s
YAK Yakutsk 43.79 36 *ce* P P **13 49 56.4 +0.8**
YAK pmax pmax
comp=Z,19nm,0.8s
NC303 NORSAR Array S 44.29 323 P P **13 50 00.2 +0.5**
NB201 NORSAR Array S 44.31 323 P P **13 49 59.9 0.0**
NB201 IAmb IAmb 13 50 39.9
comp=Z,23nm,1.4s
NB2 NORSAR Subarra 44.35 323 P P **13 50 00.0 -0.2**
comp=Z,1.8nm,0.5s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.35 323 P P **13 50 00.0 -0.2**
comp=Z,1.8nm,0.5s,baz=97,slow=7.9
NOA NORSAR Array B 44.35 323 P P **13 50 00.3 +0.1**
comp=Z,1.6nm,0.5s,baz=96,slow=7.7,SNR=15
comp=Z,1.6nm,0.5s
KSRS Korea Array 44.72 71 P P **13 50 03.5 +0.1**
comp=Z,1.2nm,0.6s,baz=282,slow=7.6,SNR=2.8
comp=Z,1.2nm,0.6s
DOMB Dombas 45.46 324 eP P **13 50 08.6 -0.3**
TIXI Tiksi 45.60 22 P **13 50 10.3 +0.5**
TIXI Tiksi 45.60 22 *i* P P **13 50 10.1 +0.3**
TIXI pmax pmax
comp=Z,11nm,0.8s
USRK Ussuriysk Ar. 46.00 61 P P **13 50 13.7 +0.4**
comp=Z,2.0nm,0.6s,baz=287,slow=6.1,SNR=4.9
comp=Z,2.0nm,0.6s
BER Bergen 47.21 322 eP P **13 50 23.3 +0.8**
SPITS Spitsbergen Ar 47.39 347 P P **13 50 23.8 +0.1**
comp=Z,1.1nm,0.4s,baz=128,slow=8.9,SNR=12
comp=Z,1.1nm,0.4s
KBS Kingsbay 48.51 347 eP P **13 50 33.6 +1.4**
EKA Eskdalemuir Ar 52.28 316 P P **13 51 00.7 0.0**
comp=Z,0.8nm,0.8s,baz=85,slow=8.9,SNR=3.8
comp=Z,0.8nm,0.8s
SEY Seymchan 54.24 34 *ce* P P **13 51 14.8 -0.1**
SEY pmax pmax
comp=Z,5.0nm,1.0s
ESDC Sonseca Array 57.51 298 P P **13 51 38.0 -0.5**
comp=Z,0.7nm,1.0s,baz=36,slow=35,SNR=3.2
comp=Z,0.7nm,1.0s
PETK Petropavlovsk- 59.79 44 P P **13 51 53.4 -0.6**
comp=Z,1.7nm,0.9s,baz=280,slow=12,SNR=1.6
comp=Z,1.7nm,0.9s
A19K Wainwright 67.00 17 P P **13 52 41.3 +0.4**
baz=316
C16K Lisburne Hills 67.29 20 P P **13 52 42.6 -0.1**
baz=314
B18K Kokolik River 67.44 18 P P **13 52 43.3 -0.4**
baz=316
C17K DeLong Mountai 67.72 19 P P **13 52 45.1 -0.4**
baz=315
A22K Sinclair Lake 67.74 15 P P **13 52 44.6 -0.9**
baz=321
B20K Meade River 68.05 16 P P **13 52 47.4 0.0**
baz=320
C18K Utukok River 68.11 18 P P **13 52 47.8 -0.1**
baz=317
C19K Lookout Ridge 68.17 17 P P **13 52 48.3 0.0**
baz=318
D17K Noatak River 68.30 19 P P **13 52 48.9 -0.1**
baz=316
GAMB Gambell 68.33 25 P P **13 52 49.1 -0.2**
baz=310
TNA Tin City 68.39 23 P P **13 52 48.9 -0.8**
baz=312
B22K Teshekpuk Lake 68.59 15 P P **13 52 51.1 +0.3**
baz=323
B21K Ikpikpuk River 68.91 16 P P **13 52 53.0 +0.2**
baz=322
F14K Arctic Creek 68.94 22 P P **13 52 53.4 +0.3**
baz=314
D19K Kuna River 68.98 17 P P **13 52 53.3 0.0**
baz=319
E17K Hotham Inlet 69.09 20 P P **13 52 53.7 -0.3**
baz=317
E18K Tukpahlearik C 69.16 19 P P **13 52 54.6 +0.2**
baz=318
D20K Etivluk River 69.17 17 P P **13 52 54.5 0.0**
baz=320
C21K Knifeblade Rid 69.24 16 P P **13 52 55.0 +0.1**
baz=322
F15K North Star Dit 69.28 21 P P **13 52 55.1 -0.1**
baz=315
C23K Itkillik River 69.56 14 P P **13 52 57.1 +0.3**
baz=325
E20K Nigu River 69.62 17 P P **13 52 57.2 0.0**
baz=321
F17K Baldwin Pennin 69.71 20 P P **13 52 58.7 +1.0**
baz=317
D22K Ayikyak River 69.92 16 P P **13 52 59.4 +0.3**
baz=324
E21K Killik River 69.98 16 IAmb IAmb 13 53 00.6
comp=Z,9.9nm,0.9s
E21K Killik River 69.98 16 P P **13 52 59.6 +0.1**
baz=323
E19K Redstone River 69.99 18 P P **13 52 59.4 -0.1**
baz=320
F18K Selawik 70.03 19 P P **13 53 00.2 +0.6**
baz=319
C24K Franklin Bluff 70.03 14 P P **13 53 00.2 +0.5**
baz=327
G16K Koyuk River 70.17 21 P P **13 53 00.9 +0.3**
baz=317
D23K Nanushuk River 70.27 15 P P **13 53 01.7 +0.6**
baz=325
F19K Shaleruckik Mo 70.34 18 P P **13 53 02.2 +0.6**
baz=320
D24K Happy Valley 70.48 14 P P **13 53 02.9 +0.5**
baz=327
C26K Camden Bay 70.55 12 P P **13 53 01.1 -1.7**
baz=330
G17K Kiwalik Mounta 70.58 20 P P **13 53 00.6 -2.5**
baz=318
F20K Avaraart Lake 70.68 18 P P **13 53 02.8 -0.9**
baz=322
E22K Anaktuvuk Pass 70.71 16 P P **13 53 03.5 -0.4**
baz=325
H16K Elim 70.76 21 P P **13 53 04.2 +0.1**
baz=317
TOLK Toolik Lake Re 70.76 15 P P **13 53 04.0 -0.2**
baz=326
D25K Kavik River 70.81 13 P P **13 53 04.4 -0.1**
baz=329
G18K Tagagawik 70.82 19 P P **13 53 05.2 +0.7**
baz=320
C27K Jago River 71.02 12 P P **13 53 06.8 +1.1**
baz=331
G19K Purcell Mounta 71.05 19 IAmb IAmb 13 53 07.1
comp=Z,9.2nm,0.7s
G19K Purcell Mounta 71.05 19 P P **13 53 06.4 +0.6**
baz=321,SNR=5.9
F21K Alatna River 71.08 17 IAmb IAmb 13 53 07.2
comp=Z,7.8nm,0.6s
F21K Alatna River 71.08 17 P P **13 53 06.6 +0.5**
baz=323
F22K John River 71.14 16 P P **13 53 07.0 +0.5**
baz=324
H17K Granite Mounta 71.20 20 P P **13 53 07.3 +0.5**
baz=319
E23K Chandalar 71.24 15 IAmb IAmb 13 53 08.6
comp=Z,18nm,1.4s
E23K Chandalar 71.24 15 P P **13 53 07.8 +0.7**
baz=326
E24K Your Creek 71.46 15 P P **13 53 08.5 +0.1**
baz=327
H18K Honhosa River 71.47 20 P P **13 53 08.8 +0.3**
baz=320
G21K Allakaket 71.64 17 P P **13 53 09.9 +0.4**
baz=324
H19K Roundabout Mou 71.69 19 P P **13 53 10.2 +0.5**
baz=321
J14K Nanvaranak Lak 71.73 23 P P **13 53 10.7 +0.8**
baz=316
G22K Bettles 71.77 16 P P **13 53 10.7 +0.5**
baz=325
COLD Coldfoot 71.81 16 IAmb IAmb 13 53 12.0
comp=Z,12nm,1.2s
COLD Coldfoot 71.81 16 P P **13 53 11.0 +0.6**
baz=326
K13K Kusilvak Mount 71.96 24 P P **13 53 12.1 +0.7**
baz=316
E25K Arctic Village 71.99 14 P P **13 53 11.9 +0.4**
baz=330
IMAR Indian Mountai 72.01 18 P P **13 53 11.2 -0.4**
F24K Squaw Lake 72.05 15 P P **13 53 12.4 +0.5**
F24K Squaw Lake 72.05 15 P P **13 53 12.4 +0.5**
baz=328
H20K Anotleneega Mo 72.12 18 P P **13 53 12.9 +0.6**
baz=323,SNR=8.0
GCSA Galena City Sc 72.19 20 P P **13 53 13.4 +0.7**
baz=321
J16K Anvik River 72.25 22 P P **13 53 14.1 +1.0**
J16K IAmb IAmb 13 53 15.0
comp=Z,8.0nm,0.7s
J16K Anvik River 72.25 22 P P **13 53 14.0 +0.9**
baz=319
G23K Bananza Creek 72.28 16 P P **13 53 14.1 +0.8**
baz=326
F25K Christian Rive 72.44 14 IAmb IAmb 13 53 16.8
comp=Z,5.5nm,0.8s
F25K Christian Rive 72.44 14 P P **13 53 14.9 +0.7**
baz=330
H21K Melozitna River 72.50 18 P P **13 53 15.6 +1.0**
baz=324
E28M Babbage River 72.61 11 P P **13 53 15.9 +0.7**
baz=335
J17K VABM Dome 72.61 21 P P **13 53 15.8 +0.6**
baz=320
F26K Sheenjek River 72.63 13 P P **13 53 15.8 +0.5**
baz=331
H22K Ishtalitna Cre 72.65 17 P P **13 53 16.2 +0.7**
baz=325
E27K Coleen River 72.65 12 P P **13 53 16.0 +0.6**
baz=333
K15K Wolf Creek Mou 72.70 23 P P **13 53 16.1 +0.4**
baz=318
I20K Naaghedeneel 72.78 19 P P **13 53 16.4 +0.3**
baz=323
G24K Hadweenzic Riv 72.84 15 P P **13 53 17.4 +0.9**
baz=328
L14K Kuka Creek 73.04 24 P P **13 53 18.9 +1.2**
baz=317
E29M Blow River 73.06 11 P P **13 53 18.4 +0.6**
baz=336
G25K Bearman Lake 73.06 15 P P **13 53 18.0 +0.2**
baz=330
I21K Tanana 73.09 18 P P **13 53 18.7 +0.7**
baz=325
J19K Poorman 73.12 20 P **13 53 18.9 +0.7**
J19K IAmb IAmb 13 53 19.9
comp=Z,7.5nm,0.6s
J19K Poorman 73.12 20 P P **13 53 18.6 +0.4**
baz=322,SNR=5.3
L15K Ungalak Mounta 73.18 23 P P **13 53 18.5 -0.1**
baz=318
SPIA Saint Paul Isl 73.23 30 P P **13 53 19.6 +0.7**
baz=313
J18K Innoko River 73.24 20 IAmb IAmb 13 53 20.4
comp=Z,7.8nm,0.7s
J18K Innoko River 73.24 20 P P **13 53 19.3 +0.4**
baz=322
G26K Porcupine Rive 73.36 14 P P **13 53 20.7 +1.2**
baz=331
J20K Nowinta River 73.36 19 P **13 53 19.9 +0.3**
J20K Nowinta River 73.36 19 P P **13 53 20.2 +0.6**

	baz=324,SNR=6.5						
K17K	**Iditarod**	73.36	21	P	P	13 53 20.2	+0.6
	baz=320						
F28M	**Old Crow**	73.46	12	P	P	13 53 20.7	+0.6
	baz=334						
H24K	**Noodor Dome**	73.49	16	IAmb	IAmb	13 53 22.2	
	comp=Z,4.3nm,0.7s						
H24K	**Noodor Dome**	73.49	16	P	P	13 53 20.7	+0.3
	baz=328,SNR=5.2						
M13K	**Dall Lake**	73.50	25	P	P	13 53 20.7	+0.3
	baz=317						
MLY	**Manley**	73.52	17	P	P	13 53 21.3	+0.7
	baz=326,SNR=5.1						
H25L	**Birch Creek**	73.55	15	P	P	13 53 21.2	+0.6
	baz=330						
M14K	**Bethel**	73.72	24	P	P	13 53 22.4	+0.7
	baz=318						
C36M	**Paulatuk**	73.74	6	P	P	13 53 22.1	+0.4
	baz=347						
INK	**Inuvik**	73.75	9	P	P	13 53 22.3	+0.5
	baz=340,SNR=6.0						
L16K	**Owhat River**	73.78	23	P	P	13 53 22.7	+0.6
	baz=320						
L17K	**Donlin**	73.82	22	P	P	13 53 23.0	+0.7
	baz=321						
G27K	**Doyon Strip**	73.87	13	IAmb	IAmb	13 53 24.7	
	comp=Z,6.5nm,0.7s						
G27K	**Doyon Strip**	73.87	13	P	P	13 53 23.2	+0.6
	baz=333,SNR=6.9						
K20K	**Telida**	74.05	19	P	P	13 53 24.3	+0.6
	baz=324,SNR=8.2						
CHUM	**Lake Minchumin**	74.08	18	P	P	13 53 24.3	+0.6
	baz=325,SNR=5.8						
M15K	**Kasigluk River**	74.17	24	P	P	13 53 25.4	+1.0
	baz=319						
POKR	**Poker Plat Res**	74.20	16	P	P	13 53 25.4	+1.0
	baz=329						
L18K	**Granite Mounta**	74.22	21	P	P	13 53 25.0	+0.3
	baz=322						
BPAW	**Bear Paw Mtn.**	74.23	18	IAmb	IAmb	13 53 25.3	
	comp=Z,5.4nm,0.5s						
BPAW	**Bear Paw Mtn.**	74.23	18	P	P	13 53 25.0	+0.3
	baz=326,SNR=5.6						
NEA2	**Nenana**	74.28	17	IAmb	IAmb	13 53 26.0	
	comp=Z,13nm,0.8s						
NEA2	**Nenana**	74.28	17	P	P	13 53 25.9	+1.0
	baz=327,SNR=7.5						
COLA	**College**	74.32	16	P	P	13 53 25.7	+0.6
COLA	**College**	74.32	16	P	P	13 53 25.7	+0.6
COLA				pmax	pmax		
	comp=Z,13nm,0.8s						
COLA	**College**	74.32	16	P	P	13 53 25.8	+0.6
	baz=328						
G29M	**Pine Creek**	74.40	12	P	P	13 53 26.1	+0.5
	baz=336						
H27K	**Steamboat Moun**	74.42	13	IAmb	IAmb	13 53 27.7	
	comp=Z,6.6nm,0.8s						
H27K	**Steamboat Moun**	74.42	13	P	P	13 53 26.4	+0.7
	baz=333,SNR=6.0						
M16K	**Timber Creek**	74.47	23	P	P	13 53 26.8	+0.7
	baz=320						
F31M	**Tsiigehtchic**	74.54	10	P	P	13 53 26.6	+0.3
	baz=340						
G30M	**tAoh Zraii Nji**	74.61	11	P	P	13 53 27.0	+0.1
	baz=338						
ILAR	**Eielson Array**	74.62	16		P	13 53 26.2	-0.7
ILAR	**Eielson Array**	74.62	16	P	P	13 53 26.6	-0.3
	comp=Z,2.3nm,0.7s,baz=306,slow=4.7,SNR=30						
	comp=Z,2.3nm,0.7s						
M17K	**Holitna River**	74.64	22	P	P	13 53 27.5	+0.4
	baz=321						
N15K	**Kwethluk River**	74.77	24	P	P	13 53 28.7	+0.9
	baz=320						
L19K	**White Mountain**	74.78	20	P	P	13 53 28.4	+0.5
	baz=323						
L20K	**Farewell, AK**	74.81	20	P	P	13 53 28.3	+0.3
	baz=324						
HDA	**Harding Lake**	74.92	16	P	P	13 53 28.2	-0.4
	baz=329						
PPLA	**Purkeypile**	74.92	19	P	P	13 53 28.6	-0.2
	baz=325						
TRF	**Thorofare Moun**	74.94	18	P	P	13 53 29.3	+0.3
	baz=327						
G31M	**Satah River**	74.95	10	P	P	13 53 28.7	0.0
	baz=339						
N16K	**Nishlik Lake**	74.96	23	P	P	13 53 29.2	+0.3
	baz=320						
I27K	**Kandik River**	74.96	13	P	P	13 53 29.0	+0.1
	baz=333						
H29M	**Whitestone**	74.98	12	P	P	13 53 29.3	+0.4
	baz=336,SNR=7.7						
MCK	**McKinley**	75.04	17	P	P	13 53 29.7	+0.4
	baz=328						
M18K	**Stony River**	75.05	21	P	P	13 53 29.7	+0.3
	baz=323						
J25K	**Salcha River,**	75.08	15	IAmb	IAmb	13 53 30.8	
	comp=Z,4.4nm,0.7s						
J25K	**Salcha River,**	75.08	15	P	P	13 53 29.6	0.0
	baz=330,SNR=6.5						
EPYK	**Eagle Plains**	75.11	11	P	P	13 53 29.8	+0.1
	baz=337						
KNRA	**Kunumurra**	75.19	123	P	P	13 53 30.9	+0.1
KNRA				IAmb	IAmb	13 53 31.6	
	comp=Z,9.2nm,0.7s						
RND	**Reindeer**	75.33	17	IAmb	IAmb	13 53 31.4	
	comp=Z,6.8nm,0.5s						
N17K	**Nushagak Hills**	75.41	22	P	P	13 53 31.7	+0.2
	baz=322						
I28M	**Miner Creek**	75.41	13	IAmb	IAmb	13 53 32.6	
	comp=Z,7.9nm,0.7s						
I28M	**Miner Creek**	75.41	13	P	P	13 53 31.3	-0.2
	baz=335,SNR=10						
M20K	**Styx River**	75.50	20	P	P	13 53 31.9	-0.2
	baz=325						
J26L	**Joseph Creek**	75.56	15	IAmb	IAmb	13 53 33.5	
	comp=Z,7.0nm,0.7s						
J26L	**Joseph Creek**	75.56	15	P	P	13 53 32.5	+0.1
	baz=332,SNR=8.0						
N18K	**Kilae Creek**	75.68	22	P	P	13 53 33.1	0.0
	baz=323						
K24K	**Donnelly Dome**	75.70	16	P	P	13 53 32.8	-0.4
	baz=330,SNR=7.6						
I29M	**Ogilvie Camp,**	75.77	12	P	P	13 53 33.8	+0.3
	baz=336						
EGAK	**Eagle**	75.79	14	P	P	13 53 33.6	0.0
	baz=334						
CUT	**Chulitna**	75.83	19	P	P	13 53 33.9	+0.1
	baz=327						
SKT	**Skwentna**	75.85	19	IAmb	IAmb	13 53 34.5	
	comp=Z,9.1nm,0.9s						
SKT	**Skwentna**	75.85	19	P	P	13 53 33.9	-0.1
	baz=326						
O16K	**Kokwok River B**	75.85	23	P	P	13 53 33.9	-0.1
	baz=321						
WAT1	**Susitna Watana**	75.90	18	P	P	13 53 33.3	-0.9
	baz=328						
SCRK	**Sand Creek**	75.94	15		P	13 53 34.7	+0.2
SCRK				IAmb	IAmb	13 53 35.8	
	comp=Z,6.2nm,0.6s						
SCRK	**Sand Creek**	75.94	15	P	P	13 53 34.3	-0.2
	baz=332,SNR=7.2						
RIDG	**Independent Ri**	75.96	16	P	P	13 53 34.6	0.0
	baz=331,SNR=5.9						
DHY	**Denali Highway**	75.97	17	IAmb	IAmb	13 53 35.6	
	comp=Z,7.8nm,0.6s						
DHY	**Denali Highway**	75.97	17	P	P	13 53 34.3	-0.5
	baz=329,SNR=7.9						
N19K	**Bonanza Creek**	75.99	21	P	P	13 53 34.9	+0.1
	baz=324						
H31M	**Peel River**	75.99	11	P	P	13 53 34.3	-0.4
	baz=339						
O17K	**Koliganek Bris**	76.03	23	P	P	13 53 35.1	+0.1
	baz=322						
I30M	**Mount Dempster**	76.22	12	IAmb	IAmb	13 53 37.4	
	comp=Z,7.4nm,0.8s						
I30M	**Mount Dempster**	76.22	12	P	P	13 53 35.9	-0.3
	baz=338,SNR=5.6						
K27K	**Chicken**	76.28	14	P	P	13 53 36.7	+0.4
	baz=333						
WAT6	**Susitna Watana**	76.31	17	P	P	13 53 36.3	-0.4
	baz=329						
P16K	**Nushagak River**	76.33	24	P	P	13 53 36.8	+0.1
	baz=321						
M22K	**Willow**	76.41	19	P	P	13 53 36.7	-0.4
	baz=327						
PAX	**Paxson**	76.50	16	IAmb	IAmb	13 53 38.6	
	comp=Z,7.4nm,0.6s						
PAX	**Paxson**	76.50	16	P	P	13 53 37.0	-0.7
	baz=330,SNR=7.3						
P17K	**Kvichak River**	76.69	23	P	P	13 53 38.8	+0.1
	baz=322						
DAWY	**Dawson**	76.77	13	IAmb	IAmb	13 53 40.3	
	comp=Z,9.0nm,1.0s						
DAWY	**Dawson**	76.77	13	P	P	13 53 39.1	-0.1
	baz=335,SNR=5.1						
PMR	**Palmer**	76.80	19	P	P	13 53 39.2	0.0
	baz=328						
J30M	**Hart River**	76.83	12	P	P	13 53 39.6	+0.1
	baz=338						
P18K	**Big Mountain,**	76.91	22	P	P	13 53 40.3	+0.4
	baz=323						
L26K	**Log Cabin Wild**	76.91	15	P	P	13 53 40.3	+0.3
	baz=332						
M23K	**Glacier View**	76.98	18	P	P	13 53 40.5	+0.2
	baz=329,SNR=7.7						
Q16K	**King Salmon**	77.03	23	P	P	13 53 40.5	-0.1
	baz=322						
SCM	**Sheep Creek Mo**	77.05	18	P	P	13 53 40.8	0.0
	baz=329						
HARP	**HAARP**	77.07	16	P	P	13 53 40.6	-0.2
	baz=331						
RC01	**Rabbit Creek A**	77.07	19	P	P	13 53 40.5	-0.3
	baz=327						
M24K	**Tolsona, Glenn**	77.09	17	P	P	13 53 40.9	-0.1
	baz=330						
O20K	**Slope Mountain**	77.12	21	P	P	13 53 41.4	+0.2
	baz=325						
KNK	**Knik Glacier**	77.13	18	P	P	13 53 40.7	-0.5
	baz=328						
L27K	**Beaver Creek,**	77.20	15	P	P	13 53 41.8	+0.3
	baz=333						
P19K	**Oil Pt**	77.30	21	P	P	13 53 42.4	+0.2
	baz=325						
K29M	**Barlow Dome**	77.31	13	IAmb	IAmb	13 53 43.8	
	comp=Z,5.0nm,0.7s						
K29M	**Barlow Dome**	77.31	13	P	P	13 53 42.7	+0.5
	baz=337,SNR=6.3						
M26K	**Nabesna, AK**	77.54	16	P	P	13 53 43.1	-0.4
	baz=333						
Q17K	**Contact Creek**	77.61	23	P	P	13 53 43.7	-0.3
	baz=323						
PWL	**Port Wells**	77.63	19	P	P	13 53 44.2	+0.2
	baz=328						
KLU	**Klutina**	77.68	17	P	P	13 53 44.2	-0.1
	baz=330						
Q19K	**Cape Douglas,**	77.77	22	P	P	13 53 45.4	+0.7
	baz=325						
MAYO	**Mayo, Yukon**	77.81	12	P	P	13 53 45.2	+0.3
	baz=338						
M27K	**Edge Creek, AK**	77.82	15	IAmb	IAmb	13 53 47.1	
	comp=Z,9.0nm,0.9s						
M27K	**Edge Creek, AK**	77.82	15	P	P	13 53 45.4	+0.3
	baz=333						
L29M	**L29M**	77.87	13	IAmb	IAmb	13 53 47.1	
	comp=Z,7.0nm,1.1s						
L29M	**L29M**	77.87	13	P	P	13 53 45.7	+0.4
	baz=336						
N25K	**Chitina, Valde**	77.89	17	P	P	13 53 46.1	+0.7
	baz=331						
M29M	**Somme Creek**	78.42	14	IAmb	IAmb	13 53 50.7	
	comp=Z,7.2nm,0.9s						
M29M	**Somme Creek**	78.42	14	P	P	13 53 48.9	+0.5
	baz=336						
MCARA	**McCarthy VSAT**	78.44	16	P	P	13 53 48.9	+0.6
	baz=333						
BMRM	**Bremner River**	78.45	17	P	P	13 53 48.3	-0.2
	baz=331						
EYAK	**Cordova Ski Ar**	78.55	18	P	P	13 53 49.1	+0.2
	baz=331						
M30M	**Minto, Yukon**	78.61	13	P	P	13 53 49.4	+0.1
	baz=338						
KDAK	**Kodiak Island**	79.03	22	P	P	13 53 51.8	+0.2
	baz=326						
CHNA	**Chernabura Isl**	79.04	27	P	P	13 53 51.8	+0.1
	baz=321						
CTG	**Chitna Glacier**	79.19	15	P	P	13 53 52.1	-0.5
	baz=334						
OHAK	**Old Harbor**	79.27	23	P	P	13 53 53.7	+0.8
	baz=325						
M31M	**Drury Creek, Y**	79.37	12	P	P	13 53 53.7	+0.3
	baz=339						
Q23K	**Middleton Isla**	79.37	18	P	P	13 53 53.8	+0.4
	baz=330						
YUK4	**Talbot Arm**	79.39	14	P	P	13 53 53.5	-0.3
	baz=336						
N30M	**Aishikik Lake**	79.59	13	P	P	13 53 54.9	+0.2
	baz=337						
O28M	**Mount Upton**	79.61	15	P	P	13 53 54.7	-0.4
	baz=335						
WRGLY	**Wrigley**	79.79	7	P	P	13 53 55.7	+0.1
	baz=348						
N31M	**Braeburn, Yuko**	79.80	13	P	P	13 53 55.7	-0.1
	baz=338						
YUK6	**Outpost Mounta**	79.82	14	P	P	13 53 55.3	-0.8
	baz=336						
HYT	**Haines Junctio**	80.09	14	P	P	13 53 57.3	-0.2
	baz=337						
PINM	**Pinnacle**	80.20	15	P	P	13 53 57.5	-0.5
	baz=335						
O30N	**Mendenhall**	80.41	13	P	P	13 53 58.8	-0.2
	baz=338						
N32M	**Quiet Lake**	80.57	12	P	P	13 53 59.7	-0.3
	baz=340						
WHY	**Whitehorse**	80.73	13	P	P	13 54 01.0	+0.1
	baz=339						
YKA	**Yellowknife Ar**	81.11	3	P	P	13 54 02.6	0.0
	comp=Z,2.7nm,0.7s,baz=334,slow=16,SNR=18						
	comp=Z,2.7nm,0.7s						
P29M	**Windy Craggy**	81.15	14	P	P	13 54 03.0	0.0
	baz=337						
P33M	**Teslin, Yukon**	81.50	12	IAmb	IAmb	13 54 06.0	
	comp=Z,8.2nm,0.8s						
P33M	**Teslin, Yukon**	81.50	12	P	P	13 54 05.0	+0.1
	baz=341						
PLBC	**Pleasant Camp**	81.58	14	P	P	13 54 05.5	+0.3
	baz=338						
SKAG	**Skagway**	81.77	13	P	P	13 54 06.1	0.0
	baz=339						
P32M	**Atlin**	81.94	12	P	P	13 54 06.9	-0.3
	baz=340						
WRA	**Warramunga Arr**	81.95	122	P	P	13 54 06.4	-1.3
	comp=Z,2.8nm,0.7s,baz=321,slow=5.1,SNR=24						
	comp=Z,2.8nm,0.7s						
R33M	**Jennings River**	82.58	11	P	P	13 54 10.6	+0.1
	baz=342						
Q32M	**Nakina River**	82.78	12	P	P	13 54 11.9	+0.2
	baz=341						
DLBC	**Dease Lake**	83.64	11	P	P	13 54 15.9	0.0
	baz=343						
TOAD	**Toad River Com**	83.89	8	P	P	13 54 17.8	+0.6
	baz=347						
S34M	**Telegraph Cree**	83.97	12	P	P	13 54 18.3	+0.8
	baz=342						
AS31	**Alice Springs**	84.23	125	P	P	13 54 18.6	-0.8
ASAR	**Alice Springs**	84.23	125	P	P	13 54 18.4	-0.9
ASAR	**Alice Springs**	84.23	125	P	P	13 54 18.1	-1.2
	comp=Z,3.6nm,0.7s,baz=310,slow=5.0,SNR=56						
	comp=Z,3.6nm,0.7s						
ASAR	**Alice Springs**	84.23	125	P	P	13 54 18.4	-0.9
QSPA	**South Pole Qui**	126.43	180	PKPdf	PKPdf	14 00 48.5	+0.4
PLCA	**Paso Flores**	149.99	250	PKPbc	PKPbc	14 01 35.9	-0.9
	comp=Z,2.5nm,0.9s,baz=53,slow=5.1,SNR=4.6						

TIR ***22*** *13:52:25.3, 41.38N×19.57E, h25km±12km, Md2.6/4, Ml2.3/3*
BEO ***22*** *13:52:27.7±0.6, 41.21N×19.51E, h4km±5km, ML1.9/6*
PDG ***22*** *13:52:29.4±0.1, 41.34N×19.59E, h10km, ML2.4/9, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*

ISC 22 13:52:26.9±1.2, 41.24N±0.03×19.62E±0.04, h3km±11km, n22, σ0.963/40, 1C-1D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	0.22	59	Pg	**Pg**	13 52 31.0	-0.1
TIR				Sg	**Sg**	13 52 34.1	+0.1
TIR				AML	AML	13 52 36.8	
	1.7nm,0.2s						
TIR				AMd		13 53 05.5	
ULC	**Ulcinj**	0.78	339	*e*Pg	**Pg**	13 52 41.9	0.0
ULC				*i* Sg	**Sg**	13 52 52.6	+0.6
DRME	**Dracevica, Mon**	1.00	341	*e*Pg	**Pb**	13 52 46.7	-0.2
DRME				*e*Sg	**Sb**	13 53 00.4	-0.1
DRME	**Dracevica, Mon**	1.00	341	*e*Pg	**Pg**	13 52 46.0	-0.2
DRME				*i* Sg	**Sb**	13 53 00.2	-0.3
BUM	**Brajici-Budva**	1.19	333	⇑*i*Pg	**Pg**	13 52 49.7	-0.1
BUM				*i* Sg	**Sb**	13 53 06.7	+0.6
PDG	**Podgorica**	1.22	347	*e*Pg	**Pg**	13 52 50.2	-0.2
PDG				*e*Sg	**Sn**	13 53 07.9	0.0
PDG	**Podgorica**	1.22	347	*e*Pg	**Pg**	13 52 50.1	-0.3
PDG				*i* Sg	**Sn**	13 53 07.6	-0.3
CEME	**Cevo**	1.41	338	⇓*i*Pg	**Pn**	13 52 53.0	-0.5
CEME				*i* Sg	**Sn**	13 53 14.0	+1.4
NKME	**Niksic**	1.61	342	*e*Pg	**Pb**	13 52 57.2	-0.1
NKME				*i* Sg	**Sg**	13 53 19.6	+1.0
KOME	**Kolasin**	1.61	357	*e*Pg	**Pb**	13 52 56.9	-0.5
KOME				*e*Sg	**Sg**	13 53 19.5	+0.7
KOME	**Kolasin**	1.61	357	*e*Pg	**Pg**	13 52 57.3	-0.6
KOME				*i* Sg	**Sg**	13 53 19.9	+1.1
BEY	**Berane**	1.65	7	*e*Pg	**Pg**	13 52 57.6	-0.9
IVA	**Berane**	1.65	7	*e*Pg	**Pg**	13 52 57.9	-0.6
IVA				*i* Sg	**Sg**	13 53 20.8	+1.0
TREB	**Trebinje**	1.76	328	*e*Pg	**Pn**	13 52 58.6	+0.4
TREB				*e*Sg	**Sn**	13 53 21.6	+0.5
IGT	**Igoumenitsa**	1.79	162	Pn	**Pb**	13 52 59.8	-0.5
IGT				Sn	**Sg**	13 53 25.5	+1.2
IGT				AMd		13 54 09.4	
IGT	**Igoumenitsa**	1.79	162	*e*Pn	**Pn**	13 52 59.3	+0.7
IGT				*e*Sn	**Sb**	13 53 22.9	-0.2
BRY	**Bratogost**	1.85	335	*e*Pn	**Pb**	13 53 00.8	-0.6
BRY				*i* Sn	**Sb**	13 53 25.5	+0.5
NOCI	**Noci**	1.98	258	Pn	**Pn**	13 53 00.6	-0.8
NOCI				Sn	**Sn**	13 53 26.0	-0.7
NOCI				AML	AML	13 53 35.8	
	0.1nm,0.3s						
NOCI				AMd		13 54 21.9	
SJES	**Sjenica**	2.04	7	*e*Pn	**Pb**	13 53 04.2	-0.5
SJES				*e*Sn	**Sg**	13 53 31.7	-0.8
IVAS	**Ivanjica**	2.37	9	*e*Pn	**Pn**	13 53 06.5	-0.2
GOCS	**Kraljevo Serbi**	2.50	21	*e*Sn	**Sn**	13 53 40.2	+0.5
LKD2	**Lefkada island**	2.57	162	Pn	**Pn**	13 53 09.5	0.0
LKD2				AMd		13 54 22.7	

IDC 22 13:56:34.8±1.4, 15.51S×173.60W, h0km, mb3.8/4, mbtmp3.8/4, MS3.4/4, Error ellipse: s-maj=45.8km s-min=35.7km az=128.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	14.30	115	LR	LR	14 03 50.6	
	comp=Z,192nm,20.3s,baz=297,slow=30						
PPT	**Papeete**	23.12	98	LR	LR	14 08 17.7	
	comp=Z,64nm,19.8s,baz=294,slow=30						
HNR	**Honiara**	26.51	280	LR	LR	14 11 12.5	
	comp=Z,126nm,21.2s,baz=106,slow=33						
WRA	**Warramunga Arr**	49.63	257	P	P	14 05 28.0	-0.5
	0.4nm,0.5s,baz=92,slow=7.0,SNR=6.7						
	0.4nm,0.5s						
ASAR	**Alice Springs**	49.89	252	P	P	14 05 30.4	0.0
	2.1nm,0.6s,baz=90,slow=7.3,SNR=57						
	2.1nm,0.6s						
QSPA	**South Pole Qui**	74.53	180	P	P	14 08 15.3	0.0
	0.7nm,0.7s,baz=110,slow=0.5,SNR=7.1						
QSPA				LR	LR	14 40 13.0	
	comp=Z,17nm,18.2s,baz=37,slow=35						
	0.7nm,0.7s						
ILAR	**Eielson Array**	82.59	11	P	P	14 08 59.0	-0.4
	0.3nm,0.7s,baz=206,slow=6.0,SNR=4.7						
	0.3nm,0.7s						
BRTR	**Keskin Array B**	146.12	321	PKPbc	PKPbc	14 16 17.7	+0.2
	0.6nm,0.7s,baz=59,slow=2.8,SNR=2.7						

NIED ***22*** *14:15:22.4, 29.38N×141.07E, h124km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr4.01; Mθθ-1.64; Mϕϕ-2.37; Mrθ2.27; Mθϕ3.28; Mϕr-0.91; Fault plane solution: M₀5.31000×10¹⁵ NP1: ϕs336.00000°, δ35.00000°, λ119.00000°. NP2: ϕs123.00000°, δ60.00000°, λ71.00000°.*
BJI ***22*** *14:15:24.7, 29.56N×141.08E, h29km, mB5.0/6, mb4.3/7, Ms4.9/2, Ms7 4.9/1*
IDC ***22*** *14:15:26.0±2.3, 29.55N×141.25E, h42km±19km, mb3.8/18, mbtmp4.1/21, ML3.6/3, MS3.6/36, Error ellipse: s-maj=19.0km s-min=14.0km az=79.0*
NEIC ***22*** *14:15:27.7±1.7, 29.53N±0.08×141.3E±0.2, h54km±7km, mb4.6/120, Error ellipse: s-maj=20.9km s-min=9.4km az=72.0*

ISC 22 14:15:25.0±0.5, 29.54N±0.06×141.42E±0.09, h35km, n155, σ1.830/101, mb4.6/73, MS3.6/36, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	2.53	164		**Pn**	14 16 05.5	+1.9
JHJ2	**Mitsune**	3.81	339	Pn	**Pn**	14 16 21.4	+0.2
JHJ	**Hachijo jima 2**	3.83	339	P	**Pn**	14 16 22.8	+1.4
	9.4nm,0.3s,baz=54,slow=23,SNR=1.3						
JHJ				S	**Sn**	14 17 04.2	-1.0
	105nm,0.5s,baz=286,slow=22,SNR=1.7						
	44nm,0.3s						
INU	**Inuyama**	6.88	328	Pn	**Pn**	14 17 06.1	+2.7
JGF	**Kuroka**	6.94	332	Pn	**Pn**	14 17 07.4	+3.1
MJAR	**Matsushiro Arr**	7.48	340		**Pn**	14 17 13.9	+2.3
MJAR	**Matsushiro Arr**	7.48	340	P	**Pn**	14 17 13.4	+1.8
	0.5nm,0.3s,baz=159,slow=15,SNR=31						
	4.5nm,0.4s						
MAJO	**Matsushiro**	7.48	340		**Pn**	14 17 14.1	+2.5
MJB9	**Matsu-Tunnel**	7.49	340		**Pn**	14 17 14.0	+2.3
JMM	**Marumori**	8.32	357		**Pn**	14 17 22.6	-0.5
JTM	**Tenmabayashi**	11.22	359	Pn	**Pn**	14 18 02.3	-0.5
JOW	**Kunigami**	11.90	260	LR	LR	14 22 43.2	
	comp=Z,143nm,18.8s,baz=309,slow=37						
ERM	**Erimo**	12.53	6	Pn	**Pn**	14 18 17.2	-3.4
ASAJ	**Asahikawa**	14.58	3	P	**Pn**	14 18 48.3	-0.4
	0.5nm,0.3s,baz=186,slow=10,SNR=10						
	2.1nm,0.4s						
JKA	**Kamikawa-asahi**	14.58	3	Pn	**Pn**	14 18 44.4	-4.3
GUMO	**Guam**	16.20	168		**P**	14 19 12.1	-0.7
GUMO				IAmb	IAmb	14 19 35.4	
	comp=Z,80nm,1.2s						
YOJ	**Yonaguni jima**	17.16	257	Pn	**Pn**	14 19 19.5	-2.6
NJ2	**Nanjing**	19.54	283	*e*P	**P**	14 19 50.0	+0.5
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
HEH	**HeiHe**	23.23	337	*e*P	**P**	14 20 29.3	+0.4
HEH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
TGY	**Tagaytay City**	24.38	235	LR	LR	14 28 30.4	
	comp=Z,116nm,21.7s,baz=144,slow=32						
H11N2	**WAKE ISLAND Hy**	25.09	107	T	T	14 46 47.4	
	baz=297,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	25.09	107	T	T	14 46 42.3	
	baz=297,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	25.11	107	T	T	14 46 48.7	
	baz=297,slow=75,SNR=20						
H11S3	**WAKE ISLAND Hy**	25.51	110	T	T	14 47 22.5	
	baz=300,slow=74,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	25.52	110	T	T	14

TIXI Tiksi 42.72 354 LR LR 14 41 28.1
comp=Z,62nm,21.6s,baz=188,slow=37
BATI Baumata 43.06 206 LR LR 14 41 40.2
comp=Z,66nm,18.7s,baz=106,slow=37
MTN Manton Dam 43.29 195 P **P** **14 23 24.2 +0.7**
MTN IAmb IAmb 14 23 27.0
comp=Z,8.2nm,0.8s
WMQ Urumqi 44.63 304 *eP* **P** **14 23 36.1 +2.0**
WMQ LR LR
comp=Z,490nm,24.1s
WMQ LR LR
comp=Z,420nm,24.1s
ZALV Zalesovo Beam 47.22 318 P **P** **14 23 53.5 -0.7**
comp=Z,0.4nm,0.4s,baz=83,slow=6.3,SNR=2.1
ZALV PcP **PcP** **14 25 25.0 -0.2**
comp=Z,0.5nm,0.4s,baz=104,slow=3.0,SNR=2.3
ZALV LR LR 14 44 41.3
comp=Z,57nm,18.1s,baz=150,slow=37
comp=Z,0.4nm,0.4s
MKAR Makanchi Array 48.42 308 P **P** **14 24 02.9 -0.9**
MKAR Makanchi Array 48.42 308 P **P** **14 24 03.1 -0.7**
comp=Z,0.4nm,0.6s,baz=94,slow=7.7,SNR=4.1
MKAR PcP **PcP** **14 25 29.1 -0.6**
comp=Z,0.9nm,0.9s,baz=90,slow=4.3,SNR=2.6
MKAR ScP **ScP** **14 29 19.3 -2.5**
comp=Z,0.4nm,0.8s,baz=101,slow=7.5,SNR=2.8
MKAR LR LR 14 44 58.9
comp=Z,43nm,21.7s,baz=88,slow=37
comp=Z,0.4nm,0.6s
WB0 Warramunga Arr 49.49 189 P **P** **14 24 11.2 -0.9**
WB0 IAmb IAmb 14 24 12.0
comp=Z,5.7nm,0.8s
WR8 Warramunga Arr 49.66 189 **P** **14 24 11.7 -1.6**
WR8 IAmb IAmb 14 24 19.5
comp=Z,3.8nm,0.8s
WRA Warramunga Arr 49.67 189 **P** **14 24 11.8 -1.6**
WRA Warramunga Arr 49.67 189 P **P** **14 24 12.4 -1.1**
comp=Z,3.5nm,0.7s,baz=8.6,slow=8.1,SNR=28
WRA PcP **PcP** **14 25 35.1 +0.6**
comp=Z,1.1nm,0.7s,baz=8.1,slow=4.0,SNR=1.8
WRA LR LR 14 44 09.7
comp=Z,36nm,19.1s,baz=176,slow=35
comp=Z,3.5nm,0.7s
KURBB Kurchatov Arra 50.87 313 P **P** **14 24 21.4 -0.9**
comp=Z,0.5nm,0.3s,baz=90,slow=6.8,SNR=4.9
KURBB LR LR 14 48 12.5
comp=Z,94nm,20.0s,baz=170,slow=39
comp=Z,0.5nm,0.3s
J19K Poorman 52.05 30 P **P** **14 24 31.2 +0.3**
J19K IAmb IAmb 14 24 48.6
comp=Z,6.4nm,1.1s
E19K Redstone River 52.14 25 P **P** **14 24 31.4 -0.1**
E19K IAmb IAmb 14 24 49.6
comp=Z,7.1nm,0.9s
J20K Nowinta River 52.72 30 P **P** **14 24 37.5 +1.7**
J20K IAmb IAmb 14 24 38.7
comp=Z,10nm,1.1s
KDAK Kodiak Island 52.84 38 P **P** **14 24 37.7 +0.9**
KDAK Kodiak Island 52.84 38 LR LR 14 44 07.8
comp=Z,48nm,21.7s,baz=233,slow=32
B20K Meade River 52.84 22 P **P** **14 24 38.5 +1.9**
IMAR Indian Mountai 53.18 28 **P** **14 24 39.1 -0.2**
BOOM Boomskoye usch 53.30 303 P **P** **14 24 40.3 -0.4**
AS31 Alice Springs 53.39 189 P **P** **14 24 41.5 +0.3**
ASAR Alice Springs 53.39 189 P **P** **14 24 40.1 -1.2**
ASAR Alice Springs 53.39 189 P **P** **14 24 40.0 -1.2**
comp=Z,0.5nm,0.7s,baz=1.9,slow=5.1,SNR=10
ASAR PcP **PcP** **14 25 49.3 +1.0**
comp=Z,1.4nm,0.8s,baz=16,slow=4.5,SNR=5.9
ASAR LR LR 14 45 30.5
comp=Z,51nm,20.4s,baz=77,slow=34
comp=Z,0.5nm,0.7s
PPLA Purkeypile 53.42 32 P **P** **14 24 43.1 +1.8**
H21K Melozitna Rive 53.51 28 P **P** **14 24 42.5 +0.8**
H21K IAmb IAmb 14 24 44.4
comp=Z,7.7nm,1.1s
SKT Skwentna 53.64 33 P **P** **14 24 43.8 +1.1**
SKT IAmb IAmb 14 25 25.8
comp=Z,9.9nm,1.5s
TRF Thorofare Moun 54.33 31 P **P** **14 24 47.2 -0.7**
TRF IAmb IAmb 14 24 53.4
comp=Z,6.5nm,1.2s
PMR Palmer 54.75 33 **P** **14 24 50.6 -0.1**
PMR IAmb IAmb 14 24 52.4
comp=Z,8.7nm,1.0s
MCK McKinley 54.96 31 P **P** **14 24 53.4 +1.1**
MCK IAmb IAmb 14 25 02.0
comp=Z,9.6nm,1.2s
NEA2 Nenana 54.96 30 P **P** **14 24 53.3 +1.0**
NEA2 IAmb IAmb 14 24 54.4
comp=Z,9.3nm,1.1s
RND Reindeer 54.98 31 P **P** **14 24 52.7 +0.2**
RND IAmb IAmb 14 25 09.3
comp=Z,6.0nm,1.0s
EIDS Eidsvold 55.38 169 P **P** **14 24 55.6 0.0**
SCM Sheep Creek Mo 55.62 33 P **P** **14 24 58.3 +1.2**
F24K Squaw Lake 55.69 26 P **P** **14 24 58.6 +1.1**
F24K IAmb IAmb 14 25 36.3
comp=Z,9.0nm,1.5s
BVAR Borovoye Array 55.80 316 P **P** **14 24 58.2 -0.2**
comp=Z,1.7nm,0.5s,baz=87,slow=10,SNR=8.9
BVAR LR LR 14 51 26.3
comp=Z,44nm,18.2s,baz=61,slow=39
comp=Z,1.7nm,0.5s
HDA Harding Lake 55.87 30 P **P** **14 24 58.7 0.0**
IL31 55.91 29 P **P** **14 24 59.4 +0.4**
ILAR Eielson Array 55.91 29 P **P** **14 24 58.5 -0.5**
ILAR Eielson Array 55.91 29 P **P** **14 24 59.1 0.0**
comp=Z,1.9nm,1.0s,baz=265,slow=6.3,SNR=12
ILAR LR LR 14 50 19.4
comp=Z,19nm,19.4s,baz=233,slow=37
comp=Z,1.9nm,1.0s
E25K Arctic Village 56.62 25 P **P** **14 25 06.1 +1.9**
E25K IAmb IAmb 14 25 25.7
comp=Z,11nm,1.2s
BMAR Burnt Mountain 56.96 26 P **P** **14 25 07.7 +1.1**
INKA Innaminka 56.96 181 **P** **14 25 07.1 +0.2**
KKAR Karatay Array 57.13 305 **P** **14 25 06.9 -1.2**
DOT Dot Lake 57.13 31 P **P** **14 25 08.0 +0.2**
DOT IAmb IAmb 14 25 25.8
comp=Z,9.3nm,1.4s
F26K Sheenjek River 57.13 26 P **P** **14 25 08.7 +0.9**
F26K IAmb IAmb 14 25 26.9
comp=Z,5.9nm,0.9s
J26L Joseph Creek 57.34 30 P **P** **14 25 09.6 +0.3**
J26L IAmb IAmb 14 25 27.2
comp=Z,4.1nm,0.8s
L26K Log Cabin Wild 57.46 32 IAmb IAmb 14 25 12.8
comp=Z,10nm,1.2s
BCAR Beaver Creek A 58.17 31 P **P** **14 25 16.3 +1.2**
GRNC Granite Creek 58.34 34 P **P** **14 25 17.9 +1.2**
DAWY Dawson 59.17 30 P **P** **14 25 23.9 +1.8**
DAWY IAmb IAmb 14 25 40.5
comp=Z,8.4nm,1.5s
M29M Somme Creek 59.75 32 P **P** **14 25 28.2 +2.0**
L29M L29M 59.83 31 **P** **14 25 28.4 +1.8**
INK Inuvik 61.10 25 LR LR 14 58 52.9
comp=Z,28nm,18.2s,baz=253,slow=43
FORT Forrest 61.32 193 P **P** **14 25 36.6 -0.5**
FORT IAmb IAmb 14 25 36.9
comp=Z,5.9nm,0.9s
M31M Drury Creek, Y 61.66 32 P **P** **14 25 39.8 +0.7**
M31M IAmb IAmb 14 25 41.5
comp=Z,7.0nm,1.1s
ARTI Arti 62.19 321 P **P** **14 25 41.9 -0.8**
ARTI Arti 62.19 321 P **P** **14 25 41.3 -1.4**
comp=Z,2.1nm,0.5s,baz=96,slow=5.6,SNR=4.1
comp=Z,2.1nm,0.5s
AB31 Akbulak array 62.92 313 **P** **14 25 47.1 -0.6**
ABKAR Akbulak array 62.92 313 **P** **14 25 47.3 -0.4**
DLBC Dease Lake 64.61 36 LR LR 14 49 48.4
comp=Z,325nm,21.4s,baz=213,slow=32
KIRV Kirov 66.30 325 LR LR 14 57 27.3
comp=Z,72nm,18.9s,baz=85,slow=38
OBN Obninsk 74.14 325 LR LR 15 02 50.8
comp=Z,93nm,18.8s,baz=152,slow=38
B08A Colville Reser 74.21 43 **P** **14 26 59.1 +0.9**
PINE Pine Mountain 75.26 48 IAmb IAmb 14 27 07.7
comp=Z,9.1nm,1.1s
FINES FINESS Array B 75.46 333 P **P** **14 27 04.4 -0.7**
comp=Z,1.0nm,0.5s,baz=45,slow=6.0,SNR=8.2
comp=Z,1.0nm,0.5s
NEW Newport 75.56 43 IAmb IAmb 14 27 08.4
comp=Z,8.0nm,1.1s
K05A Summer Lake 75.78 49 IAmb IAmb 14 27 10.4
comp=Z,9.1nm,1.1s
KBZ Khabaz 75.86 312 P **P** **14 27 07.2 -0.5**
comp=Z,1.5nm,0.7s,baz=63,slow=14,SNR=3.6
comp=Z,1.5nm,0.7s
KVAR Kislovodsk Arr 75.88 313 LR LR 15 03 24.3
comp=Z,91nm,19.9s,slow=38
J08A Circle Bar Ran 77.05 47 IAmb IAmb 14 27 16.8
comp=Z,7.5nm,1.2s
BEKR Beckworth 77.45 51 IAmb IAmb 14 27 19.0
comp=Z,6.9nm,1.0s
MFID Camas Ranch 78.71 46 IAmb IAmb 14 27 26.5
comp=Z,9.0nm,1.0s
LHV Little Huntoon 79.49 52 IAmb IAmb 14 27 30.9
comp=Z,8.2nm,1.1s
NVAR Mina Array Bea 79.54 52 P **P** **14 27 29.5 +0.8**
NVAR Mina Array Bea 79.54 52 P **P** **14 27 29.6 +0.9**
comp=Z,2.7nm,0.8s,baz=276,slow=5.2,SNR=16
NVAR LR LR 14 55 09.5
comp=Z,49nm,21.0s,baz=266,slow=30
comp=Z,2.7nm,0.8s
DLMT Dillon 79.71 44 IAmb IAmb 14 27 31.6
comp=Z,7.0nm,1.1s
AKASG Malin Array Be 80.25 323 P **P** **14 27 32.0 0.0**
comp=Z,0.4nm,0.4s,baz=52,slow=5.2,SNR=2.6
AKASG LR LR 15 07 16.3
comp=Z,55nm,18.1s,baz=50,slow=39
comp=Z,0.4nm,0.4s
TPH Tonopah 80.46 52 IAmb IAmb 14 27 35.8
comp=Z,7.6nm,1.2s
HFS Hagfors 80.92 336 P **P** **14 27 35.5 +0.1**
comp=Z,0.6nm,0.5s,baz=46,slow=8.3,SNR=1.3
comp=Z,0.6nm,0.5s
NB2 NORSAR Subarra 81.10 338 P **P** **14 27 36.3 -0.1**
comp=Z,10nm,1.4s,baz=42,slow=5.3
NOA NORSAR Array B 81.10 338 P **P** **14 27 36.3 -0.1**
comp=Z,2.0nm,1.1s,baz=41,slow=5.4,SNR=1.4
NOA LR LR 15 06 58.5
comp=Z,36nm,21.8s,baz=35,slow=38
comp=Z,2.0nm,1.1s
TPO Tropico Hills 81.35 55 IAmb IAmb 14 27 40.5
comp=Z,8.8nm,1.0s
FURC Furnace Creek, 81.51 53 IAmb IAmb 14 27 41.1
comp=Z,8.3nm,1.1s
TPNV Topopah Spring 81.69 52 IAmb IAmb 14 27 42.1
comp=Z,8.0nm,0.9s
TPAW Teton Pass 81.70 45 IAmb IAmb 14 27 43.1
comp=Z,5.1nm,1.0s
QSM Queen of Sheba 81.76 53 IAmb IAmb 14 27 42.2
comp=Z,7.9nm,1.0s
GWY Greenwater Val 81.79 53 IAmb IAmb 14 27 42.5
comp=Z,6.6nm,1.0s
RLMT Red Lodge 81.81 42 IAmb IAmb 14 27 58.8
comp=Z,1.5nm,1.5s
PRN Pahroc Range 82.28 51 IAmb IAmb 14 27 45.9
comp=Z,6.5nm,0.9s
HWUT Hardware Ranch 82.34 46 IAmb IAmb 14 27 46.0
comp=Z,5.1nm,0.8s
PDAR Pinedale Array 82.95 45 P **P** **14 27 47.1 +0.4**
comp=Z,1.2nm,0.9s,baz=268,slow=3.9,SNR=7.7
PDAR LR LR 14 58 43.3
comp=Z,24nm,21.0s,baz=279,slow=31
comp=Z,1.2nm,0.9s
PFO Pinyon Flats O 83.25 55 LR LR 14 58 48.1
comp=Z,41nm,20.0s,baz=237,slow=31
RAYN Ar Rayn 83.55 293 **P** **14 27 49.1 -0.9**
LCMT Little Creek M 83.71 51 IAmb IAmb 14 27 52.9
comp=Z,6.2nm,1.1s
BR131 Keskin Array S 83.85 312 IAmb IAmb 14 27 52.6
comp=Z,8.1nm,0.8s
BRTR Keskin Array B 83.85 312 **P** **14 27 51.0 -0.3**
BRTR Keskin Array B 83.85 312 P **P** **14 27 51.1 -0.2**
comp=Z,4.0nm,0.8s,baz=92,slow=4.3,SNR=21
comp=Z,4.0nm,0.8s
BC3 Big Chuckawall 83.94 55 IAmb IAmb 14 27 53.6
comp=Z,5.7nm,1.1s
P17A Butcher Ranch, 84.03 48 IAmb IAmb 14 27 54.5
comp=Z,6.3nm,1.0s
FRB Frobisher Bay 84.05 13 LR LR 15 07 40.6
comp=Z,41nm,21.9s,baz=355,slow=37
Q16A Castle Valley 84.06 48 IAmb IAmb 14 27 55.5
comp=Z,1.1nm,1.5s
P18A Preston Nutter 84.27 47 IAmb IAmb 14 28 18.2
comp=Z,9.5nm,1.4s
SRU San Rafael Swe 84.37 48 IAmb IAmb 14 27 55.9
comp=Z,5.3nm,0.9s
HMU Henry Mountain 84.88 49 IAmb IAmb 14 27 58.3
comp=Z,6.5nm,1.0s
Y14A Wickenburg 85.52 53 IAmb IAmb 14 28 01.6
comp=Z,5.8nm,1.0s
ULM Lac du Bonnet 85.77 33 LR LR 15 08 31.8
comp=Z,19nm,19.8s,baz=248,slow=37
WUAZ Wupatki 85.79 51 IAmb IAmb 14 28 03.3
comp=Z,4.8nm,0.9s
PV01 Paradox Valley 86.19 48 P **P** **14 28 03.5 +0.3**
PV01 IAmb IAmb 14 28 04.5
comp=Z,4.6nm,0.9s
X16A Lo Mia Camp, P 86.35 52 P **P** **14 28 05.4 +1.4**
X16A IAmb IAmb 14 28 06.2
comp=Z,4.6nm,1.3s
214A Organ Pipe Nat 86.73 55 IAmb IAmb 14 28 07.8
comp=Z,6.5nm,1.2s
GERES GERESS Array B 89.08 328 LR LR 15 13 45.2
comp=Z,30nm,18.2s,baz=26,slow=39
ANMO Albuquerque 89.42 50 LR LR 15 00 37.5
comp=Z,84nm,21.6s,baz=24,slow=30
DAVOX Davos/Dischmat 92.33 329 LR LR 15 12 50.2
comp=Z,29nm,19.3s,baz=68,slow=37
LPIG La Paz 92.89 60 LR LR 15 03 10.4
comp=Z,23nm,19.8s,baz=218,slow=31
TXAR Lajitas Array 94.67 53 P **P** **14 28 44.0 +1.1**
comp=Z,2.0nm,0.9s,baz=297,slow=3.2,SNR=14
comp=Z,2.0nm,0.9s
SADO Sadowa 97.31 28 LR LR 15 15 34.7
comp=Z,141nm,20.6s,baz=300,slow=37
QSPA South Pole Qui 119.31 180 PKP **PKiKP** **14 34 11.1 +1.3**
comp=Z,2.0nm,1.1s,baz=18,slow=1.7,SNR=3.8
LPAZ La Paz 149.86 71 PKPbc **PKPbc** **14 35 13.1 +0.2**
comp=Z,1.8nm,0.8s,baz=304,slow=7.3,SNR=8.6
PLCA Paso Flores 151.72 122 PKPbc **PKiKP** **14 35 16.7 +0.4**
comp=Z,3.5nm,1.0s,baz=213,slow=3.8,SNR=7.0

*IDC **22** 14:34:19.4±1.2,3°.63N×64°.13E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=38.6km s-min=21.7km az=39.0*
*NEIC **22** 14:34:20.8±2.4,3°.6N±0°.1×64°.13E±0°.07, h10km±1km, mb4.4/5, Error ellipse: s-maj=25.1km s-min=5.2km az=155.0*
ISC 22 14:34:22.2±0.7,**3°.5N**±0°.1×**64°.1E**±0°.1,**h23**km,**n24,**
σ1s05/21,mb3.9/12,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HMDM	**Hanimaadhoo**	**9.58**	**70**	Pn	**Pn**	**14 36 37.3**	**-1.5**
MSEY	**Mahe Island**	**11.86**	**227**	Pn	**Pn**	**14 37 09.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**37.16**	**64**	P	**P**	**14 41 32.6**	**+0.9**
	0.5nm,0.3s,baz=266,slow=8.6,SNR=5.0						
	0.5nm,0.3s						
BRTR	**Keskin Array B**	**45.42**	**327**	P	**P**	**14 42 41.0**	**+1.5**
	0.5nm,0.6s,baz=134,slow=12,SNR=3.6						
	0.5nm,0.6s						
AB31	**Akbulak array**	**45.74**	**356**	P	**P**	**14 42 42.0**	**+0.4**
AB31				IAmb	IAmb	14 42 43.2	
	comp=Z,7.0nm,1.8s						
ABKAR	**Akbulak array**	**45.74**	**356**	P	**P**	**14 42 41.7**	**+0.1**
MKAR	**Makanchi Array**	**45.92**	**17**	P	**P**	**14 42 42.5**	**-0.6**
MKAR	**Makanchi Array**	**45.92**	**17**	P	**P**	**14 42 42.8**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=197,slow=4.5,SNR=3.4						
	comp=Z,0.5nm,0.8s						
LBTB	**Lobatse**	**46.93**	**231**	P	**P**	**14 42 51.4**	**-0.1**
ZALV	**Zalesovo Beam**	**53.07**	**15**	P	**P**	**14 43 35.7**	**-1.8**
ZALV	**Zalesovo Beam**	**53.07**	**15**	P	**P**	**14 43 36.4**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=206,slow=9.9,SNR=4.6						
	comp=Z,1.0nm,0.6s						
BURAR	**Bucovina Array**	**55.25**	**329**	P	**P**	**14 43 54.1**	**+0.5**
BURAR				IAmb	IAmb	14 44 04.1	
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**57.15**	**33**	P	**P**	**14 44 07.1**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=225,slow=5.9,SNR=4.9						
	comp=Z,0.7nm,0.9s						
H01W3	**Cape Leeuwin H**	**60.46**	**134**	T	T	15 50 02.2	
	baz=299						
H01W2	**Cape Leeuwin H**	**60.47**	**134**	T	T	15 50 05.2	
	baz=299						
H01W1	**Cape Leeuwin H**	**60.48**	**134**	T	T	15 50 02.3	
	baz=299						
KNRA	**Kununurra**	**66.69**	**109**	P	**P**	**14 45 11.7**	**-0.1**
KNRA				IAmb	IAmb	14 45 14.1	
	comp=Z,16nm,1.4s						
HFS Hagfors 68.25 335 P **P** **14 45 20.3 -0.6**
comp=Z,1.9nm,0.6s,baz=126,slow=7.3,SNR=5.2
comp=Z,1.9nm,0.6s
KEV Kevo 70.50 347 P **P** **14 45 34.4 -0.3**
ESDC Sonseca Array 70.98 311 P **P** **14 45 38.1 -0.2**
comp=Z,0.7nm,0.7s,baz=97,slow=6.6,SNR=5.7
comp=Z,0.7nm,0.7s
WRA Warramunga Arr 72.69 112 P **P** **14 45 50.1 +1.2**
comp=Z,1.1nm,0.7s,baz=290,slow=5.2,SNR=6.2
comp=Z,1.1nm,0.7s
ASAR Alice Springs 73.00 116 P **P** **14 45 52.8 +2.1**
ASAR Alice Springs 73.00 116 P **P** **14 45 52.0 +1.3**
comp=Z,0.8nm,0.6s,baz=290,slow=5.6,SNR=19
comp=Z,0.8nm,0.6s
TXAR Lajitas Array 145.33 341 PKPbc **PKPdf** **14 53 59.3 +0.3**
comp=Z,0.8nm,0.7s,baz=67,slow=3.4,SNR=12

*TIR **22** 14:35:13.7,41°.43N×19°.38E, h2km±2km, Md3.1/2, Ml2.2/4*
*BEO **22** 14:35:20.9±0.5,41°.33N×19°.44E, h15km±5km, ML2.0/5*
*PDG **22** 14:35:22.5±0.1,41°.48N×19°.44E, h14km, ML2.2/8, Error ellipse: s-maj=0.3km s-min=0.7km az=0.0*
ISC 22 14:35:17.3±1.1,**41°.25N**±0°.02×**19°.48E**±0°.03,**h8**km±10km,
n26,σ1s05/43,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.31**	**72**	Sg	**Pg**	**14 35 23.4**	**0.0**
TIR				AML	AML	14 35 29.5	
	1.3nm,0.3s						
TIR	**Tirane**	**0.31**	**72**	Pg	**Pg**	**14 35 23.4**	**0.0**
TIR				Sg	**Sg**	**14 35 27.5**	**+0.1**
TIR				AML	AML	14 35 29.5	
	1.3nm,0.3s						
ULC	**Ulcinj**	**0.73**	**346**	*e*Pg	**Pb**	**14 35 32.1**	**-0.3**
ULC				*i* Sg	**Sg**	**14 35 40.2**	**-0.8**
DRME	**Dracevica, Mon**	**0.96**	**347**	*e*Pg	**Pg**	**14 35 35.3**	**-0.5**
DRME				*e*Sg	**Sb**	**14 35 50.1**	**+1.0**
DRME	**Dracevica, Mon**	**0.96**	**347**	*e*Pg	**Pb**	**14 35 36.1**	**-0.1**
DRME				*i* Sg	**Sg**	**14 35 47.8**	**-0.4**
KBN	**Korca**	**1.17**	**122**	Sn	**Sg**	**14 35 54.6**	**-0.5**
KBN				AML	AML	14 36 03.0	
	0.1nm,0.6s						
KBN	**Korca**	**1.17**	**122**	Sn	**Sn**	**14 35 58.6**	**+2.1**
KBN				AML	AML	14 36 03.0	
	0.1nm,0.6s						
PDG	**Podgorica**	**1.19**	**352**	*e*Pg	**Pb**	**14 35 40.1**	**0.0**
PDG				*e*Sg	**Sn**	**14 35 57.4**	**+0.7**
PDG	**Podgorica**	**1.19**	**352**	*e*Pg	**Pn**	**14 35 40.4**	**+0.1**
PDG				*i* Sg	**Sg**	**14 35 55.4**	**-0.2**
CEME	**Cevo**	**1.36**	**342**	*e*Pg	**Pb**	**14 35 43.5**	**+0.4**
CEME				*i* Sg	**Sn**	**14 36 01.5**	**+0.5**
HCY	**Herceg Novi**	**1.40**	**329**	*e*Pg	**Pg**	**14 35 44.7**	**+0.5**
HCY				*i* Sg	**Sn**	**14 36 03.7**	**+1.7**
NKME	**Niksic**	**1.56**	**346**	*e*Pg	**Pg**	**14 35 47.2**	**-0.1**
NKME				*i* Sg	**Sg**	**14 36 08.2**	**+0.6**
KOME	**Kolasin**	**1.60**	**1**	*e*Pg	**Pg**	**14 35 48.5**	**+0.5**
KOME	**Kolasin**	**1.60**	**1**	*e*Pg	**Pg**	**14 35 47.8**	**-0.2**
KOME				*i* Sg	**Sg**	**14 36 08.2**	**0.0**
BEY	**Berane**	**1.65**	**11**	*e*Sg	**Sg**	**14 36 12.2**	**+1.9**
TREB	**Trebinje**	**1.69**	**330**	*e*Pg	**Pg**	**14 35 49.8**	**+0.1**
TREB				*e*Sg	**Sg**	**14 36 11.6**	**0.0**
IGT	**Igoumenitsa**	**1.84**	**159**	Pn	**Pn**	**14 35 47.4**	**-1.8**
IGT				Sn	**Sg**	**14 36 16.2**	**-0.1**
IGT				AMd		14 37 12.6	
IGT	**Igoumenitsa**	**1.84**	**159**	Pn	**Pg**	**14 35 52.4**	**-0.2**
IGT				Sn	**Sg**	**14 36 19.8**	**+3.5**
IGT				AML	AML	14 36 30.9	
	0.1nm,0.5s						
IGT				AMd		14 37 20.4	
IGT	**Igoumenitsa**	**1.84**	**159**	*e*Pn	**Pg**	**14 35 53.0**	**+0.5**
IGT				*e*Sn	**Sg**	**14 36 18.1**	**+1.7**
NOCI	**Noci**	**1.89**	**257**	Pn	Pn	14 35 43.8	-6.1
NOCI				Sn	**Sn**	**14 36 12.2**	**-1.7**
NOCI				AML	AML	14 36 32.4	
	0.1nm,0.3s						
NOCI				AMd		14 37 13.2	
NOCI	**Noci**	**1.89**	**257**	Pn	**Pn**	**14 35 49.1**	**-0.8**
NOCI				Sn	**Sb**	**14 36 16.1**	**+0.4**
NOCI				AML	AML	14 36 32.0	
	0.1nm,0.4s						
NOCI				AMd		14 37 10.8	
SJES	**Sjenica**	**2.04**	**10**	*e*Pn	**Pn**	**14 35 52.7**	**+0.6**
SJES				*e*Sn	**Sb**	**14 36 19.6**	**-0.8**
SELS	**Selova**	**2.31**	**31**	*e*Pn	**Pb**	**14 35 58.7**	**-0.6**
SELS				*e*Sn	**Sn**	**14 36 24.5**	**0.0**
BARS	**Barje**	**2.34**	**47**	*e*Pn	**Pb**	**14 35 58.2**	**-1.6**
GOCS	**Kraljevo Serbi**	**2.53**	**24**	*e*Sn	**Sn**	**14 36 29.7**	**-0.2**
LKD2	**Lefkada island**	**2.62**	**159**	Pn	**Pn**	**14 35 58.9**	**-1.2**
LKD2				AMd		14 37 22.9	

*TIR **22** 14:59:08.6,41°.19N×19°.57E, h2km, Md3.1/2, Ml2.4/2*
*BEO **22** 14:59:13.3±0.6,41°.53N×19°.76E, h10km±4km, ML1.8/6*
*PDG **22** 14:59:14.4±0.0,41°.59N×19°.69E, h12km, ML2.3/11, Error ellipse: s-maj=0.1km s-min=0.2km az=0.0*
ISC 22 14:59:11.1±1.0,**41°.40N**±0°.02×**19°.66E**±0°.03,**h19**km±2km,
n32,σ0s85/55,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.17**	**107**	Pg	**Pb**	**14 59 14.4**	**-0.1**
TIR				Sg	**Sg**	**14 59 18.8**	**0.0**
TIR				AML	AML	14 59 20.1	
	2.6nm,0.3s						
TIR	**Tirane**	**0.17**	**107**	Pg	**Pg**	**14 59 15.3**	**-0.4**
TIR				Sg	**Sg**	**14 59 19.0**	**+0.3**
TIR				AML	AML	14 59 20.1	
	2.6nm,0.3s						
ULC	**Ulcinj**	**0.65**	**332**	*e*Pg	**Pb**	**14 59 23.9**	**+0.1**
ULC				*i* Sg	**Sb**	**14 59 32.1**	**-0.3**
DRME	**Dracevica, Mon**	**0.86**	**336**	*e*Pg	**Pn**	**14 59 28.4**	**+0.1**
DRME				*e*Sg	**Sg**	**14 59 39.5**	**0.0**
DRME	**Dracevica, Mon**	**0.86**	**336**	*e*Pg	**Pb**	**14 59 27.8**	**+0.2**
DRME				*i* Sg	**Sb**	**14 59 39.0**	**+0.2**
BUM	**Brajici-Budva**	**1.07**	**328**	*e*Pg	**Pn**	**14 59 31.7**	**+0.5**
BUM				*i* Sg	**Sg**	**14 59 46.5**	**+0.6**
PDG	**Podgorica**	**1.08**	**344**	*e*Pg	**Pb**	**14 59 31.2**	**+0.1**
PDG				*e*Sg	**Sb**	**14 59 44.8**	**0.0**
PDG	**Podgorica**	**1.08**	**344**	*e*Pg	**Pb**	**14 59 31.2**	**+0.1**
PDG				*i* Sg	**Sn**	**14 59 45.5**	**-0.1**
KBN	**Korca**	**1.15**	**132**	Sn	**Sb**	**14 59 45.2**	**-1.9**
KBN	**Korca**	**1.15**	**132**	Sn	**Sg**	**14 59 48.9**	**+0.3**
CEME	**Cevo**	**1.27**	**335**	*e*Pg	**Pb**	**14 59 35.2**	**+0.6**
CEME				*i* Sg	**Sg**	**14 59 52.8**	**+0.3**
HCY	**Herceg Novi**	**1.36**	**321**	*e*Pg	**Pg**	**14 59 37.0**	**-0.4**
HCY				*i* Sg	**Sg**	**14 59 56.9**	**+1.7**
KOME	**Kolasin**	**1.46**	**356**	*e*Pg	**Pn**	**14 59 37.0**	**+0.4**
KOME	**Kolasin**	**1.46**	**356**	*e*Pg	**Pb**	**14 59 38.0**	**+0.3**
KOME				*i* Sg	**Sg**	**14 59 57.9**	**-0.4**
NKME	**Niksic**	**1.47**	**339**	*e*Pg	**Pb**	**14 59 38.6**	**+0.8**
NKME				*i* Sg	**Sg**	**14 59 59.0**	**+0.4**
BEY	**Berane**	**1.48**	**7**	*e*Pg	**Pb**	**14 59 37.9**	**-0.3**
BEY				*e*Sg	Sn	**14 59 55.4**	**-0.5**
IVA	**Berane**	**1.48**	**7**	*e*Pg	**Pb**	**14 59 38.4**	**+0.2**
IVA				*i* Sg	**Sg**	**14 59 58.7**	**-0.5**
TREB	**Trebinje**	**1.64**	**324**	*e*Pg	**Pb**	**14 59 40.7**	**-0.1**
TREB				*e*Sg	**Sb**	**15 00 01.6**	**+0.6**
BRY	**Bratogost**	**1.72**	**331**	*e*Pg	**Pb**	**14 59 43.3**	**+1.1**
BRY				*i* Sg	**Sg**	**15 00 06.0**	**-0.6**
SJES	**Sjenica**	**1.88**	**7**	*e*Pn	**Pb**	**14 59 44.5**	**-0.4**
SJES				*e*Sn	**Sn**	**15 00 06.3**	**+0.7**
UPM	**Unac-Piva**	**1.89**	**343**	*e*Pn	**Pb**	**14 59 45.3**	**+0.2**
UPM				*i* Sn	**Sb**	**15 00 09.6**	**+1.2**
IGT	**Igoumenitsa**	**1.93**	**164**	Pn	**Pn**	**14 59 42.3**	**-0.7**
IGT				Sn	**Sn**	**15 00 07.5**	**+0.8**
IGT				AMd		15 01 03.2	
IGT	**Igoumenitsa**	**1.93**	**164**	Pn	**Pn**	**14 59 43.5**	**+0.5**
IGT				Sn	**Sb**	**15 00 10.8**	**+1.3**
IGT				AMd		15 00 56.5	
IGT	**Igoumenitsa**	**1.93**	**164**	*e*Pn	**Pb**	**14 59 47.1**	**+1.4**
NOCI	**Noci**	**2.05**	**254**	Pn	**Pn**	**14 59 41.6**	**-3.0**
NOCI				Sn	**Sb**	**15 00 13.2**	**+0.4**
NOCI				AML	AML	15 00 25.9	
	0.1nm,0.3s						
NOCI				AMd		15 01 12.0	
NOCI	**Noci**	**2.05**	**254**	Pn	Pn	14 59 39.6	-5.0
NOCI				Sn	**Sn**	**15 00 09.7**	**0.0**
NOCI				AML	AML	15 00 25.9	
	0.1nm,0.3s						
NOCI				AMd		15 01 05.

SELS				*e*Sn	**Sn**	**15 00 11.7**	**+0.2**
BARS	**Barje**	**2.15**	**48**	*e*Pn	**Pn**	**14 59 46.5**	**+0.6**
IVAS	**Ivanjica**	**2.21**	**9**	*e*Pn	**Pb**	**14 59 48.9**	**-1.6**
GOCS	**Kraljevo Serbi**	**2.34**	**22**	*e*Pn	**Pn**	**14 59 49.4**	**+0.6**
GOCS				*e*Sn	**Sn**	**15 00 15.4**	**-1.7**
BBLS	**Lazi&#263i**	**2.48**	**356**	*e*Pn	**Pb**	**14 59 54.0**	**-1.1**
ZAPS	**Zavoj**	**2.90**	**49**	*e*Pn	**Pn**	**14 59 57.1**	**+0.8**

KRSC 22 15:14:36.1±1.5, **49°.97N**×**156°.75E, h43**km±24km, **MI3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.82**	**331**	*e*P	Pn	15 14 50.8	-0.4
SKR				*e*S	Sn	15 15 02.2	-0.1
PAU	**Pauzhetka**	**1.50**	**1**	*e*P	Pn	15 15 02.2	+1.6
PAU				*e*S	Sn	15 15 21.6	+2.7
MIPR	**Malaya Ipel'ka**	**2.31**	**0**	*e*P	Pn	15 15 13.1	+1.5
ASAK	**Asacha**	**2.52**	**16**	*e*P	Pn	15 15 18.3	+3.6
MTVR	**Mutnovka**	**2.67**	**19**	*e*P	Pn	15 15 20.1	+3.4
MTVR				*e*S	Sn	15 15 51.7	+3.7
RUS	**Russkaya**	**2.71**	**24**	*e*P	Pn	15 15 19.8	+2.8
RUS				*e*S	Sn	15 15 52.7	+4.3
GRL	**Gorelyy**	**2.72**	**17**	*e*P	Pn	15 15 21.2	+3.9
GRL				*e*S	Sn	15 15 52.5	+3.5
KRMR	**Karymshinskiy**	**2.99**	**16**	*e*P	Pn	15 15 23.6	+2.6
KRMR				*e*S	Sn	15 15 59.1	+3.5
PET	**Petropavlovsk**	**3.28**	**20**	*e*P	Pn	15 15 28.5	+3.5
PET				*e*S	Sn	15 16 07.6	+4.9
INSR	**Institute**	**3.31**	**20**	*e*S	Sn	15 16 07.1	+3.7
DALK	**Dalny**	**3.31**	**21**	*e*P	Pn	15 15 28.9	+3.6
DALK				*e*S	Sn	15 16 08.9	+5.4
AVH	**Avacha**	**3.53**	**20**	*e*P	Pn	15 15 33.5	+5.1
KOK	**Koryaka**	**3.53**	**19**	*e*P	Pn	15 15 33.4	+5.0
SMAR	**Somma**	**3.54**	**20**	*e*P	Pn	15 15 33.3	+4.6
SMAR				*e*S	Sn	15 16 14.7	+5.4
SDLR	**Sedlovina**	**3.57**	**21**	*e*P	Pn	15 15 32.6	+3.6
SDLR				*e*S	Sn	15 16 15.0	+5.0
NLC	**Nalytchevo**	**3.59**	**26**	*e*P	Pn	15 15 34.3	+5.1
KRX	**Arik**	**3.59**	**18**	*e*P	Pn	15 15 34.2	+4.8
KRX				*e*S	Sn	15 16 15.5	+4.9
SPN	**Mys Shipunskiy**	**3.74**	**32**	*e*P	Pn	15 15 35.0	+3.8
SPN				*e*S	Sn	15 16 18.4	+4.4
GNL	**Ganaly**	**3.80**	**11**	*e*P	Pn	15 15 35.8	+3.5
MKZ	**Mys Kozlova**	**5.52**	**32**	*e*P	Pn	15 15 58.5	+2.9
MKZ				*e*S	Sn	15 17 01.7	+4.1

TIR ***22*** *15:38:50.0, 41°.36N*×*19°.52E, h21*km*, Md2.5/2, Ml2.1/2*
PDG ***22*** *15:38:53.9*±*0.1, 41°.42N*×*19°.49E, h12*km*, ML2.2/9, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
BEO ***22*** *15:38:53.0*±*0.6, 41°.34N*×*19°.52E, h2*km*,5*km*, ML1.7/6*
ISC 22 15:38:52.2±0.9, **41°.35N**±0°.03×**19°.68E**±0°.06, **h17**km±8km, **n23,** σ0°**84**/39, **1C-1D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.14**	**92**	Pg	**Pg**	**15 38 55.9**	**-0.3**
TIR				Sg	**Sg**	**15 38 59.5**	**+0.6**
TIR				AML	AML	15 39 02.1	
	0.6nm,0.3s						
TIR				AMd		15 39 30.1	
ULC	**Ulcinj**	**0.69**	**332**	*e*Pg	**Pb**	**15 39 04.6**	**-1.3**
ULC				*i* Sg	**Sb**	**15 39 13.9**	**-1.3**
DRME	**Dracevica, Mon**	**0.91**	**336**	*e*Pg	**Pb**	**15 39 09.6**	**-0.1**
DRME	**Dracevica, Mon**	**0.91**	**336**	*e*Pg	**Pb**	**15 39 08.9**	**-0.8**
DRME				*i* Sg	**Sb**	**15 39 21.6**	**+0.1**
KBN	**Korca**	**1.11**	**130**	Sn	**Sg**	**15 39 28.3**	**0.0**
BUM	**Brajici-Budva**	**1.11**	**329**	*i* Pg	**Pn**	**15 39 12.2**	**-1.0**
BUM				*i* Sg	**Sb**	**15 39 27.9**	**+0.5**
PDG	**Podgorica**	**1.12**	**344**	*e*Sg	**Sg**	**15 39 28.9**	**+0.3**
PDG	**Podgorica**	**1.12**	**344**	*e*Pg	**Pb**	**15 39 13.0**	**-0.2**
PDG				*i* Sg	**Sg**	**15 39 29.1**	**+0.5**
CEME	**Cevo**	**1.32**	**335**	*i* Pg	**Pn**	**15 39 16.3**	**+0.3**
CEME				*i* Sg	**Sg**	**15 39 35.2**	**+0.2**
HCY	**Herceg Novi**	**1.41**	**322**	*e*Pg	**Pn**	**15 39 17.3**	**+0.1**
HCY				*i* Sg	**Sb**	**15 39 37.3**	**+1.6**
KOME	**Kolasin**	**1.50**	**356**	*e*Pg	**Pg**	**15 39 20.9**	**-0.3**
KOME				*e*Sg	**Sg**	**15 39 41.6**	**+0.8**
KOME	**Kolasin**	**1.50**	**356**	*e*Pg	**Pb**	**15 39 20.4**	**+0.6**
KOME				*i* Sg	**Sg**	**15 39 42.1**	**+1.3**
BEY	**Berane**	**1.53**	**6**	*e*Pg	**Pg**	**15 39 21.4**	**-0.3**
BEY				*e*Sg	**Sg**	**15 39 41.9**	**+0.3**
IVA	**Berane**	**1.53**	**6**	*e*Pg	**Pg**	**15 39 21.2**	**-0.5**
IVA				*i* Sg	**Sg**	**15 39 43.2**	**+1.6**
TREB	**Trebinje**	**1.68**	**325**	*e*Pg	**Pn**	**15 39 21.8**	**+0.8**
TREB				*e*Sg	**Sb**	**15 39 43.8**	**+0.1**
BRY	**Bratogost**	**1.76**	**332**	*e*Pn	**Pb**	**15 39 23.7**	**-0.6**
BRY				*i* Sn	**Sb**	**15 39 47.2**	**+1.0**
IGT	**Igoumenitsa**	**1.89**	**164**	Pn	**Pn**	**15 39 24.8**	**+1.0**
IGT				Sn	**Sb**	**15 39 50.8**	**+1.3**
IGT				AMd		15 40 39.1	
IGT	**Igoumenitsa**	**1.89**	**164**	*e*Pn	**Pb**	**15 39 25.5**	**-0.7**
IGT				*e*Sn	**Sg**	**15 39 52.1**	**-0.8**
SJES	**Sjenica**	**1.92**	**7**	*e*Pn	**Pb**	**15 39 27.1**	**+0.2**
SJES				*e*Sn	**Sg**	**15 39 52.7**	**-1.4**
NOCI	**Noci**	**2.05**	**255**	Sn	**Sn**	**15 39 51.2**	**-0.1**
NOCI				AML	AML	15 39 54.7	
	0.1nm,0.6s						
SELS	**Selova**	**2.15**	**29**	*e*Pn	**Pb**	**15 39 29.7**	**-1.1**
BARS	**Barje**	**2.16**	**47**	*e*Pn	**Pb**	**15 39 30.3**	**-0.7**
IVAS	**Ivanjica**	**2.25**	**9**	*e*Pn	**Pb**	**15 39 32.2**	**-0.3**

IDC ***22*** *16:16:59.0*±*1.2, 28°.42N*×*84°.30E, h0*km*, mb3.8/9, mbtmp3.8/11, ML3.7/2, MS2.6/1, Error ellipse: s-maj=47.6km s-min=17.2km az=58.0*
DMN ***22*** *16:16:59.5*±*0.0, 28°.25N*×*84°.49E, h2*km*, Ml4.4/5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
NEIC ***22*** *16:17:02.0*±*2.2, 28°.5N*±*0°.1*×*84°.3E*±*0°.1, h18*km±5*km, mb4.5/11, Error ellipse: s-maj=20.7km s-min=11.3km az=216.0*
NDI ***22*** *16:17:01.8*±*0.9, 28°.46N*×*84°.38E, h15*km*, ML4.1, MW4.1, mb4.5(NEIC)*
ISC 22 16:16:58.7±1.1, **28°.19N**±0°.05×**84°.38E**±0°.03, **h9**km±8km, **n55,** σ2**s30**/73, **mb4.1**/14, **Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**0.30**	**130**	Pg	**Pg**	**16 17 04.8**	**+0.1**
	baz=153,slow=0.0						
GKN				Sg	**Sg**	**16 17 08.8**	**+0.1**
	23µm,0.2s,baz=153,slow=0.0						
DANN	**Dangsing**	**0.57**	**286**	Pg	**Pn**	**16 17 12.9**	**-0.4**
	baz=278,slow=0.0						
DANN				Sg	**Sb**	**16 17 19.6**	**+0.3**
	3µm,0.2s,baz=278,slow=0.0						
KOLN	**Koldanda**	**0.81**	**239**	Pg	**Pn**	**16 17 17.3**	**+0.8**
	baz=238,slow=0.0						
KOLN				Sg	**Sn**	**16 17 28.4**	**-0.3**
	1µm,0.2s,baz=238,slow=0.0						
DMN	**Daman**	**0.87**	**132**	Pg	**Pg**	**16 17 15.3**	**-0.2**
	baz=140,slow=0.0						
DMN				Sg	**Sg**	**16 17 26.7**	**-0.1**
	baz=140,slow=0.0						
KKN	**Kakani**	**0.89**	**117**	Pg	**Pg**	**16 17 15.5**	**-0.4**
	baz=123,slow=0.0						
KKN				Sg	**Sg**	**16 17 25.2**	**-2.4**
	baz=123,slow=0.0						
PKIN	**Phulchoki**	**1.09**	**124**	Pg	**Pg**	**16 17 19.8**	**+0.1**
	baz=130,slow=0.0						
PKIN				Sg	**Sg**	**16 17 33.9**	**0.0**
	baz=130,slow=0.0						
PKI	**Pulchoki**	**1.10**	**124**	Pg	**Pg**	**16 17 20.4**	**+0.5**
	baz=130,slow=0.0						
PKI				Sg	**Sg**	**16 17 33.6**	**-0.7**
	418nm,0.2s,baz=130,slow=0.0						
PYUN	**Piuthan**	**1.23**	**266**	Pg	**Pg**	**16 17 24.7**	**+2.3**
	baz=264,slow=0.0						
PYUN				Sg	**Sn**	**16 17 43.4**	**+4.3**
	3µm,0.3s,baz=264,slow=0.0						
GUN	**Gumba**	**1.35**	**102**	Pg	**Pn**	**16 17 23.1**	**-1.0**
	baz=105,slow=0.0						
HRYA	**Harraiya (Bast**	**2.18**	**231**	*e*S	**Sg**	**16 18 08.6**	**-0.3**
HRYA				IAML		16 18 13.0	
	comp=N,3µm,0.3s						
HRYA				IAML		16 18 13.3	
	comp=E,2µm,0.3s						
RAMN	**Ramite**	**2.33**	**122**	Pg	**Pb**	**16 17 39.9**	**-1.1**
	baz=124,slow=0.0						
RAMN				Sg	**Sb**	**16 18 10.3**	**+0.3**
	comp=E,754nm,0.3s,baz=124,slow=0.0						
BRCI	**Bahraich**	**2.55**	**256**	*e*P	**Pb**	**16 17 44.3**	**-0.4**
BRCI				*e*S	**Sb**	**16 18 14.6**	**-1.6**
BRCI				IAML		16 18 24.2	
	comp=N,2µm,0.3s						
BRCI				IAML		16 18 24.2	
	comp=E,2µm,0.3s						
ODAN	**Odare**	**2.98**	**116**	Pn	**Pn**	**16 17 47.4**	**+0.9**
	baz=118,slow=0.0						
ODAN	**Odare**	**2.98**	**116**	Pg	**Pg**	**16 17 54.6**	**-1.4**
	baz=118,slow=0.0						
ODAN				Sg	**Sb**	**16 18 31.5**	**+2.6**
	comp=E,253nm,0.5s,baz=118,slow=0.0						
GAYA	**Gaya**	**3.46**	**167**	*e*P	**Pb**	**16 17 58.7**	**-1.5**
GAYA				*e*S	**Sb**	**16 18 40.0**	**-2.4**
GAYA				IAML		16 18 49.2	
	comp=E,671nm,0.3s						
GAYA				IAML		16 18 50.1	
	comp=N,446nm,0.1s						
LGTI	**Lohaghat**	**3.84**	**290**	*e*P	**Pn**	**16 18 00.8**	**+2.9**
PTH	**Pithoragarh**	**3.89**	**291**	*e*P	**Pn**	**16 17 59.4**	**+0.5**
SHBG	**Sahibganj**	**4.17**	**134**	*e*P	Pn	16 18 07.2	+4.6
SHBG				*e*S	**Sn**	**16 18 55.2**	**+3.7**
KNTI	**KHUNTI**	**5.18**	**171**	*e*P	**Pn**	**16 18 14.4**	**-2.0**
KNTI				*e*S	**Sn**	**16 19 08.4**	**-8.0**
LSA	**Lhasa**	**6.12**	**74**	Pn	**Pn**	**16 18 31.1**	**+1.3**
KLP	**Kalpa**	**6.28**	**304**	*e*P	**Pn**	**16 18 32.3**	**+0.5**
KLP				*e*S	**Sn**	**16 19 37.0**	**-6.8**
SHL	**Shillong**	**7.19**	**110**	*e*P	**Pn**	**16 18 48.5**	**+4.3**
SHL				*e*S	**Sn**	**16 20 05.7**	**-0.5**
AZL	**Aizawl**	**8.69**	**119**	*e*P	**Pn**	**16 19 07.6**	**+2.8**
AZL				*e*S	**Sn**	**16 20 40.5**	**-2.5**
KOHI	**KOHIMA**	**9.02**	**104**	*e*P	**Pn**	**16 19 11.7**	**+2.4**
KOHI				*e*S	**Sn**	**16 20 47.0**	**-4.2**
IMP	**Imphal**	**9.20**	**109**	*e*P	**Pn**	**16 19 14.3**	**+2.6**
IMP				*e*S	**Sn**	**16 20 51.1**	**-4.3**
NIL	**Nilore**	**10.99**	**302**		**Pn**	**16 19 37.1**	**+0.9**
TARG	**Taragay, Kyrgy**	**14.53**	**340**	Pn	**Pn**	**16 20 22.3**	**-2.6**
KBL	**Kabul**	**14.54**	**300**	Pn	**Pn**	**16 20 23.5**	**-1.4**
BOOM	**Boomskoye usch**	**15.82**	**337**	Pn	**Pn**	**16 20 40.2**	**-1.6**
GAR	**Garm**	**15.90**	**316**		**Pn**	**16 20 40.9**	**-1.9**
GAR				IAmb	IAmb	16 20 42.2	
	comp=Z,8.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**16.50**	**123**	Pn	**Pn**	**16 20 52.2**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=307,slow=11,SNR=5.5						
	comp=Z,0.3nm,0.4s						
SIMJ	**Simiganj**	**16.52**	**313**	Pn	**Pn**	**16 20 48.0**	**-2.7**
KKAR	**Karatay Array**	**18.62**	**327**	P	**P**	**16 21 12.3**	**-4.2**
MKAR	**Makanchi Array**	**18.64**	**356**	P	**P**	**16 21 16.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=173,slow=13,SNR=8.4						
MKAR				LR	LR	16 28 23.4	
	comp=Z,20nm,20.2s,baz=359,slow=37						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**22.84**	**350**	P	**P**	**16 22 02.1**	**+0.2**
	comp=Z,1.4nm,0.2s,baz=171,slow=10,SNR=5.1						
	comp=Z,1.4nm,0.2s						
ZALV	**Zalesovo Beam**	**25.73**	**1**	P	**P**	**16 22 29.4**	**+0.1**
ZALV	**Zalesovo Beam**	**25.73**	**1**	P	**P**	**16 22 29.5**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=187,slow=10,SNR=5.8						
	comp=Z,0.9nm,0.4s						
SONM	**Songino Array**	**26.02**	**35**	P	**P**	**16 22 31.9**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=211,slow=7.4,SNR=1.7						
	comp=Z,0.3nm,0.4s						
BVAR	**Borovoye Array**	**26.89**	**341**	P	**P**	**16 22 37.5**	**-2.3**
	comp=Z,0.6nm,0.7s,baz=155,slow=7.9,SNR=2.1						
	comp=Z,0.6nm,0.7s						
ABKAR	**Akbulak array**	**28.17**	**325**	P	**P**	**16 22 52.3**	**+1.1**
MYLDM	**Lahad Datu**	**39.65**	**119**	P	**P**	**16 24 32.6**	**+1.5**
MYLDM				IAmb	IAmb	16 25 07.8	
	comp=Z,9.9nm,1.2s						
BZK	**Bozkurt**	**42.87**	**302**	P	**P**	**16 24 55.5**	**-1.9**
BZK				IAmb	IAmb	16 25 26.6	
	comp=Z,54nm,1.1s						
FIA1	**FINESS Array S**	**50.58**	**328**	P	**P**	**16 25 57.8**	**+0.4**
FINES	**FINESS Array B**	**50.58**	**328**	P	**P**	**16 25 57.5**	**+0.1**
FINES	**FINESS Array B**	**50.58**	**328**	P	**P**	**16 25 57.3**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=107,slow=10,SNR=8.8						
	comp=Z,1.8nm,0.8s						
ARCES	**ARCESS Array B**	**53.10**	**338**	P	**P**	**16 26 16.5**	**+0.3**
	comp=Z,2.9nm,1.1s,baz=106,slow=7.6,SNR=1.2						
	comp=Z,2.9nm,1.1s						
HFS	**Hagfors**	**56.43**	**325**	P	**P**	**16 26 40.1**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=85,slow=9.1,SNR=6.1						
	comp=Z,1.9nm,0.6s						
WRA	**Warramunga Arr**	**67.98**	**129**	P	**P**	**16 28 02.2**	**+3.8**
	comp=Z,0.5nm,0.7s,baz=321,slow=6.3,SNR=6.4						
	comp=Z,0.5nm,0.7s						
NWAO	**Narrogin (SRO)**	**68.33**	**151**	P	**P**	**16 28 03.4**	**+3.1**
NWAO				IAmb	IAmb	16 28 41.3	
	comp=Z,21nm,1.2s						
ASAR	**Alice Springs**	**70.26**	**132**	P	**P**	**16 28 15.4**	**+2.9**
	comp=Z,0.4nm,0.6s,baz=315,slow=6.3,SNR=8.9						
	comp=Z,0.4nm,0.6s						
E19K	**Redstone River**	**74.23**	**21**	P	**P**	**16 28 35.3**	**-0.4**
E19K				IAmb	IAmb	16 28 40.9	
	comp=Z,6.0nm,1.1s						
E21K	**Killik River**	**74.60**	**19**	P	**P**	**16 28 37.8**	**-0.1**
E21K				IAmb	IAmb	16 28 57.4	
	comp=Z,4.4nm,1.2s						
BMAR	**Burnt Mountain**	**77.89**	**17**	P	**P**	**16 28 57.9**	**+1.3**
BCAR	**Beaver Creek A**	**81.95**	**19**	P	**P**	**16 29 19.2**	**+0.6**
BCPM	**Bancas Point**	**85.03**	**21**	P	**P**	**16 29 34.8**	**+0.3**

IDC ***22*** *16:29:54.9*±*1.4, 18°.18S*×*178°.31W, h559*km*16*km*, mb4.0/20, mbtmp4.8/22, Error ellipse: s-maj=11.3km s-min=8.7km az=146.0*
NEIC ***22*** *16:29:55.4*±*1.4, 18°.14S*±*0°.10*×*178°.3W*±*0°.1, h562*km±8*km, mb4.7/399, Error ellipse: s-maj=14.8km s-min=13.3km az=131.0*
NOU ***22*** *16:29:55.1, 18°.17S*×*178°.17W, h562*km*, mb4.7/39, Fiji Islands Region*
ISC 22 16:29:53.9±0.3, **18°.14S**±0°.05×**178°.22W**±0°.06, **h550**km, **n722,** σ0°**86**/559, **mb4.7**/218, **68C-28D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.58**	**261**	P	**P**	**16 31 01.5**	**+2.1**
LKBA	**Tubou, Lakemba**	**0.58**	**261**	S	**S**	**16 31 56.3**	**+3.7**
TAVE	**Taveuni**	**2.15**	**311**	P	**P**	**16 31 07.3**	**+2.9**
TAVE	**Taveuni**	**2.15**	**311**	S	**S**	**16 32 06.0**	**+4.4**
DGTI	**Dogotuki**	**2.68**	**313**	P	**P**	**16 31 09.2**	**+2.0**
DGTI	**Dogotuki**	**2.68**	**313**	S	**S**	**16 32 10.4**	**+3.8**
MSVF	**Nonsavu**	**3.58**	**276**		**P**	**16 31 15.9**	**+3.0**
MSVF	**Nonsavu**	**3.58**	**276**	P	**P**	**16 31 16.3**	**+3.4**
FUTU	**Fugatoga**	**3.81**	**1**	P	**P**	**16 31 15.5**	**+1.0**
NIUE	**Niue**	**7.91**	**98**	P	**P**	**16 31 50.9**	**+0.1**
RAO	**Raoul Island**	**11.06**	**179**	P	**P**	**16 32 23.8**	**+1.1**
PINNC	**Pines Island,**	**14.16**	**249**	P	**P**	**16 32 54.4**	**-0.4**
SANVU	**Saraoutou**	**14.22**	**279**	P	**P**	**16 32 54.7**	**-0.7**
DZM	**Mont Dzumac**	**14.93**	**252**		**P**	**16 33 02.2**	**-0.7**
DZM	**Mont Dzumac**	**14.93**	**252**	P	**P**	**16 33 01.5**	**-1.3**
	23nm,0.8s,baz=102,slow=23,SNR=18						
DZM	**Mont Dzumac**	**14.93**	**252**	P	**P**	**16 33 01.9**	**-0.9**
ONTNC	**Ouen Toro**	**14.97**	**251**	P	**P**	**16 33 02.4**	**-0.7**
RAR	**Rarotonga**	**17.63**	**103**	P	**P**	**16 33 28.4**	**-0.1**
RAR	**Rarotonga**	**17.63**	**103**	P	**P**	**16 33 28.1**	**-0.4**
	80nm,1.0s,baz=245,slow=6.0,SNR=7.8						
RAR	**Rarotonga**	**17.63**	**103**	P	**P**	**16 33 30.2**	**+1.7**
URZ	**Urewera**	**20.46**	**191**	P	**P**	**16 33 52.3**	**-1.6**
	5.6nm,0.5s,baz=272,slow=2.3,SNR=9.7						
	5.6nm,0.5s						
URZ	**Urewera**	**20.46**	**191**	P	**P**	**16 33 52.6**	**-1.4**
URZ	**Urewera**	**20.46**	**191**	S	**S**	**16 37 08.7**	**+0.4**
TARA	**Tarawa**	**21.25**	**335**		**P**	**16 34 01.4**	**-0.1**
TARA	**Tarawa**	**21.25**	**335**	P	**P**	**16 34 01.8**	**+0.4**
	109nm,1.1s						
TCW	**Tory Channel**	**23.88**	**194**	P	**P**	**16 34 25.3**	**+0.7**
QRZ	**Quartz Range**	**23.97**	**197**	P	**P**	**16 34 25.5**	**0.0**
QRZ	**Quartz Range**	**23.97**	**197**	P	**P**	**16 34 25.4**	**0.0**
QRZ	**Quartz Range**	**23.97**	**197**	S	**S**	**16 38 04.0**	**+0.3**
MRNZ	**Matariki Terra**	**24.44**	**197**	P	**P**	**16 34 30.2**	**+0.7**
DSZ	**Denniston Nort**	**25.03**	**198**	P	**P**	**16 34 34.8**	**-0.1**
DSZ				IAmb	IAmb	16 35 08.7	
	comp=Z,36nm,1.2s						
PPT	**Papeete**	**27.25**	**93**	P	**P**	**16 34 55.3**	**+0.6**
	comp=Z,33nm,0.6s,baz=227,slow=19,SNR=5.5						
	comp=Z,33nm,0.6s						
TW1H	**Toowoomba 1 Ha**	**28.96**	**246**	P	**P**	**16 35 10.8**	**+1.2**
EIDS	**Eidsvold**	**29.36**	**250**		**P**	**16 35 12.7**	**-0.3**
EIDS				IAmb	IAmb	16 35 13.9	
	comp=Z,16nm,0.7s						
EIDS	**Eidsvold**	**29.36**	**250**	P	**P**	**16 35 13.6**	**+0.6**
MLZ	**Mavora Lakes**	**29.44**	**200**	P	**P**	**16 35 13.6**	**+0.2**
MLZ				IAmb	IAmb	16 35 47.6	
	comp=Z,34nm,1.3s						
ARMA	**Armidale**	**29.98**	**240**	P	**P**	**16 35 18.5**	**0.0**
ARMA				IAmb	IAmb	16 35 20.3	
	comp=Z,20nm,0.8s						
ARMA	**Armidale**	**29.98**	**240**	P	**P**	**16 35 19.5**	**+1.1**
CTAO	**Charters Tower**	**33.59**	**261**		**P**	**16 35 49.2**	**+0.1**
CTAO				IAmb	IAmb	16 35 50.2	
	comp=Z,19nm,0.7s						
CTAO	**Charters Tower**	**33.59**	**261**	P	**P**	**16 35 49.6**	**+0.4**
CAN	**Canberra**	**33.71**	**233**	P	**P**	**16 35 50.6**	**+0.6**
CAN				IAmb	IAmb	16 35 51.1	
	comp=Z,15nm,0.8s						
PMG	**Port Moresby**	**34.68**	**280**		**P**	**16 35 58.6**	**+0.3**
CMSA	**Cobar Meteorol**	**35.20**	**241**	P	**P**	**16 36 02.9**	**+0.5**
QLP	**Quilpie**	**35.63**	**250**	P	**P**	**16 36 06.5**	**+0.4**
JOHN	**Johnston Islan**	**35.69**	**14**	P	**P**	**16 36 07.0**	**+0.4**
TOO	**Toolangi**	**37.17**	**231**		**P**	**16 36 19.4**	**+0.8**
TOO				IAmb	IAmb	16 36 20.2	
	comp=Z,8.8nm,0.8s						
COEN	**Coen**	**37.29**	**271**		**P**	**16 36 20.3**	**+0.4**
COEN				IAmb	IAmb	16 36 21.5	
	comp=Z,18nm,0.8s						
BRAT	**Ballarat**	**38.32**	**232**	P	**P**	**16 36 29.7**	**+1.7**
STKA	**Stephens Creek**	**38.68**	**241**		**P**	**16 36 31.4**	**+0.4**
STKA	**Stephens Creek**	**38.68**	**241**	P	**P**	**16 36 31.3**	**+0.3**
	comp=Z,17nm,0.8s,baz=84,slow=10,SNR=27						
	comp=Z,17nm,0.8s						
STKA	**Stephens Creek**	**38.68**	**241**	P	**P**	**16 36 31.8**	**+0.8**
INKA	**Innaminka**	**38.83**	**248**		**P**	**16 36 33.0**	**+0.8**
INKA				IAmb	IAmb	16 36 34.2	
	comp=Z,7.8nm,0.7s						
BBOO	**Buckleboo**	**43.46**	**241**	P	**P**	**16 37 08.7**	**-0.1**
BBOO				IAmb	IAmb	16 37 09.5	
	comp=Z,12nm,0.7s						
HUH	**Hualalai**	**43.54**	**31**	P	**P**	**16 37 10.2**	**+0.3**
STCH	**Steam Cracks**	**43.64**	**32**	P	**P**	**16 37 10.9**	**+0.4**
HMH	**Humu'ula Sheep**	**43.64**	**32**	P	**P**	**16 37 11.5**	**+0.7**
POHA	**Pohakuloa**	**43.75**	**32**	P	**P**	**16 37 11.7**	**+0.2**
HPAH	**Hawaii Prepara**	**43.90**	**31**	P	**P**	**16 37 12.7**	**+0.3**
WR8	**Warramunga Arr**	**44.62**	**260**		**P**	**16 37 17.4**	**-0.6**
WB0	**Warramunga Arr**	**44.74**	**260**		**P**	**16 37 18.4**	**-0.6**
WB0				IAmb	IAmb	16 37 19.2	
	comp=Z,8.8nm,0.7s						
WRA	**Warramunga Arr**	**44.77**	**260**		**P**	**16 37 18.6**	**-0.7**
WRA	**Warramunga Arr**	**44.77**	**260**	P	**P**	**16 37 18.9**	**-0.3**
	comp=Z,7.5nm,0.7s,baz=96,slow=6.9,SNR=52						
WRA				PcP	**PcP**	**16 38 49.5**	**0.0**
	comp=Z,2.8nm,0.5s,baz=88,slow=4.2,SNR=9.9						
WRA				ScP	**ScP**	**16 41 50.8**	**+1.1**
	comp=Z,0.7nm,0.9s,baz=89,slow=3.8,SNR=2.4						
WRA				S	**S**	**16 43 12.6**	**-4.1**
	comp=Z,4.4nm,0.8s,baz=101,slow=12,SNR=9.8						
WRA				PKiKP	**PKiKP**	**16 45 44.8**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=68,slow=1.1,SNR=2.2						
	comp=Z,7.5nm,0.7s						
AS31	**Alice Springs**	**44.91**	**254**		**P**	**16 37 20.3**	**+0.1**
AS31				IAmb	IAmb	16 37 21.3	
	comp=Z,17nm,1.1s						
ASAR	**Alice Springs**	**44.91**	**254**	P	**P**	**16 37 20.2**	**0.0**
	comp=Z,38nm,0.6s,baz=89,slow=8.9,SNR=1302						
ASAR				PcP	**PcP**	**16 38 49.8**	**-0.2**
	comp=Z,5.7nm,0.5s,baz=96,slow=4.0,SNR=14						
ASAR				ScP	**ScP**	**16 41 51.2**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=96,slow=4.9,SNR=4.4						
ASAR				S	**S**	**16 43 15.3**	**-3.3**
	comp=Z,8.9nm,0.9s,baz=87,slow=15,SNR=34						
ASAR				PKiKP	**PKiKP**	**16 45 45.0**	**-1.8**
	comp=Z,0.3nm,0.5s,ba

		comp=Z,29nm,1.2s						
VES	Vestal, Richgr	77.52	46	IAmb	IAmb	16 40 54.8		
	comp=Z,23nm,0.8s							
TPO	Tropico Hills	77.59	47	IAmb	IAmb	16 40 55.8		
	comp=Z,17nm,0.9s							
O02D	Mt. Diablo Mer	77.61	40	IAmb	IAmb	16 40 56.5		
	comp=Z,29nm,1.2s							
R17L	Mt. Peulik Vol	77.65	12	P	P	16 40 53.4	-0.2	
	baz=201							
PLK4	Peulik 4	77.65	12		P	16 40 53.7	+0.1	
BUCR	Buckhorn Ranch	77.83	44		P	16 40 55.0	-0.1	
ISA	Isabella, Lake	77.84	46	IAmb	IAmb	16 40 57.2		
	comp=Z,16nm,0.9s							
OHAK	Old Harbor	77.91	14		P	16 40 55.0	+0.1	
OHAK				IAmb	IAmb	16 40 55.9		
	comp=Z,25nm,0.9s							
OHAK	Old Harbor	77.91	14	P	P	16 40 55.2	+0.3	
OHAK	Old Harbor	77.91	14	P	P	16 40 54.9	0.0	
	baz=204							
R18K	Karluk	77.98	13	P	P	16 40 55.2	-0.1	
	baz=203							
BORC	Borrego Spring	78.02	49	P	P	16 40 57.1	+1.0	
LRMC	Laurel Mtn Rad	78.29	47	P	P	16 40 58.0	+0.4	
Q17K	Contact Creek	78.33	12	P	P	16 40 56.8	-0.5	
	baz=202							
MDJ	Mudanjiang	78.48	325	IAmb	IAmb	16 41 00.6		
	comp=Z,27nm,0.9s							
MDJ	Mudanjiang	78.48	325	P	P	16 40 59.7	+1.4	
O15K	Ungalikthiuk R	78.50	10	P	P	16 40 58.0	0.0	
	baz=198							
MDPB	Devils Postpil	78.51	44	IAmb	IAmb	16 41 00.8		
	comp=Z,19nm,0.9s							
Q16K	King Salmon	78.57	11	P	P	16 40 58.2	-0.1	
	baz=201							
KDAK	Kodiak Island	78.58	14		P	16 40 58.7	+0.3	
KDAK				IAmb	IAmb	16 41 00.4		
	comp=Z,27nm,0.8s							
KDAK	Kodiak Island	78.58	14	P	P	16 40 58.6	+0.1	
	baz=205							
P16K	Nushagak River	78.66	11	P	P	16 40 58.7	-0.2	
	baz=200							
M03C	McCloud	78.67	40	IAmb	IAmb	16 41 01.5		
	comp=Z,31nm,0.9s							
WAKR	Walker	78.76	43	IAmb	IAmb	16 41 02.4		
	comp=Z,23nm,0.9s							
HATC	Hat Creek Radi	78.80	40	IAmb	IAmb	16 41 02.3		
	comp=Z,22nm,0.9s							
M11K	Mekoryuk	78.85	6	P	P	16 41 00.0	+0.2	
	baz=192							
Q18K	Katmai Hardscr	78.86	12	P	P	16 40 59.8	-0.4	
	baz=202							
BEKR	Beckworth	78.94	42	IAmb	IAmb	16 41 02.4		
	comp=Z,11nm,0.6s							
N14K	Kuskokwak Cree	78.94	8	P	P	16 41 00.6	+0.3	
	baz=196							
GLA	Glamis	79.06	50	IAmb	IAmb	16 41 04.2		
	comp=Z,18nm,0.9s							
P17K	Kvichak River	79.10	11	P	P	16 41 00.9	-0.2	
	baz=201							
L04D	Klamath Falls	79.12	39	IAmb	IAmb	16 41 03.7		
	comp=Z,24nm,0.8s							
O16K	Kokwok River B	79.18	10	IAmb	IAmb	16 41 01.2		
	comp=Z,14nm,0.7s							
O16K	Kokwok River B	79.18	10	P	P	16 41 00.7	-0.9	
	baz=199							
M13K	Dall Lake	79.20	7	P	P	16 41 01.2	-0.4	
	baz=194							
LHV	Little Huntoon	79.23	44	IAmb	IAmb	16 41 04.8		
	comp=Z,22nm,1.0s							
Q20K	Shuyak Island	79.38	13	P	P	16 41 02.1	-0.6	
	baz=205							
Q19K	Cape Douglas,	79.40	13	IAmb	IAmb	16 41 03.6		
	comp=Z,39nm,0.8s							
Q19K	Cape Douglas,	79.40	13	P	P	16 41 02.5	-0.4	
	baz=204							
N15K	Kwethluk River	79.41	9	P	P	16 41 03.1	+0.2	
	baz=198							
NVAR	Mina Array Bea	79.46	44	P	P	16 41 04.8	+0.9	
	comp=Z,11nm,0.8s,baz=224,slow=8.7,SNR=63							
	comp=Z,11nm,0.8s							
PAHR	Pah Rah Range	79.47	42	IAmb	IAmb	16 41 05.8		
	comp=Z,23nm,1.2s							
P18K	Big Mountain,	79.51	12	P	P	16 41 03.0	-0.5	
	baz=202							
O17K	Koliganek Bris	79.52	11	P	P	16 41 02.8	-0.6	
	baz=200							
NV11	Mina Array Sit	79.56	44	IAmb	IAmb	16 41 06.3		
	comp=Z,24nm,1.2s							
M14K	Bethel	79.70	8	IAmb	IAmb	16 41 05.9		
	comp=Z,63nm,1.3s							
M14K	Bethel	79.70	8	P	P	16 41 04.6	+0.2	
	baz=196							
M15K	Kasigluk River	79.82	9	P	P	16 41 05.2	+0.2	
	baz=197							
N16K	Nishlik Lake	79.90	10	P	P	16 41 05.6	+0.2	
	baz=199							
P19K	Oil Pt	80.15	13	IAmb	IAmb	16 41 07.0		
	comp=Z,22nm,0.7s							
P19K	Oil Pt	80.15	13	P	P	16 41 06.4	-0.4	
	baz=204							
L14K	Kuka Creek	80.18	8	P	P	16 41 07.4	+0.6	
	baz=195							
N17K	Nushagak Hills	80.21	10	IAmb	IAmb	16 41 07.9		
	comp=Z,27nm,1.4s							
N17K	Nushagak Hills	80.21	10	P	P	16 41 06.9	-0.2	
	baz=200							
H04D	Lebanon	80.25	37	IAmb	IAmb	16 41 09.7		
	comp=Z,29nm,1.2s							
K05A	Summer Lake	80.26	39	IAmb	IAmb	16 41 10.2		
	comp=Z,40nm,1.0s							
CN2	Changchun	80.32	322	*e*P	P	16 41 09.0	+1.0	
CN2				pmax	pmax			
	comp=Z,20nm,0.4s							
BNX	BinXian	80.39	325	⇑P	P	16 41 09.0	+0.7	
BNX				pmax	pmax			
	comp=Z,35nm,0.9s							
M16K	Timber Creek	80.39	9	P	P	16 41 09.0	+1.0	
	baz=199,SNR=12							
O19K	Port Alsworth	80.43	12	P	P	16 41 07.8	-0.3	
	baz=203							
CNPM	China Poot	80.46	14	IAmb	IAmb	16 41 09.3		
	comp=Z,37nm,1.0s							
WIFE	Three Sisters-	80.50	38	IAmb	IAmb	16 41 11.2		
	comp=Z,20nm,0.9s							
K13K	Kusilvak Mount	80.53	6	P	P	16 41 09.0	+0.4	
	baz=193							
N18K	Kilae Creek	80.58	11	P	P	16 41 08.7	-0.3	
	baz=202							
L15K	Ungalak Mounta	80.66	8	P	P	16 41 09.6	+0.3	
	baz=196,SNR=5.3							
H04A	Detroit Lake	80.67	37	IAmb	IAmb	16 41 10.8		
	comp=Z,18nm,0.6s							
O20K	Slope Mountain	80.67	13	P	P	16 41 09.4	-0.1	
	baz=205							
BRLK	Bradley Lake	80.76	14	IAmb	IAmb	16 41 10.7		
	comp=Z,26nm,0.8s							
BRSE	Bradley Lake S	80.77	14	P	P	16 41 10.0	+0.1	
	baz=206							
G04A	Mulino	80.82	36	IAmb	IAmb	16 41 13.3		
	comp=Z,28nm,0.7s							
RED	Redoubt Volcan	80.94	12	IAmb	IAmb	16 41 11.0		
	comp=Z,37nm,1.0s							
I05D	Terrebonne, OR	80.95	37	IAmb	IAmb	16 41 13.2		
	comp=Z,22nm,0.9s							
N19K	Bonanza Creek	80.97	12	IAmb	IAmb	16 41 11.4		
	comp=Z,14nm,0.8s							
N19K	Bonanza Creek	80.97	12	P	P	16 41 10.3	-0.7	
	baz=203,SNR=5.5							
L16K	Owhat River	80.97	9	IAmb	IAmb	16 41 12.8		
	comp=Z,42nm,1.1s							
L16K	Owhat River	80.97	9	P	P	16 41 12.1	+1.1	
	baz=198,SNR=11							
M17K	Holitna River	81.00	10	P	P	16 41 12.3	+1.2	
	baz=200,SNR=15							
PRN	Pahroc Range	81.10	46	IAmb	IAmb	16 41 14.7		
	comp=Z,22nm,0.9s							
K15K	Wolf Creek Mou	81.25	8	P	P	16 41 13.4	+1.1	
	baz=196,SNR=14							
HOOD	Mount Hood Mea	81.35	37	IAmb	IAmb	16 41 15.0		
	comp=Z,30nm,1.0s							
M18K	Stony River	81.35	11	P	P	16 41 13.2	+0.3	
	baz=202,SNR=5.1							
SEW	Seward	81.39	14	P	P	16 41 12.6	-0.5	
	baz=208							
J14K	Nanvaranak Lak	81.44	7	P	P	16 41 13.6	+0.3	
	baz=194							
WVOR	Wild Horse Val	81.46	40	IAmb	IAmb	16 41 16.1		
	comp=Z,28nm,1.1s							
G05A	Wamic	81.50	37	IAmb	IAmb	16 41 15.8		
	comp=Z,22nm,0.9s							
L17K	Donlin	81.55	9	P	P	16 41 15.2	+1.3	
	baz=199,SNR=13							
O22K	Cooper Landing	81.66	14	P	P	16 41 14.1	-0.4	
	baz=207							
TUC	Tucson	81.69	52		P	16 41 16.4	+0.9	
TUC				IAmb	IAmb	16 41 18.2		
	comp=Z,15nm,0.9s							
SPCR	Spurr Chakacha	81.77	12	P	P	16 41 14.4	-0.8	
	baz=205							
SPU	Mount Spurr	81.79	12	IAmb	IAmb	16 41 15.1		
	comp=Z,16nm,1.1s							
GAMB	Gambell	81.81	3	P	P	16 41 16.3	+1.1	
	baz=186							
G06A	Carlson Farm,	81.88	37	IAmb	IAmb	16 41 17.7		
	comp=Z,18nm,1.0s							
L18K	Granite Mounta	81.89	10	IAmb	IAmb	16 41 17.0		
	comp=Z,21nm,0.7s							
L18K	Granite Mounta	81.89	10	P	P	16 41 16.3	+0.7	
	baz=201,SNR=13							
BELA	Belgrano 2	81.91	173		P	16 41 15.2	-0.5	
BELA				IAmb	IAmb	16 41 16.1		
	comp=Z,9.7nm,0.7s							
GNW	Green Mountain	82.06	34	IAmb	IAmb	16 41 18.6		
	comp=Z,16nm,0.9s							
J08A	Circle Bar Ran	82.08	39	IAmb	IAmb	16 41 19.1		
	comp=Z,37nm,1.2s							
K17K	Iditarod	82.10	9	IAmb	IAmb	16 41 17.9		
	comp=Z,13nm,0.7s							
K17K	Iditarod	82.10	9	P	P	16 41 17.1	+0.4	
	baz=199							
STLK	Strandline Lak	82.12	12	IAmb	IAmb	16 41 16.6		
	comp=Z,17nm,0.8s							
LCMT	Little Creek M	82.15	47	IAmb	IAmb	16 41 19.8		
	comp=Z,13nm,0.9s							
L19K	White Mountain	82.17	11	IAmb	IAmb	16 41 19.1		
	comp=Z,27nm,1.1s							
L19K	White Mountain	82.17	11	P	P	16 41 17.0	-0.1	
	baz=202,SNR=9.0							
X16A	Lo Mia Camp, P	82.19	50	IAmb	IAmb	16 41 20.6		
	comp=Z,16nm,1.0s							
RC01	Rabbit Creek A	82.20	14	IAmb	IAmb	16 41 18.0		
	comp=Z,22nm,1.0s							
RC01	Rabbit Creek A	82.20	14	P	P	16 41 16.8	-0.4	
	baz=207,SNR=5.7							
M20K	Styx River	82.21	12	P	P	16 41 16.4	-1.0	
	baz=204,SNR=5.1							
PWL	Port Wells	82.32	14	IAmb	IAmb	16 41 18.3		
	comp=Z,26nm,0.9s							
PWL	Port Wells	82.32	14	P	P	16 41 17.5	-0.4	
	baz=209							
SUA	Susitna One	82.32	13	P	P	16 41 17.2	-0.8	
	baz=206,SNR=11							
J16K	Anvik River	82.32	8	P	P	16 41 18.6	+0.8	
	baz=197,SNR=5.1							
CCUT	Cedar City	82.33	47	IAmb	IAmb	16 41 21.1		
	comp=Z,13nm,0.9s							
319A	Douglas	82.41	54	IAmb	IAmb	16 41 22.0		
	comp=Z,25nm,0.9s							
KNB	Kanab	82.45	47	IAmb	IAmb	16 41 21.5		
	comp=Z,15nm,0.9s							
KAIM	Kayak Island	82.49	16	P	P	16 41 19.1	+0.4	
	baz=212							
SKT	Skwentna	82.62	12	P	P	16 41 18.7	-0.7	
	baz=206							
L20K	Farewell, AK	82.62	11	P	P	16 41 19.2	-0.2	
	baz=203,SNR=6.8							
GLI	Glacier Island	82.63	15	P	P	16 41 18.9	-0.5	
	baz=210							
J17K	VABM Dome	82.64	9	IAmb	IAmb	16 41 20.5		
	comp=Z,14nm,0.7s							
J17K	VABM Dome	82.64	9	P	P	16 41 20.1	+0.7	
	baz=198,SNR=5.3							
EYAK	Cordova Ski Ar	82.68	16	P	P	16 41 19.4	-0.2	
	baz=211							
M22K	Willow	82.71	13	P	P	16 41 19.5	-0.2	
	baz=207,SNR=7.7							
WUAZ	Wupatki	82.75	49	IAmb	IAmb	16 41 23.2		
	comp=Z,15nm,1.1s							
KNK	Knik Glacier	82.78	14	IAmb	IAmb	16 41 20.8		
	comp=Z,19nm,0.8s							
KNK	Knik Glacier	82.78	14	P	P	16 41 19.7	-0.5	
	baz=208,SNR=6.4							
PMR	Palmer	82.78	14	IAmb	IAmb	16 41 20.2		
	comp=Z,14nm,0.6s							
PMR	Palmer	82.78	14	P	P	16 41 19.9	-0.2	
PMR	Palmer	82.78	14	P	P	16 41 19.7	-0.4	
	baz=208,SNR=5.8							
G08A	Pilot Rock	82.88	38	IAmb	IAmb	16 41 23.0		
	comp=Z,40nm,1.4s							
I17K	Unalakleet	82.89	8	P	P	16 41 21.2	+0.6	
	baz=197							
LTY	Liberty	83.05	35	IAmb	IAmb	16 41 23.3		
	comp=Z,14nm,1.0s							
J18K	Innoko River	83.06	10	IAmb	IAmb	16 41 22.7		
	comp=Z,30nm,0.8s							
J18K	Innoko River	83.06	10	P	P	16 41 21.8	+0.3	
	baz=201,SNR=24							
DUN6	Lazy B Ranch	83.08	53	IAmb	IAmb	16 41 25.3		
	comp=Z,34nm,1.0s							
E07A	Sunnyside	83.09	36	IAmb	IAmb	16 41 23.9		
	comp=Z,30nm,1.1s							
U33K	Whale Pass	83.13	24	P	P	16 41 22.8	+0.8	
	baz=223							
V35K	Ketchikan	83.14	25	P	P	16 41 22.8	+0.7	
	baz=224							
DIV	Divide	83.17	15	IAmb	IAmb	16 41 22.9		
	comp=Z,26nm,0.8s							
HAWA	Hanford	83.18	37	IAmb	IAmb	16 41 24.4		
	comp=Z,28nm,1.1s							
HEH	HeiHe	83.21	328	*e*P	P	16 41 22.8	+0.3	
HEH				pmax	pmax			
	comp=Z,12nm,1.3s							
CUT	Chulitna	83.26	13	P	P	16 41 21.9	-0.6	
	baz=207,SNR=9.6							
M23K	Glacier View	83.28	14	P	P	16 41 22.3	-0.4	
	baz=209							
PPLA	Purkeypile	83.32	12	IAmb	IAmb	16 41 48.9		
	comp=Z,22nm,1.4s							
PPLA	Pureypile	83.32	12	P	P	16 41 22.6	-0.4	
	baz=205							
BMRM	Bremner River	83.33	16	IAmb	IAmb	16 41 23.8		
	comp=Z,38nm,1.1s							
BMRM	Bremner River	83.33	16	P	P	16 41 22.9	-0.1	
	baz=212,SNR=5.3							
WAH2	Wahluke Slope	83.37	36	IAmb	IAmb	16 41 24.6		
	comp=Z,12nm,0.6s							
MESA	MESA	83.39	17	P	P	16 41 23.9	+0.5	
	baz=214							
K20K	Telida	83.40	11	P	P	16 41 23.2	0.0	
	baz=203,SNR=23							
S31K	Pelican	83.40	21	P	P	16 41 24.1	+0.8	
	baz=220							
SCM	Sheep Creek Mo	83.41	14	P	P	16 41 23.1	-0.3	
	baz=209,SNR=13							
H16K	Elim	83.43	7	P	P	16 41 23.6	+0.3	
	baz=195							
KLU	Klutina	83.45	15	P	P	16 41 23.4	-0.2	
	baz=211,SNR=5.9							
E08A	Dider Farm, El	83.50	37	IAmb	IAmb	16 41 25.9		
	comp=Z,15nm,0.8s							
CRQE	Cirque	83.55	17	P	P	16 41 24.2	0.0	
	baz=213,SNR=5.8							
G15K	Niukluk	83.58	6	P	P	16 41 24.5	+0.5	
	baz=194							
WRAK	Wrangell Islan	83.65	24	P	P	16 41 24.7	+0.2	
	baz=223							
MAW	Mawson	83.71	200	P	P	16 41 24.8	0.0	
	comp=Z,2.2nm,0.6s,baz=136,slow=5.8,SNR=7.6							
	comp=Z,2.2nm,0.6s							
PNL	Peninsula	83.72	19	P	P	16 41 25.4	+0.5	
	baz=217							
J19K	Poorman	83.73	10	IAmb	IAmb	16 41 25.7		
	comp=Z,10nm,0.7s							
J19K	Poorman	83.73	10	P	P	16 41 25.3	+0.4	
	baz=202,SNR=6.4							
MFID	Camas Ranch	83.73	41	IAmb	IAmb	16 41 27.3		
	comp=Z,18nm,1.1s							
PINM	Pinnacle	83.81	18	P	P	16 41 25.5	+0.1	
	baz=216							
TNA	Tin City	83.81	4	P	P	16 41 25.3	+0.2	
	baz=190							
F14K	Arctic Creek	83.84	5	P	P	16 41 25.3	0.0	
	baz=191							
N25K	Chitina, Valde	83.87	15	P	P	16 41 25.6	-0.1	
	baz=212,SNR=18							
GRNC	Granite Creek	83.90	17	IAmb	IAmb	16 41 27.0		
	comp=Z,26nm,1.0s							
D08A	Wollman Farm,	83.91	36	IAmb	IAmb	16 41 27.8		
	comp=Z,19nm,1.0s							
M24K	Tolsona, Glenn	83.92	15	P	P	16 41 26.1	+0.2	
	baz=210,SNR=9.1							
WAT6	Susitna Watana	83.97	14	P	P	16 41 25.7	-0.6	
	baz=209,SNR=22							
WAT1	Susitna Watana	84.01	13	P	P	16 41 25.8	-0.5	
	baz=208							
BJT	Baijiatuau	84.07	315	IAmb	IAmb	16 41 29.0		
	comp=Z,21nm,1.3s							
BJT	Baijiatuau	84.07	315	P	P	16 41 28.2	+1.1	
PSI	Prapat	84.09	275	P	P	16 41 27.5	-0.4	
MCARA	McCarthy VSAT	84.09	16	IAmb	IAmb	16 41 27.8		
	comp=Z,23nm,1.0s							
MCARA	McCarthy VSAT	84.09	16	P	P	16 41 26.8	+0.1	
	baz=213							
LYN	LuoYang	84.12	309	P	P	16 41 28.9	+1.5	
LYN				pmax	pmax			
	comp=Z,47nm,0.8s							
J20K	Nowinta River	84.14	10	IAmb	IAmb	16 41 27.9		
	comp=Z,20nm,0.8s							
J20K	Nowinta River	84.14	10	P	P	16 41 26.6	-0.2	
	baz=203,SNR=15							
G16K	Koyuk River	84.15	7	P	P	16 41 27.8	+1.0	
	baz=195							
KTH	Kantishna Hill	84.16	12	IAmb	IAmb	16 41 26.8		
	comp=Z,21nm,0.9s							
LOGN	Logan Glacier	84.19	17	IAmb	IAmb	16 41 28.4		
	comp=Z,29nm,1.0s							
TRF	Thorofare Moun	84.20	12	P	P	16 41 26.5	-0.8	
	baz=207,SNR=37							
CHUM	Lake Minchumin	84.20	11	P	P	16 41 26.1	-1.0	
	baz=205,SNR=9.9							
P29M	Windy Craggy	84.20	19	P	P	16 41 28.0	+0.7	
	baz=218,SNR=5.1							
CTG	Chitna Glacier	84.20	17	P	P	16 41 27.4	-0.1	
	baz=215,SNR=5.7							
CTGM	Chitina Glacie	84.21	17	IAmb	IAmb	16 41 28.5		
	comp=Z,26nm,0.9s							
F15K	North Star Dit	84.22	6	P	P	16 41 27.0	-0.2	
	baz=193							
R32K	Eaglecrest	84.23	22	IAmb	IAmb	16 41 28.6		
	comp=Z,41nm,1.4s							
GCSA	Galena City Sc	84.24	9	P	P	16 41 27.6	+0.3	
	baz=200							
F10A	Beach Ranch, E	84.27	38	IAmb	IAmb	16 41 29.4		
	comp=Z,30nm,1.0s							
BESE	Bessie Mountai	84.34	21	IAmb	IAmb	16 41 29.4		
	comp=Z,20nm,1.0s							
O28M	Mount Upton	84.37	18	P	P	16 41 28.5	0.0	
	baz=216,SNR=9.2							
H18K	Honhosa River	84.41	8	P	P	16 41 29.8	+1.6	
	baz=199							
HARP	HAARP	84.41	15	P	P	16 41 28.4	+0.1	
	baz=211,SNR=6.6							
LLLB	Lillooet	84.41	32	IAmb	IAmb	16 41 29.9		
	comp=Z,19nm,1.1s							
B08A	Colville Reser	84.42	35	IAmb	IAmb	16 41 29.6		
	comp=Z,18nm,0.9s							
G17K	Kiwalik Mounta	84.45	7	P	P	16 41 29.2	+0.9	
	baz=197							
O29M	Mount Kennedy	84.47	19	P	P	16 41 29.1	+0.4	
	baz=218							
DHY	Denali Highway	84.48	14	IAmb	IAmb	16 41 30.1		
	comp=Z,34nm,1.5s							
DHY	Denali Highway	84.48	14	P	P	16 41 28.2	-0.6	
	baz=209,SNR=9.7							
PLBC	Pleasant Camp	84.51	20	P	P	16 41 29.4	+0.7	
	baz=220,SNR=6.8							
ENH	Enshi	84.55	304	P	P	16 41 30.9	+1.2	
BPAW	Bear Paw Mtn.	84.64	12	IAmb	IAmb	16 41 30.8		
	comp=Z,8.4nm,0.8s							
BPAW	Bear Paw Mtn.	84.64	12	P	P	16 41 29.5	+0.1	
	baz=206							
I20K	Naaghedeneel	84.66	10	IAmb	IAmb	16 41 30.7		
	comp=Z,22nm,0.9s							
I20K	Naaghedeneel	84.66	10	P	P	16 41 29.9	+0.5	
	baz=203							
HLID	Hailey	84.68	41	IAmb	IAmb	16 41 32.3		
	comp=Z,9.8nm,0.8s							
MCK	McKinley	84.72	13	P	P	16 41 29.2	-0.6	
	baz=208,SNR=14							
PAX	Paxson	84.83	14	IAmb	IAmb	16 41 30.7		
	comp=Z,10nm,0.9s							
PAX	Paxson	84.83	14	P	P	16 41 29.7	-0.7	
	baz=211,SNR=8.5							
P30M	Million Dollar	84.83	19	P	P	16 41 31.2	+0.8	
	baz=219							
SKAG	Skagway	84.85	20	P	P	16 41 32.2	+1.8	
	baz=220							
T35M	Bob Quinn	84.86	24	P	P	16 41 31.7	+1.1	
	baz=225							
YUK8	Steele Glacier	84.91	18	P	P	16 41 31.4	+0.4	
	baz=216							
M26K	Nabesna, AK	84.95	16	P	P	16 41 31.1	+0.2	
	baz=213,SNR=18							
H19K	Roundabout Mou	85.03	9	P	P	16 41 31.1	0.0	
	baz=201							
SRU	San Rafael Swe	85.04	46	IAmb	IAmb	16 41 33.6		
	comp=Z,9.9nm,0.7s							
YUK6	Outpost Mounta	85.05	18	P	P	16 41 31.7	0.0	
	baz=218							
G18K	Tagagawik	85.08	8	P	P	16 41 30.9	-0.5	
	baz=199							
S34M	Telegraph Cree	85.19	23	P	P	16 41 32.7	+0.6	
	baz=224,SNR=5.0							
M27K	Edge Creek, AK	85.21	16	P	P	16 41 32.6	+0.3	
	baz=214,SNR=14							
HYT	Haines Junctio	85.22	19	IAmb	IAmb	16 41 33.8		
	comp=Z,12nm,0.9s							
HYT	Haines Junctio	85.22	19	P	P	16 41 32.8	+0.4	
	baz=218,SNR=5.2							
H20K	Anotleneega Mo	85.24	10	P	P	16 41 32.4	+0.1	
	baz=202							
F17K	Baldwin Pennin	85.28	7	P	P	16 41 33.7	+1.4	
	baz=196							
YUK4	Talbot Arm	85.28	18	P	P	16 41 33.4	+0.6	
	baz=218							
L26K	Log Cabin Wild	85.39	15	IAmb	IAmb	16 41 34.2		
	comp=Z,21nm,1.2s							
L26K	Log Cabin Wild	85.39	15	P	P	16 41 33.0	-0.1	
	baz=213							
TCUT	Toone Canyon	85.40	44	IAmb	IAmb	16 41 35.6		
	comp=Z,10nm,0.8s							
I21K	Tanana	85.44	11	IAmb	IAmb	16 41 34.0		
	comp=Z,34nm,1.4s							
I21K	Tanana	85.44	11	P	P	16 41 32.8	-0.4	
	baz=205							
NEA2	Nenana	85.46	12	P	P	16 41 33.6	+0.3	
	baz=208							
K24K	Donnelly Dome	85.47	14	P	P	16 41 33.3	-0.1	
	baz=211,SNR=21							
P32M	Atlin	85.49	21	P	P	16 41 34.3	+0.7	
	baz=222							
G19K	Purcell Mounta	85.52	8	P	P	16 41 33.3	-0.3	
	baz=200							
Q32M	Nakina River	85.53	22	P	P	16 41 34.8	+0.8	
	baz=223							

PV23	Carpenter Ridg	85.79	47	IAmb	IAmb	16 41 37.3		
	comp=Z,12nm,0.7s							
L27K	Beaver Creek,	85.80	16	P	P	16 41 35.4	+0.3	
L27K				IAmb	IAmb	16 41 36.1		
	comp=Z,10nm,1.1s							
BCAR	Beaver Creek A	85.82	16		P	16 41 35.2	+0.1	
N30M	Aishikik Lake	85.84	18	P	P	16 41 35.2	-0.1	
	baz=219							
E17K	Hotham Inlet	85.84	6	P	P	16 41 35.0	0.0	
	baz=196							
PV12	Saucer Basin,	85.87	48	IAmb	IAmb	16 41 39.0		
	comp=Z,31nm,1.5s							
IMAR	Indian Mountai	85.88	10		P	16 41 34.7	-0.5	
WHY	Whitehorse	85.91	20	P	P	16 41 36.1	+0.4	
	baz=221							
COLA	College	85.96	12	P	P	16 41 34.8	-0.8	
COLA	College	85.96	12	P	P	16 41 34.8	-0.8	
COLA	College	85.96	12	P	P	16 41 34.8	-0.8	
	baz=209							
TX31	Lajitas Ar. Si	85.96	58	IAmb	IAmb	16 41 39.4		
	comp=Z,18nm,0.9s							
TXAR	Lajitas Array	85.96	58		P	16 41 37.6	+1.0	
TXAR	Lajitas Array	85.96	58	P	P	16 41 38.3	+1.7	
	comp=Z,12nm,0.8s,baz=218,slow=6.1,SNR=142							
	comp=Z,12nm,0.8s							
DLBC	Dease Lake	85.97	23	P	P	16 41 36.3	+0.4	
	baz=225							
SCRK	Sand Creek	86.04	14	IAmb	IAmb	16 41 37.2		
	comp=Z,11nm,1.1s							
SCRK	Sand Creek	86.04	14	P	P	16 41 36.1	-0.1	
	baz=212,SNR=7.3							
XLT	XiLinHaoTe	86.04	319	*e*P	P	16 41 37.0	+0.3	
XLT				pmax	pmax			
	comp=Z,15nm,0.9s							
XLT				pmax	pmax			
	comp=Z,170nm,6.4s							
IL31		86.07	13	IAmb	IAmb	16 41 36.4		
	comp=Z,12nm,0.7s							
ILAR	Eielson Array	86.07	13		P	16 41 35.1	-1.1	
ILAR	Eielson Array	86.07	13	P	P	16 41 35.2	-0.9	
	comp=Z,5.7nm,0.4s,baz=222,slow=4.8,SNR=66							
ILAR				PKiKP	PKiKP	16 46 39.1	-0.9	
	comp=Z,0.3nm,0.5s,baz=240,slow=3.8,SNR=4.6							
	comp=Z,5.7nm,0.4s							
F19K	Shaleruckik Mo	86.08	8	IAmb	IAmb	16 41 36.7		
	comp=Z,7.9nm,0.8s							
F19K	Shaleruckik Mo	86.08	8	P	P	16 41 35.6	-0.5	
	baz=200,SNR=6.8							
ANMO	Albuquerque	86.10	51		P	16 41 37.6	+0.3	
ANMO				IAmb	IAmb	16 41 39.4		
	comp=Z,9.0nm,1.1s							
H22K	Ishtalitna Cre	86.19	11	P	P	16 41 36.5	-0.3	
	baz=206,SNR=7.8							
M29M	Somme Creek	86.21	17	IAmb	IAmb	16 41 37.8		
	comp=Z,11nm,0.8s							
M29M	Somme Creek	86.21	17	P	P	16 41 37.3	+0.2	
	baz=218,SNR=8.9							
P33M	Teslin, Yukon	86.26	21	IAmb	IAmb	16 41 38.5		
	comp=Z,8.9nm,0.9s							
P33M	Teslin, Yukon	86.26	21	P	P	16 41 37.6	+0.3	
	baz=223							
N31M	Braeburn, Yuko	86.26	19	P	P	16 41 37.3	+0.1	
	baz=220							
POKR	Poker Plat Res	86.26	13	P	P	16 41 36.1	-1.0	
	baz=209							
J25K	Salcha River,	86.26	14	IAmb	IAmb	16 41 37.3		
	comp=Z,9.8nm,0.6s							
J25K	Salcha River,	86.26	14	P	P	16 41 36.8	-0.4	
	baz=211,SNR=19							
E18K	Tukpahlearik C	86.30	7	IAmb	IAmb	16 41 38.0		
	comp=Z,12nm,0.9s							
E18K	Tukpahlearik C	86.30	7	P	P	16 41 37.1	-0.1	
	baz=197							
R33M	Jennings River	86.31	22	P	P	16 41 37.7	+0.1	
	baz=224							
D17K	Noatak River	86.31	6	P	P	16 41 37.5	+0.2	
	baz=194							
ALPN	Alpine	86.39	57	IAmb	IAmb	16 41 41.0		
	comp=Z,13nm,0.9s							
G21K	Allakaket	86.41	10	IAmb	IAmb	16 41 38.5		
	comp=Z,12nm,0.8s							
G21K	Allakaket	86.41	10	P	P	16 41 37.7	-0.1	
	baz=204,SNR=6.7							
K27K	Chicken	86.54	15	IAmb	IAmb	16 41 40.1		
	comp=Z,16nm,1.1s							
K27K	Chicken	86.54	15	P	P	16 41 38.9	+0.5	
	baz=214							
XAN	Xi'an	86.55	307	⇓P	P	16 41 40.5	+1.3	
XAN				pmax	pmax			
	comp=Z,37nm,1.1s							
J26L	Joseph Creek	86.58	14	IAmb	IAmb	16 41 40.9		
	comp=Z,14nm,0.8s							
J26L	Joseph Creek	86.58	14	P	P	16 41 39.1	+0.4	
	baz=213,SNR=15							
RDOG	Red Dog Mine	86.67	6	P	P	16 41 38.8	-0.1	
	baz=195							
DLMT	Dillon	86.72	40	IAmb	IAmb	16 41 41.7		
	comp=Z,15nm,0.8s							
E19K	Redstone River	86.74	8	IAmb	IAmb	16 41 40.1		
	comp=Z,13nm,0.7s							
E19K	Redstone River	86.74	8	P	P	16 41 39.2	-0.2	
	baz=200,SNR=8.8							
M30M	Minto, Yukon	86.80	18	P	P	16 41 39.7	0.0	
	baz=219,SNR=16							
H24K	Noodor Dome	86.80	12	P	P	16 41 39.9	+0.2	
	baz=209							
TPAW	Teton Pass	86.83	42	IAmb	IAmb	16 41 42.6		
	comp=Z,12nm,1.1s							
L29M	L29M	86.83	17	P	P	16 41 40.3	+0.4	
	baz=218,SNR=12							
SNOW	Snow King Moun	86.94	42	IAmb	IAmb	16 41 43.1		
	comp=Z,25nm,1.1s							
O20A	White River Ci	87.08	46	IAmb	IAmb	16 41 44.6		
	comp=Z,11nm,1.2s							
G22K	Bettles	87.11	10	P	P	16 41 41.1	+0.1	
	baz=205							
LOHW	Long Hollow	87.11	42	IAmb	IAmb	16 41 43.1		
	comp=Z,6.5nm,0.8s							
G23K	Bananza Creek	87.17	11	IAmb	IAmb	16 41 41.8		
	comp=Z,14nm,1.4s							
G23K	Bananza Creek	87.17	11	P	P	16 41 41.2	-0.2	
	baz=207							
M31M	Drury Creek, Y	87.23	19	IAmb	IAmb	16 41 42.4		
	comp=Z,12nm,1.1s							
M31M	Drury Creek, Y	87.23	19	P	P	16 41 41.6	-0.2	
	baz=221							
DAWY	Dawson	87.26	16	IAmb	IAmb	16 41 43.1		
	comp=Z,28nm,1.3s							
DAWY	Dawson	87.26	16	P	P	16 41 41.8	-0.1	
	baz=217							
YHB	Horse Butte	87.28	41	IAmb	IAmb	16 41 45.1		
	comp=Z,17nm,0.9s							
YFT	Old Faithful	87.36	41	IAmb	IAmb	16 41 46.3		
	comp=Z,13nm,0.9s							
EGAK	Eagle	87.39	15	IAmb	IAmb	16 41 43.4		
	comp=Z,14nm,1.0s							
EGAK	Eagle	87.39	15	P	P	16 41 42.2	-0.1	
	baz=215,SNR=9.6							
PD31	Pinedale Array	87.39	43	IAmb	IAmb	16 41 44.4		
	comp=Z,9.5nm,0.9s							
PDAR	Pinedale Array	87.39	43		P	16 41 43.0	-0.3	
PDAR	Pinedale Array	87.39	43	P	P	16 41 43.5	+0.2	
	comp=Z,5.7nm,0.7s,baz=217,slow=3.0,SNR=62							
	comp=Z,5.7nm,0.7s							
BOZ	Bozeman (W)	87.42	40	IAmb	IAmb	16 41 45.2		
	comp=Z,13nm,1.1s							
SAND	Sanderson	87.44	57	IAmb	IAmb	16 41 45.4		
	comp=Z,10nm,0.9s							
H17A	Grant Village	87.50	42	IAmb	IAmb	16 41 46.8		
	comp=Z,20nm,1.0s							
F22K	John River	87.53	10	P	P	16 41 42.7	-0.3	
	baz=205,SNR=6.3							
K29M	Barlow Dome	87.58	17	P	P	16 41 43.7	+0.2	
	baz=218,SNR=11							
YNR	Norris Junctio	87.59	41	IAmb	IAmb	16 41 51.4		
	comp=Z,8.4nm,1.0s							
H25L	Birch Creek	87.59	13	P	P	16 41 42.7	-0.6	
	baz=211							
WTLY	Watson Lake, Y	87.60	22	IAmb	IAmb	16 41 44.4		
	comp=Z,7.5nm,1.0s							
COLD	Coldfoot	87.61	11	P	P	16 41 43.5	+0.1	
	baz=207,SNR=13							
D19K	Kuna River	87.61	7	P	P	16 41 43.1	-0.3	
	baz=199							
E20K	Nigu River	87.63	8	P	P	16 41 43.5	-0.1	
	baz=201,SNR=7.5							
G24K	Hadweenzic Riv	87.64	12	IAmb	IAmb	16 41 43.8		
	comp=Z,6.5nm,0.7s							
G24K	Hadweenzic Riv	87.64	12	P	P	16 41 43.0	-0.6	
	baz=209,SNR=5.4							
MAYO	Mayo, Yukon	87.85	18	P	P	16 41 45.2	+0.7	
	baz=220,SNR=8.6							
J29N	Klondike Camp	87.88	16	P	P	16 41 45.6	+0.8	
	baz=218							
I27K	Kandik River	87.96	14	P	P	16 41 45.5	+0.4	
	baz=215							
G25K	Bearman Lake	87.97	12	P	P	16 41 44.8	-0.3	
	baz=210							
D20K	Etivluk River	88.01	8	IAmb	IAmb	16 41 45.8		
	comp=Z,13nm,0.8s							
D20K	Etivluk River	88.01	8	P	P	16 41 45.2	0.0	
	baz=200,SNR=5.5							
C19K	Lookout Ridge	88.03	7	P	P	16 41 45.3	0.0	
	baz=198							
TOAD	Toad River Com	88.09	25	P	P	16 41 46.5	+0.6	
	baz=229,SNR=10.0							
KMI	Kunming	88.10	297	P	P	16 41 48.3	+1.4	
KMI				pmax	pmax			
	comp=Z,12nm,0.4s							
E21K	Killik River	88.11	9	IAmb	IAmb	16 41 46.3		
	comp=Z,11nm,1.0s							
E21K	Killik River	88.11	9	P	P	16 41 45.4	-0.3	
	baz=203,SNR=5.1							
YNE	Yellowstone No	88.15	41	IAmb	IAmb	16 41 49.0		
	comp=Z,14nm,1.0s							
E22K	Anaktuvuk Pass	88.16	10	P	P	16 41 45.7	-0.3	
	baz=205,SNR=7.5							
I28M	Miner Creek	88.24	15	IAmb	IAmb	16 41 47.2		
	comp=Z,7.5nm,0.8s							
I28M	Miner Creek	88.24	15	P	P	16 41 46.2	-0.3	
	baz=216,SNR=6.2							
F24K	Squaw Lake	88.28	11	IAmb	IAmb	16 41 47.7		
	comp=Z,13nm,0.8s							
F24K	Squaw Lake	88.28	11	P	P	16 41 46.8	+0.2	
	baz=209,SNR=9.9							
E23K	Chandalar	88.45	10	IAmb	IAmb	16 41 48.4		
	comp=Z,16nm,0.9s							
E23K	Chandalar	88.45	10	P	P	16 41 47.6	+0.1	
	baz=207,SNR=6.4							
MSTX	Muleshoe	88.48	54	IAmb	IAmb	16 41 49.6		
	comp=Z,19nm,1.1s							
J30M	Hart River	88.48	17	IAmb	IAmb	16 41 49.6		
	comp=Z,7.1nm,0.9s							
J30M	Hart River	88.48	17	P	P	16 41 47.9	+0.2	
	baz=219							
H27K	Steamboat Moun	88.50	14	IAmb	IAmb	16 41 48.9		
	comp=Z,9.5nm,0.9s							
H27K	Steamboat Moun	88.50	14	P	P	16 41 47.8	+0.2	
	baz=215,SNR=6.7							
T25A	Trinidad	88.51	50	IAmb	IAmb	16 41 51.1		
	comp=Z,6.9nm,1.1s							
I29M	Ogilvie Camp,	88.58	16	IAmb	IAmb	16 41 48.6		
	comp=Z,14nm,1.1s							
I29M	Ogilvie Camp,	88.58	16	P	P	16 41 47.7	-0.3	
	baz=218,SNR=7.3							
G26K	Porcupine Rive	88.60	13	P	P	16 41 48.4	+0.4	
	baz=212,SNR=13							
OZNA	Ozona	88.60	57	IAmb	IAmb	16 41 50.6		
	comp=Z,11nm,0.8s							
C21K	Knifeblade Rid	88.66	8	P	P	16 41 48.4	+0.1	
	baz=202							
E24K	Your Creek	88.66	11	IAmb	IAmb	16 41 57.9		
	comp=Z,6.8nm,1.0s							
E24K	Your Creek	88.66	11	P	P	16 41 48.9	+0.5	
	baz=208							
RLMT	Red Lodge	88.67	41	IAmb	IAmb	16 41 51.1		
	comp=Z,11nm,0.9s							
D22K	Ayikyak River	88.71	9	P	P	16 41 48.9	+0.4	
	baz=204,SNR=7.2							
TGTN	Hyland Airport	88.76	22	P	P	16 41 49.7	+0.8	
	baz=227,SNR=6.0							
F25K	Christian Rive	88.77	12	IAmb	IAmb	16 41 49.8		
	comp=Z,7.4nm,0.9s							
F25K	Christian Rive	88.77	12	P	P	16 41 49.1	+0.2	
	baz=211							
BMAR	Burnt Mountain	88.84	12		P	16 41 49.3	+0.1	
G27K	Doyon Strip	88.95	14	P	P	16 41 49.6	-0.1	
	baz=214							
I30M	Mount Dempster	88.97	16	P	P	16 41 49.8	-0.2	
	baz=219,SNR=13							
TOLK	Toolik Lake Re	88.98	10	P	P	16 41 49.7	-0.1	
	baz=207							
D23K	Nanushuk River	89.09	10	P	P	16 41 50.5	+0.2	
	baz=206,SNR=6.0							
B21K	Ikpikpuk River	89.12	8	P	P	16 41 50.2	-0.1	
	baz=202							
CMAR	Chiang Mai Arr	89.14	290		P	16 41 52.0	+0.4	
CMAR	Chiang Mai Arr	89.14	290	P	P	16 41 52.8	+1.1	
	comp=Z,6.5nm,0.9s,baz=109,slow=3.0,SNR=38							
	comp=Z,6.5nm,0.9s							
F26K	Sheenjek River	89.16	12	IAmb	IAmb	16 41 52.2		
	comp=Z,7.7nm,0.9s							
F26K	Sheenjek River	89.16	12	P	P	16 41 51.0	+0.4	
	baz=212							
B20K	Meade River	89.16	7	P	P	16 41 50.7	+0.2	
	baz=200							
E25K	Arctic Village	89.24	12	IAmb	IAmb	16 41 51.8		
	comp=Z,13nm,1.1s							
E25K	Arctic Village	89.24	12	P	P	16 41 51.3	+0.3	
	baz=211							
H29M	Whitestone	89.24	15	P	P	16 41 51.2	+0.1	
	baz=218,SNR=8.0							
CHTO	Chiang Mai	89.25	290		P	16 41 52.6	+0.5	
CHTO				IAmb	IAmb	16 41 54.0		
	comp=Z,8.7nm,0.8s							
CHTO	Chiang Mai	89.25	290	P	P	16 41 53.2	+1.0	
PZH	PanZhiHua	89.43	298	P	P	16 41 53.8	+0.8	
D24K	Happy Valley	89.56	10	P	P	16 41 52.5	+0.1	
	baz=208							
EPYK	Eagle Plains	89.78	15	P	P	16 41 53.4	-0.2	
	baz=219							
YAK	Yakutsk	89.86	338		P	16 41 53.0	-1.0	
YAK				IAmb	IAmb	16 41 53.9		
	comp=Z,9.0nm,0.8s							
G29M	Pine Creek	89.88	15	P	P	16 41 54.0	0.0	
	baz=218							
C23K	Itkillik River	89.89	9	P	P	16 41 54.1	+0.2	
	baz=206							
B22K	Teshekpuk Lake	89.94	8	P	P	16 41 54.0	-0.1	
	baz=204							
H31M	Peel River	89.97	17	P	P	16 41 54.2	-0.3	
	baz=221							
F28M	Old Crow	90.01	14	P	P	16 41 54.6	0.0	
	baz=216							
TROLL	Troll, Antarti	90.08	180	⇑P	P	16 41 54.1	-1.1	
	comp=Z,213nm,0.5s							
C24K	Franklin Bluff	90.09	10	P	P	16 41 54.7	-0.1	
	baz=208							
E27K	Colleen River	90.10	13	P	P	16 41 54.9	-0.1	
	baz=215							
D25K	Kavik River	90.13	11	P	P	16 41 55.5	+0.3	
	baz=210							
APMT	Aspermont	90.28	55	IAmb	IAmb	16 41 57.8		
	comp=Z,11nm,0.8s							
A22K	Sinclair Lake	90.36	7	P	P	16 41 56.5	+0.5	
	baz=202							
SNAA	Sanae	90.36	179	⇑P	P	16 41 55.2	-1.1	
	comp=Z,44nm,0.5s							
SNAA	Sanae	90.36	179	P	P	16 41 55.3	-1.1	
	comp=Z,1.6nm,0.6s,baz=207,slow=6.8,SNR=26							
	comp=Z,1.6nm,0.6s							
G30M	tAoh Zraii Nji	90.38	15	P	P	16 41 56.0	-0.3	
	baz=220,SNR=16							
BRDY	Brady	90.43	57	IAmb	IAmb	16 41 58.7		
	comp=Z,6.1nm,1.1s							
VNA3	Neumayer Olymp	90.50	176	⇑P	P	16 41 56.4	-0.5	
	comp=Z,10nm,0.6s							
G31M	Satah River	90.83	16	P	P	16 41 58.0	-0.3	
	baz=221,SNR=9.8							
C27K	Jago River	90.88	11	P	P	16 41 59.1	+0.5	
	baz=213							
E28M	Babbage River	90.89	13	P	P	16 41 58.6	0.0	
	baz=216							
C26K	Camden Bay	90.91	11	P	P	16 41 58.8	+0.2	
	baz=212							
VNA2	Neumayer--Watz	90.94	177	⇑P	P	16 41 58.6	-0.4	
	comp=Z,6.5nm,0.6s,baz=191,slow=4.5							
F30M	Barrier River	90.97	15	P	P	16 41 59.4	+0.5	
	baz=220							
PLCA	Paso Flores	91.04	134	P	P	16 42 00.5	+0.3	
	comp=Z,0.9nm,0.7s,baz=217,slow=5.6,SNR=3.1							
	comp=Z,0.9nm,0.7s							
E29M	Blow River	91.08	14	P	P	16 41 59.5	+0.1	
	baz=218							
VNA1	Neumayer--Stat	91.17	177	⇑P	P	16 42 00.1	+0.1	
	comp=Z,7.8nm,0.8s							
LZH	Lanzhou	91.18	308	*e*P	P	16 42 02.3	+1.4	
LZH				pP	pP	16 44 01.5	-0.3	
LZH				pmax	pmax			
	comp=Z,23nm,1.0s							
F31M	Tsiigehtchic	91.36	16	P	P	16 42 00.5	-0.2	
	baz=222,SNR=6.6							
INK	Inuvik	92.06	15	P	P	16 42 03.4	-0.5	
	baz=222							
ULN	Ulaanbaatar	93.45	319		P	16 42 10.7	-0.3	
ULN				IAmb	IAmb	16 42 12.0		
	comp=Z,3.4nm,0.8s							
SONM	Songino Array	93.85	319	P	P	16 42 13.3	+0.5	
	comp=Z,1.2nm,0.7s,baz=131,slow=4.8,SNR=6.2							
	comp=Z,1.2nm,0.7s							
YKA	Yellowknife Ar	94.46	25	P	P	16 42 15.0	0.0	
	comp=Z,3.5nm,0.9s,baz=245,slow=4.3,SNR=11							
	comp=Z,3.5nm,0.9s							
HERN	Volcan Telica	95.14	78	IAmb	IAmb	16 42 25.5		
	comp=Z,286nm,1.0s							
GTA	Gaotai	95.32	310	*e*P	P	16 42 20.3	+0.6	
GTA				sP	PcP	16 42 26.6	+6.8	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.5s							
ZALV	Zalesovo Beam	108.53	322	PKiKP	PKiKP	16 47 18.2	-1.8	
	comp=Z,1.1nm,0.5s,baz=157,slow=2.3,SNR=6.0							
MKAR	Makanchi Array	109.43	314	PKiKP	PKiKP	16 47 20.5	-1.5	
	comp=Z,1.5nm,0.5s,baz=127,slow=1.0,SNR=19							
KURBB	Kurchatov Arra	112.17	318	PKiKP	PKiKP	16 47 25.7	-1.4	
	comp=Z,2.3nm,0.6s,baz=95,slow=1.8,SNR=26							
BVAR	Borovoye Array	117.14	321	PKP	PKPdf	16 47 35.6	-1.0	
	comp=Z,4.2nm,0.4s,baz=121,slow=1.2,SNR=26							
SPITS	Spitsbergen Ar	119.51	357	PKP	PKPdf	16 47 39.5	-1.1	
	comp=Z,7.6nm,0.9s,baz=91,slow=5.2,SNR=6.1							
ARCES	ARCESS Array B	126.57	350	PKP	PKPdf	16 47 53.5	-0.8	
	comp=Z,3.0nm,0.4s,baz=44,slow=1.4,SNR=26							
BOSA	Boshof	128.28	206	PKP	PKPdf	16 47 59.0	+0.1	
	comp=Z,2.8nm,0.7s,baz=56,slow=5.9,SNR=3.5							
FINES	FINESS Array B	133.46	344	PKP	PKPdf	16 48 07.5	+0.1	
	comp=Z,4.6nm,0.6s,baz=32,slow=2.2,SNR=6.6							
NB2	NORSAR Subarra	136.62	353	PKP	PKPpre	16 48 01.4		
	comp=Z,1.3nm,0.5s,baz=14,slow=3.8							
NOA	NORSAR Array B	136.62	353	PKP	PKPdf	16 48 12.7	-0.8	
	comp=Z,1.8nm,0.6s,baz=14,slow=3.9,SNR=7.5							
KBZ	Khabaz	137.10	316	PKP	PKiKP	16 48 15.7	-1.1	
	comp=Z,1.7nm,0.8s,baz=102,slow=3.7,SNR=3.7							
HFS	Hagfors	137.19	351	PKhKP	PKPpre	16 48 01.4		
HFS				PKP	PKPdf	16 48 13.9	-0.5	
	comp=Z,2.6nm,0.4s,baz=72,slow=4.8,SNR=13							
	comp=Z,2.1nm,0.8s,baz=15,slow=1.7,SNR=5.1							
AKASG	Malin Array Be	140.85	332	PKhKP	PKPpre	16 48 14.7		
	comp=Z,1.9nm,0.4s,baz=43,slow=4.1,SNR=17							
AKBB	Malin Array Si	140.85	332		PKPpre	16 48 14.9		
KIEV	Kiev	140.86	332		PKPpre	16 48 15.0		
KIEV	Kiev	140.86	332	⇓P	PKPdf	16 48 14.5	-6.9	
MARD	Mardin	140.90	307		PKPpre	16 48 16.9		
LAWE	Loch Awe, Argy	141.56	6	*e*P	PKPdf	16 48 17.1	-5.4	
EKA	Eskdalemuir Ar	142.68	5	PKhKP	PKPpre	16 48 20.4		
	comp=Z,1.9nm,0.5s,baz=323,slow=2.6,SNR=12							
NEWG	New Galloway	142.80	6	*e*P	PKPdf	16 48 21.3	-3.4	
GKP	Gorka Klasztor	142.93	345	*e*PKP	PKPdf	16 48 22.9	-2.1	
SORM	Soroca	143.08	330	⇑P	PKPab	16 48 22.6	-0.5	
BEL	Belsk	143.18	340	*e*PKP	PKPbc	16 48 24.4	+0.6	
IOMK	Kirk Michael	143.62	6	*e*P	PKPab	16 48 24.2	-0.7	
ILTH	Belurgan, Co L	143.63	8	*e*P	PKPab	16 48 24.2	-0.8	
KMPD	K-Podol'skiy	143.64	332	PKP	PKPab	16 48 24.3	-0.9	
KMPD				PKP	PKPbc	16 48 24.4	-0.9	
LVV	L'vov	143.69	336	PKP	PKPab	16 48 24.9	-0.5	
MILM	Milestii Mici	143.70	328	⇑P	PKPab	16 48 24.5	-1.0	
WIM	Isle of Man	143.72	6	*e*P	PKPab	16 48 24.7	-0.7	
MORS	Morshin	144.29	335	PKP	PKPbc	16 48 26.9	-0.4	
STNU	Starunia	144.37	334	PKP	PKPbc	16 48 26.5	-1.1	
VASR	Vaslui	144.40	329	⇑P	PKPbc	16 48 27.1	-0.6	
KSV	Kosov	144.44	333	PKP	PKPbc	16 48 26.9	-0.9	
WME	Mynd Eilian	144.50	6	*e*P	PKPdf	16 48 27.6	-0.5	
WLF1	Llynfaes	144.59	6	*e*P	PKPdf	16 48 27.6	-0.2	
LBWR	Ladybower, Pea	144.70	4	*e*P	PKPdf	16 48 28.0	-0.1	
BIR	Birlad	144.75	328	⇑P	PKPab	16 48 29.7	+0.2	
VLDR	Vladesti	144.81	328	⇑P	PKPab	16 48 29.2	-0.5	
TLCR		144.87	326	⇑P	PKPab	16 48 29.5	-0.5	
OJC	Ojcow	144.89	340	*e*PKP	PKPbc	16 48 28.9	-0.2	
OJC	Ojcow	144.89	340	PKP	PKPdf	16 48 28.1	-0.4	
BURAR	Bucovina Array	144.90	332	⇓P	PKPab	16 48 29.9	-0.3	
MEZ	Mezhgor'ye	144.93	335	PKP	PKPdf	16 48 28.6	-0.1	
SCTR	Scanteiesti	144.97	327	⇑P	PKPab	16 48 30.0	-0.4	
GHRR		145.00	328	⇑P	PKPab	16 48 30.5	+0.1	
RAKU	Rahkiv	145.04	334	PKP	PKPdf	16 48 29.1	+0.2	
TESR	Tescani	145.05	330	⇑P	PKPbc	16 48 29.3	-0.4	
BRTR	Keskin Array B	145.07	315	PKPbc	PKPbc	16 48 29.9	-0.3	
	comp=Z,10nm,0.7s,baz=140,slow=5.1,SNR=63							
BR104	Keskin Array S	145.08	315	PKP	PKPdf	16 48 29.0	-0.4	
BR106	Keskin Array S	145.09	315	PKP	PKPdf	16 48 29.2	-0.2	
BR105	Keskin Array S	145.09	315	PKP	PKPdf	16 48 29.5	+0.1	
LLW	Llanuwychllyn	145.10	6	*e*P	PKPdf	16 48 28.9	+0.1	
FOEL	Foel Wylfa	145.10	5	*e*P	PKPbc	16 48 29.5	-0.2	
NEGRR	Negrea	145.12	327	⇓P	PKPbc	16 48 29.4	-0.6	
KIRS	Kirsehir-Merke	145.16	314	⇑P	PKPdf	16 48 29.7	+0.3	
SCHL	Schela	145.17	327	⇑P	PKPab	16 48 30.9	-0.

PRA	Prague	146.57 345	⇑	*e*PKP	PKPbc	16 48 34.3 +0.4
VOIR		146.60 330	⇑	P	PKPbc	16 48 34.4 +0.1
PRU	Pruhonice	146.62 345	⇑	*e*PKP	PKPbc	16 48 34.3 +0.3
PRU				*e*PKPAB	PKPab	16 48 37.2 +0.5
DRGR		146.63 334	⇑	P	PKPbc	16 48 33.9 -0.4
VRAC	Vranov	146.69 342		*e*PKP	PKPbc	16 48 34.4 +0.1
VRAC	Vranov	146.69 342	⇑	P	PKPbc	16 48 34.8 +0.6
JAVC	Velka Javorina	146.76 341		*e*PKP	PKiKP	16 48 35.6 -0.9
PSZ	Piszkesteto	146.82 338	⇓	P	PKPbc	16 48 34.2 -0.5
ARR	Arges	146.85 330	⇑	P	PKiKP	16 48 36.0 -0.9
KRUC	Moravsky	146.96 342		*e*PKP	PKPbc	16 48 35.0 0.0
TREC	Trest	147.01 343	⇑	*e*PKP	PKPbc	16 48 35.3 +0.2
RAZG	Razgrad	147.18 326	⇑	P	PKPbc	16 48 36.0 +0.2
ZVC	Zvikov	147.21 345	⇑	*e*PKP	PKPbc	16 48 36.1 +0.5
ZVC				*e*PKPAB	PKPab	16 48 39.8 +0.6
DEV	Deva	147.25 332	⇓	P	PKPbc	16 48 34.4 -1.4
LOZB	Loznitsa	147.27 326	⇑	P	PKPbc	16 48 35.7 -0.2
UCC	Uccle	147.35 357		*d*PKP	PKPbc	16 48 35.1 -0.8
MEM	Membach	147.43 355		*d*PKP	PKPbc	16 48 35.4 -0.7
BTNL	Ternell	147.44 355		*d*PKP	PKPbc	16 48 35.4 -0.8
SIRR	Siria	147.49 334	⇑	P	PKPbc	16 48 37.0 +0.5
BSTI	Sart Tilman	147.49 356		*d*PKP	PKPbc	16 48 36.2 -0.1
GRF	Grafenberg Arr	147.62 349		*e*PKPbc	PKPbc	16 48 36.6 -0.1
	baz=17,slow=2.1					
KHC	Kasperske Hory	147.65 345	⇑	*e*PKP	PKPbc	16 48 37.1 +0.3
KHC				*e*PKPAB	PKPab	16 48 41.6 +0.6
BHOU	Houvegnez	147.68 355		*d*PKPdf	PKPdf	16 48 33.6 +0.4
BHOU				*d*PKP	PKPbc	16 48 36.9 +0.1
GZR	Gura Zlata	147.69 332	⇑	P	PKPbc	16 48 36.4 -0.7
SURR	Surduc	147.69 333	⇑	P	PKPbc	16 48 35.9 -1.1
BGES	Gesves	147.72 356		*d*PKPab	PKPab	16 48 41.0 -0.2
CKRC	Cesky Krumlov	147.75 344	⇑	*e*PKP	PKPbc	16 48 37.5 +0.4
BMRD	Maredsous	147.82 356		*d*PKP	PKPbc	16 48 37.1 -0.1
PHSR	Pinarhisar	147.88 322	⇑	P	PKPbc	16 48 36.7 -0.9
GERES	GERESS Array B	147.88 345		PKPbc	PKPbc	16 48 37.2 -0.3
	comp=Z,14nm,0.7s,baz=42,slow=6.2,SNR=88					
RCHB	Rochefort	147.94 356		*d*PKP	PKPbc	16 48 37.3 -0.2
ELND	Elena	147.95 326	⇑	P	PKPbc	16 48 37.2 -0.5
BZS	Buzias	148.02 333	⇑	P	PKPdf	16 48 33.6 -0.3
DOU	Dourbes	148.04 357		*d*PKP	PKPbc	16 48 37.4 -0.3
SRE	Strehaia	148.05 330	⇑	P	PKPbc	16 48 38.1 +0.2
CONA	Conrad Observa	148.14 342		*e*PKP	PKPbc	16 48 38.4 +0.2
	comp=Z,22nm,0.9s,SNR=16					
RONA	Rosalia, Austr	148.21 341		*i* PKP	PKPbc	16 48 38.5 +0.2
	comp=Z,23nm,0.8s,SNR=8.8					
HERR	Herculane	148.25 332	⇓	P	PKPbc	16 48 37.8 -0.6
PLVB	Pleven	148.29 327	⇑	P	PKPbc	16 48 38.8 +0.3
BAND	Balkesir-Ban	148.32 320	⇑	P	PKPbc	16 48 38.7 0.0
WLF	Walferdange	148.35 355		*d*PKP	PKiKP	16 48 39.1 -0.6
MDVR	Moldovita	148.64 332	⇑	P	PKPbc	16 48 38.8 -0.6
ARSA	Arzberg	148.85 342		*e*PKP	PKPbc	16 48 39.5 -0.4
	comp=Z,14nm,1.3s,SNR=5.7					
JSA	Saint Aubin	148.86 5		*e*P	PKPbc	16 48 39.4 -0.3
BIOA	Bad Ischl, Aus	148.97 344		*i* PKP	PKPbc	16 48 39.7 -0.5
	comp=Z,7.5nm,0.8s,SNR=6.4					
LESA	Schwarzleotal	149.46 345		*i* PKP	PKPbc	16 48 40.9 -0.5
	comp=Z,10nm,0.5s,SNR=6.5					
SOKA	Soboth	149.51 342		*i* PKP	PKPbc	16 48 40.8 -0.7
	comp=Z,21nm,1.0s,SNR=8.0					
BOVS	Bovan	149.53 331	⇑	P	PKPbc	16 48 41.1 -0.5
KBA	Koelnbreinsper	149.61 344		*i* PKP	PKPbc	16 48 41.0 -0.9
	comp=Z,16nm,0.6s,SNR=7.8					
EZN	Ezine	149.72 321	⇓	P	PKPbc	16 48 41.4 -0.7
WATA	Walderalm	149.79 347		*i* PKP	PKPbc	16 48 41.8 -0.5
	comp=Z,12nm,0.5s,SNR=8.6					
RETA	Reutte	149.82 348		*i* PKP	PKPbc	16 48 41.9 -0.4
	comp=Z,7.0nm,0.6s,SNR=6.6					
WTTA	Wattenberg	149.85 347		*i* PKP	PKPbc	16 48 42.2 -0.3
	comp=Z,35nm,0.6s,SNR=14					
MOTA	Moosalm	149.88 347		*e*PKP	PKPbc	16 48 41.9 -0.6
	comp=Z,8.5nm,0.6s,SNR=7.1					
MOSL	Moslavina	149.91 339		*e*P	PKPbc	16 48 41.8 -0.6
MYKA	Terra Mystica	149.95 344		*i* PKP	PKPbc	16 48 41.6 -1.0
	comp=Z,17nm,0.6s,SNR=5.6					
SQTA	Sankt Quirin	149.98 347		*e*PKP	PKPbc	16 48 42.3 -0.4
	comp=Z,12nm,0.5s,SNR=7.8					
ABTA	Abfaltersbach	150.13 345		*e*PKP	PKPbc	16 48 42.1 -0.9
	comp=Z,36nm,0.6s,SNR=11					
DAVA	Damuels	150.18 349		*i* PKP	PKPbc	16 48 42.9 -0.3
	comp=Z,43nm,1.1s,SNR=7.9					
FETA	Feichten	150.27 348		*e*PKP	PKPbc	16 48 43.1 -0.3
	comp=Z,9.3nm,0.6s,SNR=5.7					
OZLJ	Ozalj	150.33 340		*e*P	PKPbc	16 48 41.7 -1.6
BLY	Banja Luka	150.50 337		*e*P	PKPbc	16 48 42.9 -0.9
BLY	Banja Luka	150.50 337	⇓	P	PKPbc	16 48 43.9 +0.1
RUDO	Rudo	150.58 333		*e*P	PKPbc	16 48 43.3 -0.8
KUJV	Kijevo	151.43 338		*e*P	PKPbc	16 48 44.7 -1.3
PDG	Podgorica	151.59 332	⇑	P	PKPbc	16 48 45.5 -0.8
TREB	Trebinje	151.75 334		*e*P	PKPbc	16 48 45.5 -1.2
STON	Ston	151.89 335		*e*P	PKPbc	16 48 45.6 -1.4
ESDC	Sonseca Array	157.97 12		PKPab	PKPab	16 49 24.3 -0.8
	comp=Z,3.7nm,0.9s,baz=338,slow=3.4,SNR=13					
KEST	Kesra	161.24 341		PKPab	PKPab	16 49 39.4 -0.1
	comp=Z,2.5nm,0.5s,baz=45,slow=1.4,SNR=4.5					

*SSNC **22** 16:35:43.1±1.4, 18°.17N×70°.99W, h3km±69km, MD3.1, ML2.9*
*SDD **22** 16:35:44.0±1.3, 18°.13N×71°.12W, h26km±8km, MD3.3, ML3.0, MW3.2*
*OSPL **22** 16:35:44.1±1.8, 18°.21N×71°.03W, h12km±12km, ML2.9*
ISC 22 16:35:44.0±0°.9, **18°.21N**±0°.03×**71°.08W**±0°.03, **h15**km±7km, **n26**, σ1s**12**/44, **6C-5D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PODR	**Polo**	**0.20**	**258**	⇑ *e*P*g*		**Pg**	**16 35 48.5**	**-0.3**
PODR				⇓ *e*S*g*		**Sg**	**16 35 52.9**	**+0.8**
PODR				IAML			16 35 54.8	
	comp=N,7μm,0.3s							
PODR	**Polo**	**0.20**	**258**	*i* P		**Pg**	**16 35 48.5**	**-0.3**
PODR				*e*S		**Sg**	**16 35 52.9**	**+0.8**
LODU1	**El Espartillar**	**0.41**	**291**	*i* P		**Pg**	**16 35 51.9**	**-0.3**
LODU1				*e*S		**Sg**	**16 35 59.1**	**+1.3**
LODU1				IAML			16 35 59.3	
	comp=Z,3μm,0.3s							
NEDR	**Neiba UASD**	**0.42**	**310**	⇓ *e*P*g*		**Pg**	**16 35 52.3**	**-0.2**
NEDR				⇑ *e*S*g*		**Sg**	**16 35 59.7**	**+1.4**
NEDR				IAML			16 36 00.4	
	comp=N,1μm,0.3s							
LOVI	**El Cajuil, Ovi**	**0.49**	**214**	*i* P		**Pg**	**16 35 53.2**	**-0.7**
LOVI				*e*S		**Sb**	**16 36 01.3**	**-0.1**
LOVI				IAML			16 36 02.9	
	comp=Z,693nm,0.4s							
LONE3	**El Aguacate, B**	**0.54**	**317**	*i* P		**Pg**	**16 35 53.8**	**-0.9**
LONE3				*e*S		**Sg**	**16 36 02.7**	**+0.8**
LONE3				IAML			16 36 05.8	
	comp=Z,656nm,0.4s							
LOBH	**Bahia de las A**	**0.64**	**237**	*i* P		**Pg**	**16 35 55.7**	**-0.8**
LOBH				*e*S		**Sg**	**16 36 05.6**	**+0.6**
LOBH				IAML			16 36 15.9	
	comp=Z,588nm,0.4s							
BANI	**BANI**	**0.70**	**75**	⇑ *e*P*g*		**Pb**	**16 35 57.6**	**-0.4**
BANI				⇓ *e*S*g*		**Sb**	**16 36 08.5**	**+1.0**
BANI				IAML			16 36 12.8	
	comp=N,936nm,0.2s							
ABDR	**Alto Bandera**	**0.73**	**35**	⇓ *e*P*g*		**Pg**	**16 35 58.3**	**-0.2**
ABDR				⇓ *e*S*g*		**Sb**	**16 36 09.7**	**+1.0**
ABDR				IAML			16 36 10.7	
	comp=N,686nm,0.2s							
JIDR	**Jimani**	**0.79**	**291**	⇑ *e*P*g*		**Pg**	**16 35 58.0**	**-1.4**
JIDR				*e*S*g*		**Sg**	**16 36 09.0**	**-0.7**
JIDR				IAML			16 36 18.9	
	comp=N,401nm,0.4s							
SDDR	**Presa de Saban**	**0.80**	**345**	*e*P		**Pg**	**16 35 58.0**	**-1.5**
SDDR				*e*S		**Sg**	**16 36 09.4**	**-0.6**
SDDR				IAML			16 36 10.7	
	comp=N,404nm,0.3s							
SDDR				IAML			16 36 15.4	
	comp=N,326nm,0.2s							
SDDR	**Presa de Saban**	**0.80**	**345**	⇑ *e*P*g*		**Pg**	**16 35 58.4**	**-1.1**
SDDR				⇑ *e*S*g*		**Sg**	**16 36 10.1**	**+0.1**
SDDR				IAML			16 36 12.0	
	comp=N,308nm,0.2s							
SDDR	**Presa de Saban**	**0.80**	**345**	*i* P		**Pg**	**16 35 58.3**	**-1.2**
SDDR				*e*S		**Sg**	**16 36 09.6**	**-0.4**
SDDR				IAML			16 36 14.1	
	comp=Z,274nm,0.2s							
SDD	**Santo Domingo**	**1.13**	**77**	*i* P		**Pb**	**16 36 04.3**	**-0.9**
PAPH	**Port-au-Prince**	**1.20**	**285**	*e*P		**Pn**	**16 36 04.4**	**-1.9**
PAPH				*e*S		**Sb**	**16 36 20.8**	**-1.1**
PAPH				IAML			16 36 23.6	
	comp=N,158nm,0.2s							
PAPH				IAML			16 36 24.8	
	comp=E,183nm,0.2s							
PAPH	**Port-au-Prince**	**1.20**	**285**	*i* P		**Pn**	**16 36 04.6**	**-1.7**
DR08	**Loma La Naviza**	**1.25**	**53**	*e*P*g*		**Pn**	**16 36 06.4**	**-0.6**
DR08				IAML			16 38 10.4	
	comp=N,579nm,0.2s							
SC01	**Santiago de lo**	**1.25**	**15**	*e*P*g*		**Pn**	**16 36 06.0**	**-1.0**
SC01				IAML			16 37 55.8	
	comp=N,45nm,2.7s							
SC01	**Santiago de lo**	**1.25**	**15**	*i* P		**Pn**	**16 36 06.5**	**-0.5**
LOPP1	**Punta Rusia, P**	**1.64**	**356**	*i* P		**Pn**	**16 36 12.0**	**-0.2**
LOPP1				IAML			16 36 45.5	
	comp=Z,131nm,0.7s							
MASC	**Masc**	**3.57**	**304**	*e*P		**Pn**	**16 36 39.2**	**+0.5**
MASC				*e*S		**Sn**	**16 37 24.0**	**+3.4**
MASC				IAML			16 37 29.7	
	comp=E,12nm,0.6s							
MASC				IAML			16 37 31.1	
	comp=N,12nm,0.1s							
QMBU	**Quimbuelo**	**4.05**	**300**	*e*P		**Pn**	**16 36 44.6**	**-0.8**
QMBU				*e*S		**Sn**	**16 37 35.3**	**+2.7**
QMBU				IAML			16 37 39.1	
	comp=E,13nm,0.3s							
QMBU				IAML			16 37 42.5	
	comp=N,9.7nm,0.3s							
GTBY	**Guantanamo Bay**	**4.18**	**295**	*e*P		**Pn**	**16 36 47.2**	**0.0**
RCC	**Rio Carpintero**	**4.72**	**293**	*e*P		**Pn**	**16 36 54.2**	**-0.4**
RCC				*e*S		**Sn**	**16 37 50.3**	**+1.3**
RCC				IAML			16 37 57.1	
	comp=N,7.9nm,0.7s							
RCC				IAML			16 37 58.0	
	comp=E,7.4nm,0.8s							
PINC	**Pinares de May**	**5.00**	**298**	*e*P		**Pn**	**16 36 59.3**	**+0.9**
PINC				*e*S		**Sn**	**16 37 56.0**	**+0.1**
MTDJ	**Mount Denham**	**6.14**	**271**	*e*P		**Pn**	**16 37 13.9**	**-0.4**

*JMA **22** 16:50:27.2±0.2, 24°.N±1°.×122°.9E±0°.8, h53km, MV2.2/11, NEAR ISHIGAKIJIMA ISLAND*
*TAP **22** 16:50:27.2, 23°.89N×122°.93E, h70km±1km, ML2.7, D*
ISC 22 16:50:26.1±1.9, **23°.80N**±0°.09×**122°.91E**±0°.04, **h74**km±22km, **n29**, σ1s**05**/48, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.62**	**301**	*i* P		**Pn**	**16 50 41.0**	**+0.8**
EOS4				*e*S		**Sn**	**16 50 51.0**	**+0.5**
JYNG	**Yonagunijimaku**	**0.65**	**3**	P		**Pn**	**16 50 41.0**	**+0.2**
JYNG				*e*S		**Sn**	**16 50 50.2**	**-1.3**
YOJ	**Yonaguni jima**	**0.66**	**8**	P		**Pn**	**16 50 41.0**	**+0.1**
YOJ				*i* S		**Sn**	**16 50 51.2**	**-0.7**
YOJ	**Yonaguni jima**	**0.66**	**8**	*e*P		**Pn**	**16 50 41.0**	**+0.1**
YOJ				*e*S		**Sn**	**16 50 50.6**	**-1.2**
EOS3	**EOS3**	**0.72**	**312**	*i* P		**Pn**	**16 50 42.8**	**+1.4**
EOS3				*i* S		**Sn**	**16 50 54.1**	**+1.4**
HATJ	**Hateruma jima**	**0.86**	**73**	P		**Pn**	**16 50 43.2**	**+0.1**
HATJ				*e*S		**Sn**	**16 50 55.3**	**-0.5**
EOS2	**EOS2**	**0.87**	**315**	*e*P		**Pn**	**16 50 45.1**	**+2.0**
EOS2				*e*S		**Sn**	**16 50 54.7**	**-1.0**
EOS2	**EOS2**	**0.87**	**315**	*e*S		**Sn**	**16 50 54.8**	**-1.0**
EOS2	**EOS2**	**0.87**	**315**	*e*P		**Pn**	**16 50 45.2**	**+2.0**
IRIF	**Iriomote-Funau**	**0.92**	**55**	P		**Pn**	**16 50 44.4**	**+0.5**
JKRS	**Kuro-shima**	**1.10**	**67**	*e*P		**Pn**	**16 50 47.0**	**+0.9**
HWA	**Hwalien**	**1.21**	**279**	*e*P		**Pn**	**16 50 48.3**	**+0.9**
HWA				*e*S		**Sn**	**16 51 03.3**	**0.0**
ETL	**Fush Village**	**1.23**	**287**	*e*P		**Pn**	**16 50 47.7**	**0.0**
ETL				*e*S		**Sn**	**16 51 03.2**	**-0.7**
ETL	**Fush Village**	**1.23**	**287**	*e*P		**Pn**	**16 50 48.1**	**+0.4**
TWD	**Chiawan**	**1.23**	**283**	*i* P		**Pn**	**16 50 48.0**	**+0.3**
TWD				*i* S		**Sn**	**16 51 02.3**	**-1.6**
TWD	**Chiawan**	**1.23**	**283**	*i* P		**Pn**	**16 50 47.9**	**+0.1**
SHUL	**Shoufeng**	**1.23**	**270**	*i* P		**Pn**	**16 50 48.1**	**+0.4**
SHUL				*i* S		**Sn**	**16 51 04.6**	**+0.7**
NACB	**Ninganchiao**	**1.26**	**287**	*i* P		**Pn**	**16 50 47.1**	**-0.9**
NACB				*e*S		**Sn**	**16 51 01.9**	**-2.6**
NACB	**Ninganchiao**	**1.26**	**287**	*i* P		**Pn**	**16 50 47.2**	**-0.8**
JIJ	**Ishigaki jima**	**1.26**	**63**	P		**Pn**	**16 50 48.8**	**+0.7**
ETM	**Tongmen**	**1.30**	**277**	P		**Pn**	**16 50 49.3**	**+0.6**
ETM				*e*S		**Sn**	**16 51 04.2**	**-1.4**
ETM	**Tongmen**	**1.30**	**277**	*i* P		**Pn**	**16 50 49.1**	**+0.4**
ESL	**Shilin**	**1.35**	**271**	*i* P		**Pn**	**16 50 48.5**	**+0.2**
ESL				*e*S		**Sn**	**16 51 05.8**	**-0.9**
EGFH	**Guangfu**	**1.36**	**265**	*i* P		**Pn**	**16 50 50.0**	**+0.6**
EGFH				S		**Sn**	**16 51 06.0**	**-1.0**
ECBN	**Changbin**	**1.42**	**250**	*e*P		**Pn**	**16 50 49.0**	**-1.2**
ECBN				*i* S		**Sn**	**16 51 07.4**	**-0.9**
JISG	**Ishigakijimahi**	**1.50**	**58**	P		**Pn**	**16 50 51.9**	**+0.6**
ELDTW	**Lidau**	**1.84**	**251**	*i* P		**Pn**	**16 50 56.3**	**+0.4**
ELDTW				S		**Sn**	**16 51 17.3**	**-1.1**
TWGBT	**Beinan**	**1.94**	**240**	*e*P		**Pn**	**16 50 57.6**	**+0.4**
TWGBT				*i* S		**Sn**	**16 51 20.5**	**-0.3**
STYH	**Taoyuan**	**2.06**	**253**	*i* P		**Pn**	**16 51 00.7**	**+2.1**
STYH				*i* S		**Sn**	**16 51 24.5**	**+1.1**

TAP 22 16:50:32.7, 24°.69N×122°.00E, h72km, ML2.4, 2C, C,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.16**	**239**	*i* P		Pn	16 50 43.7	+0.3
TWC				*i* S		Sn	16 50 50.9	-0.3
ESAO	**Su ao**	**0.19**	**231**	*e*P		Pn	16 50 43.7	+0.2
ESAO				*i* S		Sn	16 50 51.7	+0.4
ILA	**Ilan**	**0.24**	**287**	*e*P		Pn	16 50 44.5	+0.7
ILA				*i* S		Sn	16 50 52.7	+0.9
NDS	**Dongshan**	**0.27**	**257**	*i* P		Pn	16 50 44.8	+0.9
NDS				*i* S		Sn	16 50 53.6	+1.5
TWE	**Neicheng**	**0.31**	**275**	*i* P		Pn	16 50 44.8	+0.7
TWE				S		Sn	16 50 54.8	+2.3
TIPB	**Shuangxi**	**0.32**	**330**	*i* P		Pn	16 50 44.1	-0.2
TIPB				*i* S		Sn	16 50 52.2	-0.6
EWUT	**Wuta**	**0.32**	**220**	*i* P		Pn	16 50 44.9	+0.6
EWUT				*i* S		Sn	16 50 53.4	+0.7
ENA	**Nanau**	**0.36**	**222**	*i* P		Pn	16 50 45.1	+0.6
ENA				*i* S		Sn	16 50 54.0	+0.9
FUSB	**Fushanzhiwuyua**	**0.38**	**280**	*i* P		Pn	16 50 45.0	+0.2
FUSB				S		Sn	16 50 54.5	+0.9
ENTT	**Nioudou**	**0.40**	**262**	*i* P		Pn	16 50 45.8	+0.9
ENTT				*i* S		Sn	16 50 55.4	+1.6
SXI1	**Grass Mountain**	**0.41**	**344**	P		Pn	16 50 44.8	-0.3
SXI1				*i* S		Sn	16 50 54.9	+0.8
LATG	**Datong**	**0.46**	**250**	⇑ *i* P		Pn	16 50 46.2	+0.7
LATG				*i* S		Sn	16 50 56.2	+1.3
NWLT	**Wulai**	**0.46**	**280**	*i* P		Pn	16 50 45.8	+0.4
NWLT				*i* S		Sn	16 50 55.5	+0.8
NHDH	**Xindian Distri**	**0.51**	**302**	*i* P		Pn	16 50 46.2	+0.4
NHDH				S		Sn	16 50 55.9	+0.4
TATO	**Taipei**	**0.55**	**301**	P		Pn	16 50 46.4	+0.3
TATO				S		Sn	16 50 56.2	+0.2
YHNB	**Yeheng**	**0.57**	**268**	*i* P		Pn	16 50 46.9	+0.4
YHNB				*i* S		Sn	16 50 57.4	+0.8
NSK	**Sanguang**	**0.59**	**268**	⇑ *i* P		Pn	16 50 47.0	+0.4
NSK				*i* S		Sn	16 50 57.3	+0.4
YM01	**YM01**	**0.60**	**319**	*i* P		Pn	16 50 46.6	-0.1
YM01				S		Sn	16 50 56.6	-0.4
NNSB	**Datong**	**0.62**	**245**	*i* P		Pn	16 50 47.7	+0.7
NNSB				*i* S		Sn	16 50 58.6	+0.9
ZUZH	**Zhuzihu**	**0.62**	**318**	P		Pn	16 50 46.9	-0.1
ZUZH				*i* S		Sn	16 50 57.2	-0.3
NNS	**Nan Shan**	**0.63**	**246**	*i* P		Pn	16 50 47.9	+0.8
NNS				*i* S		Sn	16 50 58.5	+0.8
ETL	**Fush Village**	**0.64**	**213**	*i* S		Sn	16 50 59.1	+1.4
NACB	**Ninganchiao**	**0.64**	**216**	S		Sn	16 50 58.1	+0.4
TWS1	**Kuangyinshan**	**0.67**	**307**	*i* P		Pn	16 50 47.9	+0.5
TWS1				*i* S		Sn	16 50 59.4	+1.1
ETLH	**Xiulin Townshi**	**0.68**	**225**	*i* P		Pn	16 50 47.8	+0.1
ETLH				*e*S		Sn	16 50 59.6	+0.9
TWD	**Chiawan**	**0.71**	**211**	*e*S		Sn	16 50 59.8	+0.7
KSHI	**Guanxi Townshi**	**0.76**	**276**	*i* P		Pn	16 50 49.1	+0.7
KSHI				*e*S		Sn	16 51 00.2	+0.2
NCUH	**Zhongli**	**0.79**	**290**	*e*P		Pn	16 50 49.4	+0.6
NCUH				*i* S		Sn	16 51 01.2	+0.4
NFF	**Wufeng Townshi**	**0.81**	**266**	*i* P		Pn	16 50 49.4	+0.3
NFF				*e*S		Sn	16 51 01.2	0.0
FUSS	**Fushou**	**0.82**	**237**	*i* P		Pn	16 50 50.2	+0.8
FUSS				*e*S		Sn	16 51 03.5	+1.7
LXIB	**Xiulin Townshi**	**0.86**	**219**	*i* P		Pn	16 50 49.3	-0.5
LXIB				*e*S		Sn	16 51 03.5	+1.1
ETM	**Tongmen**	**0.86**	**213**	*e*S		Sn	16 51 02.1	-0.1
WHF	**Hehuan Shan**	**0.87**	**231**	*i* P		Pn	16 50 50.5	+0.4
WHF				*e*S		Sn	16 51 03.1	+0.1
TWT	**Tachien**	**0.87**	**240**	*i* P		Pn	16 50 51.1	+1.2
TWT				*e*S		Sn	16 51 03.8	+1.1
TDCB	**Techi**	**0.89**	**240**	*i* P		Pn	16 50 51.2	+1.2
TDCB				*e*S		Sn	16 51 04.1	+1.2
LIOB	**Emei**	**0.90**	**267**	*i* P		Pn	16 50 50.5	+0.5
LIOB				S		Sn	16 51 01.1	-1.9
NSTT	**Nanjuang**	**0.91**	**266**	*i* P		Pn	16 50 50.7	+0.5
NSTT				*e*S		Sn	16 51 03.9	+0.6
WHP	**Taichung City**	**1.05**	**247**	*i* P		Pn	16 50 53.2	+1.3
WHP				*e*S		Sn	16 51 07.8	+1.5
OWD	**Renai**	**1.05**	**226**	*i* P		Pn	16 50 51.8	-0.3
OWD				*e*S		Sn	16 51 06.0	-0.5
WUSB	**Renai**	**1.07**	**229**	*i* P		Pn	16 50 53.0	+0.8
WUSB				S		Sn	16 51 08.2	+1.3
NMLH	**Miaoli**	**1.11**	**262**	*i* P		Pn	16 50 53.4	+0.7
NMLH				S		Sn	16 51 08.6	+0.9

*JMA **22** 16:56:05.1±0.2, 23°.8N±0°.8×122°.9E±0°.6, h51km, MV2.3/11, NEAR ISHIGAKIJIMA ISLAND*
*TAP **22** 16:56:06.0, 23°.76N×122°.90E, h47km±1km, ML2.8, D*
ISC 22 16:56:03.7±1.2, **23°.66N**±0°.03×**122°.95E**±0°.03, **h23**km±14km, **n75**, σ1s**20**/144, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.73**	**309**	*e*P		**Pn**	**16 56 20.1**	**+1.8**
EOS4				*e*S		**Sn**	**16 56 29.1**	**+0.5**
JYNG	**Yonagunijimaku**	**0.79**	**360**	*e*P		**Pb**	**16 56 18.6**	**-0.1**
JYNG				S		**Sb**	**16 56 28.3**	**-0.7**
YOJ	**Yonaguni jima**	**0.80**	**4**	P		**Pb**	**16 56 18.7**	**-0.2**
YOJ				S		**Sb**	**16 56 28.4**	**-0.9**
EOS3	**EOS3**	**0.85**	**317**	*e*P		**Pb**	**16 56 20.4**	**+0.8**
EOS3				S		**Sn**	**16 56 31.7**	**0.0**
HATJ	**Hateruma jima**	**0.88**	**63**	P		**Pb**	**16 56 21.0**	**+0.7**
IRIF	**Iriomote-Funau**	**0.98**	**47**	P		**Pb**	**16 56 22.1**	**+0.1**
IRIF				*e*S		**Sn**	**16 56 35.0**	**-0.2**
EOS2	**EOS2**	**1.00**	**319**	*i* P		**Pb**	**16 56 23.4**	**+1.1**
EOS2				*i* S		**Sb**	**16 56 36.8**	**+1.9**
JKRS	**Kuro-shima**	**1.13**	**59**	P		**Pb**	**16 56 24.6**	**0.0**
SHUL	**Shoufeng**	**1.27**	**276**	*e*P		**Pn**	**16 56 25.9**	**-0.2**
SHUL				*i* S		**Sn**	**16 56 41.6**	**-0.8**
JIJ	**Ishigaki jima**	**1.30**	**57**	P		**Pn**	**16 56 26.5**	**+0.1**
TWD	**Chiawan**	**1.30**	**289**	*i* P		**Pn**	**16 56 25.8**	**-0.7**
TWD				*i* S		**Sn**	**16 56 41.1**	**-1.6**
EWUT	**Wuta**	**1.32**	**306**	*i* P		**Pn**	**16 56 27.2**	**+0.5**
EWUT				*e*S		**Sn**	**16 56 43.3**	**-0.3**
NACB	**Ninganchiao**	**1.34**	**293**	*i* P		**Pn**	**16 56 26.4**	**-0.5**
NACB				S		**Sn**	**16 56 41.0**	**-3.0**
ENA	**Nanau**	**1.34**	**305**	*i* P		Pn	16 56 25.9	-1.1
ENA				*e*S		**Sn**	**16 56 44.0**	**-0.1**
ETM	**Tongmen**	**1.36**	**283**	*e*P		Pn	16 56 26.4	-1.0
ETM				*e*S		**Sn**	**16 56 41.6**	**-3.1**
TWC	**Suao**	**1.38**	**313**	*i* P	

WCKO				*i* S		**Sb**	**16 57 07.6**	**-1.0**
WTP	**Ta-pu**	**2.18**	**260**	*i* P		**Pb**	**16 56 42.1**	**-0.4**
WTP				S		**Sn**	**16 57 07.8**	**+2.9**
TWK	**Hsinying**	**2.29**	**261**	*i* P		**Pb**	**16 56 43.0**	**-1.4**
TWK				*i* S		**Sb**	**16 57 11.0**	**-1.4**
SNST	**Tainan City**	**2.29**	**259**	*i* P		**Pb**	**16 56 43.2**	**-1.2**
SNST				*i* S		**Sb**	**16 57 11.5**	**-0.8**
TAWH	**Dawu Township**	**2.31**	**236**	*e*P		**Pn**	**16 56 41.7**	**+1.4**
TAWH				*e*S		**Sn**	**16 57 08.5**	**+0.5**
EAST	**Anshuo**	**2.31**	**237**	*i* P		**Pn**	**16 56 41.2**	**+0.8**
EAST				*e*S		**Sn**	**16 57 09.4**	**+1.3**
SSD	**Sandimen**	**2.32**	**247**	P		**Pn**	**16 56 43.0**	**+2.6**
SSD				*e*S		**Sn**	**16 57 07.8**	**-0.4**
MASBT	**Mashibuluo**	**2.37**	**244**	*i* P		**Pn**	**16 56 43.2**	**+2.0**
MASBT				*e*S		**Sn**	**16 57 09.6**	**0.0**

TIR ***22*** *17:28:00.8, 41°.20N×19°.65E, h13km, Md2.8/3, Ml2.7/3*
BEO ***22*** *17:28:01.7±0.6, 41°.24N×19°.58E, h13km±3km, ML2.3/9*
PDG ***22*** *17:28:02.4±0.1, 41°.34N×19°.63E, h9km, ML2.6/11, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*

ISC 22 17:28:01.0±1.1, **41°.24N**±0°.03×**19°.61E**±0°.03, **h9**km±9km, **n38**, σ0°**80**/62, **3C-2D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.22**	**60**	Op Pg		**Pg**	**17 28 05.6**	**+0.2**
TIR				Sg		**Sg**	**17 28 08.6**	**+0.2**
TIR				AML		AML	17 28 09.5	
	5.3nm,0.1s							
TIR				AMd			17 28 39.1	
VLO	**Vlora**	**0.77**	**187**	AML		AML	17 28 39.1	
	1.3nm,0.3s							
ULC	**Ulcinj**	**0.78**	**339**	⇑*i*Pg		**Pg**	**17 28 15.0**	**-0.9**
ULC				*i* Sg		**Sg**	**17 28 25.9**	**-0.2**
DRME	**Dracevica, Mon**	**1.00**	**341**	*e*Pg		**Pb**	**17 28 19.9**	**-0.6**
DRME				*e*Sg		**Sb**	**17 28 34.0**	**+0.2**
DRME	**Dracevica, Mon**	**1.00**	**341**	⇑*i*Pg		**Pb**	**17 28 19.2**	**-1.3**
DRME				*i* Sg		**Sb**	**17 28 33.5**	**-0.3**
KBN	**Korca**	**1.08**	**124**	Sn		**Sb**	**17 28 35.1**	**-1.0**
BUM	**Brajici-Budva**	**1.19**	**333**	*e*Pg		**Pn**	**17 28 22.8**	**-1.1**
BUM				*i* Sg		**Sg**	**17 28 40.2**	**+0.9**
PDG	**Podgorica**	**1.22**	**347**	*e*Pg		**Pn**	**17 28 23.4**	**-0.8**
PDG				*e*Sg		**Sb**	**17 28 39.8**	**-0.3**
PDG	**Podgorica**	**1.22**	**347**	*e*Pg		**Pn**	**17 28 23.2**	**-1.0**
PDG				*i* Sg		**Sn**	**17 28 40.7**	**-0.2**
CEME	**Cevo**	**1.41**	**339**	*e*Pg		**Pn**	**17 28 26.7**	**-0.2**
CEME				*i* Sg		**Sb**	**17 28 46.3**	**+0.8**
HCY	**Herceg Novi**	**1.47**	**326**	⇓*i*Pg		**Pn**	**17 28 28.0**	**+0.3**
HCY				*i* Sg		**Sg**	**17 28 49.6**	**+1.4**
NKME	**Niksic**	**1.60**	**342**	*e*Pg		**Pn**	**17 28 30.4**	**+0.8**
NKME				*i* Sg		**Sg**	**17 28 53.2**	**+0.6**
KOME	**Kolasin**	**1.61**	**357**	*e*Pg		**Pn**	**17 28 30.7**	**+1.0**
KOME				*e*Sg		**Sg**	**17 28 53.7**	**+0.9**
KOME	**Kolasin**	**1.61**	**357**	⇑*i*Pg		**Pn**	**17 28 30.2**	**+0.5**
KOME				*i* Sg		**Sg**	**17 28 53.2**	**+0.4**
BEY	**Berane**	**1.65**	**7**	*e*Pg		**Pn**	**17 28 31.1**	**+0.9**
BEY				*e*Sg		**Sg**	**17 28 54.4**	**+0.5**
IVA	**Berane**	**1.65**	**7**	⇓*i*Pg		**Pn**	**17 28 30.8**	**+0.6**
IVA				*i* Sg		**Sg**	**17 28 54.0**	**+0.1**
TREB	**Trebinje**	**1.75**	**328**	*e*Pn		**Pn**	**17 28 32.3**	**+0.7**
TREB				*e*Sg		**Sb**	**17 28 56.4**	**+1.0**
IGT	**Igoumenitsa**	**1.79**	**162**	Pg		**Pb**	**17 28 34.0**	**0.0**
IGT				Sg		**Sg**	**17 28 57.8**	**-0.6**
IGT				AMd			17 29 56.6	
BRY	**Bratogost**	**1.84**	**335**	*e*Pn		**Pn**	**17 28 34.1**	**+1.1**
BRY				*i* Sn		**Sb**	**17 28 59.1**	**+0.9**
NOCI	**Noci**	**1.98**	**258**	Pn		**Pb**	**17 28 37.4**	**+0.3**
NOCI				Sn		**Sg**	**17 29 04.7**	**+0.1**
NOCI				AML		AML	17 29 14.6	
	0.3nm,0.3s							
NOCI				AMd			17 30 00.6	
UPM	**Unac-Piva**	**2.03**	**345**	*e*Pn		**Pn**	**17 28 36.5**	**+0.9**
UPM				*i* Sn		**Sb**	**17 29 03.4**	**-0.3**
SJES	**Sjenica**	**2.04**	**7**	*e*Pn		**Pb**	**17 28 37.4**	**-0.9**
SJES				*e*Sn		**Sn**	**17 29 01.5**	**+0.2**
STON	**Ston**	**2.17**	**320**	*e*Pn		**Pn**	**17 28 36.9**	**-0.3**
SELS	**Selova**	**2.27**	**29**	*e*Pn		**Pn**	**17 28 39.4**	**+0.7**
SELS				*e*Sn		**Sn**	**17 29 07.2**	**+0.3**
BARS	**Barje**	**2.28**	**45**	*e*Pn		**Pn**	**17 28 39.0**	**+0.2**
BARS				*e*Sn		**Sn**	**17 29 07.5**	**+0.6**
IVAS	**Ivanjica**	**2.37**	**10**	*e*Pn		**Pn**	**17 28 40.0**	**-0.1**
RUDO	**Rudo**	**2.39**	**356**	*e*Pn		**Pn**	**17 28 41.5**	**+1.2**
BOSS	**Bosilegrad**	**2.48**	**59**	*e*Pn		**Pn**	**17 28 42.3**	**+0.7**
GOCS	**Kraljevo Serbi**	**2.50**	**21**	*e*Pn		**Pn**	**17 28 42.7**	**+0.7**
GOCS				*e*Sn		**Sn**	**17 29 13.4**	**+0.7**
BBLS	**Lazi&#263i**	**2.63**	**357**	*e*Pn		**Pn**	**17 28 43.9**	**+0.2**
GRUS	**Gruza**	**2.77**	**17**	*e*Pn		**Pn**	**17 28 45.9**	**+0.4**
SRS	**Serrai**	**3.01**	**91**	*e*Pn		**Pn**	**17 28 49.7**	**+0.9**
ZAPS	**Zavoj**	**3.03**	**47**	*e*Pn		**Pn**	**17 28 51.0**	**+1.9**
ZAPS				*e*Sn		**Sn**	**17 29 23.8**	**-1.7**
VTS	**Vitosha**	**3.03**	**62**	*e*Pn		**Pn**	**17 28 50.1**	**+0.8**
ZAGS	**Zajecar**	**3.22**	**36**	*e*Pn		**Pn**	**17 28 52.5**	**+0.8**
ZAGS				*e*Sn		**Sn**	**17 29 30.3**	**+0.1**
BORS2	**Bor- Borsko je**	**3.36**	**31**	*e*Pn		**Pn**	**17 28 52.7**	**-0.9**
KUBS	**Kucevo**	**3.52**	**25**	*e*Pn		**Pn**	**17 28 54.7**	**-1.1**
AVAS	**Avala Beograd**	**3.52**	**11**	*e*Pn		**Pn**	**17 28 55.0**	**-0.8**

IDC ***22*** *17:29:05.2±1.3, 32°.76N×138°.97E, h0km, mb4.0/2, mbtmp3.8/3, ML2.6/1, Error ellipse: s-maj=30.2km s-min=15.6km az=130.0*
JMA ***22*** *17:29:06.1±0.2, 33°.4N±0°.6×14°.1E±°, h48km, MV3.5/30, E OFF HACHIJOJIMA ISLAND*

ISC 22 17:29:06.4±1.6, **33°.33N**±0°.05×**140°.95E**±0°.09, **h46**km±20km, **n22**, σ0°**82**/29, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.97**	**257**	Op P		**Pn**	**17 29 24.0**	**+0.3**
JHJ2				S		**Sn**	**17 29 36.3**	**-0.1**
JHCJ	**Hachijojimakas**	**1.00**	**255**	*e*P		**Pn**	**17 29 24.2**	**+0.1**
JHCJ				*e*S		**Sn**	**17 29 37.5**	**+0.5**
JHJ	**Hachijo jima 2**	**1.00**	**258**	Pn		**Pn**	**17 29 24.1**	**0.0**
	371nm,0.3s,baz=240,slow=20,SNR=429							
JHJ				Sn		**Sn**	**17 29 36.3**	**-0.7**
	570nm,0.3s,baz=96,slow=22,SNR=38							
JMKN	**Mikurajimanish**	**1.26**	**297**	*e*P		**Pn**	**17 29 26.0**	**-1.6**
JMKN				*e*S		**Sn**	**17 29 42.5**	**-0.9**
BSO1	**Boso 1**	**1.32**	**1**	P		**Pn**	**17 29 27.9**	**0.0**
BSO1				*e*S		**Sn**	**17 29 43.8**	**-0.3**
JAOM	**Aogashimamukai**	**1.32**	**229**	P		**Pn**	**17 29 29.1**	**+0.6**
JAOM				*e*S		**Sn**	**17 29 44.6**	**-0.3**
JMYK	**Miyake Tsubota**	**1.37**	**302**	*e*P		**Pn**	**17 29 29.6**	**+0.5**
JMYK				*e*S		**Sn**	**17 29 46.7**	**+0.6**
BSO3	**Boso 3**	**1.51**	**346**	P		**Pn**	**17 29 30.6**	**-0.2**
BSO3				*e*S		**Sn**	**17 29 49.3**	**+0.2**
BSO4	**Boso 4**	**1.73**	**343**	*e*P		**Pn**	**17 29 34.2**	**+0.3**
BSO4				*e*S		**Sn**	**17 29 55.7**	**+0.9**
JIM2	**Oshima 3**	**1.87**	**318**	P		**Pn**	**17 29 35.8**	**-0.2**
JIM2				*e*S		**Sn**	**17 29 57.5**	**-0.9**
JIZS	**Izushimoda**	**2.20**	**309**	P		**Pn**	**17 29 41.2**	**+0.6**
JIZS				S		**Sn**	**17 30 06.8**	**+0.2**
JOD2	**Odawara 2**	**2.46**	**322**	P		**Pn**	**17 29 44.2**	**0.0**
JOD2				*e*S		**Sn**	**17 30 11.2**	**-1.8**
TK02	**Tokai 2**	**2.73**	**284**	P		**Pn**	**17 29 48.9**	**+1.4**
MJAR	**Matsushiro Arr**	**3.91**	**326**	Pn		**Pn**	**17 30 05.5**	**+1.5**
	0.5nm,0.3s,baz=166,slow=15,SNR=30							
MJAR				Sn		**Sn**	**17 30 49.9**	**+1.3**
	0.2nm,0.3s,baz=172,slow=20,SNR=5.1 2.3nm,0.3s							
H11N2	**WAKE ISLAND Hy 26.79**	**114**		T		T	18 03 38.2	
	baz=306,slow=75,SNR=28							
H11N1	**WAKE ISLAND Hy 26.80**	**114**		T		T	18 03 37.1	
	baz=306,slow=75,SNR=20							
H11N3	**WAKE ISLAND Hy 26.81**	**114**		T		T	18 03 40.5	
	baz=306,slow=75,SNR=24							
H11S3	**WAKE ISLAND Hy 27.37**	**116**		T		T	18 04 16.0	
	baz=308							
H11S1	**WAKE ISLAND Hy 27.37**	**116**		T		T	18 04 14.8	
	baz=308							
H11S2	**WAKE ISLAND Hy 27.38**	**116**		T		T	18 04 23.3	
	baz=308							
WRA	**Warramunga Arr**	**53.35**	**188**	P		**P**	**17 38 20.7**	**-0.5**
	1.4nm,0.6s,baz=3.6,slow=7.6,SNR=16 1.4nm,0.6s							
ASAR	**Alice Springs**	**57.08**	**188**	P		**P**	**17 38 47.7**	**-0.3**
	0.7nm,0.4s,baz=4.9,slow=6.6,SNR=34 0.7nm,0.4s							

DJA 22 17:37:22.6±0.3, **9°S**±°, **117°8E**±°, **h106**km±4km, **M3.9**/16, **mb4.0**/4, **MLv3.8**/16, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.65**	**255**	Op P		Pn	17 37 41.0	+0.9
PLAI				S		Sn	17 37 55.2	+1.9
WBSI	**Waikabubak, Su**	**1.37**	**135**	P		Pn	17 37 47.6	-0.1
TWSI	**Taliwang, Sumb**	**1.51**	**267**	P		Pn	17 37 49.0	-0.3
TWSI				S		Sn	17 38 10.3	+0.7
WSI	**Waingapu**	**2.12**	**118**	P		Pn	17 37 56.9	0.0
BASI	**Baing, Sumba**	**2.64**	**126**	P		Pn	17 38 03.8	0.0
DNP	**Denpasar**	**3.16**	**269**	P		Pn	17 38 12.3	+1.6
SRBI	**Singaraja**	**3.21**	**280**	P		Pn	17 38 10.1	-1.3
BSSI	**Bau Bau, Buton**	**3.24**	**40**	P		Pn	17 38 11.2	-0.6
EDFI	**Ende, Flores**	**3.24**	**92**	P		Pn	17 38 12.4	+0.5
EDFI				S		Sn	17 38 50.9	+1.0
BKSI	**Bulukumba**	**3.73**	**27**	P		Pn	17 38 17.6	-0.6
MMRI	**Maumere**	**3.79**	**90**	P		Pn	17 38 19.4	+0.4
JAGI	**Jagag, Banyuwa**	**4.21**	**272**	P		Pn	17 38 22.5	-2.3
BATI	**Baumata**	**5.41**	**107**	P		Pn	17 38 40.6	-0.3
	0.2nm34nm,1.2s							
SOEI	**Soe**	**5.88**	**101**	P		Pn	17 38 47.3	-0.2
	0.1nm16nm,0.7s							
TNTI	**Ternate**	**12.94**	**44**	P		Pn	17 40 19.4	-3.2

IDC 22 17:51:53.4±2.2, **3°.11N×63°.90E, h0**km, **mb3.7**/4, **mbtmp3.7**/4, **Error ellipse: s-maj=65.5km s-min=38.6km az=63.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**37.53**	**63**	Op P		P	17 59 09.1	-0.5
	0.5nm,0.8s,baz=249,slow=8.0,SNR=4.7 0.5nm,0.8s							
ZALV	**Zalesovo Beam**	**53.50**	**15**	P		P	18 01 15.9	+0.4
	0.2nm,0.3s,baz=202,slow=7.3,SNR=1.7 0.2nm,0.3s							
WRA	**Warramunga Arr**	**72.77**	**112**	P		P	18 03 24.3	+0.1
	0.9nm,0.8s,baz=292,slow=5.2,SNR=7.1 0.9nm,0.8s							
ASAR	**Alice Springs**	**73.05**	**116**	P		P	18 03 26.0	+0.2
	0.8nm,0.9s,baz=290,slow=5.7,SNR=6.8 0.8nm,0.9s							
TXAR	**Lajitas Array**	**145.61**	**341**	PKPbc	PKPdf		18 11 33.4	-1.2
	0.3nm,0.8s,baz=31,slow=2.5,SNR=3.8							

SKO ***22*** *18:42:59.8, 41°.31N×19°.39E, h13km, ML2.7*
TIR ***22*** *18:42:59.8, 41°.40N×19°.47E, h40km±12km, Ml3.0/5*
BEO ***22*** *18:43:01.8±0.5, 41°.31N×19°.59E, h18km±3km, ML2.5/11*
PDG ***22*** *18:43:03.0±0.0, 41°.43N×19°.55E, h12km, ML2.8/11, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*

ISC 22 18:43:00.8±1.0, **41°.35N**±0°.02×**19°.54E**±0°.02, **h10**km±8km, **n64**, σ1°**16**/102, **1C-1D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.25**	**91**	Op Pg		**Pg**	**18 43 05.2**	**-0.6**
TIR				Sg		**Sg**	**18 43 07.4**	**-1.7**
TIR				AML		AML	18 43 10.5	
	4.7nm,0.3s							
TIR				AML		AML	18 43 10.6	
	4.3nm,0.3s							
ULC	**Ulcinj**	**0.65**	**340**	*e*Pg		**Pb**	**18 43 13.9**	**-0.3**
ULC				*i* Sg		**Sb**	**18 43 23.1**	**-0.3**
DRME	**Dracevica, Mon**	**0.87**	**343**	*e*Pg		**Pn**	**18 43 18.8**	**-0.4**
DRME				*e*Sg		**Sn**	**18 43 32.6**	**+0.6**
DRME	**Dracevica, Mon**	**0.87**	**343**	*e*Pg		**Pb**	**18 43 18.0**	**-0.1**
DRME				*i* Sg		**Sn**	**18 43 30.8**	**-1.2**
VLO	**Vlora**	**0.88**	**182**	Pg		**Pb**	**18 43 19.3**	**+1.1**
VLO				Sg		**Sg**	**18 43 30.9**	**+1.6**
VLO				AML		AML	18 43 35.0	
	4.8nm,0.4s							
OHR	**Ohrid**	**0.98**	**104**	*i* Pg		**Pg**	**18 43 19.2**	**-0.4**
OHR				*i* Sg		**Sb**	**18 43 34.6**	**+1.6**
OHR				*e*Lg		Lg	18 43 35.5	
	comp=N,285nm,0.8s							
OHR				*e*Lg		Lg	18 43 36.4	
	comp=E,213nm,0.6s							
BUM	**Brajici-Budva**	**1.06**	**333**	*e*Pg		**Pn**	**18 43 21.5**	**-0.3**
BUM				*i* Sg		**Sn**	**18 43 37.4**	**+0.7**
PDG	**Podgorica**	**1.10**	**349**	*e*Pg		**Pn**	**18 43 22.3**	**+0.1**
PDG				*e*Sg		**Sn**	**18 43 39.2**	**+1.7**
PDG	**Podgorica**	**1.10**	**349**	⇓*i*Pg		**Pn**	**18 43 21.9**	**-0.3**
PDG				*i* Sg		**Sn**	**18 43 38.2**	**+0.7**
KBN	**Korca**	**1.20**	**127**	Pn		**Sb**	**18 43 29.0**	**-0.7**
KBN				Sn		**Sb**	**18 43 40.2**	**+1.0**
KBN				AML		AML	18 43 45.8	
	comp=E,0.5nm,0.6s							
CEME	**Cevo**	**1.28**	**339**	*e*Pg		**Pg**	**18 43 25.4**	**+0.1**
CEME				*i* Sg		**Sn**	**18 43 44.5**	**+2.4**
HCY	**Herceg Novi**	**1.34**	**325**	*e*Pg		**Pg**	**18 43 26.7**	**+0.2**
HCY				*i* Sg		**Sg**	**18 43 47.0**	**+3.0**
NKME	**Niksic**	**1.48**	**343**	⇑*i*Pg		**Pg**	**18 43 28.8**	**-0.3**
NKME				*i* Sg		**Sg**	**18 43 50.6**	**+2.3**
KOME	**Kolasin**	**1.50**	**359**	*e*Pg		**Pg**	**18 43 29.6**	**+0.1**
KOME				*e*Sg		**Sg**	**18 43 50.8**	**+1.9**
KOME	**Kolasin**	**1.50**	**359**	*e*Pg		**Pg**	**18 43 29.2**	**-0.3**
KOME				*i* Sg		**Sg**	**18 43 51.0**	**+2.1**
BEY	**Berane**	**1.54**	**10**	*e*Pn		**Pg**	**18 43 30.2**	**-0.1**
IVA	**Berane**	**1.54**	**10**	*e*Pg		**Pg**	**18 43 30.0**	**-0.3**
IVA				*i* Sg		**Sg**	**18 43 51.9**	**+1.6**
SKO	**Skopje**	**1.55**	**66**	*i* Pn		**Pn**	**18 43 28.9**	**+0.4**
SKO				*i* Sn		**Sg**	**18 43 51.1**	**+0.4**
TREB	**Trebinje**	**1.62**	**327**	*e*Pn		**Pn**	**18 43 28.9**	**-0.6**
TREB	**Trebinje**	**1.62**	**327**	*e*Pn		**Pn**	**18 43 29.5**	**0.0**
KEK	**Kerkira**	**1.65**	**173**	Pn		**Pg**	**18 43 34.8**	**+2.4**
BRY	**Bratogost**	**1.72**	**335**	*e*Pn		**Pg**	**18 43 32.9**	**-0.8**
BRY				*i* Sn		**Sg**	**18 43 56.5**	**+0.5**
UPM	**Unac-Piva**	**1.91**	**346**	*e*Pn		**Pb**	**18 43 35.4**	**-0.4**
UPM				*i* Sn		**Sg**	**18 44 00.8**	**-1.3**
IGT	**Igoumenitsa**	**1.92**	**161**	Pn		**Pn**	**18 43 33.7**	**+0.2**
IGT				Sn		**Sn**	**18 43 56.4**	**-1.3**
IGT	**Igoumenitsa**	**1.92**	**161**	*i* Pn		**Pn**	**18 43 32.7**	**-0.8**
IGT				*i* Sn		**Sb**	**18 44 00.5**	**+0.7**
IGT	**Igoumenitsa**	**1.92**	**161**	*e*Pn		**Pn**	**18 43 32.9**	**-0.6**
SJES	**Sjenica**	**1.93**	**9**	*e*Pn		**Pb**	**18 43 35.9**	**-0.3**
SJES				*e*Sn		**Sg**	**18 44 02.5**	**-0.4**
KLNJ	**Klinje**	**1.95**	**339**	*e*Pn		**Pb**	**18 43 36.6**	**+0.2**
NOCI	**Noci**	**1.95**	**254**	Pn		**Pn**	**18 43 33.1**	**+0.4**
NOCI				Sn		**Sn**	**18 43 54.5**	**-4.1**
NOCI				AML		AML	18 44 03.9	
	comp=E,0.7nm,0.3s							
STON	**Ston**	**2.04**	**319**	*e*Pn		**Pn**	**18 43 34.7**	**-0.5**
STON	**Ston**	**2.04**	**319**	*e*Pn		**Pn**	**18 43 34.9**	**-0.3**
SELS	**Selova**	**2.20**	**32**	*e*Pn		**Pn**	**18 43 38.1**	**+0.6**
SELS				*e*Sn		**Sn**	**18 44 04.4**	**-0.5**
BARS	**Barje**	**2.24**	**48**	*i* Pn		**Pn**	**18 43 38.5**	**+0.6**
BARS	**Barje**	**2.24**	**48**	*e*Pn		**Pn**	**18 43 38.2**	**+0.2**
BARS				*e*Sn		**Sn**	**18 44 04.1**	**-1.6**
RUDO	**Rudo**	**2.27**	**357**	*e*Pn		**Pb**	**18 43 40.1**	**-1.7**
IVAS	**Ivanjica**	**2.27**	**11**	*e*Pn		**Pn**	**18 43 38.6**	**+0.2**
IVAS				*e*Sn		**Sn**	**18 44 05.6**	**-0.9**
VAY	**Valandovo**	**2.28**	**90**	*i* Pn		**Pn**	**18 43 37.1**	**-1.4**
VAY				*i* Sn		**Sn**	**18 44 07.5**	**+0.7**
VAY				*e*Lg		Lg	18 44 07.6	
	comp=E,32nm,0.9s							
VAY				*e*Lg		Lg	18 44 11.3	
	comp=N,26nm,0.6s							
GOCS	**Kraljevo Serbi**	**2.42**	**24**	*e*Pn		**Pn**	**18 43 42.0**	**+1.5**
GOCS				*e*Sn		**Sn**	**18 44 10.6**	**+0.3**
BOSS	**Bosilegrad**	**2.48**	**62**	*e*Pn		**Pn**	**18 43 41.0**	**-0.2**
BOSS				*e*Sn		**Sn**	**18 44 08.9**	**-2.6**
BBLS	**Lazi&#263i**	**2.51**	**358**	*e*Pn		**Pn**	**18 43 42.8**	**+1.0**
BBLS				*e*Sn		**Sn**	**18 44 14.0**	**+1.4**
KNT	**Kendrikon**	**2.54**	**93**	*i* Pn		**Pn**	**18 43 41.9**	**-0.2**
LIT	**Litokhoron**	**2.57**	**118**	*i* Pn		**Pn**	**18 43 43.0**	**+0.5**
GRUS	**Gruza**	**2.68**	**19**	*e*Pn		**Pn**	**18 43 44.4**	**+0.4**
LKD2	**Lefkada island**	**2.70**	**161**	Pn		**Pn**	**18 43 43.1**	**-1.2**
KKB	**Krupnik**	**2.74**	**79**	*i* Pn		**Pn**	**18 43 44.5**	**-0.3**
SGRT	**San Giovanni R**	**2.88**	**279**	Pn		**Pn**	**18 43 45.9**	**-0.8**
SGRT				Sn		**Sn**	**18 44 19.9**	**-1.6**
SGRT				AML		AML	18 44 50.0	
	comp=N,0.2nm,0.5s							
SOH	**Sokhos**	**2.93**	**99**	*i* Pn		**Pn**	**18 43 47.4**	**-0.1**
SOH				*i* Sn		**Sn**	**18 44 22.6**	**-0.3**
TRUS	**Trudelj**	**2.94**	**12**	*e*Pn		**Pn**	**18 43 48.5**	**+0.9**
TRUS				*e*Sn		**Sn**	**18 44 24.5**	**+1.5**
ZAPS	**Zavoj**	**2.99**	**49**	*e*Pn		**Pn**	**18 43 49.7**	**+1.3**
ZAPS				*e*Sn		**Sn**	**18 44 23.8**	**-0.5**
VTS	**Vitosha**	**3.03**	**64**	*e*Pn		**Pn**	**18 43 48.9**	**-0.1**
SRS	**Serrai**	**3.07**	**93**	*i* Pn		**Pn**	**18 43 48.9**	**-0.5**
ZAGS	**Zajecar**	**3.16**	**38**	*e*Pn		**Pn**	**18 43 51.0**	**+0.4**
ZAGS				*e*Sn		**Sn**	**18 44 28.3**	**-0.2**
MMB	**Musomishta**	**3.17**	**85**	*i* Pn		**Pn**	**18 43 50.8**	**0.0**
MMB				*i* Sn		**Sn**	**18 44 27.4**	**-1.4**
BORS2	**Bor- Borsko je**	**3.29**	**33**	*e*Pn		**Pn**	**18 43 50.9**	**-1.5**
BORS2				*e*Sn		**Sn**	**18 44 32.0**	**+0.4**
KUBS	**Kucevo**	**3.44**	**26**	*e*Pn		**Pn**	**18 43 53.9**	**-0.5**
KUBS				*e*Sn		**Sn**	**18 44 33.8**	**-1.5**
KIJV	**Kijevo**	**3.52**	**320**	*e*Pn		**Pn**	**18 43 55.8**	**+0.3**
BLY	**Banja Luka**	**3.81**	**334**	*e*Pn		**Pb**	**18 44 04.7**	**-3.3**
PLD	**Plovdiv**	**3.98**	**77**	*e*Pn		**Pn**	**18 44 02.1**	**+0.3**
BZS	**Buzias**	**4.52**	**19**	*e*Pn		**Pn**	**18 44 09.0**	**-0.3**
MOSL	**Moslavina**	**4.71**	**336**	*e*Pn		**Pn**	**18 44 11.6**	**-0.4**
OZLJ	**Ozalj**	**5.19**	**327**	*e*Pn		**Pn**	**18 44 18.6**	**+0.2**
BOJS	**Bojanci**	**5.19**	**324**	*e*Pn		**Pn**	**18 44 18.7**	**+0.2**
CEY	**Cerknica**	**5.74**	**321**	*e*Pn		**Pn**	**18 44 26.3**	**+0.2**
SKDS	**Skadanscina**	**5.81**	**318**	*e*Pn		**Pn**	**18 44 26.0**	**-1.0**

IDC ***22*** *18:57:10.8±8.8, 45°.56N×148°.34E, h0km, mb3.7/5, mbtmp3.6/6, ML2.8/1, Error ellipse: s-maj=188.3km s-min=34.6km az=143.0*
MOS ***22*** *18:57:13.1±0.7, 44°.26N×148°.62E, h100km, mb4.3/1, Error ellipse: s-maj=20.2km s-min=14.0km az=18.7*
SKHL ***22*** *18:57:16.2±0.3, 44°.40N×148°.30E, h106km±6km, mb4.6/4, msha5.5/4*
JMA ***22*** *18:57:18.3±0.3, 44°.N±2°×14°.8E±°, h72km, MV3.5/25, SE OFF ETOROFU*

ISC 22 18:57:15.0±1.6, **44°.28N**±0°.07×**148°.5E**±0°.1, **h88**km±9km, **n39**, σ1°**79**/54, **mb3.6**/5, **2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.04**	**337**	*d* Op *i* PN		**Pn**	**18 57 35.6**	**+0.6**
KUR				*i* S		**Sn**	**18 57 49.5**	**-0.5**
KUR				pmax	pmax			
	comp=Z,667nm,0.4s							
KUR				pmax	pmax			
	comp=N,241nm,0.2s							
KUR				pmax	pmax			
	comp=E,246nm,0.2s							
KUR				smax	smax			
	comp=E,961nm,0.2s							
KUR				smax	smax			
	comp=N,307nm,0.3s							
KUR	**Kuril'sk**	**1.04**	**337**	*i* P		**Pn**	**18 57 35.6**	**+0.6**
KUR				AMB	AMB		18 57 36.2	
	comp=N,290nm,0.3s							
KUR				*i* S		**Sn**	**18 57 49.3**	**-0.7**
KUR				A	A		18 57 50.2	
	comp=N,500nm,0.4s							
KUR				A	A		18 57 50.2	
	comp=N,760nm,0.4s							
SHO	**Shikotan**	**1.24**	**251**	*e*P		Pn	18 57 42.9	+5.6
SHO				AMB	AMB		18 57 43.1	
	comp=N,50nm,0.2s							
SHO				*e*S		**Sn**	**18 57 56.9**	**+2.8**
SHO				A	A		18 57 57.9	
	comp=N,540nm,0.3s							
SHO				A	A

NOA	**NORSAR Array B**	**69.44**	**339**	P	**P**	**19 08 13.1**	**-0.2**
	comp=E,0.2nm,0.4s,baz=29,slow=6.5,SNR=4.3						
	comp=E,0.2nm,0.4s						

*TEH **22** 19:04:16.6,29.˝52N×51.˝13E,h8km±36km*
*SGS **22** 19:04:18.9,29.˝54N×51.˝55E,h10km,Ml3.5*

ISC 22 19:04:17.7±1.0,29.˝46N±0.˝04×51.15E±0.˝04,h10km,n29,
σ0s83/30,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KAZ2	**Kazeron-Fars-I**	**0.47**	**71**	Pg	**Pg**		**19 04 25.9**	**-1.1**
DSBU	**Dashti - Bushe**	**1.10**	**175**	Pg	**Pn**		**19 04 38.4**	**-0.8**
DSBU				Sg	**Sn**		**19 04 55.9**	**+1.5**
SHI	**Shiraz**	**1.21**	**81**	Pg	**Pn**		**19 04 40.5**	**-0.2**
SHI				Sg	**Sn**		**19 04 57.6**	**+0.3**
ABEH	**Behbahan**	**1.38**	**326**	Pg	**Pn**		**19 04 42.4**	**-0.6**
KLNJ	**Kolanjah**	**1.59**	**14**	Pg	**Pn**		**19 04 45.4**	**-0.8**
QIR1	**Qir**	**1.93**	**120**	Pn	**Pb**		**19 04 53.0**	**0.0**
IBRJ	**Brojen**	**2.44**	**2**	Pn	**Pn**		**19 04 58.5**	**+0.6**
IRAM	**Ramesheh**	**2.57**	**24**	Pn	**Pn**		**19 05 00.3**	**+0.7**
KFJS2	**Khafji**	**2.65**	**246**	P	**Pn**		**19 05 01.1**	**+0.6**
ZNGN	**Zangian**	**2.66**	**355**	Pn	**Pn**		**19 05 01.0**	**+0.1**
JHBN	**Jahan bin**	**2.79**	**352**	Pn	**Pn**		**19 05 03.2**	**+0.5**
KFJS1	**Al Wafrah**	**3.08**	**247**	P	**Pn**		**19 05 07.5**	**+1.0**
IPIR	**Pirpir**	**3.22**	**356**	Pn	**Pn**		**19 05 08.5**	**-0.1**
WANAN	**Al Wanan**	**3.47**	**223**	P	**Pg**		**19 05 23.3**	**-0.9**
IMEH	**Mehriz**	**3.56**	**56**	Pn	**Pn**		**19 05 14.8**	**+1.6**
IZEF	**Zefreh**	**3.57**	**16**	Pn	**Pn**		**19 05 14.7**	**+1.3**
IKLH	**Kolahrood**	**3.87**	**5**	Pn	**Pn**		**19 05 18.3**	**+0.8**
HOFOF	**Al Hofuf**	**4.19**	**196**	P	**Pn**		**19 05 21.4**	**-0.3**
NHFOF	**Ain Dar Gosp**	**4.21**	**204**	P	**Pn**		**19 05 22.1**	**+0.1**
SMAN	**Sihmah**	**4.26**	**221**	P	Pg		19 05 46.7	+7.4
QAMS	**Qamsar**	**4.27**	**3**	Pn	**Pn**		**19 05 23.9**	**+0.9**
ANAR	**Anarak**	**4.33**	**30**	Pn	**Pn**		**19 05 24.7**	**+1.0**
KRSH	**Karshahi**	**4.58**	**10**	Pn	**Pn**		**19 05 27.6**	**+0.5**
KHGB	**Koh Gabri**	**4.72**	**78**	Pn	**Pn**		**19 05 30.3**	**+1.2**
BDRS	**Dareh Seyedi**	**4.88**	**337**	Pn	**Pn**		**19 05 31.8**	**+0.4**
ISFD	**Sefidab**	**4.97**	**11**	Pn	**Pn**		**19 05 32.7**	**+0.3**
IVRN	**Varamin**	**5.54**	**5**	Pn	**Pn**		**19 05 40.2**	**-0.1**
KHRJ	**Al Kharj**	**6.40**	**210**	P	**Pn**		**19 05 51.4**	**-0.7**
IDHR	**Dehrash**	**6.60**	**324**	Pn	**Pn**		**19 05 55.7**	**+0.7**

IDC 22 19:34:10.9±2.0,9.˝04N×121.˝14E,h0km,mb3.5/4,
mbtmp3.5/4,Error ellipse: s-maj=276.0km
s-min=23.4km az=63.0,Sulu Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**31.60**	**156**	P	P		19 40 34.3	-1.3
	0.1nm,0.4s,baz=339,slow=7.9,SNR=2.4							
	0.1nm,0.4s							
ASAR	**Alice Springs**	**34.82**	**159**	P	P		19 41 04.5	+0.8
	0.2nm,0.4s,baz=347,slow=7.4,SNR=10.0							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**50.06**	**326**	P	P		19 43 07.9	+0.4
	0.2nm,0.5s,baz=127,slow=7.6,SNR=4.4							
	0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**54.31**	**328**	P	P		19 43 38.4	-0.6
	0.5nm,0.2s,baz=125,slow=7.7,SNR=1.9							
	0.5nm,0.2s							

*ISK **22** 19:36:07.2,39.˝49N×39.˝02E,h4km,ML2.7/11*
*AFAD **22** 19:36:07.7,39.˝46N×39.˝04E,h7km±1km,ML2.3*

ISC 22 19:36:07.7±1.2,39.˝47N±0.˝03×39.˝03E±0.˝02,h4km±11km,
n20,σ0s81/33,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ILIC	**ilic-Erzincan**	**0.36**	**267**	Pg	**Pg**		**19 36 14.9**	**+0.2**
ILIC				Sg	**Sg**		**19 36 19.9**	**+0.5**
TNCL	**Tunceli-Merkez**	**0.54**	**132**	P	**Pg**		**19 36 18.3**	**+0.3**
TNCL				S	**Sg**		**19 36 25.9**	**+1.0**
TNCL				*i* IAML			19 36 26.0	
	comp=E,337nm,0.5s							
TNCL				*i* IAML			19 36 29.0	
	comp=N,301nm,0.6s							
ARPR	**Arapgir-MALATY**	**0.66**	**235**	Pg	**Pg**		**19 36 20.3**	**-0.1**
ARPR				Sg	**Sb**		**19 36 30.4**	**-1.1**
KELT	**Kelkit**	**0.69**	**14**	P	**Pg**		**19 36 21.3**	**+0.2**
KELT				*i* IAML			19 36 31.0	
	comp=N,123nm,0.3s							
KELT				*i* IAML			19 36 31.0	
	comp=E,104nm,0.6s							
KELT				S	**Sb**		**19 36 31.2**	**-1.4**
ALUC	**Giresun/Alucra**	**0.89**	**347**	P	**Pb**		**19 36 25.2**	**-0.7**
ALUC				S	**Sb**		**19 36 37.8**	**-0.4**
ALUC				*i* IAML			19 36 38.0	
	comp=N,187nm,0.3s							
ALUC				*i* IAML			19 36 39.0	
	comp=E,139nm,0.4s							
SUSE	**Susehri**	**0.97**	**319**	P	**Pb**		**19 36 26.6**	**-0.6**
SUSE				S	**Sb**		**19 36 40.6**	**+0.1**
SUSE				*i* IAML			19 36 42.0	
	comp=N,127nm,0.2s							
SUSE				*i* IAML			19 36 42.0	
	comp=E,66nm,0.3s							
ELZG	**Elazig**	**0.98**	**182**	P	**Pg**		**19 36 25.9**	**-0.5**
ELZG				S	**Sb**		**19 36 40.2**	**-0.4**
ELZG				*i* IAML			19 36 41.0	
	comp=E,159nm,0.4s							
ELZG				*i* IAML			19 36 42.0	
	comp=N,145nm,0.2s							
KOVA	**Elazig, Kovanc**	**0.98**	**141**	P	**Pg**		**19 36 26.2**	**-0.3**
KOVA				S	**Sb**		**19 36 39.9**	**-0.8**
KOVA				*i* IAML			19 36 40.0	
	comp=N,53nm,0.2s							
KOVA				*i* IAML			19 36 45.0	
	comp=E,58nm,0.5s							
HEKM	**Malatya_Hekimh**	**1.02**	**235**	P	**Pb**		**19 36 27.7**	**-0.4**
HEKM				*i* IAML			19 36 44.0	
	comp=E,141nm,0.3s							
HEKM				S	**Sn**		**19 36 44.3**	**+0.3**
HEKM				*i* IAML			19 36 46.0	
	comp=N,144nm,0.2s							
YEDI	**Yedisu-Bingol**	**1.17**	**91**	Pn	**Pb**		**19 36 30.4**	**-0.2**
YEDI				Sn	**Sn**		**19 36 47.5**	**-0.1**
BAYB	**BAYBURT**	**1.23**	**50**	P	**Pg**		**19 36 31.1**	**-0.2**
BAYB				S	**Sn**		**19 36 49.4**	**+0.4**
BAYB				*i* IAML			19 36 51.0	
	comp=N,57nm,0.6s							
BAYB				*i* IAML			19 36 51.0	
	comp=E,42nm,0.4s							
BAYT	**Aydıntepe-Bayb**	**1.25**	**43**	Pn	**Pg**		**19 36 31.6**	**-0.2**
BAYT				Sn	**Sn**		**19 36 49.5**	**-0.1**
KOPT	**Kop Dagi**	**1.25**	**64**	P	**Pn**		**19 36 32.3**	**0.0**
KOPT				S	**Sn**		**19 36 52.5**	**+2.7**
KOPT				*i* IAML			19 36 55.0	
	comp=N,44nm,0.5s							
KOPT				*i* IAML			19 36 55.0	
	comp=E,28nm,0.5s							
KARO	**Karliova-Bingo**	**1.57**	**95**	Pn	**Pb**		**19 36 36.7**	**-0.8**
KTUT	**Trabzon**	**1.61**	**20**	Pn	**Pb**		**19 36 37.5**	**-0.6**
SVSK	**Karacayir**	**1.63**	**286**	Pn	**Pb**		**19 36 37.3**	**-1.0**
TOKT	**Tokat**	**2.09**	**295**	Pn	**Pn**		**19 36 43.7**	**+0.1**
CHOM	**Cayeli-Rize**	**2.09**	**39**	Pn	**Pn**		**19 36 43.8**	**+0.2**
BNN	**Bunyan**	**2.55**	**257**	Pn	**Pn**		**19 36 50.6**	**+0.6**
YOZ	**Yozgat**	**2.87**	**274**	Pn	**Pn**		**19 36 55.7**	**+1.3**

*NEIC **22** 20:01:23.1±0.4,35.˝909N±0.˝010×98.˝52W±0.˝01,h7km±1km,*
Error ellipse: s-maj=2.9km s-min=1.9km az=110.0

NEIC 22 20:01:22.9±0.5,35.˝909N±0.˝009×98.˝53W±0.˝01,h5km±1km,
mb_Lg2.9/77,ML2.6/26,ML2.9/45,Error ellipse:
s-maj=2.8km s-min=1.8km az=246.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CSTR	**Hydro, Custer**	**0.29**	**207**		Pg		20 01 29.2	+0.6
OK038	**West end E0370**	**0.59**	**343**		Pg		20 01 34.6	+0.2
OK038				IAML			20 01 48.7	
	973nm,0.3s							
OK038				IAML			20 01 55.0	
	1μm,0.3s							
CROK	**Carrier**	**0.74**	**36**		Pg		20 01 37.3	+0.2
CROK					Sb		20 01 47.7	-1.0
CROK				IAML			20 01 56.6	
	comp=N,813nm,0.3s							
ELIS	**Ellis County**	**0.74**	**282**		Pb		20 01 38.0	-0.3
ELIS					Sb		20 01 47.8	-1.0
ELIS				IAML			20 02 03.4	
	comp=E,568nm,0.5s							
NOKA	**Waynoka**	**0.80**	**336**		Pg		20 01 38.2	0.0
NOKA					Sg		20 01 49.3	+0.8
NOKA				IAML			20 01 55.3	
	comp=N,630nm,0.3s							
OK029	**Liberty Lake**	**0.88**	**97**		Pg		20 01 39.5	-0.2
OK029					Sg		20 01 51.6	+0.5
GC02	**Grant County #**	**1.08**	**30**		Pg		20 01 43.4	-0.3
GC02					Sg		20 01 58.2	+0.4
FNO	**Franklin**	**1.12**	**125**		Pg		20 01 44.1	-0.3
FNO				IAML			20 02 00.2	
	comp=N,348nm,0.3s							
KAN14	**Manchester OK**	**1.14**	**23**	IAML			20 02 03.5	
	comp=N,367nm,0.3s							
WMOK	**Wichita Mounta**	**1.19**	**190**		Pg		20 01 44.4	-1.3
BLOK	**Blackwell**	**1.36**	**51**		Pn		20 01 48.0	-0.6
OK048	**Pawnee Station**	**1.38**	**68**		Pn		20 01 48.4	-0.5
KAN01	**Argonia South**	**1.39**	**26**		Pn		20 01 48.8	-0.2
KAN08	**Anthony NE Sta**	**1.39**	**19**		Pn		20 01 49.0	0.0
X34A	**Smith Ranch, M**	**1.42**	**156**		Pn		20 01 49.3	-0.1
SMWD	**Samnorwood**	**1.61**	**241**		Pn		20 01 51.9	-0.2
T35A	**Sooner Cattle**	**1.91**	**58**		Pn		20 01 56.5	+0.3
WTFS	**Witchita Falls**	**2.14**	**179**		Pn		20 01 60.0	+0.7
LOOK	**Love County**	**2.21**	**150**		Pn		20 02 01.3	+1.0
TUL3	**Leonard**	**2.22**	**89**		Pn		20 02 01.4	+1.0
TUL3				IAmb_Lg			20 02 38.1	
	comp=Z,37nm,0.8s							
AMTX	**Amarillo**	**2.77**	**249**		Pn		20 02 09.4	+1.4
AMTX				IAmb_Lg			20 02 49.8	
	comp=Z,54nm,0.7s							
Z35A	**Perchaven, San**	**2.78**	**157**		Pn		20 02 09.6	+1.5
RLO	**Rose Lookout**	**2.85**	**84**		Pn		20 02 09.4	+0.3
APMT	**Aspermont**	**2.89**	**208**		Pn		20 02 11.3	+1.6
DKNS	**Dickens**	**2.98**	**222**		Pn		20 02 12.5	+1.5
PLPT	**Palo Pinto**	**3.09**	**177**		Pn		20 02 13.2	+0.8
U38A	**Gravette**	**3.39**	**80**	IAmb_Lg			20 03 13.7	
	comp=Z,22nm,0.8s							
SN07	**Snyder 07**	**3.42**	**215**	IAmb_Lg			20 03 14.8	
	comp=Z,23nm,0.8s							
RTBA	**Rita Blanca**	**3.45**	**280**		Pn		20 02 18.2	+0.8
HHAR	**Hobbs**	**3.73**	**83**	IAmb_Lg			20 03 27.1	
	comp=Z,21nm,0.9s							
POST	**Post**	**3.75**	**222**	IAmb_Lg			20 03 29.0	
	comp=Z,27nm,0.7s							
TREL	**Terrell**	**3.76**	**147**	IAmb_Lg			20 03 32.7	
	comp=Z,25nm,0.8s							
Z38A	**Mt. Pleasant**	**3.94**	**131**	IAmb_Lg			20 03 37.0	
	comp=Z,30nm,0.8s							
MSTX	**Muleshoe**	**3.99**	**242**	IAmb_Lg			20 03 37.9	
	comp=Z,22nm,0.8s							
MIAR	**Mount Ida**	**4.27**	**107**		Pn		20 02 29.6	+0.9
MIAR				IAmb_Lg			20 03 47.9	
	comp=Z,34nm,1.1s							
KSCO	**Kaye Shedlock'**	**4.50**	**315**	IAmb_Lg			20 03 56.7	
	comp=Z,29nm,0.8s							
SGCY	**Sterling City**	**4.53**	**209**	IAmb_Lg			20 03 52.3	
	comp=Z,33nm,0.8s							
X40A	**Basin Creek Fa**	**4.87**	**105**	IAmb_Lg			20 04 01.3	
	comp=Z,16nm,0.7s							
WLAR	**White Oak Lake**	**4.97**	**115**	IAmb_Lg			20 04 06.4	
	comp=Z,20nm,0.9s							
WHAR	**Wooly Hollow**	**5.12**	**95**	IAmb_Lg			20 04 14.7	
	comp=Z,13nm,0.9s							
435B	**Jarrell**	**5.17**	**171**	IAmb_Lg			20 04 20.0	
	comp=Z,20nm,0.8s							
UALR	**University of**	**5.18**	**101**	IAmb_Lg			20 04 10.8	
	comp=Z,15nm,0.9s							
MGMO	**Mountain Grove**	**5.19**	**74**	IAmb_Lg			20 04 12.7	
	comp=Z,25nm,0.9s							
FCAR	**Ozark Folk Cen**	**5.20**	**88**	IAmb_Lg			20 04 11.9	
	comp=Z,19nm,1.0s							
Z41A	**Richland Creek**	**5.41**	**118**	IAmb_Lg			20 04 24.4	
	comp=Z,28nm,0.8s							
P38A	**Dawn**	**5.42**	**45**	IAmb_Lg			20 04 26.1	
	comp=Z,11nm,0.8s							
OZNA	**Ozona**	**5.43**	**204**	IAmb_Lg			20 04 25.9	
	comp=Z,15nm,0.9s							
R40A	**Maddies Statio**	**5.54**	**63**	IAmb_Lg			20 04 20.2	
	comp=Z,16nm,0.8s							
OGNE	**Ogallala**	**5.73**	**332**	IAmb_Lg			20 04 38.9	
	comp=Z,20nm,0.8s							
Q24A	**Divide**	**6.09**	**302**	IAmb_Lg			20 04 53.6	
	comp=Z,10nm,0.8s							
CCM	**Cathedral Cave**	**6.21**	**68**	IAmb_Lg			20 04 46.2	
	comp=Z,18nm,0.9s							
FVM	**French Village**	**6.81**	**70**	IAmb_Lg			20 04 59.4	
	comp=Z,15nm,1.0s							
ISCO	**Idaho Springs**	**6.82**	**307**	IAmb_Lg			20 05 03.7	
	comp=Z,10nm,1.0s							
S44A	**Carbondale**	**7.65**	**74**	IAmb_Lg			20 05 30.8	
	comp=Z,19nm,0.8s							
SIUC	**Southern Illin**	**7.68**	**74**	IAmb_Lg			20 05 28.5	
	comp=Z,17nm,0.7s							
K22A	**Casper**	**9.15**	**320**	IAmb_Lg			20 06 31.6	
	comp=Z,12nm,0.8s							
L42A	**Oliver, Polo**	**9.20**	**46**	IAmb_Lg			20 06 26.5	
	comp=Z,14nm,0.8s							
RSSD	**Black Hills**	**9.22**	**334**	IAmb_Lg			20 06 30.9	
	comp=Z,6.7nm,0.9s							
JFWS	**Jewell Farm**	**9.48**	**40**	IAmb_Lg			20 06 31.1	
	comp=Z,12nm,0.7s							

*NAO **22** 20:08:26.4,40.˝02N×18.˝32E,h10km,MB3.8*
*MOS **22** 20:08:39.9±1.3,41.˝46N×19.˝61E,h13km,mb4.5/6,Error*
ellipse: s-maj=5.0km s-min=3.3km az=82.8
*MCSM **22** 20:08:41.7±0.3,41.˝N±3.˝×2.˝0E±.˝,h10km,mb4.4,mB4.9,*
MLv4.2,Mw(mB)4.2
*NEIC **22** 20:08:41.5±2.4,41.˝49N±0.˝06×19.˝67E±0.˝07,h10km±1km,*
mb4.3/5,Error ellipse: s-maj=10.0km s-min=9.3km
az=354.0
*TIR **22** 20:08:41.2,41.˝48N×19.˝59E,h38km±1km,Ml4.3/6*
*BGR **22** 20:08:42.3±0.8,41.˝19N×19.˝73E,h10km,ML4.1,Error*
ellipse: s-maj=16.7km s-min=8.9km az=19.0
*PRU **22** 20:08:42.4,41.˝37N×19.˝49E,h0km,M4.4*
*MED_RC **22** 20:08:42.0±0.6,41.˝45N×19.˝61E,h12km±8km,MW4.2/10,*
Moment Tensor Solution.Mantle waves: s10,c13;
Duration: 1s0 Moment tensor: Scale 10^{15}Nm;
M_{rr}0.23±.24; $M_{\theta\theta}$0.31±.13; $M_{\phi\phi}$-0.54±.21; $M_{r\theta}$1.92±1.15;
$M_{\theta\phi}$0.18±.12; $M_{\phi r}$-1.89±1.15; Best double couple:
M_o2.74000×10^{15} NP1:φs28.00000°,δ9.00000°,
λ163.00000°. NP2:φs135.00000°,δ87.00000°,λ81.00000°.
Principal axes: T 2.7100, Plg47.0000°, Azm35.0000°; N
0.0600, Plg9.0000°, Azm135.0000°; P -2.7700,
Plg42.0000°, Azm233.0000°; nsta1 refers to body waves.
nsta2 refers to surface waves, cutoff=35s.
*SKO **22** 20:08:42.7,41.˝51N×19.˝64E,h22km,ML4.1*
*PDG **22** 20:08:43.3±0.2,41.˝50N×19.˝71E,h13km,MD4.1/9,*
ML4.0/12,Error ellipse: s-maj=0.8km s-min=1.2km az=0.0
*IDC **22** 20:08:43.6±1.7,41.˝50N±19.˝70E,h35km±14km,mb3.9/15,*
mbtmp4.0/29,ML3.3/8,MS3.2/25,Error ellipse:
s-maj=11.4km s-min=9.3km az=30.0
*BEO **22** 20:08:43.2±0.4,41.˝43N×19.˝70E,h19km±2km,ML4.0/21*
*THE **22** 20:08:44.6,41.˝N±3.˝×2.˝0E±.˝,h11km,M3.8/16,MLh3.8/16*
*SOF **22** 20:08:44.2,41.˝44N±0.˝01×19.˝68E±0.˝05,h49km±29km,*
MD4.4/14
*AFAD **22** 20:08:47.1,41.˝94N×20.˝59E,h7km±31km,MW3.9*

ISC 22 20:08:42.5±0.8,41.˝41N±0.˝02×19.˝69E±0.˝02,h26km±5km,
n460,σ1s70/559,mb4.3/24,MS3.3/16,76C-27D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TIR	**Tirane**	**0.14**	**116**	Pg	**Pb**		**20 08 47.6**	**0.0**
TIR				Sn	**Sb**		**20 08 50.0**	**-1.1**
TIR				AML	AML		20 08 51.1	
	319nm,0.4s							
ULC	**Ulcinj**	**0.65**	**329**	*i* Pg	**Pb**		**20 08 54.4**	**-0.8**
ULC				*i* Sg	**Sb**		**20 09 03.3**	**-0.6**
DRME	**Dracevica, Mon**	**0.86**	**334**	*e*Pg	**Pb**		**20 08 58.6**	**-0.3**
DRME				*e*Sg	**Sn**		**20 09 11.8**	**+1.0**
DRME	**Dracevica, Mon**	**0.86**	**334**	*i* Pg	**Pb**		**20 08 58.3**	**-0.6**
DRME				*i* Sg	**Sn**		**20 09 10.8**	**0.0**
OHR	**Ohrid**	**0.89**	**109**	*i* Pg	**Pn**		**20 08 59.5**	**+0.2**
OHR				*i* Sg	**Sn**		**20 09 14.8**	**+3.4**
OHR				*e*Lg	Lg		20 09 15.0	
	comp=N,4μm,0.3s							
OHR				*e*Lg	Lg		20 09 16.6	
	comp=E,7μm,0.6s							
VLO	**Vlora**	**0.95**	**189**	Pg	**Pn**		**20 09 02.6**	**+2.5**
VLO				Sg	**Sn**		**20 09 14.0**	**+1.1**
VLO					AML	AML	20 09 25.7	
	comp=E,63nm,0.5s							
VLO	**Vlora**	**0.95**	**189**	P	**Pn**		**20 09 02.7**	**+2.5**
VLO				S	**Sn**		**20 09 17.1**	**+4.2**
VLO	**Vlora**	**0.95**	**189**	P	**Pn**		**20 09 02.4**	**+2.2**
PDG	**Podgorica**	**1.07**	**342**		**Pn**		**20 09 01.3**	**-0.6**
PDG	**Podgorica**	**1.07**	**342**	⇑P	**Pb**		**20 09 02.1**	**-0.2**
PDG				⇑S	**Sn**		**20 09 17.2**	**+1.3**
PDG	**Podgorica**	**1.07**	**342**	*e*Pg	**Pb**		**20 09 02.0**	**-0.4**
PDG	**Podgorica**	**1.07**	**342**	⇑*i* Pg	**Pb**		**20 09 01.9**	**-0.4**
PDG				*i* Sg	**Sn**		**20 09 17.3**	**+1.4**
BUM	**Brajici-Budva**	**1.07**	**326**	⇑*i* Pg	**Pb**		**20 09 02.0**	**-0.4**
BUM				*i* Sg	**Sn**		**20 09 18.7**	**+2.7**
KBN	**Korca**	**1.14**	**133**	Pn	**Pb**		**20 09 03.9**	**+0.3**
KBN				Sn	**Sn**		**20 09 21.4**	**+3.7**
KBN	**Korca**	**1.14**	**133**	P	**Pb**		**20 09 05.3**	**+1.7**
KBN				S	**Sn**		**20 09 21.3**	**+3.6**
KBN	**Korca**	**1.14**	**133**	P	**Pb**		**20 09 04.3**	**+0.7**
PVY	**Plav**	**1.20**	**9**	*e*Pg	**Pb**		**20 09 04.8**	**+0.1**
PVY	**Plav**	**1.20**	**9**	⇑*i* Pg	**Pn**		**20 09 03.7**	**-0.1**
PVY				*i* Sg	**Sb**		**20 09 21.5**	**+1.7**
CEME	**Cevo**	**1.27**	**333**	⇑*i* Pg	**Pb**		**20 09 05.2**	**-0.7**
CEME				*i* Sg	**Sb**		**20 09 24.3**	**+2.4**
HCY	**Herceg Novi**	**1.37**	**320**	⇑*i* Pg	**Pb**		**20 09 07.0**	**-0.5**
HCY				*i* Sg	**Sb**		**20 09 28.5**	**+4.0**
SKO	**Skopje**	**1.42**	**66**	*i* Pg	**Pb**		**20 09 08.6**	**+0.2**
SKO				*i* Sg	**Sb**		**20 09 27.9**	**+1.9**
KOME	**Kolasin**	**1.45**	**355**	*e*Pg	**Pb**		**20 09 08.7**	**-0.1**
KOME				*e*Sg	**Sb**		**20 09 29.6**	**+2.8**
KOME	**Kolasin**	**1.45**	**355**	⇓*i* Pg	**Pb**		**20 09 07.9**	**-0.9**
KOME				*i* Sg	**Sb**		**20 09 29.7**	**+2.9**
NKME	**Niksic**	**1.46**	**338**	⇑*i* Pg	**Pb**		**20 09 08.4**	**-0.7**
NKME				*i* Sg	**Sb**		**20 09 30.7**	**+3.4**
BEY	**Berane**	**1.47**	**6**	*e*Pg	**Pb**		**20 09 09.0**	**-0.2**
IVA	**Berane**	**1.47**	**6**	⇓*i* Pg	**Pb**		**20 09 08.8**	**-0.4**
IVA				*i* Sg	**Sb**		**20 09 30.8**	**+3.3**
PENT	**Pentalofos**	**1.64**	**137**	P	**Pb**		**20 09 13.0**	**+1.0**
PENT				S	**Sb**		**20 09 33.1**	**+0.9**
TREB	**Trebinje**	**1.65**	**323**	*e*Pn	**Pb**		**20 09 10.7**	**-1.4**
TREB	**Trebinje**	**1.65**	**323**	*e*Pn	**Pb**		**20 09 10.7**	**-1.4**
KEK	**Kerkira**	**1.70**	**177**		**Pb**		**20 09 15.3**	**+2.3**
KEK	**Kerkira**	**1.70**	**177**	S	**Sb**		**20 09 34.7**	**+0.8**
BRY	**Bratogost**	**1.72**	**330**	⇑*i* Pn	**Pb**		**20 09 12.9**	**-0.6**
BRY				*i* Sn	**Sb**		**20 09 37.1**	**+2.3**
SJES	**Sjenica**	**1.86**	**6**	*e*Pg	**Pb**		**20 09 15.2**	**-0.7**
SJES				*e*Sg	**Sb**		**20 09 41.1**	**+2.3**
UPM	**Unac-Piva**	**1.89**	**342**	⇑*i* Pn	**Pb**		**20 09 15.7**	**-0.6**
UPM				*i* Sn	**Sb**		**20 09 40.8**	**+1.3**
KZN	**Kozani**	**1.92**	**124**	P	**Pb**		**20 09 16.4**	**-0.5**
KZN				S	**Sb**		**20 09 40.3**	**-0.2**
KZN	**Kozani**	**1.92**	**124**	P	**Pb**		**20 09 16.0**	**-0.9**
IGT	**Igoumenitsa**	**1.94**	**165**	Pn	**Pb**		**20 09 16.3**	**-0.8**
IGT				Sn	**Sb**		**20 09 41.7**	**+0.9**
IGT	**Igoumenitsa**	**1.94**	**165**	P	**Pb**		**20 09 15.7**	**-1.4**
IGT				S	**Sb**		**20 09 41.0**	**+0.2**
IGT	**Igoumenitsa**	**1.94**	**165**	*e*Pn	**Pb**		**20 09 15.7**	**-1.4**
KLINJ	**Klinje**	**1.94**	**335**	*e*Pn	**Pb**		**20 09 15.9**	**-1.3**
JAN	**Janina**	**1.96**	**153**	P	**Pb**		**20 09 16.8**	**-0.7**
JAN				S	**Sb**		**20 09 41.7**	**+0.2**
JAN	**Janina**	**1.96**	**153**	P	**Pb**		**20 09 17.0**	**-0.5**
LFKM	**Lefkimmi**	**1.98**	**172**	P	**Pb**		**20 09 16.8**	**-1.0**
LFKM				S	**Sb**		**20 09 42.3**	**+0.3**
NOCI	**Noci**	**2.08**	**254**	Pn	**Pn**		**20 09 16.0**	**+0.2**
NOCI				Sn	**Sn**		**20 09 42.5**	**+1.7**
NOCI				AML	AML		20 09 56.5	
	comp=E,9.0nm,0.6s							
NOCI				AML	AML		20 09 58.2	
	comp=E,7.8nm,0.4s							
STON	**Ston**	**2.08**	**315**	*e*Pn	**Pn**		**20 09 16.1**	**+0.4**
STON	**Ston**	**2.08**	**315**	*e*Pn	**Pn**		**20 09 16.5**	**+0.8**
SELS	**Selova**	**2.10**	**30**	*e*Pn	**Pn**		**20 09 17.2**	**+1.2**
SELS				*e*Sn	**Sn**		**20 09 42.5**	**+1.3**
KTI	**Kastanea**	**2.10**	**118**	P	**Pb**		**20 09 18.3**	**-1.7**
BARS	**Barje**	**2.11**	**48**	⇑*i* Pn	**Pn**		**20 09 17.4**	**+1.2**
BARS				*i* Sg	**Sb**		**20 09 48.2**	**+

MMB Musomishta 3.05 86 P **Pn** **20 09 30.6 +1.5**
MMB S **Sn** **20 10 06.5 +1.7**
MMB Musomishta 3.05 86 P **Pn** **20 09 30.6 +1.5**
MMB Musomishta 3.05 86⇑ *e*Pn **Pn** **20 09 30.6 +1.5**
MMB *i* Sn **Sn** **20 10 06.6 +1.8**
SVIS Svilajnac 3.07 21 *e*Pn **Pn** **20 09 31.1 +1.8**
VSK1 VASILIKIADES 3.07 167 P **Pn** **20 09 30.0 +0.7**
BLKB Belogradchik 3.12 44 ⇓S **Sn** **20 10 09.9 +3.3**
AGG Agios Georgios 3.12 139 P **Pn** **20 09 32.6 +2.5**
AGG Agios Georgios 3.12 139 P **Pn** **20 09 32.6 +2.5**
PVO Paravola 3.12 153 P **Pn** **20 09 32.6 +2.5**
TIP Timpagrande 3.16 226 **Pn** **20 09 31.2 +0.6**
TIP Timpagrande 3.16 226 ⇑P **Pn** **20 09 31.3 +0.6**
TIP Timpagrande 3.16 226 Pn **Pn** **20 09 30.9 +0.2**
BORS2 Bor- Borsko je 3.18 32 *e*Pn **Pn** **20 09 30.7 -0.1**
BORS2 *e*Sn **Sn** **20 10 07.4 -0.5**
CUC Castrocucco 3.27 246 **Pn** **20 09 32.6 +0.5**
VLS Valsamata 3.30 168 P **Pn** **20 09 32.7 +0.2**
VLS Valsamata 3.30 168 P **Pn** **20 09 32.9 +0.4**
KUBS Kucevo 3.33 25 *e*Pn **Pn** **20 09 32.5 -0.5**
KUBS *e*Sn **Sn** **20 10 14.1 +2.3**
AVAS Avala Beograd 3.34 10 *e*Pn **Pn** **20 09 33.6 +0.6**
AVAS *e*Sn **Sn** **20 10 12.3 +0.4**
PSDA Pessada-Kefalo 3.36 168 P **Pn** **20 09 34.0 +0.6**
PAIG Paliouri 3.37 115 P **Pn** **20 09 34.4 +0.9**
EFP Efpalio 3.43 150 P **Pn** **20 09 36.8 +2.5**
PGB Panagyurishte 3.52 70 P **Pn** **20 09 37.8 +2.3**
PGB S **Sn** **20 10 17.1 +0.8**
KIJV Kijevo 3.55 318 *e*Pn **Pn** **20 09 35.7 -0.2**
MPEP Malo Peshtene 3.57 56 P **Pn** **20 09 38.2 +1.9**
MPEP S **Sn** **20 10 19.2 +1.6**
VALD Valchedram 3.58 49 P **Pn** **20 09 38.1 +1.7**
ORTH Orthonies,Zaky 3.64 167 P **Pn** **20 09 37.3 +0.1**
KAVA Kavala 3.66 95 P **Pn** **20 09 38.9 +1.4**
MDVR Moldovita 3.68 23 ⇑P **Pn** **20 09 38.7 +0.9**
MDVR ⇑S **Sn** **20 10 23.7 +3.4**
MDVR Moldovita 3.68 23 *e*Pn **Pn** **20 09 38.7 +0.9**
PUNG Punghina 3.73 39 ⇓P **Pn** **20 09 39.9 +1.6**
PUNG Punghina 3.73 39 *e*Pn **Pn** **20 09 40.1 +1.8**
FRGS Fruska Gora 3.75 1 *e*Pn **Pn** **20 09 39.0 +0.3**
FRGS *e*Sn **Sn** **20 10 21.9 0.0**
RZN Rozhen 3.80 84 P **Pn** **20 09 41.6 +2.1**
RZN S **Sn** **20 10 23.6 +0.2**
BLY Banja Luka 3.81 332 *e*Pn **Pn** **20 09 40.7 +1.2**
BLY Banja Luka 3.81 332 ⇑P **Pn** **20 09 40.9 +1.4**
BLY Banja Luka 3.81 332 *e*Pn **Pn** **20 09 40.4 +0.9**
PLD Plovdiv 3.85 77 P **Pn** **20 09 42.0 +1.9**
PLD S **Sn** **20 10 24.5 0.0**
PLD Plovdiv 3.85 77 *e*Pn **Pn** **20 09 42.0 +1.9**
DJES Djerdap 3.86 32 ⇓P **Pn** **20 09 41.2 +1.0**
DJES Djerdap 3.86 32 *e*Pn **Pn** **20 09 41.4 +1.2**
DJES *e*Sn **Sn** **20 10 25.4 +0.7**
PAOL Paolisi 3.88 266 **Pn** **20 09 41.9 +1.3**
THAS Thassos island 3.89 100 P **Pn** **20 09 41.6 +1.0**
VRSS Vrsac 3.90 17 *e*Pn **Pn** **20 09 41.2 +0.5**
VRSS *e*Sn **Sn** **20 10 25.3 -0.3**
RMGR Halanga-Turnu 3.92 33 ⇑P **Pn** **20 09 43.0 +2.0**
HERR Herculane 4.00 29 ⇑P **Pn** **20 09 43.2 +1.0**
HERR ⇑S **Sn** **20 10 32.1 +3.9**
BANR Banloc 4.11 14 ⇑P **Pn** **20 09 44.5 +0.9**
SRE Strehaia 4.15 37 ⇓P **Pn** **20 09 46.0 +1.9**
SRE Strehaia 4.15 37 P **Pn** **20 09 46.4 +2.3**
PLVB Pleven 4.15 60 ⇑P **Pn** **20 09 46.4 +2.3**
KDZ Kurdzhali 4.25 85 P **Pn** **20 09 47.3 +1.8**
KDZ Kurdzhali 4.25 85 P **Pn** **20 09 47.4 +1.9**
CEL Celeste 4.30 224 **Pn** **20 09 46.2 0.0**
CEL Celeste 4.30 224 Pn **Pn** **20 09 46.2 +0.2**
VLAD Vladila 4.33 52 ⇓P **Pn** **20 09 49.3 +2.7**
INTR Introdacqua 4.38 280 **Pn** **20 09 48.3 +1.0**
PVL Pavlikeni 4.41 65 P **Pn** **20 09 49.9 +2.1**
RDO Rodhopi 4.41 91 **Pn** **20 09 49.1 +1.4**
BZS Buzias 4.43 18 ⇓P **Pn** **20 09 49.0 +0.9**
BZS Buzias 4.43 18 *e*Pn **Pn** **20 09 48.6 +0.6**
BZS Buzias 4.43 18 P **Pn** **20 09 48.9 +0.9**
ITM Ithomi 4.57 157 **Pn** **20 09 51.9 +2.0**
GZR Gura Zlata 4.57 28 ⇓P **Pn** **20 09 51.6 +1.6**
GZR ⇑S **Sn** **20 10 45.7 +3.4**
GZR Gura Zlata 4.57 28 *e*Pn **Pn** **20 09 51.7 +1.6**
GZR Gura Zlata 4.57 28 P **Pn** **20 09 51.6 +1.6**
ATH Athens Observa 4.63 137 P **Pn** **20 09 53.0 +2.3**
SURR Surduc 4.69 21 ⇓P **Pn** **20 09 52.0 +0.4**
SURR ⇑S **Sn** **20 10 46.9 +1.8**
MOSL Moslavina 4.71 334 *e*Pn **Pn** **20 09 52.2 +0.3**
AQU L'Aquila 4.79 283 P **Pn** **20 09 54.4 +1.4**
AQU L'Aquila 4.79 283 Pn **Pn** **20 09 53.2 +0.2**
CAMP Campotosto 4.82 286 **Pn** **20 09 54.5 +1.0**
ALN Alexandroupoli 4.82 94 **Pn** **20 09 54.8 +1.4**
ALN Alexandroupoli 4.82 94 P **Pn** **20 09 54.8 +1.4**
ELND Elena 4.84 70 ⇑P **Pn** **20 09 55.5 +1.9**
HUMR Humele 4.97 49 ⇑P **Pn** **20 09 57.3 +1.8**
LOT Lotru 5.01 35 ⇑P **Pn** **20 09 57.6 +1.5**
SZH Strazhitsa 5.01 66 P **Pn** **20 09 58.1 +2.1**
DEV Deva 5.04 26 ⇓P **Pn** **20 09 57.9 +1.4**
DEV Deva 5.04 26 P **Pn** **20 09 57.8 +1.4**
SIRR Siria 5.06 16 ⇑P **Pn** **20 09 57.6 +0.9**
SIRR Siria 5.06 16 *e*Pn **Pn** **20 09 57.4 +0.7**
NRCA Norcia 5.09 288 **Pn** **20 09 58.0 +0.8**
FDMO Fiordimonte 5.17 291 **Pn** **20 09 58.7 +0.5**
OZLJ Ozalj 5.21 325 *e*Pn **Pn** **20 09 59.4 +0.8**
JMB Yambol 5.21 76 P **Pn** **20 10 00.3 +1.6**
JMB S **Sn** **20 10 57.4 -0.6**
BOJS Bojanci 5.21 323 *i* Pn **Pn** **20 09 59.7 +0.9**
BOJS *e*Sn **Sn** **20 10 57.8 -0.3**
BOJS IAML 20 11 32.1
comp=Z,262nm,1.7s
BOJS Bojanci 5.21 323 *e*Pn **Pn** **20 09 59.8 +1.0**
EZN Ezine 5.29 105 ⇓P **Pn** **20 10 01.9 +2.1**
EZN Ezine 5.29 105 P **Pn** **20 10 01.9 +2.1**
GCIS Gornji Cirnik 5.34 328 *i* Pn **Pn** **20 10 01.1 +0.5**
ARR Arges 5.35 41 ⇑P **Pn** **20 10 02.7 +2.0**
ARR ⇑S **Sn** **20 11 03.9 +2.5**
CRES Cresnjevec Ost 5.38 327 *i* Pn **Pn** **20 10 01.7 +0.7**
SGRR Singureni 5.41 57 ⇓P **Pn** **20 10 03.6 +2.2**
CESX Cesi 5.43 285 **Pn** **20 10 02.6 +0.8**
RIY Rijeka 5.45 318 *e*Pn **Pn** **20 10 02.9 +0.9**
MTUR Matau 5.47 44 ⇑P **Pn** **20 10 04.8 +2.4**
MTUR Matau 5.47 44 P **Pn** **20 10 04.7 +2.4**
LOZB Loznitsa 5.47 67 P **Pn** **20 10 04.2 +1.9**
BEHE Becsehely 5.48 338 *e*Pn **Pn** **20 10 01.7 -0.7**
RAZG Razgrad 5.48 65 ⇓P **Pn** **20 10 04.2 +1.8**
BRJN Brijuni 5.58 311 *e*Pn **Pn** **20 10 04.0 +0.3**
VOIR 5.60 42 ⇑P **Pn** **20 10 06.1 +1.8**
VOIR 5.60 42 P **Pn** **20 10 06.0 +1.8**
VAE Valguarnera 5.67 228 Pn **Pn** **20 10 06.4 +1.4**
comp=Z,6.8nm,0.5s,baz=5.5,slow=6.6,SNR=6.8
VAE Sn **Sn** **20 11 09.8 +0.4**
comp=Z,1.0nm,0.3s,baz=63,slow=11,SNR=1.5
CEY Cerknica 5.78 320 *e*Pn **Pn** **20 10 07.4 +0.9**
DRGR 5.80 21 ⇑P **Pn** **20 10 07.8 +0.8**
DRGR ⇑S **Sn** **20 11 16.2 +3.5**
DRGR 5.80 21 *e*Pn **Pn** **20 10 07.9 +1.0**
DRGR 5.80 21 P **Pn** **20 10 07.8 +0.8**
SULR 5.81 54 ⇑P **Pn** **20 10 09.4 +2.5**
MARR Marisel-Cluj 5.81 24 ⇑P **Pn** **20 10 08.6 +1.5**
MARR ⇑S **Sn** **20 11 15.9 +2.9**
MDB Medias 5.82 34 ⇓P **Pn** **20 10 08.9 +1.7**
MDB Medias 5.82 34 P **Pn** **20 10 08.8 +1.7**
SKDS Skadanscina 5.84 317 *e*Pn **Pn** **20 10 07.3 -0.2**
BORR Bors 5.87 14 ⇑P **Pn** **20 10 10.4 +2.6**
BORR ⇑S **Sn** **20 11 16.5 +2.2**
RAFF Raffo Rosso 5.88 226 Pn **Pn** **20 10 06.6 -1.3**
BSZH Besenyszg 5.90 4 ⇓P **Pn** **20 10 09.9 +1.7**
BUHA Balikesir, Bur 5.95 106 P **Pn** **20 10 11.7 +2.9**
BUHA *i* IAML 20 11 31.0
comp=Z,22nm,1.6s
BUHA *i* IAML 20 11 36.0
comp=Z,22nm,0.9s
LJU Ljubljana 5.95 323 *e*Pn **Pn** **20 10 10.1 +1.1**
PRD Provadia 5.99 70 P **Pn** **20 10 11.2 +1.8**
CJR Cluj-Napoca 6.00 27 ⇑P **Pn** **20 10 12.3 +2.6**
CJR Cluj-Napoca 6.00 27 P **Pn** **20 10 12.2 +2.6**
LEHL Lehliu 6.06 57 ⇑P **Pn** **20 10 12.9 +2.5**
TRI Trieste 6.08 317 Pn **Pn** **20 10 10.4 -0.3**
TRI Trieste 6.08 317 P **Pn** **20 10 10.4 -0.3**
MLR Muntele Rosu 6.11 46 **Pn** **20 10 13.6 +2.4**
MLR Muntele Rosu 6.11 46 Pn **Pn** **20 10 13.8 +2.5**
baz=145,slow=16
MLR Sn **Sn** **20 11 24.6 +4.3**
comp=Z,1.7nm,0.3s,baz=226,slow=20,SNR=1.3
MLR Lg Lg 20 11 57.6
baz=242,slow=21
MLR LR LR 20 13 23.0
comp=Z,171nm,19.4s,baz=222,slow=46
MLR Muntele Rosu 6.11 46 ⇑P **Pn** **20 10 14.0 +2.8**
MLR Muntele Rosu 6.11 46 P **Pn** **20 10 14.0 +2.8**
MLR Muntele Rosu 6.11 46 *e*Pn **Pn** **20 10 13.7 +2.5**
DOPR Dopca 6.15 40 ⇑P **Pn** **20 10 14.0 +2.4**
PERS Pernice 6.18 329 *i* Pn **Pn** **20 10 12.5 +0.4**
ISR Istrita 6.22 51 ⇑P **Pn** **20 10 15.7 +2.9**
ISR Istrita 6.22 51 P **Pn** **20 10 15.6 +2.9**
SOKA Sobotih 6.25 329 *i* Pn **Pn** **20 10 13.5 +0.5**
comp=Z,4.3nm,0.4s,SNR=5.1
NEHR Nehoiu 6.26 48 ⇑P **Pn** **20 10 16.2 +3.0**
APE Apeiranthos 6.27 132 *i* P **Pn** **20 10 14.9 +1.5**
OBKA Obir 6.30 326 *i* Pn **Pn** **20 10 15.2 +1.3**
comp=Z,3.1nm,0.4s,SNR=5.2
OBKA *e*Sn **Sn** **20 11 25.9 +0.8**
comp=Z,20nm,0.6s
OBKA Obir 6.30 326 *e*Pn **Pn** **20 10 14.9 +1.1**
OBKA *e*Sn **Sn** **20 11 23.6 -1.5**
SABO M.te Sabotino 6.35 318 **Pn** **20 10 14.8 +0.3**
OZUR 6.43 41 ⇓P **Pn** **20 10 18.0 +2.4**
AMRR Amara 6.45 58 ⇑P **Pn** **20 10 17.7 +2.0**
AMRR Amara 6.45 58 P **Pn** **20 10 17.7 +2.0**
BAND Balkesir-Ban 6.46 97 ⇓P **Pn** **20 10 18.2 +2.3**
BLKS Balkesir-Sus 6.48 101 P **Pn** **20 10 19.2 +3.0**
BLKS S **Sn** **20 11 34.5 +5.3**
BLKS *i* IAML 20 12 43.0
comp=Z,15nm,1.6s
BLKS *i* IAML 20 12 46.0
comp=Z,17nm,1.0s
COVR Voineasa-Covas 6.48 45 ⇑P **Pn** **20 10 18.7 +2.6**
SRO Srobarova 6.48 352 *e*P **Pn** **20 10 18.1 +2.0**
SRO *e* 20 11 37.9
BKES Balkesir-Mer 6.49 102 P **Pn** **20 10 19.4 +3.1**
BKES S **Sn** **20 11 31.0 +1.5**
BKES *i* IAML 20 12 31.0
comp=Z,26nm,1.6s
BKES *i* IAML 20 12 46.0
comp=Z,16nm,1.4s
PSZ Piszkesteto 6.51 1 **Pn** **20 10 16.4 -0.3**
PSZ Piszkesteto 6.51 1 ⇑P **Pn** **20 10 17.5 +0.8**
PSZ Piszkesteto 6.51 1 P **Pn** **20 10 17.4 +0.8**
PSZ Piszkesteto 6.51 1 *e*Pn **Pn** **20 10 17.5 +0.8**
PSZ *e*Sn **Sn** **20 11 28.7 -1.3**
TURR Turia 6.52 42 ⇑P **Pn** **20 10 18.8 +2.1**
ICOR Ion Corvin 6.55 63 ⇑P **Pn** **20 10 19.4 +2.3**
ARSA Arzberg 6.56 334 **Pn** **20 10 18.3 +1.0**
ARSA Arzberg 6.56 334 *e*Pn **Pn** **20 10 18.2 +0.9**
comp=Z,2.4nm,0.3s
ARSA Arzberg 6.56 334 *e*Pn **Pn** **20 10 18.5 +1.2**
ARSA Arzberg 6.56 334 *e*Pn **Pn** **20 10 18.2 +1.0**
BISRR Bisoca 6.57 49 ⇑P **Pn** **20 10 20.5 +3.0**
OSSC Osservatorio P 6.59 291 **Pn** **20 10 17.5 -0.3**
PSN Preselentsi 6.62 68 P **Pn** **20 10 20.4 +2.3**
PLOR Plostina 6.72 46 ⇓P **Pn** **20 10 22.1 +2.6**
PLOR Plostina 6.72 46 P **Pn** **20 10 22.1 +2.6**
RONA Rosalia, Austr 6.74 340 *e*Pn **Pn** **20 10 21.0 +1.2**
comp=Z,1.6nm,0.4s
VRI Vrincioaia 6.77 47 ⇑P **Pn** **20 10 22.9 +2.7**
VRI Vrincioaia 6.77 47 P **Pn** **20 10 22.8 +2.7**
MYKA Terra Mystica 6.80 322 *e*Pn **Pn** **20 10 20.8 +0.1**
comp=Z,2.9nm,0.4s
MYKA *e*Sn **Sn** **20 11 36.3 -0.9**
comp=Z,6.2nm,0.5s
BMR Baia Mare 6.83 22 ⇑P **Pn** **20 10 23.5 +2.6**
BMR Baia Mare 6.83 22 P **Pn** **20 10 23.5 +2.6**
HARR Harsova 6.87 59 ⇑P **Pn** **20 10 23.4 +1.9**
HARR Harsova 6.87 59 P **Pn** **20 10 23.3 +1.9**
TLBR Topalu 6.88 60 ⇑P **Pn** **20 10 23.7 +2.0**
ONER Baraj Valea Uz 6.90 42 ⇑P **Pn** **20 10 24.3 +2.3**
DURS Dursunbey 6.93 102 P **Pn** **20 10 25.1 +2.6**
DURS *i* IAML 20 11 44.0
comp=Z,11nm,0.6s
DURS *i* IAML 20 12 01.0
comp=Z,8.3nm,0.6s
MANR Mangalia 6.99 67 ⇓P **Pn** **20 10 25.6 +2.5**
MFTR Murfatlar 6.99 64 ⇓P **Pn** **20 10 25.4 +2.2**
STAL STALIGIAL 7.00 316 **Pn** **20 10 22.6 -0.7**
CONA Conrad Observa 7.07 339 *e*Pn **Pn** **20 10 25.6 +1.3**
comp=Z,0.9nm,0.3s
TRSU Trosnyk 7.08 18 Pn **Pn** **20 10 24.7 +0.4**
TIRR Tirgusor 7.09 62 **Pn** **20 10 25.6 +1.1**
TIRR Tirgusor 7.09 62 ⇓P **Pn** **20 10 26.2 +1.7**
TIRR Tirgusor 7.09 62 P **Pn** **20 10 26.1 +1.7**
TIRR Tirgusor 7.09 62 Pn **Pn** **20 10 26.3 +1.8**
comp=Z,0.1nmcomp=Z,17nm,0.6s
TIRR Tirgusor 7.09 62 *e*Pn **Pn** **20 10 25.4 +0.9**
KECS Kecovo 7.09 4 *e*P **Pn** **20 10 26.7 +2.1**
BERU Berevoiovo 7.14 16 Pn **Pn** **20 10 25.9 +0.7**
TESR Tescani 7.15 42 ⇑P **Pn** **20 10 27.4 +2.0**
MODS Modra-Piesok 7.17 347 *e*P Pn 20 10 30.2 +4.5
MODS *e* 20 11 45.3
KORU Korolevo 7.18 19 Pn **Pn** **20 10 26.6 +0.9**
CFR Carcaliu 7.22 56 ⇑P **Pn** **20 10 27.6 +1.3**
CFR Carcaliu 7.22 56 P **Pn** **20 10 27.5 +1.3**
TPGR Topolog 7.25 59 ⇓P **Pn** **20 10 28.0 +1.2**
GHRR 7.27 48 ⇑P **Pn** **20 10 28.9 +1.9**
KBA Koelnbreinsper 7.27 323 *e*Pn **Pn** **20 10 27.6 +0.4**
comp=Z,7.0nm,0.5s,SNR=13
KBA *e*Sn **Sn** **20 11 47.6 -1.3**
comp=Z,7.4nm,0.6s
KBA Koelnbreinsper 7.27 323 *e*Pn **Pn** **20 10 28.2 +1.0**
KBA *e*Sn **Sn** **20 11 47.4 -1.6**
BRIU Brid 7.32 18 Pn **Pn** **20 10 28.5 +0.9**
RAKU Rahkiv 7.34 24 Pn **Pn** **20 10 31.1 +3.1**
IDI Anoyia 7.35 145 Pn **Pn** **20 10 28.8 +0.6**
comp=Z,5.6nm,0.4s,baz=289,slow=15,SNR=9.0
IDI Sn **Sn** **20 11 45.0 -5.8**
comp=Z,7.2nm,0.3s,baz=309,slow=20,SNR=12
BURAR Bucovina Array 7.35 31 **Pn** **20 10 27.0 -1.3**
BURAR Bucovina Array 7.35 31 ⇓P **Pn** **20 10 31.1 +2.9**
BURAR Bucovina Array 7.35 31 P **Pn** **20 10 31.1 +2.9**
MUKU Mukachevo 7.36 16 Pn **Pn** **20 10 29.3 +1.1**
HOLU Holmets 7.37 14 Pn **Pn** **20 10 29.3 +1.0**
BUR08 Bucovina Ar. S 7.37 30 **Pn** **20 10 28.8 +0.3**
MANT Manisa 7.41 110 **Pn** **20 10 32.0 +2.9**
ABTA Abfaltersbach 7.43 318 *e*Pn **Pn** **20 10 29.1 -0.1**
comp=Z,3.7nm,0.4s,SNR=5.1
ABTA *e*Sn **Sn** **20 11 52.3 -0.3**
comp=Z,25nm,0.9s
UZHM Uzhgorod 7.45 13 Pn **Pn** **20 10 30.1 +0.7**
MOA Molln 7.51 331 *e*Pn **Pn** **20 10 31.0 +0.6**
comp=Z,1.6nm,0.5s,SNR=6.7
MOA Molln 7.51 331 *e*Pn **Pn** **20 10 31.6 +1.3**
MOA Molln 7.51 331 *e*Pn **Pn** **20 10 31.8 +1.5**
VLDR Vladesti 7.53 51 ⇑P **Pn** **20 10 32.9 +2.3**
JAVC Velka Javorina 7.58 350 *e*PN **Pn** **20 10 34.5 +3.1**
MEZ Mezhgor'ye 7.60 20 Pn **Pn** **20 10 31.9 +0.3**
BIOA Bad Ischl, Aus 7.62 328 *e*Pn **Pn** **20 10 32.8 +0.9**
comp=Z,5.1nm,0.3s,SNR=14
TLCR 7.65 57 ⇑P **Pn** **20 10 34.6 +2.4**
TLCR 7.65 57 P **Pn** **20 10 34.6 +2.4**
KOLS Kolonicke sedl 7.74 13 *e*P **Pn** **20 10 36.0 +2.5**
KOLS *e* 20 12 02.5
LANS Liptovska Anna 7.74 359 *e*P **Pn** **20 10 35.4 +1.9**
LANS *e* 20 12 02.9
LESA Schwarzleotal 7.83 323 *e*Pn **Pn** **20 10 35.4 +0.6**
comp=Z,4.6nm,0.6s,SNR=9.0
LESA *e*Sn **Sn** **20 12 02.1 -0.5**
comp=Z,12nm,0.5s
KSV Kosov 7.89 27 Pn **Pn** **20 10 36.3 +0.8**
KRUC Moravsky 8.00 344 *e*PN **Pn** **20 10 39.1 +2.1**
RJOB Jochberg 8.01 324 *e*Pn **Pn** **20 10 39.0 +1.7**
RJOB *e*Sn **Sn** **20 12 05.4 -1.6**
MSSA Maissana 8.02 295 Pn **Pn** **20 10 37.3 -0.1**
NIE Niedzica 8.02 3 Pn **Pn** **20 10 38.1 +0.8**
comp=Z,7.2nm,0.8s
VRAC Vranov 8.19 346 Pn **Pn** **20 10 40.1 +0.5**
comp=Z,1.3nm,0.4s,baz=168,slow=12,SNR=4.3
VRAC Sn **Sn** **20 12 07.8 -3.5**
comp=Z,0.6nm,0.3s,baz=93,slow=9.3,SNR=1.6
VRAC LR LR 20 14 06.9
comp=Z,108nm,19.8s,baz=158,slow=40
VRAC Vranov 8.19 346 *e*PN **Pn** **20 10 41.5 +1.8**
WTTA Wattenberg 8.22 318 *e*Pn **Pn** **20 10 40.4 +0.2**
comp=Z,3.5nm,0.3s,SNR=12
WTTA *e*Sn **Sn** **20 12 10.4 -1.8**
comp=Z,11nm,0.4s
WTTA Wattenberg 8.22 318 *e*Pn **Pn** **20 10 41.9 +1.7**
WATA Walderalm 8.30 318 *e*Pn **Pn** **20 10 41.7 +0.5**
comp=Z,3.1nm,0.3s,SNR=13
WATA *e*Sn **Sn** **20 12 11.9 -2.2**
comp=Z,11nm,0.6s
ARG Arkhangelos 8.38 126 Pn **Pn** **20 10 43.6 +1.4**
ARG Arkhangelos 8.38 126 P **Pn** **20 10 43.6 +1.4**
SQTA Sankt Quirin 8.41 317 *e*Pn **Pn** **20 10 43.8 +1.1**
comp=Z,4.3nm,0.3s,SNR=5.5
SQTA *e*Sn **Sn** **20 12 15.4 -1.4**
comp=Z,9.6nm,0.5s
SAHE Sakarya_HENDEK 8.44 90 ⇓P **Pn** **20 10 44.9 +1.8**
MORC Moravsky Berou 8.50 351 *e*PN **Pn** **20 10 46.1 +2.2**
MORC Moravsky Berou 8.50 351 P **Pn** **20 10 48.4 +4.5**
FETA Feichten 8.54 314 *e*Pn **Pn** **20 10 44.7 +0.2**
comp=Z,2.7nm,0.6s,SNR=4.1
FETA *e*Sn **Sn** **20 12 18.8 -1.2**
comp=Z,7.3nm,0.6s
MOTA Moosalm 8.54 317 *e*Pn **Pn** **20 10 44.3 -0.3**
comp=Z,2.5nm,0.4s,SNR=7.7
MOTA *e*Sn **Sn** **20 12 18.8 -1.4**
comp=Z,20nm,0.6s
GEC2 GERESS Array S 8.55 332 **Pn** **20 10 44.9 +0.2**
GERES GERESS Array B 8.55 332 Pn **Pn** **20 10 45.2 +0.5**
baz=150,slow=14,SNR=15
GERES Sn **Sn** **20 12 18.0 -2.4**
baz=160,slow=25,SNR=3.2
GERES LR LR 20 14 44.0
comp=Z,110nm,19.3s,baz=220,slow=42
comp=Z,1.9nm,0.7s
FUORN Ofenpass-Fuorn 8.56 311 **Pn** **20 10 41.5 -3.4**
KMPD K-Podol'skiy 8.61 32 P **Pn** **20 10 46.5 +1.2**
OJC Ojcow 8.81 0 **Pn** **20 10 47.6 -0.5**
OJC Ojcow 8.81 0 P **Pn** **20 10 47.6 -0.5**
OJC Ojcow 8.81 0 Pn **Pn** **20 10 48.9 +0.8**
comp=Z,8.6nm,0.9s
RETA Reutte 8.81 317 *e*Pn **Pn** **20 10 48.4 +0.2**
comp=Z,1.6nm,0.4s
RETA *e*Sn **Sn** **20 12 24.7 -2.0**
comp=Z,14nm,0.8s
KHC Kasperske Hory 8.84 333 *e*PN **Pn** **20 10 48.6 0.0**
KHC *e*SN **Sn** **20 12 25.4 -1.9**
KHC Kasperske Hory 8.84 333 *e*P **Pn** **20 10 48.6 0.0**
KHC *e* 20 12 25.4
KHC Kasperske Hory 8.84 333 Pn **Pn** **20 10 48.9 +0.3**
comp=Z,6.8nm,0.9s
DAVOX Davos/Dischmat 8.87 311 Pn **Pn** **20 10 49.5 +0.4**
comp=Z,1.0nm,0.3s,baz=134,slow=18,SNR=18
DAVOX Sn **Sn** **20 12 22.4 -5.8**
comp=Z,1.3nm,0.3s,baz=334,slow=23,SNR=4.7
DAVOX Lg Lg 20 13 23.8
baz=193,slow=8.0
DAVOX LR LR 20 15 07.7
comp=Z,76nm,18.3s,baz=107,slow=44
comp=Z,2.3nm,0.3s
KRLC Kraliky 8.90 348 *e*PN **Pn** **20 10 51.5 +2.1**
KRLC *e*SN **Sn** **20 12 29.2 +0.4**
KRLC Kraliky 8.90 348 *e*P **Pn** **20 10 51.5 +2.1**
KRLC *e* 20 12 29.2
TUE Stuetta 9.01 308 **Pn** **20 10 51.5 +0.3**
TUE Stuetta 9.01 308 Pn **Pn** **20 10 51.1 0.0**
comp=Z,46nm,0.7s
ISP Isparta 9.09 110 *i* P **Pn** **20 10 52.9 +0.8**
SORM Soroca 9.11 40 ⇑P **Pn** **20 10 54.2 +1.9**
SORM Soroca 9.11 40 P **Pn** **20 10 54.1 +1.9**
DAVA Damuels 9.16 313 *i* Pn **Pn** **20 10 54.5 +1.5**
comp=Z,3.4nm,0.3s,SNR=5.1
DAVA *e*Sn **Sn** **20 12 33.2 -2.1**
comp=Z,16nm,0.6s
PLONS Plons/SG 9.30 311 *e*Pn **Pn** **20 10 56.5 +1.5**
KEST Kesra 9.88 238 Pn **Pn** **20 11 03.6 +0.6**
comp=Z,0.3nm,0.3s,baz=110,slow=4.7,SNR=6.7
KEST LR LR 20 16 02.5
comp=Z,168nm,18.1s,baz=84,slow=44
comp=Z,3.6nm,0.9s
SENIN Lac Senin/Sane 10.22 303 **Pn** **20 11 07.8 +0.1**
BFO Black Forest 10.62 314 **Pn** **20 11 11.8 -1.1**
BFO Black Forest 10.62 314 P **Pn** **20 11 11.8 -1.1**
RNPP5 Staryi Chortor 10.71 21 P **Pn** **20 11 15.0 +0.9**
BRTR Keskin Array B 10.74 94 Pn **Pn** **20 11 14.9 +0.1**
comp=Z,0.1nm,0.3s,baz=278,slow=13,SNR=1.5
comp=Z,0.2nm,0.3s
RNPP9 Sopachiv 10.88 21 P **Pn** **20 11 17.1 +0.7**
CLL Collm 10.92 337 *e*P **Pn** **20 11 18.0 +1.0**
MI28 Mi28,Pidlybu 11.00 27 P **Pn** **20 11 19.0 +0.9**
ECH Echery 11.20 312 Pn **Pn** **20 11 19.1 -1.7**
ECH Echery 11.20 312 P **Pn** **20 11 19.1 -1.7**
AK07 Malin Array Si 11.28 33 P **Pn** **20 11 22.9 +1.1**
AK06 Malin Array Si 11.30 32 P **Pn** **20 11 23.2 +1.0**
AK17 Malin Array Si 11.32 32 P **Pn** **20 11 23.7 +1.2**
AK10 Malin Array Si 11.33 33 P **Pn** **20 11 23.9 +1.3**
AK01 Malin Array Si 11.39 32 P **Pn** **20 11 24.5 +1.1**
KIEV Kiev 11.39 32 P **Pn** **20 11 24.6 +1.2**
comp=Z,16nm,1.4s
AKASG Malin Array Be 11.40 32 Pn **Pn** **20 11 21.2 -2.4**
comp=Z,0.4nm,0.3s,baz=224,slow=12,SNR=5.0
AKASG LR LR 20 16 16.8
comp=Z,122nm,19.8s,baz=188,slow=40
comp=Z,0.7nm,0.5s
AKBB Malin Array Si 11.40 32 *i* P **Pn** **20 11 23.7 +0.2**
AKBB Malin Array Si 11.40 32 P **Pn** **20 11 24.6 +1.1**
AK03 Malin Array Si 11.42 32 P **Pn** **20 11 25.0 +1.2**
MNK Minsk 14.19 20 *i* P **Pn** **20 12 01.7 +0.1**
MNK *i* P **Pn** **20 12 01.7 +0.1**
comp=E,10.0nm,0.8s
comp=N,7.0nm,0.9s
MNK *i* P **Pn** **20 12 01.7 +0.1**
comp=Z,19nm,0.8s,baz=206
MNK *i* PP **PnPn** **20 12 10.9 +1.5**
MNK *i* S **Sn** **20 14 39.1 +1.0**
MNK *i* SS **S** **20 14 54.8 -3.5**
MNK *i* LR LR 20 16 48.1
MNK *i* LRM MLR 20 18 01.4
comp=E,124nm,17.4s
MNK *i* LRM MLR 20 18 01.4
comp=N,83nm,20.9s
MNK *i* LRM MLR 20 18 01.4
comp=Z,136nm,17.3s
MNK Minsk 14.19 20 *i* P **Pn** **20 12 01.6 +0.1**
MNK *i* S **Sn** **20 14 39.0 +1.0**
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK pmax pmax
comp=Z,19nm,0.8s
NACGM Naroch 14.30 17 *e*P **Pn** **20 12 04.0 +0.9**
PABE Paberze 14.38 10 Pn **Pn** **20 12 02.4 -1.8**
PABE Paberze 14.38 10 *e*P **P** **20 12 10.7 -0.2**
PBUR Paburge 14.70 5 *e*P **P** **20 12 13.9 -0.5**
VSVD Vaisvydziai 14.84 9 *e*P **P** **20 12 15.6 -0.4**
MMAI Mount Meron Ar 15.05 119 Pn **Pn** **20 12 14.2 +0.7**
comp=Z,1.7nm,0.4s,baz=313,slow=9.9,SNR=12
MMAI LR LR 20 18 56.2
comp=Z,48nm,19.9s,baz=280,slow=41
KIV Kislovodsk 17.09 74 *e*P **Pn** **20 12 38.0 -1.6**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 17.24 75 P **P** **20 12 43.3 +0.6**
comp=Z,0.2nm,0.3s,baz=262,slow=14,SNR=7.6
KBZ LR LR 20 21 33.8
comp=Z,24nm,19.4s,baz=216,slow=45
comp=Z,2.8nm,0.8s
VSU Vasula 17.64 12 *e*P **Pn** **20 12 45.8 -0.5**
VSU Vasula 17.64 12 *ce*P **Pn** **20 12 46.4 +0.2**
VSU pmax pmax
comp=Z,39nm,1.7s
OBN Obninsk 17.66 33 Pn **Pn** **20 12 46.1 -0.3**
comp=Z,9.6nm,0.4s,baz=188,slow=23,SNR=4.2
OBN Obninsk 17.66 33 *d* P **Pn** **20 12 46.5 +0.1**
OBN S **Sn** **20 15 59.0 -3.2**
OBN pmax pmax
comp=Z,23nm,1.3s
OBN MLR MLR
comp=Z,66nm,17.0s
ESDC Sonseca Array 18.05 272 P **P** **20 12 51.8 0.0**
baz=87,slow=10,SNR=6.0
comp=Z,0.4nm,0.8s
ARBE Arbavere 18.47 10 *e*P **P** **20 12 55.7 -0.4**
MOS Moscow 18.53 33

HFS				LR	LR	20 21 39.2		
	comp=Z,45nm,19.0s,baz=176,slow=41							
	comp=Z,10nm,0.7s							
HFS	**Hagfors**	**19.11**	**351**	P	**P**	**20 13 02.0**	**-1.2**	
KONO	**Kongsberg**	**19.31**	**344**	P	**P**	**20 13 01.9**	**-3.5**	
KONO	**Kongsberg**	**19.31**	**344**	P	**P**	**20 13 01.9**	**-3.5**	
KONO				pmax	pmax			
	comp=Z,20nm,1.4s							
RAF	**Rauma**	**19.68**	**3**[0]	*eP*	**Pn**	**20 13 10.8**	**-0.1**	
NC602	**NORSAR Array S**	**19.99**	**348**	P	**P**	**20 13 09.0**	**-3.8**	
NC602				IAmb	IAmb	20 13 40.4		
	comp=Z,18nm,1.4s							
NAO01	**NORSAR Array S**	**20.20**	**347**	P	**P**	**20 13 11.5**	**-3.5**	
NAO01				IAmb	IAmb	20 13 40.1		
	comp=Z,15nm,1.1s							
NB2	**NORSAR Subarra**	**20.33**	**348**	P	**P**	**20 13 14.8**	**-1.7**	
	comp=Z,4.8nm,0.9s,baz=165,slow=11							
NOA	**NORSAR Array B**	**20.33**	**348**	P	**P**	**20 13 15.3**	**-1.2**	
	comp=Z,2.0nm,0.9s,baz=165,slow=11,SNR=11							
NOA				LR	LR	20 21 52.3		
	comp=Z,36nm,19.1s,baz=165,slow=39							
	comp=Z,2.0nm,0.9s							
FINES	**FINESS Array B**	**20.43**	**9**	P	**P**	**20 13 15.8**	**-1.8**	
FINES	**FINESS Array B**	**20.43**	**9**	P	**P**	**20 13 16.1**	**-1.5**	
FINES				LR	LR	20 22 06.9		
	comp=Z,101nm,18.8s,baz=184,slow=40							
	comp=Z,4.2nm,0.4s							
EKA	**Eskdalemuir Ar**	**20.47**	**321**	P	**P**	**20 13 16.9**	**-1.2**	
	comp=Z,1.8nm,0.8s,baz=126,slow=11,SNR=6.9							
	comp=Z,1.8nm,0.8s							
KEF	**Keuruu**	**21.02**	**7**	*eP*	**P**	**20 13 22.8**	**-1.1**	
MD01	**Midelt array s**	**21.23**	**254**	P	**P**	**20 13 25.3**	**-1.2**	
BELG	**Belogornoye**	**21.88**	**50**	P	**P**	**20 13 32.1**	**-1.0**	
	comp=Z,25nm,1.0s,baz=130,slow=4.4,SNR=4.2							
	comp=Z,25nm,1.0s							
TAM	**Tamanrasset**	**22.05**	**217**	P	**P**	**20 13 38.3**	**+2.8**	
TAM				pmax	pmax			
	comp=Z,4.0nm,1.1s							
KLMR	**Klimovskoe**	**22.93**	**25**	*eP*	**P**	**20 13 39.6**	**-4.7**	
KLMR				pmax	pmax			
	comp=Z,31nm,1.3s							
KIRV	**Kirov**	**25.38**	**37**	LR	LR	20 25 11.1		
	comp=Z,95nm,18.3s,baz=276,slow=39							
KIRV	**Kirov**	**25.38**	**37**	*ceP*	**P**	**20 14 06.9**	**-0.4**	
AKTO	**Aktyubinsk**	**27.88**	**58**	LR	LR	20 29 31.1		
	comp=Z,45nm,18.1s,baz=246,slow=45							
ARCES	**ARCESS Array B**	**28.35**	**4**	LR	LR	20 26 54.2		
	comp=Z,75nm,18.3s,baz=225,slow=39							
ARTI	**Arti**	**29.05**	**46**	P	**P**	**20 14 38.0**	**-2.3**	
ARTI	**Arti**	**29.05**	**46**	LR	LR	20 27 11.0		
	comp=Z,67nm,19.8s,baz=266,slow=38							
ARTI	**Arti**	**29.05**	**46**	*c iP*	**P**	**20 14 39.0**	**-1.4**	
ARTI						20 15 30.6		
ARTI						20 17 42.8		
ARTI				S	**S**	**20 19 33.2**	**+3.1**	
ARTI				SS	**SnSn**	**20 20 58.7**	**+4.2**	
ARTI				pmax	pmax			
	comp=Z,5.0nm,0.7s							
ABKAR	**Akbulak array**	**29.08**	**61**	P	**P**	**20 14 38.7**	**-2.0**	
SVE	**Sverdlovsk**	**30.37**	**45**	*eP*	**P**	**20 14 51.6**	**-0.4**	
SVE				pmax	pmax			
	comp=Z,8.0nm,1.2s							
TORD	**Torodi Ar. Bea**	**32.24**	**214**	P	**P**	**20 15 09.9**	**+1.1**	
	comp=Z,0.7nm,0.5s,baz=24,slow=10.0,SNR=5.1							
BORK	**Borovoye**	**35.57**	**53**	*eP*	**P**	**20 15 38.8**	**+1.4**	
BORK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BVAR	**Borovoye Array**	**35.61**	**53**	P	**P**	**20 15 36.4**	**-1.5**	
	comp=Z,1.8nm,0.5s,baz=270,slow=5.9,SNR=14							
BVAR				LR	LR	20 30 59.1		
	comp=Z,26nm,20.4s,baz=283,slow=38							
	comp=Z,1.8nm,0.5s							
AAK	**Ala-Archa**	**40.12**	**69**	LR	LR	20 37 12.4		
	comp=Z,27nm,18.3s,baz=208,slow=43							
KURBB	**Kurchatov Arra**	**40.90**	**56**	P	**P**	**20 16 21.4**	**-0.9**	
	comp=Z,0.5nm,0.3s,baz=287,slow=9.5,SNR=7.3							
	comp=Z,0.5nm,0.3s							
DBIC	**Dimbokro**	**40.92**	**219**	LR	LR	20 36 08.3		
	comp=Z,20nm,18.7s,baz=356,slow=40							
KURK	**Kurchatov**	**40.94**	**56**	*ceP*	**P**	**20 16 22.0**	**-0.6**	
KURK				pmax	pmax			
	comp=Z,4.0nm,1.4s							
ZAA0	**Zalesovo Array**	**44.07**	**50**		**P**	**20 16 47.2**	**-0.8**	
ZAA0				IAmb	IAmb	20 16 48.4		
	comp=Z,3.9nm,0.7s							
ZALV	**Zalesovo Beam**	**44.07**	**50**		**P**	**20 16 47.2**	**-0.8**	
ZALV	**Zalesovo Beam**	**44.07**	**50**	P	**P**	**20 16 47.4**	**-0.6**	
	comp=Z,3.3nm,0.4s,baz=288,slow=8.4,SNR=18							
ZALV				LR	LR	20 37 33.9		
	comp=Z,62nm,19.2s,baz=254,slow=39							
	comp=Z,3.3nm,0.4s							
MKAR	**Makanchi Array**	**44.22**	**61**	P	**P**	**20 16 49.0**	**-0.4**	
	comp=Z,3.1nm,0.6s,baz=281,slow=7.3,SNR=24							
MKAR				PcP	**PP**	**20 18 32.8**	**+0.3**	
	comp=Z,0.5nm,0.5s,baz=298,slow=3.0,SNR=4.7							
	comp=Z,3.1nm,0.6s							
TIXI	**Tiksi**	**56.85**	**21**	LR	LR	20 45 58.8		
	comp=Z,56nm,18.0s,baz=8.5,slow=39							
GTA	**Gaotai**	**58.89**	**63**	*eP*	**P**	**20 18 38.3**	**-1.0**	
GTA				pP	pP	20 18 41.5	-5.9	
GTA				pmax	pmax			
	comp=Z,3.0nm,1.2s							
SONM	**Songino Array**	**58.93**	**52**	P	**P**	**20 18 39.4**	**0.0**	
	comp=Z,2.7nm,0.6s,baz=302,slow=6.9,SNR=24							
SONM				LR	LR	20 46 50.4		
	comp=Z,77nm,18.2s,baz=359,slow=39							
	comp=Z,2.7nm,0.6s							
ULN	**Ulaanbaatar**	**59.30**	**51**	*ceP*	**P**	**20 18 42.7**	**+0.6**	
ULN				pmax	pmax			
	comp=Z,8.0nm,2.5s							
TSUM	**Tsumeb**	**60.33**	**182**	LR	LR	20 46 09.0		
	comp=Z,36nm,18.5s,baz=8.5,slow=37							
YAK	**Yakutsk**	**62.62**	**30**	LR	LR	20 47 35.5		
	comp=Z,31nm,20.2s,baz=325,slow=37							
LZH	**Lanzhou**	**63.35**	**64**	*eP*	**P**	**20 19 10.0**	**+0.4**	
LZH				pP	pP	20 19 15.0	-2.8	
LZH				pmax	pmax			
	comp=Z,18nm,1.3s							
HHC	**Hu-ho-hao-te**	**65.75**	**56**	*eP*	**P**	**20 19 25.9**	**+0.7**	
HHC				pmax	pmax			
	comp=Z,16nm,0.6s							
HHC				pmax	pmax			
	comp=Z,160nm,5.1s							
PZH	**PanZhiHua**	**67.31**	**74**	P	**P**	**20 19 37.6**	**+2.2**	
BOSA	**Boshof**	**69.86**	**175**	P	**P**	**20 19 51.9**	**+1.0**	
	comp=Z,2.9nm,1.0s,baz=98,slow=3.8,SNR=1.7							
	comp=Z,2.9nm,1.0s							
CMAR	**Chiang Mai Arr**	**70.09**	**83**	P	**P**	**20 19 51.4**	**-1.2**	
	comp=Z,0.5nm,0.4s,baz=315,slow=8.0,SNR=6.4							
	comp=Z,0.5nm,0.4s							
ILAR	**Eielson Array**	**73.63**	**354**	P	**P**	**20 20 13.2**	**+0.1**	
	comp=Z,0.3nm,0.7s,baz=21,slow=3.9,SNR=1.7							
	comp=Z,0.3nm,0.7s							
NJ2	**Nanjing**	**75.74**	**60**	*eP*	**P**	**20 20 26.3**	**+0.4**	
NJ2				pmax	pmax			
	comp=Z,11nm,0.5s							
KSRS	**Korea Array**	**77.77**	**51**	P	**P**	**20 20 37.0**	**-0.3**	
	comp=Z,1.4nm,0.5s,baz=312,slow=5.6,SNR=4.5							
	comp=Z,1.4nm,0.5s							
MJAR	**Matsushiro Arr**	**84.18**	**45**	P	**P**	**20 21 10.3**	**-1.3**	
	comp=Z,1.7nm,0.8s,baz=347,slow=2.4,SNR=4.9							
	comp=Z,1.7nm,0.8s							
BDFB	**Brasilia**	**84.36**	**244**	LR	LR	20 59 23.0		
	comp=Z,20nm,18.8s,baz=11,slow=36							
TXAR	**Lajitas Array**	**92.29**	**313**	P	**P**	**20 21 51.1**	**+0.5**	
	comp=Z,0.5nm,0.8s,baz=72,slow=5.4,SNR=4.7							
	comp=Z,0.5nm,0.8s							
CPUP	**Villa Florida**	**98.00**	**242**	LR	LR	21 07 40.0		
	comp=Z,7.1nm,18.1s,baz=216,slow=36							
ASAR	**Alice Springs**	**123.08**	**94**	PKP	**PKPdf**	**20 27 35.9**	**-1.0**	
	comp=Z,0.3nm,0.6s,baz=326,slow=1.8,SNR=8.7							

*IDC **22** 20:23:42.2±10.0, 17.°55S×178.°98W, h567km±114km, mb2.9/5, mbtmp3.8/5, Error ellipse: s-maj=47.4km s-min=38.5km az=68.0*

ISC 22 20:23:39.4±1.1, 17.°5S±0.°3×179.°0W±0.°2, h539km, n6, σ1s04/7, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.21**	**259**	P	**P**	**20 31 01.0**	**-0.1**
	0.2nm,0.3s,baz=94,slow=7.4,SNR=4.6						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**44.42**	**254**	P	**P**	**20 31 03.1**	**+0.4**
	2.0nm,0.6s,baz=88,slow=8.0,SNR=40						
ASAR				PcP	**PcP**	**20 32 34.9**	**+0.1**
	0.1nm,0.5s,baz=89,slow=3.8,SNR=1.5						
	2.0nm,0.6s						
QSPA	**South Pole Qui**	**72.57**	**180**	P	**P**	**20 34 13.0**	**+1.2**
	1.2nm,0.8s,baz=332,slow=5.7,SNR=2.3						
	1.2nm,0.8s						
TXAR	**Lajitas Array**	**86.20**	**58**	P	**P**	**20 35 24.7**	**+0.4**
	0.2nm,0.7s,baz=233,slow=4.7,SNR=2.2						
	0.2nm,0.7s						
SNAA	**Sanae**	**91.04**	**179**	P	**P**	**20 35 44.4**	**-1.6**
	1.2nm,1.2s,baz=180,slow=20,SNR=7.0						
	1.2nm,1.2s						
GERES	**GERESS Array B**	**147.06**	**345**	PKPbc	**PKPbc**	**20 42 21.6**	**-0.4**
	0.3nm,0.5s,baz=31,slow=4.4,SNR=2.7						

*NEIC **22** 20:33:02.3±2.9, 44.°01N±0.°05×105.°46W±0.°06, h0km±1km, ML2.6/16, Error ellipse: s-maj=10.7km s-min=3.1km az=321.0*

*IDC **22** 20:33:05.4±2.2, 43.°55N×105.°36W, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=50.6km s-min=10.3km az=151.0*

ISC 22 20:32:59.7±1.1, 44.°08N±0.°07×105.°25W±0.°05, h0km, n12, σ1s52/11, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.87**	**87**	Pg	**Pn**	**20 33 21.4**	**+1.9**
K22A	**Casper**	**1.71**	**214**	Pg	**Pg**	**20 33 32.2**	**-0.1**
K22A				IAML		20 33 53.8	
	118nm,0.3s						
LAO	**LASA Array**	**2.70**	**346**	Pn	**Pb**	**20 33 48.0**	**-0.9**
LAO				IAML		20 34 56.9	
	33nm,3.5s						
LAO				IAML		20 34 57.1	
	36nm,1.9s						
RLMT	**Red Lodge**	**3.06**	**291**		**Pg**	**20 33 58.5**	**+0.2**
RLMT				IAML		20 35 43.0	
	14nm,4.0s						
PDAR	**Pinedale Array**	**3.40**	**249**		**Pg**	**20 34 03.2**	**-1.7**
PDAR	**Pinedale Array**	**3.40**	**249**	Pn	**Pb**	**20 34 00.0**	**-1.0**
	1.8nm,0.3s,baz=79,slow=15,SNR=22						
PDAR				Pg	**Pg**	**20 34 05.5**	**+0.6**
	1.9nm,0.3s,baz=80,slow=15,SNR=14						
PDAR				Lg	Lg	20 34 45.7	
	3.7nm,0.3s,baz=77,slow=32,SNR=2.2						
	1.0nm,0.3s						
YNE	**Yellowstone No**	**3.53**	**287**		**Pn**	**20 33 57.0**	**+1.0**
YNE				IAML		20 35 11.2	
	comp=N,16nm,2.2s						
LOHW	**Long Hollow**	**3.90**	**265**	Pn	**Pn**	**20 34 01.7**	**+0.6**
LOHW				IAML		20 35 16.6	
	comp=N,8.2nm,2.5s						
YPP	**Pitchstone Pla**	**4.00**	**275**	Pn	**Pn**	**20 34 04.7**	**+2.2**
YPP				IAML		20 35 27.3	
	comp=E,8.0nm,4.1s						
YPP				IAML		20 35 36.0	
	comp=N,9.1nm,2.2s						
E28A	**Huff**	**4.07**	**51**	Pn	**Pb**	**20 34 10.3**	**-1.9**
I10CA	**LAC DU BONNET**	**8.77**	**42**	I	I	21 29 30.0	
	baz=227,slow=347,SNR=3.0						
ULM	**Lac du Bonnet**	**8.88**	**43**	Pn	Pn	20 35 19.4	+10
	comp=N,0.3nm,0.3s,baz=231,slow=14,SNR=2.2						
ULM				Lg	Lg	20 37 51.2	
	comp=N,0.1nm,0.3s,baz=109,slow=22,SNR=1.2						
	comp=N,1.2nm,0.4s						

CATAC 22 20:36:45.2±0.2, 13.°N±1.°×87.°5W±, h1km, M3.0/9, MLv3.0/9, Error ellipse: s-maj=3.1km s-min=2.8km az=93.0, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIUN	**Universidad Ur**	**0.48**	**354**	P	Pg	20 36 54.3	0.0
SIUN				S	Sg	20 37 00.7	+0.2
ESPN	**Las Esperanzas**	**1.12**	**158**	P	Pg	20 37 06.1	-0.5
ESPN	**Las Esperanzas**	**1.12**	**158**	S	Sg	20 37 20.8	-0.3
MATN	**Matagalpa**	**1.22**	**255**	S	Sg	20 37 22.2	-2.0
MATN	**Matagalpa**	**1.22**	**255**	P	Pg	20 37 06.5	-2.1
ACON	**Acoyapa**	**1.34**	**199**	S	Sg	20 37 26.1	-2.2
ACON	**Acoyapa**	**1.34**	**199**	P	Pg	20 37 08.6	-2.3
RCPN	**Sur Rio San Ju**	**1.37**	**282**	S	Sg	20 37 28.0	-1.2
RCPN	**Sur Rio San Ju**	**1.37**	**282**	P	Pg	20 37 10.5	-1.0
RCVN	**Varillal2**	**1.47**	**284**	P	Pn	20 37 11.9	-1.1
RCVN	**Varillal2**	**1.47**	**284**	S	Sg	20 37 30.9	-1.7
BILN	**Bilwi Airport**	**1.54**	**58**	P	Pn	20 37 13.0	-0.7
BILN				S	Sn	20 37 33.0	-1.4
WILN	**Americas 2**	**1.79**	**233**	S	Sn	20 37 40.8	+0.2
NANN	**Nandasmo**	**1.88**	**227**	S	Sb	20 37 44.9	+0.4
UNAN	**Cigeo UNAN**	**1.88**	**234**	S	Sb	20 37 43.9	-0.6
CONN	**Concepcion**	**1.89**	**208**	P	Pn	20 37 19.1	+0.5
CONN				S	Sn	20 37 42.8	-0.2
MORN	**Al O del Volca**	**1.91**	**208**	P	Pb	20 37 20.3	-0.6
MORN				S	Sb	20 37 45.5	+0.1
CNGN	**Cerro Negro**	**2.06**	**249**	S	Sb	20 37 49.3	-0.5
YUSH	**Yuscaran**	**2.18**	**289**	P	Pn	20 37 22.0	-0.8
YUSH	**Yuscaran**	**2.18**	**289**	S	Sn	20 37 51.2	+0.7

*ATH **22** 21:17:38.1, 38.°14N×26.°86E, h17km±2km, ML3.0/3, Manual Solution by S.Koutrakis First location: 2019/09/22 21:19:02, This location: 2019/09/23 05:40:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*

*THE **22** 21:17:38.8, 38.°N±5.°×2.°7E±1.°0, h12km±4km, M2.7/9, MLh2.7/9*

*ISK **22** 21:17:38.3, 38.°11N×26.°79E, h14km, ML3.0/34*

*AFAD **22** 21:17:38.2, 38.°07N×26.°77E, h7km±3km, ML3.0*

ISC 22 21:17:38.6±0.8, 38.°11N±0.°02×26.°80E±0.°02, h15km±6km, n62, σ0s64/80, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMLD	**Gumuldur**	**0.09**	**111**	Pg	**Pg**	**21 17 41.7**	**-0.1**
GMLD				Sg	**Sg**	**21 17 43.6**	**-0.3**
URLA	**Izmir**	**0.30**	**327**	Pg	**Pg**	**21 17 44.9**	**0.0**
URLA				Sg	**Sg**	**21 17 49.6**	**+0.3**
URLA	**Izmir**	**0.30**	**327**	P	**Pg**	**21 17 44.9**	**0.0**
URLA				S	**Sb**	**21 17 49.9**	**-0.5**
URLA				*i* IAML		21 17 50.0	
	comp=N,2μm,0.5s						
URLA				*i* IAML		21 17 52.0	
	comp=E,2μm,0.4s						
BLCB	**Balcova**	**0.33**	**34**	Pg	**Pb**	**21 17 45.6**	**-0.6**
BLCB				Sg	**Sb**	**21 17 50.7**	**-0.6**
BLCB	**Balcova**	**0.33**	**34**	P	**Pb**	**21 17 45.6**	**-0.6**
BLCB				S	**Sb**	**21 17 50.4**	**-0.9**
SMG	**Samos**	**0.40**	**176**	P	**Pg**	**21 17 46.7**	**0.0**
SMG				S	**Sb**	**21 17 53.0**	**-0.2**
SMG	**Samos**	**0.40**	**176**	P	**Pb**	**21 17 47.0**	**-0.4**
SMG				S	**Sb**	**21 17 53.1**	**-0.2**
CESE	**eme**	**0.45**	**299**	Pg	**Pg**	**21 17 47.5**	**-0.2**
GCAM	**G?zelcaml?**	**0.53**	**140**	Pg	**Pb**	**21 17 49.3**	**-0.3**
FOCM	**Foa**	**0.60**	**355**	Pg	**Pb**	**21 17 50.4**	**-0.4**
KARB	**zmir-Karabur**	**0.63**	**331**	P	**Pg**	**21 17 50.8**	**-0.2**
KARB				S	**Sb**	**21 18 00.6**	**+0.6**
KARB				*i* IAML		21 18 02.0	
	comp=N,869nm,0.2s						
KARB				*i* IAML		21 18 03.0	
	comp=E,1μm,0.6s						
CHOS	**Chios island**	**0.65**	**295**	Pg	**Pb**	**21 17 51.5**	**-0.2**
CHOS	**Chios island**	**0.65**	**295**	P	**Pb**	**21 17 51.4**	**-0.2**
CHOS				S	**Sb**	**21 18 01.6**	**+1.0**
CHOS	**Chios island**	**0.65**	**295**	P	**Pb**	**21 17 51.5**	**-0.2**
CHOS				S	**Sb**	**21 18 01.0**	**+0.4**
EAG2	**Marmaro, Chios**	**0.70**	**309**	P	**Pg**	**21 17 52.1**	**-0.1**
EAG2				S	**Sb**	**21 18 02.1**	**+0.2**
DIDI	**Didim-Aydin**	**0.81**	**155**	Pg	**Pb**	**21 17 54.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.87**	**100**	Pg	**Pn**	**21 17 55.8**	**-0.6**
ZEDA	**zmir-Bergama**	**0.88**	**14**	P	**Pn**	**21 17 56.2**	**-0.3**
ZEDA				S	**Sn**	**21 18 09.6**	**+0.7**
ZEDA				*i* IAML		21 18 10.0	
	comp=N,443nm,0.5s						
ZEDA				*i* IAML		21 18 10.0	
	comp=E,465nm,0.7s						
ODEM	**Odemis-Izmir**	**1.01**	**80**	Pg	**Pn**	**21 17 58.4**	**+0.1**
YKAV	**Yalikavak-Bodr**	**1.05**	**159**	Pg	**Pg**	**21 17 58.9**	**-0.1**
GOMA	**Golmarmara-Man**	**1.06**	**55**	Pg	**Pg**	**21 17 59.0**	**-0.1**
AKS	**Akhisar**	**1.10**	**46**	Pn	**Pg**	**21 18 00.0**	**+0.1**
NAZL	**Nazilli-Aydin**	**1.18**	**97**	Pn	**Pg**	**21 18 00.7**	**-0.7**
SOMA	**Soma-Manisa**	**1.19**	**28**	Pn	**Pg**	**21 18 01.3**	**-0.3**
AYVA	**Ayvalik**	**1.20**	**356**	P	**Pg**	**21 18 01.9**	**+0.1**
AYVA				S	**Sg**	**21 18 19.8**	**+2.4**
AYVA				*i* IAML		21 18 22.0	
	comp=N,272nm,0.6s						
AYVA				*i* IAML		21 18 23.0	
	comp=E,171nm,0.6s						
PRK	**Paraskevi**	**1.21**	**340**	P	**Pb**	**21 18 00.9**	**-0.2**
PRK				S	**Sn**	**21 18 16.7**	**-0.3**
SIGR	**SIGRI**	**1.33**	**326**	Pn	**Pn**	**21 18 02.5**	**-0.1**
SIGR	**SIGRI**	**1.33**	**326**	P	**Pn**	**21 18 02.4**	**-0.1**
SIGR				S	**Sn**	**21 18 19.2**	**-0.7**
SIGR	**SIGRI**	**1.33**	**326**	P	**Pn**	**21 18 02.5**	**-0.1**
SIGR				S	**Sn**	**21 18 19.1**	**-0.9**
GORD	**Gordes-Manisa**	**1.34**	**53**	Pn	**Pb**	**21 18 03.5**	**+0.1**
GPNR	**Gulpinar-Canak**	**1.44**	**339**	Pn	**Pb**	**21 18 04.8**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.45**	**29**	P	**Pb**	**21 18 05.5**	**+0.2**
STEP				S	**Sg**	**21 18 26.3**	**+0.9**
STEP				*i* IAML		21 18 28.0	
	comp=E,265nm,0.3s						
STEP				*i* IAML		21 18 29.0	
	comp=N,249nm,0.6s						
DAT	**Datca**	**1.51**	**156**	Pn	**Pn**	**21 18 04.9**	**-0.3**
DAT	**Datca**	**1.51**	**156**	P	**Pn**	**21 18 04.8**	**-0.4**
YAYO	**Edremit-Balk**	**1.51**	**8**	Pn	**Pn**	**21 18 05.2**	**+0.1**
KULA	**Kula-Manisa**	**1.52**	**74**	Pn	**Pb**	**21 18 06.1**	**-0.3**
EZNE	**Ezine-Canakkal**	**1.68**	**348**	Pn	**Pb**	**21 18 08.2**	**-1.0**
EZN	**Ezine**	**1.75**	**348**	Pn	**Pn**	**21 18 08.5**	**+0.1**
EZN	**Ezine**	**1.75**	**348**	P	**Pn**	**21 18 09.1**	**+0.7**
BOZC	**Bozcaada**	**1.83**	**342**	Pn	**Pn**	**21 18 09.4**	**0.0**
YENI	**Yenice-Canakka**	**1.85**	**10**	Pn	**Pb**	**21 18 10.8**	**-1.4**
KARY	**Karystos**	**1.87**	**268**	P	**Pn**	**21 18 09.8**	**-0.2**
KARY	**Karystos**	**1.87**	**268**	P	**Pn**	**21 18 09.8**	**-0.2**
CANM	**Can-anakkale**	**1.91**	**6**	Pn	**Pb**	**21 18 11.8**	**-1.3**
SMAA	**Simav-Kutahya**	**1.97**	**59**	Pn	**Pn**	**21 18 12.3**	**+0.8**
COMU	**Canakkale**	**2.00**	**353**	Pn	**Pn**	**21 18 12.8**	**+0.9**
GONE	**Gonen-Balikesi**	**2.05**	**19**	Pn	**Pn**	**21 18 12.8**	**+0.3**
DST	**Dursunbey**	**2.06**	**43**	Pn	**Pn**	**21 18 13.7**	**+1.1**
APMY	**Acipayam-Deniz**	**2.08**	**107**	Pn	**Pn**	**21 18 13.7**	**+0.7**
SHAP	**Saphane-Kutahy**	**2.10**	**64**	Pn	**Pn**	**21 18 14.3**	**+1.0**
ARG	**Arkhangelos**	**2.17**	**150**	Pn	**Pn**	**21 18 15.1**	**+1.0**
LIA	**Limnos Island**	**2.19**	**325**	P	**Pn**	**21 18 14.7**	**+0.3**
LIA	**Limnos Island**	**2.19**	**325**	P	**Pn**	**21 18 14.1**	**-0.3**
LIA				S	**Sn**	**21 18 39.7**	**-1.4**
GADA	**Gvkgeada**	**2.19**	**342**	Pn	**Pn**	**21 18 14.5**	**+0.1**
GADA	**Gvkgeada**	**2.19**	**342**	P	**Pn**	**21 18 14.6**	**+0.1**
GEDZ	**Gediz**	**2.25**	**65**	Pn	**Pn**	**21 18 16.5**	**+1.2**
DION	**Dionisos Attik**	**2.27**	**270**	P	**Pn**	**21 18 15.7**	**+0.3**
DION	**Dionisos Attik**	**2.27**	**270**	P	**Pn**	**21 18 15.8**	**+0.3**
CAME	**Cameli-Denizli**	**2.30**	**120**	Pn	**Pn**	**21 18 17.2**	**+1.1**
VLY	**Voula,Athens**	**2.39**	**265**	P	**Pn**	**21 18 17.2**	**0.0**
THAS	**Thassos island**	**2.97**	**328**	P	**Pn**	**21 18 25.4**	**+0.3**
GUR	**Goura**	**3.53**	**269**	P	**Pn**	**21 18 33.7**	**+0.8**

*IDC **22** 21:19:02.4±8.1, 7.°18S×128.°79E, h94km±88km, mb3.1/2, mbtmp3.6/6, ML3.6/4, MS3.2/1, Error ellipse: s-maj=72.1km s-min=27.4km az=25.0*

ISC 22 21:19:04.8±1.4, 7.°61S±0.°10×128.°9E±0.°1, h131km, n7, σ2s74/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.78**	**243**	P	**Pn**	**21 20 28.9**	**+0.4**
	2.4nm,0.3s,baz=146,slow=3.6,SNR=4.0						
BATI				S	**Sn**	**21 21 33.4**	**-0.4**
	14nm,0.3s,baz=47,slow=23,SNR=6.2						
	18nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.90**	**197**	P	**Pn**	**21 21 39.1**	**+1.9**
	0.5nm,0.3s,baz=20,slow=11,SNR=23						
FITZ				S	**Sn**	**21 23 34.9**	**-2.6**
	1.0nm,0.5s,baz=214,slow=7.3,SNR=3.2						
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**13.35**	**157**	P	**P**	**21 22 12.8**	**-1.3**
	0.2nm,0.3s,baz=343,slow=13,SNR=5.1						
WRA				S	**Sn**	**21 24 34.7**	**-2.0**
	0.5nm,0.4s,baz=338,slow=22,SNR=4.9						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**16.68**	**164**	P	**P**	**21 22 56.9**	**+5.9**
	0.1nm,0.3s,baz=337,slow=10,SNR=12						
ASAR				S	**S**	**21 25 57.6**	**-0.3**
	0.3nm,0.7s,baz=341,slow=25,SNR=2.7						
	0.7nm,0.6s						
TGY	**Tagaytay City**	**22.97**	**340**	LR	LR	21 34 25.0	
	comp=Z,59nm,19.4s,baz=350,slow=41						
MKAR	**Makanchi Array**	**68.14**	**327**

	comp=Z,64nm,1.4s							
LTZ	**Lake Taylor**	**27.93**	**201**	P	**P**	**21 34 29.9**	**+0.4**
LTZ				IAmb	IAmb	21 34 31.3	
	comp=Z,34nm,1.4s							
ARMA	**Armidale**	**33.64**	**241**	P	**P**	**21 35 19.8**	**-0.2**
ARMA				IAmb	IAmb	21 35 25.3	
	comp=Z,20nm,1.4s							
STKA	**Stephens Creek**	**42.35**	**241**	P	**P**	**21 36 34.4**	**+1.1**
STKA	**Stephens Creek**	**42.35**	**241**	P	**P**	**21 36 33.9**	**+0.6**
	comp=Z,2.0nm,0.4s,baz=92,slow=10,SNR=10							
	comp=Z,2.0nm,0.4s							
BBOO	**Buckleboo**	**47.12**	**241**	P	**P**	**21 37 11.5**	**+0.2**
WR8	**Warramunga Arr**	**48.40**	**258**	P	**P**	**21 37 21.4**	**-0.1**
WB0	**Warramunga Arr**	**48.52**	**259**	P	**P**	**21 37 22.9**	**+0.5**
WB0				IAmb	IAmb	21 37 23.7	
	comp=Z,4.2nm,0.6s							
WRA	**Warramunga Arr**	**48.55**	**258**	P	**P**	**21 37 22.8**	**+0.2**
WRA	**Warramunga Arr**	**48.55**	**258**	P	**P**	**21 37 23.1**	**+0.5**
	comp=Z,4.0nm,0.4s,baz=96,slow=7.2,SNR=74							
WRA				PcP	**PcP**	**21 38 47.9**	**-0.3**	
	comp=Z,0.4nm,0.6s,baz=100,slow=3.3,SNR=2.4							
	comp=Z,4.0nm,0.4s							
AS31	**Alice Springs**	**48.69**	**253**	P	**P**	**21 37 24.2**	**+0.6**
AS31				IAmb	IAmb	21 37 24.5	
	comp=Z,4.0nm,0.6s							
ASAR	**Alice Springs**	**48.69**	**253**	P	**P**	**21 37 24.1**	**+0.4**
ASAR	**Alice Springs**	**48.69**	**253**	P	**P**	**21 37 23.9**	**+0.2**
	comp=Z,16nm,0.6s,baz=89,slow=8.3,SNR=320							
ASAR				PcP	**PcP**	**21 38 47.9**	**-0.8**	
	comp=Z,0.4nm,0.5s,baz=94,slow=4.1,SNR=1.5							
	comp=Z,16nm,0.6s							
FORT	**Forrest**	**53.79**	**244**	P	**P**	**21 38 01.4**	**-0.4**
FORT				IAmb	IAmb	21 38 08.2	
	comp=Z,7.3nm,1.1s							
KNRA	**Kununurra**	**54.40**	**263**	P	**P**	**21 38 07.0**	**+0.6**
KNRA				IAmb	IAmb	21 38 13.6	
	comp=Z,6.9nm,1.2s							
FITZ	**Fitzroy Crossi**	**56.95**	**259**	P	**P**	**21 38 25.1**	**+0.4**
SBA	**Scott Base**	**61.40**	**184**	P	**P**	**21 38 55.9**	**+1.4**
PSA00	**Pilbara Seismi**	**61.81**	**254**	P	**P**	**21 38 57.9**	**-0.4**
MBWA	**Marble Bar**	**61.98**	**255**	P	**P**	**21 38 59.1**	**-0.3**
GIRL	**Giralia**	**66.78**	**252**	P	**P**	**21 39 30.8**	**-0.1**
MJAR	**Matsushiro Arr**	**69.71**	**321**	P	**P**	**21 39 50.2**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=162,slow=5.5,SNR=3.2							
	comp=Z,1.1nm,0.6s							
QSPA	**South Pole Qui**	**72.86**	**180**	P	**P**	**21 40 08.7**	**+1.0**
QSPA	**South Pole Qui**	**72.86**	**180**	P	P	21 40 03.5	-4.1
	comp=Z,1.1nm,0.9s,baz=308,slow=5.1,SNR=2.0							
	comp=Z,1.1nm,0.9s							
PETK	**Petropavlovsk-**	**74.05**	**343**	P	**P**	**21 40 14.8**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=107,slow=8.6,SNR=7.2							
	comp=Z,2.4nm,0.6s							
NVAR	**Mina Array Bea**	**76.28**	**42**	P	**P**	**21 40 26.1**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=244,slow=6.9,SNR=2.4							
	comp=Z,0.5nm,0.7s							
ILAR	**Eielson Array**	**84.37**	**11**	P	**P**	**21 41 09.9**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=237,slow=6.0,SNR=24							
	comp=Z,0.8nm,0.5s							
MAW	**Mawson**	**85.81**	**199**	P	**P**	**21 41 15.2**	**-2.7**
	comp=Z,1.5nm,0.5s,baz=121,slow=7.7,SNR=12							
	comp=Z,1.5nm,0.5s							
H27K	**Steamboat Moun**	**86.73**	**13**	P	**P**	**21 41 22.9**	**+0.5**
H27K				IAmb	IAmb	21 41 26.9	
	comp=Z,7.8nm,1.5s							
I30M	**Mount Dempster**	**87.07**	**15**	P	**P**	**21 41 24.2**	**+0.1**
I30M				IAmb	IAmb	21 41 28.2	
	comp=Z,1.7nm,0.8s							
E24K	**Your Creek**	**87.09**	**9**	P	**P**	**21 41 24.3**	**+0.2**
E24K				IAmb	IAmb	21 41 30.6	
	comp=Z,3.8nm,1.2s							
BMAR	**Burnt Mountain**	**87.17**	**11**	P	**P**	**21 41 25.4**	**+0.9**
D22K	**Ayikyak River**	**87.24**	**8**	P	**P**	**21 41 25.0**	**+0.3**
H29M	**Whitestone**	**87.42**	**14**	P	**P**	**21 41 25.5**	**-0.1**
H29M				IAmb	IAmb	21 41 32.3	
	comp=Z,9.2nm,1.4s							
D23K	**Nanushuk River**	**87.59**	**8**	P	**P**	**21 41 26.6**	**+0.2**
B21K	**Ikpikpuk River**	**87.71**	**7**	P	**P**	**21 41 27.6**	**+0.6**
B20K	**Meade River**	**87.81**	**6**	P	**P**	**21 41 27.1**	**-0.3**
G29M	**Pine Creek**	**88.07**	**14**	P	**P**	**21 41 29.0**	**+0.3**
G29M				IAmb	IAmb	21 41 35.4	
	comp=Z,4.7nm,1.1s							
F28M	**Old Crow**	**88.26**	**13**	P	**P**	**21 41 29.5**	**-0.1**
F28M				IAmb	IAmb	21 41 37.2	
	comp=Z,2.9nm,1.1s							
E27K	**Coleen River**	**88.40**	**12**	P	**P**	**21 41 29.6**	**-0.7**
E27K				IAmb	IAmb	21 41 37.5	
	comp=Z,10nm,1.5s							
C23K	**Itkillik River**	**88.40**	**8**	P	**P**	**21 41 29.8**	**-0.4**
C23K				IAmb	IAmb	21 41 31.5	
	comp=Z,1.3nm,0.6s							
G31M	**Satah River**	**88.95**	**15**	P	**P**	**21 41 32.6**	**-0.2**
PLCA	**Paso Flores**	**89.00**	**132**	P	P	21 41 29.9	-4.1
	comp=Z,0.5nm,0.7s,baz=197,slow=20,SNR=1.3							
	comp=Z,0.5nm,0.7s							
SNAA	**Sanae**	**91.17**	**177**	P	**P**	**21 41 40.3**	**-3.2**
	comp=Z,0.4nm,0.8s,baz=202,slow=16,SNR=1.2							
	comp=Z,0.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**92.29**	**288**	P	**P**	**21 41 50.8**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=108,slow=2.6,SNR=5.2							
	comp=Z,0.6nm,0.3s							
M44A	**Midewin, Midew**	**98.48**	**49**	P	Pdif	21 42 21.2	+4.0	
BVAR	**Borovoye Array**	**118.70**	**321**	PKP	**PKPdf**	**21 47 25.8**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=134,slow=1.6,SNR=8.1							
ARCES	**ARCESS Array B**	**126.24**	**351**	PKP	**PKPdf**	**21 47 40.2**	**-0.4**
	comp=Z,3.4nm,0.9s,baz=53,slow=4.7,SNR=4.2							
OSTC	**Ostas**	**145.64**	**348**	*e*PKP	**PKPdf**	**21 48 17.7**	**+0.7**
DPC	**Dobruska-Polom**	**145.82**	**348**	*e*PKP	**PKPdf**	**21 48 18.3**	**+0.9**
KRLC	**Kraliky**	**145.98**	**347**	*e*PKP	**PKPbc**	**21 48 19.2**	**+0.8**
BRTR	**Keskin Array B**	**146.91**	**318**	PKPbc	**PKPbc**	**21 48 21.4**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=110,slow=3.3,SNR=9.3							
KHC	**Kasperske Hory**	**147.49**	**350**	*e*PKP	**PKPbc**	**21 48 22.9**	**+0.1**
GERES	**GERESS Array B**	**147.75**	**350**	PKPbc	**PKPdf**	**21 48 22.9**	**+2.2**
	comp=Z,0.6nm,0.6s,baz=28,slow=3.2,SNR=6.8							
CONA	**Conrad Observa**	**148.21**	**347**	*e*PKiKP	**PKPbc**	**21 48 24.8**	**0.0**
	comp=Z,1.1nm,0.4s							
MMAI	**Mount Meron Ar**	**148.91**	**306**	PKPbc	**PKPbc**	**21 48 27.1**	**0.0**
	comp=Z,2.0nm,0.5s,baz=107,slow=7.1,SNR=8.7							
KBA	**Koelnbreinsper**	**149.52**	**350**	*e*PKiKP	**PKPbc**	**21 48 27.7**	**-0.6**
	comp=Z,1.3nm,0.4s							
WTTA	**Wattenberg**	**149.60**	**352**	*e*PKiKP	**PKPbc**	**21 48 28.0**	**-0.5**
	comp=Z,2.4nm,0.4s							
SQTA	**Sankt Quirin**	**149.70**	**352**	*e*PKP	**PKPbc**	**21 48 27.8**	**-0.9**
	comp=Z,0.5nm,0.2s							
ABTA	**Abfaltersbach**	**149.98**	**351**	*e*PKP	**PKPbc**	**21 48 28.4**	**-0.9**
	comp=Z,2.1nm,0.5s							
ESDC	**Sonseca Array**	**156.09**	**18**	PKPab	**PKPab**	**21 49 00.6**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=88,slow=7.2,SNR=1.5							

CATAC 22 21:33:52.4±0.4, 12°N±2°×8°8W±°, h27km, M3.3/16, MLv3.3/16, Error ellipse: s-maj=6.2km s-min=2.8km az=37.5, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POTN	**Potosi Cosigui**	**0.64**	**26**	P	Pn	21 34 06.1	+0.4
POTN				S	Sn	21 34 15.5	+0.4
CRIN	**San Cristobal**	**0.78**	**69**	P	Pn	21 34 08.8	+1.1
CRIN	**San Cristobal**	**0.78**	**69**	S	Sn	21 34 20.6	+2.1
PKGN	**Cerro Pekin**	**0.83**	**72**	P	Pn	21 34 08.9	+0.5
PKGN				S	Sn	21 34 20.8	+1.1
CNCH	**Conchagua**	**0.86**	**357**	S	Sn	21 34 20.8	+0.3
CNCH	**Conchagua**	**0.86**	**357**	P	Pn	21 34 08.8	0.0
LCND	**La Caada**	**0.89**	**354**	P	Pn	21 34 09.2	0.0
PLRN	**Geotermica Pol**	**1.01**	**80**	P	Pn	21 34 10.6	-0.2
PLRN				S	Sn	21 34 23.8	-0.4
CNGA	**Al SSO del Vol**	**1.07**	**86**	P	Pn	21 34 11.6	0.0
CNGA				S	Sn	21 34 25.5	-0.1
CNGN	**Cerro Negro**	**1.07**	**85**	P	Pn	21 34 11.9	+0.3
CNGN	**Cerro Negro**	**1.07**	**85**	S	Sb	21 34 26.2	+0.3
PACA	**Pacayal**	**1.17**	**334**	P	Pn	21 34 13.5	+0.4
PACA	**Pacayal**	**1.17**	**334**	S	Sn	21 34 27.8	-0.4
COPN	**Copaltepe**	**1.20**	**101**	P	Pn	21 34 12.0	-1.3
MOM3	**MOM3**	**1.25**	**85**	P	Pn	21 34 14.1	0.0
MOM3				S	Sb	21 34 30.8	-0.1
TECO	**Alcaldia de Te**	**1.48**	**319**	P	Pn	21 34 16.5	-0.7
UNAN	**Cigeo UNAN**	**1.52**	**101**	P	Pn	21 34 18.3	+0.5
UNAN				S	Sn	21 34 36.3	-0.3
SCLA	**Alcaldia de Sa**	**1.57**	**325**	P	Pn	21 34 18.4	-0.2
SCLA	**Alcaldia de Sa**	**1.57**	**325**	S	Sn	21 34 37.8	-0.3
WILN	**Americas 2**	**1.59**	**99**	P	Pn	21 34 18.9	+0.2
WILN				S	Sn	21 34 37.9	-0.4
MAS3	**Al N del Volca**	**1.63**	**104**	P	Pn	21 34 20.3	+1.0
MAS3				S	Sn	21 34 38.4	-1.0
NANN	**Nandasmo**	**1.70**	**106**	S	Sn	21 34 41.3	+0.1
NANN	**Nandasmo**	**1.70**	**106**	P	Pn	21 34 21.3	+1.0
TGUH	**Tegucigalpa,Un**	**1.71**	**17**	P	Pn	21 34 20.9	+0.3
TGUH				S	Sn	21 34 41.3	-0.3
YUSH	**Yuscaran**	**1.79**	**31**	S	Sn	21 34 43.5	0.0
YUSH	**Yuscaran**	**1.79**	**31**	P	Pn	21 34 22.1	+0.5

IDC 22 21:49:31.2±7.5, 5°29S×150°69E, h155km±49km, mb3.6/2, mbtmp4.0/3, Error ellipse: s-maj=117.9km s-min=54.2km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.38**	**220**	P	Pn	21 50 51.1	+1.3
	21nm,0.8s,baz=36,slow=7.6,SNR=4.2						
PMG				S	Sn	21 51 50.6	-0.6
	54nm,0.3s,baz=140,slow=12,SNR=12						
WRA	**Warramunga Arr**	**21.57**	**226**	P	P	21 54 08.8	+0.1
	3.3nm,0.5s,baz=51,slow=9.8,SNR=29						
	3.3nm,0.5s						
ASAR	**Alice Springs**	**24.40**	**220**	P	P	21 54 36.0	+0.6
	1.6nm,0.5s,baz=57,slow=8.6,SNR=23						
	1.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**148.45**	**286**	PKPbc	PKPbc	22 08 59.1	-1.5
	0.3nm,0.5s,baz=100,slow=2.6,SNR=4.1						

TIR ***22*** *21:56:38.0, 41°.48N×19°.55E, h25km±7km, Ml2.7/6*
BEO ***22*** *21:56:40.7±0.7, 41°.29N×19°.72E, h9km±4km, ML2.2/7*
PDG ***22*** *21:56:43.1±0.0, 41°.51N×19°.60E, h10km, ML2.4/11, Error ellipse: s-maj=0.2km s-min=0.2km az=0.0*
ISC 22 21:56:39.6±1.0, 41°.33N±0°.02×19°.56E±0°.03, h10km±8km, n35, σ1s20/62, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.23**	**85**	Pg	**Pg**	**21 56 44.2**	**-0.1**
TIR				Sg	**Sg**	**21 56 46.8**	**-0.6**
TIR				AML	AML	21 56 49.3	
	3.2nm,0.2s						
TIR				AML	AML	21 56 49.6	
	2.1nm,0.3s						
ULC	**Ulcinj**	**0.68**	**339**	*e*Pg	**Pg**	**21 56 53.0**	**+0.2**
ULC				*i* Sg	**Sg**	**21 57 01.4**	**-0.3**
VLO	**Vlora**	**0.86**	**184**	Pg	**Pb**	**21 56 57.2**	**+0.5**
VLO				Sg	**Sn**	**21 57 12.0**	**+1.7**
VLO				AML	AML	21 57 18.7	
	1.2nm,0.3s						
DRME	**Dracevica, Mon**	**0.90**	**342**	*e*Pg	**Pb**	**21 56 57.8**	**+0.4**
DRME				*e*Sg	**Sn**	**21 57 12.8**	**+1.3**
DRME	**Dracevica, Mon**	**0.90**	**342**	*e*Pg	**Pg**	**21 56 57.0**	**0.0**
DRME				*i* Sg	**Sg**	**21 57 08.8**	**0.0**
OHR	**Ohrid**	**0.96**	**103**	*e*Pg	**Pg**	**21 56 57.9**	**-0.1**
OHR				*i* Sg	**Sb**	**21 57 11.7**	**+0.6**
BUM	**Brajici-Budva**	**1.09**	**333**	*e*Pg	**Pb**	**21 57 00.8**	**+0.1**
BUM				*i* Sg	**Sb**	**21 57 15.6**	**+0.6**
PDG	**Podgorica**	**1.12**	**348**	*e*Pg	**Pb**	**21 57 01.2**	**0.0**
PDG				*e*Sg	**Sn**	**21 57 18.2**	**+1.2**
PDG	**Podgorica**	**1.12**	**348**	*e*Pg	**Pg**	**21 57 00.9**	**-0.3**
PDG				*i* Sg	**Sb**	**21 57 15.9**	**0.0**
KBN	**Korca**	**1.16**	**127**	Pn	**Pb**	**21 57 01.5**	**-0.4**
KBN				Sn	**Sg**	**21 57 17.2**	**+0.1**
KBN				AML	AML	21 57 24.8	
	0.2nm,0.4s						
CEME	**Cevo**	**1.31**	**339**	*e*Pg	**Pg**	**21 57 04.5**	**-0.3**
CEME				*i* Sg	**Sn**	**21 57 22.6**	**+1.0**
HCY	**Herceg Novi**	**1.37**	**325**	*e*Pg	**Pg**	**21 57 06.0**	**0.0**
HCY				*i* Sg	**Sg**	**21 57 25.8**	**+2.0**
NKME	**Niksic**	**1.51**	**343**	*e*Pg	**Pb**	**21 57 08.0**	**+0.3**
NKME				*i* Sg	**Sg**	**21 57 29.2**	**+1.1**
KOME	**Kolasin**	**1.52**	**359**	*e*Pg	**Pg**	**21 57 08.7**	**-0.1**
KOME	**Kolasin**	**1.52**	**359**	*e*Pg	**Pb**	**21 57 07.9**	**-0.1**
KOME				*i* Sg	**Sg**	**21 57 29.0**	**+0.4**
SKO	**Skopje**	**1.54**	**65**	*e*Pg	**Pb**	**21 57 07.9**	**-0.4**
SKO				*i* Sg	**Sg**	**21 57 29.4**	**+0.1**
BEY	**Berane**	**1.56**	**9**	*e*Pg	**Pg**	**21 57 09.4**	**-0.2**
IVA	**Berane**	**1.56**	**9**	*e*Pg	**Pb**	**21 57 08.6**	**-0.1**
IVA				*i* Sg	**Sg**	**21 57 30.3**	**+0.4**
TREB	**Trebinje**	**1.66**	**327**	*e*Pn	**Pb**	**21 57 10.5**	**+0.3**
BRY	**Bratogost**	**1.75**	**334**	*e*Pn	**Pg**	**21 57 12.5**	**-0.6**
BRY				*i* Sn	**Sg**	**21 57 35.8**	**0.0**
IGT	**Igoumenitsa**	**1.89**	**162**	Pn	**Pb**	**21 57 14.4**	**+0.3**
IGT				Sn	**Sn**	**21 57 36.5**	**+0.7**
UPM	**Unac-Piva**	**1.94**	**346**	*e*Pn	**Pb**	**21 57 14.8**	**-0.3**
UPM				*i* Sn	**Sb**	**21 57 40.0**	**+0.6**
SJES	**Sjenica**	**1.96**	**9**	*e*Pn	**Pb**	**21 57 15.5**	**+0.1**
SJES				*e*Sg	**Sg**	**21 57 43.8**	**+1.3**
NOCI	**Noci**	**1.97**	**255**	Pn	**Pn**	**21 57 11.8**	**-1.2**
NOCI				Sn	**Sn**	**21 57 39.6**	**+1.8**
NOCI				AML	AML	21 57 46.1	
	0.2nm,0.2s						
NOCI				AML	AML	21 57 49.7	
	0.2nm,0.2s						
SELS	**Selova**	**2.21**	**31**	*e*Pn	**Pn**	**21 57 17.0**	**+0.6**
SELS				*e*Sn	**Sb**	**21 57 46.0**	**-1.2**
BARS	**Barje**	**2.24**	**48**	*e*Pn	**Pn**	**21 57 16.9**	**+0.1**
BARS				*e*Sn	**Sn**	**21 57 42.8**	**-1.7**
IVAS	**Ivanjica**	**2.29**	**11**	*e*Pn	**Pn**	**21 57 17.7**	**+0.2**
IVAS				*e*Sn	**Sn**	**21 57 46.0**	**+0.2**
BOSS	**Bosilegrad**	**2.47**	**61**	*e*Pn	**Pn**	**21 57 19.8**	**-0.1**
BBLS	**Lazi&#263i**	**2.54**	**357**	*e*Pn	**Pb**	**21 57 23.8**	**-1.5**
BBLS				*e*Sn	**Sb**	**21 57 55.2**	**-1.4**
LKD2	**Lefkada island**	**2.67**	**161**	Pn	**Pn**	**21 57 22.2**	**-0.5**
SGRT	**San Giovanni R**	**2.90**	**280**	Pn	**Pn**	**21 57 26.8**	**+0.9**
SGRT				AML	AML	21 57 52.8	
	0.2nm,1.5s						
SGRT				Sn	**Sn**	**21 57 54.1**	**-6.8**
ZAPS	**Zavoj**	**2.99**	**48**	*e*Pn	**Pn**	**21 57 28.7**	**+1.5**
ZAPS				*e*Sn	**Sn**	**21 58 02.8**	**-0.3**
VTS	**Vitosha**	**3.02**	**64**	*e*Pn	**Pn**	**21 57 28.2**	**+0.5**
ZAGS	**Zajecar**	**3.17**	**38**	*e*Pn	**Pn**	**21 57 30.3**	**+0.8**
KUBS	**Kucevo**	**3.45**	**26**	*e*Pn	**Pn**	**21 57 33.4**	**0.0**

IDC ***22*** *22:02:56.2±1.0, 41°.37N×19°.66E, h0km, mb3.6/7, mbtmp3.6/15, ML3.1/5, MS2.8/6, Error ellipse: s-maj=15.0km s-min=10.2km az=28.0*
SKO ***22*** *22:03:00.3, 41°.52N×19°.56E, h13km, ML3.5*
TIR ***22*** *22:03:00.6, 41°.53N×19°.56E, h42km±7km, Ml4.0/7*
SOF ***22*** *22:03:01.5, 41°.49N±0°.02×19°.7E±0°.1, h28km±18km, MD3.8/8*
BEO ***22*** *22:03:02.5±0.4, 41°.46N×19°.69E, h20km±3km, ML3.5/17*
THE ***22*** *22:03:03.3, 41°N±5°×2°0E±°, h11km, M3.2/14, MLh3.2/14*
PDG ***22*** *22:03:03.6±0.2, 41°.59N×19°.69E, h13km, MD3.8/11, ML3.8/12, Error ellipse: s-maj=1.0km s-min=1.0km az=0.0*
PRU ***22*** *22:03:03.3, 41°.48N×19°.44E, h0km*
ISC 22 22:03:01.1±0.8, 41°.42N±0°.02×19°.66E±0°.02, h31km±6km, n214, σ1s98/271, mb3.8/4, MS3.0/4, 56C-12D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.17**	**117**	Pg	**Pb**	**22 03 06.4**	**-0.6**
TIR				Sg	**Sb**	**22 03 08.9**	**-2.2**
TIR				AML	AML	22 03 10.1	
	55nm,0.3s						
ULC	**Ulcinj**	**0.62**	**330**	*i*Pg	**Pb**	**22 03 13.0**	**-0.6**
ULC				*i* Sg	**Sb**	**22 03 21.1**	**-1.0**
DRME	**Dracevica, Mon**	**0.84**	**335**	*e*Pg	**Pb**	**22 03 17.4**	**+0.2**
DRME				*e*Sg	**Sn**	**22 03 30.4**	**+2.2**
DRME	**Dracevica, Mon**	**0.84**	**335**	*i*Pg	**Pb**	**22 03 17.1**	**-0.1**
DRME				*i* Sg	**Sb**	**22 03 28.0**	**-0.2**
OHR	**Ohrid**	**0.91**	**110**	*i*Pg	**Pb**	**22 03 18.8**	**+0.4**
OHR				*i* Sg	**Sn**	**22 03 32.9**	**+3.0**
OHR				*e*Lg	Lg	22 03 34.4	
	comp=E,1μm,0.7s						
OHR				*e*Lg	Lg	22 03 37.3	
	comp=N,1μm,0.7s						
VLO	**Vlora**	**0.96**	**188**	Pg	**Pb**	**22 03 21.6**	**+2.4**
VLO				Sg	**Sb**	**22 03 34.4**	**+2.8**
VLO				AML	AML	22 03 41.2	
	comp=N,14nm,0.8s						
VLO	**Vlora**	**0.96**	**188**	P	**Pb**	**22 03 21.4**	**+2.2**
BUM	**Brajici-Budva**	**1.05**	**327**	*i*Pg	**Pb**	**22 03 21.1**	**+0.4**
BUM				*i* Sg	**Sb**	**22 03 35.6**	**+1.5**
PDG	**Podgorica**	**1.05**	**343**	↑P	**Pb**	**22 03 20.9**	**+0.3**
PDG	**Podgorica**	**1.05**	**343**	*e*Pg	**Pb**	**22 03 20.4**	**-0.3**
PDG				*e*Sg	**Sb**	**22 03 35.2**	**+1.1**
PDG	**Podgorica**	**1.05**	**343**	*i*Pg	**Pn**	**22 03 20.1**	**+0.4**
PDG				*i* Sg	**Sb**	**22 03 34.3**	**+0.2**
KBN	**Korca**	**1.17**	**133**	Pn	**Pb**	**22 03 23.6**	**+0.9**
KBN				Sn	**Sb**	**22 03 40.9**	**+3.4**
KBN				AML	AML	22 03 44.0	
	comp=N,3.3nm,0.7s						
KBN	**Korca**	**1.17**	**133**	P	**Pb**	**22 03 23.7**	**+1.0**
KBN				S	**Sb**	**22 03 40.3**	**+2.8**
PVY	**Plav**	**1.19**	**11**	*e*Pg	**Pb**	**22 03 23.1**	**0.0**
PVY	**Plav**	**1.19**	**11**	↑*i*Pg	**Pn**	**22 03 22.3**	**+0.5**
PVY				*i* Sg	**Sb**	**22 03 38.4**	**+0.2**
CEME	**Cevo**	**1.25**	**334**	↓*i*Pg	**Pb**	**22 03 24.7**	**+0.6**
CEME				*i* Sg	**Sb**	**22 03 41.5**	**+1.6**
HCY	**Herceg Novi**	**1.34**	**320**	↓*i*Pg	**Pb**	**22 03 25.9**	**+0.2**
HCY				*i* Sg	**Sb**	**22 03 45.8**	**+3.3**
KOME	**Kolasin**	**1.43**	**356**	*e*Pg	**Pb**	**22 03 27.5**	**+0.3**
KOME				*e*Sg	**Sb**	**22 03 48.0**	**+3.0**
KOME	**Kolasin**	**1.43**	**356**	↑*i*Pg	**Pb**	**22 03 27.1**	**-0.1**
KOME				*i* Sg	**Sb**	**22 03 47.2**	**+2.2**
SKO	**Skopje**	**1.44**	**67**	↑*i*Pg	**Pb**	**22 03 27.2**	**-0.1**
SKO				*i* Sg	**Sb**	**22 03 46.9**	**+1.7**
NKME	**Niksic**	**1.44**	**339**	↑*i*Pg	**Pb**	**22 03 27.1**	**-0.2**
NKME				*i* Sg	**Sb**	**22 03 47.7**	**+2.4**
BEY	**Berane**	**1.46**	**7**	*e*Pg	**Pb**	**22 03 27.7**	**+0.1**
IVA	**Berane**	**1.46**	**7**	↑*i*Pg	**Pb**	**22 03 27.4**	**-0.2**
IVA				*i* Sg	**Sb**	**22 03 47.5**	**+1.7**
TREB	**Trebinje**	**1.62**	**323**	*e*Pn	**Pb**	**22 03 29.4**	**-0.9**
TREB	**Trebinje**	**1.62**	**323**	*e*Pn	**Pb**	**22 03 29.5**	**-0.9**
BRY	**Bratogost**	**1.70**	**331**	↑*i*Pg	**Pb**	**22 03 31.2**	**-0.5**
BRY				*i* Sg	**Sb**	**22 03 54.5**	**+1.8**
SJES	**Sjenica**	**1.85**	**7**	*e*Pn	**Pb**	**22 03 34.0**	**-0.3**
SJES				*e*Sg	**Sb**	**22 03 59.5**	**+2.4**
UPM	**Unac-Piva**	**1.86**	**343**	↑*i*Pn	**Pb**	**22 03 34.4**	**-0.2**
UPM				*i* Sn	**Sb**	**22 03 58.0**	**+0.4**
KLINJ	**Klinje**	**1.92**	**336**	*e*Pn	**Pb**	**22 03 34.3**	**-1.2**
KZN	**Kozani**	**1.95**	**124**	P	**Pb**	**22 03 34.8**	**-1.2**
KZN				S	**Sb**	**22 03 58.8**	**-1.1**
IGT	**Igoumenitsa**	**1.96**	**165**	Pn	**Pb**	**22 03 34.8**	**-1.2**
IGT	**Igoumenitsa**	**1.96**	**165**	P	**Pb**	**22 03 34.8**	**-1.2**
IGT	**Igoumenitsa**	**1.96**	**165**	*e*Pn	**Pb**	**22 03 35.0**	**-1.1**
JAN	**Janina**	**1.98**	**152**	P	**Pb**	**22 03 35.9**	**-0.6**
LFKM	**Lefkimmi**	**2.00**	**171**	P	**Pb**	**22 03 35.8**	**-0.9**
STON	**Ston**	**2.06**	**315**	*e*Pn	**Pn**	**22 03 34.2**	**+0.7**
STON	**Ston**	**2.06**	**315**	*e*Pn	**Pb**	**22 03 35.8**	**-1.9**
NOCI	**Noci**	**2.06**	**253**	Pn	**Pn**	**22 03 34.8**	**+1.2**
NOCI				AML	AML	22 04 16.8	
	comp=N,5.4nm,0.5s						
SELS	**Selova**	**2.09**	**31**	*e*Pn	**Pn**	**22 03 36.0**	**+1.9**
SELS				*e*Sn	**Sb**	**22 04 03.1**	**-0.9**
BARS	**Barje**	**2.12**	**48**	↑*i*Pn	**Pn**	**22 03 36.2**	**+1.7**
BARS	**Barje**	**2.12**	**48**	*e*Pn	**Pn**	**22 03 36.1**	**+1.7**
BARS				*e*Sn	**Sn**	**22 04 01.8**	**+2.0**
KTI	**Kastanea**	**2.13**	**118**	P	**Pb**	**22 03 37.2**	**-1.8**
IVAS	**Ivanjica**	**2.18**	**9**	*e*Pn	**Pn**	**22 03 36.9**	**+1.6**
IVAS				*e*Sn	**Sn**	**22 04 03.1**	**+1.8**
PRMD	**Pramanda**	**2.19**	**150**	P	**Pb**	**22 03 38.9**	**-1.1**
VAY	**Valandovo**	**2.19**	**92**	*i* Pn	**

LOT	**Lotru**	**5.01**	**35**	⇑P	**Pn**	**22 04 16.4**	**+2.1**
DEV	**Deva**	**5.04**	**27**	⇑P	**Pn**	**22 04 16.8**	**+2.3**
SIRR	**Siria**	**5.05**	**16**	⇑P	**Pn**	**22 04 16.3**	**+1.6**
SIRR				⇑S	**Sn**	**22 05 11.5**	**-0.5**
SIRR	**Siria**	**5.05**	**16**	*e*Pn	**Pn**	**22 04 17.0**	**+2.3**
OZLJ	**Ozalj**	**5.18**	**325**	*e*Pn	**Pn**	**22 04 18.3**	**+1.9**
BOJS	**Bojanci**	**5.19**	**323**	*i* Pn	**Pn**	**22 04 18.5**	**+1.9**
BOJS	**Bojanci**	**5.19**	**323**	*e*Pn	**Pn**	**22 04 18.5**	**+1.9**
ARR	**Arges**	**5.35**	**41**	⇑P	**Pn**	**22 04 20.8**	**+1.9**
CRES	**Cresnjevec Ost**	**5.35**	**327**	*i* Pn	**Pn**	**22 04 20.6**	**+1.7**
RIY	**Rijeka**	**5.43**	**318**	*e*Pn	**Pn**	**22 04 21.6**	**+1.8**
BEHE	**Becsehely**	**5.46**	**339**	*e*Pn	Pn	22 04 25.3	+5.0
MTUR	**Matau**	**5.47**	**44**	⇑P	**Pn**	**22 04 23.9**	**+3.3**
BRJN	**Brijuni**	**5.55**	**311**	*e*Pn	**Pn**	**22 04 22.9**	**+1.4**
VOIR		**5.61**	**43**	⇑P	**Pn**	**22 04 25.1**	**+2.6**
VAE	**Valguarnera**	**5.66**	**228**	Sn	**Sn**	**22 05 30.1**	**+3.0**
	comp=E,1.7nm,0.3s,baz=336,slow=16,SNR=1.7						
CEY	**Cerknica**	**5.75**	**320**	*e*Pn	**Pn**	**22 04 26.1**	**+1.8**
DRGR		**5.80**	**21**	⇑P	**Pn**	**22 04 26.7**	**+1.7**
DRGR		**5.80**	**21**	*e*Pn	**Pn**	**22 04 26.6**	**+1.6**
MARR	**Marisel-Cluj**	**5.81**	**24**	⇓P	**Pn**	**22 04 26.8**	**+1.6**
MARR				⇑S	**Sn**	**22 05 29.9**	**-0.9**
SKDS	**Skadanscina**	**5.82**	**317**	*i* Pn	**Pn**	**22 04 26.1**	**+0.9**
SKDS	**Skadanscina**	**5.82**	**317**	*e*Pn	**Pn**	**22 04 26.2**	**+0.9**
MDB	**Medias**	**5.82**	**34**	⇑P	**Pn**	**22 04 28.3**	**+3.1**
LJU	**Ljubljana**	**5.93**	**323**	*e*Pn	**Pn**	**22 04 28.6**	**+1.9**
CJR	**Cluj-Napoca**	**6.00**	**27**	⇑P	**Pn**	**22 04 29.5**	**+1.8**
MLR	**Muntele Rosu**	**6.12**	**46**	Pn	**Pn**	**22 04 32.2**	**+2.8**
	comp=E,14nm,0.6s,baz=159,slow=14						
MLR				Sn	**Sn**	**22 05 39.1**	**+0.7**
	baz=243,slow=20						
MLR	**Muntele Rosu**	**6.12**	**46**	⇓P	**Pn**	**22 04 32.2**	**+2.8**
MLR	**Muntele Rosu**	**6.12**	**46**	*e*Pn	**Pn**	**22 04 32.7**	**+3.3**
DOPR	**Dopca**	**6.15**	**40**	⇑P	**Pn**	**22 04 32.2**	**+2.4**
ISR	**Istrita**	**6.23**	**51**	⇓P	**Pn**	**22 04 35.1**	**+4.2**
NEHR	**Nehoiu**	**6.27**	**48**	⇑P	**Pn**	**22 04 34.4**	**+2.9**
OBKA	**Obir**	**6.28**	**326**	*i* Pn	**Pn**	**22 04 33.2**	**+1.6**
	comp=E,1.6nm,0.2s,SNR=9.2						
OBKA				*e*Sn	**Sn**	**22 05 42.5**	**+0.1**
	comp=E,13nm,0.4s						
OZUR		**6.44**	**41**	⇑P	**Pn**	**22 04 36.0**	**+2.2**
COVR	**Voineasa-Covas**	**6.48**	**45**	⇑P	**Pn**	**22 04 37.3**	**+3.0**
PSZ	**Piszkesteto**	**6.50**	**1**	⇑P	**Pn**	**22 04 36.3**	**+1.7**
PSZ				⇑S	**Sn**	**22 05 49.3**	**+1.7**
TURR	**Turia**	**6.53**	**43**	⇓P	**Pn**	**22 04 37.9**	**+2.9**
ARSA	**Arzberg**	**6.54**	**334**	*e*Pn	**Pn**	**22 04 37.5**	**+2.4**
	comp=E,1.7nm,0.4s						
ARSA	**Arzberg**	**6.54**	**334**	*e*Pn	**Pn**	**22 04 37.5**	**+2.4**
ICOR	**Ion Corvin**	**6.56**	**63**	⇓P	**Pn**	**22 04 37.8**	**+2.4**
BISRR	**Bisoca**	**6.58**	**49**	⇑P	**Pn**	**22 04 38.6**	**+3.0**
RONA	**Rosalia, Austr**	**6.72**	**340**	*e*Pn	**Pn**	**22 04 40.6**	**+3.0**
	comp=E,1.9nm,0.5s						
PLOR	**Plostina**	**6.73**	**47**	⇑P	**Pn**	**22 04 40.1**	**+2.4**
MYKA	**Terra Mystica**	**6.77**	**322**	*e*Pn	**Pn**	**22 04 40.1**	**+1.7**
	comp=E,2.2nm,0.4s						
MYKA				*e*Sn	**Sn**	**22 05 52.8**	**-1.7**
	comp=E,4.2nm,0.4s						
VRI	**Vrincioaia**	**6.78**	**47**	⇑P	**Pn**	**22 04 41.1**	**+2.7**
BMR	**Baia Mare**	**6.82**	**22**	⇑P	**Pn**	**22 04 40.8**	**+1.8**
HARR	**Harsova**	**6.88**	**59**	⇓P	**Pn**	**22 04 41.9**	**+2.1**
CONA	**Conrad Observa**	**7.04**	**339**	*e*Pn	**Pn**	**22 04 44.8**	**+2.7**
	comp=E,0.2nm,0.2s						
CFR	**Carcaliu**	**7.23**	**56**	⇓P	**Pn**	**22 04 46.8**	**+2.3**
KBA	**Koelnbreinsper**	**7.25**	**323**	*e*Pn	**Pn**	**22 04 46.3**	**+1.4**
	comp=E,0.9nm,0.3s,SNR=7.6						
KBA				*e*Sn	**Sn**	**22 06 03.2**	**-3.0**
	comp=E,3.5nm,0.4s						
BURAR	**Bucovina Array**	**7.35**	**31**	⇑P	**Pn**	**22 04 48.1**	**+1.8**
IDI	**Anoyia**	**7.37**	**145**	Pn	**Pn**	**22 04 43.3**	**-3.3**
	comp=E,11nm,1.1s,baz=162,slow=16,SNR=1.5						
IDI				Sn	**Sn**	**22 06 03.1**	**-6.2**
	comp=E,0.3nm,0.3s,baz=263,slow=21,SNR=1.2						
ABTA	**Abfaltersbach**	**7.40**	**318**	*e*Pn	**Pn**	**22 04 47.9**	**+0.9**
	comp=E,1.9nm,0.4s,SNR=5.3						
MOA	**Molln**	**7.49**	**331**	*e*Pn	**Pn**	**22 04 51.0**	**+2.9**
	comp=E,1.1nm,0.3s						
MOA				*e*Sn	**Sn**	**22 06 13.7**	**+1.7**
	comp=E,5.2nm,0.5s						
BIOA	**Bad Ischl, Aus**	**7.60**	**328**	*e*Pn	**Pn**	**22 04 51.4**	**+1.7**
	comp=E,1.3nm,0.3s						
LESA	**Schwarzleotal**	**7.81**	**323**	*e*Pn	**Pn**	**22 04 53.2**	**+0.7**
	comp=E,1.8nm,0.3s,SNR=8.9						
VRAC	**Vranov**	**8.17**	**346**	Pn	**Pn**	**22 04 56.5**	**-1.0**
	comp=E,0.2nm,0.3s,baz=257,slow=16,SNR=1.6						
VRAC				Sn	**Sn**	**22 06 23.6**	**-5.2**
	baz=51,slow=16						
	comp=E,0.8nm,0.5s						
WTTA	**Wattenberg**	**8.19**	**318**	*e*Pn	**Pn**	**22 04 59.2**	**+1.3**
	comp=E,3.9nm,0.3s						
WTTA				*e*Sn	**Sn**	**22 06 27.3**	**-2.2**
	comp=E,7.5nm,0.4s						
WATA	**Walderalm**	**8.27**	**318**	*i* Pn	**Pn**	**22 05 00.6**	**+1.6**
	comp=E,2.1nm,0.3s,SNR=7.9						
WATA				*e*Sn	**Sn**	**22 06 29.2**	**-2.2**
	comp=E,12nm,0.5s						
CKRC	**Cesky Krumlov**	**8.30**	**335**	*e*SN	**Sn**	**22 06 33.4**	**+1.4**
SQTA	**Sankt Quirin**	**8.38**	**317**	*e*Pn	**Pn**	**22 05 02.2**	**+1.7**
	comp=E,1.6nm,0.2s,SNR=8.4						
SQTA				*e*Sn	**Sn**	**22 06 31.7**	**-2.4**
	comp=E,9.6nm,0.6s						
FETA	**Feichten**	**8.51**	**314**	*e*Pn	**Pn**	**22 05 03.9**	**+1.6**
	comp=E,1.0nm,0.3s						
FETA				*e*Sn	**Sn**	**22 06 35.4**	**-1.9**
	comp=E,5.9nm,0.7s						
MOTA	**Moosalm**	**8.52**	**317**	*e*Pn	**Pn**	**22 05 04.1**	**+1.7**
	comp=E,0.8nm,0.2s,SNR=6.2						
MOTA				*e*Sn	**Sn**	**22 06 36.3**	**-1.1**
	comp=E,13nm,0.7s						
GERES	**GERESS Array B**	**8.53**	**332**	Pn	**Pn**	**22 05 03.3**	**+0.8**
	baz=151,slow=14,SNR=8.0						
GERES				Sn	**Sn**	**22 06 37.6**	**-0.1**
	comp=E,0.1nm,0.3s,baz=153,slow=24,SNR=6.8						
	comp=E,0.5nm,0.3s						
RETA	**Reutte**	**8.79**	**317**	*e*Pn	**Pn**	**22 05 07.8**	**+1.8**
	comp=E,1.1nm,0.3s						
RETA				*e*Sn	**Sn**	**22 06 42.4**	**-1.5**
	comp=E,3.9nm,0.3s						
KHC	**Kasperske Hory**	**8.82**	**333**	*e*PN	**Pn**	**22 05 08.4**	**+2.0**
KHC				*e*SN	**Sn**	**22 06 44.1**	**-0.5**
DAVOX	**Davos/Dischmat**	**8.84**	**311**	Pn	**Pn**	**22 05 07.8**	**+1.0**
	comp=E,1.1nm,0.3s,baz=137,slow=19,SNR=17						
DAVOX				Sn	**Sn**	**22 06 42.0**	**-3.5**
	comp=E,1.3nm,0.3s,baz=337,slow=16,SNR=4.3						
DAVOX				LR	LR	22 08 48.0	
	comp=E,36nm,18.1s,baz=278,slow=40						
	comp=E,1.8nm,0.3s						
ZVC	**Zvikov**	**8.89**	**336**	*e*SN	**Sn**	**22 06 44.5**	**-1.8**
DAVA	**Damuels**	**9.13**	**313**	*e*Pn	**Pn**	**22 05 13.2**	**+2.4**
	comp=E,1.4nm,0.3s						
DAVA				*e*Sn	**Sn**	**22 06 50.0**	**-2.5**
	comp=E,11nm,0.6s						
BRTR	**Keskin Array B**	**10.77**	**94**	Pn	**Pn**	**22 05 31.4**	**-1.8**
	baz=279,slow=12,SNR=2.4						
BRTR				Sn	**Sn**	**22 07 32.0**	**-0.7**
	comp=E,0.1nm,0.3s,baz=95,slow=14,SNR=4.0						
	comp=E,0.2nm,0.4s						
CLL	**Collm**	**10.90**	**337**	*e*Sn	**Sn**	**22 07 38.0**	**+2.4**
CLL				*ex*	x	22 07 55.0	
CLL				*e*Sb		22 08 12.0	
CLL				*ex*	x	22 08 42.0	
CLL				*e*Sg		22 08 46.0	
AKASG	**Malin Array Be**	**11.40**	**32**	LR	LR	22 10 35.6	
	comp=E,51nm,18.3s,baz=228,slow=40						
KBZ	**Khabaz**	**17.26**	**75**	LR	LR	22 15 36.5	
	comp=E,21nm,19.3s,baz=120,slow=44						
ESDC	**Sonseca Array**	**18.03**	**272**	P	**Pn**	**22 07 08.6**	**-0.7**
	comp=E,0.4nm,0.8s,baz=74,slow=14,SNR=1.6						
HFS	**Hagfors**	**19.09**	**351**	P	**P**	**22 07 21.0**	**0.0**
	comp=E,0.2nm,0.3s,baz=180,slow=12,SNR=5.3						
	comp=E,2.1nm,0.6s						
NOA	**NORSAR Array B**	**20.31**	**348**	LR	LR	22 16 43.5	
	comp=E,18nm,18.5s,baz=35,slow=41						
FINES	**FINESS Array B**	**20.42**	**9**	P	**P**	**22 07 35.2**	**-0.2**
	comp=E,1.6nm,0.4s,baz=191,slow=9.8,SNR=24						
	comp=E,1.6nm,0.4s						
EKA	**Eskdalemuir Ar**	**20.45**	**321**	P	**P**	**22 07 35.6**	**-0.1**
	comp=E,0.5nm,0.6s,baz=119,slow=9.9,SNR=2.0						
	comp=E,0.5nm,0.6s						
ARTI	**Arti**	**29.06**	**46**	LR	LR	22 21 05.6	
	comp=E,40nm,19.3s,baz=350,slow=37						
TORD	**Torodi Ar. Bea**	**32.24**	**214**	P	**P**	**22 09 26.2**	**-0.5**
	comp=E,0.4nm,0.8s,baz=15,slow=12,SNR=2.8						
	comp=E,0.4nm,0.8s						
BVAR	**Borovoye Array**	**35.62**	**53**	P	**P**	**22 09 55.5**	**-0.3**
	comp=E,0.7nm,0.7s,baz=266,slow=5.8,SNR=3.5						
	comp=E,0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**44.08**	**50**	P	**P**	**22 11 06.3**	**+0.3**
	comp=E,0.9nm,0.4s,baz=278,slow=10,SNR=5.5						
ZALV				LR	LR	22 29 48.2	
	comp=E,21nm,20.2s,baz=346,slow=36						
	comp=E,0.9nm,0.4s						
MKAR	**Makanchi Array**	**44.23**	**61**	P	**P**	**22 11 07.7**	**+0.3**
	comp=E,1.0nm,0.8s,baz=276,slow=7.8,SNR=4.7						
	comp=E,1.0nm,0.8s						
SONM	**Songino Array**	**58.94**	**52**	P	**P**	**22 12 57.3**	**-0.1**
	comp=E,1.0nm,0.8s,baz=282,slow=6.7,SNR=5.3						
	comp=E,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**70.11**	**83**	LR	LR	22 52 49.9	
	comp=E,110nm,18.6s,baz=180,slow=43						
ASAR	**Alice Springs**	**123.11**	**94**	PKP	**PKPdf**	**22 21 54.3**	**-0.5**
	comp=E,0.2nm,0.4s,baz=332,slow=3.5,SNR=2.1						

MOS ***22*** *22:05:26.1±1.4,45.˚63N×147.˚55E,h193km,mb4.5/1, Error ellipse: s-maj=22.1km s-min=11.5km az=78.3*
SKHL ***22*** *22:05:28.2±0.4,45.˚50N×147.˚20E,h189km±9km,mb4.7/4, msha5.2/4*
IDC ***22*** *22:05:29.5±1.9,45.˚82N×147.˚13E,h198km±18km,mb3.3/8, mbtmp3.8/11, Error ellipse: s-maj=24.4km s-min=14.1km az=118.0*
JMA ***22*** *22:05:30.8±0.5,45˚N±2˚×14˚8E±˚,h176km,MV3.5/21, NEAR ETOROFU ISLAND*

ISC 22 22:05:27.7±0.7**,45.˚52N**±0.˚05×**147.˚37E**±0.˚06**,h189**km±7km**, n47,σ2$32/58,mb3.6/8,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.45**	**129**	*e*PN	**Pn**	**22 05 51.1**	**-2.2**
KUR	**Kuril'sk**	**0.45**	**129**	*e*P	**Pn**	**22 05 52.2**	**-1.1**
KUR				AMB	AMB	22 05 52.9	
	280nm,0.5s						
KUR				*e*S	**Sn**	**22 06 11.2**	**-1.8**
KUR				A	A	22 06 12.1	
	100nm,0.5s						
KUR				A	A	22 06 12.1	
	90nm,0.5s						
SHO	**Shikotan**	**1.69**	**193**	*e*P	**Pn**	**22 06 06.1**	**+3.9**
SHO				AMB	AMB	22 06 06.3	
	40nm,0.2s						
SHO				*e*S	**Sn**	**22 06 30.7**	**+1.7**
SHO				A	A	22 06 31.9	
	400nm,0.4s						
SHO				A	A	22 06 31.9	
	620nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.83**	**217**	*e*PN	**Pn**	**22 06 05.1**	**+1.5**
YUK				*i* S	**Sn**	**22 06 33.2**	**+1.7**
YUK				pmax	pmax		
	comp=N,28nm,0.2s						
YUK				pmax	pmax		
	comp=Z,124nm,0.2s						
YUK				smax	smax		
	comp=N,160nm,0.3s						
YUK				smax	smax		
	comp=E,413nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.83**	**217**	*e*P	**Pn**	**22 06 05.1**	**+1.5**
YUK				AMB	AMB	22 06 06.2	
	comp=E,30nm,0.2s						
YUK				AMB	AMB	22 06 06.2	
	comp=E,120nm,0.2s						
YUK				*i* S	**Sn**	**22 06 33.6**	**+2.1**
YUK				A	A	22 06 36.3	
	comp=E,160nm,0.3s						
YUK				A	A	22 06 36.3	
	comp=E,410nm,0.3s						
GLVR	**Golovnino**	**2.22**	**217**	PN	**Pn**	**22 06 09.3**	**+1.6**
GLVR				*i* S	**Sn**	**22 06 40.3**	**+1.5**
GLVR				pmax	pmax		
	comp=N,10.0nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,112nm,0.1s						
GLVR				smax	smax		
	comp=E,304nm,0.4s						
GLVR				smax	smax		
	comp=N,568nm,0.2s						
GLVR	**Golovnino**	**2.22**	**217**	*e*P	**Pn**	**22 06 09.3**	**+1.6**
GLVR				AMB	AMB	22 06 10.0	
	comp=N,110nm,0.2s						
GLVR				*i* S	**Sn**	**22 06 40.3**	**+1.5**
GLVR				A	A	22 06 47.1	
	comp=N,570nm,0.3s						
GLVR				A	A	22 06 47.1	
	comp=N,300nm,0.3s						
JRA	**Rausu**	**2.25**	**226**	*e*P	**Pn**	**22 06 09.2**	**+1.1**
NEM2	**Nemuro 2**	**2.45**	**209**	P	**Pn**	**22 06 09.7**	**-0.6**
NEM2				S	**Sn**	**22 06 39.7**	**-3.7**
NMR	**Nemuro--Hokkai**	**2.45**	**209**	*e*PN	**Pn**	**22 06 09.7**	**-0.6**
NMR	**Nemuro--Hokkai**	**2.45**	**209**	*e*P	**Pn**	**22 06 10.3**	**0.0**
NMR				*i* S	**Sn**	**22 06 41.6**	**-1.8**
JNK	**Nakash**	**2.71**	**225**	*e*P	**Pn**	**22 06 14.7**	**+1.4**
AKK	**Akkeshi**	**3.09**	**217**	*e*P	**Pn**	**22 06 18.1**	**+0.3**
JAK	**Akkeshi**	**3.17**	**218**	*e*P	**Pn**	**22 06 19.2**	**+0.5**
JAK				*e*S	**Sn**	**22 06 56.9**	**-1.8**
JAR	**Ashorobuto**	**3.41**	**231**	*e*P	**Pn**	**22 06 23.9**	**+2.3**
JAR				*e*S	**Sn**	**22 07 06.8**	**+3.0**
YSS	**Yuzhno-Sakhali**	**3.51**	**296**	*e*PN	**Pn**	**22 06 24.3**	**+1.4**
YSS				*e*S	**Sn**	**22 07 06.3**	**+0.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				smax	smax		
	comp=N,30nm,0.5s						
YSS				smax	smax		
	comp=E,30nm,0.3s						
YSS	**Yuzhno-Sakhali**	**3.51**	**296**	*e*P	**Pn**	**22 06 23.8**	**+0.9**
YSS				*e*S	**Sn**	**22 07 06.3**	**+0.1**
JKA	**Kamikawa-asahi**	**3.67**	**249**	*e*P	**Pn**	**22 06 27.3**	**+2.3**
ASAJ	**Asahikawa**	**3.68**	**249**	P	**Pn**	**22 06 27.3**	**+2.3**
	comp=E,6.2nm,0.4s,baz=68,slow=16,SNR=13						
JKK2	**Kamakawa 2**	**3.69**	**245**	P	**Pn**	**22 06 26.6**	**+1.5**
JCH	**Churui**	**4.10**	**226**	P	**Pn**	**22 06 31.1**	**+0.8**
JCH				*e*S	**Sn**	**22 07 16.9**	**-2.5**
JNBK	**Urakawa-nobuka**	**4.65**	**228**	*e*P	**Pn**	**22 06 37.2**	**-0.1**
JNBK				*e*S	**Sn**	**22 07 30.0**	**-1.9**
JOT	**Ohata**	**6.19**	**230**	*e*P	**Pn**	**22 06 56.3**	**-0.9**
JOT				*e*S	**Sn**	**22 08 02.6**	**-5.2**
TYV	**Tymovskoe**	**6.21**	**331**	*e*PN	**Pn**	**22 06 56.8**	**-0.5**
TYV				*e*S	**Sn**	**22 07 59.9**	**-8.3**
TYV				pmax	pmax		
	comp=Z,12nm,0.9s						
TYV				pmax	pmax		
	comp=Z,100nm,2.6s						
TYV				smax	smax		
	comp=N,8.0nm,1.3s						
TYV				smax	smax		
	comp=E,7.0nm,1.3s						
TYV				smax	smax		
	comp=E,100nm,2.6s						
TYV	**Tymovskoe**	**6.21**	**331**	*e*P	**Pn**	**22 06 56.8**	**-0.5**
JANG	**Nango**	**6.70**	**222**	*e*P	**Pn**	**22 07 02.5**	**-1.4**
JMK	**Ichinoseki**	**7.99**	**217**	*e*P	**Pn**	**22 07 20.1**	**-0.7**
JMK				*e*S	**Sn**	**22 08 43.7**	**-6.9**
PAU	**Pauzhetka**	**8.64**	**43**	*e*P	**Pn**	**22 07 31.3**	**+2.2**
NKL	**Nikolayevsk**	**8.80**	**333**	*e*P	**Pn**	**22 07 32.9**	**+1.8**
PETK	**Petropavlovsk-**	**10.15**	**38**	P	**Pn**	**22 07 47.6**	**-1.2**
	comp=E,2.2nm,0.7s,baz=214,slow=8.3,SNR=6.8						
SEY	**Seymchan**	**17.68**	**8**	P	**P**	**22 09 18.9**	**-1.6**
	comp=E,0.8nm,0.4s,baz=194,slow=7.7,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**30.36**	**141**	T	T	22 42 50.9	
	baz=334,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**30.37**	**142**	T	T	22 42 54.7	
	baz=334,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**30.38**	**141**	T	T	22 42 54.0	
	baz=334,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**31.36**	**143**	T	T	22 44 09.3	
	baz=325,slow=80,SNR=18						
H11S3	**WAKE ISLAND Hy**	**31.36**	**143**	T	T	22 44 05.6	
	baz=325,slow=80,SNR=12						
H11S2	**WAKE ISLAND Hy**	**31.37**	**143**	T	T	22 44 10.6	
	baz=325,slow=80,SNR=8.7						
ILAR	**Eielson Array**	**39.98**	**37**	P	**P**	**22 12 43.5**	**+0.1**
	comp=E,0.7nm,0.9s,baz=275,slow=10,SNR=6.6						
	comp=E,0.7nm,0.9s						
FINES	**FINESS Array B**	**63.38**	**333**	P	**P**	**22 15 35.0**	**-1.3**
	comp=E,1.5nm,0.7s,baz=58,slow=7.6,SNR=7.4						
	comp=E,1.5nm,0.7s						
WRA	**Warramunga Arr**	**66.22**	**193**	P	**P**	**22 15 56.7**	**+1.5**
	comp=E,0.6nm,0.6s,baz=9.3,slow=6.4,SNR=4.6						
	comp=E,0.6nm,0.6s						
NVAR	**Mina Array Bea**	**66.51**	**59**	P	**P**	**22 15 57.1**	**-0.1**
	comp=E,0.6nm,0.6s,baz=305,slow=5.7,SNR=2.3						
	comp=E,0.6nm,0.6s						
NOA	**NORSAR Array B**	**68.01**	**339**	P	**P**	**22 16 04.3**	**-1.8**
	comp=E,0.4nm,0.7s,baz=30,slow=6.7,SNR=4.8						
	comp=E,0.4nm,0.7s						
HFS	**Hagfors**	**68.12**	**337**	P	**P**	**22 16 05.1**	**-1.6**
	comp=E,2.2nm,1.0s,baz=42,slow=4.5,SNR=1.7						
	comp=E,2.2nm,1.0s						
PDAR	**Pinedale Array**	**68.65**	**50**	P	**P**	**22 16 11.9**	**+1.3**
	comp=E,0.6nm,0.5s,baz=350,slow=0.2,SNR=8.5						
	comp=E,0.6nm,0.5s						
ASAR	**Alice Springs**	**69.94**	**193**	P	**P**	**22 16 20.7**	**+2.5**
	comp=E,0.4nm,0.5s,baz=9.0,slow=5.4,SNR=6.5						
	comp=E,0.4nm,0.5s						
SNAA	**Sanae**	**150.19**	**198**	PKPbc	**PKiKP**	**22 24 56.2**	**+0.7**
	comp=E,0.3nm,0.6s,baz=134,slow=1.4,SNR=7.5						
PLCA	**Paso Flores**	**152.09**	**94**	PKPbc	**PKiKP**	**22 25 01.4**	**+1.0**
	comp=E,1.3nm,0.7s,baz=7.6,slow=18,SNR=3.8						

TIR ***22*** *22:06:20.2,41.˚47N×19.˚48E,h51km±61km,Ml2.9/3*
PDG ***22*** *22:06:22.4±0.0,41.˚57N×19.˚67E,h10km,ML3.3/11, Error ellipse: s-maj=0.2km s-min=0.2km az=0.0*

ISC 22 22:06:20.3±0.9**,41.˚44N**±0.˚03×**19.˚60E**±0.˚05**,h14**km±8km**, n17,σ0$89/33,1C-1D,Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.22**	**115**	Pg	**Pg**	**22 06 25.5**	**+0.2**
TIR				Sg	**Sg**	**22 06 27.3**	**-1.3**
TIR				AML	AML	22 06 28.7	
	11nm,0.3s						
TIR				AML	AML	22 06 28.8	
	9.1nm,0.2s						
ULC	**Ulcinj**	**0.58**	**333**	*e*Pg	**Pg**	**22 06 31.7**	**-0.1**
ULC				*i* Sg	**Sb**	**22 06 39.8**	**-0.7**
DRME	**Dracevica, Mon**	**0.81**	**338**	⇑*i*Pg	**Pb**	**22 06 35.6**	**-0.5**
DRME				*i* Sg	**Sg**	**22 06 46.9**	**+0.3**
VLO	**Vlora**	**0.97**	**185**	Pg	**Pb**	**22 06 38.9**	**-0.1**
VLO				Sg	**Sg**	**22 06 52.9**	**+1.0**
VLO				AML	AML	22 07 02.7	
	1.1nm,0.4s						
BUM	**Brajici-Budva**	**1.01**	**329**	⇓*i*Pg	**Pb**	**22 06 39.6**	**0.0**
BUM				*i* Sg	**Sn**	**22 06 54.1**	**0.0**
PDG	**Podgorica**	**1.02**	**346**	*e*Pg	**Pb**	**22 06 39.2**	**-0.6**
PDG				*i* Sg	**Sg**	**22 06 53.5**	**+0.1**
CEME	**Cevo**	**1.22**	**336**	*e*Pg	**Pb**	**22 06 43.0**	**-0.1**
CEME				*i* Sg	**Sg**	**22 07 00.8**	**+1.2**
KBN	**Korca**	**1.22**	**132**	Pn	**Pn**	**22 06 43.5**	**+0.5**
KBN				Sn	**Sn**	**22 07 00.6**	**+1.4**
HCY	**Herceg Novi**	**1.30**	**321**	*e*Pg	**Pg**	**22 06 45.1**	**-0.2**
HCY				*i* Sg	**Sg**	**22 07 04.6**	**+2.3**
NKME	**Niksic**	**1.41**	**340**	*e*Pg	**Pb**	**22 06 46.5**	**+0.1**
NKME				*i* Sg	**Sg**	**22 07 06.9**	**+1.1**
KOME	**Kolasin**	**1.41**	**358**	*e*Pg	**Pn**	**22 06 46.0**	**+0.3**
KOME				*i* Sg	**Sg**	**22 07 06.2**	**+0.4**
IVA	**Berane**	**1.45**	**9**	*e*Pg	**Pn**	**22 06 46.5**	**+0.3**
IVA				*i* Sg	**Sg**	**22 07 07.1**	**+0.1**
BRY	**Bratogost**	**1.66**	**332**	*e*Pg	**Pb**	**22 06 51.3**	**+0.6**
BRY				*i* Sg	**Sg**	**22 07 14.3**	**+0.6**
UPM	**Unac-Piva**	**1.83**	**344**	*e*Pn	**Pb**	**22 06 53.4**	**-0.4**
UPM				*i* Sn	**Sg**	**22 07 18.1**	**-1.3**
IGT	**Igoumenitsa**	**1.99**	**163**	Pn	**Pn**	**22 06 54.6**	**+1.1**
IGT				Sn	**Sn**	**22 07 17.0**	**-1.2**
NOCI	**Noci**	**2.02**	**252**	Pn	**Pn**	**22 06 54.1**	**+0.1**
NOCI				Sn	**Sn**	**22 07 17.3**	**-1.8**
NOCI				AML	AML	22 07 31.2	
	0.2nm,0.3s						
NOCI				AML	AML	22 07 35.8	
	0.2nm,0.4s						
LKD2	**Lefkada island**	**2.77**	**163**	Pn	**Pn**	**22 07 04.0**	**-0.3**

JSN ***22*** *22:11:20.0±0.3,18.˚18N×76.˚59W,h12km±9km,MD2.5*
SSNC ***22*** *22:11:22.5±1.9,18.˚33N×76.˚64W,h18km±13km,MD3.0, ML2.1*

ISC 22 22:11:15.9±1.7**,18.˚31N**±0.˚06×**76.˚54W

ANIG Ahuacatlan 2.65 350 eP Pn 22 13 07.8 -0.2
ANIG eS Sn 22 13 40.0 -0.7
MOIG Morelia 2.96 65 Pn 22 13 12.8 +0.5
MOIG Morelia 2.96 65 eP Pn 22 13 13.1 +0.8
MOIG eS Sb 22 13 51.8 -2.6
IGIG Irapuato, Guan 3.44 47 Pn 22 13 21.9 +3.0
IGIG Sn 22 14 01.6 +1.3
IGIG Irapuato, Guan 3.44 47 eP Pn 22 13 21.9 +3.0
IGIG eS Sn 22 14 01.6 +1.3
ARIG Puente Sto Nin 3.50 92 Pn 22 13 21.2 +1.7
ARIG Sb 22 14 07.6 -2.2
ARIG Puente Sto Nin 3.50 92 eP Pn 22 13 21.2 +1.7
ARIG eS Sb 22 14 07.6 -2.2
ATYC Atoyac 3.63 109 Sn 22 14 03.8 -0.9
ATYC Atoyac 3.63 109 eS Sn 22 14 03.8 -0.9
CAIG El Cayaco 3.84 110 Pn 22 13 24.7 +0.5
CAIG Sn 22 14 08.1 -1.7
CAIG El Cayaco 3.84 110 eP Pn 22 13 24.7 +0.5
CAIG eS Sn 22 14 08.1 -1.7
AAIG Aguscalientes 3.85 23 Pn 22 13 25.6 +1.1
AAIG Sn 22 14 07.4 -2.9
AAIG Aguscalientes 3.85 23 eP Pn 22 13 25.6 +1.1
AAIG eS Sn 22 14 07.4 -2.9
JRQG Juriquilla Cam 4.07 56 Pn 22 13 26.4 -1.2
JRQG Juriquilla Cam 4.07 56 e Pb 22 13 37.5 +0.9
JRQG e 22 14 23.3
TOVM TOLUCA 4.21 78 Pn 22 13 34.2 +4.6
TOVM Sn 22 14 20.9 +1.6
TOVM TOLUCA 4.21 78 eP Pn 22 13 34.2 +4.6
TOVM eS Sn 22 14 20.9 +1.6
MEIG Mezcala 4.22 96 Pn 22 13 32.3 +2.8
MEIG Sn 22 14 20.1 +0.8
MEIG Mezcala 4.22 96 eP Pn 22 13 32.3 +2.8
MEIG eS Sn 22 14 20.1 +0.8
ACP2 Acapulco 4.24 111 e Sn 22 14 10.4 -9.3
DAIG Los Arroyos 4.40 108 Pn 22 13 34.3 +2.3
DAIG Sn 22 14 21.1 -2.5
DAIG Los Arroyos 4.40 108 eP Pn 22 13 34.3 +2.3
DAIG eS Sn 22 14 21.1 -2.5
INVM La Marquesa 4.48 78 e Pn 22 13 36.9 +3.5
INVM e 22 14 36.7
ZAIG Zacatecas 4.53 17 Pn 22 13 33.6 -0.4
ZAIG Zacatecas 4.53 17 eP Pn 22 13 35.0 +1.1
ZAIG eS Sn 22 14 28.8 +1.5
AOVM Tlapan 4.54 79 Pn 22 13 38.6 +4.4
AOVM Sn 22 14 29.8 +2.1
AOVM Tlapan 4.54 79 eP Pn 22 13 38.6 +4.4
AOVM eS Sn 22 14 29.8 +2.1
CJVM Cuajimalpa 4.59 78 e Pb 22 13 40.5 -5.0
CJVM e 22 14 36.6
MHVM Bosque de Chap 4.67 77 e Pb 22 13 43.2 -3.7
MHVM e 22 14 32.2
CUP5 Mexico City 4.68 78 Sn 22 14 32.2 +1.4
CUP5 Mexico City 4.68 78 eS Sn 22 14 32.2 +1.4
UNM Universidad Na 4.68 78 eP Pn 22 13 35.5 -0.5
UNM eS Sb 22 14 38.2 -5.8
APVM Azcapotzalco 4.68 76 Pn 22 13 40.7 +4.7
APVM Sn 22 14 34.4 +3.4
APVM Azcapotzalco 4.68 76 eP Pn 22 13 40.7 +4.7
APVM eS Sn 22 14 34.4 +3.4
TLVM San Miguel Top 4.68 80 Pn 22 13 40.6 +4.5
TLVM Sn 22 14 33.1 +2.0
TLVM San Miguel Top 4.68 80 eP Pn 22 13 40.6 +4.5
TLVM eS Sn 22 14 33.1 +2.0
BJVM Benito Juarez 4.70 78 Sn 22 14 33.2 +1.9
BJVM Benito Juarez 4.70 78 eS Sn 22 14 33.2 +1.9
COVM Coyoacan 4.71 78 e Sn 22 14 37.3 +6.2
COVM e 22 14 40.4
XCVM Xochimilco 4.72 79 eP Pb 22 13 43.0 -4.9
XCVM e 22 14 43.3
YAIG Yautepec 4.73 84 Pn 22 13 38.9 +2.4
YAIG Sn 22 14 27.2 -4.6
YAIG Yautepec 4.73 84 eP Pn 22 13 38.9 +2.4
YAIG eS Sn 22 14 27.2 -4.6
PBVM Pinon 4.79 77 Pn 22 13 37.9 +0.7
PBVM Sn 22 14 34.6 +1.4
PBVM Pinon 4.79 77 eP Pn 22 13 37.9 +0.7
PBVM eS Sn 22 14 34.6 +1.4
PTVM Pico Tres Padr 4.79 75 Pn 22 13 39.8 +2.2
PTVM Sn 22 14 35.8 +2.1
PTVM Pico Tres Padr 4.79 75 eP Pn 22 13 39.8 +2.2
PTVM eS Sn 22 14 35.8 +2.1
MPVM San Francisco 4.82 80 Pn 22 13 41.8 +4.0
MPVM Sn 22 14 37.5 +3.3
MPVM San Francisco 4.82 80 eP Pn 22 13 41.8 +4.0
MPVM eS Sn 22 14 37.5 +3.3
THVM De Xico 4.87 79 Pn 22 13 39.6 +1.1
THVM Sn 22 14 34.2 -1.4
THVM De Xico 4.87 79 eP Pn 22 13 39.6 +1.1
THVM eS Sn 22 14 34.2 -1.4
ZUVM ZUMPANGO 4.88 73 eP Pn 22 13 44.1 +5.3
ZUVM e 22 14 45.5
TXVM Universitario 4.94 77 e Sn 22 14 49.7 +12
CRIG Cruz Grande 4.97 109 Pn 22 13 42.0 +2.4
CRIG Sn 22 14 33.6 -4.0
CRIG Cruz Grande 4.97 109 eP Pn 22 13 42.0 +2.4
CRIG eS Sn 22 14 33.6 -4.0
AMVM AMECAMECA 5.02 81 e Pn 22 13 34.0 -6.6
AMVM e 22 14 43.4
PBXN Popocatepetl 5.12 83 eP Pn 22 13 47.2 +4.9
PBXN eS Sn 22 14 45.0 +2.8
RPIG Rio Verde 5.13 47 Pn 22 13 44.0 +2.1
RPIG Rio Verde 5.13 47 eP Pn 22 13 44.0 +2.1
RPIG e 22 14 56.6
VTVM Tizayuca 5.15 74 eP Pn 22 13 46.4 +4.0
VTVM e 22 14 46.8
PPCL Tochimilco 5.15 84 eP Pn 22 13 46.9 +4.4
PPCL eS Sn 22 14 46.5 +3.9
PPPT Popocatepetl 5.15 83 eP Pn 22 13 47.4 +4.7
PPPT eS Sn 22 14 45.3 +2.4
PBPN Popocatepetl 5.16 82 eP Pn 22 13 46.2 +3.5
PBPN eS Sn 22 14 46.1 +3.1
HMTT Tlapaneco 5.24 96 e Sn 22 14 55.8 +11
MAIG Mazatlaan 5.24 335 eP Pn 22 13 44.4 +1.0
TLIG Tlapa 5.27 99 Pn 22 13 45.7 +1.8
TLIG Tlapa 5.27 99 eP Pn 22 13 46.6 +2.6
TLIG eS Sn 22 14 42.8 -2.4
PPSX Xalitzintla 5.27 82 eP Pn 22 13 43.0 -1.2
PPSX eS Sn 22 14 43.1 -2.4
FTIG Fresnillo de T 5.63 94 Pn 22 13 50.9 +2.0
FTIG Sn 22 14 52.0 -2.2
FTIG Fresnillo de T 5.63 94 eP Pn 22 13 50.9 +2.0
FTIG eS Sn 22 14 52.0 -2.2
HLIG Huajuapan de L 5.95 95 Pn 22 13 55.9 +2.5
HLIG Sn 22 15 01.0 -1.2
HLIG Huajuapan de L 5.95 95 eP Pn 22 13 55.9 +2.5
HLIG eS Sn 22 15 01.0 -1.2
TXIG Tlaxiaco 6.08 100 e Pn 22 13 57.5 +2.3
TXIG e 22 15 20.6
CXUV Coxquihui 6.33 73 e Pn 22 14 01.3 +3.0
CXUV e 22 15 23.6
TPIG Tehuac#an 6.33 89 Pn 22 13 57.0 -1.6
TPIG Sn 22 15 13.0 +1.6
TPIG Tehuac#an 6.33 89 eP Pn 22 13 57.0 -1.6
TPIG eS Sn 22 15 13.0 +1.6
YOIG Yosondua 6.38 103 Pn 22 14 01.4 +2.1
YOIG Sn 22 15 10.8 -1.9
YOIG Yosondua 6.38 103 eP Pn 22 14 01.4 +2.1
YOIG eS Sn 22 15 10.8 -1.9
GTIG Gomez Farias 6.48 44 Pn 22 14 01.1 +0.6
GTIG Sn 22 15 18.9 +4.0
GTIG Gomez Farias 6.48 44 eP Pn 22 14 01.1 +0.6
GTIG eS Sn 22 15 18.9 +4.0
TOIG Toxpalan 6.63 92 Pn 22 14 05.0 +2.4
TOIG Sn 22 15 13.4 -5.3
TOIG Toxpalan 6.63 92 eP Pn 22 14 05.0 +2.4
TOIG eS Sn 22 15 13.4 -5.3
PDIG Papasquiaro 6.70 349 Pn 22 14 07.4 +3.7
PDIG Sn 22 15 21.0 +0.3
PDIG Papasquiaro 6.70 349 eP Pn 22 14 07.4 +3.7
PDIG eS Sn 22 15 21.0 +0.3
JAUV Jalcomulco 6.91 81 Pn 22 14 08.7 +2.4
JAUV Sn 22 15 26.1 +0.7
JAUV Jalcomulco 6.91 81 eP Pn 22 14 08.7 +2.4
JAUV eS Sn 22 15 26.1 +0.7
PEIG Puerto Escondi 7.01 109 Pn 22 14 09.7 +2.0
PEIG Sn 22 15 22.2 -5.7
PEIG Puerto Escondi 7.01 109 eP Pn 22 14 09.7 +2.0
PEIG eS Sn 22 15 22.2 -5.7

OXIG Oaxaca 7.08 100 Pn 22 14 08.8 -0.2
OXIG Sn 22 15 28.7 -1.3
VHO Vista Hermosa 7.08 100 eP Pn 22 14 08.8 -0.2
VHO eS Sn 22 15 28.7 -1.3
LVIG Laguna Verde 7.31 79 eP Pn 22 14 12.1 +0.2
LNIG Linares 7.71 33 eP Pn 22 14 18.9 +1.5
LNIG e 22 15 51.9
NEUV Arroyo Zacate 7.86 94 Pn 22 14 22.2 +2.8
NEUV Sn 22 15 47.6 -1.2
NEUV Arroyo Zacate 7.86 94 eP Pn 22 14 22.2 +2.8
NEUV eS Sn 22 15 47.6 -1.2
HUIG Huatulco 8.02 108 e Sn 22 15 55.1 +2.2
LPIG La Paz 8.13 315 Pn Pn 22 14 26.3 +3.1
6.2nm,0.3s,baz=180,slow=5.0,SNR=2.1
LPIG LR LR 22 16 54.5
comp=Z,731nm,19.0s,baz=131,slow=33
13nm,0.3s
HPIG 8.60 350 Pn Pn 22 14 31.6 +1.8
HPIG 8.60 350 eP Pn 22 14 32.1 +2.3
HPIG eS Sn 22 16 10.4 +3.0
CMIG Matias Romero 8.81 97 Pn 22 14 33.4 +0.8
CMIG Matias Romero 8.81 97 Pn Pn 22 14 35.6 +3.1
1.2nm,0.3s,baz=296,slow=13,SNR=9.5
CMIG Sn Sn 22 16 12.4 -0.1
0.6nm,0.3s,baz=289,slow=12,SNR=4.1
CMIG Lg Lg 22 16 51.8
1.1nm,0.3s,baz=152,slow=20,SNR=6.3
CMIG Matias Romero 8.81 97 eP Pn 22 14 33.4 +0.8
CMIG eS Sn 22 16 17.5 +5.1
UXUV UXUV 9.48 95 Pn 22 14 43.4 +1.8
UXUV Sn 22 16 27.5 -1.2
UXUV UXUV 9.48 95 eP Pn 22 14 43.4 +1.8
UXUV eS Sn 22 16 27.5 -1.2
MCIG Muzquiz 9.69 14 e Pn 22 14 47.1 +2.5
MCIG e 22 16 44.3
PCIG 10.69 103 Pn 22 15 01.9 +3.7
PCIG Sn 22 16 54.5 -3.9
PCIG 10.69 103 eP Pn 22 15 01.9 +3.7
PCIG eS Sn 22 16 54.5 -3.9
TXAR Lajitas Array 10.86 2 Pn Pn 22 15 01.3 +0.6
TXAR Lajitas Array 10.86 2 Pn Pn 22 15 03.7 +3.0
0.2nm,0.3s,baz=190,slow=12,SNR=70
TXAR Lg Lg 22 18 05.0
0.2nm,0.3s,baz=182,slow=30,SNR=4.1
7.8nm,0.9s
TX31 Lajitas Ar. Si 10.86 2 Pn Pn 22 15 01.2 +0.5
DRIO Del Rio 11.38 15 Pn Pn 22 15 08.6 +0.9
CCIG Comitan 11.55 99 Pn Pn 22 15 12.7 +2.4
CCIG Comitan 11.55 99 eP Pn 22 15 10.8 +0.5
CCIG eS Sn 22 17 26.2 +6.3
PAVE Pavencul 11.80 104 eP Pn 22 15 17.9 +4.3
HNDO Hondo 11.87 21 Pn Pn 22 15 14.9 +0.5
CHUJ Union Juarez 11.89 104 eP Pn 22 15 18.9 +4.0
ALPN Alpine 11.90 2 Pn Pn 22 15 16.3 +1.4
VHRN Van Horn 12.34 356 Pn 22 15 21.8 +0.9
JCT Junction City 12.60 17 Pn Pn 22 15 23.7 -0.7
OZNA Ozona 12.72 11 Pn Pn 22 15 25.0 -1.0
PECS Pecos 12.89 1 Pn Pn 22 15 28.6 +0.3
MNHN Monahans 12.91 5 Pn Pn 22 15 28.4 -0.2
MNTX Cornudas Mount 13.27 355 Pn 22 15 33.3 -0.2
BRDY Brady 13.59 19 Pn 22 15 37.1 -0.8
CLN7 Carlsbad 7 13.93 1 Pn 22 15 43.5 +0.9
121A Cookes Peak, D 14.45 347 Pn 22 15 51.7 +1.9
CPRX Cap Rock 14.54 1 Pn Pn 22 15 50.5 -0.6
ESQI Esquipulas 14.60 103 Pn Pn 22 15 53.3 +1.4
MTO3 Montecristo 14.63 104 Pn Pn 22 15 53.7 +1.3
ABTX Abilene, Hawle 14.68 15 Pn Pn 22 15 51.1 -1.7
POST Post 14.76 8 Pn Pn 22 15 53.2 -0.7
DUN6 Lazy B Ranch 14.79 343 Pn 22 15 54.2 -0.1
SN07 Snyder 07 14.87 10 Pn 22 15 53.0 -2.4
FW13 Cleburne 15.09 22 Pn 22 15 56.0 -2.3
TUC Tucson 15.11 338 Pn Pn 22 15 57.7 -0.9
PLPT Palo Pinto 15.22 19 IAmb IAmb 22 16 05.4
comp=Z,21nm,0.8s
APMT Aspermont 15.25 13 IAmb IAmb 22 16 22.0
comp=Z,19nm,0.9s
DKNS Dickens 15.43 10 IAmb IAmb 22 16 08.4
comp=Z,32nm,1.1s
MSTX Muleshoe 15.52 4 IAmb IAmb 22 16 10.3
comp=Z,48nm,0.9s
FW06 Azle 15.61 21 IAmb IAmb 22 16 28.8
comp=Z,33nm,0.9s
PIX Pinacate 15.61 329 IAmb IAmb 22 16 13.8
comp=Z,22nm,0.8s
LENM Lemitar 15.89 351 Pn Pn 22 16 09.5 +0.5
Z35A Perchaven, San 16.04 21 Pn Pn 22 16 10.2 -0.6
Z35A IAmb IAmb 22 16 31.3
comp=Z,37nm,1.0s
ANMO Albuquerque 16.59 353 Pn Pn 22 16 17.2 -0.8
ANMO Albuquerque 16.59 353 Pn Pn 22 16 18.3 +0.2
comp=Z,0.2nm,0.3s,baz=250,slow=11,SNR=43
ANMO Lg Lg 22 21 09.8
comp=Z,0.1nm,0.3s,baz=332,slow=9.6,SNR=5.2
ANMO LR LR 22 23 26.8
comp=Z,753nm,19.6s,baz=264,slow=40
comp=Z,8.9nm,1.0s
TGUH Tegucigalpa,Un 16.66 103 Pn Pn 22 16 18.1 -0.9
TGUH IAmb IAmb 22 16 26.0
comp=Z,35nm,1.0s
SMWD Sannorwood 16.95 11 IAmb IAmb 22 16 40.7
comp=Z,35nm,1.3s
X34A Smith Ranch, M 17.03 18 IAmb IAmb 22 16 38.1
comp=Z,41nm,1.1s
CSTR Hydro, Custer 17.79 14 P Pn 22 16 32.4 -0.5
RTBA Rita Blanca 17.98 3 IAmb IAmb 22 16 38.8
comp=Z,32nm,1.0s
MIAR Mount Ida 18.56 28 P 22 16 41.3 -0.8
PFO Pinyon Flats O 18.77 326 Pn 22 16 45.4 +0.4
PFO Pinyon Flats O 18.77 326 P Pn 22 16 47.6 +2.6
comp=Z,0.1nm,0.3s,baz=131,slow=8.0,SNR=19
PFO LR LR 22 23 24.7
comp=Z,289nm,18.1s,baz=160,slow=35
comp=Z,11nm,0.9s
NEE2 Needles Airpor 18.81 332 IAmb IAmb 22 16 49.4
comp=Z,18nm,0.9s
QUOK Quay 18.82 19 P P 22 16 43.8 -1.2
QUOK IAmb IAmb 22 17 07.1
comp=Z,51nm,1.4s
DNR Dunn Ranch,Anz 18.83 326 IAmb IAmb 22 16 49.9
comp=Z,20nm,1.0s
TUL3 Leonard 18.88 21 IAmb IAmb 22 17 07.9
comp=Z,23nm,1.0s
DANC Danby, Needles 19.05 330 IAmb IAmb 22 16 53.2
comp=Z,22nm,1.0s
SIUN Universidad Ur 19.08 101 IAmb IAmb 22 16 53.4
comp=Z,5.9nm,1.1s
OK051 E0350 and S346 19.09 18 P P 22 16 47.9 -0.1
OK051 IAmb IAmb 22 16 56.5
comp=Z,29nm,1.2s
KAN14 Manchester OK 19.22 15 IAmb IAmb 22 16 57.9
comp=Z,30nm,1.2s
UALR University of 19.32 30 IAmb IAmb 22 17 14.2
comp=Z,27nm,1.3s
T35A Sooner Cattle 19.57 18 P 22 16 51.6 -1.6
T35A IAmb IAmb 22 17 09.2
comp=Z,39nm,1.3s
WHAR Wooly Hollow 19.77 29 IAmb IAmb 22 16 57.5
comp=Z,18nm,0.9s
KNB Kanab 20.07 339 IAmb IAmb 22 17 14.8
comp=Z,20nm,1.3s
PV05 Paradox Valley 20.07 348 IAmb IAmb 22 17 04.5
comp=Z,29nm,0.9s
PV13 Radium Mtn., P 20.10 349 IAmb IAmb 22 17 04.3
comp=Z,22nm,0.9s
MWC Mount Wilson 20.10 324 IAmb IAmb 22 17 02.9
comp=Z,16nm,0.9s
PV02 Paradox Valley 20.13 349 IAmb IAmb 22 17 04.8
comp=Z,30nm,0.9s
PASC Pasadena Art C 20.14 324 IAmb IAmb 22 17 06.4
comp=Z,19nm,1.2s
PV03 Paradox Valley 20.20 349 P P 22 16 58.6 -1.7
PV03 IAmb IAmb 22 17 04.8
comp=Z,18nm,0.8s
PV18 Skein Mesa, Pa 20.20 349 IAmb IAmb 22 17 05.0
comp=Z,41nm,0.9s
PV15 Paradox Valley 20.22 350 P P 22 17 00.3 -0.3
PV17 East Wray Mesa 20.24 349 IAmb IAmb 22 17 05.5
comp=Z,21nm,0.8s
PV11 David Mesa, Pa 20.25 349 IAmb IAmb 22 17 09.4
comp=Z,15nm,0.8s
PV12 Saucer Basin, 20.25 349 IAmb IAmb 22 17 05.8
comp=Z,35nm,0.9s
PV16 Nyswonger Mesa 20.27 349 IAmb IAmb 22 17 05.8
comp=Z,18nm,0.9s
GSC Goldstone, Bar 20.27 329 IAmb IAmb 22 17 08.8
comp=Z,17nm,0.9s
PV19 Morning Glory 20.28 349 IAmb IAmb 22 17 05.8
comp=Z,44nm,0.9s
PV20 West Nyswonger 20.30 349 P P 22 17 00.2 -1.2
PV20 IAmb IAmb 22 17 06.1
comp=Z,43nm,0.9s
HMU Henry Mountain 20.31 345 IAmb IAmb 22 17 09.3
comp=Z,35nm,1.0s
PV04 Paradox Valley 20.34 349 IAmb IAmb 22 17 06.8
comp=Z,24nm,0.9s
PV14 Lion Creek, Pa 20.35 349 IAmb IAmb 22 17 06.6
comp=Z,21nm,0.9s
PV23 Carpenter Ridg 20.42 349 IAmb IAmb 22 17 23.4
comp=Z,36nm,1.0s
R32A Long Quarter, 20.46 12 P 22 17 01.5 -1.4
R32A IAmb IAmb 22 17 07.2
comp=Z,28nm,1.0s
PV22 Blue Mesa, Par 20.46 349 P 22 17 01.2 -2.0
PV22 IAmb IAmb 22 17 08.1
comp=Z,15nm,0.9s
SHOC Shoshone, Teco 20.50 331 IAmb IAmb 22 17 07.6
comp=Z,33nm,1.0s
SHPR Sheep Range 20.51 334 P P 22 17 03.1 -0.5
PV21 Cone Mtn., Par 20.52 349 IAmb IAmb 22 17 07.0
comp=Z,17nm,0.9s
OXF Oxford 20.65 36 P 22 17 03.1 -1.8
OXF IAmb IAmb 22 17 04.9
comp=Z,32nm,1.1s
CBKS Cedar Bluff 20.66 10 P P 22 17 03.2 -1.9
CBKS IAmb IAmb 22 17 09.3
comp=Z,18nm,0.8s
TPO Tropico Hills 20.68 325 P P 22 17 06.7 +1.2
TPO IAmb IAmb 22 17 21.1
comp=Z,71nm,1.4s
CCCA Chr Cany lake 20.73 328 IAmb IAmb 22 17 09.8
comp=Z,42nm,1.0s
QSM Queen of Sheba 20.83 330 IAmb IAmb 22 17 13.8
comp=Z,22nm,0.9s
WSHM Spangler Hills 20.85 328 IAmb IAmb 22 17 10.8
comp=Z,30nm,1.0s
LRMC Laurel Mtn Rad 20.86 327 IAmb IAmb 22 17 10.9
comp=Z,20nm,1.1s
GWY Greenwater Val 20.92 330 IAmb IAmb 22 17 12.0
comp=Z,20nm,1.0s
MPMC Manual Prospec 21.21 329 IAmb IAmb 22 17 15.2
comp=Z,15nm,0.9s
Q16A Castle Valley 21.34 345 IAmb IAmb 22 17 19.0
comp=Z,19nm,1.0s
TPNV Topopah Spring 21.35 332 IAmb IAmb 22 17 17.2
comp=Z,36nm,0.8s
ISA Isabella, Lake 21.41 326 IAmb IAmb 22 17 19.9
comp=Z,23nm,0.9s
TMUT Trail Mountain 21.71 345 IAmb IAmb 22 17 21.9
comp=Z,32nm,1.0s
S11A Rachel 21.72 334 IAmb IAmb 22 17 24.0
comp=Z,20nm,0.9s
PLAL Pickwick Lake 21.75 38 IAmb IAmb 22 17 43.5
comp=Z,16nm,1.1s
P17A Butcher Ranch, 21.76 346 IAmb IAmb 22 17 21.8
comp=Z,12nm,0.8s
CWC Cottonwood Cre 21.80 328 IAmb IAmb 22 17 22.9
comp=Z,14nm,1.1s
O20A White River Ci 21.94 351 IAmb IAmb 22 17 47.8
comp=Z,20nm,1.4s
GMN Gold Mountain 22.10 331 IAmb IAmb 22 17 25.6
comp=Z,21nm,1.0s
R40A Maddies Statio 22.30 25 P P 22 17 21.4 -1.3
DSP Deep Springs 22.49 330 IAmb IAmb 22 17 29.2
comp=Z,14nm,1.0s
CCM Cathedral Cave 22.52 27 P 22 17 23.1 -2.0
CCM IAmb IAmb 22 17 49.4
comp=Z,17nm,1.4s
TIGA Tifton 22.57 51 P P 22 17 23.4 -2.2
TIGA IAmb IAmb 22 17 26.2
comp=Z,28nm,0.8s
WVT Waverly 22.71 36 P P 22 17 23.8 -3.3
TPH Tonopah 22.72 332 IAmb IAmb 22 17 31.5
comp=Z,20nm,1.0s
V48A Smith Brothers 23.01 38 IAmb IAmb 22 18 03.9
comp=Z,11nm,1.1s
MDPB Devils Postpil 23.23 328 IAmb IAmb 22 17 36.5
comp=Z,22nm,1.0s
NV11 Mina Array Sit 23.43 331 IAmb IAmb 22 17 38.8
comp=Z,30nm,1.1s
LHV Little Huntoon 23.45 330 IAmb IAmb 22 17 44.2
comp=Z,11nm,1.0s
P40A Paris 23.45 24 IAmb IAmb 22 17 35.0
comp=Z,15nm,0.9s
NVAR Mina Array Bea 23.50 331 P 22 17 36.3 +0.8
NVAR Mina Array Bea 23.50 331 P P 22 17 37.4 +1.9
comp=Z,7.4nm,0.9s,baz=151,slow=9.6,SNR=39
NVAR LR LR 22 27 25.2
comp=Z,208nm,18.1s,baz=132,slow=38
comp=Z,7.4nm,0.9s
Y52A Lilburn 23.55 45 P P 22 17 33.1 -2.7
Y52A IAmb IAmb 22 17 34.7
comp=Z,17nm,1.0s
GOGA Godfrey 23.70 47 P P 22 17 34.5 -2.7
GOGA IAmb IAmb 22 17 36.0
comp=Z,11nm,0.7s
T47A Sharon Grove 23.73 35 IAmb IAmb 22 17 44.8
comp=Z,10nm,0.8s
RYN Ryan 23.76 331 IAmb IAmb 22 17 41.1
comp=Z,25nm,1.2s
BUCR Buckhorn Ranch 23.81 327 IAmb IAmb 22 17 41.7
comp=Z,16nm,1.5s
HWUT Hardware Ranch 23.99 346 IAmb IAmb 22 17 42.6
comp=Z,9.1nm,0.9s
WAKR Walker 24.09 329 IAmb IAmb 22 17 45.7
comp=Z,16nm,1.0s
N38A Joes South For 24.14 20 IAmb IAmb 22 17 41.4
comp=Z,12nm,0.7s
Q44A Meyer Farm, Va 24.22 30 IAmb IAmb 22 18 10.1
comp=Z,23nm,1.0s
ELK Elko 24.24 339 LR LR 22 27 16.8
comp=Z,237nm,18.7s,baz=156,slow=37
L34A Svendsen Farm, 24.36 14 IAmb IAmb 22 17 43.5
comp=Z,19nm,1.0s
OLIL Olney 24.53 31 IAmb IAmb 22 18 13.4
comp=Z,18nm,1.1s
WELL Weller Preserv 24.68 327 IAmb IAmb 22 17 50.6
comp=Z,16nm,0.9s
PDAR Pinedale Array 24.71 350 P P 22 17 48.3 +1.4
comp=Z,1.8nm,0.7s,baz=169,slow=9.5,SNR=21
PDAR PcP PcP 22 21 24.2 +0.2
comp=Z,0.7nm,0.9s,baz=151,slow=3.3,SNR=3.4
PDAR LR LR 22 28 45.2
comp=Z,231nm,19.9s,baz=172,slow=40
comp=Z,1.8nm,0.7s
TKL Tuckaleechee C 24.82 42 LR LR 22 30 01.0
comp=Z,131nm,20.2s,baz=244,slow=43
BG3 Lake Jocassee 24.97 44 P P 22 17 48.3 -0.7
BG3 IAmb IAmb 22 18 29.6
comp=Z,23nm,1.4s
PAHR Pah Rah Range 25.02 331 IAmb IAmb 22 17 54.5
comp=Z,10nm,0.9s
T50A Nancy 25.05 38 IAmb IAmb 22 18 25.1
comp=Z,9.5nm,1.0s
WCI Wyandotte Cave 25.07 34 P P 22 17 48.3 -1.6
WCI IAmb IAmb 22 17 51.5
comp=Z,12nm,0.8s
MTDJ Mount Denham 25.15 86 P P 22 17 50.6 -0.2
V53A Saluda 25.45 43 P P 22 17 52.7 -0.6
V53A IAmb IAmb 22 17 56.2
comp=Z,9.9nm,1.0s
SNOW Snow King Moun 25.60 349 IAmb IAmb 22 17 58.7
comp=Z,7.1nm,0.9s
BEKR Beckworth 25.61 330 IAmb IAmb 22 17 58.1
comp=Z,23nm,0.9s
RSSD Black Hills 25.62 360 P 22 17 53.6 -1.4
TPAW Teton Pass 25.66 348 IAmb IAmb 22 17 59.5
comp=Z,13nm,0.9s
LOHW Long Hollow 25.71 349 IAmb IAmb 22 17 59.7
comp=Z,8.2nm,0.8s
ECSD EROS Data Cent 25.99 12 IAmb IAmb 22 18 30.5
comp=Z,9.6nm,1.2s
YPP Pitchstone Pla 26.39 349 IAmb IAmb 22 18 02.5
comp=Z,12nm,0.8s
YFT Old Faithful 26.57 349 IAmb IAmb 22 18 13.3
comp=Z,12nm,0.5s
O03E Paynes Creek 26.64 329 IAmb IAmb 22 18 07.9
comp=Z,14nm,0.9s
Q51A Peebles 27.27 37 PcP PcP 22 21 29.3 -0.3
J08A Circle Bar Ran 27.69 337 IAmb IAmb 22 18 15.7
comp=Z,6.8nm,0.9s
KHMM Horse Mountain 28.04 327 IAmb IAmb 22 18 20.5
comp=Z,23nm,1.0s

YBH Yreka Blue Hor 28.18 329 LR LR 22 28 08.8
comp=Z,6.1nm,20.4s,baz=172,slow=33
PLID Pearl Lake 28.40 342 IAmb IAmb 22 18 21.4
comp=Z,5.8nm,0.9s
BMO Blue Mountains 28.59 340 IAmb IAmb 22 18 23.1
comp=Z,5.8nm,0.9s
KRMB Red Mountain 28.61 328 IAmb IAmb 22 18 24.8
comp=Z,18nm,1.1s
J05D Fort Rock, OR 28.73 333 IAmb IAmb 22 18 25.1
comp=Z,8.5nm,1.0s
KSXB Camp Six Broad 28.82 328 IAmb IAmb 22 18 27.1
comp=Z,18nm,1.0s
G08A Pilot Rock 29.53 338 IAmb IAmb 22 18 31.5
comp=Z,13nm,1.3s
F10A Beach Ranch, E 29.57 341 IAmb IAmb 22 18 33.0
comp=Z,13nm,1.1s
WIFE Three Sisters- 29.61 334 IAmb IAmb 22 18 33.1
comp=Z,21nm,1.0s
AGMN Agassiz Nation 30.53 11 IAmb IAmb 22 18 38.4
comp=Z,7.3nm,0.8s
SDDR Presa de Saban 31.00 84 P P 22 18 44.3 +1.1
SDDR IAmb IAmb 22 18 45.4
comp=Z,12nm,0.8s
NEW Newport 31.61 343 LR LR 22 32 08.5
comp=Z,119nm,18.0s,baz=167,slow=38
LTY Liberty 31.83 338 IAmb IAmb 22 18 52.4
comp=Z,11nm,1.0s
EPLO Experimental L 32.26 13 IAmb IAmb 22 18 53.4
comp=Z,8.3nm,0.8s
B08A Colville Reser 32.35 341 IAmb IAmb 22 18 56.5
comp=Z,14nm,1.2s
ULM Lac du Bonnet 32.41 10 P P 22 18 53.5 -1.7
comp=Z,4.1nm,0.9s,baz=196,slow=7.8,SNR=4.2
ULM LR LR 22 31 48.4
comp=Z,93nm,21.1s,baz=196,slow=36
comp=Z,4.1nm,0.9s
SADO Sadowa 33.49 33 LR LR 22 35 06.4
comp=Z,592nm,18.5s,baz=263,slow=41
ATAH Atahualpa 35.84 133 LR LR 22 32 01.8
comp=Z,99nm,18.6s,baz=316,slow=33
SJG San Juan 35.93 84 P P 22 19 25.7 -0.3
SJG San Juan 35.93 84 LR LR 22 35 02.5
comp=Z,120nm,19.1s,baz=323,slow=38
PDPR Patillas Dam, 36.06 85 P P 22 19 26.5 -0.7
PDPR IAmb IAmb 22 19 28.0
comp=Z,16nm,0.9s
PCRV Puerto La Cruz 38.98 97 LR LR 22 37 43.4
comp=Z,88nm,18.2s,slow=39
T35M Bob Quinn 43.18 339 IAmb IAmb 22 20 31.8
comp=Z,26nm,1.4s
T35M Bob Quinn 43.18 339 P P 22 20 27.6 +1.5
baz=142
TOAD Toad River Com 43.24 344 P P 22 20 27.6 +1.0
baz=150
WRAK Wrangell Islan 43.48 337 P P 22 20 29.8 +1.4
baz=139
KOTAN Kotaneelee Air 44.07 346 P P 22 20 34.2 +1.1
baz=152
S34M Telegraph Cree 44.21 340 P P 22 20 35.9 +1.6
baz=142
DLBC Dease Lake 44.27 341 P P 22 20 36.9 +1.9
baz=143,SNR=7.9
YKA Yellowknife Ar 44.64 353 P P 22 20 37.2 -0.5
comp=Z,1.6nm,0.8s,baz=291,slow=18,SNR=4.2
YKA LR LR 22 39 41.4
comp=Z,237nm,18.5s,baz=174,slow=37
comp=Z,1.6nm,0.8s
SIT Sitka 45.06 336 P P 22 20 42.6 +1.6
baz=136
R33M Jennings River 45.33 341 P P 22 20 44.8 +1.4
baz=143
Q32M Nakina River 45.40 340 P P 22 20 45.4 +1.3
baz=141
R32K Eaglecrest 45.65 338 P P 22 20 47.3 +1.5
baz=138
SCHQ Schefferville 46.07 29 P P 22 20 47.9 -1.3
comp=Z,37nm,0.7s,baz=192,slow=15,SNR=2.0
SCHQ LR LR 22 41 26.1
comp=Z,1µm,20.9s,baz=240,slow=38
comp=Z,37nm,0.7s
TGTN Hyland Airport 46.32 344 P P 22 20 52.8 +1.6
baz=147,SNR=6.9
P32M Atlin 46.37 340 P P 22 20 52.6 +1.1
baz=139
P33M Teslin, Yukon 46.55 341 P P 22 20 54.4 +1.4
baz=141
N32M Quiet Lake 47.37 341 P P 22 21 00.3 +1.0
baz=141
WHY Whitehorse 47.56 340 P P 22 21 02.0 +1.1
baz=139
P29M Windy Craggy 47.79 338 P P 22 21 03.8 +1.2
baz=135
P30M Million Dollar 47.86 338 P P 22 21 04.7 +1.5
baz=136
MMPY Sheldon Lake, 48.02 343 P 22 21 05.2 +0.8
MMPY Sheldon Lake, 48.02 343 P P 22 21 06.0 +1.6
baz=144,SNR=18
O30N Mendenhall 48.04 339 P P 22 21 06.1 +1.6
baz=137
PNL Peninsula 48.42 337 P P 22 21 09.2 +1.7
baz=133
N31M Braeburn, Yuko 48.47 340 P P 22 21 09.2 +1.4
baz=138
HYT Haines Junctio 48.55 339 P P 22 21 09.9 +1.3
baz=136
O29M Mount Kennedy 48.56 338 P P 22 21 10.0 +1.4
baz=134
M31M Drury Creek, Y 48.58 342 IAmb IAmb 22 21 11.4
comp=Z,9.6nm,0.9s
M31M Drury Creek, Y 48.58 342 P P 22 21 10.4 +1.7
baz=140,SNR=5.3
N30M Aishikik Lake 48.88 340 P P 22 21 12.5 +1.5
baz=136
PINM Pinnacle 49.03 337 P P 22 21 13.9 +1.7
baz=132
YUK4 Talbot Arm 49.32 339 P P 22 21 16.4 +1.9
baz=135
LPAZ La Paz 49.38 132 P P 22 21 16.4 +0.4
comp=Z,1.2nm,0.7s,baz=348,slow=9.5,SNR=4.3
comp=Z,1.2nm,0.7s
O28M Mount Upton 49.46 338 IAmb IAmb 22 21 19.3
comp=Z,10nm,0.9s
O28M Mount Upton 49.46 338 P P 22 21 17.2 +1.5
baz=132
M30M Minto, Yukon 49.60 341 IAmb IAmb 22 21 18.9
comp=Z,7.4nm,1.1s
M30M Minto, Yukon 49.60 341 P P 22 21 18.2 +1.7
baz=138
YUK8 Steele Glacier 49.66 338 P P 22 21 18.8 +1.6
baz=133,SNR=7.1
M29M Somme Creek 50.04 340 IAmb IAmb 22 21 23.1
comp=Z,12nm,1.1s
M29M Somme Creek 50.04 340 P P 22 21 21.5 +1.6
baz=135,SNR=5.9
L29M L29M 50.41 341 P P 22 21 24.1 +1.5
baz=136,SNR=11
CRQE Cirque 50.53 336 P P 22 21 25.2 +1.6
baz=129
K29M Barlow Dome 50.76 342 P P 22 21 26.7 +1.4
baz=137,SNR=14
MCARA McCarthy VSAT 50.91 337 P P 22 21 28.1 +1.7
baz=130
J30M Hart River 50.96 343 IAmb IAmb 22 21 32.4
comp=Z,4.2nm,0.8s
J30M Hart River 50.96 343 P P 22 21 28.0 +1.1
baz=139
M27K Edge Creek, AK 51.13 338 P P 22 21 29.8 +1.6
baz=132,SNR=7.2
GLB Gilahina Butte 51.23 337 IAmb IAmb 22 21 31.8
comp=Z,12nm,1.0s
BMRM Bremner River 51.24 336 P P 22 21 30.4 +1.4
baz=128
FRB Frobisher Bay 51.30 19 LR LR 22 44 06.7
comp=Z,112nm,19.7s,baz=290,slow=37
H31M Peel River 51.39 345 IAmb IAmb 22 21 39.8
comp=Z,14nm,1.1s
H31M Peel River 51.39 345 P P 22 21 31.0 +1.0
baz=142
EYAK Cordova Ski Ar 51.44 335 P P 22 21 32.3 +2.0
baz=126
I30M Mount Dempster 51.47 343 IAmb IAmb 22 21 32.3
comp=Z,9.7nm,0.9s
I30M Mount Dempster 51.47 343 P P 22 21 31.8 +1.1
baz=139,SNR=6.1
DAWY Dawson 51.49 341 IAmb IAmb 22 21 32.5
comp=Z,6.9nm,0.9s
DAWY Dawson 51.49 341 P P 22 21 32.0 +1.2
baz=135
M26K Nabesna, AK 51.55 338 IAmb IAmb 22 21 34.1
comp=Z,11nm,0.8s
M26K Nabesna, AK 51.55 338 P P 22 21 32.7 +1.5
baz=130,SNR=8.8
BCAR Beaver Creek A 51.57 339 P 22 21 31.5 +0.1
L27K Beaver Creek, 51.58 339 IAmb IAmb 22 21 33.9
comp=Z,5.9nm,0.9s
L27K Beaver Creek, 51.58 339 P P 22 21 32.9 +1.4
baz=132,SNR=6.1
N25K Chitina, Valde 51.63 337 IAmb IAmb 22 21 34.9
comp=Z,12nm,1.0s
N25K Chitina, Valde 51.63 337 P P 22 21 34.0 +2.1
baz=128
KLU Klutina 52.07 336 P P 22 21 36.7 +1.6
baz=126
I29M Ogilvie Camp, 52.11 343 IAmb IAmb 22 21 36.7
comp=Z,5.7nm,0.8s
I29M Ogilvie Camp, 52.11 343 P P 22 21 35.9 +0.6
baz=137
GLI Glacier Island 52.17 335 P P 22 21 36.8 +1.0
baz=125
G31M Satah River 52.26 345 P P 22 21 37.1 +0.7
baz=143,SNR=10
K27K Chicken 52.32 340 P P 22 21 38.6 +1.8
baz=132
HARP HAARP 52.33 337 P P 22 21 39.0 +2.0
baz=128
EPYK Eagle Plains 52.44 344 P P 22 21 38.5 +0.8
baz=140,SNR=6.6
M24K Tolsona, Glenn 52.53 337 P P 22 21 40.2 +1.6
baz=126
EGAK Eagle 52.54 341 IAmb IAmb 22 21 40.1
comp=Z,9.7nm,0.9s
EGAK Eagle 52.54 341 P P 22 21 39.1 +0.6
baz=134,SNR=6.8
F31M Tsiigehtchic 52.55 346 P P 22 21 38.8 +0.3
baz=144
I28M Miner Creek 52.65 342 IAmb IAmb 22 21 40.7
comp=Z,5.0nm,0.9s
I28M Miner Creek 52.65 342 P P 22 21 39.8 +0.4
baz=135
PWL Port Wells 52.66 335 P P 22 21 40.8 +1.3
baz=123
SEW Seward 52.72 333 P P 22 21 40.6 +0.7
baz=122
DOT Dot Lake 52.73 339 IAmb IAmb 22 21 42.2
comp=Z,11nm,1.0s
H29M Whitestone 52.77 343 IAmb IAmb 22 21 41.6
comp=Z,12nm,1.0s
H29M Whitestone 52.77 343 P P 22 21 40.9 +0.8
baz=138,SNR=5.5
G30M tAoh Zraii Nji 52.78 345 P P 22 21 41.5 +1.2
baz=140
PAX Paxson 52.80 338 IAmb IAmb 22 21 42.5
comp=Z,12nm,0.8s
PAX Paxson 52.80 338 P P 22 21 41.9 +1.3
baz=128,SNR=14
SCM Sheep Creek Mo 52.81 336 P P 22 21 41.9 +1.3
baz=125
SCRK Sand Creek 52.92 339 IAmb IAmb 22 21 43.8
comp=Z,9.9nm,1.0s
SCRK Sand Creek 52.92 339 P P 22 21 42.7 +1.2
baz=130,SNR=8.5
KDAK Kodiak Island 52.99 330 LR LR 22 42 22.6
comp=Z,75nm,18.9s,baz=153,slow=34
KNK Knik Glacier 53.02 335 P P 22 21 43.1 +1.0
baz=124
RIDG Independent Ri 53.06 339 P P 22 21 43.9 +1.4
baz=129,SNR=25
OHAK Old Harbor 53.08 329 P P 22 21 44.2 +1.6
baz=116
J26L Joseph Creek 53.12 340 P P 22 21 44.3 +1.4
baz=131,SNR=16
F30M Barrier River 53.17 345 P P 22 21 43.8 +0.7
baz=141,SNR=5.7
G29M Pine Creek 53.19 344 P P 22 21 43.8 +0.4
baz=138,SNR=12
INK Inuvik 53.21 347 P P 22 21 43.7 +0.3
baz=144,SNR=7.7
I27K Kandik River 53.25 342 P P 22 21 44.4 +0.5
baz=134
SLKM Skilak Lake 53.26 334 IAmb IAmb 22 21 46.0
comp=Z,14nm,0.9s
RC01 Rabbit Creek A 53.36 334 P P 22 21 45.8 +1.1
baz=122
PMR Palmer 53.39 335 IAmb IAmb 22 21 46.7
comp=Z,8.7nm,0.8s
PMR Palmer 53.39 335 P P 22 21 45.9 +1.2
baz=123
WAT6 Susitna Watana 53.40 337 P P 22 21 46.3 +1.2
baz=125,SNR=5.1
K24K Donnelly Dome 53.42 338 P P 22 21 46.5 +1.4
baz=128,SNR=10
DHY Denali Highway 53.56 337 IAmb IAmb 22 21 48.3
comp=Z,5.5nm,0.8s
DHY Denali Highway 53.56 337 P P 22 21 47.1 +0.9
baz=126
H27K Steamboat Moun 53.66 342 IAmb IAmb 22 21 49.1
comp=Z,11nm,0.9s
H27K Steamboat Moun 53.66 342 P P 22 21 47.5 +0.7
baz=134,SNR=11
CHIR Chirikof Islan 53.69 327 P P 22 21 48.4 +1.4
baz=112
J25K Salcha River, 53.79 339 IAmb IAmb 22 21 50.7
comp=Z,8.0nm,0.9s
J25K Salcha River, 53.79 339 P P 22 21 48.8 +1.0
baz=129,SNR=7.1
WAT1 Susitna Watana 53.85 337 P P 22 21 49.3 +1.0
baz=124
M22K Wilow 53.87 335 P P 22 21 49.7 +1.4
baz=122
SUA Susitna One 53.98 334 P P 22 21 50.5 +1.2
SUA Susitna One 53.98 334 P P 22 21 50.5 +1.2
baz=121,SNR=7.1
G27K Doyon Strip 54.11 343 P 22 21 50.4 +0.4
G27K Doyon Strip 54.11 343 P P 22 21 50.8 +0.8
baz=134,SNR=15
F28M Old Crow 54.20 344 P P 22 21 51.4 +0.7
F28M Old Crow 54.20 344 P P 22 21 51.8 +1.1
baz=137,SNR=37
HDA Harding Lake 54.20 339 P P 22 21 50.5 -0.2
HDA IAmb IAmb 22 21 52.8
comp=Z,11nm,1.0s
HDA Harding Lake 54.20 339 P P 22 21 51.4 +0.7
baz=127,SNR=6.6
E29M Blow River 54.28 345 P 22 21 51.7 +0.5
E29M IAmb IAmb 22 21 52.9
comp=Z,8.2nm,0.8s
E29M Blow River 54.28 345 P P 22 21 52.6 +1.4
baz=139
CUT Chulitna 54.28 336 P P 22 21 51.8 +0.5
CUT Chulitna 54.28 336 P P 22 21 52.5 +1.2
baz=122,SNR=7.3
RND Reindeer 54.29 337 P 22 21 52.3 +0.8
SIV San Ignacio 54.39 126 P P 22 21 52.9 +0.1
comp=Z,2.9nm,0.8s,baz=303,slow=9.5,SNR=14
comp=Z,2.9nm,0.8s
ILAR Eielson Array 54.40 339 P P 22 21 52.2 0.0
ILAR Eielson Array 54.40 339 P P 22 21 53.0 +0.8
comp=Z,9.3nm,0.9s,baz=150,slow=6.0,SNR=59
ILAR PcP PcP 22 22 56.0 +0.1
comp=Z,0.7nm,0.8s,baz=152,slow=2.0,SNR=1.6
comp=Z,9.3nm,0.9s
STLK Strandline Lak 54.44 334 P P 22 21 52.2 -0.4
STLK IAmb IAmb 22 21 54.6
comp=Z,8.1nm,1.0s
N20K Mount Spurr 54.45 334 P P 22 21 54.4 +1.7
baz=120
SPCR Spurr Chakacha 54.45 334 P P 22 21 54.4 +1.7
baz=120
MCK McKinley 54.51 337 P 22 21 53.1 +0.1
MCK McKinley 54.51 337 P P 22 21 53.8 +0.8
baz=124,SNR=8.9
SKT Skwentna 54.56 335 P 22 21 54.1 +0.7
SKT Skwentna 54.56 335 P P 22 21 54.3 +0.9
baz=121,SNR=12
WRH Wood River Hil 54.64 338 P P 22 21 54.1 +0.2
WRH IAmb IAmb 22 21 56.1
comp=Z,8.6nm,1.0s
CCB Clear Creek Bu 54.64 339 P 22 21 54.1 +0.2
CCB IAmb IAmb 22 21 55.6
comp=Z,6.1nm,0.8s
R17L Mt. Peulik Vol 54.76 329 P P 22 21 56.2 +1.2
baz=113
POKR Poker Plat Res 54.80 339 P P 22 21 55.9 +0.8
baz=127
G26K Porcupine Rive 54.82 342 P 22 21 55.9 +0.8
G26K Porcupine Rive 54.82 342 P P 22 21 55.9 +0.8
baz=132,SNR=12
E28M Babbage River 54.84 345 P 22 21 55.5 +0.2
E28M IAmb IAmb 22 21 56.5
comp=Z,9.3nm,0.9s
E28M Babbage River 54.84 345 P P 22 21 55.5 +0.2
baz=138,SNR=5.5
TRF Thorofare Moun 54.86 337 P 22 21 56.1 +0.4
TRF Thorofare Moun 54.86 337 P P 22 21 56.4 +0.7
baz=123,SNR=24
H25L Birch Creek 54.98 341 P P 22 21 57.4 +1.0
baz=129,SNR=9.8
NEA2 Nenana 55.05 338 P P 22 21 57.4 +0.5
baz=125,SNR=11
E27K Coleen River 55.06 344 P 22 21 57.4 +0.4
E27K Coleen River 55.06 344 P P 22 21 57.8 +0.8
baz=135,SNR=9.0
KTH Kantishna Hill 55.15 337 P P 22 21 58.3 +0.6
M20K Styx River 55.17 334 P P 22 21 58.6 +0.7
baz=119
N19K Bonanza Creek 55.24 333 P 22 21 58.6 +0.2
N19K Bonanza Creek 55.24 333 P P 22 21 58.9 +0.5
baz=117
PPLA Purkeypile 55.30 335 P 22 21 59.2 +0.4
PPLA Purkeypile 55.30 335 P P 22 21 59.6 +0.8
baz=120,SNR=6.9
CHGN Chignik 55.32 327 P P 22 22 00.3 +1.4
baz=110
BMAR Burnt Mountain 55.37 342 P 22 21 59.2 +0.1
H24K Noodor Dome 55.38 340 P 22 22 00.2 +0.9
H24K Noodor Dome 55.38 340 P P 22 22 00.1 +0.8
baz=127,SNR=18
G25K Bearman Lake 55.39 341 P P 22 22 00.6 +1.4
baz=129,SNR=17
F26K Sheenjek River 55.42 343 P P 22 22 00.4 +0.8
F26K Sheenjek River 55.42 343 P P 22 22 00.7 +1.1
baz=132,SNR=13
BPAW Bear Paw Mtn. 55.47 337 P P 22 22 00.5 +0.5
BPAW IAmb IAmb 22 22 01.4
comp=Z,12nm,1.2s
BPAW Bear Paw Mtn. 55.47 337 P P 22 22 00.3 +0.4
baz=122,SNR=5.4
D27M Malcolm River 55.66 345 P P 22 22 01.8 +0.5
baz=136
L20K Farewell, AK 55.77 335 P P 22 22 02.6 +0.4
baz=118,SNR=8.7
G24K Hadweenzic Riv 55.78 341 P 22 22 03.3 +1.2
G24K Hadweenzic Riv 55.78 341 P P 22 22 02.9 +0.8
baz=128,SNR=13
F25K Christian Rive 55.79 342 P P 22 22 03.1 +0.9
F25K Christian Rive 55.79 342 P P 22 22 03.6 +1.4
baz=130,SNR=13
N18K Kilae Creek 55.80 332 P P 22 22 02.8 +0.4
baz=115
CHUM Lake Minchumin 55.85 336 P P 22 22 03.6 +0.9
baz=121
MLY Manley 55.89 338 P 22 22 03.5 +0.6
MLY IAmb IAmb 22 22 04.7
comp=Z,11nm,0.9s
MLY Manley 55.89 338 P P 22 22 03.7 +0.7
baz=128,SNR=12
O17K Koliganek Bris 55.97 331 P P 22 22 04.2 +0.7
baz=114
L19K White Mountain 56.03 334 P 22 22 04.6 +0.6
L19K White Mountain 56.03 334 P P 22 22 04.5 +0.6
baz=117,SNR=5.8
E25K Arctic Village 56.11 343 P P 22 22 05.3 +0.9
E25K IAmb IAmb 22 22 06.5
comp=Z,10nm,0.9s
E25K Arctic Village 56.11 343 P P 22 22 05.5 +1.0
baz=131,SNR=5.5
M18K Stony River 56.13 333 P P 22 22 05.6 +1.0
baz=116
K20K Telida 56.27 335 P P 22 22 06.2 +0.5
K20K Telida 56.27 335 P P 22 22 06.2 +0.5
baz=119,SNR=8.6
O16K Kokwok River B 56.36 330 P P 22 22 07.1 +0.8
baz=112
F24K Squaw Lake 56.41 341 P 22 22 07.6 +1.0
F24K IAmb IAmb 22 22 08.8
comp=Z,6.1nm,0.8s
F24K Squaw Lake 56.41 341 P P 22 22 07.7 +1.0
baz=128,SNR=6.1
I21K Tanana 56.41 338 P P 22 22 07.3 +0.7
baz=122
RES Resolute Bay 56.50 3 LR LR 22 47 16.5
comp=Z,248nm,21.1s,baz=200,slow=37
H22K Ishtalitna Cre 56.59 339 P P 22 22 08.3 +0.3
baz=123,SNR=9.8
G23K Bananza Creek 56.60 340 P 22 22 08.8 +0.8
G23K Bananza Creek 56.60 340 P P 22 22 08.5 +0.5
baz=125,SNR=12
C27K Jago River 56.62 344 P P 22 22 08.7 +0.6
baz=133
J20K Nowinta River 56.70 336 P 22 22 09.1 +0.4
J20K Nowinta River 56.70 336 P P 22 22 08.9 +0.3
baz=119,SNR=10
M17K Holitna River 56.79 332 P P 22 22 10.0 +0.6
baz=114
L18K Granite Mounta 56.81 334 P P 22 22 09.7 +0.1
baz=116
H03N2 Juan Fernandez 56.87 155 T T 23 23 45.5
baz=333,slow=77,SNR=188
H03N1 Juan Fernandez 56.89 155 T T 23 23 45.5
baz=333,slow=77,SNR=241
H03N3 Juan Fernandez 56.89 155 T T 23 23 45.0
baz=333,slow=77,SNR=236
E24K Your Creek 56.93 342 P P 22 22 11.2 +0.8
baz=127
COLD Coldfoot 56.95 340 P P 22 22 11.4 +0.9
COLD Coldfoot 56.95 340 P P 22 22 11.1 +0.7
baz=125,SNR=8.6
H21K Melozitna Rive 56.96 338 P P 22 22 10.9 +0.4
H21K Melozitna Rive 56.96 338 P P 22 22 10.8 +0.3
baz=122,SNR=12
N16K Nishlik Lake 57.02 331 P P 22 22 11.5 +0.5
baz=112
D25K Kavik River 57.12 343 P P 22 22 12.1 +0.4
D25K Kavik River 57.12 343 P P 22 22 11.8 +0.1
baz=130,SNR=6.3
I20K Naaghedeneel 57.13 337 P P 22 22 11.8 +0.2
I20K Naaghedeneel 57.13 337 P P 22 22 11.9 +0.2
baz=119,SNR=5.8
J19K Poorman 57.18 336 P 22 22 12.5 +0.4
J19K IAmb IAmb 22 22 13.8
comp=Z,13nm,1.0s
J19K Poorman 57.18 336 P P 22 22 12.0 -0.1
baz=118,SNR=6.5
G22K Bettles 57.20 340 P P 22 22 12.6 +0.4
baz=124
E23K Chandalar 57.26 341 P 22 22 13.3 +0.5
E23K Chandalar 57.26 341 P P 22 22 13.8 +1.0
baz=126,SNR=13
J18K Innoko River 57.37 335 P 22 22 13.6 +0.1
J18K Innoko River 57.37 335 P P 22 22 13.3 -0.2
baz=116,SNR=7.0
L17K Donlin 57.46 333 P P 22 22 14.3 +0.2
baz=114
TOLK Toolik Lake Re 57.59 342 P P 22 22 15.1 0.0
TOLK Toolik Lake Re 57.59 342 P P 22 22 15.3 +0.3
baz=126,SNR=7.0
H20K Anotleneega Mo 57.62 337 P P 22 22 15.3 0.0
baz=119,SNR=8.3
G21K Allakaket 57.65 339 P P 22 22 15.6 +0.1
baz=121
D24K Happy Valley 57.69 343 P P 22 22 15.9 +0.2
baz=128
K17K Iditarod 57.70 334 P P 22 22 16.2 +0.4
baz=114
F22K John River 57.74 340 P P 22 22 17.0 +0.9
baz=123
L16K Owhat River 57.81 332 P P 22 22 17.1 +0.5
baz=112
E22K Anaktuvuk Pass 57.98 341 P 22 22 18.5 +0.7
E22K Anaktuvuk Pass 57.98 341 P P 22 22 18.2 +0.5
baz=124,SNR=5.5
M15K Kasigluk River 57.98 331 P P 22 22 18.9 +1.1
baz=111
C24K Franklin Bluff 58.00 343 P P 22 22 18.3 +0.5
baz=128
F21K Alatna River 58.02 340 P 22 22 18.8 +0.7
F21K Alatna River 58.02 340 P P 22 22 18.7 +0.7
baz=122,SNR=12
D23K Nanushuk River 58.11 342 P P 22 22 19.6 +1.0
baz=126
H19K Roundabout Mou 58.21 337 P P 22 22 19.2 -0.1
baz=118
J17K VABM Dome 58.30 334 P P 22 22 20.1 +0.1

baz=114
C23K Itkillik River 58.60 343 P 22 22 22.3 +0.3
C23K Itkillik River 58.60 343 P 22 22 22.7 +0.7
baz=126
D22K Ayikyak River 58.66 341 P 22 22 22.8 +0.4
D22K Ayikyak River 58.66 341 P 22 22 23.3 +0.8
baz=123,SNR=5.8
F20K Avaraart Lake 58.68 339 P P 22 22 23.3 +0.7
baz=119
L15K Ungalak Mounta 58.69 332 P P 22 22 23.2 +0.5
baz=110
G19K Purcell Mounta 58.73 338 P P 22 22 22.8 -0.1
G19K Purcell Mounta 58.73 338 P P 22 22 22.9 0.0
baz=117,SNR=5.7
H18K Honhosa River 58.76 336 P P 22 22 24.4 +1.2
baz=116
E21K Killik River 58.82 341 P P 22 22 24.5 +0.9
baz=122
J16K Anvik River 58.89 334 P P 22 22 24.8 +0.7
baz=112
K15K Wolf Creek Mou 58.92 333 P P 22 22 25.4 +1.0
baz=111
L14K Kuka Creek 59.11 331 P P 22 22 26.3 +0.6
baz=109
M13K Dall Lake 59.13 330 P P 22 22 26.3 +0.6
baz=108
UNV Unalaska Valle 59.13 322 P P 22 22 26.8 +0.9
baz=101
I17K Unalakleet 59.16 334 P P 22 22 26.5 +0.6
baz=112
G18K Tagagawik 59.19 337 P P 22 22 27.0 +0.8
baz=116
SFJD Kangerlussuaq 59.25 22 LR LR 22 48 43.7
comp=Z,209nm,18.7s,baz=232,slow=37
H17K Granite Mounta 59.27 336 P 22 22 27.4 +0.6
H17K Granite Mounta 59.27 336 P P 22 22 27.5 +0.8
baz=114
F19K Shaleruckik Mo 59.29 338 P 22 22 27.8 +0.9
F19K Shaleruckik Mo 59.29 338 P P 22 22 27.6 +0.8
baz=117,SNR=6.3
E19K Redstone River 59.39 339 P 22 22 28.2 +0.7
E19K IAmb IAmb 22 22 29.2
comp=Z,9.5nm,0.9s
E19K Redstone River 59.39 339 P P 22 22 28.0 +0.4
baz=118
E20K Nigu River 59.43 340 P P 22 22 28.6 +0.7
baz=119,SNR=10
C21K Knifeblade Rid 59.45 341 P P 22 22 29.1 +1.2
baz=121,SNR=10
B21K Ikpikpuk River 59.64 342 P 22 22 29.7 +0.5
B21K Ikpikpuk River 59.64 342 P P 22 22 29.6 +0.5
baz=122,SNR=5.5
B22K Teshekpuk Lake 59.68 343 P P 22 22 30.3 +0.8
baz=123
D20K Etivluk River 59.79 340 P 22 22 30.7 +0.3
D20K Etivluk River 59.79 340 P P 22 22 31.0 +0.7
baz=119
F18K Selawik 59.86 338 P P 22 22 31.5 +0.8
baz=115
J14K Nanvaranak Lak 59.96 333 P P 22 22 32.5 +1.1
baz=109
ILULI Ilulissat 60.15 19 P P 22 22 34.2 +1.5
D19K Kuna River 60.17 340 P P 22 22 33.0 0.0
D19K Kuna River 60.17 340 P P 22 22 33.4 +0.4
baz=118,SNR=5.0
A22K Sinclair Lake 60.48 343 P P 22 22 35.8 +0.9
baz=122
E18K Tukpahlearik C 60.54 338 P 22 22 35.4 -0.1
E18K Tukpahlearik C 60.54 338 P P 22 22 36.8 +1.4
baz=114,SNR=5.2
B20K Meade River 60.60 342 P P 22 22 36.4 +0.6
baz=119
E17K Hotham Inlet 60.84 338 P P 22 22 38.0 +0.5
baz=113
G15K Niukluk 60.92 335 P P 22 22 38.4 +0.4
baz=110
C19K Lookout Ridge 60.93 340 P 22 22 39.0 +0.9
C19K Lookout Ridge 60.93 340 P P 22 22 38.9 +0.8
baz=116,SNR=5.2
C18K Utukok River 61.26 339 P P 22 22 41.3 +0.9
C18K Utukok River 61.26 339 P P 22 22 41.0 +0.6
baz=114
D17K Noatak River 61.53 338 P P 22 22 42.5 +0.4
baz=112
RDOG Red Dog Mine 61.60 339 P P 22 22 43.4 +0.8
RDOG Red Dog Mine 61.60 339 P P 22 22 43.3 +0.7
baz=112
B18K Kokolik River 61.75 340 P P 22 22 44.1 +0.5
baz=114
SPIA Saint Paul Isl 61.84 326 P P 22 22 44.9 +0.5
baz=100
C17K DeLong Mountai 61.86 339 P P 22 22 45.0 +0.6
baz=112
TNA Tin City 62.65 335 P P 22 22 50.3 +0.7
baz=106
GAMB Gambell 63.79 333 P P 22 22 57.8 +0.6
baz=102
PLCA Paso Flores 66.58 153 LR LR 22 45 53.7
comp=Z,89nm,20.5s,baz=275,slow=30
BORG Borgarnes 70.39 27 LR LR 22 55 37.8
comp=Z,86nm,18.1s,baz=279,slow=37
SPITS Spitsbergen Ar 77.97 10 P P 22 24 22.4 -0.9
comp=Z,5.3nm,0.7s,baz=77,slow=1.1,SNR=4.1
SPITS LR LR 23 00 09.6
comp=Z,73nm,19.6s,baz=312,slow=37
comp=Z,5.3nm,0.7s
PETK Petropavlovsk- 80.31 323 P P 22 24 37.5 +1.0
comp=Z,1.8nm,0.7s,baz=63,slow=8.3,SNR=2.2
comp=Z,1.8nm,0.7s
EKA Eskdalemuir Ar 81.05 35 P P 22 24 40.0 -0.4
comp=Z,3.3nm,0.8s,baz=282,slow=4.2,SNR=7.5
comp=Z,3.3nm,0.8s
PMAFR Mafra 82.22 52 eP P 22 24 47.2 +0.3
PCAB Cabril 82.30 49 eP P 22 24 48.5 +1.1
PSBE So Bento 82.41 51 eP P 22 24 48.8 +0.9
PARRA Arraiolos 82.44 52 eP P 22 24 52.6 +4.5
PCAS Casmilo, Conde 82.47 50 eP P 22 24 49.2 +1.0
POLO Lamas de Olo 82.57 49 eP P 22 24 49.5 +0.6
PVRL Vila Real 82.66 49 eP P 22 24 50.0 +0.7
PVIS Viseu 82.70 50 eP P 22 24 50.0 +0.5
PSARD Sardoal 82.85 51 eP P 22 24 50.9 +0.6
PSARD *i* IAmb IAmb 22 24 53.2
comp=Z,30nm,1.0s
PMTG Montargil 82.97 51 eP P 22 24 51.4 +0.5
MTE Manteigas 83.05 50 P 22 24 50.8 -0.6
MTE Manteigas 83.05 50 eP P 22 24 51.7 +0.3
PTEO Sao Teotonio 83.06 53 eP P 22 24 52.8 +1.5
PFVI Vila Bisbo 83.11 53 eP P 22 24 52.7 +1.1
BBTS Babate 83.16 77 LR LR 22 57 39.4
comp=Z,2μm,21.5s,baz=245,slow=33
MVO Moncorvo 83.19 49 eP P 22 24 52.6 +0.6
PBRG Braganca 83.19 48 eP P 22 24 53.3 +1.3
PCBR Castelo Branco 83.28 50 eP P 22 24 53.0 +0.6
EVO Evora 83.29 52 eP P 22 24 52.8 +0.3
TIXI Tiksi 83.30 345 P P 22 24 51.8 -0.1
MESJ Messejana 83.35 52 eP P 22 24 53.8 +0.9
MESJ IAmb IAmb 22 24 54.8
comp=Z,14nm,0.9s
MESJ Messejana 83.35 52 eP P 22 24 53.8 +0.9
MESJ *i* IAmb IAmb 22 24 54.7
comp=Z,30nm,1.2s
PMRV Marv??o 83.47 51 eP P 22 24 54.1 +0.6
PMRV *i* IAmb IAmb 22 24 55.5
comp=Z,33nm,1.0s
PESTR Estremoz 83.50 51 P 22 24 53.1 -0.5
PESTR Estremoz 83.50 51 eP P 22 24 54.2 +0.5
PESTR *i* IAmb IAmb 22 24 55.2
comp=Z,20nm,1.0s
PCVE Castro Verde 83.55 53 eP P 22 24 55.0 +1.2
PCVE *i* IAmb IAmb 22 24 56.3
comp=Z,26nm,1.2s
PBEJ Beja 83.56 52 eP P 22 24 54.8 +0.8
H11S1 WAKE ISLAND Hy 83.65 287 T T 23 58 02.2
baz=75
H11S2 WAKE ISLAND Hy 83.65 287 T T 23 57 52.1
baz=75
H11S3 WAKE ISLAND Hy 83.67 287 T T 23 57 56.2
baz=75
PBDV Barranco-do-Ve 83.75 53 eP P 22 24 56.4 +1.4
PBAR Barrancos 84.13 52 eP P 22 24 57.6 +0.8
ARCES ARCESS Array B 85.32 16 P P 22 25 02.0 -0.3
comp=Z,11nm,1.0s,baz=334,slow=3.5,SNR=7.3
comp=Z,11nm,1.0s
NB2 NORSAR Subarra 85.56 26 P P 22 25 03.7 +0.1
comp=Z,5.1nm,1.0s,baz=300,slow=4.6
NB2 NORSAR Subarra 85.56 26 P P 22 25 03.7 +0.1
comp=Z,5.1nm,1.0s,baz=300,slow=4.6
NOA NORSAR Array B 85.56 26 P P 22 25 03.3 -0.4
comp=Z,2.9nm,0.9s,baz=301,slow=5.0,SNR=7.5
NOA LR LR 23 03 36.0
comp=Z,46nm,19.0s,baz=315,slow=36
comp=Z,2.9nm,0.9s
ESDC Sonseca Array 85.89 50 P 22 25 04.3 -1.4
ESDC IAmb IAmb 22 25 07.4
comp=Z,7.6nm,1.0s
ESDC Sonseca Array 85.89 50 P P 22 25 06.0 +0.3
comp=Z,6.7nm,0.9s,baz=304,slow=5.4,SNR=31
ESDC LR LR 23 04 14.5
comp=Z,86nm,18.2s,baz=287,slow=36
comp=Z,6.7nm,0.9s
HFS Hagfors 87.08 26 P P 22 25 10.9 -0.1
comp=Z,2.5nm,1.0s,baz=248,slow=11,SNR=2.0
HFS LR LR 23 05 21.8
comp=Z,51nm,18.4s,baz=325,slow=37
comp=Z,2.5nm,1.0s
MD01 Midelt array s 87.65 56 P 22 25 15.3 +0.7
MDT Midelt 87.79 56 LR LR 22 59 23.1
comp=Z,28nm,21.2s,baz=262,slow=32
FINES FINESS Array B 91.05 22 P P 22 25 28.4 -1.3
comp=Z,2.5nm,1.0s,baz=357,slow=8.8,SNR=1.9
FINES LR LR 23 06 37.2
comp=Z,58nm,18.8s,baz=319,slow=36
comp=Z,2.5nm,1.0s
DAVOX Davos/Dischmat 92.08 39 LR LR 23 07 56.0
comp=Z,122nm,18.1s,baz=264,slow=36
GERES GERESS Array B 93.21 36 P P 22 25 38.5 -1.6
comp=Z,1.1nm,0.8s,baz=333,slow=5.0,SNR=6.7
comp=Z,1.1nm,0.8s
VRAC Vranov 94.53 34 LR LR 23 10 17.8
comp=Z,84nm,18.2s,baz=310,slow=37
AKASG Malin Array Be 99.86 28 LR LR 23 12 13.0
comp=Z,53nm,18.2s,baz=60,slow=36
WRA Warramunga Arr 125.09 258 PKP PKPdf 22 31 27.4 +0.6
comp=Z,1.8nm,0.9s,baz=65,slow=1.2,SNR=9.3
ASAR Alice Springs 125.98 254 PKP PKPdf 22 31 28.8 +0.3
comp=Z,1.2nm,0.9s,baz=89,slow=2.9,SNR=7.7
CMAR Chiang Mai Arr 136.95 327 PKP PKPdf 22 31 49.7 +0.4
comp=Z,0.7nm,0.3s,baz=32,slow=1.8,SNR=6.1
PSI Prapat 149.08 311 PKPbc PKPbc 22 32 15.4 +0.5
comp=Z,13nm,0.9s,baz=263,slow=7.2,SNR=9.0
RPSI Rantau Prapat 149.16 311 PKPbc PKPbc 22 32 15.4 +0.4

*NEIC **22** 22:22:35.6±1.7, 2.8N±0.1×122.5E±0.2, h542km±12km, mb4.2/14, Error ellipse: s-maj=23.1km s-min=17.1km az=84.0*
*DJA **22** 22:22:36.3±0.6, 3.7N±6.1×12.2E±.1°, h531km±7km, M4.5/20, mb4.5/20, mB4.9/9, MLv4.8/18, Mw(mB)4.2/9*
*IDC **22** 22:22:36.1±1.0, 2.7N±1.4×122.4E, h553km±12km, mb3.6/23, mbtmp4.5/24, Error ellipse: s-maj=19.0km s-min=6.7km az=70.0*

ISC 22 22:22:35.8±0.4, 2.6 9N±0.1 05×122.3 7E±0.1 08, h550km, n82, σ1 9±18/91, mb4.2/32, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
TOLI2	**Tolitoli**	**2.23**	**225**	P	**P**	**22 23 44.6**	**-2.0**
TOLI2	**Tolitoli**	**2.23**	**225**	P	**P**	**22 23 44.9**	**-1.7**
TOLI2	**Tolitoli**	**2.23**	**225**	S	**S**	**22 24 39.6**	**-4.5**
MRSI	**Marisa**	**2.24**	**191**	P	**P**	**22 23 45.5**	**-1.2**
KMSI	**Cibinong**	**2.65**	**142**	P	**P**	**22 23 47.2**	**-1.6**
SGSI	**Sangihe**	**3.31**	**72**	P	**P**	**22 23 51.6**	**-1.2**
APSI	**Ampana**	**3.65**	**191**	P	**P**	**22 23 55.0**	**-0.2**
LUWI	**Luwuk**	**3.73**	**174**	P	**P**	**22 23 54.4**	**-1.4**
LUWI	**Luwuk**	**3.73**	**174**	P	**P**	**22 23 54.4**	**-1.4**
PCI	**Palu**	**4.38**	**215**	P	**P**	**22 23 59.3**	**-1.3**
TNTI	**Ternate**	**5.35**	**111**		**P**	**22 24 07.6**	**-1.1**
TNTI	**Ternate**	**5.35**	**111**	P	**P**	**22 24 07.9**	**-0.8**
TNTI	**Ternate**	**5.35**	**111**	P	**P**	**22 24 08.1**	**-0.6**
DAV	**Davao City (W)**	**5.40**	**36**	P	**P**	**22 24 05.4**	**-3.8**
DAV	**Davao City (W)**	**5.40**	**36**	S	**S**	**22 25 26.6**	**+1.3**
	279nm,0.5s,baz=293,slow=18,SNR=9.3						
SANI	**Sanana**	**5.94**	**142**	P	**P**	**22 24 12.0**	**-1.9**
SANI	**Sanana**	**5.94**	**142**	P	**P**	**22 24 11.7**	**-2.2**
	0.5nm2μm47nm,0.6s						
SMKI	**Samarinda**	**6.03**	**239**	P	**P**	**22 24 15.8**	**+1.1**
BKB	**Balikpapan**	**6.73**	**234**		**P**	**22 24 20.4**	**-0.9**
BKB	**Balikpapan**	**6.73**	**234**	P	**P**	**22 24 21.6**	**+0.3**
BKB	**Balikpapan**	**6.73**	**234**	P	**P**	**22 24 21.3**	**0.0**
SPSI	**Sidrap Palu**	**7.10**	**201**	P	**P**	**22 24 24.4**	**-0.4**
	0.3nm1μm93nm,0.8s						
BNSI	**Bone**	**7.40**	**198**	P	**P**	**22 24 27.9**	**+0.2**
	0.3nm1μm95nm,1.2s						
KAPI	**Kappang**	**8.09**	**199**	P	**P**	**22 24 34.1**	**-0.3**
	16nm,0.5s,baz=48,slow=1.9,SNR=7.7						
KAPI				S	**S**	**22 26 13.5**	**+1.8**
	13nm,0.9s,baz=193,slow=13,SNR=2.0						
KAPI	**Kappang**	**8.09**	**199**	P	**P**	**22 24 34.4**	**-0.1**
BBSI	**Bau Bau**	**8.12**	**179**	P	**P**	**22 24 33.8**	**-1.1**
	44nm,0.8s						
BKSI	**Bulukumba**	**8.27**	**196**	P	**P**	**22 24 35.7**	**-0.6**
BSSI	**Bau Bau, Buton**	**8.97**	**192**	P	**P**	**22 24 42.4**	**-0.9**
	80nm,1.4s						
EDFI	**Ende, Flores**	**11.38**	**183**	P	**P**	**22 25 08.2**	**0.0**
	38nm,0.7s						
TGY	**Tagaytay City**	**11.43**	**353**	P	**P**	**22 25 08.4**	**-0.1**
	2.5nm,0.4s,baz=73,slow=5.8,SNR=5.1						
PLAI	**Plampang**	**12.32**	**202**	P	**P**	**22 25 18.0**	**+0.2**
PLAI	**Plampang**	**12.32**	**202**	P	**P**	**22 25 18.2**	**+0.4**
	44nm,0.7s						
SOEI	**Soe**	**12.51**	**171**		**P**	**22 25 20.3**	**+0.5**
SOEI	**Soe**	**12.51**	**171**	P	**P**	**22 25 19.9**	**+0.1**
	48nm,1.1s						
TWSI	**Taliwang, Sumb**	**12.60**	**206**	P	**P**	**22 25 20.2**	**-0.4**
	96nm,0.8s						
SRBI	**Singaraja**	**12.87**	**214**	P	**P**	**22 25 23.8**	**+0.4**
BATI	**Baumata**	**12.88**	**174**	P	**P**	**22 25 24.4**	**+0.9**
	83nm,0.5s,baz=84,slow=0.6,SNR=16						
BATI				S	**S**	**22 27 41.4**	**-0.1**
	7.8nm,0.4s,baz=116,slow=17,SNR=1.4						
BATI	**Baumata**	**12.88**	**174**	P	**P**	**22 25 24.2**	**+0.7**
	2μm136nm,1.0s						
JAGI	**Jajag, Banyuwa**	**13.79**	**216**	P	**P**	**22 25 34.5**	**+1.6**
JAGI	**Jajag, Banyuwa**	**13.79**	**216**	P	**P**	**22 25 33.4**	**+0.5**
MYKOM	**Kota Tinggi**	**18.53**	**268**		**P**	**22 26 19.0**	**+0.3**
KNRA	**Kununurra**	**19.31**	**161**		**P**	**22 26 27.1**	**+1.3**
FITZ	**Fitzroy Crossi**	**20.91**	**171**	P	**P**	**22 26 40.9**	**+0.7**
	4.3nm,0.7s,baz=358,slow=8.5,SNR=17						
	4.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.91**	**171**	P	**P**	**22 26 41.3**	**+1.2**
WRA	**Warramunga Arr**	**25.38**	**153**	P	**P**	**22 27 20.5**	**+0.5**
	3.2nm,0.5s,baz=335,slow=9.5,SNR=27						
WRA				PcP	**PcP**	**22 30 33.8**	**-0.1**
	0.5nm,0.5s,baz=320,slow=2.7,SNR=2.7						
WRA				S	**S**	**22 31 05.7**	**-2.5**
	1.7nm,0.8s,baz=334,slow=16,SNR=5.6						
WRA				ScP	**ScP**	**22 33 22.4**	**+1.1**
	1.1nm,0.7s,baz=335,slow=3.2,SNR=5.8						
	3.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**27.79**	**306**	P	**P**	**22 27 41.3**	**0.0**
	2.5nm,0.3s,baz=134,slow=7.9,SNR=9.2						
CMAR				PcP	**PcP**	**22 30 39.8**	**+0.1**
	1.3nm,0.3s,baz=114,slow=2.8,SNR=4.2						
	2.5nm,0.3s						
CHTO	**Chiang Mai**	**27.98**	**307**		**P**	**22 27 42.9**	**0.0**
CHTO				IAmb	IAmb	22 27 44.3	
	comp=Z,6.0nm,0.8s						
ASAR	**Alice Springs**	**28.50**	**157**	P	**P**	**22 27 48.3**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=333,slow=7.4,SNR=27						
ASAR				S	**S**	**22 31 57.0**	**0.0**
	comp=Z,0.4nm,0.5s,baz=349,slow=18,SNR=4.4						
ASAR				ScP	**ScP**	**22 33 31.8**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=343,slow=3.0,SNR=7.3						
	comp=Z,1.6nm,0.6s						
PZH	**PanZhiHua**	**30.86**	**322**	P	**P**	**22 28 09.4**	**+1.5**
KSRS	**Korea Array**	**34.97**	**8**	P	**P**	**22 28 40.9**	**-1.3**
	comp=Z,2.2nm,0.7s,baz=188,slow=9.7,SNR=4.9						
	comp=Z,2.2nm,0.7s						
MJAR	**Matsushiro Arr**	**36.72**	**22**	P	**P**	**22 28 56.6**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=222,slow=9.3,SNR=5.9						
	comp=Z,3.8nm,0.7s						
SHL	**Shillong**	**37.11**	**311**		**P**	**22 29 00.5**	**+0.1**
SHL				IAmb	IAmb	22 29 01.6	
	comp=Z,7.6nm,0.9s						
STKA	**Stephens Creek**	**38.93**	**154**	P	**P**	**22 29 15.7**	**+0.9**
	comp=Z,1.4nm,0.4s,baz=344,slow=8.2,SNR=5.2						
	comp=Z,1.4nm,0.4s						
LSA	**Lhasa**	**39.98**	**315**	P	**P**	**22 29 24.2**	**+0.3**
LSA				IAmb	IAmb	22 29 26.6	
	comp=Z,5.0nm,0.6s						
GTA	**Gaotai**	**41.91**	**334**	P	**P**	**22 29 40.5**	**+1.8**
GTA				pP	PcP	22 31 22.6	+1.3
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**42.20**	**10**	P	**P**	**22 29 41.0**	**+0.3**
	comp=Z,4.8nm,0.5s,baz=196,slow=6.3,SNR=14						
	comp=Z,4.8nm,0.5s						
SONM	**Songino Array**	**47.04**	**345**	P	**P**	**22 30 18.8**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=170,slow=9.0,SNR=5.4						
	comp=Z,1.0nm,0.8s						
NIL	**Nilore**	**55.17**	**310**		**P**	**22 31 17.9**	**+0.8**
NIL				IAmb	IAmb	22 31 18.4	
	comp=Z,6.7nm,0.6s						
TARG	**Taragay, Kyrgy**	**55.69**	**321**	P	**P**	**22 31 18.2**	**-2.9**
KSH	**Kashi**	**55.78**	**317**	P	**P**	**22 31 23.3**	**+2.0**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	**56.01**	**328**	P	**P**	**22 31 23.4**	**+0.7**
	comp=Z,2.4nm,0.4s,baz=127,slow=8.2,SNR=48						
MKAR				PcP	**PcP**	**22 32 13.2**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=122,slow=3.9,SNR=8.8						
	comp=Z,2.4nm,0.4s						
GAR	**Garm**	**59.48**	**314**		**P**	**22 31 45.4**	**-1.1**
GAR				IAmb	IAmb	22 31 47.9	
	comp=Z,16nm,1.3s						
ZALV	**Zalesovo Beam**	**59.62**	**335**	P	**P**	**22 31 46.1**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=130,slow=5.8,SNR=5.4						
	comp=Z,0.8nm,0.4s						
SIMJ	**Simiganj**	**60.28**	**314**	P	**P**	**22 31 51.4**	**-0.4**
KURBB	**Kurchatov Array**	**60.34**	**329**	P	**P**	**22 31 51.8**	**+0.1**
	comp=Z,2.4nm,0.2s,baz=133,slow=5.8,SNR=13						
	comp=Z,2.4nm,0.2s						
KURK	**Kurchatov**	**60.35**	**330**		**P**	**22 31 51.5**	**-0.3**
KURK				IAmb	IAmb	22 31 52.9	
	comp=Z,15nm,1.1s						
BVAR	**Borovoye Array**	**65.87**	**329**	P	**P**	**22 32 27.4**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=135,slow=8.7,SNR=14						
	comp=Z,0.9nm,0.3s						
AB31	**Akbulak array**	**70.23**	**322**		**P**	**22 32 53.1**	**-0.7**
AB31				IAmb	IAmb	22 32 54.4	
	comp=Z,2.3nm,0.6s						
AKTO	**Aktyubinsk**	**71.80**	**323**	P	**P**	**22 33 03.4**	**+0.4**
	comp=Z,4.6nm,0.6s,baz=110,slow=6.7,SNR=16						
	comp=Z,4.6nm,0.6s						
ARTI	**Arti**	**73.60**	**329**	P	**P**	**22 33 12.5**	**-0.6**
ARTI	**Arti**	**73.60**	**329**	P	**P**	**22 33 12.9**	**-0.2**
	comp=Z,4.8nm,0.7s,baz=66,slow=3.8,SNR=9.5						
	comp=Z,4.8nm,0.7s						
RAYN	**Ar Rayn**	**76.89**	**293**		**P**	**22 33 31.6**	**-0.6**
BELG	**Belogornoye**	**78.59**	**323**	P	**P**	**22 33 40.3**	**-0.4**
	comp=Z,14nm,0.8s,baz=2.5,slow=5.4,SNR=2.8						
	comp=Z,14nm,0.8s						
GURO	**Guroymak-BITLI**	**80.77**	**308**		**P**	**22 33 52.5**	**-0.2**
GURO				IAmb	IAmb	22 33 54.8	
	comp=Z,7.8nm,0.9s						
ASF	**Jabal al Asfar**	**84.75**	**302**	P	**P**	**22 34 12.8**	**+0.1**
	comp=Z,5.2nm,0.6s,baz=138,slow=5.1,SNR=11						
	comp=Z,5.2nm,0.6s						
MMAI	**Mount Meron Ar**	**86.00**	**303**	P	**P**	**22 34 19.7**	**+0.9**
	comp=Z,1.2nm,0.4s,baz=72,slow=5.4,SNR=6.0						
	comp=Z,1.2nm,0.4s						
BRTR	**Keskin Array B**	**87.32**	**309**	P	**P**	**22 34 24.8**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=132,slow=6.1,SNR=8.2						
	comp=Z,0.9nm,0.7s						
ARCES	**ARCESS Array B**	**89.91**	**340**	P	**P**	**22 34 34.7**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=64,slow=5.5,SNR=4.1						
	comp=Z,1.6nm,0.7s						
SPITS	**Spitsbergen Ar**	**90.64**	**349**	P	**P**	**22 34 39.3**	**-0.1**
	comp=Z,7.5nm,0.7s,baz=81,slow=5.4,SNR=14						
	comp=Z,7.5nm,0.7s						
FINES	**FINESS Array B**	**90.67**	**331**	P	**P**	**22 34 38.6**	**-1.1**
	comp=Z,2.7nm,0.7s,baz=86,slow=2.9,SNR=9.4						
	comp=Z,2.7nm,0.7s						
HFS	**Hagfors**	**96.88**	**331**	P	**P**	**22 35 06.8**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=107,slow=9.3,SNR=2.0						
	comp=Z,1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**119.07**	**287**	PKP	**PKiKP**	**22 40 23.3**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=53,slow=2.0,SNR=9.3						

*MOS **22** 22:32:22.7±0.9, 6.9 2S×102.5 4E, h16km, mb5.1/39, Error ellipse: s-maj=9.7km s-min=5.5km az=108.9*
*IDC **22** 22:32:22.4±0.6, 6.9 1S×102.5 8E, h0km, mb4.5/23, mbtmp4.5/26, ML4.7/3, MS3.8/29, Error ellipse: s-maj=20.0km s-min=11.2km az=53.0*
*DJA **22** 22:32:23.5±0.2, 7.5S±2.1×10.3E±.1°, h10km, M5.0/78, mb5.0/78, mB5.5/34, MLv5.2/26, Mw(mB)5.0/34, MwMwp5.0/1, Mwp5.3/1*
*NEIC **22** 22:32:24.7±1.4, 6.8 4S±0.0 8×102.6 3E±0.0 5, h10km±1km, mb5.1/56, Error ellipse: s-maj=13.4km s-min=8.6km az=19.0*

ISC 22 22:32:24.9±0.5, 6.9 3S±0.0 4×102.5 9E±0.0 5, h18km±2km, h18km:pP-P,n371,σ1 9±38/361, mb5.0/112, MS4.1/48, 22C-6D,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
KASI	**Kota Agung**	**2.36**	**54**	P	**Pn**	**22 33 02.9**	**+0.2**
LWLI	**Liwa**	**2.40**	**38**	P	**Pn**	**22 33 03.8**	**+0.4**
MNAI	**Manna**	**2.58**	**8**		**Pn**	**22 33 05.2**	**-0.6**
MNAI	**Manna**	**2.58**	**8**	P	**Pn**	**22 33 05.9**	**+0.1**
MNAI	**Manna**	**2.58**	**8**	P	**Pn**	**22 33 05.3**	**-0.5**
MDSI	**Maura Dua**	**2.90**	**33**	P	**Pn**	**22 33 10.9**	**+0.7**
KLI	**Kotabumi**	**3.05**	**48**	P	**Pn**	**22 33 13.7**	**+1.4**
BLSI	**Bandar Lampung**	**3.06**	**60**	P	**Pn**	**22 33 13.2**	**+0.7**
CGJI	**Cibinong**	**3.10**	**84**	P	**Pn**	**22 33 12.8**	**-0.2**
LHSI	**Lahat**	**3.22**	**17**	P	**Pn**	**22 33 15.2**	**+0.6**
KSI	**Kapahiang**	**3.25**	**0**	P	**Pn**	**22 33 14.5**	**-0.7**
SBJI	**Serang**	**3.61**	**77**	P	**Pn**	**22 33 20.3**	**+0.3**
MASI	**Maura Aman, Be**	**3.78**	**355**	P	**Pn**	**22 33 22.4**	**0.0**
SKJI	**Sukabumi**	**3.94**	**91**	P	**Pn**	**22 33 24.9**	**+0.3**
DBJI	**Dramaga**	**4.15**	**85**	P	**Pn**	**22 33 28.5**	**+1.0**
CNJI	**Cibinong**	**4.52**	**95**	P	**Pn**	**22 33 31.7**	**-0.9**
PMBI	**Palembang**	**4.53**	**29**	P	**Pn**	**22 33 32.0**	**-0.7**
XMI	**Christmas Isla**	**4.65**	**139**	P	**Pn**	**22 33 30.5**	**-3.9**
PPSI	**Pulau Pagai**	**4.87**	**328**	P	**Pn**	**22 33 36.7**	**-0.6**
KRJI	**Kerinci**	**4.94**	**347**	P	**Pn**	**22 33 37.8**	**-0.5**
LEM	**Lembang**	**5.00**	**89**	Pn	**Pn**	**22 33 40.7**	**+1.5**
	90nm,0.3s,baz=269,slow=4.9,SNR=51						
LEM				Sn	**Sn**	**22 34 33.0**	**-3.7**
	27nm,0.3s,baz=171,slow=12,SNR=4.0						
LEM				LR	LR	22 35 47.1	
	comp=Z,628nm,19.1s,baz=255,slow=41						
	404nm,0.5s						
LEM	**Lembang**	**5.00**	**89**	P	**Pn**	**22 33 41.7**	**+2.5**
BBJI	**Bungbulang**	**5.05**	**96**	P	**Pn**	**22 33 39.0**	**-0.9**
KPJI	**Karang Pucung**	**6.31**	**94**	P	**Pn**	**22 33 58.3**	**+1.2**
PDSI	**Padang**	**6.34**	**340**	P	**Pn**	**22 33 56.3**	**-1.3**
	0.7nm86nm,0.8s						
TPI	**Tanjungpandan**	**6.53**	**51**	P	**Pn**	**22 34 01.1**	**+0.9**
SISI	**Saibi**	**6.57**	**328**	P	**Pn**	**22 33 59.9**	**-0.8**
	0.7nm170nm,0.9s						
DSRI	**Dabo**	**6.71**	**17**	P	**Pn**	**22 34 02.6**	**0.0**
	0.6nm5μm119nm,1.0s						
PPI	**Padang Panjang**	**6.79**	**341**	P	**Pn**	**22 34 02.3**	**-1.4**
	0.5nm75nm,1.1s						
BKNI	**Bangkinang**	**7.37**	**348**	P	**Pn**	**22 34 11.2**	**-0.5**
	0.9nm139nm,0.5s						
COCO	**West Island**	**7.71**	**227**		**Pn**	**22 34 14.4**	**-2.0**
**COC

5.6nm,0.4s
PSI Prapat 10.33 339 P **Pn** **22 34 54.2 +1.7**
PSI Prapat 10.33 339 P **Pn** **22 34 50.4 -2.1**
BLJI Banyuglugur 10.95 95 P **Pn** **22 35 00.8 0.0**
92nm,0.9s
SNSI Sinabang, Aceh 11.18 326 P **Pn** **22 35 03.6 -0.4**
162nm,1.3s
KMMI Kalianget 11.30 91 P **Pn** **22 35 05.4 -0.2**
112nm,1.1s
KSM Kuching 11.36 43 **Pn** **22 35 05.9 -0.6**
KSM Kuching 11.36 43 P **Pn** **22 35 07.9 +1.5**
KCSI Kotacane, Aceh 11.44 335 P **Pn** **22 35 06.1 -1.5**
JAGI Jajag, Banyuwa 11.56 98 **Pn** **22 35 07.1 -2.2**
JAGI Jajag, Banyuwa 11.56 98 P **Pn** **22 35 11.2 +1.9**
JAGI Jajag, Banyuwa 11.56 98 P **Pn** **22 35 07.3 -2.0**
2µm156nm,1.1s
ABJI Asem Bagus 11.58 95 P **Pn** **22 35 08.1 -1.4**
KULM Kulim 12.29 351 **Pn** **22 35 18.4 -0.8**
KULM Kulim 12.29 351 P **Pn** **22 35 19.3 +0.1**
SRBI Singaraja 12.57 96 P **Pn** **22 35 22.0 -1.0**
126nm,0.8s
MLSI Meulaboh, Aceh 12.72 331 P **Pn** **22 35 23.4 -1.7**
82nm,0.7s
SBUM Sibu 13.39 46 **Pn** **22 35 33.1 -1.0**
SBUM Sibu 13.39 46 P **Pn** **22 35 37.4 +3.2**
TWSI Taliwang, Sumb 14.28 98 P **Pn** **22 35 44.4 -1.9**
66nm,0.8s
PLAI Plampang 15.16 98 P **Pn** **22 35 58.4 0.0**
PLAI Plampang 15.16 98 P **Pn** **22 35 55.3 -3.1**
1µm96nm,0.9s
WBSI Waikabubak, Su 16.84 100 P **Pn** **22 36 20.7 +0.6**
58nm,0.7s
KAPI Kappang 17.18 85 P **Pn** **22 36 22.7 -1.5**
1.9nm,0.3s,baz=253,slow=22,SNR=5.9
KAPI LR LR 22 44 23.8
comp=Z,416nm,19.6s,baz=264,slow=42
7.1nm,0.3s
SPSI Sidrap Palu 17.35 81 P **Pn** **22 36 25.4 -1.0**
BKSI Bulukumba 17.51 86 P **Pn** **22 36 28.1 -0.2**
1µm130nm,1.1s
BNSI Bone 17.61 83 P **Pn** **22 36 29.0 -0.6**
49nm,1.0s
BASI Baing, Sumba 18.09 102 P **P** **22 36 36.5 +0.7**
4µm287nm,1.2s
PCI Palu 18.21 72 P **P** **22 36 37.2 0.0**
141nm,1.2s
EDFI Ende, Flores 19.01 97 P **P** **22 36 44.8 -1.3**
73nm,1.3s
MMRI Maumere 19.54 96 P **P** **22 36 51.9 0.0**
MMRI Maumere 19.54 96 P **Pn** **22 36 52.3 -0.8**
MMRI Maumere 19.54 96 P **P** **22 36 51.1 -0.7**
246nm,0.9s
DLV Lat 19.64 17 P **P** **22 36 51.9 -1.2**
DLV IAmb IAmb 22 36 55.1
comp=Z,131nm,1.7s
DLV Lat 19.64 17 P **Pn** **22 36 54.6 +0.1**
TOLI2 Tolitoli 19.84 67 **P** **22 36 54.0 -1.0**
TOLI2 IAmb IAmb 22 37 06.0
comp=Z,166nm,1.7s
TOLI2 Tolitoli 19.84 67 P **Pn** **22 36 57.0 +0.4**
MYLDM Lahad Datu 19.92 53 P **P** **22 36 53.4 -2.5**
MYLDM Lahad Datu 19.92 53 P **Pn** **22 36 58.4 +0.8**
APSI Ampana 19.93 73 P **P** **22 36 56.2 +0.2**
comp=Z,1µmcomp=Z,137nm,1.2s
MRSI Marisa 20.66 70 P **P** **22 37 04.0 0.0**
comp=Z,1µmcomp=Z,43nm,1.1s
LUWI Luwuk 20.96 75 P **P** **22 37 05.6 -1.6**
LUWI IAmb IAmb 22 37 12.3
comp=Z,102nm,1.0s
LUWI Luwuk 20.96 75 P Pn 22 37 08.3 -1.5
LUWI Luwuk 20.96 75 P **P** **22 37 06.8 -0.4**
comp=Z,3µmcomp=Z,120nm,1.0s
BATI Baumata 21.09 100 P **P** **22 37 09.3 +0.6**
comp=Z,354nm,0.8s,baz=270,slow=2.4,SNR=30
BATI S **S** **22 40 58.2 -4.8**
comp=Z,13nm,0.5s,baz=98,slow=22,SNR=1.4
BATI LR LR 22 45 07.7
comp=Z,337nm,21.8s,baz=313,slow=36
BATI Baumata 21.09 100 P **P** **22 37 08.5 -0.2**
SOEI Soe 21.63 99 P **P** **22 37 13.6 -1.0**
SOEI Soe 21.63 99 P **P** **22 37 14.8 +0.2**
SOEI Soe 21.63 99 P **P** **22 37 13.9 -0.7**
MBWA Marble Bar 21.80 132 P **P** **22 37 17.3 +1.1**
PSA00 Pilbara Seismi 22.14 133 P **P** **22 37 20.4 +0.6**
comp=Z,41nm,1.5s
PSA00 Pilbara Seismi 22.14 133 **P** **22 37 20.6 +0.8**
PSA00 IAmb IAmb 22 37 29.9
comp=Z,92nm,1.6s
PSA00 Pilbara Seismi 22.14 133 **P** **22 37 19.9 +0.1**
PSA00 IAmb IAmb 22 37 40.1
comp=Z,28nm,1.3s
PSA00 Pilbara Seismi 22.14 133 P **P** **22 37 20.3 +0.5**
PSAC2 Pilbara Seismi 22.17 133 P **P** **22 37 20.3 +0.1**
comp=Z,38nm,1.4s
SANI Sanana 23.82 79 P **P** **22 37 36.7 -0.5**
SANI Sanana 23.82 79 P **P** **22 37 36.5 -0.7**
comp=Z,925nmcomp=Z,73nm,1.2s
NLAI Namlea 24.68 83 P **P** **22 37 44.3 -0.9**
comp=Z,4µmcomp=Z,30nm,0.8s
FITZ Fitzroy Crossi 25.06 118 **P** **22 37 47.6 -0.9**
FITZ Fitzroy Crossi 25.06 118 P **P** **22 37 49.2 +0.7**
comp=Z,9.5nm,0.7s,baz=273,slow=5.8,SNR=18
comp=Z,9.5nm,0.7s
CM31 Chiang Mai Arr 25.48 352 P **P** **22 37 52.2 0.0**
CMAR Chiang Mai Arr 25.48 352 **P** **22 37 51.6 -0.7**
CMAR Chiang Mai Arr 25.48 352 P **P** **22 37 53.0 +0.8**
comp=Z,28nm,1.0s,baz=183,slow=8.5,SNR=95
comp=Z,28nm,1.0s
CHTO Chiang Mai 25.83 352 **P** **22 37 54.2 -1.3**
CHTO Chiang Mai 25.83 352 P **P** **22 37 56.2 +0.7**
CHTO Chiang Mai 25.83 352 P **P** **22 37 54.2 -1.3**
CHTO pmax pmax
comp=Z,28nm,1.0s
TNTI Ternate 25.88 74 **P** **22 37 53.6 -2.5**
TNTI Ternate 25.88 74 P **P** **22 37 56.9 +0.9**
TNTI Ternate 25.88 74 P **P** **22 37 55.0 -1.0**
comp=Z,1µmcomp=Z,78nm,1.3s
QIZ Qiongzhong 26.77 15 P **P** **22 38 03.3 -0.6**
QIZ S **S** **22 42 41.8 +2.6**
QIZ pmax pmax
comp=Z,9.0nm,1.2s
QIZ pmax pmax
comp=Z,200nm,4.5s
QIZ LR LR
comp=Z,900nm,12.2s
QIZ LR LR
comp=Z,610nm,11.2s
QIZ LR LR
comp=Z,950nm,14.2s
DAV Davao City (W) 26.82 59 LR LR 22 48 26.6
comp=Z,196nm,21.7s,baz=288,slow=36
KNRA Kununurra 27.07 111 **P** **22 38 06.3 -0.4**
KNRA IAmb IAmb 22 38 19.9
comp=Z,49nm,0.8s
SLVN Son La 28.12 3 **P** **22 38 15.8 -0.3**
SLVN IAmb IAmb 22 38 27.1
comp=Z,24nm,1.1s
SLVN Son La 28.12 3 P **P** **22 38 18.4 +2.3**
DRS Darwin Rock St 28.43 103 P **P** **22 38 19.8 +0.9**
MTN Manton Dam 28.71 104 P **P** **22 38 21.4 -0.1**
SWI Sorong 29.22 79 P **P** **22 38 24.7 -1.3**
comp=Z,1µmcomp=Z,29nm,1.1s
NWAO Narrogin (SRO) 29.23 154 LR LR 22 48 01.7
comp=Z,202nm,21.8s,baz=308,slow=32
H01W3 Cape Leeuwin H 29.79 161 T T 23 10 20.9
baz=339,slow=76,SNR=35
H01W2 Cape Leeuwin H 29.80 161 T T 23 10 07.8
baz=339,slow=76,SNR=38
H01W1 Cape Leeuwin H 29.80 161 T T 23 10 18.1
baz=339,slow=76,SNR=38
H08S2 Diego Garcia H 29.86 267 T T 23 11 12.6
baz=88,slow=75,SNR=48
H08S3 Diego Garcia H 29.87 267 T T 23 10 50.5
baz=88,slow=75,SNR=68
H08S1 Diego Carcia H 29.88 267 T T 23 11 16.0
baz=88,slow=75,SNR=44
BRDH Bariadhala 31.31 340 LR LR 22 54 23.4
comp=Z,359nm,18.5s,baz=148,slow=42
KMI Kunming 31.86 0 ⇑P **P** **22 38 51.4 +2.0**
KMI LR LR
comp=Z,2µm,11.9s
KMI LR LR
comp=Z,1µm,12.9s
KMI LR LR
comp=Z,2µm,11.7s
RKPI Ransiki, Papua 31.95 82 P **P** **22 38 49.5 -0.6**

comp=Z,24nm,0.7s
PZH PanZhiHua 33.24 359 P **P** **22 39 04.8 +3.4**
PZH S **S** **22 44 23.3 +2.4**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,110nm,4.7s
PZH LR LR
comp=Z,1µm,13.3s
PZH LR LR
comp=Z,860nm,15.7s
PZH LR LR
comp=Z,1µm,13.5s
WB0 Warramunga Arr 33.40 116 **P** **22 39 02.3 -0.4**
WB0 IAmb IAmb 22 39 13.1
comp=Z,16nm,0.9s
WRA Warramunga Arr 33.40 116 **P** **22 39 01.9 -0.9**
WRA Warramunga Arr 33.40 116 P **P** **22 39 02.7 -0.1**
comp=Z,8.9nm,1.0s,baz=286,slow=12,SNR=27
WRA PcP **PcP** **22 41 44.1 -0.2**
comp=Z,1.2nm,0.8s,baz=281,slow=2.9,SNR=3.2
comp=Z,8.9nm,1.0s
WRA Warramunga Arr 33.40 116 P **P** **22 39 01.9 -0.9**
WRA pmax pmax
comp=Z,4.0nm,1.7s
WB1 Warramunga Ar. 33.41 116 P **P** **22 39 03.7 +0.8**
GYA Guiyang 33.42 7 ⇓P **P** **22 39 04.5 +1.6**
GYA S **S** **22 44 24.3 +0.6**
GYA pmax pmax
comp=Z,26nm,1.1s
GYA pmax pmax
comp=Z,180nm,3.6s
GYA LR LR
comp=Z,410nm,13.7s
GYA LR LR
comp=Z,410nm,17.4s
GYA LR LR
comp=Z,280nm,12.9s
WR8 Warramunga Arr 33.55 116 **P** **22 39 03.9 -0.2**
WR8 IAmb IAmb 22 39 14.1
comp=Z,42nm,1.4s
SHL Shillong 33.94 343 **P** **22 39 06.8 -0.7**
SHL IAmb IAmb 22 39 30.4
comp=Z,24nm,1.0s
SHL Shillong 33.94 343 P **P** **22 39 06.8 -0.7**
SHL pmax pmax
comp=Z,24nm,1.0s
AS31 Alice Springs 34.36 122 P **P** **22 39 09.9 -1.2**
ASAR Alice Springs 34.36 122 P **P** **22 39 11.1 -0.1**
comp=Z,3.0nm,0.9s,baz=292,slow=8.6,SNR=17
ASAR PcP **PcP** **22 41 46.8 -0.2**
comp=Z,1.2nm,0.8s,baz=297,slow=2.4,SNR=2.4
comp=Z,3.0nm,0.9s
SMPI Sarmi 36.33 84 P **P** **22 39 27.4 -0.8**
comp=Z,27nm,1.1s
CD2 Chengdu 37.64 2 P **P** **22 39 40.0 +0.9**
CD2 S **S** **22 45 30.9 +2.7**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 LR LR
comp=Z,950nm,11.0s
CD2 LR LR
comp=Z,2µm,14.3s
CD2 LR LR
comp=Z,2µm,12.6s
GENI Genyem 37.69 85 P **P** **22 39 40.2 +0.5**
GENI Genyem 37.69 85 P **P** **22 39 38.5 -1.2**
LSA Lhasa 38.04 344 P **P** **22 39 42.4 -0.6**
LSA Lhasa 38.04 344 P **P** **22 39 42.4 -0.6**
LSA pmax pmax
comp=Z,12nm,0.9s
LSA LR LR
comp=Z,120nm,11.7s
LSA LR LR
comp=Z,180nm,8.8s
LSA Lhasa 38.04 344 P **P** **22 39 42.4 -0.6**
LSA pmax pmax
comp=Z,15nm,0.8s
JAY Jayapura 38.23 85 P **P** **22 39 42.5 -1.8**
comp=Z,755nmcomp=Z,35nm,0.8s
QIS Mount Isa 38.31 114 P **P** **22 39 44.4 -0.5**
WHN Wuhan 38.93 16 P **P** **22 39 51.3 +1.5**
WHN pP **pwP** **22 39 56.3 -2.8**
WHN sP **sP** **22 39 59.8 +3.8**
COEN Coen 40.48 103 **P** **22 40 02.3 -0.7**
COEN Coen 40.48 103 P **P** **22 40 02.5 -0.5**
XAN Xi'an 41.18 8 ⇑P **P** **22 40 08.8 +0.2**
XAN sP pwP 22 40 16.9 -0.9
XAN pmax pmax
comp=Z,32nm,1.1s
XAN LR LR
comp=Z,380nm,10.8s
XAN LR LR
comp=Z,1µm,11.0s
XAN LR LR
comp=Z,360nm,10.3s
NJ2 Nanjing 41.75 21 *e*P **P** **22 40 14.4 +1.2**
NJ2 pmax pmax
comp=Z,17nm,0.6s
NJ2 LR LR
comp=Z,890nm,8.5s
LYN LuoYang 42.30 12 P **P** **22 40 19.0 +1.3**
LYN pmax pmax
comp=Z,58nm,1.3s
LYN pmax pmax
comp=Z,300nm,6.8s
LYN LR LR
comp=Z,2µm,16.2s
LYN LR LR
comp=Z,840nm,16.1s
LYN LR LR
comp=Z,2µm,14.4s
LZDM Lanzhou Array 42.67 1 P **P** **22 40 21.0 0.0**
comp=Z,1.1nm,0.3s,baz=170,slow=10,SNR=5.0
comp=Z,1.1nm,0.3s
LZH Lanzhou 42.80 1 *e*P **P** **22 40 23.4 +1.5**
LZH sP pwP 22 40 31.6 +0.5
LZH pmax pmax
comp=Z,27nm,1.0s
LZH LR LR
comp=Z,2µm,13.7s
LZH LR LR
comp=Z,720nm,12.9s
LZH LR LR
comp=Z,2µm,13.1s
GOMU GeErMu 43.52 351 P **P** **22 40 28.3 +0.3**
GOMU PcP **PcP** **22 42 19.5 +3.7**
GOMU pmax pmax
comp=Z,8.0nm,1.0s
GOMU LR LR
comp=Z,560nm,12.3s
GOMU LR LR
comp=Z,120nm,12.7s
GOMU LR LR
comp=Z,450nm,12.4s
STKA Stephens Creek 44.00 130 P **P** **22 40 32.1 +0.5**
STKA Stephens Creek 44.00 130 P **P** **22 40 31.2 -0.4**
comp=Z,5.2nm,0.9s,baz=307,slow=10,SNR=5.6
comp=Z,5.2nm,0.9s
STKA Stephens Creek 44.00 130 P **P** **22 40 32.1 +0.5**
STKA pmax pmax
comp=Z,48nm,0.9s
CTAO Charters Tower 44.28 112 **P** **22 40 34.3 +0.3**
CTAO IAmb IAmb 22 40 36.8
comp=Z,55nm,1.6s
CTAO Charters Tower 44.28 112 P **P** **22 40 34.3 +0.3**
CTAO pmax pmax
comp=Z,55nm,1.6s
MANU Manus Island 44.88 86 **P** **22 40 38.3 -0.6**
MANU IAmb IAmb 22 40 39.7
comp=Z,26nm,0.9s
TIA Tai'an 45.03 17 P **P** **22 40 39.9 +0.2**
TIA pmax pmax
comp=Z,22nm,1.2s
TIA LR LR
comp=Z,960nm,14.5s
TIA LR LR
comp=Z,750nm,13.9s
TIA LR LR
comp=Z,2µm,15.3s
TIY Taiyuan 45.35 11 P **P** **22 40 43.6 +1.3**
HNS HongShan 45.53 14 ⇓P **P** **22 40 44.8 +1.3**
HNS pmax pmax
comp=Z,22nm,1.3s
GTA Gaotai 46.18 357 P **P** **22 40 50.8 +2.0**
GTA sP pwP 22 41 00.8 +2.9
GTA S **S** **22 47 40.6 +6.2**
GTA pmax pmax
comp=Z,11nm,1.5s
GTA pmax pmax
comp=Z,190nm,7.6s
GTA LR LR
comp=Z,730nm,13.8s
GTA LR LR
comp=Z,470nm,12.7s
GTA LR LR
comp=Z,940nm,14.2s
GUMO Guam 46.67 64 LR LR 23 00 47.3
comp=Z,39nm,20.4s,baz=213,slow=36
BTO Baotou 47.79 8 *e*P **P** **22 41 03.1 +1.7**
BTO pP **pwP** **22 41 07.6 -3.0**
BTO sP **sP** **22 41 10.3 +2.6**
BTO PP **PP** **22 42 54.6 +1.2**
BTO pmax pmax
comp=Z,25nm,1.4s
BTO pmax pmax
comp=Z,210nm,7.2s
BTO LR LR
comp=Z,2µm,13.6s
BTO LR LR
comp=Z,1µm,12.5s
BTO LR LR
comp=Z,2µm,13.1s
HHC Hu-ho-hao-te 48.25 9 ⇑*i*P **P** **22 41 06.0 +1.0**
HHC pmax pmax
comp=Z,21nm,1.6s
HHC pmax pmax
comp=Z,180nm,4.3s
HHC LR LR
comp=Z,600nm,12.7s
HHC LR LR
comp=Z,450nm,16.1s
HHC LR LR
comp=Z,630nm,14.3s
BJT Baijiatuau 48.37 14 P **P** **22 41 06.1 +0.4**
BJT IAmb IAmb 22 41 16.3
comp=Z,27nm,1.2s
BJT Baijiatuau 48.37 14 P **P** **22 41 06.1 +0.4**
BJT pmax pmax
comp=Z,27nm,1.2s
BJI Beijing 48.39 14 P **P** **22 41 06.5 +0.6**
BJI pP **pwP** **22 41 11.0 -4.1**
BJI sP **sP** **22 41 14.1 +2.0**
BJI S **S** **22 48 04.9 -0.7**
BJI pmax pmax
comp=Z,10.0nm,1.5s
BJI LR LR
comp=Z,430nm,14.9s
BJI LR LR
comp=Z,220nm,13.1s
BJI LR LR
comp=Z,490nm,15.4s
NIL Nilore 49.02 327 **P** **22 41 10.1 -0.8**
NIL IAmb IAmb 22 41 20.6
comp=Z,31nm,1.1s
NIL Nilore 49.02 327 P **P** **22 41 10.1 -0.8**
NIL pmax pmax
comp=Z,31nm,1.1s
KSRS Korea Array 50.09 26 P **P** **22 41 19.7 +0.7**
comp=Z,14nm,0.8s,baz=225,slow=7.8,SNR=25
comp=Z,14nm,0.8s
XLT XiLinHaoTe 52.04 12 *e*P **P** **22 41 34.1 +0.4**
XLT pP sP 22 41 37.1 -2.8
XLT sP pwP 22 41 43.1 +0.2
XLT pmax pmax
comp=Z,12nm,1.1s
XLT pmax pmax
comp=Z,180nm,5.6s
XLT LR LR
comp=Z,53nm,13.9s
XLT LR LR
comp=Z,300nm,13.2s
XLT LR LR
comp=Z,620nm,12.2s
WMQ Urumqi 52.28 346 *e*P **P** **22 41 37.6 +2.2**
WMQ sP pwP 22 41 45.3 -0.5
WMQ pmax pmax
comp=Z,44nm,1.1s
WMQ pmax pmax
comp=Z,150nm,4.3s
WMQ LR LR
comp=Z,2µm,20.3s
WMQ LR LR
comp=Z,1µm,23.9s
KSH Kashi 52.36 334 P **P** **22 41 35.5 -0.7**
KSH sP pwP 22 41 44.3 -2.1
KSH S **S** **22 48 57.6 -3.7**
KSH pmax pmax
comp=Z,17nm,0.9s
KSH LR LR
comp=Z,190nm,19.9s
KSH LR LR
comp=Z,220nm,12.2s
KSH LR LR
comp=Z,160nm,13.2s
PRZ Przheval'sk 53.89 338 **P** **22 41 47.8 +0.3**
PRZ IAmb IAmb 22 42 00.3
comp=Z,29nm,1.4s
PRZ Przheval'sk 53.89 338 P **P** **22 41 47.8 +0.3**
PRZ pmax pmax
comp=Z,29nm,1.4s
KDJ Kajisay 54.06 337 **P** **22 41 49.3 +0.6**
KDJ IAmb IAmb 22 42 05.0
comp=Z,28nm,1.0s
KDJ Kajisay 54.06 337 P **P** **22 41 49.3 +0.6**
KDJ pmax pmax
comp=Z,28nm,1.0s
SHLS Shalkode 54.09 339 *e*P **P** **22 41 48.0 -0.9**
SHLS Shalkode 54.09 339 *e*P **P** **22 41 47.9 -0.9**
UZB Uzynbulak 54.24 339 *e*P **P** **22 41 50.2 +0.2**
comp=Z,6.9nm,0.9s
UZB Uzynbulak 54.24 339 *e*P **P** **22 41 50.1 +0.2**
UZB pmax pmax
comp=Z,7.0nm,0.9s
SATY Saty 54.39 338 *e*P **P** **22 41 51.3 +0.3**
comp=Z,5.8nm,0.8s
SATY Saty 54.39 338 *e*P **P** **22 41 51.3 +0.3**
SATY pmax pmax
comp=Z,6.0nm,0.8s
CN2 Changchun 54.57 20 *e*P **P** **22 41 52.1 0.0**
CN2 pmax pmax
comp=Z,30nm,1.0s
GAR Garm 54.62 329 **P** **22 41 52.0 -0.8**
GAR IAmb IAmb 22 42 01.8
comp=Z,29nm,1.2s
MJAR Matsushiro Arr 54.63 35 P **P** **22 41 51.1 -1.6**
comp=Z,2.4nm,0.8s,baz=212,slow=8.0,SNR=4.8
comp=Z,2.4nm,0.8s
SONM Songino Array 54.63 3 **P** **22 41 53.2 +0.5**
SONM IAmb IAmb 22 41 55.3
comp=Z,21nm,1.0s
SONM Songino Array 54.63 3 P **P** **22 41 53.5 +0.9**
comp=Z,17nm,1.0s,baz=183,slow=8.9,SNR=61
SONM LR LR 23 07 46.4
comp=Z,143nm,18.9s,baz=182,slow=39
comp=Z,17nm,1.0s
SONM Songino Array 54.63 3 P **P** **22 41 53.2 +0.5**
SONM pmax pmax
comp=Z,21nm,1.0s
ULN Ulaanbaatar 54.70 4 **P** **22 41 53.1 0.0**
ULN IAmb IAmb 22 41 55.7
comp=Z,14nm,1.1s
ULN Ulaanbaatar 54.70 4 P **P** **22 41 53.2 0.0**
ULN pmax pmax
comp=Z,14nm,1.1s
CHGR Chuyangaron 54.96 328 **P** **22 41 53.8 -1.4**
CHGR IAmb IAmb 22 42 03.7
comp=Z,34nm,1.2s
CHGR Chuyangaron 54.96 328 P **P** **22 41 53.8 -1.4**
CHGR pmax pmax
comp=Z,33nm,1.2s
MDOK Medeo 54.99 337 *e*P **P** **22 41 55.6 +0.2**
MDOK Medeo 54.99 337 *e*P **P** **22 41 55.6 +0.2**
SIMJ Simiganj 55.04 328 **P** **22 41 54.8 -1.0**
AAA Alma-Ata 55.08 337 *e*P **P** **22 41 56.3 +0.4**
comp=Z,5.8nm,0.7s
AAA Alma-Ata 55.08 337 *e*P **P** **22 41 56.3 +0.4**
AAA pmax pmax
comp=Z,6.0nm,0.7s
ARSB Arslanbob 55.16 333 **P** **22 41 56.1 -0.6**
ARSB Arslanbob 55.16 333 P **P** **22 41 56.1 -0.6**
ARSB pmax pmax

comp=Z,46nm,1.0s
AAK Ala-Archa 55.57 335 *ce* P **P 22 42 01.3 +1.7**
AAK pmax pmax
comp=Z,8.0nm,1.7s
TDK Taldyqorghan 56.08 339 *e* P **P 22 42 03.1 +0.1**
comp=Z,5.1nm,0.6s
TDK Taldyqorghan 56.08 339 *e* P **P 22 42 03.1 +0.1**
TDK pmax pmax
comp=Z,5.0nm,0.6s
SGDS Sogindy 56.19 336 *e* P **P 22 42 04.1 +0.2**
ZSN Zaisan 56.37 346 *e* P **P 22 42 05.7 +0.6**
ZSN Zaisan 56.37 346 *e* P **P 22 42 05.6 +0.6**
MK31 Makanchi Array 56.45 343 *ce* P **P 22 42 06.6 +1.0**
MKAR Makanchi Array 56.45 343 P 22 42 05.5 -0.1
MKAR Makanchi Array 56.45 343 P **P 22 42 06.1 +0.5**
comp=Z,10nm,0.9s,baz=148,slow=7.9,SNR=38
MKAR LR LR 23 11 02.2
comp=Z,70nm,18.9s,baz=146,slow=41
comp=Z,10nm,0.9s
BNX BinXian 56.94 21 ⇓ P **P 22 42 10.1 +1.0**
BNX pmax pmax
comp=Z,50nm,1.3s
ZAK Zakamensk 57.08 1 *e* P **P 22 42 10.9 +0.8**
ZAK pmax pmax
comp=Z,13nm,1.4s
USRK Ussuriysk Ar. 57.40 25 P **P 22 42 11.9 -0.4**
comp=Z,17nm,0.8s,baz=219,slow=6.2,SNR=27
comp=Z,17nm,0.8s
CHM Chimkent 57.50 331 *e* P **P 22 42 13.5 +0.3**
CHM Chimkent 57.50 331 *e* P **P 22 42 13.5 +0.3**
KK31 Karatay Array 57.69 333 P 22 42 14.6 +0.1
KK31 Karatay Array 57.69 333 P **P 22 42 14.6 +0.1**
KK31 pmax pmax
comp=Z,7.0nm,1.0s
KKAR Karatay Array 57.69 333 P 22 42 14.1 -0.4
KKAR Karatay Array 57.69 333 P **P 22 42 14.1 -0.4**
BRLS Borolday 57.94 332 *e* P **P 22 42 15.4 -0.9**
BRLS Borolday 57.94 332 *e* P **P 22 42 15.4 -0.9**
MOY Mondy 58.38 359 *e* P **P 22 42 20.5 +1.2**
MOY pmax pmax
comp=Z,33nm,2.1s
H04N2 CROZET ISLANDS 58.51 219 T T 23 45 48.7
baz=64,slow=75,SNR=29
H04N1 CROZET ISLANDS 58.52 219 T T 23 45 49.1
baz=64,slow=75,SNR=28
H04N3 CROZET ISLANDS 58.52 219 T T 23 45 47.7
baz=64,slow=75,SNR=29
H04S1 CROZET ISLANDS 58.73 218 T T 23 47 04.0
baz=63
H04S3 CROZET ISLANDS 58.75 218 T T 23 46 47.6
baz=63
H04S2 CROZET ISLANDS 58.75 218 T T 23 46 52.1
baz=63
IRK Irkutsk 58.96 1 *e* P **P 22 42 23.4 +0.3**
IRK pmax pmax
comp=Z,50nm,2.2s
CASY Casey 59.51 176 P 22 42 27.7 +0.9
CASY IAmb IAmb 22 42 36.6
comp=Z,10nm,0.9s
HEH HeiHe 60.89 18 *e* P **P 22 42 36.8 +0.4**
HEH pmax pmax
comp=Z,25nm,0.9s
HEH LR LR
comp=Z,310nm,11.2s
HEH LR LR
comp=Z,430nm,12.9s
HEH LR LR
comp=Z,630nm,12.1s
KURBB Kurchatov Arra 60.98 343 P **P 22 42 37.3 +0.2**
comp=Z,6.0nm,0.9s,baz=161,slow=6.2,SNR=32
comp=Z,6.0nm,0.9s
KURK Kurchatov 61.04 343 P 22 42 37.6 +0.2
KURK IAmb IAmb 22 42 53.5
comp=Z,17nm,1.0s
KURK Kurchatov 61.04 343 *ce* P **P 22 42 38.1 +0.7**
KURK pmax pmax
comp=Z,18nm,1.3s
BRZS Berezniki 62.35 339 *e* P **P 22 42 46.9 +0.5**
BRZS Berezniki 62.35 339 *e* P **P 22 42 46.8 +0.5**
ZAA0 Zalesovo Array 62.47 348 P 22 42 47.0 0.0
ZALV Zalesovo Beam 62.47 348 P 22 42 46.8 -0.2
ZALV Zalesovo Beam 62.47 348 P **P 22 42 47.4 +0.4**
comp=Z,16nm,0.9s,baz=160,slow=4.7,SNR=56
ZALV LR LR 23 13 57.9
comp=Z,92nm,18.6s,baz=210,slow=40
comp=Z,16nm,0.9s
RAYN Ar Rayn 63.41 300 P 22 42 54.7 +0.7
RAYN IAmb IAmb 22 43 10.5
comp=Z,18nm,1.4s
RAYN Ar Rayn 63.41 300 P P 22 42 54.7 +0.7
RAYN pmax pmax
comp=Z,18nm,1.4s
ZEA Zeya 63.92 16 *e* P **P 22 42 57.9 +1.2**
ZEA pmax pmax
comp=Z,20nm,0.9s
YSS Yuzhno-Sakhali 64.38 29 *e* P **P 22 42 59.9 +0.1**
YSS pmax pmax
comp=Z,50nm,0.7s
BVAR Borovoye Array 65.67 339 P P 22 43 08.0 -0.1
comp=Z,10.0nm,0.8s,baz=142,slow=8.7,SNR=54
comp=Z,10.0nm,0.8s
BORK Borovoye 65.71 339 *e* P **P 22 43 08.7 +0.3**
BORK pmax pmax
comp=Z,12nm,1.0s
AB31 Akbulak array 67.17 331 P 22 43 17.5 -0.3
ABKAR Akbulak array 67.17 331 P 22 43 17.8 +0.1
AKTO Aktyubinsk 68.89 331 LR LR 23 15 44.1
comp=Z,70nm,20.2s,baz=252,slow=38
MAK Makhachkala 70.38 320 *e* P 22 43 31.6 -6.3
MAK *e* 22 46 12.4
MAK *e* PPP PPP 22 47 49.4
MAK *e* S S 22 52 39.6 -10
MAK *e* SS **SS 22 57 13.9 -7.0**
MAK pmax pmax
comp=Z,53nm,0.9s
GNI Garni 70.85 317 P P 22 43 41.2 +0.1
comp=Z,13nm,1.3s
YAK Yakutsk 71.88 13 P 22 43 46.4 -0.1
YAK Yakutsk 71.88 13 LR LR 23 16 52.7
comp=Z,94nm,18.0s,baz=219,slow=37
YAK Yakutsk 71.88 13 *e* P **P 22 43 45.4 -1.2**
YAK *e* PP **pP 22 43 48.6 -2.6**
YAK *e* S **S 22 53 07.3 +0.9**
YAK pmax pmax
comp=Z,35nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=N,13nm,1.2s
YAK smax smax
comp=E,21nm,1.7s
YAK smax smax
comp=N,8.0nm,1.3s
GURO Guroymak-BITLI 72.04 314 P 22 43 48.3 0.0
GURO IAmb IAmb 22 44 05.1
comp=Z,47nm,2.0s
SVE Sverdlovsk 72.19 337 *e* P **P 22 43 49.4 +0.8**
SVE pmax pmax
comp=Z,36nm,1.3s
MARD Mardin 72.45 313 P P 22 43 51.2 +0.5
MARD IAmb IAmb 22 44 07.3
comp=Z,15nm,1.0s
ARTI Arti 72.77 336 P 22 43 52.0 -0.1
ARTI IAmb IAmb 22 44 08.1
comp=Z,20nm,0.8s
ARTI Arti 72.77 336 LR LR 23 19 14.5
comp=Z,100nm,19.1s,baz=104,slow=39
ARTI Arti 72.77 336 *c i* P **P 22 43 52.3 +0.3**
ARTI 22 44 06.6
ARTI PPP PPP 22 48 19.8
ARTI S **S 22 53 20.8 +3.9**
ARTI SS **SS 22 57 55.4 -1.7**
ARTI pmax pmax
comp=Z,20nm,0.9s
BKZ Black Stump Fm 73.18 129 P 22 43 55.2 +0.2
LSZ Lusaka 73.20 256 LR LR 23 10 50.3
comp=Z,67nm,21.2s,baz=136,slow=32
RTZ Ruatahuna 73.52 128 P 22 43 57.6 +0.6
ASF Jabal al Asfar 73.56 306 LR LR 23 16 45.8
comp=Z,60nm,18.4s,baz=143,slow=36
SKR Severo-Kuril's 73.56 32 *ce* P **P 22 43 58.6 +1.8**
KBZ Khabaz 73.70 319 P **P 22 43 57.5 -0.3**
comp=Z,4.5nm,0.9s,baz=189,slow=5.3,SNR=8.5
comp=Z,4.5nm,0.9s
KBZ Khabaz 73.70 319 *ce* P **P 22 43 57.2 -0.6**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
SHA1 Shidzhatmaz 73.86 319 *i* P **P 22 43 59.3 +0.2**
KIV Kislovodsk 73.94 319 *e* P **P 22 43 56.8 -2.5**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,34nm,18.0s
KIV Kislovodsk 73.94 319 P **P 22 43 59.5 +0.2**
comp=Z,9.6nm,1.6s
SYO Syowa Base 74.08 200 ⇑ *e* P **P 22 44 01.0 +1.4**
SYO Syowa Base 74.08 200 ⇑ *es* P sP 22 44 08.6 +3.4
EIL Elat 74.35 303 LR LR 23 16 24.5
comp=Z,51nm,18.1s,baz=68,slow=36
MMAI Mount Meron Ar 75.02 307 P **P 22 44 07.0 +1.2**
comp=Z,2.9nm,0.8s,baz=90,slow=5.8,SNR=2.3
MMAI LR LR 23 19 03.2
comp=Z,71nm,18.1s,baz=108,slow=37
comp=Z,2.9nm,0.8s
LBTB Lobatse 75.33 246 LR LR 23 10 01.2
comp=Z,85nm,19.9s,baz=99,slow=30
BOSA Boshof 75.61 242 LR LR 23 10 46.5
comp=Z,58nm,19.1s,baz=30,slow=30
PETK Petropavlovsk- 75.72 31 P P 22 44 09.2 -0.1
comp=Z,3.1nm,0.6s,baz=238,slow=7.4,SNR=3.0
PETK LR LR 23 19 05.9
comp=Z,35nm,20.4s,baz=137,slow=37
comp=Z,3.1nm,0.6s
MA2 Magadan 76.48 23 *i* P **P 22 44 13.1 -0.4**
MA2 pmax pmax
comp=Z,39nm,1.0s
MA2 Magadan 76.48 23 P **P 22 44 13.6 +0.1**
comp=Z,42nm,0.9s
VNDA Vanda 76.86 169 P 22 44 16.4 +0.9
VNDA Vanda 76.86 169 P **P 22 44 16.4 +0.9**
comp=Z,1.7nm,1.1s,baz=279,slow=6.0,SNR=6.3
VNDA LR LR 23 15 20.6
comp=Z,44nm,18.6s,baz=358,slow=34
comp=Z,1.7nm,1.1s
VRH Novokhopyorsk 77.82 326 *e* P **P 22 44 20.5 -0.7**
VRH pmax pmax
comp=Z,8.0nm,0.9s
KIRV Kirov 77.90 335 *ce* P **P 22 44 22.5 +1.1**
BR104 Keskin Array S 78.53 313 P P 22 44 25.0 -0.6
comp=Z,37nmcomp=Z,3.1nm,1.2s
BR131 Keskin Array S 78.54 313 P 22 44 25.0 -0.6
BR131 Keskin Array S 78.54 313 P **P 22 44 25.0 -0.6**
BR131 pmax pmax
comp=Z,9.0nm,1.2s
BRTR Keskin Array B 78.54 313 P P 22 44 25.2 -0.4
comp=Z,1.8nm,0.9s,baz=128,slow=8.0,SNR=12
comp=Z,1.8nm,0.9s
BR105 Keskin Array S 78.55 313 P P 22 44 25.0 -0.7
comp=Z,42nmcomp=Z,4.3nm,1.0s
BR106 Keskin Array S 78.55 313 P P 22 44 25.5 -0.2
comp=Z,34nmcomp=Z,3.4nm,0.8s
ANTO Ankara 79.20 313 P P 22 44 29.3 +0.1
comp=Z,3.7nm,1.1s
SEY Seymchan 79.25 21 LR LR 23 21 21.8
comp=Z,34nm,19.0s,baz=277,slow=37
SEY Seymchan 79.25 21 *ce* P **P 22 44 30.4 +1.6**
SEY pmax pmax
comp=Z,11nm,1.7s
VSR Storozhevoye 79.27 325 *e* P **P 22 44 24.9 -4.3**
VSR pmax pmax
comp=Z,5.0nm,1.0s
LPSR Galich'ya Gora 80.00 326 *e* P **P 22 44 32.0 -1.1**
LPSR pmax pmax
comp=Z,8.0nm,0.9s
TIXI Tiksi 80.31 8 P 22 44 34.3 -0.1
TIXI Tiksi 80.31 8 LR LR 23 24 35.4
comp=Z,148nm,18.7s,baz=232,slow=39
TIXI Tiksi 80.31 8 *ce* P **P 22 44 35.1 +0.7**
TIXI pmax pmax
comp=Z,7.0nm,2.5s
MOS Moscow 82.02 329 *e* P **P 22 44 43.0 -0.8**
MOS *e* 22 44 52.3
OBN Obninsk 82.31 328 ⇑ *i* P **P 22 44 45.8 +0.4**
OBN *e* *SP **PcP 22 44 50.7 +0.1**
OBN *e* 22 44 53.1
OBN *es* **S 22 54 56.6 -3.6**
OBN *e* PPS PPS 22 56 03.4
OBN *es* SS **SS 23 00 15.7 -5.3**
OBN SSS SSS 23 03 44.0
OBN pmax pmax
comp=Z,22nm,1.3s
OBN MLR MLR
comp=Z,65nm,18.0s
OBN Obninsk 82.31 328 P **P 22 44 45.6 +0.2**
comp=Z,17nm,0.5s
QSPA South Pole Qui 83.06 180 P P 22 44 49.6 +0.2
comp=Z,1.9nm,1.1s,baz=278,slow=4.4,SNR=3.8
QSPA LR LR 23 17 18.9
comp=Z,62nm,20.8s,baz=334,slow=32
comp=Z,1.9nm,1.1s
KLMR Klimovskoe 83.36 334 *e* P **P 22 44 51.0 +0.3**
KLMR pmax pmax
comp=Z,44nm,1.7s
TIRR Tirgusor 83.67 316 P P 22 44 53.1 +0.4
SHEM Shemya Is, Ala 84.47 35 LR LR 23 22 00.4
comp=Z,22nm,21.7s,baz=314,slow=35
AKASG Malin Array Be 84.94 322 P P 22 44 55.9 -3.1
comp=Z,0.3nm,0.3s,baz=86,slow=4.6,SNR=4.7
VRI Vrincioaia 85.20 317 ⇑ P **P 22 45 01.0 +0.6**
TESR Tescani 85.42 318 ⇑ P **P 22 45 02.3 +0.9**
LUBAR Lubar, Ukraine 85.61 321 P P 22 45 01.2 -1.2
MLR Muntele Rosu 85.63 317 P 22 45 02.7 -0.1
MLR IAmb IAmb 22 45 40.9
comp=Z,23nm,1.5s
MLR Muntele Rosu 85.63 317 ⇓ P **P 22 45 03.8 +1.0**
MLR Muntele Rosu 85.63 317 P P 22 45 02.7 -0.1
MLR pmax pmax
comp=Z,23nm,1.5s
KMPD K-Podol'skiy 86.07 320 P P 22 45 05.0 +0.4
TROLL Troll, Antarti 86.56 198 ⇑ P **P 22 45 10.2 +3.3**
comp=Z,81nm,1.1s
BUR08 Bucovina Ar. S 86.66 319 P 22 45 08.0 +0.2
BUR08 IAmb IAmb 22 45 19.2
comp=Z,34nm,2.0s
MARR Marisel-Cluj 87.82 317 ⇓ P **P 22 45 15.0 +1.6**
SNAA Sanae 88.27 198 ⇑ P **P 22 45 18.7 +3.7**
comp=Z,29nm,0.8s
SNAA Sanae 88.27 198 P P 22 45 16.0 +0.9
comp=Z,2.4nm,1.1s,baz=107,slow=5.7,SNR=4.2
SNAA LR LR 23 18 09.3
comp=Z,62nm,21.3s,baz=116,slow=31
comp=Z,2.4nm,1.1s
SNAA Sanae 88.27 198 *ce* P **P 22 45 16.1 +1.0**
SNAA pmax pmax
comp=Z,4.0nm,1.3s
BERU Beregovo 88.46 319 P P 22 45 16.8 +0.6
KOLS Kolonicke sedl 88.85 319 *e* P **P 22 45 20.1 +2.0**
FINES FINESS Array B 89.65 332 P P 22 45 22.4 +0.9
comp=Z,3.2nm,1.1s,baz=91,slow=10,SNR=3.4
comp=Z,3.2nm,1.1s
VNA1 Neumayer--Stat 90.28 198 ⇑ P **P 22 45 26.5 +2.2**
comp=Z,2.4nm,0.8s
VNA3 Neumayer Olymp 90.47 197 ⇑ P **P 22 45 27.5 +2.2**
comp=Z,1.5nm,1.0s
GERES GERESS Array B 94.43 319 P P 22 45 44.4 +0.3
comp=Z,0.1nm,0.3s,baz=87,slow=5.0,SNR=4.1
comp=Z,0.1nm,0.3s
KHC Kasperske Hory 94.54 319 *ce* P **P 22 45 44.4 -0.1**
KHC pmax pmax
comp=Z,6.0nm,1.4s
HFS Hagfors 95.40 330 LR LR 23 32 50.8
comp=Z,35nm,18.4s,baz=48,slow=38
SPITS Spitsbergen Ar 95.95 348 LR LR 23 35 44.6
comp=Z,66nm,18.1s,baz=84,slow=40
NOA NORSAR Array B 96.68 331 LR LR 23 32 53.7
comp=Z,26nm,19.9s,baz=80,slow=38
PPT2 Papeete2 104.72 110 *e* LR LR 23 20 48.6
comp=Z,275nm,25.5s
PPT2 *e* LR LR 23 20 59.3
comp=Z,281nm,25.0s
PLID Pearl Lake 129.37 35 PKPdf 22 51 33.1 +0.1
PDAR Pinedale Array 134.43 33 PKP **PKPdf 22 51 42.9 +0.2**
comp=Z,0.8nm,1.0s,baz=225,slow=1.3,SNR=3.7
CPUP Villa Florida 141.62 210 PKP **PKiKP 22 51 58.1 -0.8**
comp=Z,0.9nm,0.9s,baz=25,slow=3.4,SNR=4.4
P38A Dawn 144.37 22 PKPbc 22 51 58.9 +0.1
KAN01 Argonia South 144.66 29 PKPab 22 51 59.4 -0.4
OK038 West end E0370 144.72 30 PKPbc 22 52 00.3 +0.3
P40A Paris 144.97 20 PKPab 22 52 00.3 -0.4
M52A Chesterland 145.35 5 PKPbc 22 52 01.6 -0.3
N47A Urbana 145.39 11 PKPbc 22 52 01.5 -0.6
T35A Sooner Cattle 145.44 28 PKPbc 22 52 01.6 -0.7
KSPA Keystone Colle 145.49 358 PKPbc 22 52 00.7 -1.7
M57A Sunshine Farm, 145.74 360 PKPdf 22 52 02.9 0.0
SSPA Standing Stone 146.43 1 PKPdf 22 52 03.3 -0.7
CCM Cathedral Cave 146.57 20 PKPdf 22 52 03.5 -0.8
CCM Cathedral Cave 146.57 20 PKP2 **PKPdf 22 52 03.5 -0.8**
TX31 Lajitas Ar. Si 146.71 45 PKPdf 22 52 04.4 -0.5
TXAR Lajitas Array 146.71 45 PKPbc 22 52 05.8 -0.8
TXAR Lajitas Array 146.71 45 PKPbc **PKPab 22 52 07.3 -0.4**
comp=Z,5.8nm,0.8s,baz=259,slow=2.6,SNR=60
SAND Sanderson 147.38 42 PKPbc PKPbc 22 52 08.5 +0.1
WCI Wyandotte Cave 147.82 13 PKPdf PKPdf 22 52 05.6 -0.8
WCI Wyandotte Cave 147.82 13 PKIKP PKPdf 22 52 05.6 -0.8
WVT Waverly 149.41 17 PKPbc PKPbc 22 52 13.6 +0.1
WVT Waverly 149.41 17 PKP2 PKPbc 22 52 13.6 +0.1
T59A Double "B" Far 150.09 0 PKPab PKPab 22 52 21.0 +0.1
X48A Hartselle 151.20 17 PKPab 22 52 25.5 0.0
PTLB Pontes e Lacer 151.33 219 PKPbc 22 52 18.7 +0.2
BG3 Lake Jocassee 151.61 10 PKPab 22 52 27.1 -0.1
LPAZ La Paz 155.17 202 PKPbc PKPdf 22 52 29.8 +11
comp=Z,1.9nm,1.0s,baz=355,slow=2.4,SNR=3.9

BEO ***22*** *22:34:06.7±0.3,44.65N×18.54E, h9km±2km, ML2.3/14*
RHSSO ***22*** *22:34:06.2±0.5,44.62N×18.55E, h6km±3km, ML2.5/9*
VIE ***22*** *22:34:09.8±0.5,44.86N×18.23E, h8km, mb2.4/6, ml2.4/7,*
Error ellipse: s-maj=6.7km s-min=3.7km az=39.0 37 km
SSE of Slavonski Brod

ISC 22 22:34:05.6±1.2, 44.66N±0.02×18.54E±0.02, h6km±10km,
n53, σ1.9 01/95, 4C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
BLY	**Banja Luka**	**0.97**	**276**	⇑ *iPg*		**Pg**	**22 34 24.2**	**-0.1**
BLY				*eSg*		**Sg**	**22 34 37.7**	**+0.8**
BLY	**Banja Luka**	**0.97**	**276**	*ePg*		**Pg**	**22 34 25.0**	**+0.7**
BLY				*eSg*		**Sg**	**22 34 37.7**	**+0.8**
BBLS	**Lazi&#263i**	**1.01**	**142**	*ePg*		**Pg**	**22 34 24.1**	**-0.8**
BBLS				*eSg*		**Sg**	**22 34 38.1**	**+0.1**
FRGS	**Fruska Gora**	**1.03**	**61**	*ePg*		**Pg**	**22 34 25.6**	**+0.2**
FRGS				*eSg*		**Sb**	**22 34 40.7**	**+1.0**
DIVS	**Divibare**	**1.18**	**118**	*ePg*		**Pg**	**22 34 28.5**	**+0.2**
DIVS				*eSg*		**Sg**	**22 34 43.2**	**-0.4**
RUDO	**Rudo**	**1.20**	**150**	⇑ *iPg*		**Pb**	**22 34 26.6**	**-2.1**
RUDO				*eSg*		**Sg**	**22 34 43.2**	**-0.9**
TRUS	**Trudelj**	**1.41**	**107**	*ePg*		**Pn**	**22 34 32.0**	**+0.2**
TRUS				*eSg*		**Sn**	**22 34 51.5**	**+0.9**
AVAS	**Avala Beograd**	**1.41**	**88**	*ePg*		**Pn**	**22 34 32.7**	**+0.9**
AVAS				*eSg*		**Sg**	**22 34 52.3**	**+1.5**
KLINJ	**Klinje**	**1.49**	**179**	*ePg*		**Pn**	**22 34 32.2**	**-0.8**
KLINJ				*eSg*		**Sn**	**22 34 52.4**	**-0.4**
RICI	**Ricice**	**1.54**	**222**	*ePg*		**Pn**	**22 34 32.8**	**-0.9**
RICI				Sg		**Sn**	**22 34 53.1**	**-1.0**
MOSL	**Moslavina**	**1.58**	**308**	⇑ *iPn*		**Pn**	**22 34 34.9**	**+0.6**
MOSL				*eSn*		**Sb**	**22 34 56.3**	**+0.7**
MOSL	**Moslavina**	**1.58**	**308**	*ePn*		**Pn**	**22 34 35.3**	**+1.0**
MOSL				Sg		**Sb**	**22 34 56.5**	**+0.9**
IVAS	**Ivanjica**	**1.59**	**132**	*ePn*		**Pn**	**22 34 33.3**	**-1.0**
IVAS				*eSg*		**Sb**	**22 34 56.3**	**+0.6**
KIJV	**Kijevo**	**1.67**	**248**	*ePn*		**Pn**	**22 34 35.2**	**-0.2**
KIJV				*eSn*		**Sn**	**22 34 57.9**	**+0.8**
KIJV	**Kijevo**	**1.67**	**248**	*ePn*		**Pn**	**22 34 35.5**	**+0.2**
KIJV				Sg		**Sn**	**22 34 57.3**	**+0.2**
SJES	**Sjenica**	**1.74**	**143**	*ePg*		**Pn**	**22 34 36.8**	**+0.4**
SJES				*eSg*		**Sg**	**22 35 02.1**	**+0.7**
GRUS	**Gruza**	**1.74**	**115**	*ePn*		**Pn**	**22 34 37.4**	**+1.0**
GRUS				*eSn*		**Sn**	**22 34 59.9**	**+1.0**
MAKA	**Makarska**	**1.76**	**219**	*ePn*		**Pn**	**22 34 37.1**	**+0.6**
MAKA				Sg		**Sn**	**22 35 00.1**	**+0.8**
STON	**Ston**	**1.89**	**199**	*ePn*		**Pn**	**22 34 38.8**	**+0.5**
STON				*eSn*		**Sn**	**22 35 02.0**	**-0.5**
STON	**Ston**	**1.89**	**199**	*ePn*		**Pn**	**22 34 38.9**	**+0.5**
STON				Sn		**Sn**	**22 35 02.0**	**-0.5**
STON	**Ston**	**1.89**	**199**	*ePn*		**Pn**	**22 34 39.2**	**+0.8**
TREB	**Trebinje**	**1.94**	**184**	*ePn*		**Pn**	**22 34 39.0**	**-0.2**
TREB				*eSn*		**Sn**	**22 35 04.0**	**+0.1**
GOCS	**Kraljevo Serbi**	**2.00**	**122**	*ePn*		**Pn**	**22 34 40.8**	**+0.7**
DBRK	**Dubrovnik**	**2.01**	**188**	*ePn*		**Pn**	**22 34 40.8**	**+0.8**
DBRK				Sn		**Sn**	**22 35 05.1**	**-0.3**
VRSS	**Vrsac**	**2.03**	**76**	*ePn*		**Pn**	**22 34 41.0**	**+0.6**
VRSS				*eSn*		**Sn**	**22 35 06.3**	**+0.2**
BEV	**Berane**	**2.04**	**151**	*ePn*		**Pn**	**22 34 41.6**	**+1.1**
PLIT	**Plitvice**	**2.09**	**277**	*ePn*		**Pn**	**22 34 41.7**	**+0.5**
PLIT				Sn		**Sn**	**22 35 08.3**	**+0.7**
MORI	**Morici**	**2.19**	**250**	*ePn*		**Pn**	**22 34 43.5**	**+1.0**
MORI				Sn		**Sn**	**22 35 09.9**	**+0.1**
BEHE	**Becsehely**	**2.20**	**326**	⇑ *iPn*		**Pn**	**22 34 43.9**	**+1.3**
BEHE				*eSn*		**Sn**	**22 35 11.6**	**+1.5**
LSTV	**Lastovo**	**2.24**	**213**	*ePn*		**Pn**	**22 34 43.8**	**+0.6**
LSTV				Sn		**Sn**	**22 35 10.9**	**-0.2**
KUBS	**Kucevo**	**2.25**	**95**	*ePn*		**Pn**	**22 34 44.0**	**+0.6**
MDVR	**Moldovita**	**2.26**	**86**	*ePn*		**Pn**	**22 34 45.3**	**+1.7**
PDG	**Podgorica**	**2.29**	**167**	*ePn*		**Pn**	**22 34 46.2**	**+2.3**
PDG				*eSn*		**Sn**	**22 35 13.3**	**+1.0**
ZIRJ	**Zirje**	**2.31**	**245**	*ePn*		**Pn**	**22 34 44.1**	**-0.1**
ZIRJ				Sn		**Sn**	**22 35 13.4**	**+0.4**
SELS	**Selova**	**2.35**	**127**	*ePn*		**Pn**	**22 34 44.3**	**-0.5**
SELS				*eSn*		**Sn**	**22 35 14.6**	**+0.6**
OZLJ	**Ozalj**	**2.38**	**295**	*ePn*		**Pn**	**22 34 46.6**	**+1.5**
OZLJ				*eSn*		**Sn**	**22 35 15.5**	**+1.1**
OZLJ	**Ozalj**	**2.38**	**295**	*ePn*		**Pn**	**22 34 45.4**	**+0.3**
OZLJ				Sn		**Sn**	**22 35 15.1**	**+0.5**
BZS	**Buzias**	**2.38**	**65**	*ePn*		**Pn**	**22 34 44.4**	**-0.7**
DRME	**Dracevica, Mon**	**2.51**	**169**	*ePn*		**Pn**	**22 34 48.5**	**+1.5**
VIRC	**Vir**	**2.52**	**263**	*ePn*		**Pn**	**22 34 47.8**	**+0.7**
VIRC				Sn		**Sn**	**22 35 18.9**	**+0.8**
DUGI	**Dugi Otok**	**2.59**	**256**	*ePn*		**Pn**	**22 34 49.2**	**+1.2**
DUGI				Sn		**Sn**	**22 35 19.8**	**0.0**
NVLJ	**Novalja**	**2.62**	**269**	*ePn*		**Pn**	**22 34 49.2**	**+0.8**
NVLJ				Sn		**Sn**	**22 35 21.1**	**+0.4**
ZAGS	**Zajecar**	**2.78**	**106**	*ePn*		**Pn**	**22 34 51.3**	**+0.6**
ZAGS				*eSn*		**Sn**	**22 35 26.0**	**+1.4**
BARS	**Barje**	**3.00**	**127**	*ePn*		**Pn**	**22 34 53.6**	**-0.1**
BARS				*eSn*		**Sn**	**22 35 30.6**	**+0.6**
ZAPS	**Zavoj**	**3.26**	**114**	*ePn*		**Pn**	**22 34 57.3**	**0.0**
ARSA	**Arzberg**	**3.34**	**322**	*ePn*		**Pn**	**22 34 58.1**	**-0.2**
	3.1nm,0.3s							
ARSA				*eSn*		**Sn**	**22 35 34.7**	**-3.7**
	2.5nm,0.4s							
ARSA	**Arzberg**	**3.34**	**322**	*ePn*		**Pn**	**22 34 58.2**	**-0.2**
OBKA	**Obir**	**3.36**	**305**	*i* Pn		**Pn**	**22 34 59.4**	**+0.7**
	0.1nm,0.1s							
RONA	**Rosalia, Austr**	**3.42**	**334**	*i* Pn		**Pn**	**22 34 59.5**	**0.0**
	2.2nm,0.3s							
RONA				*eSn*		**Sn**	**22 35 38.8**	**-1.6**
	1.4nm,0.2s							
BOSS	**Bosilegrad**	**3.59**	**126**	*ePn*		**Pn**	**22 35 01.3**	**-0.5**
CONA	**Conrad Observa**	**3.76**	**331**	*ePn*		**Pn**	**22 35 04.0**	**-0.2**
	0.5nm,0.2s							
CONA				*eSn*		**Sn**	**22 35 47.2**	**-1.6**
	1.4nm,0.4s							
MOA	**Molln**	**4.36**	**319**	*i* Pn		**Pn**	**22 35 13.0**	**+0.7**
	0.2nm,0.1s							
MOA				*eSn*		**Sn**	**22 36 01.2**	**-2.3**
	0.8nm,0.3s							
BIOA	**Bad Ischl, Aus**	**4.56**	**313**	*ePn*		**Pn**	**22 35 16.1**	**+0.9**
	1.0nm,0.3s							
BIOA				*eSn*		**Sn**	**22 36 05.5**	**-3.0**
	4.7nm,0.5s							

IDC 22 22:46:55.3±3.1, 4.29S×78.66W, h0km, mbtmp4.0/2,
ML3.1/2, Error ellipse: s-maj=83.6km s-min=34.6km
az=102.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
ROSC	**El Rosal**	**10.05**	**26**	Pn		Pn	22 49 21.6	+0.2
	0.8nm,0.3s,baz=190,slow=19,SNR=1.4							
ROSC				Pg			22 49 59.1	
	0.8nm,0.3s,baz=210,slow=20,SNR=1.4							
ROSC				Sn		Sn	22 51 16.2	+0.9
	2.0nm,0.3s,baz=30,slow=20,SNR=3.6							
	6.1nm,0.4s							
LPAZ	**La Paz**	**15.78**	**140**	Pn		Pn	22 50 39.6	0.0
	0.2nm,0.3s,baz=318,slow=5.0,SNR=5.2							
	1.0nm,0.6s							
ASAR	**Alice Springs**	**137.81**	**227**	PKP		PKPdf	23 06 21.5	-1.2
	0.2nm,0.3s,baz=134,slow=2.7,SNR=1.8							
WRA	**Warramunga Arr**	**139.61**	**232**	PKP		PKPdf	23 06 26.6	+0.5
	0.4nm,0.5s,baz=128,slow=2.7,SNR=6.2							

IDC 22 22:50:17.1±13.0, 17°40'S×178°57'W, h410km±116km, mb3.3/2, mbtmp4.4/3, Error ellipse: s-maj=237.2km s-min=74.5km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.85**	**249**	P	P	22 53 27.7	-0.1
	24nm,0.8s,baz=83,slow=17,SNR=12						
WRA	**Warramunga Arr**	**44.57**	**259**	P	P	22 57 51.3	+0.3
	0.7nm,0.2s,baz=92,slow=7.2,SNR=13						
	0.7nm,0.2s						
ASAR	**Alice Springs**	**44.78**	**254**	P	P	22 57 52.1	-0.5
	1.2nm,0.4s,baz=90,slow=7.5,SNR=18						
	1.2nm,0.4s						
BRTR	**Keskin Array B**	**144.31**	**315**	PKP	PKPbc	23 09 04.8	-0.2
	0.8nm,0.7s,baz=60,slow=3.5,SNR=4.6						
GERES	**GERESS Array B**	**147.08**	**345**	PKPbc	PKPbc	23 09 12.2	-0.6
	0.3nm,0.6s,baz=49,slow=4.7,SNR=2.4						

IDC 22 22:53:07.7±1.9, 34°03N×139°31E, h250km±22km, mb3.0/5, mbtmp3.5/6, Error ellipse: s-maj=94.7km s-min=21.5km az=64.0, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**2.66**	**340**	P	Pn	22 53 57.0	+0.4
	2.9nm,0.5s,baz=159,slow=11,SNR=9.9						
MJAR				S	S	22 54 34.9	-0.4
	1.3nm,0.4s,baz=162,slow=12,SNR=1.5						
SONM	**Songino Array**	**28.20**	**309**	P	P	22 58 38.6	+1.1
	0.3nm,0.4s,baz=111,slow=8.0,SNR=2.3						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**44.33**	**304**	P	P	23 00 52.5	-0.7
	0.4nm,0.5s,baz=90,slow=8.7,SNR=6.4						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**46.56**	**310**	P	P	23 01 10.8	+0.4
	0.6nm,0.5s,baz=90,slow=8.3,SNR=7.3						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**51.37**	**314**	P	P	23 01 45.8	-1.0
	0.3nm,0.4s,baz=97,slow=8.4,SNR=2.7						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**57.61**	**186**	P	P	23 02 31.8	-0.1
	0.2nm,0.3s,baz=347,slow=12,SNR=6.3						
	0.2nm,0.3s						

*KRNET **22** 23:19:27.9±0.1, 39°.83N×76°.57E, mb3.5*
*SOME **22** 23:19:31.8, 40°.22N×76°.42E, h0km*
*NNC **22** 23:19:32.8±1.1, 40°.26N×76°.41E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=7.5km s-min=5.3km az=168.0*

ISC 22 23:19:27.3±1.5, 39°.81N±0°.07×76°.48E±0°.05, h10km, n48, σ1§22/69, 22C-16D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**2.38**	**13**	⇑*iP*	**Pn**	**23 20 06.2**	**-0.4**
KDJ				⇑*iS*	**Sn**	**23 20 34.0**	**-1.9**
ULHL	**Ulahol**	**2.44**	**356**	⇑*iP*	**Pn**	**23 20 07.1**	**-0.4**
ULHL				⇑*iS*	**Sn**	**23 20 36.0**	**-1.5**
BOOM	**Boomskoye usch**	**2.71**	**352**	⇓*iP*	**Pn**	**23 20 10.9**	**-0.2**
BOOM				⇓*iS*	**Sn**	**23 20 42.5**	**-1.5**
UCH	**Uchtor**	**2.84**	**329**	⇑*iP*	**Pn**	**23 20 13.4**	**+0.3**
UCH				⇑*iS*	**Sn**	**23 20 46.6**	**-1.0**
PRZ	**Przheval'sk**	**3.04**	**28**	⇑*iP*	**Pn**	**23 20 15.4**	**-0.2**
PRZ				⇑*iS*	**Sn**	**23 20 50.0**	**-2.2**
ARSB	**Arslanbob**	**3.06**	**301**	⇑*iP*	**Pn**	**23 20 16.7**	**+0.7**
ARSB				⇑*iS*	**Sn**	**23 20 52.6**	**-0.2**
KBK	**Karagaybulak**	**3.07**	**338**	⇑*iP*	**Pn**	**23 20 16.3**	**+0.2**
KBK				⇑*iS*	**Sn**	**23 20 51.7**	**-1.2**
TKM2	**Tokmak 2**	**3.18**	**348**	⇓*iP*	**Pn**	**23 20 17.7**	**+0.1**
TKM2				⇓*iS*	**Sn**	**23 20 53.9**	**-1.8**
AAK	**Ala-Archa**	**3.20**	**333**	⇑*Pg*	**Pb**	**23 20 23.1**	**-1.2**
	2.4nm,0.5s						
AAK				⇑*Lg*	Lg	23 21 00.5	
	16nm,0.6s						
AAK	**Ala-Archa**	**3.20**	**333**	⇓*iP*	**Pn**	**23 20 18.3**	**+0.5**
AAK				⇓*iS*	**Sn**	**23 20 54.8**	**-1.3**
TNSS	**Tian-Shan**	**3.24**	**6**	*Pg*	**Pb**	**23 20 24.0**	**-1.2**
	4.8nm,0.5s						
TNSS				*Lg*	Lg	23 21 01.7	
	9.0nm,0.7s						
TNSS	**Tian-Shan**	**3.24**	**6**	*eP*	**Pb**	**23 20 24.0**	**-1.2**
	4.8nm,0.5s						
TNSS				*eS*	**Sb**	**23 21 01.7**	**-3.3**
	9.0nm,0.7s						
FRU1	**Bishkek**	**3.31**	**336**	⇓*iP*	**Pn**	**23 20 20.0**	**+0.8**
FRU1				⇓*iS*	**Sn**	**23 20 57.7**	**-0.9**
MTBS	**Maitube**	**3.32**	**359**	*Pg*	**Pb**	**23 20 26.2**	**-0.1**
	3.3nm,0.1s						
MTBS				*Lg*	Lg	23 21 05.2	
	19nm,0.3s						
MTBS	**Maitube**	**3.32**	**359**	*eP*	**Pb**	**23 20 26.2**	**-0.1**
	3.3nm,0.1s						
MTBS				*eS*	**Sb**	**23 21 05.2**	**-1.6**
	19nm,0.3s						
MDOK	**Medeo**	**3.38**	**7**	*Pg*	**Pb**	**23 20 26.4**	**-1.0**
	8.8nm,0.3s						
MDOK				*Lg*	Lg	23 21 05.9	
	52nm,0.7s						
AAA	**Alma-Ata**	**3.41**	**5**	*Pg*	**Pb**	**23 20 27.6**	**-0.3**
	5.9nm,0.2s						
AAA				*Lg*	Lg	23 21 07.7	
	1.1nm,0.0s						
AAA	**Alma-Ata**	**3.41**	**5**	*eP*	**Pb**	**23 20 27.6**	**-0.3**
	5.9nm,0.2s						
AAA				*eS*	**Sb**	**23 21 07.7**	**-1.8**
	1.1nm,0.0s						
KNDC	**Almaty**	**3.42**	**6**	⇓*Pg*	**Pb**	**23 20 25.2**	**-3.0**
	21nm,0.6s						
KNDC				⇑*Lg*	Lg	23 21 08.6	
	20nm,0.5s						
CHMS	**Chumysh**	**3.44**	**338**	⇓*iP*	**Pn**	**23 20 21.4**	**+0.4**
CHMS				⇓*iS*	**Sn**	**23 21 00.4**	**-1.5**
KOTS	**Kotyrbulak**	**3.46**	**8**	*Pg*	**Pb**	**23 20 28.8**	**+0.1**
	13nm,0.6s						
KOTS				*Lg*	Lg	23 21 09.6	
	73nm,0.4s						
KOTS	**Kotyrbulak**	**3.46**	**8**	*eP*	**Pb**	**23 20 28.8**	**+0.1**
	13nm,0.6s						
KOTS				*eS*	**Sb**	**23 21 09.6**	**-1.2**
	73nm,0.4s						
DGS	**Degeres**	**3.47**	**351**	*Pg*	**Pb**	**23 20 28.6**	**-0.3**
	6.2nm,0.4s						
DGS				*Lg*	Lg	23 21 09.4	
	34nm,0.5s						
EKS2	**Erkin-Say**	**3.50**	**325**	⇑*iP*	**Pn**	**23 20 22.4**	**+0.4**
EKS2				⇑*iS*	**Sn**	**23 21 02.3**	**-1.3**
SATY	**Saty**	**3.56**	**23**	*Pg*	**Pb**	**23 20 30.6**	**+0.2**
	9.3nm,0.3s						
SATY				*Lg*	Lg	23 21 12.7	
	47nm,0.6s						
USP	**Ospenovka**	**3.76**	**337**	⇑*eP*	**Pn**	**23 20 25.7**	**+0.3**
USP				⇑*iS*	**Sn**	**23 21 08.0**	**-1.8**
MRKS	**Merke**	**3.82**	**321**	*Pg*	**Pb**	**23 20 35.0**	**+0.1**
	1.9nm,0.2s						
MRKS				*Lg*	Lg	23 21 20.3	
	22nm,0.7s						
MRKS	**Merke**	**3.82**	**321**	*eP*	**Pb**	**23 20 35.0**	**+0.1**
	1.9nm,0.2s						
MRKS				*eS*	**Sb**	**23 21 20.3**	**-1.1**
	22nm,0.7s						
UZB	**Uzynbulak**	**3.84**	**29**	*Pg*	**Pb**	**23 20 36.0**	**+0.7**
	3.9nm,0.3s						
UZB				*Lg*	Lg	23 21 22.2	
	20nm,0.4s						
UZB	**Uzynbulak**	**3.84**	**29**	*eP*	**Pb**	**23 20 36.0**	**+0.7**
	3.9nm,0.3s						
UZB				*eS*	**Sb**	**23 21 22.2**	**+0.2**
	20nm,0.4s						
KURS	**Kuram**	**3.89**	**18**	*Pg*	**Pb**	**23 20 36.8**	**+0.8**
	4.5nm,0.5s						
KURS				*Lg*	Lg	23 21 23.2	
	26nm,1.1s						
SGDS	**Sogindy**	**3.90**	**340**	*Pg*	**Pb**	**23 20 36.6**	**+0.4**
	4.1nm,0.2s						
SGDS				*Lg*	Lg	23 21 23.6	
	21nm,0.2s						
KTBS	**Karatobe**	**3.90**	**2**	*Pg*	**Pb**	**23 20 35.1**	**-1.1**
	8.9nm,0.5s						
KTBS				*Lg*	Lg	23 21 20.8	
	13nm,0.6s						
KPKS	**Kokpek**	**4.01**	**24**	*Pg*	**Pb**	**23 20 39.0**	**+0.9**
	0.1nm,0.1s						
KPKS				*Lg*	Lg	23 21 27.4	
	42nm,0.7s						
SHLS	**Shalkode**	**4.03**	**33**	*Pg*	**Pg**	**23 20 44.3**	**-0.1**
	7.8nm,0.5s						
SHLS				*Lg*	Lg	23 21 36.2	
	34nm,0.4s						
SHLS	**Shalkode**	**4.03**	**33**	*eP*	**Pg**	**23 20 44.3**	**-0.1**
	7.8nm,0.5s						
SHLS				*eS*	**Sg**	**23 21 36.2**	**-0.4**
	34nm,0.4s						
CHKK	**Chushkaly**	**4.06**	**5**	*Pg*	**Pb**	**23 20 39.0**	**+0.1**
	28nm,0.3s						
CHKK				*Lg*	Lg	23 21 27.2	
	17nm,0.8s						
CHKK	**Chushkaly**	**4.06**	**5**	*eP*	**Pb**	**23 20 39.0**	**+0.1**
	28nm,0.3s						
CHKK				*eS*	**Sb**	**23 21 27.2**	**-0.8**
	17nm,0.8s						
PDGK	**Podgornoye**	**4.18**	**32**	⇓*Pg*	**Pb**	**23 20 40.2**	**-0.8**
	2.4nm,0.3s						
PDGK				⇓*Lg*	Lg	23 21 33.6	
	42nm,0.9s						
TRKS	**Terek-Say**	**4.41**	**295**	⇑*iP*	**Pn**	**23 20 35.0**	**+0.5**
TRKS				⇑*iS*	**Sn**	**23 21 23.7**	**-2.3**
ARXS	**Arharly**	**4.51**	**12**	*Pg*	**Pb**	**23 20 47.2**	**+0.5**
	3.6nm,0.5s						
ARXS				*Lg*	Lg	23 21 41.2	
	13nm,0.4s						
ARXS	**Arharly**	**4.51**	**12**	*eP*	**Pb**	**23 20 47.2**	**+0.5**
ARXS				*eS*	**Sb**	**23 21 41.2**	**+0.1**
GAR	**Garm**	**4.84**	**262**	⇓*iP*	**Pn**	**23 20 41.6**	**+1.2**
GAR				⇓*iS*	**Sn**	**23 21 35.5**	**-1.1**
KNOS	**Konyrlen**	**4.97**	**23**	*Pg*	**Pb**	**23 20 55.7**	**+1.2**
	2.2nm,0.4s						
KNOS				*Lg*	Lg	23 21 56.0	
	8.1nm,0.7s						
TDK	**Taldyqorghan**	**5.38**	**15**	*Pg*	**Pg**	23 21 04.3	-6.1
	8.8nm,0.3s						
TDK				*Lg*	Lg	23 22 10.4	
	28nm,0.6s						
TDK	**Taldyqorghan**	**5.38**	**15**	*eP*	**Pg**	23 21 04.3	-6.1
	8.8nm,0.3s						
TDK				*eS*	**Sb**	**23 22 10.4**	**+4.3**
	28nm,0.6s						
KK31	**Karatay Array**	**5.56**	**308**	⇑*Pn*	Pn	23 20 53.6	+3.5
	0.2nm,0.3s,baz=130,slow=13,SNR=5.6						
KK31				*Pg*	Pg	23 21 08.4	-5.5
	0.6nm,0.3s,baz=129,slow=16,SNR=7.0						
KK31				⇓*Lg*	Lg	23 22 15.7	
	2.5nm,0.5s						
KAPS	**Kapalarasan**	**5.87**	**20**	*Pg*	**Pg**	23 21 14.7	-5.0
	2.3nm,0.2s						
KAPS				*Lg*	Lg	23 22 28.4	
	5.4nm,0.4s						

*UPP **22** 23:22:46.8±0.0, 67°.84N×20°.21E, h0km, ML2.7, Suspected explosion*
*HEL **22** 23:22:46.2±0.2, 67°.81N×20°.21E, h0km, ML2.1, Suspected explosion*
*IDC **22** 23:22:47.1±0.8, 67°.84N×20°.61E, h0km, mbtmp3.3/4, ML2.6/4, Error ellipse: s-maj=14.4km s-min=5.6km az=121.0*
*BER **22** 23:22:48.2±2.4, 67°.87N×20°.16E, h0km, ML2.2, ML2.7(UPP), Suspected explosion*

ISC 22 23:22:46.2±0.7, 67°.83N±0°.02×20°.24E±0°.02, h0km, n64, σ1§13/98, 2D, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**15**	P	**Pg**	**23 22 49.3**	**+0.5**
	baz=223						
KUA				S	**Sg**	**23 22 51.1**	**+0.6**
KUA	**Kurravaara**	**0.14**	**15**	P	**Pg**	**23 22 49.3**	**+0.5**
	baz=223						
KUA				S	**Sg**	**23 22 51.1**	**+0.6**
RATU	**Laukkuluspa**	**0.25**	**270**	P	**Pg**	**23 22 51.4**	**+0.5**
RATU				S	**Sg**	**23 22 54.8**	**+0.6**
RATU	**Laukkuluspa**	**0.25**	**270**	P	**Pg**	**23 22 51.4**	**+0.5**
RATU				S	**Sg**	**23 22 54.8**	**+0.6**
KOVU	**Salmi**	**0.40**	**356**	P	**Pg**	**23 22 54.1**	**+0.2**
KOVU				S	**Sg**	**23 22 59.2**	**+0.1**
KOVU	**Salmi**	**0.40**	**356**	P	**Pg**	**23 22 54.1**	**+0.2**
KOVU				S	**Sg**	**23 22 59.2**	**+0.1**
NIKU	**Nikkaluokta**	**0.46**	**276**	P	**Pg**	**23 22 55.3**	**+0.3**
NIKU	**Nikkaluokta**	**0.46**	**276**	P	**Pg**	**23 22 55.3**	**+0.3**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pg**	**23 23 00.1**	**+0.5**
LANU				S	**Sg**	**23 23 09.6**	**+1.0**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pg**	**23 23 00.1**	**+0.5**
LANU				S	**Sg**	**23 23 09.6**	**+1.0**
LANU	**Lannavaara**	**0.70**	**71**	PB	**Pg**	**23 22 59.8**	**+0.2**
LANU				SG	**Sg**	**23 23 09.1**	**+0.4**
DUNU	**Dundret**	**0.72**	**170**	P	**Pg**	**23 23 00.5**	**+0.6**
DUNU	**Dundret**	**0.72**	**170**	P	**Pg**	**23 23 00.5**	**+0.6**
MASU	**Masugnsbyn**	**0.77**	**118**	P	**Pg**	**23 23 01.7**	**+0.8**
MASU	**Masugnsbyn**	**0.77**	**118**	P	**Pg**	**23 23 01.7**	**+0.8**
SALU	**Saltoluokta**	**0.80**	**237**	P	**Pg**	**23 23 01.8**	**+0.2**
SALU	**Saltoluokta**	**0.80**	**237**	⇓*iP*	**Pg**	**23 23 01.8**	**+0.2**
SALU				P	**Pg**	**23 23 01.8**	**+0.2**
SALU				*eS*	**Sg**	**23 23 12.4**	**+0.5**
KIF	**Kilpisjarvi**	**1.20**	**10**	*eP*	**Pg**	**23 23 09.1**	**-0.1**
KIF				*eS*	**Sg**	**23 23 25.1**	**+0.3**
KIF	**Kilpisjarvi**	**1.20**	**10**	PG	**Pg**	**23 23 09.2**	**-0.1**
KIF	comp=Z,38nm,0.2s			MSG		23 23 24.3	
KIF				SB	**Sg**	**23 23 25.2**	**+0.3**
PAJU	**Pajala**	**1.37**	**125**	P	**Pg**	**23 23 12.2**	**-0.2**
PAJU				S	**Sb**	**23 23 30.8**	**+0.1**
PAJU	**Pajala**	**1.37**	**125**	P	**Pg**	**23 23 12.2**	**-0.2**
PAJU				S	**Sb**	**23 23 30.8**	**+0.1**
PAJU	**Pajala**	**1.37**	**125**	PN	**Pg**	**23 23 12.1**	**-0.3**
	baz=303						
PAJU				SN	**Sb**	**23 23 30.8**	**+0.1**
HEF	**Hetta**	**1.41**	**64**	*eP*	**Pn**	**23 23 12.6**	**-0.5**
HEF				*eS*	**Sg**	**23 23 30.6**	**-0.8**
HEF	**Hetta**	**1.41**	**64**	PN	**Pn**	**23 23 12.6**	**-0.5**
	baz=248						
HEF				MSG		23 23 29.2	
	comp=Z,13nm,0.2s						
HEF				SN	**Sg**	**23 23 31.2**	**-0.2**
ERTU	**Ertsjaerv**	**1.48**	**148**	P	**Pg**	**23 23 14.6**	**-0.1**
ERTU	**Ertsjaerv**	**1.48**	**148**	P	**Pg**	**23 23 14.6**	**-0.1**
ERTU	**Ertsjaerv**	**1.48**	**148**	PN	**Pn**	**23 23 14.2**	**+0.1**
ERTU				SN	**Sn**	**23 23 36.0**	**+1.8**
KTK1	**Kautokeino**	**1.63**	**42**	*eP*	**Pn**	**23 23 16.1**	**0.0**
KTK1				*eS*	**Sn**	**23 23 37.4**	**-0.4**
KTK1				IAML		23 23 41.6	
	comp=Z,27nm,0.5s						
KTK1	**Kautokeino**	**1.63**	**42**	PN	**Pn**	**23 23 16.5**	**+0.4**
HARU	**Harads**	**1.69**	**170**	P	**Pb**	**23 23 17.9**	**-0.2**
HARU	**Harads**	**1.69**	**170**	P	**Pb**	**23 23 17.9**	**-0.2**
JETT	**Jettan, Norway**	**1.74**	**2**	⇓*iP*	**Pn**	**23 23 17.7**	**0.0**
JETT				*eSg*	**Sn**	**23 23 41.0**	**+0.4**
JETT				IAML		23 23 42.3	
	comp=Z,91nm,0.4s						
TRO	**Tromso**	**1.88**	**346**	*ePg*	**Pn**	**23 23 20.1**	**+0.6**
TRO				*eSg*	**Sb**	**23 23 45.3**	**0.0**
TRO				IAML		23 23 47.4	
	comp=Z,47nm,0.4s						
TRO	**Tromso**	**1.88**	**346**	PG	**Pn**	**23 23 20.0**	**+0.5**
TRO				SG	**Sb**	**23 23 45.0**	**-0.4**
STEI	**Steigen**	**1.90**	**276**	*ePg*	**Pb**	**23 23 21.2**	**-0.4**
STEI				*eSg*	**Sg**	**23 23 46.7**	**-0.3**
STEI				IAML		23 23 49.9	
	comp=Z,28nm,0.5s						
FAUS	**Fauske**	**1.95**	**259**	*ePg*	**Pb**	**23 23 21.8**	**-0.7**
FAUS				*eSg*	**Sb**	**23 23 47.9**	**+0.5**
FAUS				IAML		23 23 51.3	
	comp=Z,35nm,0.3s						
KALU	**Kalix**	**2.33**	**147**	PG	**Pb**	**23 23 27.5**	**-1.5**
TOF	**Tornio**	**2.38**	**136**	PG	**Pb**	**23 23 28.5**	**-1.3**
TOF				MSG		23 23 56.4	
	comp=Z,9.6nm,0.2s						
TOF				SG	**Sb**	**23 24 00.8**	**+1.2**
ARA0	**ARCESS Array S**	**2.58**	**46**	*eP*	**Pn**	**23 23 30.7**	**+1.5**
ARA0				IAML		23 24 06.1	
	comp=Z,13nm,0.8s						
ARA0	**ARCESS Array S**	**2.58**	**46**	PG	**Pn**	**23 23 30.9**	**+1.8**
	baz=230						
ARA0				SG	**Sb**	**23 24 04.3**	**-1.2**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pg	**Pn**	**23 23 30.1**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=224,slow=15,SNR=16						
ARCES				Lg	Lg	23 24 04.7	
	comp=Z,3.2nm,0.3s,baz=226,slow=26,SNR=13						
VAGH	**Vaagaholmen**	**2.92**	**251**	*eP*	**Pn**	**23 23 34.4**	**+0.6**
VAGH				IAML		23 24 21.6	

*IDC **22** 23:24:17.5±4.3, 5°.86S×154°.64E, h170km±38km, mb3.7/16, mbtmp4.2/18, MS3.8/2, Error ellipse: s-maj=19.6km s-min=13.8km az=76.0*
*NEIC **22** 23:24:19.3±1.6, 5°.80S±0°.09×154°.52E±0°.09, h177km±7km, mb4.5/58, Error ellipse: s-maj=14.4km s-min=11.0km az=216.0*

ISC 22 23:24:20.7±0.4, 5°.83S±0°.07×154°.47E±0°.07, h200km, n85, σ1§07/84, mb4.3/43, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.81**	**305**	Pn	**Pn**	**23 25 05.3**	**-2.8**
RABL				Sn	**Sn**	**23 25 42.5**	**-2.7**
HNR	**Honiara**	**6.50**	**124**	Pn	**Pn**	**23 25 54.5**	**+0.1**
PMG	**Port Moresby**	**8.07**	**243**	Pn	**Pn**	**23 26 14.9**	**+0.1**
COEN	**Coen**	**13.74**	**233**	Pn	**Pn**	**23 27 26.1**	**-1.3**
JAY	**Jayapura**	**14.11**	**283**	P	**P**	**23 27 33.2**	**-0.7**
	6.0nm,0.8s,baz=16,slow=10,SNR=2.7						
CTAO	**Charters Tower**	**16.27**	**209**	P	**Pn**	**23 27 56.9**	**-1.4**
CTAO				IAmb	IAmb	23 27 59.6	
	comp=Z,13nm,1.1s						
DZM	**Mont Dzumac**	**19.87**	**146**	P	**P**	**23 28 34.1**	**-2.7**
DZM				IAmb	IAmb	23 28 36.2	
	comp=Z,38nm,1.4s						
DZM	**Mont Dzumac**	**19.87**	**146**	P	**P**	**23 28 33.5**	**-3.3**
	comp=Z,11nm,0.5s,baz=285,slow=9.4,SNR=16						
ONTNC	**Ouen Toro**	**20.06**	**146**	P	Pn	23 28 40.2	-3.1
FAKI	**Fak Fak**	**22.34**	**276**	P	**P**	**23 29 02.3**	**+0.1**
WR0	**Warramunga Arr**	**23.92**	**232**	P	**P**	**23 29 17.6**	**+1.0**
WR0				IAmb	IAmb	23 29 18.4	
	comp=Z,6.6nm,0.5s						
WB0	**Warramunga Arr**	**23.94**	**233**	P	**P**	**23 29 17.5**	**+0.8**
WR8	**Warramunga Arr**	**23.95**	**232**	P	**P**	**23 29 17.7**	**+0.9**
WR8				IAmb	IAmb	23 29 19.7	
	comp=Z,10.0nm,1.1s						
MTN	**Manton Dam**	**24.04**	**251**	P	**P**	**23 29 17.5**	**-0.1**
MTN				IAmb	IAmb	23 29 19.8	
	comp=Z,16nm,1.4s						
WB2	**Warramunga Arr**	**24.06**	**233**	P	**P**	**23 29 18.8**	**+1.0**
WB2				IAmb	IAmb	23 29 39.5	
	comp=Z,13nm,1.3s						
WRA	**Warramunga Arr**	**24.07**	**233**	P	**P**	**23 29 18.0**	**0.0**
WRA	**Warramunga Arr**	**24.07**	**233**	P	**P**	**23 29 18.7**	**+0.8**
	comp=Z,2.5nm,0.3s,baz=59,slow=9.6,SNR=33						
WRA				LR	LR	23 39 38.7	
	comp=Z,33nm,19.6s,baz=68,slow=38						
	comp=Z,2.5nm,0.3s						
ARMA	**Armidale**	**24.60**	**186**	P	**P**	**23 29 22.4**	**-0.3**
ARMA				IAmb	IAmb	23 29 39.2	
	comp=Z,28nm,1.5s						
ASAR	**Alice Springs**	**26.57**	**226**	P	**P**	**23 29 40.5**	**0.0**
	comp=Z,1.2nm,0.5s,baz=56,slow=9.5,SNR=14						
ASAR				PcP	**PcP**	**23 33 00.1**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=55,slow=2.9,SNR=7.8						
	comp=Z,1.2nm,0.5s						
KNRA	**Kununurra**	**27.05**	**247**	P	**P**	**23 29 45.0**	**+0.3**
KNRA				IAmb	IAmb	23 30 28.7	
	comp=Z,6.9nm,1.1s						
STKA	**Stephens Creek**	**28.57**	**203**	P	**P**	**23 29 58.6**	**+0.5**
STKA	**Stephens Creek**	**28.57**	**203**	P	**P**	**23 29 58.5**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=23,slow=9.8,SNR=3.4						
	comp=Z,0.8nm,0.3s						
FITZ	**Fitzroy Crossi**	**30.66**	**244**	P	**P**	**23 30 16.5**	**-0.2**
BBOO	**Buckleboo**	**31.86**	**210**	P	**P**	**23 30 29.1**	**+2.1**
BBOO				IAmb	IAmb	23 31 10.6	
	comp=Z,19nm,1.3s						
TOLI2	**Tolitoli**	**34.33**	**281**	P	**P**	**23 30 49.4**	**+0.7**
TOLI2				IAmb	IAmb	23 30 50.3	
	comp=Z,7.5nm,0.8s						
KAPI	**Kappang**	**34.56**	**270**	P	**P**	**23 30 51.1**	**+0.4**
FORT	**Forrest**	**35.09**	**222**	P	**P**	**23 30 55.4**	**+0.5**
FORT				IAmb	IAmb	23 31 03.0	
	comp=Z,6.0nm,0.9s						
HIZ	**Hauiti**	**37.42**	**153**	P	**P**	**23 31 13.9**	**-0.6**
THZ	**Tophouse**	**39.37**	**158**	P	**P**	**23 31 29.3**	**-1.5**
THZ				IAmb	IAmb	23 31 30.1	
	comp=Z,12nm,0.8s						
JOHN	**Johnston Islan**	**42.07**	**57**	P	**P**	**23 31 52.5**	**-0.7**
MORW	**Morawa**	**43.02**	**233**	P	**P**	**23 32 00.7**	**-0.1**
MORW				IAmb	IAmb	23 32 29.7	
	comp=Z,30nm,1.4s						
TPUB	**Ta-pu**	**43.94**	**312**	P	**P**	**23 32 09.1**	**+1.0**
SSLB	**Suanglung**	**44.00**	**313**	P	**P**	**23 32 09.8**	**+1.2**
SSLB				IAmb	IAmb	23 32 50.7	
	comp=Z,32nm,1.5s						
PEA0B	**Petropavlovsk-**	**58.78**	**2**	P	**P**	**23 33 58.0**	**+0.4**
PETK	**Petropavlovsk-**	**58.78**	**2**	P	**P**	**23 33 57.9**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=198,slow=7.4,SNR=1.8						
	comp=Z,1.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**59.81**	**295**	P	**P**	**23 34 06.4**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=116,slow=4.9,SNR=12						
	comp=Z,1.4nm,0.5s						
SONM	**Songino Array**	**68.08**	**327**	P	**P**	**23 35 00.1**	**+1.2**
SONM	**Songino Array**	**68.08**	**327**	P	**P**	**23 35 00.3**	**+1.4**
	comp=Z,1.0nm,0.5s,baz=144,slow=5.9,SNR=6.9						
	comp=Z,1.0nm,0.5s						
VNDA	**Vanda**	**71.75**	**178**	P	**P**	**23 35 20.5**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=334,slow=6.0,SNR=4.2						
	comp=Z,0.4nm,0.5s						

M13K	**Dall Lake**	73.85	20	P		**P**		23 35 34.9	+1.8
M14K	**Bethel**	74.57	21	P		**P**		23 35 38.1	+0.9
PALK	**Pallekele**	74.74	279	P		**P**		23 35 40.5	+1.2
K15K	**Wolf Creek Mou**	75.80	20	P		**P**		23 35 45.5	+1.2
M16K	**Timber Creek**	75.83	21	P		**P**		23 35 45.3	+0.8
M16K				IAmb		IAmb		23 35 50.8	
	comp=Z,9.9nm,1.1s								
L16K	**Owhat River**	76.10	21	P		**P**		23 35 47.0	+1.0
L16K				IAmb		IAmb		23 36 21.3	
	comp=Z,15nm,1.5s								
J17K	**VABM Dome**	77.38	20	P		**P**		23 35 53.8	+0.7
J17K				IAmb		IAmb		23 36 31.4	
	comp=Z,16nm,1.4s								
G16K	**Koyuk River**	77.75	17	P		**P**		23 35 54.5	-0.7
G16K				IAmb		IAmb		23 35 55.7	
	comp=Z,16nm,1.1s								
L19K	**White Mountain**	78.08	22	P		**P**		23 35 57.5	+0.5
L19K				IAmb		IAmb		23 36 33.2	
	comp=Z,10nm,1.4s								
TIXI	**Tiksi**	79.14	352	P		**P**		23 36 01.9	-0.6
H19K	**Roundabout Mou**	79.65	19	P		**P**		23 36 05.7	+0.2
H19K				IAmb		IAmb		23 36 24.8	
	comp=Z,14nm,1.4s								
I20K	**Naaghedeneel**	79.83	20	P		**P**		23 36 05.4	-1.1
I20K				IAmb		IAmb		23 36 09.0	
	comp=Z,22nm,1.2s								
E19K	**Redstone River**	80.67	17	P		**P**		23 36 12.2	+1.3
IMAR	**Indian Mountai**	80.80	19	P		**P**		23 36 12.1	+0.5
F20K	**Avaraart Lake**	80.85	18	P		**P**		23 36 12.6	+0.8
F20K				IAmb		IAmb		23 36 44.3	
	comp=Z,8.5nm,1.4s								
D19K	**Kuna River**	81.12	16	P		**P**		23 36 13.6	+0.3
D19K				IAmb		IAmb		23 36 35.4	
	comp=Z,16nm,1.5s								
C19K	**Lookout Ridge**	81.14	15	P		**P**		23 36 14.3	+0.8
C19K				IAmb		IAmb		23 36 29.5	
	comp=Z,9.8nm,1.4s								
BWN	**Browne**	81.22	22	P		P		23 36 16.5	+2.6
MLY	**Manley**	81.25	21	P		**P**		23 36 14.3	+0.1
WRH	**Wood River Hil**	81.89	22	P		**P**		23 36 18.0	+0.6
MKAR	**Makanchi Array**	82.19	319	P		**P**		23 36 20.1	+0.7
MKAR	**Makanchi Array**	82.19	319	P		**P**		23 36 20.8	+1.4
	comp=Z,2.2nm,0.6s,baz=93,slow=7.4,SNR=18								
	comp=Z,2.2nm,0.6s								
E21K	**Killik River**	82.25	17	P		**P**		23 36 20.1	+0.8
HDA	**Harding Lake**	82.28	22	P		**P**		23 36 19.7	+0.2
B20K	**Meade River**	82.38	15	P		**P**		23 36 20.8	+1.0
B20K				IAmb		IAmb		23 36 21.5	
	comp=Z,9.8nm,1.2s								
MAKZ	**Makanchi**	82.40	319	P		**P**		23 36 21.7	+1.2
ILAR	**Eielson Array**	82.49	22	P		**P**		23 36 19.6	-0.9
	comp=Z,0.8nm,0.9s,baz=261,slow=4.8,SNR=5.3								
	comp=Z,0.8nm,0.9s								
D22K	**Ayikyak River**	82.89	17	P		**P**		23 36 23.9	+1.4
D22K				IAmb		IAmb		23 36 55.3	
	comp=Z,20nm,1.4s								
ZALV	**Zalesovo Beam**	82.93	326	P		**P**		23 36 23.3	+0.3
	comp=Z,1.4nm,0.5s,baz=119,slow=5.9,SNR=9.2								
	comp=Z,1.4nm,0.5s								
J25K	**Salcha River,**	82.97	22	P		**P**		23 36 23.5	+0.4
D23K	**Nanushuk River**	83.53	17	P		**P**		23 36 27.2	+1.5
D23K				IAmb		IAmb		23 36 37.0	
	comp=Z,6.8nm,1.1s								
B22K	**Teshekpuk Lake**	83.58	16	P		**P**		23 36 26.0	0.0
F24K	**Squaw Lake**	83.59	19	P		**P**		23 36 27.2	+1.0
F24K				IAmb		IAmb		23 36 28.8	
	comp=Z,7.3nm,1.4s								
E24K	**Your Creek**	83.70	18	P		**P**		23 36 26.0	-0.7
E24K				IAmb		IAmb		23 37 02.9	
	comp=Z,8.4nm,1.4s								
C23K	**Itkillik River**	84.05	17	P		**P**		23 36 29.6	+1.2
C23K				IAmb		IAmb		23 36 50.2	
	comp=Z,20nm,1.4s								
QSPA	**South Pole Qui**	84.14	180	P		**P**		23 36 30.7	+1.6
QSPA	**South Pole Qui**	84.14	180	P		**P**		23 36 30.0	+0.9
	comp=Z,1.8nm,0.5s,baz=232,slow=0.3,SNR=15								
	comp=Z,1.8nm,0.5s								
KDJ	**Kajisay**	84.52	313	P		**P**		23 36 32.3	+0.7
MAW	**Mawson**	85.26	203	P		**P**		23 36 34.4	-0.1
	comp=Z,2.6nm,0.5s,baz=110,slow=5.8,SNR=15								
	comp=Z,2.6nm,0.5s								
KURBB	**Kurchatov Arra**	85.63	322	P		**P**		23 36 37.0	+0.4
	comp=Z,0.5nm,0.5s,baz=100,slow=4.5,SNR=12								
	comp=Z,0.5nm,0.5s								
DLBC	**Dease Lake**	87.41	31	LR		LR		00 14 09.9	
	comp=Z,300nm,18.5s,baz=196,slow=34								
BVAR	**Borovoye Array**	91.06	323	P		**P**		23 37 02.1	-0.2
	comp=Z,1.9nm,0.7s,baz=103,slow=5.6,SNR=6.5								
	comp=Z,1.9nm,0.7s								
NVAR	**Mina Array Bea**	91.42	52	P		**P**		23 37 05.8	+1.2
	comp=Z,1.7nm,0.8s,baz=246,slow=6.2,SNR=6.4								
	comp=Z,1.7nm,0.8s								
PDAR	**Pinedale Array**	98.31	48	P		Pdif		23 37 35.6	-0.4
	comp=Z,0.2nm,0.5s,baz=243,slow=4.4,SNR=2.4								
	comp=Z,0.2nm,0.5s								
LPAZ	**La Paz**	132.47	118	PKP		**PKiKP**		23 43 13.2	-0.9
	comp=Z,0.2nm,0.3s,baz=49,slow=3.5,SNR=3.6								
TORD	**Torodi Ar. Bea**	152.20	287	PKP		**PKPdf**		23 43 46.3	-0.4
	comp=Z,0.4nm,0.7s,baz=90,slow=1.4,SNR=2.2								
TORD				PKPbc		**PKiKP**		23 43 53.6	-0.3
	comp=Z,0.4nm,0.4s,baz=84,slow=2.6,SNR=6.2								

*ROM **22** 23:27:40.5±0.2, 44.788N±0.006×6.65E±0.01, h10km±1km, ML1.8/14, Error ellipse: s-maj=0.8km s-min=0.5km az=260.0*
*GEN **22** 23:27:40.2, 44.78N×6.67E, h4km±1km, Ml1.6*
*LDG **22** 23:27:41.4±0.1, 44.79N×6.67E, h2km, Md1.6/2, Ml2.4/14, Error ellipse: s-maj=1.5km s-min=1.1km az=55.0*
STR 22 23:27:40.9±0.1, 44.8N±0.9×6.7E±0.9, h2km, MLv2.1/25, 1C, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.10**	**131**	*e*Pg	Pg	23 27 42.9	+0.1
MBDF				*e*Sg	Sg	23 27 44.4	+0.3
	615nm,0.2s						
RRL	**Rocca Remolon**	**0.16**	**34**	P	Pg	23 27 44.6	+0.6
RRL				S	Sg	23 27 47.5	+1.4
RRL	**Rocca Remolon**	**0.16**	**34**	↑P	Pg	23 27 44.6	+0.6
RRL				S	Sg	23 27 47.4	+1.3
RRL				AML	AML		
	comp=E,597µm,0.3s						
RRL				AML	AML		
	comp=N,566µm,0.1s						
RRL	**Rocca Remolon**	**0.16**	**34**	Pg	Pg	23 27 44.6	+0.6
RRL				Sg	Sg	23 27 47.4	+1.3
BNI	**Bardonecchia**	**0.26**	**2**	P	Pg	23 27 46.5	+0.6
BNI				S	Sg	23 27 50.3	+1.0
BNI	**Bardonecchia**	**0.26**	**2**	P	Pg	23 27 46.5	+0.6
BNI				S	Sg	23 27 50.2	+0.9
BNI				AML	AML		
	comp=N,55µm,1.6s						
BNI				AML	AML		
	comp=E,51µm,0.3s						
BNI				AML	AML		
	comp=N,37µm,0.3s						
BNI				AML	AML		
	comp=E,49µm,0.2s						
SURF	**Saint Ours**	**0.33**	**161**	P	Pg	23 27 47.2	0.0
SURF				S	Sg	23 27 52.5	+1.0
SURF	**Saint Ours**	**0.33**	**161**	Pg	Pg	23 27 47.4	+0.2
SURF				Sg	Sg	23 27 52.5	+1.1
OGAG	**Argentiere**	**0.35**	**195**	P	Pg	23 27 42.8	-4.8
OGAG				S	Sg	23 27 44.0	-8.1
OGAG	**Argentiere**	**0.35**	**195**	Pg	Pg	23 27 42.7	-4.8
OGAG				Sg	Sg	23 27 44.0	-8.1
JAUF	**Jausiers**	**0.37**	**171**	Pg	Pg	23 27 47.9	0.0
JAUF				Sg	Sg	23 27 53.5	+0.8
BHB	**Bricherasio**	**0.43**	**83**	P	Pg	23 27 49.4	+0.3
BHB				S	Sg	23 27 55.9	+1.3
BHB	**Bricherasio**	**0.43**	**83**	P	Pg	23 27 49.4	+0.3
BHB				S	Sg	23 27 55.7	+1.1
BHB				AML	AML		
	comp=E,90µm,1.1s						
BHB				AML	AML		
	comp=N,196µm,0.1s						
BHB				AML	AML		
	comp=E,90µm,0.9s						
BHB	**Bricherasio**	**0.43**	**83**	Pg	Pg	23 27 49.3	+0.2
BHB				Sg	Sg	23 27 55.5	+0.9
PZZ	**Stroppo**	**0.43**	**131**	P	Pg	23 27 49.0	-0.1
PZZ				S	Sg	23 27 55.0	+0.3
PZZ	**Stroppo**	**0.43**	**131**	P	Pg	23 27 48.9	-0.2
PZZ				S	Sg	23 27 55.4	+0.8
PZZ				AML	AML		
	comp=E,375µm,0.1s						
PZZ				AML	AML		
	comp=N,384µm,0.1s						
PZZ	**Stroppo**	**0.43**	**131**	Pg	Pg	23 27 49.0	-0.1
PZZ				Sg	Sg	23 27 54.9	+0.2
RSP	**Reno Superiore**	**0.56**	**50**	P	Pg	23 27 52.1	+0.6
RSP				S	Sg	23 27 59.4	+0.7
RSP	**Reno Superiore**	**0.56**	**50**	P	Pg	23 27 52.0	+0.5
RSP				S	Sg	23 27 59.7	+1.0
RSP				AML	AML		
	comp=E,87µm,0.2s						
RSP				AML	AML		
	comp=N,92µm,1.0s						
RSP				AML	AML		
	comp=N,69µm,0.1s						
RSP	**Reno Superiore**	**0.56**	**50**	Pg	Pg	23 27 52.0	+0.5
RSP				Sg	Sg	23 27 59.6	+0.9
ORIF	**Oris-en-Rattie**	**0.57**	**283**	*e*Pg	Pg	23 27 51.5	-0.4
ORIF				*e*Sg	Sg	23 27 58.6	-0.7
	comp=N,34nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.57**	**283**	P	Pg	23 27 51.6	-0.3
ORIF				S	Sg	23 27 58.8	-0.5
ORIF	**Oris-en-Rattie**	**0.57**	**283**	Pg	Pg	23 27 51.6	-0.3
ORIF				Sg	Sg	23 27 59.0	-0.3
ISO	**Isola**	**0.67**	**156**	P	Pg	23 27 53.9	+0.2
ISO				S	Sg	23 28 02.7	+0.4
ISO	**Isola**	**0.67**	**156**	Pg	Pg	23 27 53.4	-0.2
ISO				Sg	Sg	23 28 02.1	-0.2
ENAUX	**Enaux**	**0.69**	**173**	Pg	Pg	23 27 54.2	+0.1
ENAUX				Sg	Sg	23 28 03.2	+0.2
LPG	**La Plagne**	**0.71**	**5**	*e*Pg	Pg	23 27 54.7	+0.2
LPG				*e*Sg	Sb	23 28 05.1	-1.3
	comp=N,9.2nm,0.2s						
LPL	**La Plagne**	**0.73**	**4**	*e*Pg	Pg	23 27 55.1	+0.3
LPL				*e*Sg	Sg	23 28 04.4	+0.2
	comp=N,7.6nm,0.2s						
LSD	**Lago del Serru**	**0.74**	**26**	P	Pg	23 27 55.3	+0.1
LSD				S	Sg	23 28 05.3	+0.5
LSD	**Lago del Serru**	**0.74**	**26**	P	Pg	23 27 55.2	0.0
LSD				S	Sg	23 28 05.2	+0.3
LSD				AML	AML		
	comp=E,63µm,1.1s						
LSD				AML	AML		
	comp=E,63µm,0.9s						
LSD				AML	AML		
	comp=N,38µm,0.7s						
LSD	**Lago del Serru**	**0.74**	**26**	Pg	Pg	23 27 55.4	+0.3
LSD				Sg	Sg	23 28 05.4	+0.6
ENR	**Entracque**	**0.78**	**136**	P	Pg	23 27 56.0	+0.2
ENR				S	Sg	23 28 06.2	+0.3
ENR	**Entracque**	**0.78**	**136**	P	Pg	23 27 55.9	+0.1
ENR				S	Sg	23 28 06.2	+0.2
ENR				AML	AML		
	comp=E,96µm,0.1s						
ENR				AML	AML		
	comp=N,89µm,1.1s						
ENR				AML	AML		
	comp=N,89µm,0.9s						
ENR				AML	AML		
	comp=N,71µm,0.4s						
ENR	**Entracque**	**0.78**	**136**	Pg	Pg	23 27 55.9	+0.1
ENR				Sg	Sg	23 28 06.2	+0.3
GRN	**Grenoble**	**0.79**	**305**	Pg	Pg	23 27 56.5	+0.4
GRN				Sg	Sg	23 28 07.2	+0.8
SPIF	**crte de Spivo**	**0.84**	**151**	Pg	Pg	23 27 56.7	-0.3
SPIF				Sg	Sg	23 28 08.6	+0.7
RSL	**Roselend**	**0.90**	**358**	Pg	Pb	23 27 58.7	-0.5
SALSA	**La sagne**	**0.91**	**179**	Pg	Pg	23 27 58.4	+0.1
BLAF	**les Blancs**	**0.95**	**208**	Pg	Pg	23 27 59.0	-0.1
BLAF				Sg	Sg	23 28 12.2	+0.8
MVIF	**Mont Vial**	**0.96**	**159**	Pg	Pg	23 27 59.2	0.0
MVIF				Sg	Sg	23 28 12.3	+0.6
TURF	**col de Turini**	**0.97**	**147**	Pg	Pg	23 27 59.4	0.0
TURF				Sg	Sg	23 28 12.3	+0.4
GBOS	**Grotte di Boss**	**1.00**	**123**	P	Pg	23 27 59.5	-0.6
GBOS				S	Sg	23 28 12.8	-0.3
GBOS	**Grotte di Boss**	**1.00**	**123**	Pg	Pg	23 27 59.4	-0.7
GBOS				Sg	Sg	23 28 13.0	-0.1
MRGE	**Morge**	**1.02**	**16**	P	Pg	23 28 00.3	-0.1
MRGE				S	Sb	23 28 14.4	-0.8
SAOF	**Saorge**	**1.03**	**141**	P	Pg	23 28 00.1	-0.5
SAOF				S	Sg	23 28 13.9	0.0
SAOF	**Saorge**	**1.03**	**141**	Pg	Pg	23 28 00.0	-0.5
SAOF				Sg	Sg	23 28 14.5	+0.6
MLYF	**Mely**	**1.03**	**219**	Pg	Pb	23 28 01.1	-0.3
MLYF				Sg	Sb	23 28 15.1	-0.3
TRAV	**Traversella**	**1.05**	**46**	P	Pg	23 28 00.9	-0.1
TRAV				S	Sg	23 28 14.5	-0.1
TRAV				AML	AML		
	comp=E,45µm,1.5s						
TRAV				AML	AML		
	comp=N,40µm,1.4s						
TRAV				AML	AML		
	comp=N,40µm,0.6s						
TRAV				AML	AML		
	comp=E,31µm,0.3s						
TRAV	**Traversella**	**1.05**	**46**	Pg	Pg	23 28 00.7	-0.3
TRAV				Sg	Sg	23 28 14.9	+0.3
CALF	**Calern**	**1.05**	**170**	Pg	Pg	23 28 01.0	0.0
CALF				Sg	Sb	23 28 16.0	-0.2
TRIGF	**Trigance**	**1.06**	**190**	Pg	Pg	23 28 01.3	+0.1
TRIGF				Sg	Sg	23 28 15.6	+0.7
OGSM	**Saint Maurice**	**1.07**	**320**	Pg	Pg	23 28 01.6	+0.3
OGSM				Sg	Sg	23 28 15.7	+0.6
SBF	**Sospel**	**1.08**	**149**	*e*Pg	Pg	23 28 01.2	-0.4
SBF				*e*Sg	Sg	23 28 15.5	0.0
	comp=E,14nm,0.2s						
ESCA	**l'Escarene**	**1.09**	**152**	Pg	Pg	23 28 01.5	-0.1
ESCA				Sg	Sb	23 28 16.6	-0.5
REMY	**Saint-Rhmy-en**	**1.10**	**18**	Pg	Pg	23 28 01.9	-0.1
REMY				Sg	Sb	23 28 17.2	-0.5
MGRO	**Montegrosso**	**1.11**	**132**	Pg	Pg	23 28 01.3	-0.8
MGRO				Sg	Sb	23 28 17.5	-0.3
SMRF	**Simiane la Rot**	**1.13**	**224**	*e*Pg	Pb	23 28 03.2	+0.1
SMRF	**Simiane la Rot**	**1.13**	**224**	*e*P	Pn	23 28 04.2	+0.5
SMRF				*e*Sg	Sg	23 28 17.6	+0.4
	comp=E,10nm,0.3s						
BSTF	**la Bastide-des**	**1.17**	**219**	Pg	Pn	23 28 05.1	+0.8
BSTF				Sg	Sn	23 28 20.9	+0.1
ROTM	**Rocchetta Tana**	**1.20**	**87**	Pg	Pb	23 28 04.1	-0.2
ROTM				Sg	Sg	23 28 19.5	+0.1
RUSF	**Rustrel**	**1.20**	**225**	Pg	Pg	23 28 04.0	+0.2
RUSF				Sg	Sb	23 28 20.4	+0.1
RORO	**Rocca Rossa**	**1.21**	**124**	Pg	Pg	23 28 03.1	-0.9
RORO				Sg	Sg	23 28 19.7	0.0
OGMY	**Moye**	**1.22**	**334**	Pg	Pb	23 28 04.8	+0.1
OGMY				Sg	Sb	23 28 20.7	-0.2
CANO	**Canova, Maglio**	**1.27**	**117**	Pg	Pg	23 28 04.4	-0.7
CANO				Sg	Sb	23 28 21.9	-0.3
ARTF	**Artigues**	**1.35**	**208**	Pg	Pb	23 28 07.1	+0.1
ARTF				Sg	Sb	23 28 25.0	+0.3
PCP	**Piancastagn**	**1.36**	**100**	Pn	Pn	23 28 06.6	-0.3
PCP				Sn	Sb	23 28 24.9	-0.2
SATI	**Passo dei Sala**	**1.38**	**38**	P	Pg	23 28 07.1	-0.1
SATI				S	Sg	23 28 24.2	-0.8
SATI	**Passo dei Sala**	**1.38**	**38**	Pn	Pg	23 28 07.1	-0.2
SATI				Sn	Sb	23 28 25.9	+0.2
DIX	**Grande Dixence**	**1.39**	**22**	Pn	Pn	23 28 07.6	+0.1
DIX				Sn	Sn	23 28 26.6	0.0
SAUF	**chteau de Sau**	**1.41**	**233**	Pn	Pn	23 28 07.1	-0.4
SAUF				Sn	Sg	23 28 25.8	-0.2
VIVF	**Saint-Julien-l**	**1.42**	**273**	*e*Pg	Pn	23 28 07.2	-0.5
VIVF				*e*Sg	Sg	23 28 25.9	-0.6
	comp=E,6.0nm,0.3s						
FLAF	**Flassans-sur-l**	**1.44**	**192**	Pn	Pn	23 28 07.7	-0.3
FLAF				Sn	Sb	23 28 27.2	0.0
LEPF	**PUYLOUBIER**	**1.45**	**209**	Pn	Pb	23 28 08.0	-0.2
LEPF				Sn	Sn	23 28 28.2	+0.6
LMR	**La Mourre**	**1.46**	**184**	*e*Pg	Pn	23 28 08.3	+0.1
LMR				*e*Sg	Sb	23 28 27.2	-0.6
	comp=E,8.6nm,0.2s						
OG35	**Corcelles**	**1.47**	**329**	Pn	Pb	23 28 08.9	-0.1
OG35				Sn	Sn	23 28 28.8	+0.5
SSB	**Saint Sauveur**	**1.58**	**289**	Pn	Pn	23 28 09.7	-0.3
SSB				Sn	Sn	23 28 31.1	0.0
EMBD	**Embd, Matterta**	**1.64**	**30**	Pn	Pn	23 28 10.6	-0.3
EMBD				Sn	Sn	23 28 32.3	-0.3
RNCA	**Ronca, Sant'Ol**	**1.66**	**100**	P	Pn	23 28 11.2	+0.2
GIMEL	**St. Georges /**	**1.77**	**351**	Pn	Pn	23 28 12.3	-0.3
GIMEL				Sn	Sn	23 28 35.2	-0.5
CABF	**La Chapelle**	**1.86**	**348**	*e*P	Pn	23 28 14.3	+0.4
CABF	**La Chapelle**	**1.86**	**348**	*e*Pg	Pg	23 28 16.3	-0.3
CABF				*e*Sg	Sb	23 28 39.5	0.0
	comp=E,2.9nm,0.3s						
RIVEL	**MONT RIVEL**	**2.04**	**345**	Pn	Pn	23 28 16.4	+0.2
RIVEL				Sn	Sn	23 28 41.3	-0.9
LASF	**Ste Croix**	**2.14**	**251**	*e*Pn	Pn	23 28 16.6	-1.0
LASF				*e*Sn	Sn	23 28 41.5	-3.2
	comp=E,0.8nm,0.1s						
PLDF	**La Plantade**	**2.45**	**300**	Pn	Pn	23 28 21.4	-0.5
PLDF				Sn	Sn	23 28 50.9	-1.5
CHMF	**Charmoille**	**2.46**	**360**	Pn	Pn	23 28 21.7	-0.4
CHMF				Sn	Sn	23 28 51.4	-1.3
LBL	**Lubilhac**	**2.46**	**281**	Pn	Pn	23 28 22.0	-0.2
LBL				Sn	Sn	23 28 51.8	-1.1
BOUC	**Bouclans**	**2.47**	**354**	Pn	Pn	23 28 22.1	-0.1
MORSI	**Morsiglia**	**2.68**	**132**	Pn	Pn	23 28 24.8	-0.2
MORSI				Sn	Sn	23 28 56.4	-1.6
SMF	**Signal de Mont**	**2.71**	**314**	*e*P	Pn	23 28 25.9	+0.4
SMF	**Signal de Mont**	**2.71**	**314**	*e*Pg	Pb	23 28 31.2	+1.1
SMF				*e*Sg	Sb	23 29 05.4	+1.6
	comp=E,1.7nm,0.2s						
AGO	**Saint Agoulin**	**2.79**	**298**	Pn	Pn	23 28 26.2	-0.4
AGO				Sn	Sn	23 28 59.1	-1.7
PGF	**Pioggiola**	**2.81**	**142**	*e*Pn	Pn	23 28 25.9	-1.0
PGF				*e*Sn	Sn	23 29 00.4	-1.0
	comp=E,1.2nm,0.2s						
PGF	**Pioggiola**	**2.81**	**142**	Pn	Pn	23 28 26.7	-0.2
PGF				Sn	Sn	23 28 59.6	-1.8
LEUC	**Leucamp**	**2.93**	**271**	Pn	Pn	23 28 28.4	0.0
FRNF	**Fournols**	**2.97**	**283**	Pn	Pn	23 28 28.9	-0.1
FRNF				Sn	Sn	23 29 03.9	-1.3
AVF	**Avril sur Loir**	**3.06**	**312**	*e*P	Pn	23 28 30.6	+0.4
AVF	**Avril sur Loir**	**3.06**	**312**	*e*Pg	Pg	23 28 38.4	-1.1
AVF				*e*Sg	Sg	23 29 17.0	-2.2
	comp=E,1.8nm,0.4s						
LOR	**Lormes**	**3.16**	**323**	*e*P	Pn	23 28 32.1	+0.5
	baz=143						
LOR	**Lormes**	**3.16**	**323**	*e*Pg	Pg	23 28 40.2	-1.1
	baz=140						
LOR				*e*Sg	Sg	23 29 19.5	-2.7
	comp=E,1.3nm,0.3s,baz=144						
SSF	**Saint Saulge**	**3.17**	**317**	*e*P	Pn	23 28 32.3	+0.6
SSF	**Saint Saulge**	**3.17**	**317**	*e*Pg	Pg	23 28 40.3	-1.2
BGF	**Bois d'Agland**	**3.21**	**305**	*e*P	Pn	23 28 32.6	+0.3
BGF				*e*Sg	Sg	23 29 21.8	-2.1
	comp=E,3.4nm,0.3s						

*IDC **22** 23:41:53.1±1.3, 41.25N×19.34E, h0km, mb3.8/4, mbtmp3.6/8, ML2.4/2, MS2.7/1, Error ellipse: s-maj=16.5km s-min=15.0km az=19.0*
*TIR **22** 23:41:56.1, 41.42N×19.48E, h38km±2km, Ml3.4/5*
*BEO **22** 23:41:57.8±0.4, 41.33N×19.44E, h17km±3km, ML3.1/13*
*SKO **22** 23:41:57.4, 41.34N×19.49E, h16km, ML3.2*
*THE **22** 23:41:58.9, 41°N±17"×1°9E±1°5, h11km, M2.9/12, MLh2.9/12*
*PDG **22** 23:41:59.6±0.1, 41.51N×19.58E, h11km, MD3.2/3, ML3.1/11, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
ISC 22 23:41:55.9±1.0, 41.30N±0.02×19.48E±0.03, h11km±7km, n104, σ1§39/142, 1D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.29**	**81**	Pg	**Pg**	**23 42 01.9**	**+0.1**
TIR				Sg	**Sg**	**23 42 04.5**	**-1.4**
TIR				AML	AML	23 42 05.0	
	14nm,0.3s						
ULC	**Ulcinj**	**0.69**	**345**	*e*Pg	**Pg**	**23 42 09.3**	**+0.1**
ULC				*i* Sg	**Sg**	**23 42 17.7**	**-0.5**
VLO	**Vlora**	**0.83**	**179**	Pg	**Pn**	**23 42 15.6**	**+2.1**
VLO				Sg	**Sn**	**23 42 27.2**	**+1.5**
VLO				AML	AML	23 42 34.0	
	4.1nm,0.3s						
VLO				AML	AML	23 42 35.3	
	4.4nm,0.5s						
VLO	**Vlora**	**0.83**	**179**	P	**Pn**	**23 42 15.6**	**+2.1**
VLO				S	**Sn**	**23 42 27.1**	**+1.4**
DRME	**Dracevica, Mon**	**0.91**	**346**	*e*Pg	**Pg**	**23 42 13.8**	**+0.3**
DRME				*e*Sg	**Sb**	**23 42 27.4**	**+1.5**
DRME	**Dracevica, Mon**	**0.91**	**346**	*e*Pg	**Pg**	**23 42 13.4**	**-0.1**
DRME				*i* Sg	**Sg**	**23 42 25.1**	**-0.3**
OHR	**Ohrid**	**1.01**	**100**	*i* Pg	**Pg**	**23 42 14.9**	**-0.5**
OHR				*i* Sg	**Sn**	**23 42 32.5**	**+2.1**
OHR				*e*Lg	Lg	23 42 34.5	
	comp=E,437nm,0.5s						
OHR				*e*Lg	Lg	23 42 34.7	
	comp=N,559nm,0.8s						
BUM	**Brajici-Budva**	**1.09**	**337**	*e*Pg	**Pg**	**23 42 17.1**	**+0.2**
BUM				*i* Sg	**Sb**	**23 42 32.0**	**+0.9**
PDG	**Podgorica**	**1.14**	**352**	*e*Pg	**Pg**	**23 42 17.9**	**+0.1**
PDG				*e*Sg	**Sn**	**23 42 34.1**	**+0.6**
PDG	**Podgorica**	**1.14**	**352**	*e*Pg	**Pg**	**23 42 17.3**	**-0.5**
PDG				*i* Sg	**Sg**	**23 42 32.4**	**-0.3**
KBN	**Korca**	**1.20**	**124**	Pn	**Pg**	**23

KNT					*e*Sn		**Sn**	23 43 09.4	+0.3
LIT	**Litokhoron**	**2.58**	**117**		P		**Pn**	23 42 40.2	+2.5
LIT	**Litokhoron**	**2.58**	**117**		*i* Pn		**Pn**	23 42 39.9	+2.2
THL	**Klokotos Trika**	**2.60**	**131**		P		**Pn**	23 42 40.4	+2.5
TSLK	**Tsoukalades, L**	**2.63**	**160**		P		**Pn**	23 42 39.9	+1.6
TYRN	**Tyrnavos**	**2.63**	**126**		P		**Pn**	23 42 40.6	+2.3
LKD2	**Lefkada island**	**2.67**	**160**		P		**Pn**	23 42 40.2	+1.4
THE	**Thessaloniki**	**2.72**	**103**		*i* Pn		**Pn**	23 42 40.5	+0.9
THE					*e*Sn		**Sn**	23 43 11.3	-1.2
GRUS	**Gruza**	**2.74**	**19**		*e*Pn		**Pn**	23 42 39.4	-0.5
NYDR	**Nydri-Lefkada**	**2.75**	**160**		P		**Pn**	23 42 41.0	+1.1
KKB	**Krupnik**	**2.79**	**78**		*i* Pn		**Pn**	23 42 41.5	+1.0
DIVS	**Divibare**	**2.82**	**8**		*e*Pn		**Pn**	23 42 42.2	+1.2
DIVS					*e*Sn		**Sn**	23 43 14.9	-0.2
EVGI	**Lefkada island**	**2.83**	**161**		P		**Pn**	23 42 42.0	+1.0
SGRT	**San Giovanni R**	**2.84**	**280**		Pn		**Pn**	23 42 42.1	+0.9
BOVS	**Bovan**	**2.86**	**34**		*e*Pn		**Pn**	23 42 42.7	+1.3
BOVS					*e*Sn		**Sn**	23 43 16.5	+0.7
FSK	**Fiskardo**	**2.96**	**163**		P		**Pn**	23 42 42.8	0.0
SOH	**Sokhos**	**2.97**	**98**		P		**Pn**	23 42 43.6	+0.6
SOH	**Sokhos**	**2.97**	**98**		*i* Pn		**Pn**	23 42 44.0	+1.0
EVR	**Evrytania**	**2.98**	**142**		P		**Pn**	23 42 46.0	+2.9
TRUS	**Trudelj**	**3.00**	**13**		*e*Pn		**Pn**	23 42 44.4	+1.0
ZAPS	**Zavoj**	**3.06**	**49**		*e*Pn		**Pn**	23 42 45.2	+0.9
ZAPS					*e*Sn		**Sn**	23 43 21.6	+0.7
VTS	**Vitosha**	**3.10**	**64**		*e*Pn		**Pn**	23 42 45.9	+1.1
PVO	**Paravola**	**3.11**	**149**		P		**Pn**	23 42 47.1	+2.3
SRS	**Serrai**	**3.11**	**92**		*i* Pn		**Pn**	23 42 45.7	+0.8
SRS	**Serrai**	**3.11**	**92**		*e*Pn		**Pn**	23 42 45.7	+0.8
MMB	**Musomishta**	**3.22**	**84**		P		**Pn**	23 42 47.7	+1.3
MMB	**Musomishta**	**3.22**	**84**	⇓	*i* Pn		**Pn**	23 42 47.8	+1.3
ZAGS	**Zajecar**	**3.23**	**38**		*e*Pn		**Pn**	23 42 47.5	+0.9
ZAGS					*e*Sn		**Sn**	23 43 26.4	+1.4
VLS	**Valsamata**	**3.23**	**164**		P		**Pn**	23 42 47.0	+0.3
RTZL	**Ratzakli, Kefa**	**3.37**	**162**		P		**Pn**	23 42 49.6	+1.2
EFP	**Efpalio**	**3.42**	**146**		P		**Pn**	23 42 52.1	+2.9
KUBS	**Kucevo**	**3.50**	**27**		*e*Pn		**Pn**	23 42 49.1	-1.2
KIJV	**Kijevo**	**3.53**	**321**		*e*Pn		**Pn**	23 42 52.2	+1.6
BLY	**Banja Luka**	**3.83**	**335**		*e*Pn		**Pn**	23 42 54.1	-0.7
BLY	**Banja Luka**	**3.83**	**335**		*e*Pn		**Pn**	23 42 55.8	+1.0
BLY					*e*Sn		**Sn**	23 43 39.5	-0.4
KLV	**Kalavryta, Ach**	**3.85**	**147**		P		**Pn**	23 42 57.5	+2.4
FRGS	**Fruska Gora**	**3.86**	**3**		*e*Pn		**Pn**	23 42 55.7	+0.4
GUR	**Goura**	**4.02**	**146**		P		**Pn**	23 42 59.2	+1.7
PLD	**Plovdiv**	**4.03**	**76**		*e*Pn		**Pn**	23 42 59.9	+2.3
BZS	**Buzias**	**4.59**	**19**		*e*Pn		**Pn**	23 43 05.6	+0.4
MOSL	**Moslavina**	**4.75**	**336**		*e*Pn		**Pn**	23 43 06.7	-0.7
GZR	**Gura Zlata**	**4.75**	**29**		*e*Pn		**Pn**	23 43 09.0	+1.6
BOJS	**Bojanci**	**5.21**	**325**		*e*Pn		**Pn**	23 43 14.9	+1.2
OZLJ	**Ozalj**	**5.21**	**327**		*e*Pn		**Pn**	23 43 13.9	+0.2
SIRR	**Siria**	**5.21**	**17**		*e*Pn		**Pn**	23 43 14.3	+0.5
RIY	**Rijeka**	**5.43**	**320**		*e*Pn		**Pn**	23 43 18.6	+1.9
CEY	**Cerknica**	**5.76**	**322**		*e*Pn		**Pn**	23 43 23.0	+1.7
MLR	**Muntele Rosu**	**6.30**	**46**		Pn		**Pn**	23 43 31.4	+2.5
	comp=E,1.7nm,0.4s,baz=202,slow=5.4,SNR=6.1								
MLR					Sn		**Sn**	23 44 43.0	+2.1
	baz=32,slow=19								
MLR	**Muntele Rosu**	**6.30**	**46**		*e*Pn		**Pn**	23 43 31.4	+2.5
IDI	**Anoyia**	**7.36**	**143**		Pn		**Pn**	23 43 43.6	+0.3
	comp=E,9.0nm,0.9s,baz=325,slow=16,SNR=1.2								
IDI					Sn		**Sn**	23 45 01.9	-4.9
	comp=E,0.2nm,0.3s,baz=53,slow=7.1,SNR=3.1								
VRAC	**Vranov**	**8.26**	**347**		LR		LR	23 47 55.9	
	comp=E,45nm,18.1s,baz=79,slow=44								
GERES	**GERESS Array B**	**8.58**	**334**		Pn		**Pn**	23 43 59.7	-0.4
	baz=166,slow=14,SNR=2.2								
GERES					Sn		**Sn**	23 45 36.7	-0.1
	baz=164,slow=25,SNR=3.2								
	comp=E,0.1nm,0.3s								
DAVOX	**Davos/Dischmat**	**8.82**	**312**		Pn		**Pn**	23 44 01.3	-2.1
	comp=E,0.1nm,0.3s,baz=320,slow=23,SNR=1.7								
DAVOX					Sn		**Sn**	23 45 40.4	-2.4
	comp=E,0.1nm,0.3s,baz=17,slow=22,SNR=1.7								
	comp=E,0.6nm,0.4s								
FINES	**FINESS Array B**	**20.57**	**9**		P		**P**	23 46 33.3	-1.1
	comp=E,7.5nm,1.1s,baz=178,slow=11,SNR=5.7								
	comp=E,7.5nm,1.1s								
TORD	**Torodi Ar. Bea**	**32.06**	**214**		P		**P**	23 48 20.6	-2.2
	comp=E,0.1nm,0.4s,baz=20,slow=9.5,SNR=1.3								
	comp=E,0.1nm,0.4s								
ZALV	**Zalesovo Beam**	**44.26**	**50**		P		**P**	23 50 04.5	-0.7
	comp=E,1.7nm,0.4s,baz=277,slow=8.7,SNR=7.9								
	comp=E,1.7nm,0.4s								
MKAR	**Makanchi Array**	**44.42**	**61**		P		**P**	23 50 05.8	-0.7
	comp=E,0.8nm,0.6s,baz=289,slow=6.8,SNR=8.4								
	comp=E,0.8nm,0.6s								

IDC 22 23:43:42.6±2.1, 6°04'S×129°33'E, h0km, mb3.9/1, mbtmp3.8/3, ML3.9/2, Error ellipse: s-maj=124.4km s-min=30.4km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.52**	**196**	Sn	Sn	23 49 03.9	+1.5
	0.8nm,0.3s,baz=56,slow=23,SNR=3.5						
WRA	**Warramunga Arr**	**14.65**	**161**	Pn	Pn	23 47 11.7	+0.4
	0.5nm,0.3s,baz=340,slow=13,SNR=6.6						
WRA				Sn	Sn	23 49 39.1	-15
	0.5nm,0.3s,baz=332,slow=22,SNR=8.0						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**18.07**	**166**	P	Pn	23 47 55.0	-0.3
	0.4nm,0.3s,baz=347,slow=8.8,SNR=19						
ASAR				S	Sn	23 51 02.6	-15
	0.3nm,0.5s,baz=348,slow=24,SNR=4.5						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**67.06**	**327**	P	P	23 54 37.8	0.0
	0.4nm,0.4s,baz=116,slow=7.2,SNR=8.8						
	0.4nm,0.4s						

IDC 22 23:58:24.7±4.1, 43°08'N×105°23'W, h0km, mbtmp2.9/2, ML2.1/2, Error ellipse: s-maj=89.4km s-min=11.7km az=161.0, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**3.19**	**266**	Pn	Pb	23 59 19.6	-2.7
	0.1nm,0.3s,baz=63,slow=14,SNR=3.6						
PDAR				Lg	Lg	00 00 04.0	
	1.3nm,0.3s,baz=73,slow=32,SNR=15						
	0.3nm,0.4s						
I10CA	**LAC DU BONNET**	**9.53**	**38**	I	I	00 54 20.0	
	baz=226,slow=314,SNR=4.2						
ULM	**Lac du Bonnet**	**9.63**	**39**	Pn	Pn	00 00 41.7	-2.7
	baz=234,slow=13,SNR=1.8						
	1.3nm,0.7s						

*TIR **23** 00:21:49.5, 41°.63N×19°.62E, h15km±1km, Ml2.6/3*
*BEO **23** 00:21:55.2±0.8, 41°.36N×19°.58E, h15km±6km, ML2.0/8*
*PDG **23** 00:21:57.4±0.1, 41°.55N×19°.57E, h10km, ML2.1/9, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*

ISC 23 00:21:53.2±1.2, 41°38N±0°.03×19°.55E±0°.03, h5km±10km, n27, σ0§98/49, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.24**	**96**	Pg	**Pg**	**00 21 58.0**	**+0.2**
TIR				AML	AML	00 22 01.3	
	1.6nm,0.2s						
TIR				Sg	**Sg**	**00 22 01.5**	**+0.5**
ULC	**Ulcinj**	**0.63**	**339**	*e*Pg	**Pb**	**00 22 06.1**	**-0.7**
ULC				*i* Sg	**Sb**	**00 22 14.0**	**-2.0**
DRME	**Dracevica, Mon**	**0.86**	**341**	*e*Pg	**Pn**	**00 22 11.6**	**-0.4**
DRME				*e*Sg	**Sn**	**00 22 23.5**	**-1.5**
DRME	**Dracevica, Mon**	**0.86**	**341**	*e*Pg	**Pb**	**00 22 10.3**	**-0.3**
DRME				*i* Sg	**Sb**	**00 22 21.5**	**-0.9**
VLO	**Vlora**	**0.91**	**183**	P	**Pb**	**00 22 12.1**	**+0.7**
VLO				Sg	**Sn**	**00 22 27.1**	**+1.0**
VLO				AML	AML	00 22 32.2	
	0.5nm,0.2s						
BUM	**Brajici-Budva**	**1.05**	**332**	*e*Pg	**Pn**	**00 22 14.2**	**-0.5**
BUM				*i* Sg	**Sn**	**00 22 28.3**	**-1.5**
PDG	**Podgorica**	**1.08**	**348**	*e*Pg	**Pn**	**00 22 15.2**	**+0.2**
PDG				*e*Sg	**Sn**	**00 22 30.9**	**+0.5**
PDG	**Podgorica**	**1.08**	**348**	*e*Pg	**Pn**	**00 22 14.3**	**-0.7**
PDG				*i* Sg	**Sb**	**00 22 28.6**	**-0.2**
KBN	**Korca**	**1.20**	**128**	Pg	**Pg**	**00 22 14.9**	**-1.3**
KBN				S	**Sb**	**00 22 32.7**	**+0.4**
CEME	**Cevo**	**1.26**	**338**	*e*Pg	**Pn**	**00 22 17.5**	**-0.2**
CEME				*i* Sg	**Sn**	**00 22 35.3**	**+0.2**
HCY	**Herceg Novi**	**1.33**	**324**	*e*Pg	**Pn**	**00 22 19.6**	**+1.1**
HCY				*i* Sg	**Sn**	**00 22 38.4**	**+1.7**
KOME	**Kolasin**	**1.48**	**359**	*e*Pg	**Pg**	**00 22 22.3**	**+0.8**
KOME				*e*Sg	**Sn**	**00 22 43.4**	**+3.0**
KOME	**Kolasin**	**1.48**	**359**	*e*Pg	**Pg**	**00 22 21.4**	**-0.1**
KOME				*i* Sg	**Sn**	**00 22 41.7**	**+1.3**
BEY	**Berane**	**1.52**	**10**	*e*Pg	**Pg**	**00 22 22.1**	**-0.2**
IVA	**Berane**	**1.52**	**10**	*e*Pg	**Pg**	**00 22 22.1**	**-0.2**
IVA				*i* Sg	**Sn**	**00 22 43.3**	**+1.9**
TREB	**Trebinje**	**1.61**	**327**	*e*Pg	**Pg**	**00 22 24.3**	**+0.2**
TREB				*e*Sg	**Sg**	**00 22 46.2**	**+1.2**
BRY	**Bratogost**	**1.70**	**334**	*e*Pg	**Pg**	**00 22 26.0**	**+0.1**
BRY				*i* Sg	**Sg**	**00 22 48.8**	**+0.9**
SJES	**Sjenica**	**1.91**	**9**	*e*Pn	**Pb**	**00 22 28.3**	**-0.4**
SJES				*e*Sg	**Sg**	**00 22 55.2**	**+0.6**
IGT	**Igoumenitsa**	**1.94**	**162**	P	**Pb**	**00 22 28.4**	**-0.7**
NOCI	**Noci**	**1.97**	**254**	Pn	**Pn**	**00 22 27.6**	**+0.3**
NOCI				S	**Sg**	**00 22 55.6**	**-0.9**
NOCI				AML	AML	00 22 57.4	
	0.1nm,0.3s						
SELS	**Selova**	**2.18**	**32**	*e*Pn	**Pb**	**00 22 32.5**	**-0.7**
SELS				*e*Sn	**Sn**	**00 22 57.6**	**0.0**
BARS	**Barje**	**2.22**	**49**	*e*Pn	**Pn**	**00 22 30.8**	**+0.1**
BARS				*e*Sn	**Sn**	**00 22 58.4**	**-0.1**
IVAS	**Ivanjica**	**2.25**	**11**	*e*Pn	**Pn**	**00 22 31.4**	**+0.2**
RUDO	**Rudo**	**2.25**	**357**	*e*Pn	**Pn**	**00 22 30.9**	**-0.2**
BOSS	**Bosilegrad**	**2.46**	**62**	*e*Pn	**Pn**	**00 22 34.4**	**+0.4**
BOSS				*e*Sn	**Sn**	**00 23 03.0**	**-1.4**
VTS	**Vitosha**	**3.01**	**64**	*e*Pn	**Pn**	**00 22 42.3**	**+0.5**
ZAGS	**Zajecar**	**3.14**	**38**	*e*Pn	**Pn**	**00 22 44.7**	**+1.3**
ZAGS				*e*Sn	**Sn**	**00 23 21.6**	**+0.4**

GCG 23 00:22:57.2±0.4, 14°22N×91°32W, h72km±8km, MD3.5, ML3.2, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.50**	**72**	*i* P	Pn	00 23 10.5	+0.2
ESSG				*i* S	Sn	00 23 20.8	+0.8
FG8	**Yepocapa, Chim**	**0.74**	**87**	*i* P	Pn	00 23 10.1	-2.7
FG8				*i* S	Sn	00 23 20.1	-4.3
FG16	**Alotenango, Sa**	**0.79**	**86**	*i* P	Pn	00 23 11.0	-2.5
FG16				*i* S	Sn	00 23 21.8	-3.8
FG16				IAML		00 23 24.9	
	comp=N,3μm,0.6s						

IDC 23 00:25:30.5±2.3, 3°28N×63°90E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=69.1km s-min=53.9km az=42.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**37.46**	**64**	P	P	00 32 46.0	-0.1
	0.7nm,0.4s,baz=265,slow=8.5,SNR=4.3						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**72.83**	**112**	P	P	00 37 02.0	+0.3
	1.1nm,0.9s,baz=279,slow=6.4,SNR=4.7						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**73.12**	**116**	P	P	00 37 03.2	-0.2
	0.7nm,0.7s,baz=285,slow=6.2,SNR=5.4						
	0.7nm,0.7s						
TXAR	**Lajitas Array**	**145.45**	**341**	PKPbc	PKPbc	00 45 10.6	-0.8
	0.4nm,0.8s,baz=47,slow=3.0,SNR=4.2						

*SOME **23** 00:33:45.9, 40°.22N×77°.12E, h10km*
*KRNET **23** 00:33:49.2±0.1, 40°.35N×77°.20E, mb3.4*
*NNC **23** 00:33:49.7±1.2, 40°.41N×77°.21E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=8.7km s-min=6.7km az=164.0*

ISC 23 00:33:50.5±2.2, 40°44N±0°.08×77°01E±0°.04, h6km±13km, n49, σ1§50/72, 18C-16D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.42**	**25**	⇑*e*P	**Pn**	**00 34 16.4**	**-0.9**
TARG				⇑*e*S	**Sn**	**00 34 36.2**	**-0.4**
KDJ	**Kajisay**	**1.70**	**4**	⇓*e*P	**Pb**	**00 34 22.1**	**-0.1**
KDJ				⇓*e*S	**Sg**	**00 34 46.0**	**+0.9**
ULHL	**Ulahol**	**1.90**	**343**	P	**Pg**	**00 34 27.0**	**+0.1**
	SNR=14						
ULHL	**Ulahol**	**1.90**	**343**	⇑*e*P	**Pb**	**00 34 26.1**	**+0.4**
ULHL				⇑*e*S	**Sg**	**00 34 53.1**	**+1.6**
BOOM	**Boomskoye usch**	**2.20**	**339**	⇑*e*P	**Pb**	**00 34 30.4**	**-0.5**
BOOM				⇑*e*S	**Sg**	**00 35 00.5**	**-0.8**
PRZ	**Przheval'sk**	**2.30**	**27**	⇓*e*P	**Pn**	**00 34 30.3**	**+1.2**
PRZ				⇓*e*S	**Sb**	**00 35 00.2**	**-1.0**
TNSS	**Tian-Shan**	**2.60**	**359**	Pg	**Pb**	**00 34 37.6**	**-0.1**
	4.6nm,0.5s						
TNSS				Lg	Lg	00 35 15.1	
	6.0nm,0.3s						
TNSS	**Tian-Shan**	**2.60**	**359**	*e*P	**Pb**	**00 34 37.6**	**-0.1**
	4.6nm,0.5s						
TNSS				*e*S	**Sg**	**00 35 15.1**	**+1.1**
	13nm,0.4s						
TKM2	**Tokmak 2**	**2.70**	**337**	P	**Pb**	**00 34 39.0**	**-0.3**
	SNR=17						
TKM2	**Tokmak 2**	**2.70**	**337**	⇓*e*P	**Pb**	**00 34 37.4**	**-1.9**
TKM2				⇓*e*S	**Sb**	**00 35 12.4**	**-0.4**
KBK	**Karagaybulak**	**2.70**	**326**	P	**Pg**	**00 34 42.0**	**-0.3**
	SNR=20						
KBK	**Karagaybulak**	**2.70**	**326**	⇑*e*P	**Pb**	**00 34 37.6**	**-1.8**
KBK				⇑*e*S	**Sb**	**00 35 12.9**	**0.0**
KST	**Kastek**	**2.72**	**344**	Pg	**Pb**	**00 34 39.5**	**-0.1**
	6.2nm,0.4s						
KST				Lg	Lg	00 35 18.0	
	16nm,0.4s						
KST	**Kastek**	**2.72**	**344**	*e*P	**Pb**	**00 34 40.2**	**+0.6**
	5.9nm,0.4s						
KST				*e*S	**Sg**	**00 35 19.5**	**+1.6**
	27nm,0.4s						
MDOK	**Medeo**	**2.73**	**1**	Pg	**Pb**	**00 34 39.0**	**-0.7**
	10.0nm,0.4s						
MDOK				Lg	Lg	00 35 17.5	
	47nm,0.5s						
MTBS	**Maitube**	**2.73**	**351**	Pg	**Pb**	**00 34 39.5**	**-0.2**
	6.0nm,0.3s						
MTBS				Lg	Lg	00 35 18.7	
	20nm,0.3s						
MTBS	**Maitube**	**2.73**	**351**	*e*P	**Pb**	**00 34 40.5**	**+0.8**
	2.6nm,0.2s						
MTBS				*e*S	**Sg**	**00 35 19.9**	**+1.8**
	24nm,0.2s						
KNDC	**Almaty**	**2.78**	**359**	⇑Pg	**Pg**	**00 34 43.9**	**+0.2**
	19nm,0.1s						
KNDC				⇑Lg	Lg	00 35 19.8	
	124nm,0.4s						
KOTS	**Kotyrbulak**	**2.80**	**2**	Pg	**Pb**	**00 34 40.2**	**-0.8**
	9.0nm,0.4s						
KOTS				Lg	Lg	00 35 19.6	
	119nm,0.6s						
KOTS	**Kotyrbulak**	**2.80**	**2**	*e*P	**Pb**	**00 34 40.2**	**-0.8**
	9.0nm,0.4s						
KOTS				*e*S	**Sg**	**00 35 19.6**	**-0.8**
	119nm,0.6s						
SATY	**Saty**	**2.82**	**21**	Pg	**Pb**	**00 34 39.4**	**-2.0**
	9.4nm,0.3s						
SATY				Lg	Lg	00 35 18.1	
	47nm,0.6s						
AAK	**Ala-Archa**	**2.90**	**320**	P	**Pg**	**00 34 45.4**	**-0.7**
	SNR=16						
AAK	**Ala-Archa**	**2.90**	**320**	⇑Pn	**Pb**	**00 34 40.4**	**-2.2**
	8.7nm,0.6s						
AAK				⇓Lg	Lg	00 35 25.1	
	68nm,1.1s						
AAK	**Ala-Archa**	**2.90**	**320**	⇓*e*P	**Pb**	**00 34 40.5**	**-2.2**
AAK				⇓*e*S	**Sb**	**00 35 17.7**	**-0.8**
FRU1	**Bishkek**	**2.97**	**324**	⇑*e*P	**Pb**	**00 34 41.5**	**-2.3**
FRU1				⇑*e*S	**Sb**	**00 35 19.7**	**-0.7**
CHMS	**Chumysh**	**3.07**	**327**	P	**Pb**	**00 34 44.6**	**-0.9**
	SNR=6.3						
CHMS	**Chumysh**	**3.07**	**327**	⇓*e*P	**Pb**	**00 34 42.5**	**-3.0**
CHMS				⇓*e*S	**Sb**	**00 35 21.5**	**-1.7**
UZB	**Uzunybulak**	**3.10**	**28**	Pg	**Pb**	**00 34 44.6**	**-1.5**
	2.6nm,0.2s						
UZB				Lg	Lg	00 35 26.8	
	16nm,0.4s						
UZB	**Uzunybulak**	**3.10**	**28**	*e*P	**Pb**	**00 34 45.3**	**-0.8**
	1.8nm,0.3s						
UZB				*e*S	**Sg**	**00 35 28.1**	**-1.9**
	28nm,0.7s						
KURS	**Kuram**	**3.17**	**15**	Pg	**Pb**	**00 34 46.6**	**-0.7**
	5.8nm,0.6s						
KURS				Lg	Lg	00 35 30.4	
	19nm,0.6s						
ARSB	**Arslanbob**	**3.18**	**287**	⇓*e*P	**Pn**	**00 34 44.3**	**+3.1**
ARSB				⇓*e*S	**Sb**	**00 35 24.6**	**-1.9**
KPKS	**Kokpek**	**3.27**	**22**	Pg	**Pb**	**00 34 47.4**	**-1.7**
	2.9nm,0.2s						
KPKS				Lg	Lg	00 35 32.0	
	59nm,0.3s						
SHLS	**Shalkode**	**3.28**	**33**	Pg	**Pb**	**00 34 50.8**	**+1.7**
	3.9nm,0.3s						
SHLS				Lg	Lg	00 35 38.0	
	39nm,0.5s						
SHLS	**Shalkode**	**3.28**	**33**	*e*P	**Pb**	**00 34 50.8**	**+1.7**
	3.9nm,0.3s						
SHLS				*e*S	**Sg**	**00 35 38.0**	**+2.2**
	39nm,0.5s						
KTBS	**Karatobe**	**3.28**	**356**	Pg	**Pb**	**00 34 49.0**	**-0.1**
	1.5nm,0.4s						
KTBS				Lg	Lg	00 35 34.8	
	18nm,0.4s						
EKS2	**Erkin-Say**	**3.29**	**314**	P	**Pb**	**00 34 48.2**	**-1.2**
	SNR=12						
EKS2	**Erkin-Say**	**3.29**	**314**	⇑*e*P	**Pn**	**00 34 45.9**	**+3.2**
EKS2				⇑*e*S	**Sb**	**00 35 27.3**	**-2.4**
USP	**Ospenovka**	**3.39**	**327**	P	**Sg**	**00 35 40.6**	**+1.1**
	SNR=10						
USP	**Ospenovka**	**3.39**	**327**	⇓*e*P	**Pn**	**00 34 47.1**	**+3.1**
USP				⇓*e*S	**Sb**	**00 35 29.3**	**-3.3**
KRBS	**Karabastau**	**3.41**	**343**	Pg	**Pb**	**00 34 52.9**	**+1.6**
	4.9nm,0.4s						
KRBS				Lg	Lg	00 35 41.3	
	10nm,0.4s						
CHKK	**Chushkaly**	**3.42**	**360**	Pg	**Pb**	**00 34 52.4**	**+1.0**
	5.5nm,0.1s						
CHKK				Lg	Lg	00 35 40.5	
	28nm,0.4s						
CHKK	**Chushkaly**	**3.42**	**360**	*e*P	**Pb**	**00 34 52.4**	**+1.0**
	5.5nm,0.1s						
CHKK				*e*S	**Sg**	**00 35 40.5**	**+0.3**
	42nm,0.3s						
PDGK	**Podgornoye**	**3.43**	**32**	⇑Pn	**Pn**	**00 34 44.9**	**+0.3**
	2.8nm,0.6s						
PDGK				⇑Pg	**Pb**	**00 34 52.1**	**+0.3**
	7.7nm,0.6s						
PDGK				⇓Lg	Lg	00 35 37.1	
	54nm,0.9s						
MRKS	**Merke**	**3.66**	**310**	Pg	**Pb**	**00 34 57.1**	**+1.6**
	1.5nm,0.3s						
MRKS				Lg	Lg	00 35 48.6	
	9.0nm,0.5s						
MRKS	**Merke**	**3.66**	**310**	*e*P	**Pb**	**00 34 57.1**	**+1.6**
	1.9nm,0.3s						
MRKS				*e*S	**Sg**	**00 35 48.6**	**+0.6**
	12nm,0.2s						
ARXS	**Arharly**	**3.82**	**9**	Pg	**Pb**	**00 34 59.5**	**+1.1**
	7.1nm,0.5s						
ARXS				Lg	Lg	00 35 52.4	
	15nm,0.4s						
ARXS	**Arharly**	**3.82**	**9**	*e*P	**Pb**	**00 34 59.5**	**+1.1**
ARXS				*e*S	**Sg**	**00 35 52.5**	**-0.7**
KNOS	**Konyrlen**	**4.24**	**22**	Pg	**Pb**	**00 35 06.5**	**+1.0**
	1.9nm,0.5s						
KNOS				Lg	Lg	00 36 04.8	
	3.8nm,0.4s						
KK31	**Karatay Array**	**5.54**	**301**	⇑Pg	**Pg**	**00 35 33.8**	**-2.8**
	1.7nm,0.6s,baz=128,slow=16,SNR=13						
KK31				Lg	Lg	00 36 50.8	
	2.8nm,0.6s,baz=122,slow=26,SNR=4.2						

*IDC **23** 00:40:30.5±0.7, 3°.86N×64°.08E, h0km, mb3.9/17, mbtmp3.8/17, MS3.5/29, Error ellipse: s-maj=24.3km s-min=16.8km az=45.0*
*NEIC **23** 00:40:31.2±1.4, 3°.7N±0°.1×64°.21E±0°.07, h10km±1km, mb4.3/30, Error ellipse: s-maj=19.7km s-min=7.4km az=153.0*

ISC 23 00:40:31.1±0.5, 3°65N±0°07×64°15E±0°06, h10km, n81, σ1§13/64, mb4.2/29, MS3.5/29, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAAM	**Kaadhehdhoo**	**9.38**	**109**	Pn	**Pn**	**00 42 45.3**	**-1.1**
MSEY	**Mahe Island**	**11.97**	**226**		**Pn**	**00 43 21.2**	**-0.8**
TRD	**Trivandrum**	**13.62**	**69**	*e*P	**Pn**	**00 43 46.5**	**+2.0**
TRD				IAmb	IAmb	00 44 17.2	
	comp=Z,65nm,1.4s						
TRD				*e*S	**Sn**	**00 46 16.6**	**+0.6**
TRD				IAML		00 46 22.0	
	comp=N,52nm,0.2s						
TRD				IAML		00 46 24.0	
	comp=E,58nm,0.3s						
DGAR	**Diego Garcia**	**13.76**	**143**		**Pn**	**00 43 43.

MARD				IAmb	IAmb	00 48 13.4	
	comp=Z,5.7nm,1.0s						
TARG	**Taragay, Kyrgy**	**39.84**	**16**	P	**P**	**00 48 03.9**	**-1.4**
AAK	**Ala-Archa**	**39.91**	**12**	P	**P**	**00 48 04.5**	**-1.0**
AAK	**Ala-Archa**	**39.91**	**12**	LR	LR	01 03 44.1	
	comp=Z,46nm,21.7s,baz=207,slow=35						
KDJ	**Kajisay**	**40.05**	**15**	P	**P**	**00 48 05.0**	**-1.8**
LSZ	**Lusaka**	**40.26**	**241**	P	**P**	**00 48 09.7**	**+0.9**
LSZ				IAmb	IAmb	00 48 37.0	
	comp=Z,10.0nm,1.4s						
LSZ	**Lusaka**	**40.26**	**241**	LR	LR	01 02 48.3	
	comp=Z,89nm,18.1s,baz=84,slow=33						
GNI	**Garni**	**40.35**	**337**	P	**P**	**00 48 09.1**	**-0.1**
GNI				IAmb	IAmb	00 48 12.8	
	comp=Z,18nm,1.2s						
GNI	**Garni**	**40.35**	**337**	LR	LR	01 04 01.8	
	comp=Z,30nm,19.4s,baz=137,slow=35						
KBZ	**Khabaz**	**44.13**	**338**	P	**P**	**00 48 39.0**	**-0.7**
	comp=Z,3.5nm,1.1s,baz=114,slow=11,SNR=4.3						
	comp=Z,3.5nm,1.1s						
BRTR	**Keskin Array B**	**45.30**	**327**	P	**P**	**00 48 49.3**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=139,slow=12,SNR=4.6						
	comp=Z,0.5nm,0.8s						
ELL	**Elmali**	**45.55**	**321**	P	**P**	**00 48 50.9**	**-0.5**
AB31	**Akbulak array**	**45.59**	**356**	P	**P**	**00 48 51.1**	**-0.1**
ABKAR	**Akbulak array**	**45.59**	**356**	P	**P**	**00 48 50.4**	**-0.9**
MKAR	**Makanchi Array**	**45.77**	**17**	P	**P**	**00 48 50.9**	**-2.0**
MKAR	**Makanchi Array**	**45.77**	**17**	P	**P**	**00 48 52.5**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=221,slow=9.8,SNR=3.6						
MKAR				LR	LR	01 07 06.2	
	comp=Z,25nm,19.8s,baz=242,slow=35						
	comp=Z,0.5nm,0.7s						
AKTO	**Aktyubinsk**	**46.91**	**355**	LR	LR	01 09 28.3	
	comp=Z,45nm,19.2s,baz=138,slow=37						
LBTB	**Lobatse**	**47.03**	**231**	LR	LR	01 05 32.6	
	comp=Z,61nm,20.1s,baz=48,slow=32						
KURBB	**Kurchatov Arra**	**48.36**	**12**	P	**P**	**00 49 13.0**	**0.0**
	comp=Z,0.4nm,0.8s,baz=208,slow=7.8,SNR=6.9						
KURBB				LR	LR	01 09 57.0	
	comp=Z,29nm,18.7s,baz=167,slow=37						
	comp=Z,0.4nm,0.8s						
BOSA	**Boshof**	**49.24**	**227**	LR	LR	01 08 22.8	
	comp=Z,35nm,19.4s,baz=28,slow=34						
BVAR	**Borovoye Array**	**49.49**	**5**	P	**P**	**00 49 22.2**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=217,slow=14,SNR=3.6						
BVAR				LR	LR	01 11 25.8	
	comp=Z,64nm,18.5s,baz=196,slow=38						
	comp=Z,0.3nm,0.5s						
TSUM	**Tsumeb**	**51.11**	**242**	LR	LR	01 08 58.7	
	comp=Z,76nm,21.0s,baz=142,slow=33						
ZALV	**Zalesovo Beam**	**52.92**	**15**	P	**P**	**00 49 46.0**	**-1.4**
ZALV	**Zalesovo Beam**	**52.92**	**15**	P	**P**	**00 49 46.8**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=211,slow=7.0,SNR=6.3						
ZALV				LR	LR	01 12 07.7	
	comp=Z,34nm,20.9s,baz=297,slow=36						
	comp=Z,1.2nm,0.5s						
MLR	**Muntele Rosu**	**53.38**	**327**	P	**P**	**00 49 50.7**	**-0.4**
BURAR	**Bucovina Array**	**55.12**	**329**		**P**	**00 50 02.9**	**-0.8**
BUR08	**Bucovina Ar. S**	**55.15**	**329**	P	**P**	**00 50 04.2**	**+0.3**
BUR08				IAmb	IAmb	00 50 28.5	
	comp=Z,4.7nm,1.1s						
AKASG	**Malin Array Be**	**55.31**	**334**	P	**P**	**00 50 02.7**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=150,slow=6.4,SNR=5.7						
	comp=Z,0.2nm,0.3s						
KIRV	**Kirov**	**55.99**	**351**	LR	LR	01 15 30.2	
	comp=Z,40nm,19.6s,baz=121,slow=38						
VAE	**Valguarnera**	**56.53**	**313**	LR	LR	01 14 38.4	
	comp=Z,57nm,18.8s,baz=308,slow=36						
SONM	**Songino Array**	**57.02**	**33**	P	**P**	**00 50 17.6**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=232,slow=7.2,SNR=5.9						
SONM				LR	LR	01 15 06.4	
	comp=Z,73nm,19.9s,baz=188,slow=36						
	comp=Z,0.7nm,0.6s						
TAM	**Tamanrasset**	**59.74**	**294**	P	**P**	**00 50 37.0**	**+0.1**
TAM				IAmb	IAmb	00 50 50.9	
	comp=Z,2.7nm,0.6s						
FDMO	**Fiordimonte**	**59.81**	**319**	P	**P**	**00 50 38.2**	**+1.4**
TORD	**Torodi Ar. Bea**	**62.36**	**283**	P	**P**	**00 50 55.6**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=109,slow=5.3,SNR=4.2						
	comp=Z,0.3nm,0.6s						
DAVOX	**Davos/Dischmat**	**63.48**	**321**	LR	LR	01 18 30.0	
	comp=Z,28nm,18.2s,baz=267,slow=36						
FINES	**FINESS Array B**	**64.35**	**341**	P	**P**	**00 51 05.6**	**-1.2**
	comp=Z,6.1nm,1.1s,baz=135,slow=6.8,SNR=4.1						
	comp=Z,6.1nm,1.1s						
HFS	**Hagfors**	**68.12**	**335**	P	**P**	**00 51 30.1**	**-1.0**
	comp=Z,2.7nm,0.7s,baz=145,slow=5.4,SNR=5.3						
	comp=Z,2.7nm,0.7s						
NOA	**NORSAR Array B**	**69.64**	**336**	P	**P**	**00 51 39.6**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=115,slow=6.8,SNR=3.4						
NOA				LR	LR	01 23 53.3	
	comp=Z,20nm,19.6s,baz=210,slow=38						
	comp=Z,0.6nm,0.8s						
ARCES	**ARCESS Array B**	**70.53**	**347**	LR	LR	01 23 28.3	
	comp=Z,39nm,19.6s,baz=263,slow=37						
ESDC	**Sonseca Array**	**70.89**	**311**	P	**P**	**00 51 48.7**	**0.0**
	comp=Z,0.7nm,0.7s,baz=100,slow=6.0,SNR=8.4						
	comp=Z,0.7nm,0.7s						
WRA	**Warramunga Arr**	**72.74**	**112**	P	**P**	**00 52 01.6**	**+1.4**
	comp=Z,3.7nm,1.0s,baz=291,slow=5.2,SNR=14						
	comp=Z,3.7nm,1.0s						
ASAR	**Alice Springs**	**73.06**	**116**	P	**P**	**00 52 03.0**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=285,slow=5.6,SNR=17						
	comp=Z,2.4nm,0.8s						
MJAR	**Matsushiro Arr**	**75.04**	**53**	LR	LR	01 30 12.1	
	comp=Z,15nm,18.6s,baz=160,slow=40						
YAK	**Yakutsk**	**75.49**	**26**	LR	LR	01 26 55.2	
	comp=Z,56nm,18.1s,baz=230,slow=37						
TIXI	**Tiksi**	**76.76**	**17**	LR	LR	01 28 37.0	
	comp=Z,33nm,19.8s,baz=204,slow=37						
MA2	**Magadan**	**85.16**	**31**	LR	LR	01 32 39.8	
	comp=Z,65nm,19.5s,baz=290,slow=37						
PETK	**Petropavlovsk-**	**89.25**	**37**	LR	LR	01 34 37.2	
	comp=Z,63nm,20.7s,baz=156,slow=36						
VNDA	**Vanda**	**95.21**	**167**	P	**P**	**00 53 57.9**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=249,slow=1.5,SNR=7.0						
	comp=Z,0.3nm,0.3s						
CFA	**Coronel Fontan**	**127.37**	**232**	PKP	**PKiKP**	**00 59 38.3**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=93,slow=4.9,SNR=4.4						
PDAR	**Pinedale Array**	**133.45**	**354**	PKP	**PKiKP**	**00 59 49.4**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=10.0,slow=2.7,SNR=3.7						
NVAR	**Mina Array Bea**	**138.07**	**3**	PKP	**PKiKP**	**00 59 59.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=234,slow=3.6,SNR=4.2						
TXAR	**Lajitas Array**	**145.19**	**341**	PKP	**PKPab**	**01 00 09.7**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=57,slow=3.0,SNR=33						

*JMA **23** 00:45:09.5±0.6, 38°N±3°×13°4E±°, h456km, MV3.3/23, SEA OF JAPAN*

*IDC **23** 00:45:09.2±1.6, 38°.17N×133°.69E, h441km±18km, mb2.7/5, mbtmp3.5/9, Error ellipse: s-maj=41.4km s-min=20.4km az=175.0*

ISC 23 00:45:08.5±0.9, 38°.0N±0°.1×133°.94E±0°.10, h459km, n14, σ1§50/15, mb3.1/5, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**2.99**	**156**	*eP*	**P**	**00 46 17.4**	**+1.2**
MJAR	**Matsushiro Arr**	**3.71**	**112**	P	**P**	**00 46 23.3**	**+1.4**
	1.4nm,0.6s,baz=293,slow=9.5,SNR=2.7						
JIE	**Ise**	**4.27**	**148**	*eP*	**P**	**00 46 28.4**	**+1.7**
JAG	**Ashikaga**	**4.68**	**108**	*eS*	**S**	**00 47 36.0**	**-1.1**
KSRS	**Korea Array**	**4.80**	**265**	P	**P**	**00 46 30.4**	**-1.1**
	8.1nm,0.8s,baz=78,slow=9.3,SNR=12						
JMM	**Marumori**	**5.42**	**90**	*eP*	**P**	**00 46 37.5**	**+0.2**
JHO	**Hitachi**	**5.47**	**103**	*eP*	**P**	**00 46 37.4**	**-0.5**
JHO				*eS*	**S**	**00 47 47.9**	**-2.9**
USRK	**Ussuriysk Ar.**	**6.33**	**347**	P	**P**	**00 46 44.7**	**-1.7**
	14nm,0.5s,baz=173,slow=9.9,SNR=22						
ASAJ	**Asahikawa**	**8.92**	**44**	P	**P**	**00 47 14.3**	**+0.5**
	3.1nm,0.3s,baz=229,slow=16,SNR=3.9						
SONM	**Songino Array**	**22.32**	**305**	P	**P**	**00 49 30.1**	**-0.3**
	0.3nm,0.5s,baz=103,slow=10,SNR=1.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**40.67**	**306**	P	**P**	**00 52 07.1**	**-0.2**
	0.6nm,0.7s,baz=84,slow=7.6,SNR=6.5						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**45.46**	**311**	P	**P**	**00 52 44.4**	**-0.5**
	0.2nm,0.4s,baz=99,slow=6.6,SNR=1.8						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**51.84**	**32**	P	**P**	**00 53 34.9**	**+2.6**
	0.2nm,0.5s,baz=283,slow=8.9,SNR=4.6						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**65.06**	**330**	P	**P**	**00 55 02.3**	**+0.2**
	1.2nm,0.7s,baz=62,slow=5.5,SNR=4.4						
	1.2nm,0.7s						

CATAC 23 01:32:45.5±0.6, 12°N±5°×8°7W±°, h92km±5km, M2.5/8, MLv2.5/8, Error ellipse: s-maj=13.7km s-min=7.2km az=37.6, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.29**	**93**	P	Pn	01 32 59.7	+0.6
CNGA	**AI SSO del Vol**	**0.35**	**32**	P	Pn	01 33 01.2	+1.8
CNGA				S	Sn	01 33 13.1	+3.3
CNGN	**Cerro Negro**	**0.36**	**32**	P	Pn	01 33 01.1	+1.6
CNGN	**Cerro Negro**	**0.36**	**32**	S	Sn	01 33 12.7	+2.8
TEL3	**Telica 3**	**0.38**	**7**	P	Pn	01 33 01.1	+1.5
QUEN	**AI S del Volca**	**0.40**	**6**	P	Pn	01 33 00.7	+0.9
PLRN	**Geotermica Pol**	**0.40**	**17**	P	Pn	01 33 00.6	+0.8
PLRN				S	Sn	01 33 13.2	+2.8
PKGN	**Cerro Pekin**	**0.48**	**350**	P	Pn	01 33 01.1	+0.8
PKGN				S	Sn	01 33 14.4	+3.2
UNAN	**Cigeo UNAN**	**0.61**	**98**	P	Pn	01 33 00.3	-1.1
UNAN				S	Sn	01 33 17.4	+4.2
CONN	**Concepcion**	**1.39**	**117**	P	Pn	01 33 11.2	+1.2
CNCH	**Conchagua**	**1.41**	**320**	S	Sn	01 33 31.2	+2.1
CNCH	**Conchagua**	**1.41**	**320**	P	Pn	01 33 10.2	-0.2
YUSH	**Yuscaran**	**1.75**	**2**	P	Pn	01 33 14.5	-0.1
YUSH	**Yuscaran**	**1.75**	**2**	S	Sn	01 33 36.8	+0.1
PACA	**Pacayal**	**1.88**	**312**	S	Sn	01 33 40.5	+0.7
PACA	**Pacayal**	**1.88**	**312**	P	Pn	01 33 16.8	+0.4

GII 23 01:41:12.3±0.0, 33°.145N±0°.002×35°.586E±0°.001, h18km, Mws1.2, confirmed, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEM	**Giv'at Ha'Em**	**0.09**	**45**	P	Pg	01 41 16.1	+0.2
GEM	**Giv'at Ha'Em**	**0.09**	**45**	S	Sg	01 41 18.8	+0.5
NATI	**Neve Ativ**	**0.17**	**47**	P	Pg	01 41 17.0	+0.2
NATI	**Neve Ativ**	**0.17**	**47**	S	Sg	01 41 20.3	+0.3
MMA0B	**Mount Meron ar**	**0.20**	**230**	P	Pg	01 41 17.7	+0.3
MMA0B	**Mount Meron ar**	**0.20**	**230**	S	Sg	01 41 21.1	+0.4
MMC7	**Mount Meron ar**	**0.20**	**233**	P	Pg	01 41 17.4	0.0
AMID	**Amiad**	**0.22**	**190**	P	Pg	01 41 14.3	-3.3
AMID	**Amiad**	**0.22**	**190**	S	Sg	01 41 21.4	+0.2
HDNS	**Had-Ness**	**0.22**	**168**	P	Pb	01 41 18.0	+0.4
HDNS	**Had-Ness**	**0.22**	**168**	S	Sg	01 41 22.1	+1.0
KSHT	**Keshet**	**0.25**	**131**	P	Pg	01 41 18.1	0.0
KSHT	**Keshet**	**0.25**	**131**	S	Sb	01 41 22.4	+0.3

*WEL **23** 01:43:12.7±0.5, 43°S±3°×17°1E±°, h9km±3km, M3.2/7, ML3.4/7, MLv3.2/7, Error ellipse: s-maj=3.4km s-min=3.0km az=13.8, confirmed*
*NOU **23** 01:43:14.7, 42°.73S×171°.28E, h31km, MLv3.8/15, South Island, New Zealand*

ISC 23 01:43:12.9±0.8, 42°.73S±0°.02×171°.34E±0°.03, h14km±5km, n67, σ0§80/74, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INZ	**Inchbonnie**	**0.07**	**90**	P	**Pg**	**01 43 15.8**	**0.0**
INZ				S	**Sg**	**01 43 17.7**	**0.0**
IFPS	**Inchbonnie Fit**	**0.10**	**91**	P	**Pg**	**01 43 15.8**	**-0.2**
IFPS				S	**Sg**	**01 43 18.0**	**0.0**
KOKS	**Kokatahi**	**0.23**	**222**	P	**Pb**	**01 43 18.6**	**-0.2**
APPS	**Arthurs Pass P**	**0.28**	**144**	P	**Pg**	**01 43 19.0**	**+0.2**
APPS				S	**Sg**	**01 43 23.2**	**+0.4**
HMCS	**Hokitika Medic**	**0.28**	**271**	P	**Pb**	**01 43 19.8**	**+0.1**
HMCS				S	**Sb**	**01 43 24.6**	**+0.4**
GMFS	**Greymouth Fire**	**0.29**	**339**	P	**Pb**	**01 43 19.2**	**-0.6**
GMFS				S	**Sb**	**01 43 23.6**	**-0.8**
WVAS	**Waitaha Valley**	**0.56**	**232**	P	**Pb**	**01 43 24.7**	**+0.1**
WVZ	**Waitaha Valley**	**0.57**	**232**	P	**Pb**	**01 43 24.6**	**0.0**
WVZ				S	**Sb**	**01 43 32.5**	**0.0**
CSHS	**Castle Hill**	**0.57**	**151**	P	**Pb**	**01 43 24.7**	**0.0**
LTZ	**Lake Taylor**	**0.69**	**95**	P	**Pg**	**01 43 26.0**	**-0.2**
RDCS	**Reefton DOC Ce**	**0.72**	**33**	P	**Pg**	**01 43 26.3**	**-0.6**
SJFS	**Springs Juncti**	**0.73**	**58**	P	**Pg**	**01 43 26.4**	**-0.7**
SPRS	**Springfield Vo**	**0.75**	**145**	P	**Pb**	**01 43 27.8**	**+0.1**
OXZ	**Oxford**	**0.79**	**140**	P	**Pg**	**01 43 28.5**	**+0.3**
MHCZ	**Mount Hutt**	**0.82**	**169**	P	**Pg**	**01 43 29.5**	**+0.6**
MTHS	**Methven North**	**0.87**	**164**	P	**Pn**	**01 43 30.6**	**-0.2**
RPZ	**Rata Peaks**	**1.01**	**192**	P	**Pg**	**01 43 32.7**	**+0.3**
RPZ	**Rata Peaks**	**1.01**	**192**	S	**Sn**	**01 43 47.4**	**+0.7**
RPZ	**Rata Peaks**	**1.01**	**192**	S	**Pg**	**01 43 32.9**	**+0.4**
RPZ				S	**Sn**	**01 43 46.8**	**0.0**
DSZ	**Denniston Nort**	**1.04**	**19**	P	**Pb**	**01 43 32.0**	**-0.6**
DSZ				S	**Sb**	**01 43 45.7**	**-0.4**
AMCZ	**Amberley**	**1.06**	**116**	P	**Pb**	**01 43 32.8**	**-0.2**
RACZ	**Rakaia**	**1.16**	**150**	P	**Pn**	**01 43 33.9**	**-0.8**
ARCZ	**Arundel**	**1.23**	**186**	P	**Pn**	**01 43 35.4**	**-0.3**
GVZ	**Greta Valley S**	**1.27**	**102**	P	**Pn**	**01 43 35.7**	**-0.5**
WACZ	**Wakanui South**	**1.27**	**164**	P	**Pn**	**01 43 35.9**	**-0.3**
MQZ	**McQueen's Vall**	**1.37**	**136**	P	**Pn**	**01 43 36.8**	**-0.8**
FOZ	**Fox Glacier**	**1.38**	**234**	P	**Pn**	**01 43 37.0**	**-0.7**
THZ	**Tophouse**	**1.51**	**51**	P	**Pn**	**01 43 39.4**	**-0.1**
OKCZ	**Okains Bay**	**1.60**	**129**	P	**Pn**	**01 43 40.0**	**-0.8**
AKCZ	**Akaroa Harbour**	**1.62**	**136**	P	**Pn**	**01 43 40.1**	**-0.9**
KHZ	**Kahutara**	**1.65**	**80**	P	**Pn**	**01 43 41.9**	**+0.5**
KHZ	**Kahutara**	**1.65**	**80**	S	**Sb**	**01 44 03.9**	**+0.2**
KHZ	**Kahutara**	**1.65**	**80**	P	**Pn**	**01 43 41.8**	**+0.3**
TMZ	**Timaru**	**1.68**	**188**	P	**Pn**	**01 43 41.5**	**-0.3**
MRNZ	**Matariki Terra**	**1.69**	**39**	P	**Pn**	**01 43 43.6**	**-0.1**
LBZ	**Lake Benmore**	**1.86**	**207**	P	**Pn**	**01 43 44.5**	**+0.1**
TKNZ	**Takaka Hill**	**2.08**	**36**	P	**Pn**	**01 43 47.1**	**-0.3**
QRZ	**Quartz Range**	**2.09**	**25**	P	**Pn**	**01 43 46.9**	**-0.6**
QRZ	**Quartz Range**	**2.09**	**25**	P	**Pn**	**01 43 47.1**	**-0.4**
BSWZ	**Blackbirch Sta**	**2.13**	**63**	P	**Pb**	**01 43 50.8**	**-0.5**
NNZ	**Nelson**	**2.14**	**46**	P	**Pn**	**01 43 49.2**	**+1.1**
JCZ	**Jackson Bay**	**2.30**	**233**	P	**Pn**	**01 43 51.0**	**+0.5**
JCZ	**Jackson Bay**	**2.30**	**233**	P	**Pn**	**01 43 49.8**	**-0.7**
TUWZ	**Tuamarina**	**2.33**	**57**	P	**Pn**	**01 43 52.0**	**+1.3**
ODZ	**Otahua Downs**	**2.37**	**192**	P	**Pn**	**01 43 50.6**	**-0.8**
ODZ	**Otahua Downs**	**2.37**	**192**	S	**Sn**	**01 44 19.5**	**-0.8**
ODZ	**Otahua Downs**	**2.37**	**192**	P	**Pn**	**01 43 50.8**	**-0.6**
TCW	**Tory Channel**	**2.66**	**56**	P	**Pn**	**01 43 56.7**	**+1.4**
WKZ	**Wanaka**	**2.69**	**218**	P	**Pn**	**01 43 55.2**	**-0.6**
DUWZ	**D'Urville Isla**	**2.72**	**46**	P	**Pn**	**01 43 57.8**	**+1.6**
SNZO	**South Karori**	**2.88**	**62**	P	**Pn**	**01 43 58.9**	**+0.7**
MSWZ	**Moikau Station**	**3.19**	**67**	P	**Pn**	**01 44 01.5**	**-1.1**
KIW	**Kapiti Island**	**3.25**	**56**	P	**Pn**	**01 44 03.8**	**+0.3**
OGWZ	**Otaki Gorge**	**3.44**	**58**	P	**Pn**	**01 44 06.5**	**+0.5**
TUZ	**Tuapeka**	**3.46**	**200**	P	**Pn**	**01 44 05.7**	**-0.5**
MRZ	**Mangatainoka R**	**3.78**	**58**	P	**Pn**	**01 44 10.9**	**+0.2**
KHEZ	**Kahui Hut**	**3.98**	**31**	P	**Pn**	**01 44 14.4**	**+0.9**
KHEZ	**Kahui Hut**	**3.98**	**31**	S	**Sn**	**01 45 00.8**	**+0.8**
KHEZ	**Kahui Hut**	**3.98**	**31**	P	**Pn**	**01 44 14.5**	**+1.0**
PREZ	**Palmer Road**	**3.99**	**33**	P	**Pn**	**01 44 14.6**	**+0.9**
SYZ	**Scrubby Hill**	**4.12**	**202**	P	**Pn**	**01 44 15.2**	**-0.2**
SYZ	**Scrubby Hill**	**4.12**	**202**	S	**Sn**	**01 45 02.3**	**-1.1**
WNVZ	**Wahianoa**	**4.68**	**45**	P	**Pn**	**01 44 25.7**	**+2.5**
NGZ	**Ngauruhoe**	**4.79**	**44**	P	Pb	01 44 30.6	-6.1
HIZ	**Hauiti**	**4.98**	**34**	P	**Pn**	**01 44 28.5**	**+1.2**
BKZ	**Black Stump Fm**	**5.28**	**49**	P	**Pn**	**01 44 30.7**	**-0.6**
HAZ	**Te Kaha**	**6.99**	**47**	P	**Pn**	**01 44 58.1**	**+3.3**

*NEIC **23** 01:47:04.4±1.8, 26°.65N±0°.09×129°.61E±0°.06, h10km±1km, mb4.6/15, Error ellipse: s-maj=16.1km s-min=8.0km az=200.0*
*NIED **23** 01:47:05.2, 26°.67N×129°.62E, h43km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=1.02; Mθθ=0.38; Mφφ=0.63; Mrθ=-0.60; Mrφ=0.75; Mθφ=-0.29; Fault plane solution: M₀1.33000×10¹⁵ NP1: φs=204.00000°, δ=33.00000°, λ=-116.00000°. NP2: φs=54.00000°, δ=61.00000°, λ=-74.00000°.*
*IDC **23** 01:47:05.6±4.7, 26°.70N×129°.49E, h17km±27km, mb3.8/17, mbtmp3.9/17, MS3.2/2 Error ellipse: s-maj=23.8km s-min=16.8km az=46.0*
*JMA **23** 01:47:05.2±0.1, 26°.7N±0°.5×129°.6E±0°.5, h43km, MV3.8/18, NEAR OKINAWAJIMA ISLAND*

ISC 23 01:47:03.7±2.6, 26°.68N±0°.04×129°.61E±0°.03, h10km±16km, n55, σ1§15/72, mb4.1/27, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.09**	**289**	P	**Pb**	**01 47 24.5**	**-0.2**
JYRO				S	**Sb**	**01 47 37.7**	**-1.3**
JOKE	**Okinoerabujima**	**1.15**	**306**	P	**Pb**	**01 47 25.6**	**-0.1**
JOKE				S	**Sb**	**01 47 39.8**	**-0.9**
JOW	**Kunigami**	**1.20**	**278**	Pn	**Pn**	**01 47 25.9**	**-0.7**
JOW	**Kunigami**	**1.20**	**278**	Pn	**Pn**	**01 47 26.3**	**-0.4**
	140nm,0.3s,baz=113,slow=13,SNR=66						
JOW				LR	LR	01 47 27.5	
	comp=Z,69nm,21.6s,baz=176,slow=20						
JOW				Sn	**Sb**	**01 47 41.3**	**-1.0**
	107nm,0.3s,baz=87,slow=29,SNR=6.1						
JOW	**Kunigami**	**1.20**	**278**	P	**Pn**	**01 47 26.2**	**-0.4**
JOW				*eS*	**Sb**	**01 47 41.2**	**-1.0**
JTK	**Tokunoshima**	**1.25**	**332**	P	**Pn**	**01 47 27.0**	**-0.3**
JTK				*eS*	**Sb**	**01 47 42.1**	**-1.5**
JNTH	**Nagotoyohara**	**1.43**	**264**	P	**Pn**	**01 47 29.2**	**-0.6**
JNTH				S	**Sn**	**01 47 46.2**	**-2.4**
JIH	**Iheya**	**1.51**	**284**	P	**Pn**	**01 47 31.0**	**+0.2**
JIH				*eS*	**Sn**	**01 47 49.8**	**-0.8**
JAMN	**Amaminishikomi**	**1.60**	**346**	P	**Pn**	**01 47 31.9**	**-0.3**
JAMN				S	**Sn**	**01 47 51.0**	**-1.9**
JZK	**Kikaishima**	**1.66**	**11**	P	**Pn**	**01 47 33.4**	**+0.5**
JZK				S	**Sn**	**01 47 53.9**	**-0.5**
JKDJ	**Kitadaitoujima**	**1.68**	**115**	P	**Pn**	**01 47 32.7**	**-0.4**
JKDJ				S	**Sn**	**01 47 52.6**	**-2.2**
JMZ	**Minamidaito 2**	**1.68**	**120**	Pn	**Pn**	**01 47 32.4**	**-0.8**
JMZ	**Minamidaito 2**	**1.68**	**120**	P	**Pn**	**01 47 32.5**	**-0.7**
JMZ				S	**Sn**	**01 47 52.0**	**-2.9**
JJT3	**Tamagusuku3**	**1.72**	**252**	*eP*	**Pn**	**01 47 34.0**	**+0.3**
JJT3				*eS*	**Sn**	**01 47 54.9**	**-1.0**
JAM	**Amami Oshima**	**1.73**	**360**	P	**Pn**	**01 47 33.3**	**-0.6**
JAM				S	**Sn**	**01 47 52.9**	**-3.0**
JAGN	**Aguni-jima**	**2.12**	**268**	P	**Pn**	**01 47 39.5**	**+0.2**
JAGN				S	**Sn**	**01 48 03.7**	**-1.9**
JTAJ	**Takarajima**	**2.49**	**352**	S	**Sn**	**01 48 11.6**	**-3.2**
JKE	**Kume jima 2**	**2.55**	**263**	S	**Sn**	**01 48 14.8**	**-1.5**
JNU	**Nakatsue**	**6.51**	**9**	Pn	**Pn**	**01 48 40.4**	**+0.7**
GUMO	**Guam**	**19.33**	**129**	LR	LR	01 58 39.5	
	comp=Z,32nm,18.4s,baz=48,slow=36						
LZDM	**Lanzhou Array**	**23.93**	**299**	P	**P**	**01 52 18.7**	**+0.3**
	2.4nm,0.3s,baz=134,slow=12,SNR=2.5						
	2.4nm,0.3s						
SONM	**Songino Array**	**27.87**	**325**	P	**P**	**01 52 55.0**	**+1.4**
	1.1nm,0.8s,baz=134,slow=8.3,SNR=2.7						
	1.1nm,0.8s						
GTA	**Gaotai**	**27.88**	**305**	*eP*	P	01 52 41.3	-13
GTA				pP	pP	01 52 57.0	+1.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
MKAR	**Makanchi Array**	**42.16**	**311**	P	**P**	**01 54 55.8**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=100,slow=7.8,SNR=3.3						
MKAR				PcP	**PcP**	**01 56 51.4**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=114,slow=3.6,SNR=3.8						
	comp=Z,0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**42.65**	**322**	P	**P**	**01 54 59.1**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=114,slow=8.6,SNR=2.7						
ZALV				PcP	**PcP**	**01 56 52.1**	**0.0**
	comp=Z,0.4nm,0.3s,baz=96,slow=2.9,SNR=4.0						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**45.39**	**316**	P	**P**	**01 55 21.5**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=102,slow=8.9,SNR=7.0						
KURBB				PcP	**PcP**	**01 57 01.3**	**-0.3

GLG1	**Gilan-e-Gharb**	**0.65**	**222**	Pg		**Pb**	**02 05 41.0**	**+0.4**	
KGS1	**Ghasr-e-Shirin**	**0.70**	**262**	Pg		**Pb**	**02 05 42.0**	**+0.6**	
SNQR	**Sonqor, Kerman**	**1.02**	**75**	Pg		**Pn**	**02 05 48.5**	**+1.0**	
IBDR	**Badra**	**1.55**	**196**	*e*Pg		**Pb**	**02 05 56.0**	**+0.3**	
	baz=15								
IBDR				*e*Sg		**Sg**	**02 06 18.0**	**+0.9**	
IBDR				AML	AML		02 06 25.5		
	comp=E,15nm,1.2s								
IKRK	**Kirkuk**	**1.89**	**295**	*e*Pn		**Pb**	**02 06 02.0**	**+0.3**	
IKRK				*e*Sn		**Sg**	**02 06 28.0**	**-0.3**	
IKRK				AML	AML		02 06 32.6		
	comp=N,11nm,0.8s								

AFAD ***23*** *02:06:19.5,38.73°N×43.61°E,h7km±4km,ML2.4*
ISK ***23*** *02:06:20.3,38.78°N×43.40°E,h13km,ML2.5/11*
ISC 23 02:06:20.2±0.9,38.76N±0.03°×43.50E±0.04,h14km±8km, n16,σ1s11/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
VANB	**Van**	**0.19**	**207**	Pg		**Pb**	**02 06 26.5**		**+1.0**
VANB				Sg		**Sb**	**02 06 30.9**		**+1.9**
VMUR	**Van-Muradiye**	**0.23**	**14**	P		**Pg**	**02 06 24.5**		**-0.9**
VMUR				S		**Sb**	**02 06 30.7**		**+0.3**
VMUR				*i* IAML			02 06 31.0		
	comp=N,1μm,0.3s								
VMUR				*i* IAML			02 06 32.0		
	comp=E,723nm,0.4s								
TVAN	**Van**	**0.25**	**197**	P		**Pg**	**02 06 24.7**		**-0.9**
TVAN				S		**Sg**	**02 06 30.0**		**+0.6**
TVAN				*i* IAML			02 06 30.0		
	comp=E,1μm,0.6s								
TVAN				*i* IAML			02 06 31.0		
	comp=N,1μm,0.3s								
ERCV	**ERCIS-VAN**	**0.28**	**334**	Pg		**Pg**	**02 06 25.9**		**-0.4**
OZAP	**Van, Ozalp-Mer**	**0.40**	**105**	P		**Pg**	**02 06 26.2**		**-2.1**
OZAP				S		**Sg**	**02 06 34.9**		**+1.1**
OZAP				*i* IAML			02 06 36.0		
	comp=N,372nm,0.7s								
OZAP				*i* IAML			02 06 38.0		
	comp=E,580nm,0.8s								
AKDM	**Akdamar-Van**	**0.59**	**223**	Pg		**Pg**	**02 06 30.9**		**-1.0**
ADCV	**BITLIS_Adilcev**	**0.61**	**274**	P		**Pn**	**02 06 32.8**		**-1.8**
ADCV				S		**Sn**	**02 06 44.1**		**-0.1**
ADCV				*i* IAML			02 06 47.0		
	comp=E,145nm,0.4s								
ADCV				*i* IAML			02 06 48.0		
	comp=N,152nm,0.3s								
DYDN	**Diyadin**	**0.79**	**11**	P		**Pg**	**02 06 34.6**		**-1.0**
DYDN				S		**Sb**	**02 06 47.5**		**+0.9**
DYDN				*i* IAML			02 06 50.0		
	comp=E,81nm,0.4s								
MLAZ	**Malazgirt-MUS**	**0.83**	**297**	Pg		**Pn**	**02 06 36.2**		**-1.4**
AGRB	**Hanur-Agry**	**0.90**	**334**	Pg		**Pg**	**02 06 36.9**		**-0.8**
AGRB				Sg		**Sn**	**02 06 49.9**		**-1.6**
GURO	**Guroymak-BITLI**	**1.17**	**260**	Pn		**Pn**	**02 06 41.5**		**-0.7**
GURO				Sn		**Sn**	**02 06 57.3**		**-0.7**
TASB	**TASBURUN-IGDIR**	**1.35**	**25**	Pn		**Pn**	**02 06 45.5**		**+0.9**
TASB				Sn		**Sg**	**02 07 04.3**		**+0.7**
KOPR	**Koprukoy-ERZUR**	**1.77**	**314**	Pn		**Pn**	**02 06 50.7**		**+0.2**
SVAN	**Silvan-Diyarba**	**1.91**	**252**	Pn		**Pn**	**02 06 52.2**		**-0.1**
KARO	**Karliova-Bingo**	**1.98**	**287**	Pn		**Pn**	**02 06 53.4**		**-0.1**
YEDI	**Yedisu-Bingol**	**2.39**	**287**	Pn		**Pn**	**02 06 59.5**		**+0.4**

ISK ***23*** *02:09:11.7,39.52°N×25.91°E,h7km,ML2.7/21*
AFAD ***23*** *02:09:12.9,39.50°N×25.97°E,h7km±1km,ML2.3*
ATH ***23*** *02:09:12.3,39.51°N×25.95°E,h15km±4km,ML2.4/6,*
Manual Solution by A.Moschou First location: 2019/09/23 02:10:28, This location: 2019/09/23 09:41:40 ML
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km
ISC 23 02:09:12.5±0.8,39.51N±0.02°×25.94E±0.02,h15km±6km, n39,σ0s40/61,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
KOCA	**Canakkale, Ayv**	**0.16**	**92**	P		**Pg**	**02 09 16.4**		**-0.1**
KOCA				S		**Sg**	**02 09 19.0**		**-0.1**
GPNR	**Gulpinar-Canak**	**0.16**	**108**	Pg		**Pg**	**02 09 16.3**		**-0.2**
GPNR				Sg		**Sg**	**02 09 18.9**		**-0.2**
SIGR	**SIGRI**	**0.30**	**192**	Pg		**Pg**	**02 09 18.6**		**-0.2**
SIGR				Sg		**Sg**	**02 09 23.1**		**+0.1**
BOZC	**Bozcaada**	**0.35**	**15**	Pg		**Pg**	**02 09 19.4**		**-0.2**
BOZC				Sg		**Sg**	**02 09 24.3**		**-0.1**
BOZC	**Bozcaada**	**0.35**	**15**	P		**Pg**	**02 09 19.2**		**-0.4**
BOZC				S		**Sg**	**02 09 25.0**		**+0.5**
BOZC				*i* IAML			02 09 25.0		
	comp=N,383nm,0.2s								
BOZC				*i* IAML			02 09 25.0		
	comp=E,363nm,0.2s								
EZNE	**Ezine-Canakkal**	**0.41**	**53**	Pg		**Pg**	**02 09 20.7**		**-0.1**
EZNE				Sg		**Sb**	**02 09 27.1**		**-0.6**
EZN	**Ezine**	**0.44**	**43**	Pg		**Pg**	**02 09 21.1**		**-0.1**
EZN				Sg		**Sg**	**02 09 27.5**		**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.53**	**63**	P		**Pg**	**02 09 22.6**		**-0.3**
BAYC				S		**Sg**	**02 09 29.9**		**0.0**
BAYC				*i* IAML			02 09 30.0		
	comp=N,252nm,0.2s								
BAYC				*i* IAML			02 09 30.0		
	comp=E,212nm,0.2s								
ECEA	**Canakkale, Ece**	**0.57**	**19**	P		**Pb**	**02 09 23.9**		**-0.3**
ECEA				*i* IAML			02 09 32.0		
	comp=N,229nm,0.3s								
ECEA				S		**Sb**	**02 09 32.2**		**+0.1**
ECEA				*i* IAML			02 09 36.0		
	comp=E,295nm,0.5s								
AYVA	**Ayvalik**	**0.62**	**109**	P		**Pg**	**02 09 24.4**		**-0.2**
AYVA				*i* IAML			02 09 33.0		
	comp=N,180nm,0.5s								
AYVA				S		**Sb**	**02 09 33.2**		**-0.2**
CNKL	**anakkale-Mer**	**0.66**	**32**	P		**Pg**	**02 09 24.9**		**-0.4**
CNKL				S		**Sb**	**02 09 34.6**		**-0.1**
CNKL				*i* IAML			02 09 37.0		
	comp=N,112nm,0.3s								
CNKL				*i* IAML			02 09 40.0		
	comp=E,110nm,0.4s								
GADA	**Gvkgeada**	**0.68**	**358**	Pg		**Pg**	**02 09 25.4**		**-0.4**
LIA	**Limnos Island**	**0.70**	**304**	P		**Pg**	**02 09 26.1**		**-0.1**
LIA				S		**Sb**	**02 09 36.2**		**+0.3**
COMU	**Canakkale**	**0.72**	**35**	Pg		**Pg**	**02 09 26.2**		**-0.4**
EFSA	**Agios Efstrati**	**0.73**	**273**	P		**Pg**	**02 09 26.9**		**+0.2**
EFSA				S		**Sg**	**02 09 36.6**		**+0.2**
LMN1	**MIRINA LIMNOU**	**0.77**	**299**	P		**Pg**	**02 09 27.4**		**-0.1**
LMN1				S		**Sg**	**02 09 38.0**		**+0.4**
BUHA	**Balikesir, Bur**	**0.88**	**90**	P		**Pg**	**02 09 29.1**		**-0.4**
BUHA				S		**Sb**	**02 09 41.4**		**+0.3**
BUHA				*i* IAML			02 09 43.0		
	comp=E,123nm,0.3s								
BUHA				*i* IAML			02 09 44.0		
	comp=N,131nm,0.4s								
YAYO	**Edremit-Balk**	**0.89**	**83**	Pg		**Pg**	**02 09 29.1**		**-0.5**
EAG2	**Marmaro, Chios**	**0.97**	**172**	P		**Pg**	**02 09 31.0**		**-0.2**
EAG2				S		**Sg**	**02 09 43.9**		**0.0**
GELI	**Tayfur-Gelibol**	**0.98**	**25**	Pg		**Pg**	**02 09 30.8**		**-0.7**
CANM	**Can-anakkale**	**1.00**	**59**	Pg		**Pg**	**02 09 31.4**		**-0.4**
FOCM	**Foa**	**1.00**	**142**	Pg		**Pb**	**02 09 32.1**		**+0.5**
SMTH	**Samothraki Isl**	**1.01**	**342**	P		**Pg**	**02 09 31.6**		**-0.5**
SMTH				S		**Sg**	**02 09 45.1**		**-0.2**
YENI	**Yenice-Canakka**	**1.09**	**67**	Pn		**Pg**	**02 09 33.2**		**-0.4**
CHOS	**Chios island**	**1.12**	**175**	Pn		**Pg**	**02 09 33.3**		**-0.8**
CHOS	**Chios island**	**1.12**	**175**	P		**Pg**	**02 09 33.2**		**-1.0**
CHOS				S		**Sg**	**02 09 48.4**		**-0.4**
ERIK	**Erikli-Kesan**	**1.24**	**21**	Pn		**Pb**	**02 09 35.5**		**-0.2**
URLA	**Izmir**	**1.25**	**156**	Pn		**Pn**	**02 09 34.9**		**-0.6**
SOMA	**Soma-Manisa**	**1.29**	**105**	Pn		**Pg**	**02 09 37.1**		**-0.2**
KRBG	**Karabiga-Canak**	**1.37**	**49**	Pn		**Pn**	**02 09 37.5**		**+0.4**
ALN	**Alexandroupoli**	**1.39**	**3**	Pn		**Pn**	**02 09 37.5**		**+0.1**
ALN	**Alexandroupoli**	**1.39**	**3**	P		**Pn**	**02 09 37.7**		**+0.3**
ALN				S		**Sb**	**02 09 55.3**		**-0.5**
BLCB	**Balcova**	**1.41**	**142**	Pn		**Pb**	**02 09 38.9**		**+0.3**
THAS	**Thassos island**	**1.44**	**320**	P		**Pn**	**02 09 37.7**		**-0.4**
THAS				S		**Sn**	**02 09 56.4**		**-0.3**
GONE	**Gonen-Balikesi**	**1.45**	**68**	Pn		**Pb**	**02 09 39.4**		**+0.2**
RDO	**Rodhopi**	**1.67**	**350**	Pn		**Pn**	**02 09 41.4**		**+0.3**
RDO	**Rodhopi**	**1.67**	**350**	P		**Pn**	**02 09 41.3**		**+0.1**
RDO				S		**Sn**	**02 10 02.7**		**+0.4**
UKOP	**Uzunkopru-Edir**	**1.71**	**18**	Pn		**Pn**	**02 09 42.4**		**+0.7**
GORD	**Gordes-Manisa**	**1.84**	**108**	Pn		**Pn**	**02 09 44.6**		**+1.0**
GORD				Sn		**Sb**	**02 10 09.3**		**+0.5**

IDC ***23*** *02:09:55.2±1.2,35.87°N×95.53E,h0km,mb3.8/4,*
mbtmp3.7/8,ML3.7/4,MS3.2/9,Error ellipse: s-maj=39.5km s-min=20.3km az=54.0
ISC 23 02:09:59.4±1.0,35.9N±0.1°×95.4E±0.2,h35km,n13, σ0s92/8,mb3.7/4,MS3.3/5,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
SONM	**Songino Array**	**14.42**	**31**	Pn		**Pn**	**02 13 20.9**		**-0.2**
	0.2nm,0.3s,baz=213,slow=11,SNR=6.2								
SONM				LR		LR	02 19 22.0		
	comp=Z,85nm,19.6s,baz=182,slow=39 0.9nm,0.8s								
MKAR	**Makanchi Array**	**14.64**	**322**	Pn		**Pn**	**02 13 23.1**		**-0.9**
	0.3nm,0.3s,baz=125,slow=14,SNR=14								
MKAR				LR		LR	02 20 03.7		
	comp=Z,84nm,21.8s,baz=116,slow=41 2.4nm,0.7s								
AAK	**Ala-Archa**	**17.51**	**299**	LR		LR	02 21 50.1		
	comp=Z,49nm,20.7s,baz=97,slow=41								
CMAR	**Chiang Mai Arr**	**17.67**	**169**	P		**Pn**	**02 14 02.0**		**-0.8**
	0.6nm,0.3s,baz=348,slow=11,SNR=4.7								
CMAR				LR		LR	02 21 18.1		
	comp=Z,24nm,18.1s,baz=320,slow=39 0.9nm,0.3s								
KURBB	**Kurchatov Arra**	**19.09**	**326**	P		**Pn**	**02 14 19.8**		**-0.1**
	baz=135,slow=11,SNR=8.7 1.4nm,0.8s								
BVAR	**Borovoye Array**	**24.53**	**322**	P		**P**	**02 15 16.9**		**+1.4**
	2.0nm,0.9s,baz=117,slow=8.8,SNR=7.5								
BVAR				LR		LR	02 25 56.8		
	comp=Z,120nm,20.2s,baz=118,slow=39 2.0nm,0.9s								
KSRS	**Korea Array**	**26.05**	**77**	P		**P**	**02 15 29.1**		**-0.3**
	2.5nm,0.7s,baz=270,slow=9.5,SNR=4.5 2.5nm,0.7s								
AKTO	**Aktyubinsk**	**30.52**	**310**	LR		LR	02 30 10.0		
	comp=Z,39nm,19.4s,baz=178,slow=40								
ARTI	**Arti**	**32.24**	**321**	LR		LR	02 30 39.8		
	comp=Z,64nm,20.8s,baz=128,slow=38								
FINES	**FINESS Array B**	**49.47**	**324**	LR		LR	02 41 05.7		
	comp=Z,36nm,18.7s,baz=33,slow=38								
NOA	**NORSAR Array B**	**56.62**	**325**	LR		LR	02 44 39.6		
	comp=Z,16nm,18.3s,baz=205,slow=37								
WRA	**Warramunga Arr**	**66.67**	**140**	P		**P**	**02 20 47.2**		**+0.4**
	0.2nm,0.3s,baz=344,slow=6.2,SNR=2.5 0.2nm,0.3s								
ASAR	**Alice Springs**	**69.55**	**142**	P		**P**	**02 21 05.5**		**+0.7**
	0.4nm,0.5s,baz=324,slow=6.2,SNR=4.6 0.4nm,0.5s								

TIR ***23*** *02:27:10.4,41.60N×19.53E,h16km±4km,Ml2.7/3*
SKO ***23*** *02:27:12.0,40.98N×19.33E,h30km,ML2.3*
BEO ***23*** *02:27:14.1±0.3,41.26N×19.67E,h13km±3km,ML2.3/8*
PDG ***23*** *02:27:16.3±0.1,41.46N×19.60E,h13km,ML2.5/10,Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
ISC 23 02:27:15.3±0.9,41.38N±0.02°×19.71E±0.03,h14km±6km, n43,σ1s55/72,Albania

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
TIR	**Tirane**	**0.12**	**104**	Pg		**Pg**	**02 27 18.9**		**+0.2**
TIR				AML		AML	02 27 22.6		
	4.6nm,0.3s								
TIR				S		**Sg**	**02 27 22.8**		**+1.8**
ULC	**Ulcinj**	**0.68**	**330**	*e*Pg		**Pg**	**02 27 27.0**		**-1.5**
ULC				*i* Sg		**Sg**	**02 27 36.3**		**-1.2**
OHR	**Ohrid**	**0.87**	**108**	*i* Pg		**Pn**	**02 27 32.8**		**-0.2**
OHR				*e*Sg		**Sn**	**02 27 47.7**		**+2.1**
OHR				*e*Lg		Lg	02 27 50.9		
	comp=E,55nm,0.4s								
OHR				*e*Lg		Lg	02 27 51.7		
	comp=N,61nm,0.6s								
DRME	**Dracevica, Mon**	**0.90**	**334**	*e*Pg		**Pg**	**02 27 31.2**		**-1.4**
DRME				*e*Sg		**Sb**	**02 27 45.0**		**+0.6**
DRME	**Dracevica, Mon**	**0.90**	**334**	*e*Pg		**Pg**	**02 27 31.0**		**-1.6**
DRME				*i* Sg		**Sg**	**02 27 43.7**		**-0.7**
VLO	**Vlora**	**0.92**	**190**	P		**Pg**	**02 27 32.6**		**-0.5**
VLO				Sg		**Sb**	**02 27 46.8**		**+1.7**
VLO				AML		AML	02 27 52.5		
	comp=N,0.7nm,0.2s								
BUM	**Brajici-Budva**	**1.10**	**327**	*e*Pg		**Pg**	**02 27 34.9**		**-1.7**
BUM				*i* Sg		**Sg**	**02 27 50.5**		**-0.5**
PDG	**Podgorica**	**1.10**	**342**	*e*Pg		**Pg**	**02 27 35.8**		**-0.8**
PDG				*e*Sg		**Sn**	**02 27 53.1**		**+1.8**
PDG	**Podgorica**	**1.10**	**342**	*e*Pg		**Pg**	**02 27 35.1**		**-1.5**
PDG				*i* Sg		**Sb**	**02 27 50.9**		**+0.5**
KBN	**Korca**	**1.11**	**132**	Pg		**Pn**	**02 27 36.6**		**+0.1**
KBN				Sg		**Sn**	**02 27 53.9**		**+2.3**
CEME	**Cevo**	**1.31**	**334**	*e*Pg		**Pg**	**02 27 38.9**		**-1.5**
CEME				*i* Sg		**Sb**	**02 27 57.4**		**+1.1**
HCY	**Herceg Novi**	**1.40**	**320**	*e*Pg		**Pn**	**02 27 40.0**		**-0.4**
HCY				*i* Sg		**Sb**	**02 28 00.4**		**+1.5**
KOME	**Kolasin**	**1.48**	**355**	*e*Pg		**Pb**	**02 27 42.7**		**+0.1**
KOME				*e*Sg		**Sn**	**02 28 05.2**		**+4.5**
KOME	**Kolasin**	**1.48**	**355**	*e*Pg		**Pg**	**02 27 42.2**		**-1.5**
KOME				*i* Sg		**Sn**	**02 28 03.4**		**+2.7**
BEY	**Berane**	**1.50**	**5**	*e*Pg		**Pg**	**02 27 43.7**		**-0.4**
IVA	**Berane**	**1.50**	**5**	*e*Pg		**Pg**	**02 27 42.7**		**-1.4**
IVA				*i* Sg		**Sn**	**02 28 04.2**		**+3.0**
TREB	**Trebinje**	**1.68**	**323**	*e*Pg		**Pb**	**02 27 45.9**		**0.0**
TREB				*e*Sg		**Sb**	**02 28 08.3**		**+1.4**
BRY	**Bratogost**	**1.75**	**331**	*e*Pn		**Pn**	**02 27 46.0**		**+0.6**
BRY				*i* Sn		**Sn**	**02 28 09.5**		**+1.9**
SJES	**Sjenica**	**1.89**	**6**	*e*Pn		**Pg**	**02 27 50.0**		**-1.6**
SJES				*e*Sg		**Sg**	**02 28 16.8**		**+0.6**
IGT	**Igoumenitsa**	**1.91**	**165**	Pn		**Pn**	**02 27 48.8**		**+1.5**
IGT				S		**Sb**	**02 28 14.9**		**+1.5**
IGT	**Igoumenitsa**	**1.91**	**165**	*e*Pg		**Pn**	**02 27 46.7**		**-0.6**
IGT				*e*Sg		**Sn**	**02 28 10.3**		**-0.8**
UPM	**Unac-Piva**	**1.92**	**342**	*e*Pn		**Pn**	**02 27 48.4**		**+0.7**
UPM				*i* Sn		**Sn**	**02 28 13.5**		**+1.8**
NOCI	**Noci**	**2.08**	**254**	Pn		**Pn**	**02 27 46.6**		**-3.2**
NOCI				AML		AML	02 28 18.9		
	comp=N,0.1nm,0.2s								
STON	**Ston**	**2.11**	**316**	*e*Pn		**Pn**	**02 27 48.5**		**-1.6**
STON				*e*Sg		**Sg**	**02 28 25.0**		**+1.9**
SELS	**Selova**	**2.12**	**29**	*e*Pn		**Pb**	**02 27 51.6**		**-1.8**
SELS				*e*Sn		**Sb**	**02 28 19.2**		**-0.4**
BARS	**Barje**	**2.13**	**47**	*e*Pn		**Pb**	**02 27 51.8**		**-1.8**
BARS	**Barje**	**2.13**	**47**	*e*Pn		**Pb**	**02 27 51.9**		**-1.7**
BARS				*e*Sn		**Sb**	**02 28 19.1**		**-0.8**
VAY	**Valandovo**	**2.16**	**91**	*e*Pn		**Pn**	**02 27 47.9**		**-2.9**
VAY				*e*Sn		**Sn**	**02 28 18.0**		**+0.7**
VAY				*e*Lg		Lg	02 28 21.5		
	comp=E,15nm,0.8s								
VAY				*e*Lg		Lg	02 28 21.7		
	comp=N,16nm,0.7s								
IVAS	**Ivanjica**	**2.22**	**8**	*e*Pn		**Pn**	**02 27 52.4**		**+0.7**
GOCS	**Kraljevo Serbi**	**2.35**	**21**	*e*Pn		**Pn**	**02 27 54.5**		**+1.0**
GOCS				*e*Sn		**Sn**	**02 28 23.5**		**+1.3**
BOSS	**Bosilegrad**	**2.35**	**61**	*e*Pn		**Pn**	**02 27 52.1**		**-1.4**
BOSS				*e*Sn		**Sn**	**02 28 22.5**		**+0.4**
KNT	**Kendrikon**	**2.42**	**94**	*i* Pn		**Pn**	**02 27 55.4**		**+1.1**
LIT	**Litokhoron**	**2.47**	**120**	*e*Pn		Pn	02 27 50.2		-4.9
BBLS	**Lazi&#263i**	**2.50**	**355**	*e*Pn		**Pn**	**02 27 56.6**		**+1.1**
BBLS				*e*Sn		**Sn**	**02 28 26.6**		**+0.8**
KKB	**Krupnik**	**2.61**	**79**	*i* Pn		**Pb**	**02 27 58.8**		**-3.0**
GRUS	**Gruza**	**2.62**	**16**	*e*Pn		**Pn**	**02 27 58.5**		**+1.4**
SOH	**Sokhos**	**2.81**	**100**	*i* Pn		**Pn**	**02 28 01.1**		**+1.3**
ZAPS	**Zavoj**	**2.88**	**48**	*e*Pn		**Pn**	**02 28 00.2**		**-0.6**
ZAPS				*e*Sn		**Sn**	**02 28 35.8**		**+0.6**
TRUS	**Trudelj**	**2.89**	**10**	*e*Pn		**Pn**	**02 28 01.7**		**+0.8**
VTS	**Vitosha**	**2.91**	**64**	*e*Pn		**Pn**	**02 28 00.3**		**-0.9**
SRS	**Serrai**	**2.94**	**94**	*e*Pn		**Pn**	**02 28 02.4**		**+0.8**
ZAGS	**Zajecar**	**3.06**	**37**	*e*Pn		**Pn**	**02 28 04.9**		**+1.6**
ZAGS				*e*Sn		**Sn**	**02 28 40.8**		**+1.1**
BLKB	**Belogradchik**	**3.14**	**43**	*e*Pn		**Pn**	**02 28 04.9**		**+0.6**

IDC ***23*** *02:33:03.6±1.3,36.87°N×142.21E,h0km,mb3.7/5,*
mbtmp3.8/8,ML3.6/3,MS2.8/2,Error ellipse: s-maj=29.0km s-min=22.6km az=115.0
NIED ***23*** *02:33:07.6,36.98N×141.90E,h42km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.23; $M_{\theta\theta}$1.90; $M_{\phi\phi}$0.33; $M_{r\theta}$2.55; $M_{r\phi}$-0.84; $M_{\theta\phi}$-0.09; Fault plane solution: $M_0$3.40000×10^{14} NP1: ϕ_s127.00000°,δ23.00000°,λ-62.00000°. NP2: ϕ_s278.00000°,δ70.00000°,λ-101.00000°.*
JMA ***23*** *02:33:07.6±0.3,37.0N±0.6×14.2E±, h42km±4km,*
MV3.7/39,E OFF FUKUSHIMA PREF
NEIC ***23*** *02:33:08.7±2.1,36.95N±0.06×142.1E±0.1,h35km±7km, mb4.5/10,Error ellipse: s-maj=13.1km s-min=9.0km az=101.0*
ISC 23 02:33:05.0±3.4,36.96N±0.05×141.98E±0.06,h7km±21km, n51,σ1s47/52,mb4.3/11,1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
ONAJ	**Iwakimizuishiy**	**0.96**	**279**	*e*P		**Pb**	**02 33 23.5**		**-0.4**
JFK	**Kawauchi**	**0.97**	**295**	P		**Pb**	**02 33 24.0**		**-0.2**
JFK				*e*S		**Sb**	**02 33 35.9**		**-1.3**
JFFD	**Fukushimafurud**	**1.15**	**277**	*e*P		**Pn**	**02 33 26.4**		**-1.0**
JMST	**Minamisoumatoc**	**1.16**	**311**	P		**Pn**	**02 33 27.0**		**-0.5**
JMST				S		**Sb**	**02 33 40.8**		**-1.8**
JHO	**Hitachi**	**1.19**	**253**	*e*P		**Pn**	**02 33 27.1**		**-0.8**
JMM	**Marumori**	**1.31**	**314**			**Pn**	**02 33 28.9**		**-0.7**
JMM	**Marumori**	**1.31**	**314**	*e*P		**Pn**	**02 33 28.8**		**-0.8**
JOTO	**OTAMA OYAMA**	**1.45**	**295**	*e*P		**Pn**	**02 33 31.8**		**+0.2**
JOTO				*e*S		**Sn**	**02 33 48.9**		**-1.9**
JIO	**Ouri**	**1.57**	**342**	*e*P		**Pn**	**02 33 32.9**		**-0.3**
JOU	**Okura**	**1.75**	**324**	*e*P		**Pn**	**02 33 36.2**		**+0.5**
JOU				*e*S		**Sn**	**02 33 57.4**		**-0.9**
JFY	**Yanaizu**	**1.87**	**284**	*e*P		**Pn**	**02 33 38.1**		**+0.7**
JYS	**Shirataka**	**1.98**	**310**	*e*P		**Pn**	**02 33 39.5**		**+0.7**
JMK	**Ichinoseki**	**2.08**	**343**	*e*P		**Pn**	**02 33 41.0**		**+0.8**
JAG	**Ashikaga**	**2.10**	**256**	*e*P		**Pn**	**02 33 40.9**		**+0.4**
JAG				*e*S		**Sn**	**02 34 05.2**		**-1.7**
MJAR	**Matsushiro Arr**	**3.06**	**263**	Pn		**Pn**	**02 33 55.2**		**+1.4**
MJAR	**Matsushiro Arr**	**3.06**	**263**	Pn		**Pn**	**02 33 56.4**		**+2.7**
	1.1nm,0.3s,baz=90,slow=15,SNR=21								
MJAR				Sn		**Sn**	**02 34 34.3**		**+3.7**
	1.2nm,0.3s,baz=76,slow=16,SNR=6.7								
MJAR				LR		LR	02 35 20.1		
	comp=Z,66nm,19.2s,baz=74,slow=42 7.7nm,0.4s								
MAJO	**Matsushiro**	**3.06**	**263**	Pn		**Pn**	**02 33 56.1**		**+2.4**
MJB9	**Matsu-Tunnel**	**3.06**	**263**	Pn		**Pn**	**02 33 55.9**		**+2.1**
JSD	**Sado**	**3.15**	**291**	Pn		**Pn**	**02 33 56.4**		**+1.5**
JTM	**Tenmabayashi**	**3.89**	**350**	Pn		**Pn**	**02 34 06.4**		**+1.3**
JGF	**Kuroka**	**3.98**	**251**	Pn		**Pn**	**02 34 08.6**		**+2.3**
JHJ2	**Mitsune**	**4.23**	**205**	Pn		**Pn**	**02 34 10.2**		**+0.5**
JHJ	**Hachijo jima 2**	**4.24**	**206**	Pn		**Pn**	**02 34 10.8**		**+0.9**
	20nm,0.3s,baz=36,slow=18,SNR=2.1								
JHJ				Sn		**Sn**	**02 34 57.2**		**-2.3**
	49nm,0.3s,baz=78,slow=22,SNR=5.6 46nm,0.3s								
INU	**Inuyama**	**4.33**	**250**	Pn		**Pn**	**02 34 14.0**		**+2.9**
ERM	**Erimo**	**5.13**	**10**	Pn		**Pn**	**02 34 21.9**		**-0.2**
JKA	**Kamikawa-asahi**	**7.16**	**4**	Pn		**Pn**	**02 34 49.0**		**-1.1**
ASAJ	**Asahikawa**	**7.16**	**4**	Pn		**Pn**	**02 34 51.3**		**+1.2**
	1.3nm,0.3s,baz=175,slow=11,SNR=5.5								
ASAJ				Sn		**Sn**	**02 36 12.1**		**+0.5**
	0.2nm,0.3s,baz=282,slow=28,SNR=1.2 3.5nm,0.3s								
JMZ	**Minamidaito 2**	**14.40**	**223**	Pn		**Pn**	**02 36 28.4**		**-0.8**
H11N2	**WAKE ISLAND Hy**	**27.72**	**121**	T		T	03 08 06.9		
	baz=314,slow=75								
H11N1	**WAKE ISLAND Hy**	**27.73**	**121**	T		T	03 08 06

PDG				*e*Sg		**Sn**	**02 43 57.2**	**+1.7**
KBN	**Korca**	**1.14**	**132**	Pg		**Pg**	**02 43 41.0**	**-0.3**
KBN				Sg		**Sg**	**02 43 58.7**	**+2.6**
KBN	**Korca**	**1.14**	**132**	P		**Pg**	**02 43 41.5**	**+0.2**
KBN				S		**Sg**	**02 43 55.9**	**-0.2**
BEY	**Berane**	**1.48**	**6**	*e*Pg		**Pg**	**02 43 47.4**	**-0.6**
KEK	**Kerkira**	**1.68**	**177**	P		**Pb**	**02 43 50.6**	**+0.2**
KEK				S		**Sg**	**02 44 14.5**	**+1.0**
SJES	**Sjenica**	**1.88**	**7**	*e*Pn		**Pb**	**02 43 53.3**	**-0.5**
SJES				*e*Sg		**Sg**	**02 44 20.7**	**+0.8**
IGT	**Igoumenitsa**	**1.93**	**165**	⇑Pn		**Pb**	**02 43 53.4**	**-1.2**
IGT				Sn		**Sg**	**02 44 19.9**	**-1.5**
IGT	**Igoumenitsa**	**1.93**	**165**	P		**Pn**	**02 43 51.6**	**-0.6**
IGT				S		**Sn**	**02 44 15.4**	**-1.0**
IGT	**Igoumenitsa**	**1.93**	**165**	*e*Pn		**Pn**	**02 43 51.6**	**-0.6**
NOCI	**Noci**	**2.07**	**254**	⇑Pn		**Pb**	**02 43 55.9**	**-1.1**
NOCI				Sn		**Sb**	**02 44 24.0**	**+1.3**
NOCI				AML	AML	02 44 37.8		
	0.2nm,0.3s							
SELS	**Selova**	**2.11**	**30**	*e*Pn		**Pb**	**02 43 56.8**	**-1.0**
SELS				*e*Sn		**Sb**	**02 44 24.5**	**+0.5**
BARS	**Barje**	**2.13**	**47**	*e*Pn		**Pb**	**02 43 57.7**	**-0.4**
IVAS	**Ivanjica**	**2.21**	**9**	*e*Pn		**Pb**	**02 43 59.7**	**+0.3**
IVAS				*e*Sn		**Sb**	**02 44 27.2**	**+0.4**
BBLS	**Lazi&#263i**	**2.48**	**355**	*e*Pn		**Pb**	**02 44 03.3**	**-0.7**
GRUS	**Gruza**	**2.61**	**17**	*e*Pn		**Pb**	**02 44 04.6**	**-1.6**
VTS	**Vitosha**	**2.92**	**64**	*e*Pn		**Pn**	**02 44 06.8**	**+0.9**
ZAGS	**Zajecar**	**3.06**	**37**	*e*Pn		**Pb**	**02 44 10.2**	**-3.8**

CATAC 23 03:06:02.5±0.7, 11°N±5'×8°7W±°, h10km, M3.0/14, MLv3.0/14, Error ellipse: s-maj=12.0km s-min=5.5km az=31.3, confirmed, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELI1	**Hacienda Flor**	**1.19**	**97**	P	Pb	03 06 24.6	-0.5
ELI1	**Hacienda Flor**	**1.19**	**97**	S	Sb	03 06 40.0	-0.5
CARN	**Rivas**	**1.27**	**71**	P	Pn	03 06 26.0	-0.4
CARN				S	Sn	03 06 43.4	-0.1
JAPN	**Al SSO del Vol**	**1.29**	**55**	P	Pn	03 06 25.0	-1.6
SABN	**Sabanita**	**1.30**	**26**	P	Pg	03 06 27.4	-0.2
NANN	**Nandasmo**	**1.30**	**28**	P	Pg	03 06 27.4	-0.2
MORN	**Al O del Volca**	**1.32**	**55**	P	Pg	03 06 27.9	-0.1
CONN	**Concepcion**	**1.35**	**55**	P	Pb	03 06 28.0	+0.1
COPN	**Copaltepe**	**1.40**	**6**	P	Pn	03 06 26.8	-1.3
UNAN	**Cigeo UNAN**	**1.40**	**20**	P	Pn	03 06 27.5	-0.7
MGAN	**Managua**	**1.44**	**20**	P	Pn	03 06 28.4	-0.4
R4DEC	**Barrio San Lui**	**1.44**	**20**	P	Pn	03 06 28.5	-0.3
CNGA	**Al SSO del Vol**	**1.70**	**2**	P	Pn	03 06 32.0	-0.3
CNGN	**Cerro Negro**	**1.71**	**2**	P	Pn	03 06 31.7	-0.7
PLRN	**Geotermica Pol**	**1.79**	**359**	P	Pn	03 06 32.4	-1.2
JTS	**Las Juntas de**	**1.83**	**105**	P	Pn	03 06 33.9	-0.2
JTS				S	Sn	03 06 55.5	-2.0
ACON	**Acoyapa**	**1.94**	**53**	S	Sn	03 06 59.2	-0.9
ACON	**Acoyapa**	**1.94**	**53**	P	Pn	03 06 35.7	0.0

WEL 23 03:06:30.4±1.4, 32°S±8'×17°9E±3'3, h12km, M4.3/4, mB5.0/4, ML4.6/11, MLv4.3/4, Mw(mB)4.3/4, Error ellipse: s-maj=42.6km s-min=10.1km az=90.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.27**	**183**	P	Pn	03 07 48.8	-0.1
MXZ				S	Sn	03 08 51.6	+2.0
HAZ	**Te Kaha**	**5.50**	**188**	P	Pn	03 07 54.4	+2.2
HAZ				S	Sn	03 08 57.6	+2.2
WMGZ	**Waiomatatini S**	**5.52**	**182**	P	Pn	03 07 50.8	-1.6
WMGZ				S	Sn	03 08 57.3	+1.5
RUGZ	**Raukumara Rang**	**5.72**	**188**	P	Pn	03 07 55.6	+0.4
RUGZ				S	Sn	03 09 01.2	+0.3
TWGZ	**Tauwhareparae**	**5.90**	**185**	P	Pn	03 07 57.8	+0.1
TWGZ				S	Sn	03 09 06.6	+1.4
MWZ	**Matawai**	**6.10**	**189**	P	Pn	03 08 01.4	+1.0
MWZ				S	Sn	03 09 10.3	+0.1
CNGZ	**Carnagh Statio**	**6.19**	**184**	P	Pn	03 07 59.9	-1.7
MUGZ	**Murupara**	**6.37**	**194**	P	Pn	03 08 05.0	+0.9
SNGZ	**Shannon Statio**	**6.57**	**189**	S	Sn	03 09 20.8	-0.9
MHGZ	**Mahia Peninsul**	**6.88**	**185**	P	Pn	03 08 10.0	-1.1
NMHZ	**Naumai**	**6.96**	**192**	P	Pn	03 08 12.2	-0.1
BKZ	**Black Stump Fm**	**7.09**	**194**	P	Pn	03 08 13.5	-0.5
BKZ				S	Sn	03 09 34.5	0.0
FWVZ	**Far West T-bar**	**7.40**	**199**	P	Pn	03 08 19.1	+0.6
WHVZ	**Whangaehu Hut**	**7.42**	**199**	P	Pn	03 08 18.5	-0.1
MOVZ	**Moawhango**	**7.49**	**198**	P	Pn	03 08 18.4	-1.2
KAHZ	**Kahuranaki**	**7.63**	**191**	P	Pn	03 08 17.2	-4.3
KAHZ				S	Sn	03 09 45.5	-2.3
PNHZ	**Pukenui**	**7.87**	**194**	P	Pn	03 08 20.7	-4.0

TEH 23 03:13:13.8, 36°26N×43°14E, h10km
ISN 23 03:13:16.4±1.7, 36°15N×43°15E, h20km±19km, ML2.9
ISC 23 03:13:16.8±1.0, 36°21N±0°05×43°31E±0°08, h10km, n12, σ0§90/16, Iraq

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSL	**Mosul**	**0.25**	**319**	*e*Pg	**Pg**	**03 13 21.0**	**-0.8**
MSL				*e*Sg	**Sb**	**03 13 27.0**	**+1.8**
MSL				*e*		03 13 34.7	
IKRK	**Kirkuk**	**1.17**	**134**	*e*Pg	**Pb**	**03 13 38.0**	**-1.1**
IKRK				*e*Sg	**Sn**	**03 13 55.0**	**-0.2**
IKRK				AML	AML	03 14 01.3	
	comp=E,543nm,0.7s						
IKRK				AML	AML	03 14 06.6	
	comp=N,473nm,0.3s						
MAHB	**Mahabad**	**2.01**	**73**	Pn	**Pn**	**03 13 51.4**	**+0.5**
IAZR	**Azarshahr**	**2.59**	**55**	Pn	**Pn**	**03 13 59.3**	**+0.3**
ISHB	**Shabestar**	**2.77**	**41**	Pn	**Pn**	**03 14 01.2**	**-0.2**
IDHR	**Dehrash**	**2.93**	**120**	Pn	**Pn**	**03 14 05.0**	**+1.3**
GLG1	**Gilan-e-Gharb**	**2.99**	**134**	Pn	**Pn**	**03 14 05.5**	**+1.2**
BHD	**Baghdad**	**3.07**	**163**	*e*Pn	**Pn**	**03 14 05.0**	**-0.3**
BHD				*e*Sn	**Sn**	**03 14 42.0**	**0.0**
BHD				AML	AML	03 15 15.7	
	comp=E,15nm,0.6s						
IGHG	**Ghaleghazi**	**3.26**	**124**	Pn	**Pn**	**03 14 08.7**	**+0.5**
ILBA	**Ilam Banvizeh**	**3.51**	**136**	Pn	**Pn**	**03 14 12.1**	**+0.5**
IHRS	**Heris**	**3.64**	**54**	Pn	**Pn**	**03 14 13.9**	**+0.5**
IBDR	**Badra**	**3.77**	**144**	*e*Pn	**Pn**	**03 14 16.0**	**+1.0**
IBDR				*e*Sn	**Sn**	**03 15 00.0**	**+0.5**

GCG 23 03:49:01.9±1.0, 15°.68N×90°.97W, h1km±7km, MD4.3
SNET 23 03:49:02.5±3.4, 15°.61N×91°.17W, h6km, ML3.2
CATAC 23 03:49:02.0±0.3, 16°N±2'×9°1W±°, h1km, M3.2/11, MLv3.2/11, Error ellipse: s-maj=3.7km s-min=3.5km az=154.8, confirmed
ISC 23 03:49:01.4±0.9, 15°.71N±0°.04×91°.05W±0°.03, h10km, n21, σ1§12/25, 1D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUEH	**Huehuetenango**	**0.59**	**228**	*e*P	**Pg**	**03 49 12.8**	**-0.1**
HUEH				*e*S	**Sg**	**03 49 21.1**	**+0.4**
HUEH	**Huehuetenango**	**0.59**	**228**	P	**Pg**	**03 49 12.6**	**-0.3**
HUEH				S	**Sg**	**03 49 20.3**	**-0.4**
CCIG	**Comitan**	**1.19**	**299**	*e*P	**Pn**	**03 49 25.7**	**+1.3**
CCIG	**Comitan**	**1.19**	**299**	S	**Sn**	**03 49 40.8**	**+0.2**
CCIG	**Comitan**	**1.19**	**299**	P	**Pn**	**03 49 25.6**	**+1.3**
RTAL	**Retalhuleu**	**1.33**	**208**	P	**Pg**	**03 49 27.3**	**+0.2**
RTAL	**Retalhuleu**	**1.33**	**208**	S	**Sg**	**03 49 45.3**	**+0.9**
FG8	**Yepocapa, Chim**	**1.52**	**162**	*e*P	**Pn**	**03 49 25.6**	**-3.1**
PETF	**Flores**	**1.65**	**43**	*e*P	**Pn**	**03 49 30.4**	**-0.1**
PETF	**Flores**	**1.65**	**43**	P	**Pn**	**03 49 30.7**	**+0.2**
PETF	**Flores**	**1.65**	**43**	S	**Sb**	**03 49 53.3**	**+0.4**
ESQI	**Esquipulas**	**2.01**	**125**	*e*P	**Pb**	**03 49 37.6**	**-0.5**
ESQI				⇓*e*S	**Sg**	**03 50 05.8**	**-0.2**
ESQI	**Esquipulas**	**2.01**	**125**	S	**Sb**	**03 50 03.9**	**+0.7**
ESQI	**Esquipulas**	**2.01**	**125**	P	**Pn**	**03 49 36.8**	**+1.3**
MTO3	**Montecristo**	**2.09**	**128**	*e*P	**Pn**	**03 49 37.2**	**+0.4**
MTO3	**Montecristo**	**2.09**	**128**	P	**Pb**	**03 49 38.8**	**-0.8**
MTO3	**Montecristo**	**2.09**	**128**	S	**Sb**	**03 50 05.1**	**-0.6**
NUBE	**Las Nubes**	**2.18**	**146**	*e*P	**Pn**	**03 49 39.0**	**+1.1**
NUBE	**Las Nubes**	**2.18**	**146**	S	**Sb**	**03 50 10.2**	**+2.1**
NUBE	**Las Nubes**	**2.18**	**146**	P	**Pn**	**03 49 38.7**	**+0.9**
TGIG		**2.26**	**298**	*e*P	**Pb**	**03 49 41.1**	**-1.3**
TGIG				*e*S	**Sg**	**03 50 13.0**	**-1.0**

NEIC 23 03:51:02.1±2.2, 20°.6S±0°.1×174°.1W±0°.1, h10km±1km, mb4.4/11, Error ellipse: s-maj=30.5km s-min=4.8km az=316.0
IDC 23 03:51:04.7±0.9, 21°.16S×174°.69W, h0km, mb4.0/8, mbtmp4.0/8, MS3.8/7, Error ellipse: s-maj=30.0km s-min=25.5km az=108.0
ISC 23 03:51:06.4±0.8, 21°.1S±0°.1×174°.6W±0°.2, h10km, n31, σ0§96/24, mb4.4/14, MS3.7/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.87**	**66**	Pn	Pn	03 52 07.1	-13
RAO	**Raoul Island**	**8.62**	**200**	Pn	Pn	03 53 16.4	+5.2
RAR	**Rarotonga**	**13.86**	**93**	LR	LR	03 59 36.0	
	comp=Z,352nm,18.2s,baz=233,slow=37						
PINNC	**Pines Island,**	**16.71**	**262**		**P**	**03 55 03.2**	**+0.3**
DZM	**Mont Dzumac**	**17.63**	**263**	LR	LR	04 00 23.3	
	comp=Z,91nm,18.3s,baz=162,slow=32						
PPT	**Papeete**	**23.89**	**86**	LR	LR	04 05 33.6	
	comp=Z,189nm,18.4s,baz=308,slow=36						
LTZ	**Lake Taylor**	**24.22**	**204**	P	**P**	**03 56 24.2**	**+0.8**
LTZ				IAmb	IAmb	03 56 39.9	
	comp=Z,16nm,1.0s						
RPZ	**Rata Peaks**	**25.48**	**205**	P	**P**	**03 56 35.7**	**+1.0**
PMG	**Port Moresby**	**38.56**	**282**	LR	LR	04 13 33.3	
	comp=Z,117nm,18.6s,baz=88,slow=35						
STKA	**Stephens Creek**	**40.37**	**245**	P	**P**	**03 58 44.0**	**-0.6**
STKA	**Stephens Creek**	**40.37**	**245**	P	**P**	**03 58 44.0**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=94,slow=12,SNR=4.4						
STKA				LR	LR	04 15 13.0	
	comp=Z,86nm,18.1s,baz=23,slow=36						
	comp=Z,2.1nm,0.7s						
AS31	**Alice Springs**	**47.45**	**257**	P	**P**	**03 59 40.7**	**-1.0**
ASAR	**Alice Springs**	**47.45**	**257**	P	**P**	**03 59 40.7**	**-0.9**
	comp=Z,3.5nm,0.9s,baz=88,slow=8.6,SNR=24						
ASAR				LR	LR	04 20 11.4	
	comp=Z,121nm,18.3s,baz=108,slow=37						
	comp=Z,3.5nm,0.9s						
WB0	**Warramunga Arr**	**47.62**	**262**	P	**P**	**03 59 43.0**	**0.0**
WB0				IAmb	IAmb	03 59 43.0	
	comp=Z,4.3nm,0.9s						
WRA	**Warramunga Arr**	**47.64**	**262**	P	**P**	**03 59 42.9**	**-0.3**
WRA	**Warramunga Arr**	**47.64**	**262**	P	**P**	**03 59 42.1**	**-1.0**
	comp=Z,3.5nm,0.9s,baz=99,slow=7.6,SNR=16						
	comp=Z,3.5nm,0.9s						
FORT	**Forrest**	**51.95**	**247**	P	**P**	**04 00 14.5**	**-1.3**
FORT				IAmb	IAmb	04 00 16.4	
	comp=Z,4.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**56.07**	**262**	P	**P**	**04 00 45.9**	**-0.2**
FITZ				IAmb	IAmb	04 00 53.7	
	comp=Z,2.3nm,1.4s						
SBA	**Scott Base**	**57.48**	**185**	P	**P**	**04 00 55.9**	**+0.8**
SBA				IAmb	IAmb	04 01 01.3	
	comp=Z,2.2nm,0.8s						
VNDA	**Vanda**	**57.59**	**186**	P	**P**	**04 00 55.9**	**-0.1**
VNDA				IAmb	IAmb	04 01 05.9	
	comp=Z,3.8nm,1.4s						
VNDA	**Vanda**	**57.59**	**186**	P	**P**	**04 00 55.8**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=342,slow=4.8,SNR=5.3						
	comp=Z,0.9nm,0.9s						
QSPA	**South Pole Qui**	**68.94**	**180**	P	**P**	**04 02 11.1**	**-0.4**
QSPA				IAmb	IAmb	04 02 17.8	
	comp=Z,3.6nm,0.9s						
QSPA	**South Pole Qui**	**68.94**	**180**	P	**P**	**04 02 11.1**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=105,slow=1.2,SNR=9.1						
	comp=Z,1.9nm,0.8s						
MJAR	**Matsushiro Arr**	**72.62**	**322**	P	**P**	**04 02 33.4**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=152,slow=5.3,SNR=2.9						
	comp=Z,2.2nm,0.7s						
NVAR	**Mina Array Bea**	**79.36**	**42**	P	**P**	**04 03 12.3**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=228,slow=5.7,SNR=1.6						
	comp=Z,0.1nm,0.4s						
MAW	**Mawson**	**82.02**	**199**	P	**P**	**04 03 26.1**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=96,slow=13,SNR=2.9						
	comp=Z,1.4nm,0.8s						
NEW	**Newport**	**86.07**	**34**	LR	LR	04 38 43.1	
	comp=Z,82nm,18.4s,baz=232,slow=33						
CMAR	**Chiang Mai Arr**	**93.30**	**288**	P	**P**	**04 04 25.2**	**+3.2**
	comp=Z,0.9nm,0.3s,baz=118,slow=3.1,SNR=5.8						
AKASG	**Manlin Array Be**	**145.04**	**333**	PKPbc	**PKPab**	**04 10 43.2**	**0.0**
	comp=Z,3.0nm,1.0s,baz=44,slow=3.5,SNR=6.3						
BRTR	**Keskin Array B**	**149.57**	**314**	PKPbc	**PKPbc**	**04 10 56.5**	**0.0**
	comp=Z,0.7nm,0.8s,baz=73,slow=3.0,SNR=4.9						
GERES	**GERESS Array B**	**151.55**	**348**	PKPbc	**PKiKP**	**04 11 01.3**	**0.0**
	comp=Z,0.3nm,0.4s,baz=0.0,slow=1.7,SNR=3.5						

SLM 23 03:55:03.0±1.4, 37°.71N±0°.04×77°.65W±0°.04, h8km±7km, Error ellipse: s-maj=6.3km s-min=4.0km az=138.0
NEIC 23 03:55:02.9±1.0, 37°.68N±0°.04×77°.60W±0°.03, h5km±2km, mb_Lg2.5/37, ML2.7/8, Md2.5/17(SLM), Error ellipse: s-maj=7.3km s-min=3.2km az=144.0, Virginia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
R58B	**Mineral**	**0.36**	**322**		Pg	03 55 08.7	-1.2
R58B				Sg	Sg	03 55 13.0	-1.7
R58B				IAML		03 55 14.1	
	750nm,0.6s						
R58B				IAML		03 55 14.7	
	954nm,0.3s						
CBN	**Corbin Frederi**	**0.56**	**19**	Pg	Pg	03 55 12.9	-0.7
CBN				Sg	Sg	03 55 20.3	-0.6
CBN				IAML		03 55 28.5	
	453nm,1.1s						
CBN				IAML		03 55 29.2	
	360nm,0.6s						
T59A	**Double "B" Far**	**0.70**	**177**	Pg	Pg	03 55 16.4	-0.1
S57A	**Dark Hollow, R**	**1.08**	**275**	Pg	Pg	03 55 21.6	-2.0
S57A				Sg	Sg	03 55 36.0	-1.6
T57A	**Hurt**	**1.48**	**243**		Pn	03 55 29.2	-1.1
S61A	**Accomac**	**1.53**	**89**		Pn	03 55 30.7	-0.2
SDMD	**Soldier's Deli**	**1.83**	**19**	Pn	Pn	03 55 34.4	-0.6
P57A	**Homestead Farm**	**1.83**	**350**	Pn	Pn	03 55 34.2	-0.9
Q56A	**Snyder Ridge,**	**1.85**	**318**	Pn	Pn	03 55 35.0	-0.3
R61A	**Willards**	**1.90**	**69**	Pn	Pn	03 55 36.1	+0.1
V61A	**Roper**	**2.05**	**156**		Pn	03 55 37.4	-0.7
R55A	**Marlinton**	**2.08**	**288**	Pn	Pn	03 55 38.4	-0.2
V58A	**Windy Hill, Pi**	**2.24**	**213**	Pn	Pn	03 55 39.7	-1.0
BLA	**Blacksburg**	**2.29**	**259**		Pn	03 55 41.2	-0.2
BLA	**Blacksburg**	**2.29**	**259**	Pn	Pn	03 55 40.8	-0.6
BLA				IAmb_Lg		03 56 17.6	
	comp=Z,39nm,0.8s						
MVL	**Millersville**	**2.52**	**22**	Pn	Pn	03 55 43.6	-0.9
U56A	**King**	**2.59**	**240**	Pn	Pn	03 55 44.7	-0.9
PAGS	**Pennsylvania G**	**2.64**	**15**	Pn	Pn	03 55 45.8	-0.4
MCWV	**Mont Chateau**	**2.65**	**319**	Pn	Pn	03 55 44.8	-1.5
MCWV				IAmb_Lg		03 56 29.2	
	comp=Z,13nm,0.8s						
WUPA	**West Chester U**	**2.74**	**34**	Pn	Pn	03 55 47.1	-0.5
PSUB	**Penn St. - Bra**	**2.81**	**36**	Pn	Pn	03 55 47.8	-0.7
S54A	**Dingess, Beckl**	**2.94**	**274**	Pn	Pn	03 55 50.3	-0.1
S54A				IAmb_Lg		03 56 41.5	
	comp=Z,11nm,0.8s						
SSPA	**Standing Stone**	**2.96**	**356**	Pn	Pn	03 55 50.2	-0.4
SSPA				IAmb_Lg		03 56 35.7	
	comp=Z,12nm,0.9s						
W57A	**Gilead**	**3.17**	**218**	Pn	Pn	03 55 52.9	-0.6
N58A	**Sunbury**	**3.23**	**12**	Pn	Pn	03 55 53.6	-0.7
O54A	**Avella**	**3.31**	**320**	Pn	Pn	03 55 54.8	-0.6
TVNC	**Taylorsville**	**3.33**	**242**		Pn	03 55 56.3	+0.6
X58A	**Rowland**	**3.42**	**205**	IAmb_Lg		03 56 53.1	
	comp=Z,14nm,1.0s						
V55A	**Taylorsville**	**3.43**	**239**	Pn	Pn	03 55 57.1	+0.1
P53A	**Whipple**	**3.48**	**302**	Pn	Pn	03 55 57.2	-0.5
P53A				IAmb_Lg		03 56 50.0	
	comp=Z,13nm,1.0s						
U54A	**Nelsons Funny**	**3.57**	**252**	Pn	Pn	03 55 58.6	-0.4
M57A	**Sunshine Farm,**	**3.67**	**6**	Pn	Pn	03 55 59.9	-0.5
PAMR	**Moraine State**	**3.79**	**330**	Pn	Pn	03 56 01.6	-0.5
SMNC	**South Mountain**	**3.86**	**238**		Pn	03 56 03.6	+0.5
KMSC	**Kings Mountain**	**3.93**	**231**	Pn	Pn	03 56 03.5	-0.5
KMSC				IAmb_Lg		03 57 11.2	
	comp=Z,15nm,0.9s						
N53A	**Lisbon**	**4.01**	**322**	Pn	Pn	03 56 04.9	-0.2
O52A	**Adamsville**	**4.11**	**308**	Pn	Pn	03 56 04.4	-1.9
O52A				IAmb_Lg		03 57 11.2	
	comp=Z,13nm,0.8s						
PAOC	**Oil Creek Stat**	**4.16**	**338**	Pn	Pn	03 56 06.5	-0.5
PAL	**Palisades**	**4.39**	**40**	Pn	Pn	03 56 09.6	-0.6
PAULI	**Pauline**	**4.44**	**231**	IAmb_Lg		03 57 20.6	
	comp=Z,8.5nm,0.7s						
L56A	**Greenwood**	**4.46**	**0**	Pn	Pn	03 56 10.8	-0.4
JSC	**Jenkinsville**	**4.50**	**222**	IAmb_Lg		03 57 23.5	
	comp=Z,8.6nm,1.2s						
V53A	**Saluda**	**4.64**	**246**	Pn	Pn	03 56 13.2	-0.6
V53A				IAmb_Lg		03 57 29.3	
	comp=Z,6.8nm,0.7s						
S51A	**Beattyville**	**4.76**	**271**	IAmb_Lg		03 57 41.1	
	comp=Z,12nm,1.0s						
TZTN	**Tazewell**	**4.89**	**258**	Pn	Pn	03 56 16.5	-0.6
TZTN				IAmb_Lg		03 57 40.4	
	comp=Z,11nm,0.9s						
ACSO	**Alum Creek Sta**	**4.91**	**303**	IAmb_Lg		03 57 37.6	
	comp=Z,9.2nm,0.9s						
L59A	**Walton**	**4.92**	**23**	IAmb_Lg		03 57 46.5	
	comp=Z,9.6nm,1.0s						
BG3	**Lake Jocassee**	**5.07**	**240**	Pn	Pn	03 56 19.4	-0.2
BG3				IAmb_Lg		03 57 46.6	
	comp=Z,10nm,0.8s						
KSCT	**Kent School, K**	**5.14**	**37**	Pn	Pn	03 56 20.1	-0.5
TKL	**Tuckaleechee C**	**5.36**	**250**	Pn	Pn	03 56 22.6	-0.9
TKL				IAmb_Lg		03 57 53.3	
	comp=Z,6.8nm,0.8s						
W52A	**Murphy**	**5.72**	**245**	IAmb_Lg		03 57 59.9	
	comp=Z,8.0nm,0.7s						
T50A	**Nancy**	**5.80**	**266**	Pn	Pn	03 56 28.7	-1.0
Y52A	**Lilburn**	**6.49**	**236**	IAmb_Lg		03 58 32.0	
	comp=Z,6.0nm,0.8s						

IDC 23 04:06:33.2±7.6, 7°.39S×128°.88E, h175km±80km, mb3.2/2, mbtmp3.4/4, Error ellipse: s-maj=122.9km s-min=29.7km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.56**	**158**	P	Pn	04 09 38.2	-0.5
	0.2nm,0.4s,baz=338,slow=11,SNR=2.2						
WRA				S	Sn	04 11 57.2	-12
	0.6nm,0.4s,baz=330,slow=22,SNR=5.6						
ASAR	**Alice Springs**	**16.89**	**164**	P	Pn	04 10 19.9	+0.3
	0.3nm,0.5s,baz=344,slow=12,SNR=5.5						
ASAR				S	S	04 13 25.6	-0.3
	0.3nm,0.5s,baz=328,slow=21,SNR=2.7						
MKAR	**Makanchi Array**	**67.94**	**327**	P	P	04 17 12.7	-0.5
	0.4nm,0.5s,baz=128,slow=6.5,SNR=4.1						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**72.26**	**329**	P	P	04 17 39.8	+0.5
	0.4nm,0.5s,baz=126,slow=5.2,SNR=4.1						
	0.4nm,0.5s						

ISK 23 04:17:19.3, 39°.68N×25°.61E, h13km, ML2.6/16
AFAD 23 04:17:20.4, 39°.69N×25°.61E, h7km±2km, ML2.1
ATH 23 04:17:20.0, 39°.67N×25°.57E, h14km±1km, ML2.4/8, Manual Solution by A.Andreou First location: 2019/09/23 04:18:39, This location: 2019/09/23 14:53:35 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km
ISC 23 04:17:19.8±0.9, 39°.67N±0°.02×25°.58E±0°.02, h15km±8km, n36, σ0§33/55, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.38**	**307**	P	**Pg**	**04 17 27.5**	**+0.1**
LIA				S	**Sg**	**04 17 32.6**	**-0.1**
BOZC	**Bozcaada**	**0.40**	**65**	Pg	**Pg**	**04 17 28.1**	**+0.2**
BOZC				Sg	**Sg**	**04 17 33.4**	**0.0**
BOZC	**Bozcaada**	**0.40**	**65**	P	**Pg**	**04 17 27.9**	**+0.1**
BOZC				S	**Sg**	**04 17 33.5**	**0.0**
BOZC				*i* IAML		04 17 34.0	
	comp=N,387nm,0.2s						
BOZC				*i* IAML		04 17 34.0	
	comp=E,235nm,0.2s						
KOCA	**Canakkale, Ayv**	**0.46**	**111**	P	**Pg**	**04 17 29.3**	**+0.3**
KOCA				*i* IAML		04 17 36.0	
	comp=E,111nm,0.6s						
KOCA				S	**Sb**	**04 17 36.0**	**-0.3**
KOCA				*i* IAML		04 17 42.0	
	comp=N,127nm,0.2s						
GPNR	**Gulpinar-Canak**	**0.48**	**117**	Pg	**Pg**	**04 17 28.8**	**-0.5**
SIGR	**SIGRI**	**0.51**	**155**	Pg	**Pg**	**04 17 29.8**	**0.0**
SIGR				Sg	**Sg**	**04 17 37.1**	**+0.5**
SIGR	**SIGRI**	**0.51**	**155**	P	**Pg**	**04 17 29.7**	**-0.1**
SIGR				S	**Sb**	**04 17 37.2**	**-0.3**
GOAD	**anakkale-G¶**	**0.55**	**27**	P	**Pg

AAK	**Ala-Archa**	**6.04**	**351**	Pn	**Pn**	**04 19 49.7**	**+3.1**	
	2.9nm,0.3s,baz=50,slow=23,SNR=19							
AAK				Sn	**Sn**	**04 20 59.4**	**+4.8**	
	0.7nm,0.3s,baz=339,slow=17,SNR=6.8							
AAK				Lg	Lg	04 21 22.3		
	1.2nm,0.3s,baz=140,slow=21,SNR=1.6							
AAK				LR	LR	04 22 14.4		
	comp=Z,140nm,19.3s,baz=194,slow=40							
	19nm,0.6s							
KK31	**Karatay Array**	**7.57**	**330**	⇑P	**Pn**	**04 20 07.6**	**+0.1**	
	5.9nm,0.6s,baz=135,slow=13,SNR=43							
KK31				⇑S	**Sn**	**04 21 31.9**	**-0.1**	
	8.4nm,0.7s,baz=135,slow=13,SNR=3.7							
MK31	**Makanchi Array**	**11.25**	**24**	P	**Pn**	**04 20 56.6**	**-1.3**	
	2.1nm,0.8s,baz=200,slow=14,SNR=8.8							
MKAR	**Makanchi Array**	**11.25**	**24**	Pn	**Pn**	**04 20 56.8**	**-1.1**	
	0.3nm,0.3s,baz=200,slow=14,SNR=12							
MKAR				Sn	**Sn**	**04 23 01.4**	**-0.9**	
	0.2nm,0.3s,baz=207,slow=25,SNR=1.8							
	1.8nm,0.7s							
KURBB	**Kurchatov Arra**	**14.11**	**7**	Pn	**Pn**	**04 21 33.9**	**-2.8**	
	baz=191,slow=12,SNR=9.3							
KURBB				Lg	Lg	04 25 38.4		
	baz=190,slow=32,SNR=4.3							
	1.9nm,0.8s							
BVA0	**Borovoye Array**	**16.79**	**349**	P	**P**	**04 22 13.6**	**-0.1**	
	11nm,1.1s,baz=163,slow=8.4,SNR=24							
BVAR	**Borovoye Array**	**16.79**	**349**	Pn	**Pn**	**04 22 09.6**	**-2.2**	
	0.1nm,0.3s,baz=164,slow=13,SNR=12							
BVAR				Lg	Lg	04 27 08.7		
	baz=159,slow=26,SNR=2.7							
	1.0nm,0.6s							
AB31	**Akbulak array**	**17.03**	**323**	⇓P	**Pn**	**04 22 12.0**	**-2.9**	
	1.9nm,0.8s,baz=261,slow=36,SNR=16							
ZALV	**Zalesovo Beam**	**18.41**	**17**	P	**P**	**04 22 30.8**	**-0.8**	
	0.8nm,0.3s,baz=203,slow=13,SNR=14							
ZALV				LR	LR	04 28 54.9		
	comp=Z,12nm,18.1s,baz=160,slow=35							
	2.9nm,0.5s							
AKTO	**Aktyubinsk**	**18.75**	**323**	P	**P**	**04 22 33.3**	**-2.0**	
	0.2nm,0.3s,baz=111,slow=8.9,SNR=4.0							
AKTO				LR	LR	04 30 25.2		
	comp=Z,68nm,18.4s,baz=116,slow=39							
	1.8nm,0.6s							
ARTI	**Arti**	**22.93**	**335**	LR	LR	04 32 33.2		
	comp=Z,58nm,20.4s,baz=318,slow=38							
SONM	**Songino Array**	**25.15**	**54**	P	**P**	**04 23 42.2**	**+0.7**	
	2.3nm,0.8s,baz=249,slow=11,SNR=8.5							
	2.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**27.32**	**125**	P	**P**	**04 24 02.2**	**+1.0**	
	0.6nm,0.3s,baz=314,slow=8.7,SNR=4.7							
CMAR				LR	LR	04 36 55.0		
	comp=Z,18nm,19.3s,baz=315,slow=41							
	0.6nm,0.3s							
AKASG	**Malin Array Be**	**35.82**	**308**	P	**P**	**04 25 15.3**	**-0.2**	
	0.2nm,0.2s,baz=96,slow=8.9,SNR=2.1							
AKASG				LR	LR	04 42 31.7		
	comp=Z,45nm,19.5s,baz=325,slow=41							
	0.2nm,0.2s							
FINES	**FINESS Array B**	**39.50**	**325**	P	**P**	**04 25 46.4**	**-0.1**	
	3.1nm,0.5s,baz=103,slow=8.5,SNR=20							
	3.1nm,0.5s							
ARCES	**ARCESS Array B**	**42.48**	**336**	P	**P**	**04 26 10.6**	**-0.3**	
	4.4nm,1.0s,baz=120,slow=9.0,SNR=4.5							
	4.4nm,1.0s							
TIXI	**Tiksi**	**44.23**	**21**	LR	LR	04 48 05.7		
	comp=Z,36nm,18.2s,baz=232,slow=41							
HFS	**Hagfors**	**45.29**	**322**	P	**P**	**04 26 33.5**	**-0.1**	
	2.5nm,0.5s,baz=90,slow=8.2,SNR=13							
HFS				LR	LR	04 44 53.6		
	comp=Z,31nm,18.3s,baz=22,slow=35							
	2.5nm,0.5s							
NOA	**NORSAR Array B**	**46.54**	**323**	P	**P**	**04 26 43.0**	**-0.5**	
	1.0nm,0.5s,baz=97,slow=7.2,SNR=8.8							
NOA				LR	LR	04 47 04.0		
	comp=Z,31nm,20.2s,baz=105,slow=37							
	1.0nm,0.5s							
EKA	**Eskdalemuir Ar**	**54.79**	**317**	P	**P**	**04 27 45.2**	**-0.4**	
	0.5nm,0.5s,baz=78,slow=7.4,SNR=6.4							
	0.5nm,0.5s							
ESDC	**Sonseca Array**	**60.70**	**299**	P	**P**	**04 28 27.9**	**+0.4**	
	0.3nm,0.6s,baz=42,slow=6.9,SNR=4.2							
	0.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**69.50**	**271**	P	**P**	**04 29 25.1**	**+0.2**	
	0.4nm,0.5s,baz=44,slow=6.0,SNR=7.6							
	0.4nm,0.5s							
ILAR	**Eielson Array**	**73.54**	**18**	LR	LR	05 09 16.1		
	comp=Z,39nm,18.1s,baz=204,slow=42							
ASAR	**Alice Springs**	**81.30**	**128**	P	**P**	**04 30 34.0**	**+1.6**	
	0.3nm,0.8s,baz=322,slow=4.6,SNR=1.8							
	0.3nm,0.8s							
DLBC	**Dease Lake**	**82.84**	**13**	LR	LR	05 13 14.3		
	comp=Z,569nm,18.2s,baz=226,slow=40							

*GCG **23** 04:20:27.9±0.5, 14°.59N×89°.20W, h17km±8km, MD3.5, ML2.2*
*CATAC **23** 04:20:27.6±0.2, 15°.N±1°×8°.9W±°, h1km±1km, MZ2.6/14, MLv2.6/14, Error ellipse: s-maj=2.7km s-min=2.2km az=144.9, confirmed*
*SNET **23** 04:20:27.1±1.1, 14°.54N×89°.10W, h7km, ML2.6*
ISC 23 04:20:27.4±1.1, 14°.53N±0°.03×89°.09W±0°.02, h5km±10km, n43, σ0°50/49, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	**Esquipulas**	**0.24**	**277**	*eP*	**Pg**	**04 20 32.4**	**+0.2**
ESQI				*eS*	**Sg**	**04 20 36.1**	**+0.7**
ESQI	**Esquipulas**	**0.24**	**277**	P	**Pg**	**04 20 32.2**	**0.0**
ESQI	**Esquipulas**	**0.24**	**277**	S	**Sg**	**04 20 35.5**	**+0.1**
MTO3	**Montecristo**	**0.29**	**243**	P	**Pg**	**04 20 33.1**	**-0.1**
MTO3	**Montecristo**	**0.29**	**243**	S	**Sg**	**04 20 37.1**	**+0.1**
LLGN	**La Laguna**	**0.39**	**159**	P	**Pg**	**04 20 35.1**	**0.0**
LLGN	**La Laguna**	**0.39**	**159**	S	**Sg**	**04 20 40.9**	**+0.7**
SARH	**Santa Rosa de**	**0.40**	**53**	S	**Sg**	**04 20 40.2**	**-0.3**
CEDA	**San Andres**	**0.78**	**202**	S	**Sg**	**04 20 52.9**	**+0.3**
LBRS	**Las Brisas**	**0.79**	**177**	*eP*	**Pg**	**04 20 42.4**	**-0.2**
UDBS	**Universidad Do**	**0.81**	**184**	S	**Sg**	**04 20 54.0**	**+0.4**
PAVA	**Las Pavas**	**0.83**	**170**	P	**Pg**	**04 20 43.0**	**-0.3**
PAVA	**Las Pavas**	**0.83**	**170**	S	**Sg**	**04 20 54.5**	**+0.5**
PMON	**Piamonte**	**0.84**	**195**	P	**Pg**	**04 20 43.6**	**0.0**
PMON	**Piamonte**	**0.84**	**195**	S	**Sg**	**04 20 54.5**	**-0.1**
CEVE	**Cerro Verde**	**0.87**	**217**	*eP*	**Pg**	**04 20 44.4**	**+0.3**
CEVE				*eS*	**Sb**	**04 20 57.0**	**-0.3**
CEVE	**Cerro Verde**	**0.87**	**217**	S	**Sb**	**04 20 57.1**	**-0.1**
CEVE	**Cerro Verde**	**0.87**	**217**	P	**Pg**	**04 20 44.2**	**+0.1**
LOMA	**Loma Larga**	**0.89**	**185**	P	**Pg**	**04 20 44.2**	**-0.2**
LOMA	**Loma Larga**	**0.89**	**185**	S	**Sg**	**04 20 56.4**	**+0.4**
SCLA	**Alcaldia de Sa**	**0.90**	**157**	P	**Pg**	**04 20 44.6**	**-0.1**
NUBE	**Las Nubes**	**0.92**	**227**	*eP*	**Pg**	**04 20 44.7**	**-0.3**
NUBE				*eS*	**Sg**	**04 20 57.1**	**+0.2**
NUBE	**Las Nubes**	**0.92**	**227**	P	**Pg**	**04 20 44.7**	**-0.3**
UESV	**Universidad de**	**0.94**	**162**	P	**Pg**	**04 20 45.0**	**-0.4**
UESV	**Universidad de**	**0.94**	**162**	S	**Sg**	**04 20 58.7**	**+1.1**
JAYA	**Jayaque - finc**	**0.94**	**202**	*eP*	**Pg**	**04 20 45.2**	**-0.2**
JAYA				*eS*	**Sb**	**04 20 58.8**	**-0.4**
JAYA	**Jayaque - finc**	**0.94**	**202**	*eP*	**Pg**	**04 20 45.1**	**-0.4**
JAYA				*eS*	**Sb**	**04 20 58.6**	**-0.5**
JAYA	**Jayaque - finc**	**0.94**	**202**	P	**Pg**	**04 20 45.2**	**-0.2**
INTHN	**La Esperanza I**	**0.98**	**103**	P	**Pg**	**04 20 45.8**	**-0.5**
INTHN	**La Esperanza I**	**0.98**	**103**	S	**Sg**	**04 20 59.4**	**+0.4**
TECO	**Alcaldia de Te**	**1.03**	**163**	P	**Pg**	**04 20 46.6**	**-0.7**
TECO	**Alcaldia de Te**	**1.03**	**163**	S	**Sg**	**04 21 00.9**	**+0.2**
FAME	**Alcaldia de Sa**	**1.13**	**233**	P	**Pg**	**04 20 49.1**	**0.0**
FAME	**Alcaldia de Sa**	**1.13**	**233**	S	**Sg**	**04 21 03.3**	**-0.4**
IZABA	**Izabal, Puerto**	**1.29**	**22**	S	**Sb**	**04 21 08.9**	**-0.2**
PACA	**Pacayal**	**1.29**	**145**	P	**Pn**	**04 20 51.3**	**-1.0**
PACA	**Pacayal**	**1.29**	**145**	S	**Sb**	**04 21 08.9**	**-0.4**
LCND	**La Caada**	**1.68**	**136**	P	**Pn**	**04 20 57.3**	**-0.2**
CNCH	**Conchagua**	**1.75**	**135**	P	**Pn**	**04 20 58.7**	**+0.2**
CNCH	**Conchagua**	**1.75**	**135**	S	**Sn**	**04 21 21.6**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.82**	**105**	P	**Pn**	**04 20 59.7**	**0.0**
TGUH				S	**Sb**	**04 21 25.1**	**+0.5**
YUSH	**Yuscaran**	**2.25**	**104**	P	**Pn**	**04 21 04.3**	**-1.2**
YUSH	**Yuscaran**	**2.25**	**104**	S	**Sn**	**04 21 35.5**	**+1.7**

*UPA **23** 04:23:21.5±1.1, 8°.66N×83°.22W, h22km±4km, MW3.4*
*UCR **23** 04:23:21.2±1.3, 8°.57N×83°.24W, h27km±1km, MW3.6*
ISC 23 04:23:21.3±0.9, 8°.61N±0°.03×83°.22W±0°.02, h26km±5km, n59, σ0°67/94, 8C-20D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITO	**Golfito**	**0.06**	**78**	⇑*iP*	**Pb**	**04 23 25.3**	**-0.6**
FITO				*eS*	**Sb**	**04 23 29.1**	**+0.1**
EDAD	**Golfito**	**0.06**	**51**	⇑*iP*	**Pb**	**04 23 25.5**	**-0.5**
EDAD				*eS*	**Sb**	**04 23 28.9**	**-0.2**
JIME	**Puerto Jimenez**	**0.13**	**236**	⇓*eP*	**Pb**	**04 23 26.1**	**-0.3**
JIME				*eS*	**Sb**	**04 23 30.9**	**+1.1**
PIRO	**Carate, Puerto**	**0.24**	**210**	⇓*iP*	**Pb**	**04 23 27.1**	**-0.5**
PIRO				*eS*	**Sb**	**04 23 32.8**	**+0.9**
PIRO	**Carate, Puerto**	**0.24**	**210**	⇓*eP*	**Pb**	**04 23 27.0**	**-0.5**
NELY	**Ciudad Neily**	**0.27**	**82**	⇑*iP*	**Pb**	**04 23 28.1**	**+0.1**
NELY				*eS*	**Sb**	**04 23 34.0**	**+1.5**
LPPC	**Paso Canoas**	**0.38**	**102**	*eP*	**Pb**	**04 23 29.4**	**-0.3**
LPPC				*eS*	**Sb**	**04 23 36.1**	**+0.7**
EDP2	**Potrero Grande**	**0.40**	**5**	⇑*iP*	**Pb**	**04 23 30.2**	**+0.2**
EDP2				*eS*	**Sn**	**04 23 37.6**	**-0.6**
DMCAL	**E. de Neily**	**0.42**	**82**	*eP*	**Pb**	**04 23 30.4**	**0.0**
DMCAL				*eS*	**Sb**	**04 23 38.0**	**+1.5**
PANP	**Palmar Norte**	**0.42**	**325**	⇑*iP*	**Pb**	**04 23 29.9**	**-0.5**
PANP				*eS*	**Sb**	**04 23 36.8**	**+0.4**
ALCO	**Alturas Coton,**	**0.51**	**48**	⇓*iP*	**Pb**	**04 23 31.6**	**-0.3**
ALCO				*eS*	**Sb**	**04 23 39.9**	**+0.9**
PTPM	**Petroterminale**	**0.52**	**141**	*eP*	**Pb**	**04 23 32.5**	**+0.5**
PTPM				*eS*	**Sn**	**04 23 41.9**	**+0.7**
BRU2	**Volcan**	**0.55**	**71**	⇓*iP*	**Pb**	**04 23 32.4**	**-0.2**
BRU2				*eS*	**Sb**	**04 23 41.0**	**+0.8**
BRU2	**Volcan**	**0.55**	**71**	⇓*iP*	**Pb**	**04 23 32.3**	**-0.2**
BRU2				*eS*	**Sb**	**04 23 41.3**	**+1.1**
BURE	**Buenos Aires**	**0.57**	**348**	⇓*eP*	**Pb**	**04 23 32.6**	**-0.3**
BURE				*eS*	**Sb**	**04 23 41.4**	**+0.7**
TBS2		**0.58**	**72**	⇓*iP*	**Pb**	**04 23 33.6**	**+0.6**
BC3P	**Paso Ancho**	**0.63**	**71**	⇓*iP*	**Pb**	**04 23 33.4**	**-0.5**
BC3P				*eS*	**Sb**	**04 23 42.6**	**+0.1**
DRK0	**Durika**	**0.65**	**357**	⇓*iP*	**Pb**	**04 23 33.5**	**-0.7**
DRK0				*eS*	**Sb**	**04 23 43.1**	**+0.1**
DRK0	**Durika**	**0.65**	**357**	⇓*eP*	**Pb**	**04 23 33.5**	**-0.7**
DRK0				*eS*	**Sb**	**04 23 43.0**	**0.0**
EDPE	**Pejibaye, P**	**0.65**	**327**	*eP*	**Pb**	**04 23 33.4**	**-0.7**
EDPE				*eS*	**Sb**	**04 23 42.7**	**-0.1**
BAGA3	**Bagala, Chiriq**	**0.70**	**102**	*eP*	**Pb**	**04 23 34.7**	**-0.1**
BAGA3				*eS*	**Sb**	**04 23 44.8**	**+0.7**
PTAR3	**Potrerillos Ar**	**0.72**	**83**	*eP*	**Pb**	**04 23 34.9**	**-0.4**
PTAR3				*eS*	**Sb**	**04 23 45.5**	**+0.7**
BQTLY	**Boquete Panama**	**0.76**	**79**	⇓*iP*	**Pb**	**04 23 35.3**	**-0.7**
BQTLY	**Boquete Panama**	**0.76**	**79**	⇓*eP*	**Pb**	**04 23 35.4**	**-0.7**
BQTLY				*eS*	**Sb**	**04 23 46.8**	**+0.7**
DVD	**David**	**0.78**	**103**	*eP*	**Pb**	**04 23 36.1**	**-0.1**
DVD				*eS*	**Sb**	**04 23 46.7**	**+0.3**
WILLF	**Boquete**	**0.78**	**80**	⇓*iP*	**Pb**	**04 23 35.7**	**-0.8**
BQSF3	**Alto Boquete,**	**0.78**	**80**	*eP*	**Pb**	**04 23 35.6**	**-0.8**
BQSF3				*eS*	**Sb**	**04 23 46.8**	**0.0**
LNBQ3	**Los Naranjos,**	**0.79**	**77**	*eP*	**Pb**	**04 23 35.4**	**-1.1**
LNBQ3				*eS*	**Sb**	**04 23 46.3**	**-0.5**
LOCO3	**Loma Colorada,**	**0.81**	**104**	*eP*	**Pb**	**04 23 36.8**	**-0.1**
LOCO3				*eS*	**Sb**	**04 23 48.1**	**+0.7**
LOMA3	**Las Lomas, Chi**	**0.83**	**102**	*eP*	**Pb**	**04 23 37.3**	**+0.1**
LOMA3				*eS*	**Sb**	**04 23 48.7**	**+0.6**
CGUAY	**Guayabal, Coch**	**0.87**	**100**	*eP*	**Pb**	**04 23 36.8**	**-1.0**
CGUAY	**Guayabal, Coch**	**0.87**	**100**	⇑*eP*	**Pb**	**04 23 37.2**	**-0.6**
CHIR3	**Chiriqui UPA,**	**0.90**	**104**	*eS*	**Sn**	**04 23 51.1**	**+0.6**
CEUA	**Cerro Uatsi, L**	**1.04**	**15**	*eP*	**Pb**	**04 23 41.1**	**+0.3**
PBNVO	**Pueblo Nuevo,**	**1.05**	**75**	*eP*	**Pn**	**04 23 39.1**	**-1.3**
PBNVO				*eS*	**Sb**	**04 23 54.2**	**0.0**
BUS1	**Rivas**	**1.07**	**331**	⇑*eP*	**Pn**	**04 23 40.2**	**-0.9**
BUS1				*eS*	**Sb**	**04 23 54.9**	**-0.4**
RBALA	**Bur**	**1.08**	**76**	⇓*iP*	**Pn**	**04 23 39.9**	**-0.9**
RBALA	**Bur**	**1.08**	**76**	⇓*eP*	**Pn**	**04 23 39.9**	**-0.9**
RBALA				*eS*	**Sb**	**04 23 55.1**	**-0.1**
CNI2	**El Empalme, Bo**	**1.09**	**42**	*eP*	**Pn**	**04 23 40.3**	**-0.6**
RGM0	**Gandoca**	**1.14**	**32**	*eP*	**Pb**	**04 23 43.2**	**+0.8**
RGM0	**Gandoca**	**1.14**	**32**	*eP*	**Pb**	**04 23 43.0**	**+0.5**
LAES	**El Progreso Va**	**1.16**	**8**	⇓*iP*	**Pn**	**04 23 42.0**	**+0.2**
LAES				*eS*	**Sb**	**04 23 58.6**	**+1.3**
PIEC	**Cerro El Cedra**	**1.24**	**324**	*eP*	**Pn**	**04 23 43.2**	**-0.1**
VERH	**Veragua Rainfo**	**1.31**	**1**	⇓*iP*	**Pn**	**04 23 44.0**	**0.0**
VERH				*eS*	**Sb**	**04 24 02.2**	**+0.6**
LCR2	**La Lucha 2**	**1.37**	**325**	*eS*	**Sb**	**04 24 04.4**	**+0.8**
VINA	**Juan Vinas**	**1.38**	**338**	*eP*	**Pn**	**04 23 45.8**	**+0.7**
PICV	**PH. Pirrs**	**1.40**	**316**	*eP*	**Pn**	**04 23 45.1**	**-0.2**
PICV				*eS*	**Sb**	**04 24 05.5**	**+1.2**
KKNTU	**Kakint²**	**1.41**	**81**	⇓*iP*	**Pn**	**04 23 44.8**	**-0.6**
KKNTU				*eS*	**Sn**	**04 24 02.5**	**-0.7**
KKNTU	**Kakint²**	**1.41**	**81**	⇓*eP*	**Pn**	**04 23 44.8**	**-0.6**
RAFA	**San Farael, Vo**	**1.46**	**336**	*eP*	**Pn**	**04 23 47.1**	**+0.8**
RESJ	**San Isidro (Tu**	**1.47**	**343**	⇑*iP*	**Pn**	**04 23 47.1**	**+0.8**
RESJ				*eS*	**Sb**	**04 24 07.6**	**+1.1**
CVTV	**Tajo**	**1.48**	**339**	*eP*	**Pn**	**04 23 47.5**	**-0.9**
CVTQ	**Turrialba Volc**	**1.49**	**339**	*eP*	**Pn**	**04 23 47.0**	**+0.3**
VTR0	**Volcan Turrial**	**1.50**	**339**	*eP*	**Pn**	**04 23 47.7**	**+0.8**
CVTR	**Volcan Turrial**	**1.50**	**339**	*eP*	**Pn**	**04 23 47.4**	**+0.5**
ACOS	**Acosta**	**1.50**	**322**	*eP*	**Pn**	**04 23 47.5**	**+0.7**
RVLA	**Villa Bonita**	**1.53**	**346**	*eP*	**Pn**	**04 23 47.1**	**+0.1**
RVLA				*eS*	**Sb**	**04 24 08.7**	**+0.6**
SOCE	**Pocosol**	**2.24**	**322**	*eP*	**Pb**	**04 24 00.3**	**-0.8**
JTS	**Las Juntas de**	**2.39**	**314**	*eP*	**Pn**	**04 23 58.6**	**-0.3**

*IDC **23** 04:32:23.7±1.1, 62°.21S×155°.38W, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=41.0km s-min=27.9km az=19.0*
ISC 23 04:32:25.3±1.1, 62°2S±0°2×155°4W±0°2, h10km, n15, σ1§09/9, mb4.0/5, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.44**	**205**	P	**P**	**04 37 04.0**	**+1.7**
	1.3nm,1.0s,baz=76,slow=10,SNR=4.6						
	1.3nm,1.0s						
SNAA	**Sanae**	**45.05**	**168**	P	**P**	**04 40 39.0**	**-1.5**
	1.4nm,1.1s,baz=201,slow=11,SNR=1.7						
	1.4nm,1.1s						
H03S2	**Juan Fernandez**	**54.47**	**96**	T	T	05 40 53.5	
	baz=212,slow=74,SNR=16						
H03S1	**Juan Fernandez**	**54.47**	**96**	T	T	05 40 54.9	
	baz=212,slow=74,SNR=19						
H03S3	**Juan Fernandez**	**54.48**	**96**	T	T	05 40 54.2	
	baz=212,slow=74,SNR=24						
H03N3	**Juan Fernandez**	**54.78**	**96**	T	T	05 41 16.6	
	baz=215,slow=73,SNR=13						
H03N2	**Juan Fernandez**	**54.79**	**96**	T	T	05 41 15.3	
	baz=215,slow=73,SNR=22						
H03N1	**Juan Fernandez**	**54.80**	**96**	T	T	05 41 15.2	
	baz=215,slow=73,SNR=8.4						
ASAR	**Alice Springs**	**60.38**	**275**	P	**P**	**04 42 33.6**	**-0.9**
	1.3nm,1.1s,baz=144,slow=8.0,SNR=4.3						
	1.3nm,1.1s						
WRA	**Warramunga Arr**	**63.38**	**278**	P	**P**	**04 42 55.0**	**+0.3**
	0.9nm,0.9s,baz=145,slow=6.3,SNR=3.8						
	0.9nm,0.9s						
LPAZ	**La Paz**	**74.45**	**95**	P	**P**	**04 44 05.2**	**+0.9**
	1.1nm,0.9s,baz=195,slow=7.4,SNR=4.3						
	1.1nm,0.9s						
KAPI	**Kappang**	**83.21**	**272**	P	**P**	**04 44 51.7**	**0.0**
	2.5nm,0.3s,baz=173,slow=15,SNR=2.0						
	2.5nm,0.3s						
MKAR	**Makanchi Array**	**144.51**	**272**	PKP	**PKPab**	**04 51 59.1**	**-0.1**
	1.4nm,0.9s,baz=147,slow=2.9,SNR=8.2						
KURBB	**Kurchatov Arra**	**148.98**	**273**	PKPbc	**PKPbc**	**04 52 12.2**	**0.0**
	1.6nm,0.8s,baz=125,slow=2.5,SNR=9.8						
ESDC	**Sonseca Array**	**151.55**	**129**	PKPbc	**PKPbc**	**04 52 18.5**	**-0.2**
	0.9nm,0.7s,baz=203,slow=2.2,SNR=5.3						

*IDC **23** 04:44:33.1±0.9, 11°.02N×125°.67E, h0km, mb3.9/8, mbtmp3.9/8, MS3.6/2, Error ellipse: s-maj=70.7km s-min=20.1km az=69.0*
ISC 23 04:44:44.1±1.0, 10°.9N±0°.2×125°.6E±0°.4, h88km, n17, σ0§46/9, mb3.9/8, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**5.52**	**306**	LR	LR	04 48 27.6	
	comp=Z,144nm,20.8s,baz=176,slow=42						
WRA	**Warramunga Arr**	**31.85**	**164**	P	**P**	**04 51 00.5**	**-0.4**
	0.4nm,0.6s,baz=348,slow=9.1,SNR=2.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**35.32**	**167**	P	**P**	**04 51 31.5**	**+0.5**
	0.6nm,0.4s,baz=346,slow=7.0,SNR=9.5						
	0.6nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**40.41**	**74**	T	T	05 35 12.3	
	baz=265,slow=74,SNR=6.8						
H11S1	**WAKE ISLAND Hy**	**40.42**	**74**	T	T	05 35 24.6	
	baz=265						
H11S2	**WAKE ISLAND Hy**	**40.42**	**74**	T	T	05 35 30.3	
	baz=265,slow=74,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**40.71**	**72**	T	T	05 35 50.7	
	baz=265,slow=75,SNR=20						
H11N2	**WAKE ISLAND Hy**	**40.72**	**72**	T	T	05 35 42.6	
	baz=265,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**40.73**	**72**	T	T	05 35 52.0	
	baz=265,slow=75,SNR=16						
MKAR	**Makanchi Array**	**51.10**	**323**	P	**P**	**04 53 38.0**	**+0.2**
	0.4nm,0.4s,baz=123,slow=7.6,SNR=6.7						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**53.73**	**331**	P	**P**	**04 53 56.5**	**-0.6**
	0.8nm,0.3s,baz=115,slow=7.3,SNR=4.8						
	0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**55.16**	**325**	P	**P**	**04 54 07.6**	**+0.2**
	0.6nm,0.5s,baz=123,slow=7.1,SNR=5.7						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**79.17**	**26**	P	**P**	**04 56 39.1**	**+0.1**
	0.2nm,0.6s,baz=264,slow=5.4,SNR=1.1						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**83.36**	**340**	P	**P**	**04 57 01.5**	**+0.4**
	3.3nm,0.8s,baz=81,slow=6.5,SNR=5.8						
	3.3nm,0.8s						
FINES	**FINESS Array B**	**85.00**	**332**	P	**P**	**04 57 09.5**	**-0.1**
	0.5nm,0.4s,baz=67,slow=5.0,SNR=6.4						
	0.5nm,0.4s						
LSZ	**Lusaka**	**99.85**	**256**	LR	LR	05 39 43.4	
	comp=Z,116nm,20.4s,baz=160,slow=33						
TORD	**Torodi Ar. Bea**	**119.39**	**292**	PKP	**PKPdf**	**05 03 23.8**	**-0.5**
	0.1nm,0.4s,baz=84,slow=2.6,SNR=2.0						

*SFS **23** 04:46:17.7, 36°.89N×4°.23W, h65km, ML2.5/12, ML2.5/12, MLv2.5/12*
*INMG **23** 04:46:19.9±1.3, 36°.90N×4°.28W, h40km, ML1.8, Error ellipse: s-maj=4.3km s-min=2.3km az=3.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NE Malaga (ESP)*
*CNRM **23** 04:46:19.5, 36°.55N×4°.30W, h75km, ML2.5*
*MDD **23** 04:46:19.0±0.5, 36°.86N×4°.23W, h60km±6km, Mb3.1/18, Error ellipse: s-maj=5.0km s-min=2.6km az=165.0*
ISC 23 04:46:16.2±1.2, 36°.78N±0°.02×4°.19W±0°.03, h77km±6km, n65, σ1§58/103, 11C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.20**	**265**	Pg	**Pn**	**04 46 27.7**	**+0.2**
EMAL				Sg	**Sn**	**04 46 34.2**	**-1.7**
EGOR	**Sierra Gorda,**	**0.34**	**11**	Pg	**Pn**	**04 46 28.8**	**+0.4**
EGOR	**Sierra Gorda,**	**0.34**	**11**	Pg	**Pn**	**04 46 28.9**	**+0.4**
EGOR				Sg	**Sn**	**04 46 37.6**	**+0.1**
ELGU	**Los Guajares,**	**0.46**	**79**	Pg	**Pn**	**04 46 30.0**	**+0.6**
ELGU				Sg	**Sn**	**04 46 38.5**	**-0.5**
ELGU	**Los Guajares,**	**0.46**	**79**	Pg	**Pn**	**04 46 29.9**	**+0.6**
ELGU				⇑*iVmb_VC*		04 46 30.1	
	1µm,SNR=7.6						
ELGU				Sg	**Sn**	**04 46 38.1**	**-1.0**
EQTA	**Presa de Quent**	**0.73**	**54**	Pg	**Pn**	**04 46 33.0**	**+1.0**
EQTA			

MORF	**Marmelete**	**3.61**	**280**	*eS*		**Sn**	**04 47 50.7**	**-0.5**
PMRV	**Marv??o**	**3.66**	**317**	*eP*		**Pn**	**04 47 11.6**	**+1.2**
PMRV				*eS*		**Sn**	**04 47 50.5**	**-1.8**
PMRV				*i*	IAML		04 47 52.5	
PMRV				*i*	IAML		04 47 52.7	
PMRV				*i*	IAML		04 47 53.7	
PTEO	**Sao Teotonio**	**3.70**	**283**	*eS*		**Sn**	**04 47 53.2**	**-0.3**
PFVI	**Vila Bisbo**	**3.73**	**277**	*eP*		**Pn**	**04 47 13.6**	**+2.3**
ECHE	**Chera**	**3.78**	**41**	Pn		**Pn**	**04 47 12.6**	**+0.5**
ECHE				Sn		**Sn**	**04 47 53.7**	**-1.7**
ECHE	**Chera**	**3.78**	**41**	Pn		**Pn**	**04 47 13.2**	**+1.1**
PMTG	**Montargil**	**3.93**	**307**	*eP*		**Pn**	**04 47 16.1**	**+2.1**
PMTG				*eS*		**Sn**	**04 47 57.4**	**-1.5**
PMTG				*i*	IAML		04 47 58.4	
PMTG				*i*	IAML		04 47 58.5	
PMTG				*i*	IAML		04 47 58.8	
MD31	**MD31**	**3.93**	**187**	P		**Pn**	**04 47 15.0**	**+0.8**
MD31	**MD31**	**3.93**	**187**	S		**Sn**	**04 47 57.6**	**-1.6**
PCBR	**Castelo Branco**	**4.00**	**321**	*eP*		**Pn**	**04 47 17.3**	**+2.2**
PCBR				*eS*		**Sn**	**04 47 59.6**	**-1.1**
PSARD	**Sardoal**	**4.21**	**313**	*eP*		**Pn**	**04 47 19.9**	**+2.0**
PSARD				*eS*		**Sn**	**04 48 03.0**	**-2.8**
PSARD				*i*	IAML		04 48 05.3	
PSARD				*i*	IAML		04 48 05.5	
PSARD				*i*	IAML		04 48 05.7	
PARRA	**Arraiolos**	**4.35**	**299**	*eP*		Pn	04 47 12.0	-7.7
PARRA				*eS*		Sn	04 47 50.0	-19
PARRA				*i*	IAML		04 47 51.6	
PARRA				*i*	IAML		04 47 52.0	
PARRA				*i*	IAML		04 47 52.3	
ETOR	**Torete**	**4.36**	**22**	Pn		**Pn**	**04 47 21.7**	**+1.6**
ETOR				Sn		**Sn**	**04 48 07.1**	**-2.6**
MTE	**Manteigas**	**4.47**	**325**	*eP*		**Pn**	**04 47 23.6**	**+2.1**
PMAFR	**Mafra**	**4.58**	**300**	*eS*		**Sn**	**04 48 13.7**	**-1.1**
PCAS	**Casmilo, Conde**	**4.71**	**315**	*eS*		**Sn**	**04 48 16.2**	**-1.7**
PVIS	**Viseu**	**4.88**	**325**	*eP*		**Pn**	**04 47 29.4**	**+2.3**
MVO	**Moncorvo**	**4.91**	**334**	*eP*		**Pn**	**04 47 29.9**	**+2.4**
POLO	**Lamas de Olo**	**5.38**	**330**	*eP*		**Pn**	**04 47 35.6**	**+1.7**
POLO				*eS*		**Sn**	**04 48 31.9**	**-2.5**
PBRG	**Braganca**	**5.39**	**339**	*eP*		**Pn**	**04 47 36.0**	**+1.9**

*DNK **23** 05:01:24.9±2.3, 78°.22N×7°.23E, h15km, ML1.6*
*BER **23** 05:01:26.7±2.1, 78°.26N×7°.15E, h10km, mb(Pn)3.9, ML1.6(DNK), Confirmed Earthquake*
*IDC **23** 05:01:26.9±1.1, 78°.08N×6°.75E, h0km, mb3.5/6, mbtmp3.5/7, ML2.7/1, MS3.2/12, Error ellipse: s-maj=25.3km s-min=13.3km az=34.0*
*NAO **23** 05:01:27.6±0.5, 78°.31N×7°.40E, h17km, ML2.9*
*KOLA **23** 05:01:27.1, 78°.28N×8°.22E, h0km, ML2.9, Error ellipse: s-maj=12.6km s-min=9.3km az=80.0, Greenland sea, Knipovich ridge, middle*
*FCIAR **23** 05:01:29.0, 78°.06N×8°.24E, h10km, station OMEGA has station magnitude of 4.00 station ZFI2 has station magnitude of 3.90*

ISC 23 05:01:25.2±2.0, 78°.20N±0°.05×7°.34E±0°.04, h4km±13km, n46, σs9.14/67, mb3.5/7, MS3.1/12, 2C-1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.18**	**49**	Pb	**Pg**	**05 01 47.6**	**-0.1**
KBS				Sb	**Sb**	**05 02 00.5**	**-3.0**
KBS	**Kingsbay**	**1.18**	**49**	P	**Pb**	**05 01 47.0**	**-1.0**
KBS				S	**Sb**	**05 01 59.9**	**-3.7**
KBS	**Kingsbay**	**1.18**	**49**	*eP*	**Pb**	**05 01 47.3**	**-0.7**
KBS				*eS*	**Sb**	**05 02 00.2**	**-3.4**
KBS				IAML		05 02 02.6	
	comp=Z,516nm,0.3s						
KBS	**Kingsbay**	**1.18**	**49**	*i* P	**Pb**	**05 01 47.4**	**-0.7**
KBS				*i* S	**Sb**	**05 02 00.2**	**-3.4**
BRBB	**Barentsburg B**	**1.42**	**91**	Pb	**Pb**	**05 01 52.1**	**-0.1**
BRBB				Sb	**Sn**	**05 02 09.1**	**-1.8**
BRBB	**Barentsburg B**	**1.42**	**91**	P	**Pn**	**05 01 51.5**	**-0.2**
BRBB				S	**Sn**	**05 02 08.9**	**-2.0**
BRBB	**Barentsburg B**	**1.42**	**91**	*eP*	**Pb**	**05 01 51.8**	**-0.4**
BRBB				*eS*	**Sn**	**05 02 08.8**	**-2.1**
BRBA	**Barentsburg A**	**1.43**	**92**	Pb	**Pb**	**05 01 52.0**	**-0.3**
BRBA				Sb	**Sn**	**05 02 09.1**	**-2.0**
BRBA	**Barentsburg A**	**1.43**	**92**	*eP*	**Pb**	**05 01 51.8**	**-0.6**
BRBA				*eS*	**Sn**	**05 02 09.1**	**-2.0**
BRBA				IAML		05 02 14.1	
	comp=Z,179nm,0.9s						
SPA0	**Spitsbergen Ar**	**1.86**	**86**	Pn	**Pb**	**05 01 58.9**	**-0.7**
	baz=272,slow=14						
SPA0				Sn	**Sn**	**05 02 21.7**	**0.0**
	baz=284,slow=22						
SPA0	**Spitsbergen Ar**	**1.86**	**86**	*eP*	**Pb**	**05 01 58.6**	**-1.1**
SPA0				*eS*	**Sn**	**05 02 20.0**	**-1.7**
SPA0	**Spitsbergen Ar**	**1.86**	**86**	*eP*	**Pb**	**05 01 59.0**	**-0.7**
SPA0				*eS*	**Sn**	**05 02 20.7**	**-1.0**
SPA0				IAML		05 02 23.4	
	comp=Z,192nm,0.2s						
SPITS	**Spitsbergen Ar**	**1.86**	**86**	Pn	**Pb**	**05 01 59.6**	**-0.1**
	baz=267,slow=13						
SPITS				Sn	**Sn**	**05 02 21.1**	**-0.6**
	baz=274,slow=24						
SPITS	**Spitsbergen Ar**	**1.86**	**86**	P	**Pb**	**05 01 58.6**	**-1.1**
SPITS				S	**Sn**	**05 02 19.1**	**-2.6**
HSPB	**Hornsund (broa**	**2.14**	**120**	Pn	**Pn**	**05 02 02.1**	**+0.5**
HSPB				Sn	**Sn**	**05 02 26.8**	**-1.7**
HSPB	**Hornsund (broa**	**2.14**	**120**	P	**Pn**	**05 02 01.7**	**+0.1**
HSPB				S	**Sn**	**05 02 26.4**	**-2.0**
HSPB	**Hornsund (broa**	**2.14**	**120**	*eP*	**Pn**	**05 02 01.4**	**-0.1**
HSPB				*eS*	**Sn**	**05 02 25.7**	**-2.8**
HSPB	**Hornsund (broa**	**2.14**	**120**	*eP*	**Pn**	**05 02 01.9**	**+0.4**
HSPB				*eS*	**Sn**	**05 02 26.3**	**-2.2**
HSPB				IAML		05 02 27.4	
	comp=Z,62nm,0.2s						
HOPEN	**Hopen**	**4.23**	**105**	Pn	**Pn**	**05 02 31.0**	**+0.8**
HOPEN				Sn	**Sn**	**05 03 17.5**	**-2.4**
HOPEN	**Hopen**	**4.23**	**105**	*eP*	**Pn**	**05 02 29.9**	**-0.3**
HOPEN				*eS*	**Sn**	**05 03 16.0**	**-3.9**
HOPEN	**Hopen**	**4.23**	**105**	*eP*	**Pn**	**05 02 30.6**	**+0.3**
HOPEN				*eS*	**Sn**	**05 03 16.8**	**-3.1**
HOPEN				IAML		05 03 19.3	
	comp=Z,56nm,0.6s						
NOR	**Nord**	**5.38**	**320**	Pn	**Pn**	**05 02 44.3**	**-1.8**
NOR				Sn	**Sn**	**05 03 41.2**	**-7.2**
NOR	**Nord**	**5.38**	**320**	*eP*	**Pn**	**05 02 44.3**	**-1.8**
NOR				*eS*	**Sn**	**05 03 41.6**	**-6.7**
NOR				IAML		05 03 48.0	
	comp=Z,1.0nm,0.2s						
NOR	**Nord**	**5.38**	**320**	*eP*	**Pn**	**05 02 44.3**	**-1.8**
NOR				*eS*	**Sn**	**05 03 41.6**	**-6.7**
NOR				IAML		05 03 48.0	
	comp=Z,1.0nm,0.2s						
DAG	**Danmarks Havn**	**5.79**	**269**	*eP*	**Pn**	**05 02 49.6**	**-2.1**
DAG				*eS*	**Sn**	**05 03 49.8**	**-8.7**
DAG				IAML		05 03 53.0	
	comp=Z,4.6nm,0.2s						
DAG	**Danmarks Havn**	**5.79**	**269**	*eP*	**Pn**	**05 02 49.6**	**-2.1**
DAG				*eS*	**Sn**	**05 03 49.8**	**-8.7**
DAG				IAML		05 03 53.0	
	comp=Z,4.6nm,0.2s						
ZFI2	**Zemlya Franca-**	**7.66**	**51**	*eP*	**Pn**	**05 03 17.5**	**+0.2**
ZFI2				*eS*	**Sn**	**05 04 39.2**	**-5.1**
	comp=Z,34nm,2.1s						
OMEGA	**Omega**	**7.67**	**52**	*eP*	**Pn**	**05 03 17.5**	**0.0**
OMEGA				*eS*	**Sn**	**05 04 39.2**	**-5.4**
	comp=Z,38nm,1.2s						
ARA0	**ARCESS Array S**	**9.98**	**141**	Pn	**Pn**	**05 03 49.7**	**+0.5**
	baz=344,slow=10						
ARA0				Sn	**Sn**	**05 05 35.9**	**-5.6**
	baz=341,slow=28						
ARCES	**ARCESS Array B**	**9.98**	**141**	Pn	**Pn**	**05 03 48.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=344,slow=13,SNR=5.7						
ARCES				Sn	**Sn**	**05 05 36.9**	**-4.6**
	comp=Z,0.2nm,0.3s,baz=338,slow=23,SNR=14						
	comp=Z,6.8nm,1.1s						
SFJD	**Kangerlussuaq**	**19.48**	**267**	LR	LR	05 13 34.2	
	comp=Z,88nm,18.7s,baz=16,slow=38						
RES	**Resolute Bay**	**21.29**	**314**	LR	LR	05 13 58.3	
	comp=Z,46nm,18.2s,baz=350,slow=35						
FRB	**Frobisher Bay**	**26.00**	**280**	LR	LR	05 16 11.8	
	comp=Z,48nm,19.7s,baz=329,slow=34						
AKASG	**Malin Array Be**	**28.75**	**150**	LR	LR	05 19 53.8	
	comp=Z,19nm,18.0s,baz=34,slow=39						
BVAR	**Borovoye Array**	**33.26**	**101**	P	**P**	**05 08 06.2**	**+3.3**
	comp=Z,0.6nm,0.6s,baz=346,slow=8.2,SNR=1.8						
BVAR				LR	LR	05 23 57.3	
	comp=Z,62nm,20.3s,baz=340,slow=40						
	comp=Z,0.6nm,0.6s						
SCHQ	**Schefferville**	**33.83**	**271**	LR	LR	05 21 44.8	
	comp=Z,677nm,18.6s,baz=127,slow=36						
ZALV	**Zalesovo Beam**	**35.34**	**86**	P	**P**	**05 08 25.0**	**+3.9**
	comp=Z,0.3nm,0.4s,baz=338,slow=6.7,SNR=3.7						
	comp=Z,0.3nm,0.4s						
ILAR	**Eielson Array**	**36.42**	**342**	P	**P**	**05 08 33.3**	**+3.1**
	comp=Z,0.5nm,0.9s,baz=11,slow=8.2,SNR=4.2						
	comp=Z,0.5nm,0.9s						
KURBB	**Kurchatov Arra**	**37.19**	**94**	P	**P**	**05 08 40.8**	**+4.0**
	comp=Z,2.6nm,0.2s,baz=340,slow=7.4,SNR=4.3						
KURBB				LR	LR	05 26 11.4	
	comp=Z,35nm,19.7s,baz=166,slow=40						
MKAR	**Makanchi Array**	**41.60**	**92**	P	**P**	**05 09 17.2**	**+3.4**
	comp=Z,0.5nm,0.8s,baz=352,slow=6.6,SNR=9.3						
MKAR				LR	LR	05 29 18.2	
	comp=Z,26nm,18.5s,baz=296,slow=40						
	comp=Z,0.5nm,0.8s						
ULM	**Lac du Bonnet**	**43.94**	**296**	LR	LR	05 27 20.7	
	comp=Z,23nm,21.6s,baz=222,slow=35						
AAK	**Ala-Archa**	**43.99**	**102**	LR	LR	05 30 14.3	
	comp=Z,44nm,18.2s,baz=353,slow=39						
YBH	**Yreka Blue Hor**	**56.65**	**317**	LR	LR	05 36 28.7	
	comp=Z,4.5nm,18.6s,baz=217,slow=37						
NVAR	**Mina Array Bea**	**59.24**	**312**	P	**P**	**05 11 29.2**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=17,slow=6.8,SNR=3.7						
NVAR				LR	LR	05 37 38.3	
	comp=Z,17nm,20.9s,baz=264,slow=37						
	comp=Z,0.1nm,0.3s						
TXAR	**Lajitas Array**	**65.64**	**297**	P	**P**	**05 12 11.7**	**+1.6**
	comp=Z,0.6nm,0.9s,baz=42,slow=4.5,SNR=5.2						
	comp=Z,0.6nm,0.9s						
BRDH	**Bariadhala**	**66.80**	**91**	LR	LR	05 46 12.1	
	comp=Z,56nm,18.0s,baz=191,slow=40						

*NEIC **23** 05:02:35.3±1.2, 36°.098N×0°.008×117°.85W±0°.01, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.5km az=105.0*

PAS 23 05:02:36.0±1.1, 36°.093N±0°.008×117°.86W±0°.01, h5km±1km, ML3.3/104, ML3.1/190(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=93.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.03**	**15**		Pg	05 02 37.3	+0.2
MFS					Sg	05 02 38.5	+0.5
WRVM	**Rose V. Centra**	**0.09**	**194**		Pg	05 02 38.0	+0.1
WRVM					Sg	05 02 39.7	+0.5
WCSM	**Coso Springs S**	**0.10**	**130**		Pg	05 02 38.3	+0.1
WCSM					Sg	05 02 40.1	+0.5
WVPM	**Volcano Peak E**	**0.15**	**165**		Pg	05 02 38.9	0.0
WVPM					Sg	05 02 41.4	+0.4
WNMM	**Nine Mile Cany**	**0.25**	**188**		Pb	05 02 44.5	+1.5
TOW	**Tower One**	**0.29**	**164**		Pg	05 02 42.1	+0.4
TOW					Sg	05 02 46.6	+1.0
MPMC	**Manual Prospec**	**0.30**	**96**		Pg	05 02 41.8	-0.2
MPMC				IAML		05 02 46.6	
	comp=E,3μm,0.5s						
CWC	**Cottonwood Cre**	**0.39**	**333**		Pg	05 02 43.4	-0.1
CWC	**Cottonwood Cre**	**0.39**	**333**		Sg	05 02 48.9	+0.3
CWC	**Cottonwood Cre**	**0.39**	**333**	IAML		05 02 49.2	
	comp=N,2μm,0.3s						
CWC				IAML		05 02 49.4	
	comp=E,2μm,0.2s						
SRTC	**Snort**	**0.41**	**167**		Pg	05 02 44.2	+0.4
SRTC					Sg	05 02 50.8	+1.5
CGO	**Cerro Gordo**	**0.46**	**6**		Pg	05 02 44.6	-0.3
CGO					Sg	05 02 51.7	+0.8
GPO	**China Lake**	**0.47**	**160**		Pg	05 02 45.1	0.0
GPO					Sg	05 02 51.9	+0.7
WORM	**Onyx Ranch**	**0.50**	**218**		Pg	05 02 45.3	-0.3
WORM					Sg	05 02 52.2	0.0
WHFM	**Hanning Flat**	**0.56**	**225**		Pg	05 02 46.5	-0.2
WHFM					Sg	05 02 54.2	+0.2
WSHM	**Spangler Hills**	**0.58**	**148**		Pg	05 02 46.8	-0.2
WSHM	**Spangler Hills**	**0.58**	**148**		Sg	05 02 54.7	+0.2
WSHM	**Spangler Hills**	**0.58**	**148**	IAML		05 02 55.6	
	comp=E,1μm,0.3s						
WSHM				IAML		05 02 56.2	
	comp=E,1μm,0.4s						
WBSM	**Bird Springs**	**0.60**	**202**		Pg	05 02 47.2	-0.2
WBSM					Sg	05 02 55.4	+0.2
LRMC	**Laurel Mtn Rad**	**0.63**	**166**		Pg	05 02 47.8	-0.3
LRMC					Sg	05 02 56.4	+0.1
ISA	**Isabella, Lake**	**0.66**	**229**		Pg	05 02 48.3	-0.3
ISA	**Isabella, Lake**	**0.66**	**229**		Sg	05 02 57.2	+0.1
ISA	**Isabella, Lake**	**0.66**	**229**	IAML		05 02 57.4	
	comp=E,2μm,0.4s						
ISA				IAML		05 02 57.4	
	comp=N,2μm,0.5s						
WASM	**Alta Sierra Ca**	**0.67**	**238**		Pg	05 02 48.5	-0.3
WASM					Sg	05 02 57.6	+0.2
CCCA	**Chr Cany lake**	**0.70**	**144**		Pg	05 02 49.5	+0.2
CCCA					Sg	05 02 59.4	+1.0
SPG2	**Springville 2**	**0.74**	**279**		Pg	05 02 49.6	-0.6
SPG2					Sg	05 02 59.3	-0.5
DTP	**Desert Tortois**	**0.82**	**179**		Pg	05 02 51.2	-0.6
DTP					Sg	05 03 02.1	-0.3
FURC	**Furnace Creek,**	**0.89**	**65**		Pg	05 02 53.0	0.0
FURC					Sg	05 03 05.0	+0.4
CCAC	**Calif City Air**	**0.95**	**188**		Pg	05 02 53.5	-0.6
CCAC					Sg	05 03 06.3	-0.1
GWY	**Greenwater Val**	**0.97**	**84**		Pg	05 02 54.2	-0.4
GWY					Sg	05 03 07.1	-0.1
GWY				IAML		05 03 10.5	
	comp=E,892nm,0.4s						
GWY				IAML		05 03 10.8	
	comp=N,938nm,0.4s						
TIN	**Tinemaha, Big**	**1.00**	**343**		Pg	05 02 55.0	-0.2
TIN	**Tinemaha, Big**	**1.00**	**343**		Sg	05 03 08.6	+0.3
TIN	**Tinemaha, Big**	**1.00**	**343**	IAML		05 03 10.8	
	comp=N,1μm,0.5s						
TIN				IAML		05 03 12.6	
	comp=E,1μm,0.6s						
VES	**Vestal, Richgr**	**1.02**	**256**		Pg	05 02 55.2	-0.4
VES	**Vestal, Richgr**	**1.02**	**256**		Sg	05 03 08.2	-0.6
VES	**Vestal, Richgr**	**1.02**	**256**	IAML		05 03 13.5	
	comp=N,2μm,0.4s						
VES				IAML		05 03 15.0	
	comp=E,2μm,0.5s						
TEJ	**El Tejon**	**1.09**	**218**		Pg	05 02 56.0	-0.9
TEJ					Sg	05 03 10.6	-0.5
SGV	**South Grapevin**	**1.11**	**37**		Pg	05 02 56.5	-0.7
SGV					Sg	05 03 11.9	+0.2
LCH	**Last Change Ra**	**1.15**	**9**		Pg	05 02 56.9	-1.1
GSC	**Goldstone, Bar**	**1.17**	**132**		Pg	05 02 57.6	-0.8
GSC				IAML		05 03 16.3	
	comp=N,271nm,0.7s						
GSC				IAML		05 03 21.7	
	comp=E,399nm,0.9s						
EDW2	**Edwards Air Fo**	**1.21**	**185**		Pg	05 02 58.1	-1.2
WCT	**Wildcat Mounta**	**1.22**	**55**		Pg	05 02 58.6	-0.8
WCT				IAML		05 03 18.1	
	comp=E,441nm,0.9s						
WCT				IAML		05 03 20.4	
	comp=N,268nm,1.1s						
ARVC	**Arvin**	**1.25**	**220**		Pg	05 02 59.1	-0.7
ARVC					Sg	05 03 15.2	-0.7
TPO	**Tropico Hills**	**1.25**	**194**		Pg	05 02 58.8	-1.1
TPO					Sg	05 03 15.7	-0.3
TPO				IAML		05 03 21.0	
	comp=N,384nm,0.9s						
TPO				IAML		05 03 21.7	
	comp=E,414nm,0.8s						
VOG	**Valley Oaks Go**	**1.25**	**281**		Pg	05 02 59.1	-0.8
HYS	**Haystack Butte**	**1.25**	**169**		Pg	05 02 58.8	-1.1
BAKC	**Calstate**	**1.26**	**234**		Pg	05 02 59.8	-0.3
DSP	**Deep Springs**	**1.28**	**356**	Pg	Pg	05 02 59.4	-1.0
DSP					Sg	05 03 16.8	-0.2
TJR	**Tejon Ranch**	**1.28**	**214**		Pg	05 02 59.4	-1.2
GMN	**Gold Mountain**	**1.30**	**22**	Pg	Pg	05 02 59.8	-1.1
SHOC	**Shoshone, Teco**	**1.30**	**98**	Pg	Pn	05 02 59.2	-1.7
AMDNV	**Amargosa**	**1.33**	**74**		Pn	05 02 59.8	-1.3
AMDNV					Sg	05 03 18.0	-0.6
THC	**Tehachapi Micr**	**1.35**	**209**		Pn	05 03 00.5	-1.2
MTUM	**Tungsten Hills**	**1.38**	**336**		Pn	05 03 01.6	-0.5
SBB	**Saddle Back Bu**	**1.40**	**179**		Pn	05 03 01.4	-0.9
RRX	**Edison Barstow**	**1.41**	**150**		Pb	05 03 02.8	+0.1
RRX					Sb	05 03 20.6	-0.3
LEOC	**Leona Valley**	**1.50**	**194**		Pb	05 03 04.2	-0.2
TPNV	**Topopah Spring**	**1.56**	**56**		Pn	05 03 03.8	-0.7
TPNV				IAML		05 03 26.8	
	comp=E,329nm,0.7s						
TPNV				IAML		05 03 30.8	
	comp=E,369nm,1.1s						
LRRC	**Littlerock Res**	**1.57**	**185**		Pb	05 03 05.2	-0.3
LRRC					Sb	05 03 25.9	+0.2
CJV	**Casa Juvan**	**1.58**	**188**		Pb	05 03 05.6	-0.1
CJV					Sb	05 03 26.2	+0.2
HOLC	**Holcomb Ridge**	**1.63**	**179**		Pn	05 03 06.0	+0.5
HOLC					Sb	05 03 27.7	+0.1
OSI	**Osito Audit: C**	**1.63**	**206**		Pn	05 03 05.5	0.0
OSI				IAML		05 03 33.6	
	comp=N,251nm,0.5s						
OSI				IAML		05 03 34.0	
	comp=E,190nm,0.7s						
JNH	**Juniper Hills**	**1.64**	**183**		Pn	05 03 04.7	-0.9
MPI	**Mount Pinos, F**	**1.65**	**220**		Pn	05 03 06.1	+0.2
TUQ	**Turquoise Moun**	**1.71**	**112**		Pn	05 03 05.2	-1.4
MLAC	**Mammoth, Mammo**	**1.72**	**333**		Pb	05 03 07.9	-0.3
CRGC	**Crocker Grade**	**1.74**	**241**		Pb	05 03 07.8	-0.6
CHFC	**Chilao Flat St**	**1.76**	**184**		Pb	05 03 08.9	+0.1
MCSM	**Casa Diablo Ho**	**1.77**	**332**		Pb	05 03 08.8	-0.3
HEC	**Hector,Ludlow**	**1.77**	**135**		Pn	05 03 08.5	-0.5
MDPB	**Devils Postpil**	**1.82**	**328**		Pb	05 03 09.2	-0.8
MDPB				IAML		05 03 33.8	
	comp=N,333nm,0.4s						
MDPB				IAML		05 03 34.4	
	comp=E,200nm,0.4s						
BFSC	**Mount Baldy Ra**	**1.86**	**175**		Pn	05 03 07.9	-0.7
BFSC				IAML		05 03 35.2	
	comp=E,119nm,0.6s						
BFSC				IAML		05 03 35.4	
	comp=N,174nm,0.3s						
MWC	**Mount Wilson**	**1.87**	**185**		Pn	05 03 07.5	-1.3
MWC				IAML		05 03 36.3	
	comp=E,117nm,0.3s						
MWC				IAML		05 03 36.5	
	comp=N,126nm,0.5s						
SSK	**Sunset Peak**	**1.88**	**176**		Pn	05 03 09.4	+0.3
SMMC	**Simmler**	**1.90**	**247**		Pn	05 03 10.0	+0.9
PASC	**Pasadena Art C**	**1.94**	**188**		Pn	05 03 09.1	-0.5
MTPC	**Mountain Pass**	**1.97**	**107**		Pn	05 03 09.1	-1.2
TPH	**Tonopah**	**2.04**	**14**		Pn	05 03 11.3	0.0
TSCN	**Private Proper**	**2.09**	**256**		Pb	05 03 13.9	-0.5
PSMM	**Smith Mountain**	**2.21**	**270**		Pb	05 03 15.1	-1.5
LHV	**Little Huntoon**	**2.21**	**347**		Pn	05 03 12.8	-0.6
LHV				IAML		05 03 52.1	
	comp=E,92nm,0.7s						
LHV				IAML		05 04 05.5	
	comp=N,67nm,1.2s						
SHPR	**Sheep Range**	**2.22**	**79**		Pn	05 03 13.1	-0.6
GMRC	**Granite Mounta**	**2.22**	**125**		Pn	05 03 11.6	-2.0
BREC	**Barre Substati**	**2.28**	**182**		Pn	05 03 14.3	0.0
NV11	**Mina Array Sit**	**2.35**	**354**		Pn	05 03 14.6	-0.7
NVAR	**Mina Array Bea**	**2.36**	**352**		Pn	05 03 15.7	+0.1
PMPB	**Monarch Peak**	**2.38**	**274**		Pn	05 03 15.3	-0.5
PMPB				IAML		05 03 52.8	
	comp=N,170nm,0.9s						
PMPB				IAML		05 03 57.4	
	comp=E,162nm,0.9s						
BUCR	**Buckhorn Ranch**	**2.42**	**311**		Pn	05 03 16.3	0.0
BUCR				IAML		05 03 53.1	
	comp=N,166nm,0.5s						
MYLM	**Yosemite Lake**	**2.42**	**303**		Pb	05 03 18.9	-1.2
ELS	**Elsinore Mount**	**2.47**	**172**		Pn	05 03 16.6	-0.3
V12A	**Nelson**	**2.47**	**98**		Pn	05 03 16.1	-1.0
V12A				IAML		05 04 09.5	
	comp=N,49nm,1.1s						
TPC	**Twentynine Pal**	**2.48**	**143**		Pn	05 03 16.2	-0.9
RAMR	**Ramage Ranch**	**2.48**	**260**		Pn	05 03 17.2	0.0
DANC	**Danby, Needles**	**2.50**	**125**		Pn	05 03 16.0	-1.3
DANC				IAML		05 04 02.1	
	comp=E,106nm,0.6s						
DANC				IAML		05 04 08.2	
	comp=N,90nm,0.5s						
POB	**Polly Butte**	**2.52**	**162**		Pn	05 03 17.5	-0.2
RYN	**Ryan**	**2.58**	**348**	Pn	Pn	05 03 17.4	-1.2
BELC	**Belle Mtn. Jos**	**2.59**	**143**		Pn	05 03 17.4	-1.3
BELC				IAML		05 03 59.0	
	comp=N,51nm,0.9s						
BELC				IAML		05 04 07.8	
	comp=E,48nm,0.7s						
BBGB	**Big Mountain B**	**2.61**	**282**		Pn	05 03 17.6	-1.3
PRN	**Pahroc Range**	**2.61**	**59**		Pn	05 03 19.0	0.0
PCCM	**Crazy Canyon**	**2.67**	**271**		Pn	05 03 21.4	+1.7
WAKR	**Walker**	**2.71**	**333**	Pn	Pn	05 03 18.4	-2.1
WAKR				IAML		05 04 07.2	
	comp=E,50nm,1.1s						
DNR	**Dunn Ranch,Anz**	**2.72**	**158**		Pn	05 03 18.7	-1.7
DNR				IAML		05 04 06.5	
	comp=N,131nm,0.4s						
PMD	**Palm Desert**	**2.73**	**153**	Pn	Pn	05 03 19.6	-0.9
PFO	**Pinyon Flats O**	**2.73**	**155**		Pn	05 03 20.1	-0.6
HULI	**Fort Hunter Li**	**2.73**	**269**		Pn	05

comp=E,31nm,1.0s
SPR3 IAML 05 04 47.3
comp=N,34nm,0.9s
SZCU Shurtz Canyon 4.11 67 IAML 05 04 47.1
comp=E,14nm,0.3s
KNB Kanab 4.16 76 IAML 05 04 50.5
comp=N,16nm,1.0s
KNB IAML 05 04 57.6
comp=E,18nm,1.9s
BEKR Beckworth 4.25 333 IAML 05 04 53.1
comp=N,19nm,0.6s
Y14A Wickenburg 4.53 117 IAML 05 05 08.7
comp=E,13nm,0.9s
Y14A IAML 05 05 08.9
comp=N,14nm,0.8s
113A Mohawk Valley, 4.74 133 IAML 05 05 18.2
comp=N,9.0nm,1.9s
ELK Elko 5.08 23 IAML 05 05 21.0
comp=N,6.3nm,0.7s
WUAZ Wupatki 5.30 94 IAML 05 05 23.5
comp=N,12nm,0.8s
WUAZ IAML 05 05 27.1
comp=N,10nm,0.9s

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*NEIC **23** 05:12:04.4±0.7,8.6°N±0.1°×126.8°E±0.1°,h35km±2km, mb4.5/13, Error ellipse: s-maj=29.3km s-min=7.9km az=130.0*
*IDC **23** 05:12:05.1±0.9,9.39°N×126.33°E,h0km,mb3.9/12, mbtmp3.9/13,ML4.6/1,MS3.4/4, Error ellipse: s-maj=36.9km s-min=16.5km az=76.0*
ISC 23 05:12:09.8±0.7,9.37N±0.07°×126.3E±0.2°,h35km,n39, σ1s01/31,mb4.3/19,MS3.4/3,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.39**	**197**	Pn	Pn	05 12 34.7	-12
DAV	**Davao City (W)**	**2.39**	**197**	Pn	**Pn**	**05 12 46.1**	**-0.4**
	138nm,0.3s,baz=39,slow=10,SNR=2.1						
DAV				Sn	**Sn**	**05 13 14.2**	**-0.4**
	198nm,0.3s,baz=76,slow=18,SNR=7.4						
DAV				LR	LR	05 13 50.3	
	comp=Z,748nm,18.1s,baz=336,slow=43 440nm,0.3s						
CM31	**Chiang Mai Arr**	**27.98**	**292**	P	**P**	**05 17 56.4**	**-1.1**
CM31				IAmb	IAmb	05 18 05.2	
	comp=Z,8.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**27.98**	**292**	P	**P**	**05 17 56.4**	**-1.2**
CMAR	**Chiang Mai Arr**	**27.98**	**292**	P	**P**	**05 17 59.0**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=104,slow=8.9,SNR=5.8						
CMAR				LR	LR	05 30 09.7	
	comp=Z,28nm,19.1s,baz=105,slow=39 comp=Z,1.1nm,0.3s						
WRA	**Warramunga Arr**	**30.20**	**165**	P	**P**	**05 18 17.7**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=344,slow=9.1,SNR=2.4 comp=Z,0.3nm,0.5s						
ASAR	**Alice Springs**	**33.68**	**167**	P	**P**	**05 18 48.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=349,slow=9.0,SNR=6.0 comp=Z,0.2nm,0.3s						
USRK	**Ussuriysk Ar.**	**35.05**	**7**	P	**P**	**05 19 00.7**	**+1.4**
	comp=Z,3.4nm,0.7s,baz=186,slow=10,SNR=4.5 comp=Z,3.4nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**40.18**	**72**	T	T	06 02 42.5	
	baz=262,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy**	**40.20**	**72**	T	T	06 02 35.4	
	baz=262,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**40.20**	**72**	T	T	06 02 35.7	
	baz=262,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy**	**40.55**	**71**	T	T	06 03 23.6	
	baz=265,slow=74,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**40.55**	**71**	T	T	06 03 19.1	
	baz=265,slow=74,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**40.56**	**71**	T	T	06 03 20.7	
	baz=265,slow=74,SNR=5.3						
SONM	**Songino Array**	**41.85**	**340**	P	**P**	**05 19 57.5**	**+0.9**
SONM	**Songino Array**	**41.85**	**340**	P	**P**	**05 19 56.8**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=143,slow=9.9,SNR=2.1 comp=Z,0.2nm,0.4s						
PEA0B	**Petropavlovsk-**	**50.45**	**24**	P	**P**	**05 21 01.6**	**-2.4**
PETK	**Petropavlovsk-**	**50.45**	**24**	P	**P**	**05 21 01.7**	**-2.3**
MK31	**Makanchi Array**	**52.74**	**323**	P	**P**	**05 21 22.0**	**+0.7**
MK31				IAmb	IAmb	05 21 22.8	
	comp=Z,2.2nm,0.8s						
MKAR	**Makanchi Array**	**52.74**	**323**	P	**P**	**05 21 21.8**	**+0.5**
MKAR	**Makanchi Array**	**52.74**	**323**	P	**P**	**05 21 22.2**	**+0.9**
	comp=Z,4.1nm,0.8s,baz=123,slow=7.7,SNR=20 comp=Z,4.1nm,0.8s						
MAKZ	**Makanchi**	**52.93**	**323**	P	**P**	**05 21 23.4**	**+0.8**
MAKZ				IAmb	IAmb	05 21 24.2	
	comp=Z,5.3nm,1.1s						
KDJ	**Kajisay**	**53.92**	**316**	P	**P**	**05 21 30.5**	**+0.3**
KDJ				IAmb	IAmb	05 21 31.6	
	comp=Z,3.2nm,0.9s						
NIL	**Nilore**	**54.23**	**305**	P	**P**	**05 21 32.9**	**+0.4**
NIL				IAmb	IAmb	05 21 35.1	
	comp=Z,8.0nm,0.8s						
ZALV	**Zalesovo Beam**	**55.41**	**332**	P	**P**	**05 21 40.9**	**+0.3**
KURK	**Kurchatov**	**56.80**	**326**	P	**P**	**05 21 51.2**	**+0.7**
KURK				IAmb	IAmb	05 21 52.2	
	comp=Z,4.6nm,0.8s						
KURBB	**Kurchatov Arra**	**56.80**	**326**	P	**P**	**05 21 51.0**	**+0.4**
	comp=Z,2.4nm,0.6s,baz=125,slow=6.5,SNR=16 comp=Z,2.4nm,0.6s						
SHEM	**Shemya Is, Ala**	**57.91**	**32**	LR	LR	05 49 12.4	
	comp=Z,27nm,18.2s,baz=142,slow=38						
KK31	**Karatay Array**	**58.88**	**315**	P	**P**	**05 22 05.6**	**+0.3**
KK31				IAmb	IAmb	05 22 36.9	
	comp=Z,4.2nm,1.5s						
KKAR	**Karatay Array**	**58.88**	**315**	P	**P**	**05 22 05.6**	**+0.3**
BVAR	**Borovoye Array**	**62.40**	**326**	P	**P**	**05 22 29.8**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=120,slow=8.5,SNR=5.3 comp=Z,1.0nm,0.5s						
AB31	**Akbulak array**	**67.55**	**320**	P	**P**	**05 23 01.4**	**-1.3**
ABKAR	**Akbulak array**	**67.55**	**320**		**P**	**05 23 01.5**	**-1.2**
RAYN	**Ar Rayn**	**77.90**	**292**	P	**P**	**05 24 03.8**	**-1.0**
ILAR	**Eielson Array**	**80.24**	**26**	P	**P**	**05 24 16.9**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=263,slow=5.2,SNR=2.0 comp=Z,0.2nm,0.6s						
ASF	**Jabal al Asfar**	**84.55**	**302**	LR	LR	06 08 38.3	
	comp=Z,39nm,19.0s,baz=245,slow=40						
FINES	**FINESS Array B**	**86.67**	**332**	P	**P**	**05 24 50.0**	**+0.3**
	comp=Z,2.6nm,1.0s,baz=82,slow=5.7,SNR=3.9 comp=Z,2.6nm,1.0s						
AKASG	**Malin Array Be**	**87.25**	**321**	P	**P**	**05 24 52.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=66,slow=5.7,SNR=2.7 comp=Z,0.2nm,0.3s						
VNDA	**Vanda**	**89.05**	**173**	P	**P**	**05 25 01.7**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=310,slow=8.8,SNR=3.8 comp=Z,0.3nm,0.6s						

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*NEIC **23** 05:15:49.9±2.0,39.98N±0.01°×111.94W±0.02,h5km±1km, Error ellipse: s-maj=2.5km s-min=2.1km az=323.0*
UUSS 23 05:15:50.4±2.1,39.97N±0.01°×111.91W±0.01,h6km±2km, ML2.5/14,ML2.7/131(NEIC),Error ellipse: s-maj=1.6km s-min=1.3km az=175.0,Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMUT	**West Mountain**	**0.12**	**31**		Pg	05 15 53.2	+0.2
WMUT					Sg	05 15 55.3	+0.5
NLU	**North Lily Min**	**0.13**	**261**	Pg	Pg	05 15 53.5	+0.4
NLU				Sg	Sg	05 15 54.1	-0.8
NLU				IAML		05 15 56.3	
	comp=E,3μm,0.6s						
NLU				IAML		05 15 57.5	
	comp=N,2μm,0.4s						
MPU	**Maple Canyon**	**0.22**	**79**		Pg	05 15 55.0	+0.2
MPU				Sg	Sg	05 15 57.4	-0.3
MPU				IAML		05 16 00.5	
	comp=E,964nm,0.3s						
LEVU	**Levan**	**0.47**	**171**		Pg	05 15 59.8	+0.3
WTU	**Western Traver**	**0.48**	**356**		Pg	05 16 00.1	+0.4
CWU	**Camp Williams**	**0.49**	**343**		Pg	05 16 00.3	+0.4
GMU	**Granite Mounta**	**0.61**	**11**		Pg	05 16 02.0	-0.2
FLU	**Fool Peak**	**0.63**	**199**		Pg	05 16 02.5	0.0
ELU	**Electric Lake**	**0.64**	**121**		Pg	05 16 03.4	+0.7
DAU	**Daniels Canyon**	**0.67**	**49**		Pg	05 16 03.6	+0.4
MHD	**Mile High Driv**	**0.69**	**7**		Pg	05 16 03.6	-0.1
NOQ	**North Oquirrh**	**0.70**	**347**		Pg	05 16 04.2	+0.5
JLU	**Jordanelle**	**0.72**	**29**		Pg	05 16 04.4	+0.1
JLU				Sg	Sg	05 16 12.9	-0.8
CTU	**Camp Tracy**	**0.73**	**10**		Pg	05 16 04.2	-0.2
HLJ	**Hailstone**	**0.75**	**32**		Pg	05 16 05.2	+0.5
KLJ	**Keetly**	**0.76**	**30**		Pg	05 16 05.3	+0.3
RBU	**Red Butte Cany**	**0.81**	**6**		Pg	05 16 05.8	-0.2
TMUT	**Trail Mountain**	**0.87**	**141**		Pg	05 16 07.1	0.0
TMUT				Sg	Sg	05 16 18.3	-0.1
HTU	**Hoyt Peak**	**0.88**	**37**		Pb	05 16 07.7	-0.5
SAIU	**Southern Antel**	**0.90**	**347**		Pg	05 16 07.7	0.0
WCU	**Willow Creek**	**1.02**	**188**		Pb	05 16 10.4	-0.2
P17A	**Butcher Ranch,**	**1.03**	**119**		Pg	05 16 09.9	-0.3
P17A				Sg	Sg	05 16 24.1	+0.5
P17A				IAML		05 16 28.6	
	comp=N,99nm,0.8s						
BSUT	**Blindstream Ca**	**1.04**	**57**	Pg	Pg	05 16 09.9	-0.5
BSUT				IAML		05 16 28.2	
	comp=E,138nm,0.5s						
BSUT				IAML		05 16 29.1	
	comp=N,118nm,0.8s						
FPU	**Francis Peak**	**1.05**	**3**		Pg	05 16 10.7	+0.1
FSU	**Fish Springs**	**1.17**	**258**		Pb	05 16 12.9	-0.1
Q16A	**Castle Valley**	**1.20**	**151**	Pg	Pg	05 16 13.3	-0.1
Q16A				IAML		05 16 32.9	
	comp=N,157nm,0.5s						
Q16A				IAML		05 16 37.4	
	comp=E,147nm,0.6s						
TCUT	**Toone Canyon**	**1.21**	**18**	Pg	Pg	05 16 12.7	-0.8
TCUT				IAML		05 16 38.9	
	comp=E,186nm,0.7s						
BGU	**Big Grassy Mou**	**1.28**	**318**		Pg	05 16 13.7	-1.2
P18A	**Preston Nutter**	**1.33**	**105**		Pn	05 16 15.7	0.0
SRU	**San Rafael Swe**	**1.38**	**128**		Pn	05 16 16.1	-0.2
SRU				IAML		05 16 38.7	
	comp=N,161nm,0.5s						
SRU				IAML		05 16 39.5	
	comp=E,107nm,0.4s						
EPU	**East Promontor**	**1.47**	**345**		Pn	05 16 16.9	-0.6
HWUT	**Hardware Ranch**	**1.65**	**9**		Pn	05 16 20.7	+0.6
HWUT				IAML		05 16 46.7	
	comp=E,49nm,0.7s						
SPR3	**Spring Creek 3**	**2.11**	**243**	Pn	Pn	05 16 26.5	0.0
HMU	**Henry Mountain**	**2.23**	**155**	Pn	Pn	05 16 27.5	-0.6
HMU				IAML		05 17 06.0	
	comp=N,92nm,0.7s						
SZCU	**Shurtz Canyon**	**2.55**	**201**	Pn	Pn	05 16 31.9	-0.5
ELK	**Elko**	**2.66**	**288**	Pn	Pn	05 16 33.3	-0.6
CCUT	**Cedar City**	**2.67**	**206**	Pn	Pn	05 16 33.7	-0.5
PV21	**Cone Mtn., Par**	**2.68**	**121**	Pn	Pn	05 16 34.3	0.0
PV21				IAML		05 17 22.5	
	comp=N,56nm,0.5s						
PV21				IAML		05 17 29.2	
	comp=E,41nm,0.5s						
PV23	**Carpenter Ridg**	**2.72**	**123**	Pn	Pn	05 16 34.7	-0.2
PV10	**Paradox Valley**	**2.75**	**125**	Pn	Pn	05 16 36.5	+1.4
PV14	**Lion Creek, Pa**	**2.76**	**125**	Pn	Pn	05 16 35.6	+0.3
PV14				IAML		05 17 22.1	
	comp=E,51nm,0.6s						
PV19	**Morning Glory**	**2.82**	**125**	Pn	Pn	05 16 36.5	+0.3
PV22	**Blue Mesa, Par**	**2.82**	**120**	Pn	Pn	05 16 35.9	-0.2
PV22				IAML		05 17 27.0	
	comp=E,45nm,1.0s						
PV04	**Paradox Valley**	**2.82**	**123**	Pn	Pn	05 16 36.0	-0.2
PV04				IAML		05 17 30.1	
	comp=N,45nm,1.2s						
PV04				IAML		05 17 30.6	
	comp=E,46nm,0.8s						
O20A	**White River Ci**	**2.82**	**86**	Pn	Pn	05 16 36.2	0.0
O20A				IAML		05 17 20.9	
	comp=E,38nm,0.3s						
O20A				IAML		05 17 36.8	
	comp=E,44nm,1.2s						
PV17	**East Wray Mesa**	**2.85**	**125**	Pn	Pn	05 16 36.2	-0.5
PV17				IAML		05 17 25.9	
	comp=N,36nm,0.8s						
PV17				IAML		05 17 28.5	
	comp=E,39nm,0.6s						
PV16	**Nyswonger Mesa**	**2.86**	**125**	Pn	Pn	05 16 37.1	+0.3
PV05	**Paradox Valley**	**2.90**	**130**	Pn	Pn	05 16 38.0	+0.8
PV11	**David Mesa, Pa**	**2.90**	**124**	Pn	Pn	05 16 37.6	+0.4
PV18	**Skein Mesa, Pa**	**2.91**	**125**	Pn	Pn	05 16 37.2	-0.1
PV18				IAML		05 17 39.2	
	comp=E,49nm,0.7s						
PV12	**Saucer Basin,**	**2.93**	**123**	Pn	Pn	05 16 37.1	-0.6
PV03	**Paradox Valley**	**2.94**	**125**	Pn	Pn	05 16 37.6	-0.2
PV03				IAML		05 17 24.1	
	comp=N,29nm,0.5s						
PV03				IAML		05 17 28.4	
	comp=E,31nm,0.6s						
PV07	**Paradox Valley**	**2.96**	**120**	Pn	Pn	05 16 37.2	-0.9
PV07				IAML		05 17 30.1	
	comp=E,31nm,0.6s						
PV07				IAML		05 17 32.9	
	comp=N,34nm,0.8s						
PV13	**Radium Mtn., P**	**3.01**	**126**	Pn	Pn	05 16 37.6	-1.3
PV13				IAML		05 17 36.6	
	comp=N,37nm,0.7s						
PV13				IAML		05 17 37.1	
	comp=E,36nm,0.6s						
PV02	**Paradox Valley**	**3.04**	**125**	Pn	Pn	05 16 37.7	-1.5
KNB	**Kanab**	**3.04**	**194**	Pn	Pn	05 16 38.6	-0.5
PV15	**Paradox Valley**	**3.13**	**120**	Pn	Pn	05 16 38.8	-1.6
PV15				IAML		05 17 31.1	
	comp=E,32nm,0.6s						
PV15				IAML		05 17 33.3	
	comp=N,34nm,0.7s						
LCMT	**Little Creek M**	**3.14**	**200**	Pn	Pn	05 16 38.7	-1.8
PV01	**Paradox Valley**	**3.19**	**124**	Pn	Pn	05 16 39.7	-1.5
PV01				IAML		05 17 33.6	
	comp=E,17nm,2.1s						
PV01				IAML		05 17 34.7	
	comp=N,23nm,1.1s						
R11B	**Troy Canyon, C**	**3.28**	**242**	Pn	Pn	05 16 41.7	-0.8
R11B				IAML		05 17 38.5	
	comp=E,11nm,0.5s						
BW06	**Boulder Array**	**3.31**	**32**	Pn	Pn	05 16 41.1	-1.7
PD31	**Pinedale Array**	**3.31**	**32**	Pn	Pn	05 16 40.7	-2.2
PDAR	**Pinedale Array**	**3.31**	**32**	Pn	Pn	05 16 40.9	-2.0
PRN	**Pahroc Range**	**3.55**	**225**	Pn	Pn	05 16 44.4	-1.8
PRN				IAML		05 17 48.3	
	comp=N,15nm,0.4s						
PRN				IAML		05 17 59.2	
	comp=E,12nm,0.6s						
TPAW	**Teton Pass**	**3.59**	**11**	Pn	Pn	05 16 44.5	-2.2
TPAW				IAML		05 17 20.1	
	comp=E,10.0nm,3.6s						
SNOW	**Snow King Moun**	**3.59**	**14**	Pn	Pn	05 16 44.5	-2.4
SNOW				IAML		05 17 59.8	
	comp=E,11nm,2.5s						
SNOW				IAML		05 18 23.3	
	comp=E,10nm,4.0s						
HAYD	**Hayden**	**3.60**	**80**	Pn	Pn	05 16 44.7	-2.2
HAYD				IAML		05 17 53.1	
	comp=E,28nm,0.9s						
LOHW	**Long Hollow**	**3.77**	**15**	Pn	Pn	05 16 47.5	-1.7
LOHW				IAML		05 17 59.6	
	comp=E,6.6nm,2.5s						
S11A	**Rachel**	**3.79**	**233**	Pn	Pn	05 16 48.4	-1.1
S11A				IAML		05 17 59.8	
	comp=N,21nm,1.1s						
MVCO	**Mesa Verde**	**3.84**	**135**	Pn	Pn	05 16 48.6	-1.7
HLID	**Hailey**	**4.04**	**333**	Pn	Pn	05 16 52.5	-0.4
HLID				IAML		05 19 05.3	
	comp=N,5.3nm,4.3s						
Q09A	**Carvers**	**4.24**	**256**	Pn	Pn	05 16 55.5	-0.1
SHPR	**Sheep Range**	**4.30**	**217**	Pn	Pn	05 16 55.2	-1.3
YPP	**Pitchstone Pla**	**4.37**	**11**	Pn	Pn	05 16 55.9	-1.7
YPP				IAML		05 17 34.9	
	comp=N,7.1nm,4.0s						
YPP				IAML		05 19 34.0	
	comp=E,6.1nm,4.5s						
WUAZ	**Wupatki**	**4.47**	**174**	Pn	Pn	05 16 57.0	-1.8
ISCO	**Idaho Springs**	**4.85**	**90**	Pn	Pn	05 17 02.4	-1.8
ISCO				IAML		05 18 16.0	
	comp=E,3.7nm,4.0s						
ISCO				IAML		05 18 30.8	
	comp=E,4.8nm,1.3s						
K22A	**Casper**	**4.86**	**55**	Pn	Pn	05 17 02.8	-1.3
K22A				IAML		05 18 28.0	
	comp=E,9.1nm,0.7s						
K22A				IAML		05 18 30.4	
	comp=E,11nm,0.8s						
MCMT	**McKenzie Canyo**	**4.90**	**352**	Pn	Pn	05 17 03.5	-1.3
NV11	**Mina Array Sit**	**5.09**	**254**	Pn	Pn	05 17 05.5	-1.8
NV11				IAML		05 18 54.7	
	comp=E,4.7nm,4.2s						
NV11				IAML		05 19 09.1	
	comp=N,5.9nm,4.7s						
NVAR	**Mina Array Bea**	**5.20**	**255**	Pn	Pn	05 17 05.9	-3.0
YNE	**Yellowstone No**	**5.22**	**15**	Pn	Pn	05 17 06.6	-2.6
YNE				IAML		05 17 55.6	
	comp=N,7.3nm,1.9s						
YNE				IAML		05 17 55.7	
	comp=E,5.4nm,0.1s						
RYN	**Ryan**	**5.30**	**257**	Pn	Pn	05 17 08.2	-2.0
RYN				IAML		05 18 44.3	
	comp=E,6.7nm,0.8s						
LHV	**Little Huntoon**	**5.41**	**254**	Pn	Pn	05 17 09.7	-1.8
SDCO	**Great Sand Dun**	**5.48**	**112**	Pn	Pn	05 17 10.9	-1.9
RLMT	**Red Lodge**	**5.50**	**20**	Pn	Pn	05 17 10.6	-2.4
X16A	**Lo Mia Camp, P**	**5.56**	**176**	Pn	Pn	05 17 11.9	-1.9

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*IDC **23** 06:10:20.6±2.4,4.77S×131.06E,h0km,mb3.7/2, mbtmp3.9/5,ML4.1/3,Error ellipse: s-maj=124.0km s-min=25.9km az=77.0*
*NEIC **23** 06:10:27.8±0.8,5.01S±0.07×130.8E±0.2,h51km±9km, mb4.2/12,Error ellipse: s-maj=28.4km s-min=9.8km az=98.0*
*DJA **23** 06:10:31.2±0.6,4°S±3°×13°E±°,h32km±9km,M4.6/12, mB5.1/1,mb4.7/3,MLv4.5/12,Mw(mB)4.5/1*
ISC 23 06:10:26.2±0.6,4.99S±0.04×130.72E±0.04,h50km,n36, σ2s52/45,mb4.0/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.93**	**300**	P	**Pn**	**06 10 46.1**	**+3.1**
BNDI				S	**Sn**	**06 10 57.6**	**+2.2**
MSAI	**Masohi**	**2.42**	**312**	P	**Pn**	**06 11 03.6**	**+0.3**
MSAI				S	**Sn**	**06 11 29.5**	**-2.2**
FAKI	**Fak Fak**	**2.56**	**37**		**Pn**	**06 11 06.0**	**+0.7**
FAKI	**Fak Fak**	**2.56**	**37**	P	**Pn**	**06 11 05.8**	**+0.5**
FAKI				S	**Sn**	**06 11 32.7**	**-2.6**
AAI	**Ambon**	**2.83**	**297**	P	**Pn**	**06 11 10.4**	**+1.5**
SAUI	**Saumlaki**	**3.03**	**169**	Pn	**Pn**	**06 11 12.5**	**+0.8**
KMPI	**Kaimana, Papua**	**3.26**	**66**	P	**Pn**	**06 11 18.1**	**+3.3**
NLAI	**Namlea**	**4.01**	**296**	P	**Pn**	**06 11 27.4**	**+2.3**
SWI	**Sorong**	**4.14**	**8**	P	**Pn**	**06 11 25.2**	**-1.7**
SWI				S	**Sn**	**06 12 07.4**	**-6.6**
RKPI	**Ransiki, Papua**	**4.89**	**45**	P	**Pn**	**06 11 37.8**	**+0.6**
RKPI				S	**Sn**	**06 12 30.8**	**-1.7**
LBMI	**Labuha**	**5.39**	**323**	P	**Pn**	**06 11 42.8**	**-1.2**
LBMI				S	**Sn**	**06 12 40.4**	**-4.4**
SANI	**Sanana**	**5.55**	**302**	P	**Pn**	**06 11 45.8**	**-0.5**
BAKI	**Biak**	**6.57**	**55**	P	**Pn**	**06 12 02.9**	**+2.6**
	0.5nm2μm146nm,0.5s						
BAKI				S	**Sn**	**06 13 14.2**	**+0.2**
	0.5nm2μm146nm,0.5s						
MTN	**Manton Dam**	**7.81**	**177**	Pn	**Pn**	**06 12 18.5**	**+1.2**
FITZ	**Fitzroy Crossi**	**13.94**	**200**	Pn	**Pn**	**06 13 42.2**	**+1.1**
FITZ	**Fitzroy Crossi**	**13.94**	**200**	Pn	**Pn**	**06 13 42.4**	**+1.3**
	0.7nm,0.3s,baz=39,slow=10,SNR=20						
FITZ				Sn	**Sn**	**06 16 08.6**	**-5.8**
	1.4nm,0.3s,baz=203,slow=20,SNR=6.3 1.6nm,0.3s						
WB0	**Warramunga Arr**	**15.12**	**167**		**Pn**	**06 13 57.3**	**+0.7**
WRA	**Warramunga Arr**	**15.27**	**167**	Pn	**Pn**	**06 13 57.9**	**-0.8**
	0.7nm,0.3s,baz=354,slow=14,SNR=12						
WRA				Sn	**Sn**	**06 16 40.1**	**-6.8**
	1.8nm,0.3s,baz=346,slow=24,SNR=8.2 1.1nm,0.4s						
WR8	**Warramunga Arr**	**15.32**	**166**	Pn	**Pn**	**06 13 59.8**	**+0.4**
AS31	**Alice Springs**	**18.82**	**171**	P	**P**	**06 14 41.2**	**-0.6**
ASAR	**Alice Springs**	**18.82**	**171**	P	**P**	**06 14 41.4**	**-0.5**
ASAR	**Alice Springs**	**18.82**	**171**	P	**Pn**	**06 14 45.1**	**+2.3**
	0.6nm,0.3s,baz=350,slow=9.7,SNR=48						
ASAR				S	**Sn**	**06 18 07.1**	**-5.7**
	2.2nm,0.7s,baz=357,slow=30,SNR=9.3 3.4nm,0.6s						
MBWA	**Marble Bar**	**19.29**	**213**	P	**Pn**	**06 14 48.7**	**+0.3**
MBWA				IAmb	IAmb	06 14 51.2	
	comp=Z,34nm,1.4s						
PSA00	**Pilbara Seismi**	**19.56**	**212**	P	**Pn**	**06 14 52.3**	**+0.6**
PSA00				IAmb	IAmb	06 15 17.0	
	comp=Z,34nm,1.4s						
PSA00	**Pilbara Seismi**	**19.56**	**212**	P	**Pn**	**06 14 52.5**	**+0.9**
PSA00				IAmb	IAmb	06 15 34.1	
	comp=Z,8.6nm,1.3s						
GIRL	**Giralia**	**23.70**	**221**	P	**P**	**06 15 35.2**	**+1.6**
FORT	**Forrest**	**25.77**	**185**	P	**P**	**06 15 52.7**	**+0.3**
FORT				IAmb	IAmb	06 15 56.1	
	comp=Z,7.1nm,1.2s						
CN2	**Changchun**	**48.80**	**355**	*e*P	P	06 19 13.1	+6.8
CN2				pP	sP	06 19 20.8	-1.9
PEA0B	**Petropavlovsk-**	**62.21**	**18**	P	**P**	**06 20 43.5**	**+1.1**
PETK	**Petropavlovsk-**	**62.21**	**18**	P	**P**	**06 20 43.5**	**+1.1**
MK31	**Makanchi Array**	**66.96**	**326**	P	**P**	**06 21 15.3**	**+1.7**
MKAR	**Makanchi Array**	**66.96**	**326**	P	**P**	**06 21 14.8**	**+1.1**
MKAR	**Makanchi Array**	**66.96**	**326**	P	**P**	**06 21 16.6**	**+2.9**
	comp=Z,0.3nm,0.4s,baz=115,slow=6.9,SNR=5.0 comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**71.19**	**328**	P	**P**	**06 21 39.7**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=124,slow=7.3,SNR=2.1 comp=Z,0.2nm,0.3s						
VNDA	**Vanda**	**74.34**	**173**	P	**P**	**06 21 59.1**	**+1.0**
VNDA				IAmb	IAmb	06 22 10.1	
	comp=Z,3.5nm,1.5s						
QSPA	**South Pole Qui**	**84.97**	**180**	P	**P**	**06 22 56.5**	**+0.5**
QSPA				IAmb	IAmb	06 23 41.0	
	comp=Z,2.5nm,1.2s						

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*IDC **23** 06:23:48.5±1.6,10.52N×41.25E,h0km,mb3.8/8, mbtmp3.8/8,MS3.5/15,Error ellipse: s-maj=38.3km s-min=25.5km az=7.0*
ISC 23 06:23:49.7±1.3,10.4N±0.2×41.2E±0.2,h10km,n22, σ1s46/10,mb3.8/9,MS3.5/15,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMAI	**Mount Meron Ar**	**23.11**	**347**	LR	LR	06 36 25.4	
	comp=Z,47nm,19.1s,baz=154,slow=33						
GNI	**Garni**	**29.76**	**5**	LR	LR	06 42 24.8	
	comp=Z,68nm,18.8s,baz=182,slow=38						
BRTR	**Keskin Array B**	**29.94**	**348**	P	**P**	**06 29 59.0**	**+0.7**
	0.6nm,0.7s,baz=181,slow=12,SNR=3.6 0.6nm,0.7s						
KEST	**Kesra**	**38.35**	**316**	LR	LR	06 48 44.8	
	comp=Z,80nm,18.5s

comp=Z,33nm,19.1s,baz=124,slow=34
0.5nm,0.8s

*OSPL **23** 06:38:05.5±1.2, 18°.46N×70°.30W, h3km±14km, ML1.9*
*SDD **23** 06:38:05.5±2.2, 18°.55N×70°.26W, h12km±26km, MD3.0, ML1.7, MW2.0*

ISC 23 06:38:04.1±0.9, **18°.39N**±0°.06×**70°.23W**±0°.03, **h14**km±8km, **n16**, σ1§**98**/24, **13C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LOSC1	**San Cristbal**	**0.12**	**82**	*i* P	**Pg**	**06 38 06.3**	**-1.1**
LOSC1				*e*S	**Sg**	**06 38 09.6**	**-0.1**
LOSC1				IAML		06 38 09.8	
	comp=Z,1μm,1.2s						
SDD	**Santo Domingo**	**0.31**	**77**↑	*e*Sg	**Sg**	**06 38 17.1**	**+2.3**
SDD				IAML		06 38 17.7	
	comp=N,28nm,0.1s						
SDD	**Santo Domingo**	**0.31**	**77**	*i* P	**Pg**	**06 38 12.0**	**+1.6**
SDD				*e*S	**Sg**	**06 38 17.0**	**+2.3**
ABDR	**Alto Bandera**	**0.56**	**318**↑	*e*Pg	**Pg**	**06 38 13.7**	**-1.6**
ABDR				↑*e*Sg	**Sb**	**06 38 21.2**	**-2.9**
ABDR				IAML		06 38 23.5	
	comp=N,61nm,0.2s						
PODR	**Polo**	**1.02**	**258**↑	*e*Pg	**Pb**	**06 38 22.9**	**-0.9**
PODR				↑*e*Sg	**Sg**	**06 38 38.6**	**+1.3**
PODR				IAML		06 38 42.4	
	comp=N,11nm,1.2s						
PODR	**Polo**	**1.02**	**258**	*i* P	**Pb**	**06 38 22.9**	**-0.9**
NEDR	**Neiba UASD**	**1.13**	**275**↑	*e*Sg	**Sg**	**06 38 41.2**	**+0.5**
NEDR				IAML		06 39 12.7	
	comp=N,20nm,3.0s						
SDDR	**Presa de Saban**	**1.16**	**301**↑	*e*Sg	**Sb**	**06 38 39.1**	**-1.9**
SDDR				IAML		06 39 21.2	
	comp=N,13nm,2.8s						
LODU1	**El Espartillar**	**1.18**	**268**	*i* P	**Pb**	**06 38 25.6**	**-0.7**
LODU1				IAML		06 38 44.4	
	comp=Z,24nm,1.7s						
LONE3	**El Aguacate, B**	**1.19**	**281**	*i* P	**Pb**	**06 38 25.1**	**-1.4**
LONE3				*e*S	**Sb**	**06 38 41.2**	**-0.6**
LONE3				IAML		06 38 43.2	
	comp=Z,13nm,2.3s						
LOVI	**El Cajuil, Ovi**	**1.23**	**242**	*i* P	**Pn**	**06 38 26.8**	**-0.2**
LOVI				*e*S	**Sb**	**06 38 43.4**	**+0.5**
LOVI				IAML		06 38 50.1	
	comp=Z,14nm,0.8s						
MIDR	**Miches**	**1.27**	**62**↑	*e*Pg	**Pn**	**06 38 26.8**	**-0.6**
MIDR				↑*e*Sg	**Sb**	**06 38 43.3**	**-0.6**
MIDR				IAML		06 38 54.3	
	comp=N,9.4nm,1.1s						
REDR	**Restauracion**	**1.35**	**305**↑	*e*Pg	**Pg**	**06 38 32.7**	**+2.7**
REDR				↑*e*Sg	**Sg**	**06 38 53.3**	**+5.8**
REDR				IAML		06 38 59.3	
	comp=N,14nm,0.5s						
LOBH	**Bahia de las A**	**1.44**	**249**	*i* P	**Pn**	**06 38 29.8**	**+0.1**
LOBH				IAML		06 38 59.1	
	comp=Z,18nm,4.9s						
HIDR	**Higuey Centro**	**1.45**	**82**↑	*e*Sg	**Sg**	**06 38 52.2**	**+1.4**
HIDR				IAML		06 38 53.2	
	comp=N,22nm,1.2s						
JIDR	**Jimani**	**1.54**	**274**↑	*e*Sg	**Sg**	**06 38 54.1**	**+0.3**
JIDR				IAML		06 39 13.0	
	comp=N,12nm,3.9s						

IDC 23 06:43:14.6±15.0, **8°.99S**×**119°.87E, h170**km±99km, **mb3.8**/1, **mbtmp3.8**/4, **Error ellipse: s-maj=149.0km s-min=114.2km az=70.0, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.65**	**149**	P	Pn	06 45 42.7	-0.1
	3.1nm,1.1s,baz=326,slow=11,SNR=2.6						
FITZ				S	S	06 47 41.7	-0.2
	1.2nm,0.3s,baz=195,slow=20,SNR=8.9						
WRA	**Warramunga Arr**	**17.72**	**129**	P	P	06 47 09.2	-0.4
	0.5nm,0.5s,baz=305,slow=13,SNR=12						
ASAR	**Alice Springs**	**19.83**	**139**	P	P	06 47 32.7	+0.3
	1.7nm,0.4s,baz=315,slow=10.0,SNR=34						
STKA	**Stephens Creek**	**30.42**	**142**	P	P	06 49 11.0	0.0
	1.4nm,0.3s,baz=320,slow=8.7,SNR=4.8						
	1.4nm,0.3s						

*AZER **23** 06:50:18.8, 41°.95N×50°.33E, h56km, ml3.5*
*MOS **23** 06:50:22.0, 41°.86N×50°.04E, h29km, MPVA4.0*
*NNC **23** 06:50:23.6±4.5, 42°.13N×50°.99E, h0km, mb3.7, Error ellipse: s-maj=57.8km s-min=30.3km az=99.0*
*DRS **23** 06:50:25.1, 41°.98N×49°.91E, h54km*

ISC 23 06:50:19.0±0.9, **41°.91N**±0°.03×**50°.35E**±0°.04, **h21**km±4km, **n66**, σ1§**93**/125, **5C-2D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NDR	**Nardaran**	**1.35**	**192**	Pg	**Pb**	**06 50 45.8**	**+2.1**
NDR				Sn	**Sb**	**06 51 02.0**	**+1.4**
SIZA	**Siyzn**	**1.37**	**233**	Pn	**Pb**	**06 50 45.7**	**+1.6**
SIZA				Sn	**Sb**	**06 51 02.4**	**+1.3**
ATGJ	**Altiaghaj**	**1.49**	**226**	Pg	**Pb**	**06 50 46.9**	**+0.8**
ATGJ				Sn	**Sb**	**06 51 05.2**	**+0.6**
QUBA	**Quba, Azerbaij**	**1.50**	**249**	Pg	**Pb**	**06 50 47.5**	**+1.3**
QUBA				Sn	**Sb**	**06 51 07.0**	**+2.3**
GALA	**Gala**	**1.51**	**186**	Sn	**Sb**	**06 51 07.5**	**+2.6**
DRN	**Derbent**	**1.51**	**275**	*e*P	**Pb**	**06 50 45.7**	**-0.6**
DRN				*e*S	**Sn**	**06 51 02.3**	**-1.6**
DRN				pmax	pmax		
	comp=Z,45nm,0.1s						
DRN	**Derbent**	**1.51**	**275**	*e*Pg	**Pn**	**06 50 45.1**	**+0.2**
DRN				*e*Sg	**Sn**	**06 51 03.6**	**-0.3**
GOBA	**Gobu**	**1.58**	**197**	Pg	**Pb**	**06 50 49.0**	**+1.5**
GOBA				Sn	**Sb**	**06 51 09.4**	**+2.4**
QSAR	**Qusar**	**1.61**	**257**	Pg	**Pb**	**06 50 48.7**	**+0.6**
QSAR				Sn	**Sb**	**06 51 09.0**	**+1.0**
KSMR	**Kasumkent**	**1.69**	**260**	P	**Pb**	**06 50 49.6**	**+0.2**
KSMR				S	**Sn**	**06 51 09.0**	**+0.5**
KSMR	**Kasumkent**	**1.69**	**260**	*e*Pg	**Pb**	**06 50 49.7**	**+0.2**
KSMR				*e*Sg	**Sn**	**06 51 09.0**	**+0.5**
PQL	**Pirkuli**	**1.73**	**230**	Pn	**Pb**	**06 50 50.1**	**-0.1**
PQL				Sn	**Sb**	**06 51 11.2**	**-0.4**
GBS	**Qobustan**	**1.74**	**218**	Pn	**Pb**	**06 50 51.0**	**+0.8**
GBS				Sn	**Sb**	**06 51 12.7**	**+1.1**
XNQ	**Khinaliq**	**1.81**	**247**	Pg	**Pb**	**06 50 51.3**	**-0.4**
XNQ				Sn	**Sb**	**06 51 13.4**	**-0.6**
IML	**Ismayilli**	**1.98**	**236**	Pn	**Pn**	**06 50 52.8**	**+1.5**
IML				Sn	**Sn**	**06 51 15.9**	**+0.3**
AKT	**Akhty**	**2.01**	**259**	*d* iP	**Pb**	**06 50 54.2**	**-0.7**
AKT				*e*S	**Sb**	**06 51 18.0**	**-1.5**
AKT				pmax	pmax		
	comp=Z,412nm,0.2s						
AKT				smax	smax		
	comp=Z,931nm,0.3s						
AKT	**Akhty**	**2.01**	**259**	*e*Pg	**Pb**	**06 50 54.1**	**-0.7**
AKT				*e*Sg	**Sn**	**06 51 17.4**	**+1.1**
URKR	**Urkarakh**	**2.04**	**278**	*e*P	**Pb**	**06 50 54.6**	**-0.8**
URKR				*e*S	**Sn**	**06 51 18.0**	**+0.8**
URKR				pmax	pmax		
	comp=Z,29nm,0.1s						
URKR	**Urkarakh**	**2.04**	**278**	*e*Pg	**Pb**	**06 50 54.6**	**-0.8**
URKR				*e*Sg	**Sb**	**06 51 19.0**	**-1.4**
SGKR	**Sergokala**	**2.07**	**286**	*e*P	**Pb**	**06 50 55.0**	**-1.0**
SGKR				*e*S	**Sn**	**06 51 19.2**	**+1.3**
SGKR				pmax	pmax		
	comp=Z,41nm,0.3s						
QBL	**Gabala**	**2.12**	**244**	Pn	**Pb**	**06 50 55.2**	**-1.5**
QBL				Sn	**Sn**	**06 51 19.4**	**+0.4**
ALIB	**&Aumlli-Bayram**	**2.20**	**208**	Pn	**Pb**	**06 50 57.0**	**-1.0**
ALIB				Sn	**Sn**	**06 51 22.4**	**+1.5**
KDMR	**Kurdemir**	**2.24**	**228**	Pn	**Pn**	**06 50 55.8**	**+0.9**
KDMR				Sn	**Sn**	**06 51 22.4**	**+0.4**
MAK	**Makhachkala**	**2.35**	**297**	*e*P	**Pn**	**06 50 54.5**	**-1.9**
MAK				*e*S	**Sb**	**06 51 28.3**	**-1.0**
MAK				pmax	pmax		
	comp=Z,21nm,0.3s						
MAK				smax	smax		
	comp=N,150nm,0.6s						
MAK				smax	smax		
	comp=N,130nm,0.6s						
MAK				MLR	MLR		
	comp=Z,44nm,7.0s						
KMKR	**Kumukh**	**2.43**	**276**	*e*P	**Pb**	**06 51 01.2**	**-1.0**
KMKR				*e*S	**Sb**	**06 51 29.4**	**-2.3**
KMKR				pmax	pmax		
	comp=Z,20nm,0.3s						
KMKR	**Kumukh**	**2.43**	**276**	*e*Pg	**Pb**	**06 51 01.2**	**-1.0**
KMKR				*e*Sg	**Sb**	**06 51 29.5**	**-2.3**
SEKA	**Sheki**	**2.47**	**255**	Pg	**Pb**	**06 51 02.6**	**-0.1**
SEKA				Sn	**Sn**	**06 51 28.9**	**+1.2**
SAAT	**Saatly**	**2.51**	**216**	Pn	**Pn**	**06 51 00.6**	**+1.9**
SAAT				Sn	**Sn**	**06 51 28.6**	**0.0**
ARKR	**Arakani**	**2.58**	**287**	*e*P	**Pb**	**06 51 02.6**	**-2.1**
ARKR				*e*S	**Sn**	**06 51 32.7**	**+2.2**
ARKR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ARKR	**Arakani**	**2.58**	**287**	*e*Pn	**Pn**	**06 51 02.7**	**-2.1**
ARKR				*e*Sn	**Sn**	**06 51 32.8**	**+2.2**
ZRD	**Zardab**	**2.59**	**232**	Pn	**Pn**	**06 51 00.8**	**+1.1**
ZRD				Sn	**Sn**	**06 51 30.6**	**+0.1**
KRNR	**Karanay**	**2.71**	**291**	*e*P	**Pb**	**06 51 04.2**	**-2.7**
KRNR				*e*S	**Sn**	**06 51 35.8**	**+2.1**
KRNR				pmax	pmax		
	comp=Z,7.0nm,0.2s						
KRNR	**Karanay**	**2.71**	**291**	*e*Pn	**Pn**	**06 51 02.8**	**+1.3**
KRNR				*e*Sn	**Sn**	**06 51 33.7**	**0.0**
UNCR	**Uncukul**	**2.76**	**288**	*e*P	**Pb**	**06 51 05.1**	**-2.5**
UNCR				*e*S	**Sn**	**06 51 37.5**	**+2.8**
UNCR				pmax	pmax		
	comp=Z,8.0nm,0.2s						
UNCR	**Uncukul**	**2.76**	**288**	*e*Pn	**Pb**	**06 51 05.1**	**-2.5**
UNCR				*e*Sn	**Sn**	**06 51 37.5**	**+2.8**
HNZR	**Khunzah**	**2.77**	**285**	P	**Pb**	**06 51 05.7**	**-2.3**
HNZR				S	**Sn**	**06 51 38.1**	**+2.7**
XNZR	**Khunzakh**	**2.78**	**284**	*e*Pn	**Pb**	**06 51 05.7**	**-2.4**
XNZR				*e*Sn	**Sn**	**06 51 36.9**	**+1.4**
ZKTA	**Zakatala**	**2.80**	**266**	Pg	**Pn**	**06 51 05.2**	**+2.6**
ZKTA				Sn	**Sn**	**06 51 37.5**	**+1.6**
TLTR	**Tlyarata**	**2.98**	**275**	P	**Pn**	**06 51 08.3**	**+3.0**
TLTR				S	**Sn**	**06 51 42.7**	**+2.2**
TLTR	**Tlyarata**	**2.98**	**275**	*e*Pn	**Pn**	**06 51 08.4**	**+3.0**
TLTR				*e*Sn	**Sn**	**06 51 42.2**	**+1.7**
AGDM	**Agdam**	**3.04**	**235**	Pn	**Pn**	**06 51 06.2**	**+0.2**
AGDM				Sn	**Sn**	**06 51 39.9**	**-1.9**
BLQ	**Beylaqan**	**3.04**	**225**	Pn	**Pn**	**06 51 06.0**	**0.0**
BLQ				Sn	**Sn**	**06 51 38.0**	**-3.8**
GLBA	**Clilabad**	**3.05**	**210**	Pn	**Pn**	**06 51 06.2**	**+0.1**
GLBA				Sn	**Sn**	**06 51 38.5**	**-3.5**
BTLR	**Botlikh**	**3.15**	**285**	P	**Pn**	**06 51 10.2**	**+2.7**
BTLR				S	**Sn**	**06 51 46.2**	**+1.6**
BTLR	**Botlikh**	**3.15**	**285**	*e*Pn	**Pn**	**06 51 10.2**	**+2.7**
BTLR				*e*Sn	**Sn**	**06 51 45.5**	**+0.9**
GANJ	**Ganja**	**3.29**	**249**	Pn	**Pn**	**06 51 09.2**	**-0.1**
GANJ				Sn	**Sn**	**06 51 44.5**	**-3.3**
DVE	**Vedeno**	**3.30**	**290**	*e*Pn	**Pb**	**06 51 13.7**	**-3.1**
DVE				*e*Sn	**Sn**	**06 51 48.8**	**+0.7**
QRD	**Qoradiz**	**3.36**	**224**	Pn	**Pn**	**06 51 10.1**	**-0.2**
QRD				Sn	**Sn**	**06 51 44.9**	**-4.7**
YRD	**Yardimli**	**3.40**	**209**	Pn	**Pn**	**06 51 10.0**	**-1.0**
YRD				Sn	**Sn**	**06 51 45.0**	**-5.7**
LKRN	**Lenkeran, Azer**	**3.41**	**201**	Pn	**Pn**	**06 51 11.6**	**+0.5**
LKRN				Sn	**Sn**	**06 51 46.7**	**-4.2**
ASTR	**Astara**	**3.55**	**200**	Pn	**Pn**	**06 51 11.9**	**-1.1**
ASTR				Sn	**Sn**	**06 51 50.2**	**-4.1**
LRK	**Lerik**	**3.61**	**206**	Pn	**Pn**	**06 51 12.9**	**-1.0**
LRK				Sn	**Sn**	**06 51 52.1**	**-3.9**
GDB	**GEDABAY**	**3.66**	**253**	Pn	**Pn**	**06 51 14.5**	**-0.1**
GDB				Sn	**Sn**	**06 51 54.0**	**-3.2**
QZX	**Qazax, Azerbai**	**3.83**	**259**	Pn	**Pn**	**06 51 17.0**	**+0.1**
QZX				Sn	**Sn**	**06 51 59.7**	**-1.6**
SBZ	**Shahbuz**	**4.43**	**237**	Pn	**Pn**	**06 51 26.1**	**+1.0**
SBZ				Sn	**Sn**	**06 52 14.9**	**-1.2**
ORD	**Ordubad**	**4.46**	**230**	Pn	**Pn**	**06 51 25.8**	**+0.2**
ORD				Sn	**Sn**	**06 52 12.9**	**-4.0**
GNI	**Garni**	**4.59**	**249**‖	*e*P	**Pn**	**06 51 30.1**	**+2.7**
GNI				*e*S	**Sb**	**06 52 30.8**	**-3.1**
GNI				pmax	pmax		
	comp=Z,14nm,1.0s						
GNI				smax	smax		
	comp=Z,15nm,2.0s						
PYA1	**Pyatigorsk**	**5.74**	**294**↑	*e*P	Pn	06 51 47.1	+4.1
KBZ	**Khabaz**	**5.77**	**291**	*e*Pn	**Pn**	**06 51 44.2**	**+0.8**
KBZ				*e*Sn	**Sn**	**06 52 46.7**	**-2.3**
SHA1	**Shidzhatmaz**	**5.94**	**290**	*c* iP	**Pn**	**06 51 48.7**	**+2.7**
AB31	**Akbulak array**	**9.95**	**39**	Pn	**Pn**	**06 52 41.8**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=218,slow=13,SNR=36						
AB31				↑Sn	**Sn**	**06 54 30.7**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=201,slow=24,SNR=4.4						
AB31	**Akbulak array**	**9.95**	**39**	P	**Pn**	**06 52 41.8**	**+1.0**
AB31				S	**Sn**	**06 54 30.7**	**-1.0**
AKTO	**Aktyubinsk**	**10.04**	**29**	↑Pn	**Pn**	**06 52 43.2**	**+1.2**
	comp=Z,0.8nm,0.4s						
AKTO				↑Sn	**Sn**	**06 54 32.1**	**-1.9**
	comp=Z,1.3nm,0.6s						
AKTO	**Aktyubinsk**	**10.04**	**29**	P	Pn	06 52 48.2	+6.2
AKTO				SN	**Sn**	**06 54 32.1**	**-1.9**
KK31	**Karatay Array**	**14.92**	**79**	P	**Pn**	**06 53 48.4**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=269,slow=17,SNR=7.7						
OBN	**Obninsk**	**16.02**	**330**	*e*P	**P**	**06 54 06.8**	**+0.6**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						

IDC 23 06:53:57.6±13.0, **21°.84S**×**179°.55W, h583**km±89km, **mb3.2**/4, **mbtmp4.2**/6, **Error ellipse: s-maj=189.6km s-min=23.9km az=41.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.00**	**266**	P	P	06 56 48.1	+1.4
	5.7nm,0.7s,baz=122,slow=14,SNR=12						
URZ	**Urewera**	**16.61**	**189**	P	P	06 57 19.0	-2.1
	4.2nm,0.3s,baz=276,slow=2.5,SNR=12						
ASAR	**Alice Springs**	**42.82**	**258**	P	P	07 01 05.8	+0.3
	3.6nm,0.8s,baz=94,slow=8.1,SNR=30						
ASAR				S	S	07 06 53.2	+4.6
	0.6nm,0.8s,baz=94,slow=14,SNR=5.1						
	3.6nm,0.8s						
WRA	**Warramunga Arr**	**43.00**	**264**	P	P	07 01 06.2	-0.7
	2.2nm,0.6s,baz=98,slow=8.6,SNR=23						
	2.2nm,0.6s						
VNDA	**Vanda**	**56.45**	**185**	P	P	07 02 44.8	+0.4
	0.6nm,0.5s,baz=7.5,slow=7.4,SNR=8.6						
	0.6nm,0.5s						
QSPA	**South Pole Qui**	**68.23**	**180**	P	P	07 04 00.7	0.0
	1.7nm,0.6s,baz=107,slow=0.8,SNR=11						
	1.7nm,0.6s						

*IDC **23** 07:09:00.6±0.6, 36°.08N×27°.19E, h0km, mb4.2/18, mbtmp4.2/24, ML4.1/5, MS2.9/7, Error ellipse: s-maj=15.0km s-min=11.4km az=156.0*
*ISK **23** 07:09:02.6, 36°.02N×27°.23E, h12km, ML4.0/60*
*GII **23** 07:09:02.5±0.0, 35°.74N±0°.02×27°.298E±0°.007, h14km, Mws4.0, confirmed*
*AFAD **23** 07:09:02.4, 36°.01N×27°.08E, h30km±1km, MW4.0*
*MOS **23** 07:09:02.6±1.2, 36°.01N×27°.33E, h19km, mb4.5/11, Error ellipse: s-maj=6.7km s-min=4.5km az=77.5*
*THE **23** 07:09:03.7, 36°.N±2°.×2°.7E±°, h17km±6km, M4.0/21, MLh4.0/21*
*NEIC **23** 07:09:03.7±1.9, 35°.95N±0°.06×27°.30E±0°.04, h17km±4km, mb4.3/24, Error ellipse: s-maj=8.2km s-min=5.2km az=177.0*
*MCSM **23** 07:09:03.6±0.4, 36°.N±4°.×2°.7E±°, h10km, mb4.2, mB4.3, MLv4.0, Mw(mB)3.4*
*ATH **23** 07:09:04.0, 35°.96N×27°.28E, h14km±1km, ML4.1/7, Manual Solution by S.Koutrakis First location: 2019/09/23 07:10:17, This location: 2019/09/23 07:16:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*NIC **23** 07:09:04.4, 35°.91N×27°.37E, h16km, Ml4.4/13*
*HLW **23** 07:09:05.1, 35°.89N×27°.43E, h11km±1km, Md3.6, Ml4.3*

ISC 23 07:09:04.0±0.3, **35°.96N**±0°.02×**27°.30E**±0°.02, **h21**km±2km, **n380**, σ1§**45**/428, **mb4.3**/35, **MS2.9**/4, **17C-18D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.43**	**196**	Pg	**Pb**	**07 09 12.6**	**-0.2**
KARP				Sg	**Sb**	**07 09 19.6**	**+0.8**
KARP	**Karpathos**	**0.43**	**196**		**Pb**	**07 09 12.4**	**-0.4**
KARP				Sg	**Sb**	**07 09 19.4**	**+0.6**
KARP	**Karpathos**	**0.43**	**196**	P	**Pb**	**07 09 12.6**	**-0.2**
KARP				S	**Sb**	**07 09 19.6**	**+0.8**
KARP	**Karpathos**	**0.43**	**196**	P	**Pb**	**07 09 12.7**	**-0.1**
KARP				S	**Sb**	**07 09 19.4**	**+0.6**
KARP				AML	AML	07 09 21.3	
	70nm,0.1s						
KARP				AML	AML	07 09 21.4	
	75nm,0.1s						
KARP	**Karpathos**	**0.43**	**196**	P	**Pb**	**07 09 12.1**	**-0.7**
KARP	**Karpathos**	**0.43**	**196**	P	**Pb**	**07 09 12.6**	**-0.2**
KARP				S	**Sb**	**07 09 19.2**	**+0.4**
NISR	**Nisiros**	**0.66**	**348**	P	**Pb**	**07 09 16.2**	**-0.7**
NISR				S	**Sn**	**07 09 26.9**	**-1.0**
NISR	**Nisiros**	**0.66**	**348**	P	**Pb**	**07 09 17.0**	**+0.1**
NISR				S	**Sb**	**07 09 25.6**	**-0.1**
ARG	**Arkhangelos**	**0.71**	**69**	Pg	**Pb**	**07 09 17.2**	**-0.5**
ARG				Sg	**Sn**	**07 09 28.2**	**-1.0**
ARG	**Arkhangelos**	**0.71**	**69**		**Pb**	**07 09 17.2**	**-0.5**
ARG				Sg	**Sb**	**07 09 26.4**	**-0.7**
ARG	**Arkhangelos**	**0.71**	**69**	P	**Pb**	**07 09 17.1**	**-0.7**
ARG				S	**Sb**	**07 09 27.5**	**+0.3**
ARG	**Arkhangelos**	**0.71**	**69**	P	**Pb**	**07 09 17.0**	**-0.7**
ARG				S	**Sb**	**07 09 27.4**	**+0.3**
ARG	**Arkhangelos**	**0.71**	**69**	P	**Pb**	**07 09 17.3**	**-0.5**
ARG				S	**Sb**	**07 09 27.8**	**+0.7**
ARG				AML	AML	07 09 31.1	
	112nm,0.5s						
ARG				AML	AML	07 09 31.1	
	243nm,0.4s						
ARG	**Arkhangelos**	**0.71**	**69**	P	**Pb**	**07 09 17.5**	**-0.2**
ARG				S	**Sb**	**07 09 27.4**	**+0.3**
YAZI	**Mula-Dat§a-**	**0.73**	**10**	P	**Pb**	**07 09 16.9**	**-1.0**
DAT	**Datca**	**0.80**	**16**	Pg	**Pb**	**07 09 17.9**	**-1.3**
DAT	**Datca**	**0.80**	**16**	S	**Sb**	**07 09 30.2**	**+0.6**
DAT	**Datca**	**0.80**	**16**	S	**Sb**	**07 09 30.1**	**+0.6**
YKAV	**Yalikavak-Bodr**	**1.16**	**359**	Pn	**Pn**	**07 09 24.4**	**-0.6**
ZKR	**Zakros**	**1.23**	**227**	Pn	**Pb**	**07 09 26.3**	**-0.1**
ZKR				Sn	**Sn**	**07 09 42.9**	**+1.1**
ZKR	**Zakros**	**1.23**	**227**	P	**Pb**	**07 09 26.8**	**+0.3**
ZKR	**Zakros**	**1.23**	**227**	P	**Pb**	**07 09 26.7**	**+0.3**
ZKR				AML	AML	07 09 43.9	
	28nm,0.5s						
ZKR				S	**Sn**	**07 09 44.1**	**+2.2**
ZKR				AML	AML	07 09 45.5	
	17nm,0.7s						
ZKR	**Zakros**	**1.23**	**227**	P	**Pb**	**07 09 26.8**	**+0.3**
ZKR				S	**Sn**	**07 09 42.0**	**+0.2**
DIDI	**Didim-Aydin**	**1.41**	**358**	Pn	**Pn**	**07 09 28.1**	**-0.4**
MULA	**Mugla, Merkez-**	**1.53**	**32**	S	**Sb**	**07 09 51.4**	**+0.8**
THERA	**Ancient Thera,**	**1.53**	**286**	P	**Pn**	**07 09 29.4**	**-0.8**
THERA				S	**Sn**	**07 09 49.5**	**+0.1**
THERA	**Ancient Thera,**	**1.53**	**286**	P	**Pn**	**07 09 29.4**	**-0.8**
THERA				S	**Sb**	**07 09 50.5**	**-0.1**
NPS	**Neapolis**	**1.54**	**244**	P	**Pn**	**07 09 30.4**	**+0.1**
NPS				S	**Sn**	**07 09 50.3**	**+0.6**
NPS	**Neapolis**	**1.54**	**244**	P	**Pn**	**07 09 30.5**	**+0.2**
NPS				S	**Sn**	**07 09 49.8**	**+0.1**
SNT5	**Nea Kammeni, S**	**1.60**	**286**	P	**Pn**	**07 09 30.2**	**-0.9**
SAP3	**Santorini-Thir**	**1.65**	**287**	P	**Pn**	**07 09 31.9**	**-0.1**
GCAM	**G?zelcaml?**	**1.73**	**358**	Pn	**Pn**	**07 09 32.6**	**-0.3**
SMG	**Samos**	**1.78**	**348**	P	**Pn**	**07 09 32.6**	**-1.0**
SMG	**Samos**	**1.78**	**348**	P	**Pn**	**07 09 34.6**	**+1.0**
APE	**Apeiranthos**	**1.81**	**308**	Pn	**Pn**	**07 09 33.8**	**-0.1**
APE	**Apeiranthos**	**1.81**	**308**↑	P	**Pb**	**07 09 35.2**	**-1.2**
APE	**Apeiranthos**	**1.81**	**308** *c* iP		**Pb**	**07 09 37.5**	**+1.2**
KSL	**Kastellorizon**	**1.86**	**84**	P	**Pn**	**07 09 35.5**	**+0.9**
KSL				S	**Sb**	**07 09 58.8**	**-1.2**
KSL				AML	AML	07 10 08.4	
	5.5nm,0.8s						
KSL				AML	AML	07 10 11.4	
	3.9nm,1.3s						
KSL	**Kastellorizon**	**1.86**	**84**	P	**Pn**	**07 09 35.8**	**+1.2**
KSL				S	**Sb**	**07 09 59.1**	**-0.9**
AKAS	**Kas**	**1.88**	**81**	Pn	**Pb**	**07 09 36.8**	**-0.9**
AKAS	**Kas**	**1.88**	**81**		**Pn**	**07 09 35.6**	**+0.5**
CAME	**Cameli-Denizli**	**1.89**	**58**	Pn	**Pn**	**07 09 35.7**	**+0.6**
IACM	**Heraklion**	**1.93**	**251**	P	**Pn**	**07 09 35.9**	**+0.3**
IACM				S	**Sn**	**07 10 00.2**	**+0.9**
TAVA	**DENIZLI_Tavas**	**1.98**	**40**	S	**Sb**	**07 10 04.7**	**+1.0**
CAEL	**Denizli, Camel**	**1.99**	**54**	S	**Sb**	**07 10 10.0**	**+5.9**
KNIK	**Mula-Seydike**	**2.03**	**64**	P	**Pb**	**07 09 39.5**	**-0.8**
KNIK				S	**Sb**	**07 10 06.7**	**+1.5**
KNIK				*i* IAML		07 10 08.0	
	comp=E,647nm,0.5s						
KNIK				*i* IAML		07 10 10.0	
	comp=N,703nm,0.9s						
AYDB	**Zeytinkoy-Aydi**	**2.04**	**13**	Pn	**Pn**	**07 09 37.2**	**0.0**
IDI	**Anoyia**	**2.08**	**252**	Pn	**Pn**	**07 09 37.3**	**-0.4**
IDI	**Anoyia**	**2.08**	**252**		**Pn**	**07 09 37.8**	**+0.1**
IDI				Sn	**Sn**	**07 10 03.5**	**+0.5**
IDI	**Anoyia**	**2.08**	**252**	P	**Pn**	**07 09 37.7**	**+0.1**
IDI	**Anoyia**	**2.08**	**252**	Pn	**Pn**	**07 09 37.6**	**-0.1**
	217nm,0.3s,baz=349,slow=6.7,SNR=110						
IDI				Sn	**Sb**	**07 10 04.8**	**-1.6**
	156

KYMI Kymi, Euboea I 3.69 317 P Pn 07 09 59.9 +0.1
ALAN Alanya-ANTALYA 3.87 80 Pn Pn 07 10 04.1 +1.9
VILL Villia 3.88 306 P Pn 07 10 02.9 +0.5
TVSB Tavsanli 3.88 26 Pn Pn 07 10 03.1 +0.6
SEYD Seydisehir-KON 3.92 67 Pn Pn 07 10 05.1 +2.0
EZN Ezine 3.93 349 Pn Pn 07 10 01.9 -1.2
EZN Ezine 3.93 349 ⇑P Pn 07 10 02.8 -0.3
EZN Ezine 3.93 349 ⇑P Pn 07 10 02.8 -0.3
BOZC Bozcaada 4.00 346 Pn Pn 07 10 04.4 +0.4
CANM Can-anakkale 4.05 357 Pn Pn 07 10 05.5 +0.8
GAZI Gazipasa 4.07 85 Pn Pn 07 10 06.3 +1.3
GONE Gonen-Balikesi 4.09 4 Pn Pn 07 10 05.9 +0.6
BLVD Bolvadin-AFYON 4.14 46 Pn Pn 07 10 07.6 +1.6
COMU Canakkale 4.18 351 Pn Pn 07 10 07.3 +0.7
AOS Alonnisos 4.20 321 P Pn 07 10 07.2 +0.4
AKMS Akamas 4.21 101 P Pn 07 10 08.1 +1.1
AKMS S Sn 07 10 56.8 +1.3
AKMS AML AML 07 10 58.5
3.3nm,0.7s
AKMS AML AML 07 10 59.4
6.8nm,0.7s
LIA Limnos Island 4.27 338 P Pn 07 10 06.6 -1.1
HDMB Hadim 4.29 75 Pn Pn 07 10 10.5 +2.2
GADA Gvkgeada 4.36 346 Pn Pn 07 10 09.9 +0.9
GOKC Gokceada-Canak 4.37 346 Pn Pn 07 10 09.9 +0.8
ALFC Alefka 4.39 99 P Pn 07 10 10.0 +0.5
ALFC S Sn 07 11 01.2 +1.1
ALFC AML AML 07 11 02.9
4.0nm,0.5s
ALFC AML AML 07 11 03.0
2.6nm,0.8s
KRBG Karabiga-Canak 4.42 360 Pn Pn 07 10 10.7 +0.9
BAND Balkesir-Ban 4.43 8 ⇑P Pn 07 10 11.2 +1.2
NATA Nata 4.46 104 P Pn 07 10 11.2 +0.8
NATA S Sn 07 11 03.3 +1.5
NATA AML AML 07 11 05.5
6.8nm,0.6s
NATA AML AML 07 11 08.3
9.8nm,0.8s
GELI Tayfur-Gelibol 4.48 352 Pn Pn 07 10 10.8 +0.2
ITM Ithomi 4.49 287 Pn 07 10 11.4 +0.6
CIFT Cifteler, Eski 4.52 40 Pn Pn 07 10 12.4 +1.2
BOZY Bozyazi-Mersin 4.60 87 Pn Pn 07 10 14.8 +2.5
MATC Matruh 4.61 181 P Pn 07 10 13.9 +1.5
KLV Kalavryta, Ach 4.62 298 P Pn 07 10 13.7 +1.1
LADK Ladik-KONYA 4.62 60 Pn Pn 07 10 14.8 +2.1
TROD Troodos 4.65 101 P Pn 07 10 13.2 0.0
TROD S Sn 07 11 08.7 +2.0
TROD AML AML 07 11 16.2
1.4nm,0.5s
TROD AML AML 07 11 17.2
2.2nm,0.6s
TEKE Tekeli-Mersin 4.71 86 Pn Pn 07 10 15.1 +1.3
APOL The Sanctuary 4.72 104 P Pn 07 10 14.8 +0.8
APOL S Sn 07 11 10.5 +2.3
APOL AML AML 07 11 13.8
1.9nm,0.4s
APOL AML AML 07 11 24.4
1.5nm,0.6s
XYLS Xyliatos 4.78 100 P Pn 07 10 15.9 +1.0
XYLS S Sn 07 11 10.8 +1.1
XYLS AML AML 07 11 14.3
1.4nm,0.6s
XYLS AML AML 07 11 17.2
1.4nm,0.4s
SLUM Salum 4.79 202 P Pn 07 10 15.7 +0.8
SLUM S Sn 07 11 09.0 -0.7
CAVK Edirne/Enez-Ca 4.80 350 ⇑P Pn 07 10 15.6 +0.6
BERE Bereket-Mersin 4.81 84 Pn Pn 07 10 17.1 +1.8
YLV Yalova 4.88 19 Pn Pn 07 10 17.7 +1.5
AGG Agios Georgios 5.00 309 P Pn 07 10 19.0 +1.2
ASGA Asgata 5.00 102 P Pn 07 10 18.8 +1.0
ASGA S Sn 07 11 16.0 +1.1
ASGA AML AML 07 11 19.3
2.1nm,0.5s
ASGA AML AML 07 11 19.6
2.1nm,0.6s
CSS Mathiatis 5.02 100 Pn Pn 07 10 19.2 +1.1
CSS Mathiatis 5.02 100 07 10 17.8 -0.3
CSS Mathiatis 5.02 100 P Pn 07 10 19.0 +0.9
CSS S Sn 07 11 17.0 +1.5
CSS AML AML 07 11 18.4
0.9nm,0.6s
CSS AML AML 07 11 23.6
0.9nm,0.7s
CSS Mathiatis 5.02 100 P Pn 07 10 18.7 +0.6
0.8nm2µm144nm,0.6s
CSS Mathiatis 5.02 100 P Pn 07 10 17.1 -1.0
CSS Mathiatis 5.02 100 S Sn 07 11 14.9 -0.6
ALN Alexandroupoli 5.02 349 Pn 07 10 18.2 +0.1
ALN Alexandroupoli 5.02 349 P Pn 07 10 18.2 +0.1
AKK1 Akkuyu-Mersin 5.06 86 Pn Pn 07 10 21.5 +2.9
TEPK Tepekoy-MERSIN 5.06 85 Pn Pn 07 10 21.6 +2.9
TISA Tisan-Mersin 5.17 86 Pn Pn 07 10 23.0 +2.9
MVOU Mavrovouni 5.25 99 P Pn 07 10 22.1 +0.9
MVOU S Sn 07 11 22.5 +1.4
MVOU AML AML 07 11 23.9
0.7nm,0.4s
MVOU AML AML 07 11 29.1
0.6nm,0.7s
RDO Rodhopi 5.36 346 Pn 07 10 23.1 +0.5
CTYL Yalikoy Yolu 5.56 8 ⇑P Pn 07 10 26.5 +1.0
LIT Litokhoron 5.61 319 Pn Pn 07 10 26.1 -0.1
LIT Litokhoron 5.61 319 P Pn 07 10 26.1 -0.1
SAHE Sakarya_HENDEK 5.62 29 ⇓P Pn 07 10 27.9 +1.6
ANTO Ankara 5.83 46 Pn 07 10 29.4 +0.1
ANTO Ankara 5.83 46 ⇓P Pn 07 10 31.8 +2.5
ANTO Ankara 5.83 46 ⇓P Pn 07 10 31.8 +2.5
KIRS Kirsehir-Merke 6.13 57 ⇑P Pn 07 10 36.4 +3.0
KNT Kendrikon 6.23 328 P Pn 07 10 37.3 +2.6
BR105 Keskin Array S 6.25 51 P Pn 07 10 37.2 +2.1
0.0nm135nm14nm,0.9s
BR104 Keskin Array S 6.25 51 P Pn 07 10 36.2 +1.0
0.1nm129nm17nm,0.8s
BR106 Keskin Array S 6.25 51 P Pn 07 10 37.4 +2.2
0.0nm122nm13nm,0.7s
BRTR Keskin Array B 6.26 51 Pn 07 10 34.0 -1.2
BRTR Keskin Array B 6.26 51 Pn Pn 07 10 36.9 +1.6
0.9nm,0.3s,baz=225,slow=14,SNR=19
BRTR Sn Sn 07 11 50.9 +4.6
0.7nm,0.3s,baz=207,slow=22,SNR=1.7
3.7nm,0.5s
BR131 Keskin Array S 6.26 51 Pn 07 10 33.8 -1.5
BR131 Keskin Array S 6.26 51 ⇓eP Pn 07 10 37.2 +1.9
SWA2 6.88 194 P Pn 07 10 44.9 +1.3
ELND Elena 7.04 351 ⇓P Pn 07 10 46.3 +0.4
ILGA Ilgaz 7.15 43 Pn Pn 07 10 46.8 -0.7
HHAG Hagoal 7.22 145 P Pn 07 10 50.0 +1.6
HWQ Hawqa 7.28 101 eP Pn 07 10 50.7 +1.4
MMA0B Mount Meron ar 7.30 111 P Pn 07 10 48.2 -1.3
MMA0B Mount Meron ar 7.30 111 S Sn 07 12 10.7 -1.2
MMAI Mount Meron Ar 7.30 111 Pn Pn 07 10 48.9 -0.7
12nm,0.3s,baz=316,slow=12,SNR=13
MMAI Sn Sn 07 12 10.0 -1.9
31nm,0.3s,baz=312,slow=27,SNR=5.4
MMAI LR LR 07 14 48.5
comp=Z,63nm,18.6s,baz=256,slow=47
5.6nm,0.3s
QRWL Qaraoun 7.30 107 eP Pn 07 10 49.7 +0.1
BNN Bunyan 7.38 64 Pn 07 10 48.9 -1.8
BEIL Beino 7.40 98 eP Pn 07 10 50.9 0.0
SLTI Sal'it 7.41 118 P Pn 07 10 49.5 -1.5
SLTI Sal'it 7.41 118 S Sn 07 12 12.4 -2.0
GEM Giv'at Ha'Em 7.42 109 P Pn 07 10 49.7 -1.4
GEM Giv'at Ha'Em 7.42 109 S Sn 07 12 12.7 -2.0
SHBL Chebaa 7.43 108 eP Pn 07 10 49.7 -1.6
RCY Rachaya 7.44 107 eP Pn 07 10 50.9 -0.6
NATI Neve Ativ 7.46 109 P Pn 07 10 50.4 -1.2
NATI Neve Ativ 7.46 109 S Sn 07 12 13.7 -1.8
MMLI Mount Malkishu 7.59 115 P Pn 07 10 51.7 -1.7
MMLI Mount Malkishu 7.59 115 S Sn 07 12 17.4 -1.4
SALP Salfit 7.61 118 P Pn 07 10 52.1 -1.6
SALP Salfit 7.61 118 S Sn 07 12 16.9 -2.5
KSHT Keshet 7.63 110 P Pn 07 10 52.6 -1.4
KSHT Keshet 7.63 110 S Sn 07 12 18.7 -1.2
HMDT Nahal Hemdat 7.76 116 P Pn 07 10 54.0 -1.7
HMDT Nahal Hemdat 7.76 116 S Sn 07 12 21.4 -1.5
KZIT Kziot 7.78 128 P Pn 07 10 53.8 -2.2
KZIT Kziot 7.78 128 S Sn 07 12 20.4 -3.1
UJAP Al Uja 7.87 118 P Pn 07 10 55.3 -1.9
UJAP Al Uja 7.87 118 S Sn 07 12 24.2 -1.5
YTIR Yattir 7.96 123 P Pn 07 10 56.8 -1.8

YTIR Yattir 7.96 123 S Sn 07 12 25.9 -2.2
DSI Dead Sea 8.03 121 P Pn 07 10 57.3 -2.0
DSI Dead Sea 8.03 121 S Sn 07 12 26.7 -2.8
NBNS Bani Suef 8.06 154 P Pn 07 11 01.7 +1.8
MSBI Mazada 8.16 122 P Pn 07 10 59.2 -2.0
MSBI Mazada 8.16 122 S Sn 07 12 29.9 -2.8
GHAJ Ghor Haditha 8.31 122 Pn 07 11 02.9 -0.4
GHAJ Ghor Haditha 8.31 122 P Pn 07 11 01.6 -1.6
GHAJ Ghor Haditha 8.31 122 S Sn 07 12 33.9 -2.5
IDAN Idan 8.40 125 P Pn 07 11 02.9 -1.6
IDAN Idan 8.40 125 S Sn 07 12 35.7 -3.0
ZFRI Zfri 8.52 127 P Pn 07 11 03.9 -2.2
ZFRI Zfri 8.52 127 S Sn 07 12 37.4 -4.1
TIRR Tirgusor 8.53 5 Pn Pn 07 11 07.4 +1.2
TIRR Tirgusor 8.53 5 P Pn 07 11 07.4 +1.2
KRMI Paran Flat 8.53 131 P Pn 07 11 04.2 -2.2
KRMI Paran Flat 8.53 131 S Sn 07 12 38.2 -3.8
PRNI Paran 8.54 129 P Pn 07 11 04.3 -2.2
PRNI Paran 8.54 129 S Sn 07 12 38.7 -3.6
HRFI Mount Harif 8.78 130 P Pn 07 11 07.5 -2.2
HRFI Mount Harif 8.78 130 S Sn 07 12 44.4 -3.6
BOVS Bovan 8.79 332 ⇑P Pn 07 11 09.4 -0.4
ASF Jabal al Asfar 8.81 113 Pn Pn 07 11 11.4 +1.2
0.9nm,0.3s,baz=336,slow=15,SNR=3.9
ASF Sn Sn 07 12 48.6 -0.3
1.9nm,0.3s,baz=118,slow=22,SNR=4.0
3.7nm,0.3s
MBRI Mt Berech 8.87 132 P Pn 07 11 09.0 -2.1
MBRI Mt Berech 8.87 132 S Sn 07 12 47.7 -2.8
TIP Timpagrande 8.96 294 Pn 07 11 12.9 +0.7
TIP Timpagrande 8.96 294 ⇓P Pn 07 11 12.5 +0.2
TIP Timpagrande 8.96 294 P Pn 07 11 12.1 -0.2
321nm38nm,0.8s
PDG Podgorica 8.98 318 Pn Pn 07 11 12.9 +0.5
PDG Podgorica 8.98 318 ⇓P Pn 07 11 15.1 +2.7
EIL Elat 8.99 132 Pn Pn 07 11 11.5 -1.1
3.6nm,0.3s,baz=316,slow=4.5,SNR=28
EIL Sn Sn 07 12 51.0 -2.2
15nm,0.3s,baz=208,slow=6.7,SNR=12
13nm,0.4s
EIL Elat 8.99 132 P Pn 07 11 10.1 -2.4
EIL Elat 8.99 132 S Sn 07 12 49.5 -3.7
CEL Celeste 9.40 287 Pn 07 11 17.9 -0.3
CEL Celeste 9.40 287 P Pn 07 11 18.0 -0.2
24nm,1.1s
MLR Muntele Rosu 9.57 354 Pn Pn 07 11 22.0 +1.3
MLR Muntele Rosu 9.57 354 Pn Pn 07 11 21.6 +1.0
0.4nm,0.3s,baz=162,slow=3.2,SNR=2.4
1.6nm,0.4s
MLR Muntele Rosu 9.57 354 ⇓P Pn 07 11 21.1 +0.4
MLR Muntele Rosu 9.57 354 P Pn 07 11 22.0 +1.3
MDVR Moldovita 9.78 336 ⇓P Pn 07 11 14.4 -9.0
CUC Castrocucco 9.92 297 Pn 07 11 25.9 +0.6
GZR Gura Zlata 10.03 341 ⇑P Pn 07 11 23.3 -3.5
GZR Gura Zlata 10.03 341 ⇑P Pn 07 11 23.3 -3.5
ACER Acerenza 10.13 302 Pn Pn 07 11 28.7 +0.4
RAFF Raffo Rosso 10.48 281 Pn Pn 07 11 33.1 +0.1
PAOL Paolisi 11.19 301 Pn Pn 07 11 41.8 -0.9
BURAR Bucovina Array 11.75 353 Pn Pn 07 11 49.8 -0.5
SOC Sochi 12.20 48 eP Pn 07 11 55.2 -1.3
SOC e 07 14 12.5
SOC MLR MLR
comp=Z,29nm,14.0s
NRCA Norcia 12.93 306 Pn Pn 07 12 07.3 +0.8
FDMO Fiordimonte 13.04 307 Pn Pn 07 12 07.5 -0.6
KOLS Kolonicke sedl 13.48 346 eP P 07 12 25.0 +1.9
SHA1 Shidzhatmaz 14.11 52 ⇓eP Pn 07 12 21.7 -1.1
SOKA Soboth 14.11 323 i P P 07 12 31.3 +1.2
comp=Z,4.3nm,1.1s
KIV Kislovodsk 14.23 51 eP Pn 07 12 23.1 -1.2
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,23nm,13.0s
OBKA Obir 14.23 322 i Pn Pn 07 12 25.1 +0.8
comp=Z,10nm,1.8s
KBZ Khabaz 14.26 52 LR LR 07 19 56.2
comp=Z,34nm,18.1s,baz=257,slow=46
KBZ Khabaz 14.26 52 ⇓eP Pn 07 12 24.5 0.0
RONA Rosalia, Austr 14.29 329 ePn Pn 07 12 26.6 +1.5
comp=Z,0.8nm,0.3s
KEST Kesra 14.57 274 Pn P 07 12 35.1 -0.3
comp=Z,0.3nm,0.3s,baz=21,slow=4.7,SNR=6.3
NCK Nalchik 14.61 54 ⇓eP Pn 07 12 30.9 +1.5
CONA Conrad Observa 14.66 328 eP P 07 12 37.9 +1.6
comp=Z,1.2nm,1.1s
AK14 Malin Array Si 14.72 5 P P 07 12 34.6 -2.2
MYKA Terra Mystica 14.78 320 i P P 07 12 37.6 +0.1
comp=Z,1.1nm,0.8s
KIEV Kiev 14.79 5 Pn Pn 07 12 30.4 -1.4
KIEV Kiev 14.79 5 P Pn 07 12 30.4 -1.4
AKASG Malin Array Be 14.80 5 Pn P 07 12 34.9 -2.7
comp=Z,0.7nm,0.3s,baz=198,slow=12,SNR=5.7
AKASG LR LR 07 18 36.4
comp=Z,17nm,19.3s,baz=234,slow=39
AKBB Malin Array Si 14.80 5 Pn Pn 07 12 30.1 -1.8
AKBB Malin Array Si 14.80 5 ⇓eP Pn 07 12 33.8 +1.9
KBA Koenbreinsper 15.22 321 eP P 07 12 42.5 -0.1
comp=Z,7.0nm,0.8s
MOA Molln 15.31 325 i pP P 07 12 50.3 +6.9
comp=Z,4.3nm,0.9s
ABTA Abfaltersbach 15.45 319 i Pn Pn 07 12 41.1 +0.5
comp=Z,1.8nm,0.8s
BIOA Bad Ischl, Aus 15.50 323 i P P 07 12 45.4 -0.2
comp=Z,2.0nm,0.6s
MORC Moravsky Berou 15.53 336 Pn Pn 07 12 42.8 +1.1
MORC Moravsky Berou 15.53 336 P Pn 07 12 42.8 +1.1
MORC pmax pmax
comp=Z,5.0nm,0.9s
LESA Schwarzleotal 15.79 321 ePn Pn 07 12 46.1 +0.9
comp=Z,0.8nm,0.5s
WTTA Wattenberg 16.24 319 eP P 07 12 56.2 +2.3
comp=Z,2.3nm,0.6s
GEC2 GERESS Array S 16.29 326 Pn Pn 07 12 51.6 0.0
GERES GERESS Array B 16.29 326 Pn Pn 07 12 52.5 +0.9
baz=155,slow=9.6,SNR=4.4
WATA Walderalm 16.31 319 i P P 07 12 55.8 +1.2
comp=Z,0.4nm,0.4s
SQTA Sankt Quirin 16.44 318 i Pn P 07 12 55.0 -1.0
comp=Z,1.7nm,0.7s
KHC Kasperske Hory 16.56 327 ceP P 07 12 57.0 -0.3
KHC Kasperske Hory 16.56 327 P P 07 12 56.6 -0.7
comp=Z,8.3nm,1.6s
MOTA Moosalm 16.57 318 i P P 07 12 58.5 +0.9
comp=Z,0.1nm,0.3s
FETA Feichten 16.58 317 i Pn P 07 12 56.7 -1.0
comp=Z,0.1nm,0.4s
KSP Ksiaz 16.86 335 P P 07 13 00.0 -0.5
comp=Z,9.0nm,1.3s
DAVOX Davos/Dischmat 16.93 315 LR LR 07 19 27.8
comp=Z,80nm,21.9s,baz=106,slow=37
TUE Stuetta 17.07 313 Pn Pn 07 12 59.3 -2.2
DAVA Damuels 17.21 316 ePn P 07 13 06.0 +1.3
comp=Z,0.3nm,0.3s
SENIN Lac Senin/Sane 18.25 311 P 07 13 16.3 +0.1
SUW Suwalki 18.28 352 Pn 07 13 15.0 -1.1
SUW Suwalki 18.28 352 P Pn 07 13 15.0 -1.1
CLL Collm 18.45 331 eP Pn 07 13 19.0 +0.8
CLL MLR MLR
comp=Z,400nm,19.3s
CLL Collm 18.45 331 eP Pn 07 13 19.0 +0.8
CLL ex x 07 13 27.0
STU Stuttgart 18.46 319 P Pn 07 13 18.9 +0.5
STU IAmb IAmb 07 13 20.8
comp=Z,15nm,0.7s
STU Stuttgart 18.46 319 P Pn 07 13 18.9 +0.5
STU pmax pmax
comp=Z,15nm,0.7s
MNK Minsk 18.54 1 i P P 07 13 17.0 -2.1
comp=E,11nm,0.9s
MNK i P P 07 13 17.0 -2.1
comp=N,14nm,0.8s,baz=181
MNK i P P 07 13 17.0 -2.1
comp=Z,9.0nm,0.9s
MNK i PP sP 07 13 28.9 +1.5
MNK i PPP PPP 07 13 36.5
MNK i S Sn 07 16 45.9 0.0
MNK i SS SnSn 07 17 00.8 +1.0
MNK i SSS SSS 07 17 13.4
MNK i LQ LQ 07 18 49.3
MNK i LR LR 07 20 00.1
MNK i LRM MLR 07 21 16.2
comp=Z,50nm,16.3s
MNK i LRM MLR 07 21 18.6
comp=N,172nm,22.1s
MNK i LRM MLR 07 21 29.1
comp=E,140nm,19.7s
MNK Minsk 18.54 1 i P P 07 13 16.9 -2.1
MNK i S Sn 07 16 45.9 0.0
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=E,11nm,0.9s
MNK pmax pmax
comp=Z,9.0nm,0.9s
MNK MLR MLR
comp=Z,50nm,16.0s
MNK MLR MLR
comp=N,172nm,22.0s
MNK MLR MLR
comp=E,140nm,20.0s
BFO Black Forest 18.66 317 P P 07 13 20.5 0.0
BFO Black Forest 18.66 317 P P 07 13 20.5 0.0
BFO pmax pmax
comp=Z,13nm,1.4s
JHBN Jahan bin 19.69 94 Pg Pn 07 13 34.6 +0.9
OBN Obninsk 20.19 16 deP P 07 13 36.4 -0.6
OBN ePPP PPP 07 14 01.4
OBN eS S 07 17 23.7 +1.2
OBN eSS SnSn 07 17 44.4 +4.3
OBN e 07 17 50.7
OBN pmax pmax
comp=Z,11nm,0.5s
OBN MLR MLR
comp=Z,39nm,17.0s
IGAR Gharneh 20.76 93 Pg Pn 07 13 45.9 -0.2
KLNJ Kolanjah 20.83 97 Pg P 07 13 45.7 +1.0
IRAM Rameseh 21.21 94 Pg P 07 13 50.2 +1.6
BELG Belogornoye 21.84 35 ⇓iP P 07 13 57.2 +2.4
BELG pmax pmax
comp=Z,4.0nm,0.9s
VSU Vasula 22.51 359 ⇑eP P 07 14 03.0 +1.0
VSU pmax pmax
comp=Z,89nm,3.5s
ESBB Sonseca Array 24.91 288 P P 07 14 25.7 +0.2
ESBB IAmb IAmb 07 14 28.5
comp=Z,11nm,1.4s
ESDC Sonseca Array 24.91 288 P P 07 14 24.9 -0.6
comp=Z,1.4nm,0.7s,baz=90,slow=9.0,SNR=9.2
comp=Z,1.4nm,0.7s
FINES FINESS Array B 25.51 359 P P 07 14 28.6 -2.1
comp=Z,2.3nm,0.6s,baz=160,slow=12,SNR=9.0
FINES PcP PcP 07 18 01.1 -0.6
comp=Z,1.3nm,0.5s,baz=142,slow=2.9,SNR=8.3
comp=Z,2.3nm,0.6s
HFS Hagfors 25.73 344 P P 07 14 31.3 -1.4
comp=Z,2.1nm,0.4s,baz=153,slow=11,SNR=22
comp=Z,2.1nm,0.4s
KIRV Kirov 26.91 26 ⇑eP P 07 14 42.4 -0.9
NOA NORSAR Array B 27.11 343 P P 07 14 43.6 -1.6
comp=Z,0.8nm,0.7s,baz=139,slow=11,SNR=3.7
NOA LR LR 07 27 39.2
comp=Z,22nm,19.1s,baz=250,slow=42
comp=Z,0.8nm,0.7s
AB31 Akbulak array 27.21 51 P P 07 14 46.7 +0.5
ABKAR Akbulak array 27.21 51 P P 07 14 46.0 -0.2
ARTI Arti 29.27 36 di P P 07 15 04.1 -0.4
ARTI 07 15 56.6
ARTI S S 07 19 59.4 +3.3
ARTI SS SnSn 07 21 23.1 +1.1
ARTI pmax pmax
comp=Z,7.0nm,1.7s
TORD Torodi Ar. Bea 32.35 232 P P 07 15 29.3 -2.7
TORD Torodi Ar. Bea 32.35 232 P P 07 15 31.1 -0.9
comp=Z,3.3nm,0.5s,baz=36,slow=11,SNR=24
SIMJ Simiganj 33.08 73 P P 07 15 38.1 -0.3
SIMJ IAmb IAmb 07 15 55.1
comp=Z,3.7nm,0.8s
CHGR Chuyangaron 33.19 73 P P 07 15 39.6 +0.3
CHGR Chuyangaron 33.19 73 P P 07 15 39.6 +0.3
CHGR pmax pmax
comp=Z,12nm,0.7s
ARCES ARCESS Array B 33.64 359 P P 07 15 41.7 -1.1
ARCES ARCESS Array B 33.64 359 P P 07 15 40.7 -2.1
comp=Z,5.1nm,0.8s,baz=170,slow=8.0,SNR=8.6
comp=Z,5.1nm,0.8s
ARCES ARCESS Array B 33.64 359 P P 07 15 41.7 -1.1
ARCES pmax pmax
comp=Z,18nm,1.2s
KK31 Karatay Array 33.78 64 P P 07 15 44.5 +0.2
KK31 IAmb IAmb 07 15 45.6
comp=Z,3.1nm,1.1s
KK31 Karatay Array 33.78 64 P P 07 15 44.5 +0.2
KK31 pmax pmax
comp=Z,3.0nm,1.2s
KKAR Karatay Array 33.78 64 P P 07 15 44.4 +0.1
KKAR Karatay Array 33.78 64 P P 07 15 44.4 +0.1
BORK Borovoye 34.49 47 eP P 07 15 50.5 +0.2
BORK pmax pmax
comp=Z,12nm,3.2s
BVAR Borovoye Array 34.53 47 P P 07 15 50.1 -0.6
comp=Z,0.9nm,0.7s,baz=300,slow=2.9,SNR=4.3
comp=Z,0.9nm,0.7s
ARSB Arslanbob 35.76 67 P P 07 16 02.8 +1.3
ARSB IAmb IAmb 07 16 31.3
comp=Z,3.3nm,0.8s
ARSB Arslanbob 35.76 67 P P 07 16 02.8 +1.3
ARSB pmax pmax
comp=Z,3.0nm,0.8s
PMOZ Porto Moniz, M 36.62 278 P P 07 16 08.7 -0.2
AAK Ala-Archa 36.73 65 LR LR 07 34 38.3
comp=Z,25nm,20.8s,baz=288,slow=42
AAK Ala-Archa 36.73 65 di P P 07 16 10.7 +0.8
AAK pmax pmax
comp=Z,3.0nm,0.7s
NIL Nilore 37.53 80 P P 07 16 18.3 +1.7
NIL IAmb IAmb 07 16 18.8
comp=Z,11nm,1.1s
NIL Nilore 37.53 80 P P 07 16 18.3 +1.7
NIL pmax pmax
comp=Z,11nm,1.1s
BOOM Boomskoye usch 37.81 65 P P 07 16 20.1 +1.0
BOOM IAmb IAmb 07 16 37.0
comp=Z,2.1nm,0.8s
BOOM Boomskoye usch 37.81 65 P P 07 16 20.1 +1.0
BOOM pmax pmax
comp=Z,2.0nm,0.8s
KSH Kashi 38.28 70 P P 07 16 22.6 -0.4
KURBB Kurchatov Arra 39.26 52 P P 07 16 30.9 0.0
comp=Z,5.8nm,0.7s,baz=277,slow=8.8,SNR=64
comp=Z,5.8nm,0.7s
KURK Kurchatov 39.32 52 P P 07 16 31.7 +0.3
KURK IAmb IAmb 07 16 32.6
comp=Z,6.3nm,0.9s
KURK Kurchatov 39.32 52 P P 07 16 31.7 +0.3
KURK pmax pmax
comp=Z,6.0nm,0.9s
DBIC Dimbokro 41.44 233 P P 07 16 49.2 -0.1
DBIC IAmb IAmb 07 16 49.4
comp=Z,17nm,1.2s
DBIC Dimbokro 41.44 233 P P 07 16 49.1 -0.1
comp=Z,6.2nm,0.8s,baz=62,slow=9.2,SNR=10
comp=Z,6.2nm,0.8s
DBIC Dimbokro 41.44 233 P P 07 16 49.2 -0.1
DBIC pmax pmax
comp=Z,17nm,1.2s
MKAR Makanchi Array 41.87 57 P P 07 16 53.3 +0.7
MKAR Makanchi Array 41.87 57 P P 07 16 53.1 +0.5
comp=Z,4.7nm,0.7s,baz=278,slow=7.0,SNR=28
MKAR PcP PcP 07 18 48.3 +0.2
comp=Z,1.4nm,0.8s,baz=271,slow=3.9,SNR=3.7
comp=Z,4.7nm,0.7s
MK31 Makanchi Array 41.87 57 deP P 07 16 52.8 +0.2
SPITS Spitsbergen Ar 42.58 357 P P 07 16 56.8 -1.2
comp=Z,5.1nm,0.8s,baz=144,slow=12,SNR=7.8
comp=Z,5.1nm,0.8s
ZAA0 Zalesovo Array 43.19 47 P P 07 17 03.0 -0.1
ZAA0 IAmb IAmb 07 17 03.4
comp=Z,2.7nm,0.6s
ZALV Zalesovo Beam 43.19 47 P P 07 17 02.8 -0.4
comp=Z,3.0nm,0.6s,baz=266,slow=9.3,SNR=11
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 43.19 47 P P 07 17 02.9 -0.2
GTA Gaotai 56.04 63 eP P 07 18 41.8 +0.3
GTA pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 57.62 52 P P 07 18 54.0 +1.4
SONM IAmb IAmb 07 18 54.2
comp=Z,1.0nm,0.6s
SONM Songino Array 57.62 52 P P 07 18 53.3 +0.7

comp=Z,2.9nm,0.7s,baz=290,slow=8.0,SNR=9.3
comp=Z,2.9nm,0.7s
SONM Songino Array 57.62 52 P **P** **07 18 54.0 +1.4**
SONM pmax pmax
comp=Z,1.0nm,0.6s
ULN Ulaanbaatar 58.03 51⇑ *eP* **P** **07 18 55.5 0.0**
ULN pmax pmax
comp=Z,4.0nm,1.0s
LPHEP Lephephe 59.02 182 P **P** **07 19 03.3 +0.9**
LPHEP IAmb IAmb 07 19 44.3
comp=Z,11nm,1.2s
LZDM Lanzhou Array 60.22 65 LR LR 07 50 02.2
comp=Z,32nm,19.8s,baz=185,slow=41
PZH PanZhiHua 62.97 76 P **P** **07 19 31.6 +2.2**
SCHQ Schefferville 63.70 320 P **P** **07 19 33.1 -0.6**
SCHQ Schefferville 63.70 320 P **P** **07 19 31.6 -2.1**
comp=Z,34nm,0.6s,baz=93,slow=4.8,SNR=5.6
HHC Hu-ho-hao-te 63.74 57 *eP* **P** **07 19 35.1 +0.8**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,52nm,3.9s
CMAR Chiang Mai Arr 64.75 85 P **P** **07 19 41.5 +0.3**
comp=Z,0.7nm,0.3s,baz=296,slow=7.8,SNR=7.0
comp=Z,0.7nm,0.3s
SUR Sutherland 68.26 186 P **P** **07 20 04.6 +1.2**
BILL Bilibino 71.85 15⇓ *eP* **P** **07 20 25.5 +0.7**
BILL pmax pmax
comp=Z,9.0nm,1.6s
SEY Seymchan 72.14 23⇑ *eP* **P** **07 20 30.5 +3.9**
VLDQ Val d'Or 72.81 317 P **P** **07 20 31.0 +0.1**
KSRS Korea Array 76.40 54 P **P** **07 20 52.2 +0.3**
comp=Z,3.0nm,0.7s,baz=311,slow=5.3,SNR=6.4
comp=Z,3.0nm,0.7s
ILAR Eielson Array 79.49 357 P **P** **07 21 07.2 -1.4**
comp=Z,0.2nm,0.9s,baz=333,slow=3.6,SNR=2.4
comp=Z,0.2nm,0.9s
ULM Lac du Bonnet 80.60 327 P **P** **07 21 12.9 -2.0**
comp=Z,2.0nm,0.5s,baz=32,slow=5.2,SNR=6.5
comp=Z,2.0nm,0.5s
PETK Petropavlovsk- 81.40 28 P **P** **07 21 19.6 +0.5**
comp=Z,1.8nm,0.8s,baz=86,slow=6.9,SNR=6.1
comp=Z,1.8nm,0.8s
NVAR Mina Array Bea 99.43 333 P **Pdif** **07 22 44.5 -0.9**
comp=Z,0.4nm,0.7s,baz=41,slow=6.8,SNR=3.8
comp=Z,0.4nm,0.7s
WRA Warramunga Arr 114.95 97 PKP PKPdf 07 27 43.4 -0.3
comp=Z,0.6nm,0.8s,baz=316,slow=1.9,SNR=3.8
ASAR Alice Springs 116.48 101 PKP **PKPdf** **07 27 46.2 -0.3**
comp=Z,0.7nm,0.5s,baz=290,slow=1.0,SNR=11
QSPA South Pole Qui 125.81 180 PKP **PKiKP** **07 28 05.3 +1.7**
comp=Z,1.5nm,0.5s,baz=255,slow=0.6,SNR=12

NEIC 23 07:12:59.1±1.2, 34.71N±0.02×109.42W±0.02, h5km±1km, ML3.1/110, Error ellipse: s-maj=4.2km s-min=2.9km az=46.0, Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
X18A	**Snowflake**	**0.47**	**248**	Pg	Pb	07 13 09.2	-0.8
X18A				Sg	Sg	07 13 15.1	+0.8
W18A	**Petrified Fore**	**0.48**	**328**	Pg	Pb	07 13 09.8	-0.5
W18A				Sg	Sg	07 13 16.1	+1.3
W18A				IAML		07 13 16.5	
	comp=E,2μm,0.3s						
W18A				IAML		07 13 16.5	
	comp=N,2μm,0.2s						
X16A	**Lo Mia Camp, P**	**1.69**	**261**		Pn	07 13 29.9	+0.4
X16A				IAML		07 13 52.5	
	comp=E,183nm,0.1s						
X16A				IAML		07 13 53.0	
	comp=N,141nm,0.1s						
WUAZ	**Wupatki**	**1.79**	**297**	Pn	Pn	07 13 31.6	+0.7
SBM	**South Baldy**	**1.99**	**111**	Pn	Pb	07 13 35.0	-1.1
LENM	**Lemitar**	**2.10**	**104**		Pn	07 13 36.2	+1.1
Y22D	**IRIS PASSCAL I**	**2.16**	**106**		Pn	07 13 35.4	-0.6
Y22D				IAML		07 14 14.3	
	comp=N,120nm,0.5s						
Y22D				IAML		07 14 17.4	
	comp=E,119nm,0.5s						
DUN6	**Lazy B Ranch**	**2.17**	**173**		Pn	07 13 36.2	+0.2
Y22A	**Socorro**	**2.17**	**110**		Pn	07 13 37.3	+1.1
Y22A				IAML		07 14 12.2	
	comp=E,76nm,0.6s						
CRNM	**Carthage**	**2.35**	**108**		Pn	07 13 39.8	+1.2
BNM	**Barren Site**	**2.38**	**103**	Pn	Pn	07 13 39.6	+0.6
ANMO	**Albuquerque**	**2.45**	**84**	Pn	Pn	07 13 41.3	+1.3
ANMO	**Albuquerque**	**2.45**	**84**	Pn	Pn	07 13 41.3	+1.4
ANMO				IAML		07 14 17.4	
	comp=E,19nm,0.4s						
ANMO				IAML		07 14 17.6	
	comp=E,28nm,0.8s						
ANMO	**Albuquerque**	**2.45**	**84**		Pn	07 13 41.3	+1.3
ANMO				IAML		07 14 17.5	
	comp=E,19nm,0.8s						
ANMO				IAML		07 14 17.6	
	comp=E,11nm,0.3s						
121A	**Cookes Peak, D**	**2.56**	**147**		Pn	07 13 41.9	+0.4
121A				IAML		07 14 22.8	
	comp=E,110nm,0.6s						
121A				IAML		07 14 25.1	
	comp=N,64nm,0.6s						
MVCO	**Mesa Verde**	**2.61**	**16**	Pn	Pn	07 13 42.0	-0.2
MVCO				IAML		07 14 29.1	
	comp=N,49nm,0.6s						
TUC	**Tucson**	**2.65**	**206**	Pn	Pn	07 13 40.8	-1.7
Y14A	**Wickenburg**	**3.06**	**257**	Pn	Pn	07 13 46.9	-1.4
Y14A				IAML		07 14 38.7	
	comp=E,62nm,0.7s						
Y14A				IAML		07 14 39.8	
	comp=N,47nm,0.6s						
319A	**Douglas**	**3.32**	**178**	Pn	Pn	07 13 49.8	-2.1
319A				IAML		07 14 45.0	
	comp=N,53nm,0.4s						
PV05	**Paradox Valley**	**3.38**	**4**	Pn	Pn	07 13 51.7	-1.0
PV05				IAML		07 14 48.9	
	comp=N,51nm,0.5s						
HMU	**Henry Mountain**	**3.40**	**342**	Pn	Pn	07 13 53.9	+0.9
PV13	**Radium Mtn., P**	**3.48**	**8**	Pn	Pn	07 13 53.1	-1.0
PV13				IAML		07 14 53.3	
	comp=E,46nm,0.5s						
PV13				IAML		07 14 54.4	
	comp=N,39nm,0.4s						
PV01	**Paradox Valley**	**3.49**	**11**	Pn	Pn	07 13 51.8	-2.5
PV01				IAML		07 14 52.4	
	comp=E,23nm,0.5s						
PV01				IAML		07 14 55.9	
	comp=N,23nm,0.4s						
PV02	**Paradox Valley**	**3.54**	**9**	Pn	Pn	07 13 52.4	-2.5
PV18	**Skein Mesa, Pa**	**3.56**	**7**	Pn	Pn	07 13 54.8	-0.4
PV18				IAML		07 14 55.1	
	comp=N,46nm,0.5s						
PV18				IAML		07 14 57.2	
	comp=E,35nm,0.3s						
PV03	**Paradox Valley**	**3.57**	**7**	Pn	Pn	07 13 54.4	-1.0
PV03				IAML		07 14 52.0	
	comp=E,30nm,0.5s						
PV03				IAML		07 14 56.6	
	comp=N,26nm,0.5s						
PV17	**East Wray Mesa**	**3.59**	**6**	Pn	Pn	07 13 54.1	-1.5
PV17				IAML		07 14 55.6	
	comp=N,34nm,0.5s						
PV17				IAML		07 14 55.8	
	comp=E,34nm,0.5s						
KNB	**Kanab**	**3.60**	**311**	Pn	Pn	07 13 55.5	-0.2
KNB				IAML		07 14 51.6	
	comp=E,36nm,0.8s						
KNB				IAML		07 14 54.7	
	comp=N,29nm,0.7s						
PV11	**David Mesa, Pa**	**3.61**	**7**	Pn	Pn	07 13 55.2	-0.8
PV19	**Morning Glory**	**3.61**	**6**	Pn	Pn	07 13 54.4	-1.6
PV16	**Nyswonger Mesa**	**3.62**	**6**	Pn	Pn	07 13 54.4	-1.7
PV16				IAML		07 15 01.2	
	comp=N,33nm,0.6s						
PV16				IAML		07 15 06.1	
	comp=E,34nm,0.6s						
PV12	**Saucer Basin,**	**3.64**	**8**	Pn	Pn	07 13 54.4	-1.9
PV20	**West Nyswonger**	**3.65**	**6**	Pn	Pn	07 13 55.3	-1.1
PV14	**Lion Creek, Pa**	**3.67**	**5**	Pn	Pn	07 13 55.1	-1.7
PV14				IAML		07 15 01.8	
	comp=E,44nm,0.7s						
PV10	**Paradox Valley**	**3.68**	**5**	Pn	Pn	07 13 55.1	-1.8
PV10				IAML		07 14 57.2	
	comp=E,48nm,0.3s						
W13A	**Hualapai Mount**	**3.69**	**277**	Pn	Pn	07 13 54.5	-2.4
PV04	**Paradox Valley**	**3.70**	**6**	Pn	Pn	07 13 55.8	-1.4
PV04				IAML		07 15 01.5	
	comp=N,38nm,0.7s						
PV04				IAML		07 15 02.5	
	comp=E,38nm,0.6s						
PV15	**Paradox Valley**	**3.71**	**12**	Pn	Pn	07 13 55.2	-2.1
PV15				IAML		07 15 03.8	
	comp=N,25nm,0.8s						
PV15				IAML		07 15 07.8	
	comp=E,24nm,0.9s						
PV23	**Carpenter Ridg**	**3.75**	**5**	Pn	Pn	07 13 57.2	-0.7
PV07	**Paradox Valley**	**3.78**	**9**	Pn	Pn	07 13 58.0	-0.3
PV07				IAML		07 15 01.4	
	comp=N,19nm,0.8s						
PV22	**Blue Mesa, Par**	**3.86**	**7**	Pn	Pn	07 13 56.2	-3.1
PV22				IAML		07 15 14.1	
	comp=E,19nm,0.7s						
LCMT	**Little Creek M**	**3.86**	**308**	Pn	Pn	07 13 57.5	-1.8
LCMT				IAML		07 15 00.7	
	comp=E,30nm,0.4s						
LCMT				IAML		07 15 03.1	
	comp=N,22nm,0.7s						
PV21	**Cone Mtn., Par**	**3.86**	**5**	Pn	Pn	07 13 57.0	-2.4
PV21				IAML		07 15 02.0	
	comp=E,40nm,0.4s						
PV21				IAML		07 15 15.1	
	comp=N,34nm,0.4s						
214A	**Organ Pipe Nat**	**3.94**	**227**	Pn	Pn	07 13 59.5	-0.8
113A	**Mohawk Valley,**	**4.10**	**243**	Pn	Pn	07 14 01.8	-0.7
SZCU	**Shurtz Canyon**	**4.13**	**315**	Pn	Pn	07 14 01.9	-1.2
CCUT	**Cedar City**	**4.27**	**313**	Pn	Pn	07 14 02.6	-2.4
CCUT				IAML		07 15 14.7	
	comp=E,27nm,0.8s						
CCUT				IAML		07 15 15.1	
	comp=N,25nm,0.7s						
BLYC	**Blythe**	**4.33**	**259**	Pn	Pn	07 14 04.3	-1.3
BLYC				IAML		07 15 21.0	
	comp=N,20nm,0.7s						
SDCO	**Great Sand Dun**	**4.39**	**45**	Pn	Pn	07 14 05.2	-1.5
Q16A	**Castle Valley**	**4.43**	**342**	Pn	Pn	07 14 05.9	-1.3
Q16A				IAML		07 15 23.8	
	comp=N,13nm,0.9s						
Q16A				IAML		07 15 26.2	
	comp=E,14nm,0.6s						
SRU	**San Rafael Swe**	**4.48**	**349**	Pn	Pn	07 14 05.5	-2.4
SRU				IAML		07 15 21.1	
	comp=N,15nm,0.6s						
SRU				IAML		07 15 26.0	
	comp=E,21nm,0.8s						
MNTX	**Cornudas Mount**	**4.53**	**130**		Pn	07 14 07.0	-1.3
V12A	**Nelson**	**4.56**	**284**	Pn	Pn	07 14 07.7	-1.2
V12A				IAML		07 15 23.2	
	comp=N,11nm,0.6s						
V12A				IAML		07 15 26.6	
	comp=E,12nm,1.5s						
IRM	**Iron Mountain**	**4.76**	**265**	Pn	Pn	07 14 09.6	-1.9
TMUT	**Trail Mountain**	**4.80**	**343**	Pn	Pn	07 14 09.9	-2.5
P17A	**Butcher Ranch,**	**4.87**	**348**	Pn	Pn	07 14 10.8	-2.4
P18A	**Preston Nutter**	**4.96**	**353**	Pn	Pn	07 14 13.5	-1.0
CLN7	**Carlsbad 7**	**5.22**	**114**	Pn	Pn	07 14 18.9	+1.0
PRN	**Pahroc Range**	**5.29**	**302**	Pn	Pn	07 14 17.1	-1.9
VHRN	**Van Horn**	**5.41**	**135**		Pn	07 14 19.7	-0.9
BELC	**Belle Mtn. Jos**	**5.48**	**264**	Pn	Pn	07 14 20.4	-1.2
MPU	**Maple Canyon**	**5.58**	**342**	Pn	Pn	07 14 22.5	-0.5
SHOC	**Shoshone, Teco**	**5.73**	**284**	Pn	Pn	07 14 23.9	-1.0
TX31	**Lajitas Ar. Si**	**7.25**	**136**		Pn	07 14 45.9	+0.1

NEIC 23 07:33:33.7±0.7, 36.76N±0.01×98.07W±0.01, h7km±3km, Error ellipse: s-maj=1.6km s-min=1.3km az=140.0
NEIC 23 07:33:33.6±0.6, 36.762N±0.010×98.08W±0.01, h5km±1km, mb_Lg2.7/84, ML2.9/36, ML3.0/64, Error ellipse: s-maj=2.4km s-min=1.7km az=90.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.20**	**63**		Pg	07 33 38.0	+0.6
GC02				Sg	Sg	07 33 41.1	+1.0
KAN14	**Manchester OK**	**0.21**	**25**		Pg	07 33 38.4	+0.6
KAN14				Sg	Sg	07 33 41.7	+1.0
KAN14				IAML		07 33 41.8	
	comp=N,3μm,0.2s						
CROK	**Carrier**	**0.27**	**164**		Pg	07 33 39.3	+0.5
CROK				Sg	Sg	07 33 43.3	+1.0
KAN01	**Argonia South**	**0.47**	**33**		Pg	07 33 43.0	+0.4
KAN01				Sg	Sg	07 33 49.4	+0.7
KAN01				IAML		07 33 49.6	
	comp=E,1μm,0.5s						
KAN08	**Anthony NE Sta**	**0.47**	**10**		Pg	07 33 43.2	+0.5
KAN08					Sg	07 33 49.7	+0.9
KAN13	**South Haven SW**	**0.54**	**62**		Pg	07 33 44.2	+0.2
KAN13					Sg	07 33 51.7	+0.7
OK038	**West end E0370**	**0.61**	**242**		Pg	07 33 45.5	+0.2
OK038					Sg	07 33 54.3	+1.1
OK038				IAML		07 34 02.7	
	comp=E,1μm,0.2s						
OK038				IAML		07 34 03.8	
	comp=E,1μm,0.4s						
BLOK	**Blackwell**	**0.69**	**90**	Pg	Pg	07 33 46.9	0.0
BLOK				Sg	Sg	07 33 56.2	+0.4
BLOK				IAML		07 33 57.7	
	comp=N,690nm,0.2s						
BLOK				IAML		07 34 03.5	
	comp=E,805nm,0.2s						
NOKA	**Waynoka**	**0.70**	**260**		Pg	07 33 47.1	+0.1
NOKA					Sg	07 33 56.4	+0.3
NOKA				IAML		07 34 12.3	
	comp=N,563nm,0.3s						
OK048	**Pawnee Station**	**0.97**	**110**		Pg	07 33 52.0	-0.3
OK048				IAML		07 34 06.2	
	comp=N,367nm,0.4s						
OK048				IAML		07 34 11.1	
	comp=N,322nm,0.2s						
OK051	**E0350 and S346**	**1.03**	**104**		Pg	07 33 53.0	-0.3
OK029	**Liberty Lake**	**1.09**	**152**		Pg	07 33 54.0	-0.4
OK029					Sg	07 34 08.5	0.0
BCOK	**Bluff Creek, N**	**1.17**	**161**		Pg	07 33 55.5	-0.5
BCOK					Sg	07 34 11.1	+0.1
CSTR	**Hydro, Custer**	**1.22**	**204**		Pg	07 33 56.9	-0.1
CSTR					Sb	07 34 13.6	+0.4
ADOK	**Arcadia Dam**	**1.25**	**153**	Pg	Pg	07 33 57.0	-0.5
QUOK	**Quay**	**1.25**	**118**		Pg	07 33 57.0	-0.5
QUOK					Sg	07 34 13.5	-0.3
T35A	**Sooner Cattle**	**1.26**	**83**		Pg	07 33 57.1	-0.7
T35A					Sg	07 34 14.2	0.0
T35A				IAML		07 34 17.5	
	comp=N,233nm,0.2s						
T35A				IAML		07 34 17.7	
	comp=N,292nm,0.3s						
OK052	**Battle Ridge R**	**1.28**	**126**		Pn	07 33 57.7	-0.5
ELIS	**Ellis County**	**1.29**	**238**		Pg	07 33 57.9	-0.4
ELIS				IAML		07 34 25.7	
	comp=E,418nm,0.3s						
OKCFA	**Oklahoma City**	**1.44**	**159**		Pn	07 34 00.0	-0.3
OKCFA					Sg	07 34 20.0	+0.2
OKCSW	**OKLAHOMA CITY**	**1.45**	**159**		Pn	07 33 59.9	-0.6
OKCSW				Sg	Sg	07 34 20.1	-0.1
OKCSW				IAmb_Lg		07 34 20.8	
	comp=Z,46nm,0.7s						
DEOK	**Depew**	**1.57**	**125**		Pn	07 34 02.2	+0.1
FNO	**Franklin**	**1.60**	**160**		Pn	07 34 02.5	0.0
R32A	**Long Quarter,**	**1.73**	**343**		Pb	07 34 05.3	-0.6
DRZT	**Darrouzett**	**1.81**	**261**		Pb	07 34 07.2	-0.1
DRZT					Sg	07 34 31.9	-0.1
TUL3	**Leonard**	**2.03**	**114**		Pn	07 34 09.5	+1.0
WMOK	**Wichita Mounta**	**2.10**	**196**		Pn	07 34 10.1	+0.7
X34A	**Smith Ranch, M**	**2.17**	**175**		Pn	07 34 11.1	+0.7
X34A				IAmb_Lg		07 34 42.5	
	comp=Z,22nm,0.9s						
SMWD	**Samnorwood**	**2.41**	**227**		Pn	07 34 14.9	+1.1
CBKS	**Cedar Bluff**	**2.44**	**328**		Pn	07 34 14.5	+0.4
RLO	**Rose Lookout**	**2.53**	**103**	Pn	Pn	07 34 15.8	+0.5
KSU1	**Kansas State U**	**2.61**	**26**	IAmb_Lg		07 34 59.7	
	comp=Z,31nm,0.8s						
LOOK	**Love County**	**2.86**	**165**	Pn	Pn	07 34 20.6	+0.8
LOOK					Sn	07 34 53.5	-1.1
U38A	**Gravette**	**2.99**	**95**	Pn	Pn	07 34 21.1	-0.6
U38A				IAmb_Lg		07 35 15.6	
	comp=Z,17nm,1.0s						
WTFS	**Witchita Falls**	**3.01**	**186**	Pn	Pn	07 34 22.1	+0.3
HHAR	**Hobbs**	**3.37**	**97**		Pn	07 34 26.9	0.0
HHAR				IAmb_Lg		07 35 25.3	
	comp=Z,17nm,0.9s						
AMTX	**Amarillo**	**3.48**	**238**	IAmb_Lg		07 35 31.1	
	comp=Z,22nm,0.8s						
Z35A	**Perchaven, San**	**3.49**	**169**	Pn	Pn	07 34 28.4	-0.1
RTBA	**Rita Blanca**	**3.77**	**266**		Pn	07 34 32.0	-0.5
DKNS	**Dickens**	**3.87**	**218**	Pn	Pn	07 34 34.2	+0.4
DKNS				IAmb_Lg		07 35 40.4	
	comp=Z,22nm,0.8s						
PLPT	**Palo Pinto**	**3.94**	**183**	Pn	Pn	07 34 33.9	-0.9
KSCO	**Kaye Shedlock'**	**4.24**	**303**	Pn	Pn	07 34 38.1	-0.9
KSCO				IAmb_Lg		07 35 57.9	
	comp=Z,12nm,0.7s						
MIAR	**Mount Ida**	**4.28**	**120**	IAmb_Lg		07 35 50.8	
	comp=Z,23nm,1.0s						
Z38A	**Mt. Pleasant**	**4.32**	**143**	Pn	Pn	07 34 38.9	-1.0
ABTX	**Abilene, Hawle**	**4.33**	**198**	Pn	Pn	07 34 38.9	-1.1
ABTX				IAmb_Lg		07 35 51.5	
	comp=Z,15nm,0.8s						
SN07	**Snyder 07**	**4.33**	**213**	Pn	Pn	07 34 39.3	-0.9
SN07				IAmb_Lg		07 35 57.2	
	comp=Z,12nm,0.9s						
N35A	**Tabor**	**4.51**	**24**	Pn	Pn	07 34 42.2	-0.4
P38A	**Dawn**	**4.58**	**50**	Pn	Pn	07 34 43.1	-0.4
P38A				IAmb_Lg		07 36 07.4	
	comp=Z,17nm,0.8s						
POST	**Post**	**4.64**	**218**	Pn	Pn	07 34 44.3	-0.1
POST				IAmb_Lg		07 36 08.1	
	comp=Z,14nm,0.8s						
MGMO	**Mountain Grove**	**4.67**	**83**		Pn	07 34 45.3	+0.6
MGMO				IAmb_Lg		07 36 02.8	
	comp=Z,14nm,0.8s						
MSTX	**Muleshoe**	**4.74**	**235**	Pn	Pn	07 34 44.7	-1.1
X40A	**Basin Creek Fa**	**4.83**	**116**	Pn	Pn	07 34 46.3	-0.7
R40A	**Maddies Statio**	**4.86**	**70**	Pn	Pn	07 34 45.9	-1.5
R40A				IAmb_Lg		07 36 13.2	
	comp=Z,10nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.88**	**98**	Pn	Pn	07 34 46.9	-0.7
WHAR	**Wooly Hollow**	**4.92**	**106**	Pn	Pn	07 34 45.8	-2.3
WHAR				IAmb_Lg		07 36 10.9	
	comp=Z,16nm,1.0s						
UALR	**University of**	**5.07**	**111**	Pn	Pn	07 34 48.6	-1.5
UALR				IAmb_Lg		07 36 19.9	
	comp=Z,18nm,0.8s						
T25A	**Trinidad**	**5.09**	**276**	Pn	Pn	07 34 49.7	-1.0
T25A				IAmb_Lg		07 36 19.1	
	comp=Z,18nm,0.8s						
WLAR	**White Oak Lake**	**5.09**	**126**	Pn	Pn	07 34 48.7	-1.8
WLAR				IAmb_Lg		07 36 21.0	
	comp=Z,13nm,0.8s						
237A	**Washetta, Mont**	**5.11**	**158**	IAmb_Lg		07 36 26.9	
	comp=Z,13nm,1.1s						
OGNE	**Ogallala**	**5.20**	**325**	Pn	Pn	07 34 50.7	-1.4
SGCY	**Sterling City**	**5.45**	**208**	IAmb_Lg		07 36 41.7	
	comp=Z,8.6nm,0.8s						
P40A	**Paris**	**5.50**	**58**	IAmb_Lg		07 36 34.7	
	comp=Z,12nm,0.7s						
BRDY	**Brady**	**5.52**	**188**	IAmb_Lg		07 36 31.8	
	comp=Z,8.6nm,0.7s						
Z41A	**Richland Creek**	**5.56**	**127**	IAmb_Lg		07 36 40.8	
	comp=Z,13nm,0.7s						
CCM	**Cathedral Cave**	**5.59**	**75**	IAmb_Lg		07 36 38.0	
	comp=Z,8.5nm,0.8s						
ODSA	**Odessa**	**5.92**	**220**	IAmb_Lg		07 36 41.6	
	comp=Z,15nm,1.2s						
435B	**Jarrell**	**5.98**	**176**	IAmb_Lg		07 36 50.3	
	comp=Z,8.6nm,0.8s						
K30B	**Basset**	**6.02**	**349**	IAmb_Lg		07 36 54.4	
	comp=Z,15nm,0.7s						
PBMO	**Poplar Bluff**	**6.14**	**88**	IAmb_Lg		07 37 04.5	
	comp=Z,9.5nm,1.0s						
FVM	**French Village**	**6.21**	**76**	IAmb_Lg		07 36 59.2	
	comp=Z,7.9nm,0.7s						
OZNA	**Ozona**	**6.35**	**204**	IAmb_Lg		07 37 05.5	
	comp=Z,9.4nm,0.9s						
SCIA	**State Center**	**6.37**	**35**	IAmb_Lg		07 37 00.1	
	comp=Z,14nm,0.7s						
MNHN	**Monahans**	**6.66**	**217**	IAmb_Lg		07 37 07.8	
	comp=Z,7.4nm,0.9s						
CGM3	**Cape Girardeau**	**6.75**	**83**	IAmb_Lg		07 37 07.6	
	comp=Z,10nm,0.8s						
S44A	**Carbondale**	**7.10**	**80**	IAmb_Lg		07 37 26.9	
	comp=Z,10nm,0.8s						
SIUC	**Southern Illin**	**7.13**	**80**	IAmb_Lg		07 37 20.3	
	comp=Z,12nm,0.9s						
HNDO	**Hondo**	**7.28**	**188**	IAmb_Lg		07 37 31.4	
	comp=Z,8.1nm,1.0s						
SAND	**Sanderson**	**7.58**	**208**	IAmb_Lg		07 37 56.2	
	comp=Z,5.6nm,0.8s						
DRIO	**Del Rio**	**7.62**	**197**	IAmb_Lg		07 37 41.2	
	comp=Z,6.2nm,0.8s						
ALPN	**Alpine**	**7.88**	**218**	IAmb_Lg		07 37 56.0	
	comp=Z,7.3nm,1.1s						
PLAL	**Pickwick Lake**	**8.31**	**99**	IAmb_Lg		07 38 14.7	
	comp=Z,8.6nm,1.2s						
K22A	**Casper**	**8.77**	**315**	IAmb_Lg		07 38 32.4	
	comp=Z,8.5nm,1.0s						

HEL 23 07:45:34.6±0.2, 62.76N×22.89E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPF	**Kankaanpaa**	**1.00**	**203**	PG	Pg	07 45 53.0	-0.8
KPF				MSG		07 46 05.2	
	comp=Z,1.7nm,0.2s						
KPF				SB	Sg	07 46 06.0	-0.7
KEF	**Keuruu**	**1.09**	**122**	PG	Pg	07 45 54.2	-1.3
	baz=301						
KEF				MSG		07 46 07.8	
	comp=Z,1.7nm,0.2s						
KEF				SB	Sg	07 46 08.9	-0.8
SUF	**Sumiainen**	**1.50**	**90**	PG	Pn	07 46 01.6	-1.1
	baz=268						
SUF				MSG		07 46 19.7	
	comp=Z,0.7nm,0.2s						
UMAU	**Umeaa**	**1.51**	**319**	SN	Sn	07 46 23.5	+0.3
KAF	**Kangasniemi**	**1.71**	**111**	PG	Pn	07 46 05.2	-0.5
KAF				MSG		07 46 25.9	
	comp=Z,1.6nm,0.2s						
KAF				SN	Sn	07 46 28.0	-0.2
RAF	**Rauma**	**1.82**	**198**	MSG		07 46 28.8	
	comp=Z,1.3nm,0.2s						
RAF				SG	Sn	07 46 31.4	+0.6
FIA0	**FINESS Array S**	**2.00**	**130**	PG	Pn	07 46 09.8	+0.3
FIA0				MSG		07 46 34.0	
	comp=Z,1.0nm,0.2s						
FIA0				SG	Sn	07 46 35.9	+0.8
HEMU	**Hemsoen**	**2.24**	**270**	PG	Pn	07 46 14.4	+1.5
HEMU				SG	Sb	07 46 44.6	+0.6
NIF	**Nilsia**	**2.33**	**72**	MSG		07 46 43.3	
	comp=Z,0.8nm,0.2s						
NIF				SG	Sb	07 46 46.4	-0.1
AAL	**Aland**	**2.94**	**210**	SG	Sb	07 47 04.0	-0.2

HEL 23 07:46:45.2±0.2, 67.82N×20.23E, h0km, ML1.2, Suspected explosion, Sweden

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

ARA0				SB	Sn	07 48 02.0	+1.6
RAJF	**Raja-Jooseppi**	**3.10**	**74**	SG	Sb	07 48 20.4	+1.1
OUL	**Oulu**	**3.56**	**138**	SN	Sn	07 48 22.5	-1.9

SJA ***23*** *08:24:34.6±0.7,36°.02S×74°.22W,h20km±3km,ML5.0, MW5.2*

MOS ***23*** *08:24:38.8±1.8,35°.97S×73°.73W,h10km,mb5.5/29,Error ellipse: s-maj=12.7km s-min=7.1km az=89.3*

NEIC ***23*** *08:24:39.0±1.5,36°.05S±0°.04×73°.84W±0°.06,h10km±1km, mb5.4/256,Mwr5.3/57,Mww5.3/35,Mwr5.4(GUC),Error ellipse: s-maj=9.4km s-min=5.7km az=240.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.14; Mθθ-0.11; Mϕϕ-0.03; Mrθ-0.41; Mθϕ-0.06; Mϕr-0.96; Fault plane solution: M0 1.05000×10¹⁷ NP1: ϕs76.92000°,δ5.20000°,λ143.17000°. NP2:ϕs203.64000°, δ86.89000°,λ85.83000°. Principal axes: T 1.0792, Plg48.0000°, Azm109.0000°; N -0.0540, Plg4.0000°, Azm204.0000°; P -1.0253, Plg42.0000°, Azm298.0000°;*

NEIC ***23*** *08:24:39,36°.05S×73°.83W,h10km*

NEIC ***23*** *08:24:39,36°.05S×73°.83W,h12km*

NEIC ***23*** *08:24:39,36°.05S×73°.83W,h12km,Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10¹⁶Nm; Mrr4.33; Mθθ0.26; Mϕϕ-4.59; Mrθ-2.73; Mθϕ-0.91; Mϕr-8.25; Fault plane solution: M0 9.81000×10¹⁶ NP1:ϕs1.71000°, δ14.21000°,λ74.66000°. NP2:ϕs197.51000°,δ76.31000°, λ93.83000°. Principal axes: T 9.6341, Plg59.0000°, Azm113.0000°; N 0.3471, Plg4.0000°, Azm17.0000°; P -9.9812, Plg31.0000°, Azm284.0000°;*

IDC ***23*** *08:24:40.3±0.5,36°.14S×73°.44W,h0km,mb4.6/13, mbtmp4.6/17,ML4.4/4,MS4.7/27 Error ellipse: s-maj=20.0km s-min=10.1km az=94.0*

VAO ***23*** *08:24:41.5±0.4,36°.07S×73°.58W,h10km,mb5.1*

GUC ***23*** *08:24:41.4±0.7,36°.05S×73°.73W,h27km±4km, ML4.8*

GCMT ***23*** *08:24:46.0±0.2,36°.18S±0°.01×73°.96W±0°.01,h13km, MW5.3/120,Moment Tensor Solution. s74,c96; s120,c179; Duration: 1s0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.49±.02; Mθθ0.03±.01; Mϕϕ-0.51±.01; Mrθ-0.21±.03; Mθϕ-0.09±.01; Mϕr-0.80±.06; Best double couple: M0 0.97000×10¹⁷ NP1:ϕs4.40000°,δ16.00000°, λ81.00000°. NP2:ϕs194.00000°,δ74.00000°,λ93.00000°. Principal axes: T 0.9520, Plg61.0000°, Azm108.0000°; N 0.0370, Plg3.0000°, Azm13.0000°; P -0.9890, Plg29.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 08:24:40.5±0.8,36°.04S±0°.03×73°.83W±0°.03,h17km±4km, n533,σ1s58/490,mb5.3/166,MS4.8/29,26C-11D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**0.88**	**144**			**Pb**	**08 24 55.7**	**-1.5**
BI05						**Sb**	**08 25 07.1**	**-1.5**
BI05	**Punta Hualpn**	**0.88**	**144**	⇑	*i* P	**Pb**	**08 24 55.8**	**-1.5**
BI05					*i* S	**Sb**	**08 25 06.5**	**-2.1**
BI05					IAML		08 25 12.3	
	comp=E,57μm,0.5s							
BI05	**Punta Hualpn**	**0.88**	**144**	*i*	P	**Pb**	**08 24 55.2**	**-2.0**
BI05					*i* S	**Sn**	**08 25 11.6**	**+1.2**
BI05					IAML		08 25 12.9	
	comp=Z,41μm,0.6s							
GO05	**Hualane**	**1.86**	**57**	⇑	*i* P	**Pn**	**08 25 10.8**	**-0.7**
GO05					*i* S	**Sn**	**08 25 33.5**	**-1.2**
GO05	**Hualane**	**1.86**	**57**	*i*	P	**Pn**	**08 25 11.1**	**-0.5**
GO05					*i* S	**Sg**	**08 25 39.2**	**-1.1**
GO05					IAML		08 25 50.1	
	comp=Z,5μm,0.7s							
BI02	**San Fabin de**	**2.15**	**108**			**Pn**	**08 25 15.5**	**-0.2**
BI02	**San Fabin de**	**2.15**	**108**	⇑	*i* P	**Pn**	**08 25 15.4**	**-0.2**
BI02					*i* S	**Sn**	**08 25 41.2**	**-0.8**
BI02					IAML		08 25 53.2	
	comp=N,8μm,0.8s							
BI02	**San Fabin de**	**2.15**	**108**	*i*	P	**Pn**	**08 25 15.7**	**0.0**
BI02					*i* S	**Sb**	**08 25 46.9**	**+1.3**
BI02					IAML		08 25 54.8	
	comp=Z,9μm,1.9s							
BO03	**Pichilemu**	**2.17**	**45**	⇑	*i* P	**Pn**	**08 25 15.3**	**-0.5**
LC02	**Puerto Saavedr**	**2.77**	**173**			**Pn**	**08 25 22.5**	**-1.6**
LC02	**Puerto Saavedr**	**2.77**	**173**	*e*	P	**Pn**	**08 25 22.3**	**-1.8**
BO02	**Sierra Bellavi**	**2.78**	**64**			**Pn**	**08 25 24.3**	**-0.1**
BO02	**Sierra Bellavi**	**2.78**	**64**	⇑	*i* P	**Pn**	**08 25 24.2**	**-0.1**
BO02					*i* S	**Sn**	**08 25 56.8**	**-0.8**
BO02					IAML		08 26 15.7	
	comp=N,7μm,0.6s							
BO02	**Sierra Bellavi**	**2.78**	**64**	*i*	P	**Pn**	**08 25 25.1**	**+0.7**
BO02					*i* S	**Sb**	**08 26 01.8**	**-1.8**
BO02					IAML		08 26 18.2	
	comp=Z,5μm,1.6s							
BO01	**Tunca**	**2.78**	**55**			**Pn**	**08 25 23.7**	**-0.6**
BO01	**Tunca**	**2.78**	**55**	⇑	*i* P	**Pn**	**08 25 24.4**	**+0.1**
BO01					*i* S	**Sn**	**08 25 56.8**	**-0.6**
BO01					IAML		08 26 19.7	
	comp=E,2μm,0.5s							
BO01	**Tunca**	**2.78**	**55**	*i*	P	**Pn**	**08 25 24.3**	**+0.1**
BO01					*i* S	**Sn**	**08 26 00.9**	**+3.4**
BO01					IAML		08 26 20.9	
	comp=Z,3μm,1.4s							
MT01	**Popeta**	**3.03**	**45**			**Pn**	**08 25 27.0**	**-0.7**
MT01	**Popeta**	**3.03**	**45**	*e*	P	**Pn**	**08 25 27.2**	**-0.4**
MT01					*i* S	**Sn**	**08 26 02.5**	**-1.0**
MT01					IAML		08 26 30.3	
	comp=E,2μm,0.5s							
MT01	**Popeta**	**3.03**	**45**	*i*	P	**Pn**	**08 25 27.4**	**-0.3**
MT01					IAML		08 26 31.0	
	comp=Z,3μm,1.1s							
MT09	**Talagante**	**3.25**	**47**			**Pn**	**08 25 30.6**	**-0.2**
MT09	**Talagante**	**3.25**	**47**	*e*	P	**Pn**	**08 25 29.9**	**-0.9**
MT09					*i* S	**Sn**	**08 26 07.9**	**-1.2**
BO04	**La Punta**	**3.34**	**53**			**Pn**	**08 25 32.1**	**+0.1**
BO04	**La Punta**	**3.34**	**53**	⇑	*i* P	**Pn**	**08 25 32.2**	**+0.1**
BO04					*i* S	**Sn**	**08 26 10.0**	**-1.3**
BO04					IAML		08 26 40.5	
	comp=E,3μm,0.6s							
VA01	**Torpederas**	**3.50**	**32**			**Pn**	**08 25 34.1**	**-0.1**
VA01	**Torpederas**	**3.50**	**32**	*e*	P	**Pn**	**08 25 33.8**	**-0.4**
VA01	**Torpederas**	**3.50**	**32**	*i*	P	**Pn**	**08 25 33.4**	**-0.8**
VA01					IAML		08 26 46.0	
	comp=Z,802nm,4.2s							
MT02	**Curacav**	**3.55**	**39**			**Pn**	**08 25 34.6**	**-0.2**
MT02	**Curacav**	**3.55**	**39**	*e*	P	**Pn**	**08 25 34.2**	**-0.6**
MT02					*i* S	**Sn**	**08 26 15.3**	**-1.1**
MT02	**Curacav**	**3.55**	**39**	*i*	P	**Pn**	**08 25 34.4**	**-0.4**
MT02					IAML		08 26 56.6	
	comp=Z,1μm,1.0s							
MT15	**Las Vizcachas**	**3.66**	**49**	*e*	P	**Pn**	**08 25 36.7**	**+0.3**
MT15					*i* S	**Sn**	**08 26 17.4**	**-1.8**
MT05	**Renca**	**3.67**	**45**			**Pn**	**08 25 36.7**	**+0.2**
MT05	**Renca**	**3.67**	**45**	⇑	*i* P	**Pn**	**08 25 36.7**	**+0.2**
MT05	**Renca**	**3.67**	**45**	*i*	P	**Pn**	**08 25 36.7**	**+0.2**
MT05					IAML		08 27 04.4	
	comp=Z,3μm,1.4s							
LMEL	**Las Melosas**	**3.69**	**55**			**Pn**	**08 25 37.4**	**+0.4**
LMEL	**Las Melosas**	**3.69**	**55**	*i*	P	**Pn**	**08 25 37.8**	**+0.9**
LMEL					IAML		08 26 52.4	
	comp=Z,2μm,0.7s							
MT13	**San Alfonso**	**3.70**	**53**			**Pn**	**08 25 36.9**	**-0.1**
MT13	**San Alfonso**	**3.70**	**53**	*i*	P	**Pn**	**08 25 37.6**	**+0.6**
MT13					IAML		08 27 04.1	
	comp=Z,2μm,1.4s							
MT03	**Universidad Ad**	**3.73**	**48**			**Pn**	**08 25 37.6**	**+0.2**
MT03	**Universidad Ad**	**3.73**	**48**	*i*	P	**Pn**	**08 25 37.6**	**+0.2**
MT03					IAML		08 26 50.0	
	comp=Z,3μm,0.8s							
MT16	**CCHEN**	**3.77**	**47**			**Pn**	**08 25 38.0**	**+0.1**
LR03	**Panguipulli**	**3.77**	**162**			**Pn**	**08 25 37.5**	**-0.4**
LR03	**Panguipulli**	**3.77**	**162**	*i*	P	**Pn**	**08 25 36.7**	**-1.2**
LR03					*i* S	**Sn**	**08 26 22.6**	**+0.7**
LR03					IAML		08 26 52.1	
	comp=Z,5μm,1.1s							
PEL	**Peldehue**	**3.88**	**43**			**Pn**	**08 25 39.7**	**+0.3**
PEL	**Peldehue**	**3.88**	**43**	P		**Pn**	**08 25 39.7**	**+0.3**
PEL						**Sn**	**08 26 24.7**	**+0.1**
FCH	**Farellones**	**3.98**	**48**	⇑	*i* P	**Pn**	**08 25 41.6**	**+0.6**
FCH					*i* S	**Sn**	**08 26 26.9**	**-0.5**
GO06	**Curarrehue**	**4.00**	**153**	*i*	P	**Pn**	**08 25 40.7**	**-0.4**
GO06					IAML		08 26 49.7	
	comp=Z,2μm,1.0s							
MT04	**Ro Olivares**	**4.02**	**50**	*i*	P	**Pn**	**08 25 42.0**	**+0.6**
MT04					IAML		08 26 60.0	
	comp=Z,1μm,1.4s							
VA06	**Catapilco**	**4.05**	**32**			**Pn**	**08 25 41.7**	**0.0**
MT08	**Bocatoma Ro**	**4.07**	**52**			**Pn**	**08 25 42.9**	**+0.7**
MT08	**Bocatoma Ro**	**4.07**	**52**	*i*	P	**Pn**	**08 25 42.9**	**+0.7**
MT08					IAML		08 27 07.1	
	comp=Z,1μm,1.0s							
VA03	**San Esteban**	**4.24**	**41**			**Pn**	**08 25 44.7**	**+0.2**
VA03	**San Esteban**	**4.24**	**41**	*i*	P	**Pn**	**08 25 44.6**	**+0.2**
VA03					IAML		08 27 13.1	
	comp=Z,2μm,0.9s							
LR05	**Currie**	**4.42**	**162**			**Pn**	**08 25 46.6**	**-0.2**
LR05	**Currie**	**4.42**	**162**	*i*	P	**Pn**	**08 25 46.2**	**-0.6**
LR05					IAML		08 27 09.9	
	comp=Z,5μm,1.1s							
RFA	**San Rafael**	**4.56**	**75**	*i*	P	**Pn**	**08 25 50.1**	**+1.3**
RFA					IAML		08 27 12.2	
	comp=Z,2μm,1.7s							
H03S1	**Juan Fernandez**	**4.71**	**296**		Pn	**Pn**	**08 25 51.1**	**+0.6**
	baz=82,slow=13							
H03S1					T	T	08 30 54.5	
	baz=117,slow=73,SNR=433							
H03S3	**Juan Fernandez**	**4.72**	**296**		Pn	**Pn**	**08 25 51.6**	**+0.9**
	baz=82,slow=13							
H03S3					T	T	08 30 50.6	
	baz=117,slow=73,SNR=926							
H03S2	**Juan Fernandez**	**4.73**	**296**		Pn	**Pn**	**08 25 51.6**	**+0.8**
	baz=82,slow=13							
H03S2					T	T	08 30 48.8	
	baz=117,slow=73,SNR=1134							
VA04	**Juan Fernndez**	**4.76**	**299**			**Pn**	**08 25 50.6**	**-0.8**
H03N1	**Juan Fernandez**	**4.92**	**300**		Pn	**Pn**	**08 25 54.7**	**+1.2**
	baz=141,slow=26							
H03N1					Sn	**Sn**	**08 26 49.1**	**-0.8**
H03N1					T	T	08 31 12.1	
	baz=110,slow=77,SNR=45							
H03N3	**Juan Fernandez**	**4.92**	**300**		Pn	**Pn**	**08 25 54.8**	**+1.3**
	baz=141,slow=26							
H03N3					Sn	**Sn**	**08 26 49.2**	**-0.7**
H03N3					T	T	08 31 15.1	
	baz=110,slow=77,SNR=42							
H03N2	**Juan Fernandez**	**4.94**	**300**		Pn	**Pn**	**08 25 55.0**	**+1.4**
	baz=141,slow=26							
H03N2					Sn	**Sn**	**08 26 49.3**	**-0.9**
H03N2					T	T	08 31 19.7	
	baz=110,slow=77,SNR=53							
AAGR	**Agrelo**	**5.07**	**56**	*i*	P	**Pn**	**08 25 58.2**	**+2.4**
AAGR					IAML		08 27 46.2	
	comp=Z,726nm,1.9s							
ARCO	**CERRO ARCO**	**5.15**	**53**	*i*	P	**Pn**	**08 25 57.9**	**+0.9**
ARCO					IAML		08 27 42.5	
	comp=Z,556nm,2.6s							
LL03	**Petrohue**	**5.21**	**168**			**Pn**	**08 25 56.1**	**-1.5**
PLCA	**Paso Flores**	**5.35**	**152**			**Pn**	**08 25 59.4**	**-0.2**
PLCA	**Paso Flores**	**5.35**	**152**		Pn	**Pn**	**08 25 59.8**	**+0.2**
	comp=Z,3.8nm,0.3s,baz=321,slow=10.0,SNR=185							
PLCA					Lg	Lg	08 27 23.2	
	comp=Z,9.5nm,0.3s,baz=37,slow=18,SNR=6.1							
	comp=Z,21nm,0.5s							
PLCA	**Paso Flores**	**5.35**	**152**		P	**Pn**	**08 25 59.4**	**-0.2**
PLCA	**Paso Flores**	**5.35**	**152**	*i*	P	**Pn**	**08 25 59.3**	**-0.3**
PLCA					IAML		08 27 43.6	
	comp=Z,693nm,1.4s							
PLCA	**Paso Flores**	**5.35**	**152**	*e*	P	**Pn**	**08 25 59.9**	**+0.3**
LL05	**Los Muermos**	**5.37**	**177**			**Pn**	**08 25 58.0**	**-1.7**
CO02	**Combarbal**	**5.37**	**27**			**Pn**	**08 26 00.2**	**+0.3**
CO06	**Fray Jorge**	**5.66**	**20**			**Pn**	**08 26 03.1**	**-0.7**
CO03	**El Pedregal**	**5.81**	**28**			**Pn**	**08 26 05.8**	**-0.2**
ZON	**Zonda**	**6.20**	**45**			**Pn**	**08 26 12.3**	**+1.0**
ZON	**Zonda**	**6.20**	**45**	P		**Pn**	**08 26 12.3**	**+1.0**
GO04	**Tololo Observa**	**6.38**	**24**			**Pn**	**08 26 13.6**	**-0.3**
CFA	**Coronel Fontan**	**6.42**	**48**		Pn	**Pn**	**08 26 14.9**	**+0.7**
	comp=Z,12nm,0.3s,baz=219,slow=13,SNR=184							
CFA					Sn	**Sn**	**08 27 28.0**	**+0.8**
	comp=Z,14nm,0.3s,baz=118,slow=18,SNR=7.2							
	comp=Z,26nm,0.3s							
LL01	**San Ignacio de**	**6.43**	**171**			**Pn**	**08 26 13.8**	**-0.5**
CO05	**La Serena**	**6.48**	**20**			**Pn**	**08 26 14.7**	**-0.4**
GO07	**Milladeo Hill,**	**7.07**	**179**			**Pn**	**08 26 21.2**	**-1.9**
LL02	**Futaleuf**	**7.30**	**169**			**Pn**	**08 26 25.4**	**-0.9**
LCO	**Las Campanas**	**7.49**	**22**			**Pn**	**08 26 28.3**	**-0.9**
LCO	**Las Campanas**	**7.49**	**22**	P		**Pn**	**08 26 28.3**	**-0.9**
LCO				S		**Sn**	**08 27 52.1**	**-1.7**
AC04	**Llanos de Chal**	**8.15**	**17**			**Pn**	**08 26 37.4**	**-0.7**
GO03	**Copiapo**	**8.96**	**21**	Pn		**Pn**	**08 26 49.1**	**0.0**
COYC	**Coyhaique**	**9.62**	**173**			**Pn**	**08 26 58.3**	**+0.3**
TRQA	**Tornquist**	**9.68**	**106**			**Pn**	**08 26 59.6**	**+0.6**
TRQA	**Tornquist**	**9.68**	**106**	P		**Pn**	**08 26 59.6**	**+0.6**
TRQA	**Tornquist**	**9.68**	**106**	*e*	P	**Pn**	**08 26 59.1**	**+0.1**
AC02	**Maricunga**	**10.01**	**25**			**Pn**	**08 27 03.4**	**-0.6**
AY03	**Cochrane**	**11.24**	**176**			**Pn**	**08 27 19.5**	**-0.8**
GO02	**Mina Guanaco**	**11.44**	**20**			**Pn**	**08 27 23.2**	**-0.1**
PB14	**IPOC Station P**	**11.75**	**15**	Pn		**Pn**	**08 27 26.7**	**-1.0**
LPA	**La Plata**	**13.01**	**90**	*de*	P	**Pn**	**08 27 42.3**	**-2.2**
LPA					PP	**PbPb**	**08 28 24.4**	**-2.8**
LPA					S	**Sn**	**08 30 05.9**	**-2.9**
LPA					SSS	SSS	08 30 39.7	
LPA					SS	**SgSg**	**08 31 48.7**	**+10**
AF01	**San Pedro de A**	**13.93**	**22**	Pn		**Pn**	**08 27 57.7**	**+0.2**
PB03	**IPOC Station P**	**14.39**	**15**	Pn		**Pn**	**08 28 01.5**	**-2.1**
PSAL	**Palomas, Salto**	**14.40**	**75**	*e*	P	**Pn**	**08 28 03.2**	**-0.3**
PB09	**IPOC Station P**	**14.74**	**17**	Pn		**Pn**	**08 28 06.7**	**-1.8**
PB02	**IPOC Station P**	**15.06**	**14**	Pn		**Pn**	**08 28 10.3**	**-2.4**
PB01	**IPOC Station P**	**15.42**	**15**			**Pn**	**08 28 15.9**	**-1.4**
MG05	**Puerto Natales**	**15.66**	**177**	Pn		**Pn**	**08 28 18.8**	**-1.4**
TA01	**Diego Aracena**	**15.74**	**13**	Pn		**Pn**	**08 28 20.9**	**-0.6**
PB08	**IPOC Station P**	**16.36**	**16**	Pn		**Pn**	**08 28 27.9**	**-1.8**
PB11	**IPOC Station P**	**16.63**	**14**	Pn		**Pn**	**08 28 32.2**	**-0.8**
GO01	**Chusmiza**	**16.81**	**15**	Pn		**Pn**	**08 28 32.3**	**-3.2**
MG02	**Cerro Sombrero**	**17.05**	**170**	Pn		**Pn**	**08 28 35.2**	**-2.7**
MG02					IAmb	IAmb	08 28 41.2	
	comp=Z,438nm,1.9s							
CPUP	**Villa Florida**	**17.09**	**60**			**Pn**	**08 28 36.4**	**-2.3**
CPUP	**Villa Florida**	**17.09**	**60**	Pn		**Pn**	**08 28 35.8**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=92,slow=8.7,SNR=5.3							
CPUP					LR	LR	08 34 46.6	
	comp=Z,455nm,21.3s,baz=94,slow=36							
	comp=Z,1.5nm,1.0s							
CPUP	**Villa Florida**	**17.09**	**60**	P		**Pn**	**08 28 36.4**	**-2.3**
CPUP					pmax	pmax		
	comp=Z,17nm,1.6s							
CPUP	**Villa Florida**	**17.09**	**60**	*e*	P	**Pn**	**08 28 37.5**	**-1.2**
GO10	**Punta Arenas**	**17.23**	**174**			**Pn**	**08 28 39.6**	**-0.6**
PLTB	**Pedras Altas**	**17.32**	**82**			**Pn**	**08 28 38.7**	**-2.7**
PLTB	**Pedras Altas**	**17.32**	**82**	*e*	P	**Pn**	**08 28 39.5**	**-2.0**
CPSB	**Cacapava Do Su**	**17.95**	**78**	*e*	P	**Pn**	**08 28 49.2**	**-0.1**
MG03	**Isla Dawson**	**17.96**	**174**	Pn		**Pn**	**08 28 46.9**	**-2.3**
PB16	**IPOC Station P**	**18.04**	**13**	Pn		**Pn**	**08 28 48.0**	**-3.0**
PB18	**Visviri**	**18.78**	**13**	P		**P**	**08 28 59.1**	**-0.4**
SJPY	**San Joaquin**	**18.79**	**59**	*e*	P	**P**	**08 28 59.4**	**+0.3**
USHA	**Ushuaia**	**19.16**	**170**	P		**P**	**08 29 01.8**	**-1.0**
	comp=Z,3.4nm,0.3s,baz=1.5,slow=3.7,SNR=2.9							
	comp=Z,30nm,0.9s							
EFI	**East Falkland**	**19.26**	**149**	⇓	*i* P	**P**	**08 29 04.1**	**+0.1**
EFI					pmax	pmax		
	comp=Z,148nm,1.5s							
MG01	**Puerto William**	**19.37**	**169**		P	**P**	**08 29 03.9**	**-1.3**
MG01					IAmb	IAmb	08 29 17.7	
	comp=Z,248nm,1.4s							
MURT	**Porto Murtinho**	**20.13**	**49**	*e*	P	**P**	**08 29 14.6**	**+0.9**
LPAZ	**La Paz**	**20.32**	**16**	P		**P**	**08 29 14.5**	**-1.9**
LPAZ	**La Paz**	**20.32**	**16**	P		Pn	08 29 20.0	+1.6
	comp=Z,7.3nm,0.6s,baz=189,slow=5.2,SNR=16							
LPAZ					S	Sn	08 33 10.5	+3.4
	comp=Z,1.6nm,1.0s,baz=127,slow=4.0,SNR=6.7							
	comp=Z,7.3nm,0.6s							
LPAZ	**La Paz**	**20.32**	**16**	*e*	P	Pn	08 29 18.0	-0.4
LPAZ	**La Paz**	**20.32**	**16**	P		Pn	08 29 19.5	+1.1
	comp=Z,1μmcomp=Z,59nm,1.6s							
ITAB	**Concordia**	**20.42**	**71**	P		**P**	**08 29 14.9**	**-2.0**
ITAB					IAmb	IAmb	08 29 19.1	
	comp=Z,288nm,1.2s							
ITAB	**Concordia**	**20.42**	**71**	*e*	P	**P**	**08 29 18.0**	**+1.2**
CNLB	**Canela**	**20.45**	**77**	*e*	P	**P**	**08 29 17.7**	**+0.5**
AMBA	**Amambai (Brazi**	**20.92**	**56**	*e*	P	**P**	**08 29 23.6**	**+1.4**
BDQN	**Bodoquena, MS**	**21.57**	**49**	*e*	P	**P**	**08 29 29.3**	**0.0**
PTGB	**Pitanga**	**21.86**	**65**	*e*	P	**P**	**08 29 32.2**	**-0.2**
AQDB	**Aquidauana**	**22.20**	**51**	P		**P**	**08 29 34.7**	**-1.3**
AQDB					IAmb	IAmb	08 29 48.9	
	comp=Z,137nm,1.0s							
AQDB	**Aquidauana**	**22.20**	**51**	*e*	P	**P**	**08 29 36.4**	**+0.4**
TRCB	**Terra Rica**	**22.63**	**60**	P		**P**	**08 29 41.0**	**+0.3**
TRCB	**Terra Rica**	**22.63**	**60**	*e*	P	**P**	**08 29 42.0**	**+1.3**
SIV	**San Ignacio**	**22.98**	**33**	P		**P**	**08 29 45.5**	**+1.2**
	comp=Z,18nm,0.6s,baz=209,slow=8.0,SNR=85							
SIV					LR	LR	08 40 32.1	
	comp=Z,4μm,19.9s,baz=221,slow=42							
	comp=Z,18nm,0.6s							
LDASE	**Londrina, Braz**	**23.34**	**64**	*e*	P	**P**	**08 29 46.3**	**-1.7**
NNA	**Nana**	**24.10**	**353**	P		**P**	**08 29 53.9**	**-1.4**
NNA					IAmb	IAmb	08 30 08.2	
	comp=Z,220nm,2.0s							
NNA	**Nana**	**24.10**	**353**	LR		LR	08 37 25.3	
	comp=Z,836nm,18.4s,baz=176,slow=32							
NNA	**Nana**	**24.10**	**353**	⇑	*e* P	**P**	**08 29 56.3**	**+1.0**
NNA					pmax	pmax		
	comp=Z,144nm,1.8s							
NNA	**Nana**	**24.10**	**353**	P		**P**	**08 29 59.1**	**+3.8**
	comp=Z,39nm,0.4s							
PTLB	**Pontes e Lacer**	**24.34**	**36**	P		**P**	**08 29 55.6**	**-1.9**
PTLB					IAmb	IAmb	08 30 07.4	
	comp=Z,150nm,1.5s							
PTLB	**Pontes e Lacer**	**24.34**	**36**	*e*	P	**P**	**08 29 58.9**	**+1.4**
FRTB	**Fartura**	**24.51**	**66**	*e*	P	**P**	**08 29 59.5**	**+0.5**
PP1B	**Ponte de Pedra**	**24.88**	**47**	*e*	P	**P**	**08 30 01.8**	**-0.7**
C2SB	**Chapadao do Su**	**25.27**	**53**	*e*	P	**P**	**08 30 07.6**	**+1.7**
PET01	**Itanhaem-SP**	**25.69**	**70**	*e*	P	**P**	**08 30 11.1**	**+1.4**
SALV	**Santo Antonio**	**25.76**	**44**	*e*	P	**P**	**08 30 11.8**	**+1.4**
SPB	**Sao Paulo**	**25.95**	**69**	*e*	P	**P**	**08 30 13.5**	**+1.3**
VILB	**Vilhena**	**26.06**	**32**	P		**P**	**08 30 12.7**	**-0.5**
VILB					IAmb	IAmb	08 30 22.5	
	comp=Z,110nm,1.3s							
VILB	**Vilhena**	**26.06**	**32**	*e*	P	**P**	**08 30 14.1**	**+0.9**
ITRB	**Iturama**	**26.26**	**58**	*e*	P	**P**	**08 30 16.0**	**+1.0**
RCLB	**Rio Claro- Sao**	**26.56**	**66**	*e*	P	**P**	**08 30 19.0**	**+1.3**
VAO	**Valinhos**	**26.64**	**68**	P		**P**	**08 30 18.3**	**+1.3**
VAO	**Valinhos**	**26.64**	**68**	*e*	P	**P**	**08 30 19.8**	**+1.4**
BB19B	**Bebedouro**	**26.66**	**63**	*e*	P	**P**	**08 30 20.4**	**+1.9**
PARB	**Paraibuna**	**27.47**	**70**	*e*	P	**P**	**08 30 28.1**	**+2.2**
ARAG	**Araguaiana, MT**	**28.20**	**50**	*e*	P	**P**	**08 30 33.3**	**+0.9**
PDRB	**Porto dos Gac**	**28.82**	**37**	*e*	P	**P**	**08 30 39.7**	**+1.9**
IPMB	**Ipameri, GO**	**28.92**	**58**	*e*	P	**P**	**08 30 39.5**	**+0.7**
MAN01	**Ângra dos Reis**	**29.00**	**71**	*e*	P	**P**	**08 30 38.5**	**-1.0**
ATAH	**Atahualpa**	**29.07**	**351**	LR		LR	08 40 17.7	
	comp=Z,885nm,19.3s,baz=181,slow=32							
PMSA	**Palmer Station**	**29.36**	**171**	LR		LR	08 41 51.6	
	comp=Z,751nm,18.2s,baz=344,slow=35							
VAS01	**Vassouras-RJ**	**29.73**	**71**	*e*	P	**P**	**08 30 48.1**	**+2.2**
PMNB	**Patos De Minas**	**29.79**	**61**	*e*	P	**P**	**08 30 46.1**	**-0.4**
CLDB	**Colider**	**29.91**	**38**	*e*	P	**P**	**08 30 48.1**	**+0.6**
BDFB	**Brasilia**	**30.70**	**55**	P		**P**	**08 30 54.9**	**+0.3**
BDFB	**Brasilia**	**30.70**	**55**	P		**P**	**08 30 54.6**	**0.0**
	comp=Z,12nm,1.0s,baz=244,slow=5.6,SNR=9.5							
BDFB					LR	LR	08 43 42.2	
	comp=Z,1μm,19.7s,baz=227,slow=37							
	comp=Z,12nm,1.0s							
BDFB	**Brasilia**	**30.70**	**55**	P		**P**	**08 30 54.9**	**+0.3**
BDFB					pmax	pmax		
	comp=Z,40nm,1.3s							
RPN	**Rapa Nui**	**31.39**	**276**	LR		LR	08 40 06.5	
	comp=Z,2μm,20.9s,baz=116,slow=29							
SNDB	**Serra Nova Dou**	**31.43**	**46**	*e*	P	**P**	**08 30 59.8**	**-1.2**
DIAM	**Diamantina, MG**	**31.94**	**64**	*e*	P	**P**	**08 31 05.8**	**+0.2**

MDP Montagnes des 45.49 30 LR LR 08 53 43.5
comp=Z,3µm,18.9s,baz=200,slow=38
ARGC Ariguani, Magd 45.65 359 P P 08 33 06.3 +6.1
comp=Z,1µmcomp=Z,44nm,1.9s
SJCC San Jacinto, C 45.70 358 P **P** **08 33 03.4 +2.7**
RCBR Riachuelo 45.96 58 LR LR 08 51 14.2
comp=Z,563nm,18.8s,baz=210,slow=35
RCBR Riachuelo 45.96 58 *eP* **P** **08 33 04.3 +1.4**
PCRV Puerto La Cruz 46.78 12 LR LR 08 54 56.1
comp=Z,2µm,18.7s,slow=39
HDC Heredia 46.81 346 *eP* **P** **08 33 12.5 +3.0**
SMRC Santa Marta, M 46.95 359 P **P** **08 33 10.2 -0.3**
SMRC IAmb IAmb 08 33 21.4
comp=Z,47nm,1.4s
VNA3 Neumayer Olymp 48.05 157 ⇑P **P** **08 33 19.5 +1.1**
comp=Z,23nm,0.8s
VNA1 Neumayer--Stat 48.40 156 ⇑P **P** **08 33 22.6 +1.6**
comp=Z,24nm,0.9s
VNA2 Neumayer--Watz 48.72 156 ⇑P **P** **08 33 24.9 +1.3**
comp=Z,20nm,0.8s,baz=297,slow=9.6
ESPN Las Esperanzas 48.98 346 P **P** **08 33 24.7 -1.5**
PRVC Isla de Provid 49.66 350 P **P** **08 33 30.9 -0.4**
PRVC IAmb IAmb 08 33 42.9
comp=Z,85nm,1.7s
SNAA Sanae 50.27 157 ⇑P **P** **08 33 36.6 +1.1**
comp=Z,616nm,0.9s
SNAA ⇑S **S** **08 40 40.8 -6.0**
SNAA Sanae 50.27 157 **P** **08 33 36.0 +0.5**
SNAA IAmb IAmb 08 33 45.3
comp=Z,60nm,1.1s
SNAA Sanae 50.27 157 P **P** **08 33 36.6 +1.1**
comp=Z,23nm,0.9s,baz=276,slow=6.2,SNR=74
SNAA LR LR 08 54 20.9
comp=Z,1µm,18.6s,baz=286,slow=36
comp=Z,23nm,0.9s
SNAA Sanae 50.27 157 *c iP* **P** **08 33 36.8 +1.3**
SNAA pmax pmax
comp=Z,68nm,1.2s
TROLL Troll, Antarti 51.97 157 ⇑P **P** **08 33 49.6 +1.3**
comp=Z,911nm,0.8s
TROLL ⇑S **S** **08 41 12.4 +2.0**
RKT Rikitea 53.93 266 *e*LR LR 08 49 38.9
comp=Z,4µm,32.0s
QSPA South Pole Qui 54.20 180 P **P** **08 34 05.2 +0.3**
QSPA IAmb IAmb 08 34 17.3
comp=Z,39nm,1.1s
QSPA South Pole Qui 54.20 180 P **P** **08 34 08.6 +3.7**
comp=Z,22nm,0.9s,baz=142,slow=2.7,SNR=54
QSPA LR LR 08 57 05.7
comp=Z,585nm,18.0s,baz=165,slow=36
comp=Z,22nm,0.9s
OBIP Obispado Ponce 54.22 8 P **P** **08 34 05.0 -0.2**
OBIP IAmb IAmb 08 34 15.8
comp=Z,57nm,1.1s
CELP Cerrillos 54.25 9 P **P** **08 34 04.3 -1.2**
SABA Saba 54.30 12 P **P** **08 34 04.8 -1.1**
SJG San Juan 54.34 9 P **P** **08 34 04.0 -2.2**
SJG IAmb IAmb 08 34 15.3
comp=Z,47nm,1.1s
SJG San Juan 54.34 9 P **P** **08 34 04.0 -2.2**
SJG pmax pmax
comp=Z,47nm,1.2s
GCPR Guaynabo City 54.55 9 P **P** **08 34 06.1 -1.5**
GCPR IAmb IAmb 08 36 01.7
comp=Z,107nm,1.9s
SDDR Presa de Saban 54.77 3 P **P** **08 34 08.3 -1.1**
PETF Flores 54.81 341 P **P** **08 34 08.4 -1.2**
SC01 Santiago de lo 55.24 4 P **P** **08 34 11.2 -1.5**
SC01 IAmb IAmb 08 34 23.5
comp=Z,61nm,1.2s
CMIG Matias Romero 56.48 336 LR LR 08 53 51.2
comp=Z,255nm,18.5s,baz=151,slow=31
SBA Scott Base 60.78 192 **P** **08 34 50.6 -0.3**
SBA Scott Base 60.78 192 P **P** **08 34 50.6 -0.3**
SBA pmax pmax
comp=Z,21nm,1.4s
MOIG Morelia 61.17 330 P **P** **08 34 53.5 -1.0**
MOIG IAmb IAmb 08 35 08.4
comp=Z,76nm,1.7s
VNDA Vanda 61.82 192 **P** **08 34 57.9 0.0**
VNDA IAmb IAmb 08 35 09.8
comp=Z,46nm,1.9s
VNDA Vanda 61.82 192 P **P** **08 35 00.5 +2.6**
comp=Z,1.7nm,0.9s,baz=162,slow=4.0,SNR=7.5
comp=Z,1.7nm,0.9s
VNDA Vanda 61.82 192 P **P** **08 34 57.9 0.0**
VNDA pmax pmax
comp=Z,46nm,2.0s
SYO Syowa Base 64.51 159 ⇑*eP* **P** **08 35 12.2 -3.6**
SYO Syowa Base 64.51 159 ⇓*epP* **P** **08 35 15.3 -0.5**
TBI Tubuai 65.44 258 *e*S **S** **08 44 04.7 -1.8**
comp=Z,1µm,25.8s
TBI Tubuai 65.44 258 *e*LR LR 08 54 55.5
comp=Z,5µm,28.2s
TBI *e*LR LR 08 54 57.7
comp=Z,1µm,27.5s
TAOE Nuku Hiva Isla 65.72 277 *e*LR LR 08 55 03.0
comp=Z,955nm,28.7s
553A Crawfordville 66.63 350 P **P** **08 35 29.3 -0.5**
833A Chaparral WMA, 68.40 336 P **P** **08 35 39.9 -1.3**
PPTF Pamatai, Papee 68.51 263 P **P** **08 35 40.8 -1.5**
PPT2 Papeete2 68.52 263 *eP* **P** **08 35 42.4 +0.1**
comp=Z,130nm,21.8s
PPT2 *e*S **S** **08 44 43.9 -0.1**
comp=Z,406nm,23.8s
PPT2 Papeete2 68.52 263 *e*LR LR 08 56 22.6
comp=Z,1µm,25.2s
PPT2 *e*LR LR 08 56 23.3
comp=Z,1µm,28.0s
PPT Papeete 68.53 263 LR LR 08 57 26.8
comp=Z,617nm,18.6s,baz=117,slow=29
HKT Hockley 68.82 340 P P 08 35 49.4 +5.7
HKT pmax pmax
comp=Z,16nm,2.5s
LPIG La Paz 69.04 324 LR LR 08 58 50.9
comp=Z,413nm,21.6s,baz=156,slow=30
HPIG 69.46 330 P **P** **08 35 46.7 -1.4**
HPIG IAmb IAmb 08 36 00.4
comp=Z,50nm,1.6s
HNDO Hondo 69.48 336 P **P** **08 35 47.2 -0.6**
HNDO IAmb IAmb 08 36 00.1
comp=Z,53nm,1.6s
GOGA Godfrey 69.68 351 P **P** **08 35 49.6 +0.7**
GOGA IAmb IAmb 08 35 59.6
comp=Z,39nm,1.4s
GOGA Godfrey 69.68 351 P **P** **08 35 49.6 +0.7**
GOGA pmax pmax
comp=Z,39nm,1.4s
VBMS Vicksburg 69.68 345 P **P** **08 35 49.8 +0.9**
LRAL Lakeview Retre 69.81 348 P **P** **08 35 50.5 +0.8**
LRAL IAmb IAmb 08 36 01.1
comp=Z,49nm,1.5s
DRIO Del Rio 69.82 335 P **P** **08 35 50.5 +0.5**
435B Jarrell 70.11 338 P **P** **08 35 51.5 -0.2**
435B IAmb IAmb 08 36 03.7
comp=Z,35nm,1.4s
Z47A Carrollton 70.16 347 P **P** **08 35 51.4 -0.5**
Y52A Lilburn 70.20 351 P **P** **08 35 51.5 -0.7**
Y52A IAmb IAmb 08 36 03.0
comp=Z,48nm,1.3s
NATX Nacogdoches 70.22 341 P **P** **08 35 51.3 -1.0**
JSC Jenkinsville 70.30 353 P **P** **08 35 52.7 -0.1**
JSC IAmb IAmb 08 36 03.6
comp=Z,30nm,1.3s
JSC Jenkinsville 70.30 353 P **P** **08 35 52.7 -0.1**
JSC pmax pmax
comp=Z,30nm,1.3s
TXAR Lajitas Array 70.83 333 P **P** **08 35 55.9 -0.3**
TXAR Lajitas Array 70.83 333 P **P** **08 35 59.5 +3.3**
comp=Z,1.0nm,0.6s,baz=153,slow=8.3,SNR=20
TXAR LR LR 09 02 18.9
comp=Z,274nm,19.1s,baz=136,slow=32
comp=Z,1.0nm,0.6s
TX31 Lajitas Ar. Si 70.83 333 P **P** **08 35 55.6 -0.7**
SAND Sanderson 70.83 334 P **P** **08 35 56.1 -0.1**
SAND IAmb IAmb 08 36 08.3
comp=Z,50nm,1.5s
PAULI Pauline 70.89 353 IAmb IAmb 08 36 07.3
comp=Z,48nm,1.3s
X51A Calhoun 70.99 350 P **P** **08 35 56.9 -0.1**
X51A IAmb IAmb 08 36 08.3
comp=Z,41nm,1.0s
BRDY Brady 71.02 337 **P** **08 35 58.1 +0.8**
BRDY IAmb IAmb 08 36 08.7
comp=Z,45nm,1.7s
Y45A Yeager Farm, C 71.08 346 P **P** **08 35 56.9 -0.6**

OZNA Ozona 71.37 335 P **P** **08 35 58.9 -0.6**
OZNA IAmb IAmb 08 36 11.1
comp=Z,72nm,1.7s
FW13 Cleburne 71.54 339 P **P** **08 36 00.1 -0.3**
FW13 IAmb IAmb 08 36 11.7
comp=Z,34nm,1.2s
MAW Mawson 71.64 164 P **P** **08 36 01.9 +1.3**
comp=Z,6.3nm,0.8s,baz=209,slow=6.9,SNR=15
MAW LR LR 09 07 46.2
comp=Z,1µm,18.7s,baz=229,slow=36
comp=Z,6.3nm,0.8s
W50A Signal Mountai 71.68 350 IAmb IAmb 08 36 12.4
comp=Z,46nm,1.1s
ALPN Alpine 71.76 333 IAmb IAmb 08 36 14.9
comp=Z,75nm,1.9s
CPCT Cooper Cave 71.82 351 IAmb IAmb 08 36 13.0
comp=Z,36nm,1.1s
V55A Taylorsville 71.85 354 IAmb IAmb 08 36 13.0
comp=Z,42nm,1.2s
PLAL Pickwick Lake 71.89 348 IAmb IAmb 08 36 13.2
comp=Z,35nm,1.3s
PLPT Palo Pinto 72.23 338 IAmb IAmb 08 36 16.0
comp=Z,47nm,1.3s
MNHN Monahans 72.32 334 IAmb IAmb 08 36 16.9
comp=Z,52nm,1.6s
ABTX Abilene, Hawle 72.46 337 P **P** **08 36 05.0 -0.9**
U54A Nelsons Funny 72.57 353 P **P** **08 36 06.1 -0.4**
U54A IAmb IAmb 08 36 17.1
comp=Z,29nm,1.0s
MIAR Mount Ida 72.60 343 P **P** **08 36 06.1 -0.6**
MIAR IAmb IAmb 08 36 18.0
comp=Z,44nm,1.6s
MIAR Mount Ida 72.60 343 P **P** **08 36 06.1 -0.6**
MIAR pmax pmax
comp=Z,44nm,1.7s
CLTN Cedars of Leba 72.70 349 IAmb IAmb 08 36 18.3
comp=Z,36nm,1.2s
T59A Double "B" Far 72.72 357 IAmb IAmb 08 36 18.5
comp=Z,50nm,1.2s
WVT Waverly 72.97 348 **P** **08 36 08.7 -0.1**
WVT Waverly 72.97 348 P **P** **08 36 08.7 -0.1**
WVT pmax pmax
comp=Z,102nm,1.4s
WHAR Wooly Hollow 73.02 344 **P** **08 36 09.1 0.0**
WTFS Witchita Falls 73.16 339 IAmb IAmb 08 36 21.3
comp=Z,77nm,1.6s
LCAR Lake Charles 73.53 345 IAmb IAmb 08 36 22.8
comp=Z,51nm,1.3s
FCAR Ozark Folk Cen 73.56 345 IAmb IAmb 08 36 23.1
comp=Z,44nm,1.4s
X34A Smith Ranch, M 73.76 340 P **P** **08 36 13.2 -0.4**
X34A IAmb IAmb 08 36 25.1
comp=Z,57nm,1.4s
DKNS Dickens 73.83 337 P **P** **08 36 13.1 -0.9**
DKNS IAmb IAmb 08 36 25.4
comp=Z,48nm,1.6s
WMOK Wichita Mounta 74.16 339 P **P** **08 36 16.1 +0.2**
WMOK Wichita Mounta 74.16 339 P **P** **08 36 16.1 +0.2**
WMOK pmax pmax
comp=Z,42nm,1.6s
FNO Franklin 74.25 340 P **P** **08 36 15.6 -0.8**
FNO IAmb IAmb 08 36 27.5
comp=Z,92nm,1.6s
HHAR Hobbs 74.34 343 IAmb IAmb 08 36 27.9
comp=Z,44nm,1.5s
DEOK Depew 74.56 341 P **P** **08 36 16.3 -1.9**
R50A Paris 74.59 351 P **P** **08 36 17.0 -1.3**
R50A IAmb IAmb 08 36 28.7
comp=Z,39nm,1.3s
U38A Gravette 74.60 343 P **P** **08 36 17.4 -1.0**
RAR Rarotonga 74.68 255 LR LR 09 00 41.3
comp=Z,180nm,21.4s,baz=87,slow=29
R49A Shelbyville 74.70 351 IAmb IAmb 08 36 29.4
comp=Z,80nm,1.5s
MSTX Muleshoe 74.71 335 IAmb IAmb 08 36 30.6
comp=Z,40nm,1.4s
USIN University of 74.74 349 IAmb IAmb 08 36 29.4
comp=Z,61nm,1.1s
OK029 Liberty Lake 74.78 340 P **P** **08 36 18.9 -0.5**
WCI Wyandotte Cave 74.79 350 P **P** **08 36 18.3 -1.1**
WCI IAmb IAmb 08 36 29.5
comp=Z,71nm,1.9s
WCI Wyandotte Cave 74.79 350 P **P** **08 36 18.3 -1.1**
WCI pmax pmax
comp=Z,71nm,2.0s
MGMO Mountain Grove 74.81 345 IAmb IAmb 08 36 30.6
comp=Z,42nm,1.4s
SMWD Samnorwood 74.94 338 IAmb IAmb 08 36 31.9
comp=Z,51nm,1.3s
CSTR Hydro, Custer 74.98 339 P **P** **08 36 20.8 +0.1**
Q52A Bidwell 75.04 353 P **P** **08 36 20.9 +0.1**
SDMD Soldier's Deli 75.13 358 P **P** **08 36 20.8 -0.5**
Q51A Peebles 75.21 352 IAmb IAmb 08 36 32.5
comp=Z,36nm,1.2s
FVM French Village 75.24 347 P **P** **08 36 21.9 -0.1**
FVM French Village 75.24 347 P **P** **08 36 22.0 -0.1**
FVM pmax pmax
comp=Z,117nm,1.7s
121A Cookes Peak, D 75.26 331 P **P** **08 36 23.0 +0.5**
121A IAmb IAmb 08 36 35.2
comp=Z,38nm,1.4s
CCM Cathedral Cave 75.47 346 P **P** **08 36 23.3 0.0**
CCM Cathedral Cave 75.47 346 P **P** **08 36 23.3 0.0**
CCM pmax pmax
comp=Z,74nm,1.2s
P53A Whipple 75.48 354 P **P** **08 36 23.0 -0.4**
P53A IAmb IAmb 08 36 34.1
comp=Z,79nm,1.5s
T35A Sooner Cattle 75.58 341 P **P** **08 36 24.4 +0.3**
T35A IAmb IAmb 08 36 35.4
comp=Z,62nm,1.2s
CROK Carrier 75.59 340 P **P** **08 36 24.6 +0.6**
CROK IAmb IAmb 08 36 35.2
comp=Z,78nm,1.5s
PSUB Penn St. - Bra 75.61 359 P **P** **08 36 24.4 +0.3**
WUPA West Chester U 75.62 359 P **P** **08 36 23.6 -0.5**
P52A Corning 75.69 353 IAmb IAmb 08 36 35.1
comp=Z,58nm,1.2s
P48A Milroy 75.89 351 IAmb IAmb 08 36 35.7
comp=Z,57nm,1.2s
R40A Maddies Statio 75.90 345 IAmb IAmb 08 36 36.7
comp=Z,50nm,1.3s
O52A Adamsville 76.14 354 IAmb IAmb 08 36 37.7
comp=Z,30nm,1.1s
TUC Tucson 76.30 328 P **P** **08 36 27.8 -0.6**
TUC Tucson 76.30 328 P **P** **08 36 27.8 -0.6**
TUC pmax pmax
comp=Z,37nm,1.6s
ACSO Alum Creek Sta 76.36 353 P **P** **08 36 27.6 -0.8**
ANMO Albuquerque 76.89 333 P **P** **08 36 30.3 -1.5**
ANMO IAmb IAmb 08 36 44.3
comp=Z,42nm,1.5s
ANMO Albuquerque 76.89 333 LR LR 09 06 05.3
comp=Z,392nm,18.9s,baz=284,slow=32
ANMO Albuquerque 76.89 333 ⇑*iP* **P** **08 36 35.4 +3.6**
ANMO pmax pmax
comp=Z,30nm,1.5s
RTBA Rita Blanca 76.95 336 P **P** **08 36 30.6 -1.4**
RTBA IAmb IAmb 08 36 43.9
comp=Z,63nm,1.7s
N51A Ashland 76.98 353 P **P** **08 36 30.9 -1.0**
DBIC Dimbokro 77.21 72 **P** **08 36 32.9 -0.9**
DBIC IAmb IAmb 08 36 43.7
comp=Z,63nm,1.5s
DBIC Dimbokro 77.21 72 P **P** **08 36 35.4 +1.5**
comp=Z,8.6nm,0.8s,baz=229,slow=6.1,SNR=9.2
DBIC LR LR 09 08 18.9
comp=Z,478nm,19.2s,baz=248,slow=34
comp=Z,8.6nm,0.8s
DBIC Dimbokro 77.21 72 P **P** **08 36 32.9 -0.9**
DBIC pmax pmax
comp=Z,63nm,1.5s
N47A Urbana 77.32 351 P **P** **08 36 33.0 -0.8**
N47A IAmb IAmb 08 36 43.7
comp=Z,43nm,1.1s
P38A Dawn 77.45 345 IAmb IAmb 08 36 45.2
comp=Z,42nm,1.2s
CASY Casey 77.95 182 P **P** **08 36 37.5 +0.3**
CASY IAmb IAmb 08 36 47.9
comp=Z,70nm,1.6s
CBKS Cedar Bluff 78.23 340 IAmb IAmb 08 36 50.7
comp=Z,60nm,1.3s
N35A Tabor 79.11 343 IAmb IAmb 08 36 54.3
comp=Z,61nm,1.3s
BLYC Blythe 79.16 326 P **P** **08 36 43.7 -0.4**
WUAZ Wupatki 79.31 330 IAmb IAmb 08 36 58.1
comp=Z,55nm,1.6s
L40A Anamosa 79.34 347 IAmb IAmb 08 36 55.4
comp=Z,40nm,1.1s
PMD Palm Desert 79.92 325 P **P** **08 36 46.8 -1.5**
PFO Pinyon Flats O 79.93 325 P **P** **08 36 47.3 -1.2**
PFO Pinyon Flats O 79.93 325 ⇑*eP* **P** **08 36 52.4 +3.9**
PFO pmax pmax
comp=Z,40nm,1.5s
JFWS Jewell Farm 79.99 348 IAmb IAmb 08 37 00.0
comp=Z,80nm,1.6s
TSUM Tsumeb 80.06 106 LR LR 09 09 53.8
comp=Z,288nm,18.5s,baz=149,slow=34
ELS Elsinore Mount 80.41 324 P **P** **08 36 48.8 -2.3**
BOSA Boshof 80.41 118 **P** **08 36 51.4 -0.1**
BOSA IAmb IAmb 08 37 01.1
comp=Z,91nm,1.6s
BOSA Boshof 80.41 118 P **P** **08 36 52.1 +0.6**
comp=Z,15nm,1.0s,baz=215,slow=6.6,SNR=9.6
BOSA LR LR 09 12 03.1
comp=Z,368nm,18.0s,baz=214,slow=36
comp=Z,15nm,1.0s
BOSA Boshof 80.41 118 P **P** **08 36 51.4 -0.1**
BOSA pmax pmax
comp=Z,91nm,1.6s
SADO Sadowa 80.58 356 LR LR 09 15 36.2
comp=Z,3µm,19.7s,baz=148,slow=38
PV18 Skein Mesa, Pa 80.73 333 IAmb IAmb 08 37 04.9
comp=Z,70nm,1.5s
G62A West of Eustis 80.94 2 IAmb IAmb 08 37 05.2
comp=Z,46nm,1.3s
KNB Kanab 81.20 329 P **P** **08 36 54.3 -1.0**
KNB IAmb IAmb 08 37 09.1
comp=Z,76nm,1.5s
KNB Kanab 81.20 329 P **P** **08 36 54.3 -1.0**
KNB pmax pmax
comp=Z,76nm,1.5s
I37A Lemond, Waseca 81.64 346 IAmb IAmb 08 37 08.1
comp=Z,58nm,1.2s
SZCU Shurtz Canyon 81.80 329 IAmb IAmb 08 37 11.5
comp=Z,62nm,1.6s
CCUT Cedar City 81.88 329 IAmb IAmb 08 37 12.2
comp=Z,42nm,1.4s
ECSD EROS Data Cent 82.06 344 IAmb IAmb 08 37 10.7
comp=Z,47nm,1.1s
O20A White River Ci 82.15 334 IAmb IAmb 08 37 12.5
comp=Z,46nm,1.6s
LBTB Lobatse 82.77 116 IAmb IAmb 08 37 13.5
comp=Z,50nm,1.4s
LBTB Lobatse 82.77 116 LR LR 09 10 46.3
comp=Z,216nm,19.3s,baz=234,slow=34
D62A Allapoint, All 82.86 3 P **P** **08 37 01.9 -1.6**
D62A IAmb IAmb 08 37 14.8
comp=Z,28nm,1.0s
KDWAN Kaudwane 83.04 114 P **P** **08 37 03.3 -2.1**
MPU Maple Canyon 83.30 332 P **P** **08 37 05.2 -1.1**
MPU IAmb IAmb 08 37 18.6
comp=Z,35nm,1.3s
BSUT Blindstream Ca 83.42 333 P **P** **08 37 06.1 -1.0**
BSUT IAmb IAmb 08 37 19.4
comp=Z,49nm,1.4s
R11B Troy Canyon, C 83.48 328 P **P** **08 37 06.1 -1.2**
R11B IAmb IAmb 08 37 20.2
comp=Z,34nm,1.5s
SPR3 Spring Creek 3 83.51 329 P **P** **08 37 06.2 -1.3**
SPR3 IAmb IAmb 08 37 19.8
comp=Z,50nm,1.4s
LDAQ Lac Daran 83.66 2 P **P** **08 37 06.8 -1.0**
RAMR Ramage Ranch 83.68 323 P **P** **08 37 07.7 -0.4**
DSP Deep Springs 83.72 326 P **P** **08 37 07.7 -0.5**
K22A Casper 83.81 336 P **P** **08 37 08.6 -0.2**
VLDQ Val d'Or 83.84 358 P **P** **08 37 08.2 -0.3**
VLDQ IAmb IAmb 08 37 19.6
comp=Z,49nm,1.4s
CTU Camp Tracy 83.93 332 P **P** **08 37 09.2 -0.2**
LPHEP Lephephe 83.94 114 **P** **08 37 08.4 -1.6**
TPH Tonopah 83.97 327 P **P** **08 37 09.2 -0.5**
TPH IAmb IAmb 08 37 23.2
comp=Z,47nm,1.4s
TPH Tonopah 83.97 327 P **P** **08 37 09.2 -0.5**
TPH pmax pmax
comp=Z,47nm,1.4s
F33A 5 Mile Ranch, 83.99 344 P **P** **08 37 09.2 -0.2**
F33A IAmb IAmb 08 37 19.9
comp=Z,24nm,1.2s
RSSD Black Hills 84.37 339 P **P** **08 37 11.7 0.0**
RSSD Black Hills 84.37 339 P **P** **08 37 11.7 0.0**
RSSD pmax pmax
comp=Z,20nm,1.2s
KHWEE KHWEE 84.47 113 P **P** **08 37 11.0 -1.8**
HWUT Hardware Ranch 84.65 333 P **P** **08 37 12.2 -1.0**
NV11 Mina Array Sit 84.68 327 P **P** **08 37 12.2 -1.0**
NVAR Mina Array Bea 84.74 326 P **P** **08 37 12.4 -1.3**
NVAR Mina Array Bea 84.74 326 P **P** **08 37 18.1 +4.4**
comp=Z,1.8nm,0.9s,baz=163,slow=5.8,SNR=10
comp=Z,1.8nm,0.9s
PD31 Pinedale Array 84.94 334 P **P** **08 37 13.7 -0.9**
PD31 IAmb IAmb 08 37 26.1
comp=Z,45nm,1.6s
PDAR Pinedale Array 84.94 334 P **P** **08 37 13.7 -0.9**
PDAR Pinedale Array 84.94 334 P **P** **08 37 18.4 +3.8**
comp=Z,2.3nm,1.1s,baz=175,slow=3.7,SNR=14
comp=Z,2.3nm,1.1s
BUCR Buckhorn Ranch 84.97 325 P **P** **08 37 14.3 -0.4**
BUCR IAmb IAmb 08 37 27.4
comp=Z,42nm,1.9s
RYN Ryan 85.00 326 P **P** **08 37 13.8 -1.2**
RYN IAmb IAmb 08 37 27.7
comp=Z,39nm,1.6s
EYMN Ely 85.09 348 P **P** **08 37 13.8 -1.2**
EYMN IAmb IAmb 08 37 25.5
comp=Z,38nm,1.5s
WAKR Walker 85.31 326 P **P** **08 37 15.6 -1.0**
WAKR IAmb IAmb 08 37 29.8
comp=Z,53nm,1.7s
ELK Elko 85.35 330 P **P** **08 37 15.9 -0.9**
ELK IAmb IAmb 08 37 28.9
comp=Z,42nm,1.6s
ELK Elko 85.35 330 P **P** **08 37 15.9 -0.9**
ELK pmax pmax
comp=Z,42nm,1.6s
CMB Columbia Colle 85.37 325 P **P** **08 37 15.2 -1.4**
CMB Columbia Colle 85.37 325 P **P** **08 37 15.2 -1.4**
CMB pmax pmax
comp=Z,17nm,1.5s
ICQ Pointe Anglais 85.39 4 P **P** **08 37 15.7 -0.6**
E28A Huff 85.72 342 P **P** **08 37 18.1 0.0**
POGA Pongola 85.72 121 P **P** **08 37 17.6 -1.2**
WELL Weller Preserv 85.86 325 P **P** **08 37 19.2 +0.1**
SNOW Snow King Moun 85.97 334 P **P** **08 37 19.3 -0.5**
LOHW Long Hollow 86.05 334 P **P** **08 37 20.3 +0.2**
TPAW Teton Pass 86.06 334 P **P** **08 37 19.7 -0.6**
TPAW IAmb IAmb 08 37 32.0
comp=Z,26nm,1.2s
AGMN Agassiz Nation 86.23 345 P **P** **08 37 20.1 -0.5**
AGMN IAmb IAmb 08 37 32.6
comp=Z,48nm,1.6s
PAHR Pah Rah Range 86.27 327 P **P** **08 37 20.2 -1.0**
TORD Torodi Ar. Bea 86.27 71 P **P** **08 37 21.5 -0.1**
comp=Z,4.2nm,0.9s,baz=233,slow=2.5,SNR=18
TORD LR LR 09 13 53.0
comp=Z,523nm,20.0s,baz=221,slow=34
MDND Maddock 86.64 343 P **P** **08 37 22.5 -0.1**
YPP Pitchstone Pla 86.69 334 P **P** **08 37 23.4 0.0**
YPP IAmb IAmb 08 37 35.5
comp=Z,32nm,1.7s
KSANE Kasane 86.71 110 P **P** **08 37 22.9 -1.1**
KSANE IAmb IAmb 08 37 34.3
comp=Z,57nm,1.5s
LKWY Lake 86.81 335 P **P** **08 37 23.0 -0.8**
LKWY Lake 86.81 335 P **P** **08 37 23.0 -0.8**
LKWY pmax pmax
comp=Z,10.0nm,0.9s
BEKR Beckworth 86.84 326 P **P** **08 37 22.9 -1.2**
BEKR IAmb IAmb 08 37 36.6
comp=Z,50nm,1.9s
RLMT Red Lodge 86.91 336 P **P** **08 37 23.6 -0.8**
YMR Madison River 87.10 334 P **P** **08 37 24.7 -0.5**
EPLO Experimental L 87.14 347 IAmb IAmb 08 37 35.5
comp=Z,31nm,1.3s
YHH Holmes Hill 87.16 335 P **P** **08 37 25.3 -0.3**
YHB Horse Butte 87.25 334 P **P** **08 37 25.4 -0.5**
YHB IAmb IAmb 08 37 38.2
comp=Z,44nm,1.7s
YHL Hebgen Lake 87.33 334 P **P** **08 37 25.9 -0.5**
YHL IAmb IAmb 08 37 38.9

comp=Z,47nm,1.6s
HLID Hailey 87.41 332 P **P** **08 37 26.6 -0.1**
HLID IAmb IAmb 08 37 39.2
comp=Z,45nm,1.6s
MFID Camas Ranch 87.83 331 IAmb IAmb 08 37 40.9
comp=Z,28nm,1.4s
O03E Paynes Creek 87.84 325 P **P** **08 37 28.4 -0.3**
O03E IAmb IAmb 08 37 41.0
comp=Z,54nm,1.9s
ULM Lac du Bonnet 88.10 346 P **P** **08 37 32.0 +2.5**
comp=Z,3.9nm,0.8s,baz=154,slow=1.2,SNR=6.3
comp=Z,3.9nm,0.8s
ULM Lac du Bonnet 88.10 346⇓*e*P **P** **08 37 30.9 +1.3**
DLMT Dillon 88.28 334 P **P** **08 37 31.2 +0.5**
DGMT Dagmar 88.39 340 P **P** **08 37 31.0 -0.1**
PLID Pearl Lake 89.31 332 P **P** **08 37 35.5 -0.2**
BPMT Black Pine Rid 89.50 334 P **P** **08 37 33.9 -2.7**
LYMT Lyon Mountain 89.55 335 P **P** **08 37 35.2 -1.6**
L04D Klamath Falls 89.60 326 P **P** **08 37 36.0 -1.0**
BMO Blue Mountains 89.62 331 P **P** **08 37 36.3 -0.7**
BMO IAmb IAmb 08 37 49.0
comp=Z,32nm,1.7s
BMO Blue Mountains 89.62 331 P **P** **08 37 36.3 -0.7**
BMO pmax pmax
comp=Z,32nm,1.7s
J05D Fort Rock, OR 89.98 327 P **P** **08 37 38.3 -0.5**
J05D IAmb IAmb 08 37 51.4
comp=Z,33nm,1.4s
PINE Pine Mountain 90.26 328 P **P** **08 37 39.3 -0.9**
PINE IAmb IAmb 08 37 53.0
comp=Z,36nm,1.4s
LSZ Lusaka 90.54 109 LR LR 09 16 13.3
comp=Z,360nm,19.0s,baz=213,slow=34
G08A Pilot Rock 90.64 330 P **P** **08 37 41.2 -0.6**
G08A IAmb IAmb 08 37 54.1
comp=Z,36nm,1.7s
HAWA Hanford 91.78 330 IAmb IAmb 08 37 59.2
comp=Z,22nm,1.4s
DZM Mont Dzumac 98.86 235 *e*LR LR 09 10 20.0
comp=Z,404nm,26.9s
ESDC Sonseca Array 99.04 47 LR LR 09 21 49.2
comp=Z,391nm,20.0s,baz=224,slow=35
ASAR Alice Springs 115.09 208 PKP **PKPdf** **08 43 24.4 +3.2**
comp=Z,0.3nm,0.7s,baz=141,slow=3.6,SNR=2.3
ASAR PKKPbc **PKKPbc** **08 53 58.2 +2.3**
comp=Z,0.2nm,0.5s,baz=338,slow=3.3,SNR=5.1
ASAR PKKPab **PKKPab** **08 54 04.8 -0.2**
comp=Z,0.7nm,0.6s,baz=333,slow=3.2,SNR=9.3
CLL Collm 115.33 44 *e*PS PS 08 54 06.0 +4.2
CLL *e*PPS PPS 08 55 18.0
CLL *e*SS SS 09 00 24.0 +4.5
CLL Lm MLR 09 31 00.0
comp=N,200nm,19.4s
CLL Lm MLR 09 31 00.0
comp=E,400nm,21.5s
CLL Lm MLR 09 31 00.0
comp=Z,400nm,19.3s
CLL LmH 10 00 00.0
comp=N,100nm,19.3s
CLL LmH 10 00 00.0
comp=E,100nm,20.1s
CLL LmV 12 05 00.0
comp=Z,100nm,18.2s
WRA Warramunga Arr 118.27 210 PKP **PKiKP** **08 43 28.1 +0.8**
comp=Z,0.5nm,0.9s,baz=160,slow=1.4,SNR=2.8
WRAB Tennant Creek 118.27 210*d*iPKIKP **PKPdf** **08 43 27.6 +0.3**
BR131 Keskin Array S 124.09 63⇑*i*PKIKP **PKiKP** **08 43 38.7 +0.5**
BRTR Keskin Array B 124.09 63 PKP **PKiKP** **08 43 39.9 +1.6**
comp=Z,0.8nm,0.8s,baz=221,slow=5.7,SNR=3.0
AKASG Malin Array Be 124.64 49 PKP **PKiKP** **08 43 39.3 +0.6**
comp=Z,0.5nm,0.3s,baz=263,slow=0.7,SNR=1.8
AKBB Malin Array Si 124.64 49⇑*i*PKIKP **PKiKP** **08 43 39.6 +0.8**
VSLR Vesyoloye 129.81 60⇓*e*PKIKP **PKPdf** **08 43 49.0 +0.4**
OBN Obninsk 129.92 45 *e*PKIKP **PKiKP** **08 43 50.0 +0.9**
OBN *e* 08 46 00.6
OBN *e*PPP PPP 08 48 45.1
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,380nm,18.0s
KIV Kislovodsk 131.79 60 *i* PKIKP **PKPdf** **08 43 53.2 +0.8**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KLMR Klimovskoe 131.91 37 *e*PKIKP **PKiKP** **08 43 55.8 +2.8**
KLMR pmax pmax
comp=Z,55nm,1.7s
KLMR MLR MLR
comp=Z,357nm,18.0s
GNI Garni 132.32 66⇑*i*PKIKP **PKiKP** **08 43 55.8 +1.1**
NCK Nalchik 132.33 61⇓*e*PKIKP **PKPdf** **08 43 52.6 -0.8**
BILL Bilibino 134.00 333⇑*e*PKIKP **PKPdf** **08 43 56.2 +0.5**
MAK Makhachkala 135.00 62 *e*P **Pdif** **08 40 55.3 -4.7**
MAK *i* 08 43 55.3
MAK *e* 08 51 03.4
MAK pmax pmax
comp=Z,27nm,0.2s
BELG Belogornoye 136.22 49⇑*e*PKIKP **PKPdf** **08 44 00.1 -0.2**
KIRV Kirov 137.03 40⇓*e*PKIKP **PKPdf** **08 44 01.4 -0.2**
SEY Seymchan 141.03 328 *i* PKIKP **PKiKP** **08 44 14.5 +3.0**
SEY pmax pmax
comp=Z,17nm,1.5s
ARTI Arti 142.15 42 *i* PKIKP **PKPdf** **08 44 10.6 -0.4**
ARTI 08 47 13.7
TIXI Tiksi 142.41 348⇓*e*PKIKP **PKPdf** **08 44 13.0 +1.9**
MA2 Magadan 142.93 324⇓*e*PKIKP **PKPdf** **08 44 11.6 -0.7**
AB31 Akbulak array 144.08 54 **PKPdf** **08 44 14.2 -0.5**
ABKAR Akbulak array 144.08 54 PKPbc 08 44 14.1 +1.3
KSM Kuching 145.40 187 PKPbc **PKPbc** **08 44 15.9 -2.1**
MYKOM Kota Tinggi 145.85 176 PKPdf **PKPdf** **08 44 17.0 -1.9**
SBUM Sibu 146.11 191 PKPdf **PKPdf** **08 44 16.7 -2.6**
MYLDM Lahad Datu 147.26 203 PKPdf **PKPdf** **08 44 19.7 -1.5**
HYB Hyderabad 149.30 120 *e*PKiKP **PKPbc** **08 44 29.3 +0.5**
BORK Borovoye 149.72 45 *e*PKHKP PKPpre 08 44 26.6
YAK Yakutsk 150.11 338 *e*PKIKP **PKPbc** **08 44 30.0 +0.7**
YAK *e* 08 44 37.6
YAK *e* 08 48 10.0
YAK pmax pmax
comp=Z,33nm,1.6s
YAK pmax pmax
comp=N,3.0nm,0.7s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,92nm,16.7s
YAK pmax pmax
comp=E,20nm,12.4s
YAK pmax pmax
comp=N,191nm,16.0s
YSS Yuzhno-Sakhali 150.76 303 *e*PKIKP **PKiKP** **08 44 34.9 +2.9**
YSS pmax pmax
comp=Z,20nm,1.0s
KSH Kashi 155.93 73 PKP **PKPdf** **08 44 35.9 +2.2**
KSH PP **PP** **08 48 37.8 -0.8**
KSH AMB AMB
comp=Z,250nm,9.5s
ZALV Zalesovo Beam 156.73 33 PKP **PKPdf** **08 44 35.7 +1.6**
comp=Z,3.8nm,1.0s,baz=298,slow=3.2,SNR=8.4
ZALV PKPab **pPKPab** **08 45 06.6 -2.1**
comp=Z,4.6nm,0.9s,baz=316,slow=4.1,SNR=6.0
HEH HeiHe 159.08 319 PKP PKPdf 08 44 45.4 +8.3
MKAR Makanchi Array 159.19 52 PKP **PKPdf** **08 44 39.4 +2.0**
comp=Z,1.3nm,0.8s,baz=276,slow=3.5,SNR=5.4
MKAR PKPab **PKPab** **08 45 16.2 +1.7**
comp=Z,2.7nm,1.0s,baz=284,slow=5.9,SNR=4.1
CMAR Chiang Mai Arr 161.36 158 PKP **PKPdf** **08 44 42.5 +1.9**
comp=Z,0.6nm,0.3s,baz=238,slow=3.5,SNR=4.9
WMQ Urumqi 163.86 56 *e*PKP **PKPdf** **08 44 42.0 -0.4**
WMQ LR LR
comp=Z,380nm,18.1s
WMQ LR LR
comp=Z,430nm,18.1s
WMQ LR LR
comp=Z,260nm,24.3s
SONM Songino Array 168.21 359 PKP **PKPdf** **08 44 47.5 +1.6**
comp=Z,0.5nm,0.6s,baz=282,slow=1.6,SNR=2.1
SONM PKPab **pPKPab** **08 45 57.9 -1.4**
comp=Z,0.9nm,0.5s,baz=4.7,slow=4.5,SNR=7.3
SONM PP PP 08 49 53.8 +11
comp=Z,0.3nm,0.3s,baz=343,slow=4.5,SNR=4.3
NJ2 Nanjing 168.75 253 *e*PKP **PKPdf** **08 44 46.4 -0.1**
PZH PanZhiHua 169.77 157 PKP **PKPdf** **08 44 46.5 -1.0**
GOMU GeErMu 170.81 86 PKP **PKPdf** **08 44 46.8 -1.3**
GOMU pPKP pPKPdf 08 44 51.4 -2.0
GOMU PP **PP** **08 49 57.0 -0.6**
GOMU SKKS 08 56 42.3
GOMU SS SS 09 10 59.5 -1.6
GOMU LR LR
comp=Z,170nm,15.1s
GOMU LR LR
comp=Z,170nm,19.2s
GOMU LR LR
comp=Z,210nm,17.2s
HNS HongShan 173.01 284⇓PKP **PKPdf** **08 44 51.3 +2.7**
HHC Hu-ho-hao-te 173.60 320 *e*PKP **PKPdf** **08 44 45.3 -3.6**
GTA Gaotai 173.94 54 *e*PKP **PKPdf** **08 44 55.0 +5.9**
GTA pPKP sPKPdf 08 44 57.8 +1.7
GTA PKPab **sPKPab** **08 46 29.5 +2.7**
GTA PP **PP** **08 50 16.6 +4.4**
CD2 Chengdu 174.50 158 PKP **PKPdf** **08 44 48.5 -0.9**
LYN LuoYang 174.64 256 PKP PKPdf 08 44 58.6 +9.3
LZH Lanzhou 178.11 88 *e*PKP PKPdf 08 44 59.8 +10
LZH PKP pPKPab 08 46 38.5 -5.3
LZH PP **PP** **08 50 34.8 +2.0**
LZH AMB AMB
comp=Z,650nm,8.9s
LZH LR LR
comp=E,280nm,20.1s
LZH LR LR
comp=Z,280nm,21.3s

*UCR **23** 08:26:11.9±0.8, 10°.25N×86°.60W, h14^km±5^km, MW3.8*
*CATAC **23** 08:26:13.2±0.9, 10°N±7°×8°6W±°, h10^km±6^km, M3.1/10, MLv3.1/10, Error ellipse: s-maj=14.8km s-min=8.8km az=10.4, confirmed*

ISC 23 08:26:12.8±2.1, 10°.21N±0°.08×86°.54W±0°.08, h17^km, n49, σ0^s77/51, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.95**	**87**	*e*P		**Pb**	**08 26 30.4**	**-0.3**
JUD3	**Juan Diaz 3**	**0.99**	**92**	*e*P		**Pb**	**08 26 31.2**	**-0.4**
ALIBA	**Liberia Airpor**	**1.05**	**69**	*e*P		**Pb**	**08 26 32.5**	**-0.1**
ELI1	**Hacienda Flor**	**1.07**	**66**	*e*P		**Pn**	**08 26 33.0**	**+0.1**
ELI1				*e*S		**Sg**	**08 26 48.0**	**+0.6**
ELI1	**Hacienda Flor**	**1.07**	**66**	S		**Sb**	**08 26 46.0**	**-0.4**
ELI1	**Hacienda Flor**	**1.07**	**66**	P		**Pn**	**08 26 33.0**	**+0.1**
ERIA	**Liberia**	**1.17**	**69**	*e*P		**Pn**	**08 26 34.2**	**-0.2**
PLVR	**Palo Verde**	**1.18**	**83**	*e*P		**Pn**	**08 26 34.0**	**-0.7**
LAPC	**Finca la Perla**	**1.23**	**63**	*e*P		**Pn**	**08 26 34.4**	**-0.7**
LCRUZ	**La Cruz**	**1.25**	**46**	*e*P		**Pn**	**08 26 35.4**	**-0.1**
GPS3	**Bodega del ICE**	**1.28**	**65**	*e*P		**Pb**	**08 26 36.9**	**+0.4**
NYURE	**Nandayure**	**1.29**	**99**	*e*P		**Pn**	**08 26 35.6**	**-0.4**
GPS2	**Hotel Rincn d**	**1.29**	**65**	*e*P		**Pn**	**08 26 35.6**	**-0.5**
VRLE	**La Escondida,**	**1.29**	**63**	*e*P		**Pn**	**08 26 35.5**	**-0.7**
GPS1	**Guardaparques**	**1.30**	**64**	*e*P		**Pn**	**08 26 35.9**	**-0.4**
COLC	**Colonia**	**1.39**	**71**	*e*P		**Pb**	**08 26 38.1**	**-0.3**
CARN	**Rivas**	**1.40**	**46**	*e*P		**Pn**	**08 26 37.8**	**+0.2**
CARN	**Rivas**	**1.40**	**46**	P		**Pn**	**08 26 37.7**	**+0.2**
CUI	**Cuipilapa**	**1.43**	**72**	*e*P		**Pn**	**08 26 37.7**	**-0.3**
MESS	**Messas**	**1.43**	**68**	*e*P		**Pn**	**08 26 37.5**	**-0.5**
HORNC	**Hornillas**	**1.43**	**69**	*e*P		**Pn**	**08 26 37.6**	**-0.5**
CNAS	**Canas**	**1.45**	**81**	*e*P		**Pb**	**08 26 39.3**	**+0.1**
INVE	**Universidad In**	**1.48**	**80**	*e*P		**Pn**	**08 26 38.7**	**0.0**
TIMP	**Tierras Morena**	**1.54**	**76**	*e*P		**Pn**	**08 26 39.3**	**-0.3**
JAPN	**Al SSO del Vol**	**1.56**	**33**	*e*P		**Pn**	**08 26 39.9**	**+0.1**
JAPN	**Al SSO del Vol**	**1.56**	**33**	P		**Pn**	**08 26 39.7**	**-0.1**
JUNT	**Juntas**	**1.56**	**87**	*e*P		**Pn**	**08 26 39.7**	**-0.1**
JTS	**Las Juntas de**	**1.57**	**87**	*e*P		**Pn**	**08 26 39.7**	**-0.2**
JTS	**Las Juntas de**	**1.57**	**87**	P		**Pn**	**08 26 39.2**	**-0.7**
MORN	**Al O del Volca**	**1.59**	**33**	P		**Pn**	**08 26 40.8**	**+0.5**
TENO	**El Achiote**	**1.62**	**72**	*e*P		**Pn**	**08 26 39.8**	**-0.8**
CONN	**Concepcion**	**1.62**	**34**	P		**Pn**	**08 26 41.4**	**+0.8**
QUEB	**Quebradon, Cot**	**1.67**	**76**	*e*P		**Pn**	**08 26 41.5**	**+0.2**
MTEVE	**Monteverde**	**1.69**	**86**	*e*P		**Pn**	**08 26 41.9**	**+0.2**
NANN	**Nandasmo**	**1.77**	**14**	P		**Pn**	**08 26 42.1**	**-0.6**
CEDE	**Laguna Cedeo**	**1.83**	**81**	*e*P		**Pb**	**08 26 44.6**	**-1.3**
REZ	**Monterrey de S**	**1.84**	**80**	*e*P		**Pb**	**08 26 44.9**	**-1.1**
VACR	**Volcan Arenal**	**1.85**	**82**	*e*P		**Pb**	**08 26 44.9**	**-1.4**
SOCE	**Pocosol**	**1.90**	**85**	*e*P		**Pn**	**08 26 45.5**	**+1.0**
SOCE	**Pocosol**	**1.90**	**85**	P		**Pn**	**08 26 45.4**	**+1.0**
COPN	**Copaltepe**	**1.96**	**359**	*e*P		**Pn**	**08 26 46.3**	**+1.1**
COPN	**Copaltepe**	**1.96**	**359**	P		**Pn**	**08 26 46.5**	**+1.2**
QUEU	**Ciudad Quesada**	**2.08**	**87**	*e*P		**Pb**	**08 26 48.2**	**-1.9**
VPL2	**V. Platanar**	**2.13**	**87**	*e*P		**Pn**	**08 26 48.9**	**+1.1**
ACON	**Acoyapa**	**2.21**	**37**	*e*P		**Pn**	**08 26 48.2**	**-0.5**
ACON	**Acoyapa**	**2.21**	**37**	P		**Pn**	**08 26 48.0**	**-0.6**
ACON				S		**Sn**	**08 27 17.1**	**+1.5**
CNGA	**Al SSO del Vol**	**2.28**	**356**	P		**Pb**	**08 26 52.0**	**-1.5**
ARTO	**Ro Cuarto**	**2.29**	**86**	*e*P		**Pn**	**08 26 50.8**	**+0.8**
BUS1	**Rivas**	**2.83**	**103**	*e*P		**Pn**	**08 26 59.0**	**+1.3**

*TEH **23** 08:31:49.6, 28°.51N×57°.41E, h8^km±104^km*
*OMAN **23** 08:31:52.4±1.8, 28°.21N×57°.58E, h10^km, ml2.9/8, Error ellipse: s-maj=14.8km s-min=13.4km az=113.0*

ISC 23 08:31:49.9±1.1, 28°.40N±0°.04×57°.54E±0°.07, h10^km, n16, σ1^s32/24, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.48**	**162**	Pg		**Pn**	**08 32 02.1**	**-0.8**
KBAM	**BAM**	**1.08**	**47**	Pg		**Pb**	**08 32 11.4**	**+0.5**
KBAM				Sg		**Sn**	**08 32 26.7**	**+0.2**
IBND	**Bandar-abas**	**1.30**	**223**	Pg		**Pn**	**08 32 14.2**	**+0.1**
CHMN	**Cheshme madani**	**1.45**	**360**	Pg		**Pn**	**08 32 15.8**	**-0.9**
KHGB	**Koh Gabri**	**2.17**	**335**	Pn		**Pn**	**08 32 26.4**	**0.0**
SHME	**Shamm**	**2.65**	**208**	Pn		**Pn**	**08 32 32.2**	**-0.6**
SHME				Sn		**Sn**	**08 33 04.8**	**-0.3**
BANOM	**Banah**	**2.71**	**204**	Pn		**Pn**	**08 32 33.3**	**-0.3**
BANOM				Sn		**Sn**	**08 33 06.8**	**+0.4**
MASF	**Masafi**	**3.26**	**203**	Sn		**Sn**	**08 33 21.4**	**+1.3**
MDH	**Madha**	**3.28**	**200**	Pn		**Pn**	**08 32 40.9**	**-0.6**
MDH				Sn		**Sn**	**08 33 16.7**	**-3.9**
UOSS	**Minazif**	**3.64**	**199**	Pn		**Pn**	**08 32 47.7**	**+1.3**
ASHO	**Ashiyiah**	**3.93**	**200**	Pn		**Pn**	**08 32 50.6**	**+0.1**
ASHO				Sn		**Sn**	**08 33 37.4**	**+0.7**
ALNE	**Al Ain**	**4.62**	**201**	Pn		**Pn**	**08 32 59.3**	**-0.5**
HOQ	**Hoqain**	**4.80**	**183**	P		**Pn**	**08 33 02.5**	**+0.1**
WSAR	**Wadi Sarin** SNR=7.2	**5.23**	**169**	Pn		**Pn**	**08 33 08.6**	**+0.3**
WSAR				Sn		**Sn**	**08 34 06.0**	**-2.7**
SMDO	**Samad**	**5.34**	**175**	Pn		**Pn**	**08 33 10.5**	**+0.6**
SMDO				Sn		**Sn**	**08 34 19.2**	**-0.6**
BSY	**Bisya**	**5.64**	**183**	Pn		**Pn**	**08 33 16.2**	**+2.3**
BSY				Sn		**Sn**	**08 34 19.6**	**+0.7**

NNC 23 08:43:35.8±0.6, 51°.01N×73°.92E, h0^km, mb3.6, mpv3.3, 8C-3D, Error ellipse: s-maj=12.3km s-min=3.5km az=27.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra** 14nm,0.5s	**2.95**	**96**	⇓Pn		Pn	08 44 23.9	0.0
KURBB				⇑Lg		Lg	08 45 10.6	
BVA0	**Borovoye Array** 126nm,0.7s 23nm,1.1s,baz=142,slow=22,SNR=29	**2.97**	**314**	Pn		Pn	08 44 24.8	+0.6
BVA0				⇑Lg		Lg	08 45 08.8	
KURK	**Kurchatov** 17nm,0.6s,baz=117,slow=26,SNR=11 3.6nm,0.8s	**2.99**	**94**	⇑Pn		Pn	08 44 24.1	-0.4
KURK				⇓Lg		Lg	08 45 10.2	
BRVK	**Borovoye** 22nm,0.8s 6.6nm,0.8s	**3.04**	**314**	⇑Pn		Pn	08 44 25.7	+0.5
BRVK				⇓Lg		Lg	08 45 11.1	
MAKZ	**Makanchi** 17nm,0.6s 17nm,0.8s	**6.77**	**125**	⇑Lg		Lg	08 47 10.5	
MK31	**Makanchi Array** 15nm,0.9s,baz=314,slow=26,SNR=8.3	**6.94**	**124**	⇑Lg		Lg	08 47 15.9	
KK31	**Karatay Array** 9.9nm,0.9s,baz=8.7,slow=28,SNR=3.1	**8.25**	**198**	Lg		Lg	08 47 56.9	
AAK	**Ala-Archa** 14nm,0.9s	**8.39**	**177**	⇑Lg		Lg	08 48 00.5	
PDGK	**Podgornoye** 22nm,1.0s	**8.57**	**152**	⇑Lg		Lg	08 48 08.2	

*BJI **23** 08:54:20.4, 11°.19N×138°.99E, h15^km, mB5.2/18, mb5.0/64, Ms4.6/39, Ms7 4.3/39*
*MOS **23** 08:54:21.8±0.9, 11°.11N×138°.64E, h22^km, mb5.3/37, Error ellipse: s-maj=9.8km s-min=5.6km az=105.3*
*NEIC **23** 08:54:22.6±1.7, 11°.06N±0°.08×138°.60E±0°.08, h10^km±1^km, mb5.2/325, Error ellipse: s-maj=14.3km s-min=13.4km az=302.0*
*GCMT **23** 08:54:24.6±0.2, 11°.13N±0°.02×138°.67E±0°.02, h19^km, MW5.0/108, Moment Tensor Solution. s28,c33; s108,c155; Duration: 0 Moment tensor: Scale 10^16^Nm; M~rr~3.28±.18; M~θθ~-1.25±.11; M~φφ~-2.03±.12; M~rθ~1.02±.24; M~rφ~-1.39±.06; M~θφ~1.34±.23; Best double couple: M~o~3.60000×10^16^ NP1~φs~217.00000°, δ31.00000°, λ90.00000°. NP2~φs~37.00000°, δ59.00000°, λ90.00000°. Principal axes: T 3.6980, Plg76.0000°, Azm307.0000°; N -0.1960, Plg0.0000°, Azm217.0000°; P -3.5020, Plg14.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **23** 08:54:26.6±2.2, 11°.13N×138°.74E, h42^km±20^km, mb4.5/24, mbtmp4.7/26, ML5.1/4, MS4.1/33 Error ellipse: s-maj=14.6km s-min=10.8km az=80.0*
*DJA **23** 08:54:29.9±0.5, 11°N±4°×13°9E±°, h44^km±7^km, M4.9/19, mb5.1/19, mB5.4/6, MLv4.9/1, Mw(mB)4.8/6, MwMwp4.8/1, Mwp5.2/1*

ISC 23 08:54:24.7±0.5, 11°.06N±0°.03×138°.70E±0°.04, h28^km±3^km, n673, σ1^s09/588, mb5.1/234, MS4.2/49, 12C-5D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.54**	**67**			**Pn**	**08 56 00.4**	**+1.3**
GUMO	**Guam** 19nm,0.3s,baz=218,slow=5.6,SNR=8.8	**6.54**	**67**	P		**Pn**	**08 56 01.2**	**+2.1**
GUMO	32nm,0.3s,baz=78,slow=20,SNR=1.3 53nm,0.3s			S		**Sn**	**08 57 12.5**	**-0.2**
BAKI	**Biak** 121nm,1.1s	**12.44**	**192**	P		**Pn**	**08 57 23.3**	**+3.3**
SMPI	**Sarmi** 2um111nm,0.7s	**12.96**	**180**	P		**Pn**	**08 57 30.2**	**+3.1**
DAV	**Davao City (W)** comp=Z,304nm,18.3s,baz=122,slow=40	**13.54**	**254**	LR	LR		09 03 31.3	
JAY	**Jayapura** 15nm,0.3s,baz=340,slow=6.3,SNR=75	**13.63**	**171**	P		**Pn**	**08 57 38.8**	**+2.5**
JAY	13nm,0.3s,baz=89,slow=22,SNR=10.0			S		**Sn**	**09 00 07.8**	**+1.0**
JAY	comp=Z,1μm,21.4s,baz=12,slow=32			LR	LR		09 01 46.5	
JAY	**Jayapura** 1um134nm,0.7s	**13.63**	**171**	P		**Pn**	**08 57 38.8**	**+2.5**
GENI	**Genyem**	**13.64**	**174**	P		**Pn**	**08 57 39.4**	**+3.0**
FAKI	**Fak Fak**	**15.29**	**205**	Pn		**Pn**	**08 57 57.3**	**-1.5**
FAKI	**Fak Fak** 65nm,1.2s	**15.29**	**205**	P		**Pn**	**08 58 01.6**	**+2.8**
MANU	**Manus Island**	**15.61**	**146**			**Pn**	**08 58 05.2**	**+2.3**
JMZ	**Minamidaito 2**	**16.30**	**335**			**Pn**	**08 58 12.6**	**+0.9**
JMZ	comp=Z,323nm,1.1s			IAmb	IAmb		08 58 17.1	
MSAI	**Masohi** comp=Z,108nm,1.2s	**17.30**	**215**	P		**P**	**08 58 27.1**	**+1.5**
TGY	**Tagaytay City** comp=Z,57nm,0.3s,baz=193,slow=1.7,SNR=3.3	**17.60**	**282**	P		**P**	**08 58 30.5**	**+1.5**
TGY	comp=Z,400nm,19.4s,baz=52,slow=34			LR	LR		09 04 34.9	
AAI	**Ambon** comp=Z,84nm,1.0s	**17.99**	**216**	P		**P**	**08 58 35.6**	**+2.3**
JOW	**Kunigami**	**18.51**	**329**			**Pn**	**08 58 40.1**	**+0.8**
JOW	comp=Z,86nm,0.8s			IAmb	IAmb		08 58 47.1	
JOW	**Kunigami** comp=Z,3.7nm,0.3s,baz=147,slow=14,SNR=10	**18.51**	**329**	P		**Pn**	**08 58 40.9**	**+1.7**
JOW	comp=Z,553nm,20.1s,baz=151,slow=32 comp=Z,40nm,0.8s			LR	LR		09 04 22.4	
MRSI	**Marisa** comp=Z,2μmcomp=Z,108nm,0.8s	**19.69**	**239**	P		**Pn**	**08 58 54.4**	**+1.0**
PATS	**Pohnpei**	**19.82**	**101**	P		**P**	**08 58 53.9**	**+0.5**
LUWI	**Luwuk**	**19.88**	**234**	P		**P**	**08 58 54.4**	**+0.4**
LUWI	**Luwuk** comp=Z,2μmcomp=Z,209nm,1.1s	**19.88**	**234**	P		**P**	**08 58 54.9**	**+0.9**
RABL	**Rabaul**	**20.23**	**138**	P		**P**	**08 58 59.5**	**+1.7**
RABL	comp=Z,126nm,0.9s			IAmb	IAmb		08 59 00.3	
SAUI	**Saumlaki**	**20.29**	**202**	P		**P**	**08 59 00.0**	**+1.5**
TOLI2	**Tolitoli**	**20.35**	**242**			**P**	**08 58 59.9**	**+0.7**
TWG	**Pinlang**	**20.50**	**307**	P		Pn	08 59 02.4	-0.5
YULB	**Yu-li**	**20.63**	**309**	P		Pn	08 59 03.6	-0.9
YULB	comp=Z,143nm,1.5s			IAmb	IAmb		08 59 09.5	
APSI	**Ampana** comp=Z,102nm,1.2s	**20.70**	**236**	P		**P**	**08 59 03.8**	**+0.9**
MYLDM	**Lahad Datu**	**20.82**	**255**	P		**P**	**08 59 03.6**	**-0.6**
MYLDM	comp=Z,198nm,1.3s			IAmb	IAmb		08 59 17.3	
NACB	**Ninganchiao**	**20.85**	**311**	P		**P**	**08 59 03.7**	**-0.8**
TPUB	**Ta-pu**	**21.09**	**308**	P		**P**	**08 59 06.0**	**-1.2**
SSLB	**Suanglung**	**21.11**	**309**	P		**P**	**08 59 08.1**	**+0.8**
YHNB	**Yeheng**	**21.30**	**312**	P		**P**	**08 59 08.2**	**-1.2**
YHNB	comp=Z,142nm,1.3s			IAmb	IAmb		08 59 14.1	
TATO	**Taipei**	**21.40**	**313**	P		**P**	**08 59 10.1**	**-0.2**
TATO	comp=Z,77nm,0.7s			IAmb	IAmb		08 59 29.4	
JHJ2	**Mitsune**	**21.98**	**3**	P		**P**	**08 59 17.0**	**+0.5**
JHJ	**Hachijo jima 2** comp=Z,839nm,18.9s,baz=102,slow=32	**21.98**	**2**	LR	LR		09 06 04.0	
PMG	**Port Moresby**	**22.00**	**157**	P		**P**	**08 59 16.3**	**-0.6**
PMG	**Port Moresby** comp=Z,993nm,20.9s,baz=335,slow=34	**22.00**	**157**	LR	LR		09 06 48.5	
PMG	**Port Moresby**	**22.00**	**157**⇑*i*P			**P**	**08 59 16.5**	**-0.4**
PMG	comp=Z,32nm,1.0s			pmax	pmax			
JMN	**Monobe**	**23.00**	**350**	P		**P**	**08 59 27.4**	**0.0**
JNU	**Nakatsue**	**23.11**	**343**	P		**P**	**08 59 28.1**	**-0.3**
JNU	comp=Z,99nm,1.4s			IAmb	IAmb		08 59 29.3	
SPSI	**Sidrap Palu** comp=Z,32nm,0.8s	**24.03**	**233**	P		**P**	**08 59 38.8**	**+1.3**
INU	**Inuyama**	**24.23**	**357**			**P**	**08 59 37.9**	**-1.3**
INU	comp=Z,46nm,1.1s			IAmb	IAmb		08 59 40.6	
JGF	**Kuroka**	**24.47**	**357**	P		**P**	**08 59 40.3**	**-1.1**
KAPI	**Kappang**	**24.71**	**231**	P		**P**	**08 59 43.7**	**-0.1**
KAPI	**Kappang**	**24.71**	**231**⇓*e*P			**P**	**08 59 43.4**	**-0.3**
KAPI	comp=Z,14nm,1.1s			pmax	pmax			
MTN	**Manton Dam**	**24.90**	**198**	P		**P**	**08 59 44.9**	**-0.5**
SOEI	**Soe**	**25.17**	**215**	P		**P**	08 59 34.0	-14
COEN	**Coen** comp=Z,27nm,1.2s	**25.24**	**170**	P		**P**	**08 59 49.4**	**+0.9**
COEN	**Coen**	**25.24**	**170**	P		**P**	**08 59 49.2**	**+0.6**
MJAR	**Matsushiro Arr**	**25.38**	**359**	P		**P**	**08 59 49.6**	**+0.1**
MJAR	**Matsushiro Arr** comp=Z,8.3nm,0.9s,baz=187,slow=10,SNR=8.8	**25.38**	**359**	P		**P**	**08 59 47.8**	**-1.8**
MJAR	comp=Z,392nm,18.7s,baz=166,slow=34 comp=Z,8.3nm,0.9s			LR	LR		09 08 47.7	
MJAR	**Matsushiro Arr**	**25.38**	**359**	P		**P**	**08 59 49.7**	**+0.1**
MJAR	comp=Z,14nm,1.6s			pmax	pmax			
MAJO	**Matsushiro**	**25.38**	**359**⇑*i*P			**P**	**08 59 48.6**	**-1.0**
MAJO	comp=Z,12nm,1.0s			pmax	pmax			
MMRI	**Maumere**	**25.51**	**221**	P		**P**	**08 59 50.9**	**-0.1**
MMRI	comp=Z,67nm,1.0s			IAmb	IAmb		09 00 17.4	
BATI	**Baumata** comp=Z,213nm,21.5s,baz=34,slow=34	**25.88**	**216**	LR	LR		09 09 03.0	
EDFI	**Ende, Flores**	**25.95**	**221**	P		**

KSAR	**Wonju Array Be**	**28.02**	**341**	P	**P**	**09 00 12.4**	**-0.9**
KSAR	**Wonju Array Be**	**28.02**	**341**	P	**P**	**09 00 12.4**	**-0.9**
H11S3	**WAKE ISLAND Hy**	**28.03**	**71**	T	T	09 29 09.6	
	baz=255,slow=75,SNR=43						
H11S1	**WAKE ISLAND Hy**	**28.04**	**71**	T	T	09 29 02.9	
	baz=255,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy**	**28.05**	**71**	T	T	09 29 07.9	
	baz=255,slow=75,SNR=43						
KS19	**Wonju Array Si**	**28.08**	**341**	P	**P**	**09 00 13.3**	**-0.6**
KS19				IAmb	IAmb	09 00 35.8	
	comp=Z,92nm,1.6s						
KNRA	**Kununurra**	**28.32**	**201**	P	**P**	**09 00 14.4**	**-1.8**
KNRA	**Kununurra**	**28.32**	**201**	P	**P**	**09 00 15.1**	**-1.1**
H11N1	**WAKE ISLAND Hy**	**28.48**	**69**	T	T	09 29 57.1	
	baz=254,SNR=34						
H11N2	**WAKE ISLAND Hy**	**28.49**	**69**	T	T	09 29 59.2	
	baz=254,slow=74,SNR=22						
H11N3	**WAKE ISLAND Hy**	**28.50**	**69**	T	T	09 30 02.2	
	baz=254,slow=74,SNR=23						
QIZ	**Qiongzhong**	**28.94**	**289**	P	**P**	**09 00 17.5**	**-4.3**
QIZ				S	**S**	**09 05 12.5**	**+1.5**
QIZ				pmax	pmax		
	comp=Z,19nm,1.8s						
QIZ				LR	LR		
	comp=N,290nm,12.4s						
QIZ				LR	LR		
	comp=E,300nm,16.3s						
QIZ				LR	LR		
	comp=Z,300nm,14.2s						
HNR	**Honiara**	**29.34**	**133**	LR	LR	09 11 31.7	
	comp=Z,325nm,19.1s,baz=310,slow=35						
WHN	**Wuhan**	**29.78**	**314**	P	**P**	**09 00 30.5**	**+1.4**
WHN				pmax	pmax		
	comp=Z,45nm,1.0s						
WB0	**Warramunga Arr**	**30.92**	**188**	P	**P**	**09 00 38.7**	**-0.6**
WR0	**Warramunga Arr**	**31.09**	**188**	P	**P**	**09 00 40.1**	**-0.6**
WR8	**Warramunga Arr**	**31.09**	**188**	P	**P**	**09 00 40.4**	**-0.4**
WR8				IAmb	IAmb	09 00 57.0	
	comp=Z,48nm,1.9s						
WRA	**Warramunga Arr**	**31.10**	**188**	P	**P**	**09 00 40.9**	**0.0**
WRA	**Warramunga Arr**	**31.10**	**188**	P	**P**	**09 00 40.9**	**0.0**
	comp=Z,8.7nm,1.2s,baz=3.5,slow=9.7,SNR=14						
WRA				PcP	**PcP**	**09 03 37.0**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=358,slow=3.0,SNR=6.3						
WRA				LR	LR	09 12 57.5	
	comp=Z,306nm,21.8s,baz=84,slow=36						
	comp=Z,8.7nm,1.2s						
QIS	**Mount Isa**	**31.43**	**178**	P	**P**	**09 00 46.2**	**+2.4**
DL2	**Dalian**	**31.64**	**334**	P	**P**	**09 00 45.4**	**0.0**
DL2				S	**S**	**09 05 57.8**	**+4.9**
DL2				pmax	pmax		
	comp=Z,50nm,1.1s						
DL2				LR	LR		
	comp=Z,780nm,17.7s						
DL2				LR	LR		
	comp=Z,630nm,15.8s						
DL2				LR	LR		
	comp=Z,900nm,15.8s						
FITZ	**Fitzroy Crossi**	**31.71**	**204**	P	**P**	**09 00 44.3**	**-1.9**
FITZ	**Fitzroy Crossi**	**31.71**	**204**	P	**P**	**09 00 45.2**	**-1.0**
FITZ	**Fitzroy Crossi**	**31.71**	**204**	LR	LR	09 15 04.6	
	comp=Z,145nm,18.5s,baz=6.5,slow=39						
CTAO	**Charters Tower**	**31.83**	**166**	P	**P**	**09 00 47.5**	**+0.2**
CTAO				IAmb	IAmb	09 00 53.0	
	comp=Z,28nm,1.2s						
CTAO	**Charters Tower**	**31.83**	**166**	P	**P**	**09 00 47.5**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,28nm,1.2s						
ASAJ	**Asahikawa**	**33.11**	**5**	LR	LR	09 15 03.0	
	comp=Z,235nm,19.7s,baz=197,slow=37						
LYN	**LuoYang**	**33.45**	**319**	P	**P**	**09 01 01.8**	**+0.5**
LYN				pmax	pmax		
	comp=Z,37nm,1.2s						
LYN				pmax	pmax		
	comp=Z,470nm,10.6s						
LYN				LR	LR		
	comp=Z,560nm,15.1s						
LYN				LR	LR		
	comp=Z,580nm,15.8s						
LYN				LR	LR		
	comp=Z,850nm,16.8s						
USRK	**Ussuriysk Ar.**	**33.53**	**351**	P	**P**	**09 01 00.9**	**-1.0**
	comp=Z,5.6nm,0.7s,baz=146,slow=6.0,SNR=6.1						
	comp=Z,5.6nm,0.7s						
GYA	**Guiyang**	**33.85**	**301**	P	**P**	**09 01 07.5**	**+2.3**
GYA				pmax	pmax		
	comp=Z,15nm,0.7s						
HNS	**HongShan**	**33.95**	**325**	⇑P	**P**	**09 01 05.5**	**-0.2**
HNS				S	**S**	**09 06 33.3**	**+4.4**
HNS				pmax	pmax		
	comp=Z,35nm,1.0s						
HNS				LR	LR		
	comp=Z,440nm,13.6s						
HNS				LR	LR		
	comp=Z,530nm,19.0s						
CN2	**Changchun**	**34.59**	**343**	P	**P**	**09 01 10.1**	**-1.0**
CN2				S	**S**	**09 06 37.9**	**-0.6**
CN2				SS	**SnSn**	**09 08 49.4**	**-2.2**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				LR	LR		
	comp=Z,460nm,14.0s						
CN2				LR	LR		
	comp=Z,410nm,14.0s						
CN2				LR	LR		
	comp=Z,550nm,15.0s						
AS31	**Alice Springs**	**34.82**	**188**	P	**P**	**09 01 13.3**	**-0.1**
ASAR	**Alice Springs**	**34.83**	**188**	P	**P**	**09 01 12.3**	**-1.1**
ASAR	**Alice Springs**	**34.83**	**188**	P	**P**	**09 01 13.8**	**+0.4**
	comp=Z,2.6nm,0.5s,baz=18,slow=12,SNR=36						
ASAR				PcP	**PcP**	**09 03 47.6**	**+1.2**
	comp=Z,2.0nm,0.7s,baz=28,slow=1.7,SNR=7.2						
ASAR				LR	LR	09 15 54.6	
	comp=Z,338nm,18.4s,baz=10,slow=37						
	comp=Z,2.6nm,0.5s						
SLVN	**Son La**	**34.86**	**291**	P	**P**	**09 01 13.2**	**-0.7**
BJT	**Baijiatuau**	**35.08**	**329**	IAmb	IAmb	09 01 16.4	
	comp=Z,38nm,1.0s						
BJI	**Beijing**	**35.09**	**329**	P	**P**	**09 01 15.4**	**-0.1**
BJI				S	**S**	**09 06 47.6**	**+1.2**
BJI				pmax	pmax		
	comp=Z,20nm,1.0s						
BJI				pmax	pmax		
	comp=Z,92nm,3.6s						
BJI				LR	LR		
	comp=Z,220nm,17.3s						
BJI				LR	LR		
	comp=Z,110nm,16.8s						
BJI				LR	LR		
	comp=Z,230nm,17.9s						
XAN	**Xi'an**	**35.54**	**315**	⇓P	**P**	**09 01 19.9**	**+0.4**
XAN				pmax	pmax		
	comp=Z,18nm,1.0s						
XAN				pmax	pmax		
	comp=Z,150nm,7.5s						
XAN				LR	LR		
	comp=Z,380nm,10.8s						
XAN				LR	LR		
	comp=Z,440nm,18.7s						
XAN				LR	LR		
	comp=Z,730nm,19.6s						
MYKOM	**Kota Tinggi**	**35.79**	**258**	P	**P**	**09 01 20.0**	**-1.8**
MYKOM				IAmb	IAmb	09 01 48.7	
	comp=Z,32nm,1.4s						
BNX	**BinXian**	**35.89**	**346**	⇓P	**P**	**09 01 22.0**	**-0.3**
BNX				pmax	pmax		
	comp=Z,45nm,0.9s						
YSS	**Yuzhno-Sakhali**	**35.94**	**5**	P	**P**	**09 01 21.9**	**-0.8**
YSS	**Yuzhno-Sakhali**	**35.94**	**5**	*e*P	**P**	**09 01 21.9**	**-0.8**
YSS				*e*S	**S**	**09 06 58.0**	**-1.3**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,200nm,18.0s						
YSS				MLR	MLR		
	comp=N,200nm,14.0s						
YSS				MLR	MLR		
	comp=E,200nm,17.0s						
KMI	**Kunming**	**36.80**	**297**	P	**P**	**09 01 32.0**	**+1.4**
KMI				pmax	pmax		
	comp=E,23nm,0.8s						
KMI				LR	LR		
	comp=E,160nm,11.5s						
KMI				LR	LR		
	comp=E,340nm,12.6s						
KMI				LR	LR		
	comp=E,370nm,18.5s						
WRKA	**Warakurna**	**37.28**	**196**	P	**P**	**09 01 33.9**	**-0.5**
	comp=Z,6.9nm,0.9s						
PSAC2	**Pilbara Seismi**	**37.30**	**210**	P	P	09 01 30.9	-3.7
PSA00	**Pilbara Seismi**	**37.34**	**210**	P	**P**	**09 01 32.2**	**-2.7**
PSA00	**Pilbara Seismi**	**37.34**	**210**	P	**P**	**09 01 32.9**	**-2.0**
PZH	**PanZhiHua**	**38.04**	**299**	P	**P**	**09 01 41.8**	**+0.7**
HHC	**Hu-ho-hao-te**	**38.10**	**326**	*e*P	**P**	**09 01 40.9**	**-0.5**
HHC				PP	**PnPn**	**09 03 14.5**	**+4.2**
HHC				S	**S**	**09 07 32.8**	**+0.1**
HHC				sS	ScP	09 07 49.5	+7.5
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,220nm,4.3s						
HHC				LR	LR		
	comp=Z,340nm,18.1s						
HHC				LR	LR		
	comp=Z,450nm,18.5s						
HHC				LR	LR		
	comp=Z,430nm,18.5s						
XLT	**XiLinHaoTe**	**38.12**	**333**	*e*P	**P**	**09 01 41.1**	**-0.3**
XLT				pmax	pmax		
	comp=Z,28nm,1.1s						
XLT				pmax	pmax		
	comp=Z,280nm,6.1s						
XLT				LR	LR		
	comp=Z,41nm,17.3s						
XLT				LR	LR		
	comp=Z,210nm,14.4s						
XLT				LR	LR		
	comp=Z,310nm,14.4s						
INKA	**Innaminka**	**38.62**	**177**	P	**P**	**09 01 45.8**	**+0.2**
BTO	**Baotou**	**38.81**	**324**	*e*P	**P**	**09 01 49.0**	**+1.7**
BTO				pP	**pP**	**09 01 53.8**	**-1.2**
BTO				sP	**sP**	**09 01 56.0**	**-2.3**
BTO				PP	**PnPn**	**09 03 22.6**	**+3.8**
BTO				S	**S**	**09 07 49.3**	**+6.0**
BTO				sS	**sS**	**09 07 59.5**	**+2.8**
BTO				SS	**SnSn**	**09 10 31.8**	**-2.2**
BTO				pmax	pmax		
	comp=Z,52nm,1.3s						
BTO				pmax	pmax		
	comp=Z,360nm,7.0s						
BTO				LR	LR		
	comp=Z,880nm,17.8s						
BTO				LR	LR		
	comp=Z,680nm,20.0s						
BTO				LR	LR		
	comp=Z,910nm,16.2s						
BKNI	**Bangkinang**	**38.90**	**257**	P	**P**	**09 01 47.4**	**-0.9**
CM31	**Chiang Mai Arr**	**39.08**	**286**	P	**P**	**09 01 49.9**	**+0.3**
CM31	**Chiang Mai Arr**	**39.08**	**286**	P	**P**	**09 01 50.9**	**+1.2**
	SNR=12						
CMAR	**Chiang Mai Arr**	**39.08**	**286**	P	**P**	**09 01 50.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**39.08**	**286**	P	**P**	**09 01 50.8**	**+1.1**
	comp=Z,15nm,0.7s,baz=91,slow=6.5,SNR=83						
CMAR				PcP	**PcP**	**09 04 00.6**	**+1.2**
	comp=Z,2.4nm,0.8s,baz=121,slow=1.8,SNR=4.6						
CMAR				LR	LR	09 16 20.9	
	comp=Z,113nm,22.0s,baz=90,slow=34						
	comp=Z,15nm,0.7s						
CHTO	**Chiang Mai**	**39.11**	**286**	P	**P**	**09 01 49.1**	**-0.8**
CHTO	**Chiang Mai**	**39.11**	**286**	P	**P**	**09 01 49.1**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,12nm,1.4s						
TYV	**Tymovskoe**	**39.83**	**4**	*e*P	**P**	**09 01 55.3**	**-0.1**
TYV				pmax	pmax		
	comp=Z,15nm,1.4s						
TYV				pmax	pmax		
	comp=Z,200nm,2.9s						
LZH	**Lanzhou**	**40.16**	**314**	*e*P	**P**	**09 02 01.3**	**+2.6**
LZH				sP	pwP	09 02 09.6	-0.1
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
LZH				LR	LR		
	comp=Z,360nm,17.5s						
LZH				LR	LR		
	comp=Z,580nm,17.0s						
LZH				LR	LR		
	comp=Z,650nm,18.6s						
HEH	**HeiHe**	**40.18**	**349**	*e*P	**P**	**09 01 57.9**	**-0.5**
HEH				pmax	pmax		
	comp=Z,54nm,0.7s						
HEH				LR	LR		
	comp=Z,490nm,17.2s						
HEH				LR	LR		
	comp=Z,410nm,17.4s						
HEH				LR	LR		
	comp=Z,610nm,18.1s						
LZDM	**Lanzhou Array**	**40.20**	**314**	P	**P**	**09 01 59.2**	**0.0**
	comp=Z,1.3nm,0.3s,baz=128,slow=9.6,SNR=4.9						
LZDM				PcP	**PcP**	**09 04 03.6**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=116,slow=5.0,SNR=1.5						
LZDM				LR	LR	09 17 33.7	
	comp=Z,330nm,21.6s,baz=145,slow=34						
	comp=Z,1.3nm,0.3s						
PSI	**Prapat**	**40.28**	**261**	LR	LR	09 23 13.5	
	comp=Z,75nm,18.0s,baz=78,slow=43						
TNCH	**TengChong**	**40.48**	**296**	P	**P**	**09 02 02.3**	**+0.8**
TNCH				sP	pP	09 02 07.4	-2.0
TNCH				PP	**PP**	**09 03 35.6**	**+0.6**
TNCH				S	**S**	**09 08 10.8**	**+1.8**
TNCH				pmax	pmax		
	comp=Z,280nm,2.2s						
TNCH				LR	LR		
	comp=Z,220nm,4.8s						
TNCH				LR	LR		
	comp=Z,430nm,5.7s						
TNCH				LR	LR		
	comp=Z,580nm,18.6s						
GSI	**Gunungsitoli**	**41.96**	**260**	P	**P**	**09 02 11.4**	**-2.2**
GSI				IAmb	IAmb	09 03 42.3	
	comp=Z,74nm,1.3s						
MEEK	**Meekatharra**	**42.24**	**207**	P	**P**	**09 02 14.0**	**-1.7**
	comp=Z,15nm,1.4s						
DZM	**Mont Dzumac**	**42.72**	**140**	*e*P	**P**	**09 02 19.6**	**-0.1**
	comp=Z,65nm,1.1s						
DZM	**Mont Dzumac**	**42.72**	**140**	*e*LR	LR	09 14 04.4	
	comp=Z,670nm,32.5s						
DZM	**Mont Dzumac**	**42.72**	**140**	P	**P**	**09 02 19.7**	**+0.1**
DZM	**Mont Dzumac**	**42.72**	**140**	LR	LR	09 16 33.1	
	comp=Z,470nm,20.6s,baz=20,slow=31						
STKA	**Stephens Creek**	**42.78**	**176**	P	**P**	**09 02 19.0**	**-0.9**
	comp=Z,47nm,1.1s						
STKA	**Stephens Creek**	**42.78**	**176**	P	**P**	**09 02 19.4**	**-0.5**
STKA				IAmb	IAmb	09 02 26.4	
	comp=Z,56nm,1.1s						
STKA	**Stephens Creek**	**42.78**	**176**	P	**P**	**09 02 20.1**	**+0.1**
	comp=Z,6.9nm,1.0s,baz=344,slow=5.4,SNR=8.1						
STKA				PcP	**PcP**	**09 04 12.2**	**+1.1**
	comp=Z,3.6nm,0.8s,baz=34,slow=3.6,SNR=2.8						
STKA				LR	LR	09 19 11.3	
	comp=Z,634nm,20.5s,baz=49,slow=35						
	comp=Z,6.9nm,1.0s						
STKA	**Stephens Creek**	**42.78**	**176**	P	**P**	**09 02 19.4**	**-0.5**
STKA				pmax	pmax		
	comp=Z,56nm,1.2s						
FORT	**Forrest**	**42.83**	**194**	P	**P**	**09 02 20.0**	**-0.4**
	comp=Z,45nm,0.8s						
FORT	**Forrest**	**42.83**	**194**	P	**P**	**09 02 20.8**	**+0.4**
FORT				IAmb	IAmb	09 02 22.1	
	comp=Z,30nm,0.8s						
CMSA	**Cobar Meteorol**	**42.88**	**171**	P	P	09 02 25.7	+5.0
ONTNC	**Ouen Toro**	**42.90**	**141**	P	**P**	**09 02 21.2**	**+0.2**
ONTNC				IAmb	IAmb	09 03 49.7	
	comp=Z,49nm,1.2s						
ZEA	**Zeya**	**43.55**	**350**	*e*P	**P**	**09 02 25.6**	**-0.3**
ZEA				pmax	pmax		
	comp=Z,40nm,0.6s						
ZEA				MLR	MLR		
	comp=N,100nm,17.0s						
BBOO	**Buckleboo**	**43.69**	**183**	P	**P**	**09 02 26.8**	**-0.5**
GTA	**Gaotai**	**44.56**	**316**	P	**P**	**09 02 35.6**	**+1.1**
GTA				sP	pwP	09 02 46.1	+0.6
GTA				PcP	**PP**	**09 04 18.3**	**-0.4**
GTA				S	**S**	**09 09 10.9**	**+2.3**
GTA				pmax	pmax		
	comp=N,32nm,1.3s						
GTA				LR	LR		
	comp=N,170nm,18.2s						
GTA				LR	LR		
	comp=N,290nm,17.1s						
GTA				LR	LR		
	comp=N,370nm,16.4s						
PETK	**Petropavlovsk-**	**44.64**	**16**	P	**P**	**09 02 34.8**	**+0.2**
	comp=N,8.4nm,1.0s,baz=172,slow=8.5,SNR=9.7						
PETK				PcP	**PcP**	**09 04 16.8**	**-0.3**
	comp=N,2.8nm,0.7s,baz=180,slow=4.4,SNR=4.5						
	comp=N,8.4nm,1.0s						
ULN	**Ulaanbaatar**	**45.28**	**330**	P	**P**	**09 02 39.0**	**-1.1**
ULN				IAmb	IAmb	09 02 41.5	
	comp=Z,16nm,0.7s						
ULN	**Ulaanbaatar**	**45.28**	**330**	P	**P**	**09 02 40.7**	**+0.6**
ULN				P	**P**	**09 02 40.7**	**+0.6**
ULN	**Ulaanbaatar**	**45.28**	**330**	⇓*i*P	**P**	**09 02 40.3**	**+0.2**
ULN				pmax	pmax		
	comp=Z,14nm,0.7s						
MORW	**Morawa**	**45.49**	**208**	P	**P**	**09 02 39.6**	**-2.1**
MORW	**Morawa**	**45.49**	**208**	P	**P**	**09 02 40.9**	**-0.8**
MORW				IAmb	IAmb	09 02 41.5	
	comp=Z,22nm,1.3s						
SONM	**Songino Array**	**45.59**	**330**	P	**P**	**09 02 42.8**	**+0.3**
SONM				IAmb	IAmb	09 02 44.2	
	comp=Z,47nm,1.6s						
SONM	**Songino Array**	**45.59**	**330**	P	**P**	**09 02 42.9**	**+0.5**
	comp=Z,6.4nm,0.7s,baz=139,slow=8.0,SNR=33						
SONM				PcP	**PcP**	**09 04 20.5**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=145,slow=3.2,SNR=2.8						
SONM				LR	LR	09 22 47.4	
	comp=Z,212nm,19.0s,baz=148,slow=37						
	comp=Z,6.4nm,0.7s						
SONM	**Songino Array**	**45.59**	**330**	P	**P**	**09 02 42.8**	**+0.3**
SONM				pmax	pmax		
	comp=Z,47nm,1.6s						
CIT	**Chita**	**45.66**	**338**	*e*P	**P**	**09 02 42.8**	**-0.1**
CIT				*e*		09 02 52.0	
CIT				*e*		09 04 18.2	
CIT				*e*		09 05 11.2	
CIT				pmax	pmax		
	comp=Z,64nm,2.1s						
BRDH	**Bariadhala**	**46.31**	**291**	LR	LR	09 23 35.4	
	comp=Z,83nm,18.2s,baz=55,slow=38						
SHL	**Shillong**	**46.48**	**295**	P	**P**	**09 02 50.0**	**+0.1**
SHL				IAmb	IAmb	09 02 50.6	
	comp=Z,15nm,0.7s						
SHL	**Shillong**	**46.48**	**295**	P	**P**	**09 02 50.1**	**+0.1**
	SNR=5.7						
SHL	**Shillong**	**46.48**	**295**	P	**P**	**09 02 50.0**	**+0.1**
SHL				pmax	pmax		
	comp=Z,15nm,0.7s						
BLDU	**Ballidu**	**46.51**	**206**	P	**P**	**09 02 48.1**	**-1.7**
GOMU	**GeErMu**	**46.82**	**310**	P	**P**	**09 02 52.9**	**+0.3**
GOMU				PcP	**PcP**	**09 04 25.3**	**-0.2**
GOMU				S	**S**	**09 09 43.9**	**+2.3**
GOMU				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GOMU				LR	LR		
	comp=Z,170nm,15.1s						
GOMU				LR	LR		
	comp=Z,170nm,19.5s						
GOMU				LR	LR		
	comp=Z,210nm,16.9s						
CAN	**Canberra**	**47.14**	**168**	P	**P**	**09 02 54.0**	**-0.7**
CAN				IAmb	IAmb	09 03 05.1	
	comp=Z,42nm,1.6s						
CAN	**Canberra**	**47.14**	**168**	P	**P**	**09 02 54.0**	**-0.7**
CAN				pmax	pmax		
	comp=Z,42nm,1.6s						
COCO	**West Island**	**47.56**	**242**	P	**P**	**09 02 56.1**	**-2.0**
COCO	**West Island**	**47.56**	**242**	P	**P**	**09 02 56.1**	**-2.0**
COCO				pmax	pmax		
	comp=Z,370nm,1.6s						
MSVF	**Nonsavu**	**48.26**	**126**	P	**P**	**09 03 04.8**	**+1.1**
MSVF				IAmb	IAmb	09 03 09.8	
	comp=Z,26nm,1.1s						
MSVF	**Nonsavu**	**48.26**	**126**	⇑*i*P	**P**	**09 03 05.3**	**+1.7**
MSVF				pmax	pmax		
	comp=Z,27nm,1.0s						
NWAO	**Narrogin (SRO)**	**48.30**	**204**	P	**P**	**09 03 02.3**	**-1.3**
	comp=Z,25nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.30**	**204**	P	**P**	**09 03 02.1**	**-1.4**
	comp=Z,40nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.30**	**204**	P	**P**	**09 03 02.8**	**-0.8**
NWAO				IAmb	IAmb	09 03 03.9	
	comp=Z,16nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.30**	**204**	P	**P**	**09 03 03.3**	**-0.3**
NWAO	**Narrogin (SRO)**	**48.30**	**204**	P	**P**	**09 03 02.8**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,16nm,0.9s						
TOO	**Toolangi**	**48.79**	**173**	P	**P**	**09 03 07.4**	**+0.1**
TOO	**Toolangi**	**48.79**	**173**	P	**P**	**09 03 07.4**	**+0.1**
TOO				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ZAK	**Zakamensk**	**48.81**	**330**	*e*P	**P**	**09 03 06.6**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,26nm,1.8s						
MA2	**Magadan**	**49.27**	**8**	P	**P**	**09 03 10.2**	**-0.5**
MA2	**Magadan**	**49.27**	**8**	P	**P**	**09 03 10.2**	**-0.5**
MA2				pmax	pmax		
	comp=Z,87nm,1.8s						
FUTU	**Fugatoga**	**49.67**	**120**	P	**P**	**09 03 14.1**	**-0.4**
YAK	**Yakutsk**	**51.31**	**355**	P	**P**	**09 03 25.5**	**-0.5**
YAK	**Yakutsk**	**51.31**	**355**	LR	LR	09 24 27.2	
	comp=Z,155nm,19.3s,baz=157,slow=35						
YAK	**Yakutsk**	**51.31**	**355**	*e*P	**P**	**09 03 25.6**	**-0.5**
YAK				*e**PP	**sP**	**09 03 36.1**	**-0.2**
YAK				*e*		09 04 39.9	
YAK				*e*		09 05 22.7	
YAK				*e*PPP	PPP	09 06 22.5	
YAK				*e*S	**S**	**09 10 41.7**	**-1.5**
YAK				*e**SS	sS	09 11 03.6	+8.6
YAK				*e*		09 13 12.3	
YAK				*e*SS	**SS**	**09 14 19.2**	**+0.3**
YAK				*e*SSS	SSS	09 15 55.9	
YAK				pmax	pmax		
	comp=Z,68nm,1.3s						
YAK				pmax	pmax		
	comp=N,15nm,1.1s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,57nm,2.5s						
YAK				pmax	pmax		
	comp=N,35nm,1.9s						
YAK				pmax	pmax		
	comp=E,48nm,3.2s						
YAK				smax	smax		
	comp=E,87nm,3.3s						
YAK				smax	smax		
	comp=N,77nm,4.6s						
EVN	**Everest**	**51.32**	**297**	P	**P**	**09 03 26.0**	**-1.6**
EVN				IAmb	IAmb	09 03 36.1	
	comp=Z,16nm,0.9s						
AMKA	**Amchitka**	**52.01**	**31**	P	**P**	**09 03 31.3**	**-0.2**
SEY	**Seymchan**	**52.72**	**8**	*e*P	**P**	**09 03 35.9**	**-0.7**
SEY				pmax	pmax		
	comp=Z,31nm,1.2s						
KIWB	**Kanaga Island**	**54.10**	**32**	P	**P**	**09 03 46.9**	**-0.1**
ADK	**Adak**	**54.37**	**32**	P	**P**	**09 03 48.1**	**-0.8**
ADK	**Adak**	**54.37**	**32**	P	**P**	**09 03 48.1**	**-0.8**
ADK				pmax	pmax		
	comp=Z,62nm,1.3s						
WMQ	**Urumqi**	**54.65**	**316**	*e*P	**P**	**09 03 54.3**	**+3.1**
WMQ				pmax	pmax		
	comp=Z,35nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,190nm,4.7s						
WMQ				LR	LR		
	comp=Z,280nm,21.1s						
WMQ				LR	LR		
	comp=Z,270nm,21.1s						
WMQ				LR	LR		
	comp=Z,160nm,23.9s						
ATKA	**Atka Island**	**55.85**	**33**	P	**P**	**09 03 58.7**	**-0.9**
HYB	**Hyderabad**	**58.45**	**284**	*e*P	**P**	**09 04 18.0**	**-0.6**
MK31	**Makanchi Array**	**59.23**	**318**	P	**P**	**09 04 23.4**	**-0.1**
MK31				IAmb	IAmb	09 04 25.2	
	comp=Z,17nm,0.8s						
MK31	**Makanchi Array**	**59.23**	**318**	P	**P**	**09 04 23.4**	**-0.1**
MK31				pmax	pmax		
	comp=Z,17nm,0.9s						
MKAR	**Makanchi Array**	**59.23**	**318**	P	**P**	**09 04 24.1**	**+0.5**
	comp=Z,23nm,0.7s,baz=102,slow=8.9,SNR=128						
MKAR				PcP	**PcP**	**09 05 11.5**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=101,slow=5.3,SNR=4.1						
MKAR				LR	LR	09 31 46.7	
	comp=Z,116nm,18.6s,baz=104,slow=38						
	comp=Z,23nm,0.7s						
MAKZ	**Makanchi**	**59.44**	**318**	P	**P**	**09 04 24.8**	**-0.2**
MAKZ				IAmb	IAmb	09 04 26.6	

comp=Z,23nm,0.8s
MAKZ Makanchi 59.44 318 P P 09 04 24.8 -0.2
MAKZ pmax pmax
comp=Z,23nm,0.9s
BILL Bilibino 59.75 12⇑ iP P 09 04 25.8 -0.9
BILL pmax pmax
comp=Z,15nm,0.9s
SPIA Saint Paul Isl 60.27 29 P P 09 04 29.9 -0.6
SPIA Saint Paul Isl 60.27 29 P P 09 04 30.9 +0.4
baz=242
ZAA0 Zalesovo Array 60.28 327 P P 09 04 30.1 -0.5
ZAA0 IAmb IAmb 09 04 31.1
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 60.28 327 P P 09 04 29.9 -0.7
comp=Z,13nm,0.7s,baz=104,slow=5.9,SNR=44
ZALV LR LR 09 31 07.5
comp=Z,235nm,20.1s,baz=130,slow=36
comp=Z,13nm,0.7s
DSZ Denniston Nort 60.73 152 P P 09 04 33.7 -0.1
UNV Unalaska Valle 60.74 34 P P 09 04 32.7 -1.0
URZ Urewera 60.79 146 LR LR 09 28 34.6
comp=Z,117nm,21.2s,baz=319,slow=34
TIXI Tiksi 60.85 356 P P 09 04 33.4 -0.8
TIXI Tiksi 60.85 356 LR LR 09 30 32.0
comp=Z,154nm,20.4s,baz=42,slow=36
TIXI Tiksi 60.85 356⇑ iP P 09 04 33.1 -1.1
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TARG Taragay, Kyrgy 61.07 312 P P 09 04 34.4 -2.3
TARG IAmb IAmb 09 04 48.4
comp=Z,10nm,0.9s
TARG Taragay, Kyrgy 61.07 312 P P 09 04 34.4 -2.3
TARG pmax pmax
comp=Z,10.0nm,0.9s
AKUT Akutan 61.25 34 P P 09 04 36.3 -0.8
KDJ Kajisay 61.60 312 IAmb IAmb 09 04 42.0
comp=Z,25nm,0.9s
KSH Kashi 62.05 309 P P 09 04 46.0 +3.0
KSH sP pwP 09 04 52.6 -1.6
KSH pmax pmax
comp=Z,18nm,0.9s
KURK Kurchatov 62.72 322 P P 09 04 47.0 -0.1
KURK Kurchatov 62.72 322 P P 09 04 47.2 +0.1
KURK P P 09 04 47.2 +0.1
KURK Kurchatov 62.72 322c iP P 09 04 47.1 +0.1
KURK pmax pmax
comp=Z,39nm,0.8s
KURBB Kurchatov Arra 62.75 322 P P 09 04 47.0 -0.3
comp=Z,22nm,0.8s,baz=104,slow=7.0,SNR=124
comp=Z,22nm,0.8s
GAMB Gambell 63.04 22 P P 09 04 49.5 +0.5
baz=237
NIL Nilore 63.55 302 P P 09 04 53.7 +0.6
NIL Nilore 63.55 302 P P 09 04 54.1 +1.0
NIL Nilore 63.55 302 P P 09 04 53.7 +0.6
NIL pmax pmax
comp=Z,47nm,0.9s
AAK Ala-Archa 63.65 312 P P 09 04 54.4 +0.7
AAK Ala-Archa 63.65 312 P P 09 04 54.1 +0.4
AAK P P 09 04 54.1 +0.4
AAK Ala-Archa 63.65 312 P P 09 04 54.3 +0.7
AAK Ala-Archa 63.65 312 P P 09 04 54.4 +0.7
AAK pmax pmax
comp=Z,7.0nm,0.9s
SDPT Sand Point 64.55 34 P P 09 04 58.8 -0.3
baz=252
ARSB Arslanbob 64.57 311 IAmb IAmb 09 05 01.6
comp=Z,16nm,0.9s
M13K Dall Lake 64.92 28 P P 09 05 01.2 -0.2
baz=247
K13K Kusilvak Mount 64.97 26 IAmb IAmb 09 05 03.0
comp=Z,20nm,0.8s
K13K Kusilvak Mount 64.97 26 P P 09 05 02.2 +0.5
baz=245
S14K Fog Glacier 65.34 33 P P 09 05 04.5 +0.1
baz=252
N14K Kuskokwak Cree 65.50 29 P P 09 05 05.2 0.0
baz=249
L14K Kuka Creek 65.58 27 P P 09 05 06.1 +0.4
baz=247,SNR=5.7
M14K Bethel 65.68 28 P P 09 05 06.7 +0.4
baz=248,SNR=5.8
F14K Arctic Creek 65.90 22 P P 09 05 08.4 +0.7
baz=242
O15K Ungalikthiuk R 66.13 30 P P 09 05 09.2 -0.1
baz=251
M15K Kasigluk River 66.24 28 P P 09 05 09.8 -0.2
baz=249
L15K Ungalak Mounta 66.25 27 P P 09 05 10.1 +0.1
baz=248
N15K Kwethluk River 66.34 29 P P 09 05 10.5 -0.1
N15K Kwethluk River 66.34 29 P P 09 05 10.9 +0.3
baz=250
GAR Garm 66.34 308 P P 09 05 11.7 +0.4
K15K Wolf Creek Mou 66.46 26 P P 09 05 11.4 +0.1
K15K Wolf Creek Mou 66.46 26 P P 09 05 11.8 +0.5
baz=248
KK31 Karatay Array 66.62 312 P P 09 05 13.0 +0.2
KK31 IAmb IAmb 09 05 14.5
comp=Z,44nm,1.9s
KK31 Karatay Array 66.62 312 P P 09 05 13.0 +0.2
KK31 pmax pmax
comp=Z,45nm,1.9s
KKAR Karatay Array 66.62 312 P 09 05 12.8 0.0
KKAR Karatay Array 66.62 312 P P 09 05 12.8 0.0
F15K North Star Dit 66.63 22 P P 09 05 13.0 +0.7
baz=243
P16K Nushagak River 66.98 30 P P 09 05 14.9 +0.2
baz=252
N16K Nishlik Lake 67.06 29 P P 09 05 15.6 +0.3
baz=251
H16K Elim 67.09 24 P P 09 05 15.5 +0.2
baz=246
O16K Kokwok River B 67.10 30 P P 09 05 15.3 -0.1
baz=252
L16K Owhat River 67.15 27 P P 09 05 15.8 +0.1
baz=250
M16K Timber Creek 67.15 28 P P 09 05 16.0 +0.2
baz=251
CHGR Chuyangaron 67.22 307 P P 09 05 17.1 +0.3
CHGR pmax pmax
comp=Z,45nm,0.9s
J16K Anvik River 67.23 25 P P 09 05 16.7 +0.4
baz=248
SIMJ Simiganj 67.34 307 P 09 05 18.0 +0.4
SIMJ IAmb IAmb 09 05 19.0
comp=Z,16nm,0.9s
G16K Koyuk River 67.36 23 P P 09 05 17.1 +0.1
baz=246
I17K Unalakleet 67.42 25 P P 09 05 17.4 0.0
I17K Unalakleet 67.42 25 P P 09 05 17.4 0.0
baz=248
C16K Lisburne Hills 67.58 19 P P 09 05 18.5 +0.2
baz=242
O17K Koliganek Bris 67.64 30 P P 09 05 18.9 0.0
baz=253
L17K Donlin 67.82 27 P P 09 05 20.4 +0.4
baz=251
N17K Nushagak Hills 67.82 29 P P 09 05 20.0 0.0
baz=253
J17K VABM Dome 67.91 25 IAmb IAmb 09 05 22.2
comp=Z,11nm,0.8s
J17K VABM Dome 67.91 25 P P 09 05 20.9 +0.4
baz=250
M17K Holitna River 67.97 28 P P 09 05 22.0 +1.0
M17K Holitna River 67.97 28 P P 09 05 21.9 +1.0
baz=252,SNR=6.4
K17K Iditarod 68.01 26 IAmb IAmb 09 05 22.8
comp=Z,14nm,0.8s
K17K Iditarod 68.01 26 P P 09 05 21.7 +0.5
baz=251
G17K Kiwalik Mounta 68.05 23 P P 09 05 21.9 +0.5
baz=247,SNR=5.8
D17K Noatak River 68.07 20 P P 09 05 22.1 +0.6
baz=244
H17K Granite Mounta 68.12 24 IAmb IAmb 09 05 23.4
comp=Z,15nm,0.7s
H17K Granite Mounta 68.12 24 P P 09 05 22.4 +0.6
baz=248,SNR=8.0
F17K Baldwin Pennin 68.20 22 P P 09 05 23.1 +0.8
baz=246
BVAR Borovoye Array 68.22 323 P P 09 05 22.6 -0.1
comp=Z,26nm,0.8s,baz=101,slow=7.7,SNR=73
comp=Z,26nm,0.8s
E17K Hotham Inlet 68.25 21 P P 09 05 23.4 +0.8
baz=246
BORK Borovoye 68.27 323 i P P 09 05 22.9 -0.1
BORK pmax pmax
comp=Z,39nm,0.9s
RDOG Red Dog Mine 68.29 20 P P 09 05 23.7 +0.9
RDOG Red Dog Mine 68.29 20 P P 09 05 23.3 +0.5
baz=244
C17K DeLong Mountai 68.39 20 P P 09 05 23.9 +0.4
baz=244
RAR Rarotonga 68.40 118 LR LR 09 32 32.1
comp=Z,174nm,18.3s,baz=292,slow=33
DGAR Diego Garcia 68.42 257 P P 09 05 23.9 -0.7
N18K Kilae Creek 68.48 29 P P 09 05 25.0 +0.8
N18K IAmb IAmb 09 07 18.6
comp=Z,33nm,1.4s
N18K Kilae Creek 68.48 29 P P 09 05 24.7 +0.5
baz=254
L18K Granite Mounta 68.56 27 P P 09 05 25.2 +0.6
baz=252
M18K Stony River 68.74 28 P P 09 05 26.3 +0.6
baz=253
H18K Honhosa River 68.82 24 P P 09 05 26.5 +0.3
baz=250
E18K Tukpahlearik C 68.82 21 P P 09 05 26.8 +0.7
baz=247
F18K Selawik 68.85 22 P P 09 05 26.7 +0.4
baz=248
OHAK Old Harbor 68.91 33 P P 09 05 27.5 +0.6
baz=257
J18K Innoko River 68.94 26 P P 09 05 27.4 +0.5
baz=252
G18K Tagagawik 68.97 23 P P 09 05 27.2 +0.1
baz=249,SNR=8.8
O19K Port Alsworth 69.10 29 P P 09 05 28.7 +0.7
baz=255
C18K Utukok River 69.12 20 IAmb IAmb 09 05 29.0
comp=Z,20nm,0.8s
C18K Utukok River 69.12 20 P P 09 05 28.5 +0.5
baz=246,SNR=5.7
Q19K Cape Douglas, 69.12 31 P P 09 05 28.3 +0.1
baz=256
N19K Bonanza Creek 69.18 29 IAmb IAmb 09 05 30.7
comp=Z,18nm,0.7s
N19K Bonanza Creek 69.18 29 P P 09 05 29.2 +0.6
baz=255,SNR=5.1
B18K Kokolik River 69.22 19 P P 09 05 29.4 +0.8
baz=245
GCSA Galena City Sc 69.27 24 P P 09 05 29.5 +0.5
baz=251
L19K White Mountain 69.37 27 P P 09 05 30.0 +0.3
baz=254
P19K Oil Pt 69.50 30 P P 09 05 30.3 -0.2
baz=256
J19K Poorman 69.56 25 IAmb IAmb 09 05 32.2
comp=Z,11nm,0.8s
J19K Poorman 69.56 25 P P 09 05 31.2 +0.4
baz=253,SNR=7.5
F19K Shaleruckik Mo 69.63 22 IAmb IAmb 09 05 58.9
comp=Z,42nm,1.9s
G19K Purcell Mounta 69.65 23 P P 09 05 31.7 +0.4
baz=251,SNR=15
Q20K Shuyak Island 69.68 31 P P 09 05 32.1 +0.5
baz=258
H19K Roundabout Mou 69.70 24 IAmb IAmb 09 05 33.4
comp=Z,28nm,1.1s
H19K Roundabout Mou 69.70 24 P P 09 05 32.5 +0.9
baz=251,SNR=11
A19K Wainwright 69.81 18 P P 09 05 33.0 +0.8
baz=245
C19K Lookout Ridge 69.84 20 P P 09 05 33.4 +0.9
baz=247,SNR=6.6
K20K Telida 70.04 26 IAmb IAmb 09 05 35.6
comp=Z,13nm,0.8s
K20K Telida 70.04 26 P P 09 05 34.5 +0.7
baz=254
E19K Redstone River 70.05 22 IAmb IAmb 09 05 35.2
comp=Z,20nm,0.7s
E19K Redstone River 70.05 22 P P 09 05 34.3 +0.6
baz=250
M20K Styx River 70.08 28 IAmb IAmb 09 05 37.0
comp=Z,13nm,0.8s
M20K Styx River 70.08 28 P P 09 05 34.8 +0.7
baz=256
D19K Kuna River 70.10 20 P P 09 05 34.5 +0.3
baz=249
J20K Nowinta River 70.23 25 IAmb IAmb 09 05 36.3
comp=Z,17nm,0.8s
J20K Nowinta River 70.23 25 P P 09 05 35.8 +0.8
baz=254,SNR=16
I20K Naaghedeneel 70.27 25 P P 09 05 36.0 +0.9
baz=254,SNR=5.5
H20K Anotleneega Mo 70.31 24 P P 09 05 36.1 +0.7
baz=253,SNR=10
N20K Mount Spurr 70.35 29 P P 09 05 35.7 -0.1
baz=257
F20K Avaraart Lake 70.46 22 P P 09 05 36.8 +0.5
baz=252,SNR=5.9
E20K Nigu River 70.69 21 P P 09 05 38.2 +0.4
baz=251
D20K Etivluk River 70.69 20 P P 09 05 38.1 +0.4
baz=250
BRSE Bradley Lake S 70.75 30 P P 09 05 38.2 0.0
baz=259
PPLA Purkeypile 70.75 27 P P 09 05 38.5 +0.1
baz=256
SKT Skwentna 70.84 28 IAmb IAmb 09 08 02.3
comp=Z,45nm,1.8s
SKT Skwentna 70.84 28 P P 09 05 38.4 -0.3
baz=257
IMAR Indian Mountai 70.90 24 P 09 05 39.1 +0.2
CHUM Lake Minchumin 70.94 26 P P 09 05 39.7 +0.5
baz=256
B20K Mede River 70.97 19 P P 09 05 39.6 +0.3
baz=249
SUA Susitna One 71.09 29 P P 09 05 40.0 -0.4
baz=258
G21K Allakaket 71.14 23 P P 09 05 40.8 +0.4
baz=254
SLKM Skilak Lake 71.15 30 IAmb IAmb 09 05 40.4
comp=Z,25nm,1.1s
H21K Melozitna Rive 71.19 24 IAmb IAmb 09 05 41.9
comp=Z,15nm,0.8s
H21K Melozitna Rive 71.19 24 P P 09 05 41.3 +0.6
baz=255,SNR=13
F21K Alatna River 71.35 22 P P 09 05 41.6 -0.1
baz=254,SNR=7.7
O22K Cooper Landing 71.39 30 P P 09 05 41.6 -0.4
baz=259
M22K Willow 71.44 28 P P 09 05 42.1 -0.2
baz=259
SEW Seward 71.45 30 P P 09 05 42.1 -0.2
baz=260
KTH Kantishna Hill 71.46 26 IAmb IAmb 09 05 47.7
comp=Z,17nm,1.1s
C21K Knifeblade Rid 71.47 20 P P 09 05 42.8 +0.4
baz=252
RC01 Rabbit Creek A 71.50 29 P P 09 05 42.0 -0.7
baz=259
CUT Chulitna 71.51 28 P P 09 05 42.4 -0.3
baz=258
E21K Kilik River 71.53 21 P P 09 05 42.9 +0.1
baz=253
BPAW Bear Paw Mtn. 71.56 26 IAmb IAmb 09 05 44.1
comp=Z,16nm,0.7s
BPAW Bear Paw Mtn. 71.56 26 P P 09 05 43.1 +0.1
baz=257,SNR=15
B21K Ikpikpuk River 71.67 20 IAmb IAmb 09 05 52.5
comp=Z,28nm,1.1s
B21K Ikpikpuk River 71.67 20 P P 09 05 44.1 +0.5
baz=252
TRF Thorofare Moun 71.72 27 IAmb IAmb 09 05 44.5
comp=Z,14nm,0.8s
TRF Thorofare Moun 71.72 27 P P 09 05 43.6 -0.6
baz=258,SNR=5.5
H22K Ishtalitna Cre 71.81 24 P P 09 05 45.1 +0.6
baz=256,SNR=8.7
MLY Manley 71.87 25 IAmb IAmb 09 05 45.8
comp=Z,18nm,0.6s
MLY Manley 71.87 25 P P 09 05 45.2 +0.3
baz=257,SNR=20
PMR Palmer 71.88 29 IAmb IAmb 09 05 45.0
comp=Z,14nm,0.7s
PMR Palmer 71.88 29 P P 09 05 44.2 -0.8
baz=260,SNR=6.1
F22K John River 71.91 22 P P 09 05 46.0 +0.9
baz=255,SNR=17
GHO Glory Hole Cre 72.01 28 IAmb IAmb 09 05 46.2
comp=Z,20nm,0.8s
G22K Bettles 72.02 23 P P 09 05 45.8 +0.2
baz=256,SNR=7.8
D22K Ayikyak River 72.11 21 IAmb IAmb 09 05 47.9
comp=Z,17nm,0.8s
D22K Ayikyak River 72.11 21 P P 09 05 46.7 +0.5
baz=254,SNR=9.2
PWL Port Wells 72.13 29 P P 09 05 46.2 -0.3
baz=260,SNR=6.5
KNK Knik Glacier 72.16 29 P P 09 05 46.5 -0.2
baz=260
E22K Anaktuvuk Pass 72.21 22 IAmb IAmb 09 05 48.0
comp=Z,13nm,0.8s
E22K Anaktuvuk Pass 72.21 22 P P 09 05 47.4 +0.5
baz=255,SNR=9.5
BWN Browne 72.22 26 IAmb IAmb 09 05 48.2
comp=Z,27nm,1.0s
B22K Teshekpuk Lake 72.28 19 P P 09 05 47.3 +0.1
baz=253
RND Reindeer 72.34 27 IAmb IAmb 09 05 48.1
comp=Z,12nm,0.8s
MCK McKinley 72.37 26 IAmb IAmb 09 05 48.4
comp=Z,21nm,0.9s
MCK McKinley 72.37 26 P P 09 05 47.3 -0.6
baz=259,SNR=7.4
WAT1 Susitna Watana 72.37 27 P P 09 05 47.4 -0.6
baz=260
NEA2 Nenana 72.48 26 IAmb IAmb 09 05 49.7
comp=Z,16nm,1.0s
NEA2 Nenana 72.48 26 P P 09 05 48.8 +0.3
baz=259
G23K Bananza Creek 72.54 23 P P 09 05 49.8 +0.9
baz=257,SNR=11
M23K Glacier View 72.57 29 P P 09 05 49.3 +0.2
baz=261
COLD Coldfoot 72.59 23 IAmb IAmb 09 05 50.4
comp=Z,15nm,0.8s
COLD Coldfoot 72.59 23 P P 09 05 49.6 +0.5
baz=257,SNR=12
WAT6 Susitna Watana 72.69 28 P P 09 05 49.5 -0.5
baz=260,SNR=11
SCM Sheep Creek Mo 72.77 29 P P 09 05 50.5 +0.1
baz=261,SNR=8.2
D23K Nanushuk River 72.83 21 P P 09 05 51.3 +0.8
baz=256,SNR=5.1
WRH Wood River Hil 72.87 26 IAmb IAmb 09 05 51.2
comp=Z,26nm,1.4s
DHY Denali Highway 72.94 27 IAmb IAmb 09 05 52.5
comp=Z,13nm,0.8s
DHY Denali Highway 72.94 27 P P 09 05 51.7 +0.2
baz=261,SNR=6.2
E23K Chandalar 72.99 22 IAmb IAmb 09 05 53.6
comp=Z,35nm,1.1s
E23K Chandalar 72.99 22 P P 09 05 52.6 +1.0
baz=257,SNR=11
CCB Clear Creek Bu 73.02 26 IAmb IAmb 09 05 51.9
comp=Z,30nm,1.4s
COLA College 73.04 25 P P 09 05 51.4 -0.4
COLA IAmb IAmb 09 05 53.5
comp=Z,34nm,1.5s
COLA College 73.04 25 P P 09 05 51.4 -0.4
COLA pmax pmax
comp=Z,34nm,1.5s
COLA College 73.04 25 P P 09 05 51.5 -0.3
baz=260
C23K Itkillik River 73.07 20 IAmb IAmb 09 05 52.9
comp=Z,21nm,0.7s
C23K Itkillik River 73.07 20 P P 09 05 52.5 +0.6
baz=256,SNR=6.5
TOLK Toolik Lake Re 73.14 21 IAmb IAmb 09 05 54.0
comp=Z,18nm,0.7s
TOLK Toolik Lake Re 73.14 21 P P 09 05 53.2 +0.8
baz=257,SNR=9.4
H24K Noodor Dome 73.21 24 P P 09 05 53.4 +0.5
baz=259,SNR=7.9
POKR Poker Plat Res 73.26 25 P P 09 05 52.4 -0.8
baz=260
EYAK Cordova Ski Ar 73.34 30 P P 09 05 53.9 +0.3
baz=263
M24K Tolsona, Glenn 73.34 28 P P 09 05 53.4 -0.3
baz=262
HDA Harding Lake 73.35 26 P P 09 05 53.0 -0.7
baz=261,SNR=6.6
KLU Klutina 73.38 29 IAmb IAmb 09 05 55.2
comp=Z,17nm,0.8s
KLU Klutina 73.38 29 P P 09 05 54.2 +0.2
baz=262,SNR=6.9
E24K Your Creek 73.41 22 IAmb IAmb 09 05 55.8
comp=Z,26nm,1.4s
E24K Your Creek 73.41 22 P P 09 05 54.6 +0.5
baz=258,SNR=6.0
ILAR Eielson Array 73.43 26 P P 09 05 53.2 -0.9
ILAR Eielson Array 73.43 26 P P 09 05 52.5 -1.7
comp=Z,6.6nm,0.6s,baz=247,slow=6.0,SNR=116
comp=Z,6.6nm,0.6s
ILAR Eielson Array 73.43 26 P P 09 05 53.2 -0.9
D24K Happy Valley 73.52 21 P P 09 05 55.3 +0.7
baz=258
F24K Squaw Lake 73.52 23 IAmb IAmb 09 05 56.6
comp=Z,48nm,1.9s
F24K Squaw Lake 73.52 23 P P 09 05 55.3 +0.6
baz=259,SNR=7.1
G24K Hadweenzic Riv 73.53 23 P P 09 05 55.3 +0.6
baz=260,SNR=7.2
C24K Franklin Bluff 73.69 20 IAmb IAmb 09 05 56.9
comp=Z,24nm,0.8s
C24K Franklin Bluff 73.69 20 P P 09 05 55.9 +0.4
baz=258
K24K Donnelly Dome 73.76 27 IAmb IAmb 09 05 56.7
comp=Z,20nm,0.9s
K24K Donnelly Dome 73.76 27 P P 09 05 55.9 -0.3
baz=262,SNR=5.6
PAX Paxson 73.78 27 IAmb IAmb 09 05 56.9
comp=Z,13nm,0.7s
PAX Paxson 73.78 27 P P 09 05 56.5 +0.1
baz=262,SNR=9.7
HARP HAARP 73.86 28 P P 09 05 57.1 +0.4
baz=263,SNR=5.9
BMRM Bremner River 73.95 30 IAmb IAmb 09 06 03.0
comp=Z,31nm,1.0s
BMRM Bremner River 73.95 30 P P 09 05 57.6 +0.3
baz=264
N25K Chitina, Valde 74.02 29 IAmb IAmb 09 06 13.9
comp=Z,61nm,1.9s
N25K Chitina, Valde 74.02 29 P P 09 05 58.1 +0.3
baz=264
J25K Salcha River, 74.05 26 P P 09 05 57.1 -0.7
baz=262
G25K Bearman Lake 74.08 24 P P 09 05 58.4 +0.5
baz=261
H25L Birch Creek 74.11 24 P P 09 05 58.6 +0.5
baz=261,SNR=5.0
RIDG Independent Ri 74.16 27 P P 09 05 58.3 -0.2
baz=263,SNR=8.3
SVE Sverdlovsk 74.29 326 eP P 09 05 59.5 +0.2
SVE pmax pmax
comp=Z,21nm,0.9s
AB31 Akbulak array 74.37 318 P P 09 05 59.9 0.0
AB31 IAmb IAmb 09 06 00.6
comp=Z,15nm,0.8s
ABKAR Akbulak array 74.37 318 P P 09 05 59.9 -0.1
GLB Gilahina Butte 74.38 29 IAmb IAmb 09 06 01.1
comp=Z,18nm,0.8s
F25K Christian Rive 74.39 23 P P 09 06 00.5 +0.8
F25K Christian Rive 74.39 23 P P 09 06 00.8 +1.0
baz=261,SNR=7.0
D25K Kavik River 74.41 21 P P 09 06 00.2 +0.3
baz=260,SNR=7.0
E25K Arctic Village 74.50 22 IAmb IAmb 09 06 02.4
comp=Z,29nm,1.2s
E25K Arctic Village 74.50 22 P P 09 06 01.2 +0.8
baz=261,SNR=8.8
DOT Dot Lake 74.50 27 IAmb IAmb 09 06 01.1
comp=Z,16nm,0.8s
VRDI Verde Repeater 74.53 29 IAmb IAmb 09 06 01.8
comp=Z,14nm,0.7s
SCRK Sand Creek 74.57 27 P P 09 06 00.7 -0.3
baz=264,SNR=7.7
CRQE Cirque 74.67 30 P P 09 06 01.7 +0.1
baz=265
MCARA McCarthy VSAT 74.75 29 IAmb IAmb 09 06 03.3
comp=Z,25nm,0.9s
MCARA McCarthy VSAT 74.75 29 P P 09 06 02.2 +0.3
baz=265
L26K Log Cabin Wild 74.75 28 IAmb IAmb 09 06 03.2
comp=Z,14nm,0.7s
L26K Log Cabin Wild 74.75 28 P P 09 06 02.0 +0.1
baz=264,SNR=14
BMAR Burnt Mountain 74.77 23 P P 09 06 02.8 +0.8
TGL Tana Glacier 74.79 30 IAmb IAmb 09 06 39.4
comp=Z,35nm,1.2s

J26L	**Joseph Creek**	**74.81**	**26**	P		**P**		**09 06 02.0**	**-0.3**
	baz=264,SNR=9.5								
M26K	**Nabesna, AK**	**74.86**	**28**	P		**P**		**09 06 02.8**	**+0.2**
	baz=265								
F26K	**Sheenjek River**	**74.97**	**23**	IAmb		IAmb		09 06 05.1	
	comp=Z,16nm,0.8s								
F26K	**Sheenjek River**	**74.97**	**23**	P		**P**		**09 06 04.1**	**+1.0**
	baz=262,SNR=15								
G26K	**Porcupine Rive**	**75.01**	**23**	P		**P**		**09 06 04.2**	**+0.9**
	baz=263,SNR=8.0								
C26K	**Camden Bay**	**75.02**	**20**	P		**P**		**09 06 04.2**	**+0.9**
	baz=261								
MESA	**MESA**	**75.19**	**31**	P		**P**		**09 06 05.4**	**+0.7**
	baz=266								
GRNC	**Granite Creek**	**75.32**	**30**	IAmb		IAmb		09 06 06.8	
	comp=Z,21nm,0.6s								
M27K	**Edge Creek, AK**	**75.37**	**28**	IAmb		IAmb		09 06 07.1	
	comp=Z,13nm,0.8s								
M27K	**Edge Creek, AK**	**75.37**	**28**	P		**P**		**09 06 05.9**	**+0.3**
	baz=266,SNR=11								
C27K	**Jago River**	**75.39**	**21**	IAmb		IAmb		09 06 07.0	
	comp=Z,18nm,0.8s								
C27K	**Jago River**	**75.39**	**21**	P		**P**		**09 06 06.1**	**+0.7**
	baz=262,SNR=6.5								
BARN	**Barnard Glacie**	**75.39**	**30**	IAmb		IAmb		09 06 07.4	
	comp=Z,13nm,0.8s								
K27K	**Chicken**	**75.41**	**27**	IAmb		IAmb		09 06 07.7	
	comp=Z,29nm,1.4s								
K27K	**Chicken**	**75.41**	**27**	P		**P**		**09 06 06.6**	**+0.9**
	baz=265,SNR=9.6								
L27K	**Beaver Creek,**	**75.45**	**28**	P		**P**		**09 06 06.4**	**+0.5**
	baz=266								
BCAR	**Beaver Creek A**	**75.47**	**28**	P		**P**		**09 06 06.8**	**+0.7**
ARTI	**Arti**	**75.51**	**326**	P		**P**		**09 06 05.6**	**-0.8**
ARTI				IAmb		IAmb		09 06 06.3	
	comp=Z,20nm,0.6s								
ARTI	**Arti**	**75.51**	**326**	*c i* P		**P**		**09 06 05.4**	**-1.0**
ARTI								09 08 49.7	
ARTI				S		**S**		**09 15 48.6**	**+3.6**
ARTI				SS		**SS**		**09 20 36.5**	**+0.8**
ARTI				pmax		pmax			
	comp=Z,14nm,0.7s								
CTG	**Chitna Glacier**	**75.54**	**30**	P		**P**		**09 06 07.4**	**+0.8**
	baz=267,SNR=6.2								
CTGM	**Chitina Glacie**	**75.54**	**30**	IAmb		IAmb		09 06 08.3	
	comp=Z,20nm,0.7s								
LOGN	**Logan Glacier**	**75.69**	**30**	IAmb		IAmb		09 06 09.1	
	comp=Z,23nm,0.7s								
I27K	**Kandik River**	**75.74**	**25**	P		**P**		**09 06 07.8**	**+0.2**
	baz=265,SNR=12								
G27K	**Doyon Strip**	**75.83**	**24**	P		**P**		**09 06 08.8**	**+0.8**
	baz=265								
H27K	**Steamboat Moun**	**75.83**	**24**	IAmb		IAmb		09 06 10.0	
	comp=Z,23nm,1.1s								
H27K	**Steamboat Moun**	**75.83**	**24**	P		**P**		**09 06 08.7**	**+0.6**
	baz=265,SNR=16								
EGAK	**Eagle**	**75.87**	**26**	P		**P**		**09 06 08.2**	**0.0**
	baz=266,SNR=7.2								
E27K	**Coleen River**	**75.98**	**22**	IAmb		IAmb		09 06 10.7	
	comp=Z,18nm,1.1s								
E27K	**Coleen River**	**75.98**	**22**	P		**P**		**09 06 09.4**	**+0.5**
	baz=265,SNR=9.4								
PINM	**Pinnacle**	**76.03**	**31**	P		**P**		**09 06 10.0**	**+0.6**
	baz=268								
JLN	**Jalan Bani Buh**	**76.08**	**290**	P		**P**		**09 06 09.2**	**-1.1**
O28M	**Mount Upton**	**76.09**	**30**	IAmb		IAmb		09 06 11.7	
	comp=Z,20nm,0.8s								
O28M	**Mount Upton**	**76.09**	**30**	P		**P**		**09 06 10.7**	**+0.8**
	baz=268								
D27M	**Malcolm River**	**76.31**	**21**	IAmb		IAmb		09 06 11.9	
	comp=Z,14nm,0.9s								
D27M	**Malcolm River**	**76.31**	**21**	P		**P**		**09 06 11.5**	**+0.7**
	baz=265,SNR=6.9								
YUK8	**Steele Glacier**	**76.31**	**29**	P		**P**		**09 06 12.2**	**+0.9**
	baz=268								
PPT	**Papeete**	**76.32**	**111**	LR		LR		09 35 50.1	
	comp=Z,186nm,18.3s,baz=326,slow=32								
PPT2	**Papeete2**	**76.33**	**111**	*e*LR		LR		09 29 26.7	
	comp=Z,278nm,23.8s								
PPT2				*e*LR		LR		09 29 34.0	
	comp=Z,318nm,22.2s								
I28M	**Miner Creek**	**76.43**	**25**	IAmb		IAmb		09 06 12.6	
	comp=Z,12nm,0.8s								
I28M	**Miner Creek**	**76.43**	**25**	P		**P**		**09 06 12.1**	**+0.5**
	baz=267,SNR=16								
F28M	**Old Crow**	**76.58**	**23**	IAmb		IAmb		09 06 13.9	
	comp=Z,19nm,0.8s								
F28M	**Old Crow**	**76.58**	**23**	P		**P**		**09 06 13.0**	**+0.7**
	baz=266,SNR=15								
DAWY	**Dawson**	**76.59**	**27**	P		**P**		**09 06 12.9**	**+0.4**
	baz=268,SNR=12								
E28M	**Babbage River**	**76.77**	**22**	IAmb		IAmb		09 06 15.1	
	comp=Z,21nm,0.8s								
E28M	**Babbage River**	**76.77**	**22**	P		**P**		**09 06 14.2**	**+0.8**
	baz=265,SNR=17								
YUK4	**Talbot Arm**	**76.86**	**29**	P		**P**		**09 06 15.4**	**+1.2**
	baz=269,SNR=6.7								
O29M	**Mount Kennedy**	**76.87**	**30**	IAmb		IAmb		09 06 18.1	
	comp=Z,24nm,1.1s								
O29M	**Mount Kennedy**	**76.87**	**30**	P		**P**		**09 06 15.3**	**+1.1**
	baz=269								
M29M	**Somme Creek**	**76.96**	**28**	IAmb		IAmb		09 06 16.7	
	comp=Z,21nm,1.1s								
M29M	**Somme Creek**	**76.96**	**28**	P		**P**		**09 06 15.7**	**+1.0**
	baz=269,SNR=13								
YUK6	**Outpost Mounta**	**76.99**	**30**	P		**P**		**09 06 16.0**	**+1.0**
	baz=269,SNR=6.4								
BIDO	**Bidbid**	**77.10**	**292**	P		**P**		**09 06 16.4**	**+0.4**
BIDO				P		**P**		**09 06 16.4**	**+0.4**
I29M	**Ogilvie Camp,**	**77.11**	**25**	IAmb		IAmb		09 06 16.7	
	comp=Z,40nm,1.8s								
I29M	**Ogilvie Camp,**	**77.11**	**25**	P		**P**		**09 06 15.6**	**+0.2**
	baz=268,SNR=6.0								
H29M	**Whitestone**	**77.11**	**24**	P		**P**		**09 06 16.0**	**+0.8**
	baz=268								
L29M	**L29M**	**77.13**	**28**	P		**P**		**09 06 16.6**	**+1.1**
	baz=269,SNR=19								
SMDO	**Samad**	**77.22**	**291**	P		**P**		**09 06 16.4**	**-0.5**
SMDO				P		**P**		**09 06 16.4**	**-0.5**
JMDO	**Jabal Madar**	**77.25**	**291**	P		**P**		**09 06 16.9**	**0.0**
G29M	**Pine Creek**	**77.27**	**24**	IAmb		IAmb		09 06 18.0	
	comp=Z,34nm,1.1s								
G29M	**Pine Creek**	**77.27**	**24**	P		**P**		**09 06 16.9**	**+0.7**
	baz=268,SNR=12								
P29M	**Windy Craggy**	**77.29**	**31**	P		**P**		**09 06 17.5**	**+1.1**
	baz=270								
E29M	**Blow River**	**77.37**	**22**	P		**P**		**09 06 16.9**	**+0.3**
	baz=268								
HYT	**Haines Junctio**	**77.41**	**30**	IAmb		IAmb		09 06 19.3	
	comp=Z,34nm,1.2s								
HYT	**Haines Junctio**	**77.41**	**30**	P		**P**		**09 06 18.2**	**+1.0**
	baz=270,SNR=8.7								
K29M	**Barlow Dome**	**77.41**	**27**	IAmb		IAmb		09 06 19.0	
	comp=Z,11nm,0.8s								
K29M	**Barlow Dome**	**77.41**	**27**	P		**P**		**09 06 18.0**	**+0.8**
	baz=269,SNR=9.0								
MHTO	**MHTO**	**77.55**	**289**	P		**P**		**09 06 18.5**	**-0.1**
MHTO				P		**P**		**09 06 18.5**	**-0.1**
N30M	**Aishikik Lake**	**77.61**	**29**	IAmb		IAmb		09 06 20.1	
	comp=Z,45nm,1.5s								
N30M	**Aishikik Lake**	**77.61**	**29**	P		**P**		**09 06 19.1**	**+0.9**
	baz=270,SNR=7.1								
P30M	**Million Dollar**	**77.68**	**31**	P		**P**		**09 06 19.8**	**+1.1**
	baz=271								
M30M	**Minto, Yukon**	**77.74**	**28**	IAmb		IAmb		09 06 20.7	
	comp=Z,38nm,1.6s								
M30M	**Minto, Yukon**	**77.74**	**28**	P		**P**		**09 06 19.6**	**+0.7**
	baz=270,SNR=6.3								
EPYK	**Eagle Plains**	**77.78**	**24**	IAmb		IAmb		09 06 20.6	
	comp=Z,11nm,0.9s								
EPYK	**Eagle Plains**	**77.78**	**24**	P		**P**		**09 06 19.3**	**+0.2**
	baz=270,SNR=6.4								
HOQ	**Hoqain**	**77.84**	**292**	P		**P**		**09 06 20.6**	**+0.4**
HOQ				P		**P**		**09 06 20.6**	**+0.4**
I30M	**Mount Dempster**	**77.92**	**25**	P		**P**		**09 06 20.2**	**+0.2**
	baz=270,SNR=7.2								
J30M	**Hart River**	**77.94**	**26**	P		**P**		**09 06 20.7**	**+0.6**
	baz=270,SNR=5.3								
G30M	**tAoh Zraii Nji**	**77.98**	**24**	IAmb		IAmb		09 06 21.1	
	comp=Z,27nm,1.2s								
G30M	**tAoh Zraii Nji**	**77.98**	**24**	P		**P**		**09 06 20.1**	**-0.1**
	baz=270,SNR=9.1								
PLBC	**Pleasant Camp**	**77.99**	**31**	P		**P**		**09 06 21.0**	**+0.7**
	baz=271								
BSY	**Bisya**	**78.04**	**291**	P		**P**		**09 06 21.7**	**+0.3**
DQM	**DQM**	**78.08**	**288**	P		**P**		**09 06 22.0**	**+0.4**
DQM				P		**P**		**09 06 22.0**	**+0.4**
O30N	**Mendenhall**	**78.10**	**30**	P		**P**		**09 06 21.6**	**+0.6**
	baz=271								
TBI	**Tubuai**	**78.11**	**117**	*e*S		**S**		**09 16 12.3**	**-2.1**
	comp=Z,516nm,25.0s								
TBI				*e*SS		**SS**		**09 21 17.1**	**+0.4**
	comp=Z,1μm,38.5s								
TBI				*e*LQ		LQ		09 27 21.4	
	comp=Z,1μm,24.0s								
TBI				*e*LR		LR		09 30 23.9	
	comp=Z,2μm,34.2s								
F30M	**Barrier River**	**78.15**	**23**	IAmb		IAmb		09 06 22.2	
	comp=Z,12nm,0.8s								
F30M	**Barrier River**	**78.15**	**23**	P		**P**		**09 06 21.4**	**+0.4**
	baz=270,SNR=5.5								
N31M	**Braeburn, Yuko**	**78.23**	**29**	P		**P**		**09 06 22.4**	**+0.7**
	baz=272,SNR=10								
BANOM	**Banah**	**78.47**	**294**	P		**P**		**09 06 24.4**	**+0.7**
BANOM				P		**P**		**09 06 24.4**	**+0.7**
BANOM	**Banah**	**78.47**	**294**	P		**P**		**09 06 24.4**	**+0.7**
SOHO	**SOHO**	**78.48**	**293**	P		**P**		**09 06 23.5**	**-0.2**
SOHO				P		**P**		**09 06 23.5**	**-0.2**
SOHO	**SOHO**	**78.48**	**293**	*i* P		**P**		**09 06 23.6**	**-0.2**
	SNR=9.5								
MDH	**Madha**	**78.55**	**294**	P		**P**		**09 06 25.8**	**+1.7**
ARQ	**Araqi**	**78.59**	**292**	P		**P**		**09 06 24.5**	**+0.1**
ARQ				P		**P**		**09 06 24.5**	**+0.1**
SHME	**Shamm**	**78.60**	**295**	*i* P		**P**		**09 06 25.4**	**+1.0**
	SNR=6.0								
MASF	**Masafi**	**78.67**	**294**	P		**P**		**09 06 26.1**	**+1.3**
	SNR=7.6								
MASF				P		**P**		**09 06 26.1**	**+1.3**
	SNR=7.6								
MSFE	**Esma-Masafi**	**78.67**	**294**	*i* P		**P**		**09 06 26.0**	**+1.2**
	SNR=11								
UOSS	**Minazif**	**78.68**	**293**	P		**P**		**09 06 24.6**	**-0.2**
UOSS	**Minazif**	**78.68**	**293**	P		**P**		**09 06 25.1**	**+0.3**
UOSS				P		**P**		**09 06 25.1**	**+0.3**
UOSS	**Minazif**	**78.68**	**293**	P		**P**		**09 06 25.1**	**+0.3**
WHY	**Whitehorse**	**78.70**	**30**	P		**P**		**09 06 25.1**	**+0.7**
	baz=272,SNR=8.0								
G31M	**Satah River**	**78.75**	**24**	IAmb		IAmb		09 06 25.0	
	comp=Z,18nm,0.8s								
G31M	**Satah River**	**78.75**	**24**	P		**P**		**09 06 24.1**	**-0.2**
	baz=272,SNR=7.6								
H31M	**Peel River**	**78.75**	**25**	P		**P**		**09 06 24.6**	**+0.1**
	baz=272								
HATD	**Hatta, Dubai**	**78.76**	**293**	P		**P**		**09 06 25.8**	**+0.5**
HATD				P		**P**		**09 06 25.8**	**+0.5**
HATD	**Hatta, Dubai**	**78.76**	**293**	*i* P		**P**		**09 06 25.7**	**+0.5**
	SNR=6.8								
ASHO	**Ashiyiah**	**78.84**	**293**	P		**P**		**09 06 26.0**	**+0.3**
	SNR=5.2								
ASHO				P		**P**		**09 06 26.0**	**+0.3**
	SNR=5.2								
ASHO	**Ashiyiah**	**78.84**	**293**	*i* P		**P**		**09 06 25.9**	**+0.1**
	SNR=7.9								
M31M	**Drury Creek, Y**	**78.87**	**28**	P		**P**		**09 06 25.3**	**+0.1**
	baz=273,SNR=8.9								
F31M	**Tsiigehtchic**	**78.94**	**23**	P		**P**		**09 06 24.9**	**-0.5**
	baz=272								
INK	**Inuvik**	**78.99**	**22**	P		**P**		**09 06 25.7**	**+0.1**
	baz=272								
ALNE	**Al Ain**	**79.20**	**293**	P		**P**		**09 06 28.4**	**+0.6**
	SNR=9.8								
ALNE				P		**P**		**09 06 28.4**	**+0.6**
	SNR=9.8								
ALNE	**Al Ain**	**79.20**	**293**	*i* P		**P**		**09 06 28.2**	**+0.5**
	SNR=7.7								
P32M	**Atlin**	**79.34**	**31**	P		**P**		**09 06 28.5**	**+0.7**
	baz=274								
ASUD	**Al Ashush, Dub**	**79.51**	**293**	P		**P**		**09 06 29.7**	**+0.4**
ASUD				P		**P**		**09 06 29.7**	**+0.4**
ASUD	**Al Ashush, Dub**	**79.51**	**293**	P		**P**		**09 06 30.2**	**+0.8**
N32M	**Quiet Lake**	**79.55**	**30**	IAmb		IAmb		09 06 30.5	
	comp=Z,24nm,0.8s								
N32M	**Quiet Lake**	**79.55**	**30**	P		**P**		**09 06 29.5**	**+0.6**
	baz=274,SNR=8.7								
P33M	**Teslin, Yukon**	**79.75**	**30**	P		**P**		**09 06 30.3**	**+0.3**
	baz=274								
AJN	**Ajban**	**79.82**	**293**	P		**P**		**09 06 31.2**	**+0.2**
	SNR=6.2								
AJN				P		**P**		**09 06 31.2**	**+0.2**
	SNR=6.2								
CASY	**Casey**	**79.87**	**191**	P		**P**		**09 06 30.6**	**+0.3**
CASY				IAmb		IAmb		09 08 41.2	
	comp=Z,22nm,0.7s								
UMZA	**Um Al Zommool**	**79.91**	**291**	P		**P**		**09 06 31.6**	**+0.1**
UMZA				P		**P**		**09 06 31.6**	**+0.1**
CRAG	**Craig**	**79.96**	**35**	P		**P**		**09 06 31.5**	**+0.3**
	baz=275								
Q32M	**Nakina River**	**80.12**	**32**	P		**P**		**09 06 32.8**	**+0.6**
	baz=275								
KIRV	**Kirov**	**80.28**	**328**	LR		LR		09 45 08.9	
	comp=Z,734nm,19.3s,baz=286,slow=38								
KIRV	**Kirov**	**80.28**	**328**	⇑ *i* P		**P**		**09 06 32.4**	**-0.4**
WRAK	**Wrangell Islan**	**80.31**	**34**	P		**P**		**09 06 33.7**	**+0.7**
	baz=275								
R33M	**Jennings River**	**80.75**	**31**	P		**P**		**09 06 36.3**	**+0.8**
	baz=276,SNR=5.4								
S34M	**Telegraph Cree**	**80.82**	**33**	IAmb		IAmb		09 06 37.8	
	comp=Z,18nm,1.1s								
S34M	**Telegraph Cree**	**80.82**	**33**	P		**P**		**09 06 36.7**	**+0.9**
	baz=276								
DMTO	**DMTO**	**80.82**	**286**	P		**P**		**09 06 36.5**	**-0.1**
DLBC	**Dease Lake**	**81.34**	**32**	P		**P**		**09 06 39.5**	**+0.8**
	baz=277								
T35M	**Bob Quinn**	**81.40**	**34**	P		**P**		**09 06 39.9**	**+1.0**
	baz=277								
MZR	**Muzera**	**81.41**	**292**	P		**P**		**09 06 40.0**	**+0.3**
	SNR=5.3								
MZR				P		**P**		**09 06 40.0**	**+0.3**
	SNR=5.3								
MZR	**Muzera**	**81.41**	**292**	*i* P		**P**		**09 06 39.6**	**0.0**
	SNR=9.4								
DOK	**Doka**	**81.45**	**287**	P		**P**		**09 06 39.7**	**-0.2**
DOK				P		**P**		**09 06 39.7**	**-0.2**
RBK	**Rabkut**	**81.56**	**286**	P		**P**		**09 06 40.5**	**0.0**
WTLY	**Watson Lake, Y**	**81.76**	**30**	IAmb		IAmb		09 06 42.5	
	comp=Z,21nm,0.7s								
WTLY	**Watson Lake, Y**	**81.76**	**30**	P		**P**		**09 06 41.6**	**+0.9**
	baz=278,SNR=13								
TGTN	**Hyland Airport**	**81.82**	**29**	P		**P**		**09 06 41.7**	**+0.7**
	baz=278,SNR=6.3								
WHFO	**Wadi Hawf**	**81.90**	**287**	P		**P**		**09 06 41.9**	**-0.4**
WHFO				P		**P**		**09 06 41.9**	**-0.4**
BELG	**Belogornoye**	**81.99**	**322**	*c i* P		**P**		**09 06 41.3**	**-0.7**
BELG				pmax		pmax			
	comp=Z,10.0nm,0.8s								
C36M	**Paulatuk**	**82.28**	**21**	P		**P**		**09 06 44.0**	**+0.8**
	baz=281								
ABTO	**Aybut**	**82.43**	**286**	P		**P**		**09 06 45.0**	**-0.2**
ABTO				P		**P**		**09 06 45.0**	**-0.2**
TAOE	**Nuku Hiva Isla**	**83.11**	**100**	*e*LR		LR		09 32 43.9	
	comp=Z,269nm,24.0s								
LIRD	**Liard River Hi**	**83.21**	**31**	P		**P**		**09 06 48.8**	**+0.5**
	baz=280								
MAK	**Makhachkala**	**83.43**	**312**	*e* P		P		09 06 44.9	-4.9
MAK				*e*				09 09 59.8	
MAK				*e* PPP		PPP		09 11 49.9	
MAK				*e*S		**S**		**09 17 02.7**	**-6.7**
MAK				*e*SS		**SS**		**09 22 33.8**	**-1.2**
MAK				*e*SSS		SSS		09 25 58.4	
MAK				pmax		pmax			
	comp=Z,33nm,0.3s								
AKT	**Akhty**	**83.50**	**311**	*e* P		**P**		**09 06 46.7**	**-3.6**
AKT				pmax		pmax			
	comp=Z,12nm,0.8s								
SMRA	**Abu-Samra**	**83.54**	**294**	P		**P**		**09 06 50.6**	**-0.1**
TOAD	**Toad River Com**	**83.75**	**31**	P		**P**		**09 06 51.4**	**+0.3**
	baz=281								
KOTAN	**Kotaneelee Air**	**84.09**	**30**	P		**P**		**09 06 53.3**	**+0.5**
	baz=282								
KLMR	**Klimovskoe**	**84.87**	**331**	*e* P		**P**		**09 06 54.3**	**-2.4**
KLMR				pmax		pmax			
	comp=Z,17nm,1.4s								
KBZ	**Khabaz**	**86.60**	**314**	P		**P**		**09 07 06.9**	**+1.3**
	comp=Z,6.5nm,0.9s,baz=123,slow=2.2,SNR=10								
KBZ				LR		LR		09 47 01.5	
	comp=Z,144nm,20.5s,baz=304,slow=36								
	comp=Z,6.5nm,0.9s								
KIV	**Kislovodsk**	**86.70**	**314**	*e* P		**P**		**09 07 06.6**	**+0.3**
KIV				pmax		pmax			
	comp=Z,12nm,1.1s								
KIV				MLR		MLR			
	comp=Z,115nm,20.0s								
LLLB	**Lillooet**	**87.45**	**39**	IAmb		IAmb		09 07 16.8	
	comp=Z,10nm,0.9s								
ARCES	**ARCESS Array B**	**87.57**	**341**	P		**P**		**09 07 08.2**	**-1.6**
	comp=Z,4.6nm,0.7s,baz=54,slow=6.3,SNR=8.0								
	comp=Z,4.6nm,0.7s								
YKA	**Yellowknife Ar**	**87.83**	**26**	P		**P**		**09 07 11.4**	**+0.2**
	comp=Z,8.2nm,0.8s,baz=298,slow=5.4,SNR=13								
	comp=Z,8.2nm,0.8s								
OBN	**Obninsk**	**87.86**	**326**	LR		LR		09 47 34.7	
	comp=Z,306nm,20.6s,baz=108,slow=36								
OBN	**Obninsk**	**87.86**	**326**	⇑ *e*P		**P**		**09 07 10.2**	**-1.2**
OBN				*e*				09 10 41.2	
OBN				*e*PPP		PPP		09 12 33.6	
OBN				*e*S		**SKSac**		**09 17 38.0**	**+0.3**
OBN				*e*SS		**SS**		**09 23 43.0**	**+3.8**
OBN				*e*SSS		SSS		09 27 15.2	
OBN				pmax		pmax			
	comp=Z,25nm,0.4s								
OBN				MLR		MLR			
	comp=Z,310nm,19.0s								
GURO	**Guroymak-BITLI**	**88.34**	**309**	IAmb		IAmb		09 07 19.1	
	comp=Z,7.4nm,0.6s								
RAYN	**Ar Rayn**	**88.54**	**294**	P		**P**		**09 07 15.3**	**-0.2**
RAYN	**Ar Rayn**	**88.54**	**294**	P		**P**		**09 07 15.9**	**+0.4**
RAYN	**Ar Rayn**	**88.54**	**294**	*i* P		**P**		**09 07 15.7**	**+0.2**
	SNR=18								
RAYN	**Ar Rayn**	**88.54**	**294**	P		**P**		**09 07 15.3**	**-0.2**
RAYN				pmax		pmax			
	comp=Z,19nm,0.9s								
H04A	**Detroit Lake**	**88.71**	**45**	IAmb		IAmb		09 07 24.0	
	comp=Z,20nm,1.1s								
SOC	**Sochi**	**88.88**	**314**	*e*P		**P**		**09 07 14.9**	**-1.7**
SOC				*e*				09 10 44.0	
SOC				*e*PPP		PPP		09 12 39.5	
SOC				*e*S		**SKSac**		**09 17 44.1**	**-0.3**
SOC				*e*SS		**SS**		**09 23 55.7**	**+0.8**
YBH	**Yreka Blue Hor**	**89.05**	**48**	IAmb		IAmb		09 07 19.4	
	comp=Z,7.7nm,0.8s								
WIFE	**Three Sisters-**	**89.12**	**45**	IAmb		IAmb		09 07 19.7	
	comp=Z,17nm,0.8s								
L04D	**Klamath Falls**	**89.23**	**47**	IAmb		IAmb		09 07 19.5	
	comp=Z,13nm,0.8s								
O02D	**Mt. Diablo Mer**	**89.37**	**49**	IAmb		IAmb		09 07 21.4	
	comp=Z,9.5nm,0.8s								
VNDA	**Vanda**	**89.40**	**175**	P		**P**		**09 07 19.4**	**+1.2**
VNDA	**Vanda**	**89.40**	**175**	P		**P**		**09 07 17.8**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=306,slow=10,SNR=3.5								
VNDA				LR		LR		09 47 11.1	
	comp=Z,88nm,18.6s,baz=330,slow=35								
	comp=Z,0.5nm,0.7s								
VNDA	**Vanda**	**89.40**	**175**	P		**P**		**09 07 19.4**	**+1.2**
VNDA				pmax		pmax			
	comp=Z,5.0nm,1.3s								
M03C	**McCloud**	**89.59**	**48**	IAmb		IAmb		09 07 21.7	
	comp=Z,17nm,0.8s								
J05D	**Fort Rock, OR**	**89.72**	**46**	IAmb		IAmb		09 07 22.6	
	comp=Z,9.5nm,0.8s								
PINE	**Pine Mountain**	**89.80**	**45**	IAmb		IAmb		09 07 23.1	
	comp=Z,16nm,0.8s								
MNRC	**McLaughlin Min**	**89.94**	**50**	IAmb		IAmb		09 07 24.4	
	comp=Z,20nm,1.1s								
O03E	**Paynes Creek**	**90.07**	**49**	IAmb		IAmb		09 07 33.1	
	comp=Z,17nm,1.2s								
K05A	**Summer Lake**	**90.11**	**46**	IAmb		IAmb		09 07 24.4	
	comp=Z,12nm,0.8s								
D08A	**Wollman Farm,**	**90.28**	**42**	IAmb		IAmb		09 08 15.1	
	comp=Z,27nm,1.9s								
E08A	**Dider Farm, El**	**90.35**	**42**	IAmb		IAmb		09 07 26.9	
	comp=Z,14nm,1.4s								
G08A	**Pilot Rock**	**90.76**	**44**	IAmb		IAmb		09 07 36.0	
	comp=Z,16nm,1.7s								
FINES	**FINESS Array B**	**90.82**	**334**	P		**P**		**09 07 23.6**	**-1.6**
	comp=Z,8.7nm,0.7s,baz=72,slow=6.2,SNR=22								
	comp=Z,8.7nm,0.7s								
NEW	**Newport**	**91.09**	**40**	LR		LR		09 46 03.2	
	comp=Z,131nm,18.2s,baz=159,slow=34								
BEKR	**Beckworth**	**91.25**	**49**	IAmb		IAmb		09 07 29.4	
	comp=Z,11nm,1.0s								
DAG	**Danmarks Havn**	**91.33**	**355**	P		**P**		**09 07 24.9**	**-2.5**
WELL	**Weller Preserv**	**91.35**	**51**	IAmb		IAmb		09 07 30.2	
	comp=Z,7.0nm,1.0s								
J08A	**Circle Bar Ran**	**91.64**	**45**	IAmb		IAmb		09 07 31.3	
	comp=Z,9.4nm,1.1s								
CMB	**Columbia Colle**	**91.71**	**51**	IAmb		IAmb		09 07 31.6	
	comp=Z,9.2nm,1.1s								
WVOR	**Wild Horse Val**	**91.79**	**46**	IAmb		IAmb		09 07 31.9	
	comp=Z,6.3nm,0.8s				

district 2 Magtype MSH 2.6 from 8 stations
*MOS **23** 08:56:56.8, 44˚.11N×34˚.26E, h20km, MPVA4.0*
ISC 23 08:56:57.0±1.1, 44˚.10N±0˚.04×34˚.21E±0˚.03, h31km±10km, n31, σ1§75/55, 6C-7D, Crimea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YAL	**Yalta**	**0.39**	**354**	*e*Pg		**Pn**	**08 57 06.0**	**-0.4**
YAL				*e*Sg		**Sn**	**08 57 12.3**	**-0.4**
YAL	**Yalta**	**0.39**	**354**	*i* Pg		**Pn**	**08 57 06.0**	**-0.4**
YAL				Pgm			08 57 06.1	
	comp=Z,55nm,0.1s							
YAL				*i* Sg		**Sn**	**08 57 12.3**	**-0.4**
YAL				Sgm			08 57 12.5	
	comp=E,824nm,0.1s							
YAL				Sgm			08 57 12.7	
	comp=N,407nm,0.1s							
SEV	**Sevastopol'**	**0.59**	**319**	*e*Pg		**Pb**	**08 57 08.7**	**-0.2**
SEV				*e*Sg		**Sb**	**08 57 16.7**	**-0.3**
SEV	**Sevastopol'**	**0.59**	**319**	*i* Pg		**Pb**	**08 57 08.7**	**-0.2**
SEV				Pgm			08 57 08.8	
	comp=Z,109nm,0.1s							
SEV				*i* Sg		**Sb**	**08 57 16.7**	**-0.3**
SEV				Sgm			08 57 17.1	
	comp=E,248nm,0.2s							
SEV				Sgm			08 57 17.0	
	comp=N,477nm,0.3s							
ALU	**Alushta**	**0.59**	**13**	*e*Pg		**Pb**	**08 57 08.4**	**-0.6**
ALU				*e*Sg		**Sb**	**08 57 16.8**	**-0.4**
ALU	**Alushta**	**0.59**	**13**	*i* Pg		**Pb**	**08 57 08.4**	**-0.6**
ALU				Pgm			08 57 08.5	
	comp=Z,55nm,0.1s							
ALU				*i* Sg		**Sb**	**08 57 16.8**	**-0.4**
ALU				Sgm			08 57 17.0	
	comp=N,1μm,0.2s							
ALU				Sgm			08 57 19.0	
	comp=E,884nm,0.2s							
SIM	**Simferopol'**	**0.85**	**356**	*e*Pg		**Pb**	**08 57 13.5**	**+0.3**
SIM				*e*Sg		**Sn**	**08 57 24.7**	**+0.6**
SIM	**Simferopol'**	**0.85**	**356**	*ex*		x	08 57 13.5	
SIM				*i* Sg		**Sn**	**08 57 24.7**	**+0.6**
SIM				Sgm			08 57 24.9	
	comp=E,128nm,0.2s							
SIM				Sgm			08 57 25.3	
	comp=N,73nm,0.1s							
SUDU	**Sudak**	**0.97**	**35**	*e*Pg		**Pn**	**08 57 14.4**	**0.0**
SUDU				*e*Sg		**Sn**	**08 57 27.9**	**+0.8**
SUDU	**Sudak**	**0.97**	**35**	*e*Pg		**Pn**	**08 57 14.4**	**0.0**
SUDU				Pgm			08 57 17.0	
	comp=Z,48nm,0.2s							
SUDU				*i* Sg		**Sn**	**08 57 27.9**	**+0.8**
SUDU				Sgm			08 57 28.9	
	comp=E,113nm,0.2s							
SUDU				Sgm			08 57 29.4	
	comp=N,240nm,0.2s							
FEO	**Feodosiya**	**1.25**	**42**	*e*Pg		**Pb**	**08 57 19.4**	**-0.5**
FEO				*e*Sg		**Sb**	**08 57 36.8**	**+1.3**
FEO	**Feodosiya**	**1.25**	**42**	*e*Sg		**Sb**	**08 57 36.8**	**+1.3**
FEO				Sgm			08 57 39.3	
	comp=N,116nm,0.3s							
FEO				Sgm			08 57 39.5	
	comp=E,118nm,0.3s							
DNZ2	**Donuzlav2**	**1.46**	**331**	*e*Pg		**Pb**	**08 57 24.0**	**+0.6**
DNZ2				*e*Sg		**Sb**	**08 57 42.6**	**+1.1**
DNZ2	**Donuzlav2**	**1.46**	**331**	*ex*		x	08 57 24.0	
DNZ2				*e*Sg		**Sb**	**08 57 42.6**	**+1.1**
DNZ2				Sgm			08 57 45.3	
	comp=E,149nm,0.3s							
DNZ2				Sgm			08 57 46.7	
	comp=N,149nm,0.3s							
TARU	**Tarkhankut**	**1.75**	**317**	*e*Pg		**Pb**	**08 57 28.1**	**-0.2**
TARU				*e*Sg		**Sb**	**08 57 51.0**	**+1.1**
TARU	**Tarkhankut**	**1.75**	**317**	*ex*		x	08 57 28.1	
TARU				Sgm			08 57 51.9	
	comp=E,43nm,0.3s							
TARU				*e*Sg		**Sb**	**08 57 51.0**	**+1.1**
TARU				Sgm			08 57 54.2	
	comp=N,62nm,0.3s							
CIDE	**Kastamonu/Cide**	**2.41**	**203**	⇓P		**Pn**	**08 57 36.3**	**+2.1**
CIDE				⇑S		**Sn**	**08 58 02.6**	**+0.1**
SUKR	**Sukko**	**2.41**	**72**	*e*Pn		**Pb**	**08 57 37.8**	**-1.8**
SUKR				*e*Sn		**Sn**	**08 58 03.3**	**+0.7**
ANN	**Anapa**	**2.41**	**72**	*e*Pn		**Pb**	**08 57 36.8**	**-2.8**
ANN				*e*Sn		**Sn**	**08 58 02.7**	**+0.1**
SPGR	**Shapsug**	**2.84**	**76**	*e*Pn		**Pn**	**08 57 42.4**	**+2.2**
SPGR				*e*Sn		**Sn**	**08 58 15.4**	**+2.1**
GOYR	**Goytkh**	**3.72**	**86**	*e*Pn		**Pn**	**08 57 54.9**	**+2.6**
GOYR				*e*Sn		**Sn**	**08 58 36.3**	**+1.4**
MRNR	**Maryino**	**3.81**	**91**	*e*Pn		**Pn**	**08 57 54.3**	**+0.9**
MRNR				*e*Sn		**Sn**	**08 58 36.0**	**-1.1**
SAHE	**Sakarya_HENDEK**	**4.09**	**219**	⇓P		**Pn**	**08 57 60.0**	**+2.6**
TIRR	**Tirgusor**	**4.18**	**277**	⇓P		**Pn**	**08 57 58.8**	**+0.3**
TIRR				⇑S		**Sn**	**08 58 43.1**	**-3.1**
TPGR	**Topolog**	**4.21**	**282**	⇓P		**Pn**	**08 57 59.6**	**+0.6**
TPGR				⇑S		**Sn**	**08 58 44.8**	**-2.3**
RPOR	**Krasnaya Polya**	**4.40**	**93**	*e*Pn		**Pn**	**08 58 02.6**	**+1.1**
RPOR				*e*Sn		**Sn**	**08 58 53.8**	**+2.1**
CFR	**Carcaliu**	**4.46**	**286**	⇑P		**Pn**	**08 58 03.7**	**+1.3**
CFR				⇓S		**Sn**	**08 58 47.2**	**-6.1**
SILT	**Sile**	**4.48**	**230**	⇑P		**Pn**	**08 58 03.5**	**+0.9**
SILT				⇓S		**Sn**	**08 58 50.9**	**-2.7**
HARR	**Harsova**	**4.54**	**280**	⇑P		**Pn**	**08 58 03.4**	**-0.1**
GRYR	**Gornoye**	**4.96**	**87**	*e*Pn		**Pn**	**08 58 06.3**	**-2.9**
GRYR				*e*Sn		**Sn**	**08 59 00.6**	**-5.0**
MLR	**Muntele Rosu**	**6.04**	**286**	⇓P		**Pn**	**08 58 24.3**	**+0.1**

ASRS 23 09:00:35.0±1.7, 53˚.71N×86˚.77E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 23 09:01:12.0±1.2, 53˚.91N×86˚.54E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

GCG 23 09:04:56.0±0.4, 13˚.69N×91˚.52W, h56km±27km, MD3.9, ML3.1, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.96**	**44**	*i* P		Pn	09 05 13.4	0.0
FG16	**Alotenango, Sa**	**1.14**	**59**	*i* P		Pn	09 05 14.7	-1.2
FG16				*i* S		Sn	09 05 29.3	-1.5
FG16				IAML			09 05 40.2	
	comp=N,772nm,0.2s							
NUBE	**Las Nubes**	**1.70**	**83**	*i* P		Pn	09 05 24.2	+0.7
JAYA	**Jayaque - finc**	**2.01**	**91**	*i* P		Pn	09 05 27.7	-0.1
JAYA				*i* S		Sn	09 05 52.4	+0.4
MTO3	**Montecristo**	**2.21**	**71**	*i* P		Pn	09 05 31.0	+0.5
MTO3				*i* S		Sn	09 05 58.9	+2.1

*JMA **23** 09:21:40.6±0.4, 33˚.N±3˚×13˚.9E±˚, h309km, MV3.2/44, FAR S OFF TOKAI DISTRICT*
*IDC **23** 09:21:43.8±1.0, 32˚.83N×138˚.34E, h304km±13km, mb3.2/6, mbtmp3.8/8, Error ellipse: s-maj=40.5km s-min=21.2km az=60.0*
ISC 23 09:21:43.9±0.9, 33˚.02N±0˚.09×138˚.43E±0˚.08, h300km, n24, σ1§43/29, mb3.5/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.14**	**85**	P		**Pn**	**09 22 25.1**	**+0.2**
	93nm,0.5s,baz=341,slow=21,SNR=15							
JHJ				S		**S**	**09 23 00.1**	**+2.5**
	56nm,0.3s,baz=253,slow=19,SNR=1.7							
JIE	**Ise**	**1.99**	**314**	*e*P		**Pn**	**09 22 30.1**	**-0.3**
JKN2	**Miekihoku**	**2.17**	**305**	*e*P		**Pn**	**09 22 32.0**	**0.0**
JOD2	**Odawara 2**	**2.31**	**13**	*e*P		**Pn**	**09 22 34.3**	**+1.2**
BSO3	**Boso 3**	**2.48**	**44**	*e*P		**Pn**	**09 22 33.0**	**-1.3**
BSO3				*e*S		**S**	**09 23 15.6**	**+0.9**
BSO4	**Boso 4**	**2.53**	**38**	*e*S		**S**	**09 23 16.7**	**+1.0**
JWY	**Kouya**	**2.65**	**298**	*e*P		**Pn**	**09 22 36.6**	**+0.2**
BSO1	**Boso 1**	**2.67**	**52**	*e*P		**Pn**	**09 22 35.5**	**-0.3**
BSO1				*e*S		**S**	**09 23 17.9**	**+0.5**
JRY	**Ryogami san**	**3.02**	**7**	*e*P		**Pn**	**09 22 41.3**	**+1.5**
JWT	**Wachi**	**3.38**	**313**	*e*P		**Pn**	**09 22 44.3**	**+0.9**
JAI	**Aioi**	**3.42**	**284**	*e*P		**Pn**	**09 22 43.3**	**-0.5**
JAG	**Ashikaga**	**3.50**	**14**	*e*P		**Pn**	**09 22 45.3**	**+0.6**
JAG				*e*S		**S**	**09 23 33.4**	**+0.1**
JYT	**Yasato**	**3.52**	**24**	*e*S		**S**	**09 23 31.4**	**-2.1**
MJAR	**Matsushiro Arr**	**3.52**	**357**	P		**Pn**	**09 22 46.1**	**+1.3**
	1.5nm,0.5s,baz=166,slow=9.7,SNR=5.8							
JMN	**Monobe**	**3.87**	**282**	*e*P		**Pn**	**09 22 48.0**	**-0.8**
JHO	**Hitachi**	**3.99**	**26**	*e*P		**Pn**	**09 22 48.7**	**-1.2**
JHO				*e*S		**S**	**09 23 39.9**	**-2.9**
JFK	**Kawauchi**	**4.78**	**24**	*e*S		**S**	**09 23 56.4**	**-2.5**
KSRS	**Korea Array**	**9.67**	**300**	P		**Pn**	**09 23 59.4**	**+1.5**
	1.5nm,0.6s,baz=108,slow=13,SNR=5.0							
SONM	**Songino Array**	**28.28**	**311**	P		**P**	**09 27 12.1**	**+1.9**
	0.5nm,0.4s,baz=118,slow=8.3,SNR=2.5							
	0.5nm,0.4s							
MKAR	**Makanchi Array**	**44.30**	**305**	P		**P**	**09 29 22.7**	**-1.9**
	0.4nm,0.3s,baz=85,slow=9.7,SNR=5.6							
	0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**46.65**	**311**	P		**P**	**09 29 42.5**	**-0.1**
	1.1nm,0.4s,baz=88,slow=6.6,SNR=8.2							
	1.1nm,0.4s							
WRA	**Warramunga Arr**	**52.81**	**185**	P		**P**	**09 30 27.3**	**-1.8**
	0.6nm,1.0s,baz=3.1,slow=7.0,SNR=2.4							
	0.6nm,1.0s							
ARCES	**ARCESS Array B**	**66.89**	**339**	P		**P**	**09 32 04.9**	**+1.2**
	2.8nm,0.9s,baz=52,slow=6.5,SNR=4.6							
	2.8nm,0.9s							
HFS	**Hagfors**	**76.71**	**335**	P		**P**	**09 33 01.9**	**-0.1**
	1.3nm,0.8s,baz=97,slow=6.0,SNR=4.4							
	1.3nm,0.8s							

*NEIC **23** 09:28:43.5±2.7, 27˚.97N±0˚.05×112˚.09W±0˚.08, h10km±2km, mb4.2/36, Error ellipse: s-maj=14.5km s-min=3.0km az=233.0*
*MEX **23** 09:28:43.1±0.6, 27˚.99N×112˚.04W, h10km±8km, MD4.6*
*IDC **23** 09:28:44.3±0.8, 27˚.89N×111˚.77W, h0km, mb3.9/6, mbtmp3.9/12, ML4.0/4, MS3.9/34, Error ellipse: s-maj=15.5km s-min=10.1km az=58.0*
ISC 23 09:28:43.1±0.5, 27˚.98N±0˚.03×112˚.01W±0˚.03, h10km, n145, σ2§13/127, mb4.2/12, MS4.1/30, 3C-3D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.69**	**197**	Pg		**Pg**	**09 28 54.5**	**-1.9**
SRIG	**Santa Rosalia**	**0.69**	**197**	⇓*i*P		**Pg**	**09 28 54.5**	**-1.9**
SRIG				*e*S		**Sb**	**09 29 04.0**	**-2.7**
SRIG				IAML			09 29 05.5	
	comp=N,57μm,0.6s							
SRIG				IAML			09 29 05.5	
	comp=E,59μm,0.5s							
SRIG	**Santa Rosalia**	**0.69**	**197**	*e*P		**Pg**	**09 28 54.5**	**-1.9**
SRIG				*i* S		**Sb**	**09 29 04.5**	**-2.2**
SFQB	**San Francisqui**	**0.86**	**300**	⇑*i*P		**Pg**	**09 28 57.6**	**-2.0**
SFQB				*e*S		**Sg**	**09 29 09.7**	**-1.2**
SFQB				IAML			09 29 12.1	
	comp=E,5μm,0.2s							
SFQB				IAML			09 29 12.5	
	comp=N,7μm,0.6s							
BKIRB	**Bahia Kino**	**0.87**	**1**	⇓*i*P		**Pg**	**09 28 58.5**	**-1.4**
BKIRB				*e*S		**Sg**	**09 29 10.7**	**-0.6**
GUYB	**Guaymas**	**1.01**	**94**	*e*P		**Pg**	**09 28 59.9**	**-2.6**
GUYB				*e*S		**Sg**	**09 29 13.5**	**-2.3**
GUYB				IAML			09 29 15.6	
	comp=E,16μm,0.2s							
GUYB				IAML			09 29 15.7	
	comp=N,21μm,0.6s							
GUYB	**Guaymas**	**1.01**	**94**	*e*P		**Pg**	**09 28 59.9**	**-2.6**
GUYB				*e*S		**Sg**	**09 29 13.3**	**-2.5**
SNIRB	**San Nicol¡s**	**1.49**	**164**	*e*P		**Pn**	**09 29 06.8**	**-3.1**
SNIRB				IAML			09 29 27.1	
	comp=E,3μm,0.6s							
SNIRB				IAML			09 29 35.5	
	comp=N,3μm,1.0s							
BAHB	**Baha de los**	**1.67**	**306**	⇑*i*P		**Pn**	**09 29 09.0**	**-3.4**
BAHB				*e*S		**Sg**	**09 29 35.6**	**-1.1**
BAHB	**Baha de los**	**1.67**	**306**	*e*P		**Pn**	**09 29 08.7**	**-3.7**
BAHB				*e*S		**Sn**	**09 29 28.6**	**-5.2**
NE74	**Guerrero Negro**	**1.77**	**271**	⇑*e*P		**Pn**	**09 29 11.7**	**-2.0**
NE74				IAML			09 29 46.0	
	comp=E,1μm,1.0s							
NE74				IAML			09 29 53.2	
	comp=N,2μm,0.5s							
LAPR	**La Primavera**	**2.53**	**354**	⇓*i*P		**Pn**	**09 29 23.1**	**-1.1**
LAPR				*e*S		**Sn**	**09 29 54.2**	**-0.8**
NZIG	**Nacozari, Sono**	**3.21**	**41**	*e*P		**Pn**	**09 29 30.9**	**-2.9**
NZIG				*e*S		**Sn**	**09 30 07.0**	**-5.2**
CSIG	**Choix**	**3.44**	**109**	*e*P		**Pn**	**09 29 34.3**	**-2.4**
CSIG				*e*S		**Sn**	**09 30 12.7**	**-4.8**
TSIG	**Topolobambo**	**3.56**	**131**			**Pn**	**09 29 38.8**	**+0.4**
TSIG						**Sn**	**09 30 19.6**	**-0.9**
TSIG	**Topolobambo**	**3.56**	**131**	*e*P		**Pn**	**09 29 38.8**	**+0.4**
TSIG				*e*S		**Sn**	**09 30 19.6**	**-0.9**
PIX	**Pinacate**	**3.78**	**341**			**Pn**	**09 29 40.1**	**-1.3**
SFX	**San Felipe**	**3.92**	**322**	*e*		**Pb**	**09 29 50.7**	**-1.6**
SFX				*e*S		**Sn**	**09 30 29.7**	**+0.2**
214A	**Organ Pipe Nat**	**4.02**	**350**			**Pn**	**09 29 44.1**	**-0.7**
319A	**Douglas**	**4.14**	**34**			**Pn**	**09 29 45.2**	**-1.2**
LPIG	**La Paz**	**4.16**	**158**			**Sn**	**09 30 34.7**	**-0.5**
LPIG	**La Paz**	**4.16**	**158**			**Pn**	**09 29 44.6**	**-1.9**
LPIG	**La Paz**	**4.16**	**158**	Pn		**Pn**	**09 29 46.6**	**+0.1**
	comp=N,3.7nm,0.3s,baz=325,slow=5.6,SNR=11							
LPIG				Pg		**Pb**	**09 29 57.9**	**+1.6**
	comp=N,5.4nm,0.3s,baz=132,slow=2.8,SNR=8.4							
LPIG				Lg		Lg	09 30 50.1	
	comp=N,2.2nm,0.3s,baz=8.1,slow=17,SNR=1.5							
LPIG				LR		LR	09 31 13.5	
	comp=N,791nm,21.4s,baz=283,slow=37							
	comp=N,16nm,0.4s							
LPIG	**La Paz**	**4.16**	**158**	*e*P		**Pn**	**09 29 44.6**	**-1.9**
LPIG				*e*S		**Sn**	**09 30 34.7**	**-0.5**
CGIG		**4.25**	**55**			**Pn**	**09 29 51.6**	**+3.5**
CGIG		**4.25**	**55**	*e*P		**Pn**	**09 29 51.6**	**+3.5**
CGIG				*e*S		**Sn**	**09 30 34.8**	**-3.1**
SPIG	**San Pedro Mart**	**4.29**	**316**	*e*P		**Pn**	**09 29 48.5**	**-0.2**
SPIG				*e*S		**Sn**	**09 30 39.0**	**+0.1**
TUC	**Tucson**	**4.45**	**14**			**Pn**	**09 29 49.8**	**-0.9**
TUC	**Tucson**	**4.45**	**14**	*e*P		**Pn**	**09 29 49.3**	**-1.3**
TUC				*e*S		**Sn**	**09 30 38.3**	**-4.2**
SLBS	**Sierra La Lagu**	**4.67**	**156**			**Pn**	**09 29 54.0**	**+0.3**
SLBS	**Sierra La Lagu**	**4.67**	**156**	*e*P		**Pn**	**09 29 53.9**	**+0.3**
113A	**Mohawk Valley,**	**5.01**	**343**			**Pn**	**09 29 58.2**	**-0.1**
DUN6	**Lazy B Ranch**	**5.21**	**28**			**Pn**	**09 30 00.9**	**-0.3**
SSIG	**Sanalona**	**5.38**	**125**			**Pn**	**09 30 06.0**	**+2.5**
SSIG	**Sanalona**	**5.38**	**125**	*e*P		**Pn**	**09 30 06.0**	**+2.5**
SSIG				*e*S		**Sn**	**09 30 58.4**	**-7.1**
GLA	**Glamis**	**5.61**	**335**			**Pn**	**09 30 07.0**	**+0.4**
HPIG		**5.74**	**99**			**Pn**	**09 30 08.5**	**0.0**
HPIG		**5.74**	**99**	*e*P		Pn	09 30 02.3	-6.2
HPIG				*e*S		**Sn**	**09 31 06.8**	**-7.7**
YUH	**Yuha Desert**	**5.75**	**325**			**Pn**	**09 30 09.2**	**+0.8**
121A	**Cookes Peak, D**	**5.83**	**38**			**Pn**	**09 30 09.3**	**-0.4**
BCIG	**La Boquilla**	**5.87**	**93**			**Pn**	**09 30 09.2**	**-1.0**
BCIG						**Sn**	**09 31 17.5**	**-0.1**
BCIG	**La Boquilla**	**5.87**	**93**	*e*P		**Pn**	**09 30 09.2**	**-1.0**
BCIG				*e*S		**Sn**	**09 31 17.5**	**-0.1**
CBX	**Cerro Bola**	**5.90**	**318**	*e*P		**Pn**	**09 30 12.0**	**+1.3**
CBX				*e*S		**Sn**	**09 31 16.5**	**-2.0**
TJIG	**Tijuana**	**6.00**	**319**	*e*P		**Pn**	**09 30 10.6**	**-1.3**
Y14A	**Wickenburg**	**6.00**	**352**			**Pn**	**09 30 12.5**	**+0.5**
BLYC	**Blythe**	**6.14**	**340**			**Pn**	**09 30 14.3**	**+0.4**
X16A	**Lo Mia Camp, P**	**6.44**	**4**			**Pn**	**09 30 18.5**	**+0.4**
VHRN	**Van Horn**	**6.74**	**64**			**Pn**	**09 30 23.2**	**+1.0**
X18A	**Snowflake**	**6.76**	**15**			**Pn**	**09 30 23.5**	**+0.9**
PFO	**Pinyon Flats O**	**6.79**	**327**	Pn		Pb	09 30 32.8	-8.5
	comp=N,0.1nm,0.3s,baz=132,slow=5.8,SNR=5.3							
PFO				Lg		Lg	09 32 28.5	
	comp=N,0.2nm,0.3s,baz=260,slow=14,SNR=10.0							
PFO				LR		LR	09 32 54.6	
	comp=N,855nm,21.1s,baz=142,slow=36							
MNTX	**Cornudas Mount**	**6.85**	**56**	*e*P		**Pn**	**09 30 23.3**	**-0.3**
MNTX				*e*S		**Sn**	**09 31 38.3**	**-3.4**
Y22A	**Socorro**	**7.35**	**35**			**Pn**	**09 30 30.1**	**-0.5**
TX31	**Lajitas Ar. Si**	**7.46**	**78**			**Pn**	**09 30 31.9**	**-0.1**
TXAR	**Lajitas Array**	**7.46**	**78**			**Pn**	**09 30 31.9**	**-0.2**
TXAR	**Lajitas Array**	**7.46**	**78**	Pn		**Pn**	**09 30 32.5**	**+0.4**
	comp=N,1.9nm,0.3s,baz=252,slow=13,SNR=141							
TXAR				Pg		Pb	09 30 46.1	-6.5
	comp=N,1.7nm,0.3s,baz=265,slow=14,SNR=9.2							
TXAR				Sn		**Sn**	**09 31 55.1**	**-1.7**
	comp=N,1.7nm,0.3s,baz=259,slow=18,SNR=3.6							
TXAR				Lg		Lg	09 32 36.4	
	comp=N,6.6nm,0.3s,baz=265,slow=26,SNR=5.2							
TXAR				LR		LR	09 33 34.5	
	comp=N,1μm,20.0s,baz=256,slow=40							
	comp=N,3.1nm,0.4s							
CRNM	**Carthage**	**7.48**	**36**			**Pn**	**09 30 33.8**	**+1.3**
LENM	**Lemitar**	**7.53**	**34**			**Pn**	**09 30 34.8**	**+1.7**
WUAZ	**Wupatki**	**7.53**	**4**			**Pn**	**09 30 34.5**	**+1.4**
ALPN	**Alpine**	**7.70**	**70**			**Pn**	**09 30 36.0**	**+0.6**
PECS	**Pecos**	**7.85**	**63**			**Pn**	**09 30 38.7**	**+1.3**
ANMO	**Albuquerque**	**8.41**	**33**			**Pn**	**09 30 46.8**	**+1.6**
ANMO	**Albuquerque**	**8.41**	**33**	Pn		**Pn**	**09 30 49.7**	**+4.6**
	comp=N,0.3nm,0.3s,baz=295,slow=10,SNR=12							
ANMO				Sn		**Sn**	**09 32 16.8**	**-3.5**
	comp=N,0.2nm,0.3s,baz=289,slow=16,SNR=1.4							
ANMO				Lg		Lg	09 33 06.5	
	comp=N,0.7nm,0.3s,baz=303,slow=17,SNR=3.7							
ANMO				LR		LR	09 34 14.2	
	comp=N,268nm,21.7s,baz=298,slow=39							
MSTX	**Muleshoe**	**9.93**	**51**			**Pn**	**09 31 06.2**	**+0.3**
OZNA	**Ozona**	**9.93**	**70**			**Pn**	**09 31 06.2**	**+0.2**
PV13	**Radium Mtn., P**	**10.50**	**14**			**Pn**	**09 31 12.9**	**-1.0**
PV02	**Paradox Valley**	**10.56**	**14**			**Pn**	**09 31 15.2**	**+0.4**
PV03	**Paradox Valley**	**10.58**	**14**			**Pn**	**09 31 15.3**	**+0.3**
NVAR	**Mina Array Bea**	**11.67**	**335**			**Pn**	**09 31 27.8**	**-2.1**
NVAR	**Mina Array Bea**	**11.67**	**335**	Pn		Pn	09 31 37.2	+7.3
	comp=N,0.6nm,0.8s,baz=165,slow=11,SNR=5.2							
NVAR				LR		LR	09 35 47.8	
	comp=N,343nm,18.2s,baz=148,slow=36							
BUCR	**Buckhorn Ranch**	**11.84**	**327**			**Pn**	**09 31 33.9**	**+1.9**
BSUT	**Blindstream Ca**	**12.57**	**4**			**Pn**	**09 31 43.9**	**+1.7**
WTFS	**Witchita Falls**	**12.98**	**60**			**Pn**	**09 31 48.5**	**+0.9**
ELK	**Elko**	**13.01**	**349**			**Pn**	**09 31 50.1**	**+1.9**
ELK	**Elko**	**13.01**	**349**	Pn		P	09 31 53.8	-4.9
	comp=N,5.2nm,0.9s,baz=180,slow=12							
ELK				Lg		Lg	09 35 38.6	
	baz=33,slow=16							
HWUT	**Hardware Ranch**	**13.60**	**1**			**Pn**	**09 31 57.5**	**+1.3**
CROK	**Carrier**	**14.59**	**51**	Pn		**Pn**	**09 32 08.7**	**-0.9**
CBKS	**Cedar Bluff**	**14.88**	**40**	Pn		**Pn**	**09 32 14.9**	**+1.3**
PD31	**Pinedale Array**	**14.89**	**7**			**Pn**	**09 32 14.3**	**+0.5**
PDAR	**Pinedale Array**	**14.89**	**7**	Pn		**Pn**	**09 32 15.8**	**+1.9**
PDAR	**Pinedale Array**	**14.89**	**7**	Pn		**P**	**09 32 22.6**	**+2.9**
	comp=N,0.2nm,0.3s,baz=172,slow=8.2,SNR=38							
PDAR				Lg		Lg	09 36 43.5	
	comp=N,0.1nm,0.3s,baz=176,slow=20,SNR=3.9							
	comp=N,4.7nm,0.8s							
K22A	**Casper**	**15.30**	**16**	Pn		**Pn**	**09 32 20.3**	**+1.0**
WVOR	**Wild Horse Val**	**15.39**	**341**	Pn		**Pn**	**09 32 21.1**	**+0.6**
WVOR				IAmb		IAmb	09 32 29.4	
	comp=Z,12nm,1.4s							
SNOW	**Snow King Moun**	**15.48**	**3**	P		**P**	**09 32 24.4**	**-1.8**
J08A	**Circle Bar Ran**	**16.21**	**343**	P		**P**	**09 32 32.7**	**-1.5**
YBH	**Yreka Blue Hor**	**16.27**	**330**	Pn		**P**	**09 32 40.1**	**+5.3**
	baz=140,slow=7.9,SNR=2.5							
YPP	**Pitchstone Pla**	**16.29**	**3**	Pn		**Pn**	**09 32 31.6**	**-0.5**
RLO	**Rose Lookout**	**16.54**	**56**	Pn		**Pn**	**09 32 35.5**	**+0.4**
RLO				IAmb		IAmb	09 32 44.8	
	comp=Z,14nm,0.8s							
YHH	**Holmes Hill**	**16.80**	**3**	P		**P**	**09 32 40.1**	**-0.8**
HHAR	**Hobbs**	**17.38**	**57**	IAmb		IAmb	09 32 53.9	
	comp=Z,8.6nm,0.7s							
WHAR	**Wooly Hollow**	**18.29**	**62**	IAmb		IAmb	09 33 01.7	
	comp=Z,26nm,1.1s							
CMIG	**Matias Romero**	**19.15**	**121**	P		**Pn**	**09 33 08.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=180,slow=3.0,SNR=2.5							
CMIG				LR		LR	09 39 35.6	
	comp=Z,319nm,18.8s,baz=288,slow=34							
	comp=Z,8.0nm,1.0s							
P40A	**Paris**	**20.16**	**50**	IAmb		IAmb	09 33 20.1	
	comp=Z,9.7nm,0.8s							
OXF	**Oxford**	**20.37**	**66**			Pn	09 33 21.5	-0.5
OXF				IAmb		IAmb	09 33 22.6	
	comp=Z,21nm,0.9s							
**FVM

DAVOX	**Davos/Dischmat**	**88.97**	**36**	LR	LR	10 22 01.9		
	comp=Z,82nm,18.8s,baz=282,slow=36							
GERES	**GERESS Array B**	**89.47**	**32**	LR	LR	10 22 49.3		
	comp=Z,87nm,18.1s,baz=314,slow=36							
VRAC	**Vranov**	**90.48**	**31**	LR	LR	10 23 27.1		
	comp=Z,98nm,18.7s,baz=315,slow=36							
HNR	**Honiara**	**92.64**	**261**	LR	LR	10 17 19.1		
	comp=Z,70nm,19.6s,baz=52,slow=31							
AKASG	**Malin Array Be**	**94.49**	**24**	LR	LR	10 23 44.2		
	comp=Z,85nm,18.2s,baz=336,slow=35							
GUMO	**Guam**	**94.95**	**288**	LR	LR	10 17 59.3		
	comp=Z,53nm,19.8s,baz=40,slow=31							
ARTI	**Arti**	**95.57**	**5**	LR	LR	10 29 51.9		
	comp=Z,100nm,18.5s,baz=50,slow=38							
MLR	**Muntele Rosu**	**97.49**	**28**	LR	LR	10 29 50.1		
	comp=Z,66nm,18.9s,baz=336,slow=38							
WRA	**Warramunga Arr**	**119.47**	**262**	PKP	**PKiKP**	**09 47 36.8**	**+3.2**	
	comp=Z,0.5nm,0.8s,baz=76,slow=2.3,SNR=4.7							
CMAR	**Chiang Mai Arr**	**124.96**	**323**	PKP	**PKiKP**	**09 47 46.1**	**+1.6**	
	comp=Z,0.6nm,0.3s,baz=350,slow=1.8,SNR=5.7							

*IDC **23** 09:36:22.7±0.9, 29.30N×94.92E, h0km, mb4.0/12, mbtmp4.0/12, Error ellipse: s-maj=47.9km s-min=15.8km az=58.0*
*NEIC **23** 09:36:26.0±1.1, 29.5N±0.1×95.1E±0.1, h10km±1km, mb4.3/16, Error ellipse: s-maj=21.2km s-min=16.0km az=48.0*
*NDI **23** 09:36:29.3±2.0, 29.28N×94.97E, h10km, ML4.0, MW4.0, mb4.3(NEIC)*

ISC 23 09:36:25.6±0.5, 29.41N±0.05×94.81E±0.05, h10km, n58, σ2s22/76, mb4.2/16, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ZIRO	**ZIRO**	**2.06**	**205**	*eP*		**Pb**		**09 37 04.9**	**+1.7**
LKP	**Lekhapani**	**2.26**	**156**	*eP*		**Pn**		**09 37 04.5**	**+1.5**
LKP				*eS*		**Sn**		**09 37 31.6**	**+0.6**
LKP				IAML				09 37 33.3	
	comp=E,2μm,0.3s								
LKP				IAML				09 37 33.5	
	comp=N,2μm,0.3s								
JORH	**JORHAT**	**2.70**	**191**	*eS*		**Sn**		**09 37 43.1**	**+1.2**
JORH				IAML				09 37 54.4	
	comp=E,2μm,0.5s								
JORH				IAML				09 37 55.3	
	comp=N,2μm,0.3s								
LSA	**Lhasa**	**3.20**	**276**			**Pn**		**09 37 20.6**	**+4.1**
LSA	**Lhasa**	**3.20**	**276**	Pn		**Pn**		**09 37 19.6**	**+3.2**
LSA				Sn		**Sn**		**09 37 59.5**	**+4.6**
LSA				smax		smax			
	comp=N,100nm,0.8s								
LSA				smax		smax			
	comp=E,82nm,0.8s								
TEZP	**TEZPUR**	**3.31**	**213**	*eP*		**Pn**		**09 37 20.2**	**+2.8**
TEZP				*eS*		**Sn**		**09 37 58.9**	**+2.2**
TEZP				IAML				09 38 00.6	
	comp=E,542nm,0.2s								
TEZP				IAML				09 38 01.5	
	comp=N,791nm,0.4s								
KOHI	**KOHIMA**	**3.73**	**190**	*eP*		**Pn**		**09 37 24.9**	**+1.5**
KOHI				*eS*		**Sn**		**09 38 07.1**	**-0.3**
KOHI				IAML				09 38 08.3	
	comp=N,327nm,0.4s								
GUWA	**GUWAHATI**	**4.23**	**222**	*eP*		**Pn**		**09 37 33.9**	**+3.8**
GUWA				*eS*		**Sn**		**09 38 21.2**	**+1.6**
SHL	**Shillong**	**4.63**	**215**			**Pn**		**09 37 38.0**	**+2.2**
SHL	**Shillong**	**4.63**	**215**	*eP*		**Pn**		**09 37 39.6**	**+3.8**
SHL				*eS*		**Sn**		**09 38 28.8**	**-0.9**
TNCH	**TengChong**	**5.47**	**142**	Pn		**Pn**		**09 37 47.6**	**+0.2**
TNCH				Pg		**Pg**		**09 38 10.3**	**-0.1**
TNCH				Sn		**Sn**		**09 38 50.5**	**0.0**
TNCH				*S*		**Sb**		**09 39 07.5**	**+0.3**
TNCH				Sg		**Sg**		**09 39 22.0**	**+0.7**
TNCH				smax		smax			
	comp=N,270nm,0.2s								
TNCH				smax		smax			
	comp=E,370nm,0.4s								
TNCH				LR		LR			
	comp=N,360nm,3.3s								
TNCH				LR		LR			
	comp=E,390nm,2.1s								
AZL	**Aizawl**	**5.96**	**199**	*eP*		**Pn**		**09 37 55.0**	**+1.0**
AZL				*eS*		**Sn**		**09 38 58.3**	**-4.1**
GOMU	**GeErMu**	**6.77**	**0**	P		**Pn**		**09 38 07.0**	**+1.7**
GOMU				pmax		pmax			
	comp=Z,6.0nm,0.6s								
ODAN	**Odare**	**7.03**	**251**	Pn		**Pn**		**09 38 11.3**	**+2.5**
	baz=247,slow=0.0								
ODAN				Sn		**Sn**		**09 39 28.6**	**-0.3**
	comp=Z,99nm,0.3s,baz=247,slow=0.0								
EVN	**Everest**	**7.17**	**260**			**Pn**		**09 38 14.2**	**+3.1**
RAMN	**Ramite**	**7.65**	**253**	Pn		**Pn**		**09 38 19.3**	**+1.9**
	baz=250,slow=0.0								
RAMN				Sn		**Sn**		**09 39 42.3**	**-2.0**
	comp=Z,64nm,0.4s,baz=250,slow=0.0								
GUN	**Gumba**	**7.99**	**261**	Pn		**Pn**		**09 38 23.6**	**+1.5**
	baz=258,slow=0.0								
GUN				Sn		**Sn**		**09 39 48.1**	**-4.6**
	comp=Z,41nm,0.3s,baz=258,slow=0.0								
PKI	**Pulchoki**	**8.47**	**260**	Pn		**Pn**		**09 38 30.6**	**+1.9**
	baz=257,slow=0.0								
PKI				Sn		**Sn**		**09 40 00.1**	**-4.6**
	comp=Z,28nm,0.3s,baz=257,slow=0.0								
PKIN	**Phulchoki**	**8.48**	**260**	Pn		**Pn**		**09 38 30.6**	**+1.8**
	baz=257,slow=0.0								
PKIN				Sn		**Sn**		**09 40 00.6**	**-4.2**
	comp=Z,44nm,0.2s,baz=257,slow=0.0								
KKN	**Kakani**	**8.53**	**261**	Pn		**Pn**		**09 38 31.1**	**+1.7**
	baz=258,slow=0.0								
KKN				Sn		**Sn**		**09 40 01.5**	**-4.4**
	comp=Z,56nm,0.2s,baz=258,slow=0.0								
DMN	**Daman**	**8.73**	**260**	Pn		**Pn**		**09 38 34.2**	**+2.1**
	baz=257,slow=0.0								
GKN	**Gorkha**	**9.04**	**264**	Pn		**Pn**		**09 38 37.3**	**+0.9**
	baz=260,slow=0.0								
GKN				Sn		**Sn**		**09 40 13.5**	**-4.9**
	comp=Z,48nm,0.3s,baz=260,slow=0.0								
DANN	**Dangsing**	**9.75**	**266**	Pn		**Pn**		**09 38 45.4**	**-0.7**
	baz=264,slow=0.0								
DANN				Sn		**Sn**		**09 40 29.9**	**-6.0**
	comp=Z,45nm,0.4s,baz=264,slow=0.0								
PYUN	**Piuthan**	**10.46**	**266**	Pn		**Pn**		**09 38 56.6**	**+0.8**
	baz=263,slow=0.0								
PYUN				Sn		Sn		09 40 46.1	-7.1
	comp=Z,27nm,0.4s,baz=263,slow=0.0								
CMAR	**Chiang Mai Arr**	**11.54**	**160**	Pn		**Pn**		**09 39 09.9**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=324,slow=9.3,SNR=1.5								
TARG	**Taragay, Kyrgy**	**18.46**	**316**			**Pn**		**09 40 43.6**	**+1.6**
KDJ	**Kajisay**	**19.08**	**316**			**Pn**		**09 40 50.4**	**+1.2**
KDJ				IAmb		IAmb		09 40 52.6	
	comp=Z,9.3nm,0.8s								
MKAR	**Makanchi Array**	**19.91**	**334**	P		**P**		**09 40 57.9**	**+0.6**
	comp=Z,4.3nm,0.5s,baz=139,slow=9.4,SNR=30								
	comp=Z,4.3nm,0.5s								
BOOM	**Boomskoye usch**	**20.04**	**316**			Pn		09 41 00.9	+0.3
SONM	**Songino Array**	**20.46**	**23**	P		**P**		**09 41 02.3**	**-1.0**
SONM	**Songino Array**	**20.46**	**23**	P		**P**		**09 41 02.2**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=224,slow=12,SNR=5.6								
	comp=Z,1.3nm,0.7s								
AAK	**Ala-Archa**	**21.01**	**314**			**P**		**09 41 11.2**	**+1.8**
AAK				IAmb		IAmb		09 41 16.1	
	comp=Z,6.5nm,0.8s								
AAK	**Ala-Archa**	**21.01**	**314**	P		**P**		**09 41 13.1**	**+3.7**
	comp=Z,4.2nm,0.5s,baz=131,slow=8.5,SNR=5.5								
GAR	**Garm**	**22.35**	**302**			**P**		**09 41 25.4**	**+1.6**
KBL	**Kabul**	**22.42**	**290**			**P**		**09 41 25.4**	**+0.6**
CHGR	**Chuyangaron**	**23.11**	**300**			**P**		**09 41 32.5**	**+0.7**
SIMJ	**Simiganj**	**23.23**	**300**			**P**		**09 41 33.3**	**+0.3**
SIMJ				IAmb		IAmb		09 41 35.1	
	comp=Z,12nm,1.2s								
KK31	**Karatay Array**	**23.78**	**312**	P		**P**		**09 41 40.2**	**+1.8**
KKAR	**Karatay Array**	**23.78**	**312**	P		**P**		**09 41 39.3**	**+0.9**
KURBB	**Kurchatov Arra**	**24.48**	**334**	P		**P**		**09 41 45.3**	**+0.6**
	comp=Z,3.8nm,0.5s,baz=148,slow=11,SNR=25								
	comp=Z,3.8nm,0.5s								
KURK	**Kurchatov**	**24.52**	**335**			**P**		**09 41 45.5**	**+0.5**
ZALV	**Zalesovo Beam**	**25.58**	**346**			**P**		**09 41 54.5**	**-0.1**
ZALV	**Zalesovo Beam**	**25.58**	**346**	P		**P**		**09 41 54.4**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=162,slow=9.8,SNR=9.3								
	comp=Z,3.3nm,0.7s								
BVAR	**Borovoye Array**	**29.63**	**330**	P		**P**		**09 42 31.0**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=160,slow=8.8,SNR=2.3								
	comp=Z,0.8nm,0.5s								
AB31	**Akbulak array**	**33.06**	**317**			**P**		**09 43 02.1**	**+1.0**
AB31				IAmb		IAmb		09 43 02.9	
	comp=Z,3.8nm,0.7s								
ABKAR	**Akbulak array**	**33.06**	**317**	P		**P**		**09 43 02.4**	**+1.2**
FINES	**FINESS Array B**	**54.51**	**327**	P		**P**		**09 45 53.0**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=66,slow=11,SNR=5.3								
	comp=Z,1.4nm,0.8s								
ARCES	**ARCESS Array B**	**55.54**	**336**	P		**P**		**09 46 00.6**	**-0.1**
	comp=Z,4.3nm,0.9s,baz=90,slow=8.5,SNR=5.4								
	comp=Z,4.3nm,0.9s								
HFS	**Hagfors**	**60.63**	**325**	P		**P**		**09 46 35.5**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=44,slow=11,SNR=7.5								
	comp=Z,0.7nm,0.3s								
NOA	**NORSAR Array B**	**61.70**	**327**	P		**P**		**09 46 42.8**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=90,slow=4.3,SNR=3.2								
	comp=Z,0.6nm,0.6s								
WRA	**Warramunga Arr**	**62.13**	**137**	P		**P**		**09 46 45.0**	**-2.0**
	comp=Z,1.1nm,0.7s,baz=325,slow=7.7,SNR=11								
	comp=Z,1.1nm,0.7s								
ASAR	**Alice Springs**	**64.79**	**140**	P		**P**		**09 47 02.4**	**-2.2**
	comp=Z,0.9nm,0.6s,baz=327,slow=6.8,SNR=20								
	comp=Z,0.9nm,0.6s								
F25K	**Christian Rive**	**73.36**	**20**	P		**P**		**09 47 57.2**	**-0.2**
F25K				IAmb		IAmb		09 48 04.5	
	comp=Z,5.3nm,1.4s								
F26K	**Sheenjek River**	**73.75**	**20**	P		**P**		**09 47 59.0**	**-0.6**
F26K				IAmb		IAmb		09 48 08.0	
	comp=Z,6.9nm,1.4s								
BMAR	**Burnt Mountain**	**73.79**	**20**	P		**P**		**09 48 00.2**	**+0.4**
E28M	**Babbage River**	**74.46**	**18**	P		**P**		**09 48 03.2**	**-0.5**
E28M				IAmb		IAmb		09 48 04.1	
	comp=Z,1.9nm,0.7s								
ILAR	**Eielson Array**	**74.68**	**23**	P		**P**		**09 48 04.3**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=294,slow=4.5,SNR=5.0								
	comp=Z,0.7nm,0.9s								
QSPA	**South Pole Qui**	**119.20**	**180**	PKPdf		**PKPdf**		**09 55 12.7**	**-1.4**

IDC 23 09:51:50.1±3.4, 20.08S×172.54E, h0km, mb3.8/4, mbtmp3.7/4, Error ellipse: s-maj=341.8km s-min=31.5km az=158.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ASAR	**Alice Springs**	**35.96**	**257**	P		P		09 58 52.7	-0.1
	0.3nm,0.5s,baz=84,slow=9.0,SNR=8.9								
	0.3nm,0.5s								
NVAR	**Mina Array Bea**	**87.05**	**47**	P		P		10 04 37.4	-0.7
	0.3nm,0.6s,baz=242,slow=8.2,SNR=4.1								
	0.3nm,0.6s								
TXAR	**Lajitas Array**	**94.45**	**61**	P		P		10 05 11.6	-1.0
	0.3nm,0.8s,baz=215,slow=6.1,SNR=4.4								
	0.3nm,0.8s								
PDAR	**Pinedale Array**	**94.93**	**46**	P		P		10 05 16.6	+1.9
	0.3nm,0.6s,baz=243,slow=4.2,SNR=3.0								
	0.3nm,0.6s								

IDC 23 09:52:28.3±69.0, 16.78S×178.17W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=1262.0km s-min=188.3km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
STKA	**Stephens Creek**	**39.38**	**240**	P		P		10 00 00.3	+0.5
	0.8nm,0.4s,baz=79,slow=10,SNR=3.0								
	0.8nm,0.4s								
WRA	**Warramunga Arr**	**45.07**	**258**	P		P		10 00 45.4	-1.0
	0.1nm,0.3s,baz=96,slow=8.4,SNR=1.7								
	0.1nm,0.3s								
ASAR	**Alice Springs**	**45.32**	**253**	P		P		10 00 48.4	0.0
	2.7nm,0.5s,baz=90,slow=7.9,SNR=72								
	2.7nm,0.5s								

IDC 23 09:57:37.9±4.1, 2.30N×63.11E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=371.6km s-min=50.9km az=41.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**73.20**	**111**	P		P		10 09 10.6	-0.7
	0.6nm,0.7s,baz=280,slow=6.1,SNR=3.4								
	0.6nm,0.7s								
ASAR	**Alice Springs**	**73.41**	**115**	P		P		10 09 12.9	+0.4
	0.5nm,0.7s,baz=292,slow=5.2,SNR=8.7								
	0.5nm,0.7s								
STKA	**Stephens Creek**	**81.44**	**123**	P		P		10 09 57.6	+0.3
	2.5nm,0.7s,baz=301,slow=5.9,SNR=4.9								
	2.5nm,0.7s								
TXAR	**Lajitas Array**	**146.09**	**339**	PKPbc		PKPdf		10 17 19.9	-0.1
	0.3nm,0.7s,baz=37,slow=3.8,SNR=5.2								

*SJA **23** 10:12:19.6±1.5, 21.26S×68.40W, h100km, ML3.4, MW3.5*
*GUC **23** 10:12:20.5±0.5, 21.27S×68.52W, h127km±3km, ML3.5*

ISC 23 10:12:18.5±1.5, 21.26S±0.03×68.50W±0.05, h139km±12km, n30, σ1s24/57, 5C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PB09	**IPOC Station P**	**0.88**	**232**	⇑*iP*		**Pn**		**10 12 41.9**	**+0.5**
PB09				*i* S		**Sn**		**10 12 58.3**	**-0.5**
PB09				IAML				10 12 59.4	
	comp=N,650nm,0.2s								
PB09	**IPOC Station P**	**0.88**	**232**	*eP*		**Pn**		**10 12 41.8**	**+0.4**
PB09				*eS*		**Sn**		**10 12 58.8**	**0.0**
PB09				IAML				10 12 59.4	
	comp=Z,920nm,0.4s								
PB01	**IPOC Station P**	**0.95**	**283**	*eP*		**Pn**		**10 12 41.7**	**-0.2**
PB01				*i* S		**Sn**		**10 12 58.3**	**-1.4**
PB01				IAML				10 13 00.8	
	comp=N,812nm,0.2s								
PB01	**IPOC Station P**	**0.95**	**283**	*eP*		**Pn**		**10 12 41.8**	**-0.2**
PB01				*eP*				10 12 41.8	
PB01				*eS*		**Sn**		**10 12 58.5**	**-1.2**
PB01				IAML				10 12 59.8	
	comp=Z,475nm,0.4s								
PB08	**IPOC Station P**	**1.27**	**331**	⇓*iP*		**Pn**		**10 12 46.1**	**+0.8**
PB08				*i* S		**Sn**		**10 13 05.7**	**0.0**
PB08				IAML				10 13 06.5	
	comp=N,494nm,0.3s								
PB08	**IPOC Station P**	**1.27**	**331**	*eP*		**Pn**		**10 12 46.1**	**+0.8**
PB08				*eS*		**Sn**		**10 13 06.0**	**+0.4**
PB08				IAML				10 13 06.2	
	comp=Z,253nm,0.7s								
PB02	**IPOC Station P**	**1.31**	**267**	⇑*iP*		**Pn**		**10 12 45.6**	**+0.3**
PB02				*i* S		**Sn**		**10 13 05.0**	**-0.7**
PB02				IAML				10 13 06.2	
	comp=E,2μm,0.3s								
PB02	**IPOC Station P**	**1.31**	**267**	*eP*		**Pn**		**10 12 45.6**	**+0.3**
PB02				*eS*		**Sn**		**10 13 05.2**	**-0.6**
PB02				IAML				10 13 10.6	
	comp=Z,1μm,0.2s								
PB03	**IPOC Station P**	**1.41**	**236**	⇑*iP*		**Pn**		**10 12 46.9**	**+0.4**
PB03				*i* S		**Sn**		**10 13 07.0**	**-0.8**
PB03				IAML				10 13 07.7	
	comp=N,650nm,0.2s								
PB03	**IPOC Station P**	**1.41**	**236**	*eP*		**Pn**		**10 12 46.9**	**+0.4**
PB03				*eS*		**Sn**		**10 13 07.6**	**-0.2**
PB03				IAML				10 13 08.3	
	comp=Z,601nm,0.3s								
PATCX	**Punta Patache**	**1.61**	**285**	⇑*iP*		**Pn**		**10 12 49.2**	**+0.7**
PATCX				*i* S		**Sn**		**10 13 10.9**	**-0.6**
PATCX				IAML				10 13 13.5	
	comp=E,852nm,0.2s								
PATCX	**Punta Patache**	**1.61**	**285**	*eP*		**Pn**		**10 12 49.2**	**+0.7**
PATCX				*eS*		**Sn**		**10 13 11.8**	**+0.4**
PATCX				IAML				10 13 13.3	
	comp=Z,435nm,0.1s								
AF01	**San Pedro de A**	**1.71**	**170**	*eP*		**Pn**		**10 12 51.8**	**+1.9**
AF01				*i* S		**Sn**		**10 13 13.8**	**-0.2**
AF01	**San Pedro de A**	**1.71**	**170**	*eP*		**Pn**		**10 12 50.6**	**+0.7**
AF01				*eS*		Sn		10 13 25.6	+12
AF01				IAML				10 13 31.3	
	comp=Z,142nm,1.4s								
GO01	**Chusmiza**	**1.71**	**337**	*eP*		**Pn**		**10 12 51.0**	**+0.8**
GO01				*i* S		**Sn**		**10 13 14.2**	**-0.1**
GO01				IAML				10 13 17.2	
	comp=N,609nm,0.1s								
GO01	**Chusmiza**	**1.71**	**337**	*eP*		**Pn**		**10 12 51.1**	**+1.0**
GO01				*eS*		**Sn**		**10 13 14.8**	**+0.5**
TA01	**Diego Aracena**	**1.72**	**293**	*eP*		**Pn**		**10 12 50.1**	**+0.4**
TA01				*i* S		**Sn**		**10 13 12.6**	**-0.9**
TA01				IAML				10 13 14.5	
	comp=E,798nm,0.2s								
TA01	**Diego Aracena**	**1.72**	**293**	*eP*		**Pn**		**10 12 50.3**	**+0.6**
TA01				*eS*		**Sn**		**10 13 13.2**	**-0.3**
TA01				IAML				10 13 14.2	
	comp=Z,158nm,0.6s								
PB06	**IPOC Station P**	**1.75**	**215**	⇑*iP*		**Pn**		**10 12 51.0**	**+0.7**
PB06				*i* S		**Sn**		**10 13 14.1**	**-0.5**
PB06				IAML				10 13 16.7	
	comp=E,353nm,0.2s								
PB06	**IPOC Station P**	**1.75**	**215**	*eP*		**Pn**		**10 12 51.0**	**+0.7**
PB06				*eS*		**Sn**		**10 13 15.1**	**+0.5**
PB06				IAML				10 13 17.7	
	comp=Z,239nm,0.3s								
TA02	**Huaiquique**	**1.82**	**302**	*eP*		**Pn**		**10 12 51.1**	**+0.2**
TA02				*i* S		**Sn**		**10 13 14.7**	**-0.9**
TA02				IAML				10 13 19.6	
	comp=N,1μm,0.1s								
TA02	**Huaiquique**	**1.82**	**302**	*eP*		**Pn**		**10 12 51.5**	**+0.6**
TA02				*eS*		**Sn**		**10 13 15.4**	**-0.2**
TA02				IAML				10 13 19.2	
	comp=Z,419nm,0.1s								
PB11	**IPOC Station P**	**1.84**	**324**	*eP*		**Pn**		**10 12 51.8**	**+0.5**
PB11				*i* S		**Sn**		**10 13 15.5**	**-1.0**
PB11				IAML				10 13 17.0	
	comp=N,323nm,0.2s								
PB11	**IPOC Station P**	**1.84**	**324**	*eP*		**Pn**		**10 12 51.9**	**+0.5**
PB11				*eS*		**Sn**		**10 13 16.7**	**+0.2**
PB11				IAML				10 13 23.3	
	comp=Z,162nm,0.3s								
YJA	**Yavi**	**2.92**	**109**	*eP*		**Pn**		**10 13 02.1**	**-2.7**
YJA				*eS*		**Sn**		**10 13 39.1**	**-1.3**
PB10	**IPOC Station P**	**2.94**	**220**	*eP*		**Pn**		**10 13 05.5**	**+0.7**
PB10				*eS*		**Sn**		**10 13 35.4**	**-5.1**
PB16	**IPOC Station P**	**3.06**	**342**	*eP*		**Pn**		**10 13 08.7**	**+1.9**
PB16				*eS*		**Sn**		**10 13 45.8**	**+1.8**
HJA	**Humahuaca**	**3.46**	**125**	*eP*		**Pn**		**10 13 15.1**	**+3.4**
GO02	**Mina Guanaco**	**4.01**	**194**	*eP*		**Pn**		**10 13 19.8**	**+0.9**
GO02				*eS*		**Sn**		**10 14 06.8**	**+1.0**
GO02				IAML				10 14 35.7	
	comp=Z,34nm,1.2s								
LPAZ	**La Paz**	**4.96**	**4**	*eP*		**Pn**		**10 13 29.4**	**-2.4**

IDC 23 10:15:52.5±1.9, 13.83N×121.46E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=83.3km s-min=24.6km az=53.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CMAR	**Chiang Mai Arr**	**22.11**	**285**	P		P		10 20 49.5	-0.1
	0.4nm,0.3s,baz=80,slow=9.1,SNR=4.2								
	0.4nm,0.3s								
WRA	**Warramunga Arr**	**35.87**	**159**	P		P		10 22 54.3	-0.1
	0.1nm,0.3s,baz=339,slow=8.2,SNR=1.5								
	0.1nm,0.3s								
ASAR	**Alice Springs**	**39.20**	**162**	P		P		10 23 22.4	-0.2
	0.2nm,0.3s,baz=342,slow=8.8,SNR=5.9								
	0.2nm,0.3s								
KURBB	**Kurchatov Arra**	**50.49**	**326**	P		P		10 24 52.3	0.0
	0.4nm,0.3s,baz=125,slow=8.0,SNR=4.4								
	0.4nm,0.3s								

*CATAC **23** 10:47:16.5±0.6, 14°N±3°×91°W±°, h28km±4km, M3.4/16, MLv3.4/16, Error ellipse: s-maj=7.1km s-min=2.6km az=30.3, confirmed*
*GCG **23** 10:47:18.2±1.3, 13.87N×91.29W, h57km±44km, MD4.4*
*SNET **23** 10:47:23.3±3.4, 13.82N×91.11W, h35km, ML3.3*

ISC 23 10:47:17.9±2.3, 13.8N±0.1×91.36W±0.08, h33km±4km, n35, σ1s30/40, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ESSG	**Sabana Grande**	**0.79**	**40**	*eP*		**Pn**		**10 47 32.4**	**-0.3**
RTAL	**Retalhuleu**	**0.81**	**336**	P		**Pn**		**10 47 32.0**	**-1.0**
RTAL	**Retalhuleu**	**0.81**	**336**	S		**Sn**		**10 47 42.7**	**-1.1**
FG8	**Yepocapa, Chim**	**0.91**	**58**	*eP*		**Pn**		**10 47 32.3**	**-2.1**
FG16	**Alotenango, Sa**	**0.95**	**59**	*eP*		**Pn**		**10 47 33.6**	**-1.5**
SOKI	**Kika Raxquin**	**1.03**	**357**	*eP*		**Pb**		**10 47 36.1**	**-1.4**
FAME	**Alcaldia de Sa**	**1.30**	**87**	P		**Pn**		**10 47 39.0**	**-0.8**
HUEH	**Huehuetenango**	**1.54**	**355**	*eP*		**Pb**		**10 47 46.9**	**+1.0**
HUEH				*eS*		**Sb**		**10 48 09.9**	**+4.8**
HUEH	**Huehuetenango**	**1.54**	**355**	S		**Sn**		**10 48 01.1**	**-1.0**
HUEH	**Huehuetenango**	**1.54**	**355**	P		**Pn**		**10 47 42.3**	**-0.9**
NUBE	**Las Nubes**	**1.54**	**85**	*eP*		**Pn**		**10 47 42.3**	**-0.8**
NUBE				*eS*		**Sn**		**10 48 01.7**	**-0.2**
NUBE	**Las Nubes**	**1.54**	**85**	S		**Sn**		**10 48 02.4**	**+0.4**
NUBE	**Las Nubes**	**1.54**	**85**	P		**Pn**		**10 47 42.8**	**-0.3**
LOAL	**Lomas de Alarc**	**1.54**	**82**	*eS*		**Sb**		**10 48 04.1**	**-1.1**
LOAL	**Lomas de Alarc**	**1.54**	**82**	S		**

az=273.0

BYKL ***23*** *11:31:16.5±0.1, 55°.34N×109°.40E, h15km±2km, Mw4.2/8(IEC), #STATIONS AAK ARTI KBS QIZ ERM KEV KURK MAJO FELT I=IV-V MSK at Baykalskoye, III-IV at Severobaykalsk.*

ISC 23 11:31:15.9±1.0, 55°.33N±0°.02×109°.30E±0°.02, h8km±6km, n167, σ2ˢ42/233, mb4.2/32, MS3.5/24, 12C-9D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIZB	**Nizh Angarsk**	**0.47**	**18**	⇑*i*	Pg		**Pg**	**11 31 25.1**	**+0.2**
NIZB					Pmax			11 31 29.0	
	1μm,0.2s								
NIZB					eSg		**Sg**	**11 31 31.4**	**+0.3**
NIZB					Smax			11 31 31.6	
	14μm,0.3s								
NIZB	**Nizh Angarsk**	**0.47**	**18**	⇑*i*	PG		**Pg**	**11 31 25.1**	**+0.2**
NIZB					e			11 31 30.9	
NIZB					pmax	pmax			
	comp=Z,1μm,0.2s								
NIZB					smax	smax			
	comp=N,18μm,0.4s								
YLYR	**Ulyunkhan**	**1.16**	**112**	⇓*i*	Pg		**Pb**	**11 31 36.6**	**-1.6**
	comp=N,1μm,0.5s								
YLYR				⇑*i*	Pg		**Pb**	**11 31 36.6**	**-1.6**
	comp=N,3μm,0.5s								
YLYR				⇑*i*	Pg		**Pb**	**11 31 36.6**	**-1.6**
	comp=N,5μm,0.5s								
YLYR					Pmax			11 31 36.8	
	comp=N,4μm,0.4s								
YLYR					eSg		**Sb**	**11 31 51.8**	**-1.6**
YLYR					Smax			11 31 54.4	
	comp=N,14μm,0.4s								
YLYR	**Ulyunkhan**	**1.16**	**112**	⇑*i*	PG		**Pb**	**11 31 36.6**	**-1.6**
YLYR					e			11 31 49.0	
YLYR					pmax	pmax			
	comp=Z,4μm,0.4s								
YLYR					smax	smax			
	comp=N,14μm,0.5s								
KMO	**Kumora**	**1.22**	**62**	⇑*i*	Pg		**Pn**	**11 31 37.3**	**-1.9**
KMO					ePb		**Pb**	**11 31 39.2**	**+0.1**
KMO					max			11 31 39.4	
	comp=N,5μm,0.4s								
KMO					eSg		**Sb**	**11 31 53.3**	**-1.7**
KMO					eSb		**Sn**	**11 31 56.1**	**+0.2**
KMO					max			11 31 56.7	
	comp=N,12μm,0.7s								
KMO	**Kumora**	**1.22**	**62**	⇑*i*	PG		**Pn**	**11 31 37.3**	**-1.9**
KMO					e			11 31 52.6	
KMO					pmax	pmax			
	comp=Z,5μm,0.4s								
KMO					smax	smax			
	comp=N,12μm,0.7s								
YOAB	**Uoyan, Buryati**	**1.60**	**58**		ePg		**Pn**	**11 31 44.3**	**-0.1**
YOAB					Pmax			11 31 54.3	
	comp=N,1μm,0.5s								
YOAB					eSg		**Sb**	**11 32 05.4**	**-0.5**
YOAB					Smax			11 32 16.4	
	comp=N,28μm,1.1s								
YOAB	**Uoyan, Buryati**	**1.60**	**58**		ePN		**Pn**	**11 31 44.3**	**-0.1**
YOAB					eS		**Sg**	**11 32 06.6**	**-0.6**
SYVR	**Suvo**	**1.72**	**166**		ePg		**Pb**	**11 31 47.8**	**+0.1**
SYVR					Pmax			11 31 48.0	
	comp=N,1μm,0.3s								
SYVR					eSg		**Sg**	**11 32 11.4**	**+0.3**
SYVR					Smax			11 32 12.4	
	comp=N,30μm,0.4s								
SYVR	**Suvo**	**1.72**	**166**		ePN		**Pn**	**11 31 46.8**	**+0.7**
SYVR					e			11 32 11.4	
SYVR					pmax	pmax			
	comp=Z,1μm,0.2s								
SYVR					smax	smax			
	comp=N,35μm,0.4s								
OGRR	**Ongureny**	**1.96**	**211**	⇑*i*	PN		**Pn**	**11 31 50.3**	**+1.0**
OGRR					ePg		**Pb**	**11 31 51.6**	**-0.1**
OGRR					Pmax			11 32 02.5	
	comp=N,739nm,0.5s								
OGRR					eSn		**Sb**	**11 32 15.7**	**-0.5**
OGRR					eSg		**Sg**	**11 32 18.2**	**-0.4**
OGRR					Smax			11 32 21.6	
	comp=N,3μm,0.2s								
OGRR	**Ongureny**	**1.96**	**211**	⇑*i*	PN		**Pn**	**11 31 50.4**	**+1.1**
OGRR					e			11 31 51.8	
OGRR					e			11 32 17.4	
OGRR					pmax	pmax			
	comp=Z,603nm,0.3s								
OGRR					smax	smax			
	comp=E,4μm,0.6s								
MXMB	**Maximikha**	**2.09**	**189**		ePn		**Pn**	**11 31 52.6**	**+1.4**
MXMB					ePg		**Pb**	**11 31 55.2**	**+1.2**
MXMB					e			11 32 20.5	
MXMB					eSg		**Sg**	**11 32 22.7**	**-0.3**
GORB	**Goryachinsk**	**2.42**	**195**		ePn		**Pn**	**11 31 56.9**	**+1.2**
GORB					ePg		**Pb**	**11 32 00.7**	**+1.1**
GORB					eSg		**Sg**	**11 32 32.1**	**-1.4**
UKT	**Uakit**	**2.48**	**84**	⇓*i*	PN		**Pn**	**11 31 56.4**	**-0.1**
UKT					ePg		**Pb**	**11 31 59.1**	**-1.5**
UKT					Pmax			11 32 02.1	
	comp=E,1μm,1.0s								
UKT					eSg		**Sb**	**11 32 30.4**	**-0.9**
UKT					Smax			11 32 31.4	
	comp=E,7μm,1.0s								
UKT	**Uakit**	**2.48**	**84**		ePN		**Pn**	**11 31 56.3**	**-0.2**
UKT					e			11 31 59.1	
UKT					e			11 32 30.5	
UKT					pmax	pmax			
	comp=Z,1μm,0.8s								
UKT					smax	smax			
	comp=N,7μm,1.0s								
SVKR	**Severomuysk**	**2.54**	**70**		ePg		**Pb**	**11 32 00.9**	**-0.8**
SVKR					Pmax			11 32 06.7	
	comp=N,1μm,0.2s								
SVKR					e			11 32 29.4	
SVKR					eSg		**Sb**	**11 32 33.3**	**+0.3**
SVKR					Smax			11 32 34.8	
	comp=N,9μm,0.5s								
SVKR	**Severomuysk**	**2.54**	**70**		ePN		**Pb**	**11 32 00.3**	**-1.4**
SVKR					e			11 32 33.4	
SVKR					pmax	pmax			
	comp=Z,980nm,0.2s								
SVKR					smax	smax			
	comp=N,10μm,0.6s								
ZRHB	**Zarechye**	**3.05**	**205**		ePg		**Pb**	**11 32 11.9**	**+1.5**
ZRHB					Pmax			11 32 24.5	
	comp=N,703nm,0.7s								
ZRHB					eSg		**Sg**	**11 32 52.5**	**-1.3**
ZRHB					Smax			11 33 16.1	
	comp=N,6μm,1.0s								
TRG	**Tyrgan**	**3.10**	**215**	⇑*i*	PN		**Pn**	**11 32 06.4**	**+1.3**
TRG					ePg		**Pb**	**11 32 12.3**	**+1.0**
TRG					Pmax			11 32 21.8	
	comp=N,235nm,0.2s								
TRG					e			11 32 45.1	
TRG					eSg		**Sg**	**11 32 53.7**	**-1.7**
TRG					Smax			11 32 56.7	
	comp=N,2μm,0.6s								
TRG	**Tyrgan**	**3.10**	**215**		ePN		**Pn**	**11 32 06.5**	**+1.3**
TRG					e			11 32 12.2	
TRG					eS		**Sn**	**11 32 42.6**	**+0.2**
TRG					e			11 32 53.9	
TRG					pmax	pmax			
	comp=Z,248nm,0.3s								
TRG					smax	smax			
	comp=E,2μm,0.5s								
UUDB	**Ulan-Yde**	**3.60**	**196**		ePn		**Pn**	**11 32 13.7**	**+1.8**
UUDB					ePg		**Pb**	**11 32 21.7**	**+2.0**
UUDB					Pmax			11 32 50.3	
	comp=E,188nm,0.7s								
UUDB					eSg		**Sg**	**11 33 08.9**	**-2.5**
UUDB					Smax			11 33 27.6	
	comp=E,656nm,0.4s								
BOD	**Bodaibo**	**3.61**	**44**		ePn		**Pn**	**11 32 11.3**	**-0.7**
BOD					ePg		**Pb**	**11 32 19.6**	**-0.2**
BOD					Pmax			11 32 24.9	
	comp=E,181nm,0.6s								
BOD					eSg		**Sb**	**11 33 05.9**	**+2.2**
BOD					Smax			11 33 06.4	
	comp=E,2μm,0.6s								
BOD	**Bodaibo**	**3.61**	**44**		ePN		**Pn**	**11 32 11.1**	**-0.9**
BOD					e			11 32 19.1	
BOD					e			11 33 05.8	
BOD					pmax	pmax			
	comp=Z,174nm,0.3s								
BOD					smax	smax			
	comp=N,2μm,0.6s								
STDB	**Stepnoy Dvoret**	**3.61**	**210**		ePn		**Pn**	**11 32 13.8**	**+1.8**
STDB					ePg		**Pb**	**11 32 22.4**	**+2.5**
STDB					eSg		**Sg**	**11 33 09.9**	**-1.8**
KAB	**Kabansk**	**3.64**	**207**		e		Pg	11 32 39.4	+14
KAB					eSg		**Sg**	**11 33 10.3**	**-2.3**
KAB					Smax			11 33 37.5	
	comp=N,3μm,0.8s								
NLYR	**Nelyaty**	**3.79**	**69**	⇓*i*	Pn		**Pn**	**11 32 13.9**	**-0.6**
NLYR					ePg		**Pb**	**11 32 23.6**	**+0.6**
NLYR					e			11 32 29.8	
NLYR					max			11 32 32.2	
	comp=N,472nm,0.7s								
NLYR					eSg		**Sb**	**11 33 12.8**	**+3.8**
NLYR					e			11 33 20.6	
NLYR					max			11 33 25.6	
	comp=N,2μm,0.8s								
NLYR	**Nelyaty**	**3.79**	**69**	⇓*i*	PN		**Pn**	**11 32 13.9**	**-0.6**
NLYR					e			11 32 24.2	
NLYR					e			11 33 12.5	
NLYR					pmax	pmax			
	comp=Z,476nm,0.7s								
NLYR					smax	smax			
	comp=N,2μm,1.1s								
HRMR	**Khuramsha**	**3.96**	**202**		ePn		**Pn**	**11 32 18.4**	**+1.5**
HRMR					ePg		**Pb**	**11 32 28.1**	**+2.2**
HRMR					Pmax			11 32 37.7	
	comp=N,477nm,0.5s								
HRMR					eSn		**Sn**	**11 33 03.4**	**-0.1**
HRMR					eSg		**Sg**	**11 33 20.2**	**-2.7**
HRMR					Smax			11 33 30.3	
	comp=N,3μm,0.5s								
BGT	**Bolshoye Golou**	**4.02**	**217**		ePn		**Pn**	**11 32 18.8**	**+1.1**
BGT					e			11 32 25.3	
BGT					ePg		**Pb**	**11 32 29.4**	**+2.6**
BGT					Pmax			11 32 38.8	
	comp=N,188nm,0.3s								
BGT					eSn		**Sn**	**11 33 05.7**	**+0.8**
BGT					eSg		**Sg**	**11 33 21.9**	**-2.9**
BGT					Smax			11 33 39.9	
	comp=N,1μm,0.7s								
VBR	**Suhoy Ruchey**	**4.04**	**210**		eSg		**Sg**	**11 33 23.1**	**-2.4**
CIT	**Chita**	**4.17**	**141**		eSn		**Sn**	**11 33 05.3**	**-3.3**
CIT					eSg		**Sb**	**11 33 24.2**	**+4.3**
CIT					Smax			11 33 28.7	
	comp=N,3μm,0.4s								
CIT	**Chita**	**4.17**	**141**		ePN		**Pn**	**11 32 19.6**	**-0.1**
CIT					e			11 32 30.4	
CIT					eS		**Sn**	**11 33 05.7**	**-2.9**
CIT					e			11 33 24.0	
CIT					pmax	pmax			
	comp=Z,360nm,0.5s								
CIT					smax	smax			
	comp=E,3μm,0.4s								
IRK	**Irkutsk**	**4.29**	**226**		ePg		**Pb**	**11 32 34.1**	**+2.6**
IRK					Pmax			11 32 45.0	
	comp=E,326nm,0.4s								
IRK					eSn		**Sn**	**11 33 09.9**	**-1.7**
IRK					eSg		**Sg**	**11 33 30.1**	**-3.4**
IRK					Smax			11 33 39.0	
	comp=E,2μm,0.5s								
IRK	**Irkutsk**	**4.29**	**226**		ePN		**Pn**	**11 32 22.4**	**+1.0**
IRK					e			11 32 34.5	
IRK					e			11 33 30.2	
IRK					pmax	pmax			
	comp=Z,322nm,0.3s								
IRK					smax	smax			
	comp=N,2μm,0.5s								
LSTR	**Listvyanka**	**4.37**	**219**		ePn		**Pn**	**11 32 23.3**	**+0.9**
LSTR					ePg		**Pb**	**11 32 35.1**	**+2.3**
LSTR					Pmax			11 32 45.2	
	comp=N,82nm,0.3s								
LSTR					eSn		**Sn**	**11 33 11.4**	**-2.1**
LSTR					eSg		**Sg**	**11 33 32.5**	**-3.4**
LSTR					Smax			11 33 40.2	
	comp=N,726nm,1.1s								
LSTR	**Listvyanka**	**4.37**	**219**		ePN		**Pn**	**11 32 23.3**	**+0.9**
LSTR					e			11 32 34.5	
LSTR					e			11 33 31.7	
LSTR					pmax	pmax			
	comp=Z,82nm,0.2s								
LSTR					smax	smax			
	comp=E,727nm,1.2s								
VTMR	**Vitim**	**4.49**	**22**		ePn		**Pn**	**11 32 24.8**	**+0.8**
VTMR					ePg		**Pb**	**11 32 36.8**	**+2.0**
VTMR					e			11 32 43.8	
VTMR					eSg		**Sg**	**11 33 34.4**	**-5.3**
VTMR					e			11 33 44.3	
IVK	**Ivanovka**	**4.58**	**221**		ePn		**Pn**	**11 32 25.5**	**+0.1**
IVK					ePg		**Pb**	**11 32 39.3**	**+3.0**
IVK					Pmax			11 32 51.9	
	comp=E,227nm,0.3s								
IVK					eSn		**Sn**	**11 33 16.3**	**-2.3**
IVK					eSg		**Sg**	**11 33 39.6**	**-3.0**
IVK					Smax			11 33 59.8	
	comp=E,1μm,0.8s								
IVK	**Ivanovka**	**4.58**	**221**		ePN		**Pn**	**11 32 25.4**	**+0.1**
IVK					e			11 32 39.3	
IVK					eS		**Sn**	**11 33 16.4**	**-2.2**
IVK					e			11 33 38.2	
IVK					pmax	pmax			
	comp=Z,183nm,0.3s								
IVK					smax	smax			
	comp=E,2μm,0.5s								
TLY	**Talaya**	**4.97**	**225**		ePn		**Pn**	**11 32 31.3**	**+0.6**
TLY					ePg		**Pb**	**11 32 47.0**	**+3.9**
TLY					Pmax			11 32 57.6	
	comp=E,154nm,0.7s								
TLY					eSn		**Sn**	**11 33 26.1**	**-2.3**
TLY					e			11 33 50.0	
TLY					eSg		**Sg**	**11 33 52.3**	**-3.0**
TLY					Smax			11 34 05.2	
	comp=E,841nm,0.6s								
TLY	**Talaya**	**4.97**	**225**		ePN		**Pn**	**11 32 31.0**	**+0.3**
TLY					e			11 32 47.8	
TLY					eS		**Sn**	**11 33 27.6**	**-0.8**
TLY					e			11 33 50.7	
TLY					pmax	pmax			
	comp=Z,154nm,0.7s								
TLY					smax	smax			
	comp=E,851nm,0.9s								
CRS	**Chara**	**5.26**	**69**		ePn		**Pn**	**11 32 34.7**	**-0.1**
CRS					ePg		**Pb**	**11 32 50.1**	**+2.0**
CRS					e			11 32 53.4	
CRS					e			11 32 59.0	
CRS					max			11 33 00.6	
	comp=E,334nm,0.9s								
CRS					eSg		**Sb**	**11 33 57.5**	**+6.1**
CRS					Smax			11 34 04.2	
	comp=E,1μm,1.7s								
ARS	**Arshan**	**5.33**	**233**		ePn		**Pn**	**11 32 36.4**	**+0.7**
ARS					ePg		**Pb**	**11 32 52.8**	**+3.7**
ARS					e			11 33 04.6	
ARS					max			11 33 05.6	
	comp=E,292nm,0.4s								
ARS					eSn		**Sn**	**11 33 35.8**	**-1.4**
ARS					eSg		**Sg**	**11 34 02.9**	**-3.8**
ARS					Smax			11 34 10.3	
	comp=E,3μm,0.6s								
ARS	**Arshan**	**5.33**	**233**		ePN		**Pn**	**11 32 36.6**	**+0.9**
ARS					e			11 32 52.7	
ARS					eS		**Sn**	**11 33 37.1**	**-0.1**
ARS					e			11 34 03.0	
ARS					pmax	pmax			
	comp=Z,292nm,0.6s								
ARS					smax	smax			
	comp=E,3μm,0.6s								
KPC	**Khapcheranga**	**5.94**	**160**		ePn		**Pn**	**11 32 43.5**	**-0.6**
KPC					ePg		**Pb**	**11 33 02.5**	**+2.9**
KPC					Pmax			11 33 33.7	
	comp=E,88nm,0.5s								
KPC					eSg		**Sg**	**11 34 19.3**	**-7.0**
KPC					Smax			11 34 28.1	
	comp=E,799nm,0.9s								
KPC	**Khapcheranga**	**5.94**	**160**		ePN		**Pn**	**11 32 43.5**	**-0.6**
KPC					e			11 33 02.3	
KPC					e			11 34 20.2	
KPC					pmax	pmax			
	comp=Z,68nm,0.7s								
KPC					smax	smax			
	comp=E,796nm,1.1s								
ZAK	**Zakamensk**	**6.15**	**219**		ePn		**Pn**	**11 32 48.5**	**+1.5**
ZAK					ePg		**Pb**	**11 33 07.9**	**+4.8**
ZAK					Pmax			11 33 32.0	
	comp=E,55nm,0.6s								
ZAK					e			11 34 05.5	
ZAK					eSg		**Sg**	**11 34 28.1**	**-4.9**
ZAK					Smax			11 34 33.5	
	comp=E,582nm,1.0s								
ZAK	**Zakamensk**	**6.15**	**219**		ePN		**Pn**	**11 32 47.8**	**+0.8**
ZAK					eS		**Sg**	**11 34 28.6**	**-4.4**
ZAK					smax	smax			
	comp=E,582nm,1.1s								
MOY	**Mondy**	**6.16**	**237**		ePn		**Pn**	**11 32 49.3**	**+2.1**
MOY					ePg		Pb	11 33 08.3	+4.9
MOY					Pmax			11 33 10.4	
	comp=E,97nm,0.4s								
MOY					eSn		**Sn**	**11 33 56.7**	**-1.1**
MOY					eSg		**Sg**	**11 34 28.2**	**-5.3**
MOY					Smax			11 34 36.3	
	comp=E,724nm,1.1s								
MOY	**Mondy**	**6.16**	**237**		ePN		**Pn**	**11 32 48.8**	**+1.6**
MOY					e			11 33 07.9	
MOY					eS		**Sn**	**11 33 56.5**	**-1.3**
MOY					e			11 34 28.0	
KHNR	**Khani**	**6.19**	**71**		ePg		**Pb**	**11 33 06.3**	**+2.6**
KHNR					eSg		**Sb**	**11 34 25.7**	**+7.8**
TUP	**Tupik**	**6.22**	**94**		ePn		**Pn**	**11 32 46.7**	**-1.2**
TUP					e			11 32 52.1	
TUP					ePg		**Pb**	**11 33 06.4**	**+2.1**
TUP					Pmax			11 33 08.7	
	comp=E,79nm,0.7s								
TUP					eSg		**Sg**	**11 34 27.3**	**-8.1**
TUP					Smax			11 34 36.3	
	comp=E,1μm,0.9s								
TUP	**Tupik**	**6.22**	**94**		ePN		**Pn**	**11 32 46.6**	**-1.3**
TUP					eS		**Sb**	**11 34 25.9**	**+7.1**
TUP					smax	smax			
	comp=N,1μm,0.7s								
ORL	**Orlik**	**6.26**	**247**		ePn		**Pn**	**11 32 50.6**	**+2.0**
ORL					ePg		Pb	11 33 10.4	+5.3
ORL					Pmax			11 33 14.1	
	comp=N,90nm,0.4s								
ORL					eSn		**Sn**	**11 33 57.6**	**-2.6**
ORL					eSg		**Sg**	**11 34 33.3**	**-3.3**
ORL					Smax			11 34 35.4	
	comp=N,3μm,1.2s								
ORL	**Orlik**	**6.26**	**247**		ePN		**Pn**	**11 32 50.5**	**+2.0**
ORL					e			11 33 10.2	
ORL					eS		**Sn**	**11 33 59.5**	**-0.7**
ORL					e			11 34 33.1	
ORL					pmax	pmax			
	comp=Z,109nm,0.5s								
ORL					smax	smax			
	comp=N,3μm,0.9s								
YKLR	**Yuktali**	**7.05**	**75**		ePn		**Pn**	**11 32 59.5**	**+0.2**
YKLR					ePg		**Pb**	**11 33 21.9**	**+3.4**
YKLR					eSg		Sb	11 34 52.1	+9.3
ULN	**Ulaanbaatar**	**7.60**	**191**				**Pn**	**11 33 09.1**	**+2.1**
ULN	**Ulaanbaatar**	**7.60**	**191**		PN		**Pn**	**11 33 09.1**	**+2.1**
SONM	**Songino Array**	**7.72**	**195**				**Pn**	**11 33 09.8**	**+1.2**
SONM	**Songino Array**	**7.72**	**195**		Pn		**Pn**	**11 33 10.1**	**+1.6**
	comp=N,2.2nm,0.3s,baz=10,slow=13,SNR=28								
SONM						Lg	Lg	11 35 22.4	
	comp=N,13nm,0.3s,baz=13,slow=29,SNR=10								
SONM	**Songino Array**	**7.72**	**195**		PN		**Pn**	**11 33 09.8**	**+1.2**
TDJR	**Todzha**	**8.33**	**255**		ePn		**Pn**	**11 33 18.8**	**+1.9**
TDJR					ePg		Pb	11 33 47.4	+7.1
TDJR					eSg		**Sg**	**11 35 35.4**	**-7.6**
KNGR	**Kungurtug, Tuv**	**8.53**	**241**		eSg		**Sg**	**11 35 43.0**	**-6.5**
MINR	**Mina**	**8.67**	**273**		e		**Pn**	**11 33 21.2**	**-0.2**
MINR					ePg		Pg	11 33 54.6	-7.0
MINR					eSn		**Sn**	**11 34 55.6**	**-3.6**
MINR					eSg		**Sg**	**11 35 47.8**	**-5.9**
CLNS	**Chul'man**	**8.85**	**74**		eSg		Sg	11 35 47.6	-12
KZLR	**Kyzyl**	**9.55**	**254**		eSg		Sn	11 36 13.9	+53
ZEA	**Zeya**	**10.55**	**91**		eP		**Pn**	**11 33 46.2**	**-1.0**
ZEA					pmax	pmax			
	comp=Z,10.0nm,0.8s								
ZEA					MLR	MLR			
	comp=E,300nm,8.0s								
ZEA					MLR	MLR			
	comp=Z,300nm,11.0s								
HEH	**HeiHe**	**12.07**	**107**		eP		**Pn**	**11 34 08.8**	**+0.8**
HEH					S		**Sn**	**11 36 21.4**	**-1.3**
HEH					smax	smax			
	comp=N,390nm,1.0s								
HEH					smax	smax			
	comp=E,330nm,0.8s								
YAK	**Yakutsk**	**12.51**	**49**		Pn		**Pn**	**11 34 09.4**	**-4.5**
	comp=E,4.2nm,0.3s,baz=119,slow=1.0,SNR=2.2								
YAK						Lg	Lg	11 37 40.0	
	comp=E,1.0nm,0.3s,baz=145,slow=23,SNR=5.6								
YAK						LR	LR	11 39 07.1	
	comp=E,141nm,20.1s,baz=244,slow=38								
YAK	**Yakutsk**	**12.51**	**49**		eP		Pn	11 34 07.4	-6.6
YAK					eS		**Sn**	**11 36 26.7**	**-6.7**
YAK					pmax	pmax			
	comp=Z,10.0nm,0.9s								
YAK					pmax	pmax			
	comp=N,3.0nm,0.8s								
YAK					pmax	pmax			
	comp=E,5.0nm,1.1s								
YAK					smax	smax			
	comp=E,150nm,4.5s								
YAK					smax	smax			
	comp=N,118nm,3.3s								
YAK					MLR	MLR			
	comp=Z,191nm,21.0s								
YAK					MLR	MLR			
	comp=E,138nm,22.0s								
ZAA0	**Zalesovo Array**	**14.22**	**275**				**Pn**	**11 34 38.0**	**+0.7**
ZALV	**Zalesovo Beam**	**14.22**	**275**				**Pn**	**11 34 38.0**	**+0.6**
ZALV	**Zalesovo Beam**	**14.22**	**275**		Pn		**Pn**	**11 34 38.2**	**+0.9**
	comp=E,1.1nm,0.3s,baz=77,slow=12,SNR=29								
ZALV						Lg	Lg	11 38 45.0	
	comp=E,0.4nm,0.3s,baz=82,slow=20,SNR=5.1								
ZALV						LR	LR	11 40 28.6	
	comp=E,186nm,18.5s,baz=118,slow=38								
	comp=E,6.5nm,0.5s								
HHC	**Hu-ho-hao-te**	**14.56**	**173**		eP		**Pn**	**11 34 41.4**	**-0.8**
HHC					pmax	pmax			
	comp=Z,12nm,0.5s								
HHC					pmax	pmax			
	comp=Z,140nm,4.8s								
HHC					LR	LR			
	comp=N,190nm,10.0s								
HHC					LR	LR			
	comp=E,360nm,5.0s								
HHC					LR	LR			
	comp=Z,320nm,12.9s								
WMQ	**Urumqi**	**18.04**	**239**		eP		**P**	**11 35 32.8**	**+5.5**
USRK	**Ussuriysk Ar.**	**18.32**	**118**		Lg		Lg	11 40 51.4	
	comp=Z,0.2nm,0.3s,baz=324,slow=31,SNR=6.2								
TIXI	**Tiksi**	**18.39**	**20**				**P**	**11 35 28.5**	**-2.4**
TIXI	**Tiksi**	**18.39**	**20**		P		**P**	**11 35 28.2**	**-2.6**
	comp=Z,1.3nm,0.3s,baz=271,slow=5.9,SNR=13								
TIXI						Lg	Lg	11 40 52.4	
	comp=Z,0.5nm,0.3s,baz=174,slow=19,SNR=6.7								
	comp=Z,11nm,0.6s								
TIXI	**Tiksi**	**18.39**	**20**	⇓*i*	eP		**P**	**11 35 28.0**	**-2.8**
TIXI					pmax	pmax			
	comp=Z,10.0nm,0.6s								
PSTR	**Posyet**	**18.88**	**123**	⇓*i*	eP		**P**	**11 35 35.6**	**-0.7**
MK31	**Makanchi Array**	**18.90**	**254**	*d*	iP		**P**	**11 35 36.6**	**0.0**
MKAR	**Makanchi Array**	**18.90**	**254**				**Pn**	**11 35 37.2**	**+0.1**
MKAR	**Makanchi Array**	**18.90**	**254**		P		**P**	**11 35 36.0**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=44,slow=8.7,SNR=27								
MKAR						Lg	Lg	11 41 22.5	
	comp=Z,0.1nm,0.3s,baz=35,slow=23,SNR=4.2								
MKAR

LZH					sP	sP	11 35 52.6	+4.6
LZH					pmax	pmax		
	comp=Z,31nm,1.0s							
LZH					LR	LR		
	comp=N,190nm,10.7s							
LZH					LR	LR		
	comp=E,240nm,12.4s							
LZH					LR	LR		
	comp=Z,220nm,11.2s							
LZDM	**Lanzhou Array**	**19.75**	**194**		P	**Pn**	**11 35 46.9**	**-0.9**
	baz=340,slow=8.1							
	comp=Z,2.4nm,0.4s							
XAN	**Xi'an**	**21.29**	**181**		P	**P**	**11 36 03.3**	**+0.6**
XAN					pP	sP	11 36 10.0	+3.8
XAN					pmax	pmax		
	comp=Z,17nm,0.9s							
YSS	**Yuzhno-Sakhali**	**22.42**	**98**	*eP*	P	P	11 36 05.8	-8.9
YSS					pmax	pmax		
	comp=Z,10.0nm,1.2s							
YSS					MLR	MLR		
	comp=Z,300nm,14.0s							
PDGK	**Podgornoye**	**22.64**	**250**		P	**P**	**11 36 17.9**	**+0.7**
BVA0	**Borovoye Array**	**22.69**	**280**	*i* P		**P**	**11 36 16.9**	**-0.6**
BVAR	**Borovoye Array**	**22.69**	**280**		P	**P**	**11 36 17.5**	**0.0**
	comp=Z,10nm,0.7s,baz=54,slow=7.4,SNR=17							
BVAR					LR	LR	11 46 02.6	
	comp=Z,137nm,19.5s,baz=89,slow=39							
	comp=Z,10nm,0.7s							
BORK	**Borovoye**	**22.72**	**281**	*eP*		**P**	**11 36 18.4**	**+0.5**
BORK					pmax	pmax		
	comp=Z,9.0nm,0.7s							
SEY	**Seymchan**	**22.98**	**53**	⇑*iP*		**P**	**11 36 21.1**	**+0.6**
SEY					pmax	pmax		
	comp=Z,10.0nm,1.4s							
ASAJ	**Asahikawa**	**24.04**	**104**		LR	LR	11 46 34.3	
	comp=Z,107nm,20.0s,baz=318,slow=39							
BOOM	**Boomskoye usch**	**25.13**	**253**			**P**	**11 36 44.9**	**+3.6**
BOOM					IAmb	IAmb	11 37 10.1	
	comp=Z,4.8nm,0.8s							
BOOM	**Boomskoye usch**	**25.13**	**253**		P	**P**	**11 36 44.9**	**+3.6**
BOOM					pmax	pmax		
	comp=Z,5.0nm,0.8s							
AAK	**Ala-Archa**	**25.83**	**255**		P	**P**	**11 36 51.0**	**+3.4**
AAK					IAmb	IAmb	11 36 60.0	
	comp=Z,7.4nm,1.2s							
AAK	**Ala-Archa**	**25.83**	**255**		LR	LR	11 47 33.3	
	comp=Z,138nm,19.7s,baz=42,slow=38							
AAK	**Ala-Archa**	**25.83**	**255**		P	**P**	**11 36 51.0**	**+3.4**
AAK					pmax	pmax		
	comp=Z,7.0nm,1.2s							
MAJO	**Matsushiro**	**27.21**	**122**	⇓*eP*		**P**	**11 36 57.2**	**-2.7**
MAJO					pmax	pmax		
	comp=Z,23nm,1.7s							
MJAR	**Matsushiro Arr**	**27.21**	**122**		P	**P**	**11 36 56.1**	**-3.8**
	comp=Z,0.8nm,0.5s,baz=341,slow=10,SNR=1.5							
MJAR					LR	LR	11 48 08.7	
	comp=Z,74nm,20.0s,baz=348,slow=38							
	comp=Z,0.8nm,0.5s							
KK31	**Karatay Array**	**27.75**	**260**			**P**	**11 37 08.5**	**+3.8**
KK31					IAmb	IAmb	11 37 32.4	
	comp=Z,4.0nm,0.7s							
KK31	**Karatay Array**	**27.75**	**260**		P	**P**	**11 37 08.5**	**+3.8**
KK31					pmax	pmax		
	comp=Z,4.0nm,0.7s							
KKAR	**Karatay Array**	**27.75**	**260**			**P**	**11 37 07.7**	**+3.0**
KKAR	**Karatay Array**	**27.75**	**260**		P	**P**	**11 37 07.7**	**+3.0**
PETK	**Petropavlovsk-**	**27.94**	**74**		LR	LR	11 48 50.7	
	comp=Z,88nm,19.8s,baz=307,slow=38							
ARTI	**Arti**	**28.07**	**293**		LR	LR	11 50 06.1	
	comp=Z,97nm,21.0s,baz=52,slow=40							
ARTI	**Arti**	**28.07**	**293**		P	P	11 37 14.6	+7.2
ARTI							11 38 04.0	
ARTI					MLR	MLR		
	comp=Z,184nm,14.0s							
SKR	**Severo-Kuril's**	**28.12**	**80**	*eP*		**P**	**11 37 12.3**	**+4.4**
SKR					pmax	pmax		
	comp=Z,100nm,3.8s							
SKR					MLR	MLR		
	comp=Z,100nm,16.0s							
AB31	**Akbulak array**	**30.25**	**279**		P	**P**	**11 37 28.4**	**+1.6**
AB31	**Akbulak array**	**30.25**	**279**		P	**P**	**11 37 26.0**	**-0.8**
ABKAR	**Akbulak array**	**30.25**	**279**		P	**P**	**11 37 28.6**	**+1.7**
AKTO	**Aktyubinsk**	**30.74**	**283**		LR	LR	11 51 10.4	
	comp=Z,97nm,18.6s,baz=224,slow=39							
AKTO	**Aktyubinsk**	**30.74**	**283**		P	P	11 37 41.1	+10
KIRV	**Kirov**	**31.87**	**301**		LR	LR	11 52 21.6	
	comp=Z,142nm,18.3s,baz=49,slow=40							
ARCES	**ARCESS Array B**	**37.82**	**325**		P	**P**	**11 38 31.8**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=63,slow=10,SNR=3.6							
	comp=Z,1.8nm,0.7s							
OBN	**Obninsk**	**39.72**	**301**	*eP*		**P**	**11 38 47.6**	**-0.7**
OBN				*e*			11 40 22.4	
OBN				*e*PPP		PPP	11 40 41.6	
OBN				*e*			11 40 53.5	
OBN				*e*S		**S**	**11 44 51.9**	**+0.1**
OBN				*e*SS		**SnSn**	**11 47 48.0**	**-0.8**
OBN					pmax	pmax		
	comp=Z,4.0nm,0.6s							
OBN					MLR	MLR		
	comp=Z,169nm,15.0s							
MAK	**Makhachkala**	**40.93**	**279**	*c i* P		**P**	**11 38 54.5**	**-3.9**
MAK				*e*S		**S**	**11 45 05.2**	**-4.8**
MAK				*e*SS		**SS**	**11 48 08.3**	**-2.9**
MAK					MLR	MLR		
	comp=Z,55nm,10.0s							
FINES	**FINESS Array B**	**41.23**	**314**		P	**P**	**11 39 01.4**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=45,slow=6.3,SNR=2.8							
FINES					LR	LR	11 56 47.1	
	comp=Z,56nm,18.7s,baz=118,slow=37							
	comp=Z,2.1nm,0.8s							
E21K	**Killik River**	**42.46**	**33**		P	**P**	**11 39 10.3**	**-0.5**
E21K					IAmb	IAmb	11 39 11.4	
	comp=Z,9.8nm,0.8s							
KBZ	**Khabaz**	**43.02**	**283**		LR	LR	11 59 19.8	
	comp=Z,46nm,21.0s,baz=294,slow=39							
F21K	**Alatna River**	**43.29**	**34**			**P**	**11 39 16.4**	**-1.1**
F21K					IAmb	IAmb	11 39 19.8	
	comp=Z,3.7nm,0.8s							
IMAR	**Indian Mountai**	**43.91**	**36**		P	**P**	**11 39 22.2**	**-0.3**
GNI	**Garni**	**44.34**	**278**		LR	LR	11 59 44.5	
	comp=Z,40nm,19.6s,baz=66,slow=38							
H21K	**Melozitna Rive**	**44.42**	**36**		P	**P**	**11 39 26.4**	**-0.2**
H21K					IAmb	IAmb	11 39 28.0	
	comp=Z,9.2nm,1.3s							
F24K	**Squaw Lake**	**44.87**	**32**			**P**	**11 39 28.7**	**-1.4**
F24K					IAmb	IAmb	11 39 30.5	
	comp=Z,4.8nm,0.7s							
AKASG	**Malin Array Be**	**45.90**	**299**		P	**P**	**11 39 39.3**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=49,slow=8.6,SNR=4.0							
AKASG					LR	LR	12 00 51.2	
	comp=Z,117nm,18.5s,baz=44,slow=38							
	comp=Z,0.4nm,0.3s							
AKBB	**Malin Array Si**	**45.90**	**299**	⇓*eP*		**P**	**11 39 38.8**	**+0.4**
AKBB					pmax	pmax		
	comp=Z,5.0nm,0.8s							
BMAR	**Burnt Mountain**	**45.91**	**31**		P	**P**	**11 39 37.8**	**-0.6**
H24K	**Noodor Dome**	**45.92**	**34**		P	**P**	**11 39 37.2**	**-1.3**
H24K					IAmb	IAmb	11 39 39.2	
	comp=Z,5.2nm,1.0s							
G26K	**Porcupine Rive**	**46.46**	**31**			**P**	**11 39 42.7**	**+0.1**
COLA	**College**	**46.55**	**35**		P	**P**	**11 39 43.4**	**+0.1**
COLA	**College**	**46.55**	**35**		P	**P**	**11 39 43.4**	**+0.1**
COLA					pmax	pmax		
	comp=Z,11nm,0.9s							
IL31		**46.93**	**35**		P	**P**	**11 39 46.0**	**-0.3**
ILAR	**Eielson Array**	**46.93**	**35**		P	**P**	**11 39 46.3**	**0.0**
ILAR	**Eielson Array**	**46.93**	**35**		P	**P**	**11 39 45.8**	**-0.6**
	comp=Z,4.7nm,0.9s,baz=301,slow=6.8,SNR=45							
ILAR					PcP	**PcP**	**11 41 17.4**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=320,slow=5.3,SNR=2.9							
ILAR					LR	LR	12 00 39.1	
	comp=Z,30nm,18.1s,baz=211,slow=38							
	comp=Z,4.7nm,0.9s							
HFS	**Hagfors**	**46.96**	**317**		P	**P**	**11 39 49.5**	**+2.8**
	comp=Z,2.9nm,0.6s,baz=69,slow=7.9,SNR=5.6							
	comp=Z,2.9nm,0.6s							
NOA	**NORSAR Array B**	**47.33**	**319**		P	**P**	**11 39 52.4**	**+2.8**
	comp=Z,1.3nm,0.7s,baz=48,slow=7.3,SNR=7.6							
NOA					LR	LR	12 01 12.4	
	comp=Z,28nm,18.6s,baz=325,slow=38							
	comp=Z,1.3nm,0.7s							
BCAR	**Beaver Creek A**	**49.74**	**34**		P	**P**	**11 40 07.9**	**-0.3**
BRTR	**Keskin Array B**	**50.84**	**285**		P	**P**	**11 40 18.4**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=79,slow=6.5,SNR=8.1							
	comp=Z,0.6nm,0.7s							
MLR	**Muntele Rosu**	**50.96**	**296**		LR	LR	12 04 12.8	
	comp=Z,71nm,18.9s,baz=40,slow=39							
VRAC	**Vranov**	**52.93**	**305**		LR	LR	12 05 23.0	
	comp=Z,71nm,19.1s,baz=52,slow=38							
BORG	**Borgarnes**	**54.43**	**336**		LR	LR	12 05 22.4	
	comp=Z,44nm,19.6s,baz=348,slow=38							
GERES	**GERESS Array B**	**54.60**	**306**		LR	LR	12 06 33.3	
	comp=Z,94nm,19.6s,baz=38,slow=39							
MMAI	**Mount Meron Ar**	**54.67**	**278**		LR	LR	12 07 37.9	
	comp=Z,36nm,19.4s,baz=55,slow=40							
EKA	**Eskdalemuir Ar**	**56.72**	**321**		P	**P**	**11 41 03.5**	**+4.0**
	comp=Z,2.6nm,0.8s,baz=54,slow=6.2,SNR=5.8							
DAVOX	**Davos/Dischmat**	**57.87**	**307**		LR	LR	12 09 34.1	
	comp=Z,86nm,18.9s,baz=83,slow=40							
NRCA	**Norcia**	**59.29**	**302**		P	**P**	**11 41 20.1**	**+2.3**
ESDC	**Sonseca Array**	**69.66**	**311**		P	**P**	**11 42 27.6**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=55,slow=4.9,SNR=2.6							
	comp=Z,0.2nm,0.4s							
PDAR	**Pinedale Array**	**76.85**	**28**		P	**P**	**11 43 07.6**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=320,slow=7.1,SNR=2.2							
	comp=Z,0.3nm,0.7s							
WB0	**Warramunga Arr**	**77.79**	**156**		P	**P**	**11 43 12.1**	**-1.3**
WRA	**Warramunga Arr**	**77.94**	**156**		P	**P**	**11 43 13.4**	**-0.8**
WRA	**Warramunga Arr**	**77.94**	**156**		P	**P**	**11 43 12.9**	**-1.3**
	comp=Z,1.4nm,0.6s,baz=348,slow=6.0,SNR=11							
	comp=Z,1.4nm,0.6s							
WRA	**Warramunga Arr**	**77.94**	**156**		P	**P**	**11 43 13.4**	**-0.8**
WR8	**Warramunga Arr**	**78.00**	**156**		P	**P**	**11 43 13.6**	**-0.9**
WR8					IAmb	IAmb	11 43 14.0	
	comp=Z,5.4nm,1.1s							
NVAR	**Mina Array Bea**	**78.15**	**36**		P	**P**	**11 43 14.6**	**-1.1**
NVAR	**Mina Array Bea**	**78.15**	**36**		P	**P**	**11 43 13.9**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=317,slow=6.1,SNR=4.1							
	comp=Z,0.6nm,0.7s							
AS31	**Alice Springs**	**81.44**	**157**		P	**P**	**11 43 32.1**	**-1.0**
ASAR	**Alice Springs**	**81.44**	**157**		P	**P**	**11 43 32.0**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=352,slow=5.2,SNR=17							
	comp=Z,0.7nm,0.6s							
TORD	**Torodi Ar. Bea**	**89.02**	**292**		P	**P**	**11 44 13.5**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=26,slow=5.9,SNR=3.8							
	comp=Z,0.4nm,0.7s							
QSPA	**South Pole Qui**	**145.09**	**180**		PKP	**PKPdf**	**11 50 52.2**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=333,slow=0.6,SNR=15							
SNAA	**Sanae**	**147.84**	**213**		PKPbc	**PKPbc**	**11 50 58.6**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=174,slow=2.7,SNR=5.1							

*NEIC **23** 11:35:50.0±1.5, 38°.35N±0°.01×115°.83W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.7km az=238.0*
REN 23 11:35:50.4±1.7, 38°.36N±0°.01×115°.82W±0°.01, h6km±5km, ML2.8/12, ML2.4/46(NEIC), Error ellipse: s-maj=2.1km s-min=1.4km az=197.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R11B	**Troy Canyon, C**	**0.18**	**93**	Pg	Pg	11 35 54.1	+0.1
R11B				IAML		11 35 57.4	
	comp=N,537nm,0.2s						
S11A	**Rachel**	**0.71**	**176**		Pg	11 36 04.1	0.0
S11A				IAML		11 36 15.1	
	comp=E,276nm,0.4s						
S11A				IAML		11 36 18.7	
	comp=N,227nm,0.5s						
S11A	**Rachel**	**0.71**	**176**		Sg	11 36 14.1	+0.6
Q12A	**Willow Creek R**	**1.03**	**48**		Pg	11 36 10.4	+0.3
Q12A					Sg	11 36 23.4	-0.1
PRN	**Pahroc Range**	**1.13**	**147**		Pg	11 36 11.5	-0.5
PRN				IAML		11 36 29.3	
	comp=N,168nm,0.4s						
PRN				IAML		11 36 33.7	
	comp=E,124nm,0.6s						
TPH	**Tonopah**	**1.14**	**256**		Pg	11 36 11.3	-1.0
TPH				IAML		11 36 30.1	
	comp=E,189nm,0.4s						
TPH	**Tonopah**	**1.14**	**256**		Sg	11 36 26.4	-0.8
Q09A	**Carvers**	**1.17**	**294**		Pg	11 36 12.3	-0.5
Q09A	**Carvers**	**1.17**	**294**		Sg	11 36 27.9	-0.1
SPR3	**Spring Creek 3**	**1.33**	**61**		Pn	11 36 14.1	-1.7
SPR3				IAML		11 36 33.1	
	comp=N,58nm,0.6s						
SPR3				IAML		11 36 33.4	
	comp=E,83nm,0.6s						
TPNV	**Topopah Spring**	**1.45**	**194**		Pn	11 36 16.5	-0.9
TPNV				IAML		11 36 38.1	
	comp=E,97nm,0.4s						
TPNV				IAML		11 36 43.1	
	comp=E,79nm,0.4s						
GMN	**Gold Mountain**	**1.56**	**228**		Pn	11 36 18.1	-0.8
GMN				IAML		11 36 41.9	
	comp=N,38nm,0.3s						
GMN				IAML		11 36 43.6	
	comp=E,31nm,0.5s						
NSP	**Numbskull Pass**	**1.66**	**191**		Pn	11 36 19.2	-0.9
SGV	**South Grapevin**	**1.68**	**215**		Pn	11 36 19.6	-0.9
WCT	**Wildcat Mounta**	**1.69**	**203**		Pn	11 36 20.5	0.0
WCT				IAML		11 36 46.5	
	comp=E,25nm,0.5s						
WCT				IAML		11 36 46.9	
	comp=N,21nm,0.5s						
MCY	**Mercury**	**1.70**	**184**		Pb	11 36 21.5	-0.6
SDH	**Striped Hills**	**1.76**	**194**		Pn	11 36 22.2	+0.7
LCH	**Last Change Ra**	**1.83**	**233**		Pn	11 36 23.0	+0.4
NV11	**Mina Array Sit**	**1.84**	**273**		Pn	11 36 22.2	-0.5
NV11				IAML		11 36 50.1	
	comp=N,30nm,0.8s						
NV11				IAML		11 36 50.3	
	comp=E,33nm,0.4s						
SHPR	**Sheep Range**	**1.92**	**164**	Pn	Pn	11 36 22.7	-1.1
AMDNV	**Amargosa**	**1.94**	**191**		Pb	11 36 25.5	-0.6
NVAR	**Mina Array Bea**	**1.96**	**273**		Pn	11 36 22.6	-1.8
NV08	**Mina Array Sit**	**1.97**	**272**		Pn	11 36 23.6	-0.9
NV09	**Mina Array Sit**	**1.98**	**273**		Pb	11 36 26.1	-0.9
FURC	**Furnace Creek,**	**2.06**	**204**		Pb	11 36 27.5	-0.7
CCUT	**Cedar City**	**2.10**	**112**		Pn	11 36 26.2	-0.1
LHV	**Little Huntoon**	**2.12**	**268**		Pb	11 36 28.5	-0.6
LHV	**Little Huntoon**	**2.12**	**268**	IAML		11 36 59.8	
	comp=N,57nm,0.4s						
RYN	**Ryan**	**2.14**	**278**	Pn	Pn	11 36 26.4	-0.5
RYN				IAML		11 37 00.5	
	comp=E,59nm,0.4s						
ELK	**Elko**	**2.42**	**10**	Pn	Pn	11 36 30.0	-0.8
LCMT	**Little Creek M**	**2.44**	**123**		Pb	11 36 35.2	+0.4
KNB	**Kanab**	**2.73**	**119**		Pb	11 36 39.4	-0.3
KNB	**Kanab**	**2.73**	**119**	IAML		11 37 24.7	
	comp=N,9.6nm,2.4s						
V12A	**Nelson**	**2.74**	**163**	Pn	Pn	11 36 34.8	-0.2
V12A				IAML		11 37 19.3	
	comp=E,7.8nm,3.3s						

*IDC **23** 11:51:37.8±2.8, 17°.03S×167°.56E, h0km, mb3.9/4, mbtmp3.9/5, ML3.6/1, MS2.3/1, Error ellipse: s-maj=57.8km s-min=33.7km az=42.0*
*NEIC **23** 11:51:38.8±0.9, 16°.90S±0°.04×167°.7E±0°.3, h11km±8km, mb4.4/5, Error ellipse: s-maj=36.8km s-min=3.8km az=84.0*
*NOU **23** 11:51:38.3, 16°.95S×167°.75E, h0km, MLv4.5/15, Vanuatu Islands*
ISC 23 11:51:38.7±0.8, 17°.02S±0°.05×167°.67E±0°.09, h10km, n25, σ1§34/28, mb4.3/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.85**	**145**	P	**Pb**	**11 51 55.8**	**+0.2**
RTV	**Rentapao**	**1.05**	**137**	P	**Pg**	**11 51 58.6**	**-0.3**
RTV	**Rentapao**	**1.05**	**137**	S	**Sn**	**11 52 13.7**	**-0.5**
SANVU	**Saraoutou**	**1.63**	**344**		**Pn**	**11 52 05.7**	**-1.8**
SANVU	**Saraoutou**	**1.63**	**344**	P	**Pn**	**11 52 06.2**	**-1.2**
SANVU	**Saraoutou**	**1.63**	**344**	S	**Sn**	**11 52 29.4**	**+0.9**
KOUNC	**Koumac, New Ca**	**4.75**	**222**	P	**Pn**	**11 52 52.5**	**+2.1**
YATNC	**Mamie plateau,**	**5.06**	**188**	P	**Pn**	**11 52 55.7**	**+1.0**
DZM	**Mont Dzumac**	**5.15**	**193**		**Pn**	**11 52 57.4**	**+1.4**
DZM					**Sn**	**11 53 56.2**	**+0.6**
DZM	**Mont Dzumac**	**5.15**	**193**	Pn	**Pn**	**11 52 57.3**	**+1.4**
	2.2nm,0.3s,baz=45,slow=8.7,SNR=102						
DZM				Sn	**Sn**	**11 53 54.5**	**-1.1**
	13nm,0.3s,baz=310,slow=22,SNR=20						
DZM				LR	LR	11 53 55.2	
	comp=Z,34nm,20.2s,baz=5.0,slow=27						
	10nm,0.4s						
DZM	**Mont Dzumac**	**5.15**	**193**	P	**Pn**	**11 52 57.0**	**+1.0**
ONTNC	**Ouen Toro**	**5.38**	**192**	Pn	**Pn**	**11 53 00.7**	**+1.6**
ONTNC					**Sn**	**11 53 59.9**	**-1.2**
ONTNC	**Ouen Toro**	**5.38**	**192**	P	**Pn**	**11 53 01.3**	**+2.3**
PINNC	**Pines Island,**	**5.56**	**182**	Pn	**Pn**	**11 53 03.6**	**+2.0**
PINNC	**Pines Island,**	**5.56**	**182**	P	**Pn**	**11 53 03.5**	**+2.0**
NGOA	**Tingoa Renbel**	**9.16**	**305**	P	**Pn**	**11 53 52.6**	**+1.6**
WR8	**Warramunga Arr**	**31.56**	**259**	P	**P**	**11 58 01.2**	**-0.4**
WR8				IAmb	IAmb	11 58 07.8	
	comp=Z,5.5nm,1.4s						
WB0	**Warramunga Arr**	**31.67**	**260**	P	**P**	**11 58 01.9**	**-0.6**
WB0				IAmb	IAmb	11 58 10.8	
	comp=Z,8.2nm,1.4s						
WRA	**Warramunga Arr**	**31.71**	**260**	P	**P**	**11 58 02.5**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=81,slow=6.1,SNR=1.5						
	comp=Z,0.2nm,0.5s						
AS31	**Alice Springs**	**32.28**	**253**	P	**P**	**11 58 08.0**	**+0.1**
ASAR	**Alice Springs**	**32.29**	**253**	P	**P**	**11 58 07.8**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=78,slow=8.7,SNR=72						
	comp=Z,2.8nm,0.6s						
VNDA	**Vanda**	**60.59**	**181**	P	**P**	**12 01 48.5**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=1.2,slow=4.5,SNR=2.4						
	comp=Z,0.7nm,0.9s						
QSPA	**South Pole Qui**	**73.02**	**180**	P	**P**	**12 03 10.2**	**+1.6**
QSPA				IAmb	IAmb	12 03 11.3	
	comp=Z,6.0nm,1.1s						
QSPA	**South Pole Qui**	**73.02**	**180**	P	**P**	**12 03 09.9**	**+1.2**
	comp=Z,3.6nm,0.8s,baz=341,slow=0.8,SNR=25						
	comp=Z,3.6nm,0.8s						
BELA	**Belgrano 2**	**84.42**	**175**	P	**P**	**12 04 09.5**	**-1.5**

*IDC **23** 12:03:60.0±1.0, 28°.27N×57°.28E, h0km, mb3.9/16, mbtmp3.9/17, ML3.7/1, MS2.8/6, Error ellipse: s-maj=24.0km s-min=16.8km az=178.0*
*TEH **23** 12:04:03.6, 28°.47N×57°.37E, h8km±21km*
*DSN **23** 12:04:04.8±1.4, 28°.42N×57°.18E, h15km, ML3.4/12, Error ellipse: s-maj=20.9km s-min=12.6km az=96.0*
*OMAN **23** 12:04:06.2±1.2, 28°.20N×57°.14E, h10km, mb4.8/10, ml3.8/19, Error ellipse: s-maj=10.0km s-min=6.6km az=24.0*
ISC 23 12:04:05.3±1.1, 28°.43N±0°.03×57°.32E±0°.04, h32km±8km, n99, σ1§81/125, mb3.8/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.59**	**145**	Pg	**Pb**	**12 04 15.5**	**-1.8**
KHNJ				Sg	**Sb**	**12 04 24.3**	**-1.2**
IBND	**Bandar-abas**	**1.20**	**215**	Pg	**Pb**	**12 04 27.9**	**+0.5**
IBND				Sg	**Sb**	**12 04 45.9**	**+3.3**
KBAM	**BAM**	**1.22**	**55**	Pg	**Pn**	**12 04 25.7**	**-0.5**
NGRK	**Negar Kerman**	**1.31**	**337**	Pg	**Pb**	**12 04 28.5**	**-1.1**
CHMN	**Cheshme madani**	**1.44**	**8**	Pg	**Pb**	**12 04 30.5**	**-1.3**
GENO	**Geno**	**1.44**	**225**	Pg	**Pb**	**12 04 31.5**	**-0.2**
KRBR	**Kerman**	**1.62**	**343**	Pg	**Pb**	**12 04 33.7**	**-1.1**
KRM1	**Kerman Provinc**	**2.06**	**359**	Pn	**Pb**	**12 04 40.5**	**-1.8**
KHGB	**Koh Gabri**	**2.07**	**339**	Pn	**Pb**	**12 04 40.9**	**-1.5**
SHME	**Shamm**	**2.59**	**204**	P	**Pn**	**12 04 46.1**	**+1.1**
	SNR=15						
SHME				S	**Sn**	**12 05 16.3**	**+1.0**
SHME	**Shamm**	**2.59**	**204**	*eP*	**Pn**	**12 04 45.9**	**+0.9**
	SNR=15						
SHME				S	**Sn**	**12 05 16.4**	**+1.0**
BANOM	**Banah**	**2.66**	**200**	P	**Pn**	**12 04 47.1**	**+1.2**
BANOM				S	**Sn**	**12 05 18.5**	**+1.5**
BANOM	**Banah**	**2.66**	**200**	*eP*	**Pn**	**12 04 46.9**	**+1.0**
	SNR=39						
BANOM				S	**Sn**	**12 05 19.1**	**+2.1**
LAR1	**LAR**	**2.71**	**254**	Pn	**Pb**	**12 04 50.4**	**-2.7**
MASF	**Masafi**	**3.22**	**199**	P	**Pn**	**12 04 55.3**	**+1.7**
MASF				S	**Sn**	**12 05 31.4**	**+0.5**
MSFE	**Esma-Masafi**	**3.23**	**199**	P	**Pn**	**12 04 54.1**	**+0.4**
ZHSF	**Zahedan**	**3.25**	**68**	Pn	**Pn**	**12 04 55.9**	**+1.8**
MDH	**Madha**	**3.25**	**197**	P	**Pn**	**12 04 54.1**	**+0.1**
MDH				S	**Sn**	**12 05 31.7**	**+0.1**
MDH	**Madha**	**3.25**	**197**	P	**Pn**	**12 04 53.9**	**-0.1**
UMQ	**Umm Al-Quwin**	**3.25**	**207**	P	**Pn**	**12 04 56.2**	**+2.2**
UOSS	**Minazif**	**3.61**	**196**	P	**Pn**	**12 04 59.9**	**+0.9**
UOSS				S	**Sn**	**12 05 40.1**	**-0.5**
UOSS	**Minazif**	**3.61**	**196**	P	**Pn**	**12 05 00.2**	**+1.2**
NAZ	**Nazwa, Dubai**	**3.73**	**204**	P	**Pn**	**12 05 02.3**	**+1.6**
NAZ				S	**Sn**	**12 05 43.3**	**-0.3**
HATD	**Hatta, Dubai**	**3.74**	**197**	P	**Pn**	**12 05 02.1**	**+1.2**
HATD	**Hatta, Dubai**	**3.74**	**197**	P	**Pn**	**12 05 02.2**	**+1.3**
NHDN	**Nehbandan**	**3.79**	**38**	Pn	**Pn**	**12 05 03.3**	**+1.8**
BSRN	**Basiran**	**3.85**	**23**	Pn	**Pn**	**12 05 04.2**	**+1.8**
ASHO	**Ashiyiah**	**3.90**	**197**	P	**Pn**	**12 05 05.1**	**+2.1**
	SNR=17						
ASHO	**Ashiyiah**	**3.90**	**197**	*i* P	**Pn**	**12 05 04.4**	**+1.5**
	SNR=17						
FAQ	**Al Faqa, Dubai**	**3.98**	**203**	P	**Pn**	**12 05 06.4**	**+2.2**
FAQ				S	**Sn**	**12 05 50.6**	**+0.9**
FAQ	**Al Faqa, Dubai**	**3.98**	**203**	P	**Pn**	**12 05 05.9**	**+1.8**
ASUD	**Al Ashush, Dub**	**

SNR=12

GNI Garni 15.62 322 LR LR 12 13 59.0
comp=Z,22nm,19.4s,baz=61,slow=38

ASF Jabal al Asfar 18.02 287 LR LR 12 16 07.8
comp=Z,26nm,18.8s,baz=85,slow=40

MMAI Mount Meron Ar 19.38 289 LR LR 12 17 43.2
comp=Z,34nm,18.8s,baz=156,slow=42

AAK Ala-Archa 19.85 40 P **Pn 12 08 35.9 +0.5**
0.2nm,0.3s,baz=225,slow=4.3,SNR=5.2

AAK LR LR 12 17 12.8
comp=Z,29nm,20.2s,baz=288,slow=40
2.4nm,0.6s

AKTO Aktyubinsk 21.98 1 P **P 12 08 58.4 +2.0**
3.3nm,0.7s,baz=200,slow=8.9,SNR=9.0
3.3nm,0.7s

BRTR Keskin Array B 22.55 306 P **P 12 09 04.0 +1.2**
2.8nm,0.7s,baz=113,slow=12,SNR=14
2.8nm,0.7s

BVAR Borovoye Array 26.41 18 P **P 12 09 40.1 +1.4**
1.6nm,0.7s,baz=172,slow=11,SNR=5.6

BVAR LR LR 12 21 41.3
comp=Z,40nm,20.6s,baz=192,slow=40
1.6nm,0.7s

MKAR Makanchi Array 26.79 40 P **P 12 09 42.1 -0.2**
0.6nm,0.4s,baz=225,slow=8.0,SNR=2.3
0.6nm,0.4s

KURBB Kurchatov Arra 27.36 30 P **P 12 09 48.6 +1.3**
0.8nm,0.7s,baz=228,slow=8.6,SNR=11
0.8nm,0.7s

ZALV Zalesovo Beam 32.46 31 P **P 12 10 33.5 +1.1**
3.2nm,0.6s,baz=239,slow=9.1,SNR=12

ZALV PcP **PcP 12 13 17.9 -1.0**
0.6nm,0.4s,baz=308,slow=3.5,SNR=2.3
3.2nm,0.6s

FINES FINESS Array B 39.00 337 P **P 12 11 27.7 -0.6**
2.0nm,0.8s,baz=161,slow=8.8,SNR=5.0
2.0nm,0.8s

GERES GERESS Array B 39.03 314 P **P 12 11 29.0 0.0**
0.3nm,0.3s,baz=98,slow=9.6,SNR=4.6
0.3nm,0.3s

CMAR Chiang Mai Arr 39.29 95 LR LR 12 31 07.1
comp=Z,6.6nm,20.6s,baz=335,slow=41

SONM Songino Array 42.38 49 P **P 12 11 57.2 +0.5**
1.6nm,0.8s,baz=256,slow=8.8,SNR=6.0
1.6nm,0.8s

HFS Hagfors 43.19 330 P **P 12 12 02.4 -0.4**
0.7nm,0.5s,baz=128,slow=12,SNR=4.4
0.7nm,0.5s

ESDC Sonseca Array 51.11 300 P **P 12 13 04.3 -0.7**
0.7nm,0.5s,baz=80,slow=7.4,SNR=7.6
0.7nm,0.5s

TORD Torodi Ar. Bea 53.74 266 P **P 12 13 24.4 -0.3**
1.1nm,0.5s,baz=55,slow=7.5,SNR=7.2
1.1nm,0.5s

KSRS Korea Array 58.70 61 P **P 12 13 58.6 -1.2**
2.5nm,0.6s,baz=280,slow=7.0,SNR=9.5
2.5nm,0.6s

ILAR Eielson Array 85.20 10 P **P 12 16 37.6 -0.5**
0.2nm,0.5s,baz=342,slow=6.5,SNR=2.6
0.2nm,0.5s

WRA Warramunga Arr 88.54 114 P **P 12 16 55.3 +0.2**
0.2nm,0.4s,baz=315,slow=4.3,SNR=2.3
0.2nm,0.4s

ASAR Alice Springs 90.10 117 P **P 12 17 03.0 +0.6**
1.3nm,0.6s,baz=306,slow=4.9,SNR=39
1.3nm,0.6s

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*RHSSO **23** 12:14:37.2±0.2,43.09N×17.83E,h7km±2km,ML3.1/9*
*PDG **23** 12:14:37.6±0.1,43.02N×17.84E,h11km,MD3.2/3,*
ML3.1/11,Error ellipse: s-maj=0.4km s-min=0.6km az=0.0
*BEO **23** 12:14:39.3±0.3,43.22N×18.05E,h0km,ML2.8/8*
*VIE **23** 12:14:42.4±0.8,43.49N×18.09E,h10km,mb2.8/6,ml2.7/5,*
ms3.3/1,Error ellipse: s-maj=19.4km s-min=6.1km az=53.0
47 km SW of Sarajevo

ISC 23 12:14:37.4±1.0,43.08N±0.02×17.85E±0.02,h10km±8km,
n76,σ1§25/133,5C-9D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.23**	**208**	⇓*i* Pg	**Pg**	**12 14 42.1**	**0.0**
STON				*e* Sg	**Sg**	**12 14 46.2**	**+0.8**
STON	**Ston**	**0.23**	**208**	*i* Pg	**Pg**	**12 14 42.1**	**0.0**
STON				Sg	**Sg**	**12 14 46.2**	**+0.8**
DBRK	**Dubrovnik**	**0.47**	**152**	*e* Pg	**Pb**	**12 14 46.3**	**-1.4**
DBRK				Sg	**Sb**	**12 14 53.8**	**-0.9**
TREB	**Trebinje**	**0.52**	**134**	⇓*i* Pg	**Pg**	**12 14 46.8**	**-0.6**
TREB				*e* Sg	**Sb**	**12 14 55.1**	**-1.0**
TREB	**Trebinje**	**0.52**	**134**	*e* Pg	**Pb**	**12 14 47.0**	**-1.6**
TREB				*e* Sg	**Sb**	**12 14 55.5**	**-0.6**
BRY	**Bratogost**	**0.54**	**109**	*e* Pg	**Pg**	**12 14 47.4**	**-0.4**
BRY				*i* Sg	**Sb**	**12 14 55.9**	**-1.0**
KLINJ	**Klinje**	**0.55**	**80**	*e* Pg	**Pg**	**12 14 47.3**	**-0.7**
KLINJ				*e* Sg	**Sg**	**12 14 56.2**	**+0.9**
MAKA	**Makarska**	**0.64**	**289**	*e* Pg	**Pg**	**12 14 48.3**	**-1.4**
MAKA				Sg	**Sg**	**12 14 58.1**	**0.0**
RICI	**Ricice**	**0.67**	**309**	*e* Pg	**Pg**	**12 14 48.8**	**-1.5**
RICI				Sg	**Sg**	**12 14 58.3**	**-0.7**
LSTV	**Lastovo**	**0.77**	**246**	*e* Pg	**Pb**	**12 14 51.7**	**-1.1**
LSTV				Sg	**Sb**	**12 15 02.2**	**-1.1**
UPM	**Unac-Piva**	**0.78**	**81**	*e* Pg	**Pg**	**12 14 52.2**	**-0.3**
UPM				*i* Sg	**Sb**	**12 15 05.2**	**+1.2**
HCY	**Herceg Novi**	**0.79**	**143**	*e* Pg	**Pb**	**12 14 51.5**	**-1.7**
HCY				*i* Sg	**Sb**	**12 15 03.3**	**-0.7**
NKME	**Niksic**	**0.87**	**111**	⇓*i* Pg	**Pg**	**12 14 53.6**	**-0.5**
NKME				*i* Sg	**Sb**	**12 15 07.0**	**+0.7**
CEME	**Cevo**	**0.95**	**124**	*e* Pg	**Pg**	**12 14 54.7**	**-1.0**
CEME				*i* Sg	**Sn**	**12 15 09.2**	**-1.4**
BUM	**Brajici-Budva**	**1.10**	**135**	*e* Pg	**Pg**	**12 14 57.2**	**-1.2**
BUM				*i* Sg	**Sn**	**12 15 13.9**	**-0.2**
PDG	**Podgorica**	**1.22**	**122**	⇓P	**Pn**	**12 15 00.6**	**+0.1**
PDG	**Podgorica**	**1.22**	**122**	*e* Pg	**Pn**	**12 15 00.6**	**+0.1**
PDG				*e* Sg	**Sn**	**12 15 18.3**	**+1.1**
PDG	**Podgorica**	**1.22**	**122**	*e* Pg	**Pg**	**12 14 59.4**	**-1.4**
PDG				*i* Sg	**Sn**	**12 15 18.5**	**+1.4**
RUDO	**Rudo**	**1.23**	**64**	*e* Pg	**Pn**	**12 14 59.2**	**-1.5**
RUDO				*e* Sg	**Sb**	**12 15 16.1**	**-0.7**
RUDO	**Rudo**	**1.23**	**64**	*e* Pg	**Pn**	**12 14 59.4**	**-1.3**
RUDO	**Rudo**	**1.23**	**64**	*e* Pg	**Pn**	**12 14 59.6**	**-1.1**
KOME	**Kolasin**	**1.25**	**100**	*e* Pn	**Pn**	**12 15 01.7**	**+0.7**
KOME	**Kolasin**	**1.25**	**100**	⇓*i* Pg	**Pg**	**12 15 00.7**	**-0.6**
KOME				*i* Sg	**Sn**	**12 15 20.0**	**+2.1**
DRME	**Dracevica, Mon**	**1.33**	**132**	*e* Pg	**Pg**	**12 15 01.7**	**-1.2**
DRME				*i* Sg	**Sn**	**12 15 21.8**	**+2.0**
BBLS	**Lazi&#263i**	**1.38**	**55**	*e* Pn	**Pn**	**12 15 02.9**	**+0.1**
BBLS				*e* Sn	**Sn**	**12 15 17.4**	**-3.8**
KIJV	**Kijevo**	**1.40**	**312**	⇑*i* Pg	**Pn**	**12 15 01.7**	**-1.3**
KIJV				*e* Sg	**Sn**	**12 15 21.7**	**+0.1**
KIJV	**Kijevo**	**1.40**	**312**	*e* Pg	**Pn**	**12 15 03.9**	**+0.9**
KIJV				Sg	**Sn**	**12 15 22.2**	**+0.7**
BEY	**Berane**	**1.52**	**97**	*e* Pg	**Pg**	**12 15 06.9**	**+0.5**
IVA	**Berane**	**1.52**	**97**	*e* Pg	**Pb**	**12 15 05.7**	**+0.1**
IVA				*i* Sg	**Sg**	**12 15 28.4**	**+2.3**
ULC	**Ulcinj**	**1.52**	**137**	*e* Pg	**Pb**	**12 15 04.4**	**-1.3**
ULC				*i* Sg	**Sg**	**12 15 27.3**	**+1.1**
SJES	**Sjenica**	**1.57**	**83**	*e* Pn	**Pb**	**12 15 07.1**	**+0.6**
SJES				*e* Sg	**Sn**	**12 15 25.1**	**-0.7**
PVY	**Plav**	**1.63**	**107**	*e* Pg	**Pg**	**12 15 08.7**	**+0.1**
ZIRJ	**Zirje**	**1.71**	**290**	*e* Pn	**Pn**	**12 15 07.3**	**+0.1**
ZIRJ				Sn	**Sn**	**12 15 30.3**	**+1.2**
BLY	**Banja Luka**	**1.74**	**344**	*e* Pn	**Pn**	**12 15 07.5**	**-0.1**
BLY				*e* Sn	**Sn**	**12 15 30.2**	**+0.3**
BLY	**Banja Luka**	**1.74**	**344**	⇓P	**Pn**	**12 15 08.6**	**+0.9**
BLY	**Banja Luka**	**1.74**	**344**	*e* Pg	**Pn**	**12 15 08.8**	**+1.2**
BLY				*e* Sg	**Sn**	**12 15 33.3**	**+3.4**
MORI	**Morici**	**1.75**	**298**	*e* Pn	**Pn**	**12 15 08.0**	**+0.3**
MORI				Sn	**Sn**	**12 15 31.8**	**+1.7**
IVAS	**Ivanjica**	**1.75**	**73**	*e* Pn	**Pn**	**12 15 08.8**	**+0.9**
IVAS				*e* Sn	**Sn**	**12 15 31.3**	**+0.9**
DIVS	**Divibare**	**1.86**	**56**	*e* Pn	**Pn**	**12 15 10.2**	**+0.8**
DIVS				*e* Sn	**Sn**	**12 15 32.8**	**-0.3**
UDBI	**Udbina**	**2.09**	**315**	*e* Pn	**Pn**	**12 15 14.5**	**+1.9**
UDBI				Sn	**Sn**	**12 15 39.9**	**+1.2**
TRUS	**Trudelj**	**2.18**	**58**	*e* Pn	**Pn**	**12 15 14.7**	**+0.9**
TRUS				*e* Sn	**Sn**	**12 15 40.1**	**-0.7**
DUGI	**Dugi Otok**	**2.22**	**295**	*e* Pn	**Pn**	**12 15 15.8**	**+1.4**
DUGI				Sn	**Sn**	**12 15 42.7**	**+0.8**
GRUS	**Gruza**	**2.24**	**68**	*e* Pn	**Pn**	**12 15 15.3**	**+0.8**
GRUS				*e* Sn	**Sn**	**12 15 40.4**	**-1.8**
GOCS	**Kraljevo Serbi**	**2.26**	**77**	*e* Pn	**Pn**	**12 15 16.1**	**+1.2**
GOCS				*e* Sn	**Sn**	**12 15 43.5**	**+0.6**
VIRC	**Vir**	**2.36**	**302**	*e* Pn	**Pn**	**12 15 18.1**	**+1.9**
VIRC				Sn	**Sn**	**12 15 46.8**	**+1.6**
SELS	**Selova**	**2.40**	**86**	*e* Pn	**Pn**	**12 15 18.2**	**+1.4**
SELS				*e* Sn	**Sn**	**12 15 47.8**	**+1.6**
PLIT	**Plitvice**	**2.41**	**319**	*e* Pn	**Pn**	**12 15 18.7**	**+1.8**
PLIT				Sn	**Sn**	**12 15 48.2**	**+1.6**
AVAS	**Avala Beograd**	**2.52**	**49**	*e* Pn	**Pn**	**12 15 19.5**	**+1.1**
AVAS				*e* Sn	**Sn**	**12 15 48.2**	**-0.9**
NVLJ	**Novalja**	**2.62**	**306**	*e* Pn	**Pn**	**12 15 21.0**	**+1.3**
NVLJ				Sn	**Sn**	**12 15 53.0**	**+1.5**
MOSL	**Moslavina**	**2.65**	**343**	*e* Pn	**Pn**	**12 15 20.5**	**+0.3**
MOSL				*e* Sn	**Sn**	**12 15 52.2**	**-0.3**
BOVS	**Bovan**	**2.87**	**78**	⇓P	**Pn**	**12 15 24.1**	**+0.9**
BOVS	**Bovan**	**2.87**	**78**	*e* Pn	**Pn**	**12 15 25.7**	**+2.5**
BOVS				*e* Sn	**Sn**	**12 15 56.7**	**-1.1**
BARS	**Barje**	**2.92**	**94**	*e* Pn	**Pn**	**12 15 25.4**	**+1.4**
BARS				*e* Sn	**Sn**	**12 15 58.7**	**-0.5**
OZLJ	**Ozalj**	**3.06**	**327**	*e* Pn	**Pn**	**12 15 25.6**	**-0.1**
OZLJ				*e* Sn	**Sn**	**12 16 01.8**	**-0.6**
BOJS	**Bojanci**	**3.06**	**323**	*e* Pn	**Pn**	**12 15 27.0**	**+1.2**
BORS2	**Bor- Borsko je**	**3.19**	**70**	*e* Pn	**Pn**	**12 15 27.5**	**-0.2**
BORS2				*e* Sn	**Sn**	**12 16 04.4**	**-1.4**
MDVR	**Moldovita**	**3.27**	**57**	⇓P	**Pn**	**12 15 29.7**	**+1.0**
ZAGS	**Zajecar**	**3.28**	**76**	*e* Pn	**Pn**	**12 15 28.6**	**-0.2**
ZAGS				*e* Sg	**Sn**	**12 16 08.0**	**+0.2**
BEHE	**Becsehely**	**3.48**	**348**	*e* Pn	**Pn**	**12 15 31.8**	**+0.3**
BEHE				*e* Sn	**Sn**	**12 16 12.1**	**-0.6**
BRJN	**Brijuni**	**3.48**	**303**	*e* Pn	**Pn**	**12 15 31.3**	**-0.2**
BRJN				*e* Sn	**Sn**	**12 16 12.5**	**-0.2**
BRJN	**Brijuni**	**3.48**	**303**	*e* Pn	**Pn**	**12 15 32.5**	**+1.0**
BRJN				Sn	**Sn**	**12 16 13.3**	**+0.6**
ZAPS	**Zavoj**	**3.51**	**85**	*e* Pn	**Pn**	**12 15 33.6**	**+1.6**
ZAPS				*e* Sn	**Sn**	**12 16 12.8**	**-0.8**
CEY	**Cerknica**	**3.62**	**319**	*e* Pn	**Pn**	**12 15 34.6**	**+1.1**
BZS	**Buzias**	**3.71**	**46**	⇑P	**Pn**	**12 15 34.7**	**0.0**
HERR	**Herculane**	**3.76**	**60**	⇓P	**Pn**	**12 15 36.8**	**+1.4**
VTS	**Vitosha**	**3.99**	**95**	*e* Pn	**Pn**	**12 15 40.3**	**+1.6**
IGT	**Igoumenitsa**	**4.01**	**151**	*e* Pn	**Pn**	**12 15 39.8**	**+0.9**
SURR	**Surduc**	**4.07**	**47**	⇑P	**Pn**	**12 15 40.6**	**+0.9**
SOKA	**Soboth**	**4.12**	**332**	*i* Pn	**Pn**	**12 15 41.5**	**+1.1**
SOKA	2.5nm,0.2s			*i* Sn	**Sn**	**12 16 27.6**	**-1.1**
OBKA	3.6nm,0.4s **Obir**	**4.16**	**327**	*i* Pn	**Pn**	**12 15 42.9**	**+2.0**
OBKA	0.8nm,0.2s			*i* Sn	**Sn**	**12 16 30.5**	**+0.9**
GZR	6.6nm,0.4s **Gura Zlata**	**4.23**	**55**	⇑P	**Pn**	**12 15 43.8**	**+1.8**
ARSA	**Arzberg**	**4.48**	**339**	*i* Pn	**Pn**	**12 15 46.2**	**+0.8**
ARSA	5.3nm,0.3s			*i* Sn	**Sn**	**12 16 35.4**	**-2.2**
KBA	1.9nm,0.3s **Koelnbreinsper**	**5.11**	**323**	*i* Pn	**Pn**	**12 15 56.3**	**+2.1**
KBA	1.2nm,0.3s			*i* Sn	**Sn**	**12 16 53.6**	**+0.2**
MARR	2.0nm,0.3s **Marisel-Cluj**	**5.19**	**44**	⇑P	**Pn**	**12 15 57.1**	**+1.9**
MOA	**Molln**	**5.39**	**333**	*i* Pn	**Pn**	**12 16 00.1**	**+2.2**
MOA	1.2nm,0.1s			*i* Sn	**Sn**	**12 17 00.1**	**0.0**
WTTA	0.9nm,0.2s **Wattenberg**	**6.06**	**316**	*e* Pn	**Pn**	**12 16 10.5**	**+3.2**
	1.9nm,0.2s						

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*SNET **23** 12:15:32.4±1.8,13.60N×90.50W,h32km,ML3.0*
*GCG **23** 12:15:32.8±0.6,13.57N×90.43W,h30km±2km,MD3.5,*
ML3.1

ISC 23 12:15:32.1±2.6,13.5N±0.1×90.46W±0.08,h28km±16km,n8,
σ0§65/15,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.77**	**59**	*i* P	**Pn**	**12 15 47.0**	**-0.3**
NUBE				*i* S	**Sn**	**12 15 57.8**	**-0.2**
LOAL	**Lomas de Alarc**	**0.82**	**53**	*e* P	**Pb**	**12 15 48.0**	**+0.1**
LOAL				*e* S	**Sn**	**12 16 00.3**	**+1.1**
CEVE	**Cerro Verde**	**0.87**	**68**	*e* P	**Pn**	**12 15 48.8**	**-0.1**
CEVE				*e* S	**Sb**	**12 16 01.1**	**+0.9**
ESSG	**Sabana Grande**	**0.95**	**338**	*i* P	**Pb**	**12 15 49.6**	**-0.4**
ESSG				*i* S	**Sb**	**12 16 03.0**	**+0.7**
ESSG	comp=E,405nm,0.2s			IAML		12 16 03.2	
JAYA	**Jayaque - finc**	**0.99**	**81**	*e* P	**Pn**	**12 15 50.3**	**-0.1**
JAYA				*e* S	**Sn**	**12 16 03.5**	**-0.1**
JAYA	**Jayaque - finc**	**0.99**	**81**	*i* P	**Pn**	**12 15 50.1**	**-0.3**
JAYA				*i* S	**Sn**	**12 16 03.6**	**-0.1**
LFRS	**El Faro**	**1.36**	**85**	*e* P	**Pn**	**12 15 55.8**	**+0.3**
MTO3	**Montecristo**	**1.39**	**50**	*i* P	**Pn**	**12 15 56.0**	**+0.1**
MTO3				*i* S	**Sb**	**12 16 13.7**	**-1.3**

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*AFAD **23** 12:32:29.6,34.14N×32.55E,h5km±3km,ML2.5*
*NIC **23** 12:32:34.4,34.55N×32.41E,h48km±1km,Ml2.5/9*
*GII **23** 12:32:34.9±0.0,34.356N±0.002×32.589E±0.001,*
h10km,Mws2.6,confirmed

ISC 23 12:32:34.0±1.3,34.42N±0.03×32.44E±0.05,h23km±13km,
n43,σ1§07/60,3C,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATA	**Nata**	**0.37**	**16**	P	**Pb**	**12 32 43.2**	**+1.2**
NATA				S	**Sn**	**12 32 50.0**	**-0.6**
NATA	2.4nm,0.4s			AML	AML	12 32 50.5	
NATA	1.9nm,0.4s			AML	AML	12 32 50.6	
APOL	**The Sanctuary**	**0.43**	**54**	P	**Pn**	**12 32 44.2**	**-0.6**
APOL				S	**Sn**	**12 32 51.8**	**-0.1**
APOL	1.7nm,0.3s			AML	AML	12 32 52.1	
APOL	1.4nm,0.3s			AML	AML	12 32 52.3	
AKMS	**Akamas**	**0.60**	**352**	⇑*i* P	**Pb**	**12 32 45.4**	**-0.5**
AKMS				S	**Sb**	**12 32 53.6**	**-0.4**
AKMS	0.9nm,0.3s			AML	AML	12 32 54.6	
AKMS	0.5nm,0.2s			AML	AML	12 32 55.8	
TROD	**Troodos**	**0.63**	**34**	⇑*i* P	**Pb**	**12 32 46.1**	**-0.4**
TROD				S	**Sb**	**12 32 55.2**	**+0.2**
TROD	0.5nm,0.5s			AML	AML	12 32 58.1	
TROD	0.4nm,0.3s			AML	AML	12 32 58.6	
ALFC	**Alefka**	**0.74**	**10**	P	**Pb**	**12 32 47.2**	**-1.1**
ALFC				S	**Sb**	**12 32 56.5**	**-1.5**
ALFC	0.4nm,0.4s			AML	AML	12 33 01.9	
ALFC	0.4nm,0.4s			AML	AML	12 33 02.1	
ASGA	**Asgata**	**0.76**	**61**	P	**Pb**	**12 32 48.3**	**-0.2**
ASGA				S	**Sn**	**12 32 59.6**	**-0.4**
ASGA	0.8nm,0.2s			AML	AML	12 33 01.7	
ASGA	1.3nm,0.3s			AML	AML	12 33 02.5	
XYLS	**Xyliatos**	**0.77**	**40**	⇑*e* P	**Pb**	**12 32 47.8**	**-1.0**
XYLS				S	**Sb**	**12 32 59.0**	**+0.1**
XYLS	1.3nm,0.2s			AML	AML	12 33 03.2	
XYLS	1.0nm,0.3s			AML	AML	12 33 03.3	
CSS	**Mathiatis**	**0.91**	**53**	P	**Pb**	**12 32 50.5**	**-0.6**
CSS				S	**Sb**	**12 33 03.0**	**+0.2**
CSS	0.5nm,0.3s			AML	AML	12 33 07.1	
CSS	0.4nm,0.4s			AML	AML	12 33 07.2	
CSS	**Mathiatis**	**0.91**	**53**	P	**Pb**	**12 32 50.8**	**-0.3**
CSS				S	**Sn**	**12 33 03.5**	**-0.3**
MVOU	**Mavrovouni**	**1.15**	**58**	P	**Pn**	**12 32 54.7**	**+0.1**
MVOU				S	**Sn**	**12 33 10.3**	**+0.7**
MVOU	0.4nm,0.3s			AML	AML	12 33 11.9	
MVOU	0.4nm,0.3s			AML	AML	12 33 12.4	
GAZI	**Gazipasa**	**1.81**	**357**	P	**Pn**	**12 33 01.4**	**-2.4**
GAZI				S	**Sn**	**12 33 27.4**	**+1.2**
GULN	**MERSIN_Gulnar**	**1.98**	**27**	P	**Pn**	**12 33 04.5**	**-1.5**
GULN				S	**Sn**	**12 33 29.8**	**-0.3**
ERMK	**Ermenek**	**2.25**	**10**	P	**Pn**	**12 33 10.8**	**+0.8**
ERMK				S	**Sb**	**12 33 43.0**	**+1.5**
KIZK	**Mersin**	**2.48**	**34**	P	**Pn**	**12 33 13.5**	**+0.6**
KIZK				S	**Sn**	**12 33 44.2**	**+1.6**
KIZK	comp=N,19nm,1.3s			*i* IAML		12 33 49.0	
KIZK	comp=E,17nm,1.3s			*i* IAML		12 34 00.0	
HNTI	**Hanita**	**2.64**	**120**	P	**Pn**	**12 33 15.7**	**+0.5**
HNTI	**Hanita**	**2.64**	**120**	S	**Sn**	**12 33 45.8**	**-0.7**
OFRI	**`Ofer**	**2.78**	**130**	P	**Pn**	**12 33 17.7**	**+0.5**
OFRI	**`Ofer**	**2.78**	**130**	S	**Sn**	**12 33 49.6**	**-0.5**
KKBE	**Karaman, Kazim**	**2.82**	**8**	P	**Pn**	**12 33 18.5**	**+0.7**
KKBE				S	**Sb**	**12 33 55.8**	**-2.1**
MMA0B	**Mount Meron ar**	**2.84**	**119**	P	**Pn**	**12 33 18.5**	**+0.5**
MMA0B	**Mount Meron ar**	**2.84**	**119**	S	**Sn**	**12 33 51.1**	**-0.4**
GEM	**Giv'at Ha'Em**	**2.94**	**113**	P	**Pn**	**12 33 19.6**	**+0.2**
GEM	**Giv'at Ha'Em**	**2.94**	**113**	S	**Sn**	**12 33 53.3**	**-0.6**
NATI	**Neve Ativ**	**2.98**	**112**	P	**Pn**	**12 33 20.3**	**+0.5**
NATI	**Neve Ativ**	**2.98**	**112**	S	**Sn**	**12 33 54.3**	**-0.4**
KSHT	**Keshet**	**3.15**	**116**	P	**Pn**	**12 33 22.5**	**+0.2**
KSHT	**Keshet**	**3.15**	**116**	S	**Sn**	**12 33 59.6**	**+0.3**
MMLI	**Mount Malkishu**	**3.18**	**128**	P	**Pn**	**12 33 23.0**	**+0.3**
MMLI	**Mount Malkishu**	**3.18**	**128**	S	**Sn**	**12 34 00.1**	**+0.2**
KERG	**Konya-Eregli**	**3.28**	**24**	P	**Pn**	**12 33 25.3**	**+1.1**
KERG				S	**Sn**	**12 34 06.4**	**+3.8**
KERG	comp=N,13nm,4.2s			*i* IAML		12 35 26.0	
HMDT	**Nahal Hemdat**	**3.37**	**129**	P	**Pn**	**12 33 25.6**	**+0.4**
HMDT	**Nahal Hemdat**	**3.37**	**129**	S	**Sn**	**12 34 04.1**	**-0.4**
GULE	**Gulek**	**3.43**	**33**	P	**Pn**	**12 33 26.6**	**+0.4**
GULE				S	**Sn**	**12 34 09.5**	**+3.3**
GULE	comp=E,13nm,0.5s			*i* IAML		12 34 10.0	
DSI	**Dead Sea**	**3.77**	**138**	P	**Pn**	**12 33 31.1**	**+0.4**
DSI	**Dead Sea**	**3.77**	**138**	S	**Sn**	**12 34 13.6**	**-0.7**
PRNI	**Paran**	**4.60**	**151**	P	**Pn**	**12 33 42.8**	**+0.6**
PRNI	**Paran**	**4.60**	**151**	S	**Sn**	**12 34 35.1**	**+0.2**
KRMI	**Paran Flat**	**4.71**	**155**	P	**Pn**	**12 33 44.8**	**+1.1**
KRMI	**Paran Flat**	**4.71**	**155**	S	**Sn**	**12 34 38.1**	**+0.6**
MBRI	**Mt Berech**	**5.07**	**155**	P	**Pn**	**12 33 49.9**	**+1.2**
MBRI	**Mt Berech**	**5.07**	**155**	S	**Sn**	**12 34 47.4**	**+0.8**
EIL	**Elat**	**5.19**	**155**	P	**Pn**	**12 33 51.0**	**+0.7**
EIL	**Elat**	**5.19**	**155**	S	**Sn**	**12 34 49.4**	**-0.2**

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*IDC **23** 12:32:43.4±0.5,29.10S×178.47W,h161km±5km,mb3.7/8,*
mbtmp4.1/8,Error ellipse: s-maj=21.6km s-min=16.4km
az=69.0
*NEIC **23** 12:32:44.4±1.9,29.1S±0.2×178.4W±0.1,h161km±9km,*
mb4.3/15,Error ellipse: s-maj=24.8km s-min=17.3km
az=190.0

ISC 23 12:32:44.0±0.6,29.3S±0.1×178.4W±0.1,h161km,n44,
σ1§43/46,mb4.1/18,1C-3D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.39**	**90**		**Pn**	**12 33 06.7**	**+0.6**
RAO	**Raoul Island**	**0.39**	**90**	P	**Pn**	**12 33 06.6**	**+0.5**
RAO	8µm,0.2s,baz=89,slow=8.6,SNR=163			S	**Sn**	**12 33 24.3**	**+1.4**
MXZ	1µm,0.3s,baz=84,slow=23,SNR=9.7 **Matakaoa Point**	**8.74**	**198**	Pn	**Pn**	**12 34 47.3**	**+0.2**
URZ	**Urewera**	**9.74**	**202**	P	Pn	12 34 52.5	-7.8
URZ	2.6nm,0.3s,baz=276,slow=4.3,SNR=12			S	Sn	12 36 37.9	-10
DZM	6.1nm,0.3s,baz=121,slow=18,SNR=11 **Mont Dzumac**	**15.45**	**294**	P	**P**	**12 36 18.5**	**+4.0**
ARMA	5.7nm,0.8s,baz=156,slow=18,SNR=5.7 **Armidale**	**26.03**	**260**	P	**P**	**12 38 03.4**	**+1.0**
ARMA	comp=Z,13nm,1.1s			IAmb	IAmb	12 38 47.5	
EIDS	**Eidsvold**	**27.39**	**271**	P	**P**	**12 38 14.8**	**+0.3**
EIDS	comp=Z,11nm,1.4s			IAmb	IAmb	12 38 23.6	
CAN	**Canberra**	**28.17**	**249**	P	**P**	**12 38 22.2**	**+0.9**
CTAO	**Charters Tower**	**33.32**	**278**	P	**P**	**12 39 07.4**	**+0.7**
STKA	**Stephens Creek**	**34.45**	**255**	P	**P**	**12 39 16.0**	**-0.3**
STKA	**Stephens Creek**	**34.45**	**255**	P	**P**	**12 39 16.0**	**-0.3**
BBOO	comp=Z,1.3nm,0.5s,baz=114,slow=14,SNR=4.3 comp=Z,1.3nm,0.5s **Buckleboo**	**38.99**	**253**	P	**P**	**12 39 53.2**	**-1.5**
BBOO				IAmb	IAmb	12 40 33.7	
AS31	comp=Z,15nm,1.4s **Alice Springs**	**42.87**	**266**		**P**	**12 40 25.7**	**-0.9**
ASAR	**Alice Springs**	**42.87**	**266**	P	**P**	**12 40 25.0**	**-1.6**
ASAR	**Alice Springs**	**42.87**	**266**	P	**P**	**12 40 24.6**	**-2.0**
ASAR	comp=Z,1.2nm,0.4s,baz=103,slow=7.2,SNR=42			PcP	**PcP**	**12 42 13.0**	**-1.6**
ASAR	comp=Z,0.5nm,0.5s,baz=119,slow=3.7,SNR=4.9			ScP	**ScP**	**12 45 48.9**	**-1.6**
WR8	comp=Z,0.4nm,1.0s,baz=115,slow=3.7,SNR=6.5 comp=Z,1.2nm,0.4s **Warramunga Arr**	**43.61**	**271**	P	**P**	**12 40 32.0**	**-0.5**
WR8				IAmb	IAmb	12 40 32.4	
WRA	comp=Z,2.8nm,0.8s **Warramunga Arr**	**43.75**	**271**	P	**P**	**12 40 32.3**	**-1.4**
WRA	comp=Z,1.5nm,0.4s,baz=112,slow=6.4,SNR=15			PcP	**PcP**	**12 42 16.0**	**-1.7**
WB0	comp=Z,0.7nm,0.7s,baz=118,slow=2.5,SNR=5.3 comp=Z,1.5nm,0.4s **Warramunga Arr**	**43.77**	**271**	P	**P**	**12 40 33.5**	**-0.3**
WB0				IAmb	IAmb	12 40 34.0	
FORT	comp=Z,6.5nm,1.2s **Forrest**	**46.05**	**254**	P	**P**	**12 40 51.1**	**-0.6**
FORT				IAmb	IAmb	12 41 32.4	
SBA	comp=Z,5.2nm,1.1s **Scott Base**	**49.16**	**184**	P	**P**	**12

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.25**	**154**	P	P	12 48 34.4	-0.9
	0.1nm,0.3s,baz=330,slow=12,SNR=5.0						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**22.43**	**159**	P	P	12 49 10.3	+0.6
	0.7nm,0.4s,baz=344,slow=12,SNR=28						
	0.7nm,0.4s						
BRDH	**Bariadhala**	**41.49**	**309**	LR	LR	13 11 48.4	
	comp=Z,45nm,18.5s,baz=275,slow=40						
MKAR	**Makanchi Array**	**62.15**	**328**	P	P	12 54 32.2	-0.1
	0.1nm,0.3s,baz=114,slow=7.0,SNR=1.1						
	0.1nm,0.3s						

IDC 23 13:05:50.8±2.5, 4°.50N×126°.19E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=212.3km s-min=30.2km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.57**	**162**	P	P	13 11 22.6	+0.9
	0.3nm,0.6s,baz=342,slow=9.3,SNR=2.7						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**28.99**	**165**	P	P	13 11 51.6	-0.8
	0.3nm,0.9s,baz=345,slow=6.5,SNR=4.4						
	0.3nm,0.9s						
MKAR	**Makanchi Array**	**56.62**	**325**	P	P	13 15 35.6	-0.1
	0.2nm,0.5s,baz=129,slow=8.6,SNR=2.2						
	0.2nm,0.5s						

HEL 23 13:13:38.8±0.6, 62°.46N×32°.60E, h0km, ML1.3, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOF	**Joensuu**	**0.75**	**308**	PG	Pg	13 13 52.3	-0.9
	baz=131						
JOF				SG	Sg	13 14 02.1	-0.8
RUF	**Ruokolahti**	**2.01**	**241**	MSG		13 14 38.7	
	comp=Z,0.9nm,0.2s						
RUF				SG	Sb	13 14 42.1	+0.3
RMF	**Romuvaara**	**2.13**	**327**	PG	Pn	13 14 16.9	+1.3
RMF				MSG		13 14 42.0	
	comp=Z,1.0nm,0.2s						
RMF				SG	Sb	13 14 45.4	+0.1
KAF	**Kangasniemi**	**2.96**	**266**	MSG		13 15 05.9	
	comp=Z,1.1nm,0.2s						
KAF				SG	Sb	13 15 08.7	-0.3
SUF	**Sumiainen**	**2.99**	**278**	MSG		13 15 06.9	
	comp=Z,0.5nm,0.2s						
FIA0	**FINESS Array S**	**3.25**	**255**	PB	Pb	13 14 34.2	-3.0
KU6	**Riekki**	**3.77**	**343**	SB	Sb	13 15 31.3	-1.0
OBF4	**Vikkela, Lumij**	**4.09**	**309**	PB	Pb	13 14 49.2	-2.4
NUR	**Nurmijarvi**	**4.28**	**246**	SN	Sn	13 15 34.0	-1.7
HEL5	**Espoo, Suvisaa**	**4.46**	**242**	SB	Sb	13 15 49.6	-2.5

HEL 23 13:14:33.4±0.1, 63°.12N×21°.69E, h0km, ML1.4, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMAU	**Umeaa**	**0.89**	**330**	PB	Pg	13 14 49.7	-0.6
	baz=150						
UMAU				SB	Sg	13 15 01.7	-0.1
HUSU	**Husum**	**1.14**	**282**	PB	Pg	13 14 54.8	-0.4
	baz=97						
HUSU				SG	Sb	13 15 10.7	-0.5
KPF	**Kankaanpaa**	**1.31**	**172**	PN	Pg	13 14 57.5	-0.9
KPF				MSG		13 15 12.8	
	comp=Z,1.1nm,0.2s						
OBF8	**Ulkokalla**	**1.44**	**32**	MSG		13 15 16.7	
	comp=Z,2.0nm,0.2s						
OBF8				SG	Sg	13 15 19.3	-0.4
HEMU	**Hemsoen**	**1.73**	**257**	PG	Pn	13 15 04.4	-0.3
	baz=74						
HEMU				SN	Sb	13 15 28.1	-0.1
KEF	**Keuruu**	**1.76**	**122**	PG	Pn	13 15 04.8	-0.3
KEF				MSG		13 15 25.8	
	comp=Z,2.5nm,0.2s						
KEF				SN	Sn	13 15 27.6	-0.5
OBF0	**Syolatti, Pyha**	**1.78**	**38**	PG	Pn	13 15 05.5	0.0
OBF0				MSG		13 15 26.5	
	comp=Z,3.6nm,0.2s						
OBF0				SG	Sn	13 15 28.9	+0.1
OUF	**Merijarvi**	**1.84**	**46**	PG	Pn	13 15 06.4	+0.2
	baz=227						
OUF				MSG		13 15 28.4	
	comp=Z,3.1nm,0.2s						
OUF				SG	Sn	13 15 30.2	0.0
SUF	**Sumiainen**	**2.08**	**99**	PG	Pb	13 15 10.9	-1.1
SUF				MSG		13 15 35.1	
	comp=Z,1.4nm,0.2s						
SUF				SG	Sb	13 15 37.7	-0.7
RAF	**Rauma**	**2.11**	**179**	PG	Pb	13 15 11.2	-1.3
RAF				MSG		13 15 35.9	
	comp=Z,2.6nm,0.2s						
OBF4	**Vikkela, Lumij**	**2.27**	**40**	MSG		13 15 40.5	
	comp=Z,1.1nm,0.2s						
OBF4				SG	Sb	13 15 42.8	-0.9
KAF	**Kangasniemi**	**2.37**	**113**	MSG		13 15 43.4	
	comp=Z,2.4nm,0.2s						
KAF				SG	Sb	13 15 45.4	-1.1
FIA0	**FINESS Array S**	**2.66**	**127**	PB	Pn	13 15 19.1	+1.7
FIA0				MSG		13 15 51.7	
	comp=Z,0.8nm,0.2s						
FIA0				SG	Sb	13 15 53.6	-1.3
KALU	**Kalix**	**2.84**	**14**	SG	Sb	13 16 01.5	+1.3
NUR	**Nurmijarvi**	**2.98**	**150**	PG	Pb	13 15 26.7	-0.6
NUR				MSG		13 16 01.0	
	comp=Z,0.9nm,0.2s						
ERTU	**Ertsjaerv**	**3.45**	**3**	SN	Sn	13 16 08.9	-0.9
MSF	**Maaselka**	**4.23**	**45**	SG	Sb	13 16 43.3	+3.1
JOF	**Joensuu**	**4.39**	**88**	SG	Sg	13 16 50.3	-4.0
OLKF	**Oulanka, Finla**	**4.61**	**42**	SG	Sb	13 16 54.8	+3.8

*NEIC **23** 13:27:03.0±2.0, 25°.79S×177°.63W±0°.09, h127km±8km, mb4.2/10, Error ellipse: s-maj=15.9km s-min=10.0km az=212.0*
*IDC **23** 13:27:02.6±6.1, 25°.57S×177°.90W, h117km±61km, mb3.6/6, mbtmp4.0/7, Error ellipse: s-maj=54.2km s-min=24.0km az=169.0*

ISC 23 13:27:02.9±0.6, 25°.67S±0°.06×177°.7W±0°.1, h127km, n36, σ1§35/31, mb3.9/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**3.57**	**184**	P	**Pn**	**13 27 58.8**	**+1.9**
RIZ				S	**Sn**	**13 28 38.7**	**+0.1**
RAO	**Raoul Island**	**3.57**	**183**	**Pn**	**Pn**	**13 27 55.5**	**-1.4**
RAO	**Raoul Island**	**3.57**	**183**	P	**Pn**	**13 27 58.8**	**+1.8**
	153nm,0.4s,baz=246,slow=19,SNR=2.0						
RAO				S	**Sn**	**13 28 40.3**	**+1.6**
	1µm,0.3s,baz=269,slow=23,SNR=14						
RAO	**Raoul Island**	**3.57**	**183**	P	**Pn**	**13 27 58.9**	**+2.0**
RAO				S	**Sn**	**13 28 40.0**	**+1.2**
GLKZ	**Green Lake**	**3.58**	**183**	P	**Pn**	**13 27 59.2**	**+2.2**
GLKZ				S	**Sn**	**13 28 38.4**	**-0.6**
MSVF	**Nonsavu**	**8.84**	**332**	Pn	**Pn**	**13 29 08.5**	**+0.7**
NIUE	**Niue**	**9.72**	**49**	Pn	**Pn**	**13 29 19.0**	**-0.6**
NIUE	**Niue**	**9.72**	**49**	P	Pn	13 29 28.0	+8.4
HAZ	**Te Kaha**	**12.65**	**197**	P	Pn	13 29 49.4	-8.8
HAZ				S	Sn	13 32 00.0	-18
PUZ	**Puketiti**	**12.83**	**195**	P	Pn	13 29 49.7	-11
PUZ				S	Sn	13 32 03.1	-19
MWZ	**Matawai**	**13.26**	**197**	P	Pn	13 29 57.1	-9.1
MWZ				S	Sn	13 32 15.3	-17
URZ	**Urewera**	**13.30**	**198**	P	Pn	13 29 58.4	-8.3
	5.7nm,0.8s,baz=263,slow=4.1,SNR=8.9						
URZ				S	Sn	13 32 14.8	-19
	5.2nm,0.3s,baz=202,slow=16,SNR=11						
URZ	**Urewera**	**13.30**	**198**	P	Pn	13 29 58.2	-8.5
URZ				S	Sn	13 32 16.3	-17
TOZ	**Tahuroa Road**	**13.35**	**204**	P	Pn	13 29 59.7	-7.5
BKZ	**Black Stump Fm**	**14.32**	**199**	P	Pn	13 30 12.2	-7.7
BKZ				S	Sn	13 32 40.3	-18
CTAO	**Charters Tower**	**33.62**	**272**	P	**P**	**13 33 32.7**	**+1.3**
CTAO				IAmb	IAmb	13 33 46.2	
	comp=Z,16nm,1.5s						
COEN	**Coen**	**38.49**	**280**	P	**P**	**13 34 13.7**	**+0.7**
BBOO	**Buckleboo**	**40.73**	**249**	P	**P**	**13 34 29.3**	**-2.1**
AS31	**Alice Springs**	**43.85**	**262**	P	**P**	**13 34 57.3**	**+0.5**
ASAR	**Alice Springs**	**43.85**	**262**	P	**P**	**13 34 56.8**	**0.0**
ASAR	**Alice Springs**	**43.85**	**262**	P	**P**	**13 34 55.3**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=88,slow=6.2,SNR=33						
	comp=Z,0.5nm,0.5s						
WRA	**Warramunga Arr**	**44.41**	**267**	P	**P**	**13 35 00.7**	**-0.6**
WRA	**Warramunga Arr**	**44.41**	**267**	P	**P**	**13 35 01.0**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=103,slow=8.0,SNR=9.6						
	comp=Z,0.7nm,0.4s						
WB0	**Warramunga Arr**	**44.41**	**267**	P	**P**	**13 35 01.2**	**-0.1**
WB0				IAmb	IAmb	13 35 25.2	
	comp=Z,7.1nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.81**	**266**	P	**P**	**13 36 04.3**	**-1.2**
FITZ				IAmb	IAmb	13 36 45.4	
	comp=Z,2.7nm,1.5s						
CASY	**Casey**	**59.46**	**206**	P	**P**	**13 36 51.8**	**-0.3**
CASY				IAmb	IAmb	13 36 58.4	
	comp=Z,6.2nm,1.5s						
QSPA	**South Pole Qui**	**64.42**	**180**	P	**P**	**13 37 23.6**	**-1.8**
QSPA				IAmb	IAmb	13 37 53.2	
	comp=Z,4.9nm,1.4s						
PETK	**Petropavlovsk-**	**81.32**	**345**	P	**P**	**13 39 03.9**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=117,slow=7.3,SNR=5.9						
	comp=Z,0.8nm,0.5s						
SNAA	**Sanae**	**82.86**	**178**	P	**P**	**13 39 11.1**	**-1.7**
SNAA				IAmb	IAmb	13 39 12.8	
	comp=Z,1.9nm,1.0s						
NVAR	**Mina Array Bea**	**84.58**	**43**	P	**P**	**13 39 24.7**	**+2.4**
	comp=Z,0.9nm,0.7s,baz=225,slow=9.8,SNR=6.8						
	comp=Z,0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**92.11**	**289**	P	**P**	**13 40 00.2**	**+1.9**
	comp=Z,0.6nm,0.4s,baz=140,slow=3.3,SNR=8.6						
	comp=Z,0.6nm,0.4s						
PDAR	**Pinedale Array**	**92.51**	**43**	P	**P**	**13 40 00.6**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=246,slow=5.3,SNR=2.4						
	comp=Z,0.4nm,0.7s						
ARCES	**ARCESS Array B**	**134.03**	**349**	PKP	**PKPdf**	**13 46 04.3**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=339,slow=1.7,SNR=5.6						
NOA	**NORSAR Array B**	**144.12**	**353**	PKP	PKPbc	13 46 21.9	+0.4
	comp=Z,2.3nm,0.7s,baz=13,slow=2.3,SNR=8.0						
HFS	**Hagfors**	**144.67**	**350**	PKP	**PKPab**	**13 46 23.1**	**+0.1**
	comp=Z,2.7nm,0.4s,baz=56,slow=3.7,SNR=14						
BRTR	**Keskin Array B**	**150.32**	**306**	PKPbc	**PKPbc**	**13 46 39.2**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=72,slow=1.8,SNR=2.8						

*TIR **23** 13:49:57.5, 41°.31N×19°.39E, h36km, Md2.9/3, Ml2.4/3*
*PDG **23** 13:50:04.7±0.3, 41°.48N×19°.48E, h12km±2km, ML2.6/7, Error ellipse: s-maj=2.7km s-min=3.8km az=0.0*

ISC 23 13:49:58.4±1.4, 41°.17N±0°.04×19°.43E±0°.05, h1km±13km, n11, σ1§12/21, 3C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.37**	**62**	Pg	**Pg**	**13 50 04.5**	**-0.9**
TIR				Sg	**Sg**	**13 50 08.0**	**-2.3**
TIR				AML	AML	13 50 09.5	
	1.4nm,0.1s						
ULC	**Ulcinj**	**0.80**	**350**	⇓iPg	**Pg**	**13 50 13.6**	**-0.2**
ULC				*i* Sg	**Sg**	**13 50 23.0**	**-1.2**
DRME	**Dracevica, Mon**	**1.03**	**350**	⇑iPg	**Pg**	**13 50 18.7**	**+0.5**
DRME				*e*Sg	**Sg**	**13 50 31.5**	**0.0**
KBN	**Korca**	**1.16**	**118**	Sn	**Sg**	**13 50 37.4**	**+1.6**
BUM	**Brajici-Budva**	**1.20**	**340**	⇓iPg	**Pg**	**13 50 22.0**	**+0.6**
BUM				*i* Sg	**Sg**	**13 50 36.9**	**0.0**
PDG	**Podgorica**	**1.26**	**354**	⇓iPg	**Pg**	**13 50 22.8**	**+0.2**
PDG				*i* Sg	**Sg**	**13 50 39.7**	**+0.7**
CEME	**Cevo**	**1.43**	**344**	⇑iPg	**Pn**	**13 50 24.7**	**-0.8**
CEME				*i* Sg	**Sg**	**13 50 43.9**	**-0.3**
HCY	**Herceg Novi**	**1.45**	**331**	⇑iPg	**Pn**	**13 50 27.5**	**+1.7**
HCY				*i* Sg	**Sg**	**13 50 45.9**	**+0.8**
KOME	**Kolasin**	**1.68**	**2**	⇓iPg	**Pn**	**13 50 30.0**	**+1.0**
KOME				*e*Sg	**Sn**	**13 50 51.4**	**+0.3**
IGT	**Igoumenitsa**	**1.78**	**157**	Pn	**Pn**	**13 50 31.2**	**+1.0**
IGT				Sn	**Sg**	**13 50 55.9**	**+0.3**
IGT				AMd		13 51 34.1	
NOCI	**Noci**	**1.83**	**259**	Pn	**Pn**	**13 50 29.9**	**-1.2**
NOCI				Sn	**Sn**	**13 50 53.4**	**-1.5**
NOCI				AML	AML	13 50 55.5	
	0.1nm,0.1s						
NOCI				AMd		13 51 32.9	

*RHSSO **23** 13:50:55.2±0.5, 44°.60N×18°.49E, h5km±3km, ML2.6/9*
*BEO **23** 13:50:56.0±0.3, 44°.61N×18°.55E, h14km±3km, ML2.5/14*

ISC 23 13:50:54.9±1.1, 44°.63N±0°.02×18°.51E±0°.01, h9km±9km, n59, σ1§29/109, 12C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.95**	**278**	⇑iPg	**Pg**	**13 51 12.5**	**-0.7**
BLY				*e*Sg	**Sg**	**13 51 25.1**	**-0.4**
BLY	**Banja Luka**	**0.95**	**278**	⇑P	**Pg**	**13 51 13.1**	**-0.1**
BLY				⇓S	**Sg**	**13 51 25.5**	**0.0**
BLY	**Banja Luka**	**0.95**	**278**	*e*Pg	**Pg**	**13 51 13.6**	**+0.4**
BLY				*e*Sg	**Sb**	**13 51 26.8**	**+0.5**
BBLS	**Lazi&#263i**	**1.00**	**140**	*e*Pg	**Pg**	**13 51 13.7**	**-0.5**
BBLS				*e*Sg	**Sg**	**13 51 27.0**	**-0.2**
FRGS	**Fruska Gora**	**1.07**	**60**	*e*Pg	**Pg**	**13 51 15.2**	**-0.2**
FRGS				*e*Sg	**Sn**	**13 51 30.6**	**-0.5**
RUDO	**Rudo**	**1.19**	**148**	*e*Pg	**Pb**	**13 51 16.0**	**-1.7**
RUDO				*e*Sg	**Sg**	**13 51 31.9**	**-1.3**
RUDO	**Rudo**	**1.19**	**148**	*e*Pg	**Pb**	**13 51 15.7**	**-2.0**
RUDO				*e*Sg	**Sb**	**13 51 33.3**	**+0.1**
DIVS	**Divibare**	**1.19**	**116**	*e*Pg	**Pb**	**13 51 17.3**	**-0.4**
DIVS				*e*Sg	**Sg**	**13 51 33.1**	**-0.1**
TRUS	**Trudelj**	**1.42**	**106**	*e*Pg	**Pb**	**13 51 21.8**	**+0.2**
TRUS				*e*Sg	**Sb**	**13 51 39.6**	**-0.2**
AVAS	**Avala Beograd**	**1.43**	**87**	*e*Pg	**Pg**	**13 51 22.8**	**+0.4**
AVAS				*e*Sg	**Sg**	**13 51 41.6**	**+0.6**
KLINJ	**Klinje**	**1.46**	**178**	*e*Pg	**Pn**	**13 51 21.6**	**0.0**
KLINJ				*e*Sg	**Sn**	**13 51 41.1**	**+0.1**
RICI	**Ricice**	**1.51**	**222**	*e*Pn	**Pn**	**13 51 22.1**	**0.0**
RICI				Sn	**Sg**	**13 51 43.2**	**-0.1**
MOSL	**Moslavina**	**1.58**	**309**	*e*Pn	**Pn**	**13 51 23.3**	**+0.1**
MOSL				*e*Sn	**Sb**	**13 51 45.1**	**+0.6**
MOSL	**Moslavina**	**1.58**	**309**	*e*Pn	**Pb**	**13 51 24.4**	**0.0**
MOSL				Sg	**Sn**	**13 51 44.5**	**+0.7**
IVAS	**Ivanjica**	**1.59**	**131**	*e*Pg	**Pn**	**13 51 22.6**	**-0.7**
IVAS				*e*Sg	**Sb**	**13 51 44.9**	**+0.2**
KIJV	**Kijevo**	**1.63**	**248**	⇑iPn	**Pn**	**13 51 23.8**	**-0.1**
KIJV				*e*Sn	**Sn**	**13 51 45.8**	**+0.8**
KIJV	**Kijevo**	**1.63**	**248**	*e*Pn	**Pn**	**13 51 24.1**	**+0.2**
KIJV				Sn	**Sg**	**13 51 47.2**	**-0.2**
MAKA	**Makarska**	**1.72**	**219**	*e*Pn	**Pn**	**13 51 25.6**	**+0.6**
MAKA				Sn	**Sb**	**13 51 49.2**	**+0.8**
SJES	**Sjenica**	**1.73**	**142**	*e*Pg	**Pn**	**13 51 26.2**	**+0.9**
SJES				*e*Sg	**Sg**	**13 51 51.3**	**+0.7**
GRUS	**Gruza**	**1.75**	**114**	*e*Pg	**Pb**	**13 51 27.0**	**-0.3**
GRUS				*e*Sg	**Sg**	**13 51 51.9**	**+0.7**
STON	**Ston**	**1.85**	**199**	*e*Pn	**Pn**	**13 51 27.6**	**+0.7**
STON				*e*Sn	**Sn**	**13 51 50.9**	**+0.5**
STON	**Ston**	**1.85**	**199**	*e*Pn	**Pn**	**13 51 27.8**	**+0.9**
STON				Sn	**Sb**	**13 51 52.5**	**+0.2**
TREB	**Trebinje**	**1.92**	**183**	*e*Pn	**Pn**	**13 51 28.1**	**+0.3**
TREB				*e*Sn	**Sn**	**13 51 52.1**	**+0.1**
KOME	**Kolasin**	**1.93**	**157**	*e*Pg	**Pb**	**13 51 30.8**	**+0.6**
DBRK	**Dubrovnik**	**1.98**	**188**	*e*Pn	**Pn**	**13 51 29.3**	**+0.7**
DBRK				Sn	**Sb**	**13 51 55.1**	**-0.7**
GOCS	**Kraljevo Serbi**	**2.01**	**121**	*e*Pn	**Pn**	**13 51 28.9**	**-0.3**
GOCS				*e*Sg	**Sb**	**13 51 57.6**	**+0.6**
VRSS	**Vrsac**	**2.06**	**75**	*e*Pg	**Pb**	**13 51 33.2**	**+0.6**
VRSS				*e*Sg	**Sb**	**13 51 59.2**	**+0.9**
PLIT	**Plitvice**	**2.07**	**278**	*e*Pn	**Pn**	**13 51 31.2**	**+1.3**
PLIT				Sn	**Sb**	**13 51 57.8**	**-0.7**
KALN	**Kalnik**	**2.08**	**317**	*e*Pn	**Pn**	**13 51 31.4**	**+1.3**
KALN				Sn	**Sb**	**13 51 59.3**	**+0.4**
MORI	**Morici**	**2.15**	**250**	*e*Pn	**Pn**	**13 51 32.1**	**+1.1**
MORI				Sn	**Sb**	**13 51 59.9**	**-1.0**
LSTV	**Lastovo**	**2.20**	**213**	*e*Pn	**Pn**	**13 51 32.4**	**+0.7**
LSTV				Sn	**Sn**	**13 52 00.2**	**+1.2**
BEHE	**Becsehely**	**2.20**	**327**	*e*Pn	**Pn**	**13 51 33.2**	**+1.5**
BEHE				*e*Sn	**Sn**	**13 52 00.5**	**+1.4**
KUBS	**Kucevo**	**2.28**	**94**	*e*Pn	**Pn**	**13 51 34.2**	**+1.5**
KUBS				*e*Sg	**Sg**	**13 52 07.1**	**-0.9**
ZIRJ	**Zirje**	**2.28**	**246**	*e*Pn	**Pn**	**13 51 33.9**	**+1.1**
ZIRJ				Sn	**Sn**	**13 52 02.1**	**+1.2**
MDVR	**Moldovita**	**2.29**	**85**	⇓P	**Pn**	**13 51 33.1**	**+0.1**
MDVR				⇑S	**Sg**	**13 52 07.1**	**-1.4**
MDVR	**Moldovita**	**2.29**	**85**	*e*Pg	**Pg**	**13 51 38.3**	**-0.5**
SELS	**Selova**	**2.36**	**126**	*e*Pn	**Pn**	**13 51 33.2**	**-0.7**
SELS				*e*Sg	**Sg**	**13 52 11.2**	**+0.6**
OZLJ	**Ozalj**	**2.37**	**296**	*e*Pn	**Pn**	**13 51 34.3**	**+0.4**
OZLJ				*e*Sn	**Sn**	**13 52 04.4**	**+1.4**
OZLJ	**Ozalj**	**2.37**	**296**	*e*Pn	**Pb**	**13 51 36.3**	**-1.4**
OZLJ				Sn	**Sb**	**13 52 05.9**	**-1.1**
BZS	**Buzias**	**2.41**	**65**	⇓P	**Pb**	**13 51 39.8**	**+1.3**
BZS				⇓S	**Sn**	**13 52 03.1**	**-1.2**
BZS	**Buzias**	**2.41**	**65**	*e*Pg	**Pb**	**13 51 37.6**	**-0.9**
DRME	**Dracevica, Mon**	**2.49**	**168**	*e*Pn	**Pn**	**13 51 37.2**	**+1.5**
VIRC	**Vir**	**2.50**	**263**	*e*Pn	**Pn**	**13 51 35.9**	**+0.3**
VIRC				Sn	**Sn**	**13 52 08.1**	**+1.9**
DUGI	**Dugi Otok**	**2.56**	**257**	*e*Pn	**Pn**	**13 51 37.7**	**+1.1**
DUGI				Sn	**Sn**	**13 52 08.7**	**+0.9**
SIRR	**Siria**	**2.76**	**53**	⇑P	**Pg**	**13 51 50.0**	**+2.3**
SIRR				⇓S	**Sb**	**13 52 19.4**	**+1.1**
SURR	**Surduc**	**2.79**	**65**	⇑P	**Pb**	**13 51 46.0**	**+1.0**
SURR				⇑S	**Sg**	**13 52 23.4**	**-1.2**
HERR	**Herculane**	**2.80**	**84**	⇑P	**Pn**	**13 51 40.0**	**+0.2**
ZAGS	**Zajecar**	**2.80**	**106**	*e*Pn	**Pn**	**13 51 40.0**	**+0.1**
ZAGS				*e*Sg	**Sb**	**13 52 21.9**	**+2.4**
BARS	**Barje**	**3.01**	**126**	*e*Pn	**Pn**	**13 51 42.0**	**-0.8**
BARS				*e*Sg	**Sb**	**13 52 28.4**	**+2.9**
GZR	**Gura Zlata**	**3.12**	**74**	⇓P	**Pn**	**13 51 47.2**	**+2.7**
GZR				⇑S	**Sn**	**13 52 16.1**	**-5.8**
GZR	**Gura Zlata**	**3.12**	**74**	*e*Pn	**Pn**	**13 51 44.3**	**-0.1**
SOKA	**Soboth**	**3.18**	**311**	*i* Pn	**Pn**	**13 51 44.4**	**-0.9**
	1.0nm,0.2s						
SOKA				*i* Sn	**Sn**	**13 52 21.7**	**-1.7**
	1.0nm,0.2s						
ZAPS	**Zavoj**	**3.27**	**113**	*e*Sg	**Pn**	**13 51 45.8**	**-0.7**
ZAPS	**Zavoj**	**3.27**	**113**	*e*Pn	**Sg**	**13 52 37.1**	**-3.0**
ARSA	**Arzberg**	**3.34**	**323**	*i* Pn	**Pn**	**13 51 47.1**	**-0.3**
	3.5nm,0.2s						
ARSA				*i* Sn	**Sn**	**13 52 24.5**	**-2.8**
	1.0nm,0.2s						
OBKA	**Obir**	**3.35**	**305**	*i* Pn	**Pn**	**13 51 46.7**	**-0.9**
	0.4nm,0.2s						
OBKA				*i* Sn	**Sn**	**13 52 22.9**	**-4.7**
	2.3nm,0.2s						
DRGR		**3.65**	**52**	⇑P	**Pb**	**13 52 01.7**	**+2.0**
CONA	**Conrad Observa**	**3.77**	**332**	*i* Pn	**Pn**	**13 51 54.0**	**+0.6**
	1.3nm,0.2s						
CONA				*i* Sn	**Sn**	**13 52 36.6**	**-1.3**
	1.1nm,0.2s						
MARR	**Marisel-Cluj**	**3.83**	**56**	⇑P	**Pb**	**13 52 02.7**	**0.0**
MARR				⇑S	**Sn**	**13 52 38.4**	**-0.9**

IDC 23 13:51:33.0±2.3, 23°.88N×95°.01E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=161.4km s-min=26.9km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.52**	**145**	Pg	Pb	13 53 31.7	+4.3
	baz=321,slow=14						
MKAR	**Makanchi Array**	**25.05**	**339**	P	P	13 56 58.9	0.0
	0.5nm,0.6s,baz=138,slow=10,SNR=3.9						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**58.02**	**135**	P	P	14 01 28.2	+0.2
	0.2nm,0.6s,baz=314,slow=7.4,SNR=1.3						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**60.49**	**139**	P	P	14 01 44.9	-0.2
	0.2nm,0.8s,baz=319,slow=7.2,SNR=6.4						
	0.2nm,0.8s						

RSNC 23 14:01:50.0±0.0, 5°.N±1°.×77°.6W±°., h111km±1km, M3.4, mb4.2, ML3.1, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZA	**Niza - Manizal**	**0.46**	**87**	P	Pn	14 02 06.6	-0.4
NIZA				S	Sn	14 02 19.8	0.0
GUY2C	**Guyana, Caldas**	**0.59**	**71**	P	Pn	14 02 07.9	-0.3
GUY2C				S	Sn	14 02 21.7	-0.1
CBOC	**Ciudad Bolivar**	**0.83**	**354**	P	Pn	14 02 08.9	-1.0
CBOC				S	Sn	14 02 23.3	-1.5
YOTC	**Yotoco, Valle**	**1.12**	**202**	P	Pn	14 02 11.6	-1.1
YOTC				S	Sn	14 02 29.0	-0.8
NORC	**Norcasia**	**1.18**	**63**	P	Pn	14 02 12.6	-0.7
NORC				S	Sn	14 02 29.8	-1.1
HELC	**Santa Helena**	**1.22**	**19**	P	Pn	14 02 13.5	-0.6
HELC				S	Sn	14 02 30.7	-1.5
ORTC	**Ortega, Tolima**	**1.31**	**148**	P	Pn	14 02 14.5	-0.2
ORTC				S	Sn	14 02 33.2	-0.2
ROSC	**El Rosal**	**1.61**	**97**	P	Pn	14 02 19.5	+0.9
ROSC				S	Sn	14 02 43.2	+2.8
PRAC	**Prado**	**1.67**	**141**	P	Pn	14 02 18.7	-0.3
PRAC				S

	comp=Z,33nm,1.4s							
HNR	**Honiara**	**25.16**	**282**	P	**P**	**14 07 47.7**	**+1.0**
TKNZ	**Takaka Hill**	**26.96**	**200**	P	**P**	**14 08 01.5**	**-0.8**
WHZ	**Wether Hill Ro**	**32.96**	**202**	P	**P**	**14 08 55.4**	**+0.5**
ARMA	**Armidale**	**33.59**	**239**	P	**P**	**14 09 01.2**	**+0.6**
ARMA				IAmb	IAmb	14 09 22.8	
	comp=Z,10.0nm,1.1s						
CAN	**Canberra**	**37.32**	**232**	P	**P**	**14 09 32.5**	**+0.2**
CAN				IAmb	IAmb	14 10 06.0	
	comp=Z,29nm,1.4s						
STKA	**Stephens Creek**	**42.27**	**240**	P	**P**	**14 10 12.8**	**0.0**
	comp=Z,2.2nm,0.9s,baz=85,slow=15,SNR=2.6						
	comp=Z,2.2nm,0.9s						
BBOO	**Buckleboo**	**47.05**	**240**	P	**P**	**14 10 50.5**	**+0.2**
BBOO				IAmb	IAmb	14 11 33.2	
	comp=Z,14nm,1.4s						
WR8	**Warramunga Arr**	**47.92**	**257**	P	**P**	**14 10 57.9**	**+0.7**
WB0	**Warramunga Arr**	**48.04**	**258**	P	**P**	**14 10 58.8**	**+0.8**
WRA	**Warramunga Arr**	**48.08**	**257**	P	**P**	**14 10 58.9**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=94,slow=7.0,SNR=14						
	comp=Z,0.5nm,0.4s						
AS31	**Alice Springs**	**48.33**	**252**	P	**P**	**14 11 00.6**	**+0.3**
ASAR	**Alice Springs**	**48.33**	**252**	P	**P**	**14 11 00.2**	**-0.1**
ASAR	**Alice Springs**	**48.33**	**252**	P	**P**	**14 11 00.9**	**+0.6**
	comp=Z,3.2nm,0.6s,baz=90,slow=7.4,SNR=134						
	comp=Z,3.2nm,0.6s						
FORT	**Forrest**	**53.64**	**243**	P	**P**	**14 11 39.2**	**-0.3**
FORT				IAmb	IAmb	14 11 54.1	
	comp=Z,9.1nm,1.2s						
PSA00	**Pilbara Seismi**	**61.42**	**254**	P	**P**	**14 12 34.0**	**+0.3**
PSA00				IAmb	IAmb	14 13 11.0	
	comp=Z,5.2nm,1.5s						
SBA	**Scott Base**	**62.49**	**184**	P	**P**	**14 12 40.7**	**+1.0**
SBA				IAmb	IAmb	14 12 41.6	
	comp=Z,2.9nm,0.8s						
VNDA	**Vanda**	**62.58**	**185**	P	**P**	**14 12 40.7**	**+0.3**
VNDA	**Vanda**	**62.58**	**185**	P	**P**	**14 12 40.3**	**0.0**
	comp=Z,1.3nm,0.8s,baz=25,slow=6.0,SNR=9.7						
	comp=Z,1.3nm,0.8s						
ADK	**Adak**	**67.65**	**359**	P	**P**	**14 13 13.1**	**+0.1**
INU	**Inuyama**	**68.33**	**319**	P	**P**	**14 13 16.4**	**-1.2**
PETK	**Petropavlovsk-**	**72.74**	**343**	P	**P**	**14 13 43.5**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=152,slow=5.3,SNR=7.3						
	comp=Z,1.4nm,0.8s						
QSPA	**South Pole Qui**	**74.01**	**180**	P	**P**	**14 13 52.3**	**+1.0**
QSPA				IAmb	IAmb	14 13 53.3	
	comp=Z,3.2nm,0.8s						
QSPA	**South Pole Qui**	**74.01**	**180**	P	**P**	**14 13 52.3**	**+1.0**
	comp=Z,2.8nm,0.7s,baz=326,slow=0.6,SNR=20						
	comp=Z,2.8nm,0.7s						
ILAR	**Eielson Array**	**83.40**	**12**	P	**P**	**14 14 42.0**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=225,slow=5.3,SNR=9.5						
	comp=Z,0.3nm,0.5s						
BELA	**Belgrano 2**	**83.60**	**172**	P	**P**	**14 14 41.2**	**-1.7**
BELA				IAmb	IAmb	14 14 52.2	
	comp=Z,3.7nm,1.5s						
PDAR	**Pinedale Array**	**83.86**	**42**	P	**P**	**14 14 42.4**	**-2.6**
	comp=Z,0.3nm,0.6s,baz=270,slow=5.0,SNR=2.2						
	comp=Z,0.3nm,0.6s						
E19K	**Redstone River**	**84.29**	**7**	P	**P**	**14 14 46.5**	**+0.2**
E19K				IAmb	IAmb	14 15 16.9	
	comp=Z,11nm,1.5s						
MAW	**Mawson**	**86.65**	**199**	P	**P**	**14 14 57.1**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=143,slow=7.2,SNR=6.2						
	comp=Z,1.9nm,0.7s						

*IDC **23** 14:09:25.4±2.1, 6°81S×129°36E, h0km, mb3.3/2, mbtmp3.4/5, ML3.5/3, Error ellipse: s-maj=107.9km s-min=27.0km az=76.0, Banda Sea*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.79**	**198**	Pn	Pn	14 12 15.9	+0.9
FITZ	0.2nm,0.3s,baz=45,slow=13,SNR=1.4			Sn	Sn	14 14 13.8	-14
	0.4nm,0.3s,baz=98,slow=22,SNR=7.0						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**13.92**	**160**	Pn	Pn	14 12 43.3	-0.8
	0.3nm,0.3s,baz=333,slow=13,SNR=7.5						
WRA				Sn	Sn	14 15 03.0	-16
	0.7nm,0.3s,baz=331,slow=23,SNR=11						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**17.32**	**166**	P	Pn	14 13 28.8	0.0
	0.2nm,0.3s,baz=340,slow=9.9,SNR=22						
ASAR				S	Sn	14 16 27.2	-15
	0.3nm,0.3s,baz=339,slow=23,SNR=8.1						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**67.72**	**327**	P	P	14 20 25.6	+0.7
	0.1nm,0.5s,baz=113,slow=7.7,SNR=1.8						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**72.02**	**329**	P	P	14 20 50.4	-0.7
	0.2nm,0.4s,baz=127,slow=4.8,SNR=2.4						
	0.2nm,0.4s						

*NEIC **23** 14:18:37.3±1.0, 20°.02N×145°.55E±0°.08, h146km±8km, mb4.5/20, Error ellipse: s-maj=15.0km s-min=8.1km az=217.0*
*IDC **23** 14:18:40.4±2.6, 19°.97N×145°.54E, h178km±25km, mb3.6/13, mbtmp4.0/15, Error ellipse: s-maj=23.5km s-min=13.0km az=80.0*
ISC 23 14:18:37.8**±0.6, **20°.06N**±0°.06×**145°.5E**±0°.1, **h150km**, **n47**, σ0§97/43, **mb4.2**/22, **Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.46**	**185**	Pn	**Pn**	**14 20 12.1**	**+1.3**
GUMO	**Guam**	**6.46**	**185**	P	**Pn**	**14 20 13.5**	**+2.8**
	35nm,0.5s,baz=266,slow=3.9,SNR=7.8						
GUMO				S	**Sn**	**14 21 24.0**	**+0.5**
	15nm,0.3s,baz=207,slow=18,SNR=1.9						
JMN	**Monobe**	**17.08**	**325**	P	**P**	**14 22 26.9**	**-0.1**
JMN				IAmb	IAmb	14 23 07.3	
	comp=Z,42nm,1.2s						
MJAR	**Matsushiro Arr**	**17.61**	**340**	P	**P**	**14 22 32.6**	**-0.2**
MJAR	**Matsushiro Arr**	**17.61**	**340**	P	**Pn**	**14 22 34.5**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=116,slow=10,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**20.07**	**91**	T	T	14 44 01.1	
	baz=275,slow=74,SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**20.08**	**91**	T	T	14 44 03.7	
	baz=275,slow=74,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**20.09**	**91**	T	T	14 44 03.1	
	baz=275,slow=74,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**20.13**	**87**	T	T	14 44 16.4	
	baz=273						
H11N2	**WAKE ISLAND Hy**	**20.14**	**87**	T	T	14 44 18.1	
	baz=273						
H11N3	**WAKE ISLAND Hy**	**20.15**	**87**	T	T	14 44 19.2	
	baz=273						
MANU	**Manus Island**	**22.05**	**175**	P	**P**	**14 23 19.2**	**-1.3**
MANU				IAmb	IAmb	14 23 19.5	
	comp=Z,32nm,1.4s						
KSRS	**Korea Array**	**23.11**	**322**	P	**P**	**14 23 31.1**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=155,slow=10.0,SNR=7.6						
	comp=Z,1.6nm,0.5s						
INCN	**Inchon**	**23.89**	**321**	P	**P**	**14 23 37.4**	**-0.2**
MTN	**Manton Dam**	**35.62**	**205**	P	**P**	**14 25 20.1**	**-1.2**
SBUM	**Sibu**	**36.89**	**246**	P	**P**	**14 25 31.8**	**-0.4**
SBUM				IAmb	IAmb	14 25 33.6	
	comp=Z,5.2nm,0.6s						
KNRA	**Kununurra**	**39.14**	**206**	P	**P**	**14 25 50.0**	**-0.8**
KNRA				IAmb	IAmb	14 25 50.8	
	comp=Z,8.6nm,1.3s						
WB0	**Warramunga Arr**	**41.05**	**196**	P	**P**	**14 26 06.0**	**-0.6**
WB0				IAmb	IAmb	14 26 41.6	
	comp=Z,10.0nm,1.5s						
WR8	**Warramunga Arr**	**41.20**	**196**	P	**P**	**14 26 07.0**	**-0.9**
WR8				IAmb	IAmb	14 26 16.9	
	comp=Z,7.4nm,1.4s						
WRA	**Warramunga Arr**	**41.23**	**196**	P	**P**	**14 26 07.4**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=14,slow=8.9,SNR=16						
	comp=Z,1.5nm,0.6s						
SONM	**Songino Array**	**41.96**	**321**	P	**P**	**14 26 14.6**	**+0.7**
SONM	**Songino Array**	**41.96**	**321**	P	**P**	**14 26 15.1**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=141,slow=7.1,SNR=3.5						
	comp=Z,0.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**42.63**	**208**	P	**P**	**14 26 17.4**	**-2.1**
CMAR	**Chiang Mai Arr**	**43.86**	**276**	P	**P**	**14 26 30.0**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=63,slow=6.1,SNR=5.6						
	comp=Z,0.5nm,0.4s						
AS31	**Alice Springs**	**44.91**	**195**	P	**P**	**14 26 36.5**	**-1.2**
ASAR	**Alice Springs**	**44.91**	**195**	P	**P**	**14 26 36.3**	**-1.3**
ASAR	**Alice Springs**	**44.91**	**195**	P	**P**	**14 26 36.5**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=14,slow=6.5,SNR=47						
	comp=Z,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**56.82**	**322**	P	**P**	**14 28 06.1**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=108,slow=6.7,SNR=6.8						
	comp=Z,2.1nm,0.7s						
MKAR	**Makanchi Array**	**57.38**	**313**	P	**P**	**14 28 11.2**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=87,slow=8.6,SNR=10						
MKAR				PcP	**sP**	**14 29 01.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=72,slow=3.6,SNR=5.1						
	comp=Z,0.8nm,0.5s						
F17K	**Baldwin Pennin**	**57.43**	**22**	P	**P**	**14 28 10.6**	**+0.2**
COCO	**West Island**	**57.61**	**240**	P	**P**	**14 28 11.6**	**-0.9**
KURBB	**Kurchatov Arra**	**60.18**	**317**	P	**P**	**14 28 30.2**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=92,slow=7.3,SNR=20						
	comp=Z,1.9nm,0.5s						
F21K	**Alatna River**	**60.57**	**23**	P	**P**	**14 28 30.8**	**-1.2**
F21K				IAmb	IAmb	14 28 37.9	
	comp=Z,6.4nm,1.3s						
BOOM	**Boomskoye usch**	**61.81**	**308**	P	**P**	**14 28 42.2**	**+1.2**
BOOM				IAmb	IAmb	14 28 55.6	
	comp=Z,6.2nm,1.0s						
ILAR	**Eielson Array**	**62.52**	**27**	P	**P**	**14 28 44.0**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=261,slow=5.8,SNR=6.1						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**65.31**	**320**	P	**P**	**14 29 03.9**	**+0.3**
	comp=Z,2.7nm,0.4s,baz=89,slow=7.0,SNR=13						
	comp=Z,2.7nm,0.4s						
KKAR	**Karatay Array**	**65.75**	**309**	P	**P**	**14 29 06.7**	**0.0**
KBL	**Kabul**	**68.02**	**300**	P	**P**	**14 29 20.7**	**-0.7**
KBL				IAmb	IAmb	14 29 21.4	
	comp=Z,3.7nm,0.4s						
AB31	**Akbulak array**	**72.21**	**317**	P	**P**	**14 29 46.3**	**-0.1**
ABKAR	**Akbulak array**	**72.21**	**317**	P	**P**	**14 29 46.2**	**-0.2**
ARCES	**ARCESS Array B**	**81.14**	**342**	P	**P**	**14 30 36.9**	**+0.8**
ARCES	**ARCESS Array B**	**81.14**	**342**	P	**P**	**14 30 36.9**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=69,slow=6.6,SNR=5.9						
	comp=Z,2.2nm,0.8s						
JTMT	**Jette**	**82.01**	**42**	P	**P**	**14 30 41.2**	**-0.2**
NVAR	**Mina Array Bea**	**82.46**	**52**	P	**P**	**14 30 45.0**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=260,slow=4.2,SNR=5.3						
	comp=Z,1.0nm,0.8s						
FIA1	**FINESS Array S**	**85.57**	**335**	P	**P**	**14 30 57.9**	**-0.9**
FIA1				IAmb	IAmb	14 31 26.8	
	comp=Z,14nm,1.1s						
FINES	**FINESS Array B**	**85.57**	**335**	P	**P**	**14 30 57.9**	**-0.9**
FINES	**FINESS Array B**	**85.57**	**335**	P	**P**	**14 30 58.1**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=70,slow=4.2,SNR=20						
	comp=Z,1.1nm,0.4s						

*NNC **23** 14:33:25.4±1.3, 35°.76N×69°.88E, h72km±19km, mb3.6, mpv4.0, Error ellipse: s-maj=10.4km s-min=9.1km az=61.0*
*IDC **23** 14:33:31.5±9.4, 36°.21N×70°.70E, h61km±85km, mb3.6/4, mbtmp3.8/8, ML3.1/4, Error ellipse: s-maj=66.8km s-min=48.6km az=156.0*
ISC 23 14:33:35.5**±1.6, **36°.3N**±0°.1×**70°.1E**±0°.1, **h100**km, **n16**, σ3§31/19, **5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.82**	**2**	⇓P	**Pn**	**14 35 10.0**	**-2.9**
	2.6nm,0.3s,baz=185,slow=12,SNR=58						
KK31				⇓S	**Sn**	**14 36 32.7**	**+3.7**
	5.3nm,0.5s,baz=190,slow=24,SNR=5.0						
AAK	**Ala-Archa**	**7.19**	**27**	⇑P	**Pn**	**14 35 15.1**	**-2.9**
	8.0nm,0.8s						
AAK				⇓S	**Sn**	**14 36 42.1**	**+4.0**
	2.1nm,0.6s						
AAK	**Ala-Archa**	**7.19**	**27**	P	**Pn**	**14 35 15.4**	**-2.6**
	8.8nm,0.3s,baz=198,slow=6.9,SNR=22						
AAK				S	**Sn**	**14 36 42.1**	**+4.0**
	3.7nm,0.5s,baz=144,slow=19,SNR=1.6						
PDGK	**Podgornoye**	**10.06**	**43**	⇑P	**Pn**	**14 35 54.3**	**-2.7**
	2.2nm,0.5s						
MK31	**Makanchi Array**	**13.88**	**37**	⇑P	**Pn**	**14 36 46.5**	**-1.3**
	0.6nm,0.5s,baz=219,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	**13.88**	**37**	P	Pn	14 36 42.5	-5.3
	0.1nm,0.3s,baz=226,slow=13,SNR=4.8						
	0.4nm,0.5s						
AB31	**Akbulak array**	**14.95**	**333**	P	**Pn**	**14 36 57.4**	**-4.1**
	0.9nm,0.5s,baz=163,slow=13,SNR=16						
AB31				⇑S	**Sn**	**14 39 46.5**	**+0.1**
	0.5nm,0.3s,baz=161,slow=24,SNR=4.8						
KURBB	**Kurchatov Arra**	**15.56**	**20**	P	**Pn**	**14 37 03.8**	**-5.3**
	baz=209,slow=11,SNR=4.8						
	0.7nm,0.7s						
AKTO	**Aktyubinsk**	**16.64**	**332**	⇑P	**Pn**	**14 37 18.6**	**-3.8**
	1.7nm,0.8s						
AKTO	**Aktyubinsk**	**16.64**	**332**	P	**P**	**14 37 25.6**	**+2.5**
	0.3nm,0.3s,baz=129,slow=9.3,SNR=5.2						
	1.3nm,0.5s						
BVA0	**Borovoye Array**	**16.74**	**1**	P	**Pn**	**14 37 20.9**	**-2.9**
	2.5nm,0.7s,baz=178,slow=12,SNR=5.5						
BVAR	**Borovoye Array**	**16.74**	**1**	P	**Pn**	**14 37 21.3**	**-2.5**
	0.1nm,0.3s,baz=172,slow=11,SNR=6.9						
	1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**20.41**	**25**	P	**P**	**14 38 02.7**	**-1.6**
	5.9nm,0.5s,baz=215,slow=11,SNR=27						
	5.9nm,0.5s						
ARTI	**Arti**	**21.63**	**342**	P	**P**	**14 38 18.3**	**+1.0**
	2.0nm,0.6s,baz=144,slow=8.7,SNR=3.1						
	2.0nm,0.6s						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**14 41 10.7**	**+1.7**
	2.2nm,0.8s,baz=121,slow=9.4,SNR=1.5						
	2.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**65.02**	**268**	P	**P**	**14 44 08.3**	**+3.0**
	0.5nm,0.7s,baz=43,slow=6.2,SNR=3.7						
	0.5nm,0.7s						

*NEIC **23** 14:34:43.8±1.5, 8°.93N±0°.08×126°.6E±0°.1, h35km±2km, mb4.8/52, Error ellipse: s-maj=16.7km s-min=12.8km az=84.0*
*IDC **23** 14:34:46.0±3.0, 8°.86N×126°.58E, h59km±28km, mb4.0/18, mbtmp4.3/21, ML4.1/2, MS3.6/29, Error ellipse: s-maj=23.7km s-min=12.3km az=71.0*
*DJA **23** 14:34:55.0±2.2, 8°N±18°×12°.7E±°, h47km±14km, M4.9/11, mb4.8/11, mB5.2/5, MLv5.1/7, Mw(mB)4.5/5*
ISC 23 14:34:45.6**±0.7, **8°.93N**±0°.04×**126°.66E**±0°.07, **h53**km±6km, **h53**km:**pP-P, n133**, σ1§53/106, **mb4.6**/49, **MS3.8**/27, **1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.14**	**210**		**Pn**	**14 35 16.7**	**-2.2**
DAV	**Davao City (W)**	**2.14**	**210**	P	**Pn**	**14 35 18.3**	**-0.6**
	291nm,0.5s,baz=44,slow=13,SNR=1.3						
DAV				S	**Sn**	**14 35 50.6**	**+6.3**
	1µm,0.7s,baz=316,slow=22,SNR=8.4						
DAV				LR	LR	14 36 18.3	
	comp=Z,3µm,18.5s,baz=336,slow=45						
DAV	**Davao City (W)**	**2.14**	**210**	P	Pn	14 35 25.0	+6.1
SGSI	**Sangihe**	**5.33**	**192**	P	**Pn**	**14 36 06.6**	**+3.8**
TGY	**Tagaytay City**	**7.60**	**313**	LR	LR	14 39 54.3	
	comp=Z,1µm,18.3s,baz=130,slow=41						
TNTI	**Ternate**	**8.14**	**175**	Pn	**Pn**	**14 36 39.0**	**-2.2**
TNTI	**Ternate**	**8.14**	**175**	P	Pn	14 36 47.7	+6.5
KMSI	**Cibinong**	**8.72**	**198**	P	Pn	14 36 55.3	+6.1
TOLI2	**Toliloli**	**9.72**	**217**	Pn	**Pn**	**14 37 00.8**	**-2.2**
SWI	**Sorong**	**10.76**	**155**	P	**Pn**	**14 37 16.9**	**-0.2**
	19nm,0.5s						
SANI	**Sanana**	**10.93**	**184**	P	**Pn**	**14 37 20.2**	**+0.7**
	31nm,0.9s						
FAKI	**Fak Fak**	**13.03**	**154**	Pn	**Pn**	**14 37 45.4**	**-2.7**
TPUB	**Ta-pu**	**15.41**	**339**		**P**	**14 38 21.8**	**-1.6**
TPUB				IAmb	IAmb	14 38 23.8	
	comp=Z,39nm,1.1s						
KAPI	**Kappang**	**15.47**	**207**	LR	LR	14 45 52.7	
	comp=Z,115nm,18.4s,baz=46,slow=43						
SBUM	**Sibu**	**15.74**	**247**	Pn	**Pn**	**14 38 22.1**	**-1.9**
JMZ	**Minamidaito 2**	**17.35**	**14**	P	**Pn**	**14 38 43.7**	**-0.4**
SAUI	**Saumlaki**	**17.43**	**164**	P	**Pn**	**14 38 44.2**	**-1.0**
JOW	**Kunigami**	**17.87**	**5**	P	**Pn**	**14 38 47.9**	**-2.6**
JOW				IAmb	IAmb	14 38 49.9	
	comp=Z,218nm,2.0s						
JOW	**Kunigami**	**17.87**	**5**	LR	LR	14 45 37.3	
	comp=Z,130nm,18.4s,baz=112,slow=36						
JAY	**Jayapura**	**18.04**	**128**	P	**P**	**14 38 52.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=38,slow=10.0,SNR=3.8						
JAY				LR	LR	14 44 27.7	
	comp=Z,243nm,20.2s,baz=336,slow=32						
	comp=Z,6.1nm,0.8s						
EDFI	**Ende, Flores**	**18.25**	**196**	P	**Pn**	**14 38 59.8**	**+4.5**
GUMO	**Guam**	**18.45**	**74**	LR	LR	14 47 52.5	
	comp=Z,79nm,18.2s,baz=258,slow=42						
QIZ	**Qiongzhong**	**19.14**	**303**	P	**P**	**14 39 04.8**	**+0.2**
QIZ				pP	**pP**	**14 39 17.6**	**+1.3**
QIZ				S	**S**	**14 42 37.9**	**-1.0**
QIZ				sS	**sS**	**14 42 54.8**	**-1.7**
QIZ				pmax	pmax		
	comp=Z,230nm,2.8s						
QIZ				LR	LR		
	comp=N,250nm,16.1s						
QIZ				LR	LR		
	comp=E,330nm,13.9s						
QIZ				LR	LR		
	comp=Z,330nm,16.3s						
BATI	**Baumata**	**19.25**	**189**	P	**Pn**	**14 39 06.8**	**-0.5**
	comp=Z,3.4nm,0.3s,baz=281,slow=10,SNR=2.8						
	comp=Z,27nm,0.7s						
MTN	**Manton Dam**	**22.09**	**168**		**P**	**14 39 36.5**	**0.0**
MTN				IAmb	IAmb	14 39 54.8	
	comp=Z,20nm,0.9s						
NJ2	**Nanjing**	**24.12**	**344**	*eP*	**P**	**14 39 58.1**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
JNU	**Nakatsue**	**24.39**	**9**	P	**P**	**14 39 59.2**	**+0.2**
JNU				IAmb	IAmb	14 40 00.6	
	comp=Z,82nm,1.6s						
JNU	**Nakatsue**	**24.39**	**9**	LR	LR	14 51 33.5	
	comp=Z,42nm,18.1s,baz=197,slow=41						
KNRA	**Kununurra**	**24.54**	**175**		**P**	**14 40 00.6**	**+0.1**
KNRA				IAmb	IAmb	14 40 08.8	
	comp=Z,21nm,0.7s						
SLVN	**Son La**	**25.14**	**302**		**P**	**14 40 05.3**	**-0.8**
IPM	**Ipoh**	**25.83**	**262**		**P**	**14 40 12.2**	**-0.1**
IPM				IAmb	IAmb	14 40 25.0	
	comp=Z,26nm,1.1s						
FITZ	**Fitzroy Crossi**	**26.88**	**182**		**P**	**14 40 20.3**	**-1.4**
KSRS	**Korea Array**	**28.42**	**2**	P	**P**	**14 40 34.5**	**-0.7**
	comp=Z,2.2nm,0.9s,baz=172,slow=8.6,SNR=5.3						
	comp=Z,2.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**28.50**	**292**		**P**	**14 40 34.2**	**-2.0**
CMAR	**Chiang Mai Arr**	**28.50**	**292**	P	**P**	**14 40 36.5**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=103,slow=7.2,SNR=27						
CMAR				PcP	**PcP**	**14 43 48.1**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=147,slow=1.5,SNR=5.1						
CMAR				LR	LR	14 52 46.5	
	comp=Z,118nm,18.0s,baz=115,slow=38						
	comp=Z,3.0nm,0.9s						
CHTO	**Chiang Mai**	**28.60**	**293**	P	**P**	**14 40 35.1**	**-2.0**
PZH	**PanZhiHua**	**29.37**	**310**	P	**P**	**14 40 45.6**	**+1.6**
MJAR	**Matsushiro Arr**	**29.42**	**19**	LR	LR	14 53 41.0	
	comp=Z,55nm,18.1s,baz=199,slow=38						
WB0	**Warramunga Arr**	**29.52**	**165**	P	**P**	**14 40 43.2**	**-2.0**
WRA	**Warramunga Arr**	**29.68**	**165**	P	**P**	**14 40 44.9**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=346,slow=9.4,SNR=5.2						
WRA				LR	LR	14 55 12.1	
	comp=Z,65nm,18.8s,baz=155,slow=41						
	comp=Z,0.7nm,0.6s						
WR8	**Warramunga Arr**	**29.73**	**165**	P	**P**	**14 40 45.6**	**-1.4**
MBWA	**Marble Bar**	**30.67**	**193**	P	**P**	**14 40 54.7**	**-0.7**
MBWA				IAmb	IAmb	14 41 01.3	
	comp=Z,37nm,1.7s						
PSA00	**Pilbara Seismi**	**31.05**	**192**	P	**P**	**14 40 58.3**	**-0.3**
AS31	**Alice Springs**	**33.17**	**168**	P	**P**	**14 41 16.0**	**-1.3**
ASAR	**Alice Springs**	**33.17**	**168**	P	**P**	**14 41 15.8**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=353,slow=7.0,SNR=15						
	comp=Z,0.4nm,0.6s						
ASAR				LR	LR	14 55 35.8	
	comp=Z,32nm,21.0s,baz=334,slow=38						
	comp=Z,0.4nm,0.6s						
LZH	**Lanzhou**	**34.09**	**326**	*eP*	**P**	**14 41 28.8**	**+3.4**
LZH				pP	sP	14 41 44.3	+0.1
LZH				pmax	pmax		
	comp=Z,11nm,1.1s						
LZH				LR	LR		
	comp=N,240nm,14.8s						
LZH				LR	LR		
	comp=E,260nm,13.7s						
LZH				LR	LR		
	comp=Z,240nm,17.2s						
HHC	**Hu-ho-hao-te**	**34.49**	**340**	*eP*	**P**	**14 41 31.6**	**+2.9**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,4.8s						
USRK	**Ussuriysk Ar.**	**35.44**	**7**	P	**P**	**14 41 38.1**	**+1.4**
	comp=Z,11nm,0.8s,baz=180,slow=8.0,SNR=10						
	comp=Z,11nm,0.8s						
MDJ	**Mudanjiang**	**35.64**	**4**	P	**P**	**14 41 38.6**	**+0.2**
MDJ	**Mudanjiang**	**35.64**	**4**	P	**P**	**14 41 40.3**	**+1.9**
MDJ				pmax	pmax		
	comp=Z,25nm,1.3s						
MDJ	**Mudanjiang**	**35.64**	**4**	P	**P**	**14 41 40.4**	**+2.0**
MDJ				pP	**pP**	**14 41 51.1**	**+0.7**
BRDH	**Bariadhala**	**36.24**	**296**	LR	LR	14 56 29.8	
	comp=Z,103nm,20.2s,baz=284,slow=36						
BNX	**BinXian**	**36.68**	**1**	⇑P	**P**	**14 41 48.6**	**+1.3**
BNX				pmax	pmax		
	comp=Z,8.0nm,1.

KDJ	**Kajisay**	**54.50**	**316**	P	**P**	**14 44 07.2**	**-1.1**
KDJ				IAmb	IAmb	14 44 09.8	
	comp=Z,6.1nm,1.0s						
NIL	**Nilore**	**54.80**	**305**	P	**P**	**14 44 09.9**	**-0.6**
ZAA0	**Zalesovo Array**	**55.97**	**332**	P	**P**	**14 44 16.6**	**-1.8**
ZALV	**Zalesovo Beam**	**55.97**	**332**	P	**P**	**14 44 16.6**	**-1.8**
ZALV	**Zalesovo Beam**	**55.97**	**332**	P	**P**	**14 44 17.4**	**-1.1**
	comp=Z,4.0nm,0.8s,baz=116,slow=6.9,SNR=14						
ZALV				LR	LR	15 10 48.1	
	comp=Z,71nm,18.2s,baz=106,slow=39						
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**56.54**	**316**	LR	LR	15 10 29.6	
	comp=Z,140nm,21.5s,baz=93,slow=38						
SEY	**Seymchan**	**57.02**	**14**	LR	LR	15 06 37.3	
	comp=Z,18nm,20.6s,baz=32,slow=34						
KURK	**Kurchatov**	**57.38**	**326**	P	**P**	**14 44 27.8**	**-0.7**
KURK	**Kurchatov**	**57.38**	**326**	P	**P**	**14 44 28.0**	**-0.5**
KURK				pP	**pP**	**14 44 39.0**	**-2.8**
KURBB	**Kurchatov Arra**	**57.38**	**326**	P	**P**	**14 44 28.0**	**-0.5**
	comp=Z,8.1nm,0.8s,baz=127,slow=6.3,SNR=60						
	comp=Z,8.1nm,0.8s						
SHEM	**Shemya Is, Ala**	**58.07**	**32**	P	**P**	**14 44 33.7**	**+0.4**
SMY	**Shemya**	**58.07**	**32**	P	**P**	**14 44 33.8**	**+0.5**
SIMJ	**Simiganj**	**59.34**	**310**	P	**P**	**14 44 41.8**	**-0.9**
SIMJ				IAmb	IAmb	14 45 06.1	
	comp=Z,5.9nm,1.2s						
KK31	**Karatay Array**	**59.46**	**315**	P	**P**	**14 44 41.8**	**-1.4**
KKAR	**Karatay Array**	**59.46**	**315**	P	**P**	**14 44 42.0**	**-1.1**
TIXI	**Tiksi**	**62.67**	**1**	P	**P**	**14 45 04.8**	**+0.3**
TIXI	**Tiksi**	**62.67**	**1**	P	**P**	**14 45 05.6**	**+1.2**
BVAR	**Borovoye Array**	**62.98**	**326**	P	**P**	**14 45 06.1**	**-0.7**
	comp=Z,4.2nm,0.8s,baz=100,slow=8.3,SNR=12						
BVAR				PcP	**PcP**	**14 45 44.7**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=123,slow=5.5,SNR=4.1						
	comp=Z,4.2nm,0.8s						
AB31	**Akbulak array**	**68.13**	**320**	P	**P**	**14 45 38.9**	**-1.2**
AB31				IAmb	IAmb	14 45 40.6	
	comp=Z,7.9nm,1.5s						
ABKAR	**Akbulak array**	**68.13**	**320**	P	**P**	**14 45 38.8**	**-1.3**
AKTO	**Aktyubinsk**	**69.59**	**321**	P	**P**	**14 45 48.8**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=130,slow=4.3,SNR=5.9						
AKTO				LR	LR	15 19 06.9	
	comp=Z,119nm,18.7s,baz=38,slow=38						
	comp=Z,2.8nm,0.8s						
ARTI	**Arti**	**70.63**	**327**	P	**P**	**14 45 53.9**	**-1.6**
	comp=Z,3.6nm,0.6s,baz=85,slow=4.0,SNR=5.0						
ARTI				LR	LR	15 18 47.9	
	comp=Z,49nm,20.0s,baz=45,slow=37						
	comp=Z,3.6nm,0.6s						
CASY	**Casey**	**75.94**	**187**	P	**P**	**14 46 26.3**	**-0.1**
CASY	**Casey**	**75.94**	**187**	P	**P**	**14 46 26.6**	**+0.3**
DRV	**Dumont d'Urvil**	**76.03**	**175**	P	**P**	**14 46 26.4**	**-0.5**
D19K	**Kuna River**	**76.33**	**22**	P	**P**	**14 46 30.4**	**+1.6**
GNI	**Garni**	**78.13**	**309**	LR	LR	15 26 10.7	
	comp=Z,44nm,19.6s,baz=75,slow=40						
RAYN	**Ar Rayn**	**78.42**	**292**	P	**P**	**14 46 40.5**	**-0.9**
RAYN				IAmb	IAmb	14 46 42.8	
	comp=Z,5.8nm,0.8s						
RAYN	**Ar Rayn**	**78.42**	**292**	P	**P**	**14 46 40.7**	**-0.7**
RAYN				pP	**PcP**	**14 46 51.7**	**+1.2**
E23K	**Chandalar**	**79.42**	**22**	IAmb	IAmb	14 47 04.2	
	comp=Z,15nm,1.3s						
GURO	**Guroymak-BITLI**	**80.31**	**308**	IAmb	IAmb	14 46 53.3	
	comp=Z,11nm,0.9s						
ILAR	**Eielson Array**	**80.47**	**26**	P	**P**	**14 46 51.5**	**-0.2**
	comp=Z,1.2nm,1.0s,baz=235,slow=4.7,SNR=6.4						
	comp=Z,1.2nm,1.0s						
BMAR	**Burnt Mountain**	**81.34**	**23**	P	**P**	**14 46 57.2**	**+0.9**
I28M	**Miner Creek**	**83.36**	**25**	IAmb	IAmb	14 47 10.9	
	comp=Z,14nm,1.0s						
DAWY	**Dawson**	**83.77**	**26**	IAmb	IAmb	14 47 13.1	
	comp=Z,20nm,1.5s						
H29M	**Whitestone**	**83.90**	**24**	IAmb	IAmb	14 47 13.0	
	comp=Z,14nm,1.1s						
I29M	**Ogilvie Camp,**	**84.05**	**25**	IAmb	IAmb	14 47 13.7	
	comp=Z,13nm,1.1s						
G30M	**tAoh Zraii Nji**	**84.62**	**23**	IAmb	IAmb	14 47 16.4	
	comp=Z,12nm,1.1s						
I30M	**Mount Dempster**	**84.87**	**25**	IAmb	IAmb	14 47 30.9	
	comp=Z,9.1nm,1.1s						
ASF	**Jabal al Asfar**	**85.11**	**302**	LR	LR	15 30 21.8	
	comp=Z,35nm,18.4s,baz=81,slow=39						
INK	**Inuvik**	**85.38**	**22**	IAmb	IAmb	14 47 19.5	
	comp=Z,9.2nm,1.1s						
F31M	**Tsiigehtchic**	**85.48**	**22**	IAmb	IAmb	14 47 19.9	
	comp=Z,11nm,0.9s						
H31M	**Peel River**	**85.59**	**24**	IAmb	IAmb	14 47 21.0	
	comp=Z,12nm,1.1s						
FINES	**FINESS Array B**	**87.24**	**332**	P	**P**	**14 47 25.6**	**-0.6**
FINES	**FINESS Array B**	**87.24**	**332**	P	**P**	**14 47 25.2**	**-1.0**
	comp=Z,3.5nm,0.9s,baz=100,slow=7.9,SNR=5.0						
FINES				LR	LR	15 30 29.5	
	comp=Z,55nm,18.1s,baz=31,slow=38						
	comp=Z,3.5nm,0.9s						
VNDA	**Vanda**	**88.56**	**173**	P	**P**	**14 47 31.8**	**-0.4**
VNDA				IAmb	IAmb	14 48 08.9	
	comp=Z,5.2nm,1.3s						
VNDA	**Vanda**	**88.56**	**173**	P	**P**	**14 47 31.9**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=315,slow=5.0,SNR=5.4						
	comp=Z,1.2nm,0.9s						
MLR	**Muntele Rosu**	**91.12**	**316**	LR	LR	15 34 38.6	
	comp=Z,73nm,18.4s,baz=60,slow=39						
HFS	**Hagfors**	**93.40**	**333**	LR	LR	15 33 38.3	
	comp=Z,47nm,18.1s,baz=50,slow=38						
NOA	**NORSAR Array B**	**94.12**	**334**	LR	LR	15 33 46.9	
	comp=Z,33nm,18.8s,baz=75,slow=38						
YKA	**Yellowknife Ar**	**94.81**	**24**	P	**P**	**14 48 03.2**	**+1.8**
	comp=Z,1.8nm,0.7s,baz=302,slow=4.5,SNR=4.1						
	comp=Z,1.8nm,0.7s						
VRAC	**Vranov**	**96.04**	**322**	LR	LR	15 35 21.8	
	comp=Z,44nm,18.4s,baz=26,slow=38						
CLL	**Collm**	**97.39**	**325**	*e*P	**P**	**14 48 13.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**121.11**	**291**	PKP	**PKPdf**	**14 53 32.5**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=52,slow=3.7,SNR=4.5						

*IDC **23** 14:45:09.5±2.9, 62.46S×156.73W, h0km, mb3.7/4, mbtmp3.7/5, ML3.3/1, MS3.8/22, Error ellipse: s-maj=82.1km s-min=29.5km az=58.0*

ISC 23 14:45:10.8±2.5, 62.5S±0.3×156.7W±0.4, h10km, n32, σ0s83/6, mb3.8/4, MS3.8/21, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**19.95**	**205**	P	**P**	**14 49 42.1**	**-0.3**
	0.1nm,0.3s,baz=70,slow=16,SNR=8.2						
VNDA				LR	LR	14 55 26.4	
	comp=Z,187nm,18.1s,baz=68,slow=31						
	1.2nm,0.8s						
QSPA	**South Pole Qui**	**27.66**	**180**	P	**P**	**14 50 59.5**	**+1.0**
	1.6nm,0.9s,baz=72,slow=4.3,SNR=3.8						
QSPA				LR	LR	15 00 10.1	
	comp=Z,117nm,18.7s,baz=60,slow=33						
	1.6nm,0.9s						
RAO	**Raoul Island**	**36.00**	**327**	LR	LR	15 02 46.6	
	comp=Z,148nm,20.8s,baz=106,slow=29						
PMSA	**Palmer Station**	**37.74**	**136**	LR	LR	15 06 52.2	
	comp=Z,161nm,18.1s,baz=226,slow=34						
TBI	**Tubuai**	**39.41**	**11**	*e*LR	LR	15 03 33.1	
	1um,27.2s						
RAR	**Rarotonga**	**41.28**	**356**	LR	LR	15 08 01.9	
	comp=Z,123nm,18.3s,baz=104,slow=33						
SNAA	**Sanae**	**44.93**	**169**	P	**P**	**14 53 24.7**	**-0.5**
	1.7nm,1.1s,baz=198,slow=9.6,SNR=3.7						
SNAA				LR	LR	15 10 29.6	
	comp=Z,77nm,20.9s,baz=270,slow=34						
	1.7nm,1.1s						
PPT2	**Papeete2**	**45.10**	**10**	*e*LR	LR	15 06 09.9	
	280nm,24.2s						
PPT2				*e*LR	LR	15 06 15.7	
	256nm,26.0s						
PPT	**Papeete**	**45.12**	**10**	LR	LR	15 07 08.1	
	comp=Z,151nm,20.3s,baz=312,slow=29						
RPN	**Rapa Nui**	**46.99**	**64**	LR	LR	15 09 04.2	
	comp=Z,74nm,22.0s,baz=254,slow=30						
MAW	**Mawson**	**47.11**	**199**	LR	LR	15 11 07.8	
	comp=Z,142nm,18.6s,baz=162,slow=33						
DZM	**Mont Dzumac**	**47.49**	**311**	*e*LR	LR	15 06 47.5	
	135nm,22.2s						
DZM	**Mont Dzumac**	**47.49**	**311**	LR	LR	15 09 52.7	
	comp=Z,112nm,20.7s,baz=182,slow=31						
STKA	**Stephens Creek**	**49.25**	**279**	LR	LR	15 12 51.1	
	comp=Z,76nm,18.0s,baz=180,slow=34						
PLCA	**Paso Flores**	**53.18**	**109**	LR	LR	15 12 53.7	
	comp=Z,64nm,18.8s,baz=206,slow=31						
H03S2	**Juan Fernandez**	**55.06**	**97**	T	T	15 55 00.5	
	baz=211,slow=74,SNR=100						
H03S1	**Juan Fernandez**	**55.07**	**97**	T	T	15 55 01.8	
	baz=211,slow=74,SNR=93						
H03S3	**Juan Fernandez**	**55.08**	**97**	T	T	15 55 01.1	
	baz=211,slow=74,SNR=109						
H03N3	**Juan Fernandez**	**55.38**	**97**	T	T	15 55 34.7	
	baz=212,slow=74,SNR=28						
H03N2	**Juan Fernandez**	**55.39**	**97**	T	T	15 55 31.6	
	baz=212,slow=74,SNR=18						
H03N1	**Juan Fernandez**	**55.40**	**97**	T	T	15 55 28.4	
	baz=212,slow=74,SNR=18						
ASAR	**Alice Springs**	**59.78**	**277**	P	**P**	**14 55 15.4**	**-0.4**
	0.6nm,0.9s,baz=143,slow=6.1,SNR=4.9						
ASAR				LR	LR	15 16 59.4	
	comp=Z,119nm,20.5s,baz=170,slow=32						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**62.80**	**279**	P	**P**	**14 55 37.0**	**+0.7**
	0.5nm,0.7s,baz=153,slow=6.9,SNR=2.7						
WRA				LR	LR	15 19 36.8	
	comp=Z,68nm,18.0s,baz=166,slow=33						
	0.5nm,0.7s						
PMG	**Port Moresby**	**66.47**	**297**	LR	LR	15 22 25.0	
	comp=Z,46nm,18.1s,baz=99,slow=34						
CPUP	**Villa Florida**	**71.17**	**111**	LR	LR	15 24 23.2	
	comp=Z,13nm,18.3s,baz=43,slow=33						
LPAZ	**La Paz**	**75.05**	**96**	LR	LR	15 22 18.9	
	comp=Z,40nm,19.4s,baz=171,slow=30						
BDFB	**Brasilia**	**84.62**	**114**	LR	LR	15 33 03.7	
	comp=Z,54nm,18.7s,baz=195,slow=34						
BOSA	**Boshof**	**89.23**	**182**	LR	LR	15 35 28.4	
	comp=Z,63nm,18.7s,baz=201,slow=34						
JTS	**Las Juntas de**	**90.80**	**69**	LR	LR	15 31 53.8	
	comp=Z,30nm,18.0s,baz=241,slow=31						
LBTB	**Lobatse**	**92.81**	**182**	LR	LR	15 37 19.5	
	comp=Z,61nm,18.7s,baz=156,slow=34						
TSUM	**Tsumeb**	**98.48**	**175**	LR	LR	15 41 28.3	
	comp=Z,47nm,18.2s,baz=151,slow=34						
KURBB	**Kurchatov Arra**	**148.37**	**274**	PKPbc	**PKPbc**	**15 04 55.8**	**-0.3**
	0.2nm,0.6s,baz=119,slow=3.3,SNR=2.5						

IDC 23 14:46:00.9±3.3, 8.66N×125.84E, h0km, mb3.6/4, mbtmp3.6/4, MS3.1/1, Error ellipse: s-maj=318.7km s-min=22.0km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**7.23**	**319**	LR	LR	14 51 04.9	
	comp=Z,128nm,19.3s,baz=112,slow=42						
WRA	**Warramunga Arr**	**29.63**	**164**	P	P	14 52 10.0	+1.7
	0.3nm,0.6s,baz=347,slow=8.5,SNR=1.7						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**33.09**	**166**	P	P	14 52 37.2	-1.4
	0.3nm,0.9s,baz=343,slow=7.1,SNR=6.5						
	0.3nm,0.9s						
MKAR	**Makanchi Array**	**53.05**	**324**	P	P	14 55 20.3	+0.4
	1.4nm,0.8s,baz=123,slow=7.8,SNR=16						
	1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**57.15**	**326**	P	P	14 55 48.9	-0.5
	1.2nm,0.7s,baz=127,slow=6.4,SNR=16						
	1.2nm,0.7s						

VIE 23 14:52:31.4±0.3, 47.33N×11.47E, h0km, ml0.2/3, Error ellipse: s-maj=4.2km s-min=1.6km az=7.0 6 km NNW of Hall in Tirol Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WATA	**Walderalm**	**0.08**	**81**	*i* Pg	Pg	14 52 32.7	-0.1
	1.6nm,0.1s						
WATA				*i* Sg	Sg	14 52 34.4	+0.6
	12nm,0.4s						
WTTA	**Wattenberg**	**0.13**	**118**	*i* Pg	Pg	14 52 33.9	0.0
	0.4nm,0.1s						
WTTA				*i* Sg	Sg	14 52 36.2	+0.6
	1.1nm,0.2s						
MOTA	**Moosalm**	**0.25**	**275**	*i* Pg	Pg	14 52 35.9	-0.2
	0.6nm,0.2s						
MOTA				*e*Sg	Sg	14 52 39.6	+0.3
	0.9nm,0.2s						

*TIR **23** 14:55:58.8, 41.52N×19.54E, h28km±4km, Ml2.6/7*
*SKO **23** 14:56:00.7, 41.27N×19.34E, h21km, ML2.6*
*PDG **23** 14:56:02.2±0.2, 41.36N×19.43E, h16km, ML2.7/10, Error ellipse: s-maj=0.9km s-min=2.0km az=0.0*
*BEO **23** 14:56:03.8±0.5, 41.53N×19.90E, h6km±4km, ML2.5/9*

ISC 23 14:56:00.4±1.0, 41.33N±0.02×19.45E±0.03, h12km±9km, n41, σ1s57/69, 3C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.31**	**87**	Pg	**Pg**	**14 56 06.7**	**0.0**
TIR				Sg	**Sg**	**14 56 09.7**	**-1.2**
TIR				AML	AML	14 56 11.0	
	2.6nm,0.2s						
TIR				AML	AML	14 56 11.1	
	3.3nm,0.3s						
ULC	**Ulcinj**	**0.65**	**346**	⇓*i* Pg	**Pb**	**14 56 13.9**	**+0.1**
ULC				*e*Sg	**Sn**	**14 56 24.7**	**-1.2**
VLO	**Vlora**	**0.86**	**178**	Pg	**Pn**	**14 56 20.3**	**+2.0**
VLO				Sg	**Sn**	**14 56 31.0**	**+0.1**
VLO				AML	AML	14 56 37.4	
	2.6nm,0.2s						
DRME	**Dracevica, Mon**	**0.88**	**347**	*e*Pg	**Pn**	**14 56 18.2**	**-0.5**
DRME				*e*Sg	**Sn**	**14 56 32.7**	**+1.3**
DRME	**Dracevica, Mon**	**0.88**	**347**	⇑*i* Pg	**Pn**	**14 56 18.0**	**-0.7**
OHR	**Ohrid**	**1.04**	**102**	*i* Pg	**Pb**	**14 56 20.9**	**+0.5**
OHR				*i* Sg	**Sn**	**14 56 36.1**	**+0.7**
OHR				*e*Lg	Lg	14 56 36.4	
	comp=N,79nm,0.3s						
OHR				*e*Lg	Lg	14 56 37.8	
	comp=E,118nm,0.5s						
BUM	**Brajici-Budva**	**1.06**	**337**	*e*Pg	**Pn**	**14 56 21.6**	**+0.4**
BUM				*i* Sg	**Sn**	**14 56 38.1**	**+2.2**
PDG	**Podgorica**	**1.11**	**352**	*e*Pg	**Pn**	**14 56 23.1**	**+1.3**
PDG	**Podgorica**	**1.11**	**352**	⇑*i* Pg	**Pn**	**14 56 22.4**	**+0.6**
PDG				*i* Sg	**Sn**	**14 56 39.4**	**+2.3**
KBN	**Korca**	**1.23**	**124**	Pn	**Pn**	**14 56 22.9**	**-0.7**
KBN				Sn	**Sn**	**14 56 41.2**	**+1.0**
KBN				AML	AML	14 56 44.1	
	comp=E,0.3nm,0.4s						
CEME	**Cevo**	**1.28**	**342**	⇓*i* Pg	**Pg**	**14 56 25.4**	**+0.4**
CEME				*i* Sg	**Sn**	**14 56 44.2**	**+2.8**
HCY	**Herceg Novi**	**1.33**	**328**	⇑*i* Pg	**Pg**	**14 56 26.4**	**+0.5**
HCY				*i* Sg	**Sn**	**14 56 46.1**	**+3.7**
NKME	**Niksic**	**1.48**	**346**	⇓*i* Pg	**Pg**	**14 56 28.4**	**-0.5**
NKME				*i* Sg	**Sg**	**14 56 49.8**	**+1.6**
KOME	**Kolasin**	**1.52**	**2**	*e*Pg	**Pb**	**14 56 28.0**	**-0.6**
KOME	**Kolasin**	**1.52**	**2**	⇓*i* Pg	**Pg**	**14 56 29.6**	**0.0**
KOME				*i* Sg	**Sg**	**14 56 51.0**	**+1.7**
BEY	**Berane**	**1.57**	**12**	*e*Pg	**Pn**	**14 56 28.3**	**0.0**
IVA	**Berane**	**1.57**	**12**	⇓*i* Pg	**Pb**	**14 56 29.5**	**-0.1**
IVA				*e*Sg	**Sg**	**14 56 52.7**	**+1.6**
TREB	**Trebinje**	**1.61**	**330**	*e*Pg	**Pg**	**14 56 31.6**	**+0.3**
SKO	**Skopje**	**1.62**	**66**	*i* Pn	**Pb**	**14 56 30.1**	**-0.2**
SKO				*i* Sn	**Sg**	**14 56 52.6**	**+0.1**
BRY	**Bratogost**	**1.71**	**337**	*e*Pn	**Pg**	**14 56 32.1**	**-1.1**
BRY				*e*Sn	**Sg**	**14 56 55.8**	**+0.3**
NOCI	**Noci**	**1.89**	**254**	Pn	**Pg**	**14 56 36.7**	**+0.1**
NOCI				Sn	**Sn**	**14 56 55.9**	**-0.4**
NOCI				AML	AML	14 57 14.7	
	comp=E,0.3nm,0.5s						
UPM	**Unac-Piva**	**1.92**	**348**	⇓*i* Pn	**Pb**	**14 56 35.0**	**-0.4**
UPM				*i* Sn	**Sg**	**14 57 00.8**	**-1.2**
IGT	**Igoumenitsa**	**1.92**	**159**	Pg	**Pb**	**14 56 35.4**	**0.0**
IGT				Sn	**Sg**	**14 57 02.2**	**+0.2**
IGT				AML	AML	14 57 11.9	
	comp=E,0.2nm,0.7s						
IGT	**Igoumenitsa**	**1.92**	**159**	*i* Pn	**Pg**	**14 56 37.1**	**0.0**
IGT				*i* Sn	**Sg**	**14 57 02.7**	**+0.7**
IGT	**Igoumenitsa**	**1.92**	**159**	*e*Pn	**Pg**	**14 56 36.9**	**-0.2**
SJES	**Sjenica**	**1.97**	**11**	*e*Pg	**Pb**	**14 56 36.7**	**+0.4**
SJES				*e*Sg	**Sn**	**14 56 59.5**	**+1.1**
STON	**Ston**	**2.02**	**320**	*e*Pn	**Pg**	**14 56 38.4**	**-0.7**
SELS	**Selova**	**2.26**	**33**	*e*Pg	**Pn**	**14 56 38.2**	**+0.6**
SELS				*e*Sg	**Sn**	**14 57 03.9**	**-1.5**
BARS	**Barje**	**2.30**	**49**	*i* Pn	**Pn**	**14 56 39.2**	**+1.0**
BARS				*i* Sn	**Sb**	**14 57 09.8**	**-0.5**
BARS	**Barje**	**2.30**	**49**	*e*Pg	**Pn**	**14 56 39.4**	**+1.2**
IVAS	**Ivanjica**	**2.30**	**13**	*e*Pg	**Pn**	**14 56 39.3**	**+1.0**
IVAS				*e*Sg	**Sn**	**14 57 07.8**	**+1.2**
GOCS	**Kraljevo Serbi**	**2.47**	**25**	*e*Sg	**Sn**	**14 57 10.9**	**+0.2**
BBLS	**Lazi&#263i**	**2.54**	**359**	*e*Pg	**Pg**	**14 56 47.9**	**-1.1**
BBLS				*e*Sg	**Sg**	**14 57 19.4**	**-2.4**
BOSS	**Bosilegrad**	**2.54**	**62**	*e*Pg	**Pn**	**14 56 42.3**	**+0.8**
BOSS				*e*Sg	**Sn**	**14 57 11.2**	**-1.2**
KNT	**Kendrikon**	**2.60**	**93**	*i* Pn	**Pn**	**14 56 43.3**	**+0.9**
LKD2	**Lefkada island**	**2.70**	**160**	Pn	**Pn**	**14 56 44.7**	**+0.9**
LKD2				Sn	**Sn**	**14 57 15.4**	**-0.9**
KKB	**Krupnik**	**2.80**	**78**	*i* Pn	**Pn**	**14 56 46.5**	**+1.4**
SGRT	**San Giovanni R**	**2.82**	**280**	Pn	**Pn**	**14 56 45.7**	**+0.3**
SGRT				Sn	**Sn**	**14 57 12.1**	**-7.2**
SOH	**Sokhos**	**2.99**	**98**	*i* Pn	**Pn**	**14 56 48.0**	**+0.2**
ZAPS	**Zavoj**	**3.06**	**49**	*e*Pn	**Pn**	**14 56 48.0**	**-0.6**
ZAPS				*e*Sn	**Sn**	**14 57 20.2**	**-5.0**
VTS	**Vitosha**	**3.10**	**64**	*e*Pn	**Pn**	**14 56 50.2**	**+0.9**

*CNRM **23** 15:10:48.9, 33.65N×6.00W, h6km, ML2.6*
*MDD **23** 15:10:51.4±1.5, 33.90N×5.95W, h4km±8km, Mb3.8/5, M_mb3.1/5, Error ellipse: s-maj=8.7km s-min=4.1km az=121.0*
*INMG **23** 15:10:52.4±1.3, 33.78N×5.77W, h31km±18km, ML2.0, Error ellipse: s-maj=9.2km s-min=7.8km az=127.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Fez (Marr)*

ISC 23 15:10:48.8±0.8, 33.79N±0.03×5.93W±0.03, h13km, n32, σ1s53/41, 4C, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SICH	**Sidi Chahed**	**0.60**	**58**	P	**Pn**	**15 11 02.8**	**-0.3**
SICH	**Sidi Chahed**	**0.60**	**58**	S	**Sn**	**15 11 12.5**	**-0.3**
ZHG	**ZHG**	**0.68**	**240**	P	**Pg**	**15 11 02.5**	**+0.3**
ZHG	**ZHG**	**0.68**	**240**	S	**Sg**	**15 11 11.5**	**+0.3**
LCRM	**LCR**	**0.90**	**96**	P	**Pg**	**15 11 06.2**	**-0.1**
LCRM	**LCR**	**0.90**	**96**	S	**Sn**	**15 11 19.6**	**-0.8**
CZD	**Col de Zad**	**1.06**	**135**	P	**Pb**	**15 11 09.0**	**-0.2**
CZD	**Col de Zad**	**1.06**	**135**	S	**Sb**	**15 11 23.6**	**+0.5**
AVE	**Averroes**	**1.33**	**249**	P	**Pn**	**15 11 13.1**	**0.0**
AVE	**Averroes**	**1.33**	**249**	S	**Sn**	**15 11 29.1**	**-1.6**
MD31	**MD31**	**1.35**	**133**	P	**Pn**	**15 11 13.5**	**+0.1**
MD31	**MD31**	**1.35**	**133**	S	**Sn**	**15 11 30.9**	**-0.3**
MDT	**Midelt**	**1.48**	**131**	P	**Pn**	**15 11 15.9**	**+0.7**
MDT	**Midelt**	**1.48**	**131**	S	**Sn**	**15 11 34.5**	**0.0**
AKLM	**AKL**	**1.86**	**67**	P	**Pb**	**15 11 22.5**	**-0.3**
AKLM	**AKL**	**1.86**	**67**	S	**Sg**	**15 11 48.8**	**+0.1**
TISM	**Timmit**	**2.10**	**192**	P	**Pn**	**15 11 22.6**	**-1.2**
TISM	**Timmit**	**2.10**	**192**	S	**Sn**	**15 11 49.9**	**+0.1**
JBK	**JBK**	**2.85**	**78**	P	**Pn**	**15 11 35.6**	**+1.4**
JBK	**JBK**	**2.85**	**78**	S	**Sn**	**15 12 09.3**	**+0.9**
PBDV	**Barranco-do-Ve**	**3.81**	**335**	*e*P	**Pn**	**15 11 49.8**	**+2.5**
PBDV				*e*S	**Sn**	**15 12 29.3**	**-2.7**
EGRO	**El Granado**	**3.94**	**342**	Pn	**Pn**	**15 11 50.9**	**+1.8**
EGRO				⇑*i*Vmb_VC		15 11 51.9	
	137nm,SNR=1.6						
EGRO				Sn	**Sn**	**15 12 33.4**	**-1.8**
EMIN	**Mina Concepcio**	**4.02**	**352**	⇑*i*Vmb_VC		15 11 51.3	
	92nm,SNR=1.3						
EMIN				Sn	**Sn**	**15 12 35.4**	**-1.6**
PFVI	**Vila Bisbo**	**4.09**	**326**	*e*P	**Pn**	**15 11 54.3**	**+3.2**
PFVI				*e*S	**Sn**	**15 12 38.2**	**-0.5**
MORF	**Marmelete**	**4.15**	**328**	*e*P	**Pn**	**15 11 53.2**	**+1.3**
MORF				*e*S	**Sn**	**15 12 40.9**	**+0.6**
MORF				*i* IAML		15 12 41.7	
MORF				*i* IAML		15 12 43.2	
MORF				*i* IAML		15 12 43.8	
PCVE	**Castro Verde**	**4.20**	**337**	*e*P	**Pn**	**15 11 54.8**	**+2.2**
PCVE				*e*S	**Sn**	**15 12 41.5**	**0.0**
ECAB	**El Cabril**	**4.30**	**5**	Pn	**Pn**	**15 11 55.0**	**+1.0**
ECAB				⇑*i*Vmb_VC		15 11 59.3	
	84nm,SNR=1.5						
ECAB				Sn	**Sn**	**15 12 41.9**	**-2.1**
PBAR	**Barrancos**	**4.47**	**349**	*e*P	**Pn**	**15 11 57.5**	**+1.2**
PBAR				*e*S	**Sn**	**15 12 47.2**	**-1.0**
PBAR				*i* IAML		15 12 48.6	
PBAR				*i* IAML		15 12 50.3	
PBAR				*i* IAML		15 12 51.8	
EADA	**Adamuz**	**4.51**	**14**	Pn	**Pn**	**15 11 57.8**	**+1.0**
EADA				⇑*i*Vmb_VC		15 12 07.6	
	106nm,SNR=1.3						
EADA				Sn	**Sn**	**15 12 46.1**	**-3.0**
PSIM	**Granatula de C**	**5.32**	**19**	Pn

comp=Z,4.1nm,1.1s,baz=229,slow=7.7,SNR=6.8
WRA LR LR 15 57 54.9
comp=Z,148nm,18.3s,baz=143,slow=34
comp=Z,4.1nm,1.1s
WR8 Warramunga Arr 42.57 71 P **P** **15 41 33.6 -0.7**
WR8 IAmb IAmb 15 41 51.9
comp=Z,6.2nm,1.2s
WB0 Warramunga Arr 42.62 70 P **P** **15 41 34.2 -0.5**
WB0 IAmb IAmb 15 41 39.3
comp=Z,4.1nm,0.9s
BATI Baumata 43.08 50 LR LR 16 00 01.4
comp=Z,94nm,18.3s,baz=172,slow=37
VNDA Vanda 43.80 163 P **P** **15 41 43.6 0.0**
VNDA Vanda 43.80 163 P **P** **15 41 43.1 -0.5**
comp=Z,0.8nm,0.7s,baz=284,slow=9.6,SNR=5.5
VNDA LR LR 15 57 59.5
comp=Z,119nm,18.5s,baz=276,slow=33
comp=Z,0.8nm,0.7s
KAPI Kappang 45.46 41 LR LR 15 57 07.4
comp=Z,77nm,20.3s,baz=222,slow=31
PSI Prapat 46.38 10 LR LR 15 58 22.9
comp=Z,237nm,18.9s,baz=208,slow=32
QSPA South Pole Qui 46.80 180 P **P** **15 42 08.3 +0.6**
QSPA South Pole Qui 46.80 180 P **P** **15 42 07.7 0.0**
comp=Z,2.2nm,0.7s,baz=288,slow=1.4,SNR=15
QSPA LR LR 15 59 49.1
comp=Z,278nm,20.8s,baz=302,slow=34
comp=Z,2.2nm,0.7s
SNAA Sanae 50.94 204 P **P** **15 42 39.4 +0.2**
comp=Z,1.6nm,0.9s,baz=91,slow=5.3,SNR=6.2
SNAA LR LR 16 01 38.2
comp=Z,108nm,19.8s,baz=89,slow=33
comp=Z,1.6nm,0.9s
BOSA Boshof 54.47 262 LR LR 16 01 26.9
comp=Z,77nm,19.3s,baz=192,slow=31
BELA Belgrano 2 54.77 192 P **P** **15 43 05.5 -1.9**
BELA IAmb IAmb 15 43 46.0
comp=Z,4.2nm,1.2s
LBTB Lobatse 56.32 266 LR LR 16 02 49.0
comp=Z,49nm,18.4s,baz=150,slow=31
MATP Matopo 57.00 272 LR LR 16 03 01.8
comp=Z,153nm,21.1s,baz=135,slow=31
PMG Port Moresby 58.65 72 LR LR 16 07 21.2
comp=Z,194nm,19.3s,baz=223,slow=34
DAV Davao City (W) 58.78 40 LR LR 16 06 18.4
comp=Z,45nm,20.5s,baz=178,slow=33
LSZ Lusaka 60.53 277 LR LR 16 05 49.5
comp=Z,58nm,18.2s,baz=142,slow=32
CMAR Chiang Mai Arr 61.84 8 P **P** **15 43 57.1 -0.3**
CMAR LR LR 16 05 43.5
comp=Z,0.7nm,0.8s,baz=203,slow=6.1,SNR=6.0
comp=Z,91nm,22.0s,baz=190,slow=31
comp=Z,0.7nm,0.8s
BRDH Bariadhala 65.69 360 LR LR 16 08 49.0
comp=Z,122nm,20.8s,baz=272,slow=32
TSUM Tsumeb 65.73 266 LR LR 16 07 31.1
comp=Z,80nm,21.7s,baz=152,slow=31
HNR Honiara 67.70 82 LR LR 16 11 46.0
comp=Z,82nm,19.9s,baz=200,slow=34
PMSA Palmer Station 70.57 191 LR LR 16 16 05.9
comp=Z,124nm,18.0s,baz=176,slow=36
RAO Raoul Island 70.76 112 LR LR 16 07 55.1
comp=Z,103nm,18.6s,baz=57,slow=29
FURI Furi 70.89 303 LR LR 16 11 03.9
comp=Z,49nm,20.9s,baz=176,slow=32
JOW Kunigami 77.46 33 LR LR 16 15 53.5
comp=Z,23nm,21.4s,baz=306,slow=33
JNU Nakatsue 84.07 32 LR LR 16 24 47.5
comp=Z,19nm,18.2s,baz=220,slow=36
AAK Ala-Archa 87.00 347 LR LR 16 22 04.1
comp=Z,83nm,19.4s,baz=192,slow=33
KKAR Karatay Arnav 88.16 345 P **P** **15 46 29.1 +0.4**
MKAR Makanchi Array 90.15 353 P **P** **15 46 38.5 +0.5**
comp=Z,0.4nm,0.7s,baz=159,slow=6.2,SNR=3.9
MKAR LR LR 16 25 49.8
comp=Z,61nm,18.0s,baz=148,slow=35
comp=Z,0.4nm,0.7s
SONM Songino Array 91.70 10 LR LR 16 27 52.3
comp=Z,76nm,19.5s,baz=180,slow=36
PLCA Paso Flores 94.80 193 LR LR 16 30 21.4
comp=Z,68nm,18.1s,baz=187,slow=36
ZALV Zalesovo Beam 97.10 356 LR LR 16 27 24.4
comp=Z,51nm,21.9s,baz=124,slow=33
BVAR Borovoye Array 97.75 347 LR LR 16 27 32.5
comp=Z,28nm,21.7s,baz=178,slow=33
AKTO Aktyubinsk 97.94 339 LR LR 16 28 03.0
comp=Z,27nm,20.5s,baz=3.0,slow=33

*DSN **23** 15:45:15.6±2.5,27.89N×56.94E,h15km,ML2.8/6,Error ellipse: s-maj=88.2km s-min=14.7km az=119.0*
*OMAN **23** 15:45:16.2±0.6,27.84N×55.37E,h10km,ml3.2/14,Error ellipse: s-maj=6.8km s-min=4.4km az=36.0*
*TEH **23** 15:45:18.0,27.80N×55.52E,h12km±45km*
*IDC **23** 15:45:19.9±3.0,27.91N×56.61E,h0km,mb3.7/5,mbtmp3.8/5,ML1.5/1,Error ellipse: s-maj=86.3km s-min=17.8km az=80.0*

ISC 23 15:45:15.9±1.6,27.86N±0.04×55.42E±0.04,h10km±12km, n52,σ1ᵖ62/59,mb3.6/5,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.81**	**124**	Pg	**Pb**	**15 45 32.2**	**+0.1**
LAR1	**LAR**	**0.94**	**259**	Pg	**Pn**	**15 45 38.3**	**+3.1**
IBND	**Bandar-abas**	**1.08**	**112**	Pg	**Pn**	**15 45 38.3**	**+1.3**
SHME	**Shamm**	**1.91**	**160**	P	**Pn**	**15 45 47.4**	**-1.0**
SHME				S	**Sb**	**15 46 14.3**	**-0.4**
SHME	**Shamm**	**1.91**	**160**	P	**Pn**	**15 45 48.0**	**-0.4**
SHME				S	**Sb**	**15 46 13.8**	**-1.0**
LMD1	**Lamerd**	**2.06**	**256**	Pn	**Pg**	**15 45 56.8**	**+1.4**
BANOM	**Banah**	**2.08**	**158**	P	**Pn**	**15 45 50.8**	**0.0**
BANOM				P	**Pn**	**15 45 50.9**	**0.0**
BANOM				S	**Sb**	**15 46 18.3**	**-1.3**
BANOM				S	**Sb**	**15 46 18.3**	**-1.3**
BANOM	**Banah**	**2.08**	**158**	P	**Pn**	**15 45 50.5**	**-0.3**
NGRK	**Negar Kerman**	**2.12**	**33**	Pn	**Pg**	**15 45 56.6**	**0.0**
KRBR	**Kerman**	**2.42**	**29**	Pn	**Pb**	**15 46 00.9**	**+1.1**
MASF	**Masafi**	**2.56**	**165**	P	**Pn**	**15 45 58.1**	**+0.6**
MASF				S	**Sn**	**15 46 29.4**	**+0.7**
MSFE	**Esma-Masafi**	**2.57**	**165**	P	**Pn**	**15 45 58.0**	**+0.4**
MDH	**Madha**	**2.67**	**163**	P	**Pn**	**15 45 59.6**	**+0.8**
MDH				S	**Sn**	**15 46 31.1**	**-0.1**
MDH	**Madha**	**2.67**	**163**	P	**Pn**	**15 45 58.1**	**-0.7**
KHGB	**Koh Gabri**	**2.68**	**20**	Pn	**Pb**	**15 46 05.1**	**+1.1**
CHMN	**Cheshme madani**	**2.73**	**42**	Pn	**Pb**	**15 46 04.9**	**-0.1**
NAZ	**Nazwa, Dubai**	**2.87**	**176**	P	**Pn**	**15 46 03.0**	**+1.4**
NAZ				S	**Sn**	**15 46 36.2**	**+0.1**
KBAM	**BAM**	**2.96**	**64**	Pn	**Pb**	**15 46 07.0**	**-1.8**
UOSS	**Minazif**	**2.98**	**166**	P	**Pn**	**15 46 03.2**	**0.0**
UOSS	**Minazif**	**2.98**	**166**	P	**Pn**	**15 46 03.1**	**-0.1**
HATD	**Hatta, Dubai**	**3.09**	**168**	P	**Pn**	**15 46 06.3**	**+1.7**
HATD	**Hatta, Dubai**	**3.09**	**168**	P	**Pn**	**15 46 03.2**	**-1.5**
KRM1	**Kerman Provinc**	**3.10**	**31**	Pn	**Pb**	**15 46 09.0**	**-2.2**
FAQ	**Al Faqa, Dubai**	**3.10**	**177**	P	**Pn**	**15 46 05.8**	**+0.9**
ASHO	**Ashiyiah** SNR=22	**3.21**	**170**	P	**Pn**	**15 46 07.2**	**+0.8**
ASHO	**Ashiyiah**	**3.21**	**170**	P	**Pn**	**15 46 06.9**	**+0.5**
IMEH	**Mehriz**	**3.59**	**349**	Pn	**Pb**	**15 46 17.2**	**-2.4**
IBAF	**Bafgh**	**3.72**	**2**	Pn	**Pb**	**15 46 18.6**	**-3.2**
ALNE	**Al Ain**	**3.80**	**175**	P	**Pn**	**15 46 15.1**	**+0.7**
SOHO	**SOHO**	**3.84**	**165**	P	**Pn**	**15 46 15.7**	**+0.7**
MZWR	**Madinat Zayed**	**4.31**	**199**	P	**Pn**	**15 46 21.8**	**+0.4**
KLNJ	**Kolanjah**	**4.58**	**314**	Pn	**Pb**	**15 46 31.8**	**-4.7**
ARQ	**Araqi** SNR=12	**4.61**	**167**	P	**Pn**	**15 46 26.1**	**+0.5**
IRAM	**Ramesheh**	**4.74**	**327**	Pn	Pb	15 46 33.7	-5.5
TRNA	**Turayna**	**4.89**	**231**	P	**Pn**	**15 46 28.6**	**-0.8**
TRNA				S	**Sn**	**15 47 24.6**	**-1.4**
UMZA	**Um Al Zommool**	**5.13**	**183**	P	**Pn**	**15 46 32.9**	**+0.3**
SMRA	**Abu-Samra**	**5.16**	**234**	P	**Pn**	**15 46 35.1**	**+2.0**
SMRA				S	**Sn**	**15 47 32.7**	**+0.1**
TPRV	**Parvadeh(Tabas**	**5.27**	**12**	Pn	Pn	15 46 40.6	+5.8
SMDO	**Samad**	**5.34**	**153**	P	**Pn**	**15 46 36.4**	**+0.7**
IGAR	**Gharneh**	**5.39**	**328**	Pn	Pn	15 46 41.8	+5.2
WSAR	**Wadi Sarin** baz=344,slow=24,SNR=12	**5.44**	**147**	Pn	**Pn**	**15 46 37.2**	**+0.2**
WSAR	baz=82,slow=24,SNR=5.8			Sn	**Sn**	**15 47 33.9**	**-5.7**
WSAR	baz=99,slow=24,SNR=4.2			Lg	Lg	15 47 58.3	
WSAR	**Wadi Sarin** SNR=8.0	**5.44**	**147**	P	**Pn**	**15 46 37.2**	**+0.2**
ANAR	**Anarak**	**5.51**	**345**	Pn	Pn	15 46 43.3	+5.2
NGCH	**Negor - Chabah**	**5.69**	**115**	P	**Pn**	**15 46 41.3**	**+0.8**
SRVN	**Saravan**	**6.21**	**93**	Pn	**Pn**	**15 46 50.5**	**+2.8**
JLN	**Jalan Bani Buh**	**6.74**	**147**	P	**Pn**	**15 46 54.1**	**-0.8**
SHAO	**Shalim** SNR=7.4	**9.79**	**179**	P	**Pn**	**15 47 37.0**	**+0.3**
AKTO	**Aktyubinsk** 0.9nm,0.4s,baz=187,slow=9.5,SNR=2.4 0.9nm,0.4s	**22.64**	**4**	P	**P**	**15 50 20.1**	**+3.3**
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=197,slow=7.2,SNR=3.9 0.6nm,0.4s	**27.49**	**20**	P	**P**	**15 51 03.7**	**+1.5**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=223,slow=7.8,SNR=3.9 0.2nm,0.3s	**28.31**	**41**	P	**P**	**15 51 09.2**	**-0.4**
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=245,slow=8.5,SNR=8.1 1.0nm,0.5s	**33.81**	**31**	P	**P**	**15 51 59.4**	**+1.5**
ASAR	**Alice Springs** 0.5nm,1.1s,baz=305,slow=5.5,SNR=2.3 0.5nm,1.1s	**91.35**	**116**	P	**P**	**15 58 23.1**	**+0.9**

IDC 23 16:02:22.3±4.6,6.69S×128.88E,h250km±45km,mb2.9/1, mbtmp3.6/5,Error ellipse: s-maj=49.9km s-min=17.1km az=57.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.24**	**236**	P	Pn	16 03 54.4	+0.9
	32nm,0.5s,baz=255,slow=20,SNR=7.4						
BATI				S	S	16 05 06.2	-0.2
	7.5nm,0.3s,baz=170,slow=20,SNR=1.7						
FITZ	**Fitzroy Crossi**	**11.77**	**195**	P	Pn	16 05 03.7	+0.6
	0.8nm,0.5s,baz=21,slow=9.7,SNR=6.5						
FITZ				S	S	16 07 10.7	-3.8
	1.1nm,0.3s,baz=146,slow=22,SNR=6.9						
WRA	**Warramunga Arr**	**14.20**	**159**	P	P	16 05 34.7	+1.4
	0.2nm,0.4s,baz=337,slow=13,SNR=5.0						
WRA				S	S	16 08 02.8	-7.3
	0.3nm,0.3s,baz=326,slow=24,SNR=4.7						
ASAR	**Alice Springs**	**17.55**	**165**	P	P	16 06 10.2	+0.1
	0.9nm,0.6s,baz=344,slow=11,SNR=30						
ASAR				S	S	16 09 18.7	-0.8
	0.3nm,0.9s,baz=347,slow=25,SNR=3.1						
CMAR	**Chiang Mai Arr**	**38.69**	**311**	P	P	16 09 22.0	-0.5
	0.5nm,0.6s,baz=136,slow=7.8,SNR=5.9 0.5nm,0.6s						

NNC 23 16:07:11.5±1.9,37.32N×80.88E,h0km,mb3.7,mpv3.4, 1C-3D,Error ellipse: s-maj=31.0km s-min=13.8km az=82.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**6.10**	**350**	⇓P	Pn	16 08 42.7	-0.3
	4.1nm,1.2s						
PDGK				⇑Sn	Sn	16 09 55.1	+1.6
	8.0nm,0.8s						
PDGK				⇓Lg	Lg	16 10 23.9	
	8.5nm,0.6s						
MAKZ	**Makanchi**	**9.52**	**5**	Pn	Pn	16 09 30.0	+0.2
	0.8nm,0.4s						
MAKZ				⇓Sn	Sn	16 11 18.4	+0.9
	1.5nm,0.5s						
MK31	**Makanchi Array**	**9.53**	**6**	Pn	Pn	16 09 29.9	0.0
	0.3nm,0.3s,baz=193,slow=12,SNR=24						
MK31				Sn	Sn	16 11 19.1	+1.4
	0.7nm,0.5s,baz=198,slow=23,SNR=6.6						

*SDD **23** 16:20:29.6±1.9,19.32N×69.96W,h23km±10km,MD2.8, ML2.3,MW2.9*
*OSPL **23** 16:20:30.5±0.9,19.23N×69.91W,h11km±8km,ML2.1*

ISC 23 16:20:29.1±1.0,19.23N±0.04×69.92W±0.04,h15km±7km, n14,σ0ᵖ85/22,3C,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADR	**Nagua**	**0.13**	**26**	*e*P	**Pg**	**16 20 32.8**	**0.0**
NADR				⇑*e*S	**Sb**	**16 20 36.5**	**+0.3**
NADR				IAML		16 20 36.7	
	comp=N,2μm,0.3s						
NADR				IAML		16 20 37.0	
	comp=E,3μm,0.3s						
LONA1	**Toro Cenizo, N**	**0.15**	**19**	*i* P	**Pg**	**16 20 33.5**	**+0.5**
LONA1				*e*S	**Sb**	**16 20 36.6**	**-0.2**
LONA1				IAML		16 20 38.4	
	comp=Z,3μm,1.1s						
SFDR	**San Fco. de Ma**	**0.31**	**280**	*e*P	**Pb**	**16 20 37.6**	**+1.2**
SFDR				*e*S	**Sg**	**16 20 40.5**	**+0.5**
SFDR				IAML		16 20 40.6	
	comp=E,1μm,0.1s						
SFDR				IAML		16 20 42.6	
	comp=N,704nm,0.2s						
CADR	**Cabrera**	**0.43**	**357**	*e*S	**Sg**	**16 20 42.2**	**-1.5**
CADR				IAML		16 20 43.1	
	comp=N,306nm,0.1s						
SMDR	**Samana, DR**	**0.69**	**85**	*e*Pg	**Pg**	**16 20 42.6**	**0.0**
SMDR				IAML		16 20 56.6	
	comp=E,50nm,0.3s						
SMDR				IAML		16 21 35.3	
	comp=N,88nm,0.7s						
SC01	**Santiago de lo**	**0.79**	**284**	*i* P	**Pb**	**16 20 44.6**	**+0.1**
SC01				*e*S	**Sg**	**16 20 55.2**	**+0.4**
ABDR	**Alto Bandera**	**0.79**	**238**	⇑*e*Pg	**Pb**	**16 20 42.8**	**-2.0**
ABDR				⇑*e*Sg	**Sg**	**16 20 53.8**	**-1.2**
ABDR				IAML		16 20 55.8	
	comp=N,138nm,0.3s						
ABDR				IAML		16 20 57.9	
	comp=E,110nm,0.5s						
MIDR	**Miches**	**0.86**	**107**	*e*Pg	**Pb**	**16 20 46.1**	**+0.4**
MIDR				IAML		16 21 02.9	
	comp=E,16nm,0.1s						
MIDR				IAML		16 21 03.6	
	comp=N,21nm,0.1s						
MIDR				IAML		16 21 11.2	
	comp=N,18nm,1.3s						
BANI	**BANI**	**0.94**	**207**	*e*Pg	**Pb**	**16 20 47.2**	**+0.1**
BANI				*e*Sg	**Sb**	**16 21 00.8**	**+1.4**
BANI				IAML		16 21 01.6	
	comp=E,136nm,0.1s						
BANI				IAML		16 21 01.6	
	comp=N,184nm,0.3s						
SDDR	**Presa de Saban**	**1.32**	**259**	*i* P	**Pn**	**16 20 52.9**	**-0.2**
SDDR				IAML		16 21 21.1	
	comp=Z,13nm,1.1s						
LOPP1	**Punta Rusia, P**	**1.36**	**297**	*i* P	**Pn**	**16 20 53.6**	**+0.1**
LOPP1				*e*S	**Sn**	**16 21 11.0**	**-0.3**
LOPP1				IAML		16 21 15.5	
	comp=Z,50nm,1.2s						
LONE3	**El Aguacate, B**	**1.59**	**247**	*i* P	**Pn**	**16 20 56.3**	**-0.6**
LONE3				*e*S	**Sn**	**16 21 17.1**	**-0.1**
LONE3				IAML		16 21 19.6	
	comp=Z,13nm,2.1s						
PODR	**Polo**	**1.67**	**231**	*i* P	**Pn**	**16 20 58.6**	**+0.5**
LODU1	**El Espartillar**	**1.71**	**240**	*i* P	**Pn**	**16 20 58.7**	**+0.2**
LODU1				IAML		16 21 39.4	
	comp=Z,22nm,1.9s						

*IDC **23** 16:24:15.5±10.0,21.38S×179.19W,h528km±84km, mb3.1/4,mbtmp4.1/5,Error ellipse: s-maj=125.1km s-min=40.1km az=39.0*
*NEIC **23** 16:24:18.3±1.2,21.65S±0.2×179.0W±0.2,h571km±10km, mb4.2/21,Error ellipse: s-maj=27.0km s-min=20.5km az=128.0*

ISC 23 16:24:20.7±0.8,21.45S±0.1×179.4W±0.1,h600km,n29, σ1ᵖ18/30,mb4.1/15,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.35**	**326**	P	**P**	**16 25 47.9**	**-1.0**
FUTU	**Fugatoga**	**7.13**	**10**	P	**P**	**16 26 10.1**	**-2.0**
DZM	**Mont Dzumac**	**13.19**	**264**	P	**P**	**16 27 08.9**	**-2.7**
	6.5nm,0.9s,baz=110,slow=17,SNR=2.0						
EIDS	**Eidsvold**	**27.37**	**256**	P	**P**	**16 29 19.9**	**+0.1**
EIDS				IAmb	IAmb	16 29 34.9	
	comp=Z,19nm,1.4s						
ARMA	**Armidale**	**27.52**	**245**	P	**P**	**16 29 21.7**	**+0.5**
ARMA				IAmb	IAmb	16 29 49.7	
	comp=Z,19nm,1.4s						
CAN	**Canberra**	**30.95**	**236**	P	**P**	**16 29 50.3**	**-0.3**
TOO	**Toolangi**	**34.34**	**234**	P	**P**	**16 30 18.2**	**-0.9**
TOO				IAmb	IAmb	16 30 40.1	
	comp=Z,11nm,1.4s						
STKA	**Stephens Creek**	**36.25**	**245**	P	**P**	**16 30 35.2**	**+0.3**
STKA	**Stephens Creek**	**36.25**	**245**	P	**P**	**16 30 35.0**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=90,slow=11,SNR=4.0						
	comp=Z,1.6nm,0.7s						
BBOO	**Buckleboo**	**41.00**	**244**	P	**P**	**16 31 12.7**	**-0.4**
BBOO				IAmb	IAmb	16 31 44.2	
	comp=Z,10nm,1.3s						
WR8	**Warramunga Arr**	**43.05**	**263**	P	**P**	**16 31 29.8**	**+0.4**
WR8				IAmb	IAmb	16 32 04.6	
	comp=Z,7.8nm,1.4s						
AS31	**Alice Springs**	**43.06**	**258**	P	**P**	**16 31 30.0**	**+0.5**
ASAR	**Alice Springs**	**43.06**	**258**	P	**P**	**16 31 29.6**	**+0.2**
ASAR	**Alice Springs**	**43.06**	**258**	P	**P**	**16 31 30.4**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=93,slow=8.7,SNR=44						
ASAR				PcP	**PcP**	**16 33 07.9**	**+2.3**
	comp=Z,0.2nm,0.6s,baz=92,slow=4.1,SNR=1.8						
	comp=Z,1.3nm,0.6s						
WB0	**Warramunga Arr**	**43.19**	**264**	P	**P**	**16 31 31.1**	**+0.7**
WB0				IAmb	IAmb	16 32 07.7	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**43.20**	**263**	P	**P**	**16 31 31.3**	**+0.7**
WRA	**Warramunga Arr**	**43.20**	**263**	P	**P**	**16 31 31.4**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=97,slow=7.4,SNR=13						
	comp=Z,0.7nm,0.4s						
FORT	**Forrest**	**47.76**	**247**	P	**P**	**16 32 04.9**	**-0.1**
FORT				IAmb	IAmb	16 32 47.4	
	comp=Z,5.9nm,1.1s						
MTN	**Manton Dam**	**47.88**	**272**	P	**P**	**16 32 07.9**	**+1.8**
MTN				IAmb	IAmb	16 32 10.1	
	comp=Z,15nm,1.4s						
KNRA	**Kununurra**	**49.32**	**267**	P	**P**	**16 32 18.3**	**+1.7**
KNRA				IAmb	IAmb	16 32 41.9	
	comp=Z,16nm,1.3s						
PSA00	**Pilbara Seismi**	**56.21**	**258**	P	**P**	**16 33 06.8**	**+1.2**
MBWA	**Marble Bar**	**56.40**	**258**	P	**P**	**16 33 08.0**	**+1.1**
MBWA				IAmb	IAmb	16 33 34.2	
	comp=Z,17nm,1.4s						
MORW	**Morawa**	**58.30**	**248**	P	**P**	**16 33 20.3**	**+0.6**
MORW				IAmb	IAmb	16 33 50.4	
	comp=Z,17nm,1.4s						
QSPA	**South Pole Qui**	**68.70**	**180**	P	**P**	**16 34 24.9**	**-0.4**
QSPA	**South Pole Qui**	**68.70**	**180**	P	**P**	**16 34 25.8**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=6.1,slow=1.1,SNR=3.6						
	comp=Z,1.6nm,0.7s						
P08K	**Saint George I**	**78.11**	**6**	P	**P**	**16 35 18.6**	**+0.2**
BELA	**Belgrano 2**	**78.86**	**173**	P	**P**	**16 35 20.6**	**-1.7**
MCARA	**McCarthy VSAT**	**87.49**	**17**	P	**P**	**16 36 06.8**	**+1.6**
U35K	**Hyder**	**87.57**	**25**	P	**P**	**16 36 06.5**	**+0.9**

*UCR **23** 16:35:35.0±1.3,11.42N×85.84W,h111km±5km,MW4.1*
*CATAC **23** 16:35:36.6±0.2,11.42N±2.26×8.66W±0.06,h98km±2km,M3.8/45, MLv3.8/45,Error ellipse: s-maj=5.9km s-min=1.8km az=42.2,confirmed*
*SNET **23** 16:35:40.4±0.8,11.80N×86.01W,h35km±999km,ML3.8*

ISC 23 16:35:35.2±1.2,11.41N±0.04×85.89W±0.04,h116km±6km, n107,σ0ᵖ89/134,3C-1D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAPN	**AI SSO del Vol**	**0.24**	**59**	*e*P	**Pn**	**16 35 51.8**	**+0.3**
JAPN	**AI SSO del Vol**	**0.24**	**59**	P	**Pn**	**16 35 52.0**	**+0.5**
MORN	**AI O del Volca**	**0.27**	**59**	P	**Pn**	**16 35 51.9**	**+0.2**
MORN				S	**Sn**	**16 36 03.3**	**-0.7**
CONN	**Concepcion**	**0.30**	**58**	P	**Pn**	**16 35 51.9**	**+0.2**
CONN				S	**Sn**	**16 36 03.7**	**-0.5**
LCRUZ	**La Cruz**	**0.41**	**142**	*e*P	**Pn**	**16 35 51.8**	**-0.5**
LCRUZ				*e*S	**Sn**	**16 36 04.5**	**-0.6**
CARN	**Rivas**	**0.42**	**121**	⇑*e*P	**Pn**	**16 35 52.2**	**-0.1**
CARN				*e*S	**Sn**	**16 36 05.1**	**-0.1**
CARN	**Rivas**	**0.42**	**121**	P	**Pn**	**16 35 52.2**	**-0.1**
CARN				S	**Sn**	**16 36 05.8**	**-0.1**
NANN	**Nandasmo**	**0.58**	**337**	P	**Pn**	**16 35 54.5**	**+1.1**
NANN	**Nandasmo**	**0.58**	**337**	S	**Sn**	**16 36 07.2**	**+0.2**
MASN	**Masaya**	**0.63**	**336**	P	**Pn**	**16 35 54.0**	**+0.2**
MASN				S	**Sn**	**16 36 07.9**	**+0.2**
MAS3	**AI N del Volca**	**0.68**	**335**	P	**Pn**	**16 35 54.9**	**+0.8**
MAS3				S	**Sn**	**16 36 08.6**	**+0.3**
CRUN	**El Crucero**	**0.70**	**325**	P	**Pn**	**16 35 55.4**	**+1.0**
BUAI	**Buenos Aires**	**0.76**	**134**	*e*P	**Pn**	**16 35 54.7**	**0.0**
LAPC	**Finca la Perla**	**0.77**	**145**	⇑*e*P	**Pn**	**16 35 54.4**	**-0.5**
LAPC				*e*S	**Sn**	**16 36 09.2**	**-0.5**
UNAN	**Cigeo UNAN**	**0.80**	**332**	P	**Pn**	**16 35 55.4**	**+0.3**
UNAN				S	**Sn**	**16 36 10.5**	**+0.5**
VRLE	**La Escondida,**	**0.80**	**140**	*e*P	**Pn**	**16 35 55.1**	**-0.1**
WILN	**Americas 2**	**0.81**	**339**	P	**Pn**	**16 35 55.6**	**+0.4**
WILN				S	**Sn**	**16 36 10.6**	**+0.4**
MGAN	**Managua**	**0.82**	**334**	P	**Pn**	**16 35 55.5**	**+0.2**
MGAN	**Managua**	**0.82**	**334**	S	**Sn**	**16 36 10.2**	**-0.2**
R4DEC	**Barrio San Lui**	**0.82**	**334**	S	**Sn**	**16 36 11.0**	**+0.7**
R4DEC	**Barrio San Lui**	**0.82**	**334**	P	**Pn**	**16 35 55.4**	**+0.1**
ELI1	**Hacienda Flor**	**0.82**	**157**	S	**Sn**	**16 36 11.3**	**+0.9**
ELI1	**Hacienda Flor**	**0.82**	**157**	P	**Pn**	**16 35 55.7**	**+0.4**
TISN	**Laguna Tiscapa**	**0.82**	**333**	P	**Pn**	**16 35 55.4**	**+0.1**
ABCN	**Banco Central**	**0.82**	**330**	P	**Pn**	**16 35 55.7**	**+0.4**
ABCN	**Banco Central**	**0.82**	**330**	S	**Sn**	**16 36 10.9**	**+0.5**
GPS2	**Hotel Rincn d**	**0.83**	**141**	*e*P	**Pn**	**16 35 55.2**	**-0.3**
ALLN	**Telcor Managua**	**0.84**	**333**	S	**Sn**	**16 36 10.6**	**0.0**
ALLN	**Telcor Managua**	**0.84**	**333**	P	**Pn**	**16 35 55.9**	**+0.5**
ALIBA	**Liberia Airpor**	**0.87**	**157**	*e*P	**Pn**	**16 35 56.0**	**+0.3**
ACON	**Acoyapa**	**0.89**	**51**	⇓*e*P	**Pn**	**16 35 54.8**	**-1.1**
ACON				*e*S	**Sn**	**16 36 09.5**	**-2.1**
ACON	**Acoyapa**	**0.89**	**51**	S	**Sn**	**16 36 10.7**	**-0.8**
ACON	**Acoyapa**	**0.89**	**51**	P	**Pn**	**16 35 55.2**	**-0.7**
APQ2	**Apoyeque**	**0.90**	**331**	P	**Pn**	**16 35 56.4**	**+0.4**
APQ2				S	**Sn**	**16 36 11.1**	**-0.5**
MESS	**Mesas**	**0.95**	**134**	*e*P	**Pn**	**16 35 56.0**	**-0.5**
VMAR	**Armenia, Volca**	**0.96**	**128**	*e*P	**Pn**	**16 35 56.3**	**+0.3**
CUI	**Cuipilapa**	**1.03**	**136**	*e*P	**Pn**	**16 35 57.2**	**0.0**
COPN	**Copaltepe**	**1.03**	**318**	*e*P	**Pn**	**16 35 57.3**	**0.0**
COPN	**Copaltepe**	**1.03**	**318**	P	**Pn**	**16 35 57.5**	**+0.2**
MOTZ	**Rio Naranjo**	**1.07**	**132**	*e*P	**Pn**	**16 35 57.6**	**-0.1**
TENO	**El Achiote**	**1.13**	**128**	*e*P	**Pn**	**16 35 58.2**	**-0.2**
TIMP	**Tierras Morena**	**1.18**	**134**	*e*P	**Pn**	**16 35 58.8**	**-0.2**
LCHIL	**Los Chiles**	**1.21**	**108**	*e*P	**Pn**	**16 35 58.8**	**-0.3**
QUEB

YUSH	**Yuscaran**	**2.70**	**340**	P		**Pn**	**16 36 18.8**	**+1.2**
LCND	**La Caada**	**2.72**	**314**	*e*P		**Pn**	**16 36 16.9**	**-0.9**
LCND				IAML			16 36 56.2	
	comp=Z,261nm,0.3s							
LCND	**La Caada**	**2.72**	**314**	P		**Pn**	**16 36 18.3**	**+0.5**
TGUH	**Tegucigalpa,Un**	**2.96**	**333**	P		**Pn**	**16 36 22.7**	**+1.6**
TGUH				S		**Sn**	**16 36 57.3**	**+0.9**
VERH	**Veragua Rainfo**	**3.03**	**119**	*e*P		**Pn**	**16 36 21.6**	**-0.2**
BLLM	**Bellamira**	**3.06**	**312**	*e*P		**Pn**	**16 36 22.6**	**+0.3**
BLLM				*e*S		**Sn**	**16 36 54.5**	**-4.2**
PACA	**Pacayal**	**3.14**	**311**	*e*P		**Pn**	**16 36 24.2**	**+0.8**
PACA				*e*S		**Sn**	**16 36 57.0**	**-3.6**
PACA	**Pacayal**	**3.14**	**311**	P		**Pn**	**16 36 25.5**	**+2.1**
PACA	**Pacayal**	**3.14**	**311**	S		**Sn**	**16 37 01.5**	**+0.9**
OCHAL	**Ojochal**	**3.18**	**136**	S		**Sn**	**16 37 01.3**	**0.0**
OCHAL	**Ojochal**	**3.18**	**136**	P		**Pn**	**16 36 25.1**	**+1.3**
DRK0	**Durika**	**3.36**	**129**	S		**Sn**	**16 37 05.9**	**+0.1**
DRK0	**Durika**	**3.36**	**129**	P		**Pn**	**16 36 27.4**	**+1.0**
SCLA	**Alcaldia de Sa**	**3.59**	**310**	*e*P		**Pn**	**16 36 30.1**	**+0.7**
LFRS	**El Faro**	**3.81**	**306**	*e*P		**Pn**	**16 36 32.5**	**+0.3**
LFRS				*e*S		**Sn**	**16 37 13.6**	**-2.7**
PIRO	**Carate, Puerto**	**3.90**	**140**	P		**Pn**	**16 36 34.8**	**+1.4**
LOMA	**Loma Larga**	**3.90**	**305**	*e*P		**Pn**	**16 36 34.4**	**+0.9**
BOQS	**Boqueron**	**4.04**	**305**	*e*P		**Pn**	**16 36 36.6**	**+1.1**
BOQS				*e*S		**Sn**	**16 37 20.3**	**-1.9**
PMON	**Piamonte**	**4.06**	**305**	*e*P		**Pn**	**16 36 36.8**	**+1.2**
JAYA	**Jayaque - finc**	**4.13**	**303**	*e*P		**Pn**	**16 36 37.0**	**+0.3**
JAYA				*e*S		**Sn**	**16 37 21.9**	**-2.4**
JAYA				IAML			16 37 27.7	
	comp=Z,265nm,0.2s							
JAYA	**Jayaque - finc**	**4.13**	**303**	P		**Pn**	**16 36 37.7**	**+1.0**
CEVE	**Cerro Verde**	**4.37**	**304**	*e*P		**Pn**	**16 36 40.9**	**+0.9**
SNJE	**San Jose**	**4.38**	**304**	*e*P		**Pn**	**16 36 41.1**	**+1.1**
NUBE	**Las Nubes**	**4.54**	**304**	*e*P		**Pn**	**16 36 42.9**	**+0.8**
NUBE				*e*S		**Sn**	**16 37 31.7**	**-2.3**
NUBE	**Las Nubes**	**4.54**	**304**	P		**Pn**	**16 36 43.4**	**+1.3**

IDC ***23*** *16:38:24.5±0.7,41°.82N×46°.25E,h0km,mb3.7/12, mbtmp3.7/21,ML3.5/9,MS3.0/6,Error ellipse: s-maj=11.1km s-min=8.4km az=138.0*
NSSP ***23*** *16:38:25.8,41°.88N×46°.15E,h10km,Ms3.8*
TIF ***23*** *16:38:26.9,41°.91N×46°.23E,h15km±1km*
NORS ***23*** *16:38:26.6,42°.00N×46°.26E,h2km,MPVA4.5*
DRS ***23*** *16:38:27.7,41°.94N×46°.26E,h15km*
MOS ***23*** *16:38:27.1,41°.92N×46°.29E,h10km,MPVA4.6*
AZER ***23*** *16:38:27.4,41°.73N×46°.21E,h8km,ml3.6*
NNC ***23*** *16:38:34.1±5.6,41°.51N×47°.66E,h0km,mb3.9,Error ellipse: s-maj=95.2km s-min=43.3km az=113.0*

ISC 23 16:38:27.4±0.8,41°.90N±0°.01×46°.22E±0°.01,h18km±3km, n184,σ1°69/320,mb3.7/11,MS2.9/3,13C-21D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TLTR	**Tlyarata**	**0.23**	**26**	*e*Pg		**Pg**	**16 38 32.8**	**-0.2**
TLTR				*e*S		**Sg**	**16 38 36.4**	**-0.4**
TLTR	**Tlyarata**	**0.23**	**26**	*e*Pg		**Pg**	**16 38 32.8**	**-0.2**
TLTR				*e*Sg		**Sg**	**16 38 36.4**	**-0.4**
ZKTA	**Zakatala**	**0.40**	**131**	P		**Pn**	**16 38 35.9**	**+0.1**
ZKTA				S		**Sb**	**16 38 41.9**	**0.0**
VSHL	**Vashlovani**	**0.69**	**169**	P		**Pn**	**16 38 42.5**	**+0.3**
VSHL	**Vashlovani**	**0.69**	**169**	*e*Pg		**Pn**	**16 38 42.5**	**+0.3**
KMKR	**Kumukh**	**0.69**	**70**	⇓*i*PG		**Pb**	**16 38 41.3**	**+0.3**
KMKR				*e*S		**Sb**	**16 38 51.1**	**+0.8**
KMKR				pmax		pmax		
	comp=Z,745nm,0.3s							
KMKR	**Kumukh**	**0.69**	**70**	*i* Pg		**Pb**	**16 38 41.3**	**+0.3**
KMKR				*e*Sg		**Sb**	**16 38 51.1**	**+0.8**
XNZR	**Khunzakh**	**0.73**	**29**	*i* Pg		**Pg**	**16 38 42.6**	**+0.7**
XNZR				*e*Sg		**Sg**	**16 38 52.7**	**+1.0**
HNZR	**Khunzah**	**0.75**	**29**	⇓*i*PG		**Pg**	**16 38 42.6**	**+0.4**
HNZR				*e*S		**Sg**	**16 38 52.8**	**+0.5**
BTLR	**Botlikh**	**0.76**	**0**	*e*PG		**Pb**	**16 38 42.6**	**+0.4**
BTLR				*e*S		**Sg**	**16 38 53.1**	**+0.5**
BTLR	**Botlikh**	**0.76**	**0**	*i* Pg		**Pb**	**16 38 42.6**	**+0.4**
BTLR				*e*Sg		**Sg**	**16 38 53.0**	**+0.5**
DGRG	**David-gareji**	**0.78**	**235**	P		**Pn**	**16 38 43.9**	**+0.3**
DGRG				S		**Sn**	**16 38 58.3**	**+3.6**
DGRG	**David-gareji**	**0.78**	**235**	*e*PG		**Pn**	**16 38 43.8**	**+0.3**
DGRG				*e*S		**Sn**	**16 38 58.3**	**+3.6**
DGRG	**David-gareji**	**0.78**	**235**	*e*Pg		**Pn**	**16 38 43.9**	**+0.3**
DGRG				*e*Sg		**Sn**	**16 38 58.3**	**+3.6**
ARKR	**Arakani**	**0.91**	**39**	⇓*i*PG		**Pb**	**16 38 45.2**	**+0.6**
ARKR				*e*S		**Sn**	**16 38 58.2**	**+0.3**
ARKR				pmax		pmax		
	comp=Z,805nm,0.4s							
ARKR	**Arakani**	**0.91**	**39**	*i* Pg		**Pb**	**16 38 45.3**	**+0.6**
ARKR				*e*Sg		**Sb**	**16 38 58.0**	**+0.9**
UNCR	**Uncukul**	**0.92**	**28**	⇓*i*PG		**Pb**	**16 38 45.4**	**+0.6**
UNCR				*e*S		**Sn**	**16 38 58.3**	**+0.2**
UNCR				pmax		pmax		
	comp=Z,598nm,0.4s							
UNCR	**Uncukul**	**0.92**	**28**	*i* Pg		**Pb**	**16 38 45.5**	**+0.6**
UNCR				*e*Sg		**Sn**	**16 38 58.4**	**+0.2**
SEKA	**Sheki**	**1.01**	**133**	P		**Pb**	**16 38 46.1**	**-0.3**
SEKA				S		**Sn**	**16 39 02.6**	**+2.1**
SEKA	**Sheki**	**1.01**	**133**	PG		**Pb**	**16 38 46.1**	**-0.3**
KRNR	**Karanay**	**1.05**	**29**	⇓*i*PG		**Pb**	**16 38 47.6**	**+0.4**
KRNR				*e*S		**Sn**	**16 39 02.2**	**+0.5**
KRNR				pmax		pmax		
	comp=Z,232nm,0.3s							
KRNR	**Karanay**	**1.05**	**29**	*i* Pg		**Pb**	**16 38 47.7**	**+0.4**
KRNR				*e*Sg		**Sn**	**16 39 02.2**	**+0.5**
DVE	**Vedeno**	**1.06**	**356**	*e*PG		**Pb**	**16 38 47.1**	**-0.1**
DVE				*e*S		**Sn**	**16 39 02.1**	**+0.5**
DVE	**Vedeno**	**1.06**	**356**	*e*Pg		**Pb**	**16 38 47.0**	**-0.2**
DVE				*e*Sg		**Sn**	**16 39 02.1**	**+0.5**
QZX	**Qazax, Azerbai**	**1.06**	**217**	P		**Pb**	**16 38 47.4**	**+0.3**
QZX				S		**Sg**	**16 39 02.6**	**+0.7**
SEAG	**Tbilisi Sea**	**1.07**	**263**	P		**Pn**	**16 38 48.1**	**+0.6**
SEAG				S		**Sg**	**16 39 04.3**	**+2.1**
SEAG	**Tbilisi Sea**	**1.07**	**263**	*e*PG		**Pn**	**16 38 48.0**	**+0.6**
SEAG				*e*S		**Sg**	**16 39 04.2**	**+2.1**
SEAG	**Tbilisi Sea**	**1.07**	**263**	*e*Pg		**Pn**	**16 38 48.1**	**+0.6**
SEAG				*e*Sg		**Sg**	**16 39 04.3**	**+2.1**
BTNK	**Botanikuri**	**1.08**	**259**	*e*PG		**Pn**	**16 38 48.0**	**+0.3**
BTNK				*e*S		**Sg**	**16 39 04.6**	**+1.9**
URKR	**Urkarakh**	**1.08**	**75**	⇓*i*PG		**Pn**	**16 38 48.3**	**+0.5**
URKR				*e*S		**Sg**	**16 39 03.1**	**+0.3**
URKR				pmax		pmax		
	comp=Z,118nm,0.7s							
URKR	**Urkarakh**	**1.08**	**75**	*i* Pg		**Pn**	**16 38 48.4**	**+0.5**
URKR				*e*Sg		**Sg**	**16 39 03.9**	**+1.1**
SHTL	**Shatili**	**1.09**	**314**	P		**Pb**	**16 38 47.7**	**-0.2**
SHTL				S		**Sb**	**16 39 02.3**	**+0.4**
SHTL	**Shatili**	**1.09**	**314**	*e*PG		**Pb**	**16 38 47.6**	**-0.2**
SHTL				*e*S		**Sb**	**16 39 02.2**	**+0.4**
TBLG	**Delisi**	**1.12**	**262**	P		**Pb**	**16 38 48.7**	**+0.4**
TBLG				S		**Sg**	**16 39 05.2**	**+1.3**
TBLG	**Delisi**	**1.12**	**262**	*e*PG		**Pb**	**16 38 48.6**	**+0.4**
TBLG				*e*S		**Sg**	**16 39 05.1**	**+1.3**
TBLG	**Delisi**	**1.12**	**262**	*e*Pg		**Pb**	**16 38 48.7**	**+0.4**
TBLG				*e*Sg		**Sg**	**16 39 05.2**	**+1.3**
BUJR	**Buynaksk**	**1.13**	**35**	*e*PG		**Pg**	**16 38 49.4**	**0.0**
BUJR				*e*S		**Sg**	**16 39 05.5**	**+1.2**
BUJR				pmax		pmax		
	comp=Z,439nm,0.4s							
DLMR	**Dylym**	**1.21**	**14**	*e*PG		**Pg**	**16 38 51.1**	**+0.3**
DLMR				*e*S		**Sg**	**16 39 07.7**	**+1.2**
DLMR				pmax		pmax		
	comp=Z,9.0nm,0.1s							
DLMR	**Dylym**	**1.21**	**14**	*e*Pg		**Pg**	**16 38 51.1**	**+0.3**
DLMR				*e*Sg		**Sg**	**16 39 07.8**	**+1.2**
SGKR	**Sergokala**	**1.21**	**62**	*e*PG		**Pg**	**16 38 50.8**	**0.0**
SGKR				*e*S		**Sg**	**16 39 07.2**	**+0.7**
SGKR				pmax		pmax		
	comp=Z,231nm,0.3s							
SGKR	**Sergokala**	**1.21**	**62**	*e*Pg		**Pg**	**16 38 50.8**	**0.0**
SGKR				*e*Sg		**Sg**	**16 39 07.3**	**+0.7**
AKT	**Akhty**	**1.21**	**110**	⇓*i*PG		**Pb**	**16 38 49.4**	**-0.1**
AKT				*e*S		**Sn**	**16 39 06.3**	**+0.9**
AKT				pmax		pmax		
	comp=Z,251nm,0.6s							
AKT	**Akhty**	**1.21**	**110**	*e*Pg		**Pn**	**16 38 49.0**	**-0.5**
AKT				*e*Sg		**Sg**	**16 39 06.6**	**0.0**
GDB	**GEDABAY**	**1.23**	**197**	P		**Pn**	**16 38 49.4**	**-0.4**
GDB				S		**Sn**	**16 39 06.4**	**+0.4**
LSVT	**Lusahovit**	**1.25**	**219**	⇓*i*P		**Pn**	**16 38 50.2**	**+0.2**
LSVT				⇓*i*S		**Sn**	**16 39 07.3**	**+0.8**
GANJ	**Ganja**	**1.26**	**176**	P		**Pn**	**16 38 50.2**	**0.0**
GANJ				S		**Sn**	**16 39 07.5**	**+0.9**
GANJ	**Ganja**	**1.26**	**176**	PG		**Pn**	**16 38 50.1**	**0.0**
MNGR	**Mingechevir, A**	**1.30**	**150**	P		**Pb**	**16 38 52.1**	**+0.8**
MNGR				S		**Sg**	**16 39 11.5**	**+1.9**
MNGR	**Mingechevir, A**	**1.30**	**150**	PG		**Pg**	**16 38 52.3**	**-0.3**
GROC	**Groznyy**	**1.34**	**347**	*e*PG		**Pg**	**16 38 54.1**	**+0.9**
GROC				*e*S		**Sg**	**16 39 12.2**	**+1.5**
GROC				pmax		pmax		
	comp=Z,823nm,0.5s							
GROC	**Groznyy**	**1.34**	**347**	*e*Pg		**Pg**	**16 38 54.1**	**+0.9**
GROC				*e*Sg		**Sg**	**16 39 13.6**	**+2.9**
GUDG	**Gudauri**	**1.41**	**294**	P		**Pb**	**16 38 53.5**	**+0.2**
GUDG				S		**Sg**	**16 39 12.8**	**-0.4**
GUDG	**Gudauri**	**1.41**	**294**	*e*PG		**Pb**	**16 38 53.5**	**+0.2**
GUDG				*e*S		**Sg**	**16 39 12.7**	**-0.4**
GUDG	**Gudauri**	**1.41**	**294**	*e*Pg		**Pb**	**16 38 53.5**	**+0.2**
GUDG				*e*Sg		**Sg**	**16 39 12.8**	**-0.4**
MAK	**Makhachkala**	**1.42**	**42**	*e*PG		**Pg**	**16 38 54.8**	**-0.1**
MAK				*e*S		**Sg**	**16 39 14.4**	**+1.0**
MAK				pmax		pmax		
	comp=Z,467nm,0.4s							
MAK	**Makhachkala**	**1.42**	**42**	*e*Pg		**Pb**	**16 38 54.5**	**+1.1**
MAK				*e*Sg		**Sg**	**16 39 14.5**	**+1.0**
KSMR	**Kasumkent**	**1.46**	**101**	*e*PG		**Pb**	**16 38 55.0**	**+1.0**
KSMR				*e*S		**Sg**	**16 39 15.0**	**+0.4**
KSMR				pmax		pmax		
	comp=Z,310nm,0.6s							
KSMR	**Kasumkent**	**1.46**	**101**	*e*Pg		**Pb**	**16 38 55.1**	**+1.0**
KSMR				*e*Sg		**Sg**	**16 39 15.9**	**+1.3**
KZRT	**Kazreti**	**1.46**	**250**	P		**Pn**	**16 38 50.1**	**-2.8**
KZRT				S		**Sn**	**16 39 10.8**	**-0.7**
KZRT	**Kazreti**	**1.46**	**250**	*e*PG		**Pn**	**16 38 50.1**	**-2.8**
KMGR	**Komgaron**	**1.53**	**320**	*e*PG		**Pg**	**16 38 57.4**	**+0.5**
KMGR				*e*S		**Sg**	**16 39 21.3**	**+4.5**
KMGR	**Komgaron**	**1.53**	**320**	*e*Pg		**Pg**	**16 38 57.4**	**+0.5**
KMGR				*e*Sg		**Sg**	**16 39 20.0**	**+3.2**
QBL	**Gabala**	**1.55**	**128**	Pn		**Pb**	**16 38 55.8**	**+0.3**
QBL				Sn		**Sg**	**16 39 17.7**	**+0.3**
QSAR	**Qusar**	**1.58**	**104**	Pn		**Pg**	**16 38 58.0**	**+0.2**
QSAR				Sn		**Sg**	**16 39 21.5**	**+3.1**
DRN	**Derbent**	**1.58**	**85**	PG		**Pb**	**16 38 55.8**	**-0.2**
DRN				S		**Sb**	**16 39 17.3**	**+1.7**
DRN	**Derbent**	**1.58**	**85**	*e*Pg		**Pb**	**16 38 56.7**	**+0.6**
DRN				*e*Sg		**Sg**	**16 39 18.0**	**-0.4**
KANR	**Karaman**	**1.60**	**36**	*e*PG		**Pg**	**16 38 58.6**	**+0.4**
KANR				*e*S		**Sg**	**16 39 20.5**	**+1.5**
KANR				pmax		pmax		
	comp=Z,699nm,0.5s							
KANR	**Karaman**	**1.60**	**36**	*e*Pg		**Pb**	**16 38 57.5**	**+1.2**
KANR				*e*Sg		**Sg**	**16 39 20.6**	**+1.5**
XNQ	**Khinaliq**	**1.61**	**116**	Pn		**Pb**	**16 38 57.5**	**+0.7**
XNQ				Sn		**Sg**	**16 39 22.2**	**+2.6**
VLKR	**Vladikavkaz**	**1.62**	**316**	*e*PN		**Pg**	**16 38 59.0**	**+0.4**
VLKR				*e*S		**Sg**	**16 39 23.3**	**+3.7**
VLKR	**Vladikavkaz**	**1.62**	**316**	*e*Pg		**Pg**	**16 38 59.0**	**+0.4**
VLKR				*e*Sg		**Sg**	**16 39 23.3**	**+3.7**
TRLG	**Trialeti**	**1.63**	**258**	P		**Pb**	**16 38 56.4**	**-0.6**
TRLG				S		**Sb**	**16 39 18.5**	**+1.3**
TRLG	**Trialeti**	**1.63**	**258**	*e*PN		**Pb**	**16 38 56.3**	**-0.6**
TRLG				*e*S		**Sb**	**16 39 18.5**	**+1.3**
SRTK	**Saratovka**	**1.65**	**240**	⇓*i*P		**Pn**	**16 38 56.2**	**+0.6**
SRTK				⇑*i*S		**Sb**	**16 39 18.4**	**+0.5**
LACR	**Lac**	**1.70**	**304**	*e*PN		**Pb**	**16 38 58.5**	**+0.3**
LACR				*e*S		**Sg**	**16 39 21.8**	**-0.5**
LACR	**Lac**	**1.70**	**304**	*e*Pg		**Pb**	**16 38 58.5**	**+0.3**
LACR				*e*Sg		**Sg**	**16 39 21.8**	**-0.5**
QUBA	**Quba, Azerbaij**	**1.79**	**107**	Pn		**Pg**	**16 39 01.5**	**-0.3**
QUBA				Sn		**Sg**	**16 39 27.1**	**+2.0**
BRDA	**Brd**	**1.79**	**156**	Pn		**Pb**	**16 39 00.2**	**+0.6**
BRDA				Sn		**Sb**	**16 39 23.6**	**+1.9**
AYRK	**Ayrk**	**1.81**	**191**	⇓*i*P		**Pb**	**16 38 59.5**	**-0.7**
AYRK				⇑*i*S		**Sg**	**16 39 24.7**	**-1.3**
IML	**Ismayilli**	**1.85**	**126**	Pn		**Pb**	**16 39 01.2**	**+0.6**
IML				Sn		**Sg**	**16 39 26.9**	**0.0**
AGDM	**Agdam**	**1.91**	**159**	Pn		**Pb**	**16 39 01.0**	**-0.8**
AGDM				Sn		**Sg**	**16 39 28.4**	**-0.7**
ARNR	**Ardon**	**1.92**	**312**	*e*PN		**Pb**	**16 39 03.1**	**+1.3**
ARNR				*e*S		**Sg**	**16 39 32.1**	**+2.9**
ARNR	**Ardon**	**1.92**	**312**	*e*Pg		**Pb**	**16 39 03.1**	**+1.3**
ARNR				*e*Sg		**Sg**	**16 39 32.1**	**+2.9**
BTKR	**Batakoyurt**	**1.92**	**320**	*e*Pg		**Pb**	**16 39 01.9**	**-0.1**
BTKR				*e*Sg		**Sg**	**16 39 29.1**	**-0.3**
KAPZ	**Kaputan**	**1.95**	**217**	*e*P		**Pb**	**16 39 01.9**	**-0.7**
KAPZ				*e*S		**Sb**	**16 39 28.1**	**+1.5**
ZRD	**Zardab**	**1.96**	**145**	Pn		**Pb**	**16 39 02.9**	**+0.3**
ZRD				Sn		**Sg**	**16 39 29.9**	**-0.7**
KORR	**Kora**	**1.98**	**307**	*e*PN		**Pb**	**16 39 03.5**	**+0.5**
KORR				*e*S		**Sg**	**16 39 33.5**	**+2.2**
KORR	**Kora**	**1.98**	**307**	*e*Pg		**Pb**	**16 39 03.1**	**+0.1**
KORR				*e*Sg		**Sg**	**16 39 33.5**	**+2.2**
KMOZ	**Kamo**	**2.02**	**238**	⇓*i*P		**Pb**	**16 39 02.5**	**-1.2**
KMOZ				⇓*i*S		**Sb**	**16 39 29.5**	**+0.9**
BGD	**Bogdanovka**	**2.07**	**253**	PN		**Pb**	**16 39 04.8**	**+0.3**
GNI	**Garni**	**2.08**	**213**	Pn		**Pb**	**16 39 03.7**	**-0.9**
	comp=Z,56nm,0.3s,baz=16,slow=4.5,SNR=70							
GNI				LR		LR	16 39 28.2	
	comp=Z,24nm,21.6s,baz=91,slow=32							
GNI				Lg		Lg	16 39 28.4	
	comp=Z,46nm,0.3s,baz=340,slow=17,SNR=3.9 comp=Z,216nm,0.4s							
GNI	**Garni**	**2.08**	**213**	⇑*i*P		**Pb**	**16 39 03.7**	**-0.9**
GNI				⇑*i*S		**Sb**	**16 39 32.2**	**+2.1**
GNI	**Garni**	**2.08**	**213**	*e*Pg		**Pb**	**16 39 03.8**	**-0.9**
GNI				*e*Sg		**Sg**	**16 39 33.1**	**-1.3**
AKH	**Akhalkalaki**	**2.10**	**257**	P		**Pb**	**16 39 04.7**	**-0.4**
AKH				S		**Sb**	**16 39 32.5**	**+1.6**
AKH	**Akhalkalaki**	**2.10**	**257**	*e*PN		**Pb**	**16 39 04.6**	**-0.4**
AKH				*e*S		**Sb**	**16 39 32.5**	**+1.6**
AKH	**Akhalkalaki**	**2.10**	**257**	*e*Pg		**Pb**	**16 39 04.5**	**-0.6**
AKH				*e*Sg		**Sb**	**16 39 32.2**	**+1.3**
PQL	**Pirkuli**	**2.10**	**121**	Pn		**Pb**	**16 39 05.4**	**+0.3**
PQL				Sn		**Sb**	**16 39 32.7**	**+1.7**
AMBZ	**Amberd**	**2.12**	**225**	⇓*i*P		**Pb**	**16 39 04.1**	**-1.3**
AMBZ				⇑*i*S		**Sb**	**16 39 32.1**	**+0.7**
KDMR	**Kurdemir**	**2.13**	**135**	Pn		**Pb**	**16 39 04.2**	**-1.1**
KDMR				Sn		**Sb**	**16 39 33.4**	**+2.0**
GARIG	**Gari**	**2.16**	**290**	P		**Pb**	**16 39 05.3**	**-0.7**
STDR	**Stavd-Durt**	**2.16**	**313**	*e*PN		**Pb**	**16 39 06.7**	**+0.7**
STDR				*e*S		**Sg**	**16 39 40.1**	**+3.0**
STDR	**Stavd-Durt**	**2.16**	**313**	*e*Pg		**Pb**	**16 39 06.4**	**+0.4**
STDR				*e*Sg		**Sg**	**16 39 37.8**	**+0.8**
SIZA	**Siyzn**	**2.17**	**111**	Pn		**Pb**	**16 39 07.5**	**+1.2**
SIZA				Sn		**Sg**	**16 39 40.7**	**+3.3**
DIGR	**Digorskoe uzhe**	**2.19**	**298**	*e*PN		**Pb**	**16 39 07.0**	**+0.3**
DIGR				*e*S		**Sg**	**16 39 37.4**	**-0.7**
DIGR	**Digorskoe uzhe**	**2.19**	**298**	*e*Pg		**Pb**	**16 39 07.0**	**+0.3**
DIGR				*e*Sg		**Sg**	**16 39 36.5**	**-1.6**
LSNR	**Lesken**	**2.24**	**309**	*e*PN		**Pg**	**16 39 09.5**	**-0.9**
LSNR				*e*S		**Sg**	**16 39 40.3**	**+0.8**
LSNR	**Lesken**	**2.24**	**309**	*e*Pn		**Pb**	**16 39 06.7**	**-0.7**
LSNR				*e*Sn		**Sg**	**16 39 38.5**	**-1.0**
ARUZ	**Aruch**	**2.28**	**226**	*e*P		**Pb**	**16 39 07.4**	**-0.7**
ARUZ				*e*S		**Sb**	**16 39 37.4**	**+1.5**
VAYK	**Vayk**	**2.29**	**196**	⇓*e*P		**Pb**	**16 39 06.6**	**-1.6**
VAYK				⇓*e*S		**Sb**	**16 39 37.8**	**+1.6**
ATGJ	**Altiaghaj**	**2.29**	**116**	Pg		**Pb**	**16 39 09.6**	**+1.3**
ATGJ				Sn		**Sg**	**16 39 39.6**	**-1.7**
PRTR	**Priterechnaya**	**2.33**	**323**	*e*PN		**Pb**	**16 39 08.5**	**-0.4**
PRTR				*e*S		**Sg**	**16 39 42.9**	**+0.4**
PRTR	**Priterechnaya**	**2.33**	**323**	*e*Pn		**Pb**	**16 39 08.5**	**-0.4**
PRTR				*e*Sn		**Sg**	**16 39 41.6**	**-0.9**
GRS	**Goris**	**2.40**	**178**	⇓*i*P		**Pn**	**16 39 05.0**	**-0.9**
GRS				⇑*i*S		**Sb**	**16 39 37.0**	**+2.1**
BLQ	**Beylaqan**	**2.40**	**155**	Pn		**Pb**	**16 39 08.5**	**-1.6**
BLQ				Sn		**Sb**	**16 39 41.7**	**+2.3**
HYR	**Heyderabad**	**2.42**	**206**	Pn		**Pb**	**16 39 10.4**	**0.0**
HYR				Sn		**Sb**	**16 39 41.5**	**+1.7**
TKB	**Tkibuli**	**2.44**	**282**	P		**Pn**	**16 39 08.5**	**+2.1**
TKB				S		**Sb**	**16 39 41.9**	**+1.4**
TKB	**Tkibuli**	**2.44**	**282**	*e*PN		**Pn**	**16 39 04.0**	**-2.4**
TKB				*e*S		**Sb**	**16 39 41.9**	**+1.4**
TKB	**Tkibuli**	**2.44**	**282**	*e*Pn		**Pn**	**16 39 08.5**	**+2.1**
TKB				*e*Sn		**Sb**	**16 39 41.9**	**+1.4**
GBS	**Qobustan**	**2.47**	**123**	Pn		**Pb**	**16 39 11.5**	**+0.3**
GBS				Sg		**Sg**	**16 39 46.2**	**-0.5**
NCK	**Nalchik**	**2.51**	**310**	⇑*i*PN		**Pn**	**16 39 07.6**	**+0.4**
NCK				*e*S		**Sg**	**16 39 51.2**	**+3.2**
NCK				pmax		pmax		
	comp=Z,113nm,0.4s							
NCK				smax		smax		
	comp=Z,177nm,0.5s							
SBZ	**Shahbuz**	**2.55**	**192**	Pn		**Pb**	**16 39 10.6**	**-2.1**
SBZ				Sn		**Sb**	**16 39 43.9**	**+0.1**
QRD	**Qoradiz**	**2.58**	**161**	Pg		**Pn**	**16 39 10.9**	**+2.7**
QRD				Sn		**Sb**	**16 39 44.6**	**+0.2**
EGVZ	**Egvard**	**2.68**	**175**	*e*P		**Pn**	**16 39 12.0**	**+2.2**
EGVZ				*e*S		**Sb**	**16 39 45.6**	**-2.0**
NAX	**Nakhchivan**	**2.78**	**192**	Pn		**Pb**	**16 39 15.2**	**-1.4**
NAX				Sn		**Sb**	**16 39 48.2**	**-2.1**
NAX	**Nakhchivan**	**2.78**	**192**	PN		**Pb**	**16 39 15.2**	**-1.4**
KBTC	**Kuba-Taba**	**2.82**	**314**	*e*Pn		**Pn**	**16 39 14.3**	**+2.8**
KBTC				*e*Sn		**Sb**	**16 39 52.6**	**+1.3**
ALIB	**&Aumlli-Bayram**	**2.87**	**132**	Pg		**Pb**	**16 39 17.8**	**-0.2**
ALIB				Sg		**Sb**	**16 39 55.4**	**+2.6**
GHRG	**Ghorjomi**	**2.90**	**268**	P		**Pn**	**16 39 15.4**	**+2.5**
ORD	**Ordubad**	**2.98**	**183**	Pn		**Pn**	**16 39 15.8**	**+2.1**
ORD				Sn		**Sn**	**16 39 52.3**	**+3.3**
KBZ	**Khabaz**	**3.05**	**308**	Pn		**Pn**	**16 39 17.2**	**+2.5**
	comp=Z,1.4nm,0.3s,baz=236,slow=3.6,SNR=23							
KBZ				Lg		Lg	16 40 03.5	
	comp=Z,11nm,0.3s,baz=128,slow=7.4,SNR=6.6 comp=Z,5.7nm,0.4s							
KBZ	**Khabaz**	**3.05**	**308**	*c* PN		**Pb**	**16 39 18.7**	**-2.4**
KBZ	**Khabaz**	**3.05**	**308**	*e*Pn		**Pn**	**16 39 16.7**	**+2.1**
KBZ				*e*Sn		**Sn**	**16 39 53.7**	**+3.0**
GLBA	**Clilabad**	**3.13**	**147**	Pn		**Pn**	**16 39 17.9**	**+2.2**
GLBA				Sn		**Sb**	**16 39 57.0**	**-3.3**
PYA1	**Pyatigorsk**	**3.15**	**314**	*d* PN		**Pn**	**16 39 18.5**	**+2.4**
PYA1	**Pyatigorsk**	**3.15**	**314**	*e*Pn		**Pn**	**16 39 18.6**	**+2.4**
PYA1				*e*Sn		**Sb**	**16 39 58.6**	**-2.3**
SHA1	**Shidzhatmaz**	**3.20**	**306**	*d* PN		**Pb**	**16 39 21.0**	**-2.8**
SHA1	**Shidzhatmaz**	**3.20**	**306**	*e*Pn		**Pb**	**16 39 20.9**	**-2.9**
SHA1				*e*Sn		**Sb**	**16 40 00.1**	**-2.4**

comp=Z,0.4nm,0.7s,baz=306,slow=8.2,SNR=4.7
comp=Z,0.4nm,0.7s

SEY	**Seymchan**	**60.22**	**30**	LR	LR	17 18 20.8		
	comp=Z,27nm,19.2s,baz=42,slow=40							

NSSP ***23*** *17:09:38.7, 41.82N×46.17E, h10km, Ms3.2*
MOS ***23*** *17:09:39.0, 41.93N×46.26E, h16km, MPVA4.0*
AZER ***23*** *17:09:39.0, 41.77N×46.21E, h6km, ml3.2*
TIF ***23*** *17:09:39.2, 41.89N×46.20E, h12km±1km*
NORS ***23*** *17:09:41.5, 42.04N×46.30E, h19km, MPVA3.8*
DRS ***23*** *17:09:41.0, 41.97N×46.26E, h9km*

ISC 23 17:09:39.8±1.0, 41.91N±0.01×46.23E±0.01, h10km±8km, n118, σ1.39/220, 14C-9D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLTR	**Tlyarata**	**0.22**	**26**	*e*PG	**Pb**	**17 09 45.1**	**-0.9**
TLTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TLTR	**Tlyarata**	**0.22**	**26**	*i* Pg	**Pb**	**17 09 45.1**	**-0.9**
TLTR				*e*Sg	**Sg**	**17 09 48.7**	**+1.1**
ZKTA	**Zakatala**	**0.40**	**132**	P	**Pb**	**17 09 48.2**	**-0.9**
ZKTA				S	**Sb**	**17 09 54.2**	**-1.1**
KMKR	**Kumukh**	**0.69**	**71**	⇑*i*PG	**Pb**	**17 09 53.6**	**-0.4**
KMKR				*e*S	**Sb**	**17 10 03.4**	**-0.2**
KMKR				pmax	pmax		
	comp=Z,190nm,0.1s						
VSHL	**Vashlovani**	**0.69**	**169**	P	**Pn**	**17 09 54.9**	**-0.8**
VSHL	**Vashlovani**	**0.69**	**169**	*e*Pg	**Pn**	**17 09 54.9**	**-0.8**
XNZR	**Khunzakh**	**0.72**	**29**	*i* Pg	**Pn**	**17 09 54.9**	**-1.4**
XNZR				*e*Sg	**Sn**	**17 10 05.3**	**-2.3**
HNZR	**Khunzah**	**0.74**	**29**	⇓*i*PG	**Pn**	**17 09 54.9**	**-1.6**
HNZR				*e*S	**Sn**	**17 10 05.3**	**-2.7**
BTLR	**Botlikh**	**0.75**	**360**	*e*PG	**Pn**	**17 09 54.9**	**-1.7**
BTLR				*e*S	**Sb**	**17 10 05.3**	**-0.1**
BTLR	**Botlikh**	**0.75**	**360**	*i* Pg	**Pn**	**17 09 54.9**	**-1.7**
BTLR				*e*Sg	**Sb**	**17 10 05.3**	**-0.1**
DGRG	**David-gareji**	**0.79**	**235**	P	**Pn**	**17 09 56.1**	**-0.9**
DGRG				S	**Sn**	**17 10 10.6**	**+1.7**
DGRG	**David-gareji**	**0.79**	**235**	*e*PG	**Pn**	**17 09 56.1**	**-0.9**
DGRG				*e*S	**Sn**	**17 10 10.6**	**+1.7**
DGRG	**David-gareji**	**0.79**	**235**	*e*Pg	**Pn**	**17 09 56.1**	**-0.9**
DGRG				*e*Sg	**Sn**	**17 10 10.6**	**+1.7**
ARKR	**Arakani**	**0.90**	**39**	⇑*i*PG	**Pn**	**17 09 57.7**	**-0.8**
ARKR				*e*S	**Sn**	**17 10 10.5**	**-1.1**
ARKR				pmax	pmax		
	comp=Z,188nm,0.4s						
UNCR	**Uncukul**	**0.91**	**28**	⇑*i*PG	**Pn**	**17 09 57.7**	**-0.9**
UNCR				*e*S	**Sn**	**17 10 10.6**	**-1.2**
UNCR				pmax	pmax		
	comp=Z,126nm,0.3s						
UNCR	**Uncukul**	**0.91**	**28**	*i* Pg	**Pn**	**17 09 57.8**	**-0.9**
UNCR				*e*Sg	**Sn**	**17 10 10.7**	**-1.2**
SEKA	**Sheki**	**1.01**	**133**	P	**Pg**	**17 09 58.6**	**-0.7**
SEKA				S	**Sn**	**17 10 14.6**	**+0.2**
SEKA	**Sheki**	**1.01**	**133**	PG	**Pg**	**17 09 58.6**	**-0.7**
KRNR	**Karanay**	**1.05**	**29**	*e*PG	**Pn**	**17 10 00.0**	**-0.6**
KRNR				*e*S	**Sn**	**17 10 14.0**	**-1.3**
KRNR				pmax	pmax		
	comp=Z,80nm,0.3s						
KRNR	**Karanay**	**1.05**	**29**	*e*Pg	**Pn**	**17 10 00.0**	**-0.6**
KRNR				*e*Sg	**Sn**	**17 10 14.1**	**-1.3**
DVE	**Vedeno**	**1.05**	**356**	*c i*PG	**Pn**	**17 10 00.5**	**-0.1**
DVE				*i* S	**Sn**	**17 10 15.1**	**-0.3**
DVE				pmax	pmax		
	comp=Z,55nm,1.3s						
QZX	**Qazax, Azerbai**	**1.07**	**217**	P	**Pb**	**17 09 59.7**	**-0.7**
QZX				S	**Sn**	**17 10 15.2**	**-0.5**
SEAG	**Tbilisi Sea**	**1.07**	**263**	P	**Pn**	**17 10 00.4**	**-0.5**
SEAG				S	**Sn**	**17 10 16.5**	**+0.6**
SEAG	**Tbilisi Sea**	**1.07**	**263**	*e*PG	**Pn**	**17 10 00.4**	**-0.5**
SEAG				*e*S	**Sn**	**17 10 16.5**	**+0.6**
SEAG	**Tbilisi Sea**	**1.07**	**263**	*e*Pg	**Pn**	**17 10 00.4**	**-0.5**
SEAG				*e*Sg	**Sn**	**17 10 16.5**	**+0.6**
URKR	**Urkarakh**	**1.08**	**76**	*e*PG	**Pn**	**17 10 01.2**	**+0.1**
URKR				*e*S	**Sn**	**17 10 16.1**	**-0.1**
URKR				pmax	pmax		
	comp=Z,37nm,0.6s						
URKR	**Urkarakh**	**1.08**	**76**	*e*Pg	**Pn**	**17 10 00.5**	**-0.6**
URKR				*e*Sg	**Sn**	**17 10 16.2**	**-0.1**
BTNK	**Botanikuri**	**1.09**	**258**	*e*PG	**Pb**	**17 10 00.2**	**-0.6**
SHTL	**Shatili**	**1.09**	**314**	P	**Pb**	**17 09 60.0**	**-0.9**
SHTL				S	**Sb**	**17 10 14.5**	**-0.8**
SHTL	**Shatili**	**1.09**	**314**	*e*PG	**Pb**	**17 09 59.9**	**-0.9**
SHTL				*e*S	**Sb**	**17 10 14.4**	**-0.8**
SHTL	**Shatili**	**1.09**	**314**	*e*Pg	**Pb**	**17 09 60.0**	**-0.9**
SHTL				*e*Sg	**Sb**	**17 10 14.5**	**-0.8**
BUJR	**Buynaksk**	**1.12**	**35**	*e*PG	**Pn**	**17 10 01.7**	**+0.1**
BUJR				*e*S	**Sn**	**17 10 17.6**	**+0.4**
BUJR				pmax	pmax		
	comp=Z,94nm,0.3s						
BUJR	**Buynaksk**	**1.12**	**35**	*e*Pg	**Pn**	**17 10 01.7**	**+0.1**
BUJR				*e*Sg	**Sn**	**17 10 17.6**	**+0.4**
TBLG	**Delisi**	**1.13**	**261**	P	**Pg**	**17 10 01.3**	**-0.2**
TBLG				S	**Sn**	**17 10 17.4**	**+0.2**
TBLG	**Delisi**	**1.13**	**261**	*e*PG	**Pg**	**17 10 01.2**	**-0.2**
TBLG				*e*S	**Sn**	**17 10 17.4**	**+0.2**
TBLG	**Delisi**	**1.13**	**261**	*e*Pg	**Pg**	**17 10 01.3**	**-0.2**
TBLG				*e*Sg	**Sn**	**17 10 17.4**	**+0.2**
DLMR	**Dylym**	**1.20**	**14**	*e*PG	**Pg**	**17 10 03.5**	**+0.7**
DLMR				*e*S	**Sn**	**17 10 19.9**	**+1.0**
DLMR				pmax	pmax		
	comp=Z,7.0nm,0.1s						
DLMR	**Dylym**	**1.20**	**14**	*e*Pg	**Pg**	**17 10 02.7**	**-0.2**
DLMR				*e*Sg	**Sn**	**17 10 20.0**	**+1.0**
SGKR	**Sergokala**	**1.20**	**62**	*e*PG	**Pg**	**17 10 03.1**	**+0.3**
SGKR				*e*S	**Sn**	**17 10 19.4**	**+0.5**
SGKR				pmax	pmax		
	comp=Z,64nm,0.3s						
SGKR	**Sergokala**	**1.20**	**62**	*e*Pg	**Pg**	**17 10 03.1**	**+0.3**
SGKR				*e*Sg	**Sn**	**17 10 19.5**	**+0.5**
AKT	**Akhty**	**1.21**	**110**	⇓*i*PG	**Pb**	**17 10 01.8**	**-1.0**
AKT				*e*S	**Sn**	**17 10 20.1**	**+0.8**
AKT				pmax	pmax		
	comp=Z,65nm,0.3s						
AKT				smax	smax		
	comp=N,1μm,0.6s						
AKT				smax	smax		
	comp=N,1μm,0.6s						
AKT				smax	smax		
	comp=E,456nm,0.3s						
AKT	**Akhty**	**1.21**	**110**	*i* Pg	**Pg**	**17 10 01.9**	**-1.1**
AKT				*e*Sg	**Sn**	**17 10 18.5**	**-0.8**
GDB	**GEDABAY**	**1.24**	**197**	P	**Pn**	**17 10 01.8**	**-1.6**
GDB				S	**Sb**	**17 10 18.6**	**-0.9**
LSVT	**Lusahovit**	**1.26**	**218**	⇓*i*P	**Pn**	**17 10 02.6**	**-1.0**
LSVT				⇑*i*S	**Sb**	**17 10 19.8**	**-0.2**
GANJ	**Ganja**	**1.27**	**177**	P	**Pn**	**17 10 02.5**	**-1.1**
GANJ				S	**Sb**	**17 10 19.8**	**-0.3**
GANJ	**Ganja**	**1.27**	**177**	PG	**Pn**	**17 10 02.5**	**-1.1**
MNGR	**Mingechevir, A**	**1.31**	**150**	P	**Pg**	**17 10 04.6**	**-0.3**
MNGR				S	**Sg**	**17 10 24.3**	**+2.4**
MNGR	**Mingechevir, A**	**1.31**	**150**	PG	**Pg**	**17 10 04.6**	**-0.3**
GROC	**Groznyy**	**1.33**	**346**	*e*PG	**Pb**	**17 10 04.2**	**-0.7**
GROC				*e*S	**Sg**	**17 10 22.9**	**+0.3**
GROC				pmax	pmax		
	comp=Z,124nm,0.3s						
GROC	**Groznyy**	**1.33**	**346**	*e*Pg	**Pn**	**17 10 03.5**	**-0.9**
GROC				*e*Sg	**Sg**	**17 10 24.9**	**+2.3**
GUDG	**Gudauri**	**1.41**	**294**	*e*Pg	**Pn**	**17 10 05.4**	**-0.4**
GUDG				*e*Sg	**Sg**	**17 10 25.5**	**+0.2**
MAK	**Makhachkala**	**1.41**	**42**	⇓*i*PG	**Pn**	**17 10 04.5**	**-1.1**
MAK				*e*S	**Sg**	**17 10 24.5**	**-0.8**
MAK				pmax	pmax		
	comp=Z,126nm,0.3s						
MAK				smax	smax		
	comp=N,518nm,0.5s						
MAK				smax	smax		
	comp=N,609nm,0.5s						
KSMR	**Kasumkent**	**1.46**	**102**	*e*PG	**Pb**	**17 10 06.1**	**-0.9**
KSMR				*e*S	**Sg**	**17 10 25.5**	**-1.1**
KSMR				pmax	pmax		
	comp=Z,112nm,0.4s						
KSMR	**Kasumkent**	**1.46**	**102**	*e*Pg	**Pg**	**17 10 07.3**	**-0.5**
KSMR				*e*Sg	**Sg**	**17 10 27.2**	**+0.6**
KZRT	**Kazreti**	**1.47**	**250**	P	**Pn**	**17 10 03.5**	**-2.8**
KZRT				S	**Sn**	**17 10 23.2**	**-2.5**
KZRT	**Kazreti**	**1.47**	**250**	*e*PG	**Pn**	**17 10 03.5**	**-2.8**
QBL	**Gabala**	**1.55**	**128**	Pn	**Pg**	**17 10 08.6**	**-0.9**
QBL				Sn	**Sg**	**17 10 30.6**	**+1.0**
DRN	**Derbent**	**1.57**	**85**	PG	**Pg**	**17 10 09.0**	**-1.0**
DRN				S	**Sg**	**17 10 30.2**	**-0.2**
DRN	**Derbent**	**1.57**	**85**	*e*Pg	**Pg**	**17 10 09.1**	**-1.0**
DRN				*e*Sg	**Sg**	**17 10 30.3**	**-0.2**
QSAR	**Qusar**	**1.58**	**104**	Pn	**Pg**	**17 10 10.3**	**+0.2**
QSAR				Sn	**Sg**	**17 10 34.7**	**+4.2**
KANR	**Karaman**	**1.59**	**36**	PG	**Pg**	**17 10 09.6**	**-0.7**
KANR				S	**Sg**	**17 10 31.6**	**+0.7**
KANR	**Karaman**	**1.59**	**36**	*e*Pg	Pg	17 10 14.9	+4.6
KANR				*e*Sg	**Sg**	**17 10 35.9**	**+5.0**
VLKR	**Vladikavkaz**	**1.61**	**315**	*e*PN	**Pg**	**17 10 12.9**	**+2.1**
VLKR				*e*S	**Sg**	**17 10 34.7**	**+3.0**
XNQ	**Khinaliq**	**1.61**	**117**	Pn	**Pg**	**17 10 09.6**	**-1.2**
XNQ				Sn	**Sg**	**17 10 34.9**	**+3.1**
TRLG	**Trialeti**	**1.63**	**258**	P	**Pn**	**17 10 08.9**	**+0.2**
TRLG				S	**Sb**	**17 10 30.5**	**-0.3**
TRLG	**Trialeti**	**1.63**	**258**	*e*PN	**Pn**	**17 10 08.9**	**+0.2**
TRLG				*e*S	**Sb**	**17 10 30.5**	**-0.3**
SRTK	**Saratovka**	**1.66**	**240**	⇑*i*P	**Pn**	**17 10 08.6**	**-0.5**
SRTK				⇑*i*S	**Sn**	**17 10 30.6**	**+0.1**
LACR	**Lac**	**1.70**	**303**	*e*PN	**Pb**	**17 10 10.9**	**-0.3**
LACR				*e*S	**Sg**	**17 10 34.0**	**-0.4**
LACR	**Lac**	**1.70**	**303**	*e*Pg	**Pb**	**17 10 10.9**	**-0.3**
LACR				*e*Sg	**Sg**	**17 10 34.0**	**-0.4**
QUBA	**Quba, Azerbaij**	**1.79**	**107**	Pn	**Pg**	**17 10 13.1**	**-1.0**
QUBA				Sn	**Sg**	**17 10 40.2**	**+2.9**
BRDA	**Brd**	**1.80**	**156**	Pn	**Pb**	**17 10 12.8**	**0.0**
BRDA				Sn	**Sg**	**17 10 38.4**	**+0.8**
AYRK	**Ayrk**	**1.82**	**191**	⇑*i*P	**Pb**	**17 10 12.1**	**-1.3**
AYRK				⇑*i*S	**Sb**	**17 10 36.5**	**+0.2**
IML	**Ismayilli**	**1.85**	**127**	Pn	**Pb**	**17 10 13.0**	**-0.7**
IML				Sn	**Sg**	**17 10 39.5**	**+0.3**
ARNR	**Ardon**	**1.92**	**312**	*e*PN	**Pg**	**17 10 15.8**	**-0.8**
ARNR				*e*S	**Sg**	**17 10 41.9**	**+0.5**
ARNR	**Ardon**	**1.92**	**312**	*e*Pg	**Pg**	**17 10 15.8**	**-0.8**
ARNR				*e*Sg	**Sg**	**17 10 41.9**	**+0.5**
AGDM	**Agdam**	**1.92**	**159**	Pn	**Pb**	**17 10 13.4**	**-1.5**
AGDM				Sn	**Sg**	**17 10 41.4**	**-0.1**
ALIG	**Mtskhetisjvari**	**1.93**	**277**	PN	**Pb**	**17 10 13.6**	**-1.5**
KAPZ	**Kaputan**	**1.96**	**217**	*e*P	**Pb**	**17 10 14.4**	**-1.3**
KAPZ				*e*S	**Sb**	**17 10 40.7**	**+0.4**
ZRD	**Zardab**	**1.97**	**145**	Pn	**Pb**	**17 10 14.2**	**-1.5**
ZRD				Sn	**Sg**	**17 10 41.9**	**-1.1**
KORR	**Kora**	**1.98**	**307**	*e*PN	**Pg**	**17 10 17.3**	**-0.5**
KMOZ	**Kamo**	**2.03**	**238**	⇑*i*P	**Pn**	**17 10 15.1**	**+0.9**
KMOZ				⇑*i*S	**Sb**	**17 10 42.5**	**+0.2**
GNI	**Garni**	**2.09**	**213**	⇑*i*P	**Pb**	**17 10 16.2**	**-1.6**
GNI				⇓*i*S	**Sb**	**17 10 43.5**	**-0.4**
GNI	**Garni**	**2.09**	**213**	*d i*PN	**Pn**	**17 10 15.9**	**+0.9**
GNI				*e*S	**Sb**	**17 10 45.4**	**+1.5**
GNI				pmax	pmax		
	comp=Z,70nm,1.2s						
GNI	**Garni**	**2.09**	**213**	*e*Pg	**Pn**	**17 10 15.9**	**+0.9**
GNI				*e*Sg	**Sg**	**17 10 45.7**	**-1.2**
PQL	**Pirkuli**	**2.10**	**121**	Pn	**Pb**	**17 10 17.6**	**-0.5**
PQL				Sn	**Sg**	**17 10 45.9**	**-1.6**
AKH	**Akhalkalaki**	**2.11**	**257**	P	**Pn**	**17 10 16.0**	**+0.7**
AKH				S	**Sb**	**17 10 44.7**	**+0.2**
AKH	**Akhalkalaki**	**2.11**	**257**	*e*PN	**Pn**	**17 10 16.0**	**+0.7**
AKH				*e*S	**Sb**	**17 10 44.7**	**+0.2**
AMBZ	**Amberd**	**2.12**	**225**	*e*P	**Pb**	**17 10 17.5**	**-1.1**
AMBZ				*e*S	**Sb**	**17 10 46.1**	**+1.1**
KDMR	**Kurdemir**	**2.13**	**135**	Pn	**Pb**	**17 10 18.1**	**-0.4**
KDMR				Sn	**Sg**	**17 10 45.9**	**-2.4**
STDR	**Stavd-Durt**	**2.16**	**313**	*e*PN	**Pb**	**17 10 19.3**	**+0.3**
STDR				*e*S	**Sb**	**17 10 46.7**	**+0.8**
STDR	**Stavd-Durt**	**2.16**	**313**	*e*Pg	**Pb**	**17 10 19.3**	**+0.3**
STDR				*e*Sg	**Sb**	**17 10 46.7**	**+0.8**
SIZA	**Siyzn**	**2.17**	**112**	Pn	**Pg**	**17 10 20.4**	**-1.1**
SIZA				Sn	**Sg**	**17 10 49.0**	**-0.7**
DIGR	**Digorskoe uzhe**	**2.19**	**298**	*e*PN	**Pb**	**17 10 20.3**	**+0.6**
DIGR				*e*S	**Sg**	**17 10 49.1**	**-1.2**
DIGR	**Digorskoe uzhe**	**2.19**	**298**	*e*Pg	**Pb**	**17 10 19.7**	**0.0**
DIGR				*e*Sg	**Sg**	**17 10 48.8**	**-1.5**
ARUZ	**Aruch**	**2.29**	**225**	*e*P	**Pb**	**17 10 20.1**	**-1.1**
ARUZ				*e*S	**Sb**	**17 10 50.7**	**+1.0**
ATGJ	**Altiaghaj**	**2.29**	**116**	Pn	**Pb**	**17 10 21.0**	**-0.3**
ATGJ				Sn	**Sb**	**17 10 50.3**	**+0.5**
VAYK	**Vayk**	**2.29**	**196**	⇓*e*P	**Pn**	**17 10 18.7**	**+0.9**
VAYK				⇓*e*S	**Sb**	**17 10 50.2**	**+0.4**
BLQ	**Beylaqan**	**2.41**	**155**	Pn	**Pn**	**17 10 20.2**	**+0.9**
BLQ				Sn	**Sb**	**17 10 50.8**	**-2.2**
HYR	**Heyderabad**	**2.42**	**206**	Pn	**Pn**	**17 10 22.3**	**-1.2**
HYR				Sn	**Sb**	**17 10 53.1**	**-0.4**
GBS	**Qobustan**	**2.47**	**123**	Pn	**Pb**	**17 10 23.4**	**-0.9**
GBS				Sn	**Sb**	**17 10 54.8**	**+0.1**
NCK	**Nalchik**	**2.50**	**310**	⇓*e*PN	**Pb**	**17 10 23.0**	**-1.9**
SBZ	**Shahbuz**	**2.56**	**192**	Pn	**Pb**	**17 10 23.2**	**-2.7**
SBZ				Sn	**Sb**	**17 10 56.7**	**-0.8**
QRD	**Qoradiz**	**2.58**	**161**	Pn	**Pn**	**17 10 22.0**	**+0.3**
QRD				Sn	**Sb**	**17 10 56.1**	**-1.9**
EGVZ	**Egvard**	**2.69**	**175**	*e*P	**Pn**	**17 10 24.3**	**+1.0**
EGVZ				*e*S	**Sn**	**17 10 57.7**	**+1.8**
ALIB	**&Aumlli-Bayram**	**2.87**	**132**	Pn	**Pb**	**17 10 29.2**	**-1.9**
ALIB				Sn	**Sb**	**17 11 04.6**	**-1.6**
ORD	**Ordubad**	**2.98**	**183**	Pn	**Pn**	**17 10 28.3**	**+1.0**
ORD				Sn	**Sn**	**17 11 04.6**	**+1.5**
KBZ	**Khabaz**	**3.05**	**308**	*e*Pn	**Pb**	**17 10 30.5**	**-3.6**
KBZ				*e*Sn	**Sn**	**17 11 06.1**	**+1.5**
GLBA	**Clilabad**	**3.13**	**148**	Pn	**Pn**	**17 10 29.8**	**+0.5**
GLBA				Sn	**Sn**	**17 11 09.2**	**+2.5**
SHA1	**Shidzhatmaz**	**3.20**	**306**	*de*PN	**Pb**	**17 10 33.2**	**-3.6**
SHA1	**Shidzhatmaz**	**3.20**	**306**	*e*Pn	**Pn**	**17 10 32.6**	**+2.3**
SHA1				*e*Sn	**Sb**	**17 11 12.1**	**-3.8**
KIV	**Kislovodsk**	**3.31**	**309**	*i* PN	**Pn**	**17 10 34.4**	**+2.7**
KIV	**Kislovodsk**	**3.31**	**309**	*e*Pn	**Pn**	**17 10 33.2**	**+1.5**
KIV				*e*Sn	**Sn**	**17 11 12.3**	**+1.2**
YRD	**Yardimli**	**3.36**	**152**	Pn	**Pn**	**17 10 33.0**	**+0.4**
YRD				Sn	**Sn**	**17 11 14.1**	**+1.4**
LRK	**Lerik**	**3.64**	**153**	Pn	**Pn**	**17 10 37.1**	**+0.8**
LRK				Sn	**Sn**	**17 11 21.1**	**+1.7**
ASTR	**Astara**	**3.88**	**149**	Pn	**Pn**	**17 10 39.8**	**+0.4**
ASTR				Sn	**Sn**	**17 11 24.4**	**-0.6**
GOF	**Gofitskoye**	**3.91**	**325**	*ce*PN	Pn	17 10 33.4	-6.5
GOF				*e*S	**Sb**	**17 11 33.6**	**-2.5**
SOC	**Sochi**	**5.08**	**291**	*e*PN	**Pn**	**17 10 59.3**	**+3.4**
SOC				*e*		17 12 00.7	
SOC				*i* SS	**Sg**	**17 12 16.2**	**-6.5**
SOC				MLR	MLR		
	comp=Z,33nm,14.0s						
OBN	**Obninsk**	**14.66**	**338**	*e*P	**Pn**	**17 13 09.2**	**+2.1**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.3s						

IDC 23 17:13:18.1±9.2, 3.58N×63.99E, h0km, mb3.8/2, mbtmp3.8/2, MS2.9/1, Error ellipse: s-maj=797.4km s-min=52.7km az=40.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**17.04**	**77**	LR	LR	17 21 20.7	
	comp=Z,38nm,18.9s,baz=274,slow=28						
WRA	**Warramunga Arr**	**72.86**	**112**	P	P	17 24 49.6	+0.2
	0.5nm,0.6s,baz=288,slow=5.5,SNR=5.5						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**73.17**	**116**	P	P	17 24 51.3	0.0
	0.9nm,0.9s,baz=290,slow=5.8,SNR=15						
	0.9nm,0.9s						
TXAR	**Lajitas Array**	**145.19**	**341**	PKPbc	PKPbc	17 32 57.2	-0.9
	0.3nm,0.7s,baz=87,slow=3.1,SNR=4.1						

MOS 23 17:42:59.5, 41.95N×46.26E, h20km, MPVA3.5, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLTR	**Tlyarata**	**0.17**	**24**	*e*Pg	Pb	17 43 05.2	+0.8
TLTR				*e*Sg	Sb	17 43 08.9	+1.1
KMKR	**Kumukh**	**0.65**	**73**	*e*Pg	Pn	17 43 13.9	+0.1
KMKR				*e*Sg	Sn	17 43 23.8	+0.2
XNZR	**Khunzakh**	**0.68**	**29**	*e*Pg	Pn	17 43 14.9	+0.8
XNZR				*e*Sg	Sn	17 43 25.4	+1.1
BTLR	**Botlikh**	**0.72**	**358**	*e*Pg	Pn	17 43 15.0	+0.4
BTLR				*e*Sg	Sn	17 43 25.8	+0.8
ARKR	**Arakani**	**0.85**	**39**	*e*Pg	Pn	17 43 17.9	+1.5
ARKR				*e*Sg	Sn	17 43 30.8	+2.4
UNCR	**Uncukul**	**0.86**	**27**	*e*Pg	Pb	17 43 16.1	+0.3
UNCR				*e*Sg	Sn	17 43 30.5	+1.9
KRNR	**Karanay**	**1.00**	**28**	*e*Pg	Pn	17 43 20.0	+1.5
KRNR				*e*Sg	Sn	17 43 34.8	+2.6
DVE	**Vedeno**	**1.01**	**354**	*e*Sg	Sn	17 43 35.3	+2.9
BUJR	**Buynaksk**	**1.08**	**35**	*e*Pg	Pn	17 43 21.0	+1.5
BUJR				*e*Sg	Sn	17 43 38.6	+4.7
SGKR	**Sergokala**	**1.16**	**63**	*e*Pg	Pb	17 43 23.0	+2.1
SGKR				*e*Sg	Sn	17 43 40.1	+4.3
AKT	**Akhty**	**1.20**	**112**	*e*Sg	Sn	17 43 40.4	+3.5
AKH	**Akhalkalaki**	**2.14**	**256**	*e*Sg	Sb	17 44 05.1	+1.2

DRS 23 17:43:45.4, 41.94N×46.19E, h18km, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLTR	**Tlyarata**	**0.21**	**35**	*e*Pg	Pg	17 43 51.1	+0.5
	3.0nm,0.9s						
TLTR				*e*Sg	Sg	17 43 55.2	+1.1
	243nm,0.4s						
KMKR	**Kumukh**	**0.70**	**74**	*e*Pg	Pg	17 43 59.8	+0.5
	24nm,0.1s						
KMKR				*e*Sg	Sn	17 44 10.1	-1.0
	213nm,0.2s						
XNZR	**Khunzakh**	**0.71**	**32**	*e*Pg	Pn	17 44 00.8	+0.1
	12nm,0.3s						
XNZR				*e*Sg	Sn	17 44 11.8	+0.4
	44nm,0.4s						
BTLR	**Botlikh**	**0.72**	**2**	*e*Pg	Pn	17 44 00.8	-0.1
	20nm,0.4s						
ARKR	**Arakani**	**0.89**	**42**	*e*Pg	Pn	17 44 03.9	+0.8
	14nm,0.5s						
ARKR				*e*Sg	Sn	17 44 16.9	+1.3
	45nm,0.6s						
UNCR	**Uncukul**	**0.89**	**30**	*e*Pg	Pn	17 44 04.3	+1.1
	12nm,0.6s						
UNCR				*e*Sg	Sn	17 44 17.3	+1.6
	50nm,0.7s						
KRNR	**Karanay**	**1.03**	**31**	*e*Pg	Pg	17 44 06.3	+0.8
	7.0nm,0.3s						
KRNR				*e*Sg	Sn	17 44 21.2	+2.0
	21nm,0.4s						
URKR	**Urkarakh**	**1.10**	**78**	*e*Pg	Pg	17 44 07.8	+1.1
	10.0nm,0.6s						
SGKR	**Sergokala**	**1.21**	**64**	*e*Pg	Pg	17 44 08.9	+0.2
	19nm,0.8s						
AKT	**Akhty**	**1.24**	**111**	*e*Pg	Pb	17 44 08.8	+0.5
	6.0nm,0.2s						

BJI ***23*** *17:51:07.8, 52.67N×167.04W, h9km, mB5.3/59, mb5.2/80, Ms5.3/79, Ms7 5.1/76*
IDC ***23*** *17:51:08.9±0.5, 52.60N×166.94W, h0km, mb4.9/37, mbtmp4.9/39, ML4.0/2, MS4.7/72, Error ellipse: s-maj=15.0km s-min=9.8km az=174.0*
NEIC ***23*** *17:51:10.1, 52.54N×166.91W, h12km*
MOS ***23*** *17:51:10.3±1.2, 52.65N×167.08W, h17km, mb5.5/68, MS4.9/21, Error ellipse: s-maj=9.0km s-min=4.6km az=103.5*
NEIC ***23*** *17:51:10.0±1.9, 52.53N±0.05×166.91W±0.06, h10km±1km, mb5.1/439, ML4.7/22, Mww5.3/39, Error ellipse: s-maj=9.2km s-min=5.5km az=155.0*
NEIC ***23*** *17:51:10.1, 52.54N×166.91W, h12km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^17Nm; Mrr0.93; Mθθ-0.87; Mϕϕ-0.06; Mrθ0.52; Mrϕ-0.50; Mθϕ0.26; Fault plane solution: M0 1.18000×10^17 NP1: ϕs245.36000°, δ30.24000°, λ91.07000°. NP2: ϕs64.12000°, δ59.77000°, λ89.38000°. Principal axes: T 1.0811, Plg75.0000°, Azm332.0000°; N 0.1797, Plg1.0000°, Azm64.0000°; P -1.2608, Plg15.0000°, Azm155.0000°;*
AEIC ***23*** *17:51:12.7±1.9, 52.56N±0.06×166.93W±0.07, h14km±4km Error ellipse: s-maj=9.2km s-min=5.6km az=154.0*
GCMT ***23*** *17:51:15.0±0.1, 52.49N±0.01×166.90W±0.01, h13km, MW5.3/148, Moment Tensor Solution. s120,c217; s148,c300; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr1.02±.02; Mθθ-0.93±.01; Mϕϕ-0.09±.01; Mrθ0.78±.03; Mθϕ-0.45±.01; Mϕr0.24±.03; Best double couple: M0 1.34500×10^17 NP1: ϕs242.00000°, δ27.00000°, λ82.00000°. NP2: ϕs71.00000°, δ64.00000°, λ94.00000°. Principal axes: T 1.2950, Plg71.0000°, Azm349.0000°; N 0.0960, Plg4.0000°, Azm249.0000°; P -

comp=E,8µm,0.5s
CLES IAML 17 52 15.5
comp=N,8µm,0.7s
WEBT Westdahl Beart 2.41 31 Pn 17 51 49.7 0.0
WEBT Pn 17 51 50.4 +0.7
WEBT Sn 17 52 20.0 +1.1
SSLS Shishaldin Sou 2.77 37 Pn 17 51 55.1 +0.5
SSBA Shishaldin 2.77 35 Pn 17 51 54.5 -0.2
SSLN Shishaldin Nor 2.85 36 Pn 17 51 57.0 +1.3
ISNN Isanotski Nort 2.94 38 Pn 17 51 57.7 +0.7
FALS False Pass 3.10 40 Pn 17 52 00.6 +1.5
FALS False Pass 3.10 40 P Pn 17 52 00.4 +1.3
FALS False Pass 3.10 40 S Sn 17 52 35.6 -0.1
FALS False Pass 3.10 40 P Pn 17 52 00.3 +1.2
baz=223
FALS S Sn 17 52 37.1 +1.4
baz=223
DT1 Dutton Round H 3.75 45 Pn 17 52 08.0 0.0
DT1 Pn 17 52 08.4 +0.4
PN7A Pavlof North-7 4.08 43 Pn 17 52 12.4 -0.4
PS1A Pavlof South-1 4.18 44 Pn 17 52 14.5 +0.5
S12K Black Hills 4.25 40 P Pn 17 52 17.2 +2.3
baz=224
P08K Saint George I 4.35 340 Pn 17 52 15.9 -0.3
P08K Saint George I 4.35 340 IAML 17 54 08.7
comp=N,414nm,1.1s
KOSE Korovin Southe 4.39 270 Pn 17 52 16.9 0.0
KOFP Korovin Flat P 4.42 269 Pn 17 52 17.7 +0.3
KOFP Pn 17 52 17.9 +0.6
KOKL Mount Kliuchef 4.48 270 Pn 17 52 17.5 -0.7
ATKA Atka Island 4.49 269 Pn 17 52 18.7 +0.5
ATKA Atka Island 4.49 269 P Pn 17 52 18.7 +0.5
KOWE Korovin West 4.51 271 Pn 17 52 19.1 +0.5
KOWE Pn 17 52 20.0 +1.4
SDPT Sand Point 4.71 51 Pn 17 52 22.0 +0.7
SDPT IAML 17 53 35.6
comp=E,721nm,1.1s
SDPT Sand Point 4.71 51 P Pn 17 52 21.9 +0.7
SDPT Sand Point 4.71 51 S Sn 17 53 14.2 -1.2
SDPT Sand Point 4.71 51 P Pn 17 52 22.3 +1.1
baz=236
CNBA Chernabura Isl 4.90 59 Pn 17 52 23.5 -0.3
CNBA IAML 17 53 21.8
comp=E,409nm,0.9s
CHNA Chernabura Isl 4.90 59 P Pn 17 52 24.2 +0.3
CHNA Chernabura Isl 4.90 59 P Pn 17 52 23.9 +0.1
baz=245
SPIA Saint Paul Isl 5.03 339 Pn 17 52 25.9 +0.2
SPIA Saint Paul Isl 5.03 339 IAML 17 53 44.4
comp=E,521nm,0.8s
SPIA IAML 17 54 15.5
comp=N,492nm,0.9s
SPIA Saint Paul Isl 5.03 339 P Pn 17 52 26.3 +0.7
baz=156
GSIG Igitkin Island 5.58 268 Pn 17 52 32.9 -0.3
GSIG Pn 17 52 33.2 -0.1
GSTR Great Sitkin T 5.65 269 Pn 17 52 35.1 +1.0
GSMY Great Sitkin M 5.65 269 Pn 17 52 34.4 +0.2
VNFG Fog Glacier, M 5.69 46 Pn 17 52 36.1 +1.3
GSTD Great Sitkin T 5.70 269 Pn 17 52 35.0 0.0
GSTD Pn 17 52 35.3 +0.3
GSCK Great Sitkin C 5.72 268 Pn 17 52 35.3 +0.1
GSCK Pn 17 52 35.4 +0.3
ETKA Kagalaska Isla 5.90 267 Pn 17 52 37.4 -0.1
ETKA Pn 17 52 37.8 +0.3
ADAG Mount Adagdak 6.00 268 Pn 17 52 39.0 +0.1
ADK Adak 6.06 268 Pn 17 52 40.5 +0.7
ADK Adak 6.06 268 P Pn 17 52 40.9 +1.1
ADK Adak 6.06 268 S Sn 17 53 49.3 +0.6
ADK Adak 6.06 268 P Pn 17 52 40.5 +0.7
ADK S Sn 17 53 48.2 -0.5
CHGN Chignik 6.21 49 Pn 17 52 42.1 +0.3
CHGN Chignik 6.21 49 P Pn 17 52 43.1 +1.3
baz=236
KIRH Kanaga Island 6.31 268 Pn 17 52 43.9 +0.7
KIWB Kanaga Island 6.35 268 Pn 17 52 44.7 +1.0
KIMD Kanaga Island 6.42 267 Pn 17 52 45.5 +0.8
KIMD Pn 17 52 45.6 +0.9
TAFL Tanaga Flats 6.83 268 Pn 17 52 49.7 -0.5
TASE Tanaga Southea 6.90 269 Pn 17 52 50.7 -0.5
GANE Gareloi Northe 7.35 269 Pn 17 52 56.9 -0.6
CHIR Chirikof Islan 7.38 59 P Pn 17 52 58.9 +1.1
CHIR Chirikof Islan 7.38 59 P Pn 17 52 58.7 +0.9
baz=248
GAKI Gareloi-Kavalg 7.42 267 Pn 17 52 58.1 -0.4
O14K Tigyukauivet M 7.43 23 Pn 17 52 59.1 +0.6
O14K Tigyukauivet M 7.43 23 P Pn 17 53 00.1 +1.6
baz=207
O15K Ungalikthiuk R 7.74 28 Pn 17 53 02.5 -0.3
O15K Ungalikthiuk R 7.74 28 P Pn 17 53 05.0 +2.2
baz=214
M11K Mekoryuk 7.87 2 Pn 17 53 04.5 -0.1
M11K Mekoryuk 7.87 2 P Pn 17 53 07.1 +2.6
baz=183
R17L Mt. Peulik Vol 7.90 46 P Pn 17 53 07.1 +2.1
baz=234
PLK4 Peulik 4 7.90 46 Pn 17 53 07.0 +2.0
N14K Kuskokwak Cree 7.94 19 P Pn 17 53 06.9 +1.4
baz=204
PLK2 Peulik 2 7.99 45 Pn 17 53 06.8 +0.6
M13K Dall Lake 8.13 12 P Pn 17 53 10.9 +2.8
baz=195
P16K Nushagak River 8.20 34 P Pn 17 53 10.5 +1.4
baz=221
CESW Semis' Southwe 8.35 271 Pn 17 53 11.2 +0.1
SII Sitkinak Islan 8.40 56 P Pn 17 53 12.2 +0.3
Q17K Contact Creek 8.48 43 P Pn 17 53 14.3 +1.3
baz=232
N15K Kwethluk River 8.52 24 Pn 17 53 13.4 -0.1
N15K Kwethluk River 8.52 24 P Pn 17 53 14.3 +0.8
baz=209
O16K Kokwok River B 8.60 31 P Pn 17 53 16.1 +1.5
baz=218
CAHL Cahill 8.60 46 Pn 17 53 15.1 +0.5
AMKA Amchitka 8.61 268 Pn 17 53 15.3 +0.5
M14K Bethel 8.66 16 P Pn 17 53 16.2 +0.8
baz=200
KABU Katmai Buttres 8.74 44 Pn 17 53 17.3 +0.7
M15K Kasigluk River 8.85 20 Pn 17 53 18.8 +0.8
M15K Kasigluk River 8.85 20 P Pn 17 53 18.7 +0.8
baz=205
P17K Kvichak River 8.88 37 P Pn 17 53 18.1 -0.2
baz=226
O17K Koliganek Bris 9.06 33 P Pn 17 53 21.9 +1.0
baz=221
KAHC Katmai Hardscr 9.08 43 Pn 17 53 21.7 +0.4
Q18K Katmai Hardscr 9.08 43 P Pn 17 53 22.1 +0.8
baz=233
L14K Kuka Creek 9.11 13 Pn 17 53 24.1 +2.6
L14K Kuka Creek 9.11 13 P Pn 17 53 23.1 +1.6
baz=196
N16K Nishlik Lake 9.12 26 P Pn 17 53 23.7 +1.9
baz=213
OHAK Old Harbor 9.13 54 Pn 17 53 20.9 -0.9
OHAK Old Harbor 9.13 54 P Pn 17 53 21.4 -0.4
OHAK Old Harbor 9.13 54 P Pn 17 53 22.4 +0.6
baz=245
P18K Big Mountain, 9.46 39 Pn 17 53 26.1 -0.4
P18K Big Mountain, 9.46 39 P Pn 17 53 27.6 +1.1
baz=228,SNR=8.1
K13K Kusilvak Mount 9.49 6 P Pn 17 53 27.6 +0.9
baz=188
M16K Timber Creek 9.54 24 P Pn 17 53 28.7 +1.2
baz=210
L15K Ungalak Mounta 9.61 16 P Pn 17 53 29.5 +1.1
baz=200
N17K Nushagak Hills 9.62 30 P Pn 17 53 29.0 +0.5
baz=218
KDAK Kodiak Island 9.71 52 Pn 17 53 29.0 -0.8
KDAK Kodiak Island 9.71 52 Pn Pn 17 53 30.3 +0.5
comp=N,3.7nm,0.3s,baz=240,slow=6.7,SNR=14
KDAK Sn Sn 17 55 12.8 -5.6
comp=N,1.0nm,0.3s,baz=291,slow=18,SNR=1.5
KDAK Kodiak Island 9.71 52 P Pn 17 53 29.0 -0.8
KDAK Kodiak Island 9.71 52 P Pn 17 53 29.5 -0.3
baz=243
Q19K Cape Douglas, 9.82 44 Pn 17 53 32.3 +1.0
Q19K Cape Douglas, 9.82 44 P Pn 17 53 31.0 -0.3
baz=235
L16K Owhat River 10.03 21 Pn 17 53 37.3 +3.3
L16K Owhat River 10.03 21 P Pn 17 53 34.6 +0.6
baz=207,SNR=8.8
K15K Wolf Creek Mou 10.19 14 P Pn 17 53 37.4 +1.0
baz=199
M17K Holitna River 10.26 26 P Pn 17 53 38.2 +1.0
baz=214
O19K Port Alsworth 10.35 37 P Pn 17 53 40.3 +1.9
baz=228
J14K Nanvaranak Lak 10.39 9 P Pn 17 53 41.0 +2.0
baz=191
P19K Oil Pt 10.42 42 P Pn 17 53 41.1 +1.5
baz=233
L17K Donlin 10.66 22 P Pn 17 53 44.1 +1.3
baz=209
N19K Bonanza Creek 10.71 34 P Pn 17 53 46.5 +2.9
baz=225,SNR=6.5
M18K Stony River 10.79 29 P Pn 17 53 46.4 +1.9
baz=219
HOM Homer 11.08 44 P Pn 17 53 48.4 -0.2
baz=236
L18K Granite Mounta 11.13 25 P Pn 17 53 50.7 +1.4
baz=214
K17K Iditarod 11.18 21 P Pn 17 53 50.8 +1.0
baz=208
J16K Anvik River 11.27 15 P Pn 17 53 52.8 +1.7
baz=200
GAMB Gambell 11.54 349 Pn 17 53 55.9 +1.2
GAMB Gambell 11.54 349 P Pn 17 53 57.3 +2.5
baz=165
SHEM Shemya Is, Ala 11.56 278 Pn Pn 17 53 54.5 -0.5
comp=N,1.3nm,0.3s,baz=79,slow=16,SNR=1.5
comp=N,22nm,0.9s
L19K White Mountain 11.62 29 P Pn 17 53 58.4 +2.5
baz=219
J17K VABM Dome 11.63 18 P Pn 17 53 57.7 +1.7
baz=204
N20K Mount Spurr 11.79 37 P Pn 17 53 59.8 +1.5
baz=229
SPCR Spurr Chakacha 11.79 37 P Pn 17 53 59.8 +1.5
baz=229
I17K Unalakleet 11.82 13 P Pn 17 53 59.9 +1.3
baz=199
SPU Mount Spurr 11.84 37 Pn 17 54 01.8 +2.9
CAPN Captain Cook N 11.92 40 P Pn 17 54 02.0 +2.0
baz=233
M20K Styx River 11.94 33 P Pn 17 54 01.5 +1.2
baz=224,SNR=15
ANM Nome 12.08 3 P Pn 17 54 03.2 +1.0
baz=184
STLK Strandline Lak 12.12 36 Pn 17 54 06.2 +3.4
L20K Farewell, AK 12.14 30 P Pn 17 54 05.2 +2.3
baz=221,SNR=19
J18K Innoko River 12.18 22 P Pn 17 54 04.3 +0.7
baz=211,SNR=7.0
SEW Seward 12.26 45 P Pn 17 54 05.8 +1.3
baz=239
O22K Cooper Landing 12.34 43 Pn 17 54 04.8 -0.9
O22K Cooper Landing 12.34 43 P Pn 17 54 05.8 +0.1
baz=237
H16K Elim 12.36 9 P Pn 17 54 07.3 +1.2
baz=193
SUA Susitna One 12.50 38 P Pn 17 54 09.5 +1.4
baz=232
SKT Skwentna 12.55 35 P Pn 17 54 09.7 +1.0
baz=228
G15K Niukluk 12.57 6 P Pn 17 54 09.6 +0.8
baz=188
RC01 Rabbit Creek A 12.67 41 P Pn 17 54 08.6 -1.6
baz=235
K20K Telida 12.77 27 P Pn 17 54 12.4 +0.9
baz=218
J19K Poorman 12.89 23 P Pn 17 54 12.0 -1.2
baz=212,SNR=6.7
M22K Willow 12.92 38 P Pn 17 54 12.3 -1.3
baz=232
H17K Granite Mounta 12.93 13 P Pn 17 54 15.9 +2.1
baz=199,SNR=8.1
PPLA Purkeypile 12.97 31 P Pn 17 54 14.9 +0.5
baz=224,SNR=18
F14K Arctic Creek 12.97 1 P Pn 17 54 15.6 +1.2
baz=182
TNA Tin City 13.07 358 P Pn 17 54 16.1 +0.5
baz=177
G16K Koyuk River 13.09 8 P Pn 17 54 16.5 +0.5
baz=192
PWL Port Wells 13.12 43 Pn 17 54 14.2 -2.2
PMR Palmer 13.20 40 P Pn 17 54 17.5 +0.1
baz=235
F15K North Star Dit 13.25 4 P Pn 17 54 18.9 +0.7
baz=186
GCSA Galena City Sc 13.27 19 P Pn 17 54 18.4 0.0
baz=208,SNR=11
CUT Chulitna 13.28 35 P Pn 17 54 18.2 -0.3
baz=229
KNK Knik Glacier 13.36 41 P Pn 17 54 20.0 +0.3
baz=236
Q23K Middleton Isla 13.37 51 P Pn 17 54 18.3 -1.3
baz=248
H18K Honhosa River 13.37 16 P Pn 17 54 20.9 +1.1
baz=203,SNR=12
G17K Kiwalik Mounta 13.38 11 P Pn 17 54 19.8 0.0
baz=197
J20K Nowinta River 13.40 25 P Pn 17 54 20.9 +0.6
baz=215,SNR=16
GLI Glacier Island 13.65 45 P Pn 17 54 22.7 -0.9
baz=241
CHUM Lake Minchumin 13.67 28 P Pn 17 54 24.2 +0.4
baz=220,SNR=25
I20K Naaghedeneel 13.84 23 P Pn 17 54 26.8 +0.7
baz=213
M23K Glacier View 13.87 41 P Pn 17 54 25.9 -0.7
baz=237,SNR=7.9
TRF Thorofare Moun 13.97 32 P Pn 17 54 27.9 -0.3
baz=226
G18K Tagagawik 14.02 14 P Pn 17 54 29.7 +1.1
baz=201,SNR=23
SCM Sheep Creek Mo 14.05 41 P Pn 17 54 29.6 +0.5
baz=237,SNR=10
H19K Roundabout Mou 14.05 18 P Pn 17 54 30.2 +1.1
baz=207,SNR=37
EYAK Cordova Ski Ar 14.09 47 P Pn 17 54 30.4 +0.8
WAT1 Susitna Watana 14.16 36 P Pn 17 54 31.1 +0.5
baz=232
BPAW Bear Paw Mtn. 14.22 29 P Pn 17 54 31.5 0.0
baz=223,SNR=19
F17K Baldwin Pennin 14.22 9 P Pn 17 54 32.7 +1.4
baz=194,SNR=17
WAT6 Susitna Watana 14.31 38 P Pn 17 54 34.2 +1.5
baz=234
H20K Anotleneega Mo 14.34 21 P Pn 17 54 34.3 +1.3
baz=211,SNR=40
KLU Klutina 14.45 43 P Pn 17 54 33.5 -1.0
baz=241,SNR=14
G19K Purcell Mounta 14.50 16 P Pn 17 54 35.3 +0.1
baz=204,SNR=41
F18K Selawik 14.55 12 P Pn 17 54 35.8 0.0
baz=198,SNR=20
MCK McKinley 14.61 33 P Pn 17 54 36.0 -0.7
baz=228
M24K Tolsona, Glenn 14.65 41 P Pn 17 54 36.5 -0.8
baz=238,SNR=6.1
DHY Denali Highway 14.74 37 P Pn 17 54 38.4 -0.2
baz=233
BMRM Bremner River 14.78 46 P Pn 17 54 37.7 -1.3
baz=245
E17K Hotham Inlet 14.80 8 P Pn 17 54 39.1 -0.1
baz=192,SNR=12
H21K Melozitna Rive 14.95 23 P Pn 17 54 40.4 -0.9
baz=215,SNR=50
MLY Manley 14.99 27 IAmb IAmb 17 54 49.3
comp=Z,39nm,0.8s
MLY Manley 14.99 27 P Pn 17 54 42.1 +0.2
baz=221,SNR=45
IMAR Indian Mountai 15.01 21 P P 17 54 45.2 -2.2
F19K Shaleruckik Mo 15.03 14 P Pn 17 54 42.9 +0.7
baz=202,SNR=23
N25K Chitina, Valde 15.06 44 P Pn 17 54 40.9 -2.0
baz=243
NEA2 Nenana 15.16 30 P Pn 17 54 43.0 -1.1
baz=226,SNR=13
E18K Tukpahlearik C 15.24 9 P Pn 17 54 46.5 +1.4
baz=195,SNR=21
D17K Noatak River 15.32 5 P Pn 17 54 46.8 +0.7
baz=189,SNR=13
CRQE Cirque 15.37 48 P Pn 17 54 46.6 -0.4
baz=248,SNR=17
PAX Paxson 15.39 39 P Pn 17 54 47.8 +0.6
baz=237,SNR=8.3
H22K Ishtalitna Cre 15.49 24 P Pn 17 54 48.0 -0.4
baz=218,SNR=62
G21K Allakaket 15.51 20 IAmb IAmb 17 54 56.1
comp=Z,111nm,0.7s
G21K Allakaket 15.51 20 P Pn 17 54 49.3 +0.6
baz=212,SNR=142
F20K Avaraart Lake 15.55 16 P Pn 17 54 48.7 -0.5
baz=206,SNR=33
MCARA McCarthy VSAT 15.65 46 IAmb IAmb 17 54 58.8
comp=Z,172nm,1.0s
MCARA McCarthy VSAT 15.65 46 P P 17 54 55.9 +1.3
baz=246,SNR=26
RDOG Red Dog Mine 15.68 6 P Pn 17 54 51.5 +0.7
baz=189
E19K Redstone River 15.69 14 P Pn 17 54 50.4 -0.5
baz=202,SNR=18
MESA MESA 15.71 51 P Pn 17 54 52.6 +1.1
baz=252
HDA Harding Lake 15.72 33 P Pn 17 54 50.9 -0.4
baz=230
COLA College 15.73 31 P Pn 17 54 51.3 -0.3
COLA College 15.73 31⇑eP Pn 17 54 51.2 -0.3
COLA College 15.73 31 P Pn 17 54 49.5 -2.0
baz=227
K24K Donnelly Dome 15.75 36 P Pn 17 54 52.1 +0.2
baz=234
C16K Lisburne Hills 15.80 2 P Pn 17 54 52.6 +0.3
baz=183
IL31 15.97 32 P Pn 17 54 54.6 0.0
ILAR Eielson Array 15.97 32 P Pn 17 54 56.1 +1.5
ILAR Eielson Array 15.97 32 Pn Pn 17 54 53.1 -1.5
comp=Z,0.5nm,0.3s,baz=232,slow=11,SNR=24
ILAR LR LR 18 01 35.3
comp=Z,5µm,18.2s,baz=220,slow=39
comp=Z,5.4nm,0.9s
ILAR Eielson Array 15.97 32 P Pn 17 54 56.2 +1.5
POKR Poker Plat Res 16.03 31 P Pn 17 54 55.0 -0.4
baz=227
RIDG Independent Ri 16.05 37 P Pn 17 54 55.2 -0.5
baz=236,SNR=9.7
C17K DeLong Mountai 16.08 5 P Pn 17 54 57.2 +1.1
baz=188
M26K Nabesna, AK 16.10 43 P Pn 17 54 56.4 +0.1
baz=243,SNR=18
F21K Alatna River 16.12 19 P Pn 17 54 56.9 +0.4
baz=211,SNR=31
BARN Barnard Glacie 16.14 48 IAmb IAmb 17 55 05.3
comp=Z,176nm,1.4s
L26K Log Cabin Wild 16.25 41 P Pn 17 54 58.7 +0.4
baz=241,SNR=40
CTG Chitna Glacier 16.25 49 P Pn 17 54 58.2 -0.2
baz=250
CTGM Chitina Glacie 16.25 49 P Pn 17 54 58.2 -0.2
CTGM IAmb IAmb 17 55 06.6
comp=Z,302nm,1.8s
G22K Bettles 16.29 22 P Pn 17 54 58.6 -0.1
baz=215
J25K Salcha River, 16.38 34 P Pn 17 54 59.9 0.0
baz=232,SNR=34
C18K Utukok River 16.39 7 P Pn 17 55 01.3 +1.3
baz=192,SNR=22
H24K Noodor Dome 16.40 28 P Pn 17 55 00.7 +0.6
baz=225,SNR=20
G23K Bananza Creek 16.47 24 IAmb IAmb 17 55 07.0
comp=Z,222nm,1.4s
G23K Bananza Creek 16.47 24 P Pn 17 55 01.6 +0.6
baz=219,SNR=90
PCA Pinnacle 16.50 52 IAmb IAmb 17 55 10.2
comp=Z,342nm,1.8s
PINM Pinnacle 16.50 52 P P 17 55 03.4 -0.6
baz=254
SCRK Sand Creek 16.50 37 P Pn 17 55 01.9 +0.4
baz=237,SNR=45
D19K Kuna River 16.54 11 P Pn 17 55 02.3 +0.4
baz=199,SNR=8.4
M27K Edge Creek, AK 16.55 44 P Pn 17 55 03.1 +1.0
baz=245
E20K Nigu River 16.58 14 P Pn 17 55 02.1 -0.3
baz=203,SNR=17
F22K John River 16.63 20 P Pn 17 55 03.4 +0.4
baz=213,SNR=7.8
O28M Mount Upton 16.72 50 P Pn 17 55 05.1 +0.6
baz=252
BCPM Bancas Point 16.76 53 IAmb IAmb 17 55 12.0
comp=Z,263nm,1.9s
PNL Peninsula 16.81 54 P Pn 17 55 06.3 +0.9
PNL Peninsula 16.81 54 P P 17 55 06.6 -0.8
baz=257
COLD Coldfoot 16.84 23 P Pn 17 55 05.8 +0.1
baz=217,SNR=28
L27K Beaver Creek, 16.88 42 P Pn 17 55 05.4 -0.8
baz=243
BCAR Beaver Creek A 16.90 42 P Pn 17 55 05.7 -0.8
D20K Etivluk River 16.94 13 IAmb IAmb 17 55 13.7
comp=Z,89nm,0.8s
D20K Etivluk River 16.94 13 P Pn 17 55 07.6 +0.6
baz=202,SNR=54
J26L Joseph Creek 16.95 36 P Pn 17 55 06.6 -0.5
baz=236,SNR=39
C19K Lookout Ridge 16.97 9 P Pn 17 55 08.0 +0.6
baz=195,SNR=10.0
B18K Kokolik River 17.05 6 P Pn 17 55 08.9 +0.7
baz=191
YUK8 Steele Glacier 17.08 49 P Pn 17 55 07.7 -1.3
baz=251,SNR=20
E21K Killik River 17.10 16 P Pn 17 55 08.4 -0.6
baz=208
G24K Hadweenzic Riv 17.13 27 P Pn 17 55 08.2 -1.1
baz=224,SNR=32
E22K Anaktuvuk Pass 17.24 19 P P 17 55 11.7 -0.4
baz=212,SNR=42
K27K Chicken 17.25 39 P Pn 17 55 10.3 -0.5
baz=240
H25L Birch Creek 17.30 29 P Pn 17 55 11.0 -0.4
baz=228
O29M Mount Kennedy 17.36 52 P Pn 17 55 12.6 +0.2
baz=256,SNR=13
G25K Bearman Lake 17.56 28 P Pn 17 55 13.1 -1.5
baz=226
YUK4 Talbot Arm 17.61 49 P P 17 55 17.3 +0.8
baz=253,SNR=41
C21K Knifeblade Rid 17.61 14 P P 17 55 16.2 -0.1
baz=205,SNR=24
YUK6 Outpost Mounta 17.63 50 P P 17 55 16.6 -0.1
baz=254,SNR=30
P29M Windy Craggy 17.63 55 P P 17 55 16.1 -0.4
baz=259
F24K Squaw Lake 17.63 24 IAmb IAmb 17 55 21.1
comp=Z,283nm,1.9s
F24K Squaw Lake 17.63 24 P Pn 17 55 15.2 -0.4
baz=221,SNR=36
E23K Chandalar 17.64 22 P P 17 55 16.7 +0.1
baz=217,SNR=25
D22K Ayikyak River 17.71 17 P Pn 17 55 16.7 +0.1
baz=210,SNR=20
E24K Your Creek 17.91 23 P P 17 55 19.6 0.0
baz=219,SNR=33
A19K Wainwright 17.92 6 P Pn 17 55 19.1 0.0
baz=192,SNR=7.7
EGAK Eagle 17.97 37 P Pn 17 55 18.6 -1.2
baz=239,SNR=7.7
HYT Haines Junctio 18.00 51 P Pn 17 55 20.3 0.0
baz=256,SNR=30
M29M Somme Creek 18.05 46 P Pn 17 55 20.9 +0.1
M29M Somme Creek 18.05 46 P Pn 17 55 20.4 -0.4
baz=250,SNR=42
B21K Ikpikpuk River 18.06 14 P P 17 55 21.0 -0.1
baz=205,SNR=20
B20K Meade River 18.09 11 P Pn 17 55 20.2 -1.0
baz=199
P30M Million Dollar 18.11 53 P Pn 17 55 20.9 -0.7
baz=258
TOLK Teolik Lake Re 18.12 21 P P 17 55 21.9 0.0
baz=216,SNR=24
D23K Nanushuk River 18.16 19 P Pn 17 55 22.0 -0.1
baz=213,SNR=19
S31K Pelican 18.19 61 IAmb IAmb 17 55 29.1
comp=Z,203nm,1.7s
S31K Pelican 18.19 61 P Pn 17 55 20.2 -2.2
baz=266
I27K Kandik River 18.25 34 P P 17 55 23.4 +0.1
baz=236,SNR=11
F25K Christian Rive 18.27 26 P Pn 17 55 22.6 -0.9
baz=225,SNR=43
PLBC Pleasant Camp 18.29 56 P P 17 55 24.9 +1.2
baz=261
DAWY Dawson 18.30 40 P P 17 55 24.4 +0.4
baz=244,SNR=39
N30M Aishikik Lake 18.36 49 IAmb IAmb 17 55 31.2
comp=Z,102nm,0.8s
N30M Aishikik Lake 18.36 49 P P 17 55 26.8 +2.2
baz=254,SNR=46

G26K	**Porcupine Rive**	**18.36**	**29**	P		**P**		**17 55 23.4**	**-1.1**
	baz=229								
L29M	**L29M**	**18.43**	**44**	P		**P**		**17 55 24.4**	**-1.0**
	baz=248,SNR=36								
BMAR	**Burnt Mountain**	**18.45**	**28**	P		**P**		**17 55 23.5**	**-2.0**
R31K	**City Hall, Gus**	**18.49**	**59**	P		**Pn**		**17 55 26.1**	**+0.1**
	baz=265								
H27K	**Steamboat Moun**	**18.64**	**33**	P		**P**		**17 55 27.1**	**-0.4**
	baz=235,SNR=32								
SIT	**Sitka**	**18.64**	**63**	P		**Pn**		**17 55 28.8**	**+0.8**
	baz=269								
O30N	**Mendenhall**	**18.67**	**52**	IAmb		IAmb		17 55 38.5	
	comp=Z,143nm,1.1s								
O30N	**Mendenhall**	**18.67**	**52**	P		**Pn**		**17 55 30.0**	**+1.7**
	baz=258,SNR=29								
E25K	**Arctic Village**	**18.67**	**25**	P		**P**		**17 55 27.6**	**-0.3**
	baz=224,SNR=15								
D24K	**Happy Valley**	**18.70**	**20**	P		**P**		**17 55 26.5**	**-1.6**
	baz=216								
F26K	**Sheenjek River**	**18.76**	**27**	P		**P**		**17 55 27.6**	**-1.3**
	baz=227,SNR=28								
I28M	**Miner Creek**	**18.76**	**36**	P		**P**		**17 55 28.5**	**-0.5**
	baz=239,SNR=26								
SKAG	**Skagway**	**18.81**	**56**	P		**Pn**		**17 55 31.9**	**+1.9**
SKAG	**Skagway**	**18.81**	**56**	P		**Pn**		**17 55 29.9**	**-0.1**
	baz=262,SNR=16								
M30M	**Minto, Yukon**	**18.82**	**46**	IAmb		IAmb		17 55 35.5	
	comp=Z,141nm,1.6s								
M30M	**Minto, Yukon**	**18.82**	**46**	P		**Pn**		**17 55 31.8**	**+1.6**
	baz=252,SNR=23								
B22K	**Teshekpuk Lake**	**18.89**	**14**	P		**P**		**17 55 28.9**	**-1.3**
	baz=206								
C23K	**Itkillik River**	**18.91**	**17**	P		**Pn**		**17 55 31.0**	**-0.1**
	baz=212,SNR=28								
G27K	**Doyon Strip**	**18.93**	**31**	P		**P**		**17 55 30.3**	**-0.5**
	baz=233,SNR=14								
J29N	**Klondike Camp**	**18.93**	**40**	P		**P**		**17 55 29.0**	**-1.9**
	baz=244								
BESE	**Bessie Mountai**	**18.96**	**59**	IAmb		IAmb		17 55 44.1	
	comp=Z,109nm,1.2s								
K29M	**Barlow Dome**	**18.96**	**42**	P		**P**		**17 55 31.4**	**+0.2**
K29M	**Barlow Dome**	**18.96**	**42**	P		**P**		**17 55 30.7**	**-0.5**
	baz=247,SNR=55								
N31M	**Braeburn, Yuko**	**18.98**	**50**	IAmb		IAmb		17 55 41.0	
	baz=256,SNR=38								
N31M	**Braeburn, Yuko**	**18.98**	**50**	P		**Pn**		**17 55 33.6**	**+1.6**
	baz=256,SNR=38								
R32K	**Eaglecrest**	**19.12**	**60**	P		**Pn**		**17 55 34.4**	**+0.7**
	baz=266								
C24K	**Franklin Bluff**	**19.19**	**19**	P		**P**		**17 55 33.0**	**-0.4**
	baz=215								
WHY	**Whitehorse**	**19.23**	**52**	IAmb		IAmb		17 55 42.6	
	comp=Z,149nm,0.8s								
WHY	**Whitehorse**	**19.23**	**52**	P		**Pn**		**17 55 35.4**	**+0.3**
	baz=259,SNR=30								
A22K	**Sinclair Lake**	**19.29**	**12**	P		**P**		**17 55 34.2**	**-0.4**
	baz=202								
I29M	**Ogilvie Camp,**	**19.31**	**37**	P		**P**		**17 55 33.6**	**-1.3**
	baz=242								
D25K	**Kavik River**	**19.37**	**22**	IAmb		IAmb		17 55 43.5	
	comp=Z,140nm,0.8s								
D25K	**Kavik River**	**19.37**	**22**	P		**Pn**		**17 55 36.6**	**-0.1**
	baz=220,SNR=43								
A21K	**Barrow**	**19.40**	**10**	P		**P**		**17 55 35.1**	**-0.6**
	baz=199								
P32M	**Atlin**	**19.65**	**56**	IAmb		IAmb		17 55 46.4	
	comp=Z,76nm,0.8s								
P32M	**Atlin**	**19.65**	**56**	P		**P**		**17 55 37.6**	**-1.0**
	baz=264,SNR=24								
H29M	**Whitestone**	**19.71**	**35**	IAmb		IAmb		17 55 44.3	
	comp=Z,54nm,0.7s								
H29M	**Whitestone**	**19.71**	**35**	P		**P**		**17 55 38.9**	**-0.4**
	baz=240,SNR=40								
J30M	**Hart River**	**19.73**	**41**	P		**P**		**17 55 39.5**	**-0.1**
J30M	**Hart River**	**19.73**	**41**	P		**P**		**17 55 38.6**	**-1.0**
	baz=247,SNR=12								
M31M	**Drury Creek, Y**	**19.79**	**48**	P		**Pn**		**17 55 42.1**	**+0.3**
	baz=256								
E27K	**Coleen River**	**19.81**	**28**	P		**P**		**17 55 40.4**	**+0.1**
	baz=230,SNR=12								
U33K	**Whale Pass**	**19.89**	**66**	P		**P**		**17 55 41.6**	**+0.4**
	baz=274								
F28M	**Old Crow**	**19.97**	**31**	P		**P**		**17 55 41.8**	**-0.3**
F28M	**Old Crow**	**19.97**	**31**	P		**P**		**17 55 42.0**	**-0.1**
	baz=234,SNR=13								
I30M	**Mount Dempster**	**19.98**	**39**	P		**P**		**17 55 41.5**	**-0.7**
I30M	**Mount Dempster**	**19.98**	**39**	P		**P**		**17 55 42.5**	**+0.2**
	baz=245,SNR=20								
C26K	**Camden Bay**	**20.16**	**22**	P		Pn		17 55 45.4	-0.6
	baz=222,SNR=17								
P33M	**Teslin, Yukon**	**20.17**	**54**	P		Pn		17 55 45.4	-0.9
P33M	**Teslin, Yukon**	**20.17**	**54**	P		Pn		17 55 45.6	-0.7
	baz=263,SNR=17								
BILL	**Bilibino**	**20.17**	**330**⇑	*e*P		**P**		**17 55 44.2**	**-0.1**
BILL				pmax		pmax			
	comp=Z,48nm,1.0s								
N32M	**Quiet Lake**	**20.18**	**51**	P		Pn		17 55 45.8	-0.6
	baz=260								
G29M	**Pine Creek**	**20.18**	**33**	IAmb		IAmb		17 55 46.7	
	comp=Z,58nm,0.8s								
G29M	**Pine Creek**	**20.18**	**33**	P		**P**		**17 55 44.0**	**-0.5**
	baz=239,SNR=38								
C27K	**Jago River**	**20.23**	**23**	IAmb		IAmb		17 55 48.6	
	comp=Z,102nm,0.8s								
C27K	**Jago River**	**20.23**	**23**	P		Pn		17 55 45.9	-1.0
	baz=224,SNR=58								
WRAK	**Wrangell Islan**	**20.30**	**65**	P		**P**		**17 55 46.3**	**+0.6**
	baz=274								
Q32M	**Nakina River**	**20.33**	**58**	P		Pn		17 55 48.0	-0.4
Q32M				IAmb		IAmb		17 56 01.7	
	comp=Z,125nm,1.1s								
Q32M	**Nakina River**	**20.33**	**58**	P		**P**		**17 55 47.2**	**+0.9**
	baz=267,SNR=15								
EPYK	**Eagle Plains**	**20.36**	**36**	IAmb		IAmb		17 55 50.0	
	comp=Z,109nm,0.8s								
EPYK	**Eagle Plains**	**20.36**	**36**	P		**P**		**17 55 46.7**	**+0.3**
	baz=242,SNR=50								
E28M	**Babbage River**	**20.67**	**29**	P		**P**		**17 55 49.5**	**-0.1**
	baz=233,SNR=16								
D27M	**Malcolm River**	**20.67**	**26**	IAmb		IAmb		17 55 57.4	
	comp=Z,70nm,0.7s								
D27M	**Malcolm River**	**20.67**	**26**	P		**P**		**17 55 48.4**	**-1.3**
	baz=229,SNR=48								
PET	**Petropavlovsk**	**20.74**	**285**	P		**P**		**17 55 48.5**	**-1.9**
PET				IAmb		IAmb		17 55 57.9	
	comp=Z,74nm,1.3s								
PET	**Petropavlovsk**	**20.74**	**285**	*e*P		**P**		**17 55 49.6**	**-0.9**
PET				*e*S		**S**		**17 59 35.0**	**-6.1**
PET				pmax		pmax			
	comp=Z,600nm,11.9s								
PET				pmax		pmax			
	comp=Z,33nm,0.7s								
PET				pmax		pmax			
	comp=Z,800nm,9.6s								
PET				MLR		MLR			
	comp=Z,2μm,15.0s								
V35K	**Ketchikan**	**20.81**	**68**	IAmb		IAmb		17 56 07.1	
	comp=Z,58nm,0.9s								
V35K	**Ketchikan**	**20.81**	**68**	P		Pn		17 55 53.3	-0.5
	baz=277								
G30M	**tAoh Zraii Nji**	**20.83**	**34**	IAmb		IAmb		17 55 56.4	
	comp=Z,64nm,0.9s								
G30M	**tAoh Zraii Nji**	**20.83**	**34**	P		**P**		**17 55 49.8**	**-1.6**
	baz=241,SNR=34								
S34M	**Telegraph Cree**	**20.91**	**61**	IAmb		IAmb		17 56 04.3	
	comp=Z,108nm,1.4s								
S34M	**Telegraph Cree**	**20.91**	**61**	P		**P**		**17 55 51.7**	**-0.6**
	baz=270,SNR=7.1								
H31M	**Peel River**	**20.99**	**38**	IAmb		IAmb		17 55 58.0	
	comp=Z,59nm,0.9s								
H31M	**Peel River**	**20.99**	**38**	P		**P**		**17 55 52.6**	**-0.6**
	baz=246,SNR=26								
R33M	**Jennings River**	**21.03**	**57**	P		**P**		**17 55 56.0**	**+2.2**
R33M	**Jennings River**	**21.03**	**57**	P		**P**		**17 55 52.3**	**-1.4**
	baz=267,SNR=29								
E29M	**Blow River**	**21.03**	**30**	IAmb		IAmb		17 55 57.0	
	comp=Z,52nm,0.8s								
E29M	**Blow River**	**21.03**	**30**	P		**P**		**17 55 52.9**	**-0.6**
	baz=236,SNR=60								
PETK	**Petropavlovsk-**	**21.28**	**286**	P		**P**		**17 55 57.1**	**+0.8**
PETK	**Petropavlovsk-**	**21.28**	**286**	P		**P**		**17 55 55.7**	**-0.6**
	comp=Z,17nm,0.5s,baz=81,slow=15,SNR=44								
	comp=Z,17nm,0.5s								
PETK	**Petropavlovsk-**	**21.28**	**286**	P		**P**		**17 55 57.1**	**+0.8**
F30M	**Barrier River**	**21.29**	**33**	P		**P**		**17 55 55.6**	**-0.7**
F30M				IAmb		IAmb		17 56 11.0	
	comp=Z,39nm,0.7s								
F30M	**Barrier River**	**21.29**	**33**	P		**P**		**17 55 54.5**	**-1.8**
	baz=240,SNR=15								
MMPY	**Sheldon Lake,**	**21.30**	**48**	P		**P**		**17 55 58.2**	**+1.5**
	baz=258								
D28M	**Stokes Point**	**21.34**	**27**	P		**P**		**17 55 56.3**	**-0.5**
	baz=232								
T35M	**Bob Quinn**	**21.42**	**63**	IAmb		IAmb		17 56 15.4	
	comp=Z,114nm,1.5s								
T35M	**Bob Quinn**	**21.42**	**63**	P		**P**		**17 55 55.6**	**-2.3**
	baz=274								
G31M	**Satah River**	**21.48**	**35**	P		**P**		**17 55 56.4**	**-2.0**
G31M	**Satah River**	**21.48**	**35**	P		**P**		**17 55 56.6**	**-1.8**
	baz=244,SNR=13								
DLBC	**Dease Lake**	**21.49**	**59**	P		**P**		**17 55 59.5**	**+0.9**
	comp=Z,50nm,0.8s,baz=236,slow=13,SNR=12								
	comp=Z,50nm,0.8s								
DLBC	**Dease Lake**	**21.49**	**59**	P		**P**		**17 55 57.0**	**-1.6**
	baz=270,SNR=9.2								
U35K	**Hyder**	**21.64**	**66**	P		**P**		**17 55 59.8**	**-0.3**
	baz=276								
F31M	**Tsiigehtchic**	**21.90**	**34**	P		**P**		**17 56 00.8**	**-2.0**
	baz=244,SNR=8.8								
WTLY	**Watson Lake, Y**	**22.16**	**55**	P		**P**		**17 56 05.4**	**-0.4**
	baz=267								
INK	**Inuvik**	**22.37**	**32**	P		**P**		**17 56 06.5**	**-1.4**
INK				IAmb		IAmb		17 56 13.3	
	comp=Z,71nm,1.1s								
INK	**Inuvik**	**22.37**	**32**	S		**S**		**18 00 03.1**	**-10**
	comp=Z,4.8nm,0.9s,baz=27,slow=27,SNR=6.0								
INK				LR		LR		18 05 47.3	
	comp=Z,4μm,19.1s,baz=234,slow=39								
INK	**Inuvik**	**22.37**	**32**	P		**P**		**17 56 06.5**	**-1.4**
INK				pmax		pmax			
	comp=Z,71nm,1.2s								
INK	**Inuvik**	**22.37**	**32**	P		**P**		**17 56 06.2**	**-1.7**
	baz=242,SNR=25								
TGTN	**Hyland Airport**	**22.53**	**51**	P		**P**		**17 56 10.9**	**+1.2**
	baz=264,SNR=23								
SKR	**Severo-Kuril's**	**22.89**	**280**	*e*P		**P**		**17 56 08.7**	**-4.8**
SKR				*e*S		**S**		**18 00 18.7**	**-3.6**
SKR				pmax		pmax			
	comp=Z,300nm,5.2s								
SKR				MLR		MLR			
	comp=Z,900nm,15.0s								
LIRD	**Liard River Hi**	**23.52**	**57**	P		**P**		**17 56 21.1**	**+1.3**
	baz=271								
SEY	**Seymchan**	**23.68**	**312**	P		**P**		**17 56 20.9**	**-0.4**
	comp=Z,42nm,0.9s,baz=117,slow=10,SNR=32								
SEY				LR		LR		18 06 31.2	
	comp=Z,3μm,18.1s,baz=105,slow=39								
	comp=Z,42nm,0.9s								
SEY	**Seymchan**	**23.68**	**312**⇓	*i*P		**P**		**17 56 20.5**	**-0.8**
SEY				pmax		pmax			
	comp=Z,90nm,1.0s								
TOAD	**Toad River Com**	**23.98**	**58**	P		**P**		**17 56 21.7**	**-2.6**
	baz=273								
MA2	**Magadan**	**24.31**	**304**	P		**P**		**17 56 27.6**	**+0.3**
MA2				IAmb		IAmb		17 56 30.2	
	comp=Z,48nm,0.8s								
MA2	**Magadan**	**24.31**	**304**	P		**P**		**17 56 27.8**	**+0.5**
	comp=Z,37nm,0.7s,baz=86,slow=11,SNR=16								
MA2				LR		LR		18 05 56.1	
	comp=Z,2μm,18.2s,baz=108,slow=37								
	comp=Z,37nm,0.7s								
MA2	**Magadan**	**24.31**	**304***c*	*i*P		**P**		**17 56 27.2**	**-0.1**
MA2				pmax		pmax			
	comp=Z,66nm,0.9s								
KOTAN	**Kotaneelee Air**	**24.54**	**55**	P		**P**		**17 56 28.7**	**-0.7**
	baz=271								
WRGLY	**Wrigley**	**24.93**	**48**	P		**P**		**17 56 34.5**	**+1.7**
	baz=265,SNR=32								
C36M	**Paulatuk**	**25.94**	**33**	IAmb		IAmb		17 56 46.0	
	comp=Z,78nm,1.3s								
C36M	**Paulatuk**	**25.94**	**33**	P		**P**		**17 56 42.1**	**+0.2**
	baz=265								
A36M	**Sachs Harbour**	**26.55**	**28**	P		**P**		**17 56 48.3**	**+0.9**
	baz=245,SNR=7.2								
YKA	**Yellowknife Ar**	**28.98**	**49**	P		**P**		**17 57 09.3**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=275,slow=7.7,SNR=6.2								
YKA				PcP		**PcP**		**18 00 17.9**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=286,slow=2.5,SNR=4.2								
YKA				LR		LR		18 10 24.0	
	comp=Z,3μm,19.5s,baz=272,slow=40								
	comp=Z,2.5nm,0.8s								
LTY	**Liety**	**29.82**	**81**	IAmb		IAmb		17 57 28.1	
	comp=Z,42nm,1.8s								
HOOD	**Mount Hood Mea**	**30.16**	**86**	IAmb		IAmb		17 57 35.9	
	comp=Z,22nm,0.7s								
E07A	**Sunnyside**	**30.64**	**82**	IAmb		IAmb		17 57 32.6	
	comp=Z,25nm,1.3s								
WIFE	**Three Sisters-**	**30.71**	**88**	P		**P**		**17 57 26.1**	**+1.0**
WIFE				IAmb		IAmb		17 57 55.9	
	comp=Z,28nm,1.0s								
WAH2	**Wahluke Slope**	**30.72**	**82**	IAmb		IAmb		17 57 49.8	
	comp=Z,20nm,0.7s								
TYV	**Tymovskoe**	**30.80**	**287**	*e*P		**P**		**17 57 25.7**	**+0.2**
TYV				*e*				18 02 27.9	
TYV				pmax		pmax			
	comp=Z,200nm,4.1s								
TYV				pmax		pmax			
	comp=Z,16nm,1.4s								
G06A	**Carlson Farm,**	**30.82**	**85**	IAmb		IAmb		17 58 10.1	
	comp=Z,56nm,1.6s								
D08A	**Wollman Farm,**	**30.97**	**81**	IAmb		IAmb		17 57 34.8	
	comp=Z,27nm,1.4s								
J04A	**Umpqua Nationa**	**30.98**	**89**	IAmb		IAmb		17 57 37.6	
	comp=Z,38nm,1.1s								
PINE	**Pine Mountain**	**31.39**	**88**	IAmb		IAmb		17 57 40.0	
	comp=Z,36nm,1.2s								
YBH	**Yreka Blue Hor**	**31.46**	**92**	LR		LR		18 07 35.4	
	comp=Z,71nm,20.4s,baz=292,slow=31								
J05D	**Fort Rock, OR**	**31.49**	**89**	IAmb		IAmb		17 57 41.7	
	comp=Z,23nm,0.9s								
NEW	**Newport**	**31.49**	**78**	LR		LR		18 09 20.2	
	comp=Z,2μm,19.1s,baz=296,slow=35								
N02D	**Trinity Center**	**31.91**	**93**	IAmb		IAmb		17 57 44.7	
	comp=Z,55nm,1.7s								
K05A	**Summer Lake**	**32.01**	**89**	P		**P**		**17 57 37.5**	**+1.0**
K05A				IAmb		IAmb		17 58 08.2	
	comp=Z,33nm,1.0s								
O02D	**Mt. Diablo Mer**	**32.34**	**95**	IAmb		IAmb		17 58 07.0	
	comp=Z,59nm,1.6s								
YSS	**Yuzhno-Sakhali**	**32.46**	**281**	*e*P		**P**		**17 57 39.1**	**-1.0**
YSS	**Yuzhno-Sakhali**	**32.46**	**281**	*e*P		**P**		**17 57 41.0**	**+0.9**
YSS				*e*S		**S**		**18 02 53.0**	**-0.8**
YSS				*e*SS		**SS**		**18 05 18.2**	**+5.0**
YSS				pmax		pmax			
	comp=Z,30nm,1.1s								
YSS				pmax		pmax			
	comp=Z,200nm,4.7s								
YSS				MLR		MLR			
	comp=Z,1μm,17.0s								
YSS				MLR		MLR			
	comp=N,300nm,18.0s								
YSS				MLR		MLR			
	comp=E,900nm,18.0s								
J08A	**Circle Bar Ran**	**33.13**	**86**	IAmb		IAmb		17 57 53.9	
	comp=Z,19nm,0.8s								
TIXI	**Tiksi**	**33.37**	**329**	P		**P**		**17 57 46.7**	**-1.1**
TIXI				IAmb		IAmb		17 57 50.0	
	comp=Z,24nm,1.0s								
TIXI	**Tiksi**	**33.37**	**329**	P		**P**		**17 57 48.0**	**+0.2**
	comp=Z,14nm,0.7s,baz=101,slow=9.5,SNR=13								
TIXI				PcP		**PcP**		**18 00 27.4**	**-1.5**
	comp=Z,5.4nm,0.8s,baz=94,slow=3.1,SNR=3.8								
TIXI				LR		LR		18 13 16.0	
	comp=Z,1μm,18.0s,baz=118,slow=40								
	comp=Z,14nm,0.7s								
TIXI	**Tiksi**	**33.37**	**329**⇓	*i*P		**P**		**17 57 47.4**	**-0.4**
TIXI				pmax		pmax			
	comp=Z,29nm,1.0s								
WVOR	**Wild Horse Val**	**33.55**	**88**	IAmb		IAmb		17 57 58.3	
	comp=Z,28nm,1.1s								
PLID	**Pearl Lake**	**33.71**	**82**	P		**P**		**17 57 53.5**	**+2.2**
PLID				IAmb		IAmb		17 59 03.2	
	comp=Z,29nm,1.9s								
PLID						**PcP**		**18 00 30.1**	**-0.5**
JKA	**Kamikawa-asahi**	**34.00**	**276**	P		**P**		**17 57 52.4**	**-1.2**
ASAJ	**Asahikawa**	**34.01**	**276**	P		**P**		**17 57 54.3**	**+0.6**
	comp=Z,35nm,1.0s,baz=50,slow=5.3,SNR=7.3								
ASAJ				LR		LR		18 10 51.0	
	comp=Z,1μm,20.9s,baz=84,slow=35								
	comp=Z,35nm,1.0s								
ASAJ	**Asahikawa**	**34.01**	**276**	P		**P**		**17 57 52.4**	**-1.2**
ASAJ				pmax		pmax			
	comp=Z,84nm,1.3s								
BEKR	**Beckworth**	**34.01**	**93**	IAmb		IAmb		17 58 02.1	
	comp=Z,19nm,1.2s								
MSO	**Missoula**	**34.07**	**78**	IAmb		IAmb		17 58 02.3	
	comp=Z,36nm,1.6s								
MSO				**PcP**		**PcP**		**18 00 31.8**	**+0.3**
YAK	**Yakutsk**	**34.20**	**311**	P		**P**		**17 57 53.1**	**-2.0**
YAK				IAmb		IAmb		17 57 58.1	
	comp=Z,23nm,0.9s								
YAK	**Yakutsk**	**34.20**	**311**	LR		LR		18 12 10.6	
	comp=Z,2μm,18.8s,baz=91,slow=37								
YAK	**Yakutsk**	**34.20**	**311**	*e*P		**P**		**17 57 53.9**	**-1.2**
YAK				*e*PP		**sP**		**17 58 00.0**	**-0.9**
YAK				*e*				17 59 05.6	
YAK				*e*				18 00 33.2	
YAK				*e*S		**S**		**18 03 18.0**	**-2.5**
YAK				*e*SS		**SnSn**		**18 05 23.2**	**-5.6**
YAK				*e*				18 08 16.3	
YAK				pmax		pmax			
	comp=Z,32nm,1.5s								
YAK				pmax		pmax			
	comp=N,6.0nm,1.8s								
YAK				pmax		pmax			
	comp=E,19nm,1.0s								
YAK				pmax		pmax			
	comp=Z,100nm,3.2s								
YAK				pmax		pmax			
	comp=N,27nm,1.8s								
YAK				pmax		pmax			
	comp=E,125nm,3.2s								
YAK				smax		smax			
	comp=N,40nm,2.8s								
YAK				smax		smax			
	comp=E,38nm,2.2s								
YAK				MLR		MLR			
	comp=Z,2μm,17.0s								
YAK				MLR		MLR			
	comp=N,1μm,18.0s								
YAK				MLR		MLR			
	comp=E,2μm,13.0s								
GRNR	**Gornyy**	**34.45**	**290**⇑	*i*P		**P**		**17 57 56.4**	**-1.0**
GRNR				pmax		pmax			
	comp=Z,9.0nm,0.8s								
GRNR				MLR		MLR			
	comp=Z,1μm,17.0s								
PAHR	**Pah Rah Range**	**34.70**	**92**	IAmb		IAmb		17 58 08.9	
	comp=Z,30nm,1.1s								
MFID	**Camas Ranch**	**34.71**	**84**	IAmb		IAmb		17 58 06.8	
	comp=Z,41nm,1.6s								
CMB	**Columbia Colle**	**35.13**	**96**	IAmb		IAmb		17 58 12.0	
	comp=Z,32nm,1.6s								
WAKR	**Walker**	**35.41**	**94**	IAmb		IAmb		17 58 14.8	
	comp=Z,22nm,1.0s								
HLID	**Hailey**	**35.49**	**83**	IAmb		IAmb		17 58 14.8	
	comp=Z,49nm,1.8s								
BUCR	**Buckhorn Ranch**	**35.51**	**96**	IAmb		IAmb		17 58 15.2	
	comp=Z,53nm,1.5s								
RES	**Resolute Bay**	**35.55**	**26**	LR		LR		18 14 48.4	
	comp=Z,2μm,18.3s,baz=261,slow=40								
RYN	**Ryan**	**35.89**	**93**	IAmb		IAmb		17 58 18.5	
	comp=Z,26nm,1.1s								
LHV	**Little Huntoon**	**36.14**	**94**	IAmb		IAmb		17 58 21.0	
	comp=Z,34nm,1.2s								
NVAR	**Mina Array Bea**	**36.15**	**93**	P		**P**		**17 58 14.6**	**+2.2**
	comp=Z,4.8nm,0.7s,baz=294,slow=8.9,SNR=22								
NVAR				PcP		**PcP**		**18 00 38.6**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=336,slow=3.9,SNR=2.3								
	comp=Z,4.8nm,0.7s								
MDPB	**Devils Postpil**	**36.18**	**95**	IAmb		IAmb		17 58 21.5	
	comp=Z,27nm,0.9s								
ELK	**Elko**	**36.60**	**88**	LR		LR		18 11 19.0	
	comp=Z,1μm,21.1s,baz=310,slow=33								
YHL	**Hebgen Lake**	**36.74**	**79**	IAmb		IAmb		17 58 41.0	
	comp=Z,28nm,1.1s								
YHB	**Horse Butte**	**36.78**	**79**	IAmb		IAmb		17 58 41.4	
	comp=Z,33nm,1.2s								
BLKN	**Baker Lake**	**36.88**	**43**	P		**P**		**17 58 19.4**	**+1.3**
YMR	**Madison River**	**36.97**	**79**	IAmb		IAmb		17 58 26.8	
	comp=Z,33nm,1.0s								
DSP	**Deep Springs**	**37.03**	**94**	IAmb		IAmb		17 58 28.6	
	comp=Z,51nm,1.2s								
TPH	**Tonopah**	**37.03**	**93**	IAmb		IAmb		17 58 28.1	
	comp=Z,41nm,1.3s								
YNR	**Norris Junctio**	**37.11**	**79**	IAmb		IAmb		17 58 27.4	
	comp=Z,26nm,0.9s								
TEY	**Ternei**	**37.13**	**282**⇑	*e*P		**P**		**17 58 19.2**	**-1.2**
TEY				pmax		pmax			
	comp=Z,20nm,0.8s								
TEY				pmax		pmax			
	comp=E,10.0nm,0.8s								
YNE	**Yellowstone No**	**37.36**	**78**	IAmb		IAmb		17 58 30.1	
	comp=Z,52nm,1.9s								
CWC	**Cottonwood Cre**	**37.56**	**96**	IAmb		IAmb		17 58 32.9	
	comp=Z,57nm,1.7s								
RLMT	**Red Lodge**	**37.74**	**78**	IAmb		IAmb		17 58 33.6	
	comp=Z,29nm,1.1s								
ISA	**Isabella, Lake**	**37.84**	**97**	IAmb		IAmb		17 58 34.4	
	comp=Z,44nm,1.4s								
ZEA	**Zeya**	**38.25**	**299**	*e*P		**P**		**17 58 27.9**	**-1.9**
ZEA				*e*				18 00 03.2	
ZEA				*e*S		S		18 04 13.3	-9.3
ZEA				*e*SS		SS		18 07 34.8	+24
ZEA				pmax		pmax			
	comp=Z,100nm,4.1s								
ZEA				pmax		pmax			
	comp=E,10.0nm,0.9s								
ZEA				pmax		pmax			
	comp=Z,10.0nm,0.9s								
ZEA				pmax		pmax			
	comp=E,200nm,5.5s								
ZEA				pmax		pmax			
	comp=Z,200nm,5.5s								
ZEA				smax		smax			
	comp=E,100nm,11.4s								
ZEA				MLR		MLR			
	comp=E,600nm,17.0s								
ZEA				MLR		MLR			
	comp=Z,1μm,17.0s		

HEH pmax pmax
comp=Z,22nm,1.4s
HEH LR LR
comp=Z,1µm,17.7s
HEH LR LR
comp=Z,1µm,20.8s
HEH LR LR
comp=Z,2µm,18.9s
ELS Elsinore Mount 39.84 98 IAmb IAmb 17 58 52.0
comp=Z,46nm,1.1s
V12A Nelson 40.00 94 IAmb IAmb 17 58 53.0
comp=Z,49nm,1.4s
P17A Butcher Ranch, 40.12 86 IAmb IAmb 17 58 53.8
comp=Z,89nm,1.9s
LCMT Little Creek M 40.14 91 IAmb IAmb 17 58 54.2
comp=Z,53nm,1.7s
P18A Preston Nutter 40.32 85 IAmb IAmb 17 58 56.3
comp=Z,27nm,0.9s
USRK Ussuriysk Ar. 40.34 283 P **P** **17 58 46.6 -0.7**
comp=Z,6.7nm,0.7s,baz=55,slow=9.4,SNR=7.1
USRK PcP **PcP** **18 00 51.2 +0.8**
comp=Z,5.4nm,0.8s,baz=62,slow=3.4,SNR=4.9
comp=Z,6.7nm,0.7s
DNR Dunn Ranch,Anz 40.38 98 IAmb IAmb 17 59 07.7
comp=Z,28nm,0.9s
KNB Kanab 40.40 91 IAmb IAmb 17 58 56.5
comp=Z,54nm,1.7s
DANC Danby, Needles 40.41 95 P **P** **17 58 49.8 +1.7**
PFO Pinyon Flats O 40.45 97 LR LR 18 13 29.3
comp=Z,606nm,18.3s,baz=296,slow=33
PFO Pinyon Flats O 40.45 97 P **P** **17 58 50.8 +2.3**
PFO pmax pmax
comp=Z,21nm,1.4s
BELC Belle Mtn. Jos 40.46 97 P **P** **17 58 48.7 +0.1**
PMD Palm Desert 40.47 97 IAmb IAmb 17 58 56.1
comp=Z,55nm,1.6s
SRU San Rafael Swe 40.47 86 P **P** **17 58 48.2 -0.6**
SRU IAmb IAmb 17 58 56.9
comp=Z,28nm,1.1s
SRU San Rafael Swe 40.47 86 P **P** **17 58 48.2 -0.6**
SRU pmax pmax
comp=Z,29nm,1.1s
ILON Igloolik, Nuna 40.62 33 P **P** **17 58 49.7 +0.3**
BORC Borrego Spring 40.71 98 P **P** **17 58 51.9 +1.3**
BORC IAmb IAmb 17 58 59.6
comp=Z,55nm,1.2s
K22A Casper 40.77 79 P **P** **17 58 52.5 +1.4**
IRM Iron Mountain 40.87 96 IAmb IAmb 17 58 59.9
comp=Z,42nm,1.3s
BAR Barrett 40.96 99 IAmb IAmb 17 59 01.6
comp=Z,48nm,1.2s
VLA Vladivostok 41.02 282 *c i*P **P** **17 58 53.5 +0.6**
VLA pmax pmax
comp=Z,103nm,1.1s
BC3 Big Chuckawall 41.03 97 IAmb IAmb 17 59 00.7
comp=Z,46nm,1.7s
HMU Henry Mountain 41.08 88 IAmb IAmb 17 59 19.7
comp=Z,33nm,0.7s
MJAR Matsushiro Arr 41.22 270 P **P** **17 58 54.0 -0.7**
MJAR Matsushiro Arr 41.22 270 P **P** **17 58 55.4 +0.6**
comp=Z,7.7nm,0.7s,baz=52,slow=7.0,SNR=11
MJAR LR LR 18 16 05.9
comp=Z,1µm,20.3s,baz=62,slow=36
comp=Z,7.7nm,0.7s
MJAR Matsushiro Arr 41.22 270 P **P** **17 58 54.1 -0.7**
MJAR pmax pmax
comp=Z,12nm,1.0s
MAJO Matsushiro 41.22 270 P **P** **17 58 54.7 -0.1**
MAJO IAmb IAmb 17 59 04.5
comp=Z,38nm,0.9s
MAJO Matsushiro 41.22 270 *d i*P **P** **17 58 56.2 +1.4**
MAJO pmax pmax
comp=Z,156nm,2.5s
MJB9 Matsu-Tunnel 41.22 270 IAmb IAmb 17 59 05.5
comp=Z,38nm,0.9s
O20A White River Ci 41.23 83 IAmb IAmb 17 59 01.0
comp=Z,46nm,0.7s
RSSD Black Hills 41.40 76 P **P** **17 58 55.5 -0.9**
RSSD IAmb IAmb 17 59 02.1
comp=Z,50nm,1.9s
RSSD Black Hills 41.40 76 P **P** **17 58 55.5 -0.9**
RSSD pmax pmax
comp=Z,50nm,2.0s
MDJ Mudanjiang 41.52 285 P **P** **17 58 56.3 -0.8**
MDJ pmax pmax
comp=Z,16nm,1.1s
MDJ LR LR
comp=Z,1µm,16.1s
MDJ LR LR
comp=Z,850nm,14.9s
MDJ LR LR
comp=Z,2µm,17.5s
BLYC Blythe 41.53 96 IAmb IAmb 17 59 17.3
comp=Z,44nm,1.2s
MSHR Mys Shultsa 41.77 282 *d i*P **P** **17 58 59.7 +0.6**
MSHR pmax pmax
comp=Z,81nm,1.1s
PV23 Carpenter Ridg 41.81 86 IAmb IAmb 17 59 07.0
comp=Z,38nm,1.1s
GLA Glamis 41.82 97 IAmb IAmb 17 59 07.5
comp=Z,52nm,1.4s
PV10 Paradox Valley 41.84 86 IAmb IAmb 17 59 06.6
comp=Z,28nm,0.9s
PV14 Lion Creek, Pa 41.85 86 IAmb IAmb 17 59 07.2
comp=Z,73nm,1.9s
ESJX Sierra Juarez 41.87 99 IAmb IAmb 17 59 09.3
comp=Z,39nm,1.1s
PV20 West Nyswonger 41.90 86 IAmb IAmb 17 59 07.6
comp=Z,97nm,1.6s
PV04 Paradox Valley 41.91 86 IAmb IAmb 17 59 07.8
comp=Z,33nm,1.2s
PSTR Posyet 41.94 282 *ce*P **P** **17 59 01.5 +1.0**
PV17 East Wray Mesa 41.95 86 IAmb IAmb 17 59 08.0
comp=Z,29nm,1.1s
PV16 Nyswonger Mesa 41.95 86 IAmb IAmb 17 59 08.1
comp=Z,45nm,1.5s
PV11 David Mesa, Pa 41.99 86 IAmb IAmb 17 59 09.1
comp=Z,26nm,0.9s
PV05 Paradox Valley 41.99 86 IAmb IAmb 17 59 08.7
comp=Z,50nm,1.5s
PV18 Skein Mesa, Pa 42.00 86 IAmb IAmb 17 59 08.5
comp=Z,49nm,1.0s
PV12 Saucer Basin, 42.02 86 IAmb IAmb 17 59 08.7
comp=Z,77nm,1.2s
PV13 Radium Mtn., P 42.11 86 IAmb IAmb 17 59 08.4
comp=Z,30nm,0.9s
PV02 Paradox Valley 42.13 86 IAmb IAmb 17 59 09.6
comp=Z,53nm,1.1s
BNX BinXian 42.17 288 ⇑P **P** **17 59 01.8 -0.6**
BNX pmax pmax
comp=Z,15nm,0.9s
BNX pmax pmax
comp=Z,200nm,7.3s
BNX LR LR
comp=Z,1µm,15.8s
BNX LR LR
comp=Z,1µm,14.8s
BNX LR LR
comp=Z,1µm,15.5s
PV01 Paradox Valley 42.28 86 IAmb IAmb 17 59 10.7
comp=Z,34nm,1.3s
Y14A Wickenburg 42.32 94 IAmb IAmb 17 59 10.8
comp=Z,95nm,2.0s
JHJ Hachijo jima 2 42.55 265 LR LR 18 16 13.4
comp=Z,348nm,19.0s,baz=92,slow=35
113A Mohawk Valley, 42.66 96 IAmb IAmb 17 59 14.1
comp=Z,65nm,1.7s
ULM Lac du Bonnet 42.72 63 P **P** **17 59 07.0 +0.3**
comp=Z,8.2nm,0.7s,baz=295,slow=8.3,SNR=11
ULM LR LR 18 16 50.8
comp=Z,2µm,21.4s,baz=297,slow=36
comp=Z,8.2nm,0.7s
MVCO Mesa Verde 42.91 87 IAmb IAmb 18 00 00.6
comp=Z,35nm,1.4s
ISCO Idaho Springs 43.03 82 IAmb IAmb 17 59 32.2
comp=Z,47nm,2.0s
BOD Bodaibo 43.06 310 *e*P **P** **17 59 07.9 -1.6**
BOD pmax pmax
comp=Z,27nm,1.5s
AGMN Agassiz Nation 43.77 66 IAmb IAmb 17 59 36.7
comp=Z,24nm,1.1s
X18A Snowflake 43.79 91 IAmb IAmb 17 59 24.0
comp=Z,72nm,1.8s
214A Organ Pipe Nat 43.81 96 IAmb IAmb 17 59 35.3
comp=Z,22nm,1.0s
SDCO Great Sand Dun 44.39 84 IAmb IAmb 17 59 28.3
comp=Z,30nm,1.4s

NEEM North Greenlan 44.40 16 *i* P **P** **17 59 21.3 +0.9**
NEEM IAmb IAmb 17 59 21.8
comp=Z,64nm,0.7s
CN2 Changchun 44.42 287 P **P** **17 59 20.3 -0.3**
CN2 S **S** **18 05 51.4 -3.0**
CN2 pmax pmax
comp=Z,50nm,1.0s
CN2 pmax pmax
comp=Z,410nm,4.5s
CN2 LR LR
comp=Z,1µm,15.0s
CN2 LR LR
comp=Z,710nm,15.0s
CN2 LR LR
comp=Z,1µm,18.0s
TUC Tucson 44.79 94 P **P** **17 59 25.7 +1.9**
TUC IAmb IAmb 17 59 31.7
comp=Z,54nm,1.6s
TUC Tucson 44.79 94 P **P** **17 59 25.7 +1.9**
TUC pmax pmax
comp=Z,54nm,1.7s
KULLO Kullorsuaq 44.93 21 *i* P **P** **17 59 24.6 +0.4**
KULLO IAmb IAmb 17 59 26.4
comp=Z,90nm,1.4s
NOR Nord 45.15 6 *i* P **P** **17 59 25.8 -0.1**
NOR IAmb IAmb 17 59 28.0
comp=Z,56nm,1.2s
ANMO Albuquerque 45.64 88 IAmb IAmb 17 59 38.0
comp=Z,26nm,1.5s
ANMO Albuquerque 45.64 88 LR LR 18 16 41.7
comp=Z,1µm,20.7s,baz=40,slow=34
ANMO Albuquerque 45.64 88 *de*P **P** **17 59 32.7 +2.0**
ANMO pmax pmax
comp=Z,21nm,1.5s
Y22D IRIS PASSCAL I 45.95 89 P **P** **17 59 35.3 +2.3**
baz=313
ECSD EROS Data Cent 45.98 72 IAmb IAmb 17 59 37.2
comp=Z,11nm,0.8s
Y22A Socorro 46.01 89 IAmb IAmb 17 59 42.3
comp=Z,31nm,1.2s
EYMN Ely 46.39 64 IAmb IAmb 17 59 52.0
comp=Z,17nm,0.9s
KSRS Korea Array 46.89 278 P **P** **17 59 41.3 +1.2**
comp=Z,8.4nm,0.8s,baz=56,slow=6.7,SNR=20
KSRS PcP **PcP** **18 01 14.2 +1.6**
comp=Z,1.8nm,0.6s,baz=44,slow=3.7,SNR=4.4
comp=Z,8.4nm,0.8s
KSAR Wonju Array Be 46.92 278 P **P** **17 59 39.6 -0.8**
KSAR Wonju Array Be 46.92 278 P **P** **17 59 39.6 -0.8**
E38A The Farm, Brul 47.14 65 IAmb IAmb 17 59 56.6
comp=Z,21nm,0.9s
SPMN Marine on St. 47.26 68 IAmb IAmb 17 59 58.4
comp=Z,20nm,1.1s
INCN Inchon 47.65 279 P **P** **17 59 45.9 -0.2**
INCN Inchon 47.65 279 P **P** **17 59 45.9 -0.2**
INCN pmax pmax
comp=Z,49nm,1.0s
TJN Taejon 47.93 278 *c i*P **P** **17 59 49.4 +1.1**
FRB Frobisher Bay 47.95 36 LR LR 18 21 51.2
comp=Z,4µm,19.1s,baz=300,slow=38
JNU Nakatsue 47.98 272 LR LR 18 19 43.3
comp=Z,1µm,20.6s,baz=50,slow=36
MNTX Cornudas Mount 48.51 90 IAmb IAmb 18 00 00.7
comp=Z,39nm,1.4s
KBS Kingsbay 48.79 0 *i* P **P** **17 59 55.2 +0.9**
KSU1 Kansas State U 48.87 77 IAmb IAmb 18 00 00.5
comp=Z,16nm,0.9s
ELIS Ellis County 49.17 81 IAmb IAmb 18 00 04.6
comp=Z,34nm,1.1s
DAG Danmarks Havn 49.38 9 P **P** **17 59 58.8 -0.1**
DAG pmax pmax
comp=Z,119nm,1.0s
DAG Danmarks Havn 49.38 9 *i* P **P** **17 59 58.6 -0.3**
DAG IAmb IAmb 18 00 01.4
comp=Z,89nm,0.9s
SPITS Spitsbergen Ar 49.53 359 P **P** **17 59 58.9 -1.1**
comp=Z,12nm,0.6s,baz=44,slow=5.0,SNR=18
SPITS PcP **PcP** **18 01 22.0 +0.4**
comp=Z,19nm,1.0s,baz=347,slow=4.4,SNR=2.5
SPITS LR LR 18 20 58.7
comp=Z,829nm,19.6s,baz=3.0,slow=36
comp=Z,12nm,0.6s
SPITS Spitsbergen Ar 49.53 359 P **P** **17 59 58.7 -1.3**
SPITS 18 01 22.0
SPITS pmax pmax
comp=Z,87nm,1.3s
SPB2 Spitsbergen Ar 49.53 359 P **P** **17 59 58.7 -1.3**
PECS Pecos 49.67 89 IAmb IAmb 18 00 08.3
comp=Z,14nm,1.1s
DL2 Dalian 49.72 284 P **P** **18 00 02.3 +0.4**
DL2 pmax pmax
comp=Z,34nm,0.9s
DL2 pmax pmax
comp=Z,180nm,6.1s
DL2 LR LR
comp=Z,730nm,11.6s
DL2 LR LR
comp=Z,960nm,12.1s
DL2 LR LR
comp=Z,1µm,16.7s
XLT XiLinHaoTe 49.74 293 *e*P **P** **18 00 02.5 +0.3**
XLT PP **PP** **18 01 58.3 +1.7**
XLT S **S** **18 07 11.9 +1.5**
XLT ScS **ScS** **18 09 49.6 -3.2**
XLT pmax pmax
comp=Z,28nm,0.9s
XLT pmax pmax
comp=Z,300nm,8.2s
XLT LR LR
comp=Z,1µm,18.4s
XLT LR LR
comp=Z,2µm,18.2s
N38A Joes South For 49.77 73 IAmb IAmb 18 00 06.6
comp=Z,25nm,0.8s
L40A Anamosa 50.12 70 IAmb IAmb 18 00 22.2
comp=Z,30nm,1.0s
SUMG Summit 50.16 18 P **P** **18 00 05.3 -0.1**
SUMG Summit 50.16 18 P **P** **18 00 05.3 -0.1**
SUMG pmax pmax
comp=Z,98nm,1.2s
SUMG Summit 50.16 18 *i* P **P** **18 00 06.1 +0.8**
SUMG IAmb IAmb 18 00 07.9
comp=Z,116nm,1.3s
I42A Draeger Farm, 50.28 67 IAmb IAmb 18 00 10.4
comp=Z,16nm,0.7s
SN07 Snyder 07 50.29 85 IAmb IAmb 18 00 13.2
comp=Z,48nm,1.3s
P38A Dawn 50.35 74 IAmb IAmb 18 00 10.2
comp=Z,16nm,0.7s
MNHN Monahans 50.36 88 IAmb IAmb 18 00 24.8
comp=Z,15nm,0.8s
OK048 Pawnee Station 50.43 79 IAmb IAmb 18 00 27.3
comp=Z,28nm,1.1s
WMOK Wichita Mounta 50.45 82 IAmb IAmb 18 00 12.5
comp=Z,14nm,0.9s
ALPN Alpine 50.51 90 IAmb IAmb 18 00 15.2
comp=Z,46nm,1.5s
IRK Irkutsk 50.80 308 *e*P **P** **18 00 06.2 -3.8**
IRK pmax pmax
comp=Z,67nm,1.3s
SGCY Sterling City 50.96 87 IAmb IAmb 18 00 16.4
comp=Z,28nm,0.9s
LPIG La Paz 51.02 101 LR LR 18 18 45.4
comp=Z,264nm,19.2s,baz=304,slow=32
TX31 Lajitas Ar. Si 51.23 91 IAmb IAmb 18 00 19.3
comp=Z,21nm,0.8s
TXAR Lajitas Array 51.23 91 P **P** **18 00 14.3 +0.7**
comp=Z,15nm,0.7s,baz=300,slow=5.2,SNR=71
TXAR LR LR 18 20 47.6
comp=Z,154nm,20.2s,baz=318,slow=35
comp=Z,15nm,0.7s
WTFS Witchita Falls 51.30 83 IAmb IAmb 18 00 20.5
comp=Z,54nm,1.6s
ABTX Abilene, Hawle 51.37 85 IAmb IAmb 18 00 22.1
comp=Z,34nm,1.0s
DBG Daneborg 51.46 11 *i* P **P** **18 00 14.6 -0.1**
DBG IAmb IAmb 18 00 17.0
comp=Z,93nm,1.0s
SFJD Kangerlussuaq 51.54 27 LR LR 18 26 38.3
comp=Z,761nm,18.3s,baz=316,slow=41
SFJD Kangerlussuaq 51.54 27 *i* P **P** **18 00 16.8 +1.5**
SFJD IAmb IAmb 18 00 18.1
comp=Z,132nm,1.4s
SAND Sanderson 51.73 89 IAmb IAmb 18 00 24.1
comp=Z,19nm,1.2s
HPIG 51.74 95 IAmb IAmb 18 00 24.7
comp=Z,42nm,1.6s

R40A Maddies Statio 51.97 74 IAmb IAmb 18 00 22.1
comp=Z,13nm,0.7s
PLPT Palo Pinto 52.05 84 IAmb IAmb 18 00 26.9
comp=Z,43nm,1.1s
ULN Ulaanbaatar 52.15 302 P **P** **18 00 20.0 -0.3**
ULN Ulaanbaatar 52.15 302 *ce*P **P** **18 00 20.1 -0.3**
ULN pmax pmax
comp=Z,38nm,1.3s
BJI Beijing 52.17 289 P **P** **18 00 21.3 +0.9**
BJI pP **sP** **18 00 25.6 -0.7**
BJI PP **PP** **18 02 20.4 +1.9**
BJI S **S** **18 07 44.1 +0.3**
BJI ScS **ScS** **18 10 08.3 -1.0**
BJI pmax pmax
comp=Z,10.0nm,0.8s
BJI pmax pmax
comp=Z,140nm,9.2s
BJI LR LR
comp=Z,640nm,18.4s
BJI LR LR
comp=Z,300nm,18.4s
BJI LR LR
comp=Z,840nm,18.9s
ZAK Zakamensk 52.45 306 *e*P **P** **18 00 21.3 -1.2**
ZAK pmax pmax
comp=Z,25nm,1.4s
SONM Songino Array 52.51 302 P **P** **18 00 23.3 +0.3**
comp=Z,28nm,1.1s,baz=64,slow=4.8,SNR=46
SONM ScP **ScP** **18 05 32.1 +2.7**
comp=Z,0.7nm,0.7s,baz=158,slow=4.7,SNR=4.2
SONM LR LR 18 25 35.8
comp=Z,2µm,18.0s,baz=50,slow=39
comp=Z,28nm,1.1s
P43A Skaggs, Pawnee 52.67 71 IAmb IAmb 18 00 28.2
comp=Z,24nm,0.8s
BRDY Brady 52.70 86 IAmb IAmb 18 00 29.6
comp=Z,17nm,0.8s
CCM Cathedral Cave 52.72 74 P **P** **18 00 23.5 -1.1**
CCM Cathedral Cave 52.72 74 P **P** **18 00 23.5 -1.1**
CCM pmax pmax
comp=Z,11nm,1.0s
MGMO Mountain Grove 52.72 75 IAmb IAmb 18 00 39.7
comp=Z,13nm,0.8s
MOY Mondy 52.74 309 *e*P **P** **18 00 25.2 +0.6**
MOY pmax pmax
comp=Z,42nm,1.4s
JCT Junction City 52.77 87 IAmb IAmb 18 00 30.1
comp=Z,24nm,0.8s
DRIO Del Rio 53.02 89 IAmb IAmb 18 00 31.6
comp=Z,20nm,0.8s
DY2G Dye2 53.10 26 *i* P **P** **18 00 27.9 +0.6**
DY2G IAmb IAmb 18 00 32.8
comp=Z,32nm,0.8s
FVM French Village 53.25 73 IAmb IAmb 18 00 46.6
comp=Z,18nm,1.1s
NUUK Nuuk 53.26 30 *i* P **P** **18 00 29.9 +1.9**
NUUK IAmb IAmb 18 00 34.0
comp=Z,72nm,1.3s
Q44A Meyer Farm, Va 53.46 72 IAmb IAmb 18 00 33.9
comp=Z,18nm,0.9s
SFIN Lafayette 53.58 69 IAmb IAmb 18 00 35.1
comp=Z,14nm,0.8s
FCAR Ozark Folk Cen 53.66 77 IAmb IAmb 18 00 34.3
comp=Z,16nm,0.9s
MIAR Mount Ida 53.72 79 IAmb IAmb 18 00 50.5
comp=Z,16nm,0.9s
TIA Tai'an 54.18 285 P **P** **18 00 35.5 +0.3**
TIA pmax pmax
comp=Z,29nm,1.2s
TIA pmax pmax
comp=Z,450nm,7.9s
TIA LR LR
comp=Z,510nm,19.1s
TIA LR LR
comp=Z,730nm,22.6s
TIA LR LR
comp=Z,1µm,19.1s
SCHQ Schefferville 54.25 45 P **P** **18 00 36.1 +0.6**
comp=Z,174nm,1.0s,baz=318,slow=11,SNR=6.6
SCHQ LR LR 18 25 01.1
comp=Z,11µm,18.9s,baz=316,slow=38
HHC Hu-ho-hao-te 54.27 292 ⇑*i*P **P** **18 00 36.5 +0.5**
HHC PP **PP** **18 02 40.3 +2.8**
HHC S **S** **18 08 06.5 -6.2**
HHC sS pS 18 08 16.6 -1.2
HHC SS **SS** **18 11 55.3 +1.2**
HHC pmax pmax
comp=Z,42nm,1.2s
HHC pmax pmax
comp=Z,150nm,4.4s
HHC LR LR
comp=Z,1µm,17.7s
HHC LR LR
comp=Z,920nm,16.0s
HHC LR LR
comp=Z,2µm,18.5s
HNS HongShan 54.79 287 ⇑P **P** **18 00 40.5 +0.9**
HNS pmax pmax
comp=Z,83nm,1.0s
HNS LR LR
comp=Z,1µm,16.5s
HNS LR LR
comp=Z,650nm,15.7s
HNS LR LR
comp=Z,1µm,16.1s
SADO Sadowa 55.05 60 LR LR 18 25 09.0
comp=Z,1µm,18.6s,baz=352,slow=37
KNGR Kungurtug, Tuv 55.09 309 *de*P **P** **18 00 42.4 +0.6**
SSE Sheshan 55.29 277 P **P** **18 00 42.8 -0.5**
SSE S **S** **18 08 26.3 0.0**
SSE pmax pmax
comp=Z,24nm,2.9s
SSE pmax pmax
comp=Z,270nm,3.6s
SSE LR LR
comp=Z,260nm,23.5s
SSE LR LR
comp=Z,190nm,22.3s
BTO Baotou 55.30 293 *e*P **P** **18 00 44.4 +0.9**
BTO pP **sP** **18 00 49.0 -0.4**
BTO sP **pwP** **18 00 51.4 -1.4**
BTO PP **PP** **18 02 48.9 +2.1**
BTO S **S** **18 08 26.4 -0.1**
BTO sS **sS** **18 08 32.1 -1.4**
BTO SS **SS** **18 12 06.5 -3.8**
BTO pmax pmax
comp=Z,76nm,1.1s
BTO pmax pmax
comp=Z,790nm,7.5s
BTO LR LR
comp=Z,2µm,17.6s
BTO LR LR
comp=Z,3µm,19.1s
BTO LR LR
comp=Z,4µm,19.7s
HKT Hockley 55.57 84 ⇑*e*P **P** **18 00 49.2 +3.9**
HKT pmax pmax
comp=Z,56nm,1.6s
JMIC Jan Mayen 55.80 8 LR LR 18 26 49.1
comp=Z,1µm,18.1s,baz=352,slow=38
T47A Sharon Grove 55.87 72 IAmb IAmb 18 00 51.6
comp=Z,22nm,0.9s
TIY Taiyuan 55.89 289 *e*P **P** **18 00 50.4 +2.7**
TIY SS **SS** **18 12 22.3 +2.6**
TIY pmax pmax
comp=Z,52nm,1.3s
TIY pmax pmax
comp=Z,270nm,7.1s
TIY LR LR
comp=Z,400nm,18.0s
TIY LR LR
comp=Z,690nm,19.2s
TIY LR LR
comp=Z,730nm,19.4s
NJ2 Nanjing 56.02 280 *e*P **P** **18 00 48.0 -0.6**
NJ2 pmax pmax
comp=Z,7.0nm,0.7s
IVI Ivigtut 56.58 31 P **P** **18 00 53.0 +0.9**
IVI Ivigtut 56.58 31 *i* P **P** **18 00 53.6 +1.5**
IVI IAmb IAmb 18 00 55.1
comp=Z,72nm,1.2s
R50A Paris 56.58 69 IAmb IAmb 18 00 56.6
comp=Z,12nm,0.8s
PLAL Pickwick Lake 56.68 75 IAmb IAmb 18 00 56.8
comp=Z,15nm,0.9s
ZAIG Zacatecas 56.70 96 IAmb IAmb 18 01 00.9

comp=Z,26nm,1.3s
N53A Lisbon 56.81 65 lAmb lAmb 18 00 59.3
comp=Z,36nm,1.3s
T50A Nancy 57.16 71 lAmb lAmb 18 01 00.7
comp=Z,12nm,0.8s
P53A Whipple 57.41 66 lAmb lAmb 18 01 03.0
comp=Z,11nm,0.9s
S51A Beattyville 57.44 69 lAmb lAmb 18 01 02.5
comp=Z,14nm,0.8s
KEV Kevo 57.59 354 P **P** **18 00 58.4 -0.8**
KEV Kevo 57.59 354 P **P** **18 00 58.4 -0.8**
KEV pmax pmax
comp=Z,327nm,2.0s
J57A Williamstown 57.63 60 lAmb lAmb 18 01 25.8
comp=Z,36nm,1.2s
L56A Greenwood 57.68 62 lAmb lAmb 18 01 05.7
comp=Z,21nm,0.9s
ARA0 ARCESS Array S 57.90 355 *e*P **P** **18 01 00.4 -1.0**
ARCES ARCESS Array B 57.90 355 P **P** **18 01 00.4 -1.0**
ARCES ARCESS Array B 57.90 355 P **P** **18 01 00.8 -0.6**
comp=Z,18nm,0.7s,baz=4.7,slow=6.7,SNR=44
ARCES LR LR 18 27 55.0
comp=Z,1μm,18.8s,baz=348,slow=38
comp=Z,18nm,0.7s
ARCES ARCESS Array B 57.90 355 P **P** **18 01 00.4 -1.0**
ARCES pmax pmax
comp=Z,43nm,1.1s
TRO Tromso 58.06 358 *e*P **P** **18 01 02.0 -0.4**
LYN LuoYang 58.06 286 P **P** **18 01 04.6 +1.6**
LYN S **S** **18 09 06.3 +3.3**
LYN pmax pmax
comp=Z,58nm,1.5s
LYN pmax pmax
comp=Z,480nm,7.4s
LYN LR LR
comp=Z,1μm,18.6s
LYN LR LR
comp=Z,900nm,19.6s
LYN LR LR
comp=Z,2μm,14.8s
Q54A Coxs Mills 58.07 66 lAmb lAmb 18 01 06.7
comp=Z,14nm,0.9s
JETT Jettan, Norway 58.10 357 *e*P **P** **18 01 02.8 0.0**
W50A Signal Mountai 58.15 73 lAmb lAmb 18 01 18.8
comp=Z,18nm,1.1s
MCWV Mont Chateau 58.15 65 lAmb lAmb 18 01 07.8
comp=Z,20nm,0.9s
ZAA0 Zalesovo Array 58.31 319 P **P** **18 01 03.2 -1.2**
ZAA0 lAmb lAmb 18 01 08.3
comp=Z,16nm,1.1s
ZALV Zalesovo Beam 58.31 319 P **P** **18 01 03.9 -0.6**
ZALV Zalesovo Beam 58.31 319 P **P** **18 01 04.5 +0.1**
comp=Z,9.5nm,0.8s,baz=40,slow=6.4,SNR=27
ZALV LR LR 18 27 45.5
comp=Z,866nm,18.7s,baz=44,slow=38
comp=Z,9.5nm,0.8s
J59A Piesco 58.38 59 lAmb lAmb 18 01 09.5
comp=Z,12nm,0.7s
FPAL Fort Paine 58.44 73 lAmb lAmb 18 01 09.4
comp=Z,9.9nm,0.8s
Y49A Blount Mountai 58.45 74 lAmb lAmb 18 01 08.8
comp=Z,10nm,0.8s
BINY Binghamton 58.48 61 lAmb lAmb 18 01 10.2
comp=Z,14nm,0.8s
KTK1 Kautokeino 58.53 356 *e*P **P** **18 01 04.4 -1.4**
SSPA Standing Stone 58.55 63 P **P** **18 01 06.2 -0.1**
SSPA lAmb lAmb 18 01 10.7
comp=Z,19nm,0.8s
TKL Tuckaleechee C 58.72 71 LR LR 18 26 34.3
comp=Z,2μm,18.9s,baz=320,slow=36
LVZ Lovozero 58.80 351 P **P** **18 01 07.2 -0.6**
LVZ Lovozero 58.80 351*d* *i*P **P** **18 01 07.5 -0.3**
LVZ pmax pmax
comp=Z,98nm,1.1s
ACCN Adirondack Com 58.87 58 lAmb lAmb 18 01 13.3
comp=Z,25nm,1.1s
KSPA Keystone Colle 59.04 61 lAmb lAmb 18 01 14.4
comp=Z,11nm,0.7s
G62A West of Eustis 59.17 55 lAmb lAmb 18 01 15.0
comp=Z,22nm,0.9s
U54A Nelsons Funny 59.23 69 lAmb lAmb 18 01 15.7
comp=Z,14nm,1.0s
APA Apatity 59.24 351 ⇓ *i*P **P** **18 01 08.8 -1.9**
APA *i* 18 03 18.0
APA *e*S **S** **18 09 10.5 -6.9**
APA pmax pmax
comp=Z,12nm,1.0s
APA MLR MLR
comp=Z,2μm,16.4s
V53A Saluda 59.27 70 lAmb lAmb 18 01 15.7
comp=Z,14nm,1.1s
P57A Homestead Farm 59.28 64 lAmb lAmb 18 01 15.3
comp=Z,15nm,0.9s
H62A Milan 59.32 56 lAmb lAmb 18 01 16.0
comp=Z,19nm,0.9s
PAGS Pennsylvania G 59.47 63 lAmb lAmb 18 01 15.3
comp=Z,29nm,1.1s
LOF Lofoten 59.64 360 *e*P **P** **18 01 11.5 -2.0**
WHN Wuhan 59.80 282 P **P** **18 01 17.8 +2.7**
WHN pmax pmax
comp=Z,54nm,1.1s
STEI Steigen 59.84 359 *e*P **P** **18 01 13.1 -1.7**
BORG Borgarnes 60.05 16 LR LR 18 29 14.2
comp=Z,628nm,18.3s,baz=332,slow=38
FAUS Fauske 60.39 359 *e*P **P** **18 01 17.6 -1.0**
XAN Xi'an 60.49 288 ⇓ P **P** **18 01 20.6 +0.7**
XAN pP pwP 18 01 28.3 -1.0
XAN pmax pmax
comp=Z,66nm,1.0s
XAN pmax pmax
comp=Z,460nm,9.1s
XAN LR LR
comp=Z,1μm,15.0s
XAN LR LR
comp=Z,890nm,17.8s
XAN LR LR
comp=Z,1μm,17.3s
VAGH Vaagaholmen 61.05 360 *e*P **P** **18 01 21.4 -1.7**
KONS Konsvik 61.28 360 *e*P **P** **18 01 23.0 -1.7**
T59A Double "B" Far 61.32 66 P **P** **18 01 25.4 0.0**
RAUS Rausandaksla 61.34 360 *e*P **P** **18 01 23.5 -1.7**
STOK Stokkvaagen 61.45 0 *e*P **P** **18 01 25.3 -0.5**
MOR8 Moi Rana 61.61 359 *e*P **P** **18 01 25.0 -1.9**
LEIR Leirfjorden 61.67 0 *e*P **P** **18 01 26.5 -0.9**
GTA Gaotai 61.74 299 P **P** **18 01 27.8 -0.6**
GTA pP sP 18 01 33.6 -0.8
GTA S **S** **18 09 51.8 +1.3**
GTA SS **SS** **18 13 55.0 +3.5**
GTA pmax pmax
comp=Z,33nm,1.2s
GTA pmax pmax
comp=Z,320nm,7.0s
GTA LR LR
comp=Z,890nm,17.4s
GTA LR LR
comp=Z,2μm,18.2s
GTA LR LR
comp=Z,3μm,17.5s
LZH Lanzhou 61.92 293 ⇑ P **P** **18 01 30.3 +0.6**
LZH sP pwP 18 01 38.6 -0.5
LZH PcP **PcP** **18 02 13.4 +3.0**
LZH S **S** **18 09 55.0 +2.1**
LZH SS **SS** **18 13 50.0 -4.6**
LZH pmax pmax
comp=Z,110nm,1.1s
LZH pmax pmax
comp=Z,350nm,5.0s
LZH LR LR
comp=Z,1μm,16.8s
LZH LR LR
comp=Z,1μm,17.4s
LZH LR LR
comp=Z,2μm,18.7s
LZDM Lanzhou Array 62.10 293 P **P** **18 01 32.0 +0.9**
comp=Z,6.0nm,0.4s,baz=17,slow=1.5,SNR=8.6
LZDM LR LR 18 30 35.6
comp=Z,950nm,18.6s,baz=55,slow=38
comp=Z,6.0nm,0.4s
CNSH ChangSha 62.36 281 P **P** **18 01 33.1 +0.6**
CNSH S **S** **18 09 59.9 +1.7**
CNSH pmax pmax
comp=Z,12nm,0.4s
CNSH LR LR
comp=Z,590nm,8.0s
CNSH LR LR
comp=Z,320nm,8.3s
CNSH LR LR
comp=Z,780nm,15.2s
ZSN Zaisan 63.15 314 *e*P **P** **18 01 37.7 +0.1**
comp=Z,12nm,0.8s
ZSN Zaisan 63.15 314 *e*P **P** **18 01 37.6 +0.1**
ZSN pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 63.24 320 P **P** **18 01 38.1 0.0**
KURK Kurchatov 63.24 320 P **P** **18 01 38.1 0.0**
KURK pmax pmax
comp=Z,29nm,1.1s
NSS Namsos 63.26 1 *e*P **P** **18 01 37.1 -0.8**
KURBB Kurchatov Arra 63.35 320 P **P** **18 01 38.8 +0.1**
comp=Z,12nm,0.8s,baz=51,slow=7.4,SNR=98
KURBB LR LR 18 30 48.1
comp=Z,2μm,18.4s,baz=31,slow=38
comp=Z,12nm,0.8s
SVE Sverdlovsk 64.23 333*c* *e*P **P** **18 01 45.4 +0.9**
SVE *e*S **S** **18 10 20.4 -0.4**
SVE pmax pmax
comp=Z,67nm,1.1s
BVAR Borovoye Array 64.43 326 P **P** **18 01 46.3 +0.4**
comp=Z,16nm,0.7s,baz=47,slow=7.6,SNR=50
BVAR LR LR 18 32 55.7
comp=Z,2μm,18.2s,baz=46,slow=39
comp=Z,16nm,0.7s
BORK Borovoye 64.44 326 *e*P **P** **18 01 46.3 +0.4**
BORK pmax pmax
comp=Z,45nm,1.3s
WMQ Urumqi 64.61 309 *e*P **P** **18 01 48.9 +1.6**
WMQ pmax pmax
comp=Z,350nm,6.9s
WMQ LR LR
comp=Z,2μm,19.9s
WMQ LR LR
comp=Z,1μm,19.9s
WMQ LR LR
comp=Z,980nm,22.1s
MKAR Makanchi Array 64.78 315 P **P** **18 01 47.2 -1.0**
MKAR Makanchi Array 64.78 315 P **P** **18 01 47.8 -0.5**
comp=Z,17nm,0.7s,baz=48,slow=6.3,SNR=140
MKAR LR LR 18 30 59.6
comp=Z,2μm,18.3s,baz=30,slow=37
comp=Z,17nm,0.7s
KLMR Klimovskoe 65.00 346 *e*P **P** **18 01 46.9 -2.5**
KLMR *e* 18 02 23.1
KLMR S **S** **18 10 29.3 -0.8**
KLMR SS **SS** **18 14 39.4 -1.5**
KLMR pmax pmax
comp=Z,78nm,1.3s
KLMR MLR MLR
comp=Z,952nm,16.0s
MOL Molde 65.15 3 *e*P **P** **18 01 50.1 -0.2**
ARTI Arti 65.23 334 P **P** **18 01 50.7 -0.3**
ARTI Arti 65.23 334*c* *i*P **P** **18 01 50.8 -0.2**
ARTI 18 02 24.0
ARTI S **S** **18 10 33.9 +0.8**
ARTI 18 11 44.8
ARTI pmax pmax
comp=Z,74nm,0.8s
ARTI MLR MLR
comp=Z,1μm,18.0s
TAOE Nuku Hiva Isla 65.30 151 *e*S **S** **18 10 28.8 -6.1**
comp=Z,309nm,24.4s
TAOE *e*SS **SS** **18 14 39.1 -9.2**
comp=Z,296nm,23.3s
TAOE *e*LQ LQ 18 18 28.7
comp=Z,11μm,33.0s
TAOE *e*LR LR 18 21 18.7
comp=Z,1μm,27.4s
KIRV Kirov 65.37 340 LR LR 18 34 55.0
comp=Z,1μm,18.8s,baz=42,slow=40
KIRV Kirov 65.37 340*c* *i*P **P** **18 01 51.4 -0.5**
AKN Aaknes 65.52 3 *e*P **P** **18 01 53.0 +0.1**
DOMB Dombas 65.71 2 *e*P **P** **18 01 53.5 -0.6**
CD2 Chengdu 65.76 290 P **P** **18 01 56.3 +1.4**
CD2 S **S** **18 10 42.8 +2.4**
CD2 pmax pmax
comp=Z,80nm,0.8s
CD2 LR LR
comp=Z,860nm,14.7s
CD2 LR LR
comp=Z,1μm,17.3s
CD2 LR LR
comp=Z,1μm,16.8s
FINES FINESS Array B 65.89 353 P **P** **18 01 54.5 -0.7**
FINES FINESS Array B 65.89 353 P **P** **18 01 55.0 -0.2**
comp=Z,31nm,0.5s,baz=19,slow=7.9,SNR=154
FINES LR LR 18 34 21.5
comp=Z,729nm,18.1s,baz=14,slow=39
comp=Z,31nm,0.5s
FINES FINESS Array B 65.89 353 P **P** **18 01 55.0 -0.2**
BRZS Berezniki 66.11 323 *e*P **P** **18 01 57.1 +0.3**
BRZS Berezniki 66.11 323 *e*P **P** **18 01 57.1 +0.3**
HYA Hoyanger 66.50 4 *e*P **P** **18 01 56.4 -2.7**
SUE Sulen 66.55 4 *e*P **P** **18 01 59.7 +0.3**
NB2 NORSAR Subarra 66.76 1 P **P** **18 02 00.9 +0.1**
comp=Z,42nm,1.2s,baz=1.4,slow=6.9
NB2 NORSAR Subarra 66.76 1 P **P** **18 02 00.9 +0.1**
comp=Z,42nm,1.2s,baz=1.4,slow=6.9
NOA NORSAR Array B 66.76 1 P **P** **18 02 01.0 +0.2**
comp=Z,15nm,0.9s,baz=0.6,slow=6.3,SNR=37
NOA LR LR 18 34 24.0
comp=Z,631nm,18.0s,baz=345,slow=39
comp=Z,15nm,0.9s
NBO00 NORSAR Array S 66.76 1 P **P** **18 02 00.9 +0.1**
GOMU GeErMu 66.78 299 P **P** **18 02 00.8 -1.0**
GOMU PP **PP** **18 04 25.4 -3.0**
GOMU S **S** **18 10 50.6 -2.8**
GOMU pmax pmax
comp=Z,34nm,1.2s
GOMU pmax pmax
comp=Z,160nm,6.3s
GOMU LR LR
comp=Z,930nm,18.2s
GOMU LR LR
comp=Z,1μm,18.5s
GOMU LR LR
comp=Z,1μm,18.9s
SKAR Skarslia 67.06 3 *e*P **P** **18 02 01.4 -1.4**
NC602 NORSAR Array S 67.06 1 *e*P **P** **18 02 00.7 -2.1**
ASK Askoy 67.14 4 *e*P **P** **18 02 02.3 -0.9**
PUL Pulkovo 67.18 351 ⇓ *e*P **P** **18 02 06.0 +2.6**
PUL pmax pmax
comp=Z,89nm,0.8s
GYA Guiyang 67.37 284 P **P** **18 02 04.5 -0.8**
GYA S **S** **18 10 58.1 -2.1**
GYA pmax pmax
comp=Z,25nm,1.7s
GYA LR LR
comp=Z,500nm,17.3s
GYA LR LR
comp=Z,560nm,15.2s
GYA LR LR
comp=Z,570nm,21.5s
HFS Hagfors 67.67 360 P **P** **18 02 05.8 -0.8**
comp=Z,20nm,0.4s,baz=30,slow=4.1,SNR=133
HFS LR LR 18 34 12.5
comp=Z,463nm,18.1s,baz=2.0,slow=38
comp=Z,20nm,0.4s
TDK Taldyqorghan 67.86 316 *e*P **P** **18 02 08.2 +0.1**
comp=Z,12nm,0.7s
TDK Taldyqorghan 67.86 316 *e*P **P** **18 02 08.1 +0.1**
TDK pmax pmax
comp=Z,12nm,0.7s
HNR Honiara 67.95 216 LR LR 18 30 02.1
comp=Z,140nm,18.6s,baz=16,slow=34
TGY Tagaytay City 68.09 265 LR LR 18 31 23.7
comp=Z,214nm,18.5s,baz=58,slow=36
KONO Kongsberg 68.12 2 P **P** **18 02 09.5 +0.1**
KONO Kongsberg 68.12 2 ⇑ *i*P **P** **18 02 10.3 +0.9**
KONO pmax pmax
comp=Z,51nm,1.0s
ARXS Arharly 68.74 316 *e*P **P** **18 02 13.9 +0.3**
STRU Stroemstad 68.77 1 *i*P **P** **18 02 13.7 +0.3**
VSU Vasula 68.80 352*d* *i*P **P** **18 02 13.0 -0.6**
VSU pmax pmax
comp=Z,78nm,0.7s
SHLS Shalkode 68.88 314 *e*P **P** **18 02 13.4 -1.2**
comp=Z,8.9nm,0.5s
SHLS Shalkode 68.88 314 *e*P **P** **18 02 13.4 -1.2**
SHLS pmax pmax
comp=Z,9.0nm,0.5s
UZB Uzynbulak 69.08 314 ⇑ *i*P **P** **18 02 15.9 +0.1**
comp=Z,8.2nm,0.9s
UZB Uzynbulak 69.08 314*c* *i*P **P** **18 02 15.9 +0.1**
UZB pmax pmax
comp=Z,8.0nm,0.9s
SNART Snartemo 69.37 3 *i*P **P** **18 02 17.8 +0.6**
SATY Saty 69.42 315 *e*P **P** **18 02 18.2 +0.2**
comp=Z,16nm,1.3s
SATY Saty 69.42 315 *e*P **P** **18 02 18.1 +0.2**
SATY pmax pmax
comp=Z,16nm,1.3s
BTLS Baital 69.63 319 ⇑ *i*P **P** **18 02 19.2 +0.1**
comp=Z,7.5nm,0.7s
BTLS Baital 69.63 319*c* *i*P **P** **18 02 19.1 +0.1**
BTLS pmax pmax
comp=Z,7.0nm,0.7s
TJOU Tjoern 69.78 1 *i*P **P** **18 02 20.1 +0.4**
MDOK Medeo 69.92 316 *e*P **P** **18 02 21.0 0.0**
MDOK Medeo 69.92 316 *e*P **P** **18 02 21.0 0.0**
AAA Alma-Ata 69.94 316 *e*P **P** **18 02 21.2 +0.1**
comp=Z,18nm,0.9s
AAA Alma-Ata 69.94 316 *e*P **P** **18 02 21.1 +0.1**
AAA pmax pmax
comp=Z,18nm,0.9s
TNSS Tian-Shan 70.06 316 *e*P **P** **18 02 22.2 -0.1**
TNSS Tian-Shan 70.06 316 *e*P **P** **18 02 22.2 -0.1**
BORU Boraas 70.18 0 *i*P **P** **18 02 22.2 0.0**
MOS Moscow 70.20 346 *e*P **P** **18 02 21.6 -0.7**
MOS pmax pmax
comp=Z,100nm,1.0s
MOS pmax pmax
comp=Z,93nm,1.0s
PZH PanZhiHua 70.22 288 P **P** **18 02 23.0 -0.1**
PZH S **S** **18 11 32.0 -2.1**
PZH pmax pmax
comp=Z,50nm,1.4s
PZH pmax pmax
comp=Z,280nm,4.3s
PZH LR LR
comp=Z,420nm,19.1s
PZH LR LR
comp=Z,460nm,21.6s
PZH LR LR
comp=Z,480nm,16.7s
JAY Jayapura 70.27 237 LR LR 18 29 48.4
comp=Z,303nm,20.1s,baz=9.5,slow=33
ONAU Onsala 70.42 1 *i*P **P** **18 02 23.6 0.0**
KMI Kunming 70.69 286 ⇑ P **P** **18 02 26.4 +0.3**
KMI PP **PP** **18 05 01.6 -0.8**
KMI S **S** **18 11 41.8 +2.1**
KMI SKS **SKSac** **18 12 18.6 -9.0**
KMI pmax pmax
comp=Z,16nm,1.4s
KMI pmax pmax
comp=Z,320nm,7.1s
KMI LR LR
comp=Z,690nm,15.0s
KMI LR LR
comp=Z,470nm,16.7s
KMI LR LR
comp=Z,430nm,18.8s
SGDS Sogindy 70.70 317 *e*P **P** **18 02 26.0 +0.3**
comp=Z,11nm,1.0s
TKM2 Tokmak 2 70.73 316 P **P** **18 02 26.9 +0.7**
SNR=28
FABU Falkenberg 70.82 0 *i*P **P** **18 02 26.1 +0.1**
DAV Davao City (W) 70.83 256 LR LR 18 29 30.3
comp=Z,1μm,21.5s,baz=69,slow=32
USP Ospenovka 70.91 317 P **P** **18 02 28.0 +1.1**
SNR=27
OBN Obninsk 70.96 346 LR LR 18 37 33.9
comp=Z,438nm,18.1s,baz=320,slow=39
OBN Obninsk 70.96 346*c* *e*P **P** **18 02 27.1 +0.1**
OBN *e* 18 02 48.3
OBN *e* 18 05 03.5
OBN *e*PPP PPP 18 06 47.2
OBN *e*S **S** **18 11 41.7 +0.2**
OBN pmax pmax
comp=Z,112nm,1.3s
ULHL Ulahol 71.01 316 P **P** **18 02 28.7 +0.9**
SNR=8.7
CHMS Chumysh 71.02 317 P **P** **18 02 28.4 +0.8**
SNR=9.9
AB31 Akbulak array 71.07 330 lAmb lAmb 18 02 30.8
comp=Z,24nm,1.1s
ABKAR Akbulak array 71.07 330 P **P** **18 02 26.8 -1.0**
QIZ Qiongzhong 71.08 277 P **P** **18 02 27.6 -0.6**
QIZ S **S** **18 11 42.4 -1.5**
QIZ pmax pmax
comp=Z,33nm,1.6s
QIZ pmax pmax
comp=Z,370nm,3.5s
QIZ LR LR
comp=Z,470nm,17.1s
QIZ LR LR
comp=Z,360nm,17.7s
QIZ LR LR
comp=Z,300nm,15.1s
KBK Karagaybulak 71.22 317 P **P** **18 02 29.9 +0.8**
SNR=22
MUD Monsted U'grnd 71.32 2 *i*P **P** **18 02 30.4 +1.3**
MUD lAmb lAmb 18 02 30.9
comp=Z,26nm,0.9s
DEL Delary 71.35 360 *i*P **P** **18 02 29.8 +0.5**
PPT Papeete 71.42 163 LR LR 18 27 49.0
comp=Z,463nm,20.0s,baz=330,slow=31
AAK Ala-Archa 71.43 317 P **P** **18 02 31.4 +1.1**
SNR=15
AAK Ala-Archa 71.43 317 P **P** **18 02 31.2 +1.0**
AAK Ala-Archa 71.43 317 LR LR 18 37 14.2
comp=Z,1μm,18.4s,baz=32,slow=39
AAK Ala-Archa 71.43 317 P **P** **18 02 31.2 +1.0**
AAK pmax pmax
comp=Z,28nm,0.8s
PPT2 Papeete2 71.44 163 *e*S **S** **18 11 52.9 +5.1**
comp=Z,441nm,28.2s
PPT2 *e*SS **SS** **18 16 19.9 -3.3**
comp=Z,255nm,21.0s
PPT2 *e*LR LR 18 23 57.6
comp=Z,1μm,29.0s
PPT2 *e*LR LR 18 24 04.6
comp=Z,2μm,28.0s
BELG Belogornoye 71.50 339*c* *i*P **P** **18 02 29.6 -0.7**
EKA Eskdalemuir Ar 71.65 10 P **P** **18 02 31.7 +0.6**
comp=Z,32nm,1.0s,baz=350,slow=4.2,SNR=22
comp=Z,32nm,1.0s
ESK Eskdalemuir 71.66 10 P **P** **18 02 32.3 +1.1**
ESK Eskdalemuir 71.66 10 P **P** **18 02 32.3 +1.1**
ESK pmax pmax
comp=Z,42nm,1.1s
EKS2 Erkin-Say 71.70 317 P **P** **18 02 32.6 +0.7**
SNR=27
BJUU Bjuv 71.75 0 *i*P **P** **18 02 32.1 +0.4**
DZA Taraz 72.51 319 *e*P **P** **18 02 36.9 +0.2**
comp=Z,8.7nm,0.8s
DZA Taraz 72.51 319 *e*P **P** **18 02 36.8 +0.2**
DZA pmax pmax
comp=Z,9.0nm,0.8s
MNK Minsk 72.62 351 *i*P **P** **18 02 37.2 +0.2**
MNK *i* 18 05 18.1
MNK *i*PPP PPP 18 07 02.6
MNK *i*S **S** **18 12 00.8 +0.2**
MNK *i*SS **SS** **18 16 41.6 +3.1**
MNK pmax pmax
comp=Z,70nm,0.9s
MNK pmax pmax
comp=E,45nm,1.0s
MNK pmax pmax
comp=N,9.0nm,0.7s
BRLS Borolday 72.98 320 *e*P **P** **18 02 41.0 +1.5**
comp=N,12nm,1.4s
BRLS Borolday 72.98 320 *e*P **P** **18 02 40.9 +1.5**
BRLS pmax pmax
comp=Z,12nm,1.4s
LPSR Galich'ya Gora 73.01 344 *e*P **P** **18 02 37.1 -2.2**
LPSR pmax pmax
comp=Z,40nm,1.0s
PMG Port Moresby 73.12 228 LR LR 18 33 46.1
comp=Z,99nm,18.1s,baz=38,slow=35
KSH Kashi 73.36 314 P **P** **18 02 45.8 +4.0**
KSH PcP **PcP** **18 03 00.8 +2.7**
KSH pmax pmax
comp=Z,66nm,1.4s
KSH pmax pmax
comp=Z,330nm,4.0s
KSH LR LR
comp=Z,1μm,18.1s
KSH LR LR
comp=Z,1μm,20.6s

KSH LR LR
comp=Z,2µm,17.3s
SUW Suwalki 73.48 354 *e*P **P** **18 02 42.5 +0.4**
IUG Iuzhnay 73.65 320 *e*P **P** **18 02 43.7 +0.2**
comp=Z,25nm,1.1s
IUG Iuzhnay 73.65 320 *e*P **P** **18 02 43.6 +0.1**
IUG pmax pmax
comp=Z,25nm,1.1s
CHM Chimkent 73.68 320 *e*P **P** **18 02 43.8 +0.3**
comp=Z,23nm,1.0s
CHM Chimkent 73.68 320 *e*P **P** **18 02 43.7 +0.3**
CHM pmax pmax
comp=Z,23nm,1.0s
RAR Rarotonga 73.70 173 LR LR 18 26 45.1
comp=Z,238nm,20.5s,baz=344,slow=29
LSA Lhasa 73.73 298 P **P** **18 02 44.0 -0.5**
LSA pmax pmax
comp=Z,21nm,0.7s
LSA LR LR
comp=Z,690nm,16.5s
LSA LR LR
comp=Z,300nm,16.7s
LSA LR LR
comp=Z,380nm,13.7s
VRH Novokhopyorsk 73.85 342 *e*P **P** **18 02 42.0 -2.3**
VRH pmax pmax
comp=Z,20nm,1.0s
VORR Voronezh 73.86 343 *e*P **P** **18 02 43.4 -0.9**
VORR pmax pmax
comp=Z,30nm,1.0s
SWI Sorong 73.97 247 P **P** **18 02 46.4 +1.0**
comp=Z,509nmcomp=Z,28nm,1.1s
VSR Storozhevoye 74.30 343 *e*P **P** **18 02 45.2 -1.7**
VSR pmax pmax
comp=Z,40nm,1.1s
VORD Divnogorie 74.52 343 *e*P **P** **18 02 47.1 -1.1**
VORD pmax pmax
comp=Z,30nm,1.1s
BEL Belsk 75.79 355 *e*P **P** **18 02 57.5 +2.0**
AKASG Malin Array Be 76.23 350 P **P** **18 02 57.9 -0.2**
comp=Z,18nm,0.5s,baz=11,slow=5.6,SNR=59
AKASG LR LR 18 40 31.1
comp=Z,550nm,19.3s,baz=18,slow=39
comp=Z,18nm,0.5s
KIEV Kiev 76.24 350 P **P** **18 02 57.6 -0.5**
KIEV Kiev 76.24 350 ⇑P **P** **18 02 58.4 +0.3**
KIEV Kiev 76.24 350 P **P** **18 02 57.6 -0.5**
KIEV pmax pmax
comp=Z,111nm,1.3s
CLL Collm 76.52 0 *i* P **P** **18 03 00.0 +0.3**
CLL *e*S **S** **18 12 44.0 -0.4**
CLL pmax pmax
comp=Z,62nm,1.6s
CLL MLR MLR
comp=Z,600nm,18.4s
UCC Uccle 76.77 6 *d*P **P** **18 03 01.8 +0.7**
KSP Ksiaz 76.95 358 *e*P **P** **18 03 03.2 +1.1**
BRG Berggiesshubel 76.95 359 *e*P **P** **18 03 02.7 +0.6**
BRG Amp 18 03 05.7
comp=Z,31nm,1.1s
BRG Berggiesshubel 76.95 359 S S 18 13 00.0 +11
CHGR Chuyangaron 76.97 318 P **P** **18 03 03.1 +0.5**
SIMJ Simiganj 77.03 318 P **P** **18 03 03.4 +0.5**
MEM Membach 77.05 5 *d*P **P** **18 03 03.5 +0.8**
comp=Z,23nm,1.3s
BSTI Sart Tilman 77.05 5 *d*P **P** **18 03 03.9 +1.2**
BTNL Ternell 77.08 5 *d*P **P** **18 03 03.2 +0.3**
comp=Z,24nm,1.2s
TBI Tubuai 77.09 164 *e*S **S** **18 12 50.1 -0.7**
comp=Z,1µm,31.2s
TBI *e*SS **SS** **18 17 47.2 -1.8**
comp=Z,587nm,26.5s
TBI *e*LQ LQ 18 23 03.3
comp=Z,549nm,20.8s
TBI *e*LR LR 18 26 32.3
comp=Z,5µm,30.0s
TBI *e*LR LR 18 26 36.9
comp=Z,2µm,28.8s
MOX Moxa 77.18 1 *e*L L 18 41 51.6
comp=Z,407nm,19.3s
CHVC Chvalec 77.21 358 *e*P **P** **18 03 05.3 +1.7**
CHVC AMS AMS 18 47 00.0
comp=Z,800nm,17.3s
CHVC Chvalec 77.21 358 *e*P **P** **18 03 05.3 +1.7**
CHVC MLR MLR
comp=Z,800nm,17.3s
BGES Gesves 77.22 5 *d*P **P** **18 03 03.9 +0.3**
comp=Z,14nm,1.1s
OSTC Ostas 77.24 358 *e*P **P** **18 03 05.3 +1.5**
OSTC *e*S **S** **18 12 54.7 +2.4**
OSTC AMS AMS 18 47 30.0
comp=Z,900nm,16.4s
OSTC Ostas 77.24 358 *e*P **P** **18 03 05.3 +1.5**
OSTC *e*S **S** **18 12 54.7 +2.4**
OSTC MLR MLR
comp=Z,900nm,16.4s
RICC Richard 77.28 359 *e*P **P** **18 03 05.9 +1.9**
BMRD Maredsous 77.28 5 *d*P **P** **18 03 05.0 +1.0**
comp=Z,23nm,1.1s
UPC Upice 77.29 358 *e*P **P** **18 03 05.4 +1.3**
UPC *e*S **S** **18 12 55.7 +2.8**
UPC AMS AMS 18 47 10.0
comp=Z,900nm,15.8s
UPC Upice 77.29 358 *e*P **P** **18 03 05.4 +1.3**
UPC *e*S **S** **18 12 55.7 +2.8**
UPC MLR MLR
comp=Z,900nm,15.8s
PVCC Panska Ves 77.30 359 *e*P **P** **18 03 05.8 +1.7**
PVCC AMS AMS 18 43 50.0
comp=Z,500nm,19.1s
PVCC Panska Ves 77.30 359 *e*P **P** **18 03 05.8 +1.7**
PVCC MLR MLR
comp=Z,500nm,19.1s
BHOU Houvegnez 77.30 5 *d*P **P** **18 03 05.8 +1.6**
comp=Z,8.9nm,1.3s
DPC Dobruska-Polom 77.44 358 *e*P **P** **18 03 07.0 +2.0**
DPC *e*S **S** **18 13 01.9 +7.3**
DPC AMS AMS 18 47 30.0
comp=Z,700nm,16.5s
DPC Dobruska-Polom 77.44 358 *e*P **P** **18 03 07.0 +2.0**
DPC *e*S **S** **18 13 01.9 +7.3**
DPC MLR MLR
comp=Z,700nm,16.5s
OJC Ojcow 77.46 356 *e*P **P** **18 03 06.6 +1.6**
RCHB Rochefort 77.46 5 *d*P **P** **18 03 05.3 +0.3**
comp=Z,21nm,1.2s
DOU Dourbes 77.48 6 *d*P **P** **18 03 05.8 +0.7**
comp=Z,12nm,1.2s
KRLC Kraliky 77.71 358 *e*P **P** **18 03 08.1 +1.6**
KRLC *e*S **SKSac** **18 13 12.6 -6.4**
KRLC AMS AMS 18 47 40.0
comp=Z,400nm,15.5s
KRLC Kraliky 77.71 358 *e*P **P** **18 03 08.1 +1.6**
KRLC *e*S **SKSac** **18 13 12.6 -6.4**
KRLC MLR MLR
comp=Z,400nm,15.5s
PRA Prague 77.75 359 AMS AMS 18 47 40.0
comp=Z,600nm,15.3s
CHTO Chiang Mai 77.78 285 P **P** **18 03 05.2 -2.1**
CHTO IAmb IAmb 18 03 26.1
comp=Z,17nm,1.3s
CHTO Chiang Mai 77.78 285 P **P** **18 03 05.2 -2.1**
CHTO pmax pmax
comp=Z,17nm,1.3s
PRU Pruhonice 77.84 359 *e*P **P** **18 03 09.1 +2.0**
PRU *e*S **S** **18 13 06.9 +8.2**
PRU AMS AMS 18 47 30.0
comp=Z,500nm,16.5s
PRU Pruhonice 77.84 359 *e*P **P** **18 03 09.1 +2.0**
PRU *e*S **S** **18 13 06.9 +8.2**
PRU MLR MLR
comp=Z,500nm,16.5s
DZM Mont Dzumac 77.85 205 *e*S **S** **18 13 01.1 +1.6**
comp=Z,255nm,25.6s
DZM *e*SS **SS** **18 18 05.7 +4.9**
comp=Z,168nm,25.6s
DZM *e*LR LR 18 27 16.8
comp=Z,786nm,27.9s
OKC Ostrava-Krasne 77.91 357 *e*P **P** **18 03 09.5 +2.0**
OKC *e*S **S** **18 13 00.4 +0.9**
OKC AMS AMS 18 48 00.0
comp=Z,600nm,14.1s
OKC Ostrava-Krasne 77.91 357 *e*P **P** **18 03 09.5 +2.0**
OKC *e*S **S** **18 13 00.4 +0.9**
OKC MLR MLR
comp=Z,600nm,14.1s
MORC Moravsky Berou 77.99 357 *e*P **P** **18 03 08.8 +0.8**
MORC Moravsky Berou 77.99 357 ⇑P **P** **18 03 09.2 +1.1**
MORC Moravsky Berou 77.99 357 P **P** **18 03 09.1 +1.1**
WLF Walferdange 78.00 5 *d*P **P** **18 03 08.1 +0.1**
comp=Z,14nm,1.3s
CMAR Chiang Mai Arr 78.05 285 P **P** **18 03 09.6 +0.8**
comp=Z,8.2nm,0.9s,baz=23,slow=5.5,SNR=39
CMAR LR LR 18 41 57.5
comp=Z,400nm,18.0s,baz=40,slow=39
comp=Z,8.2nm,0.9s
GRF Grafenberg Arr 78.13 1 *e*P **P** **18 03 10.2 +1.5**
comp=Z,67nm,1.2s,baz=359,slow=5.0
GRF *e*L L 18 38 33.7
comp=Z,408nm,19.9s
NIE Niedzica 78.23 355 *e*P **P** **18 03 11.0 +1.6**
ZVC Zvikov 78.39 359 *e*P **P** **18 03 11.2 +1.0**
ZVC *e*S S 18 13 14.6 +10
ZVC AMS AMS 18 48 00.0
comp=Z,700nm,14.4s
VRAC Vranov 78.48 358 LR LR 18 37 39.8
comp=Z,224nm,20.1s,baz=6.0,slow=36
VRAC Vranov 78.48 358 *e*P **P** **18 03 12.0 +1.3**
VRAC Vranov 78.48 358 ⇓P **P** **18 03 11.7 +0.9**
VRAC Vranov 78.48 358 P **P** **18 03 11.6 +0.9**
TREC Trest 78.52 358 AMS AMS 18 48 00.0
comp=Z,800nm,15.2s
LANS Liptovska Anna 78.54 356 *e*P **P** **18 03 13.0 +1.9**
LANS pmax pmax
comp=Z,44nm,1.0s
KOLS Kolonicke sedl 78.60 354 *e*P **P** **18 03 13.5 +2.1**
KOLS pmax pmax
comp=Z,27nm,1.0s
KHC Kasperske Hory 78.70 360 *e*P **P** **18 03 13.8 +1.8**
KHC *e*S **S** **18 13 16.5 +8.4**
KHC AMS AMS 18 41 10.0
comp=Z,500nm,16.4s
KHC Kasperske Hory 78.70 360 *e*P **P** **18 03 13.8 +1.8**
KHC *e*S **S** **18 13 16.5 +8.4**
KHC MLR MLR
comp=Z,500nm,16.4s
KRUC Moravsky 78.73 358 *e*P **P** **18 03 12.6 +0.5**
SORM Soroca 78.86 350 ⇑P **P** **18 03 12.9 +0.2**
SORM Soroca 78.86 350 P **P** **18 03 12.9 +0.2**
JAVC Velka Javorina 78.90 357 *e*P **P** **18 03 14.9 +1.8**
BRDH Bariadhala 78.97 293 LR LR 18 41 55.4
comp=Z,585nm,18.6s,baz=85,slow=39
GERES GERESS Array B 78.99 360 P **P** **18 03 15.1 +1.5**
comp=Z,7.4nm,0.8s,baz=357,slow=4.5,SNR=33
comp=Z,7.4nm,0.8s
CKRC Cesky Krumlov 79.01 359 *e*P **P** **18 03 15.4 +1.8**
CKRC *e*S **S** **18 13 19.5 +8.1**
CKRC AMS AMS 18 48 50.0
comp=Z,800nm,15.2s
CKRC Cesky Krumlov 79.01 359 *e*P **P** **18 03 15.4 +1.8**
CKRC *e*S **S** **18 13 19.5 +8.1**
CKRC MLR MLR
comp=Z,800nm,15.2s
KECS Kecovo 79.15 355 *e*P **P** **18 03 16.6 +2.2**
KECS pmax pmax
comp=Z,79nm,1.2s
SMOL Smolenice 79.25 357 *e*P **P** **18 03 16.8 +1.9**
SMOL pmax pmax
comp=Z,28nm,1.2s
ERBR Yeremizino-Bor 79.34 341 *e*P **P** **18 03 14.9 -0.6**
ERBR *e*S **S** **18 13 13.2 -1.8**
ERBR pmax pmax
comp=Z,165nm,1.2s
MODS Modra-Piesok 79.40 357 *e*P **P** **18 03 17.9 +2.1**
MODS pmax pmax
comp=Z,83nm,1.2s
BFO Black Forest 79.42 3 P **P** **18 03 17.1 +1.2**
GOF Gofitskoye 79.43 339 *ce*P **P** **18 03 17.2 +1.2**
ECH Echery 79.49 4 P **P** **18 03 17.5 +1.2**
ZST Bratislava 79.58 357 *e*P **P** **18 03 21.3 +4.6**
ZST pmax pmax
comp=Z,6.0nm,1.0s
BURAR Bucovina Array 79.69 352 ⇑P **P** **18 03 17.7 +0.3**
BURAR Bucovina Array 79.69 352 P **P** **18 03 17.7 +0.3**
PSZ Piszkesteto 79.75 355 ⇑P **P** **18 03 18.0 +0.3**
PSZ Piszkesteto 79.75 355 P **P** **18 03 18.0 +0.3**
CONA Conrad Observa 79.88 358 *i* pP **P** **18 03 19.8 +1.3**
comp=Z,58nm,1.2s,SNR=23
SRO Srobarova 79.92 356 *e*P **P** **18 03 21.9 +3.3**
SRO pmax pmax
comp=Z,78nm,1.5s
KIS Kishinev 79.93 349 *e*P **P** **18 03 19.0 +0.4**
KIS *e*L L 18 46 23.0
comp=Z,400nm,16.5s
KIS Kishinev 79.93 349 *e*P **P** **18 03 19.0 +0.4**
MOA Molln 79.98 359 *i* pP **P** **18 03 19.7 +0.8**
comp=Z,26nm,1.4s,SNR=8.8
MILM Milestii Mici 80.01 349 ⇑P **P** **18 03 19.2 +0.1**
MILM Milestii Mici 80.01 349 ⇑*i*P **P** **18 03 18.7 -0.3**
comp=Z,110nm,1.4s
MILM *e*L L 18 37 19.0
MILM LRM MLR 18 46 26.0
comp=Z,1µm,16.5s
MILM Milestii Mici 80.01 349 *c i*P **P** **18 03 18.7 -0.3**
MILM pmax pmax
comp=Z,110nm,1.4s
RONA Rosalia, Austr 80.10 358 *i* pP **P** **18 03 21.0 +1.4**
comp=Z,39nm,1.3s,SNR=11
BIOA Bad Ischl, Aus 80.14 360 *i* pP **P** **18 03 20.5 +0.7**
comp=Z,33nm,1.3s,SNR=9.6
ARCR ARCALIA 80.28 352 ⇑P **P** **18 03 21.6 +1.1**
LABN Labinsk 80.32 340 *e*P **P** **18 03 23.4 +2.6**
LABN *e*S **S** **18 13 29.1 +3.8**
LABN pmax pmax
comp=Z,87nm,1.3s
RKT Rikitea 80.32 150 *e*LR LR 18 28 11.8
comp=Z,5µm,30.8s
RETA Reutte 80.33 2 *i* pP **P** **18 03 21.4 +0.5**
comp=Z,25nm,1.2s,SNR=9.4
MESR Meseseni 80.33 353 ⇑P **P** **18 03 22.4 +1.6**
MAK Makhachkala 80.34 335 *c i*P P 18 03 15.4 -5.5
MAK *e*S S 18 13 15.6 -10
MAK *e*SSS SSS 18 21 55.0
MAK pmax pmax
comp=Z,78nm,1.0s
VASR Vaslui 80.40 350 ⇑P **P** **18 03 22.7 +1.6**
LESA Schwarzleotal 80.41 0 *i* pP **P** **18 03 23.3 +2.0**
comp=Z,34nm,1.4s,SNR=12
MOTA Moosalm 80.47 1 *i* pP **P** **18 03 22.3 +0.5**
comp=Z,66nm,1.2s,SNR=18
WATA Walderalm 80.49 1 *i* pP **P** **18 03 22.8 +1.0**
comp=Z,57nm,1.2s,SNR=13
DAVA Damuels 80.51 2 *i* pP **P** **18 03 22.7 +0.8**
comp=Z,20nm,1.6s
KIV Kislovodsk 80.56 339 ⇑P **P** **18 03 23.6 +1.4**
KIV Kislovodsk 80.56 339 *e*P **P** **18 03 23.1 +0.9**
KIV *e*PPP PPP 18 08 14.6
KIV *e*S **S** **18 13 29.3 +1.2**
KIV *e*SS **SS** **18 18 40.9 +2.0**
KIV *e*SSS SSS 18 22 07.8
KIV pmax pmax
comp=Z,101nm,4.3s
KIV pmax pmax
comp=Z,36nm,1.1s
ARSA Arzberg 80.56 358 *i* pP **P** **18 03 23.6 +1.5**
comp=Z,50nm,1.3s,SNR=17
WTTA Wattenberg 80.56 1 *i* pP **P** **18 03 23.5 +1.2**
comp=Z,39nm,1.2s,SNR=13
SQTA Sankt Quirin 80.60 1 *i* pP **P** **18 03 23.7 +1.3**
comp=Z,71nm,1.2s,SNR=20
TESR Tescani 80.64 351 ⇑P **P** **18 03 23.2 +0.7**
DRGR 80.70 353 ⇑P **P** **18 03 23.9 +0.9**
DRGR 80.70 353 P **P** **18 03 23.8 +0.9**
CJR Cluj-Napoca 80.71 353 ⇑P **P** **18 03 24.0 +1.0**
CJR Cluj-Napoca 80.71 353 P **P** **18 03 23.9 +1.0**
KBZ Khabaz 80.72 339 P **P** **18 03 24.6 +1.7**
comp=Z,23nm,1.2s,baz=15,slow=3.7,SNR=18
KBZ LR LR 18 45 07.5
comp=Z,659nm,18.0s,baz=23,slow=40
comp=Z,23nm,1.2s
KBZ Khabaz 80.72 339 *c i*P **P** **18 03 24.2 +1.3**
KBZ pmax pmax
comp=Z,33nm,1.4s
KBA Koelnbreinsper 80.76 360 *i* pP **P** **18 03 24.3 +0.9**
comp=Z,101nm,1.1s,SNR=18
MARR Marisel-Cluj 80.79 353 ⇑P **P** **18 03 24.4 +1.0**
FETA Feichten 80.79 2 *i* pP **P** **18 03 24.4 +0.9**
comp=Z,41nm,1.3s,SNR=23
ANN Anapa 80.80 343 *e*P **P** **18 03 24.3 +1.0**
ANN *e*S **S** **18 13 33.4 +3.1**
ANN pmax pmax
comp=Z,57nm,1.1s
ONER Baraj Valea Uz 80.84 351 ⇑P **P** **18 03 25.1 +1.5**
GHRR 81.01 350 ⇑P **P** **18 03 25.0 +0.6**
DAVOX Davos/Dischmat 81.02 2 LR LR 18 40 44.6
comp=Z,363nm,19.7s,baz=358,slow=37
ABTA Abfaltersbach 81.08 0 *i* pP **P** **18 03 25.5 +0.6**
comp=Z,57nm,1.2s,SNR=19
OZUR 81.14 351 ⇑P **P** **18 03 26.7 +1.5**
SOKA Soboth 81.14 359 *i* pP **P** **18 03 26.2 +0.9**
comp=Z,84nm,1.2s,SNR=37
TURR Turia 81.16 351 ⇑P **P** **18 03 27.0 +1.7**
PERS Pernice 81.18 359 *i* P **P** **18 03 26.7 +1.2**
MYKA Terra Mystica 81.20 360 *i* pP **P** **18 03 27.0 +1.4**
comp=Z,35nm,1.3s,SNR=9.4
SIM Simferopol' 81.22 345 *e*P **P** **18 03 27.8 +2.2**
SIM *e*S **S** **18 13 32.5 -2.2**
SIM pmax pmax
comp=Z,52nm,1.4s
VRI Vrincioaia 81.28 350 ⇑P **P** **18 03 27.0 +1.0**
VRI Vrincioaia 81.28 350 P **P** **18 03 26.9 +1.0**
SIRR Siria 81.29 354 ⇑P **P** **18 03 27.4 +1.4**
PLOR Plostina 81.30 350 ⇑P **P** **18 03 27.2 +1.2**
PLOR Plostina 81.30 350 P **P** **18 03 27.2 +1.2**
DOPR Dopca 81.30 351 ⇑P **P** **18 03 27.0 +0.9**
OBKA Obir 81.32 359 *i* pP **P** **18 03 26.8 +0.6**
comp=Z,26nm,0.8s,SNR=9.2
COVR Voineasa-Covas 81.35 351 ⇑P **P** **18 03 27.9 +1.6**
IZVR Izvoarele 81.48 350 ⇑P **P** **18 03 28.8 +1.9**
SOC Sochi 81.54 341 *e*P **P** **18 03 28.0 +0.7**
SOC *e* 18 06 31.0
SOC *e*PPP PPP 18 08 23.0
SOC *e*S **S** **18 13 39.0 +0.9**
SOC *e*SS **SS** **18 18 57.1 +3.8**
SOC *e*SSS SSS 18 22 18.1
SOC pmax pmax
comp=Z,41nm,0.8s
BISRR Bisoca 81.59 350 ⇑P **P** **18 03 29.1 +1.4**
CADS Cadrg 81.61 360 *i* P **P** **18 03 28.6 +1.0**
AKT Akhty 81.67 334 *e*P **P** **18 03 28.6 +0.4**
AKT *e* 18 03 34.6
AKT pmax pmax
comp=Z,76nm,1.4s
MLR Muntele Rosu 81.72 351 LR LR 18 42 43.9
comp=Z,828nm,18.4s,baz=17,slow=38
MLR Muntele Rosu 81.72 351 ⇑P **P** **18 03 29.9 +1.4**
MLR Muntele Rosu 81.72 351 P **P** **18 03 29.8 +1.4**
NEHR Nehoiu 81.75 351 ⇑P **P** **18 03 30.2 +1.7**
SURR Surduc 81.78 354 ⇑P **P** **18 03 29.2 +0.7**
LJU Ljubljana 81.78 359 *i* P **P** **18 03 29.6 +1.0**
CFR Carcaliu 81.80 349 ⇑P **P** **18 03 29.1 +0.4**
CFR Carcaliu 81.80 349 P **P** **18 03 29.0 +0.4**
VOIR 81.86 352 ⇑P **P** **18 03 30.3 +1.2**
VOIR 81.86 352 P **P** **18 03 30.3 +1.2**
BZS Buzias 81.94 354 ⇑P **P** **18 03 30.5 +1.0**
BZS Buzias 81.94 354 P **P** **18 03 30.4 +1.0**
LOT Lotru 81.96 352 ⇓P **P** **18 03 29.6 0.0**
ARR Arges 81.97 352 ⇑P **P** **18 03 31.0 +1.4**
RAO Raoul Island 82.02 190 LR LR 18 37 32.1
comp=Z,273nm,18.5s,baz=14,slow=34
GZR Gura Zlata 82.09 353 ⇑P **P** **18 03 30.7 +0.4**
GZR Gura Zlata 82.09 353 P **P** **18 03 30.7 +0.4**
TPGR Topolog 82.09 349 ⇑P **P** **18 03 30.9 +0.7**
SJG San Juan 82.16 71 LR LR 18 41 29.3
comp=Z,368nm,19.1s,baz=2.0,slow=37
HARR Harsova 82.31 349 ⇑P **P** **18 03 31.7 +0.4**
HARR Harsova 82.31 349 P **P** **18 03 31.7 +0.4**
TIRR Tirgusor 82.48 349 ⇑P **P** **18 03 32.4 +0.2**
TIRR Tirgusor 82.48 349 P **P** **18 03 32.4 +0.2**
TRLG Trialeti 82.53 337 P **P** **18 03 32.2 -0.6**
MDVR Moldovita 82.77 354 ⇑P **P** **18 03 34.7 +0.9**
GNI Garni 83.69 336 P **P** **18 03 41.1 +2.3**
BOVS Bovan 83.91 354 ⇑P **P** **18 03 40.0 +0.3**
PLVB Pleven 83.93 352 ⇑P **P** **18 03 41.0 +1.2**
KAPI Kappang 83.95 254 LR LR 18 36 02.8
comp=Z,148nm,21.8s,baz=40,slow=32
MPEP Malo Peshtene 84.04 352 P **P** **18 03 42.0 +1.7**
PVL Pavlikeni 84.14 351 P **P** **18 03 40.5 -0.3**
ELND Elena 84.27 351 ⇓P **P** **18 03 41.9 +0.4**
VTS Vitosha 84.81 353 P **P** **18 03 43.9 -0.5**
PLNA Plana 84.94 352 P **P** **18 03 45.6 +0.6**
PDG Podgorica 85.25 355 ⇑P **P** **18 03 46.5 +0.1**
SKO Skopje 85.59 354 *i* P **P** **18 03 50.3 +2.2**
KDZ Kurdzhali 85.61 351 P **P** **18 03 48.1 -0.1**
SAHE Sakarya_HENDEK 85.72 347 ⇓P **P** **18 03 49.6 +0.8**
MMB Musomishta 85.83 352 P **P** **18 03 50.3 +0.9**
BATI Baumata 85.89 248 LR LR 18 38 00.7
comp=Z,151nm,21.0s,baz=40,slow=33
VAY Valandovo 86.15 353 *i* P **P** **18 03 52.2 +1.3**
ANTO Ankara 86.39 345 ⇑P **P** **18 03 54.3 +2.0**
ANTO Ankara 86.39 345 P **P** **18 03 54.2 +2.0**
BRTR Keskin Array B 86.39 344 P **P** **18 03 53.6 +1.3**
comp=Z,9.8nm,0.8s,baz=29,slow=2.3,SNR=51
comp=Z,9.8nm,0.8s
OHR Ohrid 86.48 354 *i* P **P** **18 03 54.3 +1.7**
BAND Balkesir-Ban 86.57 349 ⇑P **P** **18 03 53.9 +1.0**
KIRS Kirsehir-Merke 86.92 344 ⇓P **P** **18 03 56.7 +1.8**
ESDC Sonseca Array 86.97 13 P **P** **18 03 55.5 +0.5**
comp=Z,4.9nm,0.9s,baz=346,slow=4.6,SNR=16
ESDC LR LR 18 45 25.1
comp=Z,576nm,18.1s,baz=340,slow=38
comp=Z,4.9nm,0.9s
PARRA Arraiolos 87.00 17 *e*P **P** **18 03 57.5 +2.4**
EZN Ezine 87.29 350 ⇑P **P** **18 03 57.0 +0.5**
EZN Ezine 87.29 350 P **P** **18 03 57.0 +0.5**
EVO Evora 87.45 16 *e*P **P** **18 03 58.6 +1.3**
ROSC El Rosal 87.76 85 LR LR 18 44 18.2
comp=Z,148nm,21.6s,baz=52,slow=36
PBAR Barrancos 87.97 16 *e*P **P** **18 04 01.3 +1.5**
WRA Warramunga Arr 88.32 234 P **P** **18 04 01.0 -0.5**
comp=Z,1.8nm,1.1s,baz=37,slow=5.2,SNR=6.3
WRA LR LR 18 38 31.1
comp=Z,189nm,21.3s,baz=16,slow=32
comp=Z,1.8nm,1.1s
MORF Marmelete 88.53 17 *e*P **P** **18 04 04.2 +1.6**
PCRV Puerto La Cruz 89.34 74 LR LR 18 43 50.7
comp=Z,661nm,20.9s,slow=35
URZ Urewera 91.50 193 LR LR 18 43 26.9
comp=Z,418nm,18.1s,baz=18,slow=34
ASAR Alice Springs 91.69 232 P **P** **18 04 18.2 +1.0**
comp=Z,1.9nm,0.7s,baz=27,slow=4.8,SNR=16
ASAR LR LR 18 39 57.7
comp=Z,213nm,21.7s,baz=24,slow=32
comp=Z,1.9nm,0.7s
IDI Anoyia 91.93 350 LR LR 18 49 07.6
comp=Z,316nm,19.3s,baz=318,slow=38
KEST Kesra 92.03 3 P **P** **18 04 21.2 +2.3**
comp=Z,2.2nm,0.7s,baz=326,slow=3.6,SNR=2.4
comp=Z,2.2nm,0.7s
MMAI Mount Meron Ar 92.60 341 P **P** **18 04 22.9 +1.3**
comp=Z,2.9nm,0.6s,baz=34,slow=6.1,SNR=4.3
MMAI LR LR 18 54 34.5
comp=Z,297nm,18.0s,baz=10,slow=41
comp=Z,2.9nm,0.6s
LEM Lembang 92.63 262 LR LR 18 42 52.8
comp=Z,190nm,21.7s,baz=23,slow=34
KRJI Kerinci 92.66 270 P P 18 04 30.4 +8.3
MDT Midelt 93.60 15 LR LR 18 53 37.4
comp=Z,138nm,18.2s,baz=0.5,slow=40
RPN Rapa Nui 93.85 131 LR LR 18 42 34.7
comp=Z,238nm,18.2s,baz=326,slow=33
STKA Stephens Creek 95.33 222 P **P** **18 04 34.8 +1.1**
comp=Z,1.8nm,0.8s,baz=315,slow=1.3,SNR=3.7
STKA LR LR 18 42 31.1
comp=Z,159nm,21.1s,baz=21,slow=32
comp=Z,1.8nm,0.8s
EIL Elat 95.94 341 LR LR 18 53 48.6
comp=Z,333nm,18.5s,baz=346,slow=39
PALK Pallekele 97.55 292 LR LR 18 53 29.2
comp=Z,240nm,20.6s,baz=32,slow=38
RPZ Rata Peaks 97.75 196 LR LR 18 44 09.0
comp=Z,254nm,20.4s,baz=346,slow=32
RAYN Ar Rayn 99.16 330 P **Pdif** **18 04 52.0 +0.5**
QSPA South Pole Qui 142.31 180 PKhKP PKPpre 18 10 38.2
comp=Z,2.3nm,0.8s,baz=311,slow=1.4,SNR=8.8
SOOWA Sowa 146.50 337 *i* P **PKiKP** **18 10 53.5 -0.7**
BROLN Tlhalogang 146.74 335 *i* P **PKPab** **18 10 53.3 +0.1**
GRTLG Ghanzi 148.25 346 *i* P **PKiKP** **18 10 57.8 -0.1**
LPHEP Lephephe 149.28 337 *i* P **PKiKP** **18 10 59.9 0.0**
KGCAE Kacgae 149.55 343 *i* P **PKiKP** **18 11 00.9 +0.4**
KDWAN Kaudwane 149.57 339 *i* P **PKiKP** **18 11 00.7 +0.2**
KOOLE Kule 150.00 347 *i* P **PKiKP** **18 11 01.8 +0.4**
SKOMA Sekoma 150.83 339 *i* P **PKPbc** **18 11 02.2 -0.2**
MAW Mawson 151.96 218 PKPbc **PKPbc** **18 11 03.0 -0.5**

comp=Z,5.0nm,0.8s,baz=30,slow=3.7,SNR=12
BOSA Boshof 154.45 335 PKPab **PKPab 18 11 22.6 -2.1**
comp=Z,9.3nm,0.9s,baz=9.3,slow=3.1,SNR=6.1
SYO Syowa Base 159.33 207⇑*e*PKPdf **PKPdf 18 11 08.0 +1.2**
SNAA Sanae 159.54 166 PKP **PKPdf 18 11 06.0 -1.1**
comp=Z,0.7nm,0.8s,baz=189,slow=3.9,SNR=3.8
SNAA PKPab **PKPab 18 11 44.1 -1.4**
comp=Z,1.4nm,0.8s,baz=231,slow=6.9,SNR=4.2

*IDC **23** 17:56:37.9±30.0, 52˚.60N×166˚.35W, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=723.9km s-min=40.6km az=160.0*
*NEIC **23** 17:56:39.3±0.9, 52˚.46N±0˚.07×166˚.75W±0˚.08, h10km±2km, ML3.5/12, ML3.4(AEIC), Error ellipse: s-maj=12.5km s-min=5.9km az=149.0*
*AEIC **23** 17:56:41.7±1.2, 52˚.49N±0˚.08×166˚.78W±0˚.09, h25km±7km, Error ellipse: s-maj=12.3km s-min=5.7km az=152.0*
ISC 23 17:56:39.6±2.3, 52˚.52N±0˚.08×166˚.68W±0˚.06, h11km±12km, n26, σ0 91/31, mb3.8/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**1.16**	**320**		**Pb**	**17 57 01.3**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**1.19**	**317**		**Sn**	**17 57 18.6**	**+0.1**
OKNC	**Okmok New Cone**	**1.28**	**317**		**Pn**	**17 57 03.4**	**-0.1**
OKNC					**Sg**	**17 57 20.9**	**+0.1**
MAPS	**Pakushin South**	**1.30**	**353**		**Pg**	**17 57 04.3**	**-0.2**
UNV	**Unalaska Valle**	**1.33**	**4**	Pn	**Pn**	**17 57 03.8**	**-0.3**
OKRE	**Okmok R'deer P**	**1.34**	**319**		**Pn**	**17 57 04.1**	**-0.2**
MNAT	**Makushin Natee**	**1.36**	**360**		**Pb**	**17 57 05.3**	**+0.2**
MSW	**Makushin Switc**	**1.40**	**357**		**Pb**	**17 57 05.9**	**+0.2**
MSW					**Sn**	**17 57 23.9**	**+0.4**
NIKH	**Nikolski High**	**1.40**	**290**		**Pn**	**17 57 04.1**	**-0.9**
NIKH					**Sn**	**17 57 22.4**	**-1.1**
AKMO	**Akutan Morgan**	**1.62**	**14**		**Pb**	**17 57 09.6**	**+0.1**
AKMO					**Sb**	**17 57 30.6**	**+0.6**
AKRB	**Akutan Reef Bi**	**1.65**	**13**		**Pb**	**17 57 09.8**	**-0.3**
LVA	**Lava Point**	**1.69**	**13**		**Sn**	**17 57 27.5**	**-3.1**
AKUT	**Akutan**	**1.70**	**18**	Pn	**Pn**	**17 57 09.1**	**-0.2**
AKGG	**Akutan Green G**	**1.73**	**13**		**Pb**	**17 57 10.9**	**-0.5**
AKGG					**Sb**	**17 57 33.3**	**+0.2**
CLCO	**Concord Point,**	**1.87**	**279**		**Pn**	**17 57 10.9**	**-0.7**
CLES	**Cleveland East**	**1.98**	**280**		**Pn**	**17 57 12.3**	**-0.7**
FALS	**False Pass**	**3.04**	**38**	Pn	**Pn**	**17 57 27.3**	**-0.2**
ATKA	**Atka Island**	**4.62**	**269**	Pn	**Pn**	**17 57 48.1**	**-1.2**
ATKA				IAML		17 58 59.2	
	comp=E,31nm,1.1s						
ATKA				IAML		17 59 35.8	
	comp=N,32nm,1.1s						
ADK	**Adak**	**6.19**	**268**	Pn	**Pn**	**17 58 10.4**	**-0.4**
KIWB	**Kanaga Island**	**6.48**	**268**	Pn	**Pn**	**17 58 15.0**	**+0.2**
PETK	**Petropavlovsk-**	**21.41**	**286**	P	**P**	**18 01 29.6**	**+2.4**
	comp=N,2.0nm,0.8s,baz=82,slow=13,SNR=8.0						
	comp=N,2.0nm,0.8s						
SONM	**Songino Array**	**52.62**	**302**	P	**P**	**18 05 53.8**	**+0.4**
	comp=N,0.5nm,0.7s,baz=58,slow=8.7,SNR=2.1						
	comp=N,0.5nm,0.7s						
MKAR	**Makanchi Array**	**64.88**	**315**	P	**P**	**18 07 18.7**	**+0.1**
	comp=N,0.5nm,0.8s,baz=50,slow=7.8,SNR=2.7						
	comp=N,0.5nm,0.8s						
FINES	**FINESS Array B**	**65.93**	**353**	P	**P**	**18 07 24.4**	**-0.6**
	comp=N,1.4nm,0.8s,baz=32,slow=11,SNR=3.4						
	comp=N,1.4nm,0.8s						
NOA	**NORSAR Array B**	**66.77**	**1**	P	**P**	**18 07 30.2**	**-0.3**
	comp=N,0.5nm,0.7s,baz=349,slow=5.0,SNR=1.1						
	comp=N,0.5nm,0.7s						
HFS	**Hagfors**	**67.69**	**360**	P	**P**	**18 07 36.6**	**+0.2**
	comp=N,0.9nm,0.7s,baz=358,slow=4.3,SNR=1.7						
	comp=N,0.9nm,0.7s						

*NEIC **23** 17:56:54.9±0.8, 52˚.4N±0˚.1×166˚.80W±0˚.10, h10km±2km, mb4.0/17, ML3.6/10, Error ellipse: s-maj=20.4km s-min=3.3km az=152.0*
*IDC **23** 17:56:54.7±1.3, 52˚.56N×166˚.98W, h0km, mb4.1/21, mbtmp4.1/22, ML3.1/1, Error ellipse: s-maj=33.9km s-min=17.5km az=178.0*
ISC 23 17:56:55.9±0.9, 52˚.5N±0˚.1×166˚.93W±0˚.08, h10km, n52, σ0 77/52, mb4.2/22, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.27**	**294**	Pn	**Pn**	**17 57 19.2**	**-0.5**
NIKH				IAML		17 57 41.3	
	comp=E,1μm,0.7s						
NIKH				IAML		17 57 47.3	
	comp=N,1μm,0.9s						
UNV	**Unalaska Valle**	**1.41**	**10**	Pn	**Pn**	**17 57 21.8**	**+0.3**
LVA	**Lava Point**	**1.78**	**17**		**Pn**	**17 57 26.7**	**0.0**
LVA				IAML		17 57 60.0	
	comp=N,1μm,0.8s						
LVA				IAML		17 58 00.0	
	comp=E,779nm,0.8s						
AKUT	**Akutan**	**1.81**	**22**	Pn	**Pn**	**17 57 26.6**	**-0.5**
AKUT				IAML		17 58 03.9	
	comp=N,251nm,1.1s						
AKUT				IAML		17 58 09.2	
	comp=E,265nm,0.6s						
CLES	**Cleveland East**	**1.84**	**282**	Pn	**Pn**	**17 57 27.9**	**+0.4**
CLES				IAML		17 57 54.6	
	comp=E,627nm,1.0s						
ADK	**Adak**	**6.03**	**268**	Pn	**Pn**	**17 58 24.9**	**0.0**
KIWB	**Kanaga Island**	**6.32**	**268**	Pn	**Pn**	**17 58 28.8**	**-0.2**
AMKA	**Amchitka**	**8.58**	**268**	Pn	**Pn**	**17 59 00.5**	**+0.5**
N15K	**Kwethluk River**	**8.60**	**23**	Pn	**Pn**	**17 58 59.9**	**-0.4**
OHAK	**Old Harbor**	**9.20**	**53**	Pn	**Pn**	**17 59 07.5**	**-0.8**
G21K	**Allakaket**	**15.59**	**20**	P	**P**	**18 00 40.6**	**+0.9**
ILAR	**Eielson Array**	**16.05**	**32**	Pn	**Pn**	**18 00 40.7**	**-0.7**
	comp=E,0.1nm,0.3s,baz=244,slow=12,SNR=1.4						
	comp=E,0.6nm,0.9s						
F21K	**Alatna River**	**16.20**	**19**		**Pn**	**18 00 44.5**	**+1.1**
C18K	**Utukok River**	**16.46**	**7**		**Pn**	**18 00 47.3**	**+0.6**
C18K				IAmb	IAmb	18 01 20.1	
	comp=Z,21nm,1.5s						
H24K	**Noodor Dome**	**16.48**	**28**	Pn	**Pn**	**18 00 45.3**	**-1.6**
H24K				IAmb	IAmb	18 01 11.8	
	comp=Z,19nm,1.4s						
G23K	**Bananza Creek**	**16.56**	**24**		**Pn**	**18 00 47.3**	**-0.6**
SCRK	**Sand Creek**	**16.58**	**37**		**Pn**	**18 00 47.7**	**-0.6**
M27K	**Edge Creek, AK**	**16.62**	**44**	Pn	**Pn**	**18 00 48.1**	**-0.7**
M27K				IAmb	IAmb	18 01 11.1	
	comp=Z,18nm,1.4s						
D19K	**Kuna River**	**16.62**	**11**	P	**P**	**18 00 52.6**	**+1.4**
D19K				IAmb	IAmb	18 01 24.7	
	comp=Z,14nm,1.4s						
O28M	**Mount Upton**	**16.80**	**50**	Pn	**Pn**	**18 00 49.9**	**-1.3**
O28M				IAmb	IAmb	18 01 27.8	
	comp=Z,19nm,1.3s						
D20K	**Etivluk River**	**17.02**	**13**		**P**	**18 00 55.5**	**0.0**
C19K	**Lookout Ridge**	**17.05**	**9**	P	**P**	**18 00 57.5**	**+1.6**
B21K	**Ikpikpuk River**	**18.14**	**14**		**P**	**18 01 07.9**	**+0.1**
B21K				IAmb	IAmb	18 01 09.8	
	comp=Z,7.0nm,0.7s						
BMAR	**Burnt Mountain**	**18.54**	**28**	P	**Pn**	**18 01 12.9**	**+0.5**
H29M	**Whitestone**	**19.79**	**35**	P	**P**	**18 01 25.4**	**-0.6**
H29M				IAmb	IAmb	18 01 45.0	
	comp=Z,19nm,1.4s						
M31M	**Drury Creek, Y**	**19.87**	**48**	P	**P**	**18 01 27.3**	**+0.4**
I30M	**Mount Dempster**	**20.05**	**39**	P	**P**	**18 01 28.4**	**-0.6**
I30M				IAmb	IAmb	18 01 37.5	
	comp=Z,11nm,1.4s						
PETK	**Petropavlovsk-**	**21.27**	**286**	P	**P**	**18 01 43.7**	**+1.6**
	comp=Z,4.3nm,0.4s,baz=81,slow=13,SNR=30						
	comp=Z,4.3nm,0.4s						
INK	**Inuvik**	**22.45**	**32**	P	**P**	**18 01 53.6**	**-1.0**
INK				IAmb	IAmb	18 02 17.2	
	comp=Z,4.9nm,1.0s						
INK	**Inuvik**	**22.45**	**32**	P	**P**	**18 01 53.3**	**-1.3**
	comp=Z,2.9nm,0.7s,baz=258,slow=9.3,SNR=2.1						
	comp=Z,2.9nm,0.7s						
SEY	**Seymchan**	**23.70**	**312**	P	**P**	**18 02 06.7**	**-0.8**
	comp=Z,2.1nm,0.5s,baz=349,slow=11,SNR=5.2						
	comp=Z,2.1nm,0.5s						
MA2	**Magadan**	**24.33**	**304**	P	**P**	**18 02 13.2**	**-0.2**
PDAR	**Pinedale Array**	**38.92**	**81**	P	**P**	**18 04 22.7**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=289,slow=10,SNR=4.0						
	comp=Z,0.7nm,0.8s						
SPITS	**Spitsbergen Ar**	**49.60**	**359**	P	**P**	**18 05 45.2**	**-1.3**
	comp=Z,8.6nm,1.0s,baz=4.0,slow=6.2,SNR=4.1						
	comp=Z,8.6nm,1.0s						
TXAR	**Lajitas Array**	**51.26**	**91**	P	**P**	**18 06 00.1**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=300,slow=5.2,SNR=4.4						
	comp=Z,0.7nm,0.7s						
SONM	**Songino Array**	**52.52**	**302**	P	**P**	**18 06 09.3**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=62,slow=8.6,SNR=2.9						
	comp=Z,0.5nm,0.5s						
ARCES	**ARCESS Array B**	**57.97**	**355**	P	**P**	**18 06 47.3**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=19,slow=7.7,SNR=7.7						
	comp=Z,2.7nm,0.9s						
ZALV	**Zalesovo Beam**	**58.34**	**319**	P	**P**	**18 06 49.8**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=37,slow=6.4,SNR=2.9						
	comp=Z,0.6nm,0.4s						
GTA	**Gaotai**	**61.75**	**299**	*e*P	**P**	**18 07 14.3**	**-0.2**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
KURBB	**Kurchatov Arra**	**63.39**	**320**	P	**P**	**18 07 25.0**	**0.0**
	comp=Z,1.6nm,0.8s,baz=49,slow=7.3,SNR=7.5						
	comp=Z,1.6nm,0.8s						
BVAR	**Borovoye Array**	**64.48**	**326**	P	**P**	**18 07 32.5**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=64,slow=6.8,SNR=5.9						
	comp=Z,1.8nm,0.6s						
MKAR	**Makanchi Array**	**64.81**	**315**	P	**P**	**18 07 33.9**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=49,slow=6.6,SNR=11						
	comp=Z,1.8nm,0.7s						
FINES	**FINESS Array B**	**65.97**	**353**	P	**P**	**18 07 41.4**	**-0.3**
	comp=Z,5.1nm,0.5s,baz=21,slow=7.5,SNR=25						
	comp=Z,5.1nm,0.5s						
NB2	**NORSAR Subarra**	**66.83**	**1**	P	**P**	**18 07 47.2**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=0.1,slow=6.2						
NOA	**NORSAR Array B**	**66.83**	**1**	P	**P**	**18 07 47.3**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=1.3,slow=6.3,SNR=4.4						
	comp=Z,0.8nm,0.6s						
HFS	**Hagfors**	**67.75**	**360**	P	**P**	**18 07 52.7**	**-0.4**
	comp=Z,4.2nm,0.4s,baz=29,slow=3.4,SNR=27						
	comp=Z,4.2nm,0.4s						
EKA	**Eskdalemuir Ar**	**71.73**	**10**	P	**P**	**18 08 17.1**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=351,slow=8.8,SNR=3.4						
	comp=Z,1.9nm,0.8s						
AKASG	**Malin Array Be**	**76.30**	**350**	P	**P**	**18 08 44.5**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=14,slow=5.6,SNR=8.9						
	comp=Z,1.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**78.04**	**285**	P	**P**	**18 08 53.7**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=60,slow=8.2,SNR=6.0						
	comp=Z,0.4nm,0.4s						
GERES	**GERESS Array B**	**79.06**	**360**	P	**P**	**18 09 00.6**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=20,slow=6.5,SNR=3.0						
	comp=Z,0.5nm,0.6s						
BRTR	**Keskin Array B**	**86.46**	**344**	P	**P**	**18 09 39.6**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=11,slow=1.4,SNR=5.9						
	comp=Z,1.3nm,0.7s						
ESDC	**Sonseca Array**	**87.05**	**13**	P	**P**	**18 09 41.7**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=353,slow=3.7,SNR=2.6						
	comp=Z,0.4nm,0.7s						

*NEIC **23** 17:58:59.9±0.9, 52˚.44N±0˚.06×166˚.82W±0˚.08, h10km±2km, ML3.1/12, ML2.9(AEIC), Error ellipse: s-maj=12.2km s-min=6.8km az=148.0*
*IDC **23** 17:59:00.5±10.0, 52˚.88N×166˚.69W, h0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=246.0km s-min=37.3km az=160.0*
*AEIC **23** 17:59:01.3±0.9, 52˚.40N±0˚.05×166˚.83W±0˚.06, h25km±4km, Error ellipse: s-maj=8.1km s-min=4.8km az=194.0*
ISC 23 17:59:00.1±4.0, 52˚.44N±0˚.08×166˚.79W±0˚.07, h11km±24km, n33, σ0 90/38, mb3.8/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**1.18**	**326**		**Pb**	**17 59 22.1**	**-0.5**
OKFG					**Sn**	**17 59 39.1**	**+0.4**
OKCE	**Okmok Cone E**	**1.29**	**320**		**Pn**	**17 59 23.6**	**-0.5**
OKCE					**Sb**	**17 59 41.3**	**+0.4**
OKNC	**Okmok New Cone**	**1.30**	**322**		**Pn**	**17 59 24.0**	**-0.2**
MGOD	**Makushin Gods**	**1.36**	**358**		**Pn**	**17 59 24.9**	**-0.2**
OKRE	**Okmok R'deer P**	**1.36**	**323**		**Pn**	**17 59 24.9**	**-0.2**
NIKH	**Nikolski High**	**1.36**	**294**		**Pn**	**17 59 24.4**	**-0.6**
NIKH					**Sn**	**17 59 43.1**	**+0.1**
NIKH	**Nikolski High**	**1.36**	**294**	IAML		17 59 50.2	
	comp=N,360nm,0.6s						
NIKH				IAML		17 59 53.2	
	comp=E,328nm,1.0s						
MAPS	**Pakushin South**	**1.37**	**356**		**Pn**	**17 59 25.2**	**0.0**
MREP	**Makushin Rep't**	**1.37**	**1**		**Pn**	**17 59 25.1**	**-0.1**
UNV	**Unalaska Valle**	**1.42**	**7**		**Pn**	**17 59 25.7**	**0.0**
UNV					**Sn**	**17 59 44.4**	**+0.1**
MNAT	**Makushin Natee**	**1.45**	**3**		**Pn**	**17 59 26.0**	**-0.2**
MSW	**Makushin Switc**	**1.48**	**0**		**Pn**	**17 59 26.8**	**+0.2**
AKMO	**Akutan Morgan**	**1.72**	**16**		**Pn**	**17 59 29.9**	**0.0**
AKMO					**Sn**	**17 59 52.0**	**+0.2**
ZRO	**Akutan Zero**	**1.72**	**16**		**Pn**	**17 59 30.2**	**+0.2**
AKRB	**Akutan Reef Bi**	**1.75**	**14**		**Pn**	**17 59 30.5**	**+0.1**
AKRB					**Sn**	**17 59 52.7**	**+0.2**
LVA	**Lava Point**	**1.78**	**15**		**Pn**	**17 59 31.1**	**+0.3**
LVA	**Lava Point**	**1.78**	**15**	IAML		18 00 03.6	
	comp=E,289nm,0.7s						
AKUT	**Akutan**	**1.80**	**19**	Pn	**Pn**	**17 59 29.0**	**-2.0**
AKUT				IAML		18 00 02.0	
	comp=N,95nm,1.2s						
CLCO	**Concord Point,**	**1.82**	**282**		**Pn**	**17 59 31.1**	**-0.2**
CLCO					**Sn**	**17 59 53.5**	**-0.8**
CLES	**Cleveland East**	**1.93**	**283**	Pn	**Pn**	**17 59 30.1**	**-2.7**
ATKA	**Atka Island**	**4.55**	**270**	Pn	**Pn**	**18 00 10.0**	**+1.2**
ATKA				IAML		18 01 11.4	
	comp=E,24nm,1.1s						
ATKA				IAML		18 01 58.0	
	comp=N,21nm,1.1s						
ADK	**Adak**	**6.11**	**269**	Pn	**Pn**	**18 00 30.5**	**+0.2**
KIWB	**Kanaga Island**	**6.40**	**269**	Pn	**Pn**	**18 00 34.7**	**+0.5**
AMKA	**Amchitka**	**8.67**	**268**	Pn	**Pn**	**18 01 06.1**	**+0.8**
PETK	**Petropavlovsk-**	**21.36**	**286**	P	**P**	**18 03 50.0**	**+2.9**
	comp=N,1.4nm,0.4s,baz=70,slow=9.8,SNR=10						
	comp=N,1.4nm,0.4s						
SONM	**Songino Array**	**52.61**	**302**	P	**P**	**18 08 13.6**	**-0.2**
	comp=N,0.4nm,0.5s,baz=38,slow=7.3,SNR=2.1						
	comp=N,0.4nm,0.5s						
ARCES	**ARCESS Array B**	**58.00**	**355**	P	**P**	**18 08 51.3**	**-0.8**
	comp=N,7.6nm,1.1s,baz=18,slow=6.5,SNR=2.9						
	comp=N,7.6nm,1.1s						
ZALV	**Zalesovo Beam**	**58.42**	**319**	P	**P**	**18 08 55.1**	**-0.2**
	comp=N,0.3nm,0.4s,baz=46,slow=10,SNR=1.9						
	comp=N,0.3nm,0.4s						
MKAR	**Makanchi Array**	**64.89**	**315**	P	**P**	**18 09 38.3**	**-0.7**
	comp=N,0.5nm,0.7s,baz=53,slow=5.7,SNR=3.6						
	comp=N,0.5nm,0.7s						
FINES	**FINESS Array B**	**66.00**	**353**	P	**P**	**18 09 45.7**	**-0.2**
	comp=N,1.6nm,0.5s,baz=26,slow=7.2,SNR=9.2						
	comp=N,1.6nm,0.5s						
HFS	**Hagfors**	**67.78**	**360**	P	**P**	**18 09 57.0**	**-0.3**
	comp=N,1.3nm,0.4s,baz=352,slow=3.0,SNR=11						
	comp=N,1.3nm,0.4s						
AKASG	**Malin Array Be**	**76.34**	**350**	P	**P**	**18 10 47.8**	**-0.9**
	comp=N,0.6nm,0.4s,baz=17,slow=6.8,SNR=2.6						
	comp=N,0.6nm,0.4s						
BRTR	**Keskin Array B**	**86.50**	**344**	P	**P**	**18 11 44.0**	**+1.1**
	comp=N,0.3nm,0.5s,baz=32,slow=4.7,SNR=2.1						
	comp=N,0.3nm,0.5s						

*AEIC **23** 18:04:39.0±3.1, 52˚.28N±0˚.07×166˚.71W±0˚.08, h4km±5km, Error ellipse: s-maj=11.3km s-min=5.9km az=158.0*
*IDC **23** 18:04:42.6±1.0, 52˚.85N×167˚.00W, h0km, mb4.1/24, mbtmp4.1/25, ML3.1/1, Error ellipse: s-maj=26.3km s-min=14.0km az=179.0*
*NEIC **23** 18:04:43.3±2.1, 52˚.58N±0˚.04×166˚.95W±0˚.05, h10km±1km, mb4.0/30, ML3.5/16, ML3.5(AEIC), Error ellipse: s-maj=6.8km s-min=4.9km az=145.0*
*MOS **23** 18:04:44.1±1.1, 52˚.96N×167˚.04W, h17km, mb4.7/14, Error ellipse: s-maj=14.5km s-min=9.0km az=99.3*
ISC 23 18:04:43.4±0.6, 52˚.57N±0˚.06×166˚.90W±0˚.05, h10km, n138, σ1§42/134, mb4.4/42, 5C-10D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**1.04**	**324**		**Pn**	**18 05 03.6**	**-0.5**
OKCE	**Okmok Cone E**	**1.15**	**319**		**Pn**	**18 05 05.5**	**-0.1**
OKNC	**Okmok New Cone**	**1.15**	**321**		**Pn**	**18 05 05.6**	**-0.1**
OKNC					**Sn**	**18 05 26.3**	**+4.8**
MAPS	**Pakushin South**	**1.24**	**359**		**Pg**	**18 05 06.7**	**-0.5**
NIKH	**Nikolski High**	**1.25**	**289**		**Sn**	**18 05 26.6**	**+2.7**
NIKH	**Nikolski High**	**1.25**	**289**		**Pn**	**18 05 05.2**	**-1.8**
NIKH				IAML		18 05 34.1	
	comp=E,1μm,1.1s						
NIKH				IAML		18 05 34.0	
	comp=N,993nm,0.9s						
UNV	**Unalaska Valle**	**1.30**	**10**		**Sn**	**18 05 28.7**	**+3.7**
UNV	**Unalaska Valle**	**1.30**	**10**		**Pn**	**18 05 05.9**	**-1.7**
MNAT	**Makushin Natee**	**1.32**	**6**		**Pb**	**18 05 07.6**	**-0.7**
MSW	**Makushin Switc**	**1.35**	**3**		**Pb**	**18 05 08.1**	**-0.7**
AKMO	**Akutan Morgan**	**1.61**	**19**		**Pn**	**18 05 11.3**	**-0.6**
AKMO					**Sg**	**18 05 36.7**	**+1.4**
ZRO	**Akutan Zero**	**1.62**	**20**		**Pn**	**18 05 11.5**	**-0.6**
AKBBA	**Akutan Broad B**	**1.64**	**20**		**Pn**	**18 05 11.7**	**-0.6**
AKRB	**Akutan Reef Bi**	**1.64**	**17**		**Pn**	**18 05 12.1**	**-0.3**
AKRB					**Sg**	**18 05 37.1**	**+1.0**
LVA	**Lava Point**	**1.68**	**18**		**Pn**	**18 05 12.3**	**-0.5**
LVA				IAML		18 05 43.7	
	comp=E,939nm,0.6s						
AHB	**Akutan Harbor**	**1.68**	**22**		**Pn**	**18 05 12.5**	**-0.4**
AKLV	**Akutan Long Va**	**1.69**	**19**		**Pn**	**18 05 12.5**	**-0.6**
AKUT	**Akutan**	**1.71**	**23**		**Pn**	**18 05 12.5**	**-0.7**
AKUT				IAML		18 05 47.6	
	comp=E,429nm,1.1s						
AKUT				IAML		18 05 51.8	
	comp=N,365nm,0.7s						
CLCO	**Concord Point,**	**1.73**	**278**		**Pn**	**18 05 12.3**	**-1.2**
CLES	**Cleveland East**	**1.84**	**279**	Pn	**Pn**	**18 05 12.8**	**-2.3**
CLES				IAML		18 05 46.3	
	comp=N,671nm,0.7s						
FALS	**False Pass**	**3.09**	**41**	Pn	**Pn**	**18 05 32.8**	**+0.6**
ATKA	**Atka Island**	**4.48**	**268**	Pn	**Pn**	**18 05 51.6**	**+0.3**
CNBA	**Chernabura Isl**	**4.89**	**60**	Pn	**Pn**	**18 05 57.0**	**0.0**
CNBA				IAML		18 07 05.2	
	comp=E,35nm,1.0s						
CNBA				IAML		18 08 19.1	
	comp=N,28nm,0.9s						
GSIG	**Igitkin Island**	**5.57**	**268**		**Pn**	**18 06 06.1**	**-0.2**
GSTR	**Great Sitkin T**	**5.63**	**269**	Pn	**Pn**	**18 06 05.9**	**-1.3**
GSMY	**Great Sitkin M**	**5.64**	**268**		**Pn**	**18 06 06.9**	**-0.4**
ETKA	**Kagalaska Isla**	**5.88**	**267**		**Pn**	**18 06 10.0**	**-0.7**
ADK	**Adak**	**6.05**	**267**	Pn	**Pn**	**18 06 12.4**	**-0.5**
ADK	**Adak**	**6.05**	**267**	P	**Pn**	**18 06 12.4**	**-0.5**
CHGN	**Chignik**	**6.20**	**50**	Pn	**Pn**	**18 06 15.4**	**+0.4**
KIWB	**Kanaga Island**	**6.34**	**268**	Pn	**Pn**	**18 06 17.8**	**+0.9**
TASE	**Tanaga Southea**	**6.88**	**268**		**Pn**	**18 06 25.3**	**+0.9**
GAKI	**Gareloi-Kavalg**	**7.41**	**267**		**Pn**	**18 06 31.9**	**+0.3**
PLK4	**Peulik 4**	**7.89**	**46**	Pn	**Pn**	**18 06 39.5**	**+1.3**
CEPE	**Semis' Perret**	**8.27**	**271**		**Pn**	**18 06 44.3**	**+0.9**
AMKA	**Amchitka**	**8.60**	**267**		**Pn**	**18 06 48.3**	**+0.4**
M17K	**Holitna River**	**10.23**	**26**	Pn	**Pn**	**18 07 10.8**	**+0.5**
N19K	**Bonanza Creek**	**10.70**	**35**	Pn	**Pn**	**18 07 17.2**	**+0.6**
K17K	**Iditarod**	**11.15**	**21**	Pn	**Pn**	**18 07 22.4**	**-0.4**
J18K	**Innoko River**	**12.16**	**22**	Pn	**Pn**	**18 07 37.0**	**+0.5**
J19K	**Poorman**	**12.87**	**23**	Pn	**Pn**	**18 07 45.3**	**-0.9**
SCM	**Sheep Creek Mo**	**14.03**	**41**	Pn	**Pn**	**18 07 59.5**	**-2.6**
SCM	**Sheep Creek Mo**	**14.03**	**41**	P	**Pn**	**18 07 59.5**	**-2.6**
BPAW	**Bear Paw Mtn.**	**14.20**	**29**	Pn	**Pn**	**18 08 03.8**	**-0.6**
KLU	**Klutina**	**14.44**	**44**	Pn	**Pn**	**18 08 03.4**	**-4.3**
M24K	**Tolsona, Glenn**	**14.64**	**41**	Pn	**Pn**	**18 08 11.4**	**+1.0**
MLY	**Manley**	**14.97**	**27**	Pn	**Pn**	**18 08 14.5**	**-0.3**
IMAR	**Indian Mountai**	**14.98**	**21**	Pn	**Pn**	**18 08 15.5**	**+0.5**
GLB	**Gilahina Butte**	**15.32**	**46**	P	**P**	**18 08 24.7**	**+0.4**
GLB				IAmb	IAmb	18 08 32.3	
	comp=Z,18nm,1.2s						
G21K	**Allakaket**	**15.49**	**20**	Pn	**Pn**	**18 08 21.0**	**-0.6**
COLA	**College**	**15.71**	**31**⇓*e*P		**P**	**18 08 27.9**	**-0.7**
ILAR	**Eielson Array**	**15.96**	**32**	Pn	**Pn**	**18 08 24.4**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=234,slow=12,SNR=5.0						
	comp=Z,1.7nm,1.1s						
F21K	**Alatna River**	**16.10**	**19**	P	**P**	**18 08 34.3**	**+1.4**
F21K				IAmb	IAmb	18 08 47.9	
	comp=Z,9.8nm,1.0s						
BARN	**Barnard Glacie**	**16.13**	**48**	P	**P**	**18 08 35.4**	**+1.9**
BARN				IAmb	IAmb	18 09 06.5	
	comp=Z,30nm,1.4s						
H24K	**Noodor Dome**	**16.38**	**28**	Pn	**Pn**	**18 08 31.2**	**-1.9**
G23K	**Bananza Creek**	**16.45**	**24**	IAmb	IAmb	18 08 38.7	
	comp=Z,17nm,1.1s						
SCRK	**Sand Creek**	**16.49**	**37**	Pn	**Pn**	**18 08 34.

HNS				pmax	pmax			
	comp=Z,19nm,1.0s							
KNGR	**Kungurtug, Tuv**	**55.06**	**309**	⇓*e*P	**P**	**18 14 15.0**	**-0.2**	
KNGR				pmax	pmax			
	comp=Z,6.0nm,1.2s							
ARCES	**ARCESS Array B**	**57.87**	**355**	P	**P**	**18 14 33.1**	**-1.6**	
	comp=Z,9.7nm,1.1s,baz=15,slow=6.3,SNR=4.2							
	comp=Z,9.7nm,1.1s							
ZALV	**Zalesovo Beam**	**58.28**	**319**	P	**P**	**18 14 36.7**	**-1.1**	
	comp=Z,1.1nm,0.7s,baz=5.7,slow=6.0,SNR=5.0							
	comp=Z,1.1nm,0.7s							
LVZ	**Lovozero**	**58.77**	**351**	P	**P**	**18 14 39.4**	**-1.7**	
	comp=Z,49nm,1.9s							
GTA	**Gaotai**	**61.72**	**299**	*e*P	**P**	**18 15 00.9**	**-0.9**	
GTA				pmax	pmax			
	comp=Z,6.0nm,1.3s							
LZH	**Lanzhou**	**61.90**	**293**	*e*P	**P**	**18 15 03.8**	**+0.7**	
LZH				pmax	pmax			
	comp=Z,22nm,1.5s							
KURK	**Kurchatov**	**63.21**	**320**	⇓*i*P	**P**	**18 15 10.6**	**-0.8**	
KURK				pmax	pmax			
	comp=Z,19nm,3.7s							
KURBB	**Kurchatov Arra**	**63.32**	**320**	P	**P**	**18 15 11.1**	**-1.1**	
	comp=Z,1.7nm,0.6s,baz=48,slow=7.5,SNR=16							
	comp=Z,1.7nm,0.6s							
BVAR	**Borovoye Array**	**64.40**	**326**	P	**P**	**18 15 18.4**	**-0.9**	
	comp=Z,1.5nm,0.6s,baz=54,slow=7.5,SNR=7.2							
	comp=Z,1.5nm,0.6s							
BORK	**Borovoye**	**64.41**	**326**	*e*P	**P**	**18 15 19.9**	**+0.6**	
BORK				pmax	pmax			
	comp=Z,4.0nm,1.3s							
WMQ	**Urumqi**	**64.58**	**309**	*e*P	**P**	**18 15 22.1**	**+1.4**	
WMQ				LR	LR			
	comp=N,2μm,21.9s							
WMQ				LR	LR			
	comp=E,1μm,18.9s							
WMQ				LR	LR			
	comp=Z,960nm,18.9s							
MKAR	**Makanchi Array**	**64.75**	**315**	P	**P**	**18 15 20.1**	**-1.6**	
	comp=Z,1.8nm,0.7s,baz=45,slow=6.1,SNR=20							
	comp=Z,1.8nm,0.7s							
KLMR	**Klimovskoe**	**64.97**	**346**	*e*P	**P**	**18 15 20.4**	**-2.4**	
KLMR				pmax	pmax			
	comp=Z,17nm,1.4s							
ARTI	**Arti**	**65.20**	**334**	*c i*P	**P**	**18 15 23.4**	**-1.0**	
ARTI						18 15 51.1		
ARTI						18 17 44.2		
ARTI				S	**S**	**18 24 06.8**	**-0.2**	
ARTI				SS	**SS**	**18 28 15.7**	**-2.7**	
ARTI				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KIRV	**Kirov**	**65.34**	**340**	*c i*P	**P**	**18 15 23.9**	**-1.3**	
FINES	**FINESS Array B**	**65.86**	**353**	P	**P**	**18 15 27.4**	**-1.2**	
	comp=Z,3.8nm,0.6s,baz=21,slow=8.2,SNR=21							
	comp=Z,3.8nm,0.6s							
NB2	**NORSAR Subarra**	**66.73**	**1**	P	**P**	**18 15 32.9**	**-1.3**	
	comp=Z,0.8nm,0.6s,baz=0.5,slow=6.2							
NOA	**NORSAR Array B**	**66.73**	**1**	P	**P**	**18 15 33.2**	**-1.0**	
	comp=Z,1.9nm,0.8s,baz=1.0,slow=6.3,SNR=6.7							
	comp=Z,1.9nm,0.8s							
PUL	**Pulkovo**	**67.15**	**351**	⇑*e*P	**P**	**18 15 40.4**	**+3.6**	
PUL				pmax	pmax			
	comp=Z,17nm,0.5s							
HFS	**Hagfors**	**67.65**	**360**	P	**P**	**18 15 38.7**	**-1.3**	
	comp=Z,2.6nm,0.5s,baz=28,slow=3.4,SNR=17							
	comp=Z,2.6nm,0.5s							
PZH	**PanZhiHua**	**70.20**	**288**	P	**P**	**18 15 55.8**	**-0.8**	
OBN	**Obninsk**	**70.93**	**346**	*e*P	**P**	**18 15 59.4**	**-0.9**	
OBN				*e*		18 16 22.3		
OBN				*e*		18 18 36.5		
OBN				*e*PPP	PPP	18 20 20.7		
OBN				*e*S	S	18 25 00.2	-15	
OBN				pmax	pmax			
	comp=Z,9.0nm,0.8s							
OBN				MLR	MLR			
	comp=Z,830nm,16.0s							
AAK	**Ala-Archa**	**71.40**	**317**	⇓*i*P	**P**	**18 16 03.7**	**0.0**	
AAK				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BELG	**Belogornoye**	**71.47**	**339**	*de*P	**P**	**18 16 02.9**	**-0.7**	
BELG				pmax	pmax			
	comp=Z,2.0nm,1.1s							
EKA	**Eskdalemuir Ar**	**71.62**	**10**	P	**P**	**18 16 04.6**	**0.0**	
	comp=Z,2.7nm,0.9s,baz=360,slow=5.6,SNR=3.6							
	comp=Z,2.7nm,0.9s							
KSH	**Kashi**	**73.33**	**314**	P	**P**	**18 16 18.0**	**+2.8**	
KSH				pP	PcP	18 16 27.8	-3.8	
KSH				pmax	pmax			
	comp=Z,7.0nm,1.1s							
AK20	**Malin Array Si**	**76.19**	**350**	P	**P**	**18 16 29.6**	**-1.7**	
AKASG	**Malin Array Be**	**76.20**	**350**	P	**P**	**18 16 30.3**	**-1.1**	
	comp=Z,4.3nm,0.7s,baz=8.6,slow=5.6,SNR=5.7							
	comp=Z,4.3nm,0.7s							
AK11	**Malin Array Si**	**76.23**	**350**	P	**P**	**18 16 29.9**	**-1.7**	
LUBAR	**Lubar, Ukraine**	**77.13**	**350**	P	**P**	**18 16 35.3**	**-1.4**	
DPC	**Dobruska-Polom**	**77.42**	**358**	P	**P**	**18 16 37.7**	**-0.7**	
MORC	**Moravsky Berou**	**77.96**	**357**	*e*P	**P**	**18 16 40.9**	**-0.5**	
CMAR	**Chiang Mai Arr**	**78.03**	**285**	P	**P**	**18 16 42.1**	**-0.2**	
	comp=Z,0.5nm,0.6s,baz=27,slow=5.2,SNR=6.6							
	comp=Z,0.5nm,0.6s							
VRAC	**Vranov**	**78.45**	**358**	*e*P	**P**	**18 16 44.0**	**-0.1**	
KRUC	**Moravsky**	**78.70**	**358**	*e*P	**P**	**18 16 45.2**	**-0.3**	
JAVC	**Velka Javorina**	**78.87**	**357**	*e*P	**P**	**18 16 47.3**	**+0.8**	
GERES	**GERESS Array B**	**78.96**	**360**	P	**P**	**18 16 46.6**	**-0.4**	
	comp=Z,0.7nm,0.8s,baz=340,slow=6.0,SNR=6.0							
	comp=Z,0.7nm,0.8s							
KIV	**Kislovodsk**	**80.53**	**339**	*e*P	**P**	**18 16 56.9**	**+1.3**	
KIV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KBZ	**Khabaz**	**80.70**	**339**	P	**P**	**18 16 57.0**	**+0.6**	
	comp=Z,2.3nm,1.0s,baz=14,slow=6.1,SNR=3.6							
	comp=Z,2.3nm,1.0s							
KBZ	**Khabaz**	**80.70**	**339**	⇓*e*P	**P**	**18 16 56.9**	**+0.6**	
KBZ				pmax	pmax			
	comp=Z,4.0nm,1.1s							
BRTR	**Keskin Array B**	**86.36**	**344**	P	**P**	**18 17 26.1**	**+0.3**	
	comp=Z,1.8nm,0.7s,baz=37,slow=2.6,SNR=12							
	comp=Z,1.8nm,0.7s							
ESDC	**Sonseca Array**	**86.94**	**13**	P	**P**	**18 17 27.6**	**-0.9**	
	comp=Z,0.6nm,0.7s,baz=332,slow=3.3,SNR=2.9							
	comp=Z,0.6nm,0.7s							

*ISU **23** 18:05:05.40˝86N×73˚28E, h4km*
*NNC **23** 18:05:05.4±0.9, 40˚89N×73˚37E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=7.1km s-min=3.6km az=169.0*
*SOME **23** 18:05:05.2, 40˚95N×73˚37E, h10km*
*KRNET **23** 18:05:05.5±0.1, 40˚87N×73˚28E, h28km, mb2.9*

ISC 23 18:05:06.0±1.2, 40˚89N±0˚03×73˚30E±0˚02, h7km±10km, n43, σ1s27/71, 22C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**0.50**	**331**	⇑*i*P	**Pg**	**18 05 15.9**	**+0.3**
ARSB				⇑*i*S	**Sg**	**18 05 23.2**	**+1.0**
TSTA	**Tashata**	**0.69**	**244**	P	**Pg**	**18 05 19.0**	**-0.3**
TSTA				S	**Sg**	**18 05 29.2**	**+0.8**
FRG	**Fergana**	**1.26**	**247**	P	**Pn**	**18 05 29.9**	**-0.2**
CHMI	**Chimion**	**1.49**	**246**	P	**Pn**	**18 05 33.6**	**+0.4**
CHMI				S	**Sg**	**18 05 54.1**	**+0.4**
TRKS	**Terek-Say**	**1.75**	**292**	⇑*i*P	**Pn**	**18 05 35.7**	**-1.3**
TRKS				⇑*i*S	**Sn**	**18 05 57.7**	**-1.9**
JNKS	**Jany-Kuch**	**1.79**	**84**	⇑*i*P	**Pn**	**18 05 37.0**	**-0.6**
JNKS				⇑*i*S	**Sn**	**18 06 00.2**	**-0.6**
EKS2	**Erkin-Say**	**1.81**	**11**	⇑*i*P	**Pn**	**18 05 37.6**	**-0.1**
EKS2				⇑*i*S	**Sn**	**18 06 00.8**	**-0.2**
MRKS	**Merke**	**1.86**	**358**	P	**Pn**	**18 05 39.3**	**+0.9**
	8.9nm,0.2s						
MRKS				S	**Sb**	**18 06 04.3**	**+0.5**
	60nm,0.3s						
MRKS	**Merke**	**1.86**	**358**	*e*P	**Pn**	**18 05 39.3**	**+0.9**
	6.2nm,0.2s						
MRKS				*e*S	**Sb**	**18 06 04.3**	**+0.5**
	60nm,0.3s						
AAK	**Ala-Archa**	**1.97**	**27**	⇓Pn	**Pn**	**18 05 40.5**	**+0.6**
	1.4nm,0.3s						
AAK				⇑Sn	**Sb**	**18 06 06.3**	**-0.7**
	20nm,0.6s						
AAK	**Ala-Archa**	**1.97**	**27**	⇓*i*P	**Pn**	**18 05 39.6**	**-0.3**
AAK				⇓*i*S	**Sn**	**18 06 04.5**	**-0.4**
KBK	**Karagaybulak**	**2.16**	**34**	⇑*i*P	**Pn**	**18 05 42.5**	**-0.1**
KBK				⇑*i*S	**Sn**	**18 06 09.3**	**-0.4**
FRU1	**Bishkek**	**2.17**	**27**	⇓*i*P	**Pn**	**18 05 42.7**	**+0.1**
FRU1				⇓*i*S	**Sn**	**18 06 09.6**	**-0.1**
CHMS	**Chumysh**	**2.37**	**27**	⇑*i*P	**Pn**	**18 05 45.3**	**-0.1**
CHMS				⇑*i*S	**Sn**	**18 06 14.3**	**-0.5**
DZA	**Taraz**	**2.48**	**324**	*e*P	**Pb**	**18 05 51.5**	**+0.5**
	27nm,0.1s						
DZA				*e*S	**Sg**	**18 06 24.6**	**-1.2**
	64nm,0.2s						
USP	**Ospenovka**	**2.54**	**20**	⇓*i*P	**Pn**	**18 05 47.6**	**-0.1**
USP				⇓*i*S	**Sn**	**18 06 18.3**	**-0.7**
BOOM	**Boomskoye usch**	**2.55**	**50**	⇑*i*P	**Pn**	**18 05 47.8**	**-0.1**
BOOM				⇑*i*S	**Sn**	**18 06 18.6**	**-0.7**
CHMG	**Chimgan**	**2.57**	**286**	S	**Sg**	**18 06 28.3**	**-0.1**
ULHL	**Ulahol**	**2.59**	**57**	⇓*i*P	**Pn**	**18 05 48.4**	**-0.2**
ULHL				⇓*i*S	**Sn**	**18 06 19.7**	**-0.8**
CHRV	**Charvak**	**2.63**	**288**	S	**Sg**	**18 06 30.0**	**-0.5**
TKM2	**Tokmak 2**	**2.66**	**39**	⇑*i*P	**Pn**	**18 05 49.3**	**-0.2**
TKM2				⇑*i*S	**Sn**	**18 06 21.4**	**-0.7**
SGDS	**Sogindy**	**2.75**	**21**	Pg	**Pb**	**18 05 55.5**	**0.0**
	1.1nm,0.4s						
SGDS				Lg	Lg	18 06 31.3	
	8.3nm,0.1s						
IUG	**Iuzhnay**	**2.76**	**298**	Pg	**Pb**	**18 05 56.2**	**+0.5**
	8.9nm,0.2s						
IUG				Lg	Lg	18 06 32.7	
	76nm,0.2s						
KST	**Kastek**	**2.93**	**42**	Pg	**Pb**	**18 05 57.8**	**-0.9**
	2.3nm,0.4s						
KST				Lg	Lg	18 06 35.8	
	8.4nm,0.5s						
KST	**Kastek**	**2.93**	**42**	*e*P	**Pb**	**18 05 58.2**	**-0.5**
	0.7nm,0.1s						
KST				*e*S	**Sb**	**18 06 36.0**	**+1.3**
	8.7nm,0.3s						
GAR	**Garm**	**2.97**	**232**	⇑*i*P	**Pn**	**18 05 52.9**	**-0.7**
GAR				⇑*i*S	**Sn**	**18 06 27.5**	**-2.1**
KK31	**Karatay Array**	**3.04**	**318**	Pn	**Pn**	**18 05 54.6**	**+0.1**
	0.4nm,0.2s,baz=128,slow=12,SNR=20						
KK31				⇑Pg	**Pb**	**18 06 00.9**	**+0.5**
	0.5nm,0.2s,baz=139,slow=16,SNR=13						
KK31				Lg	Lg	18 06 40.8	
	11nm,0.3s,baz=130,slow=27,SNR=6.4						
KDJ	**Kajisay**	**3.17**	**66**	⇑*i*P	**Pn**	**18 05 56.4**	**-0.1**
KDJ				⇑*i*S	**Sn**	**18 06 33.7**	**-1.0**
MTBS	**Maitube**	**3.24**	**45**	Pg	**Pb**	**18 06 03.7**	**-0.1**
	1.6nm,0.1s						
MTBS				Lg	Lg	18 06 45.9	
	1.7nm,0.1s						
MTBS	**Maitube**	**3.24**	**45**	*e*P	**Pb**	**18 06 03.7**	**-0.1**
	1.6nm,0.1s						
MTBS				*e*S	**Sb**	**18 06 45.9**	**+2.4**
	2.7nm,0.1s						
KRBS	**Karabastau**	**3.32**	**31**	Pg	**Pb**	**18 06 04.9**	**-0.2**
	1.7nm,0.5s						
KRBS				Lg	Lg	18 06 48.2	
	3.6nm,0.3s						
TNSS	**Tian-Shan**	**3.47**	**50**	Pg	**Pb**	**18 06 08.3**	**+0.3**
	0.3nm,0.2s						
TNSS				Lg	Lg	18 06 53.5	
	3.0nm,0.4s						
TNSS	**Tian-Shan**	**3.47**	**50**	*e*P	**Pb**	**18 06 08.2**	**+0.3**
	0.3nm,0.2s						
TNSS				*e*S	**Sg**	**18 06 53.5**	**-3.9**
	3.0nm,0.4s						
MDOK	**Medeo**	**3.60**	**50**	Pg	**Pb**	**18 06 10.4**	**+0.3**
	0.5nm,0.1s						
MDOK				Lg	Lg	18 06 57.5	
	8.1nm,0.7s						
KOTS	**Kotyrbulak**	**3.68**	**49**	Pg	**Pb**	**18 06 12.1**	**+0.6**
	0.7nm,0.1s						
KOTS				Lg	Lg	18 07 00.6	
	22nm,0.5s						
KOTS	**Kotyrbulak**	**3.68**	**49**	*e*P	**Pb**	**18 06 12.1**	**+0.6**
	0.7nm,0.1s						
KOTS				*e*S	**Sg**	**18 07 00.6**	**-3.7**
	22nm,0.5s						
KTBS	**Karatobe**	**3.78**	**41**	Pg	**Pb**	**18 06 13.3**	**+0.3**
	1.3nm,0.3s						
KTBS				Lg	Lg	18 07 02.5	
	11nm,0.3s						
CHKK	**Chushkaly**	**4.03**	**41**	Pg	**Pb**	**18 06 17.7**	**+0.3**
	2.3nm,0.3s						
CHKK				Lg	Lg	18 07 09.8	
	5.3nm,0.2s						
CHKK	**Chushkaly**	**4.03**	**41**	*e*P	**Pb**	**18 06 17.7**	**+0.3**
	1.0nm,0.1s						
CHKK				*e*S	**Sb**	**18 07 09.8**	**+3.5**
	3.5nm,0.1s						
SATY	**Saty**	**4.38**	**59**	Pg	**Pb**	**18 06 24.8**	**+1.4**
	0.5nm,0.1s						
SATY				Lg	Lg	18 07 21.9	
	4.5nm,0.2s						
KPKS	**Kokpek**	**4.76**	**55**	Pg	**Pb**	**18 06 31.4**	**+1.6**
	0.4nm,0.0s						
KPKS				Lg	Lg	18 07 33.4	
	3.7nm,0.4s						
UZB	**Uzynbulak**	**4.83**	**60**	*e*P	**Pb**	**18 06 31.9**	**+1.0**
	0.9nm,0.1s						
UZB				*e*S	**Sb**	**18 07 34.1**	**+4.9**
	5.8nm,0.3s						
SHLS	**Shalkode**	**5.12**	**62**	*e*P	**Pg**	**18 06 42.6**	**-1.4**
	1.0nm,0.2s						
SHLS				*e*S	**Sg**	**18 07 52.5**	**+2.1**
	9.8nm,0.5s						

*DJA **23** 18:20:02.9±0.5, 10˚S±5˚×12˚0E±˚, h10km±3km, M4.1/12, mb4.5/2, MLv3.9/12*
*IDC **23** 18:20:02.0±1.7, 10˚28S×119˚55E, h0km, mb3.5/2, mbtmp3.7/7, ML3.4/5, Error ellipse: s-maj=57.8km s-min=21.0km az=53.0*

ISC 23 18:20:02.3±0.7, 10˚13S±0˚05×119˚82E±0˚04, h10km±3km, n23, σ2s37/25, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.65**	**319**	P	**Pg**	**18 20 14.4**	**-0.4**
WBSI				S	**Sg**	**18 20 21.8**	**-1.5**
WSI	**Waingapu**	**0.66**	**46**	P	**Pb**	**18 20 16.0**	**+0.1**
WSI				S	**Sb**	**18 20 24.9**	**-0.2**
BASI	**Baing, Sumba**	**0.75**	**97**	P	**Pb**	**18 20 18.6**	**+1.1**
EDFI	**Ende, Flores**	**2.30**	**53**	P	**Pn**	**18 20 39.5**	**-0.9**
PLAI	**Plampang**	**2.40**	**303**	P	**Pn**	**18 20 41.8**	**+0.1**
PLAI				S	**Sn**	**18 21 11.1**	**0.0**
MMRI	**Maumere**	**2.81**	**58**	P	**Pn**	**18 20 47.9**	**+0.6**
TWSI	**Taliwang, Sumb**	**3.21**	**295**	P	**Pn**	**18 20 52.9**	**0.0**
TWSI				S	**Sn**	**18 21 32.7**	**+1.4**
BATI	**Baumata**	**3.78**	**91**	Pn	**Pb**	**18 21 05.7**	**-3.6**
	4.7nm,0.3s,baz=87,slow=5.6,SNR=4.2						
BATI				Sn	**Sn**	**18 21 49.9**	**+4.5**
	3.7nm,0.3s,baz=348,slow=23,SNR=2.2						
	20nm,0.4s						
BSSI	**Bau Bau, Buton**	**4.02**	**10**	P	**Pn**	**18 21 01.3**	**-2.7**
BKSI	**Bulukumba**	**4.79**	**4**	P	**Pn**	**18 21 14.6**	**+0.1**
KAPI	**Kappang**	**5.08**	**359**	Pn	**Pn**	**18 21 22.3**	**+3.6**
	1.9nm,0.3s,baz=122,slow=22,SNR=1.6						
KAPI				Sn	**Sn**	**18 22 14.6**	**-2.8**
	1.2nm,0.3s,baz=142,slow=16,SNR=1.0						
	7.2nm,0.4s						
JAGI	**Jajag, Banyuwa**	**5.83**	**286**	P	**Pn**	**18 21 28.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**9.72**	**145**	Pn	**Pn**	**18 22 23.7**	**+1.4**
	0.2nm,0.3s,baz=340,slow=10,SNR=6.5						
FITZ				Sn	**Sn**	**18 24 08.3**	**-3.4**
	1.0nm,0.3s,baz=170,slow=16,SNR=12						
	2.5nm,0.7s						
WRA	**Warramunga Arr**	**17.07**	**127**	P	**Pn**	**18 24 02.2**	**+1.0**
	0.1nm,0.3s,baz=304,slow=13,SNR=5.7						
WRA				S	Sn	18 26 58.8	-12
	0.8nm,0.9s,baz=298,slow=23,SNR=4.0						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**19.02**	**137**	P	**Pn**	**18 24 27.5**	**+2.3**
	0.1nm,0.3s,baz=309,slow=11,SNR=20						
ASAR				S	**Sn**	**18 27 53.0**	**-5.5**
	1.0nm,0.9s,baz=307,slow=22,SNR=6.3						
	2.0nm,0.7s						
H08S2	**Diego Garcia H**	**46.79**	**269**	T	T	19 18 23.4	
	baz=96,slow=76,SNR=50						
H08S3	**Diego Garcia H**	**46.80**	**269**	T	T	19 18 24.2	
	baz=96,slow=76,SNR=46						
H08S1	**Diego Carcia H**	**46.81**	**269**	T	T	19 18 24.8	
	baz=96,slow=76,SNR=57						
SONM	**Songino Array**	**58.93**	**349**	P	**P**	**18 30 03.2**	**+1.3**
	0.3nm,0.5s,baz=123,slow=5.3,SNR=2.2						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**65.83**	**333**	P	**P**	**18 30 49.5**	**+1.6**
	0.4nm,0.7s,baz=139,slow=8.0,SNR=6.2						
	0.4nm,0.7s						
H04N2	**CROZET ISLANDS**	**67.55**	**224**	T	T	19 44 54.2	
	baz=79,slow=75,SNR=10						
H04N1	**CROZET ISLANDS**	**67.57**	**224**	T	T	19 44 54.1	
	baz=79,slow=75,SNR=10.0						
H04N3	**CROZET ISLANDS**	**67.57**	**224**	T	T	19 44 51.4	
	baz=79,slow=75,SNR=8.8						

*IDC **23** 18:22:14.6±1.4, 27˚67N×143˚10E, h0km, mb3.9/3, mbtmp3.8/4, ML2.8/1, Error ellipse: s-maj=82.8km s-min=25.5km az=85.0*
*JMA **23** 18:22:23.5±0.1, 27˚6N±0˚7×14˚2E±˚, h40km, MV3.9/17, NEAR CHICHIJIMA ISLAND*

ISC 23 18:22:21.6±1.3, 27˚67N±0˚07×142˚4E±0˚4, h35km, n18, σ0s94/14, mb4.0/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.59**	**197**	*e*P	**Pn**	**18 22 34.0**	**+0.5**
CBIJ				*e*S	**Sn**	**18 22 41.6**	**-0.3**
JHH2	**Haha-jima-NKT2**	**1.04**	**190**	*e*P	**Pn**	**18 22 40.3**	**+0.6**
JHH2				*e*S	**Sn**	**18 22 52.8**	**-0.3**
BSO3	**Boso 3**	**7.29**	**348**	*e*P	**Pn**	**18 24 06.9**	**+1.5**
JOD2	**Odawara 2**	**8.08**	**340**	*e*P	**Pn**	**18 24 15.9**	**-0.5**
JRY	**Ryogami san**	**8.84**	**341**	*e*P	**Pn**	**18 24 26.9**	**+0.1**
JHO	**Hitachi**	**9.05**	**351**	*e*P	**Pn**	**18 24 29.3**	**-0.4**
JAG	**Ashikaga**	**9.08**	**345**	*e*P	**Pn**	**18 24 29.0**	**-1.1**
MJAR	**Matsushiro Arr**	**9.53**	**339**	Pn	**Pn**	**18 24 37.3**	**+1.0**
	0.1nm,0.3s,baz=156,slow=14,SNR=2.0						
	0.7nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**23.77**	**104**	T	T	18 52 27.6	
	baz=294,slow=75						
H11N1	**WAKE ISLAND Hy**	**23.77**	**104**	T	T	18 52 27.8	
	baz=294,slow=75						
H11N3	**WAKE ISLAND Hy**	**23.78**	**104**	T	T	18 52 28.8	
	baz=294						
H11S3	**WAKE ISLAND Hy**	**24.11**	**107**	T	T	18 52 53.6	
	baz=296,slow=76,SNR=96						
H11S1	**WAKE ISLAND Hy**	**24.12**	**107**	T	T	18 52 54.4	
	baz=296,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**24.13**	**107**	T	T	18 52 51.9	
	baz=296,slow=76,SNR=32						
WRA	**Warramunga Arr**	**47.96**	**190**	P	**P**	**18 30 56.1**	**-0.8**
	1.0nm,0.4s,baz=12,slow=8.5,SNR=12						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**51.68**	**190**	P	**P**	**18 31 24.1**	**-1.1**
	0.5nm,0.7s,baz=11,slow=5.3,SNR=7.3						
	0.5nm,0.7s						
FINES	**FINESS Array B**	**77.52**	**334**	P	**P**	**18 34 13.0**	**-0.4**
	0.9nm,0.6s,baz=67,slow=5.3,SNR=6.0						
	0.9nm,0.6s						
LPAZ	**La Paz**	**149.61**	**75**	PKPbc	**PKPdf**	**18 42 05.7**	**+1.4**
	0.4nm,0.4s,baz=315,slow=4.3,SNR=1.4						

*AZER **23** 18:32:26.8, 41˚75N×46˚19E, h10km, ml2.7*
*MOS **23** 18:32:26.8, 41˚95N×46˚31E, h19km, MPVA3.7*
*NORS **23** 18:32:27.0, 41˚99N×46˚28E, h14km, MPVA3.6*
*DRS **23** 18:32:27.7, 41˚94N×46˚22E, h18km*

ISC 23 18:32:27.2±0.9, 41˚92N±0˚02×46˚24E±0˚02, h17km±7km, n57, σ1s37/113, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLTR	**Tlyarata**	**0.20**	**24**	*e*Pg	**Pg**	**18 32 32.0**	**-0.2**
TLTR				*e*Sg	**Sg**	**18 32 35.7**	**+0.1**
ZKTA	**Zakatala**	**0.40**	**135**	P	**Pg**	**18 32 35.1**	**-0.3**
ZKTA				S	**Sg**	**18 32 41.2**	**+0.2**
KMKR	**Kumukh**	**0.67**	**72**	*i* Pg	**Pn**	**18 32 40.6**	**-1.5**
KMKR				*e*Sg	**Sn**	**18 32 50.6**	**-1.7**
XNZR	**Khunzakh**	**0.71**	**29**	*i* Pg	**Pn**	**18 32 41.9**	**-0.7**
XNZR				*e*Sg	**Sn**	**18 32 51.9**	**-1.4**
BTLR	**Botlikh**	**0.74**	**359**	*i* Pg	**Pn**	**18 32 41.9**	**-1.1**
BTLR				*e*Sg	**Sn**	**18 32 52.1**	**-1.8**
ARKR	**Arakani**	**0.88**	**39**	*e*Pg	**Pn**	**18 32 44.3**	**-0.5**
ARKR				*e*Sg	**Sn**	**18 32 56.5**	**-0.8**
UNCR	**Uncukul**	**0.89**	**27**	*e*Pg	**Pn**	**18 32 45.0**	**0.0**
UNCR				*e*Sg	**Sn**	**18 32 57.2**	**-0.4**
SEKA	**Sheki**	**1.01**	**135**	P	**Pn**	**18 32 46.3**	**-0.4**
SEKA				S	**Sn**	**18 33 01.2**	**+0.7**
KRNR	**Karanay**	**1.03**	**28**	*e*Pg	**Pg**	**18 32 47.2**	**0.0**
KRNR				*e*Sg	**Sn**	**18 33 00.5**	**-0.6**
DVE	**Vedeno**	**1.04**	**355**	*e*Pg	**Pg**	**18 32 46.5**	**-0.8**
DVE				*e*Sg	**Sn**	**18 33 00.9**	**-0.3**
URKR	**Urkarakh**	**1.06**	**76**	*e*Pg	**Pg**	**18 32 47.1**	**-0.7**
URKR				*e*Sg	**Sn**	**18 33 03.0**	**+1.1**
QZX	**Qazax, Azerbai**	**1.08**	**217**	P	**Pn**	**18 32 46.6**	**-1.0**
QZX				S	**Sb**	**18 33 01.6**	**+0.3**
BUJR	**Buynaksk**	**1.11**	**35**	*e*Pg	**Pg**	**18 32 48.6**	**0.0**
BUJR				*e*Sg	**Sg**	**18 33 04.6**	**+1.6**
SGKR	**Sergokala**	**1.18**	**62**	*e*Pg	**Pg**	**18 32 50.2**	**+0.3**
SGKR				*e*Sg	**Sg**	**18 33 06.7**	**+1.3**
DLMR	**Dylym**	**1.18**	**14**	*e*Pg	**Pg**	**18 32

ORD	**Ordubad**	**3.00**	**184**	Pg	**Pb**	**18 33 17.9**	**-2.2**
ORD				Sg	**Sb**	**18 33 56.6**	**+0.2**
SHA1	**Shidzhatmaz**	**3.20**	**306**	*e*Pn	**Pn**	**18 33 17.0**	**+0.1**
SHA1				*e*Sn	**Sb**	**18 34 01.5**	**-1.1**
BEYR	**Belyy Ugol+**	**3.27**	**311**	*e*Pn	**Pn**	**18 33 19.5**	**+1.8**
BEYR				*e*Sn	**Sn**	**18 33 59.5**	**+3.3**
KIV	**Kislovodsk**	**3.31**	**309**	*e*Pn	**Pb**	**18 33 22.7**	**-2.7**
KIV				*e*Sn	**Sb**	**18 34 02.0**	**-3.5**
YRD	**Yardimli**	**3.37**	**152**	Pn	**Pn**	**18 33 20.1**	**+0.9**
YRD				Sn	**Sn**	**18 34 01.4**	**+2.6**
LRK	**Lerik**	**3.65**	**153**	Pg	**Pn**	**18 33 24.2**	**+1.3**
LRK				Sg	**Sb**	**18 34 18.4**	**+3.2**
ASTR	**Astara**	**3.88**	**149**	Pg	**Pb**	**18 33 34.2**	**-0.9**
ASTR				Sg	**Sb**	**18 34 26.4**	**+4.6**

*MEX **23** 18:33:43.9±0.6, 14°.41N×92°.60W, h16km±34km, MD3.7*
*GCG **23** 18:33:44.8±0.3, 14°.93N×92°.28W, h76km±9km, ML3.4*
ISC 23 18:33:42.6±2.4, **14°.5N**±0°.2×**92°.6W**±0°.2, **h61**km±35km, **n10, σ0.99/15, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.57**	**53**	*i* P	**Pn**	**18 33 56.1**	**+0.7**
SMCA				*i* S	**Sn**	**18 34 05.2**	**+0.4**
PATR	**El Naranjo**	**0.67**	**27**	*e*P	**Pn**	**18 33 56.6**	**-0.2**
PATR				*e*S	**Sn**	**18 34 06.6**	**-0.6**
CHUJ	**Union Juarez**	**0.72**	**36**	*e*P	**Pn**	**18 33 57.1**	**-0.3**
CHUJ				*e*S	**Sn**	**18 34 07.7**	**-0.4**
PAVE	**Pavencul**	**0.77**	**28**	*e*P	**Pn**	**18 33 57.8**	**-0.1**
PAVE				*e*S	**Sn**	**18 34 09.0**	**-0.1**
PCIG		**1.35**	**331**	*e*P	**Pn**	**18 34 05.8**	**+0.5**
PCIG				*e*S	**Sn**	**18 34 22.2**	**-0.1**
ESSG	**Sabana Grande**	**1.67**	**94**	*e*S	**Sn**	**18 34 30.0**	**-0.1**
FG8	**Yepocapa, Chim**	**1.94**	**97**	*e*S	Sn	18 34 28.1	-8.7
FG16	**Alotenango, Sa**	**1.99**	**97**	*e*P	Pn	18 34 10.4	-3.7
UXUV	**UXUV**	**3.18**	**331**	*e*P	**Pn**	**18 34 30.1**	**-0.1**
UXUV				*e*S	**Sn**	**18 35 09.5**	**+2.5**
CMIG	**Matias Romero**	**3.41**	**319**	*e*P	**Pn**	**18 34 33.0**	**-0.4**
CMIG				*e*S	**Sn**	**18 35 10.9**	**-1.7**

*IDC **23** 18:41:29.7±2.3, 8°.99S×122°.97E, h0km, mb3.1/1, mbtmp3.3/3, ML3.6/2, Error ellipse: s-maj=236.4km s-min=32.3km az=55.0*
*DJA **23** 18:41:42.3±0.4, 9°.5S±4°×12°.3E±°, h44km±21km, M3.7/10, mb4.0/1, MLv3.6/10*
ISC 23 18:41:41.1±1.2, **9°.50S**±0°.07×**122°.60E**±0°.05, **h35**km, **n13, σ1.96/2/14, Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.93**	**337**	P	**Pn**	**18 41 58.5**	**+0.8**
MMRI				S	**Sn**	**18 42 11.2**	**+1.5**
EDFI	**Ende, Flores**	**1.16**	**309**	P	**Pn**	**18 42 01.2**	**+0.2**
EDFI				S	**Sn**	**18 42 16.3**	**+0.6**
BATI	**Baumata**	**1.27**	**124**	P	**Pn**	**18 42 03.8**	**+1.4**
SOEI	**Soe**	**1.67**	**99**	P	**Pn**	**18 42 09.2**	**+1.2**
SOEI				S	**Sn**	**18 42 29.5**	**+1.3**
BASI	**Baing, Sumba**	**2.12**	**250**	P	**Pn**	**18 42 15.5**	**+1.4**
WSI	**Waingapu**	**2.27**	**265**	P	**Pn**	**18 42 17.3**	**+1.1**
WBSI	**Waikabubak, Su**	**3.17**	**267**	P	**Pn**	**18 42 29.3**	**+0.8**
BBSI	**Bau Bau**	**3.98**	**360**	P	**Pn**	**18 42 40.1**	**+0.4**
PLAI	**Plampang**	**4.81**	**278**	P	**Pn**	**18 42 52.1**	**+1.0**
TWSI	**Taliwang, Sumb**	**5.69**	**277**	P	**Pn**	**18 43 03.9**	**+0.6**
WRA	**Warramunga Arr**	**15.38**	**134**	Pn	Pn	18 45 09.0	-6.7
	0.2nm,0.3s,baz=308,slow=12,SNR=5.7						
WRA				Sn	Sn	18 47 48.8	-16
	0.7nm,0.3s,baz=306,slow=24,SNR=7.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**17.76**	**144**	P	**Pn**	**18 45 41.9**	**-3.9**
	0.2nm,0.3s,baz=321,slow=12,SNR=23						
ASAR				S	Sn	18 48 47.1	-16
	0.5nm,0.5s,baz=308,slow=21,SNR=6.4						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**66.56**	**331**	P	P	18 52 19.8	-7.9
	0.1nm,0.5s,baz=142,slow=7.3,SNR=2.2						
	0.1nm,0.5s						

*PRE **23** 18:42:47.4±0.5, 17°.66S×27°.77E, h5km, ML3.0*
*BGSI **23** 18:42:51.1±1.5, 17°.49S×27°.33E, h10km±37km, ML3.4*
ISC 23 18:42:47.9±1.5, **17°.66S**±0°.07×**27°.56E**±0°.06, **h10**km, **n20, σ3.04/38, Zimbabwe**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSANE	**Kasane**	**2.29**	**266**	*i* P	**Pn**	**18 43 24.5**	**-1.4**
KSANE				*i* S	**Sn**	**18 43 49.5**	**-4.7**
KSANE				IAML		18 44 07.1	
	comp=N,997nm,0.1s						
LSZ	**Lusaka**	**2.44**	**14**	*e*P	**Pn**	**18 43 28.6**	**+0.6**
LSZ				*e*S	**Sn**	**18 43 57.6**	**-0.3**
LSZ				IAML		18 44 01.9	
	comp=Z,158nm,0.3s						
BROLN	**Tlhalogang**	**3.43**	**184**	*i* P	**Pn**	**18 43 44.0**	**+2.4**
BROLN				*i* S	**Sn**	**18 44 26.1**	**+3.7**
BROLN				IAML		18 44 42.4	
	comp=E,117nm,0.3s						
BROLN				*i* P	**Sg**	**18 44 42.8**	**+4.6**
PHDHD	**Phuduhudu**	**3.82**	**228**	*i* P	**Pn**	**18 43 48.6**	**+1.7**
PHDHD				IAML		18 45 01.9	
	comp=N,335nm,1.0s						
KHWEE	**KHWEE**	**4.71**	**205**	*i* P	**Pn**	**18 44 01.4**	**+2.3**
KHWEE				*i* S	**Sn**	**18 44 52.9**	**-1.0**
KHWEE				IAML		18 45 24.4	
	comp=E,351nm,0.5s						
MREMI	**Moremi**	**4.89**	**181**	*i* P	**Pn**	**18 44 05.3**	**+3.7**
MREMI				IAML		18 45 30.9	
	comp=E,371nm,0.4s						
MUSN	**Musina, Limpop**	**5.09**	**155**	*e*P	**Pn**	**18 44 04.2**	**-0.1**
MUSN				*e*S	**Sn**	**18 45 00.3**	**-2.8**
MUSN				IAML		18 45 32.2	
	comp=Z,39nm,0.4s						
LPHEP	**Lephephe**	**5.90**	**195**	*i* P	**Pn**	**18 44 18.3**	**+2.8**
LPHEP				*i* S	**Sn**	**18 45 22.8**	**-0.4**
LPHEP				IAML		18 46 01.3	
	comp=E,35nm,0.8s						
LEPH	**Lephalale, Lim**	**6.17**	**178**	*e*P	**Pn**	**18 44 20.8**	**+1.5**
LEPH				*e*S	**Sn**	**18 45 28.6**	**-1.4**
LEPH				IAML		18 46 15.4	
	comp=Z,34nm,0.6s						
KDWAN	**Kaudwane**	**6.31**	**205**	*i* P	**Pn**	**18 44 23.2**	**+2.1**
KDWAN				*i* S	**Sn**	**18 45 29.9**	**-3.5**
KDWAN				IAML		18 46 14.9	
	comp=N,34nm,0.7s						
MOPA	**Mopani**	**6.85**	**149**	*e*P	**Pn**	**18 44 28.2**	**-0.2**
MOPA				*e*S	**Sn**	**18 45 42.2**	**-4.3**
MOPA				IAML		18 46 29.3	
	comp=Z,65nm,0.5s						
KGCAE	**Kacgae**	**7.21**	**223**	*i* P	**Pn**	**18 44 33.8**	**+0.3**
KGCAE				*i* S	**Sn**	**18 45 48.9**	**-6.7**
KGCAE				IAML		18 47 02.8	
	comp=E,59nm,0.7s						
LBTB	**Lobatse**	**7.55**	**194**	*e*P	**Pn**	**18 44 40.3**	**+2.2**
LBTB				*e*S	**Sn**	**18 46 02.4**	**-1.4**
LBTB				IAML		18 46 49.0	
	comp=Z,19nm,0.7s						
SKOMA	**Sekoma**	**7.62**	**206**	*i* P	**Pn**	**18 44 39.5**	**+0.4**
SKOMA				IAML		18 46 58.0	
	comp=E,30nm,4.8s						
PILG	**Pilgrimsrest,**	**7.81**	**158**	*e*P	**Pn**	**18 44 42.4**	**+0.5**
PILG				*e*S	**Sn**	**18 46 06.0**	**-4.5**
PILG				IAML		18 46 40.2	
	comp=Z,7.7nm,0.5s						
HRAO	**HartRAO**	**8.19**	**179**	*e*P	**Pn**	**18 44 48.7**	**+1.7**
HRAO				*e*S	**Sn**	**18 46 16.6**	**-3.2**
HRAO				IAML		18 46 37.2	
	comp=N,9.3nm,0.7s						
MAKGR	**Makgori**	**8.51**	**197**	*i* P	**Pn**	**18 44 51.7**	**+0.3**
MAKGR				*i* S	**Sn**	**18 46 21.8**	**-5.8**
PRYS	**Parys**	**9.23**	**181**	*e*P	**Pn**	**18 45 02.6**	**+1.4**
PRYS				*e*S	**Sn**	**18 46 41.6**	**-3.6**
PRYS				IAML		18 47 15.7	
	comp=Z,4.4nm,0.3s						
SNKL	**Senekal, Frees**	**10.57**	**179**	*e*P	**Pn**	**18 45 20.5**	**+0.8**
SNKL				*e*S	**Sn**	**18 47 13.1**	**-5.2**
SNKL				IAML		18 47 33.4	
	comp=N,9.4nm,0.7s						
BOSA	**Boshof**	**11.11**	**191**	*e*P	**Pn**	**18 45 29.1**	**+2.1**
BOSA				*e*S	**Sn**	**18 47 27.4**	**-4.0**
BOSA				IAML		18 47 27.9	
	comp=Z,2.2nm,0.4s						

IDC 23 18:50:00.8±2.8, **27°.93S×65°.77E, h0**km, **mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=79.9km s-min=39.0km az=112.0, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**21.29**	**208**	T	T	19 16 31.9	
	baz=34,slow=74,SNR=232						
H04N1	**CROZET ISLANDS**	**21.30**	**208**	T	T	19 16 31.4	
	baz=34,slow=74,SNR=240						
H04N3	**CROZET ISLANDS**	**21.31**	**208**	T	T	19 16 28.1	
	baz=34,slow=74,SNR=389						
CMAR	**Chiang Mai Arr**	**56.19**	**39**	P	P	18 59 42.5	-0.2
	0.5nm,0.8s,baz=228,slow=7.5,SNR=4.6						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**60.78**	**103**	P	P	19 00 15.1	+0.1
	0.6nm,0.9s,baz=252,slow=6.8,SNR=6.4						
	0.6nm,0.9s						
QSPA	**South Pole Qui**	**62.22**	**180**	P	P	19 00 24.1	0.0
	1.3nm,1.0s,baz=297,slow=5.8,SNR=2.7						
	1.3nm,1.0s						
WRA	**Warramunga Arr**	**62.48**	**99**	P	P	19 00 26.3	-0.1
	0.2nm,0.4s,baz=239,slow=7.0,SNR=2.2						
	0.2nm,0.4s						

DJA 23 18:55:05.2±1.1, **11°S**±12°×**11°.8E**±°, **h10**km, **M3.7**/10, **mb4.0/2, MLv3.6/10, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.41**	**6**	P	Pn	18 55 44.7	0.0
WBSI	**Waikabubak, Su**	**2.43**	**49**	P	Pn	18 55 42.9	-2.2
TWSI	**Taliwang, Sumb**	**2.56**	**346**	P	Pn	18 55 46.4	-0.4
WSI	**Waingapu**	**3.15**	**61**	P	Pn	18 55 56.5	+1.6
JAGI	**Jajag, Banyuwa**	**4.31**	**309**	P	Pn	18 56 08.5	-2.4
EDFI	**Ende, Flores**	**4.79**	**59**	P	Pn	18 56 17.5	-0.1

*IDC **23** 18:56:00.9±8.5, 2°.16S×76°.97W, h108km±76km, mb3.6/5, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=60.0km s-min=25.5km az=82.0*
*RSNC **23** 18:56:02.9±0.6, 3°S±2°×7°7W±°, h73km±39km, M3.5, mB6.1, mb4.0, ML3.0, Mw(mB)5.7*
*IGQ **23** 18:56:05.6±0.4, 3°S±2°×7°7W±°, h124km±4km, MLv3.7/42*
ISC 23 18:56:04.2±0.9, **2°.53S**±0°.05×**76°.93W**±0°.07, **h127**km±9km, **n84, σ1.18/91, mb4.0/4, 4C-20D, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAIS	**Taisha**	**0.59**	**284**	⇑P	Pn	18 56 25.0	+1.4
TAIS				S	**Sn**	**18 56 40.5**	**+2.3**
PUYO	**Puyo, Santa Ro**	**1.50**	**313**	⇓P	**Pn**	**18 56 32.4**	**+0.1**
PUYO				S	**Sn**	**18 56 53.7**	**+0.1**
BOSC	**San Juan Bosco**	**1.68**	**248**	⇑P	**Pn**	**18 56 34.0**	**-0.4**
BOSC				S	**Sn**	**18 56 57.0**	**-0.5**
ARDO	**Archidona, Ten**	**1.75**	**330**	⇓P	**Pn**	**18 56 34.4**	**-0.8**
ARDO				S	**Sn**	**18 56 57.2**	**-1.6**
BPAT	**Tungurahua Vol**	**1.81**	**304**	⇓P	**Pn**	**18 56 36.0**	**-0.4**
BPAT				S	**Sn**	**18 56 58.6**	**-2.2**
JUI6	**Juive**	**1.89**	**305**	P	**Pn**	**18 56 36.4**	**-0.7**
AZOG	**Ecuador-Azogue**	**1.93**	**263**	P	**Pn**	**18 56 38.4**	**+0.8**
PIAT	**Ana Tenorio**	**2.02**	**319**	P	**Pn**	**18 56 38.1**	**-0.6**
PIAT	**Ana Tenorio**	**2.02**	**319**	P	**Pn**	**18 56 37.9**	**-0.8**
PIAT				S	**Sn**	**18 57 03.7**	**-1.4**
PIS1	**Pisayambo**	**2.06**	**315**	⇓P	**Pn**	**18 56 39.0**	**-0.3**
CHSH	**Refugio Sur-Vo**	**2.19**	**298**	P	**Pn**	**18 56 40.6**	**-0.4**
VCES	**Cotopaxi**	**2.25**	**319**	⇓P	**Pn**	**18 56 41.7**	**0.0**
TAMB	**Tambo**	**2.32**	**322**	⇓P	**Pn**	**18 56 42.8**	**+0.2**
COHC	**Cochancay**	**2.33**	**271**	P	**Pn**	**18 56 41.9**	**-0.2**
COHC				S	**Sn**	**18 57 10.5**	**-0.6**
COHC	**Cochancay**	**2.33**	**271**	P	**Pn**	**18 56 41.7**	**-0.4**
COHC				S	**Sn**	**18 57 10.5**	**-0.6**
BMOR	**Cotopaxi Volca**	**2.35**	**319**	⇓P	**Pn**	**18 56 43.4**	**+0.4**
BTAM	**Cotopaxi Volca**	**2.35**	**321**	⇓P	**Pn**	**18 56 43.5**	**+0.5**
ANTM	**Antisana-La Mi**	**2.36**	**327**	P	**Pn**	**18 56 42.8**	**-0.3**
ANTS	**Antisana-Sarah**	**2.37**	**328**	⇓P	**Pn**	**18 56 42.9**	**-0.3**
BVC2	**Cotopaxi Volca**	**2.38**	**321**	⇓P	**Pn**	**18 56 43.9**	**+0.6**
VC1	**Cotopaxi 1**	**2.38**	**322**	⇓P	**Pn**	**18 56 44.0**	**+0.6**
BREF	**Cotopaxi Volca**	**2.38**	**321**	⇓P	**Pn**	**18 56 44.2**	**+0.7**
ANTI	**Antisana**	**2.40**	**329**	⇓P	**Pn**	**18 56 43.3**	**-0.4**
ANTG	**Antisana-Guama**	**2.41**	**327**	⇓P	**Pn**	**18 56 43.6**	**-0.1**
CAMI	**Rancho Maria**	**2.42**	**319**	P	**Pn**	**18 56 44.8**	**+1.1**
PITA	**Cotopaxi Volc**	**2.47**	**322**	P	**Pn**	**18 56 44.9**	**+0.5**
REVS	**Reventador Sur**	**2.50**	**344**	⇓P	**Pn**	**18 56 43.6**	**-1.0**
TOMA	**Boca Toma-Volc**	**2.52**	**323**	⇓P	**Pn**	**18 56 45.9**	**+0.9**
LAV4	**Lava4-Reventad**	**2.52**	**344**	P	**Pn**	**18 56 43.8**	**-1.1**
REVN	**San Rafael**	**2.53**	**344**	⇓P	**Pn**	**18 56 44.0**	**-1.0**
ILLI	**Illinizas Sur**	**2.54**	**315**	⇓P	**Pn**	**18 56 45.7**	**+0.3**
MILO	**Milagro-Astudi**	**2.64**	**275**	P	**Pn**	**18 56 45.3**	**-0.8**
PCRA	**Pucara 2**	**2.66**	**255**	⇑P	**Pn**	**18 56 45.1**	**-1.7**
CASC	**Dorado de Casc**	**2.68**	**351**	P	**Pn**	**18 56 45.8**	**-0.9**
ALJ1	**Ecuador-Loja-U**	**2.69**	**237**	P	**Pn**	**18 56 47.7**	**+0.6**
CAYR	**Refugio Cayamb**	**2.75**	**337**	P	**Pn**	**18 56 48.3**	**+0.2**
ANGU	**Angureal**	**2.77**	**337**	⇓P	**Pn**	**18 56 48.6**	**+0.2**
JUA2	**San Juan 2**	**2.84**	**324**	⇓P	**Pn**	**18 56 49.6**	**+0.4**
GGPT	**Toaza - Volcan**	**2.84**	**323**	P	**Pn**	**18 56 49.1**	**-0.1**
GGPC	**Guagua Pichinc**	**2.87**	**324**	P	**Pn**	**18 56 49.7**	**+0.1**
TERV	**Terraza Guagua**	**2.88**	**324**	P	**Pn**	**18 56 49.7**	**0.0**
PINO	**Pino**	**2.89**	**324**	P	**Pn**	**18 56 50.1**	**+0.2**
YANA	**Yana**	**2.90**	**325**	P	**Pn**	**18 56 50.2**	**+0.2**
GONZ	**Gonzanam**	**2.99**	**235**	P	**Pn**	**18 56 51.2**	**+0.1**
BONI	**La Bonita**	**3.02**	**349**	P	**Pn**	**18 56 50.3**	**-0.9**
BONI	**La Bonita**	**3.02**	**349**	P	**Pn**	**18 56 50.0**	**-1.3**
IMBA	**Imbabura, San**	**3.06**	**335**	P	**Pn**	**18 56 53.7**	**+1.7**
CUIC	**Cuicocha-Domo**	**3.15**	**333**	P	**Pn**	**18 56 53.3**	**+0.1**
COTA	**Cotacachi**	**3.17**	**334**	P	**Pn**	**18 56 54.5**	**+0.9**
CUSE	**Cuicocha Este**	**3.17**	**332**	P	**Pn**	**18 56 55.2**	**+1.8**
ZUMB	**Zumba**	**3.21**	**224**	P	**Pn**	**18 56 53.8**	**+0.1**
URCU	**Urcuqui**	**3.23**	**336**	P	**Pn**	**18 56 55.1**	**+0.9**
ISPG	**Isla Puna-Puer**	**3.27**	**262**	P	**Pn**	**18 56 53.3**	**-1.0**
ARNL	**Arenillas**	**3.29**	**252**	P	**Pn**	**18 56 52.4**	**-2.2**
PAC1	**Pacto, Paraso**	**3.34**	**326**	P	**Pn**	**18 56 56.2**	**+0.8**
PAC1	**Pacto, Paraso**	**3.34**	**326**	P	**Pn**	**18 56 56.2**	**+0.8**
MORR	**Playas El Morr**	**3.41**	**268**	P	**Pn**	**18 56 54.3**	**-1.8**
LNGL	**El Ángel-Carch**	**3.42**	**342**	P	**Pn**	**18 56 57.5**	**+0.7**
PTLC	**Puerto Leguiza**	**3.42**	**39**	P	**Pn**	**18 56 52.6**	**-3.7**
CHL1	**Volc¡n Chiles**	**3.47**	**343**	P	**Pn**	**18 56 59.5**	**+2.3**
AMCR	**Ecuador-Macara**	**3.53**	**239**	P	**Pn**	**18 56 55.9**	**-1.9**
MCRA	**Macar, Loja**	**3.53**	**239**	⇑P	**Pn**	**18 56 55.7**	**-2.1**
MCRA	**Macar, Loja**	**3.53**	**239**	P	**Pn**	**18 56 55.6**	**-2.2**
MCRA				S	**Sn**	**18 57 37.2**	**-2.1**
CHMA	**Chilma**	**3.55**	**341**	P	**Pn**	**18 56 58.8**	**+0.5**
GCUF	**Volcan Galeras**	**3.75**	**354**	P	**Pn**	**18 57 01.5**	**+0.4**
PPLP	**Puerto Lpez**	**3.97**	**284**	P	**Pn**	**18 57 00.3**	**-3.2**
PPLP				S	Sn	18 57 41.4	-8.1
FLOC	**Florencia**	**4.28**	**17**	P	**Pn**	**18 57 06.6**	**-1.1**
FLOC	**Florencia**	**4.28**	**17**	P	**Pn**	**18 57 06.2**	**-1.5**
ISPT	**Isla de la Pla**	**4.33**	**287**	P	**Pn**	**18 57 07.2**	**-1.2**
BBAC	**Balboa, Cauca**	**4.53**	**356**	P	**Pn**	**18 57 12.0**	**+0.7**
BBAC	**Balboa, Cauca**	**4.53**	**356**	P	**Pn**	**18 57 11.5**	**+0.3**
POPC	**Popayan, Colom**	**5.04**	**3**	P	**Pn**	**18 57 17.9**	**-0.2**
	8.2nm,0.6s						
BETC	**Betania**	**5.38**	**16**	P	**Pn**	**18 57 23.1**	**+0.6**
JAMC	**Jamundi, Valle**	**5.71**	**3**	P	**Pn**	**18 57 26.8**	**-0.3**
URMC	**La Uribe, Meta**	**6.28**	**24**	P	**Pn**	**18 57 34.8**	**+0.2**
YOTC	**Yotoco, Valle**	**6.49**	**5**	P	**Pn**	**18 57 35.7**	**-1.8**
PRAC	**Prado**	**6.53**	**18**	P	**Pn**	**18 57 37.6**	**-0.3**
ORTC	**Ortega, Tolima**	**6.61**	**15**	P	**Pn**	**18 57 38.1**	**-0.9**
LPAZ	**La Paz**	**16.19**	**148**	P	**P**	**18 59 48.3**	**+2.4**
	0.1nm,0.3s,baz=337,slow=13,SNR=4.4						
	1.3nm,0.7s						
PLCA	**Paso Flores**	**38.47**	**172**	P	**P**	**19 03 14.4**	**+0.5**
	1.5nm,0.7s,baz=11,slow=8.6,SNR=4.9						
	1.5nm,0.7s						
ULM	**Lau Bonnet**	**55.04**	**345**	P	P	19 05 18.3	-4.2
	2.0nm,0.5s,baz=173,slow=10.0,SNR=4.2						
	2.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**79.51**	**76**	P	**P**	**19 07 56.1**	**-1.4**
	0.2nm,0.5s,baz=288,slow=5.9,SNR=2.1						
	0.2nm,0.5s						
SNAA	**Sanae**	**82.64**	**162**	P	**P**	**19 08 13.1**	**0.0**
	0.5nm,0.7s,baz=247,slow=8.6,SNR=6.3						
	0.5nm,0.7s						
QSPA	**South Pole Qui**	**87.55**	**180**	P	**P**	**19 08 39.4**	**+1.7**
	2.1nm,0.8s,baz=151,slow=1.4,SNR=9.2						
	2.1nm,0.8s						

*SNET **23** 19:05:56.2±0.9, 12°.79N×88°.73W, h32km, ML3.7*

*CATAC **23** 19:05:56.9±0.4, 13°.N±3°×8°.9W±°, h39km±6km, M3.8/26, MLv3.8/26, Error ellipse: s-maj=6.5km s-min=2.2km az=27.2, confirmed*
*GCG **23** 19:06:04.5±0.3, 13°.33N×89°.05W, h50km, MD4.2*
ISC 23 19:05:56.5±1.4, **12.78N**±0°.09×**88.07W**±0°.04, **h49**km±31km, **n82, σ0.39/89, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.76**	**354**	*e*P	**Pn**	**19 06 10.7**	**-0.4**
TECO	**Alcaldia de Te**	**0.76**	**354**	P	**Pn**	**19 06 10.9**	**-0.1**
TECO	**Alcaldia de Te**	**0.76**	**354**	S	**Sn**	**19 06 21.7**	**0.0**
VSM	**San Miguel**	**0.77**	**32**	*e*P	**Pn**	**19 06 11.2**	**-0.1**
PACA	**Pacayal**	**0.78**	**28**	*e*P	**Pn**	**19 06 11.3**	**-0.1**
PACA	**Pacayal**	**0.78**	**28**	S	**Sn**	**19 06 21.9**	**-0.3**
PACA	**Pacayal**	**0.78**	**28**	P	**Pn**	**19 06 11.7**	**+0.4**
BLLM	**Bellamira**	**0.80**	**34**	*i* P	**Pn**	**19 06 11.3**	**-0.2**
PQSS	**Presa 15 de Se**	**0.85**	**9**	*e*P	**Pn**	**19 06 12.0**	**-0.2**
PQSS				*e*S	**Sn**	**19 06 23.9**	**+0.2**
PQSS	**Presa 15 de Se**	**0.85**	**9**	P	**Pn**	**19 06 12.7**	**+0.4**
UESV	**Universidad de**	**0.86**	**354**	*e*P	**Pn**	**19 06 12.2**	**-0.1**
UESV	**Universidad de**	**0.86**	**354**	S	**Sn**	**19 06 23.9**	**-0.1**
UESV	**Universidad de**	**0.86**	**354**	P	**Pn**	**19 06 12.2**	**-0.1**
CNRM	**Centro Naciona**	**0.86**	**36**	P	**Pn**	**19 06 12.3**	**-0.1**
CNRM	**Centro Naciona**	**0.86**	**36**	S	**Sn**	**19 06 24.8**	**+0.9**
LFRS	**El Faro**	**0.92**	**337**	*e*P	**Pn**	**19 06 12.6**	**-0.6**
SCLA	**Alcaldia de Sa**	**0.92**	**358**	*e*P	**Pn**	**19 06 13.1**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.92**	**358**	P	**Pn**	**19 06 13.3**	**+0.1**
SCLA	**Alcaldia de Sa**	**0.92**	**358**	S	**Sn**	**19 06 25.7**	**+0.3**
LALI	**Alcalda de L**	**0.94**	**319**	S	**Sn**	**19 06 25.4**	**-0.2**
LALI	**Alcalda de L**	**0.94**	**319**	P	**Pn**	**19 06 14.2**	**+0.9**
LCND	**La Caada**	**0.95**	**56**	*e*P	**Pn**	**19 06 12.8**	**-0.7**
LCND				*e*P		19 06 13.3	
LCND	**La Caada**	**0.95**	**56**	S	**Sn**	**19 06 26.8**	**+0.8**
LCND	**La Caada**	**0.95**	**56**	P	**Pn**	**19 06 13.5**	**0.0**
PANCS	**Alcalda de**	**0.96**	**330**	P	**Pn**	**19 06 13.8**	**+0.1**
PANCS	**Alcalda de**	**0.96**	**330**	S	**Sn**	**19 06 26.1**	**-0.2**
PAVA	**Las Pavas**	**0.96**	**346**	*e*P	**Pn**	**19 06 13.8**	**0.0**
PAVA				*e*S	**Sn**	**19 06 26.6**	**+0.1**
PAVA	**Las Pavas**	**0.96**	**346**	S	**Sn**	**19 06 27.0**	**+0.5**
PAVA	**Las Pavas**	**0.96**	**346**	P	**Pn**	**19 06 13.5**	**-0.3**
CNCH	**Conchagua**	**0.98**	**59**	*e*P	**Pn**	**19 06 13.7**	**-0.3**
CNCH				*e*P		19 06 15.7	
CNCH	**Conchagua**	**0.98**	**59**	P	**Pn**	**19 06 14.0**	**+0.1**
CNCH	**Conchagua**	**0.98**	**59**	S	**Sn**	**19 06 27.3**	**+0.4**
LOMA	**Loma Larga**	**0.98**	**332**	P	**Pn**	**19 06 14.5**	**+0.5**
LOMA	**Loma Larga**	**0.98**	**332**	S	**Sn**	**19 06 26.8**	**-0.2**
UDBS	**Universidad Do**	**1.04**	**334**	S	**Sn**	**19 06 28.0**	**-0.2**
UDBS	**Universidad Do**	**1.04**	**334**	P	**Pn**	**19 06 14.7**	**-0.1**
IGN	**Direccin Gen**	**1.04**	**334**	P	**Pn**	**19 06 14.6**	**-0.2**
IGN	**Direccin Gen**	**1.04**	**334**	S	**Sn**	**19 06 28.2**	**-0.1**
UTEC	**Universidad Te**	**1.04**	**332**	S	**Sn**	**19 06 28.2**	**-0.2**
UTEC	**Universidad Te**	**1.04**	**332**	P	**Pn**	**19 06 14.7**	**-0.1**
LFU	**La Fuente**	**1.05**	**337**	*e*P	**Pn**	**19 06 14.9**	**-0.1**
UEES	**Universidad Ev**	**1.07**	**331**	P	**Pn**	**19 06 15.1**	**-0.2**
UEES	**Universidad Ev**	**1.07**	**331**	S	**Sn**	**19 06 29.2**	**0.0**
CAHU	**Cacacuatique**	**1.10

THS1 S Sg 19 26 17.3 0.0
OUR Ouranopolis 0.69 292 Pg Pg 19 26 08.0 -0.5
OUR Sg Sg 19 26 17.8 +0.2
OUR Ouranopolis 0.69 292 P Pg 19 26 08.4 -0.1
OUR S Sb 19 26 18.1 -0.2
OUR Ouranopolis 0.69 292 P Pg 19 26 08.3 -0.2
OUR S Sg 19 26 17.8 +0.2
GADA Gvkgeada 0.83 82 Pg Pb 19 26 11.4 0.0
GADA Gvkgeada 0.83 82 P Pb 19 26 11.5 0.0
GADA S Sb 19 26 23.0 +0.5
GOAD anakkale-G¶ 0.84 84 P Pn 19 26 12.1 -0.5
GOAD S Sb 19 26 23.4 +0.7
GOAD *i* IAML 19 26 26.0
comp=N,3μm,0.5s
GOAD *i* IAML 19 26 26.0
comp=E,3μm,0.6s
PAIG Paliouri 0.89 260 P Pg 19 26 11.9 -0.4
PAIG S Sb 19 26 24.7 +0.6
XANC Avdira 0.90 7 P Pg 19 26 12.1 -0.4
XANC S Sb 19 26 24.9 +0.5
KVLA Kavala 0.91 339 P Pg 19 26 12.9 +0.2
KVLA S Sb 19 26 25.2 +0.4
KAVA Kavala 0.94 346 P Pb 19 26 13.3 +0.1
KAVA S Sg 19 26 26.0 +0.4
KAVA Kavala 0.94 346 P Pb 19 26 13.3 +0.1
KAVA S Sb 19 26 25.6 0.0
PLN1 Chaniotis 0.96 265 P Pb 19 26 13.5 0.0
PLN1 S Sb 19 26 25.9 -0.2
BOZC Bozcaada 0.98 104 Pg Pb 19 26 13.7 -0.2
BOZC Sg Sn 19 26 27.6 -0.6
BOZC Bozcaada 0.98 104 P Pg 19 26 14.0 0.0
BOZC S Sb 19 26 26.2 -0.5
BOZC *i* IAML 19 26 29.0
comp=N,716nm,0.3s
ECEA Canakkale, Ece 1.04 92 P Pn 19 26 15.4 0.0
ECEA S Sg 19 26 28.7 -0.1
ECEA *i* IAML 19 26 32.0
comp=E,912nm,0.3s
ECEA *i* IAML 19 26 34.0
comp=N,1μm,0.5s
PLG Polygyros 1.09 286 P Pb 19 26 15.5 -0.3
PLG Polygyros 1.09 286 P Pb 19 26 15.5 -0.3
ALEX Alexandroupoli 1.13 47 P Pb 19 26 15.9 -0.5
ALEX S Sb 19 26 31.1 +0.1
ENZZ Sultanice-Enez 1.14 62 Pn Pb 19 26 16.1 -0.5
ENZZ Sn Sn 19 26 32.1 0.0
AOS Alonnisos 1.17 219 P Pn 19 26 16.7 -0.4
AOS S Sn 19 26 33.1 +0.3
KOCA Canakkale, Ayv 1.17 119 P Pg 19 26 18.0 +0.3
KOCA S Sb 19 26 32.0 -0.2
KOCA *i* IAML 19 26 36.0
comp=E,1μm,0.3s
KOCA *i* IAML 19 26 36.0
comp=N,1μm,0.4s
SIGR SIGRI 1.18 137 Pn Pb 19 26 17.6 +0.2
SIGR SIGRI 1.18 137 P Pb 19 26 17.5 +0.2
SIGR S Sn 19 26 33.2 0.0
SIGR SIGRI 1.18 137 P Pb 19 26 17.5 +0.2
SIGR S Sb 19 26 32.6 0.0
EZN Ezine 1.19 102 Pn Pn 19 26 17.3 0.0
EZN Ezine 1.19 102 P Pb 19 26 17.4 0.0
EZN S Sn 19 26 33.1 -0.2
EZN Ezine 1.19 102 ⇓P Pb 19 26 17.5 0.0
EZN ⇓S Sg 19 26 33.7 +0.3
DRA2 DRAMA 1.19 335 P Pb 19 26 17.8 +0.3
DRA2 S Sb 19 26 32.4 -0.3
GPNR Gulpinar-Canak 1.19 121 Pn Pg 19 26 17.8 -0.2
RDO Rodhopi 1.19 27 Pn Pn 19 26 16.8 -0.7
RDO Sn Sg 19 26 33.6 0.0
RDO Rodhopi 1.19 27 P Pn 19 26 16.8 -0.7
RDO S Sb 19 26 33.1 +0.2
RDO Rodhopi 1.19 27 P Pn 19 26 16.8 -0.7
RDO S Sb 19 26 33.0 +0.2
CAVK Edirne/Enez-Ca 1.20 59 P Pn 19 26 17.3 -0.2
CAVK S Sg 19 26 34.3 +0.6
CAVK *i* IAML 19 26 37.0
comp=N,803nm,0.3s
CAVK *i* IAML 19 26 40.0
comp=E,969nm,0.5s
CAVK Edirne/Enez-Ca 1.20 59 ⇑P Pn 19 26 17.3 -0.2
CAVK ⇑S Sg 19 26 35.5 +1.8
CNKL anakkale-Mer 1.20 90 P Pb 19 26 17.7 0.0
CNKL S Sb 19 26 33.0 -0.1
CNKL *i* IAML 19 26 37.0
comp=N,560nm,0.4s
SKY Skiros Island 1.22 190 P Pn 19 26 17.2 -0.7
SKY Skiros Island 1.22 190 P Pn 19 26 17.0 -0.9
SKY S Sb 19 26 33.1 -0.6
EZNE Ezine-Canakkal 1.23 105 Pn Pb 19 26 18.4 +0.2
ALN Alexandroupoli 1.24 49 Pn Pn 19 26 17.3 -0.8
ALN Alexandroupoli 1.24 49 P Pn 19 26 17.3 -0.8
ALN Alexandroupoli 1.24 49 P Pn 19 26 17.3 -0.8
ALN S Sb 19 26 33.8 -0.4
COMU Canakkale 1.27 89 Pn Pb 19 26 18.8 -0.1
GELI Tayfur-Gelibol 1.31 76 Pn Pn 19 26 18.7 -0.3
SOH Sokhos 1.34 304 P Pn 19 26 19.1 -0.4
SOH Sokhos 1.34 304 P Pn 19 26 19.0 -0.5
SOH S Sb 19 26 36.5 -0.6
BAYC CANAKKALE_Bayr 1.37 104 P Pb 19 26 20.9 +0.3
BAYC S Sn 19 26 37.7 -0.3
BAYC *i* IAML 19 26 43.0
comp=N,445nm,0.4s
SRS Serrai 1.39 318 P Pn 19 26 19.7 -0.5
SRS Serrai 1.39 318 *e*Sn Pg 19 26 21.9 +0.1
SRS Serrai 1.39 318 *e*Pg Sn 19 26 37.6 -0.8
SRS Serrai 1.39 318 P Pn 19 26 19.7 -0.5
SRS S Sn 19 26 37.8 -0.7
PRK Paraskevi 1.40 126 P Pb 19 26 21.0 0.0
PRK Paraskevi 1.40 126 P Pb 19 26 20.8 -0.3
PRK S Sn 19 26 38.3 -0.3
HORT Hortiatis 1.41 292 P Pn 19 26 20.2 -0.4
HORT Hortiatis 1.41 292 P Pn 19 26 19.9 -0.6
ERIK Erikli-Kesan 1.42 65 Pn Pn 19 26 19.9 -0.7
NEO Neokhori 1.46 238 P Pn 19 26 19.9 -1.2
NEO Neokhori 1.46 238 P Pn 19 26 19.9 -1.2
THE Thessaloniki 1.52 292 P Pn 19 26 21.8 -0.1
THE Thessaloniki 1.52 292 P Pn 19 26 21.5 -0.4
KYMI Kymi, Euboea I 1.55 201 P Pn 19 26 21.7 -0.8
KYMI Kymi, Euboea I 1.55 201 P Pn 19 26 21.6 -0.8
KDZ Kurdzhali 1.59 14 P Pn 19 26 23.0 0.0
KDZ S Sn 19 26 42.9 -0.5
KDZ Kurdzhali 1.59 14 Pn Pn 19 26 22.7 -0.3
KDZ Kurdzhali 1.59 14 P Pn 19 26 22.8 -0.1
KESN Edirne-Kesan 1.60 62 P Pn 19 26 23.0 -0.4
RZN Rozhen 1.61 358 P Pn 19 26 23.6 +0.2
RZN S Sg 19 26 46.4 -0.5
RZN Rozhen 1.61 358 P Pn 19 26 23.5 +0.2
AYVA Ayvalik 1.64 118 P Pb 19 26 24.6 -0.6
MMB Musomishta 1.67 331 *i* P Pn 19 26 24.8 +0.7
MMB S Sg 19 26 48.7 -0.2
MMB Musomishta 1.67 331 P Pn 19 26 24.3 +0.2
CANM Can-anakkale 1.72 92 Pn Pn 19 26 25.3 +0.7
UKOP Uzunkopru-Edir 1.73 52 Pn Pn 19 26 25.3 +0.5
LIT Litokhoron 1.79 271 P Pn 19 26 24.9 -0.7
LIT Litokhoron 1.79 271 P Pn 19 26 24.9 -0.7
YAYO Edremit-Balk 1.80 105 Pn Pn 19 26 26.4 +0.6
KNT Kendrikon 1.81 307 P Pn 19 26 26.2 +0.1
KNT Kendrikon 1.81 307 P Pn 19 26 26.0 0.0
KNT S Sn 19 26 48.1 -0.8
BUHA Balikesir, Bur 1.83 108 P Pn 19 26 27.5 -1.0
YENI Yenice-Canakka 1.87 94 Pn Pn 19 26 27.5 +0.8
KARB zmir-Karabur 1.88 138 P Pn 19 26 27.6 +0.7
SART Tekirdag 1.90 71 P Pn 19 26 27.1 -0.1
KRBG Karabiga-Canak 1.92 80 Pn Pn 19 26 27.8 +0.3
CHOS Chios island 1.95 150 P Pn 19 26 28.1 +0.2
CHOS Chios island 1.95 150 P Pn 19 26 28.3 +0.3
CHOS Chios island 1.95 150 P Pn 19 26 28.3 +0.3
ATAL Atalanti 1.97 226 P Pn 19 26 27.2 -0.9
ATAL Atalanti 1.97 226 P Pn 19 26 27.4 -0.7
LKR Lokris 2.01 225 P Pn 19 26 27.6 -1.1
LKR Lokris 2.01 225 P Pn 19 26 27.6 -1.1
TYRN Tyrnavos 2.02 260 P Pn 19 26 28.9 0.0
TYRN Tyrnavos 2.02 260 P Pn 19 26 28.8 0.0
DIM Dimitrovgrad 2.04 16 S Sg 19 27 00.8 +0.1
DIM P Pn 19 26 28.6 -0.5
DIM Dimitrovgrad 2.04 16 P Pn 19 26 29.5 +0.4
PLD Plovdiv 2.06 359 P Pn 19 26 29.8 +0.4
PLD S Sg 19 27 00.8 -0.6
PLD Plovdiv 2.06 359 Pn Pn 19 26 29.5 +0.1
PLD Plovdiv 2.06 359 P Pn 19 26 29.8 +0.4
PLD Plovdiv 2.06 359 *e*Pg Pn 19 26 29.8 +0.4
KARY Karystos 2.07 188 P Pn 19 26 28.8 -0.8
KARY Karystos 2.07 188 P Pn 19 26 28.7 -0.8
KARY S Sn 19 26 55.2 0.0
ZEDA zmir-Bergama 2.07 122 P Pn 19 26 30.9 +1.4
VAY Valandovo 2.11 307 *i* Pn Pg 19 26 37.9 +2.3
VAY *i* Sn Sg 19 27 03.8 +0.9
DION Dionisos Attik 2.12 199 P Pn 19 26 29.8 -0.4
DION Dionisos Attik 2.12 199 P Pn 19 26 29.8 -0.4
DION S Sn 19 26 56.5 +0.1
AXAR Agios Charalam 2.13 232 P Pn 19 26 30.1 -0.2
PTL Penteli 2.16 200 P Pn 19 26 30.1 -0.7
KKB Krupnik 2.17 324 *i* P Pn 19 26 32.0 +1.1
KKB S Sg 19 27 04.0 -0.9
KKB Krupnik 2.17 324 P Pn 19 26 31.6 +0.7
MRMT Marmara Adasi 2.19 75 Pn Pn 19 26 31.5 +0.3
AGG Agios Georgios 2.20 242 P Pn 19 26 30.8 -0.5
GONE Gonen-Balikesi 2.20 90 Pn Pn 19 26 32.4 +1.1
URLA Izmir 2.21 141 Pn Pn 19 26 31.9 +0.5
URLA Izmir 2.21 141 P Pn 19 26 32.3 +0.9
THL Klokotos Trika 2.22 257 P Pn 19 26 31.2 -0.4
THL Klokotos Trika 2.22 257 P Pn 19 26 30.9 -0.7
VIL2 Platees 2.23 213 P Pn 19 26 31.7 0.0
VIL2 S Sn 19 26 59.4 +0.4
MAGU Magoula 2.25 207 P Pn 19 26 31.7 -0.2
VILL Villia 2.25 212 P Pn 19 26 31.5 -0.5
TKR Tekirdag 2.26 66 Pn Pn 19 26 32.8 +0.7
ZEYE Izmir, Urla-Ze 2.26 144 P Pn 19 26 32.3 +0.2
ATHU Athens Univers 2.26 201 P Pn 19 26 31.0 -1.1
ATHU Athens Univers 2.26 201 P Pn 19 26 31.7 -0.4
ATH Athens Observa 2.28 202 P Pn 19 26 31.6 -0.7
ATH Athens Observa 2.28 202 P Pn 19 26 32.1 -0.3
EDRB Edirne 2.29 39 Pn Pn 19 26 32.9 +0.4
SOMA Soma-Manisa 2.29 113 Pn Pn 19 26 33.7 +1.1
MAKR Makrakomi, Fth 2.34 244 P Pn 19 26 33.2 +0.1
MAKR Makrakomi, Fth 2.34 244 P Pn 19 26 33.3 +0.1
KZN Kozani 2.34 276 P Pn 19 26 32.9 -0.5
KZN Kozani 2.34 276 P Pn 19 26 33.1 -0.3
STEP BALIKESIR_Sava 2.34 107 P Pn 19 26 34.6 +1.3
EDC Edincik 2.35 83 Pn Pn 19 26 34.2 +0.9
VLY Voula,Athens 2.37 200 P Pn 19 26 33.3 -0.3
VLY Voula,Athens 2.37 200 P Pn 19 26 33.0 -0.6
BKES Balkesir-Mer 2.42 97 P Pb 19 26 36.6 -1.8
KIRK Kırklareli 2.42 45 P Pb 19 26 36.7 -1.8
BLCB Balcova 2.42 134 Pn Pn 19 26 35.5 +1.2
BLKS Balkesir-Sus 2.43 94 P Pn 19 26 36.0 +1.5
LTK Loutraki 2.51 216 P Pn 19 26 35.7 +0.1
LTK Loutraki 2.51 216 P Pn 19 26 35.8 +0.1
BAND Balkesir-Ban 2.53 83 P Pn 19 26 37.0 +1.2
BAND Balkesir-Ban 2.53 83 ⇑P Pn 19 26 36.8 +1.0
BAND ⇓S Sb 19 27 08.9 -2.4
LOUT Loutraki 2.54 215 P Pn 19 26 35.2 -0.7
EVR Evrytania 2.60 244 P Pn 19 26 36.9 0.0
EVR Evrytania 2.60 244 P Pn 19 26 37.1 +0.1
AKS Akhisar 2.61 116 Pn Pn 19 26 38.3 +1.3
ANX Ano Chora 2.69 237 P Pn 19 26 38.0 -0.2
ANX Ano Chora 2.69 237 P Pn 19 26 38.0 -0.2
MET4 Agioi Theodoro 2.70 205 P Pn 19 26 37.5 -0.6
MET5 Makryloggos,Me 2.71 205 P Pn 19 26 37.9 -0.4
JMB Yambol 2.73 28 P Pn 19 26 38.2 -0.4
MET2 Kameni Chora, 2.73 206 P Pn 19 26 38.1 -0.5
VIZE Kirklareli, Vi 2.74 56 P Pn 19 26 37.8 -0.9
MET6 Megalochori,Me 2.74 205 P Pn 19 26 38.1 -0.6
VTS Vitosha 2.80 335 P Pn 19 26 42.3 +2.6
VTS S Sg 19 27 25.0 0.0
VTS Vitosha 2.80 335 *e*Pn Pn 19 26 41.3 +1.6
EFP Efpalio 2.80 235 P Pn 19 26 38.9 -0.7
SLVT Silivri 2.82 65 Pn Pn 19 26 40.7 +0.9
TETR Tetrakomo, Epi 2.83 256 P Pn 19 26 40.2 +0.1
SMG Samos 2.85 146 P Pn 19 26 40.3 +0.1
GORD Gordes-Manisa 2.85 113 Pn Pn 19 26 41.7 +1.4
DURS Dursunbey 2.86 99 P Pb 19 26 43.8 -2.1
GUR Goura 2.88 223 P Pn 19 26 40.3 -0.5
KLV Kalavryta, Ach 2.91 226 P Pn 19 26 40.6 -0.5
PVO Paravola 2.94 241 P Pn 19 26 41.9 +0.4
ELND Elena 2.95 15 ⇑P Pn 19 26 41.8 +0.1
CTYL Yalikoy Yolu 2.98 61 Pn Pn 19 26 42.9 +0.9
CTYL Yalikoy Yolu 2.98 61 ⇑P Pn 19 26 42.5 +0.5
BOSS Bosilegrad 2.98 325 *e*Pn Pn 19 26 43.0 +0.9
BOSS Bosilegrad 2.98 325 *e*Pn Pn 19 26 43.1 +0.9
CTKS Kestanelik-??a 3.03 67 Pn Pn 19 26 43.7 +1.0
DRO Drossia 3.22 230 P Pn 19 26 45.3 -0.1
PLVB Pleven 3.30 358 ⇑P Pn 19 26 47.4 +1.0
MPEP Malo Peshtene 3.37 346 P Pn 19 26 47.4 +0.1
KLYT Kilyos 3.42 69 ⇑P Pn 19 26 49.1 +1.1
IGT Igoumenitsa 3.50 262 *e*Pn Pn 19 26 51.7 +2.5
IGT Igoumenitsa 3.50 262 P Pn 19 26 49.1 0.0
LOZB Loznitsa 3.54 21 ⇑P Pn 19 26 50.0 +0.3
BARS Barje 3.54 321 *e*Pn Pn 19 26 50.0 +0.2
ZAPS Zavoj 3.58 334 *e*Pn Pn 19 26 52.2 +1.9
VLI Veliai 3.67 204 P Pn 19 26 50.8 -0.7
ITM Ithomi 3.68 219 Pn Pn 19 26 53.6 +1.9
RAZG Razgrad 3.70 19 ⇑P Pn 19 26 52.4 +0.4
SILT Sile 3.82 72 ⇑P Pn 19 26 53.7 +0.1
SELS Selova 4.18 320 *e*Pn Pn 19 26 59.3 +0.7
ZAGS Zajecar 4.19 333 *e*Pn Pn 19 27 00.1 +1.4
BOVS Bovan 4.24 328 ⇑P Pn 19 26 59.0 -0.3
BOVS Bovan 4.24 328 *e*Pn Pn 19 27 00.3 +1.0
BORS2 Bor- Borsko je 4.51 333 *e*Pn Pn 19 27 03.4 +0.3
DRME Dracevica, Mon 4.74 298 *e*Pn Pn 19 27 09.5 +3.2
SJES Sjenica 4.82 313 *e*Pn Pn 19 27 08.6 +1.2
GRUS Gruza 4.88 323 *e*Pn Pn 19 27 08.2 +0.1
KUBS Kucevo 4.91 333 *e*Pn Pn 19 27 07.4 -1.2
IVAS Ivanjica 4.93 317 *e*Pn Pn 19 27 09.3 +0.4
HERR Herculane 5.11 340 ⇓P Pn 19 27 10.8 -0.5
HARR Harsova 5.15 26 ⇓P Pn 19 27 12.5 +0.8
MDVR Moldovita 5.23 335 ⇑P Pn 19 27 13.8 +0.9
MDVR Moldovita 5.23 335 *e*Pn Pn 19 27 13.5 +0.6
ARR Arges 5.28 359 ⇓P Pn 19 27 14.1 +0.4
VOIR 5.35 2 ⇑P Pn 19 27 15.3 +0.6
MLR Muntele Rosu 5.47 8 ⇓P Pn 19 27 17.4 +1.1
MLR Muntele Rosu 5.47 8 *e*Pn Pn 19 27 18.1 +1.8
GZR Gura Zlata 5.51 345 ⇑P Pn 19 27 17.0 +0.1
GZR Gura Zlata 5.51 345 *e*Pn Pn 19 27 17.0 +0.1
CFR Carcaliu 5.65 25 ⇑P Pn 19 27 18.9 +0.3
VRSS Vrsac 5.66 334 *e*Pn Pn 19 27 18.8 0.0
COVR Voineasa-Covas 5.85 10 ⇓P Pn 19 27 22.1 +0.7
DOPR Dopca 5.89 4 ⇑P Pn 19 27 21.9 -0.2
PLOR Plostina 5.92 13 ⇑P Pn 19 27 23.8 +1.3
VRI Vrincioaia 5.95 13 ⇓P Pn 19 27 24.1 +1.3
SURR Surduc 6.00 342 ⇑P Pn 19 27 24.1 +0.6
BZS Buzias 6.01 338 ⇓P Pn 19 27 24.1 +0.5
BZS Buzias 6.01 338 *e*Pn Pn 19 27 24.1 +0.5
OZUR 6.05 6 ⇓P Pn 19 27 25.5 +1.2
TESR Tescani 6.56 11 ⇓P Pn 19 27 32.5 +1.3
MARR Marisel-Cluj 6.70 350 ⇑P Pn 19 27 33.5 +0.2
DRGR 6.88 348 ⇑P Pn 19 27 36.0 +0.4
BURAR Bucovina Array 7.53 2 ⇑P Pn 19 27 46.3 +1.7

IDC ***23*** *19:38:48.9±0.9, 55°.24N×109°.44E, h0km, mb3.7/10, mbtmp3.8/15, ML3.7/5, MS3.1/5, Error ellipse: s-maj=18.5km s-min=17.2km az=100.0*
MOS ***23*** *19:38:49.2±1.3, 55°.35N×109°.36E, h11km, mb4.4/1, Error ellipse: s-maj=9.4km s-min=5.7km az=73.9*
BYKL ***23*** *19:38:51.1±0.1, 55°.34N×109°.40E, h12km±2km, FELT I=III-IV MSK at Severobaykalsk.*
ISC 23 19:38:49.8±1.1**, 55°.33N**±0°.02×**109°.51E**±0°.02**, h3**km±7km**, n92, σ2.s61**/176**, mb3.9**/11**, MS3.2**/3**, 9C-14D, Lake Baykal region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
NIZB Nizh Angarsk 0.45 2 ⇑*i*Pg Pb 19 38 59.8 -0.5
NIZB Pmax 19 39 01.0
916nm,0.3s
NIZB *e*Sg Sg 19 39 05.5 +1.4
NIZB Smax 19 39 06.2
9μm,0.3s
YLYR Ulyunkhan 1.05 115 ⇑*i*Pg Pg 19 39 11.3 +1.4
YLYR Pmax 19 39 11.5
695nm,0.2s
YLYR *e*Sg Sb 19 39 26.3 +1.6
YLYR Smax 19 39 28.9
3μm,0.1s
KMO Kumora 1.11 59 ⇑*i*Pg Pb 19 39 12.0 +0.4
KMO *e*Pb Pn 19 39 13.8 +1.6
KMO max 19 39 14.2
2μm,0.4s
KMO *e*Sg Sb 19 39 27.3 +0.8
KMO *e*Sb Sn 19 39 30.9 +2.9
KMO max 19 39 31.0
4μm,0.7s
KMO Kumora 1.11 59 ⇑*i*PG Pb 19 39 12.0 +0.4
KMO *e* 19 39 27.5
KMO pmax pmax
comp=Z,2μm,0.4s
KMO smax smax
comp=N,4μm,0.7s
YOAB Uoyan, Buryati 1.49 56 ⇓*i*Pn Pg 19 39 19.1 +0.7
YOAB *e*Pg Pb 19 39 19.3 +1.2
YOAB Pmax 19 39 29.1
comp=N,504nm,0.6s
YOAB *e*Sg Sg 19 39 39.7 +2.0
YOAB Smax 19 39 51.7
comp=N,8μm,1.3s
YOAB Uoyan, Buryati 1.49 56 ⇓*i*PN Pg 19 39 19.1 +0.7
YOAB *e* 19 39 40.3
YOAB pmax pmax
comp=Z,374nm,0.4s
YOAB smax smax
comp=N,8μm,1.3s
SYVR Suvo 1.70 170 *e*Pn Pn 19 39 21.8 +1.6
SYVR *e*Pg Pb 19 39 22.6 +1.1
SYVR Pmax 19 39 22.7
comp=N,388nm,0.6s
SYVR *e*Sg Sg 19 39 45.9 +1.7
SYVR Smax 19 39 47.4
comp=N,6μm,0.6s
SYVR Suvo 1.70 170 ⇑*i*PN Pb 19 39 22.6 +1.1
SYVR *e* 19 39 46.0
SYVR pmax pmax
comp=Z,399nm,0.3s
SYVR smax smax
comp=N,7μm,0.6s
OGRR Ongureny 2.02 214 *e*Pn Pn 19 39 25.1 +0.4
OGRR *e*Pg Pb 19 39 27.3 +0.2
OGRR Pmax 19 39 35.8
comp=N,160nm,0.3s
OGRR *e*Sn Sn 19 39 50.1 -0.4
OGRR *e*Sg Sb 19 39 53.0 +0.3
OGRR Smax 19 40 02.8
comp=N,630nm,0.4s
OGRR Ongureny 2.02 214 *e*PN Pn 19 39 25.1 +0.4
OGRR *e* 19 39 26.6
OGRR *e* 19 39 53.2
OGRR pmax pmax
comp=Z,234nm,0.8s
OGRR smax smax
comp=E,783nm,0.9s
MXMB Maximikha 2.12 193 *e*Pn Pn 19 39 27.7 +1.7
MXMB *e*Pg Pb 19 39 29.6 +0.9
MXMB *e*Sn Sn 19 39 53.5 +0.7
MXMB *e*Sg Sb 19 39 57.5 +2.2
MXMB *e*SgSg SnSn 19 40 04.7 +1.2
UKT Uakit 2.35 84 ⇓*i*Pn Pn 19 39 31.0 +1.7
UKT *e*Pg Pb 19 39 33.9 +1.1
UKT Pmax 19 39 37.2
comp=E,370nm,0.9s
UKT *e* 19 39 38.6
UKT *e*Sn Sn 19 40 00.2 +1.4
UKT *e*Sg Sb 19 40 05.0 +2.7
UKT Smax 19 40 06.4
comp=E,3μm,0.6s
UKT Uakit 2.35 84 ⇓*i*PN Pn 19 39 31.1 +1.7
UKT *e* 19 39 33.8
UKT *e* 19 40 05.0
UKT pmax pmax
comp=Z,375nm,0.8s
UKT smax smax
comp=N,3μm,0.5s
SVKR Severomuysk 2.42 69 *e*Pn Pn 19 39 32.4 +2.1
SVKR *e*Pg Pb 19 39 35.8 +1.8
SVKR Pmax 19 39 48.1
comp=N,380nm,0.3s
SVKR *e*Sg Sg 19 40 07.5 0.0
SVKR Smax 19 40 09.5
comp=N,4μm,0.5s
SVKR Severomuysk 2.42 69 *e*PN Pb 19 39 32.7 -1.3
SVKR *e* 19 39 36.7
SVKR *e*S Sn 19 40 02.0 +1.6
SVKR *e* 19 40 08.2
SVKR pmax pmax
comp=Z,333nm,0.3s
SVKR smax smax
comp=N,4μm,0.5s
GORB Goryachinsk 2.45 198 *e*Pn Pn 19 39 32.0 +1.4
GORB *e*Pg Pb 19 39 35.9 +1.4
GORB *e*Sn Sn 19 40 01.5 +0.4
GORB *e*Sg Sb 19 40 07.0 +1.9
KELR Kotokel 2.71 199 *e*Pn Pn 19 39 35.3 +1.2
KELR *e*Pg Pb 19 39 39.5 +0.7
KELR *e*Sg Sb 19 40 14.5 +2.2
ZRHB Zarechye 3.11 208 *e*Pg Pb 19 39 47.1 +1.5
ZRHB Pmax 19 39 54.6
comp=N,150nm,0.5s
ZRHB *e*Sg Sb 19 40 27.7 +3.8
ZRHB Smax 19 40 55.9
comp=N,1μm,1.0s
TRG Tyrgan 3.18 217 ⇑*i*Pn Pn 19 39 41.1 +0.5
TRG *e* 19 39 43.5
TRG *e*Pg Pb 19 39 47.2 +0.4
TRG Pmax 19 39 53.3
comp=N,62nm,0.4s
TRG *e*Sn Sn 19 40 18.2 -0.8
TRG *e*Sg Sb 19 40 29.0 +3.1
TRG Smax 19 40 31.5
comp=N,626nm,0.9s
TRG Tyrgan 3.18 217 *e*PN Pn 19 39 41.1 +0.5
TRG *e* 19 39 48.2
TRG *e* 19 40 30.2
TRG pmax pmax
comp=Z,48nm,0.3s
TRG smax smax
comp=E,585nm,0.3s
BOD Bodaibo 3.52 43 ⇓*i*Pn Pn 19 39 46.2 +0.9
BOD Pmax 19 39 53.6
comp=E,66nm,0.5s
BOD *e*Pg Pb 19 39 54.8 +2.1
BOD *e*Sn Sn 19 40 27.2 -0.3
BOD *e*Sg Sg 19 40 40.4 -2.5
BOD Smax 19 40 41.0
comp=E,610nm,0.6s
BOD Bodaibo 3.52 43 *e*PN Pn 19 39 46.1 +0.8
BOD *e* 19 39 54.8
BOD *e* 19 40 40.4
BOD pmax pmax
comp=Z,57nm,0.6s
BOD smax smax
comp=N,616nm,0.4s
UUDB Ulan-Yde 3.64 198 *e*Pn Pn 19 39 48.5 +1.6
UUDB *e*Pg Pb 19 39 56.0 +1.4
UUDB Pmax 19 40 24.8
comp=N,64nm,0.7s
UUDB *e*Sn Sn 19 40 28.0 -2.3
UUDB *e*Sg Sb 19 40 43.4 +4.3
UUDB Smax 19 41 05.6
comp=N,317nm,1.9s
STDB Stepnoy Dvoret 3.67 212 *e*Pn Pn 19 39 48.7 +1.3
STDB *e*Pg Pb 19 39 56.6 +1.4
STDB *e*Sn Sn 19 40 30.4 -0.8
STDB *e*Sg Sb 19 40 44.8 +4.7
NLYR Nelyaty 3.68 69 ⇓*i*Pn Pn 19 39 48.6 +1.2
NLYR *e*Pg Pb 19 39 58.2 +2.9
NLYR *e* 19 40 05.1
NLYR max 19 40 06.5
comp=N,140nm,0.7s
NLYR *e*Sn Sn 19 40 31.6 +0.3
NLYR *e*Sg Sg 19 40 46.0 -1.7
NLYR Smax 19 41 00.3
comp=N,540nm,0.7s
NLYR Nelyaty 3.68 69 ⇓*i*PN Pn 19 39 48.7 +1.3
NLYR *e* 19 39 58.9
NLYR *e* 19 40 45.9
NLYR pmax pmax
comp=Z,141nm,0.6s
NLYR smax smax
comp=N,536nm,0.6s
KAB Kabansk 3.70 209 *e*Pg Pb 19 39 57.8 +2.2
KAB Pmax 19 40 10.9
comp=N,89nm,0.4s
KAB *e*Sn Sn 19 40 31.3 -0.4
KAB *e*Sg Sb 19 40 44.9 +4.1

KAB				*e*			19 40 59.2	
KAB				max			19 41 20.6	
	comp=N,797nm,1.1s							
HRMR	**Khuramsha**	**4.01**	**203**	*e*Pn	**Pn**		**19 39 53.0**	**+1.0**
HRMR				*e*Pg	**Pb**		**19 40 02.3**	**+1.4**
HRMR				*e*			19 40 10.2	
HRMR				max			19 40 12.7	
	comp=N,122nm,0.5s							
HRMR				*e*Sn	**Sn**		**19 40 37.9**	**-1.5**
HRMR				*e*Sg	**Sb**		**19 40 54.3**	**+4.5**
HRMR				*e*SgSg	**SbSb**		**19 40 57.4**	**+2.5**
HRMR				max			19 41 14.2	
	comp=N,326nm,0.7s							
CIT	**Chita**	**4.09**	**142**	*e*Pg	**Pb**		**19 40 05.8**	**+3.4**
CIT				Pmax			19 40 12.0	
	comp=N,87nm,0.6s							
CIT				*e*			19 40 35.6	
CIT				*e*Sg	**Sg**		**19 40 58.7**	**-2.3**
CIT				Smax			19 41 03.4	
	comp=N,644nm,0.6s							
CIT	**Chita**	**4.09**	**142**	*e*PN	**Pn**		**19 39 54.8**	**+1.6**
CIT				*e*			19 40 05.2	
CIT				*e*S	**Sn**		**19 40 43.3**	**+1.8**
CIT				*e*			19 41 00.0	
CIT				pmax	pmax			
	comp=Z,106nm,1.3s							
CIT				smax	smax			
	comp=E,690nm,0.9s							
BGT	**Bolshoye Golou**	**4.09**	**218**	*e*Pn	**Pn**		**19 39 53.7**	**+0.5**
BGT				*e*			19 40 07.3	
BGT				*e*			19 40 12.5	
BGT				max			19 40 14.2	
	comp=E,62nm,0.5s							
BGT				*e*Sn	**Sn**		**19 40 38.1**	**-3.4**
BGT				*e*Sg	**Sb**		**19 40 55.9**	**+3.7**
BGT				Smax			19 41 05.2	
	comp=E,268nm,0.8s							
IRK	**Irkutsk**	**4.38**	**227**	*e*Pn	**Pn**		**19 39 56.4**	**-0.7**
IRK				*e*			19 40 05.2	
IRK				*e*Pg	**Pb**		**19 40 09.4**	**+2.1**
IRK				Pmax			19 40 23.3	
	comp=E,66nm,0.5s							
IRK				*e*			19 40 39.4	
IRK				*e*Sg	**Sb**		**19 41 05.2**	**+4.7**
IRK				Smax			19 41 08.4	
	comp=E,567nm,0.6s							
IRK	**Irkutsk**	**4.38**	**227**	*e*PN	**Pb**		**19 40 09.4**	**+2.1**
IRK				*e*			19 41 05.3	
IRK				pmax	pmax			
	comp=Z,58nm,0.4s							
IRK				smax	smax			
	comp=Z,614nm,0.5s							
VTMR	**Vitim**	**4.44**	**20**	*e*Pn	**Pn**		**19 39 58.2**	**+0.3**
VTMR				*e*Pg	**Pb**		**19 40 10.6**	**+2.3**
VTMR				*e*			19 40 50.9	
VTMR				*e*Sg	**Sg**		**19 41 09.7**	**-2.5**
LSTR	**Listvyanka**	**4.45**	**221**	*e*Pn	**Pn**		**19 39 58.0**	**0.0**
LSTR				*e*Pg	**Pb**		**19 40 11.1**	**+2.7**
LSTR				Pmax			19 40 27.0	
	comp=Z,30nm,0.5s							
LSTR				*e*Sn	**Sn**		**19 40 47.2**	**-3.0**
LSTR				*e*Sg	**Sb**		**19 41 08.2**	**+5.8**
LSTR				Smax			19 41 09.5	
	comp=Z,216nm,1.4s							
LSTR				*e*			19 41 23.0	
IVK	**Ivanovka**	**4.66**	**223**	*e*Pn	**Pn**		**19 40 02.1**	**+1.2**
IVK				*e*Pg	**Pb**		**19 40 13.9**	**+1.9**
IVK				Pmax			19 40 22.3	
	comp=Z,84nm,0.7s							
IVK				*e*Sn	**Sn**		**19 40 52.5**	**-3.0**
IVK				*e*Sg	**Sb**		**19 41 13.4**	**+4.9**
IVK				Smax			19 41 28.2	
	comp=Z,446nm,1.2s							
TLY	**Talaya**	**5.06**	**226**	*e*Pn	**Pn**		**19 40 07.7**	**+1.3**
TLY				*e*Pg	**Pb**		**19 40 21.3**	**+2.4**
TLY				Pmax			19 40 32.3	
	comp=Z,40nm,0.8s							
TLY				*e*Sn	**Sn**		**19 41 01.9**	**-3.5**
TLY				*e*Sg	**Sb**		**19 41 25.6**	**+5.6**
TLY				Smax			19 41 39.5	
	comp=Z,228nm,1.0s							
CRS	**Chara**	**5.15**	**69**	*e*Pn	**Pn**		**19 40 09.8**	**+2.1**
CRS				*e*Pg	**Pb**		**19 40 24.7**	**+4.3**
CRS				*e*			19 40 28.5	
CRS				max			19 40 35.3	
	comp=Z,112nm,0.9s							
CRS				*e*Sg	**Sg**		**19 41 31.6**	**-3.4**
CRS				Smax			19 41 36.9	
	comp=Z,342nm,1.7s							
ARS	**Arshan**	**5.42**	**234**	*e*Pn	**Pn**		**19 40 11.2**	**-0.3**
ARS				*e*			19 40 34.4	
ARS				max			19 40 39.4	
	comp=Z,100nm,0.5s							
ARS				*e*Sn	**Sn**		**19 41 10.6**	**-3.8**
ARS				*e*Sg	**Sb**		**19 41 37.4**	**+6.8**
ARS				Smax			19 41 44.6	
	comp=Z,920nm,0.9s							
ARS	**Arshan**	**5.42**	**234**	*e*PN	**Pn**		**19 40 11.3**	**-0.3**
ARS				*e*			19 40 27.0	
ARS				*e*S	**Sn**		**19 41 12.9**	**-1.5**
ARS				*e*			19 41 39.0	
ARS				pmax	pmax			
	comp=Z,100nm,0.3s							
ARS				smax	smax			
	comp=E,921nm,1.0s							
KPC	**Khapcheranga**	**5.90**	**162**	*e*Pn	**Pn**		**19 40 18.7**	**+0.7**
KPC				*e*Pg	**Pb**		**19 40 37.7**	**+4.5**
KPC				Pmax			19 40 45.9	
	comp=E,22nm,0.6s							
KPC				*e*Sn	**Sn**		**19 41 23.1**	**-3.0**
KPC				*e*Sg	**Sg**		**19 41 55.0**	**-4.0**
KPC				Smax			19 41 58.8	
	comp=E,204nm,1.0s							
KPC	**Khapcheranga**	**5.90**	**162**	*e*PN	**Pn**		**19 40 18.1**	**+0.1**
KPC				*e*			19 40 36.5	
KPC				*e*			19 41 55.0	
KPC				pmax	pmax			
	comp=Z,22nm,0.5s							
KPC				smax	smax			
	comp=E,204nm,1.1s							
KHNR	**Khani**	**6.07**	**70**	*e*Pg	Pb		19 40 41.7	+5.6
KHNR				*e*			19 41 32.2	
KHNR				*e*Sg	**Sg**		**19 42 00.6**	**-3.9**
TUP	**Tupik**	**6.10**	**94**	*e*Pn	**Pn**		**19 40 21.4**	**+0.7**
TUP				*e*			19 40 40.1	
TUP				max			19 40 49.2	
	comp=E,27nm,0.6s							
TUP				*e*			19 41 45.9	
TUP				*e*Sg	**Sg**		**19 42 01.6**	**-3.8**
TUP				Smax			19 42 11.0	
	comp=E,371nm,0.9s							
TUP	**Tupik**	**6.10**	**94**	*e*PN	**Pn**		**19 40 21.2**	**+0.5**
TUP				*e*			19 40 39.4	
TUP				*e*S	**Sn**		**19 41 29.6**	**-1.3**
TUP				*e*			19 42 01.4	
TUP				pmax	pmax			
	comp=Z,19nm,0.4s							
TUP				smax	smax			
	comp=N,372nm,0.9s							
ZAK	**Zakamensk**	**6.22**	**220**	*e*Pn	**Pn**		**19 40 22.2**	**-0.3**
ZAK				*e*Pg	**Pb**		**19 40 41.8**	**+3.0**
ZAK				Pmax			19 40 47.4	
	comp=N,28nm,1.4s							
ZAK				*e*Sn	**Sn**		**19 41 31.9**	**-2.3**
ZAK				*e*Sg	**Sg**		**19 42 02.6**	**-6.9**
ZAK				Smax			19 42 08.3	
	comp=N,162nm,1.0s							
ZAK	**Zakamensk**	**6.22**	**220**	*e*PN	Pn		19 40 27.9	+5.4
ZAK				*e*			19 42 02.3	
ZAK				pmax	pmax			
	comp=Z,13nm,0.7s							
ZAK				smax	smax			
	comp=E,161nm,1.1s							
MOY	**Mondy**	**6.26**	**238**	*e*Pn	**Pn**		**19 40 24.0**	**+0.9**
MOY				max			19 40 49.5	
	comp=E,34nm,0.6s							
MOY				*e*Sg	**Sb**		**19 42 02.8**	**+8.0**
MOY				Smax			19 42 11.0	
	comp=E,215nm,1.2s							
MOY	**Mondy**	**6.26**	**238**	*e*PN	**Pn**		**19 40 24.2**	**+1.1**
MOY				*e*			19 40 42.8	
MOY				*e*S	**Sn**		**19 41 32.4**	**-2.8**
MOY				*e*			19 42 04.6	
	comp=Z,35nm,0.5s							
MOY				smax	smax			
	comp=E,215nm,1.0s							
ORL	**Orlik**	**6.37**	**248**	*i*Pn	**Pn**		**19 40 25.4**	**+0.8**
ORL				*e*			19 40 29.5	
ORL				max			19 40 33.4	
	comp=E,27nm,0.8s							
ORL				*e*Sn	**Sn**		**19 41 33.6**	**-4.2**
ORL				*e*Sg	**Sg**		**19 42 07.2**	**-7.1**
ORL				Smax			19 42 10.8	
	comp=E,718nm,1.3s							
ORL	**Orlik**	**6.37**	**248**	*e*PN	**Pn**		**19 40 25.0**	**+0.4**
ORL				*e*			19 40 45.0	
ORL				*e*S	**Sn**		**19 41 33.1**	**-4.7**
ORL				*e*			19 42 07.2	
ORL				pmax	pmax			
	comp=Z,30nm,0.4s							
ORL				smax	smax			
	comp=N,719nm,1.3s							
YKLR	**Yuktali**	**6.94**	**74**	*e*Pn	**Pn**		**19 40 34.1**	**+1.9**
YKLR				*e*Pg	Pb		19 40 57.1	+6.3
YKLR				*e*Sg	**Sg**		**19 42 26.5**	**-5.8**
ULN	**Ulaanbaatar**	**7.63**	**193**	*e*PN	**Pn**		**19 40 44.0**	**+2.2**
SONM	**Songino Array**	**7.75**	**196**	Pn	**Pn**		**19 40 43.7**	**+0.3**
	comp=N,0.3nm,0.3s,baz=13,slow=12,SNR=8.2							
SONM				Lg	Lg		19 42 48.5	
	comp=N,3.0nm,0.3s,baz=13,slow=30,SNR=6.0							
	comp=N,1.1nm,0.6s							
TDJR	**Todzha**	**8.45**	**255**	*e*	Pn		19 40 58.9	+5.9
TDJR				*e*Pg	**Pb**		**19 41 21.3**	**+4.7**
TDJR				*e*Sg	Sg		19 43 09.9	-11
KNGR	**Kungurtug, Tuv**	**8.64**	**242**	*e*	Pn		19 41 09.5	+14
KNGR				*e*			19 42 46.4	
KNGR				*e*Sg	Sg		19 43 16.8	-10
KNGR	**Kungurtug, Tuv**	**8.64**	**242**	*e*PN	**Pn**		**19 40 55.4**	**-0.3**
HIA	**Hailar**	**8.72**	**130**	*e*PN	**Pn**		**19 40 57.2**	**+0.5**
CLNS	**Chul'man**	**8.74**	**74**	*e*Pg	Pg		19 41 29.6	-7.3
CLNS				*e*			19 43 00.7	
CLNS				*e*Sg	**Sg**		**19 43 23.0**	**-6.9**
MINR	**Mina**	**8.79**	**274**	*e*	**Pn**		**19 40 56.2**	**-1.4**
MINR				*e*Sn	**Sn**		**19 42 31.0**	**-6.1**
MINR				*e*Sg	Sg		19 43 21.5	-10
ARDR	**Aradan**	**9.87**	**260**	*e*Pn	**Pn**		**19 41 13.5**	**+1.1**
ARDR				*e*Pg			19 41 48.1	
ARDR				*e*Sn	**Sn**		**19 42 57.4**	**-6.3**
ARDR				*e*Sg			19 43 54.2	
ZEA	**Zeya**	**10.43**	**91**	*e*P	**Pn**		**19 41 21.1**	**+1.1**
ZEA				MLR	MLR			
	comp=Z,100nm,11.0s							
HEH	**HeiHe**	**11.96**	**108**	*e*P	**Pn**		**19 41 40.3**	**-0.6**
HEH				S	**Sn**		**19 43 56.0**	**+1.4**
HEH				smax	smax			
	comp=N,130nm,1.0s							
HEH				smax	smax			
	comp=E,99nm,0.8s							
YAK	**Yakutsk**	**12.42**	**49**	Sn	**Sn**		**19 43 59.9**	**-6.0**
	comp=E,0.8nm,0.3s,baz=234,slow=23,SNR=1.6							
YAK				Lg	Lg		19 45 14.5	
	baz=328,slow=24							
YAK	**Yakutsk**	**12.42**	**49**	*e*P	**Pn**		**19 41 49.4**	**+2.2**
YAK				*e*S	**Sn**		**19 44 09.1**	**+3.2**
YAK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
YAK				pmax	pmax			
	comp=N,2.0nm,0.9s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.0s							
YAK				smax	smax			
	comp=N,79nm,2.9s							
YAK				smax	smax			
	comp=E,72nm,2.8s							
YAK				smax	smax			
	comp=E,24nm,0.8s							
YAK				smax	smax			
	comp=N,28nm,0.9s							
ZALV	**Zalesovo Beam**	**14.35**	**275**	Pn	**Pn**		**19 42 13.3**	**-0.2**
	comp=N,0.3nm,0.3s,baz=79,slow=11,SNR=10							
ZALV				Lg	Lg		19 46 17.0	
	comp=N,0.2nm,0.3s,baz=86,slow=23,SNR=4.2							
ZALV				LR	LR		19 48 02.6	
	comp=N,40nm,18.7s,baz=28,slow=39							
	comp=N,2.0nm,0.5s							
TIXI	**Tiksi**	**18.35**	**19**	P	**Pn**		**19 43 04.0**	**-0.9**
	comp=N,0.6nm,0.3s,baz=251,slow=5.1,SNR=4.7							
TIXI				Lg	Lg		19 48 23.6	
	comp=N,0.4nm,0.3s,baz=174,slow=21,SNR=4.4							
	comp=N,2.8nm,0.5s							
TIXI	**Tiksi**	**18.35**	**19**	*i*P	**Pn**		**19 43 03.7**	**-1.2**
TIXI				pmax	pmax			
	comp=Z,5.0nm,0.8s							
VLA	**Vladivostok**	**18.94**	**121**	*e*P	**Pn**		**19 43 13.2**	**+1.0**
MKAR	**Makanchi Array**	**19.02**	**255**	P	**P**		**19 43 11.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=38,slow=8.0,SNR=15							
MKAR				Lg	Lg		19 48 47.0	
	baz=52,slow=36,SNR=3.0							
MKAR				LR	LR		19 50 47.6	
	comp=Z,88nm,20.4s,baz=3.0,slow=38							
	comp=Z,0.8nm,0.4s							
KURK	**Kurchatov**	**19.05**	**269**	*e*P	**P**		**19 43 12.6**	**-0.2**
KURK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KURBB	**Kurchatov Arra**	**19.15**	**269**	P	**P**		**19 43 12.8**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=70,slow=12,SNR=5.2							
KURBB				Lg	Lg		19 48 53.1	
	baz=70,slow=33							
	comp=Z,2.6nm,0.2s							
BVAR	**Borovoye Array**	**22.81**	**281**	P	**P**		**19 43 53.6**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=67,slow=12,SNR=12							
	comp=Z,2.3nm,0.6s							
SEY	**Seymchan**	**22.88**	**53**	*e*P	**P**		**19 43 54.6**	**+0.6**
SEY				pmax	pmax			
	comp=Z,9.0nm,0.9s							
MAJO	**Matsushiro**	**27.10**	**122**	*e*P	**P**		**19 44 34.4**	**+0.8**
KSH	**Kashi**	**27.31**	**249**	P	**P**		**19 44 36.4**	**+0.8**
ARTI	**Arti**	**28.18**	**294**	LR	LR		19 57 14.6	
	comp=Z,39nm,20.0s,baz=80,slow=39							
BILL	**Bilibino**	**28.58**	**41**	*e*P	**P**		**19 44 50.5**	**+4.0**
KIRV	**Kirov**	**31.98**	**301**	LR	LR		19 59 44.8	
	comp=Z,47nm,19.5s,baz=338,slow=39							
SPITS	**Spitsbergen Ar**	**37.20**	**340**	P	**P**		**19 46 03.3**	**+1.7**
	comp=Z,9.3nm,0.9s,baz=57,slow=10,SNR=2.9							
	comp=Z,9.3nm,0.9s							
FINES	**FINESS Array B**	**41.32**	**314**	P	**P**		**19 46 35.1**	**-1.0**
	comp=Z,2.4nm,0.9s,baz=86,slow=7.8,SNR=3.5							
	comp=Z,2.4nm,0.9s							
AKASG	**Malin Array Be**	**46.00**	**299**	P	**P**		**19 47 12.1**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=48,slow=8.8,SNR=1.9							
	comp=Z,0.1nm,0.3s							
ILAR	**Eielson Array**	**46.86**	**35**	P	**P**		**19 47 20.9**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=297,slow=6.9,SNR=9.7							
	comp=Z,1.4nm,0.9s							
HFS	**Hagfors**	**47.04**	**317**	P	**P**		**19 47 21.4**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=74,slow=7.8,SNR=1.3							
	comp=Z,1.0nm,0.8s							
NOA	**NORSAR Array B**	**47.41**	**319**	P	**P**		**19 47 23.9**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=50,slow=7.6,SNR=2.1							
	comp=Z,0.5nm,0.8s							
BRTR	**Keskin Array B**	**50.95**	**286**	P	**P**		**19 47 51.4**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=68,slow=3.3,SNR=5.5							
	comp=Z,0.2nm,0.3s							
VRAC	**Vranov**	**53.03**	**305**	LR	LR		20 13 49.6	
	comp=Z,20nm,19.6s,baz=164,slow=40							
BORG	**Borgarnes**	**54.48**	**337**	*i*P	**P**		**19 48 17.4**	**-0.5**
WRA	**Warramunga Arr**	**77.89**	**156**	P	**P**		**19 50 47.4**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=359,slow=6.1,SNR=2.6							
	comp=Z,0.5nm,0.7s							
ASAR	**Alice Springs**	**81.39**	**157**	P	**P**		**19 51 05.4**	**-2.2**
	comp=Z,0.3nm,0.8s,baz=2.6,slow=6.7,SNR=2.7							
	comp=Z,0.3nm,0.8s							
QSPA	**South Pole Qui**	**145.09**	**180**	PKPbc	**PKPdf**		**19 58 26.8**	**-0.2**
	comp=Z,1.3nm,1.0s,baz=225,slow=1.4,SNR=2.1							
SNAA	**Sanae**	**147.91**	**213**	PKPbc	**PKPbc**		**19 58 33.3**	**-1.4**
	comp=Z,1.3nm,1.1s,baz=90,slow=1.0,SNR=2.4							

CATAC ***23*** *19:48:13.1±0.5, 15°N±3°×9°3W±°, h37km±8km, M4.1/14, MLv4.1/14, Error ellipse: s-maj=8.3km s-min=3.7km az=45.8, confirmed*
MEX ***23*** *19:48:13.5±0.7, 15°.13N×93°.28W, h75km±16km, MD4.2*
GCG ***23*** *19:48:14.1±0.7, 15°.31N×93°.00W, h83km±13km, MD4.2*

ISC 23 19:48:12.1±1.2, 15°.13N±0'.05×93°.34W±0'.03, h66km±14km, n42, σ1°75/59, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.58**	**11**	*e*P	**Pn**	**19 48 26.2**	**+0.8**
PCIG				*e*S	**Sn**	**19 48 36.2**	**+1.1**
THIG		**1.06**	**102**	*e*P	**Pn**	**19 48 31.1**	**-0.1**
THIG				*i*S	**Sn**	**19 48 43.8**	**-1.6**
THIG		**1.06**	**102**	*e*P	**Pn**	**19 48 30.9**	**-0.2**
THIG				*e*S	**Sn**	**19 48 44.9**	**-0.4**
PATR	**El Naranjo**	**1.06**	**91**	*e*P	**Pn**	**19 48 30.9**	**-0.6**
PATR				*e*S	**Sn**	**19 48 44.8**	**-1.0**
PAVE	**Pavencul**	**1.12**	**87**	*e*P	**Pn**	**19 48 31.7**	**-0.5**
CHUJ	**Union Juarez**	**1.19**	**92**	*e*P	**Pn**	**19 48 32.7**	**-0.4**
SMCA	**Catarina**	**1.25**	**103**	*e*P	**Pn**	**19 48 33.2**	**-0.4**
SMCA				*e*S	**Sn**	**19 48 48.1**	**-1.8**
CCIG	**Comitan**	**1.62**	**45**	*i*P	**Pn**	**19 48 40.3**	**+1.4**
CCIG				*i*S	**Sn**	**19 48 54.5**	**-4.4**
CCIG	**Comitan**	**1.62**	**45**	S	**Sn**	**19 49 01.1**	**+2.1**
CCIG	**Comitan**	**1.62**	**45**	P	**Pn**	**19 48 40.4**	**+1.5**
TGIG		**1.65**	**7**	*e*P	**Pn**	**19 48 39.0**	**-0.1**
TGIG				*e*S	**Sn**	**19 48 54.4**	**-5.0**
TGIG		**1.65**	**7**	*e*P	**Pn**	**19 48 39.6**	**+0.5**
RTAL	**Retalhuleu**	**1.70**	**111**	*e*P	**Pn**	**19 48 39.7**	**+0.1**
RTAL				*e*S	**Sn**	**19 48 59.7**	**-0.8**
RTAL	**Retalhuleu**	**1.70**	**111**	S	**Sn**	**19 49 00.6**	**+0.1**
RTAL	**Retalhuleu**	**1.70**	**111**	P	**Pn**	**19 48 39.9**	**+0.2**
HUEH	**Huehuetenango**	**1.78**	**84**	*e*P	**Pn**	**19 48 41.9**	**+1.0**
HUEH				*e*S	**Sn**	**19 49 03.1**	**+0.3**
HUEH	**Huehuetenango**	**1.78**	**84**	P	**Pn**	**19 48 41.4**	**+0.5**
HUEH	**Huehuetenango**	**1.78**	**84**	S	**Sn**	**19 49 04.2**	**+1.4**
UXUV	**UXUV**	**2.31**	**340**	*e*P	**Pn**	**19 48 49.9**	**+2.0**
UXUV				*e*S	Sn	19 49 07.9	-7.4
CMIG	**Matias Romero**	**2.45**	**323**	*e*P	**Pn**	**19 48 51.4**	**+1.5**
CMIG				*e*S	**Sn**	**19 49 16.9**	**-1.8**
HUIG	**Huatulco**	**2.75**	**284**	*e*P	**Pn**	**19 48 52.5**	**-1.3**
HUIG				*e*S	**Sn**	**19 49 25.8**	**-0.1**
FAME	**Alcaldia de Sa**	**3.46**	**111**	S	**Sn**	**19 49 43.7**	**+0.2**
FAME	**Alcaldia de Sa**	**3.46**	**111**	P	**Pn**	**19 49 04.2**	**+0.5**
NEUV	**Arroyo Zacate**	**3.49**	**318**	*e*P	**Pn**	**19 49 05.5**	**+1.5**
NEUV				*e*S	Sn	19 49 35.3	-8.8
NUBE	**Las Nubes**	**3.66**	**109**	S	**Sn**	**19 49 49.0**	**+0.6**
NUBE	**Las Nubes**	**3.66**	**109**	P	**Pn**	**19 49 07.2**	**+0.8**
PEIG	**Puerto Escondi**	**3.77**	**284**	*e*P	**Pn**	**19 49 08.3**	**+0.4**
PEIG				*e*S	Sn	19 49 43.5	-7.6
CEVE	**Cerro Verde**	**3.82**	**109**	S	**Sn**	**19 49 53.9**	**+1.2**
CEVE	**Cerro Verde**	**3.82**	**109**	P	**Pn**	**19 49 09.2**	**+0.5**
MTO3	**Montecristo**	**3.92**	**100**	P	**Pn**	**19 49 11.2**	**+1.2**
MTO3	**Montecristo**	**3.92**	**100**	S	**Sn**	**19 49 55.9**	**+1.0**
JAYA	**Jayaque - finc**	**4.04**	**111**	S	**Sn**	**19 49 58.8**	**+0.9**
JAYA	**Jayaque - finc**	**4.04**	**111**	P	**Pn**	**19 49 12.3**	**+0.5**
SCIG	**Sabancuy**	**4.33**	**28**	*e*P	**Pn**	**19 49 14.1**	**-1.4**
SCIG				*e*S	**Sn**	**19 50 01.9**	**-2.9**
SCIG	**Sabancuy**	**4.33**	**28**	P	**Pn**	**19 49 17.2**	**+1.7**
YOIG	**Yosondua**	**4.40**	**294**	*e*P	**Pn**	**19 49 19.7**	**+3.0**
YOIG				*e*S	**Sn**	**19 50 03.1**	**-3.6**
TOIG	**Toxpalan**	**4.63**	**310**	*e*P	**Pn**	**19 49 19.3**	**-0.4**
TOIG				*e*S	**Sn**	**19 50 15.3**	**+3.0**
TXIG	**Tlaxiaco**	**4.75**	**297**	*e*P	**Pn**	**19 49 24.5**	**+3.0**
TXIG				*e*S	**Sn**	**19 50 10.8**	**-4.6**
JAUV	**Jalcomulco**	**5.36**	**322**	*e*P	**Pn**	**19 49 28.9**	**-0.7**
FTIG	**Fresnillo de T**	**5.36**	**302**	*e*P	**Pn**	**19 49 31.6**	**+1.9**
FTIG				*e*S	**Sn**	**19 50 30.7**	**+0.4**
DAIG	**Los Arroyos**	**6.35**	**288**	*e*P	**Pn**	**19 49 42.5**	**-0.7**
CXUV	**Coxquihui**	**6.45**	**322**	*e*P	**Pn**	**19 49 45.8**	**+1.3**
CXUV				*e*S	**Sn**	**19 50 57.4**	**+0.7**

NEIC ***23*** *19:53:26.7±1.9, 15°.3S±0'.2×178°.6W±0'.2, h417km±7km, mb4.3/39, Error ellipse: s-maj=26.9km s-min=16.8km az=136.0*
IDC ***23*** *19:53:28.8±2.5, 15°.37S×178°.58W, h447km±26km, mb3.5/6, mbtmp4.3/7, Error ellipse: s-maj=48.0km s-min=11.9km az=149.0*

ISC 23 19:53:24.4±0.6, 15°.4S±0'.1×178°.53W±0'.09, h400km, n67, σ1°35/69, mb4.3/26, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUTU	**Fugatoga**	**1.15**	**20**	P	**Pn**	**19 54 20.3**	**+4.2**
MSVF	**Nonsavu**	**4.02**	**234**	P	Pn	19 54 43.0	+6.3
AFI	**Afiamalu**	**6.70**	**78**	P	**Pn**	**19 55 05.8**	**+1.0**
FUNA	**Funafuti**	**7.17**	**342**	P	**P**	**19 55 10.8**	**+0.2**
SANVU	**Saraoutou**	**13.75**	**268**	P	**Pn**	**19 56 24.8**	**-1.1**
PINNC	**Pines Island,**	**15.07**	**239**	P	**P**	**19 56 39.6**	**+1.9**
DZM	**Mont Dzumac**	**15.70**	**243**	P	**P**	**19 56 45.8**	**+1.2**
DZM				IAmb	IAmb	19 57 00.3	
	comp=Z,11nm,1.0s						
DZM	**Mont Dzumac**	**15.70**	**243**	P	**P**	**19 56 46.7**	**+2.2**
	comp=Z,9.0nm,1.1s,baz=0.0,slow=5.1,SNR=2.3						
STKA	**Stephens Creek**	**39.78**	**238**	P	**P**	**20 00 22.2**	**+1.4**
STKA				IAmb	IAmb	20 00 23.3	
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**39.78**	**238**	P	**P**	**20 00 22.5**	**+1.8**
	comp=Z,2.5nm,0.6s,baz=62,slow=8.3,SNR=6.7						
	comp=Z,2.5nm,0.6s						
BBOO	**Buckleboo**	**44.56**	**239**	P	**P**	**20 00 59.6**	**+0.9**
BBOO				IAmb	IAmb	20 01 10.2	
	comp=Z,19nm,1.5s						
WR8	**Warramunga Arr**	**44.87**	**257**	P	**P**	**20 01 01.3**	**-0.1**
WB0	**Warramunga Arr**	**44.98**	**257**	P	**P**	**20 01 01.7**	**-0.5**
WB2	**Warramunga Arr**	**45.01**	**257**	P	**P**	**20 01 01.9**	**-0.5**
WRA	**Warramunga Arr**	**45.02**	**257**	P	**P**	**20 01 02.3**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=93,slow=7.1,SNR=11						
WRA				PcP	**PcP**	**20 02 35.2**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=88,slow=3.3,SNR=1.

M27K					IAmb	IAmb	20 05 05.6		
	comp=Z,9.1nm,1.2s								
HLID	**Hailey**	**82.82**	**41**	P	**P**	**P**	**20 05 05.2**	**-0.3**	
HLID					IAmb	IAmb	20 05 06.7		
	comp=Z,3.2nm,0.7s								
MLY	**Manley**	**82.91**	**12**	P	**P**		**20 05 04.2**	**-1.0**	
WRH	**Wood River Hil**	**82.95**	**13**	P	**P**		**20 05 04.5**	**-0.8**	
RIDG	**Independent Ri**	**83.06**	**14**		**P**		**20 05 05.5**	**-0.5**	
RIDG					IAmb	IAmb	20 05 05.9		
	comp=Z,5.6nm,0.9s								
CCB	**Clear Creek Bu**	**83.17**	**13**	P	**P**		**20 05 05.6**	**-0.8**	
CCB					IAmb	IAmb	20 05 06.3		
	comp=Z,3.6nm,0.6s								
DOT	**Dot Lake**	**83.17**	**15**	P	**P**		**20 05 05.7**	**-0.8**	
DOT					IAmb	IAmb	20 05 06.6		
	comp=Z,3.2nm,0.6s								
IMAR	**Indian Mountai**	**83.24**	**10**	P	**P**		**20 05 06.9**	**+0.1**	
BCAR	**Beaver Creek A**	**83.27**	**16**	P	**P**		**20 05 06.4**	**-0.7**	
IL31		**83.48**	**13**	P	**P**		**20 05 07.3**	**-0.6**	
IL31					IAmb	IAmb	20 05 07.7		
	comp=Z,3.8nm,0.9s								
ILAR	**Eielson Array**	**83.48**	**13**	P	**P**		**20 05 07.2**	**-0.8**	
	comp=Z,1.3nm,0.5s,baz=229,slow=5.3,SNR=15								
	comp=Z,1.3nm,0.5s								
TXAR	**Lajitas Array**	**84.76**	**58**	P	**P**		**20 05 15.8**	**+0.4**	
TXAR	**Lajitas Array**	**84.76**	**58**	P	**P**		**20 05 16.1**	**+0.8**	
	comp=Z,1.1nm,0.7s,baz=216,slow=6.7,SNR=10								
	comp=Z,1.1nm,0.7s								
BMAR	**Burnt Mountain**	**86.24**	**12**	P	**P**		**20 05 21.2**	**-0.4**	
D23K	**Nanushuk River**	**86.45**	**10**	P	**P**		**20 05 22.1**	**-0.3**	
D23K					IAmb	IAmb	20 05 25.8		
	comp=Z,9.5nm,1.4s								
BVAR	**Borovoye Array**	**114.82**	**322**	PKP		PKPdf	20 11 16.3	-1.7	
	comp=Z,1.1nm,0.4s,baz=154,slow=1.4,SNR=6.9								
ARCES	**ARCESS Array B**	**123.83**	**350**	PKP		**PKPdf**	**20 11 33.4**	**-1.6**	
	comp=Z,1.1nm,0.5s,baz=57,slow=4.5,SNR=9.8								
FINES	**FINESS Array B**	**130.75**	**345**	PKP		**PKPdf**	**20 11 45.8**	**-2.5**	
	comp=Z,0.8nm,0.7s,baz=48,slow=2.1,SNR=1.8								
BR131	**Keskin Array S**	**142.90**	**317**			**PKPdf**	**20 12 08.6**	**-2.9**	
BRTR	**Keskin Array B**	**142.90**	**317**			**PKPdf**	**20 12 08.4**	**-3.1**	
BRTR	**Keskin Array B**	**142.90**	**317**	PKP		**PKPdf**	**20 12 08.7**	**-2.9**	
	comp=Z,2.4nm,0.8s,baz=90,slow=1.6,SNR=14								
MMAI	**Mount Meron Ar**	**144.63**	**306**	PKP		**PKPdf**	**20 12 14.9**	**+0.3**	
	comp=Z,3.9nm,0.6s,baz=76,slow=3.5,SNR=14								
GEC2	**GERESS Array S**	**145.16**	**346**	PKPdf		**PKPdf**	**20 12 14.7**	**-0.4**	
GERES	**GERESS Array B**	**145.16**	**346**	PKPbc		**PKPdf**	**20 12 15.0**	**-0.1**	
	comp=Z,1.0nm,0.6s,baz=25,slow=4.4,SNR=10								
BFO	**Black Forest**	**146.67**	**352**	PKPbc		**PKPbc**	**20 12 18.9**	**-1.0**	
FUORN	**Ofenpass-Fuorn**	**148.01**	**349**			**PKPbc**	**20 12 23.1**	**-0.7**	
TORD	**Torodi Ar. Bea**	**177.76**	**186**	PKP		**PKPdf**	**20 12 45.6**	**-2.9**	
	comp=Z,0.4nm,0.7s,baz=270,slow=1.8,SNR=2.6								

*IDC **23** 20:14:19.8±0.8,52.˚71N×166.˚89W,h0km,mb4.2/25, mbtmp4.2/27,ML3.6/2,MS3.4/15,Error ellipse: s-maj=21.1km s-min=12.7km az=172.0*

*MOS **23** 20:14:20.7±0.9,52.˚82N×166.˚97W,h14km,mb4.8/25, Error ellipse: s-maj=14.0km s-min=7.9km az=100.5*

*NEIC **23** 20:14:21.0±2.1,52.˚57N±0.˚04×166.˚84W±0.˚05,h10km±1km, mb4.1/63,ML3.8/20,ML3.8(AEIC),Error ellipse: s-maj=7.2km s-min=5.3km az=355.0*

*AEIC **23** 20:14:20.3±2.4,52.˚40N±0.˚04×166.˚77W±0.˚06,h20km±2km, Error ellipse: s-maj=5.9km s-min=5.1km az=211.0*

ISC 23 20:14:20.0±1.4,52.˚57N±0.˚05×166.˚85W±0.˚04,h4km±7km, n204,σ1s04/173,mb4.5/63,MS3.5/17,6C-13D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.06**	**323**			**Pn**	**20 14 41.2**	**-0.3**
OKFG						**Sb**	**20 14 55.3**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.08**	**319**			**Pn**	**20 14 41.9**	**-0.1**
OKSP	**Okmok Steeple**	**1.11**	**309**			**Pn**	**20 14 42.1**	**-0.2**
OKCE	**Okmok Cone E**	**1.17**	**318**			**Pn**	**20 14 43.4**	**+0.3**
OKNC	**Okmok New Cone**	**1.17**	**320**			**Pn**	**20 14 43.4**	**+0.3**
OKNC						**Sn**	**20 14 59.3**	**-0.2**
OKNC						**Sb**	**20 15 00.2**	**+1.9**
MGOD	**Makushin Gods**	**1.22**	**359**			**Pn**	**20 14 44.1**	**+0.2**
MAPS	**Pakushin South**	**1.24**	**358**			**Pn**	**20 14 44.6**	**+0.6**
MAPS						**Sn**	**20 15 01.9**	**+0.7**
MRP	**Makushin Rep't**	**1.24**	**3**			**Pn**	**20 14 44.5**	**+0.3**
NIKH	**Nikolski High**	**1.28**	**289**			**Sn**	**20 15 02.2**	**0.0**
NIKH						**Sb**	**20 15 02.6**	**+1.2**
NIKH	**Nikolski High**	**1.28**	**289**			**Pg**	**20 14 44.4**	**-0.2**
NIKH				IAML			20 15 03.7	
	comp=E,2μm,0.7s							
NIKH				IAML			20 15 05.8	
	comp=N,2μm,0.5s							
UNV	**Unalaska Valle**	**1.29**	**9**			**Sn**	**20 15 03.3**	**+0.9**
UNV	**Unalaska Valle**	**1.29**	**9**			**Pb**	**20 14 45.0**	**+0.2**
MSW	**Makushin Switc**	**1.34**	**2**			**Sn**	**20 15 04.2**	**+0.4**
ZRO	**Akutan Zero**	**1.61**	**19**			**Pb**	**20 14 49.7**	**-0.6**
AKBBA	**Akutan Broad B**	**1.62**	**19**			**Pn**	**20 14 49.9**	**+0.5**
AKRB	**Akutan Reef Bi**	**1.63**	**16**			**Pb**	**20 14 50.6**	**0.0**
AKRB						**Pg**	**20 14 50.7**	**-0.5**
AKRB						**Sg**	**20 15 13.7**	**+1.3**
AKV	**Akutan Volcano**	**1.65**	**19**			**Pn**	**20 14 50.2**	**+0.5**
LVA	**Lava Point**	**1.67**	**17**			**Pb**	**20 14 50.9**	**-0.3**
LVA	**Lava Point**	**1.67**	**17**			**Pb**	**20 14 50.6**	**-0.6**
LVA				IAML			20 15 25.6	
	comp=E,2μm,0.6s							
LVA				IAML			20 15 25.9	
	comp=N,3μm,0.5s							
AKLV	**Akutan Long Va**	**1.68**	**18**			**Pn**	**20 14 50.7**	**+0.6**
AKLV						**Pb**	**20 14 51.2**	**-0.2**
AKUT	**Akutan**	**1.69**	**22**			**Pn**	**20 14 50.5**	**+0.3**
AKUT				IAML			20 15 23.5	
	comp=E,727nm,0.6s							
AKUT				IAML			20 15 26.0	
	comp=N,838nm,0.8s							
AKGG	**Akutan Green G**	**1.71**	**17**			**Pn**	**20 14 51.0**	**+0.5**
AKSA	**Akutan Strait**	**1.71**	**23**			**Pn**	**20 14 50.6**	**+0.1**
AKSA						**Pb**	**20 14 51.0**	**-0.9**
CLCO	**Concord Point,**	**1.76**	**278**			**Pn**	**20 14 51.1**	**-0.1**
CLCO						**Sn**	**20 15 14.2**	**+0.2**
CLES	**Cleveland East**	**1.87**	**279**			**Pn**	**20 14 52.5**	**-0.2**
CLES				IAML			20 15 25.8	
	comp=N,2μm,0.5s							
WEBT	**Westdahl Beart**	**2.38**	**31**			**Pn**	**20 14 59.9**	**+0.2**
SSLS	**Shishaldin Sou**	**2.73**	**37**			**Pn**	**20 15 04.8**	**+0.1**
ISNN	**Isanotski Nort**	**2.91**	**38**			**Pn**	**20 15 07.3**	**+0.3**
S12K	**Black Hills**	**4.21**	**40**	Pn		**Pn**	**20 15 25.9**	**+1.0**
S12K				IAML			20 16 24.9	
	comp=E,102nm,1.1s							
S12K				IAML			20 16 53.4	
	comp=N,93nm,1.2s							
KOFP	**Korovin Flat P**	**4.45**	**269**			**Pn**	**20 15 29.0**	**+0.9**
KOKL	**Mount Kliuchef**	**4.50**	**270**			**Pn**	**20 15 30.1**	**+1.2**
ATKA	**Atka Island**	**4.51**	**268**	Pn		**Pn**	**20 15 27.8**	**-1.2**
ATKA	**Atka Island**	**4.51**	**268**			**Pn**	**20 15 30.0**	**+1.0**
ATKA	**Atka Island**	**4.51**	**268**	IAML			20 16 58.9	
	comp=E,70nm,1.0s							
SDPT	**Sand Point**	**4.68**	**51**	Pn		**Pn**	**20 15 29.4**	**-1.9**
SDPT				IAML			20 16 25.7	
	comp=E,98nm,0.3s							
CNBA	**Chernabura Isl**	**4.87**	**60**	Pn		**Pn**	**20 15 33.6**	**-0.2**
SPIA	**Saint Paul Isl**	**5.01**	**338**	Pn		**Pn**	**20 15 35.6**	**-0.3**
GSIG	**Igitkin Island**	**5.60**	**268**			**Pn**	**20 15 44.2**	**+0.2**
GSTR	**Great Sitkin T**	**5.67**	**269**	Pn		**Pn**	**20 15 44.1**	**-0.7**
GSCK	**Great Sitkin C**	**5.74**	**268**			**Pn**	**20 15 46.1**	**+0.2**
ETKA	**Kagalaska Isla**	**5.92**	**267**			**Pn**	**20 15 48.8**	**+0.5**
ADK	**Adak**	**6.08**	**267**			**Pn**	**20 15 51.2**	**+0.7**
ADK	**Adak**	**6.08**	**267**	P		**Pn**	**20 15 51.3**	**+0.7**
CHGN	**Chignik**	**6.18**	**49**	Pn		**Pn**	**20 15 52.8**	**+0.9**
KIWB	**Kanaga Island**	**6.37**	**268**			**Pn**	**20 15 55.8**	**+1.3**
KIMD	**Kanaga Island**	**6.44**	**267**			**Pn**	**20 15 56.5**	**+1.0**
TAFL	**Tanaga Flats**	**6.85**	**268**			**Pn**	**20 16 02.5**	**+1.4**
TASE	**Tanaga Southea**	**6.92**	**268**			**Pn**	**20 16 03.7**	**+1.7**
GANE	**Gareloi Northe**	**7.37**	**269**			**Pn**	**20 16 09.1**	**+0.8**
GAKI	**Gareloi-Kavalg**	**7.45**	**267**			**Pn**	**20 16 09.8**	**+0.6**
O15K	**Ungalikthiuk R**	**7.71**	**28**	Pn		**Pn**	**20 16 13.3**	**+0.5**
M11K	**Mekoryuk**	**7.84**	**2**	Pn		**Pn**	**20 16 13.4**	**-1.3**
PLK4	**Peulik 4**	**7.86**	**46**	Pn		**Pn**	**20 16 14.8**	**-0.3**
N14K	**Kuskokwak Cree**	**7.91**	**19**	Pn		**Pn**	**20 16 13.7**	**-1.9**
CEPE	**Semis' Perret**	**8.30**	**271**			**Pn**	**20 16 22.3**	**+1.2**
N15K	**Kwethluk River**	**8.48**	**24**	Pn		**Pn**	**20 16 21.3**	**-2.2**
AMKA	**Amchitka**	**8.63**	**268**			**Pn**	**20 16 26.4**	**+0.8**
OHAK	**Old Harbor**	**9.09**	**54**	Pn		**Pn**	**20 16 32.8**	**+1.0**
M16K	**Timber Creek**	**9.51**	**24**	Pn		**Pn**	**20 16 36.7**	**-0.7**
KDAK	**Kodiak Island**	**9.68**	**52**	Pn		**Pn**	**20 16 41.0**	**+1.1**
	comp=E,0.9nm,0.3s,baz=267,slow=9.5,SNR=4.7							
	comp=E,22nm,1.1s							
KDAK	**Kodiak Island**	**9.68**	**52**	P		**Pn**	**20 16 41.0**	**+1.1**
STLK	**Strandline Lak**	**12.09**	**36**	Pn		**Pn**	**20 17 12.0**	**-0.9**
HIN	**Hinchinbrook I**	**13.66**	**47**	Pn		**Pn**	**20 17 32.0**	**-2.2**
H19K	**Roundabout Mou**	**14.02**	**18**			**P**	**20 17 47.9**	**+0.7**
BPAW	**Bear Paw Mtn.**	**14.19**	**29**			**Pn**	**20 17 42.3**	**+0.8**
H21K	**Melozitna Rive**	**14.91**	**23**	P		**P**	**20 17 55.6**	**-1.5**
MLY	**Manley**	**14.95**	**27**			**Pn**	**20 17 52.1**	**+0.2**
F20K	**Avaraart Lake**	**15.52**	**16**	IAmb		IAmb	20 18 08.7	
	comp=Z,12nm,1.1s							
E19K	**Redstone River**	**15.65**	**14**			**Pn**	**20 18 01.6**	**+0.5**
E19K				IAmb		IAmb	20 18 08.6	
	comp=Z,6.1nm,0.7s							
ILAR	**Eielson Array**	**15.94**	**32**	Pn		**Pn**	**20 18 03.3**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=220,slow=10.0,SNR=6.7							
ILAR					LR	LR	20 25 10.6	
	comp=Z,141nm,18.6s,baz=205,slow=41							
	comp=Z,0.3nm,0.4s							
RIDG	**Independent Ri**	**16.02**	**37**	IAmb		IAmb	20 18 42.3		
	comp=Z,13nm,1.2s								
F21K	**Alatna River**	**16.09**	**19**	IAmb		IAmb	20 18 26.1		
	comp=Z,12nm,1.0s								
BARN	**Barnard Glacie**	**16.11**	**48**	IAmb		IAmb	20 18 16.0		
	comp=Z,13nm,0.7s								
L26K	**Log Cabin Wild**	**16.21**	**41**	IAmb		IAmb	20 18 12.9		
	comp=Z,9.3nm,0.7s								
J25K	**Salcha River,**	**16.34**	**34**			**Pn**	**20 18 08.8**	**-1.2**	
G23K	**Bananza Creek**	**16.44**	**24**	IAmb		IAmb	20 18 16.5		
	comp=Z,15nm,0.9s								
SCRK	**Sand Creek**	**16.47**	**37**			**Pn**	**20 18 10.4**	**-1.3**	
SCRK				IAmb		IAmb	20 18 14.5		
	comp=Z,8.5nm,0.6s								
M27K	**Edge Creek, AK**	**16.51**	**44**	IAmb		IAmb	20 18 19.5		
	comp=Z,13nm,1.1s								
O28M	**Mount Upton**	**16.69**	**50**	IAmb		IAmb	20 18 53.7		
	comp=Z,24nm,1.2s								
J26L	**Joseph Creek**	**16.91**	**36**	IAmb		IAmb	20 18 20.6		
	comp=Z,6.5nm,0.6s								
G24K	**Hadweenzic Riv**	**17.10**	**27**	IAmb		IAmb	20 18 23.5		
	comp=Z,15nm,1.4s								
E22K	**Anaktuvuk Pass**	**17.20**	**19**	IAmb		IAmb	20 18 25.3		
	comp=Z,10nm,0.8s								
D22K	**Ayikyak River**	**17.68**	**17**	IAmb		IAmb	20 18 37.6		
	comp=Z,10.0nm,0.7s								
EGAK	**Eagle**	**17.93**	**37**	IAmb		IAmb	20 18 47.3		
	comp=Z,15nm,1.4s								
HYT	**Haines Junctio**	**17.97**	**51**			**Pn**	**20 18 30.5**	**0.0**	
HYT				IAmb		IAmb	20 18 59.6		
	comp=Z,15nm,1.0s								
M29M	**Somme Creek**	**18.02**	**46**	IAmb		IAmb	20 19 05.6		
	comp=Z,8.7nm,0.8s								
B21K	**Ikpikpuk River**	**18.03**	**14**	IAmb		IAmb	20 18 41.4		
	comp=Z,12nm,0.8s								
DAWY	**Dawson**	**18.27**	**40**	IAmb		IAmb	20 18 49.8		
	comp=Z,14nm,1.3s								
N30M	**Aishikik Lake**	**18.33**	**49**	IAmb		IAmb	20 18 39.9		
	comp=Z,11nm,0.7s								
L29M	**L29M**	**18.40**	**44**	IAmb		IAmb	20 18 50.5		
	comp=Z,16nm,1.2s								
K29M	**Barlow Dome**	**18.93**	**42**	IAmb		IAmb	20 18 43.8		
	comp=Z,10nm,0.6s								
WHY	**Whitehorse**	**19.19**	**52**			**Pn**	**20 18 46.3**	**+0.9**	
H29M	**Whitestone**	**19.67**	**35**	IAmb		IAmb	20 18 51.3		
	comp=Z,12nm,1.1s								
J30M	**Hart River**	**19.70**	**41**	IAmb		IAmb	20 19 34.0		
	comp=Z,13nm,1.5s								
I30M	**Mount Dempster**	**19.94**	**39**	IAmb		IAmb	20 19 12.7		
	comp=Z,12nm,1.3s								
G29M	**Pine Creek**	**20.15**	**34**	IAmb		IAmb	20 18 57.6		
	comp=Z,9.1nm,0.7s								
D27M	**Malcolm River**	**20.63**	**26**	IAmb		IAmb	20 19 07.8		
	comp=Z,8.2nm,0.8s								
PET	**Petropavlovsk**	**20.75**	**285**	*ep*		**P**	**20 19 00.2**	**-1.1**	
G30M	**tAoh Zraii Nji**	**20.80**	**34**	IAmb		IAmb	20 19 01.7		
	comp=Z,14nm,1.1s								
H31M	**Peel River**	**20.95**	**38**			**P**	**20 19 02.8**	**-0.8**	
H31M				IAmb		IAmb	20 19 13.5		
	comp=Z,13nm,1.0s								
E29M	**Blow River**	**20.99**	**30**	IAmb		IAmb	20 19 16.5		
	comp=Z,4.8nm,0.7s								
F30M	**Barrier River**	**21.25**	**33**	P		**P**	**20 19 07.6**	**+0.9**	
F30M				IAmb		IAmb	20 19 21.2		
	comp=Z,7.8nm,0.8s								
MMPY	**Sheldon Lake,**	**21.27**	**48**			**P**	**20 19 08.8**	**+1.8**	
PETK	**Petropavlovsk-**	**21.29**	**286**	P		**P**	**20 19 07.0**	**-0.2**	
	comp=Z,6.3nm,0.4s,baz=80,slow=12,SNR=15								
	comp=Z,6.3nm,0.4s								
PETK	**Petropavlovsk-**	**21.29**	**286**	P		**P**	**20 19 07.0**	**-0.2**	
G31M	**Satah River**	**21.45**	**35**	P		**P**	**20 19 07.8**	**-1.0**	
DLBC	**Dease Lake**	**21.46**	**60**	P		**P**	**20 19 10.0**	**+1.0**	
	comp=Z,11nm,0.6s,baz=254,slow=18,SNR=3.7								
	comp=Z,11nm,0.6s								
INK	**Inuvik**	**22.34**	**33**	IAmb		IAmb	20 19 24.2		
	comp=Z,6.9nm,0.7s								
INK	**Inuvik**	**22.34**	**33**	P		**P**	**20 19 16.3**	**-2.0**	
	comp=Z,4.7nm,0.6s,baz=240,slow=11,SNR=8.8								
	comp=Z,4.7nm,0.6s								
SEY	**Seymchan**	**23.67**	**312**	*ip*		**P**	**20 19 30.3**	**-1.8**	
SEY				pmax		pmax			
	comp=Z,14nm,1.1s								
MA2	**Magadan**	**24.31**	**304**	LR		LR	20 29 15.2		
	comp=Z,36nm,18.4s,baz=124,slow=37								
MA2	**Magadan**	**24.31**	**304**	*ep*		**P**	**20 19 37.7**	**-0.5**	
MA2				pmax		pmax			
	comp=Z,81nm,2.7s								
TIXI	**Tiksi**	**33.36**	**329**	LR		LR	20 34 28.0		
	comp=Z,34nm,19.9s,baz=196,slow=36								
TIXI	**Tiksi**	**33.36**	**329**	*ep*		**P**	**20 20 58.0**	**-0.6**	
TIXI				pmax		pmax			
	comp=Z,3.0nm,0.6s								
ASAJ	**Asahikawa**	**34.02**	**276**	LR		LR	20 33 39.7		
	comp=Z,35nm,20.8s,baz=104,slow=34								
YAK	**Yakutsk**	**34.20**	**311**	*ep*		**P**	**20 21 06.2**	**+0.2**	
YAK				pmax		pmax			
	comp=Z,26nm,2.4s								
NVAR	**Mina Array Bea**	**36.13**	**93**	P		**P**	**20 21 22.6**	**-0.6**	
	comp=Z,0.6nm,0.7s,baz=298,slow=8.5,SNR=4.9								
	comp=Z,0.6nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**38.60**	**222**	T		T	21 03 21.8		
	baz=25,slow=75,SNR=102								
H11N3	**WAKE ISLAND Hy**	**38.61**	**222**	T		T	21 03 22.3		
	baz=25,slow=75,SNR=94								
H11N1	**WAKE ISLAND Hy**	**38.62**	**222**	T		T	21 03 23.7		
	baz=25,slow=75,SNR=54								
PD31	**Pinedale Array**	**38.85**	**81**	P		**P**	**20 21 45.6**	**-0.6**	
PDAR	**Pinedale Array**	**38.85**	**81**	P		**P**	**20 21 47.1**	**+0.8**	
PDAR	**Pinedale Array**	**38.85**	**81**	P		**P**	**20 21 46.5**	**+0.2**	
	comp=Z,1.1nm,0.7s,baz=314,slow=5.0,SNR=9.5								
	comp=Z,1.1nm,0.7s								
H11S1	**WAKE ISLAND Hy**	**39.78**	**221**	T		T	21 04 43.2		
	baz=24,slow=76,SNR=64								
H11S2	**WAKE ISLAND Hy**	**39.80**	**221**	T		T	21 04 53.3		
	baz=24,slow=76,SNR=48								
H11S3	**WAKE ISLAND Hy**	**39.80**	**221**	T		T	21 04 44.0		
	baz=24,slow=76,SNR=43								
O20A	**White River Ci**	**41.21**	**83**	P		**P**	**20 22 06.3**	**+0.5**	
O20A				IAmb		IAmb	20 22 09.4		
	comp=Z,4.7nm,0.8s								
MAJO	**Matsushiro**	**41.24**	**270**	*ep*		**P**	**20 22 06.3**	**+0.4**	
MAJO				pmax		pmax			
	comp=Z,36nm,2.4s								
MJAR	**Matsushiro Arr**	**41.24**	**270**	P		**P**	**20 22 05.3**	**-0.5**	
	comp=Z,1.2nm,0.6s,baz=34,slow=7.2,SNR=2.8								
	comp=Z,1.2nm,0.6s								
NEEM	**North Greenlan**	**44.37**	**16**	*ip*		**P**	**20 22 31.2**	**+0.2**	
NEEM				IAmb		IAmb	20 22 32.2		
	comp=Z,16nm,0.7s								
NOR	**Nord**	**45.12**	**6**	*ip*		**P**	**20 22 36.5**	**-0.1**	
NOR				IAmb		IAmb	20 22 37.9		
	comp=Z,12nm,1.3s								
ANMO	**Albuquerque**	**45.62**	**88**	LR		LR	20 41 48.9		
	comp=Z,70nm,18.1s,baz=312,slow=36								
KSRS	**Korea Array**	**46.90**	**278**	P		**P**	**20 22 51.3**	**+0.1**	
	comp=Z,2.3nm,0.8s,baz=63,slow=7.2,SNR=6.0								
KSRS					LR	LR	20 43 10.1		
	comp=Z,8μm,19.8s,baz=45,slow=37								
	comp=Z,2.3nm,0.8s								
KSRS	**Korea Array**	**46.90**	**278**	*ep*		**P**	**20 22 52.5**	**+1.3**	
KSRS				pmax		pmax			
	comp=Z,3.0nm,0.9s								
FRB	**Frobisher Bay**	**47.91**	**36**	LR		LR	20 45 10.4		
	comp=Z,88nm,18.0s,baz=312,slow=39								
DAG	**Danmarks Havn**	**49.35**	**9**	*ip*		**P**	**20 23 08.9**	**-0.8**	
DAG				IAmb		IAmb	20 23 09.7		
	comp=Z,17nm,0.7s								
SPITS	**Spitsbergen Ar**	**49.50**	**359**	P		**P**	**20 23 09.4**	**-1.4**	
	comp=Z,9.9nm,1.1s,baz=23,slow=4.5,SNR=7.3								
	comp=Z,9.9nm,1.1s								
SUMG	**Summit**	**50.12**	**18**			**P**	**20 23 15.9**	**-0.2**	
SUMG	**Summit**	**50.12**	**18**	P		**P**	**20 23 15.9**	**-0.2**	
SUMG				pmax		pmax			
	comp=Z,29nm,1.4s								
SUMG	**Summit**	**50.12**	**18**	*ip*		**P**	**20 23 17.0**	**+0.9**	
SUMG				IAmb		IAmb	20 23 17.9		
	comp=Z,15nm,1.0s								
TXAR	**Lajitas Array**	**51.21**	**91**	P		**P**	**20 23 25.8**	**+1.3**	
	comp=Z,1.5nm,0.8s,baz=300,slow=4.2,SNR=14								
	comp=Z,1.5nm,0.8s								
DBG	**Daneborg**	**51.43**	**11**	*i* P		**P**	**20 23 24.8**	**-0.6**	
DBG				IAmb		IAmb	20 23 25.3		
	comp=Z,16nm,0.7s								
ULN	**Ulaanbaatar**	**52.15**	**302**	*ep*		**P**	**20 23 30.9**	**-0.4**	
ULN				pmax		pmax			
	comp=Z,5.0nm,0.7s								
SONM	**Songino Array**	**52.51**	**302**	P		**P**	**20 23 33.9**	**0.0**	
	comp=Z,0.8nm,0.3s,baz=55,slow=7.1,SNR=9.2								
	comp=Z,0.8nm,0.3s								
KNGR	**Kungurtug, Tuv**	**55.09**	**309**	*ep*		**P**	**20 23 53.0**	**+0.2**	
KNGR				pmax		pmax			
	comp=Z,6.0nm,1.1s								
ARCES	**ARCESS Array B**	**57.87**	**355**	P		**P**	**20 24 11.6**	**-0.6**	
	comp=Z,5.2nm,0.8s,baz=7.5,slow=7.8,SNR=17								
ARCES					LR	LR	20 50 54.9		
	comp=Z,28nm,18.6s,baz=194,slow=38								
	comp=Z,5.2nm,0.8s								
ZALV	**Zalesovo Beam**	**58.30**	**319**	P		**P**	**20 24 15.1**	**-0.3**	
	comp=Z,0.8nm,0.4s,baz=38,slow=8.4,SNR=5.5								
ZALV					LR	LR	20 52 35.8		
	comp=Z,36nm,18.5s,baz=58,slow=40								
	comp=Z,0.8nm,0.4s								
BORG	**Borgarnes**	**60.02**	**16**	LR		LR	20 51 01.7		
	comp=Z,18nm,19.6s,baz=334,slow=37								
KURK	**Kurchatov**	**63.23**	**320**	*ip*		**P**	**20 24 48.7**	**-0.3**	
KURK				pmax		pmax			
	comp=Z,4.0nm,0.7s								
KURBB	**Kurchatov Arra**	**63.34**	**320**	P		**P**	**20 24 49.4**	**-0.3**	
	comp=Z,2.8nm,0.8s,baz=49,slow=7.4,SNR=29								
KURBB					LR	LR	20 54 09.5		
	comp=Z,32nm,18.6s,baz=173,slow=38								
	comp=Z,2.8nm,0.8s								
SVE	**Sverdlovsk**	**64.22**	**333**	*ep*		**P**	**20 24 55.7**	**+0.3**	
BVAR	**Borovoye Array**	**64.42**	**326**	P		**P**	**20 24 56.6**	**-0.2**	
	comp=Z,3.1nm,0.6s,baz=46,slow=7.8,SNR=15								
	comp=Z,3.1nm,0.6s								
MKAR	**Makanchi Array**	**64.77**	**315**	P		**P**	**20 24 58.2**	**-1.0**	
	comp=Z,3.9nm,0.7s,baz=49,slow=6.4,SNR=37								
	comp=Z,3.9nm,0.7s								
KLMR	**Klimovskoe**	**64.97**	**346**	*ep*		**P**	**20 24 58.2**	**-2.1**	
KLMR				pmax		pmax			
	comp=Z,17nm,1.4s								
ARTI	**Arti**	**65.21**	**334**	*c ip*		**P**	**20 25 01.

	comp=Z,7.1nm,1.2s							
SOKA	**Soboth**	**81.11**	**359**	*i* P		**P**	**20 26 36.8**	**+0.6**
	comp=Z,7.7nm,1.2s							
GNI	**Garni**	**83.67**	**336**	⇓*e*P		**P**	**20 26 49.7**	**-0.1**
GNI				pmax		pmax		
	comp=Z,12nm,1.4s							
BRTR	**Keskin Array B**	**86.37**	**344**	P		**P**	**20 27 04.0**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=28,slow=2.1,SNR=14							
	comp=Z,2.0nm,0.8s							
ESDC	**Sonseca Array**	**86.93**	**13**	P		**P**	**20 27 06.0**	**0.0**
	comp=Z,1.0nm,1.0s,baz=341,slow=3.6,SNR=4.2							
	comp=Z,1.0nm,1.0s							
ASAR	**Alice Springs**	**91.72**	**232**	P		**P**	**20 27 29.3**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=30,slow=5.2,SNR=4.5							
	comp=Z,0.2nm,0.6s							
RPZ	**Rata Peaks**	**97.78**	**196**	LR		LR	21 07 14.5	
	comp=Z,53nm,18.9s,baz=132,slow=32							
H03N2	**Juan Fernandez**	**114.58**	**113**	T		T	22 38 27.3	
	baz=322,slow=78,SNR=6.7							
H03N1	**Juan Fernandez**	**114.59**	**113**	T		T	22 38 34.5	
	baz=322,slow=78,SNR=7.1							
H03N3	**Juan Fernandez**	**114.60**	**113**	T		T	22 38 29.8	
	baz=322,slow=78,SNR=6.6							
MAW	**Mawson**	**151.99**	**219**	PKPbc		**PKiKP**	**20 34 14.9**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=135,slow=1.4,SNR=1.7							
MAW	**Mawson**	**151.99**	**219**	PKIKP		**PKiKP**	**20 34 15.0**	**-0.1**
BOSA	**Boshof**	**154.43**	**335**	PKPab		**PKPab**	**20 34 35.9**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=358,slow=6.9,SNR=3.6							

*SOME **23** 20:25:43.5,39.°90N×76.°02E,h10km*
*KRNET **23** 20:25:48.4±0.1,40.°10N×76.°17E,mb3.1*
*NNC **23** 20:25:50.4±0.9,40.°17N×76.°05E,h0km,mb3.7,mpv3.5,*
Error ellipse: s-maj=6.1km s-min=4.2km az=172.0

ISC 23 20:25:48.7±1.9,**40.°15N**±0.°07×**75.°75E**±0.°03,**h1**km±12km,
n39,σ1ᵒ57/61,10C-20D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.12**	**10**	⇑*e*P	**Pb**	**20 26 27.4**	**-0.7**
ULHL				⇑*e*S	**Sb**	**20 26 55.8**	**+0.7**
KDJ	**Kajisay**	**2.25**	**28**	⇓*e*P	**Pn**	**20 26 27.7**	**+0.4**
KDJ				⇓*e*S	**Sn**	**20 26 56.3**	**+0.5**
BOOM	**Boomskoye usch**	**2.34**	**3**	⇑*e*P	**Pb**	**20 26 30.8**	**-1.0**
BOOM				⇑*e*S	**Sb**	**20 27 01.7**	**+0.4**
ARSB	**Arslanbob**	**2.41**	**300**	⇓*e*P	**Pg**	**20 26 35.1**	**+0.2**
ARSB				⇓*e*S	**Sg**	**20 27 09.2**	**+3.1**
KBK	**Karagaybulak**	**2.58**	**347**	⇓*e*P	**Pb**	**20 26 35.2**	**-0.6**
KBK				⇓*e*S	**Sb**	**20 27 09.4**	**+1.4**
AAK	**Ala-Archa**	**2.66**	**340**	⇑Pg	**Pg**	**20 26 39.3**	**-0.4**
	7.4nm,0.5s						
AAK				⇓Lg	Lg	20 27 18.8	
	27nm,0.7s						
AAK	**Ala-Archa**	**2.66**	**340**	⇓*e*P	**Pb**	**20 26 36.8**	**-0.4**
AAK				⇓*e*S	**Sb**	**20 27 12.2**	**+1.8**
TKM2	**Tokmak 2**	**2.77**	**358**	⇑*e*P	**Pb**	**20 26 37.1**	**-2.0**
TKM2				⇑*e*S	**Sb**	**20 27 12.8**	**-0.9**
FRU1	**Bishkek**	**2.79**	**343**	⇓*e*P	**Pb**	**20 26 38.7**	**-0.6**
FRU1				⇓*e*S	**Sb**	**20 27 15.3**	**+1.3**
KST	**Kastek**	**2.89**	**3**	Pg	**Pg**	**20 26 43.5**	**-0.6**
	7.6nm,0.3s						
KST				Lg	Lg	20 27 22.3	
	22nm,0.4s						
KST	**Kastek**	**2.89**	**3**	*e*P	**Pb**	**20 26 41.3**	**+0.1**
	3.0nm,0.4s						
KST				*e*S	**Sg**	**20 27 23.3**	**+1.6**
	22nm,0.4s						
EKS2	**Erkin-Say**	**2.92**	**330**	⇓*e*P	**Pb**	**20 26 40.8**	**-0.8**
EKS2				⇓*e*S	**Sb**	**20 27 19.3**	**+1.5**
CHMS	**Chumysh**	**2.94**	**346**	⇓*e*P	**Pb**	**20 26 40.2**	**-1.8**
CHMS				⇓*e*S	**Sb**	**20 27 18.0**	**-0.5**
MTBS	**Maitube**	**3.02**	**9**	Pg	**Pg**	**20 26 45.3**	**-1.3**
	5.5nm,0.2s						
MTBS				Lg	Lg	20 27 25.4	
	23nm,0.3s						
MTBS	**Maitube**	**3.02**	**9**	*e*P	**Pb**	**20 26 43.4**	**+0.1**
	1.7nm,0.1s						
MTBS				*e*S	**Sg**	**20 27 26.7**	**+1.1**
	23nm,0.3s						
TNSS	**Tian-Shan**	**3.02**	**17**	Pg	**Pb**	**20 26 44.4**	**+0.9**
	2.1nm,0.2s						
TNSS				Lg	Lg	20 27 23.9	
	5.2nm,0.7s						
TNSS	**Tian-Shan**	**3.02**	**17**	*e*P	**Pb**	**20 26 42.2**	**-1.3**
	0.2nm,0.1s						
TNSS				*e*S	**Sg**	**20 27 24.9**	**-0.8**
	5.1nm,0.6s						
PRZ	**Przheval'sk**	**3.07**	**40**	⇓*e*P	**Pn**	**20 26 38.2**	**-0.3**
PRZ				⇓*e*S	**Sn**	**20 27 14.5**	**-1.4**
MDOK	**Medeo**	**3.16**	**17**	Pg	**Pb**	**20 26 46.4**	**+0.6**
	2.5nm,0.2s						
MDOK				Lg	Lg	20 27 27.4	
	16nm,0.6s						
MRKS	**Merke**	**3.21**	**325**	Pg	**Pg**	**20 26 51.1**	**+0.8**
	10nm,0.3s						
MRKS				Lg	Lg	20 27 35.5	
	15nm,0.4s						
MRKS	**Merke**	**3.21**	**325**	*e*P	**Pg**	**20 26 49.0**	**-1.2**
	2.1nm,0.3s						
MRKS				*e*S	**Sg**	**20 27 36.5**	**+4.6**
	15nm,0.4s						
KOTS	**Kotyrbulak**	**3.24**	**18**	Pg	**Pg**	**20 26 48.9**	**-1.9**
	5.4nm,0.2s						
KOTS				Lg	Lg	20 27 31.8	
	43nm,0.5s						
KOTS	**Kotyrbulak**	**3.24**	**18**	*e*P	**Pb**	**20 26 45.9**	**-1.3**
	2.5nm,0.2s						
KOTS				*e*S	**Sb**	**20 27 31.1**	**+3.8**
	43nm,0.5s						
USP	**Ospenovka**	**3.25**	**344**	⇑*e*P	**Pb**	**20 26 44.6**	**-2.6**
USP				⇑*e*S	**Sb**	**20 27 25.7**	**-1.7**
SGDS	**Sogindy**	**3.40**	**346**	Pg	**Pg**	**20 26 54.0**	**+0.1**
	2.8nm,0.3s						
SGDS				Lg	Lg	20 27 40.1	
	13nm,0.4s						
SATY	**Saty**	**3.52**	**34**	Pg	**Pb**	**20 26 51.6**	**-0.3**
	6.1nm,0.5s						
SATY				Lg	Lg	20 27 36.4	
	20nm,0.6s						
KRBS	**Karabastau**	**3.54**	**359**	Pg	**Pg**	**20 26 55.1**	**-1.5**
	11nm,0.3s						
KRBS				Lg	Lg	20 27 42.3	
	11nm,0.4s						
KTBS	**Karatobe**	**3.62**	**11**	Pg	**Pg**	**20 26 55.7**	**-2.4**
	6.3nm,0.3s						
KTBS				Lg	Lg	20 27 43.6	
	15nm,0.4s						
TRKS	**Terek-Say**	**3.76**	**293**	⇓*e*P	**Pb**	**20 26 53.5**	**-2.5**
TRKS				⇓*e*S	**Sb**	**20 27 41.0**	**-1.1**
KUU	**Kurty**	**3.77**	**6**	Pg	**Pg**	**20 26 59.2**	**-1.6**
	3.4nm,0.1s						
KUU				Lg	Lg	20 27 49.3	
	26nm,0.2s						
KUU	**Kurty**	**3.77**	**6**	*e*P	**Pb**	**20 26 56.2**	**+0.2**
	3.2nm,0.1s						
KUU				*e*S	**Sg**	**20 27 48.6**	**-1.0**
	9.8nm,0.1s						
CHKK	**Chushkaly**	**3.81**	**14**	Pg	**Pg**	**20 26 59.9**	**-1.9**
	3.2nm,0.5s						
CHKK				Lg	Lg	20 27 50.3	
	7.2nm,0.2s						
CHKK	**Chushkaly**	**3.81**	**14**	*e*P	**Pb**	**20 26 56.7**	**-0.1**
	3.4nm,0.1s						
CHKK				*e*S	**Sg**	**20 27 49.8**	**-1.4**
	8.8nm,0.4s						
UZB	**Uzynbulak**	**3.87**	**38**	Pg	**Pb**	**20 26 58.4**	**+0.6**
	2.3nm,0.3s						
UZB				Lg	Lg	20 27 47.6	
	5.0nm,0.5s						
UZB	**Uzynbulak**	**3.87**	**38**	*e*P	**Pb**	**20 26 55.6**	**-2.1**
	1.2nm,0.1s						
UZB				*e*S	**Sb**	**20 27 47.8**	**+2.6**
	7.1nm,0.4s						
KPKS	**Kokpek**	**3.97**	**33**	Pg	**Pb**	**20 26 60.0**	**+0.5**
	2.3nm,0.3s						
KPKS				Lg	Lg	20 27 50.6	
	21nm,0.5s						
SHLS	**Shalkode**	**4.09**	**42**	Pg	**Pg**	**20 27 06.3**	**-0.8**
	5.0nm,0.3s						
SHLS				Lg	Lg	20 28 01.6	
	11nm,0.6s						
SHLS	**Shalkode**	**4.09**	**42**	*e*P	**Pb**	**20 27 03.8**	**+2.2**
	2.0nm,0.2s						
SHLS				*e*S	**Sg**	**20 28 01.7**	**+1.6**
	10nm,0.4s						

KK31	**Karatay Array**	**4.91**	**309**	⇓Pg		**Pg**	**20 27 22.4**	**-0.4**
	0.2nm,0.3s,baz=129,slow=17,SNR=5.0							
KK31				⇑Lg		Lg	20 28 30.0	
	1.2nm,0.5s,baz=125,slow=30,SNR=5.5							

*IDC **23** 20:45:26.0±5.5,52.°56N×166.°43W,h0km,mb3.9/8,*
mbtmp3.9/8,Error ellipse: s-maj=134.7km s-min=36.6km
az=153.0
*NEIC **23** 20:45:27.5±0.9,52.°44N±0.°06×166.°87W±0.°07,h10km±2km,*
ML3.1/12,ML2.9(AEIC),Error ellipse: s-maj=10.3km
s-min=6.3km az=147.0
*AEIC **23** 20:45:30.3±0.8,52.°51N±0.°08×166.°9W±0.°1,h25km±5km,*
Error ellipse: s-maj=13.9km s-min=5.7km az=146.0

ISC 23 20:45:30.1±1.1,**52.°54N**±0.°09×**166.°85W**±0.°06,**h25**km,**n39,**
σ1ᵒ05/38,mb3.8/8,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.09**	**324**		**Pb**	**20 45 49.7**	**-0.5**
OKFG					**Sb**	**20 46 04.4**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**1.11**	**320**		**Pb**	**20 45 50.1**	**-0.6**
OKSP	**Okmok Steeple**	**1.13**	**310**		**Pb**	**20 45 50.2**	**-0.8**
OKCE	**Okmok Cone E**	**1.19**	**319**		**Pb**	**20 45 51.6**	**-0.5**
OKNC	**Okmok New Cone**	**1.20**	**321**		**Pb**	**20 45 51.6**	**-0.6**
OKNC					**Sb**	**20 46 08.0**	**+0.7**
MGOD	**Makushin Gods**	**1.26**	**360**		**Pb**	**20 45 52.3**	**-1.0**
MAPS	**Pakushin South**	**1.28**	**358**		**Pb**	**20 45 52.8**	**-0.7**
MREP	**Makushin Rep't**	**1.28**	**3**		**Pb**	**20 45 52.6**	**-1.0**
NIKH	**Nikolski High**	**1.29**	**291**		**Sb**	**20 46 08.9**	**-1.0**
NIKH	**Nikolski High**	**1.29**	**291**		**Pn**	**20 45 52.1**	**-0.5**
NIKH				IAML		20 46 13.1	
	comp=N,390nm,0.7s						
NIKH				IAML		20 46 13.2	
	comp=E,316nm,0.6s						
UNV	**Unalaska Valle**	**1.33**	**9**		**Sb**	**20 46 11.3**	**+0.4**
UNV	**Unalaska Valle**	**1.33**	**9**		**Pn**	**20 45 52.8**	**-0.3**
MSW	**Makushin Switc**	**1.38**	**2**		**Pb**	**20 45 54.2**	**-1.1**
AKMO	**Akutan Morgan**	**1.64**	**18**		**Sb**	**20 46 19.2**	**-0.7**
ZRO	**Akutan Zero**	**1.65**	**18**		**Pb**	**20 45 58.1**	**-1.7**
AKRB	**Akutan Reef Bi**	**1.67**	**16**		**Pn**	**20 45 58.2**	**+0.5**
AKRB					**Sb**	**20 46 20.0**	**-0.6**
LVA	**Lava Point**	**1.70**	**16**	Pn	**Pn**	**20 45 58.5**	**+0.3**
LVA				IAML		20 46 40.6	
	comp=E,248nm,0.7s						
AKLV	**Akutan Long Va**	**1.72**	**18**		**Pn**	**20 45 58.5**	**0.0**
AKUT	**Akutan**	**1.73**	**22**	Pn	**Pn**	**20 45 58.2**	**-0.4**
AKUT				IAML		20 46 38.8	
	comp=E,131nm,1.2s						
CLCO	**Concord Point,**	**1.77**	**279**		**Pn**	**20 45 59.2**	**+0.2**
CLES	**Cleveland East**	**1.87**	**280**	Pn	**Pn**	**20 45 59.1**	**-1.4**
ATKA	**Atka Island**	**4.51**	**269**		**Pn**	**20 46 36.3**	**-0.4**
ATKA				IAML		20 47 32.8	
	comp=N,19nm,1.2s						
ATKA				IAML		20 49 32.9	
	comp=E,24nm,1.1s						
ADK	**Adak**	**6.08**	**268**	Pn	**Pn**	**20 46 56.5**	**-1.8**
ADK				Sn	**Sn**	**20 48 06.1**	**-0.9**
KIWB	**Kanaga Island**	**6.37**	**268**	Pn	**Pn**	**20 47 01.4**	**-0.9**
KIWB				Sn	**Sn**	**20 48 11.9**	**-2.3**
AMKA	**Amchitka**	**8.63**	**268**	Pn	**Pn**	**20 47 33.9**	**+0.6**
PETK	**Petropavlovsk-**	**21.30**	**286**	P	**P**	**20 50 17.8**	**+3.1**
	comp=E,1.4nm,0.5s,baz=83,slow=12,SNR=9.6						
	comp=E,1.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**38.57**	**222**	T	T	21 34 22.5	
	baz=25,slow=76,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**38.58**	**222**	T	T	21 34 18.4	
	baz=25,slow=76,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**38.59**	**222**	T	T	21 34 29.9	
	baz=25,slow=76,SNR=4.0						
H11S1	**WAKE ISLAND Hy**	**39.75**	**221**	T	T	21 35 53.6	
	baz=24,slow=76,SNR=5.0						
H11S2	**WAKE ISLAND Hy**	**39.77**	**221**	T	T	21 35 54.0	
	baz=24,slow=76,SNR=3.5						
H11S3	**WAKE ISLAND Hy**	**39.77**	**221**	T	T	21 35 54.5	
	baz=24,slow=76,SNR=4.0						
ARCES	**ARCESS Array B**	**57.91**	**355**	P	**P**	**20 55 20.0**	**+0.6**
	comp=E,4.8nm,0.9s,baz=20,slow=6.6,SNR=2.3						
	comp=E,4.8nm,0.9s						
KURBB	**Kurchatov Arra**	**63.37**	**320**	P	**P**	**20 55 57.0**	**+0.2**
	comp=E,0.4nm,0.7s,baz=50,slow=7.2,SNR=4.6						
	comp=E,0.4nm,0.7s						
MKAR	**Makanchi Array**	**64.80**	**315**	P	**P**	**20 56 06.0**	**-0.3**
	comp=E,0.5nm,0.7s,baz=46,slow=5.2,SNR=5.9						
	comp=E,0.5nm,0.7s						
FINES	**FINESS Array B**	**65.90**	**353**	P	**P**	**20 56 13.2**	**0.0**
	comp=E,1.1nm,0.5s,baz=25,slow=6.3,SNR=11						
	comp=E,1.1nm,0.5s						
HFS	**Hagfors**	**67.68**	**360**	P	**P**	**20 56 24.7**	**+0.1**
	comp=E,1.2nm,0.4s,baz=8.5,slow=3.0,SNR=12						
	comp=E,1.2nm,0.4s						
AKASG	**Malin Array Be**	**76.24**	**350**	P	**P**	**20 57 15.3**	**-0.8**
	comp=E,0.4nm,0.4s,baz=16,slow=6.1,SNR=3.2						
	comp=E,0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**78.07**	**285**	P	**P**	**20 57 28.5**	**+1.7**
	comp=E,0.2nm,0.3s,baz=58,slow=7.2,SNR=1.3						
	comp=E,0.2nm,0.3s						

*ISK **23** 21:05:18.9,38.°94N×44.°59E,h9km,ML2.9/11*
*ISN **23** 21:05:21.3±0.4,39.°06N×44.°31E,h7km±999km,ML2.8*
*TEH **23** 21:05:22.2,38.°97N×44.°41E,h10km±602km*
*NSSP **23** 21:05:22.3,39.°15N×44.°40E,h10km,Ms3.0*
*AZER **23** 21:05:23.3,39.°08N×44.°54E,h3km,ml3.2*
*AFAD **23** 21:05:24.8,39.°15N×44.°29E,h4km±2km,ML2.8*

ISC 23 21:05:22.3±1.1,**39.°10N**±0.°02×**44.°40E**±0.°01,**h7**km±9km,
n91,σ1ᵒ75/147,1C-1D,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.54**	**216**	P	**Pb**	**21 05 34.5**	**+0.3**
OZAP				S	**Sb**	**21 05 43.0**	**+0.7**
VMUR	**Van-Muradiye**	**0.66**	**261**	P	**Pg**	**21 05 35.1**	**+0.2**
VMUR				S	**Sg**	**21 05 43.2**	**-0.3**
DYDN	**Diyadin**	**0.71**	**309**	P	**Pg**	**21 05 35.9**	**-0.1**
DYDN				S	**Sg**	**21 05 45.4**	**+0.2**
DYDN				*i* IAML		21 05 53.0	
	comp=N,495nm,0.8s						
DYDN				*i* IAML		21 05 56.0	
	comp=E,440nm,0.6s						
HYR	**Heyderabad**	**0.71**	**29**	P	**Pb**	**21 05 36.8**	**-0.3**
HYR				S	**Sb**	**21 05 47.8**	**+0.7**
ERCV	**ERCIS-VAN**	**0.83**	**265**	Pg	**Pg**	**21 05 38.1**	**-0.2**
ERCV				Sg	**Sb**	**21 05 51.3**	**+0.7**
NAX	**Nakhchivan**	**0.85**	**85**	P	**Pn**	**21 05 40.3**	**-0.5**
NAX				S	**Sn**	**21 05 54.0**	**+0.3**
TASB	**TASBURUN-IGDIR**	**0.89**	**352**	Pg	**Pb**	**21 05 40.3**	**+0.1**
TASB				Sg	**Sn**	**21 05 55.3**	**+0.7**
SBZ	**Shahbuz**	**0.94**	**71**	P	**Pn**	**21 05 41.6**	**-0.5**
SBZ				S	**Sn**	**21 05 56.1**	**+0.3**
TVAN	**Van**	**0.96**	**234**	P	**Pn**	**21 05 43.0**	**+0.6**
TVAN				S	**Sn**	**21 05 55.9**	**-0.6**
VAYK	**Vayk**	**0.99**	**53**	*i* P	**Pb**	**21 05 41.9**	**+0.1**
VAYK				*i* S	**Sn**	**21 05 56.8**	**-0.3**
GNI	**Garni**	**1.08**	**14**	Pn	**Pg**	**21 05 42.1**	**-1.0**
GNI				Sn	**Sn**	**21 05 59.4**	**0.0**
GNI	**Garni**	**1.08**	**14**	⇓*i* P	**Pg**	**21 05 43.2**	**+0.1**
GNI				⇓*i* S	**Sg**	**21 05 57.6**	**+0.5**
VNNZ	**Vanand**	**1.10**	**336**	*e*P	**Pb**	**21 05 43.9**	**+0.3**
VNNZ				*e*S	**Sn**	**21 05 59.6**	**-0.1**
KOTA	**Agri, Merkez-K**	**1.16**	**308**	P	**Pg**	**21 05 44.0**	**-0.6**
KOTA				S	**Sb**	**21 06 00.6**	**+0.5**
AGRB	**Hanur-Agry**	**1.19**	**294**	Pn	**Pg**	**21 05 45.4**	**+0.2**
AGRB				Sn	**Sn**	**21 06 04.0**	**+1.9**
ARUZ	**Aruch**	**1.21**	**349**	*e*P	**Pb**	**21 05 44.9**	**-0.6**
ARUZ				*e*S	**Sb**	**21 06 01.5**	**+0.2**
KAPZ	**Kaputan**	**1.24**	**11**	*e*P	**Pn**	**21 05 45.9**	**-0.4**
KAPZ				*e*S	**Sn**	**21 06 03.1**	**-0.2**
ORD	**Ordubad**	**1.25**	**97**	P	**Pg**	**21 05 47.2**	**+0.8**
ORD				S	**Sn**	**21 06 05.7**	**+2.3**
ISHB	**Shabestar**	**1.25**	**130**	Pg	**Pb**	**21 05 45.8**	**-0.6**
DORK	**Agr/Tutak/Do**	**1.29**	**283**	P	**Pn**	**21 05 46.7**	**-0.3**
AMBZ	**Amberd**	**1.29**	**355**	*e*P	**Pb**	**21 05 47.2**	**+0.1**
AMBZ				*e*S	**Sn**	**21 06 05.4**	**+0.7**
ADCV	**BITLIS_Adilcev**	**1.34**	**258**	P	**Pg**	**21 05 47.9**	**-0.1**
ADCV				S	**Sb**	**21 06 04.8**	**-0.5**
AKDM	**Akdamar-Van**	**1.35**	**236**	Pn	**Pn**	**21 05 45.4**	**-2.4**
MLAZ	**Malazgirt-MUS**	**1.44**	**272**	Pn	**Pn**	**21 05 48.7**	**-0.3**
AYRK	**Ayrk**	**1.48**	**46**	*e*P	**Pg**	**21 05 50.6**	**0.0**
AYRK				*e*S	**Sg**	**21 06 11.2**	**+1.5**
YOVA	**Hakkari_Yksek**	**1.51**	**183**	P	**Pg**	**21 05 53.1**	**+1.8**
YOVA				S	**Sg**	**21 06 14.6**	**+3.6**
DIGO	**Kars**	**1.53**	**329**	P	**Pg**	**21 05 52.5**	**+0.7**
ITBZ	**Tabriz**	**1.62**	**122**	Pg	**Pb**	**21 05 52.1**	**-0.4**
HAKT	**HAKKARI**	**1.63**	**200**	P	**Pg**	**21 05 54.2**	**+0.6**
HAKT				S	**Sg**	**21 06 16.1**	**+1.3**
HAKT	**HAKKARI**	**1.63**	**200**	P	**Pg**	**21 05 53.9**	**+0.2**
HAKT				S	**Sg**	**21 06 18.5**	**+3.7**
EATA	**Eleskirt**	**1.66**	**298**	P	**Pb**	**21 05 53.0**	**-0.4**
EGVZ	**Egvard**	**1.67**	**85**	*e*P	**Pb**	**21 05 53.7**	**+0.3**
EGVZ				*e*S	**Sg**	**21 06 16.9**	**+0.9**
EAK	**Akyaka**	**1.70**	**339**	P	**Pg**	**21 05 54.8**	**0.0**
KMOZ	**Kamo**	**1.75**	**349**	*e*P	**Pb**	**21 05 54.4**	**-0.5**
KMOZ				*e*S	**Sb**	**21 06 17.9**	**+0.7**
KARS	**Kars**	**1.83**	**327**	Pn	**Pg**	**21 05 58.2**	**+0.8**
BOZK	**Kars-Merkez-Bo**	**1.85**	**324**	P	**Pg**	**21 05 57.9**	**+0.2**
PERV	**Siirt/Pervari-**	**1.86**	**232**	P	**Pg**	**21 05 58.5**	**+0.6**
IAZR	**Azarshahr**	**1.89**	**138**	Pg	**Pb**	**21 05 57.9**	**-0.6**
BLIS	**Bitlis-Merkez**	**1.91**	**250**	P	**Pb**	**21 05 57.7**	**+0.1**
LSVT	**Lusahovit**	**1.91**	**18**	*e*P	**Pb**	**21 05 57.3**	**-0.3**
LSVT				*e*S	**Sg**	**21 06 23.1**	**-0.7**
GDB	**GEDABAY**	**1.93**	**32**	P	**Pb**	**21 05 58.4**	**+0.5**
GDB				S	**Sg**	**21 06 24.6**	**+0.4**
GURO	**Guroymak-BITLI**	**1.93**	**254**	Pn	**Pn**	**21 05 54.6**	**-1.1**
CUKT	**Cukurca**	**1.95**	**199**	Pn	**Pn**	**21 05 51.5**	**-4.5**
CUKT	**Cukurca**	**1.95**	**199**	P	**Pn**	**21 05 52.8**	**-3.2**
SRTK	**Saratovka**	**1.96**	**358**	*e*P	**Pb**	**21 05 58.4**	**-0.1**
SRTK				*e*S	**Sg**	**21 06 24.9**	**-0.6**
QZX	**Qazax, Azerbai**	**2.09**	**21**	P	**Pb**	**21 06 00.7**	**+0.1**
QZX				S	**Sg**	**21 06 32.6**	**+3.1**
GANJ	**Ganja**	**2.14**	**43**	P	**Pb**	**21 06 02.0**	**+0.7**
GANJ				S	**Sg**	**21 06 31.6**	**+0.6**
HOMI	**Horasan**	**2.15**	**297**	P	**Pg**	**21 06 03.2**	**-0.3**
SENK	**Senkaya-Erzuru**	**2.15**	**313**	Pn	**Pn**	**21 05 58.8**	**0.0**
KOPR	**Koprukoy-ERZUR**	**2.16**	**295**	Pn	**Pn**	**21 05 58.8**	**-0.1**
HERIS	**Heris**	**2.21**	**110**	Pn	**Pb**	**21 06 02.5**	**-0.2**
GOLE	**Ardahan-G¶le**	**2.22**	**322**	P	**Pg**	**21 06 04.6**	**-0.2**
SRTM	**Siirt_Merkez**	**2.24**	**241**	P	**Pg**	**21 06 04.9**	**-0.3**
SIRN	**Sırnak**	**2.24**	**225**	P	**Pg**	**21 06 07.1**	**+1.9**
MUSM	**Mu-Merkez**	**2.29**	**261**	P	**Pg**	**21 06 05.1**	**-1.0**
QRD	**Qoradiz**	**2.29**	**80**	P	**Pb**	**21 06 05.0**	**+0.9**
QRD				S	**Sg**	**21 06 36.4**	**+0.4**
AGDM	**Agdam**	**2.32**	**63**	P	**Pb**	**21 06 04.6**	**+0.1**
AGDM				S	**Sg**	**21 06 36.6**	**-0.3**
BRDA	**Brd**	**2.44**	**61**	P	**Pb**	**21 06 05.9**	**-0.6**
BRDA				S	**Sg**	**21 06 38.7**	**-1.9**
BLQ	**Beylaqan**	**2.52**	**75**	P	**Pb**	**21 06 07.7**	**-0.3**
BLQ				S	**Sb**	**21 06 39.5**	**+0.3**
SLHN	**Bingol, Solhan**	**2.63**	**268**	P	**Pg**	**21 06 11.4**	**-1.4**
TBLG	**Delisi**	**2.64**	**5**	Pn	**Pn**	**21 06 04.9**	**-0.4**
MNGR	**Mingechevir, A**	**2.66**	**50**	P	**Pb**	**21 06 09.5**	**-0.6**
MNGR				S	**Sb**	**21 06 45.3**	**+2.3**
DDEM	**Demirkent**	**2.71**	**312**	P	**Pg**	**21 06 14.0**	**-0.3**
EPOS	**Posof**	**2.72**	**332**	P	**Pg**	**21 06 14.2**	**-0.3**
BTMN	**Batman**	**2.74**	**245**	P	**Pg**	**21 06 14.3**	**-0.5**
GRMI	**Germi**	**2.74**	**95**	Pn	**Pb**	**21 06 10.5**	**-1.2**
ZRD	**Zardab**	**2.79**	**64**	P	**Pb**	**21 06 12.3**	**-0.2**
ZRD				S	**Sb**	**21 06 48.2**	**+1.3**
EMRE	**Erzurum,Aziziy**	**2.81**	**290**	P	**Pg**	**21 06 15.6**	**-0.4**
DBAD	**Bademkaya**	**2.83**	**314**	P	**Pg**	**21 06 15.0**	**-1.4**
MSL	**Mosul**	**2.88**	**201**	*e*Pn	**Pn**	**21 06 09.0**	**+0.4**
MSL				*e*Sn	**Sn**	**21 06 43.5**	**-0.1**
YRD	**Yardimli**	**3.00**	**92**	P	**Pb**	**21 06 13.9**	**-2.2**
YRD				S	**Sb**	**21 06 52.6**	**-0.4**
SEKA	**Sheki**	**3.00**	**45**	P	**Pb**	**21 06 15.3**	**-0.9**
SEKA				S	**Sb**	**21 06 54.2**	**+1.1**
ZKTA	**Zakatala**	**3.05**	**33**	P	**Pb**	**21 06 15.7**	**-1.3**
ZKTA				S	**Sb**	**21 06 54.9**	**+0.5**
GLBA	**Clilabad**	**3.11**	**86**	P	**Pb**	**21 06 14.8**	**-3.1**
GLBA				S	**Sb**	**21 06 55.2**	**-0.7**
LRK	**Lerik**	**3.11**	**97**	P	**Pb**

NEIC ***23*** *21:55:00.7±2.5,52.°19N±0.°09×159.°7E±0.°1, h39km±5km, mb4.9/222, Error ellipse: s-maj=12.8km s-min=9.3km az=182.0*

MOS ***23*** *21:55:00.8±1.0,52.°17N×159.°46E, h57km, mb5.1/42, MS4.8/22, Error ellipse: s-maj=6.9km s-min=3.1km az=96.6*

GCMT ***23*** *21:55:02.7±0.2,52.°12N±0.°01×159.°94E±0.°02, h32km, MW5.1/123, Moment Tensor Solution. s96,c149; s123,c203; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.33±.15; Mθθ-1.31±.10; Mϕϕ-4.01±.10; Mrθ1.28±.14; Mθϕ-2.62±.07; Mϕr3.16±.13; Best double couple: M≈6.44600×10^16 NP1:ϕs217.00000°, δ29.00000°, λ99.00000°. NP2:ϕs26.00000°, δ61.00000°, λ85.00000°. Principal axes: T 6.3290, Plg73.0000°, Azm283.0000°; N 0.2440, Plg4.0000°, Azm29.0000°; P -6.5630, Plg16.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***23*** *21:55:03.4±1.6,52.°24N×159.°40E, h63km±13km, mb4.2/32, mbtmp4.5/36, MS4.4/84 Error ellipse: s-maj=12.8km s-min=10.2km az=140.0*

BGR ***23*** *21:55:05.3,52.°40N×159.°58E, h51km, mb5.1, Ms4.7*

ISC 23 21:55:00.4±0.4, 52.°11N±0.°03×159.°73E±0.°03, h42km±2km, h42km:pP-P,n865,σ1§34/812, mb4.9/220, MS4.7/115, 73C-27D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h	s	Res
				Op		ISC			
RUS	**Russkaya**	**0.81**	**294**	PN		**Pn**	**21**	**55**	**13.9 -1.5**
RUS				S		**Sn**	**21**	**55**	**25.1 -1.1**
RUS	**Russkaya**	**0.81**	**294**	*e*P		**Pn**	**21**	**55**	**13.9 -1.5**
RUS				*e*S		**Sn**	**21**	**55**	**25.2 -1.1**
SPN	**Mys Shipunski**	**1.01**	**10**	PN		**Pn**	**21**	**55**	**17.6 -0.4**
SPN				S		**Sn**	**21**	**55**	**32.2 +1.2**
SPN	**Mys Shipunski**	**1.01**	**10**	*e*P		**Pn**	**21**	**55**	**17.7 -0.4**
SPN				*e*S		**Sn**	**21**	**55**	**32.3 +1.2**
MTVR	**Mutnovka**	**1.02**	**292**	PN		**Pn**	**21**	**55**	**17.4 -0.9**
MTVR	**Mutnovka**	**1.02**	**292**	*e*P		**Pn**	**21**	**55**	**17.5 -0.9**
NLC	**Nalytchevo**	**1.09**	**348**	PN		**Pn**	**21**	**55**	**18.0 -1.1**
NLC				S		**Sn**	**21**	**55**	**33.7 +0.7**
NLC	**Nalytchevo**	**1.09**	**348**	*e*P		**Pn**	**21**	**55**	**18.0 -1.1**
NLC				*e*S		**Sn**	**21**	**55**	**33.8 +0.7**
DALK	**Dalny**	**1.10**	**328**	PN		**Pn**	**21**	**55**	**18.4 -0.9**
DALK				S		**Sn**	**21**	**55**	**33.6 +0.4**
DALK	**Dalny**	**1.10**	**328**	*e*P		**Pn**	**21**	**55**	**18.4 -0.9**
DALK				*e*S		**Sn**	**21**	**55**	**33.6 +0.4**
GRL	**Gorelyy**	**1.11**	**294**	PN		**Pn**	**21**	**55**	**19.3 -0.2**
GRL	**Gorelyy**	**1.11**	**294**	*e*P		**Pn**	**21**	**55**	**19.4 -0.2**
PET	**Petropavlovsk**	**1.13**	**325**			**Pn**	**21**	**55**	**18.6 -1.0**
PET	**Petropavlovsk**	**1.13**	**325**	*i*PN		**Pn**	**21**	**55**	**19.0 -0.7**
PET				*e*S		**Sn**	**21**	**55**	**34.5 +0.5**
PET				pmax	pmax				
	comp=Z,3μm,0.5s								
PET				smax	smax				
	comp=E,9μm,0.6s								
PET				smax	smax				
	comp=N,20μm,0.7s								
PET	**Petropavlovsk**	**1.13**	**325**	*e*P		**Pn**	**21**	**55**	**18.9 -0.8**
ASAK	**Asacha**	**1.16**	**285**	PN		**Pn**	**21**	**55**	**19.9 -0.2**
ASAK	**Asacha**	**1.16**	**285**	*e*P		**Pn**	**21**	**55**	**19.9 -0.2**
INSR	**Institute**	**1.18**	**325**	PN		**Pn**	**21**	**55**	**19.9 -0.5**
INSR	**Institute**	**1.18**	**325**	*e*P		**Pn**	**21**	**55**	**19.9 -0.5**
KRMR	**Karymshinskiy**	**1.22**	**307**	PN		**Pn**	**21**	**55**	**20.2 -0.7**
KRMR				S		**Sn**	**21**	**55**	**37.0 +0.9**
KRMR	**Karymshinskiy**	**1.22**	**307**	*e*P		**Pn**	**21**	**55**	**20.2 -0.7**
KRMR				*e*S		**Sn**	**21**	**55**	**37.1 +0.9**
UGLR	**Uglovaya**	**1.23**	**334**	PN		**Pn**	**21**	**55**	**20.8 -0.4**
UGLR	**Uglovaya**	**1.23**	**334**	*e*P		**Pn**	**21**	**55**	**20.9 -0.4**
SDLR	**Sedlovina**	**1.28**	**337**	PN		**Pn**	**21**	**55**	**21.1 -0.8**
SDLR	**Sedlovina**	**1.28**	**337**	*e*P		**Pn**	**21**	**55**	**21.1 -0.8**
SMAR	**Somma**	**1.29**	**334**	PN		**Pn**	**21**	**55**	**21.3 -0.7**
SMAR	**Somma**	**1.29**	**334**	*e*P		**Pn**	**21**	**55**	**21.4 -0.7**
AVH	**Avacha**	**1.31**	**333**	PN		**Pn**	**21**	**55**	**22.0 -0.2**
AVH				S		**Sn**	**21**	**55**	**41.3 +2.8**
AVH	**Avacha**	**1.31**	**333**	*e*P		**Pn**	**21**	**55**	**22.0 -0.2**
AVH				*e*S		**Sn**	**21**	**55**	**41.3 +2.8**
KRER	**Koryakskii**	**1.34**	**334**	PN		**Pn**	**21**	**55**	**22.8 +0.1**
KRER	**Koryakskii**	**1.34**	**334**	*e*P		**Pn**	**21**	**55**	**22.9 +0.1**
KOK	**Koryaka**	**1.36**	**331**	PN		**Pn**	**21**	**55**	**22.7 -0.2**
KOK	**Koryaka**	**1.36**	**331**	*e*P		**Pn**	**21**	**55**	**22.7 -0.2**
KRX	**Arik**	**1.42**	**333**	PN		**Pn**	**21**	**55**	**23.3 -0.5**
KRX	**Arik**	**1.42**	**333**	*e*P		**Pn**	**21**	**55**	**23.3 -0.5**
I44RU	**PETROPAVLOVSK-** baz=108,slow=20,SNR=1.5	**1.58**	**310**	P		**Pn**	**21**	**55**	**26.6 +0.7**
PEA0B	**Petropavlovsk-**	**1.59**	**310**	Pn		**Pn**	**21**	**55**	**26.1 +0.1**
PEA0B	**Petropavlovsk-**	**1.59**	**310**	PN		**Pn**	**21**	**55**	**26.3 +0.2**
PETK	**Petropavlovsk-**	**1.59**	**310**	Pn		**Pn**	**21**	**55**	**25.4 -0.7**
PETK	**Petropavlovsk-** comp=N,1μm,0.5s,baz=108,slow=19,SNR=985	**1.59**	**310**	P		**Pn**	**21**	**55**	**25.2 -0.9**
PETK				S		**Sn**	**21**	**55**	**43.9 -1.5**
	comp=N,1μm,0.5s,baz=102,slow=36,SNR=4.4								
PETK				LR		LR	21	56	18.4
	comp=N,23μm,18.6s,baz=64,slow=55								
APC	**Apacha**	**1.77**	**299**	PN		**Pn**	**21**	**55**	**30.7 +2.2**
APC	**Apacha**	**1.77**	**299**	*e*P		**Pn**	**21**	**55**	**30.7 +2.2**
APC				*e*S		**Sn**	**21**	**55**	**54.7 +4.9**
MIPR	**Malaya Ipel'ka**	**1.84**	**276**	PN		**Pn**	**21**	**55**	**30.1 +0.7**
MIPR	**Malaya Ipel'ka**	**1.84**	**276**	*e*P		**Pn**	**21**	**55**	**30.1 +0.7**
PAU	**Pauzhetka**	**1.92**	**252**	PN		**Pn**	**21**	**55**	**30.1 -0.4**
PAU				S		**Sn**	**21**	**55**	**55.5 +2.1**
PAU	**Pauzhetka**	**1.92**	**252**	*e*P		**Pn**	**21**	**55**	**30.1 -0.4**
PAU				*e*S		**Sn**	**21**	**55**	**55.6 +2.1**
GNL	**Ganaly**	**1.92**	**326**	PN		**Pn**	**21**	**55**	**32.0 +1.3**
GNL	**Ganaly**	**1.92**	**326**	*e*P		**Pn**	**21**	**55**	**32.1 +1.3**
KII	**Karymskiy**	**1.94**	**355**	PN		**Pn**	**21**	**55**	**32.1 +1.2**
KII	**Karymskiy**	**1.94**	**355**	*e*P		**Pn**	**21**	**55**	**32.1 +1.2**
SKR	**Severo-Kuril's**	**2.67**	**239**	PN		**Pn**	**21**	**55**	**40.7 -0.1**
SKR				S		**Sn**	**21**	**56**	**13.1 +1.2**
SKR	**Severo-Kuril's**	**2.67**	**239**	*e*P		**Pn**	**21**	**55**	**40.7 -0.1**
SKR				*e*S		**Sn**	**21**	**56**	**13.2 +1.2**
MKZ	**Mys Kozlova**	**2.73**	**25**	PN		**Pn**	**21**	**55**	**41.1 -0.5**
MKZ				S		**Sn**	**21**	**56**	**11.6 -1.7**
MKZ	**Mys Kozlova**	**2.73**	**25**	*e*P		**Pn**	**21**	**55**	**41.2 -0.5**
MKZ				*e*S		**Sn**	**21**	**56**	**11.6 -1.7**
TUMD	**Tumrok D**	**3.13**	**7**	PN		**Pn**	**21**	**55**	**47.5 +0.4**
TUMD				S		**Sn**	**21**	**56**	**27.6 +4.4**
TUMD	**Tumrok D**	**3.13**	**7**	*e*P		**Pn**	**21**	**55**	**47.5 +0.4**
TUMD				*e*S		**Sn**	**21**	**56**	**27.6 +4.4**
KMNR	**Kamenistaya**	**3.67**	**5**	PN		**Pn**	**21**	**55**	**57.3 +3.3**
KMNR	**Kamenistaya**	**3.67**	**5**	*e*P		**Pn**	**21**	**55**	**57.9 +3.3**
BZP	**Bezymyannyi-Pe**	**3.84**	**7**	PN		**Pn**	**21**	**55**	**59.4 +2.3**
BZP	**Bezymyannyi-Pe**	**3.84**	**7**	*e*P		**Pn**	**21**	**55**	**59.4 +2.3**
BZMR	**Bezymyannaya**	**3.86**	**6**	PN		**Pn**	**21**	**56**	**00.0 +2.7**
BZMR	**Bezymyannaya**	**3.86**	**6**	*e*P		**Pn**	**21**	**56**	**00.1 +2.7**
KIRR	**Kirishev**	**3.87**	**5**	PN		**Pn**	**21**	**55**	**58.5 +1.1**
KIRR	**Kirishev**	**3.87**	**5**	*e*P		**Pn**	**21**	**55**	**58.6 +1.1**
ESO	**Esso**	**3.87**	**351**	PN		**Pn**	**21**	**55**	**58.7 +1.4**
ESO	**Esso**	**3.87**	**351**	*e*P		**Pn**	**21**	**55**	**58.8 +1.4**
KPT	**Kopyto**	**3.88**	**4**	PN		**Pn**	**21**	**56**	**00.9 +3.4**
KPT	**Kopyto**	**3.88**	**4**	*e*P		**Pn**	**21**	**56**	**00.9 +3.4**
BZWR	**Bezymyannyi-We**	**3.89**	**6**	PN		**Pn**	**21**	**56**	**00.2 +2.5**
BZWR	**Bezymyannyi-We**	**3.89**	**6**	*e*P		**Pn**	**21**	**56**	**00.2 +2.5**
KOZ	**Kozyrevsk**	**3.96**	**1**	PN		**Pn**	**21**	**56**	**02.2 +3.7**
KOZ	**Kozyrevsk**	**3.96**	**1**	*e*P		**Pn**	**21**	**56**	**02.2 +3.7**
ZLN	**Zelenaya**	**3.97**	**9**	PN		**Pn**	**21**	**56**	**01.6 +2.9**
ZLN				S		**Sn**	**21**	**56**	**49.7 +5.7**
ZLN	**Zelenaya**	**3.97**	**9**	*e*P		**Pn**	**21**	**56**	**01.7 +2.9**
ZLN				*e*S		**Sn**	**21**	**56**	**49.7 +5.7**
CIRR	**Tsirk**	**4.06**	**8**	PN		**Pn**	**21**	**56**	**02.6 +2.6**
CIRR	**Tsirk**	**4.06**	**8**	*e*P		**Pn**	**21**	**56**	**02.6 +2.6**
SRDR	**Sredinnyy**	**4.22**	**360**	PN		**Pn**	**21**	**56**	**06.0 +3.9**
SRDR	**Sredinnyy**	**4.22**	**360**	*e*P		**Pn**	**21**	**56**	**06.1 +3.9**
KLY	**Klyuchi**	**4.25**	**7**	PN		**Pn**	**21**	**56**	**05.0 +2.6**
KLY	**Klyuchi**	**4.25**	**7**	*e*P		**Pn**	**21**	**56**	**05.1 +2.6**
KBTR	**Krutoberegovo**	**4.49**	**23**	PN		**Pn**	**21**	**56**	**06.4 +0.6**
KBTR	**Krutoberegovo**	**4.49**	**23**	*e*P		**Pn**	**21**	**56**	**06.5 +0.6**
KBG	**Krutoberegovo**	**4.51**	**22**	PN		**Pn**	**21**	**56**	**07.2 +1.2**
KBG	**Krutoberegovo**	**4.51**	**22**	*e*P		**Pn**	**21**	**56**	**07.3 +1.2**
SMKR	**Semkarok**	**4.60**	**12**	PN		**Pn**	**21**	**56**	**08.6 +1.3**
SMKR	**Semkarok**	**4.60**	**12**	*e*P		**Pn**	**21**	**56**	**08.6 +1.3**
BKI	**Bering**	**4.84**	**48**	PN		**Pn**	**21**	**56**	**09.6 -0.9**
BKI	**Bering**	**4.84**	**48**	*e*P		**Pn**	**21**	**56**	**09.6 -0.9**
SHEM	**Shemya Is, Ala** comp=N,98nm,0.4s,baz=318,slow=1.3,SNR=36	**8.81**	**80**	P		**Pn**	**21**	**57**	**04.2 -0.7**
SHEM				S		**Sn**	**21**	**58**	**35.4 -7.4**
	comp=N,278nm,0.8s,baz=285,slow=22,SNR=12								
SHEM				LR		LR	22	00	19.8
	comp=N,3μm,21.4s,baz=284,slow=35								
SMY	**Shemya**	**8.81**	**80**	Pn		**Pn**	**21**	**57**	**04.3 -0.7**
SMY	**Shemya**	**8.81**	**80**	PN		**Pn**	**21**	**57**	**04.3 -0.7**
MA2	**Magadan** comp=N,4μm,19.1s,baz=149,slow=42	**9.02**	**330**	LR		LR	22	01	14.6
OKH	**Okha**	**10.27**	**285**	*de*PN		**Pn**	**21**	**57**	**27.6 +2.7**
OKH				MLR	MLR				
	comp=N,1μm,14.0s								
OKH				MLR	MLR				
	comp=E,4μm,16.0s								
OKH				MLR	MLR				
	comp=Z,3μm,16.0s								
SEY	**Seymchan**	**11.54**	**343**	P		**Pn**	**21**	**57**	**43.4 +1.1**
	comp=Z,2.1nm,0.8s,baz=122,slow=19,SNR=2.0								
SEY				LR		LR	22	02	36.3
	comp=Z,5μm,19.7s,baz=150,slow=40								
AMKA	**Amchitka**	**12.15**	**86**	Pn		**Pn**	**21**	**57**	**50.1 -0.6**
YSS	**Yuzhno-Sakhali**	**12.16**	**252**	*e*PN		**Pn**	**21**	**57**	**52.3 +1.4**
YSS				*e*S		**Sn**	**22**	**00**	**08.6 +3.6**
YSS				pmax	pmax				
	comp=Z,20nm,0.8s								
YSS				pmax	pmax				
	comp=Z,400nm,4.4s								
YSS				MLR	MLR				
	comp=E,3μm,18.0s								
YSS				MLR	MLR				
	comp=Z,3μm,18.0s								
YSS				MLR	MLR				
	comp=N,2μm,17.0s								
JKA	**Kamikawa-asahi**	**13.93**	**242**	Pn		**Pn**	**21**	**58**	**14.9 -0.2**
ASAJ	**Asahikawa** comp=N,11nm,0.9s,baz=57,slow=12,SNR=8.2	**13.94**	**242**	P		**Pn**	**21**	**58**	**15.1 0.0**
ASAJ				LR		LR	22	04	16.1
	comp=N,897nm,18.1s,baz=47,slow=40								
KIWB	**Kanaga Island**	**14.24**	**82**	Pn		**Pn**	**21**	**58**	**18.6 -0.6**
GRNR	**Gornyy**	**14.59**	**274**	⇑*i*P		**P**	**21**	**58**	**30.7 +1.2**
GRNR				pmax	pmax				
	comp=Z,20nm,1.0s								
GRNR				MLR	MLR				
	comp=E,1μm,18.0s								
GRNR				MLR	MLR				
	comp=N,990nm,17.0s								
GRNR				MLR	MLR				
	comp=Z,2μm,17.0s								
ERM	**Erimo**	**15.11**	**235**	Pn		**Pn**	**21**	**58**	**32.2 +1.4**
ERM				IAmb	IAmb		21	58	33.3
	comp=Z,82nm,1.2s								
ERM	**Erimo**	**15.11**	**235**	P		**Pn**	**21**	**58**	**32.2 +1.4**
ERM				pmax	pmax				
	comp=Z,82nm,1.3s								
BILL	**Bilibino**	**16.30**	**9**	⇓*e*P		**P**	**21**	**58**	**47.4 -0.9**
BILL				pmax	pmax				
	comp=Z,18nm,0.8s								
BILL				MLR	MLR				
	comp=Z,1μm,13.0s								
YAK	**Yakutsk**	**18.94**	**313**	P		**P**	**21**	**59**	**15.1 -2.3**
YAK				IAmb	IAmb		21	59	23.3
	comp=Z,38nm,0.6s								
YAK	**Yakutsk**	**18.94**	**313**	P		**P**	**21**	**59**	**16.2 -1.2**
	comp=Z,22nm,0.6s,baz=212,slow=23,SNR=8.1								
YAK				LR		LR	22	07	23.5
	comp=Z,945nm,18.2s,baz=104,slow=40								
YAK	**Yakutsk**	**18.94**	**313**	*e*P		**P**	**21**	**59**	**15.1 -2.3**
YAK				*e*S		**Sn**	**22**	**02**	**47.2 -1.9**
YAK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
YAK				pmax	pmax				
	comp=N,1.0nm,1.3s								
YAK				pmax	pmax				
	comp=E,5.0nm,0.9s								
YAK				smax	smax				
	comp=E,138nm,2.6s								
YAK				smax	smax				
	comp=N,69nm,1.9s								
YAK				MLR	MLR				
	comp=Z,1μm,23.0s								
YAK				MLR	MLR				
	comp=E,619nm,17.0s								
YAK				MLR	MLR				
	comp=N,1μm,16.0s								
NIKH	**Nikolski High** baz=280	**19.06**	**75**	P		**P**	**21**	**59**	**18.6 -0.1**
ZEA	**Zeya**	**19.56**	**288**	*e*P		**P**	**21**	**59**	**23.7 -0.6**
ZEA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
ZEA				MLR	MLR				
	comp=N,400nm,13.0s								
ZEA				MLR	MLR				
	comp=E,1μm,13.0s								
ZEA				MLR	MLR				
	comp=Z,2μm,15.0s								
USRK	**Ussuriysk Ar.**	**20.03**	**258**	P		**P**	**21**	**59**	**28.4 -1.1**
	comp=Z,4.1nm,0.6s,baz=46,slow=11,SNR=5.5								
HEH	**HeiHe**	**20.26**	**278**	*e*P		**P**	**21**	**59**	**30.9 -1.0**
HEH				S		**S**	**22**	**03**	**14.6 -2.0**
HEH				pmax	pmax				
	comp=Z,30nm,0.8s								
HEH				LR	LR				
	comp=Z,1μm,13.7s								
HEH				LR	LR				
	comp=Z,2μm,14.9s								
HEH				LR	LR				
	comp=Z,3μm,14.4s								
UNV	**Unalaska Valle**	**20.30**	**72**	P		Pn	21	59	33.5 -1.1
UNV				IAmb	IAmb		21	59	35.5
	comp=Z,71nm,1.0s								
UNV	**Unalaska Valle** baz=279,SNR=6.0	**20.30**	**72**	P		**P**	**21**	**59**	**32.3 0.0**
M11K	**Mekoryuk** baz=262	**20.45**	**53**	P		**P**	**21**	**59**	**33.6 -0.3**
TNA	**Tin City** baz=246	**21.16**	**38**	P		**P**	**21**	**59**	**41.4 -0.1**
K13K	**Kusilvak Mount** baz=259	**21.46**	**49**	P		**P**	**21**	**59**	**44.1 -0.6**
F14K	**Arctic Creek** baz=248	**21.74**	**39**	P		**P**	**21**	**59**	**47.8 +0.1**
MJAR	**Matsushiro Arr**	**21.76**	**233**	P		**P**	**21**	**59**	**48.8 +0.5**
MJAR				IAmb	IAmb		22	00	03.3
	comp=Z,103nm,1.5s								
MJAR	**Matsushiro Arr**	**21.76**	**233**	P		**P**	**21**	**59**	**48.8 +0.5**
	comp=Z,20nm,0.8s,baz=19,slow=12,SNR=29								
MJAR				LR		LR	22	08	31.0
	comp=Z,1μm,21.9s,baz=41,slow=37								
	comp=Z,20nm,0.8s								
MJB9	**Matsu-Tunnel**	**21.76**	**233**	P		**P**	**21**	**59**	**49.7 +1.4**
MJB9				IAmb	IAmb		22	00	05.0
	comp=Z,89nm,1.3s								
MAJO	**Matsushiro**	**21.77**	**233**	P		**P**	**21**	**59**	**48.3 0.0**
MAJO				IAmb	IAmb		22	00	04.0
	comp=Z,87nm,1.3s								
MAJO	**Matsushiro**	**21.77**	**233**	P		**P**	**21**	**59**	**48.3 0.0**
MAJO				pmax	pmax				
	comp=Z,87nm,1.3s								
BNX	**BinXian**	**22.05**	**266**	⇑P		**P**	**21**	**59**	**48.5 -2.7**
BNX				sP		**sP**	**22**	**00**	**05.3 -0.3**
BNX				S		**S**	**22**	**03**	**47.1 -4.6**
BNX				pmax	pmax				
	comp=Z,28nm,1.0s								
BNX				pmax	pmax				
	comp=Z,200nm,6.8s								
BNX				LR	LR				
	comp=Z,2μm,14.6s								
BNX				LR	LR				
	comp=Z,2μm,15.0s								
BNX				LR	LR				
	comp=Z,3μm,14.7s								
J14K	**Nanvaranak Lak** baz=258	**22.12**	**47**	P		**P**	**21**	**59**	**51.6 -0.2**
L14K	**Kuka Creek** baz=263	**22.29**	**51**	P		**P**	**21**	**59**	**53.8 +0.1**
F15K	**North Star Dit** baz=250	**22.48**	**39**	P		**P**	**21**	**59**	**55.4 -0.2**
G15K	**Niukluk** baz=252	**22.49**	**41**	P		**P**	**21**	**59**	**56.0 +0.2**
M14K	**Bethel** baz=265	**22.58**	**52**	P		**P**	**21**	**59**	**57.1 +0.3**
S12K	**Black Hills** baz=277	**22.60**	**66**	P		**P**	**21**	**59**	**57.4 +0.3**
N14K	**Kuskokwak Cree** baz=267	**22.66**	**55**	P		**P**	**21**	**59**	**56.3 -1.2**
O14K	**Tigyukauivet M** baz=269	**22.85**	**56**	P		**P**	**21**	**59**	**59.3 -0.3**
L15K	**Ungalak Mounta** baz=263	**22.91**	**50**	P		**P**	**22**	**00**	**00.0 -0.1**
JGF	**Kuroka**	**22.93**	**233**	P		**P**	**22**	**00**	**02.1 +1.4**
K15K	**Wolf Creek Mou**	**22.97**	**49**	P		**P**	**22**	**00**	**01.5 +0.7**
K15K	**Wolf Creek Mou** baz=262	**22.97**	**49**	P		**P**	**22**	**00**	**00.8 0.0**
H16K	**Elim** baz=255	**23.13**	**42**	P		**P**	**22**	**00**	**02.3 -0.1**
M15K	**Kasigluk River** baz=266,SNR=5.4	**23.20**	**53**	P		**P**	**22**	**00**	**03.1 0.0**
C16K	**Lisburne Hills**	**23.25**	**33**	P		**P**	**22**	**00**	**02.9 -0.6**
C16K	**Lisburne Hills** baz=244	**23.25**	**33**	P		**P**	**22**	**00**	**03.1 -0.4**
G16K	**Koyuk River** baz=254	**23.28**	**41**	P		**P**	**22**	**00**	**04.0 +0.1**
INU	**Inuyama**	**23.30**	**233**	P		**P**	**22**	**00**	**04.8 +0.5**
INU				IAmb	IAmb		22	00	21.0
	comp=Z,40nm,1.0s								
N15K	**Kwethluk River**	**23.46**	**54**	P		**P**	**22**	**00**	**06.6 +0.8**
N15K				IAmb	IAmb		22	00	22.6
	comp=Z,40nm,1.1s								
N15K	**Kwethluk River** baz=268	**23.46**	**54**	P		**P**	**22**	**00**	**06.0 +0.2**
SDPT	**Sand Point** baz=279	**23.54**	**66**	P		**P**	**22**	**00**	**06.6 +0.1**
J16K	**Anvik River**	**23.55**	**46**	P		**P**	**22**	**00**	**06.3 -0.1**
J16K	**Anvik River** baz=260	**23.55**	**46**	P		**P**	**22**	**00**	**06.6 +0.1**
O15K	**Ungalikthiuk R** baz=271	**23.59**	**57**	P		**P**	**22**	**00**	**06.8 -0.1**
D17K	**Noatak River** baz=248	**23.78**	**35**	P		**P**	**22**	**00**	**08.7 +0.1**
L16K	**Owhat River**	**23.86**	**50**	P		**P**	**22**	**00**	**07.1 -2.4**
L16K	**Owhat River** baz=265	**23.86**	**50**	P		**P**	**22**	**00**	**09.3 -0.1**
TIXI	**Tiksi**	**23.89**	**336**	P		**P**	**22**	**00**	**08.1 -1.5**
TIXI				IAmb	IAmb		22	00	10.4
	comp=Z,29nm,0.7s								
TIXI	**Tiksi** comp=Z,3μm,18.9s,baz=144,slow=39	**23.89**	**336**	LR		LR	22	10	31.6
TIXI	**Tiksi**	**23.89**	**336**	⇓*e*P		**P**	**22**	**00**	**08.4 -1.2**
TIXI				pmax	pmax				
	comp=Z,26nm,0.6s								
TIXI				MLR	MLR				
	comp=Z,2μm,18.0s								
S14K	**Fog Glacier** baz=277	**23.93**	**64**	P		**P**	**22**	**00**	**09.8 -0.4**
RDOG	**Red Dog Mine** baz=247	**23.98**	**34**	P		**P**	**22**	**00**	**10.4 -0.1**
G17K	**Kiwalik Mounta** baz=255	**24.00**	**41**	P		**P**	**22**	**00**	**10.8 +0.1**
E17K	**Hotham Inlet** baz=250,SNR=5.3	**24.01**	**37**	P		**P**	**22**	**00**	**11.3 +0.5**
F17K	**Baldwin Pennin** baz=253	**24.02**	**38**	P		**P**	**22**	**00**	**10.2 -0.6**
C17K	**DeLong Mountai** baz=246	**24.06**	**33**	P		**P**	**22**	**00**	**10.8 -0.4**
M16K	**Timber Creek**	**24.06**	**52**	P		**P**	**22**	**00**	**11.7 +0.4**
M16K				IAmb	IAmb		22	00	32.1
	comp=Z,98nm,1.7s								
M16K	**Timber Creek** baz=267	**24.06**	**52**	P		**P**	**22**	**00**	**10.6 -0.7**
CHNA	**Chernabura Isl** baz=281	**24.13**	**67**	P		**P**	**22**	**00**	**10.7 -1.3**
N16K	**Nishlik Lake** baz=269	**24.13**	**53**	P		**P**	**22**	**00**	**10.8 -1.2**
H17K	**Granite Mounta**	**24.17**	**42**	P		**P**	**22**	**00**	**13.0 +0.8**
H17K				IAmb	IAmb		22	00	26.5
	comp=Z,34nm,1.1s								
H17K	**Granite Mounta** baz=257,SNR=7.1	**24.17**	**42**	P		**P**	**22**	**00**	**11.8 -0.4**
CN2	**Changchun**	**24.23**	**264**	P		**P**	**22**	**00**	**11.8 -1.2**
CN2				S		**S**	**22**	**04**	**23.6 -4.8**
CN2				LR	LR				
	comp=Z,2μm,17.0s								
CN2				LR	LR				
	comp=Z,660nm,17.0s								
CN2				LR	LR				
	comp=Z,2μm,19.0s								
J17K	**VABM Dome**	**24.24**	**46**	P		**P**	**22**	**00**	**14.0 +1.1**
J17K	**VABM Dome** baz=262,SNR=5.3	**24.24**	**46**	P		**P**	**22**	**00**	**13.3 +0.4**
L17K	**Donlin** baz=265	**24.45**	**49**	P		**P**	**22**	**00**	**14.8 -0.1**
O16K	**Kokwok River B** baz=271	**24.47**	**56**	P		**P**	**22**	**00**	**15.2 +0.2**
K17K	**Iditarod** comp=Z,38nm,1.2s	**24.51**	**48**	IAmb		IAmb	22	00	31.4
K17K	**Iditarod** baz=264	**24.51**	**48**	P		**P**	**22**	**00**	**16.0 +0.6**
P16K	**Nushagak River** baz=272	**24.54**	**57**	P		**P**	**22**	**00**	**15.5 -0.1**
E18K	**Tukpahlearik C** baz=251	**24.57**	**36**	P		**P**	**22**	**00**	**16.7 +0.8**
F18K	**Selawik** baz=254	**24.68**	**39**	P		**P**	**22**	**00**	**17.5 +0.6**
C18K	**Utukok River**	**24.80**	**33**	P		**P**	**22**	**00**	**18.4 +0.4**
C18K	**Utukok River** baz=248,SNR=5.3	**24.80**	**33**	P		**P**	**22**	**00**	**18.3 +0.4**
M17K	**Holitna River** comp=Z,37nm,0.9s	**24.82**	**51**	IAm

N19K	Bonanza Creek	26.25	53	P		P	22 00 32.2	+0.9
	baz=272							
F20K	Avaraart Lake	26.30	38	IAmb		IAmb	22 00 50.9	
	comp=Z,47nm,1.9s							
F20K	Avaraart Lake	26.30	38	P		P	22 00 32.1	+0.6
	baz=258							
H20K	Anotleneega Mo	26.35	42	P		P	22 00 32.5	+0.5
	baz=262							
D20K	Etivluk River	26.40	35	P		P	22 00 31.9	-0.6
D20K				IAmb		IAmb	22 01 03.9	
	comp=Z,40nm,1.2s							
D20K	Etivluk River	26.40	35	P		P	22 00 33.0	+0.6
	baz=253							
E20K	Nigu River	26.42	36	P		P	22 00 33.2	+0.5
	baz=255							
I20K	Naaghedeneel	26.43	44	P		P	22 00 33.5	+0.8
	baz=264							
K20K	Telida	26.48	47	P		P	22 00 34.1	+0.9
	baz=267							
J20K	Nowinta River	26.51	45	P		P	22 00 34.5	+1.0
	baz=265							
R18K	Karluk	26.53	60	P		P	22 00 34.9	+1.3
	baz=278							
L20K	Farewell, AK	26.53	49	P		P	22 00 34.7	+1.0
	baz=269							
B20K	Meade River	26.62	32	IAmb		IAmb	22 01 06.8	
	comp=Z,41nm,0.9s							
B20K	Meade River	26.62	32	P		P	22 00 35.0	+0.7
	baz=250							
KSRS	Korea Array	26.65	249	P		P	22 00 35.8	+0.8
	comp=Z,2.2nm,0.6s,baz=44,slow=8.6,SNR=10							
	comp=Z,2.2nm,0.6s							
Q19K	Cape Douglas,	26.79	57	P		P	22 00 36.9	+0.8
	baz=276							
SII	Sitkinak Islan	26.83	62	P		P	22 00 37.6	+1.1
	baz=280							
M20K	Styx River	26.88	50	P		P	22 00 37.5	+0.6
	baz=271							
IMAR	Indian Mountai	26.89	41	P		P	22 00 37.9	+1.1
G21K	Allakaket	27.07	40	P		P	22 00 38.0	-0.4
G21K	Allakaket	27.07	40	P		P	22 00 38.8	+0.4
	baz=261							
C21K	Knifeblade Rid	27.16	34	P		P	22 00 39.9	+0.7
	baz=255							
F21K	Alatna River	27.20	38	P		P	22 00 39.9	+0.2
	baz=260							
O20K	Slope Mountain	27.20	54	P		P	22 00 40.1	+0.3
	baz=275							
OHAK	Old Harbor	27.20	60	P		P	22 00 40.9	+1.1
	baz=280							
H21K	Melozitna Rive	27.23	42	P		P	22 00 40.4	+0.5
	baz=263							
E21K	Killik River	27.26	36	P		P	22 00 40.5	+0.2
	baz=257							
CHUM	Lake Minchumin	27.29	46	P		P	22 00 40.9	+0.4
	baz=267							
PPLA	Purkeypile	27.32	48	P		P	22 00 41.7	+0.8
PPLA	Purkeypile	27.32	48	P		P	22 00 41.1	+0.1
	baz=269							
B21K	Ikpikpuk River	27.34	33	IAmb		IAmb	22 01 23.9	
	comp=Z,25nm,0.9s							
B21K	Ikpikpuk River	27.34	33	P		P	22 00 41.0	+0.2
	baz=254							
Q20K	Shuyak Island	27.47	57	P		P	22 00 42.1	0.0
	baz=278							
KDAK	Kodiak Island	27.49	59	P		P	22 00 42.8	+0.5
	baz=279							
SKT	Skwentna	27.63	50	P		P	22 00 43.9	+0.3
	baz=272							
A22K	Sinclair Lake	27.65	30	P		P	22 00 44.0	+0.4
	baz=251							
HOM	Homer	27.73	55	P		P	22 00 44.7	+0.3
	baz=276							
F22K	John River	27.74	38	P		P	22 00 44.4	-0.1
	baz=260							
D22K	Ayikyak River	27.82	35	P		P	22 00 45.9	+0.7
D22K	Ayikyak River	27.82	35	P		P	22 00 45.4	+0.1
	baz=257							
H22K	Ishtalitna Cre	27.84	42	P		P	22 00 45.6	+0.2
	baz=264							
CAPN	Captain Cook N	27.88	53	P		P	22 00 45.2	-0.5
	baz=274							
BPAW	Bear Paw Mtn.	27.89	45	P		P	22 00 47.1	+1.3
BPAW	Bear Paw Mtn.	27.89	45	P		P	22 00 45.8	-0.1
	baz=268							
G22K	Bettles	27.91	39	P		P	22 00 46.2	+0.2
	baz=262							
B22K	Teshekpuk Lake	27.94	32	P		P	22 00 45.8	-0.3
	baz=254							
E22K	Anaktuvuk Pass	27.99	37	P		P	22 00 46.3	-0.4
	baz=260							
SUA	Susitna One	28.03	51	P		P	22 00 47.0	-0.3
	baz=273							
MLY	Manley	28.04	43	P		P	22 00 47.3	+0.1
	baz=267							
BRSE	Bradley Lake S	28.18	55	P		P	22 00 48.2	-0.3
	baz=277							
JNU	Nakatsue	28.18	239	P		P	22 00 50.9	+2.1
JNU	Nakatsue	28.18	239	LR		LR	22 14 02.7	
	comp=Z,453nm,18.1s,baz=38,slow=41							
TRF	Thorofare Moun	28.19	47	P		P	22 00 48.2	-0.5
	baz=270							
M22K	Willow	28.31	50	P		P	22 00 50.3	+0.8
	baz=273							
COLD	Coldfoot	28.46	39	P		P	22 00 51.3	+0.4
	baz=263							
G23K	Bananza Creek	28.47	40	P		P	22 00 51.4	+0.4
	baz=264							
RC01	Rabbit Creek A	28.54	52	P		P	22 00 51.6	0.0
	baz=275							
D23K	Nanushuk River	28.55	35	P		P	22 00 52.1	+0.4
	baz=259							
O22K	Cooper Landing	28.61	53	P		P	22 00 51.9	-0.3
	baz=276							
NEA2	Nenana	28.73	44	P		P	22 00 53.3	-0.1
	baz=269							
C23K	Itkillik River	28.75	33	P		P	22 00 53.0	-0.3
	baz=258							
SEW	Seward	28.78	54	P		P	22 00 52.5	-1.2
	baz=277							
E23K	Chandalar	28.79	37	P		P	22 00 55.1	+1.2
MCK	McKinley	28.79	46	P		P	22 00 53.6	-0.2
	baz=271							
TOLK	Toolik Lake Re	28.89	36	P		P	22 00 54.9	+0.2
TOLK				IAmb		IAmb	22 01 45.2	
	comp=Z,49nm,1.9s							
TOLK	Toolik Lake Re	28.89	36	P		P	22 00 54.7	-0.1
	baz=261							
WAT1	Susitna Watana	28.99	48	P		P	22 00 55.5	-0.1
	baz=273							
E24K	Your Creek	29.21	37	P		P	22 00 57.6	0.0
	baz=263							
PWL	Port Wells	29.25	52	P		P	22 00 57.6	-0.3
	baz=276							
H24K	Noodor Dome	29.27	42	P		P	22 00 58.0	-0.2
	baz=268							
CCB	Clear Creek Bu	29.28	44	P		P	22 00 59.5	+1.3
CCB				IAmb		IAmb	22 01 14.1	
	comp=Z,32nm,1.6s							
WAT6	Susitna Watana	29.38	49	P		P	22 00 57.9	-1.3
	baz=274							
F24K	Squaw Lake	29.38	38	P		P	22 00 59.1	0.0
	baz=265							
DL2	Dalian	29.42	259	*e*P		P	22 00 57.8	-1.8
DL2				*e*S		S	22 05 51.5	+0.9
DL2				pmax		pmax		
	comp=Z,18nm,0.9s							
DL2				pmax		pmax		
	comp=Z,170nm,4.2s							
DL2				LR		LR		
	comp=Z,950nm,15.5s							
DL2				LR		LR		
	comp=Z,2µm,16.7s							
DL2				LR		LR		
	comp=Z,2µm,18.6s							
POKR	Poker Plat Res	29.44	43	P		P	22 00 59.7	+0.1
	baz=270							
G24K	Hadweenzic Riv	29.48	40	P		P	22 01 01.1	+1.2
G24K				IAmb		IAmb	22 01 16.6	
	comp=Z,73nm,2.0s							
G24K	Hadweenzic Riv	29.48	40	P		P	22 01 00.6	+0.7
	baz=267,SNR=5.5							
DHY	Denali Highway	29.51	47	P		P	22 01 00.8	+0.4
	baz=273							
SCM	Sheep Creek Mo	29.63	50	P		P	22 01 01.7	+0.3
	baz=276							
HDA	Harding Lake	29.65	45	P		P	22 01 01.9	+0.4
	baz=271							
ILAR	Eielson Array	29.68	44	P		P	22 01 02.4	+0.7
	comp=Z,1.2nm,0.8s,baz=263,slow=7.9,SNR=6.8							
ILAR				LR		LR	22 14 45.1	
	comp=Z,749nm,18.0s,baz=261,slow=40							
	comp=Z,1.2nm,0.8s							
XLT	XiLinHaoTe	29.94	272	*e*P		P	22 01 03.4	-1.0
XLT				sS		sS	22 06 15.0	-1.5
XLT				pmax		pmax		
	comp=Z,19nm,0.8s							
XLT				pmax		pmax		
	comp=Z,160nm,5.5s							
XLT				LR		LR		
	comp=Z,1µm,19.6s							
XLT				LR		LR		
	comp=Z,2µm,19.2s							
H25L	Birch Creek	30.13	41	P		P	22 01 05.8	+0.1
	baz=269							
D25K	Kavik River	30.13	35	P		P	22 01 05.7	0.0
D25K	Kavik River	30.13	35	P		P	22 01 05.9	+0.2
	baz=263							
F25K	Christian Rive	30.25	38	P		P	22 01 06.9	+0.1
	baz=267							
E25K	Arctic Village	30.31	37	P		P	22 01 07.7	+0.5
E25K	Arctic Village	30.31	37	P		P	22 01 07.4	+0.1
	baz=266							
PAX	Paxson	30.39	48	P		P	22 01 08.6	+0.5
	baz=275							
C26K	Camden Bay	30.71	34	P		P	22 01 10.9	+0.2
	baz=264							
F26K	Sheenjek River	30.82	38	P		P	22 01 11.9	+0.1
	baz=268							
G26K	Porcupine Rive	30.95	40	P		P	22 01 13.4	+0.5
	baz=270							
C27K	Jago River	31.09	34	P		P	22 01 14.4	+0.2
	baz=265							
G27K	Doyon Strip	31.79	40	P		P	22 01 20.6	+0.3
	baz=272							
E27K	Coleen River	31.79	37	P		P	22 01 20.5	+0.2
	baz=270							
K27K	Chicken	31.80	45	P		P	22 01 20.7	+0.3
	baz=276							
H27K	Steamboat Moun	31.86	41	IAmb		IAmb	22 02 02.6	
	comp=Z,22nm,1.5s							
H27K	Steamboat Moun	31.86	41	P		P	22 01 21.2	+0.2
	baz=273							
I27K	Kandik River	31.86	42	P		P	22 01 21.0	-0.1
	baz=274							
L27K	Beaver Creek,	32.03	47	P		P	22 01 22.9	+0.4
	baz=278							
D27M	Malcolm River	32.04	35	P		P	22 01 22.9	+0.3
	baz=269							
BCAR	Beaver Creek A	32.05	47			P	22 01 23.3	+0.6
EGAK	Eagle	32.12	44	P		P	22 01 23.8	+0.6
	baz=276							
F28M	Old Crow	32.45	38	P		P	22 01 25.8	-0.3
	baz=272							
E28M	Babbage River	32.55	37	P		P	22 01 26.9	-0.1
	baz=271							
I28M	Miner Creek	32.58	42	P		P	22 01 27.1	-0.2
	baz=276							
CTG	Chitna Glacier	32.60	51	P		P	22 01 27.9	+0.3
	baz=282							
H11N2	WAKE ISLAND Hy	32.80	167	T		T	22 36 39.6	
	baz=352,slow=76,SNR=297							
H11N3	WAKE ISLAND Hy	32.81	167	T		T	22 36 41.3	
	baz=352,slow=76,SNR=274							
H11N1	WAKE ISLAND Hy	32.81	167	T		T	22 36 40.2	
	baz=352,slow=76,SNR=292							
DAWY	Dawson	32.97	45	P		P	22 01 31.2	+0.4
	baz=278							
H29M	Whitestone	33.14	41	P		P	22 01 32.1	0.0
	baz=276							
E29M	Blow River	33.17	37	P		P	22 01 32.7	+0.4
	baz=273							
O28M	Mount Upton	33.20	51	P		P	22 01 33.3	+0.3
	baz=283							
G29M	Pine Creek	33.22	40	IAmb		IAmb	22 01 35.2	
	comp=Z,17nm,1.1s							
G29M	Pine Creek	33.22	40	P		P	22 01 33.2	+0.4
	baz=275,SNR=6.7							
I29M	Ogilvie Camp,	33.26	42	IAmb		IAmb	22 02 30.2	
	comp=Z,29nm,1.8s							
YUK8	Steele Glacier	33.29	50	P		P	22 01 33.3	-0.5
	baz=282							
PINM	Pinnacle	33.32	52	P		P	22 01 33.3	-0.5
	baz=284							
ULN	Ulaanbaatar	33.51	284	P		P	22 01 35.3	-0.4
ULN	Ulaanbaatar	33.51	284	P		P	22 01 35.3	-0.4
ULN				pmax		pmax		
	comp=Z,7.0nm,1.4s							
M29M	Somme Creek	33.66	48	P		P	22 01 36.1	-0.7
	baz=281							
L29M	L29M	33.68	46	P		P	22 01 36.8	-0.2
	baz=281,SNR=5.6							
EPYK	Eagle Plains	33.79	40	P		P	22 01 38.1	+0.3
	baz=277							
K29M	Barlow Dome	33.82	45	P		P	22 01 38.3	+0.1
	baz=280							
PNL	Peninsula	33.84	53	P		P	22 01 38.5	+0.2
	baz=285							
TIA	Tai'an	33.89	259	P		P	22 01 34.4	-4.5
TIA				pmax		pmax		
	comp=Z,8.0nm,1.1s							
TIA				LR		LR		
	comp=N,960nm,17.2s							
TIA				LR		LR		
	comp=E,2µm,16.2s							
TIA				LR		LR		
	comp=Z,1µm,15.2s							
G30M	tAoh Zraii Nji	33.91	39	IAmb		IAmb	22 01 56.5	
	comp=Z,14nm,1.1s							
G30M	tAoh Zraii Nji	33.91	39	P		P	22 01 39.0	+0.1
	baz=276							
SONM	Songino Array	33.92	284	P		P	22 01 38.1	-1.2
	comp=Z,1.1nm,0.3s,baz=62,slow=8.0,SNR=13							
SONM				PcP		PcP	22 04 17.2	+0.5
	comp=Z,3.8nm,0.9s,baz=90,slow=2.4,SNR=8.5							
SONM				LR		LR	22 16 58.5	
	comp=Z,3µm,18.3s,baz=62,slow=39							
	comp=Z,1.1nm,0.3s							
H11S1	WAKE ISLAND Hy	33.97	168	T		T	22 38 11.5	
	baz=351,slow=76,SNR=51							
H11S3	WAKE ISLAND Hy	33.99	168	T		T	22 38 12.3	
	baz=351,slow=76,SNR=69							
H11S2	WAKE ISLAND Hy	33.99	168	T		T	22 38 12.6	
	baz=351,slow=76,SNR=54							
F30M	Barrier River	34.02	38	P		P	22 01 39.7	-0.1
	baz=276							
YUK6	Outpost Mounta	34.03	50	P		P	22 01 39.6	-0.5
	baz=284							
I30M	Mount Dempster	34.09	42	IAmb		IAmb	22 02 03.1	
	comp=Z,24nm,1.6s							
I30M	Mount Dempster	34.09	42	P		P	22 01 40.5	0.0
	baz=279							
J30M	Hart River	34.21	44	P		P	22 01 41.5	-0.1
	baz=280							
M30M	Minto, Yukon	34.39	47	P		P	22 01 42.8	-0.3
	baz=282							
HHC	Hu-ho-hao-te	34.42	270	*e*P		P	22 01 49.9	+6.3
HHC				PP		PP	22 03 02.5	+0.6
HHC				S		S	22 07 17.3	+8.6
HHC				sS		sS	22 07 29.1	+2.8
HHC				SS		SS	22 09 32.8	-5.8
HHC				pmax		pmax		
	comp=Z,10.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,130nm,4.5s							
HHC				LR		LR		
	comp=N,540nm,19.3s							
HHC				LR		LR		
	comp=E,1µm,17.7s							
HHC				LR		LR		
	comp=Z,1µm,17.7s							
HYT	Haines Junctio	34.47	50	P		P	22 01 43.4	-0.4
	baz=284							
N30M	Aishikik Lake	34.51	49	P		P	22 01 43.8	-0.3
	baz=284							
JOW	Kunigami	34.56	235	LR		LR	22 17 39.1	
	comp=Z,314nm,18.2s,baz=16,slow=39							
HNS	HongShan	34.59	263	||P		P	22 01 44.4	-0.5
HNS				pP		pP	22 01 57.4	+2.0
HNS				sP		sP	22 02 06.3	+6.3
HNS				PcS		PcS	22 08 04.1	-1.0
HNS				pmax		pmax		
	comp=Z,19nm,1.3s							
HNS				LR		LR		
	comp=Z,1µm,17.7s							
HNS				LR		LR		
	comp=Z,1µm,17.3s							
HNS				LR		LR		
	comp=Z,1µm,17.5s							
ZAK	Zakamensk	34.62	290	*e*P		P	22 01 41.0	-4.3
ZAK				pmax		pmax		
	comp=Z,9.0nm,1.6s							
G31M	Satah River	34.69	39	P		P	22 01 45.3	-0.1
	baz=278							
INK	Inuvik	34.79	37	LR		LR	22 18 16.3	
	comp=Z,521nm,19.7s,baz=264,slow=40							
INK	Inuvik	34.79	37	P		P	22 01 46.1	-0.2
	baz=277							
H31M	Peel River	34.83	41	P		P	22 01 46.4	-0.4
	baz=280							
P30M	Million Dollar	34.91	51	P		P	22 01 47.1	-0.5
	baz=286							
N31M	Braeburn, Yuko	35.11	49	P		P	22 01 48.8	-0.5
	baz=285							
O30N	Mendenhall	35.15	50	P		P	22 01 49.5	-0.1
	baz=286							
PLBC	Pleasant Camp	35.38	52	P		P	22 01 50.9	-0.7
	baz=287							
MOY	Mondy	35.39	293	*e*P		P	22 01 51.0	-0.9
MOY				pmax		pmax		
	comp=Z,25nm,2.2s							
BTO	Baotou	35.51	271	*e*P		P	22 01 52.3	-0.7
BTO				pP		pP	22 02 02.0	-1.5
BTO				sP		pwP	22 02 05.8	-2.1
BTO				PP		PnPn	22 03 12.6	-0.1
BTO				S		S	22 07 24.0	-1.5
BTO				sS		sS	22 07 40.8	-2.3
BTO				SS		SnSn	22 09 43.1	-4.7
BTO				pmax		pmax		
	comp=Z,20nm,1.7s							
BTO				pmax		pmax		
	comp=Z,190nm,6.7s							
BTO				LR		LR		
	comp=Z,2µm,17.9s							
BTO				LR		LR		
	comp=Z,3µm,15.8s							
BTO				LR		LR		
	comp=Z,5µm,15.7s							
M31M	Drury Creek, Y	35.57	47	P		P	22 01 54.4	+1.2
M31M				IAmb		IAmb	22 01 55.8	
	comp=Z,14nm,1.1s							
M31M	Drury Creek, Y	35.57	47	P		P	22 01 52.8	-0.4
	baz=285,SNR=5.6							
NJ2	Nanjing	35.73	252	*e*P		P	22 01 56.4	+1.5
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
WHY	Whitehorse	35.75	50	P		P	22 01 54.6	-0.3
	baz=286							
SIT	Sitka	36.68	56	P		P	22 02 02.8	+0.1
	baz=291							
MMPY	Sheldon Lake,	36.86	46	P		P	22 02 03.8	-0.5
	baz=286							
P33M	Teslin, Yukon	36.86	50	IAmb		IAmb	22 02 18.7	
	comp=Z,13nm,1.1s							
P33M	Teslin, Yukon	36.86	50	P		P	22 02 04.5	+0.2
	baz=288							
LYN	LuoYang	37.83	261	P		P	22 02 13.3	+0.7
LYN				sP		pwP	22 02 26.4	-1.2
LYN				pmax		pmax		
	comp=Z,21nm,1.4s							
LYN				pmax		pmax		
	comp=Z,200nm,7.3s							
LYN				LR		LR		
	comp=Z,2µm,16.8s							
LYN				LR		LR		
	comp=Z,2µm,17.9s							
LYN				LR		LR		
	comp=Z,3µm,18.6s							
KNGR	Kungurtug, Tuv	37.83	293	*d i*P		P	22 02 11.9	-0.7
KNGR				pmax		pmax		
	comp=Z,16nm,1.6s							
R33M	Jennings River	38.02	51	IAmb		IAmb	22 02 39.5	
	comp=Z,16nm,1.1s							
R33M	Jennings River	38.02	51	P		P	22 02 13.7	-0.5
	baz=291,SNR=5.8							
DLBC	Dease Lake	38.82	52	LR		LR	22 21 12.6	
	comp=Z,3µm,18.2s,baz=279,slow=40							
T35M	Bob Quinn	39.28	54	P		P	22 02 24.1	-0.5
	baz=294							
WHN	Wuhan	39.48	255	P		P	22 02 27.8	+1.2
GUMO	Guam	40.23	203	LR		LR	22 18 16.7	
	comp=Z,203nm,19.6s,baz=20,slow=35							
LZH	Lanzhou	42.12	270	*e*P		P	22 02 48.5	+0.1
LZH				pP		pP	22 02 59.3	+0.2
LZH				PcP		PcP	22 04 43.5	+1.2
LZH				pmax		pmax		
	comp=Z,24nm,1.1s							
LZH				LR		LR		
	comp=Z,830nm,13.4s							
LZH				LR		LR		
	comp=Z,1µm,15.3s							
LZH				LR		LR		
	comp=Z,1µm,14.9s							
LZDM	Lanzhou Array	42.29	270	P		P	22 02 49.3	-0.7
	comp=Z,2.6nm,0.4s,baz=48,slow=2.1,SNR=4.5							
LZDM				LR		LR	22 22 03.8	
	comp=Z,921nm,19.0s,baz=55,slow=38							
	comp=Z,2.6nm,0.4s							
GTA	Gaotai	42.50	277	P		P	22 02 49.9	-1.6
GTA				sP		sP	22 03 09.3	+2.5
GTA				sS		sS	22 09 27.3	-1.3
GTA				pmax		pmax		
	comp=Z,14nm,1.6s							
GTA				LR		LR		
	comp=Z,1µm,18.5s							
GTA				LR		LR		
	comp=Z,1µm,18.2s							
GTA				LR		LR		
	comp=Z,1µm,17.8s							
BBB	Bella Bella	42.56	60	LR		LR	22 18 44.5	
	comp=Z,393nm,21.1s,baz=276,slow=33							
ZALV	Zalesovo Beam	43.13	303	P		P	22 02 53.9	-2.3
	comp=Z,1.0nm,0.3s,baz=65,slow=6.6,SNR=5.5							
ZALV				PcP		PcP	22 04 45.6	+0.5
	comp=Z,1.8nm,0.4s,baz=99,slow=2.9,SNR=5.8							
ZALV				LR		LR	22 22 10.9	
	comp=Z,2µm,18.7s,baz=70,slow=38							
	comp=Z,1.0nm,0.3s							
YKA	Yellowknife Ar	44.04	42	P		P	22 03 04.7	+1.2
	comp=Z,3.6nm,0.9s,baz=305,slow=8.4,SNR=5.4							
YKA				LR		LR	22 24 11.5	
	comp=Z,370nm,19.3s,baz=300,slow=40							
	comp=Z,3.6nm,0.9s							
RES	Resolute Bay	44.32	22	LR		LR	22 26 03.0	
	comp=Z,203nm,18.5s,baz=343,slow=42							
GYA	Guiyang	47.07	258	P		P	22 03 27.3	-0.7
GYA				pmax		pmax		
	comp=Z,9.0nm,0.6s							
GYA				LR		LR		
	comp=Z,480nm,14.0s							
GYA				LR		LR		
	comp=Z,730nm,15.7s							
GYA				LR		LR		
	comp=Z,1µm,15.6s							
WMQ	Urumqi	47.09	290	*e*P		P	22 03 30.4	+2.5
WMQ				LR		LR		
	comp=Z,1µm,14.5s							
WMQ				LR		LR		
	comp=Z,2µm,13.5s							
WMQ				LR		LR		
	comp=Z,1µm,15.5s							
GOMU	GeErMu	47.59	277	P		P	22 03 30.5	-1.8
GOMU				PcP		PcP	22 05 03.5	+2.0
GOMU				S		S	22 10 24.1	-0.7
GOMU				pmax		pmax		
	comp=Z,4.0nm,0.9s							
GOMU				LR		LR		
	comp=Z,760nm,14.6s							
GOMU				LR		LR		
	comp=Z,790nm,14.5s							
GOMU				LR		LR		
	comp=Z,1µm,14.4s							
KURK	Kurchatov	48.07	302	P		P	22 03 32.5	-2.8
KURK				IAmb		IAmb	22 03 34.1	
	comp=Z,7.0nm,0.7s							
KURK	Kurchatov	48.07	302	*c i*P		P	22 03 32.6	-2.7
KURK				pmax		pmax		
	comp=Z,9.0nm,0.7s							
KURK				MLR		MLR		
	comp=Z,2µm,18.0s							
KURK	Kurchatov	48.07	302	P		P	22 03 32.8	-2.5
SPITS	Spitsbergen Ar	48.07	350	P		P	22 03 35.0	0.0
	comp=Z,16nm,0.4s,baz=58,slow=7.9,SNR=60							

SPITS LR LR 22 24 29.1
comp=Z,399nm,19.1s,baz=28,slow=37
comp=Z,16nm,0.4s
SPITS Spitsbergen Ar 48.07 350 P **P** **22 03 34.7 -0.3**
SPITS pmax pmax
comp=Z,37nm,1.0s
SPB2 Spitsbergen Ar 48.07 350 P **P** **22 03 34.7 -0.3**
KURBB Kurchatov Arra 48.17 302 P **P** **22 03 33.8 -2.3**
comp=Z,5.5nm,0.7s,baz=62,slow=7.9,SNR=26
KURBB PcP **PcP** **22 05 03.4 +0.6**
comp=Z,2.6nm,0.6s,baz=51,slow=3.3,SNR=8.1
KURBB LR LR 22 25 20.8
comp=Z,2µm,18.7s,baz=90,slow=38
comp=Z,5.5nm,0.7s
MK31 Makanchi Array 48.39 296 P **P** **22 03 34.8 -3.0**
MK31 IAmb IAmb 22 03 36.8
comp=Z,21nm,1.8s
MK31 Makanchi Array 48.39 296 P **P** **22 03 34.8 -3.0**
MK31 pmax pmax
comp=Z,21nm,1.8s
MKAR Makanchi Array 48.39 296 P **P** **22 03 34.8 -3.0**
MKAR Makanchi Array 48.39 296 P **P** **22 03 35.2 -2.6**
comp=Z,2.4nm,0.5s,baz=53,slow=6.7,SNR=38
MKAR PcP **PcP** **22 05 04.1 +0.4**
comp=Z,0.7nm,0.6s,baz=72,slow=4.2,SNR=1.4
MKAR LR LR 22 25 19.9
comp=Z,1µm,18.6s,baz=32,slow=38
comp=Z,2.4nm,0.5s
MAKZ Makanchi 48.55 296 P **P** **22 03 36.1 -3.0**
MAKZ IAmb IAmb 22 03 38.0
comp=Z,21nm,1.8s
MAKZ Makanchi 48.55 296 P **P** **22 03 36.1 -3.0**
MAKZ pmax pmax
comp=Z,21nm,1.8s
MAKZ Makanchi 48.55 296 P **P** **22 03 36.3 -2.8**
NEEM North Greenlan 49.29 8 *i* P **P** **22 03 44.8 +0.1**
NEEM IAmb IAmb 22 03 47.4
comp=Z,18nm,1.0s
PZH PanZhiHua 50.03 262 P **P** **22 03 52.8 +2.1**
KMI Kunming 50.43 260 P **P** **22 03 54.3 +0.4**
KMI pmax pmax
comp=Z,9.0nm,1.4s
KMI LR LR
comp=Z,360nm,16.7s
KMI LR LR
comp=Z,670nm,19.7s
KMI LR LR
comp=Z,700nm,19.1s
NEW Newport 50.59 59 LR LR 22 23 46.5
comp=Z,160nm,21.8s,baz=308,slow=34
BVAR Borovoye Array 50.83 309 P **P** **22 03 54.0 -2.3**
comp=Z,7.1nm,0.5s,baz=63,slow=8.4,SNR=29
BVAR PcP **PcP** **22 05 12.9 +0.4**
comp=Z,5.1nm,0.7s,baz=72,slow=2.6,SNR=5.1
BVAR LR LR 22 27 36.9
comp=Z,2µm,18.1s,baz=48,slow=39
comp=Z,7.1nm,0.5s
BORK Borovoye 50.85 309 *e*P **P** **22 03 55.1 -1.3**
BORK pmax pmax
comp=Z,7.0nm,1.0s
QIZ Qiongzhong 50.87 249 P **P** **22 03 52.4 -4.6**
QIZ S **S** **22 11 13.1 +2.8**
QIZ pmax pmax
comp=Z,29nm,1.6s
QIZ LR LR
comp=Z,250nm,13.5s
QIZ LR LR
comp=Z,360nm,14.9s
QIZ LR LR
comp=Z,300nm,17.3s
DAG Danmarks Havn 51.39 360 P **P** **22 03 57.1 -3.0**
DAG pmax pmax
comp=Z,20nm,1.0s
DAG Danmarks Havn 51.39 360 *i* P **P** **22 03 60.0 -0.2**
DAG IAmb IAmb 22 04 01.9
comp=Z,9.7nm,0.7s
J05D Fort Rock, OR 51.43 66 P **P** **22 04 02.5 +1.3**
J05D IAmb IAmb 22 04 37.0
comp=Z,21nm,1.3s
YBH Yreka Blue Hor 51.58 69 LR LR 22 25 41.3
comp=Z,17nm,18.2s,baz=298,slow=36
SLVN Son La 52.58 256 IAmb IAmb 22 04 33.6
comp=Z,12nm,1.0s
TNCH TengChong 53.08 264 *e*P **P** **22 04 14.4 +0.8**
TNCH S **S** **22 11 42.3 +1.4**
TNCH pmax pmax
comp=Z,20nm,0.5s
TNCH pmax pmax
comp=Z,160nm,5.4s
TNCH LR LR
comp=Z,480nm,16.3s
TNCH LR LR
comp=Z,460nm,19.4s
TNCH LR LR
comp=Z,1µm,19.1s
ARTI Arti 54.08 318 P **P** **22 04 17.2 -3.0**
ARTI Arti 54.08 318 LR LR 22 29 54.8
comp=Z,440nm,21.0s,baz=32,slow=39
ARTI Arti 54.08 318 *d i* P **P** **22 04 18.7 -1.5**
ARTI 22 06 17.4
ARTI S **S** **22 11 53.9 +0.7**
ARTI SS **SS** **22 15 33.8 -0.5**
ARTI pmax pmax
comp=Z,16nm,1.8s
ARTI MLR MLR
comp=Z,528nm,16.0s
BEKR Beckworth 54.15 69 IAmb IAmb 22 05 02.1
comp=Z,19nm,1.4s
ARA0 ARCESS Array S 54.16 342 *e*P **P** **22 04 20.5 -0.2**
ARCES ARCESS Array B 54.16 342 P **P** **22 04 20.1 -0.6**
comp=Z,2.9nm,0.4s,baz=46,slow=8.1,SNR=35
ARCES LR LR 22 33 06.5
comp=Z,371nm,18.9s,baz=23,slow=42
comp=Z,2.9nm,0.4s
KDJ Kajisay 54.16 295 **P** **22 04 19.1 -2.2**
KDJ IAmb IAmb 22 04 21.0
comp=Z,8.1nm,0.8s
KDJ Kajisay 54.16 295 P **P** **22 04 19.1 -2.2**
KDJ pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 54.27 274 P **P** **22 04 22.7 +0.1**
SUMG Summit 54.97 7 P **P** **22 04 25.3 -1.7**
SUMG Summit 54.97 7 P **P** **22 04 25.3 -1.7**
SUMG pmax pmax
comp=Z,31nm,1.2s
SUMG Summit 54.97 7 *i* P **P** **22 04 27.0 0.0**
SUMG IAmb IAmb 22 04 29.4
comp=Z,9.2nm,0.7s
KTK1 Kautokeino 55.03 342 *e*P **P** **22 04 26.6 -0.4**
JETT Jettan, Norway 55.07 344 *e*P **P** **22 04 27.4 +0.1**
BOZ Bozeman (W) 55.20 59 IAmb IAmb 22 04 46.5
comp=Z,15nm,1.6s
TRO Tromso 55.25 344 *e*P **P** **22 04 28.2 -0.3**
AAK Ala-Archa 55.31 297 P **P** **22 04 28.2 -1.5**
comp=Z,4.0nm,0.5s,baz=78,slow=9.3,SNR=4.2
AAK LR LR 22 29 32.3
comp=Z,1µm,18.1s,baz=57,slow=38
comp=Z,4.0nm,0.5s
AAK Ala-Archa 55.31 297 *c e* P **P** **22 04 28.6 -1.1**
AAK pmax pmax
comp=Z,10.0nm,1.1s
AAK MLR MLR
comp=Z,1µm,17.0s
WAKR Walker 55.59 70 IAmb IAmb 22 04 56.8
comp=Z,14nm,1.0s
KIRV Kirov 56.05 324 LR LR 22 31 18.8
comp=Z,936nm,20.8s,baz=37,slow=39
KIRV Kirov 56.05 324 ||*e*P **P** **22 04 33.7 -0.7**
LANU Lannavaara 56.10 342 *e*P **P** **22 04 34.3 -0.4**
NVAR Mina Array Bea 56.30 69 P **P** **22 04 38.0 +1.2**
NVAR Mina Array Bea 56.30 69 P **P** **22 04 38.5 +1.7**
comp=Z,2.3nm,0.7s,baz=289,slow=6.9,SNR=14
NVAR LR LR 22 25 52.2
comp=Z,149nm,21.7s,baz=288,slow=33
comp=Z,2.3nm,0.7s
MSF Maaselka 56.44 338 P **P** **22 04 37.4 +0.2**
MSF pmax pmax
comp=Z,47nm,1.5s
ELK Elko 56.47 65 LR LR 22 26 01.5
comp=Z,218nm,21.8s,baz=322,slow=33
KSH Kashi 56.58 293 P **P** **22 04 41.1 +2.4**
KSH pmax pmax
comp=Z,7.0nm,1.4s
KSH LR LR
comp=Z,560nm,19.6s
KSH LR LR
comp=Z,700nm,17.8s
KSH LR LR
comp=Z,850nm,18.1s
RLMT Red Lodge 56.75 58 IAmb IAmb 22 05 00.7
comp=Z,10.0nm,1.1s
SMPI Sarmi 56.76 205 P **P** **22 04 41.4 +1.5**
comp=Z,3µmcomp=Z,14nm,1.4s
JAY Jayapura 56.76 203 LR LR 22 25 29.9
comp=Z,102nm,21.2s,baz=336,slow=32
JAY Jayapura 56.76 203 P **P** **22 04 41.3 +1.3**
comp=Z,9.2nm,1.2s
SHL Shillong 56.77 270 P **P** **22 04 39.5 -0.8**
SHL pmax pmax
comp=Z,18nm,0.7s
JMIC Jan Mayen 56.92 355 LR LR 22 27 55.3
comp=Z,155nm,19.8s,baz=75,slow=35
TPH Tonopah 57.16 69 P **P** **22 04 44.5 +1.6**
TPH IAmb IAmb 22 05 20.3
comp=Z,14nm,1.0s
TPH Tonopah 57.16 69 P **P** **22 04 44.5 +1.6**
TPH pmax pmax
comp=Z,14nm,1.0s
KK31 Karatay Array 57.17 299 IAmb IAmb 22 04 41.8
comp=Z,6.3nm,0.6s
KKAR Karatay Array 57.17 299 P **P** **22 04 40.5 -2.2**
KKAR Karatay Array 57.17 299 P **P** **22 04 40.5 -2.2**
STEI Steigen 57.38 345 *e*P **P** **22 04 43.4 -0.4**
LOF Lofoten 57.46 346 *e*P **P** **22 04 43.6 -0.7**
CHTO Chiang Mai 57.49 259 P **P** **22 04 45.5 +0.3**
CHTO Chiang Mai 57.49 259 P **P** **22 04 45.5 +0.3**
CHTO pmax pmax
comp=Z,14nm,0.8s
CHTO Chiang Mai 57.49 259 P **P** **22 04 45.4 +0.2**
CHTO pP **pP** **22 04 56.9 +0.6**
KLMR Klimovskoe 57.69 330 *e*P **P** **22 04 46.0 0.0**
KLMR *e**SP **pP** **22 04 57.7 +0.6**
KLMR *e* 22 05 37.5
KLMR pmax pmax
comp=Z,19nm,1.6s
KLMR MLR MLR
comp=Z,508nm,13.0s
CM31 Chiang Mai Arr 57.76 258 P **P** **22 04 48.2 +1.1**
CM31 IAmb IAmb 22 04 49.4
comp=Z,9.8nm,0.8s
CMAR Chiang Mai Arr 57.76 258 P **P** **22 04 48.2 +1.1**
CMAR Chiang Mai Arr 57.76 258 P **P** **22 04 48.0 +0.8**
comp=Z,5.4nm,0.7s,baz=28,slow=6.7,SNR=46
CMAR LR LR 22 32 00.0
comp=Z,266nm,19.4s,baz=60,slow=38
comp=Z,5.4nm,0.7s
CMAR Chiang Mai Arr 57.76 258 P **P** **22 04 48.2 +1.1**
MYLDM Lahad Datu 57.82 231 P **P** **22 04 50.1 +2.7**
FAUS Fauske 57.87 345 *e*P **P** **22 04 47.0 -0.2**
SWI Sorong 57.97 214 P **P** **22 04 50.3 +1.8**
comp=Z,35nm,1.6s
SPR3 Spring Creek 3 58.17 66 P **P** **22 04 51.5 +1.3**
SPR3 IAmb IAmb 22 05 29.3
comp=Z,8.1nm,1.1s
BW06 Boulder Array 58.20 60 IAmb IAmb 22 05 04.4
comp=Z,19nm,1.6s
PD31 Pinedale Array 58.20 60 P **P** **22 04 51.5 +1.2**
PD31 IAmb IAmb 22 05 04.4
comp=Z,21nm,1.6s
PDAR Pinedale Array 58.20 60 P **P** **22 04 51.1 +0.9**
PDAR Pinedale Array 58.20 60 P **P** **22 04 52.0 +1.8**
comp=Z,3.1nm,0.8s,baz=326,slow=2.4,SNR=26
PDAR LR LR 22 27 39.3
comp=Z,145nm,21.8s,baz=324,slow=34
comp=Z,3.1nm,0.8s
ABKAR Akbulak array 58.27 311 P **P** **22 04 48.1 -2.1**
AKTO Aktyubinsk 58.33 313 LR LR 22 32 33.9
comp=Z,1µm,18.9s,baz=46,slow=39
SJUU Sjulsmark 58.40 341 *e*P **P** **22 04 50.2 -0.6**
FRB Frobisher Bay 58.50 23 LR LR 22 31 32.6
comp=Z,236nm,21.0s,baz=302,slow=37
WSHM Spangler Hills 58.71 71 IAmb IAmb 22 05 30.6
comp=Z,9.4nm,1.0s
VAGH Vaagaholmen 58.79 345 *e*P **P** **22 04 53.3 -0.3**
QSM Queen of Sheba 58.82 70 IAmb IAmb 22 05 36.3
comp=Z,13nm,1.2s
PRN Pahroc Range 58.87 68 IAmb IAmb 22 05 32.7
comp=Z,21nm,1.5s
RAUS Rausandaksla 58.94 345 *e*P **P** **22 04 54.0 -0.6**
SFJD Kangerlussuaq 59.03 13 LR LR 22 33 44.2
comp=Z,286nm,18.3s,baz=348,slow=39
BRDH Bariadhala 59.05 268 LR LR 22 35 17.9
comp=Z,535nm,18.2s,baz=45,slow=41
MOR8 Moi Rana 59.12 344 *e*P **P** **22 04 54.1 -1.8**
STOK Stokkvaagen 59.20 345 *e*P **P** **22 04 56.0 -0.4**
GSC Goldstone, Bar 59.32 71 IAmb IAmb 22 05 34.5
comp=Z,6.7nm,0.5s
LEIR Leirfjorden 59.39 345 *e*P **P** **22 04 57.1 -0.6**
ULM Lac du Bonnet 59.66 46 P **P** **22 05 01.1 +1.1**
comp=Z,3.7nm,0.5s,baz=304,slow=7.9,SNR=4.8
ULM LR LR 22 33 04.7
comp=Z,331nm,19.1s,baz=324,slow=38
comp=Z,3.7nm,0.5s
ULM Lac du Bonnet 59.66 46 ||*e*P **P** **22 05 00.9 +1.0**
RSSD Black Hills 60.14 56 P **P** **22 05 04.2 +0.6**
RSSD Black Hills 60.14 56 P **P** **22 05 04.2 +0.6**
RSSD pmax pmax
comp=Z,27nm,1.0s
RSSD Black Hills 60.14 56 P **P** **22 05 04.4 +0.8**
SRU San Rafael Swe 60.22 64 IAmb IAmb 22 05 19.9
comp=Z,9.5nm,0.9s
KEF Keuruu 60.60 338 *e*P **P** **22 05 05.8 -0.3**
PFO Pinyon Flats O 60.71 72 LR LR 22 28 08.7
comp=Z,203nm,20.4s,baz=275,slow=33
FINES FINESS Array B 60.94 337 P **P** **22 05 08.2 -0.2**
comp=Z,3.3nm,0.5s,baz=40,slow=7.0,SNR=30
FINES LR LR 22 36 05.9
comp=Z,738nm,18.9s,baz=30,slow=40
comp=Z,3.3nm,0.5s
SIMJ Simiganj 61.08 297 P **P** **22 05 08.5 -1.4**
SIMJ IAmb IAmb 22 05 09.2
comp=Z,8.0nm,0.8s
SIMJ Simiganj 61.08 297 P **P** **22 05 07.5 -2.4**
SIMJ x x 22 05 20.2
SIMJ PcP **PcP** **22 05 53.1 +0.4**
AGMN Agassiz Nation 61.09 48 IAmb IAmb 22 05 30.7
comp=Z,10.0nm,1.1s
HNR Honiara 61.29 180 LR LR 22 29 04.7
comp=Z,239nm,20.4s,baz=354,slow=33
BELG Belogornoye 61.33 320 *c e* P **P** **22 05 09.8 -1.4**
BELG pmax pmax
comp=Z,2.0nm,0.9s
PMG Port Moresby 62.21 194 LR LR 22 29 18.2
comp=Z,119nm,21.5s,baz=59,slow=33
RAF Rauma 62.32 338 *e*P **P** **22 05 17.1 -0.7**
MOS Moscow 62.37 327 *e*P **P** **22 05 13.5 -4.6**
MOS MLR MLR
comp=Z,500nm,17.0s
ISCO Idaho Springs 62.40 60 IAmb IAmb 22 06 01.4
comp=Z,9.2nm,1.1s
ARBE Arbavere 62.70 335 *e*P **P** **22 05 18.3 -1.9**
OBN Obninsk 63.23 327 LR LR 22 34 44.1
comp=Z,400nm,21.9s,baz=339,slow=38
OBN Obninsk 63.23 327 ⇑*e*P **P** **22 05 23.2 -0.6**
OBN *e* 22 06 02.7
OBN *e* 22 07 43.9
OBN *e*PPP PPP 22 09 11.4
OBN *e*S **S** **22 13 52.7 +0.7**
OBN *e*SS **SS** **22 18 00.1 +2.4**
OBN pmax pmax
comp=Z,17nm,1.4s
EYMN Ely 63.30 45 IAmb IAmb 22 05 26.1
comp=Z,10.0nm,0.9s
VSU Vasula 63.35 335 ||*e*P **P** **22 05 23.3 -1.3**
VSU pmax pmax
comp=Z,32nm,1.4s
AAL Aland 63.48 339 *e*P **P** **22 05 24.8 -0.6**
BORG Borgarnes 63.48 1 LR LR 22 34 27.2
comp=Z,113nm,19.0s,baz=351,slow=37
MOL Molde 63.57 346 *e*P **P** **22 05 26.0 0.0**
DOMB Dombas 63.84 345 *e*P **P** **22 05 27.1 -0.8**
AKN Aaknes 64.03 346 *e*P **P** **22 05 29.0 -0.1**
ECSD EROS Data Cent 64.11 52 IAmb IAmb 22 05 31.4
comp=Z,9.1nm,0.9s
UPP Uppsala 64.28 340 *e*P **P** **22 05 30.5 -0.2**
NB201 NORSAR Array S 64.40 344 P **P** **22 05 31.2 -0.4**
NB2 NORSAR Subarra 64.43 344 P **P** **22 05 31.6 -0.1**
comp=Z,1.0nm,0.5s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.43 344 P **P** **22 05 31.6 -0.1**
comp=Z,1.0nm,0.5s,baz=22,slow=6.9
NOA NORSAR Array B 64.43 344 P **P** **22 05 31.1 -0.6**
comp=Z,1.6nm,0.6s,baz=22,slow=6.7,SNR=9.7
NOA LR LR 22 37 14.2
comp=Z,274nm,20.1s,baz=15,slow=39
comp=Z,1.6nm,0.6s
NC602 NORSAR Array S 64.66 343 *e*P **P** **22 05 32.3 -0.8**
HFS Hagfors 64.82 342 P **P** **22 05 34.2 -0.1**
comp=Z,2.8nm,0.4s,baz=48,slow=4.4,SNR=25
HFS LR LR 22 39 03.7
comp=Z,499nm,19.0s,baz=24,slow=41
comp=Z,2.8nm,0.4s
SLIT Slitere, Latvi 65.22 336 *e*P **P** **22 05 37.0 +0.1**
ANMO Albuquerque 65.47 64 LR LR 22 34 15.4
comp=Z,149nm,19.3s,baz=64,slow=36
KAPI Kappang 66.27 224 LR LR 22 35 25.6
comp=Z,37nm,20.5s,baz=37,slow=37
MNK Minsk 66.46 332 *i* LRM MLR 22 38 50.1
comp=Z,1µm,19.8s
MNK Minsk 66.46 332 *i* P **P** **22 05 43.1 -1.8**
MNK *i* 22 08 09.0
MNK *i* PPP PPP 22 09 44.4
MNK *i* S **S** **22 14 32.1 +0.3**
MNK *i* SS **SS** **22 18 49.4 +1.4**
MNK pmax pmax
comp=Z,22nm,0.9s
MNK pmax pmax
comp=N,11nm,1.0s
MNK pmax pmax
comp=E,19nm,1.1s
MNK MLR MLR
comp=N,475nm,19.0s
MNK MLR MLR
comp=E,769nm,19.0s
MNK MLR MLR
comp=Z,1µm,20.0s
MNK Minsk 66.46 332 *i* P **P** **22 05 43.1 -1.8**
comp=N,11nm,1.0s
MNK Minsk 66.46 332 *i* P **P** **22 05 43.1 -1.8**
comp=E,19nm,1.1s
MNK Minsk 66.46 332 *i* P **P** **22 05 43.1 -1.8**
comp=Z,22nm,0.9s,baz=30
MNK Minsk 66.46 332 *i* PP PP 22 08 09.0 -1.9
MNK Minsk 66.46 332 *i* PPP PPP 22 09 44.5
MNK Minsk 66.46 332 *i* S **S** **22 14 32.1 +0.3**
MNK Minsk 66.46 332 *i* SS SS 22 18 49.4 +1.5
MNK Minsk 66.46 332 *i* SSS SSS 22 22 01.0
MNK Minsk 66.46 332 *i* LQ LQ 22 30 27.5
MNK Minsk 66.46 332 *i* LR LR 22 35 13.3
MNK Minsk 66.46 332 *i* LRM MLR 22 38 21.0
comp=N,475nm,18.5s
MNK Minsk 66.46 332 *i* LRM MLR 22 38 40.9
comp=E,769nm,19.5s
SCHQ Schefferville 66.63 27 LR LR 22 39 46.9
comp=E,2µm,18.0s,baz=322,slow=40
PABE Paberze 66.67 334 *e*P **P** **22 05 45.1 -1.2**
TJOU Tjoern 67.17 342 *i* P **P** **22 05 49.6 +0.3**
BORU Boraas 67.33 341 *i* P **P** **22 05 50.8 +0.5**
ONAU Onsala 67.71 342 *i* P **P** **22 05 52.2 -0.5**
FABU Falkenberg 67.93 341 *i* P **P** **22 05 53.8 -0.3**
DEL Delary 68.19 340 *i* P **P** **22 05 55.6 -0.2**
MSTX Muleshoe 68.23 63 IAmb IAmb 22 06 38.7
comp=Z,16nm,1.3s
MAK Makhachkala 68.70 313 *c i* P **P** **22 05 58.9 -0.3**
MAK *e* 22 08 30.7
MAK *e*PPP PPP 22 10 10.5
MAK *e*S **S** **22 15 01.1 +2.1**
MAK *e*SS **SS** **22 19 27.4 +4.3**
MAK pmax pmax
comp=Z,24nm,0.5s
MAK MLR MLR
comp=Z,1µm,15.0s
P38A Dawn 68.73 53 IAmb IAmb 22 06 00.6
comp=Z,8.2nm,0.8s
BJUU Bjuv 68.73 341 *i* P **P** **22 05 59.1 -0.1**
SMWD Samnorwood 68.74 60 IAmb IAmb 22 06 17.4
comp=Z,17nm,0.9s
AK21 Malin Array Si 69.34 329 P **P** **22 06 01.9 -1.1**
AKASG Malin Array Be 69.34 329 P **P** **22 06 01.8 -1.3**
AKASG IAmb IAmb 22 06 03.5
comp=Z,19nm,1.6s
AKASG Malin Array Be 69.34 329 P **P** **22 06 02.1 -1.0**
comp=Z,7.3nm,0.6s,baz=32,slow=6.2,SNR=36
AKASG LR LR 22 40 45.7
comp=Z,414nm,18.5s,baz=23,slow=40
comp=Z,7.3nm,0.6s
AKASG Malin Array Be 69.34 329 P **P** **22 06 01.8 -1.3**
AKASG pmax pmax
comp=Z,19nm,1.6s
AKBB Malin Array Si 69.34 329 P **P** **22 06 01.3 -1.8**
KIEV Kiev 69.35 329 P **P** **22 06 01.7 -1.4**
KIEV Kiev 69.35 329 ⇑P **P** **22 06 02.6 -0.5**
KIEV Kiev 69.35 329 P **P** **22 06 01.7 -1.4**
KIEV pmax pmax
comp=Z,15nm,0.8s
KIEV Kiev 69.35 329 P **P** **22 06 01.8 -1.4**
comp=Z,92nm,1.1s
ERBR Yeremizino-Bor 69.48 319 *e*P **P** **22 06 03.2 -0.8**
ERBR pmax pmax
comp=Z,14nm,0.7s
MI28 Mi28,Pidlybu 69.63 330 P **P** **22 06 03.9 -1.0**
RNPP9 Sopachiv 69.75 331 P **P** **22 06 05.2 -0.4**
AKT Akhty 69.77 312 *e*P **P** **22 06 04.8 -1.2**
AKT *e* 22 06 27.3
AKT pmax pmax
comp=Z,8.0nm,0.6s
AKT MLR MLR
comp=Z,1µm,17.0s
WMOK Wichita Mounta 69.80 59 IAmb IAmb 22 06 08.0
comp=Z,11nm,1.1s
RNPP8 Varash 69.83 331 P **P** **22 06 05.3 -0.7**
RNPP5 Staryi Chortor 69.91 331 P **P** **22 06 05.6 -1.0**
NCK Nalchik 69.99 316 ||*e*P **P** **22 06 07.9 +0.7**
NCK pmax pmax
comp=Z,15nm,0.7s
NCK MLR MLR
comp=Z,507nm,16.0s
KVAR Kislovodsk Arr 70.00 317 LR LR 22 41 42.8
comp=Z,438nm,18.1s,baz=267,slow=40
KIV Kislovodsk 70.00 317 P **P** **22 06 07.9 +0.5**
KIV Kislovodsk 70.00 317 ⇑P **P** **22 06 08.5 +1.1**
KIV Kislovodsk 70.00 317 *e*P **P** **22 06 06.7 -0.7**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,478nm,17.0s
KIV Kislovodsk 70.00 317 P **P** **22 06 07.9 +0.5**
comp=Z,8.2nm,0.6s
KIV Kislovodsk 70.00 317 P **P** **22 06 08.0 +0.6**
KIV sP **pwP** **22 06 24.3 +1.0**
KBZ Khabaz 70.10 317 P **P** **22 06 07.1 -0.8**
comp=Z,2.9nm,0.6s,baz=128,slow=2.7,SNR=18
KBZ LR LR 22 41 41.3
comp=Z,579nm,18.9s,baz=25,slow=40
comp=Z,2.9nm,0.6s
KBZ Khabaz 70.10 317 ⇑*e*P **P** **22 06 07.0 -0.8**
KBZ pmax pmax
comp=Z,4.0nm,0.7s
SHA1 Shidzhatmaz 70.19 317 ⇑*e*P **P** **22 06 08.5 -0.2**
PSI Prapat 70.20 248 LR LR 22 38 26.8
comp=Z,146nm,20.0s,baz=160,slow=37
LABN Labinsk 70.26 318 *e*P **P** **22 06 08.0 -0.8**
LABN pmax pmax
comp=Z,30nm,0.6s
R40A Maddies Statio 70.38 53 IAmb IAmb 22 06 10.7
comp=Z,11nm,0.8s
GKP Gorka Klasztor 70.40 337 *e*P **P** **22 06 10.1 +0.6**
LUBAR Lubar, Ukraine 70.49 329 P **P** **22 06 08.4 -1.7**
U38A Gravette 70.77 55 IAmb IAmb 22 06 13.0
comp=Z,9.1nm,0.9s
BEL Belsk 70.81 334 *e*P **P** **22 06 13.4 +1.4**
SADO Sadowa 71.01 40 LR LR 22 40 48.5
comp=Z,2µm,18.8s,baz=336,slow=39
CCM Cathedral Cave 71.07 52 P **P** **22 06 13.6 -0.2**
CCM IAmb IAmb 22 06 15.0
comp=Z,9.8nm,1.0s
CCM Cathedral Cave 71.07 52 P **P** **22 06 13.6 -0.2**
CCM pmax pmax
comp=Z,10.0nm,1.0s
HHAR Hobbs 71.12 55 IAmb IAmb 22 06 15.1
comp=Z,14nm,0.8s
TX31 Lajitas Ar. Si 71.23 66 IAmb IAmb 22 06 42.1
comp=Z,16nm,1.2s
TXAR Lajitas Array 71.23 66 P **P** **22 06 16.3 +1.2**
TXAR Lajitas Array 71.23 66 P **P** **22 06 16.6 +1.5**
comp=Z,3.1nm,0.7s,baz=298,slow=4.5,SNR=26
comp=Z,3.1nm,0.7s
LPIG La Paz 71.34 75 LR LR 22 36 15.5
comp=Z,48nm,18.0s,baz=265,slow=35

ANN Anapa 71.45 321 *e*P P 22 06 12.3 -3.7
ANN *e*S S 22 15 29.7 -1.4
ANN pmax pmax
comp=Z,32nm,0.8s
Q44A Meyer Farm, Va 71.47 50 IAmb IAmb 22 06 17.5
comp=Z,16nm,1.0s
FVM French Village 71.52 52 IAmb IAmb 22 06 17.9
comp=Z,8.7nm,0.8s
PLPT Palo Pinto 71.52 60 IAmb IAmb 22 06 45.1
comp=Z,18nm,1.4s
LVV L'vov 71.71 332 P P 22 06 17.5 0.0
SORM Soroca 71.86 328 ⇓P P 22 06 17.5 -0.9
SORM Soroca 71.86 328 ⇓P P 22 06 17.5 -0.9
EKA Eskdalemuir Ar 71.99 350 P P 22 06 19.1 0.0
comp=Z,1.7nm,0.4s,baz=19,slow=5.4,SNR=13
comp=Z,1.7nm,0.4s
KMPD K-Podol'skiy 72.09 329 P P 22 06 18.5 -1.3
KMPD P P 22 06 18.9 -0.9
GNI Garni 72.19 313 LR LR 22 42 49.4
comp=Z,782nm,18.6s,baz=22,slow=40
GNI Garni 72.19 313*c* *i*P P 22 06 21.0 +0.2
GNI pmax pmax
comp=Z,20nm,1.4s
GNI MLR MLR
comp=Z,744nm,18.0s
GNI Garni 72.19 313 P P 22 06 21.1 +0.2
comp=Z,12nm,1.1s
FCAR Ozark Folk Cen 72.34 54 IAmb IAmb 22 06 22.3
comp=Z,13nm,0.8s
PBMO Poplar Bluff 72.47 52 IAmb IAmb 22 06 23.8
comp=Z,13nm,0.8s
OJC Ojcow 72.54 334 *e*P P 22 06 22.8 +0.3
OJC Ojcow 72.54 334 P 22 06 21.6 -0.9
OJC Ojcow 72.54 334 P P 22 06 21.6 -0.9
OJC Ojcow 72.54 334 P P 22 06 22.2 -0.3
comp=Z,17nm,1.5s
STNU Starunia 72.56 331 P P 22 06 22.2 -0.5
SIM Simferopol' 72.59 323 P P 22 06 23.8 +0.9
SIM pmax pmax
comp=Z,15nm,1.3s
WHAR Wooly Hollow 72.73 55 IAmb IAmb 22 06 25.0
comp=Z,14nm,1.1s
KSV Kosov 72.74 330 P P 22 06 22.9 -0.8
MILM Milestii Mici 72.77 327 ⇑P P 22 06 22.5 -1.4
MILM Milestii Mici 72.77 327 ⇑P P 22 06 22.5 -1.4
KSP Ksiaz 72.86 337 *e*P P 22 06 24.9 +0.5
KSP Ksiaz 72.86 337 P P 22 06 24.3 -0.1
comp=Z,12nm,2.4s
KOLS Kolonicke sedl 73.02 332 *e*P P 22 06 25.2 -0.2
KOLS pmax pmax
comp=Z,11nm,0.8s
NIE Niedzica 73.13 334 *e*P P 22 06 26.6 +0.5
NIE Niedzica 73.13 334 P P 22 06 26.2 +0.1
comp=Z,6.0nm,1.9s
OSTC Ostas 73.15 337 *e*P P 22 06 26.4 +0.3
OSTC AMS AMS 22 45 00.0
comp=Z,500nm,18.9s
OSTC Ostas 73.15 337 *e*P P 22 06 26.4 +0.3
OSTC MLR MLR
comp=Z,500nm,18.9s
CHVC Chvalec 73.16 337 *e*P P 22 06 26.1 -0.1
CHVC AMS AMS 22 40 30.0
comp=Z,500nm,23.2s
CHVC Chvalec 73.16 337 *e*P P 22 06 26.1 -0.1
CHVC MLR MLR
comp=Z,500nm,23.2s
CLL Collm 73.20 339 *i*P P 22 06 26.1 -0.2
CLL *i* *PP pP 22 06 38.1 +0.4
CLL *e*S SKiKP 22 15 55.0 +1.0
CLL pmax pmax
comp=Z,15nm,1.2s
CLL Collm 73.20 339 P P 22 06 25.9 -0.4
comp=Z,19nm,1.3s
CLL Collm 73.20 339 *i*P P 22 06 26.1 -0.2
comp=Z,15nm,1.2s
CLL *i* pP pP 22 06 38.1 +0.4
CLL *i* pPmax 22 06 40.3
comp=Z,33nm,1.3s
CLL *e*x x 22 06 49.0
CLL *e*x x 22 09 36.0
CLL *e*PPP PPP 22 10 54.0
CLL *e*S SKiKP 22 15 55.0 +1.0
CLL *e*PPS PPS 22 16 35.0
CLL *e*x x 22 21 42.0
UPC Upice 73.24 337 AMS AMS 22 45 00.0
comp=Z,500nm,17.6s
RAKU Rahkiv 73.27 331 P P 22 06 25.6 -1.3
BUR08 Bucovina Ar. S 73.30 330 IAmb IAmb 22 06 28.2
comp=Z,11nm,0.8s
DPC Dobruska-Polom 73.31 337 *e*P P 22 06 27.7 +0.6
DPC *e*pP sP 22 06 43.0 +0.1
DPC AMS AMS 22 45 10.0
comp=Z,500nm,15.1s
DPC Dobruska-Polom 73.31 337 *e*P P 22 06 27.7 +0.6
DPC *e**PP sP 22 06 43.0 +0.1
DPC MLR MLR
comp=Z,500nm,15.1s
DPC Dobruska-Polom 73.31 337 P P 22 06 27.0 -0.1
comp=Z,8.1nm,1.5s
BURAR Bucovina Array 73.31 330 P P 22 06 26.2 -1.1
BURAR Bucovina Array 73.31 330 ⇓P P 22 06 27.0 -0.3
BURAR Bucovina Array 73.31 330 ⇓P P 22 06 27.0 -0.3
OKC Ostrava-Krasne 73.32 335 *e*P P 22 06 28.1 +1.0
OKC AMS AMS 22 42 10.0
comp=Z,900nm,20.3s
OKC Ostrava-Krasne 73.32 335 *e*P P 22 06 28.1 +1.0
OKC MLR MLR
comp=Z,900nm,20.3s
MUKU Mukachevo 73.33 332 P P 22 06 26.6 -0.6
BRIU Brid 73.33 331 P P 22 06 26.9 -0.3
HOLU Holmets 73.35 332 P P 22 06 26.3 -1.0
BRG Berggiesshubel 73.39 338 *e*P P 22 06 28.0 +0.5
BRG Amp 22 06 28.9
comp=Z,4.9nm,0.9s
KRLC Kraliky 73.45 336 *e*P P 22 06 28.0 0.0
KRLC *e*pP PcP 22 06 44.0 +0.1
KRLC AMS AMS 22 42 40.0
comp=Z,600nm,17.7s
KRLC Kraliky 73.45 336 *e*P P 22 06 28.0 0.0
KRLC *e**PP PcP 22 06 44.0 +0.1
KRLC MLR MLR
comp=Z,600nm,17.7s
MORC Moravsky Berou 73.53 336 IAmb IAmb 22 06 44.5
comp=Z,22nm,1.3s
MORC Moravsky Berou 73.53 336 *e*P P 22 06 28.1 -0.3
MORC *e* 22 06 42.4
MORC Moravsky Berou 73.53 336 ⇑P P 22 06 28.3 -0.2
MORC Moravsky Berou 73.53 336 ⇑P P 22 06 28.3 -0.2
BERU Beregovo 73.54 332 P P 22 06 28.6 +0.2
LEM Lembang 73.55 235 LR LR 22 43 45.2
comp=Z,40nm,18.1s,baz=270,slow=40
PVCC Panska Ves 73.57 338 AMS AMS 22 44 20.0
comp=Z,600nm,15.1s
TRSU Trosnyk 73.57 331 P P 22 06 28.9 +0.3
LANS Liptovska Anna 73.60 334 *e*P P 22 06 29.8 +0.9
LANS pmax pmax
comp=Z,9.0nm,0.8s
TESR Tescani 73.84 328 ⇑P P 22 06 29.6 -0.6
TESR Tescani 73.84 328 P P 22 06 29.0 -1.2
comp=Z,26nm,1.4s
T47A Sharon Grove 73.90 50 IAmb IAmb 22 06 46.1
comp=Z,21nm,1.1s
VLDR Vladesti 73.95 327 ⇑P P 22 06 30.4 -0.5
GHRR 73.99 328 ⇑P P 22 06 31.8 +0.7
GHRR 73.99 328 P P 22 06 31.3 +0.2
PRA Prague 74.03 338 AMS AMS 22 44 40.0
comp=Z,600nm,16.1s
PRU Pruhonice 74.08 337 *e*P P 22 06 32.5 +1.0
PRU *e*pP pwP 22 06 47.1 -0.3
PRU AMS AMS 22 44 40.0
comp=Z,500nm,14.7s
PRU Pruhonice 74.08 337 *e*P P 22 06 32.5 +1.0
PRU *e**PP pwP 22 06 47.1 -0.3
PRU MLR MLR
comp=Z,500nm,14.7s
ONER Baraj Valea Uz 74.08 328 ⇑P P 22 06 31.7 0.0
DZM Mont Dzumac 74.09 174 *e*LR LR 22 29 13.8
comp=Z,357nm,22.0s
MOX Moxa 74.12 340 P P 22 06 32.6 +0.8
MOX pmax pmax
comp=Z,9.0nm,1.3s
MOX Moxa 74.12 340 *e*L L 22 40 20.2
comp=Z,308nm,21.8s
KOPT Kop Dagi 74.17 316 IAmb IAmb 22 07 08.4
comp=Z,14nm,0.9s

TATR Tatarca 74.18 327 ⇑P P 22 06 25.8 -6.4
VRAC Vranov 74.21 336 LR LR 22 43 30.9
comp=Z,756nm,19.2s,baz=18,slow=39
VRAC Vranov 74.21 336 *e*P P 22 06 32.6 +0.3
VRAC *e* 22 06 46.5
VRAC Vranov 74.21 336 ⇑P P 22 06 33.0 +0.6
VRAC Vranov 74.21 336 ⇑P P 22 06 33.0 +0.6
WVT Waverly 74.25 51 P P 22 06 33.0 +0.2
WVT IAmb IAmb 22 06 47.4
comp=Z,12nm,1.0s
WVT Waverly 74.25 51 P P 22 06 33.0 +0.2
WVT pmax pmax
comp=Z,12nm,1.0s
WVT Waverly 74.25 51 P P 22 06 33.4 +0.6
WVT pP pP 22 06 45.2 +0.7
TLCR 74.28 326 ⇑P P 22 06 33.3 +0.5
TLCR 74.28 326 ⇑P P 22 06 33.3 +0.5
IZVR Izvoarele 74.32 327 ⇑P P 22 06 33.0 0.0
JAVC Velka Javorina 74.34 335 *e*P P 22 06 34.5 +1.3
JAVC *e* 22 06 48.9
ODBI Odobesti 74.37 328 ⇑P P 22 06 34.7 +1.4
ODBI Odobesti 74.37 328 P P 22 06 34.3 +1.0
comp=Z,9.2nm,1.0s
VRI Vrincioaia 74.38 328 ⇑P P 22 06 33.3 -0.1
VRI Vrincioaia 74.38 328 ⇑P P 22 06 33.3 -0.1
VRI Vrincioaia 74.38 328 P P 22 06 33.0 -0.4
comp=Z,11nm,1.1s
PLOR Plostina 74.42 328 ⇑P P 22 06 32.1 -1.6
PLOR Plostina 74.42 328 ⇑P P 22 06 32.1 -1.6
MESR Meseseni 74.42 331 ⇑P P 22 06 34.5 +0.8
TURR Turia 74.45 329 ⇑P P 22 06 34.2 +0.4
KRUC Moravsky 74.48 336 *e*P P 22 06 34.3 +0.4
KRUC *e* 22 06 48.8
OZUR 74.48 329 ⇑P P 22 06 35.0 +1.0
TREC Trest 74.49 337 *e*P P 22 06 34.5 +0.5
TREC AMS AMS 22 44 00.0
comp=Z,500nm,14.4s
TREC Trest 74.49 337 *e*P P 22 06 34.5 +0.5
TREC MLR MLR
comp=Z,500nm,14.4s
CFR Carcaliu 74.52 327 ⇑P P 22 06 34.3 +0.1
CFR Carcaliu 74.52 327 ⇑P P 22 06 34.3 +0.1
COVR Voineasa-Covas 74.57 328 ⇑P P 22 06 35.4 +0.9
PSZ Piszkesteto 74.61 333 IAmb IAmb 22 06 36.8
comp=Z,15nm,1.1s
PSZ Piszkesteto 74.61 333 P P 22 06 35.4 +0.6
PSZ pmax pmax
comp=Z,16nm,0.7s
CJR Cluj-Napoca 74.62 330 ⇑P P 22 06 35.8 +0.9
CJR Cluj-Napoca 74.62 330 ⇑P P 22 06 35.8 +0.9
BISRR Bisoca 74.67 328 ⇑P P 22 06 35.2 +0.1
ZVC Zvikov 74.67 337 *e*P P 22 06 35.4 +0.4
ZVC epP sP 22 06 50.7 -0.1
ZVC AMS AMS 22 44 50.0
comp=Z,600nm,14.9s
TPGR Topolog 74.71 326 ⇑P P 22 06 34.7 -0.6
SMOL Smolenice 74.72 335 *e*P P 22 06 36.0 +0.6
DOPR Dopca 74.73 329 ⇑P P 22 06 36.4 +1.0
MARR Marisel-Cluj 74.80 331 ⇑P P 22 06 35.5 -0.4
DRGR 74.82 331 ⇑P P 22 06 35.7 -0.3
DRGR 74.82 331 ⇑P P 22 06 35.7 -0.3
MODS Modra-Piesok 74.89 335 *e*P P 22 06 38.2 +1.8
MODS *e* 22 06 52.6
MODS pmax pmax
comp=Z,19nm,1.6s
WB0 Warramunga Arr 74.91 205 P P 22 06 36.7 +0.1
WB0 IAmb IAmb 22 06 38.1
comp=Z,22nm,1.1s
U49A Red Boiling Sp 74.91 49 IAmb IAmb 22 06 51.1
comp=Z,12nm,1.0s
MLR Muntele Rosu 74.97 328 IAmb IAmb 22 06 39.1
comp=Z,13nm,0.8s
MLR Muntele Rosu 74.97 328 LR LR 22 44 24.0
comp=Z,863nm,19.2s,baz=26,slow=40
MLR Muntele Rosu 74.97 328 ⇑P P 22 06 38.0 +1.0
MLR Muntele Rosu 74.97 328 ⇑P P 22 06 38.0 +1.0
MLR Muntele Rosu 74.97 328 P P 22 06 36.5 -0.5
CLTN Cedars of Leba 74.99 50 IAmb IAmb 22 06 51.7
comp=Z,12nm,1.1s
V48A Smith Brothers 75.04 51 IAmb IAmb 22 06 52.4
comp=Z,24nm,1.4s
PLAL Pickwick Lake 75.05 52 IAmb IAmb 22 06 51.6
comp=Z,15nm,1.1s
TIRR Tirgusor 75.06 326 ⇑P P 22 06 36.4 -0.9
TIRR Tirgusor 75.06 326 ⇑P P 22 06 36.4 -0.9
WR8 Warramunga Arr 75.06 205 IAmb IAmb 22 06 39.0
comp=Z,18nm,1.2s
WRA Warramunga Arr 75.09 205 P P 22 06 37.8 +0.1
WRA Warramunga Arr 75.09 205 P P 22 06 38.4 +0.8
comp=Z,7.4nm,0.9s,baz=16,slow=5.9,SNR=25
WRA LR LR 22 41 35.3
comp=Z,48nm,18.8s,baz=20,slow=37
comp=Z,7.4nm,0.9s
WRA Warramunga Arr 75.09 205 P P 22 06 37.8 +0.1
WRA pmax pmax
comp=Z,1.0nm,1.2s
KHC Kasperske Hory 75.10 338 *e*P P 22 06 39.1 +1.5
KHC *e*pP pwP 22 06 53.8 +0.4
KHC AMS AMS 22 45 40.0
comp=Z,600nm,15.5s
KHC Kasperske Hory 75.10 338*c* *i*P P 22 06 38.1 +0.5
KHC pmax pmax
comp=Z,20nm,1.3s
GRF Grafenberg Arr 75.11 339 *e*P P 22 06 38.1 +0.5
comp=Z,30nm,1.6s,baz=20,slow=5.1
GRF *e*pP sP 22 06 52.6 -0.8
baz=20,slow=5.1
GRF *e*L L 22 44 57.2
comp=Z,413nm,18.8s
GRFO Grafenberg 75.11 339 P P 22 06 38.5 +1.0
GRFO Grafenberg 75.11 339 P P 22 06 38.5 +1.0
GRFO pmax pmax
comp=Z,30nm,1.3s
TLBR Topalu 75.11 326 ⇓P P 22 06 37.5 -0.1
SRO Srobarova 75.14 334 *e*P P 22 06 39.3 +1.6
SRO *e* 22 06 53.2
SRO pmax pmax
comp=Z,13nm,0.9s
CKRC Cesky Krumlov 75.22 337 *e*P P 22 06 38.3 +0.1
CKRC *e*pP sP 22 06 53.7 -0.3
CKRC AMS AMS 22 40 40.0
comp=Z,600nm,23.7s
CKRC Cesky Krumlov 75.22 337 *e*P P 22 06 38.3 +0.1
CKRC *e**PP sP 22 06 53.7 -0.3
CKRC MLR MLR
comp=Z,600nm,23.7s
BTNL Ternell 75.27 343 *d*P P 22 06 39.5 +1.0
MEM Membach 75.27 343 *d*P P 22 06 39.0 +0.6
comp=Z,17nm,1.1s
VOIR 75.31 329 ⇑P P 22 06 39.0 +0.1
VOIR 75.31 329 ⇑P P 22 06 39.0 +0.1
GEC2 GERESS Array S 75.34 338 IAmb IAmb 22 06 55.0
comp=Z,16nm,1.4s
GERES GERESS Array B 75.34 338 P P 22 06 39.0 0.0
comp=Z,1.7nm,0.6s,baz=38,slow=5.5,SNR=17
GERES LR LR 22 46 09.1
comp=Z,404nm,19.5s,baz=21,slow=41
comp=Z,1.7nm,0.6s
ARR Arges 75.50 329 ⇑P P 22 06 40.5 +0.6
BHOU Houvegnez 75.51 343 *d*P P 22 06 41.2 +1.3
ICOR Ion Corvin 75.57 326 ⇑P P 22 06 39.9 -0.3
BCLA Clavier 75.57 343 *d*P P 22 06 38.9 -1.3
SULR 75.59 328 ⇓P P 22 06 39.8 -0.6
SIRR Siria 75.60 331 ⇑P P 22 06 40.5 +0.1
CONA Conrad Observa 75.67 336 *i*P P 22 06 41.2 +0.3
comp=Z,17nm,1.7s,SNR=6.2
CONA *i* sP pwP 22 06 56.2 -0.5
comp=Z,19nm,1.3s
RONA Rosalia, Austr 75.77 335 *i*P P 22 06 42.5 +1.1
comp=Z,18nm,1.5s,SNR=6.8
RONA *i* sP pwP 22 06 57.0 -0.3
comp=Z,21nm,1.4s
SWET Sewanee 75.89 50 IAmb IAmb 22 06 56.3
comp=Z,16nm,0.9s
SURR Surduc 75.93 331 ⇓P P 22 06 42.4 +0.1
KALB Balgarevo 75.98 326 ⇑P P 22 06 38.9 -3.7
DOU Dourbes 76.01 344 *d*P P 22 06 42.3 -0.4
GZR Gura Zlata 76.06 330 ⇑P P 22 06 40.6 -2.5
GZR Gura Zlata 76.06 330 ⇑P P 22 06 40.6 -2.5
ILGA Ilgaz 76.07 321 IAmb IAmb 22 06 45.9
comp=Z,19nm,0.9s
MOA Molln 76.14 337 *i*P P 22 06 43.9 +0.5
comp=Z,13nm,1.7s
MOA *i* sP sP 22 06 58.6 -0.7

comp=Z,10nm,1.3s
W50A Signal Mountai 76.20 50 IAmb IAmb 22 06 58.3
comp=Z,16nm,0.9s
BZS Buzias 76.20 331 ⇑P P 22 06 43.4 -0.5
BZS Buzias 76.20 331 ⇑P P 22 06 43.4 -0.5
MARD Mardin 76.28 314 IAmb IAmb 22 07 10.8
comp=Z,12nm,0.7s
CPCT Cooper Cave 76.36 49 IAmb IAmb 22 06 59.3
comp=Z,11nm,1.0s
ARSA Arzberg 76.38 336 IAmb IAmb 22 07 01.6
comp=Z,28nm,1.4s
ARSA Arzberg 76.38 336 *i*P P 22 06 45.6 +0.7
comp=Z,17nm,1.8s
ARSA *i* sP sP 22 07 00.1 -0.6
comp=Z,18nm,1.2s
BIOA Bad Ischl, Aus 76.44 337 *i*P P 22 06 46.6 +1.4
comp=Z,1.9nm,0.5s
BIOA *i* sP sP 22 07 00.1 -0.9
comp=Z,16nm,1.4s
RAZG Razgrad 76.49 327 ⇑P P 22 06 45.6 +0.1
TKL Tuckaleechee C 76.54 49 LR LR 22 42 11.5
comp=Z,279nm,20.4s,baz=330,slow=37
FPAL Fort Paine 76.59 50 IAmb IAmb 22 07 00.5
comp=Z,11nm,1.0s
HERR Herculane 76.63 330 ⇑P P 22 06 46.4 +0.1
LOZB Loznitsa 76.64 327 ⇑P P 22 06 46.4 0.0
LESA Schwarzleotal 76.91 338 *i*P P 22 06 48.8 +0.8
comp=Z,5.3nm,0.8s
LESA *e*sP sP 22 07 03.2 -0.6
comp=Z,21nm,1.6s
MDVR Moldovita 76.93 331 ⇓P P 22 06 48.0 -0.1
SOKA Soboth 77.04 336 *e*P P 22 06 49.1 +0.4
comp=Z,23nm,1.6s,SNR=5.8
SOKA *i* sP sP 22 07 03.8 -0.7
comp=Z,17nm,0.9s
KBA Koelnbreinsper 77.08 337 *e*P P 22 06 50.1 +1.0
comp=Z,30nm,0.9s,SNR=8.7
KBA *i* sP sP 22 07 04.6 -0.3
comp=Z,34nm,0.9s
BNN Bunyan 77.10 318 IAmb IAmb 22 06 50.8
comp=Z,10nm,0.9s
BRTR Keskin Array B 77.24 320 P P 22 06 49.0 -1.0
BRTR Keskin Array B 77.24 320 P P 22 06 49.8 -0.3
comp=Z,4.0nm,0.8s,baz=57,slow=2.4,SNR=23
comp=Z,4.0nm,0.8s
WATA Walderalm 77.25 338 *i*P P 22 06 50.6 +0.6
comp=Z,15nm,1.4s
WATA *i* sP sP 22 07 05.2 -0.6
comp=Z,21nm,1.2s
ELND Elena 77.27 327 ⇑P P 22 06 49.8 -0.2
PLVB Pleven 77.28 328 ⇓P P 22 06 50.0 +0.1
RETA Reutte 77.29 339 *i*P P 22 06 50.5 +0.5
comp=Z,15nm,2.1s
RETA *i* sP sP 22 07 05.4 -0.5
comp=Z,8.5nm,1.3s
WTTA Wattenberg 77.30 338 *i*P P 22 06 51.0 +0.7
comp=Z,22nm,1.4s
WTTA *i* sP sP 22 07 05.8 -0.3
comp=Z,28nm,1.2s
OBKA Obir 77.32 336 *i*P P 22 06 50.8 +0.5
comp=Z,36nm,1.6s,SNR=5.9
OBKA *i* sP sP 22 07 05.2 -0.9
comp=Z,26nm,1.6s
ECH Echery 77.34 342 IAmb IAmb 22 06 52.0
comp=Z,16nm,1.2s
MOTA Moosalm 77.35 339 *e*P P 22 06 51.0 +0.5
comp=Z,19nm,1.5s,SNR=6.1
MOTA *i* sP sP 22 07 05.6 -0.7
comp=Z,24nm,1.0s
MYKA Terra Mystica 77.43 337 *i*P P 22 06 50.8 -0.1
comp=Z,9.4nm,1.2s
MYKA *i* sP sP 22 07 05.7 -1.0
comp=Z,2.8nm,0.7s
SQTA Sankt Quirin 77.44 339 *e*P P 22 06 51.6 +0.6
comp=Z,27nm,1.8s,SNR=6.6
SQTA *i* sP sP 22 07 06.2 -0.7
comp=Z,28nm,1.3s
ANTO Ankara 77.45 321 P P 22 06 51.1 0.0
ANTO Ankara 77.45 321 P P 22 06 51.1 0.0
ANTO pmax pmax
comp=Z,25nm,1.3s
SILT Sile 77.52 324 ⇓P P 22 06 51.3 0.0
PALK Pallekele 77.56 266 LR LR 22 44 52.5
comp=Z,255nm,19.2s,baz=36,slow=39
ABTA Abfaltersbach 77.59 338 *i*P P 22 06 51.3 -0.5
comp=Z,13nm,1.4s
ABTA *i* sP sP 22 07 06.4 -1.2
comp=Z,27nm,1.6s
KIRS Kirsehir-Merke 77.64 320 ⇑P P 22 06 51.8 -0.4
DAVA Damuels 77.67 340 *e*P P 22 06 53.7 +1.4
comp=Z,7.6nm,1.5s
DAVA *i* sP sP 22 07 07.2 -0.9
comp=Z,17nm,1.4s
FETA Feichten 77.74 339 *i*P P 22 06 53.6 +0.9
comp=Z,5.2nm,0.8s
FETA *i* sP sP 22 07 07.9 -0.6
comp=Z,15nm,1.0s
GAZ Gaziantep 77.95 316 IAmb IAmb 22 06 55.6
comp=Z,17nm,1.1s
BOVS Bovan 77.97 330 ⇑P P 22 06 53.1 -0.7
DAVOX Davos/Dischmat 78.15 339 LR LR 22 47 49.1
comp=Z,209nm,18.3s,baz=10.0,slow=41
FUORN Ofenpass-Fuorn 78.22 339 IAmb IAmb 22 07 18.4
comp=Z,18nm,1.3s
CTI Castel Tesino 78.45 338 IAmb IAmb 22 07 12.8
comp=Z,21nm,1.2s
UOSS Minazif 78.51 296 P P 22 06 56.3 -0.8
TUE Stuetta 78.56 340 IAmb IAmb 22 07 14.1
comp=Z,23nm,1.3s
AS31 Alice Springs 78.76 204 P P 22 06 58.6 +0.3
ASAR Alice Springs 78.77 204 P 22 06 58.3 0.0
ASAR Alice Springs 78.77 204 P P 22 06 59.5 +1.2
comp=Z,3.1nm,0.8s,baz=16,slow=5.0,SNR=25
ASAR LR LR 22 41 10.4
comp=Z,46nm,20.0s,baz=351,slow=35
comp=Z,3.1nm,0.8s
ALN Alexandroupoli 79.02 326 IAmb IAmb 22 07 00.7
comp=Z,24nm,1.2s
TEOL Teolo 79.09 338 P P 22 06 59.0 -1.0
TAOE Nuku Hiva Isla 79.44 119 *e*LR LR 22 31 53.0
comp=Z,294nm,23.2s
PDG Podgorica 79.81 331 ⇑P P 22 07 04.0 +0.1
EZN Ezine 79.88 325 ⇑P P 22 07 03.1 -1.2
EZN Ezine 79.88 325 ⇑P P 22 07 03.1 -1.2
SSB Saint Sauveur 80.67 343 P P 22 07 09.3 +0.7
SSB PcP PcP 22 07 16.2 +1.0
SSB pP pP 22 07 21.1 +1.1
RAR Rarotonga 81.12 142 LR LR 22 41 54.0
comp=Z,163nm,19.2s,baz=324,slow=35
INKA Innaminka 81.23 197 P P 22 07 12.0 +0.6
ELL Elmali 81.27 321 IAmb IAmb 22 07 13.3
comp=Z,12nm,0.9s
PPT Papeete 82.15 132 LR LR 22 39 01.0
comp=Z,212nm,18.4s,baz=322,slow=32
PPT2 Papeete2 82.17 132 *e*LR LR 22 32 57.2
comp=Z,436nm,23.5s
PPT2 *e*LR LR 22 33 04.0
comp=Z,552nm,22.8s
MMAI Mount Meron Ar 82.26 316 P P 22 07 17.5 +0.3
comp=Z,17nm,0.8s,baz=27,slow=5.6,SNR=22
MMAI LR LR 22 50 28.1
comp=Z,301nm,18.7s,baz=5.0,slow=40
comp=Z,17nm,0.8s
ASF Jabal al Asfar 82.33 314 LR LR 22 49 04.7
comp=Z,266nm,18.6s,baz=46,slow=40
RAO Raoul Island 83.35 160 LR LR 22 41 52.9
comp=Z,144nm,18.4s,baz=329,slow=34
IDI Anoyia 84.44 324 LR LR 22 49 05.2
comp=Z,149nm,21.1s,baz=322,slow=38
STKA Stephens Creek 85.12 195 P P 22 07 31.8 +0.3
STKA Stephens Creek 85.12 195 P P 22 07 31.8 +0.3
comp=Z,5.3nm,1.0s,baz=20,slow=5.8,SNR=6.5
STKA LR LR 22 42 54.8
comp=Z,81nm,21.9s,baz=24,slow=34
comp=Z,5.3nm,1.0s
EIL Elat 85.33 314 LR LR 22 49 36.0
comp=Z,259nm,21.2s,baz=343,slow=38
RAYN Ar Rayn 85.41 303 P P 22 07 32.3 -1.1
RAYN Ar Rayn 85.41 303 P P 22 07 32.3 -1.1
RAYN pmax pmax
comp=Z,15nm,0.8s
RAYN Ar Rayn 85.41 303 P P 22 07 32.6 -0.8
RAYN pP pP 22 07 44.0 -0.9
PBRG Braganca 85.73 350 *e*P P 22 07 35.4 +0.6
PBRG *i* IAmb IAmb 22 07 45.1
comp=Z,33nm,1.7s
VAE Valguarnera 85.79 333 LR LR 22 49 30.4

comp=Z,512nm,20.6s,baz=356,slow=38
CMIG Matias Romero 85.79 68 LR LR 22 42 44.0
comp=Z,66nm,21.4s,baz=316,slow=33
POLO Lamas de Olo 86.27 351 *e*P **P 22 07 37.4 0.0**
POLO *i* IAmb IAmb 22 07 42.7
comp=Z,15nm,1.6s
PVRL Vila Real 86.36 351 *e*P **P 22 07 38.3 +0.5**
MVO Moncorvo 86.39 350 *e*P **P 22 07 38.9 +0.8**
MVO *i* IAmb IAmb 22 07 42.7
comp=Z,35nm,1.4s
PVIS Viseu 86.93 351 *e*P **P 22 07 41.5 +0.8**
MTE Manteigas 87.21 350 *e*P **P 22 07 41.9 -0.1**
MTE *i* IAmb IAmb 22 07 47.2
comp=Z,29nm,1.6s
TBI Tubuai 87.25 135 *e*LR LR 22 35 26.2
comp=Z,917nm,29.8s
TBI *e*LR LR 22 35 29.6
comp=Z,2μm,30.2s
ESDC Sonseca Array 87.50 347 P **P 22 07 43.0 -0.5**
ESDC IAmb IAmb 22 07 45.0
comp=Z,5.4nm,0.9s
ESDC Sonseca Array 87.50 347 P **P 22 07 43.2 -0.2**
comp=Z,4.0nm,0.7s,baz=2.1,slow=4.1,SNR=38
ESDC LR LR 22 53 54.4
comp=Z,208nm,18.1s,baz=24,slow=40
comp=Z,4.0nm,0.7s
PCAS Casmilo, Conde 87.64 351 *e*P **P 22 07 45.7 +1.6**
PCAS *i* IAmb IAmb 22 07 46.6
comp=Z,42nm,1.5s
KEST Kesra 88.77 336 P **P 22 07 49.1 -0.4**
comp=Z,6.3nm,0.6s,baz=19,slow=1.7,SNR=18
KEST LR LR 22 52 57.7
comp=Z,388nm,20.0s,baz=32,slow=39
comp=Z,6.3nm,0.6s
URZ Urewera 91.26 166 LR LR 22 47 18.0
comp=Z,94nm,18.1s,baz=356,slow=34
MDT Midelt 94.33 347 LR LR 22 55 24.8
comp=Z,123nm,20.9s,baz=29,slow=38
RPZ Rata Peaks 95.94 172 LR LR 22 48 42.2
comp=Z,177nm,18.1s,baz=336,slow=34
ATD Arta Tunnel 96.72 298 LR LR 22 57 14.6
comp=Z,25nm,19.2s,baz=12,slow=39
JTS Las Juntas de 96.89 64 LR LR 22 56 08.0
comp=Z,41nm,19.4s,baz=319,slow=38
SJG San Juan 99.51 44 LR LR 22 57 20.5
comp=Z,62nm,19.5s,baz=360,slow=38
H03N2 Juan Fernandez 134.42 90 T T 00 44 59.6
baz=314,slow=77,SNR=84
H03N1 Juan Fernandez 134.44 90 T T 00 44 57.4
baz=314,slow=77,SNR=77
H03N3 Juan Fernandez 134.44 90 T T 00 44 57.7
baz=314,slow=77,SNR=45
BOSA Boshof 139.02 287 PKP **PKPdf 22 14 21.0 -1.1**
comp=Z,3.5nm,1.0s,baz=0.0,slow=2.0,SNR=3.4
QSPA South Pole Qui 141.85 180 PKhKP PKPpre 22 14 21.9
comp=Z,0.7nm,0.4s,baz=299,slow=0.9,SNR=6.1
PLCA Paso Flores 144.21 92 PKPdf PKPbc 22 14 30.0 +0.7
PLCA Paso Flores 144.21 92 PKP PKPbc 22 14 30.1 +0.8
comp=Z,6.7nm,1.0s,baz=302,slow=4.5,SNR=9.8
SUR Sutherland 144.38 287 PKPdf **PKPdf 22 14 31.6 -0.1**
TRQA Tornquist 147.85 81 PKPbc **PKPbc 22 14 40.4 +0.2**
TRQA Tornquist 147.85 81 PKP2 **PKPbc 22 14 40.4 +0.2**
TROLL Troll, Antarti 157.65 198 ⇑PKPab **PKPab 22 15 23.7 +0.5**
comp=Z,162nm,0.8s
SNAA Sanae 158.89 195 ⇑PKPab **PKPab 22 15 28.3 -0.1**
comp=Z,30nm,0.9s
SNAA Sanae 158.89 195 PKPab **PKPab 22 15 29.5 +1.0**
comp=Z,1.0nm,0.8s,baz=134,slow=5.2,SNR=4.7
VNA3 Neumayer Olymp 160.21 190 ⇑PKPab **PKPab 22 15 33.9 -0.2**
comp=Z,3.0nm,0.6s
VNA1 Neumayer--Stat 160.60 192 ⇑PKPab **PKPab 22 15 36.0 +0.3**
comp=Z,4.8nm,1.1s

PRU 23 22:03:24.8, 50.16N×19.02E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.50**	**83**	*e*Pg	Pg	22 03 33.6	-0.8
OJC				*e*Sg	Sg	22 03 40.6	-0.4
OKC	**Ostrava-Krasne**	**0.65**	**241**	*e*PG	Pg	22 03 38.0	+0.8
OKC				*e*SG	Sg	22 03 46.1	+0.5
	6.8nm,0.6s						
MORC	**Moravsky Berou**	**1.03**	**249**	*e*PG	Pg	22 03 43.9	-0.6
MORC				*e*SG	Sg	22 03 56.5	-1.3
NIE	**Niedzica**	**1.11**	**131**	*e*Pg	Pg	22 03 46.4	+0.2
NIE				*e*Sg	Sn	22 04 02.9	-0.8
KRLC	**Kraliky**	**1.44**	**267**	*e*PG	Pn	22 03 51.1	-1.1
KRLC				*e*SG	Sg	22 04 10.3	-0.8
	3.9nm,0.3s						
DPC	**Dobruska-Polom**	**1.74**	**277**	*e*PG	Pn	22 03 55.5	-0.8
DPC				*e*SG	Sb	22 04 20.1	0.0
	8.4nm,0.8s						
VRAC	**Vranov**	**1.79**	**242**	*e*PG	Pn	22 03 56.7	-0.3
VRAC				*e*SG	Sn	22 04 19.7	-0.7
OSTC	**Ostas**	**1.84**	**284**	*e*PG	Pn	22 03 57.8	+0.1
OSTC				*e*SG	Sg	22 04 23.5	-0.4
	3.6nm,0.7s						
CHVC	**Chvalec**	**1.95**	**284**	*e*PG	Pn	22 03 58.9	-0.2
CHVC				*e*SG	Sg	22 04 26.8	-0.5
	1.3nm,0.4s						
UPC	**Upice**	**1.96**	**281**	*e*SG	Sg	22 04 27.5	-0.2
	2.3nm,0.2s						
KRUC	**Moravsky**	**2.03**	**238**	*e*PG	Pn	22 04 00.4	+0.2
TREC	**Trest**	**2.45**	**251**	*e*SG	Sb	22 04 41.5	+1.0
	1.9nm,0.2s						
KHC	**Kasperske Hory**	**3.68**	**256**	*e*SG	Sg	22 05 22.0	-1.1
	6.5nm,1.2s						

*ASRS **23** 22:05:34.2±0.2, 50.6N±0.9×8.7E±°, h8km, MLh3.8/15, Error ellipse: s-maj=2.8km s-min=1.9km az=71.3, confirmed*
*NNC **23** 22:05:39.3±1.7, 50.59N×87.14E, h4km±10km, mb4.0, mpv3.6, Error ellipse: s-maj=12.2km s-min=6.7km az=96.0*
ISC 23 22:05:35.9±0.7, 50.57N±0.02×87.52E±0.03, h10km, n26, σ1§89/51, 11C-12D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBI	**Chibit, Altay**	**0.26**	**182**	⇓Pg	**Pg**	**22 05 40.0**	**-1.1**
CHBI				Sg	**Sg**	**22 05 43.1**	**-1.6**
AKAR	**Aktash**	**0.26**	**165**	⇓Pg	**Pg**	**22 05 40.4**	**-0.8**
AKAR				Sg	**Sg**	**22 05 43.7**	**-1.0**
ULGR	**Ulagan, Altay**	**0.29**	**79**	⇑Pg	**Pb**	**22 05 42.6**	**-0.7**
ULGR				Sg	**Sb**	**22 05 47.1**	**-1.0**
CUR	**Chagan-Uzun**	**0.71**	**131**	⇑Pg	**Pg**	**22 05 49.2**	**-0.4**
CUR				Sg	**Sb**	**22 05 59.4**	**-0.9**
DGZ	**Jazzator, Alta**	**0.87**	**184**	⇓Pg	**Pg**	**22 05 51.2**	**-1.4**
DGZ				Sg	**Sg**	**22 06 01.7**	**-2.3**
ELDR	**Elanda**	**1.11**	**306**	Pg	**Pb**	**22 05 55.9**	**-1.3**
ELDR				Sg	**Sb**	**22 06 10.1**	**-1.7**
YALR	**Yailyu, Altay**	**1.20**	**3**	⇓Pg	**Pg**	**22 05 58.7**	**-0.3**
YALR				Sg	**Sb**	**22 06 13.6**	**-0.8**
ARTR	**Artybash**	**1.24**	**353**	Pg	**Pb**	**22 05 59.2**	**-0.2**
ARTR				Sg	**Sn**	**22 06 16.8**	**+0.7**
TEL	**Teeli**	**1.76**	**74**	Pg	**Pg**	**22 06 09.4**	**-0.3**
TEL				Sg	**Sg**	**22 06 35.2**	**+2.7**
UKR	**Ust'-Kan**	**1.78**	**283**	Pg	**Pn**	**22 06 08.1**	**+1.3**
UKR				Sg	**Sb**	**22 06 32.2**	**+1.0**
ELT	**Eltsovka**	**2.81**	**344**	Pg	**Pb**	**22 06 24.5**	**-1.6**
ELT				Sg	**Sg**	**22 07 03.9**	**-2.2**
KALT2	**Kaltan 2**	**2.84**	**358**	Pg	**Pb**	**22 06 27.7**	**+1.1**
KALT2				Sg	**Sg**	**22 07 05.8**	**-1.2**
DJO	**Djoy, Khakassi**	**3.20**	**45**	Pg	**Pg**	**22 06 36.1**	**-1.0**
DJO				Sg	**Sg**	**22 07 15.8**	**-2.7**
VEH	**Verkhnyaya Baz**	**3.20**	**32**	Pn	**Pb**	**22 06 30.0**	**-2.9**
VEH				Pg	**Pg**	**22 06 37.4**	**+0.2**
VEH				Sg	**Sg**	**22 07 16.1**	**-2.4**
LUZB	**Luzhba, Kemero**	**3.21**	**15**	Pn	**Pb**	**22 06 30.9**	**-2.1**
LUZB				Sg	**Sg**	**22 07 21.5**	**+2.5**
ERU	**Erunakovo, Kuz**	**3.58**	**359**	Pg	**Pb**	**22 06 40.5**	**+1.3**
ERU				Sg	**Sg**	**22 07 30.7**	**0.0**
ZAA0	**Zalesovo Array**	**3.77**	**335**	⇓Pn	**Pn**	**22 06 36.1**	**+2.1**
	2.2nm,0.8s						
ZAA0				⇓Lg	Lg	22 07 34.4	
	13nm,0.8s						
BJR1	**Bachatsky 1, K**	**3.79**	**347**	Pg	**Pn**	**22 06 38.2**	**+3.9**
BJR1				Sg	**Sg**	**22 07 34.3**	**-3.0**
SALR	**Pechorkino, Sa**	**4.01**	**345**	Pg	**Pn**	**22 06 41.4**	**+4.0**
SALR				Sg	**Sg**	**22 07 43.6**	**-1.0**
ARDR	**Aradan**	**4.20**	**59**	Pg	**Pg**	**22 06 53.6**	**-2.7**
ARDR				Sg	**Sg**	**22 07 50.0**	**-0.7**
NVS	**Novosibirsk**	**5.01**	**330**	Sg	**Sg**	**22 08 13.6**	**-2.9**
MK31	**Makanchi Array**	**5.12**	**225**	⇑Pn	**Pn**	**22 06 56.2**	**+3.5**
	7.7nm,0.5s,baz=46,slow=12,SNR=184						
MK31				⇓Sn	**Sn**	**22 07 53.0**	**+1.2**
	8.7nm,0.4s,baz=60,slow=27,SNR=7.6						
MK31				⇑Lg	Lg	22 08 16.9	
	22nm,0.5s,baz=48,slow=29,SNR=6.3						
MAKZ	**Makanchi**	**5.25**	**226**	⇑Pn	**Pn**	**22 06 57.7**	**+3.2**
	4.9nm,0.4s						
MAKZ				⇓Sn	**Sn**	**22 07 56.3**	**+1.2**
	47nm,1.0s						
MAKZ				⇓Lg	Lg	22 08 21.6	
	22nm,0.6s						
KURK	**Kurchatov**	**5.66**	**275**	⇑Pn	**Pn**	**22 07 01.1**	**+1.1**
	2.1nm,0.6s						
KURK				⇑Sn	**Sn**	**22 08 05.6**	**+0.6**
	5.8nm,1.0s						
KURK				⇑Lg	Lg	22 08 29.9	
	14nm,0.6s						
KURBB	**Kurchatov Arra**	**5.72**	**274**	⇑Pn	**Pn**	**22 07 02.0**	**+1.1**
	8.9nm,0.3s						
KURBB				⇑Sn	**Sn**	**22 08 06.8**	**+0.2**
	27nm,0.7s						
KURBB				⇑Lg	Lg	22 08 32.3	
	76nm,0.6s						
PDGK	**Podgornoye**	**9.08**	**220**	⇓Pn	**Pn**	**22 07 48.4**	**+1.3**
	3.7nm,0.8s						
PDGK				⇓Sn	**Sn**	**22 09 30.8**	**+1.4**
	11nm,0.8s						
PDGK				⇓Lg	Lg	22 10 23.5	
	11nm,0.9s						

*IDC **23** 22:13:00.2±1.2, 0.62N×126.99E, h0km, mb3.5/5, mbtmp3.6/6, ML4.1/1, MS4.0/1, Error ellipse: s-maj=54.9km s-min=20.5km az=70.0*
ISC 23 22:13:05.2±1.4, 0.6N±0.2×127.0E±0.2, h35km, n7, σ0§91/6, mb3.4/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**		**9.16**	**232**	Pn	**Pn**	**22 15 15.0**	**0.0**
	2.1nm,0.3s,baz=70,slow=21,SNR=4.4							
	5.1nm,0.4s							
WRA	**Warramunga Arr**		**21.63**	**161**	P	**P**	**22 17 52.4**	**-0.2**
	1.0nm,0.6s,baz=337,slow=11,SNR=8.6							
	1.0nm,0.6s							
ASAR	**Alice Springs**		**25.03**	**165**	P	**P**	**22 18 26.4**	**+0.2**
	0.4nm,0.5s,baz=352,slow=16,SNR=11							
	0.4nm,0.5s							
DZM	**Mont Dzumac**		**44.54**	**123**	LR	LR	22 38 01.4	
	comp=Z,206nm,20.6s,baz=13,slow=34							
MKAR	**Makanchi Array**		**60.30**	**326**	P	**P**	**22 23 09.3**	**-1.1**
	0.1nm,0.4s,baz=135,slow=8.1,SNR=4.0							
	0.1nm,0.4s							
KURBB	**Kurchatov Arra**		**64.53**	**328**	P	**P**	**22 23 38.9**	**+0.3**
	0.5nm,0.6s,baz=127,slow=5.9,SNR=7.5							
	0.5nm,0.6s							
BVAR	**Borovoye Array**		**70.10**	**328**	P	**P**	**22 24 14.9**	**+1.1**
	0.5nm,0.5s,baz=107,slow=4.8,SNR=2.0							
	0.5nm,0.5s							

IDC 23 22:30:24.0±16.0, 6.77S×129.76E, h99km±172km, mb3.2/1, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=126.5km s-min=62.2km az=33.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**		**11.95**	**199**	P	Pn	22 33 12.0	+0.9
	0.2nm,0.3s,baz=163,slow=15,SNR=2.3							
FITZ					S	Sn	22 35 11.4	-11
	4.3nm,0.6s,baz=66,slow=24,SNR=7.6							
	0.9nm,0.3s							
WRA	**Warramunga Arr**		**13.83**	**162**	P	Pn	22 33 34.4	-1.5
	0.2nm,0.3s,baz=339,slow=13,SNR=4.7							
WRA					S	Sn	22 35 58.3	-10
	0.9nm,0.4s,baz=337,slow=22,SNR=7.3							
	0.6nm,0.6s							
ASAR	**Alice Springs**		**17.27**	**167**	P	Pn	22 34 19.3	+0.3
	0.3nm,0.3s,baz=346,slow=11,SNR=18							
ASAR					S	Sn	22 37 21.4	-10
	0.2nm,0.5s,baz=352,slow=26,SNR=2.2							
	1.4nm,0.7s							
MKAR	**Makanchi Array**		**67.90**	**327**	P	P	22 41 12.0	0.0
	0.2nm,0.5s,baz=119,slow=5.1,SNR=5.3							
	0.2nm,0.5s							

*ROM **23** 22:44:25.5±0.1, 37.730N±0.005×15.039E±0.008, h4km, ML2.6/26, Error ellipse: s-maj=0.6km s-min=0.5km az=303.0*
*IDC **23** 22:44:31.6±1.8, 37.92N×14.57E, h0km, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=24.2km s-min=10.9km az=108.0*
ISC 23 22:44:24.7±0.8, 37.75N±0.02×14.97E±0.03, h11km±5km, n46, σ1§62/52, 3C-1D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.06**	**175**	⇑*i*P	**Pg**	**22 44 27.0**	**0.0**
ESLN				S	**Sg**	**22 44 28.6**	**-0.2**
ESLN				AML	AML		
	comp=E,32050μm,0.4s						
ESLN				AML	AML		
	comp=N,21350μm,1.6s						
ESLN				AML	AML		
	comp=E,32029μm,0.4s						
ESLN				AML	AML		
	comp=E,32029μm,1.6s						
ESLN				AML	AML		
	comp=N,14600μm,0.3s						
EMCN	**Etna Monte Con**	**0.07**	**51**	⇑*i*P	**Pg**	**22 44 26.5**	**-0.7**
EMCN				S	**Sg**	**22 44 27.7**	**-1.4**
EMCN				AML	AML		
EMCN				AML	AML		
EMSG	**Monte Spagnolo**	**0.07**	**348**	⇓*i*P	**Pg**	**22 44 27.6**	**+0.4**
EMSG				S	**Sg**	**22 44 30.1**	**+1.0**
EMSG				AML	AML		
	comp=E,39100μm,1.4s						
EMSG				AML	AML		
	comp=N,50250μm,0.6s						
EMSG				AML	AML		
	comp=N,47374μm,0.3s						
EMSG				AML	AML		
	comp=E,38157μm,0.4s						
ECHR	**Santa Chiara**	**0.08**	**215**	P	**Pg**	**22 44 28.0**	**+0.8**
ECHR				S	**Sg**	**22 44 30.7**	**+1.7**
EPIT	**Pozzo Pitarron**	**0.09**	**49**	⇑*i*P	**Pg**	**22 44 27.3**	**-0.1**
EPIT				S	**Sg**	**22 44 29.6**	**+0.1**
EPZF	**Pizzo Felice**	**0.12**	**310**	P	**Pg**	**22 44 28.8**	**+1.1**
EPZF				S	**Sg**	**22 44 32.8**	**+3.0**
ENIC	**Nicolosi**	**0.12**	**160**	P	**Pg**	**22 44 28.4**	**+0.7**
ENIC				AML	AML		
	comp=E,3000μm,1.1s						
ENIC				AML	AML		
	comp=N,3315μm,0.2s						
ENIC				AML	AML		
	comp=N,3317μm,0.2s						
ENIC				AML	AML		
	comp=E,2875μm,0.2s						
ENIC				AML	AML		
	comp=N,3317μm,1.8s						
EVRN	**Santa Venerina**	**0.15**	**115**	P	**Pg**	**22 44 28.3**	**+0.3**
ESML	**S. M. di Licod**	**0.15**	**209**	P	**Pb**	**22 44 29.9**	**+0.4**
ESML				AML	AML		
	comp=E,10850μm,0.8s						
ESML				AML	AML		
	comp=N,5045μm,0.9s						
ESML				AML	AML		
	comp=E,10867μm,0.8s						
ESML				AML	AML		
	comp=N,5044μm,0.9s						
ESML				AML	AML		
	comp=E,10867μm,1.2s						
ECTS	**Castiglione**	**0.18**	**42**	P	**Pg**	**22 44 29.3**	**+0.7**
ECTS				S	**Sg**	**22 44 32.6**	**+1.2**
ECTS				AML	AML		
	comp=N,9760μm,0.9s						
ECTS				AML	AML		
	comp=E,8910μm,1.1s						
ECTS				AML	AML		
	comp=N,9780μm,0.9s						
ECTS				AML	AML		
	comp=E,8109μm,0.4s						
ECTS				AML	AML		
	comp=N,8620μm,0.2s						
MNO	**Monte Soro**	**0.28**	**310**	P	**Pb**	**22 44 33.0**	**+1.1**
MNO				AML	AML		
	comp=E,3135μm,0.8s						
MNO				AML	AML		
	comp=E,2860μm,0.8s						
MNO				AML	AML		
	comp=N,4185μm,0.7s						
MNO				AML	AML		
	comp=E,2859μm,0.8s						
MNO				AML	AML		
	comp=N,3604μm,0.6s						
MUCR	**Ucria**	**0.30**	**346**	P	**Pb**	**22 44 32.6**	**+0.4**
MUCR				AML	AML		
	comp=E,1525μm,0.9s						
MUCR				AML	AML		
	comp=N,2055μm,0.5s						
MUCR				AML	AML		
	comp=N,2054μm,0.5s						
MUCR				AML	AML		
	comp=E,1358μm,0.6s						
MUCR				AML	AML		
	comp=N,2054μm,1.5s						
AIO	**Antillo**	**0.30**	**43**	P	**Pg**	**22 44 32.2**	**+1.3**
AIO				AML	AML		
	comp=E,3150μm,1.1s						
AIO				AML	AML		
	comp=N,3855μm,0.5s						
AIO				AML	AML		
	comp=E,3048μm,0.7s						
AIO				AML	AML		
	comp=N,3859μm,0.6s						
AIO				AML	AML		
	comp=E,3048μm,1.3s						
NOV	**Novara**	**0.31**	**26**	P	**Pb**	**22 44 33.2**	**+0.9**
GALF	**Gagliano Caste**	**0.32**	**263**	P	**Pn**	**22 44 34.0**	**-1.3**
GALF				AML	AML		
	comp=E,549μm,0.8s						
GALF				AML	AML		
	comp=N,598μm,0.6s						
GALF				AML	AML		
	comp=E,5185μm,0.5s						
GALF				AML	AML		
	comp=N,4635μm,0.6s						
GALF				AML	AML		
	comp=E,549μm,0.8s						
GALF				AML	AML		
	comp=N,598μm,0.6s						
GALF				AML	AML		
	comp=N,4631μm,0.6s						
GALF				AML	AML		
	comp=E,5183μm,0.5s						
CAGR	**Agira**	**0.39**	**251**	P	**Pn**	**22 44 36.7**	**+0.4**
HLNI	**Lentini**	**0.41**	**191**	P	**Pg**	**22 44 33.8**	**+1.1**
HLNI				AML	AML		
	comp=E,201μm,1.6s						
HLNI				AML	AML		
	comp=N,209μm,1.4s						
HLNI				AML	AML		
	comp=N,171μm,0.5s						
HLNI				AML	AML		
	comp=E,183μm,0.3s						
MSFR	**San Fratello**	**0.41**	**314**	P	**Pn**	**22 44 35.6**	**-1.1**
MSFR				AML	AML		
	comp=E,505μm,1.4s						
MSFR				AML	AML		
	comp=N,449μm,1.3s						
MSFR				AML	AML		
	comp=E,504μm,1.2s						
MSFR				AML	AML		
	comp=N,449μm,1.3s						
MSFR				AML	AML		
	comp=E,504μm,0.8s						
MSFR				AML	AML		
	comp=N,449μm,0.7s						
HAGA	**Augusta**	**0.49**	**162**	P	**Pg**	**22 44 34.5**	**+0.3**
HAGA				AML	AML		
	comp=E,353μm,0.6s						
HAGA				AML	AML		
	comp=N,314μm,0.7s						
MPNC	**Port Mandanici**	**0.50**	**37**	P	**Pb**	**22 44 35.9**	**+0.5**
VAE	**Valguarnera**	**0.52**	**239**	Pg	**Pn**	**22 44 40.6**	**+2.6**
	comp=N,4.8nm,0.3s,baz=16,slow=12,SNR=15							
VAE				Lg	Lg	22 44 47.8		
	comp=N,14nm,0.3s,baz=87,slow=1.1,SNR=12							
AGST	**Augusta-Monte**	**0.53**	**157**	P	**Pg**	**22 44 35.6**	**+0.5**
AGST				S	**Sg**	**22 44 44.2**	**+2.1**
SSY	**Sortino**	**0.60**	**172**	P	**Pg**	**22 44 37.2**	**+0.8**
HVZN	**Vizzini**	**0.60**	**200**	P	**Pb**	**22 44 38.2**	**+0.9**
MTTG	**Motta San Giov**	**0.63**	**66**	P	**Pg**	**22 44 38.3**	**+1.5**
VPL	**Vulcano Piano**	**0.63**	**1**	P	**Pn**	**22 44 39.4**	**-0.2**
MSRU	**Castanea**	**0.67**	**40**	P	**Pb**	**22 44 38.8**	**+0.4**
PLLN	**Pollina**	**0.70**	**291**	P	**Pn**	**22 44 41.0**	**+0.5**
RAFF	**Raffo Rosso**	**0.71**	**223**	P	**Pn**	**22 44 40.2**	**-0.5**
RAFF				AML	AML		
	comp=E,422μm,0.5s						
RAFF				AML	AML		
	comp=N,368μm,0.3s						
RAFF				AML	AML		
	comp=N,368μm,0.3s						
RAFF				AML	AML		
	comp=E,422μm,0.5s						
CPTP	**Pietraperzia**	**0.72**	**242**	P	**Pn**	**22 44 43.0**	**+2.0**
RESU	**Resuttano**	**0.73**	**262**	P	**Pn**	**22 44 42.5**	**+1.5**
CSLB	**Castelbuono**	**0.74**	**285**	P	**Pn**	**22 44 41.5**	**+0.3**
SICLA	**Scilla**	**0.78**	**49**	P	**Pg**	**22 44 40.5**	**+0.8**
GIB	**Gibilmanna**	**0.78**	**288**	P	**Pn**	**22 44 43.0**	**+1.3**
ACATE	**Acate (RG)**	**0.81**	**207**	P	**Pn**	**22 44 42.8**	**+0.7**
CEL	**Celeste**	**0.89**	**55**	P	**Pg**	**22 44 42.5**	**+0.6**
CEL				AML	AML		
	comp=E,319μm,0.9s						
CEL				AML	AML		
	comp=N,502μm,1.2s						
CEL				AML	AML		
	comp=E,318μm,0.9s						
CEL				AML	AML		
	comp=N,468μm,1.1s						
CEL				AML	AML		
	comp=N,502μm,1.2s						
CEL				AML	AML		
	comp=E,318μm,0.9s						
CEL				AML	AML		
	comp=N,468μm,1.1s						
CEL				AML	AML		
	comp=N,502μm,0.8s						
CEL				AML	AML		
	comp=N,468μm,0.9s						
CEL				AML	AML		
	comp=E,319μm,0.9s						
SOI	**Samo**	**0.92**	**69**	P	**Pb**	**22 44 43.1**	**+0.5**
IACL	**Alicudi**	**0.92**	**329**	P	**Pn**	**22 44 44.5**	**+0.9**
ISPIC	**ISPICA**	**0.97**	**183**	P	**Pb**	**22 44 43.6**	**+0.2**
CROCE	**Santa Croce Ca**	**0.98**	**201**	P	**Pn**	**22 44 44.6**	**+0.3**
CLTA	**Licata**	**0.99**	**234**	P	**Pn**	**22 44 46.7**	**+2.1**
HPAC	**Pachino**	**1.06**	**174**	P	**Pb**	**22 44 45.0**	**0.0**
PLAC	**Placanica**	**1.35**	**58**	P	**Pg**	**22 44 51.4**	**+0.8**
KEST	**Kesra**	**4.94**	**248**	Pn	Pn	22 45 43.5	+4.5
	comp=E,0.2nm,0.3s,baz=54,slow=4.1,SNR=6.5							
KEST				Sn	**Sb**	**22 46 42.7**	**-8.1**
	comp=E,0.1nm,0.3s,baz=291,slow=15,SNR=1.5							
KEST				Lg	Lg	22 47 02.7		
	baz=126,slow=23							
	comp=E,2.1nm,0.8s							
GERES	**GERESS Array B**		**11.13**	**356**	Pn	Pn	22 47 09.9	+6.1
	baz=196,slow=17,SNR=1.5							
	comp=E,0.1nm,0.3s							
BRTR	**Keskin Array B**		**14.71**	**77**	Pn	P	22 48 07.6	+8.6
	baz=236,slow=12,SNR=2.9							
	comp=E,0.3nm,0.5s							

*NNC **23** 22:57:18.1±0.3, 43.23N×78.58E, h2km±3km, mpv3.0, Error ellipse: s-maj=3.8km s-min=2.1km az=176.0*
*KRNET **23** 22:57:18.4±0.1, 43.22N×78.55E, h19km, mb2.6*
*SOME **23** 22:57:18.8, 43.22N×78.53E, h15km*
ISC 23 22:57:18.7±1.0, 43.24N±0.02×78.51E±0.02, h6km±8km, n42, σ1§25/81, 9C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.19**	**204**	P	**Pg**	**22 57 22.9**	**+0.4**
	52nm,0.1s						
SATY				S	**Sg**	**22 57 25.9**	**+0.8**
	763nm,0.1s						
SATY	**Saty**	**0.19**	**204**	*e*P	**Pg**	**22 57 23.0**	**+0.4**
SATY				*e*S	**Sg**	**22 57 26.0**	**+0.8**
KPKS	**Kokpek**	**0.26**	**28**	P	**Pg**	**22 57 24.0**	**+0.1**
	10nm,0.1s						

KPKS				S		Sg	22 57 27.6	+0.3	
	10nm,0.1s								
KPKS	**Kokpek**	**0.26**	**28**	*eP*		**Pg**	**22 57 24.0**	**+0.1**	
KPKS				*eS*		**Sg**	**22 57 27.7**	**+0.3**	
KURS	**Kuram**	**0.35**	**316**	P		**Pg**	**22 57 26.2**	**+0.6**	
	2.5nm,0.1s								
KURS				S		**Sg**	**22 57 31.5**	**+1.2**	
	4.5nm,0.1s								
KURS	**Kuram**	**0.35**	**316**	*eP*		**Pg**	**22 57 26.2**	**+0.6**	
KURS				*eS*		**Sg**	**22 57 31.5**	**+1.2**	
UZB	**Uzynbulak**	**0.38**	**103**	P		**Pg**	**22 57 25.7**	**-0.5**	
	14nm,0.1s								
UZB				S		**Sg**	**22 57 30.4**	**-0.8**	
	32nm,0.1s								
UZB	**Uzynbulak**	**0.38**	**103**	*eP*		**Pg**	**22 57 25.7**	**-0.5**	
UZB				*eS*		**Sg**	**22 57 30.5**	**-0.8**	
UZB	**Uzynbulak**	**0.38**	**103**	*eP*		**Pg**	**22 57 25.7**	**-0.5**	
	6.8nm,0.2s								
UZB				*eS*		**Sg**	**22 57 30.4**	**-0.8**	
	30nm,0.1s								
SHLS	**Shalkode**	**0.70**	**96**	P		**Pn**	**22 57 36.8**	**+1.6**	
	2.9nm,0.1s								
SHLS				S		**Sn**	**22 57 49.6**	**+3.2**	
	5.0nm,0.1s								
SHLS	**Shalkode**	**0.70**	**96**	*eP*		**Pn**	**22 57 37.2**	**+2.0**	
SHLS				*eS*		**Sn**	**22 57 50.1**	**+3.7**	
SHLS	**Shalkode**	**0.70**	**96**	*eP*		**Pn**	**22 57 37.1**	**+2.0**	
	2.9nm,0.1s								
SHLS				*eS*		**Sn**	**22 57 50.0**	**+3.7**	
	5.3nm,0.1s								
PDGK	**Podgornoye**	**0.72**	**82**	⇑P		**Pg**	**22 57 31.4**	**-1.1**	
	0.9nm,0.3s								
PDGK				⇓S		**Sg**	**22 57 40.6**	**-1.3**	
	5.6nm,0.3s								
PRZ	**Przheval'sk**	**0.76**	**186**	⇑*eP*		**Pg**	**22 57 32.2**	**-1.0**	
PRZ				⇑*eS*		**Sg**	**22 57 42.4**	**-0.6**	
KOTS	**Kotyrbulak**	**1.02**	**270**	P		**Pb**	**22 57 38.5**	**-0.3**	
	2.8nm,0.1s								
KOTS				S		**Sg**	**22 57 52.5**	**+0.9**	
	17nm,0.2s								
KOTS	**Kotyrbulak**	**1.02**	**270**	*eP*		**Pb**	**22 57 38.5**	**-0.3**	
KOTS				*eS*		**Sg**	**22 57 52.5**	**+0.9**	
KOTS	**Kotyrbulak**	**1.02**	**270**	*eP*		**Pb**	**22 57 38.5**	**-0.3**	
	2.8nm,0.1s								
KOTS				*eS*		**Sg**	**22 57 52.5**	**+0.9**	
	17nm,0.2s								
MDOK	**Medeo**	**1.07**	**267**	Pg		**Pb**	**22 57 39.1**	**-0.6**	
	0.7nm,0.1s								
MDOK				Lg		Lg	22 57 53.4		
	3.3nm,0.2s								
MDOK	**Medeo**	**1.07**	**267**	*eP*		**Pb**	**22 57 39.1**	**-0.6**	
MDOK				*eS*		**Sb**	**22 57 53.4**	**-0.6**	
ARXS	**Arharly**	**1.10**	**333**	P		**Pb**	**22 57 39.5**	**-0.6**	
	0.8nm,0.1s								
ARXS				S		**Sb**	**22 57 54.3**	**-0.4**	
	4.3nm,0.1s								
ARXS	**Arharly**	**1.10**	**333**	*eP*		**Pb**	**22 57 39.5**	**-0.6**	
ARXS				*eS*		**Sb**	**22 57 54.3**	**-0.4**	
TNSS	**Tian-Shan**	**1.16**	**261**	P		**Pn**	**22 57 40.8**	**-1.0**	
	0.3nm,0.1s								
TNSS				S		**Sg**	**22 57 56.5**	**+0.5**	
	2.1nm,0.2s								
TNSS	**Tian-Shan**	**1.16**	**261**	*eP*		**Pn**	**22 57 40.8**	**-1.0**	
TNSS				*eS*		**Sg**	**22 57 56.6**	**+0.5**	
TNSS	**Tian-Shan**	**1.16**	**261**	*eP*		**Pn**	**22 57 40.8**	**-1.0**	
	0.3nm,0.1s								
TNSS				*eS*		**Sg**	**22 57 56.5**	**+0.5**	
	2.1nm,0.2s								
KNOS	**Konyrlen**	**1.22**	**23**	P		**Pn**	**22 57 41.3**	**-1.1**	
	1.6nm,0.1s								
KNOS				S		**Sb**	**22 57 57.2**	**-1.1**	
	1.2nm,0.1s								
CHKK	**Chushkaly**	**1.27**	**300**	P		**Pb**	**22 57 42.5**	**-0.5**	
	6.6nm,0.1s								
CHKK				S		**Sn**	**22 57 59.4**	**-0.8**	
	6.1nm,0.1s								
CHKK	**Chushkaly**	**1.27**	**300**	*eP*		**Pb**	**22 57 42.5**	**-0.5**	
CHKK				*eS*		**Sn**	**22 57 59.5**	**-0.8**	
CHKK	**Chushkaly**	**1.27**	**300**	*eP*		**Pb**	**22 57 42.5**	**-0.5**	
	6.6nm,0.1s								
CHKK				*eS*		**Sn**	**22 57 59.5**	**-0.8**	
	6.1nm,0.1s								
KTBS	**Karatobe**	**1.42**	**290**	P		**Pb**	**22 57 45.2**	**-0.3**	
	1.6nm,0.1s								
KTBS				S		**Sb**	**22 58 04.0**	**+0.2**	
	4.3nm,0.2s								
KTBS	**Karatobe**	**1.42**	**290**	*eP*		**Pb**	**22 57 45.2**	**-0.3**	
KTBS				*eS*		**Sb**	**22 58 04.0**	**+0.2**	
KDJ	**Kajisay**	**1.48**	**222**	⇓*eP*		**Pb**	**22 57 45.4**	**-1.2**	
KDJ				⇓*eS*		**Sb**	**22 58 05.1**	**-0.6**	
MTBS	**Maitube**	**1.53**	**267**	P		**Pg**	**22 57 48.2**	**+0.3**	
	1.9nm,0.1s								
MTBS				S		**Sg**	**22 58 09.3**	**+1.6**	
	4.1nm,0.1s								
MTBS	**Maitube**	**1.53**	**267**	*eP*		**Pg**	**22 57 48.2**	**+0.3**	
	0.9nm,0.1s								
MTBS				*eS*		**Sg**	**22 58 09.3**	**+1.6**	
	4.1nm,0.1s								
KST	**Kastek**	**1.88**	**265**	P		**Pg**	**22 57 54.4**	**-0.2**	
	1.1nm,0.1s								
KST				S		**Sg**	**22 58 19.7**	**+0.8**	
	2.4nm,0.1s								
KST	**Kastek**	**1.88**	**265**	*eP*		**Pb**	**22 57 53.8**	**+0.4**	
KST				*eS*		**Sg**	**22 58 18.7**	**-0.2**	
	2.4nm,0.1s								
ULHL	**Ulahol**	**1.94**	**240**	⇑*eP*		**Pb**	**22 57 53.7**	**-0.9**	
ULHL				⇑*eS*		**Sb**	**22 58 19.5**	**+0.4**	
BOOM	**Boomskoye usch**	**2.03**	**249**	⇑*eP*		**Pb**	**22 57 55.1**	**-1.0**	
BOOM				⇑*eS*		**Sb**	**22 58 21.9**	**+0.2**	
KRBS	**Karabastau**	**2.12**	**284**	Pg		**Pb**	**22 57 57.8**	**+0.4**	
	0.8nm,0.1s								
KRBS				Lg		Lg	22 58 25.7		
	7.3nm,0.2s								
KAPS	**Kapalarasan**	**2.14**	**16**	Pg		**Pg**	**22 57 58.4**	**-1.2**	
	1.0nm,0.1s								
KAPS				Lg		Lg	22 58 26.6		
	12nm,0.1s								
TKM2	**Tokmak 2**	**2.16**	**263**	⇓*eP*		**Pb**	**22 57 56.9**	**-1.4**	
TKM2				⇓*eS*		**Sb**	**22 58 25.0**	**-0.4**	
KBK	**Karagaybulak**	**2.68**	**259**	⇑*eP*		**Pb**	**22 58 04.1**	**-3.0**	
KBK				⇑*eS*		**Sb**	**22 58 37.5**	**-2.8**	
CHMS	**Chumysh**	**2.76**	**266**	⇓*eP*		**Pn**	**22 58 05.2**	**+1.7**	
CHMS				⇓*eS*		**Sb**	**22 58 39.2**	**-3.4**	

*ISK **23** 23:05:30.5,38°.83N×25°.90E,h10km,ML2.8/28*
*ATH **23** 23:05:30.8,38°.82N×25°.95E,h16km±1km,ML2.4/11, Manual Solution by G.Panopoulou First location: 2019/09/23 23:06:42, This location: 2019/09/24 02:33:00 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*AFAD **23** 23:05:31.7,38°.85N×25°.98E,h7km±3km,ML2.9*
ISC 23 23:05:30.9±0.9,38°.82N±0°.02×25°.91E±0°.02,h16km±8km, n90,σ0°57/106,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.39**	**354**	Pg	**Pg**	**23 05 38.8**	**0.0**
SIGR				Sg	**Sg**	**23 05 44.5**	**+0.2**
SIGR	**SIGRI**	**0.39**	**354**	P	**Pg**	**23 05 38.8**	**0.0**
SIGR				S	**Sg**	**23 05 44.5**	**+0.2**
KARB	**zmir-Karabur**	**0.42**	**112**	P	**Pb**	**23 05 39.6**	**-0.4**
KARB				S	**Sb**	**23 05 45.4**	**-0.8**
CHOS	**Chios island**	**0.45**	**165**	Pg	**Pg**	**23 05 39.9**	**-0.1**
CHOS				Sg	**Sg**	**23 05 46.7**	**+0.6**
CHOS	**Chios island**	**0.45**	**165**	P	**Pg**	**23 05 40.0**	**-0.1**
CHOS				S	**Sg**	**23 05 46.4**	**+0.2**
CESE	**eme**	**0.58**	**148**	Pg	**Pg**	**23 05 42.8**	**+0.1**
GPNR	**Gulpinar-Canak**	**0.66**	**15**	Pg	**Pg**	**23 05 43.6**	**-0.2**
KOCA	**Canakkale, Ayv**	**0.70**	**15**	P	**Pb**	**23 05 44.5**	**-0.2**
URLA	**Izmir**	**0.71**	**130**	Pg	**Pb**	**23 05 44.8**	**-0.1**
URLA	**Izmir**	**0.71**	**130**	P	**Pb**	**23 05 44.8**	**-0.1**
URLA				S	**Sb**	**23 05 54.8**	**+0.4**
URLA				*i* IAML		23 05 57.0	
	comp=E,536nm,0.4s						
URLA				*i* IAML		23 05 58.0	
	comp=N,467nm,0.2s						
ZEYE	**Izmir, Urla-Ze**	**0.75**	**141**	P	**Pb**	**23 05 45.8**	**+0.3**
ZEYE				S	**Sg**	**23 05 54.8**	**-0.5**
ZEYE				*i* IAML		23 05 58.0	
	comp=E,599nm,0.4s						
ZEYE				*i* IAML		23 05 58.0	
	comp=N,568nm,0.4s						
AYVA	**Ayvalik**	**0.78**	**51**	P	**Pb**	**23 05 46.4**	**+0.3**
AYVA				S	**Sg**	**23 05 55.2**	**-1.1**
AYVA				*i* IAML		23 05 59.0	
	comp=N,743nm,0.3s						
AYVA				*i* IAML		23 05 59.0	
	comp=E,551nm,0.8s						
ZEDA	**zmir-Bergama**	**0.92**	**81**	P	**Pn**	**23 05 49.0**	**-0.1**
ZEDA				S	**Sb**	**23 06 00.3**	**-0.3**
BLCB	**Balcova**	**0.99**	**116**	Pg	**Pb**	**23 05 49.9**	**+0.2**
EZNE	**Ezine-Canakkal**	**1.00**	**21**	Pg	**Pb**	**23 05 50.1**	**+0.3**
EFSA	**Agios Efstrati**	**1.01**	**315**	P	**Pg**	**23 05 50.2**	**-0.2**
EFSA				S	**Sg**	**23 06 03.9**	**+0.2**
BOZC	**Bozcaada**	**1.02**	**6**	Pg	**Pg**	**23 05 50.1**	**-0.6**
BOZC	**Bozcaada**	**1.02**	**6**	P	**Pg**	**23 05 50.2**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**1.04**	**28**	P	**Pn**	**23 05 51.0**	**+0.1**
EZN	**Ezine**	**1.05**	**18**	Pg	**Pb**	**23 05 50.8**	**+0.1**
SKY1	**Skyros Island**	**1.05**	**275**	P	**Pg**	**23 05 51.5**	**+0.2**
DGB	**zmir**	**1.09**	**135**	P	**Pn**	**23 05 51.7**	**+0.3**
GMLD	**Gumuldur**	**1.09**	**133**	Pg	**Pn**	**23 05 51.7**	**+0.3**
BUHA	**Balikesir, Bur**	**1.13**	**53**	P	**Pn**	**23 05 52.6**	**+0.5**
YAYO	**Edremit-Balk**	**1.20**	**49**	Pn	**Pg**	**23 05 53.7**	**-0.3**
KRL1	**Karlovasi Samo**	**1.20**	**148**	P	**Pb**	**23 05 52.6**	**-0.6**
KRL1				S	**Sb**	**23 06 08.2**	**-0.4**
LIA	**Limnos Island**	**1.21**	**333**	P	**Pn**	**23 05 53.4**	**+0.3**
LIA				S	**Sb**	**23 06 09.2**	**+0.4**
ECEA	**Canakkale, Ece**	**1.24**	**10**	P	**Pg**	**23 05 54.3**	**-0.4**
LMN1	**MIRINA LIMNOU**	**1.24**	**328**	P	**Pn**	**23 05 54.5**	**+0.6**
CNKL	**anakkale-Mer**	**1.29**	**17**	P	**Pb**	**23 05 55.1**	**+0.3**
SOMA	**Soma-Manisa**	**1.31**	**75**	Pn	**Pg**	**23 05 55.5**	**-0.6**
SMG	**Samos**	**1.33**	**146**	P	**Pn**	**23 05 54.8**	**0.0**
SMG				S	**Sb**	**23 06 11.4**	**-0.9**
GOAD	**anakkale-G¶**	**1.34**	**0**	P	**Pn**	**23 05 55.3**	**+0.4**
COMU	**Canakkale**	**1.35**	**19**	Pn	**Pb**	**23 05 55.7**	**-0.1**
GADA	**Gvkgeada**	**1.36**	**360**	Pn	**Pn**	**23 05 55.5**	**+0.2**
KARY	**Karystos**	**1.40**	**236**	P	**Pn**	**23 05 55.1**	**-0.6**
TNSA	**Tinos**	**1.41**	**205**	P	**Pn**	**23 05 55.0**	**-0.8**
KYMI	**Kymi, Euboea I**	**1.43**	**263**	P	**Pn**	**23 05 56.2**	**+0.1**
CANM	**Can-anakkale**	**1.48**	**36**	Pn	**Pb**	**23 05 58.3**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.51**	**68**	P	**Pb**	**23 05 58.1**	**-0.5**
YENI	**Yenice-Canakka**	**1.52**	**43**	Pn	**Pb**	**23 05 58.2**	**-0.5**
GCAM	**G?zelcaml?**	**1.53**	**137**	Pn	**Pb**	**23 05 58.9**	**0.0**
GCAM	**G?zelcaml?**	**1.53**	**137**	P	**Pb**	**23 05 59.4**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.63**	**15**	Pn	**Pb**	**23 06 00.1**	**-0.5**
SMTH	**Samothraki Isl**	**1.67**	**350**	P	**Pn**	**23 05 59.6**	**+0.1**
SMTH				S	**Sn**	**23 06 20.8**	**+0.2**
DION	**Dionisos Attik**	**1.72**	**245**	P	**Pn**	**23 05 59.9**	**-0.2**
DDIM	**Aydin, Didim**	**1.72**	**142**	P	**Pg**	**23 06 05.6**	**+1.6**
IZMR	**zmir-demi**	**1.75**	**113**	P	**Pn**	**23 06 01.4**	**+0.9**
GORD	**Gordes-Manisa**	**1.77**	**87**	Pn	**Pn**	**23 06 01.7**	**+0.8**
APE	**Apeiranthos**	**1.78**	**190**	Pn	**Pn**	**23 06 00.6**	**-0.4**
APE	**Apeiranthos**	**1.78**	**190**	P	**Pn**	**23 06 00.1**	**-0.8**
APE				S	**Sn**	**23 06 23.5**	**+0.2**
PTL	**Penteli**	**1.78**	**245**	P	**Pn**	**23 06 01.4**	**+0.4**
ODEM	**Odemis-Izmir**	**1.79**	**107**	Pn	**Pn**	**23 06 02.1**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**1.79**	**119**	Pn	**Pn**	**23 06 02.0**	**+0.8**
ENZZ	**Sultanice-Enez**	**1.79**	**6**	Pn	**Pn**	**23 06 01.5**	**+0.4**
BKES	**Balkesir-Mer**	**1.81**	**59**	P	**Pn**	**23 06 02.4**	**+1.0**
GONE	**Gonen-Balikesi**	**1.84**	**48**	Pn	**Pb**	**23 06 03.2**	**-1.0**
ATHU	**Athens Univers**	**1.88**	**243**	P	**Pn**	**23 06 02.7**	**+0.4**
KRBG	**Karabiga-Canak**	**1.90**	**34**	Pn	**Pn**	**23 06 03.5**	**+0.9**
ERIK	**Erikli-Kesan**	**1.90**	**14**	Pn	**Pn**	**23 06 03.5**	**+0.8**
ATH	**Athens Observa**	**1.92**	**244**	P	**Pn**	**23 06 03.9**	**+1.0**
VLY	**Voula,Athens**	**1.92**	**240**	P	**Pn**	**23 06 02.7**	**-0.3**
AYDN	**Tasoluk**	**1.94**	**126**	P	**Pn**	**23 06 03.8**	**+0.6**
THAS	**Thassos island**	**2.00**	**333**	P	**Pn**	**23 06 04.0**	**0.0**
KLNA	**Kalymnos**	**2.04**	**155**	P	**Pn**	**23 06 03.9**	**-0.7**
PAIG	**Paliouri**	**2.05**	**303**	P	**Pn**	**23 06 04.9**	**+0.2**
KIRA	**zmir-Kiraz**	**2.05**	**107**	P	**Pn**	**23 06 05.9**	**+1.1**
ALN	**Alexandroupoli**	**2.07**	**3**	Pn	**Pn**	**23 06 05.2**	**+0.2**
ALN	**Alexandroupoli**	**2.07**	**3**	P	**Pn**	**23 06 05.4**	**+0.4**
ALN				S	**Sn**	**23 06 29.8**	**-0.7**
OUR	**Ouranopolis**	**2.12**	**316**	Pn	**Pn**	**23 06 06.5**	**+0.9**
OUR	**Ouranopolis**	**2.12**	**316**	P	**Pn**	**23 06 06.0**	**+0.4**
NEO	**Neokhori**	**2.15**	**284**	P	**Pn**	**23 06 06.1**	**+0.1**
VIL2	**Platees**	**2.16**	**254**	P	**Pn**	**23 06 06.9**	**+0.7**
ATAL	**Atalanti**	**2.26**	**268**	P	**Pn**	**23 06 07.9**	**+0.3**
MET4	**Agioi Theodoro**	**2.31**	**240**	P	**Pn**	**23 06 08.4**	**+0.2**
RDO	**Rodhopi**	**2.34**	**353**	Pn	**Pn**	**23 06 08.9**	**+0.3**
RDO	**Rodhopi**	**2.34**	**353**	P	**Pn**	**23 06 09.2**	**+0.6**
MET6	**Megalochori,Me**	**2.36**	**239**	P	**Pn**	**23 06 09.6**	**+0.7**
MET2	**Kameni Chora,**	**2.36**	**240**	P	**Pn**	**23 06 09.8**	**+0.8**
UKOP	**Uzunkopru-Edir**	**2.37**	**13**	Pn	**Pn**	**23 06 10.9**	**+1.8**
KAVA	**Kavala**	**2.42**	**334**	P	**Pn**	**23 06 10.0**	**+0.3**
MHLO	**Agia Marina, M**	**2.44**	**210**	P	**Pn**	**23 06 10.0**	**0.0**
SNT5	**Nea Kammeni, S**	**2.45**	**190**	P	**Pn**	**23 06 09.4**	**-0.8**
SRS	**Serrai**	**2.90**	**323**	P	**Pn**	**23 06 16.5**	**+0.1**
GUR	**Goura**	**2.94**	**254**	P	**Pn**	**23 06 17.4**	**+0.4**
KLV	**Kalavryta, Ach**	**3.05**	**256**	P	**Pn**	**23 06 18.4**	**-0.2**
ANX	**Ano Chora**	**3.13**	**267**	P	**Pn**	**23 06 20.4**	**+0.8**
VLI	**Veliai**	**3.16**	**229**	P	**Pn**	**23 06 19.6**	**-0.3**
KNT	**Kendrikon**	**3.29**	**316**	P	**Pn**	**23 06 22.7**	**+1.0**
KARP	**Karpathos**	**3.42**	**163**	P	**Pn**	**23 06 23.9**	**+0.3**

*KRSC **23** 23:20:33.0±1.3,52°.05N×159°.86E,h18km±22km,Ml4.6*
*NEIC **23** 23:20:35.8±2.1,52°.2N±0°.1×159°.8E±0°.1,h43km±8km, mb4.4/32, Error ellipse: s-maj=18.0km s-min=10.2km az=193.0*
*MOS **23** 23:20:35.0±1.1,52°.11N×159°.82E,h51km,mb4.6/20, Error ellipse: s-maj=9.5km s-min=4.5km az=107.0*
*IDC **23** 23:20:35.6±2.7,52°.27N×159°.51E,h33km±18km,mb3.9/24, mbtmp4.1/25,ML4.5/1,MS3.5/28, Error ellipse: s-maj=17.9km s-min=14.9km az=134.0*
ISC 23 23:20:35.3±0.6,52°.07N±0°.05×159°.85E±0°.05,h41km±5km, n215,σ1°.24/208,mb4.4/49,MS3.6/27,26C-5D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.90**	**294**	PN	**Pn**	**23 20 49.9**	**-1.5**
RUS	**Russkaya**	**0.90**	**294**	*eP*	**Pn**	**23 20 50.0**	**-1.5**
SPN	**Mys Shipunski**	**1.03**	**6**	PN	**Pn**	**23 20 53.2**	**-0.1**
SPN				S	**Sn**	**23 21 06.9**	**+0.4**
SPN	**Mys Shipunski**	**1.03**	**6**	*eP*	**Pn**	**23 20 53.3**	**-0.1**
SPN				*eS*	**Sn**	**23 21 07.0**	**+0.4**
MTVR	**Mutnovka**	**1.10**	**293**	PN	**Pn**	**23 20 53.5**	**-0.9**
MTVR	**Mutnovka**	**1.10**	**293**	*eP*	**Pn**	**23 20 53.5**	**-0.9**
NLC	**Nalytchevo**	**1.14**	**345**	PN	**Pn**	**23 20 53.9**	**-0.9**
NLC	**Nalytchevo**	**1.14**	**345**	*eP*	**Pn**	**23 20 53.9**	**-0.9**
DALK	**Dalny**	**1.17**	**326**	PN	**Pn**	**23 20 54.4**	**-0.8**
DALK	**Dalny**	**1.17**	**326**	*eP*	**Pn**	**23 20 54.4**	**-0.8**
GRL	**Gorelyy**	**1.19**	**294**	PN	**Pn**	**23 20 55.4**	**-0.2**
GRL	**Gorelyy**	**1.19**	**294**	*eP*	**Pn**	**23 20 55.4**	**-0.2**
PET	**Petropavlovsk**	**1.20**	**323**		**Pn**	**23 20 54.3**	**-1.4**
PET	**Petropavlovsk**	**1.20**	**323**	PN	**Pn**	**23 20 54.8**	**-0.8**
PET				S	**Sn**	**23 21 09.8**	**-0.9**
PET	**Petropavlovsk**	**1.20**	**323**	*eP*	**Pn**	**23 20 54.9**	**-0.8**
PET				*eS*	**Sn**	**23 21 09.8**	**-0.9**
PET	**Petropavlovsk**	**1.20**	**323**	P	**Pn**	**23 20 54.8**	**-0.8**
ASAK	**Asacha**	**1.24**	**285**	PN	**Pn**	**23 20 55.9**	**-0.3**
ASAK				S	**Sn**	**23 21 12.1**	**+0.4**
ASAK	**Asacha**	**1.24**	**285**	*eP*	**Pn**	**23 20 56.0**	**-0.3**
ASAK				*eS*	**Sn**	**23 21 12.2**	**+0.4**
INSR	**Institute**	**1.25**	**323**	PN	**Pn**	**23 20 55.9**	**-0.4**
INSR	**Institute**	**1.25**	**323**	*eP*	**Pn**	**23 20 55.9**	**-0.4**
KRMR	**Karymshinskiy**	**1.30**	**306**	PN	**Pn**	**23 20 56.3**	**-0.6**
KRMR				S	**Sn**	**23 21 12.6**	**-0.4**
KRMR	**Karymshinskiy**	**1.30**	**306**	*eP*	**Pn**	**23 20 56.3**	**-0.6**
KRMR				*eS*	**Sn**	**23 21 12.7**	**-0.4**
UGLR	**Uglovaya**	**1.30**	**332**	PN	**Pn**	**23 20 56.8**	**-0.3**
UGLR	**Uglovaya**	**1.30**	**332**	*eP*	**Pn**	**23 20 56.8**	**-0.3**
SDLR	**Sedlovina**	**1.34**	**334**	PN	**Pn**	**23 20 57.1**	**-0.6**
SDLR				S	**Sn**	**23 21 16.0**	**+1.6**
SDLR	**Sedlovina**	**1.34**	**334**	*eP*	**Pn**	**23 20 57.1**	**-0.6**
SDLR				*eS*	**Sn**	**23 21 16.0**	**+1.6**
SMAR	**Somma**	**1.35**	**332**	PN	**Pn**	**23 20 57.3**	**-0.6**
SMAR	**Somma**	**1.35**	**332**	*eP*	**Pn**	**23 20 57.4**	**-0.6**
AVH	**Avacha**	**1.37**	**331**	PN	**Pn**	**23 20 57.9**	**-0.1**
AVH	**Avacha**	**1.37**	**331**	*eP*	**Pn**	**23 20 58.0**	**-0.1**
KOK	**Koryaka**	**1.43**	**329**	PN	**Pn**	**23 20 59.9**	**+1.1**
KOK				S	**Sn**	**23 21 19.5**	**+3.1**
KOK	**Koryaka**	**1.43**	**329**	*eP*	**Pn**	**23 20 59.9**	**+1.1**
KOK				*eS*	**Sn**	**23 21 19.6**	**+3.1**
KRX	**Arik**	**1.48**	**331**	PN	**Pn**	**23 21 00.3**	**+0.7**
KRX	**Arik**	**1.48**	**331**	*eP*	**Pn**	**23 21 00.3**	**+0.7**
PEA0B	**Petropavlovsk-**	**1.67**	**309**		**Pn**	**23 21 01.6**	**-0.5**
PEA0B	**Petropavlovsk-**	**1.67**	**309**	PN	**Pn**	**23 21 02.3**	**+0.2**
PETK	**Petropavlovsk-**	**1.67**	**309**		**Pn**	**23 21 01.0**	**-1.1**
PETK	**Petropavlovsk-**	**1.67**	**309**	Pg	**Pn**	**23 21 01.4**	**-0.8**
	97nm,0.3s,baz=108,slow=18,SNR=245						
PETK				Lg	Lg	23 21 24.3	
	74nm,0.3s,baz=25,slow=25,SNR=3.3						
PETK				LR	LR	23 21 53.5	
	comp=Z,1μm,18.6s,baz=61,slow=56						
APC	**Apacha**	**1.85**	**298**	PN	**Pn**	**23 21 08.1**	**+3.5**
APC	**Apacha**	**1.85**	**298**	*eP*	**Pn**	**23 21 08.1**	**+3.5**
MIPR	**Malaya Ipel'ka**	**1.91**	**277**	PN	**Pn**	**23 21 05.9**	**+0.5**
MIPR	**Malaya Ipel'ka**	**1.91**	**277**	*eP*	**Pn**	**23 21 05.9**	**+0.5**
KII	**Karymskiy**	**1.98**	**353**	PN	**Pn**	**23 21 08.5**	**+2.1**
KII	**Karymskiy**	**1.98**	**353**	*eP*	**Pn**	**23 21 08.6**	**+2.1**
PAU	**Pauzhetka**	**1.98**	**253**	PN	**Pn**	**23 21 07.4**	**+1.1**
PAU	**Pauzhetka**	**1.98**	**253**	*eP*	**Pn**	**23 21 07.4**	**+1.1**
GNL	**Ganaly**	**1.99**	**325**	PN	**Pn**	**23 21 07.9**	**+1.3**
GNL				S	**Sn**	**23 21 32.8**	**+2.4**
GNL	**Ganaly**	**1.99**	**325**	*eP*	**Pn**	**23 21 08.0**	**+1.3**
GNL				*eS*	**Sn**	**23 21 32.9**	**+2.4**
SKR	**Severo-Kuril's**	**2.72**	**241**	*ePN*	**Pn**	**23 21 16.7**	**+0.2**
SKR				*eS*	**Sn**	**23 21 48.4**	**+0.3**
SKR	**Severo-Kuril's**	**2.72**	**241**	*eP*	**Pn**	**23 21 17.3**	**+0.8**
MKZ	**Mys Kozlova**	**2.73**	**24**	PN	**Pn**	**23 21 16.7**	**+0.1**
MKZ	**Mys Kozlova**	**2.73**	**24**	*eP*	**Pn**	**23 21 16.8**	**+0.1**
TUMD	**Tumrok D**	**3.15**	**6**	PN	**Pn**	**23 21 24.8**	**+2.4**
TUMD	**Tumrok D**	**3.15**	**6**	*eP*	**Pn**	**23 21 24.8**	**+2.4**
ESSO	**Esso**	**3.92**	**350**	PN	Pn	23 21 36.6	+3.6
ESO	**Esso**	**3.92**	**350**	*eP*	Pn	23 21 36.6	+3.7
SHEM	**Shemya Is, Ala**	**8.74**	**80**	Pn	**Pn**	**23 22 38.1**	**-1.0**
SHEM	**Shemya Is, Ala**	**8.74**	**80**	Pn	**Pn**	**23 22 40.7**	**+1.7**
	5.5nm,0.3s,baz=286,slow=3.1,SNR=6.3						
SHEM				Sn	**Sn**	**23 24 12.6**	**-3.6**
	2.2nm,0.3s,baz=295,slow=20,SNR=7.0						
SHEM				LR	LR	23 26 06.8	
	comp=Z,132nm,21.6s,baz=37,slow=37						
	17nm,0.3s						
SMY	**Shemya**	**8.74**	**80**	Pn	**Pn**	**23 22 38.8**	**-0.2**
SMY	**Shemya**	**8.74**	**80**	PN	**Pn**	**23 22 38.8**	**-0.2**
MA2	**Magadan**	**9.08**	**329**	LR	LR	23 26 49.6	
	comp=Z,270nm,18.3s,baz=198,slow=42						
SEY	**Seymchan**	**11.60**	**343**	LR	LR	23 28 11.9	
	comp=Z,298nm,19.7s,baz=126,slow=40						
AMKA	**Amchitka**	**12.08**	**86**	Pn	**Pn**	**23 23 26.2**	**+1.5**
BILL	**Bilibino**	**16.32**	**9**	⇑*iP*	**P**	**23 24 25.5**	**+1.9**
BILL				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK	**Yakutsk**	**19.01**	**313**	LR	LR	23 32 20.1	
	comp=Z,59nm,18.4s,baz=338,slow=38		

ARCES ARCESS Array B 54.21 342 P **P** 23 29 55.3 -0.9
comp=Z,2.8nm,0.7s,baz=23,slow=9.4,SNR=5.2
ARCES LR LR 23 58 12.9
comp=Z,45nm,18.3s,baz=18,slow=42
comp=Z,2.8nm,0.7s
ARCES ARCESS Array B 54.21 342 *e*P **P** **23 29 57.6 +1.4**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
KIRV Kirov 56.13 324 LR LR 23 56 53.5
comp=Z,62nm,21.2s,baz=37,slow=39
CHTO Chiang Mai 57.55 259 P **P** **23 30 21.2 +0.5**
CHTO IAmb IAmb 23 30 22.4
comp=Z,3.1nm,0.8s
CHTO Chiang Mai 57.55 259 P **P** **23 30 21.3 +0.5**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
GMN Gold Mountain 57.61 70 P **P** **23 30 20.8 -0.5**
GMN IAmb IAmb 23 30 23.9
comp=Z,5.1nm,1.2s
CMAR Chiang Mai Arr 57.83 258 P **P** **23 30 24.0 +1.3**
comp=Z,1.6nm,0.3s,baz=21,slow=7.0,SNR=10
CMAR LR LR 23 59 12.9
comp=Z,23nm,18.1s,baz=85,slow=40
comp=Z,1.6nm,0.3s
CMAR Chiang Mai Arr 57.83 258 *e*P **P** **23 30 24.0 +1.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
PDAR Pinedale Array 58.16 60 P **P** **23 30 27.6 +2.6**
comp=Z,0.3nm,0.6s,baz=347,slow=6.2,SNR=2.3
comp=Z,0.3nm,0.6s
AB31 Akbulak array 58.34 311 **P** **23 30 24.4 -1.6**
AKTO Aktyubinsk 58.40 313 LR LR 23 58 08.8
comp=Z,88nm,19.1s,baz=204,slow=39
P18A Preston Nutter 59.96 63 P **P** **23 30 37.8 +0.2**
P18A IAmb IAmb 23 31 00.4
comp=Z,2.8nm,0.7s
FINES FINESS Array B 61.00 337 P **P** **23 30 43.1 -0.8**
comp=Z,4.1nm,1.0s,baz=46,slow=6.0,SNR=5.0
comp=Z,4.1nm,1.0s
HNR Honiara 61.26 180 LR LR 23 53 27.0
comp=Z,28nm,20.9s,baz=34,slow=32
OBN Obninsk 63.30 327 *e*P **P** **23 31 00.3 +0.9**
OBN *e* 23 31 37.5
OBN *e* 23 33 19.6
OBN *e*PPP PPP 23 34 48.0
OBN pmax pmax
comp=Z,3.0nm,1.0s
OBN MLR MLR
comp=Z,30nm,16.0s
NB2 NORSAR Subarra 64.48 344 P **P** **23 31 05.8 -1.4**
comp=Z,5.1nm,1.1s,baz=20,slow=6.9
NOA NORSAR Array B 64.48 344 P **P** **23 31 06.5 -0.8**
comp=Z,2.5nm,1.1s,baz=22,slow=6.7,SNR=4.1
NOA LR LR 00 02 51.6
comp=Z,13nm,20.4s,baz=215,slow=40
comp=Z,2.5nm,1.1s
NOA NORSAR Array B 64.48 344 *e*P **P** **23 31 06.8 -0.4**
NOA pmax pmax
comp=Z,2.0nm,1.1s
HFS Hagfors 64.88 342 P **P** **23 31 10.0 +0.3**
comp=Z,3.5nm,0.8s,baz=64,slow=6.7,SNR=5.9
HFS LR LR 00 06 10.1
comp=Z,33nm,18.4s,baz=18,slow=42
comp=Z,3.5nm,0.8s
MNK Minsk 66.52 332 *i* P **P** **23 31 20.6 +0.2**
MNK *i* 23 33 44.9
MNK *i* PPP PPP 23 35 21.1
MNK *i* S **S** **23 40 08.4 +0.6**
MNK *i* SS **SS** **23 44 28.4 +4.2**
MNK pmax pmax
comp=E,16nm,1.3s
MNK pmax pmax
comp=Z,10.0nm,0.9s
MNK pmax pmax
comp=N,9.0nm,1.0s
MNK MLR MLR
comp=Z,79nm,17.0s
AKASG Malin Array Be 69.41 329 P **P** **23 31 36.5 -2.1**
AKASG IAmb IAmb 23 31 39.4
comp=Z,4.6nm,1.1s
AKASG Malin Array Be 69.41 329 P **P** **23 31 37.6 -1.0**
comp=Z,4.7nm,0.8s,baz=33,slow=6.2,SNR=12
AKASG LR LR 00 06 47.1
comp=Z,33nm,18.6s,baz=19,slow=40
comp=Z,4.7nm,0.8s
AKASG Malin Array Be 69.41 329 *e*P **P** **23 31 38.0 -0.6**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 69.41 329 P **P** **23 31 37.7 -0.9**
AKBB Malin Array Si 69.41 329 P **P** **23 31 37.7 -0.9**
AKBB pmax pmax
comp=Z,8.0nm,1.0s
KIEV Kiev 69.42 329 P **P** **23 31 37.8 -0.9**
KIEV IAmb IAmb 23 31 38.5
comp=Z,6.8nm,1.0s
KIEV Kiev 69.42 329 P **P** **23 31 37.8 -0.9**
KIEV pmax pmax
comp=Z,7.0nm,1.0s
RNPP9 Sopachiv 69.81 331 P **P** **23 31 40.8 -0.3**
RNPP8 Varash 69.89 331 P **P** **23 31 41.4 -0.2**
KIV Kislovodsk 70.08 317 *e*P **P** **23 31 43.7 +0.7**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,36nm,17.0s
KIV Kislovodsk 70.08 317 P **P** **23 31 44.0 +1.0**
comp=Z,3.7nm,0.9s
KBZ Khabaz 70.17 317 P **P** **23 31 42.7 -0.7**
comp=Z,1.9nm,0.9s,baz=338,slow=6.8,SNR=2.4
comp=Z,1.9nm,0.9s
KBZ Khabaz 70.17 317⇑ *e*P **P** **23 31 43.2 -0.2**
KBZ pmax pmax
comp=Z,11nm,3.0s
LUBAR Lubar, Ukraine 70.56 329 P **P** **23 31 44.5 -1.2**
TXAR Lajitas Array 71.18 66 P **P** **23 31 51.5 +1.6**
comp=Z,0.5nm,0.7s,baz=299,slow=5.4,SNR=5.7
comp=Z,0.5nm,0.7s
SORM Soroca 71.93 328⇑P **P** **23 31 53.0 -1.0**
SORM Soroca 71.93 328⇑P **P** **23 31 53.0 -1.0**
EKA Eskdalemuir Ar 72.04 350 P **P** **23 31 55.1 +0.6**
comp=Z,1.9nm,0.8s,baz=21,slow=6.3,SNR=2.8
comp=Z,1.9nm,0.8s
KMPD K-Podol'skiy 72.16 330 P **P** **23 31 54.1 -1.2**
KMPD P **P** **23 31 54.3 -1.0**
GNI Garni 72.27 313 LR LR 00 08 14.7
comp=Z,57nm,19.1s,baz=353,slow=40
STNU Starunia 72.63 331 P **P** **23 31 57.8 -0.4**
KSV Kosov 72.81 330 P **P** **23 31 58.5 -0.8**
CLL Collm 73.25 339 *i* P **P** **23 32 02.7 +0.9**
CLL pmax pmax
comp=Z,13nm,1.5s
CLL Collm 73.25 339 *i* P **P** **23 32 02.7 +0.9**
comp=Z,13nm,1.5s
CLL *e*pP **pwP** **23 32 16.0 -0.6**
BURAR Bucovina Array 73.38 330 P **P** **23 32 01.8 -1.0**
BURAR IAmb IAmb 23 32 03.8
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 73.60 336 *e*P **P** **23 32 04.5 +0.6**
BERU Beregovo 73.60 332 P **P** **23 32 02.8 -1.1**
LANS Liptovska Anna 73.67 334 *e*P **P** **23 32 05.9 +1.5**
VRAC Vranov 74.27 336 LR LR 00 09 05.8
comp=Z,42nm,19.5s,baz=11,slow=39
VRAC Vranov 74.27 336 *e*P **P** **23 32 06.8 -1.0**
VRI Vrincioaia 74.45 328⇑P **P** **23 32 07.4 -1.6**
VRI Vrincioaia 74.45 328⇑P **P** **23 32 07.4 -1.6**
KRUC Moravsky 74.55 336 *e*P **P** **23 32 08.4 -1.0**
OZUR 74.55 329⇑P **P** **23 32 10.0 +0.4**
CFR Carcaliu 74.59 327⇑P **P** **23 32 08.0 -1.7**
CFR Carcaliu 74.59 327⇑P **P** **23 32 08.0 -1.7**
COVR Voineasa-Covas 74.64 328⇑P **P** **23 32 10.6 +0.5**
CJR Cluj-Napoca 74.69 330⇑P **P** **23 32 11.4 +1.0**
CJR Cluj-Napoca 74.69 330⇑P **P** **23 32 11.4 +1.0**
TPGR Topolog 74.78 326⇑P **P** **23 32 10.1 -0.7**
MLR Muntele Rosu 75.04 328 P **P** **23 32 13.1 +0.6**
MLR IAmb IAmb 23 32 14.3
comp=Z,4.4nm,0.8s
MLR Muntele Rosu 75.04 328 LR LR 00 09 58.9
comp=Z,55nm,19.6s,baz=9.0,slow=40
MLR Muntele Rosu 75.04 328⇑P **P** **23 32 13.5 +1.0**
MLR Muntele Rosu 75.04 328 P **P** **23 32 13.1 +0.6**
MLR pmax pmax
comp=Z,4.0nm,0.8s
MLR Muntele Rosu 75.04 328 P **P** **23 32 12.9 +0.4**
comp=Z,6.2nm,1.1s
HARR Harsova 75.09 327⇑P P 23 32 02.2 -10
HARR Harsova 75.09 327⇑P P 23 32 02.2 -10

WRA Warramunga Arr 75.09 205 P **P** **23 32 13.7 +0.9**
comp=Z,1.5nm,0.9s,baz=13,slow=5.7,SNR=5.4
comp=Z,1.5nm,0.9s
WRA Warramunga Arr 75.09 205 *e*P **P** **23 32 14.6 +1.8**
WRA pmax pmax
comp=Z,1.0nm,0.7s
VOIR 75.38 329⇑P **P** **23 32 14.8 +0.4**
VOIR 75.38 329⇑P **P** **23 32 14.8 +0.4**
VOIR 75.38 329 P **P** **23 32 14.2 -0.2**
comp=Z,4.2nm,0.9s
GERES GERESS Array B 75.40 338 P **P** **23 32 14.9 +0.5**
comp=Z,0.5nm,0.6s,baz=50,slow=4.7,SNR=5.2
comp=Z,0.5nm,0.6s
ARR Arges 75.57 329⇑P **P** **23 32 16.3 +0.8**
ICOR Ion Corvin 75.64 326⇑P **P** **23 32 16.9 +1.1**
SURR Surduc 76.00 331⇓P **P** **23 32 18.1 +0.3**
GZR Gura Zlata 76.12 330⇓P **P** **23 32 18.8 +0.1**
GZR Gura Zlata 76.12 330⇓P **P** **23 32 18.8 +0.1**
ILGA Ilgaz 76.14 321 **P** **23 32 19.3 +0.2**
BZS Buzias 76.27 331⇑P **P** **23 32 18.9 -0.5**
BZS Buzias 76.27 331⇑P **P** **23 32 18.9 -0.5**
BNN Bunyan 77.17 318 **P** **23 32 24.3 -0.4**
BNN IAmb IAmb 23 32 25.6
comp=Z,5.0nm,0.9s
BR131 Keskin Array S 77.31 320 **P** **23 32 24.8 -0.7**
BR131 IAmb IAmb 23 32 26.9
comp=Z,4.4nm,1.2s
BR131 Keskin Array S 77.31 320 P **P** **23 32 24.8 -0.7**
BR131 pmax pmax
comp=Z,4.0nm,1.2s
BRTR Keskin Array B 77.31 320 P **P** **23 32 24.1 -1.5**
BRTR Keskin Array B 77.31 320 P **P** **23 32 25.2 -0.4**
comp=Z,2.2nm,1.0s,baz=59,slow=3.6,SNR=9.8
comp=Z,2.2nm,1.0s
BR106 Keskin Array S 77.31 320 P **P** **23 32 24.9 -0.6**
comp=Z,2.3nm,1.1s
BR105 Keskin Array S 77.33 320 P **P** **23 32 25.0 -0.6**
comp=Z,2.9nm,1.1s
PLVB Pleven 77.34 328⇑P **P** **23 32 23.7 -1.8**
DAVOX Davos/Dischmat 78.21 339 LR LR 00 10 45.5
comp=Z,20nm,18.2s,baz=268,slow=39
ASAR Alice Springs 78.76 204 P **P** **23 32 34.5 +1.0**
comp=Z,0.7nm,0.8s,baz=16,slow=5.5,SNR=5.2
comp=Z,0.7nm,0.8s
RDO Rodhopi 79.04 327 **P** **23 32 34.4 -0.5**
RDO IAmb IAmb 23 32 36.2
comp=Z,6.6nm,1.1s
MMAI Mount Meron Ar 82.34 316 P **P** **23 32 52.2 -0.5**
comp=Z,5.6nm,0.8s,baz=49,slow=6.5,SNR=6.5
MMAI LR LR 00 12 58.1
comp=Z,39nm,21.0s,baz=232,slow=38
comp=Z,5.6nm,0.8s
RAYN Ar Rayn 85.49 303 P **P** **23 33 08.0 -0.9**
RAYN Ar Rayn 85.49 303 P **P** **23 33 08.0 -0.9**
RAYN pmax pmax
comp=Z,4.0nm,0.8s
VAE Valguarnera 85.85 333 LR LR 00 19 36.8
comp=Z,52nm,18.8s,baz=308,slow=41
ESDC Sonseca Array 87.55 348 P **P** **23 33 18.8 0.0**
comp=Z,1.3nm,0.8s,baz=6.0,slow=3.5,SNR=9.0
comp=Z,1.3nm,0.8s
JTS Las Juntas de 96.83 64 LR LR 00 20 41.6
comp=Z,19nm,19.8s,baz=104,slow=37
H03N2 Juan Fernandez 134.35 90 T T 02 10 27.6
baz=314,slow=77,SNR=20
H03N1 Juan Fernandez 134.36 90 T T 02 10 25.1
baz=314,slow=77,SNR=14
H03N3 Juan Fernandez 134.37 90 T T 02 10 28.7
baz=314,slow=77,SNR=3.3

*SNET **23** 23:24:07.9±0.8, 12.°69N×88.°04W, h61km±36km, ML2.8*
*CATAC **23** 23:24:07.1±0.5, 13.°N±4.°×8.°8W±.°, h35km±5km, M3.2/12, MLv3.2/12, Error ellipse: s-maj=8.4km s-min=3.1km az=24.9, confirmed*
ISC 23 23:24:07.0±1.6, 12.°6N±0.°1×88.°02W±0.°05, h59km±23km, n29,σ0$37/37, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POTN	**Potosi Cosigui**	**0.65**	**51**	P	**Pn**	**23 24 20.2**	**-0.5**
POTN				S	**Sn**	**23 24 31.0**	**+0.5**
CNCH	**Conchagua**	**0.71**	**15**	*e*P	**Pn**	**23 24 21.2**	**-0.3**
CNCH				*e*S	**Sn**	**23 24 32.7**	**+0.6**
CNCH	**Conchagua**	**0.71**	**15**	P	**Pn**	**23 24 21.2**	**-0.3**
LCND	**La Caada**	**0.73**	**10**	*e*P	**Pn**	**23 24 21.2**	**-0.4**
LCND				IAML		23 24 37.2	
	comp=Z,480nm,0.3s						
LCND	**La Caada**	**0.73**	**10**	P	**Pn**	**23 24 21.7**	**0.0**
LCND	**La Caada**	**0.73**	**10**	S	**Sn**	**23 24 32.7**	**+0.4**
VSM	**San Miguel**	**0.87**	**344**	*e*P	**Pn**	**23 24 23.9**	**+0.2**
BLLM	**Bellamira**	**0.88**	**346**	*e*P	**Pn**	**23 24 23.3**	**-0.3**
BLLM				*e*S	**Sn**	**23 24 35.0**	**-0.7**
PACA	**Pacayal**	**0.93**	**341**	*e*P	**Pn**	**23 24 24.1**	**-0.1**
PACA				*e*S	**Sn**	**23 24 36.8**	**-0.1**
PACA	**Pacayal**	**0.93**	**341**	S	**Sn**	**23 24 37.3**	**+0.4**
PACA	**Pacayal**	**0.93**	**341**	P	**Pn**	**23 24 24.2**	**-0.1**
PKGN	**Cerro Pekin**	**1.02**	**85**	P	**Pn**	**23 24 25.2**	**-0.1**
PKGN				S	**Sn**	**23 24 39.4**	**+0.5**
TECO	**Alcaldia de Te**	**1.20**	**322**	P	**Pn**	**23 24 27.9**	**+0.2**
TECO	**Alcaldia de Te**	**1.20**	**322**	S	**Sn**	**23 24 43.0**	**-0.2**
UESV	**Universidad de**	**1.28**	**324**	S	**Sn**	**23 24 45.5**	**+0.3**
UESV	**Universidad de**	**1.28**	**324**	P	**Pn**	**23 24 29.0**	**+0.2**
ILCN	**San Idelfonso**	**1.29**	**90**	P	**Pn**	**23 24 29.2**	**+0.3**
ILCN				S	**Sn**	**23 24 45.4**	**+0.1**
CNGN	**Cerro Negro**	**1.29**	**94**	P	**Pn**	**23 24 28.4**	**-0.6**
CNGN	**Cerro Negro**	**1.29**	**94**	S	**Sn**	**23 24 45.6**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.30**	**328**	*e*P	**Pn**	**23 24 29.0**	**-0.1**
SCLA				*e*S	**Sn**	**23 24 46.2**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.30**	**328**	P	**Pn**	**23 24 29.5**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.30**	**328**	S	**Sn**	**23 24 45.9**	**+0.1**
PMON	**Piamonte**	**1.69**	**312**	P	**Pn**	**23 24 34.4**	**0.0**
PMON	**Piamonte**	**1.69**	**312**	S	**Sn**	**23 24 54.9**	**0.0**
JAYA	**Jayaque - finc**	**1.75**	**307**	*e*P	**Pn**	**23 24 35.6**	**+0.3**
JAYA				*e*S	**Sn**	**23 24 55.7**	**-0.9**
JAYA				IAML		23 24 56.9	
	comp=Z,68nm,0.2s						
JAYA	**Jayaque - finc**	**1.75**	**307**	P	**Pn**	**23 24 35.3**	**0.0**
JAYA	**Jayaque - finc**	**1.75**	**307**	S	**Sn**	**23 24 56.5**	**-0.1**
YUSH	**Yuscaran**	**1.78**	**40**	S	**Sn**	**23 24 57.0**	**-0.2**
YUSH	**Yuscaran**	**1.78**	**40**	P	**Pn**	**23 24 35.6**	**0.0**

OMAN 24 00:04:48.8±0.7, 24.°78N×62.°39E, h30km, mb3.5/5, ml3.0/5, Error ellipse: s-maj=6.4km s-min=4.4km az=85.0, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NGCH	**Negor - Chabah**	**1.27**	**297**	Pn	Pn	00 05 10.8	+0.4
NGCH				Sn	Sn	00 05 26.0	-0.6
WSAR	**Wadi Sarin**	**3.76**	**247**	Pn	Pn	00 05 44.5	-0.3
WSAR				P	Pn	00 05 44.5	-0.3
WSAR				S	Sn	00 06 28.7	+0.6
WSAR				Sn	Sn	00 06 28.7	+0.6
JLN	**Jalan Bani Buh**	**3.79**	**227**	Pn	Pn	00 05 43.7	-1.4
JLN				S	Sn	00 06 28.9	+0.3
JLN				Sn	Sn	00 06 28.9	+0.3
BIDO	**Bidbid**	**4.09**	**253**	Pn	Pn	00 05 49.0	-0.3
SMDO	**Samad**	**4.33**	**248**	Pn	Pn	00 05 53.2	+0.6
JMDO	**Jabal Madar**	**4.61**	**239**	P	Pn	00 05 57.0	+0.6
JMDO				Pn	Pn	00 05 57.0	+0.6
JMDO				Sn	Sn	00 06 50.8	+1.9
HOQ	**Hoqain**	**4.79**	**257**	Pn	Pn	00 05 59.8	+0.6
SOHO	**SOHO**	**5.37**	**264**	Pn	Pn	00 06 06.9	0.0
MDH	**Madha**	**5.55**	**277**	Pn	Pn	00 06 09.2	-0.1
MDH				P	Pn	00 06 09.2	-0.1
ARQ	**Araqi**	**5.55**	**256**	Pn	Pn	00 06 11.6	+2.2
	SNR=13						
ARQ				Sn	Sn	00 07 14.4	+2.2
MHTO	**MHTO**	**5.56**	**228**	P	Pn	00 06 08.9	-0.6
MHTO				Pn	Pn	00 06 08.9	-0.6
UOSS	**Minazif**	**5.62**	**273**	Pn	Pn	00 06 10.0	-0.3
UOSS				P	Pn	00 06 10.0	-0.3
UOSS				Sn	Sn	00 07 13.5	-0.4
BANOM	**Banah**	**5.62**	**283**	Pn	Pn	00 06 10.3	-0.1
BANOM				Sn	Sn	00 07 13.6	-0.4
MASF	**Masafi**	**5.68**	**277**	Pn	Pn	00 06 10.9	-0.2
ASHO	**Ashiyiah**	**5.76**	**270**	Pn	Pn	00 06 13.3	+1.1
	SNR=9.0						
SHME	**Shamm**	**5.79**	**284**	Pn	Pn	00 06 13.6	+1.0
	SNR=23						
SHME				P	Pn	00 06 13.6	+1.0
ALNE	**Al Ain**	**6.09**	**265**	P	Pn	00 06 17.8	+1.0
ALNE				Pn	Pn	00 06 17.8	+1.0
ASUD	**Al Ashush, Dub**	**6.42**	**270**	Pn	Pn	00 06 21.9	+0.6
DQM	**DQM**	**6.59**	**224**	Pn	Pn	00 06 23.0	-0.7

IDC 24 00:28:24.9±6.2, 8.°38S×129.°16E, h133km±67km, mb3.2/1, mbtmp3.8/5, MS3.1/2, Error ellipse: s-maj=58.0km s-min=22.5km az=37.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.72**	**251**	P	Pn	00 29 47.8	+0.1
	18nm,0.3s,baz=85,slow=22,SNR=2.2						
BATI				S	Sn	00 30 52.7	+0.4
	25nm,0.3s,baz=39,slow=21,SNR=6.4						
FITZ	**Fitzroy Crossi**	**10.25**	**199**	P	Pn	00 30 49.4	+0.7
	2.7nm,0.3s,baz=24,slow=11,SNR=33						
FITZ				S	Sn	00 32 40.9	-1.0
	7.0nm,0.4s,baz=329,slow=16,SNR=7.4						
WRA	**Warramunga Arr**	**12.55**	**157**	P	Pn	00 31 18.1	-0.9
	0.6nm,0.2s,baz=341,slow=13,SNR=11						
WRA				S	Sn	00 33 30.4	-7.0
	1.4nm,0.3s,baz=332,slow=23,SNR=9.3						
ASAR	**Alice Springs**	**15.87**	**164**	P	P	00 32 02.8	+0.7
	0.5nm,0.5s,baz=340,slow=9.0,SNR=10						
ASAR				S	Sn	00 34 54.0	-3.5
	0.2nm,0.3s,baz=346,slow=26,SNR=2.5						
GUMO	**Guam**	**26.82**	**36**	LR	LR	00 46 04.1	
	comp=Z,19nm,19.5s,baz=148,slow=40						
PALK	**Pallekele**	**50.74**	**286**	LR	LR	00 59 26.5	
	comp=Z,36nm,18.1s,baz=277,slow=37						
MKAR	**Makanchi Array**	**68.92**	**327**	P	P	00 39 15.4	-0.1
	0.3nm,0.5s,baz=124,slow=6.4,SNR=4.4						
	0.3nm,0.5s						

*CNRM **24** 00:46:33.8, 37.°14N×5.°25W, h14km, ML2.8*
*SFS **24** 00:46:35.1, 37.°09N×5.°19W, h6km, ML3.5/20, ML3.3/21, MLv3.2/21*
*INMG **24** 00:46:35.3±1.6, 37.°07N×5.°25W, h7km±2km, ML3.3, Error ellipse: s-maj=1.8km s-min=1.4km az=5.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
*MDD **24** 00:46:35.6±0.2, 37.°17N×5.°25W, h3km±1km, mb_Lg3.4/38, Error ellipse: s-maj=1.9km s-min=1.2km az=177.0*
*IGIL **24** 00:46:35.5, 37.°17N×5.°25W, h3km*
ISC 24 00:46:34.4±0.8, 37.°13N±0.°02×5.°22W±0.°01, h13km±5km, n132,σ1$21/236, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
E1302	**La Puebla de C**	**0.02**	**268**	Pg	**Pg**	**00 46 36.1**	**-0.7**
E1302				*i* lVmb_Lg		00 46 37.0	
E1302				Sg	**Sg**	**00 46 39.5**	**+1.1**
ESPR	**Espera**	**0.58**	**243**	Pg	**Pg**	**00 46 46.0**	**+0.3**
ESPR	**Espera**	**0.58**	**243**	Pg	**Pb**	**00 46 47.1**	**+0.7**
ESPR				Sg	**Sn**	**00 46 57.3**	**-0.4**
ESPR				*i* lVmb_Lg		00 47 02.2	
EJIF	**Jimena Fronter**	**0.71**	**197**	Pg	**Pg**	**00 46 47.6**	**-0.6**
EJIF				Sg	**Sn**	**00 47 01.5**	**+0.5**
EMAL	**Malaga-Limoner**	**0.73**	**120**	Pg	**Pg**	**00 46 46.5**	**-2.2**
EMAL				Sg	**Sg**	**00 46 55.5**	**-2.7**
EGOR	**Sierra Gorda,**	**0.89**	**91**	Pg	**Pg**	**00 46 51.0**	**-0.6**
EGOR				Sg	**Sg**	**00 47 02.2**	**-1.0**
EGOR	**Sierra Gorda,**	**0.89**	**91**	Pg	**Pn**	**00 46 52.9**	**+0.2**
EGOR				Sg	**Sn**	**00 47 05.2**	**-0.3**
EGOR				*i* lVmb_Lg		00 47 10.0	
ECAB	**El Cabril**	**0.95**	**350**	Sg	**Sn**	**00 47 07.2**	**+0.1**
ECAB				Pg	**Pn**	**00 46 53.4**	**-0.2**
ECAB	**El Cabril**	**0.95**	**350**	Pg	**Pn**	**00 46 54.0**	**+0.4**
ECAB				Sg	**Sn**	**00 47 07.8**	**+0.8**
ECAB				*i* lVmb_Lg		00 47 09.8	
CNIL	**Conil**	**1.02**	**222**	Pg	**Pn**	**00 46 55.0**	**+0.7**
EADA	**Adamuz**	**1.15**	**26**	Sg	**Sn**	**00 47 13.5**	**+1.6**
EADA				Pg	**Pg**	**00 46 57.0**	**+0.4**
EADA	**Adamuz**	**1.15**	**26**	Pg	**Pg**	**00 46 57.1**	**+0.5**
EADA				Sg	**Sn**	**00 47 15.1**	**+3.2**
EADA				*i* lVmb_Lg		00 47 15.2	
ARNO	**Arenosillo**	**1.21**	**269**	Sg	**Sg**	**00 47 14.3**	**+0.7**
ARNO				Pg	**Pb**	**00 46 57.5**	**+0.3**
CEU	**Ceuta**	**1.24**	**186**	Pg	**Pb**	**00 46 57.9**	**+0.3**
ECEU	**Ceuta**	**1.24**	**186**	Pg	**Pn**	**00 46 57.7**	**+0.3**
ELGU	**Los Guajares,**	**1.30**	**101**	Pn	**Pn**	**00 46 58.4**	**+0.1**
ELGU	**Los Guajares,**	**1.30**	**101**	Pg	**Pg**	**00 46 59.8**	**+0.3**
ELGU				Sg	**Sg**	**00 47 17.4**	**+1.0**
ELGU				*i* lVmb_Lg		00 47 23.5	
EMIN	**Mina Concepcio**	**1.32**	**299**	Sn	**Sg**	**00 47 18.0**	**+1.0**
EMIN				Pn	**Pn**	**00 46 58.6**	**+0.1**
EMIN	**Mina Concepcio**	**1.32**	**299**	Pg	**Pn**	**00 46 58.8**	**+0.2**
EMIN				Sg	**Sg**	**00 47 17.6**	**+0.6**
EMIN				*i* lVmb_Lg		00 47 21.9	
EQTA	**Presa de Quent**	**1.42**	**87**	Pn	**Pb**	**00 47 01.3**	**+0.5**
EQUE	**Quentar**	**1.42**	**87**	Pg	**Pb**	**00 47 01.2**	**+0.4**
EQUE				Sg	**Sg**	**00 47 21.7**	**+1.5**
EQUE				*i* lVmb_Lg		00 47 25.3	
SMIR	**Smir Dam**	**1.46**	**185**	P	**Pn**	**00 47 00.3**	**+0.1**
SMIR	**Smir Dam**	**1.46**	**185**	S	**Sb**	**00 47 20.6**	**+0.9**
SMIR	**Smir Dam**	**1.46**	**185**	P	**Pb**	**00 47 02.0**	**+0.6**
SMIR	**Smir Dam**	**1.46**	**185**	P	**Pb**	**00 47 02.0**	**+0.6**
SMIR	**Smir Dam**	**1.46**	**185**	P	**Pn**	**00 47 01.0**	**+0.6**
E0803	**Jimena (Jaen)**	**1.55**	**63**	Pn	**Pb**	**00 47 02.7**	**-0.4**
E0803				Sn	**Sg**	**00 47 23.9**	**-0.6**
E0802	**Ubeda,Jaen**	**1.71**	**58**	Pn	**Pn**	**00 47 04.8**	**+0.8**
E0802				Sn	**Sb**	**00 47 27.5**	**+0.3**
PBAR	**Barrancos**	**1.78**	**306**	Pn	**Pn**	**00 47 05.1**	**+0.2**
PBAR				Sn	**Sn**	**00 47 27.8**	**+0.4**
PBAR	**Barrancos**	**1.78**	**306**	*e*Pn	**Pn**	**00 47 05.2**	**+0.2**
PBAR				*e*Sn	**Sn**	**00 47 27.8**	**+0.4**
PBAR				*i* IAML		00 47 34.9	
PBAR				*i* IAML		00 47 35.7	
PBAR				*i* IAML		00 47 39.8	
EQES	**Quesada**	**1.83**	**68**	Pn	**Pn**	**00 47 06.4**	**+0.7**
EQES				Sn	**Sb**	**00 47 31.1**	**+0.3**
EQES				Sg	**Sg**	**00 47 34.8**	**+1.4**
EQES				*i* lVmb_Lg		00 47 39.0	
EGRO	**El Granado**	**1.85**	**283**	Pn	**Pn**	**00 47 05.8**	**-0.1**
EGRO	**El Granado**	**1.85**	**283**	Pn	**Pn**	**00 47 05.8**	**-0.1**
EGRO				Pg	**Pb**	**00 47 08.8**	**+0.7**
EGRO				Sg	**Sg**	**00 47 34.4**	**+0.4**
EGRO				*i* lVmb_Lg		00 47 36.6	
PVAQ	**Vaqueiros**	**2.01**	**278**	*e*Pn	**Pn**	**00 47 08.0**	**-0.1**
PVAQ				*e*Sn	**Sn**	**00 47 33.3**	**+0.2**
PVAQ				*e*Sg	**Sg**	**00 47 39.0**	**-0.2**
PVAQ				*i* IAML		00 47 42.4	
PVAQ				*i* IAML		00 47 48.2	
PVAQ				*i* IAML		00 47 49.2	
PVAQ	**Vaqueiros**	**2.01**	**278**	P	**Pn**	**00 47 07.6**	**-0.5**
PVAQ				P	**Pn**	**00 47 07.9**	**-0.1**
PVAQ	**Vaqueiros**	**2.01**	**278**	S	**Sn**	**00 47 32.8**	**-0.3**
PVAQ	**Vaqueiros**	**2.01**	**278**	P	**Pn**	**00 47 07.6**	**-0.5**
PVAQ	**Vaqueiros**	**2.01**	**278**	P	**Pn**	**00 47 07.6**	**-0.5**
PVAQ	**Vaqueiros**	**2.01**	**278**	P	**Pn**	**00 47 07.9**	**-0.1**
PSIM	**Granatula de C**	**2.04**	**34**	Pn	**Pb**	**00 47 10.1**	**-1.3**
PSIM				Pg	**Pg**	**00 47 13.7**	**+0.1**
PSIM				Sn	**Sb**	**00 47 35.8**	**-0.9**
PSIM				Sg	**Sg**	**00 47 40.7**	**+0.7**
EALB	**Alboran**	**2.12**	**123**	Pn	**Pn**	**00 47 09.1**	**-0.5**
EALB				Sn	**Sn**	**00 47 33.6**	**-2.2**
EALB	**Alboran**	**2.12**	**123**	Pn	**Pn**	**00 47 09.8**	**+0.2**
EALB				Pg	**Pb**	**00 47 13.6**	**+0.8**
EALB				Sn	**Sb**	**00 47 38.1**	**-0.9**
EBAD	**Badajoz**	**2.15**	**319**	Pn	**Pn**	**00 47 10.4**	**+0.4**
EBAD				Sn

PCVE	Castro Verde	2.30	283	Sn	Sn	00 47 40.8	+0.6
PCVE				Pn	Pn	00 47 12.0	-0.1
PCVE	Castro Verde	2.30	283	ePn	Pn	00 47 12.0	-0.1
PCVE				eSg	Sg	00 47 48.9	+0.4
PCVE				i IAML		00 47 53.8	
PCVE				i IAML		00 47 55.4	
PCVE				i IAML		00 47 56.9	
ENIJ	Nijar	2.41	93	Pn	Pn	00 47 14.3	+0.7
ENIJ	Nijar	2.41	93	Pn	Pn	00 47 14.3	+0.7
ENIJ				Sn	Sb	00 47 45.8	-1.5
MESJ	Messejana	2.49	287	eP	Pn	00 47 14.7	+0.1
MESJ	Messejana	2.49	287	ePn	Pn	00 47 14.8	+0.1
MESJ				eSn	Sn	00 47 45.0	+0.1
MESJ				eSg	Sg	00 47 54.8	+0.3
MESJ				i IAML		00 48 00.1	
MESJ				i IAML		00 48 02.0	
MESJ				i IAML		00 48 02.5	
PESTR	Estremoz	2.55	313	Pn	Pn	00 47 15.9	+0.3
PESTR	Estremoz	2.55	313	ePn	Pn	00 47 16.0	+0.5
PESTR				eSn	Sn	00 47 47.5	+1.0
PESTR				eSg	Sg	00 47 55.1	-1.3
PESTR				i IAML		00 48 01.7	
PESTR				i IAML		00 48 03.5	
PESTR				i IAML		00 48 03.9	
PESTR	Estremoz	2.55	313	P	Pn	00 47 15.8	+0.3
PESTR	Estremoz	2.55	313	S	Sn	00 47 46.0	-0.5
PESTR	Estremoz	2.55	313	P	Pn	00 47 15.8	+0.3
PESTR	Estremoz	2.55	313	P	Pn	00 47 15.8	+0.3
PESTR	Estremoz	2.55	313	P	Pn	00 47 15.8	+0.3
EVO	Evora	2.62	303	Pn	Pn	00 47 16.9	+0.5
EVO				Sn	Sn	00 47 49.6	+1.5
EVO	Evora	2.62	303	ePn	Pn	00 47 17.0	+0.6
EVO				eSn	Sn	00 47 48.2	+0.2
EVO				eSg	Sg	00 47 56.8	-1.8
EVO				i IAML		00 48 02.7	
EVO				i IAML		00 48 03.5	
EVO				i IAML		00 48 03.9	
GOG	Mont Gurugu	2.62	136	P	Pn	00 47 16.2	-0.3
GOG	Mont Gurugu	2.62	136	S	Sn	00 47 48.7	+0.5
GOG	Mont Gurugu	2.62	136	P	Pn	00 47 17.0	+0.5
ESDC	Sonseca Array	2.72	21	Pn	Pn	00 47 19.7	+1.8
ESDC				Pg	Pg	00 47 27.2	+0.6
ESDC				Sn	Sn	00 47 51.5	+0.9
ESDC				Sg	Sg	00 48 01.9	+0.1
ESDC				i IVmb_Lg		00 48 10.4	
ESBB	Sonseca Array	2.72	21	Pn	Pn	00 47 19.8	+1.9
ESBB				Pg	Pg	00 47 26.7	0.0
ESBB				Sn	Sn	00 47 51.0	+0.3
ESBB				Sg	Sg	00 48 02.4	+0.5
ESBB				i IVmb_Lg		00 48 08.0	
MORF	Marmelete	2.75	275	eP	Pn	00 47 18.1	-0.1
MORF	Marmelete	2.75	275	ePn	Pn	00 47 18.6	+0.4
MORF				eSn	Sn	00 47 51.0	-0.4
MORF				eSg	Sg	00 48 01.6	-1.1
MORF				i IAML		00 48 12.4	
MORF				i IAML		00 48 12.6	
PTEO	Sao Teotonio	2.83	279	ePn	Pn	00 47 19.3	0.0
PTEO				eSn	Sn	00 47 52.8	-0.4
PTEO				eSg	Sg	00 48 05.2	-0.1
PTEO				i IAML		00 48 20.1	
PTEO				i IAML		00 48 20.1	
PTEO				i IAML		00 48 21.6	
AKLM	AKL	2.84	157	P	Pn	00 47 16.6	-2.9
AKLM	AKL	2.84	157	S	Sn	00 47 51.4	-2.2
AKLM	AKL	2.84	157	P	Pn	00 47 21.0	+1.4
AKLM	AKL	2.84	157	P	Pn	00 47 21.0	+1.4
PMRV	Marv??o	2.86	324	ePn	Pn	00 47 20.1	+0.4
PMRV				eSn	Sn	00 47 55.0	+1.0
PMRV				eSg	Sg	00 48 05.0	-1.3
PMRV				i IAML		00 48 09.4	
PMRV				i IAML		00 48 12.6	
PMRV				i IAML		00 48 13.5	
PFVI	Vila Bisbo	2.89	271	Pn	Pn	00 47 19.7	-0.4
PFVI				Sn	Sn	00 47 53.9	-0.7
PFVI	Vila Bisbo	2.89	271	ePn	Pn	00 47 19.8	-0.4
PFVI				eSn	Sn	00 47 54.1	-0.6
PFVI				i IAML		00 47 55.7	
PFVI				eSg	Sg	00 48 06.6	-0.5
PFVI				i IAML		00 48 10.7	
PFVI				i IAML		00 48 13.9	
PFVI	Vila Bisbo	2.89	271	P	Pn	00 47 19.7	-0.4
PFVI	Vila Bisbo	2.89	271	S	Sn	00 47 53.2	-1.4
PFVI	Vila Bisbo	2.89	271	P	Pn	00 47 19.7	-0.4
PFVI	Vila Bisbo	2.89	271	P	Pn	00 47 19.7	-0.4
PFVI	Vila Bisbo	2.89	271	P	Pn	00 47 19.7	-0.4
EPLA	Plasencia	3.00	347	Pn	Pn	00 47 22.1	+0.4
EPLA				Pg	Pb	00 47 28.5	+0.7
EPLA				Sn	Sn	00 47 57.3	-0.3
EPLA				Sg	Sg	00 48 08.7	-2.2
EPLA				i IVmb_Lg		00 48 14.8	
PMTG	Montargil	3.06	310	ePn	Pn	00 47 22.6	+0.2
PMTG				eSn	Sn	00 47 59.8	+0.9
PMTG				i IAML		00 48 20.5	
PMTG				i IAML		00 48 23.7	
PMTG				i IAML		00 48 26.6	
PCBR	Castelo Branco	3.23	327	ePn	Pn	00 47 25.6	+0.7
PCBR				eSn	Sn	00 48 03.2	0.0
PCBR				eSg	Sg	00 48 18.7	+0.4
PCBR				i IAML		00 48 23.1	
PCBR				i IAML		00 48 23.5	
PCBR				i IAML		00 48 23.9	
EMUR	La Murta	3.24	76	Pn	Pn	00 47 25.2	+0.2
EMUR	La Murta	3.24	76	Pn	Pn	00 47 25.6	+0.6
EMUR				Sn	Sn	00 48 05.5	+2.0
EMUR				Sg	Sg	00 48 19.6	+1.1
TAF	Taforalt	3.24	135	P	Pn	00 47 25.2	+0.2
PSARD	Sardoal	3.38	318	ePn	Pn	00 47 27.8	+0.9
PSARD				eSn	Sn	00 48 07.6	+0.8
PSARD				eSg	Sg	00 48 21.4	-1.6
PSARD				i IAML		00 48 28.0	
PSARD				i IAML		00 48 30.2	
PSARD				i IAML		00 48 32.0	
CART	Cartagena	3.39	81	Pn	Pn	00 47 26.5	-0.4
CART				Sn	Sn	00 48 06.6	-0.4
CART	Cartagena	3.39	81	P	Pn	00 47 26.9	-0.1
CART	Cartagena	3.39	81	S	Sn	00 48 07.0	0.0
PARRA	Arraiolos	3.46	300	ePn	Pn	00 47 19.1	-8.9
PARRA				eSn	Sn	00 47 53.2	-16
PARRA				eSg	Sb	00 48 03.9	-14
PARRA				i IAML		00 48 08.1	
PARRA				i IAML		00 48 08.7	
PARRA				i IAML		00 48 13.6	
UCM	Universidad Co	3.52	25	Pn	Pn	00 47 30.7	+1.8
JBK	JBK	3.53	142	P	Pn	00 47 28.8	-0.3
JBK	JBK	3.53	142	S	Sn	00 48 11.1	+0.3
JBK	JBK	3.53	142	P	Pn	00 47 29.1	0.0
GUD	Guadarrama	3.60	13	Pn	Pn	00 47 31.2	+1.2
GUD				Pg	Pg	00 47 42.6	-0.8
GUD				Sg	Sg	00 48 25.8	-4.3
PSBE	So Bento	3.68	311	ePn	Pn	00 47 32.0	+0.9
PSBE				eSn	Sn	00 48 14.9	+0.6
PSBE				i IAML		00 48 38.0	
PSBE				i IAML		00 48 41.3	
PSBE				i IAML		00 48 44.6	
PMAFR	Mafra	3.69	301	ePn	Pn	00 47 31.6	+0.5
PMAFR				eSn	Sn	00 48 14.6	+0.2
PMAFR				i IAML		00 48 41.4	
PMAFR				i IAML		00 48 41.6	
PMAFR				i IAML		00 48 46.0	
MTE	Manteigas	3.73	332	ePn	Pn	00 47 32.6	+0.7
MTE				eSn	Sn	00 48 16.5	+0.8
MTE				eSg	Sg	00 48 33.0	-1.3
MTE				i IAML		00 48 38.2	
MTE				i IAML		00 48 38.3	
MTE				i IAML		00 48 43.7	
ZHG	ZHG	3.86	198	P	Pn	00 47 34.1	+0.5
ZHG	ZHG	3.86	198	S	Sn	00 48 23.6	+4.8
EVIV	Cofrentes, Val	3.87	55	Pn	Pn	00 47 33.4	-0.2
EVIV				Pg	Pg	00 47 47.4	-1.1
EVIV				Sg	Sg	00 48 38.2	-0.4
EVIV				i IVmb_Lg		00 48 44.5	
PCAS	Casmilo, Conde	3.89	320	ePn	Pn	00 47 34.9	+1.0
PCAS				eSn	Sn	00 48 19.4	+0.1
PCAS				eSg	Sg	00 48 38.4	-0.8
PCAS				i IAML		00 48 42.0	
PCAS				i IAML		00 48 42.8	
PCAS				i IAML		00 48 43.8	
PVIS	Viseu	4.14	331	ePn	Pn	00 47 38.6	+1.2
PVIS				eSn	Sn	00 48 25.8	0.0
PVIS				eSg	Sg	00 48 46.6	-0.8
ECHE	Chera	4.14	52	Pn	Pn	00 47 37.8	+0.3
ECHE	Chera	4.14	52	Pn	Pn	00 47 37.7	+0.3
ECHE				Pg	Pg	00 47 52.7	-1.1
ECHE				Sn	Sn	00 48 24.7	-1.0
ECHE				Sg	Sg	00 48 49.5	+2.1
ECHE				i IVmb_Lg		00 49 04.3	
AVE	Averroes	4.23	206	Pn	Pn	00 47 38.0	-0.6
AVE				Sn	Sn	00 48 25.7	-2.1
MVO	Moncorvo	4.26	341	ePn	Pn	00 47 39.6	+0.5
MVO				eSg	Sg	00 48 50.2	-1.1
MVO				i IAML		00 48 55.8	
MVO				i IAML		00 48 56.4	
MVO				i IAML		00 48 58.6	
MD31	MD31	4.27	175	P	Pn	00 47 38.3	-0.9
MD31	MD31	4.27	175	S	Sn	00 48 29.4	+0.3
MDT	Midelt	4.34	173	P	Pn	00 47 39.3	-0.9
MDT	Midelt	4.34	173	S	Sn	00 48 31.0	+0.3
ETOR	Torete	4.43	33	Pn	Pn	00 47 42.4	+1.0
ETOR				Sn	Sn	00 48 29.9	-2.9
ETOR				Sg	Sg	00 48 58.3	+1.7
ETOR				i IVmb_Lg		00 49 18.0	
E0901	Celadas (Terue	4.62	42	Pn	Pn	00 47 46.0	+1.9
E0901				Sn	Sn	00 48 38.4	+0.8
POLO	Lamas de Olo	4.68	336	ePn	Pn	00 47 45.5	+0.6
POLO				eSn	Sn	00 48 38.2	-0.9
POLO				eSg	Sg	00 49 03.7	-1.0
POLO				i IAML		00 49 07.2	
POLO				i IAML		00 49 11.0	
POLO				i IAML		00 49 13.9	
PBRG	Braganca	4.81	346	ePn	Pn	00 47 47.6	+1.1
PBRG				eSn	Sn	00 48 41.8	-0.4
PBRG				i IAML		00 49 12.2	
PBRG				i IAML		00 49 13.3	
PBRG				i IAML		00 49 13.3	
EMOS	Mosqueruela	4.91	48	Sn	Sn	00 48 42.4	-2.5
EMOS				Sg	Sg	00 49 12.4	+0.2
ECAL	Calabor	4.94	347	Pn	Pn	00 47 49.7	+1.3
ECAL				Sn	Sn	00 48 44.5	-1.0
ECAL				Sg	Sg	00 49 10.4	-2.7
PCAB	Cabril	5.06	335	ePn	Pn	00 47 50.8	+0.7
PCAB				eSn	Sn	00 48 47.5	-0.9
PCAB				eSg	Sg	00 49 13.6	-3.3
PCAB				i IAML		00 49 18.4	
PCAB				i IAML		00 49 24.6	
PCAB				i IAML		00 49 25.6	
SRHM	Skhour des Reh	5.15	206	P	Pn	00 47 54.2	+3.0
SRHM	Skhour des Reh	5.15	206	S	Sn	00 48 57.8	+7.3
ELOB	Lobios	5.21	336	Pn	Pn	00 47 52.6	+0.4
ELOB				Sn	Sn	00 48 48.1	-4.1
ELOB				Sg	Sg	00 49 20.9	-0.9
PGAV	Gavieira, Arco	5.37	335	ePn	Pn	00 47 55.0	+0.7
PGAV				eSn	Sn	00 48 55.5	-0.6
PGAV				eSg	Sg	00 49 27.9	+1.0
PGAV				i IAML		00 49 29.4	
PGAV				i IAML		00 49 33.9	
PGAV				i IAML		00 49 36.7	
TISM	Timmit	5.49	191	P	Pn	00 47 55.3	-0.6
TISM	Timmit	5.49	191	S	Sn	00 48 60.0	+1.0
OUZM	OUZ	6.34	192	P	Pn	00 48 08.9	+1.2
OUZM	OUZ	6.34	192	S	Sn	00 49 23.5	+3.5
TIO	Tiouine	6.42	196	P	Pn	00 48 08.2	-0.6
TIO	Tiouine	6.42	196	S	Sn	00 49 22.8	+0.8

GII 24 00:48:32.8±0.0, 32°997N±0°001×35°541E±0°001, h5km, Mws1.1, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMID	Amiad	0.07	181	P	Pg	00 48 34.8	+0.4
AMID	Amiad	0.07	181	S	Sg	00 48 36.4	+0.9
HDNS	Had-Ness	0.11	129	P	Pg	00 48 35.4	+0.4
HDNS	Had-Ness	0.11	129	S	Sg	00 48 37.3	+0.8
MMA0B	Mount Meron ar	0.12	279	P	Pg	00 48 35.5	+0.3
MMA0B	Mount Meron ar	0.12	279	S	Sg	00 48 37.8	+0.9
KNHM	Kefar Nahum	0.12	164	P	Pg	00 48 35.6	+0.4
KNHM	Kefar Nahum	0.12	164	S	Sg	00 48 37.9	+1.1
SPIR	Sapir Facility	0.13	181	P	Pg	00 48 35.7	+0.3
SPIR	Sapir Facility	0.13	181	S	Sg	00 48 38.2	+1.0
RMOT	Ramot	0.18	144	P	Pg	00 48 36.6	+0.3
RMOT	Ramot	0.18	144	S	Sg	00 48 39.2	+0.6
KSHT	Keshet	0.23	94	P	Pg	00 48 37.5	+0.2
KSHT	Keshet	0.23	94	S	Sg	00 48 42.1	+1.9
GEM	Giv'at Ha'Em	0.24	26	P	Pg	00 48 37.7	+0.3
GEM	Giv'at Ha'Em	0.24	26	S	Sg	00 48 42.2	+1.6
GOLA	Golan Heights	0.30	162	P	Pg	00 48 39.3	+0.8
GOLA	Golan Heights	0.30	162	S	Sb	00 48 44.6	-1.2
NATI	Neve Ativ	0.31	32	P	Pg	00 48 39.1	+0.3
NATI	Neve Ativ	0.31	32	S	Sg	00 48 44.4	+1.5
MMLI	Mount Malkishu	0.57	190	P	Pg	00 48 44.3	+0.7
MMLI	Mount Malkishu	0.57	190	S	Sb	00 48 52.8	-0.8

IDC 24 00:55:42.9±9.5, 2°38N×63°24E, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=864.3km s-min=54.1km az=39.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	73.11	112	P	P	01 07 15.7	-0.1
	1.3nm,0.9s,baz=282,slow=5.3,SNR=6.0						
	1.3nm,0.9s						
ASAR	Alice Springs	73.33	115	P	P	01 07 17.3	+0.2
	0.5nm,0.7s,baz=285,slow=6.0,SNR=4.8						
	0.5nm,0.7s						
TXAR	Lajitas Array	146.07	339	PKPbc	PKPdf	01 15 24.9	-0.1
	0.2nm,0.6s,baz=19,slow=4.1,SNR=4.1						

PRE 24 00:58:01.3±1.1, 26°91S×26°34E, h2km, ML2.3
BGSI 24 00:58:05.8±3.4, 26°91S×26°64E, h0km±97km, ML2.6
ISC 24 00:58:02.5±0.9, 26°98S±0°04×26°41E±0°04, h5km, n24, σ1§98/44, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HRAO	HartRAO	1.58	47	eP	Pn	00 58 30.6	-0.6
HRAO				eS	Sb	00 58 52.6	0.0
HRAO				IAML		00 58 52.7	
	comp=Z,69nm,0.3s						
MAKGR	Makgori	1.85	308	i P	Pg	00 58 39.8	+1.8
MAKGR				i S	Sg	00 59 04.8	+2.8
MAKGR				IAML		00 59 07.5	
	comp=E,224nm,0.5s						
BOSA	Boshof	1.92	212	eP	Pn	00 58 36.5	+0.5
BOSA				eS	Sn	00 59 01.5	+0.8
BOSA				IAML		00 59 05.8	
	comp=Z,31nm,0.2s						
SKOMA	Sekoma	3.31	317	i P	Pn	00 58 58.1	+3.0
SKOMA				IAML		00 59 55.6	
	comp=N,21nm,0.2s						
LEPH	Lephalale, Lim	3.35	22	eP	Pn	00 58 55.6	0.0
LEPH				eS	Sn	00 59 34.4	-1.4
LEPH				IAML		00 59 49.0	
	comp=Z,20nm,0.4s						
CRLN	Carolina, Mapu	3.38	74	eP	Pn	00 58 56.6	+0.5
CRLN				eS	Sn	00 59 36.5	-0.4
CRLN				IAML		00 59 47.0	
	comp=Z,8.5nm,0.2s						
PHPEN	Phepeng	3.52	294	i P	Pn	00 59 00.8	+2.8
LPHEP	Lephephe	3.63	352	i P	Pn	00 59 01.0	+1.5
LPHEP				i S	Sn	00 59 40.1	-2.8
LPHEP				IAML		01 00 00.3	
	comp=N,10nm,0.3s						
HVD	Gariep Dam	3.70	192	eP	Pn	00 59 02.0	+1.5
HVD				eS	Sn	00 59 45.1	+0.5
KDWAN	Kaudwane	3.92	336	i P	Pn	00 59 05.7	+2.3
KSTD	Kokstad	4.43	146	eP	Pn	00 59 11.8	+1.2
KSTD				eS	Sn	01 00 04.0	+1.3
KSTD				IAML		01 00 18.9	
	comp=Z,6.4nm,0.3s						
ALKP	Alkanpan, Nort	4.71	230	eP	Pn	00 59 14.5	+0.3
ALKP				eS	Sn	01 00 07.6	-1.7
ALKP				IAML		01 00 38.7	
	comp=Z,13nm,0.5s						
KHWEE	KHWEE	5.08	350	i P	Pn	00 59 19.8	+0.3
KHWEE				IAML		01 00 46.8	
	comp=N,73nm,0.4s						
KEIM	Keimoes	5.11	249	eP	Pn	00 59 19.0	-0.8
KEIM				eS	Sn	01 00 17.0	-2.3
KEIM				IAML		01 00 51.4	
	comp=Z,7.1nm,0.4s						
BFON	Badsfontein, M	5.36	206	eP	Pn	00 59 24.7	+1.5
BFON				eS	Sn	01 00 23.8	-1.7
BFON				IAML		01 00 51.4	
	comp=E,8.1nm,0.5s						
GRAF	Camdeboo Natio	5.54	197	eP	Pn	00 59 27.4	+1.6
GRAF				eS	Sn	01 00 29.7	-0.2
GRAF				IAML		01 01 03.1	
	comp=E,6.9nm,0.5s						
BRAK	Brakfontein	5.68	212	eP	Pn	00 59 28.1	+0.4
BRAK				eS	Sn	01 00 31.0	-2.4
BRAK				IAML		01 01 08.2	
	comp=E,5.6nm,0.3s						
BROLN	Tlhalogang	5.91	8	i P	Pn	00 59 32.8	+1.9
BROLN				i S	Sn	01 00 35.6	-3.5
BROLN				IAML		01 01 08.1	
	comp=N,5.5nm,0.7s						
ARMS	Ukamas	6.01	258	eP	Pn	00 59 31.8	-0.5
ARMS				eS	Sn	01 00 37.0	-4.6
GRHM	Grahamstown, E	6.28	180	eP	Pn	00 59 36.1	+0.3
GRHM				eS	Sn	01 00 46.3	-1.7
GRHM				IAML		01 01 20.8	
	comp=Z,3.8nm,0.7s						
GRAN	Grantham	6.46	214	eP	Pn	00 59 39.4	+1.0
GRAN				eS	Sn	01 00 50.4	-2.2
GRAN				IAML		01 01 30.4	
	comp=E,5.2nm,1.0s						
FRAZ	Fraserburg	6.58	220	eP	Pn	00 59 41.3	+1.2
FRAZ				eS	Sn	01 00 52.0	-3.6
FRAZ				IAML		01 01 29.3	
	comp=E,5.1nm,0.5s						
MERW	Merweville	7.09	216	eP	Pn	00 59 48.0	+1.1
MERW				eS	Sn	01 01 04.5	-3.5
MERW				IAML		01 01 11.1	
	comp=Z,3.1nm,0.4s						
CVNA	Calvinia	7.34	231	eP	Pn	00 59 50.5	+0.1
CVNA				eS	Sn	01 01 10.8	-3.4
CVNA				IAML		01 01 50.4	
	comp=Z,2.3nm,0.3s						

IDC 24 01:08:06.0±6.8, 22°40S×148°31E, h0km, mbtmp3.5/3, ML3.5/3, Error ellipse: s-maj=59.3km s-min=41.2km az=57.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	11.18	211	Pn	Pn	01 10 47.0	-0.1
	0.4nm,0.3s,baz=40,slow=12,SNR=4.3						
STKA				Sn	Sn	01 12 43.7	-9.0
	0.1nm,0.3s,baz=315,slow=20,SNR=1.6						
STKA				Lg	Lg	01 14 00.9	
	0.2nm,0.3s,baz=292,slow=23,SNR=1.2						
	1.0nm,0.3s						
WRA	Warramunga Arr	13.26	278	Pn	Pn	01 11 16.1	+0.5
	0.2nm,0.3s,baz=97,slow=12,SNR=1.8						
WRA				Lg	Lg	01 15 07.8	
	0.1nm,0.3s,baz=83,slow=23,SNR=5.1						
	0.2nm,0.4s						
ASAR	Alice Springs	13.33	262	Pn	Pn	01 11 16.2	-0.3
	0.1nm,0.3s,baz=91,slow=14,SNR=5.4						
ASAR				Lg	Lg	01 15 08.6	
	0.1nm,0.3s,baz=87,slow=28,SNR=4.1						
	0.4nm,0.4s						

ISN 24 01:12:31.5±0.7, 34°62N×46°42E, h9km±6km, ML3.2
TEH 24 01:12:31.7, 34°63N×46°41E, h8km±31km
ISC 24 01:12:32.3±1.2, 34°64N±0°04×46°42E±0°03, h3km±10km, n13, σ0§55/19, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	Dehrak	0.07	337	Pg	Pg	01 12 33.8	-0.1
IDHR				Sg	Sg	01 12 35.3	+0.4
IGHG	Ghaleghazi	0.33	158	Pg	Pg	01 12 38.6	0.0
KCHF	Cheshme Sefid,	0.63	125	Pg	Pg	01 12 43.6	-0.7
GLG1	Gilan-e-Gharb	0.67	219	Pg	Pg	01 12 44.4	-0.8
KGS1	Ghasr-e-Shirin	0.70	260	Pg	Pg	01 12 45.4	-0.3
SNQR	Sonqor, Kerman	1.02	77	Pg	Pg	01 12 51.3	-0.5
IBZA	Bozab	1.20	98	Pg	Pn	01 12 55.8	-0.4
IBDR	Badra	1.57	195	ePn	Pn	01 13 01.0	-0.1
IBDR				eSn	Sb	01 13 23.0	+0.7
IBDR				AML	AML	01 13 27.9	
	comp=E,562nm,0.4s						
IBDR				AML	AML	01 13 28.1	
	comp=N,252nm,0.4s						
IKRK	Kirkuk	1.87	295	ePn	Pn	01 13 05.5	+0.3
IKRK				eSn	Sb	01 13 30.0	-0.9
IKRK				AML	AML	01 13 35.5	
	comp=N,327nm,0.3s						
IKRK				AML	AML	01 13 37.1	
	comp=E,258nm,0.5s						
BHD	Baghdad	2.17	232	ePn	Pn	01 13 09.5	+0.2
BHD				eSn	Sn	01 13 37.4	+0.6
BHD				AML	AML	01 13 52.7	
	comp=E,221nm,0.7s						
HAGD	Aghdareh	2.25	84	Pn	Pn	01 13 11.5	+0.9
RAFI	Al-Rafai	2.92	185	ePn	Pn	01 13 20.0	+0.5
RAFI				eSn	Sn	01 13 55.0	-0.1
MSL	Mosul	3.22	304	ePn	Pn	01 13 24.0	+0.2
MSL				eSn	Sn	01 14 02.5	-0.2

KRSC 24 01:39:36.3±1.2, 52°10N×159°72E, h8km±22km, Ml4.1
MOS 24 01:39:39.0±1.4, 52°17N×159°50E, h63km, mb4.3/5, Error ellipse: s-maj=13.0km s-min=5.9km az=104.8
IDC 24 01:39:42.5±2.5, 52°16N×159°12E, h74km±19km, mb3.4/12, mbtmp3.7/12, MS2.9/7, Error ellipse: s-maj=29.4km s-min=23.0km az=171.0
ISC 24 01:39:35.1±1.6, 52°12N±0°04×159°84E±0°04, h16km±10km, n73, σ1§41/81, mb3.9/13, MS3.2/3, 2C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	Russkaya	0.87	291	PN	Pb	01 39 52.2	+0.4
RUS				S	Sb	01 40 03.7	+0.5
RUS	Russkaya	0.87	291	eP	Pb	01 39 52.3	+0.4
RUS				eS	Sb	01 40 03.8	+0.5
SPN	Mys Shipunski	0.98	7	PN	Pn	01 39 56.0	+1.8
SPN				S	Sn	01 40 10.2	+2.4
SPN	Mys Shipunski	0.98	7	eP	Pn	01 39 56.1	+1.8
SPN				eS	Sn	01 40 10.3	+2.4
MTVR	Mutnovka	1.08	290	PN	Pn	01 39 55.8	+0.1
MTVR				S	Sb	01 40 10.1	+0.8
MTVR	Mutnovka	1.08	290	eP	Pn	01 39 55.9	+0.1
MTVR				eS	Sb	01 40 10.1	+0.8
NLC	Nalytchevo	1.09	344	eS	Sn	01 40 11.7	+1.2
DALK	Dalny	1.12	324	PN	Pn	01 39 56.9	+0.7
DALK				S	Sn	01 40 12.6	+1.3
DALK	Dalny	1.12	324	eP	Pn	01 39 56.9	+0.7
DALK				eS	Sn	01 40 12.7	+1.3
PET	Petropavlovsk	1.16	322	PN	Pg	01 39 57.1	-0.3
PET

PEA0B				S	Sn	01 40 24.7	+0.7
PETK	**Petropavlovsk-**	**1.64**	**308**	P	Pb	01 40 04.5	-0.4
	222nm,0.5s,baz=106,slow=18,SNR=279						
PETK				S	Sb	01 40 25.3	0.0
	67nm,0.4s,baz=112,slow=20,SNR=9.0						
PETK				LR	LR	01 40 56.5	
	comp=Z,306nm,18.4s,baz=77,slow=58						
MIPR	**Malaya Ipel'ka**	**1.90**	**276**	PN	Pb	01 40 08.7	-0.7
MIPR	**Malaya Ipel'ka**	**1.90**	**276**	*e*P	Pb	01 40 08.8	-0.7
KII	**Karymskiy**	**1.93**	**353**	PN	Pg	01 40 11.9	-0.2
KII	**Karymskiy**	**1.93**	**353**	*e*P	Pg	01 40 11.9	-0.2
GNL	**Ganaly**	**1.95**	**325**	PN	Pb	01 40 10.8	+0.6
GNL	**Ganaly**	**1.95**	**325**	*e*P	Pb	01 40 10.9	+0.6
PAU	**Pauzhetka**	**1.99**	**252**	PN	Pb	01 40 10.3	-0.6
PAU	**Pauzhetka**	**1.99**	**252**	*e*P	Pb	01 40 10.4	-0.6
SKR	**Severo-Kuril's**	**2.74**	**240**	*e*PN	Pn	01 40 18.5	+0.1
SKR				*e*S	Sn	01 40 52.2	+1.1
SKR				pmax	pmax		
	comp=Z,68nm,0.5s						
SKR				smax	smax		
	comp=E,277nm,0.6s						
SKR				smax	smax		
	comp=N,327nm,0.6s						
ESO	**Esso**	**3.87**	**350**	PN	Pb	01 40 39.8	-3.1
ESO	**Esso**	**3.87**	**350**	*e*P	Pb	01 40 39.8	-3.1
SHEM	**Shemya Is, Ala**	**8.74**	**80**	P	Pn	01 41 42.8	+2.1
	comp=N,9.7nm,0.3s,baz=304,slow=14,SNR=1.7						
SHEM				S	Sn	01 43 13.8	-5.0
	comp=N,12nm,0.4s,baz=103,slow=19,SNR=1.7						
SHEM				LR	LR	01 45 08.4	
	comp=N,56nm,20.4s,baz=292,slow=36						
MA2	**Magadan**	**9.04**	**329**	LR	LR	01 46 10.8	
	comp=N,31nm,19.6s,baz=177,slow=44						
SEY	**Seymchan**	**11.54**	**343**	LR	LR	01 47 23.7	
	comp=N,70nm,18.5s,baz=3.0,slow=40						
YAK	**Yakutsk**	**18.98**	**313**	LR	LR	01 51 24.2	
	comp=N,32nm,21.6s,baz=305,slow=38						
MJA0	**Matsu Arr-Jizo**	**21.81**	**233**	*e*P	P	01 44 28.4	+2.0
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MAJO	**Matsushiro**	**21.83**	**233**⇑	*e*P	P	01 44 27.3	+0.7
MAJO				pmax	pmax		
	comp=Z,18nm,1.5s						
MJAR	**Matsushiro Arr**	**21.83**	**233**	P	P	01 44 25.7	-0.9
	comp=Z,1.9nm,0.2s,baz=20,slow=11,SNR=5.7						
	comp=Z,1.9nm,0.2s						
JHJ	**Hachijo jima 2**	**23.91**	**225**	LR	LR	01 56 35.4	
	comp=Z,10nm,19.2s,baz=120,slow=43						
H11N2	**WAKE ISLAND Hy**	**32.80**	**168**	T	T	02 21 18.7	
	baz=352,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**32.81**	**168**	T	T	02 21 18.7	
	baz=352,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**32.81**	**168**	T	T	02 21 18.7	
	baz=352,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**33.98**	**168**	T	T	02 22 48.7	
	baz=352						
H11S3	**WAKE ISLAND Hy**	**33.99**	**168**	T	T	02 22 49.2	
	baz=352,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**33.99**	**168**	T	T	02 22 48.7	
	baz=352						
RES	**Resolute Bay**	**44.28**	**22**	LR	LR	02 09 51.3	
	comp=Z,26nm,18.1s,baz=18,slow=41						
SPITS	**Spitsbergen Ar**	**48.07**	**351**	P	P	01 48 13.0	-0.1
	comp=Z,1.7nm,0.4s,baz=50,slow=12,SNR=9.0						
	comp=Z,1.7nm,0.4s						
KURK	**Kurchatov**	**48.12**	**302**⇑	*i*P	P	01 48 10.7	-3.1
KURK				pmax	pmax		
	comp=Z,8.0nm,3.7s						
KURBB	**Kurchatov Arra**	**48.22**	**302**	P	P	01 48 12.1	-2.5
	comp=Z,0.6nm,0.8s,baz=60,slow=7.9,SNR=5.3						
	comp=Z,0.6nm,0.8s						
MKAR	**Makanchi Array**	**48.44**	**296**	P	P	01 48 13.2	-3.3
	comp=Z,0.2nm,0.5s,baz=60,slow=14,SNR=3.5						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**48.44**	**296**	*e*P	P	01 48 14.3	-2.1
BVAR	**Borovoye Array**	**50.87**	**309**	P	P	01 48 32.1	-2.7
	comp=Z,0.8nm,0.5s,baz=132,slow=6.2,SNR=3.9						
	comp=Z,0.8nm,0.5s						
ARCES	**ARCESS Array B**	**54.16**	**342**	P	P	01 48 58.1	-0.8
	comp=Z,1.2nm,0.6s,baz=26,slow=8.1,SNR=5.9						
	comp=Z,1.2nm,0.6s						
ARCES	**ARCESS Array B**	**54.16**	**342**	*e*P	P	01 48 59.5	+0.5
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIRV	**Kirov**	**56.08**	**324**	LR	LR	02 14 38.7	
	comp=Z,36nm,18.4s,baz=57,slow=38						
NVAR	**Mina Array Bea**	**56.23**	**69**	P	P	01 49 18.5	+3.9
	comp=Z,0.2nm,0.3s,baz=298,slow=6.9,SNR=4.2						
	comp=Z,0.2nm,0.3s						
FINES	**FINESS Array B**	**60.95**	**337**	P	P	01 49 46.3	-0.5
	comp=Z,1.7nm,1.0s,baz=24,slow=7.9,SNR=4.0						
	comp=Z,1.7nm,1.0s						
FINES	**FINESS Array B**	**60.95**	**337**	*e*P	P	01 49 45.1	-1.7
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NOA	**NORSAR Array B**	**64.43**	**344**	P	P	01 50 09.5	-0.6
	comp=Z,0.4nm,0.7s,baz=22,slow=6.6,SNR=2.3						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**64.83**	**342**	P	P	01 50 12.6	0.0
	comp=Z,0.7nm,0.7s,baz=20,slow=4.7,SNR=4.4						
	comp=Z,0.7nm,0.7s						
AKASG	**Malin Array Be**	**69.36**	**329**	P	P	01 50 39.6	-2.0
	comp=Z,0.2nm,0.3s,baz=35,slow=6.8,SNR=4.6						
	comp=Z,0.2nm,0.3s						
TXAR	**Lajitas Array**	**71.17**	**66**	P	P	01 50 54.5	+1.4
	comp=Z,0.2nm,0.6s,baz=290,slow=3.6,SNR=3.7						
	comp=Z,0.2nm,0.6s						

*AFAD **24** 01:43:43.8, 38.˚71N×43.˚52E, h7km±3km, ML2.5*
*ISK **24** 01:43:43.7, 38.˚71N×43.˚52E, h5km, ML2.4/11*
ISC 24 01:43:44.7±1.1, 38.˚72N±0.˚02×43.˚54E±0.˚04, h8km±9km, n23, σ1s00/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.17**	**222**	Pg	**Sg**	**01 43 52.1**	**+1.4**
ERCV	**ERCIS-VAN**	**0.33**	**333**	Pg	**Pg**	**01 43 51.4**	**+0.1**
AKDM	**Akdamar-Van**	**0.59**	**228**	Pg	**Pb**	**01 43 56.3**	**-1.0**
DYDN	**Diyadin**	**0.83**	**8**	P	**Pg**	**01 44 00.2**	**-0.4**
DYDN				S	**Sg**	**01 44 11.4**	**0.0**
DORK	**Agr/Tutak/Do**	**0.89**	**319**	P	**Pb**	**01 44 01.9**	**-0.6**
DORK				S	**Sb**	**01 44 13.1**	**-1.4**
AGRB	**Hanur-Agry**	**0.95**	**334**	Pg	**Pg**	**01 44 02.3**	**-0.7**
AGRB				Sg	**Sn**	**01 44 17.7**	**-0.7**
PERV	**Siirt/Pervari-**	**1.10**	**226**	P	**Pn**	**01 44 09.1**	**+2.5**
KOTA	**Agri, Merkez-K**	**1.11**	**347**	P	**Pg**	**01 44 05.3**	**-0.6**
BLIS	**Bitlis-Merkez**	**1.16**	**255**	P	**Pb**	**01 44 06.4**	**-0.5**
BLIS				S	**Sb**	**01 44 21.8**	**-0.4**
BLIS				*i* IAML		01 44 24.0	
	comp=N,102nm,0.6s						
HAKT	**HAKKARI**	**1.17**	**173**	P	**Pg**	**01 44 05.9**	**-1.2**
HAKT				S	**Sn**	**01 44 24.4**	**+0.6**
GURO	**Guroymak-BITLI**	**1.19**	**262**	Pn	**Pb**	**01 44 06.9**	**-0.7**
GURO				Sn	**Sn**	**01 44 24.5**	**+0.3**
YOVA	**Hakkari_Yksek**	**1.28**	**152**	P	**Pg**	**01 44 08.0**	**-1.3**
YOVA				S	**Sb**	**01 44 25.8**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.37**	**23**	Pn	**Pg**	**01 44 10.9**	**-0.1**
EATA	**Eleskirt**	**1.40**	**325**	P	**Pg**	**01 44 11.4**	**-0.1**
SRTM	**Siirt_Merkez**	**1.46**	**241**	P	**Pg**	**01 44 11.8**	**-1.0**
SIRN	**Sirnak**	**1.51**	**216**	P	**Pg**	**01 44 12.9**	**-0.7**
MUSM	**Mu-Merkez**	**1.58**	**271**	P	**Pb**	**01 44 13.6**	**-0.7**
GNI	**Garni**	**1.70**	**33**	Pn	**Pb**	**01 44 15.9**	**-0.5**
KOPR	**Koprukoy-ERZUR**	**1.82**	**315**	Pn	**Pb**	**01 44 17.5**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.92**	**253**	Pn	**Pb**	**01 44 18.9**	**-1.1**
BTMN	**Batman**	**1.96**	**246**	P	**Pb**	**01 44 20.2**	**-0.5**
KARO	**Karliova-Bingo**	**2.02**	**288**	Pn	**Pb**	**01 44 20.1**	**-1.7**
SENK	**Senkaya-Erzuru**	**2.05**	**334**	Pn	**Pb**	**01 44 21.3**	**-1.0**

*TAP **24** 02:08:12.8, 24.˚71N×122.˚82E, h105km, ML2.7, C*
*JMA **24** 02:08:12.8±0.3, 25.˚7N×122.˚8E±0.˚8, h108km±1km, MV2.0/12, NW OFF ISHIGAKIJIMA IS*
ISC 24 02:08:13.1±1.6, 24.˚66N±0.˚06×122.˚81E±0.˚03, h107km±9km, n49, σ0s78/83, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.24**	**150**	*e*P	**Pn**	**02 08 28.4**	**+0.1**
JYNG				*e*S	**Sn**	**02 08 39.9**	**+0.3**
YOJ	**Yonaguni jima**	**0.27**	**138**	P	**Pn**	**02 08 28.4**	**+0.1**
YOJ				S	**Sn**	**02 08 39.6**	**-0.1**
YOJ	**Yonaguni jima**	**0.27**	**138**	*e*P	**Pn**	**02 08 28.4**	**+0.1**
YOJ				*e*S	**Sn**	**02 08 39.3**	**-0.4**
EOS2	**EOS2**	**0.58**	**245**	*i* P	**Pn**	**02 08 30.3**	**+0.3**
EOS2				S	**Sn**	**02 08 43.7**	**+0.9**
EOS3	**EOS3**	**0.59**	**230**	*i* P	**Pn**	**02 08 30.5**	**+0.4**
EOS3				*i* S	**Sn**	**02 08 44.1**	**+1.3**
EOS4	**EOS4**	**0.70**	**220**	*i* P	**Pn**	**02 08 31.1**	**+0.3**
EOS4				S	**Sn**	**02 08 44.9**	**+0.8**
TWC	**Suao**	**0.88**	**267**	*i* P	**Pn**	**02 08 32.2**	**-0.6**
TWC				*i* S	**Sn**	**02 08 46.4**	**-1.2**
IRIF	**Iriomote-Funau**	**0.90**	**111**	*e*P	**Pn**	**02 08 32.9**	**0.0**
IRIF				*e*S	**Sn**	**02 08 47.9**	**0.0**
TIPB	**Shuangxi**	**0.95**	**289**	P	**Pn**	**02 08 33.4**	**-0.1**
TIPB				*i* S	**Sn**	**02 08 48.1**	**-0.8**
SXI1	**Grass Mountain**	**0.95**	**297**	*e*P	**Pn**	**02 08 33.6**	**0.0**
ENA	**Nanau**	**1.00**	**257**	P	**Pn**	**02 08 34.1**	**+0.1**
ENA				S	**Sn**	**02 08 49.4**	**-0.5**
HATJ	**Hateruma jima**	**1.09**	**124**	*e*P	**Pn**	**02 08 35.5**	**+0.5**
HATJ				*e*S	**Sn**	**02 08 52.6**	**+1.1**
FUSB	**Fushanzhiwuyua**	**1.12**	**275**	P	**Pn**	**02 08 35.4**	**0.0**
FUSB				S	**Sn**	**02 08 51.2**	**-1.0**
ENTT	**Nioudou**	**1.14**	**269**	*e*P	**Pn**	**02 08 36.0**	**+0.5**
JKRS	**Kuro-shima**	**1.17**	**111**	*e*P	**Pn**	**02 08 36.3**	**+0.5**
JKRS				*e*S	**Sn**	**02 08 53.2**	**+0.2**
LATG	**Datong**	**1.18**	**264**	P	**Pn**	**02 08 36.3**	**+0.2**
LATG				S	**Sn**	**02 08 53.3**	**-0.1**
ETL	**Fush Village**	**1.20**	**245**	*e*P	**Pn**	**02 08 35.9**	**-0.3**
NWLT	**Wulai**	**1.20**	**276**	P	**Pn**	**02 08 36.2**	**0.0**
NWLT				S	**Sn**	**02 08 52.9**	**-0.8**
NACB	**Ninganchiao**	**1.21**	**247**	P	**Pn**	**02 08 35.7**	**-0.7**
NACB				*e*S	**Sn**	**02 08 54.1**	**+0.2**
JIJ	**Ishigaki jima**	**1.25**	**104**	P	**Pn**	**02 08 36.7**	**0.0**
JIJ				*e*S	**Sn**	**02 08 53.6**	**-1.0**
ETLH	**Xiulin Townshi**	**1.30**	**250**	P	**Pn**	**02 08 36.9**	**-0.5**
ETLH				S	**Sn**	**02 08 55.0**	**-0.8**
YHNB	**Yeheng**	**1.31**	**271**	P	**Pn**	**02 08 37.5**	**0.0**
YHNB				S	**Sn**	**02 08 55.2**	**-0.8**
NNSB	**Datong**	**1.32**	**260**	P	**Pn**	**02 08 37.9**	**+0.1**
NNSB				S	**Sn**	**02 08 57.3**	**+0.8**
NSK	**Sanguang**	**1.32**	**271**	*e*P	**Pn**	**02 08 38.0**	**+0.3**
NSK				S	**Sn**	**02 08 55.8**	**-0.5**
JISG	**Ishigakijimahi**	**1.36**	**93**	*e*P	**Pn**	**02 08 38.0**	**-0.1**
JISG				*e*S	**Sn**	**02 08 55.9**	**-1.2**
SHUL	**Shoufeng**	**1.44**	**233**	*e*P	**Pn**	**02 08 38.6**	**-0.3**
FUSS	**Fushou**	**1.49**	**254**	*e*P	**Pn**	**02 08 40.1**	**+0.3**
WHF	**Hehuan Shan**	**1.50**	**250**	*i* P	**Pn**	**02 08 40.3**	**+0.1**
WHF				S	**Sn**	**02 08 59.6**	**-1.1**
TDCB	**Techi**	**1.56**	**255**	P	**Pn**	**02 08 41.3**	**+0.7**
TDCB				S	**Sn**	**02 09 01.3**	**-0.3**
WARBT	**Fenglin Townsh**	**1.61**	**234**	P	**Pn**	**02 08 40.5**	**-0.6**
WARBT				S	**Sn**	**02 09 00.9**	**-1.4**
LIOB	**Emei**	**1.64**	**270**	P	**Pn**	**02 08 42.2**	**+0.8**
LIOB				S	**Sn**	**02 09 03.0**	**+0.1**
OWD	**Renai**	**1.65**	**245**	*i* P	**Pn**	**02 08 41.0**	**-0.8**
OWD				S	**Sn**	**02 09 01.8**	**-1.7**
WUSB	**Renai**	**1.69**	**247**	P	**Pn**	**02 08 42.6**	**+0.5**
WUSB				*e*S	**Sn**	**02 09 03.5**	**-0.6**
JTJ	**Tarama**	**1.72**	**90**	*e*P	**Pn**	**02 08 42.7**	**+0.3**
HGSD	**Ruisui**	**1.72**	**228**	P	**Pn**	**02 08 42.0**	**-0.4**
HGSD				S	**Sn**	**02 09 04.5**	**-0.3**
WHP	**Taichung City**	**1.75**	**258**	*e*P	**Pn**	**02 08 43.9**	**+1.1**
WHP				*e*S	**Sn**	**02 09 06.2**	**+0.8**
EHYH	**Wanrong**	**1.78**	**229**	P	**Pn**	**02 08 42.6**	**-0.5**
EHY	**Hungye**	**1.79**	**230**	*e*P	**Pn**	**02 08 42.6**	**-0.6**
YULB	**Yu-li**	**1.88**	**228**	*e*P	**Pn**	**02 08 44.2**	**-0.2**
YULB				*e*S	**Sn**	**02 09 06.5**	**-1.8**
TWF1	**Yuli**	**1.90**	**227**	*e*P	**Pn**	**02 08 44.5**	**-0.3**
SSLB	**Suanglung**	**1.91**	**243**	*e*P	**Pn**	**02 08 45.8**	**+1.0**
SMLT	**Sun Moon Lake**	**1.91**	**246**	P	**Pn**	**02 08 46.5**	**+1.6**
TYC	**Yuchr**	**1.94**	**247**	*e*P	**Pn**	**02 08 46.2**	**+1.0**
TYC				*e*S	**Sn**	**02 09 10.6**	**+1.0**
FULB	**Fuli**	**2.02**	**224**	*e*P	**Pn**	**02 08 46.6**	**+0.4**
WHYT	**Xinyi Township**	**2.03**	**242**	*e*P	**Pn**	**02 08 46.6**	**+0.2**
EHD	**Haiduan**	**2.11**	**225**	*e*P	**Pn**	**02 08 46.9**	**-0.5**
ALS	**Alishan**	**2.17**	**238**	*e*P	**Pn**	**02 08 49.1**	**+0.7**
EDH	**Donghe**	**2.18**	**220**	*e*P	**Pn**	**02 08 47.7**	**-0.5**
EDH				*e*S	**Sn**	**02 09 14.0**	**-1.1**
CHN5	**Tsauling**	**2.22**	**242**	*e*P	**Pn**	**02 08 50.4**	**+1.5**
CHN5				*e*S	**Sn**	**02 09 18.7**	**+2.5**

*NEIC **24** 02:13:33.5±1.1, 52.˚43N±0.˚04×166.˚87W±0.˚06, h22km±9km, ML2.9/6, ML2.7(AEIC), Error ellipse: s-maj=6.7km s-min=2.7km az=134.0*
*AEIC **24** 02:13:34.0±1.1, 52.˚35N±0.˚06×166.˚81W±0.˚09, h28km±8km, Error ellipse: s-maj=9.7km s-min=5.9km az=142.0*
*IDC **24** 02:13:37.3±3.3, 53.˚40N×167.˚95W, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=97.0km s-min=34.0km az=29.0*
ISC 24 02:13:33.8±3.5, 52.˚4N±0.˚1×166.˚88W±0.˚07, h22km±21km, n28, σ0s54/32, mb4.2/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**1.16**	**328**		**Pn**	**02 13 54.0**	**-0.7**
OKFG					**Sn**	**02 14 10.6**	**+0.7**
OKSP	**Okmok Steeple**	**1.19**	**314**		**Pn**	**02 13 54.4**	**-0.7**
OKSP					**Sb**	**02 14 11.3**	**+0.7**
OKNC	**Okmok New Cone**	**1.27**	**324**		**Pn**	**02 13 56.0**	**-0.2**
OKNC					**Sn**	**02 14 12.9**	**+0.3**
NIKH	**Nikolski High**	**1.32**	**295**		**Pn**	**02 13 56.0**	**-0.8**
NIKH					**Sn**	**02 14 13.8**	**+0.1**
NIKH	**Nikolski High**	**1.32**	**295**	IAML		02 14 24.6	
	comp=E,154nm,0.7s						
NIKH				IAML		02 14 27.4	
	comp=N,206nm,0.7s						
MAPS	**Pakushin South**	**1.38**	**359**		**Pn**	**02 13 57.5**	**-0.3**
MAPS					**Sn**	**02 14 15.9**	**+0.6**
MREP	**Makushin Rep't**	**1.38**	**3**		**Pn**	**02 13 57.5**	**-0.4**
MREP					**Sn**	**02 14 16.0**	**+0.5**
UNV	**Unalaska Valle**	**1.44**	**9**		**Pn**	**02 13 57.6**	**-0.9**
UNV					**Sn**	**02 14 16.9**	**+0.3**
UNV	**Unalaska Valle**	**1.44**	**9**	IAML		02 14 23.0	
	comp=N,98nm,0.6s						
MSW	**Makushin Switc**	**1.49**	**2**		**Pn**	**02 13 58.9**	**-0.4**
MSW					**Sb**	**02 14 19.0**	**-0.3**
AKMO	**Akutan Morgan**	**1.74**	**17**		**Pn**	**02 14 02.3**	**-0.4**
AKMO					**Sn**	**02 14 24.6**	**+0.4**
ZRO	**Akutan Zero**	**1.75**	**18**		**Pn**	**02 14 02.4**	**-0.4**
ZRO					**Sn**	**02 14 25.0**	**+0.6**
AKBBA	**Akutan Broad B**	**1.77**	**18**		**Pn**	**02 14 02.8**	**-0.3**
AKBBA					**Sn**	**02 14 25.1**	**+0.3**
CLCO	**Concord Point,**	**1.77**	**283**		**Pn**	**02 14 03.1**	**0.0**
CLCO					**Sn**	**02 14 25.8**	**+1.0**
AKGG	**Akutan Green G**	**1.85**	**16**		**Pn**	**02 14 04.2**	**+0.1**
AKGG					**Sn**	**02 14 27.5**	**+0.7**
CLES	**Cleveland East**	**1.88**	**283**		**Pn**	**02 14 04.7**	**+0.2**
CLES					**Sn**	**02 14 27.0**	**-0.5**
CLES	**Cleveland East**	**1.88**	**283**	IAML		02 14 55.4	
	comp=E,339nm,2.2s						
NVAR	**Mina Array Bea**	**36.14**	**93**	P	P	02 20 47.3	+13
	comp=E,0.8nm,1.0s,baz=270,slow=9.9,SNR=3.6						
	comp=E,0.8nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**38.49**	**222**	T	T	03 02 32.1	
	baz=26						
H11N3	**WAKE ISLAND Hy**	**38.49**	**222**	T	T	03 02 25.0	
	baz=26						
H11N1	**WAKE ISLAND Hy**	**38.50**	**222**	T	T	03 02 43.0	
	baz=26						
H11S1	**WAKE ISLAND Hy**	**39.66**	**221**	T	T	03 04 14.2	
	baz=24						
H11S2	**WAKE ISLAND Hy**	**39.68**	**221**	T	T	03 04 15.1	
	baz=24						
H11S3	**WAKE ISLAND Hy**	**39.68**	**221**	T	T	03 04 15.4	
	baz=24						
ARCES	**ARCESS Array B**	**58.01**	**355**	P	P	**02 23 24.9**	**+0.7**
	comp=E,2.3nm,0.9s,baz=13,slow=6.3,SNR=6.6						
	comp=E,2.3nm,0.9s						
MKAR	**Makanchi Array**	**64.86**	**315**	P	P	**02 24 10.4**	**-0.4**
	comp=E,0.3nm,0.6s,baz=46,slow=5.2,SNR=4.1						
	comp=E,0.3nm,0.6s						
FINES	**FINESS Array B**	**66.00**	**353**	P	P	**02 24 17.9**	**0.0**
	comp=E,1.7nm,0.7s,baz=22,slow=6.2,SNR=6.7						
	comp=E,1.7nm,0.7s						
HFS	**Hagfors**	**67.79**	**360**	P	P	**02 24 29.1**	**-0.2**
	comp=E,1.0nm,0.5s,baz=20,slow=4.6,SNR=5.7						
	comp=E,1.0nm,0.5s						

*CATAC **24** 02:28:32.6±0.6, 15.˚N±4.˚×9.˚2W±.˚, h121km±4km, M3.6/12, MLv3.6/12, Error ellipse: s-maj=8.2km s-min=4.7km az=23.4, confirmed*
*GCG **24** 02:28:34.4±0.8, 14.˚48N×91.˚48W, h105km±6km, MD4.0*

*SNET **24** 02:28:38.7±1.2, 14.˚61N×91.˚06W, h20km±12km, ML3.6*
ISC 24 02:28:34.8±2.0, 14.˚41N±0.˚06×91.˚52W±0.˚07, h103km±11km, n54, σ1s83/61, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.20**	**303**	*e*P	**Pn**	**02 28 49.4**	**+0.1**
RTAL				*e*S	**Sn**	**02 29 00.1**	**-0.2**
RTAL	**Retalhuleu**	**0.20**	**303**	P	**Pn**	**02 28 49.5**	**+0.2**
RTAL	**Retalhuleu**	**0.20**	**303**	S	**Sn**	**02 29 02.1**	**+1.9**
SOKI	**Kika Raxquin**	**0.42**	**15**	*i* P	**Pn**	**02 28 51.1**	**+0.2**
SOKI				*i* S	**Sn**	**02 29 04.5**	**+1.6**
QUEO	**Labor Ovalle**	**0.46**	**1**	*i* P	**Pn**	**02 28 51.4**	**+0.5**
ESSG	**Sabana Grande**	**0.67**	**92**	*i* P	**Pn**	**02 28 51.8**	**-0.4**
ESSG				*i* S	**Sn**	**02 29 05.7**	**+0.3**
SMCA	**Catarina**	**0.69**	**309**	*i* P	**Pn**	**02 28 51.8**	**-0.6**
SMCA				*i* S	**Sn**	**02 29 05.4**	**-0.3**
HUEH	**Huehuetenango**	**0.90**	**1**	*e*P	**Pn**	**02 28 54.3**	**-0.4**
HUEH				*e*S	**Sn**	**02 29 07.2**	**-2.4**
HUEH	**Huehuetenango**	**0.90**	**1**	*i* P	**Pn**	**02 28 54.6**	**-0.1**
HUEH	**Huehuetenango**	**0.90**	**1**	P	**Pn**	**02 28 54.6**	**-0.1**
HUEH	**Huehuetenango**	**0.90**	**1**	S	**Sn**	**02 29 10.2**	**+0.7**
FG08	**Yepocapa, Chim**	**0.94**	**99**	*i* P	**Pn**	**02 28 51.2**	**-3.7**
QUIS	**Sacapulas**	**0.96**	**25**	*i* P	**Pn**	**02 28 55.2**	**0.0**
GCG4	**OSOP**	**0.97**	**80**	*i* P	**Pn**	**02 28 55.3**	**0.0**
FG16	**Alotenango, Sa**	**0.99**	**98**	*i* P	**Pn**	**02 28 52.0**	**-3.5**
ESSJ	**San Jos, E**	**1.30**	**130**	*i* P	**Pn**	**02 28 54.3**	**-4.5**
FAME	**Alcaldia de Sa**	**1.57**	**111**	P	**Pn**	**02 29 01.5**	**-0.5**
FAME	**Alcaldia de Sa**	**1.57**	**111**	S	**Sn**	**02 29 24.3**	**+1.6**
LOAL	**Lomas de Alarc**	**1.74**	**104**	*e*P	**Pn**	**02 29 03.0**	**-1.1**
LOAL	**Lomas de Alarc**	**1.74**	**104**	S	**Sn**	**02 29 29.1**	**+2.5**
JUAM	**Asuncion Mita**	**1.76**	**92**	*i* P	**Pn**	**02 29 04.0**	**-0.4**
NUBE	**Las Nubes**	**1.76**	**107**	*e*P	**Pn**	**02 29 03.9**	**-0.7**
NUBE				*e*S	**Sn**	**02 29 23.0**	**-4.3**
NUBE	**Las Nubes**	**1.76**	**107**	S	**Sn**	**02 29 30.9**	**+3.6**
NUBE	**Las Nubes**	**1.76**	**107**	P	**Pn**	**02 29 04.0**	**-0.7**
RBDL	**Robledal**	**1.80**	**99**	*e*P	**Pn**	**02 29 04.4**	**-0.7**
RBDL				*e*S	**Sn**	**02 29 23.3**	**-4.9**
RTR	**El Retiro**	**1.89**	**106**	*e*P	**Pn**	**02 29 05.8**	**-0.4**
SBLS	**San Blas**	**1.93**	**107**	*e*P	**Pn**	**02 29 06.1**	**-0.7**
CEVE	**Cerro Verde**	**1.93**	**107**	*e*P	**Pn**	**02 29 06.4**	**-0.4**
CEVE				IAML		02 29 41.6	
	comp=Z,934nm,0.3s						
CEVE	**Cerro Verde**	**1.93**	**107**	P	**Pn**	**02 29 06.5**	**-0.3**
CEVE	**Cerro Verde**	**1.93**	**107**	S	**Sn**	**02 29 35.0**	**+3.7**
SNJE	**San Jose**	**1.93**	**106**	*e*P	**Pn**	**02 29 06.3**	**-0.5**
CCIG	**Comitan**	**1.95**	**342**	P	**Pn**	**02 29 07.0**	**-0.1**
MTO3	**Montecristo**	**2.09**	**90**	*e*P	**Pn**	**02 29 07.5**	**-1.4**
MTO3	**Montecristo**	**2.09**	**90**	P	**Pn**	**02 29 08.2**	**-0.7**
MTO3	**Montecristo**	**2.09**	**90**	S	**Sn**	**02 29 35.2**	**+0.3**
ESQI	**Esquipulas**	**2.12**	**86**	P	**Pn**	**02 29 08.9**	**-0.2**
ESQI	**Esquipulas**	**2.12**	**86**	S	**Sn**	**02 29 36.2**	**+0.9**
JAYA	**Jayaque - finc**	**2.15**	**110**	*e*P	**Pn**	**02 29 08.7**	**-0.8**
JAYA				IAML		02 29 40.9	
	comp=Z,396nm,0.2s						
JAYA	**Jayaque - finc**	**2.15**	**110**	P	**Pn**	**02 29 08.8**	**-0.8**
JAYA	**Jayaque - finc**	**2.15**	**110**	S	**Sn**	**02 29 39.8**	**+3.7**
PMON	**Piamonte**	**2.25**	**108**	*e*P	**Pn**	**02 29 11.4**	**+

KAHZ			S	Sn	02 40 47.8	+0.4
PNHZ	**Pukenui**	**4.71 195**	P	Pn	02 39 57.1	-1.4
PNHZ			S	Sn	02 40 52.7	-0.1
BFZ	**Birch Farm**	**5.44 192**	P	Pn	02 40 05.7	-2.5
BFZ			S	Sn	02 41 05.7	-4.4
MRZ	**Mangatainoka R**	**5.56 197**	P	Pn	02 40 07.3	-2.4
MRZ			S	Sn	02 41 10.0	-3.0
TIWZ	**Tintock**	**5.60 195**	P	Pn	02 40 07.7	-2.6
HOWZ	**Holdsworth Sta**	**5.80 197**	P	Pn	02 40 09.9	-3.0
HOWZ			S	Sn	02 41 14.5	-4.2
OGWZ	**Otaki Gorge**	**5.81 200**	P	Pn	02 40 10.8	-2.3
OGWZ			S	Sn	02 41 16.2	-2.8
KIW	**Kapiti Island**	**5.93 201**	P	Pn	02 40 12.1	-2.5
KIW			S	Sn	02 41 19.0	-2.8
CAW	**Cannon Point**	**6.11 200**	P	Pn	02 40 13.8	-3.3
BHW	**Baring Head**	**6.45 200**	P	Pn	02 40 17.9	-3.6
BHW			S	Sn	02 41 29.8	-4.3
TCW	**Tory Channel**	**6.45 204**	P	Pn	02 40 18.7	-2.8
TCW			S	Sn	02 41 31.7	-2.4
KHZ	**Kahutara**	**7.77 204**	P	Pn	02 40 35.7	-3.3
KHZ			S	Sn	02 42 00.0	-5.8

IDC ***24*** *03:13:57.0±1.0, 18˚.40S×66˚.26E, h0km, mb3.9/10, mbtmp3.9/10, Error ellipse: s-maj=40.8km s-min=19.6km az=76.0*

ISC 24 03:13:58.4±1.0, 18˚.4S±0˚.2×66˚.2E±0˚.3, h10km, n16, σ1s03/10, mb4.1/10, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**12.30**	**31**	T	T	03 30 22.1	
	baz=209,slow=75,SNR=174						
H08S2	**Diego Garcia H**	**12.31**	**31**	T	T	03 30 38.2	
	baz=209,slow=75,SNR=64						
H08S3	**Diego Garcia H**	**12.32**	**31**	T	T	03 30 23.6	
	baz=209,slow=75,SNR=181						
H04N2	**CROZET ISLANDS**	**30.16**	**200**	T	T	03 50 58.6	
	baz=28,slow=75,SNR=340						
H04N1	**CROZET ISLANDS**	**30.16**	**200**	T	T	03 50 56.8	
	baz=28,slow=75,SNR=310						
H04N3	**CROZET ISLANDS**	**30.17**	**200**	T	T	03 50 55.5	
	baz=28,slow=75,SNR=374						
ASAR	**Alice Springs**	**62.93**	**108**	P	**P**	**03 24 24.6**	**-0.9**
	1.1nm,0.9s,baz=264,slow=6.3,SNR=8.1						
	1.1nm,0.9s						
WRA	**Warramunga Arr**	**63.98**	**104**	P	**P**	**03 24 31.5**	**-1.1**
	1.3nm,0.9s,baz=261,slow=6.0,SNR=7.7						
	1.3nm,0.9s						
BRTR	**Keskin Array B**	**65.30**	**333**	P	**P**	**03 24 39.4**	**-1.4**
	0.7nm,1.0s,baz=131,slow=4.0,SNR=2.8						
	0.7nm,1.0s						
MKAR	**Makanchi Array**	**66.48**	**12**	P	**P**	**03 24 49.0**	**+0.9**
	1.0nm,0.9s,baz=190,slow=6.2,SNR=6.6						
	1.0nm,0.9s						
KURBB	**Kurchatov Arra**	**69.56**	**8**	P	**P**	**03 25 08.5**	**+1.1**
	0.5nm,0.3s,baz=203,slow=6.4,SNR=4.9						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**71.20**	**3**	P	**P**	**03 25 17.4**	**+0.1**
	1.0nm,0.5s,baz=175,slow=7.4,SNR=7.4						
	1.0nm,0.5s						
QSPA	**South Pole Qui**	**71.72**	**180**	P	**P**	**03 25 20.7**	**+0.1**
	2.8nm,1.1s,baz=310,slow=1.8,SNR=4.9						
	2.8nm,1.1s						
VNDA	**Vanda**	**73.41**	**167**	P	**P**	**03 25 31.2**	**+0.8**
	0.5nm,0.4s,baz=288,slow=4.1,SNR=7.7						
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**73.80**	**11**	P	**P**	**03 25 33.0**	**+0.2**
	0.9nm,0.4s,baz=202,slow=3.2,SNR=5.1						
	0.9nm,0.4s						
SONM	**Songino Array**	**75.11**	**27**	P	**P**	**03 25 41.5**	**+0.8**
	1.2nm,0.8s,baz=208,slow=6.9,SNR=4.2						
	1.2nm,0.8s						

UCR ***24*** *03:22:41.2±1.8, 19˚.53N×61˚.49W, h10km, MW5.3, MB6.0(NEIC)*

CATAC ***24*** *03:23:32.9±0.3, 19˚.N±4˚.×6˚.7W±˚, h1km, M6.3/11, mb6.3/6, mB6.4/6, MLv6.6/11, Mw(mB)6.1/6, MwMwp6.2/7, Mwp6.2/7, Error ellipse: s-maj=9.2km s-min=4.0km az=34.2, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr~0.84; Mθθ~0.10; Mϕϕ0.94; Mrθ0.34; Mθϕ~0.03; Mϕr0.62; Fault plane solution: M0 1.13859×10^18 NP1: ϕs196.74938°, δ64.79720°, λ~72.64575°. NP2: ϕs340.47509°, δ30.27469°, λ~122.36629°. Principal axes: T 1.1372, Plg18.0332°, Azm273.9340°; N 0.0029, Plg15.6574°, Azm9.1695°; P -1.1400, Plg65.7515°, Azm137.6504°; confirmed*

OSUNB ***24*** *03:23:32.6±0.2, 19˚.07N×67˚.54W, h0km, mb6.0/52 Error ellipse: s-maj=2.1km s-min=2.9km az=0.0*

SDD ***24*** *03:23:32.6±2.3, 19˚.38N×67˚.15W, h12km±11km, MD3.5, ML4.0, MW5.9*

OSPL ***24*** *03:23:33.8±1.7, 19˚.25N×66˚.91W, h12km±13km, ML6.1*

IDC ***24*** *03:23:33.1±0.3, 19˚.00N×67˚.23W, h0km, mb5.2/28, mbtmp5.2/30, ML2.1/1, MS5.8/72, Error ellipse: s-maj=11.4km s-min=9.8km az=83.0*

PMR ***24*** *03:23:34.0, 19˚.15N×67˚.22W, h10km*

MOS ***24*** *03:23:34.9±1.1, 18˚.99N×67˚.31W, h21km, mb6.0/45, MS5.9/44, Error ellipse: s-maj=6.8km s-min=4.6km az=60.2*

BJI ***24*** *03:23:34.6, 19˚.13N×67˚.23W, h10km, mB6.0/53, Ms6.3/67, Ms7 6.3/67*

IPGP ***24*** *03:23:35.0, 19˚.04N×67˚.25W, h14km, Mw6.0, Fault plane solution: NP1:ϕs353.00000°, δ30.00000°, λ~121.00000°. NP2:ϕs208.00000°, δ64.00000°, λ~73.00000°.*

NEIC ***24*** *03:23:35.2±1.4, 19˚.09N±0˚.04×67˚.28W±0˚.05, h11km±1km, mb5.9/985, ML6.0/25, Ms_20 6.0/781, Mwr5.9/49, Mww6.0/115, Error ellipse: s-maj=8.6km s-min=4.9km az=57.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr~8.24; Mθθ-0.52; Mϕϕ8.76; Mrθ0.70; Mθϕ1.60; Mϕr~1.36; Fault plane solution: M0 8.80000×10^17 NP1: ϕs2.82000°, δ49.44000°, λ~98.95000°. NP2:ϕs196.44000°, δ41.37000°, λ~79.69000°. Principal axes: T 9.1158, Plg4.0000°, Azm99.0000°; N -0.6751, Plg7.0000°, Azm9.0000°; P -8.4407, Plg82.0000°, Azm220.0000°;*

ISC-PP ***24*** *03:23:35, 19˚.09N×67˚.28W, h13km, Mwppsm6.3, Moment Tensor Solution. s40 Moment tensor: Scale 10^18Nm; Mrr~0.39±.12; Mθθ0.08±.20; Mϕϕ0.33±.17; Mrθ0.40±.14; Mθϕ0.23±.20; Mϕr~0.40±.13; Fault plane solution: M0 3.05000×10^18 NP1:ϕs290.20000°, δ60.40000°, λ223.20000°. NP2:ϕs175.30000°, δ53.50000°, λ~37.90000°.*

INMG ***24*** *03:23:36.0±4.3, 18˚.93N×67˚.30W, h10km, mb5.9, Ms6.0, MW5.9, #DIST_RANGE: DISTANT*

UPA ***24*** *03:23:37.5±2.0, 20˚.18N×68˚.03W, h21km±999km, MW5.7*

NEIC ***24*** *03:23:40, 19˚.08N×67˚.27W, h10km*

GCMT ***24*** *03:23:40.2±0.0, 19˚.13N×67˚.20W, h12km, MW6.0/170, Moment Tensor Solution. s154,c340; s170,c603; Duration: 2s5 Moment tensor: Scale 10^18Nm; Mrr~0.91±.01; Mθθ~0.08±.01; Mϕϕ0.98±.01; Mrθ0.44±.02; Mθϕ0.26±.00; Mϕr0.89±.02; Best double couple: M0 1.39300×10^18 NP1:ϕs1.00000°, δ24.00000°, λ~110.00000°. NP2:ϕs203.00000°, δ68.00000°, λ~81.00000°. Principal axes: T 1.4450, Plg23.0000°, Azm286.0000°; N -0.1040, Plg8.0000°, Azm20.0000°; P -1.3410, Plg66.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***24*** *03:23:40, 19˚.08N×67˚.27W, h18km*

NEIC ***24*** *03:23:40, 19˚.38N×67˚.06W, h18km, Moment Tensor Solution. Duration: 4s9 Moment tensor: Scale 10^18Nm; Mrr~1.09; Mθθ0.02; Mϕϕ 1.07; Mrθ~0.29; Mθϕ0.24; Mϕr~0.10; Fault plane solution: M0 1.15000×10^18 NP1: ϕs179.81000°, δ42.42000°, λ~109.52000°. NP2: ϕs25.46000°, δ50.52000°, λ~73.02000°. Principal axes: T 1.1316, Plg4.0000°, Azm104.0000°; N 0.0307, Plg13.0000°, Azm194.0000°; P -1.1624, Plg76.0000°, Azm356.0000°;*

BGR ***24*** *03:23:40.1, 18˚.95N×67˚.29W, h46km, mb6.2, Ms6.0*

RSPR ***24*** *03:23:40.0, 19˚.08N×67˚.27W, h10km±31km, MD4.8/25*

ISC 24 03:23:35.3±0.5, 19˚.03N±0˚.02×67˚.35W±0˚.01, h11km±2km, h10km:pP-P, n2132, σ1s92/1912, mb5.9/618, MS6.0/525, 148C-123D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.60**	**158**		**Pn**	**03 23 50.7**	**+0.9**
AGPR	**Aguadilla, PR**	**0.60**	**158**	⇑*i*P	**Pn**	**03 23 50.7**	**+0.9**
AGPR	**Aguadilla, PR**	**0.60**	**158**	P	**Pn**	**03 23 48.9**	**-0.9**
AGPR				S	**Sn**	**03 23 58.3**	**-1.2**
AGPR	**Aguadilla, PR**	**0.60**	**158**	⇑*e*Pg	**Pn**	**03 23 49.5**	**-0.3**
AGPR				⇑*e*Sg	**Sn**	**03 24 00.2**	**+0.7**
AGPR				IAML		03 24 00.4	
	comp=N,48nm,0.9s						
AGPR	**Aguadilla, PR**	**0.60**	**158**	*i* P	**Pb**	**03 23 48.7**	**+0.9**
AGPR				*e*S	**Sb**	**03 23 57.5**	**+1.2**
AGPR				IAML		03 24 01.0	
	comp=Z,417μm,0.7s						
PRSN	**Puerto Rico Se**	**0.83**	**167**		**Pb**	**03 23 52.1**	**+0.4**
PRSN				Sn	**Sn**	**03 24 04.2**	**-0.9**
PRSN	**Puerto Rico Se**	**0.83**	**167**	⇓*i*P	**Pn**	**03 23 54.4**	**+1.4**
PRSN	**Puerto Rico Se**	**0.83**	**167**	*e*S	**Sn**	**03 24 05.2**	**+0.1**
PRSN	**Puerto Rico Se**	**0.83**	**167**	⇑*e*Pg	**Pn**	**03 23 52.8**	**-0.1**
PRSN				*e*Sg	**Sn**	**03 24 07.5**	**+2.4**
PRSN				IAML		03 24 14.0	
	comp=N,38nm,0.3s						
AOPR	**Arecibo Observ**	**0.88**	**140**		**Pg**	**03 23 51.9**	**-0.4**
AOPR					**Sb**	**03 24 04.3**	**-0.1**
AOPR				IAML		03 24 22.3	
	comp=N,500μm,0.8s						
AOPR	**Arecibo Observ**	**0.88**	**140**	⇑*i*P	**Pn**	**03 23 53.9**	**+0.2**
AOPR	**Arecibo Observ**	**0.88**	**140**	*e*P	**Pb**	**03 23 52.7**	**+0.1**
AOPR	**Arecibo Observ**	**0.88**	**140**	*e*	**Sg**	**03 24 02.7**	**-1.1**
AOPR	**Arecibo Observ**	**0.88**	**140**	⇑*e*Pg	**Pb**	**03 23 52.9**	**+0.2**
AOPR				IAML		03 24 22.0	
	comp=N,46nm,0.5s						
EMPR	**Esperanza - Ma**	**0.95**	**125**		**Sn**	**03 24 11.6**	**+3.5**
EMPR	**Esperanza - Ma**	**0.95**	**125**		**Pg**	**03 23 52.3**	**-1.3**
EMPR	**Esperanza - Ma**	**0.95**	**125**	⇑*i*P	**Pn**	**03 23 56.8**	**+2.2**
EMPR	**Esperanza - Ma**	**0.95**	**125**	*e*S	**Sn**	**03 24 11.6**	**+3.5**
UUPR	**Utuado, UPR, P**	**0.97**	**142**		**Pg**	**03 23 53.5**	**-0.5**
UUPR	**Utuado, UPR, P**	**0.97**	**142**		**Sb**	**03 24 07.2**	**+0.1**
UUPR	**Utuado, UPR, P**	**0.97**	**142**	⇓*i*P	**Pn**	**03 23 55.0**	**0.0**
UUPR	**Utuado, UPR, P**	**0.97**	**142**	*e*S	**Sb**	**03 24 07.2**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.04**	**167**		**Pn**	**03 23 55.6**	**-0.2**
CRPR				Sn	**Sn**	**03 24 10.9**	**+0.6**
CRPR				IAML		03 24 22.3	
	comp=N,298μm,0.9s						
CRPR	**Cabo Rojo, PR**	**1.04**	**167**	⇓*i*P	**Pn**	**03 23 58.9**	**+3.1**
CRPR	**Cabo Rojo, PR**	**1.04**	**167**	*e*S	**Sn**	**03 24 13.1**	**+2.7**
CRPR	**Cabo Rojo, PR**	**1.04**	**167**	⇑*e*Pg	**Pn**	**03 23 56.7**	**+0.9**
CRPR				⇑*e*Sg	**Sn**	**03 24 12.7**	**+2.3**
CRPR				IAML		03 24 22.1	
	comp=N,32nm,0.8s						
CRPR	**Cabo Rojo, PR**	**1.04**	**167**	*i* P	**Pn**	**03 23 55.6**	**-0.2**
CRPR				*e*S	**Sn**	**03 24 10.9**	**+0.6**
CRPR				IAML		03 24 13.3	
	comp=Z,219μm,0.9s						
MLPR	**Magueyes Islan**	**1.09**	**165**	⇓*i*P	**Pn**	**03 23 59.2**	**+2.7**
MLPR	**Magueyes Islan**	**1.09**	**165**	*e*Pg	**Pn**	**03 23 57.1**	**+0.5**
MLPR				*i* S	**Sn**	**03 24 13.7**	**+2.1**
MLPR				IAML		03 24 19.2	
	comp=N,66μm,1.4s						
PCDR	**Punta Cana, DR**	**1.10**	**243**	⇑*e*Pg	**Pn**	**03 23 57.7**	**+1.0**
PCDR				⇑*e*Sg	**Sn**	**03 24 15.8**	**+3.9**
PCDR				*e*Sg	**Sg**	**03 24 17.5**	**+6.6**
PCDR				IAML		03 24 21.8	
	comp=N,36nm,0.9s						
GBPR	**Guanica, Bosqu**	**1.14**	**157**		**Pg**	**03 23 58.5**	**+1.3**
GBPR	**Guanica, Bosqu**	**1.14**	**157**	⇓*i*P	**Pg**	**03 23 58.5**	**+1.3**
ECPR	**Experimental S**	**1.17**	**127**	⇑*i*P	**Pg**	**03 23 58.5**	**+0.7**
ECPR	**Experimental S**	**1.17**	**127**	*e*S	**Sn**	**03 24 14.3**	**+0.7**
CELP	**Cerrillos**	**1.20**	**142**		**Pg**	**03 23 59.0**	**+0.8**
CELP	**Cerrillos**	**1.20**	**142**	Sn	**Sn**	**03 24 14.4**	**+0.2**
CELP				IAML		03 24 15.8	
	comp=N,298μm,0.8s						
CELP				IAML		03 24 23.0	
	comp=E,225μm,1.4s						
CELP	**Cerrillos**	**1.20**	**142**	⇓*i*P	**Pg**	**03 23 59.0**	**+0.8**
CELP	**Cerrillos**	**1.20**	**142**	*e*S	**Sb**	**03 24 12.1**	**-1.4**
CELP	**Cerrillos**	**1.20**	**142**	⇑*e*Pg	**Pb**	**03 23 57.8**	**-0.1**
CELP				⇑*e*Sg	**Sg**	**03 24 13.9**	**0.0**
CELP				IAML		03 24 15.6	
	comp=N,28nm,0.6s						
OBIP	**Obispado Ponce**	**1.21**	**144**		**Pg**	**03 23 59.3**	**+0.9**
OBIP	**Obispado Ponce**	**1.21**	**144**	Sn	**Sb**	**03 24 13.7**	**-0.1**
OBIP				IAML		03 24 16.3	
	comp=N,306μm,0.9s						
OBIP				IAML		03 24 23.3	
	comp=E,233μm,0.8s						
OBIP	**Obispado Ponce**	**1.21**	**144**	⇑*i*P	**Pg**	**03 23 59.3**	**+0.9**
OBIP	**Obispado Ponce**	**1.21**	**144**	*e*S	**Sn**	**03 24 15.7**	**+1.2**
HIDR	**Higuey Centro**	**1.37**	**252**	⇑*i*P	**Pg**	**03 24 02.1**	**+0.6**
HIDR	**Higuey Centro**	**1.37**	**252**	*e*S	**Sg**	**03 24 23.1**	**+3.8**
HIDR	**Higuey Centro**	**1.37**	**252**	⇑*e*Pg	**Pb**	**03 24 01.2**	**+0.3**
HIDR				⇑*e*Sg	**Sg**	**03 24 23.2**	**+3.9**
HIDR				IAML		03 24 30.2	
	comp=N,13nm,0.9s						
GCPR	**Guaynabo City**	**1.40**	**121**		**Pb**	**03 24 01.6**	**+0.3**
GCPR	**Guaynabo City**	**1.40**	**121**	IAML		03 24 22.1	
	comp=E,193μm,1.7s						
GCPR				IAML		03 24 23.3	
	comp=N,219μm,1.4s						
GCPR	**Guaynabo City**	**1.40**	**121**	⇓*i*P	**Pb**	**03 24 01.6**	**+0.3**
GCPR	**Guaynabo City**	**1.40**	**121**	*e*S	**Sg**	**03 24 20.9**	**+0.7**
SJG	**San Juan**	**1.46**	**129**	Pn	**Pn**	**03 23 59.9**	**-1.7**
SJG	**San Juan**	**1.46**	**129**	Pn	**Pn**	**03 24 00.6**	**-0.9**
	comp=N,3μm,0.3s,baz=318,slow=10,SNR=958						
SJG	**San Juan**	**1.46**	**129**	P	**Pn**	**03 24 00.1**	**-1.5**
SJG				S	**Sg**	**03 24 22.8**	**+0.6**
SJG	**San Juan**	**1.46**	**129**	⇓*i*P	**Pb**	**03 24 02.7**	**+0.2**
SJG	**San Juan**	**1.46**	**129**	⇑P	**Pn**	**03 24 00.0**	**-1.5**
SJG	**San Juan**	**1.46**	**129**	*e*P	**Pn**	**03 24 01.2**	**-0.3**
IGPR	**InterUniversit**	**1.58**	**132**		**Pg**	**03 24 05.9**	**+0.2**
IGPR					**Sg**	**03 24 27.1**	**+0.8**
IGPR	**InterUniversit**	**1.58**	**132**	⇓*i*P	**Pg**	**03 24 05.9**	**+0.2**
IGPR	**InterUniversit**	**1.58**	**132**	*e*S	**Sg**	**03 24 27.1**	**+0.8**
IGPR	**InterUniversit**	**1.58**	**132**	P	**Pb**	**03 24 04.8**	**+0.2**
IGPR				S	**Sg**	**03 24 26.1**	**-0.2**
PDPR	**Patillas Dam,**	**1.61**	**128**	Pn	**Pn**	**03 24 02.2**	**-1.5**
PDPR				IAML		03 24 30.8	
	comp=N,136μm,1.0s						
PDPR	**Patillas Dam,**	**1.61**	**128**	⇓*i*P	**Pg**	**03 24 06.1**	**-0.1**
PDPR	**Patillas Dam,**	**1.61**	**128**	*e*S	**Sg**	**03 24 26.9**	**-0.2**
MIDR	**Miches**	**1.61**	**269**	⇑*i*P	**Pg**	**03 24 06.1**	**-0.1**
MIDR	**Miches**	**1.61**	**269**	*e*S	**Sg**	**03 24 30.1**	**+2.9**
MIDR	**Miches**	**1.61**	**269**	*e*Pg	**Pb**	**03 24 05.5**	**+0.5**
MIDR				*i* S	**Sn**	**03 24 24.6**	**+0.2**
MIDR				IAML		03 24 30.4	
	comp=N,41μm,1.1s						
MIDR				IAML		03 24 30.5	
	comp=N,41μm,1.1s						
HUMP	**Col San Antoni**	**1.67**	**122**		**Pn**	**03 24 02.8**	**-1.7**
SMDR	**Samana, DR**	**1.76**	**279**	⇓*i*P	**Pg**	**03 24 08.4**	**-0.6**
SMDR	**Samana, DR**	**1.76**	**279**	*e*S	**Sg**	**03 24 34.0**	**+2.1**
SMDR	**Samana, DR**	**1.76**	**279**	*e*Pg	**Pn**	**03 24 05.6**	**-0.1**
SMDR				⇑*e*Sg	**Sg**	**03 24 31.2**	**-0.7**
SMDR				IAML		03 25 01.5	
	comp=N,55μm,0.9s						
SPM1	**San Pedro UASD**	**1.94**	**253**	⇑*e*Pg	**Pg**	**03 24 12.0**	**-0.6**
SPM1				IAML		03 24 50.9	
	comp=N,73μm,1.5s						
NADR	**Nagua**	**2.39**	**278**	⇑*e*Pg	**Pn**	**03 24 15.9**	**+1.4**
NADR				IAML		03 25 22.4	
	comp=N,18nm,0.6s						
LONA1	**Toro Cenizo, N**	**2.40**	**279**	*i* P	**Pb**	**03 24 17.2**	**-1.4**
LONA1				IAML		03 25 10.6	
	comp=Z,78μm,1.2s						
SDD	**Santo Domingo**	**2.50**	**257**		**Pn**	**03 24 17.0**	**+1.2**
SDD				IAML		03 25 05.7	
	comp=E,52μm,1.2s						
SDD				IAML		03 25 05.7	
	comp=N,60μm,1.4s						
SDD	**Santo Domingo**	**2.50**	**257**	⇓*i*P	**Pb**	**03 24 20.1**	**-0.1**
SDD	**Santo Domingo**	**2.50**	**257**	*e*S	**Sg**	**03 24 59.8**	**+4.3**
SDD	**Santo Domingo**	**2.50**	**257**	⇑*e*Pg	**Pb**	**03 24 19.3**	**-0.9**
SDD				⇑*e*Sg	**Sg**	**03 24 55.5**	**0.0**
SDD				IAML		03 25 05.4	
	comp=N,21μm,1.3s						
SDD	**Santo Domingo**	**2.50**	**257**	*i* P	**Pb**	**03 24 18.5**	**-1.7**
CADR	**Cabrera**	**2.53**	**285**	*e*Pg	**Pn**	**03 24 16.8**	**+0.5**
SFDR	**San Fco. de Ma**	**2.75**	**276**	⇑*e*Pg	**Pn**	**03 24 21.4**	**+2.1**
SFDR				IAML		03 25 22.8	
	comp=N,12nm,0.9s						
ABDR	**Alto Bandera**	**3.11**	**267**	*e*Pg	**Pb**	**03 24 29.1**	**-1.8**
ABDR				⇑*e*Sg	**Sb**	**03 25 11.0**	**+2.0**
ABDR				IAML		03 25 29.0	
	comp=N,85μm,1.0s						
SC01	**Santiago de lo**	**3.22**	**278**		**Pn**	**03 24 27.0**	**+1.2**
SC01	**Santiago de lo**	**3.22**	**278**	⇑*i*P	**Pg**	**03 24 35.4**	**-1.6**
SC01	**Santiago de lo**	**3.22**	**278**	⇑*e*Pg	**Pn**	**03 24 28.4**	**+2.6**
SC01				IAML		03 25 42.6	
	comp=N,11nm,0.8s						
SC01	**Santiago de lo**	**3.22**	**278**	*i* P	**Pn**	**03 24 27.9**	**+2.1**
LOPP1	**Punta Rusia, P**	**3.73**	**283**	*i* P	**Pn**	**03 24 34.0**	**+1.2**
LOPP1				IAML		03 25 50.0	
	comp=Z,42μm,1.6s						
SDDR	**Presa de Saban**	**3.73**	**270**		**Pn**	**03 24 35.2**	**+2.3**
SDDR	**Presa de Saban**	**3.73**	**270**	⇑*i*P	**Pn**	**03 24 37.0**	**+4.1**
SDDR	**Presa de Saban**	**3.73**	**270**	*e*S	**Sb**	**03 25 24.2**	**-2.2**
SDDR	**Presa de Saban**	**3.73**	**270**	⇑P	**Pn**	**03 24 35.0**	**+2.1**
SDDR	**Presa de Saban**	**3.73**	**270**	*e*P	**Pn**	**03 24 35.2**	**+2.3**
SDDR	**Presa de Saban**	**3.73**	**270**	P	**Pn**	**03 24 34.6**	**+1.8**
SDDR	**Presa de Saban**	**3.73**	**270**	⇑*e*Sg	**Sb**	**03 25 28.3**	**+1.9**
SDDR				IAML		03 25 41.4	
	comp=N,58μm,1.1s						
SDDR	**Presa de Saban**	**3.73**	**270**	*i* P	**Pn**	**03 24 35.1**	**+2.3**
SDDR				IAML		03 25 39.8	
	comp=Z,35μm,0.9s						
LONE3	**El Aguacate, B**	**3.92**	**264**	*i* P	**Pn**	**03 24 38.6**	**+3.0**
LONE3				IAML		03 25 54.1	
	comp=Z,16μm,0.8s						
LODU1	**El Espartillar**	**3.97**	**261**	*i* P	**Pn**	**03 24 39.4**	**+3.3**
LODU1				IAML		03 25 43.1	
	comp=Z,34μm,1.1s						
LOVI	**El Cajuil, Ovi**	**4.01**	**253**	*i* P	**Pn**	**03 24 40.6**	**+3.9**
LOVI				IAML		03 25 54.2	
	comp=Z,18μm,0.9s						
SABA	**Saba**	**4.14**	**109**		**Pn**	**03 24 37.6**	**-0.9**
SABA					**Sn**	**03 25 26.8**	**-0.2**
SABA				IAML		03 25 58.4	
	comp=N,47μm,1.6s						
SABA	**Saba**	**4.14**	**109**	⇑*i*P	**Pn**	**03 24 40.3**	**+1.7**
SABA	**Saba**	**4.14**	**109**	*e*S	**Sn**	**03 25 31.1**	**+4.0**
SABA	**Saba**	**4.14**	**109**	P	**Pn**	**03 24 39.4**	**+0.8**
LODA1	**ITESIL, Dajabo**	**4.15**	**278**	*i* P	**Pn**	**03 24 39.7**	**+1.1**
LODA1				IAML		03 25 34.0	
	comp=Z,8μm,0.4s						
LOBH	**Bahia de las A**	**4.24**	**255**	*i* P	**Pn**	**03 24 43.2**	**+3.4**
LOBH				IAML		03 25 51.4	
	comp=Z,9μm,1.4s						
JIDR	**Jimani**	**4.30**	**264**	⇑*e*Sg	**Sb**	**03 25 45.9**	**+3.0**
GRTK	**Grand Turk**	**4.33**	**305**		**Pn**	**03 24 38.5**	**-2.6**
GRTK	**Grand Turk**	**4.33**	**305**	⇑P	**Pn**	**03 24 38.2**	**-2.9**
GRTK	**Grand Turk**	**4.33**	**305**	P	**Pn**	**03 24 37.9**	**-3.2**
GRTK	**Grand Turk**	**4.33**	**305**	⇑*e*Sg	**Sb**	**03 25 40.6**	**-3.0**
GRTK				IAML		03 26 19.3	
	comp=N,7μm,1.2s						
GRTK	**Grand Turk**	**4.33**	**305**	*i* P	**Pn**	**03 24 39.5**	**-1.5**
SEUS	**St. Eustatius**	**4.42**	**110**	Pn	**Pn**	**03 24 42.1**	**-0.2**
SEUS				IAML		03 25 55.4	
	comp=E,36μm,2.2s						
SEUS	**St. Eustatius**	**4.42**	**110**	P	**Pn**	**03 24 42.7**	**+0.4**
SKI	**Saint Kitts**	**4.69**	**110**	*e*P	**Pn**	**03 24 45.9**	**-0.3**
SKOC	**St. Kitts, UWI**	**4.71**	**111**	*e*P	**Pn**	**03 24 46.1**	**-0.3**
PAPH	**Port-au-Prince**	**4.72**	**265**	P	**Pn**	**03 24 49.0**	**+2.5**
LGRN	**Lagune**	**5.01**	**265**	P	**Pn**	**03 24 53.2**	**+2.8**
ANWB	**Willy Bob**	**5.45**	**103**		**Pn**	**03 24 55.3**	**-1.2**
ANWB	**Willy Bob**	**5.45**	**103**	⇑P	**Pn**	**03 24 54.6**	**-1.9**
ANWB	**Willy Bob**	**5.45**	**103**	*e*P	**Pn**	**03 24 56.0**	**-0.5**
ANWB	**Willy Bob**	**5.45**	**103**	*e*S	**Sn**	**03 25 59.3**	**0.0**
ANWB	**Willy Bob**	**5.45**	**103**	P	**Pn**	**03 24 55.0**	**-1.6**
DHSZ	**Broadband at M**	**5.99**	**116**	*e*P	**Pn**	**03 25 05.2**	**+1.3**
DHSZ	**Broadband at M**	**5.99**	**116**	*e*	**Sn**	**03 26 13.0**	**+0.6**
GDHS	**Morne Mazeau,**	**5.99**	**116**		**Pn**	**03 25 03.0**	**-0.9**
ATGZ	**Broadband at L**	**6.10**	**118**	*e*P	**Pn**	**03 25 06.7**	**+1.2**
ABD	**La Joyeuse, An**	**6.13**	**114**		**Pn**	**03 25 05.9**	**0.0**
ABD	**La Joyeuse, An**	**6.13**	**114**	⇑*i*P	**Pn**	**03 25 09.7**	**+3.8**
ABD	**La Joyeuse, An**	**6.13**	**114**	*e*S	**Sn**	**03 26 19.4**	**+3.3**
MMLZ	**Guadeloupe Bro**	**6.18**	**118**	*e*P	**Pn**	**03 25 05.4**	**-1.1**
CBE	**Ff, Capester**	**6.22**	**117**		**Pn**	**03 25 07.0**	**-0.1**
CBE					**Sn**	**03 26 18.2**	**0.0**
CBE

GAMB1 **Gamboa** 15.51 232 *e*P P **03 27 16.4 -2.1**
FLAM **Flamenco Islan** 15.51 231 *e*P P **03 27 20.0 +1.4**
MLIR **Monte Lirio** 15.54 233 *e*P Pn **03 27 14.1 -0.4**
MLIR *i* S Sn **03 30 01.1 -5.6**
ARRA3 **Arraijan, Pana** 15.57 232 *e*P Pn **03 27 16.4 +1.5**
ARRA3 *e*S Sn **03 30 02.9 -4.6**
BCIP **Isla Barro Col** 15.57 233 Pn **03 27 15.6 +0.6**
BCIP **Isla Barro Col** 15.57 233 P Pn **03 27 15.6 +0.6**
BCIP pmax pmax
comp=Z,192nm,0.8s
BCIP **Isla Barro Col** 15.57 233 ⇓P Pn **03 27 15.5 +0.6**
BCIP **Isla Barro Col** 15.57 233 *e*P Pn **03 27 16.1 +1.2**
ROSC **El Rosal** 15.66 207 Pn Pn **03 27 16.6 +0.2**
ROSC **El Rosal** 15.66 207 Pn P **03 27 19.5 -1.1**
comp=Z,6.4nm,0.3s,baz=13,slow=8.8,SNR=54
ROSC Sn **Sn** **03 30 11.7 +1.4**
comp=Z,4.5nm,0.3s,baz=180,slow=20,SNR=2.0
ROSC LR LR 03 34 13.9
comp=Z,38µm,20.3s,baz=8.1,slow=41
ROSC **El Rosal** 15.66 207 P Pn **03 27 16.6 +0.2**
ROSC pmax pmax
comp=Z,323nm,0.9s
CHOR3 **La Chorrera** 15.69 232 *e*P Pn **03 27 18.5 +2.0**
CHOR3 *i* S Sn **03 30 06.4 -4.2**
ZANG **Zanguenga, Cho** 15.73 232 *i* P P **03 27 19.2 -1.8**
DWPF **Disney Wildern** 15.75 308 Pn Pn **03 27 15.0 -2.2**
DWPF **Disney Wildern** 15.75 308 ⇑P Pn **03 27 12.7 -4.5**
CRIS3 **El Cristo, Coc** 16.75 232 *e*P P **03 27 33.5 +1.2**
AZU **Azuero** 16.80 230 *i* P P **03 27 32.3 -0.6**
AZU *i* S Sn **03 30 32.8 -4.7**
656A **Willston** 17.24 310 Pn **03 27 34.0 -2.1**
656A IAmb IAmb 03 27 44.9
comp=Z,680nm,0.5s
RGM0 **Gandoca** 17.50 240 P **03 27 40.3 -0.3**
RGM0 **Gandoca** 17.50 240 *e*P Pn **03 27 38.6 -0.8**
GMAL **Guarumal, Vera** 17.53 232 *i* P P **03 27 41.7 +0.7**
SIUN **Universidad Ur** 17.53 255 Pn **03 27 40.1 +0.3**
SIUN IAmb IAmb 03 27 48.5
comp=Z,65nm,1.2s
CACAO **El Cacao, Vera** 17.53 230 *i* P P **03 27 42.6 +1.6**
456A **Hilliard** 17.67 314 Pn Pn **03 27 39.4 -2.1**
456A IAmb IAmb 03 27 45.8
comp=Z,752nm,0.6s
ESPN **Las Esperanzas** 17.68 250 P **03 27 42.3 -0.3**
Y60A **Bolivia** 17.79 329 Pn Pn **03 27 41.1 -1.8**
Y60A IAmb IAmb 03 27 48.4
comp=Z,614nm,0.8s
257A **Skidaway Islan** 17.83 319 Pn **03 27 42.7 -0.7**
257A IAmb IAmb 03 27 49.9
comp=Z,801nm,0.8s
BOAV **Boa Vista** 17.83 157 Pn Pn **03 27 42.1 -1.4**
BOAV **Boa Vista** 17.83 157 P Pn **03 27 43.9 +0.3**
BOAV S S **03 31 08.0 -1.2**
BOAV **Boa Vista** 17.83 157 *e*P Pn **03 27 41.4 -2.2**
BRU2 **Volcan** 18.02 238 P P **03 27 46.6 +0.1**
BRU2 **Volcan** 18.02 238 *i* P P **03 27 47.0 +0.4**
BRU2 *e*S S **03 31 15.3 +1.9**
NHSC **New Hope** 18.12 323 Pn **03 27 46.4 -0.7**
NHSC IAmb IAmb 03 27 53.1
comp=Z,807nm,0.6s
NHSC **New Hope** 18.12 323 ⇑P Pn **03 27 45.0 -2.0**
DRK0 **Durika** 18.20 240 *e*P P **03 27 50.2 +1.6**
VICA **Volcano Irazu** 18.31 243 *e*P P **03 27 52.8 +2.7**
CVIMO **Finca Echandi** 18.38 243 *e*P P **03 27 53.2 +2.7**
ARTO **Ro Cuarto** 18.45 244 *e*P Pn **03 27 55.6 +4.4**
BUS1 **Rivas** 18.46 242 *e*P Pn **03 27 54.0 +2.3**
HDC **Heredia** 18.53 243 P Pn **03 27 52.3 0.0**
HDC **Heredia** 18.53 243 *e*P P **03 27 48.8 -3.3**
PANP **Palmar Norte** 18.55 240 *e*P Pn **03 27 59.5 +7.1**
ACON **Acoyapa** 18.55 250 P P **03 27 51.0 -1.2**
V61A **Roper** 18.58 336 P P **03 27 52.0 -0.4**
V61A IAmb IAmb 03 28 03.3
comp=Z,817nm,0.8s
PIRO **Carate, Puerto** 18.76 238 P P **03 27 53.2 -1.3**
PIRO **Carate, Puerto** 18.76 238 *e*P Pn **03 27 58.1 +3.1**
PIRO **Carate, Puerto** 18.76 238 *e*P Pn **03 27 56.5 +1.5**
VACR **Volcan Arenal** 18.78 246 *e*P Pn **03 27 57.9 +2.7**
CEDE **Laguna Cedeo** 18.80 246 *e*P Pn **03 27 57.8 +2.3**
ARE1 **Arenal 1** 18.82 246 *e*P Pn **03 27 57.5 +1.7**
VARE2 **V. Arenal** 18.82 246 *e*P Pn **03 27 57.7 +1.9**
W59A **Clinton** 18.84 331 IAmb IAmb 03 27 59.7
comp=Z,564nm,1.0s
Y57A **Sumter** 18.92 325 P P **03 27 55.5 -0.6**
VMAR **Armenia, Volca** 19.00 247 *e*P Pn **03 28 00.2 +2.3**
SGC2 **Sao Gabriel da** 19.06 179 P Pn **03 27 58.3 -0.3**
SGC2 S S **03 31 38.3 +4.1**
553A **Crawfordville** 19.07 309 P P **03 27 56.9 -1.0**
MESS **Mesas** 19.10 247 *e*P Pn **03 28 00.6 +1.5**
JTS **Las Juntas de** 19.10 245 P P **03 27 57.5 -0.8**
JTS **Las Juntas de** 19.10 245 P Pn **03 27 58.8 -0.3**
comp=Z,8.7nm,0.6s,baz=88,slow=4.8,SNR=17
JTS S **Sn** **03 31 33.4 0.0**
comp=Z,31nm,1.0s,baz=198,slow=20,SNR=1.4
JTS LR LR 03 36 05.5
comp=Z,19µm,18.4s,baz=61,slow=39
JTS **Las Juntas de** 19.10 245*c* *i*P Pn **03 27 59.7 +0.5**
JTS pmax pmax
comp=Z,412nm,1.1s
JTS **Las Juntas de** 19.10 245 ⇑P Pn **03 28 00.6 +1.5**
JTS **Las Juntas de** 19.10 245 *e*P Pn **03 28 00.2 +1.0**
CUI **Cuipilapa** 19.11 247 *e*P Pn **03 28 02.9 +3.6**
JUNT **Juntas** 19.11 245 *e*P Pn **03 28 01.7 +2.4**
FLOC **Florencia** 19.15 206 P P **03 27 58.8 -0.1**
TIGA **Tifton** 19.17 313 IAmb IAmb 03 28 10.9
comp=Z,394nm,0.6s
CARN **Rivas** 19.19 249 *e*P Pn **03 28 00.0 -0.1**
LAPC **Finca la Perla** 19.30 247 *e*P Pn **03 28 04.0 +2.5**
LCRUZ **La Cruz** 19.33 248 *e*P Pn **03 28 04.9 +3.0**
ALIBA **Liberia Airpor** 19.48 247 *e*P Pn **03 28 05.0 +1.4**
JSC **Jenkinsville** 19.60 324 IAmb IAmb 03 28 13.8
comp=Z,356nm,0.6s
JUD3 **Juan Diaz 3** 19.67 246 *e*P Pn **03 28 05.7 -0.3**
CNGN **Cerro Negro** 19.71 254 *e*P Pn **03 28 07.8 +1.3**
TGUH **Tegucigalpa,Un** 19.73 258 P Pn **03 28 06.7 0.0**
TGUH **Tegucigalpa,Un** 19.73 258 ⇑P Pn **03 28 07.1 +0.4**
TEIG **Tepich** 19.75 277 P P **03 28 05.3 -0.1**
TEIG **Tepich** 19.75 277 P Pn **03 28 07.1 +0.3**
baz=125,slow=24,SNR=20
TEIG **Tepich** 19.75 277 ⇑P Pn **03 28 06.5 -0.3**
HERN **Volcan Telica** 19.79 254 P Pn **03 28 06.8 -0.6**
HERN IAmb IAmb 03 28 19.1
comp=Z,182nm,0.9s
MPGF **Montagnes des** 19.93 132 ⇓P P **03 28 06.2 -1.1**
MDP **Montagnes des** 19.93 132 P P **03 28 06.7 -0.6**
comp=Z,180nm,0.9s,baz=320,slow=11,SNR=152
MDP S **S** **03 31 42.3 -9.4**
comp=Z,185nm,0.9s,baz=66,slow=16,SNR=5.3
MDP LR LR 03 36 45.8
comp=Z,20µm,20.4s,baz=318,slow=40
S61A **Accomac** 19.96 340 P P **03 28 06.3 -1.2**
T59A **Double "B" Far** 19.99 335 P P **03 28 06.6 -1.2**
352A **Blakely** 20.13 311 P P **03 28 08.4 -1.0**
352A IAmb IAmb 03 28 19.6
comp=Z,521nm,0.9s
451A **Vernon** 20.27 308 P P **03 28 09.9 -1.0**
451A IAmb IAmb 03 28 21.0
comp=Z,338nm,0.8s
KMSC **Kings Mountain** 20.28 325 IAmb IAmb 03 28 23.8
comp=Z,362nm,0.6s
PAULI **Pauline** 20.30 324 IAmb IAmb 03 28 23.2
comp=Z,422nm,0.5s
GOGA **Godfrey** 20.31 318 ⇑P P **03 28 11.5 +0.1**
R61A **Willards** 20.45 342 P P **03 28 11.1 -1.7**
U56A **King** 20.72 329 IAmb IAmb 03 28 29.1
comp=Z,328nm,0.4s
T57A **Hurt** 20.73 332 IAMs_20 IAMs_20 03 35 30.0
comp=Z,48µm,20.0s
V55A **Taylorsville** 20.75 327 IAmb IAmb 03 28 30.9
comp=Z,521nm,0.9s
R58B **Mineral** 20.98 336 IAMs_20 IAMs_20 03 35 57.7
comp=Z,39µm,19.0s
CBN **Corbin Frederi** 21.01 338 IAmb IAmb 03 28 36.6
comp=Z,394nm,0.6s
CBN IAMs_20 IAMs_20 03 35 57.3
comp=Z,47µm,19.0s
CBN **Corbin Frederi** 21.01 338 ⇑P P **03 28 18.9 0.0**
BG3 **Lake Jocassee** 21.07 322 IAmb IAmb 03 28 34.3
comp=Z,362nm,0.7s
S57A **Dark Hollow, R** 21.24 334 IAmb IAmb 03 28 31.7
comp=Z,571nm,1.1s
BLA **Blacksburg** 21.43 330 P P **03 28 21.3 -2.2**
BLA **Blacksburg** 21.43 330 P P **03 28 21.3 -2.2**
BLA pmax pmax
comp=Z,575nm,0.7s
BLA MLR MLR
comp=Z,38µm,21.0s
BLA **Blacksburg** 21.43 330 ⇓P P **03 28 23.1 -0.4**
V53A **Saluda** 21.48 324 P P **03 28 23.3 -0.7**
V53A IAmb IAmb 03 28 40.1
comp=Z,270nm,0.5s
BRAL **Brewton** 21.51 308 ⇑P P **03 28 25.3 +1.0**
ESQI **Esquipulas** 21.51 261 IAmb IAmb 03 28 42.0
comp=Z,970nm,1.3s
ESQI IAMs_20 IAMs_20 03 37 10.6
comp=Z,68µm,19.0s
PETF **Flores** 21.52 268 P P **03 28 24.6 0.0**
PETF IAmb IAmb 03 28 44.5
comp=Z,745nm,1.0s
P61A **Hammonton** 21.56 344 IAMs_20 IAMs_20 03 36 32.2
comp=Z,45µm,20.0s
MTO3 **Montecristo** 21.57 261 IAMs_20 IAMs_20 03 37 05.2
comp=Z,67µm,19.0s
U54A **Nelsons Funny** 21.58 327 P P **03 28 23.4 -1.7**
U54A IAmb IAmb 03 28 40.3
comp=Z,629nm,1.3s
X51A **Calhoun** 21.94 318 IAmb IAmb 03 28 48.2
comp=Z,218nm,0.6s
PSUB **Penn St. - Bra** 21.97 343 IAmb IAmb 03 28 45.0
comp=Z,591nm,0.9s
TKL **Tuckaleechee C** 22.02 322 IAmb IAmb 03 28 47.0
comp=Z,596nm,1.2s
TKL **Tuckaleechee C** 22.02 322 LR LR 03 36 37.4
comp=Z,23µm,21.6s,baz=142,slow=36
R55A **Marlinton** 22.18 333 IAmb IAmb 03 28 48.4
comp=Z,381nm,0.6s
R55A IAMs_20 IAMs_20 03 36 16.1
comp=Z,43µm,19.0s
CPCT **Cooper Cave** 22.32 321 IAmb IAmb 03 28 49.8
comp=Z,286nm,0.8s
S54A **Dingess, Beckl** 22.32 330 IAmb IAmb 03 28 51.2
comp=Z,296nm,0.7s
S54A IAMs_20 IAMs_20 03 36 11.2
comp=Z,39µm,21.0s
P57A **Homestead Farm** 22.37 338 IAmb IAmb 03 28 55.2
comp=Z,214nm,0.6s
P57A IAMs_20 IAMs_20 03 36 49.1
comp=Z,41µm,20.0s
CPNY **Central Park** 22.42 347 IAmb IAmb 03 28 52.2
comp=Z,212nm,0.6s
Q56A **Snyder Ridge,** 22.43 335 IAmb IAmb 03 28 53.9
comp=Z,293nm,0.8s
Q56A IAMs_20 IAMs_20 03 36 52.6
comp=Z,39µm,20.0s
LRAL **Lakeview Retre** 22.45 312 IAmb IAmb 03 28 43.4
comp=Z,403nm,1.2s
LRAL **Lakeview Retre** 22.45 312 ⇑P P **03 28 34.7 +0.3**
N62A **Caumsett State** 22.45 348 IAMs_20 IAMs_20 03 36 34.8
comp=Z,38µm,20.0s
BRNJ **Basking Ridge** 22.45 346 IAmb IAmb 03 28 56.8
comp=Z,572nm,0.9s
TZTN **Tazewell** 22.52 324 IAmb IAmb 03 28 54.1
comp=Z,326nm,0.8s
TZTN **Tazewell** 22.52 324 ⇑P P **03 28 35.0 -0.2**
TEFE **Tefe** 22.55 173 P P **03 28 36.3 +0.7**
TEFE S S **03 32 44.9 +1.9**
TEFE **Tefe** 22.55 173 *e*P P **03 28 33.7 -1.9**
PAL **Palisades** 22.61 347 IAmb IAmb 03 28 59.0
comp=Z,666nm,1.2s
PAL IAMs_20 IAMs_20 03 36 30.1
comp=Z,36µm,20.0s
M65A **Busby, Falmout** 22.64 354 IAMs_20 IAMs_20 03 36 16.0
comp=Z,36µm,20.0s
M65A **Busby, Falmout** 22.64 354 P P **03 28 36.5 +0.2**
baz=172
M65A S S **03 32 43.8 -0.3**
baz=172
WSPT **Westport, CT** 22.66 348 IAmb IAmb 03 28 58.5
comp=Z,184nm,0.5s
WSPT IAMs_20 IAMs_20 03 36 30.2
comp=Z,38µm,20.0s
M63A **Gales Ferry** 22.66 351 IAmb IAmb 03 28 57.3
comp=Z,270nm,0.7s
MACA **Manacapuru-AM** 23.00 163 P P **03 28 39.2 -1.1**
MACA **Manacapuru-AM** 23.00 163 P P **03 28 39.4 -0.9**
MACA S S **03 32 56.1 +5.0**
MACA **Manacapuru-AM** 23.00 163 *e*P P **03 28 37.2 -3.1**
L64A **Middleborough** 23.03 353 IAMs_20 IAMs_20 03 36 26.9
comp=Z,34µm,19.0s
Q54A **Coxs Mills** 23.07 332 IAmb IAmb 03 29 05.5
comp=Z,236nm,0.9s
Q54A IAMs_20 IAMs_20 03 36 43.7
comp=Z,43µm,19.0s
UCCT **U. Connecticut** 23.07 351 IAmb IAmb 03 29 05.5
comp=Z,444nm,0.9s
N58A **Sunbury** 23.18 342 IAmb IAmb 03 29 02.4
comp=Z,212nm,0.7s
N58A IAMs_20 IAMs_20 03 37 44.2
comp=Z,37µm,19.0s
MCWV **Mont Chateau** 23.22 335 IAmb IAmb 03 29 06.3
comp=Z,764nm,1.7s
MCWV IAMs_20 IAMs_20 03 37 27.6
comp=Z,37µm,20.0s
MCWV **Mont Chateau** 23.22 335 ⇑P P **03 28 42.4 0.0**
X48A **Hartselle** 23.29 315 IAmb IAmb 03 29 05.0
comp=Z,205nm,0.8s
Z47A **Carrollton** 23.29 311 P P **03 28 42.8 -0.4**
S51A **Beattyville** 23.35 326 IAmb IAmb 03 29 04.2
comp=Z,288nm,0.5s
SSPA **Standing Stone** 23.36 339 P P **03 28 43.7 -0.1**
SSPA **Standing Stone** 23.36 339 IAMs_20 IAMs_20 03 37 29.1
comp=Z,43µm,20.0s
SSPA **Standing Stone** 23.36 339 ⇑P P **03 28 43.6 -0.2**
346A **Big Creek Wild** 23.44 306 P P **03 28 44.4 -0.3**
346A IAmb IAmb 03 28 49.7
comp=Z,552nm,1.0s
KSPA **Keystone Colle** 23.58 344 IAmb IAmb 03 29 07.1
comp=Z,181nm,0.6s
T50A **Nancy** 23.59 323 IAmb IAmb 03 29 08.5
comp=Z,414nm,1.0s
HRV **Adam Dziewonsk** 23.68 352 P P **03 28 47.1 +0.2**
HRV IAmb IAmb 03 29 09.9
comp=Z,369nm,0.7s
HRV **Adam Dziewonsk** 23.68 352 P P **03 28 47.1 +0.2**
HRV pmax pmax
comp=Z,369nm,0.7s
HRV MLR MLR
comp=Z,29µm,20.0s
HRV **Adam Dziewonsk** 23.68 352 ⇑P P **03 28 47.9 +1.0**
Q52A **Bidwell** 23.70 330 IAmb IAmb 03 29 07.1
comp=Z,301nm,0.7s
Q52A IAMs_20 IAMs_20 03 37 24.6
comp=Z,35µm,20.0s
146A **Union** 23.72 309 P P **03 28 47.7 +0.3**
P53A **Whipple** 23.73 332 IAMs_20 IAMs_20 03 37 15.1
comp=Z,37µm,19.0s
RTAL **Retalhuleu** 23.73 263 P P **03 28 48.3 +0.6**
RTAL IAmb IAmb 03 29 05.2
comp=Z,440nm,1.0s
M57A **Sunshine Farm,** 23.75 341 IAmb IAmb 03 29 12.4
comp=Z,387nm,0.8s
M57A IAMs_20 IAMs_20 03 38 11.5
comp=Z,42µm,19.0s
CCIG **Comitan** 23.77 267 P P **03 28 48.7 +0.4**
CCIG IAmb IAmb 03 29 13.7
comp=Z,447nm,0.9s
CCIG IAMs_20 IAMs_20 03 38 30.4
comp=Z,41µm,21.0s
CCIG **Comitan** 23.77 267 ⇑P P **03 28 49.3 +1.0**
O54A **Avella** 23.88 335 IAmb IAmb 03 29 13.3
comp=Z,267nm,1.0s
O54A IAMs_20 IAMs_20 03 37 49.1
comp=Z,42µm,20.0s
K62A **Royalston** 23.93 351 IAmb IAmb 03 29 14.5
comp=Z,196nm,0.6s
K62A IAMs_20 IAMs_20 03 37 35.7
comp=Z,31µm,19.0s
V48A **Smith Brothers** 23.93 318 IAmb IAmb 03 29 11.6
comp=Z,880nm,1.7s
L59A **Walton** 24.00 346 IAMs_20 IAMs_20 03 37 44.8
comp=Z,41µm,20.0s
P52A **Corning** 24.18 331 IAmb IAmb 03 29 16.8
comp=Z,393nm,0.8s
R50A **Paris** 24.22 326 IAmb IAmb 03 29 14.5
comp=Z,230nm,0.7s
TRY **Troy** 24.23 349 IAMs_20 IAMs_20 03 37 16.8
comp=Z,34µm,20.0s
BINY **Binghamton** 24.24 344 IAmb IAmb 03 29 20.6
comp=Z,272nm,0.7s
BINY IAMs_20 IAMs_20 03 38 04.2
comp=Z,47µm,20.0s
BINY **Binghamton** 24.24 344 ⇓P P **03 28 53.1 +0.9**
Q51A **Peebles** 24.27 329 IAmb IAmb 03 29 16.6
comp=Z,338nm,0.7s
O53A **New Philadelph** 24.28 334 IAmb IAmb 03 29 16.9
comp=Z,583nm,1.7s
PLAL **Pickwick Lake** 24.29 315 IAmb IAmb 03 29 17.3
comp=Z,353nm,0.9s
PAMR **Moraine State** 24.42 336 IAmb IAmb 03 29 18.3
comp=Z,327nm,0.7s
O52A **Adamsville** 24.44 332 IAMs_20 IAMs_20 03 37 36.9
comp=Z,41µm,20.0s
P51A **Williamsport** 24.49 330 IAmb IAmb 03 29 25.2
comp=Z,252nm,0.7s
N53A **Lisbon** 24.59 335 IAMs_20 IAMs_20 03 38 11.0
comp=Z,43µm,19.0s
MAL2 **Monte Alegre,** 24.60 147 P P **03 28 54.4 -1.4**
MAL2 **Monte Alegre,** 24.60 147 P P **03 28 54.2 -1.6**
MAL2 S S **03 33 23.5 +6.6**
VBMS **Vicksburg** 24.61 307 ⇑P P **03 28 57.1 +1.4**
L56A **Greenwood** 24.62 342 IAmb IAmb 03 29 19.2
comp=Z,444nm,1.0s
L56A IAMs_20 IAMs_20 03 38 39.3
comp=Z,44µm,18.0s
J61A **Chester** 24.64 351 IAmb IAmb 03 29 25.8
comp=Z,208nm,0.8s
PAOC **Oil Creek Stat** 24.76 337 IAmb IAmb 03 29 21.1
comp=Z,408nm,1.2s
WVT **Waverly** 24.81 318 P P **03 28 56.5 -1.0**
WVT IAmb IAmb 03 29 24.3
comp=Z,166nm,0.8s
WVT **Waverly** 24.81 318 P P **03 28 56.5 -1.0**
WVT pmax pmax
comp=Z,166nm,0.8s
WVT MLR MLR
comp=Z,22µm,20.0s
WVT **Waverly** 24.81 318 ⇑P P **03 28 57.2 -0.2**
K57A **Scipio Center** 24.87 344 IAMs_20 IAMs_20 03 38 14.0
comp=Z,40µm,20.0s
T47A **Sharon Grove** 24.90 320 IAmb IAmb 03 29 24.1
comp=Z,288nm,1.0s
OXF **Oxford** 24.93 313 ⇓P P **03 28 58.4 -0.2**
HNH **Hanover** 24.95 351 IAmb IAmb 03 29 27.7
comp=Z,146nm,0.7s
I62A **Tamworth** 25.00 353 IAmb IAmb 03 29 29.2
comp=Z,349nm,0.9s
I62A IAMs_20 IAMs_20 03 37 26.5
comp=Z,33µm,20.0s
ACSO **Alum Creek Sta** 25.05 331 IAmb IAmb 03 29 23.3
comp=Z,248nm,0.8s
ACSO IAMs_20 IAMs_20 03 38 06.2
comp=Z,37µm,20.0s
ACSO **Alum Creek Sta** 25.05 331 ⇑P P **03 29 00.2 +0.6**
I63A **Otisfield** 25.10 354 IAMs_20 IAMs_20 03 37 29.1
comp=Z,33µm,20.0s
J59A **Piesco** 25.10 348 IAMs_20 IAMs_20 03 37 45.4
comp=Z,31µm,19.0s
WCI **Wyandotte Cave** 25.26 323 P P **03 29 01.1 -0.4**
WCI **Wyandotte Cave** 25.26 323 P P **03 29 01.1 -0.4**
WCI pmax pmax
comp=Z,641nm,1.4s
WCI MLR MLR
comp=Z,13µm,20.0s
WCI **Wyandotte Cave** 25.26 323 ⇑P P **03 29 01.9 +0.4**
N51A **Ashland** 25.33 333 IAMs_20 IAMs_20 03 38 03.6
comp=Z,35µm,20.0s
J57A **Williamstown** 25.38 345 IAmb IAmb 03 29 30.9
comp=Z,248nm,0.7s
J57A IAMs_20 IAMs_20 03 38 37.9
comp=Z,48µm,20.0s
ERPA **Erie** 25.40 338 IAmb IAmb 03 29 34.3
comp=Z,202nm,0.7s
ERPA **Erie** 25.40 338 ⇑P P **03 29 03.9 +1.1**
M52A **Chesterland** 25.42 335 IAMs_20 IAMs_20 03 38 46.9
comp=Z,39µm,20.0s
LBNH **Lisbon** 25.43 352 IAMs_20 IAMs_20 03 37 51.0
comp=Z,30µm,20.0s
LBNH **Lisbon** 25.43 352 ⇑P P **03 29 05.3 +2.3**
WVL **Waterville** 25.54 356 IAmb IAmb 03 29 29.1
comp=Z,296nm,1.2s
WVL IAMs_20 IAMs_20 03 37 41.6
comp=Z,32µm,21.0s
EMMW **East Machias** 25.61 360 IAmb IAmb 03 29 28.4
comp=Z,298nm,1.5s
O49A **Covington** 25.66 329 IAmb IAmb 03 29 36.6
comp=Z,306nm,1.2s
O49A IAMs_20 IAMs_20 03 38 37.4
comp=Z,32µm,20.0s
P48A **Milroy** 25.66 326 IAmb IAmb 03 29 40.3
comp=Z,257nm,1.2s
H62A **Milan** 25.67 354 IAmb IAmb 03 29 40.5
comp=Z,103nm,0.5s
H62A IAMs_20 IAMs_20 03 37 47.3
comp=Z,37µm,20.0s
J55A **Hilton** 25.73 342 IAmb IAmb 03 29 38.8
comp=Z,154nm,0.8s
J55A IAMs_20 IAMs_20 03 39 04.3
comp=Z,47µm,20.0s
ITTB **Itaituba** 25.91 153 P P **03 29 05.8 -1.8**
ITTB S S **03 33 42.0 +4.2**
ITTB **Itaituba** 25.91 153 *e*P P **03 29 05.3 -2.3**
M50A **Fremont** 26.02 332 IAMs_20 IAMs_20 03 38 35.8
comp=Z,34µm,20.0s
GGN **Saint George** 26.02 1 IAmb IAmb 03 29 43.0
comp=Z,250nm,0.9s
BLO **Bloomington** 26.04 324 IAmb IAmb 03 29 30.6
comp=Z,358nm,1.4s
O48B **Farmland** 26.12 328 IAmb IAmb 03 29 40.9
comp=Z,213nm,0.8s
N49A **Columbus Grove** 26.15 330 IAMs_20 IAMs_20 03 38 41.5
comp=Z,34µm,20.0s
PKME **Peaks-Kenny Pk** 26.21 357 IAmb IAmb 03 29 44.6
comp=Z,412nm,1.6s
PKME IAMs_20 IAMs_20 03 37 38.9
comp=Z,31µm,21.0s
PKME **Peaks-Kenny Pk** 26.21 357 ⇑P P **03 29 13.1 +3.0**
LONY **Lake Ozonia** 26.22 348 ⇑P P **03 29 11.3 +1.1**
G62A **West of Eustis** 26.25 355 IAmb IAmb 03 29 44.5
comp=Z,163nm,0.8s
G62A IAMs_20 IAMs_20 03 38 13.6
comp=Z,32µm,20.0s
FRNY **Flat Rock** 26.25 350 IAmb IAmb 03 29 47.5
comp=Z,106nm,0.6s
OLIL **Olney** 26.64 322 IAmb IAmb 03 29 51.7
comp=Z,223nm,0.7s
CGM3 **Cape Girardeau** 26.69 318 IAmb IAmb 03 29 45.7
comp=Z,220nm,0.9s
ATM1 **UHE Belo Monte** 26.71 145 P P **03 29 13.4 -1.4**
ATM1 S S 03 34 13.1 +23
P46A **Rosedale** 26.73 324 IAmb IAmb 03 29 55.5
comp=Z,341nm,0.8s
Z41A **Richland Creek** 26.80 307 IAmb IAmb 03 29 40.6
comp=Z,339nm,1.2s
DELO **Deloro Mine** 26.83 344 IAmb IAmb 03 29 38.5
comp=Z,258nm,1.2s
LMN **Caledonia Moun** 26.83 4 P P **03 29 14.6 -1.1**
N47A **Urbana** 26.86 328 IAmb IAmb 03 29 48.5
comp=Z,392nm,1.0s
N47A IAMs_20 IAMs_20 03 39 02.1
comp=Z,30µm,21.0s
PBMO **Poplar Bluff** 26.88 316 IAmb IAmb 03 29 52.8
comp=Z,166nm,0.8s
BMO2 **UHE Belo Monte** 26.89 144 P P **03 29 14.8 -1.7**
BMO2 S S **03 33 51.2 -2.0**
K50A **Casco** 26.97 335 IAMs_20 IAMs_20 03 39 34.8
comp=Z,39µm,20.0s
LCAR **Lake Charles** 26.98 314 IAmb IAmb 03 29 40.7
comp=Z,320nm,1.4s
AAM **Ann Arbor** 27.01 333 IAmb IAmb 03 29 52.4
comp=Z,211nm,0.8s
AAM IAMs_20 IAMs_20 03 39 07.1
comp=Z,35µm,20.0s
AAM **Ann Arbor** 27.01 333 ⇑P P **03 29 18.4 +1.0**
UALR **University of** 27.15 310 IAmb IAmb 03 29 59.7
comp=Z,401nm,1.6s
SFIN **Lafayette** 27.21 326 IAmb IAmb 03 29 57.0
comp=Z,212nm,1.0s
WLAR **White Oak Lake** 27.21 308 IAmb IAmb 03 29 28.8
comp=Z,444nm,1.1s
Q44A **Meyer Farm, Va** 27.29 321 IAmb IAmb 03 29 55.9
comp=Z,391nm,1.2s
WHAR **Wooly Hollow** 27.36 311 IAmb IAmb 03 29 45.6
comp=Z,272nm,1.0s
SADO **Sadowa** 27.49 342 IAmb IAmb 03 30 05.8
comp=Z,314nm,1.9s
SADO **Sadowa** 27.49 342 LR LR 03 40 18.9
comp=Z,470µm,20.4s,baz=166,slow=36
FCAR **Ozark Folk Cen** 27.55 313 IAmb IAmb 03 29 26.6

comp=Z,139nm,0.8s
E62A Clayton Lake 27.58 357 IAmb IAmb 03 30 06.7
comp=Z,166nm,0.5s
E62A IAMs_20 IAMs_20 03 39 12.6
comp=Z,28µm,19.0s
FVM French Village 27.58 318 IAmb IAmb 03 30 02.0
comp=Z,300nm,1.2s
NATX Nacogdoches 27.65 303 ⇑P **P 03 29 25.1 +1.9**
MIAR Mount Ida 27.94 309 ⇑P **P 03 29 25.9 +0.2**
L46A Eue Claire 28.00 329 IAmb IAmb 03 30 06.9
comp=Z,163nm,0.9s
L46A IAMs_20 IAMs_20 03 39 58.5
comp=Z,32µm,20.0s
D62A Allapoint, All 28.02 358 IAmb IAmb 03 30 12.1
comp=Z,91nm,0.6s
D62A IAMs_20 IAMs_20 03 39 17.2
comp=Z,26µm,20.0s
I49A Point Hope 28.03 336 IAMs_20 IAMs_20 03 40 06.8
comp=Z,37µm,19.0s
HKT Hockley 28.04 298 P **P 03 29 26.0 -0.6**
HKT IAmb IAmb 03 30 09.7
comp=Z,469nm,1.8s
HKT Hockley 28.04 298 P **P 03 29 26.0 -0.6**
HKT pmax pmax
comp=Z,469nm,1.8s
HKT MLR MLR
comp=Z,13µm,22.0s
HKT Hockley 28.04 298 ⇑P **P 03 29 27.9 +1.3**
P43A Skaggs, Pawnee 28.07 322 IAmb IAmb 03 29 51.2
comp=Z,245nm,0.8s
CCM Cathedral Cave 28.15 317 P **P 03 29 26.6 -1.0**
CCM IAmb IAmb 03 29 52.1
comp=Z,155nm,0.9s
CCM Cathedral Cave 28.15 317 P **P 03 29 26.6 -1.0**
CCM pmax pmax
comp=Z,155nm,1.0s
CCM MLR MLR
comp=Z,24µm,20.0s
CCM Cathedral Cave 28.15 317 ⇑P **P 03 29 26.3 -1.3**
ATAH Atahualpa 28.19 204 P **P 03 29 30.1 +1.5**
comp=Z,31nm,0.8s,baz=19,slow=5.7,SNR=30
ATAH LR LR 03 42 23.0
comp=Z,22µm,21.2s,baz=19,slow=40
comp=Z,31nm,0.8s
BATG Bathurst New B 28.20 2 P **P 03 29 27.5 -0.4**
BATG IAmb IAmb 03 30 20.7
comp=Z,180nm,1.2s
LABB Ljbrea 28.21 177 P **P 03 29 26.9 -1.4**
J47A Sumner 28.28 332 IAMs_20 IAMs_20 03 39 56.6
comp=Z,37µm,20.0s
M44A Midewin, Midew 28.43 326 P **P 03 29 29.4 -0.7**
Z38A Mt. Pleasant 28.46 305 IAmb IAmb 03 29 45.5
comp=Z,294nm,1.1s
TMAB Tom-Au,PA,Br 28.47 136 P **P 03 29 30.7 +0.1**
TMAB S **S 03 34 23.1 +4.9**
TMAB Tom-Au,PA,Br 28.47 136 *e*P **P 03 29 29.9 -0.8**
NPGB Novo Progresso 28.48 154 P **P 03 29 28.9 -1.8**
NPGB S **S 03 34 25.7 +7.3**
NPGB Novo Progresso 28.48 154 *e*P **P 03 29 28.3 -2.4**
HDIL Hopedale 28.54 323 ⇑P **P 03 29 30.6 -0.5**
HQIL Hanson Quary C 28.63 327 IAmb IAmb 03 30 20.0
comp=Z,248nm,0.9s
R40A Maddies Statio 28.94 317 IAmb IAmb 03 30 37.4
comp=Z,120nm,0.8s
HHAR Hobbs 29.02 312 IAmb IAmb 03 29 40.4
comp=Z,188nm,0.8s
MLDN Muldoon 29.03 297 IAmb IAmb 03 30 32.5
comp=Z,283nm,1.3s
735A Kenedy 29.43 295 IAmb IAmb 03 29 44.8
comp=Z,198nm,1.1s
GLMI Grayling 29.48 335 IAMs_20 IAMs_20 03 41 12.1
comp=Z,37µm,20.0s
GLMI Grayling 29.48 335 ⇑P **P 03 29 40.6 +1.3**
P40A Paris 29.52 319 IAmb IAmb 03 30 04.4
comp=Z,209nm,0.9s
P40A IAMs_20 IAMs_20 03 40 50.2
comp=Z,26µm,21.0s
I45A Fountain 29.54 332 IAMs_20 IAMs_20 03 40 33.9
comp=Z,36µm,21.0s
N41A Harden Midland 29.54 322 IAmb IAmb 03 30 05.0
comp=Z,106nm,1.0s
L42A Oliver, Polo 29.73 325 IAmb IAmb 03 30 36.6
comp=Z,228nm,0.8s
HBVL Hebbronville 29.85 291 IAmb IAmb 03 30 09.5
comp=Z,317nm,1.4s
WHTX Lake Whitney, 29.97 301 IAmb IAmb 03 30 09.7
comp=Z,197nm,0.9s
UNM Universidad Na 30.04 276 IAMs_20 IAMs_20 03 43 29.0
comp=Z,25µm,20.0s
TUL3 Leonard 30.17 310 IAmb IAmb 03 29 50.3
comp=Z,194nm,0.9s
ICQ Pointe Anglais 30.42 0 P **P 03 29 46.2 -1.4**
PRPB Parauapebas 30.42 144 P **P 03 29 46.2 -1.8**
PRPB Parauapebas 30.42 144 *e*P **P 03 29 45.5 -2.5**
LOOK Love County 30.44 305 IAmb IAmb 03 30 22.0
comp=Z,224nm,1.0s
P38A Dawn 30.51 318 IAmb IAmb 03 30 12.8
comp=Z,140nm,1.0s
P38A IAMs_20 IAMs_20 03 41 43.4
comp=Z,28µm,21.0s
H43A Windswept, Lux 30.57 331 IAmb IAmb 03 30 13.1
comp=Z,239nm,1.0s
H43A IAMs_20 IAMs_20 03 41 26.3
comp=Z,28µm,20.0s
L40A Anamosa 30.63 324 IAmb IAmb 03 30 53.8
comp=Z,183nm,0.8s
E46A Sault Ste Mari 30.64 337 IAMs_20 IAMs_20 03 41 35.8
comp=Z,33µm,20.0s
DEOK Depew 30.66 309 IAmb IAmb 03 29 53.5
comp=Z,212nm,0.8s
JFWS Jewell Farm 30.67 326 IAmb IAmb 03 30 14.7
comp=Z,168nm,0.8s
JFWS Jewell Farm 30.67 326 ⇑P **P 03 29 49.8 -0.2**
I42A Draeger Farm, 30.69 329 IAmb IAmb 03 30 14.3
comp=Z,231nm,1.0s
I42A IAMs_20 IAMs_20 03 41 40.5
comp=Z,30µm,20.0s
833A Chaparral WMA, 30.70 294 IAmb IAmb 03 30 27.1
comp=Z,143nm,0.9s
HNDO Hondo 30.84 296 IAmb IAmb 03 30 05.3
comp=Z,200nm,1.1s
OK052 Battle Ridge R 30.95 309 IAmb IAmb 03 29 56.1
comp=Z,213nm,0.9s
OK052 IAMs_20 IAMs_20 03 42 35.3
comp=Z,24µm,22.0s
QUOK Quay 30.95 310 IAmb IAmb 03 29 55.6
comp=Z,137nm,0.8s
N38A Joes South For 31.01 320 IAmb IAmb 03 30 17.5
comp=Z,188nm,0.8s
N38A IAMs_20 IAMs_20 03 41 35.4
comp=Z,23µm,21.0s
BRDY Brady 31.03 299 IAmb IAmb 03 30 18.4
comp=Z,189nm,1.1s
FNO Franklin 31.09 307 IAmb IAmb 03 30 25.2
comp=Z,119nm,0.9s
X34A Smith Ranch, M 31.16 306 IAmb IAmb 03 30 54.4
comp=Z,176nm,1.0s
OKCSW OKLAHOMA CITY 31.18 308 IAmb IAmb 03 30 26.4
comp=Z,214nm,0.9s
DRLN Deer Lake 31.18 12 P **P 03 29 53.4 -0.9**
DRLN IAmb IAmb 03 30 18.8
comp=Z,170nm,1.4s
OK051 E0350 and S346 31.19 310 IAmb IAmb 03 29 59.1
comp=Z,154nm,1.1s
OK048 Pawnee Station 31.23 310 IAmb IAmb 03 29 59.5
comp=Z,133nm,1.0s
OK029 Liberty Lake 31.35 308 IAmb IAmb 03 29 59.5
comp=Z,195nm,0.8s
OK029 IAMs_20 IAMs_20 03 42 59.9
comp=Z,21µm,21.0s
WTFS Witchita Falls 31.35 304 IAmb IAmb 03 30 28.2
comp=Z,322nm,1.4s
JCT Junction City 31.49 298 IAmb IAmb 03 30 22.8
comp=Z,293nm,1.2s
JCT Junction City 31.49 298 ⇑P **P 03 29 57.9 +0.5**
I40A Norwalk 31.55 327 IAmb IAmb 03 30 53.8
comp=Z,202nm,0.9s
I40A IAMs_20 IAMs_20 03 42 19.3
comp=Z,23µm,20.0s
ROSB Rosrio 31.57 131 P P 03 30 06.4 +8.3
SCIA State Center 31.67 322 IAmb IAmb 03 31 02.4
comp=Z,110nm,0.8s
F42A Maple Grove Fa 31.72 332 IAmb IAmb 03 31 00.5
comp=Z,84nm,0.7s
F42A IAMs_20 IAMs_20 03 42 01.8
comp=Z,35µm,21.0s
CLDB Colider 31.82 158 P **P 03 29 59.2 -1.1**
CLDB Colider 31.82 158 *e*P **P 03 29 58.2 -2.1**
WMOK Wichita Mounta 31.94 306 IAmb IAmb 03 30 32.8
comp=Z,103nm,0.9s
WMOK Wichita Mounta 31.94 306 ⇑P **P 03 30 00.3 -0.9**
PAL01 Palmeiras do T 32.11 141 P **P 03 30 01.7 -1.1**
KAN01 Argonia South 32.14 311 IAmb IAmb 03 30 06.2
comp=Z,168nm,0.8s
PDRB Porto dos Gac 32.20 160 P **P 03 30 02.4 -1.2**
PDRB Porto dos Gac 32.20 160 *e*P **P 03 30 01.4 -2.2**
NNA Nana 32.21 198 P **P 03 30 02.8 -0.9**
NNA Nana 32.21 198 LR LR 03 45 24.4
comp=Z,8µm,20.7s,baz=357,slow=41
NNA Nana 32.21 198 P **P 03 30 02.8 -0.9**
NNA pmax pmax
comp=Z,206nm,0.8s
NNA Nana 32.21 198 ⇑P **P 03 30 03.2 -0.6**
KSU1 Kansas State U 32.25 315 IAMs_20 IAMs_20 03 45 21.3
comp=Z,20µm,18.0s
KSU1 Kansas State U 32.25 315 ⇑P **P 03 30 03.1 -0.7**
G40A Rib Lake 32.32 329 IAmb IAmb 03 30 28.6
comp=Z,172nm,0.9s
G40A IAMs_20 IAMs_20 03 42 18.7
comp=Z,25µm,21.0s
KAN08 Anthony NE Sta 32.33 311 IAmb IAmb 03 30 37.2
comp=Z,240nm,1.3s
PAL2 UHE Estreito - 32.33 141 P **P 03 30 04.1 -0.8**
N35A Tabor 32.54 318 IAMs_20 IAMs_20 03 42 56.1
comp=Z,25µm,21.0s
VILB Vilhena 32.55 167 P **P 03 30 05.3 -1.4**
VILB Vilhena 32.55 167 P **P 03 30 05.6 -1.1**
VILB Vilhena 32.55 167 *e*P **P 03 30 05.3 -1.4**
OK038 West end E0370 32.57 309 IAmb IAmb 03 30 11.4
comp=Z,102nm,0.9s
OK038 IAMs_20 IAMs_20 03 45 40.4
comp=Z,21µm,18.0s
OZNA Ozona 32.70 298 IAmb IAmb 03 30 33.3
comp=Z,208nm,1.1s
SGCY Sterling City 32.94 300 IAmb IAmb 03 30 35.2
comp=Z,185nm,0.9s
ZAIG Zacatecas 33.06 283 ⇓P **P 03 30 14.0 +2.5**
I37A Lemond, Waseca 33.11 325 IAmb IAmb 03 31 23.6
comp=Z,163nm,1.0s
SMWD Samnorwood 33.19 306 IAmb IAmb 03 30 43.8
comp=Z,183nm,0.9s
DKNS Dickens 33.26 303 IAmb IAmb 03 30 37.2
comp=Z,189nm,1.1s
SAND Sanderson 33.34 296 IAmb IAmb 03 30 38.0
comp=Z,360nm,1.8s
R32A Long Quarter, 33.38 312 IAMs_20 IAMs_20 03 45 25.5
comp=Z,18µm,18.0s
SPMN Marine on St. 33.60 327 IAMs_20 IAMs_20 03 43 32.6
comp=Z,21µm,20.0s
L34A Svendsen Farm, 33.61 319 IAMs_20 IAMs_20 03 43 18.4
comp=Z,22µm,22.0s
SMTB Santa Maria do 33.88 143 P **P 03 30 17.0 -1.3**
SMTB Santa Maria do 33.88 143 *e*P **P 03 30 16.4 -1.9**
E38A The Farm, Brul 33.94 330 IAmb IAmb 03 30 42.2
comp=Z,138nm,1.0s
E38A IAMs_20 IAMs_20 03 43 29.5
comp=Z,22µm,20.0s
MNHN Monahans 34.16 298 IAmb IAmb 03 30 45.5
comp=Z,201nm,0.9s
AMTX Amarillo 34.23 304 IAmb IAmb 03 30 50.3
comp=Z,225nm,1.1s
AMTX Amarillo 34.23 304 ⇑P **P 03 30 21.5 +0.1**
CBKS Cedar Bluff 34.27 312 IAMs_20 IAMs_20 03 46 02.1
comp=Z,18µm,20.0s
CBKS Cedar Bluff 34.27 312 ⇑P **P 03 30 20.9 -0.7**
LAJE UHE Lajeado 34.40 145 P **P 03 30 21.0 -1.8**
BGNE Belgrade 34.43 317 IAMs_20 IAMs_20 03 44 05.2
comp=Z,22µm,21.0s
TBO Thunder Bay 34.51 334 IAmb IAmb 03 30 47.3
comp=Z,229nm,1.1s
NBPS Pedro II - PI 34.53 130 P **P 03 30 23.4 -0.6**
NBPS S S 03 36 03.1 +10
TXAR Lajitas Array 34.56 294 P **P 03 30 24.0 -0.3**
TXAR Lajitas Array 34.56 294 P **P 03 30 24.3 0.0**
comp=Z,32nm,0.8s,baz=108,slow=8.3,SNR=138
TXAR ScP **ScP 03 36 44.2 -0.2**
comp=Z,35nm,0.8s,baz=125,slow=5.6,SNR=20
TXAR LR LR 03 49 34.5
comp=Z,6µm,19.3s,baz=94,slow=45
comp=Z,32nm,0.8s
TX31 Lajitas Ar. Si 34.56 294 IAmb IAmb 03 31 07.9
comp=Z,179nm,1.0s
SNDB Serra Nova Dou 34.63 152 P **P 03 30 23.2 -1.6**
SNDB S **S 03 36 03.1 +8.6**
SNDB Serra Nova Dou 34.63 152 *e*P **P 03 30 22.9 -1.9**
ALPN Alpine 34.71 296 IAmb IAmb 03 30 30.5
comp=Z,247nm,1.0s
ECSD EROS Data Cent 34.77 322 IAmb IAmb 03 30 51.0
comp=Z,209nm,1.0s
ECSD EROS Data Cent 34.77 322 ⇑P **P 03 30 24.8 -1.0**
EYMN Ely 34.89 331 IAmb IAmb 03 30 51.1
comp=Z,207nm,1.2s
EYMN Ely 34.89 331 IAMs_20 IAMs_20 03 43 59.5
comp=Z,36µm,20.0s
EYMN Ely 34.89 331 ⇓P **P 03 30 26.9 +0.1**
SBBR Sobral 34.96 128 P **P 03 30 26.6 -1.1**
SBBR S **S 03 36 05.6 +6.0**
PECS Pecos 35.09 298 IAmb IAmb 03 30 53.2
comp=Z,302nm,1.3s
LPAZ La Paz 35.10 181 IAmb IAmb 03 30 52.1
comp=Z,189nm,1.1s
LPAZ La Paz 35.10 181 P **P 03 30 28.9 -0.6**
comp=Z,23nm,0.6s,baz=9.8,slow=10,SNR=71
LPAZ LR LR 03 46 13.7
comp=Z,9µm,18.8s,baz=352,slow=39
comp=Z,23nm,0.6s
LPAZ La Paz 35.10 181 ⇓P **P 03 30 27.4 -2.1**
LPAZ La Paz 35.10 181 P **P 03 30 27.8 -1.8**
LPAZ La Paz 35.10 181 *e*P **P 03 30 27.1 -2.4**
PTLB Pontes e Lacer 35.20 166 P **P 03 30 27.6 -2.1**
PTLB Pontes e Lacer 35.20 166 *e*P **P 03 30 28.3 -1.4**
SIV San Ignacio 35.34 170 LR LR 03 45 45.5
comp=Z,27µm,18.6s,baz=3.0,slow=38
RTBA Rita Blanca 35.55 307 IAmb IAmb 03 31 05.0
comp=Z,214nm,1.1s
SCHQ Schefferville 35.74 1 P **P 03 30 33.6 -0.4**
comp=Z,469nm,0.7s,baz=187,slow=7.4,SNR=29
SCHQ LR LR 03 43 31.9
comp=Z,133µm,21.6s,baz=189,slow=34
F33A 5 Mile Ranch, 35.86 325 IAMs_20 IAMs_20 03 44 35.5
comp=Z,22µm,22.0s
K30B Basset 36.02 318 IAMs_20 IAMs_20 03 45 06.1
comp=Z,23µm,21.0s
HPIG 36.04 290 ⇑P **P 03 30 38.7 +1.6**
KSCO Kaye Shedlock' 36.41 311 IAmb IAmb 03 30 59.4
comp=Z,158nm,1.0s
MNTX Cornudas Mount 36.43 298 ⇓P **P 03 30 40.4 +0.2**
PB18 Visviri 36.45 183 IAMs_20 IAMs_20 03 47 18.1
comp=Z,19µm,19.0s
SALV Santo Antonio 36.55 161 P **P 03 30 39.6 -1.7**
SALV S **S 03 36 27.0 +3.1**
SALV Santo Antonio 36.55 161 *e*P **P 03 30 39.4 -1.9**
SUSD Miller 36.56 321 IAMs_20 IAMs_20 03 45 11.2
comp=Z,20µm,22.0s
NBPB Pedra_Branca-C 36.66 129 S **S 03 36 27.4 +1.6**
OGNE Ogallala 36.79 314 IAmb IAmb 03 31 10.8
comp=Z,175nm,1.0s
OGNE IAMs_20 IAMs_20 03 48 11.7
comp=Z,15µm,18.0s
OGNE Ogallala 36.79 314 ⇑P **P 03 30 43.2 -0.1**
CAN3 Cana Brava 37.04 148 P **P 03 30 43.7 -1.8**
EPLO Experimental L 37.16 331 IAmb IAmb 03 31 09.3
comp=Z,155nm,1.0s
PB16 IPD Station P 37.19 183 IAmb IAmb 03 30 54.2
comp=Z,308nm,1.1s
AGMN Agassiz Nation 37.22 328 IAMs_20 IAMs_20 03 45 32.4
comp=Z,19µm,20.0s
AGMN Agassiz Nation 37.22 328 ⇓P **P 03 30 46.0 -0.7**
ARAG Araguaiana, MT 37.75 155 *e*P **P 03 30 49.1 -2.4**
ANMO Albuquerque 38.02 303 P **P 03 30 53.4 -0.5**
ANMO Albuquerque 38.02 303 LR LR 03 49 56.4
comp=Z,16µm,18.7s,baz=208,slow=42
ANMO Albuquerque 38.02 303 P **P 03 30 53.4 -0.5**
ANMO pmax pmax
comp=Z,86nm,1.1s
ANMO MLR MLR
comp=Z,11µm,20.0s
ANMO Albuquerque 38.02 303 ⇑P **P 03 30 54.6 +0.8**
SDCO Great Sand Dun 38.07 307 IAMs_20 IAMs_20 03 48 59.9
comp=Z,17µm,19.0s
SDCO Great Sand Dun 38.07 307 ⇓P **P 03 30 54.5 +0.1**
Y22D IRIS PASSCAL I 38.19 301 P **P 03 30 57.1 +1.8**
baz=103
Y22D S **S 03 36 49.4 +0.5**
baz=103
Y22A Socorro 38.19 301 IAmb IAmb 03 31 30.1
comp=Z,215nm,1.3s
SDBA SAO DESIDERIO 38.28 143 P **P 03 30 53.6 -2.4**
SDBA SAO DESIDERIO 38.28 143 *e*P **P 03 30 53.2 -2.8**
PP1B Ponte de Pedra 38.41 161 *e*P **P 03 30 55.6 -1.4**
NBMA Muriti-CE 38.49 130 S **S 03 36 55.9 +2.4**
GO01 Chusmiza 38.50 183 IAMs_20 IAMs_20 03 49 44.4
comp=Z,11µm,18.0s
ULM Lac du Bonnet 38.55 331 P **P 03 30 57.1 -0.8**
comp=Z,16nm,0.8s,baz=124,slow=8.9,SNR=17
ULM LR LR 03 46 22.2
comp=Z,23µm,21.0s,baz=135,slow=35
comp=Z,16nm,0.8s
121A Cookes Peak, D 38.59 299 IAmb IAmb 03 31 24.6
comp=Z,332nm,1.2s
NBPA Parau_RN 38.65 127 S **S 03 37 00.1 +4.3**
CALA Caldeira 38.71 52 *e*P **P 03 31 00.7 +1.2**
CALA *i* IAmb IAmb 03 31 04.8
comp=Z,712nm,1.5s
CALA *e*LQ LQ 03 40 00.3
CALA *e*LR LR 03 41 22.4
CALA *i* IAMs_20 IAMs_20 03 43 33.1
comp=Z,7µm,20.0s
HOR Horta 38.74 52 *e*P **P 03 31 02.6 +2.9**
HOR *i* IAmb IAmb 03 31 05.8
comp=Z,390nm,1.4s
HOR *e*LQ LQ 03 39 52.2
HOR *e*LR LR 03 41 36.3
HOR *i* IAMs_20 IAMs_20 03 43 26.5
comp=Z,8µm,20.0s
E28A Huff 38.76 323 IAmb IAmb 03 31 20.8
comp=Z,136nm,0.7s
ISCO Idaho Springs 38.84 310 ⇓P **P 03 31 01.1 +0.2**
MDND Maddock 38.88 325 IAmb IAmb 03 31 25.8
comp=Z,218nm,1.1s
MDND IAMs_20 IAMs_20 03 46 37.6
comp=Z,18µm,21.0s
PICO Pico 38.88 52 *e*P **P 03 31 03.5 +2.5**
PICO *i* IAmb IAmb 03 31 06.4
comp=Z,480nm,1.4s
PICO *e*LQ LQ 03 39 38.8
PICO *e*LR LR 03 41 59.1
PICO *i* IAMs_20 IAMs_20 03 43 20.6
comp=Z,8µm,20.0s
PB08 IPOC Station P 38.97 183 P **P 03 30 57.8 -4.3**
PB08 IPOC Station P 38.97 183 IAmb IAmb 03 31 17.5
comp=Z,541nm,1.3s
ROSA Rosais 39.09 51 *e*P **P 03 31 05.7 +3.0**
ROSA *i* IAmb IAmb 03 31 09.9
comp=Z,281nm,1.8s
ROSA *e*LQ LQ 03 39 57.6
ROSA *e*LR LR 03 41 53.7
ROSA *i* IAMs_20 IAMs_20 03 43 35.6
comp=Z,8µm,22.0s
PMAN Manadas 39.18 52 *e*P **P 03 31 06.3 +2.9**
PMAN *i* IAmb IAmb 03 31 08.6
comp=Z,400nm,1.4s
BDFB Brasilia 39.36 150 IAMs_20 IAMs_20 03 47 34.6
comp=Z,31µm,20.0s
BDFB Brasilia 39.36 150 P **P 03 31 03.0 -2.1**
comp=Z,89nm,0.8s,baz=328,slow=9.9,SNR=47
BDFB LR LR 03 47 55.7
comp=Z,32µm,19.3s,baz=329,slow=37
comp=Z,89nm,0.8s
BDFB Brasilia 39.36 150 P **P 03 31 03.0 -2.1**
PGRA Graciosa 39.38 51 *e*P P 03 31 20.6 +16
PGRA *i* IAmb IAmb 03 31 26.1
comp=Z,429nm,1.9s
TA01 Diego Aracena 39.45 184 IAmb IAmb 03 31 29.2
comp=Z,282nm,1.1s
TA01 IAMs_20 IAMs_20 03 49 05.6
comp=Z,15µm,19.0s
RSSD Black Hills 39.54 317 IAMs_20 IAMs_20 03 47 07.3
comp=Z,25µm,22.0s
RSSD Black Hills 39.54 317 ⇑P **P 03 31 06.2 -0.3**
RCBR Riachuelo 39.62 126 ⇓P **P 03 31 07.7 +0.3**
RCBR Riachuelo 39.62 126 P **P 03 31 05.7 -1.6**
RCBR S **S 03 37 14.4 +3.8**
RCBR Riachuelo 39.62 126 *e*P **P 03 31 05.5 -1.8**
ADH Angra Heroismo 39.82 52 *e*P **P 03 31 10.5 +1.9**
ADH *i* IAmb IAmb 03 31 14.1
comp=Z,448nm,1.6s
ADH *e*LQ LQ 03 40 15.5
ADH *e*LR LR 03 42 01.7
ADH *i* IAMs_20 IAMs_20 03 43 49.0
comp=Z,10µm,20.0s
SLBS Sierra La Lagu 39.84 284 P **P 03 31 09.5 +0.4**
SLBS Sierra La Lagu 39.84 284 ⇓P **P 03 31 12.0 +2.8**
PAGU Agualva, Azore 39.89 52 *e*P **P 03 31 10.5 +1.2**
PAGU *i* IAmb IAmb 03 31 13.9
comp=Z,437nm,1.5s
PAGU *e*LQ LQ 03 40 03.8
PAGU *e*LR LR 03 42 19.1
PAGU *i* IAMs_20 IAMs_20 03 43 50.0
comp=Z,9µm,20.0s
LPIG La Paz 40.16 285 LR LR 03 49 50.1
comp=Z,12µm,20.8s,baz=94,slow=39
C2SB Chapadao do Su 40.17 158 P **P 03 31 12.1 +0.3**
C2SB Chapadao do Su 40.17 158 *e*P **P 03 31 10.3 -1.5**
PB02 IPOC Station P 40.18 184 IAmb IAmb 03 31 43.1
comp=Z,202nm,0.9s
PB02 IAMs_20 IAMs_20 03 49 27.9
comp=Z,14µm,19.0s
MVCO Mesa Verde 40.19 306 IAMs_20 IAMs_20 03 49 02.1
comp=Z,16µm,20.0s
MVCO Mesa Verde 40.19 306 ⇑P **P 03 31 12.3 +0.2**
BDQN Bodoquena, MS 40.58 165 *e*P **P 03 31 13.6 -1.5**
PB09 IPOC Station P 40.62 183 P **P 03 31 13.3 -2.2**
PB09 IAmb IAmb 03 31 39.6
comp=Z,329nm,1.1s
PB09 IAMs_20 IAMs_20 03 49 39.5
comp=Z,17µm,19.0s
PV07 Paradox Valley 40.64 307 P **P 03 31 14.4 -1.4**
PV02 Paradox Valley 40.65 307 IAmb IAmb 03 31 38.2
comp=Z,376nm,1.1s
W18A Petrified Fore 40.68 302 P **P 03 31 16.3 +0.2**
PV13 Radium Mtn., P 40.70 307 IAmb IAmb 03 31 39.1
comp=Z,226nm,1.1s
PSET Sete Cidades 40.72 54 *e*P **P 03 31 16.6 +0.4**
PSET *i* IAmb IAmb 03 31 20.3
comp=Z,759nm,1.5s
PSET *e*LQ LQ 03 40 24.4
PSET *e*LR LR 03 41 38.9
PSET *i* IAMs_20 IAMs_20 03 44 25.0
comp=Z,8µm,22.0s
PV12 Saucer Basin, 40.73 307 IAmb IAmb 03 31 39.3
comp=Z,330nm,0.9s
X18A Snowflake 40.73 301 IAMs_20 IAMs_20 03 49 54.0
comp=Z,14µm,21.0s
JANB Januaria 40.76 145 P **P 03 31 14.5 -2.3**
JANB Januaria 40.76 145 *e*P **P 03 31 13.6 -3.1**
PV11 David Mesa, Pa 40.77 307 IAmb IAmb 03 31 39.0
comp=Z,235nm,1.0s
PV22 Blue Mesa, Par 40.78 307 P **P 03 31 17.3 +0.4**
PV18 Skein Mesa, Pa 40.79 307 P **P 03 31 16.4 -0.6**
PV18 IAmb IAmb 03 31 39.1
comp=Z,360nm,1.1s
PV16 Nyswonger Mesa 40.81 307 IAmb IAmb 03 31 39.9
comp=Z,276nm,1.3s
PV04 Paradox Valley 40.83 307 P **P 03 31 17.0 -0.3**
PV04 IAmb IAmb 03 31 49.6
comp=Z,428nm,1.7s
CMLA Cha da Macela 40.86 54 P **P 03 31 15.2 -2.0**
CMLA Cha da Macela 40.86 54 IAMs_20 IAMs_20 03 50 15.9
comp=Z,14µm,18.0s
CMLA Cha da Macela 40.86 54 *e*P **P 03 31 18.2 +0.9**
CMLA *i* IAmb IAmb 03 31 25.1
comp=Z,352nm,1.5s
CMLA *e*LQ LQ 03 40 32.4
CMLA *e*LR LR 03 41 11.2
CMLA *i* IAMs_20 IAMs_20 03 44 28.5
comp=Z,8µm,22.0s
CMLA Cha da Macela 40.86 54 P **P 03 31 15.3 -2.0**
CMLA pmax pmax
comp=Z,100nm,0.8s
CMLA MLR MLR
comp=Z,14µm,18.0s
O20A White River Ci 40.86 310 P **P 03 31 18.3 +0.8**
PV20 West Nyswonger 40.86 307 IAmb IAmb 03 31 34.0
comp=Z,229nm,1.0s
PV19 Morning Glory 40.86 307 IAmb IAmb 03 32 08.2
comp=Z,276nm,1.1s
AQDB Aquidauana 40.89 163 P **P 03 31 16.8 -0.8**

AQDB IAmb IAmb 03 31 22.1
comp=Z,292nm,0.9s
AQDB Aquidauana 40.89 163 P **P** **03 31 16.1 -1.6**
AQDB S **S** **03 37 28.7 -0.5**
AQDB Aquidauana 40.89 163 *eP* **P** **03 31 15.0 -2.6**
PB03 IPOC Station P 40.89 183 IAmb IAmb 03 31 36.3
comp=Z,198nm,1.0s
PV10 Paradox Valley 40.92 307 P **P** **03 31 17.5 -0.7**
PV10 IAmb IAmb 03 31 40.6
comp=Z,372nm,1.2s
PV23 Carpenter Ridg 40.92 307 IAmb IAmb 03 31 56.4
comp=Z,263nm,1.1s
PGRON Lagoa das Cont 40.97 54 *eP* **P** **03 31 20.6 +2.3**
PGRON *i* IAmb IAmb 03 31 23.2
comp=Z,494nm,1.5s
PSMN Pico do Norte, 41.02 55 *eP* **P** **03 31 19.7 +1.1**
PSMN *i* IAmb IAmb 03 31 22.6
comp=Z,296nm,1.5s
PSMN *eLQ* LQ 03 40 31.5
PSMN *eLR* LR 03 41 38.9
PSMN *i* IAMs_20 IAMs_20 03 44 20.5
comp=Z,8µm,22.0s
TUC Tucson 41.05 298 P **P** **03 31 18.7 -0.4**
TUC Tucson 41.05 298 P **P** **03 31 18.7 -0.4**
TUC pmax pmax
comp=Z,232nm,1.5s
TUC MLR MLR
comp=Z,12µm,22.0s
TUC Tucson 41.05 298 ⇑P **P** **03 31 20.5 +1.3**
BART Pico Bartolome 41.13 54 *eP* **P** **03 31 19.7 0.0**
BART *i* IAmb IAmb 03 31 23.6
comp=Z,212nm,1.7s
ITU3 Corumbazu 41.23 153 P **P** **03 31 18.0 -2.5**
IPMB Ipameri, GO 41.31 152 P **P** **03 31 18.7 -2.5**
IPMB Ipameri, GO 41.31 152 *eP* **P** **03 31 18.6 -2.6**
SFA1 Serra Facao 41.53 151 P **P** **03 31 20.8 -2.3**
PB06 IPOC Station P 41.54 183 P **P** **03 31 20.2 -2.9**
PB06 IAmb IAmb 03 31 46.6
comp=Z,222nm,1.1s
PB05 IPOC Station P 41.72 184 P **P** **03 31 22.1 -2.4**
PB05 IAmb IAmb 03 31 38.0
comp=Z,268nm,1.0s
AF01 San Pedro de A 41.73 181 P **P** **03 31 22.1 -2.8**
DGMT Dagmar 41.78 323 P **P** **03 31 24.4 -0.4**
DGMT IAmb IAmb 03 32 28.9
comp=Z,222nm,1.3s
DGMT Dagmar 41.78 323 ⇑P **P** **03 31 26.1 +1.3**
NBAN Anadia - AL 41.85 130 P **P** **03 31 24.9 -0.8**
NBAN Anadia - AL 41.85 130 *eP* **P** **03 31 24.9 -0.8**
X16A Lo Mia Camp, P 41.92 301 IAMs_20 IAMs_20 03 51 04.6
comp=Z,15µm,21.0s
ITRB Iturama 41.94 156 P **P** **03 31 25.2 -1.2**
ITRB Iturama 41.94 156 *eP* **P** **03 31 24.9 -1.4**
SACV Santiago Islan 41.95 89 P **P** **03 31 25.6 -0.9**
SACV IAmb IAmb 03 31 51.6
comp=Z,244nm,0.9s
SACV Santiago Islan 41.95 89 ⇓P **P** **03 31 28.2 +1.7**
WUAZ Wupatki 42.07 302 IAmb IAmb 03 31 53.5
comp=Z,377nm,1.1s
WUAZ IAMs_20 IAMs_20 03 52 15.8
comp=Z,14µm,19.0s
WUAZ Wupatki 42.07 302 ⇑P **P** **03 31 28.9 +1.4**
LAO LASA Array 42.09 320 IAmb IAmb 03 31 52.5
comp=Z,315nm,1.1s
LAO IAMs_20 IAMs_20 03 48 55.7
comp=Z,15µm,20.0s
LAO LASA Array 42.09 320 ⇑P **P** **03 31 28.6 +1.1**
HMU Henry Mountain 42.10 306 P **P** **03 31 27.4 -0.5**
PB10 IPOC Station P 42.40 184 IAMs_20 IAMs_20 03 49 59.6
comp=Z,14µm,22.0s
JQT1 Jequitai-MG 42.54 146 P **P** **03 31 29.0 -2.3**
PMNB Patos De Minas 42.60 150 ⇑P **P** **03 31 29.4 -2.4**
PMNB Patos De Minas 42.60 150 *eP* **P** **03 31 29.9 -2.0**
BW06 Boulder Array 42.67 313 IAMs_20 IAMs_20 03 51 54.4
comp=Z,14µm,20.0s
BW06 Boulder Array 42.67 313 ⇑P **P** **03 31 32.0 -0.4**
PDAR Pinedale Array 42.67 313 P **P** **03 31 31.5 -0.9**
PDAR Pinedale Array 42.67 313 P **P** **03 31 32.0 -0.3**
comp=Z,4.9nm,0.4s,baz=106,slow=9.2,SNR=41
PDAR ScP **ScP** **03 37 15.8 +0.4**
comp=Z,9.8nm,1.1s,baz=130,slow=0.5,SNR=4.5
comp=Z,4.9nm,0.4s
PIX Pinacate 43.23 296 IAmb IAmb 03 31 42.2
comp=Z,165nm,1.0s
RLMT Red Lodge 43.34 316 IAmb IAmb 03 32 02.8
comp=Z,360nm,1.1s
RLMT IAMs_20 IAMs_20 03 49 59.0
comp=Z,19µm,20.0s
RLMT Red Lodge 43.34 316 ⇑P **P** **03 31 37.9 +0.1**
AMBA Amambai (Brazi 43.41 163 *eP* **P** **03 31 34.8 -3.4**
PB14 IPOC Station P 43.49 184 P **P** **03 31 35.3 -3.9**
PB14 IPOC Station P 43.49 184 IAmb IAmb 03 32 03.0
comp=Z,169nm,0.9s
LOHW Long Hollow 43.68 314 IAmb IAmb 03 32 02.8
comp=Z,207nm,1.1s
HWUT Hardware Ranch 43.71 311 IAMs_20 IAMs_20 03 53 04.7
comp=Z,14µm,18.0s
HWUT Hardware Ranch 43.71 311 ⇑P **P** **03 31 40.6 -0.2**
SNOW Snow King Moun 43.73 314 IAmb IAmb 03 32 07.5
comp=Z,227nm,1.1s
DIAM Diamantina, MG 43.78 147 P **P** **03 31 39.2 -2.3**
DIAM Diamantina, MG 43.78 147 *eP* **P** **03 31 38.0 -3.4**
YMP Mirror Lake Pl 43.78 316 IAmb IAmb 03 32 33.6
comp=Z,184nm,1.0s
CMC01 Camacan, BA 43.80 139 P **P** **03 31 40.0 -1.4**
CMC01 Camacan, BA 43.80 139 *eP* **P** **03 31 39.6 -1.9**
LKWY Lake 43.88 315 IAMs_20 IAMs_20 03 52 53.3
comp=Z,22µm,19.0s
GO02 Mina Guanaco 43.98 183 ⇓P **P** **03 31 40.5 -2.6**
TRCB Terra Rica 43.98 160 IAmb IAmb 03 31 46.1
comp=Z,183nm,0.8s
TRCB Terra Rica 43.98 160 P **P** **03 31 42.7 -0.2**
TRCB Terra Rica 43.98 160 *eP* **P** **03 31 41.0 -1.9**
W13A Hualapai Mount 44.02 301 IAmb IAmb 03 32 19.2
comp=Z,167nm,1.2s
W13A IAMs_20 IAMs_20 03 52 22.2
comp=Z,12µm,20.0s
FCC Fort Churchill 44.20 340 IAmb IAmb 03 32 06.4
comp=Z,266nm,1.1s
IVI Ivigtut 44.26 13 IAMs_20 IAMs_20 03 48 20.3
comp=Z,13µm,20.0s
IVI Ivigtut 44.26 13 *i* P **P** **03 31 47.0 +2.4**
YMR Madison River 44.30 315 IAmb IAmb 03 32 19.3
comp=Z,151nm,1.1s
FFC Flin Flon 44.31 332 P **P** **03 31 44.0 -1.2**
FFC Flin Flon 44.31 332 IAMs_20 IAMs_20 03 49 25.8
comp=Z,29µm,21.0s
FFC Flin Flon 44.31 332 P **P** **03 31 44.0 -1.2**
FFC pmax pmax
comp=Z,40nm,0.8s
FFC MLR MLR
comp=Z,29µm,21.0s
FFC Flin Flon 44.31 332 ⇑P **P** **03 31 45.0 -0.1**
YHB Horse Butte 44.48 315 IAmb IAmb 03 32 34.4
comp=Z,146nm,1.0s
YHL Hebgen Lake 44.51 315 IAmb IAmb 03 32 14.3
comp=Z,318nm,1.3s
GLA Glamis 44.53 298 IAmb IAmb 03 31 53.2
comp=Z,193nm,1.3s
GUA01 Guaratinga, BA 44.57 141 P **P** **03 31 46.1 -1.5**
GUA01 Guaratinga, BA 44.57 141 *eP* **P** **03 31 45.3 -2.3**
NEE2 Needles Airpor 44.57 300 IAmb IAmb 03 32 10.4
comp=Z,333nm,1.8s
FRB Frobisher Bay 44.69 359 LR LR 03 49 05.4
comp=Z,14µm,20.4s,baz=181,slow=34
NRS Narsarsuaq 44.85 15 P **P** **03 31 47.8 -1.5**
NRS IAmb IAmb 03 32 09.4
comp=Z,152nm,0.9s
NRS IAMs_20 IAMs_20 03 51 35.5
comp=Z,25µm,19.0s
NRS Narsarsuaq 44.85 15 P **P** **03 31 47.8 -1.5**
NRS pmax pmax
comp=Z,152nm,0.9s
NRS MLR MLR
comp=Z,25µm,19.0s
NRS Narsarsuaq 44.85 15 ⇑P **P** **03 31 53.0 +3.7**
NRS Narsarsuaq 44.85 15 *i* P **P** **03 31 51.0 +1.7**
NRS IAmb IAmb 03 31 56.4
comp=Z,122nm,1.3s
V12A Nelson 44.90 302 IAmb IAmb 03 32 14.9
comp=Z,174nm,1.1s
BOZ Bozeman (W) 45.07 316 IAMs_20 IAMs_20 03 50 42.6
comp=Z,17µm,20.0s
BOZ Bozeman (W) 45.07 316 ⇓P **P** **03 31 51.6 +0.1**
SJPY San Joaquin 45.11 166 *eP* **P** **03 31 48.9 -2.9**

BC3 Big Chuckawall 45.12 299 IAmb IAmb 03 32 17.5
comp=Z,340nm,1.6s
PRN Pahroc Range 45.33 304 ⇓P **P** **03 31 55.8 +2.0**
ESJX Sierra Juarez 45.38 296 IAmb IAmb 03 32 20.7
comp=Z,173nm,1.2s
YUH Yuha Desert 45.41 297 IAmb IAmb 03 32 20.9
comp=Z,164nm,1.1s
MTPC Mountain Pass 45.43 301 IAmb IAmb 03 32 18.7
comp=Z,90nm,0.9s
MTPC IAMs_20 IAMs_20 03 53 06.2
comp=Z,13µm,19.0s
SJMB Sao Joao De Ma 45.45 144 P **P** **03 31 53.2 -1.4**
SJMB Sao Joao De Ma 45.45 144 *eP* **P** **03 31 53.0 -1.6**
BSCB Bom Sucesso 45.51 150 P **P** **03 31 53.6 -1.6**
BSCB Bom Sucesso 45.51 150 *eP* **P** **03 31 53.3 -1.8**
RCLB Rio Claro- Sao 45.52 154 P **P** **03 31 55.7 +0.5**
RCLB Rio Claro- Sao 45.52 154 *eP* **P** **03 31 53.9 -1.2**
FRTB Fartura 45.55 157 P **P** **03 31 54.0 -1.4**
BELC Belle Mtn. Jos 45.60 299 IAmb IAmb 03 32 02.0
comp=Z,155nm,1.5s
DLMT Dillon 45.62 316 IAMs_20 IAMs_20 03 51 33.3
comp=Z,15µm,20.0s
AC02 Maricunga 45.62 182 IAMs_20 IAMs_20 03 51 49.0
comp=Z,15µm,22.0s
BORC Borrego Spring 45.88 298 IAmb IAmb 03 32 04.0
comp=Z,120nm,1.1s
PMD Palm Desert 45.88 299 IAmb IAmb 03 32 23.6
comp=Z,229nm,1.4s
PFO Pinyon Flats O 45.95 299 P **P** **03 31 58.6 0.0**
PFO IAmb IAmb 03 32 05.7
comp=Z,218nm,1.6s
PFO Pinyon Flats O 45.95 299 P **P** **03 31 58.7 0.0**
PFO pmax pmax
comp=Z,218nm,1.6s
PTGB Pitanga 45.96 161 P **P** **03 31 58.3 -0.3**
PTGB Pitanga 45.96 161 *eP* **P** **03 31 57.0 -1.6**
CBX Cerro Bola 46.00 297 IAmb IAmb 03 32 25.6
comp=Z,190nm,1.1s
BAR Barrett 46.04 297 IAmb IAmb 03 32 50.1
comp=Z,133nm,1.4s
SHOC Shoshone, Teco 46.06 302 IAMs_20 IAMs_20 03 55 02.1
comp=Z,17µm,19.0s
DNR Dunn Ranch,Anz 46.08 299 IAmb IAmb 03 32 49.4
comp=Z,232nm,1.3s
CPUP Villa Florida 46.13 167 IAmb IAmb 03 32 02.6
comp=Z,115nm,1.1s
CPUP Villa Florida 46.13 167 P **P** **03 31 57.5 -2.3**
comp=Z,49nm,0.8s,baz=210,slow=7.8,SNR=47
CPUP ScP **ScP** **03 37 27.9 -1.3**
comp=Z,8.8nm,1.1s,baz=209,slow=3.6,SNR=5.1
CPUP LR LR 03 52 37.3
comp=Z,5µm,18.3s,baz=209,slow=38
comp=Z,49nm,0.8s
CPUP Villa Florida 46.13 167 ⇑P **P** **03 31 56.0 -3.8**
CPUP Villa Florida 46.13 167 P **P** **03 31 56.2 -3.6**
ELK Elko 46.16 309 IAMs_20 IAMs_20 03 54 01.6
comp=Z,16µm,18.0s
ELK Elko 46.16 309 LR LR 03 54 13.4
comp=Z,14µm,18.0s,baz=102,slow=40
ELK Elko 46.16 309 ⇑P **P** **03 32 01.6 +1.2**
TPNV Topopah Spring 46.20 303 IAmb IAmb 03 32 35.5
comp=Z,166nm,0.9s
TPNV IAMs_20 IAMs_20 03 54 25.6
comp=Z,13µm,20.0s
TPNV Topopah Spring 46.20 303 ⇓P **P** **03 32 01.9 +1.3**
VABB Valinhos 46.27 154 P **P** **03 32 00.6 -0.5**
VAO Valinhos 46.27 154 P **P** **03 32 00.6 -0.6**
VAO IAMs_20 IAMs_20 03 52 17.1
comp=Z,15µm,19.0s
VAO Valinhos 46.27 154 *eP* **P** **03 31 59.9 -1.3**
DPP Dos Picos Cty 46.29 298 IAmb IAmb 03 32 07.3
comp=Z,155nm,1.0s
HLID Hailey 46.29 313 IAmb IAmb 03 32 34.3
comp=Z,103nm,1.2s
HLID IAMs_20 IAMs_20 03 54 33.2
comp=Z,11µm,19.0s
HLID Hailey 46.29 313 ⇑P **P** **03 32 01.9 +0.6**
NUUK Nuuk 46.34 9 *i* P **P** **03 32 01.9 +0.8**
NUUK IAmb IAmb 03 32 06.1
comp=Z,28nm,1.0s
RIB01 Linhares ES 46.38 144 P **P** **03 32 00.1 -1.9**
RIB01 Linhares ES 46.38 144 *eP* **P** **03 32 00.2 -1.7**
GSC Goldstone, Bar 46.42 301 IAmb IAmb 03 32 08.3
comp=Z,145nm,1.2s
CPE Camp Elliot 46.42 298 IAmb IAmb 03 32 34.2
comp=Z,204nm,1.2s
GWY Greenwater Val 46.42 302 IAmb IAmb 03 32 26.5
comp=Z,105nm,0.9s
GO03 Copiapo 46.43 184 ⇑P **P** **03 32 01.9 -0.3**
WCT Wildcat Mounta 46.47 303 IAmb IAmb 03 32 38.0
comp=Z,113nm,0.9s
QSM Queen of Sheba 46.55 302 IAmb IAmb 03 32 26.0
comp=Z,191nm,1.3s
SPB Sao Paulo 46.61 155 IAmb IAmb 03 33 40.3
comp=Z,189nm,1.5s
SPB IAMs_20 IAMs_20 03 52 30.0
comp=Z,17µm,19.0s
SPB Sao Paulo 46.61 155 *eP* **P** **03 32 00.8 -2.9**
FURC Furnace Creek, 46.62 302 IAMs_20 IAMs_20 03 55 20.7
comp=Z,14µm,19.0s
PMOZ Porto Moniz, M 46.74 63 P **P** **03 32 04.1 -0.8**
PMOZ S **S** **03 38 53.5 -1.4**
PMOZ Porto Moniz, M 46.74 63 *eP* **P** **03 32 05.3 +0.4**
PMOZ *i* IAmb IAmb 03 32 09.4
comp=Z,1µm,1.4s
PMOZ *eS* **S** **03 39 01.3 +6.3**
PMOZ *eLR* LR 03 44 13.6
PMOZ *i* IAMs_20 IAMs_20 03 49 47.8
comp=Z,10µm,20.0s
PMOZ Porto Moniz, M 46.74 63 ⇑P **P** **03 32 04.8 -0.1**
ELS Elsinore Mount 46.75 299 IAmb IAmb 03 32 10.8
comp=Z,205nm,1.4s
PMAR Madeira 46.98 63 *eP* **P** **03 32 09.1 +2.3**
PMAR *i* IAmb IAmb 03 32 12.8
comp=Z,633nm,1.6s
BFSC Mount Baldy Ra 47.00 299 IAmb IAmb 03 32 38.2
comp=Z,99nm,1.0s
MSO Missoula 47.00 317 IAmb IAmb 03 32 33.3
comp=Z,124nm,1.1s
MSO IAMs_20 IAMs_20 03 52 05.7
comp=Z,18µm,20.0s
MSO Missoula 47.00 317 ⇓P **P** **03 32 07.5 +0.8**
WSHM Spangler Hills 47.01 301 IAMs_20 IAMs_20 03 55 34.2
comp=Z,11µm,18.0s
MPMC Maual Prospec 47.06 302 IAMs_20 IAMs_20 03 53 58.5
comp=Z,13µm,20.0s
AC04 Llanos de Chal 47.09 184 IAmb IAmb 03 32 35.0
comp=Z,156nm,1.3s
TPH Tonopah 47.14 305 IAmb IAmb 03 32 42.9
comp=Z,117nm,1.0s
PARB Paraibuna 47.15 152 P **P** **03 32 07.4 -0.6**
PARB S **S** **03 39 01.5 +0.9**
PARB Paraibuna 47.15 152 *eP* **P** **03 32 06.5 -1.5**
MACI Morro de la Ar 47.19 69 P **P** **03 32 07.3 -1.2**
MACI IAMs_20 IAMs_20 03 49 16.0
comp=Z,12µm,20.0s
VAS01 Vassouras-RJ 47.24 149 *eP* **P** **03 32 07.3 -1.4**
MFID Camas Ranch 47.24 312 IAmb IAmb 03 33 21.2
comp=Z,99nm,1.1s
MFID IAMs_20 IAMs_20 03 55 12.1
comp=Z,11µm,20.0s
ALF01 Guarapari-ES 47.25 145 P **P** **03 32 08.1 -0.6**
ALF01 Guarapari-ES 47.25 145 *eP* **P** **03 32 07.3 -1.4**
PET01 Itanhaem-SP 47.29 155 P **P** **03 32 07.9 -1.1**
PET01 Itanhaem-SP 47.29 155 *eP* **P** **03 32 07.9 -1.1**
MWC Mount Wilson 47.33 299 IAmb IAmb 03 32 34.8
comp=Z,204nm,1.4s
PASC Pasadena Art C 47.43 299 IAmb IAmb 03 32 15.8
comp=Z,153nm,1.2s
PMPST Porto Santo, M 47.49 62 *eP* **P** **03 32 10.7 +0.2**
PMPST *i* IAmb IAmb 03 32 29.2
comp=Z,411nm,1.7s
MAN01 Angra dos Reis 47.49 150 P **P** **03 32 10.4 -0.3**
MAN01 Angra dos Reis 47.49 150 *eP* **P** **03 32 10.2 -0.4**
TIJ01 Guaruva-PR 47.56 157 P **P** **03 32 15.3 +4.1**
TIJ01 P **pwP** **03 32 17.8 -0.6**
CWC Cottonwood Cre 47.58 302 IAmb IAmb 03 33 01.6
comp=Z,101nm,1.3s
CWC IAMs_20 IAMs_20 03 56 01.3
comp=Z,13µm,18.0s
DUB01 Friburgo-RJ 47.60 148 P **P** **03 32 10.7 -0.8**
DUB01 Friburgo-RJ 47.60 148 *eP* **P** **03 32 10.4 -1.0**
DSP Deep Springs 47.62 304 IAmb IAmb 03 32 48.2
comp=Z,155nm,1.3s
CAM01 Campos-RJ 47.75 147 P **P** **03 32 12.0 -0.6**
CAM01 Campos-RJ 47.75 147 *eP* **P** **03 32 11.4 -1.1**

TIN Tinemaha, Big 47.78 303 IAMs_20 IAMs_20 03 55 38.6
comp=Z,14µm,21.0s
ISA Isabella, Lake 47.81 301 IAMs_20 IAMs_20 03 56 16.4
comp=Z,14µm,18.0s
PLID Pearl Lake 47.82 314 IAmb IAmb 03 32 53.8
comp=Z,112nm,1.1s
PLID IAMs_20 IAMs_20 03 53 09.6
comp=Z,18µm,20.0s
LCO Las Campanas 47.87 184 P **P** **03 32 11.7 -2.0**
LCO IAmb IAmb 03 33 44.8
comp=Z,117nm,0.9s
LCO Las Campanas 47.87 184 P **P** **03 32 11.7 -2.0**
LCO pmax pmax
comp=Z,117nm,0.9s
LCO MLR MLR
comp=Z,8µm,22.0s
LCO Las Campanas 47.87 184 ⇑P **P** **03 32 12.7 -1.0**
OSI Osito Audit: C 47.91 300 IAMs_20 IAMs_20 03 54 41.1
comp=Z,13µm,19.0s
EOSO Osorio 48.03 69 P **P** **03 32 13.0 -2.0**
EOSO S **S** **03 39 15.2 +1.9**
NVAR Mina Array Bea 48.04 305 P **P** **03 32 14.6 -0.5**
NVAR Mina Array Bea 48.04 305 P **P** **03 32 16.2 +1.2**
comp=Z,58nm,0.9s,baz=107,slow=5.9,SNR=52
NVAR ScP **ScP** **03 37 38.6 +1.0**
comp=Z,5.6nm,0.9s,baz=131,slow=5.3,SNR=3.6
NVAR LR LR 03 53 45.6
comp=Z,14µm,21.0s,baz=96,slow=38
comp=Z,58nm,0.9s
LHV Little Huntoon 48.17 305 IAmb IAmb 03 32 50.7
comp=Z,105nm,1.0s
ITAB Concordia 48.30 162 IAMs_20 IAMs_20 03 54 13.0
comp=Z,12µm,18.0s
ITAB Concordia 48.30 162 P **P** **03 32 16.5 -0.2**
ITAB Concordia 48.30 162 *eP* **P** **03 32 15.0 -1.7**
VES Vestal, Richgr 48.32 301 IAMs_20 IAMs_20 03 54 56.9
comp=Z,11µm,19.0s
MDPB Devils Postpil 48.53 304 IAmb IAmb 03 32 53.9
comp=Z,82nm,1.0s
BMO Blue Mountains 48.65 313 IAmb IAmb 03 32 37.9
comp=Z,142nm,1.4s
BMO IAMs_20 IAMs_20 03 56 01.5
comp=Z,13µm,19.0s
BMO Blue Mountains 48.65 313 ⇓P **P** **03 32 18.5 -1.0**
WAKR Walker 48.93 305 IAmb IAmb 03 32 42.9
comp=Z,217nm,1.4s
WVOR Wild Horse Val 49.02 310 IAmb IAmb 03 33 21.5
comp=Z,103nm,1.1s
WVOR Wild Horse Val 49.02 310 ⇑P **P** **03 32 22.5 +0.1**
GO04 Tololo Observa 49.03 184 ⇓P **P** **03 32 21.1 -1.6**
J08A Circle Bar Ran 49.10 311 IAmb IAmb 03 33 08.4
comp=Z,151nm,1.2s
SFJD Kangerlussuaq 49.15 9 P **P** **03 32 21.6 -1.2**
SFJD Kangerlussuaq 49.15 9 IAMs_20 IAMs_20 03 54 31.7
comp=Z,15µm,19.0s
SFJD Kangerlussuaq 49.15 9 LR LR 03 54 26.5
comp=Z,12µm,18.1s,baz=200,slow=38
SFJD Kangerlussuaq 49.15 9 P **P** **03 32 21.6 -1.2**
SFJD pmax pmax
comp=Z,80nm,1.0s
SFJD MLR MLR
comp=Z,15µm,19.0s
SFJD Kangerlussuaq 49.15 9 ⇓P **P** **03 32 23.5 +0.7**
SFJD Kangerlussuaq 49.15 9 P **P** **03 32 25.2 +2.3**
SFJD Kangerlussuaq 49.15 9 *i* P **P** **03 32 22.8 0.0**
SFJD IAmb IAmb 03 32 26.5
comp=Z,42nm,0.9s
BLKN Baker Lake 49.20 344 IAmb IAmb 03 32 44.8
comp=Z,104nm,1.1s
DY2G Dye2 49.37 11 ⇑P **P** **03 32 24.9 0.0**
DY2G ⇑P **pP** **03 32 26.9 +0.1**
DY2G Dye2 49.37 11 *i* P **P** **03 32 24.6 -0.2**
DY2G IAmb IAmb 03 32 31.0
comp=Z,126nm,1.3s
BUCR Buckhorn Ranch 49.38 304 IAmb IAmb 03 33 11.4
comp=Z,317nm,1.8s
BUCR IAMs_20 IAMs_20 03 56 30.2
comp=Z,14µm,19.0s
NEW Newport 49.51 318 IAMs_20 IAMs_20 03 53 01.0
comp=Z,19µm,21.0s
NEW Newport 49.51 318 LR LR 03 53 34.8
comp=Z,18µm,21.9s,baz=107,slow=36
NEW Newport 49.51 318 ⇓P **P** **03 32 25.2 -0.8**
LNOR Lincton Mounta 49.58 315 IAmb IAmb 03 32 52.4
comp=Z,98nm,1.0s
CO06 Fray Jorge 49.59 185 IAmb IAmb 03 32 43.1
comp=Z,180nm,0.9s
CMB Columbia Colle 49.61 304 IAMs_20 IAMs_20 03 56 27.3
comp=Z,14µm,20.0s
CO03 El Pedregal 49.68 184 IAmb IAmb 03 32 43.6
comp=Z,176nm,1.0s
CO03 IAMs_20 IAMs_20 03 56 48.6
comp=Z,9µm,18.0s
PMPB Monarch Peak 49.74 302 IAmb IAmb 03 33 20.3
comp=Z,269nm,1.5s
PMPB IAMs_20 IAMs_20 03 57 37.6
comp=Z,16µm,19.0s
RAMR Ramage Ranch 49.75 301 P **P** **03 32 27.1 -0.9**
RAMR IAmb IAmb 03 32 46.2
comp=Z,139nm,0.9s
WELL Weller Preserv 49.92 305 IAMs_20 IAMs_20 03 54 48.5
comp=Z,14µm,21.0s
BBGB Big Mountain B 49.97 302 IAmb IAmb 03 33 15.5
comp=Z,172nm,1.1s
BBGB IAMs_20 IAMs_20 03 57 36.5
comp=Z,15µm,19.0s
CO02 Combarbal 50.07 184 IAmb IAmb 03 33 12.3
comp=Z,148nm,1.1s
CO02 Combarbal 50.07 184 ⇑P **P** **03 32 29.5 -0.9**
HULI Fort Hunter Li 50.08 301 IAMs_20 IAMs_20 03 57 47.4
comp=Z,10µm,18.0s
SCZ Santa Cruz 50.26 302 IAMs_20 IAMs_20 03 57 54.2
comp=Z,11µm,20.0s
ZON Zonda 50.30 181 IAmb IAmb 03 32 59.1
comp=Z,244nm,1.2s
ZON IAMs_20 IAMs_20 03 57 48.8
comp=Z,15µm,18.0s
ZON Zonda 50.30 181 P **P** **03 32 29.0 -3.1**
ZON Zonda 50.30 181 ⇑P **P** **03 32 30.0 -2.1**
SAO San Andreas Ge 50.31 302 IAMs_20 IAMs_20 03 57 46.6
comp=Z,15µm,19.0s
SAO San Andreas Ge 50.31 302 ⇑P **P** **03 32 35.0 +2.8**
CFA Coronel Fontan 50.35 181 LR LR 03 57 50.5
comp=Z,5µm,18.3s,baz=22,slow=41
ANGG Ammassalik, Gr 50.51 15 *i* P P 03 32 38.0 +4.8
ANGG IAmb IAmb 03 32 44.5
comp=Z,97nm,1.2s
HAWA Hanford 50.55 315 IAMs_20 IAMs_20 03 57 57.8
comp=Z,11µm,19.0s
HAWA Hanford 50.55 315 ⇓P **P** **03 32 34.1 +0.3**
CNLB Canela 50.63 161 P **P** **03 32 34.1 -0.5**
CNLB Canela 50.63 161 *eP* **P** **03 32 32.6 -2.0**
ORV Oroville 50.66 306 IAMs_20 IAMs_20 03 55 43.1
comp=Z,11µm,20.0s
PSAL Palomas, Salto 50.69 169 *eP* **P** **03 32 30.6 -4.3**
K05A Summer Lake 50.71 310 IAmb IAmb 03 33 22.4
comp=Z,172nm,1.5s
GDH Godhavn 50.94 6 *i* P **P** **03 32 36.3 0.0**
GDH IAmb IAmb 03 32 43.2
comp=Z,57nm,1.1s
CPSB Cacapava Do Su 50.94 164 P **P** **03 32 35.9 -1.0**
CPSB Cacapava Do Su 50.94 164 *eP* **P** **03 32 33.4 -3.4**
O03E Paynes Creek 50.99 307 IAmb IAmb 03 34 15.7
comp=Z,149nm,1.2s
O03E IAMs_20 IAMs_20 03 57 11.7
comp=Z,10µm,19.0s
J05D Fort Rock, OR 51.05 311 IAmb IAmb 03 32 57.0
comp=Z,269nm,1.8s
ILON Igloolik, Nuna 51.12 353 IAmb IAmb 03 32 58.1
comp=Z,117nm,1.1s
ILULI Ilulissat 51.17 7 IAmb IAmb 03 32 58.3
comp=Z,155nm,1.0s
ILULI Ilulissat 51.17 7 ⇓P **P** **03 32 40.7 +2.6**
ILULI Ilulissat 51.17 7 *i* P **P** **03 32 38.1 0.0**
ILULI IAmb IAmb 03 32 41.6
comp=Z,70nm,1.0s
CVS Carmenet Viney 51.27 304 IAmb IAmb 03 33 29.1
comp=Z,143nm,1.0s
CVS IAMs_20 IAMs_20 03 57 38.1
comp=Z,14µm,19.0s
MNRC McLaughlin Min 51.31 305 IAmb IAmb 03 33 32.3
comp=Z,145nm,1.2s
MNRC IAMs_20 IAMs_20 03 55 33.2
comp=Z,11µm,20.0s
K04D Chiloquin, OR 51.31 310 IAmb IAmb 03 33 13.2
comp=Z,199nm,0.9s

VA06	**Catapilco**	**51.44**	**184**		IAmb	IAmb	03 33 14.7				
	comp=Z,141nm,1.2s										
VA06					IAMs_20	IAMs_20	03 57 01.0				
	comp=Z,9µm,19.0s										
G05A	**Wamic**	**51.50**	**313**		IAmb	IAmb	03 33 12.9				
	comp=Z,267nm,1.3s										
MCCM	**Marconi Confer**	**51.58**	**304**		IAMs_20	IAMs_20	03 57 47.4				
	comp=Z,12µm,20.0s										
VA03	**San Esteban**	**51.59**	**183**		IAmb	IAmb	03 32 57.9				
	comp=Z,129nm,0.7s										
VA03					IAMs_20	IAMs_20	03 58 53.0				
	comp=Z,9µm,18.0s										
WIFE	**Three Sisters-**	**51.62**	**312**		IAmb	IAmb	03 33 23.8				
	comp=Z,143nm,1.0s										
FARB	**Farallon Islan**	**51.63**	**303**		IAMs_20	IAMs_20	03 57 59.4				
	comp=Z,11µm,18.0s										
O02D	**Mt. Diablo Mer**	**51.73**	**307**		IAMs_20	IAMs_20	03 56 39.1				
	comp=Z,10µm,20.0s										
HOOD	**Mount Hood Mea**	**51.75**	**313**		IAmb	IAmb	03 33 23.8				
	comp=Z,126nm,0.9s										
HOPS	**Hopland Field**	**51.81**	**305**		IAMs_20	IAMs_20	03 56 00.5				
	comp=Z,15µm,20.0s										
SAQQ	**Saqqaq**	**51.83**	**7**	*i*	P	**P**	**03 32 43.9**	**+0.9**			
SAQQ					IAmb	IAmb	03 32 49.6				
	comp=Z,70nm,1.0s										
YBH	**Yreka Blue Hor**	**51.88**	**308**		LR	LR	03 57 39.3				
	comp=Z,499nm,18.5s,baz=98,slow=39										
VA01	**Torpederas**	**51.92**	**185**		IAmb	IAmb	03 34 01.2				
	comp=Z,129nm,1.2s										
PEL	**Peldehue**	**51.98**	**184**		IAmb	IAmb	03 33 26.6				
	comp=Z,199nm,1.2s										
PEL	**Peldehue**	**51.98**	**184**	⇑	P	**P**	**03 32 43.2**	**-1.4**			
H04A	**Detroit Lake**	**51.99**	**312**		IAmb	IAmb	03 33 08.1				
	comp=Z,135nm,1.0s										
MT02	**Curacav**	**52.12**	**184**		IAmb	IAmb	03 34 27.0				
	comp=Z,116nm,1.1s										
MT02					IAMs_20	IAMs_20	03 59 15.1				
	comp=Z,9µm,19.0s										
PLTB	**Pedras Altas**	**52.19**	**165**		IAmb	IAmb	03 32 49.6				
	comp=Z,187nm,1.5s										
PLTB	**Pedras Altas**	**52.19**	**165**		P	**P**	**03 32 44.9**	**-1.3**			
PLTB	**Pedras Altas**	**52.19**	**165**	*eP*		**P**	**03 32 44.1**	**-2.1**			
MT05	**Renca**	**52.23**	**184**		IAmb	IAmb	03 32 52.5				
	comp=Z,211nm,1.1s										
MT05					IAMs_20	IAMs_20	03 59 04.9				
	comp=Z,8µm,18.0s										
MT08	**Bocatoma Ro**	**52.24**	**183**		IAmb	IAmb	03 33 11.6				
	comp=Z,250nm,1.3s										
MT08					IAMs_20	IAMs_20	03 58 47.3				
	comp=Z,9µm,20.0s										
MT16	**CCHEN**	**52.25**	**183**		IAmb	IAmb	03 33 11.9				
	comp=Z,238nm,1.1s										
MT16					IAMs_20	IAMs_20	03 56 34.5				
	comp=Z,10µm,22.0s										
KCPM	**Cahto Peak**	**52.28**	**306**		IAMs_20	IAMs_20	03 56 35.8				
	comp=Z,10µm,18.0s										
G04A	**Mulino**	**52.30**	**313**		P	**P**	**03 32 45.9**	**-1.0**			
G04A					IAmb	IAmb	03 34 26.7				
	comp=Z,102nm,0.9s										
MT03	**Universidad Ad**	**52.31**	**183**		IAmb	IAmb	03 33 53.6				
	comp=Z,228nm,1.0s										
MT03					IAMs_20	IAMs_20	03 56 36.2				
	comp=Z,10µm,21.0s										
NIAQ	**Niaqornat**	**52.41**	**6**	*i*	P	**P**	**03 32 49.4**	**+2.1**			
NIAQ					IAmb	IAmb	03 32 56.2				
	comp=Z,61nm,1.2s										
KMRM	**Mail Ridge**	**52.43**	**306**		IAMs_20	IAMs_20	03 57 01.8				
	comp=Z,13µm,20.0s										
BUCK	**Buck Mountain**	**52.47**	**312**		IAmb	IAmb	03 33 42.6				
	comp=Z,154nm,1.2s										
KHMM	**Horse Mountain**	**52.52**	**307**		IAMs_20	IAMs_20	03 57 07.2				
	comp=Z,11µm,20.0s										
MT13	**San Alfonso**	**52.55**	**183**		IAMs_20	IAMs_20	03 59 26.5				
	comp=Z,12µm,18.0s										
MT09	**Talagante**	**52.62**	**184**		IAmb	IAmb	03 33 53.9				
	comp=Z,247nm,1.4s										
MT09					IAMs_20	IAMs_20	03 59 26.4				
	comp=Z,12µm,18.0s										
SAATT	**Saattut**	**52.63**	**6**	*i*	P	**P**	**03 32 49.4**	**+0.4**			
SAATT					IAmb	IAmb	03 32 52.5				
	comp=Z,41nm,0.9s										
LMEL	**Las Melosas**	**52.65**	**183**		IAmb	IAmb	03 33 17.6				
	comp=Z,124nm,0.9s										
LMEL					IAMs_20	IAMs_20	03 59 37.1				
	comp=Z,11µm,18.0s										
MT01	**Popeta**	**52.73**	**184**		IAMs_20	IAMs_20	03 59 40.2				
	comp=Z,10µm,18.0s										
JCC	**Jacoby Creek,**	**52.74**	**307**		IAMs_20	IAMs_20	03 57 13.0				
	comp=Z,10µm,19.0s										
KSXB	**Camp Six Broad**	**52.75**	**308**		IAMs_20	IAMs_20	03 58 16.2				
	comp=Z,13µm,20.0s										
KMPM	**Mount Pierce**	**52.77**	**307**		IAmb	IAmb	03 33 09.2				
	comp=Z,132nm,0.9s										
KMPM					IAMs_20	IAMs_20	03 56 49.7				
	comp=Z,8µm,19.0s										
BO04	**La Punta**	**52.81**	**183**		IAmb	IAmb	03 34 29.8				
	comp=Z,133nm,1.1s										
BO04					IAMs_20	IAMs_20	03 56 39.4				
	comp=Z,9µm,21.0s										
KBO	**Bosley Butte**	**53.06**	**309**		IAMs_20	IAMs_20	03 58 37.3				
	comp=Z,11µm,19.0s										
I02E	**Swisshome, OR**	**53.06**	**311**		IAmb	IAmb	03 33 11.8				
	comp=Z,170nm,1.3s										
NUUG	**Nuugaatsiaq**	**53.17**	**6**	⇑	P	**P**	**03 32 53.5**	**+0.6**			
NUUG	**Nuugaatsiaq**	**53.17**	**6**	*i*	P	**P**	**03 32 53.3**	**+0.4**			
NUUG					IAmb	IAmb	03 32 59.8				
	comp=Z,98nm,1.2s										
KEBM	**Edson Butte**	**53.23**	**310**		IAMs_20	IAMs_20	03 56 01.7				
	comp=Z,9µm,21.0s										
BO01	**Tunca**	**53.24**	**184**		IAmb	IAmb	03 33 21.6				
	comp=Z,174nm,1.3s										
BO01					IAMs_20	IAMs_20	03 59 45.8				
	comp=Z,13µm,19.0s										
E03A	**Lebam**	**53.30**	**314**		IAmb	IAmb	03 33 17.7				
	comp=Z,104nm,1.0s										
B04A	**Port Angeles**	**53.57**	**316**		IAmb	IAmb	03 33 07.9				
	comp=Z,106nm,0.9s										
BO02	**Sierra Bellavi**	**53.62**	**184**		IAmb	IAmb	03 33 13.1				
	comp=Z,175nm,0.9s										
BO02					IAMs_20	IAMs_20	03 57 52.8				
	comp=Z,12µm,21.0s										
PMAFR	**Mafra**	**53.62**	**55**		P	**P**	**03 32 55.7**	**-1.1**			
PMAFR	**Mafra**	**53.62**	**55**	*eP*		**P**	**03 32 57.1**	**+0.3**			
PMAFR				*i*	IAmb	IAmb	03 33 30.6				
	comp=Z,288nm,1.3s										
NLWA	**Neilton Lookou**	**53.68**	**315**		IAmb	IAmb	03 33 16.1				
	comp=Z,225nm,1.9s										
NLWA					IAMs_20	IAMs_20	04 00 07.4				
	comp=Z,17µm,21.0s										
NLWA	**Neilton Lookou**	**53.68**	**315**	⇓	P	**P**	**03 32 58.8**	**+1.6**			
LIS	**Lisbon**	**53.71**	**56**	*eP*		**P**	**03 32 56.6**	**-0.8**			
LIS					IAMs_20	IAMs_20	03 53 15.0				
	comp=Z,12µm,16.1s										
LIS	**Lisbon**	**53.71**	**56**	*eP*		**P**	**03 32 58.0**	**+0.6**			
LIS				*i*	IAmb	IAmb	03 33 16.0				
	comp=Z,275nm,1.6s										
LIS	**Lisbon**	**53.71**	**56**	*eP*		**P**	**03 32 56.6**	**-0.8**			
PARRA	**Arraiolos**	**53.80**	**55**	*eP*		P	03 33 04.0	+5.8			
PARRA				*i*	IAmb	IAmb	03 33 08.2				
	comp=Z,347nm,1.4s										
PFVI	**Vila Bisbo**	**53.87**	**58**		P	**P**	**03 32 59.4**	**+0.7**			
PFVI					S	**S**	**03 40 35.1**	**+1.3**			
PFVI	**Vila Bisbo**	**53.87**	**58**	*eP*		**P**	**03 32 59.5**	**+0.7**			
PFVI				*i*	IAmb	IAmb	03 33 02.6				
	comp=Z,281nm,1.4s										
PTEO	**Sao Teotonio**	**53.97**	**57**	*eP*		**P**	**03 33 00.3**	**+0.8**			
PTEO				*i*	IAmb	IAmb	03 33 04.2				
	comp=Z,368nm,1.5s										
MORF	**Marmelete**	**54.02**	**57**	*eP*		**P**	**03 32 59.1**	**-0.7**			
MORF				*eS*		**S**	**03 40 35.4**	**-0.5**			
MORF					IAMs_20	IAMs_20	03 53 40.1				
	comp=Z,16µm,18.1s										
MORF	**Marmelete**	**54.02**	**57**		IAmb	IAmb	03 33 04.5				
	comp=Z,158nm,1.1s										
MORF					IAMs_20	IAMs_20	03 53 46.8				
	comp=Z,16µm,19.0s										
MORF	**Marmelete**	**54.02**	**57**	*eP*		**P**	**03 33 00.4**	**+0.6**			
MORF				*i*	IAmb	IAmb	03 33 04.5				
	comp=Z,328nm,1.4s										
MORF	**Marmelete**	**54.02**	**57**	*eP*		**P**	**03 32 59.1**	**-0.7**			
MORF				*eS*		**S**	**03 40 35.4**	**-0.5**			
POIN	**Pond Inlet**	**54.03**	**356**		IAmb	IAmb	03 33 35.4				
	comp=Z,103nm,1.2s										
PSBE	**So Bento**	**54.04**	**55**	*eP*		**P**	**03 33 00.6**	**+0.6**			
PSBE				*i*	IAmb	IAmb	03 33 04.5				
	comp=Z,333nm,1.5s										
YKAW1	**Yellowknife Wh**	**54.13**	**335**		IAmb	IAmb	03 33 22.3				
	comp=Z,230nm,1.1s										
UPNV	**Upernavik**	**54.15**	**4**	*i*	P	**P**	**03 33 01.7**	**+1.6**			
UPNV					IAmb	IAmb	03 33 04.3				
	comp=Z,26nm,0.9s										
CLRS	**Cowichan Lake**	**54.15**	**317**		IAmb	IAmb	03 33 32.3				
	comp=Z,180nm,1.2s										
YKA	**Yellowknife Ar**	**54.19**	**335**		P	**P**	**03 33 00.0**	**-0.5**			
YKA	**Yellowknife Ar**	**54.19**	**335**		P	**P**	**03 33 00.4**	**-0.1**			
	comp=Z,16nm,0.9s,baz=116,slow=6.5,SNR=26										
YKA					LR	LR	03 56 09.9				
	comp=Z,27µm,20.4s,baz=117,slow=36										
	comp=Z,16nm,0.9s										
YKAW3	**Yellowknife Wh**	**54.22**	**335**		IAmb	IAmb	03 33 23.0				
	comp=Z,214nm,1.1s										
C03A	**Quillayute Air**	**54.25**	**316**		IAMs_20	IAMs_20	04 00 07.5				
	comp=Z,12µm,22.0s										
PCAS	**Casmilo, Conde**	**54.31**	**54**	*eP*		**P**	**03 33 02.5**	**+0.6**			
PCAS				*i*	IAmb	IAmb	03 33 06.3				
	comp=Z,264nm,1.6s										
PTO	**Porto**	**54.33**	**53**	*eP*		**P**	**03 33 02.9**	**+1.0**			
PTO				*i*	IAmb	IAmb	03 33 15.8				
	comp=Z,201nm,1.3s										
LPA	**La Plata**	**54.38**	**170**	*de*	P	**P**	**03 33 00.5**	**-1.7**			
LPA					PCP	**PcP**	**03 34 07.0**	**+1.0**			
LPA					PP	**PP**	**03 35 04.9**	**+0.4**			
LPA					PPP	PPP	03 36 13.3				
LPA					S	**S**	**03 40 40.9**	**+0.5**			
LPA					SCS	**ScS**	**03 42 53.0**	**+1.4**			
LPA					SS	SS	03 44 47.2	+24			
MESJ	**Messejana**	**54.39**	**57**	*eP*		**P**	**03 33 01.6**	**-0.8**			
MESJ				*eS*		**S**	**03 40 40.3**	**-0.5**			
MESJ					IAMs_20	IAMs_20	03 54 02.1				
	comp=Z,18µm,15.0s										
MESJ	**Messejana**	**54.39**	**57**		IAmb	IAmb	03 33 07.1				
	comp=Z,175nm,1.1s										
MESJ	**Messejana**	**54.39**	**57**	*eP*		**P**	**03 33 03.1**	**+0.6**			
MESJ				*i*	IAmb	IAmb	03 33 07.1				
	comp=Z,328nm,1.4s										
MESJ	**Messejana**	**54.39**	**57**	*eP*		**P**	**03 33 01.6**	**-0.8**			
MESJ				*eS*		**S**	**03 40 40.3**	**-0.5**			
COI	**Coimbra**	**54.39**	**54**		IAmb	IAmb	03 33 25.3				
	comp=Z,144nm,1.1s										
COI					IAMs_20	IAMs_20	03 50 43.6				
	comp=Z,16µm,21.0s										
COI	**Coimbra**	**54.39**	**54**	*eP*		**P**	**03 33 01.9**	**-0.5**			
COI				*i*	IAmb	IAmb	03 33 06.4				
	comp=Z,262nm,1.4s										
PMTG	**Montargil**	**54.45**	**55**	*eP*		**P**	**03 33 02.9**	**0.0**			
PMTG				*i*	IAmb	IAmb	03 33 07.2				
	comp=Z,320nm,1.6s										
PCVE	**Castro Verde**	**54.52**	**57**		P	**P**	**03 33 03.9**	**+0.5**			
PCVE					S	**S**	**03 40 41.0**	**-1.7**			
PCVE	**Castro Verde**	**54.52**	**57**	*eP*		**P**	**03 33 02.9**	**-0.5**			
PCVE				*i*	IAmb	IAmb	03 33 09.3				
	comp=Z,210nm,1.8s										
PSARD	**Sardoal**	**54.54**	**55**	*eP*		**P**	**03 33 03.6**	**+0.1**			
PSARD				*i*	IAmb	IAmb	03 33 16.5				
	comp=Z,212nm,1.3s										
EVO	**Evora**	**54.59**	**56**		P	**P**	**03 33 03.7**	**-0.2**			
EVO					S	**S**	**03 40 42.6**	**-0.9**			
EVO	**Evora**	**54.59**	**56**	*eP*		**P**	**03 33 04.0**	**+0.1**			
EVO				*i*	IAmb	IAmb	03 33 08.3				
	comp=Z,272nm,1.3s										
PBDV	**Barranco-do-Ve**	**54.59**	**57**		P	**P**	**03 33 05.2**	**+1.2**			
PBDV					S	**S**	**03 40 44.6**	**+0.9**			
PBDV	**Barranco-do-Ve**	**54.59**	**57**	*eP*		**P**	**03 33 04.8**	**+0.9**			
PBDV				*i*	IAmb	IAmb	03 33 09.3				
	comp=Z,333nm,1.5s										
PGAV	**Gavieira, Arco**	**54.66**	**52**	*eP*		**P**	**03 33 05.0**	**+0.5**			
PGAV				*i*	IAmb	IAmb	03 33 08.8				
	comp=Z,277nm,1.5s										
PGAV				*eS*		**S**	**03 40 52.0**	**+7.4**			
PGAV				*eLR*		LR	03 47 14.5				
PGAV				*i*	IAMs_20	IAMs_20	03 55 28.6				
	comp=Z,18µm,18.0s										
PBEJ	**Beja**	**54.68**	**56**	*eP*		**P**	**03 33 05.9**	**+1.3**			
PBEJ				*i*	IAmb	IAmb	03 33 09.2				
	comp=Z,267nm,1.5s										
PVAQ	**Vaqueiros**	**54.77**	**57**	*eP*		**P**	**03 33 06.3**	**+1.1**			
PVAQ				*i*	IAmb	IAmb	03 33 10.3				
	comp=Z,292nm,1.5s										
PVAQ				*eS*		**S**	**03 40 48.8**	**+2.9**			
PVAQ				*eLQ*		LQ	03 46 41.0				
PVAQ				*eLR*		LR	03 48 38.4				
PVAQ				*i*	IAMs_20	IAMs_20	03 55 10.0				
	comp=Z,14µm,18.0s										
PVAQ	**Vaqueiros**	**54.77**	**57**	⇓	P	**P**	**03 33 06.0**	**+0.8**			
PCAB	**Cabril**	**54.81**	**52**		P	**P**	**03 33 07.0**	**+1.5**			
PCAB				*i*	IAmb	IAmb	03 33 09.7				
	comp=Z,129nm,1.6s										
PVIS	**Viseu**	**54.83**	**53**	*eP*		**P**	**03 33 06.4**	**+0.7**			
BORG	**Borgarnes**	**54.93**	**22**		LR	LR	03 52 10.4				
	comp=Z,6µm,21.3s,baz=239,slow=31										
BORG	**Borgarnes**	**54.93**	**22**		P	**P**	**03 33 07.2**	**+1.3**			
BORG	**Borgarnes**	**54.93**	**22**	⇓	P	**P**	**03 33 09.9**	**+4.0**			
PESTR	**Estremoz**	**54.94**	**55**		P	**P**	**03 33 05.2**	**-1.3**			
PESTR					S	**S**	**03 40 46.5**	**-1.7**			
PESTR	**Estremoz**	**54.94**	**55**		IAMs_20	IAMs_20	03 54 15.0				
	comp=Z,13µm,19.0s										
PESTR	**Estremoz**	**54.94**	**55**	*eP*		**P**	**03 33 07.3**	**+0.9**			
PESTR				*i*	IAmb	IAmb	03 33 19.1				
	comp=Z,220nm,1.4s										
EGRO	**El Granado**	**54.96**	**57**		P	**P**	**03 33 07.1**	**+0.5**			
EGRO					S	**S**	**03 40 49.8**	**+1.3**			
POLO	**Lamas de Olo**	**54.96**	**52**	*eP*		**P**	**03 33 07.1**	**+0.5**			
POLO				*i*	IAmb	IAmb	03 33 11.0				
	comp=Z,134nm,1.5s										
AVE	**Averroes**	**54.97**	**62**		P	**P**	**03 33 07.1**	**+0.3**			
AVE					S	**S**	**03 40 48.5**	**-0.3**			
AVE	**Averroes**	**54.97**	**62**		IAMs_20	IAMs_20	03 54 01.0				
	comp=Z,13µm,20.0s										
AVE	**Averroes**	**54.97**	**62**	⇑	P	**P**	**03 33 07.2**	**+0.5**			
PVRL	**Vila Real**	**55.01**	**53**	*eP*		**P**	**03 33 07.3**	**+0.3**			
PVRL				*i*	IAmb	IAmb	03 33 11.3				
	comp=Z,362nm,1.5s										
MTE	**Manteigas**	**55.07**	**54**		IAmb	IAmb	03 33 21.5				
	comp=Z,108nm,1.0s										
MTE					IAMs_20	IAMs_20	03 51 03.5				
	comp=Z,16µm,21.0s										
MTE	**Manteigas**	**55.07**	**54**	*eP*		**P**	**03 33 08.1**	**+0.7**			
MTE				*i*	IAmb	IAmb	03 33 11.6				
	comp=Z,188nm,1.3s										
MTE				*eS*		**S**	**03 40 56.1**	**+6.0**			
MTE				*eLR*		LR	03 48 56.6				
MTE				*i*	IAMs_20	IAMs_20	03 51 38.1				
	comp=Z,14µm,20.0s										
MTE	**Manteigas**	**55.07**	**54**	⇑	P	**P**	**03 33 07.0**	**-0.4**			
VAL	**Valentia**	**55.07**	**39**		P	**P**	**03 33 06.6**	**-0.5**			
VAL					S	**S**	**03 40 49.8**	**+0.3**			
VAL	**Valentia**	**55.07**	**39**		P	**P**	**03 33 07.9**	**+0.8**			
VAL	**Valentia**	**55.07**	**39**	⇓	P	**P**	**03 33 08.3**	**+1.2**			
PCBR	**Castelo Branco**	**55.08**	**54**	*eP*		**P**	**03 33 08.1**	**+0.7**			
PCBR				*i*	IAmb	IAmb	03 33 11.8				
	comp=Z,205nm,1.4s										
PMRV	**Marv??o**	**55.12**	**55**	*eP*		**P**	**03 33 08.2**	**+0.4**			
PMRV				*i*	IAmb	IAmb	03 33 20.7				
	comp=Z,204nm,1.4s										
PMRV				*eS*		**S**	**03 40 50.4**	**-0.3**			
PMRV				*eLQ*		LQ	03 46 51.6				
PMRV				*eLR*		LR	03 48 53.6				
PMRV				*i*	IAMs_20	IAMs_20	03 51 06.6				
	comp=Z,7µm,22.0s										
TIO	**Tiouine**	**55.17**	**65**		P	**P**	**03 33 08.8**	**+0.4**			
TIO					S	**S**	**03 40 53.3**	**+1.5**			
CBB	**Campbell River**	**55.19**	**318**		IAmb	IAmb	03 33 31.8				
	comp=Z,217nm,1.2s										
PBAR	**Barrancos**	**55.33**	**56**	*eP*		**P**	**03 33 09.9**	**+0.6**			
PBAR				*i*	IAmb	IAmb	03 33 14.2				
	comp=Z,194nm,1.6s										
BI02	**San Fabin de**	**55.51**	**184**		IAmb	IAmb	03 33 25.8				
	comp=Z,163nm,1.6s										
BI02					IAMs_20	IAMs_20	03 59 59.9				
	comp=Z,9µm,20.0s										
MVO	**Moncorvo**	**55.52**	**53**	*eP*		**P**	**03 33 10.8**	**+0.1**			
MVO				*i*	IAmb	IAmb	03 33 15.1				
	comp=Z,318nm,1.5s										
MVO				*eS*		**S**	**03 41 04.2**	**+8.1**			
MVO				*eLQ*		LQ	03 46 56.5				
MVO				*eLR*		LR	03 49 25.0				
MVO				*i*	IAMs_20	IAMs_20	03 59 44.0				
	comp=Z,15µm,18.0s										
BI05	**Punta Hualpn**	**55.75**	**186**		IAMs_20	IAMs_20	03 56 28.2				
	comp=Z,9µm,21.0s										
PBRG	**Braganca**	**55.78**	**52**	*i*	IAmb	IAmb	03 33 25.2				
	comp=Z,109nm,1.5s										
KULLO	**Kullorsuaq**	**55.84**	**3**	*i*	P	**P**	**03 33 10.6**	**-1.8**			
KULLO					IAmb	IAmb	03 33 15.5				
	comp=Z,54nm,1.1s										
IGLA	**Glengowla, Co**	**55.95**	**38**		P	**P**	**03 33 13.7**	**+0.3**			
SFS	**San Fernando**	**55.95**	**58**		P	**P**	**03 33 14.3**	**+0.5**			
SUMG	**Summit**	**56.04**	**10**		P	**P**	**03 33 11.0**	**-3.3**			
SUMG	**Summit**	**56.04**	**10**		IAMs_20	IAMs_20	03 56 08.8				
	comp=Z,14µm,20.0s										
SUMG	**Summit**	**56.04**	**10**	⇑	P	**P**	**03 33 13.8**	**-0.5**			
SUMG	**Summit**	**56.04**	**10**	*i*	P	**P**	**03 33 13.9**	**-0.5**			
SUMG					IAmb	IAmb	03 33 17.8				
	comp=Z,164nm,1.0s										
CNIL	**Conil**	**56.08**	**59**		P	**P**	**03 33 15.6**	**+1.0**			
CEU	**Ceuta**	**56.63**	**59**		P	**P**	**03 33 19.8**	**+1.3**			
TRQA	**Tornquist**	**57.00**	**175**		P	**P**	**03 33 19.6**	**-1.5**			
TRQA					IAmb	IAmb	03 34 19.4				
	comp=Z,136nm,1.6s										
TRQA					IAMs_20	IAMs_20	04 00 49.0				
	comp=Z,8µm,18.0s										
TRQA	**Tornquist**	**57.00**	**175**		P	**P**	**03 33 19.6**	**-1.5**			
TRQA					pmax	pmax					
	comp=Z,136nm,1.6s										
TRQA					MLR	MLR					
	comp=Z,8µm,18.0s										
TRQA	**Tornquist**	**57.00**	**175**		P	**P**	**03 33 19.6**	**-1.5**			
TRQA					S	**S**	**03 41 17.2**	**+1.8**			
MD01	**Midelt array s**	**57.21**	**63**		P	**P**	**03 33 21.4**	**-1.5**			
IWEX	**Carrickbyrne,**	**57.25**	**39**		P	**P**	**03 33 22.8**	**+0.1**			
KOTAN	**Kotaneelee Air**	**57.28**	**330**		P	**P**	**03 33 24.1**	**+1.2**			
	baz=110,SNR=36										
KOTAN					S	**S**	**03 41 19.0**	**+0.3**			
	baz=110										
BBB	**Bella Bella**	**57.33**	**320**		LR	LR	03 58 34.8				
	comp=Z,6µm,21.7s,baz=114,slow=37										
MDT	**Midelt**	**57.34**	**63**		LR	LR	03 56 06.7				
	comp=Z,9µm,19.2s,baz=288,slow=34										
EMAL	**Malaga-Limoner**	**57.39**	**58**		P	**P**	**03 33 25.7**	**+1.7**			
IDGL	**Inch Island, C**	**57.42**	**36**		P	**P**	**03 33 24.8**	**+1.0**			
TOAD	**Toad River Com**	**57.43**	**329**		P	**P**	**03 33 24.8**	**+0.8**			
	baz=108,SNR=31										
TOAD					S	**S**	**03 41 18.1**	**-2.7**			
	baz=108										
PAB	**San Pablo**	**57.48**	**55**		IAMs_20	IAMs_20	03 51 53.6				
	comp=Z,10µm,22.0s										
TULEG	**Thule**	**57.55**	**360**	*i*	P	**P**	**03 33 25.7**	**+1.3**			
TULEG					IAmb	IAmb	03 33 27.9				
	comp=Z,141nm,1.2s										
RES	**Resolute Bay**	**57.63**	**352**		LR	LR	03 57 19.5				
	comp=Z,12µm,20.6s,baz=152,slow=35										
DSB	**Dublin**	**57.66**	**38**		P	**P**	**03 33 25.3**	**-0.3**			
DSB					S	**S**	**03 41 22.6**	**-1.3**			
DSB	**Dublin**	**57.66**	**38**		P	**P**	**03 33 25.7**	**+0.3**			
ESDC	**Sonseca Array**	**57.78**	**55**		P	**P**	**03 33 25.7**	**-1.1**			
ESDC					IA

ESK **Eskdalemuir** **59.88 36** P **P** **03 33 40.1 -0.9**
ESK pmax pmax
comp=Z,274nm,1.7s
EKA **Eskdalemuir Ar** **59.91 36** P **P** **03 33 40.0 -1.2**
comp=Z,18nm,0.6s,baz=270,slow=5.8,SNR=66
comp=Z,18nm,0.6s
V35K **Ketchikan** **59.96 324** IAMs_20 IAMs_20 03 59 42.0
comp=Z,13µm,20.0s
V35K **Ketchikan** **59.96 324** P **P** **03 33 41.7 +0.2**
baz=100
V35K S **S** **03 41 53.6 0.0**
baz=100
EDI **Edinburgh** **60.00 36** *e*P **P** **03 33 40.9 -0.9**
EDI IAMs_20 IAMs_20 03 59 19.0
comp=Z,11µm,18.2s
LL03 **Petrohue** **60.04 184** IAmb IAmb 03 33 57.2
comp=Z,127nm,0.9s
LL03 IAMs_20 IAMs_20 04 02 20.8
comp=Z,7µm,21.0s
CART **Cartagena** **60.11 57** P **P** **03 33 41.3 -1.6**
CART **Cartagena** **60.11 57** P **P** **03 33 41.2 -1.6**
CART IAmb IAmb 03 34 08.2
comp=Z,80nm,1.1s
S34M **Telegraph Cree** **60.19 327** IAmb IAmb 03 34 07.2
comp=Z,123nm,1.1s
S34M IAMs_20 IAMs_20 04 03 39.0
comp=Z,13µm,19.0s
S34M **Telegraph Cree** **60.19 327** P **P** **03 33 44.8 +1.7**
baz=102,SNR=7.5
S34M S **S** **03 41 58.1 +1.5**
baz=102
LL05 **Los Muermos** **60.39 185** IAmb IAmb 03 34 40.9
comp=Z,101nm,1.1s
R33M **Jennings River** **60.43 328** IAmb IAmb 03 34 10.7
comp=Z,111nm,1.1s
R33M IAMs_20 IAMs_20 03 59 41.1
comp=Z,11µm,21.0s
R33M **Jennings River** **60.43 328** P **P** **03 33 46.5 +1.6**
baz=103,SNR=19
R33M S **S** **03 42 03.1 +3.2**
baz=103
LBWR **Ladybower, Pea** **60.44 39** *e*P **P** **03 33 44.1 -0.8**
LBWR IAmb IAmb 03 33 47.0
comp=Z,141nm,1.0s
LBWR IAMs_20 IAMs_20 03 59 36.5
comp=Z,13µm,17.6s
EDMD **Edmundbyers** **60.51 37** *e*P **P** **03 33 45.6 +0.3**
EDMD IAMs_20 IAMs_20 04 00 46.3
comp=Z,8µm,16.1s
WRAK **Wrangell Islan** **60.55 325** IAMs_20 IAMs_20 04 00 15.7
comp=Z,14µm,20.0s
WRAK **Wrangell Islan** **60.55 325** P **P** **03 33 46.6 +1.0**
baz=100
HPK **Haverah Park** **60.58 38** *e*P **P** **03 33 45.9 +0.1**
HPK IAmb IAmb 03 33 47.7
comp=Z,73nm,0.9s
HPK IAMs_20 IAMs_20 04 00 14.7
comp=Z,24µm,17.2s
CWF **Charnwood Fore** **60.60 40** *e*P **P** **03 33 45.4 -0.6**
CWF IAMs_20 IAMs_20 04 00 02.2
comp=Z,22µm,17.5s
C36M **Paulatuk** **60.85 340** P **P** **03 33 47.4 +0.1**
baz=115
C36M S **S** **03 42 00.1 -4.5**
baz=115
DBG **Daneborg** **60.85 13** *i* P **P** **03 33 45.3 -2.0**
DBG IAmb IAmb 03 33 54.0
comp=Z,114nm,1.4s
U33K **Whale Pass** **60.93 324** IAMs_20 IAMs_20 04 00 27.6
comp=Z,10µm,20.0s
U33K **Whale Pass** **60.93 324** P **P** **03 33 48.9 +0.8**
baz=99
U33K S **S** **03 42 08.5 +2.5**
baz=99
T33K **Petersburg** **60.95 325** P **P** **03 33 50.4 +2.1**
baz=100
Q32M **Nakina River** **60.99 328** IAMs_20 IAMs_20 04 00 00.1
comp=Z,11µm,18.0s
Q32M **Nakina River** **60.99 328** P **P** **03 33 50.6 +1.8**
baz=101
Q32M S **S** **03 42 07.9 +0.7**
baz=101
GDLE **Glaisdale, N Y** **61.11 38** *e*P **P** **03 33 49.6 +0.2**
GDLE IAmb IAmb 03 33 51.4
comp=Z,126nm,0.9s
GDLE IAMs_20 IAMs_20 04 00 23.6
comp=Z,12µm,16.9s
LL01 **San Ignacio de** **61.28 184** P **P** **03 33 48.2 -2.3**
MMPY **Sheldon Lake,** **61.34 332** IAmb IAmb 03 34 14.5
comp=Z,114nm,1.4s
MMPY **Sheldon Lake,** **61.34 332** P **P** **03 33 53.1 +2.2**
baz=104,SNR=5.8
MMPY S **S** **03 42 12.7 +1.4**
baz=104
P33M **Teslin, Yukon** **61.52 329** IAMs_20 IAMs_20 04 03 37.9
comp=Z,6µm,18.0s
P33M **Teslin, Yukon** **61.52 329** P **P** **03 33 53.8 +1.6**
baz=102,SNR=11
P33M S **S** **03 42 13.4 -0.2**
baz=102
CEST **Esterri de Car** **61.74 51** IAmb IAmb 03 34 19.4
comp=Z,137nm,1.1s
WACR **West Acre** **61.77 40** *e*P **P** **03 33 53.5 -0.4**
WACR IAMs_20 IAMs_20 04 01 39.8
comp=Z,22µm,17.4s
N32M **Quiet Lake** **61.84 330** P **P** **03 33 55.8 +1.5**
baz=102
N32M S **S** **03 42 18.0 +0.4**
baz=102
P32M **Atlin** **61.84 328** IAMs_20 IAMs_20 04 00 35.5
comp=Z,11µm,20.0s
P32M **Atlin** **61.84 328** P **P** **03 33 56.0 +1.6**
baz=100,SNR=9.6
P32M S **S** **03 42 17.0 -0.6**
baz=100
DBIC **Dimbokro** **61.87 93** P **P** **03 33 53.6 -1.6**
DBIC **Dimbokro** **61.87 93** P **P** **03 33 53.8 -1.5**
comp=Z,111nm,0.9s,baz=312,slow=6.4,SNR=47
DBIC LR LR 03 56 56.3
comp=Z,12µm,20.7s,baz=298,slow=32
comp=Z,111nm,0.9s
DBIC **Dimbokro** **61.87 93** P **P** **03 33 53.6 -1.6**
DBIC pmax pmax
comp=Z,184nm,1.1s
DBIC **Dimbokro** **61.87 93** P **P** **03 33 54.2 -1.0**
R32K **Eaglecrest** **62.02 327** P **P** **03 33 56.0 +0.5**
baz=99
LL02 **Futaleuf** **62.05 184** IAmb IAmb 03 34 11.3
comp=Z,74nm,0.8s
LL02 IAMs_20 IAMs_20 04 05 14.9
comp=Z,9µm,18.0s
JMI **Jan Mayen** **62.09 19** *e*P **P** **03 33 59.1 +3.3**
JMI IVmB_BB 03 34 00.0
comp=Z,3µm,3.2s
JMI *e*S **S** **03 42 27.9 +7.5**
JMI IVMs_BB IVMs_BB 03 57 53.3
comp=Z,4µm,11.2s
GO07 **Milladeo Hill,** **62.10 185** IAMs_20 IAMs_20 04 01 38.5
comp=Z,7µm,20.0s
JMIC **Jan Mayen** **62.19 18** LR LR 03 57 34.6
comp=Z,9µm,20.1s,baz=247,slow=33
JMIC **Jan Mayen** **62.19 18** IVmB_BB 03 33 59.9
comp=Z,1µm,1.3s
JMIC *e*P **P** **03 34 00.0 +3.6**
JMIC *e*S **S** **03 42 29.3 +7.8**
JMIC IVMs_BB IVMs_BB 03 57 33.4
comp=Z,3µm,15.2s
JNW **Jan Mayen West** **62.23 18** *e*P **P** **03 34 01.2 +4.5**
JNW IVmB_BB 03 34 02.5
comp=Z,853nm,1.6s
JNW *e*S **S** **03 42 28.3 +6.2**
JNW IVMs_BB IVMs_BB 03 57 33.6
comp=Z,5µm,16.7s
BESE **Bessie Mountai** **62.25 327** IAMs_20 IAMs_20 04 00 09.4
comp=Z,10µm,21.0s
SIT **Sitka** **62.27 325** P **P** **03 33 56.3 -0.8**
baz=98
A36M **Sachs Harbour** **62.33 343** P **P** **03 33 57.4 +0.1**
baz=115
A36M S **S** **03 42 18.8 -4.6**
baz=115
CORI **Orista** **62.34 52** IAMs_20 IAMs_20 03 59 06.0
comp=Z,12µm,18.0s
CLF **Chambon-Foret** **62.52 45** IAMs_20 IAMs_20 04 00 51.4
comp=Z,10µm,18.0s
WHY **Whitehorse** **62.61 329** P **P** **03 33 58.7 -0.9**
WHY **Whitehorse** **62.61 329** P **P** **03 34 01.2 +1.7**
baz=100
WHY S **S** **03 42 26.0 -1.4**
baz=100
SKAG **Skagway** **62.63 328** IAmb IAmb 03 35 02.2
comp=Z,81nm,1.2s
SKAG **Skagway** **62.63 328** P **P** **03 34 00.8 +1.3**
baz=99
SKAG S **S** **03 42 25.7 -1.7**
baz=99
M31M **Drury Creek, Y** **62.66 331** P **P** **03 34 01.8 +2.0**
baz=101,SNR=16
M31M S **S** **03 42 27.9 -0.1**
baz=101
DAG **Danmarks Havn** **62.67 11** P **P** **03 33 58.4 -1.1**
DAG S **S** **03 42 23.7 -3.8**
DAG **Danmarks Havn** **62.67 11** *i* P **P** **03 33 58.0 -1.5**
DAG IAmb IAmb 03 34 05.0
comp=Z,72nm,1.0s
R31K **City Hall, Gus** **62.68 327** P **P** **03 34 00.4 +0.5**
baz=98
S31K **Pelican** **62.88 326** P **P** **03 34 01.7 +0.5**
baz=97
S31K S **S** **03 42 30.8 +0.2**
baz=97
PLBC **Pleasant Camp** **63.15 328** P **P** **03 34 03.8 +0.7**
baz=98
PLBC S **S** **03 42 34.5 +0.5**
baz=98
N31M **Braeburn, Yuko** **63.18 330** P **P** **03 34 04.6 +1.3**
baz=100,SNR=9.8
N31M S **S** **03 42 34.7 +0.2**
baz=100
O30N **Mendenhall** **63.21 329** IAmb IAmb 03 34 26.9
comp=Z,106nm,1.4s
O30N IAMs_20 IAMs_20 04 01 51.7
comp=Z,9µm,18.0s
O30N **Mendenhall** **63.21 329** P **P** **03 34 05.5 +2.0**
baz=99,SNR=5.1
O30N S **S** **03 42 34.9 0.0**
baz=99
H31M **Peel River** **63.41 335** P **P** **03 34 05.9 +1.2**
baz=103,SNR=9.3
H31M S **S** **03 42 35.7 -1.5**
baz=103
P30M **Million Dollar** **63.54 328** P **P** **03 34 08.2 +2.5**
baz=98
P30M S **S** **03 42 39.5 +0.5**
baz=98
F31M **Tsiigehtchic** **63.57 337** P **P** **03 34 06.4 +0.8**
baz=104,SNR=7.6
F31M S **S** **03 42 34.3 -4.7**
baz=104
MAYO **Mayo, Yukon** **63.60 332** P **P** **03 34 08.3 +2.3**
baz=100
MAYO S **S** **03 42 40.4 +0.8**
baz=100
G31M **Satah River** **63.64 336** P **P** **03 34 07.2 +1.1**
baz=104,SNR=18
G31M S **S** **03 42 36.2 -3.6**
baz=104
INK **Inuvik** **63.71 338** LR LR 04 01 42.4
comp=Z,15µm,21.1s,baz=110,slow=36
INK **Inuvik** **63.71 338** P **P** **03 34 07.4 +0.8**
baz=105,SNR=50
INK S **S** **03 42 36.2 -4.5**
baz=105
N30M **Aishikik Lake** **63.80 330** IAmb IAmb 03 34 30.8
comp=Z,104nm,1.1s
N30M **Aishikik Lake** **63.80 330** P **P** **03 34 09.5 +2.2**
baz=98,SNR=5.9
N30M S **S** **03 42 42.2 0.0**
baz=98
M30M **Minto, Yukon** **63.83 331** P **P** **03 34 07.4 -0.1**
M30M **Minto, Yukon** **63.83 331** P **P** **03 34 08.4 +0.9**
baz=99,SNR=15
M30M S **S** **03 42 41.9 -0.7**
baz=99
P29M **Windy Craggy** **63.87 328** P **P** **03 34 07.8 0.0**
P29M IAmb IAmb 03 34 31.4
comp=Z,92nm,1.2s
P29M IAMs_20 IAMs_20 04 01 49.1
comp=Z,10µm,20.0s
P29M **Windy Craggy** **63.87 328** P **P** **03 34 10.1 +2.2**
baz=97
P29M S **S** **03 42 41.2 -1.9**
baz=97
HYT **Haines Junctio** **63.91 329** P **P** **03 34 08.2 +0.1**
HYT IAmb IAmb 03 35 23.2
comp=Z,87nm,1.4s
HYT **Haines Junctio** **63.91 329** P **P** **03 34 10.8 +2.7**
baz=98,SNR=6.6
HYT S **S** **03 42 43.9 +0.1**
baz=98
UCC **Uccle** **63.97 42** **P** **03 34 07.2 -1.4**
UCC IAmb IAmb 03 34 22.6
comp=Z,104nm,1.0s
UCC **Uccle** **63.97 42** *d*P **P** **03 34 07.4 -1.1**
comp=Z,66nm,1.0s
UCC **Uccle** **63.97 42** P **P** **03 34 07.2 -1.4**
UCC pmax pmax
comp=Z,104nm,1.0s
J30M **Hart River** **63.97 333** IAmb IAmb 03 34 35.3
comp=Z,83nm,1.1s
J30M **Hart River** **63.97 333** P **P** **03 34 10.2 +1.6**
baz=100,SNR=17
J30M S **S** **03 42 43.8 -0.7**
baz=100
SSB **Saint Sauveur** **64.08 48** IAMs_20 IAMs_20 04 00 26.8
comp=Z,6µm,19.0s
DOU **Dourbes** **64.10 43** *d*P **P** **03 34 09.5 0.0**
comp=Z,40nm,1.0s
I30M **Mount Dempster** **64.11 334** P **P** **03 34 09.7 +0.2**
I30M IAmb IAmb 03 34 42.6
comp=Z,88nm,0.9s
I30M **Mount Dempster** **64.11 334** P **P** **03 34 11.1 +1.6**
baz=101,SNR=20
I30M S **S** **03 42 43.7 -2.4**
baz=101
BMRD **Maredsous** **64.22 43** *d*P **P** **03 34 09.2 -1.0**
comp=Z,62nm,1.0s
YUK6 **Outpost Mounta** **64.34 329** P **P** **03 34 12.6 +1.5**
baz=97
YUK6 S **S** **03 42 48.1 -1.1**
baz=97
K29M **Barlow Dome** **64.36 332** P **P** **03 34 13.3 +2.2**
baz=99,SNR=31
K29M S **S** **03 42 48.3 -1.0**
baz=99
O29M **Mount Kennedy** **64.36 328** P **P** **03 34 10.6 -0.6**
O29M IAmb IAmb 03 34 32.7
comp=Z,99nm,1.2s
O29M IAMs_20 IAMs_20 04 07 29.2
comp=Z,9µm,18.0s
O29M **Mount Kennedy** **64.36 328** P **P** **03 34 13.1 +1.9**
baz=96
O29M S **S** **03 42 49.8 +0.4**
baz=96
F30M **Barrier River** **64.37 337** P **P** **03 34 10.8 -0.2**
baz=102,SNR=20
F30M S **S** **03 42 43.9 -5.1**
baz=102
G30M **tAoh Zraii Nji** **64.40 336** P **P** **03 34 10.5 -0.8**
G30M **tAoh Zraii Nji** **64.40 336** P **P** **03 34 11.7 +0.4**
baz=102,SNR=16
G30M S **S** **03 42 45.6 -3.9**
baz=102
BGES **Gesves** **64.42 43** *d*P **P** **03 34 12.3 +0.7**
comp=Z,37nm,1.1s
COYC **Coyhaique** **64.43 184** IAmb IAmb 03 34 38.2
comp=Z,71nm,0.8s
EPYK **Eagle Plains** **64.47 335** IAmb IAmb 03 34 33.9
comp=Z,135nm,1.1s
EPYK **Eagle Plains** **64.47 335** P **P** **03 34 12.7 +1.0**
baz=101,SNR=7.0
EPYK S **S** **03 42 48.0 -2.4**
baz=101
RCHB **Rochefort** **64.51 43** *d*P **P** **03 34 11.6 -0.6**
comp=Z,46nm,1.1s
L29M **L29M** **64.52 332** P **P** **03 34 14.0 +2.0**
baz=98,SNR=14
L29M S **S** **03 42 50.8 -0.3**
baz=98
YUK4 **Talbot Arm** **64.52 330** P **P** **03 34 14.4 +2.1**
baz=97,SNR=17
M29M **Somme Creek** **64.58 331** P **P** **03 34 11.9 -0.6**
M29M IAmb IAmb 03 34 52.7
comp=Z,82nm,1.1s
M29M **Somme Creek** **64.58 331** P **P** **03 34 13.8 +1.2**
baz=98,SNR=9.9
M29M S **S** **03 42 51.1 -0.8**
baz=98
PNL **Peninsula** **64.71 328** P **P** **03 34 15.6 +2.3**
baz=95
BSTI **Sart Tilman** **64.73 42** *d*P **P** **03 34 12.9 -0.7**
comp=Z,12nm,1.1s
J29N **Klondike Camp** **64.76 333** P **P** **03 34 14.5 +0.8**
J29N **Klondike Camp** **64.76 333** P **P** **03 34 15.3 +1.7**
baz=99
J29N S **S** **03 42 55.7 +1.7**
baz=99
BEBN **Eben Emael** **64.80 42** *d*P **P** **03 34 13.9 -0.2**
BEBN *d*PcP **PcP** **03 34 51.1 +3.7**
SUE **Sulen** **64.88 31** *e*P **P** **03 34 14.2 -0.1**
SUE IAmb IAmb 03 34 43.2
comp=Z,1µm,2.6s
SUE *e*S **S** **03 42 59.2 +3.8**
SUE IAMs_20 IAMs_20 04 04 24.3
comp=Z,11µm,18.3s
I29M **Ogilvie Camp,** **64.94 334** IAmb IAmb 03 34 40.6
comp=Z,76nm,1.1s
I29M **Ogilvie Camp,** **64.94 334** P **P** **03 34 15.7 +1.0**
baz=99,SNR=6.7
I29M S **S** **03 42 55.4 -0.7**
baz=99
KMY **Karmoy** **64.95 33** *e*P **P** **03 34 14.5 -0.3**
KMY IAmb IAmb 03 34 33.4
comp=Z,106nm,1.2s
KMY *e*S **S** **03 42 55.3 -0.9**
KMY *e*SKSac **ScS** **03 44 13.9 +4.4**
KMY IAMs_20 IAMs_20 03 57 31.4
comp=Z,18µm,20.0s
BHOU **Houvegnez** **65.01 43** *d*P **P** **03 34 16.1 +0.6**
comp=Z,57nm,1.2s
MEM **Membach** **65.01 42** *d*P **P** **03 34 13.4 -2.1**
comp=Z,105nm,1.0s
ASK **Askoy** **65.03 31** *e*P **P** **03 34 15.2 -0.1**
ASK IAmb IAmb 03 34 40.8
comp=Z,113nm,1.1s
ASK *e*S **S** **03 42 59.0 +1.7**
ASK *e*SKSac **ScS** **03 44 14.7 +4.5**
ASK *e*SS **SS** **03 47 19.6 +11**
ASK IAMs_20 IAMs_20 03 57 57.5
comp=Z,12µm,19.7s
YUK8 **Steele Glacier** **65.05 329** P **P** **03 34 17.8 +1.9**
baz=96
YUK8 S **S** **03 42 58.6 +0.5**
baz=96
G29M **Pine Creek** **65.08 336** P **P** **03 34 16.6 +0.9**
baz=100,SNR=20
G29M S **S** **03 42 54.4 -3.5**
baz=100
BTNL **Ternell** **65.09 42** *d*P **P** **03 34 16.1 +0.1**
comp=Z,38nm,1.3s
BER **Bergen** **65.09 32** *e*P **P** **03 34 15.5 -0.2**
BER IAmb IAmb 03 34 34.2
comp=Z,506nm,2.2s
BER *e*S **S** **03 43 02.0 +3.9**
BER *e*SKSac **ScS** **03 44 14.8 +4.2**
BER *e*SS **SS** **03 47 19.5 +10**
BER IAMs_20 IAMs_20 03 57 58.6
comp=Z,12µm,21.1s
H29M **Whitestone** **65.10 335** P **P** **03 34 17.3 +1.5**
baz=99,SNR=26
H29M S **S** **03 42 56.5 -1.6**
baz=99
WLF **Walferdange** **65.11 43** P **P** **03 34 15.0 -1.1**
WLF **Walferdange** **65.11 43** IAmb IAmb 03 34 33.1
comp=Z,65nm,0.8s
WLF IAMs_20 IAMs_20 03 58 06.0
comp=Z,10µm,20.0s
WLF **Walferdange** **65.11 43** *d*P **P** **03 34 16.5 +0.4**
comp=Z,54nm,0.9s
WLF **Walferdange** **65.11 43** P **P** **03 34 16.0 -0.1**
PINM **Pinnacle** **65.18 328** P **P** **03 34 18.1 +1.6**
baz=95
PCA **Pinnacle** **65.18 328** IAMs_20 IAMs_20 04 07 47.7
comp=Z,12µm,18.0s
O28M **Mount Upton** **65.21 329** P **P** **03 34 16.7 -0.1**
O28M IAmb IAmb 03 34 40.2
comp=Z,66nm,1.1s
O28M IAMs_20 IAMs_20 04 03 07.5
comp=Z,7µm,20.0s
O28M **Mount Upton** **65.21 329** P **P** **03 34 18.8 +1.9**
baz=95
O28M S **S** **03 43 00.6 +0.5**
baz=95
DAWY **Dawson** **65.21 333** P **P** **03 34 18.5 +2.0**
baz=97,SNR=19
DAWY S **S** **03 42 59.6 +0.1**
baz=97
E29M **Blow River** **65.31 337** P **P** **03 34 15.9 -1.1**
E29M IAMs_20 IAMs_20 04 02 54.5
comp=Z,13µm,21.0s
E29M **Blow River** **65.31 337** P **P** **03 34 18.1 +1.0**
baz=101,SNR=65
E29M S **S** **03 42 56.3 -4.2**
baz=101
HYA **Hoyanger** **65.58 31** *e*P **P** **03 34 23.4 +4.5**
HYA IVmB_BB 03 34 30.4
comp=Z,2µm,2.7s
HYA *e*S **S** **03 43 05.7 +1.8**
HYA IVMs_BB IVMs_BB 04 00 35.8
comp=Z,2µm,4.0s
BLS5 **Blasjo** **65.58 33** *e*P **P** **03 34 19.2 +0.2**
BLS5 IAmb IAmb 03 35 13.7
comp=Z,99nm,1.1s
BLS5 *e*S **S** **03 43 06.5 +2.4**
BLS5 IAMs_20 IAMs_20 03 58 12.1
comp=Z,20µm,21.1s
BNI **Bardonecchia** **65.60 48** P **P** **03 34 19.0 -0.5**
BNI IAMs_20 IAMs_20 04 07 26.1
comp=Z,6µm,18.0s
BNI **Bardonecchia** **65.60 48** P **P** **03 34 19.0 -0.5**
BNI pmax pmax
comp=Z,185nm,1.2s
BNI MLR MLR
comp=Z,6µm,18.0s
LOGN **Logan Glacier** **65.61 329** P **P** **03 34 18.4 -1.0**
LOGN IAmb IAmb 03 34 40.7
comp=Z,110nm,1.3s
LOGN IAMs_20 IAMs_20 04 03 21.1
comp=Z,12µm,20.0s
I28M **Miner Creek** **65.62 334** P **P** **03 34 20.9 +1.6**
baz=98,SNR=24
I28M S **S** **03 43 04.2 -0.5**
baz=98
TABL **Table Mountain** **65.65 328** IAMs_20 IAMs_20 04 06 40.1
comp=Z,7µm,19.0s
ODD1 **Odda** **65.70 32** *e*P **P** **03 34 19.9 +0.1**
ODD1 IAmb IAmb 03 34 40.1
comp=Z,87nm,0.9s
ODD1 *e*S **S** **03 43 09.5 +3.8**
ODD1 IAMs_20 IAMs_20 03 58 16.4
comp=Z,16µm,20.3s
CTGM **Chitina Glacie** **65.78 329** P **P** **03 34 20.1 -0.3**
CTGM IAmb IAmb 03 34 43.8
comp=Z,102nm,1.0s
CTGM IAMs_20 IAMs_20 04 03 25.7
comp=Z,13µm,19.0s
CTG **Chitna Glacier** **65.78 329** P **P** **03 34 23.0 +2.6**
baz=94
CTG S **S** **03 43 07.7 +0.9**
baz=94
D28M **Stokes Point** **65.78 338** P **P** **03 34 21.1 +1.0**
baz=100
D28M S **S** **03 43 02.8 -3.4**
baz=100
ECH **Echery** **65.80 45** IAMs_20 IAMs_20 04 02 42.3
comp=Z,7µm,18.0s
NOR **Nord** **65.88 7** *i* P **P** **03 34 20.4 -0.1**
NOR IAmb IAmb 03 34 25.8
comp=Z,40nm,1.1s
SNART **Snartemo** **65.91 34** *e*P **P** **03 34 20.9 -0.2**
SNART IVmB_BB 03 34 34.0
comp=Z,6µm,28.2s
SNART *e*S **S** **03 43 10.8 +2.7**
SNART *e*SKSac **ScS** **03 44 21.3 +4.3**
SNART IVMs_BB IVMs_BB 03 59 57.1
comp=Z,7µm,24.6s
SNART **Snartemo** **65.91 34** *i* P **P** **03 34 21.7 +0.6**
F28M **Old Crow** **65.91 336** IAmb IAmb 03 34 43.1
comp=Z,122nm,1.1s
F28M **Old Crow** **65.91 336** P **P** **03 34 21.7 +0.7**
baz=98,SNR=30

F28M S **S** **03 43 05.1 -2.9**
baz=98
YAH **Yahtse** **65.94 328** IAMs_20 IAMs_20 04 08 04.2
comp=Z,9μm,19.0s
E28M **Babbage River** **65.94 338** IAmb IAmb 03 34 41.9
comp=Z,56nm,0.9s
E28M IAMs_20 IAMs_20 04 04 14.2
comp=Z,11μm,18.0s
E28M **Babbage River** **65.94 338** P **P** **03 34 20.6 -0.5**
baz=99,SNR=19
E28M S **S** **03 43 03.3 -5.0**
baz=99
BARN **Barnard Glacie** **65.95 329** IAmb IAmb 03 34 43.9
comp=Z,116nm,1.1s
SENIN **Lac Senin/Sane** **65.97 47** P **P** **03 34 19.7 -2.2**
SENIN IAmb IAmb 03 34 46.9
comp=Z,152nm,1.4s
SENIN IAMs_20 IAMs_20 04 02 36.9
comp=Z,7μm,19.0s
GRNC **Granite Creek** **65.97 329** IAMs_20 IAMs_20 04 03 09.6
comp=Z,11μm,22.0s
MESA **MESA** **66.03 328** IAMs_20 IAMs_20 04 08 25.3
comp=Z,12μm,18.0s
MESA **MESA** **66.03 328** P **P** **03 34 24.6 +2.5**
baz=93
AKN **Aaknes** **66.05 30** *e*P **P** **03 34 22.2 +0.2**
AKN IAmb IAmb 03 34 40.3
comp=Z,144nm,1.1s
AKN *e*S **S** **03 43 14.4 +4.6**
AKN IAMs_20 IAMs_20 04 05 18.4
comp=Z,6μm,18.4s
EGAK **Eagle** **66.06 333** P **P** **03 34 23.4 +1.5**
baz=96,SNR=37
EGAK S **S** **03 43 08.0 -1.8**
baz=96
AY03 **Cochrane** **66.14 184** IAmb IAmb 03 34 45.2
comp=Z,66nm,0.8s
AY03 IAMs_20 IAMs_20 04 06 14.0
comp=Z,7μm,20.0s
M27K **Edge Creek, AK** **66.15 331** P **P** **03 34 24.1 +1.4**
baz=94,SNR=12
M27K S **S** **03 43 12.5 +1.2**
baz=94
BCAR **Beaver Creek A** **66.17 331** P **P** **03 34 22.7 -0.1**
L27K **Beaver Creek,** **66.18 331** P **P** **03 34 24.8 +1.9**
baz=95,SNR=25
L27K S **S** **03 43 10.3 -1.2**
baz=95
TORD **Torodi Ar. Bea** **66.24 84** P **P** **03 34 21.8 -2.1**
TORD IAmb IAmb 03 34 39.0
comp=Z,60nm,1.0s
TORD **Torodi Ar. Bea** **66.24 84** P **P** **03 34 22.2 -1.8**
comp=Z,36nm,0.8s,baz=287,slow=6.1,SNR=87
TORD LR LR 04 00 52.3
comp=Z,15μm,21.0s,baz=282,slow=34
TORD PKP2bc 04 02 57.2
comp=Z,2.7nm,1.0s,baz=139,slow=5.5,SNR=2.1
comp=Z,36nm,0.8s
ISLE **Juniper Island** **66.25 329** IAMs_20 IAMs_20 04 06 36.0
comp=Z,10μm,21.0s
MOL **Molde** **66.33 29** *e*P **P** **03 34 24.8 +1.1**
MOL IAmb IAmb 03 35 03.6
comp=Z,95nm,1.1s
MOL *e*S **S** **03 43 17.9 +4.7**
MOL IAMs_20 IAMs_20 04 00 34.6
comp=Z,5μm,19.0s
I27K **Kandik River** **66.34 334** P **P** **03 34 25.5 +1.7**
baz=96,SNR=34
I27K S **S** **03 43 11.7 -1.6**
baz=96
H27K **Steamboat Moun** **66.37 335** IAmb IAmb 03 35 10.7
comp=Z,100nm,1.1s
H27K **Steamboat Moun** **66.37 335** P **P** **03 34 24.9 +0.9**
baz=96,SNR=11
H27K S **S** **03 43 11.9 -1.7**
baz=96
K27K **Chicken** **66.38 332** P **P** **03 34 26.0 +2.0**
baz=95
K27K S **S** **03 43 16.4 +2.6**
baz=95
SNH **Sunshine Point** **66.47 328** IAMs_20 IAMs_20 04 04 49.0
comp=Z,12μm,19.0s
G27K **Doyon Strip** **66.49 335** IAmb IAmb 03 34 46.7
comp=Z,110nm,1.2s
G27K **Doyon Strip** **66.49 335** P **P** **03 34 25.9 +1.2**
baz=96,SNR=32
G27K S **S** **03 43 11.7 -3.4**
baz=96
WAX **Waxell Ridge** **66.49 328** IAMs_20 IAMs_20 04 05 52.5
comp=Z,9μm,20.0s
TGL **Tana Glacier** **66.50 329** IAMs_20 IAMs_20 04 03 16.6
comp=Z,10μm,20.0s
D27M **Malcolm River** **66.55 338** IAmb IAmb 03 34 47.1
comp=Z,105nm,1.0s
D27M IAMs_20 IAMs_20 04 04 45.3
comp=Z,10μm,19.0s
D27M **Malcolm River** **66.55 338** P **P** **03 34 26.0 +0.9**
baz=98
D27M S **S** **03 43 13.0 -2.8**
baz=98
BFO **Black Forest** **66.58 45** P **P** **03 34 24.4 -1.2**
BFO IAMs_20 IAMs_20 03 59 06.9
comp=Z,6μm,19.0s
BFO **Black Forest** **66.58 45** P **P** **03 34 24.4 -1.2**
BFO pmax pmax
comp=Z,55nm,1.1s
SKAR **Skarslia** **66.58 31** *e*P **P** **03 34 24.8 -0.6**
SKAR IVmB_BB 03 34 28.0
comp=Z,950nm,2.9s
SKAR *e*S **S** **03 43 19.4 +3.0**
SKAR IVMs_BB IVMs_BB 04 05 04.6
comp=Z,4μm,19.1s
HOMB **Homborsund** **66.59 34** *e*P **P** **03 34 26.2 +0.7**
HOMB IAmb IAmb 03 34 38.3
comp=Z,55nm,0.9s
HOMB *e*S **S** **03 43 19.0 +2.7**
HOMB *e* 03 44 27.0
HOMB *e*SS **SS** **03 47 39.4 +6.2**
HOMB IAMs_20 IAMs_20 04 00 22.3
comp=Z,11μm,20.1s
HOMB **Homborsund** **66.59 34** *i* P **P** **03 34 26.1 +0.7**
MCARA **McCarthy VSAT** **66.63 329** P **P** **03 34 27.0 +1.3**
baz=93,SNR=5.5
CRQE **Cirque** **66.63 329** P **P** **03 34 25.3 -0.6**
baz=93
E27K **Coleen River** **66.64 337** IAmb IAmb 03 34 47.5
comp=Z,93nm,1.1s
E27K IAMs_20 IAMs_20 04 06 27.6
comp=Z,12μm,18.0s
E27K **Coleen River** **66.64 337** P **P** **03 34 26.8 +1.2**
baz=97,SNR=20
E27K S **S** **03 43 13.1 -3.7**
baz=97
CRQM **Cirque** **66.65 329** IAMs_20 IAMs_20 04 08 54.0
comp=Z,10μm,19.0s
M26K **Nabesna, AK** **66.67 331** P **P** **03 34 27.4 +1.4**
baz=93
M26K S **S** **03 43 17.8 +0.3**
baz=93
VRDI **Verde Repeater** **66.83 329** P **P** **03 34 27.1 -0.1**
VRDI IAmb IAmb 03 34 55.8
comp=Z,76nm,1.0s
L26K **Log Cabin Wild** **66.87 331** IAmb IAmb 03 34 48.6
comp=Z,128nm,1.1s
L26K **Log Cabin Wild** **66.87 331** P **P** **03 34 28.4 +1.2**
baz=93,SNR=20
L26K S **S** **03 43 21.0 +1.2**
baz=93
BERG **Berg Lake** **66.91 328** IAMs_20 IAMs_20 04 07 01.6
comp=Z,11μm,18.0s
MUD **Monsted U'grnd** **66.92 36** *i* P **P** **03 34 27.8 +0.2**
MUD IAmb IAmb 03 34 34.6
comp=Z,158nm,1.2s
SUCK **Suckling Hills** **66.94 328** IAMs_20 IAMs_20 04 08 19.3
comp=Z,12μm,20.0s
GLB **Gilahina Butte** **67.01 330** IAmb IAmb 03 34 49.5
comp=Z,115nm,1.3s
DOMB **Dombas** **67.01 30** *e*P **P** **03 34 31.0 +2.9**
DOMB IVmB_BB 03 34 52.3
comp=Z,2μm,5.3s
DOMB *e*S **S** **03 43 24.1 +2.6**
DOMB *e*SKSac **SKiKP** **03 44 28.9 -0.1**
DOMB IVMs_BB IVMs_BB 04 00 17.4
comp=Z,2μm,19.2s
MENT **Mentasta** **67.04 331** IAmb IAmb 03 34 57.0
comp=Z,104nm,0.8s
J26L **Joseph Creek** **67.06 333** IAmb IAmb 03 34 45.0
comp=Z,173nm,1.4s
J26L **Joseph Creek** **67.06 333** P **P** **03 34 29.5 +1.0**
baz=94,SNR=32
J26L S **S** **03 43 22.6 +0.5**
baz=94
STU **Stuttgart** **67.13 44** IAmb IAmb 03 34 45.9
comp=Z,95nm,1.1s
STU IAMs_20 IAMs_20 04 03 01.5
comp=Z,12μm,18.0s
SSRD **Sdr. Stenderup** **67.18 37** *i* P P 03 34 35.8 +6.5
SSRD IAmb IAmb 03 34 40.0
comp=Z,103nm,1.0s
KONO **Kongsberg** **67.19 32** P **P** **03 34 28.3 -1.0**
KONO IAmb IAmb 03 34 48.2
comp=Z,143nm,1.4s
KONO **Kongsberg** **67.19 32** *e*P **P** **03 34 29.9 +0.7**
KONO IVmB_BB 03 34 34.4
comp=Z,1μm,3.2s
KONO *e*S **S** **03 43 22.3 -1.3**
KONO IVMs_BB IVMs_BB 03 59 37.5
comp=Z,6μm,20.5s
KONO **Kongsberg** **67.19 32** *e*P **P** **03 34 30.4 +1.2**
KONO pmax pmax
comp=Z,119nm,1.5s
KONO MLR MLR
comp=Z,9μm,19.0s
SCRK **Sand Creek** **67.21 332** P **P** **03 34 31.1 +1.6**
baz=93,SNR=67
SCRK S **S** **03 43 23.6 -0.5**
baz=93
KAIM **Kayak Island** **67.26 328** IAMs_20 IAMs_20 04 08 30.7
comp=Z,11μm,22.0s
G26K **Porcupine Rive** **67.34 335** IAmb IAmb 03 34 57.9
comp=Z,52nm,0.8s
G26K **Porcupine Rive** **67.34 335** P **P** **03 34 31.3 +1.2**
baz=95,SNR=30
G26K S **S** **03 43 24.9 -0.3**
baz=95
BMRM **Bremner River** **67.38 329** P **P** **03 34 32.6 +2.1**
baz=91,SNR=8.1
BMRM S **S** **03 43 26.6 +0.6**
baz=91
TUE **Stuetta** **67.38 47** IAMs_20 IAMs_20 04 03 21.1
comp=Z,7μm,19.0s
N25K **Chitina, Valde** **67.39 330** P **P** **03 34 29.6 -1.0**
N25K **Chitina, Valde** **67.39 330** P **P** **03 34 32.2 +1.6**
baz=92
N25K S **S** **03 43 26.2 0.0**
baz=92
F26K **Sheenjek River** **67.54 336** IAmb IAmb 03 34 54.2
comp=Z,88nm,1.2s
F26K **Sheenjek River** **67.54 336** P **P** **03 34 31.9 +0.5**
baz=94,SNR=23
F26K S **S** **03 43 25.2 -2.6**
baz=94
TAM **Tamanrasset** **67.55 73** IAMs_20 IAMs_20 04 02 59.5
comp=Z,8μm,19.0s
C27K **Jago River** **67.56 338** IAMs_20 IAMs_20 04 04 49.0
comp=Z,7μm,20.0s
C27K **Jago River** **67.56 338** P **P** **03 34 32.7 +1.2**
baz=96,SNR=30
C27K S **S** **03 43 24.3 -3.6**
baz=96
RIDG **Independent Ri** **67.58 332** P **P** **03 34 33.1 +1.4**
baz=92,SNR=26
RIDG S **S** **03 43 27.9 -0.5**
baz=92
HARP **HAARP** **67.68 331** P **P** **03 34 33.7 +1.4**
baz=91,SNR=6.6
DAVA **Damuels** **67.68 46** *i* pP **P** **03 34 32.3 -0.5**
comp=Z,150nm,1.6s,SNR=24
DAVA *i* S **S** **03 43 30.0 -0.4**
comp=Z,8.3nm,1.2s
DAVA *i* P'P' 04 02 53.1
comp=Z,13nm,1.6s
BMAR **Burnt Mountain** **67.69 336** P **P** **03 34 31.5 -0.8**
DAVOX **Davos/Dischmat** **67.72 46** LR LR 04 04 12.9
comp=Z,4μm,18.1s,baz=280,slow=36
OSL **Oslo** **67.76 32** *e*P **P** **03 34 34.3 +1.4**
OSL IVmB_BB 03 34 59.3
comp=Z,2μm,4.6s
OSL *e*S **S** **03 43 31.1 +0.7**
OSL *e*SKSac **ScS** **03 44 33.4 +2.1**
OSL IVMs_BB IVMs_BB 03 59 45.7
comp=Z,6μm,21.8s
NBO00 **NORSAR Array S** **67.80 31** IAmb IAmb 03 34 52.5
comp=Z,117nm,1.2s
PAX **Paxson** **67.84 331** IAmb IAmb 03 34 49.5
comp=Z,116nm,1.3s
PAX **Paxson** **67.84 331** P **P** **03 34 35.5 +2.1**
baz=91,SNR=18
PAX S **S** **03 43 32.9 +1.4**
baz=91
J25K **Salcha River,** **67.85 333** IAmb IAmb 03 35 36.7
comp=Z,78nm,1.1s
J25K **Salcha River,** **67.85 333** P **P** **03 34 35.1 +1.6**
baz=92,SNR=22
J25K S **S** **03 43 31.0 -0.6**
baz=92
NAO01 **NORSAR Array S** **67.85 31** IAmb IAmb 03 34 52.8
comp=Z,136nm,1.1s
EYAK **Cordova Ski Ar** **67.93 329** P **P** **03 34 34.8 +0.9**
baz=90
EYAK S **S** **03 43 33.0 +0.6**
baz=90
STRU **Stroemstad** **68.00 33** *i* P **P** **03 34 33.3 -1.1**
K24K **Donnelly Dome** **68.00 332** P **P** **03 34 36.0 +1.6**
baz=92,SNR=22
K24K S **S** **03 43 32.9 -0.4**
baz=92
C26K **Camden Bay** **68.01 339** P **P** **03 34 35.7 +1.5**
baz=95,SNR=5.4
C26K S **S** **03 43 30.0 -3.1**
baz=95
NB2 **NORSAR Subarra** **68.01 31** P **P** **03 34 34.1 -0.4**
comp=Z,175nm,1.4s,baz=269,slow=6.5
NB2 **NORSAR Subarra** **68.01 31** P **P** **03 34 34.1 -0.4**
comp=Z,175nm,1.4s,baz=269,slow=6.5
NOA **NORSAR Array B** **68.01 31** P **P** **03 34 33.7 -0.8**
comp=Z,25nm,0.8s,baz=270,slow=6.4,SNR=74
NOA LR LR 03 59 35.5
comp=Z,6μm,21.3s,baz=275,slow=32
NOA PKP2bc 04 02 52.4
comp=Z,0.8nm,0.8s,baz=89,slow=4.0,SNR=3.4
comp=Z,25nm,0.8s
KLU **Klutina** **68.02 330** IAmb IAmb 03 35 10.4
comp=Z,71nm,1.0s
KLU **Klutina** **68.02 330** P **P** **03 34 36.4 +1.8**
baz=90
VSL **Villasalto** **68.08 54** IAMs_20 IAMs_20 04 03 46.8
comp=Z,8μm,18.0s
NC303 **NORSAR Array S** **68.09 31** IAmb IAmb 03 34 54.2
comp=Z,97nm,1.1s
F25K **Christian Rive** **68.11 336** IAmb IAmb 03 34 57.7
comp=Z,116nm,0.9s
F25K **Christian Rive** **68.11 336** P **P** **03 34 36.1 +1.1**
baz=93,SNR=65
F25K S **S** **03 43 33.6 -1.0**
baz=93
H25L **Birch Creek** **68.11 335** P **P** **03 34 36.7 +1.8**
baz=92,SNR=34
H25L S **S** **03 43 36.0 +1.6**
baz=92
E25K **Arctic Village** **68.11 337** IAmb IAmb 03 34 56.8
comp=Z,77nm,0.9s
E25K **Arctic Village** **68.11 337** P **P** **03 34 36.9 +1.9**
baz=93,SNR=16
E25K S **S** **03 43 33.1 -1.4**
baz=93
M24K **Tolsona, Glenn** **68.15 330** P **P** **03 34 34.8 -0.5**
baz=90
NC602 **NORSAR Array S** **68.17 31** IAmb IAmb 03 34 55.0
comp=Z,111nm,1.1s
NC602 **NORSAR Array S** **68.17 31** *e*P **P** **03 34 36.1 +0.7**
NC602 IVmB_BB 03 34 56.3
comp=Z,2μm,5.8s
NC602 *e*S **S** **03 43 34.8 -0.6**
NC602 *e*SKSac **ScS** **03 44 37.5 +3.0**
NC602 IVMs_BB IVMs_BB 04 00 09.8
comp=Z,4μm,19.5s
PRMA **PARMA** **68.19 49** IAMs_20 IAMs_20 04 03 35.8
comp=Z,7μm,18.0s
Q23K **Middleton Isla** **68.23 327** IAMs_20 IAMs_20 04 05 21.5
comp=Z,8μm,19.0s
Q23K **Middleton Isla** **68.23 327** P **P** **03 34 35.1 -0.7**
baz=89
G25K **Bearman Lake** **68.24 335** P **P** **03 34 37.5 +1.8**
baz=92,SNR=30
G25K S **S** **03 43 38.8 +2.8**
baz=92
TJOU **Tjoern** **68.24 34** *i* P **P** **03 34 36.1 +0.2**
NC405 **NORSAR Array S** **68.26 31** IAmb IAmb 03 34 55.5
comp=Z,119nm,1.2s
RETA **Reutte** **68.26 46** *i* pP **P** **03 34 35.8 -0.6**
comp=Z,72nm,1.1s,SNR=26
RETA *i* S **S** **03 43 38.0 +0.9**
comp=Z,16nm,1.3s
RETA *i* P'P' 04 02 56.8
comp=Z,12nm,1.3s
FETA **Feichten** **68.28 46** *i* pP **P** **03 34 36.3 -0.3**
comp=Z,101nm,1.1s,SNR=32
FETA *e*S **S** **03 43 39.9 +2.4**
comp=Z,8.7nm,1.0s
FETA *i* P'P' 04 02 51.8
comp=Z,7.3nm,1.3s
FID **Port Fidalgo** **68.29 329** IAmb IAmb 03 35 24.4
comp=Z,68nm,0.9s
GRFO **Grafenberg** **68.39 43** P **P** **03 34 36.1 -0.9**
GRFO IAmb IAmb 03 34 57.4
comp=Z,116nm,1.3s
GRFO IAMs_20 IAMs_20 03 59 46.0
comp=Z,8μm,21.0s
GRFO **Grafenberg** **68.39 43** P **P** **03 34 36.1 -0.9**
GRFO pmax pmax
comp=Z,116nm,1.3s
GRA1 **Grafenberg Arr** **68.40 43** IAmb IAmb 03 34 57.4
comp=Z,120nm,1.3s
GRA1 IAMs_20 IAMs_20 03 59 24.0
comp=Z,8μm,21.0s
GRF **Grafenberg Arr** **68.40 43** *e*P **P** **03 34 36.5 -0.6**
comp=Z,309nm,2.0s,baz=268,slow=6.7
GRF *e*pP **pwP** **03 34 49.5 +4.1**
baz=268,slow=6.7
GRF *e*L L 03 59 24.5
comp=Z,8μm,21.8s
NSS **Namsos** **68.40 27** *e*P **P** **03 34 40.6 +3.8**
NSS *e*S **S** **03 43 37.3 -0.7**
NSS IVMs_BB IVMs_BB 04 00 53.2
comp=Z,1μm,18.3s
ONAU **Onsala** **68.42 35** *i* P **P** **03 34 37.3 +0.3**
D25K **Kavik River** **68.47 338** P **P** **03 34 38.1 +0.9**
baz=93
D25K S **S** **03 43 35.4 -3.5**
baz=93
IL31 **68.50 333** IAmb IAmb 03 34 59.6
comp=Z,136nm,1.1s
ILAR **Eielson Array** **68.50 333** P **P** **03 34 36.8 -0.7**
ILAR **Eielson Array** **68.50 333** P **P** **03 34 37.5 0.0**
comp=Z,19nm,0.7s,baz=105,slow=4.6,SNR=66
ILAR PKP2bc 04 02 52.0
comp=Z,1.3nm,1.0s,baz=243,slow=2.9,SNR=5.0
ILAR LR LR 04 05 17.8
comp=Z,35μm,20.1s,baz=83,slow=36
comp=Z,19nm,0.7s
MOTA **Moosalm** **68.51 46** *i* pP **P** **03 34 37.3 -0.7**
comp=Z,77nm,1.1s,SNR=28
MOTA *i* S **S** **03 43 41.1 +0.9**
comp=Z,9.3nm,1.2s
MOTA *e*P'P' 04 02 55.8
comp=Z,9.2nm,1.2s
HDA **Harding Lake** **68.53 333** IAmb IAmb 03 34 59.8
comp=Z,73nm,1.0s
HDA **Harding Lake** **68.53 333** P **P** **03 34 38.0 +0.4**
baz=91,SNR=25
HDA S **S** **03 43 38.1 -1.4**
baz=91
KEST **Kesra** **68.56 58** P **P** **03 34 37.9 -0.6**
comp=Z,30nm,0.9s,baz=244,slow=3.9,SNR=22
comp=Z,30nm,0.9s
MOX **Moxa** **68.58 42** *e*L L 04 00 03.9
comp=Z,11μm,21.0s
SQTA **Sankt Quirin** **68.59 46** *i* pP **P** **03 34 38.4 -0.1**
comp=Z,74nm,1.1s,SNR=36
SQTA *i* P'P' 04 02 52.4
comp=Z,6.0nm,0.8s
GLI **Glacier Island** **68.59 329** IAmb IAmb 03 35 00.0
comp=Z,83nm,1.1s
GLI **Glacier Island** **68.59 329** P **P** **03 34 39.5 +1.4**
baz=89
SCM **Sheep Creek Mo** **68.69 330** P **P** **03 34 38.8 0.0**
baz=89
DHY **Denali Highway** **68.71 331** IAmb IAmb 03 34 60.0
comp=Z,72nm,1.2s
DHY **Denali Highway** **68.71 331** P **P** **03 34 39.4 +0.4**
baz=90
DHY S **S** **03 43 41.2 -0.8**
baz=90
POKR **Poker Plat Res** **68.74 333** P **P** **03 34 40.4 +1.4**
baz=90,SNR=22
POKR S **S** **03 43 40.9 -1.1**
baz=90
COP **Copenhagen** **68.77 37** *i* P **P** **03 34 39.8 +0.6**
COP IAmb IAmb 03 34 42.0
comp=Z,172nm,1.0s
G24K **Hadweenzic Riv** **68.79 335** IAmb IAmb 03 34 56.2
comp=Z,134nm,1.1s
G24K **Hadweenzic Riv** **68.79 335** P **P** **03 34 40.9 +1.7**
baz=91,SNR=43
G24K S **S** **03 43 41.2 -1.4**
baz=91
WATA **Walderalm** **68.83 46** *i* pP **P** **03 34 39.0 -1.0**
comp=Z,43nm,1.2s,SNR=21
WATA *i* P'P' 04 02 53.2
comp=Z,4.2nm,0.7s
FABU **Falkenberg** **68.87 35** *i* P **P** **03 34 39.5 -0.3**
BORU **Boraas** **68.87 35** *i* P **P** **03 34 39.1 -0.7**
STOK **Stokkvaagen** **68.87 25** *e*P **P** **03 34 41.4 +1.7**
STOK IVmB_BB 03 34 53.9
comp=Z,1μm,1.5s
STOK *e*S **S** **03 43 43.2 -0.3**
STOK *e*SS **SS** **03 48 07.4 -0.8**
STOK IVMs_BB IVMs_BB 04 00 04.4
comp=Z,2μm,21.0s
WTTA **Wattenberg** **68.88 46** *i* pP **P** **03 34 39.0 -1.3**
comp=Z,54nm,1.1s,SNR=21
WTTA *i* S **S** **03 43 49.6 +5.0**
comp=Z,9.4nm,1.1s
WTTA *i* P'P' 04 02 54.1
comp=Z,7.6nm,1.1s
WAT6 **Susitna Watana** **68.88 331** P **P** **03 34 41.0 +0.9**
baz=89,SNR=6.0
WAT6 S **S** **03 43 41.8 -2.3**
baz=89
M23K **Glacier View** **68.88 330** P **P** **03 34 40.7 +0.8**
baz=89,SNR=5.8
CCB **Clear Creek Bu** **68.90 333** IAmb IAmb 03 34 55.1
comp=Z,150nm,1.4s
LEIR **Leirfjorden** **68.91 25** *e*P **P** **03 34 41.4 +1.5**
LEIR *e*S **S** **03 43 46.9 +2.9**
COLA **College** **68.92 333** P **P** **03 34 39.4 -0.6**
COLA **College** **68.92 333** *ce*P **P** **03 34 39.8 -0.2**
COLA pmax pmax
comp=Z,170nm,1.0s
COLA MLR MLR
comp=Z,34μm,20.0s
COLA **College** **68.92 333** P **P** **03 34 41.0 +1.0**
baz=90
COLA S **S** **03 43 42.6 -1.5**
baz=90
COLA **College** **68.92 333** P **P** **03 34 40.5 +0.5**
KONS **Konsvik** **68.92 25** *e*P **P** **03 34 41.1 +1.1**
H24K **Noodor Dome** **68.94 334** IAMs_20 IAMs_20 04 05 36.6
comp=Z,12μm,19.0s
H24K **Noodor Dome** **68.94 334** P **P** **03 34 41.3 +1.1**
baz=90,SNR=73
H24K S **S** **03 43 45.1 +0.6**
baz=90
F24K **Squaw Lake** **68.96 336** P **P** **03 34 41.7 +1.4**
baz=91,SNR=34
F24K S **S** **03 43 42.8 -1.9**
baz=91
VAGH **Vaagaholmen** **68.98 25** *e*P **P** **03 34 42.3 +1.9**
VAGH *e*S **S** **03 43 45.5 +0.7**
OSSC **Osservatorio P** **68.99 50** IAmb IAmb 03 35 31.9
comp=Z,106nm,1.2s
OSSC IAMs_20 IAMs_20 04 04 29.0
comp=Z,8μm,18.0s
CTI **Castel Tesino** **69.00 47** IAmb IAmb 03 35 09.7
comp=Z,64nm,0.8s
CTI IAMs_20 IAMs_20 04 01 13.2
comp=Z,6μm,20.0s
WRH **Wood River Hil** **69.02 333** IAmb IAmb 03 35 05.4
comp=Z,84nm,0.9s
BJUU **Bjuv** **69.08 36** *i* P **P** **03 34 41.6 +0.4**
LOF **Lofoten** **69.11 23** *e*P **P** **03 34 41.2 0.0**

LOF IVmB_BB 03 35 00.2
comp=Z,1μm,2.1s
LOF IVMs_BB IVMs_BB 03 59 33.3
comp=Z,2μm,18.6s
PWL Port Wells 69.20 329 P **P** **03 34 42.4 +0.5**
PWL IAmb IAmb 03 35 21.6
comp=Z,117nm,1.4s
PWL IAMs_20 IAMs_20 04 05 25.9
comp=Z,11μm,19.0s
PWL Port Wells 69.20 329 P **P** **03 34 41.6 -0.2**
baz=88
E24K Your Creek 69.20 337 IAmb IAmb 03 35 04.5
comp=Z,119nm,0.9s
E24K Your Creek 69.20 337 P **P** **03 34 43.2 +1.4**
baz=91
E24K S **S** **03 43 47.2 -0.4**
baz=91
KNK Knik Glacier 69.24 329 P **P** **03 34 41.2 -1.0**
KNK IAmb IAmb 03 35 19.8
comp=Z,82nm,1.1s
KNK Knik Glacier 69.24 329 P **P** **03 34 42.4 +0.3**
baz=88
KNK S **S** **03 43 45.0 -3.1**
baz=88
WAT1 Susitna Watana 69.25 331 P **P** **03 34 43.5 +1.3**
baz=89
WAT1 S **S** **03 43 47.0 -1.2**
baz=89
HFS Hagfors 69.25 32 P **P** **03 34 41.3 -0.9**
comp=Z,13nm,0.8s,baz=258,slow=2.9,SNR=20
HFS PcP **PcP** **03 35 07.6 +1.7**
comp=Z,20nm,0.7s,baz=226,slow=8.0,SNR=7.2
HFS LR LR 04 00 53.8
comp=Z,18μm,20.5s,baz=276,slow=32
HFS PKPPKP **P'P'df** **04 02 51.5 -5.1**
comp=Z,4.2nm,0.9s,baz=18,slow=1.9,SNR=6.5
comp=Z,13nm,0.8s
RAUS Rausandaksla 69.29 25 *e*P **P** **03 34 45.3 +3.0**
RAUS *e*S **S** **03 43 47.8 -0.7**
RAUS IVMs_BB IVMs_BB 04 01 19.0
comp=Z,2μm,21.3s
C24K Franklin Bluff 69.31 338 P **P** **03 34 43.6 +1.2**
baz=91
C24K S **S** **03 43 47.3 -1.2**
baz=91
D24K Happy Valley 69.34 338 IAmb IAmb 03 35 10.2
comp=Z,84nm,1.1s
D24K IAMs_20 IAMs_20 04 08 26.4
comp=Z,10μm,19.0s
D24K Happy Valley 69.34 338 P **P** **03 34 43.5 +0.9**
baz=91
D24K S **S** **03 43 46.6 -2.4**
baz=91
RGN Rugen 69.34 38 IAMs_20 IAMs_20 04 01 25.0
comp=Z,10μm,20.0s
KBS Kingsbay 69.39 12 P **P** **03 34 42.4 -0.4**
KBS IAMs_20 IAMs_20 04 08 21.5
comp=Z,12μm,18.0s
KBS Kingsbay 69.39 12 P **P** **03 34 42.4 -0.4**
KBS pmax pmax
comp=Z,283nm,1.7s
KBS MLR MLR
comp=Z,12μm,18.0s
CLL Collm 69.40 41 IAMs_20 IAMs_20 04 00 59.5
comp=Z,12μm,20.0s
CLL Collm 69.40 41 *i* P **P** **03 34 42.4 -0.9**
CLL *i* 03 34 48.0
CLL *i* 03 34 54.2
CLL *e*S **S** **03 43 49.0 -1.3**
CLL pmax pmax
comp=Z,105nm,1.6s
CLL MLR MLR
comp=Z,13μm,20.9s
MCK McKinley 69.40 332 IAmb IAmb 03 35 05.4
comp=Z,118nm,1.0s
MCK McKinley 69.40 332 P **P** **03 34 44.5 +1.4**
baz=89,SNR=12
MCK S **S** **03 43 49.4 -0.5**
baz=89
NEA2 Nenana 69.44 333 IAmb IAmb 03 35 05.5
comp=Z,134nm,1.1s
NEA2 Nenana 69.44 333 P **P** **03 34 42.7 -0.6**
baz=89,SNR=43
NEA2 S **S** **03 43 47.7 -2.7**
baz=89
NEA2 Nenana 69.44 333 P **S** **03 43 47.6 -2.7**
ABTA Abfaltersbach 69.52 46 *i* pP **P** **03 34 43.4 -0.8**
comp=Z,47nm,1.1s,SNR=15
ABTA *i* S **S** **03 43 51.1 -1.0**
comp=Z,17nm,1.4s
ABTA *e*P'P' 04 02 51.3
comp=Z,8.2nm,1.3s
DEL Delary 69.53 36 *i* P **P** **03 34 44.4 +0.4**
PMR Palmer 69.56 330 P **P** **03 34 44.4 +0.4**
PMR Palmer 69.56 330 P **P** **03 34 44.4 +0.4**
PMR pmax pmax
comp=Z,52nm,1.0s
PMR Palmer 69.56 330 P **P** **03 34 44.1 +0.1**
baz=88
PMR S **S** **03 43 52.3 +0.6**
baz=88
LESA Schwarzleotal 69.56 46 *e*pP **P** **03 34 43.6 -0.9**
comp=Z,46nm,1.3s,SNR=20
LESA *e*S **S** **03 43 52.3 -0.3**
comp=Z,5.3nm,1.4s
LESA *i* P'P' 04 02 50.1
comp=Z,5.2nm,1.6s
TOLK Toolik Lake Re 69.61 337 IAmb IAmb 03 35 06.1
comp=Z,75nm,1.1s
TOLK Toolik Lake Re 69.61 337 P **P** **03 34 44.9 +0.6**
baz=90,SNR=6.6
TOLK S **S** **03 43 50.6 -1.7**
baz=90
E23K Chandalar 69.63 337 IAmb IAmb 03 35 06.8
comp=Z,72nm,0.9s
E23K Chandalar 69.63 337 P **P** **03 34 45.8 +1.3**
baz=90,SNR=14
E23K S **S** **03 43 50.3 -2.3**
baz=90
STAL STALIGIAL 69.71 47 IAMs_20 IAMs_20 04 01 36.0
comp=Z,6μm,20.0s
SEW Seward 69.78 328 P **P** **03 34 45.1 -0.3**
SEW IAmb IAmb 03 35 07.8
comp=Z,98nm,1.1s
SEW Seward 69.78 328 P **P** **03 34 46.6 +1.2**
baz=87
G23K Bananza Creek 69.80 335 IAmb IAmb 03 35 08.4
comp=Z,137nm,1.2s
G23K Bananza Creek 69.80 335 P **P** **03 34 47.1 +1.6**
baz=89,SNR=51
G23K S **S** **03 43 52.8 -1.8**
baz=89
COLD Coldfoot 69.86 336 IAmb IAmb 03 35 08.6
comp=Z,154nm,1.3s
COLD Coldfoot 69.86 336 P **P** **03 34 47.8 +2.0**
baz=89,SNR=24
COLD S **S** **03 43 52.7 -2.5**
baz=89
RC01 Rabbit Creek A 69.87 329 P **P** **03 34 45.8 -0.2**
RC01 IAmb IAmb 03 35 04.1
comp=Z,118nm,1.3s
RC01 Rabbit Creek A 69.87 329 P **P** **03 34 48.2 +2.2**
baz=87
O22K Cooper Landing 69.90 328 P **P** **03 34 46.2 +0.1**
baz=87
O22K S **S** **03 43 54.9 -0.8**
baz=87
MURB Monte Urbino 69.95 50 P **P** **03 34 45.7 -1.3**
MURB IAmb IAmb 03 35 11.1
comp=Z,121nm,1.0s
MURB IAMs_20 IAMs_20 04 04 57.3
comp=Z,5μm,19.0s
C23K Itkillik River 69.97 338 P **P** **03 34 47.1 +0.7**
baz=89,SNR=22
C23K S **S** **03 43 53.4 -3.0**
baz=89
KHC Kasperske Hory 69.98 44 IAMs_20 IAMs_20 04 05 33.0
comp=Z,9μm,18.0s
KHC Kasperske Hory 69.98 44 *e*P **P** **03 34 46.6 -0.4**
KHC x x 03 34 58.0
KHC x x 03 35 03.0
KHC *e*S **S** **03 43 58.2 +0.9**
KHC AMS AMS 04 05 20.0
comp=Z,9μm,17.5s
KHC Kasperske Hory 69.98 44 *e*P **P** **03 34 46.6 -0.4**
KHC *e* 03 34 58.0
KHC *e* 03 35 03.0
KHC *e*S **S** **03 43 58.2 +0.9**
KHC MLR MLR
comp=Z,9μm,17.5s
D23K Nanushuk River 70.01 338 P **P** **03 34 48.1 +1.4**
baz=89
D23K S **S** **03 43 54.5 -2.3**
baz=89
TRF Thorofare Moun 70.02 332 P **P** **03 34 48.8 +1.7**
baz=87,SNR=28
TRF S **S** **03 43 55.1 -2.4**
baz=87
M22K Willow 70.02 330 P **P** **03 34 47.2 +0.4**
baz=87
BRG Berggiesshubel 70.03 42 *e*P **P** **03 34 47.1 -0.1**
BRG Amp 03 34 49.6
comp=Z,32nm,1.0s
BRG Berggiesshubel 70.03 42 S **S** **03 43 58.0 +0.3**
BRG Berggiesshubel 70.03 42 SS SS 03 48 21.0 -5.8
KBA Koelnbreinsper 70.05 46 *i* pP **P** **03 34 47.0 -0.6**
comp=Z,70nm,1.2s,SNR=18
KBA *e*P'P' 04 02 49.8
comp=Z,5.5nm,1.0s
CUT Chulitna 70.06 331 P **P** **03 34 48.2 +1.1**
baz=87,SNR=12
CESX Cesi 70.08 51 IAmb IAmb 03 35 10.9
comp=Z,192nm,1.3s
CESX IAMs_20 IAMs_20 04 08 22.8
comp=Z,9μm,18.0s
GEC2 GERESS Array S 70.09 44 IAMs_20 IAMs_20 04 07 03.9
comp=Z,7nm,18.0s
GERES GERESS Array B 70.09 44 P **P** **03 34 47.3 -0.4**
comp=Z,8.8nm,1.0s,baz=266,slow=3.6,SNR=39
GERES LR LR 04 03 51.4
comp=Z,5μm,18.6s,baz=284,slow=34
comp=Z,8.8nm,1.0s
GO09 Cerro Castillo 70.13 183 P **P** **03 34 46.5 -1.1**
GO09 IAMs_20 IAMs_20 04 06 33.5
comp=Z,6μm,19.0s
MLY Manley 70.14 333 IAmb IAmb 03 35 05.2
comp=Z,187nm,1.4s
MLY Manley 70.14 333 P **P** **03 34 49.0 +1.3**
baz=88,SNR=37
MLY S **S** **03 43 55.4 -3.3**
baz=88
RICC Richard 70.16 42 *e*P **P** **03 34 48.5 +0.5**
RICC *e*S **S** **03 44 01.4 +2.1**
RICC AMS AMS 04 00 50.0
comp=Z,15μm,21.6s
BIOA Bad Ischl, Aus 70.18 45 *i* pP **P** **03 34 47.7 -0.5**
comp=Z,91nm,1.6s,SNR=27
BIOA *e*S **S** **03 43 59.5 -0.2**
comp=Z,5.8nm,1.1s
SPITS Spitsbergen Ar 70.22 13 P **P** **03 34 47.9 0.0**
comp=Z,11nm,0.7s,baz=232,slow=7.1,SNR=8.2
SPITS LR LR 04 03 27.1
comp=Z,7μm,20.2s,baz=253,slow=34
comp=Z,11nm,0.7s
SPITS Spitsbergen Ar 70.22 13 P **P** **03 34 48.1 +0.2**
SPB2 Spitsbergen Ar 70.22 13 P **P** **03 34 48.0 +0.1**
SPB2 IAmb IAmb 03 35 06.9
comp=Z,67nm,0.9s
ROBS Robic 70.27 47 *e*P **P** **03 34 48.0 -0.8**
ROBS *e* 03 36 36.0
ROBS *e*PP **PP** **03 37 29.7 +5.7**
ROBS *e*S **S** **03 43 59.2 -1.4**
BPAW Bear Paw Mtn. 70.30 332 IAmb IAmb 03 35 10.6
comp=Z,138nm,1.1s
BPAW Bear Paw Mtn. 70.30 332 P **P** **03 34 49.4 +0.8**
baz=87,SNR=32
BPAW S **S** **03 43 58.3 -2.1**
baz=87
MYKA Terra Mystica 70.31 46 *i* pP **P** **03 34 47.8 -1.2**
comp=Z,47nm,1.1s,SNR=19
MYKA *e*S **S** **03 44 01.0 -0.3**
comp=Z,18nm,2.1s
SUA Susitna One 70.34 330 P **P** **03 34 48.9 -0.1**
baz=86,SNR=6.2
ZVC Zvikov 70.34 43 *e*P **P** **03 34 49.5 +0.4**
ZVC *e*S **S** **03 44 02.7 +1.2**
ZVC AMS AMS 04 11 30.0
comp=Z,10μm,16.6s
SABO M.te Sabotino 70.36 47 P **P** **03 34 47.8 -1.6**
SABO IAmb IAmb 03 35 15.9
comp=Z,167nm,1.2s
SABO IAMs_20 IAMs_20 04 05 08.7
comp=Z,6μm,19.0s
H22K Ishtalitna Cre 70.37 334 P **P** **03 34 50.1 +1.1**
baz=87,SNR=9.1
H22K S **S** **03 44 00.7 -0.6**
baz=87
G22K Bettles 70.38 335 P **P** **03 34 50.5 +1.5**
baz=87,SNR=7.3
G22K S **S** **03 44 01.2 0.0**
baz=87
CADS Cadrg 70.42 47 *e*P **P** **03 34 49.5 -0.3**
PRA Prague 70.43 43 *e*P **P** **03 34 50.0 +0.4**
PRA *e*S **S** **03 44 03.3 +0.9**
PRA AMS AMS 04 00 40.0
comp=Z,11μm,20.5s
PRA Prague 70.43 43 *e*P **P** **03 34 50.0 +0.4**
PRA *e*S **S** **03 44 03.3 +0.9**
PRA MLR MLR
comp=Z,11μm,20.5s
NRCA Norcia 70.44 50 IAmb IAmb 03 35 20.5
comp=Z,91nm,1.1s
NRCA IAMs_20 IAMs_20 04 03 37.2
comp=Z,11μm,19.0s
E22K Anaktuvuk Pass 70.45 337 P **P** **03 34 50.0 +0.5**
baz=88,SNR=26
E22K S **S** **03 43 56.3 -5.9**
baz=88
BRSE Bradley Lake S 70.45 328 P **P** **03 34 49.9 +0.3**
baz=86
PVCC Panska Ves 70.47 42 *e*P **P** **03 34 49.2 -0.6**
PVCC *e*S **S** **03 43 59.6 -3.2**
PVCC AMS AMS 04 01 00.0
comp=Z,13μm,20.3s
PVCC Panska Ves 70.47 42 *e*P **P** **03 34 49.2 -0.6**
PVCC *e*S **S** **03 43 59.6 -3.2**
PVCC MLR MLR
comp=Z,13μm,20.3s
CKRC Cesky Krumlov 70.49 44 *e*P **P** **03 34 48.9 -1.2**
CKRC *e*S **S** **03 44 02.1 -1.2**
CKRC AMS AMS 04 03 50.0
comp=Z,6μm,18.0s
CKRC Cesky Krumlov 70.49 44 *e*P **P** **03 34 48.9 -1.2**
CKRC *e*S **S** **03 44 02.1 -1.2**
CKRC MLR MLR
comp=Z,6μm,18.0s
PRU Pruhonice 70.51 43 *e*P **P** **03 34 50.6 +0.5**
PRU *e*S **S** **03 44 05.4 +2.1**
PRU AMS AMS 04 00 30.0
comp=Z,11μm,20.4s
PRU Pruhonice 70.51 43 *e*P **P** **03 34 50.6 +0.5**
PRU *e*S **S** **03 44 05.4 +2.1**
PRU MLR MLR
comp=Z,11μm,20.4s
TRI Trieste 70.51 47 P **P** **03 34 48.7 -1.5**
TRI IAMs_20 IAMs_20 04 05 12.0
comp=Z,6μm,20.0s
TRI Trieste 70.51 47 P **P** **03 34 48.7 -1.5**
TRI pmax pmax
comp=Z,199nm,1.3s
MG05 Puerto Natales 70.55 183 P **P** **03 34 49.6 -0.5**
MG05 IAmb IAmb 03 34 52.0
comp=Z,84nm,1.0s
MG05 IAMs_20 IAMs_20 04 08 22.5
comp=Z,5μm,20.0s
MOA Molln 70.58 45 *i* pP **P** **03 34 50.0 -0.6**
comp=Z,67nm,1.3s,SNR=20
MOA *e*S **S** **03 44 04.7 +0.3**
comp=Z,2.1nm,0.7s
MOA *i* P'P' 04 02 46.6
comp=Z,6.0nm,1.5s
CAPN Captain Cook N 70.58 329 P **P** **03 34 52.0 +1.7**
baz=86
BRJN Brijuni 70.61 48 *e*P P 03 34 45.4 -5.4
F22K John River 70.61 336 P **P** **03 34 51.3 +0.8**
baz=87
F22K S **S** **03 44 01.7 -2.4**
baz=87
SKT Skwentna 70.67 330 P **P** **03 34 51.5 +0.5**
baz=86,SNR=7.5
CAMP Campotosto 70.69 51 P **P** **03 34 50.2 -1.3**
CAMP IAmb IAmb 03 35 05.2
comp=Z,150nm,1.2s
CAMP IAMs_20 IAMs_20 04 03 52.0
comp=Z,9μm,19.0s
AQU L'Aquila 70.72 51 *e*P **P** **03 34 50.8 -0.8**
AQU L'Aquila 70.72 51 P **P** **03 34 51.6 0.0**
CNPM China Poot 70.72 328 P **P** **03 34 51.5 +0.2**
CNPM IAmb IAmb 03 35 07.3
comp=Z,102nm,1.1s
D22K Ayikyak River 70.73 338 P **P** **03 34 50.4 -0.8**
D22K IAmb IAmb 03 35 17.8
comp=Z,98nm,1.1s
D22K Ayikyak River 70.73 338 P **P** **03 34 53.4 +2.2**
baz=87,SNR=8.9
D22K S **S** **03 44 02.4 -3.0**
baz=87
EFI East Falkland 70.87 174 P **P** **03 34 51.2 -0.8**
EFI East Falkland 70.87 174 IAMs_20 IAMs_20 04 08 36.1
comp=Z,12μm,20.0s
EFI East Falkland 70.87 174 P **P** **03 34 51.2 -0.8**
EFI pmax pmax
comp=Z,345nm,1.7s
EFI MLR MLR
comp=Z,12μm,20.0s
CHUM Lake Minchumin 70.89 332 P **P** **03 34 53.6 +1.4**
baz=86,SNR=12
CHUM S **S** **03 44 03.9 -3.4**
baz=86
PPLA Purkeypile 70.91 331 IAmb IAmb 03 35 10.8
comp=Z,117nm,1.1s
PPLA Purkeypile 70.91 331 P **P** **03 34 52.9 +0.4**
baz=85,SNR=5.7
B22K Teshekpuk Lake 70.92 339 P **P** **03 34 53.1 +0.9**
baz=87,SNR=7.4
B22K S **S** **03 44 03.5 -3.9**
baz=87
OBKA Obir 70.95 46 *i* pP **P** **03 34 52.6 -0.3**
comp=Z,110nm,1.9s,SNR=10
OBKA *e*S **S** **03 44 11.5 +2.7**
comp=Z,9.6nm,1.1s
OBKA *e*P'P' 04 02 46.0
comp=Z,12nm,1.5s
H21K Melozitna Rive 70.97 334 IAmb IAmb 03 35 08.3
comp=Z,151nm,1.1s
H21K Melozitna Rive 70.97 334 P **P** **03 34 52.9 +0.2**
baz=86,SNR=41
H21K S **S** **03 44 06.3 -2.0**
baz=86
SPU Mount Spurr 70.99 329 IAmb IAmb 03 35 08.4
comp=Z,85nm,1.2s
LJU Ljubljana 70.99 47 *i* P **P** **03 34 53.3 +0.1**
LJU *e*S **S** **03 44 08.3 -0.9**
LJU *e* 03 44 59.0
SPCR Spurr Chakacha 71.06 329 P **P** **03 34 53.5 +0.2**
baz=85
F21K Alatna River 71.14 336 P **P** **03 34 52.1 -1.5**
F21K Alatna River 71.14 336 P **P** **03 34 53.4 -0.2**
baz=86,SNR=9.1
F21K S **S** **03 44 08.2 -1.9**
baz=86
INTR Introdacqua 71.14 51 P **P** **03 34 53.0 -1.2**
INTR IAmb IAmb 03 35 38.8
comp=Z,119nm,1.4s
INTR IAMs_20 IAMs_20 04 05 05.7
comp=Z,11μm,19.0s
G21K Allakaket 71.20 335 P **P** **03 34 54.7 +0.7**
baz=86,SNR=33
G21K S **S** **03 44 10.5 -0.3**
baz=86
TREC Trest 71.20 43 *e*P **P** **03 34 53.7 -0.7**
TREC *e*S **S** **03 44 12.2 +0.7**
TREC AMS AMS 04 02 00.0
comp=Z,7μm,20.8s
TREC Trest 71.20 43 *e*P **P** **03 34 53.7 -0.7**
TREC *e*S **S** **03 44 12.2 +0.7**
TREC MLR MLR
comp=Z,7μm,20.8s
E21K Killik River 71.23 337 P **P** **03 34 54.5 +0.3**
baz=86
E21K S **S** **03 44 07.3 -3.9**
baz=86
SOKA Soboth 71.25 46 *i* pP **P** **03 34 53.7 -1.1**
comp=Z,54nm,1.5s,SNR=19
SOKA *e*S **S** **03 44 12.2 -0.1**
comp=Z,9.8nm,1.7s
SOKA *e*P'P' 04 02 47.3
comp=Z,6.8nm,1.8s
IMAR Indian Mountai 71.34 334 P **P** **03 34 54.0 -0.8**
B21K Ikpikpuk River 71.38 338 P **P** **03 34 55.1 +0.1**
baz=86
B21K S **S** **03 44 07.7 -5.0**
baz=86
UPC Upice 71.38 42 *e*P **P** **03 34 54.7 -0.7**
UPC *e*S **S** **03 44 14.2 +0.7**
UPC AMS AMS 04 01 20.0
comp=Z,15μm,20.6s
UPC Upice 71.38 42 *e*P **P** **03 34 54.7 -0.7**
UPC *e*S **S** **03 44 14.2 +0.7**
UPC MLR MLR
comp=Z,15μm,20.6s
A22K Sinclair Lake 71.39 340 P **P** **03 34 56.3 +1.2**
baz=86
A22K S **S** **03 44 10.2 -2.7**
baz=86
CHVC Chvalec 71.40 42 *e*P **P** **03 34 55.7 +0.1**
CHVC *e*S **S** **03 44 15.1 +1.4**
CHVC AMS AMS 04 01 20.0
comp=Z,13μm,19.8s
CHVC Chvalec 71.40 42 *e*P **P** **03 34 55.7 +0.1**
CHVC *e*S **S** **03 44 15.1 +1.4**
CHVC MLR MLR
comp=Z,13μm,19.8s
SYI Shuyak Island 71.40 327 IAMs_20 IAMs_20 04 06 31.4
comp=Z,11μm,19.0s
RED Redoubt Volcan 71.41 329 IAmb IAmb 03 35 15.4
comp=Z,167nm,1.2s
M20K Styx River 71.44 330 IAmb IAmb 03 35 27.2
comp=Z,62nm,0.8s
M20K Styx River 71.44 330 P **P** **03 34 55.0 -0.6**
baz=84
M20K S **S** **03 44 10.6 -3.3**
baz=84
C21K Knifeblade Rid 71.47 338 P **P** **03 34 57.1 +1.5**
baz=85,SNR=7.8
C21K S **S** **03 44 10.7 -3.2**
baz=85
OSTC Ostas 71.50 42 *e*P **P** **03 34 56.5 +0.3**
OSTC *e*S **S** **03 44 16.7 +1.8**
OSTC AMS AMS 04 01 20.0
comp=Z,14μm,20.5s
OSTC Ostas 71.50 42 *e*P **P** **03 34 56.5 +0.3**
OSTC *e*S **S** **03 44 16.7 +1.8**
OSTC MLR MLR
comp=Z,14μm,20.5s
ARSA Arzberg 71.50 45 *i* P **P** **03 34 54.7 -1.5**
comp=Z,60nm,1.7s,SNR=19
ARSA *e*S **S** **03 44 11.7 -3.4**
comp=Z,3.4nm,0.8s
ARSA *e*P'P' 04 02 43.9
comp=Z,3.4nm,1.0s
KSP Ksiaz 71.52 42 *e*P **P** **03 34 55.7 -0.5**
KSP *e*S **S** **03 44 14.3 -0.7**
KSP *e*L L 04 01 58.7
comp=Z,15μm,20.2s
KDAK Kodiak Island 71.59 326 IAMs_20 IAMs_20 04 10 30.6
comp=Z,9μm,19.0s
KDAK Kodiak Island 71.59 326 LR LR 04 06 30.9
comp=Z,7μm,20.1s,baz=61,slow=36
KDAK Kodiak Island 71.59 326 P **P** **03 34 57.1 +0.6**
baz=83
DPC Dobruska-Polom 71.60 42 *e*P **P** **03 34 56.1 -0.7**
DPC *e*S **S** **03 44 17.9 +1.8**
DPC AMS AMS 04 01 30.0
comp=Z,13μm,20.5s
DPC Dobruska-Polom 71.60 42 *e*P **P** **03 34 56.1 -0.7**
DPC *e*S **S** **03 44 17.9 +1.8**
DPC MLR MLR
comp=Z,13μm,20.5s
CONA Conrad Observa 71.64 45 *i* pP **P** **03 34 56.3 -0.8**
comp=Z,51nm,1.4s,SNR=19
CONA *e*S **S** **03 44 15.5 -1.2**
comp=Z,6.1nm,1.3s
ILSW Iliamna Southw 71.64 328 P **P** **03 34 56.7 -0.2**
ILSW IAmb IAmb 03 35 20.4
comp=Z,89nm,1.2s
J20K Nowinta River 71.67 333 IAmb IAmb 03 35 17.2
comp=Z,78nm,0.9s
J20K Nowinta River 71.67 333 P **P** **03 34 57.7 +0.8**

baz=84,SNR=31
J20K S **S** **03 44 11.0 -5.3**
baz=84
MG04 Isla Riesco 71.67 183 IAMs_20 IAMs_20 04 06 32.4
comp=Z,7µm,19.0s
OZLJ Ozalj 71.71 47 *e*P **P** **03 34 54.9 -2.5**
K20K Telida 71.72 332 IAmb IAmb 03 35 15.3
comp=Z,213nm,1.5s
K20K Telida 71.72 332 P **P** **03 34 58.6 +1.3**
baz=84,SNR=11
K20K S **S** **03 44 12.7 -4.2**
baz=84
P19K Oil Pt 71.72 328 P **P** **03 34 57.1 -0.2**
P19K IAmb IAmb 03 36 20.6
comp=Z,85nm,1.0s
P19K IAMs_20 IAMs_20 04 05 31.7
comp=Z,6µm,20.0s
P19K Oil Pt 71.72 328 P **P** **03 34 58.1 +0.7**
baz=83
L20K Farewell, AK 71.72 331 P **P** **03 34 58.1 +0.8**
baz=84,SNR=12
L20K S **S** **03 44 12.8 -4.3**
baz=84
I20K Naaghedeneel 71.75 333 P **P** **03 34 57.2 -0.1**
I20K IAmb IAmb 03 36 13.5
comp=Z,64nm,0.8s
I20K Naaghedeneel 71.75 333 P **P** **03 34 57.9 +0.6**
baz=84
GKP Gorka Klasztor 71.78 39 *e*P **P** **03 34 58.3 +0.6**
GKP *e*S **S** **03 44 17.2 -0.6**
GKP *e*L L 04 08 57.6
comp=Z,26µm,17.5s
GCIS Gornji Cirnik 71.78 47 *e*P **P** **03 34 57.9 0.0**
GCIS *i* S **S** **03 44 17.7 -0.6**
PAOL Paolisi 71.78 52 P **P** **03 34 56.7 -1.4**
PAOL IAmb IAmb 03 35 20.3
comp=Z,176nm,1.4s
PAOL IAMs_20 IAMs_20 04 05 15.9
comp=Z,8µm,18.0s
KRUC Moravsky 71.83 43 *e*P **P** **03 34 57.2 -0.9**
KRUC *e*S **S** **03 44 18.7 +0.1**
H20K Anotleneega Mo 71.85 334 P **P** **03 34 59.0 +1.1**
baz=84,SNR=27
H20K S **S** **03 44 14.5 -3.9**
baz=84
A21K Barrow 71.90 340 P **P** **03 34 58.8 +0.6**
baz=84
VRAC Vranov 71.92 43 LR LR 04 06 27.8
comp=Z,6µm,18.0s,baz=276,slow=36
VRAC Vranov 71.92 43 *e*P **P** **03 34 57.8 -0.9**
VRAC *e*S **S** **03 44 19.6 -0.1**
VRAC Vranov 71.92 43 ⇓P **P** **03 34 58.8 +0.1**
VRAC Vranov 71.92 43 P **P** **03 34 58.7 +0.1**
KRLC Kraliky 71.93 42 *e*P **P** **03 34 58.4 -0.4**
KRLC *e*S **S** **03 44 22.4 +2.5**
KRLC AMS AMS 04 01 30.0
comp=Z,11µm,20.4s
KRLC Kraliky 71.93 42 *e*P **P** **03 34 58.4 -0.4**
KRLC *e*S **S** **03 44 22.4 +2.5**
KRLC MLR MLR
comp=Z,11µm,20.4s
GO10 Punta Arenas 71.95 182 P **P** **03 34 57.8 -0.8**
GO10 IAmb IAmb 03 35 25.0
comp=Z,156nm,1.1s
RONA Rosalia, Austr 71.96 45 *i* pP **P** **03 34 58.2 -0.8**
comp=Z,82nm,1.3s,SNR=29
RONA *e*S **S** **03 44 18.3 -2.0**
comp=Z,10nm,1.5s
RONA *e*P'P' 04 02 47.6
comp=Z,3.2nm,0.8s
Q19K Cape Douglas, 72.02 327 P **P** **03 34 58.4 -0.6**
Q19K IAmb IAmb 03 35 28.5
comp=Z,135nm,1.1s
Q19K IAMs_20 IAMs_20 04 07 13.6
comp=Z,12µm,21.0s
Q19K Cape Douglas, 72.02 327 P **P** **03 34 58.5 -0.6**
baz=83
F20K Avaraart Lake 72.02 336 IAmb IAmb 03 35 14.7
comp=Z,109nm,1.3s
F20K Avaraart Lake 72.02 336 P **P** **03 35 00.6 +1.7**
baz=84
F20K S **S** **03 44 16.9 -3.3**
baz=84
OHAK Old Harbor 72.04 325 P **P** **03 34 58.1 -1.0**
baz=83
E20K Nigu River 72.07 337 P **P** **03 35 00.3 +1.0**
baz=84,SNR=30
E20K S **S** **03 44 13.8 -7.1**
baz=84
D20K Etivluk River 72.17 337 IAmb IAmb 03 35 21.5
comp=Z,78nm,0.9s
D20K Etivluk River 72.17 337 P **P** **03 34 59.8 -0.1**
baz=83,SNR=19
D20K S **S** **03 44 15.9 -6.2**
baz=83
O19K Port Alsworth 72.20 328 P **P** **03 34 59.6 -0.5**
O19K Port Alsworth 72.20 328 P **P** **03 34 59.6 -0.5**
baz=83
N19K Bonanza Creek 72.20 329 P **P** **03 35 00.9 +0.7**
baz=83
L19K White Mountain 72.21 331 IAmb IAmb 03 35 36.8
comp=Z,97nm,1.1s
L19K White Mountain 72.21 331 P **P** **03 35 00.4 +0.2**
baz=83,SNR=7.9
L19K S **S** **03 44 19.1 -3.6**
baz=83
B20K Meade River 72.22 339 IAmb IAmb 03 35 22.2
comp=Z,119nm,0.9s
B20K Meade River 72.22 339 P **P** **03 35 00.4 +0.4**
baz=83
B20K S **S** **03 44 18.1 -4.3**
baz=83
VAE Valguarnera 72.29 56 LR LR 04 01 33.2
comp=Z,12µm,21.4s,baz=282,slow=32
RAFF Raffo Rosso 72.30 56 P **P** **03 34 59.7 -1.5**
J19K Poorman 72.33 332 P **P** **03 35 01.2 +0.3**
baz=83,SNR=6.5
J19K S **S** **03 44 18.8 -5.2**
baz=83
ZST Bratislava 72.42 44 *e*P **P** **03 35 02.9 +1.2**
MORC Moravsky Berou 72.46 43 IAmb IAmb 03 35 26.4
comp=Z,99nm,1.2s
MORC IAMs_20 IAMs_20 04 07 59.5
comp=Z,10µm,18.0s
MORC Moravsky Berou 72.46 43 *e*P **P** **03 35 01.4 -0.6**
MORC *e*S **S** **03 44 25.9 -0.1**
MORC Moravsky Berou 72.46 43 ⇑P **P** **03 35 01.7 -0.3**
MORC Moravsky Berou 72.46 43 P **P** **03 35 01.6 -0.3**
BEHE Becsehely 72.47 46 P **P** **03 35 01.7 -0.4**
BEHE Becsehely 72.47 46 *e*P **P** **03 34 58.7 -3.3**
H19K Roundabout Mou 72.49 334 IAmb IAmb 03 35 25.3
comp=Z,87nm,0.8s
H19K Roundabout Mou 72.49 334 P **P** **03 35 02.0 +0.3**
baz=82,SNR=31
H19K S **S** **03 44 21.7 -4.0**
baz=82
MODS Modra-Piesok 72.51 44 *e*P **P** **03 35 03.8 +1.6**
MODS pmax pmax
comp=Z,78nm,1.1s
SGRT San Giovanni R 72.53 51 IAMs_20 IAMs_20 04 09 25.7
comp=Z,9µm,18.0s
E19K Redstone River 72.56 336 IAmb IAmb 03 35 19.6
comp=Z,107nm,1.1s
E19K Redstone River 72.56 336 P **P** **03 35 02.7 +0.5**
baz=82,SNR=18
E19K S **S** **03 44 22.1 -4.4**
baz=82
MOSL Moslavina 72.60 47 *e*P **P** **03 35 02.8 0.0**
SII Sitkinak Islan 72.62 325 IAMs_20 IAMs_20 04 11 55.9
comp=Z,10µm,18.0s
SII Sitkinak Islan 72.62 325 P **P** **03 35 01.3 -1.4**
baz=82
KIJV Kijevo 72.62 49 *e*P P 03 34 55.0 -8.0
MG03 Isla Dawson 72.62 182 IAmb IAmb 03 35 04.7
comp=Z,243nm,1.9s
MG03 IAMs_20 IAMs_20 04 06 49.4
comp=Z,5µm,20.0s
G19K Purcell Mounta 72.67 335 IAmb IAmb 03 35 18.2
comp=Z,125nm,1.4s
G19K Purcell Mounta 72.67 335 P **P** **03 35 03.7 +0.8**
baz=82,SNR=32
G19K S **S** **03 44 24.7 -3.1**
baz=82
JAVC Velka Javorina 72.69 44 *e*P **P** **03 35 03.6 +0.2**
JAVC *e*S **S** **03 44 30.0 +1.3**
WDD Wied Dalam 72.69 57 IAMs_20 IAMs_20 04 03 27.0
comp=Z,5µm,20.0s

D19K Kuna River 72.75 337 IAmb IAmb 03 35 33.4
comp=Z,84nm,0.8s
D19K IAMs_20 IAMs_20 04 08 38.1
comp=Z,12µm,20.0s
D19K Kuna River 72.75 337 P **P** **03 35 03.4 0.0**
baz=82,SNR=21
D19K S **S** **03 44 23.2 -5.5**
baz=82
Q18K Katmai Hardscr 72.76 327 P **P** **03 35 05.1 +1.4**
baz=82
M18K Stony River 72.76 330 P **P** **03 35 03.7 +0.3**
baz=82,SNR=18
P18K Big Mountain, 72.76 328 P **P** **03 35 04.1 +0.5**
P18K IAMs_20 IAMs_20 04 07 57.3
comp=Z,11µm,19.0s
P18K Big Mountain, 72.76 328 P **P** **03 35 03.8 +0.2**
baz=82
GCSA Galena City Sc 72.78 333 P **P** **03 35 04.1 +0.6**
baz=82,SNR=6.7
GCSA S **S** **03 44 25.8 -3.1**
baz=82
OKC Ostrava-Krasne 72.84 42 *e*P **P** **03 35 04.9 +0.8**
OKC *e*S **S** **03 44 31.4 +1.2**
OKC AMS AMS 04 02 10.0
comp=Z,9µm,20.2s
OKC Ostrava-Krasne 72.84 42 *e*P **P** **03 35 04.9 +0.8**
OKC *e*S **S** **03 44 31.4 +1.2**
OKC MLR MLR
comp=Z,9µm,20.2s
F19K Shaleruckik Mo 72.85 336 IAMs_20 IAMs_20 04 07 24.0
comp=Z,11µm,20.0s
F19K Shaleruckik Mo 72.85 336 P **P** **03 35 04.5 +0.6**
baz=82,SNR=25
F19K S **S** **03 44 26.7 -3.0**
baz=82
ACER Acerenza 72.85 52 IAMs_20 IAMs_20 04 05 59.2
comp=Z,8µm,19.0s
J18K Innoko River 72.89 332 P **P** **03 35 05.2 +1.0**
baz=82
J18K S **S** **03 44 25.0 -5.3**
baz=82
CUC Castrocucco 72.90 53 IAMs_20 IAMs_20 04 01 19.8
comp=Z,6µm,20.0s
N18K Kilae Creek 72.91 329 IAmb IAmb 03 35 21.6
comp=Z,166nm,1.6s
N18K Kilae Creek 72.91 329 P **P** **03 35 04.3 -0.1**
baz=82
BLY Banja Luka 73.05 48 *e*P **P** **03 35 05.6 +0.1**
BLY Banja Luka 73.05 48 ⇓P **P** **03 35 05.9 +0.4**
L18K Granite Mounta 73.06 331 IAmb IAmb 03 35 22.7
comp=Z,135nm,1.5s
L18K Granite Mounta 73.06 331 P **P** **03 35 06.3 +1.0**
baz=81
C19K Lookout Ridge 73.19 338 IAmb IAmb 03 35 28.1
comp=Z,105nm,1.0s
C19K Lookout Ridge 73.19 338 P **P** **03 35 07.5 +1.5**
baz=81,SNR=11
C19K S **S** **03 44 29.2 -4.5**
baz=81
Q17K Contact Creek 73.27 327 P **P** **03 35 06.8 +0.1**
baz=81
SRO Srobarova 73.28 45 *e*P **P** **03 35 08.2 +1.4**
SRO pmax pmax
comp=Z,33nm,1.1s
CEL Celeste 73.29 55 IAMs_20 IAMs_20 04 01 44.9
comp=Z,6µm,20.0s
ARCES ARCESS Array B 73.33 22 P **P** **03 35 05.4 -1.3**
ARCES IAmb IAmb 03 35 26.1
comp=Z,117nm,1.1s
ARCES ARCESS Array B 73.33 22 P **P** **03 35 06.0 -0.8**
comp=Z,39nm,0.8s,baz=284,slow=4.1,SNR=76
ARCES LR LR 04 02 50.0
comp=Z,4µm,20.8s,baz=280,slow=32
comp=Z,39nm,0.8s
ARCES ARCESS Array B 73.33 22 P **P** **03 35 05.4 -1.3**
ARCES pmax pmax
comp=Z,117nm,1.1s
H18K Honhosa River 73.34 334 IAmb IAmb 03 35 22.8
comp=Z,117nm,1.2s
H18K Honhosa River 73.34 334 P **P** **03 35 08.4 +1.6**
baz=81,SNR=8.3
H18K S **S** **03 44 34.0 -1.5**
baz=81
G18K Tagagawik 73.34 335 IAmb IAmb 03 35 22.3
comp=Z,135nm,1.4s
G18K IAMs_20 IAMs_20 04 12 31.1
comp=Z,8µm,18.0s
G18K Tagagawik 73.34 335 P **P** **03 35 07.4 +0.5**
baz=81,SNR=20
G18K S **S** **03 44 31.6 -3.9**
baz=81
P17K Kvichak River 73.41 328 P **P** **03 35 06.8 -0.5**
baz=81
A19K Wainwright 73.52 339 P **P** **03 35 09.4 +1.7**
baz=80
A19K S **S** **03 44 34.5 -2.7**
baz=80
M17K Holitna River 73.54 330 IAMs_20 IAMs_20 04 08 45.6
comp=Z,12µm,20.0s
M17K Holitna River 73.54 330 P **P** **03 35 08.3 +0.2**
baz=80
N17K Nushagak Hills 73.56 329 P **P** **03 35 07.6 -0.6**
baz=80
USHA Ushuaia 73.57 181 P **P** **03 35 07.5 -0.6**
comp=Z,9.2nm,0.3s,baz=317,slow=4.1,SNR=4.0
USHA LR LR 04 11 36.3
comp=Z,6µm,18.6s,baz=12,slow=39
comp=Z,9.2nm,0.3s
Q16K King Salmon 73.60 327 P **P** **03 35 09.5 +1.1**
baz=80
PLK4 Peulik 4 73.62 326 IAMs_20 IAMs_20 04 08 23.2
comp=Z,11µm,21.0s
R17L Mt. Peulik Vol 73.62 326 P **P** **03 35 08.3 -0.4**
baz=80
F18K Selawik 73.62 335 P **P** **03 35 08.7 +0.3**
baz=80,SNR=5.9
O17K Koliganek Bris 73.64 328 P **P** **03 35 09.5 +0.8**
baz=80
MG01 Puerto William 73.66 180 IAMs_20 IAMs_20 04 09 27.8
comp=Z,8µm,20.0s
K17K Iditarod 73.72 331 IAmb IAmb 03 35 26.6
comp=Z,142nm,1.2s
K17K Iditarod 73.72 331 P **P** **03 35 09.6 +0.5**
baz=80,SNR=9.6
TIP Timpagrande 73.78 54 IAMs_20 IAMs_20 04 05 41.7
comp=Z,8µm,20.0s
TIP Timpagrande 73.78 54 ⇑P **P** **03 35 09.5 -0.5**
LANS Liptovska Anna 73.80 43 *e*P **P** **03 35 12.8 +2.9**
LANS pmax pmax
comp=Z,39nm,1.6s
KEV Kevo 73.81 21 P **P** **03 35 09.6 +0.1**
KEV IAMs_20 IAMs_20 04 03 33.2
comp=Z,5µm,20.0s
KEV Kevo 73.81 21 P **P** **03 35 09.6 +0.1**
KEV pmax pmax
comp=Z,71nm,1.0s
KEV Kevo 73.81 21 P **P** **03 35 10.8 +1.3**
L17K Donlin 73.82 331 P **P** **03 35 10.7 +1.0**
baz=80
OJC Ojcow 73.82 42 *e*P **P** **03 35 10.5 +0.5**
OJC *e*S **S** **03 44 40.8 -0.5**
OJC *e*L L 04 02 44.6
comp=Z,12µm,21.8s
C18K Utukok River 73.84 338 IAmb IAmb 03 35 26.9
comp=Z,310nm,1.9s
C18K Utukok River 73.84 338 P **P** **03 35 10.9 +1.1**
baz=79,SNR=9.2
C18K S **SKiKP** **03 44 37.4 -1.6**
baz=79
E18K Tukpahlearik C 73.85 336 P **P** **03 35 09.8 +0.1**
baz=79,SNR=8.2
E18K S **SKiKP** **03 44 36.5 -2.5**
baz=79
B18K Kokolik River 73.92 338 P **P** **03 35 09.9 -0.2**
baz=79
B18K S **SKiKP** **03 44 38.8 -0.2**
baz=79
J17K VABM Dome 73.95 332 P **P** **03 35 11.5 +1.0**
baz=80
J17K S **SKiKP** **03 44 40.0 +0.8**
baz=80
H17K Granite Mounta 74.03 334 P **P** **03 35 12.7 +1.8**
baz=79,SNR=8.1
H17K S **SKiKP** **03 44 40.9 +1.6**
baz=79
BEL Belsk 74.14 40 *e*P **P** **03 35 12.7 +0.9**
BEL *e*S **S** **03 44 45.3 +0.4**

BEL *e*L L 04 04 16.9
comp=Z,231µm,19.8s
O16K Kokwok River B 74.17 328 P **P** **03 35 09.9 -1.9**
baz=79
P16K Nushagak River 74.22 327 P **P** **03 35 10.2 -1.9**
baz=79
G17K Kiwalik Mounta 74.23 334 P **P** **03 35 12.4 +0.4**
baz=79,SNR=22
G17K S **S** **03 44 43.1 -2.3**
baz=79
TREB Trebinje 74.25 50 *e*P **P** **03 35 12.4 -0.2**
F17K Baldwin Pennin 74.28 335 IAMs_20 IAMs_20 04 10 52.9
comp=Z,11µm,20.0s
F17K Baldwin Pennin 74.28 335 P **P** **03 35 11.3 -1.0**
baz=78
F17K S **S** **03 44 42.9 -3.0**
baz=78
R9F13 Warsaw-Wawer 74.29 40 *e*P **P** **03 35 15.5 +2.9**
comp=Z,2.1nm,1.0s
NIE Niedzica 74.29 43 *e*P **P** **03 35 14.2 +1.5**
NIE *e*S **S** **03 44 48.6 +1.9**
NIE *e*L L 04 03 14.4
comp=Z,6µm,20.9s
PSZ Piszkesteto 74.31 44 IAmb IAmb 03 35 39.4
comp=Z,196nm,1.3s
PSZ Piszkesteto 74.31 44 ⇓P **P** **03 35 13.5 +0.5**
PSZ Piszkesteto 74.31 44 P **P** **03 35 13.4 +0.5**
M16K Timber Creek 74.33 330 P **P** **03 35 14.8 +2.1**
baz=79
KLINJ Klinje 74.33 49 *e*P **P** **03 35 10.9 -2.3**
N16K Nishlik Lake 74.34 329 P **P** **03 35 14.3 +1.5**
baz=79
E17K Hotham Inlet 74.38 336 P **P** **03 35 12.8 0.0**
baz=78,SNR=15
E17K S **SKiKP** **03 44 43.0 +3.2**
baz=78
L16K Owhat River 74.44 330 IAmb IAmb 03 35 29.6
comp=Z,106nm,1.1s
L16K IAMs_20 IAMs_20 04 12 29.5
comp=Z,10µm,20.0s
L16K Owhat River 74.44 330 P **P** **03 35 14.2 +0.9**
baz=79,SNR=11
I17K Unalakleet 74.56 333 P **P** **03 35 13.9 -0.1**
I17K IAmb IAmb 03 35 35.3
comp=Z,118nm,1.3s
I17K Unalakleet 74.56 333 P **P** **03 35 15.0 +1.1**
baz=78
I17K S **S** **03 44 47.9 -1.2**
baz=78
RDOG Red Dog Mine 74.58 337 IAmb IAmb 03 35 28.0
comp=Z,63nm,0.7s
RDOG Red Dog Mine 74.58 337 P **P** **03 35 14.6 +0.5**
baz=77
RDOG S **S** **03 44 45.1 -4.2**
baz=77
C17K DeLong Mountai 74.59 338 P **P** **03 35 14.6 +0.5**
baz=77
C17K S **S** **03 44 45.1 -4.3**
baz=77
J16K Anvik River 74.64 332 P **P** **03 35 16.3 +1.8**
baz=78
J16K S **S** **03 44 48.9 -1.2**
baz=78
BSZH Besenyszg 74.68 45 ⇓P **P** **03 35 15.7 +0.7**
D17K Noatak River 74.72 337 P **P** **03 35 15.9 +1.1**
baz=77
D17K S **SKiKP** **03 44 45.4 +5.2**
baz=77
RUDO Rudo 74.81 49 *e*P **P** **03 35 16.5 +0.7**
G16K Koyuk River 74.95 334 IAMs_20 IAMs_20 04 10 53.4
comp=Z,8µm,20.0s
G16K Koyuk River 74.95 334 P **P** **03 35 17.0 +0.8**
baz=77
G16K S **S** **03 44 51.6 -1.8**
baz=77
PDG Podgorica 74.97 50 IAmb IAmb 03 35 41.3
comp=Z,143nm,1.0s
PDG Podgorica 74.97 50 ⇓P **P** **03 35 17.5 +0.8**
CHGN Chignik 74.97 325 P **P** **03 35 18.0 +1.6**
baz=78
N15K Kwethluk River 75.05 329 P **P** **03 35 16.9 0.0**
N15K Kwethluk River 75.05 329 P **P** **03 35 18.1 +1.2**
baz=78
H16K Elim 75.06 334 P **P** **03 35 18.4 +1.6**
baz=77
H16K S **S** **03 44 51.8 -2.9**
baz=77
FINES FINESS Array B 75.10 30 P **P** **03 35 15.9 -1.3**
FINES FINESS Array B 75.10 30 P **P** **03 35 16.5 -0.6**
comp=Z,36nm,0.9s,baz=279,slow=3.7,SNR=42
FINES PKPPKP **P'P'df** **04 02 41.8 -4.5**
comp=Z,2.6nm,0.8s,baz=176,slow=5.4,SNR=4.7
FINES LR LR 04 03 49.3
comp=Z,6µm,21.9s,baz=274,slow=32
comp=Z,36nm,0.9s
FIA1 FINESS Array S 75.11 30 IAMs_20 IAMs_20 04 03 06.1
comp=Z,6µm,21.0s
O15K Ungalikthiuk R 75.12 328 P **P** **03 35 18.3 +1.0**
baz=78
SUW Suwalki 75.14 38 *e*P **P** **03 35 17.1 -0.4**
SUW *e*S **S** **03 44 55.2 -0.7**
SUW *e*L L 04 05 23.6
comp=Z,11µm,20.1s
SUW Suwalki 75.14 38 IAMs_20 IAMs_20 04 05 37.2
comp=Z,11µm,20.0s
M15K Kasigluk River 75.22 329 P **P** **03 35 18.6 +0.7**
baz=77
K15K Wolf Creek Mou 75.27 331 P **P** **03 35 20.2 +2.1**
baz=77
K15K S **S** **03 44 57.9 +0.7**
baz=77
PABE Paberze 75.28 36 IAmb IAmb 03 35 39.4
comp=Z,170nm,1.1s
L15K Ungalak Mounta 75.39 331 P **P** **03 35 20.1 +1.3**
baz=77
L15K S **S** **03 44 58.1 -0.4**
baz=77
C16K Lisburne Hills 75.42 338 IAmb IAmb 03 35 34.9
comp=Z,207nm,1.6s
C16K Lisburne Hills 75.42 338 P **P** **03 35 19.6 +0.8**
baz=75
C16K S **S** **03 44 55.7 -2.8**
baz=75
S14K Fog Glacier 75.60 325 P **P** **03 35 19.8 -0.5**
baz=77
KOLS Kolonicke sedl 75.66 43 *e*P **P** **03 35 23.1 +2.5**
KOLS pmax pmax
comp=Z,25nm,1.0s
BANR Banloc 75.67 47 ⇑P **P** **03 35 21.5 +0.8**
G15K Niukluk 75.73 334 P **P** **03 35 21.2 +0.5**
baz=76,SNR=8.2
G15K S **S** **03 45 00.5 -1.7**
baz=76
F15K North Star Dit 75.80 335 IAmb IAmb 03 35 37.2
comp=Z,114nm,1.3s
F15K IAMs_20 IAMs_20 04 11 58.0
comp=Z,11µm,20.0s
F15K North Star Dit 75.80 335 P **P** **03 35 22.6 +1.5**
baz=75
F15K S **S** **03 45 01.3 -1.6**
baz=75
M14K Bethel 75.82 330 P **P** **03 35 20.5 -0.8**
M14K IAMs_20 IAMs_20 04 08 14.0
comp=Z,7µm,21.0s
M14K Bethel 75.82 330 P **P** **03 35 22.8 +1.6**
baz=76
O14K Tigyukauivet M 75.83 328 P **P** **03 35 22.4 +1.0**
baz=77
SIRR Siria 75.83 46 ⇓P **P** **03 35 21.9 +0.2**
N14K Kuskokwak Cree 75.88 329 P **P** **03 35 21.1 -0.6**
N14K IAMs_20 IAMs_20 04 10 26.6
comp=Z,9µm,19.0s
N14K Kuskokwak Cree 75.88 329 P **P** **03 35 22.6 +1.0**
baz=76
CHNA Chernabura Isl 75.94 323 P **P** **03 35 23.3 +1.2**
baz=77
CHNA S **S** **03 45 04.7 0.0**
baz=77
BZS Buzias 75.94 46 ⇑P **P** **03 35 22.5 +0.2**
BZS Buzias 75.94 46 P **P** **03 35 22.5 +0.2**
KEK Kerkira 75.96 53 IAMs_20 IAMs_20 04 10 16.5
comp=Z,6µm,19.0s
L14K Kuka Creek 76.02 330 P **P** **03 35 24.8 +2.4**
baz=76
J14K Nanvaranak Lak 76.08 332 IAmb IAmb 03 35 39.4
comp=Z,128nm,1.4s
J14K Nanvaranak Lak 76.08 332 P **P** **03 35 24.5 +1.8**

baz=76
J14K S **S** 03 45 06.8 +0.9
baz=76
VSU Vasula 76.10 33*d* *i*P **P** 03 35 21.6 -1.3
VSU pmax pmax
comp=Z,115nm,0.9s
VSU MLR MLR
comp=Z,8µm,18.0s
MDVR Moldovita 76.20 47 ⇑P **P** 03 35 24.1 +0.3
SURR Surduc 76.26 46 ⇑P **P** 03 35 24.6 +0.5
OHR Ohrid 76.39 51 *i*P **P** 03 35 27.4 +2.4
ANM Nome 76.39 334 P **P** 03 35 25.8 +1.3
baz=74
ANM S **S** 03 45 07.6 -1.8
baz=74
DRGR 76.42 45 ⇓P **P** 03 35 24.9 -0.3
DRGR 76.42 45 P **P** 03 35 24.8 -0.3
BOVS Bovan 76.46 48 ⇓P **P** 03 35 25.9 +0.6
MESR Meseseni 76.50 45 ⇓P **P** 03 35 25.6 +0.2
F14K Arctic Creek 76.53 335 P **P** 03 35 26.5 +1.2
baz=74,SNR=5.7
F14K S **S** 03 45 07.0 -4.0
baz=74
M13K Dall Lake 76.57 330 IAMs_20 IAMs_20 04 09 45.8
comp=Z,9µm,20.0s
M13K Dall Lake 76.57 330 P **P** 03 35 26.5 +1.0
baz=75
M13K S **S** 03 45 12.6 +1.1
baz=75
APA Apatity 76.61 23 ⇓*i*P **P** 03 35 24.8 -0.9
APA *e* 03 35 35.7
APA *i*S **S** 03 45 10.6 -1.1
APA pmax pmax
comp=Z,50nm,1.2s
SKO Skopje 76.65 50 *i*P **P** 03 35 27.3 +0.8
MARR Marisel-Cluj 76.72 45 ⇓P **P** 03 35 27.2 +0.3
BMR Baia Mare 76.73 44 ⇓P **P** 03 35 27.4 +0.6
BMR Baia Mare 76.73 44 P **P** 03 35 27.3 +0.6
K13K Kusilvak Mount 76.78 331 P **P** 03 35 26.6 -0.2
K13K Kusilvak Mount 76.78 331 P **P** 03 35 28.5 +1.8
baz=74
K13K S **S** 03 45 13.3 -0.5
baz=74
GZR Gura Zlata 76.79 46 ⇓P **P** 03 35 27.6 +0.4
GZR Gura Zlata 76.79 46 P **P** 03 35 27.6 +0.4
TAOE Nuku Hiva Isla 76.89 256 *e*P P 03 35 22.8 -5.5
comp=Z,551nm,24.5s
TAOE Nuku Hiva Isla 76.89 256 *e*PP **PP** 03 38 22.3 +0.8
comp=Z,251nm,22.3s
TAOE *e*S **S** 03 45 09.8 -6.8
comp=Z,1µm,25.7s
TAOE *e*SS **SS** 03 50 05.8 -7.6
comp=Z,2µm,29.9s
TAOE *e*LQ LQ 03 55 56.4
comp=Z,4µm,30.7s
TAOE *e*LR LR 03 59 14.4
comp=Z,8µm,24.0s
LVZ Lovozero 76.97 22 P **P** 03 35 26.7 -1.0
LVZ IAmb IAmb 03 36 10.2
comp=Z,140nm,1.1s
LVZ IAMs_20 IAMs_20 04 05 11.2
comp=Z,6µm,20.0s
LVZ Lovozero 76.97 22 *de*P **P** 03 35 26.5 -1.2
LVZ pmax pmax
comp=Z,116nm,1.2s
CJR Cluj-Napoca 77.03 45 ⇓P **P** 03 35 29.1 +0.6
CJR Cluj-Napoca 77.03 45 P **P** 03 35 29.1 +0.6
S12K Black Hills 77.11 325 IAMs_20 IAMs_20 04 09 49.4
comp=Z,6µm,20.0s
S12K Black Hills 77.11 325 P **P** 03 35 29.6 +0.9
baz=75
S12K S **S** 03 45 16.6 -1.0
baz=75
TNA Tin City 77.15 335 P **P** 03 35 27.7 -1.0
TNA IAmb IAmb 03 35 47.1
comp=Z,152nm,1.3s
TNA IAMs_20 IAMs_20 04 13 26.9
comp=Z,10µm,19.0s
TNA Tin City 77.15 335 P **P** 03 35 30.0 +1.3
baz=72
TNA S **S** 03 45 16.2 -1.4
baz=72
PUNG Punghina 77.17 47 ⇑P **P** 03 35 29.7 +0.5
SRE Strehaia 77.26 47 ⇑P **P** 03 35 30.8 +1.0
SRE Strehaia 77.26 47 P **P** 03 35 30.8 +1.0
ARCR ARCALIA 77.44 44 ⇑P **P** 03 35 30.9 +0.1
LOT Lotru 77.46 46 ⇓P **P** 03 35 31.0 0.0
BAIL Bailesti 77.52 48 ⇓P **P** 03 35 31.8 +0.6
PUL Pulkovo 77.55 31 *ce*P **P** 03 35 32.9 +1.9
PUL pmax pmax
comp=Z,122nm,1.0s
PUL MLR MLR
comp=Z,9µm,18.0s
VAY Valandovo 77.63 50 *i*P **P** 03 35 33.5 +1.5
VALD Valchedram 77.66 48 P **P** 03 35 32.4 +0.4
HOPE Hope Point 77.66 162 IAMs_20 IAMs_20 04 11 15.5
comp=Z,9µm,20.0s
MNK Minsk 77.71 36 *i*P **P** 03 35 30.5 -1.6
MNK *i* 03 38 25.3
MNK *i*PPP PPP 03 40 23.8
MNK *i*S **S** **03 45 23.0 -1.1**
MNK *i*SS **SS** **03 50 23.4 0.0**
MNK *i*SSS SSS 03 53 47.6
MNK pmax pmax
comp=Z,58nm,1.0s
MNK pmax pmax
comp=N,36nm,1.0s
MNK pmax pmax
comp=E,12nm,0.7s
MNK MLR MLR
comp=E,3µm,18.0s
MNK MLR MLR
comp=Z,8µm,18.0s
MNK MLR MLR
comp=N,6µm,19.0s
VTS Vitosha 77.79 49 *i*P **P** 03 35 32.8 -0.2
BUR08 Bucovina Ar. S 77.86 44 IAmb IAmb 03 35 59.2
comp=Z,158nm,1.2s
BURAR Bucovina Array 77.88 44 P **P** 03 35 32.1 -1.2
BURAR IAmb IAmb 03 35 55.9
comp=Z,94nm,1.1s
LIT Litokhoron 77.88 52 IAMs_20 IAMs_20 04 08 22.2
comp=Z,6µm,20.0s
KKB Krupnik 77.91 50 *i*P **P** 03 35 34.5 +1.0
M11K Mekoryuk 77.94 330 IAMs_20 IAMs_20 04 09 35.9
comp=Z,7µm,20.0s
M11K Mekoryuk 77.94 330 P **P** 03 35 33.1 -0.1
baz=73
MPEP Malo Peshtene 77.96 48 P **P** 03 35 33.3 -0.4
ARR Arges 78.06 46 ⇑P **P** 03 35 34.8 +0.4
FALS False Pass 78.08 324 IAMs_20 IAMs_20 04 09 56.4
comp=Z,9µm,21.0s
RKT Rikitea 78.17 240 *e*P **P** 03 35 35.7 +0.6
comp=Z,112nm,0.9s
RKT *e*S **S** 03 45 33.2 +3.2
comp=Z,19µm,41.0s
RKT *e*SS **SS** 03 50 31.5 -0.9
comp=Z,8µm,32.8s
RKT *e*LQ LQ 03 56 33.7
comp=Z,30µm,29.8s
RKT *e*LR LR 03 59 51.8
comp=Z,11µm,25.5s
ITM Ithomi 78.19 55 IAmb IAmb 03 36 03.3
comp=Z,138nm,0.9s
VLAD Vladila 78.26 47 ⇑P **P** 03 35 35.9 +0.6
VOIR 78.33 46 ⇓P **P** 03 35 36.1 +0.2
VOIR 78.33 46 P **P** 03 35 36.0 +0.2
DOPR Dopca 78.42 45 ⇓P **P** 03 35 36.7 +0.5
MMB Musomishta 78.43 50 *i*P **P** 03 35 37.0 +0.6
HUMR Humele 78.52 47 ⇓P **P** 03 35 37.0 +0.2
PLVB Pleven 78.57 48 ⇓P **P** 03 35 37.3 +0.2
OZUR 78.65 45 ⇑P **P** 03 35 38.3 +0.7
TURR Turia 78.82 45 ⇓P **P** 03 35 39.3 +0.8
MLR Muntele Rosu 78.92 46 LR LR 04 12 14.9
comp=Z,4µm,18.2s,baz=282,slow=37
MLR Muntele Rosu 78.92 46 ⇑P **P** 03 35 39.8 +0.6
MLR Muntele Rosu 78.92 46 P **P** 03 35 39.8 +0.6
PLD Plovdiv 78.99 49 *i*P **P** 03 35 39.7 +0.3
ONER Baraj Valea Uz 78.99 45 ⇑P **P** 03 35 40.5 +1.1
COVR Voineasa-Covas 79.00 45 ⇓P **P** 03 35 40.2 +0.7
PVL Pavlikeni 79.03 48 *i*P **P** 03 35 39.6 0.0
RZN Rozhen 79.11 50 *i*P **P** 03 35 41.4 +1.1
TESR Tescani 79.11 45 ⇓P **P** 03 35 40.0 0.0
NEHR Nehoiu 79.18 46 ⇑P **P** 03 35 40.7 +0.3
GAMB Gambell 79.27 334 P **P** 03 35 41.2 +0.7
baz=69
GAMB S **S** 03 45 40.1 -0.4
baz=69
PLOR Plostina 79.30 45 ⇓P **P** 03 35 41.6 +0.4
PLOR Plostina 79.30 45 P **P** 03 35 41.5 +0.4
VRI Vrincioaia 79.35 45 ⇑P **P** 03 35 41.1 -0.3
VRI Vrincioaia 79.35 45 P **P** 03 35 41.0 -0.3
SULR 79.36 46 ⇑P **P** 03 35 42.4 +1.1
BISRR Bisoca 79.42 45 ⇓P **P** 03 35 41.9 +0.1
KIEV Kiev 79.55 40 P **P** 03 35 41.1 -1.2
KIEV IAmb IAmb 03 36 03.1
comp=Z,133nm,1.4s
KIEV Kiev 79.55 40 ⇑P **P** 03 35 41.7 -0.6
KIEV Kiev 79.55 40 P **P** 03 35 41.1 -1.2
KIEV pmax pmax
comp=Z,133nm,1.4s
AKASG Malin Array Be 79.56 40 P **P** 03 35 40.8 -1.5
AKASG IAmb IAmb 03 36 03.0
comp=Z,134nm,1.3s
AKASG Malin Array Be 79.56 40 P **P** 03 35 40.9 -1.5
comp=Z,17nm,0.9s,baz=283,slow=4.4,SNR=46
AKASG PKKPbc **PKKPbc** 03 54 30.2 -1.4
comp=Z,0.7nm,0.5s,baz=91,slow=2.5,SNR=4.5
AKASG LR LR 04 07 31.6
comp=Z,14µm,21.0s,baz=278,slow=33
comp=Z,17nm,0.9s
AKASG Malin Array Be 79.56 40 P **P** 03 35 40.8 -1.5
AKASG pmax pmax
comp=Z,134nm,1.3s
AKBB Malin Array Si 79.56 40 IAmb IAmb 03 36 03.1
comp=Z,149nm,1.4s
SZH Strazhitsa 79.56 48 *i*P **P** 03 35 40.9 -1.6
KDZ Kurdzhali 79.56 50 *i*P **P** 03 35 43.2 +0.6
ELND Elena 79.58 48 ⇑P **P** 03 35 43.3 +0.6
DIM Dimitrovgrad 79.61 49 P **P** 03 35 43.1 +0.3
GHRR 79.75 45 ⇓P **P** 03 35 43.2 -0.2
SORM Soroca 79.77 43 ⇑P **P** 03 35 42.8 -0.7
SORM Soroca 79.77 43 P **P** 03 35 42.8 -0.7
LOZB Loznitsa 79.96 48 ⇑P **P** 03 35 45.1 +0.4
UNV Unalaska Valle 80.11 324 P **P** 03 35 44.8 -0.5
UNV IAmb IAmb 03 36 13.8
comp=Z,180nm,1.1s
UNV IAMs_20 IAMs_20 04 10 11.1
comp=Z,10µm,21.0s
UNV Unalaska Valle 80.11 324 P **P** 03 35 47.2 +1.9
baz=71
UNV S **S** 03 45 50.1 +0.4
baz=71
AMRR Amara 80.12 46 ⇑P **P** 03 35 45.1 -0.4
AMRR Amara 80.12 46 P **P** 03 35 45.1 -0.4
JMB Yambol 80.17 48 *i*P P 03 35 39.7 -6.1
SCHLR Schela 80.20 45 ⇓P **P** 03 35 45.2 -0.8
NEGRR Negrea 80.21 45 ⇓P **P** 03 35 45.3 -0.7
SCTR Scanteiesti 80.25 45 ⇑P **P** 03 35 45.6 -0.6
VLDR Vladesti 80.26 45 ⇓P **P** 03 35 45.9 -0.3
KIS Kishinev 80.40 44 ⇓*i*P **P** 03 35 46.5 -0.5
comp=Z,5µm,4.3s
KIS *e*S **S** 03 45 47.0 -6.1
KIS *e*L L 04 01 30.0
KIS LRM MLR 04 08 29.0
comp=Z,2µm,20.5s
KIS Kishinev 80.40 44 *d*/*i*P **P** 03 35 46.5 -0.5
KIS *e*S **S** 03 45 47.0 -6.1
KIS pmax pmax
comp=Z,5µm,7.3s
CAVK Edirne/Enez-Ca 80.42 50 ⇓P **P** 03 35 47.7 +0.5
MILM Milestii Mici 80.42 44 ⇑P **P** 03 35 47.1 0.0
MILM Milestii Mici 80.42 44 ⇓*i*P **P** 03 35 45.4 -1.7
comp=Z,450nm,2.6s
MILM *e*S **S** 03 45 47.0 -6.3
MILM *e*L L 04 01 40.0
MILM LRM MLR 04 08 15.0
comp=Z,5µm,20.5s
MILM Milestii Mici 80.42 44 *d*/*i*P **P** 03 35 45.4 -1.7
MILM *e*S **S** 03 45 47.0 -6.3
MILM pmax pmax
comp=Z,450nm,2.6s
CFR Carcaliu 80.49 46 ⇑P **P** 03 35 47.1 -0.5
CFR Carcaliu 80.49 46 P **P** 03 35 47.0 -0.5
ICOR Ion Corvin 80.58 47 ⇓P **P** 03 35 48.2 +0.2
PRD Provadia 80.59 48 P **P** 03 35 47.8 -0.3
TLBR Topalu 80.62 46 ⇑P **P** 03 35 48.3 +0.1
TPGR Topolog 80.78 46 ⇓P **P** 03 35 48.5 -0.6
EZN Ezine 80.79 51 ⇑P **P** 03 35 49.6 +0.3
EZN Ezine 80.79 51 P **P** 03 35 49.5 +0.3
P08K Saint George I 80.83 327 P **P** 03 35 50.2 +1.1
baz=69
TIRR Tirgusor 80.90 46 IAMs_20 IAMs_20 04 11 39.8
comp=Z,6µm,20.0s
TIRR Tirgusor 80.90 46 ⇓P **P** 03 35 49.8 +0.1
TIRR Tirgusor 80.90 46 P **P** 03 35 49.8 +0.1
TLCR 80.95 45 ⇑P **P** 03 35 49.7 -0.2
TLCR 80.95 45 P **P** 03 35 49.7 -0.2
PSN Preselentsi 80.95 47 *i*P **P** 03 35 50.4 +0.4
SPIA Saint Paul Isl 80.98 327 P **P** 03 35 52.1 +2.2
baz=69
APE Apeiranthos 81.00 54 ⇑P **P** 03 35 49.9 -0.6
APE Apeiranthos 81.00 54 P **P** 03 35 49.8 -0.6
IDI Anoyia 81.02 56 LR LR 04 12 25.9
comp=Z,2µm,18.2s,baz=294,slow=36
PHSR Pinarhisar 81.13 49 ⇑P **P** 03 35 51.4 +0.4
MANR Mangalia 81.21 47 ⇓P **P** 03 35 52.4 +1.0
KLMR Klimovskoe 81.48 28 *e*P **P** 03 35 51.8 -0.6
KLMR *e* 03 38 57.2
KLMR S **S** **03 46 03.0 -0.8**
KLMR pmax pmax
comp=Z,147nm,1.3s
CTYL Yalikoy Yolu 81.72 49 ⇑P **P** 03 35 54.7 +0.6
NIKH Nikolski High 81.72 323 IAMs_20 IAMs_20 04 11 14.9
comp=Z,7µm,20.0s
NIKH Nikolski High 81.72 323 P **P** 03 35 55.8 +1.9
baz=69
NIKH S **S** 03 46 06.5 -0.1
baz=69
BAND Balkesir-Ban 81.93 50 ⇓P **P** 03 35 55.4 +0.2
POHA Pohakuloa 82.12 288 IAMs_20 IAMs_20 04 09 59.9
comp=Z,5µm,19.0s
HMH Humu'ula Sheep 82.12 288 IAMs_20 IAMs_20 04 12 15.9
comp=Z,4µm,19.0s
HPAH Hawaii Prepara 82.19 288 IAMs_20 IAMs_20 04 10 12.6
comp=Z,4µm,20.0s
OBN Obninsk 82.27 34 P **P** 03 35 55.5 -1.2
OBN IAMs_20 IAMs_20 04 08 49.6
comp=Z,9µm,20.0s
OBN Obninsk 82.27 34 LR LR 04 08 41.1
comp=Z,9µm,20.8s,baz=236,slow=33
OBN Obninsk 82.27 34 ⇓P **P** 03 35 56.8 +0.1
OBN Obninsk 82.27 34 *d*/*i*P **P** 03 35 56.4 -0.3
OBN *e* 03 39 04.2
OBN *i*S **S** **03 46 04.4 -7.7**
OBN *e*SSS SSS 03 54 57.1
OBN pmax pmax
comp=Z,266nm,1.3s
KLYT Kilyos 82.33 49 ⇓P **P** 03 35 57.7 +0.4
HUH Hualalai 82.41 288 IAMs_20 IAMs_20 04 12 03.7
comp=Z,5µm,18.0s
MOS Moscow 82.59 33 *e*P **P** 03 35 57.1 -1.3
MOS *e* 03 39 06.4
MOS *e*S **S** **03 46 12.6 -2.8**
MOS pmax pmax
comp=Z,168nm,1.5s
MOS pmax pmax
comp=Z,500nm,2.4s
MOS smax smax
comp=N,2µm,6.6s
MOS smax smax
comp=E,1µm,4.7s
MOS MLR MLR
comp=E,6µm,18.0s
MOS MLR MLR
comp=Z,7µm,18.0s
KARP Karpathos 82.71 55 P **P** 03 35 58.0 -1.5
SILT Sile 82.79 49 ⇓P **P** 03 35 59.9 +0.2
MANT Manisa 82.85 52 P **P** 03 36 00.0 -0.4
MANT IAmb IAmb 03 36 46.4
comp=Z,70nm,0.6s
ARG Arkhangelos 83.24 54 P **P** 03 36 02.0 -0.2
ARG Arkhangelos 83.24 54 P **P** 03 36 02.0 -0.2
ARG pmax pmax
comp=Z,125nm,0.7s
PMSA Palmer Station 83.57 179 P **P** 03 36 02.0 -1.0
PMSA IAmb IAmb 03 36 13.5
comp=Z,116nm,1.1s
PMSA Palmer Station 83.57 179 IAMs_20 IAMs_20 04 16 33.3
comp=Z,4µm,18.0s
PMSA Palmer Station 83.57 179 LR LR 04 16 44.2
comp=Z,4µm,18.1s,baz=348,slow=38
PMSA Palmer Station 83.57 179 *e*P **P** 03 36 01.6 -1.4
ISP Isparta 84.53 52 *d*/*i*P **P** 03 36 08.9 0.0
ISP pmax pmax
comp=Z,192nm,3.1s
ISP MLR MLR
comp=Z,3µm,17.0s
LPSR Galich'ya Gora 84.54 36 *e*P **P** 03 36 08.2 -0.3
LPSR pmax pmax
comp=Z,150nm,0.9s
SIM Simferopol' 84.57 44 *e*P **P** 03 36 08.9 +0.1
SIM *e*S **SKSac** 03 46 30.8 -2.2
SIM pmax pmax
comp=Z,125nm,1.3s
CIDE Kastamonu/Cide 84.88 48 ⇑P **P** 03 36 10.7 +0.3
BILL Bilibino 84.88 342 ⇑*i*P **P** 03 36 10.0 +0.1
BILL pmax pmax
comp=Z,98nm,1.5s
BILL MLR MLR
comp=Z,10µm,19.0s
VSR Storozhevoye 85.25 37 *e*P **P** 03 36 10.6 -1.5
VSR pmax pmax
comp=Z,80nm,1.0s
ANTO Ankara 85.48 49 P **P** 03 36 12.2 -1.4
ANTO Ankara 85.48 49 IAMs_20 IAMs_20 04 16 41.4
comp=Z,4µm,19.0s
ANTO Ankara 85.48 49 ⇑P **P** 03 36 13.5 -0.1
ANTO Ankara 85.48 49 P **P** 03 36 12.2 -1.4
ANTO pmax pmax
comp=Z,132nm,0.5s
ANTO MLR MLR
comp=Z,4µm,19.0s
ANTO Ankara 85.48 49 P **P** 03 36 13.5 -0.1
ANTO S **S** **03 46 47.6 +2.3**
BZK Bozkurt 85.58 47 ⇑P **P** 03 36 13.3 -0.7
ILGA Ilgaz 85.72 48 P **P** 03 36 13.4 -1.5
ILGA IAMs_20 IAMs_20 04 15 27.4
comp=Z,6µm,19.0s
BRTR Keskin Array B 86.14 49 P **P** 03 36 15.5 -1.5
BRTR Keskin Array B 86.14 49 P **P** 03 36 16.2 -0.7
comp=Z,8.1nm,0.8s,baz=288,slow=3.1,SNR=46
BRTR PKKPbc **PKKPbc** 03 54 15.2 -1.1
comp=Z,0.5nm,0.8s,baz=349,slow=1.5,SNR=2.0
comp=Z,8.1nm,0.8s
PMOR Pomariorio Ree 86.17 253 *e*P **P** 03 36 16.5 -0.7
comp=Z,278nm,1.2s
ADK Adak 86.55 324 IAMs_20 IAMs_20 04 16 09.3
comp=Z,8µm,20.0s
KIRS Kirsehir-Merke 86.56 50 ⇓P **P** 03 36 18.4 -0.5
VRH Novokhopyorsk 86.71 37 *e*P **P** 03 36 19.1 -0.2
VRH pmax pmax
comp=Z,100nm,1.0s
ANN Anapa 86.80 44 *e*P **P** 03 36 18.4 -1.5
ANN *e* 03 39 42.8
ANN *e*S **SKSac** **03 46 43.6 -3.4**
ANN pmax pmax
comp=Z,93nm,1.2s
ANN MLR MLR
comp=Z,5µm,18.0s
KIRV Kirov 86.97 28 LR LR 04 10 47.6
comp=Z,4µm,21.8s,baz=298,slow=33
CSS Mathiatis 87.66 54 P **P** 03 36 23.7 -0.6
TOKA Tokat 87.93 48 P **P** 03 36 25.4 -0.1
TOKA IAmb IAmb 03 36 46.5
comp=Z,77nm,1.1s
BNN Bunyan 88.06 50 P **P** 03 36 25.3 -1.0
BNN IAmb IAmb 03 36 47.4
comp=Z,103nm,1.2s
TVO Taravao 88.36 251 *e*P P 03 36 32.7 +4.8
comp=Z,78nm,1.1s
TIAR Tiarei 88.37 251 *e*P **P** 03 36 29.6 +1.7
comp=Z,213nm,0.9s
ERBR Yeremizino-Bor 88.38 42 *e*P **P** 03 36 26.4 -1.1
ERBR *e*PPP PPP 03 41 50.4
ERBR *e*S **SKSac** **03 46 54.9 -1.7**
ERBR *e* 03 47 05.2
ERBR *e*SSS SSS 03 56 37.3
ERBR pmax pmax
comp=Z,55nm,0.8s
ERBR MLR MLR
comp=Z,7µm,17.0s
PPT Papeete 88.58 251 LR LR 04 10 28.5
comp=Z,3µm,18.3s,baz=62,slow=32
PPT2 Papeete2 88.59 251 *e*P **P** 03 36 32.3 +3.3
comp=Z,106nm,1.1s
PPT2 Papeete2 88.59 251 *e*PP **PP** 03 39 57.9 +0.3
comp=Z,362nm,26.0s
PPT2 *e*S **S** **03 47 11.7 -4.1**
comp=Z,2µm,26.8s
PPT2 *e*SS **SS** **03 53 08.1 +1.0**
comp=Z,2µm,26.5s
PPT2 Papeete2 88.59 251 *e*LR LR 04 04 43.4
comp=Z,9µm,26.0s
PPT2 *e*LR LR 04 04 49.2
comp=Z,7µm,27.2s
PAE Paea 88.61 251 *e*P **P** 03 36 30.8 +1.8
comp=Z,121nm,1.4s
SOC Sochi 88.80 44 *e*P **P** 03 36 28.2 -1.3
SOC *e* 03 39 55.4
SOC *e*S **SKSac** **03 46 57.0 -2.2**
SOC *e*SS **SS** **03 53 05.2 -2.9**
SOC pmax pmax
comp=Z,65nm,1.2s
TIXI Tiksi 88.87 355 P **P** 03 36 28.6 -0.7
TIXI IAmb IAmb 03 36 45.1
comp=Z,114nm,1.4s
TIXI Tiksi 88.87 355 IAMs_20 IAMs_20 04 15 39.9
comp=Z,7µm,20.0s
TIXI Tiksi 88.87 355 LR LR 04 16 17.3
comp=Z,8µm,20.6s,baz=34,slow=36
TIXI Tiksi 88.87 355 ⇓*e*P **P** 03 36 30.4 +1.1
TIXI pmax pmax
comp=Z,38nm,1.1s
TIXI MLR MLR
comp=Z,9µm,19.0s
LABN Labinsk 89.00 43 *e*P **P** 03 36 28.9 -1.5
LABN *e* 03 39 57.3
LABN *e*S **SKSac** **03 46 58.5 -1.8**
LABN *e* 03 47 08.7
LABN *e*SS **SS** **03 53 09.4 -1.6**
LABN pmax pmax
comp=Z,27nm,0.8s
BELG Belogornoye 89.35 34 LR LR 04 12 21.1
comp=Z,7µm,21.8s,baz=293,slow=33
XMAS Kiritimati 89.43 272 IAMs_20 IAMs_20 04 12 54.0
comp=Z,6µm,19.0s
MMAI Mount Meron Ar 89.98 55 P **P** 03 36 36.0 +0.6
comp=Z,5.0nm,0.8s,baz=305,slow=5.1,SNR=12
MMAI LR LR 04 14 49.6
comp=Z,1µm,20.9s,baz=304,slow=34
comp=Z,5.0nm,0.8s
GOF Gofitskoye 90.29 42 *ce*P **P** 03 36 34.6 -1.8
GOF *e*S **SKSac** **03 47 05.2 -2.6**
TBI Tubuai 90.48 246 *e*P **P** 03 36 38.3 +0.7
comp=Z,1µm,26.5s
TBI Tubuai 90.48 246 *e*PP **PP** 03 40 18.1 +5.6
comp=Z,1µm,24.5s
TBI *e*S **S** **03 47 34.7 +1.6**
comp=Z,5µm,29.5s
TBI *e*SS **SS** **03 53 37.6 +3.3**
comp=Z,6µm,31.2s
TBI Tubuai 90.48 246 *e*LR LR 04 05 15.5
comp=Z,15µm,24.0s
TBI *e*LR LR 04 05 18.4
comp=Z,3µm,23.8s
KIV Kislovodsk 90.57 43 P **P** 03 36 37.2 -0.7
KIV IAmb IAmb 03 37 12.1
comp=Z,85nm,1.2s
KIV IAMs_20 IAMs_20 04 21 53.5
comp=Z,7µm,18.0s
KIV Kislovodsk 90.57 43 ⇓P **P** 03 36 38.6 +0.7
KIV Kislovodsk 90.57 43 *e*P **P** 03 36 38.6 +0.7
KIV *e* 03 40 13.7
KIV *e* 03 47 09.2
KIV *e*SS SS 03 53 34.7 +0.8
KIV pmax pmax
comp=Z,206nm,4.1s
KIV pmax pmax
comp=Z,21nm,1.1s
KIV Kislovodsk 90.57 43 P **P** 03 36 38.9 +1.0
KVAR Kislovodsk Arr 90.57 43 LR LR 04 14 49.5
comp=Z,3µm,20.6s,baz=352,slow=34
SHA1 Shidzhatmaz 90.65 43 *d*/*i*P **P** 03 36 39.3 +0.8
KBZ Khabaz 90.81 43 P **P** 03 36 40.0 +1.2

	comp=Z,11nm,0.9s,baz=276,slow=2.1,SNR=19									
KBZ					LR	LR	04 19 35.3			
	comp=Z,5μm,18.0s,baz=316,slow=37									
	comp=Z,11nm,0.9s									
EIL	**Elat**	**90.90**	**58**		LR	LR	04 17 40.3			
	comp=Z,2μm,19.7s,baz=298,slow=36									
BATM	**Batumi**	**90.98**	**45**	⇓	P	**P**	**03 36 40.3**	**+0.5**		
BATM	**Batumi**	**90.98**	**45**		P	**P**	**03 36 40.2**	**+0.5**		
SHEM	**Shemya Is, Ala**	**91.02**	**328**		LR	LR	04 18 26.2			
	comp=Z,6μm,20.2s,baz=66,slow=36									
NCK	**Nalchik**	**91.36**	**43**	⇓	*e*P	**P**	**03 36 42.4**	**+0.9**		
NCK					pmax	pmax				
	comp=Z,40nm,1.1s									
TSUM	**Tsumeb**	**91.55**	**110**		P	**P**	**03 36 41.2**	**-1.6**		
TSUM					IAmb	IAmb	03 36 46.1			
	comp=Z,97nm,1.2s									
TSUM	**Tsumeb**	**91.55**	**110**		IAMs_20	IAMs_20	04 10 30.7			
	comp=Z,8μm,21.0s									
TSUM	**Tsumeb**	**91.55**	**110**		LR	LR	04 10 53.4			
	comp=Z,8μm,21.3s,baz=315,slow=31									
ARTI	**Arti**	**92.17**	**27**		P	**P**	**03 36 43.9**	**-1.1**		
ARTI					IAmb	IAmb	03 37 07.6			
	comp=Z,59nm,1.2s									
ARTI					IAMs_20	IAMs_20	04 14 40.0			
	comp=Z,7μm,21.0s									
ARTI	**Arti**	**92.17**	**27**		LR	LR	04 14 31.6			
	comp=Z,6μm,21.2s,baz=310,slow=33									
ARTI	**Arti**	**92.17**	**27**	*d*	iP	**P**	**03 36 44.1**	**-0.8**		
ARTI							03 40 24.8			
ARTI					PPP	PPP	03 42 30.7			
ARTI					S	**SKSac**	**03 47 17.0**	**-1.1**		
ARTI					SP	SP	03 48 56.1	-0.6		
ARTI					SS	**SS**	**03 53 56.3**	**+0.3**		
ARTI					pmax	pmax				
	comp=Z,40nm,1.5s									
WIN	**Windhoek**	**92.24**	**113**		IAMs_20	IAMs_20	04 10 16.9			
	comp=Z,7μm,22.0s									
SEY	**Seymchan**	**92.56**	**343**		LR	LR	04 24 08.5			
	comp=Z,5μm,18.5s,baz=44,slow=39									
TRLG	**Trialeti**	**92.61**	**44**		P	**P**	**03 36 47.6**	**+0.1**		
SVE	**Sverdlovsk**	**92.83**	**26**	*e*	P	**P**	**03 36 48.1**	**+0.1**		
SVE				*e*	S	**SKSac**	**03 47 21.3**	**-0.5**		
SVE					pmax	pmax				
	comp=Z,84nm,1.1s									
GNI	**Garni**	**93.70**	**45**		IAMs_20	IAMs_20	04 24 10.7			
	comp=Z,3μm,18.0s									
GNI	**Garni**	**93.70**	**45**		LR	LR	04 23 12.1			
	comp=Z,2μm,18.0s,baz=341,slow=38									
GNI	**Garni**	**93.70**	**45**	*d*	iP	**P**	**03 36 53.1**	**+0.5**		
GNI					pmax	pmax				
	comp=Z,80nm,1.4s									
MAK	**Makhachkala**	**94.12**	**42**	*c*	iP	**P**	**03 36 51.5**	**-2.7**		
MAK				*e*			03 40 40.7			
MAK				*e*	PPP	PPP	03 42 40.6			
MAK				*e*			03 47 22.7			
MAK				*e*	SS	SS	03 54 21.1	-3.5		
MAK					pmax	pmax				
	comp=Z,261nm,1.5s									
MAK					MLR	MLR				
	comp=Z,6μm,18.0s									
GANJ	**Ganja**	**94.51**	**44**		P	**P**	**03 36 58.5**	**+2.4**		
NAX	**Nakhchivan**	**94.68**	**46**		P	**P**	**03 36 59.1**	**+2.1**		
XAUDM	**Khaudum**	**94.69**	**108**		IAmb	IAmb	03 37 00.9			
	comp=Z,78nm,1.2s									
SEKA	**Sheki**	**94.81**	**44**		P	**P**	**03 37 00.2**	**+2.7**		
MNGR	**Mingechevir, A**	**94.95**	**44**		P	**P**	**03 37 00.5**	**+2.4**		
AKT	**Akhty**	**95.02**	**43**	*e*	P	**P**	**03 36 57.3**	**-1.2**		
AKT				*e*			03 40 48.0			
AKT				*e*	S	**SKSac**	**03 47 33.0**	**-1.6**		
AKT					pmax	pmax				
	comp=Z,22nm,2.0s									
AKT					MLR	MLR				
	comp=Z,5μm,20.0s									
MA2	**Magadan**	**95.73**	**342**		LR	LR	04 24 12.2			
	comp=Z,8μm,19.6s,baz=38,slow=38									
AKTO	**Aktyubinsk**	**95.80**	**32**		LR	LR	04 17 14.4			
	comp=Z,11μm,20.4s,baz=307,slow=34									
KGCAE	**Kacgae**	**96.80**	**112**		IAmb	IAmb	03 37 09.7			
	comp=Z,58nm,1.3s									
LKRN	**Lenkeran, Azer**	**97.13**	**45**		P	Pdif	03 37 10.3	+2.2		
AB31	**Akbulak array**	**97.51**	**32**		P	**P**	**03 37 08.6**	**-0.9**		
ABKAR	**Akbulak array**	**97.51**	**32**		P	**P**	**03 37 08.8**	**-0.7**		
MBAR	**Mbarara**	**97.84**	**88**		IAMs_20	IAMs_20	04 18 07.0			
	comp=Z,7μm,20.0s									
PET	**Petropavlovsk**	**97.97**	**334**		IAMs_20	IAMs_20	04 21 39.6			
	comp=Z,4μm,21.0s									
PET	**Petropavlovsk**	**97.97**	**334**	*e*	P	Pdif	03 37 12.8	+1.3		
PET				*e*			03 41 10.2			
PET				*e*			03 47 47.4			
PET				*e*	S	**S**	**03 48 38.3**	**+0.3**		
PET				*e*	SS	**SS**	**03 55 19.5**	**+1.2**		
PET					pmax	pmax				
	comp=Z,300nm,11.5s									
PET					pmax	pmax				
	comp=Z,200nm,12.3s									
PET					pmax	pmax				
	comp=Z,600nm,13.8s									
PET					pmax	pmax				
	comp=Z,600nm,11.3s									
YAK	**Yakutsk**	**98.09**	**352**		IAMs_20	IAMs_20	04 27 59.1			
	comp=Z,6μm,18.0s									
YAK	**Yakutsk**	**98.09**	**352**		LR	LR	04 20 47.9			
	comp=Z,4μm,22.0s,baz=18,slow=35									
YAK	**Yakutsk**	**98.09**	**352**	*e*	P	Pdif	03 37 13.3	+1.5		
YAK				*e*	PPP	PPP	03 43 18.0			
YAK				*e*	S	**SKSac**	**03 47 48.3**	**-1.1**		
YAK				*e*	SS	**SS**	**03 55 20.2**	**+0.9**		
YAK				*e*	SSS	SSS	03 59 11.4			
YAK					pmax	pmax				
	comp=Z,7.0nm,0.9s									
YAK					pmax	pmax				
	comp=N,4.0nm,1.0s									
YAK					pmax	pmax				
	comp=E,3.0nm,1.1s									
YAK					smax	smax				
	comp=N,771nm,4.8s									
YAK					smax	smax				
	comp=E,769nm,4.8s									
YAK					MLR	MLR				
	comp=Z,3μm,21.0s									
YAK					MLR	MLR				
	comp=N,2μm,19.0s									
PHPEN	**Phepeng**	**98.15**	**114**		P	**P**	**03 37 11.9**	**-1.0**		
PHPEN					IAmb	IAmb	03 37 20.1			
	comp=Z,62nm,1.7s									
VNA3	**Neumayer Olymp**	**98.22**	**164**	⇓	P	Pdif	03 37 12.4	+0.3		
	comp=Z,8.3nm,0.7s									
VNA3				⇓	SKSac	**SKSac**	**03 47 47.5**	**-2.0**		
VNA1	**Neumayer--Stat**	**98.25**	**163**	⇓	P	Pdif	03 37 12.9	+0.7		
	comp=Z,22nm,1.1s									
PETK	**Petropavlovsk-**	**98.30**	**334**		LR	LR	04 23 10.6			
	comp=Z,6μm,21.3s,baz=43,slow=36									
SUR	**Sutherland**	**98.45**	**121**		IAMs_20	IAMs_20	04 18 24.7			
	comp=Z,5μm,19.0s									
BELA	**Belgrano 2**	**98.54**	**173**		IAmb	IAmb	03 37 16.1			
	comp=Z,51nm,1.7s									
VNA2	**Neumayer--Watz**	**98.65**	**163**	⇓	P	Pdif	03 37 15.0	+1.0		
	comp=Z,15nm,0.7s,baz=316,slow=7.6									
VNA2				⇓	SKSac	**SKSac**	**03 47 49.9**	**-1.6**		
	baz=336,slow=13									
RAR	**Rarotonga**	**98.86**	**251**		LR	LR	04 15 31.3			
	comp=Z,2μm,18.6s,baz=64,slow=32									
BORK	**Borovoye**	**99.43**	**24**	*ce*	P	**Pdif**	**03 37 20.1**	**+2.1**		
BORK					pmax	pmax				
	comp=Z,12nm,2.5s									
BVAR	**Borovoye Array**	**99.48**	**24**		P	**Pdif**	**03 37 18.8**	**+0.5**		
	comp=Z,2.5nm,0.8s,baz=302,slow=3.3,SNR=8.4									
BVAR					PKKPbc	**PKKPbc**	**03 53 40.2**	**-2.0**		
	comp=Z,1.7nm,0.6s,baz=135,slow=3.7,SNR=5.3									
BVAR					LR	LR	04 19 54.8			
	comp=Z,6μm,20.6s,baz=320,slow=34									
	comp=Z,2.5nm,0.8s									
LSZ	**Lusaka**	**99.96**	**103**		IAMs_20	IAMs_20	04 16 10.5			
	comp=Z,4μm,20.0s									
LSZ	**Lusaka**	**99.96**	**103**		LR	LR	04 15 08.9			
	comp=Z,4μm,21.9s,baz=314,slow=31									
SNAA	**Sanae**	**100.29**	**163**	⇓	P	**Pdif**	**03 37 21.9**	**+0.5**		
	comp=Z,124nm,0.6s									
SNAA				⇓	SKSac	**SKSac**	**03 47 58.6**	**-1.2**		
SNAA	**Sanae**	**100.29**	**163**		IAMs_20	IAMs_20	04 25 46.6			
	comp=Z,4μm,19.0s									
SNAA	**Sanae**	**100.29**	**163**		P	**Pdif**	**03 37 20.1**	**-1.2**		
	comp=Z,6.9nm,0.7s,baz=273,slow=6.8,SNR=24									
SNAA					PP	**PP**	**03 41 25.5**	**-2.2**		
	comp=Z,13nm,1.1s,baz=324,slow=6.6,SNR=5.0									
SNAA	**Sanae**	**100.29**	**163**	*de*	P	**Pdif**	**03 37 21.1**	**-0.3**		
SNAA					pmax	pmax				
	comp=Z,38nm,1.5s									
SNAA					MLR	MLR				
	comp=Z,4μm,19.0s									
LBTB	**Lobatse**	**100.39**	**113**		PP	**PP**	**03 41 27.5**	**-2.1**		
	comp=Z,14nm,1.2s,baz=283,slow=12,SNR=4.8									
LODK	**Lodwar**	**100.87**	**83**		IAMs_20	IAMs_20	04 20 28.7			
	comp=Z,5μm,21.0s									
BOSA	**Boshof**	**101.08**	**116**		P	**Pdif**	**03 37 24.9**	**-1.0**		
	comp=Z,2.0nm,0.6s,baz=330,slow=7.8,SNR=3.3									
BOSA					PP	**PP**	**03 41 31.3**	**-3.5**		
	comp=Z,21nm,1.3s,baz=293,slow=6.4,SNR=3.7									
BOSA	**Boshof**	**101.08**	**116**		P	**Pdif**	**03 37 25.0**	**-1.0**		
TROLL	**Troll, Antarti**	**101.94**	**163**	⇓	P	**Pdif**	**03 37 29.9**	**+1.1**		
	comp=Z,202nm,0.6s									
TROLL				⇑	SKSac	**SKSac**	**03 48 08.3**	**+0.4**		
FURI	**Furi**	**102.02**	**76**		IAMs_20	IAMs_20	04 22 39.0			
	comp=Z,6μm,20.0s									
RAYN	**Ar Rayn**	**102.04**	**60**		IAMs_20	IAMs_20	04 24 39.9			
	comp=Z,5μm,19.0s									
ZALV	**Zalesovo Beam**	**103.48**	**16**		Pdiff	**Pdif**	**03 37 35.8**	**-0.3**		
	comp=Z,1.3nm,0.8s,baz=344,slow=3.7,SNR=3.6									
ZALV					PKiKP	**PP**	**03 41 52.6**	**+1.7**		
	comp=Z,2.2nm,0.7s,baz=339,slow=3.7,SNR=3.9									
KURK	**Kurchatov**	**104.37**	**22**		IAMs_20	IAMs_20	04 33 08.3			
	comp=Z,5μm,18.0s									
KURBB	**Kurchatov Arra**	**104.42**	**22**		Pdiff	**Pdif**	**03 37 43.3**	**+3.0**		
	comp=Z,0.8nm,0.7s,baz=332,slow=4.7,SNR=4.8									
KURBB					PKiKP	**PP**	**03 41 57.6**	**-0.4**		
	comp=Z,1.7nm,0.7s,baz=324,slow=2.7,SNR=5.0									
KURBB					PKKPbc	**PKKPbc**	**03 53 25.9**	**-2.0**		
	comp=Z,1.6nm,0.7s,baz=157,slow=2.6,SNR=8.9									
ATD	**Arta Tunnel**	**104.82**	**72**		IAMs_20	IAMs_20	04 29 09.5			
	comp=Z,4μm,18.0s									
KIBK	**Kibwezi**	**105.31**	**87**		PKP	**PKiKP**	**03 41 59.1**	**-0.2**		
KIBK	**Kibwezi**	**105.31**	**87**		IAMs_20	IAMs_20	04 27 12.9			
	comp=Z,4μm,19.0s									
GRNR	**Gornyy**	**107.42**	**344**	*e*	P	**Pdif**	**03 38 03.3**	**+10**		
MAKZ	**Makanchi**	**108.87**	**22**		IAMs_20	IAMs_20	04 31 23.2			
	comp=Z,4μm,19.0s									
YSS	**Yuzhno-Sakhali**	**108.94**	**339**		IAMs_20	IAMs_20	04 30 48.0			
	comp=Z,4μm,21.0s									
QSPA	**South Pole Qui**	**108.97**	**180**		IAMs_20	IAMs_20	04 32 40.1			
	comp=Z,4μm,20.0s									
QSPA	**South Pole Qui**	**108.97**	**180**		Pdiff	**Pdif**	**03 38 05.6**	**+5.5**		
	comp=Z,1.5nm,0.8s,baz=139,slow=2.0,SNR=7.6									
QSPA					PKKPab	**PKKPab**	**03 53 23.8**	**+0.5**		
	comp=Z,5.5nm,1.0s,baz=268,slow=3.2,SNR=6.4									
MKAR	**Makanchi Array**	**108.99**	**22**		Pdiff	**Pdif**	**03 38 05.1**	**+4.3**		
	comp=Z,0.1nm,0.4s,baz=200,slow=38,SNR=1.9									
MKAR					PKKPbc	**PKKPbc**	**03 53 11.1**	**-2.7**		
	comp=Z,1.5nm,0.8s,baz=116,slow=5.5,SNR=5.0									
MKAR					PKKPab	**PKKPab**	**03 53 24.7**	**-2.9**		
	comp=Z,1.8nm,0.7s,baz=132,slow=4.8,SNR=6.9									
UOSS	**Minazif**	**109.80**	**54**		IAMs_20	IAMs_20	04 32 45.7			
	comp=Z,3μm,19.0s									
HEH	**HeiHe**	**109.80**	**350**		Pdif	**Pdif**	**03 38 00.9**	**-3.3**		
HEH					AMB	AMB				
	comp=Z,520nm,9.9s									
HEH					LR	LR				
	comp=Z,4μm,17.6s									
HEH					LR	LR				
	comp=Z,7μm,20.4s									
HIA	**Hailar**	**111.72**	**355**		IAMs_20	IAMs_20	04 31 21.5			
	comp=Z,6μm,20.0s									
KSH	**Kashi**	**112.43**	**30**		PKP	**PKiKP**	**03 42 15.0**	**+3.0**		
KSH					SKKS		03 49 58.9			
KSH					AMB	AMB				
	comp=Z,450nm,7.2s									
KSH					LR	LR				
	comp=Z,3μm,20.8s									
KSH					LR	LR				
	comp=Z,9μm,21.1s									
ERM	**Erimo**	**113.03**	**336**		IAMs_20	IAMs_20	04 34 25.9			
	comp=Z,5μm,21.0s									
SONM	**Songino Array**	**113.21**	**5**		PKiKP	**PKiKP**	**03 42 12.6**	**-0.7**		
	comp=Z,1.1nm,0.7s,baz=355,slow=4.9,SNR=5.2									
SONM					PKKPbc	**PKKPbc**	**03 52 58.2**	**-2.0**		
	comp=Z,1.8nm,0.6s,baz=177,slow=3.3,SNR=7.8									
ULN	**Ulaanbaatar**	**113.23**	**4**		IAMs_20	IAMs_20	04 35 13.1			
	comp=Z,4μm,19.0s									
WMQ	**Urumqi**	**113.40**	**19**	*e*	PKP	**PKiKP**	**03 42 15.3**	**+1.6**		
WMQ					LR	LR				
	comp=Z,4μm,20.9s									
WMQ					LR	LR				
	comp=Z,4μm,21.5s									
SYO	**Syowa Base**	**113.68**	**158**	⇓	*e*pPdiff	pPdif	03 38 29.0	+6.0		
SYO	**Syowa Base**	**113.68**	**158**	⇑	iPKiKP	**PKiKP**	**03 42 17.6**	**+4.4**		
NIL	**Nilore**	**115.53**	**36**		IAMs_20	IAMs_20	04 32 22.0			
	comp=Z,5μm,20.0s									
SBA	**Scott Base**	**115.73**	**191**			**PKPdf**	**03 42 17.4**	**+0.4**		
SBA	**Scott Base**	**115.73**	**191**		PKIKP	**PKPdf**	**03 42 17.4**	**+0.4**		
SBA					MLR	MLR				
	comp=Z,2μm,21.0s									
CN2	**Changchun**	**116.39**	**350**		Pdif	**Pdif**	**03 38 35.1**	**+1.4**		
CN2					PP	**PP**	**03 43 30.0**	**+5.8**		
CN2					SS	SS	03 59 30.0	+2.4		
CN2					AMB	AMB				
	comp=Z,400nm,8.0s									
CN2					LR	LR				
	comp=Z,1μm,20.0s									
CN2					LR	LR				
	comp=Z,1μm,20.0s									
CN2					LR	LR				
	comp=Z,2μm,21.0s									
VNDA	**Vanda**	**116.79**	**191**		PKP	**PKiKP**	**03 42 19.5**	**+0.5**		
	comp=Z,2.6nm,0.8s,baz=274,slow=2.7,SNR=10									
VNDA					PKKPbc	**PKKPbc**	**03 52 47.4**	**-0.6**		
	comp=Z,1.0nm,0.8s,baz=291,slow=8.4,SNR=4.7									
XLT	**XiLinHaoTe**	**117.30**	**357**	*e*	Pdif	**Pdif**	**03 38 39.4**	**+1.5**		
XLT					S	**Sdif**	**03 51 19.0**	**-1.2**		
XLT					SS	**SS**	**03 59 39.0**	**-0.6**		
XLT					AMB	AMB				
	comp=Z,390nm,9.6s									
XLT					LR	LR				
	comp=Z,4μm,21.5s									
XLT					LR	LR				
	comp=Z,4μm,21.5s									
MSVF	**Nonsavu**	**118.26**	**260**		IAMs_20	IAMs_20	04 24 28.3			
	comp=Z,4μm,20.0s									
OPO	**Ambohidratompo**	**118.38**	**101**		PKP	**PKiKP**	**03 42 24.1**	**+0.2**		
	comp=Z,3.9nm,0.6s,baz=242,slow=4.7,SNR=6.8									
ABPO	**Ambohimpanom**	**118.50**	**102**		IAMs_20	IAMs_20	04 30 02.9			
	comp=Z,3μm,20.0s									
VOI	**Vohitsoka**	**118.65**	**105**		IAMs_20	IAMs_20	04 24 58.9			
	comp=Z,4μm,22.0s									
FOMA	**Nahampoana Res**	**119.33**	**108**		IAMs_20	IAMs_20	04 25 09.7			
	comp=Z,5μm,22.0s									
MAJO	**Matsushiro**	**119.68**	**336**		IAMs_20	IAMs_20	04 37 33.7			
	comp=Z,4μm,19.0s									
MAJO	**Matsushiro**	**119.68**	**336**	⇑	iPKIKP	**PKPdf**	**03 42 25.5**	**-0.4**		
MJAR	**Matsushiro Arr**	**119.68**	**336**			**PKPdf**	**03 42 24.1**	**-1.9**		
MJAR	**Matsushiro Arr**	**119.68**	**336**		PKP	**PKPdf**	**03 42 25.3**	**-0.6**		
	comp=Z,0.9nm,0.4s,baz=49,slow=26,SNR=4.2									
MJAR					PKKPbc	**PKKPbc**	**03 52 37.0**	**0.0**		
	comp=Z,3.3nm,0.9s,baz=179,slow=3.2,SNR=5.5									
HHC	**Hu-ho-hao-te**	**120.42**	**1**	*e*	PKP	**PKiKP**	**03 42 28.3**	**+0.9**		
HHC					PP	**PP**	**03 43 55.0**	**+2.8**		
HHC					SKKS		03 50 45.3			
HHC					SS	**SS**	**04 00 20.1**	**+0.1**		
HHC					LR	LR				
	comp=Z,4μm,18.3s									
HHC					LR	LR				
	comp=Z,1μm,17.6s									
HHC					LR	LR				
	comp=Z,6μm,16.8s									
MXZ	**Matakaoa Point**	**120.44**	**237**		IAMs_20	IAMs_20	04 24 35.3			
	comp=Z,4μm,20.0s									
BTO	**Baotou**	**120.62**	**2**	*e*	PKP	**PKPdf**	**03 42 23.8**	**-3.9**		
BTO					PP	**PP**	**03 43 52.8**	**-0.8**		
BTO					SS	SS	04 00 22.1	-0.5		
BTO					AMB	AMB				
	comp=Z,240nm,4.1s									
GTA	**Gaotai**	**120.64**	**12**	*e*	PKP	**PKPdf**	**03 42 27.4**	**-0.4**		
GTA					PP	**PP**	**03 43 56.8**	**+3.0**		
GTA					AMB	AMB				
	comp=Z,230nm,9.8s									
GTA					LR	LR				
	comp=Z,2μm,18.9s									
GTA					LR	LR				
	comp=Z,8μm,18.2s									
BJI	**Beijing**	**121.15**	**357**		PKP	**PKPdf**	**03 42 28.6**	**0.0**		
BJI					PP	**PP**	**03 43 59.9**	**+2.9**		
BJI					PKS		03 46 02.8			
BJI					SKKS		03 50 53.3			
BJI					SS	**SS**	**04 00 26.8**	**-2.2**		
BJI					AMB	AMB				
	comp=Z,190nm,10.5s									
BJI					LR	LR				
	comp=Z,3μm,17.4s									
BJI					LR	LR				
	comp=Z,1μm,18.9s									
BJI					LR	LR				
	comp=Z,3μm,17.8s									
INU	**Inuyama**	**121.19**	**337**		IAMs_20	IAMs_20	04 37 43.3			
	comp=Z,3μm,20.0s									
RTZ	**Ruatahuna**	**121.50**	**236**		IAMs_20	IAMs_20	04 25 07.2			
	comp=Z,4μm,20.0s									
DL2	**Dalian**	**121.76**	**352**		PKP	**PKiKP**	**03 42 30.5**	**+0.6**		
DL2					SKKS		03 50 55.6			
DL2					SS	**SS**	**04 00 33.6**	**-3.3**		
DL2					AMB	AMB				
	comp=Z,380nm,8.8s									
DL2					LR	LR				
	comp=Z,8μm,19.7s									
BKZ	**Black Stump Fm**	**121.88**	**235**		IAMs_20	IAMs_20	04 23 42.1			
	comp=Z,3μm,21.0s									
KSRS	**Korea Array**	**122.01**	**346**		PKP	**PKPdf**	**03 42 29.7**	**-0.6**		
	comp=Z,5.0nm,0.9s,baz=29,slow=1.6,SNR=18									
KSRS					PKKPbc	**PKKPbc**	**03 52 28.0**	**-0.3**		
	comp=Z,1.8nm,0.7s,baz=201,slow=2.9,SNR=5.8									
KSAR	**Wonju Array Be**	**122.03**	**346**			**PKPdf**	**03 42 28.8**	**-1.5**		
KSAR	**Wonju Array Be**	**122.03**	**346**		PKIKP	**PKPdf**	**03 42 28.8**	**-1.5**		
MAW	**Mawson**	**122.24**	**160**		PKP	**PKPdf**	**03 42 29.4**	**-0.3**		
	comp=Z,8.6nm,0.6s,baz=140,slow=3.2,SNR=34									
INCN	**Inchon**	**122.27**	**347**		IAMs_20	IAMs_20	04 37 34.4			
	comp=Z,4μm,21.0s									
GOMU	**GeErMu**	**122.54**	**17**		PKP	**PKiKP**	**03 42 33.1**	**+1.0**		
GOMU					PP	**PP**	**03 44 09.3**	**+2.1**		
GOMU					SS	SS	04 00 51.9	+4.0		
GOMU					AMB	AMB				
	comp=Z,94nm,4.4s									
GOMU					LR	LR				
	comp=Z,3μm,19.8s									
GOMU					LR	LR				
	comp=Z,2μm,20.5s									
GOMU					LR	LR				
	comp=Z,4μm,20.7s									
MRZ	**Mangatainoka R**	**122.54**	**233**		IAMs_20	IAMs_20	04 33 24.6			
	comp=Z,3μm,18.0s									
TOZ	**Tahuroa Road**	**122.67**	**237**		IAMs_20	IAMs_20	04 25 45.2			
	comp=Z,4μm,20.0s									
SNZO	**South Karori**	**123.17**	**233**		IAMs_20	IAMs_20	04 29 01.2			
	comp=Z,3μm,21.0s									
TIY	**Taiyuan**	**123.56**	**0**	*e*	PKP	**PKiKP**	**03 42 35.4**	**+1.7**		
TIY					PP	**PP**	**03 44 21.1**	**+7.6**		
TIY					SKKS		03 51 13.5			
TIY					SS	**SS**	**04 01 02.6**	**+2.6**		
TIY					AMB	AMB				
	comp=Z,340nm,8.9s									
TIY					LR	LR				
	comp=Z,4μm,18.6s									
TIY					LR	LR				
	comp=Z,2μm,19.9s									
TIY					LR	LR				
	comp=Z,4μm,18.2s									
HNS	**HongShan**	**123.84**	**358**	⇑	PKP	**PKiKP**	**03 42 34.5**	**+0.4**		
HNS					PP	**PP**	**03 44 18.4**	**+3.1**		
HNS					SKKS		03 51 15.1			
HNS					SS	**SS**	**04 01 05.3**	**+2.0**		
HNS					LR	LR				
	comp=Z,3μm,17.6s									
HNS					LR	LR				
	comp=Z,4μm,17.0s									
HNS					LR	LR				
	comp=Z,6μm,17.8s									
MQZ	**McQueen's Vall**	**124.48**	**230**		IAMs_20	IAMs_20	04 28 33.6			
	comp=Z,3μm,19.0s									
THZ	**Tophouse**	**124.49**	**232**		IAMs_20	IAMs_20	04 30 02.9			
	comp=Z,3μm,18.0s									
LZH	**Lanzhou**	**124.56**	**9**	*e*	PKP	**PKiKP**	**03 42 37.1**	**+1.3**		
LZH					PP	**PP**	**03 44 23.4**	**+3.0**		
LZH					SKS	**SKSac**	**03 49 42.0**	**+2.8**		
LZH					SKKS	**SKKSac**	**03 51 20.8**	**0.0**		
LZH					SS	**SS**	**04 01 12.3**	**-0.5**		
LZH					AMB	AMB				
	comp=Z,260nm,4.5s									
LZH					LR	LR				
	com

DZM	**Mont Dzumac**	**129.75**	**257**	*e*LR		LR		04 23 47.8	
	comp=Z,4µm,25.6s								
HYB	**Hyderabad**	**130.66**	**45**	*e*PKPdf		**PKPdf**		**03 42 45.7**	**-1.7**
HYB				*e*PKiKP		**PKiKP**		**03 42 46.8**	**-1.4**
HYB				*e*PP		**PP**		**03 45 01.0**	**-0.5**
HYB				*e*SKSdf		**SKSdf**		**03 49 57.1**	**-2.3**
WHN	**Wuhan**	**130.69**	**358**	PKP		**PKiKP**		**03 42 48.3**	**+0.3**
WHN				SKKS				03 51 58.8	
CASY	**Casey**	**132.75**	**179**			**PKPdf**		**03 42 49.8**	**0.0**
CNSH	**ChangSha**	**133.07**	**360**	PKP		**PKPdf**		**03 42 51.8**	**+0.1**
CNSH				PP		**PP**		**03 45 18.3**	**+2.4**
CNSH				SKKS				03 52 11.4	
CNSH				SS		**SS**		**04 03 02.9**	**+5.2**
CNSH				AMB		AMB			
	comp=Z,570nm,9.6s								
CNSH				LR		LR			
	comp=Z,4µm,22.8s								
CNSH				LR		LR			
	comp=Z,3µm,19.5s								
CNSH				LR		LR			
	comp=Z,7µm,17.7s								
HNR	**Honiara**	**133.30**	**275**	IAMs_20		IAMs_20		04 41 39.4	
	comp=Z,2µm,19.0s								
PZH	**PanZhiHua**	**133.52**	**14**	PKP		**PKPdf**		**03 42 52.1**	**-0.6**
PZH				PP		**PP**		**03 45 22.9**	**+3.8**
PZH				PKS				03 46 21.3	
PZH				AMB		AMB			
	comp=Z,350nm,12.0s								
PZH				LR		LR			
	comp=Z,3µm,19.0s								
PZH				LR		LR			
	comp=Z,2µm,21.4s								
PZH				LR		LR			
	comp=Z,5µm,19.8s								
TNCH	**TengChong**	**134.10**	**18**	PKP		**PKiKP**		**03 42 55.0**	**-0.3**
TNCH				PP		**PP**		**03 45 24.3**	**+1.4**
TNCH				SS		SS		04 03 10.9	-0.1
TNCH				AMB		AMB			
	comp=Z,440nm,8.7s								
TNCH				LR		LR			
	comp=Z,2µm,19.5s								
TNCH				LR		LR			
	comp=Z,2µm,18.5s								
TNCH				LR		LR			
	comp=Z,5µm,20.3s								
GYA	**Guiyang**	**134.41**	**8**	⇓PKP		**PKPdf**		**03 42 54.3**	**-0.1**
GYA				PP		**PP**		**03 45 23.5**	**-1.2**
GYA				PKS				03 46 27.3	
GYA				SKKS				03 52 19.9	
GYA				AMB		AMB			
	comp=Z,180nm,8.6s								
GYA				LR		LR			
	comp=Z,1µm,21.2s								
GYA				LR		LR			
	comp=Z,2µm,22.1s								
GYA				LR		LR			
	comp=Z,3µm,21.4s								
GUMO	**Guam**	**134.64**	**313**	IAMs_20		IAMs_20		04 45 32.1	
	comp=Z,3µm,21.0s								
KMI	**Kunming**	**135.07**	**13**	PKP		**PKPdf**		**03 42 55.5**	**-0.3**
KMI				AMB		AMB			
	comp=Z,310nm,8.8s								
KMI				LR		LR			
	comp=Z,4µm,21.2s								
KMI				LR		LR			
	comp=Z,2µm,18.2s								
KMI				LR		LR			
	comp=Z,4µm,16.3s								
GULI	**GuiLin**	**135.89**	**3**	PKP		**PKiKP**		**03 42 59.0**	**+0.4**
GULI				PP		**PP**		**03 45 36.8**	**+3.0**
GULI				SKKS				03 52 28.8	
GULI				SS		**SS**		**04 03 32.6**	**+0.9**
GULI				LR		LR			
	comp=Z,3µm,19.5s								
GULI				LR		LR			
	comp=Z,3µm,19.6s								
GULI				LR		LR			
	comp=Z,5µm,20.3s								
QZH	**Quanzhou**	**135.91**	**352**	*e*PKP		**PKPdf**		**03 42 55.3**	**-1.8**
QZH				PP		**PP**		**03 45 36.3**	**+2.3**
QZH				PKS				03 46 26.4	
QZH				SKKS				03 52 26.6	
QZH				SS		**SS**		**04 03 32.3**	**+0.3**
QZH				LR		LR			
	comp=Z,1µm,16.8s								
QZH				LR		LR			
	comp=Z,4µm,16.8s								
QZH				LR		LR			
	comp=Z,3µm,17.3s								
KNMB	**Chin-men Tao**	**136.41**	**352**	IAMs_20		IAMs_20		04 55 48.3	
	comp=Z,3µm,18.0s								
YULB	**Yu-li**	**137.00**	**348**	IAMs_20		IAMs_20		04 46 37.2	
	comp=Z,4µm,21.0s								
PALK	**Pallekele**	**139.08**	**53**	IAMs_20		IAMs_20		04 55 16.5	
	comp=Z,4µm,19.0s								
PALK	**Pallekele**	**139.08**	**53**	PKP		**PKPdf**		**03 43 03.2**	**0.0**
PALK				PKP		sPKPdf		03 43 17.6	+12
CHTO	**Chiang Mai**	**140.06**	**20**	PKP		**PKPdf**		**03 43 04.5**	**-0.3**
CHTO				PKP		**pPKPdf**		**03 43 05.7**	**-1.4**
CMAR	**Chiang Mai Arr**	**140.39**	**21**			**PKPdf**		**03 43 04.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**140.39**	**21**	PKP		**PKPdf**		**03 43 05.1**	**-0.3**
	comp=Z,12nm,0.8s,baz=307,slow=2.4,SNR=41								
CMAR				SKPbc		**SKPbc**		**03 46 40.9**	**-1.0**
	comp=Z,17nm,1.1s,baz=321,slow=4.2,SNR=6.9								
QIZ	**Qiongzhong**	**142.08**	**4**	PKP		**PKPdf**		**03 43 02.0**	**-6.5**
QIZ				PP		**PP**		**03 46 15.1**	**+3.0**
QIZ				SS		SS		04 04 49.3	+4.5
QIZ				LR		LR			
	comp=Z,3µm,22.6s								
QIZ				LR		LR			
	comp=Z,1µm,18.6s								
QIZ				LR		LR			
	comp=Z,5µm,21.6s								
CAN	**Canberra**	**144.06**	**236**	IAMs_20		IAMs_20		04 39 43.5	
	comp=Z,2µm,21.0s								
PMG	**Port Moresby**	**145.27**	**281**	IAMs_20		IAMs_20		04 52 15.2	
	comp=Z,2µm,20.0s								
PMG	**Port Moresby**	**145.27**	**281**	PKPbc		**PKPbc**		**03 43 13.6**	**-0.2**
	comp=Z,50nm,1.0s,baz=40,slow=4.8,SNR=8.2								
CTAO	**Charters Tower**	**148.35**	**262**			**PKPdf**		**03 43 18.8**	**-0.4**
CTAO	**Charters Tower**	**148.35**	**262**	IAMs_20		IAMs_20		04 38 45.6	
	comp=Z,3µm,22.0s								
CTAO	**Charters Tower**	**148.35**	**262**	PKIKP		**PKPdf**		**03 43 18.8**	**-0.4**
DLV	**Lat**	**148.95**	**8**	IAMs_20		IAMs_20		04 54 20.9	
	comp=Z,3µm,20.0s								
STKA	**Stephens Creek**	**151.00**	**238**	PKP		**PKPdf**		**03 43 22.6**	**-0.5**
	comp=Z,17nm,0.9s,baz=99,slow=1.9,SNR=28								
STKA				PKPbc		**PKPbc**		**03 43 28.7**	**-0.1**
	comp=Z,17nm,0.9s,baz=92,slow=2.3,SNR=33								
DAV	**Davao City (W)**	**151.11**	**333**	IAMs_20		IAMs_20		04 58 04.6	
	comp=Z,3µm,21.0s								
LHMI	**Lhok Sumawe**	**151.36**	**34**	IAMs_20		IAMs_20		04 57 46.7	
	comp=Z,2µm,20.0s								
KULM	**Kulim**	**153.10**	**27**	PKPdf		**PKPdf**		**03 43 25.5**	**-1.2**
KULM				IAMs_20		IAMs_20		05 01 27.1	
	comp=Z,3µm,20.0s								
FAKI	**Fak Fak**	**155.02**	**308**	IAMs_20		IAMs_20		04 54 20.3	
	comp=Z,3µm,19.0s								
MYLDM	**Lahad Datu**	**155.26**	**346**	PKPdf		**PKPdf**		**03 43 27.7**	**-2.1**
BKNI	**Bangkinang**	**157.64**	**32**	PKP		**PKPdf**		**03 43 28.3**	**-4.6**
TOLI2	**Tolitoli**	**158.45**	**337**	IAMs_20		IAMs_20		05 09 48.7	
	comp=Z,2µm,22.0s								
SANI	**Sanana**	**158.66**	**321**	PKP		**PKPdf**		**03 43 31.9**	**-2.2**
WRA	**Warramunga Arr**	**159.53**	**264**			**PKPdf**		**03 43 33.1**	**-1.8**
WRA	**Warramunga Arr**	**159.53**	**264**	PKP		**PKPdf**		**03 43 34.3**	**-0.6**
	comp=Z,13nm,0.8s,baz=72,slow=1.0,SNR=66								
LUWI	**Luwuk**	**159.56**	**330**	PKP		**PKPdf**		**03 43 31.9**	**-3.3**
LUWI	**Luwuk**	**159.56**	**330**	IAMs_20		IAMs_20		05 11 28.0	
	comp=Z,2µm,21.0s								
ASAR	**Alice Springs**	**159.68**	**253**			**PKPdf**		**03 43 33.0**	**-2.1**
ASAR	**Alice Springs**	**159.68**	**253**	PKP		**PKPdf**		**03 43 33.6**	**-1.4**
	comp=Z,14nm,1.0s,baz=105,slow=1.3,SNR=47								
ASAR				PKPab		**PKPab**		**03 44 13.9**	**+0.2**
	comp=Z,12nm,0.7s,baz=98,slow=3.4,SNR=3.8								
FORT	**Forrest**	**161.80**	**227**			**PKPdf**		**03 43 35.7**	**-1.4**
SOEI	**Soe**	**165.46**	**308**	PKP		**PKPdf**		**03 43 39.7**	**-1.4**
NWAO	**Narrogin (SRO)**	**165.56**	**196**	PKPab		**PKPab**		**03 44 38.1**	**-0.7**
	comp=Z,10nm,0.8s,baz=170,slow=5.1,SNR=1.8								
FITZ	**Fitzroy Crossi**	**167.65**	**272**	PKP		**PKPdf**		**03 43 41.9**	**-0.7**
	comp=Z,9.1nm,1.0s,baz=96,slow=1.3,SNR=6.5								
FITZ				pPKPab		**sPKPab**		**03 44 54.1**	**+2.6**
	comp=Z,15nm,0.9s,baz=155,slow=5.5,SNR=5.5								
PSA00	**Pilbara Seismi**	**172.79**	**248**			**PKPdf**		**03 43 43.9**	**-1.5**

*SNET **24** 03:27:50.0±0.7, 12.°89N×88.°92W, h35km±51km, ML3.4*
*CATAC **24** 03:27:50.1±0.7, 13.°N±4.°×8.°9W±.°, h31km±6km, M3.2/12, MLv3.2/12, Error ellipse: s-maj=9.0km s-min=4.6km az=17.9, confirmed*
*GCG **24** 03:27:51.3±0.3, 12.°94N×89.°02W, h54km±13km, MD3.6*
ISC 24 03:27:49.7±2.1**, 12.°8N**±0.°1×**88.°92W**±0.°05**, h55**km**, n48,**
σ0ˢ**47**/52**, 3C-2D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.70**	**11**	⇓*e*P			**Pn**	**03 28 03.4**	**-0.3**
TECO				*e*S			**Sn**	**03 28 13.2**	**-0.7**
TECO	**Alcaldia de Te**	**0.70**	**11**	P			**Pn**	**03 28 03.9**	**+0.1**
LFRS	**El Faro**	**0.79**	**350**	*e*P			**Pn**	**03 28 04.7**	**-0.2**
UESV	**Universidad de**	**0.80**	**9**	P			**Pn**	**03 28 04.7**	**-0.2**
UESV	**Universidad de**	**0.80**	**9**	S			**Sn**	**03 28 15.9**	**-0.3**
LOMA	**Loma Larga**	**0.83**	**343**	*e*P			**Pn**	**03 28 05.3**	**-0.2**
LOMA	**Loma Larga**	**0.83**	**343**	P			**Pn**	**03 28 05.6**	**+0.1**
LOMA	**Loma Larga**	**0.83**	**343**	S			**Sn**	**03 28 16.2**	**-0.9**
PACA	**Pacayal**	**0.85**	**43**	*e*P			**Pn**	**03 28 06.1**	**+0.4**
PACA	**Pacayal**	**0.85**	**43**	P			**Pn**	**03 28 06.5**	**+0.7**
PACA	**Pacayal**	**0.85**	**43**	S			**Sn**	**03 28 17.3**	**-0.2**
PAVA	**Las Pavas**	**0.86**	**359**	*e*P			**Pn**	**03 28 06.0**	**+0.1**
PAVA	**Las Pavas**	**0.86**	**359**	P			**Pn**	**03 28 06.2**	**+0.3**
PAVA	**Las Pavas**	**0.86**	**359**	S			**Sn**	**03 28 17.9**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.87**	**12**	*e*P			**Pn**	**03 28 06.3**	**+0.4**
SCLA	**Alcaldia de Sa**	**0.87**	**12**	P			**Pn**	**03 28 05.8**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.87**	**12**	S			**Sn**	**03 28 18.0**	**+0.2**
BLLM	**Bellamira**	**0.89**	**48**	*e*P			**Pn**	**03 28 06.8**	**+0.6**
PMON	**Piamonte**	**0.94**	**336**	*e*P			**Pn**	**03 28 06.9**	**0.0**
PMON	**Piamonte**	**0.94**	**336**	P			**Pn**	**03 28 06.5**	**-0.5**
PMON	**Piamonte**	**0.94**	**336**	S			**Sn**	**03 28 18.9**	**-0.8**
BOQS	**Boqueron**	**0.95**	**338**	*e*P			**Pn**	**03 28 07.4**	**+0.3**
BOQS				*e*S			**Sn**	**03 28 20.3**	**+0.3**
PIC2	**El Picacho**	**0.95**	**340**	*e*P			**Pn**	**03 28 07.5**	**+0.3**
JAYA	**Jayaque - finc**	**0.96**	**327**	⇓*i*P			**Pn**	**03 28 06.9**	**-0.2**
JAYA	**Jayaque - finc**	**0.96**	**327**	*e*P			**Pn**	**03 28 06.8**	**-0.3**
JAYA				*e*S			**Sn**	**03 28 18.8**	**-1.2**
JAYA	**Jayaque - finc**	**0.96**	**327**	P			**Pn**	**03 28 06.7**	**-0.5**
LCND	**La Caada**	**1.10**	**65**	*e*P			**Pn**	**03 28 09.2**	**+0.3**
LCND	**La Caada**	**1.10**	**65**	S			**Sn**	**03 28 22.7**	**-0.5**
LCND	**La Caada**	**1.10**	**65**	P			**Pn**	**03 28 08.9**	**0.0**
CNCH	**Conchagua**	**1.14**	**68**	*e*P			**Pn**	**03 28 09.7**	**+0.1**
CNCH	**Conchagua**	**1.14**	**68**	P			**Pn**	**03 28 09.3**	**-0.2**
CEVE	**Cerro Verde**	**1.20**	**325**	S			**Sn**	**03 28 26.2**	**+0.4**
CEVE	**Cerro Verde**	**1.20**	**325**	P			**Pn**	**03 28 10.6**	**+0.2**
SBLS	**San Blas**	**1.20**	**325**	*e*P			**Pn**	**03 28 11.1**	**+0.6**
SNJE	**San Jose**	**1.22**	**327**	*e*P			**Pn**	**03 28 10.9**	**+0.3**
RTR	**El Retiro**	**1.26**	**326**	*e*P			**Pn**	**03 28 12.1**	**+0.8**
UNIC	**Universidad Ca**	**1.29**	**332**	P			**Pn**	**03 28 11.9**	**+0.4**
UNIC	**Universidad Ca**	**1.29**	**332**	S			**Sn**	**03 28 27.5**	**-0.3**
LLGN	**La Laguna**	**1.31**	**359**	P			**Pn**	**03 28 11.6**	**-0.2**
LLGN	**La Laguna**	**1.31**	**359**	S			**Sn**	**03 28 28.8**	**+0.4**
NUBE	**Las Nubes**	**1.34**	**322**	*e*P			**Pn**	**03 28 12.5**	**+0.2**
NUBE	**Las Nubes**	**1.34**	**322**	*e*P			**Pn**	**03 28 12.5**	**+0.2**
NUBE				*e*S			**Sn**	**03 28 29.2**	**-0.1**
NUBE	**Las Nubes**	**1.34**	**322**	P			**Pn**	**03 28 12.7**	**+0.4**
FAME	**Alcaldia de Sa**	**1.46**	**313**	S			**Sn**	**03 28 32.9**	**+1.1**
FAME	**Alcaldia de Sa**	**1.46**	**313**	P			**Pn**	**03 28 13.2**	**-0.5**
RBDL	**Robledal**	**1.47**	**329**	*e*P			**Pn**	**03 28 14.8**	**+0.8**
MTO3	**Montecristo**	**1.60**	**344**	*e*P			**Pn**	**03 28 16.6**	**+0.7**
MTO3	**Montecristo**	**1.60**	**344**	P			**Pn**	**03 28 15.8**	**-0.2**

*NEIC **24** 03:31:48.1±1.5, 18.°91N±0.°04×67.°15W±0.°04, h10km±2km, ML3.8/21, Error ellipse: s-maj=7.7km s-min=5.6km az=212.0*
*RSPR **24** 03:31:54.3, 19.°19N×67.°17W, h10km±31km*
ISC 24 03:31:51.1±1.5**, 19.°16N**±0.°08×**67.°30W**±0.°04**, h10**km**, n41,**
σ0ˢ**85**/29**, 15C-1D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.71**	**166**	*e*P			**Pb**	**03 32 05.9**	**+0.3**
AGPR	**Aguadilla, PR**	**0.71**	**166**	*e*S			**Sn**	**03 32 18.1**	**-0.2**
IDE	**Isla Desecheo**	**0.79**	**192**	⇓*e*P			**Pb**	**03 32 07.3**	**+0.3**
IDE	**Isla Desecheo**	**0.79**	**192**	*e*S			**Sb**	**03 32 18.4**	**+0.7**
PRSN	**Puerto Rico Se**	**0.95**	**171**	⇑*e*P			**Pg**	**03 32 09.2**	**-0.3**
PRSN	**Puerto Rico Se**	**0.95**	**171**	*e*S			**Sn**	**03 32 23.7**	**-0.5**
AOPR	**Arecibo Observ**	**0.96**	**148**	Pg			Pg	03 32 01.2	-8.4
AOPR				Sg			Sg	03 32 10.0	-12
AOPR				IAML				03 32 25.4	
	comp=N,2µm,0.5s								
AOPR	**Arecibo Observ**	**0.96**	**148**	⇑*e*P			**Pb**	**03 32 09.9**	**+0.1**
EMPR	**Esperanza - Ma**	**1.00**	**133**				Pg	03 32 04.2	-6.1
EMPR					Sg		Sg	03 32 11.3	-12
EMPR	**Esperanza - Ma**	**1.00**	**133**	⇑*e*P			**Pn**	**03 32 10.9**	**-0.3**
EMPR	**Esperanza - Ma**	**1.00**	**133**	*e*S			**Sn**	**03 32 27.7**	**+2.4**
LSP	**Las Mesas**	**1.00**	**168**	⇑*e*P			**Pb**	**03 32 10.4**	**-0.2**
LSP	**Las Mesas**	**1.00**	**168**	*e*S			**Sb**	**03 32 24.5**	**+0.7**
UUPR	**Utuado, UPR, P**	**1.06**	**149**	Pg			Pg	03 32 02.0	-9.5
UUPR				Sg			Sg	03 32 12.5	-13
UUPR	**Utuado, UPR, P**	**1.06**	**149**	⇑*e*P			**Pn**	**03 32 12.6**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.17**	**171**	Pg			Pb	03 32 06.6	-6.7
CRPR				IAML				03 32 29.4	
	comp=E,2µm,0.3s								
CRPR				IAML				03 32 29.9	
	comp=N,2µm,0.4s								
CRPR	**Cabo Rojo, PR**	**1.17**	**171**	⇑*e*P			**Pb**	**03 32 13.1**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.17**	**171**	*e*S			**Sn**	**03 32 29.0**	**-0.4**
MLPR	**Magueyes Islan**	**1.21**	**169**	⇑*e*P			**Pn**	**03 32 13.4**	**-0.7**
MLPR	**Magueyes Islan**	**1.21**	**169**	*e*S			**Sn**	**03 32 30.5**	**0.0**
ECPR	**Experimental S**	**1.22**	**133**	⇑*e*P			**Pg**	**03 32 14.5**	**0.0**
GBPR	**Guanica, Bosqu**	**1.25**	**161**	⇑*e*P			**Pg**	**03 32 15.2**	**+0.1**
CELP	**Cerrillos**	**1.28**	**148**	Pg			Pn	03 32 08.2	-6.8
CELP				IAML				03 32 30.4	
	comp=E,993nm,3.4s								
CELP				IAML				03 32 35.2	
	comp=N,1µm,0.7s								
CELP	**Cerrillos**	**1.28**	**148**	⇑*e*P			**Pn**	**03 32 14.7**	**-0.3**
CELP	**Cerrillos**	**1.28**	**148**	*e*S			**Sb**	**03 32 29.9**	**-1.9**
OBIP	**Obispado Ponce**	**1.29**	**149**	Pg			Pn	03 32 08.7	-6.5
OBIP				IAML				03 32 34.0	
	comp=N,913nm,0.9s								
OBIP	**Obispado Ponce**	**1.29**	**149**	⇑*e*P			**Pb**	**03 32 15.1**	**-0.4**
GCPR	**Guaynabo City**	**1.43**	**126**	Pn			Pn	03 32 09.3	-7.8
HIDR	**Higuey Centro**	**1.46**	**247**	⇑*e*P			**Pb**	**03 32 18.8**	**+0.4**
HIDR	**Higuey Centro**	**1.46**	**247**	*e*S			**Sg**	**03 32 38.6**	**+0.5**
SJG	**San Juan**	**1.51**	**134**	Pn			Pn	03 32 11.7	-6.5
SJG				IAML				03 32 19.3	
	comp=N,670nm,4.6s								
SJG	**San Juan**	**1.51**	**134**	⇑*e*P			**Pn**	**03 32 18.3**	**+0.1**
PDPR	**Patillas Dam,**	**1.66**	**133**	Pn			Pn	03 32 14.4	-5.9
PDPR				IAML				03 32 41.9	
	comp=N,597nm,4.2s								
MIDR	**Miches**	**1.67**	**264**	⇑*e*P			**Pn**	**03 32 21.3**	**+1.0**
MIDR	**Miches**	**1.67**	**264**	*e*S			**Sg**	**03 32 45.8**	**+1.0**
SDD	**Santo Domingo**	**2.58**	**255**	Pn			**Pn**	**03 32 32.1**	**-0.8**
SDD				IAML				03 34 06.5	
	comp=E,3µm,1.3s								
SDD				IAML				03 34 09.8	
	comp=N,3µm,1.1s								
SC01	**Santiago de lo**	**3.25**	**275**	Pn			**Pn**	**03 32 40.9**	**-1.3**
SDDR	**Presa de Saban**	**3.78**	**268**	Pn			**Pn**	**03 32 48.1**	**-1.4**
SEUS	**St. Eustatius**	**4.42**	**111**	Pn			Pn	03 32 52.5	-5.7
SEUS				IAML				03 34 53.8	
	comp=E,2µm,1.0s								
ABD	**La Joyeuse, An**	**6.14**	**115**	Pn			Pn	03 33 14.1	-7.9
BAUV	**El Baul**	**10.19**	**184**	Pn			Pn	03 34 10.3	-7.2

*IDC **24** 03:32:35.8±0.5, 18.°84N×67.°18W, h0km, mb4.4/17, mbtmp4.4/19, ML4.2/2, Error ellipse: s-maj=15.5km s-min=12.3km az=56.0*
*SDD **24** 03:32:38.0±1.6, 19.°15N×67.°15W, h0km±6km, MD3.1, ML4.6, MW4.7*
*NEIC **24** 03:32:39.1±2.0, 18.°99N±0.°03×67.°21W±0.°04, h10km±1km, mb5.0/55, ML4.9/21, Mww4.8/10, ML5.1/19(RSPR), Error ellipse: s-maj=6.2km s-min=5.4km az=238.0*
*OSPL **24** 03:32:40.8±1.6, 19.°07N×67.°12W, h9km±11km, ML4.7*
*RSPR **24** 03:32:41.2, 19.°02N×67.°21W, h5km±31km*
*NEIC **24** 03:32:41.2, 19.°02N×67.°21W, h12km*
*NEIC **24** 03:32:41.2, 18.°92N×66.°89W, h12km, Moment Tensor Solution. Duration: 1ˢ2 Moment tensor: Scale 10^16^Nm; Mrr=0.84; Mθθ=0.65; Mφφ=1.49; Mrθ=-0.47; Mφr=0.54; Mθφ=-1.44; Fault plane solution: M0 2.07000×10^16^ NP1: φs=178.74000°, δ=20.57000°, λ=-110.30000°. NP2: φs=20.30000°, δ=70.76000°, λ=-82.58000°. Principal axes: T 2.3388, Plg=25.0000°, Azm=104.0000°; N -0.7660, Plg=7.0000°, Azm=198.0000°; P -1.5728, Plg=64.0000°, Azm=302.0000°;*

ISC 24 03:32:39.0±0.9**, 18.°97N**±0.°03×**67.°21W**±0.°02**, h17**km±5km**,**
n189, σ1ˢ**42**/218**, mb4.9**/43**, 19C-2D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.51**	**169**	⇓*e*P			**Pn**	**03 32 51.4**	**-0.1**
AGPR	**Aguadilla, PR**	**0.51**	**169**	*e*S			**Sn**	**03 33 00.1**	**+0.2**
AGPR	**Aguadilla, PR**	**0.51**	**169**	*e*Pg			**Pn**	**03 32 51.1**	**-0.5**
AGPR				*i*S			**Sb**	**03 32 58.6**	**+1.9**
AGPR				IAML				03 33 06.4	
	comp=N,56µm,0.8s								
AGPR	**Aguadilla, PR**	**0.51**	**169**	*i*P			**Pn**	**03 32 51.4**	**-0.1**
AGPR				*e*S			**Sn**	**03 33 00.4**	**+0.5**
AGPR				IAML				03 33 07.0	
	comp=Z,27µm,0.8s								
PRSN	**Puerto Rico Se**	**0.75**	**175**	Pg			Pn	03 32 54.9	0.0
PRSN				Sg			Sg	03 33 01.5	-2.3
PRSN	**Puerto Rico Se**	**0.75**	**175**	⇑*e*P			**Pn**	**03 32 55.2**	**+0.3**
PRSN	**Puerto Rico Se**	**0.75**	**175**	*e*S			**Sn**	**03 33 08.2**	**+2.3**
PRSN	**Puerto Rico Se**	**0.75**	**175**	*e*Pg			**Pn**	**03 32 55.3**	**+0.4**
PRSN				*i*S			**Sn**	**03 33 07.0**	**+1.1**
PRSN				IAML				03 33 14.0	
	comp=N,61µm,0.3s								
AOPR	**Arecibo Observ**	**0.76**	**145**	Pg			**Pb**	**03 32 54.0**	**+0.2**
AOPR				Sg			**Sb**	**03 33 04.3**	**+0.4**
AOPR				IAML				03 33 19.3	
	comp=N,52µm,0.4s								
AOPR	**Arecibo Observ**	**0.76**	**145**	⇑*e*P			**Pn**	**03 32 54.8**	**-0.2**
AOPR	**Arecibo Observ**	**0.76**	**145**	*e*S			**Sn**	**03 33 06.0**	**-0.1**
AOPR	**Arecibo Observ**	**0.76**	**145**	*e*P			**Pn**	**03 32 54.9**	**-0.2**
AOPR	**Arecibo Observ**	**0.76**	**145**	*e*Pg			**Pn**	**03 32 54.6**	**-0.4**
AOPR				IAML				03 33 08.7	
	comp=N,40µm,0.3s								
LSP	**Las Mesas**	**0.80**	**171**	⇑*e*P			**Pn**	**03 32 56.0**	**+0.4**
EMPR	**Esperanza - Ma**	**0.81**	**127**	Pg			**Pn**	**03 32 55.4**	**-0.3**
EMPR				Sg			**Sb**	**03 33 06.1**	**+0.8**
EMPR	**Esperanza - Ma**	**0.81**	**127**	⇑*e*P			**Pn**	**03 32 56.6**	**+0.9**
EMPR	**Esperanza - Ma**	**0.81**	**127**	*e*S			**Sn**	**03 33 10.2**	**+2.8**
UUPR	**Utuado, UPR, P**	**0.85**	**147**	Pg			**Pn**	**03 32 56.0**	**-0.3**
UUPR	**Utuado, UPR, P**	**0.85**	**147**	⇑*e*P			**Pn**	**03 32 57.2**	**+1.0**
CRPR	**Cabo Rojo, PR**	**0.96**	**174**	Pg			**Pn**	**03 32 58.3**	**+0.5**
CRPR				Sg			**Sn**	**03 33 11.9**	**+0.8**
CRPR				IAML				03 33 16.5	
	comp=N,19µm,0.3s								
CRPR				IAML				03 33 21.4	
	comp=E,18µm,0.6s								
CRPR	**Cabo Rojo, PR**	**0.96**	**174**	⇑*e*P			**Pn**	**03 32 58.5**	**+0.7**
CRPR	**Cabo Rojo, PR**	**0.96**	**174**	*e*S			**Sn**	**03 33 13.9**	**+2.8**
CRPR	**Cabo Rojo, PR**	**0.96**	**174**	*e*Pg			**Pn**	**03 32 58.8**	**+1.0**
CRPR				*e*Sg			**Sn**	**03 33 13.3**	**+2.2**
CRPR				IAML				03 33 15.1	
	comp=N,21µm,0.6s								
CRPR	**Cabo Rojo, PR**	**0.96**	**174**	*i*P			**Pn**	**03 32 58.5**	**+0.7**
CRPR				*e*S			**Sn**	**03 33 12.5**	**+1.4**
CRPR				IAML				03 33 15.0	
	comp=Z,18µm,0.8s								
MLPR	**Magueyes Islan**	**1.01

SKI	Saint Kitts	4.55	110	*e*P		Pn	03 33 48.9	+1.7
ANWB	Willy Bob	5.31	103	*e*P		Pn	03 33 56.7	-1.0
DHSZ	Broadband at M	5.84	116	*e*P		Pn	03 34 06.6	+1.7
GDHS	Morne Mazeau,	5.84	116	Pn		Pn	03 34 04.2	-0.9
ATGZ	Broadband at L	5.96	118	*e*P		Pn	03 34 08.6	+2.1
ABD	La Joyeuse, An	5.99	114	Pn		Pn	03 34 09.1	+2.1
MMLZ	Guadeloupe Bro	6.04	118	*e*P		Pn	03 34 11.8	+4.3
CBE	Ff, Capester	6.08	117	Pn		Pn	03 34 10.7	+2.6
TBG	Guadaloupe-3	6.15	119	*e*P		Pn	03 34 12.1	+2.9
MAGL	Barre de l'ile	6.41	117	Pn		Pn	03 34 13.8	+1.1
DSDZ	La Diserade, G	6.43	113	*e*P		Pn	03 34 14.7	+1.8
GDSD	La Dsirade Is	6.43	113	Pn		Pn	03 34 14.0	+1.0
DSLB	Salisbury	6.55	122	*e*P		Pn	03 34 18.0	+3.3
ILAM	Ilet Lapin Mar	7.36	124	Pn		Pn	03 34 26.5	+0.7
MPOM	Morne Pois Mar	7.57	126	Pn		Pn	03 34 31.3	+2.6
PCRV	Puerto La Cruz	9.09	164	Pn		Pn	03 34 51.7	+2.1
	comp=N,14nm,0.3s,baz=292,slow=1.6,SNR=12							
PCRV				Sn		Sn	03 36 31.8	+0.2
	comp=N,8.6nm,0.3s,baz=277,slow=16,SNR=3.7							
BBGH	Gun Hill	9.36	127	Pn		Pn	03 34 54.2	+0.9
MTDJ	Mount Denham	9.82	267	Pn		Pn	03 34 59.7	+0.1
BAUV	El Baul	10.00	185	Pn		Pn	03 35 03.2	+1.2
SDV	Santo Domingo	10.56	199	Pn		Pn	03 35 09.8	-0.1
SDV	Santo Domingo	10.56	199	Pn		Pn	03 35 12.8	+2.9
	comp=N,3.8nm,0.3s,baz=15,slow=19,SNR=1.7							
SDV				Sn		Sn	03 37 09.5	+1.6
	comp=N,5.7nm,0.3s,baz=328,slow=15,SNR=2.6							
BBSR	BB Station	13.53	9	Pn		Pn	03 35 48.1	-2.2
RUSC	La Rusia	14.20	205	Pn		Pn	03 35 59.1	-0.9
061Z	Ochoppi	14.40	301	Pn		Pn	03 35 59.3	-2.8
060A	Indiantown	14.52	306	Pn		Pn	03 36 01.2	-2.6
ROSC	El Rosal	15.67	207	Pn		Pn	03 36 19.9	+0.4
	comp=N,9.9nm,0.3s,baz=135,slow=22,SNR=7.6							
ROSC				Sn		Sn	03 39 14.6	+1.6
	comp=N,1.1nm,0.3s,baz=266,slow=16,SNR=1.5							
DWPF	Disney Wildern	15.89	308	Pn		Pn	03 36 18.7	-3.2
656A	Willston	17.38	309	Pn		Pn	03 36 39.6	-1.2
456A	Hilliard	17.80	314	Pn		Pn	03 36 45.1	-0.9
Y60A	Bolivia	17.90	329	Pn		Pn	03 36 46.3	-0.9
CSU	Charleston Sou	18.10	323			P	03 36 50.4	+0.4
NHSC	New Hope	18.25	323			P	03 36 52.6	+1.0
Y58A	Scranton	18.56	326			Pn	03 36 56.5	+1.1
Y58A				IAmb		IAmb	03 37 01.7	
	comp=Z,97nm,0.9s							
V61A	Roper	18.69	336	P		Pn	03 36 57.5	+0.7
V61A				IAmb		IAmb	03 37 02.2	
	comp=Z,118nm,1.1s							
JTS	Las Juntas de	19.20	246	P		P	03 37 02.0	-0.3
	comp=Z,0.5nm,0.3s,baz=52,slow=15,SNR=2.2							
	comp=Z,2.5nm,0.6s							
553A	Crawfordville	19.21	309	P		Pn	03 37 04.3	+1.1
553A				IAmb		IAmb	03 37 04.7	
	comp=Z,213nm,1.8s							
BIRD	Birdtown, Kers	19.55	326	P		P	03 37 06.2	+0.2
MDP	Montagnes des	19.80	132	P		P	03 37 08.7	-0.1
	comp=Z,1.0nm,0.3s,baz=318,slow=18,SNR=1.5							
MDP				S		S	03 40 46.9	-4.6
	comp=Z,6.9nm,0.6s,baz=270,slow=14,SNR=1.9							
	comp=Z,17nm,0.9s							
CCIG	Comitan	23.90	267	P		P	03 37 52.2	-0.1
CCIG				IAmb		IAmb	03 38 00.9	
	comp=Z,27nm,0.8s							
MAL2	Monte Alegre,	24.48	147	P		P	03 37 58.2	+0.8
ABTX	Abilene, Hawle	32.07	302	P		P	03 39 05.2	0.0
ABTX				IAmb		IAmb	03 39 19.6	
	comp=Z,25nm,1.1s							
NNA	Nana	32.20	198	P		P	03 39 06.7	+0.3
MNHN	Monahans	34.30	298	P		P	03 39 25.0	+0.2
ODSA	Odessa	34.30	299	P		P	03 39 25.4	+0.6
ODSA				IAmb		IAmb	03 40 00.5	
	comp=Z,18nm,0.8s							
TXAR	Lajitas Array	34.70	294	P		P	03 39 28.8	+0.5
TXAR	Lajitas Array	34.70	294	P		P	03 39 29.0	+0.7
	comp=Z,4.0nm,0.7s,baz=112,slow=9.2,SNR=4.6							
TXAR				PcP		PcP	03 42 01.9	-0.2
	comp=Z,1.1nm,0.8s,baz=104,slow=2.4,SNR=2.6							
TXAR				ScP		ScP	03 45 46.1	-0.8
	comp=Z,5.6nm,0.8s,baz=119,slow=5.9,SNR=19							
	comp=Z,4.0nm,0.7s							
TX31	Lajitas Ar. Si	34.70	294	P		P	03 39 29.1	+0.8
TX31				IAmb		IAmb	03 40 13.2	
	comp=Z,61nm,1.9s							
ALPN	Alpine	34.85	296	P		P	03 39 30.1	+0.4
ALPN				IAmb		IAmb	03 39 56.1	
	comp=Z,36nm,1.4s							
LPAZ	La Paz	35.05	182	P		P	03 39 31.6	-0.3
LPAZ	La Paz	35.05	182	P		P	03 39 30.2	-1.7
	comp=Z,5.0nm,0.7s,baz=330,slow=6.0,SNR=7.3							
	comp=Z,5.0nm,0.7s							
VHRN	Van Horn	36.07	296	P		P	03 39 40.6	+0.5
VHRN				IAmb		IAmb	03 39 51.5	
	comp=Z,21nm,1.2s							
PB18	Visviri	36.40	184	P		P	03 39 42.2	-1.1
PB16	IPOC Station P	37.14	184	P		P	03 39 47.7	-2.0
PB16				IAmb		IAmb	03 41 12.7	
	comp=Z,67nm,1.7s							
GO01	Chusmiza	38.45	183	P		P	03 39 58.3	-2.4
GO01				IAmb		IAmb	03 40 10.5	
	comp=Z,24nm,0.7s							
PB11	IPOC Station P	38.57	184	P		P	03 39 58.9	-2.4
PB11				IAmb		IAmb	03 40 01.1	
	comp=Z,30nm,0.8s							
BDFB	Brasilia	39.24	150	P		P	03 40 06.2	-0.7
BDFB				IAmb		IAmb	03 41 25.1	
	comp=Z,67nm,1.3s							
BDFB	Brasilia	39.24	150	P		P	03 40 06.0	-1.0
	comp=Z,21nm,0.9s,baz=333,slow=15,SNR=4.8							
	comp=Z,21nm,0.9s							
PB01	IPOC Station P	39.83	183	P		P	03 40 09.8	-2.0
PB01				IAmb		IAmb	03 40 10.2	
	comp=Z,33nm,0.8s							
AQDB	Aquidauana	40.79	163	P		P	03 40 19.0	-0.7
AQDB				IAmb		IAmb	03 40 22.9	
	comp=Z,37nm,0.8s							
PV18	Skein Mesa, Pa	40.92	307	P		P	03 40 21.0	0.0
PV18				IAmb		IAmb	03 40 50.1	
	comp=Z,24nm,1.0s							
PB05	IPOC Station P	41.67	184	P		P	03 40 25.0	-2.0
PB05				IAmb		IAmb	03 40 36.6	
	comp=Z,23nm,0.9s							
PDAR	Pinedale Array	42.80	313	P		P	03 40 37.1	+0.8
	comp=Z,3.0nm,1.0s,baz=114,slow=6.5,SNR=4.3							
	comp=Z,3.0nm,1.0s							
V12A	Nelson	45.03	302	P		P	03 40 54.7	+0.5
IRM	Iron Mountain	45.06	300	P		P	03 40 53.5	-0.8
CPUP	Villa Florida	46.04	168	P		P	03 40 59.7	-2.2
CPUP	Villa Florida	46.04	168	P		P	03 40 59.0	-2.9
	comp=Z,7.3nm,0.7s,baz=209,slow=8.2,SNR=20							
	comp=Z,7.3nm,0.7s							
GWY	Greenwater Val	46.56	302	P		P	03 41 06.8	+0.6
GWY				IAmb		IAmb	03 41 36.8	
	comp=Z,27nm,1.6s							
WCT	Wildcat Mounta	46.61	303	P		P	03 41 08.7	+2.1
NV11	Mina Array Sit	48.06	305	P		P	03 41 19.1	+1.2
NV11				IAmb		IAmb	03 41 40.8	
	comp=Z,14nm,1.1s							
NVAR	Mina Array Bea	48.18	305			P	03 41 20.9	+2.0
NVAR	Mina Array Bea	48.18	305	P		P	03 41 19.3	+0.4
	comp=Z,1.7nm,0.6s,baz=96,slow=5.4,SNR=9.0							
	comp=Z,1.7nm,0.6s							
YKA	Yellowknife Ar	54.29	335	P		P	03 42 06.5	+2.4
	comp=Z,0.9nm,0.6s,baz=106,slow=6.4,SNR=4.3							
MESJ	Messejana	54.31	57	*e*P		P	03 42 05.7	+1.1
MESJ				IAmb		IAmb	03 42 06.7	
	comp=Z,36nm,1.4s							
MD01	Midelt array s	57.12	63			P	03 42 26.8	+1.6
MD31	MD31	57.12	63	P		P	03 42 26.6	+1.6
ESDC	Sonseca Array	57.71	55	P		P	03 42 29.9	+0.9
ESDC	Sonseca Array	57.71	55	P		P	03 42 29.3	+0.3
	comp=Z,9.7nm,0.8s,baz=272,slow=7.1,SNR=40							
	comp=Z,9.7nm,0.8s							
ESBB	Sonseca Array	57.71	55	P		P	03 42 29.5	+0.5
ESBB				IAmb		IAmb	03 42 31.0	
	comp=Z,14nm,0.9s							
PLCA	Paso Flores	59.48	183	P		P	03 42 39.4	-1.8
PLCA	Paso Flores	59.48	183	P		P	03 42 39.6	-1.5
	comp=Z,4.3nm,0.9s,baz=46,slow=9.7,SNR=6.1							
	comp=Z,4.3nm,0.9s							
EKA	Eskdalemuir Ar	59.88	36	P		P	03 42 43.8	0.0
	comp=Z,3.3nm,0.8s,baz=293,slow=3.9,SNR=8.0							
	comp=Z,3.3nm,0.8s							
DBIC	Dimbokro	61.74	93	P		P	03 42 57.0	-0.1
DBIC	Dimbokro	61.74	93	P		P	03 42 55.7	-1.4
	comp=Z,15nm,1.0s,baz=300,slow=7.8,SNR=5.0							
	comp=Z,15nm,1.0s							
INK	Inuvik	63.81	338	P		P	03 43 10.0	0.0
INK				IAmb		IAmb	03 43 17.2	
	comp=Z,20nm,1.4s							
TORD	Torodi Ar. Bea	66.12	84	P		P	03 43 25.8	-0.1
TORD				IAmb		IAmb	03 43 38.8	
	comp=Z,16nm,1.8s							
TORD	Torodi Ar. Bea	66.12	84	P		P	03 43 23.3	-2.6
	comp=Z,3.5nm,0.8s,baz=290,slow=6.2,SNR=6.0							
EGAK	Eagle	66.17	333	P		P	03 43 26.6	+1.2
EGAK				IAmb		IAmb	03 43 35.7	
	comp=Z,13nm,1.1s							
BCAR	Beaver Creek A	66.28	331	P		P	03 43 26.7	+0.5
L27K	Beaver Creek,	66.30	331	P		P	03 43 27.0	+0.6
SCRK	Sand Creek	67.32	332			P	03 43 34.1	+1.1
SCRK				IAmb		IAmb	03 44 10.4	
	comp=Z,14nm,1.1s							
TAM	Tamanrasset	67.44	73			P	03 43 36.7	+2.3
NB2	NORSAR Subarra	67.99	31	P		P	03 43 37.5	+0.4
	comp=Z,6.9nm,1.0s,baz=270,slow=6.5							
NOA	NORSAR Array B	67.99	31	P		P	03 43 37.4	+0.2
	comp=Z,2.3nm,0.8s,baz=270,slow=6.4,SNR=8.9							
	comp=Z,2.3nm,0.8s							
IL31		68.61	333	P		P	03 43 43.2	+2.4
ILAR	Eielson Array	68.61	333	P		P	03 43 41.0	+0.1
ILAR	Eielson Array	68.61	333	P		P	03 43 41.3	+0.4
	comp=Z,2.4nm,0.8s,baz=107,slow=5.3,SNR=8.3							
	comp=Z,2.4nm,0.8s							
HFS	Hagfors	69.23	32	P		P	03 43 44.9	+0.1
	comp=Z,1.2nm,0.7s,baz=188,slow=9.9,SNR=1.7							
	comp=Z,1.2nm,0.7s							
G23K	Bananza Creek	69.91	335			P	03 43 49.5	+0.5
G23K				IAmb		IAmb	03 44 40.5	
	comp=Z,21nm,1.6s							
BPAW	Bear Paw Mtn.	70.41	332	P		P	03 43 52.1	+0.1
BPAW				IAmb		IAmb	03 44 19.9	
	comp=Z,26nm,1.6s							
KTH	Kantishna Hill	70.41	332			pP	03 43 55.6	-0.5
ARCES	ARCESS Array B	73.34	22	P		P	03 44 09.1	-0.4
	comp=Z,4.5nm,0.8s,baz=293,slow=3.5,SNR=7.8							
	comp=Z,4.5nm,0.8s							
FINES	FINESS Array B	75.09	30	P		P	03 44 20.0	+0.2
	comp=Z,1.8nm,0.7s,baz=251,slow=4.3,SNR=4.3							
	comp=Z,1.8nm,0.7s							
MLR	Muntele Rosu	78.87	46			P	03 44 43.2	+1.5
MLR				IAmb		IAmb	03 44 43.9	
	comp=Z,14nm,0.9s							
AKASG	Malin Array Be	79.52	40	P		P	03 44 44.9	+0.1
	comp=Z,1.4nm,0.7s,baz=285,slow=4.2,SNR=3.1							
	comp=Z,1.4nm,0.7s							
BRTR	Keskin Array B	86.08	49	P		P	03 45 19.7	+0.3
	comp=Z,0.8nm,0.8s,baz=261,slow=6.4,SNR=2.7							
	comp=Z,0.8nm,0.8s							
SMAI	San Martin Ant	86.85	180	P		P	03 45 21.0	-1.1
SMAI				IAmb		IAmb	03 45 23.4	
	comp=Z,9.4nm,0.9s							
WMQ	Urumqi	113.41	20	*e*PKP		PKiKP	03 51 20.1	+3.7
WMQ				LR		LR		
	comp=N,7μm,18.1s							
WMQ				LR		LR		
	comp=E,4μm,18.9s							
WMQ				LR		LR		
	comp=Z,4μm,22.1s							
SYO	Syowa Base	113.58	158	*e*Pdiff		Pdif	03 47 26.6	+3.5
HHC	Hu-ho-hao-te	120.48	1	*e*P		PKPdf	03 51 28.9	-1.2
KSRS	Korea Array	122.09	346	PKP		PKPdf	03 51 32.6	-0.5
	comp=Z,0.6nm,0.5s,baz=331,slow=1.5,SNR=2.2							
MAW	Mawson	122.14	160	PKP		PKPdf	03 51 30.9	-1.3
	comp=Z,2.4nm,0.8s,baz=160,slow=1.9,SNR=6.8							
NJ2	Nanjing	128.94	353	*e*P		PKiKP	03 51 50.5	+3.4
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.6s							
PZH	PanZhiHua	133.54	14	PKP		PKiKP	03 51 57.1	+0.4
CMAR	Chiang Mai Arr	140.40	21	PKP		PKPdf	03 52 07.1	-1.1
	comp=Z,1.1nm,0.3s,baz=320,slow=2.3,SNR=4.7							
STKA	Stephens Creek	151.08	238	PKP		PKPdf	03 52 24.5	-1.4
	comp=Z,1.7nm,0.8s,baz=72,slow=3.2,SNR=3.0							
STKA				PKPbc		pPKPdf	03 52 30.4	0.0
	comp=Z,7.5nm,0.8s,baz=47,slow=1.6,SNR=12							
WRA	Warramunga Arr	159.66	264	PKP		PKPdf	03 52 36.3	-1.5
	comp=Z,4.0nm,1.1s,baz=71,slow=1.4,SNR=4.8							
ASAR	Alice Springs	159.79	253	PKPab		PKPab	03 53 16.2	-0.7
	comp=Z,2.4nm,0.8s,baz=102,slow=4.4,SNR=8.0							

*SDD **24** 03:43:51.7±2.2, 19.32N×67.08W, h20km±999km, MD3.4, ML3.2, MW3.6*
*OSPL **24** 03:43:53.3±0.5, 19.19N×67.33W, h14km±3km, ML2.9*
*NEIC **24** 03:43:54.1±1.1, 19.01N±0.02×67.17W±0.04, h10km±2km, ML3.2/17, Error ellipse: s-maj=6.6km s-min=3.0km az=245.0*
*RSPR **24** 03:43:55.4, 19.17N×67.16W, h37km, 10km*

ISC 24 03:43:51.8±1.4, 19.19N±0.05×67.14W±0.03, h16km±9km, n63, σ0.58/77, 13C-17D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AGPR	Aguadilla, PR	0.72	178	*e*P	Pn	03 44 07.0		-0.4
AGPR	Aguadilla, PR	0.72	178	*e*S	Sn	03 44 17.4		-0.7
AGPR	Aguadilla, PR	0.72	178	*e*Pg	Pb	03 44 06.7		+0.6
AGPR				*e*Sg	Sn	03 44 19.0		+0.8
AGPR				IAML		03 44 44.4		
	comp=N,1μm,0.4s							
AGPR	Aguadilla, PR	0.72	178	*i* P	Pb	03 44 06.7		+0.6
AGPR				*e*S	Sb	03 44 16.2		+0.4
AGPR				IAML		03 44 21.6		
	comp=Z,498nm,0.2s							
IDE	Isla Desecheo	0.86	202	*e*P	Pg	03 44 08.8		+0.2
IDE	Isla Desecheo	0.86	202	*e*S	Sg	03 44 20.3		+0.3
AOPR	Arecibo Observ	0.92	156	Pg	Pb	03 44 09.6		+0.2
AOPR				IAML		03 44 34.1		
	comp=N,1μm,0.2s							
AOPR	Arecibo Observ	0.92	156	*e*P	Pg	03 44 09.8		+0.1
AOPR	Arecibo Observ	0.92	156	*e*S	Sn	03 44 22.9		-0.1
AOPR	Arecibo Observ	0.92	156	*e*Pg	Pg	03 44 09.9		+0.3
AOPR				IAML		03 44 59.2		
	comp=N,1μm,0.3s							
EMPR	Esperanza - Ma	0.92	141	Pg	Pn	03 44 10.7		+0.6
EMPR	Esperanza - Ma	0.92	141	*e*P	Pn	03 44 11.1		+1.0
EMPR	Esperanza - Ma	0.92	141	*e*S	Sn	03 44 22.9		-0.1
PRSN	Puerto Rico Se	0.97	180	Pg	Pb	03 44 10.1		-0.2
PRSN	Puerto Rico Se	0.97	180	*e*P	Pb	03 44 10.4		+0.1
PRSN	Puerto Rico Se	0.97	180	*e*Pg	Pb	03 44 10.4		+0.1
PRSN				*i* S	Sn	03 44 23.9		-0.4
PRSN				IAML		03 44 29.2		
	comp=N,2μm,0.2s							
LSP	Las Mesas	1.01	177	*i* P	Pb	03 44 11.3		+0.2
LSP	Las Mesas	1.01	177	*e*S	Sg	03 44 24.5		-0.2
UUPR	Utuado, UPR, P	1.02	157	Pg	Pb	03 44 11.1		+0.1
UUPR				Sg	Sb	03 44 22.1		-2.2
UUPR	Utuado, UPR, P	1.02	157	*e*P	Pn	03 44 11.4		0.0
UUPR	Utuado, UPR, P	1.02	157	*e*S	Sb	03 44 24.0		-0.3
ECPR	Experimental S	1.14	140	*e*P	Pg	03 44 13.9		+0.1
ECPR	Experimental S	1.14	140	*e*S	Sb	03 44 27.4		-0.4
CRPR	Cabo Rojo, PR	1.18	179		Pn	03 44 13.8		+0.1
CRPR				Sn	Sb	03 44 28.7		-0.2
CRPR				IAML		03 44 32.7		
	comp=E,467nm,0.3s							
CRPR	Cabo Rojo, PR	1.18	179	*i* P	Pn	03 44 13.7		0.0
CRPR	Cabo Rojo, PR	1.18	179	*e*S	Sb	03 44 29.2		+0.2
CRPR	Cabo Rojo, PR	1.18	179	*e*Pg	Pn	03 44 13.4		-0.3
CRPR				IAML		03 44 59.9		
	comp=N,594nm,0.3s							
CRPR	Cabo Rojo, PR	1.18	179	*i* P	Pn	03 44 13.9		+0.2
CRPR				*e*S	Sb	03 44 29.0		0.0
CRPR				IAML		03 44 32.6		
	comp=Z,434nm,0.3s							
MLPR	Magueyes Islan	1.22	176	*i* P	Pn	03 44 14.4		+0.1
MLPR	Magueyes Islan	1.22	176	*e*S	Sb	03 44 30.2		+0.1
MLPR	Magueyes Islan	1.22	176	*e*Pg	Pn	03 44 14.3		+0.1
MLPR				*e*Sg	Sb	03 44 30.3		+0.1
MLPR				IAML		03 45 05.3		
	comp=N,136nm,0.2s							
CELP	Cerrillos	1.23	154		Pb	03 44 15.0		+0.1
CELP				IAML		03 44 35.5		
	comp=N,681nm,0.5s							
CELP	Cerrillos	1.23	154	*e*P	Pb	03 44 14.9		+0.1
CELP	Cerrillos	1.23	154	*e*S	Sn	03 44 30.6		-0.2
CELP	Cerrillos	1.23	154	*e*Pg	Pb	03 44 14.9		+0.1
CELP				IAML		03 44 58.8		
	comp=N,857nm,0.3s							
GBPR	Guanica, Bosqu	1.24	168	*e*P	Pb	03 44 15.0		+0.2
OBIP	Obispado Ponce	1.25	156		Pb	03 44 15.0		-0.1
OBIP				Sn	Sb	03 44 30.6		-0.4
OBIP				IAML		03 44 32.2		
	comp=E,459nm,0.3s							
OBIP				IAML		03 44 32.5		
	comp=N,418nm,0.2s							
OBIP	Obispado Ponce	1.25	156	*e*P	Pb	03 44 15.2		+0.1
OBIP	Obispado Ponce	1.25	156	*e*S	Sb	03 44 30.0		-1.0
GCPR	Guaynabo City	1.33	131		Pb	03 44 16.8		+0.4
GCPR				Sn	Sg	03 44 34.8		-0.1
GCPR	Guaynabo City	1.33	131	*e*P	Pb	03 44 16.8		+0.4
GCPR	Guaynabo City	1.33	131	*e*S	Sn	03 44 32.2		-1.0
PCDR	Punta Cana, DR	1.36	240	*e*Pg	Pn	03 44 16.5		+0.4
PCDR				*e*Sg	Sb	03 44 34.5		+0.5
PCDR				IAML		03 44 36.8		
	comp=N,471nm,0.5s							
SJG	San Juan	1.43	139		Pb	03 44 18.4		+0.4
SJG				IAML		03 44 47.6		
	comp=N,419nm,0.3s							
SJG				IAML		03 44 48.7		
	comp=N,317nm,0.5s							
SJG	San Juan	1.43	139	*e*P	Pb	03 44 18.3		+0.2
SJG	San Juan	1.43	139	*e*S	Sb	03 44 35.9		-0.2
SJG	San Juan	1.43	139	*i* P	Pb	03 44 18.5		+0.4
SJG				*e*S	Sg	03 44 37.8		-0.2
SJG				IAML		03 44 42.9		
	comp=Z,154nm,0.2s							
IGPR	InterUniversit	1.57	141	*e*P	Pb	03 44 20.0		-0.4
IGPR	InterUniversit	1.57	141	*e*S	Sn	03 44 39.4		+0.4
PDPR	Patillas Dam,	1.58	138		Pb	03 44 20.6		-0.1
PDPR				IAML		03 45 11.8		
	comp=E,261nm,0.5s							
PDPR				IAML		03 45 14.1		
	comp=N,311nm,0.1s							
PDPR	Patillas Dam,	1.58	138	*e*P	Pb	03 44 20.5		-0.1
PDPR	Patillas Dam,	1.58	138	*e*S	Sn	03 44 38.7		-0.6
HIDR	Higuey Centro	1.61	248	*e*P	Pn	03 44 20.3		+0.7
HIDR	Higuey Centro	1.61	248	*e*S	Sn	03 44 39.7		-0.4
HIDR	Higuey Centro	1.61	248	*e*Pg	Pn	03 44 19.9		+0.4
HIDR				IAML		03 44 43.9		
	comp=N,361nm,0.2s							
HUMP	Col San Antoni	1.61	130		Pb	03 44 20.9		-0.3
MIDR	Miches	1.82	264	*e*P	Pn	03 44 23.1		+0.7
MIDR	Miches	1.82	264	*e*S	Sn	03 44 45.4		+0.2
MIDR	Miches	1.82	264	*e*Pg	Pn	03 44 23.2		+0.7
MIDR				*e*Pg	Pb	03 44 23.4		-1.3
MIDR				*e*Sg	Sb	03 44 46.9		-0.4
MIDR				*e*Sg	Sg	03 44 49.0		-1.4
MIDR				IAML		03 45 16.8		
	comp=N,85nm,0.5s							
MIDR				IAML		03 45 16.9		
	comp=N,85nm,0.5s							
MIDR				IAML		03 45 17.1		
	comp=N,45nm,0.9s							
SMDR	Samana, DR	1.94	273	*e*P	Pn	03 44 24.2		+0.1
SMDR	Samana, DR	1.94	273	*e*S	Sn	03 44 47.8		-0.3
SC01	Santiago de lo	3.40	274	Pn	Pn	03 44 45.9		+1.7
SDDR	Presa de Saban	3.93	268	Pn	Pn	03 44 52.9		+1.4

CATAC 24 03:45:59.8±0.6, 12.7N±3.7°×88.8W±1.4°, h16km±3km, M3.0/14, MLv3.0/14, Error ellipse: s-maj=6.7km s-min=3.6km az=20.5, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PKGN	Cerro Pekin	0.94	51	P	Pb	03 46 17.4		-0.3
POTN	Potosi Cosigui	0.94	13	P	Pb	03 46 17.8		0.0
POTN				S	Sb	03 46 28.8		-1.3
PLRN	Geotermica Pol	1.06	61	P	Pb	03 46 18.4		-1.3
PLRN				S	Sb	03 46 33.5		+0.1
CNGA	Al SSO del Vol	1.08	67	P	Pb	03 46 19.9		-0.3
CNGN	Cerro Negro	1.08	67	P	Pn	03 46 20.4		0.0
COPN	Copaltepe	1.11	84	P	Pb	03 46 20.6		0.0
CNCH	Conchagua	1.20	355	P	Pn	03 46 21.2		-0.8
CNCH	Conchagua	1.20	355	S	Sn	03 46 38.2		+0.1
LCND	La Caada	1.24	352	P	Pn	03 46 22.0		-0.5
LCND	La Caada	1.24	352	S	Sg	03 46 39.8		-0.1
MOM3	MOM3	1.25	70	P	Pn	03 46 22.8		+0.1
MOM3				S	S

ML4.5,MW4.5
*OSPL **24** 03:51:07.7±1.8, 19°.21N×67°.09W,h5$^{km}_{\pm}$10^{km}, ML4.5*
*RSPR **24** 03:51:09.1, 19°.13N×67°.23W,h7$^{km}_{\pm}$1^{km},MD4.0/15*
ISC 24 03:51:08.0±1.1,**19°.07N**±0°.03×**67°.20W**±0°.02,**h25**$^{km}_{\pm}$8^{km},
n217,σ1$^{s}_{\pm}$**56**/244,**mb4.5**/37,**14C-7D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.61**	**172**			**Pn**	**03 51 21.1**	**+0.1**
AGPR						**Sn**	**03 51 31.2**	**+1.3**
AGPR	**Aguadilla, PR**	**0.61**	**172**	⇑	*i*P	**Pn**	**03 51 21.1**	**+0.1**
AGPR	**Aguadilla, PR**	**0.61**	**172**		P	**Pn**	**03 51 21.1**	**+0.1**
AGPR					S	**Sn**	**03 51 31.3**	**+1.3**
AGPR	**Aguadilla, PR**	**0.61**	**172**		*e*Pg	**Pn**	**03 51 21.8**	**+0.8**
AGPR					*e*Sg	**Sn**	**03 51 32.8**	**+2.7**
AGPR					IAML		03 51 35.1	
	comp=N,19μm,0.3s							
AGPR	**Aguadilla, PR**	**0.61**	**172**		*i*P	**Pn**	**03 51 21.1**	**+0.1**
AGPR					*e*S	**Sn**	**03 51 31.4**	**+1.4**
AGPR					IAML		03 51 35.4	
	comp=Z,10μm,0.3s							
IDE	**Isla Desecheo**	**0.73**	**201**			**Pn**	**03 51 22.8**	**+0.1**
IDE	**Isla Desecheo**	**0.73**	**201**	⇑	*e*P	**Pn**	**03 51 22.8**	**+0.1**
AOPR	**Arecibo Observ**	**0.84**	**150**		Pg	**Pn**	**03 51 24.0**	**-0.2**
AOPR					Sg	**Sb**	**03 51 33.8**	**-0.9**
AOPR					IAML		03 51 50.7	
	comp=N,18μm,0.4s							
AOPR	**Arecibo Observ**	**0.84**	**150**	⇑	*e*P	**Pn**	**03 51 24.4**	**+0.2**
AOPR	**Arecibo Observ**	**0.84**	**150**		*e*S	**Sn**	**03 51 37.5**	**+1.8**
AOPR	**Arecibo Observ**	**0.84**	**150**		*e*P	**Pn**	**03 51 24.5**	**+0.3**
AOPR	**Arecibo Observ**	**0.84**	**150**		*e*Pg	**Pn**	**03 51 24.7**	**+0.5**
AOPR					IAML		03 51 50.6	
	comp=N,17μm,0.3s							
PRSN	**Puerto Rico Se**	**0.85**	**177**		Pg	**Pn**	**03 51 24.5**	**+0.1**
PRSN					Sg	**Sb**	**03 51 35.3**	**+0.2**
PRSN	**Puerto Rico Se**	**0.85**	**177**	⇓	*e*P	**Pn**	**03 51 24.8**	**+0.4**
PRSN	**Puerto Rico Se**	**0.85**	**177**		*e*S	**Sn**	**03 51 36.8**	**+0.7**
EMPR	**Esperanza - Ma**	**0.87**	**133**		Pg	**Pn**	**03 51 24.8**	**+0.2**
EMPR						**Sn**	**03 51 38.4**	**+1.9**
EMPR	**Esperanza - Ma**	**0.87**	**133**	⇑	*e*P	**Pn**	**03 51 25.2**	**+0.6**
EMPR	**Esperanza - Ma**	**0.87**	**133**		*e*S	**Sn**	**03 51 38.8**	**+2.4**
LSP	**Las Mesas**	**0.90**	**173**			**Pn**	**03 51 25.7**	**+0.6**
LSP	**Las Mesas**	**0.90**	**173**	⇑	*e*P	**Pn**	**03 51 25.7**	**+0.6**
UUPR	**Utuado, UPR, P**	**0.93**	**151**		Pg	**Pn**	**03 51 25.7**	**+0.1**
UUPR	**Utuado, UPR, P**	**0.93**	**151**	⇑	*e*P	**Pn**	**03 51 25.8**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.06**	**175**			**Pb**	**03 51 27.7**	**0.0**
CRPR					Sg	**Sb**	**03 51 40.5**	**-0.8**
CRPR					IAML		03 51 45.4	
	comp=E,9μm,0.4s							
CRPR					IAML		03 51 48.0	
	comp=N,10μm,0.5s							
CRPR	**Cabo Rojo, PR**	**1.06**	**175**	⇓	*e*P	**Pb**	**03 51 28.0**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.06**	**175**		*e*S	**Sb**	**03 51 41.2**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.06**	**175**		*i*P	**Pb**	**03 51 28.0**	**+0.3**
CRPR					*e*S	**Sn**	**03 51 44.0**	**+2.7**
CRPR					IAML		03 51 47.8	
	comp=Z,9μm,0.4s							
ECPR	**Experimental S**	**1.09**	**133**	⇑	*e*P	**Pb**	**03 51 28.1**	**-0.1**
MLPR	**Magueyes Islan**	**1.11**	**172**	⇓	*e*P	**Pb**	**03 51 28.7**	**+0.3**
MLPR	**Magueyes Islan**	**1.11**	**172**		*e*S	**Sn**	**03 51 43.3**	**+0.9**
MLPR	**Magueyes Islan**	**1.11**	**172**		*e*Pg	**Pb**	**03 51 28.9**	**+0.4**
MLPR					*e*Sg	**Sn**	**03 51 45.1**	**+2.8**
MLPR					IAML		03 51 49.1	
	comp=N,3μm,0.5s							
GBPR	**Guanica, Bosqu**	**1.13**	**164**			**Pb**	**03 51 29.3**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.13**	**164**	⇑	*e*P	**Pb**	**03 51 29.3**	**+0.4**
CELP	**Cerrillos**	**1.15**	**149**			**Pb**	**03 51 29.3**	**0.0**
CELP						**Sn**	**03 51 45.8**	**+2.3**
CELP					IAML		03 51 47.5	
	comp=N,11μm,0.3s							
CELP					IAML		03 51 51.4	
	comp=E,7μm,0.6s							
CELP	**Cerrillos**	**1.15**	**149**	⇑	*e*P	**Pb**	**03 51 29.4**	**0.0**
CELP	**Cerrillos**	**1.15**	**149**		*e*S	**Sn**	**03 51 45.8**	**+2.3**
CELP	**Cerrillos**	**1.15**	**149**		*e*Pg	**Pb**	**03 51 29.2**	**0.0**
CELP					*e*Sg	**Sn**	**03 51 46.9**	**+3.3**
CELP					IAML		03 51 47.5	
	comp=N,11μm,0.3s							
OBIP	**Obispado Ponce**	**1.17**	**151**			**Pb**	**03 51 29.2**	**-0.3**
OBIP					Sg	**Sn**	**03 51 45.4**	**+1.5**
OBIP					IAML		03 51 47.4	
	comp=N,7μm,0.5s							
OBIP					IAML		03 51 48.6	
	comp=E,10μm,0.4s							
OBIP	**Obispado Ponce**	**1.17**	**151**	⇑	*e*P	**Pb**	**03 51 29.7**	**+0.2**
OBIP	**Obispado Ponce**	**1.17**	**151**		*e*S	**Sn**	**03 51 45.9**	**+2.0**
PCDR	**Punta Cana, DR**	**1.25**	**244**		*e*Pg	**Pb**	**03 51 30.6**	**-0.3**
PCDR					*e*Sg	**Sb**	**03 51 49.7**	**+3.1**
PCDR					IAML		03 51 50.7	
	comp=N,17μm,0.6s							
GCPR	**Guaynabo City**	**1.30**	**126**		Pn	**Pn**	**03 51 30.8**	**+0.2**
GCPR	**Guaynabo City**	**1.30**	**126**			**Sb**	**03 51 47.9**	**-0.1**
GCPR	**Guaynabo City**	**1.30**	**126**	⇑	*e*P	**Pn**	**03 51 31.0**	**+0.4**
GCPR	**Guaynabo City**	**1.30**	**126**		*e*S	**Sb**	**03 51 47.9**	**-0.1**
SJG	**San Juan**	**1.38**	**134**		Pn	**Pb**	**03 51 32.5**	**-0.6**
SJG					IAML		03 52 00.3	
	comp=N,5μm,0.4s							
SJG					IAML		03 52 01.9	
	comp=N,6μm,0.3s							
SJG	**San Juan**	**1.38**	**134**		Pn	**Pb**	**03 51 32.5**	**-0.6**
	comp=N,448nm,0.3s,baz=331,slow=12,SNR=208							
SJG					Sn	**Sn**	**03 51 48.8**	**-0.3**
	comp=N,358nm,0.3s,baz=306,slow=19,SNR=6.3							
SJG	**San Juan**	**1.38**	**134**	⇑	*e*P	**Pb**	**03 51 32.5**	**-0.6**
SJG	**San Juan**	**1.38**	**134**		*e*S	**Sb**	**03 51 50.1**	**-0.2**
SJG	**San Juan**	**1.38**	**134**		*e*P	**Pb**	**03 51 32.9**	**-0.2**
SJG	**San Juan**	**1.38**	**134**		*i*P	**Pb**	**03 51 32.9**	**-0.2**
SJG					*e*S	**Sb**	**03 51 50.3**	**0.0**
SJG					IAML		03 51 57.5	
	comp=Z,3μm,0.3s							
IGPR	**InterUniversit**	**1.51**	**137**			**Pb**	**03 51 34.5**	**-0.8**
IGPR						**Sb**	**03 51 54.8**	**+0.6**
IGPR	**InterUniversit**	**1.51**	**137**	⇓	*e*P	**Pb**	**03 51 34.5**	**-0.8**
IGPR	**InterUniversit**	**1.51**	**137**		*e*S	**Sb**	**03 51 54.8**	**+0.6**
IGPR	**InterUniversit**	**1.51**	**137**		P	**Pb**	**03 51 34.8**	**-0.5**
HIDR	**Higuey Centro**	**1.52**	**252**	⇑	*i*P	**Pn**	**03 51 33.7**	**+0.1**
HIDR	**Higuey Centro**	**1.52**	**252**		*e*S	**Sn**	**03 51 52.0**	**-0.5**
HIDR	**Higuey Centro**	**1.52**	**252**		*e*Pg	**Pn**	**03 51 34.2**	**+0.7**
HIDR					*e*Sg	**Sb**	**03 51 53.9**	**-0.3**
HIDR					IAML		03 51 58.2	
	comp=N,6μm,0.6s							
PDPR	**Patillas Dam,**	**1.53**	**133**		Pn	**Pn**	**03 51 34.3**	**+0.6**
PDPR	**Patillas Dam,**	**1.53**	**133**	⇓	*e*P	**Pn**	**03 51 34.5**	**+0.8**
PDPR	**Patillas Dam,**	**1.53**	**133**		*e*S	**Sb**	**03 51 55.5**	**+0.8**
HUMP	**Col San Antoni**	**1.58**	**126**		Pn	**Pn**	**03 51 34.7**	**+0.3**
MIDR	**Miches**	**1.75**	**267**	⇑	*e*P	**Pn**	**03 51 37.0**	**+0.2**
MIDR	**Miches**	**1.75**	**267**		*e*S	**Sn**	**03 51 57.6**	**-0.7**
MIDR	**Miches**	**1.75**	**267**		*i*P	**Pn**	**03 51 36.9**	**+0.1**
MIDR					*i*S	**Sn**	**03 51 59.1**	**+0.7**
MIDR					IAML		03 52 06.4	
	comp=N,3μm,1.1s							
MIDR					IAML		03 52 06.5	
	comp=N,3μm,1.1s							
SMDR	**Samana, DR**	**1.89**	**277**	⇑	*e*P	**Pn**	**03 51 37.8**	**-0.9**
SMDR	**Samana, DR**	**1.89**	**277**		*e*S	**Sn**	**03 52 00.7**	**-1.1**
LONA1	**Toro Cenizo, N**	**2.54**	**277**		*i*P	**Pn**	**03 51 48.8**	**+1.2**
SDD	**Santo Domingo**	**2.64**	**257**		Pn	**Pn**	**03 51 49.9**	**+0.8**
SDD					IAML		03 52 31.6	
	comp=E,2μm,1.4s							
SDD					IAML		03 52 34.6	
	comp=N,2μm,0.9s							
SDD	**Santo Domingo**	**2.64**	**257**			**Sn**	**03 52 21.5**	**+1.2**
SDD	**Santo Domingo**	**2.64**	**257**	⇑	*e*P	**Pn**	**03 51 50.6**	**+1.6**
SDD	**Santo Domingo**	**2.64**	**257**		*e*S	**Sn**	**03 52 21.5**	**+1.2**
SDD	**Santo Domingo**	**2.64**	**257**		P	**Pn**	**03 51 50.8**	**+1.8**
SDD	**Santo Domingo**	**2.64**	**257**		S	**Sb**	**03 52 24.0**	**-2.7**
SDD	**Santo Domingo**	**2.64**	**257**		*i*P	**Pn**	**03 51 51.3**	**+2.2**
SDD					*e*S	**Sb**	**03 52 23.4**	**-3.3**
SC01	**Santiago de lo**	**3.35**	**277**		Pn	**Pn**	**03 51 59.5**	**+0.6**
SC01	**Santiago de lo**	**3.35**	**277**		P	**Pn**	**03 51 59.8**	**+0.9**
SC01	**Santiago de lo**	**3.35**	**277**		S	**Sn**	**03 52 42.1**	**+4.2**
SC01	**Santiago de lo**	**3.35**	**277**		*i*P	**Pn**	**03 52 00.6**	**+1.8**
LOPP1	**Punta Rusia, P**	**3.85**	**282**		*i*P	**Pn**	**03 52 05.7**	**0.0**
SDDR	**Presa de Saban**	**3.87**	**269**		Pn	**Pn**	**03 52 07.1**	**+1.1**
SDDR	**Presa de Saban**	**3.87**	**269**	⇓	*e*P	**Pn**	**03 52 07.7**	**+1.7**
SDDR	**Presa de Saban**	**3.87**	**269**		*e*P	**Pn**	**03 52 07.7**	**+1.7**
SDDR	**Presa de Saban**	**3.87**	**269**		*i*P	**Pn**	**03 52 07.7**	**+1.7**
SDDR					IAML		03 53 15.5	
	comp=Z,1μm,0.5s							
SABA	**Saba**	**4.03**	**110**		Pn	**Pn**	**03 52 09.5**	**+1.4**
SABA					IAML		03 53 27.2	
	comp=N,624nm,0.8s							
LONE3	**El Aguacate, B**	**4.06**	**264**		*i*P	**Pn**	**03 52 11.2**	**+2.5**
LONE3					IAML		03 53 17.4	
	comp=Z,817nm,1.0s							
LODU1	**El Espartillar**	**4.12**	**261**		*i*P	**Pn**	**03 52 12.0**	**+2.7**
LOVI	**El Cajuil, Ovi**	**4.16**	**253**		*i*P	**Pn**	**03 52 11.9**	**+2.1**
LOVI					IAML		03 53 10.9	
	comp=Z,554nm,1.3s							
LODA1	**ITESIL, Dajabo**	**4.28**	**277**		*i*P	**Pn**	**03 52 11.4**	**-0.1**
LODA1					IAML		03 53 01.5	
	comp=Z,1μm,1.6s							
GRTK	**Grand Turk**	**4.42**	**304**			**Pn**	**03 52 10.5**	**-3.0**
GRTK					IAML		03 53 12.0	
	comp=Z,338nm,1.1s							
SKI	**Saint Kitts**	**4.58**	**111**		*e*P	**Pn**	**03 52 18.1**	**+2.5**
PAPH	**Port-au-Prince**	**4.86**	**264**		P	**Pn**	**03 52 20.9**	**+1.3**
PAPH	**Port-au-Prince**	**4.86**	**264**		*i*P	**Pn**	**03 52 21.4**	**+1.8**
LGNH	**Logne**	**5.15**	**265**		P	**Pn**	**03 52 24.7**	**+1.2**
LGNH	**Logne**	**5.15**	**265**		S	**Sn**	**03 53 27.5**	**+5.3**
ANWB	**Willy Bob**	**5.33**	**104**		*e*P	**Pn**	**03 52 24.0**	**-1.9**
DHSZ	**Broadband at M**	**5.88**	**117**		*e*P	**Pn**	**03 52 31.6**	**-1.9**
GDHS	**Morne Mazeau,**	**5.88**	**117**		Pn	**Pn**	**03 52 31.5**	**-2.1**
ATGZ	**Broadband at L**	**6.00**	**119**		*e*P	**Pn**	**03 52 37.8**	**+2.6**
ABD	**La Joyeuse, An**	**6.02**	**115**		Pn	**Pn**	**03 52 36.2**	**+0.6**
MMLZ	**Guadeloupe Bro**	**6.07**	**119**		*e*P	**Pn**	**03 52 38.8**	**+2.6**
CBE	**Ft. Capester**	**6.11**	**118**		P	**Pn**	**03 52 37.4**	**+0.6**
MAGL	**Barre de l'ile**	**6.44**	**118**		Pn	**Pn**	**03 52 43.6**	**+2.3**
DSDZ	**La Diserade, G**	**6.46**	**114**		*e*P	**Pn**	**03 52 43.5**	**+2.0**
GDSD	**La Dsirade Is**	**6.46**	**114**		Pn	**Pn**	**03 52 42.5**	**+1.0**
BIM	**Bigot**	**7.41**	**127**		Pn	**Pn**	**03 52 56.2**	**+1.6**
NMDO	**Nuevo Mundo**	**7.48**	**283**		Pn	**Pn**	**03 52 51.0**	**-4.5**
GTBY	**Guantanamo Bay**	**7.51**	**278**			**Pn**	**03 52 53.7**	**-2.3**
MPOM	**Morne Pois Mar**	**7.62**	**126**		Pn	**Pn**	**03 52 59.9**	**+2.5**
GRGR	**Grenville**	**8.72**	**141**		Pn	**Pn**	**03 53 13.5**	**+0.8**
PCRV	**Puerto La Cruz**	**9.19**	**164**		Pn	**Pn**	**03 53 20.6**	**+1.5**
	comp=Z,7.5nm,0.3s,baz=337,slow=2.0,SNR=41							
PCRV					Sn	**Sn**	**03 54 59.4**	**-2.2**
	comp=Z,2.4nm,0.3s,baz=0.6,slow=17,SNR=2.0							
MTDJ	**Mount Denham**	**9.84**	**267**		Pn	**Pn**	**03 53 26.9**	**-1.1**
BAUV	**El Baul**	**10.10**	**185**		Pn	**Pn**	**03 53 34.2**	**+2.6**
SDV	**Santo Domingo**	**10.66**	**199**		Pn	**Pn**	**03 53 41.9**	**+2.6**
	comp=Z,3.7nm,0.3s,baz=44,slow=7.4,SNR=7.3							
SDV					Sn	**Sn**	**03 55 34.1**	**-4.0**
	comp=Z,2.8nm,0.3s,baz=337,slow=15,SNR=3.7							
SDV	**Santo Domingo**	**10.66**	**199**		*e*P	**Pn**	**03 53 42.2**	**+2.8**
BBSR	**BB Station**	**13.43**	**9**		Pn	**Pn**	**03 54 15.3**	**-1.7**
RUSC	**La Rusia**	**14.30**	**204**		Pn	**Pn**	**03 54 29.4**	**0.0**
061Z	**Ochoppi**	**14.36**	**301**		Pn	**Pn**	**03 54 25.6**	**-4.1**
060A	**Indiantown**	**14.47**	**306**		Pn	**Pn**	**03 54 28.4**	**-2.8**
SOR	**Soroa**	**15.23**	**287**		Pn	**Pn**	**03 54 38.5**	**-3.0**
SOR					IAmb	IAmb	03 55 16.9	
	comp=Z,34nm,1.3s							
BCIP	**Isla Barro Col**	**15.71**	**233**		P	**Pn**	**03 54 47.4**	**-0.4**
ROSC	**El Rosal**	**15.76**	**207**			**P**	**03 54 51.8**	**-0.7**
ROSC					IAmb	IAmb	03 55 13.7	
	comp=Z,64nm,1.1s							
ROSC	**El Rosal**	**15.76**	**207**		Pn	**P**	**03 54 51.6**	**-1.0**
	comp=Z,1.9nm,0.3s,baz=41,slow=20,SNR=13							
ROSC					Sn	**Sn**	**03 57 40.4**	**-2.7**
	comp=Z,0.6nm,0.3s,baz=223,slow=19,SNR=1.7							
DWPF	**Disney Wildern**	**15.84**	**307**		Pn	**Pn**	**03 54 46.6**	**-2.7**
656A	**Willston**	**17.32**	**309**		Pn	**Pn**	**03 55 06.0**	**-2.1**
656A					IAmb	IAmb	03 55 08.7	
	comp=Z,42nm,0.5s							
456A	**Hilliard**	**17.74**	**314**		P	**Pn**	**03 55 13.3**	**+0.1**
BOAV	**Boa Vista**	**17.82**	**158**		P	**P**	**03 55 15.3**	**+0.4**
BOAV	**Boa Vista**	**17.82**	**158**		*e*P	**Pn**	**03 55 14.0**	**-0.3**
NHSC	**New Hope**	**18.18**	**323**		P	**P**	**03 55 20.3**	**+1.5**
NHSC					IAmb	IAmb	03 55 41.7	
	comp=Z,51nm,0.9s							
JTS	**Las Juntas de**	**19.25**	**246**		P	**Pn**	**03 55 33.6**	**+1.7**
	comp=Z,4.3nm,0.8s,baz=135,slow=13,SNR=3.6							
FLOC	**Florencia**	**19.25**	**206**		P	**Pn**	**03 55 31.4**	**-0.5**
FLOC					IAmb	IAmb	03 55 50.3	
	comp=Z,45nm,1.0s							
MDP	**Montagnes des**	**19.86**	**133**		P	**P**	**03 55 36.7**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=323,slow=12,SNR=12							
MDP					S	**S**	**03 59 14.3**	**-5.6**
	comp=Z,2.8nm,1.0s,baz=41,slow=21,SNR=1.6							
	comp=Z,1.9nm,0.5s							
TEIG	**Tepich**	**19.89**	**277**		P	**P**	**03 55 38.0**	**+0.4**
TEIG					IAmb	IAmb	03 56 13.7	
	comp=Z,34nm,1.3s							
250A	**Grady**	**21.43**	**311**		P	**P**	**03 55 55.3**	**+1.0**
250A					IAmb	IAmb	03 56 12.0	
	comp=Z,30nm,1.1s							
PETF	**Flores**	**21.66**	**268**		P	**P**	**03 55 57.1**	**+0.2**
PETF					IAmb	IAmb	03 56 31.3	
	comp=Z,22nm,0.8s							
MTO3	**Montecristo**	**21.72**	**261**		P	**P**	**03 55 57.7**	**0.0**
OTAV	**Otavalo**	**21.73**	**212**		*e*P	**P**	**03 55 59.2**	**+1.1**
LRAL	**Lakeview Retre**	**22.52**	**312**		P	**P**	**03 56 06.0**	**0.0**
TEFE	**Tefe**	**22.58**	**173**		*e*P	**P**	**03 56 07.2**	**+0.5**
W50A	**Signal Mountai**	**22.70**	**319**		P	**P**	**03 56 09.2**	**+1.3**
W50A					IAmb	IAmb	03 56 42.6	
	comp=Z,12nm,0.6s							
MACA	**Manacapuru-AM**	**23.00**	**163**		P	**P**	**03 56 10.8**	**-0.3**
MACA	**Manacapuru-AM**	**23.00**	**163**		*e*P	**P**	**03 56 11.0**	**-0.1**
CCIG	**Comitan**	**23.92**	**267**		P	**P**	**03 56 21.0**	**+0.7**
CCIG					IAmb	IAmb	03 56 37.0	
	comp=Z,21nm,0.7s							
MAL2	**Monte Alegre,**	**24.56**	**147**		P	**P**	**03 56 25.3**	**-0.7**
Y45A	**Yeager Farm, C**	**24.77**	**311**		P	**P**	**03 56 27.9**	**+0.2**
Y45A					IAmb	IAmb	03 56 29.7	
	comp=Z,16nm,0.8s							
WVT	**Waverly**	**24.87**	**317**		P	**P**	**03 56 29.3**	**+0.6**
WVT					IAmb	IAmb	03 56 52.5	
	comp=Z,10nm,1.0s							
ITTB	**Itaituba**	**25.88**	**153**		*e*P	**P**	**03 56 37.0**	**-1.1**
CGM3	**Cape Girardeau**	**26.75**	**317**		P	**P**	**03 56 45.6**	**-0.1**
CGM3					IAmb	IAmb	03 56 46.5	
	comp=Z,16nm,1.4s							
WHAR	**Wooly Hollow**	**27.44**	**311**		P	**P**	**03 56 52.2**	**+0.3**
WHAR					IAmb	IAmb	03 56 59.8	
	comp=Z,21nm,1.4s							
TMAB	**Tom-Au,PA,Br**	**28.41**	**137**		*e*P	**P**	**03 56 58.2**	**-2.5**
NPGB	**Novo Progresso**	**28.46**	**155**		*e*P	**P**	**03 57 00.5**	**-0.6**
HHAR	**Hobbs**	**29.09**	**312**		P	**P**	**03 57 06.9**	**+0.2**
HHAR					IAmb	IAmb	03 57 09.5	
	comp=Z,7.1nm,0.6s							
T35A	**Sooner Cattle**	**31.22**	**311**			**P**	**03 57 25.7**	**+0.2**
CLDB	**Colider**	**31.81**	**158**		*e*P	**P**	**03 57 30.4**	**-0.4**
WMOK	**Wichita Mounta**	**32.03**	**306**		P	**P**	**03 57 33.8**	**+1.1**
PDRB	**Porto dos Gac**	**32.19**	**160**		*e*P	**P**	**03 57 33.8**	**-0.4**
KAN14	**Manchester OK**	**32.28**	**310**		P	**P**	**03 57 35.6**	**+0.8**
VILB	**Vilhena**	**32.56**	**167**		P	**P**	**03 57 36.8**	**-0.6**
VILB	**Vilhena**	**32.56**	**167**		*e*P	**P**	**03 57 37.1**	**-0.3**
POST	**Post**	**33.65**	**301**			**P**	**03 57 49.9**	**+3.0**
POST					IAmb	IAmb	03 58 03.8	
	comp=Z,9.4nm,0.7s							
SMTB	**Santa Maria do**	**33.83**	**143**		*e*P	**P**	**03 57 46.3**	**-2.2**
SNDB	**Serra Nova Dou**	**34.60**	**152**		*e*P	**P**	**03 57 53.9**	**-1.3**
TXAR	**Lajitas Array**	**34.67**	**294**		P	**P**	**03 57 56.0**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=110,slow=9.4,SNR=19							
TXAR					PcP	**PcP**	**04 00 29.5**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=97,slow=3.5,SNR=2.9							
TXAR					ScP	**ScP**	**04 04 14.4**	**+0.8**
	comp=Z,2.0nm,1.0s,baz=117,slow=5.3,SNR=7.1							
	comp=Z,1.8nm,0.6s							
TX31	**Lajitas Ar. Si**	**34.67**	**294**			**P**	**03 57 56.8**	**+0.9**
ALPN	**Alpine**	**34.82**	**296**			**P**	**03 57 57.6**	**+0.4**
ALPN					IAmb	IAmb	03 58 21.0	
	comp=Z,6.0nm,0.9s							
ECSD	**EROS Data Cent**	**34.82**	**321**		P	**P**	**03 57 56.5**	**-0.4**
ECSD					IAmb	IAmb	03 58 00.5	
	comp=Z,6.8nm,0.8s							
LPAZ	**La Paz**	**35.15**	**182**		P	**P**	**03 58 00.5**	**0.0**
LPAZ	**La Paz**	**35.15**	**182**		P	**P**	**03 57 59.4**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=2.7,slow=5.2,SNR=5.3							
	comp=Z,1.3nm,0.5s							
LPAZ	**La Paz**	**35.15**	**182**		*e*P	**P**	**03 58 00.1**	**-0.4**
PTLB	**Pontes e Lacer**	**35.21**	**166**		P	**P**	**03 57 59.5**	**-0.9**
PTLB					IAmb	IAmb	03 58 00.4	
	comp=Z,6.5nm,1.0s							
PTLB	**Pontes e Lacer**	**35.21**	**166**		*e*P	**P**	**03 57 59.6**	**-0.7**
VHRN	**Van Horn**	**36.03**	**296**			**P**	**03 58 09.1**	**+1.5**
VHRN					IAmb	IAmb	03 58 23.9	
	comp=Z,11nm,1.1s							
K30B	**Basset**	**36.08**	**318**			**P**	**03 58 08.1**	**+0.4**
MNTX	**Cornudas Mount**	**36.53**	**298**		P	**P**	**03 58 13.0**	**+1.3**
SALV	**Santo Antonio**	**36.55**	**161**		*e*P	**P**	**03 58 11.0**	**-0.9**
PB16	**IPOC Station P**	**37.24**	**184**		P	**P**	**03 58 16.2**	**-2.2**
ARAG	**Araguaiana, MT**	**37.73**	**155**		*e*P	**P**	**03 58 21.1**	**-0.8**
BNM	**Barren Site**	**38.06**	**301**			**P**	**03 58 27.4**	**+2.4**
SDCO	**Great Sand Dun**	**38.15**	**307**			**P**	**03 58 26.7**	**+0.9**
SDBA	**SAO DESIDERIO**	**38.23**	**143**		*e*P	**P**	**03 58 23.4**	**-2.8**
PP1B	**Ponte de Pedra**	**38.40**	**161**		*e*P	**P**	**03 58 27.6**	**0.0**
ISCO	**Idaho Springs**	**38.92**	**310**		P	**P**	**03 58 34.0**	**+1.9**
BDFB	**Brasilia**	**39.32**	**150**		P	**P**	**03 58 34.8**	**-0.6**
	comp=Z,3.2nm,0.4s,baz=320,slow=12,SNR=7.4							
	comp=Z,3.2nm,0.4s							
BDQN	**Bodoquena, MS**	**40.59**	**165**		*e*P	**P**	**03 58 45.6**	**-0.1**
JANB	**Januaria**	**40.72**	**145**		*e*P	**P**	**03 58 44.9**	**-2.1**
PV13	**Radium Mtn., P**	**40.78**	**307**		P	**P**	**03 58 48.8**	**+1.2**
PV18	**Skein Mesa, Pa**	**40.87**	**307**			**P**	**03 58 49.6**	**+1.3**
PV18					IAmb	IAmb	03 59 17.1	
	comp=Z,8.2nm,0.9s							
AQDB	**Aquidauana**	**40.89**	**163**			**P**	**03 58 47.9**	**-0.3**
AQDB					IAmb	IAmb	03 58 49.6	
	comp=Z,9.2nm,0.9s							
PDAR	**Pinedale Array**	**42.74**	**313**		P	**P**	**03 59 02.4**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=110,slow=5.2,SNR=10.0							
	comp=Z,0.6nm,0.5s							
RLMT	**Red Lodge**	**43.41**	**316**			**P**	**03 59 09.8**	**+0.9**
LOHW	**Long Hollow**	**43.75**	**314**			**P**	**03 59 12.9**	**+1.2**
BOZ	**Bozeman (W)**	**45.13**	**316**		IAmb	IAmb	03 59 24.2	
	comp=Z,8.9nm,1.5s							
BOZ					P	**P**	**03 59 24.5**	**+1.9**
CPUP	**Villa Florida**	**46.14**	**168**		P	**P**	**03 59 27.7**	**-2.7**
	comp=Z,1.2nm,0.6s,baz=353,slow=13,SNR=14							
	comp=Z,1.2nm,0.6s							
GWY	**Greenwater Val**	**46.52**	**302**		P	**P**	**03 59 35.6**	**+1.9**
GWY					IAmb	IAmb	03 59 48.8	
	comp=Z,7.3nm,1.2s							
NVAR	**Mina Array Bea**	**48.13**	**305**	

WC1	**Warramunga Arr**	**13.31**	**100**	P		**Pn**	**03 54 48.3**	**+0.8**	
	comp=Z,26nm,0.6s								
WRA	**Warramunga Arr**	**13.32**	**100**			**Pn**	**03 54 47.8**	**+0.2**	
WRA	**Warramunga Arr**	**13.32**	**100**	Pn		**Pn**	**03 54 47.0**	**-0.5**	
	comp=Z,1.5nm,0.3s,baz=278,slow=14,SNR=19								
WRA				Sn		Sn	03 57 03.2	-13	
	comp=Z,3.7nm,0.3s,baz=280,slow=25,SNR=6.3								
WRA				Lg		Lg	03 58 32.8		
	baz=268,slow=28								
	comp=Z,4.0nm,0.6s								
WB0	**Warramunga Arr**	**13.35**	**99**			**Pn**	**03 54 47.6**	**-0.4**	
WR8	**Warramunga Arr**	**13.47**	**100**			**Pn**	**03 54 49.4**	**-0.2**	
ASAR	**Alice Springs**	**13.76**	**116**	Pn		**Pn**	**03 54 52.4**	**-1.2**	
	comp=Z,0.7nm,0.3s,baz=292,slow=12,SNR=20								
ASAR				Sn		**Sn**	**03 57 19.6**	**-7.0**	
	comp=Z,3.0nm,0.3s,baz=288,slow=21,SNR=17								
ASAR				Lg		Lg	03 58 45.7		
	baz=278,slow=26								
	comp=Z,3.8nm,0.6s								
AS31	**Alice Springs**	**13.76**	**116**			**Pn**	**03 54 53.3**	**-0.3**	
UGM	**Wanagama**	**14.01**	**316**	Pn		**Pn**	**03 54 54.3**	**-2.8**	
MUN	**Mundaring**	**14.23**	**195**	P		**Pn**	**03 54 59.1**	**-0.9**	
	comp=Z,28nm,0.8s								
FORT	**Forrest**	**14.34**	**152**	P		**Pn**	**03 55 00.5**	**-1.0**	
FORT	**Forrest**	**14.34**	**152**			**Pn**	**03 54 59.9**	**-1.6**	
DNDOZ	**Balladonia**	**14.55**	**168**	P		**Pn**	**03 55 03.2**	**-1.2**	
NWAO	**Narrogin (SRO)**	**14.94**	**190**	P		**Pn**	**03 55 07.9**	**-1.8**	
NWAO	**Narrogin (SRO)**	**14.94**	**190**			**Pn**	**03 55 07.6**	**-2.1**	
NWAO	**Narrogin (SRO)**	**14.94**	**190**	Pn		**Pn**	**03 55 07.5**	**-2.2**	
	comp=Z,4.2nm,0.3s,baz=14,slow=13,SNR=66								
NWAO				Sn		Sn	03 57 41.1	-14	
	comp=Z,9.9nm,0.3s,baz=226,slow=18,SNR=8.3								
NWAO				Lg		Lg	03 59 23.8		
	comp=Z,1.6nm,0.3s,baz=94,slow=23,SNR=3.1								
	comp=Z,9.8nm,0.3s								
RKGY	**Rocky Gully**	**16.63**	**190**	P		**Pn**	**03 55 32.0**	**+0.4**	
	comp=Z,53nm,1.8s								
OOD	**Oodnadatta**	**17.02**	**127**	P		**Pn**	**03 55 36.1**	**-0.4**	
MULG	**Mulgathing**	**17.31**	**137**	P		**Pn**	**03 55 38.0**	**-2.2**	
BBOO	**Buckleboo**	**20.26**	**139**			**P**	**03 56 13.9**	**-0.1**	
BBOO				IAmb		IAmb	03 56 24.1		
	comp=Z,20nm,0.9s								
COEN	**Coen**	**22.30**	**82**	P		**P**	**03 56 37.6**	**+1.4**	
COEN				IAmb		IAmb	03 56 52.8		
	comp=Z,11nm,0.8s								
STKA	**Stephens Creek**	**23.50**	**129**	P		**P**	**03 56 48.6**	**+0.1**	
STKA				IAmb		IAmb	03 57 07.3		
	comp=Z,30nm,0.7s								
STKA	**Stephens Creek**	**23.50**	**129**	P		**P**	**03 56 48.5**	**0.0**	
	comp=Z,0.9nm,0.4s,baz=298,slow=13,SNR=4.1								
STKA				S		**S**	**04 01 00.9**	**-1.5**	
	comp=Z,9.9nm,0.8s,baz=84,slow=3.3,SNR=3.5								
	comp=Z,0.9nm,0.4s								
PZH	**PanZhiHua**	**47.98**	**337**	P		**P**	**04 00 19.1**	**+1.5**	
CASY	**Casey**	**48.49**	**185**	P		**P**	**04 00 21.1**	**+0.1**	
NJ2	**Nanjing**	**49.98**	**358**	*e*P		**P**	**04 00 34.3**	**+1.6**	
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
RTZ	**Ruatahuna**	**52.93**	**125**	P		**P**	**04 00 54.7**	**-0.3**	
RTZ				IAmb		IAmb	04 01 09.5		
	comp=Z,19nm,1.0s								
LSA	**Lhasa**	**55.33**	**329**	P		**P**	**04 01 11.7**	**-1.3**	
KSRS	**Korea Array**	**55.80**	**7**	P		P	04 01 26.7	+11	
	comp=Z,0.8nm,0.5s,baz=190,slow=7.8,SNR=4.5								
	comp=Z,0.8nm,0.5s								
LZH	**Lanzhou**	**56.21**	**344**	*e*P		**P**	**04 01 20.8**	**+2.0**	
LZH				pP		sP	04 01 29.5	+6.3	
LZH				pmax		pmax			
	comp=Z,14nm,1.2s								
RAO	**Raoul Island**	**57.00**	**113**	P		**P**	**04 01 23.5**	**-1.0**	
HHC	**Hu-ho-hao-te**	**59.31**	**352**	*e*P		**P**	**04 01 43.4**	**+3.0**	
HHC				pmax		pmax			
	comp=Z,8.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,240nm,6.3s								
SONM	**Songino Array**	**66.91**	**350**	P		**P**	**04 02 29.1**	**-1.7**	
WMQ	**Urumqi**	**68.59**	**335**	*e*P		**P**	**04 02 41.6**	**+0.1**	
WMQ				pmax		pmax			
	comp=Z,39nm,0.9s								
WMQ				LR		LR			
	comp=N,6μm,18.7s								
WMQ				LR		LR			
	comp=E,4μm,22.1s								
WMQ				LR		LR			
	comp=Z,4μm,21.9s								
ABPO	**Ambohimpanom**	**68.82**	**256**	P		**P**	**04 02 41.6**	**-2.0**	
ABPO				IAmb		IAmb	04 02 59.7		
	comp=Z,4.2nm,1.1s								
QSPA	**South Pole Qui**	**71.85**	**180**	P		**P**	**04 03 02.0**	**+0.7**	
QSPA				IAmb		IAmb	04 03 15.2		
	comp=Z,3.6nm,1.1s								
MKAR	**Makanchi Array**	**73.23**	**334**	P		P	04 03 19.5	+10	
	comp=Z,0.4nm,0.6s,baz=141,slow=7.5,SNR=3.8								
	comp=Z,0.4nm,0.6s								
KURBB	**Kurchatov Arra**	**77.77**	**334**	P		P	04 03 44.0	+8.6	
	comp=Z,0.2nm,0.3s,baz=140,slow=5.8,SNR=1.9								
	comp=Z,0.2nm,0.3s								

*IDC **24** 03:53:03.1±9.8, 15°.12S×174°.88W, h215km±87km, mb3.9/10, mbtmp4.5/10, Error ellipse: s-maj=28.0km s-min=18.6km az=88.0*
*NEIC **24** 03:53:07.6±1.4, 15°.2S±0°.1×174°.80W±0°.08, h253km±7km, mb4.8/20, Error ellipse: s-maj=15.0km s-min=11.6km az=171.0*

ISC 24 03:53:06.9±0.4, 15°.14S±0°.08×174°.84W±0°.07, h250km, n69, σ0$86/67, mb4.5/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.20**	**68**		**Pn**	**03 54 01.9**	**+0.2**
AFI					**S**	**03 54 46.0**	**+1.0**
FUTU	**Fugatoga**	**3.28**	**284**		**Pn**	**03 54 04.0**	**+1.5**
NIUE	**Niue**	**6.11**	**131**	Pn	**Pn**	**03 54 37.0**	**+0.6**
MSVF	**Nonsavu**	**7.30**	**248**		**Pn**	**03 54 52.7**	**+1.2**
TOZ	**Tahuroa Road**	**24.08**	**199**	P	**P**	**03 57 59.6**	**-0.2**
HNR	**Honiara**	**25.27**	**280**	P	**P**	**03 58 13.1**	**+2.4**
CTZ	**Chatham Island**	**28.54**	**183**	P	**P**	**03 58 40.9**	**+1.4**
MLZ	**Mavora Lakes**	**33.39**	**202**	P	**P**	**03 59 21.3**	**-0.6**
MLZ				IAmb	IAmb	03 59 38.2	
	comp=Z,42nm,1.2s						
WHZ	**Wether Hill Ro**	**33.90**	**202**	P	**P**	**03 59 25.1**	**-1.2**
CTAO	**Charters Tower**	**37.35**	**257**	P	**P**	**03 59 55.4**	**-0.6**
COEN	**Coen**	**40.62**	**266**	P	**P**	**04 00 23.4**	**+0.4**
BBOO	**Buckleboo**	**47.75**	**239**	P	**P**	**04 01 17.7**	**-1.5**
WB0	**Warramunga Arr**	**48.51**	**257**	P	**P**	**04 01 24.0**	**-1.2**
WB0				IAmb	IAmb	04 01 24.8	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**48.55**	**257**	P	**P**	**04 01 24.1**	**-1.4**
	comp=Z,6.2nm,0.8s,baz=89,slow=7.8,SNR=2.9						
	comp=Z,6.2nm,0.8s						
ASAR	**Alice Springs**	**48.88**	**252**	P	**P**	**04 01 26.6**	**-1.3**
	comp=Z,28nm,0.6s,baz=91,slow=7.5,SNR=18						
	comp=Z,28nm,0.6s						
VNDA	**Vanda**	**63.50**	**186**	P	**P**	**04 03 10.1**	**0.0**
	comp=Z,1.8nm,1.0s,baz=7.8,slow=6.8,SNR=6.3						
	comp=Z,1.8nm,1.0s						
PETK	**Petropavlovsk-**	**71.97**	**343**	P	**P**	**04 04 03.2**	**+0.1**
	comp=Z,5.1nm,0.7s,baz=126,slow=7.5,SNR=4.4						
	comp=Z,5.1nm,0.7s						
QSPA	**South Pole Qui**	**74.91**	**180**	P	**P**	**04 04 19.8**	**-0.4**
QSPA	**South Pole Qui**	**74.91**	**180**	P	**P**	**04 04 21.1**	**+0.8**
	comp=Z,3.2nm,0.9s,baz=53,slow=3.2,SNR=7.9						
	comp=Z,3.2nm,0.9s						
KSRS	**Korea Array**	**75.00**	**316**	P	**P**	**04 04 22.1**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=119,slow=4.7,SNR=4.6						
	comp=Z,0.8nm,0.4s						
KSAR	**Wonju Array Be**	**75.03**	**316**	P	**P**	**04 04 20.9**	**-0.3**
M16K	**Timber Creek**	**76.96**	**8**	P	**P**	**04 04 32.4**	**+0.9**
M16K				IAmb	IAmb	04 04 34.2	
	comp=Z,27nm,1.3s						
K15K	**Wolf Creek Mou**	**77.89**	**6**	P	**P**	**04 04 37.2**	**+0.5**
K15K				IAmb	IAmb	04 04 47.1	
	comp=Z,36nm,1.6s						
PGC	**Sidney**	**78.14**	**32**	P	**P**	**04 04 38.5**	**+0.2**
PGC				IAmb	IAmb	04 04 52.5	
	comp=Z,69nm,1.7s						
ILAR	**Eielson Array**	**82.46**	**12**	P	**P**	**04 05 00.2**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=224,slow=5.4,SNR=20						
	comp=Z,0.8nm,0.5s						
PDAR	**Pinedale Array**	**83.00**	**42**	P	**P**	**04 05 04.6**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=214,slow=3.1,SNR=11						
	comp=Z,1.5nm,0.7s						
F20K	**Avaraart Lake**	**83.16**	**7**	P	**P**	**04 05 04.9**	**+0.4**
F20K				IAmb	IAmb	04 05 15.6	
	comp=Z,31nm,2.0s						
E19K	**Redstone River**	**83.37**	**7**	P	**P**	**04 05 06.0**	**+0.4**
E19K				IAmb	IAmb	04 05 07.4	
	comp=Z,12nm,1.1s						
C16K	**Lisburne Hills**	**83.47**	**4**	P	**P**	**04 05 06.2**	**+0.2**
D19K	**Kuna River**	**84.27**	**6**	P	**P**	**04 05 10.4**	**+0.3**
D19K				IAmb	IAmb	04 05 11.2	
	comp=Z,12nm,0.9s						
RLMT	**Red Lodge**	**84.29**	**40**	P	**P**	**04 05 10.1**	**-0.9**
RLMT				IAmb	IAmb	04 05 18.3	
	comp=Z,31nm,1.6s						
MAW	**Mawson**	**87.59**	**199**	P	**P**	**04 05 25.7**	**-0.7**
	comp=Z,2.4nm,0.8s,baz=149,slow=7.2,SNR=6.6						
	comp=Z,2.4nm,0.8s						
ESPZ	**Base Esperanza**	**88.36**	**157**	P	**P**	**04 05 31.8**	**+1.7**
ESPZ				IAmb	IAmb	04 05 42.9	
	comp=Z,31nm,1.4s						
CMAR	**Chiang Mai Arr**	**91.22**	**289**	P	**P**	**04 05 45.0**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=96,slow=4.8,SNR=4.6						
	comp=Z,1.2nm,0.3s						
BVAR	**Borovoye Array**	**116.83**	**322**	PKP	**PKPdf**	**04 11 20.5**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=27,slow=3.5,SNR=4.2						
ARCES	**ARCESS Array B**	**124.15**	**352**	PKP	**PKPdf**	**04 11 34.0**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=50,slow=2.9,SNR=3.7						
DPC	**Dobruska-Polom**	**143.73**	**348**	*e*PKP	PKPbc	04 12 10.1	-0.3
KRLC	**Kraliky**	**143.90**	**347**	*e*PKP	PKPbc	04 12 10.7	-0.2
MORC	**Moravsky Berou**	**144.01**	**346**	*e*PKP	**PKPab**	**04 12 10.6**	**-0.1**
PRU	**Pruhonice**	**144.41**	**350**	*e*PKP	**PKPab**	**04 12 12.2**	**0.0**
VRAC	**Vranov**	**144.66**	**347**	PKP	**PKPab**	**04 12 12.8**	**-0.4**
	comp=Z,5.0nm,0.7s,baz=34,slow=3.0,SNR=5.3						
VRAC	**Vranov**	**144.66**	**347**	*e*PKP	**PKPab**	**04 12 13.1**	**-0.1**
JAVC	**Velka Javorina**	**144.84**	**346**	*e*PKP	**PKPdf**	**04 12 14.8**	**+0.7**
KRUC	**Moravsky**	**144.94**	**347**	*e*PKP	PKPbc	04 12 13.9	-0.1
ZVC	**Zvikov**	**145.00**	**350**	*e*PKP	**PKPab**	**04 12 14.4**	**0.0**
MLR	**Muntele Rosu**	**145.04**	**334**	PKPbc	**PKPbc**	**04 12 14.1**	**-0.5**
	comp=Z,7.3nm,0.9s,baz=203,slow=4.2,SNR=9.8						
BRTR	**Keskin Array B**	**145.07**	**320**	PKPbc	**PKPdf**	**04 12 14.3**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=93,slow=2.5,SNR=14						
KHC	**Kasperske Hory**	**145.40**	**350**	*e*PKP	**PKPbc**	**04 12 15.6**	**+0.1**
CKRC	**Cesky Krumlov**	**145.58**	**349**	*e*PKP	**PKPdf**	**04 12 15.5**	**+0.2**
GERES	**GERESS Array B**	**145.66**	**350**	PKPbc	**PKPbc**	**04 12 16.0**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=35,slow=3.3,SNR=8.1						
CONA	**Conrad Observa**	**146.12**	**347**	*i* PKP	**PKPbc**	**04 12 17.4**	**-0.4**
	comp=Z,6.3nm,1.3s						
RONA	**Rosalia, Austr**	**146.24**	**346**	*i* PKP	**PKPbc**	**04 12 18.6**	**+0.5**
	comp=Z,5.8nm,0.9s						
MOA	**Molln**	**146.52**	**349**	*i* PKP	**PKPbc**	**04 12 18.5**	**-0.4**
	comp=Z,2.5nm,0.7s						
BIOA	**Bad Ischl, Aus**	**146.79**	**350**	*e*PKP	**PKPdf**	**04 12 17.8**	**+0.4**
	comp=Z,0.2nm,0.3s						
ARSA	**Arzberg**	**146.84**	**347**	*i* PKP	**PKPbc**	**04 12 19.2**	**-0.5**
	comp=Z,5.7nm,1.5s						
LESA	**Schwarzleotal**	**147.21**	**351**	*i* PKP	**PKPdf**	**04 12 19.0**	**+0.8**
	comp=Z,5.1nm,1.2s						
MMAI	**Mount Meron Ar**	**147.32**	**308**	PKPbc	**PKPbc**	**04 12 21.1**	**-0.4**
	comp=Z,3.2nm,0.6s,baz=222,slow=1.1,SNR=4.7						
RETA	**Reutte**	**147.41**	**353**	*i* PKP	**PKiKP**	**04 12 22.7**	**-0.7**
	comp=Z,7.0nm,1.0s						
KBA	**Koelnbreinsper**	**147.43**	**350**	*e*PKiKP	**PKiKP**	**04 12 23.2**	**-0.3**
	comp=Z,6.1nm,1.3s						
WATA	**Walderalm**	**147.46**	**352**	*e*PKP	**PKPbc**	**04 12 21.1**	**-0.5**
	comp=Z,3.5nm,0.8s						
SOKA	**Soboth**	**147.49**	**347**	*i* PKP	**PKPbc**	**04 12 20.6**	**-1.0**
	comp=Z,8.8nm,1.4s						
MOTA	**Moosalm**	**147.51**	**352**	*e*PKP	**PKPbc**	**04 12 20.7**	**-1.0**
	comp=Z,8.4nm,1.2s						
WTTA	**Wattenberg**	**147.52**	**352**	*i* PKP	**PKPbc**	**04 12 21.6**	**-0.2**
	comp=Z,5.0nm,0.6s						
SQTA	**Sankt Quirin**	**147.62**	**352**	*e*PKP	**PKPdf**	**04 12 20.1**	**+1.1**
	comp=Z,1.2nm,0.4s						
DAVA	**Damuels**	**147.71**	**354**	*i* PKP	**PKPbc**	**04 12 22.0**	**-0.3**
	comp=Z,9.1nm,1.1s						
OBKA	**Obir**	**147.75**	**348**	*e*PKP	**PKPdf**	**04 12 17.0**	**-2.2**
	comp=Z,13nm,1.7s						
MYKA	**Terra Mystica**	**147.81**	**349**	*e*PKP	**PKPbc**	**04 12 21.5**	**-1.0**
	comp=Z,11nm,1.2s						
FETA	**Feichten**	**147.87**	**353**	*i* PKP	**PKPbc**	**04 12 22.0**	**-0.8**
	comp=Z,5.6nm,1.3s						
ABTA	**Abfaltersbach**	**147.89**	**350**	*e*PKP	**PKPdf**	**04 12 19.1**	**-0.3**
	comp=Z,6.2nm,1.2s						

*NEIC **24** 04:05:06.8±1.2, 19°.19N×0°.03×67°.21W±0°.03, h10km±1km, ML2.1/11, Md2.3/11(RSPR), Error ellipse: s-maj=5.6km s-min=4.8km az=187.0*
*SDD **24** 04:05:10.2±1.0, 19°.13N×67°.19W, h21km±111km, MD3.0, ML2.1, MW2.7*

RSPR 24 04:05:09.2, 19°.20N×67°.31W, h10km±31km, MD2.4/12, 14C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.75**	**166**		Pg	04 05 21.7	-2.0
AGPR					Sg	04 05 31.4	-2.2
AGPR	**Aguadilla, PR**	**0.75**	**166**	*e*P	Pg	04 05 21.7	-2.0
AGPR	**Aguadilla, PR**	**0.75**	**166**	*e*S	Sg	04 05 31.3	-2.3
AGPR	**Aguadilla, PR**	**0.75**	**166**	*e*S	Sg	04 05 31.4	-2.2
AGPR	**Aguadilla, PR**	**0.75**	**166**	*e*Pg	Pg	04 05 22.1	-1.7
AGPR				*e*Sg	Sg	04 05 30.5	-3.0
AGPR				IAML		04 05 35.7	
	comp=N,105nm,1.2s						
IDE	**Isla Desecheo**	**0.82**	**191**		Pg	04 05 23.6	-1.6
IDE					Sg	04 05 35.3	-0.6
IDE	**Isla Desecheo**	**0.82**	**191**	*e*S	Sg	04 05 35.3	-0.6
IDE	**Isla Desecheo**	**0.82**	**191**	*e*P	Pg	04 05 23.6	-1.6
IDE	**Isla Desecheo**	**0.82**	**191**	*e*S	Sg	04 05 35.3	-0.6
AOPR	**Arecibo Observ**	**1.00**	**148**	Pg	Pg	04 05 24.3	-4.1
AOPR					Sg	04 05 37.2	-4.2
AOPR	**Arecibo Observ**	**1.00**	**148**	*e*P	Pg	04 05 25.9	-2.5
AOPR	**Arecibo Observ**	**1.00**	**148**	*e*S	Sg	04 05 39.1	-2.4
AOPR	**Arecibo Observ**	**1.00**	**148**	*e*P	Pg	04 05 25.7	-2.8
AOPR	**Arecibo Observ**	**1.00**	**148**	*e*S	Sg	04 05 39.1	-2.4
AOPR	**Arecibo Observ**	**1.00**	**148**	*e*Pg	Pg	04 05 25.9	-2.5
AOPR				IAML		04 05 45.6	
	comp=N,66nm,0.2s						
LSP	**Las Mesas**	**1.04**	**168**		Pg	04 05 26.4	-2.9
LSP					Sg	04 05 41.0	-1.7
LSP	**Las Mesas**	**1.04**	**168**	*e*P	Pg	04 05 26.4	-2.9
LSP	**Las Mesas**	**1.04**	**168**	*e*S	Sg	04 05 41.0	-1.8
LSP	**Las Mesas**	**1.04**	**168**	*e*P	Pg	04 05 26.4	-2.9
LSP	**Las Mesas**	**1.04**	**168**	*e*S	Sg	04 05 41.0	-1.7
UUPR	**Utuado, UPR, P**	**1.09**	**149**		Pb	04 05 26.5	-3.7
UUPR					Pg	04 05 28.4	-1.8
UUPR					Sg	04 05 39.8	-4.7
UUPR					Sb	04 05 42.2	-2.4
UUPR	**Utuado, UPR, P**	**1.09**	**149**	*e*P	Pb	04 05 26.5	-3.7
UUPR	**Utuado, UPR, P**	**1.09**	**149**	*e*S	Sg	04 05 42.2	-2.4
UUPR	**Utuado, UPR, P**	**1.09**	**149**	*e*P	Pb	04 05 28.4	-1.8
UUPR	**Utuado, UPR, P**	**1.09**	**149**	*e*S	Sg	04 05 39.8	-4.7
CRPR	**Cabo Rojo, PR**	**1.20**	**171**		Sb	04 05 44.1	-3.6
CRPR	**Cabo Rojo, PR**	**1.20**	**171**		Pb	04 05 28.4	-3.6
CRPR				IAML		04 05 46.4	
	comp=N,37nm,2.5s						
CRPR	**Cabo Rojo, PR**	**1.20**	**171**	*e*P	Pb	04 05 28.6	-3.5
CRPR	**Cabo Rojo, PR**	**1.20**	**171**	*e*S	Sb	04 05 44.1	-3.6
CRPR	**Cabo Rojo, PR**	**1.20**	**171**	*e*P	Pb	04 05 28.4	-3.6
CRPR	**Cabo Rojo, PR**	**1.20**	**171**	*e*S	Sb	04 05 44.1	-3.6
CRPR	**Cabo Rojo, PR**	**1.20**	**171**	*e*Pg	Pb	04 05 29.8	-2.3
CRPR				*e*Sg	Sb	04 05 43.9	-3.8
CRPR				IAML		04 05 45.0	
	comp=N,39nm,3.5s						
PCDR	**Punta Cana, DR**	**1.22**	**236**	*e*Pg	Pn	04 05 32.3	-0.1
PCDR				*e*Sg	Sg	04 05 48.5	-0.1
PCDR				IAML		04 05 52.0	
	comp=N,85nm,2.4s						
MLPR	**Magueyes Islan**	**1.25**	**168**	*e*P	Pn	04 05 29.3	-3.4
MLPR	**Magueyes Islan**	**1.25**	**168**	*e*P	Pn	04 05 29.3	-3.4
MLPR	**Magueyes Islan**	**1.25**	**168**	*e*S	Sb	04 05 45.3	-3.8
MLPR	**Magueyes Islan**	**1.25**	**168**	*e*Pg	Pn	04 05 29.1	-3.6
MLPR				*e*Sg	Sb	04 05 45.0	-4.1
MLPR				IAML		04 05 49.4	
	comp=N,14nm,2.4s						
ECPR	**Experimental S**	**1.25**	**134**	*e*P	Pn	04 05 30.4	-2.4
ECPR	**Experimental S**	**1.25**	**134**	*e*S	Sb	04 05 46.1	-3.1
ECPR	**Experimental S**	**1.25**	**134**	*e*P	Pn	04 05 30.4	-2.4
ECPR	**Experimental S**	**1.25**	**134**	*e*S	Sb	04 05 46.0	-3.3
CELP	**Cerrillos**	**1.32**	**148**		Pn	04 05 30.1	-3.5
CELP				IAML		04 05 49.8	
	comp=E,33nm,4.8s						
CELP	**Cerrillos**	**1.32**	**148**		Sb	04 05 46.5	-4.5
CELP	**Cerrillos**	**1.32**	**148**	*e*P	Pn	04 05 31.1	-2.6
CELP	**Cerrillos**	**1.32**	**148**	*e*S	Sb	04 05 46.5	-4.5
CELP	**Cerrillos**	**1.32**	**148**	*e*P	Pn	04 05 31.0	-2.6
CELP	**Cerrillos**	**1.32**	**148**	*e*S	Sb	04 05 46.5	-4.5
CELP	**Cerrillos**	**1.32**	**148**	*e*Pg	Pn	04 05 30.9	-2.8
CELP				*e*Sg	Sb	04 05 46.4	-4.6
CELP				IAML		04 05 46.7	
	comp=N,47nm,4.3s						
OBIP	**Obispado Ponce**	**1.33**	**150**		Pn	04 05 30.4	-3.4
OBIP					Sb	04 05 46.7	-4.7
OBIP				IAML		04 05 47.6	
	comp=N,34nm,3.0s						
OBIP				IAML		04 05 49.7	
	comp=E,33nm,0.3s						
OBIP	**Obispado Ponce**	**1.33**	**150**	*i*P	Pn	04 05 30.4	-3.4
OBIP	**Obispado Ponce**	**1.33**	**150**	*e*S	Sb	04 05 47.0	-4.4
OBIP	**Obispado Ponce**	**1.33**	**150**	*i*P	Pn	04 05 30.4	-3.5
OBIP	**Obispado Ponce**	**1.33**	**150**	*e*S	Sb	04 05 46.5	-4.9
GCPR	**Guaynabo City**	**1.46**	**127**		Pn	04 05 31.9	-3.8
GCPR					Sn	04 05 50.6	-4.2
GCPR	**Guaynabo City**	**1.46**	**127**	IAML		04 05 57.1	
	comp=E,27nm,4.0s						
GCPR	**Guaynabo City**	**1.46**	**127**	*i*P	Pn	04 05 33.1	-2.5
GCPR	**Guaynabo City**	**1.46**	**127**	*e*S	Sn	04 05 50.7	-4.2
GCPR	**Guaynabo City**	**1.46**	**127**	*i*P	Pn	04 05 31.9	-3.8
GCPR	**Guaynabo City**	**1.46**	**127**	*e*S	Sn	04 05 50.6	-4.2
SJG	**San Juan**	**1.54**	**134**		Pn	04 05 33.4	-3.4
SJG				IAML		04 06 02.8	
	comp=E,29nm,2.6s						
SJG				IAML		04 06 04.9	
	comp=E,27nm,2.8s						
SJG	**San Juan**	**1.54**	**134**	*i*P	Pn	04 05 33.9	-2.9
SJG	**San Juan**	**1.54**	**134**	*e*S	Sn	04 05 54.0	-2.9
MIDR	**Miches**	**1.66**	**263**	*e*Pg	Pb	04 05 39.7	-0.2
MIDR				IAML		04 06 09.5	
	comp=E,26nm,2.9s						
IGPR	**InterUniversit**	**1.68**	**137**		Pn	04 05 37.2	-1.5
IGPR					Sn	04 05 56.9	-3.3
IGPR					Sb	04 05 57.1	-4.2
IGPR	**InterUniversit**	**1.68**	**137**	*e*S	Sn	04 05 57.1	-3.0
IGPR	**InterUniversit**	**1.68**	**137**	*i*P	Pn	04 05 37.2	-1.5
IGPR	**InterUniversit**	**1.68**	**137**	*e*S	Sn	04 05 56.9	-3.3
PDPR	**Patillas Dam,**	**1.69**	**134**	*i*P	Pn	04 05 36.5	-2.3
PDPR	**Patillas Dam,**	**1.69**	**134**	*e*S	Sn	04 05 57.8	-2.8
PDPR	**Patillas Dam,**	**1.69**	**134**	*i*P	Pn	04 05 35.8	-3.0
PDPR	**Patillas Dam,**	**1.69**	**134**	*e*S	Sn	04 05 57.1	-3.5

*IDC **24** 09:09:44.9±0.5, 18°.93N×67°.25W, h0km, mb4.2/16, mbtmp4.2/17, ML3.9/1, MS4.3/1, Error ellipse: s-maj=16.1km s-min=11.8km az=56.0*
*RSNC **24** 09:09:44.5±0.8, 19°N±4°×6°7W±°, h1km±7km, M4.3, mB5.2, mb4.8, ML4.0, Mw(mB)4.6, MwMwp6.6, Mwp6.5*
*NEIC **24** 09:09:47.6±1.9, 19°.08N±0°.04×67°.22W±0°.06, h10km±1km, mb4.6/174, ML4.3/19, Md4.3/19(RSPR), Error ellipse: s-maj=9.8km s-min=5.3km az=239.0*
*SDD **24** 09:09:48.0±2.7, 19°.15N×67°.19W, h19km±126km, MD3.6, ML4.4, MW4.4*
*OSPL **24** 09:09:50.3±1.7, 19°.07N×67°.09W, h20km±9km, ML4.9*
*RSPR **24** 09:09:52.0, 18°.96N×67°.22W, h22km±29km, MD4.3/19*

**ISC 24 09:09:47.6±1.0, 19°.04N±0°.03×67°.24W±0°.02, h17km±6km, n331, σ1$44/303, mb4.6/94, 1C-12D, M

SJG **San Juan** 1.38 132 *e*P Pn 04 10 12.2 +0.2
SJG **San Juan** 1.38 132 P Pb 04 10 12.4 -0.5
SJG S Sn 04 10 27.9 -2.1
SJG **San Juan** 1.38 132 *i* P Pb 04 10 12.5 -0.5
SJG *e*S Sn 04 10 27.9 -2.1
SJG IAML 04 10 42.3
comp=Z,2µm,0.9s
HGY1 **Higuey** 1.47 253 *e*Pg Pb 04 10 14.0 -0.5
HGY1 *e*Sg Sb 04 10 33.7 +0.9
HGY1 IAML 04 10 37.2
comp=N,6µm,1.1s
HIDR **Higuey Centro** 1.47 253 ⇓*i*P Pb 04 10 14.1 -0.4
HIDR **Higuey Centro** 1.47 253 *e*S Sb 04 10 33.5 +0.7
HIDR **Higuey Centro** 1.47 253 *e*Pg Pb 04 10 14.0 -0.5
HIDR *e*Sg Sb 04 10 33.4 +0.5
HIDR IAML 04 10 37.2
comp=N,14µm,1.1s
IGPR **InterUniversit** 1.51 135 Pb 04 10 14.7 -0.4
IGPR Sb 04 10 34.0 -0.1
IGPR **InterUniversit** 1.51 135 ⇑*i*P Pb 04 10 14.7 -0.4
IGPR **InterUniversit** 1.51 135 *e*S Sb 04 10 34.0 -0.1
PDPR **Patillas Dam,** 1.54 131 Pn Pn 04 10 14.1 -0.1
PDPR IAML 04 10 47.4
comp=N,3µm,0.9s
PDPR **Patillas Dam,** 1.54 131⇓*e*P Pb 04 10 15.1 -0.4
PDPR **Patillas Dam,** 1.54 131 *e*S Sb 04 10 34.4 -0.3
HUMP **Col San Antoni** 1.59 124 Pn Pn 04 10 14.6 -0.3
MIDR **Miches** 1.72 269⇑*i*P Pb 04 10 18.8 +0.1
MIDR **Miches** 1.72 269 *e*S Sg 04 10 42.9 0.0
MIDR **Miches** 1.72 269 *e*Pg Pb 04 10 17.9 -0.8
MIDR *e*Pg Pg 04 10 19.6 -1.0
MIDR *e*Sg Sg 04 10 42.9 0.0
MIDR *e*Sg Sg 04 10 42.9 0.0
MIDR IAML 04 10 43.1
comp=N,11µm,0.6s
MIDR IAML 04 10 43.2
comp=N,11µm,0.6s
MIDR IAML 04 10 43.5
comp=N,5µm,0.3s
SMDR **Samana, DR** 1.86 278⇓*i*P Pb 04 10 20.7 -0.4
SMDR **Samana, DR** 1.86 278 *e*S Sb 04 10 45.8 +1.7
LONA1 **Toro Cenizo, N** 2.51 278 *i* P Pb 04 10 30.0 -2.1
LONA1 IAML 04 11 17.1
comp=Z,6µm,0.4s
SDD **Santo Domingo** 2.60 258 Pn Pn 04 10 31.3 +2.5
SDD IAML 04 11 13.6
comp=N,4µm,0.8s
SDD IAML 04 11 18.0
comp=E,2µm,0.8s
SDD **Santo Domingo** 2.60 258 Sb 04 11 05.8 +0.4
SDD **Santo Domingo** 2.60 258⇓*i*P Pb 04 10 31.8 -1.9
SDD **Santo Domingo** 2.60 258 *e*S Sb 04 11 05.8 +0.4
SDD **Santo Domingo** 2.60 258 *i* P Pb 04 10 31.9 -1.9
SC01 **Santiago de lo** 3.32 277 Pb 04 10 47.7 +1.7
SC01 Sg 04 11 34.6 +0.3
SC01 **Santiago de lo** 3.32 277 Pn Pn 04 10 39.9 +1.1
SC01 **Santiago de lo** 3.32 277⇑*i*P Pb 04 10 47.7 +1.7
SC01 **Santiago de lo** 3.32 277 *i* P Pn 04 10 41.0 +2.2
LOPP1 **Punta Rusia, P** 3.83 283 *i* P Pn 04 10 47.2 +1.5
LOPP1 IAML 04 12 01.5
comp=Z,4µm,0.5s
SDDR **Presa de Saban** 3.83 270 Pn Pn 04 10 47.6 +1.7
SDDR **Presa de Saban** 3.83 270⇓*i*P Pn 04 10 48.8 +2.9
SDDR **Presa de Saban** 3.83 270 *e*P Pn 04 10 48.5 +2.6
SDDR **Presa de Saban** 3.83 270 P Pn 04 10 48.3 +2.4
SDDR S Sb 04 11 43.1 +2.1
SDDR **Presa de Saban** 3.83 270 *i* P Pn 04 10 48.8 +2.9
SDDR IAML 04 11 50.8
comp=Z,2µm,0.8s
PODR **Polo** 3.93 258 *i* P Pn 04 10 50.6 +3.2
LONE3 **El Aguacate, B** 4.02 265 *i* P Pn 04 10 51.8 +3.3
LONE3 IAML 04 11 59.1
comp=Z,940nm,1.1s
LODU1 **El Espartillar** 4.07 261 *i* P Pn 04 10 53.3 +4.2
LODU1 IAML 04 12 07.2
comp=Z,3µm,0.6s
LOVI **El Cajuil, Ovi** 4.11 253 *i* P Pn 04 10 52.4 +2.8
LOVI IAML 04 11 54.7
comp=Z,964nm,1.1s
LOBH **Bahia de las A** 4.34 255 *i* P Pn 04 10 56.1 +3.4
LOBH IAML 04 11 58.7
comp=Z,1µm,1.0s
GRTK **Grand Turk** 4.41 305 P Pn 04 10 51.0 -2.7
SKI **Saint Kitts** 4.60 111 *e*P Pn 04 10 58.6 +2.3
ANWB **Willy Bob** 5.35 104 *e*P Pn 04 11 08.1 +1.4
ANWB **Willy Bob** 5.35 104 P Pn 04 11 04.8 -1.9
comp=Z,257nm,0.8s
GDHS **Morne Mazeau,** 5.90 117 Pn Pn 04 11 14.7 +0.5
ATGZ **Broadband at L** 6.01 118 *e*P Pn 04 11 19.3 +3.5
ABD **La Joyeuse, An** 6.04 114 Pn Pn 04 11 17.2 +1.1
MAGL **Barre de l'ile** 6.46 117 Pn Pn 04 11 24.6 +2.7
GDSD **La Dsirade Is** 6.48 114 Pn 04 11 22.4 +0.2
BIM **Bigot** 7.42 126 Pn Pn 04 11 35.7 +0.5
NMDO **Nuevo Mundo** 7.45 283 Pn Pn 04 11 32.5 -2.9
GTBY **Guantanamo Bay** 7.48 278 P Pn 04 11 32.6 -3.3
comp=Z,99nm,0.9s
MPOM **Morne Pois Mar** 7.63 126 Pn Pn 04 11 40.2 +2.2
URIC **Uribia, Colomb** 8.61 213 P Pn 04 11 51.5 0.0
comp=Z,33nm,0.8s
GWJ **Greenwich** 9.05 265 *i* P Pn 04 12 01.5 +3.9
HOJ **Hope** 9.08 265 *i* P Pn 04 12 02.8 +4.9
STH **Stony Hill** 9.13 266 *i* P Pn 04 11 59.4 +0.8
PCRV **Puerto La Cruz** 9.16 164 Pn Pn 04 12 01.9 +2.8
comp=Z,3.1nm,0.3s,baz=326,slow=3.5,SNR=34
PCRV Sn Sn 04 13 39.2 -2.6
comp=Z,0.9nm,0.3s,baz=340,slow=9.2,SNR=1.3
CRJC **Cerrejon, Guaj** 9.65 215 P Pn 04 12 05.5 -0.4
comp=Z,43nm,0.8s
MTDJ **Mount Denham** 9.80 267 Pn Pn 04 12 07.6 -0.2
MTDJ **Mount Denham** 9.80 267 P Pn 04 12 07.3 -0.5
comp=Z,37nm,0.8s
BAUV **El Baul** 10.06 185 Pn Pn 04 12 13.6 +2.1
SMRC **Santa Marta, M** 10.33 222 Pn Pn 04 12 14.2 -0.8
SMRC **Santa Marta, M** 10.33 222 P Pn 04 12 15.5 +0.4
comp=Z,40nm,0.7s
SDV **Santo Domingo** 10.61 199 Pn Pn 04 12 22.1 +3.0
comp=Z,1.8nm,0.3s,baz=51,slow=9.7,SNR=3.5
SDV Sn Sn 04 14 15.4 -2.4
comp=Z,2.4nm,0.3s,baz=326,slow=19,SNR=3.5
SDV **Santo Domingo** 10.61 199 *e*P Pn 04 12 22.4 +3.3
SDV **Santo Domingo** 10.61 199 P Pn 04 12 26.1 +7.0
comp=Z,76nm,0.9s
ARGC **Ariguani, Magd** 11.37 218 P Pn 04 12 31.5 +2.2
comp=Z,13nm,0.5s
SJCC **San Jacinto, C** 11.90 221 P Pn 04 12 35.3 -1.3
comp=Z,14nm,0.7s
OCAC **Ocana** 12.25 210 P Pn 04 12 42.1 +0.6
comp=Z,141nm,0.7s
PAMC **Pamplona, Colo** 12.78 205 P Pn 04 12 49.9 +0.8
SERC **Banco Serrana,** 13.43 251 P Pn 04 12 59.4 +1.9
comp=Z,75nm,0.6s
BBSR **BB Station** 13.47 9 Pn Pn 04 12 54.8 -3.1
BRJC **Barrancabermej** 13.56 209 P Pn 04 12 59.0 -0.2
comp=Z,1µmcomp=Z,111nm,0.8s
BARC **Barichara** 13.66 206 P Pn 04 13 00.8 0.0
RUSC **La Rusia** 14.25 204 Pn Pn 04 13 09.5 +0.3
RUSC **La Rusia** 14.25 204 P Pn 04 13 08.8 -0.4
comp=Z,68nm,0.6s
PTBC **PUERTO BERRIO,** 14.27 210 P Pn 04 13 07.6 -1.4
comp=Z,269nmcomp=Z,25nm,0.5s
APAC **Apartado, Choc** 14.31 221 P Pn 04 13 09.6 0.0
comp=Z,38nm,0.5s
061Z **Ochoppi** 14.34 301 Pn Pn 04 13 07.3 -2.6
060A **Indiantown** 14.46 306 Pn Pn 04 13 09.0 -2.5
DBBC **Dabeiba** 14.79 217 P Pn 04 13 18.2 +2.0
SPBC **San Pablo de B** 14.88 207 P Pn 04 13 16.8 -0.6
comp=Z,32nm,0.9s
HELC **Santa Helena** 15.11 213 P Pn 04 13 16.8 -3.9
comp=Z,38nm,0.8s
SOR **Soroa** 15.20 287 Pn Pn 04 13 21.9 +0.4
SOR IAmb IAmb 04 13 32.3
comp=Z,53nm,1.4s
NORC **Norcasia** 15.32 210 P Pn 04 13 23.6 +0.4
comp=Z,40nm,0.7s
CBOC **Ciudad Bolivar** 15.64 214 P P 04 13 30.2 -1.3
comp=Z,42nm,0.7s
BCIP **Isla Barro Col** 15.66 233 P Pn 04 13 25.8 -1.8
comp=Z,29nm,0.8s
PTAC **Punta Ardita,** 15.66 222 P Pn 04 13 24.6 -3.0
comp=Z,42nm,0.9s
ROSC **El Rosal** 15.71 207 Pn P 04 13 31.8 -0.8
comp=Z,3.1nm,0.3s,baz=27,slow=12,SNR=15
ROSC Sn Sn 04 16 19.1 -3.6
comp=Z,1.5nm,0.3s,baz=319,slow=19,SNR=1.6

ROSC **El Rosal** 15.71 207 P P 04 13 30.8 -1.8
comp=Z,90nm,0.8s
GUY2C **Guyana, Caldas** 15.85 211 P Pn 04 13 29.8 -0.7
comp=Z,853nmcomp=Z,60nm,0.7s
CVER **Cruz Verde, Cu** 15.90 206 P Pn 04 13 32.8 +1.7
comp=Z,191µmcomp=Z,42nm,0.7s
ORTC **Ortega, Tolima** 16.95 208 P P 04 13 46.0 0.0
comp=Z,77nm,1.0s
PRAC **Prado** 16.96 207 P Pn 04 13 43.2 -1.1
comp=Z,46nm,1.5s
URMC **La Uribe, Meta** 17.18 205 P P 04 13 49.4 +0.9
comp=Z,57nm,0.8s
656A **Willston** 17.32 309 Pn Pn 04 13 47.2 -1.4
YOTC **Yotoco, Valle** 17.41 212 P P 04 13 52.4 +1.3
comp=Z,18nm,1.0s
456A **Hilliard** 17.74 314 P Pn 04 13 53.5 -0.3
BOAV **Boa Vista** 17.80 158 P 04 13 55.4 +0.1
BOAV **Boa Vista** 17.80 158 *e*P Pn 04 13 52.3 -2.3
BOAV **Boa Vista** 17.80 158 P P 04 13 56.2 +0.9
comp=Z,21nm,0.9s
MACC **Macarena, Meta** 17.99 202 P P 04 13 59.9 +2.4
comp=Z,25nm,0.6s
CSU **Charleston Sou** 18.03 323 P P 04 13 58.2 +0.4
NHSC **New Hope** 18.18 323 P 04 14 00.8 +1.4
POPC **Popayan, Colom** 18.82 211 P Pn 04 14 07.9 +0.6
comp=Z,26nm,0.9s
X58A **Rowland** 18.83 328 IAmb IAmb 04 14 27.1
comp=Z,35nm,0.6s
SGC2 **Sao Gabriel da** 19.07 179 P Pn 04 14 09.9 -0.2
comp=Z,29nm,1.2s
JTS **Las Juntas de** 19.20 246 P Pn 04 14 14.7 +2.9
comp=Z,10.0nm,0.9s,baz=53,slow=22,SNR=3.8
FLOC **Florencia** 19.21 206 P Pn 04 14 12.2 +0.4
FLOC **Florencia** 19.21 206 P Pn 04 14 11.7 -0.1
comp=Z,70nm,1.0s
TIGA **Tifton** 19.24 313 P Pn 04 14 13.3 +1.2
TIGA IAmb IAmb 04 14 25.1
comp=Z,35nm,0.9s
BBAC **Baboa, Cauca** 19.55 211 P Pn 04 14 15.7 -0.4
comp=Z,23nm,0.7s
154A **Montrose** 19.63 317 P Pn 04 14 16.2 -0.6
JSC **Jenkinsville** 19.65 323 P P 04 14 15.1 -0.4
JSC IAmb IAmb 04 14 26.8
comp=Z,27nm,0.6s
V58A **Windy Hill, Pi** 19.71 330 IAmb IAmb 04 14 42.3
comp=Z,28nm,0.9s
TEIG **Tepich** 19.85 277 P P 04 14 17.3 -0.6
comp=Z,40nm,1.0s
MDP **Montagnes des** 19.86 132 P Pn 04 14 19.0 -0.6
comp=Z,0.3nm,0.3s,baz=318,slow=11,SNR=6.9
MDP LR LR 04 23 18.4
comp=Z,945nm,19.5s,baz=310,slow=41
comp=Z,3.4nm,0.7s
T59A **Double "B" Far** 20.03 335 P P 04 14 20.0 +0.3
T59A IAmb IAmb 04 14 30.4
comp=Z,22nm,0.5s
PTLC **Puerto Leguiza** 20.16 202 P P 04 14 21.9 +0.6
comp=Z,22nm,1.0s
PAULI **Pauline** 20.36 323 IAmb IAmb 04 14 33.3
comp=Z,30nm,0.6s
GOGA **Godfrey** 20.38 318 P P 04 14 24.1 +0.7
152A **Waverly Hall** 20.74 314 P P 04 14 28.0 +0.6
T57A **Hurt** 20.77 332 P P 04 14 28.2 +0.5
T57A IAmb IAmb 04 14 38.8
comp=Z,22nm,0.5s
TULM **Tulcn-Chalpat** 20.94 211 P Pn 04 14 36.5 +3.7
comp=Z,35nm,0.8s
R58B **Mineral** 21.02 336 IAmb IAmb 04 15 00.7
comp=Z,21nm,0.6s
BONI **La Lanita** 21.05 210 P P 04 14 36.3 +5.2
comp=Z,26nm,0.9s
Y52A **Lilburn** 21.05 318 P P 04 14 31.4 +0.7
Y52A IAmb IAmb 04 14 40.6
comp=Z,21nm,0.8s
S57A **Dark Hollow, R** 21.28 334 IAmb IAmb 04 14 45.0
comp=Z,20nm,0.6s
V53A **Saluda** 21.54 323 P P 04 14 35.6 -0.4
V53A IAmb IAmb 04 15 01.2
comp=Z,27nm,0.7s
PETF **Flores** 21.63 268 P P 04 14 37.0 -0.1
PETF IAmb IAmb 04 14 51.6
comp=Z,28nm,0.7s
MTO3 **Montecristo** 21.68 261 P P 04 14 37.9 0.0
OTAV **Otavalo** 21.68 212 *e*P P 04 14 40.6 +2.5
TEFE **Tefe** 22.55 173 *e*P P 04 14 46.9 0.0
TZTN **Tazewell** 22.58 324 IAmb IAmb 04 15 21.0
comp=Z,24nm,0.7s
Y49A **Blount Mountai** 22.58 315 P P 04 14 47.6 +0.4
PIAT **Ana Tenorio** 22.66 210 P P 04 14 52.3 +3.7
comp=Z,26nm,1.3s
W50A **Signal Mountai** 22.70 319 IAmb IAmb 04 15 05.1
comp=Z,18nm,1.5s
MACA **Manacapuru-AM** 22.98 163 P P 04 14 51.4 -0.1
MACA **Manacapuru-AM** 22.98 163 *e*P P 04 14 51.0 -0.5
X48A **Hartselle** 23.36 315 P P 04 14 54.7 -0.5
X48A IAmb IAmb 04 15 15.4
comp=Z,9.6nm,0.6s
Z47A **Carrollton** 23.36 311 P P 04 14 55.5 +0.2
Z47A IAmb IAmb 04 15 12.0
comp=Z,16nm,0.8s
T50A **Nancy** 23.64 323 P P 04 14 56.9 -1.1
T50A IAmb IAmb 04 15 18.2
comp=Z,15nm,0.6s
Q52A **Bidwell** 23.75 330 IAmb IAmb 04 15 32.5
comp=Z,27nm,0.9s
U49A **Red Boiling Sp** 23.85 321 P P 04 15 01.2 +1.3
U49A IAmb IAmb 04 15 19.3
comp=Z,9.0nm,0.6s
CCIG **Comitan** 23.88 267 P P 04 15 00.2 -0.5
V48A **Smith Brothers** 23.99 318 P P 04 15 02.0 +0.7
PLAL **Pickwick Lake** 24.36 315 P P 04 15 04.6 -0.1
PLAL IAmb IAmb 04 15 28.0
comp=Z,13nm,0.5s
MAL2 **Monte Alegre,** 24.55 147 P P 04 15 06.8 +0.2
Y45A **Yeager Farm, C** 24.76 311 P P 04 15 08.9 +0.6
WVT **Waverly** 24.88 317 P P 04 15 09.1 -0.3
OXF **Oxford** 25.01 313 P P 04 15 10.3 -0.2
ITTB **Itaituba** 25.87 153 *e*P P 04 15 17.9 -0.6
CCAR **Cane Creek** 26.40 309 P P 04 15 23.3 0.0
MCRA **Macar, Loja** 26.41 210 P P 04 15 25.0 +1.4
comp=Z,12nm,0.8s
CGM3 **Cape Girardeau** 26.75 317 IAmb IAmb 04 15 27.7
comp=Z,17nm,1.2s
WLAR **White Oak Lake** 27.29 307 IAmb IAmb 04 15 41.8
comp=Z,9.9nm,0.7s
WHAR **Wood Hollow** 27.43 311 IAmb IAmb 04 15 34.7
comp=Z,11nm,0.9s
FCAR **Ozark Folk Cen** 27.62 313 IAmb IAmb 04 15 35.5
comp=Z,8.2nm,0.8s
CCM **Cathedral Cave** 28.21 317 P P 04 15 38.7 -0.8
CCM IAmb IAmb 04 15 40.7
comp=Z,11nm,1.1s
NPGB **Novo Progresso** 28.44 155 *e*P P 04 15 40.2 -1.5
U38A **Gravette** 29.48 312 IAmb IAmb 04 15 51.9
comp=Z,11nm,1.4s
P40A **Paris** 29.59 319 IAmb IAmb 04 16 07.6
comp=Z,11nm,1.1s
TUL3 **Leonard** 30.25 310 IAmb IAmb 04 16 01.6
comp=Z,9.9nm,0.9s
P38A **Dawn** 30.57 318 IAmb IAmb 04 16 01.0
comp=Z,4.6nm,0.6s
JFWS **Jewell Farm** 30.73 326 IAmb IAmb 04 16 27.1
comp=Z,8.1nm,0.8s
PLPT **Palo Pinto** 31.00 302 IAmb IAmb 04 16 20.5
comp=Z,8.8nm,0.7s
OK052 **Battle Ridge R** 31.02 309 IAmb IAmb 04 16 08.8
comp=Z,11nm,0.9s
BRDY **Brady** 31.11 299 IAmb IAmb 04 16 07.4
comp=Z,4.4nm,0.7s
CLDB **Colider** 31.79 158 *e*P P 04 16 11.1 -0.2
ABTX **Abilene, Hawle** 32.01 301 IAmb IAmb 04 16 33.4
comp=Z,9.4nm,0.8s
PDRB **Porto dos Gac** 32.17 160 *e*P P 04 16 13.4 -1.2
VILB **Vilhena** 32.53 167 *e*P P 04 16 17.1 -0.8
OZNA **Ozona** 32.79 298 IAmb IAmb 04 16 38.3
comp=Z,4.7nm,0.8s
SGCY **Sterling City** 33.03 300 IAmb IAmb 04 16 34.9
comp=Z,5.9nm,0.9s
SMWD **Samnorwood** 33.27 306 IAmb IAmb 04 16 38.9
comp=Z,8.0nm,0.7s
SAND **Sanderson** 33.43 296 IAmb IAmb 04 16 42.1
comp=Z,9.1nm,1.4s
SMTB **Santa Maria do** 33.82 143 *e*P P 04 16 28.7 -0.4
MNHN **Monahans** 34.25 298 IAmb IAmb 04 16 51.1
comp=Z,6.4nm,0.8s
SNDB **Serra Nova Dou** 34.59 152 *e*P P 04 16 34.9 -0.9

TXAR **Lajitas Array** 34.65 294 P P 04 16 37.1 +0.7
TXAR **Lajitas Array** 34.65 294 P P 04 16 37.4 +1.0
comp=Z,3.0nm,0.7s,baz=112,slow=9.2,SNR=53
TXAR PcP PcP 04 19 11.2 +0.7
comp=Z,0.7nm,0.7s,baz=110,slow=4.3,SNR=3.7
TXAR ScP ScP 04 22 56.7 +1.5
comp=Z,3.3nm,1.0s,baz=124,slow=6.1,SNR=19
comp=Z,3.0nm,0.7s
ALPN **Alpine** 34.80 296 IAmb IAmb 04 17 01.4
comp=Z,7.5nm,0.8s
ECSD **EROS Data Cent** 34.83 321 IAmb IAmb 04 16 38.9
comp=Z,6.7nm,0.7s
MSTX **Muleshoe** 34.91 302 IAmb IAmb 04 16 42.9
comp=Z,7.8nm,0.8s
LPAZ **La Paz** 35.11 181 P P 04 16 39.9 -1.0
LPAZ **La Paz** 35.11 181 P P 04 16 40.2 -0.7
comp=Z,1.6nm,0.7s,baz=17,slow=5.3,SNR=6.9
LPAZ PcP PcP 04 19 11.8 -0.7
comp=Z,1.9nm,0.7s,baz=22,slow=5.4,SNR=3.1
comp=Z,1.6nm,0.7s
LPAZ **La Paz** 35.11 181 *e*P P 04 16 39.6 -1.3
LPAZ **La Paz** 35.11 181 P P 04 16 36.2 -4.7
PECS **Pecos** 35.18 298 IAmb IAmb 04 16 58.0
comp=Z,5.6nm,0.8s
PTLB **Pontes e Lacer** 35.18 166 P P 04 16 40.9 +0.1
PTLB IAmb IAmb 04 16 43.5
comp=Z,8.6nm,1.0s
PTLB **Pontes e Lacer** 35.18 166 *e*P P 04 16 38.8 -2.1
RTBA **Rita Blanca** 35.63 307 IAmb IAmb 04 16 59.1
comp=Z,7.2nm,1.0s
SCHQ **Schefferville** 35.73 0 P P 04 16 46.0 +0.8
comp=Z,21nm,0.6s,baz=202,slow=11,SNR=1.6
comp=Z,21nm,0.6s
VHRN **Van Horn** 36.02 296 IAmb IAmb 04 17 11.0
comp=Z,8.2nm,0.8s
SALV **Santo Antonio** 36.53 161 *e*P P 04 16 51.9 -0.5
PB16 **IPOC Station P** 37.20 184 IAmb IAmb 04 17 16.6
comp=Z,6.0nm,0.7s
ARAG **Araguaiana, MT** 37.71 155 *e*P P 04 17 01.7 -0.8
SDBA **SAO DESIDERIO** 38.22 143 *e*P P 04 17 05.4 -1.4
Y22A **Socorro** 38.28 301 IAmb IAmb 04 17 09.6
comp=Z,10.0nm,1.0s
PP1B **Ponte de Pedra** 38.38 161 *e*P P 04 17 08.7 +0.6
GO01 **Chusmiza** 38.51 183 IAmb IAmb 04 17 08.3
comp=Z,8.4nm,0.8s
BDFB **Brasilia** 39.31 150 P P 04 17 15.2 -0.8
comp=Z,5.7nm,0.8s,baz=344,slow=7.4,SNR=5.9
comp=Z,5.7nm,0.8s
RCBR **Riachuelo** 39.54 126 *e*P P 04 17 12.8 -5.1
PB01 **IPOC Station P** 39.89 183 IAmb IAmb 04 17 19.4
comp=Z,15nm,0.8s
BDQN **Bodoquena, MS** 40.56 165 *e*P P 04 17 26.0 -0.2
JANB **Januaria** 40.71 145 *e*P P 04 17 26.4 -1.2
PV02 **Paradox Valley** 40.73 307 IAmb IAmb 04 18 05.0
comp=Z,9.2nm,0.9s
PV12 **Saucer Basin,** 40.80 307 P P 04 17 27.3 -1.1
PV12 IAmb IAmb 04 17 49.4
comp=Z,14nm,0.9s
PV03 **Paradox Valley** 40.82 307 P P 04 17 29.0 +0.4
PV11 **David Mesa, Pa** 40.85 307 P P 04 17 29.2 +0.4
PV11 IAmb IAmb 04 18 05.4
comp=Z,10nm,0.8s
AQDB **Aquidauana** 40.86 163 P P 04 17 27.5 -1.2
AQDB IAmb IAmb 04 17 32.1
comp=Z,16nm,0.7s
AQDB **Aquidauana** 40.86 163 *e*P P 04 17 28.1 -0.6
PV18 **Skein Mesa, Pa** 40.87 307 IAmb IAmb 04 17 55.4
comp=Z,24nm,1.2s
PV20 **West Nyswonger** 40.94 307 IAmb IAmb 04 17 50.6
comp=Z,15nm,1.1s
PV19 **Morning Glory** 40.94 307 IAmb IAmb 04 17 53.1
comp=Z,8.9nm,0.9s
PV10 **Paradox Valley** 41.00 307 IAmb IAmb 04 17 56.3
comp=Z,12nm,1.0s
IPMB **Ipameri, GO** 41.27 152 *e*P P 04 17 31.1 -1.0
P18A **Preston Nutter** 42.25 308 IAmb IAmb 04 17 46.8
comp=Z,11nm,0.6s
PMNB **Patos De Minas** 42.56 150 *e*P P 04 17 41.7 -1.1
PDAR **Pinedale Array** 42.74 313 P P 04 17 44.4 +0.1
comp=Z,0.4nm,0.4s,baz=91,slow=8.5,SNR=7.6
PDAR PcP PcP 04 19 37.1 +1.4
comp=Z,0.3nm,0.5s,baz=107,slow=4.2,SNR=1.6
comp=Z,0.4nm,0.4s
AMBA **Amambai (Brazi** 43.39 163 *e*P P 04 17 48.3 -1.0
DIAM **Diamantina, MG** 43.73 147 *e*P P 04 17 51.2 -1.1
CMC01 **Camacan, BA** 43.73 140 *e*P P 04 17 51.2 -1.0
YHL **Hebgen Lake** 44.57 315 IAmb IAmb 04 18 22.8
comp=Z,8.5nm,1.1s
IRM **Iron Mountain** 45.01 300 IAmb IAmb 04 18 19.2
comp=Z,9.1nm,1.0s
DLMT **Dillon** 45.69 315 IAmb IAmb 04 18 14.7
comp=Z,5.6nm,0.8s
CPUP **Villa Florida** 46.11 168 P P 04 18 08.6 -2.4
CPUP **Villa Florida** 46.11 168 P P 04 18 08.8 -2.2
comp=Z,2.6nm,0.8s,baz=333,slow=9.4,SNR=13
CPUP PcP PcP 04 19 47.7 +0.7
comp=Z,0.6nm,0.9s,baz=27,slow=4.5,SNR=3.1
comp=Z,2.6nm,0.8s
TPNV **Topopah Spring** 46.28 303 IAmb IAmb 04 18 30.9
comp=Z,7.2nm,0.9s
GWY **Greenwater Val** 46.51 302 IAmb IAmb 04 18 19.6
comp=Z,4.3nm,0.9s
WCT **Wildcat Mounta** 46.56 303 IAmb IAmb 04 18 36.7
comp=Z,4.6nm,0.8s
QSM **Queen of Sheba** 46.63 302 IAmb IAmb 04 18 51.6
comp=Z,4.5nm,1.0s
PLID **Pearl Lake** 47.89 314 IAmb IAmb 04 19 00.3
comp=Z,7.1nm,1.4s
NV11 **Mina Array Sit** 48.00 305 IAmb IAmb 04 18 53.5
comp=Z,5.0nm,0.8s
NVAR **Mina Array Bea** 48.12 305 P P 04 18 28.4 +1.5
NVAR **Mina Array Bea** 48.12 305 P P 04 18 28.2 +1.2
comp=Z,1.6nm,0.7s,baz=80,slow=5.5,SNR=10
comp=Z,1.6nm,0.7s
LHV **Little Huntoon** 48.25 305 IAmb IAmb 04 19 07.9
comp=Z,4.3nm,0.7s
J08A **Circle Bar Ran** 49.17 311 IAmb IAmb 04 18 58.8
comp=Z,4.4nm,0.9s
NEW **Newport** 49.57 318 P P 04 18 38.0 +0.2
NEW IAmb IAmb 04 18 52.9
comp=Z,9.9nm,0.8s
RUSS **Russell Ranch** 50.91 305 P P 04 18 47.1 -0.8
WIFE **Three Sisters-** 51.69 312 P P 04 18 54.4 +0.4
WIFE IAmb IAmb 04 19 11.2
comp=Z,9.1nm,1.0s
MD01 **Midelt array s** 57.11 63 P P 04 19 33.3 -0.3
MD31 **MD31** 57.11 63 P P 04 19 34.3 +0.8
MD31 IAmb IAmb 04 19 59.6
comp=Z,8.5nm,1.1s
ESDC **Sonseca Array** 57.69 55 P 04 19 38.9 +1.5
ESDC **Sonseca Array** 57.69 55 P P 04 19 38.1 +0.7
comp=Z,4.5nm,0.8s,baz=274,slow=7.3,SNR=31
comp=Z,4.5nm,0.8s
ESBB **Sonseca Array** 57.69 55 P 04 19 37.9 +0.5
ESBB IAmb IAmb 04 19 40.2
comp=Z,6.7nm,0.8s
PLCA **Paso Flores** 59.54 183 P P 04 19 49.0 -1.1
comp=Z,1.8nm,0.8s,baz=5.1,slow=7.2,SNR=6.7
comp=Z,1.8nm,0.8s
EKA **Eskdalemuir Ar** 59.84 36 P P 04 19 52.4 +0.4
comp=Z,3.8nm,0.8s,baz=279,slow=5.4,SNR=9.0
comp=Z,3.8nm,0.8s
DBIC **Dimbokro** 61.77 93 P P 04 20 06.1 +0.3
EGAK **Eagle** 66.10 333 P P 04 20 35.5 +2.0
EGAK IAmb IAmb 04 20 49.0
comp=Z,5.7nm,1.1s
TORD **Torodi Ar. Bea** 66.14 84 P P 04 20 34.3 -0.2
TORD **Torodi Ar. Bea** 66.14 84 P P 04 20 35.0 +0.5
comp=Z,1.4nm,0.8s,baz=303,slow=6.6,SNR=6.9
comp=Z,1.4nm,0.8s
BCAR **Beaver Creek A** 66.21 331 P P 04 20 35.5 +1.3
L27K **Beaver Creek,** 66.23 331 P P 04 20 35.2 +0.8
L27K IAmb IAmb 04 20 39.9
comp=Z,4.5nm,1.0s
SCRK **Sand Creek** 67.26 332 P P 04 20 41.9 +0.9
SCRK IAmb IAmb 04 20 55.5
comp=Z,5.1nm,0.8s
NB2 **NORSAR Subarra** 67.95 31 P P 04 20 46.7 +1.3
comp=Z,0.8nm,0.7s,baz=270,slow=6.5
NOA **NORSAR Array B** 67.95 31 P P 04 20 46.0 +0.6
comp=Z,1.2nm,0.7s,baz=270,slow=6.3,SNR=5.7
comp=Z,1.2nm,0.7s
FETA **Feichten** 68.20 46 *i* PKKP P 04 20 48.6 +1.3
comp=Z,6.7nm,1.1s
MOTA **Moosalm** 68.43 46 *e*PKKP P 04 20 50.0 +1.2
comp=Z,6.5nm,1.2s
SQTA **Sankt Quirin** 68.51 46 *e*PKKP P 04 20 50.6 +1.4

comp=Z,3.8nm,1.0s
ILAR Eielson Array 68.55 333 P **P** **04 20 49.4 +0.4**
comp=Z,1.7nm,0.8s,baz=99,slow=4.1,SNR=10
comp=Z,1.7nm,0.8s
H24K Noodor Dome 68.97 334 P **P** **04 20 52.8 +1.1**
H24K IAmb IAmb 04 21 18.2
comp=Z,8.4nm,1.1s
ARCES ARCESS Array B 73.29 22 P **P** **04 21 18.7 +1.0**
comp=Z,2.5nm,0.6s,baz=292,slow=3.8,SNR=14
comp=Z,2.5nm,0.6s
FINES FINESS Array B 75.05 30 P **P** **04 21 28.6 +0.5**
comp=Z,1.5nm,0.6s,baz=211,slow=1.6,SNR=4.7
comp=Z,1.5nm,0.6s
MLR Muntele Rosu 78.84 46 P **P** **04 21 51.9 +1.9**
MLR IAmb IAmb 04 21 53.1
comp=Z,5.6nm,0.8s
BRTR Keskin Array B 86.06 49 P **P** **04 22 27.9 +0.1**
comp=Z,0.5nm,0.8s,baz=330,slow=2.0,SNR=4.0
comp=Z,0.5nm,0.8s
SMAI San Martin Ant 86.92 180 P **P** **04 22 30.6 -0.3**
SMAI IAmb IAmb 04 22 32.4
comp=Z,6.5nm,1.0s
HHC Hu-ho-hao-te 120.41 1 *eP* **PKPdf** **04 28 38.5 0.0**
PZH PanZhiHua 133.49 14 PKP **PKiKP** **04 29 05.1 0.0**
STKA Stephens Creek 151.10 238 PKPbc **PKPbc** **04 29 39.0 -1.3**
comp=Z,3.3nm,0.7s,baz=102,slow=14,SNR=10
WRA Warramunga Arr 159.64 264 PKP **PKPdf** **04 29 45.2 -1.1**
comp=Z,1.1nm,0.9s,baz=72,slow=1.7,SNR=7.7
WRA PKPab **PKPab** **04 30 24.5 -0.3**
comp=Z,0.7nm,0.6s,baz=73,slow=2.0,SNR=4.9
ASAR Alice Springs 159.78 253 PKP **PKPdf** **04 29 45.7 -0.7**
comp=Z,1.0nm,0.9s,baz=127,slow=2.8,SNR=7.2
ASAR PKPab **PKPab** **04 30 25.3 0.0**
comp=Z,1.8nm,0.8s,baz=105,slow=4.2,SNR=11

*NEIC **24** 04:12:17.2±1.0, 19°.32N±0°.03×67°.31W±0°.08, h10km±2km, ML3.1/9, Md2.7/5(RSPR), Error ellipse: s-maj=12.9km s-min=3.0km az=248.0*
*RSPR **24** 04:12:23.9, 19°.12N×67°.31W, h17km±15km, MD2.7/5*
ISC 24 04:12:18.5±2.1, 19°.3N±0°.1×67°.32W±0°.10, h21km, n22, σ0°66/21, 4C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.82**	**166**		**Pn**	**04 12 35.4**	**+0.6**
AGPR					**Sb**	**04 12 44.9**	**+0.2**
AGPR	**Aguadilla, PR**	**0.82**	**166**	⇑*eP*	**Pn**	**04 12 35.4**	**+0.6**
AGPR	**Aguadilla, PR**	**0.82**	**166**	*eS*	**Sb**	**04 12 44.9**	**+0.2**
AOPR	**Arecibo Observ**	**1.06**	**150**		**Pb**	**04 12 38.6**	**+0.4**
AOPR				IAML		04 12 52.3	
	comp=N,825nm,1.3s						
EMPR	**Esperanza - Ma**	**1.08**	**136**	Pn	**Pb**	**04 12 38.6**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.27**	**171**		**Pb**	**04 12 41.9**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.27**	**171**		**Sn**	**04 12 57.1**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.27**	**171**	IAML		04 12 49.3	
	comp=N,280nm,2.1s						
CRPR	**Cabo Rojo, PR**	**1.27**	**171**	⇑*eP*	**Pb**	**04 12 41.9**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.27**	**171**	*eS*	**Sn**	**04 12 57.1**	**-0.3**
MLPR	**Magueyes Islan**	**1.32**	**169**	⇑*eP*	**Pb**	**04 12 42.7**	**+0.2**
MLPR	**Magueyes Islan**	**1.32**	**169**	*eS*	**Sn**	**04 12 57.2**	**-1.3**
CELP	**Cerrillos**	**1.38**	**149**		**Pb**	**04 12 44.0**	**+0.4**
CELP				IAML		04 13 04.9	
	comp=E,216nm,1.8s						
CELP	**Cerrillos**	**1.38**	**149**		**Sn**	**04 12 59.4**	**-0.7**
CELP	**Cerrillos**	**1.38**	**149**	IAML		04 12 54.9	
	comp=N,237nm,1.7s						
CELP	**Cerrillos**	**1.38**	**149**	⇑*eP*	**Pb**	**04 12 44.0**	**+0.4**
CELP	**Cerrillos**	**1.38**	**149**	*eS*	**Sn**	**04 12 59.4**	**-0.7**
OBIP	**Obispado Ponce**	**1.39**	**151**		**Pb**	**04 12 43.8**	**0.0**
OBIP					**Sn**	**04 12 59.1**	**-1.3**
OBIP	**Obispado Ponce**	**1.39**	**151**	IAML		04 13 04.6	
	comp=E,236nm,1.5s						
OBIP	**Obispado Ponce**	**1.39**	**151**	⇓*eP*	**Pb**	**04 12 43.8**	**0.0**
OBIP	**Obispado Ponce**	**1.39**	**151**	*eS*	**Sn**	**04 12 59.1**	**-1.3**
SDDR	**Presa de Saban**	**3.77**	**266**	Pn	**Pn**	**04 13 15.4**	**0.0**

*CATAC **24** 04:16:04.7±0.6, 14°.N±3°.3×9°.1W±°.1, h1km, M3.3/9, MLv3.3/9, Error ellipse: s-maj=8.2km s-min=4.2km az=43.2, confirmed*
*GCG **24** 04:16:06.9±1.1, 13°.69N×91°.39W, h37km±6km, MD4.0, ML3.3, MW3.1*
*SNET **24** 04:16:07.0±0.8, 13°.73N×91°.32W, h34km±12km, ML3.3*
ISC 24 04:16:06.9±2.0, 13°.7N±0°.1×91°.29W±0°.08, h28km, n33, σ1°9/09/36, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESSG	**Sabana Grande**	**0.81**	**33**	*iP*	**Pb**	**04 16 22.4**	**-0.1**
ESSG				IAML		04 16 38.2	
	comp=N,523nm,0.1s						
FG8	**Yepocapa, Chim**	**0.90**	**52**	*iP*	**Pn**	**04 16 22.8**	**-1.0**
RTAL	**Retalhuleu**	**0.91**	**334**	*eP*	**Pb**	**04 16 24.2**	**0.0**
RTAL	**Retalhuleu**	**0.91**	**334**	P	**Pn**	**04 16 23.2**	**-0.8**
FG16	**Alotenango, Sa**	**0.95**	**53**	*iP*	**Pn**	**04 16 23.7**	**-0.9**
FG16				IAML		04 16 46.4	
	comp=N,3μm,0.3s						
SOKI	**Kika Raxquin**	**1.12**	**354**	*iP*	**Pb**	**04 16 27.5**	**-0.5**
SOKI				*iS*	**Sb**	**04 16 43.0**	**+0.6**
FAME	**Alcaldia de Sa**	**1.25**	**83**	P	**Pn**	**04 16 27.9**	**-0.6**
FAME	**Alcaldia de Sa**	**1.25**	**83**	S	**Sn**	**04 16 44.5**	**+0.2**
NUBE	**Las Nubes**	**1.48**	**82**	*eP*	**Pn**	**04 16 32.0**	**+0.1**
NUBE	**Las Nubes**	**1.48**	**82**	*iP*	**Pb**	**04 16 33.2**	**-0.7**
NUBE	**Las Nubes**	**1.48**	**82**	P	**Pn**	**04 16 31.8**	**0.0**
NUBE	**Las Nubes**	**1.48**	**82**	S	**Sb**	**04 16 52.0**	**-0.3**
QUIS	**Sacapulas**	**1.59**	**7**	*iP*	**Pn**	**04 16 33.4**	**0.0**
QUIS				IAML		04 16 38.6	
	comp=N,205nm,0.3s						
RBDL	**Robledal**	**1.61**	**75**	*eP*	**Pb**	**04 16 35.0**	**-1.1**
RBDL				*eS*	**Sb**	**04 16 57.4**	**+1.3**
CEVE	**Cerro Verde**	**1.62**	**85**	*eP*	**Pn**	**04 16 34.4**	**+0.5**
CEVE	**Cerro Verde**	**1.62**	**85**	P	**Pn**	**04 16 34.7**	**+0.8**
CEVE	**Cerro Verde**	**1.62**	**85**	S	**Sb**	**04 16 58.6**	**+2.0**
SBLS	**San Blas**	**1.62**	**85**	*eP*	**Pn**	**04 16 34.3**	**+0.3**
SNJE	**San Jose**	**1.64**	**84**	*eP*	**Pn**	**04 16 34.7**	**+0.5**
UNIC	**Universidad Ca**	**1.71**	**80**	P	**Pn**	**04 16 36.2**	**+1.2**
UNIC	**Universidad Ca**	**1.71**	**80**	S	**Sb**	**04 16 59.3**	**+0.3**
JAYA	**Jayaque - finc**	**1.79**	**91**	*eP*	**Pn**	**04 16 36.2**	**0.0**
JAYA	**Jayaque - finc**	**1.79**	**91**	*iP*	**Pn**	**04 16 36.1**	**0.0**
JAYA				*iS*	**Sn**	**04 16 58.7**	**+0.7**
JAYA	**Jayaque - finc**	**1.79**	**91**	P	**Pn**	**04 16 36.5**	**+0.3**
JAYA	**Jayaque - finc**	**1.79**	**91**	S	**Sb**	**04 17 01.8**	**+0.5**
MTO3	**Montecristo**	**2.00**	**69**	*eP*	**Pb**	**04 16 40.9**	**-1.8**
MTO3	**Montecristo**	**2.00**	**69**	*iP*	**Pb**	**04 16 40.8**	**-2.0**
LOMA	**Loma Larga**	**2.06**	**91**	*eP*	**Pn**	**04 16 40.6**	**+0.8**
TECO	**Alcaldia de Te**	**2.44**	**93**	P	**Pn**	**04 16 46.1**	**+1.1**
TECO	**Alcaldia de Te**	**2.44**	**93**	S	**Sb**	**04 17 17.6**	**-2.3**
SCLA	**Alcaldia de Sa**	**2.49**	**90**	P	**Pn**	**04 16 47.0**	**+1.3**
SARH	**Santa Rosa de**	**2.67**	**66**	*iP*	**Pn**	**04 16 50.2**	**+2.0**
SARH	**Santa Rosa de**	**2.67**	**66**	P	**Pn**	**04 16 50.2**	**+2.0**

*RHSSO **24** 04:19:54.6±0.5, 44°.63N×18°.60E, h5km±3km, ML2.5/7*
*BEO **24** 04:19:55.8±0.3, 44°.58N×18°.46E, h16km±3km, ML2.3/12*
ISC 24 04:19:55.0±1.1, 44°.58N±0°.02×18°.52E±0°.02, h7km±10km, n42, σ0°87/71, 5C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBLS	**Lazi&#263i**	**0.96**	**138**	*ePg*	**Pg**	**04 20 13.8**	**+0.5**
BBLS				*eSg*	**Sb**	**04 20 27.6**	**+0.7**
BLY	**Banja Luka**	**0.97**	**280**	*ePg*	**Pg**	**04 20 12.9**	**-0.7**
BLY				*eSg*	**Sb**	**04 20 27.0**	**-0.2**
BLY	**Banja Luka**	**0.97**	**280**	⇑P	**Pb**	**04 20 14.4**	**+0.3**
BLY				⇓S	**Sb**	**04 20 27.8**	**+0.6**
BLY	**Banja Luka**	**0.97**	**280**	*ePg*	**Pb**	**04 20 14.3**	**+0.2**
BLY				*eSg*	**Sg**	**04 20 25.4**	**-0.8**
FRGS	**Fruska Gora**	**1.08**	**57**	*ePg*	**Pb**	**04 20 16.0**	**0.0**
FRGS				*eSg*	**Sn**	**04 20 31.2**	**-0.7**
RUDO	**Rudo**	**1.14**	**147**	⇑*iPg*	**Pb**	**04 20 15.3**	**-1.8**
RUDO				*eSg*	**Sg**	**04 20 31.1**	**-0.6**
RUDO	**Rudo**	**1.14**	**147**	*eSg*	**Pg**	**04 20 16.0**	**-0.9**
RUDO	**Rudo**	**1.14**	**147**	*ePg*	**Sg**	**04 20 32.6**	**+0.9**
DIVS	**Divibare**	**1.16**	**114**	*ePg*	**Pn**	**04 20 17.7**	**-0.1**
DIVS				*eSg*	**Sn**	**04 20 33.3**	**-0.6**
TRUS	**Trudelj**	**1.40**	**104**	*ePg*	**Pg**	**04 20 21.9**	**+0.2**
TRUS				*eSg*	**Sg**	**04 20 40.8**	**+0.9**
KLINJ	**Klinje**	**1.41**	**178**	*ePg*	**Pn**	**04 20 20.7**	**-0.6**
KLINJ				*eSg*	**Sb**	**04 20 40.5**	**+0.5**
IVAS	**Ivanjica**	**1.55**	**130**	*ePn*	**Pn**	**04 20 22.9**	**-0.2**
IVAS				*eSg*	**Sg**	**04 20 45.6**	**+0.9**
MOSL	**Moslavina**	**1.62**	**310**	*ePn*	**Pn**	**04 20 24.0**	**-0.1**
MOSL				*eSn*	**Sb**	**04 20 45.3**	**-0.7**
MOSL	**Moslavina**	**1.62**	**310**	*ePg*	**Pg**	**04 20 25.9**	**-0.1**
MOSL				Sg	**Sb**	**04 20 45.9**	**-0.1**
KIJV	**Kijevo**	**1.63**	**250**	*ePn*	**Pb**	**04 20 25.0**	**-0.3**
KIJV				*eSn*	**Sb**	**04 20 46.7**	**+0.6**
KIJV	**Kijevo**	**1.63**	**250**	*ePn*	**Pn**	**04 20 24.7**	**+0.6**
KIJV				Sg	**Sb**	**04 20 46.3**	**+0.2**
SJES	**Sjenica**	**1.69**	**141**	*ePn*	**Pn**	**04 20 25.0**	**0.0**
SJES				*eSg*	**Sg**	**04 20 50.5**	**+1.3**
MAKA	**Makarska**	**1.69**	**220**	*ePn*	**Pb**	**04 20 25.9**	**-0.5**
MAKA				Sg	**Sg**	**04 20 49.0**	**-0.2**
GRUS	**Gruza**	**1.72**	**113**	*ePn*	**Pb**	**04 20 26.2**	**-0.8**
GRUS				*eSg*	**Sg**	**04 20 53.2**	**+2.9**
STON	**Ston**	**1.81**	**200**	*ePn*	**Pb**	**04 20 28.6**	**+0.1**
STON				Sn	**Sg**	**04 20 52.8**	**-0.4**
TREB	**Trebinje**	**1.87**	**184**	*ePn*	**Pn**	**04 20 27.6**	**+0.2**
TREB				*eSn*	**Sb**	**04 20 52.8**	**-0.3**
KOME	**Kolasin**	**1.88**	**157**	*ePg*	**Pb**	**04 20 30.5**	**+0.9**
DBRK	**Dubrovnik**	**1.93**	**188**	*ePn*	**Pb**	**04 20 29.8**	**-0.8**
DBRK				Sn	**Sb**	**04 20 55.3**	**+0.5**
GOCS	**Kraljevo Serbi**	**1.98**	**120**	*ePn*	**Pn**	**04 20 27.4**	**-1.6**
GOCS				*eSn*	**Sb**	**04 20 55.6**	**-0.7**
VRSS	**Vrsac**	**2.06**	**74**	*ePn*	**Pn**	**04 20 30.2**	**+0.1**
PLIT	**Plitvice**	**2.09**	**279**	*ePn*	**Pb**	**04 20 32.2**	**-1.0**
PLIT				Sn	**Sn**	**04 20 57.3**	**+0.5**
MORI	**Morici**	**2.15**	**251**	*ePn*	**Pn**	**04 20 32.2**	**+1.0**
MORI				Sn	**Sn**	**04 20 59.6**	**+1.5**
LSTV	**Lastovo**	**2.17**	**214**	*ePn*	**Pb**	**04 20 33.2**	**-1.3**
LSTV				Sn	**Sb**	**04 21 00.9**	**-0.6**
BEHE	**Becsehely**	**2.25**	**328**	*ePn*	**Pn**	**04 20 32.0**	**-0.7**
BEHE				*eSn*	**Sn**	**04 21 00.3**	**-0.4**
ZIRJ	**Zirje**	**2.27**	**247**	*ePn*	**Pn**	**04 20 34.4**	**+1.5**
ZIRJ				Sn	**Sb**	**04 21 03.0**	**-1.6**
MDVR	**Moldovita**	**2.28**	**84**	⇓P	**Pg**	**04 20 37.9**	**-0.9**
MDVR	**Moldovita**	**2.28**	**84**	*ePn*	**Pn**	**04 20 34.2**	**+1.0**
SELS	**Selova**	**2.32**	**125**	*ePn*	**Pn**	**04 20 34.0**	**+0.4**
SELS				*eSn*	**Sn**	**04 21 01.9**	**-0.6**
BZS	**Buzias**	**2.42**	**64**	⇑P	**Pn**	**04 20 34.9**	**-0.1**
BZS	**Buzias**	**2.42**	**64**	*ePn*	**Pn**	**04 20 34.9**	**-0.1**
DRME	**Dracevica, Mon**	**2.44**	**168**	*ePg*	**Pb**	**04 20 38.1**	**-1.2**
VIRC	**Vir**	**2.50**	**265**	*ePn*	**Pn**	**04 20 36.9**	**+0.8**
VIRC				Sn	**Sn**	**04 21 07.5**	**+0.6**
NVLJ	**Novalja**	**2.61**	**271**	*ePn*	**Pn**	**04 20 39.5**	**+1.9**
NVLJ				Sn	**Sn**	**04 21 09.7**	**+0.2**
SIRR	**Siria**	**2.78**	**52**	⇓P	**Pg**	**04 20 48.1**	**0.0**
ZAGS	**Zajecar**	**2.78**	**105**	*ePn*	**Pn**	**04 20 41.1**	**+1.2**
SURR	**Surduc**	**2.80**	**64**	⇑P	**Pn**	**04 20 47.8**	**-0.9**
GZR	**Gura Zlata**	**3.12**	**73**	⇑P	**Pg**	**04 20 55.8**	**+0.9**

*SDD **24** 04:23:26.1±2.0, 19°.25N×67°.24W, h15km±22km, MD3.4, ML2.5, MW2.8*
*RSPR **24** 04:23:28.3, 19°.17N×67°.29W, h59km±8km*
*OSPL **24** 04:23:29.2±0.4, 19°.09N×67°.26W, h22km±2km, ML2.5*
ISC 24 04:23:23.3±1.5, 19°.27N±0°.06×67°.23W±0°.04, h12km±10km, n41, σ0°73/49, 8C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.81**	**172**	⇑*eP*	**Pn**	**04 23 40.2**	**-0.2**
AGPR	**Aguadilla, PR**	**0.81**	**172**	*eS*	**Sn**	**04 23 51.1**	**-1.2**
AGPR	**Aguadilla, PR**	**0.81**	**172**	*ePg*	**Pn**	**04 23 40.7**	**+0.3**
AGPR				*eSg*	**Sn**	**04 23 51.0**	**-1.3**
AGPR				IAML		04 23 52.3	
	comp=N,294nm,0.2s						
AGPR	**Aguadilla, PR**	**0.81**	**172**	*iP*	**Pn**	**04 23 40.6**	**+0.2**
AGPR				*eS*	**Sg**	**04 23 49.5**	**+0.1**
AGPR				IAML		04 23 53.4	
	comp=Z,181nm,0.1s						
AOPR	**Arecibo Observ**	**1.02**	**154**	⇓*eP*	**Pn**	**04 23 43.6**	**+0.2**
AOPR	**Arecibo Observ**	**1.02**	**154**	*eS*	**Sn**	**04 23 57.5**	**-0.2**
AOPR	**Arecibo Observ**	**1.02**	**154**	*ePg*	**Pb**	**04 23 42.5**	**-0.4**
AOPR				IAML		04 24 04.2	
	comp=N,266nm,0.3s						
EMPR	**Esperanza - Ma**	**1.03**	**140**	⇑*eP*	**Pn**	**04 23 44.8**	**+1.3**
EMPR	**Esperanza - Ma**	**1.03**	**140**	*eS*	**Sn**	**04 23 59.3**	**+1.5**
PRSN	**Puerto Rico Se**	**1.05**	**176**	⇓*eP*	**Pn**	**04 23 45.7**	**+2.0**
PRSN	**Puerto Rico Se**	**1.05**	**176**	*eS*	**Sb**	**04 23 56.7**	**-0.3**
LSP	**Las Mesas**	**1.10**	**173**	⇑*eP*	**Pg**	**04 23 45.1**	**+0.7**
LSP	**Las Mesas**	**1.10**	**173**	*eS*	**Sb**	**04 23 58.2**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.12**	**155**	⇑*eP*	**Pg**	**04 23 45.2**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.12**	**155**	*eS*	**Sg**	**04 23 59.4**	**0.0**
ECPR	**Experimental S**	**1.25**	**139**	⇓*eP*	**Pg**	**04 23 47.5**	**+0.2**
ECPR	**Experimental S**	**1.25**	**139**	*eS*	**Sg**	**04 24 03.6**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.26**	**175**	⇑*eP*	**Pg**	**04 23 47.8**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.26**	**175**	*eS*	**Sb**	**04 24 02.8**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.26**	**175**	*ePg*	**Pg**	**04 23 49.2**	**+1.7**
CRPR				*eSg*	**Sn**	**04 24 03.6**	**+0.1**
CRPR				IAML		04 24 07.5	
	comp=N,145nm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.26**	**175**	*iP*	**Pg**	**04 23 47.8**	**+0.3**
CRPR				*eS*	**Sb**	**04 24 01.2**	**-2.0**
CRPR				IAML		04 24 07.5	
	comp=Z,116nm,0.5s						
MLPR	**Magueyes Islan**	**1.30**	**172**	⇑*eP*	**Pb**	**04 23 47.8**	**+0.1**
MLPR	**Magueyes Islan**	**1.30**	**172**	*eS*	**Sn**	**04 24 04.3**	**-0.3**
MLPR	**Magueyes Islan**	**1.30**	**172**	*ePg*	**Pb**	**04 23 47.8**	**+0.1**
MLPR				*eSg*	**Sb**	**04 24 04.0**	**-0.4**
MLPR				IAML		04 24 07.9	
	comp=N,42nm,0.7s						
CELP	**Cerrillos**	**1.34**	**153**	⇓*eP*	**Pg**	**04 23 48.7**	**-0.3**
CELP	**Cerrillos**	**1.34**	**153**	*eS*	**Sg**	**04 24 06.0**	**-0.4**
CELP	**Cerrillos**	**1.34**	**153**	*iPn*	**Pg**	**04 23 48.9**	**-0.1**
CELP				*eSg*	**Sg**	**04 24 05.8**	**-0.6**
CELP				IAML		04 24 06.5	
	comp=N,180nm,0.2s						
OBIP	**Obispado Ponce**	**1.35**	**154**	⇑*eP*	**Pb**	**04 23 48.7**	**+0.2**
OBIP	**Obispado Ponce**	**1.35**	**154**	*eS*	**Sb**	**04 24 05.9**	**0.0**
GCPR	**Guaynabo City**	**1.44**	**131**	⇓*eP*	**Pb**	**04 23 50.2**	**+0.1**
GCPR	**Guaynabo City**	**1.44**	**131**	*eS*	**Sg**	**04 24 09.2**	**-0.5**
SJG	**San Juan**	**1.54**	**138**	⇓*iP*	**Pg**	**04 23 52.8**	**0.0**
SJG	**San Juan**	**1.54**	**138**	*eS*	**Sb**	**04 24 10.7**	**-0.5**
SJG	**San Juan**	**1.54**	**138**	*iP*	**Pg**	**04 23 52.5**	**-0.4**
IGPR	**InterUniversit**	**1.68**	**141**	⇓*eP*	**Pb**	**04 23 53.8**	**-0.2**
IGPR	**InterUniversit**	**1.68**	**141**	*eS*	**Sb**	**04 24 14.4**	**-0.7**
PDPR	**Patillas Dam,**	**1.69**	**137**	⇑*eP*	**Pb**	**04 23 53.7**	**-0.6**
PDPR	**Patillas Dam,**	**1.69**	**137**	*eS*	**Sb**	**04 24 15.3**	**-0.1**
MIDR	**Miches**	**1.75**	**261**	*ePg*	**Pb**	**04 23 55.5**	**+0.3**
MIDR				*ePg*	**Pg**	**04 23 55.9**	**-0.9**
MIDR				*eSg*	**Sb**	**04 24 18.1**	**+0.9**
MIDR				IAML		04 24 21.8	
	comp=N,29nm,1.2s						
MIDR				IAML		04 24 27.3	
	comp=N,31nm,0.3s						
MIDR				IAML		04 24 41.9	
	comp=N,22nm,4.9s						
SMDR	**Samana, DR**	**1.85**	**271**	⇓*eP*	**Pb**	**04 23 56.6**	**-0.5**
SMDR	**Samana, DR**	**1.85**	**271**	*eS*	**Sn**	**04 24 18.3**	**+0.1**

*NEIC **24** 04:27:21.0±1.1, 19°.13N±0°.03×67°.27W±0°.03, h10km±1km, ML2.7/11, Md2.8/15(RSPR), Error ellipse: s-maj=6.3km s-min=3.5km az=144.0*
*OSPL **24** 04:27:22.4±0.3, 19°.16N×67°.35W, h16km±1km, ML2.6*
*RSPR **24** 04:27:22.9, 19°.24N×67°.35W, h22km±3km, MD2.8/15*
*SDD **24** 04:27:23.5±1.5, 19°.14N×67°.12W, h31km±3km, MD3.2, ML2.6, MW3.2*
ISC 24 04:27:21.4±1.5, 19°.10N±0°.06×67°.27W±0°.03, h10km±10km, n57, σ0°70/74, 10C-15D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.65**	**166**		**Pn**	**04 27 35.9**	**-0.7**
AGPR					**Sb**	**04 27 44.8**	**+1.0**
AGPR	**Aguadilla, PR**	**0.65**	**166**	⇓*iP*	**Pn**	**04 27 35.9**	**-0.7**
AGPR	**Aguadilla, PR**	**0.65**	**166**	*eS*	**Sb**	**04 27 44.8**	**+1.0**
AGPR	**Aguadilla, PR**	**0.65**	**166**	⇑*ePg*	**Pb**	**04 27 35.3**	**+0.6**
AGPR				⇓*eSg*	**Sb**	**04 27 44.8**	**+1.0**
AGPR				IAML		04 27 46.3	
	comp=N,594nm,0.1s						
AGPR	**Aguadilla, PR**	**0.65**	**166**	*iP*	**Pb**	**04 27 35.3**	**+0.6**
AGPR				*eS*	**Sb**	**04 27 45.0**	**+1.2**
AGPR				IAML		04 27 47.1	
	comp=Z,353nm,0.2s						
IDE	**Isla Desecheo**	**0.73**	**195**		**Pn**	**04 27 37.3**	**-0.5**
IDE					**Sn**	**04 27 48.1**	**-0.9**
IDE	**Isla Desecheo**	**0.73**	**195**	⇓*iP*	**Pn**	**04 27 37.3**	**-0.5**
IDE	**Isla Desecheo**	**0.73**	**195**	*eS*	**Sn**	**04 27 48.1**	**-0.9**
PRSN	**Puerto Rico Se**	**0.89**	**172**		**Pn**	**04 27 39.8**	**-0.1**
PRSN					**Sn**	**04 27 52.8**	**0.0**
PRSN	**Puerto Rico Se**	**0.89**	**172**	⇓*eP*	**Pn**	**04 27 39.8**	**-0.1**
PRSN	**Puerto Rico Se**	**0.89**	**172**	*eS*	**Sn**	**04 27 52.8**	**0.0**
AOPR	**Arecibo Observ**	**0.90**	**147**		**Pb**	**04 27 38.9**	**0.0**
AOPR	**Arecibo Observ**	**0.90**	**147**	⇑*iP*	**Pb**	**04 27 39.1**	**+0.1**
AOPR	**Arecibo Observ**	**0.90**	**147**	⇓*ePg*	**Pg**	**04 27 38.8**	**+0.2**
AOPR				IAML		04 28 02.4	
	comp=N,465nm,0.2s						
LSP	**Las Mesas**	**0.94**	**169**		**Pb**	**04 27 40.1**	**+0.4**
LSP					**Sn**	**04 27 53.8**	**-0.2**
LSP	**Las Mesas**	**0.94**	**169**	⇑*iP*	**Pb**	**04 27 40.1**	**+0.4**
LSP	**Las Mesas**	**0.94**	**169**	*eS*	**Sn**	**04 27 53.8**	**-0.2**
EMPR	**Esperanza - Ma**	**0.94**	**131**		**Pn**	**04 27 41.6**	**+1.1**
EMPR					**Sn**	**04 27 54.6**	**+0.6**
EMPR	**Esperanza - Ma**	**0.94**	**131**	⇑*eP*	**Pn**	**04 27 41.6**	**+1.1**
EMPR	**Esperanza - Ma**	**0.94**	**131**	*eS*	**Sn**	**04 27 54.6**	**+0.6**
UUPR	**Utuado, UPR, P**	**0.99**	**148**		**Pb**	**04 27 40.6**	**0.0**
UUPR					**Sg**	**04 27 51.4**	**-1.9**
UUPR	**Utuado, UPR, P**	**0.99**	**148**	⇑*eP*	**Pb**	**04 27 40.6**	**0.0**
UUPR	**Utuado, UPR, P**	**0.99**	**148**	*eS*	**Sg**	**04 27 51.4**	**-1.9**
CRPR	**Cabo Rojo, PR**	**1.10**	**172**		**Pb**	**04 27 42.4**	**0.0**
CRPR					**Sb**	**04 27 57.1**	**+0.3**
CRPR				IAML		04 27 58.9	
	comp=E,143nm,0.4s						
CRPR				IAML		04 28 08.0	
	comp=N,125nm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.10**	**172**	⇑*iP*	**Pn**	**04 27 43.2**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.10**	**172**	*eS*	**Sn**	**04 27 58.0**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.10**	**172**	⇓*ePg*	**Pb**	**04 27 42.5**	**0.0**
CRPR				⇓*eSg*	**Sb**	**04 27 56.4**	**-0.4**
CRPR				IAML		04 28 05.7	
	comp=N,143nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.10**	**172**	*iP*	**Pb**	**04 27 42.4**	**0.0**
CRPR				*eS*	**Sg**	**04 27 57.3**	**+0.6**
CRPR				IAML		04 27 58.4	
	comp=Z,122nm,0.2s						
MLPR	**Magueyes Islan**	**1.15**	**169**	⇓*iP*	**Pb**	**04 27 43.1**	**-0.1**
MLPR	**Magueyes Islan**	**1.15**	**169**	*eS*	**Sg**	**04 27 59.0**	**+0.7**
MLPR	**Magueyes Islan**	**1.15**	**169**	⇓*ePg*	**Pb**	**04 27 43.0**	**-0.3**
MLPR				⇑*eSg*	**Sb**	**04 27 58.3**	**+0.1**
MLPR				IAML		04 28 06.6	
	comp=N,31nm,0.5s						
ECPR	**Experimental S**	**1.16**	**132**	⇓*eP*	**Pg**	**04 27 44.0**	**+0.3**
ECPR	**Experimental S**	**1.16**	**132**	*eS*	**Sb**	**04 27 58.0**	**-0.6**
GBPR	**Guanica, Bosqu**	**1.18**	**162**		**Pg**	**04 27 44.5**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.18**	**162**	⇓*eP*	**Pg**	**04 27 44.5**	**+0.4**
CELP	**Cerrillos**	**1.21**	**147**		**Pn**	**04 27 44.2**	**-0.2**
CELP	**Cerrillos**	**1.21**	**147**		**Sb**	**04 28 00.1**	**0.0**
CELP				IAML		04 28 01.2	
	comp=N,187nm,0.2s						
CELP				IAML		04 28 02.9	
	comp=E

MIDR	**Miches**	**1.77**	**261**	⇓	*e*Pg	Pn	04 32 03.1	+1.0
MIDR				⇑	*e*Sg	Sb	04 32 27.1	+0.9
MIDR					IAML		04 32 28.4	
	comp=N,25nm,1.9s							
MIDR					IAML		04 32 28.4	
	comp=N,25nm,1.9s							

*RSPR **24** 04:36:40.7, 18°.96N×66°.97W, h23$^{km}_{\pm}$16^{km}*
*SDD **24** 04:36:40.5±3.5, 18°.90N×66°.79W, h20$^{km}_{\pm}$87^{km}, MD3.5, ML2.3, MW2.7*
*OSPL **24** 04:36:40.2±0.6, 18°.96N×67°.03W, h30$^{km}_{\pm}$3^{km}, ML2.3*

ISC 24 04:36:37.8±1.7, 18°.93N±0°.06×66°.85W±0°.04, h6$^{km}_{\pm}$11^{km}, n42, σ0⁰62/50, 6C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.53**	**208**	⇑ *e*P	**Pb**	**04 36 49.8**	**+0.4**
AGPR	**Aguadilla, PR**	**0.53**	**208**	*e*S	**Sb**	**04 36 57.0**	**-0.2**
AGPR	**Aguadilla, PR**	**0.53**	**208**	*e*Pg	**Pb**	**04 36 49.4**	**0.0**
AGPR				IAML		04 36 57.3	
	comp=N,434nm,0.2s						
AGPR				*e*Sg	**Sb**	**04 36 57.5**	**+0.3**
AGPR	**Aguadilla, PR**	**0.53**	**208**	*i* P	**Pb**	**04 36 50.0**	**+0.6**
AGPR				*e*S	**Sb**	**04 36 56.7**	**-0.6**
AGPR				IAML		04 36 57.3	
	comp=Z,247nm,0.3s						
EMPR	**Esperanza - Ma**	**0.54**	**146**	⇑ *e*P	**Pn**	**04 36 52.2**	**+0.2**
EMPR	**Esperanza - Ma**	**0.54**	**146**	*e*S	**Sn**	**04 37 00.9**	**-0.5**
AOPR	**Arecibo Observ**	**0.59**	**171**	⇑ *i*P	**Pn**	**04 36 51.7**	**-1.0**
AOPR	**Arecibo Observ**	**0.59**	**171**	*e*S	**Sb**	**04 37 00.2**	**+1.1**
AOPR	**Arecibo Observ**	**0.59**	**171**	*e*Pg	**Pb**	**04 36 51.2**	**+0.7**
AOPR				IAML		04 37 02.9	
	comp=N,315nm,0.3s						
UUPR	**Utuado, UPR, P**	**0.69**	**170**	⇑ *i*P	**Pb**	**04 36 53.0**	**+0.9**
UUPR	**Utuado, UPR, P**	**0.69**	**170**	*e*S	**Sb**	**04 37 02.1**	**+0.2**
ECPR	**Experimental S**	**0.76**	**143**	⇑ *i*P	**Pn**	**04 36 54.9**	**-0.3**
ECPR	**Experimental S**	**0.76**	**143**	*e*S	**Sb**	**04 37 04.1**	**0.0**
PRSN	**Puerto Rico Se**	**0.77**	**202**	⇓ *i*P	**Pb**	**04 36 53.4**	**-0.1**
PRSN	**Puerto Rico Se**	**0.77**	**202**	*e*S	**Sg**	**04 37 03.1**	**+0.7**
LSP	**Las Mesas**	**0.79**	**197**	⇑ *e*P	**Pb**	**04 36 53.9**	**+0.1**
LSP	**Las Mesas**	**0.79**	**197**	*e*S	**Sg**	**04 37 03.7**	**+0.6**
IDE	**Isla Desecheo**	**0.80**	**228**	⇑ *e*P	**Pg**	**04 36 52.5**	**-0.8**
IDE	**Isla Desecheo**	**0.80**	**228**	*e*S	**Sg**	**04 37 03.7**	**0.0**
CELP	**Cerrillos**	**0.89**	**163**	⇓ *i*P	**Pn**	**04 36 56.5**	**-0.3**
CELP	**Cerrillos**	**0.89**	**163**	*e*S	**Sb**	**04 37 08.6**	**+0.8**
CELP	**Cerrillos**	**0.89**	**163**	*e*Pg	**Pn**	**04 36 56.5**	**-0.3**
CELP				*e*Sg	**Sb**	**04 37 08.1**	**+0.3**
CELP				IAML		04 37 08.9	
	comp=N,148nm,0.2s						
OBIP	**Obispado Ponce**	**0.91**	**165**	⇓ *i*P	**Pn**	**04 36 56.9**	**-0.3**
OBIP	**Obispado Ponce**	**0.91**	**165**	*e*S	**Sb**	**04 37 09.2**	**+0.7**
GBPR	**Guanica, Bosqu**	**0.95**	**182**	⇓ *e*P	**Pn**	**04 36 57.5**	**-0.2**
CRPR	**Cabo Rojo, PR**	**0.95**	**195**	⇑ *e*P	**Pg**	**04 36 56.3**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.95**	**195**	*e*S	**Sg**	**04 37 08.2**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.95**	**195**	*e*Pg	**Pg**	**04 36 55.8**	**-0.3**
CRPR				*e*Sg	**Sg**	**04 37 08.1**	**-0.4**
CRPR				IAML		04 37 09.5	
	comp=N,84nm,0.2s						
CRPR	**Cabo Rojo, PR**	**0.95**	**195**	*i* P	**Pg**	**04 36 56.2**	**+0.2**
CRPR				*e*S	**Sg**	**04 37 08.7**	**-0.7**
CRPR				IAML		04 37 17.3	
	comp=Z,56nm,1.3s						
GCPR	**Guaynabo City**	**0.95**	**130**	⇓ *i*P	**Pn**	**04 36 57.6**	**-0.2**
GCPR	**Guaynabo City**	**0.95**	**130**	*e*S	**Sn**	**04 37 11.9**	**+0.3**
MLPR	**Magueyes Islan**	**0.97**	**191**	⇑ *e*P	**Pg**	**04 36 56.6**	**+0.1**
MLPR	**Magueyes Islan**	**0.97**	**191**	*e*S	**Sg**	**04 37 09.3**	**+0.1**
MLPR	**Magueyes Islan**	**0.97**	**191**	*e*Pg	**Pg**	**04 36 56.5**	**0.0**
MLPR				*e*Sg	**Sg**	**04 37 09.2**	**0.0**
MLPR				IAML		04 37 13.5	
	comp=N,13nm,1.9s						
SJG	**San Juan**	**1.05**	**141**	⇓ *e*P	**Pn**	**04 36 58.8**	**-0.3**
SJG	**San Juan**	**1.05**	**141**	*e*S	**Sb**	**04 37 12.6**	**+0.2**
SJG	**San Juan**	**1.05**	**141**	*i* P	**Pn**	**04 36 59.0**	**0.0**
SJG				*e*S	**Sn**	**04 37 13.8**	**-0.2**
IGPR	**InterUniversit**	**1.19**	**144**	⇓ *e*P	**Pn**	**04 37 01.3**	**+0.3**
IGPR	**InterUniversit**	**1.19**	**144**	*e*S	**Sg**	**04 37 14.8**	**-1.4**
PDPR	**Patillas Dam,**	**1.20**	**139**	⇓ *e*P	**Pb**	**04 37 00.8**	**-0.1**
PDPR	**Patillas Dam,**	**1.20**	**139**	*e*S	**Sg**	**04 37 16.5**	**+0.1**
MIDR	**Miches**	**2.08**	**272**	*e*Pg	**Pb**	**04 37 15.2**	**-0.8**
MIDR				*e*Sg	**Sg**	**04 37 47.2**	**+2.4**
MIDR				IAML		04 37 59.0	
	comp=N,29nm,3.1s						
MIDR				IAML		04 37 59.0	
	comp=N,25nm,3.5s						

DJA 24 04:38:13.0±0.3, 9°S±7°×11°6E±°, h88$^{km}_{\pm}$5^{km}, M3.2/8, mb4.0/4, MLv2.8/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWSI	**Taliwang, Sumb**	**0.60**	**89**	P	Pn	04 38 29.4	+1.0
TWSI				S	Sn	04 38 42.1	+2.2
PLAI	**Plampang**	**1.49**	**93**	P	Pn	04 38 39.1	+0.6
JAGI	**Jajag, Banyuwa**	**2.11**	**277**	P	Pn	04 38 46.7	+0.1
BASI	**Baing, Sumba**	**4.49**	**109**	P	Pn	04 39 19.0	+0.3
KDI	**Kendari**	**7.90**	**53**	P	Pn	04 40 05.2	-0.1
	0.0nm0.4nm,0.6s						
BLSI	**Bandar Lampung**	**11.45**	**286**	P	Pn	04 40 52.9	-0.6

*IDC **24** 04:43:12.9±1.3, 0°.69N×126°.52E, h0^{km}, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=209.6km s-min=16.6km az=67.0*
*DJA **24** 04:43:16.4±1.3, 1°N±6°×12°6E±°, h12$^{km}_{\pm}$12^{km}, M3.6/6, MLv3.6/6*

ISC 24 04:43:19.2±1.0, 0°.6N±0°.1×126°.4E±0°.1, h47^{km}, n9, σ0⁰66/10, mb3.9/8, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.00**	**78**	P	**Pn**	**04 43 36.7**	**-0.2**
TNTI				S	**Sn**	**04 43 50.3**	**+0.3**
WRA	**Warramunga Arr**	**21.82**	**159**	P	**P**	**04 48 06.8**	**-0.9**
	4.3nm,0.9s,baz=340,slow=11,SNR=14 4.3nm,0.9s						
ASAR	**Alice Springs**	**25.17**	**164**	P	**P**	**04 48 41.7**	**+1.3**
	2.8nm,0.7s,baz=349,slow=14,SNR=39 2.8nm,0.7s						
STKA	**Stephens Creek**	**35.34**	**157**	P	**P**	**04 50 10.1**	**-0.1**
	1.4nm,0.8s,baz=337,slow=7.7,SNR=2.4 1.4nm,0.8s						
SONM	**Songino Array**	**50.18**	**343**	P	**P**	**04 52 10.1**	**-0.2**
	0.4nm0.5s,baz=148,slow=8.5,SNR=2.6 0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.96**	**326**	P	**P**	**04 53 21.0**	**+0.1**
	0.9nm,0.6s,baz=122,slow=8.9,SNR=10.0 0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**63.24**	**334**	P	**P**	**04 53 43.1**	**+0.4**
	0.4nm,0.3s,baz=122,slow=4.1,SNR=2.0 0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**64.22**	**328**	P	**P**	**04 53 49.3**	**+0.1**
	1.8nm,0.7s,baz=130,slow=6.2,SNR=12 1.8nm,0.7s						
BVAR	**Borovoye Array**	**69.78**	**328**	P	**P**	**04 54 24.1**	**-0.4**
	0.4nm,0.4s,baz=128,slow=11,SNR=1.4 0.4nm,0.4s						

*NEIC **24** 04:47:46.3±1.7, 19°.13N±0°.01×67°.14W±0°.03, h10$^{km}_{\pm}$1^{km}, ML2.1/11, Md2.4/4(RSPR), Error ellipse: s-maj=5.6km s-min=3.0km az=252.0*

RSPR 24 04:47:48.7, 19°.12N×67°.26W, h10$^{km}_{\pm}$31^{km}, MD2.4/4, 6C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.66**	**167**		Pg	04 47 59.8	-1.8
AGPR					Sg	04 48 09.3	-0.9
AGPR	**Aguadilla, PR**	**0.66**	**167**	⇑ *e*P	Pg	04 47 59.8	-1.8
AGPR	**Aguadilla, PR**	**0.66**	**167**	*e*S	Sg	04 48 09.3	-0.9
IDE	**Isla Desecheo**	**0.75**	**195**		Pg	04 48 01.8	-1.5
IDE					Sg	04 48 13.4	+0.3
IDE	**Isla Desecheo**	**0.75**	**195**	⇑ *e*P	Pg	04 48 01.8	-1.5
IDE	**Isla Desecheo**	**0.75**	**195**	*e*S	Sg	04 48 13.4	+0.3
PRSN	**Puerto Rico Se**	**0.90**	**173**		Pg	04 48 02.9	-3.2
AOPR	**Arecibo Observ**	**0.91**	**148**		Sg	04 48 14.9	-3.0
AOPR	**Arecibo Observ**	**0.91**	**148**		Pg	04 48 02.6	-3.5
AOPR	**Arecibo Observ**	**0.91**	**148**	⇓ *e*P	Pg	04 48 04.8	-1.4
AOPR	**Arecibo Observ**	**0.91**	**148**	*e*S	Sg	04 48 14.9	-3.0
EMPR	**Esperanza - Ma**	**0.94**	**132**		Pg	04 48 05.3	-1.6
EMPR					Sg	04 48 18.5	-0.6
EMPR	**Esperanza - Ma**	**0.94**	**132**	⇓ *e*P	Pg	04 48 05.3	-1.6
EMPR	**Esperanza - Ma**	**0.94**	**132**	*e*S	Sg	04 48 18.5	-0.6
LSP	**Las Mesas**	**0.95**	**170**		Pg	04 48 05.2	-1.8
LSP					Sg	04 48 18.6	-0.8
LSP	**Las Mesas**	**0.95**	**170**	⇑ *e*P	Pg	04 48 05.2	-1.8
LSP	**Las Mesas**	**0.95**	**170**	*e*S	Sg	04 48 18.6	-0.8
UUPR	**Utuado, UPR, P**	**1.00**	**149**		Pg	04 48 06.3	-1.7
UUPR					Sg	04 48 17.2	-3.8
UUPR	**Utuado, UPR, P**	**1.00**	**149**	⇓ *e*P	Pg	04 48 06.3	-1.7
UUPR	**Utuado, UPR, P**	**1.00**	**149**	*e*S	Sg	04 48 17.2	-3.8
CRPR	**Cabo Rojo, PR**	**1.11**	**172**		Pb	04 48 06.5	-3.6
CRPR					Sg	04 48 22.0	-2.6
CRPR	**Cabo Rojo, PR**	**1.11**	**172**	IAML		04 48 24.0	
	comp=N,40nm,1.3s						
CRPR	**Cabo Rojo, PR**	**1.11**	**172**	⇓ *e*P	Pb	04 48 06.5	-3.6
CRPR	**Cabo Rojo, PR**	**1.11**	**172**	*e*S	Sg	04 48 22.0	-2.6
MLPR	**Magueyes Islan**	**1.16**	**170**	⇓ *e*P	Pb	04 48 07.4	-3.4
MLPR	**Magueyes Islan**	**1.16**	**170**	*e*S	Sb	04 48 22.5	-3.4
ECPR	**Experimental S**	**1.17**	**133**	⇓ *e*P	Pb	04 48 07.4	-3.5
ECPR	**Experimental S**	**1.17**	**133**	*e*S	Sb	04 48 23.7	-2.4
CELP	**Cerrillos**	**1.22**	**148**		Pn	04 48 08.2	-3.7
CELP					Sb	04 48 23.8	-4.0
CELP	**Cerrillos**	**1.22**	**148**	IAML		04 48 29.3	
	comp=N,44nm,0.9s						
CELP	**Cerrillos**	**1.22**	**148**	⇑ *e*P	Pn	04 48 08.2	-3.7
CELP	**Cerrillos**	**1.22**	**148**	*e*S	Sb	04 48 23.8	-4.0
OBIP	**Obispado Ponce**	**1.24**	**150**		Pn	04 48 08.4	-3.7
OBIP					Sb	04 48 23.9	-4.2
OBIP	**Obispado Ponce**	**1.24**	**150**	IAML		04 48 25.1	
	comp=E,35nm,0.3s						
OBIP				IAML		04 48 28.9	
	comp=N,39nm,1.0s						
OBIP	**Obispado Ponce**	**1.24**	**150**	⇑ *e*P	Pn	04 48 08.4	-3.7
OBIP	**Obispado Ponce**	**1.24**	**150**	*e*S	Sb	04 48 23.9	-4.2
GCPR	**Guaynabo City**	**1.38**	**125**		Pn	04 48 10.5	-3.5
GCPR				IAML		04 48 30.1	
	comp=N,27nm,2.1s						
GCPR	**Guaynabo City**	**1.38**	**125**		Sb	04 48 27.7	-4.5
GCPR	**Guaynabo City**	**1.38**	**125**	⇓ *e*P	Pn	04 48 11.3	-2.7
GCPR	**Guaynabo City**	**1.38**	**125**	*e*S	Sb	04 48 27.7	-4.5
SJG	**San Juan**	**1.45**	**133**		Pn	04 48 11.5	-3.5
SJG	**San Juan**	**1.45**	**133**	IAML		04 48 40.4	
	comp=N,24nm,0.6s						
SJG				IAML		04 48 40.6	
	comp=N,28nm,0.4s						
SJG	**San Juan**	**1.45**	**133**	⇓ *e*P	Pn	04 48 11.5	-3.5
SJG	**San Juan**	**1.45**	**133**	*e*S	Sn	04 48 30.6	-3.6
IGPR	**InterUniversit**	**1.59**	**136**		Pn	04 48 14.3	-2.6
IGPR					Sn	04 48 33.4	-4.0
IGPR	**InterUniversit**	**1.59**	**136**	⇓ *e*P	Pn	04 48 14.3	-2.6
IGPR	**InterUniversit**	**1.59**	**136**	*e*S	Sn	04 48 33.4	-4.0
PDPR	**Patillas Dam,**	**1.61**	**133**	⇑ *e*P	Pn	04 48 14.8	-2.4
PDPR	**Patillas Dam,**	**1.61**	**133**	*e*S	Sn	04 48 32.9	-5.1

SDD 24 04:48:42.0±0.9, 19°.21N×67°.10W, h17$^{km}_{\pm}$11^{km}, MD3.2, ML2.5, MW3.0, 3C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.74**	**181**	*i* P	Pb	04 48 55.2	-1.3
AGPR				*i* S	Sb	04 49 05.2	-1.1
AOPR	**Arecibo Observ**	**0.92**	**159**	*i* P	Pb	04 48 58.6	-1.0
AOPR				*i* S	Sb	04 49 10.2	-1.3
AOPR				IAML		04 49 32.6	
	comp=N,258nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.20**	**181**	⇑ *e*Pg	Pn	04 49 02.4	-1.6
CRPR				IAML		04 49 32.2	
	comp=N,132nm,0.4s						
CELP	**Cerrillos**	**1.23**	**156**	⇑ *e*Pg	Pn	04 49 04.1	-0.4
CELP				IAML		04 49 31.3	
	comp=N,158nm,0.2s						
MLPR	**Magueyes Islan**	**1.24**	**178**	⇑ *e*Pg	Pn	04 49 03.1	-1.4
MLPR				IAML		04 49 32.6	
	comp=N,26nm,0.5s						
PCDR	**Punta Cana, DR**	**1.40**	**241**	⇓ *e*Pg	Pn	04 49 05.9	-0.8
PCDR				*e*Sg	Sn	04 49 24.5	-0.3
PCDR				IAML		04 49 32.8	
	comp=N,120nm,1.1s						
MIDR	**Miches**	**1.86**	**263**	⇓ *e*Pg	Pb	04 49 14.4	-1.2
MIDR				IAML		04 49 43.6	
	comp=N,27nm,1.3s						
MIDR				IAML		04 49 43.6	
	comp=N,27nm,1.3s						

RSPR 24 04:52:25.3, 19°.15N×67°.22W, h10$^{km}_{\pm}$2^{km}, 12C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.68**	**171**	⇓ *e*P	Pg	04 52 37.4	-1.2
AGPR	**Aguadilla, PR**	**0.68**	**171**	*e*S	Sg	04 52 46.9	-0.6
IDE	**Isla Desecheo**	**0.79**	**198**	⇑ *i*P	Pg	04 52 39.1	-1.6
IDE	**Isla Desecheo**	**0.79**	**198**	*e*S	Sg	04 52 50.7	-0.4
AOPR	**Arecibo Observ**	**0.91**	**151**	⇓ *e*P	Pg	04 52 40.4	-2.5
AOPR	**Arecibo Observ**	**0.91**	**151**	*e*S	Sg	04 52 52.5	-2.2
PRSN	**Puerto Rico Se**	**0.93**	**176**	⇑ *e*P	Pg	04 52 40.9	-2.3
PRSN	**Puerto Rico Se**	**0.93**	**176**	*e*S	Sg	04 52 54.0	-1.2
EMPR	**Esperanza - Ma**	**0.93**	**135**	⇑ *e*P	Pg	04 52 41.7	-1.6
EMPR	**Esperanza - Ma**	**0.93**	**135**	*e*S	Sg	04 52 54.1	-1.3
LSP	**Las Mesas**	**0.97**	**173**	⇓ *e*P	Pg	04 52 41.7	-2.4
LSP	**Las Mesas**	**0.97**	**173**	*e*S	Sg	04 52 54.2	-2.6
UUPR	**Utuado, UPR, P**	**1.01**	**152**	⇑ *e*P	Pg	04 52 41.6	-3.1
UUPR	**Utuado, UPR, P**	**1.01**	**152**	*e*S	Sg	04 52 55.7	-2.1
CRPR	**Cabo Rojo, PR**	**1.14**	**175**	⇑ *e*P	Pb	04 52 44.1	-3.1
CRPR	**Cabo Rojo, PR**	**1.14**	**175**	*e*S	Sb	04 52 59.8	-2.2
ECPR	**Experimental S**	**1.16**	**135**	⇓ *e*P	Pb	04 52 44.1	-3.4
ECPR	**Experimental S**	**1.16**	**135**	*e*S	Sb	04 52 59.9	-2.7
MLPR	**Magueyes Islan**	**1.18**	**172**	⇑ *e*P	Pb	04 52 44.7	-3.2
MLPR	**Magueyes Islan**	**1.18**	**172**	*e*S	Sb	04 53 00.0	-2.8
GBPR	**Guanica, Bosqu**	**1.21**	**165**	⇓ *e*P	Pb	04 52 45.9	-2.5
CELP	**Cerrillos**	**1.23**	**150**	⇓ *e*P	Pn	04 52 45.5	-3.1
CELP	**Cerrillos**	**1.23**	**150**	*e*S	Sb	04 53 01.3	-3.3
OBIP	**Obispado Ponce**	**1.24**	**152**	⇑ *e*P	Pn	04 52 46.0	-2.8
OBIP	**Obispado Ponce**	**1.24**	**152**	*e*S	Sb	04 53 01.6	-3.4
GCPR	**Guaynabo City**	**1.36**	**128**	⇑ *e*P	Pn	04 52 47.5	-3.0
GCPR	**Guaynabo City**	**1.36**	**128**	*e*S	Sb	04 53 04.1	-4.3
SJG	**San Juan**	**1.44**	**135**	⇑ *e*P	Pn	04 52 49.0	-2.6
SJG	**San Juan**	**1.44**	**135**	*e*S	Sn	04 53 06.7	-4.0
HIDR	**Higuey Centro**	**1.52**	**249**	⇑ *e*P	Pn	04 52 50.4	-2.3
HIDR	**Higuey Centro**	**1.52**	**249**	*e*S	Sn	04 53 07.4	-5.2
IGPR	**InterUniversit**	**1.58**	**138**	⇑ *e*P	Pn	04 52 50.7	-2.7
IGPR	**InterUniversit**	**1.58**	**138**	*e*S	Sn	04 53 09.8	-4.2
PDPR	**Patillas Dam,**	**1.60**	**135**	⇑ *e*P	Pn	04 52 50.8	-2.9
PDPR	**Patillas Dam,**	**1.60**	**135**	*e*S	Sn	04 53 09.7	-4.7
MIDR	**Miches**	**1.74**	**265**	⇓ *e*P	Pn	04 52 53.5	-2.2
MIDR	**Miches**	**1.74**	**265**	*e*S	Sn	04 53 13.7	-4.3
SMDR	**Samana, DR**	**1.87**	**275**	⇑ *e*P	Pn	04 52 54.5	-3.0
SMDR	**Samana, DR**	**1.87**	**275**	*e*S	Sn	04 53 16.8	-4.3

OSPL 24 04:53:16.2±0.5, 19°.19N×67°.41W, h10$^{km}_{\pm}$4^{km}, ML3.2, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.77**	**159**	*i* P	Pg	04 53 29.8	-1.2
AGPR				*e*S	Sg	04 53 40.1	-1.0
AGPR				IAML		04 53 42.0	
	comp=Z,882nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.21**	**166**	*i* P	Pn	04 53 37.1	-2.0
CRPR				*e*S	Sb	04 53 53.0	-1.8
CRPR				IAML		04 53 56.8	
	comp=Z,698nm,0.2s						
SJG	**San Juan**	**1.60**	**132**	*i* P	Pn	04 53 43.0	-1.5
SJG				*e*S	Sn	04 54 02.3	-3.0
SJG				IAML		04 54 06.5	
	comp=Z,244nm,0.2s						

RSPR 24 05:19:55.0, 19°.05N×67°.16W, h8$^{km}_{\pm}$3^{km}, 9C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.58**	**175**	⇓ *e*P	Pg	05 20 05.6	-0.6
AGPR	**Aguadilla, PR**	**0.58**	**175**	*e*S	Sg	05 20 14.5	+0.7
IDE	**Isla Desecheo**	**0.72**	**204**	⇓ *e*P	Pg	05 20 07.9	-1.0
IDE	**Isla Desecheo**	**0.72**	**204**	*e*S	Sg	05 20 18.8	+0.4
AOPR	**Arecibo Observ**	**0.80**	**151**	⇓ *e*P	Pg	05 20 08.8	-1.6
AOPR	**Arecibo Observ**	**0.80**	**151**	*e*S	Sg	05 20 19.7	-1.0
EMPR	**Esperanza - Ma**	**0.83**	**134**	⇓ *e*P	Pg	05 20 08.8	-2.1
EMPR	**Esperanza - Ma**	**0.83**	**134**	*e*S	Sg	05 20 21.9	+0.2
LSP	**Las Mesas**	**0.87**	**175**	⇑ *e*P	Pg	05 20 10.2	-1.6
LSP	**Las Mesas**	**0.87**	**175**	*e*S	Sg	05 20 22.5	-0.6
UUPR	**Utuado, UPR, P**	**0.90**	**152**	⇑ *e*P	Pg	05 20 11.1	-1.1
CRPR	**Cabo Rojo, PR**	**1.04**	**177**	⇑ *e*P	Pg	05 20 11.8	-3.1
CRPR	**Cabo Rojo, PR**	**1.04**	**177**	*e*S	Sg	05 20 26.7	-1.8
ECPR	**Experimental S**	**1.05**	**134**	⇓ *e*P	Pg	05 20 13.4	-1.7
ECPR	**Experimental S**	**1.05**	**134**	*e*S	Sg	05 20 26.2	-2.6
MLPR	**Magueyes Islan**	**1.08**	**174**	⇑ *e*P	Pg	05 20 13.2	-2.6
MLPR	**Magueyes Islan**	**1.08**	**174**	*e*S	Sg	05 20 27.0	-2.8
CELP	**Cerrillos**	**1.12**	**150**	⇓ *e*P	Pg	05 20 13.7	-2.7
CELP	**Cerrillos**	**1.12**	**150**	*e*S	Sg	05 20 27.8	-3.1
OBIP	**Obispado Ponce**	**1.13**	**152**	⇑ *e*P	Pg	05 20 14.1	-2.6
OBIP	**Obispado Ponce**	**1.13**	**152**	*e*S	Sg	05 20 29.1	-2.3
GCPR	**Guaynabo City**	**1.26**	**126**	*e*S	Sb	05 20 31.4	-4.0
IGPR	**InterUniversit**	**1.47**	**137**	⇑ *e*P	Pn	05 20 19.3	-2.5
IGPR	**InterUniversit**	**1.47**	**137**	*e*S	Sn	05 20 37.2	-4.0
PDPR	**Patillas Dam,**	**1.49**	**133**	⇑ *e*P	Pn	05 20 19.3	-2.7
PDPR	**Patillas Dam,**	**1.49**	**133**	*e*S	Sn	05 20 37.5	-4.3

OSPL 24 05:20:28.6±0.4, 19°.10N×67°.32W, h18$^{km}_{\pm}$2^{km}, ML2.6, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.66**	**163**	*i* P	Pb	05 20 40.6	-0.9
AGPR				*e*S	Sb	05 20 49.1	-1.3
AGPR				IAML		05 20 50.8	
	comp=Z,348nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.10**	**170**	*i* P	Pb	05 20 47.6	-1.6
CRPR				*e*S	Sb	05 21 01.6	-1.6
CRPR				IAML		05 21 04.9	
	comp=Z,136nm,0.2s						
SJG	**San Juan**	**1.48**	**131**	*i* P	Pn	05 20 52.6	-1.7
SJG				*e*S	Sn	05 21 10.9	-2.4
SJG				IAML		05 21 18.4	
	comp=Z,52nm,0.4s						

*TIR **24** 05:22:30.7, 41°.40N×19°.45E, h17$^{km}_{\pm}$2^{km}, Ml3.5/6*
*SKO **24** 05:22:32.0, 41°.42N×19°.53E, h9^{km}, ML3.2*
*BEO **24** 05:22:32.3±0.4, 41°.30N×19°.53E, h12$^{km}_{\pm}$2^{km}, ML3.3/7*
*PDG **24** 05:22:33.9±0.4, 41°.41N×19°.54E, h17$^{km}_{\pm}$1^{km}, MD3.5/6, ML3.4/12, Error ellipse: s-maj=1.8km s-min=2.7km az=0.0*
*THE **24** 05:22:34.8, 41°N±5°×2°0E±°, h10^{km}, M2.9/14, MLh2.9/14*

ISC 24 05:22:32.4±1.0, 41°.33N±0°.02×19°.50E±0°.02, h15$^{km}_{\pm}$6^{km}, n128, σ1⁹04/180, 18C-15D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULC	**Ulcinj**	**0.66**	**343**	⇑ *i*Pg	**Pg**	**05 22 44.9**	**-0.3**
ULC				*e*Sg	**Sn**	**05 22 56.7**	**-0.7**
VLO	**Vlora**	**0.86**	**180**	Pg	**Pn**	**05 22 50.4**	**+0.4**
VLO				Sg	**Sb**	**05 23 01.1**	**+0.6**
VLO				AML	AML	05 23 10.9	
	13nm,0.3s						
DRME	**Dracevica, Mon**	**0.88**	**345**	*e*Pg	**Pg**	**05 22 49.0**	**-0.5**
DRME	**Dracevica, Mon**	**0.88**	**345**	⇑ *i*

TSLK	**Tsoukalades, L**	**2.66**	**160**	P		**Pn**	**05 23 14.5**	**-0.2**
LKD2	**Lefkada island**	**2.69**	**160**	P		**Pn**	**05 23 14.9**	**-0.4**
GRUS	**Gruza**	**2.71**	**19**	*e*Pn		**Pn**	**05 23 16.3**	**+0.9**
THE	**Thessaloniki**	**2.72**	**104**	P		**Pn**	**05 23 15.0**	**-0.6**
THE	**Thessaloniki**	**2.72**	**104**	*i* Pn		**Pn**	**05 23 14.9**	**-0.6**
AMPL	**Ampelaki**	**2.75**	**151**	P		**Pn**	**05 23 16.4**	**+0.5**
KKB	**Krupnik**	**2.77**	**78**	P		**Pn**	**05 23 16.1**	**-0.1**
KKB	**Krupnik**	**2.77**	**78**	*i* Pn		**Pn**	**05 23 16.2**	**-0.1**
NYDR	**Nydri-Lefkada**	**2.78**	**160**	P		**Pn**	**05 23 15.9**	**-0.4**
DIVS	**Divibare**	**2.79**	**7**	*e*Pn		**Pn**	**05 23 17.3**	**+0.7**
BOVS	**Bovan**	**2.82**	**35**	⇓P		**Pn**	**05 23 17.5**	**+0.6**
BOVS	**Bovan**	**2.82**	**35**	*e*Pn		**Pn**	**05 23 17.4**	**+0.5**
BOVS				*e*Sn		**Sn**	**05 23 49.9**	**-0.8**
HORT	**Hortiatis**	**2.83**	**104**	P		**Pn**	**05 23 16.1**	**-1.0**
SGRT	**San Giovanni R**	**2.85**	**280**	Pn		**Pn**	**05 23 17.4**	**0.0**
SGRT				AML		AML	05 23 54.1	
	comp=E,0.4nm,0.2s							
EVGl	**Lefkada island**	**2.85**	**161**	P		**Pn**	**05 23 16.4**	**-1.0**
SOH	**Sokhos**	**2.96**	**99**	P		**Pn**	**05 23 18.4**	**-0.5**
SOH				S		**Sn**	**05 23 53.8**	**-0.4**
SOH	**Sokhos**	**2.96**	**99**	*i* Pn		**Pn**	**05 23 18.7**	**-0.2**
SOH				*i* Sn		**Sn**	**05 23 53.3**	**-1.0**
TRUS	**Trudelj**	**2.96**	**13**	*e*Pn		**Pn**	**05 23 19.5**	**+0.6**
TIP	**Timpagrande**	**3.00**	**225**	⇓P		**Pn**	**05 23 19.3**	**-0.2**
ZAPS	**Zavoj**	**3.03**	**49**	*e*Pn		**Pn**	**05 23 20.1**	**+0.3**
ZAPS				*e*Sn		**Sn**	**05 23 57.1**	**+1.2**
VTS	**Vitosha**	**3.07**	**64**	P		**Pn**	**05 23 20.7**	**+0.2**
VTS	**Vitosha**	**3.07**	**64**	*e*Pn		**Pn**	**05 23 20.5**	**0.0**
VTS				*e*Sn		**Sn**	**05 23 56.6**	**-0.4**
SRS	**Serrai**	**3.10**	**93**	P		**Pn**	**05 23 19.6**	**-1.1**
SRS	**Serrai**	**3.10**	**93**	*i* Pn		**Pn**	**05 23 20.2**	**-0.5**
SRS				*i* Sn		**Sn**	**05 23 55.8**	**-1.7**
SRS	**Serrai**	**3.10**	**93**	*e*Pn		**Pn**	**05 23 20.1**	**-0.7**
SRS				*e*Sn		**Sn**	**05 23 55.6**	**-1.9**
PVO	**Paravola**	**3.13**	**149**	P		**Pn**	**05 23 22.7**	**+1.5**
PLG	**Polygyros**	**3.15**	**106**	P		**Pn**	**05 23 22.1**	**+0.6**
ZAGS	**Zajecar**	**3.20**	**38**	*e*Pn		**Pn**	**05 23 22.6**	**+0.5**
ZAGS				*e*Sn		**Sn**	**05 24 00.6**	**+0.6**
MMB	**Musomishta**	**3.21**	**85**	P		**Pn**	**05 23 22.3**	**0.0**
BLKB	**Belogradchik**	**3.28**	**45**	*e*Pn		**Pn**	**05 23 24.3**	**+1.0**
BLKB				*e*Sn		**Sn**	**05 24 01.0**	**-1.1**
BORS2	**Bor- Borsko je**	**3.32**	**33**	*e*Pn		**Pn**	**05 23 22.4**	**-1.5**
BORS2				*e*Sn		**Sn**	**05 24 01.5**	**-1.6**
AVAS	**Avala Beograd**	**3.44**	**12**	*e*Pn		**Pn**	**05 23 25.2**	**-0.3**
EFP	**Efpalio**	**3.44**	**147**	P		**Pn**	**05 23 26.5**	**+0.9**
PAIG	**Paliouri**	**3.48**	**112**	P		**Pn**	**05 23 26.3**	**+0.3**
KIJV	**Kijevo**	**3.51**	**321**	⇑/Pn		**Pn**	**05 23 26.9**	**+0.5**
MDVR	**Moldovita**	**3.81**	**24**	⇑P		**Pn**	**05 23 30.5**	**-0.1**
MDVR	**Moldovita**	**3.81**	**24**	*e*Pn		**Pn**	**05 23 30.1**	**-0.5**
BLY	**Banja Luka**	**3.81**	**334**	*e*Pn		**Pn**	**05 23 31.0**	**+0.5**
BLY	**Banja Luka**	**3.81**	**334**	⇓P		**Pn**	**05 23 29.1**	**-1.5**
FRGS	**Fruska Gora**	**3.83**	**3**	*e*Pn		**Pn**	**05 23 30.9**	**+0.1**
HERR	**Herculane**	**4.14**	**30**	⇑P		**Pn**	**05 23 35.6**	**+0.5**
BZS	**Buzias**	**4.55**	**19**	⇓P		**Pn**	**05 23 40.7**	**-0.1**
BZS	**Buzias**	**4.55**	**19**	*e*Pn		**Pn**	**05 23 40.5**	**-0.2**
BZS				*e*Sn		**Sn**	**05 24 32.5**	**-0.8**
GZR	**Gura Zlata**	**4.71**	**29**	⇓P		**Pn**	**05 23 44.5**	**+1.5**
GZR	**Gura Zlata**	**4.71**	**29**	*e*Pn		**Pn**	**05 23 44.3**	**+1.3**
GZR				*e*Sn		**Sn**	**05 24 38.3**	**+0.9**
MOSL	**Moslavina**	**4.72**	**336**	*e*Pn		**Pn**	**05 23 41.8**	**-1.3**
SURR	**Surduc**	**4.81**	**23**	⇑P		**Pn**	**05 23 43.9**	**-0.5**
SIRR	**Siria**	**5.17**	**17**	⇓P		**Pn**	**05 23 49.2**	**-0.1**
SIRR	**Siria**	**5.17**	**17**	*e*Pn		**Pn**	**05 23 49.5**	**+0.2**
OZLJ	**Ozalj**	**5.19**	**327**	*e*Pn		**Pn**	**05 23 48.8**	**-0.6**
BOJS	**Bojanci**	**5.19**	**325**	*e*Pn		**Pn**	**05 23 49.9**	**+0.4**
BEHE	**Becsehely**	**5.50**	**340**	*e*Pn		**Pn**	05 23 48.5	-5.2
ARR	**Arges**	**5.50**	**41**	⇑P		**Pn**	**05 23 55.0**	**+1.2**
BRJN	**Brijuni**	**5.51**	**312**	*e*Pn		**Pn**	**05 23 54.2**	**+0.3**
LOZB	**Loznitsa**	**5.64**	**66**	⇑P		**Pn**	**05 23 57.2**	**+1.5**
CEY	**Cerknica**	**5.74**	**322**	*e*Pn		**Pn**	**05 23 57.6**	**+0.5**
CEY				*e*Sn		**Sn**	**05 25 01.4**	**-1.3**
VOIR		**5.76**	**43**	⇑P		**Pn**	**05 23 58.3**	**+0.9**
SKDS	**Skadanscina**	**5.80**	**318**	*e*Pn		**Pn**	**05 23 57.5**	**-0.4**
SKDS				*e*Sn		**Sn**	**05 25 01.6**	**-2.6**
DRGR		**5.93**	**22**	⇓P		**Pn**	**05 24 00.2**	**+0.5**
MARR	**Marisel-Cluj**	**5.94**	**25**	⇑P		**Pn**	**05 24 00.4**	**+0.5**
SOKA	**Soboth**	**6.24**	**330**	*e*Pn		**Pn**	**05 24 05.1**	**+1.1**
	comp=E,1.1nm,0.2s							
MLR	**Muntele Rosu**	**6.27**	**46**	⇑P		**Pn**	**05 24 05.3**	**+0.9**
MLR	**Muntele Rosu**	**6.27**	**46**	*e*Pn		**Pn**	**05 24 05.5**	**+1.1**
OBKA	**Obir**	**6.29**	**327**	*i* Pn		**Pn**	**05 24 06.4**	**+1.8**
	comp=E,1.1nm,0.3s							
APE	**Apeiranthos**	**6.33**	**130**	⇓P		**Pn**	**05 24 05.9**	**+0.7**
ARSA	**Arzberg**	**6.56**	**336**	*e*Pn		**Pn**	**05 24 09.1**	**+0.7**
	comp=E,2.3nm,0.4s							
RONA	**Rosalia, Austr**	**6.76**	**341**	*e*Pn		**Pn**	**05 24 12.5**	**+1.4**
	comp=E,1.7nm,0.3s							
MYKA	**Terra Mystica**	**6.77**	**323**	*e*Pn		**Pn**	**05 24 11.8**	**+0.5**
	comp=E,0.9nm,0.2s							
CONA	**Conrad Observa**	**7.08**	**340**	*e*Pn		**Pn**	**05 24 16.9**	**+1.3**
	comp=E,0.4nm,0.2s							
KBA	**Koelnbreinsper**	**7.24**	**324**	*i* Pn		**Pn**	**05 24 18.8**	**+1.0**
	comp=E,0.9nm,0.4s							
LESA	**Schwarzleotal**	**7.80**	**324**	*e*Pn		**Pn**	**05 24 25.8**	**+0.3**
	comp=E,1.0nm,0.2s							
WTTA	**Wattenberg**	**8.18**	**319**	*e*Pn		**Pn**	**05 24 32.1**	**+1.5**
	comp=E,2.7nm,0.2s							
WATA	**Walderalm**	**8.26**	**319**	*i* Pn		**Pn**	**05 24 33.4**	**+1.7**
	comp=E,2.1nm,0.3s							
SQTA	**Sankt Quirin**	**8.36**	**318**	*i* Pn		**Pn**	**05 24 35.8**	**+2.6**
	comp=E,1.5nm,0.2s							

*IDC **24** 05:25:21.3±0.7, 13°.48N×121°.54E, h0km, mb3.9/13, mbtmp3.9/13, Error ellipse: s-maj=32.1km s-min=12.2km az=58.0*
*NEIC **24** 05:25:23.6±0.8, 13°.42N±0°.07×121°.4E±0°.1, h10km±1km, mb4.4/9, Error ellipse: s-maj=25.3km s-min=6.2km az=67.0*
ISC 24 05:25:24.2±0.7, 13°.42N±0°.09×121°.5E±0°.1, h19km, n28, σ0°67/29, mb4.0/18, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
TGY	**Tagaytay City**	**0.88**	**320**	Pn		**Pb**	**05**	**25**	**39.4**	**-1.4**
	1µm,0.3s,baz=169,slow=3.3,SNR=106									
TGY				Sn		**Sn**	**05**	**25**	**55.5**	**+1.7**
	960nm,0.3s,baz=123,slow=14,SNR=5.9									
SBUM	**Sibu**	**14.26**	**221**	P		**P**	**05**	**28**	**51.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**22.26**	**286**	P		**P**	**05**	**30**	**21.7**	**+1.4**
	1.7nm,0.3s,baz=96,slow=8.2,SNR=12									
	1.7nm,0.3s									
KSRS	**Korea Array**	**24.61**	**12**	P		**P**	**05**	**30**	**43.2**	**0.0**
	0.8nm,0.6s,baz=194,slow=8.8,SNR=4.0									
	0.8nm,0.6s									
SHL	**Shillong**	**30.35**	**298**	P		**P**	**05**	**31**	**35.5**	**+0.3**
SHL				IAmb		IAmb	05	31	42.0	
	comp=Z,15nm,0.9s									
FITZ	**Fitzroy Crossi**	**31.59**	**172**	P		**P**	**05**	**31**	**45.9**	**+0.1**
FITZ				IAmb		IAmb	05	32	27.9	
	comp=Z,1.2nm,1.1s									
WB0	**Warramunga Arr**	**35.34**	**159**	P		**P**	**05**	**32**	**18.7**	**+0.2**
WB0				IAmb		IAmb	05	32	20.0	
	comp=Z,3.6nm,0.8s									
WRA	**Warramunga Arr**	**35.48**	**159**	P		**P**	**05**	**32**	**19.6**	**-0.1**
WRA	**Warramunga Arr**	**35.48**	**159**	P		**P**	**05**	**32**	**19.3**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=336,slow=9.6,SNR=22									
	comp=Z,3.4nm,0.8s									
WR8	**Warramunga Arr**	**35.55**	**159**	P		**P**	**05**	**32**	**20.8**	**+0.4**
WR8				IAmb		IAmb	05	32	21.7	
	comp=Z,6.6nm,1.1s									
SONM	**Songino Array**	**36.55**	**343**	P		**P**	**05**	**32**	**28.7**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=166,slow=12,SNR=4.2									
	comp=Z,0.9nm,0.7s									
AS31	**Alice Springs**	**38.80**	**162**			**P**	**05**	**32**	**48.1**	**+0.1**
ASAR	**Alice Springs**	**38.80**	**162**			**P**	**05**	**32**	**47.7**	**-0.3**
ASAR	**Alice Springs**	**38.80**	**162**	P		**P**	**05**	**32**	**48.5**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=335,slow=6.7,SNR=26									
	comp=Z,2.8nm,0.8s									
MKAR	**Makanchi Array**	**46.72**	**323**	P		**P**	**05**	**33**	**52.4**	**+0.4**
MKAR	**Makanchi Array**	**46.72**	**323**	P		**P**	**05**	**33**	**52.0**	**0.0**
	comp=Z,0.4nm,0.6s,baz=126,slow=6.2,SNR=3.6									
	comp=Z,0.4nm,0.6s									
BBOO	**Buckleboo**	**48.03**	**163**	P		**P**	**05**	**34**	**02.4**	**+0.1**
STKA	**Stephens Creek**	**48.98**	**157**	P		**P**	**05**	**34**	**10.1**	**+0.5**
STKA	**Stephens Creek**	**48.98**	**157**	P		**P**	**05**	**34**	**10.2**	**+0.5**
	comp=Z,4.4nm,0.8s,baz=342,slow=7.3,SNR=10.0									
	comp=Z,4.4nm,0.8s									
ZALV	**Zalesovo Beam**	**49.66**	**332**	P		**P**	**05**	**34**	**13.7**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=147,slow=8.6,SNR=3.6									
	comp=Z,0.6nm,0.4s									
KURK	**Kurchatov**	**50.86**	**326**	P		**P**	**05**	**34**	**23.1**	**-0.5**
KURK				IAmb		IAmb	05	34	24.6	
	comp=Z,7.2nm,0.8s									
KURBB	**Kurchatov Arra**	**50.86**	**326**	P		**P**	**05**	**34**	**23.6**	**-0.1**
	comp=Z,1.2nm,0.2s,baz=121,slow=7.9,SNR=8.6									
	comp=Z,1.2nm,0.2s									
KKAR	**Karatay Array**	**52.73**	**314**	P		**P**	**05**	**34**	**37.3**	**-0.6**
BVAR	**Borovoye Array**	**56.44**	**326**	P		**P**	**05**	**35**	**04.7**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=111,slow=8.1,SNR=3.6									
	comp=Z,0.9nm,0.6s									
ABKAR	**Akbulak array**	**61.46**	**319**	P		**P**	**05**	**35**	**39.3**	**-0.2**
ILAR	**Eielson Array**	**78.65**	**26**	P		**P**	**05**	**37**	**24.6**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=263,slow=5.9,SNR=4.0									
	comp=Z,0.2nm,0.7s									
BRTR	**Keskin Array B**	**79.94**	**308**	P		**P**	**05**	**37**	**32.1**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=90,slow=7.2,SNR=2.0									
	comp=Z,0.3nm,0.4s									
NOA	**NORSAR Array B**	**87.87**	**333**	P		**P**	**05**	**38**	**13.4**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=64,slow=4.8,SNR=1.6									
	comp=Z,0.2nm,0.6s									

*JMA **24** 05:31:42.2±0.1, 28°.0N±0°.6×12°.9E±°, h57km±1km, MV3.6/25, NEAR AMAMI-OSHIMA ISLAND*
JMA Felt I J1 at NEAR AMAMI-OSHIMA ISLAND.
*IDC **24** 05:31:43.3±2.3, 27°.80N×129°.14E, h64km±36km, mb3.1/3, mbtmp3.5/5, ML3.6/2, Error ellipse: s-maj=84.9km s-min=10.3km az=111.0*
ISC 24 05:31:42.6±0.9, 27°.89N±0°.04×129°.02E±0°.05, h59km±7km, n24, σ1°11/42, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
JTK	**Tokunoshima**	**0.12**	**211**	*i* P		**Pn**	**05**	**31**	**51.6**	**+0.1**
JTK				S		**Sn**	**05**	**31**	**58.5**	**+0.6**
JAMN	**Amaminishikomi**	**0.38**	**21**	*i* P		**Pn**	**05**	**31**	**52.6**	**-0.5**
JAMN				S		**Sn**	**05**	**32**	**00.2**	**-0.6**
JOKE	**Okinoerabujima**	**0.66**	**217**	*i* P		**Pn**	**05**	**31**	**56.5**	**+0.2**
JOKE				S		**Sn**	**05**	**32**	**06.9**	**+0.6**
JAM	**Amami Oshima**	**0.73**	**45**	*i* P		**Pn**	**05**	**31**	**57.1**	**0.0**
JAM				S		**Sn**	**05**	**32**	**08.5**	**+0.8**
JZK	**Kikaishima**	**0.94**	**63**	*e*P		**Pn**	**05**	**32**	**01.6**	**+1.8**
JYRO	**Yoronjima**	**1.00**	**211**	*i* P		**Pn**	**05**	**32**	**01.0**	**+0.5**
JYRO				S		**Sn**	**05**	**32**	**14.9**	**+1.0**
JOW	**Kunigami**	**1.25**	**212**	P		**Pn**	**05**	**32**	**03.7**	**-0.1**
	227nm,0.3s,baz=105,slow=25,SNR=231									
JOW				S		**Sn**	**05**	**32**	**20.4**	**+0.7**
	248nm,0.3s,baz=80,slow=27,SNR=30									
JOW	**Kunigami**	**1.25**	**212**	*i* P		**Pn**	**05**	**32**	**04.0**	**+0.1**
JOW				S		**Sn**	**05**	**32**	**20.4**	**+0.7**
JIH	**Iheya**	**1.27**	**228**	*i* P		**Pn**	**05**	**32**	**03.8**	**-0.3**
JIH				S		**Sn**	**05**	**32**	**19.5**	**-0.6**
JTAJ	**Takarajima**	**1.27**	**7**	*i* P		**Pn**	**05**	**32**	**02.7**	**-1.4**
JTAJ				S		**Sn**	**05**	**32**	**17.9**	**-2.3**
JNTH	**Nagotoyohara**	**1.63**	**213**	*e*P		**Pn**	**05**	**32**	**09.4**	**+0.4**
JNTH				*e*S		**Sn**	**05**	**32**	**29.9**	**+0.9**
JAGN	**Aguni-jima**	**2.05**	**231**	*e*P		**Pn**	**05**	**32**	**14.4**	**-0.2**
JAGN				S		**Sn**	**05**	**32**	**38.4**	**-0.7**
JJT3	**Tamagusuku3**	**2.06**	**213**	*e*P		**Pn**	**05**	**32**	**15.4**	**+0.6**
JJT3				*e*S		**Sn**	**05**	**32**	**39.1**	**-0.3**
JNN	**Nakanoshima**	**2.08**	**21**	*e*P		**Pn**	**05**	**32**	**14.2**	**-0.9**
JNN				S		**Sn**	**05**	**32**	**38.3**	**-1.6**
JKE	**Kume jima 2**	**2.53**	**232**	P		**Pn**	**05**	**32**	**20.9**	**-0.3**
JKE				S		**Sn**	**05**	**32**	**50.3**	**-0.6**
JYAK	**Yakushimahirau**	**2.68**	**29**	*e*P		**Pn**	**05**	**32**	**22.9**	**-0.3**
JYAK				*e*S		**Sn**	**05**	**32**	**53.0**	**-1.5**
JKDJ	**Kitadaitoujima**	**2.81**	**133**	*e*P		**Pn**	**05**	**32**	**25.0**	**0.0**
JKDJ				*e*S		**Sn**	**05**	**32**	**56.6**	**-1.0**
JMZ	**Minamidaito 2**	**2.85**	**136**	*e*P		**Pn**	**05**	**32**	**25.7**	**+0.1**
JMZ				*e*S		**Sn**	**05**	**32**	**57.1**	**-1.7**
JTN	**Tanegashima 3**	**3.24**	**31**	*e*P		**Pn**	**05**	**32**	**31.4**	**+0.5**
JNU	**Nakatsue**	**5.45**	**17**	P		**Pn**	**05**	**33**	**02.8**	**+1.5**
	3.2nm,0.3s,baz=198,slow=6.4,SNR=14									
JNU				S		**Sn**	**05**	**34**	**06.0**	**+3.3**
	3.2nm,0.5s,baz=196,slow=21,SNR=1.2									
	6.8nm,0.3s									
KSRS	**Korea Array**	**9.58**	**355**	P		**Pn**	**05**	**33**	**59.9**	**+2.2**
	0.3nm,0.3s,baz=177,slow=14,SNR=4.7									
	1.2nm,0.6s									
WRA	**Warramunga Arr**	**47.83**	**173**	P		**P**	**05**	**40**	**13.4**	**-1.1**
	0.3nm,0.3s,baz=351,slow=7.9,SNR=3.1									
	0.3nm,0.3s									
ASAR	**Alice Springs**	**51.47**	**174**	P		**P**	**05**	**40**	**42.1**	**-0.1**
	0.1nm,0.5s,baz=354,slow=7.8,SNR=1.8									
	0.1nm,0.5s									
ILAR	**Eielson Array**	**62.65**	**29**	P		**P**	**05**	**42**	**00.9**	**+0.3**
	0.3nm,0.7s,baz=292,slow=7.7,SNR=4.4									
	0.3nm,0.7s									

*OSPL **24** 05:33:14.7±0.6, 19°.20N×67°.39W, h16km±3km, ML2.9*
*NEIC **24** 05:33:14.1±1.1, 19°.17N±0°.01×67°.14W±0°.03, h10km±1km, ML3.1/15, Md2.9/14(RSPR), Error ellipse: s-maj=4.8km s-min=3.1km az=72.0*
*RSPR **24** 05:33:15.6, 19°.21N×67°.25W, h11km±7km, MD2.9/14*
ISC 24 05:33:14.8±1.9, 19°.14N±0°.08×67°.15W±0°.04, h14km±9km, n51, σ0°52/62, 14C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
AGPR	**Aguadilla, PR**	**0.67**	**177**			**Pb**	**05**	**33**	**28.5**	**+0.3**
AGPR						**Sb**	**05**	**33**	**38.8**	**+1.5**
AGPR	**Aguadilla, PR**	**0.67**	**177**	⇑*e*P		**Pb**	**05**	**33**	**28.5**	**+0.3**
AGPR	**Aguadilla, PR**	**0.67**	**177**	*e*S		**Sb**	**05**	**33**	**38.8**	**+1.5**
AGPR	**Aguadilla, PR**	**0.67**	**177**	*i* P		**Pb**	**05**	**33**	**28.2**	**0.0**
AGPR				*e*S		**Sb**	**05**	**33**	**38.7**	**+1.5**
AGPR				IAML			05	33	43.7	
	comp=Z,415nm,0.2s									
IDE	**Isla Desecheo**	**0.81**	**202**			**Pg**	**05**	**33**	**30.4**	**-0.1**
IDE						**Sb**	**05**	**33**	**41.6**	**+0.2**
IDE	**Isla Desecheo**	**0.81**	**202**	⇑*e*P		**Pg**	**05**	**33**	**30.4**	**-0.1**
IDE	**Isla Desecheo**	**0.81**	**202**	*e*S		**Sb**	**05**	**33**	**41.6**	**+0.2**
AOPR	**Arecibo Observ**	**0.87**	**154**			**Pb**	**05**	**33**	**31.6**	**-0.1**
AOPR						**Sn**	**05**	**33**	**44.6**	**-0.5**
AOPR	**Arecibo Observ**	**0.87**	**154**	⇑*e*P		**Pb**	**05**	**33**	**31.6**	**-0.1**
AOPR	**Arecibo Observ**	**0.87**	**154**	*e*S		**Sn**	**05**	**33**	**44.6**	**-0.5**
EMPR	**Esperanza - Ma**	**0.88**	**138**			**Pn**	**05**	**33**	**32.6**	**-0.1**
EMPR						**Sg**	**05**	**33**	**43.5**	**+0.1**
EMPR	**Esperanza - Ma**	**0.88**	**138**	⇑*e*P		**Pn**	**05**	**33**	**32.6**	**-0.1**
EMPR	**Esperanza - Ma**	**0.88**	**138**	*e*S		**Sg**	**05**	**33**	**43.5**	**+0.1**
PRSN	**Puerto Rico Se**	**0.91**	**180**			**Pb**	**05**	**33**	**32.0**	**-0.4**
PRSN						**Sg**	**05**	**33**	**45.0**	**+0.5**
PRSN	**Puerto Rico Se**	**0.91**	**180**	⇑*e*P		**Pb**	**05**	**33**	**32.0**	**-0.4**
PRSN	**Puerto Rico Se**	**0.91**	**180**	*e*S		**Sg**	**05**	**33**	**45.0**	**+0.5**
LSP	**Las Mesas**	**0.96**	**176**			**Pb**	**05**	**33**	**32.8**	**-0.4**
LSP						**Sn**	**05**	**33**	**47.2**	**0.0**
LSP	**Las Mesas**	**0.96**	**176**	⇑*e*P		**Pb**	**05**	**33**	**32.8**	**-0.4**
LSP	**Las Mesas**	**0.96**	**176**	*e*S		**Sn**	**05**	**33**	**47.2**	**0.0**
UUPR	**Utuado, UPR, P**	**0.97**	**155**			**Pb**	**05**	**33**	**33.1**	**-0.2**
UUPR	**Utuado, UPR, P**	**0.97**	**155**	⇑*e*P		**Pb**	**05**	**33**	**33.1**	**-0.2**
ECPR	**Experimental S**	**1.10**	**137**	⇑*e*P		**Pb**	**05**	**33**	**35.5**	**-0.1**
ECPR	**Experimental S**	**1.10**	**137**	*e*S		**Sb**	**05**	**33**	**48.3**	**-1.6**
CRPR	**Cabo Rojo, PR**	**1.12**	**178**			**Pb**	**05**	**33**	**35.2**	**-0.8**
CRPR						**Sg**	**05**	**33**	**51.0**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.12**	**178**	IAML			05	33	55.1	
	comp=N,464nm,0.4s									
CRPR	**Cabo Rojo, PR**	**1.12**	**178**	⇑*e*P		**Pb**	**05**	**33**	**35.2**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.12**	**178**	*e*S		**Sg**	**05**	**33**	**51.0**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.12**	**178**	*i* P		**Pb**	**05**	**33**	**35.7**	**-0.3**
CRPR				*e*S		**Sb**	**05**	**33**	**50.4**	**-0.1**
CRPR				IAML			05	33	54.8	
	comp=Z,324nm,0.3s									
MLPR	**Magueyes Islan**	**1.17**	**175**	⇑*e*P		**Pn**	**05**	**33**	**35.9**	**-0.8**
MLPR	**Magueyes Islan**	**1.17**	**175**	*e*S		**Sb**	**05**	**33**	**51.4**	**-0.2**
CELP	**Cerrillos**	**1.19**	**153**			**Pn**	**05**	**33**	**36.7**	**-0.3**
CELP						**Sg**	**05**	**33**	**53.3**	**+0.1**
CELP	**Cerrillos**	**1.19**	**153**	IAML			05	33	55.1	
	comp=N,379nm,0.3s									
CELP				IAML			05	34	04.3	
	comp=E,279nm,0.4s									
CELP	**Cerrillos**	**1.19**	**153**	⇓*e*P		**Pn**	**05**	**33**	**36.7**	**-0.3**
CELP	**Cerrillos**	**1.19**	**153**	*e*S		**Sg**	**05**	**33**	**53.3**	**+0.1**
OBIP	**Obispado Ponce**	**1.20**	**155**			**Pn**	**05**	**33**	**37.0**	**-0.2**
OBIP						**Sb**	**05**	**33**	**53.1**	**+0.4**
OBIP	**Obispado Ponce**	**1.20**	**155**	IAML			05	33	54.5	
	comp=N,288nm,0.5s									
OBIP				IAML			05	33	55.5	
	comp=E,332nm,0.4s									
OBIP	**Obispado Ponce**	**1.20**	**155**	⇑*e*P		**Pn**	**05**	**33**	**37.0**	**-0.2**
OBIP	**Obispado Ponce**	**1.20**	**155**	*e*S		**Sb**	**05**	**33**	**53.1**	**+0.4**
GCPR	**Guaynabo City**	**1.30**	**129**			**Pn**	**05**	**33**	**38.3**	**-0.3**
GCPR						**Sn**	**05**	**33**	**56.0**	**+0.2**
GCPR	**Guaynabo City**	**1.30**	**129**	⇑*e*P		**Pn**	**05**	**33**	**38.3**	**-0.3**
GCPR	**Guaynabo City**	**1.30**	**129**	*e*S		**Sn**	**05**	**33**	**56.0**	**+0.2**
SJG	**San Juan**	**1.39**	**137**			**Pb**	**05**	**33**	**40.6**	**0.0**
SJG				IAML			05	34	04.3	
	comp=E,292nm,0.3s									
SJG				IAML			05	34	06.0	
	comp=E,315nm,0.3s									
SJG	**San Juan**	**1.39**	**137**	*i* P		**Pb**	**05**	**33**	**40.5**	**0.0**
SJG				*e*S		**Sg**	**05**	**33**	**59.9**	**+0.1**
SJG				IAML			05	34	04.4	
	comp=Z,155nm,0.3s									
IGPR	**InterUniversit**	**1.53**	**139**			**Pn**	**05**	**33**	**41.8**	**+0.1**
IGPR						**Sb**	**05**	**34**	**02.9**	**+0.8**
IGPR	**InterUniversit**	**1.53**	**139**	⇑*e*P		**Pn**	**05**	**33**	**41.8**	**+0.1**
IGPR	**InterUniversit**	**1.53**	**139**	*e*S		**Sb**	**05**	**34**	**02.9**	**+0.8**
PDPR	**Patillas Dam,**	**1.54**	**136**			**Pn**	**05**	**33**	**42.0**	**+0.1**
PDPR				IAML			05	34	08.1	
	comp=E,176nm,0.2s									
PDPR				IAML			05	34	12.0	
	comp=N,191nm,0.4s									
PDPR	**Patillas Dam,**	**1.54**	**136**	⇑*e*P		**Pn**	**05**	**33**	**41.8

NBC1			Sg	**Sg**	**05 40 33.9**	**-1.3**	
TOAD	**Toad River Com**	**3.06 170**	Pn	**Pn**	**05 40 03.2**	**+0.4**	
TOAD	**Toad River Com**	**3.06 170**	P	**Pn**	**05 40 03.6**	**+0.8**	
	baz=350,SNR=23						
N32M	**Quiet Lake**	**3.33 261**	Pn	**Pn**	**05 40 08.3**	**+1.8**	
N32M			Sg	**Sb**	**05 40 56.9**	**+2.8**	
N32M	**Quiet Lake**	**3.33 261**	P	**Pn**	**05 40 07.8**	**+1.3**	
	baz=75						
N32M			Sb	**Sb**	**05 40 57.2**	**+3.1**	
	baz=75						
R33M	**Jennings River**	**3.38 225**	Pn	**Pn**	**05 40 08.2**	**+0.9**	
R33M			Sn	**Sn**	**05 40 47.8**	**+0.4**	
R33M			Sg	**Sb**	**05 40 58.5**	**+3.0**	
R33M	**Jennings River**	**3.38 225**	P	**Pn**	**05 40 08.1**	**+0.8**	
	baz=41,SNR=40						
R33M			Sb	**Sg**	**05 40 59.1**	**-3.6**	
	baz=41						
FNSB	**Fort Nelson**	**3.53 148**	Pn	**Pn**	**05 40 10.1**	**+0.8**	
FNSB			Sn	**Sn**	**05 40 52.4**	**+1.3**	
P33M	**Teslin, Yukon**	**3.58 245**	Pn	**Pn**	**05 40 10.7**	**+0.7**	
P33M			Sg	**Sb**	**05 41 04.4**	**+3.1**	
P33M	**Teslin, Yukon**	**3.58 245**	P	**Pn**	**05 40 10.9**	**+0.9**	
	baz=60,SNR=119						
P33M			Sb	**Sb**	**05 41 04.4**	**+3.1**	
	baz=60						
M31M	**Drury Creek, Y**	**3.83 279**	Pn	**Pn**	**05 40 14.9**	**+1.4**	
M31M			Sg	**Sg**	**05 41 13.7**	**-3.6**	
M31M	**Drury Creek, Y**	**3.83 279**	P	**Pn**	**05 40 14.6**	**+1.2**	
	baz=92						
M31M			Sb	**Sb**	**05 41 12.2**	**+3.7**	
	baz=92						
DLBC	**Dease Lake**	**3.90 210**	P	**Pn**	**05 40 15.4**	**+0.9**	
	baz=27,SNR=31						
DLBC			Sb	**Sb**	**05 41 14.6**	**+4.0**	
	baz=27						
NBC6	**NorthernBC 6**	**4.11 141**	Pn	**Pn**	**05 40 17.2**	**0.0**	
NBC6			Sn	**Sn**	**05 41 05.1**	**-0.2**	
Q32M	**Nakina River**	**4.15 228**	Pn	**Pn**	**05 40 19.2**	**+1.3**	
Q32M			Sg	**Sb**	**05 41 22.1**	**+4.4**	
Q32M	**Nakina River**	**4.15 228**	P	**Pn**	**05 40 18.7**	**+0.8**	
	baz=43,SNR=13						
Q32M			Sb	**Sb**	**05 41 22.2**	**+4.4**	
	baz=43						
P32M	**Atlin**	**4.29 241**	Pn	**Pn**	**05 40 21.1**	**+1.3**	
P32M			Sg	**Sb**	**05 41 26.4**	**+4.6**	
P32M	**Atlin**	**4.29 241**	P	**Pn**	**05 40 20.8**	**+1.0**	
	baz=55						
P32M			Sb	**Sb**	**05 41 26.0**	**+4.2**	
	baz=55						
WHY	**Whitehorse**	**4.32 258**	Pn	**Pn**	**05 40 21.3**	**+1.1**	
WHY	**Whitehorse**	**4.32 258**	P	**Pn**	**05 40 21.3**	**+1.1**	
	baz=70,SNR=21						
WHY			Sb	**Sb**	**05 41 26.6**	**+4.1**	
	baz=70						
N31M	**Braeburn, Yuko**	**4.54 270**	Pn	**Pn**	**05 40 24.4**	**+1.3**	
N31M	**Braeburn, Yuko**	**4.54 270**	P	**Pn**	**05 40 24.3**	**+1.3**	
	baz=81,SNR=26						
S34M	**Telegraph Cree**	**4.64 214**	Pn	**Pn**	**05 40 25.9**	**+1.4**	
S34M	**Telegraph Cree**	**4.64 214**	P	**Pn**	**05 40 25.5**	**+1.0**	
	baz=30,SNR=8.5						
S34M			Sb	**Sb**	**05 41 35.9**	**+4.1**	
	baz=30						
NBC5	**NorthernBC 5**	**4.71 156**	Pn	**Pn**	**05 40 25.4**	**-0.2**	
O30N	**Mendenhall**	**4.85 261**	Pn	**Pn**	**05 40 27.7**	**+0.3**	
O30N			Sg	**Sg**	**05 41 43.9**	**-6.0**	
O30N	**Mendenhall**	**4.85 261**	P	**Pn**	**05 40 28.2**	**+0.8**	
	baz=73,SNR=15						
O30N			Sb	**Sb**	**05 41 42.8**	**+5.2**	
	baz=73						
M30M	**Minto, Yukon**	**4.97 283**	Pn	**Pn**	**05 40 29.7**	**+0.7**	
M30M	**Minto, Yukon**	**4.97 283**	P	**Pn**	**05 40 29.4**	**+0.3**	
	baz=94,SNR=15						
M30M			Sb	**Sb**	**05 41 47.2**	**+6.0**	
	baz=94						
N30M	**Aishikik Lake**	**5.16 270**	Pn	**Pn**	**05 40 32.9**	**+1.2**	
N30M			Sn	**Sn**	**05 41 32.4**	**+1.1**	
N30M	**Aishikik Lake**	**5.16 270**	P	**Pn**	**05 40 32.6**	**+0.9**	
	baz=81,SNR=45						
N30M			S	**Sn**	**05 41 32.7**	**+1.4**	
	baz=81						
T35M	**Bob Quinn**	**5.29 204**	Pn	**Pn**	**05 40 35.7**	**+2.2**	
T35M			Sg	**Sg**	**05 41 59.7**	**-4.4**	
T35M	**Bob Quinn**	**5.29 204**	P	**Pn**	**05 40 35.2**	**+1.7**	
	baz=21						
J30M	**Hart River**	**5.30 305**	Pn	**Pn**	**05 40 34.9**	**+1.3**	
J30M	**Hart River**	**5.30 305**	P	**Pn**	**05 40 34.9**	**+1.3**	
	baz=116,SNR=16						
H31M	**Peel River**	**5.33 322**	Pn	**Pn**	**05 40 34.7**	**+0.8**	
BESE	**Bessie Mountai**	**5.38 236**	Pn	**Pn**	**05 40 36.4**	**+1.6**	
P30M	**Million Dollar**	**5.48 256**	Pn	**Pn**	**05 40 37.4**	**+1.4**	
P30M			Sg	**Sb**	**05 42 02.6**	**+6.8**	
P30M	**Million Dollar**	**5.48 256**	P	**Pn**	**05 40 37.2**	**+1.2**	
	baz=67						
P30M			Sb	**Sb**	**05 42 01.6**	**+5.8**	
	baz=67						
HYT	**Haines Junctio**	**5.50 264**	Pn	**Pn**	**05 40 37.7**	**+1.3**	
HYT	**Haines Junctio**	**5.50 264**	P	**Pn**	**05 40 37.4**	**+1.0**	
	baz=74,SNR=66						
PLBC	**Pleasant Camp**	**5.51 249**	Pn	**Pn**	**05 40 37.9**	**+1.5**	
PLBC			Sg	**Sg**	**05 42 04.9**	**-6.1**	
PLBC	**Pleasant Camp**	**5.51 249**	P	**Pn**	**05 40 37.0**	**+0.7**	
	baz=60,SNR=12						
YKAW3	**Yellowknife Wh**	**5.51 77**	Pn	**Pn**	**05 40 37.5**	**+1.1**	
K29M	**Barlow Dome**	**5.52 296**	Pn	**Pn**	**05 40 37.9**	**+1.3**	
K29M			Sg	**Sb**	**05 42 01.3**	**+4.3**	
K29M	**Barlow Dome**	**5.52 296**	P	**Pn**	**05 40 37.4**	**+0.7**	
	baz=106						
K29M			Sb	**Sb**	**05 42 02.7**	**+5.7**	
	baz=106						
YKAW1	**Yellowknife Wh**	**5.57 78**	Pn	**Pn**	**05 40 38.2**	**+1.0**	
YUK5	**Granite Creek**	**5.59 268**	Pn	**Pn**	**05 40 38.7**	**+1.1**	
L29M	**L29M**	**5.63 288**	Pn	**Pn**	**05 40 38.9**	**+0.7**	
L29M	**L29M**	**5.63 288**	P	**Pn**	**05 40 38.4**	**+0.2**	
	baz=98,SNR=11						
I30M	**Mount Dempster**	**5.63 311**	Pn	**Pn**	**05 40 41.0**	**+2.7**	
M29M	**Somme Creek**	**5.74 281**	Pn	**Pn**	**05 40 40.2**	**+0.6**	
M29M	**Somme Creek**	**5.74 281**	P	**Pn**	**05 40 39.9**	**+0.3**	
	baz=91,SNR=9.7						
YUK6	**Outpost Mounta**	**5.87 266**	Pn	**Pn**	**05 40 43.0**	**+1.4**	
YUK6			Sg	**Sg**	**05 42 15.8**	**-6.9**	
YUK6	**Outpost Mounta**	**5.87 266**	P	**Pn**	**05 40 42.7**	**+1.1**	
	baz=76,SNR=29						
YUK6			Sb	**Sb**	**05 42 13.6**	**+6.3**	
	baz=76						
YUK7	**Dusty Glacier**	**5.88 262**	Pn	**Pn**	**05 40 42.9**	**+1.2**	
YUK7			Sg	**Sg**	**05 42 18.4**	**-4.7**	
YUK4	**Talbot Arm**	**5.92 270**	Pn	**Pn**	**05 40 42.5**	**+0.2**	
YUK4			Sg	**Sb**	**05 42 14.2**	**+5.5**	
YUK4	**Talbot Arm**	**5.92 270**	P	**Pn**	**05 40 42.1**	**-0.1**	
	baz=80,SNR=24						
G31M	**Satah River**	**6.15 329**	Pn	**Pn**	**05 40 45.0**	**-0.1**	
G31M	**Satah River**	**6.15 329**	P	**Pn**	**05 40 44.7**	**-0.4**	
	baz=142,SNR=14						
O29M	**Mount Kennedy**	**6.16 261**	Sg	**Sg**	**05 42 26.3**	**-5.7**	
DAWY	**Dawson**	**6.37 296**	Pn	**Pn**	**05 40 48.9**	**+0.6**	
DAWY			Sn	**Sn**	**05 42 00.5**	**-0.5**	
DAWY	**Dawson**	**6.37 296**	P	**Pn**	**05 40 48.0**	**-0.3**	
	baz=104,SNR=5.6						
F31M	**Tsiigehtchic**	**6.45 334**	Pn	**Pn**	**05 40 49.3**	**0.0**	
F31M	**Tsiigehtchic**	**6.45 334**	P	**Pn**	**05 40 49.6**	**+0.4**	
	baz=147,SNR=12						
G30M	**tAoh Zraii Nji**	**6.70 324**	Pn	**Pn**	**05 40 53.1**	**+0.4**	
O28M	**Mount Upton**	**6.78 267**	Pn	**Pn**	**05 40 55.9**	**+1.8**	
F30M	**Barrier River**	**7.06 329**	Pn	**Pn**	**05 40 57.4**	**-0.3**	
F30M	**Barrier River**	**7.06 329**	P	**Pn**	**05 40 57.3**	**-0.3**	
	baz=140,SNR=30						
V35K	**Ketchikan**	**7.11 205**	Pn	**Pn**	**05 41 00.4**	**+2.0**	
INK	**Inuvik**	**7.16 338**	Pn	**Pn**	**05 40 58.5**	**-0.5**	
INK	**Inuvik**	**7.16 338**	P	**Pn**	**05 40 58.5**	**-0.5**	
	baz=151,SNR=24						
E29M	**Blow River**	**8.17 328**	P	**Pn**	**05 41 12.8**	**-0.1**	
	baz=138,SNR=8.4						

*IDC **24** 05:40:29.5±0.9,35°54S×53°48E,h0^{km},mb3.8/8, mbtmp3.8/8,MS4.0/16,Error ellipse: s-maj=33.1km s-min=23.8km az=25.0*

ISC 24 05:40:31.2±0.8,35°5S±0.1×53°5E±0.2,h10^{km},n32, σ2s29/11,mb4.0/7,MS4.1/15,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**10.75**	**186**	T	T	05 53 44.9	
	baz=9.1,slow=75,SNR=3033						
H04N2	**CROZET ISLANDS**	**10.76**	**186**	T	T	05 53 43.6	
	baz=9.1,slow=75,SNR=2098						
H04N3	**CROZET ISLANDS**	**10.77**	**186**	T	T	05 53 52.1	
	baz=9.1,slow=75,SNR=3269						
OPO	**Ambohidratompo**	**17.73**	**340**	P	**P**	**05 44 43.7**	**+4.4**
	14nm,0.7s,baz=166,slow=12,SNR=15						
OPO				S	**Sn**	**05 47 52.1**	**-4.2**
	1.4nm,0.5s,baz=233,slow=21,SNR=1.5						
OPO				LR	LR	05 50 35.4	
	comp=Z,93nm,18.7s,baz=3.5,slow=34						
BOSA	**Boshof**	**24.83**	**278**	P	**P**	**05 45 54.2**	**+0.4**
	3.1nm,0.9s,baz=114,slow=10.0,SNR=2.5						
BOSA				LR	LR	05 53 19.3	
	comp=Z,262nm,19.6s,baz=114,slow=31						
	3.1nm,0.9s						
LBTB	**Lobatse**	**26.16**	**286**	LR	LR	05 53 53.7	
	comp=Z,517nm,20.1s,baz=111,slow=31						
MATP	**Matopo**	**26.57**	**298**	LR	LR	05 56 07.1	
	comp=Z,285nm,18.3s,baz=136,slow=35						
LSZ	**Lusaka**	**30.28**	**305**	LR	LR	05 56 49.5	
	comp=Z,414nm,21.6s,baz=146,slow=32						
MAW	**Mawson**	**32.62**	**173**	LR	LR	05 56 23.2	
	comp=Z,465nm,21.9s,baz=354,slow=29						
H08S1	**Diego Garcia H**	**32.72**	**37**	T	T	06 21 39.9	
	baz=209,slow=75,SNR=71						
H08S2	**Diego Garcia H**	**32.73**	**37**	T	T	06 21 40.8	
	baz=209,slow=75,SNR=40						
H08S3	**Diego Garcia H**	**32.74**	**37**	T	T	06 21 45.1	
	baz=209,slow=75,SNR=60						
TSUM	**Tsumeb**	**35.53**	**288**	LR	LR	05 59 27.8	
	comp=Z,496nm,19.9s,baz=138,slow=32						
FURI	**Furi**	**46.29**	**340**	LR	LR	06 05 55.4	
	comp=Z,251nm,20.2s,baz=164,slow=33						
H01W2	**Cape Leeuwin H**	**48.87**	**108**	T	T	06 41 22.7	
	baz=250,slow=75,SNR=46						
H01W3	**Cape Leeuwin H**	**48.88**	**108**	T	T	06 41 22.4	
	baz=250,slow=75,SNR=49						
H01W1	**Cape Leeuwin H**	**48.88**	**108**	T	T	06 41 24.0	
	baz=250,slow=75,SNR=44						
NWAO	**Narrogin (SRO)**	**51.97**	**107**	LR	LR	06 06 32.9	
	comp=Z,166nm,18.1s,baz=276,slow=30						
QSPA	**South Pole Qui**	**54.71**	**180**	P	**P**	**05 49 59.6**	**-0.9**
	1.6nm,1.0s,baz=260,slow=7.0,SNR=4.0						
	1.6nm,1.0s						
BRDH	**Bariadhala**	**68.21**	**38**	LR	LR	06 16 39.8	
	comp=Z,76nm,21.7s,baz=252,slow=32						
CMAR	**Chiang Mai Arr**	**68.81**	**47**	P	**P**	**05 51 35.3**	**-0.5**
	0.8nm,0.3s,baz=230,slow=8.1,SNR=5.4						
CMAR				LR	LR	06 16 05.6	
	comp=Z,39nm,22.0s,baz=235,slow=31						
	0.8nm,0.3s						
TORD	**Torodi Ar. Bea**	**68.82**	**305**	P	**P**	**05 51 35.1**	**-0.8**
	0.8nm,1.0s,baz=95,slow=6.1,SNR=4.3						
	0.8nm,1.0s						
ASAR	**Alice Springs**	**69.20**	**105**	P	**P**	**05 51 37.8**	**-0.7**
	0.5nm,0.8s,baz=221,slow=5.5,SNR=7.6						
	0.5nm,0.8s						
STKA	**Stephens Creek**	**70.95**	**116**	LR	LR	06 16 27.4	
	comp=Z,74nm,20.4s,baz=214,slow=30						
WRA	**Warramunga Arr**	**71.47**	**102**	P	**P**	**05 51 53.0**	**+0.7**
	1.6nm,0.9s,baz=235,slow=5.3,SNR=8.0						
	1.6nm,0.9s						
BRTR	**Keskin Array B**	**77.03**	**344**	P	**P**	**05 52 25.7**	**+1.4**
	0.2nm,0.3s,baz=185,slow=7.2,SNR=1.7						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**85.89**	**19**	P	**P**	**05 53 10.9**	**-0.1**
	0.1nm,0.4s,baz=215,slow=4.8,SNR=2.1						
	0.1nm,0.4s						
MDT	**Midel**	**87.03**	**314**	LR	LR	06 32 28.3	
	comp=Z,120nm,18.2s,baz=157,slow=36						
PMG	**Port Moresby**	**87.59**	**100**	LR	LR	06 27 36.8	
	comp=Z,93nm,21.4s,baz=186,slow=32						
VRAC	**Vranov**	**90.54**	**337**	LR	LR	06 35 15.2	
	comp=Z,76nm,20.1s,baz=30,slow=36						
ESDC	**Sonseca Array**	**91.62**	**319**	LR	LR	06 35 11.5	
	comp=Z,156nm,19.8s,baz=45,slow=36						
ILAR	**Eielson Array**	**148.21**	**16**	PKPbc	**PKiKP**	**06 00 17.2**	**-1.0**
	0.7nm,0.8s,baz=302,slow=3.5,SNR=4.2						

*NEIC **24** 05:42:35.2±1.9,19°09N±0°04×67°11W±0°03,h10^{km}±2^{km}, ML3.6/19,Md3.2/8(RSPR),Error ellipse: s-maj=6.2km s-min=4.2km az=3.0*
*OSPL **24** 05:42:36.4±2.1,19°16N×67°17W,h0^{km}±12^{km},ML4.0*
*RSPR **24** 05:42:36.6,19°16N×67°35W,h44^{km}±9^{km},MD3.2/8*

ISC 24 05:42:34.9±1.5,19°08N±0°05×67°16W±0°03,h4^{km}±10^{km}, n65,σ0s90/77,13C-2D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.61**	**176**		**Pb**	**05 42 48.9**	**+0.7**
AGPR					**Sn**	**05 42 59.0**	**-1.6**
AGPR	**Aguadilla, PR**	**0.61**	**176**	i eP	**Pb**	**05 42 48.9**	**+0.7**
AGPR	**Aguadilla, PR**	**0.61**	**176**	eS	**Sn**	**05 42 59.0**	**-1.6**
AGPR	**Aguadilla, PR**	**0.61**	**176**	i P	**Pb**	**05 42 48.5**	**+0.4**
AGPR				eS	**Sn**	**05 42 59.0**	**-1.6**
AGPR				IAML		05 43 00.1	
	comp=Z,2μm,0.4s						
IDE	**Isla Desecheo**	**0.75**	**203**		**Pg**	**05 42 50.2**	**+0.9**
IDE					**Sb**	**05 43 01.6**	**+0.5**
IDE	**Isla Desecheo**	**0.75**	**203**	i eP	**Pg**	**05 42 50.2**	**+0.9**
IDE	**Isla Desecheo**	**0.75**	**203**	eS	**Sb**	**05 43 01.6**	**+0.5**
AOPR	**Arecibo Observ**	**0.82**	**152**		**Pb**	**05 42 52.2**	**+0.4**
AOPR					**Sb**	**05 43 02.1**	**-1.2**
AOPR				IAML		05 43 05.8	
	comp=N,3μm,0.6s						
AOPR	**Arecibo Observ**	**0.82**	**152**	i eP	**Pb**	**05 42 52.2**	**+0.4**
EMPR	**Esperanza - Ma**	**0.84**	**135**		**Pn**	**05 42 52.6**	**-0.9**
EMPR					**Sg**	**05 43 01.5**	**-0.6**
EMPR	**Esperanza - Ma**	**0.84**	**135**		**Sn**	**05 43 07.5**	**+1.1**
EMPR	**Esperanza - Ma**	**0.84**	**135**	i eP	**Pn**	**05 42 53.6**	**+0.1**
EMPR	**Esperanza - Ma**	**0.84**	**135**	eS	**Sn**	**05 43 07.5**	**+1.1**
PRSN	**Puerto Rico Se**	**0.86**	**179**		**Pb**	**05 42 52.2**	**-0.1**
PRSN				Sn	**Sb**	**05 43 04.7**	**+0.5**
LSP	**Las Mesas**	**0.90**	**176**		**Pb**	**05 42 53.1**	**0.0**
LSP	**Las Mesas**	**0.90**	**176**	i eP	**Pb**	**05 42 53.1**	**0.0**
UUPR	**Utuado, UPR, P**	**0.92**	**153**		**Pb**	**05 42 53.7**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.92**	**153**		**Sg**	**05 43 04.2**	**-0.3**
UUPR	**Utuado, UPR, P**	**0.92**	**153**	i eP	**Pb**	**05 42 53.7**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.92**	**153**	eS	**Sg**	**05 43 04.2**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.07**	**177**		**Pg**	**05 42 55.5**	**+0.2**
CRPR				IAML		05 43 12.7	
	comp=N,2μm,0.4s						
CRPR				IAML		05 43 15.7	
	comp=E,1μm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.07**	**177**		**Sn**	**05 43 11.0**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.07**	**177**	i eP	**Pg**	**05 42 55.6**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.07**	**177**	eS	**Sn**	**05 43 11.0**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.07**	**177**	i P	**Pg**	**05 42 55.5**	**+0.2**
CRPR				eS	**Sn**	**05 43 11.7**	**-0.2**
CRPR				IAML		05 43 12.8	
	comp=Z,2μm,0.3s						
ECPR	**Experimental S**	**1.07**	**135**	i eP	**Pn**	**05 42 56.6**	**-0.1**
ECPR	**Experimental S**	**1.07**	**135**	eS	**Sg**	**05 43 09.0**	**-0.2**
MLPR	**Magueyes Islan**	**1.11**	**174**	i eP	**Pg**	**05 42 56.1**	**0.0**
MLPR	**Magueyes Islan**	**1.11**	**174**	eS	**Sb**	**05 43 10.9**	**-0.5**
CELP	**Cerrillos**	**1.14**	**151**		**Pb**	**05 42 57.2**	**0.0**
CELP				IAML		05 43 18.9	
	comp=N,1μm,0.5s						
CELP				IAML		05 43 21.3	
	comp=E,927nm,0.8s						
CELP	**Cerrillos**	**1.14**	**151**		**Sg**	**05 43 10.5**	**-1.0**
CELP	**Cerrillos**	**1.14**	**151**	i eP	**Pn**	**05 42 57.3**	**-0.3**
CELP	**Cerrillos**	**1.14**	**151**	eS	**Sg**	**05 43 10.5**	**-1.0**
OBIP	**Obispado Ponce**	**1.16**	**153**		**Pb**	**05 42 57.3**	**-0.1**
OBIP				Sn	**Sg**	**05 43 10.4**	**-1.7**
OBIP				IAML		05 43 15.0	
	comp=N,962nm,1.0s						
OBIP				IAML		05 43 24.1	
	comp=E,810nm,0.6s						
OBIP	**Obispado Ponce**	**1.16**	**153**	i eP	**Pn**	**05 42 57.5**	**-0.4**
OBIP	**Obispado Ponce**	**1.16**	**153**	eS	**Sg**	**05 43 12.0**	**-0.1**
GCPR	**Guaynabo City**	**1.27**	**127**		**Pg**	**05 42 59.8**	**+0.5**
GCPR				Sn	**Sg**	**05 43 14.0**	**-1.8**
GCPR	**Guaynabo City**	**1.27**	**127**	i eP	**Pg**	**05 42 59.6**	**+0.3**
GCPR	**Guaynabo City**	**1.27**	**127**	eS	**Sn**	**05 43 17.6**	**+0.5**
SJG	**San Juan**	**1.36**	**135**		**Pb**	**05 43 00.8**	**-0.1**
SJG				IAML		05 43 30.9	
	comp=E,742nm,0.8s						
SJG	**San Juan**	**1.36**	**135**	i eP	**Pg**	**05 43 00.9**	**0.0**
SJG	**San Juan**	**1.36**	**135**	i P	**Pb**	**05 43 00.7**	**-0.1**
SJG				eS	**Sn**	**05 43 21.4**	**+2.3**
SJG				IAML		05 43 27.9	
	comp=Z,452nm,0.6s						
IGPR	**InterUniversit**	**1.49**	**138**		**Pb**	**05 43 02.8**	**-0.4**
IGPR					**Sg**	**05 43 22.8**	**0.0**
IGPR	**InterUniversit**	**1.49**	**138**	i eP	**Pb**	**05 43 02.8**	**-0.4**
IGPR	**InterUniversit**	**1.49**	**138**	eS	**Sg**	**05 43 22.8**	**0.0**
PDPR	**Patillas Dam,**	**1.51**	**134**		**Pb**	**05 43 02.9**	**-0.5**
PDPR				IAML		05 43 34.1	
	comp=N,554nm,0.6s						
PDPR	**Patillas Dam,**	**1.51**	**134**	i eP	**Pb**	**05 43 03.4**	**0.0**
HUMP	**Col San Antoni**	**1.55**	**127**		**Pb**	**05 43 03.7**	**-0.5**
SDD	**Santo Domingo**	**2.68**	**257**		**Pn**	**05 43 19.1**	**+0.2**
SDD				IAML		05 43 60.0	
	comp=E,423nm,0.9s						
SDD				IAML		05 44 01.5	
	comp=N,408nm,0.8s						
SDD	**Santo Domingo**	**2.68**	**257**	i P	**Pn**	**05 43 19.2**	**+0.4**
SC01	**Santiago de lo**	**3.39**	**276**		**Pn**	**05 43 28.2**	**-0.4**
SC01	**Santiago de lo**	**3.39**	**276**	i P	**Pn**	**05 43 28.4**	**-0.3**
LOPP1	**Punta Rusia, P**	**3.89**	**282**	i P	**Pn**	**05 43 34.0**	**-1.5**
LOPP1				IAML		05 44 49.5	
	comp=Z,384nm,1.7s						
SDDR	**Presa de Saban**	**3.91**	**269**		**Pn**	**05 43 35.5**	**-0.3**
SDDR	**Presa de Saban**	**3.91**	**269**	i P	**Pn**	**05 43 35.9**	**+0.1**
SDDR				IAML		05 44 38.9	
	comp=Z,272nm,0.8s						
LONE3	**El Aguacate, B**	**4.10**	**264**	i P	**Pn**	**05 43 39.4**	**+0.9**
LONE3				IAML		05 44 47.0	
	comp=Z,178nm,0.6s						
LODU1	**El Espartillar**	**4.15**	**261**	i P	**Pn**	**05 43 40.0**	**+0.9**
LODU1				IAML		05 44 39.9	
	comp=Z,244nm,0.5s						
LOVI	**El Cajuil, Ovi**	**4.19**	**253**	i P	**Pn**	**05 43 39.7**	**+0.1**
LOVI				eS	**Sn**	**05 44 26.6**	**-2.6**
LOVI				IAML		05 44 40.6	
	comp=Z,162nm,0.5s						
LOBH	**Bahia de las A**	**4.42**	**255**	i P	**Pn**	**05 43 43.3**	**+0.5**
LOBH				IAML		05 44 46.6	
	comp=Z,107nm,0.5s						
BAUV	**El Baul**	**10.11**	**185**		**Pn**	**05 45 02.6**	**+1.6**
RUSC	**La Rusia**	**14.32**	**205**	Pn	**Pn**	**05 45 58.1**	**-0.9**
ROSC	**El Rosal**	**15.78**	**207**		**P**	**05 46 25.5**	**+2.9**
BOAV	**Boa Vista**	**17.81**	**158**		**P**	**05 46 44.0**	**-0.6**
FLOC	**Florencia**	**19.28**	**207**		**P**	**05 46 59.7**	**-1.1**
V58A	**Windy Hill, Pi**	**19.71**	**330**	P	**P**	**05 47 05.6**	**+0.2**

*AEIC **24** 05:42:46.6±0.9,51°58N±0°08×176°09W±0°06,h40^{km}±9^{km}, Error ellipse: s-maj=11.3km s-min=4.6km az=167.0*

NEIC 24 05:42:47.7±0.8,51°6N±0°1×176°14W±0°06,h47^{km}±15^{km}, mb3.9/11,ML3.6/8,ML3.3(AEIC),Error ellipse: s-maj=18.8km s-min=4.3km az=168.0,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**0.30**	**327**		Pn	05 42 56.0	-0.6
ETKA					Sn	05 43 03.0	+0.1
GSIG	**Igitkin Island**	**0.40**	**19**		Pn	05 42 56.6	-1.0
GSIG					Sn	05 43 04.3	-0.3
ADK	**Adak**	**0.44**	**309**		Pn	05 42 57.4	-0.6
ADK				IAML		05 43 05.9	
	4μm,0.3s						
ADK				IAML		05 43 06.4	
	3μm,0.2s						
ADK	**Adak**	**0.44**	**309**		Sn	05 43 05.1	-0.2
GSMY	**Great Sitkin M**	**0.44**	**6**		Pn	05 42 57.4	-0.6
GSMY					Sn	05 43 05.6	+0.2
GSTD	**Great Sitkin T**	**0.45**	**359**		Pn	05 42 57.7	-0.5
GSTD					Sn	05 43 06.2	+0.6
ADAG	**Mount Adagdak**	**0.47**	**322**		Pn	05 42 58.5	+0.2
ADAG					Sn	05 43 07.7	+1.7
GSTR	**Great Sitkin T**	**0.49**	**6**		Pn	05 42 58.4	-0.3
KIRH	**Kanaga Island**	**0.66**	**297**		Pn	05 43 00.7	-0.1
KIRH					Sn	05 43 10.5	+0.3
KIWB	**Kanaga Island**	**0.68**	**292**		Pn	05 43 00.6	-0.4
KIWB	**Kanaga Island**	**0.68**	**292**		Sn	05 43 10.7	+0.1
KIWB	**Kanaga Island**	**0.68**	**292**	IAML		05 43 15.0	
	comp=E,3μm,0.7s						
KIWB				IAML		05 43 16.5	
	comp=N,2μm,0.6s						
KINC	**Kanaga Island**	**0.70**	**298**		Pn	05 43 00.9	-0.3
KINC					Sn	05 43 10.9	-0.1
TAFL	**Tanaga Flats**	**1.11**	**278**		Pn	05 43 06.5	-0.2
TAFL					Sn	05 43 21.8	+0.9
TAFP	**Tanaga Fal

CATAC 24 05:45:47.6±0.8, 13°N±4°×8°8W±°, h29km±3km, M2.5/7, MLv2.5/7, Error ellipse: s-maj=10.8km s-min=4.2km az=31.9, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTN	**Potosi Cosigui**	**0.59**	**36**	P	Pn	05 46 00.1	+0.1
POTN				S	Sn	05 46 10.2	+1.4
CNCH	**Conchagua**	**0.76**	**2**	P	Pb	05 46 02.2	-0.1
CNCH	**Conchagua**	**0.76**	**2**	S	Sn	05 46 14.0	+1.1
LCND	**La Caada**	**0.79**	**358**	P	Pn	05 46 02.5	-0.2
PKGN	**Cerro Pekin**	**0.88**	**80**	P	Pn	05 46 03.8	-0.1
PKGN				S	Sn	05 46 16.6	+0.9
PACA	**Pacayal**	**1.05**	**335**	P	Pn	05 46 04.3	-2.1
PACA	**Pacayal**	**1.05**	**335**	S	Sn	05 46 20.2	+0.1
CNGA	**Al SSO del Vol**	**1.13**	**91**	S	Sn	05 46 22.2	+0.1
CNGN	**Cerro Negro**	**1.14**	**91**	S	Sb	05 46 23.4	+0.3
CNGN	**Cerro Negro**	**1.14**	**91**	P	Pn	05 46 07.0	-0.6
SCLA	**Alcaldia de Sa**	**1.45**	**325**	P	Pb	05 46 14.4	+0.4
SCLA	**Alcaldia de Sa**	**1.45**	**325**	S	Sn	05 46 30.5	+0.6
TGUH	**Tegucigalpa,Un**	**1.64**	**20**	S	Sn	05 46 34.7	0.0

*IDC **24** 05:47:01.0±0.6, 25°.58N×142°.90E, h0km, mb4.0/17, mbtmp4.0/19, ML2.7/2, Error ellipse: s-maj=25.6km s-min=14.6km az=78.0*

ISC 24 05:47:06.7±0.7, 25°.6N±0°.1×142°.9E±0°.2, h40km, n28, σ0s98/22, mb4.0/17, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**11.65**	**341**	Pn	**Pn**	**05 49 50.1**	**-0.2**
	baz=151,slow=15,SNR=1.4						
	0.6nm,0.3s						
KSRS	**Korea Array**	**17.38**	**317**	P	**Pn**	**05 51 03.5**	**-2.6**
	0.1nm,0.3s,baz=127,slow=12,SNR=1.5						
	0.4nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**22.91**	**100**	T	T	06 15 42.8	
	baz=290,slow=75,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**22.91**	**100**	T	T	06 15 39.1	
	baz=290,slow=75,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**22.93**	**100**	T	T	06 15 42.4	
	baz=290,slow=75,SNR=7.0						
H11S3	**WAKE ISLAND Hy**	**23.16**	**103**	T	T	06 15 57.8	
	baz=292,slow=75,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**23.16**	**103**	T	T	06 15 57.7	
	baz=292,slow=75,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**23.17**	**103**	T	T	06 15 58.7	
	baz=292,slow=75,SNR=8.9						
LZDM	**Lanzhou Array**	**35.01**	**297**	P	**P**	**05 53 55.5**	**-0.4**
	1.1nm,0.3s,baz=140,slow=9.1,SNR=0.8						
	1.1nm,0.3s						
SONM	**Songino Array**	**36.24**	**317**	P	**P**	**05 54 05.8**	**-0.2**
	0.5nm,0.5s,baz=138,slow=4.7,SNR=2.8						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**45.98**	**191**	P	**P**	**05 55 25.7**	**-0.5**
	3.2nm,0.5s,baz=12,slow=8.6,SNR=30						
	3.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**46.52**	**203**	P	**P**	**05 55 30.7**	**+0.4**
	1.5nm,0.7s,baz=25,slow=21,SNR=5.6						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**49.70**	**191**	P	**P**	**05 55 55.0**	**+0.1**
	0.5nm,0.6s,baz=16,slow=11,SNR=11						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**51.04**	**320**	PcP	**PcP**	**05 57 20.9**	**+0.7**
	2.2nm,0.8s,baz=96,slow=4.3,SNR=5.5						
MKAR	**Makanchi Array**	**51.92**	**311**	P	**P**	**05 56 11.2**	**-0.3**
	0.4nm,0.5s,baz=91,slow=8.4,SNR=4.6						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**54.55**	**315**	P	**P**	**05 56 30.3**	**-0.3**
	1.8nm,0.6s,baz=91,slow=8.1,SNR=13						
	1.8nm,0.6s						
STKA	**Stephens Creek**	**57.13**	**181**	P	**P**	**05 56 49.2**	**0.0**
	1.1nm,0.4s,baz=27,slow=8.1,SNR=3.7						
	1.1nm,0.4s						
ILAR	**Eielson Array**	**58.77**	**28**	P	**P**	**05 56 59.7**	**-0.7**
	0.6nm,0.8s,baz=258,slow=5.9,SNR=6.6						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**59.58**	**318**	P	**P**	**05 57 06.1**	**-0.2**
	2.6nm,0.5s,baz=92,slow=7.6,SNR=9.4						
	2.6nm,0.5s						
ARCES	**ARCESS Array B**	**75.18**	**341**	P	**P**	**05 58 46.7**	**+2.1**
	3.3nm,0.9s,baz=56,slow=6.7,SNR=3.8						
	3.3nm,0.9s						
KBZ	**Khabaz**	**79.50**	**313**	P	**P**	**05 59 09.8**	**+0.6**
	1.2nm,0.6s,baz=79,slow=5.2,SNR=4.1						
	1.2nm,0.6s						
FINES	**FINESS Array B**	**79.59**	**334**	P	**P**	**05 59 09.7**	**+0.4**
	2.6nm,0.7s,baz=75,slow=5.0,SNR=16						
	2.6nm,0.7s						
NVAR	**Mina Array Bea**	**80.98**	**52**	P	**P**	**05 59 16.7**	**-0.9**
	0.7nm,0.7s,baz=297,slow=5.3,SNR=5.1						
	0.7nm,0.7s						
AKASG	**Malin Array Be**	**84.21**	**324**	P	**P**	**05 59 35.4**	**+1.5**
	0.2nm,0.2s,baz=52,slow=4.6,SNR=3.0						
	0.2nm,0.2s						
HFS	**Hagfors**	**85.07**	**337**	P	**P**	**05 59 38.4**	**+0.4**
	0.9nm,0.5s,baz=40,slow=2.5,SNR=5.0						
	0.9nm,0.5s						
NOA	**NORSAR Array B**	**85.25**	**339**	P	**P**	**05 59 39.4**	**+0.4**
	0.6nm,0.6s,baz=47,slow=5.0,SNR=3.0						
	0.6nm,0.6s						
PLCA	**Paso Flores**	**148.42**	**127**	PKPbc	**PKiKP**	**06 06 49.8**	**-0.9**
	1.1nm,0.7s,baz=242,slow=4.3,SNR=5.8						
LPAZ	**La Paz**	**149.68**	**78**	PKPbc	**PKiKP**	**06 06 54.1**	**-0.5**
	1.7nm,0.9s,baz=215,slow=3.2,SNR=5.7						

*RSPR **24** 05:56:59.9, 19°.16N×67°.29W, h24km±30km*

NEIC 24 05:56:58.8±1.8, 19°.1N±0°.1×67°.26W±0°.05, h19km±15km, ML2.1/13, Md3.0/12(RSPR), 23C-8D, Error ellipse: s-maj=16.5km s-min=5.3km az=161.0, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.62**	**167**		Pg	05 57 11.3	+0.2
AGPR					Sg	05 57 20.4	+1.1
AGPR	**Aguadilla, PR**	**0.62**	**167**	*iP*	Pg	05 57 11.4	+0.3
AGPR	**Aguadilla, PR**	**0.62**	**167**	*eS*	Sg	05 57 20.6	+1.2
AGPR	**Aguadilla, PR**	**0.62**	**167**	*ePg*	Pg	05 57 11.3	+0.2
AGPR	**Aguadilla, PR**	**0.62**	**167**	*eS*	Sg	05 57 20.4	+1.1
IDE	**Isla Desecheo**	**0.71**	**197**		Pn	05 57 13.4	-0.4
IDE					Sn	05 57 24.5	+0.3
IDE	**Isla Desecheo**	**0.71**	**197**	*iP*	Pn	05 57 13.4	-0.4
IDE	**Isla Desecheo**	**0.71**	**197**	*eS*	Sn	05 57 24.4	+0.2
IDE	**Isla Desecheo**	**0.71**	**197**	*ePg*	Pn	05 57 13.4	-0.4
IDE	**Isla Desecheo**	**0.71**	**197**	*eS*	Sn	05 57 24.5	+0.3
PRSN	**Puerto Rico Se**	**0.86**	**173**		Pb	05 57 15.2	+0.2
PRSN					Sn	05 57 27.9	+0.1
PRSN	**Puerto Rico Se**	**0.86**	**173**	Pg	Pb	05 57 14.8	-0.2
PRSN	**Puerto Rico Se**	**0.86**	**173**	*iP*	Pb	05 57 14.6	-0.4
PRSN	**Puerto Rico Se**	**0.86**	**173**	*eS*	Sn	05 57 27.4	-0.4
PRSN	**Puerto Rico Se**	**0.86**	**173**	*ePg*	Pb	05 57 15.2	+0.2
PRSN	**Puerto Rico Se**	**0.86**	**173**	*eS*	Sn	05 57 27.9	+0.1
AOPR	**Arecibo Observ**	**0.86**	**147**		Pb	05 57 14.4	-0.8
AOPR	**Arecibo Observ**	**0.86**	**147**	*iP*	Pb	05 57 14.8	-0.3
AOPR	**Arecibo Observ**	**0.86**	**147**	*eS*	Sn	05 57 27.7	-0.2
AOPR	**Arecibo Observ**	**0.86**	**147**	*iP*	Pb	05 57 14.4	-0.8
LSP	**Las Mesas**	**0.91**	**170**		Pb	05 57 15.9	+0.1
LSP					Sg	05 57 28.6	+0.1
LSP	**Las Mesas**	**0.91**	**170**	*iP*	Pb	05 57 15.9	+0.1
LSP	**Las Mesas**	**0.91**	**170**	*eS*	Sg	05 57 28.6	+0.1
LSP	**Las Mesas**	**0.91**	**170**	*ePg*	Pb	05 57 15.9	+0.1
LSP	**Las Mesas**	**0.91**	**170**	*eS*	Sg	05 57 28.6	+0.1
EMPR	**Esperanza - Ma**	**0.91**	**131**		Pg	05 57 18.4	+1.9
EMPR					Sn	05 57 29.3	+0.3
EMPR	**Esperanza - Ma**	**0.91**	**131**	Pg	Pg	05 57 16.8	+0.3
EMPR	**Esperanza - Ma**	**0.91**	**131**	*iP*	Pg	05 57 16.9	+0.4
EMPR	**Esperanza - Ma**	**0.91**	**131**	*ePg*	Pg	05 57 18.4	+1.9
EMPR	**Esperanza - Ma**	**0.91**	**131**	*eS*	Sn	05 57 29.3	+0.3
UUPR	**Utuado, UPR, P**	**0.96**	**148**		Pn	05 57 17.1	-0.1
UUPR	**Utuado, UPR, P**	**0.96**	**148**	Pg	Pb	05 57 16.5	-0.2
UUPR	**Utuado, UPR, P**	**0.96**	**148**	*iP*	Pg	05 57 17.6	+0.1
UUPR	**Utuado, UPR, P**	**0.96**	**148**	*eS*	Sb	05 57 28.6	-0.4
UUPR	**Utuado, UPR, P**	**0.96**	**148**	*iP*	Pn	05 57 17.1	-0.1
CRPR	**Cabo Rojo, PR**	**1.07**	**173**		Pb	05 57 18.4	-0.3
CRPR					Sn	05 57 33.1	+0.1
CRPR	**Cabo Rojo, PR**	**1.07**	**173**	IAML		05 57 42.1	
	comp=N,45nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.07**	**173**	*eS*	Sn	05 57 33.1	+0.2
CRPR	**Cabo Rojo, PR**	**1.07**	**173**	*ePg*	Pb	05 57 18.4	-0.3
CRPR	**Cabo Rojo, PR**	**1.07**	**173**	*eS*	Sn	05 57 33.1	+0.1
MLPR	**Magueyes Islan**	**1.11**	**170**	*iP*	Pn	05 57 19.0	-0.3
MLPR	**Magueyes Islan**	**1.11**	**170**	*eS*	Sn	05 57 34.0	-0.1
ECPR	**Experimental S**	**1.13**	**131**	*iP*	Pn	05 57 18.7	-0.9
ECPR	**Experimental S**	**1.13**	**131**	*eS*	Sb	05 57 33.5	-0.5
ECPR	**Experimental S**	**1.13**	**131**	*eP*	Pn	05 57 18.6	-0.9
ECPR	**Experimental S**	**1.13**	**131**	*eS*	Sb	05 57 33.4	-0.6
GBPR	**Guanica, Bosqu**	**1.15**	**162**	*eP*	Pn	05 57 19.8	0.0
CELP	**Cerrillos**	**1.18**	**147**		Pn	05 57 20.1	-0.2
CELP					Sb	05 57 33.9	-1.5
CELP	**Cerrillos**	**1.18**	**147**	IAML		05 57 36.2	
	comp=N,43nm,0.2s						
CELP	**Cerrillos**	**1.18**	**147**	*iP*	Pn	05 57 19.4	-0.8
CELP	**Cerrillos**	**1.18**	**147**	*eS*	Sb	05 57 34.9	-0.5
CELP	**Cerrillos**	**1.18**	**147**	*iP*	Pn	05 57 20.1	-0.2
CELP	**Cerrillos**	**1.18**	**147**	*eS*	Sb	05 57 33.9	-1.5
OBIP	**Obispado Ponce**	**1.19**	**149**		Pn	05 57 19.9	-0.5
OBIP					Sb	05 57 35.6	-0.2
OBIP	**Obispado Ponce**	**1.19**	**149**	IAML		05 57 55.9	
	comp=E,39nm,0.3s						
OBIP	**Obispado Ponce**	**1.19**	**149**	*iP*	Pn	05 57 19.8	-0.7
OBIP	**Obispado Ponce**	**1.19**	**149**	*eS*	Sb	05 57 35.1	-0.7
OBIP	**Obispado Ponce**	**1.19**	**149**	*iP*	Pn	05 57 19.9	-0.5
OBIP	**Obispado Ponce**	**1.19**	**149**	*eS*	Sb	05 57 35.6	-0.2
GCPR	**Guaynabo City**	**1.34**	**124**		Pn	05 57 22.0	-0.5
GCPR					Sn	05 57 38.3	-1.5
GCPR	**Guaynabo City**	**1.34**	**124**	*iP*	Pn	05 57 22.0	-0.5
GCPR	**Guaynabo City**	**1.34**	**124**	*eS*	Sn	05 57 38.9	-0.9
GCPR	**Guaynabo City**	**1.34**	**124**	*iP*	Pn	05 57 22.0	-0.5
GCPR	**Guaynabo City**	**1.34**	**124**	*eS*	Sn	05 57 38.3	-1.5
SJG	**San Juan**	**1.42**	**132**		Pg	05 57 25.4	-0.7
SJG	**San Juan**	**1.42**	**132**	IAML		05 57 49.2	
	comp=E,28nm,0.3s						
SJG				IAML		05 58 07.5	
	comp=E,30nm,0.5s						
SJG	**San Juan**	**1.42**	**132**	*iP*	Pg	05 57 25.4	-0.7
SJG	**San Juan**	**1.42**	**132**	*eS*	Sb	05 57 42.5	+0.2
SJG	**San Juan**	**1.42**	**132**	*iP*	Pg	05 57 25.4	-0.7
SJG	**San Juan**	**1.42**	**132**	*eS*	Sn	05 57 41.0	-0.6
IGPR	**InterUniversit**	**1.55**	**135**		Pb	05 57 26.8	0.0
IGPR					Sn	05 57 44.5	-0.3
IGPR	**InterUniversit**	**1.55**	**135**	*iP*	Pb	05 57 26.7	-0.1
IGPR	**InterUniversit**	**1.55**	**135**	*eP*	Pb	05 57 26.8	0.0
IGPR	**InterUniversit**	**1.55**	**135**	*eS*	Sn	05 57 44.5	-0.3
PDPR	**Patillas Dam,**	**1.57**	**132**	Pn	Pb	05 57 27.7	+0.6
PDPR				IAML		05 57 51.0	
	comp=N,24nm,0.2s						
PDPR				IAML		05 57 51.7	
	comp=E,23nm,0.1s						
PDPR	**Patillas Dam,**	**1.57**	**132**	*iP*	Pn	05 57 26.3	+0.7
PDPR	**Patillas Dam,**	**1.57**	**132**	*eS*	Sb	05 57 46.9	+0.3
PDPR	**Patillas Dam,**	**1.57**	**132**	*iP*	Pb	05 57 27.0	-0.2
PDPR	**Patillas Dam,**	**1.57**	**132**	*eS*	Sn	05 57 44.9	-0.5
HUMP	**Col San Antoni**	**1.62**	**125**	Pn	Pb	05 57 28.4	+0.3
MIDR	**Miches**	**1.70**	**267**	*eS*	Sn	05 57 45.2	-3.4
MIDR	**Miches**	**1.70**	**267**	*iP*	Pb	05 57 30.4	+1.0

*NEIC **24** 06:10:43.7±1.6, 19°.25N±0°.03×67°.32W±0°.04, h10km±1km, ML2.6/13, Error ellipse: s-maj=6.4km s-min=3.9km az=237.0*
*RSPR **24** 06:10:47.6, 19°.19N×67°.25W, h8km±4km, MD2.9/12*
*OSPL **24** 06:10:47.1±0.6, 19°.18N×67°.36W, h20km±3km, ML2.4*

ISC 24 06:10:46.0±1.4, 19°.19N±0°.05×67°.22W±0°.03, h18km±5km, n92, σ0s86/99, 30C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.73**	**172**		Pg	06 11 00.5	+0.1
AGPR					Sg	06 11 10.6	+0.6
AGPR	**Aguadilla, PR**	**0.73**	**172**	*iP*	Pg	06 11 00.4	+0.1
AGPR	**Aguadilla, PR**	**0.73**	**172**	*eS*	Sg	06 11 10.8	+0.9
AGPR	**Aguadilla, PR**	**0.73**	**172**	*iP*	Pg	06 11 00.5	+0.1
AGPR	**Aguadilla, PR**	**0.73**	**172**	*eS*	Sg	06 11 10.6	+0.6
AGPR	**Aguadilla, PR**	**0.73**	**172**	*i P*	Pg	06 11 00.5	+0.1
AGPR				*eS*	Sg	06 11 10.4	+0.4
AGPR				IAML		06 11 11.2	
	comp=Z,184nm,0.2s						
IDE	**Isla Desecheo**	**0.84**	**197**		Sb	06 11 14.1	+1.1
IDE	**Isla Desecheo**	**0.84**	**197**	*eS*	Sg	06 11 13.3	-0.2
IDE	**Isla Desecheo**	**0.84**	**197**	*iP*	Pg	06 11 02.5	0.0
IDE	**Isla Desecheo**	**0.84**	**197**	*eS*	Sb	06 11 14.1	+1.1
AOPR	**Arecibo Observ**	**0.95**	**152**		Pg	06 11 03.6	-0.9
AOPR	**Arecibo Observ**	**0.95**	**152**	*iP*	Pg	06 11 03.6	-0.9
AOPR	**Arecibo Observ**	**0.95**	**152**	*iP*	Pg	06 11 03.5	-0.9
AOPR	**Arecibo Observ**	**0.95**	**152**	*eS*	Sg	06 11 16.6	-0.4
EMPR	**Esperanza - Ma**	**0.96**	**137**		Pg	06 11 05.4	+0.6
EMPR					Sg	06 11 19.0	+1.6
EMPR	**Esperanza - Ma**	**0.96**	**137**		Pg	06 11 04.8	0.0
EMPR	**Esperanza - Ma**	**0.96**	**137**	*iP*	Pg	06 11 04.5	-0.3
EMPR	**Esperanza - Ma**	**0.96**	**137**	*eS*	Sg	06 11 18.0	+0.6
EMPR	**Esperanza - Ma**	**0.96**	**137**	*iP*	Pg	06 11 05.4	+0.6
EMPR	**Esperanza - Ma**	**0.96**	**137**	*eS*	Sg	06 11 19.0	+1.6
PRSN	**Puerto Rico Se**	**0.97**	**176**		Pg	06 11 04.8	-0.1
PRSN					Sb	06 11 19.4	+2.6
PRSN	**Puerto Rico Se**	**0.97**	**176**		Pg	06 11 04.1	-0.9
PRSN	**Puerto Rico Se**	**0.97**	**176**	*iP*	Pg	06 11 03.8	-1.1
PRSN	**Puerto Rico Se**	**0.97**	**176**	*eS*	Sg	06 11 17.9	+0.2
PRSN	**Puerto Rico Se**	**0.97**	**176**	*iP*	Pg	06 11 04.8	-0.1
PRSN	**Puerto Rico Se**	**0.97**	**176**	*eS*	Sb	06 11 19.4	+2.6
LSP	**Las Mesas**	**1.02**	**173**		Sg	06 11 19.4	+0.2
LSP	**Las Mesas**	**1.02**	**173**	*iP*	Pg	06 11 05.0	-0.8
LSP	**Las Mesas**	**1.02**	**173**	*iP*	Pg	06 11 05.1	-0.8
LSP	**Las Mesas**	**1.02**	**173**	*eS*	Sg	06 11 19.4	+0.2
UUPR	**Utuado, UPR, P**	**1.04**	**153**		Sg	06 11 18.4	-1.7
UUPR	**Utuado, UPR, P**	**1.04**	**153**		Pb	06 11 05.0	-0.6
UUPR	**Utuado, UPR, P**	**1.04**	**153**	Pn	Pb	06 11 05.2	-0.4
UUPR	**Utuado, UPR, P**	**1.04**	**153**	*iP*	Pb	06 11 05.0	-0.6
UUPR	**Utuado, UPR, P**	**1.04**	**153**	*eP*	Pb	06 11 05.0	-0.6
UUPR	**Utuado, UPR, P**	**1.04**	**153**	*eS*	Sg	06 11 18.4	-1.7
CRPR	**Cabo Rojo, PR**	**1.18**	**175**		Pb	06 11 07.6	-0.3
CRPR					Sb	06 11 21.8	-1.1
CRPR	**Cabo Rojo, PR**	**1.18**	**175**	IAML		06 11 30.1	
	comp=N,90nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.18**	**175**	*iP*	Pb	06 11 07.4	-0.5
CRPR	**Cabo Rojo, PR**	**1.18**	**175**	*eS*	Sb	06 11 23.0	+0.1
CRPR	**Cabo Rojo, PR**	**1.18**	**175**	*iP*	Pb	06 11 07.6	-0.3
CRPR	**Cabo Rojo, PR**	**1.18**	**175**	*eS*	Sb	06 11 21.8	-1.1
CRPR	**Cabo Rojo, PR**	**1.18**	**175**	*i P*	Pb	06 11 07.5	-0.5
CRPR				*eS*	Sb	06 11 21.8	-1.1
CRPR				IAML		06 11 26.3	
	comp=Z,82nm,0.3s						
ECPR	**Experimental S**	**1.19**	**137**	*iP*	Pn	06 11 07.3	-0.4
ECPR	**Experimental S**	**1.19**	**137**	*eS*	Sb	06 11 22.9	-0.2
ECPR	**Experimental S**	**1.19**	**137**	*eP*	Pn	06 11 07.8	0.0
ECPR	**Experimental S**	**1.19**	**137**	*eS*	Sb	06 11 23.7	+0.7
MLPR	**Magueyes Islan**	**1.23**	**172**	*iP*	Pn	06 11 08.1	-0.2
MLPR	**Magueyes Islan**	**1.23**	**172**	*eS*	Sb	06 11 23.3	-0.9
MLPR	**Magueyes Islan**	**1.23**	**172**	*eP*	Pn	06 11 08.1	-0.2
MLPR	**Magueyes Islan**	**1.23**	**172**	*eS*	Sb	06 11 24.1	-0.1
GBPR	**Guanica, Bosqu**	**1.25**	**165**		Pn	06 11 08.8	+0.2
GBPR	**Guanica, Bosqu**	**1.25**	**165**	*eP*	Pn	06 11 08.8	+0.2
CELP	**Cerrillos**	**1.26**	**151**		Pn	06 11 08.7	-0.1
CELP					Sb	06 11 24.7	-0.6
CELP	**Cerrillos**	**1.26**	**151**	IAML		06 11 29.6	
	comp=E,102nm,0.3s						
CELP	**Cerrillos**	**1.26**	**151**	*iP*	Pn	06 11 08.7	-0.1
CELP	**Cerrillos**	**1.26**	**151**	*eS*	Sb	06 11 24.4	-0.9
CELP	**Cerrillos**	**1.26**	**151**	*iP*	Pn	06 11 08.7	-0.1
CELP	**Cerrillos**	**1.26**	**151**	*eS*	Sb	06 11 24.7	-0.6
OBIP	**Obispado Ponce**	**1.28**	**153**		Pn	06 11 09.1	0.0
OBIP					Sb	06 11 25.0	-0.7
OBIP	**Obispado Ponce**	**1.28**	**153**	IAML		06 11 30.1	
	comp=E,90nm,0.2s						
OBIP				IAML		06 11 31.1	
	comp=N,112nm,0.5s						
OBIP	**Obispado Ponce**	**1.28**	**153**	*iP*	Pn	06 11 08.9	-0.1
OBIP	**Obispado Ponce**	**1.28**	**153**	*eS*	Sb	06 11 23.1	-2.7
OBIP	**Obispado Ponce**	**1.28**	**153**	*iP*	Pn	06 11 09.1	0.0
OBIP	**Obispado Ponce**	**1.28**	**153**	*eS*	Sb	06 11 25.0	-0.7
GCPR	**Guaynabo City**	**1.39**	**129**		Pn	06 11 10.6	+0.2
GCPR					Sn	06 11 28.6	+0.3
GCPR	**Guaynabo City**	**1.39**	**129**	*iP*	Pn	06 11 09.7	-0.8
GCPR	**Guaynabo City**	**1.39**	**129**	*eS*	Sn	06 11 28.2	-0.1
GCPR	**Guaynabo City**	**1.39**	**129**	*iP*	Pn	06 11 10.6	+0.2
GCPR	**Guaynabo City**	**1.39**	**129**	*eS*	Sn	06 11 28.6	+0.3
SJG	**San Juan**	**1.47**	**137**		Pn	06 11 12.2	+0.5
SJG	**San Juan**	**1.47**	**137**	IAML		06 11 40.4	
	comp=N,73nm,0.3s						
SJG				IAML		06 11 41.5	
	comp=N,91nm,0.3s						
SJG	**San Juan**	**1.47**	**137**	*iP*	Pn	06 11 12.2	+0.5
SJG	**San Juan**	**1.47**	**137**	*eS*	Sn	06 11 32.6	+2.1
SJG	**San Juan**	**1.47**	**137**	*i P*	Pn	06 11 12.1	+0.4
SJG				*eS*	Sn	06 11 31.2	+0.7
SJG				IAML		06 11 37.0	
	comp=Z,45nm,0.3s						
HIDR	**Higuey Centro**	**1.54**	**247**	*iP*	Pb	06 11 14.3	+0.2
HIDR	**Higuey Centro**	**1.54**	**247**	*eS*	Sn	06 11 32.0	-0.2
IGPR	**InterUniversit**	**1.61**	**139**		Pn	06 11 14.0	+0.5
IGPR					Sn	06 11 35.2	+1.4
IGPR	**InterUniversit**	**1.61**	**139**	*iP*	Pn	06 11 14.2	+0.6
IGPR	**InterUniversit**	**1.61**	**139**	*eS*	Sn	06 11 32.1	-1.7
IGPR	**InterUniversit**	**1.61**	**139**	*iP*	Pn	06 11 14.0	+0.5
IGPR	**InterUniversit**	**1.61**	**139**	*eS*	Sn	06 11 35.2	+1.4
PDPR	**Patillas Dam,**	**1.62**	**136**		Pn	06 11 13.7	-0.1
PDPR				IAML		06 11 41.4	
	comp=E,53nm,0.3s						
PDPR	**Patillas Dam,**	**1.62**	**136**	*iP*	Pn	06 11 14.1	+0.4
PDPR	**Patillas Dam,**	**1.62**	**136**	*eS*	Sn	06 11 34.2	0.0
PDPR	**Patillas Dam,**	**1.62**	**136**	*iP*	Pn	06 11 14.3	+0.5
PDPR	**Patillas Dam,**	**1.62**	**136**	*eS*	Sn	06 11 35.6	+1.3
HUMP	**Col San Antoni**	**1.66**	**129**	Pn	Pn	06 11 14.5	+0.2
MIDR	**Miches**	**1.75**	**263**	*eP*	Pb	06 11 16.9	-0.7
MIDR	**Miches**	**1.75**	**263**	*eS*	Sb	06 11 38.7	-0.5
SMDR	**Samana, DR**	**1.87**	**273**	*eP*	Pn	06 11 17.7	+0.7
SMDR	**Samana, DR**	**1.87**	**273**	*eS*	Sb	06 11 41.8	-0.8

*IDC **24** 06:13:47.5±1.1, 52°.70N×166°.82W, h0km, mb4.0/18, mbtmp4.0/19, ML3.1/1, Error ellipse: s-maj=31.9km s-min=16.0km az=7.0*
*NEIC **24** 06:13:50.5±2.4, 52°.61N±0°.04×166°.96W±0°.06, h10km±1km, mb3.8/15, ML3.6/18, ML3.3(AEIC), Error ellipse: s-maj=6.6km s-min=5.7km az=144.0*
*AEIC **24** 06:13:50.5±3.8, 52°.51N±0°.07×166°.80W±0°.08, h14km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=59.0*

ISC 24 06:13:50.7±1.6, 52°.60N±0°.06×166°.84W±0°.04, h20km±6km, n85, σ1s28/93, mb4.1/18, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKTU	**Okmok Mt. Tuli**	**1.07**	**318**		Pb	06 14 10.1	-0.5
OKTU					Sg	06 14 25.2	-0.3
OKSP	**Okmok Steeple**	**1.09**	**307**		Pb	06 14 10.3	-0.7
OKSP					Sg	06 14 26.2	-0.2
OKNC	**Okmok New Cone**	**1.15**	**318**		Pb	06 14 11.8	-0.2
OKNC					Sg	06 14 27.3	-0.9
MGOD	**Makushin Gods**	**1.19**	**359**		Pn	06 14 12.0	-0.3
MGOD					Sg	06 14 29.0	-0.5
MAPS	**Pakushin South**	**1.21**	**357**		Pn	06 14 12.3	-0.3
MAPS					Sg

H11N1	**WAKE ISLAND Hy**	**38.65**	**222**	T		T		07 02 43.0	
	baz=25,slow=76,SNR=21								
PDAR	**Pinedale Array**	**38.84**	**81**	P		**P**		**06 21 13.9**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=332,slow=5.0,SNR=4.3								
	comp=Z,0.4nm,0.8s								
H11S1	**WAKE ISLAND Hy**	**39.81**	**221**	T		T		07 04 37.2	
	baz=24,slow=76,SNR=32								
H11S2	**WAKE ISLAND Hy**	**39.83**	**221**	T		T		07 04 17.6	
	baz=24,slow=76,SNR=9.8								
H11S3	**WAKE ISLAND Hy**	**39.83**	**221**	T		T		07 04 23.8	
	baz=24,slow=76,SNR=10								
KSRS	**Korea Array**	**46.91**	**278**	P		**P**		**06 22 19.6**	**0.0**
	comp=Z,2.6nm,1.0s,baz=54,slow=7.1,SNR=6.3								
	comp=Z,2.6nm,1.0s								
TXAR	**Lajitas Array**	**51.20**	**91**	P		**P**		**06 22 52.9**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=301,slow=5.3,SNR=7.0								
	comp=Z,0.8nm,0.9s								
SONM	**Songino Array**	**52.50**	**302**	P		**P**		**06 23 02.0**	**-0.2**
	comp=Z,0.4nm,0.2s,baz=64,slow=6.8,SNR=4.8								
	comp=Z,0.4nm,0.2s								
ARCES	**ARCESS Array B**	**57.84**	**355**	P		**P**		**06 23 38.7**	**-1.5**
	comp=Z,3.2nm,0.8s,baz=6.2,slow=7.7,SNR=8.7								
	comp=Z,3.2nm,0.8s								
ZALV	**Zalesovo Beam**	**58.28**	**319**	P		**P**		**06 23 42.9**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=64,slow=6.6,SNR=1.7								
	comp=Z,0.4nm,0.4s								
KURBB	**Kurchatov Arra**	**63.32**	**320**	P		**P**		**06 24 17.2**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=51,slow=7.5,SNR=14								
	comp=Z,1.7nm,0.9s								
BVAR	**Borovoye Array**	**64.40**	**326**	P		**P**		**06 24 24.4**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=48,slow=4.4,SNR=6.4								
	comp=Z,1nm,0.8s								
MKAR	**Makanchi Array**	**64.75**	**315**	P		**P**		**06 24 26.6**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=50,slow=6.2,SNR=15								
	comp=Z,1.9nm,0.7s								
FINES	**FINESS Array B**	**65.83**	**353**	P		**P**		**06 24 33.0**	**-1.1**
	comp=Z,3.4nm,0.5s,baz=11,slow=6.9,SNR=14								
	comp=Z,3.4nm,0.5s								
NB2	**NORSAR Subarra**	**66.69**	**1**	P		**P**		**06 24 39.6**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=2.6,slow=6.2								
NOA	**NORSAR Array B**	**66.69**	**1**	P		**P**		**06 24 38.9**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=298,slow=5.6,SNR=4.5								
	comp=Z,1.3nm,0.7s								
HFS	**Hagfors**	**67.61**	**360**	P		**P**		**06 24 44.6**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=29,slow=3.4,SNR=11								
	comp=Z,1.8nm,0.3s								
EKA	**Eskdalemuir Ar**	**71.58**	**10**	P		**P**		**06 25 10.1**	**0.0**
	comp=Z,1.5nm,0.7s,baz=323,slow=2.1,SNR=3.7								
	comp=Z,1.5nm,0.7s								
AKASG	**Malin Array Be**	**76.18**	**350**	P		**P**		**06 25 36.2**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=14,slow=5.5,SNR=12								
	comp=Z,1.0nm,0.3s								
GERES	**GERESS Array B**	**78.93**	**360**	P		**P**		**06 25 53.1**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=28,slow=6.3,SNR=3.9								
	comp=Z,0.2nm,0.4s								
BRTR	**Keskin Array B**	**86.34**	**344**	P		**P**		**06 26 31.8**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=336,slow=2.7,SNR=4.8								
	comp=Z,0.8nm,0.7s								

*OSPL **24** 06:15:08.2±0.6, 19°.21N×67°.23W, h16km±3km, ML3.3*
*NEIC **24** 06:15:08.5±2.3, 19°.09N±0°.03×67°.11W±0°.03, h10km±2km, ML3.4/19, Md3.2/19(RSPR), Error ellipse: s-maj=5.6km s-min=4.9km az=5.0*
*RSPR **24** 06:15:10.5, 19°.17N×67°.21W, h24km±32km, MD3.2/19*
ISC 24 06:15:08.1±1.4, 19°.06N±0°.05×67°.20W±0°.03, h10km±10km, n74, σ1s04/85, 4C-14D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AGPR	**Aguadilla, PR**	**0.60**	**172**			**Pb**	**06 15 21.8**	**+1.1**
AGPR						**Sn**	**06 15 31.7**	**-0.8**
AGPR	**Aguadilla, PR**	**0.60**	**172**	∥	*iP*	**Pb**	**06 15 21.8**	**+1.1**
AGPR	**Aguadilla, PR**	**0.60**	**172**		*eS*	**Sn**	**06 15 31.7**	**-0.8**
AGPR	**Aguadilla, PR**	**0.60**	**172**		*i* P	**Pb**	**06 15 21.5**	**+0.8**
AGPR					eS	**Sn**	**06 15 31.4**	**-1.1**
AGPR					IAML		06 15 33.0	
	comp=Z,1μm,0.2s							
IDE	**Isla Desecheo**	**0.72**	**202**			**Pb**	**06 15 23.6**	**+0.8**
IDE						**Sn**	**06 15 35.1**	**-0.5**
IDE	**Isla Desecheo**	**0.72**	**202**	∥	*iP*	**Pb**	**06 15 23.6**	**+0.8**
IDE	**Isla Desecheo**	**0.72**	**202**		*eS*	**Sn**	**06 15 35.1**	**-0.5**
AOPR	**Arecibo Observ**	**0.82**	**149**			**Pb**	**06 15 24.7**	**+0.1**
AOPR						**Sg**	**06 15 34.4**	**-0.5**
AOPR					IAML		06 15 45.8	
	comp=N,2μm,0.3s							
AOPR	**Arecibo Observ**	**0.82**	**149**	⇑	*eP*	**Pb**	**06 15 24.8**	**+0.1**
PRSN	**Puerto Rico Se**	**0.84**	**177**			**Pb**	**06 15 25.3**	**+0.4**
PRSN						**Sn**	**06 15 39.1**	**+0.6**
PRSN	**Puerto Rico Se**	**0.84**	**177**	⇑	*iP*	**Pb**	**06 15 25.3**	**+0.4**
PRSN	**Puerto Rico Se**	**0.84**	**177**		*eS*	**Sn**	**06 15 39.1**	**+0.6**
EMPR	**Esperanza - Ma**	**0.86**	**133**			**Pn**	**06 15 25.7**	**-0.6**
EMPR	**Esperanza - Ma**	**0.86**	**133**			**Sn**	**06 15 40.5**	**+1.5**
EMPR	**Esperanza - Ma**	**0.86**	**133**	∥	*iP*	**Pn**	**06 15 26.4**	**+0.1**
EMPR	**Esperanza - Ma**	**0.86**	**133**		*eS*	**Sn**	**06 15 40.5**	**+1.5**
LSP	**Las Mesas**	**0.89**	**173**			**Pb**	**06 15 26.5**	**+0.8**
LSP						**Sn**	**06 15 40.2**	**+0.5**
LSP	**Las Mesas**	**0.89**	**173**	⇑	*iP*	**Pb**	**06 15 26.5**	**+0.8**
LSP	**Las Mesas**	**0.89**	**173**		*eS*	**Sn**	**06 15 40.2**	**+0.5**
UUPR	**Utuado, UPR, P**	**0.92**	**151**			**Pg**	**06 15 26.2**	**+0.4**
UUPR						**Sg**	**06 15 36.6**	**-1.2**
UUPR	**Utuado, UPR, P**	**0.92**	**151**			**Sn**	**06 15 43.7**	**+3.2**
UUPR	**Utuado, UPR, P**	**0.92**	**151**	⇑	*eP*	**Pg**	**06 15 26.3**	**+0.4**
UUPR	**Utuado, UPR, P**	**0.92**	**151**		*eS*	**Sn**	**06 15 43.7**	**+3.2**
CRPR	**Cabo Rojo, PR**	**1.05**	**176**			**Pb**	**06 15 28.3**	**-0.1**
CRPR					IAML		06 15 49.1	
	comp=E,802nm,0.3s							
CRPR					IAML		06 15 54.5	
	comp=N,818nm,0.6s							
CRPR	**Cabo Rojo, PR**	**1.05**	**176**			**Sn**	**06 15 44.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.05**	**176**	∥	*iP*	**Pb**	**06 15 28.9**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.05**	**176**		*eS*	**Sn**	**06 15 44.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.05**	**176**		*i* P	**Pb**	**06 15 28.5**	**0.0**
CRPR					eS	**Sn**	**06 15 44.1**	**+0.3**
CRPR					IAML		06 15 51.5	
	comp=Z,744nm,0.4s							
ECPR	**Experimental S**	**1.08**	**133**	∥	*iP*	**Pn**	**06 15 29.3**	**-0.1**
ECPR	**Experimental S**	**1.08**	**133**		*eS*	**Sn**	**06 15 47.3**	**+2.8**
MLPR	**Magueyes Islan**	**1.09**	**172**	∥	*iP*	**Pb**	**06 15 29.1**	**-0.1**
MLPR	**Magueyes Islan**	**1.09**	**172**		*eS*	**Sn**	**06 15 45.1**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.12**	**164**			**Pb**	**06 15 29.6**	**0.0**
GBPR	**Guanica, Bosqu**	**1.12**	**164**	∥	*iP*	**Pb**	**06 15 29.6**	**0.0**
CELP	**Cerrillos**	**1.14**	**149**			**Pb**	**06 15 29.6**	**-0.4**
CELP					Sn	**Sb**	**06 15 42.6**	**-2.3**
CELP					IAML		06 15 58.9	
	comp=N,964nm,0.6s							
CELP					IAML		06 16 01.7	
	comp=E,638nm,0.8s							
CELP	**Cerrillos**	**1.14**	**149**	⇑	*eP*	**Pb**	**06 15 29.9**	**-0.2**
CELP	**Cerrillos**	**1.14**	**149**		*eS*	**Sg**	**06 15 45.7**	**+0.8**
OBIP	**Obispado Ponce**	**1.16**	**151**			**Pb**	**06 15 29.8**	**-0.5**
OBIP					IAML		06 15 52.7	
	comp=N,739nm,0.7s							
OBIP					IAML		06 15 54.4	
	comp=E,654nm,0.5s							
OBIP	**Obispado Ponce**	**1.16**	**151**			**Sn**	**06 15 46.3**	**0.0**
OBIP	**Obispado Ponce**	**1.16**	**151**	∥	*iP*	**Pb**	**06 15 30.3**	**0.0**
OBIP	**Obispado Ponce**	**1.16**	**151**		*eS*	**Sn**	**06 15 46.3**	**0.0**
GCPR	**Guaynabo City**	**1.29**	**125**			**Pn**	**06 15 31.5**	**-0.8**
GCPR	**Guaynabo City**	**1.29**	**125**			**Sb**	**06 15 48.9**	**-0.4**
GCPR	**Guaynabo City**	**1.29**	**125**	∥	*iP*	**Pn**	**06 15 31.5**	**-0.8**
GCPR	**Guaynabo City**	**1.29**	**125**		*eS*	**Sb**	**06 15 48.9**	**-0.4**
SJG	**San Juan**	**1.37**	**133**			**Pn**	**06 15 33.2**	**-0.2**
SJG					IAML		06 16 02.5	
	comp=E,482nm,0.6s							
SJG	**San Juan**	**1.37**	**133**	∥	*iP*	**Pb**	**06 15 33.6**	**-0.3**
SJG	**San Juan**	**1.37**	**133**		*eS*	**Sn**	**06 15 50.7**	**-0.9**
SJG	**San Juan**	**1.37**	**133**		*i* P	**Pn**	**06 15 33.1**	**-0.2**
SJG					eS	**Sn**	**06 15 50.9**	**-0.7**
SJG					IAML		06 15 57.4	
	comp=Z,288nm,1.1s							
IGPR	**InterUniversit**	**1.50**	**136**			**Pn**	**06 15 35.1**	**0.0**
IGPR						**Sg**	**06 15 57.2**	**+0.7**
IGPR	**InterUniversit**	**1.50**	**136**	⇑	*eP*	**Pn**	**06 15 35.1**	**0.0**
IGPR	**InterUniversit**	**1.50**	**136**		*eS*	**Sg**	**06 15 57.2**	**+0.7**
HIDR	**Higuey Centro**	**1.52**	**252**	⇑	*iP*	**Pn**	**06 15 34.7**	**-0.7**
HIDR	**Higuey Centro**	**1.52**	**252**		*eS*	**Sn**	**06 15 55.0**	**-0.1**
PDPR	**Patillas Dam,**	**1.52**	**133**			**Pn**	**06 15 35.0**	**-0.5**
PDPR					IAML		06 16 01.9	
	comp=N,373nm,0.3s							
PDPR	**Patillas Dam,**	**1.52**	**133**	∥	*iP*	**Pn**	**06 15 35.5**	**+0.1**
PDPR	**Patillas Dam,**	**1.52**	**133**		*eS*	**Sg**	**06 15 56.9**	**-0.3**
HUMP	**Col San Antoni**	**1.57**	**125**			**Pn**	**06 15 35.5**	**-0.7**
HUMP					Sn	**Sn**	**06 15 56.5**	**-0.1**
MIDR	**Miches**	**1.76**	**268**	⇑	*iP*	**Pn**	**06 15 37.8**	**-0.9**
MIDR	**Miches**	**1.76**	**268**		*eS*	**Sn**	**06 15 59.7**	**-1.4**
SMDR	**Samana, DR**	**1.90**	**277**	∥	*iP*	**Pn**	**06 15 38.6**	**-2.0**
SDD	**Santo Domingo**	**2.64**	**257**			**Pn**	**06 15 51.6**	**+0.7**
SDD					IAML		06 16 33.8	
	comp=E,255nm,1.3s							
SDD					IAML		06 16 35.7	
	comp=N,206nm,0.9s							
SDD	**Santo Domingo**	**2.64**	**257**			**Sn**	**06 16 26.0**	**+2.9**
SDD	**Santo Domingo**	**2.64**	**257**	∥	*iP*	**Pb**	**06 15 54.4**	**-1.2**
SDD	**Santo Domingo**	**2.64**	**257**		*eS*	**Sn**	**06 16 26.0**	**+2.9**
SC01	**Santiago de Io**	**3.36**	**277**			**Pn**	**06 16 01.2**	**+0.5**
SDDR	**Presa de Saban**	**3.87**	**270**			**Pn**	**06 16 08.4**	**+0.6**
SDDR	**Presa de Saban**	**3.87**	**270**	∥	*iP*	**Pn**	**06 16 08.9**	**+1.1**
SDDR	**Presa de Saban**	**3.87**	**270**		*eS*	**Sn**	**06 16 54.6**	**+1.1**
BOAV	**Boa Vista**	**17.80**	**158**	Pn		**Pn**	**06 19 15.2**	**-1.1**
V61A	**Roper**	**18.61**	**335**	P		**Pn**	**06 19 26.8**	**+0.8**
W57A	**Gilead**	**19.63**	**327**	P		**Pn**	**06 19 38.5**	**+0.2**
V58A	**Windy Hill, Pi**	**19.71**	**330**	P		**Pn**	**06 19 39.5**	**+0.3**
GOGA	**Godfrey**	**20.39**	**318**	P		Pn	06 19 48.3	+1.1

*CATAC **24** 06:16:42.7±0.6, 10°.7N±3°×7°.5W±°, h19km±5km, M4.0/6, mb3.8/2, mB4.0/1, MLv4.1/6, Mw(mB)3.0/1, Error ellipse: s-maj=7.5km s-min=5.5km az=170.5, confirmed*
*RSNC **24** 06:16:42.8±0.0, 10°.8N±1°×7°.5W±°, h2km±1km, M3.6, mB5.4, mb3.9, ML3.2, Mw(mB)4.9*
ISC 24 06:16:42.4±1.0, 9°.91N±0°.03×74°.51W±0°.03, h14km±8km, n41, σ2s41/63, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARGC	**Ariguani, Magd**	**0.26**	**100**	P		**Pg**	**06 16 48.1**	**+0.1**
ARGC				S		**Sg**	**06 16 52.0**	**+0.2**
SJCC	**San Jacinto, C**	**0.66**	**269**	P		**Pg**	**06 16 55.0**	**-0.4**
SJCC				S		**Sg**	**06 17 04.5**	**+0.5**
SJCC	**San Jacinto, C**	**0.66**	**269**	P		**Pg**	**06 16 54.9**	**-0.4**
SJCC				S		**Sg**	**06 17 04.7**	**+0.6**
SMRC	**Santa Marta, M**	**1.28**	**13**	P		**Pb**	**06 17 06.3**	**-0.1**
SMRC				S		**Sg**	**06 17 27.5**	**+3.7**
CRJC	**Cerrejon, Guaj**	**1.95**	**55**	P		**Pn**	**06 17 15.0**	**-0.2**
CRJC				S		**Sn**	**06 17 39.7**	**+0.2**
OCAC	**Ocana**	**2.03**	**145**	P		**Pn**	**06 17 14.9**	**-1.5**
OCAC				S		**Sn**	**06 17 41.4**	**-0.3**
UREC	**San Jos de Ur**	**2.37**	**205**	P		**Pn**	**06 17 21.8**	**+0.9**
UREC				S		**Sn**	**06 17 50.9**	**+1.1**
APAC	**Apartado, Choc**	**2.86**	**226**	P		**Pb**	**06 17 31.2**	**-2.0**
APAC				S		**Sb**	**06 18 09.7**	**+1.6**
BRJC	**Barrancabermej**	**3.01**	**165**	P		**Pn**	**06 17 30.3**	**+0.5**
BRJC				S		**Sn**	**06 18 06.9**	**+1.2**
URIC	**Uribia, Colomb**	**3.05**	**54**	P		**Pn**	**06 17 30.3**	**0.0**
URIC				S		**Sb**	**06 18 12.0**	**-1.7**
URI	**Uribia**	**3.05**	**54**	P		**Pn**	**06 17 30.9**	**+0.5**
URI				S		**Sn**	**06 18 07.4**	**+0.8**
PAMC	**Pamplona, Colo**	**3.12**	**145**	P		**Pn**	**06 17 33.1**	**+1.5**
PAMC				S		**Sb**	**06 18 13.2**	**-2.8**
DBBC	**Dabeiba**	**3.33**	**211**	P		**Pn**	**06 17 36.5**	**+2.3**
DBBC				S		**Sn**	**06 18 14.4**	**+0.8**
PTBC	**PUERTO BERRIO,**	**3.34**	**179**	P		**Pn**	**06 17 34.9**	**+0.5**
PTBC				S		**Sn**	**06 18 14.3**	**+0.3**
BARC	**Barichara**	**3.54**	**158**	P		**Pn**	**06 17 38.8**	**+1.5**
BARC				S		**Sb**	**06 18 26.3**	**-1.9**
MEDEC	**Medelln, Ant**	**3.76**	**197**	P		**Pn**	**06 17 43.4**	**+3.1**
HELC	**Santa Helena**	**3.83**	**195**	P		**Pn**	**06 17 39.8**	**-1.5**
HELC	**Santa Helena**	**3.83**	**195**	P		**Pn**	**06 17 41.7**	**+0.4**
HELC				S		**Sn**	**06 18 28.1**	**+1.7**
SDV	**Santo Domingo**	**3.96**	**105**	P		**Pn**	**06 17 43.7**	**+0.7**
SDV				S		**Sn**	**06 18 31.0**	**+1.7**
RUSC	**La Rusia**	**4.23**	**160**	P		**Pn**	**06 17 47.2**	**+0.2**
RUSC	**La Rusia**	**4.23**	**160**	P		**Pn**	**06 17 49.6**	**+2.6**
RUSC				S		**Sb**	**06 18 44.0**	**-4.2**
SPBC	**San Pablo de B**	**4.25**	**174**	P		**Pn**	**06 17 47.3**	**+0.4**
SPBC				S		**Sn**	**06 18 36.8**	**+0.4**
CBOC	**Ciudad Bolivar**	**4.28**	**200**	P		**Pn**	**06 17 48.0**	**+0.6**
NORC	**Norcasia**	**4.33**	**185**	P		**Pn**	**06 17 52.5**	**+4.5**
NORC				S		**Sn**	**06 18 41.9**	**+3.6**
SOLC	**Bahia Solano**	**4.65**	**218**	P		**Pn**	**06 17 51.2**	**-1.1**
GUY2C	**Guyana, Caldas**	**4.73**	**190**	P		**Pn**	**06 17 54.2**	**+0.4**
GUY2C				S		**Sb**	**06 18 59.8**	**-2.7**
ROSC	**El Rosal**	**5.04**	**178**	P		**Pn**	**06 18 02.4**	**+4.4**
BCIP	**Isla Barro Col**	**5.31**	**262**	P		**Pn**	**06 18 01.2**	**-0.2**
CVER	**Cruz Verde, Cu**	**5.37**	**175**	P		**Pn**	**06 18 06.8**	**+4.2**
CVER				S		**Sn**	**06 19 12.1**	**+7.6**
ORTC	**Ortega, Tolima**	**6.00**	**187**	P		**Pn**	**06 18 15.4**	**+4.4**
ORTC				S		**Sb**	**06 19 35.7**	**-3.1**
YOTC	**Yotoco, Valle**	**6.16**	**197**	P		**Pn**	**06 18 14.0**	**+0.8**
	8.9nm,0.8s							
PRAC	**Prado**	**6.16**	**184**	P		Pn	06 18 19.0	+5.8
PRAC				S		**Sn**	**06 19 29.9**	**+6.3**
URMC	**La Uribe, Meta**	**6.62**	**179**	P		Pn	06 18 24.3	+4.8
SERC	**Banco Serrana,**	**7.19**	**308**	P		**Pn**	**06 18 26.8**	**-0.5**
	2μm39nm,0.6s							
SAIC	**Isla e San And**	**7.53**	**291**	P		**Pn**	**06 18 31.8**	**-0.2**
	5.4nm,0.7s							
PRVC	**Isla de Provid**	**7.55**	**298**	P		**Pn**	**06 18 31.4**	**-0.8**
	12nm,0.7s							
PRVC				S		**Sn**	**06 19 53.0**	**-4.6**
	12nm,0.7s							
POPC	**Popayan, Colom**	**7.63**	**197**	P		**Pn**	**06 18 32.0**	**-1.5**
	3.2nm,1.8s							
MACC	**Macarena, Meta**	**7.74**	**175**	P		**Pn**	**06 18 38.1**	**+3.3**
BBAC	**Balboa, Cauca**	**8.29**	**199**	P		**Pn**	**06 18 44.2**	**+1.6**
	3.6nm,0.9s							
FLOC	**Florencia**	**8.35**	**188**	P		**Pn**	**06 18 41.9**	**-1.3**
MTDJ	**Mount Denham**	**8.78**	**341**	P		Pn	06 18 42.7	-6.4

KRSC 24 06:26:21.8±0.8, 55°.92N×164°.17E, h14km±8km, MI3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KBTR	**Krutoberegovo**	**0.81**	**291**	*eP*		**Pg**	**06 26 36.4**	**-1.0**
KBTR				*eS*		**Sg**	**06 26 47.9**	**-0.2**
KBG	**Krutoberegovo**	**0.89**	**293**	*eP*		**Pb**	**06 26 37.6**	**-1.3**
KBG				*eS*		**Sb**	**06 26 49.9**	**-0.6**
BKI	**Bering**	**1.25**	**124**	*eP*		Pn	06 26 44.5	-0.2
BKI				*eS*		Sn	06 27 01.2	0.0
ZLN	**Zelenaya**	**1.90**	**274**	*eP*		Pb	06 26 55.4	-0.7
CIRR	**Tsirk**	**1.93**	**277**	*eP*		Pb	06 26 55.7	-1.1
BZGR	**Bezymyannyi-Gr**	**1.96**	**272**	*eP*		Pb	06 26 56.2	-0.9
MKZ	**Mys Kozlova**	**1.96**	**227**	*eP*		Pb	06 26 56.2	-0.8
BZWR	**Bezymyannyi-We**	**2.07**	**273**	*eP*		Pn	06 26 57.5	+1.4
BZMR	**Bezymyannaya**	**2.07**	**272**	*eP*		Pb	06 26 57.8	-1.3
KIRR	**Kirishev**	**2.15**	**272**	*eP*		Pn	06 26 58.8	+1.5
KPT	**Kopyto**	**2.22**	**273**	*eP*		Pb	06 27 00.1	-1.6
KMNR	**Kamenistaya**	**2.23**	**267**	*eP*		Pb	06 27 01.1	-0.6
TUMD	**Tumrok D**	**2.26**	**253**	*eP*		Pb	06 27 01.0	-1.2
KOZ	**Kozyrevsk**	**2.42**	**275**	*eP*		Pb	06 27 03.5	-1.5
SRDR	**Sredinnyy**	**2.52**	**281**	*eP*		Pn	06 27 04.5	+2.2
SPN	**Mys Shipunski**	**3.72**	**222**	*eP*		Pn	06 27 22.0	+3.3
SDLR	**Sedlovina**	**4.06**	**231**	*eP*		Pn	06 27 26.7	+3.3
SMAR	**Somma**	**4.11**	**232**	*eP*		Pn	06 27 27.4	+3.3
KRX	**Arik**	**4.11**	**234**	*eP*		Pn	06 27 28.2	+4.1
UGLR	**Uglovaya**	**4.13**	**231**	*eP*		Pn	06 27 27.9	+3.5
KOK	**Koryaka**	**4.16**	**233**	*eP*		Pn	06 27 28.4	+3.7
GNL	**Ganaly**	**4.24**	**241**	*eP*		Pn	06 27 29.4	+3.6
GRL	**Gorelyy**	**4.92**	**229**	*eP*		Pn	06 27 39.8	+4.5
MTVR	**Mutnovka**	**4.92**	**228**	*eP*		Pn	06 27 39.2	+4.0
ASAK	**Asacha**	**5.11**	**229**	*eP*		Pn	06 27 42.5	+4.6

*IDC **24** 06:33:52.0±1.7, 5°.81N×71°.78W, h0km, mb4.0/2, mbtmp3.9/4, ML2.5/2, MS3.3/1, Error ellipse: s-maj=52.8km s-min=22.7km az=127.0*
*RSNC **24** 06:33:59.5±0.0, 7°.1N±1°×7°.3W±°, h144km±1km, M3.0, ML2.8*
ISC 24 06:33:60.0±1.1, 6°.90N±0°.04×73°.15W±0°.05, h140km±7km, n25, σ2s31/41, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BARC	**Barichara**	**0.30**	**187**	P		**Pn**	**06 34 18.9**	**-0.8**
BARC				S		**Sn**	**06 34 34.0**	**-0.6**
BRJC	**Barrancabermej**	**0.60**	**277**	P		**Pn**	**06 34 20.5**	**-0.3**
BRJC				S		**Sn**	**06 34 37.3**	**+0.8**
PAMC	**Pamplona, Colo**	**0.62**	**45**	P		**Pn**	**06 34 21.7**	**+0.2**
PAMC				S		**Sn**	**06 34 38.9**	**+1.1**
RUSC	**La Rusia**	**1.00**	**176**	P		**Pn**	**06 34 22.8**	**-1.6**
RUSC				S		**Sn**	**06 34 41.5**	**-1.4**
OCAC	**Ocana**	**1.34**	**353**	P		**Pn**	**06 34 27.0**	**-0.4**
OCAC				S		**Sn**	**06 34 48.9**	**+0.6**
PTBC	**PUERTO BERRIO,**	**1.35**	**255**	P		**Pn**	**06 34 25.4**	**-1.8**
PTBC				S		**Sn**	**06 34 46.6**	**-1.4**
SPBC	**San Pablo de B**	**1.54**	**217**	P		**Pn**	**06 34 27.6**	**-1.8**
SPBC				S		**Sn**	**06 34 49.5**	**-2.3**
NORC	**Norcasia**	**2.17**	**232**	P		**Pn**	**06 34 34.7**	**-1.9**
NORC				S		**Sn**	**06 35 02.7**	**-2.0**
ROSC	**El Rosal**	**2.35**	**210**	Pn		**Pn**	**06 34 38.4**	**-0.8**
	17nm,0.3s,baz=119,slow=22,SNR=65							
ROSC					Sn	**Sn**	**06 35 10.3**	**+1.0**
	25nm,0.3s,baz=343,slow=19,SNR=18							
	42nm,0.4s							
ROSC	**El Rosal**	**2.35**	**210**	P		**Pn**	**06 34 38.4**	**-0.8**
ROSC				S		**Sn**	**06 35 10.0**	**+0.7**
HELC	**Santa Helena**	**2.47**	**254**	P		**Pn**	**06 34 39.8**	**-0.8**
HELC				S		**Sn**	**06 35 07.4**	**-4.4**
UREC	**San Jos de Ur**	**2.52**	**290**	P		**Pn**	**06 34 39.4**	**-1.5**
UREC				S		**Sn**	**06 35 10.1**	**-2.2**
CVER	**Cruz Verde, Cu**	**2.53**	**201**	P		**Pn**	**06 34 40.2**	**-1.4**
CVER				S		**Sn**	**06 35 12.3**	**-1.2**
GUY2C	**Guyana, Caldas**	**2.76**	**233**	P		**Pn**	**06 34 42.8**	**-1.6**
CBOC	**Ciudad Bolivar**	**3.03**	**250**	P		**Pn**	**06 34 46.4**	**-1.1**
CBOC				S		**Sn**	**06 35 23.3**	**-0.9**
DBBC	**Dabeiba**	**3.04**	**272**	P		**Pn**	**06 34 46.9**	**-0.7**
DBBC				S		**Sn**	**06 35 22.0**	**-2.4**
SDV	**Santo Domingo**	**3.18**	**51**	Pn		**Pn**	**06 34 45.8**	**-3.6**
	5.2nm,0.3s,baz=198,slow=3.2,SNR=3.7							
SDV					Sn	**Sn**	**06 35 23.5**	**-4.1**
	5.5nm,0.3s,baz=25,slow=16,SNR=12							
	10nm,0.3s							
SJCC	**San Jacinto, C**	**3.60**	**326**	P		**Pn**	**06 34 52.6**	**-2.2**
PRAC	**Prado**	**3.60**	**209**	P		**Pn**	**06 34 51.9**	**-3.0**
ORTC	**Ortega, Tolima**	**3.63**	**215**	P		**Pn**	**06 34 53.1**	**-2.1**
ORTC				S		**Sn**	**06 35 37.1**	**-0.9**
URMC	**La Uribe, Meta**	**3.83**	**199**	P		**Pn**	**06 34 55.3**	**-2.6**
CRJC	**Cerrejon, Guaj**	**4.11**	**4**	P		**Pn**	**06 34 59.3**	**-2.2**
RCBR	**Riachuelo**	**39.26**	**108**	LR		LR	06 56 31.9	
	comp=Z,47nm,20.0s,baz=263,slow=36							
**ASA

HELC			S		Sn	06 36 01.4	-0.3
PBNVO	Pueblo Nuevo,	4.12 322	eP		Pn	06 35 14.5	+1.9
PBNVO			eS		Sn	06 36 02.6	+1.2
PTPM	Petroterminale	4.12 309	||iP		Pn	06 35 15.5	+2.9
CHGR2	Aguacate	4.13 323	eP		Pn	06 35 15.1	+2.4
BQSF3	Alto Boquete,	4.16 318	eP		Pn	06 35 16.1	+2.8
PTAR3	Potrerillos Ar	4.17 317	eP		Pn	06 35 12.7	-0.7
WILLF	Boquete	4.17 318	eP		Pn	06 35 15.4	+2.0
NIZA	Niza - Manizal	4.17 98	P		Pb	06 35 23.3	+0.3
NIZA			S		Sn	06 36 06.6	+3.5
LESP3	La Esperanza,	4.18 311	eP		Pn	06 35 15.8	+2.4
DAP26	falda E V. Bar	4.19 319	eP		Pn	06 35 16.1	+2.4
BQTLY	Boquete Panama	4.19 318	eP		Pn	06 35 16.2	+2.5
LNBQ3	Los Naranjos,	4.20 318	eP		Pn	06 35 16.9	+3.0
POPC	Popayan, Colom	4.25 136	P		Pn	06 35 16.5	+1.9
POPC			S		Sn	06 36 03.1	-1.8
GUY2C	Guyana, Caldas	4.26 95	P		Pn	06 35 15.9	+1.0
GUY2C			S		Sn	06 36 08.5	+3.0
GUY2C	Guyana, Caldas	4.26 95	S		Pn	06 35 16.3	+1.4
BBAC	Balboa, Cauca	4.30 146	P		Pn	06 35 17.1	+1.9
BBAC			S		Sn	06 36 04.6	-1.5
BC3P	Paso Ancho	4.33 317	eP		Pn	06 35 17.6	+1.8
CDITO	Canoas	4.35 312	S		Sn	06 36 04.5	-2.6
CDITO	Canoas	4.35 312	P		Pn	06 35 16.4	+0.6
BRU2	Volcan	4.38 316	eP		Pn	06 35 17.7	+1.5
UREC	San Jos de Ur	4.58 62	P		Pn	06 35 19.1	+0.2
UREC			S		Sn	06 36 12.8	+0.1
PIRO	Carate, Puerto	4.60 307	eP		Pn	06 35 20.9	+1.7
PIRO	Carate, Puerto	4.60 307	P		Pn	06 35 21.0	+1.8
ORTC	Ortega, Tolima	4.69 111	P		Pn	06 35 25.3	+4.9
ORTC			S		Sn	06 36 19.2	+3.8
CRUC	La Cruz	4.84 146	P		Pn	06 35 27.1	+4.3
CRUC			S		Sn	06 36 19.1	-0.5
EDP2	Potrero Grande	4.87 314	eP		Pn	06 35 25.4	+2.5
EDP2			eS		Sn	06 36 19.4	-0.6
GCUF	Volcan Galeras	4.93 152	P		Pn	06 35 30.0	+5.8
GCUF			S		Sn	06 36 19.6	-2.5
DRK0	Durika	5.09 315	eP		Pn	06 35 28.5	+2.4
DRK0	Durika	5.09 315	eP		Pn	06 35 28.1	+2.0
DRK0	Durika	5.09 315	P		Pn	06 35 28.6	+2.4
PRAC	Prado	5.09 112	P		Pn	06 35 30.7	+4.7
PRAC			S		Sn	06 36 28.1	+2.7
CEUA	Cerro Uatsi, L	5.15 321	eP		Pn	06 35 30.6	+3.8
VERH	Veragua Rainfo	5.54 321	eP		Pn	06 35 35.5	+3.3
BUS1	Rivas	5.65 314	eP		Pn	06 35 37.4	+3.4
ACOS	Acosta	6.11 313	eP		Pn	06 35 44.2	+4.0
MACC	Macarena, Meta	6.72 121	P		Pn	06 35 52.5	+4.1
MACC			S		Sn	06 37 06.5	+0.9
ULM	Lac du Bonnet	46.52 346	P		P	06 42 37.3	0.0
	6.1nm,0.9s,baz=158,slow=7.1,SNR=4.2						
ULM	Lac du Bonnet	46.52 346					
	6.1nm,0.9s						
ILAR	Eielson Array	75.35 336	P		P	06 45 55.1	+1.8
	0.5nm,0.8s,baz=135,slow=5.1,SNR=4.5						
ILAR	Eielson Array	75.35 336					
	0.5nm,0.8s						

SGS ***24*** *06:50:39.2,28.7°76N×34.7°69E,h7km,Ml2.4*
HLW ***24*** *06:50:39.4,28.7°77N×34.7°65E,h14km±1km,Ml2.7*
GII ***24*** *06:50:39.9±0.0,28.7°89N±0.7°04×34.7°701E±0.7°009,h0km, Mws2.5,confirmed*

ISC 24 06:50:38.4±0.9,28.7°77N±0.7°02×34.7°66E±0.7°03,h17km±6km, n55,σ0s88/61,Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDHB	Dhahab	0.06	220	↑↑P	Pg	06 50 42.2	+0.6
NUB	Nuweibaa	0.26	357	P	Pb	06 50 44.2	-0.4
HAQS	Haql	0.36	39	S	Sb	06 50 55.9	+4.2
HAQS	Haql	0.36	39	P	Pn	06 50 50.5	+1.6
HBST	Basata	0.45	8	↑↑P	Pb	06 50 48.3	+0.4
BDAS	Al Bad`	0.51	131	P	Pg	06 50 48.8	+0.1
BDAS	Al Bad`	0.51	131	S	Sg	06 50 56.1	+0.5
JMOS	Jabal al Moall	0.56	44	S	Sb	06 50 57.5	+0.1
JMOS	Jabal al Moall	0.56	44	P	Pg	06 50 49.8	+0.2
HQLS		0.64	33	S	Sb	06 50 59.9	+0.2
HQLS		0.64	33	P	Pg	06 50 51.0	0.0
HKAT	Jabal Katrina	0.64	248	P	Pb	06 50 51.5	+0.3
HKAT				S	Sb	06 51 00.5	+0.6
JLOS		0.73	92	P	Pg	06 50 52.5	-0.3
JLOS		0.73	92	S	Sg	06 51 02.0	-0.5
AYUS	`Aynunah	0.79	137	S	Sg	06 51 04.1	-0.1
AYUS				P	Pg	06 50 53.5	-0.3
KRABS	KRABS	0.84	142	P	Pg	06 50 54.2	-0.7
KRABS	KRABS	0.84	142	S	Sg	06 51 05.7	-0.3
ELOT	Eilot	0.85	18	P	Pb	06 50 55.3	+0.5
ELOT	Eilot	0.85	18	S	Sb	06 51 06.6	+0.7
EIL	Elat	0.93	16	P	Pb	06 50 56.4	+0.2
EIL	Elat	0.93	16	S	Sb	06 51 09.0	+0.8
BEOR	Beer Ora	0.98	17	P	Pb	06 50 57.2	+0.2
BEOR	Beer Ora	0.98	17	S	Sb	06 51 09.8	+0.2
TRI	Tor 1	0.98	220	P	Pg	06 50 57.5	0.0
MBRI	Mt Berech	1.05	12	P	Pb	06 50 58.5	+0.4
MBRI				S	Sn	06 51 12.6	0.0
MBRI	Mt Berech	1.05	12	P	Pb	06 50 58.3	+0.2
ELFZ	Elifaz	1.07	17	P	Pg	06 50 58.6	-0.5
ELFZ	Elifaz	1.07	17	S	Sb	06 51 12.8	+0.6
SAMR	Samar	1.11	16	P	Pn	06 51 00.1	+1.0
SAMR	Samar	1.11	16	S	Sn	06 51 14.3	+0.4
YTVT	Yotvata	1.17	17	P	Pb	06 51 00.5	+0.3
MWLHS	Almuwaylih	1.27	143	P	Pn	06 51 00.4	-0.9
WTBKS	WTBKS	1.29	121	S	Sb	06 51 19.0	+0.3
WTBKS				P	Pn	06 51 01.4	-0.4
HRFI	Mount Harif	1.31	14	P	Pg	06 51 03.4	-0.3
HRFI	Mount Harif	1.31	14	P	Pb	06 51 02.6	+0.1
HRFI	Mount Harif	1.31	14	S	Sg	06 51 20.7	-0.1
KRMI	Paran Flat	1.35	2	P	Pb	06 51 03.4	+0.2
KRMI				S	Sg	06 51 22.1	+0.1
KRMI	Paran Flat	1.35	2	P	Pb	06 51 03.3	+0.2
KRMI	Paran Flat	1.35	2	S	Sg	06 51 21.7	-0.3
YAHL	Yahel	1.37	17	P	Pb	06 51 03.9	+0.3
YAHL	Yahel	1.37	17	S	Sg	06 51 22.6	-0.2
PRNI	Paran	1.61	11	P	Pg	06 51 08.5	-0.9
PRNI				S	Sg	06 51 30.2	-0.1
PRNI	Paran	1.61	11	P	Pb	06 51 07.6	-0.1
PRNI	Paran	1.61	11	S	Sg	06 51 29.4	-0.9
RMNI	Mount Ramon	1.82	3	P	Pb	06 51 11.1	-0.3
RMNI	Mount Ramon	1.82	3	S	Sg	06 51 35.3	-1.9
ZFRI	Zfri	1.84	14	P	Pb	06 51 11.3	-0.2
ZFRI	Zfri	1.84	14	S	Sg	06 51 35.7	-1.9
MSPR	Moshav SAPIR	1.90	14	P	Pb	06 51 11.9	-0.6
KZIT	Kziot	2.14	354	P	Pb	06 51 16.1	-0.7
KZIT	Kziot	2.14	354	S	Sb	06 51 43.4	+0.3
URD10	Hayder	2.23	105	P	Pn	06 51 15.2	+0.6
YTIR	Yattir	2.62	9	P	Pn	06 51 21.6	+1.6
YTIR	Yattir	2.62	9	S	Sb	06 51 55.0	-1.8
URD04	Abu Rakah	2.85	126	P	Pn	06 51 23.6	+0.4

BGR ***24*** *07:17:44.8,20.7°72S×177.7°83W,h33km*
BJI ***24*** *07:18:36.0,20.5°50S×177.7°90W,h535km,mB5.1/24, mb5.1/61*
MOS ***24*** *07:18:36.6±0.9,20.7°79S×178.7°48W,h531km,mb5.2/27, Error ellipse: s-maj=9.8km s-min=8.5km az=108.5*
NEIC ***24*** *07:18:37.9,20.7°79S×178.7°41W,h520km,Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^17Nm; Mrr~0.96; Mθθ0.59; Mφφ0.37; Mrθ-0.42; Mθφ0.47; Mφr-0.30; Fault plane solution: Mo1.09000×10^17 NP1: φs230.10000°,δ30.94000°,λ-92.31000°. NP2:φs52.80000°, δ59.08000°,λ-88.62000°. Principal axes: T 1.0906, Plg14.0000°, Azm142.0000°; N 0.0007, Plg1.0000°, Azm232.0000°; P -1.0913, Plg76.0000°, Azm327.0000°;*
NOU ***24*** *07:18:37.2,20.9°91S×178.2°29W,h539km,mb5.3/103,Fiji Islands Region*
NEIC ***24*** *07:18:37.4±1.9,20.8°7S±0.9°09×178.4°4W±0.7°1,h523km±5km, mb5.3/564,Mww5.3/10,Error ellipse: s-maj=14.4km s-min=13.0km az=127.0*
NEIC ***24*** *07:18:37.9,20.8°8S×178.7°41W,h520km*
GCMT ***24*** *07:18:38.9±0.2,20.8°0S±0.0°2×178.7°48W±0.0°02, h546km±1km,MW5.4/121,Moment Tensor Solution. s121,c192; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr-1.41±.03; Mθθ0.48±.05; Mφφ0.92±.05; Mrθ-0.74±.05; Mθφ0.57±.04; Mφr-0.38±.05; Best double couple: Mo1.59600×10^17 NP1:φs204.00000°,δ32.00000°, λ-111.00000°. NP2:φs48.00000°,δ60.00000°,*

λ-78.00000°. Principal axes: T 1.5150, Plg15.0000°, Azm129.0000°; N 0.1660, Plg11.0000°, Azm221.0000°; P -1.6780, Plg72.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function
IDC ***24*** *07:18:38.2±1.0,20.8°45×178.6°63W,h537km,g9km,mb4.5/21, mbtmp5.3/22 Error ellipse: s-maj=9.9km s-min=8.4km az=127.0*

ISC 24 07:18:37.9±0.3,20°93S±0°04×178°40W±0°04, h542km±3km,h543km;pP-P,n1342,σ1s12/1233,mb5.3/381, 85C-125D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	2.71	352	P	P	07 19 49.9	-0.7
TAVE	Taveuni	4.44	341	P	P	07 20 02.3	-0.4
MSVF	Nonsavu	4.62	313		P	07 20 04.2	-0.1
MSVF	Nonsavu	4.62	313	P	P	07 20 04.2	-0.1
MSVF	Nonsavu	4.62	313	P	P	07 20 04.2	-0.1
DGTI	Dogotuki	4.94	339	P	P	07 20 06.2	-0.6
FUTU	Fugatoga	6.59	2		P	07 20 21.1	-0.7
NIUE	Niue	8.18	78	P	P	07 20 36.0	-1.1
	comp=Z,505nm,1.1s						
NIUE				S	S	07 22 18.7	+3.7
NIUE	Niue	8.18	78		P	07 20 36.4	-0.8
NIUE	Niue	8.18	78	P	P	07 20 36.1	-1.1
NIUE	Niue	8.18	78	P	P	07 20 36.9	-0.3
NIUE				S	S	07 22 19.2	+4.2
RIZ	Raoul Island	8.29	177	P	P	07 20 37.3	-0.8
RAO	Raoul Island	8.29	177	P	P	07 20 37.5	-0.6
RAO	Raoul Island	8.29	177	P	P	07 20 37.7	-0.4
	comp=Z,976nm,0.2s,baz=358,slow=1.2,SNR=49						
RAO				S	S	07 22 15.8	-1.1
	comp=Z,906nm,0.5s,baz=88,slow=22,SNR=7.8						
RAO	Raoul Island	8.29	177	P	P	07 20 37.1	-1.1
RAO	Raoul Island	8.29	177	S	S	07 22 15.4	-1.6
AFI	Afiamalu	9.42	43	P	P	07 20 46.7	-3.2
AFI	Afiamalu	9.42	43	P	P	07 20 46.3	-3.6
AFI	Afiamalu	9.42	43	P	P	07 20 46.5	-3.4
AFI				S	S	07 22 26.9	-11
AFI	Afiamalu	9.42	43	P	P	07 20 46.7	-3.2
RTV	Rentapao	12.82	282	P	P	07 21 25.6	+0.7
DVP	Devils Point	13.06	282	P	P	07 21 28.0	+0.6
DVP	Devils Point	13.06	282	S	S	07 23 49.8	+2.8
PINNC	Pines Island,	13.26	260		P	07 21 29.8	+0.4
PINNC	Pines Island,	13.26	260	P	P	07 21 29.9	+0.5
YATNC	Mamie plateau,	13.74	263	P	P	07 21 34.8	+0.4
QUENC	Quen Island, N	13.80	261	P	P	07 21 36.0	+0.9
DZM	Mont Dzumac	14.15	263	eP	P	07 21 38.8	0.0
	comp=Z,703nm,1.1s						
DZM				eS	S	07 24 05.5	-2.4
	comp=Z,202nm,1.2s						
DZM	Mont Dzumac	14.15	263	P	P	07 21 38.1	-0.7
	comp=Z,235nm,0.9s,baz=85,slow=15,SNR=83						
DZM				S	S	07 24 06.8	-1.1
	comp=Z,75nm,1.2s,baz=13,slow=20,SNR=6.0						
DZM	Mont Dzumac	14.15	263	P	P	07 21 39.0	+0.2
DZM	Mont Dzumac	14.15	263	S	S	07 24 08.3	+0.4
ONTNC	Ouen Toro	14.15	262		P	07 21 38.8	+0.1
ONTNC	Ouen Toro	14.15	262	P	P	07 21 39.0	+0.3
SANVU	Saraoutou	14.72	289		P	07 21 44.1	-0.6
SANVU	Saraoutou	14.72	289	P	P	07 21 44.2	-0.5
OUZ	Omahuta	15.88	205	P	P	07 21 57.5	+1.2
OUZ	Omahuta	15.88	205	P	P	07 21 57.5	+1.2
WCZ	Waipu Caves	16.25	201	P	P	07 22 01.4	+1.6
KUZ	Kuaotunu	16.57	197	P	P	07 22 03.5	+0.7
KUZ	Kuaotunu	16.57	197	P	P	07 22 03.5	+0.7
MBAZ	Motutapu North	16.83	199	P	P	07 22 06.8	+1.7
ETAZ	East Tamaki Re	16.99	199	P	P	07 22 08.4	+1.7
WMGZ	Waiomatatini S	17.05	189	P	P	07 22 06.5	-0.7
WMGZ				S	S	07 24 56.3	-1.7
MKAZ	Moumakai	17.06	198	P	P	07 22 08.5	+1.2
WTAZ	Waiatarua	17.08	199	P	P	07 22 10.0	+2.5
HAZ	Te Kaha	17.09	190	P	P	07 22 07.0	-0.5
PKGZ	Pakihiroa	17.15	189	S	S	07 24 57.2	-2.4
AWAZ	Awhitu Peninsu	17.18	199	P	P	07 22 09.8	+1.4
RUGZ	Raukumara Rang	17.31	190	P	P	07 22 09.1	-0.6
PUZ	Puketiti	17.32	189	P	P	07 22 09.3	-0.4
PUZ				S	S	07 25 00.3	-2.3
TGRZ	Tauranga	17.37	194	P	P	07 22 11.9	+1.8
RAR	Rarotonga	17.39	94		P	07 22 11.2	+0.7
RAR	Rarotonga	17.39	94	P	P	07 22 10.5	-0.1
	comp=Z,106nm,0.9s,baz=238,slow=6.0,SNR=15						
RAR	Rarotonga	17.39	94	P	P	07 22 10.4	-0.1
RAR	Rarotonga	17.39	94	P	P	07 22 11.3	+0.7
TWGZ	Tauwhareparae	17.47	190	P	P	07 22 12.5	+1.4
TOZ	Tahuroa Road	17.55	196		P	07 22 13.7	+1.8
TOZ	Tahuroa Road	17.55	196	P	P	07 22 13.8	+2.0
MWZ	Matawai	17.70	191	P	P	07 22 12.2	-1.0
MWZ				S	S	07 25 04.0	-4.6
URZ	Urewera	17.70	192	P	P	07 22 11.4	-1.7
	comp=Z,180nm,0.8s,baz=344,slow=3.0,SNR=53						
URZ				S	S	07 25 03.4	-5.2
	comp=Z,58nm,0.7s,baz=37,slow=22,SNR=12						
URZ	Urewera	17.70	192	P	P	07 22 12.0	-1.1
URZ	Urewera	17.70	192	P	P	07 22 10.6	-2.5
URZ				S	S	07 25 03.1	-5.4
CNGZ	Carnagh Statio	17.73	189	P	P	07 22 13.6	+0.1
MUGZ	Murupara	17.97	192	P	P	07 22 14.0	-1.7
RTZ	Ruatahuna	18.07	192		P	07 22 16.1	-0.6
RTZ	Ruatahuna	18.07	192	P	P	07 22 15.2	-1.4
LUES	Luesalemba Tem	18.21	302	P	P	07 22 17.6	-0.5
HIZ	Hauiti	18.46	197	P	P	07 22 21.3	+1.2
HIZ	Hauiti	18.46	197	P	P	07 22 23.0	+2.9
BKZ	Black Stump Fm	18.70	192	P	P	07 22 21.3	-1.0
BKZ	Black Stump Fm	18.70	192	P	P	07 22 20.0	-2.3
VRZ	Vera Road	19.06	196	P	P	07 22 27.1	+1.5
PXZ	Pawanui	19.46	191	P	P	07 22 29.0	-0.2
TSZ	Takapari Road	19.66	193	P	P	07 22 30.1	-1.0
BFZ	Birch Farm	20.21	192	P	P	07 22 34.5	-1.5
BFZ	Birch Farm	20.21	192	P	P	07 22 34.8	-1.2
MRZ	Mangatainoka R	20.32	193	P	P	07 22 35.1	-1.9
SNZO	South Karori	21.14	195	P	P	07 22 43.8	-0.6
SNZO	South Karori	21.14	195	P	P	07 22 43.5	-0.9
QRZ	Quartz Range	21.28	199	P	P	07 22 46.2	+0.6
QRZ	Quartz Range	21.28	199	P	P	07 22 45.9	+0.2
QRZ	Quartz Range	21.28	199	P	P	07 22 46.3	+0.6
NNZ	Nelson	21.39	197	P	P	07 22 46.3	-0.3
THZ	Tophouse	22.03	198	P	P	07 22 52.6	+0.1
THZ	Tophouse	22.03	198	P	P	07 22 52.3	-0.2
DSZ	Denniston Nort	22.34	200	P	P	07 22 54.9	-0.3
DSZ	Denniston Nort	22.34	200	P	P	07 22 55.2	0.0
KHZ	Kahutara	22.47	196	P	P	07 22 55.1	-1.2
KHZ	Kahutara	22.47	196	P	P	07 22 55.3	-1.0
CTZ	Chatham Island	22.79	177	P	P	07 23 01.6	+2.5
CTZ	Chatham Island	22.79	177	P	P	07 23 02.9	+3.8
GVZ	Greta Valley S	23.11	196	P	P	07 23 01.2	-0.9
LTZ	Lake Taylor	23.15	198	P	P	07 23 01.0	-1.5
INZ	Inchbonnie	23.34	199	P	P	07 23 03.1	-1.0
ALEG	Aligegeo Malai	23.52	298	P	P	07 23 05.6	-0.5
OXZ	Oxford	23.72	198	P	P	07 23 06.6	-0.8
TARA	Tarawa	23.72	338	P	P	07 23 07.2	-0.6
MQZ	McQueen's Vall	23.90	196	P	P	07 23 08.0	-1.0
SAVO	Savo Central	24.04	296	P	P	07 23 11.2	+0.4
RPZ	Rata Peaks	24.36	199	P	P	07 23 12.4	-0.8
RPZ	Rata Peaks	24.36	199	P	P	07 23 12.2	-0.9
TATA	Tatamba Isabel	24.46	297	P	P	07 23 13.5	-0.9
FOZ	Fox Glacier	24.59	201	P	P	07 23 14.7	-0.5
TMZ	Timaru	24.98	198	P	P	07 23 18.4	-0.3
JCZ	Jackson Bay	25.42	202	P	P	07 23 22.6	-0.3
JCZ	Jackson Bay	25.42	202	P	P	07 23 22.3	-0.3
ODZ	Otahua Downs	25.69	198	P	P	07 23 23.9	-1.0
ODZ	Otahua Downs	25.69	198	P	P	07 23 25.0	+0.1
WKZ	Wanaka	26.00	201	P	P	07 23 26.9	-0.7
MLZ	Mavora Lakes	26.78	201	P	P	07 23 34.8	+0.3
TUZ	Tuapeka	26.82	199	P	P	07 23 35.2	+0.5
TBI	Tubuai	26.90	101	eP	P	07 23 36.4	+0.6
	comp=Z,330nm,1.3s						
TBI				eS	S	07 27 33.0	-1.7
	comp=Z,1μm,43.0s						
TBI				eS	sS	07 30 19.8	+0.4
	comp=Z,2μm,24.5s						
WHZ	Wether Hill Ro	27.30	201	P	P	07 23 40.6	+1.6
PPT2	Papeete2	27.40	88	eS	S	07 27 34.7	-8.1
	comp=Z,295nm,25.5s						
PPT2				eS	sS	07 30 24.5	-3.5
	comp=Z,1μm,25.8s						
SYZ	Scrubby Hill	27.49	199	P	P	07 23 41.2	+0.6
TIAR	Tiarei	27.62	88	eP	P	07 23 42.7	+0.5
	comp=Z,252nm,1.1s						
TVO	Taravao	27.66	89	eP	P	07 23 43.1	+0.4
	comp=Z,30nm,0.8s						

GD1S	Gladstone Soft	28.26	258	P	P	07 23 48.0	+0.3
EIDS	Eidsvold	28.37	255	P	P	07 23 48.7	0.0
	comp=Z,74nm,0.9s						
EIDS	Eidsvold	28.37	255	P	P	07 23 48.8	0.0
EIDS	Eidsvold	28.37	255	P	P	07 23 48.9	+0.2
ARMA	Armidale	28.54	245	P	P	07 23 51.1	+0.9
	comp=Z,68nm,0.9s						
ARMA	Armidale	28.54	245	P	P	07 23 51.5	+1.2
ARMA	Armidale	28.54	245	P	P	07 23 51.5	+1.2
PMOR	Pomariorio Ree	29.58	84	eP	P	07 23 58.1	-1.2
	comp=Z,204nm,1.2s						
MGCD	Mangrove Creek	29.66	239	P	P	07 24 01.0	+1.1
	comp=Z,143nm,1.0s						
MGCD	Mangrove Creek	29.66	239	P	P	07 24 01.6	+1.8
VAH	Vaihoa	29.77	84	eP	P	07 23 59.7	-1.2
	comp=Z,41nm,0.8s						
SYDH	Sydney Hard Ro	30.12	238	P	P	07 24 05.2	+1.5
RMQ	Roma	30.52	253	P	P	07 24 07.9	+0.6
	comp=Z,33nm,0.8s						
XMAS	Kiritimati	30.70	44	P	P	07 24 09.1	+0.1
XMAS				IAmb	IAmb	07 24 09.8	
	comp=Z,114nm,1.0s						
CNB	Canberra Magne	31.67	236	P	P	07 24 18.1	+1.0
	comp=Z,215nm,1.0s						
CNB	Canberra Magne	31.67	236	P	P	07 24 17.6	+0.5
CAN	Canberra	31.96	236	P	P	07 24 20.1	+0.6
	comp=Z,97nm,0.9s						
CAN	Canberra	31.96	236	P	P	07 24 20.4	+0.8
CAN				IAmb	IAmb	07 24 21.6	
	comp=Z,77nm,0.9s						
CAN	Canberra	31.96	236	P	P	07 24 20.1	+0.6
CAN	Canberra	31.96	236	P	P	07 24 20.4	+0.8
CAN				pmax	pmax		
	comp=Z,77nm,0.9s						
CAN	Canberra	31.96	236	P	P	07 24 20.6	+1.1
CAN				PcP	PcP	07 26 54.7	+1.5
YNG	Young	32.14	238	P	P	07 24 21.8	+0.7
	comp=Z,20nm,1.4s						
TV1H	Townsville Har	32.69	267	P	P	07 24 26.1	+0.2
CTAO	Charters Tower	33.08	265	P	P	07 24 29.1	0.0
CTAO	Charters Tower	33.08	265	P	P	07 24 29.2	0.0
CTAO	Charters Tower	33.08	265	P	P	07 24 29.1	0.0
CTAO				pmax	pmax		
	comp=Z,118nm,0.7s						
CTAO	Charters Tower	33.08	265	P	P	07 24 29.0	-0.2
CMSA	Cobar Meteorol	33.76	244	P	P	07 24 35.1	+0.3
	comp=Z,135nm,0.8s						
CMSA	Cobar Meteorol	33.76	244	P	P	07 24 35.0	+0.3
QLP	Quilpie	34.57	253	P	P	07 24 41.8	+0.1
	comp=Z,232nm,0.9s						
QLP	Quilpie	34.57	253	P	P	07 24 42.1	+0.4
PMG	Port Moresby	35.08	284	P	P	07 24 46.1	+0.1
PMG				IAmb	IAmb	07 24 47.9	
	comp=Z,117nm,0.9s						
PMG	Port Moresby	35.08	284	P	P	07 24 45.9	-0.1
PMG	Port Moresby	35.08	284	ceP	P	07 24 46.7	+0.7
PMG				pmax	pmax		
	comp=Z,89nm,0.6s						
MTSU	Mount Surprise	35.20	268	P	P	07 24 47.0	0.0
	comp=Z,92nm,0.8s						
TOO	Toolangi	35.34	234	P	P	07 24 48.5	+0.5
TOO	Toolangi	35.34	234	P	P	07 24 48.7	+0.8
TOO	Toolangi	35.34	234	P	P	07 24 48.7	+0.8
TOO				pmax	pmax		
	comp=Z,36nm,0.8s						
PATS	Pohnpei	35.84	318	P	P	07 24 52.3	0.0
	comp=Z,91nm,2.1s						
TAU	Tasmania Unive	36.05	225	P	P	07 24 54.3	+0.6
BRAT	Ballarat	36.52	235	P	P	07 24 59.3	+1.7
COEN	Coen	37.24	274	P	P	07 25 03.9	+0.1
	comp=Z,132nm,0.9s						
COEN	Coen	37.24	274	P	P	07 25 04.0	+0.2
COEN				IAmb	IAmb	07 25 05.5	
	comp=Z,98nm,0.8s						
COEN	Coen	37.24	274	P	P	07 25 03.7	-0.1
STKA	Stephens Creek	37.26	245	P	P	07 25 04.3	+0.4
	comp=Z,509nm,1.1s						
STKA	Stephens Creek	37.26	245	P	P	07 25 03.9	+0.1
	comp=Z,73nm,0.8s,baz=90,slow=9.7,SNR=144						
STKA				PcP	PcP	07 27 10.2	+1.2
	comp=Z,21nm,1.0s,baz=51,slow=4.3,SNR=4.1						
STKA				S	S	07 30 07.9	-4.8
	comp=Z,1.0nm,0.3s,baz=299,slow=20,SNR=4.1						
	comp=Z,73nm,0.8s						
STKA	Stephens Creek	37.26	245	P	P	07 25 04.1	+0.3
ARPS	Mount Arapiles	37.93	237	P	P	07 25 09.5	+0.2
	comp=Z,29nm,0.9s						
MANU	Manus Island	38.28	295	P	P	07 25 12.8	+0.4
MANU				IAmb	IAmb	07 25 14.9	
	comp=Z,46nm,0.8s						
QIS	Mount Isa	39.19

FAKI IAmb IAmb 07 26 52.7
comp=Z,207nm,1.3s
FAKI Fak Fak 51.23 284 P **P** **07 26 51.8 -0.1**
comp=Z,1μmcomp=Z,123nm,1.3s
FITZ Fitzroy Crossi 52.60 263 P **P** **07 27 01.6 -0.1**
comp=Z,24nm,1.2s
FITZ Fitzroy Crossi 52.60 263 P **P** **07 27 01.8 +0.1**
BNDI Bandanaira 52.74 281 P **P** **07 27 02.7 0.0**
DRV Dumont d'Urvil 52.82 199 P **P** **07 27 03.1 +0.7**
DRV PcP **PcP** **07 28 02.4 -0.3**
KMBL Kambalda 54.04 246 P **P** **07 27 11.1 -0.6**
comp=Z,25nm,1.1s
MSAI Masohi 54.09 281 P **P** **07 27 11.6 -0.7**
comp=Z,211nm,0.7s
AAI Ambon 54.63 281 P **P** **07 27 15.7 -0.4**
comp=Z,3μmcomp=Z,189nm,1.1s
NLAI Namlea 55.81 281 P **P** **07 27 24.5 +0.2**
comp=Z,3μmcomp=Z,220nm,1.2s
SOEI Soe 56.14 272 P **P** **07 27 28.3 +1.5**
SOEI Soe 56.14 272 P **P** **07 27 27.8 +1.0**
PSAC2 Pilbara Seismi 57.16 257 P **P** **07 27 33.1 -0.5**
comp=Z,229nm,1.2s
PSA00 Pilbara Seismi 57.20 257 IAmb IAmb 07 27 34.6
comp=Z,179nm,0.8s
PSA00 Pilbara Seismi 57.20 257 P **P** **07 27 33.7 -0.1**
TNTI Ternate 57.21 285 P **P** **07 27 34.4 +0.5**
TNTI IAmb IAmb 07 27 35.1
comp=Z,185nm,0.9s
TNTI Ternate 57.21 285 P **P** **07 27 34.0 +0.1**
comp=Z,2μmcomp=Z,231nm,1.0s
SANI Sanana 57.30 281 P **P** **07 27 34.4 -0.2**
SANI Sanana 57.30 281 P **P** **07 27 34.2 -0.4**
comp=Z,1μmcomp=Z,180nm,1.1s
MBWA Marble Bar 57.39 258 P **P** **07 27 34.5 -0.7**
comp=Z,243nm,0.8s
MBWA Marble Bar 57.39 258 P **P** **07 27 34.9 -0.3**
MBWA IAmb IAmb 07 27 35.8
comp=Z,170nm,0.8s
MBWA Marble Bar 57.39 258 P **P** **07 27 34.7 -0.4**
MBWA Marble Bar 57.39 258 P **P** **07 27 34.6 -0.5**
MBWA PcP **PcP** **07 28 21.6 0.0**
SBA Scott Base 57.42 184 P **P** **07 27 37.9 +3.6**
SBA Scott Base 57.42 184 P **P** **07 27 37.9 +3.6**
SBA pmax pmax
comp=Z,98nm,1.6s
MEEK Meekatharra 57.42 251 P **P** **07 27 34.4 -0.9**
comp=Z,98nm,1.0s
MEEK Meekatharra 57.42 251 P **P** **07 27 34.7 -0.6**
VNDA Vanda 57.45 185 P **P** **07 27 37.1 +2.6**
VNDA Vanda 57.45 185 P **P** **07 27 36.9 +2.4**
comp=Z,2.5nm,0.4s,baz=5.4,slow=8.1,SNR=36
VNDA ScP **ScP** **07 31 30.6 +2.1**
comp=Z,17nm,0.8s,baz=342,slow=3.9,SNR=21
comp=Z,2.5nm,0.4s
VNDA Vanda 57.45 185 P **P** **07 27 37.1 +2.6**
NWAO Narrogin (SRO) 57.84 244 P **P** **07 27 37.9 -0.1**
comp=Z,125nm,1.1s
NWAO Narrogin (SRO) 57.84 244 P **P** **07 27 38.3 +0.3**
NWAO Narrogin (SRO) 57.84 244 P **P** **07 27 38.2 +0.2**
NWAO Narrogin (SRO) 57.84 244 P **P** **07 27 38.3 +0.3**
NWAO Narrogin (SRO) 57.84 244 P **P** **07 27 38.3 +0.3**
NWAO pmax pmax
comp=Z,106nm,1.3s
RKGY Rocky Gully 57.91 242 P **P** **07 27 38.5 +0.1**
comp=Z,115nm,1.0s
MMRI Maumere 58.40 273 IAmb IAmb 07 27 42.6
comp=Z,184nm,1.0s
MMRI Maumere 58.40 273 P **P** **07 27 41.6 -0.4**
comp=Z,196nm,0.8s
BLDU Ballidu 58.53 246 P **P** **07 27 42.3 -0.5**
comp=Z,122nm,1.0s
BLDU Ballidu 58.53 246 P **P** **07 27 42.6 -0.1**
MUN Mundaring 58.80 245 P **P** **07 27 44.7 +0.3**
comp=Z,136nm,1.1s
MUN Mundaring 58.80 245 P **P** **07 27 44.8 +0.3**
EDFI Ende, Flores 58.87 272 P **P** **07 27 44.8 -0.5**
comp=Z,2μmcomp=Z,187nm,0.8s
MORW Morawa 59.32 248 P **P** **07 27 47.7 -0.3**
comp=Z,106nm,1.1s
MORW Morawa 59.32 248 IAmb IAmb 07 27 49.0
comp=Z,124nm,1.2s
MORW Morawa 59.32 248 P **P** **07 27 48.1 +0.1**
BASI Baing, Sumba 59.44 270 P **P** **07 27 49.9 +0.9**
comp=Z,319nm,1.0s
SGSI Sangihe 60.13 287 P **P** **07 27 53.5 -0.1**
KMSI Cibinong 60.19 283 P **P** **07 27 54.2 +0.2**
comp=Z,291nm,0.9s
H01W1 Cape Leeuwin H 60.20 241 P **P** **07 27 54.9 +1.5**
baz=110,slow=8.9,SNR=8.1
H01W2 Cape Leeuwin H 60.21 241 P **P** **07 27 55.5 +2.0**
baz=110,slow=8.9,SNR=5.5
H01W3 Cape Leeuwin H 60.21 241 P **P** **07 27 55.8 +2.2**
baz=110,slow=8.9,SNR=7.2
LUWI Luwuk 60.55 281 P **P** **07 27 57.6 +0.6**
comp=Z,4μmcomp=Z,337nm,1.1s
WBSI Waikabubak, Su 60.73 271 P **P** **07 27 57.7 +0.1**
comp=Z,1μmcomp=Z,122nm,0.8s
BSSI Bau Bau, Buton 60.87 275 P **P** **07 27 58.4 -0.1**
comp=Z,78nm,1.1s
BKSI Bulukumba 61.50 275 P **P** **07 28 01.9 -0.7**
comp=Z,64nm,0.9s
APSI Ampana 61.73 281 P **P** **07 28 05.2 +1.1**
comp=Z,1μmcomp=Z,129nm,0.9s
BNSI Bone 61.84 276 P **P** **07 28 05.1 +0.3**
comp=Z,1μmcomp=Z,132nm,1.0s
MRSI Marisa 62.01 282 P **P** **07 28 05.8 -0.2**
comp=Z,1μmcomp=Z,92nm,0.8s
GIRL Giralia 62.07 255 P **P** **07 28 06.6 +0.4**
comp=Z,137nm,0.9s
GIRL Giralia 62.07 255 P **P** **07 28 07.3 +1.1**
GIRL IAmb IAmb 07 28 08.4
comp=Z,112nm,0.9s
SPSI Sidrap Palu 62.31 277 P **P** **07 28 06.8 -1.1**
comp=Z,75nm,0.9s
PLAI Plampang 62.50 271 P **P** **07 28 09.0 -0.1**
PLAI Plampang 62.50 271 P **P** **07 28 08.7 -0.4**
comp=Z,2μmcomp=Z,298nm,0.9s
TOLI2 Tolitoli 63.33 282 IAmb IAmb 07 28 15.2
comp=Z,92nm,0.9s
TOLI2 Tolitoli 63.33 282 P **P** **07 28 14.2 -0.3**
TWSI Taliwang, Sumb 63.37 271 P **P** **07 28 14.6 -0.1**
comp=Z,2μmcomp=Z,241nm,1.0s
PCI Palu 63.40 280 P **P** **07 28 16.7 +1.8**
CASY Casey 63.41 205 P **P** **07 28 15.1 +1.0**
CASY IAmb IAmb 07 28 16.3
comp=Z,63nm,1.0s
CASY Casey 63.41 205 P **P** **07 28 15.0 +1.0**
SRBI Singaraja 65.14 271 P **P** **07 28 25.7 -0.2**
comp=Z,1μmcomp=Z,136nm,1.0s
JAGI Jajag, Banyuwa 66.00 270 P **P** **07 28 30.4 -1.0**
comp=Z,1μmcomp=Z,164nm,0.9s
ABJI Asem Bagus 66.15 271 P **P** **07 28 32.6 +0.3**
comp=Z,117nm,0.9s
JHJ2 Mitsune 66.93 323 P **P** **07 28 36.6 0.0**
BBKI Banjar Baru 67.07 275 P **P** **07 28 38.6 +0.6**
comp=Z,117nm,1.3s
MYLDM Lahad Datu 67.08 285 IAmb IAmb 07 28 58.3
comp=Z,66nm,0.8s
PCJI Pacitan 68.88 269 P **P** **07 28 49.3 +0.4**
NGJI Ngawi 68.88 270 P **P** **07 28 50.3 +1.3**
comp=Z,71nm,1.0s
QSPA South Pole Qui 69.14 180 P **P** **07 28 53.1 +3.3**
comp=Z,15nm,0.8s,baz=261,slow=0.5,SNR=93
QSPA PKPPKP P'P'df 07 56 45.3 -9.1
comp=Z,7.1nm,1.0s,baz=232,slow=2.7,SNR=14
comp=Z,15nm,0.8s
WOJI Wonogiri, Jawa 69.23 269 P **P** **07 28 50.6 -0.5**
comp=Z,142nm,1.1s
UGM Wanagama 69.58 269 P **P** **07 28 53.6 +0.4**
JMM Marumori 69.95 327 IAmb IAmb 07 28 56.0
comp=Z,73nm,1.0s
JOW Kunigami 70.16 310 IAmb IAmb 07 28 58.1
comp=Z,65nm,0.8s
MJAR Matsushiro Arr 70.34 324 P **P** **07 28 57.0 -0.2**
MJAR Matsushiro Arr 70.34 324 P **P** **07 28 56.7 -0.5**
comp=Z,27nm,0.9s,baz=158,slow=5.9,SNR=37
comp=Z,27nm,0.9s
MJAR Matsushiro Arr 70.34 324 P **P** **07 28 57.0 -0.2**
MJAR pmax pmax
comp=Z,31nm,1.1s
MAJO Matsushiro 70.34 324 P **P** **07 28 57.2 0.0**
MAJO Matsushiro 70.34 324 P **P** **07 28 57.1 -0.1**
MAJO Matsushiro 70.34 324 P **P** **07 28 57.2 0.0**
MAJO pmax pmax
comp=Z,56nm,1.1s
MAJO Matsushiro 70.34 324 P **P** **07 28 56.4 -0.8**

JMN Monobe 70.86 319 IAmb IAmb 07 29 02.4
comp=Z,69nm,1.0s
KPJI Karang Pucung 71.26 269 P **P** **07 29 02.9 -0.2**
comp=Z,67nm,0.8s
STKI Sintang 71.49 277 P **P** **07 29 05.6 +1.1**
comp=Z,152nm,1.0s
SBUM Sibu 71.71 280 P **P** **07 29 06.2 +0.4**
JNU Nakatsue 72.33 317 IAmb IAmb 07 29 10.1
comp=Z,104nm,1.0s
JNU Nakatsue 72.33 317 P **P** **07 29 08.8 -0.2**
BBJI Bungbulang 72.41 269 P **P** **07 29 09.2 -0.7**
ADK Adak 72.52 1 P **P** **07 29 08.9 -0.6**
ADK Adak 72.52 1 P **P** **07 29 08.9 -0.6**
ADK Adak 72.52 1 P **P** **07 29 08.9 -0.6**
ADK pmax pmax
comp=Z,198nm,0.8s
ADK Adak 72.52 1 P **P** **07 29 08.2 -1.3**
LEM Lembang 72.66 269 P **P** **07 29 12.2 +0.8**
comp=Z,2μmcomp=Z,204nm,1.1s
ATKA Atka Island 72.91 3 P **P** **07 29 11.1 -0.6**
CNJI Cibinong 72.95 269 P **P** **07 29 12.5 -0.4**
comp=Z,67nm,1.1s
TWG Pinlang 73.30 303 IAmb IAmb 07 29 13.9
comp=Z,58nm,0.5s
DBJI Dramaga 73.56 269 P **P** **07 29 16.7 +0.3**
comp=Z,176nm,1.0s
NACB Ninganchiao 73.61 304 IAmb IAmb 07 29 16.9
comp=Z,116nm,1.0s
NACB Ninganchiao 73.61 304 P **P** **07 29 15.6 -0.8**
SMY Shemya 73.64 355 P **P** **07 29 15.3 -0.6**
TPUB Ta-pu 73.90 303 P **P** **07 29 17.1 -1.0**
SSLB Suanglung 73.90 304 IAmb IAmb 07 29 18.5
comp=Z,64nm,0.9s
SSLB Suanglung 73.90 304 P **P** **07 29 17.2 -0.9**
JKA Kamikawa-asahi 73.93 332 IAmb IAmb 07 29 20.6
comp=Z,157nm,1.2s
YHNB Yeheng 74.04 305 IAmb IAmb 07 29 20.3
comp=Z,80nm,0.9s
YHNB Yeheng 74.04 305 P **P** **07 29 19.6 +0.6**
NIKH Nikolski High 74.06 6 P **P** **07 29 17.5 -0.8**
NIKH Nikolski High 74.06 6 P **P** **07 29 17.7 -0.6**
baz=189
CGJI Cibinong 74.53 269 P **P** **07 29 21.3 -0.6**
comp=Z,126nm,1.3s
UNV Unalaska Valle 75.17 7 IAmb IAmb 07 29 24.5
comp=Z,122nm,0.8s
UNV Unalaska Valle 75.17 7 P **P** **07 29 23.6 -0.9**
baz=192
AKUT Akutan 75.55 8 IAmb IAmb 07 29 27.4
comp=Z,79nm,0.8s
AKUT Akutan 75.55 8 P **P** **07 29 25.6 -1.0**
KASI Kota Agung 76.02 269 P **P** **07 29 29.7 -0.5**
comp=Z,1μmcomp=Z,107nm,1.1s
YSS Yuzhno-Sakhali 76.11 334 *e*P **P** **07 29 29.7 -0.2**
YSS pmax pmax
comp=Z,70nm,1.2s
YSS pmax pmax
comp=Z,200nm,4.3s
QZH Quanzhou 76.34 304 ⇑ *i*P **P** **07 29 32.8 +1.2**
QZH pmax pmax
comp=Z,140nm,1.1s
FALS False Pass 76.56 9 IAmb IAmb 07 29 32.2
comp=Z,182nm,1.1s
FALS False Pass 76.56 9 P **P** **07 29 31.2 -1.0**
baz=194
PETK Petropavlovsk- 76.59 345 P **P** **07 29 32.0 -0.4**
PETK Petropavlovsk- 76.59 345 P **P** **07 29 31.6 -0.8**
comp=Z,77nm,0.9s,baz=129,slow=6.1,SNR=50
comp=Z,77nm,0.9s
PETK Petropavlovsk- 76.59 345 P **P** **07 29 32.0 -0.4**
LWLI Liwa 76.60 270 P **P** **07 29 33.0 -0.5**
TJN Taejon 76.63 318 IAmb IAmb 07 29 35.5
comp=Z,186nm,1.3s
MDSI Maura Dua 76.67 270 P **P** **07 29 32.8 -0.9**
KSRS Korea Array 76.96 319 P **P** **07 29 35.6 +0.9**
comp=Z,20nm,1.0s,baz=145,slow=6.4,SNR=56
comp=Z,20nm,1.0s
KSAR Wonju Array Be 76.98 319 P **P** **07 29 35.3 +0.4**
KSAR Wonju Array Be 76.98 319 P **P** **07 29 35.3 +0.4**
CNBA Chernabura Isl 77.15 11 IAmb IAmb 07 29 36.1
comp=Z,145nm,1.2s
CHNA Chernabura Isl 77.16 11 P **P** **07 29 34.9 -0.5**
baz=198
SDPT Sand Point 77.50 10 P **P** **07 29 36.7 -0.5**
SDPT Sand Point 77.50 10 P **P** **07 29 36.7 -0.5**
baz=197
LHSI Lahat 77.51 271 P **P** **07 29 38.1 -0.2**
comp=Z,92nm,1.1s
S12K Black Hills 77.59 9 P **P** **07 29 37.1 -0.7**
baz=196
P08K Saint George I 77.59 5 P **P** **07 29 37.5 -0.2**
baz=188
DSRI Dabo 77.71 274 P **P** **07 29 40.1 +0.7**
comp=Z,87nm,1.1s
INCN Inchon 77.78 318 P **P** **07 29 40.3 +1.1**
INCN IAmb IAmb 07 29 41.2
comp=Z,175nm,1.6s
INCN Inchon 77.78 318 P **P** **07 29 40.3 +1.1**
INCN pmax pmax
comp=Z,175nm,1.7s
SPIA Saint Paul Isl 78.11 5 P **P** **07 29 40.7 +0.2**
baz=188
HULI Fort Hunter Li 78.29 44 IAmb IAmb 07 29 45.0
comp=Z,148nm,1.3s
RAMR Ramage Ranch 78.30 45 IAmb IAmb 07 29 44.9
comp=Z,189nm,1.4s
SMAI San Martin Ant 78.34 159 P **P** **07 29 43.4 +1.7**
VLA Vladivostok 78.42 325 *i* P **P** **07 29 42.8 +0.3**
VLA pmax pmax
comp=Z,38nm,1.1s
KSI Kapahiang 78.44 270 P **P** **07 29 43.1 -0.3**
MSHR Mys Shultsa 78.45 324 *ce*P **P** **07 29 43.2 +0.5**
MSHR pmax pmax
comp=Z,48nm,1.1s
S14K Fog Glacier 78.55 11 P **P** **07 29 43.3 +0.3**
baz=198
HKPS Hong Kong Po S 78.58 299 IAmb IAmb 07 29 46.4
comp=Z,150nm,1.1s
SAO San Andreas Ge 78.60 43 IAmb IAmb 07 29 46.3
comp=Z,76nm,1.0s
PMPB Monarch Peak 78.69 44 IAmb IAmb 07 29 47.1
comp=Z,102nm,1.4s
BBGB Big Mountain B 78.75 44 IAmb IAmb 07 29 47.8
comp=Z,119nm,1.3s
CHGN Chignik 78.77 11 IAmb IAmb 07 29 44.7
comp=Z,157nm,1.0s
CHGN Chignik 78.77 11 P **P** **07 29 43.9 -0.1**
baz=199
CHIR Chirikof Islan 78.86 13 P **P** **07 29 45.0 +0.5**
baz=202
CVS Carmenet Viney 78.92 42 IAmb IAmb 07 29 47.7
comp=Z,114nm,1.1s
HOPS Hopland Field 78.94 41 IAmb IAmb 07 29 48.0
comp=Z,79nm,1.0s
MASI Maura Aman, Be 78.95 271 P **P** **07 29 46.6 +0.5**
USRK Ussuriysk Ar. 79.11 326 P **P** **07 29 47.5 +1.3**
comp=Z,52nm,1.0s,baz=138,slow=3.6,SNR=44
comp=Z,52nm,1.0s
MTOS Mt Oso, Westle 79.12 43 IAmb IAmb 07 29 49.2
comp=Z,78nm,1.1s
BELA Belgrano 2 79.18 173 P **P** **07 29 46.7 +0.6**
KMPM Mount Pierce 79.21 39 IAmb IAmb 07 29 49.9
comp=Z,177nm,1.1s
MYKOM Kota Tinggi 79.21 276 IAmb IAmb 07 29 49.3
comp=Z,84nm,0.9s
MNRC McLaughlin Min 79.26 41 IAmb IAmb 07 29 50.2
comp=Z,138nm,1.1s
TYV Tymovskoe 79.28 336 *e*P **P** **07 29 47.3 +0.4**
TYV pmax pmax
comp=Z,58nm,0.9s
TYV pmax pmax
comp=Z,900nm,3.4s
RUSS Russell Ranch 79.41 42 IAmb IAmb 07 29 51.3
comp=Z,115nm,1.0s
VES Vestal, Richgr 79.60 45 IAmb IAmb 07 29 51.1
comp=Z,97nm,1.2s
TPO Tropico Hills 79.63 46 IAmb IAmb 07 29 51.8
comp=Z,108nm,1.2s
O02D Mt. Diablo Mer 79.85 40 IAmb IAmb 07 29 53.5
comp=Z,135nm,1.1s
SII Sitkinak Islan 79.85 13 P **P** **07 29 49.9 +0.1**
SII Sitkinak Islan 79.85 13 P **P** **07 29 50.3 +0.5**
baz=203
NJ2 Nanjing 79.87 310 *e*P **P** **07 29 51.3 +0.9**
NJ2 pmax pmax
comp=Z,45nm,0.9s
NJ2 pmax pmax
comp=Z,180nm,4.3s
ISA Isabella, Lake 79.91 46 IAmb IAmb 07 29 53.3
comp=Z,112nm,1.4s
SLBS Sierra La Lagu 80.05 60 P **P** **07 29 52.9 +1.2**
R16K Pilot Point 80.12 11 P **P** **07 29 50.8 -0.3**
baz=200
PFO Pinyon Flats O 80.14 48 P **P** **07 29 52.9 +0.9**
PFO Pinyon Flats O 80.14 48 P **P** **07 29 52.9 +0.9**
PFO pmax pmax
comp=Z,35nm,1.2s
PFO Pinyon Flats O 80.14 48 P **P** **07 29 52.9 +0.9**
KSXB Camp Six Broad 80.25 38 IAmb IAmb 07 29 55.2
comp=Z,72nm,1.0s
KBO Bosley Butte 80.29 38 IAmb IAmb 07 29 55.6
comp=Z,113nm,1.2s
LRMC Laurel Mtn Rad 80.33 46 IAmb IAmb 07 29 55.6
comp=Z,122nm,1.8s
N02D Trinity Center 80.39 39 IAmb IAmb 07 29 56.2
comp=Z,102nm,1.1s
R17L Mt. Peulik Vol 80.41 12 P **P** **07 29 52.9 +0.2**
baz=201
O03E Paynes Creek 80.52 40 IAmb IAmb 07 29 56.1
comp=Z,208nm,1.4s
M02C Callahan 80.56 39 IAmb IAmb 07 29 57.2
comp=Z,119nm,1.1s
CCCA Chr Cany Iake 80.57 46 IAmb IAmb 07 29 56.8
comp=Z,97nm,1.3s
MDPB Devils Postpil 80.64 44 IAmb IAmb 07 29 57.1
comp=Z,66nm,1.0s
KEBM Edson Butte 80.65 37 IAmb IAmb 07 29 56.6
comp=Z,66nm,1.0s
OHAK Old Harbor 80.66 14 IAmb IAmb 07 29 55.3
comp=Z,142nm,1.4s
OHAK Old Harbor 80.66 14 P **P** **07 29 54.1 +0.1**
OHAK Old Harbor 80.66 14 P **P** **07 29 54.0 +0.1**
baz=204
MDJ Mudanjiang 80.66 325 P **P** **07 29 55.4 +1.1**
MDJ S **SKSac** **07 39 24.3 +3.5**
MDJ pmax pmax
comp=Z,81nm,1.0s
MDJ Mudanjiang 80.66 325 P **P** **07 29 54.4 +0.2**
R18K Karluk 80.72 13 P **P** **07 29 54.6 +0.3**
baz=203
TIN Tinemaha, Big 80.86 45 IAmb IAmb 07 29 58.2
comp=Z,87nm,0.8s
YBH Yreka Blue Hor 80.86 39 IAmb IAmb 07 29 58.4
comp=Z,89nm,0.9s
BC3 Big Chuckawall 80.87 49 IAmb IAmb 07 29 58.8
comp=Z,97nm,1.5s
WAKR Walker 80.91 43 IAmb IAmb 07 29 58.8
comp=Z,112nm,1.1s
GLA Glamis 80.99 50 IAmb IAmb 07 29 59.4
comp=Z,91nm,1.0s
MAW Mawson 81.03 200 P **P** **07 29 56.9 +1.0**
comp=Z,12nm,0.7s,baz=126,slow=6.9,SNR=44
comp=Z,12nm,0.7s
Q17K Contact Creek 81.09 12 P **P** **07 29 56.2 -0.1**
baz=201
O14K Tigyukauivet M 81.13 9 P **P** **07 29 56.3 0.0**
baz=196
BEKR Beckworth 81.14 41 IAmb IAmb 07 29 59.5
comp=Z,103nm,1.3s
O15K Ungalikthiuk R 81.27 10 P **P** **07 29 57.1 0.0**
baz=198,SNR=6.3
KDAK Kodiak Island 81.32 14 P **P** **07 29 57.9 +0.5**
KDAK IAmb IAmb 07 29 59.6
comp=Z,64nm,1.1s
KDAK Kodiak Island 81.32 14 P **P** **07 29 57.9 +0.5**
KDAK pmax pmax
comp=Z,64nm,1.1s
KDAK Kodiak Island 81.32 14 P **P** **07 29 57.6 +0.2**
baz=204
Q16K King Salmon 81.33 11 P **P** **07 29 57.7 +0.3**
baz=200,SNR=22
IRM Iron Mountain 81.36 49 IAmb IAmb 07 30 01.1
comp=Z,95nm,1.3s
LHV Little Huntoon 81.36 44 IAmb IAmb 07 30 00.9
comp=Z,77nm,1.0s
P16K Nushagak River 81.43 11 P **P** **07 29 57.8 0.0**
baz=199,SNR=13
DANC Danby, Needles 81.45 48 IAmb IAmb 07 30 01.4
comp=Z,98nm,1.1s
RYN Ryan 81.57 43 IAmb IAmb 07 30 01.7
comp=Z,140nm,1.7s
NVAR Mina Array Bea 81.60 43 P **P** **07 30 00.7 +1.1**
comp=Z,33nm,0.8s,baz=224,slow=8.5,SNR=215
NVAR PKKPbc **PKKPbc** **07 48 29.6 +0.5**
comp=Z,1.4nm,0.7s,baz=80,slow=3.8,SNR=11
comp=Z,33nm,0.8s
PPI Padang Panjang 81.62 273 P **P** **07 30 04.2 +4.2**
Q18K Katmai Hardscr 81.62 12 P **P** **07 29 59.0 -0.1**
baz=202,SNR=40
M11K Mekoryuk 81.63 6 IAmb IAmb 07 30 01.2
comp=Z,135nm,1.1s
M11K Mekoryuk 81.63 6 P **P** **07 29 59.9 +1.1**
baz=192
PAHR Pah Rah Range 81.65 42 IAmb IAmb 07 30 02.1
comp=Z,99nm,1.2s
NV11 Mina Array Sit 81.69 44 IAmb IAmb 07 30 02.3
comp=Z,84nm,1.1s
I02E Swisshome, OR 81.71 36 IAmb IAmb 07 30 02.6
comp=Z,91nm,1.2s
N14K Kuskokwak Cree 81.72 8 P **P** **07 30 00.1 +0.8**
baz=196,SNR=27
GRNR Gornyy 81.72 333 ⇓ *i*P **P** **07 30 00.4 +0.8**
GRNR pmax pmax
comp=Z,40nm,1.1s
I03D Drain, OR 81.73 37 IAmb IAmb 07 30 02.4
comp=Z,138nm,1.3s
DL2 Dalian 81.79 317 P **P** **07 29 57.3 -2.9**
DL2 sP **sP** **07 32 52.3 +0.4**
DL2 *e*S **S** **07 39 25.0 -3.7**
DL2 pmax pmax
comp=Z,63nm,1.4s
DL2 pmax pmax
comp=Z,380nm,5.2s
P17K Kvichak River 81.86 11 P **P** **07 30 00.0 0.0**
baz=201,SNR=48
O16K Kokwok River B 81.94 10 IAmb IAmb 07 30 00.8
comp=Z,108nm,0.9s
O16K Kokwok River B 81.94 10 P **P** **07 29 59.9 -0.6**
baz=199,SNR=38
K04D Chiloquin, OR 81.97 39 IAmb IAmb 07 30 03.8
comp=Z,131nm,1.0s
M13K Dall Lake 81.97 7 IAmb IAmb 07 30 03.0
comp=Z,171nm,1.4s
M13K Dall Lake 81.97 7 P **P** **07 30 01.4 +0.8**
baz=194,SNR=5.5
TPH Tonopah 82.10 44 IAmb IAmb 07 30 04.3
comp=Z,92nm,1.0s
TPNV Topopah Spring 82.11 46 IAmb IAmb 07 30 04.5
comp=Z,65nm,1.0s
Q20K Shuyak Island 82.12 13 P **P** **07 30 01.8 +0.4**
baz=204
Q19K Cape Douglas, 82.15 13 P **P** **07 30 01.6 -0.1**
baz=203,SNR=6.9
N15K Kwethluk River 82.18 9 P **P** **07 30 02.5 +0.8**
baz=197,SNR=25
P18K Big Mountain, 82.27 12 IAmb IAmb 07 30 02.8
comp=Z,130nm,0.9s
P18K Big Mountain, 82.27 12 P **P** **07 30 01.8 -0.4**
baz=202,SNR=21
O17K Koliganek Bris 82.28 11 P **P** **07 30 02.0 -0.3**
baz=200,SNR=15
COR Corvallis 82.32 36 P **P** **07 30 04.2 +1.5**
COR IAmb IAmb 07 30 05.6
comp=Z,92nm,1.1s
COR Corvallis 82.32 36 P **P** **07 30 04.2 +1.5**
COR pmax pmax
comp=Z,92nm,1.1s
COR Corvallis 82.32 36 P **P** **07 30 04.3 +1.5**
CNSH ChangSha 82.34 304 P **P** **07 30 03.8 +0.5**
CNSH pmax pmax
comp=Z,37nm,1.3s
WHN Wuhan 82.40 307 P **P** **07 30 04.3 +0.8**
CN2 Changchun 82.41 323 ⇓ P **P** **07 30 03.8 +0.5**
CN2 pP pP 07 32 01.3 +1.5
CN2 S **SKSac** **07 39 35.8 +3.4**
CN2 pmax pmax
comp=Z,50nm,1.3s
CN2 pmax pmax
comp=Z,400nm,5.0s
M14K Bethel 82.48 8 P **P** **07 30 03.8 +0.6**
baz=195,SNR=25
Q09A Carvers 82.55 44 IAmb IAmb 07 30 06.5
comp=Z,117nm,0.9s
BNX BinXian 82.56 325 ⇓ P **P** **07 30 03.8 -0.2**

BNX pmax pmax
comp=Z,55nm,0.9s
H04D Lebanon 82.59 37 IAmb IAmb 07 30 06.8
comp=Z,118nm,1.0s
M15K Kasigluk River 82.60 9 P **P** **07 30 04.6 +0.8**
baz=197,SNR=46
N16K Nishlik Lake 82.67 10 P **P** **07 30 05.1 +0.9**
baz=198
G03D McMinnville, O 82.73 36 IAmb IAmb 07 30 07.5
comp=Z,168nm,1.3s
IPM Ipoh 82.81 278 P **P** **07 30 06.7 +0.7**
IPM IAmb IAmb 07 30 07.9
comp=Z,147nm,1.1s
WIFE Three Sisters- 82.82 37 IAmb IAmb 07 30 08.1
comp=Z,100nm,0.9s
MNSI Mandailing Nat 82.83 274 P **P** **07 30 05.4 -0.7**
S11A Rachel 82.83 45 IAmb IAmb 07 30 07.9
comp=Z,75nm,1.0s
P19K Oil Pt 82.90 13 IAmb IAmb 07 30 06.3
comp=Z,128nm,0.9s
P19K Oil Pt 82.90 13 P **P** **07 30 05.5 +0.1**
baz=204,SNR=7.8
L14K Kuka Creek 82.96 8 IAmb IAmb 07 30 07.4
comp=Z,131nm,1.0s
L14K Kuka Creek 82.96 8 P **P** **07 30 06.3 +0.8**
baz=195,SNR=39
N17K Nushagak Hills 82.98 10 P **P** **07 30 05.9 +0.2**
baz=200,SNR=9.9
H04A Detroit Lake 83.00 37 IAmb IAmb 07 30 08.3
comp=Z,119nm,1.2s
G04A Mulino 83.16 36 IAmb IAmb 07 30 10.4
comp=Z,121nm,0.9s
PRN Pahroc Range 83.16 46 IAmb IAmb 07 30 10.1
comp=Z,92nm,1.0s
M16K Timber Creek 83.17 9 P **P** **07 30 07.9 +1.3**
baz=198,SNR=39
O19K Port Alsworth 83.19 12 P **P** **07 30 06.6 -0.1**
baz=203,SNR=58
HOM Homer 83.24 13 P **P** **07 30 07.6 +0.6**
baz=205,SNR=9.5
I05D Terrebonne, OR 83.26 37 IAmb IAmb 07 30 10.1
comp=Z,95nm,0.9s
TIA Tai'an 83.29 313 P **P** **07 30 08.4 +0.5**
TIA pmax pmax
comp=Z,44nm,1.2s
K13K Kusilvak Mount 83.31 6 IAmb IAmb 07 30 09.3
comp=Z,116nm,1.0s
K13K Kusilvak Mount 83.31 6 P **P** **07 30 08.0 +0.7**
baz=193,SNR=19
N18K Kilae Creek 83.35 11 P **P** **07 30 07.5 -0.1**
baz=201,SNR=9.1
O20K Slope Mountain 83.42 13 P **P** **07 30 07.9 -0.1**
baz=204,SNR=13
L15K Ungalak Mounta 83.44 8 P **P** **07 30 08.3 +0.3**
baz=196,SNR=26
KULM Kulim 83.46 278 IAmb IAmb 07 30 11.4
comp=Z,80nm,1.1s
BRSE Bradley Lake S 83.51 14 P **P** **07 30 08.8 +0.4**
baz=206,SNR=16
TUC Tucson 83.54 52 P **P** **07 30 10.9 +1.6**
TUC IAmb IAmb 07 30 12.5
comp=Z,71nm,1.1s
TUC Tucson 83.54 52 P **P** **07 30 10.9 +1.6**
TUC pmax pmax
comp=Z,71nm,1.1s
HOOD Mount Hood Mea 83.69 36 IAmb IAmb 07 30 12.0
comp=Z,95nm,1.2s
WVOR Wild Horse Val 83.70 40 IAmb IAmb 07 30 12.4
comp=Z,71nm,1.1s
N19K Bonanza Creek 83.73 12 IAmb IAmb 07 30 10.0
comp=Z,70nm,0.9s
N19K Bonanza Creek 83.73 12 P **P** **07 30 08.8 -0.8**
baz=202,SNR=18
L16K Owhat River 83.75 9 IAmb IAmb 07 30 11.5
comp=Z,107nm,1.2s
L16K Owhat River 83.75 9 P **P** **07 30 10.2 +0.7**
baz=198,SNR=20
M17K Holitna River 83.76 10 P **P** **07 30 10.8 +1.2**
baz=200,SNR=24
NLWA Neilton Lookou 83.80 34 IAmb IAmb 07 30 12.8
comp=Z,86nm,1.1s
G05A Wamic 83.83 37 IAmb IAmb 07 30 27.0
comp=Z,53nm,1.1s
K15K Wolf Creek Mou 84.03 8 P **P** **07 30 11.9 +1.0**
baz=196,SNR=30
MA2 Magadan 84.10 345 *ce*P **P** **07 30 11.3 0.0**
MA2 pmax pmax
comp=Z,57nm,1.0s
MA2 Magadan 84.10 345 P **P** **07 30 09.1 -2.2**
X16A Lo Mia Camp, P 84.11 50 IAmb IAmb 07 30 15.1
comp=Z,51nm,1.1s
M18K Stony River 84.12 11 P **P** **07 30 11.8 +0.5**
baz=201,SNR=14
SEW Seward 84.12 14 IAmb IAmb 07 30 12.2
comp=Z,65nm,0.9s
SEW Seward 84.12 14 P **P** **07 30 11.1 -0.3**
baz=207,SNR=7.7
G06A Carlson Farm, 84.21 37 IAmb IAmb 07 30 14.5
comp=Z,60nm,1.1s
319A Douglas 84.21 53 IAmb IAmb 07 30 15.9
comp=Z,119nm,1.1s
J14K Nanvaranak Lak 84.22 7 P **P** **07 30 12.1 +0.3**
baz=194
Q23K Middleton Isla 84.28 16 P **P** **07 30 13.3 +1.2**
baz=210
L17K Donlin 84.32 9 P **P** **07 30 13.4 +1.1**
baz=199,SNR=14
J08A Circle Bar Ran 84.34 39 IAmb IAmb 07 30 15.5
comp=Z,80nm,1.1s
CAPN Captain Cook N 84.35 13 P **P** **07 30 12.7 +0.2**
baz=205
O22K Cooper Landing 84.40 14 P **P** **07 30 12.6 -0.1**
baz=207,SNR=10
B04A Port Angeles 84.42 33 IAmb IAmb 07 30 15.9
comp=Z,78nm,1.3s
GNW Green Mountain 84.46 34 IAmb IAmb 07 30 15.7
comp=Z,56nm,1.0s
KNB Kanab 84.47 47 IAmb IAmb 07 30 16.6
comp=Z,108nm,1.5s
LON Longmire 84.49 35 IAmb IAmb 07 30 15.7
comp=Z,83nm,1.7s
SPCR Spurr Chakacha 84.53 12 P **P** **07 30 12.6 -0.9**
baz=204,SNR=18
SPU Mount Spurr 84.54 12 IAmb IAmb 07 30 13.6
comp=Z,58nm,1.0s
GAMB Gambell 84.59 3 P **P** **07 30 13.9 +0.4**
baz=186
CLRS Cowichan Lake 84.59 33 IAmb IAmb 07 30 16.2
comp=Z,80nm,1.1s
L18K Granite Mounta 84.66 10 IAmb IAmb 07 30 15.9
comp=Z,69nm,0.9s
L18K Granite Mounta 84.66 10 P **P** **07 30 14.8 +0.8**
baz=200,SNR=26
CBB Campbell River 84.78 31 IAmb IAmb 07 30 17.3
comp=Z,108nm,1.3s
PGC Sidney 84.83 33 IAmb IAmb 07 30 17.3
comp=Z,71nm,1.1s
STLK Strandline Lak 84.87 12 IAmb IAmb 07 30 15.1
comp=Z,52nm,0.9s
K17K Iditarod 84.88 9 IAmb IAmb 07 30 16.8
comp=Z,84nm,1.4s
K17K Iditarod 84.88 9 P **P** **07 30 15.4 +0.3**
baz=199,SNR=11
GSI Gunungsitoli 84.88 273 P **P** **07 30 17.5 +1.3**
L19K White Mountain 84.93 11 IAmb IAmb 07 30 16.9
comp=Z,102nm,1.1s
L19K White Mountain 84.93 11 P **P** **07 30 15.5 +0.1**
baz=202,SNR=27
RC01 Rabbit Creek A 84.94 14 IAmb IAmb 07 30 16.4
comp=Z,126nm,1.1s
RC01 Rabbit Creek A 84.94 14 P **P** **07 30 15.2 -0.2**
baz=207,SNR=19
M20K Styx River 84.97 12 P **P** **07 30 14.8 -0.8**
baz=204,SNR=6.4
F07A Phinny Hill Vi 85.00 37 IAmb IAmb 07 30 18.4
comp=Z,59nm,1.1s
PWL Port Wells 85.05 14 P **P** **07 30 15.9 -0.1**
baz=208,SNR=19
SUA Susitna One 85.06 13 IAmb IAmb 07 30 16.8
comp=Z,93nm,0.8s
SUA Susitna One 85.06 13 P **P** **07 30 15.5 -0.6**
baz=206,SNR=30
HIN Hinchinbrook I 85.08 15 IAmb IAmb 07 30 17.1
comp=Z,113nm,1.2s
J16K Anvik River 85.10 8 IAmb IAmb 07 30 17.9
comp=Z,108nm,1.6s
J16K Anvik River 85.10 8 P **P** **07 30 16.6 +0.5**
baz=197

G08A Pilot Rock 85.19 38 IAmb IAmb 07 30 19.5
comp=Z,97nm,1.1s
KAIM Kayak Island 85.21 16 P **P** **07 30 17.4 +0.7**
baz=212
MXC Moxie City 85.21 36 IAmb IAmb 07 30 19.4
comp=Z,50nm,1.0s
CRAG Craig 85.26 24 P **P** **07 30 18.0 +1.0**
baz=222
GLI Glacier Island 85.36 15 P **P** **07 30 17.1 -0.3**
baz=209,SNR=19
SKT Skwentna 85.37 12 P **P** **07 30 16.3 -1.1**
baz=205,SNR=16
L20K Farewell, AK 85.38 11 P **P** **07 30 17.4 -0.2**
baz=203,SNR=19
EYAK Cordova Ski Ar 85.40 16 IAmb IAmb 07 30 18.9
comp=Z,111nm,1.2s
EYAK Cordova Ski Ar 85.40 16 P **P** **07 30 17.6 0.0**
EYAK Cordova Ski Ar 85.40 16 P **P** **07 30 17.5 -0.1**
baz=210,SNR=8.9
J17K VABM Dome 85.41 9 P **P** **07 30 18.0 +0.4**
baz=198,SNR=11
LTY Liberty 85.42 35 IAmb IAmb 07 30 20.1
comp=Z,49nm,1.1s
E07A Sunnyside 85.44 36 IAmb IAmb 07 30 20.7
comp=Z,96nm,1.0s
M22K Willow 85.46 13 P **P** **07 30 17.6 -0.2**
baz=206,SNR=34
HEH HeiHe 85.48 329 ⇓*i*P **P** **07 30 18.6 +0.4**
HEH S **S** **07 40 06.5 +2.1**
HEH sS **sS** **07 43 34.0 -0.5**
HEH pmax pmax
comp=Z,64nm,1.2s
KCSI Kotacane, Aceh 85.49 275 P **P** **07 30 18.9 -0.3**
KNK Knik Glacier 85.52 14 IAmb IAmb 07 30 19.2
comp=Z,90nm,0.9s
KNK Knik Glacier 85.52 14 P **P** **07 30 18.3 +0.1**
baz=208,SNR=25
HAWA Hanford 85.52 36 IAmb IAmb 07 30 21.0
comp=Z,103nm,1.1s
PMR Palmer 85.53 14 P **P** **07 30 17.9 -0.3**
PMR Palmer 85.53 14 P **P** **07 30 18.1 -0.1**
baz=207,SNR=23
HNS HongShan 85.56 313 ⇓P **P** **07 30 19.8 +0.9**
HNS sP **sP** **07 33 14.6 +4.2**
HNS S **S** **07 40 09.8 +4.1**
HNS pmax pmax
comp=Z,48nm,1.2s
SIT Sitka 85.67 22 P **P** **07 30 19.1 +0.1**
baz=220
I17K Unalakleet 85.67 8 P **P** **07 30 19.1 +0.4**
baz=196
W18A Petrified Fore 85.68 50 IAmb IAmb 07 30 22.2
comp=Z,52nm,1.3s
LYN LuoYang 85.74 309 P **P** **07 30 20.9 +1.0**
LYN pP pP 07 32 14.0 -2.8
LYN S **S** **07 40 13.0 +5.5**
LYN pmax pmax
comp=Z,100nm,1.0s
LYN pmax pmax
comp=Z,580nm,4.0s
V35K Ketchikan 85.74 25 IAmb IAmb 07 30 21.7
comp=Z,78nm,1.1s
V35K Ketchikan 85.74 25 P **P** **07 30 20.2 +0.9**
baz=223
U33K Whale Pass 85.75 24 IAmb IAmb 07 30 21.7
comp=Z,99nm,1.1s
U33K Whale Pass 85.75 24 P **P** **07 30 20.5 +1.1**
baz=222
ANM Nome 85.82 6 P **P** **07 30 19.3 -0.3**
baz=192
J18K Innoko River 85.83 10 IAmb IAmb 07 30 21.1
comp=Z,96nm,1.2s
J18K Innoko River 85.83 10 P **P** **07 30 19.5 -0.1**
baz=200,SNR=39
E08A Dider Farm, El 85.84 37 IAmb IAmb 07 30 22.4
comp=Z,68nm,1.0s
121A Cookes Peak, D 85.87 53 IAmb IAmb 07 30 23.9
comp=Z,47nm,1.1s
BJI Beijing 85.94 316 P **P** **07 30 21.1 +0.4**
BJI SKS **SKSac** **07 39 52.0 -2.7**
MFID Camas Ranch 85.96 40 IAmb IAmb 07 30 23.1
comp=Z,51nm,1.1s
ENH Enshi 85.97 304 P **P** **07 30 21.7 +0.6**
CUT Chulitna 86.01 13 P **P** **07 30 20.2 -0.3**
baz=206,SNR=28
M23K Glacier View 86.02 14 P **P** **07 30 20.4 -0.1**
baz=208,SNR=12
BMRM Bremner River 86.05 16 P **P** **07 30 20.7 -0.1**
baz=211,SNR=12
S31K Pelican 86.06 21 P **P** **07 30 20.3 -0.5**
baz=219
PPLA Purkeypile 86.08 12 IAmb IAmb 07 30 21.2
comp=Z,63nm,1.5s
PPLA Purkeypile 86.08 12 P **P** **07 30 20.6 -0.4**
baz=204,SNR=6.3
MESA MESA 86.09 17 P **P** **07 30 21.5 +0.3**
baz=214,SNR=6.6
SCM Sheep Creek Mo 86.14 14 P **P** **07 30 21.5 +0.2**
baz=209,SNR=24
K20K Telida 86.16 11 P **P** **07 30 21.1 -0.1**
baz=203,SNR=33
KLU Klutina 86.18 15 IAmb IAmb 07 30 22.7
comp=Z,84nm,1.2s
KLU Klutina 86.18 15 P **P** **07 30 21.4 0.0**
baz=210,SNR=11
H16K Elim 86.21 7 P **P** **07 30 21.6 +0.3**
baz=195,SNR=7.7
SYO Syowa Base 86.22 193 ⇓*i*P **P** **07 30 21.6 0.0**
SYO Syowa Base 86.22 193 ⇓*e*PcP **PcP** **07 30 23.6 +0.3**
D08A Wollman Farm, 86.25 36 IAmb IAmb 07 30 24.4
comp=Z,76nm,0.9s
CRQE Cirque 86.26 17 P **P** **07 30 22.1 +0.2**
baz=213,SNR=9.5
WRAK Wrangell Islan 86.26 24 IAmb IAmb 07 30 24.0
comp=Z,89nm,1.1s
WRAK Wrangell Islan 86.26 24 P **P** **07 30 22.7 +0.9**
baz=222,SNR=5.2
HMU Henry Mountain 86.36 47 IAmb IAmb 07 30 25.1
comp=Z,66nm,1.5s
G15K Niukluk 86.36 6 P **P** **07 30 22.1 0.0**
baz=193,SNR=14
PNL Peninsula 86.41 19 P **P** **07 30 21.7 -0.8**
PNL Peninsula 86.41 19 P **P** **07 30 23.0 +0.5**
baz=216,SNR=7.2
EPT El Paso 86.48 54 IAmb IAmb 07 30 26.4
comp=Z,93nm,1.3s
J19K Poorman 86.50 10 IAmb IAmb 07 30 24.4
comp=Z,98nm,1.6s
J19K Poorman 86.50 10 P **P** **07 30 23.2 +0.5**
baz=201,SNR=19
PCA Pinnacle 86.50 18 IAmb IAmb 07 30 24.4
comp=Z,66nm,1.0s
PINM Pinnacle 86.50 18 P **P** **07 30 22.8 -0.2**
baz=215
GYA Guiyang 86.54 300 ⇓P **P** **07 30 24.9 +0.9**
GYA pmax pmax
comp=Z,37nm,1.0s
R31K City Hall, Gus 86.57 21 P **P** **07 30 23.0 -0.2**
baz=219
TNA Tin City 86.59 4 P **P** **07 30 23.2 0.0**
baz=190
N25K Chitina, Valde 86.60 15 P **P** **07 30 23.6 +0.2**
baz=211,SNR=21
GRNC Granite Creek 86.61 17 IAmb IAmb 07 30 25.2
comp=Z,94nm,1.0s
F14K Arctic Creek 86.63 5 P **P** **07 30 23.5 +0.1**
baz=191,SNR=6.1
M24K Tolsona, Glenn 86.65 15 P **P** **07 30 24.1 +0.4**
baz=210,SNR=10.0
WAT6 Susitna Watana 86.71 14 P **P** **07 30 23.9 -0.1**
baz=208,SNR=30
TMUT Trail Mountain 86.73 46 IAmb IAmb 07 30 27.5
comp=Z,48nm,1.0s
WAT1 Susitna Watana 86.75 13 P **P** **07 30 23.8 -0.3**
baz=208
H17K Granite Mounta 86.77 8 IAmb IAmb 07 30 25.1
comp=Z,48nm,1.3s
H17K Granite Mounta 86.77 8 P **P** **07 30 23.7 -0.3**
baz=197,SNR=11
B08A Colville Reser 86.80 35 IAmb IAmb 07 30 26.2
comp=Z,65nm,0.9s
MCARA McCarthy VSAT 86.81 16 P **P** **07 30 24.7 +0.4**
baz=213,SNR=12
LLLB Lillooet 86.86 32 IAmb IAmb 07 30 26.8
comp=Z,38nm,0.8s
R32K Eaglecrest 86.88 22 P **P** **07 30 25.2 +0.5**
baz=220

P29M Windy Craggy 86.88 19 IAmb IAmb 07 30 26.9
comp=Z,98nm,1.2s
P29M Windy Craggy 86.88 19 P **P** **07 30 25.7 +0.9**
baz=218,SNR=8.4
HLID Hailey 86.90 41 IAmb IAmb 07 30 27.9
comp=Z,50nm,1.1s
J20K Nowinta River 86.91 10 P **P** **07 30 24.8 +0.1**
baz=203,SNR=28
CTG Chitna Glacier 86.91 17 P **P** **07 30 25.4 +0.4**
baz=214,SNR=14
CTGM Chitina Glacie 86.92 17 IAmb IAmb 07 30 26.5
comp=Z,95nm,1.0s
KTH Kantishna Hill 86.92 12 IAmb IAmb 07 30 24.9
comp=Z,78nm,0.9s
G16K Koyuk River 86.93 7 P **P** **07 30 24.9 +0.2**
baz=195,SNR=7.9
TRF Thorofare Moun 86.95 12 P **P** **07 30 24.4 -0.7**
baz=206,SNR=58
CHUM Lake Minchumin 86.96 11 P **P** **07 30 24.1 -0.8**
baz=204,SNR=24
BESE Bessie Mountai 87.00 21 IAmb IAmb 07 30 27.5
comp=Z,69nm,1.1s
F15K North Star Dit 87.00 6 P **P** **07 30 24.9 -0.2**
baz=193
GCSA Galena City Sc 87.01 9 P **P** **07 30 25.4 +0.3**
baz=200,SNR=8.5
MLSI Meulaboh, Aceh 87.03 276 P **P** **07 30 27.9 +1.4**
O28M Mount Upton 87.08 18 IAmb IAmb 07 30 27.5
comp=Z,85nm,0.9s
O28M Mount Upton 87.08 18 P **P** **07 30 26.3 +0.3**
baz=215,SNR=20
SRU San Rafael Swe 87.09 46 IAmb IAmb 07 30 28.5
comp=Z,48nm,1.0s
Y22A Socorro 87.13 52 IAmb IAmb 07 30 29.2
comp=Z,47nm,1.3s
HARP HAARP 87.14 15 P **P** **07 30 26.4 +0.5**
baz=211,SNR=6.1
O29M Mount Kennedy 87.17 19 IAmb IAmb 07 30 28.1
comp=Z,82nm,1.2s
O29M Mount Kennedy 87.17 19 P **P** **07 30 26.8 +0.6**
baz=217,SNR=9.7
PLBC Pleasant Camp 87.18 20 P **P** **07 30 27.2 +1.1**
baz=219,SNR=7.3
H18K Honhosa River 87.18 8 P **P** **07 30 25.4 -0.6**
baz=199
VHRN Van Horn 87.21 56 IAmb IAmb 07 30 29.9
comp=Z,66nm,1.1s
DHY Denali Highway 87.22 14 IAmb IAmb 07 30 27.4
comp=Z,80nm,1.4s
DHY Denali Highway 87.22 14 P **P** **07 30 26.1 -0.3**
baz=209,SNR=12
G17K Kiwalik Mounta 87.23 7 P **P** **07 30 26.0 -0.1**
baz=197,SNR=13
Y22D IRIS PASSCAL I 87.23 52 IAmb IAmb 07 30 30.0
comp=Z,54nm,1.2s
Y22D IRIS PASSCAL I 87.23 52 P **P** **07 30 27.2 +0.1**
baz=242
TIY Taiyuan 87.29 312 *e*P **P** **07 30 27.9 +0.7**
TIY pmax pmax
comp=Z,220nm,3.5s
TROLL Troll, Antarti 87.30 180 ⇓P **P** **07 30 26.4 -0.4**
comp=Z,579nm,0.8s
TROLL ⇑pP **pwP** **07 32 28.1 +0.6**
comp=Z,706nm,0.8s
TROLL ⇓SKSac **SKSac** **07 40 02.2 -0.3**
MNTX Cornudas Mount 87.31 55 IAmb IAmb 07 30 30.1
comp=Z,63nm,1.1s
BPAW Bear Paw Mtn. 87.40 12 IAmb IAmb 07 30 26.9
comp=Z,151nm,2.0s
BPAW Bear Paw Mtn. 87.40 12 P **P** **07 30 25.8 -1.3**
baz=206,SNR=11
I20K Naaghedeneel 87.43 10 P **P** **07 30 27.4 +0.3**
baz=202,SNR=18
T35M Bob Quinn 87.47 24 P **P** **07 30 28.7 +1.2**
baz=224
MCK McKinley 87.47 13 P **P** **07 30 27.1 -0.3**
baz=207,SNR=51
P30M Million Dollar 87.51 19 P **P** **07 30 28.6 +0.9**
baz=218,SNR=18
SKAG Skagway 87.52 20 IAmb IAmb 07 30 30.3
comp=Z,109nm,1.4s
SKAG Skagway 87.52 20 P **P** **07 30 29.0 +1.4**
baz=220,SNR=7.2
P18A Preston Nutter 87.54 46 IAmb IAmb 07 30 30.9
comp=Z,47nm,1.4s
PAX Paxson 87.56 14 IAmb IAmb 07 30 28.7
comp=Z,41nm,1.1s
PAX Paxson 87.56 14 P **P** **07 30 27.4 -0.5**
baz=210,SNR=14
SNAA Sanae 87.59 179 ⇓P **P** **07 30 27.9 -0.1**
comp=Z,119nm,0.9s
SNAA ⇓pP **pP** **07 32 26.2 +0.1**
comp=Z,152nm,1.0s
SNAA ⇑SKSac **SKSac** **07 40 01.7 -2.4**
SNAA Sanae 87.59 179 P **P** **07 30 28.2 +0.1**
SNAA IAmb IAmb 07 32 32.4
comp=Z,58nm,1.6s
SNAA Sanae 87.59 179 P **P** **07 30 28.0 -0.1**
comp=Z,3.2nm,0.6s,baz=216,slow=5.2,SNR=13
SNAA S **SKSac** **07 40 03.7 -0.4**
comp=Z,3.3nm,0.9s,baz=205,slow=20,SNR=21
comp=Z,3.2nm,0.6s
SNAA Sanae 87.59 179 *ce*P **P** **07 30 28.8 +0.7**
SNAA pmax pmax
comp=Z,8.0nm,1.0s
TX31 Lajitas Ar. Si 87.60 57 IAmb IAmb 07 30 31.9
comp=Z,60nm,1.1s
TXAR Lajitas Array 87.61 57 P **P** **07 30 30.5 +1.6**
comp=Z,29nm,1.0s,baz=219,slow=4.7,SNR=196
TXAR PKKPbc **PKKPbc** **07 48 14.2 -0.1**
comp=Z,1.6nm,0.7s,baz=123,slow=1.1,SNR=19
TXAR PKPPKP **P'P'df** **07 56 16.6 -4.7**
comp=Z,0.9nm,1.1s,baz=159,slow=3.9,SNR=4.0
comp=Z,29nm,1.0s
YUK8 Steele Glacier 87.61 18 P **P** **07 30 29.2 +0.8**
baz=216,SNR=32
BSUT Blindstream Ca 87.65 45 IAmb IAmb 07 30 31.6
comp=Z,95nm,1.5s
M26K Nabesna, AK 87.68 16 IAmb IAmb 07 30 30.0
comp=Z,79nm,1.0s
M26K Nabesna, AK 87.68 16 P **P** **07 30 28.8 +0.4**
baz=213,SNR=36
VNA3 Neumayer Olymp 87.73 176 ⇓P **P** **07 30 28.7 0.0**
comp=Z,39nm,0.7s
VNA3 ⇓pP **pP** **07 32 26.8 +0.3**
comp=Z,30nm,0.8s
VNA3 ⇑SKSac **SKSac** **07 40 03.7 -1.2**
YUK6 Outpost Mounta 87.74 18 P **P** **07 30 29.7 +0.7**
baz=217,SNR=8.2
PV19 Morning Glory 87.75 47 IAmb IAmb 07 30 31.4
comp=Z,77nm,1.3s
PV18 Skein Mesa, Pa 87.77 48 IAmb IAmb 07 30 31.5
comp=Z,48nm,1.1s
PV20 West Nyswonger 87.78 47 IAmb IAmb 07 30 31.5
comp=Z,45nm,1.0s
PV23 Carpenter Ridg 87.80 47 IAmb IAmb 07 30 31.8
comp=Z,50nm,0.9s
H19K Roundabout Mou 87.81 9 P **P** **07 30 29.2 +0.3**
baz=200,SNR=19
S34M Telegraph Cree 87.81 23 P **P** **07 30 29.4 +0.3**
baz=223,SNR=15
PV11 David Mesa, Pa 87.82 48 IAmb IAmb 07 30 31.9
comp=Z,50nm,1.3s
ZEA Zeya 87.83 331 *e*P **P** **07 30 29.9 +0.7**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,1.1s
G18K Tagagawik 87.85 8 IAmb IAmb 07 30 29.9
comp=Z,38nm,1.1s
G18K Tagagawik 87.85 8 P **P** **07 30 28.6 -0.5**
baz=198,SNR=13
PV02 Paradox Valley 87.87 48 IAmb IAmb 07 30 32.0
comp=Z,80nm,1.4s
PV21 Cone Mtn., Par 87.88 47 IAmb IAmb 07 30 32.2
comp=Z,151nm,2.0s
HYT Haines Junctio 87.90 19 IAmb IAmb 07 30 31.5
comp=Z,56nm,1.0s
HYT Haines Junctio 87.90 19 P **P** **07 30 30.2 +0.6**
baz=218,SNR=12
M27K Edge Creek, AK 87.93 16 P **P** **07 30 30.3 +0.6**
baz=214,SNR=52
NEW Newport 87.94 36 IAmb IAmb 07 30 31.6
comp=Z,31nm,1.0s
MENT Mentasta 87.95 15 IAmb IAmb 07 30 31.2
comp=Z,52nm,0.9s
ANMO Albuquerque 87.97 51 P **P** **07 30 31.3 +0.6**
ANMO IAmb IAmb 07 30 32.8

comp=Z,42nm,1.1s
ANMO Albuquerque 87.97 51 P P 07 30 31.3 +0.6
ANMO pmax pmax
comp=Z,42nm,1.2s
ANMO Albuquerque 87.97 51 P P 07 30 31.2 +0.6
YUK4 Talbot Arm 87.98 18 P P 07 30 30.9 +0.8
baz=217,SNR=11
H20K Anotleneega Mo 88.01 10 P P 07 30 30.3 +0.4
baz=202,SNR=13
XLT XiLinHaoTe 88.02 319 *e*P P **07 30 30.5 0.0**
XLT pmax pmax
comp=Z,25nm,1.1s
XLT pmax pmax
comp=Z,82nm,4.9s
F17K Baldwin Pennin 88.06 7 IAmb IAmb 07 30 31.2
comp=Z,51nm,0.9s
F17K Baldwin Pennin 88.06 7 P P **07 30 30.1 +0.1**
baz=196,SNR=9.2
ALPN Alpine 88.07 57 IAmb IAmb 07 30 33.6
comp=Z,67nm,1.2s
XAN Xi'an 88.10 308 ⇓P P **07 30 31.9 +0.8**
XAN pmax pmax
comp=Z,88nm,1.4s
L26K Log Cabin Wild 88.12 15 IAmb IAmb 07 30 31.9
comp=Z,47nm,1.1s
L26K Log Cabin Wild 88.12 15 P P **07 30 30.9 +0.5**
baz=212,SNR=34
P32M Atlin 88.15 21 IAmb IAmb 07 30 32.8
comp=Z,54nm,1.1s
P32M Atlin 88.15 21 P P **07 30 31.6 +0.9**
baz=221,SNR=7.2
Q32M Nakina River 88.17 22 IAmb IAmb 07 30 33.3
comp=Z,53nm,1.1s
Q32M Nakina River 88.17 22 P P **07 30 32.0 +1.0**
baz=222,SNR=6.8
VNA2 Neumayer--Watz 88.17 177 ⇓P P **07 30 30.9 +0.2**
comp=Z,18nm,0.6s,baz=181,slow=3.5
VNA2 ⇓SKSac **SKSac 07 40 07.1 -0.3**
baz=341,slow=8.8
K24K Donnelly Dome 88.22 14 P P **07 30 31.3 +0.4**
baz=210,SNR=42
NEA2 Nenana 88.22 12 IAmb IAmb 07 30 30.8
comp=Z,35nm,0.8s
NEA2 Nenana 88.22 12 P P **07 30 29.6 -1.2**
baz=207,SNR=26
MLY Manley 88.29 11 IAmb IAmb 07 30 31.4
comp=Z,72nm,1.1s
MLY Manley 88.29 11 P P **07 30 30.5 -0.8**
baz=206
O30N Mendenhall 88.29 19 IAmb IAmb 07 30 33.2
comp=Z,56nm,1.0s
O30N Mendenhall 88.29 19 P P **07 30 32.2 +0.9**
baz=219,SNR=21
G19K Purcell Mounta 88.30 9 P P **07 30 31.5 +0.3**
baz=200,SNR=6.5
PECS Pecos 88.33 56 IAmb IAmb 07 30 34.4
comp=Z,38nm,1.2s
RIDG Independent Ri 88.37 14 P P **07 30 31.6 0.0**
baz=211,SNR=27
F18K Selawik 88.40 7 P P **07 30 31.2 -0.4**
baz=198,SNR=8.9
VNA1 Neumayer--Stat 88.40 177 ⇓P P **07 30 31.7 -0.1**
comp=Z,45nm,1.0s
VNA1 ⇓pP **pP 07 32 31.1 +1.3**
comp=Z,26nm,1.0s
HDA Harding Lake 88.49 13 P P **07 30 31.8 -0.3**
baz=209,SNR=56
H21K Melozitna Rive 88.50 10 P P **07 30 32.2 +0.1**
baz=204,SNR=14
L27K Beaver Creek, 88.53 16 IAmb IAmb 07 30 33.9
comp=Z,56nm,1.1s
L27K Beaver Creek, 88.53 16 P P **07 30 32.7 +0.3**
baz=214,SNR=32
N30M Aishikik Lake 88.53 18 P P **07 30 32.5 0.0**
baz=218,SNR=7.9
BCAR Beaver Creek A 88.54 16 P P **07 30 32.8 +0.3**
WHY Whitehorse 88.58 20 P P **07 30 33.3 +0.5**
baz=220,SNR=13
DLBC Dease Lake 88.59 23 P P **07 30 33.5 +0.6**
baz=224,SNR=8.8
E17K Hotham Inlet 88.62 6 P P **07 30 32.8 +0.1**
baz=195,SNR=16
COLA College 88.71 13 P P **07 30 32.5 -0.6**
COLA College 88.71 13 P P **07 30 32.5 -0.6**
baz=208
COLA College 88.71 13 P P **07 30 32.2 -0.8**
SCRK Sand Creek 88.77 14 IAmb IAmb 07 30 34.9
comp=Z,44nm,1.0s
SCRK Sand Creek 88.77 14 P P **07 30 33.8 +0.2**
baz=212,SNR=29
ILAR Eielson Array 88.82 13 P P **07 30 33.1 -0.5**
ILAR Eielson Array 88.82 13 P P **07 30 32.9 -0.7**
comp=Z,43nm,0.9s,baz=228,slow=5.3,SNR=164
ILAR PP **PP 07 34 13.0 -0.2**
comp=Z,1.2nm,0.9s,baz=220,slow=6.9,SNR=4.1
ILAR PKiKP **PKiKP 07 35 28.5 -0.7**
comp=Z,0.4nm,0.3s,baz=270,slow=3.0,SNR=4.5
ILAR PKKP **PKKPdf 07 48 09.6 +1.8**
comp=Z,0.4nm,0.6s,baz=19,slow=1.6,SNR=4.6
comp=Z,43nm,0.9s
F19K Shaleruckik Mo 88.86 8 P P **07 30 34.0 +0.3**
baz=199,SNR=9.2
P33M Teslin, Yukon 88.92 21 IAmb IAmb 07 30 36.0
comp=Z,28nm,1.0s
P33M Teslin, Yukon 88.92 21 P P **07 30 34.9 +0.6**
baz=222,SNR=11
M29M Somme Creek 88.92 17 P P **07 30 35.0 +0.7**
baz=217,SNR=50
N31M Braeburn, Yuko 88.94 19 P P **07 30 35.1 +0.8**
baz=219,SNR=16
R33M Jennings River 88.95 22 IAmb IAmb 07 30 36.9
comp=Z,86nm,1.3s
R33M Jennings River 88.95 22 P P **07 30 35.4 +0.8**
baz=224,SNR=17
H22K Ishtalitna Cre 88.96 11 P P **07 30 34.3 0.0**
baz=205,SNR=50
J25K Salcha River, 89.01 14 IAmb IAmb 07 30 35.5
comp=Z,59nm,1.0s
J25K Salcha River, 89.01 14 P P **07 30 34.4 -0.2**
baz=211,SNR=41
TPAW Teton Pass 89.01 42 IAmb IAmb 07 30 37.7
comp=Z,60nm,1.1s
POKR Poker Plat Res 89.01 13 P P **07 30 33.7 -0.8**
baz=209,SNR=15
E18K Tukpahlearik C 89.08 7 IAmb IAmb 07 30 36.1
comp=Z,61nm,0.9s
E18K Tukpahlearik C 89.08 7 P P **07 30 35.0 +0.2**
baz=197,SNR=19
SAND Sanderson 89.08 57 IAmb IAmb 07 30 37.7
comp=Z,27nm,1.0s
D17K Noatak River 89.09 6 P P **07 30 35.2 +0.4**
baz=194,SNR=9.7
G21K Allakaket 89.17 10 P P **07 30 35.5 +0.2**
baz=203
KMI Kunming 89.21 297 P P **07 30 38.3 +1.6**
KMI pmax pmax
comp=Z,43nm,0.9s
PLCA Paso Flores 89.25 134 P P **07 30 38.1 +1.6**
comp=Z,1.6nm,0.7s,baz=315,slow=4.2,SNR=4.2
PLCA PKKPbc **PKKPbc 07 48 09.6 -0.9**
comp=Z,2.5nm,0.8s,baz=90,slow=3.0,SNR=8.0
comp=Z,1.6nm,0.7s
K27K Chicken 89.27 15 P P **07 30 36.5 +0.7**
baz=214
LOHW Long Hollow 89.29 42 IAmb IAmb 07 30 38.7
comp=Z,84nm,1.4s
J26L Joseph Creek 89.32 14 P P **07 30 36.9 +0.8**
baz=212,SNR=94
F20K Avaraart Lake 89.34 9 P P **07 30 36.3 +0.3**
baz=201,SNR=6.7
HHC Hu-ho-hao-te 89.39 315 *e*P P **07 30 38.0 +1.0**
HHC *e*S **S 07 40 40.8 -0.6**
HHC pmax pmax
comp=Z,42nm,0.7s
HHC pmax pmax
comp=Z,170nm,5.4s
BILL Bilibino 89.43 354 *ce*P P **07 30 36.7 +0.3**
BILL pmax pmax
comp=Z,33nm,0.8s
RDOG Red Dog Mine 89.46 6 IAmb IAmb 07 30 38.0
comp=Z,36nm,0.9s
RDOG Red Dog Mine 89.46 6 P P **07 30 36.7 +0.2**
baz=194
C16K Lisburne Hills 89.46 5 P P **07 30 36.1 -0.4**
baz=192
YPP Pitchstone Pla 89.49 42 IAmb IAmb 07 30 40.5
comp=Z,42nm,1.6s
YHB Horse Butte 89.49 41 IAmb IAmb 07 30 40.4
comp=Z,62nm,1.1s
M30M Minto, Yukon 89.50 18 P P **07 30 37.3 +0.4**
baz=218,SNR=48
E19K Redstone River 89.52 8 P P **07 30 37.3 +0.4**
baz=200
N32M Quiet Lake 89.53 20 P P **07 30 37.8 +0.7**
baz=222
BW06 Boulder Array 89.53 43 IAmb IAmb 07 30 39.3
comp=Z,45nm,0.9s
PD31 Pinedale Array 89.53 43 IAmb IAmb 07 30 39.3
comp=Z,44nm,0.9s
PDAR Pinedale Array 89.53 43 P P **07 30 38.5 +0.7**
PDAR Pinedale Array 89.53 43 P P **07 30 38.2 +0.4**
comp=Z,37nm,0.9s,baz=212,slow=2.9,SNR=223
PDAR PKKPbc **PKKPbc 07 48 08.2 -2.2**
comp=Z,1.7nm,0.8s,baz=94,slow=4.4,SNR=11
PDAR PKPPKP **P'P'df 07 56 17.9 +1.0**
comp=Z,0.9nm,1.0s,baz=72,slow=4.8,SNR=5.4
comp=Z,37nm,0.9s
L29M L29M 89.54 17 P P **07 30 37.6 +0.5**
baz=217,SNR=67
H24K Noodor Dome 89.56 12 P P **07 30 35.5 -1.6**
baz=208,SNR=8.7
ODSA Odessa 89.66 55 IAmb IAmb 07 30 40.3
comp=Z,51nm,1.0s
BOZ Bozeman (W) 89.66 40 IAmb IAmb 07 30 40.6
comp=Z,48nm,1.0s
H17A Grant Village 89.70 42 IAmb IAmb 07 30 41.9
comp=Z,42nm,0.9s
YNM Yellowstone No 89.78 41 IAmb IAmb 07 30 42.9
comp=Z,60nm,1.0s
YNR Norris Junctio 89.79 41 IAmb IAmb 07 30 43.1
comp=Z,41nm,1.3s
F21K Alatna River 89.83 9 P P **07 30 38.1 -0.2**
baz=203
C17K DeLong Mountai 89.84 6 P P **07 30 38.3 0.0**
baz=194,SNR=5.6
G22K Bettles 89.87 10 P P **07 30 38.7 +0.2**
baz=205
LKWY Lake 89.89 42 IAmb IAmb 07 30 43.0
comp=Z,44nm,1.0s
CMAR Chiang Mai Arr 89.91 290 P P **07 30 40.9 +1.1**
comp=Z,16nm,0.3s,baz=118,slow=3.5,SNR=6.2
comp=Z,16nm,0.3s
M31M Drury Creek, Y 89.92 19 IAmb IAmb 07 30 40.0
comp=Z,27nm,1.0s
M31M Drury Creek, Y 89.92 19 P P **07 30 38.8 0.0**
baz=220,SNR=11
G23K Bananza Creek 89.94 11 P P **07 30 37.4 -1.4**
baz=206,SNR=18
HAYD Hayden 89.97 46 IAmb IAmb 07 30 42.0
comp=Z,30nm,1.0s
DAWY Dawson 89.98 16 P P **07 30 39.5 +0.4**
baz=216,SNR=49
CHTO Chiang Mai 90.04 290 P P **07 30 41.3 +0.9**
CHTO IAmb IAmb 07 30 42.9
comp=Z,70nm,1.2s
CHTO Chiang Mai 90.04 290 P P **07 30 41.3 +0.9**
CHTO pmax pmax
comp=Z,70nm,1.2s
DRIO Del Rio 90.06 59 IAmb IAmb 07 30 42.2
comp=Z,52nm,0.9s
EGAK Eagle 90.12 15 P P **07 30 39.8 +0.1**
baz=214,SNR=46
C18K Utukok River 90.20 6 IAmb IAmb 07 30 41.0
comp=Z,48nm,1.1s
C18K Utukok River 90.20 6 P P **07 30 39.9 -0.1**
baz=196,SNR=7.2
WTLY Watson Lake, Y 90.23 22 IAmb IAmb 07 30 42.2
comp=Z,47nm,1.1s
K29M Barlow Dome 90.30 17 P P **07 30 41.2 +0.6**
baz=218,SNR=40
F22K John River 90.30 10 P P **07 30 39.9 -0.6**
baz=204
BTO Baotou 90.31 314 *e*P P **07 30 42.9 +1.6**
BTO pP **pwP 07 32 42.8 -0.7**
BTO sP **sP 07 33 35.8 +2.1**
BTO pmax pmax
comp=Z,65nm,1.1s
BTO pmax pmax
comp=Z,460nm,5.5s
H25L Birch Creek 90.34 13 P P **07 30 39.9 -0.7**
baz=210,SNR=7.3
YNE Yellowstone No 90.35 41 IAmb IAmb 07 30 44.2
comp=Z,47nm,1.1s
COLD Coldfoot 90.37 11 P P **07 30 41.0 +0.2**
baz=206,SNR=8.0
D19K Kuna River 90.39 7 P P **07 30 40.8 -0.1**
baz=199
G24K Hadweenzic Riv 90.39 12 P P **07 30 40.3 -0.6**
baz=209,SNR=8.4
T25A Trinidad 90.43 50 IAmb IAmb 07 30 43.7
comp=Z,26nm,1.1s
MAYO Mayo, Yukon 90.55 18 P P **07 30 42.6 +0.9**
baz=219,SNR=5.3
PZH PanZhiHua 90.58 298 P P **07 30 44.1 +1.2**
PZH pmax pmax
comp=Z,50nm,1.1s
J29N Klondike Camp 90.59 16 P P **07 30 42.8 +0.8**
baz=217,SNR=6.2
833A Chaparral WMA, 90.60 60 IAmb IAmb 07 30 44.8
comp=Z,51nm,1.2s
TOAD Toad River Com 90.69 25 P P **07 30 43.3 +0.8**
baz=228,SNR=34
I27K Kandik River 90.70 14 P P **07 30 42.6 +0.2**
baz=214,SNR=17
G25K Bearman Lake 90.72 12 P P **07 30 42.3 0.0**
baz=210,SNR=9.3
LIRD Liard River Hi 90.74 24 P P **07 30 43.3 +0.6**
baz=228,SNR=12
D20K Ettrivluk River 90.78 8 P P **07 30 42.9 +0.2**
baz=200
C19K Lookout Ridge 90.81 7 P P **07 30 43.1 +0.3**
baz=198,SNR=16
B18K Kokolik River 90.83 6 P P **07 30 43.3 +0.4**
baz=196,SNR=7.1
POST Post 90.86 55 IAmb IAmb 07 30 45.2
comp=Z,32nm,0.9s
RLMT Red Lodge 90.87 41 IAmb IAmb 07 30 46.2
comp=Z,30nm,1.1s
E21K Killik River 90.89 9 P P **07 30 43.1 -0.1**
baz=203
E22K Anaktuvuk Pass 90.93 10 P P **07 30 43.9 +0.5**
baz=205,SNR=9.3
I28M Miner Creek 90.97 15 IAmb IAmb 07 30 44.7
comp=Z,40nm,0.9s
I28M Miner Creek 90.97 15 P P **07 30 43.8 +0.1**
baz=216,SNR=23
F24K Squaw Lake 91.04 11 IAmb IAmb 07 30 45.5
comp=Z,36nm,1.1s
F24K Squaw Lake 91.04 11 P P **07 30 44.5 +0.5**
baz=208,SNR=12
HNDO Hondo 91.17 59 P P **07 30 46.7 +1.3**
J30M Hart River 91.19 17 IAmb IAmb 07 30 46.3
comp=Z,31nm,1.2s
J30M Hart River 91.19 17 P P **07 30 45.3 +0.5**
baz=219,SNR=11
MMPY Sheldon Lake, 91.20 20 P P **07 30 45.3 +0.5**
baz=223,SNR=12
E23K Chandalar 91.22 10 P P **07 30 45.0 +0.2**
baz=207,SNR=14
H27K Steamboat Moun 91.24 14 IAmb IAmb 07 30 46.4
comp=Z,43nm,1.1s
H27K Steamboat Moun 91.24 14 P P **07 30 45.2 +0.4**
baz=214,SNR=30
I29M Ogilvie Camp, 91.30 16 IAmb IAmb 07 30 46.1
comp=Z,52nm,1.2s
I29M Ogilvie Camp, 91.30 16 P P **07 30 45.0 -0.2**
baz=217,SNR=24
RTBA Rita Blanca 91.34 51 IAmb IAmb 07 30 47.2
comp=Z,35nm,1.2s
G26K Porcupine Rive 91.35 13 P P **07 30 45.8 +0.5**
baz=212,SNR=43
TGTN Hyland Airport 91.41 22 P P **07 30 46.3 +0.6**
baz=226,SNR=9.7
E24K Your Creek 91.43 11 P P **07 30 45.6 -0.1**
baz=208,SNR=5.6
C21K Knifeblade Rid 91.44 8 P P **07 30 45.8 +0.2**
baz=202,SNR=15
K22A Casper 91.45 45 IAmb IAmb 07 30 48.2
comp=Z,36nm,1.0s
D22K Ayikyak River 91.48 9 P P **07 30 46.3 +0.4**
baz=204
F25K Christian River 91.53 12 P P **07 30 46.7 +0.5**
baz=210,SNR=14
BMAR Burnt Mountain 91.60 12 P P **07 30 47.3 +0.8**
I30M Mount Dempster 91.69 16 IAmb IAmb 07 30 48.2
comp=Z,46nm,1.0s
I30M Mount Dempster 91.69 16 P P **07 30 47.1 +0.1**
baz=219,SNR=29
G27K Doyon Strip 91.69 14 P P **07 30 47.2 +0.2**
baz=214,SNR=8.5
A19K Wainwright 91.72 6 P P **07 30 47.3 +0.5**
baz=196
TOLK Toolik Lake Re 91.75 10 IAmb IAmb 07 30 48.5
comp=Z,51nm,1.4s
TOLK Toolik Lake Re 91.75 10 P P **07 30 47.4 +0.2**
baz=207,SNR=5.9
D23K Nanushuk River 91.86 10 P P **07 30 47.9 +0.3**
baz=206
B21K Ikpikpuk River 91.89 8 P P **07 30 48.0 +0.3**
baz=202,SNR=7.1
F26K Sheenjek River 91.91 12 P P **07 30 48.6 +0.7**
baz=212,SNR=11
B20K Meade River 91.94 7 P P **07 30 48.1 +0.2**
baz=200,SNR=8.5
H29M Whitestone 91.97 15 P P **07 30 48.5 +0.3**
baz=217,SNR=30
E25K Arctic Village 92.00 12 IAmb IAmb 07 30 49.9
comp=Z,37nm,1.5s
E25K Arctic Village 92.00 12 P P **07 30 48.8 +0.5**
baz=210,SNR=8.8
APMT Aspermont 92.02 55 IAmb IAmb 07 30 50.6
comp=Z,30nm,1.1s
CCIG Comitan 92.32 74 IAmb IAmb 07 33 07.2
comp=Z,58nm,2.0s
D24K Happy Valley 92.33 10 P P **07 30 50.2 +0.5**
baz=208
YAK Yakutsk 92.37 338 *e*P P **07 30 48.7 -1.4**
YAK *e**PP **pP 07 32 45.6 -3.6**
YAK *e* 07 34 38.2
YAK *e*PPP PPP 07 36 43.6
YAK *e*S **SKSac 07 40 30.6 -0.3**
YAK *e* 07 41 12.9
YAK *e*SS **SS 07 47 35.9 +1.1**
YAK *e*SSS SSS 07 51 20.4
YAK pmax pmax
comp=Z,127nm,1.5s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,306nm,4.7s
YAK pmax pmax
comp=N,115nm,2.9s
YAK pmax pmax
comp=E,298nm,5.3s
YAK smax smax
comp=E,235nm,4.1s
YAK smax smax
comp=N,230nm,5.5s
EPYK Eagle Plains 92.50 16 IAmb IAmb 07 30 51.7
comp=Z,43nm,1.0s
EPYK Eagle Plains 92.50 16 P P **07 30 50.5 -0.1**
baz=218,SNR=19
G29M Pine Creek 92.61 15 IAmb IAmb 07 30 52.2
comp=Z,32nm,1.0s
G29M Pine Creek 92.61 15 P P **07 30 50.8 -0.4**
baz=217,SNR=10
C23K Itkillik River 92.66 9 P P **07 30 51.6 +0.3**
baz=206,SNR=9.0
H31M Peel River 92.68 17 P P **07 30 51.1 -0.4**
baz=221,SNR=5.3
TNCH TengChong 92.71 296 ⇓P P **07 30 54.0 +1.2**
TNCH pmax pmax
comp=Z,200nm,4.3s
B22K Teshekpuk Lake 92.72 8 IAmb IAmb 07 30 52.9
comp=Z,44nm,1.1s
B22K Teshekpuk Lake 92.72 8 P P **07 30 51.6 +0.1**
baz=203
LZH Lanzhou 92.73 308 *e*P P **07 30 54.1 +1.5**
LZH pP pwP 07 32 56.6 +1.2
LZH sP sP 07 33 49.1 +4.0
LZH S **S 07 41 18.9 +7.5**
LZH pmax pmax
comp=Z,46nm,1.2s
LZH pmax pmax
comp=Z,67nm,4.4s
F28M Old Crow 92.75 14 P P **07 30 51.9 +0.1**
baz=216,SNR=9.9
LZDM Lanzhou Array 92.79 307 P P **07 30 53.3 +0.2**
comp=Z,11nm,0.8s,baz=104,slow=6.3,SNR=7.8
comp=Z,11nm,0.8s
E27K Coleen River 92.85 13 IAmb IAmb 07 30 53.9
comp=Z,29nm,1.4s
E27K Coleen River 92.85 13 P P **07 30 52.8 +0.6**
baz=214,SNR=10
C24K Franklin Bluff 92.85 10 P P **07 30 52.4 +0.3**
baz=208,SNR=9.7
D25K Kavik River 92.90 11 P P **07 30 51.9 -0.5**
baz=210,SNR=5.1
G30M tAoh Zrali Nji 93.10 15 P P **07 30 53.3 -0.1**
baz=219,SNR=37
A22K Sinclair Lake 93.14 7 P P **07 30 53.6 +0.2**
baz=202
PLPT Palo Pinto 93.21 56 IAmb IAmb 07 30 56.3
comp=Z,25nm,0.9s
LAO LASA Array 93.48 41 IAmb IAmb 07 30 58.1
comp=Z,31nm,1.0s
G31M Satah River 93.55 16 P P **07 30 55.4 0.0**
baz=221,SNR=24
E28M Babbage River 93.63 13 IAmb IAmb 07 30 57.0
comp=Z,33nm,1.0s
E28M Babbage River 93.63 13 P P **07 30 55.9 +0.1**
baz=216,SNR=24
C27K Jago River 93.64 12 IAmb IAmb 07 30 57.1
comp=Z,23nm,1.0s
C27K Jago River 93.64 12 P P **07 30 56.1 +0.4**
baz=212,SNR=13
C26K Camden Bay 93.67 11 P P **07 30 56.3 +0.4**
baz=211
F30M Barrier River 93.70 15 IAmb IAmb 07 30 59.2
comp=Z,22nm,1.0s
F30M Barrier River 93.70 15 P P **07 30 55.8 -0.3**
baz=219,SNR=8.6
RSSD Black Hills 93.73 44 P P **07 30 57.2 +0.1**
RSSD IAmb IAmb 07 30 58.3
comp=Z,30nm,1.3s
RSSD Black Hills 93.73 44 P P **07 30 57.2 +0.1**
RSSD pmax pmax
comp=Z,30nm,1.3s
E29M Blow River 93.82 14 IAmb IAmb 07 30 57.3
comp=Z,32nm,1.6s
E29M Blow River 93.82 14 P P **07 30 56.3 -0.3**
baz=218,SNR=6.4
D27M Malcolm River 93.86 13 IAmb IAmb 07 30 58.5
comp=Z,23nm,1.1s
D27M Malcolm River 93.86 13 P P **07 30 57.0 +0.2**
baz=215,SNR=12
F31M Tsiigehtchic 94.08 16 P P **07 30 57.8 +0.1**
baz=221,SNR=18
WRGLY Wrigley 94.22 22 P P **07 30 58.6 +0.1**
baz=230
X34A Smith Ranch, M 94.27 55 IAmb IAmb 07 31 01.6
comp=Z,25nm,1.2s
D28M Stokes Point 94.39 13 P P **07 30 59.2 +0.1**
baz=217
CBKS Cedar Bluff 94.48 50 IAmb IAmb 07 31 02.7
comp=Z,42nm,1.2s
INK Inuvik 94.79 15 IAmb IAmb 07 31 01.6
comp=Z,28nm,1.1s
INK Inuvik 94.79 15 P P **07 31 00.6 -0.3**
baz=221,SNR=16
FNO Franklin 94.84 54 IAmb IAmb 07 31 04.3
comp=Z,20nm,1.0s
ULN Ulaanbaatar 95.44 319 *ce*P P **07 31 04.2 -0.5**
ULN pmax pmax
comp=Z,5.0nm,0.9s
SONM Songino Array 95.83 319 P P **07 31 05.5 -0.9**
comp=Z,2.5nm,1.0s,baz=118,slow=1.6,SNR=9.9
SONM PP **PP 07 35 02.8 -5.1**
comp=Z,1.0nm,0.6s,baz=110,slow=8.1,SNR=4.2
comp=Z,2.5nm,1.0s
T35A Sooner Cattle 96.13 53 IAmb IAmb 07 31 10.8
comp=Z,18nm,1.3s
GTA Gaotai 96.96 309 P P **07 31 12.3 +0.7**
GTA pmax pmax
comp=Z,12nm,1.6s
YKA Yellowknife Ar 97.06 25 P Pdif 07 31 11.1 -0.2
comp=Z,3.7nm,0.9s,baz=252,slow=4.3,SNR=6.4
comp=Z,3.7nm,0.9s
C36M Paulatuk 97.97 17 P P **07 31 15.3 0.0**
baz=230
TIXI Tiksi 99.07 345 P Pdif **07 31 18.5 -1.5**
comp=Z,1.6nm,0.3s,baz=145,slow=5.5,SNR=3.6

comp=Z,1.6nm,0.3s
TIXI Tiksi 99.07 345 *ce*P **Pdif 07 31 19.0 -1.1**
TIXI pmax pmax
comp=Z,8.0nm,1.2s
GOMU GeErMu 99.58 305 P **Pdif 07 31 24.4 +0.7**
GOMU pmax pmax
comp=Z,3.0nm,1.3s
LPAZ La Paz 102.24 113 PKKPbc PKKPbc 07 47 36.0 -0.1
comp=Z,2.5nm,0.8s,baz=60,slow=3.2,SNR=12
WMQ Urumqi 106.93 311 Pdif **Pdif 07 31 56.9 +1.1**
SIV San Ignacio 108.39 116 PKKPbc PKKPbc 07 47 17.0 -0.1
comp=Z,3.1nm,0.8s,baz=72,slow=4.2,SNR=18
ZALV Zalesovo Beam 110.59 321 PKiKP **PKiKP 07 36 07.5 -1.1**
comp=Z,8.0nm,0.6s,baz=169,slow=1.0,SNR=31
MKAR Makanchi Array 111.22 313 Pdiff **Pdif 07 32 14.6 -0.2**
comp=Z,0.7nm,0.8s,baz=96,slow=6.0,SNR=4.9
MKAR PKiKP
comp=Z,7.9nm,0.7s,baz=72,slow=1.9,SNR=30
MKAR PKKPbc **PKKPbc 07 47 08.2 -0.4**
comp=Z,1.0nm,0.5s,baz=289,slow=3.7,SNR=10
UZB Uzynbulak 113.02 309 *e*PKiKP **PKiKP 07 36 12.9 -1.0**
UZB Uzynbulak 113.02 309 *i* PKiKP **PKiKP 07 36 12.8 -1.0**
SATY Saty 113.45 309 *e*PKiKP **PKiKP 07 36 13.6 -1.1**
SATY Saty 113.45 309 *i* PKiKP **PKiKP 07 36 13.5 -1.1**
TDK Taldyqorghan 113.68 311 *e*PKiKP **PKiKP 07 36 13.6 -1.3**
TDK Taldyqorghan 113.68 311 *i* PKiKP **PKiKP 07 36 13.5 -1.3**
KURK Kurchatov 114.06 317 *i* PKiKP **PKiKP** 07 36 13.7 -1.6
KURBB Kurchatov Arra 114.11 317 PKKPbc PKKPbc 07 46 59.2 +0.2
comp=Z,1.2nm,0.8s,baz=272,slow=3.8,SNR=7.3
MDOK Medeo 114.45 309 *e*PKP PKPdf 07 36 15.6 -0.9
MDOK Medeo 114.45 309 *e*PKiKP PKPdf 07 36 15.6 -1.0
TNSS Tian-Shan 114.51 309 *e*PKP PKPdf 07 36 15.3 -1.7
TNSS Tian-Shan 114.51 309 *e*PKiKP PKPdf 07 36 15.2 -1.8
KSH Kashi 114.83 305 PKP **PKiKP 07 36 17.8 +0.5**
SGDS Sogindy 116.24 309 *e*PKP **PKPdf 07 36 18.7 -1.2**
AAK Ala-Archa 116.27 308 PKPdf **PKPdf 07 36 19.2 -0.9**
AAK Ala-Archa 116.27 308*c i*PKiKP **PKPdf 07 36 19.0 -1.1**
AAK pmax pmax
comp=Z,11nm,1.7s
BTLS Baital 116.77 311 *e*PKP **PKPdf 07 36 19.7 -1.0**
BTLS Baital 116.77 311 *e*PKiKP **PKPdf 07 36 19.7 -1.0**
BRZS Berezniki 117.84 316 *e*PKP **PKPdf 07 36 22.1 -0.6**
BRZS Berezniki 117.84 316 *e*PKiKP **PKPdf 07 36 22.0 -0.6**
NEEM North Greenlan 118.08 11 *i* P **PKPdf 07 36 22.1 -0.6**
KULLO Kullorsuaq 118.15 15 *i* P **PKiKP 07 36 22.7 +0.1**
DZA Taraz 118.61 308 *e*PKP **PKPdf 07 36 23.3 -1.1**
DZA Taraz 118.61 308 *e*PKiKP **PKPdf 07 36 23.3 -1.1**
NOR Nord 118.81 3 *i* P **PKPdf 07 36 22.9 -0.8**
BVAR Borovoye Array 119.17 320 PKP **PKPdf 07 36 24.4 -0.7**
comp=Z,21nm,0.4s,baz=76,slow=1.8,SNR=106
UPNV Upernavik 119.19 17 *i* P **PKPdf 07 36 24.1 -0.5**
BORK Borovoye 119.21 320*c i*PKiKP **PKPdf 07 36 24.1 -1.1**
BORK pmax pmax
comp=Z,46nm,1.0s
BDFB Brasilia 119.23 123 PKP **PKPdf 07 36 26.3 -0.2**
comp=Z,2.8nm,0.5s,baz=212,slow=2.4,SNR=5.4
BDFB PKKPbc **PKKPbc 07 46 41.5 +0.3**
comp=Z,3.7nm,0.7s,baz=68,slow=1.8,SNR=5.8
IUG luzhnay 119.54 307 *e*PKP **PKPdf 07 36 25.6 -0.8**
IUG luzhnay 119.54 307 *e*PKiKP **PKPdf 07 36 25.5 -0.8**
BRLS Borolday 119.71 308 *e*PKP **PKPdf 07 36 25.8 -0.7**
BRLS Borolday 119.71 308 *e*PKiKP **PKPdf 07 36 25.8 -0.7**
NUUG Nuugaatsiaq 120.55 18 *i* P **PKPdf 07 36 26.4 -0.8**
SAATT Saattut 121.35 18 *i* P **PKPdf 07 36 28.2 -0.6**
KBS Kingsbay 121.75 358 *e*PKPdf **PKPdf 07 36 29.4 0.0**
KBS Kingsbay 121.75 358*c i*PKiKP **PKPdf 07 36 27.3 -2.1**
KBS pmax pmax
comp=Z,53nm,1.7s
KBS Kingsbay 121.75 358 *i* P **PKPdf 07 36 29.1 -0.3**
SPA0 Spitsbergen Ar 122.27 356 *e*PKPdf **PKPdf 07 36 29.1 -1.4**
SPITS Spitsbergen Ar 122.27 356 PKP **PKPdf 07 36 29.9 -0.5**
comp=Z,41nm,0.8s,baz=68,slow=5.0,SNR=20
ILULI Ilulissat 122.28 20 *i* P **PKPdf 07 36 29.6 -1.0**
DAG Danmarks Havn 123.20 5 *i* P **PKPdf 07 36 31.0 -1.2**
SFJD Kangerlussuaq 123.48 22 *i* P **PKPdf 07 36 32.0 -0.9**
SUMG Summit 123.66 13 *i* P **PKPdf 07 36 33.7 0.0**
SVE Sverdlovsk 124.13 325 *e*PKiKP **PKPdf 07 36 34.5 0.0**
SVE pmax pmax
comp=Z,55nm,0.9s
NUUK Nuuk 124.32 25 *i* P **PKPdf 07 36 34.6 0.0**
DY2G Dye2 125.25 21 *i* P **PKPdf 07 36 36.2 -0.4**
DBG Daneborg 125.31 7 *i* P **PKPdf 07 36 35.8 -0.5**
ARTI Arti 125.45 325 PKP **PKPdf 07 36 37.0 -0.1**
comp=Z,55nm,0.8s,baz=105,slow=1.5,SNR=62
ARTI Arti 125.45 325 *i* PKiKP **PKPdf 07 36 36.9 -0.1**
ARTI 07 38 37.9
ARTI 07 42 56.7
ARTI SS SS 07 54 51.7 -1.8
BOSA Boshof 125.70 206 PKP **PKiKP 07 36 39.4 +0.3**
comp=Z,12nm,0.7s,baz=120,slow=0.8,SNR=14
IVI Ivigtut 127.09 28 *i* P **PKPdf 07 36 38.9 -1.1**
AKTO Aktyubinsk 127.14 318 PKP **PKPdf 07 36 40.5 0.0**
comp=Z,30nm,0.7s,baz=75,slow=2.3,SNR=52
VADS Vadso 128.08 348 *e*PKPdf **PKPdf 07 36 40.7 -0.9**
ISOG Isortoq, Green 128.21 20 *i* P **PKPdf 07 36 41.1 -0.9**
NRS Narsarsuaq 128.29 27 *i* P **PKPdf 07 36 41.5 -0.7**
SCO Scoresbysund 128.50 10 *i* P **PKPdf 07 36 42.7 +0.3**
HAMF Hammerfest 128.59 351 *e*PKPdf **PKPdf 07 36 42.0 -0.6**
KIRV Kirov 129.11 330 PKP **PKPdf 07 36 43.9 -0.1**
comp=Z,50nm,0.7s,baz=120,slow=1.3,SNR=26
ARA0 ARCESS Array S 129.28 349 *e*PKPdf **PKPdf 07 36 42.7 -1.3**
ARCES ARCESS Array B 129.28 349 PKP **PKPdf 07 36 43.5 -0.4**
comp=Z,28nm,0.8s,baz=55,slow=0.9,SNR=39
SOHO SOHO 129.43 285 *i* PKPdf **PKPdf 07 36 44.8 -0.8**
SNR=20
UOSS Minazif 129.83 286 *i* PKPdf **PKPdf 07 36 45.9 -0.4**
SNR=5.7
HATD Hatta, Dubai 129.88 285 *i* PKPdf **PKPdf 07 36 46.0 -0.4**
SNR=13
MSFE Esma-Masafi 129.92 286 *i* PKPdf **PKPdf 07 36 46.3 -0.3**
SNR=6.8
ASHO Ashiyiah 129.93 285 *i* PKPdf **PKPdf 07 36 46.3 -0.3**
SNR=8.6
KTK1 Kautokeino 130.12 350 *e*PKPdf **PKPdf 07 36 43.4 -2.2**
TRO Tromso 130.18 352 *e*PKPdf **PKPdf 07 36 43.0 -2.6**
NAZ Nazwa, Dubai 130.32 285 PKPdf **PKPdf 07 36 47.2 -0.1**
FAQ Al Faqa, Dubai 130.35 285 PKiKP **PKiKP 07 36 47.8 -0.5**
MZR Muzera 132.04 283 *i* PKPdf **PKPdf 07 36 50.8 +0.2**
SNR=8.4
KLMR Klimovskoe 132.12 336 *e*PKiKP **PKPdf 07 36 47.8 -1.8**
KLMR *e* 07 39 21.4
KLMR pmax pmax
comp=Z,55nm,1.2s
STEI Steigen 132.23 353 *e*PKPdf **PKPdf 07 36 49.4 -0.2**
BELG Belogornoye 132.72 323 PKP **PKPdf 07 36 50.8 -0.1**
comp=Z,160nm,0.8s,baz=90,slow=0.9,SNR=24
BELG SKPbc **SKPab 07 39 29.1 -1.0**
comp=Z,48nm,0.9s,baz=179,slow=2.2,SNR=7.1
FAUS Fauske 132.75 353 *e*PKPdf **PKPdf 07 36 48.7 -1.9**
VAGH Vaagaholmen 133.60 354 *e*PKPdf **PKPdf 07 36 51.4 -0.8**
MOR8 Moi Rana 134.01 353 *e*PKPdf **PKPdf 07 36 51.4 -1.7**
STOK Stokkvaagen 134.02 354 *e*PKPdf **PKPdf 07 36 51.4 -1.6**
LEIR Leirfjorden 134.22 353 *e*PKPdf **PKPdf 07 36 51.7 -1.7**
FINES FINESS Array B 136.08 343 PKP **PKPdf 07 36 56.6 -0.3**
comp=Z,30nm,1.0s,baz=105,slow=3.2,SNR=17
FINES SKPbc **SKPbc 07 39 39.9 +1.8**
comp=Z,18nm,0.8s,baz=79,slow=4.1,SNR=16
MOS Moscow 136.10 331 *i* PKiKP **PKPdf 07 36 55.6 -1.5**
MOS pmax pmax
comp=Z,56nm,0.8s
AKT Akhty 136.15 309 *e*PKiKP **PKPdf 07 36 56.4 -1.5**
AKT *e* 07 39 46.0
AKT *e* 07 43 15.3
AKT pmax pmax
comp=Z,33nm,0.8s
VRH Novokhopyorsk 136.53 324 *e*PKiKP **PKPdf 07 36 55.7 -2.4**
VRH pmax pmax
comp=Z,30nm,0.8s
OBN Obninsk 136.96 331 PKP **PKPdf 07 36 58.8 +0.1**
comp=Z,23nm,0.4s,baz=347,slow=8.4,SNR=8.4
OBN Obninsk 136.96 331*c i*PKiKP **PKPdf 07 36 58.6 -0.1**
OBN pmax pmax
comp=Z,97nm,1.6s
LPSR Galich'ya Gora 137.29 327 *e*PKiKP **PKPdf 07 36 58.0 -1.5**
LPSR pmax pmax
comp=Z,40nm,1.1s
VORR Voronezh 137.65 326 *e*PKiKP **PKPdf 07 37 00.3 +0.2**
VORR pmax pmax
comp=Z,50nm,0.8s
VSR Storozhevoye 137.91 325 *e*PKiKP **PKPdf 07 36 58.6 -2.1**
VSR pmax pmax
comp=Z,30nm,1.0s
VORD Divnogorie 137.98 325 *e*PKiKP **PKPdf 07 36 59.1 -1.7**
VORD pmax pmax
comp=Z,30nm,0.9s
MOL Molde 138.19 356 *e*PKPdf PKPpre 07 36 53.0
NCK Nalchik 138.52 313 *i* PKiKP **PKPdf 07 37 01.8 -0.3**
NCK pmax pmax
comp=Z,28nm,0.6s
DOMB Dombas 138.60 355 *e*PKPdf PKPpre 07 36 53.0
AKN Aaknes 138.62 356 *e*PKPdf PKPpre 07 36 54.3
GNI Garni 138.67 307 PKP **PKPdf 07 37 03.1 +0.5**
comp=Z,15nm,0.3s,baz=333,slow=2.3,SNR=8.7
GNI Garni 138.67 307 PKPdf **PKPdf 07 37 03.7 +1.1**
KBZ Khabaz 138.92 313 PKhKP PKPpre 07 36 54.8
comp=Z,4.9nm,0.8s,baz=114,slow=3.9,SNR=6.5
KIV Kislovodsk 138.98 314 PKPdf **PKPdf 07 37 02.3 -0.7**
KIV Kislovodsk 138.98 314 *e*PKiKP **PKPdf 07 37 02.6 -0.4**
KIV pmax pmax
comp=Z,18nm,1.0s
SHA1 Shidzhatmaz 139.08 313 *i* PKiKP **PKPdf 07 37 02.8 -0.6**
NB2 NORSAR Subarra 139.36 353 PKP PKPpre 07 36 54.1
comp=Z,24nm,0.9s,baz=18,slow=3.3
NB2 NORSAR Subarra 139.36 353 PKP PKPpre 07 36 54.1
comp=Z,24nm,0.9s,baz=18,slow=3.3
NOA NORSAR Array B 139.36 353 PKhKP PKPpre 07 36 54.5
comp=Z,13nm,0.8s,baz=15,slow=2.4,SNR=29
NOA SKPbc **SKiKP 07 39 49.7 -0.6**
comp=Z,3.2nm,1.0s,baz=6.3,slow=4.0,SNR=3.8
RAYN Ar Rayn 139.39 282 PKHKP PKPpre 07 36 57.8
ATD Arta Tunnel 139.41 263 PKhKP PKPpre 07 36 56.5
comp=Z,0.2nm,0.3s,baz=255,slow=18,SNR=5.4
ATD SKPbc **SKiKP 07 39 53.6 +1.8**
comp=Z,0.2nm,0.3s,baz=124,slow=3.8,SNR=4.3
NC602 NORSAR Array S 139.62 352 *e*PKPdf PKPpre 07 36 56.3
ERBR Yeremizino-Bor 139.75 317 *e*PKHKP PKPpre 07 36 58.2
ERBR *i* 07 37 04.3
ERBR *e* 07 39 09.5
ERBR pmax pmax
comp=Z,38nm,0.8s
ERBR pmax pmax
comp=Z,69nm,0.8s
HFS Hagfors 139.91 351 PKhKP PKPpre 07 36 55.9
comp=Z,16nm,0.6s,baz=42,slow=2.2,SNR=44
HFS SKPbc **SKPbc 07 39 49.9 +1.0**
comp=Z,4.8nm,0.8s,baz=42,slow=2.4,SNR=5.1
LABN Labinsk 140.03 315 *i* PKiKP **PKPdf 07 37 05.3 +0.6**
LABN pmax pmax
comp=Z,30nm,0.5s
ASK Askoy 140.41 357 *e*PKPdf PKPpre 07 36 58.3
OSL Oslo 140.50 353 *e*PKPdf PKPpre 07 36 59.0
BER Bergen 140.50 357 *e*PKPdf PKPpre 07 36 59.3
ODD1 Odda 140.90 356 *e*PKPdf PKPpre 07 36 57.7
KONO Kongsberg 140.90 354 *e*PKPdf PKPpre 07 36 58.0
KONO Kongsberg 140.90 354*c i*PKHKP PKPpre 07 36 59.6
KONO pmax pmax
comp=Z,28nm,0.8s
MNK Minsk 141.02 336 *i* PKHKP PKPpre 07 37 02.5
MNK *i* 07 40 12.1
MNK *i* PPP PPP 07 43 24.5
MNK *i* SSS SSS 08 03 25.9
MNK pmax pmax
comp=E,37nm,1.0s
MNK pmax pmax
comp=Z,35nm,0.8s
MNK pmax pmax
comp=N,20nm,0.8s
SOC Sochi 141.12 314 *e*PKiKP **PKPdf 07 37 05.1 -1.6**
SOC *e* 07 40 19.2
SOC *e*PPP PPP 07 43 31.0
SOC pmax pmax
comp=Z,16nm,0.5s
STRU Stroemstad 141.32 352 *i* P **PKPdf 07 37 00.9 -5.6**
BLS5 Blasjo 141.39 356 *e*PKPdf **PKPdf 07 37 00.3 -6.4**
KMY Karmoy 141.67 357 *e*PKPdf **PKPdf 07 37 02.0 -5.2**
ANN Anapa 142.09 317 *e*PKHKP PKPpre 07 37 04.1
ANN *i* 07 37 09.4
ANN pmax pmax
comp=Z,54nm,1.0s
ANN pmax pmax
comp=Z,40nm,1.1s
TJOU Tjoern 142.23 351 *i* P **PKPdf 07 37 03.6 -4.6**
HOMB Hombersund 142.37 354 *e*PKPdf **PKPdf 07 37 04.0 -4.5**
HOMB Hombersund 142.37 354 *i* P **PKPdf 07 37 04.8 -3.6**
SNART Snartemo 142.42 355 *e*PKPdf **PKPdf 07 37 06.3 -2.2**
BORU Boraas 142.44 350 *i* P **PKPdf 07 37 04.0 -4.6**
ONAU Onsala 142.80 351 *i* P **PKPdf 07 37 05.3 -3.9**
FABU Falkenberg 143.06 350 *i* P PKPab 07 37 06.3 -1.0
SUW Suwalki 143.11 339 *e*PKP PKPbc 07 37 07.8 -0.2
AKASG Malin Array Be 143.21 331 PKP PKPab 07 37 07.7 -0.4
comp=Z,125nm,0.5s,baz=44,slow=4.4,SNR=688
AKASG SKPbc **SKiKP 07 39 59.1 +0.7**
comp=Z,5.7nm,0.9s,baz=37,slow=2.6,SNR=6.1
KIEV Kiev 143.22 331 ⇓P PKPab 07 37 07.4 -0.8
KIEV Kiev 143.22 331 PKPbc PKPab 07 37 07.0 -1.1
KIEV Kiev 143.22 331 ⇓PKHKP PKPpre 07 37 07.4
MCD Coleburn Disti 143.22 4 *e*P PKPab 07 37 06.3 -1.6
KPL Plockton 143.25 7 *e*P PKPab 07 37 07.3 -0.7
DEL Delary 143.36 349 *i* P PKPab 07 37 08.1 -0.4
BJUU Bjuv 143.89 349 *i* P PKPbc 07 37 10.0 -0.4
DRUM Mains of Drumt 143.94 4 *e*P PKPbc 07 37 07.8 -2.7
SIM Simferopol' 144.08 319 *e*PKIKP **PKPdf 07 37 12.2 +0.3**
SIM pmax pmax
comp=Z,578nm,1.1s
MUD Monsted U'grnd 144.08 353 *i* P PKPbc 07 37 10.8 -0.1
INVG Invergeldie, C 144.31 5 *e*P PKPbc 07 37 10.9 -0.8
LAWE Loch Awe, Argy 144.34 7 *e*P PKPbc 07 37 10.9 -0.9
COP Copenhagen 144.36 349 *i* P PKPbc 07 37 11.9 0.0
ESY Stoneypath 144.92 4 *e*P **PKPdf 07 37 12.0 -1.0**
SSRD Sdr. Stenderup 144.98 352 *i* P **PKPab 07 37 14.3 -0.3**
IDGL Inch Island, C 145.23 9 PKP **PKPab 07 37 14.7 -0.9**
IDGL PKPdf **PKPab 07 37 14.4 -0.1**
IDGL Inch Island, C 145.23 9 *e*P **PKPdf 07 37 13.2 -0.3**
SORM Soroca 145.37 328 ⇑P **PKPbc 07 37 14.8 -0.4**
SORM Soroca 145.37 328 ⇑PKIKP **PKPbc 07 37 14.8 -0.4**
CLGH Cloghs, Cushen 145.41 8 *e*P **PKPbc 07 37 14.6 -0.4**
EKA Eskdalemuir Ar 145.47 5 PKPbc **PKPbc 07 37 14.7 -0.5**
comp=Z,86nm,0.9s,baz=332,slow=2.7,SNR=63
ESK Eskdalemuir 145.48 5 *e*P **PKPdf 07 37 14.4 +0.4**
GKP Gorka Klasztor 145.56 343 *e*PKP **PKPdf 07 37 14.8 +0.7**
NEWG New Galloway 145.59 6 *e*P **PKPdf 07 37 14.6 +0.5**
BZK Bozkurt 145.61 315 ⇓P **PKPbc 07 37 16.6 +0.6**
PURM Purcari 145.62 325 ⇑P **PKPbc 07 37 16.1 +0.1**
BEL Belsk 145.72 339 *e*PKP **PKPbc 07 37 15.3 -0.8**
GAL1 Galloway 145.78 6 *e*P **PKPdf 07 37 14.9 +0.5**
KIS Kishinev 145.89 326 *e*PKiKP **PKPbc 07 37 16.0 -0.7**
KIS Kishinev 145.89 326 PKPM 07 37 17.0
comp=Z,220nm,0.8s
KIS Kishinev 145.89 326 *e*PKiKP **PKPbc 07 37 16.0 -0.7**
KIS pmax pmax
comp=Z,220nm,0.8s
MILM Milestii Mici 145.94 326 ⇓P **PKPbc 07 37 16.0 -0.9**
MILM Milestii Mici 145.94 326 *e*PKHKP PKPpre 07 37 13.0
MILM Milestii Mici 145.94 326 *i* PKiKP **PKPdf 07 37 15.7 +0.7**
MILM Milestii Mici 145.94 326 PKPM 07 37 16.0
comp=Z,430nm,1.0s
MILM Milestii Mici 145.94 326 *i* PKHKP PKPpre 07 37 13.0
MILM *i* 07 37 15.7
MILM *i* 07 37 17.0
MILM pmax pmax
comp=Z,430nm,1.0s
EDMD Edmundbyers 146.05 4 *e*P **PKPbc 07 37 16.1 -0.8**
DRBR Darabani 146.17 329 ⇓P **PKPbc 07 37 16.9 -0.6**
KESW Keswick, Cumbr 146.21 5 *e*P **PKPdf 07 37 12.7 -2.5**
CIDE Kastamonu/Cide 146.34 315 ⇑P **PKPbc 07 37 18.0 -0.2**
ILTH Belurgan, Co L 146.41 8 PKP **PKPbc 07 37 17.4 -0.5**
ILTH Belurgan, Co L 146.41 8 *e*P **PKPdf 07 37 15.0 -0.5**
IGLA Glengowla, Co 146.49 12 PKP **PKiKP 07 37 18.5 -1.8**
IGLA PKPdf **PKPbc 07 37 17.0 -1.1**
WIM Isle of Man 146.50 7 *e*P **PKPdf 07 37 15.3 -0.4**
ASF Jabal al Asfar 146.64 297 PKPbc **PKPbc 07 37 20.0 +0.6**
comp=Z,86nm,0.8s,baz=109,slow=1.2,SNR=71
VASR Vaslui 146.65 326 ⇓P **PKPbc 07 37 19.2 +0.4**
KWP Kalwaria Pacla 146.81 335 *e*PKP **PKPdf 07 37 16.2 -0.2**
BRTR Keskin Array B 146.85 312 PKPbc **PKPbc 07 37 19.1 -0.7**
comp=Z,51nm,0.8s,baz=153,slow=2.3,SNR=116
KIRS Kirsehir-Merke 146.90 310 ⇑P **PKPbc 07 37 19.2 -0.7**
HWQ Hawqa 146.95 301 *e*P **PKPbc 07 37 20.4 +0.1**
BIR Birlad 146.99 326 ⇑P **PKiKP 07 37 20.8 -0.8**
VLDR Vladesti 147.02 325 ⇓P **PKPbc 07 37 20.3 +0.5**
TLCR 147.04 324 ⇑P **PKPbc 07 37 20.2 +0.3**
TLCR 147.04 324 ⇑PKP2 **PKPbc 07 37 20.2 +0.3**
VARL Varlezi 147.11 325 ⇑P **PKPbc 07 37 20.8 +0.8**
DSB Dublin 147.17 9 PKP **PKPbc 07 37 19.6 -0.4**
SCTR Scanteiesti 147.18 325 ⇑P **PKPbc 07 37 21.1 +0.8**
GHRR 147.24 326 ⇓P **PKPbc 07 37 21.2 +0.8**
BURAR Bucovina Array 147.25 330 ⇓P **PKPbc 07 37 21.3 +0.8**
BURAR Bucovina Array 147.25 330 ⇓PKP2 **PKPbc 07 37 21.3 +0.8**
JURR Jurilovca 147.26 323 ⇑P **PKPbc 07 37 20.6 +0.1**
BHL Bhannes 147.28 300 *e*P **PKPbc 07 37 21.5 +0.4**
TESR Tescani 147.32 327 ⇓P **PKPbc 07 37 20.6 0.0**
NEGRR Negrea 147.33 325 ⇑P **PKPbc 07 37 20.0 -0.6**
ANTO Ankara 147.37 312 ⇓P **PKPbc 07 37 21.2 +0.1**
ANTO Ankara 147.37 312 ⇓PKP2 **PKPbc 07 37 21.2 +0.1**
IZVR Izvoarele 147.38 325 ⇓P **PKPbc 07 37 21.1 +0.3**
CFR Carcaliu 147.42 324 ⇓P **PKPbc 07 37 20.9 0.0**
CFR Carcaliu 147.42 324 ⇓PKP2 **PKPbc 07 37 20.9 0.0**
COSR Cosmesti PH 147.42 326 ⇓P **PKiKP 07 37 22.1 -0.3**
OJC Ojcow 147.42 338 *e*PKP **PKPdf 07 37 17.4 0.0**
TPGR Topolog 147.46 323 ⇓P **PKPbc 07 37 21.8 +0.7**
LBWR Ladybower, Pea 147.49 4 *e*P **PKPbc 07 37 19.2 -1.6**
PANC Panciu 147.50 326 ⇓P **PKPbc 07 37 21.4 +0.4**
KOLS Kolonicke sedl 147.54 334 *e*PKP2 **PKiKP 07 37 22.0 -0.7**
ONER Baraj Valea Uz 147.57 327 ⇓P **PKiKP 07 37 22.2 -0.6**
ODBI Odobesti 147.62 326 ⇑P **PKiKP 07 37 22.7 -0.2**
MMAI Mount Meron Ar 147.70 299 PKPbc **PKPbc 07 37 22.8 +0.6**
comp=Z,172nm,0.8s,baz=58,slow=3.1,SNR=135
TIRR Tirgusor 147.71 323 ⇓P **PKPbc 07 37 21.8 +0.1**
TIRR Tirgusor 147.71 323 ⇓PKP2 **PKPbc 07 37 21.8 +0.1**
VRI Vrincioaia 147.72 326 ⇓P **PKPbc 07 37 21.8 +0.1**
VRI Vrincioaia 147.72 326 ⇓PKP2 **PKPbc 07 37 21.8 +0.1**
PLOR Plostina 147.77 326 ⇓P **PKPbc 07 37 21.7 -0.2**
PLOR Plostina 147.77 326 ⇓PKP2 **PKPbc 07 37 21.7 -0.2**
EFOR EFORIE 147.81 322 ⇓P **PKiKP 07 37 23.1 -0.2**
HARR Harsova 147.84 324 ⇑P **PKPbc 07 37 22.2 +0.3**
TLBR Topalu 147.86 323 ⇑P **PKiKP 07 37 22.8 -0.7**
MFTR Murfatlar 147.88 322 ⇑P **PKPbc 07 37 22.8 +0.7**
LLW Llanuwychllyn 147.88 6 *e*P **PKPbc 07 37 21.0 -0.8**
FOEL Foel Wylfa 147.89 5 *e*P **PKPdf 07 37 18.2 +0.1**
NIE Niedzica 147.91 337 *e*PKP **PKPdf 07 37 19.1 +0.8**
BISRR Bisoca 147.94 326 ⇑P **PKiKP 07 37 23.3 -0.4**
IWEX Carrickbyrne, 147.95 10 PKP **PKPbc 07 37 22.2 +0.2**
KSP Ksiaz 147.99 342 *e*PKP **PKPdf 07 37 19.0 +0.7**
BMR Baia Mare 147.99 332 ⇓P **PKPbc 07 37 22.6 +0.3**
BMR Baia Mare 147.99 332 ⇓PKP2 **PKPbc 07 37 22.6 +0.3**
MANR Mangalia 148.00 322 ⇓P **PKPbc 07 37 23.0 +0.6**
COVR Voineasa-Covas 148.00 327 ⇑P **PKPbc 07 37 22.4 0.0**
ARCR ARCALIA 148.04 330 ⇓P **PKPbc 07 37 23.0 +0.6**
OZUR 148.05 327 ⇓P **PKiKP 07 37 23.2 -0.7**
BOSR Bodos 148.12 327 ⇑P **PKiKP 07 37 23.5 -0.5**
SAHE Sakarya_HENDEK 148.22 315 ⇑P **PKPbc 07 37 22.8 -0.4**
NEHR Nehoiu 148.24 326 ⇓P **PKPbc 07 37 22.9 -0.1**
ICOR Ion Corvin 148.27 323 ⇑P **PKiKP 07 37 24.0 -0.3**
OSTC Ostas 148.27 342 *e*PKPDF **PKPdf 07 37 19.7 +0.9**
OSTC ⇑*e*PKP **PKiKP 07 37 23.8 -0.4**
OSTC Ostas 148.27 342 *e*PKHKP **PKPdf 07 37 19.7 +0.9**
HLM1 Long Mynd 148.28 5 *e*P **PKPdf 07 37 18.7 0.0**
CHVC Chvalec 148.29 342 *e*PKPDF **PKPdf 07 37 19.7 +0.9**
CHVC ⇑*e*PKP **PKiKP 07 37 23.8 -0.4**
CHVC *e*PKPAB **PKPab 07 37 30.2 +2.1**
CHVC Chvalec 148.29 342 *e*PKHKP **PKPdf 07 37 19.7 +0.9**
OKC Ostrava-Krasne 148.31 339⇑*e*PKP **PKPbc 07 37 23.6 +0.6**
OKC *e*PKPAB **PKPab 07 37 29.2 +1.0**
OKC Ostrava-Krasne 148.31 339 *e*PKP2 **PKPbc 07 37 23.6 +0.6**
ISR Istrita 148.31 325 ⇓P **PKPbc 07 37 23.6 +0.3**
ISR Istrita 148.31 325 ⇓PKP2 **PKPbc 07 37 23.6 +0.3**
DOPR Dopca 148.34 328 ⇑P **PKiKP 07 37 24.3 -0.1**
KALB Balgarevo 148.34 321 ⇑P **PKPbc 07 37 23.5 +0.2**
PSN Preselentsi 148.37 322 ⇓*i*P **PKPbc 07 37 23.8 +0.4**
UPC Upice 148.37 342⇑*e*PKP **PKiKP 07 37 24.0 -0.3**
UPC *e*PKPAB **PKPab 07 37 29.3 +0.8**
UPC Upice 148.37 342 *e*PKP2 **PKiKP 07 37 24.0 -0.3**
MLR Muntele Rosu 148.38 326 PKPbc **PKPbc 07 37 22.7 -0.9**
comp=Z,73nm,1.0s,baz=6.5,slow=4.8,SNR=7.6
MLR Muntele Rosu 148.38 326 ⇑P **PKPbc 07 37 23.7 +0.2**
MLR Muntele Rosu 148.38 326 ⇑PKP2 **PKPbc 07 37 23.7 +0.2**
CLL Collm 148.40 346 ⇓*e*PKHKP **PKPdf 07 37 19.0 +0.1**
CLL *i* 07 37 28.2
CLL pmax pmax
comp=Z,120nm,0.9s
CLL Collm 148.40 346 *e*PKPdf **PKPdf 07 37 19.0 +0.1**
CLL ⇓*i*PKPbc **PKPbc 07 37 23.4 +0.2**
comp=Z,234nm,0.9s
CLL ⇑*i*PKPab **PKPab 07 37 28.2 -0.3**
comp=Z,120nm,0.9s
CLL *ep*PKPbc **pPKPdf 07 39 26.0 -0.3**
CLL *ex* x 07 39 32.0
CLL *e*(PP) 07 40 54.0
DPC Dobruska-Polom 148.42 342 *e*PKPDF **PKPdf 07 37 20.0 +0.9**
DPC ⇑*e*PKP **PKiKP 07 37 24.1 -0.4**
DPC *e*PKPAB **PKPab 07 37 30.0 +1.3**
DPC Dobruska-Polom 148.42 342 *e*PKHKP **PKPdf 07 37 20.0 +0.9**
LANS Liptovska Anna 148.44 337 *e*PKP2 **PKiKP 07 37 25.3 +0.7**
KRLC Kraliky 148.53 341 *e*PKPDF **PKPdf 07 37 19.9 +0.6**
KRLC ⇑*e*PKP **PKiKP 07 37 24.3 -0.5**
KRLC *e*PKPAB **PKPab 07 37 30.1 +0.9**
KRLC Kraliky 148.53 341 *e*PKHKP **PKPdf 07 37 19.9 +0.6**
KRLC *e* 07 37 30.1
PCED Cedros 148.54 49 *e*PKP **PKiKP 07 37 24.6 -0.5**
MORC Moravsky Berou 148.56 340 *e*PKP **PKPdf 07 37 19.2 -0.1**
MORC *e* 07 37 24.0
MORC Moravsky Berou 148.56 340 ⇑P **PKiKP 07 37 24.5 -0.3**
MORC Moravsky Berou 148.56 340 ⇑PKP2 **PKiKP 07 37 24.5 -0.3**
CALA Caldeira 148.56 49 *e*PKP **PKPbc 07 37 23.9 -0.2**
BRG Berggiesshubel 148.58 345⇓*e*PKPf **PKPdf 07 37 19.9 +0.7**
BRG Amp 07 37 20.7
comp=Z,44nm,1.4s
BRG ⇑PKP **PKPbc 07 37 24.2 +0.5**
BRG Amp 07 37 25.2
comp=Z,95nm,0.9s
BRG PKPab **PKPab 07 37 27.9 -1.4**
BRG Amp 07 37 30.2
comp=Z,50nm,0.8s
KECS Kecovo 148.61 336 *e*PKP2 **PKiKP 07 37 25.0 +0.1**
MESR Meseseni 148.63 331 ⇑P **PKPbc 07 37 23.8 -0.1**
HOR Horta 148.63 49 *e*PKP **PKiKP 07 37 26.0 +0.7**
CBBR Cluj-Babes-Bol 148.64 330 ⇓P **PKPbc 07 37 24.2 +0.2**
CJR Cluj-Napoca 148.66 330 ⇓P **PKPbc 07 37 24.6 +0.5**
CJR Cluj-Napoca 148.66 330 ⇓PKP2 **PKPbc 07 37 24.6 +0.5**
EIL Elat 148.71 293 PKPbc **PKPbc 07 37 24.4 -0.3**
comp=Z,81nm,0.7s,baz=1.4,slow=2.1,SNR=9.2
MDB Medias 148.71 329 ⇑P **PKPbc 07 37 24.6 +0.5**
MDB Medias 148.71 329 ⇑PKP2 **PKPbc 07 37 24.6 +0.5**
PLAR PLOIESTI 148.72 326 ⇑P **PKPbc 07 37 23.2 -1.0**
PVCC Panska Ves 148.74 344⇑*e*PKP **PKiKP 07 37 24.8 -0.3**
PVCC Panska Ves 148.74 344 *e*PKP2 **PKiKP 07 37 24.8 -0.3**
SULR 148.76 325 ⇑P **PKPbc 07 37 24.0 -0.3**
PCAN Candelaria 148.76 49 *e*PKP **PKPbc 07 37 24.2 -0.4**
MCH1 Michaelchurch 148.79 5 *e*P **PKPdf 07 37 19.1 -0.4**
PICO Pico 148.79 49 *e*PKP **PKPbc 07 37 24.9 +0.3**
ROSA Rosais 148.82 49 *e*PKP **PKiKP 07 37 25.3 -0.4**

ADH	**Angra Heroismo**	**149.56**	**48**	*e*PKP	**PKiKP**	**07 37 28.1**	**+1.0**
DEV	**Deva**	**149.60**	**330**	⇑P	**PKPbc**	**07 37 25.5**	**-0.8**
DEV	**Deva**	**149.60**	**330**	⇑PKHKP	**PKPbc**	**07 37 25.5**	**-0.8**
TREC	**Trest**	**149.61**	**342**	⇑*e*PKP	**PKiKP**	**07 37 26.8**	**-0.2**
TREC				*e*PKPAB	**PKPab**	**07 37 34.3**	**+0.7**
TREC	**Trest**	**149.61**	**342**	*e*PKHKP	**PKiKP**	**07 37 26.8**	**-0.2**
TREC				*e*		07 37 34.3	
PSCM	**Serra do Cume**	**149.62**	**48**	*e*PKP	**PKPbc**	**07 37 26.7**	**+0.1**
SMOL	**Smolenice**	**149.69**	**339**	*e*PKHKP	**PKPbc**	**07 37 27.5**	**+1.1**
SZH	**Strazhitsa**	**149.83**	**323**	⇓*i*P	**PKPbc**	**07 37 27.0**	**+0.1**
ZVC	**Zvikov**	**149.84**	**344**	*e*PKPDF	**PKPdf**	**07 37 22.1**	**+0.8**
ZVC				⇑*e*PKP	**PKiKP**	**07 37 27.1**	**-0.3**
ZVC				*e*PKPAB	**PKPab**	**07 37 35.3**	**+0.7**
MODS	**Modra-Piesok**	**149.86**	**339**	*e*PKHKP	**PKPbc**	**07 37 27.8**	**+0.9**
SIRR	**Siria**	**149.88**	**332**	⇓P	**PKPbc**	**07 37 27.2**	**+0.3**
ZIMR		**149.91**	**324**	⇓P	**PKiKP**	**07 37 27.6**	**-0.1**
ZIMR		**149.91**	**324**	⇓PKHKP	**PKiKP**	**07 37 27.6**	**-0.1**
PHSR	**Pinarhisar**	**149.92**	**319**	⇑P	**PKPbc**	**07 37 27.3**	**+0.1**
SRO	**Srobarova**	**149.98**	**337**	*e*PKHKP	**PKPbc**	**07 37 27.9**	**+0.8**
SRO				*e*		07 37 35.9	
SBD	**Saint Breward**	**150.02**	**8**	*e*P	**PKPdf**	**07 37 21.4**	**-0.1**
GZR	**Gura Zlata**	**150.02**	**329**	⇓P	**PKPbc**	**07 37 27.4**	**0.0**
GZR	**Gura Zlata**	**150.02**	**329**	⇓PKHKP	**PKPbc**	**07 37 27.4**	**0.0**
BEBN	**Eben Emael**	**150.03**	**355**	*d*PKP	**PKPbc**	**07 37 27.2**	**+0.2**
BEBN				*d*PKPab	**PKPab**	**07 37 35.1**	**-0.1**
SURR	**Surduc**	**150.06**	**331**	⇓P	**PKPbc**	**07 37 27.3**	**0.0**
ZST	**Bratislava**	**150.07**	**339**	*e*PKHKP	**PKPbc**	**07 37 27.9**	**+0.6**
ZST				*e*		07 37 33.0	
ELND	**Elena**	**150.10**	**323**	⇑P	**PKiKP**	**07 37 28.1**	**0.0**
UCC	**Uccle**	**150.12**	**356**	*d*PKPbc	**PKPbc**	**07 37 27.3**	**0.0**
UCC				*d*PKPab	**PKPab**	**07 37 34.9**	**-0.7**
MEM	**Membach**	**150.18**	**354**	*d*PKPdf	**PKPdf**	**07 37 22.2**	**+0.4**
MEM				*d*PKP	**PKPbc**	**07 37 27.4**	**-0.1**
MEM				*d*PKPab	**PKPab**	**07 37 35.6**	**-0.3**
BTNL	**Ternell**	**150.19**	**354**	*d*PKPdf	**PKPdf**	**07 37 22.1**	**+0.3**
BTNL				*d*PKPbc	**PKPbc**	**07 37 27.5**	**-0.1**
VLAD	**Vladila**	**150.20**	**326**	⇓P	**PKiKP**	**07 37 28.4**	**+0.1**
BSTI	**Sart Tilman**	**150.25**	**355**	*d*PKP	**PKiKP**	**07 37 28.0**	**-0.2**
BSTI				*d*PKPab	**PKPab**	**07 37 36.2**	**0.0**
BAND	**Balkesir-Ban**	**150.27**	**317**	⇓P	**PKPbc**	**07 37 27.8**	**-0.3**
KHC	**Kasperske Hory**	**150.28**	**344**	*e*PKPDF	**PKPdf**	**07 37 22.4**	**+0.4**
KHC				⇑*e*PKP	**PKiKP**	**07 37 28.4**	**0.0**
KHC				*e*PKPAB	**PKPab**	**07 37 37.3**	**+0.8**
KHC	**Kasperske Hory**	**150.28**	**344**	*e*PKIKP	**PKPdf**	**07 37 22.4**	**+0.4**
KHC				*e*		07 37 37.3	
GRF	**Grafenberg Arr**	**150.30**	**347**	*e*PKPdf	**PKPbc**	**07 37 28.1**	**+0.2**
	baz=17,slow=1.6						
GRF				*e*PKPab	**PKPab**	**07 37 36.7**	**+0.2**
	baz=25,slow=3.9						
SRE	**Strehaia**	**150.35**	**328**	⇓P	**PKiKP**	**07 37 28.7**	**+0.1**
SRE	**Strehaia**	**150.35**	**328**	⇓PKIKP	**PKiKP**	**07 37 28.7**	**+0.1**
PVL	**Pavlikeni**	**150.37**	**324**	P	**PKPbc**	**07 37 28.4**	**+0.2**
CKRC	**Cesky Krumlov**	**150.37**	**343**	*e*PKPDF	**PKPdf**	**07 37 22.8**	**+0.6**
CKRC				⇑*e*PKP	**PKiKP**	**07 37 28.5**	**-0.1**
CKRC				*e*PKPAB	**PKPab**	**07 37 37.4**	**+0.6**
CKRC	**Cesky Krumlov**	**150.37**	**343**	*e*PKIKP	**PKPdf**	**07 37 22.8**	**+0.6**
CKRC				*e*		07 37 37.4	
BCLA	**Clavier**	**150.43**	**355**	*d*PKPdf	**PKPdf**	**07 37 22.3**	**+0.2**
BCLA				*d*PKP	**PKiKP**	**07 37 28.7**	**+0.2**
BCLA				*d*PKPab	**PKPab**	**07 37 36.6**	**-0.3**
BHOU	**Houvegnez**	**150.44**	**354**	*d*PKPdf	**PKPdf**	**07 37 22.9**	**+0.8**
BHOU				*d*PKP	**PKiKP**	**07 37 28.6**	**-0.1**
BHOU				*d*PKPab	**PKPab**	**07 37 37.0**	**0.0**
BGES	**Gesves**	**150.48**	**355**	*d*PKPdf	**PKPdf**	**07 37 22.9**	**+0.6**
BGES				*d*PKP	**PKPbc**	**07 37 28.0**	**-0.2**
BGES				*d*PKPab	**PKPab**	**07 37 36.7**	**-0.5**
PLVB	**Pleven**	**150.50**	**325**	⇓P	**PKiKP**	**07 37 28.8**	**-0.1**
GERES	**GERESS Array B**	**150.51**	**344**	PKP	**PKPdf**	**07 37 22.0**	**-0.5**
	comp=Z,4.3nm,1.0s,baz=12,slow=1.9,SNR=17						
GERES				PKPbc	**PKPbc**	**07 37 28.5**	**0.0**
	comp=Z,15nm,0.8s,baz=28,slow=6.0,SNR=9.1						
HERR	**Herculane**	**150.57**	**329**	⇑P	**PKPbc**	**07 37 28.3**	**-0.3**
BMRD	**Maredsous**	**150.59**	**356**	*d*PKPdf	**PKPdf**	**07 37 23.2**	**+0.9**
BMRD				*d*PKP	**PKPbc**	**07 37 28.3**	**-0.1**
BMRD				*d*PKPab	**PKPab**	**07 37 37.5**	**-0.1**
RCHB	**Rochefort**	**150.70**	**355**	*d*PKPdf	**PKPdf**	**07 37 23.2**	**+0.6**
RCHB				*d*PKP	**PKPbc**	**07 37 28.9**	**+0.2**
RCHB				*d*PKPab	**PKPab**	**07 37 37.4**	**-0.7**
CONA	**Conrad Observa**	**150.71**	**340**	*i* PKP	**PKPdf**	**07 37 22.7**	**-0.1**
	comp=Z,8.3nm,1.0s						
CONA				*i* PKP	**PKiKP**	**07 37 29.3**	**0.0**
	comp=Z,83nm,0.8s,SNR=24						
CONA				*i* PKP	**PKPab**	**07 37 39.3**	**+1.0**
	comp=Z,43nm,0.9s						
BAIL	**Bailesti**	**150.73**	**327**	⇑P	**PKiKP**	**07 37 30.1**	**+0.7**
RONA	**Rosalia, Austr**	**150.77**	**339**	*e*PKP	**PKPdf**	**07 37 22.0**	**-0.8**
	comp=Z,11nm,1.1s						
RONA				*i* PKP	**PKiKP**	**07 37 29.4**	**0.0**
	comp=Z,102nm,0.8s,SNR=26						
RONA				*i* PKP	**PKPab**	**07 37 39.8**	**+1.2**
	comp=Z,66nm,1.1s						
BANR	**Banloc**	**150.79**	**331**	⇓P	**PKiKP**	**07 37 29.8**	**+0.4**
DOU	**Dourbes**	**150.80**	**356**	*d*PKPdf	**PKPdf**	**07 37 22.9**	**+0.2**
DOU				*d*PKP	**PKPbc**	**07 37 29.0**	**+0.1**
DOU				*d*PKPab	**PKPab**	**07 37 38.2**	**-0.3**
VALD	**Valchedram**	**150.92**	**326**	*i* P	**PKiKP**	**07 37 29.8**	**0.0**
MDVR	**Moldovita**	**150.98**	**330**	⇑P	**PKiKP**	**07 37 29.9**	**-0.1**
MPEP	**Malo Peshtene**	**150.99**	**325**	⇓*i*P	**PKiKP**	**07 37 29.8**	**-0.2**
PSET	**Sete Cidades**	**151.00**	**49**	*e*PKP	**PKPdf**	**07 37 24.8**	**+1.3**
WLF	**Walferdange**	**151.10**	**354**	*d*PKPdf	**PKPdf**	**07 37 24.3**	**+1.1**
WLF				*d*PKP	**PKiKP**	**07 37 30.2**	**+0.2**
WLF				*d*PKPab	**PKPab**	**07 37 39.0**	**-0.9**
CMLA	**Cha da Macela**	**151.16**	**49**	*e*PKP	**PKPdf**	**07 37 26.0**	**+2.3**
KDZ	**Kurdzhali**	**151.23**	**321**	⇓*i*P	**PKPbc**	**07 37 30.0**	**-0.2**
MOA	**Molln**	**151.26**	**342**	*i* PKP	**PKPdf**	**07 37 23.3**	**-0.3**
	comp=Z,3.7nm,0.7s						
MOA				*i* PKP	**PKPbc**	**07 37 30.1**	**0.0**
	comp=Z,40nm,0.9s,SNR=9.0						
MOA				*i* PKP	**PKPab**	**07 37 41.2**	**+0.6**
	comp=Z,37nm,1.0s						
PGRON	**Lagoa das Cont**	**151.26**	**48**	*e*PKP	**PKPdf**	**07 37 24.4**	**+0.5**
CAVK	**Edirne/Enez-Ca**	**151.30**	**319**	⇑P	**PKPbc**	**07 37 30.0**	**-0.4**
PGB	**Panagyurishte**	**151.32**	**324**	⇓*i*P	**PKPbc**	**07 37 30.4**	**0.0**
BART	**Pico Bartolome**	**151.40**	**48**	*e*PKP	**PKPdf**	**07 37 24.1**	**-0.1**
ARSA	**Arzberg**	**151.42**	**340**	*i* PKP	**PKPdf**	**07 37 24.2**	**+0.4**
	comp=Z,1.7nm,0.2s						
ARSA				*i* PKP	**PKPbc**	**07 37 30.3**	**-0.2**
	comp=Z,28nm,1.1s,SNR=7.1						
ARSA				*i* PKP	**PKPab**	**07 37 41.4**	**+0.2**
	comp=Z,49nm,1.6s						
RZN	**Rozhen**	**151.54**	**322**	P	**PKPbc**	**07 37 30.7**	**-0.4**
BIOA	**Bad Ischl, Aus**	**151.59**	**343**	*i* PKP	**PKPdf**	**07 37 24.0**	**-0.1**
	comp=Z,7.0nm,0.8s						
BIOA				*i* PKP	**PKPbc**	**07 37 30.5**	**-0.3**
	comp=Z,53nm,1.1s,SNR=8.1						
BIOA				*e*PKP	**PKPab**	**07 37 42.1**	**+0.1**
	comp=Z,94nm,1.4s						
EZN	**Ezine**	**151.70**	**317**	⇓P	**PKPbc**	**07 37 31.0**	**-0.3**
EZN	**Ezine**	**151.70**	**317**	⇓PKIKP	**PKPbc**	**07 37 31.0**	**-0.3**
PLNA	**Plana**	**151.76**	**324**	⇓*i*P	**PKiKP**	**07 37 31.9**	**+0.1**
VTS	**Vitosha**	**151.77**	**325**	⇓*i*P	**PKPbc**	**07 37 31.6**	**0.0**
BOVS	**Bovan**	**151.84**	**328**	⇓P	**PKPbc**	**07 37 31.3**	**-0.1**
PSMN	**Pico do Norte,**	**151.84**	**50**	*e*PKP	**PKPdf**	**07 37 24.8**	**0.0**
KOGS	**Kog**	**151.88**	**338**	*e*PKPbc	**PKPbc**	**07 37 30.9**	**-0.5**
KOGS				*i* PKPab	**PKPab**	**07 37 43.2**	**0.0**
SOKA	**Soboth**	**152.08**	**340**	*i* PKP	**PKPdf**	**07 37 24.5**	**-0.3**
	comp=Z,9.6nm,1.0s						
SOKA				*i* PKP	**PKPbc**	**07 37 31.6**	**-0.5**
	comp=Z,50nm,0.9s,SNR=10						
SOKA				*i* PKP	**PKPab**	**07 37 43.9**	**-0.2**
	comp=Z,30nm,1.0s						
LESA	**Schwarzleotal**	**152.09**	**344**	*i* PKP	**PKPdf**	**07 37 24.5**	**-0.4**
	comp=Z,15nm,1.2s						
LESA				*e*PKP	**PKPbc**	**07 37 31.8**	**-0.3**
	comp=Z,49nm,1.1s						
LESA				*i* PKP	**PKPab**	**07 37 44.8**	**+0.6**
	comp=Z,66nm,1.0s						
PERS	**Pernice**	**152.09**	**340**	*e*PKPdf	**PKPdf**	**07 37 23.2**	**-1.7**
PERS				*i* PKPbc	**PKPbc**	**07 37 31.4**	**-0.6**
PERS				*i* PKPab	**PKPab**	**07 37 44.1**	**-0.1**
MMB	**Musomishta**	**152.20**	**323**	⇓*i*P	**PKPbc**	**07 37 32.0**	**-0.4**
KBA	**Koelnbreinsper**	**152.23**	**343**	*i* PKP	**PKPdf**	**07 37 24.3**	**-0.9**
	comp=Z,25nm,1.6s						
KBA				*i* PKP	**PKPbc**	**07 37 31.8**	**-0.7**
	comp=Z,52nm,0.9s,SNR=5.9						
KBA				*i* PKP	**PKPab**	**07 37 43.9**	**-1.0**
	comp=Z,21nm,0.7s						
KKB	**Krupnik**	**152.35**	**324**	⇓*i*P	**PKPbc**	**07 37 32.4**	**-0.3**
OBKA	**Obir**	**152.38**	**340**	*i* PKP	**PKPdf**	**07 37 25.3**	**-0.1**
	comp=Z,3.5nm,0.8s						
OBKA				*i* PKP	**PKPbc**	**07 37 32.3**	**-0.4**
	comp=Z,17nm,0.8s						
OBKA				*i* PKP	**PKPab**	**07 37 44.8**	**-0.7**
	comp=Z,19nm,0.8s						
WATA	**Walderalm**	**152.44**	**345**	*i* PKP	**PKPdf**	**07 37 25.1**	**-0.3**
	comp=Z,6.9nm,0.6s						
WATA				*i* PKP	**PKPbc**	**07 37 32.4**	**-0.5**
	comp=Z,58nm,1.0s,SNR=8.6						
WATA				*i* PKP	**PKPab**	**07 37 46.0**	**+0.2**
	comp=Z,79nm,1.1s						
RETA	**Reutte**	**152.49**	**346**	*i* PKP	**PKPdf**	**07 37 25.7**	**+0.3**
	comp=Z,11nm,1.4s						
RETA				*i* PKP	**PKPbc**	**07 37 32.7**	**-0.2**
	comp=Z,18nm,0.7s						
RETA				*i* PKP	**PKPab**	**07 37 45.7**	**-0.2**
	comp=Z,64nm,1.0s						
WTTA	**Wattenberg**	**152.50**	**345**	*i* PKP	**PKPdf**	**07 37 25.4**	**-0.2**
	comp=Z,19nm,1.1s						
WTTA				*i* PKP	**PKPbc**	**07 37 32.9**	**-0.1**
	comp=Z,92nm,0.9s,SNR=10.0						
WTTA				*i* PKP	**PKPab**	**07 37 46.5**	**+0.5**
	comp=Z,72nm,0.9s						
MOTA	**Moosalm**	**152.55**	**346**	*i* PKP	**PKPdf**	**07 37 25.3**	**-0.3**
	comp=Z,22nm,1.0s						
MOTA				*i* PKP	**PKPbc**	**07 37 33.0**	**-0.2**
	comp=Z,50nm,0.8s						
MOTA				*i* PKP	**PKPab**	**07 37 46.4**	**+0.2**
	comp=Z,68nm,0.9s						
MYKA	**Terra Mystica**	**152.55**	**342**	*i* PKP	**PKPdf**	**07 37 25.5**	**0.0**
	comp=Z,7.8nm,0.9s						
MYKA				*i* PKP	**PKPbc**	**07 37 32.3**	**-0.8**
	comp=Z,33nm,0.9s,SNR=8.7						
MYKA				*i* PKP	**PKPab**	**07 37 45.7**	**-0.5**
	comp=Z,40nm,1.4s						
SQTA	**Sankt Quirin**	**152.64**	**346**	*i* PKP	**PKPdf**	**07 37 25.6**	**-0.1**
	comp=Z,14nm,0.8s						
SQTA				*i* PKP	**PKPbc**	**07 37 33.2**	**-0.1**
	comp=Z,57nm,0.9s						
SQTA				*i* PKP	**PKPab**	**07 37 46.5**	**0.0**
	comp=Z,40nm,0.9s						
ABTA	**Abfaltersbach**	**152.76**	**343**	*i* PKP	**PKPdf**	**07 37 25.0**	**-0.9**
	comp=Z,25nm,1.0s						
ABTA				*i* PKP	**PKPbc**	**07 37 32.7**	**-0.8**
	comp=Z,84nm,1.0s						
ABTA				*i* PKP	**PKPab**	**07 37 47.1**	**+0.1**
	comp=Z,47nm,0.9s						
LJU	**Ljubljana**	**152.81**	**340**	*i* PKPbc	**PKPbc**	**07 37 33.4**	**-0.2**
DAVA	**Damuels**	**152.87**	**348**	*i* PKP	**PKPdf**	**07 37 26.2**	**+0.1**
	comp=Z,8.0nm,0.7s						
DAVA				*i* PKP	**PKiKP**	**07 37 34.1**	**+0.1**
	comp=Z,56nm,1.3s,SNR=6.7						
DAVA				*i* PKP	**PKPab**	**07 37 47.2**	**-0.4**
	comp=Z,51nm,1.0s						
FETA	**Feichten**	**152.94**	**346**	*i* PKP	**PKPdf**	**07 37 26.3**	**+0.1**
	comp=Z,24nm,0.9s						
FETA				*i* PKP	**PKPbc**	**07 37 33.6**	**-0.4**
	comp=Z,64nm,1.0s						
FETA				*i* PKP	**PKPab**	**07 37 48.5**	**+0.6**
	comp=Z,42nm,1.0s						
BLY	**Banja Luka**	**152.97**	**335**	⇑P	**PKPab**	**07 37 48.2**	**+0.3**
VAY	**Valandovo**	**153.01**	**324**	*i* P	**PKPbc**	**07 37 33.4**	**-0.7**
SKO	**Skopje**	**153.17**	**326**	*i* P	**PKiKP**	**07 37 34.6**	**+0.1**
DAVOX	**Davos/Dischmat**	**153.35**	**347**	PKP	**PKPdf**	**07 37 26.7**	**-0.2**
	comp=Z,9.1nm,0.8s,baz=69,slow=2.4,SNR=15						
DAVOX				PKPbc	**PKiKP**	**07 37 35.1**	**+0.2**
	comp=Z,44nm,0.7s,baz=167,slow=1.0,SNR=41						
DAVOX				PKPab	**PKPab**	**07 37 50.0**	**+0.4**
	comp=Z,47nm,0.9s,baz=11,slow=3.7,SNR=11						
OHR	**Ohrid**	**154.12**	**325**	*i* P	**PKiKP**	**07 37 36.8**	**+0.2**
IDI	**Anoyia**	**155.05**	**310**	PKP	**PKPdf**	**07 37 29.2**	**-0.2**
	comp=Z,18nm,1.0s,baz=158,slow=5.2,SNR=6.4						
IDI				PKPbc	PKPbc	07 37 39.0	
	comp=Z,21nm,0.8s,baz=3.6,slow=6.4,SNR=9.7						
PGAV	**Gavieira, Arco**	**157.44**	**19**	*e*PKPdf	**PKPdf**	**07 37 33.0**	**+0.7**
MVO	**Moncorvo**	**158.54**	**18**	*e*PKPdf	**PKPdf**	**07 37 34.8**	**+1.2**
MVO				*e*PKPab	**PKPab**	**07 38 12.6**	**+0.4**
MTE	**Manteigas**	**159.09**	**20**	*e*PKPdf	**PKPdf**	**07 37 35.4**	**+1.1**
PSARD	**Sardoal**	**159.60**	**22**	*e*PKPdf	**PKPdf**	**07 37 35.5**	**+0.7**
PSARD				*e*PKPab	**PKPab**	**07 38 16.9**	**+0.2**
PARRA	**Arraiolos**	**159.96**	**25**	*e*PKPdf	**PKPdf**	**07 37 36.1**	**+0.9**
PARRA				*e*PKPab	**PKPab**	**07 38 19.9**	**+1.6**
PMRV	**Marv??o**	**160.02**	**21**	*e*PKPdf	**PKPdf**	**07 37 35.9**	**+0.6**
PMRV				*e*PKPab	**PKPab**	**07 38 18.8**	**+0.3**
PMTG	**Montargil**	**160.05**	**23**	*e*PKPdf	**PKPdf**	**07 37 36.0**	**+0.7**
PMTG				*e*PKPab	**PKPab**	**07 38 18.6**	**-0.1**
EVO	**Evora**	**160.60**	**23**	*e*PKPdf	**PKPdf**	**07 37 36.9**	**+1.0**
EVO				*e*PKPab	**PKPab**	**07 38 21.4**	**+0.3**
ESDC	**Sonseca Array**	**160.72**	**13**	PKP	**PKPdf**	**07 37 36.4**	**+0.3**
	comp=Z,4.0nm,1.1s,baz=351,slow=3.5,SNR=13						
ESDC				PKPab	**PKPab**	**07 38 21.7**	**+0.1**
	comp=Z,25nm,1.1s,baz=339,slow=4.2,SNR=35						
ESDC				PP	**PP**	**07 41 58.6**	**-6.8**
	comp=Z,1.3nm,0.9s,baz=336,slow=7.4,SNR=4.2						
MESJ	**Messejana**	**161.13**	**25**	*e*PKPdf	**PKPdf**	**07 37 36.8**	**+0.3**
MESJ				*e*PKPab	**PKPab**	**07 38 23.6**	**+0.2**
MESJ	**Messejana**	**161.13**	**25**	*e*PKPdf	**PKPdf**	**07 37 37.3**	**+0.8**
MESJ				*e*PKPab	**PKPab**	**07 38 23.7**	**+0.2**
PBAR	**Barrancos**	**161.26**	**22**	*e*PKPdf	**PKPdf**	**07 37 37.5**	**+0.9**
PBAR				*e*PKPab	**PKPab**	**07 38 24.4**	**+0.4**
PCVE	**Castro Verde**	**161.38**	**25**	*e*PKPdf	**PKPdf**	**07 37 37.6**	**+0.8**
PCVE				*e*PKPab	**PKPab**	**07 38 24.9**	**+0.4**
MORF	**Marmelete**	**161.41**	**26**	*e*PKPdf	**PKPdf**	**07 37 37.1**	**+0.3**
MORF				*e*PKPab	**PKPab**	**07 38 25.0**	**+0.2**
MORF	**Marmelete**	**161.41**	**26**	*e*PKPdf	**PKPdf**	**07 37 38.3**	**+1.4**
MORF				*e*PKPab	**PKPab**	**07 38 25.5**	**+0.7**
PFVI	**Vila Bisbo**	**161.49**	**27**	*e*PKPdf	**PKPdf**	**07 37 38.3**	**+1.4**
PFVI				*e*PKPab	**PKPab**	**07 38 25.8**	**+0.8**
PBDV	**Barranco-do-Ve**	**161.76**	**25**	*e*PKPdf	**PKPdf**	**07 37 38.6**	**+1.4**
PBDV				*e*PKPab	**PKPab**	**07 38 27.3**	**+1.1**
KEST	**Kesra**	**163.77**	**337**	PKPab	**PKPab**	**07 38 35.5**	**+0.3**
	comp=Z,16nm,0.9s,baz=13,slow=1.2,SNR=9.8						
DBIC	**Dimbokro**	**164.50**	**155**	PKP	**PKPdf**	**07 37 39.9**	**-0.5**
	comp=Z,26nm,1.0s,baz=181,slow=0.5,SNR=17						
DBIC				PKPab	**PKPab**	**07 38 40.4**	**+1.6**
	comp=Z,3.6nm,0.6s,baz=214,slow=4.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**172.26**	**181**	PKP	**PKPdf**	**07 37 44.4**	**-1.0**
	comp=Z,12nm,0.9s,baz=358,slow=1.2,SNR=52						
TORD				PKPab	**PKPab**	**07 39 13.5**	**+0.5**
	comp=Z,8.3nm,0.9s,baz=157,slow=2.7,SNR=13						
TORD				PP	**PP**	**07 43 00.2**	**-3.4**
	comp=Z,2.0nm,0.9s,baz=113,slow=3.3,SNR=4.6						

*IDC **24** 07:24:20.6E1.3,31°.97N×49°.70E,h0km,mb3.9/14, mbtmp3.9/18,ML4.0/4,MS3.7/11,Error ellipse: s-maj=26.4km s-min=17.2km az=162.0*
*TEH **24** 07:24:22.3,32°.02N×49°.85E,h11km±17km*
*THR **24** 07:24:23.2±0.0,31°.97N×49°.75E,h14km±4km,ML4.1*
*OMAN **24** 07:24:31.0±0.9,31°.42N×50°.08E,h10km,mb4.9/28, ms3.0/6,Error ellipse: s-maj=8.3km s-min=5.9km az=17.0*
*DSN **24** 07:24:35.6±2.7,31°.18N×50°.30E,h15km,ML3.7/10,Error ellipse: s-maj=48.1km s-min=21.9km az=28.0*

ISC 24 07:24:22.4±0.5,31°.94N±0°.04×49.79E±0°.03,h15km,n135,
α2553/165,mb3.6/11,MS3.7/7,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GTMR	**Gotvand**	**0.78**	**313**	*e*Pg		**Pg**		**07 24 37.4**	**-0.2**
GTMR						IAML		07 25 00.8	
	comp=Z,5μm,1.0s								
JHBN	**Jahan bin**	**0.80**	**68**	Pg		**Pg**		**07 24 37.7**	**-0.3**
ZNGN	**Zangian**	**0.92**	**79**	Pg		**Pb**		**07 24 39.8**	**-0.5**
AHWZ	**Ahwaz**	**1.15**	**238**	Pg		**Pg**		**07 24 46.8**	**+2.2**
IPIR	**Pirpir**	**1.19**	**51**	Pg		**Pn**		**07 24 44.9**	**0.0**
IBRJ	**Brojen**	**1.25**	**91**	Pg		**Pn**		**07 24 46.8**	**+1.2**
ABEH	**Behbahan**	**1.39**	**163**	Pg		**Pg**		**07 24 51.0**	**+1.9**
KLNJ	**Kolanjah**	**1.80**	**121**	Pg		**Pb**		**07 24 56.7**	**+1.5**
KHMZ	**Khomeyn**	**1.80**	**4**	*i* P		**Pn**		**07 24 56.3**	**+3.2**
KHMZ						IAML		07 25 24.2	
	comp=Z,2μm,1.0s								
IGAR	**Gharneh**	**1.96**	**76**	Pn		**Pn**		**07 24 58.4**	**+3.0**
IKLH	**Kolahrood**	**2.04**	**47**	Pn		**Pn**		**07 24 59.5**	**+3.1**
BDRS	**Dareh Seyedi**	**2.15**	**339**	Pn		**Pn**		**07 25 00.5**	**+2.6**
IRAM	**Ramesheh**	**2.21**	**93**	Pn		**Pn**		**07 25 01.6**	**+2.8**
QAMS	**Qamsar**	**2.25**	**37**	Pn		**Pn**		**07 25 01.7**	**+2.5**
IZEF	**Zefreh**	**2.35**	**65**	Pn		**Pn**		**07 25 03.5**	**+2.8**
ASAO	**Ashtian**	**2.61**	**4**	*e*Pn		**Pn**		**07 25 07.7**	**+3.4**
ASAO						IAML		07 25 52.3	
	comp=Z,720nm,1.0s								
NASN	**Na'in**	**2.69**	**71**	*e*Pn		**Pn**		**07 25 08.6**	**+3.1**
NASN						IAML		07 25 53.2	
	comp=Z,530nm,1.0s								
KAZ2	**Kazeron-Fars-I**	**2.82**	**145**	Pn		**Pn**		**07 25 11.2**	**+4.1**
KRSH	**Karshahi**	**2.83**	**44**	Pn		**Pn**		**07 25 10.3**	**+3.1**
GHVR	**GHOM**	**2.83**	**26**	*e*Pn		**Pn**		**07 25 11.0**	**+3.9**
GHVR						IAML		07 26 14.8	
	comp=Z,580nm,1.0s								
HAGD	**Aghdareh**	**2.93**	**349**	Pn		**Pn**		**07 25 10.6**	**+2.0**
IBZA	**Bozab**	**3.00**	**328**	Pn		**Pn**		**07 25 12.3**	**+2.7**
IQOM	**Qom**	**3.09**	**20**	Pn		**Pn**		**07 25 13.4**	**+2.6**
ISFB	**Sefidab**	**3.17**	**40**	Pn		**Pn**		**07 25 14.2**	**+2.5**
SHI	**Shiraz**	**3.28**	**134**	Pn		**Pn**		**07 25 17.0**	**+3.7**
KCHF	**Cheshme Sefid,**	**3.28**	**316**	Pn		**Pn**		**07 25 16.1**	**+2.7**
KBD	**Kabd**	**3.29**	**214**	Pn		**Pn**		**07 25 17.3**	**+3.9**
KBD						Sn		**07 25 57.4**	**-3.1**
SNQR	**Sonqor, Kerman**	**3.43**	**329**	Pn		**Pn**		**07 25 18.1**	**+2.6**
IVRN	**Varamin**	**3.45**	**27**	Pn		**Pn**		**07 25 18.3**	**+2.6**
ILBA	**Ilam Banvizeh**	**3.45**	**300**	*e*Pn		**Pn**		**07 25 17.6**	**+1.9**
ILBA						IAML		07 26 34.3	
	comp=Z,330nm,1.0s								
ANAR	**Anarak**	**3.55**	**68**	Pn		**Pn**		**07 25 19.9**	**+2.8**
IGHG	**Ghaleghazi**	**3.60**	**312**	Pn		**Pn**		**07 25 20.8**	**+2.9**
HGHA	**Hamedan- Ghaye**	**3.62**	**348**	Pn		**Pn**		**07 25 20.5**	**+2.3**
SNGE	**Sanandaj**	**3.75**	**328**	*e*Pn		**Pn**		**07 25 22.5**	**+2.6**
SNGE						IAML		07 26 09.8	
	comp=Z,310nm,1.0s								
QABG	**Abgarm-Qazvin**	**3.76**	**357**	Pn		**Pn**		**07 25 22.5**	**+2.4**
DSBU	**Dashti - Bushe**	**3.79**	**160**	Pn		**Pn**		**07 25 23.6**	**+3.4**
GLG1	**Gilan-e-Gharb**	**3.92**	**305**	Pn		**Pn**		**07 25 25.6**	**+3.5**
ICHK	**Chekchek**	**3.93**	**84**	Pn		**Pn**		**07 25 25.3**	**+2.9**
THKV	**Tehran--Karaj**	**4.07**	**13**	*i* P		**Pn**		**07 25

	comp=Z,2.9nm,0.4s					
KBZ	**Khabaz**	**12.96**	**337**	LR	LR	07 32 51.1
	comp=Z,282nm,18.3s,baz=146,slow=40					
JLN	**Jalan Bani Buh**	**12.97**	**136**	Pn	**Pn**	**07 27 27.8 +1.5**
DOK	**Doka**	**13.83**	**163**	Pn	**Pn**	**07 27 37.9 -0.1**
	SNR=31					
DQM	**DQM**	**13.84**	**148**	Pn	**Pn**	**07 27 38.9 +0.9**
WHFO	**Wadi Hawf**	**14.42**	**165**	Pn	**Pn**	**07 27 44.9 -1.1**
	SNR=27					
SHAO	**Shalim**	**14.83**	**158**	Pn	**Pn**	**07 27 50.7 -0.9**
ABTO	**Aybut**	**14.87**	**167**	Pn	**Pn**	**07 27 51.1 -1.1**
	SNR=7.5					
DMTO	**DMTO**	**14.91**	**161**	Pn	**Pn**	**07 27 51.6 -1.1**
	SNR=18					
RBK	**Rabkut**	**14.92**	**163**		**Pn**	**07 27 52.0 -0.9**
BRTR	**Keskin Array B**	**15.22**	**305**	Pn	**Pn**	**07 27 58.6 +1.8**
	comp=Z,0.3nm,0.3s,baz=112,slow=13,SNR=6.8					
	comp=Z,0.8nm,0.6s					
AKTO	**Aktyubinsk**	**19.46**	**16**	P	**P**	**07 28 48.9 +0.5**
	comp=Z,0.3nm,0.3s,baz=214,slow=11,SNR=4.7					
	comp=Z,1.4nm,0.5s					
BELG	**Belogornoye**	**20.50**	**356**	P	**P**	**07 28 59.4 -0.3**
	comp=Z,16nm,0.8s,baz=155,slow=2.9,SNR=5.8					
	comp=Z,16nm,0.8s					
IDI	**Anoyia**	**20.99**	**286**	P	**P**	**07 29 04.8 -0.4**
	comp=Z,4.0nm,0.3s,baz=79,slow=9.9,SNR=8.7					
	comp=Z,4.0nm,0.3s					
AAK	**Ala-Archa**	**22.29**	**54**	LR	LR	07 39 23.1
	comp=Z,284nm,20.4s,baz=261,slow=40					
KSH	**Kashi**	**22.51**	**63**	P	**P**	**07 29 19.4 -2.2**
KSH				sP	pP	07 29 26.6 +0.4
KSH				LR	LR	
	comp=N,300nm,13.1s					
KSH				LR	LR	
	comp=E,510nm,14.1s					
KSH				LR	LR	
	comp=Z,470nm,18.1s					
AKASG	**Malin Array Be**	**24.15**	**327**	P	**P**	**07 29 38.0 +0.3**
	comp=Z,0.5nm,0.3s,baz=134,slow=9.0,SNR=6.3					
	comp=Z,0.5nm,0.3s					
FURI	**Furi**	**25.14**	**207**	LR	LR	07 40 15.1
	comp=Z,265nm,18.7s,baz=11,slow=38					
BVAR	**Borovoye Array**	**25.80**	**29**	P	**P**	**07 29 53.7 +1.0**
	comp=Z,0.8nm,0.4s,baz=172,slow=12,SNR=2.0					
BVAR				LR	LR	07 41 40.5
	comp=Z,166nm,18.6s,baz=216,slow=40					
	comp=Z,0.8nm,0.4s					
KIRV	**Kirov**	**26.65**	**360**	LR	LR	07 43 07.8
	comp=Z,147nm,20.6s,baz=199,slow=42					
KURBB	**Kurchatov Arra**	**28.28**	**40**	P	**P**	**07 30 15.9 +0.9**
	comp=Z,0.4nm,0.3s,baz=243,slow=9.3,SNR=4.7					
KURBB				LR	LR	07 43 04.2
	comp=Z,190nm,19.1s,baz=179,slow=40					
	comp=Z,0.4nm,0.3s					
MKAR	**Makanchi Array**	**28.93**	**50**	P	**P**	**07 30 21.9 +1.0**
	comp=Z,0.7nm,0.7s,baz=250,slow=6.4,SNR=5.6					
	comp=Z,0.7nm,0.7s					
FINES	**FINESS Array B**	**33.31**	**339**	P	**P**	**07 30 59.0 -0.2**
	comp=Z,0.6nm,0.5s,baz=141,slow=7.7,SNR=4.4					
	comp=Z,0.6nm,0.5s					
HFS	**Hagfors**	**36.91**	**331**	P	**P**	**07 31 30.2 -0.1**
	comp=Z,0.9nm,0.3s,baz=143,slow=9.0,SNR=15					
	comp=Z,0.9nm,0.3s					
NOA	**NORSAR Array B**	**38.43**	**331**	P	**P**	**07 31 42.4 -0.7**
	comp=Z,0.3nm,0.5s,baz=126,slow=7.1,SNR=3.4					
	comp=Z,0.3nm,0.5s					
ARCES	**ARCESS Array B**	**40.06**	**347**	P	**P**	**07 31 56.5 -0.2**
	comp=Z,3.3nm,1.0s,baz=153,slow=10.0,SNR=1.7					
	comp=Z,3.3nm,1.0s					
EKA	**Eskdalemuir Ar**	**43.55**	**319**	P	**P**	**07 32 25.1 -0.2**
	comp=Z,0.2nm,0.3s,baz=98,slow=9.4,SNR=1.7					
	comp=Z,0.2nm,0.3s					
ESDC	**Sonseca Array**	**43.72**	**296**	P	**P**	**07 32 26.6 -0.4**
	comp=Z,0.4nm,0.6s,baz=87,slow=8.5,SNR=2.4					
	comp=Z,0.4nm,0.6s					
TORD	**Torodi Ar. Bea**	**47.77**	**258**	P	**P**	**07 32 58.9 -0.3**
	comp=Z,2.0nm,0.7s,baz=47,slow=9.1,SNR=12					
	comp=Z,2.0nm,0.7s					
SPITS	**Spitsbergen Ar**	**48.59**	**351**	P	**P**	**07 33 05.7 +0.9**
	comp=Z,2.6nm,0.7s,baz=147,slow=11,SNR=11					
	comp=Z,2.6nm,0.7s					
MATP	**Matopo**	**55.92**	**204**	LR	LR	07 58 59.8
	comp=Z,158nm,20.9s,baz=44,slow=37					

*NEIC **24** 07:48:16.5±1.5, 19°.07N±0°.03×67°.15W±0°.02, h10km±2km, ML3.2/19, Md3.3/10(RSPR), Error ellipse: s-maj=5.9km s-min=3.0km az=21.0*
*OSPL **24** 07:48:16.4±0.9, 19°.15N×67°.36W, h14km±5km, ML3.1*
*RSPR **24** 07:48:17.2, 19°.13N×67°.29W, h8km±5km, MD3.3/10*

ISC 24 07:48:18.2±1.6, 19°.01N±0°.07×67°.21W±0°.04, h29km±11km, n55, σ0°99/62, 9C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.54**	**170**		**Pb**	**07 48 29.2**	**-0.1**
AGPR					**Sn**	**07 48 39.9**	**+1.7**
AGPR	**Aguadilla, PR**	**0.54**	**170**	⇑*e*P	**Pb**	**07 48 29.2**	**-0.1**
AGPR	**Aguadilla, PR**	**0.54**	**170**	*e*S	**Sn**	**07 48 39.9**	**+1.7**
AGPR	**Aguadilla, PR**	**0.54**	**170**	*i* P	**Pb**	**07 48 29.1**	**-0.3**
AGPR				*e*S	**Sn**	**07 48 38.7**	**+0.6**
AGPR				IAML		07 48 40.0	
	comp=Z,1μm,0.2s						
IDE	**Isla Desecheo**	**0.67**	**202**		**Pb**	**07 48 31.0**	**-0.4**
IDE					**Sn**	**07 48 41.6**	**+0.5**
IDE	**Isla Desecheo**	**0.67**	**202**	⇓*e*P	**Pb**	**07 48 31.0**	**-0.4**
IDE	**Isla Desecheo**	**0.67**	**202**	*e*S	**Sn**	**07 48 41.6**	**+0.5**
AOPR	**Arecibo Observ**	**0.79**	**147**		**Pb**	**07 48 32.8**	**-0.6**
AOPR				IAML		07 48 45.5	
	comp=N,2μm,0.6s						
AOPR	**Arecibo Observ**	**0.79**	**147**		**Sn**	**07 48 45.5**	**+1.3**
AOPR	**Arecibo Observ**	**0.79**	**147**	⇓*e*P	**Pb**	**07 48 32.8**	**-0.6**
AOPR	**Arecibo Observ**	**0.79**	**147**	*e*S	**Sn**	**07 48 45.5**	**+1.3**
PRSN	**Puerto Rico Se**	**0.79**	**175**		**Pb**	**07 48 32.8**	**-0.6**
PRSN	**Puerto Rico Se**	**0.79**	**175**		**Sn**	**07 48 46.1**	**+1.9**
PRSN	**Puerto Rico Se**	**0.79**	**175**	⇑*e*P	**Pb**	**07 48 32.9**	**-0.6**
PRSN	**Puerto Rico Se**	**0.79**	**175**	*e*S	**Sn**	**07 48 46.1**	**+1.9**
EMPR	**Esperanza - Ma**	**0.83**	**129**		**Pn**	**07 48 32.8**	**-0.2**
EMPR	**Esperanza - Ma**	**0.83**	**129**		**Sn**	**07 48 46.5**	**+1.3**
EMPR	**Esperanza - Ma**	**0.83**	**129**	⇑*e*P	**Pn**	**07 48 34.0**	**0.0**
EMPR	**Esperanza - Ma**	**0.83**	**129**	*e*S	**Sn**	**07 48 46.5**	**+1.3**
LSP	**Las Mesas**	**0.83**	**172**		**Pn**	**07 48 33.9**	**-0.1**
LSP					**Sn**	**07 48 48.0**	**+2.6**
LSP	**Las Mesas**	**0.83**	**172**	⇑*e*P	**Pn**	**07 48 33.9**	**-0.1**
LSP	**Las Mesas**	**0.83**	**172**	*e*S	**Sn**	**07 48 48.0**	**+2.6**
UUPR	**Utuado, UPR, P**	**0.88**	**148**		**Pn**	**07 48 34.2**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.00**	**175**	Pn	**Pn**	**07 48 36.2**	**-0.1**
CRPR				IAML		07 49 01.8	
	comp=N,553nm,0.7s						
CRPR				IAML		07 49 02.8	
	comp=E,459nm,0.4s						
CRPR	**Cabo Rojo, PR**	**1.00**	**175**		**Sb**	**07 48 50.0**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.00**	**175**	⇑*e*P	**Pn**	**07 48 36.6**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.00**	**175**	*e*S	**Sb**	**07 48 50.0**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.00**	**175**	*i* P	**Pb**	**07 48 37.0**	**+0.1**
CRPR				*e*S	**Sb**	**07 48 51.0**	**+1.3**
CRPR				IAML		07 48 55.6	
	comp=Z,370nm,0.6s						
MLPR	**Magueyes Islan**	**1.04**	**171**	⇓*e*P	**Pn**	**07 48 36.8**	**-0.1**
MLPR	**Magueyes Islan**	**1.04**	**171**	*e*S	**Sn**	**07 48 49.1**	**-1.3**
ECPR	**Experimental S**	**1.05**	**130**	⇑*e*P	**Pn**	**07 48 37.1**	**0.0**
ECPR	**Experimental S**	**1.05**	**130**	*e*S	**Sb**	**07 48 52.3**	**+1.0**
CELP	**Cerrillos**	**1.10**	**147**		**Pn**	**07 48 37.7**	**0.0**
CELP				IAML		07 48 54.8	
	comp=N,534nm,0.8s						
CELP				IAML		07 48 56.9	
	comp=E,503nm,0.6s						
CELP	**Cerrillos**	**1.10**	**147**		**Sb**	**07 48 54.0**	**+1.3**
CELP	**Cerrillos**	**1.10**	**147**	⇓*e*P	**Pn**	**07 48 37.7**	**0.0**
CELP	**Cerrillos**	**1.10**	**147**	*e*S	**Sb**	**07 48 54.0**	**+1.3**
OBIP	**Obispado Ponce**	**1.12**	**149**		**Pn**	**07 48 37.8**	**-0.1**
OBIP				IAML		07 48 55.5	
	comp=N,485nm,0.7s						
OBIP				IAML		07 48 56.2	
	comp=E,467nm,0.6s						
OBIP	**Obispado Ponce**	**1.12**	**149**		**Sn**	**07 48 52.4**	**+0.1**
OBIP	**Obispado Ponce**	**1.12**	**149**	⇑*e*P	**Pn**	**07 48 37.8**	**-0.1**
OBIP	**Obispado Ponce**	**1.12**	**149**	*e*S	**Sn**	**07 48 52.4**	**+0.1**
GCPR	**Guaynabo City**	**1.27**	**123**		**Pn**	**07 48 40.3**	**+0.3**
SJG	**San Juan**	**1.34**	**131**		**Pn**	**07 48 41.5**	**+0.5**
SJG				IAML		07 49 07.2	
	comp=E,340nm,0.4s						
SJG				IAML		07 49 11.5	
	comp=E,394nm,0.4s						
SJG	**San Juan**	**1.34**	**131**	*i* P	**Pn**	**07 48 41.4**	**+0.4**
SJG				*e*S	**Sb**	**07 49 00.8**	**+1.3**
SJG				IAML		07 49 06.4	
	comp=Z,175nm,0.5s						
IGPR	**InterUniversit**	**1.47**	**134**		**Pn**	**07 48 43.5**	**+0.8**
IGPR					**Sb**	**07 49 02.5**	**-0.7**
IGPR	**InterUniversit**	**1.47**	**134**	⇑*e*P	**Pn**	**07 48 43.5**	**+0.8**
IGPR	**InterUniversit**	**1.47**	**134**	*e*S	**Sb**	**07 49 02.5**	**-0.7**
PDPR	**Patillas Dam,**	**1.50**	**131**		**Pn**	**07 48 43.6**	**+0.5**
PDPR	**Patillas Dam,**	**1.50**	**131**	⇑*e*P	**Pn**	**07 48 43.8**	**+0.7**
PDPR	**Patillas Dam,**	**1.50**	**131**	*e*S	**Sb**	**07 49 04.4**	**+0.4**
HUMP	**Col San Antoni**	**1.55**	**123**		**Pn**	**07 48 43.9**	**0.0**
SDD	**Santo Domingo**	**2.62**	**258**	Pn	**Pn**	**07 48 57.9**	**-0.6**
SDD				IAML		07 49 41.4	
	comp=E,140nm,1.1s						
SDD				IAML		07 49 43.6	
	comp=N,123nm,0.9s						
SC01	**Santiago de lo**	**3.35**	**278**	Pn	**Pn**	**07 49 09.7**	**+1.0**
SDDR	**Presa de Saban**	**3.86**	**270**		**Pn**	**07 49 17.0**	**+1.3**
RUSC	**La Rusia**	**14.23**	**204**	Pn	**Pn**	**07 51 37.2**	**-1.2**
BOAV	**Boa Vista**	**17.76**	**158**	Pn	**Pn**	**07 52 21.8**	**-1.7**

*BJI **24** 07:48:54.8, 33°.88N×25°.84E, h29km, mB5.3/27, mb5.4/73, Ms4.9/42, Ms7 4.6/41*
*IDC **24** 07:48:55.6±0.4, 34°.33N×26°.21E, h0km, mb5.5/30, mbtmp5.5/43, ML4.8/13, MS4.5/63, Error ellipse: s-maj=10.1km s-min=8.6km az=142.0*
*ISK **24** 07:48:55.9, 34°.16N×26°.32E, h15km, ML5.2/72*
*MOS **24** 07:48:56.2±1.0, 34°.28N×26°.17E, h13km, mb5.8/65, Error ellipse: s-maj=4.4km s-min=2.4km az=86.3*
*PDG **24** 07:48:56.4±0.6, 34°.10N×25°.93E, h20km±11km, ML5.2/11, Error ellipse: s-maj=170.1km s-min=163.9km az=90.0*
*NEIC **24** 07:48:57.9±2.1, 34°.21N±0°.07×26°.25E±0°.04, h10km±1km, mb5.6/719, Mww4.9/15, Error ellipse: s-maj=12.1km s-min=5.7km az=183.0*
*BEO **24** 07:48:57.0±0.4, 33°.65N×24°.98E, h19km, ML5.0/1*
*NEIC **24** 07:48:58, 34°.35N×26°.47E, h14km, Moment Tensor Solution. Duration: 1§8 Moment tensor: Scale 10^16 Nm; Mrr 1.46; Mθθ -2.53; Mφφ 1.07; Mrθ 1.54; Mθφ 1.17; Mrφ 1.33; Fault plane solution: Mo 3.22000×10^16 NP1: φs 321.37000°, δ45.64000°, λ152.79000°. NP2: φs 71.14000°, δ70.92000°, λ47.71000°. Principal axes: T 3.2585, Plg47.0000°, Azm297.0000°; N -0.0793, Plg39.0000°, Azm88.0000°; P -3.1792, Plg15.0000°, Azm191.0000°;*
*MED_RC **24** 07:48:58.0±0.8, 34°.11N×26°.22E, h28km±1km, MW5.0/22, Moment Tensor Solution. Body waves: s4,c4;Mantle waves: s22,c33; Duration: 1§2 Moment tensor: Scale 10^16 Nm; Mrr 1.33±.40; Mθθ -4.66±.24; Mφφ 3.33±.23; Mrθ 1.77±.36; Mθφ 1.23±.29; Mrr -1.05±.40; Best double couple: Mo 4.60000×10^16 NP1: φs 233.00000°, δ64.00000°, λ3.00000°. NP2: φs 141.00000°, δ87.00000°, λ154.00000°. Principal axes: T 3.8100, Plg21.0000°, Azm94.0000°; N 1.5800, Plg63.0000°, Azm315.0000°; P -5.3900, Plg16.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*MCSM **24** 07:48:58.3±0.5, 34°.N±.4°×.2°6E±°, h15km±3km, mb5.5, mB5.4, MLv5.2, Mw(mB)4.8*
*NEIC **24** 07:48:58, 34°.25N×26°.23E, h14km*
*HLW **24** 07:48:59.0, 34°.22N×26°.34E, h22km±5km, Ml4.8*
*GCMT **24** 07:48:59.0±0.2, 34°.11N±0°.01×26°.04E±0°.02, h25km, MW5.1/107, Moment Tensor Solution. s52,c63; s107,c153; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.41±.17; Mθθ -4.14±.10; Mφφ 1.73±.12; Mrθ 4.25±.24; Mθφ 1.98±.11; Mrφ 0.95±.30; Best double couple: Mo 5.91200×10^16 NP1: φs 323.00000°, δ33.00000°, λ151.00000°. NP2: φs 78.00000°, δ75.00000°, λ61.00000°. Principal axes: T 5.3610, Plg51.0000°, Azm315.0000°; N 1.1020, Plg28.0000°, Azm87.0000°; P -6.4630, Plg24.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*GII **24** 07:48:59.4±0.0, 34°.05N±0°.06×26°.44E±0°.02, h20km, Mws5.2, confirmed*
*AFAD **24** 07:49:00.8, 34°.62N×26°.37E, h9km±3km, MW5.0*
*THE **24** 07:49:01.1, 34°.N±.5°×.2°6E±°, h21km, M4.9/13, MLh4.9/13*
*ATH **24** 07:49:02.2, 34°.49N×26°.17E, h15km±6km, Manual Solution by P.Lantzouraki First location: 2019/09/24 07:50:10, This location: 2021/06/18 15:03:00 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 1 km*
*NAO **24** 07:49:09.2, 35°.08N×24°.47E, h33km, MB5.2*

ISC 24 07:48:59.3±0.5, 34°.27N±0°.03×26°.22E±0°.02, h24km±3km, n1821, σ1°61/1664, mb5.6/503, MS4.5/78, 117C-69D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.84**	**360**	Pg	**Pb**	**07 49 14.7**	**-0.6**
ZKR				Sg	**Sn**	**07 49 28.3**	**+0.9**
ZKR	**Zakros**	**0.84**	**360**	P	Pn	07 49 20.6	+4.9
ZKR	**Zakros**	**0.84**	**360**	P	**Pb**	**07 49 15.1**	**-0.2**
ZKR				S	**Sb**	**07 49 22.7**	**-3.5**
NPS	**Neapolis**	**1.11**	**333**	P	**Pb**	**07 49 21.5**	**+1.6**
NPS				S	**Sb**	**07 49 37.7**	**+3.7**
NPS	**Neapolis**	**1.11**	**333**	P	**Pn**	**07 49 19.5**	**+0.1**
NPS				S	**Sn**	**07 49 32.3**	**-1.7**
IACM	**Heraklion**	**1.40**	**318**	P	**Pb**	**07 49 26.0**	**+1.1**
IACM				S	**Sb**	**07 49 44.9**	**+2.6**
IACM	**Heraklion**	**1.40**	**318**	P	**Pb**	**07 49 25.9**	**+1.0**
IACM				S	**Sn**	**07 49 41.0**	**-0.1**
TMBK	**Timbaki Herakl**	**1.44**	**304**	P	**Pb**	**07 49 26.3**	**+0.8**
TMBK				S	**Sb**	**07 49 45.7**	**+2.2**
KARP	**Karpathos**	**1.49**	**31**	Pn	**Pn**	**07 49 23.7**	**-0.9**
KARP	**Karpathos**	**1.49**	**31**		**Pb**	**07 49 27.2**	**+0.9**
KARP	**Karpathos**	**1.49**	**31**	P	**Pb**	**07 49 26.8**	**+0.5**
KARP				S	**Sb**	**07 49 48.8**	**+4.0**
KARP	**Karpathos**	**1.49**	**31**	⇓P	**Pb**	**07 49 25.9**	**-0.4**
KARP	**Karpathos**	**1.49**	**31**	P	**Pb**	**07 49 26.8**	**+0.5**
KARP	**Karpathos**	**1.49**	**31**	P	**Pb**	**07 49 27.0**	**+0.7**
KARP				S	**Sb**	**07 49 47.1**	**+2.2**
IDI	**Anoyia**	**1.50**	**313**	S	**Sb**	**07 49 49.3**	**+4.2**
IDI				P	**Pb**	**07 49 26.8**	**+0.3**
IDI	**Anoyia**	**1.50**	**313**	Pn	**Pn**	**07 49 24.9**	**+0.2**
IDI				Sn	**Sb**	**07 49 46.0**	**+1.0**
IDI	**Anoyia**	**1.50**	**313**		**Pb**	**07 49 27.0**	**+0.5**
IDI	**Anoyia**	**1.50**	**313**	Pn	**Pb**	**07 49 26.1**	**-0.3**
	284nm,0.3s,baz=121,slow=14,SNR=1116						
IDI				Sn	**Sb**	**07 49 45.6**	**+0.6**
	495nm,0.3s,baz=20,slow=12,SNR=11						
IDI	**Anoyia**	**1.50**	**313**	P	**Pb**	**07 49 26.0**	**-0.4**
IDI				S	**Sn**	**07 49 43.5**	**0.0**
PRNS	**Prines Rethymn**	**1.79**	**308**	P	**Pb**	**07 49 31.4**	**0.0**
PRNS				S	**Sb**	**07 49 55.0**	**+1.6**
PRNS	**Prines Rethymn**	**1.79**	**308**	P	**Pb**	**07 49 31.4**	**0.0**
PRNS				S	**Sn**	**07 49 51.7**	**+1.1**
GVD	**Gavdhos**	**1.85**	**288**	Pn	**Pn**	**07 49 29.4**	**-0.2**
GVD	**Gavdhos**	**1.85**	**288**	P	**Pn**	**07 49 31.1**	**+1.5**
GVD				S	**Sb**	**07 49 55.1**	**-0.1**
GVD	**Gavdhos**	**1.85**	**288**	P	**Pn**	**07 49 30.8**	**+1.2**
THERA	**Ancient Thera,**	**2.18**	**344**	P	**Pn**	**07 49 35.1**	**+1.0**
CHAN	**Chania**	**2.18**	**305**	P	**Pb**	**07 49 37.0**	**-1.1**
CHAN				S	**Sn**	**07 50 02.7**	**+2.3**
SNT5	**Nea Kammeni, S**	**2.23**	**343**	P	**Pn**	**07 49 35.6**	**+0.8**
SAP3	**Santorini-Thir**	**2.28**	**342**	P	**Pn**	**07 49 37.0**	**+1.6**
SAP3	**Santorini-Thir**	**2.28**	**342**	P	**Pn**	**07 49 36.3**	**+0.9**
KNDR	**Palaiochora Ch**	**2.30**	**295**	Pn	**Pn**	**07 49 36.9**	**+1.2**
KNDR	**Palaiochora Ch**	**2.30**	**295**	P	**Pb**	**07 49 38.3**	**-1.8**
KNDR				S	**Sb**	**07 50 08.0**	**0.0**
KNDR	**Palaiochora Ch**	**2.30**	**295**	P	**Pb**	**07 49 38.3**	**-1.8**
NISR	**Nisiros**	**2.45**	**17**	P	**Pn**	**07 49 39.5**	**+1.7**
NISR				S	**Sb**	**07 50 10.0**	**-2.5**
NISR	**Nisiros**	**2.45**	**17**	P	**Pn**	**07 49 39.1**	**+1.3**
ARG	**Arkhangelos**	**2.49**	**38**	Pn	**Pn**	**07 49 37.7**	**-0.6**
ARG	**Arkhangelos**	**2.49**	**38**		**Pn**	**07 49 41.0**	**+2.7**
ARG	**Arkhangelos**	**2.49**	**38**	P	**Pn**	**07 49 40.8**	**+2.4**
ARG				S	**Sb**	**07 50 11.2**	**-2.4**
ARG	**Arkhangelos**	**2.49**	**38**	P	**Pn**	**07 49 40.0**	**+1.7**
ARG				S	**Sb**	**07 50 11.2**	**-2.4**
ARG	**Arkhangelos**	**2.49**	**38**	P	**Pn**	**07 49 40.7**	**+2.4**
YAZI	**Mula-Dat§a-**	**2.61**	**22**	P	**Pn**	**07 49 40.8**	**+0.9**
YAZI				S	**Sn**	**07 50 10.2**	**-0.6**
DAT	**Datca**	**2.69**	**24**	Pn	**Pn**	**07 49 41.4**	**+0.2**
DAT				Sn	**Sn**	**07 50 13.6**	**+0.5**
DAT	**Datca**	**2.69**	**24**	P	**Pn**	**07 49 41.5**	**+0.2**
DAT				S	**Sn**	**07 50 13.0**	**-0.1**
DATC	**Datca-Mugla**	**2.75**	**25**	Pn	**Pn**	**07 49 41.8**	**-0.1**
DATC				Sn	**Sn**	**07 50 14.8**	**+0.5**
MHLO	**Agia Marina, M**	**2.83**	**329**	P	**Pn**	**07 49 44.8**	**+1.7**
MHLO				S	**Sb**	**07 50 20.3**	**-3.2**
MHLO	**Agia Marina, M**	**2.83**	**329**	P	**Pn**	**07 49 44.5**	**+1.4**
APE	**Apeiranthos**	**2.85**	**349**	Pn	**Pn**	**07 49 44.3**	**+0.9**
APE	**Apeiranthos**	**2.85**	**349**	P	**Pn**	**07 49 45.1**	**+1.8**
APE				S	**Sn**	**07 50 20.5**	**+3.6**
APE	**Apeiranthos**	**2.85**	**349**	⇓P	**Pn**	**07 49 45.4**	**+2.1**
APE				⇑S	**Sb**	**07 50 21.2**	**-2.8**
APE	**Apeiranthos**	**2.85**	**349**	P	**Pn**	**07 49 44.3**	**+0.9**
APE				S	**Sn**	**07 50 20.5**	**+3.6**
APE	**Apeiranthos**	**2.85**	**349**	P	**Pn**	**07 49 45.6**	**+2.2**
APE	**Apeiranthos**	**2.85**	**349**	P	**Pn**	**07 49 44.2**	**+0.9**
ANKY	**Antikythira Is**	**2.88**	**304**	P	**Pn**	**07 49 45.8**	**+2.2**
ANKY				S	**Sn**	**07 50 21.3**	**+3.7**
ANKY	**Antikythira Is**	**2.88**	**304**	P	**Pn**	**07 49 45.9**	**+2.2**
SLUM	**Salum**	**2.90**	**197**	P	**Pn**	**07 49 43.6**	**-0.4**
SLUM				S	**Sn**	**07 50 15.5**	**-2.6**
BDRM	**Kayabasi**	**2.96**	**19**	P	**Pn**	**07 49 46.0**	**+1.2**
BDRM				S	**Sn**	**07 50 22.1**	**+2.4**
YKAV	**Yalikavak-Bodr**	**2.98**	**17**	Pn	**Pn**	**07 49 45.3**	**+0.3**
MATC	**Matruh**	**3.04**	**164**	P	**Pn**	**07 49 45.1**	**-0.7**
MATC				S	**Sn**	**07 50 17.9**	**-3.5**
DIDI	**Didim-Aydin**	**3.21**	**15**	Pn	**Pn**	**07 49 49.0**	**+0.8**
KTHA	**Kythira Island**	**3.26**	**308**	Pn	**Pn**	**07 49 49.7**	**+0.8**
IZZE	**Mula-Seydike**	**3.27**	**48**	P	**Pn**	**07 49 49.6**	**+0.6**
IZZE				S	**Sn**	**07 50 28.3**	**+1.0**
DDIM	**Aydin, Didim**	**3.29**	**14**	P	**Pn**	**07 49 50.3**	**+1.0**
KSL	**Kastellorizon**	**3.33**	**55**	P	**Pn**	**07 49 51.1**	**+1.2**
KSL				S	**Sn**	**07 50 30.0**	**+1.3**
KSL	**Kastellorizon**	**3.33**	**55**	P	**Pn**	**07 49 50.6**	**+0.8**
AKAS	**Kas**	**3.39**	**54**	Pn	**Pn**	**07 49 50.0**	**-0.9**
AKAS	**Kas**	**3.39**	**54**		**Pn**	**07 49 52.0**	**+1.2**
AKAS	**Kas**	**3.39**	**54**	P	**Pn**	**07 49 50.7**	**-0.1**
AKAS				S	**Sn**	**07 50 31.3**	**+0.9**
SABU	**Mula-Dalaman**	**3.39**	**41**	P	**Pn**	**07 49 52.0**	**+1.2**
SABU				S	**Sn**	**07 50 31.1**	**+0.8**
MULA	**Mugla, Merkez-**	**3.43**	**29**	P	**Pn**	**07 49 53.1**	**+1.7**
SMG	**Samos**	**3.47**	**8**	P	**Pn**	**07 49 52.7**	**+0.9**
SMG				S	**Sn**	**07 50 33.6**	**+1.5**
SMG	**Samos**	**3.47**	**8**	P	**Pn**	**07 49 53.0**	**+1.2**
GCAM	**G?zelcaml?**	**3.52**	**13**	Pn	**Pn**	**07 49 53.1**	**+0.6**
GCAM	**G?zelcaml?**	**3.52**	**13**	P	**Pn**	**07 49 53.7**	**+1.2**
GCAM				S	**Sn**	**07 50 35.4**	**+2.0**
DEMR	**Demre-Antalya**	**3.60**	**56**	Pn	**Pn**	**07 49 52.8**	**-0.7**
VLI	**Veliai**	**3.63**	**313**	P	**Pn**	**07 49 54.8**	**+0.8**
VLI				S	**Sn**	**07 50 38.1**	**+2.1**
VLI	**Veliai**	**3.63**	**313**	P	**Pn**	**07 49 54.0**	**0.0**
AYDN	**Tasoluk**	**3.64**	**21**	P	**Pn**	**07 49 55.9**	**+1.6**
AYDN				S	**Sn**	**07 50 35.4**	**-1.1**
CAME	**Cameli-Denizli**	**3.66**	**42**	Pn	**Pn**	**07 49 54.2**	**-0.4**
KNIK	**Mula-Seydike**	**3.75**	**46**	P	**Pn**	**07 49 57.0**	**+1.2**
DNZT	**Denizli-Tavas-**	**3.77**	**36**	P	**Pn**	**07 49 57.6**	**+1.6**
DNZT				P	**Pb**	07 49 57.8	-7.4
CAEL	**Denizli, Camel**	**3.80**	**41**	P	**Pn**	**07 49 57.8**	**+1.3**
GMLD	**Gumuldur**	**3.84**	**8**	Pn	**Pn**	**07 49 57.9**	**+1.0**
TAVA	**DENIZLI_Tavas**	**3.87**	**34**	P	**Pn**	**07 49 58.5**	**+1.1**
TAVA				S	**Sn**	**07 50 43.5**	**+1.5**
ELL	**Elmali**	**3.89**	**50**	Pn	**Pn**	**07 49 57.3**	**-0.5**
ELL	**Elmali**	**3.89**	**50**		**Pn**	**07 49 59.8**	**+2.0**
ELL	**Elmali**	**3.89**	**50**	P	**Pn**	**07 49 59.8**	**+2.0**
ELL	**Elmali**	**3.89**	**50**	⇓P	**Pn**	**07 49 59.7**	**+2.0**
AYDB	**Zeytinkoy-Aydi**	**3.91**	**20**	Pn	**Pn**	**07 49 58.7**	**+0.7

ALAN	Alanya-ANTALYA	5.26	63	Pn		Pn	07 50 16.4	-0.1
KALE	Kalithea	5.27	322	P		Pn	07 50 18.3	+1.7
SMAA	Simav-Kutahya	5.31	24	Pn		Pn	07 50 18.6	+1.5
SHAP	Saphane-Kutahy	5.32	26	Pn		Pn	07 50 18.2	+0.8
AXAR	Agios Charalam	5.33	328	P		Pn	07 50 18.6	+1.2
AXAR	Agios Charalam	5.33	328	P		Pn	07 50 17.8	+0.4
GAZI	Gazipasa	5.36	67	Pn		Pn	07 50 17.1	-0.7
YAYO	Edremit-Balk	5.38	7	Pn		Pn	07 50 19.7	+1.7
RLS	Riolos of Patr	5.39	316	P		Pn	07 50 20.3	+2.1
GEDZ	Gediz	5.41	27	Pn		Pn	07 50 19.4	+0.8
EFP	Efpalio	5.42	321	P		Pn	07 50 19.0	+0.4
EZNE	Ezine-Canakkal	5.48	1	Pn		Pn	07 50 21.4	+2.0
SEYD	Seydisehir-KON	5.53	54	Pn		Pn	07 50 20.6	+0.3
ANX	Ano Chora	5.54	322	P		Pn	07 50 21.2	+0.9
AXS	Araxos	5.54	316	P		Pn	07 50 22.4	+2.2
EZN	Ezine	5.55	1	Pn		Pn	07 50 21.5	+1.2
EZN	Ezine	5.55	1	⇓P		Pn	07 50 22.0	+1.7
EZN	Ezine	5.55	1	P		Pn	07 50 21.8	+1.5
BOZC	Bozcaada	5.56	359	Pn		Pn	07 50 21.6	+1.0
DST	Dursunbey	5.66	19	Pn		Pn	07 50 23.4	+1.4
AGG	Agios Georgios	5.68	328	P		Pn	07 50 23.2	+1.0
AGG	Agios Georgios	5.68	328	⇑P		Pn	07 50 23.0	+0.8
YENI	Yenice-Canakka	5.71	8	Pn		Pn	07 50 24.6	+1.9
HDMB	Hadim	5.77	60	Pn		Pn	07 50 23.7	+0.1
CANM	Can-anakkale	5.77	6	Pn		Pn	07 50 25.4	+2.0
TVSB	Tavsanli	5.79	26	Pn		Pn	07 50 24.6	+0.9
COMU	Canakkale	5.82	2	Pn		Pn	07 50 25.2	+1.0
BOZY	Bozyazi-Mersin	5.83	70	Pn		Pn	07 50 24.1	-0.1
SUSR	Susurluk-Balik	5.87	14	Pn		Pn	07 50 26.3	+1.4
GONE	Gonen-Balikesi	5.88	11	Pn		Pn	07 50 26.6	+1.6
CSS	Mathiatis	5.90	81	Pn		Pn	07 50 23.9	-1.3
CSS	Mathiatis	5.90	81			Pn	07 50 24.0	-1.3
CSS	Mathiatis	5.90	81	⇑P		Pn	07 50 23.9	-1.3
CSS	Mathiatis	5.90	81	P		Pn	07 50 24.0	-1.3
GADA	Gvkgeada	5.92	358	Pn		Pn	07 50 26.6	+1.2
HMYD	Mayadein	5.92	138	P		Pn	07 50 24.3	-1.2
HNAT	Natroun	5.94	140	P		Pn	07 50 24.5	-1.3
TEKE	Tekeli-Mersin	5.94	70	Pn		Pn	07 50 25.3	-0.5
BERE	Bereket-Mersin	6.09	68	Pn		Pn	07 50 27.6	-0.3
GELI	Tayfur-Gelibol	6.12	2	Pn		Pn	07 50 29.8	+1.6
ORLT	Orhaneli	6.15	20	Pn		Pn	07 50 30.4	+1.7
KRBG	Karabiga-Canak	6.17	8	Pn		Pn	07 50 31.0	+2.1
YORU	Yoruktepe-Mers	6.17	70	Pn		Pn	07 50 28.5	-0.5
EDC	Edincik	6.21	12	Pn		Pn	07 50 31.2	+1.8
RYAN	Fayoum	6.22	145	P		Pn	07 50 28.0	-1.6
OREN	Orenkoy-Mersin	6.23	70	Pn		Pn	07 50 30.0	+0.3
BAND	Balkesir-Ban	6.26	13	⇓P		Pn	07 50 31.8	+1.7
AKK1	Akkuyu-Mersin	6.28	71	Pn		Pn	07 50 30.6	+0.3
TEVE	Tevekalti-Mers	6.28	68	Pn		Pn	07 50 30.9	+0.3
TEPK	Tepekoy-MERSIN	6.30	70	Pn		Pn	07 50 31.0	+0.2
OUR	Ouranopolis	6.31	344	Pn		Pn	07 50 32.5	+1.7
LADK	Ladik-KONYA	6.33	50	Pn		Pn	07 50 32.2	+1.0
YESI	Yesilovacik-Me	6.37	70	Pn		Pn	07 50 31.4	-0.2
TISA	Tisan-Mersin	6.39	71	Pn		Pn	07 50 31.6	-0.3
CIFT	Cifteler, Eski	6.39	36	Pn		Pn	07 50 32.7	+0.6
ERIK	Erikli-Kesan	6.39	2	Pn		Pn	07 50 33.7	+1.7
CAVK	Edirne/Enez-Ca	6.41	360	⇑P		Pn	07 50 34.5	+2.3
MRMT	Marmara Adasi	6.42	9	Pn		Pn	07 50 34.4	+2.0
KRMN	Karaman	6.42	61	Pn		Pn	07 50 32.9	+0.5
KOT	Kottamia	6.43	131	P		Pn	07 50 30.9	-1.7
MDNY	Mudanya-Bursa	6.45	18	Pn		Pn	07 50 34.3	+1.6
KEBE	Keben-Mersin	6.49	68	Pn		Pn	07 50 33.8	+0.4
LIT	Litokhoron	6.54	334			Pn	07 50 34.9	+0.9
LIT	Litokhoron	6.54	334	P		Pn	07 50 34.9	+0.9
HHAG	Hagoal	6.58	129	P		Pn	07 50 33.7	-0.9
ALN	Alexandroupoli	6.62	359	Pn		Pn	07 50 35.9	+0.9
ALN	Alexandroupoli	6.62	359			Pn	07 50 36.4	+1.4
ALN	Alexandroupoli	6.62	359	P		Pn	07 50 36.4	+1.4
ALN	Alexandroupoli	6.62	359	⇑P		Pn	07 50 36.5	+1.4
ARMT	Armutlu	6.63	18	Pn		Pn	07 50 36.6	+1.4
ADVT	Abdulvahap	6.76	23	Pn		Pn	07 50 38.6	+1.6
YLV	Yalova	6.77	21	Pn		Pn	07 50 38.6	+1.4
UKOP	Uzunkopru-Edir	6.86	3	Pn		Pn	07 50 40.4	+2.1
THE	Thessaloniki	6.86	339	P		Pn	07 50 40.1	+1.8
RDO	Rodhopi	6.89	356	Pn		Pn	07 50 40.4	+1.7
RDO	Rodhopi	6.89	356			Pn	07 50 40.3	+1.6
RDO	Rodhopi	6.89	356	⇑P		Pn	07 50 40.2	+1.4
SOH	Sokhos	6.93	342	P		Pn	07 50 41.5	+2.2
IGT	Igoumenitsa	7.06	320	*e*Pn		Pn	07 50 39.7	-1.4
IGT				*e*Sn		Sn	07 51 54.4	-6.2
SRS	Serrai	7.15	344	*e*Pn		Pn	07 50 44.4	+2.1
KLYT	Kilyos	7.32	17	⇓P		Pn	07 50 46.8	+2.2
MDUB	Mudurnu	7.35	31	Pn		Pn	07 50 46.6	+1.4
MDUB	Mudurnu	7.35	31	⇑P		Pn	07 50 47.0	+1.8
KNT	Kendrikon	7.37	340	P		Pn	07 50 47.0	+2.5
CTYL	Yalikoy Yolu	7.38	12	⇓P		Pn	07 50 48.0	+2.5
KDZ	Kurdzhali	7.38	355	*i* P		Pn	07 50 47.2	+1.7
SILT	Sile	7.39	21	⇑P		Pn	07 50 47.5	+1.9
PHSR	Pinarhisar	7.42	8	⇑P		Pn	07 50 47.7	+1.6
ZNM	Zenema	7.47	129	P		Pn	07 50 45.1	-1.7
KEK	Kerkira	7.48	318			Pn	07 50 47.7	+0.8
KEK	Kerkira	7.48	318	⇑P		Pn	07 50 49.6	+2.7
RZN	Rozhen	7.50	351	P		Pn	07 50 48.9	+1.5
MMB	Musomishta	7.52	346	⇑*i*P		Pn	07 50 49.3	+1.8
SAHE	Sakarya_HENDEK	7.53	28	⇑P		Pn	07 50 49.0	+1.5
HNTI	Hanita	7.55	97	P		Pn	07 50 46.5	-1.5
HNTI	Hanita	7.55	97	S		Sn	07 52 09.9	-3.0
VAY	Valandovo	7.61	339	*i* Pn		Pn	07 50 50.7	+2.0
SLTI	Sal'it	7.66	103	P		Pn	07 50 46.7	-2.7
SLTI	Sal'it	7.66	103	S		Sn	07 52 10.5	-4.8
ANTO	Ankara	7.67	41			Pn	07 50 50.4	+0.8
ANTO	Ankara	7.67	41	P		Pn	07 50 51.2	+1.6
ANTO				S		Sn	07 52 15.7	0.0
ANTO	Ankara	7.67	41	P		Pn	07 50 50.4	+0.8
ANTO				S		Sn	07 52 15.5	-0.2
ANTO	Ankara	7.67	41	⇑P		Pn	07 50 50.9	+1.3
ANTO	Ankara	7.67	41	P		Pn	07 50 50.0	+0.5
	0.3nm856nm101nm,0.8s							
KZIT	Kziot	7.67	114	P		Pn	07 50 47.7	-1.9
KZIT	Kziot	7.67	114	S		Sn	07 52 11.2	-4.5
TAMRE	El Minia	7.70	147	P		Pn	07 50 48.6	-1.4
MMA0B	Mount Meron ar	7.76	97	P		Pn	07 50 48.6	-2.2
MMA0B	Mount Meron ar	7.76	97	S		Sn	07 52 14.5	-3.4
MMAI	Mount Meron Ar	7.76	97	Pn		Pn	07 50 49.0	-1.8
	86nm,0.3s,baz=283,slow=12,SNR=47							
MMAI				Sn		Sn	07 52 15.1	-2.9
	141nm,0.3s,baz=324,slow=17,SNR=8.0							
MMAI				LR		LR	07 54 46.0	
	comp=Z,3µm,20.3s,baz=293,slow=45 28nm,0.3s							
DQRL	Deir Qamar	7.78	92	*e*P		Pn	07 50 49.1	-2.0
BHL	Bhannes	7.83	90	*e*P		Pn	07 50 50.2	-1.6
SALP	Salfit	7.83	104	⇓P		Pn	07 50 49.8	-2.0
SALP	Salfit	7.83	104	P		Pn	07 50 49.5	-2.3
KIRS	Kirsehir-Merke	7.86	50	⇑P		Pn	07 50 53.4	+1.3
QRWL	Qaraoun	7.90	93	*e*P		Pn	07 50 51.7	-1.0
GEM	Giv'at Ha'Em	7.93	95	⇑P		Pn	07 50 51.2	-2.0
GEM	Giv'at Ha'Em	7.93	95	P		Pn	07 50 51.4	-1.8
GEM	Giv'at Ha'Em	7.93	95	S		Sn	07 52 18.5	-3.6
KKB	Krupnik	7.94	343	⇑*i*P		Pn	07 50 54.4	+1.1
PLD	Plovdiv	7.95	352	*e*Pn		Pn	07 50 56.6	+3.3
SHBL	Chebaa	7.98	94	*e*P		Pn	07 50 51.8	-2.1
NATI	Neve Ativ	7.99	95	P		Pn	07 50 52.1	-1.7
YTIR	Yattir	8.03	109	P		Pn	07 50 52.4	-2.1
YTIR	Yattir	8.03	109	S		Sn	07 52 18.9	-5.7
RCY	Rachaya	8.03	93	*e*P		Pn	07 50 52.5	-2.1
BR105	Keskin Array S	8.03	45	P		Pn	07 50 55.0	+0.4
	620nm87nm,0.9s							
BR104	Keskin Array S	8.04	45	P		Pn	07 50 55.1	+0.4
	697nm95nm,1.0s							
BR106	Keskin Array S	8.04	45	P		Pn	07 50 55.2	+0.4
	616nm71nm,0.9s							
HMDT	Nahal Hemdat	8.05	102	P		Pn	07 50 52.3	-2.4
HWQ	Hawqa	8.05	87	*e*P		Pn	07 50 53.3	-1.5
BR131	Keskin Array S	8.05	45			Pn	07 50 55.5	+0.6
BR131	Keskin Array S	8.05	45	P		Pn	07 50 55.7	+0.8
	SNR=75							
BR131				S		Sn	07 52 24.7	-0.5
BR131	Keskin Array S	8.05	45	P		Pn	07 50 55.5	+0.6
BRTR	Keskin Array B	8.05	45	Pn		Pn	07 50 55.5	+0.6
	4.3nm,0.3s,baz=222,slow=14,SNR=149							
BRTR				Sn		Sn	07 52 21.6	-3.6
	13nm,0.3s,baz=216,slow=22,SNR=14							
BRTR				ScP		ScP	08 01 01.1	+0.6
	5.3nm,0.7s,baz=174,slow=2.5,SNR=16 80nm,0.9s							
OHR	Ohrid	8.07	329	*i* Pn		Pn	07 50 57.1	+2.1
UJAP	Al Uja	8.09	104	P		Pn	07 50 53.6	-1.7
KSHT	Keshet	8.10	96	P		Pn	07 50 54.1	-1.4
KSHT	Keshet	8.10	96	S		Sn	07 52 21.5	-4.8
DSI	Dead Sea	8.15	107	P		Pn	07 50 53.9	-2.3
DSI	Dead Sea	8.15	107	S		Sn	07 52 23.2	-4.4
VLO	Vlora	8.18	321	P		Pn	07 50 57.6	+1.1
JMB	Yambol	8.21	2	*i* P		Pn	07 50 58.3	+1.4
MSBI	Mazada	8.24	108	⇓P		Pn	07 50 55.2	-2.1
MSBI	Mazada	8.24	108	P		Pn	07 50 55.2	-2.1
BEIL	Beino	8.24	85	*e*P		Pn	07 50 56.2	-1.2
KRMI	Paran Flat	8.31	118	P		Pn	07 50 56.3	-2.0
KRMI	Paran Flat	8.31	118	S		Sn	07 52 25.2	-6.2
IDAN	Idan	8.37	112	P		Pn	07 50 56.4	-2.8
PGB	Panagyurishte	8.39	350	⇑*i*P		Pn	07 51 00.0	+0.6
PRNI	Paran	8.39	115	P		Pn	07 50 57.1	-2.4
PRNI	Paran	8.39	115	S		Sn	07 52 28.9	-4.7
GHAJ	Ghor Haditha	8.40	108			Pn	07 50 58.5	-1.0
ZFRI	Zfri	8.43	114	P		Pn	07 50 57.6	-2.3
ZFRI	Zfri	8.43	114	S		Sn	07 52 29.2	-5.1
FKH	Fakeheh	8.43	87	*e*P		Pn	07 50 59.1	-1.0
PLNA	Plana	8.48	346	*i* P		Pn	07 51 04.2	+3.4
SKO	Skopje	8.56	335	*i* Pn		Pn	07 51 05.1	+3.4
HRFI	Mount Harif	8.58	117	P		Pn	07 51 00.3	-1.8
HRFI	Mount Harif	8.58	117	S		Sn	07 52 31.9	-6.2
ELND	Elena	8.65	358	⇓P		Pn	07 51 05.1	+2.1
VTS	Vitosha	8.66	345	⇑*i*P		Pn	07 51 05.5	+2.3
VTS	Vitosha	8.66	345	*e*Pn		Pn	07 51 06.0	+2.8
VTS	Vitosha	8.66	345	P		Pn	07 51 03.9	+0.7
EIL	Elat	8.72	119	Pn		Pn	07 51 02.4	-1.5
	75nm,0.3s,baz=310,slow=7.2,SNR=102							
EIL				Sn		Sn	07 52 39.0	-2.4
	49nm,0.3s,baz=226,slow=9.3,SNR=7.3 224nm,0.5s							
EIL	Elat	8.72	119	P		Pn	07 51 01.6	-2.3
EIL	Elat	8.72	119	S		Sn	07 52 35.9	-5.5
BOSS	Bosilegrad	8.72	341	*e*Pn		Pn	07 51 06.1	+2.2
PVL	Pavlikeni	8.88	355	P		Pn	07 51 04.7	-1.3
PVL	Pavlikeni	8.88	355	P		Pn	07 51 07.6	+1.6
SZH	Strazhitsa	8.98	359	⇑*i*P		Pn	07 51 08.9	+1.4
BNN	Bunyan	8.99	57	⇑P		Pn	07 51 09.5	+1.8
ILGA	Ilgaz	9.00	39			Pn	07 51 08.5	+0.5
TIP	Timpagrande	9.04	306			Pn	07 51 06.7	-1.6
TIP	Timpagrande	9.04	306	⇓P		Pn	07 51 07.1	-1.2
TIP	Timpagrande	9.04	306	⇑P		Pn	07 51 06.7	-1.6
TIP	Timpagrande	9.04	306	P		Pn	07 51 07.0	-1.3
	3µm368nm,0.8s							
ASF	Jabal al Asfar	9.18	100	Pn		Pn	07 51 08.5	-1.9
	8.8nm,0.3s,baz=306,slow=8.2,SNR=38							
ASF				Sn		Sn	07 52 49.5	-3.6
	6.6nm,0.3s,baz=208,slow=22,SNR=1.3 18nm,0.3s							
PLVB	Pleven	9.19	353	⇑P		Pn	07 51 11.3	+1.0
BARS	Barje	9.20	339	*e*Pn		Pn	07 51 11.9	+1.4
CEL	Celeste	9.24	298	⇑P		Pn	07 51 09.4	-1.7
CEL	Celeste	9.24	298	P		Pn	07 51 10.2	-0.9
	11µm1µm,0.6s							
CIDE	Kastamonu/Cide	9.26	33	⇑P		Pn	07 51 13.3	+2.0
MPEP	Malo Peshtene	9.28	349	P		Pn	07 51 13.2	+1.7
KALB	Balgarevo	9.28	10	⇓P		Pn	07 51 13.4	+1.9
RAZG	Razgrad	9.29	1	⇑P		Pn	07 51 13.2	+1.6
ZAPS	Zavoj	9.42	344	*e*Pn		Pn	07 51 16.1	+2.6
ULC	Ulcinj	9.44	326	⇑*i*Pn		Pn	07 51 13.1	-0.7
ULC				*i* Sn		Sn	07 52 52.6	-6.6
PSN	Preselentsi	9.47	8	P		Pn	07 51 15.3	+1.1
DRME	Dracevica, Mon	9.65	327	*e*Pn		Pn	07 51 13.2	-3.4
DRME	Dracevica, Mon	9.65	327	*e*Pn		Pn	07 51 13.8	-2.8
DRME				*i* Sn		Sn	07 52 57.1	-7.1
VALD	Valchedram	9.65	348	P		Pn	07 51 20.0	+3.3
MANR	Mangalia	9.71	10	⇑P		Pn	07 51 18.9	+1.4
WDD	Wied Dalam	9.72	283			Pn	07 51 15.7	-1.8
WDD	Wied Dalam	9.72	283	⇑P		Pn	07 51 16.1	-1.5
PDG	Podgorica	9.81	328			Pn	07 51 17.4	-1.5
PDG	Podgorica	9.81	328	*e*Pn		Pn	07 51 15.2	-3.6
PDG				*e*Sn		Sn	07 53 00.8	-7.4
PDG	Podgorica	9.81	328	⇑P		Pn	07 51 18.3	-0.5
PDG	Podgorica	9.81	328	⇓*i*Pn		Pn	07 51 17.7	-1.1
PDG				*e*Sn		Sn	07 53 00.7	-7.4
VLAD	Vladila	9.82	352	⇑P		Pn	07 51 20.6	+1.7
BZK	Bozkurt	9.82	36	⇑P		Pn	07 51 21.6	+2.7
BUM	Brajici-Budva	9.87	326	⇑*i*Pn		Pn	07 51 18.3	-1.4
BUM				*i* Sn		Sn	07 53 02.9	-6.8
MATE	Matera	9.88	313	⇓P		Pn	07 51 18.0	-1.9
ICOR	Ion Corvin	9.91	7	⇓P		Pn	07 51 22.0	+1.8
IVA	Berane	9.91	332	⇓*i*Pn		Pn	07 51 19.6	-0.7
IVA				*i* Sn		Sn	07 53 04.4	-6.4
BOVS	Bovan	9.99	341	⇑P		Pn	07 51 22.4	+1.1
MFTR	Murfatlar	10.04	9	⇓P		Pn	07 51 24.8	+2.8
KOME	Kolasin	10.04	330	⇓*i*Pn		Pn	07 51 21.7	-0.4
KOME				*i* Sn		Sn	07 53 07.2	-6.9
CEME	Cevo	10.05	327	*e*Pn		Pn	07 51 18.4	-3.8
CEME				*e*Sn		Sn	07 53 07.2	-7.0
RAFF	Raffo Rosso	10.08	290			Pn	07 51 22.2	-0.2
VAE	Valguarnera	10.10	292	Pn		Pn	07 51 23.4	+0.5
	94nm,0.3s,baz=187,slow=0.9,SNR=85							
VAE				Sn		Sn	07 53 08.9	-6.7
	15nm,0.3s,baz=217,slow=2.6,SNR=6.3 539nm,0.6s							
HCY	Herceg Novi	10.17	326	⇓*i*Pn		Pn	07 51 21.5	-2.2
HCY				*e*Sn		Sn	07 53 09.0	-8.0
NKME	Niksic	10.21	328	*e*Pn		Pn	07 51 20.9	-3.5
NKME				*i* Sn		Sn	07 53 10.3	-7.9
TIRR	Tirgusor	10.31	9			Pn	07 51 26.8	+1.1
TIRR	Tirgusor	10.31	9	⇑P		Pn	07 51 27.5	+1.8
TIRR	Tirgusor	10.31	9	P		Pn	07 51 27.9	+2.2
TIRR				S		Sn	07 53 19.7	-4.8
TIRR	Tirgusor	10.31	9	⇑P		Pn	07 51 27.6	+1.9
TIRR	Tirgusor	10.31	9	P		Pn	07 51 26.6	+0.9
	1µm95nm,0.8s							
ACER	Acerenza	10.43	312			Pn	07 51 26.1	-1.3
TREB	Trebinje	10.44	326	*e*Pn		Pn	07 51 22.8	-4.7
HARR	Harsova	10.49	7	⇓P		Pn	07 51 29.0	+0.9
HARR	Harsova	10.49	7	P		Pn	07 51 29.2	+1.1
BRY	Bratogost	10.50	327	*e*Pn		Pn	07 51 26.1	-2.4
BRY				*i* Sn		Sn	07 53 18.2	-7.2
UPM	Unac-Piva	10.59	330	⇓*i*Pn		Pn	07 51 26.6	-3.1
UPM				*i* Sn		Sn	07 53 20.7	-6.8
SRE	Strehaia	10.64	348	⇓P		Pn	07 51 30.6	+0.4
JURR	Jurilovca	10.68	10	⇑P		Pn	07 51 33.2	+2.5
KLINJ	Klinje	10.70	328	*e*Pn		Pn	07 51 29.5	-1.6
TPGR	Topolog	10.71	8	⇓P		Pn	07 51 33.3	+2.2
RUDO	Rudo	10.75	332	*e*Pn		Pn	07 51 25.8	-5.9
ISR	Istrita	10.84	1	⇑P		Pn	07 51 34.8	+1.9
ISR	Istrita	10.84	1	P		Pn	07 51 34.2	+1.2
	2µm161nm,1.0s							
CFR	Carcaliu	10.99	7	⇓P		Pn	07 51 37.0	+2.0
CFR	Carcaliu	10.99	7	P		Pn	07 51 37.4	+2.4
HERR	Herculane	10.99	346	⇑P		Pn	07 51 36.0	+0.9
CLTB	Caltabellotta	11.05	291	⇓P		Pn	07 51 36.4	+0.5
MDVR	Moldovita	11.06	343	⇑P		Pn	07 51 36.6	+0.6
TLCR		11.08	10	⇑P		Pn	07 51 38.9	+2.7
TLCR		11.08	10	P		Pn	07 51 40.0	+3.8
NEHR	Nehoiu	11.14	0	⇓P		Pn	07 51 39.4	+2.3
VOIR		11.19	356	⇓P		Pn	07 51 38.5	+0.7
VOIR		11.19	356	P		Pn	07 51 38.6	+0.8
VOIR		11.19	356	P		Pn	07 51 38.3	+0.5
	709nm54nm,0.9s							
MLR	Muntele Rosu	11.21	359	Pn		Pn	07 51 39.2	+1.1
	1.2nm,0.3s,baz=223,slow=2.3,SNR=25							
MLR				LR		LR	07 56 29.1	
	comp=Z,3µm,20.2s,baz=184,slow=41 48nm,0.9s							
MLR	Muntele Rosu	11.21	359	⇑P		Pn	07 51 39.7	+1.7
MLR	Muntele Rosu	11.21	359	P		Pn	07 51 39.8	+1.7
	2µm108nm,1.0s							
GZR	Gura Zlata	11.42	348	⇑P		Pn	07 51 42.9	+2.0
GZR	Gura Zlata	11.42	348	P		Pn	07 51 42.9	+2.0
COVR	Voineasa-Covas	11.56	360	⇓P		Pn	07 51 45.1	+2.3
PLOR5	Plostina Array	11.57	2	P		Pn	07 51 44.2	+1.3
	2µm154nm,0.7s							
PLOR	Plostina	11.57	1	⇓P		Pn	07 51 45.7	+2.7
PLOR	Plostina	11.57	1	P		Pn	07 51 45.6	+2.7
VRI	Vrincioaia	11.59	2	⇑P		Pn	07 51 45.4	+2.2
VRI	Vrincioaia	11.59	2	P		Pn	07 51 44.6	+1.4
VRI	Vrincioaia	11.59	2	P		Pn	07 51 44.4	+1.2
	1µm105nm,0.7s							
VLDR	Vladesti	11.65	6	⇓P		Pn	07 51 44.9	+1.0
DOPR	Dopca	11.70	357	⇑P		Pn	07 51 46.4	+1.6
TURR	Turia	11.77	359	⇓P		Pn	07 51 48.2	+2.5
OZUR		11.82	359	⇓P		Pn	07 51 47.8	+1.5
BZS	Buzias	11.87	344	⇓P		Pn	07 51 47.0	0.0
BZS	Buzias	11.87	344	P		Pn	07 51 47.0	0.0
BZS	Buzias	11.87	344	⇑P		Pn	07 51 46.7	-0.3
SURR	Surduc	11.89	346	⇑P		Pn	07 51 47.5	+0.3
ONER	Baraj Valea Uz	12.05	1	⇑P		Pn	07 51 51.0	+1.4
MARD	Mardin	12.20	71			Pn	07 51 51.9	+0.2
TESR	Tescani	12.23	1	⇓P		Pn	07 51 52.9	+1.0
TESR	Tescani	12.23	1	P		Pn	07 51 52.4	+0.4
	1µm96nm,1.7s							
SIM	Simferopol'	12.27	27	*e*P		Pn	07 51 54.2	+1.7
SIM				*e*S		Sn	07 54 14.6	+6.1
SIM				pmax	pmax			
	comp=Z,78nm,1.0s							
SIM				MLR	MLR			
	comp=Z,2µm,17.0s							
KIJV	Kijevo	12.34	325	*e*Pn		Pn	07 51 48.3	-5.2
SIRR	Siria	12.48	345	⇑P		Pn	07 51 56.2	+0.9
BLY	Banja Luka	12.57	329	*e*Pn		Pn	07 51 52.5	-4.1
BLY	Banja Luka	12.57	329	⇓P		Pn	07 51 52.8	-3.8
MARR	Marisel-Cluj	12.62	350	⇑P		Pn	07 51 58.8	+1.5
MILM	Milestii Mici	12.79	8	*e*Pg		Pn	07 51 57.0	-2.5
MILM	Milestii Mici	12.79	8	*i* Pn		Pn	07 52 01.5	+2.0
MILM	Milestii Mici	12.79	8	PM			07 52 02.0	
	comp=Z,310nm,0.7s							
MILM				*e*S		Sn	07 54 19.0	-2.0
MILM				*e*L		L	07 55 37.0	
MILM				LgM			07 56 30.0	
	comp=Z,4µm,16.4s							
MILM				LRM		MLR	07 57 43.0	
	comp=Z,4µm,13.4s							
MILM	Milestii Mici	12.79	8	*e*P		Pn	07 51 57.0	-2.5
MILM				*e*S		Sn	07 54 19.0	-2.0
MILM				pmax	pmax			
	comp=Z,310nm,0.7s							
MILM				MLR	MLR			
	comp=Z,4µm,13.4s							
DRGR		12.79	349	⇑P		Pn	07 52 01.1	+1.4
DRGR		12.79	349	P		Pn	07 52 01.0	+1.4
KIS	Kishinev	12.87	8	*e*P		Pn	07 52 03.0	+2.4
KIS				*e*L		L	07 55 10.0	
KIS				LgM			07 56 31.0	
	comp=Z,2µm,16.0s							
KIS				LRM		MLR	07 57

comp=Z,12nm,0.7s
KBA Koelnbreinsper 16.07 327 ⇑P **Pn** **07 52 41.7 -2.1**
CTI Castel Tesino 16.17 321 IAmb IAmb 07 52 49.3
comp=Z,440nm,1.3s
NAX Nakhchivan 16.20 67 P **Pn** **07 52 46.7 +1.3**
ABTA Abfaltersbach 16.22 324 *i* Pn **Pn** **07 52 42.3 -3.3**
comp=Z,226nm,0.7s
ABTA *e*ScP **ScP** **08 01 11.7 -0.6**
comp=Z,9.0nm,1.0s
MOA Molln 16.26 330 *i* Pn **Pn** **07 52 44.6 -1.5**
comp=Z,16nm,1.0s,SNR=17
MOA *e*ScP **ScP** **08 01 12.5 +0.3**
comp=Z,6.6nm,1.1s
NCK Nalchik 16.34 51 *i* P **P** **07 52 50.0 +0.2**
NCK pmax pmax
comp=Z,176nm,0.9s
NCK MLR MLR
comp=Z,1μm,14.0s
BIOA Bad Ischl, Aus 16.40 329 *i* Pn **Pn** **07 52 46.0 -1.8**
comp=Z,19nm,0.7s,SNR=17
BIOA *i* ScP **ScP** **08 01 12.9 +0.3**
comp=Z,5.2nm,0.8s
AK07 Malin Array Si 16.42 7 P **P** **07 52 49.6 -1.0**
AK06 Malin Array Si 16.45 7 P **Pn** **07 52 49.6 +1.2**
AK13 Malin Array Si 16.46 6 P **Pn** **07 52 49.8 +1.2**
AK10 Malin Array Si 16.47 7 P **Pn** **07 52 50.0 +1.4**
KRUC Moravsky 16.48 337 *e*PN **Pn** **07 52 47.3 -1.5**
AK05 Malin Array Si 16.48 7 P **Pn** **07 52 48.7 -0.1**
AK14 Malin Array Si 16.49 6 P **Pn** **07 52 49.0 +0.1**
AK09 Malin Array Si 16.49 7 P **Pn** **07 52 49.0 +0.1**
AK08 Malin Array Si 16.50 7 P **Pn** **07 52 49.2 +0.1**
AK12 Malin Array Si 16.50 7 P **Pn** **07 52 49.2 +0.1**
AK02 Malin Array Si 16.52 7 P **Pn** **07 52 49.4 +0.1**
AK16 Malin Array Si 16.52 6 P **Pn** **07 52 49.5 +0.2**
KIEV Kiev 16.56 7 **Pn** **07 52 48.1 -1.7**
KIEV IAmb IAmb 07 52 54.7
comp=Z,239nm,0.7s
KIEV Kiev 16.56 7 P **Pn** **07 52 48.1 -1.7**
KIEV pmax pmax
comp=Z,239nm,0.7s
AKASG Malin Array Be 16.57 7 **Pn** **07 52 48.5 -1.4**
AKASG IAmb IAmb 07 52 53.0
comp=Z,312nm,0.8s
AKASG Malin Array Be 16.57 7 Pn **Pn** **07 52 47.8 -2.1**
comp=Z,23nm,0.3s,baz=193,slow=12,SNR=82
AKASG Sn **Sn** **07 55 58.0 +5.0**
baz=193,slow=22
AKASG LR LR 08 00 22.1
comp=Z,936nm,19.6s,baz=190,slow=42
AKASG ScP **ScP** **08 01 12.7 -0.1**
comp=Z,7.3nm,1.0s,baz=217,slow=1.3,SNR=10.0
comp=Z,143nm,0.8s
AKASG Malin Array Be 16.57 7 P **Pn** **07 52 48.5 -1.4**
AKASG pmax pmax
comp=Z,312nm,0.8s
AKBB Malin Array Si 16.57 7 IAmb IAmb 07 52 54.7
comp=Z,269nm,0.7s
OJC Ojcow 16.62 345 *e*P **Pn** **07 52 48.2 -2.4**
OJC Ojcow 16.62 345 P **Pn** **07 52 49.9 -0.7**
OJC Ojcow 16.62 345 ⇓P **Pn** **07 52 49.8 -0.8**
BOB Bobbio (Coli) 16.62 314 ⇓P **Pn** **07 52 50.2 -0.5**
LESA Schwarzleotal 16.63 326 *i* Pn **Pn** **07 52 48.9 -1.9**
comp=Z,58nm,0.6s,SNR=36
LESA *e*ScP **ScP** **08 01 12.7 -0.4**
comp=Z,6.5nm,0.9s
VRAC Vranov 16.63 338 Pn **Pn** **07 52 49.2 -1.6**
comp=Z,2.9nm,0.3s,baz=151,slow=11,SNR=31
VRAC LR LR 08 00 06.9
comp=Z,791nm,21.4s,baz=162,slow=40
comp=Z,26nm,0.4s
VRAC Vranov 16.63 338 *e*PN **Pn** **07 52 48.6 -2.1**
VRAC Vranov 16.63 338 ⇑P **Pn** **07 52 50.3 -0.4**
VRAC Vranov 16.63 338 P **Pn** **07 52 50.3 -0.4**
OKC Ostrava-Krasne 16.66 341 *e*P **Pn** **07 52 49.7 -1.3**
OKC AMS AMS 08 00 30.0
comp=Z,3μm,13.0s
OKC Ostrava-Krasne 16.66 341 *e*P **Pn** **07 52 49.7 -1.3**
OKC MLR MLR
comp=Z,3μm,13.0s
MORC Moravsky Berou 16.76 340 IAmb IAmb 07 52 53.0
comp=Z,114nm,0.8s
MORC Moravsky Berou 16.76 340 *e*PN **Pn** **07 52 51.2 -1.3**
MORC Moravsky Berou 16.76 340 P **Pn** **07 52 51.8 -0.7**
MORC Moravsky Berou 16.76 340 ⇓P **Pn** **07 52 51.6 -0.9**
GOF Gofitskoye 16.81 45 *ce*P **Pn** **07 52 53.1 +0.1**
TREC Trest 16.99 335 *e*P **Pn** **07 52 54.1 -1.1**
TREC AMS AMS 08 01 30.0
comp=Z,2μm,17.4s
TREC Trest 16.99 335 *e*P **Pn** **07 52 54.1 -1.1**
TREC MLR MLR
comp=Z,2μm,17.4s
WTTA Wattenberg 17.01 324 *i* Pn **Pn** **07 52 55.2 -0.5**
comp=Z,205nm,1.0s,SNR=59
WTTA *i* ScP **ScP** **08 01 14.1 +0.2**
comp=Z,10nm,1.2s
CKRC Cesky Krumlov 17.02 332 *e*P **Pn** **07 52 54.7 -1.0**
CKRC AMS AMS 08 00 40.0
comp=Z,3μm,14.4s
CKRC Cesky Krumlov 17.02 332 *e*P **Pn** **07 52 54.7 -1.0**
CKRC MLR MLR
comp=Z,3μm,14.4s
WATA Walderalm 17.09 324 *i* Pn **Pn** **07 52 55.1 -1.6**
comp=Z,199nm,0.9s,SNR=55
WATA *e*ScP **ScP** **08 01 14.2 +0.1**
comp=Z,6.7nm,0.7s
GANJ Ganja 17.16 62 P **Pn** **07 52 58.2 +0.7**
SQTA Sankt Quirin 17.19 323 *i* Pn **Pn** **07 52 56.1 -1.8**
comp=Z,81nm,0.7s,SNR=55
SQTA *e*ScP **ScP** **08 01 14.5 +0.3**
comp=Z,10nm,0.7s
KRLC Kraliky 17.25 339 *e*P **Pn** **07 52 57.8 -0.8**
KRLC AMS AMS 08 01 10.0
comp=Z,1μm,13.3s
KRLC Kraliky 17.25 339 *e*P **Pn** **07 52 57.8 -0.8**
KRLC MLR MLR
comp=Z,1μm,13.3s
FUORN Ofenpass-Fuorn 17.27 320 IAmb IAmb 07 53 03.1
comp=Z,430nm,0.9s
GERES GERESS Array B 17.28 331 P **Pn** **07 52 57.5 -1.5**
comp=Z,0.5nm,0.3s,baz=148,slow=11,SNR=69
GERES LR LR 08 00 31.4
comp=Z,2μm,18.4s,baz=146,slow=40
GERES ScP **ScP** **08 01 14.4 0.0**
comp=Z,3.5nm,0.9s,baz=113,slow=2.0,SNR=8.9
comp=Z,24nm,0.6s
FETA Feichten 17.29 322 *e*Pn **Pn** **07 52 59.0 -0.2**
comp=Z,356nm,1.1s,SNR=105
FETA *i* ScP **ScP** **08 01 14.6 +0.1**
comp=Z,11nm,0.9s
MOTA Moosalm 17.32 323 *i* Pn **Pn** **07 52 58.0 -1.6**
comp=Z,89nm,0.8s,SNR=47
MOTA *i* ScP **ScP** **08 01 14.9 +0.3**
comp=Z,9.4nm,0.9s
KHC Kasperske Hory 17.56 332 *e*P **Pn** **07 53 01.1 -1.3**
KHC pP **P** **07 53 03.5 +0.2**
KHC S S 07 56 39.5 +15
KHC AMS AMS 08 00 20.0
comp=Z,2μm,14.2s
KHC Kasperske Hory 17.56 332 ⇓P **Pn** **07 53 01.1 -1.3**
ZVC Zvikov 17.57 333 *e*P **Pn** **07 53 01.5 -1.0**
ZVC AMS AMS 08 01 10.0
comp=Z,3μm,11.7s
DAVOX Davos/Dischmat 17.58 320 P **Pn** **07 53 02.0 -0.8**
comp=Z,6.0nm,0.3s,baz=140,slow=9.7,SNR=67
DAVOX S **Sn** **07 56 09.6 -8.3**
comp=Z,8.3nm,0.5s,baz=316,slow=23,SNR=2.5
DAVOX ScP **ScP** **08 01 15.3 +0.2**
comp=Z,3.8nm,0.7s,baz=184,slow=16,SNR=4.3
DAVOX LR LR 08 01 40.1
comp=Z,3μm,18.2s,baz=120,slow=44
comp=Z,92nm,0.7s
DAVOX Davos/Dischmat 17.58 320 P **Pn** **07 53 02.0 -0.8**
RETA Reutte 17.59 323 *i* Pn **Pn** **07 53 02.1 -0.8**
comp=Z,193nm,1.3s,SNR=42
DPC Dobruska-Polom 17.63 339 *e*P **Pn** **07 53 02.2 -1.1**
DPC AMS AMS 08 01 10.0
comp=Z,3μm,13.5s
DPC Dobruska-Polom 17.63 339 *e*P **Pn** **07 53 02.2 -1.1**
DPC MLR MLR
comp=Z,3μm,13.5s
TUE Stuetta 17.67 319 IAmb IAmb 07 53 07.8
comp=Z,116nm,0.7s
TUE Stuetta 17.67 319 ⇑P **Pn** **07 53 03.5 -0.5**
TUE Stuetta 17.67 319 P **P** **07 53 04.5 -0.3**
comp=Z,10μmcomp=Z,744nm,1.4s
MNGR Mingechevir, A 17.76 62 P **Pn** **07 53 05.0 +0.2**

OSTC Ostas 17.85 339 *e*P **Pn** **07 53 04.4 -1.5**
OSTC AMS AMS 08 01 20.0
comp=Z,3μm,13.9s
OSTC Ostas 17.85 339 *e*P **Pn** **07 53 04.4 -1.5**
OSTC MLR MLR
comp=Z,3μm,13.9s
UPC Upice 17.86 338 *e*P **Pn** **07 53 05.0 -1.1**
UPC AMS AMS 08 01 10.0
comp=Z,3μm,12.3s
UPC Upice 17.86 338 *e*P **Pn** **07 53 05.0 -1.1**
UPC MLR MLR
comp=Z,3μm,12.3s
PRU Pruhonice 17.90 335 *e*P **Pn** **07 53 04.3 -2.2**
PRU AMS AMS 08 02 00.0
comp=Z,2μm,13.3s
PRU Pruhonice 17.90 335 *e*P **Pn** **07 53 04.3 -2.2**
PRU MLR MLR
comp=Z,2μm,13.3s
DAVA Damuels 17.90 321 *i* Pn **Pn** **07 53 06.3 -0.4**
comp=Z,110nm,0.8s,SNR=52
DAVA *i* ScP **ScP** **08 01 15.9 +0.1**
comp=Z,11nm,1.2s
DAVA Damuels 17.90 321 ⇓P **Pn** **07 53 06.4 -0.4**
CHVC Chvalec 17.92 339 *e*P **Pn** **07 53 05.7 -1.1**
CHVC AMS AMS 08 01 20.0
comp=Z,3μm,12.7s
CHVC Chvalec 17.92 339 *e*P **Pn** **07 53 05.7 -1.1**
CHVC MLR MLR
comp=Z,3μm,12.7s
SEKA Sheki 17.96 61 P **P** **07 53 08.5 +0.7**
BEL Belsk 17.99 349 *e*P **Pn** **07 53 07.2 -0.4**
PRA Prague 18.01 335 *e*P **Pn** **07 53 06.1 -1.8**
PRA AMS AMS 08 02 30.0
comp=Z,2μm,12.4s
PRA Prague 18.01 335 *e*P **Pn** **07 53 06.1 -1.8**
PRA MLR MLR
comp=Z,2μm,12.4s
KSP Ksiaz 18.08 339 *e*P **Pn** **07 53 06.5 -2.2**
KSP Ksiaz 18.08 339 ⇑P **Pn** **07 53 07.3 -1.4**
KSP Ksiaz 18.08 339 P **Pn** **07 53 07.8 -0.9**
comp=Z,1μmcomp=Z,101nm,0.9s
R9F13 Warsaw-Wawer 18.31 350 *e*P **P** **07 53 10.8 -0.7**
R9F13 *e*S **Sn** **07 56 35.8 +0.6**
PVCC Panska Ves 18.35 336 *e*P **P** **07 53 10.4 -1.5**
PVCC AMS AMS 08 01 40.0
comp=Z,2μm,12.0s
PVCC Panska Ves 18.35 336 *e*P **P** **07 53 10.4 -1.5**
PVCC MLR MLR
comp=Z,2μm,12.0s
AKT Akhty 18.41 61 *e*P **P** **07 53 12.5 -0.4**
AKT *e*S **S** **07 56 41.5 -0.4**
AKT pmax pmax
comp=Z,59nm,0.9s
AKT MLR MLR
comp=Z,1μm,16.0s
BNI Bardonecchia 18.46 311 IAmb IAmb 07 53 20.4
comp=Z,55nm,0.8s
BNI Bardonecchia 18.46 311 ⇓P **P** **07 53 12.5 -0.9**
RICC Richard 18.52 335 *e*P **P** **07 53 12.1 -1.8**
RICC AMS AMS 08 02 20.0
comp=Z,1μm,18.4s
MAK Makhachkala 18.72 56 *e*P **P** **07 53 15.4 -0.7**
MAK *e*S **Sn** **07 56 45.4 +0.2**
MAK pmax pmax
comp=Z,271nm,0.7s
MAK MLR MLR
comp=Z,2μm,17.0s
BRG Berggiesshubel 18.85 335 *e*P **P** **07 53 16.3 -1.2**
BRG Amp 07 53 19.9
comp=Z,40nm,0.8s
BRG Berggiesshubel 18.85 335 S **S** **07 56 50.0 -0.2**
KBD Kabd 18.95 100 P **Pn** **07 53 19.9 +0.4**
KBD S **Sn** **07 56 49.4 -1.5**
GRFO Grafenberg 18.96 329 P **P** **07 53 18.4 -0.4**
GRFO Grafenberg 18.96 329 P **P** **07 53 18.4 -0.4**
GRFO pmax pmax
comp=Z,177nm,1.0s
VORD Divnogorie 19.21 26 *e*P **P** **07 53 21.6 +0.2**
VORD pmax pmax
comp=Z,310nm,0.8s
STU Stuttgart 19.23 324 *e*P **P** **07 53 22.3 +0.6**
STU Stuttgart 19.23 324 ⇑P **P** **07 53 20.9 -0.8**
VSR Storozhevoye 19.37 25 *e*P **P** **07 53 21.8 -1.3**
VSR *e*S S 07 56 49.5 -11
VSR pmax pmax
comp=Z,230nm,0.6s
VSR smax smax
comp=E,700nm,13.1s
VSR MLR MLR
comp=Z,2μm,12.0s
BFO Black Forest 19.38 322 P **P** **07 53 22.7 -0.6**
BFO Black Forest 19.38 322 P **P** **07 53 22.7 -0.6**
BFO pmax pmax
comp=Z,111nm,0.7s
ETOS Mallorca 19.46 293 P **Pn** **07 53 25.6 +0.1**
MOX Moxa 19.53 331 P **P** **07 53 24.5 -0.5**
CLL Collm 19.55 335 *i* P **P** **07 53 24.0 -1.0**
CLL pmax pmax
comp=Z,56nm,0.8s
CLL Collm 19.55 335 P **P** **07 53 24.5 -0.5**
comp=Z,1μmcomp=Z,129nm,0.7s
CLL Collm 19.55 335 *i* P **P** **07 53 24.0 -1.0**
comp=Z,56nm,0.8s
CLL *e*Pmax 07 53 25.0
CLL *i* sP **pP** **07 53 30.1 -0.5**
comp=Z,132nm,1.1s
CLL *e*PPP PPP 07 53 49.0
CLL *e*S **Sn** **07 57 10.0 +5.0**
CLL *e*SSS SSS 07 57 42.0
CLL Lmax 08 02 00.0
VORR Voronezh 19.77 24 *e*P **P** **07 53 26.7 -0.7**
VORR pmax pmax
comp=Z,180nm,0.8s
SUW Suwalki 19.86 355 *e*P **P** **07 53 26.9 -1.5**
SUW Suwalki 19.86 355 *e*P **P** **07 53 28.1 -0.2**
SUW Suwalki 19.86 355 ⇑P **P** **07 53 26.0 -2.4**
SSB Saint Sauveur 19.90 310 P **P** **07 53 28.3 -0.8**
SSB Saint Sauveur 19.90 310 ⇑P **P** **07 53 27.7 -1.4**
ECH Echery 19.92 320 P **P** **07 53 28.9 -0.3**
ECH Echery 19.92 320 ⇑P **P** **07 53 28.8 -0.3**
RAYN Ar Rayn 19.96 117 P **P** **07 53 30.3 +0.4**
RAYN Ar Rayn 19.96 117 P **Pn** **07 53 31.4 -0.2**
RAYN S **Sn** **07 57 15.3 -0.1**
RAYN Ar Rayn 19.96 117 ⇓P **Pn** **07 53 31.1 -0.5**
EJON La Jonquera 19.99 301 P **P** **07 53 29.0 -1.1**
GKP Gorka Klasztor 20.04 344 *e*P **P** **07 53 29.2 -1.2**
GKP Gorka Klasztor 20.04 344 *e*P **P** **07 53 29.4 -1.0**
MNK Minsk 20.26 3 *i* P **P** **07 53 30.4 -2.4**
comp=E,222nm,0.8s
MNK *i* P **P** **07 53 30.4 -2.4**
comp=N,78nm,0.7s
MNK *i* P **P** **07 53 30.4 -2.4**
comp=Z,346nm,0.8s,baz=184
MNK *i* PP **PnPn** **07 53 48.0 -1.8**
MNK *i* S **S** **07 57 13.3 -5.5**
MNK *i* sS **pS** **07 57 31.6 -0.7**
MNK *i* SS **SnSn** **07 57 39.1 +2.1**
MNK *i* SSS SSS 07 57 52.8
MNK *i* LQ LQ 07 59 37.7
MNK *i* LR LR 08 01 24.6
MNK *i* LRM MLR 08 02 22.1
comp=E,812nm,14.2s
MNK *i* LRM MLR 08 02 23.3
comp=N,731nm,14.4s
MNK *i* LRM MLR 08 02 25.1
comp=Z,912nm,14.6s
MNK Minsk 20.26 3 *i* P **P** **07 53 30.4 -2.4**
MNK *i* 07 53 47.9
MNK *i* S **S** **07 57 13.3 -5.5**
MNK *i* SS **SnSn** **07 57 39.0 +2.1**
MNK *i* SSS SSS 07 57 52.8
MNK pmax pmax
comp=Z,346nm,0.8s
MNK pmax pmax
comp=E,222nm,0.8s
MNK pmax pmax
comp=N,78nm,0.7s
MNK MLR MLR
comp=E,812nm,14.0s
MNK MLR MLR
comp=N,731nm,14.0s
MNK MLR MLR
comp=Z,912nm,15.0s
RUE Ruedersdorf 20.27 338 *e*P **P** **07 53 32.3 -0.6**

VRH Novokhopyorsk 20.32 29 *e*P **P** **07 53 32.4 -1.1**
VRH *e*S **S** **07 57 16.2 -3.9**
VRH pmax pmax
comp=Z,650nm,0.7s
VRH smax smax
comp=E,640nm,10.4s
VRH MLR MLR
comp=Z,410nm,12.0s
LPSR Galich'ya Gora 20.46 23 *e*P **P** **07 53 33.7 -1.3**
LPSR *e*S **S** **07 57 17.1 -5.7**
LPSR pmax pmax
comp=Z,1μm,0.9s
LPSR smax smax
comp=E,2μm,24.9s
LPSR MLR MLR
comp=Z,860nm,12.0s
CORI Orista 20.47 299 P **P** **07 53 35.1 -0.1**
CORI IAmb IAmb 07 53 38.5
comp=Z,200nm,0.8s
EIBI Ibiza 20.50 291 P **P** **07 53 34.7 -0.8**
MTLF Montolieu 20.73 303 ⇓P **P** **07 53 38.1 +0.1**
FLTG Flechtingen 21.02 334 ⇑P **P** **07 53 39.5 -1.5**
CEST Esterri de Car 21.20 300 IAmb IAmb 07 53 46.3
comp=Z,246nm,1.1s
LOR Lormes 21.25 314 ⇑P **P** **07 53 42.2 -1.4**
PABE Paberze 21.29 356 P **P** **07 53 42.0 -1.9**
PABE IAmb IAmb 07 53 48.5
comp=Z,254nm,0.7s
PABE Paberze 21.29 356 *e*P **P** **07 53 42.7 -1.2**
ISAL Salakas 21.30 360 *e*P **P** **07 53 44.4 +0.3**
WLF Walferdange 21.33 322 P **P** **07 53 44.0 -0.4**
WLF Walferdange 21.33 322 P **P** **07 53 44.4 0.0**
WLF IAmb IAmb 07 53 47.0
comp=Z,302nm,0.9s
WLF Walferdange 21.33 322 *d*P **P** **07 53 43.8 -0.7**
comp=Z,212nm,0.8s
WLF Walferdange 21.33 322 ⇑P **P** **07 53 44.5 0.0**
TAM Tamanrasset 21.44 243 P **P** **07 53 46.1 +0.2**
TAM IAmb IAmb 07 53 50.9
comp=Z,280nm,0.6s
TAM Tamanrasset 21.44 243 ⇑P **P** **07 53 47.3 +1.3**
VSVD Vaisvydziai 21.77 357 *e*P **P** **07 53 48.6 -0.4**
BHOU Houvegnez 21.84 323 *d*P **P** **07 53 50.1 +0.2**
comp=Z,119nm,0.8s
BTNL Ternell 21.93 324 *d*P **P** **07 53 51.2 +0.3**
comp=Z,265nm,0.9s
PBUR Paburge 21.95 354 *e*P **P** **07 53 49.7 -1.3**
MEM Membach 22.00 324 *d*P **P** **07 53 52.0 +0.4**
comp=Z,393nm,0.8s
OBN Obninsk 22.05 16 P **P** **07 53 50.8 -1.3**
OBN Obninsk 22.05 16 P **P** **07 53 50.8 -1.3**
comp=Z,282nm,0.8s,baz=146,slow=3.0,SNR=41
OBN S **S** **07 57 47.3 -6.6**
comp=Z,44nm,0.5s,baz=114,slow=22,SNR=8.0
OBN LR LR 08 04 04.9
comp=Z,446nm,19.7s,baz=144,slow=41
comp=Z,282nm,0.8s
OBN Obninsk 22.05 16 *c* P **P** **07 53 50.7 -1.3**
OBN *i* 07 54 11.0
OBN *e*S **S** **07 57 48.7 -5.3**
OBN pmax pmax
comp=Z,175nm,0.8s
OBN MLR MLR
comp=Z,1μm,16.0s
OBN Obninsk 22.05 16 ⇑P **P** **07 53 50.6 -1.5**
RCHB Rochefort 22.11 322 *d*P **P** **07 53 52.1 -0.6**
comp=Z,86nm,0.8s
BSTI Sart Tilman 22.20 323 *d*P **P** **07 53 54.4 +0.6**
comp=Z,67nm,0.9s
BCLA Clavier 22.23 323 *d*P **P** **07 53 54.5 +0.4**
CART Cartagena 22.26 286 P **P** **07 53 52.8 -1.8**
CART Cartagena 22.26 286 P **P** **07 53 53.7 -0.8**
CART IAmb IAmb 07 53 54.7
comp=Z,112nm,0.7s
CART Cartagena 22.26 286 ⇑P **P** **07 53 53.6 -1.0**
BEBN Eben Emael 22.29 324 *d*P **P** **07 53 55.1 +0.4**
BGES Gesves 22.32 323 *d*P **P** **07 53 54.0 -1.0**
ECHE Chera 22.33 292 P **P** **07 53 55.8 +0.5**
IBBN Ibbenburen 22.38 329 ⇑P **P** **07 53 54.9 -0.7**
DOU Dourbes 22.39 321 *d*P **P** **07 53 54.3 -1.5**
comp=Z,124nm,1.0s
BMRD Maredsous 22.43 322 *d*P **P** **07 53 55.6 -0.6**
comp=Z,59nm,1.1s
EMUR La Murta 22.45 287 P **P** **07 53 55.0 -1.7**
SAKB Bahrain 22.56 105 P **P** **07 53 58.6 +0.8**
SAKB S **S** **07 58 04.1 +0.3**
CLF Chambon-Foret 22.56 315 P **P** **07 53 57.3 -0.4**
CLF IAmb IAmb 07 54 00.7
comp=Z,260nm,1.0s
MOS Moscow 22.87 17 *e*P **P** **07 53 58.3 -2.5**
MOS *e*S **S** **07 58 03.6 -5.3**
MOS pmax pmax
comp=Z,500nm,1.3s
MOS pmax pmax
comp=Z,351nm,1.2s
MOS smax smax
comp=N,1μm,1.2s
MOS smax smax
comp=E,400nm,1.0s
MOS MLR MLR
comp=Z,2μm,16.0s
MOS MLR MLR
comp=N,2μm,14.0s
UCC Uccle 22.94 323 P **P** **07 54 01.2 -0.4**
UCC IAmb IAmb 07 54 20.7
comp=Z,174nm,1.1s
UCC Uccle 22.94 323 *d*P **P** **07 54 01.1 -0.4**
comp=Z,86nm,1.0s
UCC Uccle 22.94 323 P **P** **07 54 01.2 -0.4**
UCC pmax pmax
comp=Z,174nm,1.1s
SHMA Al-Shehemyia 22.95 105 P **P** **07 54 02.7 +0.8**
SNR=5.9
SHMA S **S** **07 58 08.0 -2.8**
ENIJ Nijar 23.23 285 P **P** **07 54 03.8 -1.0**
SMRA Abu-Samra 23.37 107 P **P** **07 54 06.7 +0.6**
SNR=7.2
SMRA S **S** **07 58 17.7 0.0**
COP Copenhagen 23.45 340 *i* P **P** **07 54 05.6 -1.0**
COP IAmb IAmb 07 54 06.2
comp=Z,175nm,0.7s
SLIT Slitere, Latvi 23.52 355 *e*P **P** **07 54 06.1 -1.2**
SLIT Slitere, Latvi 23.52 355 ⇑P **P** **07 54 04.5 -2.7**
BJUU Bjuv 23.62 341 *i* P **P** **07 54 05.6 -2.7**
TRNA Turayna 23.68 107 P **P** **07 54 10.7 +1.5**
TRNA S **S** **07 58 24.0 +1.2**
BELG Belogornoye 23.73 34 P **P** **07 54 09.0 -0.4**
comp=Z,310nm,0.7s,baz=328,slow=2.4,SNR=46
BELG S **S** **07 58 17.5 -5.5**
comp=Z,85nm,1.1s,baz=320,slow=23,SNR=5.7
comp=Z,310nm,0.7s
BELG Belogornoye 23.73 34 P **P** **07 54 09.0 -0.4**
DEL Delary 23.76 343 *i* P **P** **07 54 06.5 -3.2**
WMELI Melilla 23.95 281 P **P** **07 54 12.9 +1.2**
EALB Alboran 23.96 282 P **P** **07 54 11.8 +0.1**
SSRD Sdr. Stenderup 24.13 337 *i* P **P** **07 54 11.7 -1.4**
SSRD IAmb IAmb 07 54 16.1
comp=Z,575nm,1.3s
UCM Universidad Co 24.14 293 P **P** **07 54 13.7 +0.2**
VSU Vasula 24.20 1 *e*P **P** **07 54 11.6 -2.1**
VSU Vasula 24.20 1 *ce*P **P** **07 54 11.7 -2.0**
VSU pmax pmax
comp=Z,368nm,1.0s
VSU Vasula 24.20 1 ⇑P **P** **07 54 11.9 -1.8**
EQTA Presa de Quent 24.21 286 P **P** **07 54 13.2 -1.0**
SLWR Sila 24.39 108 P **P** **07 54 17.0 +1.2**
SLWR P **P** **07 54 17.0 +1.2**
SLWR S **S** **07 58 35.6 +1.4**
SLWR S **S** **07 58 35.6 +1.4**
FABU Falkenberg 24.52 342 *i* P **P** **07 54 14.9 -1.8**
ESDC Sonseca Array 24.65 291 P **P** **07 54 18.1 0.0**
comp=Z,126nm,0.6s,baz=80,slow=9.3,SNR=856
ESDC PcP **PcP** **07 57 56.2 +1.1**
comp=Z,6.4nm,0.7s,baz=77,slow=2.3,SNR=9.4
ESDC ScP **ScP** **08 01 32.5 +0.1**
comp=Z,1.3nm,0.8s,baz=69,slow=2.5,SNR=5.2
ESDC LR LR 08 05 02.8
comp=Z,544nm,20.9s,baz=92,slow=39
comp=Z,126nm,0.6s
ELSH Elham, Standar 24.80 320 *e*P **P** **07 54 20.0 +0.7**
JRN Qarnain Island 24.89 105 P **P** **07 54 21.9 +1.6**
JRN P **P** **07 54 21.9 +1.6**
JRN S **S** **07 58 42.6 +0.5**
JRN S **S** **07 58 42.6 +0.5**
EMAL Malaga-Limoner 25.02 285 P **P** **07 54 21.4 -0.1**

MUD Monsted U'grnd 25.07 337 *i* P **P** **07 54 21.3 -0.3**
MUD IAmb IAmb 07 54 22.8
comp=Z,67nm,0.8s
BORU Boraas 25.08 343 *i* P **P** **07 54 20.1 -1.6**
ONAU Onsala 25.08 342 *i* P **P** **07 54 20.5 -1.2**
ARBE Arbavere 25.18 360 *eP* **P** **07 54 20.9 -1.6**
GHWR Ruwais 25.38 107 P **P** **07 54 26.4 +1.6**
GHWR P **P** **07 54 26.4 +1.6**
GHWR S **S** **07 58 56.1 +6.0**
GHWR S **S** **07 58 56.1 +6.0**
ELMS Elmsett, Ipswi 25.41 322 *eP* **P** **07 54 24.3 -0.4**
ELMS IAmb IAmb 07 54 25.6
comp=Z,414nm,1.1s
PUL Pulkovo 25.66 5 *eP* **P** **07 54 28.4 +1.4**
PUL Pulkovo 25.66 5 *ceP* **P** **07 54 26.9 0.0**
PUL pmax pmax
comp=Z,1μm,0.8s
JSA Saint Aubin 25.71 314 *eP* **P** **07 54 27.1 -0.4**
JSA IAmb IAmb 07 54 27.8
comp=Z,248nm,0.8s
JSA Saint Aubin 25.71 314 ⇑P **P** **07 54 26.9 -0.7**
TJOU Tjoern 25.71 342 *i* P **P** **07 54 26.4 -1.1**
MD01 Midelt array s 25.81 276 P **P** **07 54 29.1 +0.4**
MD31 MD31 25.81 276 P **P** **07 54 28.9 +0.2**
MD31 IAmb IAmb 07 54 31.8
comp=Z,122nm,1.3s
CEU Ceuta 25.85 283 P **P** **07 54 26.7 -2.2**
MEF Metsahovi 25.99 358 *eP* **P** **07 54 28.4 -1.5**
ROSF Rostrenen 26.05 312 ⇑P **P** **07 54 29.9 -0.8**
UPP Uppsala 26.22 350 *eP* **P** **07 54 30.6 -1.4**
AAL Aland 26.24 353 *eP* **P** **07 54 30.9 -1.3**
MZWR Madinat Zayed 26.28 106 P **P** **07 54 34.4 +1.4**
MZWR P **P** **07 54 34.4 +1.4**
MZR Muzera 26.34 108 P **P** **07 54 35.1 +1.5**
SNR=5.1
MZR P **P** **07 54 35.1 +1.5**
SNR=5.1
MZR S **S** **07 59 04.5 -0.9**
MZR S **S** **07 59 04.5 -0.9**
CNIL Conil 26.36 284 P **P** **07 54 33.6 0.0**
SFS San Fernando 26.47 284 P **P** **07 54 33.7 -0.8**
STRU Stroemstad 26.71 343 *eP* **P** **07 54 34.4 -2.0**
STRU Stroemstad 26.71 343 *i* P **P** **07 54 34.5 -2.0**
HOMB Homborsund 26.78 339 *eP* **P** **07 54 35.5 -1.6**
HOMB Homborsund 26.78 339 *i* P **P** **07 54 35.7 -1.4**
UMQ Umm Al-Quwin 26.89 101 P **P** **07 54 40.2 +1.7**
PBRG Braganca 26.91 296 *eP* **P** **07 54 38.4 -0.2**
PBRG *i* IAmb IAmb 07 54 41.7
comp=Z,232nm,1.6s
RAF Rauma 26.92 355 *eP* **P** **07 54 36.4 -2.0**
ASUD Al Ashush, Dub 27.03 103 P **P** **07 54 40.7 +1.0**
PBAR Barrancos 27.03 288 *eP* **P** **07 54 39.5 -0.1**
PBAR *i* IAmb IAmb 07 54 41.4
comp=Z,193nm,1.5s
SHME Shamm 27.06 100 P **P** **07 54 40.8 +0.8**
MVO Moncorvo 27.07 295 *eP* **P** **07 54 40.0 0.0**
MVO *i* IAmb IAmb 07 54 43.6
comp=Z,254nm,1.9s
NAZ Nazwa, Dubai 27.13 102 P **P** **07 54 41.9 +1.3**
NAZ P **P** **07 54 41.9 +1.3**
HFS Hagfors 27.14 346 P **P** **07 54 38.6 -1.8**
comp=Z,73nm,0.7s,baz=161,slow=11,SNR=119
HFS LR LR 08 06 20.5
comp=Z,792nm,20.8s,baz=160,slow=39
comp=Z,73nm,0.7s
FINES FINESS Array B 27.19 360 P **P** **07 54 39.5 -1.3**
FINES FINESS Array B 27.19 360 P **P** **07 54 39.4 -1.4**
comp=Z,62nm,0.6s,baz=152,slow=12,SNR=164
FINES LR LR 08 06 23.5
comp=Z,1μm,19.1s,baz=178,slow=39
FINES PKKP **PKKPdf** **08 20 37.2 -0.5**
comp=Z,4.6nm,1.2s,baz=212,slow=6.8,SNR=4.2
comp=Z,62nm,0.6s
SNART Snartemo 27.23 338 *eP* **P** **07 54 41.0 -0.1**
SNART Snartemo 27.23 338 *i* P **P** **07 54 41.1 -0.1**
BANOM Banah 27.24 100 P **P** **07 54 42.5 +0.8**
ATD Arta Tunnel 27.25 142 P **P** **07 54 42.7 +0.9**
comp=Z,0.3nm,0.4s,baz=356,slow=5.7,SNR=7.9
MONM Monmouth 27.27 319 *eP* **P** **07 54 40.8 -0.8**
MONM IAmb IAmb 07 54 41.6
comp=Z,52nm,0.9s
PMRV Marv??o 27.29 291 *eP* **P** **07 54 41.4 -0.5**
PMRV *i* IAmb IAmb 07 54 42.6
comp=Z,143nm,1.1s
PCBR Castelo Branco 27.36 292 *eP* **P** **07 54 42.0 -0.6**
PCBR *i* IAmb IAmb 07 54 44.0
comp=Z,90nm,1.3s
MASF Masafi 27.37 101 P **P** **07 54 43.4 +0.6**
MASF P **P** **07 54 43.4 +0.6**
MTE Manteigas 27.43 293 *eP* **P** **07 54 42.9 -0.3**
MTE *i* IAmb IAmb 07 54 46.7
comp=Z,86nm,2.1s
MTE Manteigas 27.43 293 *eP* **P** **07 54 42.3 -1.0**
MTE Manteigas 27.43 293 ⇓P **P** **07 54 43.1 -0.1**
PESTR Estremoz 27.45 290 IAmb IAmb 07 54 44.1
comp=Z,176nm,0.9s
PESTR Estremoz 27.45 290 *eP* **P** **07 54 43.1 -0.3**
PESTR *i* IAmb IAmb 07 54 44.2
comp=Z,189nm,1.2s
PESTR Estremoz 27.45 290 ⇑P **P** **07 54 42.9 -0.4**
MCH1 Michaelchurch 27.45 319 ⇓P **P** **07 54 42.5 -0.7**
LBWR Ladybower, Pea 27.51 323 *eP* **P** **07 54 42.8 -0.9**
LBWR IAmb IAmb 07 54 44.1
comp=Z,55nm,0.8s
MDH Madha 27.51 101 P **P** **07 54 44.6 +0.6**
HATD Hatta, Dubai 27.59 102 P **P** **07 54 45.5 +0.8**
HATD S **S** **07 59 25.3 +0.4**
ASHO Ashiyiah 27.59 102 P **P** **07 54 45.1 +0.3**
UOSS Minazif 27.59 102 P **P** **07 54 42.7 -2.1**
UOSS Minazif 27.59 102 P **P** **07 54 45.6 +0.9**
UOSS P **P** **07 54 45.6 +0.9**
UOSS Minazif 27.59 102 ⇓P **P** **07 54 45.3 +0.5**
PVRL Vila Real 27.60 295 *eP* **P** **07 54 44.8 +0.1**
PVRL *i* IAmb IAmb 07 55 16.3
comp=Z,103nm,1.9s
PVAQ Vaqueiros 27.61 286 *eP* **P** **07 54 44.3 -0.5**
PVAQ *i* IAmb IAmb 07 54 46.4
comp=Z,236nm,1.3s
PVAQ Vaqueiros 27.61 286 ⇑P **P** **07 54 44.3 -0.5**
OSL Oslo 27.62 343 *eP* **P** **07 54 42.7 -1.9**
ALNE Al Ain 27.63 104 P **P** **07 54 46.1 +1.0**
GDLE Glaisdale, N Y 27.64 325 *eP* **P** **07 54 44.2 -0.7**
GDLE IAmb IAmb 07 54 45.0
comp=Z,148nm,0.6s
HLM1 Long Mynd 27.64 320 *eP* **P** **07 54 44.0 -1.0**
HLM1 IAmb IAmb 07 54 44.4
comp=Z,43nm,0.8s
KONO Kongsberg 27.65 342 P **P** **07 54 43.1 -1.8**
KONO Kongsberg 27.65 342 *eP* **P** **07 54 43.2 -1.6**
KONO Kongsberg 27.65 342 *ceP* **P** **07 54 43.8 -1.1**
KONO pmax pmax
comp=Z,63nm,1.7s
KONO Kongsberg 27.65 342 ⇓P **P** **07 54 43.3 -1.6**
POLO Lamas de Olo 27.66 295 *eP* **P** **07 54 45.1 -0.3**
POLO *i* IAmb IAmb 07 54 47.8
comp=Z,57nm,1.7s
PBEJ Beja 27.69 288 *eP* **P** **07 54 45.5 -0.1**
PBEJ *i* IAmb IAmb 07 54 48.1
comp=Z,136nm,1.5s
PVIS Viseu 27.70 294 *eP* **P** **07 54 45.6 -0.1**
FURI Furi 27.73 153 LR LR 08 07 08.7
comp=Z,2μm,18.2s,baz=342,slow=39
EVO Evora 27.79 289 P **P** **07 54 45.7 -0.6**
EVO Evora 27.79 289 *eP* **P** **07 54 46.4 0.0**
EVO *i* IAmb IAmb 07 54 48.4
comp=Z,150nm,1.5s
PBDV Barranco-do-Ve 27.79 286 *eP* **P** **07 54 46.3 -0.2**
PBDV *i* IAmb IAmb 07 54 49.0
comp=Z,283nm,1.6s
PCVE Castro Verde 27.85 287 *eP* **P** **07 54 46.5 -0.4**
PCVE *i* IAmb IAmb 07 54 48.7
comp=Z,150nm,1.6s
PCAB Cabril 27.86 296 *eP* **P** **07 54 46.9 -0.2**
PCAB *i* IAmb IAmb 07 54 47.7
comp=Z,155nm,1.0s
PSARD Sardoal 27.89 291 *eP* **P** **07 54 46.6 -0.6**
PSARD *i* IAmb IAmb 07 54 47.5
comp=Z,104nm,1.0s
AVE Averroes 27.90 278 P **P** **07 54 47.4 -0.1**
AVE Averroes 27.90 278 P **P** **07 54 47.9 +0.4**
AVE IAmb IAmb 07 54 48.6
comp=Z,68nm,0.6s
KEF Keuruu 27.93 359 *eP* **P** **07 54 45.8 -1.6**

PMTG Montargil 27.94 290 *eP* **P** **07 54 47.1 -0.6**
PMTG *i* IAmb IAmb 07 54 49.1
comp=Z,108nm,1.8s
KLMR Klimovskoe 27.96 14 *eP* **P** **07 54 44.6 -3.0**
KLMR S **S** **07 59 24.6 -5.4**
KLMR pmax pmax
comp=Z,360nm,0.8s
KLMR MLR MLR
comp=Z,2μm,14.0s
MESJ Messejana 27.98 287 *eP* **P** **07 54 47.9 -0.2**
MESJ IAmb IAmb 07 54 49.5
comp=Z,234nm,1.7s
MESJ Messejana 27.98 287 IAmb IAmb 07 54 49.0
comp=Z,135nm,1.4s
MESJ Messejana 27.98 287 *eP* **P** **07 54 47.9 -0.2**
MESJ *i* IAmb IAmb 07 54 49.9
comp=Z,109nm,1.4s
MESJ Messejana 27.98 287 ⇑P **P** **07 54 47.9 -0.2**
FOEL Foel Wylfa 28.00 321 *eP* **P** **07 54 47.8 -0.4**
FOEL IAmb IAmb 07 54 48.7
comp=Z,137nm,1.0s
PGAV Gavieira, Arco 28.06 296 *eP* **P** **07 54 49.3 +0.3**
COI Coimbra 28.08 292 *eP* **P** **07 54 48.7 -0.3**
COI *i* IAmb IAmb 07 54 49.1
comp=Z,137nm,0.8s
NC602 NORSAR Array S 28.14 345 IAmb IAmb 07 54 51.1
comp=Z,72nm,0.6s
NC602 NORSAR Array S 28.14 345 *eP* **P** **07 54 46.7 -2.5**
PCAS Casmilo, Conde 28.15 292 *eP* **P** **07 54 49.3 -0.3**
PCAS *i* IAmb IAmb 07 54 51.7
comp=Z,104nm,1.9s
LLW Llanuwychllyn 28.22 320 *eP* **P** **07 54 49.4 -0.7**
SOHO SOHO 28.23 103 P **P** **07 54 51.1 +0.7**
SOHO P **P** **07 54 51.1 +0.7**
AKTO Aktyubinsk 28.23 45 LR LR 08 10 01.8
comp=Z,629nm,19.3s,baz=242,slow=45
AKTO Aktyubinsk 28.23 45 *i* P **P** **07 54 50.5 +0.3**
AKTO pmax pmax
comp=Z,68nm,0.8s
PTO Porto 28.26 294 *eP* **P** **07 54 51.3 +0.7**
PTO *i* IAmb IAmb 07 54 53.4
comp=Z,186nm,1.9s
TIO Tiouine 28.33 273 P **P** **07 54 51.8 +0.2**
BLS5 Blasjo 28.34 339 *eP* **P** **07 54 50.4 -0.7**
MORF Marmelete 28.36 286 *eP* **P** **07 54 50.9 -0.6**
MORF Marmelete 28.36 286 *eP* **P** **07 54 50.9 -0.6**
PSBE So Bento 28.38 291 *eP* **P** **07 54 52.2 +0.5**
PSBE *i* IAmb IAmb 07 54 54.1
comp=Z,108nm,1.5s
NAO01 NORSAR Array S 28.38 344 IAmb IAmb 07 54 51.6
comp=Z,160nm,0.8s
PTEO Sao Teotonio 28.40 287 *eP* **P** **07 54 51.6 -0.2**
PTEO *i* IAmb IAmb 07 54 53.9
comp=Z,166nm,1.3s
EDMD Edmundbyers 28.42 325 *eP* **P** **07 54 51.0 -0.9**
EDMD IAmb IAmb 07 54 52.2
comp=Z,97nm,0.8s
NB2 NORSAR Subarra 28.48 345 P **P** **07 54 50.4 -2.0**
comp=Z,37nm,0.9s,baz=156,slow=9.3
NB2 NORSAR Subarra 28.48 345 P **P** **07 54 50.4 -2.0**
comp=Z,37nm,0.9s,baz=156,slow=9.3
NOA NORSAR Array B 28.48 345 P **P** **07 54 50.5 -2.0**
comp=Z,28nm,0.9s,baz=148,slow=10.0,SNR=89
NOA LR LR 08 07 13.4
comp=Z,884nm,19.8s,baz=160,slow=39
comp=Z,28nm,0.9s
PFVI Vila Bisbo 28.51 286 IAmb IAmb 07 54 53.6
comp=Z,139nm,0.9s
PFVI Vila Bisbo 28.51 286 *eP* **P** **07 54 52.6 -0.3**
PFVI *i* IAmb IAmb 07 54 55.2
comp=Z,83nm,1.8s
KMY Karmoy 28.55 337 *eP* **P** **07 54 50.4 -2.5**
NBO00 NORSAR Array S 28.57 344 IAmb IAmb 07 54 53.6
comp=Z,100nm,1.1s
PARRA Arraiolos 28.58 289 *eP* P 07 54 46.0 -7.4
PARRA *i* IAmb IAmb 07 54 47.3
comp=Z,78nm,1.3s
ARQ Araqi 28.60 104 P **P** **07 54 54.7 +0.9**
LIS Lisbon 28.67 289 *eP* **P** **07 54 53.8 -0.4**
LIS IAmb IAmb 07 54 56.9
comp=Z,214nm,1.1s
LIS Lisbon 28.67 289 *eP* **P** **07 54 53.9 -0.4**
LIS *i* IAmb IAmb 07 54 56.9
comp=Z,287nm,1.4s
LIS Lisbon 28.67 289 *eP* **P** **07 54 53.8 -0.4**
ODD1 Odda 28.69 339 *eP* **P** **07 54 53.7 -0.5**
PMAFR Mafra 28.76 290 *eP* **P** **07 54 55.3 +0.2**
PMAFR *i* IAmb IAmb 07 54 57.8
comp=Z,246nm,1.7s
NC204 NORSAR Array S 28.80 344 IAmb IAmb 07 54 55.0
comp=Z,87nm,1.0s
KIRV Kirov 28.82 25 LR LR 08 07 06.3
comp=Z,580nm,19.2s,baz=233,slow=38
KESW Keswick, Cumbr 28.84 324 *eP* **P** **07 54 55.3 -0.3**
JOF Joensuu 28.85 5 *eP* **P** **07 54 54.4 -1.2**
AB31 Akbulak array 28.98 49 P **P** **07 54 57.4 +0.5**
AB31 Akbulak array 28.98 49 *i* P **P** **07 54 57.5 +0.5**
AB31 pmax pmax
comp=Z,37nm,0.8s
ABKAR Akbulak array 28.98 49 P **P** **07 54 57.2 +0.3**
EKA Eskdalemuir Ar 29.27 325 P **P** **07 54 58.9 -0.5**
comp=Z,143nm,0.8s,baz=127,slow=9.3,SNR=225
EKA PcP **PcP** **07 58 06.0 +0.2**
comp=Z,5.2nm,0.6s,baz=122,slow=2.9,SNR=6.8
comp=Z,143nm,0.8s
ESK Eskdalemuir 29.28 325 P **P** **07 54 59.2 -0.3**
ESK IAmb IAmb 07 55 00.2
comp=Z,141nm,0.9s
ESK Eskdalemuir 29.28 325 *eP* **P** **07 54 59.1 -0.4**
ESK IAmb IAmb 07 54 60.0
comp=Z,143nm,0.9s
ESK Eskdalemuir 29.28 325 ⇑P **P** **07 54 59.0 -0.5**
DOK Doka 29.32 115 P **P** **07 55 00.5 +0.4**
DOK P **P** **07 55 00.5 +0.4**
ESY Stoneypath 29.35 326 *eP* **P** **07 54 59.5 -0.6**
IOMK Kirk Michael 29.39 322 *eP* **P** **07 55 00.1 -0.4**
BSY Bisya 29.43 105 P **P** **07 55 02.2 +1.0**
BSY P **P** **07 55 02.2 +1.0**
BER Bergen 29.45 339 *eP* **P** **07 55 00.4 -0.5**
WHFO Wadi Hawf 29.48 117 P **P** **07 55 02.4 +0.7**
ABTO Aybut 29.49 118 P **P** **07 55 02.0 +0.2**
ASK Askoy 29.57 339 *eP* **P** **07 55 00.4 -1.6**
EDI Edinburgh 29.62 326 *eP* **P** **07 55 02.1 -0.4**
EDI IAmb IAmb 07 55 03.0
comp=Z,162nm,0.6s
NEWG New Galloway 29.67 324 *eP* **P** **07 55 02.6 -0.3**
NEWG IAmb IAmb 07 55 03.4
comp=Z,107nm,0.9s
IWEX Carrickbyrne, 29.70 318 P **P** **07 55 02.6 -0.6**
GAL1 Galloway 29.77 323 *eP* **P** **07 55 03.4 -0.4**
GAL1 IAmb IAmb 07 55 04.4
comp=Z,172nm,0.9s
DSB Dublin 29.86 319 P **P** **07 55 04.6 0.0**
DSB Dublin 29.86 319 IAmb IAmb 07 55 05.7
comp=Z,45nm,0.9s
DSB Dublin 29.86 319 ⇓P **P** **07 55 04.8 +0.2**
DOMB Dombas 29.86 344 *eP* **P** **07 55 03.5 -1.0**
DRUM Mains of Drumt 29.88 328 *eP* **P** **07 55 03.7 -1.1**
DRUM IAmb IAmb 07 55 04.3
comp=Z,170nm,0.7s
SMDO Samad 29.96 103 P **P** **07 55 05.8 -0.2**
SMDO P **P** **07 55 05.8 -0.2**
RBK Rabkut 30.07 117 P **P** **07 55 08.1 +1.3**
SUE Sulen 30.16 339 *eP* **P** **07 55 05.4 -1.8**
PGBU Glenifferbraes 30.16 325 *eP* **P** **07 55 07.2 0.0**
PGBU IAmb IAmb 07 55 08.0
comp=Z,235nm,0.9s
ILTH Belurgan, Co L 30.19 321 P **P** **07 55 06.8 -0.7**
INVG Invergeldie, C 30.30 326 *eP* **P** **07 55 08.1 -0.4**
INVG IAmb IAmb 07 55 08.8
comp=Z,144nm,0.8s
JMDO Jabal Madar 30.34 105 P **P** **07 55 10.0 +0.7**
AKN Aaknes 30.47 342 *eP* **P** **07 55 08.8 -1.2**
DMTO DMTO 30.49 115 P **P** **07 55 10.7 +0.2**
CLGH Cloghs, Cushen 30.58 323 *eP* **P** **07 55 10.8 -0.2**
TOA0 Torodi Ar. Sit 30.62 233 P **P** **07 55 11.8 +0.1**
TORD Torodi Ar. Bea 30.62 233 P **P** **07 55 10.0 -1.6**
TORD IAmb IAmb 07 55 12.6
comp=Z,58nm,0.7s
TORD Torodi Ar. Bea 30.62 233 P **P** **07 55 10.1 -1.6**
comp=Z,54nm,0.5s,baz=46,slow=8.8,SNR=197
TORD PcP **PcP** **07 58 10.0 +0.2**
comp=Z,7.9nm,0.9s,baz=29,slow=2.6,SNR=3.8
TORD LR LR 08 08 57.6

comp=Z,2μm,21.3s,baz=41,slow=39
comp=Z,54nm,0.5s
MCD Coleburn Disti 30.62 329 *eP* **P** **07 55 10.2 -1.1**
MCD IAmb IAmb 07 55 10.9
comp=Z,158nm,0.6s
MOL Molde 30.67 343 *eP* **P** **07 55 10.5 -1.2**
LAWE Loch Awe, Argy 30.84 325 *eP* **P** **07 55 12.9 -0.3**
LAWE IAmb IAmb 07 55 13.7
comp=Z,64nm,0.6s
MHTO MHTO 30.94 107 P **P** **07 55 15.9 +1.3**
MHTO P **P** **07 55 15.9 +1.3**
ARTI Arti 31.16 35 P **P** **07 55 15.8 -0.4**
ARTI Arti 31.16 35 LR LR 08 09 45.8
comp=Z,594nm,21.0s,baz=232,slow=40
ARTI Arti 31.16 35 *c i* P **P** **07 55 15.7 -0.4**
ARTI 07 56 17.3
ARTI 07 58 13.1
ARTI S **S** **08 00 18.9 -1.5**
ARTI SS **SnSn** **08 02 04.4 +1.5**
ARTI pmax pmax
comp=Z,72nm,0.8s
ARTI MLR MLR
comp=Z,671nm,15.0s
DQM DQM 31.18 109 P **P** **07 55 19.1 +2.5**
IDGL Inch Island, C 31.28 322 P **P** **07 55 16.9 -0.2**
IDGL Inch Island, C 31.28 322 *eP* **P** **07 55 16.8 -0.3**
IDGL IAmb IAmb 07 55 17.9
comp=Z,108nm,0.9s
SJUU Sjulsmark 31.39 356 *eP* **P** **07 55 16.5 -1.5**
LRW Lerwick 31.44 334 *eP* **P** **07 55 17.6 -0.9**
LRW IAmb IAmb 07 55 18.8
comp=Z,147nm,0.7s
LRW Lerwick 31.44 334 ⇑P **P** **07 55 17.6 -0.9**
NGCH Negor - Chabah 31.44 97 P **P** **07 55 21.4 +2.5**
JLN Jalan Bani Buh 31.50 104 P **P** **07 55 20.9 +1.5**
JLN P **P** **07 55 20.9 +1.5**
VAL Valentia 31.52 315 P **P** **07 55 19.5 +0.3**
NSS Namsos 31.52 348 *eP* **P** **07 55 16.4 -2.7**
KPL Plockton 31.54 327 *eP* **P** **07 55 18.4 -1.0**
KPL IAmb IAmb 07 55 19.3
comp=Z,145nm,0.8s
IGLA Glengowla, Co 31.56 318 P **P** **07 55 19.7 +0.1**
MSF Maaselka 31.72 2 P **P** **07 55 20.0 -0.9**
MSF pmax pmax
comp=Z,103nm,1.3s
LINV Loch Inver, As 31.79 328 *eP* **P** **07 55 20.6 -0.9**
LINV IAmb IAmb 07 55 20.9
comp=Z,230nm,1.5s
LODK Lodwar 31.85 163 P **P** **07 55 24.5 +1.9**
SVE Sverdlovsk 32.46 35 *de* P **P** **07 55 27.8 +0.3**
SVE *e* S **S** **08 00 38.0 -2.6**
SVE pmax pmax
comp=Z,119nm,0.7s
SVE MLR MLR
comp=Z,615nm,15.0s
LEWI Lewis, Hebride 32.53 327 *eP* **P** **07 55 27.4 -0.6**
LEWI IAmb IAmb 07 55 28.6
comp=Z,140nm,0.6s
MOR8 Moi Rana 32.70 351 *eP* **P** **07 55 28.1 -1.4**
LEIR Leirfjorden 32.82 350 *eP* **P** **07 55 28.6 -1.9**
RAUS Rausandaksla 33.00 351 *eP* **P** **07 55 30.2 -1.9**
STOK Stokkvaagen 33.04 350 *eP* **P** **07 55 30.8 -1.6**
KONS Konsvik 33.18 350 *eP* **P** **07 55 31.6 -2.1**
VAGH Vaagaholmen 33.38 351 *eP* **P** **07 55 34.2 -1.2**
APA Apatity 33.60 5 ⇓ *i* P **P** **07 55 35.8 -1.5**
APA *i* 07 56 45.8
APA *e* 07 58 17.0
APA *i* S **S** **08 00 51.2 -6.9**
APA *i* SS **SnSn** **08 03 06.1 +4.2**
APA pmax pmax
comp=Z,98nm,0.8s
APA MLR MLR
comp=Z,1μm,13.8s
FAUS Fauske 33.76 352 *eP* **P** **07 55 37.5 -1.2**
LANU Lannavaara 33.91 357 *eP* **P** **07 55 38.5 -1.5**
LVZ Lovozero 34.02 6 P **P** **07 55 39.9 -1.1**
LVZ IAmb IAmb 07 55 43.0
comp=Z,71nm,0.7s
LVZ Lovozero 34.02 6 *ceP* **P** **07 55 40.6 -0.4**
LVZ pmax pmax
comp=Z,93nm,0.8s
LVZ Lovozero 34.02 6 ⇑P **P** **07 55 40.0 -1.0**
STEI Steigen 34.29 353 *eP* **P** **07 55 41.9 -1.4**
SIMJ Simiganj 34.46 70 P **P** **07 55 45.4 0.0**
CHGR Chuyangaron 34.57 70 IAmb IAmb 07 55 49.0
comp=Z,81nm,0.8s
CHGR Chuyangaron 34.57 70 P **P** **07 55 47.3 +1.0**
CHGR pmax pmax
comp=Z,108nm,1.1s
LOF Lofoten 34.68 352 *eP* **P** **07 55 44.7 -1.9**
KTK1 Kautokeino 34.83 358 *eP* **P** **07 55 45.8 -2.2**
MBAR Mbarara 34.95 172 P **P** **07 55 51.9 +2.2**
MBAR Mbarara 34.95 172 *ceP* **P** **07 55 51.6 +1.9**
MBAR pmax pmax
comp=Z,12nm,0.8s
IUG luzhnay 35.00 64 ⇑ *i* P **P** **07 55 50.4 +0.4**
comp=Z,40nm,0.8s
IUG luzhnay 35.00 64 *c i* P **P** **07 55 50.3 +0.4**
IUG pmax pmax
comp=Z,41nm,0.8s
KBL Kabul 35.14 77 P **P** **07 55 51.0 -0.3**
KBL Kabul 35.14 77 P **P** **07 55 52.0 +0.7**
SNR=15
KBL P **P** **07 55 52.0 +0.7**
SNR=15
KBL Kabul 35.14 77 P **P** **07 55 51.0 -0.3**
KBL pmax pmax
comp=Z,22nm,0.9s
PMPST Porto Santo, M 35.25 280 *eP* **P** **07 55 52.8 +0.8**
PMPST *i* IAmb IAmb 07 55 53.9
comp=Z,307nm,1.4s
PMPS Porto Santo 35.25 280 *eP* **P** **07 55 53.1 +1.0**
PMPS *i* IAmb IAmb 07 55 55.3
comp=Z,115nm,0.9s
ARA0 ARCESS Array S 35.32 360 *eP* **P** **07 55 50.8 -1.4**
ARCES ARCESS Array B 35.32 360 P **P** **07 55 50.8 -1.4**
ARCES IAmb IAmb 07 55 51.9
comp=Z,81nm,0.8s
ARCES ARCESS Array B 35.32 360 P **P** **07 55 50.8 -1.4**
comp=Z,69nm,0.7s,baz=174,slow=8.3,SNR=153
ARCES LR LR 08 11 57.5
comp=Z,669nm,18.6s,baz=174,slow=39
comp=Z,69nm,0.7s
KK31 Karatay Array 35.33 62 IAmb IAmb 07 55 54.6
comp=Z,84nm,0.9s
KK31 Karatay Array 35.33 62 *i* P **P** **07 55 53.2 +0.5**
KK31 pmax pmax
comp=Z,83nm,0.9s
KKAR Karatay Array 35.33 62 P **P** **07 55 53.2 +0.5**
KKAR Karatay Array 35.33 62 P **P** **07 55 53.2 +0.5**
GAR Garm 35.44 69 IAmb IAmb 07 55 56.1
comp=Z,81nm,1.1s
JETT Jettan, Norway 35.49 356 *eP* **P** **07 55 51.9 -1.7**
KEV Kevo 35.54 0 P **P** **07 55 52.3 -1.8**
KEV Kevo 35.54 0 ⇑P **P** **07 55 52.7 -1.4**
TRO Tromso 35.65 356 *eP* **P** **07 55 53.5 -1.4**
TRKS Terek-Say 35.85 65 P **P** **07 55 58.6 +1.3**
TRKS pmax pmax
comp=Z,75nm,0.5s
DZA Taraz 35.94 63 *eP* **P** **07 55 58.6 +0.7**
comp=Z,30nm,0.7s
DZA Taraz 35.94 63 *eP* **P** **07 55 58.5 +0.7**
DZA pmax pmax
comp=Z,30nm,0.7s
VADS Vadso 35.95 2 *eP* **P** **07 55 56.9 -0.7**
PMOZ Porto Moniz, M 36.02 280 *eP* **P** **07 55 59.6 +0.8**
PMOZ *i* IAmb IAmb 07 56 14.3
comp=Z,169nm,1.2s
BORK Borovoye 36.30 45 *ceP* **P** **07 56 01.6 +0.8**
BORK pmax pmax
comp=Z,230nm,1.3s
BORK Borovoye 36.30 45 ⇑P **P** **07 56 01.7 +0.9**
BVAR Borovoye Array 36.34 45 P **P** **07 56 02.0 +0.9**
comp=Z,146nm,0.8s,baz=256,slow=6.0,SNR=412
BVAR LR LR 08 14 37.4
comp=Z,795nm,20.4s,baz=259,slow=42
comp=Z,146nm,0.8s
HAMF Hammerfest 36.46 359 *eP* **P** **07 56 00.7 -1.1**
KMBO Kilima Mbogo 36.70 161 P **P** **07 56 05.8 +1.0**
comp=Z,98nm,0.3s,baz=210,slow=16,SNR=9.8
comp=Z,98nm,0.3s
MACI Morro de la Ar 36.81 273 P **P** **07 56 05.2 -0.5**
MACI IAmb IAmb 07 56 07.3
comp=Z,89nm,0.7s

BRZS	Berezniki	37.22	51	*e*P		P	07 56 09.2	+0.6	
BRZS	Berezniki	37.22	51	*e*P		P	07 56 09.2	+0.6	
EKS2	Erkin-Say	37.75	63	P		P	07 56 14.8	+1.4	
	SNR=42								
BTLS	Baital	37.86	59⇑	*i*P		P	07 56 14.9	+0.7	
	comp=Z,22nm,1.0s								
BTLS	Baital	37.86	59	*c i*P		P	07 56 14.9	+0.7	
BTLS				pmax	pmax				
	comp=Z,22nm,1.0s								
KIBK	Kibwezi	38.08	161	P		P	07 56 16.8	+0.5	
KIBK	Kibwezi	38.08	161	P		P	07 56 18.3	+2.0	
	SNR=5.0								
USP	Ospenovka	38.24	62	P		P	07 56 17.8	+0.3	
	SNR=11								
AAK	Ala-Archa	38.28	63	P		P	07 56 19.4	+1.5	
	SNR=24								
AAK	Ala-Archa	38.28	63	P		P	07 56 18.9	+1.0	
AAK	Ala-Archa	38.28	63	P		P	07 56 19.0	+1.1	
AAK				P		P	07 56 19.0	+1.1	
AAK	Ala-Archa	38.28	63	*c e*P		P	07 56 19.2	+1.3	
AAK				pmax	pmax				
	comp=Z,61nm,0.8s								
AAK	Ala-Archa	38.28	63	⇑P		P	07 56 19.3	+1.4	
SGDS	Sogindy	38.33	61	*e*P		P	07 56 18.4	+0.2	
CHMS	Chumysh	38.44	62	P		P	07 56 20.7	+1.6	
	SNR=15								
KBK	Karagaybulak	38.61	63	P		P	07 56 22.4	+1.7	
	SNR=12								
NIL	Nilore	38.74	77	P		P	07 56 22.9	+1.1	
NIL				IAmb	IAmb		07 56 24.0		
	comp=Z,141nm,0.9s								
NIL	Nilore	38.74	77	P		P	07 56 23.2	+1.5	
NIL				P		P	07 56 23.2	+1.5	
NIL	Nilore	38.74	77	P		P	07 56 22.9	+1.1	
NIL				pmax	pmax				
	comp=Z,141nm,1.0s								
TKM2	Tokmak 2	39.07	62	P		P	07 56 25.6	+1.0	
	SNR=36								
KUU	Kurty	39.54	61	*e*P		P	07 56 28.9	+0.6	
	comp=Z,38nm,1.0s								
KUU	Kurty	39.54	61	*e*P		P	07 56 28.9	+0.6	
KUU				pmax	pmax				
	comp=Z,38nm,1.0s								
ULHL	Ulahol	39.60	63	P		P	07 56 30.8	+1.7	
	SNR=33								
DBIC	Dimbokro	39.72	233	P		P	07 56 29.4	-0.6	
DBIC	Dimbokro	39.72	233	P		P	07 56 29.5	-0.6	
	comp=Z,44nm,0.6s,baz=62,slow=8.3,SNR=67								
	comp=Z,44nm,0.6s								
DBIC	Dimbokro	39.72	233	P		P	07 56 29.4	-0.6	
DBIC				pmax	pmax				
	comp=Z,49nm,0.7s								
DBIC	Dimbokro	39.72	233	⇑P		P	07 56 29.4	-0.6	
KSH	Kashi	39.72	67	P		P	07 56 29.1	-0.9	
KSH				sP	pP		07 56 37.0	+0.6	
KSH				pmax	pmax				
	comp=Z,36nm,0.9s								
AAA	Alma-Ata	40.01	62	*e*P		P	07 56 32.7	+0.4	
	comp=Z,25nm,0.6s								
AAA	Alma-Ata	40.01	62	*e*P		P	07 56 32.6	+0.4	
AAA				pmax	pmax				
	comp=Z,25nm,0.6s								
TNSS	Tian-Shan	40.05	62	*e*P		P	07 56 33.1	+0.1	
TNSS	Tian-Shan	40.05	62	*e*P		P	07 56 33.1	+0.1	
MDOK	Medeo	40.11	62	*e*P		P	07 56 33.9	+0.7	
MDOK	Medeo	40.11	62	*e*P		P	07 56 33.9	+0.7	
ARXS	Arharly	40.59	60	*e*P		P	07 56 37.0	-0.1	
TDK	Taldyqorghan	40.95	59	*e*P		P	07 56 40.6	+0.6	
	comp=Z,36nm,0.6s								
TDK	Taldyqorghan	40.95	59	*e*P		P	07 56 40.6	+0.6	
TDK				pmax	pmax				
	comp=Z,37nm,0.6s								
KURBB	Kurchatov Arra	41.01	50	P		P	07 56 41.4	+1.1	
	comp=Z,242nm,0.7s,baz=277,slow=8.8,SNR=1804								
KURBB				PcP		PcP	07 58 40.9	+0.9	
	comp=Z,21nm,0.7s,baz=270,slow=3.7,SNR=6.2								
KURBB				ScP		ScP	08 02 28.7	+0.5	
	comp=Z,3.9nm,1.1s,baz=273,slow=4.6,SNR=5.3								
KURBB				S		S	08 02 52.2	+1.2	
	comp=Z,3.2nm,1.0s,baz=283,slow=17,SNR=6.5								
	comp=Z,242nm,0.7s								
KURK	Kurchatov	41.07	50	P		P	07 56 41.9	+1.0	
KURK	Kurchatov	41.07	50	P		P	07 56 41.8	+1.0	
KURK				P		P	07 56 41.8	+1.0	
KURK	Kurchatov	41.07	50	P		P	07 56 41.4	+0.6	
KURK							07 58 40.9		
KURK				S		S	08 02 52.3	+0.3	
SATY	Saty	41.11	62	*e*P		P	07 56 41.9	+0.5	
	comp=Z,33nm,0.8s								
SATY	Saty	41.11	62	*e*P		P	07 56 41.9	+0.5	
SATY				pmax	pmax				
	comp=Z,33nm,0.8s								
JMIC	Jan Mayen	41.18	344	LR		LR	08 15 57.6		
	comp=Z,428nm,18.8s,baz=138,slow=39								
UZB	Uzynbulak	41.55	62⇑	*i*P		P	07 56 45.6	+0.5	
UZB	Uzynbulak	41.55	62	*e*P		P	07 56 44.2	-0.9	
UZB				pmax	pmax				
	comp=Z,15nm,0.9s								
BORG	Borgarnes	41.75	332	P		P	07 56 48.3	+2.2	
BORG	Borgarnes	41.75	332	LR		LR	08 16 03.3		
	comp=Z,486nm,21.0s,baz=122,slow=39								
BORG	Borgarnes	41.75	332	⇓P		P	07 56 48.4	+2.2	
SHLS	Shalkode	41.87	61	*e*P		P	07 56 50.5	+2.9	
SHLS	Shalkode	41.87	61	*e*P		P	07 56 50.3	+2.7	
SHLS				pmax	pmax				
	comp=Z,21nm,1.2s								
PDGK	Podgornoye	41.87	61	*i*P		P	07 56 48.1	+0.4	
PDGK				pmax	pmax				
	comp=Z,49nm,0.9s								
HOPEN	Hopen	42.34	360	*e*P		P	07 56 49.6	-1.2	
MAKZ	Makanchi	43.33	56	P		P	07 57 00.5	+1.2	
MAKZ				IAmb	IAmb		07 57 01.3		
	comp=Z,68nm,0.8s								
MAKZ	Makanchi	43.33	56	P		P	07 57 00.5	+1.2	
MAKZ				pmax	pmax				
	comp=Z,68nm,0.8s								
MK31	Makanchi Array	43.54	56	*i*P		P	07 57 01.8	+0.7	
MK31				pmax	pmax				
	comp=Z,139nm,0.7s								
MKAR	Makanchi Array	43.54	56	P		P	07 57 01.9	+0.8	
MKAR	Makanchi Array	43.54	56	P		P	07 57 02.0	+0.9	
	comp=Z,123nm,0.7s,baz=279,slow=6.3,SNR=712								
MKAR				PcP		PcP	07 58 49.2	+0.7	
	comp=Z,16nm,0.7s,baz=281,slow=4.5,SNR=3.3								
MKAR				ScP		ScP	08 02 39.1	+0.6	
	comp=Z,1.1nm,0.6s,baz=291,slow=2.3,SNR=3.1								
MKAR				LR		LR	08 18 43.7		
	comp=Z,499nm,20.9s,baz=266,slow=41								
	comp=Z,123nm,0.7s								
SPB2	Spitsbergen Ar	44.21	357	IAmb		IAmb	07 57 12.7		
	comp=Z,93nm,1.2s								
SPA0	Spitsbergen Ar	44.22	357	*e*P		P	07 57 05.0	-1.1	
SPITS	Spitsbergen Ar	44.22	357	P		P	07 57 05.5	-0.6	
	comp=Z,18nm,0.5s,baz=149,slow=9.8,SNR=41								
SPITS				PcP		PcP	07 58 50.6	+0.3	
	comp=Z,12nm,0.6s,baz=141,slow=9.3,SNR=2.9								
SPITS				LR		LR	08 17 57.3		
	comp=Z,704nm,18.8s,baz=170,slow=39								
	comp=Z,18nm,0.5s								
SCO	Scoresbysund	44.48	339	IAmb		IAmb	07 57 10.5		
	comp=Z,127nm,0.7s								
SCO	Scoresbysund	44.48	339	⇑P		P	07 57 08.0	-0.2	
SCO	Scoresbysund	44.48	339	*i*P		P	07 57 09.4	+1.3	
SCO				IAmb	IAmb		07 57 10.3		
	comp=Z,123nm,0.8s								
ZALV	Zalesovo Beam	44.99	46	P		P	07 57 12.9	+0.4	
	comp=Z,183nm,0.6s,baz=268,slow=9.0,SNR=586								
ZALV				S		S	08 03 51.1	+1.7	
	comp=Z,9.2nm,1.0s,baz=248,slow=16,SNR=8.4								
ZALV				LR		LR	08 20 12.8		
	comp=Z,363nm,20.4s,baz=270,slow=42								
	comp=Z,183nm,0.6s								
KBS	Kingsbay	45.16	356	P		P	07 57 13.5	0.0	
KBS				IAmb	IAmb		07 57 14.3		
	comp=Z,80nm,0.7s								
KBS	Kingsbay	45.16	356	*e*P		P	07 57 12.9	-0.7	
KBS	Kingsbay	45.16	356	*c e*P		P	07 57 13.7	+0.1	
KBS				pmax	pmax				
	comp=Z,55nm,0.6s								
KBS	Kingsbay	45.16	356	⇑P		P	07 57 13.4	-0.2	
KBS	Kingsbay	45.16	356	*i*P		P	07 57 13.9	+0.4	
ZSN	Zaisan	45.24	55	*e*P		P	07 57 15.0	+0.3	
	comp=Z,24nm,1.0s								
ZSN	Zaisan	45.24	55	*e*P		P	07 57 14.9	+0.3	
ZSN				pmax	pmax				
	comp=Z,24nm,1.0s								
DBG	Daneborg	46.00	344	*i*P		P	07 57 21.0	+0.8	
DBG				IAmb	IAmb		07 57 23.5		
	comp=Z,38nm,0.7s								
DAG	Danmarks Havn	47.11	347	P		P	07 57 28.7	-0.2	
DAG				pmax	pmax				
	comp=Z,96nm,0.9s								
DAG	Danmarks Havn	47.11	347	⇑P		P	07 57 28.6	-0.4	
DAG	Danmarks Havn	47.11	347	*i*P		P	07 57 28.5	-0.4	
DAG				IAmb	IAmb		07 57 29.3		
	comp=Z,52nm,0.7s								
WMQ	Urumqi	47.70	59	*e*P		P	07 57 35.8	+1.8	
WMQ				pmax	pmax				
	comp=Z,48nm,0.9s								
WMQ				LR	LR				
	comp=Z,1μm,22.1s								
WMQ				LR	LR				
	comp=Z,600nm,23.3s								
WMQ				LR	LR				
	comp=Z,530nm,24.3s								
ANGG	Ammassalik, Gr	48.59	330	*i*P		P	07 57 42.6	+2.2	
ANGG				IAmb	IAmb		07 57 43.8		
	comp=Z,100nm,1.2s								
ISOG	Isortoq, Green	49.14	330	*i*P		P	07 57 44.8	+0.1	
ISOG				IAmb	IAmb		07 57 48.7		
	comp=Z,132nm,1.2s								
LSZ	Lusaka	49.30	177	LR		LR	08 20 00.2		
	comp=Z,488nm,20.8s,baz=354,slow=38								
HYB	Hyderabad	49.46	96	*e*P		P	07 57 48.2	+0.3	
HYB				*e*PcP		PcP	07 59 10.0	+0.2	
HYB				*e*PP		PP	07 59 42.8	+0.7	
HYB				*e*S		S	08 04 56.0	+1.9	
NOR	Nord	49.94	352	*i*P		P	07 57 49.7	-0.9	
NOR				IAmb	IAmb		07 57 50.7		
	comp=Z,56nm,0.8s								
SUMG	Summit	50.12	339	IAmb		IAmb	07 57 54.5		
	comp=Z,64nm,0.7s								
SUMG	Summit	50.12	339	⇑P		P	07 57 52.9	+0.3	
SUMG	Summit	50.12	339	*i*P		P	07 57 52.9	+0.3	
SUMG				IAmb	IAmb		07 57 54.3		
	comp=Z,68nm,0.8s								
EVN	Everest	51.60	80	IAmb		IAmb	07 58 06.1		
	comp=Z,76nm,0.8s								
NRS	Narsarsuaq	51.93	324	IAmb		IAmb	07 58 07.0		
	comp=Z,63nm,0.8s								
NRS	Narsarsuaq	51.93	324	*i*P		P	07 58 05.8	0.0	
NRS				IAmb	IAmb		07 58 06.9		
	comp=Z,64nm,0.7s								
DY2G	Dye2	52.16	331	*i*P		P	07 58 08.8	+1.0	
DY2G				IAmb	IAmb		07 58 09.3		
	comp=Z,99nm,0.7s								
IVI	Ivigtut	53.25	324	IAmb		IAmb	07 58 17.1		
	comp=Z,151nm,0.9s								
IVI	Ivigtut	53.25	324	⇑P		P	07 58 15.9	+0.3	
IVI	Ivigtut	53.25	324	*i*P		P	07 58 16.0	+0.5	
IVI				IAmb	IAmb		07 58 16.9		
	comp=Z,153nm,0.9s								
TSUM	Tsumeb	53.81	190	P		P	07 58 20.7	+0.5	
TSUM	Tsumeb	53.81	190	LR		LR	08 23 08.2		
	comp=Z,2μm,19.8s,baz=332,slow=38								
TSUM	Tsumeb	53.81	190	⇑P		P	07 58 21.0	+0.8	
SFJD	Kangerlussuaq	53.88	332	P		P	07 58 19.8	-0.3	
SFJD	Kangerlussuaq	53.88	332	LR		LR	08 24 37.1		
	comp=Z,532nm,18.2s,baz=86,slow=40								
SFJD	Kangerlussuaq	53.88	332	P		P	07 58 19.8	-0.3	
SFJD				pmax	pmax				
	comp=Z,24nm,1.0s								
SFJD	Kangerlussuaq	53.88	332	*i*P		P	07 58 19.2	-0.9	
SFJD				IAmb	IAmb		07 58 20.7		
	comp=Z,22nm,0.9s								
ILULI	Ilulissat	53.95	334	IAmb		IAmb	07 58 22.1		
	comp=Z,28nm,0.7s								
ILULI	Ilulissat	53.95	334	⇓P		P	07 58 20.5	-0.1	
ILULI	Ilulissat	53.95	334	*i*P		P	07 58 20.3	-0.3	
ILULI				IAmb	IAmb		07 58 21.9		
	comp=Z,28nm,0.7s								
NEEM	North Greenlan	54.07	345	*i*P		P	07 58 21.6	-0.2	
NEEM				IAmb	IAmb		07 58 23.6		
	comp=Z,64nm,0.9s								
SAATT	Saattut	54.08	336	*i*P		P	07 58 20.8	-0.8	
SAATT				IAmb	IAmb		07 58 21.6		
	comp=Z,26nm,0.7s								
SAQQ	Saqqaq	54.22	335	*i*P		P	07 58 22.0	-0.5	
SAQQ				IAmb	IAmb		07 58 24.2		
	comp=Z,25nm,0.7s								
LSA	Lhasa	54.43	76	P		P	07 58 23.8	-1.5	
LSA				pmax	pmax				
	comp=Z,43nm,0.7s								
MATP	Matopo	54.43	177	LR		LR	08 22 19.1		
	comp=Z,819nm,18.1s,baz=9.5,slow=37								
NUUG	Nuugaatsiaq	54.57	337	*i*P		P	07 58 24.4	-0.7	
NUUG				IAmb	IAmb		07 58 25.2		
	comp=Z,18nm,0.7s								
NUUK	Nuuk	54.58	328	*i*P		P	07 58 24.4	-0.8	
NUUK				IAmb	IAmb		07 58 25.8		
	comp=Z,31nm,0.7s								
NIAQ	Niaqornat	54.76	336	*i*P		P	07 58 26.3	-0.1	
NIAQ				IAmb	IAmb		07 58 27.7		
	comp=Z,22nm,0.8s								
GDH	Godhavn	54.82	335	*i*P		P	07 58 26.5	-0.4	
GDH				IAmb	IAmb		07 58 27.6		
	comp=Z,32nm,0.7s								
GOMU	GeErMu	54.96	67	P		P	07 58 28.8	-0.2	
GOMU				PcP		PcP	07 59 31.9	+1.2	
GOMU				S		S	08 06 07.9	-1.9	
GOMU				pmax	pmax				
	comp=Z,35nm,1.0s								
GOMU				pmax	pmax				
	comp=Z,120nm,4.9s								
MOY	Mondy	54.97	47	*e*P		P	07 58 30.3	+1.8	
MOY				pmax	pmax				
	comp=Z,100nm,1.7s								
UPNV	Upernavik	55.40	339	*i*P		P	07 58 30.8	-0.2	
UPNV				IAmb	IAmb		07 58 33.2		
	comp=Z,35nm,0.7s								
KULLO	Kullorsuaq	55.57	341	*i*P		P	07 58 31.5	-0.8	
KULLO				IAmb	IAmb		07 58 37.3		
	comp=Z,35nm,0.7s								
MALK	Mahakanadarawa	56.00	104	⇑P		P	07 58 37.1	+0.9	
OPO	Ambohidratompo	56.21	156	LR		LR	08 24 31.3		
	comp=Z,313nm,18.7s,baz=165,slow=38								
ZAK	Zakamensk	56.68	48	*e*P		P	07 58 41.4	+0.7	
ZAK				pmax	pmax				
	comp=Z,87nm,1.4s								
SHL	Shillong	56.71	80	IAmb		IAmb	07 58 41.4		
	comp=Z,36nm,0.8s								
SHL	Shillong	56.71	80	P		P	07 58 39.9	-1.5	
	SNR=10								
SHL	Shillong	56.71	80	P		P	07 58 40.5	-0.9	
SHL				pmax	pmax				
	comp=Z,44nm,1.4s								
PALK	Pallekele	56.78	105	LR		LR	08 26 42.3		
	comp=Z,538nm,18.6s,baz=313,slow=40								
IRK	Irkutsk	56.81	46	*e*P		P	07 58 41.6	+0.1	
IRK				pmax	pmax				
	comp=Z,355nm,2.0s								
KGCAE	Kacgae	56.94	184	P		P	07 58 43.6	+0.9	
KGCAE				IAmb	IAmb		07 58 47.9		
	comp=Z,42nm,1.0s								
HALK	Hakmana	57.47	106	⇓P		P	07 58 47.6	+1.0	
GTA	Gaotai	57.61	62	P		P	07 58 47.8	+0.3	
GTA				S		S	08 06 45.8	+1.4	
GTA				pmax	pmax				
	comp=Z,44nm,1.2s								
TULEG	Thule	58.14	344	*i*P		P	07 58 49.7	-0.8	
TULEG				IAmb	IAmb		07 58 51.2		
	comp=Z,47nm,1.0s								
LKGWB	Lokgwabe	58.26	185	P		P	07 58 52.1	+0.2	
LBTB	Lobatse	58.96	181	LR		LR	08 25 13.3		
	comp=Z,830nm,19.5s,baz=5.5,slow=37								
SONM	Songino Array	59.37	50	P		P	07 59 00.4	+0.7	
SONM				IAmb	IAmb		07 59 01.8		
	comp=Z,52nm,0.8s								
SONM	Songino Array	59.37	50	P		P	07 59 00.6	+0.9	
	comp=Z,34nm,0.7s,baz=286,slow=8.6,SNR=129								
SONM				LR		LR	08 29 06.2		
	comp=Z,412nm,19.1s,baz=290,slow=41								
	comp=Z,34nm,0.7s								
SONM	Songino Array	59.37	50	P		P	07 59 00.4	+0.7	
SONM				pmax	pmax				
	comp=Z,52nm,0.8s								
ULN	Ulaanbaatar	59.78	50	P		P	07 59 03.5	+0.9	
ULN				IAmb	IAmb		07 59 04.6		
	comp=Z,54nm,0.8s								
ULN	Ulaanbaatar	59.78	50	P		P	07 59 03.6	+1.0	
ULN				P		P	07 59 03.6	+1.0	
ULN	Ulaanbaatar	59.78	50	*c e*P		P	07 59 01.5	-1.0	
ULN				pmax	pmax				
	comp=Z,91nm,1.3s								
DRLN	Deer Lake	61.14	312	P		P	07 59 11.8	+0.3	
TIXI	Tiksi	61.69	21	P		P	07 59 14.8	-0.2	
TIXI				IAmb	IAmb		07 59 15.6		
	comp=Z,56nm,0.7s								
TIXI	Tiksi	61.69	21	LR		LR	08 29 43.6		
	comp=Z,741nm,18.4s,baz=318,slow=40								
TIXI	Tiksi	61.69	21	*c e*P		P	07 59 14.7	-0.2	
TIXI				pmax	pmax				
	comp=Z,46nm,0.8s								
LZDM	Lanzhou Array	61.74	64	P		P	07 59 16.2	0.0	
	comp=Z,10nm,0.6s,baz=273,slow=5.3,SNR=12								
LZDM				LR		LR	08 30 28.6		
	comp=Z,163nm,20.0s,baz=310,slow=40								
	comp=Z,10nm,0.6s								
LZH	Lanzhou	61.80	64	*e*P		P	07 59 17.3	+0.8	
LZH				sP		sP	07 59 26.3	+0.7	
LZH				S		S	08 07 37.4	-1.2	
LZH				pmax	pmax				
	comp=Z,59nm,1.3s								
LZH				pmax	pmax				
	comp=Z,180nm,4.8s								
LZH				LR	LR				
	comp=Z,380nm,15.8s								
LZH				LR	LR				
	comp=Z,380nm,14.8s								
LZH				LR	LR				
	comp=Z,410nm,14.4s								
FRB	Frobisher Bay	61.88	330	LR		LR	08 28 31.5		
	comp=Z,390nm,18.5s,baz=74,slow=38								
CIT	Chita	62.32	44	*e*P		P	07 59 20.2	+0.7	
CIT				*e*			07 59 30.0		
CIT				*e*			07 59 56.0		
CIT				pmax	pmax				
	comp=Z,116nm,1.6s								
TNCH	TengChong	62.34	77	*e*P		P	07 59 20.6	+0.4	
TNCH				pmax	pmax				
	comp=Z,200nm,1.2s								
BOSA	Boshof	62.55	181	P		P	07 59 22.2	+1.0	
BOSA	Boshof	62.55	181	P		P	07 59 21.8	+0.5	
	comp=Z,6.2nm,0.7s,baz=13,slow=7.5,SNR=7.9								
BOSA				LR		LR	08 30 27.2		
	comp=Z,531nm,18.7s,baz=6.5,slow=40								
	comp=Z,6.2nm,0.7s								
CD2	Chengdu	63.89	69	P		P	07 59 30.8	+0.5	
CD2				pmax	pmax				
	comp=Z,100nm,0.6s								
KUQ	Kuujjuuaa	63.93	324	P		P	07 59 30.6	+0.6	
PZH	PanZhiHua	64.26	74	P		P	07 59 33.1	+0.2	
PZH				S		S	08 08 08.1	-1.3	
PZH				pmax	pmax				
	comp=Z,80nm,1.1s								
ILON	Igloolik, Nuna	64.33	338	P		P	07 59 32.4	0.0	
SCHQ	Schefferville	64.43	320	P		P	07 59 33.4	0.0	
	comp=Z,2μm,0.6s,baz=68,slow=4.8,SNR=344								
SCHQ				LR		LR	08 28 11.1		
	comp=Z,3μm,18.6s,baz=70,slow=37								
BTO	Baotou	64.44	57	*e*P		P	07 59 33.8	0.0	
BTO				pP		pP	07 59 39.9	-0.6	
BTO				sP		sP	07 59 42.8	-0.2	
BTO				PP		PP	08 01 57.0	+1.6	
BTO				S		S	08 08 11.8	+0.6	
BTO				pmax	pmax				
	comp=Z,100nm,1.2s								
BTO				pmax	pmax				
	comp=Z,350nm,4.7s								
BTO				LR	LR				
	comp=Z,720nm,21.9s								
BTO				LR	LR				
	comp=Z,490nm,17.7s								
BTO				LR	LR				
	comp=Z,480nm,20.9s								
RES	Resolute Bay	64.75	345	LR		LR	08 29 16.0		
	comp=Z,267nm,18.1s,baz=28,slow=37								
GBN	Guysborough	65.11	309	P		P	07 59 38.4	+0.5	
HHC	Hu-ho-hao-te	65.40	56	*e*P		P	07 59 41.3	+1.2	
HHC				S		S	08 08 22.0	-1.1	
HHC				pmax	pmax				
	comp=Z,100nm,1.0s								
HHC				pmax	pmax				
	comp=Z,150nm,4.3s								
HHC				LR	LR				
	comp=Z,310nm,16.8s								
HHC				LR	LR				
	comp=Z,210nm,16.0s								
HHC				LR	LR				
	comp=Z,190nm,16.0s								
CHTO	Chiang Mai	65.63	83	P		P	07 59 41.5	-0.2	
CHTO				IAmb	IAmb		07 59 43.3		
	comp=Z,60nm,1.4s								
CHTO	Chiang Mai	65.63	83	P		P	07 59 41.6	-0.2	
CHTO				P		P	07 59 41.6	-0.2	
KMI	Kunming	65.69	75	P		P	07 59 42.3	0.0	
KMI				S		S	08 08 25.4	-1.9	
KMI				pmax	pmax				
	comp=Z,26nm,1.0s								
KMI				LR	LR				
	comp=Z,150nm,21.7s								
KMI				LR	LR				
	comp=Z,240nm,19.4s								
KMI				LR	LR				
	comp=Z,190nm,22.0s								
CM31	Chiang Mai Arr	65.80	84	P		P	07 59 42.9	0.0	
CM31				IAmb	IAmb		07 59 43.8		
	comp=Z,32nm,0.8s								
CMAR	Chiang Mai Arr	65.80	84	P		P	07 59 43.2	+0.3	
CMAR	Chiang Mai Arr	65.80	84	P		P	07 59 42.9	0.0	
	comp=Z,23nm,0.9s,baz=289,slow=7.3,SNR=106								
	comp=Z,23nm,0.9s								
CMAR	Chiang Mai Arr	65.80	84	P		P	07 59 43.2	+0.3	
YAK	Yakutsk	66.21	30	P		P	07 59 44.6	-0.1	
YAK	Yakutsk	66.21	30	LR		LR	08 32 30.6		
	comp=Z,305nm,18.1s,baz=299,slow=40								
YAK	Yakutsk	66.21	30	*e*P		P	07 59 44.1	-0.6	
YAK				*e*			08 00 13.4		
YAK				*e*			08 02 09.5		
YAK				*e*S		S	08 08 29.9	-2.0	
YAK				*e**SS		sS	08 08 53.9	+11	
YAK				*e*			08 09 35.7		
YAK				*e*SS		S

BJI comp=N,130nm,16.7s LR LR
comp=N,160nm,14.8s
BJT Baijiatuau 68.92 55 P **P** **08 00 03.3 +1.0**
ZEA Zeya 69.10 39 *eP* **P** **08 00 04.5 +1.4**
ZEA pmax pmax
comp=E,10.0nm,1.1s
ZEA pmax pmax
comp=Z,30nm,0.9s
ZEA MLR MLR
comp=E,300nm,15.0s
ZEA MLR MLR
comp=Z,300nm,15.0s
HNS HongShan 69.12 58 ⇑P **P** **08 00 04.3 +0.8**
HNS S **S** **08 09 10.3 +2.6**
HNS pmax pmax
comp=Z,39nm,1.3s
HNS LR LR
comp=Z,200nm,15.3s
HNS LR LR
comp=Z,190nm,15.1s
HNS LR LR
comp=Z,230nm,17.8s
LDAQ Lac Daran 69.96 315 IAmb IAmb 08 00 10.7
comp=Z,95nm,1.2s
PKME Peaks-Kenny Pk 70.08 312 IAmb IAmb 08 00 11.7
comp=Z,47nm,0.8s
WVL Waterville 70.65 311 IAmb IAmb 08 00 14.8
comp=Z,57nm,1.2s
RCBR Riachuelo 70.81 249 LR LR 08 33 21.2
comp=Z,231nm,18.5s,baz=60,slow=38
G62A West of Eustis 70.87 312 IAmb IAmb 08 00 16.3
comp=Z,38nm,0.8s
HEH HeiHe 70.94 42 *eP* **P** **08 00 15.4 +0.9**
HEH pmax pmax
comp=Z,160nm,0.9s
HEH LR LR
comp=Z,310nm,16.9s
HEH LR LR
comp=Z,460nm,16.9s
HEH LR LR
comp=Z,680nm,15.9s
MLSI Meulaboh, Aceh 71.25 98 P **P** **08 00 16.4 -0.5**
comp=Z,147nm,1.3s
TIA Tai'an 71.39 59 P **P** **08 00 17.6 +0.1**
TIA pmax pmax
comp=Z,53nm,1.1s
I63A Otisfield 71.48 311 IAmb IAmb 08 00 20.1
comp=Z,38nm,0.6s
H62A Milan 71.58 312 IAmb IAmb 08 00 20.9
comp=Z,69nm,0.8s
I62A Tamworth 72.04 311 IAmb IAmb 08 00 23.5
comp=Z,50nm,0.7s
WHN Wuhan 72.14 65 P **P** **08 00 22.8 +0.8**
A36M Sachs Harbour 72.16 351 IAmb IAmb 08 00 22.9
comp=Z,54nm,0.8s
A36M Sachs Harbour 72.16 351 P **P** **08 00 21.8 +0.4**
baz=24,SNR=5.8
VT1 Waterbury 72.69 312 IAmb IAmb 08 00 27.9
comp=Z,51nm,0.9s
M65A Busby, Falmout 72.78 309 P **P** **08 00 25.6 0.0**
baz=59
TRQ Mont Tremblant 72.79 314 IAmb IAmb 08 00 27.9
comp=Z,100nm,1.0s
KCSI Kotacane, Aceh 72.79 98 P **P** **08 00 25.7 -0.5**
comp=Z,17nm,0.8s
HRV Adam Dziewonsk 72.88 310 P **P** **08 00 26.8 +0.5**
HRV IAmb IAmb 08 00 28.8
comp=Z,81nm,1.1s
HRV Adam Dziewonsk 72.88 310 P **P** **08 00 26.8 +0.5**
HRV pmax pmax
comp=Z,81nm,1.2s
J61A Chester 73.07 311 IAmb IAmb 08 00 30.3
comp=Z,69nm,1.0s
DL2 Dalian 73.16 54 P **P** **08 00 27.4 -0.6**
DL2 pmax pmax
comp=Z,43nm,1.0s
K62A Royalston 73.22 310 IAmb IAmb 08 00 31.3
comp=Z,103nm,1.2s
BNX BinXian 73.28 46 ⇑P **P** **08 00 28.8 +0.2**
BNX pmax pmax
comp=Z,98nm,0.9s
NBAN Anadia - AL 73.53 246 *eP* **P** **08 00 30.6 +0.1**
L61B Northampton 73.62 310 IAmb IAmb 08 00 33.5
comp=Z,65nm,1.0s
LONY Lake Ozonia 73.65 313 IAmb IAmb 08 00 33.2
comp=Z,90nm,0.8s
UCCT U. Connecticut 73.67 310 IAmb IAmb 08 00 33.6
comp=Z,78nm,0.8s
BILL Bilibino 73.71 15 *ceP* **P** **08 00 30.5 -0.2**
BILL *i* 08 00 49.2
BILL pmax pmax
comp=Z,35nm,1.1s
BILL MLR MLR
comp=Z,211nm,21.0s
NCB Newcomb 73.78 312 IAmb IAmb 08 00 34.5
comp=Z,26nm,0.6s
SEY Seymchan 74.05 23 LR LR 08 37 49.5
comp=Z,222nm,18.3s,baz=311,slow=40
TRY Troy 74.09 311 IAmb IAmb 08 00 35.8
comp=Z,40nm,0.8s
PSI Prapat 74.15 98 LR LR 08 37 40.0
comp=Z,208nm,19.4s,baz=282,slow=39
KULM Kulim 74.17 94 P **P** **08 00 34.5 +0.2**
J59A Piesco 74.22 312 IAmb IAmb 08 00 36.8
comp=Z,54nm,0.9s
C36M Paulatuk 74.40 349 IAmb IAmb 08 00 35.2
comp=Z,32nm,0.6s
C36M Paulatuk 74.40 349 P **P** **08 00 35.1 +0.4**
baz=25
A21K Barrow 74.69 1 P **P** **08 00 37.0 +0.7**
baz=358
NJ2 Nanjing 74.71 62 *eP* **P** **08 00 37.6 +0.4**
NJ2 pmax pmax
comp=Z,19nm,0.8s
A22K Sinclair Lake 75.02 0 P **P** **08 00 39.2 +1.0**
baz=359
MDJ Mudanjiang 75.19 46 P **P** **08 00 41.9 +2.1**
MDJ pmax pmax
comp=Z,24nm,0.8s
GRNR Gornyy 75.44 38 ⇑*iP* **P** **08 00 41.8 +0.7**
GRNR pmax pmax
comp=Z,50nm,0.9s
PECO Prince Edward 75.48 313 IAmb IAmb 08 00 43.8
comp=Z,80nm,0.8s
DELO Deloro Mine 75.53 314 IAmb IAmb 08 00 44.1
comp=Z,72nm,0.8s
B22K Teshekpuk Lake 75.69 360 P **P** **08 00 42.9 +0.8**
baz=0.3
A19K Wainwright 75.69 3 P **P** **08 00 43.5 +1.3**
baz=354
BRNJ Basking Ridge 75.75 310 IAmb IAmb 08 00 45.5
comp=Z,60nm,1.0s
MNSI Mandailing Nat 75.82 99 P **P** **08 00 43.9 +0.1**
comp=Z,22nm,0.6s
MA2 Magadan 75.91 26 P **P** **08 00 44.6 +1.0**
MA2 Magadan 75.91 26 LR LR 08 38 25.0
comp=Z,309nm,18.4s,baz=292,slow=39
MA2 Magadan 75.91 26 P **P** **08 00 44.9 +1.3**
MA2 Magadan 75.91 26 P **P** **08 00 44.6 +1.0**
MA2 pmax pmax
comp=Z,132nm,0.8s
C26K Camden Bay 75.91 357 P **P** **08 00 44.5 +1.1**
baz=7.5,SNR=8.0
B20K Meade River 76.00 1 IAmb IAmb 08 00 45.9
comp=Z,62nm,0.8s
B20K Meade River 76.00 1 P **P** **08 00 44.9 +1.0**
baz=357,SNR=9.6
BUKO Buck Lake 76.05 316 IAmb IAmb 08 00 46.8
comp=Z,55nm,1.1s
D28M Stokes Point 76.11 355 P **P** **08 00 45.1 +0.6**
baz=13
C27K Jago River 76.15 356 IAmb IAmb 08 00 46.7
comp=Z,42nm,1.1s
C27K Jago River 76.15 356 P **P** **08 00 45.6 +0.8**
baz=8.6,SNR=17
C23K Itkillik River 76.17 359 IAmb IAmb 08 00 46.8
comp=Z,55nm,0.8s
C23K Itkillik River 76.17 359 P **P** **08 00 46.2 +1.3**
baz=2.7,SNR=22
C24K Franklin Bluff 76.25 358 P **P** **08 00 46.3 +1.0**
baz=4.3
SADO Sadowa 76.28 315 IAmb IAmb 08 00 48.1
comp=Z,75nm,0.8s
SADO Sadowa 76.28 315 LR LR 08 35 43.5
comp=Z,2µm,18.2s,baz=45,slow=37
D27M Malcolm River 76.36 355 P **P** **08 00 47.0 +0.8**
baz=11,SNR=18
B21K Ikpikpuk River 76.41 0 P **P** **08 00 47.3 +1.1**
baz=359
B18K Kokolik River 76.50 3 P **P** **08 00 47.9 +1.1**
baz=353,SNR=15
D25K Kavik River 76.57 357 P **P** **08 00 47.8 +0.5**
baz=6.3,SNR=16
INK Inuvik 76.62 352 LR LR 08 38 00.2
comp=Z,158nm,19.0s,baz=22,slow=38
INK Inuvik 76.62 352 P **P** **08 00 47.4 -0.1**
baz=17,SNR=13
D24K Happy Valley 76.82 358 P **P** **08 00 49.5 +0.9**
baz=4.2
C19K Lookout Ridge 76.84 2 P **P** **08 00 49.6 +0.8**
baz=355,SNR=8.3
USRK Ussuriysk Ar. 76.85 45 P **P** **08 00 49.3 +0.1**
comp=Z,73nm,0.7s,baz=293,slow=4.7,SNR=89
USRK PP **PP** **08 03 41.0 -0.7**
comp=Z,16nm,1.0s,baz=300,slow=7.7,SNR=5.8
comp=Z,73nm,0.7s
C21K Knifeblade Rid 76.88 0 P **P** **08 00 50.2 +1.2**
baz=359,SNR=20
E28M Babbage River 76.89 355 P **P** **08 00 49.6 +0.6**
baz=12,SNR=24
E29M Blow River 76.97 354 P **P** **08 00 50.1 +0.6**
baz=13,SNR=71
DLV Lat 77.04 84 IAmb IAmb 08 00 52.5
comp=Z,30nm,0.8s
DLV Lat 77.04 84 P **P** **08 00 51.7 +0.7**
D23K Nanushuk River 77.05 359 P **P** **08 00 50.9 +1.0**
baz=2.6
D22K Ayikyak River 77.16 360 P **P** **08 00 51.3 +0.7**
baz=0.9,SNR=25
PPI Padang Panjang 77.21 99 P **P** **08 00 52.0 +0.3**
comp=Z,2µmcomp=Z,39nm,0.8s
C18K Utukok River 77.24 3 IAmb IAmb 08 00 52.6
comp=Z,69nm,0.8s
C18K Utukok River 77.24 3 P **P** **08 00 51.8 +0.7**
baz=354,SNR=22
INCN Inchon 77.26 53 P **P** **08 00 51.9 +0.2**
BKNI Bangkinang 77.29 98 P **P** **08 00 55.9 +3.8**
D20K Etivluk River 77.31 1 P **P** **08 00 52.1 +0.7**
baz=358
C17K DeLong Mountai 77.33 4 P **P** **08 00 51.8 +0.3**
baz=352,SNR=22
TOLK Toolik Lake Re 77.35 358 P **P** **08 00 52.5 +0.8**
baz=3.6,SNR=15
C16K Lisburne Hills 77.40 4 IAmb IAmb 08 00 52.9
comp=Z,53nm,0.8s
C16K Lisburne Hills 77.40 4 P **P** **08 00 51.9 +0.1**
baz=350,SNR=6.5
E27K Coleen River 77.45 355 P **P** **08 00 52.8 +0.6**
baz=10,SNR=20
F31M Tsiigehtchic 77.47 352 IAmb IAmb 08 00 53.5
comp=Z,63nm,1.0s
F31M Tsiigehtchic 77.47 352 P **P** **08 00 52.4 +0.2**
baz=17,SNR=22
D19K Kuna River 77.50 2 P **P** **08 00 53.1 +0.6**
baz=356
PDSI Padang 77.52 100 P **P** **08 00 53.6 +0.1**
comp=Z,94nm,1.1s
F30M Barrier River 77.53 353 IAmb IAmb 08 00 53.8
comp=Z,61nm,1.0s
F30M Barrier River 77.53 353 P **P** **08 00 52.9 +0.2**
baz=15,SNR=22
E21K Killik River 77.60 0 P **P** **08 00 53.4 +0.4**
baz=360
E25K Arctic Village 77.74 357 IAmb IAmb 08 00 55.8
comp=Z,38nm,0.8s
E25K Arctic Village 77.74 357 P **P** **08 00 54.7 +0.9**
baz=6.9,SNR=29
RDOG Red Dog Mine 77.76 3 IAmb IAmb 08 00 55.0
comp=Z,42nm,0.7s
RDOG Red Dog Mine 77.76 3 P **P** **08 00 54.1 +0.2**
baz=352,SNR=10
E20K Nigu River 77.77 1 P **P** **08 00 54.6 +0.5**
baz=358
SSPA Standing Stone 77.88 311 P **P** **08 00 56.2 +1.2**
SSPA IAmb IAmb 08 00 57.3
comp=Z,80nm,0.9s
F28M Old Crow 77.89 355 P **P** **08 00 54.8 +0.1**
baz=12,SNR=16
E24K Your Creek 77.89 358 P **P** **08 00 55.5 +0.8**
baz=4.5,SNR=22
E22K Anaktuvuk Pass 77.90 359 IAmb IAmb 08 00 56.3
comp=Z,41nm,0.7s
E22K Anaktuvuk Pass 77.90 359 P **P** **08 00 55.5 +0.7**
baz=1.7,SNR=34
E23K Chandalar 77.94 358 IAmb IAmb 08 00 57.7
comp=Z,28nm,0.7s
E23K Chandalar 77.94 358 P **P** **08 00 56.0 +1.0**
baz=3.5,SNR=24
MDP Montagnes des 77.95 268 P **P** **08 00 56.7 +0.9**
comp=Z,14nm,0.8s,baz=50,slow=4.4,SNR=33
comp=Z,14nm,0.8s
G31M Satah River 78.03 352 IAmb IAmb 08 00 55.7
comp=Z,31nm,0.8s
G31M Satah River 78.03 352 P **P** **08 00 55.3 -0.1**
baz=16,SNR=12
KS19 Wonju Array Si 78.06 53 IAmb IAmb 08 00 57.9
comp=Z,33nm,0.8s
F26K Sheenjek River 78.09 356 IAmb IAmb 08 00 58.1
comp=Z,48nm,1.2s
F26K Sheenjek River 78.09 356 P **P** **08 00 57.0 +1.2**
baz=8.1,SNR=21
D17K Noatak River 78.10 4 P **P** **08 00 56.2 +0.5**
baz=352,SNR=20
KSAR Wonju Array Be 78.11 53 P **P** **08 00 56.6 +0.2**
KSAR Wonju Array Be 78.11 53 P **P** **08 00 56.6 +0.2**
KSRS Korea Array 78.13 53 P **P** **08 00 56.9 +0.4**
comp=Z,24nm,0.8s,baz=304,slow=4.9,SNR=104
KSRS PP **PP** **08 03 52.5 -0.1**
comp=Z,2.5nm,0.9s,baz=308,slow=6.4,SNR=4.3
comp=Z,24nm,0.8s
G30M tAoh Zrail Nji 78.18 353 P **P** **08 00 56.5 +0.2**
baz=15,SNR=12
F25K Christian Rive 78.27 357 P **P** **08 00 58.1 +1.3**
baz=6.9,SNR=32
TJN Taejon 78.36 54 P **P** **08 00 57.7 -0.1**
TJN Taejon 78.36 54 P **P** **08 00 57.7 -0.1**
TJN Taejon 78.36 54 P **P** **08 00 57.7 -0.1**
TJN pmax pmax
comp=Z,153nm,1.1s
BMAR Burnt Mountain 78.38 356 P **P** **08 00 58.4 +1.0**
G29M Pine Creek 78.42 354 IAmb IAmb 08 00 58.8
comp=Z,43nm,0.8s
G29M Pine Creek 78.42 354 P **P** **08 00 57.9 +0.2**
baz=13,SNR=21
TMAB Tom-Au,PA,Br 78.43 259 *eP* **P** **08 00 57.9 -0.6**
F24K Squaw Lake 78.43 358 IAmb IAmb 08 00 60.0
comp=Z,52nm,0.8s
F24K Squaw Lake 78.43 358 P **P** **08 00 59.1 +1.4**
baz=5.0,SNR=55
PAOC Oil Creek Stat 78.48 313 IAmb IAmb 08 01 00.6
comp=Z,105nm,1.0s
E18K Tukpahlearik C 78.49 3 P **P** **08 00 58.5 +0.5**
baz=354
YKAW3 Yellowknife Wh 78.50 343 IAmb IAmb 08 00 59.3
comp=Z,45nm,0.7s
F22K John River 78.53 359 P **P** **08 00 59.3 +1.1**
baz=1.4
YKAW1 Yellowknife Wh 78.54 343 IAmb IAmb 08 00 59.4
comp=Z,31nm,0.8s
E19K Redstone River 78.56 1 P **P** **08 00 59.1 +0.7**
baz=357
YKA Yellowknife Ar 78.56 343 P **P** **08 00 58.4 0.0**
comp=Z,27nm,0.7s,baz=30,slow=5.9,SNR=53
YKA LR LR 08 39 40.5
comp=Z,259nm,18.0s,baz=20,slow=39
comp=Z,27nm,0.7s
MYKOM Kota Tinggi 78.77 96 P **P** **08 01 00.5 +0.1**
E17K Hotham Inlet 78.78 3 P **P** **08 00 59.7 +0.1**
baz=353,SNR=13
COLD Coldfoot 78.78 359 P **P** **08 01 00.1 +0.6**
baz=3.0,SNR=22
G26K Porcupine Rive 78.81 356 IAmb IAmb 08 01 02.2
comp=Z,44nm,0.9s
G26K Porcupine Rive 78.81 356 P **P** **08 01 01.0 +1.3**
baz=8.4,SNR=36
G27K Doyon Strip 78.81 355 P **P** **08 01 00.8 +1.0**
baz=10,SNR=28
EPYK Eagle Plains 78.82 353 P **P** **08 00 59.9 0.0**
baz=14,SNR=15
F21K Alatna River 78.83 360 IAmb IAmb 08 01 01.9
comp=Z,75nm,1.1s
F21K Alatna River 78.83 360 P **P** **08 01 00.9 +1.1**
baz=0.2,SNR=38
F20K Avaraart Lake 78.99 1 P **P** **08 01 01.3 +0.7**
baz=358,SNR=26
PAMR Moraine State 79.07 312 IAmb IAmb 08 01 03.2
comp=Z,46nm,0.8s
G22K Bettles 79.11 359 P **P** **08 01 02.1 +0.8**
baz=1.9
G25K Bearman Lake 79.11 357 P **P** **08 01 02.6 +1.3**
baz=6.5,SNR=12
H31M Peel River 79.12 352 P **P** **08 01 01.6 +0.1**
baz=16,SNR=8.5
H29M Whitestone 79.13 354 IAmb IAmb 08 01 02.6
comp=Z,32nm,0.7s
H29M Whitestone 79.13 354 P **P** **08 01 01.6 +0.1**
baz=13,SNR=22
F19K Shaleruckik Mo 79.17 2 IAmb IAmb 08 01 02.6
comp=Z,53nm,0.9s
F19K Shaleruckik Mo 79.17 2 P **P** **08 01 01.7 +0.1**
baz=357,SNR=40
G24K Hadweenzic Riv 79.23 357 P **P** **08 01 03.1 +1.0**
baz=5.3,SNR=25
G23K Bananza Creek 79.30 358 IAmb IAmb 08 01 04.5
comp=Z,49nm,1.1s
G23K Bananza Creek 79.30 358 P **P** **08 01 03.4 +0.9**
baz=3.2,SNR=31
UGL Uglegorsk 79.34 37 *eP* **P** **08 01 04.2 +1.3**
UGL pmax pmax
comp=Z,200nm,0.9s
F18K Selawik 79.35 2 P **P** **08 01 02.9 +0.3**
baz=355,SNR=38
H27K Steamboat Moun 79.38 355 IAmb IAmb 08 01 05.0
comp=Z,34nm,0.8s
H27K Steamboat Moun 79.38 355 P **P** **08 01 04.0 +1.1**
baz=10,SNR=45
R58B Mineral 79.40 309 IAmb IAmb 08 01 05.3
comp=Z,63nm,0.8s
F17K Baldwin Pennin 79.44 3 IAmb IAmb 08 01 04.3
comp=Z,53nm,0.7s
F17K Baldwin Pennin 79.44 3 P **P** **08 01 03.4 +0.3**
baz=354,SNR=17
M52A Chesterland 79.48 313 IAmb IAmb 08 01 05.8
comp=Z,92nm,0.7s
TBO Thunder Bay 79.52 323 IAmb IAmb 08 01 05.5
comp=Z,55nm,0.7s
G21K Allakaket 79.53 360 P **P** **08 01 04.5 +0.8**
baz=0.2
CMC01 Camacan, BA 79.59 243 *eP* **P** **08 01 04.0 -0.7**
H25L Birch Creek 79.60 357 P **P** **08 01 05.2 +1.2**
baz=6.7,SNR=16
N53A Lisbon 79.60 312 IAmb IAmb 08 01 06.1
comp=Z,58nm,0.8s
O54A Avella 79.69 312 IAmb IAmb 08 01 06.9
comp=Z,41nm,0.6s
T59A Double "B" Far 79.76 308 IAmb IAmb 08 01 07.2
comp=Z,46nm,0.8s
WRGLY Wrigley 79.86 347 IAmb IAmb 08 01 07.7
comp=Z,115nm,1.0s
WRGLY Wrigley 79.86 347 P **P** **08 01 06.6 +1.1**
baz=25,SNR=24
G19K Purcell Mounta 79.88 1 IAmb IAmb 08 01 07.3
comp=Z,65nm,1.0s
G19K Purcell Mounta 79.88 1 P **P** **08 01 06.4 +0.9**
baz=357,SNR=37
TNA Tin City 79.89 6 P **P** **08 01 05.5 0.0**
baz=348
I30M Mount Dempster 79.91 353 P **P** **08 01 06.2 +0.3**
baz=15,SNR=28
I29M Ogilvie Camp, 79.96 353 IAmb IAmb 08 01 07.2
comp=Z,45nm,0.8s
I29M Ogilvie Camp, 79.96 353 P **P** **08 01 06.3 +0.3**
baz=13,SNR=47
F15K North Star Dit 79.99 5 IAmb IAmb 08 01 07.4
comp=Z,50nm,0.8s
F15K North Star Dit 79.99 5 P **P** **08 01 06.6 +0.5**
baz=352,SNR=16
I27K Kandik River 80.00 355 P **P** **08 01 07.0 +0.7**
baz=10,SNR=18
I28M Miner Creek 80.02 354 P **P** **08 01 06.8 +0.3**
baz=12,SNR=15
IMAR Indian Mountai 80.07 360 P **P** **08 01 07.2 +0.6**
G18K Tagagawik 80.09 2 IAmb IAmb 08 01 08.0
comp=Z,63nm,0.8s
G18K Tagagawik 80.09 2 P **P** **08 01 07.1 +0.4**
baz=356,SNR=33
F14K Arctic Creek 80.10 5 P **P** **08 01 07.1 +0.3**
baz=350,SNR=10
H24K Noodor Dome 80.11 358 P **P** **08 01 07.6 +0.7**
baz=5.0,SNR=14
H22K Ishtalitna Cre 80.14 359 P **P** **08 01 08.5 +1.5**
baz=2.0,SNR=29
O53A New Philadelph 80.17 312 IAmb IAmb 08 01 09.7
comp=Z,80nm,0.9s
MASI Maura Aman, Be 80.25 101 P **P** **08 01 08.9 +0.4**
comp=Z,127nm,1.3s
AAM Ann Arbor 80.39 315 IAmb IAmb 08 01 10.3
comp=Z,66nm,0.9s
H21K Melozitna Rive 80.39 360 IAmb IAmb 08 01 10.7
comp=Z,55nm,0.8s
H21K Melozitna Rive 80.39 360 P **P** **08 01 09.7 +1.3**
baz=0.8,SNR=32
G17K Kiwalik Mounta 80.41 3 P **P** **08 01 08.7 +0.2**
baz=354,SNR=22
G16K Koyuk River 80.44 4 IAmb IAmb 08 01 10.0
comp=Z,60nm,0.8s
G16K Koyuk River 80.44 4 P **P** **08 01 09.2 +0.6**
baz=353,SNR=20
N51A Ashland 80.47 313 IAmb IAmb 08 01 10.9
comp=Z,96nm,0.9s
J47A Sunmer 80.49 316 IAmb IAmb 08 01 11.1
comp=Z,122nm,1.0s
H19K Roundabout Mou 80.50 1 IAmb IAmb 08 01 10.7
comp=Z,61nm,0.8s
H19K Roundabout Mou 80.50 1 P **P** **08 01 09.7 +0.8**
baz=358,SNR=45
J30M Hart River 80.53 352 IAmb IAmb 08 01 11.1
comp=Z,68nm,1.0s
J30M Hart River 80.53 352 P **P** **08 01 10.1 +0.8**
baz=15,SNR=49
H20K Anotleneega Mo 80.56 0 P **P** **08 01 10.0 +0.7**
baz=359,SNR=35
M50A Fremont 80.58 314 IAmb IAmb 08 01 11.1
comp=Z,54nm,0.7s
GUA01 Guaratinga, BA 80.58 243 *eP* **P** **08 01 09.3 -0.7**
DSRI Dabo 80.65 97 P **P** **08 01 11.2 +0.6**
comp=Z,40nm,0.9s
R55A Marlinton 80.65 310 IAmb IAmb 08 01 12.6
comp=Z,164nm,1.4s
Q54A Coxs Mills 80.69 311 IAmb IAmb 08 01 12.1
comp=Z,50nm,0.9s
F42A Maple Grove Fa 80.73 320 IAmb IAmb 08 01 12.2
comp=Z,55nm,0.7s
P53A Whipple 80.73 312 IAmb IAmb 08 01 12.8
comp=Z,94nm,0.9s
G15K Niukluk 80.74 4 P **P** **08 01 10.3 +0.1**
baz=351,SNR=18
EGAK Eagle 80.78 355 P **P** **08 01 10.8 +0.4**
baz=11,SNR=12
POKR Poker Plat Res 80.81 357 IAmb IAmb 08 01 12.5
comp=Z,50nm,0.8s
POKR Poker Plat Res 80.81 357 P **P** **08 01 11.6 +1.0**
baz=5.3,SNR=9.2
FFC Flin Flon 80.82 332 P **P** **08 01 11.5 +0.6**
FFC IAmb IAmb 08 01 12.3
comp=Z,73nm,0.8s
FFC Flin Flon 80.82 332 P **P** **08 01 11.5 +0.6**
FFC pmax pmax
comp=Z,73nm,0.8s
KSI Kapahiang 80.83 101 P **P** **08 01 12.0 +0.4**
H18K Honhosa River 80.84 2 P **P** **08 01 11.4 +0.6**
baz=356
J29N Klondike Camp 80.84 353 P **P** **08 01 11.8 +0.9**
baz=13
MLY Manley 81.00 359 P **P** **08 01 12.6 +0.9**
baz=2.5,SNR=19
H17K Granite Mounta 81.00 3 P **P** **08 01 11.7 0.0**
baz=355,SNR=12
ANM Nome 81.07 5 IAmb IAmb 08 01 13.2
comp=Z,60nm,0.9s
ANM Nome 81.07 5 P **P** **08 01 12.2 +0.2**
baz=350,SNR=9.2
COLA College 81.07 357 P **P** **08 01 12.8 +0.9**
COLA College 81.07 357 P **P** **08 01 12.8 +0.9**
COLA College 81.07 357 P **P** **08 01 12.6 +0.6**
baz=5.0
YSS Yuzhno-Sakhali 81.09 38 P **P** **08 01 13.4 +0.9**
YSS Yuzhno-Sakhali 81.09 38 P **P** **08 01 13.3 +0.9**
YSS Yuzhno-Sakhali 81.09 38 *ceP* **P** **08 01 13.3 +0.9**
YSS *e*S **S** **08 11 22.8 +2.4**
YSS pmax pmax
comp=Z,100nm,0.9s

YSS pmax pmax
comp=Z,200nm,2.2s
P52A Corning 81.10 312 IAmb IAmb 08 01 13.8
comp=Z,53nm,0.7s
ILAR Eielson Array 81.14 357 P **P** **08 01 12.5 +0.1**
comp=Z,11nm,0.8s,baz=354,slow=4.0,SNR=22
ILAR PKKPbc **PKKPbc** **08 19 47.2 -1.5**
comp=Z,1.6nm,0.7s,baz=231,slow=2.5,SNR=18
ILAR PKPPKP P'P'df 08 27 49.8 -8.8
comp=Z,0.3nm,0.7s,baz=245,slow=3.2,SNR=5.6
comp=Z,11nm,0.8s
H16K Elim 81.20 4 P **P** **08 01 13.2 +0.5**
baz=353,SNR=21
J25K Salcha River, 81.22 356 P **P** **08 01 13.1 +0.2**
baz=7.0,SNR=8.7
J26L Joseph Creek 81.23 356 P **P** **08 01 13.1 +0.2**
baz=8.5,SNR=25
GAMB Gambell 81.25 8 P **P** **08 01 12.8 -0.2**
baz=345
I20K Naaghedeneel 81.26 0 IAmb IAmb 08 01 15.2
comp=Z,88nm,0.9s
I20K Naaghedeneel 81.26 0 P **P** **08 01 14.1 +1.1**
baz=359,SNR=20
GCSA Galena City Sc 81.28 1 P **P** **08 01 13.9 +0.9**
baz=357
DAWY Dawson 81.33 354 IAmb IAmb 08 01 15.1
comp=Z,39nm,0.8s
DAWY Dawson 81.33 354 P **P** **08 01 14.0 +0.5**
baz=12,SNR=28
H43A Windswept, Lux 81.36 319 IAmb IAmb 08 01 15.8
comp=Z,82nm,0.9s
K29M Barlow Dome 81.37 353 P **P** **08 01 14.5 +0.8**
baz=14,SNR=10
NEA2 Nenana 81.40 358 P **P** **08 01 13.7 0.0**
baz=3.9,SNR=11
W59A Clinton 81.40 307 IAmb IAmb 08 01 15.9
comp=Z,36nm,0.6s
MAYO Mayo, Yukon 81.43 352 P **P** **08 01 14.6 +0.7**
baz=15
WRH Wood River Hil 81.49 358 IAmb IAmb 08 01 15.3
comp=Z,78nm,0.8s
HDA Harding Lake 81.50 357 P **P** **08 01 14.3 0.0**
baz=5.7,SNR=14
ULM Lac du Bonnet 81.53 327 P **P** **08 01 14.6 -0.2**
comp=Z,24nm,0.5s,baz=50,slow=5.3,SNR=9.9
ULM LR LR 08 37 45.0
comp=Z,241nm,20.5s,baz=39,slow=36
comp=Z,24nm,0.5s
Q52A Bidwell 81.59 312 IAmb IAmb 08 01 16.9
comp=Z,75nm,0.8s
K27K Chicken 81.59 355 P **P** **08 01 15.8 +1.1**
baz=9.8
LHSI Lahat 81.69 100 P **P** **08 01 15.8 -0.3**
comp=Z,2µmcomp=Z,104nm,1.1s
GCPR Guaynabo City 81.76 286 IAmb IAmb 08 01 44.1
comp=Z,42nm,0.9s
P51A Williamsport 81.76 312 IAmb IAmb 08 01 17.3
comp=Z,48nm,0.8s
MMPY Sheldon Lake, 81.76 350 IAmb IAmb 08 01 18.7
comp=Z,58nm,1.0s
MMPY Sheldon Lake, 81.76 350 P **P** **08 01 17.4 +1.6**
baz=19,SNR=27
SCRK Sand Creek 81.78 356 IAmb IAmb 08 01 17.9
comp=Z,41nm,1.0s
SCRK Sand Creek 81.78 356 P **P** **08 01 16.8 +0.9**
baz=8.2,SNR=25
SMTB Santa Maria do 81.81 253 *e*P **P** **08 01 14.5 -2.3**
SDBA SAO DESIDERIO 81.83 249 *e*P **P** **08 01 16.0 -0.8**
J20K Nowinta River 81.88 0 IAmb IAmb 08 01 18.2
comp=Z,67nm,0.8s
J20K Nowinta River 81.88 0 P **P** **08 01 17.3 +1.0**
baz=360,SNR=34
SJG San Juan 81.92 286 P **P** **08 01 18.4 +1.1**
SJG San Juan 81.92 286 P **P** **08 01 18.4 +1.1**
SJG pmax pmax
comp=Z,25nm,0.9s
BPAW Bear Paw Mtn. 81.94 359 IAmb IAmb 08 01 17.5
comp=Z,43nm,0.8s
BPAW Bear Paw Mtn. 81.94 359 P **P** **08 01 16.6 0.0**
baz=2.3,SNR=15
E38A The Farm, Brul 81.96 322 IAmb IAmb 08 01 17.5
comp=Z,34nm,0.6s
U56A King 81.97 309 IAmb IAmb 08 01 19.4
comp=Z,59nm,1.1s
I17K Unalakleet 82.02 3 IAmb IAmb 08 01 18.5
comp=Z,44nm,0.8s
I17K Unalakleet 82.02 3 P **P** **08 01 17.6 +0.6**
baz=354
PRPB Parauapebas 82.02 257 *e*P **P** **08 01 17.1 -0.7**
K24K Donnelly Dome 82.05 356 IAmb IAmb 08 01 18.6
comp=Z,73nm,0.8s
K24K Donnelly Dome 82.05 356 P **P** **08 01 17.7 +0.4**
baz=6.7,SNR=17
J19K Poorman 82.06 1 IAmb IAmb 08 01 19.2
comp=Z,52nm,0.8s
J19K Poorman 82.06 1 P **P** **08 01 18.2 +1.0**
baz=358,SNR=30
RIDG Independent Ri 82.06 356 IAmb IAmb 08 01 19.1
comp=Z,43nm,1.0s
RIDG Independent Ri 82.06 356 P **P** **08 01 18.1 +0.7**
baz=7.5,SNR=16
L46A Eue Claire 82.10 316 IAmb IAmb 08 01 19.4
comp=Z,83nm,1.0s
DOT Dot Lake 82.11 356 IAmb IAmb 08 01 19.4
comp=Z,41nm,0.9s
L29M L29M 82.15 353 IAmb IAmb 08 01 19.7
comp=Z,36nm,0.9s
L29M L29M 82.15 353 P **P** **08 01 18.6 +0.8**
baz=13,SNR=16
CHUM Lake Minchumin 82.17 359 P **P** **08 01 18.3 +0.5**
baz=1.2,SNR=19
MCK McKinley 82.25 358 IAmb IAmb 08 01 19.3
comp=Z,56nm,1.0s
MCK McKinley 82.25 358 P **P** **08 01 18.3 0.0**
baz=4.0,SNR=14
AOPR Arecibo Observ 82.27 287 IAmb IAmb 08 01 20.5
comp=Z,65nm,0.9s
CELP Cerrillos 82.28 287 IAmb IAmb 08 01 20.9
comp=Z,67nm,0.8s
TGTN Hyland Airport 82.31 348 P **P** **08 01 20.6 +1.9**
baz=21,SNR=18
X58A Rowland 82.35 307 IAmb IAmb 08 01 21.5
comp=Z,74nm,1.5s
I42A Draeger Farm, 82.36 319 IAmb IAmb 08 01 20.7
comp=Z,55nm,0.8s
KTH Kantishna Hill 82.48 359 IAmb IAmb 08 01 21.8
comp=Z,81nm,1.4s
BCAR Beaver Creek A 82.52 355 P **P** **08 01 20.7 +0.9**
M30M Minto, Yukon 82.53 352 P **P** **08 01 20.3 +0.5**
baz=14,SNR=5.2
L27K Beaver Creek, 82.53 355 IAmb IAmb 08 01 21.9
comp=Z,33nm,0.9s
L27K Beaver Creek, 82.53 355 P **P** **08 01 20.9 +1.1**
baz=9.9,SNR=26
O48B Farmland 82.54 314 IAmb IAmb 08 01 21.6
comp=Z,73nm,1.0s
J18K Innoko River 82.57 1 P **P** **08 01 20.6 +0.7**
baz=358,SNR=16
TRF Thorofare Moun 82.57 358 IAmb IAmb 08 01 21.2
comp=Z,41nm,0.8s
TRF Thorofare Moun 82.57 358 P **P** **08 01 20.2 +0.1**
baz=2.9,SNR=7.8
J17K VABM Dome 82.58 2 IAmb IAmb 08 01 21.6
comp=Z,43nm,0.8s
J17K VABM Dome 82.58 2 P **P** **08 01 20.5 +0.5**
baz=356,SNR=18
JNU Nakatsue 82.59 55 IAmb IAmb 08 01 21.9
comp=Z,56nm,1.3s
M31M Drury Creek, Y 82.60 351 IAmb IAmb 08 01 22.4
comp=Z,44nm,1.1s
M31M Drury Creek, Y 82.60 351 P **P** **08 01 21.3 +1.2**
baz=16,SNR=16
J16K Anvik River 82.63 3 IAmb IAmb 08 01 21.8
comp=Z,54nm,1.1s
J16K Anvik River 82.63 3 P **P** **08 01 20.8 +0.6**
baz=354,SNR=12
L26K Log Cabin Wild 82.68 355 P **P** **08 01 21.4 +0.8**
baz=8.7,SNR=12
K20K Telida 82.71 0 IAmb IAmb 08 01 22.3
comp=Z,39nm,0.8s
K20K Telida 82.71 0 P **P** **08 01 21.4 +0.7**
baz=360,SNR=25
CRPR Cabo Rojo, PR 82.74 287 IAmb IAmb 08 01 22.8
comp=Z,40nm,0.8s
RIB01 Linhares ES 82.75 241 *e*P **P** **08 01 20.4 -1.1**
MENT Mentasta 82.79 355 P **P** **08 01 22.1 +1.0**
KOTAN Kotaneelee Air 82.81 346 P **P** **08 01 22.5 +1.3**
baz=24

V55A Taylorsville 82.81 309 IAmb IAmb 08 01 23.8
comp=Z,72nm,1.4s
LWLI Liwa 82.81 101 P **P** **08 01 22.6 +0.5**
M29M Somme Creek 82.83 353 P **P** **08 01 22.4 +0.9**
baz=13,SNR=44
DHY Denali Highway 82.85 357 IAmb IAmb 08 01 22.9
comp=Z,66nm,0.8s
DHY Denali Highway 82.85 357 P **P** **08 01 21.7 +0.1**
baz=5.3,SNR=37
PAX Paxson 82.87 356 P **P** **08 01 21.5 -0.1**
baz=6.9
AGMN Agassiz Nation 82.91 325 IAmb IAmb 08 01 22.5
comp=Z,25nm,0.7s
SJMB Sao Joao De Ma 82.94 242 *e*P **P** **08 01 22.1 -0.4**
Y58A Scranton 82.95 306 IAmb IAmb 08 01 24.4
comp=Z,47nm,0.8s
JANB Januaria 83.00 247 *e*P **P** **08 01 22.1 -0.8**
J14K Nanvaranak Lak 83.00 5 P **P** **08 01 22.4 +0.3**
baz=352
BIRD Birdtown, Kers 83.04 307 IAmb IAmb 08 01 24.9
comp=Z,33nm,1.1s
WAT1 Susitna Watana 83.14 358 P **P** **08 01 23.3 +0.4**
baz=4.3
PPLA Purkeypile 83.16 359 P **P** **08 01 23.9 +0.7**
baz=1.3,SNR=21
S51A Beattyville 83.22 311 IAmb IAmb 08 01 25.5
comp=Z,40nm,0.9s
M27K Edge Creek, AK 83.23 354 P **P** **08 01 24.4 +0.9**
baz=9.9,SNR=14
M26K Nabesna, AK 83.27 355 IAmb IAmb 08 01 25.5
comp=Z,45nm,1.3s
M26K Nabesna, AK 83.27 355 P **P** **08 01 24.6 +0.9**
baz=9.0,SNR=12
R50A Paris 83.28 312 IAmb IAmb 08 01 25.7
comp=Z,47nm,0.7s
K17K Iditarod 83.28 2 P **P** **08 01 24.3 +0.7**
baz=356,SNR=22
I40A Norwalk 83.29 319 IAmb IAmb 08 01 25.1
comp=Z,48nm,0.6s
PEA0B Petropavlovsk- 83.31 27 IAmb IAmb 08 01 25.6
comp=Z,68nm,1.3s
PETK Petropavlovsk- 83.31 27 P **P** **08 01 22.6 -1.4**
PETK Petropavlovsk- 83.31 27 P **P** **08 01 23.1 -0.8**
comp=Z,15nm,0.9s,baz=356,slow=2.5,SNR=10
PETK LR LR 08 41 54.2
comp=Z,271nm,19.4s,baz=319,slow=38
comp=Z,15nm,0.9s
WAT6 Susitna Watana 83.36 357 P **P** **08 01 24.4 +0.2**
baz=5.0,SNR=28
Y57A Sumter 83.37 307 IAmb IAmb 08 01 26.6
comp=Z,50nm,0.9s
HARP HAARP 83.42 356 P **P** **08 01 24.8 +0.4**
baz=7.2
N32M Quiet Lake 83.43 350 P **P** **08 01 25.3 +0.9**
baz=17,SNR=14
N31M Braeburn, Yuko 83.47 351 P **P** **08 01 24.9 +0.2**
baz=15,SNR=5.2
SPMN Marine on St. 83.54 322 IAmb IAmb 08 01 26.8
comp=Z,79nm,1.2s
K15K Wolf Creek Mou 83.57 4 IAmb IAmb 08 01 26.9
comp=Z,46nm,0.9s
K15K Wolf Creek Mou 83.57 4 P **P** **08 01 25.8 +0.7**
baz=354,SNR=12
L20K Farewell, AK 83.59 0 P **P** **08 01 25.8 +0.6**
baz=360,SNR=5.9
CUT Chulitna 83.62 358 P **P** **08 01 24.8 -0.5**
baz=2.9,SNR=11
N30M Aishikik Lake 83.65 352 P **P** **08 01 26.1 +0.5**
baz=14,SNR=6.3
WTLY Watson Lake, Y 83.73 348 P **P** **08 01 27.2 +1.2**
baz=21,SNR=8.4
K13K Kusilvak Mount 83.73 5 IAmb IAmb 08 01 27.1
comp=Z,40nm,0.8s
K13K Kuak Mount 83.73 5 P **P** **08 01 26.3 +0.4**
baz=351,SNR=10
M24K Tolsona, Glenn 83.77 356 IAmb IAmb 08 01 27.6
comp=Z,32nm,0.9s
M24K Tolsona, Glenn 83.77 356 P **P** **08 01 27.0 +0.8**
baz=6.3
L18K Granite Mounta 83.82 1 IAmb IAmb 08 01 28.3
comp=Z,28nm,0.8s
L18K Granite Mounta 83.82 1 P **P** **08 01 27.3 +0.9**
baz=358,SNR=17
PAULI Pauline 83.82 308 IAmb IAmb 08 01 28.3
comp=Z,24nm,0.8s
ALF01 Guarapari-ES 83.83 240 *e*P **P** **08 01 26.2 -0.7**
L17K Donlin 83.86 2 P **P** **08 01 27.4 +0.8**
baz=356,SNR=17
TZTN Tazewell 83.88 310 IAmb IAmb 08 01 29.2
comp=Z,50nm,1.1s
LIRD Liard River Hi 83.88 346 P **P** **08 01 28.1 +1.4**
baz=23,SNR=18
L19K White Mountain 83.88 1 IAmb IAmb 08 01 28.6
comp=Z,43nm,0.9s
L19K White Mountain 83.88 1 P **P** **08 01 27.6 +0.8**
baz=359,SNR=20
YUK4 Talbot Arm 83.93 353 P **P** **08 01 27.6 +0.3**
baz=13,SNR=12
SKT Skwentna 84.07 359 IAmb IAmb 08 01 29.4
comp=Z,51nm,1.0s
SKT Skwentna 84.07 359 P **P** **08 01 27.3 -0.4**
baz=1.9,SNR=28
SCM Sheep Creek Mo 84.09 357 IAmb IAmb 08 01 30.4
comp=Z,46nm,0.8s
SCM Sheep Creek Mo 84.09 357 P **P** **08 01 28.8 +1.0**
baz=5.4,SNR=10
YUK8 Steele Glacier 84.10 353 P **P** **08 01 28.6 +0.4**
baz=12
WHY Whitehorse 84.15 351 IAmb IAmb 08 01 55.8
comp=Z,33nm,1.0s
WHY Whitehorse 84.15 351 P **P** **08 01 28.4 +0.1**
baz=16,SNR=5.2
M23K Glacier View 84.15 357 P **P** **08 01 28.7 +0.6**
baz=5.0,SNR=17
P46A Rosedale 84.17 315 IAmb IAmb 08 01 29.8
comp=Z,45nm,0.8s
N25K Chitina, Valde 84.17 356 IAmb IAmb 08 01 29.6
comp=Z,23nm,0.8s
N25K Chitina, Valde 84.17 356 P **P** **08 01 28.6 +0.3**
baz=7.6,SNR=6.5
M20K Styx River 84.19 360 IAmb IAmb 08 01 29.4
comp=Z,29nm,0.8s
M20K Styx River 84.19 360 P **P** **08 01 28.4 0.0**
baz=0.5,SNR=16
L15K Ungalak Mounta 84.19 4 P **P** **08 01 28.9 +0.7**
baz=354,SNR=9.6
O30N Mendenhall 84.20 351 P **P** **08 01 28.7 +0.3**
baz=15,SNR=7.7
GHO Glory Hole Cre 84.22 358 IAmb IAmb 08 01 30.0
comp=Z,64nm,1.0s
TOAD Toad River Com 84.22 346 P **P** **08 01 29.6 +1.1**
baz=23,SNR=40
JTM Tenmabayashi 84.23 44 P **P** **08 01 29.1 +0.2**
JMN Monobe 84.23 53 IAmb IAmb 08 01 30.6
comp=Z,57nm,0.9s
L16K Owhat River 84.25 3 IAmb IAmb 08 01 30.4
comp=Z,35nm,1.3s
L16K Owhat River 84.25 3 P **P** **08 01 29.3 +0.8**
baz=355,SNR=5.7
M22K Willow 84.27 358 P **P** **08 01 28.9 +0.3**
baz=3.0,SNR=25
KSM Kuching 84.28 92 IAmb IAmb 08 01 31.9
comp=Z,24nm,0.8s
KSM Kuching 84.28 92 P **P** **08 01 31.3 +1.7**
MCARA McCarthy VSAT 84.28 355 IAmb IAmb 08 01 31.7
comp=Z,27nm,0.8s
MCARA McCarthy VSAT 84.28 355 P **P** **08 01 29.9 +1.1**
baz=8.9,SNR=5.3
P33M Teslin, Yukon 84.29 350 P **P** **08 01 29.6 +0.6**
baz=17,SNR=9.3
YUK6 Outpost Mounta 84.29 353 P **P** **08 01 30.1 +1.0**
baz=13
HYT Haines Junctio 84.31 352 IAmb IAmb 08 01 31.3
comp=Z,55nm,1.0s
HYT Haines Junctio 84.31 352 P **P** **08 01 30.2 +1.1**
baz=14,SNR=14
KLU Klutina 84.36 356 P **P** **08 01 30.1 +0.8**
baz=6.5,SNR=6.4
PMR Palmer 84.40 358 IAmb IAmb 08 01 30.8
comp=Z,47nm,1.1s
PMR Palmer 84.40 358 P **P** **08 01 29.9 +0.6**
PMR Palmer 84.40 358 P **P** **08 01 29.7 +0.4**
baz=3.9,SNR=11
JOW Kunigami 84.42 61 LR LR 08 43 59.3
comp=Z,85nm,21.3s,baz=288,slow=39
BG3 Lake Jocassee 84.44 309 IAmb IAmb 08 01 32.0
comp=Z,30nm,1.0s
L14K Kuka Creek 84.45 4 IAmb IAmb 08 01 31.1
comp=Z,42nm,1.4s
L14K Kuka Creek 84.45 4 P **P** **08 01 29.9 +0.4**
baz=353
VRDI Verde Repeater 84.47 355 IAmb IAmb 08 01 33.0
comp=Z,33nm,1.2s
WCI Wyandotte Cave 84.51 313 P **P** **08 01 31.0 +0.6**
WCI Wyandotte Cave 84.51 313 P **P** **08 01 31.0 +0.6**
WCI pmax pmax
comp=Z,124nm,0.9s
DIAM Diamantina, MG 84.52 244 *e*P **P** **08 01 29.0 -1.8**
KNK Knik Glacier 84.56 357 IAmb IAmb 08 01 31.9
comp=Z,57nm,0.8s
KNK Knik Glacier 84.56 357 P **P** **08 01 31.0 +0.8**
baz=4.4,SNR=9.7
STLK Strandline Lak 84.56 359 IAmb IAmb 08 01 30.8
comp=Z,31nm,0.8s
CTGM Chitina Glacie 84.56 354 IAmb IAmb 08 01 31.7
comp=Z,27nm,0.9s
CTG Chitna Glacier 84.56 354 P **P** **08 01 31.0 +0.7**
baz=10,SNR=6.0
M18K Stony River 84.57 1 P **P** **08 01 31.1 +0.9**
baz=358,SNR=9.0
TKL Tuckaleechee C 84.57 310 IAmb IAmb 08 01 32.5
comp=Z,39nm,1.0s
TKL Tuckaleechee C 84.57 310 LR LR 08 40 43.3
comp=Z,238nm,19.3s,baz=62,slow=37
SUA Susitna One 84.58 359 P **P** **08 01 30.8 +0.5**
baz=2.5,SNR=30
M17K Holitna River 84.62 2 IAmb IAmb 08 01 32.7
comp=Z,68nm,0.9s
M17K Holitna River 84.62 2 P **P** **08 01 31.7 +1.2**
baz=357,SNR=11
O28M Mount Upton 84.65 353 IAmb IAmb 08 01 32.9
comp=Z,29nm,0.9s
O28M Mount Upton 84.65 353 P **P** **08 01 31.8 +0.8**
baz=11,SNR=7.3
LOGN Logan Glacier 84.67 354 IAmb IAmb 08 01 32.8
comp=Z,45nm,1.2s
R33M Jennings River 84.78 349 P **P** **08 01 33.4 +1.9**
baz=19,SNR=36
BMRM Bremner River 84.81 356 IAmb IAmb 08 01 34.4
comp=Z,28nm,0.9s
BMRM Bremner River 84.81 356 P **P** **08 01 32.0 +0.5**
baz=7.6
GRNC Granite Creek 84.83 354 IAmb IAmb 08 01 33.6
comp=Z,34nm,1.0s
F33A 5 Mile Ranch, 84.86 324 IAmb IAmb 08 01 32.7
comp=Z,31nm,0.8s
SPCR Spurr Chakacha 84.86 359 P **P** **08 01 31.8 0.0**
baz=1.3
CRQM Cirque 84.92 355 IAmb IAmb 08 01 34.4
comp=Z,36nm,0.8s
CRQE Cirque 84.92 355 P **P** **08 01 32.6 +0.5**
baz=8.8,SNR=6.2
RC01 Rabbit Creek A 84.92 358 IAmb IAmb 08 01 33.4
comp=Z,58nm,0.8s
RC01 Rabbit Creek A 84.92 358 P **P** **08 01 32.6 +0.6**
baz=3.4,SNR=14
P30M Million Dollar 84.94 352 P **P** **08 01 33.0 +0.9**
baz=14
O29M Mount Kennedy 84.94 352 P **P** **08 01 32.7 +0.5**
baz=13,SNR=6.4
M16K Timber Creek 84.95 3 IAmb IAmb 08 01 34.2
comp=Z,3nm,0.9s
M16K Timber Creek 84.95 3 P **P** **08 01 33.0 +0.8**
baz=356,SNR=12
ISLE Juniper Island 85.00 354 IAmb IAmb 08 01 37.3
comp=Z,26nm,0.8s
W52A Murphy 85.02 309 IAmb IAmb 08 01 34.8
comp=Z,47nm,1.0s
P32M Atlin 85.02 350 IAmb IAmb 08 01 33.7
comp=Z,28nm,0.8s
P32M Atlin 85.02 350 P **P** **08 01 33.2 +0.6**
baz=16,SNR=5.4
GLI Glacier Island 85.04 357 IAmb IAmb 08 01 34.1
comp=Z,29nm,0.8s
GLI Glacier Island 85.04 357 P **P** **08 01 33.0 +0.4**
baz=5.5
CGJI Cibinong 85.05 101 P P 08 01 39.7 +6.3
M14K Bethel 85.08 4 IAmb IAmb 08 01 34.4
comp=Z,48nm,0.9s
M14K Bethel 85.08 4 P **P** **08 01 33.3 +0.6**
baz=353,SNR=7.4
PWL Port Wells 85.11 357 P **P** **08 01 33.3 +0.3**
baz=4.5,SNR=5.1
FID Port Fidalgo 85.13 356 IAmb IAmb 08 01 34.6
comp=Z,31nm,0.8s
M11K Mekoryuk 85.14 6 P **P** **08 01 33.3 +0.3**
baz=350
CPCT Cooper Cave 85.17 310 IAmb IAmb 08 01 35.5
comp=Z,53nm,0.7s
M15K Kasigluk River 85.21 3 P **P** **08 01 34.1 +0.7**
baz=354,SNR=9.8
MJB9 Matsu-Tunnel 85.26 49 IAmb IAmb 08 01 36.3
comp=Z,56nm,0.9s
N19K Bonanza Creek 85.26 0 IAmb IAmb 08 01 35.5
comp=Z,25nm,0.9s
N19K Bonanza Creek 85.26 0 P **P** **08 01 34.4 +0.6**
baz=359,SNR=8.8
MAJO Matsushiro 85.26 49 P **P** **08 01 34.2 0.0**
MAJO IAmb IAmb 08 01 35.3
comp=Z,57nm,0.9s
MAJO Matsushiro 85.26 49 P **P** **08 01 34.2 0.0**
MAJO Matsushiro 85.26 49 P **P** **08 01 34.2 0.0**
MAJO pmax pmax
comp=Z,57nm,1.0s
MJAR Matsushiro Arr 85.26 49 P **P** **08 01 34.5 +0.3**
comp=Z,53nm,0.8s,baz=308,slow=5.0,SNR=97
MJAR LR LR 08 44 24.2
comp=Z,196nm,18.9s,baz=316,slow=39
comp=Z,53nm,0.8s
CAM01 Campos-RJ 85.26 240 *e*P **P** **08 01 31.6 -2.6**
INU Inuyama 85.27 50 P **P** **08 01 34.5 +0.3**
EYAK Cordova Ski Ar 85.30 356 IAmb IAmb 08 01 36.0
comp=Z,38nm,1.0s
EYAK Cordova Ski Ar 85.30 356 P **P** **08 01 35.4 +1.6**
EYAK Cordova Ski Ar 85.30 356 P **P** **08 01 34.6 +0.8**
baz=6.7
PINM Pinnacle 85.32 353 P **P** **08 01 35.1 +1.0**
baz=11
SBUM Sibu 85.32 90 IAmb IAmb 08 01 37.6
comp=Z,30nm,1.0s
SBUM Sibu 85.32 90 P **P** **08 01 36.8 +2.0**
JGF Kuroka 85.33 50 IAmb IAmb 08 01 36.4
comp=Z,48nm,1.0s
JGF Kuroka 85.33 50 P **P** **08 01 35.2 +0.6**
M13K Dall Lake 85.33 5 P **P** **08 01 35.2 +1.2**
baz=352,SNR=7.6
SKAG Skagway 85.37 351 P **P** **08 01 35.2 +1.0**
baz=15
N18K Kilae Creek 85.38 1 IAmb IAmb 08 01 36.4
comp=Z,33nm,0.8s
N18K Kilae Creek 85.38 1 P **P** **08 01 35.5 +1.2**
baz=358,SNR=12
RAGM Ragged Mountai 85.39 355 IAmb IAmb 08 01 37.2
comp=Z,44nm,1.0s
MESA MESA 85.39 354 P **P** **08 01 35.6 +0.9**
baz=9.8
Q32M Nakina River 85.40 349 IAmb IAmb 08 01 36.7
comp=Z,35nm,0.8s
Q32M Nakina River 85.40 349 P **P** **08 01 36.1 +1.4**
baz=18,SNR=10.0
SDDR Presa de Saban 85.48 290 IAmb IAmb 08 01 38.3
comp=Z,40nm,0.9s
N17K Nushagak Hills 85.51 2 P **P** **08 01 35.9 +0.9**
baz=357
P29M Windy Craggy 85.51 352 IAmb IAmb 08 01 37.0
comp=Z,34nm,0.8s
P29M Windy Craggy 85.51 352 P **P** **08 01 36.0 +1.0**
baz=13,SNR=7.0
PLBC Pleasant Camp 85.51 351 P **P** **08 01 36.2 +1.2**
baz=14,SNR=5.9
N16K Nishlik Lake 85.51 2 P **P** **08 01 35.9 +0.9**
baz=356
SLKM Skilak Lake 85.52 358 IAmb IAmb 08 01 36.5
comp=Z,60nm,1.0s
DLBC Dease Lake 85.53 348 LR LR 08 42 33.3
comp=Z,2µm,18.3s,baz=0.5,slow=38
DLBC Dease Lake 85.53 348 P **P** **08 01 36.4 +1.2**
baz=20,SNR=7.0
O22K Cooper Landing 85.53 358 P **P** **08 01 35.8 +0.8**
baz=3.4
PNL Peninsula 85.65 353 P **P** **08 01 36.4 +0.7**
baz=12
N15K Kwethluk River 85.76 3 P **P** **08 01 36.2 0.0**
baz=355
GOGA Godfrey 85.77 308 IAmb IAmb 08 01 38.2
comp=Z,22nm,0.8s

ITTB	Itaituba	85.81	262	eP	P	08 01 38.0	+0.8	
KAIM	Kayak Island	85.83	355	P	P	08 01 37.3	+0.8	
	baz=7.8							
Y52A	Lilburn	85.87	309	IAmb	IAmb	08 01 38.9		
	comp=Z,44nm,0.6s							
O19K	Port Alsworth	85.88	0	P	P	08 01 36.9	+0.1	
	baz=360							
CLTN	Cedars of Leba	85.90	311	IAmb	IAmb	08 01 39.2		
	comp=Z,49nm,1.0s							
SEW	Seward	85.90	358	IAmb	IAmb	08 01 37.9		
	comp=Z,29nm,0.8s							
SEW	Seward	85.90	358	P	P	08 01 37.2	+0.3	
	baz=3.6							
N14K	Kuskokwak Cree	85.92	4	P	P	08 01 37.4	+0.4	
	baz=353							
X51A	Calhoun	85.94	309	IAmb	IAmb	08 01 39.1		
	comp=Z,28nm,0.6s							
BOAV	Boa Vista	85.97	270	P	P	08 01 39.1	+1.1	
BOAV				IAmb	IAmb	08 01 40.3		
	comp=Z,59nm,1.4s							
BOAV	Boa Vista	85.97	270	eP	P	08 01 38.7	+0.7	
JMM	Marumori	85.98	46	P	P	08 01 37.9	+0.2	
O20K	Slope Mountain	85.99	359	P	P	08 01 37.0	-0.4	
	baz=0.9							
STKI	Sintang	86.03	93	P	P	08 01 40.4	+2.1	
BDFB	Brasilia	86.18	248	P	P	08 01 40.0	+0.9	
BDFB				IAmb	IAmb	08 01 41.0		
	comp=Z,29nm,0.6s							
BDFB	Brasilia	86.18	248	P	P	08 01 40.5	+1.5	
	comp=Z,25nm,0.6s,baz=65,slow=4.3,SNR=42							
BDFB				LR	LR	08 42 12.0		
	comp=Z,539nm,18.9s,baz=60,slow=37							
	comp=Z,25nm,0.6s							
BDFB	Brasilia	86.18	248	P	P	08 01 40.0	+0.9	
BDFB				pmax	pmax			
	comp=Z,29nm,0.6s							
SWET	Sewanee	86.21	311	IAmb	IAmb	08 01 39.9		
	comp=Z,30nm,0.9s							
S34M	Telegraph Cree	86.22	348	P	P	08 01 40.2	+1.7	
	baz=19,SNR=22							
O17K	Koliganek Bris	86.26	2	P	P	08 01 39.5	+0.8	
	baz=357,SNR=7.8							
BRSE	Bradley Lake S	86.30	358	P	P	08 01 39.1	+0.2	
	baz=2.5							
JIS	Juneau Island	86.38	350	P	P	08 01 41.1	+1.9	
HOM	Homer	86.40	359	P	P	08 01 39.4	+0.1	
	baz=1.8							
R32K	Eaglecrest	86.40	350	P	P	08 01 40.2	+0.8	
	baz=16							
O16K	Kokwok River B	86.42	2	P	P	08 01 40.0	+0.6	
	baz=356							
P19K	Oil Pt	86.42	360	P	P	08 01 39.9	+0.4	
	baz=0.5							
V48A	Smith Brothers	86.43	311	IAmb	IAmb	08 01 41.3		
	comp=Z,64nm,1.0s							
FPAL	Fort Paine	86.44	310	IAmb	IAmb	08 01 42.0		
	comp=Z,43nm,0.9s							
DGMT	Dagmar	86.50	329	IAmb	IAmb	08 01 42.0		
	comp=Z,57nm,0.8s							
ECSD	EROS Data Cent	86.53	322	IAmb	IAmb	08 01 41.8		
	comp=Z,38nm,0.8s							
SNDB	Serra Nova Dou	86.58	253	eP	P	08 01 39.2	-1.8	
O14K	Tigyukauivet M	86.62	4	P	P	08 01 40.7	+0.3	
	baz=354							
P18K	Big Mountain,	86.68	1	P	P	08 01 41.1	+0.4	
	baz=359							
PMNB	Patos De Minas	86.73	245	eP	P	08 01 41.6	-0.1	
LEM	Lemberg	86.74	100	LR	LR	08 47 05.2		
	comp=Z,125nm,18.1s,baz=328,slow=40							
O15K	Ungalikthiuk R	86.77	3	P	P	08 01 41.7	+0.5	
	baz=355							
WVT	Waverly	86.80	312	P	P	08 01 41.7	-0.1	
WVT				IAmb	IAmb	08 01 42.6		
	comp=Z,54nm,0.8s							
WVT	Waverly	86.80	312	P	P	08 01 41.7	-0.1	
WVT				pmax	pmax			
	comp=Z,55nm,0.8s							
P17K	Kvichak River	86.86	1	P	P	08 01 42.2	+0.6	
	baz=358							
S31K	Pelican	86.94	351	P	P	08 01 42.5	+0.5	
	baz=14							
T35M	Bob Quinn	86.94	347	IAmb	IAmb	08 01 44.8		
	comp=Z,40nm,1.0s							
T35M	Bob Quinn	86.94	347	P	P	08 01 42.8	+0.7	
	baz=19,SNR=7.9							
P16K	Nushagak River	86.98	2	P	P	08 01 43.3	+1.1	
	baz=356							
NPGB	Novo Progresso	87.02	259	eP	P	08 01 43.5	+0.4	
152A	Waverly Hall	87.05	308	IAmb	IAmb	08 01 44.8		
	comp=Z,45nm,0.7s							
TIGA	Tifton	87.08	306	IAmb	IAmb	08 01 44.6		
	comp=Z,49nm,0.8s							
Q16K	King Salmon	87.37	2	P	P	08 01 44.4	+0.3	
	baz=358							
X48A	Hartselle	87.40	311	IAmb	IAmb	08 01 46.2		
	comp=Z,83nm,1.3s							
Q20K	Shuyak Island	87.46	359	P	P	08 01 45.3	+0.7	
	baz=1.1							
CCM	Cathedral Cave	87.56	315	P	P	08 01 46.0	+0.6	
CCM	Cathedral Cave	87.56	315	P	P	08 01 46.0	+0.6	
CCM				pmax	pmax			
	comp=Z,96nm,0.8s							
SIT	Sitka	87.69	350	P	P	08 01 46.4	+0.7	
	baz=15							
PLAL	Pickwick Lake	87.70	311	IAmb	IAmb	08 01 47.1		
	comp=Z,87nm,1.4s							
IPMB	Ipameri, GO	87.74	247	eP	P	08 01 45.5	-1.0	
Q17K	Contact Creek	87.80	1	P	P	08 01 46.2	-0.1	
	baz=358							
WRAK	Wrangell Islan	87.84	348	P	P	08 01 47.2	+0.8	
	baz=18,SNR=5.9							
352A	Blakely	87.94	307	IAmb	IAmb	08 01 48.4		
	comp=Z,31nm,0.8s							
PBMO	Poplar Bluff	87.94	314	IAmb	IAmb	08 01 48.8		
	comp=Z,39nm,0.8s							
KPJI	Karang Pucung	88.10	100	P	P	08 01 48.1	-0.2	
U33K	Whale Pass	88.26	349	P	P	08 01 48.9	+0.5	
	baz=17							
KDAK	Kodiak Island	88.30	359	P	P	08 01 49.6	+1.2	
KDAK	Kodiak Island	88.30	359	LR	LR	08 42 35.7		
	comp=Z,67nm,22.0s,baz=5.3,slow=36							
KDAK	Kodiak Island	88.30	359	P	P	08 01 49.7	+1.2	
KDAK				pmax	pmax			
	comp=Z,55nm,0.9s							
KDAK	Kodiak Island	88.30	359	P	P	08 01 49.4	+0.9	
	baz=1.0							
R17L	Mt. Peulik Vol	88.43	1	P	P	08 01 49.5	+0.3	
	baz=358							
R18K	Karluk	88.52	0	P	P	08 01 49.8	+0.3	
	baz=359							
BAUV	El Baul	88.53	280	IAmb	IAmb	08 01 50.8		
	comp=Z,27nm,0.8s							
V35K	Ketchikan	88.76	348	P	P	08 01 51.5	+0.8	
	baz=18							
MGMO	Mountain Grove	88.77	315	IAmb	IAmb	08 01 53.2		
	comp=Z,62nm,1.4s							
OXF	Oxford	88.84	312	IAmb	IAmb	08 01 53.0		
	comp=Z,42nm,1.2s							
OHAK	Old Harbor	88.86	360	P	P	08 01 51.8	+0.6	
OHAK	Old Harbor	88.86	360	P	P	08 01 52.0	+0.8	
	baz=0.4							
Z47A	Carrollton	88.86	310	IAmb	IAmb	08 01 52.7		
	comp=Z,28nm,1.1s							
SHEM	Shemya Is, Ala	88.95	19	LR	LR	08 47 13.9		
	comp=Z,210nm,18.1s,baz=300,slow=39							
MYLDM	Lahad Datu	89.00	84	IAmb	IAmb	08 01 56.6		
	comp=Z,44nm,1.1s							
MYLDM	Lahad Datu	89.00	84	P	P	08 01 54.6	+2.0	
ARAG	Araguaiana, MT	89.17	250	eP	P	08 01 53.6	+0.4	
MACA	Manacapuru-AM	89.20	266	IAmb	IAmb	08 01 55.5		
	comp=Z,40nm,0.8s							
MACA	Manacapuru-AM	89.20	266	eP	P	08 01 53.1	-0.4	
Y45A	Yeager Farm, C	89.35	311	IAmb	IAmb	08 01 55.0		
	comp=Z,55nm,0.8s							
SII	Sitkinak Islan	89.53	0	P	P	08 01 55.0	+0.6	
	baz=360							
CLDB	Colider	89.55	257	eP	P	08 01 55.0	-0.1	
S14K	Fog Glacier	89.67	3	P	P	08 01 55.7	+0.5	
	baz=355							
CHGN	Chignik	89.70	3	P	P	08 01 55.6	+0.5	
	baz=356							
RSSD	Black Hills	89.80	327	P	P	08 01 56.9	+0.7	
RSSD				IAmb	IAmb	08 01 58.0		
	comp=Z,88nm,1.3s							
RSSD	Black Hills	89.80	327	P	P	08 01 56.9	+0.7	
RSSD				pmax	pmax			
	comp=Z,89nm,1.3s							
KSU1	Kansas State U	89.84	319	IAmb	IAmb	08 01 57.4		
	comp=Z,45nm,0.8s							
146A	Union	89.86	310	IAmb	IAmb	08 01 58.1		
	comp=Z,60nm,1.3s							
CHIR	Chirikof Islan	90.25	1	P	P	08 01 58.3	+0.6	
	baz=358							
U38A	Gravette	90.49	316	IAmb	IAmb	08 02 00.4		
	comp=Z,26nm,0.9s							
SDPT	Sand Point	90.56	4	P	P	08 01 59.0	-0.1	
	baz=354							
SDV	Santo Domingo	90.67	281	P	P	08 02 00.7	0.0	
SDV				IAmb	IAmb	08 02 02.0		
	comp=Z,46nm,0.9s							
SDV	Santo Domingo	90.67	281	eP	P	08 02 00.6	-0.1	
CCAR	Cane Creek	90.68	313	IAmb	IAmb	08 02 01.8		
	comp=Z,22nm,0.9s							
PDRB	Porto dos Gac	90.72	257	eP	P	08 01 59.8	-0.8	
FALS	False Pass	90.85	6	P	P	08 02 00.5	0.0	
	baz=352							
BBB	Bella Bella	91.03	345	LR	LR	08 44 50.6		
	comp=Z,188nm,20.6s,baz=11,slow=37							
RLO	Rose Lookout	91.05	316	IAmb	IAmb	08 02 02.9		
	comp=Z,29nm,0.9s							
OGNE	Ogallala	91.29	323	IAmb	IAmb	08 02 05.5		
	comp=Z,18nm,0.7s							
MIAR	Mount Ida	91.34	314	IAmb	IAmb	08 02 05.2		
	comp=Z,36nm,1.1s							
R32A	Long Quarter,	91.47	320	IAmb	IAmb	08 02 04.8		
	comp=Z,30nm,0.8s							
NEW	Newport	91.54	336	LR	LR	08 47 43.5		
	comp=Z,304nm,18.7s,baz=28,slow=39							
NEW	Newport	91.54	336	P	P	08 02 04.8	+0.8	
NEW				pmax	pmax			
	comp=Z,93nm,0.7s							
WLAR	White Oak Lake	91.65	313	IAmb	IAmb	08 02 06.5		
	comp=Z,60nm,1.5s							
TUL3	Leonard	91.67	316	IAmb	IAmb	08 02 05.9		
	comp=Z,31nm,0.8s							
CBKS	Cedar Bluff	91.72	321	IAmb	IAmb	08 02 06.0		
	comp=Z,41nm,0.8s							
Z41A	Richland Creek	91.76	313	IAmb	IAmb	08 02 06.0		
	comp=Z,24nm,0.7s							
KAN01	Argonia South	91.88	318	IAmb	IAmb	08 02 06.9		
	comp=Z,24nm,0.9s							
KAN14	Manchester OK	92.13	318	IAmb	IAmb	08 02 08.8		
	comp=Z,28nm,1.3s							
YHL	Hebgen Lake	92.27	331	IAmb	IAmb	08 02 10.0		
	comp=Z,16nm,0.8s							
SALV	Santo Antonio	92.33	252	eP	P	08 02 08.7	+0.7	
YMR	Madison River	92.34	331	IAmb	IAmb	08 02 10.3		
	comp=Z,22nm,0.9s							
YHB	Horse Butte	92.36	331	IAmb	IAmb	08 02 10.3		
	comp=Z,18nm,1.0s							
CROK	Carrier	92.47	318	IAmb	IAmb	08 02 09.7		
	comp=Z,33nm,0.9s							
PP1B	Ponte de Pedra	92.65	251	eP	P	08 02 09.0	-0.5	
OK029	Liberty Lake	92.69	317	IAmb	IAmb	08 02 11.0		
	comp=Z,30nm,0.9s							
OK038	West end E0370	92.91	319	IAmb	IAmb	08 02 12.0		
	comp=Z,36nm,0.8s							
PGC	Sidney	93.12	340	IAmb	IAmb	08 02 12.0		
	comp=Z,26nm,1.1s							
SNOW	Snow King Moun	93.25	330	IAmb	IAmb	08 02 13.8		
	comp=Z,15nm,0.7s							
TPAW	Teton Pass	93.31	330	IAmb	IAmb	08 02 14.2		
	comp=Z,21nm,0.7s							
PDAR	Pinedale Array	93.32	329	P	P	08 02 11.9	-0.6	
	comp=Z,8.3nm,0.7s,baz=62,slow=4.9,SNR=95							
PDAR				LR	LR	08 47 27.1		
	comp=Z,166nm,18.6s,baz=19,slow=38							
	comp=Z,8.3nm,0.7s							
WAH2	Wahluke Slope	93.66	337	IAmb	IAmb	08 02 16.3		
	comp=Z,22nm,0.8s							
DAV	Davao City (W)	93.73	79	LR	LR	08 51 25.4		
	comp=Z,53nm,18.3s,baz=344,slow=40							
E08A	Dider Farm, El	93.73	337	IAmb	IAmb	08 02 15.7		
	comp=Z,19nm,0.8s							
TRCB	Terra Rica	93.91	245	IAmb	IAmb	08 02 17.3		
	comp=Z,24nm,0.8s							
HAWA	Hanford	93.97	337	IAmb	IAmb	08 02 17.0		
	comp=Z,36nm,0.8s							
D05A	Enumclaw	94.03	339	IAmb	IAmb	08 02 35.7		
	comp=Z,37nm,1.3s							
VILB	Vilhena	94.27	257	P	P	08 02 18.7	+1.7	
VILB	Vilhena	94.27	257	eP	P	08 02 16.1	-0.9	
Z35A	Perchaven, San	94.35	316	IAmb	IAmb	08 02 18.4		
	comp=Z,16nm,0.8s							
F07A	Phinny Hill Vi	94.54	337	IAmb	IAmb	08 02 20.0		
	comp=Z,18nm,0.9s							
PTLB	Pontes e Lacer	94.81	255	eP	P	08 02 18.5	-0.9	
O20A	White River Ci	94.87	327	IAmb	IAmb	08 02 20.4		
	comp=Z,15nm,0.8s							
HWUT	Hardware Ranch	95.12	330	IAmb	IAmb	08 02 21.6		
	comp=Z,29nm,0.7s							
MFID	Camas Ranch	95.28	333	IAmb	IAmb	08 02 22.9		
	comp=Z,22nm,0.8s							
PLPT	Palo Pinto	95.34	316	IAmb	IAmb	08 02 23.1		
	comp=Z,20nm,0.8s							
G06A	Carlson Farm,	95.36	337	IAmb	IAmb	08 02 23.5		
	comp=Z,25nm,0.9s							
T25A	Trinidad	95.39	322	IAmb	IAmb	08 02 23.2		
	comp=Z,15nm,0.9s							
SDCO	Great Sand Dun	95.47	324	IAmb	IAmb	08 02 23.2		
	comp=Z,18nm,1.1s							
G05A	Wamic	95.57	338	IAmb	IAmb	08 02 24.3		
	comp=Z,19nm,0.7s							
KAPI	Kappang	95.71	92	LR	LR	08 50 19.6		
	comp=Z,121nm,20.9s,baz=292,slow=38							
JLU	Jordanelle	95.90	329	IAmb	IAmb	08 02 25.4		
	comp=Z,11nm,0.7s							
APMT	Aspermont	95.99	317	IAmb	IAmb	08 02 25.9		
	comp=Z,22nm,1.3s							
ABTX	Abilene, Hawle	96.24	317	IAmb	IAmb	08 02 27.2		
	comp=Z,20nm,0.9s							
H04A	Detroit Lake	96.34	338	IAmb	IAmb	08 02 27.3		
	comp=Z,22nm,0.8s							
I05D	Terrebonne, OR	96.38	337	IAmb	IAmb	08 02 28.3		
	comp=Z,18nm,0.8s							
PV22	Blue Mesa, Par	96.41	326	IAmb	IAmb	08 02 27.6		
	comp=Z,12nm,0.9s							
PV07	Paradox Valley	96.42	326	IAmb	IAmb	08 02 27.7		
	comp=Z,13nm,0.8s							
PV15	Paradox Valley	96.42	326	IAmb	IAmb	08 02 27.6		
	comp=Z,14nm,0.8s							
PV21	Cone Mtn., Par	96.47	326	IAmb	IAmb	08 02 28.1		
	comp=Z,12nm,0.8s							
PV04	Paradox Valley	96.58	326	IAmb	IAmb	08 02 28.6		
	comp=Z,30nm,1.4s							
PV12	Saucer Basin,	96.59	326	IAmb	IAmb	08 02 28.7		
	comp=Z,25nm,0.9s							
PV01	Paradox Valley	96.63	326	IAmb	IAmb	08 02 28.7		
	comp=Z,12nm,0.8s							
PV11	David Mesa, Pa	96.64	326	IAmb	IAmb	08 02 28.9		
	comp=Z,28nm,1.1s							
PV14	Lion Creek, Pa	96.65	326	IAmb	IAmb	08 02 28.9		
	comp=Z,12nm,0.9s							
PV20	West Nyswonger	96.65	326	IAmb	IAmb	08 02 28.8		
	comp=Z,23nm,0.9s							
PV16	Nyswonger Mesa	96.65	326	IAmb	IAmb	08 02 28.9		
	comp=Z,18nm,1.0s							
PV02	Paradox Valley	96.65	326	IAmb	IAmb	08 02 28.3		
	comp=Z,11nm,0.8s							
PV10	Paradox Valley	96.65	326	IAmb	IAmb	08 02 29.3		
	comp=Z,27nm,0.9s							
SIV	San Ignacio	96.65	255	LR	LR	08 49 55.0		
	comp=Z,386nm,18.5s,baz=90,slow=38							
H04D	Lebanon	96.66	338	IAmb	IAmb	08 02 29.9		
	comp=Z,29nm,0.9s							
PV03	Paradox Valley	96.66	326	IAmb	IAmb	08 02 28.8		
	comp=Z,26nm,1.5s							
PV19	Morning Glory	96.68	326	IAmb	IAmb	08 02 29.0		
	comp=Z,17nm,0.9s							
PV18	Skein Mesa, Pa	96.70	326	IAmb	IAmb	08 02 29.0		
	comp=Z,15nm,0.8s							
SRU	San Rafael Swe	96.73	328	IAmb	IAmb	08 02 28.5		
	comp=Z,10nm,0.6s							
PINE	Pine Mountain	96.74	337	IAmb	IAmb	08 02 30.7		
	comp=Z,20nm,0.9s							
WIFE	Three Sisters-	96.78	337	IAmb	IAmb	08 02 30.3		
	comp=Z,27nm,0.9s							
J05D	Fort Rock, OR	97.29	337	IAmb	IAmb	08 02 32.9		
	comp=Z,24nm,0.9s							
ELK	Elko	97.34	331	LR	LR	08 50 03.0		
	comp=Z,321nm,19.0s,baz=36,slow=38							
I03D	Drain, OR	97.59	338	IAmb	IAmb	08 02 33.6		
	comp=Z,25nm,0.9s							
J04A	Umpqua Nationa	97.61	337	IAmb	IAmb	08 02 34.5		
	comp=Z,19nm,0.8s							
K05A	Summer Lake	97.67	336	IAmb	IAmb	08 02 34.7		
	comp=Z,33nm,1.4s							
HMU	Henry Mountain	97.78	327	IAmb	IAmb	08 02 33.6		
	comp=Z,11nm,0.8s							
ANMO	Albuquerque	98.14	322	P	Pdif	08 02 34.8	+0.2	
ANMO	Albuquerque	98.14	322	LR	LR	08 49 03.3		
	comp=Z,420nm,18.8s,baz=134,slow=37							
ANMO	Albuquerque	98.14	322	P	Pdif	08 02 34.8	+0.2	
ANMO				pmax	pmax			
	comp=Z,3.0nm,0.9s							
L04D	Klamath Falls	98.59	337	IAmb	IAmb	08 02 37.7		
	comp=Z,20nm,0.9s							
K02D	Willamette Mer	98.59	338	IAmb	IAmb	08 02 38.7		
	comp=Z,17nm,1.1s							
YBH	Yreka Blue Hor	99.16	337	LR	LR	08 50 05.3		
	comp=Z,10nm,18.6s,baz=20,slow=37							
DRIO	Del Rio	99.16	315	IAmb	IAmb	08 02 40.1		
	comp=Z,13nm,0.8s							
M03C	McCloud	99.38	336	IAmb	IAmb	08 02 41.5		
	comp=Z,17nm,1.1s							
CPUP	Villa Florida	99.43	245	LR	LR	08 48 15.2		
	comp=Z,124nm,20.7s,baz=277,slow=36							
NVAR	Mina Array Bea	100.53	332	P	Pdif	08 02 45.8	+0.6	
	comp=Z,2.1nm,0.8s,baz=35,slow=4.1,SNR=16							
NVAR				PKKPbc	PKKPbc	08 19 00.2	+0.5	
	comp=Z,1.0nm,0.7s,baz=201,slow=4.9,SNR=9.8							
TXAR	Lajitas Array	100.99	317	P	Pdif	08 02 48.0	+0.7	
	comp=Z,2.0nm,0.8s,baz=61,slow=4.2,SNR=22							
TXAR	Lajitas Array	100.99	317	P	Pdif	08 02 48.0	+0.7	
JAY	Jayapura	111.55	78	P	Pdif	08 03 44.1	+10	
WRA	Warramunga Arr	115.61	97	PKP	PKPdf	08 07 39.4	-0.5	
	comp=Z,3.6nm,0.6s,baz=309,slow=2.0,SNR=11							
WRA				PKKPbc	PKKPbc	08 18 12.9	+1.2	
	comp=Z,0.8nm,0.6s,baz=120,slow=4.3,SNR=6.4							
PLCA	Paso Flores	116.01	237	PKP	PKiKP	08 07 40.6	+0.5	
	comp=Z,3.1nm,0.9s,baz=305,slow=2.4,SNR=10							
PLCA				PKKPbc	PKKPbc	08 18 10.8	-0.1	
	comp=Z,2.9nm,1.2s,baz=245,slow=2.6,SNR=5.4							
ASAR	Alice Springs	117.02	101	PKP	PKPdf	08 07 42.0	-0.5	
	comp=Z,3.9nm,0.6s,baz=303,slow=1.6,SNR=9.5							
ASAR				PKKPbc	PKKPbc	08 18 06.4	-0.4	
	comp=Z,0.7nm,0.5s,baz=116,slow=3.9,SNR=12							
QIS	Mount Isa	120.24	95	P	PKPdf	08 07 48.6	-0.2	
QIS	Mount Isa	120.24	95	P	PKPdf	08 07 48.3	-0.5	
PMSA	Palmer Station	120.54	210	eP	PKiKP	08 07 48.0	0.0	
MTSU	Mount Surprise	122.97	90	P	PKiKP	08 07 55.8	+1.5	
QSPA	South Pole Qui	124.13	180	PKP	PKiKP	08 07 56.1	+1.0	
	comp=Z,9.5nm,0.6s,baz=264,slow=1.7,SNR=28							
STKA	Stephens Creek	126.62	107	PKP	PKPdf	08 08 00.8	+0.1	
	comp=Z,6.9nm,0.6s,baz=355,slow=1.8,SNR=7.6							
STKA	Stephens Creek	126.62	107	P	PKiKP	08 08 01.0	-0.1	
STKA	Stephens Creek	126.62	107	P	PKPdf	08 08 00.8	+0.1	
QLP	Quilpie	126.71	100	P	PKiKP	08 08 02.0	+0.5	
QLP	Quilpie	126.71	100	P	PKiKP	08 08 01.7	+0.2	
VNDA	Vanda	132.52	168	PKP	PKPdf	08 08 09.8	-0.7	
	comp=Z,0.7nm,0.6s,baz=280,slow=5.2,SNR=5.6							
VNDA				SKPbc	SKPbc	08 11 35.6	-0.3	
	comp=Z,1.5nm,0.9s,baz=252,slow=2.1,SNR=5.4							
DZM	Mont Dzumac	143.11	81	eLR	LR	08 55 18.0		
	comp=Z,243nm,23.9s							
TAOE	Nuku Hiva Isla	151.77	331	eLR	LR	08 59 11.1		
	comp=Z,332nm,25.2s							
PPT2	Papeete2	162.97	346	eLR	LR	09 04 23.8		
	comp=Z,158nm,25.5s							
PPT2				eLR	LR	09 04 30.3		
	comp=Z,168nm,25.0s							
TBI	Tubuai	168.48	340	eLR	LR	09 06 53.3		
	comp=Z,900nm,29.5s							
TBI				eLR	LR	09 07 04.5		
	comp=Z,974nm,30.0s							

SOF ***24*** *08:00:20.7, 40.87N±0.02×28.28E±0.03, h10km±1km, MD4.5/2*

MOS ***24*** *08:00:21.8±1.1, 40.92N×28.17E, h10km, mb4.8/15, Error ellipse: s-maj=5.5km s-min=3.5km az=86.7*

ISK ***24*** *08:00:21.4, 40.88N×28.21E, h10km, ML4.7/80*

MED_RC ***24*** *08:00:22.0±0.3, 40.91N×28.20E, h15km±2km, MW4.7/25, Moment Tensor Solution.Mantle waves: s25,c32; Duration: 1s2 Moment tensor: Scale 10^16Nm; Mrr0.06±.10; Mθθ-0.37±.07; Mϕϕ0.31±.07; Mrθ-0.56±.14; Mθϕ-0.88±.05; Mϕr-0.73±.19; Best double couple: M0 1.26000×10^16 NP1:ϕs106.00000°, δ49.00000°, λ-176.00000°. NP2:ϕs13.00000°, δ87.00000°, λ-41.00000°. Principal axes: T 1.0500, Plg25.0000°, Azm67.0000°; N 0.4300, Plg49.0000°, Azm190.0000°; P -1.4800, Plg30.0000°, Azm322.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

AFAD ***24*** *08:00:22.4, 40.88N×28.22E, h6km, MW4.6*

BEO ***24*** *08:00:24.6±0.8, 40.81N×28.10E, h23km±4km, ML4.7/3*

THE ***24*** *08:00:24.0, 41.3N±3.2×28.5E±.5, h10km, M4.4/15, MLh4.4/15*

IDC ***24*** *08:00:24.6±0.6, 41.02N×28.01E, h0km, mb4.3/20, mbtmp4.2/27, ML3.7/5, Error ellipse: s-maj=11.4km s-min=11.0km az=65.0*

NEIC ***24*** *08:00:24.2±2.5, 40.86N±0.05×28.15E±0.05, h10km±1km, mb4.9/70, Error ellipse: s-maj=9.2km s-min=6.6km az=187.0*

CFUSG ***24*** *08:00:27.9, 41.07N×28.60E, h10km, mb4.0/6, MD4.2/7, Western Turkey Magtype MSH 4.4 from 8 stations*

ISC 24 08:00:24.1±0.3, 40.87N±0.01×28.21E±0.01, h10km, n662,
α2ş12/571, mb4.8/76, MS4.5/5, 25C-35D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op		h	m	s	ISC
ELBA	Catalca	0.33	31	P		Pg			08 00 28.2 -2.5
ELBA				S		Sg			08 00 33.5 -1.6
SLVT	Silivri	0.36	1	Pg		Pg			08 00 29.9 -1.7

KESN				S	Sg	08 00 59.9	-1.6		
SEMS	**Kocaeli-K¶rfe**	**1.16**	**89**	P	Pb	08 00 43.1	-3.2		
SEMS				S	Sb	08 00 59.5	-2.0		
OSMT	**Osmaniye**	**1.17**	**103**	Pn	Pb	08 00 43.7	-2.7		
YENI	**Yenice-Canakka**	**1.19**	**219**	Pn	Pb	08 00 44.6	-2.1		
BALY	**Balya**	**1.21**	**202**	P	Pb	08 00 44.8	-2.4		
BALY				S	Sn	08 01 02.8	-0.8		
UKOP	**Uzunkopru-Edir**	**1.22**	**283**	Pn	Pn	08 00 44.9	-2.3		
CANM	**Can-anakkale**	**1.23**	**226**	Pn	Pn	08 00 44.9	-2.4		
KIRK	**Kırklareli**	**1.24**	**318**	P	Pn	08 00 44.1	-3.4		
KIRK				S	Sb	08 01 02.0	-1.6		
ADVT	**Abdulvahap**	**1.24**	**110**	Pn	Sn	08 00 45.2	-2.4		
ADVT				Sn	Sn	08 01 02.2	-2.2		
DURS	**Dursunbey**	**1.28**	**171**	P	Pn	08 00 45.3	-2.8		
DST	**Dursunbey**	**1.30**	**166**	Pn	Pn	08 00 46.2	-2.2		
ERIK	**Erikli-Kesan**	**1.30**	**262**	Pn	Pn	08 00 45.7	-2.6		
ERIK				Sn	Sn	08 01 04.3	-1.4		
HISA	**Bilecik-Osmane**	**1.36**	**106**	P	Pn	08 00 46.7	-2.7		
HISA				S	Sb	08 01 04.9	-2.5		
GELI	**Tayfur-Gelibol**	**1.40**	**251**	Pn	Pn	08 00 46.8	-2.9		
BILE	**Bilecik/Merkez**	**1.46**	**118**	P	Pn	08 00 47.8	-2.7		
BILE				S	Sb	08 01 07.9	-2.0		
EDRB	**Edirne**	**1.47**	**312**	Pn	Pn	08 00 48.3	-2.4		
KAND	**Kocaeli-Kandir**	**1.52**	**81**	P	Pn	08 00 49.3	-2.0		
KAND				S	Sn	08 01 09.4	-1.8		
YAYO	**Edremit-Balk**	**1.52**	**215**	Pn	Pn	08 00 49.6	-1.8		
COMU	**Canakkale**	**1.53**	**240**	Pn	Pn	08 00 49.4	-2.1		
STEP	**BALIKESIR_Sava**	**1.54**	**194**	P	Pb	08 00 50.4	-2.3		
STEP				S	Sg	08 01 11.6	-1.9		
CAVK	**Edirne/Enez-Ca**	**1.56**	**264**	P	Pn	08 00 49.2	-2.7		
CAVK	**Edirne/Enez-Ca**	**1.56**	**264**	⇓P	Pn	08 00 49.8	-2.1		
CAVK				⇓S	Sb	08 01 11.5	-1.3		
DOMA	**Ktahya-Doman**	**1.57**	**133**	P	Pn	08 00 48.5	-2.6		
DOMA				S	Sg	08 01 12.1	-2.5		
ENZZ	**Sultanice-Enez**	**1.59**	**261**	Pn	Pn	08 00 50.4	-1.9		
BUHA	**Balikesir, Bur**	**1.61**	**213**	P	Pn	08 00 50.2	-2.5		
BUHA				S	Sb	08 01 13.1	-1.3		
SAUV	**Serdivan-Sakar**	**1.61**	**94**	Pn	Pn	08 00 50.7	-2.0		
KAYN	**Sakarya, Kayna**	**1.62**	**86**	P	Pn	08 00 50.0	-2.7		
KAYN				S	Sn	08 01 12.1	-1.6		
GEYV	**SAKARYA_Geyve**	**1.64**	**103**	P	Pn	08 00 50.9	-2.1		
ALN	**Alexandroupoli**	**1.64**	**272**	Pn	Pn	08 00 50.8	-2.2		
ALN	**Alexandroupoli**	**1.64**	**272**	Pn	Pn	08 00 50.4	-2.6		
ALN	**Alexandroupoli**	**1.64**	**272**	P	Pn	08 00 51.5	-1.4		
ALN				S	Sb	08 01 14.4	-0.7		
ALN	**Alexandroupoli**	**1.64**	**272**	P	Pn	08 00 50.4	-2.6		
ALN				S	Sb	08 01 14.4	-0.7		
BAYC	**CANAKKALE_Bayr**	**1.69**	**229**	P	Pn	08 00 51.2	-2.6		
BAYC				S	Sg	08 01 16.1	-2.5		
GPA	**Golpazari**	**1.70**	**109**	Pn	Pn	08 00 52.1	-1.8		
TVSB	**Tavsanli**	**1.71**	**145**	Pn	Pn	08 00 52.2	-1.9		
EMET	**Ktahya-Emet**	**1.72**	**150**	P	Pn	08 00 51.7	-2.5		
ECEA	**Canakkale, Ece**	**1.75**	**243**	P	Pn	08 00 52.0	-2.5		
EZN	**Ezine**	**1.77**	**235**	Pn	Pn	08 00 52.4	-2.4		
EZN	**Ezine**	**1.77**	**235**	P	Pb	08 00 54.5	-2.3		
EZN				S	Sg	08 01 18.7	-2.4		
EZN	**Ezine**	**1.77**	**235**	⇓P	Pn	08 00 52.8	-2.0		
EZN				⇓S	Sn	08 01 16.3	-1.1		
EZN	**Ezine**	**1.77**	**235**	P	Pn	08 00 52.6	-2.2		
EZN				S	Sn	08 01 16.3	-1.1		
SOMA	**Soma-Manisa**	**1.78**	**197**	Pn	Pn	08 00 52.9	-2.1		
EZNE	**Ezine-Canakkal**	**1.79**	**232**	Pn	Pn	08 00 53.3	-1.8		
GULT	**Gulveren**	**1.81**	**103**	Pn	Pn	08 00 53.6	-1.8		
SMAA	**Simav-Kutahya**	**1.86**	**161**	Pn	Pn	08 00 54.3	-1.8		
DEMI	**Demirci**	**1.86**	**168**	P	Pn	08 00 53.7	-2.5		
GOKC	**Gokceada-Canak**	**1.87**	**250**	Pn	Pn	08 00 54.4	-1.7		
ANDZ	**Kutahya, Merke**	**1.88**	**136**	P	Pn	08 00 53.9	-2.5		
GADA	**Gvkgeada**	**1.88**	**250**	Pn	Pn	08 00 53.7	-2.7		
GADA	**Gvkgeada**	**1.88**	**250**	P	Pn	08 00 54.7	-1.6		
GADA				S	Sb	08 01 19.7	-2.4		
GOAD	**anakkale-G¶**	**1.89**	**249**	P	Pn	08 00 53.7	-2.7		
BOZC	**Bozcaada**	**1.94**	**239**	Pn	Pn	08 00 54.8	-2.3		
BOZC	**Bozcaada**	**1.94**	**239**	P	Pb	08 00 57.2	-2.3		
AYVA	**Ayvalik**	**1.94**	**217**	P	Pn	08 00 54.1	-3.0		
GORD	**Gordes-Manisa**	**1.96**	**181**	Pn	Pn	08 00 55.4	-2.0		
SHAP	**Saphane-Kutahy**	**2.00**	**157**	Pn	Pn	08 00 56.3	-1.8		
AKS	**Akhisar**	**2.01**	**189**	Pn	Pn	08 00 56.3	-1.8		
SAHE	**Sakarya_HENDEK**	**2.01**	**90**	P	Pn	08 00 55.1	-3.0		
SAHE	**Sakarya_HENDEK**	**2.01**	**90**	⇑P	Pn	08 00 57.0	-1.1		
GDZ	**Gediz**	**2.03**	**151**	P	Pn	08 00 56.1	-2.3		
RDO	**Rodhopi**	**2.04**	**279**	Pn	Pn	08 00 56.3	-2.2		
RDO	**Rodhopi**	**2.04**	**279**	Pn	Pn	08 00 56.3	-2.2		
RDO	**Rodhopi**	**2.04**	**279**	P	Pn	08 00 57.0	-1.5		
RDO				S	Sn	08 01 23.1	-0.8		
GEDZ	**Gediz**	**2.04**	**153**	Pn	Pn	08 00 56.9	-1.7		
JMB	**Yambol**	**2.05**	**323**	P	Pn	08 00 56.8	-1.9		
JMB				S	Sn	08 01 22.0	-2.3		
JMB	**Yambol**	**2.05**	**323**	P	Pn	08 00 57.0	-1.7		
JMB				S	Sn	08 01 23.0	-1.3		
JMB	**Yambol**	**2.05**	**323**	*e*Pn	Pn	08 00 57.4	-1.3		
JMB				*e*Sn	Sn	08 01 22.4	-1.9		
SMTH	**Samothraki Isl**	**2.07**	**260**	P	Pn	08 00 56.5	-2.5		
SMTH				S	Sn	08 01 23.4	-1.5		
SUSU	**Bolu-G¶lynk-**	**2.08**	**104**	P	Pn	08 00 57.7	-1.4		
ZEDA	**zmir-Bergama**	**2.09**	**205**	P	Pn	08 00 56.1	-3.0		
KOCA	**Canakkale, Ayv**	**2.09**	**230**	P	Pn	08 00 58.3	-0.9		
GPNR	**Gulpinar-Canak**	**2.12**	**229**	Pn	Pn	08 00 58.1	-1.5		
BTAS	**Taskesti**	**2.14**	**97**	P	Pn	08 00 58.0	-2.0		
GOMA	**Golmarmara-Man**	**2.17**	**186**	Pn	Pn	08 00 58.8	-1.5		
PRK	**Paraskevi**	**2.20**	**223**	P	Pn	08 00 59.4	-1.2		
PRK				S	Sb	08 01 29.1	-2.1		
USAK	**Uak-Merkez**	**2.24**	**164**	P	Pn	08 00 58.5	-2.8		
KDZ	**Kurdzhali**	**2.29**	**290**	*i* P	Pn	08 01 00.7	-1.3		
KDZ				S	Sg	08 01 34.8	-3.0		
KDZ	**Kurdzhali**	**2.29**	**290**	Pn	Pn	08 01 00.0	-2.0		
KDZ	**Kurdzhali**	**2.29**	**290**	P	Pn	08 01 00.8	-1.2		
KDZ	**Kurdzhali**	**2.29**	**290**	P	Pn	08 00 59.9	-2.0		
DIM	**Dimitrovgrad**	**2.30**	**302**	*i* P	Pn	08 01 01.1	-1.0		
DIM				S	Sg	08 01 36.0	-2.0		
DIM	**Dimitrovgrad**	**2.30**	**302**	P	Pn	08 01 00.8	-1.3		
DIM				S	Sn	08 01 29.5	-0.9		
MDUB	**Mudurnu**	**2.31**	**99**		Pn	08 01 01.5	-0.8		
KULA	**Kula-Manisa**	**2.38**	**171**	Pn	Pn	08 01 01.3	-1.9		
MANT	**Manisa**	**2.39**	**173**	Pn	Pn	08 01 01.3	-2.2		
MANT	**Manisa**	**2.39**	**173**	P	Pn	08 01 01.1	-2.4		
SGAZ	**Eskisehir, Sey**	**2.42**	**123**	P	Pn	08 01 02.2	-1.6		
SIGR	**SIGRI**	**2.45**	**228**	Pn	Pn	08 01 02.7	-1.4		
SIGR	**SIGRI**	**2.45**	**228**	P	Pn	08 01 03.0	-1.1		
SIGR				S	Sn	08 01 32.2	-1.9		
NEF	**NEVSHA**	**2.49**	**344**	*i* P	Pn	08 01 01.9	-1.6		
NEF				S	Sg	08 01 42.0	-2.2		
LIA	**Limnos Island**	**2.50**	**248**	P	Pn	08 01 03.4	-1.5		
LIA				S	Sn	08 01 33.6	-1.9		
KALB	**Balgarevo**	**2.54**	**3**	⇓P	Pn	08 01 05.1	-0.3		
ODEM	**Odemis-Izmir**	**2.59**	**182**	Pn	Pn	08 01 03.9	-2.2		
AFYO	**Afyonkarahisar**	**2.63**	**142**	P	Pn	08 01 05.7	-1.1		
BOLU	**Bolu-Merkez-Mu**	**2.63**	**91**	P	Pn	08 01 04.8	-1.9		
BLCB	**Balcova**	**2.64**	**200**	Pn	Pn	08 01 05.3	-1.4		
CIFT	**Cifteler, Eski**	**2.66**	**124**	Pn	Pn	08 01 05.7	-1.4		
THAS	**Thassos island**	**2.66**	**266**	P	Pn	08 01 04.6	-2.4		
YUVA	**Yuva-Kibriscik**	**2.69**	**99**	Pn	Pn	08 01 06.1	-1.5		
ELND	**Elena**	**2.70**	**321**	⇓P	Pn	08 01 06.2	-1.3		
KHL	**Karahalli**	**2.74**	**158**	Pn	Pn	08 01 06.8	-1.4		
RZN	**Rozhen**	**2.74**	**289**	P	Pn	08 01 07.9	-0.4		
PSN	**Preselentsi**	**2.77**	**359**	P	Pn	08 01 07.5	-1.0		
PSN	**Preselentsi**	**2.77**	**359**	P	Pn	08 01 07.9	-0.6		
LOZB	**Loznitsa**	**2.77**	**335**	⇓P	Pn	08 01 07.0	-1.6		
URLA	**Izmir**	**2.79**	**207**	Pn	Pn	08 01 07.8	-1.1		
KAVA	**Kavala**	**2.80**	**274**	P	Pn	08 01 06.9	-2.0		
KAVA				S	Sn	08 01 40.2	-2.6		
DEVR	**Zonguldak/Devr**	**2.86**	**83**	P	Pn	08 01 08.1	-1.7		
PLD	**Plovdiv**	**2.90**	**297**	P	Pn	08 01 09.2	-1.1		
PLD	**Plovdiv**	**2.90**	**297**	Pn	Pn	08 01 09.1	-1.2		
PLD	**Plovdiv**	**2.90**	**297**	P	Pn	08 01 09.3	-0.9		
PLD				S	Sn	08 01 42.2	-2.9		
PLD	**Plovdiv**	**2.90**	**297**	*e*Pn	Pn	08 01 08.8	-1.5		
NAZL	**Nazilli-Aydin**	**2.90**	**179**	Pn	Pn	08 01 08.0	-2.4		
SZH	**Strazhitsa**	**2.92**	**326**	*i* P	Pn	08 01 09.6	-1.0		
SZH				S	Sg	08 01 54.4	-3.4		
SZH	**Strazhitsa**	**2.92**	**326**	P	Pn	08 01 08.9	-1.6		
AYDB	**Zeytinkoy-Aydi**	**2.93**	**185**	Pn	Pn	08 01 08.4	-2.4		
CESE	**eme**	**2.93**	**211**	Pn	Pn	08 01 09.6	-1.1		
GMLD	**Gumuldar**	**2.96**	**200**	Pn	Pn	08 01 10.1	-1.0		
MANR	**Mangalia**	**2.96**	**5**	⇓P	Pn	08 01 11.2	0.0		
RAZG	**Razgrad**	**2.98**	**336**	⇓P	Pn	08 01 09.8	-1.6		
CHOS	**Chios island**	**2.98**	**215**	Pn	Pn	08 01 09.4	-2.1		
CHOS	**Chios island**	**2.98**	**215**	P	Pn	08 01 11.2	-0.3		
PVL	**Pavlikeni**	**3.19**	**316**	P	Pn	08 01 12.8	-1.6		
POLA	**Polatl-ANKAR**	**3.25**	**110**	Pn	Pn	08 01 13.7	-1.5		

GCAM	**G?zelcaml?**	**3.25**	**194**	Pn	Pn	08 01 14.3	-0.8		
OUR	**Ouranopolis**	**3.26**	**262**	Pn	Pn	08 01 12.7	-2.6		
OUR	**Ouranopolis**	**3.26**	**262**	P	Pn	08 01 12.4	-2.9		
OUR	**Ouranopolis**	**3.26**	**262**	P	Pn	08 01 12.3	-2.9		
BASM	**Basmaki-Afyon**	**3.27**	**154**	Pn	Pn	08 01 14.3	-1.2		
APMY	**Acipayam-Deniz**	**3.50**	**166**	Pn	Pn	08 01 16.6	-2.0		
SRS	**Serrai**	**3.50**	**276**	*e*Pn	Pn	08 01 16.6	-2.0		
SRS				*e*Sn	Sn	08 01 54.4	-5.7		
SRS				*e*Lg	Lg	08 02 13.7			
ISP	**Isparta**	**3.53**	**149**	Pn	Pn	08 01 17.7	-1.5		
ISP	**Isparta**	**3.53**	**149**		Pn	08 01 17.6	-1.5		
ISP	**Isparta**	**3.53**	**149**	P	Pn	08 01 17.6	-1.5		
KURC	**Kurucasile-Bar**	**3.55**	**73**	Pn	Pn	08 01 18.2	-1.1		
TIRR	**Tirgusor**	**3.59**	**2**	Pn	Pn	08 01 18.4	-1.4		
TIRR	**Tirgusor**	**3.59**	**2**		Pn	08 01 18.4	-1.4		
TIRR	**Tirgusor**	**3.59**	**2**	⇓P	Pn	08 01 18.5	-1.4		
TIRR	**Tirgusor**	**3.59**	**2**	P	Pn	08 01 18.4	-1.4		
ANTO	**Ankara**	**3.64**	**104**	Pn	Pn	08 01 19.6	-1.1		
ANTO	**Ankara**	**3.64**	**104**	⇑P	Pn	08 01 19.6	-1.1		
ANTO	**Ankara**	**3.64**	**104**	P	Pn	08 01 19.5	-1.1		
PLVB	**Pleven**	**3.67**	**315**	⇑P	Pn	08 01 19.8	-1.1		
TLBR	**Topalu**	**3.68**	**358**	⇓P	Pn	08 01 20.1	-0.9		
SOH	**Sokhos**	**3.68**	**271**	P	Pn	08 01 19.5	-1.6		
CIDE	**Kastamonu/Cide**	**3.71**	**73**	⇓P	Pn	08 01 20.9	-0.6		
HARR	**Harsova**	**3.83**	**357**	⇓P	Pn	08 01 22.2	-0.8		
HARR	**Harsova**	**3.83**	**357**	P	Pn	08 01 22.2	-0.8		
BCK	**Bucak**	**3.87**	**151**	Pn	Pn	08 01 22.9	-0.9		
AFSR	**Afar-Bala (An**	**3.99**	**109**	Pn	Pn	08 01 24.6	-0.8		
TPGR	**Topolog**	**3.99**	**2**	⇑P	Pn	08 01 25.5	+0.1		
CAME	**Cameli-Denizli**	**4.01**	**167**	Pn	Pn	08 01 24.9	-0.8		
VTS	**Vitosha**	**4.11**	**297**	*e*Pn	Pn	08 01 26.0	-1.1		
VTS				*e*Sn	Sn	08 02 11.8	-3.5		
VTS				*e*Lg	Lg	08 02 33.5			
MPEP	**Malo Peshtene**	**4.15**	**308**	*i* P	Pn	08 01 26.3	-1.2		
LADK	**Ladik-KONYA**	**4.17**	**128**	Pn	Pn	08 01 26.9	-1.1		
ILGA	**Ilgaz**	**4.18**	**86**		Pn	08 01 27.7	-0.4		
VLAD	**Vladila**	**4.21**	**319**	⇓P	Pn	08 01 26.8	-1.5		
KMON	**Kastamonu**	**4.24**	**81**	Pn	Pn	08 01 28.2	-0.7		
VAY	**Valandovo**	**4.28**	**278**	*i* Pn	Pn	08 01 28.7	-0.7		
BR131	**Keskin Array S**	**4.31**	**104**		Pn	08 01 28.0	-1.8		
BR131	**Keskin Array S**	**4.31**	**104**	P	Pn	08 01 28.0	-1.8		
BRTR	**Keskin Array B**	**4.31**	**104**		Pn	08 01 27.7	-2.1		
BRTR	**Keskin Array B**	**4.31**	**104**	Pn	Pn	08 01 27.8	-2.0		
	1.0nm,0.3s,baz=278,slow=13,SNR=18								
BRTR				Sn	Sn	08 02 15.8	-4.4		
	5.9nm,0.3s,baz=289,slow=20,SNR=5.7								
BRTR				Lg	Lg	08 02 43.7			
	4.0nm,0.3s,baz=273,slow=22,SNR=7.2								
BRTR	**Keskin Array B**	**4.31**	**104**	P	Pn	08 01 27.7	-2.1		
CFR	**Carcaliu**	**4.31**	**359**	⇑P	Pn	08 01 28.7	-1.0		
CFR	**Carcaliu**	**4.31**	**359**	P	Pn	08 01 28.7	-1.0		
ELL	**Elmali**	**4.32**	**162**		Pn	08 01 30.4	+0.4		
ELL	**Elmali**	**4.32**	**162**	P	Pn	08 01 30.4	+0.4		
APE	**Apeiranthos**	**4.33**	**210**	⇑P	Pn	08 01 28.4	-1.7		
APE	**Apeiranthos**	**4.33**	**210**	P	Pn	08 01 28.3	-1.7		
TLCR		**4.34**	**6**	⇑P	Pn	08 01 30.2	0.0		
TLCR		**4.34**	**6**	P	Pn	08 01 30.1	0.0		
ISR	**Istrita**	**4.42**	**345**	⇓P	Pn	08 01 31.3	-0.1		
ISR	**Istrita**	**4.42**	**345**	P	Pn	08 01 31.2	-0.1		
LIT	**Litokhoron**	**4.42**	**262**		Pn	08 01 28.8	-2.5		
LIT	**Litokhoron**	**4.42**	**262**	P	Pn	08 01 28.8	-2.5		
BZK	**Bozkurt**	**4.50**	**74**	Pn	Pn	08 01 31.2	-1.0		
BZK	**Bozkurt**	**4.50**	**74**		Pn	08 01 31.2	-1.0		
BZK	**Bozkurt**	**4.50**	**74**	⇑P	Pn	08 01 31.3	-1.0		
VALD	**Valchedram**	**4.53**	**310**	P	Pn	08 01 31.4	-1.3		
BOSS	**Bosilegrad**	**4.59**	**293**	*e*Pn	Pn	08 01 33.0	-0.5		
BOSS				*e*Lg	Lg	08 02 47.1			
ARG	**Arkhangelos**	**4.64**	**181**		Pn	08 01 33.1	-1.2		
ARG	**Arkhangelos**	**4.64**	**181**	P	Pn	08 01 33.1	-1.2		
KIRS	**Kirsehir-Merke**	**4.71**	**110**	⇓P	Pn	08 01 34.9	-0.5		
AKAS	**Kas**	**4.75**	**166**		Pn	08 01 35.2	-0.8		
ZAPS	**Zavoj**	**4.79**	**302**	*e*Pn	Pn	08 01 35.0	-1.4		
MLR	**Muntele Rosu**	**4.91**	**341**	Pn	Pn	08 01 37.9	-0.2		
	14nm,0.3s,baz=186,slow=9.2,SNR=116								
MLR				Lg	Lg	08 02 54.4			
	5.7nm,0.3s,baz=312,slow=23,SNR=3.2								
	165nm,0.8s								
MLR	**Muntele Rosu**	**4.91**	**341**	⇓P	Pn	08 01 38.0	0.0		
MLR	**Muntele Rosu**	**4.91**	**341**	*e*Pn	Pn	08 01 38.1	0.0		
MLR	**Muntele Rosu**	**4.91**	**341**	P	Pn	08 01 38.0	0.0		
MTUR	**Matau**	**4.93**	**333**	⇑P	Pn	08 01 37.4	-0.9		
MTUR	**Matau**	**4.93**	**333**	P	Pn	08 01 37.4	-0.9		
KZN	**Kozani**	**4.93**	**266**	P	Pn	08 01 37.0	-1.3		
BLKB	**Belogradchik**	**4.94**	**306**	*e*Pn	Pn	08 01 37.0	-1.5		
BLKB				*e*Sn	Sn	08 02 32.2	-3.5		
ODBI	**Odobesti**	**4.97**	**351**	⇓P	Pn	08 01 38.3	-0.4		
PLOR	**Plostina**	**5.11**	**348**	⇓P	Pn	08 01 40.7	0.0		
PLOR	**Plostina**	**5.11**	**348**	P	Pn	08 01 40.7	0.0		
VRI	**Vrincioaia**	**5.11**	**348**	⇑P	Pn	08 01 40.1	-0.7		
VRI	**Vrincioaia**	**5.11**	**348**	P	Pn	08 01 40.0	-0.7		
VOIR		**5.12**	**334**	⇑P	Pn	08 01 39.7	-1.2		
VOIR		**5.12**	**334**	P	Pn	08 01 39.7	-1.2		
BARS	**Barje**	**5.16**	**294**	*e*Pn	Pn	08 01 40.4	-1.0		
BARS				*e*Lg	Lg	08 03 03.4			
PUNG	**Punghina**	**5.17**	**313**	⇓P	Pn	08 01 39.7	-1.9		
COVR	**Voineasa-Covas**	**5.19**	**344**	⇓P	Pn	08 01 41.7	-0.1		
ARR	**Arges**	**5.20**	**331**	⇓P	Pn	08 01 40.7	-1.4		
SKO	**Skopje**	**5.21**	**284**	*i* Pn	Pn	08 01 41.9	-0.2		
ZAGS	**Zajecar**	**5.32**	**306**	*e*Pn	Pn	08 01 41.5	-2.0		
ZAGS				*e*Lg	Lg	08 03 09.2			
KARP	**Karpathos**	**5.37**	**189**		Pn	08 01 43.0	-1.4		
SEV	**Sevastopol'**	**5.45**	**46**	*e*P	Pn	08 01 42.8	-2.5		
SEV				*e*S	Sn	08 02 41.0	-7.1		
SEV	**Sevastopol'**	**5.45**	**46**	*e*P	Pn	08 01 42.8	-2.5		
SEV				Pm		08 01 47.0			
	comp=Z,126nm,0.4s								
SEV				*e*S	Sn	08 02 41.0	-7.1		
SEV				Sm		08 02 50.1			
	comp=N,184nm,0.4s								
SEV				Sm		08 02 50.1			
	comp=E,96nm,0.4s								
DOPR	**Dopca**	**5.50**	**339**	⇑P	Pn	08 01 45.6	-0.5		
TARU	**Tarkhankut**	**5.51**	**34**	*i* P	Pn	08 01 44.8	-1.3		
TARU				Pm		08 01 48.3			
	comp=Z,139nm,0.5s								
TARU				*e*S	Sn	08 02 45.4	-4.1		
TARU				Sm		08 02 49.2			
	comp=N,1µm,0.7s								
TARU				Sm		08 02 49.2			
	comp=E,310nm,0.6s								
OZUR		**5.51**	**342**	⇑P	Pn	08 01 45.8	-0.5		
BOVS	**Bovan**	**5.56**	**302**	⇑P	Pn	08 01 46.1	-0.8		
BOVS	**Bovan**	**5.56**	**302**	*e*Pn	Pn	08 01 45.7	-1.2		
BORS2	**Bor- Borsko je**	**5.59**	**307**	*e*Pn	Pn	08 01 43.9	-3.5		
LOT	**Lotru**	**5.61**	**326**	⇑P	Pn	08 01 46.0	-1.7		
OHR	**Ohrid**	**5.61**	**275**	*i* Pn	Pn	08 01 48.0	+0.4		
ONER	**Baraj Valea Uz**	**5.62**	**347**	⇓P	Pn	08 01 47.3	-0.5		
YAL	**Yalta**	**5.68**	**49**	*e*P	Pn	08 01 46.8	-1.8		
YAL				*e*S	Sn	08 02 48.7	-5.1		
YAL	**Yalta**	**5.68**	**49**	*e*P	Pn	08 01 46.8	-1.8		
YAL				Pm		08 01 51.1			
	comp=Z,64nm,0.3s								
YAL				*e*S	Sn	08 02 48.7	-5.1		
YAL				Sm		08 02 52.0			
	comp=N,123nm,0.5s								
YAL				Sm		08 02 52.0			
	comp=E,159nm,0.4s								
TESR	**Tescani**	**5.75**	**349**	⇑P	Pn	08 01 48.4	-1.1		
SELS	**Selova**	**5.78**	**296**	*e*Pn	Pn	08 01 48.6	-1.3		
DNZ2	**Donuzlav2**	**5.81**	**37**	*e*P	Pn	08 01 48.7	-1.5		
DNZ2				Pm		08 01 55.3			
	comp=Z,55nm,0.3s								
DNZ2				*i* S	Sn	08 02 52.3	-4.6		
DNZ2				Sm		08 03 00.6			
	comp=N,247nm,0.5s								
DNZ2				Sm		08 03 00.6			
	comp=E,576nm,0.6s								
ALU	**Alushta**	**5.94**	**48**	*e*P	Pn	08 01 49.8	-2.3		
ALU				*i* S	Sn	08 02 54.5	-5.7		
ALU	**Alushta**	**5.94**	**48**	x	Pn	08 01 49.8	-2.3		
ALU				Pm		08 01 53.6			
	comp=Z,65nm,0.4s								
ALU				*i* S	Sn	08 02 54.5	-5.7		
ALU				Sm		08 02 58.4			
	comp=N,556nm,0.6s								
ALU				Sm		08 02 58.4			
	comp=E,607nm,0.5s								
SIM	**Simferopol'**	**5.96**	**45**	*e*P	Pn	08 01 52.6	+0.2		
SIM				*e*S	Sn	08 02 54.9	-5.7		
SIM				pmax	pmax				
	comp=Z,107nm,1.0s								
SIM				smax	smax				
	comp=E,1µm,1.3s								
SIM				smax	smax				
	comp=N,859nm,1.2s								
SIM	**Simferopol'**	**5.96**	**45**	*ex*	Pn	08 01 52.5	+0.2		
SIM				*i* S	Sn	08 02 55.7	-4.9		
SIM				Sm		08 03 02.1			
	comp=N,324nm,0.6s								
SIM				Sm		08 03 02.1			
	comp=E,399nm,0.7s								
KUBS	**Kucevo**	**5.98**	**308**	*e*Pn	Pn	08 01 49.1	-3.5		
GZR	**Gura Zlata**	**6.02**	**321**	⇑P	Pn	08 01 51.3	-2.0		
GZR	**Gura Zlata**	**6.02**	**321**	*e*Pn	Pn	08 01 50.6	-2.7		
GZR				*e*Sn	Sn	08 02 57.9	-4.3		
GZR	**Gura Zlata**	**6.02**	**321**	P	Pn	08 01 51.3	-2.0		
MILM	**Milestii Mici**	**6.07**	**4**	⇑P	Pn	08 01 53.3	-0.6		
MILM	**Milestii Mici**	**6.07**	**4**	*e*P	Pn	08 01 52.0	-1.8		
MILM				*e*S	Sn	08 03 01.0	-2.2		
MILM				*e*L	L	08 03 46.0			
MILM				LgM		08 03 54.0			
	comp=E,4µm,12.4s							

MNK *i* LRM MLR 08 09 17.2
comp=Z,625nm,16.0s
MNK *i* LRM MLR 08 09 18.2
comp=E,513nm,15.0s
MNK Minsk 13.64 359 *i* P **Pn 08 03 36.1 -1.4**
MNK *i* S **Sn 08 06 09.5 +0.4**
MNK pmax pmax
comp=Z,14nm,0.7s
MNK pmax pmax
comp=N,26nm,0.8s
MNK pmax pmax
comp=E,8.0nm,0.7s
MNK MLR MLR
comp=N,439nm,16.0s
MNK MLR MLR
comp=Z,625nm,16.0s
MNK MLR MLR
comp=E,513nm,15.0s
LPSR Galich'ya Gora 13.83 28 *e*P **Pn 08 03 36.2 -3.9**
LPSR pmax pmax
comp=Z,20nm,0.8s
VRH Novokhopyorsk 13.94 38 *e*P **Pn 08 03 37.9 -3.7**
VRH pmax pmax
comp=Z,10.0nm,0.8s
DAVOX Davos/Dischmat 14.48 300 Pn **Pn 08 03 49.5 +0.3**
comp=Z,0.6nm,0.3s,baz=159,slow=16,SNR=6.0
comp=Z,0.9nm,0.3s
CLL Collm 14.81 320 *e*P **P 08 03 57.0 -2.4**
OBN Obninsk 15.30 18 *de*P **Pn 08 03 58.1 -1.8**
OBN *e*S **Sn 08 06 41.8 -7.5**
OBN pmax pmax
comp=Z,13nm,0.9s
OBN MLR MLR
comp=Z,617nm,17.0s
KEST Kesra 15.66 257 Pn **Pn 08 04 02.7 -2.2**
comp=Z,0.1nm,0.3s,baz=56,slow=8.2,SNR=7.2
MOS Moscow 16.12 19 *e*P **Pn 08 04 09.2 -1.4**
MOS *e* 08 06 58.9
MOS pmax pmax
comp=Z,57nm,0.9s
ECH Echery 16.68 303 P **Pn 08 04 17.3 -0.5**
ECH Echery 16.68 303 P **Pn 08 04 17.3 -0.5**
ECH pmax pmax
comp=Z,28nm,1.4s
BELG Belogornoye 17.56 42 P **Pn 08 04 27.0 -1.8**
comp=Z,40nm,0.8s,baz=232,slow=2.1,SNR=11
VSU Vasula 17.64 357 *i* P **P 08 04 30.2 -0.5**
VSU pmax pmax
comp=Z,38nm,0.9s
CORI Orista 19.63 282 **P 08 04 51.6 -1.1**
CEST Esterri de Car 20.16 284 Pn 08 04 59.5 -1.1
FINES FINESS Array B 20.65 357 P Pn 08 05 03.4 -2.5
comp=Z,4.5nm,0.7s,baz=161,slow=12,SNR=11
comp=Z,4.5nm,0.7s
FINES FINESS Array B 20.65 357 *e*P Pn 08 05 07.2 +1.3
FINES pmax pmax
comp=Z,5.0nm,0.7s
KLMR Klimovskoe 21.19 15 *e*P **P 08 05 04.6 -4.8**
KLMR pmax pmax
comp=Z,31nm,1.1s
KLMR MLR MLR
comp=Z,820nm,13.0s
HFS Hagfors 21.29 340 P **P 08 05 09.7 -0.9**
comp=Z,5.1nm,0.7s,baz=147,slow=14,SNR=6.8
comp=Z,5.1nm,0.7s
NC602 NORSAR Array S 22.38 338 *e*P **P 08 05 22.5 +0.2**
RAYN Ar Rayn 22.59 135 **P 08 05 24.5 -0.3**
RAYN Ar Rayn 22.59 135 P **P 08 05 24.5 -0.3**
RAYN pmax pmax
comp=Z,17nm,0.9s
NC405 NORSAR Array S 22.65 339 P **P 08 05 25.6 +0.5**
NOA NORSAR Array B 22.72 338 P **P 08 05 24.7 -1.2**
comp=Z,2.6nm,0.7s,baz=146,slow=11,SNR=8.3
comp=Z,2.6nm,0.7s
NOA NORSAR Array B 22.72 338 *e*P **P 08 05 26.6 +0.6**
NOA pmax pmax
comp=Z,5.0nm,0.7s
NBO00 NORSAR Array S 22.84 338 P **P 08 05 27.5 +0.4**
NC204 NORSAR Array S 23.04 338 **P 08 05 29.8 +0.4**
KMY Karmoy 23.34 330 *e*P **P 08 05 33.2 +1.0**
AB31 Akbulak array 23.80 59 **P 08 05 37.4 +0.5**
AB31 IAmb IAmb 08 05 47.9
comp=Z,48nm,1.9s
ABKAR Akbulak array 23.80 59 P **P 08 05 37.1 +0.2**
BER Bergen 24.11 332 *e*P **P 08 05 39.5 -0.2**
DOMB Dombas 24.14 338 *e*P **P 08 05 41.1 +1.0**
ASK Askoy 24.23 332 *e*P **P 08 05 41.4 +0.6**
ESBB Sonseca Array 24.50 278 **P 08 05 42.7 -0.9**
ESBB IAmb IAmb 08 05 47.1
comp=Z,20nm,0.8s
ESDC Sonseca Array 24.50 278 **P 08 05 43.1 -0.5**
ESDC Sonseca Array 24.50 278 P **P 08 05 43.4 -0.3**
comp=Z,20nm,0.8s,baz=67,slow=9.6,SNR=30
comp=Z,20nm,0.8s
AKN Aaknes 24.86 336 *e*P **P 08 05 47.1 +0.5**
ARTI Arti 25.00 41 **P 08 05 48.1 +0.3**
ARTI Arti 25.00 41 *c i*P **P 08 05 49.1 +1.2**
ARTI 08 06 21.3
ARTI S **S 08 10 15.8 +4.3**
ARTI SS **SnSn 08 11 08.3 +8.4**
ARTI pmax pmax
comp=Z,46nm,1.0s
EKA Eskdalemuir Ar 25.19 316 P **P 08 05 49.0 -0.5**
comp=Z,6.1nm,0.8s,baz=119,slow=8.9,SNR=9.2
comp=Z,6.1nm,0.8s
NSS Namsos 25.50 344 *e*P **P 08 05 52.8 +0.5**
LEIR Leirfjorden 26.68 346 *e*P **P 08 06 03.0 0.0**
APA Apatity 26.91 4 ǁ *e*P **P 08 05 58.6 -6.4**
APA pmax pmax
comp=Z,14nm,1.3s
APA MLR MLR
comp=Z,1μm,4.9s
POLO Lamas de Olo 27.01 283 *e*P **P 08 06 08.1 +1.8**
KONS Konsvik 27.03 347 *e*P **P 08 06 06.2 +0.1**
PCBR Castelo Branco 27.10 280 *e*P **P 08 06 09.3 +2.3**
PCBR *i* IAmb IAmb 08 06 16.2
comp=Z,38nm,1.9s
PMRV Marv??o 27.14 279 *e*P **P 08 06 09.6 +2.2**
PMRV *i* IAmb IAmb 08 06 11.3
comp=Z,50nm,1.9s
PBAR Barrancos 27.21 276 *e*P **P 08 06 09.8 +1.8**
PVIS Viseu 27.21 282 *e*P **P 08 06 10.5 +2.4**
PGAV Gavieira, Arco 27.25 284 *e*P **P 08 06 11.3 +2.8**
PESTR Estremoz 27.43 278 **P 08 06 09.4 -0.6**
PESTR IAmb IAmb 08 06 13.2
comp=Z,25nm,1.0s
PESTR Estremoz 27.43 278 *e*P **P 08 06 12.3 +2.3**
PESTR *i* IAmb IAmb 08 06 17.0
comp=Z,37nm,2.0s
PSARD Sardoal 27.67 279 *e*P **P 08 06 15.1 +2.9**
PSARD *i* IAmb IAmb 08 06 16.2
comp=Z,67nm,0.9s
PCAS Casmilo, Conde 27.81 280 *i* IAmb IAmb 08 06 21.1
comp=Z,72nm,2.4s
PMTG Montargil 27.86 278 *e*P **P 08 06 15.8 +2.0**
PMTG *i* IAmb IAmb 08 06 19.1
comp=Z,41nm,1.7s
PVAQ Vaqueiros 27.95 275 P **P 08 06 15.5 +0.8**
PVAQ Vaqueiros 27.95 275 *e*P **P 08 06 17.8 +3.1**
PCVE Castro Verde 28.13 275 *e*P **P 08 06 18.6 +2.4**
PBDV Barranco-do-Ve 28.17 274 *e*P P 08 06 20.0 +3.3
PARRA Arraiolos 28.54 278 *e*P P 08 06 14.8 -5.1
PARRA *i* IAmb IAmb 08 06 20.1
comp=Z,30nm,1.7s
ARCES ARCESS Array B 28.77 358 P **P 08 06 22.4 +0.8**
comp=Z,5.4nm,1.0s,baz=164,slow=10,SNR=6.0
comp=Z,5.4nm,1.0s
ARCES ARCESS Array B 28.77 358 *e*P **P 08 06 23.9 +2.3**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
BORK Borovoye 30.77 52 *i* P **P 08 06 40.6 +1.1**
BORK pmax pmax
comp=Z,3.0nm,1.2s
BVAR Borovoye Array 30.81 52 P **P 08 06 42.8 +2.9**
comp=Z,1.0nm,0.6s,baz=289,slow=8.8,SNR=2.7
comp=Z,1.0nm,0.6s
SIMJ Simiganj 31.25 81 P **P 08 06 45.5 +1.4**
KKAR Karatay Array 31.29 72 P **P 08 06 45.0 +0.8**
KKAR Karatay Array 31.29 72 P **P 08 06 45.0 +0.8**
AAK Ala-Archa 34.25 71 *i* P **P 08 07 11.6 +1.3**
AAK pmax pmax
comp=Z,5.0nm,1.0s
KURBB Kurchatov Arra 35.82 57 P **P 08 07 26.1 +2.6**
comp=Z,4.9nm,1.0s,baz=280,slow=9.0,SNR=7.4
comp=Z,4.9nm,1.0s

KURK Kurchatov 35.87 57 *i* P **P 08 07 26.1 +2.2**
KURK pmax pmax
comp=Z,3.0nm,1.0s
TORD Torodi Ar. Bea 36.06 228 P **P 08 07 24.3 -1.6**
TORD Torodi Ar. Bea 36.06 228 P **P 08 07 27.8 +1.9**
comp=Z,3.0nm,0.8s,baz=33,slow=9.7,SNR=4.1
comp=Z,3.0nm,0.8s
KSH Kashi 36.16 76 P P 08 07 30.4 +3.7
NIL Nilore 36.25 87 P **P 08 07 27.6 +0.2**
NIL IAmb IAmb 08 07 32.5
comp=Z,22nm,0.9s
NIL Nilore 36.25 87 P **P 08 07 27.6 +0.2**
NIL pmax pmax
comp=Z,22nm,0.9s
SPITS Spitsbergen Ar 37.74 356 P **P 08 07 40.8 +1.3**
comp=Z,4.0nm,0.7s,baz=202,slow=10,SNR=5.4
comp=Z,4.0nm,0.7s
KBS Kingsbay 38.72 355 P **P 08 07 46.7 -1.1**
KBS Kingsbay 38.72 355 P **P 08 07 46.7 -1.1**
KBS pmax pmax
comp=Z,40nm,0.6s
MKAR Makanchi Array 38.81 63 **P 08 07 48.4 -0.6**
MKAR Makanchi Array 38.81 63 P **P 08 07 51.2 +2.3**
comp=Z,9.8nm,0.8s,baz=279,slow=7.3,SNR=20
comp=Z,9.8nm,0.8s
ZALV Zalesovo Beam 39.43 51 **P 08 07 52.7 -1.3**
ZALV Zalesovo Beam 39.43 51 P **P 08 07 56.2 +2.2**
comp=Z,1.5nm,0.4s,baz=270,slow=9.1,SNR=5.9
comp=Z,1.5nm,0.4s
ZALV Zalesovo Beam 39.43 51 *e*P **P 08 07 56.6 +2.6**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
WMQ Urumqi 43.25 66 *e*P **P 08 08 26.8 +1.2**
WMQ LR LR
comp=Z,750nm,16.9s
WMQ LR LR
comp=Z,600nm,23.9s
WMQ LR LR
comp=Z,470nm,20.3s
DBIC Dimbokro 45.04 230 P **P 08 08 40.2 0.0**
DBIC IAmb IAmb 08 08 43.7
comp=Z,13nm,0.8s
DBIC Dimbokro 45.04 230 P **P 08 08 42.3 +2.1**
comp=Z,10nm,0.7s,baz=56,slow=8.1,SNR=11
comp=Z,10nm,0.7s
DBIC Dimbokro 45.04 230 P **P 08 08 40.2 0.0**
DBIC pmax pmax
comp=Z,13nm,0.9s
EVN Everest 49.20 86 **P 08 09 13.0 -0.4**
GTA Gaotai 53.31 66 *e*P **P 08 09 46.3 +2.9**
GTA pP sP 08 09 50.4 +2.9
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA LR LR
comp=Z,310nm,18.5s
GTA LR LR
comp=Z,150nm,19.6s
GTA LR LR
comp=Z,400nm,18.5s
SONM Songino Array 54.11 54 P **P 08 09 52.1 +2.9**
comp=Z,2.0nm,0.7s,baz=290,slow=7.1,SNR=9.1
comp=Z,2.0nm,0.7s
ULN Ulaanbaatar 54.50 54 *i* P **P 08 09 53.1 +1.0**
ULN pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 54.98 22 *i* P **P 08 09 56.6 +1.6**
TIXI pmax pmax
comp=Z,3.0nm,1.2s
YAK Yakutsk 59.76 32 *e*P **P 08 10 30.8 +2.0**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.0s
CD2 Chengdu 60.28 73 *e*P **P 08 10 32.0 -0.9**
HHC Hu-ho-hao-te 60.58 60 *e*P **P 08 10 35.5 +0.6**
HHC pmax pmax
comp=E,13nm,0.6s
HHC pmax pmax
comp=E,70nm,3.8s
HHC LR LR
comp=E,240nm,16.0s
HHC LR LR
comp=E,220nm,16.8s
HHC LR LR
comp=E,280nm,16.0s
PZH PanZhiHua 61.19 79 P **P 08 10 40.0 +0.7**
CMAR Chiang Mai Arr 63.73 88 P **P 08 10 58.4 +2.1**
comp=E,1.2nm,0.3s,baz=311,slow=8.5,SNR=6.3
comp=E,1.2nm,0.3s
A36M Sachs Harbour 65.90 351 P P 08 11 13.4 +3.9
baz=22
BILL Bilibino 66.94 16 *i* P **P 08 11 16.5 +0.2**
BILL pmax pmax
comp=Z,5.0nm,1.0s
A21K Barrow 68.06 2 P P 08 11 27.0 +3.7
baz=356
DL2 Dalian 68.14 57 *e*P **P 08 11 24.9 +0.6**
DL2 S **S 08 20 25.3 +1.1**
DL2 pmax pmax
comp=Z,21nm,0.9s
DL2 pmax pmax
comp=Z,310nm,7.9s
DL2 LR LR
comp=Z,370nm,15.9s
DL2 LR LR
comp=Z,480nm,13.5s
DL2 LR LR
comp=Z,530nm,15.9s
C36M Paulatuk 68.21 350 P **P 08 11 27.4 +3.2**
baz=22
A22K Sinclair Lake 68.42 1 P **P 08 11 28.7 +3.2**
baz=357
A19K Wainwright 69.03 3 P P 08 11 33.1 +3.7
baz=352
B22K Teshekpuk Lake 69.10 1 P P 08 11 33.6 +3.8
baz=355
B20K Meade River 69.37 2 P P 08 11 35.5 +4.1
baz=356
C26K Camden Bay 69.42 357 P P 08 11 36.0 +4.3
baz=5.5
C23K Itkillik River 69.61 360 P P 08 11 36.9 +3.9
baz=0.9
C27K Jago River 69.66 357 P P 08 11 37.0 +3.7
baz=6.5
C24K Franklin Bluff 69.70 359 P P 08 11 37.8 +4.3
baz=2.5
B21K Ikpikpuk River 69.81 1 P P 08 11 38.4 +4.3
baz=358
B18K Kokolik River 69.84 4 P P 08 11 39.2 +4.8
baz=352
D27M Malcolm River 69.92 356 P P 08 11 39.3 +4.4
baz=8.7
D25K Kavik River 70.06 358 P P 08 11 39.6 +3.8
baz=4.3
C19K Lookout Ridge 70.19 3 P P 08 11 41.0 +4.4
baz=354
C21K Knifeblade Rid 70.27 1 P P 08 11 40.5 +3.4
baz=358
D24K Happy Valley 70.28 359 P P 08 11 41.0 +3.9
baz=2.4
NJ2 Nanjing 70.31 64 *e*P **P 08 11 37.3 -0.6**
NJ2 pmax pmax
comp=Z,14nm,0.5s
E28M Babbage River 70.47 355 **P 08 11 39.0 +0.7**
E28M Babbage River 70.47 355 P P 08 11 41.8 +3.5
baz=9.8
D23K Nanushuk River 70.48 360 P P 08 11 42.5 +4.1
baz=0.9
E29M Blow River 70.57 355 **P 08 11 39.1 +0.2**
E29M IAmb IAmb 08 11 43.8
comp=Z,13nm,1.0s
E29M Blow River 70.57 355 P **P 08 11 42.1 +3.2**
baz=11,SNR=7.5
D22K Ayikyak River 70.57 0 P P 08 11 42.4 +3.5
baz=359
C18K Utukok River 70.58 4 P P 08 11 42.5 +3.5
baz=352
C17K DeLong Mountai 70.65 4 P P 08 11 43.8 +4.4
baz=351
D20K Etivluk River 70.68 2 P P 08 11 44.1 +4.5
baz=356
TOLK Toolik Lake Re 70.80 359 P P 08 11 44.2 +3.8
baz=1.8
D19K Kuna River 70.86 2 P P 08 11 44.2 +3.5
baz=355

E27K Coleen River 71.00 356 IAmb IAmb 08 11 46.4
comp=Z,8.2nm,1.1s
E27K Coleen River 71.00 356 P P 08 11 44.8 +3.3
baz=8.1
E21K Killik River 71.00 1 P P 08 11 44.8 +3.3
baz=358
RDOG Red Dog Mine 71.08 4 P P 08 11 45.4 +3.4
baz=351
E20K Nigu River 71.15 2 P P 08 11 45.8 +3.3
baz=356
F31M Tsiigehtchic 71.15 353 P **P 08 11 45.2 +2.8**
baz=14
F30M Barrier River 71.17 354 P **P 08 11 45.4 +2.9**
baz=13
E25K Arctic Village 71.23 358 P **P 08 11 45.9 +2.9**
baz=4.9
E22K Anaktuvuk Pass 71.32 0 P P 08 11 46.9 +3.4
baz=360
E24K Your Creek 71.35 359 P P 08 11 47.2 +3.5
baz=2.6
E23K Chandalar 71.39 359 P P 08 11 47.6 +3.7
baz=1.7
D17K Noatak River 71.42 5 P P 08 11 47.8 +3.8
baz=351
F28M Old Crow 71.47 355 P P 08 11 47.9 +3.5
baz=9.5
F26K Sheenjek River 71.61 357 P P 08 11 48.8 +3.6
baz=6.1
G31M Satah River 71.70 353 P P 08 11 49.2 +3.5
baz=14
F25K Christian Rive 71.77 358 P P 08 11 50.1 +3.9
baz=4.9
G30M tAoh Zraii Nji 71.82 354 P P 08 11 49.8 +3.3
baz=12
E18K Tukpahlearik C 71.83 4 P P 08 11 50.3 +3.8
baz=353
F24K Squaw Lake 71.90 358 P P 08 11 51.5 +4.5
baz=3.1,SNR=5.5
E19K Redstone River 71.92 2 P P 08 11 51.3 +4.2
baz=356
F22K John River 71.95 0 P P 08 11 50.9 +3.6
baz=360
G29M Pine Creek 72.03 354 P P 08 11 51.1 +3.3
baz=11
COLD Coldfoot 72.23 359 P P 08 11 52.5 +3.6
baz=1.2,SNR=6.0
F21K Alatna River 72.23 1 **P 08 11 50.1 +1.1**
F21K IAmb IAmb 08 11 54.3
comp=Z,7.8nm,0.9s
F21K Alatna River 72.23 1 P P 08 11 53.2 +4.3
baz=359,SNR=5.9
G26K Porcupine Rive 72.34 357 P P 08 11 54.4 +4.8
baz=6.3,SNR=5.3
F20K Avaraart Lake 72.37 2 P P 08 11 53.5 +3.8
baz=357
G27K Doyon Strip 72.37 356 IAmb IAmb 08 13 23.6
comp=Z,20nm,2.0s
G27K Doyon Strip 72.37 356 P P 08 11 53.1 +3.3
baz=8.0
EPYK Eagle Plains 72.46 354 P **P 08 11 53.3 +2.9**
baz=12
F19K Shaleruckik Mo 72.53 2 P P 08 11 54.0 +3.3
baz=355
G22K Bettles 72.54 360 P P 08 11 54.3 +3.6
baz=0.2
G25K Bearman Lake 72.61 358 P P 08 11 54.6 +3.5
baz=4.5
F18K Selawik 72.69 3 P P 08 11 55.5 +3.9
baz=354
G24K Hadweenzic Riv 72.71 358 P P 08 11 55.8 +4.0
baz=3.4
H29M Whitestone 72.74 354 P P 08 11 55.6 +3.6
baz=11
G23K Bananza Creek 72.74 359 P P 08 11 55.3 +3.2
baz=1.4
F17K Baldwin Pennin 72.78 4 P P 08 11 55.3 +3.2
baz=352
H31M Peel River 72.80 353 P **P 08 11 55.3 +2.9**
baz=14
G21K Allakaket 72.94 1 P P 08 11 56.7 +3.5
baz=359
H27K Steamboat Moun 72.94 356 P P 08 11 57.8 +4.6
baz=8.1,SNR=5.8
KSRS Korea Array 72.97 55 P **P 08 11 55.4 +1.6**
comp=Z,0.5nm,0.3s,baz=312,slow=5.4,SNR=5.6
comp=Z,0.5nm,0.3s
H25L Birch Creek 73.10 357 P P 08 11 58.8 +4.7
baz=4.7,SNR=5.8
G19K Purcell Mounta 73.24 2 P P 08 11 58.6 +3.6
baz=356
F15K North Star Dit 73.29 6 P P 08 11 58.7 +3.5
baz=350
F14K Arctic Creek 73.39 6 P **P 08 11 58.9 +3.1**
baz=348
G18K Tagagawik 73.44 3 IAmb IAmb 08 12 00.2
comp=Z,7.7nm,0.8s
G18K Tagagawik 73.44 3 P P 08 11 59.7 +3.6
baz=355,SNR=6.9
IMAR Indian Mountai 73.47 1 **P 08 11 56.5 +0.2**
I30M Mount Dempster 73.56 353 P **P 08 11 59.8 +2.8**
baz=12
I27K Kandik River 73.57 356 P **P 08 11 60.0 +3.0**
baz=8.0
H22K Ishtalitna Cre 73.57 360 P P 08 12 00.6 +3.7
baz=0.3
I29M Ogilvie Camp, 73.59 354 IAmb IAmb 08 12 00.8
comp=Z,9.1nm,0.9s
I29M Ogilvie Camp, 73.59 354 P **P 08 12 00.2 +3.2**
baz=11,SNR=7.6
H24K Noodor Dome 73.59 358 P **P 08 12 00.2 +3.1**
baz=3.1
I28M Miner Creek 73.62 355 P **P 08 12 00.4 +3.1**
baz=9.3
G17K Kiwalik Mounta 73.74 4 P P 08 12 01.5 +3.6
baz=353
G16K Koyuk River 73.75 5 P P 08 12 01.7 +3.8
baz=352
H21K Melozitna Rive 73.81 0 P P 08 12 02.0 +3.7
baz=359,SNR=5.1
WRGLY Wrigley 73.81 347 P **P 08 12 01.4 +3.1**
baz=22
H19K Roundabout Mou 73.88 2 P **P 08 12 01.8 +3.1**
baz=356
H20K Anotleneega Mo 73.95 1 P P 08 12 02.5 +3.4
baz=358
G15K Niukluk 74.04 5 P P 08 12 03.0 +3.4
baz=350
H18K Honbosa River 74.19 3 P P 08 12 04.3 +3.7
baz=355
J30M Hart River 74.19 353 P P 08 12 04.3 +3.6
baz=12
POKR Poker Plat Res 74.30 358 P P 08 12 05.4 +4.2
baz=3.4
H17K Granite Mounta 74.34 4 P P 08 12 05.1 +3.7
baz=354
EGAK Eagle 74.36 355 P P 08 12 05.3 +3.8
baz=8.3
ANM Nome 74.36 6 P P 08 12 05.2 +3.6
baz=349
MLY Manley 74.44 360 P P 08 12 05.8 +3.8
baz=0.8
ILAR Eielson Array 74.63 358 P **P 08 12 04.2 +1.1**
comp=Z,0.8nm,0.8s,baz=345,slow=4.3,SNR=8.2
comp=Z,0.8nm,0.8s
ILAR Eielson Array 74.63 358 *e*P **P 08 12 05.9 +2.8**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
I20K Naaghedeneel 74.66 1 P P 08 12 06.8 +3.7
baz=358
J25K Salcha River, 74.74 357 P P 08 12 07.6 +3.8
baz=5.0
J26L Joseph Creek 74.77 356 P P 08 12 07.8 +3.7
baz=6.4
NEA2 Nenana 74.86 359 P P 08 12 08.3 +3.8
baz=2.1
DAWY Dawson 74.95 354 P P 08 12 08.9 +3.9
baz=9.7
WRH Wood River Hil 74.96 358 IAmb IAmb 08 12 09.0
comp=Z,12nm,1.0s
YSS Yuzhno-Sakhali 74.99 40 *e*P **P 08 12 08.6 +3.1**
YSS pmax pmax
comp=Z,20nm,0.7s
HDA Harding Lake 75.00 358 P P 08 12 09.2 +4.0
baz=3.8,SNR=5.3
K29M Barlow Dome 75.02 354 P P 08 12 08.8 +3.2
baz=11
K27K Chicken 75.16 356 P P 08 12 09.6 +3.4
baz=7.6

J20K	**Nowinta River**	**75.28**	**1**	P	P	08 12 10.7 +3.8
	baz=358					
SCRK	**Sand Creek**	**75.31**	**356**	P	P	08 12 10.6 +3.4
	baz=6.1					
I17K	**Unalakleet**	**75.35**	**4**	P	P	08 12 11.1 +3.9
	baz=353					
BPAW	**Bear Paw Mtn.**	**75.37**	**360**	IAmb	IAmb	08 12 10.8
	comp=Z,13nm,1.4s					
BPAW	**Bear Paw Mtn.**	**75.37**	**360**	P	P	08 12 10.9 +3.5
	baz=0.6					
J19K	**Poorman**	**75.44**	**2**		**P**	**08 12 08.6 +0.8**
J19K				IAmb	IAmb	08 12 12.6
	comp=Z,9.5nm,1.0s					
J19K	**Poorman**	**75.44**	**2**	P	P	08 12 11.8 +4.1
	baz=357,SNR=6.3					
MMPY	**Sheldon Lake,**	**75.55**	**350**	P	P	08 12 12.6 +4.1
	baz=16					
K24K	**Donnelly Dome**	**75.56**	**357**	P	P	08 12 12.1 +3.6
	baz=4.7					
RIDG	**Independent Ri**	**75.59**	**357**	P	P	08 12 12.2 +3.4
	baz=5.4					
CHUM	**Lake Minchumin**	**75.59**	**0**	P	P	08 12 12.5 +3.9
	baz=360					
DOT	**Dot Lake**	**75.65**	**356**	IAmb	IAmb	08 12 13.2
	comp=Z,8.7nm,1.0s					
MCK	**McKinley**	**75.72**	**359**	P	P	08 12 13.1 +3.7
	baz=2.2					
L29M	**L29M**	**75.79**	**354**	P	P	08 12 13.4 +3.6
	baz=11					
J17K	**VABM Dome**	**75.92**	**3**	P	P	08 12 14.2 +3.7
	baz=354					
J18K	**Innoko River**	**75.94**	**2**	P	P	08 12 14.4 +3.7
	baz=356					
TRF	**Thorofare Moun**	**76.02**	**359**	P	P	08 12 14.6 +3.3
	baz=1.1					
K20K	**Telida**	**76.11**	**1**	P	P	08 12 14.9 +3.2
	baz=358					
L27K	**Beaver Creek,**	**76.11**	**355**	P	P	08 12 15.5 +3.8
	baz=7.7					
TGTN	**Hyland Airport**	**76.18**	**349**	P	P	08 12 16.5 +4.4
	baz=18					
L26K	**Log Cabin Wild**	**76.23**	**356**	P	P	08 12 16.1 +3.7
	baz=6.5					
J14K	**Nanvaranak Lak**	**76.30**	**6**	P	P	08 12 16.5 +3.9
	baz=351					
M31M	**Drury Creek, Y**	**76.32**	**352**	P	P	08 12 16.5 +3.6
	baz=13					
DHY	**Denali Highway**	**76.34**	**358**	IAmb	IAmb	08 12 17.3
	comp=Z,9.5nm,1.0s					
DHY	**Denali Highway**	**76.34**	**358**	P	P	08 12 16.6 +3.4
	baz=3.4					
PAX	**Paxson**	**76.39**	**357**	P	P	08 12 17.1 +3.8
	baz=4.9					
EPLO	**Experimental L**	**76.41**	**325**		**P**	**08 12 12.1 -1.5**
M29M	**Somme Creek**	**76.48**	**354**	P	**P**	**08 12 13.8 -0.1**
M29M				IAmb	IAmb	08 12 19.2
	comp=Z,5.7nm,0.7s					
M29M	**Somme Creek**	**76.48**	**354**	P	P	08 12 18.1 +4.3
	baz=10					
PPLA	**Purkeypile**	**76.58**	**0**	P	P	08 12 18.4 +3.9
	baz=360					
K17K	**Iditarod**	**76.63**	**3**	P	P	08 12 18.0 +3.4
	baz=355					
M26K	**Nabesna, AK**	**76.84**	**356**	P	P	08 12 19.1 +3.3
	baz=6.8					
WAT6	**Susitna Watana**	**76.85**	**358**	P	**P**	**08 12 18.7 +2.7**
	baz=3.1					
ULM	**Lac du Bonnet**	**76.89**	**327**	P	**P**	**08 12 17.6 +1.3**
	comp=Z,13nm,0.9s,baz=37,slow=4.6,SNR=11					
	comp=Z,13nm,0.9s					
ULM	**Lac du Bonnet**	**76.89**	**327**	*e*P	**P**	**08 12 18.7 +2.5**
ULM				pmax	pmax	
	comp=Z,13nm,0.9s					
K15K	**Wolf Creek Mou**	**76.89**	**5**	P	P	08 12 19.6 +3.6
	baz=352					
L20K	**Farewell, AK**	**76.99**	**1**	P	**P**	**08 12 19.6 +3.0**
	baz=358					
CUT	**Chulitna**	**77.07**	**359**	P	**P**	**08 12 20.0 +2.9**
	baz=1.2					
N31M	**Braeburn, Yuko**	**77.17**	**352**	P	**P**	**08 12 20.3 +2.6**
	baz=12					
L18K	**Granite Mounta**	**77.19**	**2**	P	**P**	**08 12 20.9 +3.1**
	baz=356					
N32M	**Quiet Lake**	**77.19**	**351**	P	**P**	**08 12 21.0 +3.1**
	baz=14					
L17K	**Donlin**	**77.21**	**3**	P	P	08 12 21.1 +3.2
	baz=355					
L19K	**White Mountain**	**77.27**	**1**	P	**P**	**08 12 21.3 +3.1**
	baz=358					
SKT	**Skwentna**	**77.50**	**360**	P	P	08 12 23.0 +3.4
	baz=0.2					
L15K	**Ungalak Mounta**	**77.50**	**5**	P	P	08 12 22.7 +3.3
	baz=352					
YUK4	**Talbot Arm**	**77.58**	**354**	P	**P**	**08 12 23.3 +3.1**
	baz=10					
SCM	**Sheep Creek Mo**	**77.59**	**358**	P	P	08 12 23.6 +3.5
	baz=3.4					
M20K	**Styx River**	**77.60**	**1**	P	P	08 12 23.4 +3.2
	baz=359					
WTLY	**Watson Lake, Y**	**77.61**	**348**	P	P	08 12 23.8 +3.6
	baz=18					
M23K	**Glacier View**	**77.64**	**358**	P	P	08 12 23.7 +3.4
	baz=3.1					
N25K	**Chitina, Valde**	**77.71**	**356**	P	P	08 12 24.3 +3.5
	baz=5.5					
M22K	**Willow**	**77.72**	**359**	P	P	08 12 24.1 +3.4
	baz=1.3					
YUK8	**Steele Glacier**	**77.73**	**354**	P	**P**	**08 12 24.2 +3.0**
	baz=9.3					
LIRD	**Liard River Hi**	**77.84**	**347**	P	P	08 12 25.1 +3.6
	baz=20					
PMR	**Palmer**	**77.87**	**359**	P	P	08 12 25.0 +3.5
	baz=2.0					
KLU	**Klutina**	**77.88**	**357**	P	P	08 12 25.3 +3.6
	baz=4.5					
O30N	**Mendenhall**	**77.91**	**352**	P	P	08 12 25.1 +3.3
	baz=12					
M18K	**Stony River**	**77.94**	**2**	P	P	08 12 25.5 +3.6
	baz=357					
M17K	**Holitna River**	**77.98**	**3**	P	P	08 12 26.5 +4.4
	baz=356					
HYT	**Haines Junctio**	**77.99**	**353**	P	P	08 12 26.3 +3.9
	baz=11					
SUA	**Susitna One**	**78.02**	**359**	P	P	08 12 26.2 +3.7
	baz=0.8					
KNK	**Knik Glacier**	**78.04**	**358**	P	P	08 12 26.4 +3.9
	baz=2.5					
P33M	**Teslin, Yukon**	**78.08**	**350**	P	P	08 12 26.9 +4.1
	baz=14					
CTG	**Chitna Glacier**	**78.16**	**355**	P	P	08 12 26.8 +3.4
	baz=8.0					
TOAD	**Toad River Com**	**78.22**	**346**	P	P	08 12 27.2 +3.6
	baz=20					
O28M	**Mount Upton**	**78.27**	**354**	P	**P**	**08 12 27.1 +2.9**
	baz=8.9					
M16K	**Timber Creek**	**78.30**	**4**	P	P	08 12 28.0 +4.0
	baz=354					
BMRM	**Bremner River**	**78.35**	**356**	P	P	08 12 27.9 +3.6
	baz=5.5					
RC01	**Rabbit Creek A**	**78.38**	**359**	P	P	08 12 28.0 +3.6
	baz=1.6					
M14K	**Bethel**	**78.39**	**5**	P	P	08 12 27.7 +3.3
	baz=352					
CRQE	**Cirque**	**78.48**	**356**	P	P	08 12 29.3 +4.1
	baz=6.7					
M15K	**Kasigluk River**	**78.53**	**4**	P	P	08 12 29.6 +4.4
	baz=353					
PWL	**Port Wells**	**78.59**	**358**	P	P	08 12 30.0 +4.5
	baz=2.6					
R33M	**Jennings River**	**78.62**	**349**	P	P	08 12 30.4 +4.5
	baz=16					
N19K	**Bonanza Creek**	**78.65**	**1**	P	P	08 12 30.4 +4.4
	baz=358					
EYAK	**Cordova Ski Ar**	**78.82**	**357**	P	P	08 12 30.5 +3.7
	baz=4.6					
N47A	**Urbana**	**78.93**	**315**	P	**P**	**08 12 28.7 +0.9**
Q51A	**Peebles**	**78.94**	**312**	IAmb	IAmb	08 12 31.6
	comp=Z,15nm,1.0s					
PINM	**Pinnacle**	**78.95**	**354**	P	P	08 12 32.0 +4.4
	baz=8.8					
MESA	**MESA**	**78.99**	**355**	P	P	08 12 32.1 +4.1
	baz=7.5					
PLBC	**Pleasant Camp**	**79.22**	**352**	P	P	08 12 33.6 +4.5
	baz=12					
N14K	**Kuskokwak Cree**	**79.24**	**5**	P	P	08 12 33.6 +4.5
	baz=352					
O19K	**Port Alsworth**	**79.27**	**1**	P	P	08 12 33.4 +4.2
	baz=358					

O17K	**Koliganek Bris**	**79.62**	**3**	P	P	08 12 34.9 +3.7
	baz=356					
BRSE	**Bradley Lake S**	**79.75**	**359**	P	P	08 12 35.2 +3.3
	baz=0.8					
O16K	**Kokwok River B**	**79.76**	**3**	P	P	08 12 35.2 +3.2
	baz=355					
P48A	**Milroy**	**79.79**	**314**	IAmb	IAmb	08 12 35.1
	comp=Z,15nm,0.8s					
P19K	**Oil Pt**	**79.83**	**1**	P	**P**	**08 12 35.0 +2.6**
	baz=359					
L40A	**Anamosa**	**80.93**	**319**	IAmb	IAmb	08 12 41.8
	comp=Z,19nm,1.0s					
HDIL	**Hopedale**	**81.06**	**317**	IAmb	IAmb	08 12 42.4
	comp=Z,13nm,0.8s					
WCI	**Wyandotte Cave**	**81.14**	**314**		**P**	**08 12 40.2 +0.5**
WCI				IAmb	IAmb	08 12 43.0
	comp=Z,12nm,0.8s					
WCI	**Wyandotte Cave**	**81.14**	**314**	P	**P**	**08 12 40.3 +0.5**
WCI				pmax	pmax	
	comp=Z,12nm,0.9s					
T50A	**Nancy**	**81.19**	**312**	IAmb	IAmb	08 12 43.6
	comp=Z,11nm,0.9s					
P40A	**Paris**	**83.24**	**318**	IAmb	IAmb	08 12 53.5
	comp=Z,6.3nm,0.8s					
FVM	**French Village**	**83.55**	**316**	IAmb	IAmb	08 12 55.1
	comp=Z,6.3nm,0.9s					
CCM	**Cathedral Cave**	**83.93**	**316**		**P**	**08 12 55.4 +1.1**
CCM	**Cathedral Cave**	**83.93**	**316**	P	**P**	**08 12 55.4 +1.1**
CCM				pmax	pmax	
	comp=Z,12nm,0.9s					
X48A	**Hartselle**	**84.28**	**311**	IAmb	IAmb	08 12 58.9
	comp=Z,5.6nm,0.8s					
PLAL	**Pickwick Lake**	**84.48**	**312**	IAmb	IAmb	08 12 59.7
	comp=Z,9.3nm,0.9s					
RSSD	**Black Hills**	**85.12**	**328**		**P**	**08 13 00.9 +0.3**
RSSD				IAmb	IAmb	08 13 04.3
	comp=Z,7.0nm,1.0s					
RSSD	**Black Hills**	**85.12**	**328**	P	**P**	**08 13 00.9 +0.3**
RSSD				pmax	pmax	
	comp=Z,7.0nm,1.0s					
K22A	**Casper**	**87.35**	**328**	IAmb	IAmb	08 13 14.1
	comp=Z,6.5nm,0.8s					
TUL3	**Leonard**	**87.92**	**318**	IAmb	IAmb	08 13 16.7
	comp=Z,6.7nm,0.7s					
PDAR	**Pinedale Array**	**88.42**	**330**	P	**P**	**08 13 18.8 +2.1**
	comp=Z,0.9nm,0.8s,baz=53,slow=4.5,SNR=9.1					
	comp=Z,0.9nm,0.8s					
BAUV	**El Baul**	**88.90**	**281**		**P**	**08 13 19.1 0.0**
HWUT	**Hardware Ranch**	**90.17**	**331**	IAmb	IAmb	08 13 28.3
	comp=Z,6.6nm,0.9s					
WMOK	**Wichita Mounta**	**90.35**	**319**	IAmb	IAmb	08 13 28.9
	comp=Z,4.6nm,0.8s					
RTBA	**Rita Blanca**	**90.88**	**322**	IAmb	IAmb	08 13 31.1
	comp=Z,4.9nm,1.0s					
T25A	**Trinidad**	**91.06**	**324**	IAmb	IAmb	08 13 32.7
	comp=Z,4.8nm,1.0s					
HMU	**Henry Mountain**	**93.05**	**329**	IAmb	IAmb	08 13 41.0
	comp=Z,3.8nm,1.0s					
DRIO	**Del Rio**	**95.52**	**317**	IAmb	IAmb	08 13 52.1
	comp=Z,4.2nm,0.8s					
TX31	**Lajitas Ar. Si**	**97.14**	**319**	P	**P**	**08 13 54.8 -2.2**
TXAR	**Lajitas Array**	**97.14**	**319**	P	**P**	**08 13 54.9 -2.1**
TXAR	**Lajitas Array**	**97.14**	**319**	P	Pdif	08 13 59.1 +2.0
	comp=Z,1.6nm,0.8s,baz=66,slow=4.0,SNR=16					
	comp=Z,1.6nm,0.8s					

*IDC **24** 08:01:39.1±1.0,6˚.25S×143˚.08E, h0km, mb4.1/7, mbtmp4.1/10, ML2.7/2, MS3.1/4, Error ellipse: s-maj=34.1km s-min=19.2km az=84.0*
*NEIC **24** 08:01:42.2±2.1,5˚.98S±0˚.10×143˚.0E±0˚.1, h41km±8km, mb4.2/15, Error ellipse: s-maj=19.6km s-min=12.7km az=66.0*

ISC 24 08:01:43.5±0.6, 6˚37S±0˚.06×142˚.88E±0˚.08, h35km, n32, σ2s50/34, mb3.9/9, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JAY	**Jayapura**	**4.40**	**330**	Pn		**Pn**	**08 02 49.4**	**+1.5**
	2.4nm,0.3s,baz=194,slow=10,SNR=10							
JAY				Sn		**Sn**	**08 03 34.0**	**-3.9**
	2.2nm,0.3s,baz=276,slow=10,SNR=3.7							
	5.1nm,0.3s							
PMG	**Port Moresby**	**5.21**	**126**	Pn		**Pn**	**08 02 58.4**	**-0.6**
PMG	**Port Moresby**	**5.21**	**126**	Pn		**Pn**	**08 02 57.6**	**-1.4**
	4.8nm,0.3s,baz=352,slow=5.8,SNR=5.2							
PMG				Sn		**Sn**	**08 03 53.1**	**-4.7**
	3.5nm,0.3s,baz=275,slow=20,SNR=8.2							
	13nm,0.6s							
COEN	**Coen**	**7.55**	**178**	Pn		**Pn**	**08 03 34.0**	**+2.7**
CTAO	**Charters Tower**	**14.03**	**167**	Pn		**Pn**	**08 05 03.1**	**+3.1**
WR8	**Warramunga Arr**	**15.67**	**211**	Pn		**Pn**	**08 05 23.4**	**+1.5**
WR8	**Warramunga Arr**	**15.77**	**210**	Pn		**Pn**	**08 05 22.8**	**-0.3**
WR8				IAmb		IAmb	08 05 30.7	
	comp=Z,13nm,0.7s							
WRAB	**Tennant Creek**	**15.83**	**211**	Pn		**P**	**08 05 27.5**	**+0.2**
WRAB				IAmb		IAmb	08 05 42.8	
	comp=Z,12nm,0.7s							
WB2	**Warramunga Arr**	**15.84**	**211**	Pn		**Pn**	**08 05 24.8**	**+0.8**
WB2				IAmb		IAmb	08 05 34.8	
	comp=Z,17nm,0.9s							
WRA	**Warramunga Arr**	**15.84**	**211**	Pn		**Pn**	**08 05 23.5**	**-0.6**
WRA	**Warramunga Arr**	**15.84**	**211**	Pn		**Pn**	**08 05 23.0**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=30,slow=13,SNR=28							
WRA				Sn		**Sn**	**08 08 16.1**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=43,slow=22,SNR=4.6							
WRA				Lg		Lg	08 09 58.4	
	comp=Z,0.4nm,0.3s,baz=22,slow=30,SNR=6.3							
WRA				LR		LR	08 12 48.9	
	comp=Z,68nm,19.1s,baz=204,slow=42							
KNRA	**Kununurra**	**16.65**	**235**	Pn		**Pn**	**08 05 35.5**	**+1.2**
KNRA				IAmb		IAmb	08 05 42.3	
	comp=Z,17nm,0.7s							
AS31	**Alice Springs**	**19.24**	**206**			**Pn**	**08 06 08.6**	**+2.3**
AS31				IAmb		IAmb	08 06 11.0	
	comp=Z,11nm,0.7s							
ASAR	**Alice Springs**	**19.25**	**206**			**Pn**	**08 06 08.7**	**+2.5**
ASAR	**Alice Springs**	**19.25**	**206**	P		**Pn**	**08 06 06.6**	**+0.4**
	comp=Z,30nm,0.6s,baz=32,slow=11,SNR=262							
ASAR				S		**S**	**08 09 38.1**	**-3.1**
	comp=Z,1.3nm,0.6s,baz=16,slow=28,SNR=4.2							
ASAR				Lg		Lg	08 11 51.3	
	comp=Z,0.2nm,0.3s,baz=29,slow=29,SNR=4.4							
ASAR				LR		LR	08 13 38.2	
	comp=Z,32nm,21.6s,baz=17,slow=37							
EIDS	**Eidsvold**	**20.46**	**158**	P		Pn	08 06 20.4	-0.2
EIDS				IAmb		IAmb	08 06 29.4	
	comp=Z,18nm,1.1s							
FITZ	**Fitzroy Crossi**	**20.46**	**234**			Pn	08 06 20.2	-0.5
FITZ	**Fitzroy Crossi**	**20.46**	**234**	P		Pn	08 06 20.9	+0.2
	comp=Z,7.6nm,0.6s,baz=59,slow=11,SNR=35							
FITZ				S		**S**	**08 09 58.7**	**-7.0**
	comp=Z,3.8nm,0.8s,baz=146,slow=13,SNR=2.8							
FITZ				Lg		Lg	08 12 23.4	
	comp=Z,0.2nm,0.3s,baz=68,slow=10,SNR=3.8							
FITZ				LR		LR	08 15 32.3	
	comp=Z,45nm,20.0s,baz=44,slow=40							
	comp=Z,7.6nm,0.6s							
INKA	**Innaminka**	**21.36**	**185**	P		**P**	**08 06 29.7**	**+1.8**
INKA				IAmb		IAmb	08 06 33.3	
	comp=Z,8.0nm,0.9s							
STKA	**Stephens Creek**	**25.41**	**183**	P		**P**	**08 07 10.2**	**+2.3**
	comp=Z,2.3nm,0.7s,baz=359,slow=12,SNR=5.6							
STKA				LR		LR	08 18 36.8	
	comp=Z,56nm,18.1s,baz=53,slow=40							
	comp=Z,2.3nm,0.7s							
BBOO	**Buckleboo**	**27.07**	**193**	P		**P**	**08 07 23.9**	**+1.0**
FORT	**Forrest**	**27.99**	**208**	P		**P**	**08 07 32.1**	**+0.9**
KSRS	**Korea Array**	**45.77**	**343**	P		**P**	**08 10 03.0**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=171,slow=8.6,SNR=4.3							
	comp=Z,0.4nm,0.4s							
CASY	**Casey**	**63.87**	**194**	P		**P**	**08 12 14.1**	**+1.8**
MK31	**Makanchi Array**	**75.21**	**322**	P		**P**	**08 13 19.1**	**-3.6**
MK31				IAmb		IAmb	08 13 35.9	
	comp=Z,2.4nm,0.9s							
MKAR	**Makanchi Array**	**75.21**	**322**	P		**P**	**08 13 18.8**	**-3.9**
MKAR	**Makanchi Array**	**75.21**	**322**	P		**P**	**08 13 22.5**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=106,slow=7.2,SNR=6.9							
	comp=Z,0.8nm,0.6s							
KURBB	**Kurchatov Arra**	**79.09**	**324**	P		**P**	**08 13 45.0**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=118,slow=4.5,SNR=4.6							
	comp=Z,1.1nm,0.8s							
QSPA	**South Pole Qui**	**83.60**	**180**	P		**P**	**08 14 06.5**	**-1.7**
QSPA				IAmb		IAmb	08 14 23.3	
	comp=Z,3.1nm,1.1s							
BVAR	**Borovoye Array**	**84.67**	**325**	P		**P**	**08 14 15.7**	**+2.0**
	comp=Z,4.8nm,0.8s,baz=114,slow=6.6,SNR=13							
	comp=Z,4.8nm,0.8s							
ILAR	**Eielson Array**	**87.45**	**24**	P		**P**	**08 14 26.4**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=265,slow=5.9,SNR=4.3							
	comp=Z,0.6nm,0.9s							
TORD	**Torodi Ar. Bea**	**141.19**	**283**	PKP		**PKiKP**	**08 21 14.8**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=181,slow=2.8,SNR=4.0							

*SOME **24** 08:22:04.4,50˚.25N×87˚.73E, h0km*
*ASRS **24** 08:22:07.4±0.5,50˚N±2˚×8˚8E±˚, h10km, MLh3.4/10, Error ellipse: s-maj=5.3km s-min=3.1km az=157.1, confirmed*
*NNC **24** 08:22:09.1±1.5,49˚.89N×88˚.20E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=12.4km s-min=7.0km az=103.0*

ISC 24 08:22:10.5±0.8, 49˚.95N±0˚.03×88˚.14E±0˚.03, h10km, n26, σ1s96/50, 7C-6D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CUR	**Chagan-Uzun**	**0.20**	**42**	⇓Pg		**Pg**	**08 22 13.1**	**-1.8**
CUR				Sg		**Sg**	**08 22 16.5**	**-1.3**
AKAR	**Aktash**	**0.50**	**318**	Pg		**Pg**	**08 22 19.2**	**-1.1**
AKAR				Sg		**Sb**	**08 22 27.6**	**-1.2**
DGZ	**Jazzator, Alta**	**0.52**	**242**	Pg		**Pg**	**08 22 17.4**	**-3.3**
DGZ				Sg		**Sg**	**08 22 24.3**	**-3.3**
CHBI	**Chibit, Altay**	**0.55**	**312**	Pg		**Pg**	**08 22 20.0**	**-1.2**
CHBI				Sg		**Sb**	**08 22 28.5**	**-1.7**
ULGR	**Ulagan, Altay**	**0.68**	**350**	Pg		**Pg**	**08 22 22.4**	**-1.4**
ULGR				Sg		**Sb**	**08 22 32.8**	**-1.4**
TEL	**Teeli**	**1.70**	**50**	Pg		**Pn**	**08 22 39.8**	**-0.5**
TEL				Sg		**Sb**	**08 23 04.3**	**+1.0**
ELDR	**Elanda**	**1.82**	**315**	Pg		**Pg**	**08 22 44.2**	**-1.2**
ELDR				Sg		**Sg**	**08 23 08.4**	**-0.6**
YALR	**Yailyu, Altay**	**1.85**	**350**	Pg		**Pb**	**08 22 44.5**	**+0.1**
YALR				Sg		**Sg**	**08 23 09.8**	**-0.2**
ARTR	**Artybash**	**1.93**	**344**	Pg		**Pb**	**08 22 45.7**	**0.0**
ARTR				Sg		**Sg**	**08 23 11.9**	**-0.6**
UKR	**Ust'-Kan**	**2.37**	**296**	Pg		**Pb**	**08 22 52.4**	**-0.9**
UKR				Sg		**Sg**	**08 23 26.0**	**-0.6**
ZSN	**Zaisan**	**3.31**	**222**	*e*P		**Pn**	**08 23 05.2**	**+2.8**
	11nm,0.1s							
ZSN				*e*S		**Sb**	**08 23 50.4**	**+0.8**
	40nm,0.3s							
DJO	**Djoy, Khakassi**	**3.43**	**33**	Pg		**Pb**	**08 23 13.5**	**+2.1**
DJO				Sg		**Sg**	**08 24 00.3**	**-0.3**
KALT2	**Kaltan 2**	**3.49**	**352**	Sg		**Sg**	**08 23 59.9**	**-2.7**
MALIN	**Malinovka, Kuz**	**3.52**	**352**	Sg		**Sg**	**08 24 01.2**	**-2.2**
ELT	**Eltsovka**	**3.52**	**341**	Pg		**Pb**	**08 23 12.3**	**-0.6**
ELT				Sg		**Sb**	**08 23 58.2**	**+2.5**
CERR	**Cheremushki**	**3.56**	**34**	Pg		**Pb**	**08 23 14.0**	**+0.4**
CERR				Sg		**Sg**	**08 24 01.5**	**-3.2**
VEH	**Verkhnyaya Baz**	**3.58**	**21**	Pg		**Pb**	**08 23 14.1**	**+0.2**
VEH				Sg		**Sg**	**08 24 01.6**	**-3.7**
LUZB	**Luzhba, Kemero**	**3.75**	**7**	Pg		**Pb**	**08 23 17.0**	**+0.3**
LUZB				Sg		**Sg**	**08 24 06.4**	**-4.4**
ERU	**Erunakovo, Kuz**	**4.22**	**354**	Pg		**Pg**	**08 23 34.7**	**+3.4**
ERU				Sg		**Sg**	**08 24 24.1**	**-1.9**
ARDR	**Aradan**	**4.24**	**50**	Pg		**Pb**	**08 23 25.6**	**+0.4**
ARDR				Sg		**Sg**	**08 24 23.1**	**-3.5**
ZAA0	**Zalesovo Array**	**4.50**	**334**	⇑Pn		**Pn**	**08 23 19.0**	**+0.3**
	0.2nm,0.5s							
ZAA0				⇓Lg		Lg	08 24 33.3	
	2.9nm,0.8s							
MK31	**Makanchi Array**	**5.01**	**233**	⇑Pn		**Pn**	**08 23 26.8**	**+0.9**
	1.2nm,0.3s,baz=60,slow=13,SNR=61							
MK31				⇑Pg		**Pb**	**08 23 40.3**	**+1.9**
	2.2nm,0.4s,baz=55,slow=19,SNR=14							
MK31				⇑Sn		**Sn**	**08 24 25.8**	**+1.9**
	2.7nm,0.4s,baz=61,slow=14,SNR=5.9							
MK31				⇑Lg		Lg	08 24 45.5	
	7.7nm,0.6s,baz=56,slow=30,SNR=5.6							
SEM	**Semipalatinsk**	**5.09**	**278**	*e*P		Pb	08 23 33.8	-6.0
	1.0nm,0.1s							
SEM				*e*S		**Sb**	**08 24 39.4**	**-1.6**
	6.3nm,0.1s							
MAKZ	**Makanchi**	**5.17**	**235**	Pn		**Pn**	**08 23 28.5**	**+0.6**
	0.9nm,0.3s							
MAKZ				Pg		**Pb**	**08 23 42.6**	**+1.6**
	1.3nm,0.3s							
MAKZ				Sn		**Sn**	**08 24 28.5**	**+0.9**
	3.8nm,0.4s							
MAKZ				Lg		Lg	08 24 50.4	
	9.2nm,0.7s							
KURK	**Kurchatov**	**6.14**	**281**	⇑Pn		**Pn**	**08 23 41.6**	**+0.4**
	0.9nm,0.6s							
KURK				⇓Sn		**Sn**	**08 24 55.1**	**+3.6**
	1.5nm,0.5s							
KURK				⇑Lg		Lg	08 25 29.0	
	6.7nm,0.7s							
KURBB	**Kurchatov Arra**	**6.20**	**280**	⇓Pn		**Pn**	**08 23 42.1**	**+0.1**
	2.0nm,0.3s							
KURBB				⇓Sn		**Sn**	**08 24 55.8**	**+3.0**
	12nm,0.5s							
KURBB				⇓Lg		Lg	08 25 28.2	
	24nm,0.5s							

CATAC 24 08:25:28.0±0.3, 12˚N±3˚×87˚W±˚, h93km±2km, M3.0/31, MLv3.0/31, Error ellipse: s-maj=6.5km s-min=2.6km az=35.7, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PKGN	**Cerro Pekin**	**0.28**	**16**	P		Pn	08 25 43.0	+1.3
PKGN				S		Sn	08 25 54.6	+2.7
PLRN	**Geotermica Pol**	**0.34**	**56**	P		Pn	08 25 42.6	+0.6
PLRN				S		Sn	08 25 55.2	+2.8
CNGA	**Al SSO del Vol**	**0.36**	**74**	P		Pn	08 25 43.3	+1.2
CNGA				S		Sn	08 25 54.9	+2.2
CNGN	**Cerro Negro**	**0.36**	**73**	S		Sn	08 25 55.2	+2.4
CNGN	**Cerro Negro**	**0.36**	**73**	P		Pn

*NEIC **24** 08:37:58.2±1.6, 19.06N±0.03×67.20W±0.04, h25km±5km, mb4.4/11, ML4.0/19, Md3.4/21(RSPR), Error ellipse: s-maj=6.6km s-min=3.8km az=51.0*
*RSPR **24** 08:38:00.1, 19.11N×67.22W, h20km±8km, MD3.4/21*
*RSNC **24** 08:38:15.3±2.4, 18°N±18'×6'9W±1'8, h0km, mB4.3, mb4.3, Mw(mB)3.4*

ISC 24 08:37:59.1±1.0, 19.01N±0.05×67.22W±0.03, h41km±11km, n114, σ1§94/124, mb4.3/15, 2C-12D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.55**	**169**				**Pn**	**08 38 10.6**	**+0.1**
AGPR							**Sn**	**08 38 20.5**	**+1.9**
AGPR	**Aguadilla, PR**	**0.55**	**169**	⇓	*iP*		**Pn**	**08 38 10.6**	**+0.1**
AGPR	**Aguadilla, PR**	**0.55**	**169**		*eS*		**Sn**	**08 38 20.5**	**+1.9**
AGPR	**Aguadilla, PR**	**0.55**	**169**		*i* P		**Pn**	**08 38 10.3**	**-0.2**
AGPR					eS		**Sn**	**08 38 20.1**	**+1.6**
AGPR					IAML			08 38 21.5	
	comp=Z,5μm,0.2s								
IDE	**Isla Desecheo**	**0.66**	**201**				**Pn**	**08 38 12.3**	**+0.2**
IDE							**Sn**	**08 38 23.8**	**+2.5**
IDE	**Isla Desecheo**	**0.66**	**201**	⇓	*iP*		**Pn**	**08 38 12.3**	**+0.2**
IDE	**Isla Desecheo**	**0.66**	**201**		*eS*		**Sn**	**08 38 23.8**	**+2.5**
PRSN	**Puerto Rico Se**	**0.79**	**175**				**Pn**	**08 38 13.7**	**-0.1**
PRSN	**Puerto Rico Se**	**0.79**	**175**				**Sn**	**08 38 26.1**	**+1.7**
PRSN	**Puerto Rico Se**	**0.79**	**175**	⇑	*iP*		**Pn**	**08 38 13.9**	**+0.1**
PRSN	**Puerto Rico Se**	**0.79**	**175**		*eS*		**Sn**	**08 38 26.1**	**+1.7**
AOPR	**Arecibo Observ**	**0.79**	**146**				**Pn**	**08 38 13.1**	**-0.7**
AOPR					IAML			08 38 31.9	
	comp=N,8μm,0.4s								
AOPR	**Arecibo Observ**	**0.79**	**146**	⇓	*iP*		**Pn**	**08 38 13.3**	**-0.5**
LSP	**Las Mesas**	**0.84**	**171**				**Pn**	**08 38 15.1**	**+0.6**
LSP							**Sn**	**08 38 29.4**	**+3.8**
LSP	**Las Mesas**	**0.84**	**171**	⇑	*iP*		**Pn**	**08 38 15.1**	**+0.6**
LSP	**Las Mesas**	**0.84**	**171**		*eS*		**Sn**	**08 38 29.4**	**+3.8**
EMPR	**Esperanza - Ma**	**0.84**	**129**				**Pn**	**08 38 14.0**	**-0.4**
EMPR	**Esperanza - Ma**	**0.84**	**129**				**Sn**	**08 38 29.5**	**+3.9**
EMPR	**Esperanza - Ma**	**0.84**	**129**	⇑	*iP*		**Pn**	**08 38 15.9**	**+1.5**
EMPR	**Esperanza - Ma**	**0.84**	**129**		*eS*		**Sn**	**08 38 29.5**	**+3.9**
UUPR	**Utuado, UPR, P**	**0.89**	**148**				**Pn**	**08 38 14.6**	**-0.5**
UUPR	**Utuado, UPR, P**	**0.89**	**148**				**Sn**	**08 38 29.3**	**+2.6**
UUPR	**Utuado, UPR, P**	**0.89**	**148**	⇑	*iP*		**Pn**	**08 38 15.1**	**0.0**
UUPR	**Utuado, UPR, P**	**0.89**	**148**		*eS*		**Sn**	**08 38 29.3**	**+2.6**
CRPR	**Cabo Rojo, PR**	**1.00**	**174**				**Pn**	**08 38 16.9**	**+0.2**
CRPR							**Sn**	**08 38 30.9**	**+1.3**
CRPR					IAML			08 38 36.5	
	comp=E,4μm,0.3s								
CRPR	**Cabo Rojo, PR**	**1.00**	**174**	⇓	*iP*		**Pn**	**08 38 17.7**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.00**	**174**		*eS*		**Sn**	**08 38 32.5**	**+3.0**
CRPR	**Cabo Rojo, PR**	**1.00**	**174**		*i* P		**Pn**	**08 38 17.0**	**+0.4**
CRPR					eS		**Sn**	**08 38 32.3**	**+2.8**
CRPR					IAML			08 38 39.7	
	comp=Z,3μm,0.4s								
MLPR	**Magueyes Islan**	**1.04**	**171**	⇑	*iP*		**Pn**	**08 38 17.7**	**+0.5**
MLPR	**Magueyes Islan**	**1.04**	**171**		*eS*		**Sn**	**08 38 33.4**	**+2.8**
ECPR	**Experimental S**	**1.06**	**130**	⇑	*iP*		**Pn**	**08 38 18.7**	**+1.2**
ECPR	**Experimental S**	**1.06**	**130**		*eS*		**Sn**	**08 38 32.7**	**+1.6**
GBPR	**Guanica, Bosqu**	**1.07**	**162**				**Pn**	**08 38 18.3**	**+0.6**
GBPR	**Guanica, Bosqu**	**1.07**	**162**	⇓	*iP*		**Pn**	**08 38 18.3**	**+0.6**
CELP	**Cerrillos**	**1.11**	**147**				**Pn**	**08 38 18.1**	**0.0**
CELP					IAML			08 38 40.1	
	comp=N,4μm,0.4s								
CELP					IAML			08 38 44.1	
	comp=E,3μm,0.5s								
CELP	**Cerrillos**	**1.11**	**147**				**Sn**	**08 38 34.0**	**+1.8**
CELP	**Cerrillos**	**1.11**	**147**	⇑	*iP*		**Pn**	**08 38 18.5**	**+0.3**
CELP	**Cerrillos**	**1.11**	**147**		*eS*		**Sn**	**08 38 34.0**	**+1.8**
OBIP	**Obispado Ponce**	**1.12**	**149**				**Pn**	**08 38 18.5**	**+0.2**
OBIP					IAML			08 38 39.7	
	comp=E,3μm,0.6s								
OBIP					IAML			08 38 40.7	
	comp=N,3μm,0.6s								
OBIP	**Obispado Ponce**	**1.12**	**149**				**Sn**	**08 38 34.3**	**+1.7**
OBIP	**Obispado Ponce**	**1.12**	**149**	⇓	*iP*		**Pn**	**08 38 18.6**	**+0.3**
OBIP	**Obispado Ponce**	**1.12**	**149**		*eS*		**Sn**	**08 38 34.3**	**+1.7**
GCPR	**Guaynabo City**	**1.28**	**123**				**Pn**	**08 38 19.7**	**-0.7**
GCPR	**Guaynabo City**	**1.28**	**123**				**Sn**	**08 38 38.0**	**+1.5**
GCPR	**Guaynabo City**	**1.28**	**123**	⇑	*iP*		**Pn**	**08 38 20.8**	**+0.3**
GCPR	**Guaynabo City**	**1.28**	**123**		*eS*		**Sn**	**08 38 38.0**	**+1.5**
SJG	**San Juan**	**1.35**	**131**				**Pn**	**08 38 21.6**	**+0.3**
SJG					IAML			08 38 49.6	
	comp=N,2μm,0.5s								
SJG					IAML			08 38 51.2	
	comp=N,3μm,0.4s								
SJG	**San Juan**	**1.35**	**131**	Pn			**Pn**	**08 38 21.7**	**+0.3**
	comp=N,142nm,0.3s,baz=319,slow=14,SNR=56								
SJG					Sn		**Sn**	**08 38 38.8**	**+0.7**
	comp=N,161nm,0.3s,baz=318,slow=18,SNR=8.2								
SJG					LR		LR	08 39 10.3	
	comp=N,787nm,18.9s,baz=282,slow=53								
SJG	**San Juan**	**1.35**	**131**	⇑	*iP*		**Pn**	**08 38 23.1**	**+1.7**
SJG	**San Juan**	**1.35**	**131**		*eS*		**Sn**	**08 38 41.6**	**+3.4**
SJG	**San Juan**	**1.35**	**131**		*i* P		**Pn**	**08 38 21.8**	**+0.4**
SJG					eS		**Sn**	**08 38 40.7**	**+2.6**
SJG					IAML			08 38 45.4	
	comp=Z,1μm,0.6s								
HIDR	**Higuey Centro**	**1.48**	**254**	⇓	*iP*		**Pn**	**08 38 23.5**	**+0.3**
HIDR	**Higuey Centro**	**1.48**	**254**		*eS*		**Sn**	**08 38 44.4**	**+3.1**
IGPR	**InterUniversit**	**1.48**	**134**				**Pn**	**08 38 23.9**	**+0.8**
IGPR							**Sn**	**08 38 45.2**	**+3.8**
IGPR	**InterUniversit**	**1.48**	**134**	⇓	*eP*		**Pn**	**08 38 23.9**	**+0.8**
IGPR	**InterUniversit**	**1.48**	**134**		*eS*		**Sn**	**08 38 45.2**	**+3.8**
PDPR	**Patillas Dam,**	**1.50**	**131**				**Pn**	**08 38 23.3**	**-0.2**
PDPR					IAML			08 38 50.2	
	comp=N,2μm,0.6s								
PDPR					IAML			08 38 51.1	
	comp=E,2μm,0.5s								
PDPR	**Patillas Dam,**	**1.50**	**131**	⇑	*eP*		**Pn**	**08 38 24.7**	**+1.2**
PDPR	**Patillas Dam,**	**1.50**	**131**		*eS*		**Sn**	**08 38 44.3**	**+2.4**
HUMP	**Col San Antoni**	**1.56**	**123**				**Pn**	**08 38 23.7**	**-0.6**
MIDR	**Miches**	**1.73**	**270**	⇓	*iP*		**Pn**	**08 38 27.8**	**+1.1**
MIDR	**Miches**	**1.73**	**270**		*eS*		**Sn**	**08 38 49.0**	**+1.4**
SMDR	**Samana, DR**	**1.88**	**279**	⇓	*iP*		**Pn**	**08 38 27.5**	**-1.2**
SMDR	**Samana, DR**	**1.88**	**279**		*eS*		**Sn**	**08 38 51.3**	**+0.1**
SDD	**Santo Domingo**	**2.61**	**258**				**Pn**	**08 38 39.9**	**+1.2**
SDD					IAML			08 39 24.2	
	comp=N,634nm,1.1s								
SDD	**Santo Domingo**	**2.61**	**258**				**Sn**	**08 39 15.0**	**+5.7**
SDD	**Santo Domingo**	**2.61**	**258**	⇓	*iP*		**Pn**	**08 38 40.4**	**+1.6**
SDD	**Santo Domingo**	**2.61**	**258**		*eS*		**Sn**	**08 39 15.0**	**+5.7**
SC01	**Santiago de lo**	**3.34**	**278**				**Pn**	**08 38 49.7**	**+0.8**
SC01	**Santiago de lo**	**3.34**	**278**				Sn	08 39 44.3	+17
SC01	**Santiago de lo**	**3.34**	**278**	⇓	*eP*		**Pn**	**08 38 50.1**	**+1.3**
SDDR	**Presa de Saban**	**3.85**	**270**				**Pn**	**08 38 56.3**	**+0.5**
SDDR	**Presa de Saban**	**3.85**	**270**	⇓	*iP*		**Pn**	**08 38 57.9**	**+2.0**
MAGL	**Barre de l'île**	**6.43**	**117**	Pn			**Pn**	**08 39 30.0**	**-1.2**
BIM	**Bigot**	**7.39**	**126**	Pn			**Pn**	**08 39 46.0**	**+1.6**
NMDO	**Nuevo Mundo**	**7.47**	**283**				**Pn**	**08 39 41.1**	**-4.4**
MPOM	**Morne Pois Mar**	**7.60**	**126**	Pn			**Pn**	**08 39 47.7**	**+0.4**
URIC	**Uribia, Colomb**	**8.60**	**213**	P			**Pn**	**08 40 02.0**	**+1.0**
	comp=N,12nm,0.9s								
PCRV	**Puerto La Cruz**	**9.13**	**164**	Pn			**Pn**	**08 40 10.7**	**+2.3**
	comp=N,3.5nm,0.3s,baz=331,slow=5.4,SNR=26								
PCRV					Sn		**Sn**	**08 41 47.4**	**-2.5**
	comp=N,1.0nm,0.3s,baz=274,slow=1.9,SNR=1.8								
CRJC	**Cerrejon, Guaj**	**9.64**	**215**	P			**Pn**	**08 40 16.4**	**+1.0**
	comp=N,7.4nm,0.7s								
BAUV	**El Baul**	**10.04**	**185**				**Pn**	**08 40 23.8**	**+3.0**
SMRC	**Santa Marta, M**	**10.32**	**222**	P			**Pn**	**08 40 20.6**	**-4.0**
	comp=N,29nm,0.7s								
SJCC	**San Jacinto, C**	**11.89**	**221**	P			**Pn**	**08 40 47.4**	**+1.2**
	comp=N,4.7nm,1.0s								
OCAC	**Ocana**	**12.23**	**210**	P			**Pn**	**08 40 53.7**	**+2.8**
	comp=N,25nm,0.5s								
UREC	**San Jos de Ur**	**13.80**	**217**	P			**Pn**	**08 41 11.6**	**-0.6**
RUSC	**La Rusia**	**14.23**	**204**				**Pn**	**08 41 18.4**	**-0.1**
RUSC	**La Rusia**	**14.23**	**204**	P			**Pn**	**08 41 20.3**	**+1.8**
	comp=N,19nm,1.1s								
PTBC	**PUERTO BERRIO,**	**14.25**	**211**	P			**Pn**	**08 41 18.8**	**+0.4**
	comp=N,109nmcomp=N,7.9nm,0.5s								
APAC	**Apartado, Choc**	**14.30**	**221**	P			**Pn**	**08 41 20.3**	**+1.3**
	comp=N,14nm,0.8s								
HELC	**Santa Helena**	**15.09**	**213**	P			**P**	**08 41 32.5**	**-2.1**
	comp=N,8.3nm,0.7s								
ROSC	**El Rosal**	**15.69**	**207**	Pn			**Pn**	**08 41 39.0**	**+1.2**
	comp=N,2.9nm,0.3s,baz=77,slow=11,SNR=8.3								
ROSC					Sn		**Sn**	**08 44 24.4**	**-6.4**
	baz=25,slow=23								
GUY2C	**Guyana, Caldas**	**15.84**	**211**	P			**P**	**08 41 44.1**	**+1.1**
	comp=N,17nm,0.7s								
656A	**Willston**	**17.35**	**309**				**Pn**	**08 41 56.6**	**-1.6**
BOAV	**Boa Vista**	**17.76**	**158**				**P**	**08 42 04.7**	**+0.8**
Y60A	**Bolivia**	**17.87**	**329**	P			**P**	**08 42 05.6**	**+0.8**
FLOC	**Florencia**	**19.19**	**206**				**P**	**08 42 18.6**	**-0.9**
FLOC						IAmb	IAmb	08 42 53.2	
	comp=Z,16nm,1.0s								
BIRD	**Birdtown, Kers**	**19.52**	**326**				**Pn**	**08 42 24.6**	**+0.2**
BIRD						IAmb	IAmb	08 42 29.6	
	comp=Z,16nm,0.5s								
MDP	**Montagnes des**	**19.83**	**132**	P		P	**P**	**08 42 26.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=321,slow=12,SNR=5.8								
	comp=Z,3.3nm,0.7s								
250A	**Grady**	**21.46**	**311**	P		P	**P**	**08 42 45.1**	**+1.0**
250A						IAmb	IAmb	08 42 47.8	
	comp=Z,15nm,0.8s								
V53A	**Saluda**	**21.57**	**323**	P		P	**P**	**08 42 45.6**	**+0.4**
V53A						IAmb	IAmb	08 43 02.6	
	comp=Z,7.6nm,0.5s								
MACA	**Manacapuru-AM**	**22.95**	**163**				**P**	**08 43 00.4**	**+0.4**
MACA						IAmb	IAmb	08 43 02.0	
	comp=Z,15nm,0.6s								
HHAR	**Hobbs**	**29.12**	**312**	P		P	**P**	**08 43 56.6**	**+0.4**
HHAR						IAmb	IAmb	08 43 57.2	
	comp=Z,4.3nm,0.6s								
TXAR	**Lajitas Array**	**34.68**	**294**	P		P	**P**	**08 44 43.1**	**-2.1**
	comp=Z,0.7nm,0.7s,baz=114,slow=10,SNR=8.2								
	comp=Z,0.7nm,0.7s								
ALPN	**Alpine**	**34.83**	**296**	P		P	**P**	**08 44 47.0**	**+0.5**
ALPN						IAmb	IAmb	08 44 47.8	
	comp=Z,4.8nm,1.1s								
LPAZ	**La Paz**	**35.08**	**182**	P		P	**P**	**08 44 48.3**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=324,slow=4.2,SNR=4.3								
	comp=Z,0.7nm,0.6s								
SIV	**San Ignacio**	**35.30**	**170**	P		P	**P**	**08 44 49.5**	**-0.9**
	comp=Z,4.0nm,0.4s,baz=338,slow=6.5,SNR=37								
	comp=Z,4.0nm,0.4s								
PDAR	**Pinedale Array**	**42.77**	**313**	P		P	**P**	**08 45 51.9**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=72,slow=8.0,SNR=2.2								
	comp=Z,0.1nm,0.4s								
NVAR	**Mina Array Bea**	**48.15**	**305**	P		P	**P**	**08 46 35.6**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=76,slow=7.1,SNR=3.6								
	comp=Z,0.3nm,0.6s								
ESDC	**Sonseca Array**	**57.69**	**55**	P		P	**P**	**08 47 47.8**	**+2.0**
	comp=Z,1.9nm,0.6s,baz=271,slow=7.2,SNR=11								
	comp=Z,1.9nm,0.6s								
EKA	**Eskdalemuir Ar**	**59.86**	**36**	P		P	**P**	**08 48 00.7**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=278,slow=6.3,SNR=4.6								
	comp=Z,0.7nm,0.5s								
DBIC	**Dimbokro**	**61.75**	**93**	P		P	**P**	**08 48 14.8**	**+0.9**
	comp=Z,3.8nm,0.8s,baz=316,slow=8.0,SNR=2.6								
	comp=Z,3.8nm,0.8s								
TORD	**Torodi Ar. Bea**	**66.12**	**84**	P		P	**P**	**08 48 42.9**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=307,slow=5.2,SNR=4.0								
	comp=Z,0.7nm,0.6s								
ILAR	**Eielson Array**	**68.58**	**333**	P		P	**P**	**08 48 56.9**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=80,slow=3.8,SNR=4.4								
	comp=Z,0.3nm,0.7s								
ARCES	**ARCESS Array B**	**73.31**	**22**	P			**P**	**08 49 26.2**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=289,slow=3.7,SNR=12								
	comp=Z,2.9nm,0.9s								

*CATAC **24** 08:59:38.8±0.7, 14°N±3'×9'2W±1', h9km±6km, M4.2/18, MLv4.2/18, Error ellipse: s-maj=9.6km s-min=5.9km az=81.3, confirmed*
*NEIC **24** 08:59:39.9±1.8, 13.87N±0.03×92.49W±0.05, h10km±1km, mb4.3/50, Md4.3/28(MEX), Error ellipse: s-maj=9.1km s-min=3.5km az=110.0*
*GCG **24** 08:59:40.1±2.1, 13.72N×92.52W, h38km±465km, MD4.5, ML4.1, MW3.8*
*IDC **24** 08:59:40.2±1.7, 14.09N×92.49W, h0km, mb4.0/6, mbtmp3.9/9, ML3.4/3, MS3.4/7, Error ellipse: s-maj=42.3km s-min=19.5km az=37.0*
*MEX **24** 08:59:41.5±0.8, 13.75N×92.58W, h17km±56km, MD4.3*

ISC 24 08:38.7±1.7, 13.83N±0.05×92.53W±0.04, h8km±10km, n118, σ1§41/126, mb4.3/19, MS3.5/9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**1.06**	**49**				**Pn**	**08 59 59.9**	**-0.1**
RTAL	**Retalhuleu**	**1.06**	**49**		*eP*		**Pn**	**08 59 59.8**	**-0.1**
RTAL					*eS*		**Sb**	**09 00 13.1**	**-0.4**
RTAL	**Retalhuleu**	**1.06**	**49**		P		**Pn**	**08 59 59.9**	**-0.1**
THIG		**1.10**	**13**				**Pg**	**09 00 00.0**	**+0.1**
THIG							**Sg**	**09 00 13.6**	**-0.6**
THIG		**1.10**	**13**		*eP*		**Pg**	**09 00 00.0**	**+0.1**
THIG					*eS*		**Sg**	**09 00 13.6**	**-0.6**
THIG		**1.10**	**13**		*eP*		**Pg**	**08 59 59.9**	**0.0**
SMCA	**Catarina**	**1.11**	**23**		*eP*		**Pg**	**09 00 00.0**	**-0.1**
SMCA					*i* S		**Sn**	**09 00 16.0**	**-0.1**
PATR	**El Naranjo**	**1.31**	**13**				**Pn**	**09 00 02.6**	**-1.0**
PATR							**Sb**	**09 00 20.4**	**-0.5**
PATR	**El Naranjo**	**1.31**	**13**		*eP*		**Pn**	**09 00 02.6**	**-1.0**
PATR					*eS*		**Sb**	**09 00 20.4**	**-0.5**
CHUJ	**Union Juarez**	**1.32**	**18**		*eP*		**Pn**	**09 00 02.9**	**-0.8**
CHUJ					*eS*		**Sb**	**09 00 20.0**	**-1.2**
PAVE	**Pavencul**	**1.40**	**14**				**Pn**	**09 00 04.0**	**-0.8**
PAVE							**Sb**	**09 00 21.4**	**-2.0**
PAVE	**Pavencul**	**1.40**	**14**		*eP*		**Pn**	**09 00 04.0**	**-0.8**
PAVE					*eS*		**Sb**	**09 00 21.4**	**-2.0**
QUEO	**Labor Ovalle**	**1.43**	**43**		*eP*		**Pb**	**09 00 06.0**	**+0.2**
QUEO					*i* S		**Sg**	**09 00 25.8**	**+1.0**
QUEO					IAML			09 00 57.9	
	comp=N,4μm,0.8s								
SOKI	**Kika Raxquin**	**1.47**	**48**		*eP*		**Pn**	**09 00 06.0**	**+0.1**
SOKI					IAML			09 00 45.9	
	comp=N,2μm,1.0s								
ESSG	**Sabana Grande**	**1.74**	**71**		*i* P		**Pn**	**09 00 08.2**	**-1.1**
ESSG					*i* S		**Sn**	**09 00 28.3**	**-3.4**
ESSG					IAML			09 00 38.6	
	comp=E,956nm,1.2s								
HUEH	**Huehuetenango**	**1.78**	**34**	Pn			**Pn**	**09 00 10.9**	**+0.8**
HUEH	**Huehuetenango**	**1.78**	**34**		*eP*		**Pb**	**09 00 11.2**	**-0.6**
FG8	**Yepocapa, Chim**	**1.96**	**77**		*eP*		Pn	09 00 07.4	-4.9
PCIG		**1.98**	**340**				**Pn**	**09 00 11.8**	**-0.7**
PCIG							**Sn**	**09 00 34.9**	**-2.7**
PCIG		**1.98**	**340**		*eP*		**Pn**	**09 00 11.8**	**-0.7**
PCIG					*eS*		**Sn**	**09 00 34.9**	**-2.7**
FG16	**Alotenango, Sa**	**2.01**	**77**		*eP*		**Pn**	**09 00 08.7**	**-4.5**
FG16					IAML			09 00 44.1	
	comp=N,8μm,0.4s								
QUIS	**Sacapulas**	**2.01**	**44**		*eP*		**Pb**	**09 00 14.6**	**-1.1**
QUIS					IAML			09 00 46.2	
	comp=E,2μm,0.5s								
FAME	**Alcaldia de Sa**	**2.44**	**89**	P			**Pn**	**09 00 17.4**	**-1.6**
CCIG	**Comitan**	**2.47**	**9**				**Pn**	**09 00 21.7**	**+2.3**
CCIG	**Comitan**	**2.47**	**9**		*eP*		**Pn**	**09 00 21.4**	**+1.9**
CCIG					*eS*		**Sb**	**09 00 52.5**	**-1.7**
CCIG	**Comitan**	**2.47**	**9**		*eP*		**Pn**	**09 00 21.7**	**+2.3**
CCIG					IAML			09 01 01.7	
	comp=N,832nm,0.4s								
CCIG	**Comitan**	**2.47**	**9**	P			**Pn**	**09 00 21.7**	**+2.3**
NUBE	**Las Nubes**	**2.67**	**88**		*eP*		**Pn**	**09 00 21.3**	**-0.9**
NUBE	**Las Nubes**	**2.67**	**88**	S			**Sn**	**09 00 52.4**	**-2.5**
NUBE	**Las Nubes**	**2.67**	**88**	P			**Pn**	**09 00 21.4**	**-0.9**
JUAM	**Asuncion Mita**	**2.79**	**79**		*eP*		**Pn**	**09 00 23.8**	**+0.1**
CEVE	**Cerro Verde**	**2.82**	**90**	P			**Pn**	**09 00 24.3**	**-0.1**
TGIG		**2.99**	**349**				**Pn**	**09 00 27.1**	**+0.5**
TGIG							**Sn**	**09 01 02.2**	**-0.3**
TGIG		**2.99**	**349**		*eP*		**Pn**	**09 00 27.1**	**+0.5**
TGIG					*eS*		**Sn**	**09 01 02.2**	**-0.3**
TGIG		**2.99**	**349**		*eP*		**Pn**	**09 00 27.0**	**+0.5**
TGIG					*i* S		**Sn**	**09 01 02.5**	**0.0**
TGIG					IAML			09 01 15.9	
	comp=E,477nm,0.9s								
JAYA	**Jayaque - finc**	**3.00**	**93**		*eP*		**Pn**	**09 00 26.0**	**-0.7**
JAYA	**Jayaque - finc**	**3.00**	**93**	P			**Pn**	**09 00 26.1**	**-0.7**
MTO3	**Montecristo**	**3.13**	**79**				**Pn**	**09 00 28.2**	**-0.3**
MTO3	**Montecristo**	**3.13**	**79**		*eP*		**Pn**	**09 00 28.3**	**-0.3**
MTO3	**Montecristo**	**3.13**	**79**	S			**Sn**	**09 01 08.3**	**+2.1**
MTO3	**Montecristo**	**3.13**	**79**	P			**Pn**	**09 00 28.2**	**-0.3**
PMON	**Piamonte**	**3.13**	**92**	P			**Pn**	**09 00 28.1**	**-0.3**
ESQI	**Esquipulas**	**3.18**	**76**				**Pn**	**09 00 28.9**	**-0.2**
UEES	**Universidad Ev**	**3.20**	**92**	S			**Sn**	**09 01 07.6**	**-0.2**
UEES	**Universidad Ev**	**3.20**	**92**	P			**Pn**	**09 00 29.1**	**-0.4**
LOMA	**Loma Larga**	**3.27**	**93**	P			**Pn**	**09 00 28.7**	**-1.7**
PAVA	**Las Pavas**	**3.49**	**91**	P			**Pn**	**09 00 33.3**	**-0.2**
TECO	**Alcaldia de Te**	**3.66**	**94**	P			**Pn**	**09 00 35.7**	**0.0**
SCLA	**Alcaldia de Sa**	**3.69**	**92**	P			**Pn**	**09 00 36.1**	**-0.1**
SARH	**Santa Rosa de**	**3.77**	**75**		*eP*		**Pn**	**09 00 37.1**	**-0.2**
CMIG	**Matias Romero**	**3.96**	**325**				**Pn**	**09 00 39.4**	**-0.4**
CMIG							**Sn**	**09 01 23.9**	**-2.6**
CMIG	**Matias Romero**	**3.96**	**325**	Pn			**Pn**	**09 00 39.5**	**-0.3**
	comp=E,1.1nm,0.3s,baz=147,slow=11,SNR=18								
CMIG					Sn		**Sn**	**09 01 22.8**	**-3.6**
	comp=E,5.0nm,0.3s,baz=123,slow=8.8,SNR=7.1								
CMIG	**Matias Romero**	**3.96**	**325**		*eP*		**Pn**	**09 00 39.4**	**-0.4**
CMIG					*eS*		**Sn**	**09 01 23.9**	**-2.6**
HUIG	**Huatulco**	**3.96**	**300**		*eP*		**Pn**	**09 00 38.2**	**-1.7**
HUIG					IAML			09 01 52.5	
	comp=N,55nm,0.2s								
PETF	**Flores**	**4.00**	**40**				**Pn**	**09 00 41.5**	**+1.2**
PETF	**Flores**	**4.00**	**40**		*eP*		**Pn**	**09 00 42.4**	**+2.0**
PETF					*eS*		**Sn**	**09 01 31.5**	**+4.0**
PETF	**Flores**	**4.00**	**40**		*eP*		**Pn**	**09 00 42.6**	**+2.2**
PETF	**Flores**	**4.00**	**40**		P		**Pn**	**09 00 41.4**	**+1.0**
PACA	**Pacayal**	**4.10**	**95**		S		**Sn**	**09 01 30.1**	**-0.1**
PACA	**Pacayal**	**4.10**	**95**		P		**Pn**	**09 00 42.8**	**+0.9**
LCND	**La Caada**	**4.54**	**96**		P		**Pn**	**09 00 47.8**	**0.0**
TGUH	**Tegucigalpa,Un**	**5.11**	**87**	Pn			**Pn**	**09 00 55.7**	**0.0**
SCIG	**Sabancuy**	**5.27**	**14**		*eP*		**Pn**	**09 00 58.4**	**+0.6**
SCIG					*eS*		**Sn**	**09 01 57.4**	**-1.3**
CNGN	**Cerro Negro**	**5.83**	**102**	Pn			**Pn**	**09 01 04.7**	**-0.9**
SIUN	**Universidad Ur**	**7.54**	**90**				**Pn**	**09 01 29.0**	**0.0**
TEIG	**Tepich**	**7.55**	**32**				**Pn**	**09 01 29.2**	**+0.1**
TEIG	**Tepich**	**7.55**	**32**	Pn			**Pn**	**09 01 29.0**	**-0.1**
	baz=130,slow=24,SNR=11								
TEIG						Sn	**Sn**	**09 02 52.4**	**-2.6**
	baz=133,slow=24,SNR=1.2								
JUD3	**Juan Diaz 3**	**7.75**	**117**	Pn			**Pn**	**09 01 32.9**	**+0.9**
ESPN	**Las Esperanzas**	**8.18**	**101**				**Pn**	**09 01 37.8**	**-0.1**
JTS	**Las Juntas de**	**8.20**	**115**	Pn			**Pn**	**09 01 38.4**	**+0.3**
JTS	**Las Juntas de**	**8.20**	**115**	Pn			**Pn**	**09 01 42.2**	**+4.1**
	comp=N,0.8nm,0.3s,baz=312,slow=16,SNR=5.7				

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTMR	**Gotvand**	**0.78**	**320**	*e*Pg	**Pb**	**09 02 13.5**	**0.0**
GTMR				IAML		09 02 35.2	
	comp=Z,24μm,1.0s						
ZNGN	**Zangian**	**1.00**	**76**	Pg	**Pb**	**09 02 15.6**	**-1.9**
AHWZ	**Ahwaz**	**1.06**	**240**	Pg	**Pn**	**09 02 21.4**	**+3.2**
IPIR	**Pirpir**	**1.29**	**51**	Pg	**Pn**	**09 02 20.4**	**-1.2**
IPIR				Sg	**Sn**	**09 02 38.2**	**-0.3**
IBRJ	**Brojen**	**1.32**	**88**	Pg	**Pb**	**09 02 22.4**	**-0.3**
ABEH	**Behbahan**	**1.35**	**160**	Pg	**Pb**	**09 02 25.0**	**+1.9**
KLNJ	**Kolanjah**	**1.82**	**118**	Pn	**Pb**	**09 02 31.6**	**+0.2**
KLNJ	**Kolanjah**	**1.82**	**118**	*e*Pn	**Pb**	**09 02 32.4**	**+1.0**
KLNJ				IAML		09 03 02.8	
	comp=Z,10μm,1.0s						
KHMZ	**Khomeyn**	**1.88**	**6**	*i* P	**Pb**	**09 02 32.1**	**-0.1**
KHMZ				IAML		09 03 05.7	
	comp=Z,7μm,1.0s						
IGAR	**Gharneh**	**2.05**	**74**	Pn	**Pb**	**09 02 33.7**	**-1.5**
IKLH	**Kolahrood**	**2.14**	**47**	Pn	**Pn**	**09 02 34.6**	**+1.3**
BDRS	**Dareh Seyedi**	**2.19**	**342**	Pn	**Pn**	**09 02 35.6**	**+1.5**
IRAM	**Rameshеh**	**2.27**	**91**	Pn	**Pb**	**09 02 37.2**	**-1.8**
QAMS	**Qamsar**	**2.34**	**37**	Pn	**Pn**	**09 02 37.6**	**+1.5**
IZEF	**Zefreh**	**2.44**	**65**	Pn	**Pn**	**09 02 39.2**	**+1.7**
ASAO	**Ashtian**	**2.68**	**6**	*e*Pn	**Pb**	**09 02 43.5**	**-2.5**
ASAO				IAML		09 03 37.7	
	comp=Z,4μm,1.0s						
NASN	**Na'in**	**2.78**	**70**	*e*Pn	**Pn**	**09 02 44.2**	**+2.0**
NASN				IAML		09 03 30.9	
	comp=Z,2μm,1.0s						
KAZ2	**Kazeron-Fars-I**	**2.81**	**143**	Pn	**Pb**	**09 02 45.9**	**-2.2**
GHVR	**GHOM**	**2.92**	**27**	*e*Pn	**Pn**	**09 02 46.5**	**+2.5**
GHVR				IAML		09 03 51.1	
	comp=Z,3μm,1.0s						
KRSH	**Karshahi**	**2.92**	**44**	Pn	**Pn**	**09 02 45.6**	**+1.6**
HAGD	**Aghdareh**	**2.98**	**351**	Pn	**Pn**	**09 02 45.7**	**+0.8**
IQOM	**Qom**	**3.17**	**21**	Pn	**Pn**	**09 02 48.6**	**+1.0**
KBD	**Kabd**	**3.20**	**213**	P	**Pb**	**09 02 53.0**	**-1.6**
KBD				S	**Sb**	**09 02 32.7**	**-0.6**
ISFB	**Sefidab**	**3.26**	**40**	Pn	**Pn**	**09 02 50.0**	**+1.4**
SHI	**Shiraz**	**3.28**	**132**	Pn	**Pn**	**09 02 51.9**	**+2.9**
KCHF	**Cheshme Sefid,**	**3.28**	**318**	Pn	**Pn**	**09 02 51.2**	**+2.2**
ILBA	**Ilam Banvizeh**	**3.43**	**302**	Pn	**Pn**	**09 02 53.1**	**+2.1**
ILBA	**Ilam Banvizeh**	**3.43**	**302**	*e*Pn	**Pn**	**09 02 53.6**	**+2.7**
ILBA				IAML		09 04 02.4	
	comp=Z,1μm,1.0s						
SNQR	**Sonqor, Kerman**	**3.45**	**330**	Pn	**Pn**	**09 02 53.5**	**+2.1**
IVRN	**Varamin**	**3.54**	**28**	Pn	**Pn**	**09 02 53.8**	**+1.3**
IGHG	**Ghaleghazi**	**3.60**	**314**	Pn	**Pn**	**09 02 55.9**	**+2.5**
ANAR	**Anarak**	**3.64**	**68**	Pn	**Pn**	**09 02 55.4**	**+1.5**
HGHA	**Hamedan- Ghaye**	**3.68**	**349**	Pn	**Pn**	**09 02 55.9**	**+1.4**
DSBU	**Dashti - Bushe**	**3.75**	**159**	Pn	**Pn**	**09 02 58.9**	**+3.7**
SNGE	**Sanandaj**	**3.77**	**329**	*i* P	**Pn**	**09 02 57.7**	**+1.9**
SNGE				IAML		09 04 10.5	
	comp=Z,760nm,1.0s						
QABG	**Abgarm-Qazvin**	**3.83**	**358**	Pn	**Pn**	**09 02 58.1**	**+1.5**
GLG1	**Gilan-e-Gharb**	**3.90**	**306**	Pn	**Pn**	**09 02 59.9**	**+2.5**
IDHR	**Dehrash**	**3.96**	**316**	Pn	**Pn**	**09 03 00.6**	**+2.2**
ICHK	**Chekchek**	**4.01**	**83**	Pn	**Pn**	**09 03 00.9**	**+1.9**
THKV	**Tehran--Karaj**	**4.15**	**13**	*e*Pn	**Pn**	**09 03 02.8**	**+1.9**
THKV				IAML		09 04 28.5	
	comp=Z,880nm,1.0s						
IDMV	**Damavand**	**4.17**	**27**	Pn	**Pn**	**09 03 02.7**	**+1.3**
YZKH	**Yazd**	**4.17**	**82**	*e*Pn	**Pn**	**09 03 03.3**	**+2.1**
YZKH				IAML		09 04 12.7	
	comp=Z,1μm,1.0s						
CHTH	**Charan**	**4.20**	**16**	*i* P	**Pn**	**09 03 03.1**	**+1.5**
CHTH				IAML		09 04 19.0	
	comp=Z,620nm,1.0s						
DAMV	**Damavand**	**4.20**	**26**	*e*Pn	**Pn**	**09 03 03.0**	**+1.4**
DAMV				IAML		09 04 25.9	
	comp=Z,930nm,1.0s						
IMEH	**Mehriz**	**4.21**	**95**	Pn	**Pn**	**09 03 03.7**	**+1.9**
KGS1	**Ghasr-e-Shirin**	**4.34**	**308**	Pn	**Pn**	**09 03 05.6**	**+2.2**
ILAS	**Lasjerd**	**4.43**	**37**	Pn	**Pn**	**09 03 05.8**	**+1.0**
QIR1	**Qir**	**4.45**	**139**	Pn	**Pn**	**09 03 08.3**	**+3.4**
IGZV	**Ghazvin**	**4.52**	**5**	Pn	**Pn**	**09 03 07.4**	**+1.3**
IFIR	**Firoozkooh**	**4.54**	**33**	Pn	**Pn**	**09 03 07.4**	**+1.1**
JIR1	**Jirandeh**	**4.83**	**1**	Pn	**Pn**	**09 03 11.6**	**+1.4**
ZNJK	**Zanjan**	**4.86**	**350**	Pn	**Pn**	**09 03 12.0**	**+1.3**
ZNJK	**Zanjan**	**4.86**	**350**	*e*Pn	**Pn**	**09 03 12.3**	**+1.5**
ZNJK				IAML		09 04 45.2	
	comp=Z,230nm,1.0s						
IPRN	**Peran**	**4.88**	**26**	Pn	**Pn**	**09 03 12.2**	**+1.3**
IALA	**Alasht**	**4.93**	**31**	Pn	**Pn**	**09 03 13.1**	**+1.4**
IBAF	**Bafgh**	**5.00**	**92**	Pn	**Pn**	**09 03 14.4**	**+1.8**
IANJ	**Anjillo**	**5.01**	**43**	Pn	**Pn**	**09 03 13.9**	**+1.1**
GIDE	**GILAN DEYLAMAN**	**5.04**	**2**	Pn	**Pn**	**09 03 14.9**	**+1.7**
GIDE	**GILAN DEYLAMAN**	**5.04**	**2**	*i* P	**Pn**	**09 03 15.2**	**+2.0**
GIDE				IAML		09 04 51.3	
	comp=Z,3μm,1.0s						
IKIA	**Kiasar**	**5.44**	**36**	Pn	**Pn**	**09 03 20.0**	**+1.3**
IGLO	**Ghaloghah**	**5.74**	**35**	Pn	**Pn**	**09 03 23.9**	**+1.1**
MAHB	**Mahabad**	**5.90**	**327**	Pn	**Pn**	**09 03 27.8**	**+2.5**
SAKB	**Bahrain**	**5.92**	**173**	P	**Pn**	**09 03 28.8**	**+3.7**
SAKB				S	**Sn**	**09 04 34.7**	**+2.5**
TPRV	**Parvadeh(Tabas**	**6.01**	**77**	Pn	**Pn**	**09 03 27.4**	**+1.0**
SHMA	**Al-Shehemyia**	**6.09**	**169**	P	**Pn**	**09 03 30.4**	**+3.0**
	SNR=35						
SHMA				S	**Sn**	**09 04 37.8**	**+1.3**
	SNR=15						
TNSJ	**Nastanj**	**6.17**	**68**	Pn	**Pn**	**09 03 29.6**	**+1.1**
KRBR	**Kerman**	**6.34**	**105**	Pn	**Pn**	**09 03 32.7**	**+1.5**
KRBR	**Kerman**	**6.34**	**105**	*e*Pn	**Pn**	**09 03 33.0**	**+1.8**
KRBR				IAML		09 05 31.9	
	comp=Z,280nm,1.0s						
TKDS	**Koohdasht(Taba**	**6.48**	**72**	Pn	**Pn**	**09 03 34.1**	**+1.2**
TABS	**Tabas**	**6.49**	**72**	*i* P	**Pn**	**09 03 34.3**	**+1.3**
TABS				IAML		09 05 30.4	
	comp=Z,540nm,1.0s						
SHRO	**Shahrood**	**6.66**	**50**	*e*Pn	**Pn**	**09 03 36.8**	**+1.5**
SHRO				IAML		09 05 52.5	
	comp=Z,250nm,1.0s						
IHRS	**Heris**	**6.79**	**342**	Pn	**Pn**	**09 03 38.7**	**+1.4**
TAPT	**Tabas- Tapeh t**	**6.92**	**62**	Pn	**Pn**	**09 03 39.4**	**+0.5**
GRMI	**Germi**	**7.08**	**348**	Pn	**Pn**	**09 03 42.2**	**+1.1**
GRMI	**Germi**	**7.08**	**348**	*e*Pn	**Pn**	**09 03 42.1**	**+1.0**
GRMI				IAML		09 05 56.6	
	comp=Z,110nm,1.0s						
IMND	**Minoodasht**	**7.14**	**40**	Pn	**Pn**	**09 03 42.5**	**+0.7**
SMRA	**Abu-Samra**	**7.17**	**172**	P	**Pn**	**09 03 44.6**	**+2.3**
	SNR=9.7						
SMRA				S	**Sn**	**09 05 03.2**	**+0.1**
	SNR=7.1						
GENO	**Geno**	**7.17**	**127**	Pn	**Pn**	**09 03 44.3**	**+1.8**
TRNA	**Turayna**	**7.23**	**169**	P	**Pn**	**09 03 45.8**	**+2.7**
	SNR=24						
TRNA				S	**Sn**	**09 05 05.1**	**+0.5**
	SNR=15						
JRN	**Qarnain Island**	**7.43**	**157**	P	**Pn**	**09 03 48.1**	**+2.2**
	SNR=12						
JRN				S	**Sn**	**09 05 09.5**	**-0.1**
	SNR=7.0						
ITEG	**Tejag**	**7.71**	**80**	Pn	**Pn**	**09 03 51.7**	**+1.8**
MRVT	**Maraveh tapeh**	**7.80**	**41**	Pn	**Pn**	**09 03 52.1**	**+1.1**
MRVT	**Maraveh tapeh**	**7.80**	**41**	*i* P	**Pn**	**09 03 52.1**	**+1.1**
MRVT				IAML		09 06 22.1	
	comp=Z,85nm,1.0s						
IKOO	**Kooshah**	**7.90**	**84**	Pn	**Pn**	**09 03 53.7**	**+1.2**
SBZV	**Sabzevar**	**7.95**	**53**	Pn	**Pn**	**09 03 54.2**	**+1.0**
SBZV	**Sabzevar**	**7.95**	**53**	*e*Pn	**Pn**	**09 03 54.2**	**+1.0**
SBZV				IAML		09 06 23.7	
	comp=Z,140nm,1.0s						
KHNJ	**Kahnooj**	**7.96**	**117**	Pn	**Pn**	**09 03 55.7**	**+2.5**
SLWR	**Sila**	**7.97**	**167**	P	**Pn**	**09 03 55.2**	**+2.0**
SLWR				S	**Sn**	**09 05 21.7**	**-1.0**
BSRN	**Basiran**	**8.01**	**87**	Pn	**Pn**	**09 03 55.4**	**+1.5**
BSRN	**Basiran**	**8.01**	**87**	*e*Pn	**Pn**	**09 03 55.2**	**+1.3**
BSRN				IAML		09 06 24.7	
	comp=Z,170nm,1.0s						
SHME	**Shamm**	**8.08**	**134**	P	**Pn**	**09 03 55.9**	**+1.0**
SHME				S	**Sn**	**09 05 24.6**	**-1.0**
SHME	**Shamm**	**8.08**	**134**	P	**Pn**	**09 03 56.1**	**+1.2**
BANOM	**Banah**	**8.27**	**134**	P	**Pn**	**09 03 59.7**	**+2.3**
BANOM				S	**Sn**	**09 05 27.8**	**-2.6**
BANOM	**Banah**	**8.27**	**134**	*i* P	**Pn**	**09 03 59.4**	**+2.0**
	SNR=12						
GHWR	**Ruwais**	**8.36**	**160**	P	**Pn**	**09 04 00.6**	**+2.0**
GHWR				S	**Sn**	**09 05 31.5**	**-0.9**
GEVA	**Gevas**	**8.42**	**322**	Pn	**Pn**	**09 04 00.9**	**+1.3**
ISFR	**Sfrayin**	**8.58**	**51**	Pn	**Pn**	**09 04 03.5**	**+1.7**
BJRD	**Bojnurd**	**8.59**	**45**	*e*Pn	**Pn**	**09 04 03.6**	**+1.7**
BJRD				IAML		09 04 17.8	
	comp=Z,19nm,0.8s						
MASF	**Masafi**	**8.60**	**137**	P	**Pn**	**09 04 04.2**	**+2.2**
MASF				S	**Sn**	**09 05 35.0**	**-3.5**
	SNR=9.7						
MSFE	**Esma-Masafi**	**8.61**	**137**	P	**Pn**	**09 04 03.4**	**+1.3**
NAZ	**Nazwa, Dubai**	**8.63**	**141**	P	**Pn**	**09 04 05.0**	**+2.7**
NAZ				S	**Sn**	**09 05 38.0**	**-1.1**
NAZ	**Nazwa, Dubai**	**8.63**	**141**	P	**Pn**	**09 04 04.4**	**+2.1**
AJN	**Ajban**	**8.64**	**146**	P	**Pn**	**09 04 05.3**	**+2.9**
	SNR=8.3						
AJN				S	**Sn**	**09 05 37.5**	**-1.8**
AJN	**Ajban**	**8.64**	**146**	*i* P	**Pn**	**09 04 04.7**	**+2.3**
	SNR=9.4						
IDAH	**Dahanechah**	**8.64**	**82**	Pn	**Pn**	**09 04 04.9**	**+2.2**
MDH	**Madha**	**8.74**	**137**	P	**Pn**	**09 04 06.2**	**+2.4**
	SNR=13						
MDH				P		09 04 06.5	
MDH				S	**Sn**	**09 05 37.2**	**-4.5**
MDH	**Madha**	**8.74**	**137**	*i* P	**Pn**	**09 04 04.6**	**+0.8**
	SNR=13						
FAQ	**Al Faqa, Dubai**	**8.79**	**142**	P	**Pn**	**09 04 07.9**	**+3.4**
	SNR=5.3						
FAQ				S	**Sn**	**09 05 41.8**	**-1.1**
FAQ	**Al Faqa, Dubai**	**8.79**	**142**	P	**Pn**	**09 04 06.5**	**+2.1**
IAKL	**Akhelmad**	**8.85**	**55**	Pn	**Pn**	**09 04 06.5**	**+1.0**
MZWR	**Madinat Zayed**	**8.88**	**154**	P	**Pn**	**09 04 07.8**	**+2.0**
MZWR				P	**Pn**	**09 04 07.8**	**+2.0**
MZWR				S	**Sn**	**09 05 43.1**	**-2.2**
MZWR				S	**Sn**	**09 05 43.1**	**-2.2**
IPAY	**Payeh**	**8.95**	**57**	Pn	**Pn**	**09 04 08.0**	**+1.1**
UOSS	**Minazif**	**8.96**	**139**		**Pn**	**09 04 07.9**	**+1.1**
UOSS	**Minazif**	**8.96**	**139**	P	**Pn**	**09 04 08.9**	**+2.0**
UOSS				S	**Sn**	**09 05 43.6**	**-3.6**
UOSS	**Minazif**	**8.96**	**139**	*i* P	**Pn**	**09 04 08.2**	**+1.4**
	SNR=6.1						
HATD	**Hatta, Dubai**	**9.01**	**140**	P	**Pn**	**09 04 09.6**	**+2.0**
	SNR=8.2						
HATD				P	**Pn**	**09 04 09.6**	**+2.0**
	SNR=8.2						
HATD				S	**Sn**	**09 05 45.8**	**-2.7**
HATD				S	**Sn**	**09 05 45.8**	**-2.7**
HATD	**Hatta, Dubai**	**9.01**	**140**	P	**Pn**	**09 04 09.6**	**+2.0**
ASHO	**Ashiyiah**	**9.09**	**140**	P	**Pn**	**09 04 10.8**	**+2.2**
	SNR=26						
ASHO				S	**Sn**	**09 05 48.1**	**-2.2**
ASHO	**Ashiyiah**	**9.09**	**140**	*i* P	**Pn**	**09 04 09.9**	**+1.3**
	SNR=27						
SHRT	**Shahrakht**	**9.09**	**76**	Pn	**Pn**	**09 04 10.5**	**+1.9**
SHRT	**Shahrakht**	**9.09**	**76**	*i* P	**Pn**	**09 04 10.9**	**+2.3**
SHRT				IAML_BB		09 05 09.0	
	comp=Z,360nm,1.0s						
RAYN	**Ar Rayn**	**9.11**	**205**		**Pn**	**09 04 09.4**	**+0.4**
RAYN	**Ar Rayn**	**9.11**	**205**	*i* P	**Pn**	**09 04 09.7**	**+0.7**
	SNR=6.8						
RAYN	**Ar Rayn**	**9.11**	**205**	P	**Pn**	**09 04 09.4**	**+0.4**
MARD	**Mardin**	**9.14**	**309**		**Pn**	**09 04 09.2**	**-0.3**
GURO	**Guroymak-BITLI**	**9.15**	**319**		**Pn**	**09 04 09.7**	**+0.1**
GNI	**Garni**	**9.19**	**335**	Pn	**Pn**	**09 04 10.0**	**0.0**
GNI	**Garni**	**9.19**	**335**	Pn	**Pn**	**09 04 11.5**	**+1.4**
	comp=Z,1.6nm,0.3s,baz=143,slow=3.9,SNR=1.8						
GNI				Lg	Lg	09 06 54.4	
	comp=Z,0.7nm,0.3s,baz=150,slow=20,SNR=1.2						
	comp=Z,3.1nm,0.3s						
IEMG	**Emamgholi**	**9.21**	**51**	Pn	**Pn**	**09 04 11.8**	**+1.3**
ALNE	**Al Ain**	**9.44**	**144**	P	**Pn**	**09 04 15.0**	**+1.6**
	SNR=14						
ALNE	**Al Ain**	**9.44**	**144**	*i* P	**Pn**	**09 04 14.0**	**+0.6**
	SNR=13						
MZR	**Muzera**	**9.45**	**158**	P	**Pn**	**09 04 15.3**	**+1.7**
	SNR=42						
MZR				P	**Pn**	**09 04 15.3**	**+1.7**
	SNR=42						
MZR				S	**Sn**	**09 05 56.0**	**-3.2**
MZR				S	**Sn**	**09 05 56.0**	**-3.2**
MZR	**Muzera**	**9.45**	**158**	*i* P	**Pn**	**09 04 15.2**	**+1.7**
	SNR=11						
IKRD	**Kardeh**	**9.47**	**56**	Pn	**Pn**	**09 04 14.9**	**+0.9**
TBJM	**Torbat-e-JAM**	**9.48**	**66**	Pn	**Pn**	**09 04 15.4**	**+1.3**
AKT	**Akhty**	**9.72**	**351**	*e*P	Pn	09 04 22.5	+5.2
AKT				pmax	pmax		
	comp=Z,9.0nm,1.3s						
AKT				MLR	MLR		
	comp=Z,669nm,14.0s						
SOHO	**SOHO**	**9.78**	**140**	P	**Pn**	**09 04 20.5**	**+2.4**
SOHO				P	**Pn**	**09 04 20.5**	**+2.4**
SOHO	**SOHO**	**9.78**	**140**	P	**Pn**	**09 04 18.4**	**+0.3**
ZHSF	**Zahedan**	**9.79**	**100**	Pn	**Pn**	**09 04 21.8**	**+3.5**
ARQ	**Araqi**	**10.43**	**143**	P	**Pn**	**09 04 29.4**	**+2.4**
	SNR=9.0						
ARQ				P	**Pn**	**09 04 29.4**	**+2.4**
	SNR=9.0						
ARQ				S	**Sn**	**09 06 22.0**	**-1.2**
ARQ				S	**Sn**	**09 06 22.0**	**-1.2**
HRA	**Herat**	**10.80**	**73**	Pn	**Pn**	**09 04 33.0**	**+0.8**
ASF	**Jabal al Asfar**	**10.88**	**275**	Pn	**Pn**	**09 04 33.5**	**+0.3**
	comp=Z,5.6nm,0.3s,baz=90,slow=5.1,SNR=24						
ASF				Sn	**Sn**	**09 06 29.9**	**-4.6**
	comp=Z,11nm,0.3s,baz=120,slow=20,SNR=6.6						
ASF				Lg	Lg	09 08 00.1	
	baz=150,slow=20						
ASF				LR	LR	09 10 06.1	
	comp=Z,654nm,19.2s,baz=119,slow=45						
	comp=Z,15nm,0.4s						
BIDO	**Bidbid**	**11.17**	**136**	P	**Pn**	**09 04 40.4**	**+3.3**
BIDO				P	**Pn**	**09 04 40.4**	**+3.3**
MAK	**Makhachkala**	**11.21**	**352**	*e*P	**Pn**	**09 04 40.3**	**+2.8**
MAK				*e*S	**Sn**	**09 06 47.0**	**+4.8**
MAK				pmax	pmax		
	comp=Z,102nm,0.8s						
MAK				MLR	MLR		
	comp=Z,462nm,10.0s						
BSY	**Bisya**	**11.26**	**142**	P	**Pn**	**09 04 40.6**	**+2.2**
BSY				S	**Sn**	**09 06 43.3**	**-0.5**
SMDO	**Samad**	**11.48**	**138**	P	**Pn**	**09 04 43.5**	**+2.0**
	SNR=8.2						
SMDO				P	**Pn**	**09 04 43.5**	**+2.0**
	SNR=8.2						
SMDO				S	**Sn**	**09 06 45.1**	**-4.0**
SMDO				S	**Sn**	**09 06 45.1**	**-4.0**
WSAR	**Wadi Sarin**	**11.68**	**135**	Pn	**Pn**	**09 04 43.5**	**-0.7**
	baz=322,slow=20,SNR=20						
WSAR				Sn	**Sn**	**09 06 47.1**	**-6.9**
	baz=307,slow=20,SNR=2.0						
WSAR	**Wadi Sarin**	**11.68**	**135**	P	**Pn**	**09 04 46.4**	**+2.2**
WSAR				S	**Sn**	**09 06 48.4**	**-5.6**
KSHT	**Keshet**	**11.80**	**279**	P	**Pn**	**09 04 46.0**	**+0.3**
NATI	**Neve Ativ**	**11.87**	**280**	P	**Pn**	**09 04 46.6**	**-0.1**
SRVN	**Saravan**	**11.90**	**109**	Pn	**Pn**	**09 04 48.5**	**+1.3**
NGCH	**Negor - Chabah**	**11.95**	**120**	P	**Pn**	**09 04 50.4**	**+2.7**
HMDT	**Nahal Hemdat**	**12.04**	**276**	P	**Pn**	**09 04 48.5**	**-0.4**
JMDO	**Jabal Madar**	**12.05**	**140**	P	**Pn**	**09 04 52.4**	**+3.1**
GHAJ	**Ghor Haditha**	**12.07**	**271**	P	**Pn**	**09 04 49.2**	**-0.3**
MMLI	**Mount Malkishu**	**12.12**	**276**	P	**Pn**	**09 04 49.2**	**-0.9**
MMAI	**Mount Meron Ar**	**12.14**	**279**	Pn	**Pn**	**09 04 51.9**	**+1.4**
	comp=Z,1.7nm,0.3s,baz=82,slow=12,SNR=1.9						
MMAI				Sn	**Sn**	**09 07 01.0**	**-4.3**
	comp=Z,7.0nm,0.3s,baz=104,slow=16,SNR=5.2						
MMAI				Lg	Lg	09 08 34.5	
	baz=95,slow=32						
MMAI				LR	LR	09 10 56.7	
	comp=Z,764nm,18.5s,baz=86,slow=44						
	comp=Z,0.8nm,0.3s						
PRNI	**Paran**	**12.69**	**267**	P	**Pn**	**09 04 57.9**	**0.0**
EIL	**Elat**	**12.88**	**264**	Pn	**Pn**	**09 05 00.6**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=78,slow=9.3,SNR=8.1						
EIL				Sn	**Sn**	**09 07 21.8**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=70,slow=15,SNR=1.3						
EIL				Lg	Lg	09 09 10.4	
	baz=0.0,slow=17						
EIL				LR	LR	09 11 17.5	
	comp=Z,908nm,19.7s,baz=121,slow=43						
	comp=Z,10nm,0.6s						
EIL	**Elat**	**12.88**	**264**	P	**Pn**	**09 05 00.3**	**-0.2**
MBRI	**Mt Berech**	**12.88**	**265**	P	**Pn**	**09 05 00.8**	**+0.2**
KRMI	**Paran Flat**	**12.98**	**266**	P	**Pn**	**09 05 01.8**	**0.0**
KBZ	**Khabaz**	**13.00**	**338**	Pn	**Pn**	**09 05 05.6**	**+3.6**
	comp=Z,0.1nm,0.3s,baz=163,slow=7.1,SNR=3.9						
KBZ				LR	LR	09 10 26.9	
	comp=Z,997nm,18.8s,baz=145,slow=40						
	comp=Z,0.9nm,0.3s						
SHA1	**Shidzhatmaz**	**13.09**	**337**	*i* P	**P**	**09 05 11.5**	**-2.1**
MHTO	**MHTO**	**13.12**	**144**	P	**Pn**	**09 05 04.5**	**+0.7**
	SNR=17						
KIV	**Kislovodsk**	**13.27**	**337**	*e*P	**P**	**09 05 11.1**	**-4.4**
KIV				pmax	pmax		
	comp=Z,19nm,1.1s						
KIV				MLR	MLR		
	comp=Z,409nm,13.0s						
BNN	**Bunyan**	**13.28**	**305**	Pn	**Pn**	**09 05 05.8**	**-0.3**
DOK	**Doka**	**13.79**	**162**	P	**Pn**	**09 05 13.0**	**+0.1**
	SNR=27						
DOK				S	**Sn**	**09 07 42.0**	**-3.5**
	SNR=7.9						
DQM	**DQM**	**13.81**	**148**	P	**Pn**	**09 05 13.2**	**-0.1**
SOC	**Sochi**	**14.10**	**329**	*e*P	**P**	**09 05 22.7**	**-1.9**
SOC				*e*		09 08 00.0	
SOC				pmax	pmax		
	comp=Z,20nm,0.7s						
SOC				MLR	MLR		
	comp=Z,381nm,14.0s						
WHFO	**Wadi Hawf**	**14.37**	**164**	P	**Pn**	**09 05 20.2**	**-0.8**
	SNR=24						
LABN	**Labinsk**	**14.56**	**334**	*e*P	**P**	**09 05 28.3**	**-1.4**
LABN				*e*S	**Sn**	**09 08 07.6**	**+3.5**
LABN				pmax	pmax		
	comp=Z,90nm,0.7s						
LABN				MLR	MLR		
	comp=Z,793nm,14.0s						
SHAO	**Shalim**	**14.79**	**157**	P	**Pn**	**09 05 25.4**	**-1.3**
	SNR=11						
SHAO				S	**Sn**	**09 08 05.0**	**-5.0**
	SNR=7.6						
SHAO	**Shalim**	**14.79**	**157**	*i* P	**Pn**	**09 05 25.5**	**-1.1**
	SNR=11						
ABTO	**Aybut**	**14.81**	**166**	P	**Pn**	**09 05 25.9**	**-1.2**
	SNR=21						
DMTO	**DMTO**	**14.87**	**160**	P	**Pn**	**09 05 26.9**	**-0.8**
	SNR=50						
RBK	**Rabkut**	**14.87**	**163**	P	**Pn**	**09 05 27.1**	**-0.7**
	SNR=8.3						
BR131	**Keskin Array S**	**15.20**	**305**	Pn	**Pn**	**09 05 33.1**	**+1.0**
BR131	**Keskin Array S**	**15.20**	**305**	P	**Pn**	**09 05 33.1**	**+1.0**
BR131				pmax	pmax		
	comp=Z,15nm,0.8s						
BRTR	**Keskin Array B**	**15.20**	**305**	Pn	**Pn**	**09 05 33.2**	**+1.1**
BRTR	**Keskin Array B**	**15.20**	**305**	Pn	**Pn**	**09 05 34.0**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=115,slow=12,SNR=41						
BRTR				Sn	**S**	**09 08 32.5**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=130,slow=24,SNR=0.7						
BRTR				Lg	Lg	09 10 19.5	
	baz=128,slow=34						
	comp=Z,3.1nm,0.8s						
ERBR	**Yeremizino-Bor**	**15.57**	**335**	*e*P	**P**	**09 05 40.8**	**-0.1**
ERBR				*e*S	**Sn**	**09 08 31.4**	**+2.8**
ERBR				pmax	pmax		
	comp=Z,93nm,0.9s						
ERBR				MLR	MLR		
	comp=Z,775nm,15.0s						
ILGA	**Ilgaz**	**15.78**	**310**	Pn	**Pn**	**09 05 38.6**	**-1.1**
ANN	**Anapa**	**16.08**	**327**	*e*P	**P**	**09 05 47.9**	**+1.3**
ANN				*e*S	**S**	**09 08 48.2**	**-6.1**
ANN				pmax	pmax		
	comp=Z,22nm,0.8s						
ANN				MLR	MLR		
	comp=Z,379nm,15.0s						
KBL	**Kabul**	**16.40**	**75**		**P**	**09 05 49.6**	**-0.9**
KBL	**Kabul**	**16.40**	**75**	P	**P**	**09 05 49.6**	**-0.9**
KBL				pmax	pmax		
	comp=Z,35nm,1.4s						
ISP	**Isparta**	**16.82**	**296**	*i* P	**P**	**09 05 58.5**	**+3.5**
ISP				pmax	pmax		
	comp=Z,31nm,1.0s						
SIMJ	**Simiganj**	**17.14**	**61**		**P**	**09 05 58.9**	**+0.3**
CHGR	**Chuyangaron**	**17.25**	**62**		**P**	**09 06 00.2**	**+0.5**
CHGR				IAmb	IAmb	09 06 01.2	
	comp=Z,61nm,0.7s						
CHGR	**Chuyangaron**	**17.25**	**62**	P	**P**	**09 06 00.2**	**+0.5**
CHGR				pmax	pmax		
	comp=Z,61nm,0.7s						
SAHE	**Sakarya_HENDEK

AAK Ala-Archa 22.39 54 LR LR 09 16 58.0
comp=Z,763nm,20.5s,baz=204,slow=40
AAK Ala-Archa 22.39 54 *i* P **P** **09 06 57.5 +1.8**
AAK pmax pmax
comp=Z,6.0nm,1.0s
VRI Vrincioaia 22.60 315 ⇑P **P** **09 06 59.1 +1.3**
VRI Vrincioaia 22.60 315 ⇑P **P** **09 06 59.1 +1.3**
VRI Vrincioaia 22.60 315 P **P** **09 06 58.9 +1.1**
comp=Z,21nm,0.9s
KSH Kashi 22.60 63 P **P** **09 06 55.1 -2.9**
KSH pmax pmax
comp=Z,11nm,1.2s
KSH LR LR
comp=Z,700nm,14.7s
KSH LR LR
comp=Z,1μm,14.0s
KSH LR LR
comp=Z,1μm,16.7s
PLOR5 Plostina Array 22.63 315 P **P** **09 06 59.0 +0.9**
comp=Z,31nm,1.0s
PLOR Plostina 22.64 315 ⇓P **P** **09 06 59.6 +1.3**
PLOR Plostina 22.64 315 ⇓P **P** **09 06 59.6 +1.3**
MLR Muntele Rosu 22.90 313 **P** **09 07 01.6 +0.5**
MLR IAmb IAmb 09 07 22.1
comp=Z,21nm,0.9s
MLR Muntele Rosu 22.90 313 P **P** **09 07 02.4 +1.4**
comp=Z,12nm,0.8s,baz=93,slow=18,SNR=11
MLR S **S** **09 11 13.4 +3.5**
comp=Z,1.8nm,0.5s,baz=109,slow=18,SNR=1.9
comp=Z,12nm,0.8s
MLR Muntele Rosu 22.90 313 ⇓P **P** **09 07 02.9 +1.8**
SORM Soroca 22.94 321 ⇑P **P** **09 07 01.5 +0.2**
SORM Soroca 22.94 321 ⇑P **P** **09 07 01.5 +0.2**
TESR Tescani 22.98 316 ⇑P **P** **09 07 02.3 +0.5**
ONER Baraj Valea Uz 23.04 316 ⇓P **P** **09 07 03.2 +0.8**
BOOM Boomskoye usch 23.34 56 **P** **09 07 07.3 +1.6**
BOOM IAmb IAmb 09 07 09.0
comp=Z,15nm,0.7s
BOOM Boomskoye usch 23.34 56 P **P** **09 07 07.3 +1.6**
BOOM pmax pmax
comp=Z,15nm,0.7s
VOIR 23.43 312 ⇑P **P** **09 07 08.0 +1.6**
VOIR 23.43 312 ⇑P **P** **09 07 08.0 +1.6**
VOIR 23.43 312 P **P** **09 07 08.2 +1.8**
comp=Z,367nmcomp=Z,24nm,0.9s
LIT Litokhoron 23.44 298 P **P** **09 07 08.0 +1.5**
LIT Litokhoron 23.44 298 P **P** **09 07 08.0 +1.5**
LIT pmax pmax
comp=Z,15nm,0.8s
ITM Ithomi 23.45 291 P **P** **09 07 07.1 +0.5**
ITM IAmb IAmb 09 07 21.6
comp=Z,30nm,1.0s
ARR Arges 23.66 312 ⇑P **P** **09 07 10.3 +1.6**
AK07 Malin Array Si 24.07 327 P **P** **09 07 12.0 -0.4**
AK09 Malin Array Si 24.08 327 P **P** **09 07 12.1 -0.4**
AK10 Malin Array Si 24.08 327 P **P** **09 07 12.1 -0.4**
AK06 Malin Array Si 24.10 327 P **P** **09 07 12.3 -0.4**
AK08 Malin Array Si 24.11 327 P **P** **09 07 12.3 -0.4**
KDJ Kajisay 24.12 57 **P** **09 07 14.6 +1.5**
KDJ Kajisay 24.12 57 P **P** **09 07 14.6 +1.5**
KDJ pmax pmax
comp=Z,11nm,0.7s
AK05 Malin Array Si 24.12 327 P **P** **09 07 12.5 -0.3**
AK02 Malin Array Si 24.15 327 P **P** **09 07 12.7 -0.4**
AK12 Malin Array Si 24.16 327 P **P** **09 07 12.8 -0.4**
AK01 Malin Array Si 24.16 327 P **P** **09 07 13.0 -0.3**
AKASG Malin Array Be 24.17 327 P **P** **09 07 13.0 -0.3**
AKASG Malin Array Be 24.17 327 P **P** **09 07 12.9 -0.4**
comp=Z,6.8nm,0.4s,baz=135,slow=8.9,SNR=56
AKASG S **S** **09 11 28.5 -1.7**
comp=Z,0.3nm,0.4s,baz=132,slow=18,SNR=4.3
AKASG LR LR 09 17 38.3
comp=Z,214nm,18.5s,baz=138,slow=39
comp=Z,6.8nm,0.4s
AKBB Malin Array Si 24.17 327 P **P** **09 07 13.2 -0.1**
AKBB Malin Array Si 24.17 327 P **P** **09 07 13.2 -0.1**
AKBB pmax pmax
comp=Z,28nm,0.6s
AKBB Malin Array Si 24.17 327 P **P** **09 07 13.0 -0.3**
KIEV Kiev 24.17 327 **P** **09 07 13.4 +0.1**
KIEV IAmb IAmb 09 07 15.1
comp=Z,24nm,0.7s
KIEV Kiev 24.17 327 ⇑P **P** **09 07 12.7 -0.5**
KIEV Kiev 24.17 327 *i* P **P** **09 07 13.1 -0.2**
SNR=23
KIEV Kiev 24.17 327 P **P** **09 07 13.4 +0.1**
KIEV pmax pmax
comp=Z,24nm,0.7s
KIEV Kiev 24.17 327 P **P** **09 07 13.0 -0.2**
comp=Z,2μmcomp=Z,131nm,0.8s
AK03 Malin Array Si 24.18 327 pP pP 09 07 20.8 +1.1
AK03 Malin Array Si 24.18 327 P **P** **09 07 13.2 -0.2**
AK19 Malin Array Si 24.28 327 P **P** **09 07 14.2 -0.1**
AK19 pP **pP** **09 07 21.6 +1.0**
LUBAR Lubar, Ukraine 24.36 324 P **P** **09 07 14.2 -0.8**
BURAR Bucovina Array 24.39 317 **P** **09 07 16.6 +1.1**
BURAR Bucovina Array 24.39 317 ⇑P **P** **09 07 16.8 +1.3**
BURAR Bucovina Array 24.39 317 ⇑P **P** **09 07 16.8 +1.3**
BUR08 Bucovina Ar. S 24.41 317 **P** **09 07 16.7 +1.0**
TARG Taragay, Kyrgy 24.46 58 **P** **09 07 15.8 -0.8**
TARG Taragay, Kyrgy 24.46 58 P **P** **09 07 15.8 -0.8**
TARG pmax pmax
comp=Z,11nm,0.7s
MI29 MI29, Kamyanyy 24.63 325 P **P** **09 07 16.6 -0.9**
comp=Z,258nm,1.1s
MI30 MI30,Zelenitsa 24.68 326 P **P** **09 07 17.9 -0.1**
comp=Z,201nm,0.8s
KSV Kosov 24.84 319 P **P** **09 07 19.1 -0.4**
GZR Gura Zlata 24.86 311 ⇓P **P** **09 07 20.8 +1.1**
GZR Gura Zlata 24.86 311 ⇓P **P** **09 07 20.8 +1.1**
HERR Herculane 24.90 309 ⇓P **P** **09 07 21.6 +1.6**
BOVS Bovan 24.94 306 ⇓P **P** **09 07 22.1 +1.7**
OBN Obninsk 25.03 342 LR LR 09 18 08.8
comp=Z,394nm,20.1s,baz=129,slow=39
OBN Obninsk 25.03 342 *de*P **P** **09 07 21.1 +0.1**
OBN *e* 09 08 01.6
OBN pmax pmax
comp=Z,27nm,1.3s
MI28 Mi28,Pidlybu 25.05 326 P **P** **09 07 21.2 -0.1**
FURI Furi 25.05 207 LR LR 09 17 50.9
comp=Z,910nm,19.3s,baz=23,slow=38
PRZ Przheval'sk 25.08 57 **P** **09 07 23.5 +1.6**
PRZ IAmb IAmb 09 07 24.4
comp=Z,26nm,0.8s
PRZ Przheval'sk 25.08 57 P **P** **09 07 23.5 +1.6**
PRZ pmax pmax
comp=Z,26nm,0.8s
MARR Marisel-Cluj 25.19 314 ⇑P **P** **09 07 24.3 +1.6**
RAKU Rahkiv 25.21 317 P **P** **09 07 23.8 +1.0**
ARTI Arti 25.25 11 **P** **09 07 23.3 +0.3**
ARTI IAmb IAmb 09 07 41.5
comp=Z,17nm,0.7s
ARTI Arti 25.25 11 LR LR 09 21 31.8
comp=Z,280nm,18.4s,baz=202,slow=47
ARTI Arti 25.25 11 *c i*P **P** **09 07 23.1 +0.1**
ARTI 09 08 04.5
ARTI S **S** **09 11 44.0 -3.5**
ARTI SS **SnSn** **09 12 42.7 +4.0**
ARTI pmax pmax
comp=Z,35nm,1.7s
MDVR Moldovita 25.33 309 ⇑P **P** **09 07 25.5 +1.5**
MOS Moscow 25.33 344 *e*P **P** **09 07 23.3 -0.4**
MOS *e* 09 07 40.0
MOS pmax pmax
comp=Z,39nm,0.8s
STNU Starunia 25.37 319 P **P** **09 07 24.6 +0.3**
DRGR 25.49 314 ⇑P **P** **09 07 26.9 +1.4**
DRGR 25.49 314 ⇑P **P** **09 07 26.9 +1.4**
MEZ Mezhgor'ye 25.83 318 P **P** **09 07 29.3 +0.9**
BORK Borovoye 25.88 29 *i* P **P** **09 07 29.4 +0.6**
BORK pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 25.90 29 P **P** **09 07 28.7 -0.3**
comp=Z,4.8nm,0.7s,baz=225,slow=7.3,SNR=13
BVAR LR LR 09 19 47.0
comp=Z,521nm,18.2s,baz=229,slow=42
comp=Z,4.8nm,0.7s
SIRR Siria 25.93 312 ⇑P **P** **09 07 31.1 +1.8**
BRIU Brid 26.03 317 P **P** **09 07 31.1 +0.9**
RNPP5 Staryi Chortor 26.11 325 P **P** **09 07 30.4 -0.5**
RNPP8 Varash 26.19 325 P **P** **09 07 31.4 -0.2**
RNPP9 Sopachiv 26.22 325 P **P** **09 07 31.7 -0.2**
HOLU Holmets 26.49 317 P **P** **09 07 34.7 +0.4**
KIRV Kirov 26.72 360 LR LR 09 20 53.7
comp=Z,406nm,19.1s,baz=189,slow=43
KOLS Kolonicke sedl 26.75 318 *e*P **P** **09 07 40.2 +3.4**
KOLS *e* 09 07 58.7
KOLS pmax pmax
comp=Z,12nm,0.9s
KWP Kalwaria Pacla 26.86 319 P **P** **09 07 38.1 +0.4**
comp=Z,25nm,1.0s
MNK Minsk 27.44 332 *i* P **P** **09 07 42.5 -0.4**
comp=E,24nm,1.1s
MNK *i* P **P** **09 07 42.5 -0.4**
comp=N,13nm,0.7s
MNK *i* P **P** **09 07 42.5 -0.4**
comp=Z,13nm,0.7s,baz=136
MNK *i* pP sP 09 08 04.7 +13
MNK *i* PP **PnPn** **09 08 33.5 +6.1**
MNK *i* S **S** **09 12 17.0 -5.1**
MNK *i* sS sS 09 12 56.5 +24
MNK *i* SS **SnSn** **09 13 39.9 +7.7**
MNK *i* LQ LQ 09 17 09.8
MNK *i* LR LR 09 18 18.6
MNK *i* LRM MLR 09 19 40.0
comp=N,191nm,15.3s
MNK *i* LRM MLR 09 19 47.7
comp=Z,439nm,18.9s
MNK *i* LRM MLR 09 19 51.6
comp=E,207nm,14.9s
MNK Minsk 27.44 332 *i* P **P** **09 07 42.4 -0.4**
MNK *i* *PP sP 09 08 04.7 +13
MNK *i* 09 08 33.5
MNK *i* S **S** **09 12 17.0 -5.1**
MNK *i* SS **SnSn** **09 13 39.9 +7.7**
MNK pmax pmax
comp=N,13nm,0.7s
MNK pmax pmax
comp=E,24nm,1.1s
MNK pmax pmax
comp=Z,13nm,0.7s
MNK MLR MLR
comp=N,191nm,15.0s
MNK MLR MLR
comp=Z,439nm,19.0s
MNK MLR MLR
comp=E,207nm,15.0s
KURBB Kurchatov Arra 28.37 40 P **P** **09 07 51.8 +0.6**
comp=E,5.8nm,0.8s,baz=242,slow=9.6,SNR=19
KURBB PcP **PcP** **09 11 03.8 +0.4**
comp=E,1.1nm,0.2s,baz=241,slow=3.1,SNR=4.3
KURBB LR LR 09 20 39.5
comp=E,575nm,18.2s,baz=190,slow=40
comp=E,5.8nm,0.8s
KURK Kurchatov 28.47 40 **P** **09 07 52.1 0.0**
KURK Kurchatov 28.47 40 *ce*P **P** **09 07 52.5 +0.4**
KURK pmax pmax
comp=Z,9.0nm,0.7s
LANS Liptovska Anna 28.49 316 *e*P **P** **09 07 53.9 +1.6**
LANS pmax pmax
comp=Z,4.0nm,0.8s
OJC Ojcow 28.78 318 P **P** **09 07 55.4 +0.5**
OJC Ojcow 28.78 318 P **P** **09 07 55.4 +0.5**
OJC Ojcow 28.78 318 P **P** **09 07 54.8 -0.1**
comp=Z,11nm,1.0s
MK31 Makanchi Array 29.03 50 *i* P **P** **09 07 57.3 +0.1**
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 29.03 50 **P** **09 07 57.9 +0.7**
MKAR Makanchi Array 29.03 50 P **P** **09 07 57.5 +0.3**
comp=Z,4.1nm,0.7s,baz=249,slow=7.4,SNR=35
MKAR LR LR 09 21 40.3
comp=Z,548nm,18.3s,baz=242,slow=41
comp=Z,4.1nm,0.7s
MKAR Makanchi Array 29.03 50 P **P** **09 07 57.9 +0.7**
RAFF Raffo Rosso 29.49 290 P **P** **09 08 00.9 -0.4**
PABE Paberze 29.76 330 P **P** **09 08 02.9 -0.6**
RONA Rosalia, Austr 29.87 312 *e*P **P** **09 08 06.3 +1.7**
comp=Z,4.1nm,0.7s
MORC Moravsky Berou 29.89 316 P **P** **09 08 05.2 +0.4**
MORC Moravsky Berou 29.89 316 P **P** **09 08 05.2 +0.4**
MORC pmax pmax
comp=Z,5.0nm,0.8s
ARSA Arzberg 30.22 310 *e*P **P** **09 08 08.3 +0.6**
comp=Z,7.3nm,1.2s
ARSA *i* P **PP** **09 09 06.0 -10**
comp=Z,7.6nm,1.1s
CONA Conrad Observa 30.22 312 *i* P **P** **09 08 08.6 +0.9**
comp=Z,6.2nm,1.2s
NRCA Norcia 30.86 301 P **P** **09 08 13.7 +0.2**
NRCA IAmb IAmb 09 08 16.6
comp=Z,14nm,1.0s
FDMO Fiordimonte 30.91 302 P **P** **09 08 13.7 -0.1**
FDMO IAmb IAmb 09 08 27.3
comp=Z,14nm,1.0s
SABO M.te Sabotino 31.14 307 P **P** **09 08 16.6 +0.8**
SABO IAmb IAmb 09 08 44.4
comp=Z,26nm,1.3s
MOA Molln 31.21 311 *e*P **P** **09 08 17.2 +0.8**
comp=Z,5.0nm,0.7s
BIOA Bad Ischl, Aus 31.57 311 *i* P **P** **09 08 20.6 +1.0**
comp=Z,10nm,0.7s
BIOA *i* P **PP** **09 09 23.2 -7.7**
comp=Z,2.7nm,0.4s
KBA Koelnbreinsper 31.59 309 *i* P **P** **09 08 20.8 +0.9**
comp=Z,12nm,0.5s,SNR=13
GERES GERESS Array B 31.88 313 P **P** **09 08 22.1 -0.4**
comp=Z,0.8nm,0.3s,baz=104,slow=9.6,SNR=4.7
GERES PcP **PcP** **09 11 13.4 +0.7**
comp=Z,0.6nm,0.6s,baz=130,slow=2.9,SNR=0.8
comp=Z,0.8nm,0.3s
WMQ Urumqi 32.01 57 *e*PKP **PKiKP** **09 18 36.3 -5.0**
WMQ LR LR
comp=N,670nm,17.1s
WMQ LR LR
comp=E,680nm,20.5s
WMQ LR LR
comp=Z,440nm,17.9s
WMQ Urumqi 32.01 57 *e*P **P** **09 08 26.5 +2.9**
WMQ LR LR
comp=Z,400nm,14.7s
WMQ LR LR
comp=Z,510nm,16.7s
WMQ LR LR
comp=Z,240nm,17.7s
KHC Kasperske Hory 32.05 313 *ce*P **P** **09 08 25.7 +1.9**
KHC pmax pmax
comp=Z,8.0nm,1.7s
ABTA Abfaltersbach 32.05 308 *i* P **P** **09 08 24.4 +0.4**
comp=Z,11nm,1.0s
ABTA *i* P **PP** **09 09 29.5 -6.9**
comp=Z,6.0nm,1.0s
LESA Schwarzleotal 32.12 310 *i* P **P** **09 08 25.2 +0.7**
comp=Z,8.9nm,0.8s
EVN Everest 32.30 87 **P** **09 08 27.6 +0.7**
EVN IAmb IAmb 09 08 49.0
comp=Z,11nm,0.8s
ZCCA Zocca 32.63 304 P **P** **09 08 29.2 +0.2**
WTTA Wattenberg 32.76 309 *i* P **P** **09 08 30.6 +0.3**
comp=Z,12nm,0.5s,SNR=7.4
WATA Walderalm 32.82 309 *i* P **P** **09 08 31.1 +0.4**
comp=Z,7.8nm,0.5s
SQTA Sankt Quirin 33.03 309 *i* P **P** **09 08 33.0 +0.4**
comp=Z,20nm,0.5s,SNR=10
SQTA *i* P **PP** **09 09 41.2 -6.0**
comp=Z,7.4nm,0.9s
MOTA Moosalm 33.13 309 *i* P **P** **09 08 33.4 -0.1**
comp=Z,21nm,0.8s,SNR=8.4
CLL Collm 33.16 317 P **P** **09 08 33.8 +0.5**
CLL Collm 33.16 317 *i* P **P** **09 08 33.9 +0.5**
CLL *e*PP **sP** **09 08 44.0 +1.7**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 33.16 317 *i* P **P** **09 08 33.9 +0.5**
comp=Z,8.0nm,1.1s
CLL *ep*P **sP** **09 08 44.0 +1.7**
FETA Feichten 33.31 308 *i* P **P** **09 08 35.7 +0.7**
comp=Z,19nm,0.9s,SNR=12
FETA *e*P **PP** **09 09 44.6 -5.8**
comp=Z,2.5nm,0.7s
FIA1 FINESS Array S 33.35 339 P **P** **09 08 35.2 +0.2**
FINES FINESS Array B 33.35 339 P **P** **09 08 34.8 -0.1**
FINES FINESS Array B 33.35 339 P **P** **09 08 34.4 -0.5**
comp=Z,3.6nm,0.6s,baz=143,slow=7.8,SNR=20
FINES LR LR 09 23 49.5
comp=Z,301nm,18.4s,baz=142,slow=40
comp=Z,3.6nm,0.6s
FINES FINESS Array B 33.35 339 P **P** **09 08 34.8 -0.1**
ZAA0 Zalesovo Array 33.36 38 **P** **09 08 35.4 +0.3**
ZAA0 IAmb IAmb 09 08 36.0
comp=Z,19nm,1.2s
ZALV Zalesovo Beam 33.36 38 **P** **09 08 35.4 +0.3**
ZALV Zalesovo Beam 33.36 38 P **P** **09 08 34.9 -0.3**
comp=Z,7.0nm,0.6s,baz=252,slow=10.0,SNR=26
ZALV PcP **PcP** **09 11 15.8 -0.7**
comp=Z,0.9nm,0.4s,baz=259,slow=2.9,SNR=1.8
ZALV LR LR 09 23 48.5
comp=Z,253nm,20.0s,baz=252,slow=40
comp=Z,7.0nm,0.6s
RETA Reutte 33.39 309 *i* P **P** **09 08 35.7 +0.1**
comp=Z,2.4nm,0.3s
VSL Villasalto 33.41 295 P **P** **09 08 35.9 0.0**
VSL IAmb IAmb 09 08 49.0
comp=Z,12nm,0.8s
FUORN Ofenpass-Fuorn 33.53 308 P **P** **09 08 36.6 -0.5**
KEST Kesra 33.60 288 LR LR 09 24 56.9
comp=Z,71nm,18.7s,baz=7.7,slow=41
DAVOX Davos/Dischmat 33.83 308 LR LR 09 25 37.5
comp=Z,106nm,20.4s,baz=86,slow=42
DAVA Damuels 33.93 309 *i* P **P** **09 08 40.6 +0.2**
comp=Z,24nm,0.5s
DAVA *e*P **PP** **09 09 53.0 -4.3**
comp=Z,5.6nm,0.5s
TUE Stuetta 34.12 307 P **P** **09 08 42.4 +0.2**
RGN Rugen 34.30 322 P **P** **09 08 43.5 +0.2**
DEL Delary 34.93 325 *i* P **P** **09 08 48.1 -0.6**
BJUU Bjuv 35.15 324 *i* P **P** **09 08 51.1 +0.5**
SENIN Lac Senin/Sane 35.50 306 P **P** **09 08 54.8 +0.7**
SENIN IAmb IAmb 09 09 14.7
comp=Z,6.1nm,0.8s
LSA Lhasa 35.52 82 P **P** **09 08 54.9 +0.2**
LSA IAmb IAmb 09 08 59.9
comp=Z,8.8nm,0.5s
LSA Lhasa 35.52 82 P **P** **09 08 54.9 +0.2**
LSA pmax pmax
comp=Z,9.0nm,0.5s
FABU Falkenberg 35.74 326 *i* P **P** **09 08 56.0 +0.4**
BNI Bardonecchia 35.76 304 **P** **09 08 56.5 +0.3**
BNI IAmb IAmb 09 08 57.3
comp=Z,9.6nm,0.8s
BNI Bardonecchia 35.76 304 P **P** **09 08 56.5 +0.3**
BNI pmax pmax
comp=Z,10.0nm,0.8s
BORU Boraas 36.03 327 *i* P **P** **09 08 58.4 +0.3**
ONAU Onsala 36.31 326 *i* P **P** **09 09 00.8 +0.2**
SSRD Sdr. Stenderup 36.62 322 *i* P **P** **09 09 04.3 +1.0**
SSRD IAmb IAmb 09 09 05.1
comp=Z,53nm,1.0s
HFS Hagfors 36.93 331 P **P** **09 09 05.7 -0.1**
comp=Z,13nm,0.5s,baz=127,slow=9.3,SNR=73
HFS LR LR 09 25 16.8
comp=Z,252nm,19.3s,baz=118,slow=38
comp=Z,13nm,0.5s
LVZ Lovozero 37.13 351 P **P** **09 09 08.1 +0.7**
LVZ Lovozero 37.13 351 P **P** **09 09 08.1 +0.7**
LVZ pmax pmax
comp=Z,46nm,1.2s
MUD Monsted U'grnd 37.25 323 *i* P **P** **09 09 06.7 -1.8**
MUD IAmb IAmb 09 09 10.5
comp=Z,23nm,0.9s
GOMU GeErMu 37.37 71 P **P** **09 09 10.5 +0.1**
GOMU S **S** **09 14 56.5 -1.2**
GOMU pmax pmax
comp=Z,4.0nm,1.3s
GOMU pmax pmax
comp=Z,64nm,4.9s
GOMU LR LR
comp=Z,160nm,13.6s
GOMU LR LR
comp=Z,210nm,16.6s
GOMU LR LR
comp=Z,220nm,17.9s
STRU Stroemstad 37.45 328 *i* P **P** **09 09 09.7 -0.5**
OSL Oslo 38.10 329 *e*P **P** **09 09 15.9 +0.2**
NC602 NORSAR Array S 38.16 331 P **P** **09 09 15.8 -0.5**
NC602 NORSAR Array S 38.16 331 *e*P **P** **09 09 15.9 -0.3**
NC405 NORSAR Array S 38.29 331 **P** **09 09 17.2 -0.1**
HOMB Homborsund 38.34 326 *e*P **P** **09 09 17.6 -0.2**
NB201 NORSAR Array S 38.43 331 P **P** **09 09 18.1 -0.4**
NB201 IAmb IAmb 09 09 26.4
comp=Z,21nm,1.4s
NB2 NORSAR Subarra 38.45 331 P **P** **09 09 17.8 -1.0**
comp=Z,8.2nm,0.7s,baz=122,slow=8.6
NB2 NORSAR Subarra 38.45 331 P **P** **09 09 17.8 -1.0**
comp=Z,8.2nm,0.7s,baz=122,slow=8.6
NB2 PP **PP** **09 10 44.4 -2.3**
comp=Z,4.3nm,1.0s,baz=130,slow=11
NOA NORSAR Array B 38.45 331 P **P** **09 09 18.1 -0.7**
comp=Z,5.9nm,0.7s,baz=121,slow=8.2,SNR=27
NOA PP **PP** **09 10 43.6 -3.1**
comp=Z,2.8nm,0.9s,baz=128,slow=11,SNR=3.6
NOA LR LR 09 26 13.8
comp=Z,236nm,19.7s,baz=110,slow=38
comp=Z,5.9nm,0.7s
KONO Kongsberg 38.45 328 P **P** **09 09 18.8 +0.1**
KONO IAmb IAmb 09 09 19.1
comp=Z,12nm,0.8s
KONO Kongsberg 38.45 328 *e*P **P** **09 09 18.0 -0.7**
KONO Kongsberg 38.45 328 P **P** **09 09 18.8 +0.1**
KONO pmax pmax
comp=Z,12nm,0.8s
NAO01 NORSAR Array S 38.49 330 P **P** **09 09 18.4 -0.6**
NAO01 IAmb IAmb 09 09 19.6
comp=Z,8.4nm,0.8s
NC303 NORSAR Array S 38.49 331 P **P** **09 09 18.7 -0.3**
NBO00 NORSAR Array S 38.63 331 P **P** **09 09 19.8 -0.4**
NBO00 IAmb IAmb 09 09 20.6
comp=Z,17nm,1.2s
NC204 NORSAR Array S 38.76 331 **P** **09 09 21.0 -0.4**
NC204 IAmb IAmb 09 09 21.7
comp=Z,6.6nm,0.6s
DOMB Dombas 39.85 331 *e*P **P** **09 09 31.4 +0.9**
ODD1 Odda 39.92 328 *e*P **P** **09 09 33.0 +2.0**
VADS Vadso 39.95 349 *e*P **P** **09 09 31.3 +0.2**
KEV Kevo 40.02 348 P **P** **09 09 32.4 +0.7**
KEV Kevo 40.02 348 P **P** **09 09 32.4 +0.7**
KEV pmax pmax
comp=Z,48nm,1.3s
TAM Tamanrasset 40.06 268 P **P** **09 09 35.9 +3.1**
TAM pmax pmax
comp=Z,6.0nm,1.5s
ARA0 ARCESS Array S 40.11 347 *e*P **P** **09 09 32.8 +0.3**
ARCES ARCESS Array B 40.11 347 P **P** **09 09 32.4 -0.1**
ARCES IAmb IAmb 09 09 54.2
comp=Z,24nm,1.4s
ARCES ARCESS Array B 40.11 347 P **P** **09 09 31.0 -1.5**
comp=Z,1.8nm,0.4s,baz=144,slow=7.0,SNR=28
ARCES PP **PP** **09 11 03.0 -1.7**
comp=Z,4.7nm,0.9s,baz=144,slow=8.2,SNR=4.0
ARCES LR LR 09 27 37.1
comp=Z,157nm,19.1s,baz=150,slow=39
comp=Z,1.8nm,0.4s
ARCES ARCESS Array B 40.11 347 P **P** **09 09 32.4 -0.1**
ARCES pmax pmax
comp=Z,24nm,1.4s
KTK1 Kautokeino 40.13 346 *e*P **P** **09 09 32.3 -0.4**
RAUS Rausandaksla 40.62 339 *e*P **P** **09 09 36.4 -0.3**
BER Bergen 40.70 328 *e*P **P** **09 09 37.2 -0.2**
LEIR Leirfjorden 40.70 338 *e*P **P** **09 09 36.7 -0.7**
AKN Aaknes 40.77 331 *e*P **P** **09 09 38.9 +0.9**
ASK Askoy 40.80 328 *e*P **P** **09 09 38.4 +0.1**
STOK Stokkvaagen 40.88 338 *e*P **P** **09 09 39.1 +0.4**
FAUS Fauske 40.88 340 *e*P **P** **09 09 39.1 +0.3**
GTA Gaotai 40.97 65 *e*P **P** **09 09 40.8 +0.7**
GTA pP sP 09 09 48.4 -0.8
GTA PP **PnPn** **09 11 20.3 +1.3**
GTA pmax pmax
comp=Z,4.0nm,1.7s
GTA LR LR
comp=Z,150nm,14.9s
GTA LR LR
comp=Z,320nm,16.0s
GTA LR LR
comp=Z,320nm,16.7s
VAGH Vaagaholmen 41.05 339 *e*P **P** **09 09 40.3 +0.2**
JETT Jettan, Norway 41.18 345 *e*P **P** **09 09 41.8 +0.5**
SUE Sulen 41.24 329 *e*P **P** **09 09 42.0 +0.2**
STEI Steigen 41.27 341 *e*P **P** **09 09 41.4 -0.7**
HAMF Hammerfest 41.38 347 *e*P **P** **09 09 43.3 +0.4**
TRO Tromso 41.57 344 *e*P **P** **09 09 44.1 -0.3**
EKA Eskdalemuir Ar 43.56 319 P **P** **09 10 00.4 -0.4**
comp=Z,0.8nm,0.3s,baz=100,slow=8.3,SNR=8.6
comp=Z,0.8nm,0.3s
EKB Eskdalemuir 43.58 319 P **P** **09 10 01.2 +0.3**
EKB IAmb IAmb 09 10 10.4

comp=Z,21nm,1.1s
ESDC Sonseca Array 43.69 296 P **P** **09 10 02.8 +0.6**
comp=Z,1.6nm,0.9s,baz=84,slow=8.2,SNR=7.8
ESDC PcP **PcP** **09 11 50.7 +1.7**
comp=Z,1.2nm,1.1s,baz=84,slow=4.6,SNR=4.4
comp=Z,1.6nm,0.9s
LZH Lanzhou 44.61 69 *e*P **P** **09 10 09.8 +0.1**
LZH pP sP 09 10 18.8 0.0
LZH pmax pmax
comp=Z,15nm,1.3s
LZH LR LR
comp=Z,270nm,13.7s
LZH LR LR
comp=Z,420nm,13.7s
LZH LR LR
comp=Z,530nm,14.1s
DSB Dublin 45.15 315 P **P** **09 10 13.7 +0.2**
SONM Songimo Array 45.32 52 P **P** **09 10 15.8 +0.6**
comp=Z,0.6nm,0.4s,baz=285,slow=11,SNR=2.8
SONM LR LR 09 32 26.3
comp=Z,113nm,19.0s,baz=266,slow=40
comp=Z,0.6nm,0.4s
PZH PanZhiHua 45.39 83 P **P** **09 10 16.6 +0.6**
ULN Ulaanbaatar 45.76 52*c*e**P** **P** **09 10 18.9 +0.2**
ULN pmax pmax
comp=Z,6.0nm,1.7s
CHTO Chiang Mai 46.00 94 **P** **09 10 21.1 +0.3**
CHTO IAmb IAmb 09 10 39.8
comp=Z,13nm,1.2s
CHTO Chiang Mai 46.00 94 P **P** **09 10 21.1 +0.3**
CHTO pmax pmax
comp=Z,13nm,1.3s
CMAR Chiang Mai Arr 46.16 95 P **P** **09 10 22.5 +0.6**
comp=Z,1.7nm,0.4s,baz=298,slow=7.9,SNR=3.1
CMAR LR LR 09 32 01.0
comp=Z,82nm,21.5s,baz=295,slow=39
PBAR Barrancos 46.28 294 *e*P **P** **09 10 24.4 +1.7**
PMRV Marv??o 46.35 296 *e*P **P** **09 10 24.8 +1.5**
PCBR Castelo Branco 46.35 297 *e*P **P** **09 10 25.1 +1.9**
KMI Kunming 46.71 84 P **P** **09 10 27.1 +0.6**
KMI pP pP 09 10 34.0 +0.9
KMI SS SS 09 20 33.8 -8.0
KMI pmax pmax
comp=Z,24nm,0.9s
KMI LR LR
comp=Z,130nm,18.8s
KMI LR LR
comp=Z,200nm,18.2s
KMI LR LR
comp=Z,210nm,20.0s
PBEJ Beja 46.95 294 *e*P **P** **09 10 29.2 +1.2**
EVO Evora 46.97 295 *e*P **P** **09 10 30.4 +2.2**
TORD Torodi Ar. Bea 47.69 258 **P** **09 10 34.1 +0.1**
TORD Torodi Ar. Bea 47.69 258 P **P** **09 10 35.6 +1.7**
comp=Z,4.9nm,0.7s,baz=59,slow=8.3,SNR=14
TORD LR LR 09 33 23.6
comp=Z,256nm,21.6s,baz=81,slow=40
comp=Z,4.9nm,0.7s
SPB2 Spitsbergen Ar 48.64 351 P **P** **09 10 41.5 +0.9**
SPITS Spitsbergen Ar 48.65 351 P **P** **09 10 41.2 +0.6**
comp=Z,13nm,0.6s,baz=144,slow=10,SNR=35
comp=Z,13nm,0.6s
SPITS Spitsbergen Ar 48.65 351 P **P** **09 10 41.4 +0.8**
SPITS pmax pmax
comp=Z,26nm,1.2s
HHC Hu-ho-hao-te 49.70 61 *e*P **P** **09 10 50.8 +1.5**
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax
comp=Z,91nm,4.4s
KBS Kingsbay 49.79 351 P **P** **09 10 50.1 +0.8**
KBS Kingsbay 49.79 351 P **P** **09 10 50.1 +0.8**
KBS pmax pmax
comp=Z,44nm,1.4s
OPO Ambohidratompo 50.21 183 LR LR 09 32 44.6
comp=Z,115nm,19.4s,baz=168,slow=37
LSZ Lusaka 51.22 207 LR LR 09 33 34.7
comp=Z,460nm,18.5s,baz=352,slow=37
BORG Borgarnes 53.61 330 LR LR 09 35 03.6
comp=Z,132nm,20.6s,baz=100,slow=37
PSI Prapat 54.51 112 LR LR 09 37 02.3
comp=Z,111nm,20.2s,baz=283,slow=39
TIA Tai'an 55.02 66 P **P** **09 11 30.3 +1.6**
TIA pmax pmax
comp=Z,5.0nm,0.5s
MATP Matopo 55.83 204 LR LR 09 36 44.4
comp=Z,571nm,18.3s,baz=30,slow=37
DBIC Dimbokro 56.59 256 P **P** **09 11 39.9 -0.3**
DBIC Dimbokro 56.59 256 P **P** **09 11 40.4 +0.1**
comp=Z,2.3nm,0.5s,baz=68,slow=10,SNR=4.1
DBIC LR LR 09 38 36.2
comp=Z,536nm,19.0s,baz=70,slow=39
comp=Z,2.3nm,0.5s
DBIC Dimbokro 56.59 256 P **P** **09 11 39.9 -0.3**
DBIC pmax pmax
comp=Z,30nm,1.5s
TIXI Tiksi 56.70 22 **P** **09 11 40.3 +0.1**
TIXI IAmb IAmb 09 11 41.0
comp=Z,16nm,1.4s
TIXI Tiksi 56.70 22 LR LR 09 40 12.9
comp=Z,420nm,18.6s,baz=286,slow=41
TIXI Tiksi 56.70 22*c*e**P** **P** **09 11 40.1 0.0**
TIXI pmax pmax
comp=Z,20nm,2.5s
NJ2 Nanjing 57.67 70 *e*P **P** **09 11 48.3 +0.6**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,190nm,3.7s
NJ2 LR LR
comp=Z,230nm,10.9s
NJ2 LR LR
comp=Z,230nm,11.4s
NJ2 LR LR
comp=Z,390nm,18.0s
YAK Yakutsk 57.77 33 LR LR 09 40 17.7
comp=Z,144nm,18.0s,baz=286,slow=40
YAK Yakutsk 57.77 33 *e*P P 09 11 42.3 -5.6
YAK *e**PP sP 09 11 59.2 +2.1
YAK *e* 09 12 35.1
YAK eS S 09 19 34.5 -11
YAK *e**SS sS 09 20 08.1 +11
YAK *e*SSS SSS 09 26 00.0
YAK pmax pmax
comp=Z,6.0nm,1.3s
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,6.0nm,2.2s
YAK smax smax
comp=N,388nm,5.3s
YAK smax smax
comp=E,208nm,4.1s
SUMG Summit 59.39 340 P **P** **09 11 59.7 +0.2**
SUMG Summit 59.39 340 P **P** **09 11 59.7 +0.2**
SUMG pmax pmax
comp=Z,14nm,1.2s
TSUM Tsumeb 59.39 216 P **P** **09 11 58.2 -1.7**
TSUM IAmb IAmb 09 12 15.8
comp=Z,6.4nm,1.1s
SSE Sheshan 59.87 70 P **P** **09 12 02.6 -0.4**
SSE pmax pmax
comp=Z,8.0nm,0.6s
SSE pmax pmax
comp=Z,42nm,4.1s
LBTB Lobatse 61.08 205 LR LR 09 39 39.0
comp=Z,452nm,20.1s,baz=28,slow=37
YHNB Yeheng 62.51 77 P **P** **09 12 23.0 +1.9**
KSRS Korea Array 62.84 61 P **P** **09 12 22.5 -0.5**
comp=Z,1.5nm,0.6s,baz=284,slow=7.2,SNR=9.2
comp=Z,1.5nm,0.6s
BOSA Boshof 64.49 204 P **P** **09 12 34.4 +0.4**
BOSA Boshof 64.49 204 P **P** **09 12 34.0 +0.1**
comp=Z,2.2nm,0.7s,baz=27,slow=2.3,SNR=2.1
BOSA LR LR 09 41 41.8
comp=Z,228nm,19.3s,baz=27,slow=37
comp=Z,2.2nm,0.7s
BOSA Boshof 64.49 204 P **P** **09 12 34.4 +0.4**
BOSA pmax pmax
comp=Z,23nm,1.3s
SFJD Kangerlussuaq 64.96 335 LR LR 09 41 02.3
comp=Z,123nm,19.0s,baz=83,slow=36
NRS Narsarsuaq 65.00 328 P **P** **09 12 36.7 0.0**
NRS Narsarsuaq 65.00 328 P **P** **09 12 36.7 0.0**
NRS pmax pmax
comp=Z,46nm,1.4s

TGY Tagaytay City 66.87 87 LR LR 09 43 58.5
comp=Z,3µm,18.1s,baz=302,slow=38
SEY Seymchan 67.55 29 LR LR 09 48 35.0
comp=Z,95nm,18.9s,baz=349,slow=42
MA2 Magadan 68.33 33 LR LR 09 47 46.2
comp=Z,136nm,18.7s,baz=106,slow=40
MYLDM Lahad Datu 69.29 97 P **P** **09 13 04.4 -0.3**
MYLDM IAmb IAmb 09 13 28.7
comp=Z,11nm,1.0s
BILL Bilibino 69.89 21 *i* P **P** **09 13 08.0 +0.4**
BILL pmax pmax
comp=Z,9.0nm,1.0s
ASAJ Asahikawa 70.51 50 LR LR 09 46 45.7
comp=Z,239nm,19.4s,baz=348,slow=38
MJAR Matsushiro Arr 70.77 59 P **P** **09 13 13.2 -0.3**
comp=Z,0.9nm,0.6s,baz=290,slow=5.8,SNR=2.0
comp=Z,0.9nm,0.6s
PETK Petropavlovsk- 74.88 36 LR LR 09 49 41.1
comp=Z,114nm,18.0s,baz=270,slow=38
A19K Wainwright 75.82 10 P **P** **09 13 42.1 -0.6**
baz=333
A22K Sinclair Lake 75.92 8 P **P** **09 13 42.5 -0.7**
baz=339
A36M Sachs Harbour 76.37 358 **P** **09 13 46.5 +0.7**
A36M Sachs Harbour 76.37 358 P **P** **09 13 45.2 -0.6**
baz=4.5
B18K Kokolik River 76.46 11 P **P** **09 13 46.1 -0.3**
baz=333
B20K Meade River 76.56 9 P **P** **09 13 48.1 +1.2**
B20K Meade River 76.56 9 P **P** **09 13 46.4 -0.5**
baz=337
B22K Teshekpuk Lake 76.72 8 P **P** **09 13 46.9 -1.0**
baz=340
C16K Lisburne Hills 76.80 13 P **P** **09 13 47.9 -0.4**
baz=330
C17K DeLong Mountai 77.02 12 P **P** **09 13 49.5 -0.1**
baz=332
C19K Lookout Ridge 77.04 10 P **P** **09 13 49.7 -0.1**
baz=335
C18K Utukok River 77.20 11 P **P** **09 13 51.4 +0.7**
C18K IAmb IAmb 09 13 51.7
comp=Z,6.2nm,0.7s
C18K Utukok River 77.20 11 P **P** **09 13 50.7 0.0**
baz=333
B21K Ikpikpuk River 77.26 9 P **P** **09 13 52.1 +1.2**
B21K Ikpikpuk River 77.26 9 P **P** **09 13 50.6 -0.3**
baz=339
RDOG Red Dog Mine 77.44 12 P **P** **09 13 51.9 0.0**
baz=332
C23K Itkillik River 77.52 7 P **P** **09 13 52.4 +0.1**
baz=342
C21K Knifeblade Rid 77.67 9 P **P** **09 13 53.1 -0.1**
baz=339
D17K Noatak River 77.72 12 P **P** **09 13 53.5 0.0**
baz=332
C24K Franklin Bluff 77.82 6 P **P** **09 13 54.4 +0.4**
baz=344
D19K Kuna River 77.82 10 P **P** **09 13 54.5 +0.4**
baz=336
D20K Etivluk River 77.84 10 P **P** **09 13 54.3 +0.1**
baz=337
C26K Camden Bay 77.95 5 P **P** **09 13 55.5 +0.8**
baz=347
SCHQ Schefferville 77.96 328 P **P** **09 13 55.1 0.0**
SCHQ Schefferville 77.96 328 P **P** **09 13 55.1 0.0**
comp=Z,29nm,0.9s,baz=49,slow=6.8,SNR=5.2
D22K Ayikyak River 78.19 8 P **P** **09 13 56.0 -0.2**
baz=341
E20K Nigu River 78.32 10 P **P** **09 13 56.7 -0.2**
baz=338
C27K Jago River 78.33 5 IAmb IAmb 09 13 58.9
comp=Z,16nm,1.2s
C27K Jago River 78.33 5 P **P** **09 13 56.7 -0.1**
baz=348
D23K Nanushuk River 78.34 7 P **P** **09 13 57.4 +0.4**
baz=342
D24K Happy Valley 78.35 7 P **P** **09 13 57.0 0.0**
baz=344
E18K Tukpahlearik C 78.40 11 P **P** **09 13 57.5 +0.2**
baz=334
D25K Kavik River 78.42 6 IAmb IAmb 09 13 59.0
comp=Z,11nm,1.1s
D25K Kavik River 78.42 6 P **P** **09 13 57.1 -0.3**
baz=346
E21K Killik River 78.45 9 P **P** **09 13 57.6 0.0**
baz=340
E17K Hotham Inlet 78.49 12 P **P** **09 13 57.7 -0.1**
baz=333
TNA Tin City 78.61 15 P **P** **09 13 58.3 -0.1**
baz=328
TOLK Toolik Lake Re 78.77 7 IAmb IAmb 09 14 00.7
comp=Z,12nm,0.9s
TOLK Toolik Lake Re 78.77 7 P **P** **09 13 59.5 +0.1**
baz=343
D27M Malcolm River 78.88 4 P **P** **09 13 59.8 -0.2**
baz=351
D28M Stokes Point 78.91 3 P **P** **09 13 59.5 -0.6**
baz=353
E19K Redstone River 78.91 10 P **P** **09 13 59.7 -0.4**
baz=337
C36M Paulatuk 78.98 358 P **P** **09 13 59.8 -0.6**
baz=5.4
E22K Anaktuvuk Pass 79.01 8 IAmb IAmb 09 14 02.2
comp=Z,7.1nm,0.9s
E22K Anaktuvuk Pass 79.01 8 P **P** **09 14 00.3 -0.3**
baz=342
F14K Arctic Creek 79.03 14 P **P** **09 14 00.5 -0.2**
baz=329
F17K Baldwin Pennin 79.17 12 P **P** **09 14 01.1 -0.4**
baz=334
F15K North Star Dit 79.17 14 P **P** **09 14 01.0 -0.6**
baz=331
GAMB Gambell 79.21 17 P **P** **09 14 01.6 -0.1**
baz=325
F18K Selawik 79.31 11 P **P** **09 14 01.8 -0.4**
baz=335
E23K Chandalar 79.33 7 IAmb IAmb 09 14 05.7
comp=Z,8.7nm,1.2s
E23K Chandalar 79.33 7 P **P** **09 14 01.6 -0.8**
baz=343
F19K Shaleruckik Mo 79.40 11 IAmb IAmb 09 14 03.2
comp=Z,7.8nm,1.1s
F19K Shaleruckik Mo 79.40 11 P **P** **09 14 02.2 -0.6**
baz=336
E24K Your Creek 79.43 7 IAmb IAmb 09 14 04.8
comp=Z,7.1nm,1.1s
E24K Your Creek 79.43 7 P **P** **09 14 02.5 -0.5**
baz=344
F20K Avaraart Lake 79.51 10 P **P** **09 14 03.1 -0.2**
baz=338
F22K John River 79.56 8 P **P** **09 14 03.5 -0.2**
baz=341
E28M Babbage River 79.59 3 IAmb IAmb 09 14 05.7
comp=Z,12nm,1.4s
E28M Babbage River 79.59 3 P **P** **09 14 03.6 -0.2**
baz=352,SNR=5.0
E25K Arctic Village 79.66 6 IAmb IAmb 09 14 05.7
comp=Z,7.5nm,0.8s
E25K Arctic Village 79.66 6 P **P** **09 14 03.9 -0.3**
baz=347,SNR=5.4
F21K Alatna River 79.66 9 **P** **09 14 05.0 +0.8**
E29M Blow River 79.88 3 IAmb IAmb 09 14 06.4
comp=Z,5.6nm,0.7s
E29M Blow River 79.88 3 P **P** **09 14 05.3 -0.1**
baz=354,SNR=11
E27K Coleen River 79.89 4 IAmb IAmb 09 14 08.6
comp=Z,9.9nm,1.4s
E27K Coleen River 79.89 4 P **P** **09 14 05.2 -0.2**
baz=350
G15K Niukluk 79.93 14 P **P** **09 14 05.3 -0.4**
baz=331
F24K Squaw Lake 80.03 7 P **P** **09 14 06.0 -0.2**
baz=345
COLD Coldfoot 80.06 8 P **P** **09 14 07.3 +0.9**
COLD Coldfoot 80.06 8 P **P** **09 14 06.4 0.0**
baz=343
INK Inuvik 80.10 1 P **P** **09 14 05.9 -0.6**
baz=357
G18K Tagagawik 80.12 11 P **P** **09 14 05.7 -1.0**
baz=336
G17K Kiwalik Mounta 80.13 12 P **P** **09 14 06.0 -0.7**
baz=334
G19K Purcell Mounta 80.15 11 **P** **09 14 07.5 +0.6**
G19K IAmb IAmb 09 14 07.9
comp=Z,7.9nm,0.8s
G19K Purcell Mounta 80.15 11 P **P** **09 14 06.6 -0.3**
baz=337,SNR=5.8
F25K Christian Rive 80.17 6 P **P** **09 14 07.2 +0.2**
baz=347
F26K Sheenjek River 80.19 5 P **P** **09 14 07.2 +0.1**
baz=348
G22K Bettles 80.20 8 P **P** **09 14 07.2 +0.1**
baz=342
G21K Allakaket 80.33 9 P **P** **09 14 07.8 0.0**
baz=340
BMAR Burnt Mountain 80.42 6 P **P** **09 14 09.5 +1.2**
F28M Old Crow 80.56 4 IAmb IAmb 09 14 12.2
comp=Z,11nm,1.4s
F28M Old Crow 80.56 4 P **P** **09 14 09.0 -0.1**
baz=352
G23K Bananza Creek 80.58 8 P **P** **09 14 09.1 -0.1**
baz=343
F30M Barrier River 80.74 2 P **P** **09 14 09.8 -0.2**
baz=355,SNR=5.8
IMAR Indian Mountai 80.79 10 P **P** **09 14 10.5 +0.2**
H19K Roundabout Mou 80.82 11 P **P** **09 14 10.5 +0.1**
baz=338
H18K Honhosa River 80.85 12 P **P** **09 14 10.2 -0.4**
baz=336
G24K Hadweenzic Riv 80.86 7 P **P** **09 14 10.4 -0.3**
baz=345,SNR=5.3
G25K Bearman Lake 80.94 6 P **P** **09 14 10.4 -0.6**
baz=346
G26K Porcupine Rive 80.95 5 P **P** **09 14 11.2 0.0**
baz=348
F31M Tsiigehtchic 80.96 1 P **P** **09 14 10.6 -0.5**
baz=357,SNR=8.6
H20K Anotleneega Mo 81.09 10 P **P** **09 14 12.2 +0.3**
baz=339,SNR=7.8
H22K Ishtalitna Cre 81.20 9 P **P** **09 14 12.5 0.0**
baz=342,SNR=5.8
H21K Melozitna Rive 81.23 9 IAmb IAmb 09 14 14.4
comp=Z,6.8nm,0.9s
H21K Melozitna Rive 81.23 9 P **P** **09 14 12.7 0.0**
baz=341
G27K Doyon Strip 81.25 5 P **P** **09 14 12.6 -0.2**
baz=350,SNR=6.4
G29M Pine Creek 81.35 3 P **P** **09 14 13.5 +0.2**
baz=353
G30M tAoh Zraii Nji 81.36 2 IAmb IAmb 09 14 14.2
comp=Z,9.3nm,0.7s
G30M tAoh Zraii Nji 81.36 2 P **P** **09 14 13.4 0.0**
baz=355,SNR=6.0
G31M Satah River 81.47 2 P **P** **09 14 14.2 +0.3**
G31M Satah River 81.47 2 P **P** **09 14 14.2 +0.3**
baz=357,SNR=6.7
H24K Noodor Dome 81.66 7 P **P** **09 14 14.8 -0.2**
baz=345
I20K Naaghedeneel 81.81 10 P **P** **09 14 15.6 -0.1**
baz=339
H27K Steamboat Moun 81.83 5 IAmb IAmb 09 14 17.6
comp=Z,13nm,1.4s
H27K Steamboat Moun 81.83 5 P **P** **09 14 16.5 +0.6**
baz=350
EPYK Eagle Plains 81.95 3 P **P** **09 14 16.7 +0.2**
baz=354
J14K Nanvaranak Lak 82.01 15 P **P** **09 14 16.9 +0.2**
baz=332
H29M Whitestone 82.03 3 IAmb IAmb 09 14 26.3
comp=Z,6.9nm,0.8s
H29M Whitestone 82.03 3 P **P** **09 14 17.0 +0.1**
baz=353
MLY Manley 82.10 9 IAmb IAmb 09 14 37.2
comp=Z,11nm,1.5s
MLY Manley 82.10 9 P **P** **09 14 17.5 +0.1**
baz=343
J16K Anvik River 82.14 13 P **P** **09 14 17.8 +0.3**
baz=334
J17K VABM Dome 82.33 13 P **P** **09 14 18.6 +0.1**
baz=336
POKR Poker Plat Res 82.41 7 P **P** **09 14 18.9 0.0**
baz=345
J20K Nowinta River 82.44 10 IAmb IAmb 09 14 22.8
comp=Z,9.5nm,1.2s
J20K Nowinta River 82.44 10 P **P** **09 14 19.2 +0.1**
baz=340
H31M Peel River 82.59 2 P **P** **09 14 19.5 -0.3**
baz=357
COLA College 82.60 7 P **P** **09 14 19.3 -0.5**
baz=345
I28M Miner Creek 82.71 4 P **P** **09 14 20.2 -0.4**
baz=352
NEA2 Nenana 82.73 8 P **P** **09 14 20.2 -0.4**
baz=344
ILAR Eielson Array 82.80 7 P **P** **09 14 20.4 -0.5**
comp=Z,1.5nm,0.7s,baz=332,slow=5.1,SNR=15
comp=Z,1.5nm,0.7s
SHEM Shemya Is, Ala 82.83 30 LR LR 09 54 23.2
comp=Z,94nm,22.0s,baz=318,slow=38
I29M Ogilvie Camp, 82.89 3 P **P** **09 14 21.5 +0.2**
baz=353
BPAW Bear Paw Mtn. 82.96 9 IAmb IAmb 09 14 23.0
comp=Z,12nm,1.0s
BPAW Bear Paw Mtn. 82.96 9 P **P** **09 14 21.6 -0.2**
baz=342
CHUM Lake Minchumin 82.99 10 P **P** **09 14 21.8 -0.1**
baz=341
K17K Iditarod 83.10 13 P **P** **09 14 22.1 -0.4**
baz=336
I30M Mount Dempster 83.11 3 IAmb IAmb 09 14 23.2
comp=Z,5.6nm,0.7s
I30M Mount Dempster 83.11 3 P **P** **09 14 22.1 -0.6**
baz=355,SNR=5.7
J25K Salcha River, 83.11 6 IAmb IAmb 09 14 23.3
comp=Z,5.9nm,1.0s
J25K Salcha River, 83.11 6 P **P** **09 14 22.4 -0.2**
baz=347
HDA Harding Lake 83.15 7 P **P** **09 14 22.0 -0.7**
baz=346
K20K Telida 83.22 11 P **P** **09 14 22.4 -0.7**
baz=340
EGAK Eagle 83.30 5 P **P** **09 14 23.1 -0.4**
baz=351
J26L Joseph Creek 83.38 6 IAmb IAmb 09 14 24.9
comp=Z,4.3nm,0.8s
J26L Joseph Creek 83.38 6 P **P** **09 14 23.8 -0.3**
baz=349
L14K Kuka Creek 83.45 15 P **P** **09 14 23.9 -0.4**
baz=333
MCK McKinley 83.58 8 P **P** **09 14 24.5 -0.5**
baz=344
L17K Donlin 83.63 13 P **P** **09 14 24.8 -0.5**
baz=336
TRF Thorofare Moun 83.68 9 P **P** **09 14 25.0 -0.7**
baz=343
J30M Hart River 83.76 3 P **P** **09 14 25.6 -0.5**
baz=355
L16K Owhat River 83.79 14 P **P** **09 14 25.7 -0.4**
baz=335
K24K Donnelly Dome 83.86 7 P **P** **09 14 26.1 -0.3**
baz=347
SCRK Sand Creek 83.86 6 IAmb IAmb 09 14 27.7
comp=Z,6.7nm,0.8s
SCRK Sand Creek 83.86 6 P **P** **09 14 26.1 -0.4**
baz=348
PPLA Purkeypile 83.94 10 P **P** **09 14 26.6 -0.5**
baz=341
K27K Chicken 83.97 5 P **P** **09 14 27.2 +0.3**
baz=350
L20K Farewell, AK 84.08 11 P **P** **09 14 27.3 -0.3**
baz=340
DAWY Dawson 84.12 4 P **P** **09 14 27.2 -0.6**
baz=352
DOT Dot Lake 84.18 6 IAmb IAmb 09 14 29.8
comp=Z,4.2nm,0.7s
DHY Denali Highway 84.40 8 P **P** **09 14 28.6 -0.7**
baz=346
K29M Barlow Dome 84.44 3 P **P** **09 14 28.9 -0.6**
baz=354
M15K Kasigluk River 84.47 14 P **P** **09 14 29.0 -0.5**
baz=334
M16K Timber Creek 84.53 14 P **P** **09 14 29.0 -0.9**
baz=336
M18K Stony River 84.68 12 P **P** **09 14 29.7 -0.8**
baz=338
M20K Styx River 84.76 11 P **P** **09 14 30.6 -0.5**
baz=341
WAT6 Susitna Watana 84.84 8 P **P** **09 14 30.6 -1.0**
baz=345
L26K Log Cabin Wild 84.86 6 P **P** **09 14 31.0 -0.5**
baz=349
SKT Skwentna 84.91 10 P **P** **09 14 31.0 -0.8**
baz=342
N14K Kuskokwak Cree 84.94 15 P **P** **09 14 31.5 -0.4**
baz=334
L27K Beaver Creek, 84.94 5 P **P** **09 14 31.5 -0.5**

	baz=350								
WRGLY	**Wrigley**	**85.07**	**357**	P		**P**	09 14 32.9	**+0.4**	
	baz=5.9								
SPIA	**Saint Paul Isl**	**85.09**	**21**	P		**P**	09 14 33.6	**+0.9**	
	baz=327								
YKA	**Yellowknife Ar**	**85.12**	**353**	P		**P**	09 14 32.7	**0.0**	
	comp=Z,2.2nm,0.9s,baz=5.1,slow=5.4,SNR=4.4								
YKA				LR		LR	09 56 07.1		
	comp=Z,63nm,20.5s,baz=29,slow=38								
	comp=Z,2.2nm,0.9s								
L29M	**L29M**	**85.14**	**4**	P		**P**	09 14 32.4	**-0.5**	
	baz=353								
HARP	**HAARP**	**85.30**	**7**	P		**P**	09 14 33.1	**-0.6**	
	baz=347								
N17K	**Nushagak Hills**	**85.33**	**13**	P		**P**	09 14 33.7	**-0.2**	
	baz=337								
M22K	**Willow**	**85.33**	**9**	P		**P**	09 14 33.8	**0.0**	
	baz=343								
N18K	**Kilae Creek**	**85.43**	**12**	P		**P**	09 14 33.7	**-0.7**	
	baz=338								
M26K	**Nabesna, AK**	**85.50**	**6**	P		**P**	09 14 34.4	**-0.4**	
	baz=349								
SUA	**Susitna One**	**85.52**	**10**	P		**P**	09 14 34.4	**-0.6**	
	baz=343								
N19K	**Bonanza Creek**	**85.55**	**12**	P		**P**	09 14 34.8	**-0.3**	
	baz=340								
SPCR	**Spurr Chakacha**	**85.55**	**10**	P		**P**	09 14 35.2	**+0.1**	
	baz=342								
M23K	**Glacier View**	**85.60**	**8**	P		**P**	09 14 35.1	**-0.1**	
	baz=345								
SCM	**Sheep Creek Mo**	**85.61**	**8**	P		**P**	09 14 35.5	**+0.2**	
SCM	**Sheep Creek Mo**	**85.61**	**8**	P		**P**	09 14 35.5	**+0.2**	
SCM				pmax		pmax			
	comp=Z,21nm,1.3s								
SCM	**Sheep Creek Mo**	**85.61**	**8**	P		**P**	09 14 35.2	**-0.2**	
	baz=346								
PMR	**Palmer**	**85.62**	**9**	P		**P**	09 14 35.4	**+0.2**	
	baz=344								
M27K	**Edge Creek, AK**	**85.64**	**5**	P		**P**	09 14 35.5	**-0.1**	
	baz=350								
O14K	**Tigyukauivet M**	**85.64**	**15**	P		**P**	09 14 35.3	**-0.2**	
	baz=334								
M30M	**Minto, Yukon**	**85.74**	**3**	P		**P**	09 14 35.9	**-0.1**	
	baz=354								
M29M	**Somme Creek**	**85.78**	**4**	P		**P**	09 14 35.8	**-0.5**	
	baz=353								
P08K	**Saint George I**	**85.79**	**21**	P		**P**	09 14 35.9	**-0.3**	
	baz=327								
MMPY	**Sheldon Lake,**	**85.84**	**0**	P		**P**	09 14 37.4	**+1.0**	
MMPY				IAmb		IAmb	09 14 38.6		
	comp=Z,4.1nm,0.8s								
MMPY	**Sheldon Lake,**	**85.84**	**0**	P		**P**	09 14 36.0	**-0.4**	
	baz=359								
KNK	**Knik Glacier**	**85.88**	**9**	P		**P**	09 14 36.0	**-0.6**	
	baz=345								
O16K	**Kokwok River B**	**86.01**	**14**	P		**P**	09 14 36.8	**-0.4**	
	baz=337								
RC01	**Rabbit Creek A**	**86.02**	**9**	P		**P**	09 14 36.9	**-0.4**	
	baz=344								
O17K	**Koliganek Bris**	**86.04**	**13**	P		**P**	09 14 36.5	**-0.9**	
	baz=337								
KLU	**Klutina**	**86.10**	**7**	P		**P**	09 14 37.0	**-0.8**	
	baz=347								
M31M	**Drury Creek, Y**	**86.20**	**2**	P		**P**	09 14 38.0	**-0.2**	
	baz=356								
P17K	**Kvichak River**	**86.71**	**13**	P		**P**	09 14 40.3	**-0.4**	
	baz=338								
N30M	**Aishikik Lake**	**86.84**	**3**	P		**P**	09 14 41.6	**+0.2**	
	baz=354								
YUK4	**Talbot Arm**	**86.87**	**4**	P		**P**	09 14 40.6	**-1.2**	
	baz=353								
CTG	**Chitna Glacier**	**87.06**	**5**	P		**P**	09 14 42.6	**0.0**	
	baz=351								
BRLK	**Bradley Lake**	**87.13**	**10**	P		**P**	09 14 43.1	**+0.3**	
YUK6	**Outpost Mounta**	**87.29**	**4**	P		**P**	09 14 43.1	**-0.7**	
	baz=353								
HYT	**Haines Junctio**	**87.45**	**4**	P		**P**	09 14 44.0	**-0.4**	
	baz=354								
Q19K	**Cape Douglas,**	**87.47**	**12**	P		**P**	09 14 45.2	**+0.7**	
	baz=340								
O30N	**Mendenhall**	**87.57**	**3**	P		**P**	09 14 45.4	**+0.5**	
	baz=355								
Q17K	**Contact Creek**	**87.68**	**13**	P		**P**	09 14 45.9	**+0.3**	
	baz=338								
WHY	**Whitehorse**	**87.73**	**2**	P		**P**	09 14 45.4	**-0.4**	
	baz=356								
KAIM	**Kayak Island**	**87.80**	**7**	P		**P**	09 14 45.8	**-0.1**	
	baz=348								
O29M	**Mount Kennedy**	**87.91**	**4**	P		**P**	09 14 46.7	**0.0**	
	baz=353								
R16K	**Pilot Point**	**87.98**	**14**	P		**P**	09 14 47.2	**+0.4**	
	baz=337								
FITZ	**Fitzroy Crossi**	**88.02**	**113**	P		**P**	09 14 48.2	**+0.5**	
FITZ	**Fitzroy Crossi**	**88.02**	**113**	P		**P**	09 14 47.5	**-0.2**	
	comp=Z,3.6nm,0.7s,baz=322,slow=8.6,SNR=8.4								
	comp=Z,3.6nm,0.7s								
KDAK	**Kodiak Island**	**88.74**	**12**	P		**P**	09 14 51.3	**+0.8**	
KDAK	**Kodiak Island**	**88.74**	**12**	P		**P**	09 14 51.3	**+0.8**	
KDAK				pmax		pmax			
	comp=Z,29nm,1.4s								
RCBR	**Riachuelo**	**89.33**	**263**	LR		LR	09 56 12.5		
	comp=Z,27nm,18.4s,baz=78,slow=36								
DLBC	**Dease Lake**	**90.04**	**360**	LR		LR	10 00 26.1		
	comp=Z,452nm,21.9s,baz=325,slow=39								
SADO	**Sadowa**	**90.65**	**326**	LR		LR	09 58 21.8		
	comp=Z,372nm,20.1s,baz=38,slow=37								
ULM	**Lac du Bonnet**	**92.74**	**339**	LR		LR	09 58 47.3		
	comp=Z,84nm,18.8s,baz=28,slow=37								
WRA	**Warramunga Arr**	**95.93**	**110**	P		**P**	09 15 23.7	**-0.6**	
	comp=Z,0.5nm,0.6s,baz=306,slow=4.6,SNR=5.6								
	comp=Z,0.5nm,0.6s								
ASAR	**Alice Springs**	**97.52**	**113**	P		**P**	09 15 31.3	**-0.2**	
ASAR	**Alice Springs**	**97.52**	**113**	P		**P**	09 15 30.9	**-0.6**	
	comp=Z,0.3nm,0.6s,baz=305,slow=5.1,SNR=7.5								
	comp=Z,0.3nm,0.6s								
ASAR	**Alice Springs**	**97.52**	**113**	P		**P**	09 15 31.3	**-0.2**	
NEW	**Newport**	**99.36**	**351**	LR		LR	10 02 21.4		
	comp=Z,90nm,19.1s,baz=329,slow=36								
MAW	**Mawson**	**99.66**	**175**	LR		LR	09 58 11.5		
	comp=Z,73nm,18.3s,baz=24,slow=34								
NVAR	**Mina Array Bea**	**109.17**	**350**	PKiKP		**PKiKP**	**09 20 28.1**	**+0.7**	
	comp=Z,0.2nm,0.6s,baz=33,slow=5.0,SNR=3.6								
QSPA	**South Pole Qui**	**121.70**	**180**	PKP		**PKPdf**	**09 20 49.9**	**-0.2**	
	comp=Z,1.8nm,0.9s,baz=262,slow=1.9,SNR=7.2								

PRU 24 09:05:02.2, 50.23N×18.54E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.47**	**213**	*e*SG	Sg	09 05 17.2	0.0
	14nm,1.0s						
STEB	**Steborice**	**0.58**	**239**	*e*PG	Pg	09 05 12.9	-0.3
MORC	**Moravsky Berou**	**0.79**	**235**	*e*PG	Pg	09 05 16.0	-1.3
MORC				*e*SG	Sg	09 05 26.6	-0.9
OJC	**Ojcow**	**0.81**	**90**	*e*Pg	Pg	09 05 15.0	-2.7
OJC				*e*Sg	Sg	09 05 26.4	-1.8
KRLC	**Kraliky**	**1.14**	**263**	*e*PG	Pg	09 05 22.0	-2.1
KRLC				*e*SG	Sg	09 05 38.0	-0.8
	3.6nm,0.3s						
DPC	**Dobruska-Polom**	**1.43**	**276**	*e*PG	Pn	09 05 27.9	-1.5
DPC				*e*SG	Sg	09 05 48.0	0.0
	6.3nm,0.8s						

*MEX **24** 09:07:25.9±0.5, 15.01N×92.53W, h101km±5km, MD3.7*
*GCG **24** 09:07:26.3±0.6, 15.28N×92.36W, h82km±11km, MD3.5*

ISC 24 09:07:23.4±2.2, 15.0N±0.1×92.6W±0.1, h107km±14km, n11, σ1s30/22, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.32**	**114**	*e*P	**Pn**	**09 07 39.0**	**+0.2**
THIG				*e*S	**Sn**	**09 07 49.5**	**-0.9**
THIG		**0.32**	**114**	*e*P	**Pn**	**09 07 39.2**	**+0.4**
THIG				*i* S	**Sn**	**09 07 49.9**	**-0.5**
PATR	**El Naranjo**	**0.33**	**76**	*e*P	**Pn**	**09 07 39.2**	**0.0**
PATR				*e*S	**Sn**	**09 07 49.9**	**-1.1**
PAVE	**Pavencul**	**0.41**	**68**	*e*P	**Pn**	**09 07 40.3**	**+0.7**
PAVE				*e*S	**Sn**	**09 07 51.4**	**-0.3**
CHUJ	**Union Juarez**	**0.44**	**83**	*e*P	**Pn**	**09 07 40.1**	**+0.2**
CHUJ				*e*S	**Sn**	**09 07 51.6**	**-0.5**
SMCA	**Catarina**	**0.51**	**111**	*e*P	**Pn**	**09 07 40.2**	**+0.3**
SMCA				*e*S	**Sn**	**09 07 51.3**	**-1.0**
PCIG		**0.91**	**316**	*e*P	**Pn**	**09 07 45.1**	**+1.7**
PCIG				*e*S	**Sn**	**09 07 59.4**	**+0.9**
RTAL	**Retalhuleu**	**0.98**	**121**	*e*P	**Pn**	**09 07 45.5**	**+1.4**
RTAL				*e*S	**Sn**	**09 07 59.5**	**-0.3**
TGIG		**1.81**	**343**	*e*P	**Pn**	**09 07 52.2**	**-1.7**
TGIG				*e*S	**Sn**	**09 08 17.6**	**+0.4**
UXUV	**UXUV**	**2.73**	**326**	*e*P	**Pn**	**09 08 08.2**	**+2.4**
UXUV				*e*S	**Sn**	**09 08 40.0**	**+1.7**
CMIG	**Matias Romero**	**3.02**	**313**	*e*P	**Pn**	**09 08 07.5**	**-2.1**
CMIG				*e*S	**Sn**	**09 08 43.2**	**-2.1**

*NEIC **24** 09:13:10.9±1.2, 19.07N±0.03×67.04W±0.02, h10km±1km, ML2.4/15, Md2.9/9(RSPR), Error ellipse: s-maj=5.6km s-min=3.0km az=187.0*
*RSPR **24** 09:13:13.8, 19.04N×67.13W, h11km±5km, MD2.9/9*
*OSPL **24** 09:13:13.9±0.9, 19.04N×67.22W, h23km±8km, ML2.3*

ISC 24 09:13:11.4±1.8, 19.07N±0.08×67.11W±0.04, h29km±12km, n42, σ0s51/54, 12C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.60**	**180**		**Pn**	**09 13 24.0**	**+0.1**
AGPR					**Sn**	**09 13 32.5**	**-0.2**
AGPR	**Aguadilla, PR**	**0.60**	**180**	*e*P	**Pn**	**09 13 24.0**	**+0.1**
AGPR	**Aguadilla, PR**	**0.60**	**180**	*e*S	**Sn**	**09 13 32.5**	**-0.2**
AGPR	**Aguadilla, PR**	**0.60**	**180**	*i* P	**Pn**	**09 13 24.0**	**+0.1**
AGPR				*e*S	**Sn**	**09 13 32.5**	**-0.2**
AGPR				IAML		09 13 36.0	
	comp=Z,193nm,0.1s						
IDE	**Isla Desecheo**	**0.76**	**207**		**Pn**	**09 13 26.4**	**+0.1**
IDE					**Sb**	**09 13 36.6**	**+0.5**
IDE	**Isla Desecheo**	**0.76**	**207**	*e*P	**Pn**	**09 13 26.4**	**+0.1**
IDE	**Isla Desecheo**	**0.76**	**207**	*e*S	**Sb**	**09 13 36.6**	**+0.5**
AOPR	**Arecibo Observ**	**0.79**	**155**		**Pn**	**09 13 26.7**	**+0.1**
AOPR					**Sb**	**09 13 36.0**	**-1.1**
AOPR	**Arecibo Observ**	**0.79**	**155**	*e*P	**Pn**	**09 13 26.9**	**+0.2**
AOPR	**Arecibo Observ**	**0.79**	**155**	*e*S	**Sn**	**09 13 37.7**	**+0.2**
EMPR	**Esperanza - Ma**	**0.80**	**137**		**Pn**	**09 13 27.7**	**+0.9**
PRSN	**Puerto Rico Se**	**0.85**	**182**		**Pb**	**09 13 27.8**	**+0.2**
PRSN					**Sn**	**09 13 39.4**	**+0.5**
PRSN	**Puerto Rico Se**	**0.85**	**182**	*e*P	**Pb**	**09 13 27.8**	**+0.2**
PRSN	**Puerto Rico Se**	**0.85**	**182**	*e*S	**Sn**	**09 13 39.4**	**+0.5**
LSP	**Las Mesas**	**0.89**	**179**		**Pb**	**09 13 28.6**	**+0.3**
LSP					**Sb**	**09 13 38.7**	**-1.1**
LSP	**Las Mesas**	**0.89**	**179**	*e*P	**Pb**	**09 13 28.6**	**+0.3**
LSP	**Las Mesas**	**0.89**	**179**	*e*S	**Sb**	**09 13 38.7**	**-1.1**
ECPR	**Experimental S**	**1.03**	**137**	*e*P	**Pb**	**09 13 30.8**	**+0.2**
ECPR	**Experimental S**	**1.03**	**137**	*e*S	**Sb**	**09 13 43.9**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.06**	**180**		**Pb**	**09 13 31.0**	**-0.1**
CRPR					**Sn**	**09 13 43.7**	**-0.3**
CRPR				IAML		09 13 53.0	
	comp=N,81nm,0.5s						
CRPR				IAML		09 13 54.9	
	comp=E,86nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.06**	**180**	*e*P	**Pb**	**09 13 31.1**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.06**	**180**	*e*S	**Sb**	**09 13 45.0**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.06**	**180**	*i* P	**Pb**	**09 13 31.2**	**+0.1**
CRPR				*e*S	**Sn**	**09 13 44.4**	**+0.4**
CRPR				IAML		09 13 48.3	
	comp=Z,82nm,0.3s						
MLPR	**Magueyes Islan**	**1.10**	**177**	*e*P	**Pb**	**09 13 31.5**	**-0.2**
MLPR	**Magueyes Islan**	**1.10**	**177**	*e*S	**Sb**	**09 13 46.0**	**+0.3**
CELP	**Cerrillos**	**1.11**	**153**		**Pb**	**09 13 31.4**	**-0.5**
CELP					**Sn**	**09 13 45.5**	**+0.2**
CELP				IAML		09 13 48.4	
	comp=N,133nm,0.2s						
CELP	**Cerrillos**	**1.11**	**153**	*e*P	**Pb**	**09 13 31.8**	**-0.1**
CELP	**Cerrillos**	**1.11**	**153**	*e*S	**Sn**	**09 13 45.3**	**0.0**
OBIP	**Obispado Ponce**	**1.13**	**155**		**Pb**	**09 13 32.1**	**-0.1**
OBIP				IAML		09 13 48.4	
	comp=N,89nm,0.2s						
OBIP				IAML		09 13 48.7	
	comp=E,87nm,0.2s						
OBIP	**Obispado Ponce**	**1.13**	**155**		**Sn**	**09 13 44.3**	**-1.4**
OBIP	**Obispado Ponce**	**1.13**	**155**	*e*P	**Pb**	**09 13 32.3**	**+0.1**
OBIP	**Obispado Ponce**	**1.13**	**155**	*e*S	**Sn**	**09 13 44.3**	**-1.4**
GCPR	**Guaynabo City**	**1.23**	**128**		**Pb**	**09 13 33.4**	**-0.6**
GCPR				Sg	**Sn**	**09 13 48.6**	**+0.3**
SJG	**San Juan**	**1.32**	**136**	Pn	**Pn**	**09 13 34.0**	**+0.3**
SJG				IAML		09 13 59.2	
	comp=E,68nm,0.2s						
SJG				IAML		09 14 00.3	
	comp=E,90nm,0.3s						
SJG	**San Juan**	**1.32**	**136**	*i* P	**Pb**	**09 13 36.6**	**+1.2**
SJG				*e*S	**Sb**	**09 13 52.1**	**+0.2**
SJG				IAML		09 14 01.3	
	comp=Z,29nm,1.1s						
IGPR	**InterUniversit**	**1.45**	**139**		**Pb**	**09 13 37.7**	**0.0**
IGPR					**Sn**	**09 13 53.7**	**0.0**
IGPR	**InterUniversit**	**1.45**	**139**	*e*P	**Pb**	**09 13 37.7**	**0.0**
IGPR	**InterUniversit**	**1.45**	**139**	*e*S	**Sn**	**09 13 53.7**	**0.0**
PDPR	**Patillas Dam,**	**1.47**	**135**	Pn	**Pn**	**09 13 35.9**	**0.0**
PDPR				IAML		09 14 02.0	
	comp=E,53nm,0.1s						
PDPR				IAML		09 14 02.5	
	comp=N,77nm,0.1s						
PDPR	**Patillas Dam,**	**1.47**	**135**	*e*P	**Pb**	**09 13 37.6**	**-0.4**
PDPR	**Patillas Dam,**	**1.47**	**135**	*e*S	**Sb**	**09 13 56.3**	**+0.1**
SDDR	**Presa de Saban**	**3.96**	**269**		**Pb**	**09 14 20.1**	**-0.4**

*WEL **24** 09:18:44.4, 42.71S×171.36E, h16km, ML3.8, Mw3.6, Moment Tensor Solution. s6 Moment tensor: Scale 10^14 Nm; Mrr2.83; Mθθ 0.15; Mϕϕ -2.97; Mrθ 0.46; Mθϕ -0.67; Mϕr 1.00; Fault plane solution: M0 3.16000×10^14 NP1: ϕs16.00000°, δ55.00000°, λ96.00000°. NP2:ϕs186.00000°, δ35.00000°, λ82.00000°. Principal axes: T -3.2950, Plg79.0000°, Azm308.0000°; N 0.2620, Plg5.0000°, Azm192.0000°; P 3.0330, Plg10.0000°, Azm102.0000°; Stations used: WVZ LTZ OXZ RPZ GVZ LBZ REVERSE FAULTING*
*WEL **24** 09:18:44.0±0.3, 43°S±2°×17°1E±°, h8km±2km, M3.8/35, ML3.9/13, MLv3.8/35 Error ellipse: s-maj=2.7km s-min=2.1km az=151.6, confirmed*
*NOU **24** 09:18:45.8, 42.74S×171.24E, h67km, MLv4.2/18, South Island, New Zealand*

ISC 24 09:18:44.2±0.8, 42.72S±0.02×171.34E±0.02, h15km±5km, n116, σ1s23/129, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INZ	**Inchbonnie**	**0.08**	**91**	P	**Pg**	**09 18 47.1**	**-0.2**
INZ				S	**Sg**	**09 18 49.0**	**-0.3**
IFPS	**Inchbonnie Fit**	**0.10**	**92**	P	**Pg**	**09 18 47.0**	**-0.5**
IFPS				S	**Sg**	**09 18 49.4**	**-0.2**
ARPN	**Arnold River P**	**0.20**	**14**	P	**Pg**	**09 18 49.1**	**+0.1**
KOKS	**Kokatahi**	**0.23**	**222**	P	**Pg**	**09 18 49.9**	**+0.6**
HMCS	**Hokitika Medic**	**0.28**	**271**	P	**Pb**	**09 18 51.0**	**+0.1**
HMCS				S	**Sb**	**09 18 55.9**	**+0.5**
APPS	**Arthurs Pass P**	**0.28**	**143**	P	**Pg**	**09 18 50.3**	**+0.1**
APPS				S	**Sg**	**09 18 54.5**	**+0.1**
GMFS	**Greymouth Fire**	**0.28**	**339**	P	**Pb**	**09 18 50.7**	**-0.3**
GMFS				S	**Sb**	**09 18 55.0**	**-0.6**
WVAS	**Waitaha Valley**	**0.56**	**232**	P	**Pb**	**09 18 55.9**	**+0.1**
WVAS				S	**Sb**	**09 19 03.9**	**+0.3**
WVZ	**Waitaha Valley**	**0.56**	**231**	P	**Pb**	**09 18 55.9**	**+0.1**
WVZ				S	**Sb**	**09 19 03.7**	**+0.1**
CSHS	**Castle Hill**	**0.58**	**151**	P	**Pg**	**09 18 56.0**	**+0.3**
LTZ	**Lake Taylor**	**0.69**	**95**	P	**Pg**	**09 18 57.4**	**-0.3**
LTZ				S	**Sg**	**09 19 06.2**	**-0.6**
KOWC	**Kowai**	**0.71**	**148**	P	**Pg**	**09 18 58.3**	**+0.2**
KOWC				S	**Sg**	**09 19 08.0**	**+0.6**
HAFS	**Harihari Fire**	**0.72**	**233**	P	**Pb**	**09 18 59.0**	**+0.6**
RDCS	**Reefton DOC Ce**	**0.72**	**33**	P	**Pg**	**09 18 57.6**	**-0.6**
SJFS	**Springs Juncti**	**0.73**	**58**	P	**Pg**	**09 18 57.7**	**-0.9**
SJFS				S	**Sg**	**09 19 07.3**	**-0.9**
SPRS	**Springfield Vo**	**0.75**	**145**	P	**Pg**	**09 18 59.1**	**+0.2**
OXZ	**Oxford**	**0.79**	**140**	P	**Pg**	**09 18 59.8**	**+0.1**
OXZ				S	**Sb**	**09 19 11.0**	**+0.8**
MHCZ	**Mount Hutt**	**0.82**	**168**	P	**Pb**	**09 19 00.6**	**+0.3**
SHFC	**Sheffield Scho**	**0.84**	**143**	P	**Pg**	**09 19 00.6**	**+0.1**
RPZ	**Rata Peaks**	**1.01**	**192**	P	**Pb**	**09 19 03.9**	**+0.4**
RPZ	**Rata Peaks**	**1.01**	**192**	S	**Sn**	**09 19 18.4**	**+0.3**
RPZ	**Rata Peaks**	**1.01**	**192**	P	**Pb**	**09 19 03.9**	**+0.4**
RPZ				S	**Sb**	**09 19 17.9**	**+1.3**
WAKC	**Waikari**	**1.03**	**104**	P	**Pg**	**09 19 03.8**	**-0.4**
DSZ	**Denniston Nort**	**1.04**	**20**	P	**Pg**	**09 19 03.0**	**-1.3**
DSZ				S	**Sg**	**09 19 16.9**	**-0.9**
AMCZ	**Amberley**	**1.06**	**116**	P	**Pg**	**09 19 04.1**	**-0.6**
FJDS	**Franz Josef DO**	**1.08**	**231**	P	**Pn**	**09 19 05.1**	**+0.3**
WIGC	**Waiau Gorge**	**1.08**	**89**	P	**Pg**	**09 19 05.1**	**+0.1**
MAYC	**Mayfield Schoo**	**1.10**	**177**	P	**Pg**	**09 19 04.7**	**-0.8**
HSES	**Hanmer Springs**	**1.12**	**80**	P	**Pb**	**09 19 05.0**	**-0.3**
RACZ	**Rakaia**	**1.16**	**150**	P	**Pb**	**09 19 05.2**	**-0.8**
MCASZ	**Murchison**	**1.18**	**39**	P	**Pb**	**09 19 05.9**	**-0.4**
PEEC	**Peel Forest**	**1.20**	**184**	P	**Pb**	**09 19 06.6**	**-0.1**
ARCZ	**Arundel**	**1.23**	**185**	P	**Pn**	**09 19 06.5**	**-0.4**
WTMC	**Te Mara Farm W**	**1.27**	**86**	P	**Pn**	**09 19 07.6**	**+0.2**
GVZ	**Greta Valley S**	**1.27**	**102**	P	**Pn**	**09 19 07.0**	**-0.4**
WACZ	**Wakanui South**	**1.27**	**164**	P	**Pn**	**09 19 06.8**	**-0.6**
MCNS	**Mount Cook Ann**	**1.36**	**221**	P	**Pn**	**09 19 09.3**	**+0.6**
DHSS	**Diamond Harbou**	**1.36**	**132**	P	**Pn**	**09 19 07.9**	**-0.8**
MQZ	**McQueen's Vall**	**1.37**	**136**	P	**Pn**	**09 19 07.6**	**-1.3**
FOZ	**Fox Glacier**	**1.38**	**234**	P	**Pn**	**09 19 08.2**	**-0.7**
FOZ				S	**Sg**	**09 19 28.3**	**-0.4**
THZ	**Tophouse**	**1.51**	**51**	P	**Pn**	**09 19 10.5**	**-0.2**
TOKS	**Te Oka Bay Roa**	**1.52**	**137**	P	**Pn**	**09 19 10.3**	**-0.6**
MOLW	**Molesworth Sta**	**1.56**	**67**	P	**Pn**	**09 19 11.9**	**+0.4**
OKCZ	**Okains Bay**	**1.61**	**129**	P	**Pn**	**09 19 11.3**	**-0.8**
AKCZ	**Akaroa Harbour**	**1.62**	**136**	P	**Pn**	**09 19 11.4**	**-0.9**
KHZ	**Kahutara**	**1.65**	**80**	P	**Pn**	**09 19 12.9**	**+0.2**
KHZ	**Kahutara**	**1.65**	**80**	P	**Pn**	**09 19 12.7**	**0.0**
KHZ					S	**Sn**	**09 19 35.4**	**+1.8**
TMZ	**Timaru**	**1.68**	**188**	P	**Pn**	**09 19 12.7**	**-0.3**
MRNZ	**Matariki Terra**	**1.69**	**39**	P	**Pn**	**09 19 12.9**	**-0.4**
LOKS	**Mount Lookout**	**1.74**	**67**	P	**Pn**	**09 19 15.3**	**+1.2**
LBZ	**Lake Benmore**	**1.86**	**206**	P	**Pn**	**09 19 15.7**	**+0.1**
TKNZ	**Takaka Hill**	**2.08**	**36**	P	**Pn**	**09 19 18.2**	**-0.3**
QRZ	**Quartz Range**	**2.10**	**26**	P	**Pn**	**09 19 18.5**	**-0.3**
QRZ	**Quartz Range**	**2.10**	**26**	P	**Pn**	**09 19 18.2**	**-0.6**
BSWZ	**Blackbirch Sta**	**2.14**	**63**	P	**Pn**	**09 19 21.0**	**+1.6**
NNZ	**Nelson**	**2.14**	**46**	P	**Pn**	**09 19 19.6**	**+0.2**
JCZ	**Jackson Bay**	**2.30**	**233**	P	**Pn**	**09 19 20.0**	**-1.1**
JCZ	**Jackson Bay**	**2.30**	**233**	P	**Pn**	**09 19 20.9**	**-0.8**
TUWZ	**Tuamarina**	**2.33**	**57**	P	**Pn**	**09 19 23.0**	**+1.0**
CMWZ	**Cape Campbell**	**2.35**	**66**	P	**Pb**	**09 19 25.4**	**-0.7**
ODZ	**Otahua Downs**	**2.37**	**192**	P	**Pn**	**09 19 21.7**	**-0.9**
ODZ	**Otahua Downs**	**2.37**	**192**	S	**Sn**	**09 19 50.4**	**-1.0**
ODZ	**Otahua Downs**	**2.37**	**192**	P	**Pn**	**09 19 22.1**	**-0.5**
TCW	**Tory Channel**	**2.66**	**56**	P	**Pn**	**09 19 27.3**	**+0.7**
WKZ	**Wanaka**	**2.69**	**218**	P	**Pn**	**09 19 26.5**	**-0.5**
DUWZ	**D'Urville Isla**	**2.72**	**46**	P	**Pn**	**09 19 28.4**	**+1.0**
SNZO	**South Karori**	**2.88**	**62**	P	**Pn**	**09 19 30.4**	**+0.9**
EAZ	**Earnscleugh**	**2.90**	**210**	P	**Pn**	**09 19 29.1**	**-0.8**
BHW	**Baring Head**	**2.94**	**65**	P	**Pn**	**09 19 32.9**	**+2.6**
PLWZ	**Palliser**	**3.13**	**70**	P	**Pn**	**09 19 32.2**	**-0.9**
MSZ	**Milford Sound**	**3.15**	**231**	P	**Pn**	**09 19 34.0**	**+0.7**
MSWZ	**Moikau Station**	**3.19**	**67**	P	**Pn**	**09 19 32.7**	**-1.2**
CAW	**Cannon Point**	**3.22**	**61**	P	**Pn**	**09 19 33.2**	**-1.0**
KIW	**Kapiti Island**	**3.25**	**56**	P	**Pn**	**09 19 34.5**	**-0.3**
PAWZ	**Paruwai Farm**	**3.33**	**68**	P	**Pn**	**09 19 35.2**	**-0.5**
OGWZ	**Otaki Gorge**	**3.44**	**58**	P	**Pn**	**09 19 36.6**	**-0.7**
TUZ	**Tuapeka**	**3.46**	**200**	P	**Pn**	**09 19 36.9**	**-0.5**
MTW	**Mount Morrison**	**3.48**	**65**	P	**Pn**	**09 19 36.6**	**-1.2**
MLZ	**Mavora Lakes**	**3.52**	**220**	P	**Pn**	**09 19 37.8**	**-0.5**
HOWZ	**Holdsworth Sta**	**3.62**	**61**	P	**Pn**	**09 19 40.3**	**+0.6**
TMWZ	**Te Maipa**	**3.76**	**66**	P	**Pn**	**09 19 45.4**	**+3.7**
MRZ	**Mangatainoka R**	**3.78**	**58**	P	**Pn**	**09 19 40.8**	**-1.2**
NMEZ	**Namu Road**	**3.82**	**31**	P	**Pn**	**09 19 43.9**	**+1.3**
TIWZ	**Tintock**	**3.92**	**62**	P	**Pn**	**09 19 42.6**	**-1.2**
NBEZ	**Newall Road No**	**3.95**	**30

Ms4.4/40,Ms7 4.3/38
NEIC ***24*** *09:42:46.2±1.8, 14.99N±0.06×119.89E±0.07, h35km±1km, mb4.9/108, Error ellipse: s-maj=12.6km s-min=8.9km az=241.0*
GCMT ***24*** *09:42:49.2±0.3, 15.04N±0.03×119.64E±0.03, h28km±1km, MW4.9/62, Moment Tensor Solution. s27,c31; s62,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r2.46±.18; $M_{\theta\theta}$0.10±.10; $M_{\phi\phi}$-2.56±.11; $M_{r\theta}$-0.30±.18; $M_{\theta\phi}$0.25±.06; $M_{\phi r}$-1.29±.15; Best double couple: M_o2.84900×10^{16} NP1:ϕ_s346.00000°,δ32.00000°,λ75.00000°. NP2: ϕ_s183.00000°,δ59.00000°,λ99.00000°. Principal axes: T 2.8170, Plg74.0000°, Azm118.0000°; N 0.0640, Plg8.0000°, Azm359.0000°; P -2.8820, Plg13.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***24*** *09:42:50.4±0.3, 15°N×3°×12°0E±°, h79km±3km, M5.0/28, mb4.7/28, mB5.6/6, Mw(mB)5.1/6, MwMwp5.5/1, Mwp5.6/1*
ISC 24 09:42:45.3±0.6, 14°96N±0°04×119°93E±0°05, h35km±2km, n512, σ0°89/474, mb4.8/132, MS4.1/51, 8C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.30**	**131**	Pg	**Pb**	**09 43 11.1**	**+1.9**
	408nm,0.3s,baz=313,slow=6.2,SNR=48						
TWG	**Pinlang**	**7.89**	**8**	Pn	**Pn**	**09 44 38.0**	**+0.4**
TPUB	**Ta-pu**	**8.32**	**4**	Pn	**Pn**	**09 44 43.0**	**-0.5**
YULB	**Yu-li**	**8.48**	**9**	Pn	**Pn**	**09 44 45.0**	**-0.8**
HKPS	**Hong Kong Po S**	**9.11**	**324**		**Pn**	**09 44 53.8**	**-0.5**
NACB	**Ninganchiao**	**9.30**	**9**	Pn	**Pn**	**09 44 57.7**	**+0.8**
KNMB	**Chin-men Tao**	**9.56**	**352**	Pn	**Pn**	**09 45 00.7**	**+0.2**
DAV	**Davao City (W)**	**9.61**	**144**	LR	LR	09 49 30.8	
	comp=Z,1μm,18.0s,baz=326,slow=43						
MYLDM	**Lahad Datu**	**9.82**	**188**	Pn	**Pn**	**09 45 03.4**	**-0.8**
QIZ	**Qiongzhong**	**10.46**	**294**	Pn	**Pn**	**09 45 09.1**	**-3.8**
QIZ	**Qiongzhong**	**10.46**	**294**	P	**Pn**	**09 45 10.3**	**-2.6**
QIZ				S	**Sn**	**09 47 11.4**	**+2.5**
QIZ				LR	LR		
	comp=N,480nm,10.6s						
QIZ				LR	LR		
	comp=E,730nm,12.2s						
QIZ				LR	LR		
	comp=Z,1μm,13.4s						
DLV	**Lat**	**11.53**	**256**	Pn	**Pn**	**09 45 27.7**	**0.0**
TOLI2	**Tolitoli**	**13.79**	**176**	Pn	**Pn**	**09 45 58.5**	**+0.1**
JOW	**Kunigami**	**14.14**	**32**	Pn	**Pn**	**09 46 03.5**	**+0.3**
JOW	**Kunigami**	**14.14**	**32**	LR	LR	09 51 40.4	
	comp=Z,190nm,19.4s,baz=282,slow=38						
MRSI	**Marisa**	**14.53**	**172**	P	**P**	**09 46 13.5**	**-1.1**
	23nm,1.3s						
SBUM	**Sibu**	**14.57**	**212**		**Pn**	**09 46 10.9**	**+1.7**
KMSI	**Cibinong**	**14.85**	**164**	P	**P**	**09 46 20.6**	**+2.4**
APSI	**Ampana**	**15.86**	**174**	P	**P**	**09 46 29.8**	**+0.3**
	62nm,0.9s						
KSM	**Kuching**	**16.43**	**216**	Pn	**Pn**	**09 46 32.9**	**-0.5**
SLVN	**Son La**	**16.49**	**295**		**Pn**	**09 46 32.8**	**-1.3**
NJ2	**Nanjing**	**17.04**	**357**	*e*P	**P**	**09 46 43.5**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,280nm,4.1s						
NJ2				LR	LR		
	comp=N,630nm,15.2s						
NJ2				LR	LR		
	comp=E,240nm,14.2s						
NJ2				LR	LR		
	comp=Z,570nm,14.2s						
ENH	**Enshi**	**18.01**	**330**	Pn	**Pn**	**09 46 51.3**	**-1.7**
SPSI	**Sidrap Palu**	**18.81**	**180**	P	**Pn**	**09 47 05.7**	**+3.0**
	8μm26nm,1.1s						
KMI	**Kunming**	**19.03**	**305**	P	**Pn**	**09 47 06.3**	**+0.7**
KMI				S	**S**	**09 50 39.0**	**0.0**
KMI				pmax	pmax		
	comp=Z,11nm,0.9s						
KMI				LR	LR		
	comp=N,370nm,16.0s						
KMI				LR	LR		
	comp=E,630nm,15.1s						
KMI				LR	LR		
	comp=Z,660nm,16.5s						
KAPI	**Kappang**	**19.85**	**181**	P	**Pn**	**09 47 15.1**	**0.0**
	12nm,0.3s,baz=338,slow=11,SNR=5.3						
KAPI				LR	LR	09 55 31.6	
	comp=Z,133nm,20.4s,baz=358,slow=39						
KAPI	**Kappang**	**19.85**	**181**	*e*P	**P**	**09 47 14.1**	**+0.7**
BKSI	**Bulukumba**	**20.16**	**179**	P	Pn	09 47 18.9	+0.1
	24nm,1.2s						
CM31	**Chiang Mai Arr**	**20.39**	**283**	P	Pn	09 47 21.1	-0.5
CMAR	**Chiang Mai Arr**	**20.39**	**283**	P	Pn	09 47 20.6	-1.1
	12nm,0.3s,baz=99,slow=10,SNR=7.0						
CMAR				LR	LR	09 55 25.5	
	comp=Z,374nm,19.0s,baz=100,slow=38						
	12nm,0.3s						
CHTO	**Chiang Mai**	**20.44**	**284**	P	**P**	**09 47 20.0**	**+0.1**
CHTO	**Chiang Mai**	**20.44**	**284**	P	**P**	**09 47 20.0**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PZH	**PanZhiHua**	**20.49**	**307**	P	Pn	09 47 24.3	+1.5
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
MYKOM	**Kota Tinggi**	**20.57**	**232**	P	**P**	**09 47 20.5**	**-0.8**
JNU	**Nakatsue**	**20.63**	**27**	P	**P**	**09 47 21.3**	**-0.5**
JNU	**Nakatsue**	**20.63**	**27**	P	**P**	**09 47 21.0**	**-0.9**
	comp=Z,7.4nm,0.9s,baz=207,slow=16,SNR=2.3						
JNU				LR	LR	09 55 24.1	
	comp=Z,144nm,21.7s,baz=218,slow=37						
	comp=Z,7.4nm,0.9s						
LYN	**LuoYang**	**20.63**	**342**	P	Pn	09 47 24.5	+0.3
LYN				pP	pP	09 47 29.3	-1.3
LYN				sP	sP	09 47 33.0	-1.7
LYN				S	**S**	**09 51 12.6**	**+2.1**
LYN				pmax	pmax		
	comp=Z,27nm,0.9s						
LYN				pmax	pmax		
	comp=Z,140nm,5.9s						
LYN				LR	LR		
	comp=Z,700nm,15.6s						
LYN				LR	LR		
	comp=Z,450nm,12.9s						
LYN				LR	LR		
	comp=Z,1μm,15.0s						
TIA	**Tai'an**	**21.31**	**354**	P	**P**	**09 47 30.5**	**+1.4**
TIA				S	**S**	**09 51 23.3**	**-0.6**
TIA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TIA				LR	LR		
	comp=Z,360nm,15.1s						
TIA				LR	LR		
	comp=Z,160nm,15.1s						
TIA				LR	LR		
	comp=Z,600nm,14.4s						
IPM	**Ipoh**	**21.32**	**243**	P	**P**	**09 47 30.6**	**+1.1**
IPM				IAmb	IAmb	09 47 44.8	
	comp=Z,112nm,1.9s						
FAKI	**Fak Fak**	**21.55**	**145**	P	**P**	**09 47 31.9**	**0.0**
CD2	**Chengdu**	**21.72**	**320**	P	**P**	**09 47 34.8**	**+1.2**
CD2				S	**S**	**09 51 33.4**	**+1.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,850nm,15.1s						
CD2				LR	LR		
	comp=Z,860nm,16.0s						
CD2				LR	LR		
	comp=Z,2μm,14.7s						
TJN	**Taejon**	**22.34**	**16**	P	**P**	**09 47 40.2**	**+0.1**
TJN	**Taejon**	**22.34**	**16**	P	**P**	**09 47 40.2**	**+0.1**
TJN				pmax	pmax		
	comp=Z,79nm,1.0s						
TNCH	**TengChong**	**22.44**	**300**	P	**P**	**09 47 42.8**	**+1.2**
TNCH				pP	pP	09 47 48.8	-1.4
TNCH				pmax	pmax		
	comp=Z,51nm,0.5s						
TNCH				pmax	pmax		
	comp=Z,120nm,2.8s						
HNS	**HongShan**	**22.82**	**349**	⇑P	**P**	**09 47 45.9**	**+0.7**
HNS				S	**S**	**09 51 49.3**	**-2.9**
HNS				LR	LR		
	comp=Z,720nm,17.2s						
HNS				LR	LR		
	comp=Z,280nm,17.9s						
HNS				LR	LR		
	comp=Z,680nm,17.1s						
KSAR	**Wonju Array Be**	**23.48**	**16**	P	**P**	**09 47 51.6**	**-0.2**
KSAR	**Wonju Array Be**	**23.48**	**16**	P	**P**	**09 47 51.6**	**-0.2**
KSRS	**Korea Array**	**23.50**	**16**	P	**P**	**09 47 51.0**	**-1.0**
	comp=Z,5.3nm,0.8s,baz=200,slow=11,SNR=27						
	comp=Z,5.3nm,0.8s						
KS19	**Wonju Array Si**	**23.53**	**16**	P	**P**	**09 47 52.1**	**-0.2**
KS19				IAmb	IAmb	09 47 58.6	
	comp=Z,61nm,1.9s						
MMRI	**Maumere**	**23.56**	**174**	P	**P**	**09 47 53.0**	**+0.3**
EDFI	**Ende, Flores**	**23.62**	**176**	P	**P**	**09 47 53.8**	**+0.3**
PLAI	**Plampang**	**23.73**	**185**	P	**P**	**09 47 55.7**	**+1.3**
	comp=Z,1μmcomp=Z,137nm,1.3s						
PLAI				pP	**sP**	**09 48 07.5**	**-0.8**
	comp=Z,1μmcomp=Z,137nm,1.3s						
PSI	**Prapat**	**23.98**	**242**	LR	LR	09 56 40.9	
	comp=Z,184nm,19.8s,baz=56,slow=35						
GUMO	**Guam**	**24.21**	**90**	P	**P**	**09 47 58.5**	**-0.4**
GUMO	**Guam**	**24.21**	**90**	P	**P**	**09 47 58.5**	**-0.4**
GUMO				pmax	pmax		
	comp=Z,178nm,1.7s						
MNSI	**Mandailing Nat**	**24.54**	**237**	P	P	09 48 13.7	+12
SOEI	**Soe**	**24.93**	**170**		**P**	**09 48 04.1**	**-1.5**
SOEI	**Soe**	**24.93**	**170**	P	**P**	**09 48 07.0**	**+1.4**
	comp=Z,65nm,1.1s						
SMPI	**Sarmi**	**25.09**	**131**	P	**P**	**09 48 07.5**	**+0.6**
	comp=Z,3μmcomp=Z,29nm,1.1s						
BJT	**Baijiatuan**	**25.18**	**353**	P	**P**	**09 48 05.2**	**-2.2**
BJT	**Baijiatuan**	**25.18**	**353**	P	**P**	**09 48 05.2**	**-2.2**
BJT				pmax	pmax		
	comp=Z,11nm,0.9s						
BJI	**Beijing**	**25.20**	**353**	P	**P**	**09 48 08.8**	**+1.2**
BJI				sP	**sP**	**09 48 22.6**	**+1.1**
BJI				S	**S**	**09 52 29.0**	**-1.6**
BJI				LR	LR		
	comp=Z,140nm,17.1s						
BJI				LR	LR		
	comp=Z,95nm,15.3s						
BJI				LR	LR		
	comp=Z,210nm,18.0s						
SAUI	**Saumlaki**	**25.43**	**153**	P	**P**	**09 48 07.8**	**-2.2**
LZDM	**Lanzhou Array**	**25.46**	**328**	LR	LR	09 58 26.6	
	comp=Z,464nm,20.9s,baz=175,slow=37						
LZH	**Lanzhou**	**25.48**	**329**	*e*P	**P**	**09 48 12.0**	**+1.5**
LZH				pP	sP	09 48 21.8	-2.3
LZH				pmax	pmax		
	comp=Z,35nm,1.2s						
LZH				LR	LR		
	comp=Z,600nm,13.7s						
LZH				LR	LR		
	comp=Z,730nm,14.1s						
LZH				LR	LR		
	comp=Z,920nm,13.7s						
JHJ	**Hachijo jima 2**	**25.52**	**41**	LR	LR	09 56 26.3	
	comp=Z,144nm,21.9s,baz=358,slow=32						
GENI	**Genyem**	**26.57**	**129**	P	**P**	**09 48 22.3**	**+2.0**
HHC	**Hu-ho-hao-te**	**26.80**	**346**	*e*P	**P**	**09 48 25.3**	**+3.0**
HHC				S	**S**	**09 52 53.8**	**-2.4**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,92nm,4.6s						
HHC				LR	LR		
	comp=Z,360nm,15.3s						
HHC				LR	LR		
	comp=Z,130nm,14.5s						
HHC				LR	LR		
	comp=Z,330nm,15.3s						
JAY	**Jayapura**	**26.92**	**128**	LR	LR	09 59 06.8	
	comp=Z,187nm,20.4s,baz=330,slow=37						
MAJO	**Matsushiro**	**26.98**	**34**	⇑*i*P	**P**	**09 48 23.1**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,6.0nm,1.8s						
MJAR	**Matsushiro Arr**	**26.98**	**34**	P	**P**	**09 48 23.7**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=246,slow=9.2,SNR=2.2						
	comp=Z,0.6nm,0.4s						
BRDH	**Bariadhala**	**27.82**	**290**	LR	LR	10 01 16.1	
	comp=Z,344nm,18.5s,baz=152,slow=40						
SHL	**Shillong**	**28.29**	**296**		**P**	**09 48 35.1**	**-0.8**
SHL				IAmb	IAmb	09 48 50.0	
	comp=Z,14nm,0.6s						
SHL	**Shillong**	**28.29**	**296**	P	**P**	**09 48 35.1**	**-0.8**
SHL				pmax	pmax		
	comp=Z,14nm,0.6s						
MSHR	**Mys Shultsa**	**29.17**	**17**	*i*P	**P**	**09 48 43.4**	**+0.1**
MSHR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GTA	**Gaotai**	**30.08**	**328**	*e*P	**P**	**09 48 53.0**	**+1.5**
GTA				S	**S**	**09 53 51.0**	**+3.1**
GTA				sS	sS	09 54 07.1	+3.9
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA				LR	LR		
	comp=Z,540nm,16.7s						
GTA				LR	LR		
	comp=Z,520nm,16.4s						
GTA				LR	LR		
	comp=Z,910nm,17.1s						
MDJ	**Mudanjiang**	**30.68**	**14**	P	**P**	**09 49 00.3**	**+3.7**
USRK	**Ussuriysk Ar.**	**30.90**	**17**	P	**P**	**09 48 59.0**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=224,slow=9.6,SNR=2.5						
	comp=Z,2.1nm,0.7s						
BNX	**BinXian**	**31.32**	**10**	⇑P	**P**	**09 49 03.1**	**+0.9**
BNX				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KNRA	**Kununurra**	**31.67**	**164**	P	**P**	**09 49 04.8**	**-0.8**
KNRA				IAmb	IAmb	09 49 25.3	
	comp=Z,26nm,1.4s						
FITZ	**Fitzroy Crossi**	**33.33**	**170**	P	**P**	**09 49 19.2**	**-0.9**
ULN	**Ulaanbaatar**	**34.50**	**345**		**P**	**09 49 30.2**	**0.0**
ULN				IAmb	IAmb	09 50 11.7	
	comp=Z,14nm,0.8s						
ULN	**Ulaanbaatar**	**34.50**	**345**	P	**P**	**09 49 30.2**	**0.0**
ULN				pmax	pmax		
	comp=Z,14nm,0.8s						
SONM	**Songino Array**	**34.64**	**344**	P	**P**	**09 49 31.6**	**+0.2**
SONM	**Songino Array**	**34.64**	**344**	P	**P**	**09 49 31.3**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=159,slow=9.6,SNR=9.8						
SONM				LR	LR	10 04 39.8	
	comp=Z,198nm,18.8s,baz=154,slow=38						
	comp=Z,3.2nm,0.7s						
SONM	**Songino Array**	**34.64**	**344**	P	**P**	**09 49 31.6**	**+0.2**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ASAJ	**Asahikawa**	**34.88**	**29**	LR	LR	10 03 30.9	
	comp=Z,130nm,20.8s,baz=172,slow=36						
ASAJ	**Asahikawa**	**34.88**	**29**	P	**P**	**09 49 33.7**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,135nm,1.6s						
JKA	**Kamikawa-asahi**	**34.88**	**29**	P	**P**	**09 49 33.7**	**+0.4**
MBWA	**Marble Bar**	**35.90**	**180**	P	**P**	**09 49 42.2**	**-0.1**
	comp=Z,30nm,1.0s						
MBWA	**Marble Bar**	**35.90**	**180**		**P**	**09 49 42.3**	**0.0**
MBWA	**Marble Bar**	**35.90**	**180**	P	**P**	**09 49 42.0**	**-0.3**
PMG	**Port Moresby**	**36.26**	**130**	LR	LR	10 07 11.9	
	comp=Z,42nm,18.5s,baz=211,slow=41						
PMG	**Port Moresby**	**36.26**	**130**	*e*P	**P**	**09 49 45.0**	**-0.5**
PMG				pmax	pmax		
	comp=Z,27nm,1.3s						
PSAC1	**Pilbara Seismi**	**36.27**	**180**	P	**P**	**09 49 44.8**	**-0.7**
	comp=Z,53nm,1.1s						
PSAC2	**Pilbara Seismi**	**36.30**	**180**	P	**P**	**09 49 45.5**	**-0.2**
	comp=Z,61nm,1.0s						
PSA00	**Pilbara Seismi**	**36.31**	**180**	P	**P**	**09 49 45.2**	**-0.6**
	comp=Z,54nm,0.9s						
PSA00	**Pilbara Seismi**	**36.31**	**180**		**P**	**09 49 45.8**	**0.0**
PSA00					**PcP**	**09 52 11.5**	**+1.2**
PSA00	**Pilbara Seismi**	**36.31**	**180**	P	**P**	**09 49 45.9**	**0.0**
PSA00				IAmb	IAmb	09 49 46.8	
	comp=Z,20nm,0.9s						
PSAB3	**Pilbara Seismi**	**36.33**	**180**	P	**P**	**09 49 45.5**	**-0.5**
	comp=Z,43nm,0.9s						
COEN	**Coen**	**36.81**	**140**	P	**P**	**09 49 49.1**	**-1.1**
COEN				IAmb	IAmb	09 49 57.3	
	comp=Z,18nm,1.1s						
YSS	**Yuzhno-Sakhali**	**37.14**	**26**	*e*P	**P**	**09 49 52.6**	**0.0**
WB0	**Warramunga Arr**	**37.33**	**157**		**P**	**09 49 53.3**	**-1.3**
WB0				IAmb	IAmb	09 49 54.5	
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**37.47**	**157**	P	**P**	**09 49 54.6**	**-1.1**
WRAB				IAmb	IAmb	09 49 55.4	
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**37.47**	**157**	P	**P**	**09 49 54.6**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**37.47**	**157**		**P**	**09 49 54.6**	**-1.1**
WRA	**Warramunga Arr**	**37.47**	**157**	P	**P**	**09 49 54.4**	**-1.4**
	comp=Z,12nm,0.8s,baz=336,slow=8.7,SNR=70						
WRA				PcP	**PcP**	**09 52 13.8**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=333,slow=3.3,SNR=3.1						
	comp=Z,12nm,0.8s						
WR8	**Warramunga Arr**	**37.54**	**157**		**P**	**09 49 55.4**	**-1.0**
WR8				IAmb	IAmb	09 49 56.0	
	comp=Z,10nm,0.8s						
ZEA	**Zeya**	**39.11**	**7**	*e*P	**P**	**09 50 10.1**	**+0.9**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZEA				MLR	MLR		
	comp=Z,200nm,13.0s						
PALK	**Pallekele**	**39.19**	**263**	LR	LR	10 05 19.2	
	comp=Z,107nm,19.6s,baz=64,slow=35						
WMQ	**Urumqi**	**39.75**	**323**	*e*P	**P**	**09 50 16.4**	**+1.6**
WMQ				LR	LR		
	comp=Z,670nm,16.9s						
WMQ				LR	LR		
	comp=Z,680nm,19.7s						
WMQ				LR	LR		
	comp=Z,430nm,17.5s						
QIS	**Mount Isa**	**40.25**	**151**	P	**P**	**09 50 17.6**	**-1.4**
	comp=Z,5.3nm,0.9s						
WRKA	**Warakurna**	**40.59**	**168**	P	**P**	**09 50 20.9**	**-0.8**
	comp=Z,12nm,0.8s						
AS31	**Alice Springs**	**40.75**	**160**		**P**	**09 50 22.4**	**-0.7**
ASAR	**Alice Springs**	**40.75**	**160**	P	**P**	**09 50 22.2**	**-1.0**
	comp=Z,7.8nm,0.7s,baz=337,slow=8.5,SNR=85						
ASAR				PcP	**PcP**	**09 52 24.5**	**+0.3**
	comp=Z,1.8nm,1.0s,baz=340,slow=3.2,SNR=2.4						
	comp=Z,7.8nm,0.7s						
MEEK	**Meekatharra**	**41.37**	**182**	P	**P**	**09 50 27.8**	**-0.4**
	comp=Z,27nm,1.2s						
MORW	**Morawa**	**43.93**	**185**	P	**P**	**09 50 48.6**	**-0.4**
MKAR	**Makanchi Array**	**44.58**	**323**		**P**	**09 50 54.0**	**0.0**
MKAR	**Makanchi Array**	**44.58**	**323**	P	**P**	**09 50 54.3**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=120,slow=8.5,SNR=8.5						
MKAR				PcP	**PcP**	**09 52 36.7**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=117,slow=5.5,SNR=7.7						
MKAR				LR	LR	10 10 39.5	
	comp=Z,178nm,18.4s,baz=100,slow=38						
	comp=Z,1.4nm,0.6s						
KDJ	**Kajisay**	**45.62**	**315**	P	**P**	**09 51 03.3**	**+0.8**
KDJ	**Kajisay**	**45.62**	**315**	P	**P**	**09 51 03.3**	**+0.8**
KDJ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KMBL	**Kambalda**	**46.10**	**178**	P	**P**	**09 51 05.9**	**-0.3**
	comp=Z,14nm,1.0s						
FORT	**Forrest**	**46.15**	**170**	P	**P**	**09 51 06.7**	**+0.2**
FORT				IAmb	IAmb	09 51 24.5	
	comp=Z,39nm,1.9s						
HNR	**Honiara**	**46.48**	**119**	LR	LR	10 08 16.7	
	comp=Z,164nm,20.3s,baz=268,slow=33						
YAK	**Yakutsk**	**47.52**	**6**	LR	LR	10 12 51.8	
	comp=Z,44nm,18.2s,baz=186,slow=38						
YAK	**Yakutsk**	**47.52**	**6**	*e*P	**P**	**09 51 13.2**	**-3.6**
YAK				*e**PP	**pP**	**09 51 25.0**	**-2.0**
YAK				*e*		09 52 42.1	
YAK				*e*		09 53 03.7	
YAK				*e*S	**S**	**09 58 07.9**	**-1.3**
YAK				*e**SS	**sS**	**09 58 26.6**	**+0.5**
YAK				*e*		10 01 06.0	
YAK				*e*SS	**SS**	**10 01 36.3**	**-0.9**
YAK				*e*SSS	SSS	10 02 41.3	
YAK				pmax	pmax		
	comp=Z,21nm,1.2s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.5s						
YAK				pmax	pmax		
	comp=Z,245nm,4.8s						
YAK				pmax	pmax		
	comp=N,296nm,4.5s						
YAK				pmax	pmax		
	comp=E,339nm,5.2s						
YAK				smax	smax		
	comp=N,151nm,4.6s						
YAK				smax	smax		
	comp=E,144nm,5.4s						
ZALV	**Zalesovo Beam**	**47.60**	**333**	P	**P**	**09 51 15.4**	**-2.2**
	comp=E,1.9nm,0.5s,baz=116,slow=6.6,SNR=4.6						
ZALV				LR	LR	10 12 13.4	
	comp=E,210nm,18.8s,baz=106,slow=37						
	comp=E,1.9nm,0.5s						
AAK	**Ala-Archa**	**47.65**	**315**	LR	LR	10 12 43.0	
	comp=E,342nm,21.8s,baz=98,slow=38						
AAK	**Ala-Archa**	**47.65**	**315**	*i*P	**P**	**09 51 18.1**	**-0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.69**	**183**	P	**P**	**09 51 18.7**	**+0.2**
	comp=Z,51nm,1.2s						
NWAO	**Narrogin (SRO)**	**47.69**	**183**	P	**P**	**09 51 18.2**	**-0.3**
	comp=Z,32nm,1.2s						
ARSB	**Arslanbob**	**48.26**	**312**		**P**	**09 51 23.7**	**+0.6**
ARSB				IAmb	IAmb	09 51 37.3	
	comp=Z,9.2nm,0.8s						
ARSB	**Arslanbob**	**48.26**	**312**	P	**P**	**09 51 23.7**	**+0.6**
ARSB				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PEA0B	**Petropavlovsk-**	**48.29**	**30**	P	**P**	**09 51 23.9**	**+0.9**
PEA0B	**Petropavlovsk-**	**48.29**	**30**	P	**P**	**09 51 23.9**	**+0.9**
PEA0B				pmax	pmax		
	comp=Z,63nm,1.5s						
PETK	**Petropavlovsk-**	**48.29**	**30**	P	**P**	**09 51 24.4**	**+1.4**
PETK	**Petropavlovsk-**	**48.29**	**30**	P	**P**	**09 51 22.9**	**-0.1**
	comp=Z,5.1nm,0.7s,baz=226,slow=7.2,SNR=8.5						
PETK				LR	LR	10 11 16.4	
	comp=Z,100nm,20.8s,baz=202,slow=36						
	comp=Z,5.1nm,0.7s						
PETK	**Petropavlovsk-**	**48.29**	**30**	P	**P**	**09 51 24.4**	**+1.4**
KURBB	**Kurchatov Arra**	**48.73**	**326**	P	**P**	**09 51 26.5**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=122,slow=8.2,SNR=19						
KURBB				PcP	**PcP**	**09 52 50.8**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=125,slow=4.0,SNR=1.3						
KURBB				LR	LR	10 13 01.0	
	comp=Z,241nm,18.2s,baz=168,slow=37						
	comp=Z,3.3nm,0.7s						
KURK	**Kurchatov**	**48.73**	**326**		**P**	**09 51 26.8**	**+0.4**
KURK				IAmb	IAmb	09 51 33.9	
	comp=Z,12nm,0.8s						
KURK	**Kurchatov**	**48.73**	**326**	*ce*P	**P**	**09 51 27.2**	**+0.8**
KURK				pmax	pmax		
	comp=Z,19nm,1.3s						
KURK	**Kurchatov**	**48.73**	**326**	P	**P**	**09 51 26.9**	**+0.5**
GAR	**Garm**	**49.55**	**309**		**P**	**09 51 33.3**	**+0.3**
GAR				IAmb	IAmb	09 51 56.3	
	comp=Z,18nm,1.1s						
BBOO	**Buckleboo**	**49.95**	**162**	P	**P**	**09 51 35.6**	**-0.2**
MA2	**Magadan**	**49.97**	**20**	LR	LR	10 14 18.7	
	comp=Z,76nm,18.6s,baz=122,slow=38						
CHGR	**Chuyangaron**	**50.34**	**308**	P	**P**	**09 51 39.2**	**+0.2**
CHGR	**Chuyangaron**	**50.34**	**308**	P	**P**	**09 51 39.2**	**+0.2**
CHGR				pmax	pmax		
	comp=Z,22nm,0.6s		

TIXI pmax pmax
comp=Z,15nm,0.8s
DZM Mont Dzumac 58.59 128 *e*LR LR 10 09 55.7
comp=Z,149nm,38.5s
AB31 Akbulak array 59.30 319 P 09 52 44.1 +0.6
ABKAR Akbulak array 59.30 319 P 09 52 44.2 +0.6
AMKA Amchitka 59.43 39 P P **09 52 45.1 +0.6**
BILL Bilibino 60.74 18 *i* P P **09 52 54.8 +1.6**
BILL pmax pmax
comp=Z,7.0nm,1.1s
AKTO Aktyubinsk 60.77 320 P P **09 52 54.0 +0.3**
comp=Z,3.3nm,0.7s,baz=92,slow=9.7,SNR=10.0
AKTO LR LR 10 20 58.4
comp=Z,235nm,18.8s,baz=26,slow=38
comp=Z,3.3nm,0.7s
AKTO Aktyubinsk 60.77 320 P P **09 52 54.0 +0.3**
ARTI Arti 62.01 326 P P **09 53 01.2 -0.7**
ARTI IAmb IAmb 09 53 13.5
comp=Z,7.3nm,0.6s
ARTI Arti 62.01 326 P P **09 53 01.3 -0.7**
comp=Z,2.0nm,0.5s,baz=90,slow=6.1,SNR=1.9
ARTI LR LR 10 21 31.1
comp=Z,165nm,18.0s,baz=156,slow=38
comp=Z,2.0nm,0.5s
ARTI Arti 62.01 326 *i* P P **09 53 01.5 -0.4**
ARTI pmax pmax
comp=Z,2.0nm,0.9s
KIRV Kirov 67.20 328 LR LR 10 24 47.1
comp=Z,208nm,18.2s,baz=101,slow=38
M11K Mekoryuk 69.14 31 P P **09 53 48.1 +0.3**
baz=264
GNI Garni 69.26 308 LR LR 10 27 08.2
comp=Z,36nm,19.1s,baz=51,slow=38
GNI Garni 69.26 308 *i* P P **09 53 48.8 -0.4**
GNI pmax pmax
comp=Z,2.0nm,0.9s
ANM Nome 70.03 26 P P **09 53 53.4 +0.1**
baz=263
K13K Kusilvak Mount 70.05 29 P P **09 53 53.1 -0.3**
baz=264
RAYN Ar Rayn 70.12 290 P **09 53 54.2 -0.4**
RAYN Ar Rayn 70.12 290 P P **09 53 54.3 -0.4**
RAYN pmax pmax
comp=Z,4.0nm,0.9s
F15K North Star Dit 70.47 25 P P **09 53 56.1 0.0**
F15K North Star Dit 70.47 25 P P **09 53 55.7 -0.3**
baz=263
KBZ Khabaz 70.49 311 P P **09 53 56.1 -0.4**
comp=Z,3.1nm,0.8s,baz=79,slow=5.2,SNR=5.1
comp=Z,3.1nm,0.8s
C16K Lisburne Hills 70.55 22 P P **09 53 56.9 +0.5**
baz=262
M13K Dall Lake 70.55 31 P P **09 53 57.0 +0.5**
baz=266
KIV Kislovodsk 70.63 312 *e*P P **09 53 57.3 -0.2**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,94nm,17.0s
L14K Kuka Creek 70.94 30 P P **09 53 59.4 +0.5**
baz=266
S12K Black Hills 71.02 36 P P **09 53 59.8 +0.2**
baz=269
G16K Koyuk River 71.39 26 P P **09 54 02.0 +0.4**
baz=265
E17K Hotham Inlet 71.75 24 P P **09 54 03.9 +0.2**
baz=265
M15K Kasigluk River 71.88 31 P P **09 54 05.1 +0.5**
baz=268
G17K Kiwalik Mounta 72.11 26 P P **09 54 05.4 -0.5**
baz=267
C18K Utukok River 72.12 22 P P **09 54 06.3 +0.3**
baz=265
N15K Kwethluk River 72.16 31 P P **09 54 06.7 +0.4**
baz=269
E18K Tukpahlearik C 72.25 23 P P **09 54 07.1 +0.4**
baz=266
O15K Ungalikthiuk R 72.29 32 P P **09 54 07.7 +0.7**
baz=270
H17K Granite Mounta 72.39 26 P P **09 54 08.3 +0.7**
H17K Granite Mounta 72.39 26 P P **09 54 08.5 +0.9**
baz=268
S14K Fog Glacier 72.44 35 P P **09 54 09.0 +0.9**
baz=271
L16K Owhat River 72.49 30 P P **09 54 09.9 +1.7**
L16K IAmb IAmb 09 56 24.5
comp=Z,26nm,1.6s
L16K Owhat River 72.49 30 P P **09 54 08.7 +0.4**
baz=269
F18K Selawik 72.57 24 P P **09 54 09.1 +0.5**
baz=267
J17K VABM Dome 72.71 28 P P **09 54 11.0 +1.5**
J17K VABM Dome 72.71 28 P P **09 54 10.1 +0.6**
baz=269
C19K Lookout Ridge 72.73 22 P P **09 54 10.0 +0.4**
baz=267
M16K Timber Creek 72.73 30 P P **09 54 10.9 +1.2**
M16K Timber Creek 72.73 30 P P **09 54 09.9 +0.2**
baz=270
N16K Nishlik Lake 72.83 31 P P **09 54 10.5 +0.2**
baz=270
G18K Tagagawik 72.95 25 P P **09 54 11.7 +0.7**
baz=268
K17K Iditarod 73.05 28 P P **09 54 12.7 +1.1**
baz=270
L17K Donlin 73.05 29 P P **09 54 11.8 +0.2**
baz=270
H18K Honhosa River 73.06 26 P P **09 54 11.5 0.0**
baz=269
CHGN Chignik 73.07 35 P P **09 54 11.6 -0.1**
baz=272
O16K Kokwok River B 73.17 32 P P **09 54 12.2 -0.1**
baz=271
D19K Kuna River 73.24 22 P P **09 54 13.4 +0.7**
baz=268
R16K Pilot Point 73.49 34 P P **09 54 15.0 +0.8**
baz=272
E19K Redstone River 73.55 24 P P **09 54 15.1 +0.7**
baz=269
G19K Purcell Mounta 73.59 25 P P **09 54 15.6 +0.9**
baz=270
N17K Nushagak Hills 73.61 31 P P **09 54 15.7 +0.8**
baz=271
B20K Meade River 73.62 21 P P **09 54 15.6 +0.9**
baz=269
O17K Koliganek Bris 73.67 32 P P **09 54 15.3 0.0**
baz=272
J18K Innoko River 73.77 28 P P **09 54 16.0 +0.2**
baz=271
D20K Etivluk River 73.80 22 P P **09 54 16.8 +0.9**
baz=270
L18K Granite Mounta 73.81 29 P P **09 54 16.7 +0.7**
baz=271
A21K Barrow 73.83 19 P P **09 54 16.4 +0.5**
baz=269
H19K Roundabout Mou 73.86 26 IAmb IAmb 09 54 19.9
comp=Z,30nm,1.6s
H19K Roundabout Mou 73.86 26 P P **09 54 17.5 +1.3**
baz=271,SNR=5.8
E20K Nigu River 73.95 23 P P **09 54 17.7 +0.9**
baz=270
P17K Kvichak River 74.03 32 P P **09 54 18.6 +1.3**
baz=272
OBN Obninsk 74.08 324 *ce*P P **09 54 17.9 +0.2**
OBN *e* 09 54 31.0
OBN *e* 09 56 59.9
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,250nm,18.0s
F20K Avaraart Lake 74.14 24 P P **09 54 18.6 +0.8**
baz=271
R17L Mt. Peulik Vol 74.14 34 P P **09 54 18.3 +0.2**
baz=273
M18K Stony River 74.24 30 P P **09 54 19.3 +0.7**
baz=272
J19K Poorman 74.25 27 P P **09 54 19.3 +0.7**
baz=272
Q17K Contact Creek 74.36 33 P P **09 54 19.3 -0.2**
baz=273
H20K Anotleneega Mo 74.51 26 P P **09 54 20.5 +0.4**
baz=272,SNR=5.0
P18K Big Mountain, 74.64 32 P P **09 54 21.0 0.0**
baz=273
CHIR Chirikof Islan 74.66 36 P P **09 54 20.6 -0.5**
baz=274
L19K White Mountain 74.67 29 P P **09 54 21.2 +0.1**
baz=273
I20K Naaghedeneel 74.71 26 P P **09 54 21.8 +0.6**
baz=273
E21K Killik River 74.77 22 P P **09 54 21.7 +0.2**
baz=272
Q18K Katmai Hardscr 74.80 33 P P **09 54 22.5 +0.5**
baz=274
J20K Nowinta River 74.89 27 IAmb IAmb 09 54 25.2
comp=Z,32nm,1.8s
J20K Nowinta River 74.89 27 P P **09 54 22.9 +0.6**
baz=273,SNR=5.2
B22K Teshekpuk Lake 74.90 20 P P **09 54 22.4 +0.2**
baz=272
N19K Bonanza Creek 74.92 30 P P **09 54 23.6 +0.9**
baz=274
IMAR Indian Mountai 74.96 25 P P **09 54 23.6 +0.9**
K20K Telida 74.96 28 P P **09 54 23.6 +0.8**
baz=273
F21K Alatna River 75.00 24 P P **09 54 24.4 +1.4**
baz=273
G21K Allakaket 75.03 24 IAmb IAmb 09 54 25.7
comp=Z,22nm,1.6s
G21K Allakaket 75.03 24 P P **09 54 23.9 +0.9**
baz=273
O19K Port Alsworth 75.05 31 P P **09 54 23.8 +0.6**
baz=274
L20K Farewell, AK 75.11 29 P P **09 54 24.2 +0.6**
baz=274
D22K Ayikyak River 75.22 22 P P **09 54 24.6 +0.4**
baz=273
H21K Melozitna Rive 75.37 25 P P **09 54 25.6 +0.6**
baz=274
Q19K Cape Douglas, 75.49 32 P P **09 54 26.0 +0.2**
baz=275
F22K John River 75.49 23 P P **09 54 25.9 +0.2**
baz=274
M20K Styx River 75.50 29 P P **09 54 26.5 +0.6**
baz=275
E22K Anaktuvuk Pass 75.59 23 P P **09 54 26.4 +0.1**
baz=274
P19K Oil Pt 75.63 32 P P **09 54 27.2 +0.5**
baz=275
CHUM Lake Minchumin 75.71 27 P P **09 54 28.0 +1.1**
baz=275
I21K Tanana 75.75 26 IAmb IAmb 09 54 29.7
comp=Z,9.4nm,1.1s
I21K Tanana 75.75 26 P P **09 54 27.9 +0.8**
baz=275
G22K Bettles 75.80 24 P P **09 54 27.8 +0.3**
baz=275
OHAK Old Harbor 75.83 34 P P **09 54 28.0 +0.2**
baz=276
PPLA Purkeypile 75.85 28 P P **09 54 28.6 +0.6**
baz=275
C23K Iliilik River 75.89 21 P P **09 54 28.5 +0.6**
baz=275
O20K Slope Mountain 75.90 31 P P **09 54 28.1 -0.1**
baz=276
D23K Nanushuk River 75.94 22 P P **09 54 28.9 +0.7**
baz=275
H22K Ishtalitna Cre 75.94 25 P P **09 54 28.7 +0.4**
baz=275
N20K Mount Spurr 76.00 30 P P **09 54 29.2 +0.4**
baz=276
SPCR Spurr Chakacha 76.00 30 P P **09 54 28.6 -0.2**
baz=276
KDAK Kodiak Island 76.15 33 P P **09 54 29.9 +0.3**
baz=276
Q20K Shuyak Island 76.16 33 P P **09 54 30.0 +0.3**
baz=276
SKT Skwentna 76.24 29 P P **09 54 29.9 -0.2**
baz=276
BPAW Bear Paw Mtn. 76.27 27 IAmb IAmb 09 54 32.3
comp=Z,12nm,1.1s
BPAW Bear Paw Mtn. 76.27 27 P P **09 54 30.7 +0.4**
baz=276
COLD Coldfoot 76.28 24 P P **09 54 30.6 +0.4**
baz=276
MLY Manley 76.28 26 P **09 54 31.2 +0.9**
MLY IAmb IAmb 09 54 32.8
comp=Z,18nm,1.6s
MLY Manley 76.28 26 P P **09 54 29.6 -0.7**
baz=276
TOLK Toolik Lake Re 76.37 22 P P **09 54 30.5 -0.2**
baz=276
ASF Jabal al Asfar 76.38 300 LR LR 10 33 38.9
comp=Z,20nm,18.1s,baz=106,slow=40
G23K Bananza Creek 76.40 24 P P **09 54 30.5 -0.5**
baz=276
E23K Chandalar 76.42 23 P P **09 54 30.9 -0.2**
baz=276
TRF Thorofare Moun 76.65 28 P P **09 54 32.4 -0.2**
baz=277
SUA Susitna One 76.67 30 P P **09 54 32.3 -0.4**
baz=277
MSF Maaselka 76.83 335 P P **09 54 32.8 -0.5**
MSF pmax pmax
comp=Z,23nm,1.8s
E24K Your Creek 76.83 23 P P **09 54 33.9 +0.6**
baz=277
BRSE Bradley Lake S 76.88 31 P P **09 54 34.5 +0.7**
baz=277
M22K Willow 76.93 29 P P **09 54 35.0 +1.0**
baz=277
NEA2 Nenana 77.05 26 P P **09 54 35.4 +0.8**
baz=278
F24K Squaw Lake 77.13 23 IAmb IAmb 09 54 48.5
comp=Z,22nm,1.9s
F24K Squaw Lake 77.13 23 P P **09 54 35.7 +0.6**
baz=278
RC01 Rabbit Creek A 77.20 30 P P **09 54 36.1 +0.6**
baz=278
MCK McKinley 77.22 27 IAmb IAmb 09 54 37.0
comp=Z,20nm,1.1s
MCK McKinley 77.22 27 P P **09 54 36.3 +0.7**
baz=278
O22K Cooper Landing 77.29 31 P P **09 54 36.3 +0.3**
baz=278
RND Reindeer 77.30 27 IAmb IAmb 09 54 37.1
comp=Z,9.9nm,0.9s
H24K Nodor Dome 77.37 25 P P **09 54 36.7 +0.3**
baz=278
G24K Hadweenzic Riv 77.41 24 P P **09 54 36.6 0.0**
baz=278
PMR Palmer 77.42 29 P P **09 54 37.0 +0.3**
baz=278
D25K Kavik River 77.42 21 P P **09 54 36.7 0.0**
baz=279
SEW Seward 77.48 31 P P **09 54 37.1 +0.1**
baz=278
MMAI Mount Meron Ar 77.49 301 LR LR 10 34 43.7
comp=Z,32nm,19.2s,baz=92,slow=40
WAT1 Susitna Watana 77.52 28 P P **09 54 37.8 +0.5**
baz=278
COLA College 77.52 26 P P **09 54 38.0 +0.8**
baz=278
ARA0 ARCESS Array S 77.64 339 *e*P P **09 54 39.1 +1.3**
ARCES ARCESS Array B 77.64 339 P P **09 54 38.1 +0.2**
comp=Z,3.3nm,0.6s,baz=78,slow=8.4,SNR=14
ARCES LR LR 10 32 24.2
comp=Z,106nm,18.4s,baz=30,slow=38
comp=Z,3.3nm,0.6s
POKR Poker Plat Res 77.66 26 P P **09 54 38.1 +0.1**
baz=279
KNK Knik Glacier 77.77 29 P P **09 54 38.1 -0.6**
baz=279
BRTR Keskin Array B 77.78 308 P P **09 54 40.5 +1.1**
comp=Z,0.7nm,0.7s,baz=72,slow=6.2,SNR=4.1
comp=Z,0.7nm,0.7s
C26K Camden Bay 77.83 21 P P **09 54 38.9 +0.1**
baz=280
E25K Arctic Village 77.91 22 P P **09 54 39.6 +0.2**
baz=280
PWL Port Wells 77.91 30 P P **09 54 39.7 +0.2**
baz=279
WAT6 Susitna Watana 77.92 28 P P **09 54 39.6 -0.1**
baz=279,SNR=6.8
G25K Bearman Lake 77.94 24 P P **09 54 39.6 +0.2**
baz=280
ILAR Eielson Array 77.95 26 P P **09 54 38.9 -0.7**
comp=Z,1.7nm,0.9s,baz=265,slow=6.0,SNR=11
comp=Z,1.7nm,0.9s
F25K Christian Rive 77.97 23 P P **09 54 40.4 +0.6**
baz=280
HDA Harding Lake 77.98 26 P P **09 54 40.4 +0.6**
baz=279
DHY Denali Highway 78.01 28 P P **09 54 40.2 0.0**
baz=279
H25L Birch Creek 78.13 24 P P **09 54 40.4 -0.2**
baz=280
SPA0 Spitsbergen Ar 78.21 348 *e*P P **09 54 41.4 +0.5**
SPITS Spitsbergen Ar 78.21 348 P P **09 54 41.5 +0.6**
comp=Z,12nm,0.7s,baz=81,slow=8.9,SNR=14
SPITS LR LR 10 34 46.6
comp=Z,132nm,18.0s,baz=68,slow=40
comp=Z,12nm,0.7s
SCM Sheep Creek Mo 78.23 29 P P **09 54 41.7 +0.4**
baz=280
C27K Jago River 78.30 21 IAmb IAmb 09 54 43.7
comp=Z,8.7nm,0.9s
C27K Jago River 78.30 21 P P **09 54 42.4 +1.0**
baz=281,SNR=5.7
GLI Glacier Island 78.51 30 P P **09 54 42.9 +0.2**
baz=280
F26K Sheenjek River 78.52 23 IAmb IAmb 09 55 24.2
comp=Z,21nm,1.9s
F26K Sheenjek River 78.52 23 P P **09 54 43.6 +0.9**
baz=281
BJO1 Bjornoya 78.59 344 *e*P P **09 54 43.7 +0.8**
K24K Donnelly Dome 78.59 27 IAmb IAmb 09 54 45.3
comp=Z,14nm,0.9s
K24K Donnelly Dome 78.59 27 P P **09 54 43.8 +0.6**
baz=281
J25K Salcha River, 78.62 26 P P **09 54 43.9 +0.5**
baz=281
M24K Tolsona, Glenn 78.72 29 P P **09 54 44.8 +0.7**
baz=281
G26K Porcupine Rive 78.80 24 P P **09 54 45.1 +0.8**
baz=282
KBS Kingsbay 78.81 349 *e*P P **09 54 43.7 -0.4**
FINES FINESS Array B 78.82 331 P P **09 54 44.1 -0.3**
comp=Z,2.8nm,0.5s,baz=57,slow=5.1,SNR=30
FINES LR LR 10 32 37.5
comp=Z,139nm,19.0s,baz=54,slow=38
comp=Z,2.8nm,0.5s
PAX Paxson 78.88 28 P P **09 54 45.3 +0.4**
baz=281
KLU Klutina 78.95 29 P P **09 54 45.8 +0.4**
baz=281
AK09 Malin Array Si 79.00 320 P P **09 54 45.4 -0.2**
RIDG Independent Ri 79.01 27 IAmb IAmb 09 54 47.3
comp=Z,22nm,1.1s
RIDG Independent Ri 79.01 27 P P **09 54 46.1 +0.5**
baz=281
AKASG Malin Array Be 79.02 320 P P **09 54 45.5 -0.3**
comp=Z,0.6nm,0.5s,baz=66,slow=5.6,SNR=4.3
AKASG LR LR 10 32 37.3
comp=Z,75nm,18.7s,baz=53,slow=38
comp=Z,0.6nm,0.5s
AK10 Malin Array Si 79.02 320 P P **09 54 45.8 0.0**
VSU Vasula 79.05 328 *ce*P P **09 54 44.6 -1.1**
VSU pmax pmax
comp=Z,11nm,1.0s
AK07 Malin Array Si 79.06 319 P P **09 54 45.8 -0.2**
HARP HAARP 79.14 28 P P **09 54 46.8 +0.6**
baz=281
Q23K Middleton Isla 79.14 31 P P **09 54 47.2 +1.0**
baz=281
AK20 Malin Array Si 79.15 320 P P **09 54 45.1 -1.4**
MNK Minsk 79.15 324 *i* P P **09 54 44.9 -1.5**
MNK *i* 09 57 44.4
MNK *i* PPP PPP 09 59 33.2
MNK *i* S S **10 04 43.0 -0.5**
MNK *i* SS SS **10 09 53.4 +3.8**
MNK *i* SSS SSS 10 13 16.5
MNK pmax pmax
comp=E,26nm,0.8s
MNK pmax pmax
comp=N,11nm,0.7s
MNK pmax pmax
comp=Z,8.0nm,0.6s
MNK MLR MLR
comp=Z,225nm,18.0s
MNK MLR MLR
comp=N,287nm,19.0s
MNK MLR MLR
comp=E,219nm,20.0s
EYAK Cordova Ski Ar 79.22 30 P P **09 54 47.2 +0.6**
baz=281
D27M Malcolm River 79.33 21 P P **09 54 47.8 +0.6**
baz=284,SNR=5.5
SCRK Sand Creek 79.33 27 P **09 54 47.7 +0.3**
SCRK IAmb IAmb 09 54 48.8
comp=Z,24nm,1.7s
SCRK Sand Creek 79.33 27 P P **09 54 47.1 -0.3**
baz=282
E27K Coleen River 79.35 22 P **09 54 48.3 +1.0**
E27K IAmb IAmb 09 54 49.5
comp=Z,10nm,1.2s
E27K Coleen River 79.35 22 P P **09 54 48.3 +1.0**
baz=284
DOT Dot Lake 79.37 27 IAmb IAmb 09 54 49.4
comp=Z,9.8nm,1.1s
J26L Joseph Creek 79.40 26 P P **09 54 48.2 +0.5**
J26L Joseph Creek 79.40 26 P P **09 54 47.9 +0.2**
baz=282
N25K Chitina, Valde 79.55 29 P P **09 54 49.0 +0.3**
baz=282
G27K Doyon Strip 79.66 23 P P **09 54 49.5 +0.5**
baz=284
MENT Mentasta 79.67 28 IAmb IAmb 09 55 43.9
comp=Z,25nm,1.7s
BMRM Bremner River 79.68 30 P P **09 54 49.9 +0.6**
baz=282
L26K Log Cabin Wild 79.82 27 P P **09 54 50.5 +0.5**
baz=283
H27K Steamboat Moun 79.84 24 P P **09 54 50.3 +0.2**
baz=284
TRO Tromso 79.88 340 *e*P P **09 54 52.1 +2.1**
MI28 Mi28,Pidlybu 79.95 320 P P **09 54 50.4 -0.4**
I27K Kandik River 79.96 25 P P **09 54 51.3 +0.7**
baz=284
E28M Babbage River 79.99 21 P P **09 54 51.7 +1.0**
baz=285
KAIM Kayak Island 80.00 31 P P **09 54 51.1 +0.2**
baz=282
D28M Stokes Point 80.07 21 P P **09 54 51.3 +0.2**
baz=286
LUBAR Lubar, Ukraine 80.09 319 P P **09 54 50.6 -1.0**
M26K Nabesna, AK 80.12 28 IAmb IAmb 09 54 53.5
comp=Z,13nm,0.9s
M26K Nabesna, AK 80.12 28 P P **09 54 51.6 0.0**
baz=283,SNR=6.1
F28M Old Crow 80.13 22 IAmb IAmb 09 54 53.0
comp=Z,10.0nm,1.1s
F28M Old Crow 80.13 22 P P **09 54 51.2 -0.3**
baz=285,SNR=5.7
K27K Chicken 80.14 26 IAmb IAmb 09 54 54.4
comp=Z,9.3nm,0.9s
K27K Chicken 80.14 26 P P **09 54 51.7 0.0**
baz=284
MCARA McCarthy VSAT 80.34 29 P P **09 54 52.3 -0.5**
baz=283
EGAK Eagle 80.35 25 P P **09 54 52.4 -0.3**
baz=284
L27K Beaver Creek, 80.48 27 IAmb IAmb 09 54 56.2
comp=Z,7.4nm,0.8s
L27K Beaver Creek, 80.48 27 P P **09 54 53.0 -0.5**
baz=284
BCAR Beaver Creek A 80.50 27 P P **09 54 55.2 +1.5**
E29M Blow River 80.63 22 P P **09 54 53.8 -0.4**
baz=287
M27K Edge Creek, AK 80.64 28 P P **09 54 54.5 0.0**
baz=284
I28M Miner Creek 80.67 25 IAmb IAmb 09 54 56.9
comp=Z,6.7nm,0.8s
I28M Miner Creek 80.67 25 P P **09 54 54.3 -0.3**
baz=285
RNPP9 Sopachiv 80.94 321 P P **09 54 55.0 -1.2**
G29M Pine Creek 81.01 23 P **09 54 57.4 +1.1**
G29M IAmb IAmb 09 55 02.0
comp=Z,9.1nm,1.0s
G29M Pine Creek 81.01 23 P P **09 54 56.4 +0.1**
baz=287
H29M Whitestone 81.08 24 P P **09 54 57.8 +1.2**
H29M IAmb IAmb 09 54 58.6
comp=Z,7.8nm,0.9s
H29M Whitestone 81.08 24 P P **09 54 57.2 +0.5**
baz=287
MESA MESA 81.14 30 P P **09 54 57.1 -0.2**
baz=284
KMPD K-Podol'skiy 81.20 318 P P **09 54 56.3 -1.3**
CTG Chitna Glacier 81.23 29 P P **09 54 57.7 0.0**
baz=285
DAWY Dawson 81.28 26 P P **09 54 58.3 +0.5**
baz=286,SNR=5.6

CASY	**Casey**	**81.31**	**184**			**P**		**09 54 58.0**	**+0.4**
CASY					IAmb	IAmb		09 54 59.4	
	comp=Z,16nm,1.0s								
I29M	**Ogilvie Camp,**	**81.35**	**25**		IAmb	IAmb		09 55 05.0	
	comp=Z,12nm,1.4s								
I29M	**Ogilvie Camp,**	**81.35**	**25**		P	**P**		**09 54 58.7**	**+0.5**
	baz=287								
TESR	**Tescani**	**81.53**	**316**		P	**P**		**09 54 58.7**	**-0.7**
	comp=Z,16nm,1.0s								
VRI	**Vrincioaia**	**81.61**	**315**		P	**P**		**09 55 01.0**	**+1.1**
VRI					pmax	pmax			
	comp=Z,13nm,0.9s								
VRI	**Vrincioaia**	**81.61**	**315**		P	**P**		**09 54 59.2**	**-0.7**
F30M	**Barrier River**	**81.62**	**22**		P	**P**		**09 55 00.1**	**+0.6**
	baz=289								
J29N	**Klondike Camp**	**81.66**	**25**		P	**P**		**09 55 00.3**	**+0.5**
	baz=287								
STEI	**Steigen**	**81.67**	**338**	*eP*		**P**		**09 54 58.8**	**-0.8**
G30M	**tAoh Zraii Nji**	**81.67**	**23**		IAmb	IAmb		09 55 00.9	
	comp=Z,14nm,1.1s								
G30M	**tAoh Zraii Nji**	**81.67**	**23**		P	**P**		**09 55 00.6**	**+0.9**
	baz=288								
EPYK	**Eagle Plains**	**81.67**	**23**		P	**P**		**09 55 00.3**	**+0.5**
	baz=288								
O28M	**Mount Upton**	**81.83**	**29**		P	**P**		**09 55 00.8**	**-0.2**
	baz=286								
FAUS	**Fauske**	**81.83**	**338**	*eP*		**P**		**09 55 00.0**	**-0.5**
YUK8	**Steele Glacier**	**81.89**	**29**		P	**P**		**09 55 01.4**	**+0.1**
	baz=286								
PINM	**Pinnacle**	**81.98**	**30**		P	**P**		**09 55 02.6**	**+1.0**
	baz=286								
L29M	**L29M**	**82.09**	**27**		IAmb	IAmb		09 55 05.0	
	comp=Z,18nm,0.9s								
L29M	**L29M**	**82.09**	**27**		P	**P**		**09 55 03.2**	**+1.1**
	baz=287,SNR=8.4								
K29M	**Barlow Dome**	**82.13**	**26**		IAmb	IAmb		09 55 04.7	
	comp=Z,10nm,0.8s								
K29M	**Barlow Dome**	**82.13**	**26**		P	**P**		**09 55 03.0**	**+0.6**
	baz=288,SNR=6.9								
M29M	**Somme Creek**	**82.14**	**27**		P	**P**		**09 55 03.7**	**+1.3**
	baz=287,SNR=5.1								
I30M	**Mount Dempster**	**82.17**	**24**		IAmb	IAmb		09 55 04.3	
	comp=Z,9.6nm,0.8s								
I30M	**Mount Dempster**	**82.17**	**24**		P	**P**		**09 55 03.5**	**+0.9**
	baz=289,SNR=11								
INK	**Inuvik**	**82.19**	**21**		P	**P**		**09 55 03.0**	**+0.6**
	baz=291								
BURAR	**Bucovina Array**	**82.23**	**317**		P	**P**		**09 55 03.8**	**+0.6**
BURAR	**Bucovina Array**	**82.23**	**317**		P	**P**		**09 55 03.8**	**+0.6**
BURAR					pmax	pmax			
	comp=Z,5.0nm,0.8s								
BUR08	**Bucovina Ar. S**	**82.23**	**317**			**P**		**09 55 04.0**	**+0.8**
BUR08					IAmb	IAmb		09 55 18.0	
	comp=Z,16nm,1.4s								
MLR	**Muntele Rosu**	**82.23**	**315**		LR	LR		10 35 45.0	
	comp=Z,120nm,18.5s,baz=61,slow=39								
MLR	**Muntele Rosu**	**82.23**	**315**		P	**P**		**09 55 04.2**	**+0.9**
MLR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
YUK4	**Talbot Arm**	**82.38**	**28**		P	**P**		**09 55 04.0**	**+0.1**
	baz=287								
J30M	**Hart River**	**82.39**	**25**		P	**P**		**09 55 05.2**	**+1.4**
J30M	**Hart River**	**82.39**	**25**		P	**P**		**09 55 04.0**	**+0.3**
	baz=289								
G31M	**Satah River**	**82.41**	**22**		P	**P**		**09 55 03.6**	**+0.1**
	baz=290								
F31M	**Tsiigehtchic**	**82.42**	**22**		IAmb	IAmb		09 55 06.2	
	comp=Z,27nm,1.6s								
F31M	**Tsiigehtchic**	**82.42**	**22**		P	**P**		**09 55 03.5**	**-0.2**
	baz=291								
RAUS	**Rausandaksla**	**82.61**	**337**	*eP*		**P**		**09 55 04.2**	**-0.4**
YUK6	**Outpost Mounta**	**82.64**	**29**		P	**P**		**09 55 04.8**	**-0.4**
	baz=288								
O29M	**Mount Kennedy**	**82.73**	**29**		P	**P**		**09 55 05.8**	**+0.3**
	baz=287								
H31M	**Peel River**	**82.77**	**24**		IAmb	IAmb		09 55 08.1	
	comp=Z,16nm,1.3s								
H31M	**Peel River**	**82.77**	**24**		P	**P**		**09 55 06.1**	**+0.5**
	baz=290								
VAGH	**Vaagaholmen**	**82.80**	**337**	*eP*		**P**		**09 55 05.5**	**-0.1**
M30M	**Minto, Yukon**	**82.84**	**27**		IAmb	IAmb		09 55 08.7	
	comp=Z,14nm,1.1s								
M30M	**Minto, Yukon**	**82.84**	**27**		P	**P**		**09 55 05.7**	**-0.2**
	baz=289								
STOK	**Stokkvaagen**	**83.03**	**337**	*eP*		**P**		**09 55 06.2**	**-0.6**
N30M	**Aishikik Lake**	**83.06**	**28**		IAmb	IAmb		09 55 10.3	
	comp=Z,10.0nm,0.9s								
N30M	**Aishikik Lake**	**83.06**	**28**		P	**P**		**09 55 07.5**	**+0.3**
	baz=288								
HYT	**Haines Junctio**	**83.07**	**29**		P	**P**		**09 55 07.2**	**-0.2**
	baz=288								
LEIR	**Leirfjorden**	**83.08**	**337**	*eP*		**P**		**09 55 06.7**	**-0.4**
A36M	**Sachs Harbour**	**83.25**	**17**		P	**P**		**09 55 08.1**	**+0.2**
	baz=298								
P29M	**Windy Craggy**	**83.33**	**30**		P	**P**		**09 55 08.6**	**0.0**
	baz=288								
P30M	**Million Dollar**	**83.55**	**29**		P	**P**		**09 55 09.9**	**+0.1**
	baz=289								
N31M	**Braeburn, Yuko**	**83.65**	**28**		P	**P**		**09 55 10.6**	**+0.4**
	baz=290								
O30N	**Mendenhall**	**83.75**	**29**		P	**P**		**09 55 11.8**	**+1.1**
	baz=289								
M31M	**Drury Creek, Y**	**84.02**	**27**		P	**P**		**09 55 12.9**	**+0.9**
	baz=291								
PLBC	**Pleasant Camp**	**84.05**	**30**		P	**P**		**09 55 12.6**	**+0.4**
	baz=289								
DRGR		**84.09**	**317**		P	**P**		**09 55 12.2**	**-0.6**
DRGR					pmax	pmax			
	comp=Z,12nm,1.1s								
WHY	**Whitehorse**	**84.34**	**29**		P	**P**		**09 55 14.0**	**+0.2**
	baz=290								
SKAG	**Skagway**	**84.55**	**30**		P	**P**		**09 55 15.5**	**+0.8**
	baz=290								
R31K	**City Hall, Gus**	**84.71**	**31**		P	**P**		**09 55 15.9**	**+0.4**
	baz=290								
N32M	**Quiet Lake**	**84.98**	**28**		P	**P**		**09 55 17.1**	**+0.1**
	baz=292								
HFS	**Hagfors**	**85.02**	**331**		P	**P**		**09 55 16.5**	**-0.5**
	comp=Z,4.2nm,0.6s,baz=109,slow=3.5,SNR=19								
HFS					LR	LR		10 36 37.1	
	comp=Z,144nm,18.0s,baz=50,slow=38								
	comp=Z,4.2nm,0.6s								
P32M	**Atlin**	**85.27**	**29**		P	**P**		**09 55 18.0**	**-0.5**
	baz=292								
R32K	**Eaglecrest**	**85.36**	**31**		P	**P**		**09 55 18.8**	**-0.1**
	baz=291								
SIT	**Sitka**	**85.38**	**32**		P	**P**		**09 55 19.3**	**+0.4**
	baz=290								
P33M	**Teslin, Yukon**	**85.46**	**29**		P	**P**		**09 55 19.6**	**+0.2**
	baz=292								
KNT	**Kendrikon**	**85.47**	**311**		P	**P**		**09 55 18.1**	**-1.7**
KNT					pmax	pmax			
	comp=Z,12nm,0.9s								
NC405	**NORSAR Array S**	**85.55**	**332**			**P**		**09 55 19.7**	**0.0**
NC303	**NORSAR Array S**	**85.66**	**333**		P	**P**		**09 55 20.9**	**+0.6**
NC602	**NORSAR Array S**	**85.78**	**332**	*eP*		**P**		**09 55 20.3**	**-0.6**
NB2	**NORSAR Subarra**	**85.80**	**332**		P	**P**		**09 55 20.0**	**-1.0**
	comp=Z,5.3nm,0.8s,baz=66,slow=4.8								
NB2	**NORSAR Subarra**	**85.80**	**332**		P	**P**		**09 55 20.0**	**-1.0**
	comp=Z,5.3nm,0.8s,baz=66,slow=4.8								
NOA	**NORSAR Array B**	**85.80**	**332**		P	**P**		**09 55 20.1**	**-0.9**
	comp=Z,9.1nm,0.8s,baz=66,slow=4.7,SNR=32								
NOA					LR	LR		10 36 04.2	
	comp=Z,81nm,19.3s,baz=65,slow=37								
	comp=Z,9.1nm,0.8s								
Q32M	**Nakina River**	**86.20**	**30**		P	**P**		**09 55 23.5**	**+0.2**
	baz=293								
DOMB	**Dombas**	**86.33**	**334**	*eP*		**P**		**09 55 22.8**	**-0.8**
OSL	**Oslo**	**86.47**	**332**	*eP*		**P**		**09 55 23.2**	**-1.0**
MORC	**Moravsky Berou**	**86.50**	**321**		P	**P**		**09 55 25.0**	**+0.2**
MORC					IAmb	IAmb		09 55 25.9	
	comp=Z,3.7nm,0.7s								
MORC	**Moravsky Berou**	**86.50**	**321**	*eP*		**P**		**09 55 25.2**	**+0.4**
MORC	**Moravsky Berou**	**86.50**	**321**		P	**P**		**09 55 25.0**	**+0.2**
MORC					pmax	pmax			
	comp=Z,4.0nm,0.7s								
R33M	**Jennings River**	**86.64**	**29**		P	**P**		**09 55 25.6**	**+0.3**
	baz=294								
MOL	**Molde**	**86.73**	**335**	*eP*		**P**		**09 55 25.7**	**+0.2**
U33K	**Whale Pass**	**86.86**	**32**		P	**P**		**09 55 26.4**	**+0.1**
	baz=292								
TGTN	**Hyland Airport**	**86.95**	**26**		P	**P**		**09 55 27.4**	**+0.7**
	baz=296								
DPC	**Dobruska-Polom**	**87.06**	**321**	*eP*		**P**		**09 55 28.0**	**+0.6**
DPC	**Dobruska-Polom**	**87.06**	**321**	*eP*		**P**		**09 55 28.0**	**+0.6**
KONO	**Kongsberg**	**87.10**	**332**	*eP*		**P**		**09 55 26.5**	**-0.9**
AKN	**Aaknes**	**87.14**	**334**	*eP*		**P**		**09 55 28.2**	**+0.6**
S34M	**Telegraph Cree**	**87.16**	**30**		P	**P**		**09 55 28.2**	**+0.4**
	baz=294								
VRAC	**Vranov**	**87.24**	**320**		LR	LR		10 35 47.5	
	comp=Z,69nm,19.0s,baz=64,slow=36								
VRAC	**Vranov**	**87.24**	**320**	*eP*		**P**		**09 55 29.0**	**+0.7**
VRAC	**Vranov**	**87.24**	**320**		P	**P**		**09 55 29.6**	**+1.3**
VRAC					pmax	pmax			
	comp=Z,12nm,1.1s								
RONA	**Rosalia, Austr**	**87.97**	**319**	*e*	pP	pP		09 55 43.3	+0.8
	comp=Z,2.6nm,1.0s								
CONA	**Conrad Observa**	**88.17**	**319**	*i*	pP	pP		09 55 46.5	+3.0
	comp=Z,11nm,1.0s								
CLL	**Collm**	**88.67**	**323**	*i*	P	**P**		**09 55 33.6**	**-1.5**
CLL	**Collm**	**88.67**	**323**	*i*	P	**P**		**09 55 35.0**	**-0.1**
CLL					Lm	MLR		10 37 00.0	
	comp=Z,200nm,18.0s								
KHC	**Kasperske Hory**	**89.15**	**321**	*c*	*e*P	**P**		**09 55 37.3**	**-0.1**
KHC					pmax	pmax			
	comp=Z,3.0nm,1.0s								
GERES	**GERESS Array B**	**89.19**	**321**		P	**P**		**09 55 36.6**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=49,slow=4.6,SNR=9.3								
	comp=Z,1.8nm,0.8s								
KOTAN	**Kotaneelee Air**	**89.43**	**27**		P	**P**		**09 55 38.7**	**+0.3**
	baz=300								
TOAD	**Toad River Com**	**89.53**	**28**		P	**P**		**09 55 39.0**	**0.0**
	baz=299								
LESA	**Schwarzleotal**	**90.36**	**320**	*i*	P	**P**		**09 55 42.9**	**-0.2**
	comp=Z,3.9nm,0.6s								
WTTA	**Wattenberg**	**91.07**	**320**	*i*	P	**P**		**09 55 46.3**	**-0.3**
	comp=Z,6.2nm,0.7s								
WATA	**Walderalm**	**91.08**	**320**	*e*	P	**P**		**09 55 45.7**	**-0.9**
	comp=Z,7.5nm,1.2s								
SQTA	**Sankt Quirin**	**91.36**	**320**	*i*	PcP	**P**		**09 55 48.1**	**+0.2**
	comp=Z,7.2nm,0.8s								
MOTA	**Moosalm**	**91.37**	**320**	*i*	PcP	**P**		**09 55 47.9**	**-0.1**
	comp=Z,11nm,1.0s								
FETA	**Feichten**	**91.74**	**320**	*e*	P	**P**		**09 55 49.0**	**-0.7**
	comp=Z,7.3nm,0.9s								
YKA	**Yellowknife Ar**	**91.90**	**22**		P	**P**		**09 55 49.3**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=305,slow=4.2,SNR=5.6								
	comp=Z,2.4nm,0.7s								
MAW	**Mawson**	**92.04**	**199**		P	**P**		**09 55 51.4**	**+1.2**
	comp=Z,0.7nm,1.1s								
MAW	**Mawson**	**92.04**	**199**		P	**P**		**09 55 51.0**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=54,slow=7.5,SNR=5.4								
	comp=Z,1.8nm,0.8s								
DAVA	**Damuels**	**92.16**	**320**	*e*	PcP	**P**		**09 55 51.9**	**+0.3**
	comp=Z,5.5nm,1.1s								
DAVOX	**Davos/Dischmat**	**92.37**	**320**		LR	LR		10 40 42.7	
	comp=Z,81nm,18.9s,baz=70,slow=38								
PPT2	**Papeete2**	**94.88**	**107**	*e*	LR	LR		10 26 35.4	
	comp=Z,90nm,22.0s								
BORG	**Borgarnes**	**95.25**	**344**		LR	LR		10 43 14.6	
	comp=Z,87nm,18.0s,baz=15,slow=38								
VNDA	**Vanda**	**95.39**	**172**		P	**P**		**09 56 06.1**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=321,slow=5.7,SNR=4.6								
	comp=Z,0.8nm,0.9s								
TBI	**Tubuai**	**96.35**	**112**	*e*	LR	LR		10 27 23.9	
	comp=Z,390nm,25.5s								
TORD	**Torodi Ar. Bea**	**112.79**	**291**		PKiKP	**PKiKP**		**10 01 18.2**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=50,slow=0.8,SNR=4.7								
TXAR	**Lajitas Array**	**119.09**	**44**		PKP	**PKiKP**		**10 01 31.4**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=325,slow=2.4,SNR=24								
PLCA	**Paso Flores**	**152.75**	**162**		PKP	**PKPdf**		**10 02 31.3**	**-0.5**
	comp=Z,2.0nm,1.0s,baz=234,slow=4.9,SNR=3.1								
PLCA					PKPbc	**PKiKP**		**10 02 39.9**	**+0.8**
	comp=Z,5.5nm,0.8s,baz=197,slow=2.8,SNR=14								
CPUP	**Villa Florida**	**168.40**	**192**		PKPab	**PKPab**		**10 03 58.3**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=166,slow=1.5,SNR=5.1								
LPAZ	**La Paz**	**172.12**	**101**		PKP	**PKPdf**		**10 02 52.7**	**+0.5**
	comp=Z,2.0nm,1.0s,baz=243,slow=4.5,SNR=5.7								

*NNC **24** 09:44:24.4±0.6, 44.°50N×79.°10E, h6km±7km, mb3.9, mpv3.1, Error ellipse: s-maj=10.1km s-min=4.1km az=98.0*
*SOME **24** 09:44:25.2, 44.°50N×79.°10E, h15km*
ISC 24 09:44:24.9±1.0, 44.°50N±0.°04×79.°09E±0.°06, h15km±9km, n13, σ0°51/24, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KNOS	**Konyrlen**	**0.16**	**155**	P		**Pg**		**09 44 29.0**	**0.0**
KNOS	78nm,0.1s			S		**Sg**		**09 44 32.0**	**+0.3**
	151nm,0.2s								
KAPS	**Kapalarasan**	**0.81**	**14**	P		**Pg**		**09 44 40.1**	**-0.4**
KAPS	6.2nm,0.1s			S		**Sg**		**09 44 51.0**	**-0.2**
	104nm,0.1s								
ARXS	**Arharly**	**0.95**	**253**	*e*P		**Pb**		**09 44 43.4**	**+0.3**
ARXS				*e*S		**Sb**		**09 44 56.4**	**+0.9**
KPKS	**Kokpek**	**1.07**	**196**	P		**Pg**		**09 44 44.9**	**-0.7**
KPKS	0.3nm,0.2s			S		**Sg**		**09 44 59.0**	**-0.6**
	12nm,0.1s								
KURS	**Kuram**	**1.21**	**214**	P		**Pn**		**09 44 47.4**	**+0.1**
KURS	3.3nm,0.2s			S		**Sb**		**09 45 03.4**	**+0.4**
	6.5nm,0.3s								
UZB	**Uzynbulak**	**1.35**	**182**	P		**Pn**		**09 44 49.5**	**+0.1**
UZB	2.7nm,0.1s			S		**Sb**		**09 45 07.1**	**-0.1**
	14nm,0.1s								
UZB	**Uzynbulak**	**1.35**	**182**	*e*P		**Pn**		**09 44 49.5**	**+0.1**
UZB	0.3nm,0.1s			*e*S		**Sb**		**09 45 07.1**	**-0.1**
	7.7nm,0.1s								
CHKK	**Chushkaly**	**1.64**	**248**	P		**Pb**		**09 44 54.8**	**0.0**
CHKK	40nm,0.2s			S		**Sb**		**09 45 16.2**	**+0.8**
	12nm,0.2s								
CHKK	**Chushkaly**	**1.64**	**248**	*e*P		**Pb**		**09 44 55.4**	**+0.5**
CHKK	7.5nm,0.1s			*e*S		**Sg**		**09 45 17.1**	**-0.6**
	14nm,0.2s								
KTBS	**Karatobe**	**1.90**	**246**	P		**Pb**		**09 44 58.9**	**-0.4**
KTBS	1.9nm,0.1s			S		**Sb**		**09 45 23.1**	**+0.2**
	10nm,0.2s								
KOTS	**Kotyrbulak**	**1.91**	**229**	*e*P		**Pb**		**09 45 00.7**	**+1.2**
KOTS	1.6nm,0.1s			*e*S		**Sg**		**09 45 26.0**	**-0.3**
	21nm,0.3s								
MDOK	**Medeo**	**1.99**	**229**	Pg		**Pb**		**09 45 00.9**	**0.0**
MDOK	3.1nm,0.1s			Lg		Lg		09 45 26.5	
	5.1nm,0.2s								
KRBS	**Karabastau**	**2.59**	**253**	Pg		**Pb**		**09 45 11.0**	**0.0**
KRBS	0.5nm,0.2s			Lg		Lg		09 45 44.1	
	1.5nm,0.2s								

*NEIC **24** 09:55:20.1±1.5, 19.°13N±0.°02×67.°20W±0.°03, h10km±1km, ML2.9/17, Md3.0/12(RSPR), Error ellipse: s-maj=4.7km s-min=3.7km az=47.0*
*RSPR **24** 09:55:20.8, 19.°22N×67.°34W, h12km±13km, MD3.0/12*
ISC 24 09:55:20.6±1.6, 19.°12N±0.°07×67.°21W±0.°04, h18km±4km, n44, σ0°69/49, 13C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.65**	**172**				**Pg**	**09 55 33.5**	**0.0**
AGPR							**Sn**	**09 55 44.9**	**+0.2**
AGPR	**Aguadilla, PR**	**0.65**	**172**	*i*P			**Pg**	**09 55 33.5**	**0.0**
AGPR	**Aguadilla, PR**	**0.65**	**172**	*e*S			**Sn**	**09 55 44.9**	**+0.2**
IDE	**Isla Desecheo**	**0.77**	**199**				**Pg**	**09 55 35.1**	**-0.6**
IDE							**Sg**	**09 55 46.4**	**+0.5**
IDE	**Isla Desecheo**	**0.77**	**199**	*i*P			**Pg**	**09 55 35.1**	**-0.6**
IDE	**Isla Desecheo**	**0.77**	**199**	*e*S			**Sg**	**09 55 46.4**	**+0.5**
AOPR	**Arecibo Observ**	**0.88**	**151**				**Pn**	**09 55 37.2**	**-0.8**
AOPR					IAML			09 55 59.5	
	comp=N,830nm,0.3s								
AOPR	**Arecibo Observ**	**0.88**	**151**				**Sn**	**09 55 50.6**	**+0.3**
AOPR	**Arecibo Observ**	**0.88**	**151**	*i*P			**Pn**	**09 55 37.3**	**-0.8**
AOPR	**Arecibo Observ**	**0.88**	**151**	*e*S			**Sn**	**09 55 50.6**	**+0.3**
PRSN	**Puerto Rico Se**	**0.90**	**176**				**Pg**	**09 55 38.4**	**+0.3**
PRSN							**Sb**	**09 55 47.6**	**-1.6**
PRSN	**Puerto Rico Se**	**0.90**	**176**	*i*P			**Pg**	**09 55 38.4**	**+0.3**
PRSN	**Puerto Rico Se**	**0.90**	**176**	*e*S			**Sb**	**09 55 47.6**	**-1.6**
EMPR	**Esperanza - Ma**	**0.90**	**135**	Pg			**Pg**	**09 55 38.1**	**-0.1**
EMPR							**Sb**	**09 55 49.1**	**-0.2**
EMPR	**Esperanza - Ma**	**0.90**	**135**	*i*P			**Pg**	**09 55 38.6**	**+0.4**
EMPR	**Esperanza - Ma**	**0.90**	**135**	*e*S			**Sn**	**09 55 51.3**	**+0.4**
UUPR	**Utuado, UPR, P**	**0.97**	**152**				**Pn**	**09 55 38.9**	**-0.5**
UUPR	**Utuado, UPR, P**	**0.97**	**152**	Pg			**Pn**	**09 55 38.8**	**-0.6**
UUPR	**Utuado, UPR, P**	**0.97**	**152**	*i*P			**Pn**	**09 55 38.9**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.11**	**175**				**Pb**	**09 55 41.0**	**-0.2**
CRPR							**Sn**	**09 55 57.0**	**+1.0**
CRPR					IAML			09 55 57.5	
	comp=E,251nm,0.5s								
CRPR					IAML			09 56 02.4	
	comp=N,262nm,0.5s								
CRPR	**Cabo Rojo, PR**	**1.11**	**175**	*i*P			**Pb**	**09 55 41.0**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.11**	**175**	*e*S			**Sn**	**09 55 56.8**	**+0.9**
ECPR	**Experimental S**	**1.13**	**135**	*i*P			**Pg**	**09 55 41.6**	**-0.9**
ECPR	**Experimental S**	**1.13**	**135**	*e*S			**Sg**	**09 55 58.1**	**+0.8**
MLPR	**Magueyes Islan**	**1.15**	**172**	*i*P			**Pn**	**09 55 41.3**	**-0.4**
MLPR	**Magueyes Islan**	**1.15**	**172**	*e*S			**Sb**	**09 55 57.4**	**+0.9**
CELP	**Cerrillos**	**1.20**	**150**				**Pb**	**09 55 42.2**	**-0.5**
CELP					IAML			09 56 00.3	
	comp=N,276nm,0.5s								
CELP					IAML			09 56 07.9	
	comp=E,226nm,0.5s								
CELP	**Cerrillos**	**1.20**	**150**				**Sb**	**09 55 59.3**	**+1.5**
CELP	**Cerrillos**	**1.20**	**150**	*i*P			**Pb**	**09 55 42.3**	**-0.4**
CELP	**Cerrillos**	**1.20**	**150**	*e*S			**Sb**	**09 55 59.3**	**+1.5**
OBIP	**Obispado Ponce**	**1.21**	**152**				**Pb**	**09 55 42.6**	**-0.4**
OBIP							**Sg**	**09 56 00.1**	**+0.2**
OBIP	**Obispado Ponce**	**1.21**	**152**	IAML				09 56 00.9	
	comp=N,275nm,0.6s								
OBIP	**Obispado Ponce**	**1.21**	**152**	*i*P			**Pb**	**09 55 42.6**	**-0.4**
OBIP	**Obispado Ponce**	**1.21**	**152**	*e*S			**Sg**	**09 56 00.1**	**+0.2**
SJG	**San Juan**	**1.42**	**135**				**Pb**	**09 55 46.4**	**-0.1**
SJG					IAML			09 56 11.2	
	comp=N,164nm,0.5s								
SJG					IAML			09 56 15.9	
	comp=N,200nm,0.4s								
IGPR	**InterUniversit**	**1.55**	**137**				**Pb**	**09 55 47.9**	**-0.9**
IGPR							**Sb**	**09 56 08.4**	**+0.4**
IGPR	**InterUniversit**	**1.55**	**137**	*i*P			**Pb**	**09 55 47.9**	**-0.9**
IGPR	**InterUniversit**	**1.55**	**137**	*e*S			**Sb**	**09 56 08.4**	**+0.4**
PDPR	**Patillas Dam,**	**1.57**	**134**	IAML				09 56 17.6	
	comp=N,148nm,0.3s								
PDPR	**Patillas Dam,**	**1.57**	**134**	*i*P			**Pb**	**09 55 48.4**	**-0.7**
PDPR	**Patillas Dam,**	**1.57**	**134**	*e*S			**Sb**	**09 56 09.1**	**+0.6**
DR12	**Loma Pena Alta**	**2.08**	**261**				**Pn**	**09 55 54.0**	**-0.6**
SC01	**Santiago de lo**	**3.34**	**276**	Pn			**Pn**	**09 56 12.1**	**+0.2**
SDDR	**Presa de Saban**	**3.86**	**269**				**Pn**	**09 56 19.5**	**+0.4**

*VKMS **24** 10:00:34.0, 52.°30N×35.°38E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **24** 10:00:40.3±3.2, 52.°40N×35.°32E, h0km, mbtmp3.5/5, ML3.1/5, Error ellipse: s-maj=36.7km s-min=11.9km az=115.0*
ISC 24 10:00:39.1±3.6, 52.°7N±0.°1×35.°0E±0.°3, h0km, n6, σ1°49/8, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.12**	**243**	Pn		**Pn**		**10 01 43.2**	**0.0**
	1.8nm,0.3s,baz=59,slow=13,SNR=4.9								
AKASG				Pg		**Pb**		**10 01 52.8**	**+0.4**
	2.0nm,0.3s,baz=60,slow=16,SNR=4.9								
AKASG				Sn		**Sn**		**10 02 31.8**	**-0.3**
	6.2nm,0.3s,baz=64,slow=18,SNR=6.2								
	0.5nm,0.2s								
I43RU	**DUBNA INFRASON**	**4.20**	**17**	I		I		10 27 50.0	
	0.1nm,0.8s,baz=191,slow=330,SNR=15								
FINES	**FINESS Array B**	**9.97**	**335**	Pn		**Pn**		**10 03 05.6**	**+2.2**
	0.3nm,0.3s,baz=151,slow=16,SNR=11								
FINES				Sn		**Sn**		**10 04 55.7**	**-0.1**
	0.7nm,0.3s,baz=152,slow=22,SNR=13								
FINES				Lg		Lg		10 05 59.8	
	0.5nm,0.3s,baz=145,slow=32,SNR=2.5								
	1.1nm,0.4s								
HFS	**Hagfors**	**13.86**	**311**	Pn		**Pn**		**10 03 55.7**	**-0.9**
	0.3nm,0.3s,baz=111,slow=14,SNR=6.0								
	0.7nm,0.4s								
NOA	**NORSAR Array B**	**15.34**	**312**	Pn	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEDA3	**Pedasi**	**1.94**	**349**	⇑*iP*	**Pn**	**10 16 25.8**	**-2.9**
PEDA3				*i* S	**Sn**	**10 16 47.4**	**-5.7**
TOSI3	**Tonosi**	**1.95**	**337**	⇑*iP*	**Pn**	**10 16 26.0**	**-2.8**
TOSI3				*i* S	**Sn**	**10 16 48.2**	**-5.1**
PCRI3	**Pocri, Los San**	**2.09**	**347**	⇑*iP*	**Pn**	**10 16 28.3**	**-2.4**
PCRI3				*i* S	**Sn**	**10 16 51.8**	**-5.0**
CACAO	**El Cacao, Vera**	**2.10**	**325**	⇑*iP*	**Pn**	**10 16 27.7**	**-3.1**
CACAO				*i* S	**Sn**	**10 16 52.4**	**-4.6**
CACAO				*i* S	**Sb**	**10 16 52.6**	**-7.3**
AZU	**Azuero**	**2.25**	**344**	⇑*iP*	**Pn**	**10 16 30.6**	**-2.4**
AZU				*i* S	**Sn**	**10 16 56.8**	**-4.0**
SOLC	**Bahia Solano**	**2.32**	**75**	P	**Pn**	**10 16 30.7**	**-3.2**
SOLC				*i* S	**Sn**	**10 16 54.6**	**-7.9**
PTAC	**Punta Ardita,**	**2.39**	**50**	*i* P	**Pn**	**10 16 33.3**	**-1.6**
PTAC	**Punta Ardita,**	**2.39**	**50**	P	**Pn**	**10 16 32.5**	**-2.4**
PTAC				S	**Sn**	**10 16 57.2**	**-7.1**
MARI3	**Mariato, Verag**	**2.42**	**327**	⇓*iP*	**Pn**	**10 16 33.1**	**-2.2**
MARI3				*i* S	**Sn**	**10 17 00.1**	**-4.8**
MAPC	**Malpelo**	**2.51**	**231**	P	**Pn**	**10 16 34.7**	**-1.9**
MAPC				S	**Sn**	**10 17 02.7**	**-4.6**
GMAL	**Guarumal, Vera**	**2.65**	**324**	⇑*iP*	**Pn**	**10 16 36.8**	**-1.7**
GMAL				*i* S	**Sn**	**10 17 08.8**	**-1.9**
RSUS3	**Rio de Jesus,**	**2.79**	**328**	*eP*	**Pn**	**10 16 38.5**	**-1.8**
RSUS3				*eS*	**Sn**	**10 17 11.1**	**-3.0**
CRIS3	**El Cristo, Coc**	**2.79**	**340**	⇓*iP*	**Pn**	**10 16 38.9**	**-1.5**
CRIS3				*i* S	**Sn**	**10 17 12.2**	**-2.0**
STIA3	**Santiago, Vera**	**2.79**	**332**	*eP*	**Pn**	**10 16 38.9**	**-1.6**
PNME	**Penonome**	**2.93**	**347**	*eP*	**Pn**	**10 16 41.6**	**-0.8**
PNME				*i* S	**Sn**	**10 17 14.0**	**-3.7**
MESA3	**La Mesa, Verag**	**2.94**	**329**	⇓*iP*	**Pn**	**10 16 41.0**	**-1.4**
GR1C	**Gorgona, Isla**	**2.99**	**150**	P	**Pn**	**10 16 40.5**	**-2.6**
GR1C				S	**Sn**	**10 17 11.5**	**-7.5**
CHOR3	**La Chorrera**	**3.27**	**358**	*eP*	**Pn**	**10 16 46.6**	**-0.3**
CHOR3				*i* S	**Sn**	**10 17 23.7**	**-2.3**
FLAM	**Flamenco Islan**	**3.28**	**2**	*eP*	**Pb**	**10 16 53.9**	**-0.1**
FLAM				*i* S	**Sn**	**10 17 22.5**	**-3.8**
ZANG	**Zanguenga, Cho**	**3.33**	**356**	⇓*iP*	**Pn**	**10 16 47.6**	**-0.2**
ZANG				*i* S	**Sn**	**10 17 24.7**	**-2.8**
ARRA3	**Arraijan, Pana**	**3.33**	**0**	⇓*iP*	**Pn**	**10 16 47.5**	**-0.4**
ARRA3				*i* S	**Sn**	**10 17 23.1**	**-4.4**
UPA	**Univ. de Panam**	**3.35**	**2**	*eP*	**Pn**	**10 16 47.0**	**-1.1**
UPA				*i* S	**Sn**	**10 17 24.2**	**-3.8**
GAMB1	**Gamboa**	**3.49**	**359**	*eP*	**Pn**	**10 16 49.6**	**-0.3**
GAMB1				*eS*	**Sn**	**10 17 29.4**	**-2.0**
BCIP	**Isla Barro Col**	**3.54**	**357**	P	**Pn**	**10 16 50.1**	**-0.6**
BCIP	**Isla Barro Col**	**3.54**	**357**	*i* P	**Pn**	**10 16 50.1**	**-0.6**
BCIP				*i* S	**Sn**	**10 17 31.8**	**-0.8**
BCIP	**Isla Barro Col**	**3.54**	**357**	*eP*	**Pn**	**10 16 49.8**	**-0.8**
BCIP				*eS*	**Sn**	**10 17 29.5**	**-3.1**
BCIP	**Isla Barro Col**	**3.54**	**357**	P	**Pn**	**10 16 50.0**	**-0.7**
BCIP				S	**Sn**	**10 17 28.9**	**-3.7**
TOTI	**Torti**	**3.56**	**22**	*eP*	**Pn**	**10 16 51.5**	**+0.5**
MLIR	**Monte Lirio**	**3.61**	**357**	*eP*	**Pn**	**10 16 51.8**	**+0.1**
MLIR				*eS*	**Sn**	**10 17 32.4**	**-2.0**
CBOC	**Ciudad Bolivar**	**3.64**	**86**	P	**Pn**	**10 16 49.5**	**-2.7**
CBOC				S	**Sn**	**10 17 30.0**	**-5.3**
CNTA3	**Canitas, Panam**	**3.67**	**12**	*eP*	**Pn**	**10 16 53.1**	**+0.7**
YOTC	**Yotoco, Valle**	**3.68**	**116**	P	**Pn**	**10 16 51.5**	**-1.2**
YOTC				S	**Sn**	**10 17 29.8**	**-6.4**
DBBC	**Dabeiba**	**3.70**	**68**	P	**Pn**	**10 16 52.6**	**-0.4**
DBBC				S	Sn	10 17 21.8	-15
APAC	**Apartado, Choc**	**3.81**	**53**	P	**Pn**	**10 16 55.8**	**+1.4**
APAC				S	**Sn**	**10 17 36.3**	**-3.1**
PEDE3	**Pedregal, Chir**	**3.89**	**315**	*eP*	**Pn**	**10 16 54.5**	**-1.0**
LOMA3	**Las Lomas, Chi**	**3.90**	**316**	*eP*	**Pn**	**10 16 56.7**	**+1.0**
LOCO3	**Loma Colorada,**	**3.90**	**316**	*iP*	**Pn**	**10 16 54.8**	**-0.9**
DVD	**David**	**3.94**	**316**	*eP*	**Pn**	**10 16 55.2**	**-1.1**
PSOM3	**Paja de Sombre**	**4.04**	**319**	⇓*eP*	**Pn**	**10 16 57.0**	**-0.6**
RBALA	**Bur**	**4.08**	**323**	*eP*	**Pn**	**10 16 57.6**	**-0.6**
RBALA	**Bur**	**4.08**	**323**	*eP*	**Pn**	**10 16 57.1**	**-1.0**
RBALA				⇑*eP*	**Pn**	**10 16 57.4**	**-0.8**
RBALA				*eS*	**Sn**	**10 17 47.6**	**+1.6**
PTPM	**Petroterminale**	**4.11**	**309**	*eP*	**Pn**	**10 16 57.2**	**-1.3**
HELC	**Santa Helena**	**4.15**	**82**	⇑*eP*	**Pn**	**10 16 58.7**	**-0.7**
HELC				*i* S	**Sn**	**10 17 46.0**	**-2.2**
HELC	**Santa Helena**	**4.15**	**82**	*eP*	**Pn**	**10 16 58.5**	**-0.9**
HELC				*eS*	**Sn**	**10 17 45.3**	**-2.9**
HELC	**Santa Helena**	**4.15**	**82**	P	**Pn**	**10 16 58.7**	**-0.7**
HELC				S	**Sn**	**10 17 46.9**	**-1.3**
HELC	**Santa Helena**	**4.15**	**82**	P	**Pn**	**10 16 57.9**	**-1.5**
HELC				S	**Sn**	**10 17 43.0**	**-5.2**
BQSF3	**Alto Boquete,**	**4.15**	**319**	*eP*	**Pn**	**10 16 58.5**	**-0.7**
PTAR3	**Potrerillos Ar**	**4.15**	**318**	*eP*	**Pn**	**10 16 58.7**	**-0.6**
LESP3	**La Esperanza,**	**4.17**	**312**	*eP*	**Pn**	**10 16 58.2**	**-1.1**
BQTLY	**Boquete Panama**	**4.18**	**319**	*eP*	**Pn**	**10 16 59.9**	**+0.2**
BQTLY	**Boquete Panama**	**4.18**	**319**	⇑*iP*	**Pn**	**10 16 59.9**	**+0.2**
BQTLY				*eP*	**Pn**	**10 16 60.0**	**+0.2**
LNBQ3	**Los Naranjos,**	**4.20**	**319**	*eP*	**Pn**	**10 16 59.4**	**-0.4**
NIZA	**Niza - Manizal**	**4.21**	**97**	P	**Pn**	**10 16 59.9**	**-0.2**
NIZA				S	**Sn**	**10 17 50.0**	**+0.5**
POPC	**Popayan, Colom**	**4.26**	**136**	P	**Pn**	**10 16 59.5**	**-1.4**
POPC				S	**Sn**	**10 17 45.0**	**-5.8**
GUY2C	**Guyana, Caldas**	**4.29**	**95**	P	**Pn**	**10 17 02.1**	**+0.6**
GUY2C				S	**Sn**	**10 17 52.5**	**+0.6**
BBAC	**Balboa, Cauca**	**4.30**	**146**	P	**Pn**	**10 16 59.4**	**-2.0**
BBAC				S	**Sn**	**10 17 45.9**	**-5.9**
BC3P	**Paso Ancho**	**4.33**	**318**	*eP*	**Pn**	**10 17 00.2**	**-1.5**
CDITO	**Canoas**	**4.34**	**313**	P	**Pn**	**10 17 00.6**	**-1.1**
CDITO	**Canoas**	**4.34**	**313**	S	**Sn**	**10 17 52.0**	**-0.4**
BRU2	**Volcan**	**4.37**	**317**		**Pn**	**10 17 01.2**	**-1.0**
BRU2	**Volcan**	**4.37**	**317**	*eP*	**Pn**	**10 17 00.7**	**-1.4**
BRU2	**Volcan**	**4.37**	**317**	⇓*eP*	**Pn**	**10 17 01.2**	**-1.0**
BRU2	**Volcan**	**4.37**	**317**	*eP*	**Pn**	**10 17 00.8**	**-1.4**
BRU2				*eS*	**Pg**	**10 17 20.5**	**+1.1**
BRU2	**Volcan**	**4.37**	**317**	P	**Pn**	**10 17 00.8**	**-1.4**
BRU2	**Volcan**	**4.37**	**317**	S	**Sn**	**10 17 52.5**	**-0.8**
PIRO	**Carate, Puerto**	**4.58**	**307**	Pn	**Pn**	**10 17 04.5**	**-0.6**
PIRO	**Carate, Puerto**	**4.58**	**307**	⇓*eP*	**Pn**	**10 17 04.2**	**-0.8**
UREC	**San Jos de Ur**	**4.62**	**62**	P	**Pn**	**10 17 06.3**	**+0.7**
UREC				S	**Sn**	**10 17 56.8**	**-2.5**
PTJ1	**Puerto Jimnez**	**4.64**	**309**	P	**Pn**	**10 17 05.2**	**-0.6**
PTJ1	**Puerto Jimnez**	**4.64**	**309**	S	**Sn**	**10 17 59.4**	**-0.4**
CNI2	**El Empalme, Bo**	**4.70**	**324**	*eP*	**Pn**	**10 17 06.7**	**-0.1**
ORTC	**Ortega, Tolima**	**4.71**	**111**	P	**Pn**	**10 17 08.2**	**+1.3**
ORTC				S	**Sn**	**10 18 00.8**	**-0.9**
CRUC	**La Cruz**	**4.84**	**146**	P	**Pn**	**10 17 10.5**	**+1.6**
CRUC				S	**Sn**	**10 18 03.1**	**-2.2**
RGM0	**Gandoca**	**4.92**	**324**		**Pn**	**10 17 09.2**	**-0.5**
GCUF	**Volcan Galeras**	**4.93**	**152**	P	**Sn**	**10 17 11.2**	**+0.9**
GCUF				S	**Sn**	**10 18 05.5**	**-2.2**
CMBC	**Cumbal**	**4.99**	**158**	P	**Pn**	**10 17 12.3**	**+1.3**
DRK0	**Durika**	**5.08**	**316**	*eP*	**Pn**	**10 17 11.3**	**-0.7**
DRK0	**Durika**	**5.08**	**316**	*eP*	**Pn**	**10 17 11.3**	**-0.7**
DRK0	**Durika**	**5.08**	**316**	P	**Pn**	**10 17 11.5**	**-0.6**
DRK0	**Durika**	**5.08**	**316**	S	**Sn**	**10 18 10.3**	**-0.6**
BETC	**Betania**	**5.12**	**125**	P	**Pn**	**10 17 14.4**	**+2.0**
BETC				S	**Sn**	**10 18 11.9**	**+0.3**
PRAC	**Prado**	**5.12**	**111**	P	**Pn**	**10 17 13.9**	**+1.4**
PRAC				S	**Sn**	**10 18 11.8**	**+0.2**
PRAC	**Prado**	**5.12**	**111**	P	**Pn**	**10 17 13.7**	**+1.2**
PRAC				S	**Sn**	**10 18 10.4**	**-1.3**
PTBC	**PUERTO BERRIO,**	**5.26**	**80**	P	**Pn**	**10 17 14.6**	**+0.3**
PTBC				S	**Sn**	**10 18 10.5**	**-4.6**
OCHAL	**Ojochal**	**5.26**	**311**	P	**Pn**	**10 17 14.6**	**+0.2**
OCHAL	**Ojochal**	**5.26**	**311**	S	**Sn**	**10 18 14.8**	**-0.2**
ROSC	**El Rosal**	**5.37**	**98**		**Pn**	**10 17 18.9**	**+2.6**
ROSC	**El Rosal**	**5.37**	**98**	Pn	**Pn**	**10 17 18.7**	**+2.4**
	6.5nm,0.3s,baz=284,slow=8.3,SNR=17						
ROSC				Sn	**Sn**	**10 18 22.5**	**+4.1**
	1.8nm,0.3s,baz=216,slow=19,SNR=2.0						
	31nm,0.4s						
ROSC	**El Rosal**	**5.37**	**98**	P	**Pn**	**10 17 20.3**	**+4.0**
PAC1	**Pacto, Paraso**	**5.38**	**171**	P	**Pn**	**10 17 17.6**	**+1.4**
PAC1				S	Sn	10 18 08.6	-10
CUSE	**Cuicocha Este**	**5.42**	**167**	P	**Pn**	**10 17 18.3**	**+1.4**
CUSE				S	**Sn**	**10 18 15.0**	**-4.6**
BONI	**La Bonita**	**5.55**	**157**	P	**Pn**	**10 17 21.5**	**+2.9**
BONI				S	**Sn**	**10 18 20.7**	**-1.9**
FLOC	**Florencia**	**5.66**	**135**		**Pn**	**10 17 21.1**	**+1.2**
FLOC	**Florencia**	**5.66**	**135**	P	**Pn**	**10 17 21.3**	**+1.5**
FLOC	**Florencia**	**5.66**	**135**	P	**Pn**	**10 17 21.3**	**+1.5**
CVER	**Cruz Verde, Cu**	**5.67**	**101**	P	**Pn**	**10 17 23.4**	**+3.0**
CVER				S	**Sn**	**10 18 26.5**	**+0.6**
URMC	**La Uribe, Meta**	**5.76**	**114**	P	**Pn**	**10 17 22.7**	**+1.3**
	5µm510nm,0.8s						
URMC				S	**Sn**	**10 18 26.4**	**-1.3**
	5µm510nm,0.8s						
SJCC	**San Jacinto, C**	**6.15**	**46**	P	**Pn**	**10 17 27.8**	**+1.1**
	1µm46nm,0.5s						
SJCC				S	**Sn**	**10 18 34.4**	**-2.8**
	1µm46nm,0.5s						
HDC	**Heredia**	**6.21**	**315**		**Pn**	**10 17 29.3**	**+1.8**
BARC	**Barichara**	**6.51**	**81**	P	**Pn**	**10 17 33.5**	**+1.7**
RUSC	**La Rusia**	**6.55**	**87**		**Pn**	**10 17 33.9**	**+1.4**
RUSC	**La Rusia**	**6.55**	**87**	P	**Pn**	**10 17 34.1**	**+1.6**
RUSC				S	**Sn**	**10 18 51.5**	**+3.9**
PIAT	**Ana Tenorio**	**6.71**	**168**	P	**Pn**	**10 17 38.5**	**+3.8**
MACC	**Macarena, Meta**	**6.74**	**120**	P	**Pn**	**10 17 35.3**	**+0.5**
	2µm223nm,0.7s						
MACC				S	**Sn**	**10 18 47.2**	**-4.5**
	2µm223nm,0.7s						
OCAC	**Ocana**	**6.81**	**67**	P	**Pn**	**10 17 36.8**	**+0.9**
OCAC				S	**Sn**	**10 18 49.7**	**-4.0**
ARGC	**Ariguani, Magd**	**6.82**	**51**	P	**Pn**	**10 17 36.9**	**+1.0**
	45nm,0.9s						
SOCE	**Pocosol**	**6.83**	**314**		**Pn**	**10 17 36.9**	**+1.0**
SOCE	**Pocosol**	**6.83**	**314**	P	**Pn**	**10 17 37.9**	**+2.0**
JTS	**Las Juntas de**	**7.01**	**312**		**Pn**	**10 17 40.3**	**+1.9**
JTS	**Las Juntas de**	**7.01**	**312**	Pn	**Pn**	**10 17 39.4**	**+1.0**
	3.2nm,0.3s,baz=131,slow=13,SNR=15						
JTS				Sn	**Sn**	**10 18 56.3**	**-1.9**
	baz=132,slow=16						
JTS				LR	LR	10 20 25.9	
	comp=Z,699nm,19.0s,baz=126,slow=39						
	11nm,0.4s						
JTS	**Las Juntas de**	**7.01**	**312**	*eP*	**Pn**	**10 17 39.7**	**+1.3**
JTS	**Las Juntas de**	**7.01**	**312**	P	**Pn**	**10 17 39.5**	**+1.1**
PAMC	**Pamplona, Colo**	**7.13**	**76**	P	**Pn**	**10 17 42.1**	**+1.6**
PAMC				S	**Sn**	**10 18 59.5**	**-2.3**
PTLC	**Puerto Leguiza**	**7.26**	**138**	P	Pn	10 17 47.1	+5.2
	1µm113nm,0.9s						
SMRC	**Santa Marta, M**	**7.70**	**44**	P	**Pn**	**10 17 49.3**	**+1.3**
	994nm73nm,0.8s						
PRVC	**Isla de Provid**	**7.90**	**348**		**Pn**	**10 17 49.5**	**-1.2**
PRVC	**Isla de Provid**	**7.90**	**348**	P	**Pn**	**10 17 49.7**	**-0.9**
ESPN	**Las Esperanzas**	**7.99**	**325**	Pn	**Pn**	**10 17 51.6**	**-0.2**
COHC	**Cochancay**	**8.03**	**177**	Pn	**Pn**	**10 17 53.2**	**+0.7**
COHC	**Cochancay**	**8.03**	**177**	P	**Pn**	**10 17 53.4**	**+0.9**
ACON	**Acoyapa**	**8.34**	**320**	P	**Pn**	**10 17 53.7**	**-3.0**
CRJC	**Cerrejon, Guaj**	**8.59**	**51**	P	**Pn**	**10 17 59.3**	**-1.0**
	1µm128nm,0.8s						
SDV	**Santo Domingo**	**9.53**	**70**		**Pn**	**10 18 13.2**	**0.0**
SDV	**Santo Domingo**	**9.53**	**70**	Pn	**Pn**	**10 18 12.5**	**-0.7**
	4.4nm,0.3s,baz=264,slow=11,SNR=4.2						
SDV				Sn	**Sn**	**10 19 53.2**	**-7.3**
	2.1nm,0.3s,baz=349,slow=10,SNR=2.1						
SDV				LR	LR	10 22 04.1	
	comp=Z,262nm,20.9s,baz=248,slow=39						
	7.6nm,0.3s						
URIC	**Uribia, Colomb**	**9.70**	**51**	P	**Pn**	**10 18 14.4**	**-0.9**
CNGN	**Cerro Negro**	**9.75**	**315**	Pn	**Pn**	**10 18 15.8**	**-0.3**
BAUV	**El Baul**	**11.99**	**73**		**Pn**	**10 18 45.9**	**-0.9**
ATAH	**Atahualpa**	**12.72**	**174**		**Pn**	**10 18 57.7**	**+0.5**
	0.3nm,0.3s,baz=310,slow=7.9,SNR=2.8						
ATAH				LR	LR	10 23 33.0	
	comp=Z,218nm,20.0s,baz=350,slow=36						
	3.9nm,0.8s						
NMDO	**Nuevo Mundo**	**15.54**	**17**	Pn	**Pn**	**10 19 35.0**	**0.0**
NMDO				IAmb	IAmb	10 19 43.7	
	comp=Z,16nm,1.0s						
PCRV	**Puerto La Cruz**	**15.55**	**72**	Pn	**Pn**	**10 19 35.3**	**+0.1**
	comp=Z,3nm,0.3s,baz=252,slow=4.1,SNR=2.0						
	comp=Z,8.3nm,0.9s						
SDDR	**Presa de Saban**	**15.60**	**31**		**Pn**	**10 19 37.3**	**+1.5**
SDDR				IAmb	IAmb	10 19 41.1	
	comp=Z,28nm,0.9s						
CCIG	**Comitan**	**16.19**	**312**	Pn	**Pn**	**10 19 44.3**	**+0.7**
CMIG	**Matias Romero**	**18.77**	**309**	P	**Pn**	**10 20 15.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=126,slow=17,SNR=7.5						
CMIG				LR	LR	10 26 16.5	
	comp=Z,105nm,21.6s,baz=124,slow=33						
	comp=Z,3.4nm,0.6s						
FDF	**Fort de France**	**20.33**	**62**	P	**P**	**10 20 32.5**	**+0.2**
LPAZ	**La Paz**	**24.57**	**153**	P	**P**	**10 21 18.2**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=324,slow=13,SNR=3.5						
LPAZ				LR	LR	10 31 54.4	
	comp=Z,146nm,20.4s,baz=314,slow=39						
	comp=Z,1.4nm,0.8s						
PB16	**IPOC Station P**	**25.82**	**157**	P	**P**	**10 21 27.3**	**-0.6**
PB16				IAmb	IAmb	10 21 40.7	
	comp=Z,28nm,1.1s						
BRAL	**Brewton**	**26.36**	**346**	P	**P**	**10 21 31.3**	**-0.7**
MAL2	**Monte Alegre,**	**26.55**	**106**	P	**P**	**10 21 32.9**	**-1.1**
VILB	**Vilhena**	**26.72**	**134**	P	**P**	**10 21 34.6**	**-1.0**
VILB				IAmb	IAmb	10 21 47.5	
	comp=Z,29nm,1.1s						
PB11	**IPOC Station P**	**27.07**	**159**	P	**P**	**10 21 37.4**	**-1.4**
PB11				IAmb	IAmb	10 21 55.9	
	comp=Z,13nm,0.9s						
GO01	**Chusmiza**	**27.15**	**158**	P	**P**	**10 21 38.2**	**-1.6**
GO01				IAmb	IAmb	10 21 51.7	
	comp=Z,20nm,1.4s						
SIV	**San Ignacio**	**28.27**	**140**	P	**P**	**10 21 50.6**	**+1.2**
	comp=Z,2.7nm,0.9s,baz=320,slow=13,SNR=9.6						
SIV				LR	LR	10 33 02.3	
	comp=Z,173nm,20.1s,baz=300,slow=36						
	comp=Z,2.7nm,0.9s						
PTLB	**Pontes e Lacer**	**29.17**	**136**	P	**P**	**10 21 58.7**	**+1.3**
V48A	**Smith Brothers**	**30.70**	**349**	P	**P**	**10 22 11.1**	**+0.3**
TXAR	**Lajitas Array**	**32.73**	**319**	P	**P**	**10 22 29.1**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=124,slow=9.2,SNR=4.8						
TXAR				PcP	**PcP**	**10 25 15.3**	**+0.8**
	comp=Z,0.9nm,1.0s,baz=130,slow=1.8,SNR=5.3						
TXAR				LR	LR	10 36 24.4	
	comp=Z,49nm,20.3s,baz=124,slow=38						
	comp=Z,0.3nm,0.7s						
CCM	**Cathedral Cave**	**33.97**	**344**	P	**P**	**10 22 40.4**	**+1.0**
GO03	**Copiapo**	**34.24**	**165**		**P**	**10 22 40.5**	**-1.4**
AC04	**Llanos de Chal**	**34.62**	**167**	P	**P**	**10 22 46.1**	**+0.9**
AC04				IAmb	IAmb	10 22 54.4	
	comp=Z,16nm,1.0s						
CSTR	**Hydro, Custer**	**34.65**	**332**	P	**P**	**10 22 46.0**	**+0.7**
MNTX	**Cornudas Mount**	**35.41**	**320**	P	**P**	**10 22 52.9**	**+1.0**
BDFB	**Brasilia**	**37.79**	**124**	LR	LR	10 39 20.7	
	comp=Z,239nm,20.4s,baz=316,slow=37						
ANMO	**Albuquerque**	**38.26**	**323**	P	**P**	**10 23 15.8**	**-0.6**
ANMO	**Albuquerque**	**38.26**	**323**	LR	LR	10 41 30.2	
	comp=Z,77nm,18.4s,baz=304,slow=40						
CPUP	**Villa Florida**	**38.43**	**147**	LR	LR	10 39 26.1	
	comp=Z,21nm,18.3s,baz=174,slow=37						
PFO	**Pinyon Flats O**	**44.06**	**314**	LR	LR	10 42 40.7	
	comp=Z,81nm,19.5s,baz=117,slow=36						
PDAR	**Pinedale Array**	**45.49**	**329**	P	**P**	**10 24 16.2**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=139,slow=9.3,SNR=3.6						
	comp=Z,0.3nm,0.7s						
ULM	**Lac du Bonnet**	**46.53**	**346**	P	**P**	**10 24 22.5**	**-0.8**
	comp=Z,4.1nm,0.8s,baz=153,slow=10,SNR=6.2						
	comp=Z,4.1nm,0.8s						
NVAR	**Mina Array Bea**	**47.88**	**319**	P	**P**	**10 24 36.6**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=110,slow=5.7,SNR=2.2						
	comp=Z,0.2nm,0.6s						
BOZ	**Bozeman (W)**	**48.55**	**330**	P	**P**	**10 24 40.9**	**+1.6**
WELL	**Weller Preserv**	**49.50**	**317**	P	**P**	**10 24 45.0**	**-1.6**
WELL				IAmb	IAmb	10 25 06.9	
	comp=Z,6.7nm,0.9s						
SCHQ	**Schefferville**	**50.16**	**10**	P	**P**	**10 24 52.7**	**+1.5**
SCHQ	**Schefferville**	**50.16**	**10**	P	**P**	**10 24 52.2**	**+0.9**
	comp=Z,59nm,1.0s,baz=188,slow=7.9,SNR=6.0						
SCHQ				LR	LR	10 47 56.6	
	comp=Z,159nm,18.4s,baz=349,slow=38						
NEW	**Newport**	**53.12**	**329**	LR	LR	10 49 47.2	
	comp=Z,56nm,19.2s,baz=78,slow=38						
HOOD	**Mount Hood Mea**	**53.79**	**324**	P	**P**	**10 25 18.7**	**0.0**
HOOD				IAmb	IAmb	10 25 28.5	
	comp=Z,9.1nm,1.0s						
I30M	**Mount Dempster**	**71.44**	**338**	IAmb	IAmb	10 27 19.2	
	comp=Z,12nm,1.4s						
SUMG	**Summit**	**71.45**	**12**	P	**P**	**10 27 17.4**	**+1.0**
INK	**Inuvik**	**72.04**	**342**		**P**	**10 27 20.5**	**+1.0**
E29M	**Blow River**	**73.48**	**341**	P	**P**	**10 27 29.0**	**+0.8**
E29M				IAmb	IAmb	10 27 31.2	
	comp=Z,12nm,1.3s						
E28M	**Babbage River**	**74.12**	**341**	IAmb	IAmb	10 27 33.7	
	comp=Z,7.0nm,1.1s						
F26K	**Sheenjek River**	**75.32**	**339**	IAmb	IAmb	10 27 41.5	
	comp=Z,6.1nm,1.2s						
ILAR	**Eielson Array**	**75.35**	**336**	P	**P**	**10 27 40.1**	**+1.0**
	comp=Z,2.0nm,1.1s,baz=103,slow=3.7,SNR=8.9						
	comp=Z,2.0nm,1.1s						
ESDC	**Sonseca Array**	**75.43**	**51**	P	**P**	**10 27 41.0**	**+0.8**
ESDC				IAmb	IAmb	10 27 42.6	
	comp=Z,4.4nm,1.0s						
ESDC	**Sonseca Array**	**75.43**	**51**	P	**P**	**10 27 41.6**	**+1.5**
	comp=Z,3.6nm,0.8s,baz=260,slow=5.1,SNR=19						
	comp=Z,3.6nm,0.8s						
NEA2	**Nenana**	**76.19**	**335**	IAmb	IAmb	10 27 46.8	
	comp=Z,9.1nm,1.2s						
D25K	**Kavik River**	**76.67**	**340**	IAmb	IAmb	10 27 49.2	
	comp=Z,10nm,1.1s						
G23K	**Bananza Creek**	**77.17**	**337**	P	**P**	**10 27 51.1**	**+1.7**
G23K				IAmb	IAmb	10 27 52.6	
	comp=Z,8.2nm,1.2s						
COLD	**Coldfoot**	**77.38**	**338**	IAmb	IAmb	10 27 58.0	
	comp=Z,7.1nm,1.2s						
E23K	**Chandalar**	**77.40**	**339**	P	**P**	**10 27 51.2**	**+0.5**
E23K				IAmb	IAmb	10 27 57.6	
	comp=Z,9.1nm,1.2s						
F21K	**Alatna River**	**78.61**	**338**	P	**P**	**10 27 58.2**	**+0.7**
F21K				IAmb	IAmb	10 28 00.9	
	comp=Z,6.8nm,1.2s						
TORD	**Torodi Ar. Bea**	**80.35**	**78**	P	**P**	**10 28 08.0**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=300,slow=5.1,SNR=3.4						
NOA	**NORSAR Array B**	**85.56**	**29**	P	**P**	**10 28 35.6**	**+1.6**
	comp=Z,1.3nm,0.8s,baz=271,slow=4.8,SNR=4.1						
	comp=Z,1.3nm,0.8s						
VNA3	**Neumayer Olymp**	**88.95**	**162**	⇓P	**P**	**10 28 51.3**	**+1.2**
	comp=Z,2.5nm,0.9s						
SNAA	**Sanae**	**91.17**	**162**	⇓P	**P**	**10 29 01.5**	**+0.9**
	comp=Z,24nm,1.0s						
TROLL	**Troll, Antarti**	**92.88**	**162**	⇓P	**P**	**10 29 09.2**	**+0.6**
	comp=Z,173nm,1.0s						
KURBB	**Kurchatov Arra**	**120.91**	**16**	PKP	**PKiKP**	**10 34 48.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=315,slow=2.3,SNR=4.7						
MKAR	**Makanchi Array**	**125.42**	**15**	PKP	**PKPdf**	**10 34 57.1**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=338,slow=3.4,SNR=4.0						
SONM	**Songino Array**	**126.52**	**355**	PKP	**PKiKP**	**10 34 59.9**	**0.0**
	comp=Z,0.5nm,0.5s,baz=352,slow=2.9,SNR=2.4						
HHC	**Hu-ho-hao-te**	**132.63**	**348**	*eP*	**PKPdf**	**10 35 07.0**	**-4.3**
WRA	**Warramunga Arr**	**144.02**	**244**	PKP	PKPbc	10 35 30.9	+0.5
	comp=Z,8.0nm,1.0s,baz=111,slow=3.4,SNR=6.2						
PZH	**PanZhiHua**	**148.05**	**358**	PKPbc	**PKPdf**	**10 35 38.3**	**

mB5.2/6,mb4.6/10,MLv4.7/12,Mw(mB)4.6/6
*IDC **24** 10:27:04.9±2.0, 7.53S×128.08E, h195$^{+\pm 19}$km, mb3.7/10, mbtmp4.4/13, MS2.8/1, Error ellipse: s-maj=19.6km s-min=13.6km az=74.0*

ISC 24 10:27:00.6±0.4,**7.63S**±0.04×**128.35E**±0.04,**h151**km,**n86,** σ1°**90**/91,**mb4.2**/18,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.94**	**97**	Pn	**Pn**	**10 27 47.5**	**+0.2**
SAUI				Sn	**Sn**	**10 28 23.4**	**0.0**
SAUI	**Saumlaki**	**2.94**	**97**	P	**Pn**	**10 27 50.8**	**+3.5**
BNDI	**Bandanaira**	**3.45**	**27**	P	Pn	10 27 59.0	+5.3
BNDI	**Bandanaira**	**3.45**	**27**	P	**Pn**	**10 27 58.3**	**+4.6**
AAI	**Ambon**	**3.92**	**358**	P	**Pn**	**10 28 03.8**	**+4.0**
NLAI	**Namlea**	**4.53**	**344**	P	**Pn**	**10 28 10.0**	**+2.1**
SOEI	**Soe**	**4.56**	**242**		**Pn**	**10 28 11.3**	**+3.1**
SOEI				Sn	**Sn**	**10 29 03.3**	**+2.2**
SOEI	**Soe**	**4.56**	**242**	P	**Pn**	**10 28 11.7**	**+3.4**
SOEI	**Soe**	**4.56**	**242**	S	**Sn**	**10 29 03.2**	**+2.2**
SOEI	**Soe**	**4.56**	**242**	P	**Pn**	**10 28 10.8**	**+2.5**
BATI	**Baumata**	**5.29**	**241**	P	**Pn**	**10 28 20.9**	**+3.0**
	125nm,0.3s,baz=116,slow=2.8,SNR=80						
BATI				S	**Sn**	**10 29 20.5**	**+2.1**
	208nm,0.4s,baz=61,slow=19,SNR=17						
BATI				LR	LR	10 30 11.1	
	comp=Z,102nm,20.0s,baz=119,slow=36						
BATI	**Baumata**	**5.29**	**241**	P	**Pn**	**10 28 21.0**	**+3.0**
	1.5nm7μm212nm,0.7s						
DRS	**Darwin Rock St**	**5.39**	**152**	P	**Pn**	**10 28 22.9**	**+3.6**
DRS	**Darwin Rock St**	**5.39**	**152**	S	**Sn**	**10 29 21.6**	**+0.9**
FAKI	**Fak Fak**	**6.08**	**40**		**Pn**	**10 28 28.9**	**+0.5**
FAKI				Sn	**Sn**	**10 29 34.6**	**-2.5**
FAKI	**Fak Fak**	**6.08**	**40**	P	**Pn**	**10 28 28.7**	**+0.3**
	0.6nm2μm62nm,0.5s						
MMRI	**Maumere**	**6.13**	**260**	Pn	**Pn**	**10 28 29.7**	**+0.6**
KMPI	**Kaimana, Papua**	**6.62**	**54**	P	**Pn**	**10 28 38.2**	**+2.5**
	9μm369nm,0.6s						
EDFI	**Ende, Flores**	**6.69**	**260**	P	**Pn**	**10 28 38.5**	**+1.9**
SWI	**Sorong**	**7.32**	**23**	P	**Pn**	**10 28 45.8**	**+0.9**
	0.3nm40nm,0.6s						
KNRA	**Kununurra**	**8.01**	**177**		**Pn**	**10 28 56.3**	**+2.1**
BASI	**Baing, Sumba**	**8.10**	**251**	P	**Pn**	**10 28 57.1**	**+1.8**
	94nm,1.0s						
RKPI	**Ransiki, Papua**	**8.40**	**44**	P	**Pn**	**10 29 00.8**	**+1.4**
KAPI	**Kappang**	**8.93**	**286**	Pn	**Pn**	**10 29 09.4**	**+3.0**
WBSI	**Waikabubak, Su**	**9.08**	**257**	P	**Pn**	**10 29 09.7**	**+1.2**
	49nm,0.7s						
PLAI	**Plampang**	**10.53**	**263**	P	**Pn**	**10 29 27.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**10.74**	**194**	Pn	**Pn**	**10 29 30.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**10.74**	**194**	P	**Pn**	**10 29 30.0**	**-0.3**
	28nm,0.3s,baz=23,slow=13,SNR=209						
FITZ				S	**Sn**	**10 31 24.1**	**-5.1**
	17nm,0.3s,baz=32,slow=9.5,SNR=8.3						
TWSI	**Taliwang, Sumb**	**11.41**	**264**	P	**Pn**	**10 29 38.1**	**-1.0**
JAY	**Jayapura**	**13.31**	**68**	P	**P**	**10 30 11.3**	**+3.2**
	11nm,0.8s,baz=225,slow=8.6,SNR=5.1						
WB0	**Warramunga Arr**	**13.42**	**155**		**Pn**	**10 30 06.0**	**+0.8**
WRA	**Warramunga Arr**	**13.55**	**155**	P	**Pn**	**10 30 06.5**	**-0.3**
	2.5nm,0.2s,baz=328,slow=13,SNR=26						
WRA				S	Sn	10 32 28.2	-8.8
	14nm,0.5s,baz=325,slow=24,SNR=12						
WR8	**Warramunga Arr**	**13.63**	**155**		**Pn**	**10 30 07.9**	**+0.1**
MBWA	**Marble Bar**	**15.82**	**211**	P	**Pn**	**10 30 35.6**	**+0.5**
MBWA				IAmb	IAmb	10 30 36.4	
	comp=Z,11nm,0.8s						
MBWA	**Marble Bar**	**15.82**	**211**	P	**P**	**10 30 35.9**	**0.0**
COEN	**Coen**	**15.86**	**115**	P	**P**	**10 30 39.2**	**+2.9**
MYLDM	**Lahad Datu**	**16.07**	**322**	P	**P**	**10 30 39.4**	**+0.7**
MYLDM				IAmb	IAmb	10 30 52.7	
	comp=Z,13nm,0.9s						
PSA00	**Pilbara Seismi**	**16.11**	**210**		**P**	**10 30 39.8**	**+0.7**
PSA00				IAmb	IAmb	10 30 43.3	
	comp=Z,11nm,0.6s						
PSA00	**Pilbara Seismi**	**16.11**	**210**	P	**P**	**10 30 41.2**	**+2.1**
AS31	**Alice Springs**	**16.82**	**162**		**Pn**	**10 30 48.4**	**+1.1**
AS31				IAmb	IAmb	10 30 51.0	
	comp=Z,6.7nm,0.8s						
ASAR	**Alice Springs**	**16.82**	**162**	P	**Pn**	**10 30 48.6**	**+1.3**
	comp=Z,19nm,0.6s,baz=339,slow=10,SNR=335						
ASAR				S	**S**	**10 33 50.4**	**-3.9**
	comp=Z,6.2nm,0.8s,baz=349,slow=23,SNR=10						
QIS	**Mount Isa**	**16.85**	**141**	P	**Pn**	**10 30 50.0**	**+2.3**
UGM	**Wanagama**	**17.67**	**268**	P	**P**	**10 30 54.8**	**-1.5**
MTSU	**Mount Surprise**	**18.73**	**125**	P	**Pn**	**10 31 10.7**	**+0.7**
SBUM	**Sibu**	**18.95**	**301**		**P**	**10 31 09.1**	**-1.2**
SBUM				IAmb	IAmb	10 31 18.2	
	comp=Z,5.7nm,0.7s						
KSM	**Kuching**	**20.14**	**296**	P	**P**	**10 31 21.7**	**-1.4**
KSM				IAmb	IAmb	10 31 29.1	
	comp=Z,13nm,0.7s						
MEEK	**Meekatharra**	**21.05**	**205**	P	**P**	**10 31 33.7**	**+0.9**
CTAO	**Charters Tower**	**21.32**	**127**	P	**P**	**10 31 34.7**	**-1.0**
CTAO				IAmb	IAmb	10 31 39.1	
	comp=Z,10.0nm,1.2s						
QLP	**Quilpie**	**24.15**	**143**	P	**P**	**10 32 05.5**	**+2.7**
MORW	**Morawa**	**24.28**	**207**	P	**P**	**10 32 06.1**	**+2.2**
BBOO	**Buckleboo**	**26.06**	**165**	P	**P**	**10 32 19.1**	**-0.9**
BBOO				IAmb	IAmb	10 32 42.0	
	comp=Z,21nm,1.4s						
STKA	**Stephens Creek**	**27.10**	**155**	P	**P**	**10 32 28.4**	**-1.0**
STKA				IAmb	IAmb	10 33 10.7	
	comp=Z,19nm,1.1s						
STKA	**Stephens Creek**	**27.10**	**155**	P	**P**	**10 32 31.0**	**+1.7**
	comp=Z,1.2nm,0.5s,baz=333,slow=11,SNR=3.3						
	comp=Z,1.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**38.90**	**312**	P	**P**	**10 34 09.3**	**-2.5**
	comp=Z,1.7nm,0.3s,baz=131,slow=9.0,SNR=3.8						
NJ2	**Nanjing**	**40.48**	**348**	*eP*	**P**	**10 34 26.9**	**+2.3**
PZH	**PanZhiHua**	**42.63**	**324**	P	**P**	**10 34 44.1**	**+1.7**
KSRS	**Korea Array**	**44.84**	**360**	P	**P**	**10 34 58.5**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=179,slow=9.4,SNR=7.3						
	comp=Z,0.9nm,0.4s						
JTM	**Tenmabayashi**	**49.58**	**13**	P	**P**	**10 35 34.4**	**-1.8**
HHC	**Hu-ho-hao-te**	**50.65**	**344**	*eP*	**P**	**10 35 46.1**	**+1.6**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,79nm,4.5s						
USRK	**Ussuriysk Ar.**	**51.69**	**3**	P	**P**	**10 35 51.0**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=186,slow=6.5,SNR=4.8						
	comp=Z,1.2nm,0.5s						
GTA	**Gaotai**	**53.75**	**333**	*eP*	**P**	**10 36 07.3**	**-0.1**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	**Songino Array**	**58.53**	**343**	P	**P**	**10 36 40.6**	**-0.6**
SONM	**Songino Array**	**58.53**	**343**	P	**P**	**10 36 40.3**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=168,slow=7.4,SNR=4.1						
	comp=Z,0.7nm,0.4s						
PETK	**Petropavlovsk-**	**65.43**	**19**	P	**P**	**10 37 26.2**	**-0.8**
	comp=Z,2.3nm,0.9s,baz=212,slow=6.7,SNR=4.8						
	comp=Z,2.3nm,0.8s						
MK31	**Makanchi Array**	**67.86**	**328**	P	**P**	**10 37 41.7**	**-0.9**
MKAR	**Makanchi Array**	**67.86**	**328**	P	**P**	**10 37 41.7**	**-0.9**
MKAR	**Makanchi Array**	**67.86**	**328**	P	**P**	**10 37 41.3**	**-1.3**
	comp=Z,2.0nm,0.6s,baz=126,slow=5.3,SNR=16						
	comp=Z,2.0nm,0.6s						
BOOM	**Boomskoye usch**	**68.99**	**321**	P	**P**	**10 37 49.5**	**-0.4**
BOOM				IAmb	IAmb	10 38 31.4	
	comp=Z,4.0nm,1.2s						
ZAA0	**Zalesovo Array**	**71.43**	**335**	P	**P**	**10 38 02.8**	**-1.4**
ZAA0				IAmb	IAmb	10 38 03.1	
	comp=Z,4.8nm,0.8s						
ZALV	**Zalesovo Beam**	**71.43**	**335**	P	**P**	**10 38 02.8**	**-1.5**
ZALV	**Zalesovo Beam**	**71.43**	**335**	P	**P**	**10 38 02.1**	**-2.1**
	comp=Z,4.6nm,0.6s,baz=134,slow=5.7,SNR=15						
	comp=Z,4.6nm,0.6s						
VNDA	**Vanda**	**72.03**	**173**	P	**P**	**10 38 06.8**	**-0.7**
KURBB	**Kurchatov Arra**	**72.20**	**329**	P	**P**	**10 38 07.4**	**-1.5**
	comp=Z,4.6nm,0.7s,baz=132,slow=5.0,SNR=61						
	comp=Z,4.6nm,0.7s						
KURK	**Kurchatov**	**72.21**	**329**	P	**P**	**10 38 08.1**	**-0.8**
KURK				IAmb	IAmb	10 38 09.0	
	comp=Z,7.4nm,0.8s						
BVAR	**Borovoye Array**	**77.73**	**328**	P	**P**	**10 38 39.1**	**-1.5**
	comp=Z,2.9nm,0.7s,baz=130,slow=5.8,SNR=12						
	comp=Z,2.9nm,0.7s						
ABKAR	**Akbulak array**	**81.98**	**322**	P	**P**	**10 39 02.4**	**-1.2**
QSPA	**South Pole Qui**	**82.36**	**180**	P	**P**	**10 39 05.7**	**+0.2**
QSPA	**South Pole Qui**	**82.36**	**180**	P	**P**	**10 39 06.7**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=18,slow=3.2,SNR=5.3						
	comp=Z,0.8nm,0.7s						
L16K	**Owhat River**	**88.36**	**27**	P	**P**	**10 39 34.7**	**-0.3**
M16K	**Timber Creek**	**88.37**	**28**	P	**P**	**10 39 35.2**	**+0.1**
L18K	**Granite Mounta**	**89.77**	**27**	P	**P**	**10 39 40.7**	**-0.9**
BMAR	**Burnt Mountain**	**95.86**	**23**	P	**P**	**10 40 09.2**	**-0.4**
PDAR	**Pinedale Array**	**118.49**	**45**	PKP	**PKPdf**	**10 45 30.0**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=235,slow=1.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**127.32**	**281**	PKP	**PKPdf**	**10 45 46.2**	**-2.1**
	comp=Z,0.5nm,0.6s,baz=62,slow=1.9,SNR=3.2						
CPUP	**Villa Florida**	**145.80**	**171**	PKPbc	**PKPdf**	**10 46 21.7**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=232,slow=0.6,SNR=3.7						
LPAZ	**La Paz**	**151.18**	**146**	PKPbc	**PKPbc**	**10 46 36.6**	**-1.2**
	comp=Z,2.3nm,0.4s,baz=293,slow=1.9,SNR=3.7						

*ISN **24** 10:35:14.8±0.8, 34.34N×45.67E, h0km±4km, ML3.8*
*TEH **24** 10:35:15.4, 34.39N×45.74E, h8km±32km*

ISC 24 10:35:15.6±1.2,**34.34N**±0.03×**45.73E**±0.03,**h5**km±11km, **n22,** σ1°**22**/28,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**325**	Pg	**Pg**	**10 35 19.5**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.27**	**146**	Pg	**Pg**	**10 35 21.6**	**+0.6**
IDHR	**Dehrash**	**0.65**	**57**	Pg	**Pg**	**10 35 27.2**	**-0.9**
IDHR				Sg	**Sg**	**10 35 36.7**	**0.0**
IGHG	**Ghaleghazi**	**0.70**	**91**	Pg	**Pg**	**10 35 29.0**	**0.0**
IGHG				Sg	**Sb**	**10 35 40.4**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.09**	**93**	Pg	**Pg**	**10 35 35.9**	**-0.7**
IBDR	**Badra**	**1.24**	**172**	*e*Pg	**Pn**	**10 35 40.0**	**+0.4**
BHD	**Baghdad**	**1.55**	**227**	*e*Pn	**Pg**	**10 35 45.3**	**0.0**
BHD				*e*Sn	**Sg**	**10 36 07.0**	**+1.6**
BHD				AML	AML	10 36 10.0	
	comp=E,1μm,0.4s						
IKRK	**Kirkuk**	**1.55**	**313**	*e*Pn	**Pg**	**10 35 45.3**	**-0.1**
IKRK				*e*Sn	**Sg**	**10 36 07.0**	**+1.4**
IKRK				AML	AML	10 36 08.7	
	comp=E,2μm,0.3s						
IKRK				AML	AML	10 36 10.9	
	comp=N,1μm,0.3s						
SNQR	**Sonqor, Kerman**	**1.65**	**71**	Pg	**Pb**	**10 35 46.3**	**-0.3**
IBZA	**Bozab**	**1.77**	**85**	Pg	**Pb**	**10 35 48.5**	**-0.2**
IDOB	**Doab**	**2.11**	**105**	Pn	**Pn**	**10 35 52.9**	**+1.2**
MAHB	**Mahabad**	**2.42**	**360**	Pn	**Pb**	**10 35 57.1**	**-2.6**
RAFI	**Al-Rafai**	**2.63**	**173**	*e*Pn	**Pb**	**10 36 01.0**	**-2.2**
RAFI				*e*Sn	**Sb**	**10 36 34.0**	**-1.8**
BDRS	**Dareh Seyedi**	**2.64**	**98**	Pn	**Pn**	**10 36 00.3**	**+1.1**
HGHA	**Hamedan- Ghaye**	**2.81**	**65**	Pn	**Pn**	**10 36 02.8**	**+1.3**
HAGD	**Aghdareh**	**2.86**	**79**	Pn	**Pn**	**10 36 03.9**	**+1.8**
MSL	**Mosul**	**2.96**	**315**	*e*Pn	**Pn**	**10 36 04.5**	**+1.2**
MSL				*e*Sn	**Sn**	**10 36 40.0**	**+0.7**
IHSH	**Hashtrud**	**3.21**	**22**	Pn	**Pn**	**10 36 07.9**	**+0.9**
ZNJK	**Zanjan**	**3.35**	**45**	Pn	**Pn**	**10 36 09.6**	**+0.7**
ISRB	**Sarab**	**3.81**	**24**	Pn	**Pn**	**10 36 16.1**	**+0.9**
IHRS	**Heris**	**4.11**	**15**	Pn	**Pn**	**10 36 20.6**	**+1.4**
GRMI	**Germi**	**4.79**	**21**	Pn	**Pn**	**10 36 29.3**	**+0.8**

*NEIC **24** 10:49:08.1±1.6, 19.11N×0.03×67.22W×0.03, h10km±1km, ML2.4/13, Md2.7/15(RSPR), Error ellipse: s-maj=5.5km s-min=4.1km az=351.0*
*RSPR **24** 10:49:12.5, 19.01N×67.22W, h10km±3.1km, MD2.7/15*

ISC 24 10:49:07.8±1.5,**19.13N**±0.06×**67.19W**±0.03,**h9**km±10km, **n54,** σ0°**56**/63,**10C-8D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.66**	**173**		**Pb**	**10 49 22.3**	**+0.7**
AGPR					**Sb**	**10 49 31.1**	**+0.2**
AGPR	**Aguadilla, PR**	**0.66**	**173**	*e*P	**Pb**	**10 49 22.3**	**+0.7**
AGPR	**Aguadilla, PR**	**0.66**	**173**	*e*S	**Sb**	**10 49 31.1**	**+0.2**
IDE	**Isla Desecheo**	**0.79**	**200**		**Pb**	**10 49 24.3**	**+0.6**
IDE					**Sb**	**10 49 34.8**	**+0.4**
IDE	**Isla Desecheo**	**0.79**	**200**	*e*P	**Pb**	**10 49 24.3**	**+0.6**
IDE	**Isla Desecheo**	**0.79**	**200**	*e*S	**Sb**	**10 49 34.8**	**+0.4**
AOPR	**Arecibo Observ**	**0.88**	**152**		**Pb**	**10 49 25.6**	**+0.3**
AOPR					**Sg**	**10 49 36.5**	**+0.2**
AOPR	**Arecibo Observ**	**0.88**	**152**	*e*P	**Pb**	**10 49 25.6**	**+0.3**
AOPR	**Arecibo Observ**	**0.88**	**152**	*e*S	**Sg**	**10 49 36.6**	**+0.2**
EMPR	**Esperanza - Ma**	**0.91**	**136**		**Sn**	**10 49 40.0**	**+0.1**
EMPR	**Esperanza - Ma**	**0.91**	**136**	Pg	**Pn**	**10 49 27.0**	**+0.3**
EMPR	**Esperanza - Ma**	**0.91**	**136**	*e*P	**Pn**	**10 49 27.3**	**+0.6**
EMPR	**Esperanza - Ma**	**0.91**	**136**	*e*S	**Sn**	**10 49 40.0**	**+0.1**
PRSN	**Puerto Rico Se**	**0.91**	**177**		**Sb**	**10 49 38.3**	**+0.3**
PRSN	**Puerto Rico Se**	**0.91**	**177**	Pg	**Pg**	**10 49 25.7**	**+0.3**
PRSN	**Puerto Rico Se**	**0.91**	**177**	*e*P	**Pb**	**10 49 26.2**	**+0.4**
PRSN	**Puerto Rico Se**	**0.91**	**177**	*e*S	**Sb**	**10 49 38.3**	**+0.3**
LSP	**Las Mesas**	**0.95**	**174**		**Pb**	**10 49 26.9**	**+0.3**
LSP					**Sg**	**10 49 38.5**	**-0.1**
LSP	**Las Mesas**	**0.95**	**174**	*e*P	**Pb**	**10 49 26.9**	**+0.3**
LSP	**Las Mesas**	**0.95**	**174**	*e*S	**Sg**	**10 49 38.5**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.98**	**153**		**Sg**	**10 49 39.1**	**-0.3**
UUPR	**Utuado, UPR, P**	**0.98**	**153**	Pg	**Pg**	**10 49 26.9**	**+0.2**
UUPR	**Utuado, UPR, P**	**0.98**	**153**	*e*P	**Pb**	**10 49 27.1**	**+0.1**
UUPR	**Utuado, UPR, P**	**0.98**	**153**	*e*S	**Sg**	**10 49 39.1**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.12**	**176**		**Pg**	**10 49 29.2**	**-0.1**
CRPR					**Sg**	**10 49 43.9**	**0.0**
CRPR				IAML		10 49 49.4	
	comp=E,73nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.12**	**176**	*e*P	**Pg**	**10 49 29.0**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.12**	**176**	*e*S	**Sg**	**10 49 43.6**	**-0.3**
ECPR	**Experimental S**	**1.13**	**136**	*e*P	**Pg**	**10 49 29.3**	**+0.3**
ECPR	**Experimental S**	**1.13**	**136**	*e*S	**Sg**	**10 49 43.7**	**-0.4**
MLPR	**Magueyes Islan**	**1.16**	**173**	*e*P	**Pg**	**10 49 29.8**	**-0.3**
MLPR	**Magueyes Islan**	**1.16**	**173**	*e*S	**Sg**	**10 49 43.4**	**-1.9**
GBPR	**Guanica, Bosqu**	**1.19**	**165**		**Pg**	**10 49 30.5**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.19**	**165**	*e*P	**Pg**	**10 49 30.5**	**-0.2**
CELP	**Cerrillos**	**1.20**	**151**	Pn	**Pg**	**10 49 30.8**	**-0.1**
CELP					**Sg**	**10 49 46.2**	**-0.3**
CELP				IAML		10 49 47.0	
	comp=E,55nm,0.3s						
CELP				IAML		10 49 47.6	
	comp=N,63nm,0.3s						
CELP	**Cerrillos**	**1.20**	**151**	*e*P	**Pb**	**10 49 31.0**	**+0.3**
CELP	**Cerrillos**	**1.20**	**151**	*e*S	**Sg**	**10 49 44.6**	**-1.9**
OBIP	**Obispado Ponce**	**1.22**	**153**		**Pb**	**10 49 30.8**	**-0.2**
OBIP					**Sg**	**10 49 46.7**	**-0.2**
OBIP				IAML		10 49 47.3	
	comp=N,61nm,0.6s						
OBIP				IAML		10 49 51.7	
	comp=E,87nm,0.3s						
OBIP	**Obispado Ponce**	**1.22**	**153**	*e*P	**Pb**	**10 49 30.9**	**-0.2**
OBIP	**Obispado Ponce**	**1.22**	**153**	*e*S	**Sg**	**10 49 46.8**	**-0.2**
GCPR	**Guaynabo City**	**1.33**	**128**		**Pn**	**10 49 32.0**	**-0.6**
GCPR				Sn	**Sb**	**10 49 50.3**	**+0.1**
GCPR	**Guaynabo City**	**1.33**	**128**	*e*P	**Pg**	**10 49 34.1**	**+0.7**
GCPR	**Guaynabo City**	**1.33**	**128**	*e*S	**Sb**	**10 49 49.7**	**-0.5**
SJG	**San Juan**	**1.42**	**136**		**Pn**	**10 49 33.3**	**-0.5**
SJG				IAML		10 49 56.8	
	comp=E,55nm,0.2s						
SJG				IAML		10 49 59.7	
	comp=E,55nm,0.4s						
SJG	**San Juan**	**1.42**	**136**	*e*P	**Pg**	**10 49 35.4**	**+0.4**
IGPR	**InterUniversit**	**1.55**	**138**		**Pb**	**10 49 36.8**	**+0.1**
IGPR					**Sb**	**10 49 57.1**	**+0.6**
IGPR	**InterUniversit**	**1.55**	**138**	*e*P	**Pb**	**10 49 36.8**	**+0.1**
IGPR	**InterUniversit**	**1.55**	**138**	*e*S	**Sb**	**10 49 57.1**	**+0.6**
PDPR	**Patillas Dam,**	**1.57**	**135**		**Sn**	**10 49 54.7**	**-1.6**
PDPR	**Patillas Dam,**	**1.57**	**135**	*e*P	**Pn**	**10 49 36.6**	**+0.8**
PDPR	**Patillas Dam,**	**1.57**	**135**	*e*S	**Sb**	**10 49 57.1**	**+0.1**
HUMP	**Col San Antoni**	**1.61**	**127**	Pn	**Pn**	**10 49 36.9**	**+0.5**
MIDR	**Miches**	**1.76**	**266**	*e*P	**Pb**	**10 49 40.2**	**-0.1**
MIDR	**Miches**	**1.76**	**266**	*e*S	**Sg**	**10 50 04.7**	**+0.2**
SDDR	**Presa de Saban**	**3.88**	**268**	Pn	**Pn**	**10 50 07.3**	**-0.4**

*IDC **24** 11:01:51.9±0.3, 33.19N×73.78E, h0km, mb5.6/33, mbtmp5.6/38, ML5.5/5, MS5.4/65, Error ellipse: s-maj=7.1km s-min=5.6km az=28.0*
*NNC **24** 11:01:53.0±5.2, 33.01N×73.51E, h13km±46km, mb6.1, Error ellipse: s-maj=46.1km s-min=33.5km az=165.0*
*BJI **24** 11:01:52.3, 32.94N×73.80E, h10km, mB6.0/62, mb5.7/79, Ms6.2/99, Ms7 6.0/98*
*GCMT **24** 11:01:53.0±0.1, 32.83N±0.02×73.85E±0.02, h15km±1km, MW5.7/129, Moment Tensor Solution. s129,c212; s96,c107; Duration: 1ˢ7 Moment tensor: Scale 10^{17}Nm; M_{rr}1.10±.05; $M_{\theta\theta}$-1.37±.05; $M_{\phi\phi}$0.26±.04; $M_{r\theta}$3.84±.44; $M_{\theta\phi}$-0.07±.04; $M_{\phi r}$-1.06±.14; Best double couple: M_o4.17600×10^{17} NP1:ϕ_s246.00000°,δ10.00000°, λ52.00000°. NP2:ϕ_s105.00000°,δ82.00000°,λ96.00000°. Principal axes: T 4.1120, Plg53.0000°, Azm22.0000°; N 0.1210, Plg6.0000°, Azm284.0000°; P -4.2410, Plg37.0000°, Azm189.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **24** 11:01:53.6±1.1, 33.16N×73.84E, h14km, mb5.9/81, MS5.7/51 Error ellipse: s-maj=4.4km s-min=2.9km az=108.3*
*NEIC **24** 11:01:55.0±1.8, 33.08N±0.05×73.79E±0.05, h10km±1km, mb5.8/448, Mwb5.6/82, Mww5.4/8, Error ellipse: s-maj=8.8km s-min=6.7km az=209.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.07; $M_{\theta\theta}$-0.49; $M_{\phi\phi}$0.42; $M_{r\theta}$3.01; $M_{\theta\phi}$-0.81; $M_{\phi r}$-0.93; Fault plane solution: M_o3.29000×10^{17} NP1:ϕ_s197.44000°, δ16.39000°,λ1.18000°. NP2:ϕ_s106.31000°,δ89.67000°, λ106.38000°. Principal axes: T 3.3380, Plg43.0000°, Azm32.0000°; N -0.0995, Plg16.0000°, Azm286.0000°; P -3.2385, Plg42.0000°, Azm181.0000°;*
*IPGP **24** 11:01:55.0, 33.13N×73.78E, h11km, Mw5.8, Fault plane solution: NP1:ϕ_s8.00000°,δ5.00000°,λ177.00000°. NP2:ϕ_s101.00000°,δ90.00000°,λ85.00000°.*
*NEIC **24** 11:01:55, 33.07N×73.78E, h12km*
*NEIC **24** 11:01:55, 31.97N×73.78E, h12km, Moment Tensor Solution. Duration: 2ˢ2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.38; $M_{\theta\theta}$0.12; $M_{\phi\phi}$-0.50; $M_{r\theta}$1.52; $M_{\theta\phi}$0.24; $M_{\phi r}$-0.05; Fault plane solution: M_o1.60000×10^{17} NP1: ϕ_s351.96000°,δ12.31000°,λ163.92000°. NP2: ϕ_s97.70000°,δ86.61000°,λ78.16000°. Principal axes: T 1.7824, Plg47.0000°, Azm355.0000°; N -0.4528, Plg12.0000°, Azm98.0000°; P -1.3297, Plg40.0000°, Azm199.0000°;*
*NEIC **24** 11:01:55.2, 33.11N×73.77E, h10km*
*BGR **24** 11:01:55.3, 33.07N×73.98E, h10km, mb5.8, Ms5.3*
*NDI **24** 11:02:03.9±1.6, 33.17N×73.73E, h10km, ML5.8, MW5.9, mb5.8(NEIC)*

ISC 24 11:01:55.0±0.2,**33.06N**±0.02×**73.73E**±0.02,**h15**km, **h15**km:**pP-P, n1748,** σ1**93**/1986,**mb5.8**/509,**MS5.8**/168, **111C-55D,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIL	**Nilore**	**0.71**	**326**		**Pg**	**11 02 07.6**	**-1.3**
NIL				Sg	**Sg**	**11 02 18.4**	**+0.2**
NIL	**Nilore**	**0.71**	**326**	P	**Pg**	**11 02 08.0**	**-0.9**
NIL	**Nilore**	**0.71**	**326**	P	**Pg**	**11 02 07.6**	**-1.3**
NIL						11 02 18.4	
JMU	**Jammu**	**1.05**	**109**	*e*P	Pg	11 02 23.2	+8.0
JMU				*e*S	**Sn**	**11 02 37.8**	**+8.3**
JMU				IAML		11 02 40.8	
	comp=E,234μm,0.8s						
JMU				IAML		11 02 48.6	
	comp=N,276μm,1.1s						
JMU				*ex*	x	11 03 08.6	
SRNI	**Srinagar**	**1.40**	**42**	*e*P	Pg	11 02 27.1	+5.1
SRNI				*e*S	**Sg**	**11 02 44.9**	**+4.8**
SRNI				IAML		11 02 45.4	
	comp=E,437μm,0.6s						
SRNI				IAML		11 02 45.8	
	comp=N,582μm,0.4s						
TSSA	**Tissa**	**2.05**	**96**	*e*P	**Pg**	**11 02 39.0**	**+4.5**
TSSA				*e*S	**Sg**	**11 03 05.5**	**+4.5**
TSSA				IAML		11 03 07.5	
	comp=N,106μm,0.

comp=E,389µm,9.2s
KSH LR LR
comp=E,127µm,9.5s
KSH LR LR
comp=E,403µm,8.9s
CHGR Chuyangaron 6.70 328 Pn 11 03 33.5 +0.5
CHGR Chuyangaron 6.70 328 P **Pn 11 03 33.5 +0.5**
SIMJ Simiganj 6.77 327 Pn 11 03 34.2 +0.3
AGRA Agra 6.86 147 *e*P Pb 11 03 46.8 -7.2
AGRA *e*S Sn 11 05 02.4 +9.4
ARSB Arslanbob 8.27 356 Pn 11 03 55.3 +0.8
ARSB Arslanbob 8.27 356 P **Pn 11 03 55.3 +0.8**
UDPR Udaipur 8.45 180 *e*P Pn 11 04 07.7 +11
UDPR *e*S **Sn 11 05 35.9 +3.7**
TRKS Terek-Say 8.70 347 P **Pn 11 04 00.3 -0.2**
BRCI Bahraich 8.72 127 *e*P Pn 11 04 10.1 +9.4
BRCI *e*S **Sn 11 05 41.9 +3.1**
GUNA GUNA 8.96 158 *e*P Pn 11 04 14.4 +10
GUNA *e*S **Sn 11 05 48.8 +4.1**
GUNA IAML 11 06 47.9
comp=E,15µm,1.4s
UCH Uchtor 9.17 4 P **Pn 11 04 08.4 +1.2**
SNR=343
TARG Taragay, Kyrgy 9.24 19 Pn 11 04 09.5 +1.4
TARG Taragay, Kyrgy 9.24 19 P **Pn 11 04 09.5 +1.4**
ULHL Ulahol 9.38 12 P **Pn 11 04 13.6 +3.7**
SNR=86
PYUN Piuthan 9.39 119 Pn **Pn 11 04 08.7 -1.3**
baz=120,slow=0.0
PYUN Sn **Sn 11 05 48.8 -6.7**
baz=120,slow=0.0
KDJ Kajisay 9.46 16 Pn 11 04 12.0 +1.2
KDJ Kajisay 9.46 16 P **Pn 11 04 12.0 +1.2**
IUG luzhnay 9.53 343 *e*P **Pn 11 04 11.5 -0.3**
IUG *e*S **Sn 11 05 59.0 +0.4**
IUG luzhnay 9.53 343 *e*P **Pn 11 04 11.5 -0.3**
IUG *e*S **Sn 11 05 59.0 +0.4**
BOOM Boomskoye usch 9.57 10 Pn 11 04 13.9 +1.5
BOOM Boomskoye usch 9.57 10 P **Pn 11 04 13.9 +1.5**
AAK Ala-Archa 9.58 3 P **Pn 11 04 13.9 +1.4**
SNR=383
AAK Ala-Archa 9.58 3 Pn 11 04 13.8 +1.2
AAK Ala-Archa 9.58 3 ⇑P **Pn 11 04 14.1 +1.6**
comp=E,960nm,1.0s
AAK ⇑S **Sn 11 06 02.9 +3.0**
comp=E,929nm,0.9s
AAK Ala-Archa 9.58 3 Pn **Pn 11 04 12.8 +0.3**
comp=E,140nm,0.3s,baz=180,slow=12,SNR=217
AAK Sn **Sn 11 05 57.5 -2.5**
comp=E,28nm,0.3s,baz=180,slow=19,SNR=3.6
AAK Lg Lg 11 07 13.3
baz=163,slow=19
AAK LR LR 11 08 32.6
comp=E,23µm,20.6s,baz=198,slow=42
comp=E,706nm,0.6s
AAK Ala-Archa 9.58 3 P **Pn 11 04 14.2 +1.7**
AAK P **Pn 11 04 14.2 +1.7**
AAK S **Sn 11 06 02.3 +2.3**
AAK S **Sn 11 06 02.3 +2.3**
AAK Ala-Archa 9.58 3 *i*P **Pn 11 04 14.0 +1.4**
SNR=434
EKS2 Erkin-Say 9.58 0 P **Pn 11 04 13.8 +1.3**
SNR=768
KBK Karagaybulak 9.63 5 P **Pn 11 04 14.8 +1.6**
SNR=498
HRA Herat 9.65 281 Pn **Pn 11 04 16.4 +2.8**
FRU1 Bishkek 9.76 4 Pn 11 04 17.1 +2.2
FRU1 Bishkek 9.76 4 P **Pn 11 04 17.1 +2.2**
CHM Chimkent 9.80 342 *e*P **Pn 11 04 15.4 0.0**
CHM *e*S **Sn 11 06 06.3 +1.1**
CHM LR LR 11 07 49.9
comp=E,20µm,9.4s
CHM Chimkent 9.80 342 *e*P **Pn 11 04 15.4 0.0**
CHM *e*S **Sn 11 06 06.2 +1.1**
CHM MLR MLR
comp=Z,20µm,9.0s
DANN Dangsing 9.83 116 Pn Pn 11 04 15.1 -1.0
baz=116,slow=0.0
DANN Sn **Sn 11 06 00.3 -6.1**
comp=Z,7µm,0.9s,baz=116,slow=0.0
HRYA Harraiya (Bast 9.84 127 *e*P Pn 11 04 24.8 +8.8
HRYA *e*S **Sn 11 06 08.6 +2.5**
TKM2 Tokmak 2 9.95 8 P **Pn 11 04 19.9 +2.2**
SNR=117
CHMS Chumysh 9.95 4 P **Pn 11 04 18.9 +1.4**
SNR=268
DZA Taraz 9.99 350 *e*P **Pn 11 04 17.8 -0.3**
DZA Taraz 9.99 350 *e*P **Pn 11 04 17.8 -0.3**
KOLN Koldanda 10.02 119 Pn Pn 11 04 17.1 -1.6
baz=120,slow=0.0
KOLN Sn **Sn 11 06 03.2 -7.8**
baz=120,slow=0.0
PRZ Przheval'sk 10.10 20 Pn 11 04 21.6 +1.8
PRZ Przheval'sk 10.10 20 P **Pn 11 04 21.6 +1.8**
USP Ospenovka 10.21 3 P **Pn 11 04 22.2 +1.2**
SNR=279
TNSS Tian-Shan 10.28 13 *e*P **Pn 11 04 21.3 -1.0**
TNSS Tian-Shan 10.28 13 *e*P **Pn 11 04 21.2 -1.0**
BHPL Bhopal 10.31 161 *e*P Pn 11 04 33.6 +11
BHPL *e*S **Sn 11 06 21.8 +3.9**
BHPL IAML 11 07 31.7
comp=N,6µm,1.3s
KK31 Karatay Array 10.34 347 Pn 11 04 22.6 -0.2
KK31 Karatay Array 10.34 347 ⇑P **Pn 11 04 23.3 +0.5**
comp=N,1µm,0.6s,baz=169,slow=13
KK31 ⇑S **Sn 11 06 15.0 -3.4**
comp=N,1µm,0.6s,baz=174,slow=23,SNR=7.9
KK31 Karatay Array 10.34 347 P **Pn 11 04 22.7 -0.1**
KK31 *i* S **Sn 11 06 14.7 -3.7**
KKAR Karatay Array 10.34 347 Pn 11 04 22.3 -0.5
KKAR Karatay Array 10.34 347 P **Pn 11 04 22.3 -0.5**
SGDS Sogindy 10.40 4 *e*P **Pn 11 04 23.1 -0.6**
BHUJ Bhuj 10.41 201 *e*P Pn 11 04 33.0 +9.2
BHUJ *e*S **Sn 11 06 23.0 +2.9**
BHUJ IAML 11 07 46.7
comp=E,6µm,2.5s
BHUJ IAML 11 07 56.5
comp=N,7µm,1.3s
BRLS Boroldav 10.41 344 *e*P **Pn 11 04 20.9 -2.9**
BRLS Boroldav 10.41 344 *e*P **Pn 11 04 20.8 -3.0**
MDOK Medeo 10.42 14 *e*P **Pn 11 04 23.4 -0.6**
MDOK *e*S **Sn 11 06 20.5 -0.1**
MDOK LR LR 11 08 21.6
comp=N,17µm,7.6s
MDOK Medeo 10.42 14 *e*P **Pn 11 04 23.3 -0.7**
MDOK *e*S **Sn 11 06 20.4 -0.1**
MDOK MLR MLR
comp=Z,17µm,8.0s
KNDC Almaty 10.45 13 ⇑P **Pn 11 04 25.8 +1.4**
comp=Z,2µm,1.3s
ALBI Allahabad 10.46 136 *e*P Pn 11 04 34.4 +10
SATY Saty 10.64 19 *e*P **Pn 11 04 26.6 -0.4**
SATY *e*S **Sn 11 06 25.6 -0.4**
SATY Saty 10.64 19 *e*P **Pn 11 04 26.5 -0.4**
SATY *e*S **Sn 11 06 25.5 -0.4**
GKN Gorkha 10.67 115 Pn Pn 11 04 26.3 -1.2
baz=116,slow=0.0
GKN Sn **Sn 11 06 20.2 -6.7**
comp=Z,3µm,0.7s,baz=116,slow=0.0
NRDN NARMADA NAGAR 10.74 163 *e*P Pn 11 04 38.1 +10
NRDN *e*S **Sn 11 06 30.1 +1.7**
UZB Uzynbulak 10.89 21 *e*P **Pn 11 04 30.0 -0.6**
UZB Uzynbulak 10.89 21 *e*P **Pn 11 04 29.9 -0.6**
SHLS Shalkode 11.04 22 *e*P **Pn 11 04 33.1 +0.6**
SHLS Shalkode 11.04 22 *e*P **Pn 11 04 33.9 +1.4**
CHKK Chushkaly 11.07 12 *e*P **Pn 11 04 32.5 -0.4**
CHKK Chushkaly 11.07 12 *e*P **Pn 11 04 32.4 -0.4**
KPKS Kokpek 11.09 19 *e*P **Pn 11 04 34.6 +1.4**
PDGK Podgornoye 11.21 22 ⇑P **Pn 11 04 34.4 -0.3**
comp=Z,756nm,0.8s
PDGK ⇑S **Sn 11 06 43.3 +3.5**
comp=Z,2µm,1.4s
PDGK Podgornoye 11.21 22 P **Pn 11 04 34.4 -0.3**
DMN Daman 11.23 116 Pn Pn 11 04 33.7 -1.6
baz=116,slow=0.0
DMN Sn **Sn 11 06 33.5 -7.2**
baz=116,slow=0.0
KKN Kakani 11.27 115 Pn Pn 11 04 34.3 -1.5
baz=115,slow=0.0
PKIN Phulchoki 11.47 115 Pn Pn 11 04 36.9 -1.6
baz=116,slow=0.0
PKIN Sn **Sn 11 06 37.9 -8.6**
comp=Z,2µm,0.8s,baz=116,slow=0.0
PKI Pulchoki 11.48 115 Pn Pn 11 04 36.9 -1.9
baz=116,slow=0.0
PKI Sn Sn 11 06 37.9 -9.0
baz=116,slow=0.0
ARXS Arharly 11.58 15 *e*P **Pn 11 04 39.3 -0.6**
GUN Gumba 11.67 113 Pn **Pn 11 04 39.6 -1.8**
baz=113,slow=0.0
BTLS Baital 11.96 1 *e*P **Pn 11 04 44.7 -0.4**
BTLS Baital 11.96 1 *e*P **Pn 11 04 44.6 -0.4**
TDK Taldyqorghan 12.46 16 *e*P **Pn 11 04 51.4 -0.5**
TDK LR LR 11 09 38.3
comp=Z,41µm,8.8s
TDK Taldyqorghan 12.46 16 *e*P **Pn 11 04 51.3 -0.5**
TDK MLR MLR
comp=Z,41µm,9.0s
AKL Akola 12.65 166 *e*P **P 11 05 03.7 -2.1**
AKL *e*S **Sn 11 07 15.3 +0.1**
RAMN Ramite 12.71 115 Pn **Pn 11 04 52.1 -3.4**
baz=116,slow=0.0
RAMN Sn Sn 11 07 07.4 -9.4
comp=Z,3µm,0.9s,baz=116,slow=0.0
NGP Nagpur 12.77 157 *e*P **P 11 05 05.4 -1.8**
NGP *e*S **Sn 11 07 19.4 +1.2**
GAYA Gaya 13.00 126 *e*P **P 11 05 08.2 -1.5**
GAYA *e*S **Sn 11 07 22.2 -1.5**
ODAN Odare 13.36 114 Pn **Pn 11 05 01.5 -2.8**
baz=114,slow=0.0
ODAN Odare 13.36 114 Pn **Pn 11 05 01.8 -2.5**
baz=114,slow=0.0
NGCH Negor - Chabah 13.40 238 S **Sn 11 07 32.5 -0.9**
BOK Bokaro 14.12 128 *e*P **P 11 05 24.0 +1.9**
BOK *e*S **Sn 11 07 48.2 -2.9**
BOK IAML 11 07 49.2
comp=N,2µm,1.0s
BOK IAML 11 07 49.3
comp=E,2µm,0.8s
JHSG JHARSUGUGA 14.35 139 *e*P **P 11 05 27.2 +2.5**
JHSG *e*S **Sn 11 07 55.8 -0.9**
POO Poona 14.47 180 *e*P **P 11 05 29.8 +3.6**
POO *e*S **Sn 11 07 59.2 -0.5**
JPG JALPAIGURI 14.54 113 *e*P **P 11 05 28.8 +2.0**
JPG *e*S **Sn 11 07 58.4 -2.8**
JPG IAML 11 08 22.1
comp=N,3µm,3.4s
JPG IAML 11 08 28.6
comp=E,2µm,2.4s
MAKZ Makanchi 15.10 22 P **Pn 11 05 26.7 -1.2**
comp=E,1µm,1.2s
MK31 Makanchi Array 15.19 23 ⇑P **Pn 11 05 27.2 -1.8**
comp=E,779nm,1.2s,baz=194,slow=7.7,SNR=910
MK31 Makanchi Array 15.19 23*ce*P **Pn 11 05 26.6 -2.4**
MK31 pmax pmax
comp=Z,779nm,1.2s
MKAR Makanchi Array 15.19 23 Pn **Pn 11 05 26.2 -2.8**
MKAR Makanchi Array 15.19 23 Pn **Pn 11 05 26.7 -2.3**
comp=Z,8.6nm,0.3s,baz=209,slow=12,SNR=501
MKAR Sn **Sn 11 08 09.9 -7.1**
comp=Z,2.7nm,0.3s,baz=204,slow=24,SNR=2.0
MKAR Lg Lg 11 10 09.1
baz=180,slow=21
MKAR LR LR 11 11 17.3
comp=Z,5µm,18.8s,baz=200,slow=38
comp=E,85nm,0.6s
LSA Lhasa 15.26 98 Pn 11 05 28.1 -2.2
LSA Lhasa 15.26 98 P **Pn 11 05 26.9 -3.5**
LSA LR LR
comp=Z,36µm,10.6s
LSA LR LR
comp=Z,64µm,12.7s
LSA LR LR
comp=Z,90µm,12.9s
LSA Lhasa 15.26 98 P **Pn 11 05 26.3 -4.1**
LSA Lhasa 15.26 98 P **Pn 11 05 28.1 -2.2**
LSA pmax pmax
comp=Z,136nm,1.0s
WMQ Urumqi 15.31 41 ⇑P **Pn 11 05 27.9 -2.8**
WMQ S **Sn 11 08 13.9 -6.1**
WMQ pmax pmax
comp=Z,560nm,0.9s
WMQ pmax pmax
comp=Z,3µm,4.1s
WMQ LR LR
comp=Z,56µm,11.1s
WMQ LR LR
comp=Z,72µm,14.5s
WMQ LR LR
comp=Z,18µm,12.9s
HYB Hyderabad 16.18 163 *e*P **Pn 11 05 36.8 -5.1**
HYB *e*S **Sn 11 08 42.9 +1.8**
HYB IVMs_BB IVMs_BB 11 11 48.5
comp=Z,175µm,8.5s
WSAR Wadi Sarin 16.50 237 Pn **Pn 11 05 44.3 -1.8**
baz=73,slow=20,SNR=24
WSAR Sn Sn 11 08 36.7 -12
comp=Z,0.1nm,0.3s,baz=343,slow=19,SNR=4.5
WSAR LR LR 11 14 34.6
comp=Z,48nm,18.7s,baz=0.0,slow=46
CAL Calcutta 16.62 125 *e*P **P 11 05 56.8 +6.9**
CAL *e*S **Sn 11 08 46.9 -4.9**
JLN Jalan Bani Buh 16.69 233 P **Pn 11 05 46.7 -1.6**
BIDO Bidbid 16.69 239 P **Pn 11 05 47.0 -1.4**
SNR=14
BIDO P **Pn 11 05 47.0 -1.4**
SNR=14
BANOM Banah 16.75 249 P **Pn 11 05 49.3 +0.2**
BANOM P **Pn 11 05 49.3 +0.2**
BANOM Banah 16.75 249 *i*P **Pn 11 05 45.3 -3.8**
SNR=13
SHME Shamm 16.81 250 *i*P **Pn 11 05 48.2 -1.7**
SNR=19
SMDO Samad 17.03 238 P **Pn 11 05 52.9 +0.1**
SMDO P **Pn 11 05 52.9 +0.1**
GUWA GUWAHATI 17.04 109 *e*P P 11 06 02.4 +7.8
GUWA *e*S **Sn 11 08 56.1 -6.0**
MDH Madha 17.06 248 P **Pn 11 05 52.4 -0.7**
SNR=14
MDH P **Pn 11 05 52.4 -0.7**
SNR=14
MDH Madha 17.06 248 *i*P **Pn 11 05 49.3 -3.7**
SNR=18
MASF Masafi 17.13 248 P **Pn 11 05 54.8 +0.8**
SNR=34
MASF P **Pn 11 05 54.8 +0.8**
SNR=34
MASF P **Pn 11 05 54.8 +0.8**
SNR=34
MSFE Esma-Masafi 17.13 248 *i*P **Pn 11 05 51.3 -2.7**
SNR=22
HOQ Hoqain 17.25 241 P **Pn 11 05 55.4 0.0**
HOQ P **Pn 11 05 55.4 0.0**
HOQ P **Pn 11 05 55.4 0.0**
UOSS Minazif 17.31 247 Pn **Pn 11 05 52.0 -4.3**
UOSS Minazif 17.31 247 P **Pn 11 05 56.2 0.0**
UOSS P **Pn 11 05 56.2 0.0**
UOSS P **Pn 11 05 56.2 0.0**
UOSS Minazif 17.31 247 *i*P **Pn 11 05 51.6 -4.6**
SNR=12
HATD Hatta, Dubai 17.43 246 P **Pn 11 05 57.6 -0.1**
SNR=8.1
HATD P **Pn 11 05 57.6 -0.1**
SNR=8.1
HATD P **Pn 11 05 57.6 -0.1**
SNR=8.1
HATD Hatta, Dubai 17.43 246 *i*P **Pn 11 05 53.8 -3.9**
SNR=15
UMQ Umm Al-Quwin 17.44 249 P **P 11 05 59.4 +0.4**
UMQ Umm Al-Quwin 17.44 249 *i*P **Pn 11 05 57.4 -0.4**
SNR=8.7
SHL Shillong 17.50 111 Pn 11 05 53.2 -5.5
SHL Shillong 17.50 111 P **Pn 11 05 54.2 -4.5**
SNR=259
SHL Shillong 17.50 111 *e*P P 11 06 10.7 +11
SHL *e*S **Sn 11 09 08.4 -4.9**
SHL Shillong 17.50 111 P **Pn 11 05 53.2 -5.5**
SHL pmax pmax
comp=Z,2µm,1.6s
SOHO SOHO 17.50 244 P **Pn 11 05 58.0 -0.6**
SOHO P **Pn 11 05 58.0 -0.6**
SOHO SOHO 17.50 244 *i*P **Pn 11 05 55.4 -3.2**
SNR=19
ASHO Ashiyiah 17.56 246 P **P 11 06 02.0 +1.5**
SNR=59
ASHO P **P 11 06 02.0 +1.5**
SNR=59
ASHO Ashiyiah 17.56 246 *i*P **Pn 11 05 56.9 -2.5**
SNR=52
GOMU GeErMu 17.63 74 P **Pn 11 05 58.1 -2.4**
GOMU S **Sn 11 09 18.5 +1.6**
GOMU pmax pmax
comp=Z,250nm,2.1s
GOMU LR LR
comp=Z,20µm,9.2s
GOMU LR LR
comp=Z,36µm,9.9s
GOMU LR LR
comp=Z,46µm,10.3s
NAZ Nazwa, Dubai 17.71 248 P **P 11 06 04.0 +2.0**
SNR=38
NAZ P **P 11 06 04.0 +2.0**
SNR=38
NAZ Nazwa, Dubai 17.71 248 *i*P **Pn 11 06 01.2 0.0**
SNR=45
BSY Bisya 17.84 239 P **P 11 06 05.5 +2.1**
SNR=16
FAQ Al Faqa, Dubai 17.89 247 P **P 11 06 06.7 +2.8**
SNR=29
FAQ P **P 11 06 06.7 +2.8**
SNR=29
FAQ Al Faqa, Dubai 17.89 247 *i*P **Pn 11 06 02.2 -1.2**
SNR=22
KURBB Kurchatov Arra 17.90 10 ⇑P **Pn 11 06 00.3 -3.0**
comp=Z,815nm,1.2s
KURBB Kurchatov Arra 17.90 10 P **Pn 11 06 00.7 -2.6**
comp=Z,6.0nm,0.3s,baz=198,slow=11,SNR=685
KURBB S **Sn 11 09 21.4 -1.1**
comp=Z,33nm,1.0s,baz=189,slow=30,SNR=1.7
KURBB Lg Lg 11 11 34.3
baz=194,slow=30
KURBB LR LR 11 13 33.5
comp=Z,20µm,19.0s,baz=192,slow=40
KURBB ScP **ScP 11 14 13.8 +0.1**
comp=Z,19nm,1.0s,baz=214,slow=3.1,SNR=4.1
comp=Z,329nm,0.9s
ARQ Araqi 17.97 242 P **P 11 06 06.3 +1.4**
SNR=38
ARQ P **P 11 06 06.3 +1.4**
SNR=38
KURK Kurchatov 18.00 10 Pn 11 06 01.0 -3.6
KURK IAmb IAmb 11 06 06.4
comp=Z,475nm,0.8s
KURK Kurchatov 18.00 10 ⇑P **Pn 11 06 01.3 -3.2**
comp=Z,278nm,1.0s
KURK Kurchatov 18.00 10 P **Pn 11 06 01.9 -2.7**
KURK P **Pn 11 06 01.9 -2.7**
KURK Kurchatov 18.00 10 P **Pn 11 06 00.7 -3.9**
KURK S **Sn 11 09 21.4 -3.6**
ALNE Al Ain 18.14 245 *i*P **Pn 11 06 06.8 +0.3**
SNR=65
ASUD Al Ashush, Dub 18.16 247 P **P 11 06 07.8 +0.9**
SNR=11
ASUD P **P 11 06 07.8 +0.9**
SNR=11
ASUD Al Ashush, Dub 18.16 247 *i*P **Pn 11 06 06.8 +0.1**
SNR=19
AJN Ajban 18.46 248 P **Pn 11 06 13.0 +2.7**
SNR=26
AJN P **Pn 11 06 13.0 +2.7**
SNR=26
AJN Ajban 18.46 248 *i*P **P 11 06 09.6 -0.6**
SNR=13
MHTO MHTO 18.46 233 P **Pn 11 06 12.6 +2.2**
SNR=18
MHTO P **Pn 11 06 12.6 +2.2**
SNR=18
BRDH Bariadhala 18.89 119 P **P 11 06 14.8 -0.2**
comp=Z,46nm,0.3s,baz=306,slow=6.8,SNR=18
BRDH S Sn 11 09 31.4 -15
comp=Z,161nm,0.4s,baz=278,slow=19,SNR=1.9
BRDH LR LR 11 14 14.9
comp=Z,21µm,19.5s,baz=314,slow=39
comp=Z,175nm,0.4s
AB31 Akbulak array 19.17 332 P **P 11 06 15.8 -2.0**
AB31 Akbulak array 19.17 332 ⇑P **P 11 06 16.4 -1.5**
comp=Z,224nm,0.7s,baz=140,slow=10,SNR=2163
AB31 ⇑S **Sn 11 09 50.2 -3.0**
comp=Z,150nm,0.8s,baz=149,slow=23,SNR=5.5
AB31 Akbulak array 19.17 332 *e*P **P 11 06 16.4 -1.5**
ABKAR Akbulak array 19.17 332 P **P 11 06 15.7 -2.1**
UMZA Um Al Zommool 19.35 243 P **Pn 11 06 23.1 +2.0**
DQM DQM 19.48 232 P **Pn 11 06 24.1 +1.4**
SNR=12
JRN Qarnain Island 19.95 251 P **P 11 06 27.7 +1.2**
SNR=24
BVA0 Borovoye Array 20.10 354 ⇑P **P 11 06 27.2 -0.7**
comp=Z,340nm,0.8s,baz=166,slow=9.5,SNR=289
BVA0 Borovoye Array 20.10 354 *i*P **P 11 06 27.6 -0.4**
BVAR Borovoye Array 20.10 354 P **P 11 06 27.2 -0.8**
comp=Z,5.9nm,0.3s,baz=170,slow=10,SNR=300
BVAR S **S 11 10 11.6 -1.6**
comp=Z,58nm,0.8s,baz=161,slow=20,SNR=3.3
BVAR Lg Lg 11 12 36.5
baz=177,slow=31
BVAR LR LR 11 13 56.7
comp=Z,5µm,20.2s,baz=173,slow=36
comp=Z,122nm,0.5s
BORK Borovoye 20.12 354*ce*P **P 11 06 28.0 -0.3**
BORK pmax pmax
comp=Z,385nm,1.3s
BORK MLR MLR
comp=Z,18µm,12.0s
MZR Muzera 20.46 246 P Pn 11 06 34.6 +0.3
SNR=61
MZR Muzera 20.46 246 *i*P **P 11 06 32.7 +0.6**
SNR=61
AKTO Aktyubinsk 20.87 331 ⇓P **P 11 06 35.4 -1.0**
comp=Z,843nm,0.9s
AKTO ⇑S **S 11 10 27.9 -0.7**
comp=Z,207nm,1.1s
AKTO Aktyubinsk 20.87 331 P **P 11 06 35.4 -1.0**
comp=Z,872nm,0.8s,baz=141,slow=10,SNR=746
AKTO S **S 11 10 25.3 -3.2**
comp=Z,65nm,0.9s,baz=162,slow=19,SNR=2.3
AKTO LR LR 11 15 54.7
comp=Z,6µm,19.6s,baz=143,slow=41
comp=Z,872nm,0.8s
SHMA Al-Shehemyia 21.05 256 P **P 11 06 39.2 +0.7**
SNR=19
SLWR Sila 21.29 251 P **P 11 06 41.8 +0.7**
SLWR P **P 11 06 41.8 +0.7**
SAKB Bahrain 21.35 257 P **P 11 06 41.9 +0.1**
TRNA Turayna 21.35 253 P **P 11 06 41.8 +0.1**
SNR=21
SMRA Abu-Samra 21.66 253 P **P 11 06 44.7 -0.4**
SNR=26
GTA Gaotai 21.93 66 P **P 11 06 47.9 -0.2**
GTA pP pP 11 06 51.8 -0.7
GTA S **S 11 10 46.8 -3.1**
GTA sS pS 11 10 56.6 -0.3
GTA pmax pmax
comp=Z,130nm,2.2s
GTA pmax pmax
comp=Z,9µm,6.6s
GTA LR LR
comp=Z,40µm,14.5s
GTA LR LR
comp=Z,12µm,12.0s
GTA LR LR
comp=Z,23µm,10.5s
SHAO Shalim 22.11 232 P **P 11 06 51.9 +2.0**
SNR=16
SHAO P **P 11 06 51.9 +2.0**
SNR=16
SHAO Shalim 22.11 232 *i*P **P 11 06 50.4 +0.5**
SNR=16
AKT Akhty 22.27 300 *e*P **P 11 06 52.3 +0.7**
AKT *e*PPP PPP 11 07 22.9
AKT *e*S **S 11 10 59.6 +3.4**
AKT pmax pmax
comp=Z,505nm,0.9s
ZAA0 Zalesovo Array 22.32 17 P **P 11 06 50.0 -1.9**
ZAA0 Zalesovo Array 22.32 17 ⇓P **P 11 06 49.0 -2.9**
comp=Z,120nm,1.3s
ZALV Zalesovo Beam 22.32 17 P **P 11 06 49.7 -2.3**
ZALV Zalesovo Beam 22.32 17 P **P 11 06 50.1 -1.8**
comp=Z,341nm,0.6s,baz=209,slow=9.7,SNR=204
ZALV S **S 11 10 54.5 -2.2**
comp=Z,99nm,1.1s,baz=208,slow=14,SNR=3.0
ZALV Lg Lg 11 13 56.5
baz=194,slow=22
comp=Z,341nm,0.6s
KBD Kabd 22.60 267 P **P 11 06 55.0 -0.1**
DOK Doka 22.70 235 P **P 11 06 58.0 +1.7**
SNR=7.8

MAK	**Makhachkala**	**22.82**	**303**	*c*	*i*P		**P**	**11 06 57.6**	**+0.3**
MAK					*e*S		**S**	**11 11 07.4**	**+1.4**
MAK						pmax	pmax		
	comp=Z,242nm,1.1s								
MAK						MLR	MLR		
	comp=Z,65μm,12.0s								
TNCH	**TengChong**	**23.07**	**104**		P		**P**	**11 07 00.4**	**+0.1**
TNCH					pP		pP	11 07 03.0	-1.7
TNCH					sP		sP	11 07 06.8	+0.1
TNCH					PP		**PnPn**	**11 07 31.3**	**+6.0**
TNCH					S		**S**	**11 11 06.6**	**-4.4**
TNCH					sS		pS	11 11 11.0	-5.3
TNCH						pmax	pmax		
	comp=Z,140nm,1.5s								
TNCH						pmax	pmax		
	comp=Z,2μm,2.9s								
TNCH						LR	LR		
	comp=Z,31μm,14.1s								
TNCH						LR	LR		
	comp=Z,31μm,12.1s								
TNCH						LR	LR		
	comp=Z,31μm,15.6s								
RBK	**Rabkut**	**23.42**	**233**		P		**P**	**11 07 04.9**	**+1.2**
	SNR=31								
RBK					P		**P**	**11 07 04.9**	**+1.2**
	SNR=31								
WHFO	**Wadi Hawf**	**23.43**	**235**		P		**P**	**11 07 05.3**	**+1.5**
	SNR=57								
WHFO					P		**P**	**11 07 05.3**	**+1.5**
	SNR=57								
ABTO	**Aybut**	**24.14**	**235**		P		**P**	**11 07 11.7**	**+1.1**
	SNR=27								
ABTO					P		**P**	**11 07 11.7**	**+1.1**
	SNR=27								
GNI	**Garni**	**24.25**	**295**		P		**P**	**11 07 14.1**	**+2.4**
GNI	**Garni**	**24.25**	**295**		LR		LR	11 18 19.6	
	comp=Z,7μm,18.8s,baz=100,slow=41								
GNI	**Garni**	**24.25**	**295**		P		**P**	**11 07 14.7**	**+3.1**
GNI					P		**P**	**11 07 14.7**	**+3.1**
GNI					P		**P**	**11 07 14.7**	**+3.1**
GNI	**Garni**	**24.25**	**295**		P		**P**	**11 07 13.8**	**+2.2**
GNI	**Garni**	**24.25**	**295**	*ce*	P		**P**	**11 07 14.2**	**+2.6**
GNI						pmax	pmax		
	comp=Z,239nm,1.3s								
GNI						MLR	MLR		
	comp=Z,10μm,16.0s								
GNI	**Garni**	**24.25**	**295**		P		**P**	**11 07 14.2**	**+2.6**
	comp=Z,7μmcomp=Z,532nm,1.0s								
LZDM	**Lanzhou Array**	**24.82**	**75**		P		**P**	**11 07 17.3**	**+0.2**
	comp=Z,58nm,0.5s,baz=269,slow=8.6,SNR=76								
LZDM					S		**S**	**11 11 37.8**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=250,slow=16,SNR=0.9								
	comp=Z,58nm,0.5s								
LZH	**Lanzhou**	**24.94**	**75**	⇑	P		**P**	**11 07 18.5**	**+0.6**
LZH					sP		sP	11 07 26.3	+1.9
LZH					S		**S**	**11 11 38.3**	**-2.7**
LZH						pmax	pmax		
	comp=Z,300nm,1.3s								
LZH						pmax	pmax		
	comp=Z,4μm,4.2s								
LZH						LR	LR		
	comp=Z,26μm,12.4s								
LZH						LR	LR		
	comp=Z,20μm,12.7s								
LZH						LR	LR		
	comp=Z,20μm,12.4s								
TRLG	**Trialeti**	**24.94**	**298**		P		**P**	**11 07 20.2**	**+2.3**
PZH	**PanZhiHua**	**25.14**	**98**		P		**P**	**11 07 20.5**	**+0.8**
PZH					S		**S**	**11 11 43.3**	**-0.9**
PZH					ScS		**ScS**	**11 18 19.6**	**-1.5**
PZH						pmax	pmax		
	comp=Z,290nm,1.4s								
PZH						pmax	pmax		
	comp=Z,2μm,4.1s								
PZH						LR	LR		
	comp=Z,21μm,12.9s								
PZH						LR	LR		
	comp=Z,9μm,14.7s								
PZH						LR	LR		
	comp=Z,14μm,10.6s								
GEVA	**Gevas**	**25.39**	**291**		P		**P**	**11 07 23.6**	**+1.7**
SVE	**Sverdlovsk**	**25.41**	**343**	*de*	P		**P**	**11 07 21.4**	**-0.4**
SVE					*e*S		**S**	**11 11 47.5**	**-0.3**
SVE						pmax	pmax		
	comp=Z,192nm,0.9s								
SVE						MLR	MLR		
	comp=Z,38μm,8.0s								
CD2	**Chengdu**	**25.53**	**87**		P		**P**	**11 07 23.8**	**+0.7**
CD2					sP		pP	11 07 28.0	+0.3
CD2					S		**S**	**11 11 48.4**	**-1.8**
CD2					sS		pS	11 11 56.8	+1.4
CD2						pmax	pmax		
	comp=Z,240nm,0.8s								
CD2						pmax	pmax		
	comp=Z,810nm,4.7s								
CD2						LR	LR		
	comp=Z,101μm,12.0s								
CD2						LR	LR		
	comp=Z,54μm,11.8s								
CD2						LR	LR		
	comp=Z,55μm,11.8s								
ARTI	**Arti**	**25.62**	**340**		P		**P**	**11 07 23.0**	**-0.7**
ARTI	**Arti**	**25.62**	**340**	*d*	*i*P		**P**	**11 07 23.0**	**-0.7**
ARTI								11 07 56.4	
ARTI					S		**S**	**11 11 53.8**	**+2.6**
ARTI					SS		**SnSn**	**11 12 47.8**	**+2.5**
ARTI						pmax	pmax		
	comp=Z,526nm,1.8s								
ARTI						MLR	MLR		
	comp=Z,24μm,11.0s								
NCK	**Nalchik**	**25.72**	**303**	*i*	P		**P**	**11 07 24.8**	**+0.1**
NCK						pmax	pmax		
	comp=Z,251nm,1.1s								
NCK						MLR	MLR		
	comp=Z,13μm,16.0s								
HMDM	**Hanimaadhoo**	**26.16**	**181**		P		**P**	**11 07 29.0**	**+0.1**
GURO	**Guroymak-BITLI**	**26.20**	**291**		P		**P**	**11 07 31.2**	**+1.9**
GURO					IAmb		IAmb	11 07 53.9	
	comp=Z,196nm,1.1s								
KBZ	**Khabaz**	**26.26**	**303**		P		**P**	**11 07 30.2**	**+0.7**
	comp=Z,111nm,0.8s,baz=114,slow=8.5,SNR=163								
KBZ					S		**S**	**11 12 00.7**	**-0.8**
	comp=Z,17nm,0.9s,baz=127,slow=5.1,SNR=1.6								
KBZ					LR		LR	11 20 02.3	
	comp=Z,6μm,18.4s,baz=116,slow=42								
	comp=Z,111nm,0.8s								
SHA1	**Shidzhatmaz**	**26.43**	**303**	*c*	*i*P		**P**	**11 07 33.1**	**+1.6**
KIV	**Kislovodsk**	**26.47**	**303**		P		**P**	**11 07 32.7**	**+1.1**
KIV					IAmb		IAmb	11 07 34.2	
	comp=Z,177nm,0.8s								
KIV	**Kislovodsk**	**26.47**	**303**		P		**P**	**11 07 33.6**	**+2.0**
KIV					P		**P**	**11 07 33.6**	**+2.0**
KIV	**Kislovodsk**	**26.47**	**303**	⇓	P		**P**	**11 07 34.2**	**+2.6**
KIV	**Kislovodsk**	**26.47**	**303**	*i*	P		**P**	**11 07 32.4**	**+0.8**
	SNR=18								
KIV	**Kislovodsk**	**26.47**	**303**	*eP*			**P**	**11 07 32.2**	**+0.6**
KIV				*eS*			**S**	**11 12 07.3**	**+2.4**
KIV						pmax	pmax		
	comp=Z,276nm,3.9s								
KIV						pmax	pmax		
	comp=Z,155nm,1.0s								
KIV						MLR	MLR		
	comp=Z,8μm,15.0s								
KIV	**Kislovodsk**	**26.47**	**303**		P		**P**	**11 07 32.4**	**+0.8**
	comp=Z,2μmcomp=Z,194nm,1.0s								
PALK	**Pallekele**	**26.47**	**164**		P		**P**	**11 07 32.2**	**+0.5**
PALK	**Pallekele**	**26.47**	**164**		P		**P**	**11 07 33.3**	**+1.6**
PALK	**Pallekele**	**26.47**	**164**		P		**P**	**11 07 32.2**	**+0.5**
PALK						pmax	pmax		
	comp=Z,573nm,1.4s								
KMI	**Kunming**	**26.50**	**100**	⇑	P		**P**	**11 07 32.9**	**+0.7**
KMI					PP		**PnPn**	**11 08 16.6**	**+4.3**
KMI					S		**S**	**11 12 04.0**	**-2.0**
KMI						pmax	pmax		
	comp=Z,120nm,1.3s								
KMI						pmax	pmax		
	comp=Z,1μm,4.0s								
KMI						LR	LR		
	comp=Z,21μm,13.3s								
KMI						LR	LR		
	comp=Z,13μm,14.2s								
KMI						LR	LR		
	comp=Z,25μm,10.3s								
GOF	**Gofitskoye**	**26.50**	**306**	*c*	*i*P		**P**	**11 07 33.4**	**+1.6**
RAYN	**Ar Rayn**	**26.54**	**256**		P		**P**	**11 07 32.1**	**-0.2**
RAYN	**Ar Rayn**	**26.54**	**256**		P		**P**	**11 07 33.2**	**+0.9**

RAYN	**Ar Rayn**	**26.54**	**256**	*i*	P		**P**	**11 07 30.5**	**-1.8**
	SNR=27									
RAYN	**Ar Rayn**	**26.54**	**256**		P		**P**	**11 07 32.1**	**-0.2**
RAYN						pmax	pmax			
	comp=Z,80nm,0.9s									
CHTO	**Chiang Mai**	**26.66**	**116**		P		**P**	**11 07 32.2**	**-1.2**
CHTO	**Chiang Mai**	**26.66**	**116**		P		**P**	**11 07 33.9**	**+0.4**
CHTO					P		**P**	**11 07 33.9**	**+0.4**
CHTO	**Chiang Mai**	**26.66**	**116**		P		**P**	**11 07 33.2**	**-0.2**
CHTO	**Chiang Mai**	**26.66**	**116**		P		**P**	**11 07 32.2**	**-1.2**
CHTO						pmax	pmax			
	comp=Z,653nm,1.3s									
BATM	**Batumi**	**26.74**	**298**	⇓	P		**P**	**11 07 36.9**	**+2.9**
BATM	**Batumi**	**26.74**	**298**		P		**P**	**11 07 36.8**	**+2.9**
CMAR	**Chiang Mai Arr**	**26.88**	**117**		P		**P**	**11 07 34.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**26.88**	**117**		P		**P**	**11 07 35.0**	**-0.4**
	comp=Z,130nm,0.8s,baz=306,slow=8.4,SNR=528									
CMAR					S		**S**	**11 12 12.7**	**+1.1**
	comp=Z,11nm,1.1s,baz=312,slow=14,SNR=1.2									
CMAR					ScP		**ScP**	**11 14 37.2**	**-0.1**
	comp=Z,18nm,1.0s,baz=303,slow=3.1,SNR=6.5									
CMAR					LR		LR	11 20 33.8		
	comp=Z,10μm,19.4s,baz=300,slow=42									
CMAR					P3KPbc			11 40 13.2		
	comp=Z,0.4nm,0.3s,baz=125,slow=2.6,SNR=5.3									
	comp=Z,130nm,0.8s									
MOY	**Mondy**	**27.17**	**39**	*eP*			**P**	**11 07 38.9**	**+1.1**
MOY						pmax	pmax			
	comp=Z,486nm,2.9s									
MARD	**Mardin**	**27.18**	**288**		P		**P**	**11 07 39.5**	**+1.4**
KOPT	**Kop Dagi**	**27.47**	**294**		P		**P**	**11 07 42.9**	**+2.0**
PBA	**Port Blair**	**27.53**	**136**		P		**P**	**11 07 42.2**	**+0.9**
PBA	**Port Blair**	**27.53**	**136**		P		**P**	**11 07 42.9**	**+1.6**
	SNR=16									
ZAK	**Zakamensk**	**27.78**	**43**	*eP*			**P**	**11 07 43.3**	**0.0**
ZAK						pmax	pmax			
	comp=Z,123nm,1.6s									
LABN	**Labinsk**	**28.00**	**304**	*eP*			**P**	**11 07 44.9**	**-0.3**
LABN				*e*	PPP		PPP	11 08 40.5		
LABN				*eS*			**S**	**11 12 28.0**	**-0.8**
LABN						pmax	pmax			
	comp=Z,274nm,1.1s									
LABN						pmax	pmax			
	comp=E,16nm,0.7s									
LABN						pmax	pmax			
	comp=N,15nm,0.6s									
ERBR	**Yeremizino-Bor**	**28.42**	**306**	*eP*			**P**	**11 07 47.1**	**-1.8**
ERBR				*e*	PPP		PPP	11 08 41.6		
ERBR				*eS*			**S**	**11 12 36.9**	**+1.4**
ERBR						pmax	pmax			
	comp=E,33nm,0.8s									
ERBR						pmax	pmax			
	comp=Z,137nm,0.9s									
ERBR						pmax	pmax			
	comp=N,32nm,0.8s									
ERBR						MLR	MLR			
	comp=N,27μm,11.0s									
ERBR						MLR	MLR			
	comp=E,54μm,13.0s									
ERBR						MLR	MLR			
	comp=Z,27μm,13.0s									
SOC	**Sochi**	**28.49**	**302**	*eP*			P	11 07 45.3	-4.3	
SOC				*e*				11 08 39.8		
SOC				*eS*			**S**	**11 12 31.7**	**-5.0**	
SOC				*eSS*			**SnSn**	**11 13 54.2**	**-1.3**	
SOC						MLR	MLR			
	comp=Z,6μm,15.0s									
SONM	**Songino Array**	**28.66**	**49**		P		**P**	**11 07 51.7**	**+0.5**	
SONM					IAmb		IAmb	11 08 29.6		
	comp=Z,195nm,1.3s									
SONM	**Songino Array**	**28.66**	**49**		P		**P**	**11 07 51.2**	**0.0**	
	comp=Z,63nm,1.0s,baz=251,slow=9.2,SNR=167									
SONM					S		**S**	**11 12 43.5**	**+4.0**	
	comp=Z,6.3nm,0.9s,baz=257,slow=24,SNR=1.3									
SONM					Lg		Lg	11 17 08.0		
	baz=257,slow=13									
	comp=Z,63nm,1.0s									
ULN	**Ulaanbaatar**	**29.09**	**50**		P		**P**	**11 07 55.5**	**+0.5**	
ULN	**Ulaanbaatar**	**29.09**	**50**		P		**P**	**11 07 56.3**	**+1.2**	
ULN	**Ulaanbaatar**	**29.09**	**50**	*ce*	P		**P**	**11 07 55.7**	**+0.6**	
ULN						pmax	pmax			
	comp=Z,266nm,2.7s									
ULN						MLR	MLR			
	comp=Z,25μm,14.0s									
SLVN	**Son La**	**29.17**	**106**		P		**P**	**11 07 56.0**	**+0.1**	
SLVN	**Son La**	**29.17**	**106**		P		**P**	**11 07 57.0**	**+1.1**	
IRK	**Irkutsk**	**29.20**	**40**	*eP*			**P**	**11 07 57.1**	**+1.2**	
IRK						pmax	pmax			
	comp=Z,383nm,3.2s									
GYA	**Guiyang**	**29.26**	**94**	⇓	P		**P**	**11 07 57.0**	**+0.2**	
GYA					pP		sP	11 08 03.3	0.0	
GYA					S		**S**	**11 12 45.8**	**-3.5**	
GYA						pmax	pmax			
	comp=Z,76nm,1.4s									
GYA						LR	LR			
	comp=Z,11μm,11.4s									
GYA						LR	LR			
	comp=Z,16μm,12.4s									
GYA						LR	LR			
	comp=Z,18μm,10.4s									
XAN	**Xi'an**	**29.27**	**78**		P		**P**	**11 07 55.9**	**-0.8**	
XAN					pP		pP	11 08 00.6	-0.7	
XAN					S		**S**	**11 12 45.4**	**-3.7**	
XAN						pmax	pmax			
	comp=Z,37nm,1.0s									
XAN						pmax	pmax			
	comp=Z,640nm,3.9s									
XAN						LR	LR			
	comp=Z,44μm,15.3s									
XAN						LR	LR			
	comp=Z,18μm,16.4s									
XAN						LR	LR			
	comp=Z,19μm,17.9s									
VRH	**Novokhopyorsk**	**29.53**	**317**	*eP*			**P**	**11 07 56.8**	**-1.9**	
VRH				*eS*			**S**	**11 12 49.5**	**-3.3**	
VRH						pmax	pmax			
	comp=Z,100nm,1.2s									
VRH						smax	smax			
	comp=N,2μm,10.1s									
VRH						MLR	MLR			
	comp=Z,10μm,11.0s									
BTO	**Baotou**	**29.85**	**65**	*eP*			**P**	**11 08 02.3**	**+0.4**	
BTO					pP		**pP**	**11 08 06.8**	**+0.2**	
BTO					sP		**sP**	**11 08 09.8**	**+1.3**	
BTO					PP		**PnPn**	**11 08 58.8**	**+1.1**	
BTO					S		**S**	**11 12 57.1**	**-1.2**	
BTO					SS		**SnSn**	**11 14 28.5**	**-0.3**	
BTO						pmax	pmax			
	comp=Z,250nm,1.0s									
BTO						pmax	pmax			
	comp=Z,4μm,8.6s									
BTO						LR	LR			
	comp=Z,35μm,14.2s									
BTO						LR	LR			
	comp=Z,45μm,13.1s									
BTO						LR	LR			
	comp=Z,70μm,12.7s									
GAZ	**Gaziantep**	**30.03**	**288**		P		**P**	**11 08 05.3**	**+1.8**	
GAZ					IAmb		IAmb	11 08 27.4		
	comp=Z,113nm,0.9s									
KIRV	**Kirov**	**30.30**	**335**		S		**S**	**11 13 02.6**	**-2.1**	
	comp=Z,13nm,0.6s,baz=198,slow=19,SNR=1.1									
KIRV					Lg		Lg	11 18 07.9		
	comp=Z,0.8nm,0.3s,baz=195,slow=17,SNR=1.2									
ANN	**Anapa**	**30.32**	**303**	*eP*			**P**	**11 08 06.8**	**+1.0**	
ANN				*eS*			**S**	**11 13 07.7**	**+2.3**	
ANN						pmax	pmax			
	comp=Z,253nm,0.7s									
ANN						MLR	MLR			
	comp=N,10μm,15.0s									
ANN						MLR	MLR			
	comp=Z,12μm,14.0s									
ANN						MLR	MLR			
	comp=E,7μm,12.0s									
ENH	**Enshi**	**30.48**	**85**		P		**P**	**11 08 07.0**	**-0.4**	
ENH					IAmb		IAmb	11 09 13.1		
	comp=Z,136nm,1.0s									
ENH	**Enshi**	**30.48**	**85**		P		**P**	**11 08 07.9**	**+0.5**	
VORD	**Divnogorie**	**30.84**	**316**	*eP*			**P**	**11 08 08.4**	**-1.9**	
VORD				*eS*			**S**	**11 13 06.7**	**-6.6**	
VORD						pmax	pmax			
	comp=Z,80nm,1.3s									
VORD						smax	smax			
	comp=N,950nm,8.4s									
VORD						MLR	MLR			
	comp=Z,5μm,9.0s									

ASF	**Jabal al Asfar**	**30.93**	**279**		LR		LR	11 21 39.2		
	comp=Z,7μm,18.8s,baz=108,slow=38									
VSR	**Storozhevoye**	**31.01**	**316**	*eP*			**P**	**11 08 09.2**	**-2.6**	
VSR				*eS*			**S**	**11 13 12.4**	**-3.6**	
VSR						pmax	pmax			
	comp=Z,90nm,1.2s									
VSR						smax	smax			
	comp=N,2μm,10.6s									
VSR						MLR	MLR			
	comp=Z,12μm,12.0s									
HHC	**Hu-ho-hao-te**	**31.03**	**65**	*eP*			**P**	**11 08 13.8**	**+1.5**	
HHC					sP		sP	11 08 19.8	+0.9	
HHC					PP		**PP**	**11 09 19.5**	**-2.8**	
HHC					S		**S**	**11 13 17.8**	**+0.9**	
HHC					sS		pS	11 13 23.3	+1.2	
HHC						pmax	pmax			
	comp=Z,32nm,0.8s									
HHC						pmax	pmax			
	comp=Z,1μm,7.4s									
HHC						LR	LR			
	comp=Z,13μm,12.2s									
HHC						LR	LR			
	comp=Z,10μm,12.2s									
HHC						LR	LR			
	comp=Z,12μm,12.2s									
BNN	**Bunyan**	**31.04**	**292**		P		**P**	**11 08 12.7**	**+0.2**	
VORR	**Voronezh**	**31.16**	**317**	*eP*			**P**	**11 08 10.6**	**-2.5**	
VORR				*eS*			**S**	**11 13 12.4**	**-5.9**	
VORR						pmax	pmax			
	comp=Z,120nm,0.4s									
VORR						smax	smax			
	comp=N,890nm,7.6s									
VORR						MLR	MLR			
	comp=Z,2μm,6.0s									
LPSR	**Galich'ya Gora**	**31.69**	**319**	*eP*			**P**	**11 08 15.6**	**-2.2**	
LPSR				*eS*			S	11 13 18.1	-8.5	
LPSR						pmax	pmax			
	comp=Z,170nm,1.0s									
LPSR						smax	smax			
	comp=N,1μm,8.6s									
LPSR						MLR	MLR			
	comp=Z,4μm,9.0s									
TIY	**Taiyuan**	**31.74**	**71**	*eP*			**P**	**11 08 18.5**	**0.0**	
TIY					S		**S**	**11 13 28.8**	**+0.9**	
TIY						pmax	pmax			
	comp=Z,540nm,3.5s									
TIY						LR	LR			
	comp=Z,13μm,12.0s									
TIY						LR	LR			
	comp=Z,6μm,11.3s									
TIY						LR	LR			
	comp=Z,9μm,12.8s									
MMAI	**Mount Meron Ar**	**32.01**	**281**		P		**P**	**11 08 22.0**	**+1.1**	
	comp=Z,6.5nm,0.7s,baz=64,slow=15,SNR=5.5									
MMAI					PcP		**PcP**	**11 11 11.8**	**+1.2**	
	comp=Z,12nm,0.6s,baz=64,slow=3.4,SNR=6.8									
MMAI					S		**S**	**11 13 34.6**	**+2.5**	
	comp=Z,0.6nm,0.3s,baz=70,slow=13,SNR=6.3									
MMAI					ScP		**ScP**	**11 14 53.5**	**-0.1**	
	comp=Z,5.6nm,0.7s,baz=70,slow=4.7,SNR=4.4									
MMAI					LR		LR	11 23 09.1		
	comp=Z,9μm,18.1s,baz=74,slow=40									
LYN	**LuoYang**	**32.10**	**76**		P		**P**	**11 08 22.4**	**+0.8**	
LYN					sP		pP	11 08 26.5	+0.2	
LYN					S		**S**	**11 13 26.3**	**-7.1**	
LYN					SS		**SnSn**	**11 15 23.1**	**-0.4**	
LYN						pmax	pmax			
	comp=Z,85nm,0.8s									
LYN						pmax	pmax			
	comp=Z,590nm,3.5s									
LYN						LR	LR			
	comp=Z,41μm,16.5s									
LYN						LR	LR			
	comp=Z,8μm,12.4s									
LYN						LR	LR			
	comp=Z,42μm,13.4s									
GHAJ	**Ghor Haditha**	**32.23**	**277**		P		**P**	**11 08 22.8**	**0.0**	
GHAJ					IAmb		IAmb	11 08 51.8		
	comp=Z,230nm,1.9s									
KAAM	**Kaadhehdhoo**	**32.40**	**181**		P		**P**	**11 08 23.2**	**-1.2**	
BZK	**Bozkurt**	**32.50**	**297**		P		**P**	**11 08 24.7**	**-0.3**	
BZK					IAmb		IAmb	11 08 40.3		
	comp=Z,156nm,0.9s									
BZK	**Bozkurt**	**32.50**	**297**	⇑	P		**P**	**11 08 26.9**	**+2.0**	
KIRS	**Kirsehir-Merke**	**32.54**	**292**	⇓	P		**P**	**11 08 27.8**	**+2.2**	
SIM	**Simferopol'**	**32.68**	**303**	*eP*			**P**	**11 08 27.5**	**+0.9**	
SIM				*eS*			**S**	**11 13 40.2**	**-2.0**	
SIM						pmax	pmax			
	comp=Z,149nm,1.2s									
SIM						MLR	MLR			
	comp=Z,6μm,18.0s									
ILGA	**Ilgaz**	**32.68**	**296**		P		**P**	**11 08 27.4**	**+0.5**	
ILGA					IAmb		IAmb	11 08 33.9		
	comp=Z,90nm,1.0s									
BR104	**Keskin Array S**	**32.74**	**293**		P		**P**	**11 08 28.3**	**+1.0**	
	comp=Z,910nmcomp=Z,123nm,0.9s									
BR131	**Keskin Array S**	**32.74**	**293**		P		**P**	**11 08 28.7**	**+1.3**	
BR131					IAmb		IAmb	11 08 33.4		
	comp=Z,156nm,0.8s									
BR131	**Keskin Array S**	**32.74**	**293**		P		**P**	**11 08 28.7**	**+1.3**	
BR131					pmax		pmax			
	comp=Z,156nm,0.9s									
BRTR	**Keskin Array B**	**32.74**	**293**		P		**P**	**11 08 28.6**	**+1.3**	
BRTR	**Keskin Array B**	**32.74**	**293**		P		**P**	**11 08 28.2**	**+0.8**	
	comp=Z,82nm,0.8s,baz=105,slow=7.9,SNR=273									
BRTR					S		**S**	**11 13 45.2**	**+1.6**	
	comp=Z,2.0nm,0.9s,baz=93,slow=7.2,SNR=0.9									
BRTR					LR		LR	11 23 56.6		
	comp=Z,3μm,19.8s,baz=94,slow=40									
	comp=Z,82nm,0.8s									
BR106	**Keskin Array S**	**32.76**	**293**		P		**P**	**11 08 28.7**	**+1.2**	
	comp=Z,914nmcomp=Z,129nm,0.9s									
BR105	**Keskin Array S**	**32.76**	**293**		P		**P**	**11 08 28.9**	**+1.4**	
	comp=Z,995nmcomp=Z,148nm,0.8s									
GULI	**GuiLin**	**32.79**	**94**		P		**P**	**11 08 28.6**	**+0.8**	
GULI					PP		**PnPn**	**11 09 32.9**	**-3.3**	
GULI					S		**S**	**11 13 40.0**	**-4.3**	
GULI					LR		LR			
	comp=Z,33μm,15.2s									
GULI					LR		LR			
	comp=Z,15μm,15.2s									
GULI					LR		LR			
	comp=Z,18μm,13.6s									
EIL	**Elat**	**33.15**	**275**		LR		LR	11 24 17.2		
	comp=Z,26μm,18.1s,baz=76,slow=40									
CSS	**Mathiatis**	**33.38**	**285**		P		**P**	**11 08 33.7**	**+0.8**	
ANTO	**Ankara**	**33.39**	**294**		P		**P**	**11 08 34.3**	**+1.3**	
ANTO	**Ankara**	**33.39**	**294**		P		**P**	**11 08 34.3**	**+1.3**	
ANTO	**Ankara**	**33.39**	**294**	⇑	P		**P**	**11 08 34.7**	**+1.8**	
ANTO	**Ankara**	**33.39**	**294**		P		**P**	**11 08 34.3**	**+1.3**	
ANTO						pmax	pmax			
	comp=Z,59nm,1.0s									
ANTO	**Ankara**	**33.39**	**294**		P		**P**	**11 08 34.5**	**+1.6**	
	comp=Z,489nmcomp=Z,42nm,1.0s									

CNSH pmax pmax
comp=Z,51nm,1.6s
CNSH LR LR
comp=Z,49µm,15.7s
CNSH LR LR
comp=Z,12µm,18.6s
CNSH LR LR
comp=Z,22µm,13.6s
OBN Obninsk 34.01 322 P **P** **11 08 37.5 -0.5**
OBN Obninsk 34.01 322 S **S** **11 13 59.1 -3.5**
comp=Z,19nm,0.5s,baz=90,slow=20,SNR=1.4
OBN LR LR 11 23 15.3
comp=Z,8µm,18.8s,baz=64,slow=38
OBN Obninsk 34.01 322 ⇑P **P** **11 08 38.4 +0.4**
OBN Obninsk 34.01 322*c i*P **P** **11 08 37.7 -0.3**
OBN *e* 11 09 55.3
OBN *i* S **S** **11 14 01.1 -1.5**
OBN pmax pmax
comp=Z,134nm,0.9s
OBN MLR MLR
comp=Z,8µm,15.0s
OBN Obninsk 34.01 322 P **P** **11 08 37.4 -0.6**
comp=Z,4µmcomp=Z,264nm,0.9s
CIT Chita 34.37 45 *e*P **P** **11 08 41.8 +0.5**
CIT *e* 11 10 19.8
CIT *e* 11 11 21.2
CIT *e* 11 14 10.0
CIT *e* 11 14 19.8
CIT *e* 11 16 13.0
CIT pmax pmax
comp=Z,755nm,2.6s
WHN Wuhan 34.47 83 P **P** **11 08 42.9 +0.6**
WHN sP **sP** **11 08 49.5 +0.6**
WHN S **S** **11 14 10.0 -0.2**
WHN pmax pmax
comp=Z,700nm,2.1s
WHN LR LR
comp=Z,39µm,9.7s
WHN LR LR
comp=Z,48µm,11.9s
WHN LR LR
comp=Z,69µm,12.6s
XLT XiLinHaoTe 34.54 59 *e*P **P** **11 08 44.6 +1.7**
XLT pP sP 11 08 49.3 -0.2
XLT PP **PP** **11 10 03.8 +2.7**
XLT S **S** **11 14 13.4 +2.2**
XLT pmax pmax
comp=Z,260nm,1.3s
XLT pmax pmax
comp=Z,1µm,3.5s
XLT LR LR
comp=Z,1µm,12.5s
XLT LR LR
comp=Z,10µm,14.0s
XLT LR LR
comp=Z,10µm,11.5s
BJT Baijiatuau 34.55 66 P **P** **11 08 44.0 +1.1**
BJT Baijiatuau 34.55 66 P **P** **11 08 44.3 +1.4**
BJT Baijiatuau 34.55 66 P **P** **11 08 44.0 +1.1**
BJT pmax pmax
comp=Z,52nm,0.8s
BJI Beijing 34.55 66 P **P** **11 08 44.3 +1.4**
BJI pP **pP** **11 08 48.5 +0.9**
BJI PP **PnPn** **11 09 59.0 +0.8**
BJI PcP **PcP** **11 11 17.8 +0.3**
BJI S **S** **11 14 10.3 -1.0**
BJI ScP **ScP** **11 15 02.1 -0.1**
BJI pmax pmax
comp=Z,34nm,1.0s
BJI pmax pmax
comp=Z,560nm,7.8s
BJI LR LR
comp=Z,9µm,11.4s
BJI LR LR
comp=Z,6µm,13.5s
BJI LR LR
comp=Z,10µm,12.8s
MDUB Mudurnu 34.60 295 P **P** **11 08 44.4 +0.9**
MDUB IAmb IAmb 11 09 14.5
comp=Z,78nm,0.8s
SAHE Sakarya_HENDEK 34.85 295 ⇑P **P** **11 08 47.3 +1.8**
NE56 Odesa 35.13 306 P **P** **11 08 47.7 -0.1**
QIZ Qiongzhong 35.14 104 IAmb IAmb 11 09 09.6
comp=Z,218nm,1.7s
QIZ Qiongzhong 35.14 104 P **P** **11 08 45.5 -2.8**
QIZ PP **PnPn** **11 10 06.8 +0.9**
QIZ S **S** **11 14 19.5 -1.3**
QIZ pmax pmax
comp=Z,690nm,4.0s
QIZ LR LR
comp=Z,10µm,12.5s
QIZ LR LR
comp=Z,7µm,13.2s
QIZ LR LR
comp=Z,9µm,10.3s
QIZ Qiongzhong 35.14 104 P **P** **11 08 49.2 +0.9**
LHMI Lhok Sumawe 35.15 137 P **P** **11 08 48.2 0.0**
LHMI Lhok Sumawe 35.15 137 P **P** **11 08 48.9 +0.7**
LHMI Lhok Sumawe 35.15 137 P **P** **11 08 47.6 -0.6**
ISP Isparta 35.28 290*ce*P **P** **11 08 50.2 +0.8**
ISP pmax pmax
comp=Z,51nm,1.3s
ATD Arta Tunnel 35.49 240 P **P** **11 08 54.3 +2.9**
ATD Arta Tunnel 35.49 240 LR LR 11 24 44.5
comp=Z,87nm,20.2s,baz=38,slow=39
ATD Arta Tunnel 35.49 240 P **P** **11 08 54.5 +3.2**
SNR=18
MLSI Meulaboh, Aceh 35.63 139 P **P** **11 08 49.3 -3.1**
TIA Tai'an 35.63 73 P **P** **11 08 52.6 +0.3**
TIA S **S** **11 14 27.8 -0.2**
TIA pmax pmax
comp=Z,33nm,1.1s
TIA pmax pmax
comp=Z,770nm,3.5s
TIA LR LR
comp=Z,31µm,13.4s
TIA LR LR
comp=Z,7µm,13.1s
TIA LR LR
comp=Z,22µm,11.7s
SILT Sile 35.76 296 ⇓P **P** **11 08 55.0 +1.7**
PURM Purcari 35.82 305 ⇑P **P** **11 08 56.0 +2.3**
ELL Elmali 35.89 288 P **P** **11 08 56.1 +1.4**
ELL Elmali 35.89 288 P **P** **11 08 56.1 +1.4**
ELL pmax pmax
comp=Z,335nm,0.6s
GZH Guangzhou 36.16 96 P **P** **11 08 56.6 -0.3**
GZH S **S** **11 14 33.8 -2.5**
GZH LR LR
comp=Z,18µm,15.1s
GZH LR LR
comp=Z,11µm,12.4s
GZH LR LR
comp=Z,26µm,12.7s
AKAS Kas 36.20 288 P **P** **11 08 57.2 -0.1**
AKAS IAmb IAmb 11 09 06.7
comp=Z,151nm,0.7s
KSL Kastellorizon 36.23 288 P **P** **11 08 56.9 -0.6**
JURR Jurilovca 36.37 302 ⇑P **P** **11 09 00.3 +1.8**
MILM Milestii Mici 36.58 306 ⇓P **P** **11 09 00.9 +0.6**
MILM Milestii Mici 36.58 306 ⇑P **P** **11 09 00.3 0.0**
comp=Z,540nm,1.2s
MILM *i* S **S** **11 14 41.0 -1.3**
MILM *eL* L 11 23 56.0
MILM LRM MLR 11 26 32.0
comp=Z,6µm,13.7s
MILM Milestii Mici 36.58 306*c i*P **P** **11 09 00.3 0.0**
MILM *i* S **S** **11 14 41.0 -1.3**
MILM pmax pmax
comp=Z,540nm,1.2s
MILM MLR MLR
comp=Z,6µm,13.7s
KIS Kishinev 36.59 306 ⇑*i*P **P** **11 09 01.0 +0.7**
comp=Z,700nm,3.8s
KIS *eS* S 11 14 12.0 -30
KIS LQM 11 23 18.0
comp=Z,4µm,18.0s
KIS LRM MLR 11 26 38.0
comp=Z,2µm,18.5s
KIS Kishinev 36.59 306*c i*P **P** **11 09 01.0 +0.7**
KIS *eS* **S** **11 14 42.0 -0.4**
KIS pmax pmax
comp=Z,700nm,3.8s
TIRR Tirgusor 36.69 302 P **P** **11 09 02.1 +0.9**
TIRR Tirgusor 36.69 302 ⇑P **P** **11 09 02.6 +1.4**
TIRR Tirgusor 36.69 302 P **P** **11 09 02.1 +0.9**
TIRR pmax pmax
comp=Z,175nm,1.6s
TIRR Tirgusor 36.69 302 P **P** **11 09 02.1 +0.9**
comp=Z,2µmcomp=Z,71nm,2.3s
TPGR Topolog 36.70 302 ⇓P **P** **11 09 03.3 +1.9**
MANT Manisa 36.76 292 P **P** **11 09 03.1 +0.9**
CTYL Yalikoy Yolu 36.77 297 ⇑P **P** **11 09 04.5 +2.6**
AK09 Malin Array Si 36.82 312 P **P** **11 09 02.1 -0.2**
AK10 Malin Array Si 36.84 312 P **P** **11 09 02.4 0.0**
AK08 Malin Array Si 36.84 312 P **P** **11 09 02.4 -0.1**
PSN Preselentsi 36.87 300 P **P** **11 09 03.5 +0.7**
AKASG Malin Array Be 36.88 312 P **P** **11 09 02.0 -0.7**
AKASG Malin Array Be 36.88 312 P **P** **11 09 02.2 -0.6**
comp=Z,33nm,0.6s,baz=86,slow=8.2,SNR=17.4
AKASG PP **PP** **11 10 27.4 +0.7**
comp=Z,20nm,0.7s,baz=90,slow=9.3,SNR=5.3
AKASG S **S** **11 14 43.2 -3.6**
comp=Z,2.0nm,0.8s,baz=99,slow=10,SNR=1.6
AKASG ScP **ScP** **11 15 08.0 -2.5**
comp=Z,8.9nm,1.0s,baz=84,slow=3.8,SNR=3.9
AKASG LR LR 11 26 17.6
comp=Z,9µm,19.1s,baz=104,slow=40
comp=Z,33nm,0.6s
AKBB Malin Array Si 36.88 312 P **P** **11 09 02.4 -0.3**
AKBB Malin Array Si 36.88 312 P **P** **11 09 02.4 -0.3**
AKBB pmax pmax
comp=Z,82nm,0.8s
AKBB Malin Array Si 36.88 312 P **P** **11 09 02.1 -0.6**
AK01 Malin Array Si 36.88 312 P **P** **11 09 02.3 -0.5**
AK03 Malin Array Si 36.88 312 P **P** **11 09 02.2 -0.6**
KIEV Kiev 36.89 312 P **P** **11 09 02.2 -0.6**
KIEV Kiev 36.89 312 ⇓P **P** **11 09 03.1 +0.3**
KIEV Kiev 36.89 312 *i*P **P** **11 09 02.0 -0.8**
SNR=57
KIEV Kiev 36.89 312 P **P** **11 09 02.2 -0.6**
KIEV pmax pmax
comp=Z,72nm,0.7s
KIEV Kiev 36.89 312 P **P** **11 09 01.8 -1.0**
comp=Z,9µmcomp=Z,472nm,1.8s
AK11 Malin Array Si 36.91 312 P **P** **11 09 02.5 -0.5**
CFR Carcaliu 36.92 303 ⇓P **P** **11 09 05.1 +2.0**
CFR Carcaliu 36.92 303 P **P** **11 09 05.1 +2.0**
BAND Balkesir-Ban 36.97 295 ⇑P **P** **11 09 05.1 +1.5**
VLDR Vladesti 37.00 304 ⇑P **P** **11 09 06.2 +2.3**
TATR Tatarca 37.00 303 ⇑P **P** **11 09 06.2 +2.3**
KCSI Kotacane, Aceh 37.01 137 P **P** **11 09 01.0 -3.2**
SORM Soroca 37.03 308 ⇓P **P** **11 09 05.0 +0.9**
SORM Soroca 37.03 308 P **P** **11 09 05.0 +0.9**
HARR Harsova 37.04 302 ⇑P **P** **11 09 06.3 +2.1**
HARR Harsova 37.04 302 P **P** **11 09 06.3 +2.1**
SCTR Scanteiesti 37.05 304 ⇓P **P** **11 09 06.6 +2.4**
ICOR Ion Corvin 37.12 301 ⇑P **P** **11 09 07.1 +2.2**
SNSI Sinabang, Aceh 37.13 140 P **P** **11 09 05.7 +0.5**
HKPS Hong Kong Po S 37.17 96 P **P** **11 09 04.7 -0.9**
HKPS IAmb IAmb 11 09 12.6
comp=Z,177nm,1.2s
HKPS Hong Kong Po S 37.17 96 P **P** **11 09 05.5 -0.1**
VASR Vaslui 37.26 305 ⇓P **P** **11 09 07.8 +1.8**
KULM Kulim 37.32 132 P **P** **11 09 06.5 -0.3**
KULM Kulim 37.32 132 P **P** **11 09 07.3 +0.5**
ARG Arkhangelos 37.39 288 P **P** **11 09 07.6 +0.3**
ARG IAmb IAmb 11 09 12.6
comp=Z,294nm,1.4s
ARG Arkhangelos 37.39 288 P **P** **11 09 08.9 +1.6**
ARG Arkhangelos 37.39 288 P **P** **11 09 07.6 +0.3**
ARG pmax pmax
comp=Z,294nm,1.4s
PRD Provadia 37.39 299 *i*P **P** **11 09 09.1 +1.9**
TSI Tuntungan 37.48 136 P **P** **11 09 06.1 -2.1**
comp=Z,105nm,0.7s
GHRR 37.48 304 P **P** **11 09 10.2 +2.3**
HIA Hailar 37.60 51 IAmb IAmb 11 09 11.9
comp=Z,229nm,1.5s
HIA Hailar 37.60 51 P **P** **11 09 10.7 +1.7**
PANC Panciu 37.65 304 ⇑P **P** **11 09 11.7 +2.4**
LUBAR Lubar, Ukraine 37.67 310 P **P** **11 09 09.2 -0.3**
MI29 MI29, Kamyanyy 37.69 311 P **P** **11 09 09.5 -0.1**
comp=Z,16µmcomp=Z,740nm,0.7s
NJ2 Nanjing 37.83 79 ⇓P **P** **11 09 11.6 +0.6**
NJ2 sP **pP** **11 09 16.0 +0.2**
NJ2 PP **PnPn** **11 10 44.3 +5.7**
NJ2 S **S** **11 15 00.6 -1.0**
NJ2 ScS **ScS** **11 19 24.0 +0.6**
NJ2 pmax pmax
comp=Z,36nm,1.2s
NJ2 pmax pmax
comp=Z,400nm,3.9s
NJ2 LR LR
comp=Z,14µm,9.9s
NJ2 LR LR
comp=Z,11µm,10.4s
NJ2 LR LR
comp=Z,12µm,10.0s
MI28 MI28,Pidlybu 37.89 312 P **P** **11 09 10.9 -0.4**
VRI Vrincioaia 37.94 304 ⇑P **P** **11 09 14.1 +2.2**
VRI Vrincioaia 37.94 304 P **P** **11 09 14.1 +2.2**
VRI Vrincioaia 37.94 304 P **P** **11 09 13.9 +2.0**
comp=Z,4µmcomp=Z,253nm,1.2s
PLOR5 Plostina Array 37.99 304 P **P** **11 09 14.6 +2.3**
comp=Z,5µmcomp=Z,577nm,0.9s
LOZB Loznitsa 37.99 300 ⇓P **P** **11 09 13.8 +1.5**
PLOR Plostina 38.00 304 ⇓P **P** **11 09 15.1 +2.7**
PLOR Plostina 38.00 304 P **P** **11 09 15.1 +2.7**
TESR Tescani 38.03 305 ⇑P **P** **11 09 14.3 +1.6**
TESR Tescani 38.03 305 P **P** **11 09 13.9 +1.3**
comp=Z,3µmcomp=Z,210nm,0.9s
ISR Istrita 38.04 303 ⇓P **P** **11 09 15.6 +2.8**
ISR Istrita 38.04 303 P **P** **11 09 15.6 +2.8**
ISR Istrita 38.04 303 P **P** **11 09 14.5 +1.7**
comp=Z,6µmcomp=Z,408nm,1.2s
RAZG Razgrad 38.05 300 ⇑P **P** **11 09 14.4 +1.6**
JMB Yambol 38.05 298 *i*P **P** **11 09 15.0 +2.2**
JMB Yambol 38.05 298 P **P** **11 09 13.8 +1.0**
DLV Lat 38.11 115 P **P** **11 09 14.3 +0.4**
DLV IAmb IAmb 11 09 17.3
comp=Z,361nm,1.6s
DLV Lat 38.11 115 P **P** **11 09 15.4 +1.6**
IPM Ipoh 38.18 132 P **P** **11 09 13.1 -1.1**
IPM Ipoh 38.18 132 P **P** **11 09 13.6 -0.6**
SMG Samos 38.20 291 P **P** **11 09 14.5 +0.4**
ONER Baraj Valea Uz 38.20 305 ⇓P **P** **11 09 16.8 +2.8**
NEHR Nehoiu 38.23 303 ⇑P **P** **11 09 17.2 +2.9**
PSI Prapat 38.25 137 LR LR 11 25 24.7
comp=Z,7µm,20.8s,baz=318,slow=37
KARP Karpathos 38.27 287 P **P** **11 09 15.5 +0.7**
KARP Karpathos 38.27 287 P **P** **11 09 15.1 +0.3**
KARP Karpathos 38.27 287 *eP* **P** **11 09 15.6 +0.7**
KARP Karpathos 38.27 287 P **P** **11 09 15.7 +0.9**
comp=Z,5µmcomp=Z,624nm,0.8s
COVR Voineasa-Covas 38.31 304 ⇑P **P** **11 09 17.1 +2.1**
KMPD K-Podol'skiy 38.33 308 P **pP** **11 09 15.2 -4.6**
KMPD P **P** **11 09 14.8 -0.3**
EZN Ezine 38.36 294 P **P** **11 09 16.2 +0.8**
EZN Ezine 38.36 294 ⇓P **P** **11 09 17.3 +1.9**
EZN Ezine 38.36 294 P **P** **11 09 17.3 +1.9**
HORU Horodok 38.43 309 P **P** **11 09 16.0 +0.1**
SZH Strazhitsa 38.44 300 *i*P **P** **11 09 18.0 +1.9**
SZH Strazhitsa 38.44 300 P **P** **11 09 16.8 +0.7**
PRK Paraskevi 38.46 293 P **P** **11 09 16.8 +0.6**
MLR Muntele Rosu 38.48 303 P **P** **11 09 18.9 +2.4**
MLR Muntele Rosu 38.48 303 LR LR 11 29 16.0
comp=Z,11µm,18.2s,baz=58,slow=43
MLR Muntele Rosu 38.48 303 ⇓P **P** **11 09 19.3 +2.8**
MLR Muntele Rosu 38.48 303 P **P** **11 09 18.9 +2.4**
MLR pmax pmax
comp=Z,663nm,0.9s
ALN Alexandroupoli 38.49 296 P **P** **11 09 18.0 +1.5**
ALN Alexandroupoli 38.49 296 P **P** **11 09 17.0 +0.5**
ALN Alexandroupoli 38.49 296 P **P** **11 09 18.0 +1.5**
ALN pmax pmax
comp=Z,87nm,1.2s
ELND Elena 38.52 299 ⇓P **P** **11 09 19.3 +2.6**
MNK Minsk 38.53 318 *i*P **P** **11 09 14.9 -1.8**
comp=E,30nm,0.9s
MNK *i*P **P** **11 09 14.9 -1.8**
comp=N,78nm,1.1s
MNK *i*P **P** **11 09 14.9 -1.8**
comp=Z,72nm,0.8s,baz=104
MNK *i*PP **PP** **11 10 43.2 -1.6**
MNK *i*PPP PPP 11 11 02.8
MNK *i*S **S** **11 15 11.6 -0.2**
MNK *i*SS **SnSn** **11 17 59.8 +1.1**
MNK *i*SSS SSS 11 18 17.0
MNK *i*LQ LQ 11 23 19.5
MNK *i*LR LR 11 25 12.8
MNK *i*LRM MLR 11 26 52.1
comp=Z,11µm,15.8s
MNK *i*LRM MLR 11 27 34.8
comp=E,7µm,14.5s
MNK *i*LRM MLR 11 28 42.6
comp=N,10µm,15.8s
MNK Minsk 38.53 318 *i*P **P** **11 09 14.9 -1.8**
MNK *i* 11 10 43.2
MNK *i*S **S** **11 15 11.5 -0.2**
MNK *i*SS **SnSn** **11 17 59.8 +1.1**
MNK *i* 11 19 25.8
MNK pmax pmax
comp=E,30nm,0.9s
MNK pmax pmax
comp=Z,72nm,0.8s
MNK pmax pmax
comp=N,78nm,1.1s
MNK MLR MLR
comp=E,7µm,14.0s
MNK MLR MLR
comp=Z,11µm,16.0s
MNK MLR MLR
comp=N,10µm,16.0s
OZUR 38.61 304 ⇑P **P** **11 09 19.3 +1.8**
GADA Gvkgeada 38.66 295 P **P** **11 09 18.7 +0.8**
CHOS Chios island 38.72 292 P **P** **11 09 18.5 -0.1**
GSI Gunungsitoli 38.73 140 P **P** **11 09 19.5 +0.7**
GSI Gunungsitoli 38.73 140 P **P** **11 09 19.5 +0.7**
GSI Gunungsitoli 38.73 140 P **P** **11 09 19.0 +0.2**
comp=N,9µmcomp=N,336nm,1.0s
SIGR SIGRI 38.78 293 P **P** **11 09 18.4 -0.6**
DL2 Dalian 38.84 67 P **P** **11 09 19.4 -0.1**
DL2 PP **PnPn** **11 10 53.8 +3.1**
DL2 S **S** **11 15 16.0 -0.8**
DL2 SS **SnSn** **11 17 54.1 -13**
DL2 pmax pmax
comp=N,87nm,1.7s
DL2 pmax pmax
comp=N,1µm,8.0s
DL2 LR LR
comp=N,12µm,14.3s
DL2 LR LR
comp=N,18µm,13.9s
DL2 LR LR
comp=N,17µm,14.1s
RDO Rodhopi 38.86 296 P **P** **11 09 21.2 +1.6**
RDO Rodhopi 38.86 296 P **P** **11 09 20.1 +0.5**
DOPR Dopca 38.88 304 ⇑P **P** **11 09 21.8 +2.0**
SMTH Samothraki Isl 38.91 295 P **P** **11 09 20.3 +0.2**
KDZ Kurdzhali 38.97 297 P **P** **11 09 20.7 +0.1**
PUL Pulkovo 39.01 326*ce*P **P** **11 09 21.0 +0.4**
PUL pmax pmax
comp=Z,241nm,1.1s
PUL MLR MLR
comp=Z,5µm,13.0s
RNPP5 Staryi Chortor 39.05 312 P **P** **11 09 21.1 0.0**
RNPP2 Kostyukhnivka 39.06 312 P **P** **11 09 21.5 +0.3**
RNPP9 Sopachiv 39.07 313 P **P** **11 09 21.3 0.0**
BURAR Bucovina Array 39.08 306 P **P** **11 09 22.3 +0.8**
BURAR Bucovina Array 39.08 306 ⇓P **P** **11 09 23.7 +2.2**
BURAR Bucovina Array 39.08 306 P **P** **11 09 23.7 +2.2**
RNPP8 Varash 39.08 312 P **P** **11 09 21.4 0.0**
MTUR Matau 39.09 303 ⇓P **P** **11 09 23.9 +2.3**
MTUR Matau 39.09 303 P **P** **11 09 23.9 +2.3**
BUR08 Bucovina Ar. S 39.09 307 P **P** **11 09 21.9 +0.2**
VOIR 39.10 303 ⇑P **P** **11 09 24.2 +2.5**
VOIR 39.10 303 P **P** **11 09 24.2 +2.5**
VOIR 39.10 303 P **P** **11 09 23.2 +1.5**
comp=Z,2µmcomp=Z,123nm,0.7s
LIA Limnos Island 39.23 294 P **P** **11 09 23.0 +0.2**
KSV Kosov 39.23 308 P **P** **11 09 22.5 -0.2**
NACGM Naroch 39.25 318⇑*i*P **P** **11 09 22.6 -0.1**
comp=Z,67nm,0.8s,baz=104
APE Apeiranthos 39.32 290 ⇓P **P** **11 09 24.8 +1.2**
APE Apeiranthos 39.32 290 *i*P **P** **11 09 24.1 +0.5**
APE pmax pmax
comp=Z,29nm,0.8s
APE MLR MLR
comp=Z,4µm,15.0s
PLD Plovdiv 39.38 298 P **P** **11 09 25.1 +1.1**
ARR Arges 39.40 303 ⇑P **P** **11 09 26.3 +2.1**
RZN Rozhen 39.42 297 *i*P **P** **11 09 26.1 +1.6**
PLVB Pleven 39.42 300 ⇑P **P** **11 09 26.8 +2.5**
THAS Thassos island 39.52 295 P **P** **11 09 24.9 -0.2**
KAVA Kavala 39.64 296 P **P** **11 09 26.4 +0.3**
STNU Starunia 39.64 308 P **P** **11 09 26.4 +0.3**
ISAL Salakas 39.78 319 *eP* **P** **11 09 28.4 +1.2**
RAKU Rahkiv 39.81 307 P **P** **11 09 28.3 +0.8**
QZH Quanzhou 39.82 90 P **P** **11 09 27.3 -0.6**
QZH S **S** **11 15 29.0 -2.8**
QZH LR LR
comp=Z,37µm,15.5s
QZH LR LR
comp=Z,15µm,15.1s
QZH LR LR
comp=Z,26µm,16.5s
JOF Joensuu 39.96 331 *e*P **P** **11 09 28.7 +0.3**
SSE Sheshan 40.00 80 P **P** **11 09 28.4 -0.8**
SSE pP **pP** **11 09 31.0 -3.0**
SSE PP **PP** **11 11 00.9 -0.3**
SSE S **S** **11 15 33.8 -0.5**
SSE SS **SS** **11 18 26.5 -4.8**
SSE pmax pmax
comp=Z,17nm,0.7s
SSE pmax pmax
comp=Z,350nm,5.8s
LOT Lotru 40.01 303 ⇓P **P** **11 09 30.8 +1.5**
KARY Karystos 40.03 291 P **P** **11 09 29.7 +0.2**
LVV L'vov 40.05 310 P **P** **11 09 30.2 +0.8**
SNY Shenyang 40.06 63 ⇑P **P** **11 09 29.8 +0.2**
SNY S **S** **11 15 34.8 -0.2**
SNY pmax pmax
comp=Z,72nm,0.8s
SNY pmax pmax
comp=Z,1µm,3.9s
SNY LR LR
comp=Z,11µm,12.0s
SNY LR LR
comp=Z,8µm,13.1s
SNY LR LR
comp=Z,12µm,11.1s
MPEP Malo Peshtene 40.07 300 *i*P **P** **11 09 32.1 +2.4**
MORS Morshin 40.07 309 P **P** **11 09 30.7 +1.0**
OUR Ouranopolis 40.10 295 P **P** **11 09 30.0 0.0**
IDI Anoyia 40.14 287 P **P** **11 09 30.8 +0.3**
IDI IAmb IAmb 11 09 36.0
comp=Z,241nm,1.5s
CJR Cluj-Napoca 40.14 305 ⇓P **P** **11 09 32.7 +2.3**
CJR Cluj-Napoca 40.14 305 P **P** **11 09 32.6 +2.3**
MMB Musomishta 40.17 297 *i*P **P** **11 09 31.7 +1.1**
MMB Musomishta 40.17 297 P **P** **11 09 31.7 +1.1**
CBBR Cluj-Babes-Bol 40.18 305 ⇓P **P** **11 09 32.4 +1.8**
KYMI Kymi, Euboea I 40.21 292 P **P** **11 09 31.1 +0.1**
PBSI Pulau Batu 40.24 140 P **P** **11 09 32.2 +0.8**
BMR Baia Mare 40.25 306 ⇓P **P** **11 09 33.2 +2.0**
BMR Baia Mare 40.25 306 P **P** **11 09 33.1 +2.0**
MNSI Mandailing Nat 40.26 138 P **P** **11 09 31.3 -0.2**
comp=Z,4µmcomp=Z,6µmcomp=Z,348nm,0.8s
VSU Vasula 40.27 324 *eP* **P** **11 09 29.5 -1.6**
VSU Vasula 40.27 324*ce*P **P** **11 09 28.8 -2.3**
VSU pmax pmax
comp=Z,161nm,1.3s
VSU MLR MLR
comp=Z,5µm,17.0s
VALD Valchedram 40.28 300 *e*P **P** **11 09 33.9 +2.5**
MEZ Mezhgor'ye 40.28 308 P **P** **11 09 32.6 +1.2**
FURI Furi 40.29 241 LR LR 11 27 40.7
comp=Z,3µm,20.7s,baz=40,slow=38
AOS Alonnisos 40.31 293 P **P** **11 09 31.8 +0.1**
SRS Serrai 40.32 296 P **P** **11 09 32.4 +0.5**
PLNA Plana 40.34 298 *i*P **P** **11 09 34.2 +2.1**
PAIG Paliouri 40.38 295 P **P** **11 09 32.9 +0.6**
SRE Strehaia 40.41 302 ⇓P **P** **11 09 34.5 +2.0**
SRE Strehaia 40.41 302 P **P** **11 09 34.5 +2.0**
DION Dionisos Attik 40.42 292 P **P** **11 09 33.4 +0.7**
MARR Marisel-Cluj 40.47 305 ⇑P **P** **11 09 35.0 +1.9**
VTS Vitosha 40.48 299 *i*P **P** **11 09 35.1 +1.8**
PTL Penteli 40.48 292 P **P** **11 09 34.1 +0.8**
KORU Korolevo 40.51 307 P **P** **11 09 34.7 +1.4**
SOH Sokhos 40.53 296 P **P** **11 09 34.2 +0.6**

ATHU	Athens Univers	40.55	291		P		P	11 09 34.5	+0.7	
VLY	Voula,Athens	40.56	291		P		P	11 09 34.0	+0.1	
BRIU	Brid	40.60	307		P		P	11 09 35.3	+1.3	
KKB	Krupnik	40.61	297	*i*	P		P	11 09 35.9	+1.7	
KKB	Krupnik	40.61	297		P		P	11 09 35.1	+0.9	
PUNG	Punghina	40.62	301	⇓	P		P	11 09 36.2	+2.0	
GZR	Gura Zlata	40.70	303	⇑	P		P	11 09 36.2	+1.2	
GZR	Gura Zlata	40.70	303		P		P	11 09 36.2	+1.2	
HORT	Hortiatis	40.74	296		P		P	11 09 35.8	+0.4	
DRGR		40.76	305		P		P	11 09 36.8	+1.4	
MUKU	Mukachevo	40.83	308		P		P	11 09 37.4	+1.5	
KNT	Kendrikon	40.84	296		P		P	11 09 36.2	0.0	
BERU	Beregovo	40.84	307		P		P	11 09 37.4	+1.4	
THE	Thessaloniki	40.84	296		P		P	11 09 36.4	+0.3	
KWP	Kalwaria Pacla	40.88	309	*e*	P		P	11 09 37.0	+0.6	
KWP					eS		S	11 15 47.9	+0.7	
KWP	Kalwaria Pacla	40.88	309		P		P	11 09 37.4	+1.0	
	comp=Z,3µmcomp=Z,181nm,0.9s									
VILL	Villia	40.89	292		P		P	11 09 38.0	+1.3	
ARBE	Arbavere	40.95	325	*e*	P		P	11 09 36.6	-0.1	
PABE	Paberze	40.96	319		P		P	11 09 36.9	0.0	
PABE					IAmb		IAmb	11 09 38.2		
	comp=Z,370nm,1.5s									
PABE	Paberze	40.96	319	*e*	P		P	11 09 36.8	0.0	
HERR	Herculane	40.97	302	⇓	P		P	11 09 39.6	+2.5	
HOLU	Holmets	41.03	308		P		P	11 09 38.9	+1.3	
ATAL	Atalanti	41.04	293		P		P	11 09 37.4	-0.5	
LKR	Lokris	41.06	293		P		P	11 09 37.4	-0.6	
VAY	Valandovo	41.07	297	*i*	P		P	11 09 39.2	+1.2	
KOLS	Kolonicke sedl	41.12	308	*e*	P		P	11 09 39.9	+1.5	
KOLS					pmax		pmax			
	comp=Z,55nm,0.7s									
SUW	Suwalki	41.12	316	*e*	P		P	11 09 37.8	-0.4	
SUW					eS		S	11 15 49.3	-1.3	
SURR	Surduc	41.16	304	⇑	P		P	11 09 40.9	+2.2	
LIT	Litokhoron	41.26	295		P		P	11 09 39.8	+0.2	
LIT	Litokhoron	41.26	295		P		P	11 09 38.9	-0.8	
LIT	Litokhoron	41.26	295		P		P	11 09 39.8	+0.2	
LIT					pmax		pmax			
	comp=Z,51nm,1.0s									
CN2	Changchun	41.31	59	⇑	P		P	11 09 40.4	+0.5	
CN2					sP		sP	11 09 47.0	+0.4	
CN2					S		S	11 15 52.6	-1.0	
CN2					pmax		pmax			
	comp=Z,60nm,1.1s									
CN2					pmax		pmax			
	comp=Z,1µm,4.0s									
CN2					LR		LR			
	comp=Z,9µm,11.0s									
CN2					LR		LR			
	comp=Z,7µm,11.0s									
CN2					LR		LR			
	comp=Z,5µm,11.0s									
AXAR	Agios Charalam	41.31	293		P		P	11 09 39.6	-0.5	
VLI	Veliai	41.43	290		P		P	11 09 39.8	-1.2	
LVZ	Lovozero	41.47	339		P		P	11 09 40.5	-0.5	
LVZ	Lovozero	41.47	339	*ce*	P		P	11 09 39.3	-1.7	
LVZ					pmax		pmax			
	comp=Z,143nm,1.7s									
LVZ					MLR		MLR			
	comp=Z,22µm,15.0s									
MDVR	Moldovita	41.47	302	⇑	P		P	11 09 43.1	+1.7	
SIRR	Siria	41.48	304	⇓	P		P	11 09 43.7	+2.4	
BKNI	Bangkinang	41.48	136		P		P	11 09 41.5	-0.1	
BKNI	Bangkinang	41.48	136		P		P	11 09 41.9	+0.3	
BKNI	Bangkinang	41.48	136		P		P	11 09 41.2	-0.4	
TYRN	Tyrnavos	41.51	294		P		P	11 09 40.8	-0.9	
BZS	Buzias	41.52	303	⇑	P		P	11 09 43.6	+1.9	
BZS	Buzias	41.52	303		P		P	11 09 43.5	+1.9	
AGG	Agios Georgios	41.53	293		P		P	11 09 41.2	-0.6	
BOVS	Bovan	41.53	300	⇑	P		P	11 09 43.6	+1.9	
FIA1	FINESS Array S	41.58	328		P		P	11 09 41.4	-0.5	
FIA1					IAmb		IAmb	11 09 42.1		
	comp=Z,184nm,0.9s									
FINES	FINESS Array B	41.58	328		P		P	11 09 41.2	-0.7	
FINES	FINESS Array B	41.58	328		P		P	11 09 41.1	-0.8	
	comp=Z,34nm,0.6s,baz=112,slow=7.9,SNR=96									
FINES					PP		PP	11 11 17.2	-0.7	
	comp=Z,41nm,0.8s,baz=110,slow=9.0,SNR=4.0									
FINES					S		S	11 15 56.4	-0.8	
	comp=Z,8.0nm,1.0s,baz=115,slow=20,SNR=1.7									
FINES					LR		LR	11 26 25.7		
	comp=Z,3µm,20.0s,baz=112,slow=36									
	comp=Z,34nm,0.6s									
APA	Apatity	41.66	338	⇓	*i*	P		P	11 09 37.4	-5.1
APA					*i*				11 11 15.3	
APA					*e*				11 11 39.3	
APA					*i*	S		S	11 15 50.8	-7.4
APA					pmax		pmax			
	comp=Z,26nm,1.1s									
APA					MLR		MLR			
	comp=Z,52µm,11.2s									
MAKR	Makrakomi, Fth	41.68	293		P		P	11 09 41.9	-1.2	
THL	Klokotos Trika	41.70	294		P		P	11 09 42.8	-0.4	
SISI	Saibi	41.75	140		P		P	11 09 44.6	+0.9	
	comp=Z,5µmcomp=Z,5µmcomp=Z,214nm,2.3s									
PPI	Padang Panjang	41.75	138		P		P	11 09 43.6	-0.2	
	comp=Z,3µmcomp=Z,5µmcomp=Z,263nm,1.0s									
KZN	Kozani	41.79	296		P		P	11 09 44.0	0.0	
SKO	Skopje	41.85	298	*i*	P		P	11 09 45.5	+1.0	
ANX	Ano Chora	41.91	293		P		P	11 09 43.9	-1.2	
EVR	Evrytania	41.95	293		P		P	11 09 44.8	-0.5	
MEF	Metsahovi	41.95	326	*e*	P		P	11 09 44.9	-0.1	
PYAG	Pyongyang	42.02	67		P		P	11 09 45.5	-0.3	
PYAG					S		S	11 16 02.3	-1.9	
PYAG					AmB					
	comp=Z,976nm,3.1s									
PYAG					AMS		AMS			
	comp=Z,10µm,12.3s									
MYKOM	Kota Tinggi	42.03	131		IAmb		IAmb	11 09 48.0		
	comp=Z,180nm,1.2s									
MYKOM	Kota Tinggi	42.03	131		P		P	11 09 46.4	+0.3	
R9F13	Warsaw-Wawer	42.10	313	*e*	P		P	11 09 47.1	+0.8	
R9F13				*e*	PP		PP	11 11 23.3	-0.3	
R9F13					eS		S	11 16 08.6	+3.5	
ITM	Ithomi	42.14	291		P		P	11 09 47.6	+0.7	
HJU	Haeju	42.15	68		P		P	11 09 46.6	-0.3	
HJU					S		S	11 16 03.9	-2.3	
HJU					AmB					
	comp=Z,1µm,2.3s									
HJU					AMS		AMS			
	comp=Z,17µm,13.0s									
PDSI	Padang	42.16	138		P		P	11 09 46.3	-0.9	
	comp=Z,5µmcomp=Z,412nm,0.9s									
DRO	Drossia	42.17	292		P		P	11 09 46.5	-0.6	
PBUR	Paburge	42.19	319	*e*	P		P	11 09 47.0	+0.1	
MSF	Maaselka	42.25	335		P		P	11 09 44.2	-3.2	
SSLB	Suanglung	42.26	90		P		P	11 09 48.7	+0.7	
SSLB	Suanglung	42.26	90		P		P	11 09 50.0	+2.0	
YHNB	Yeheng	42.27	89		P		P	11 09 48.3	+0.2	
YHNB	Yeheng	42.27	89		P		P	11 09 49.8	+1.7	
PENT	Pentalofos	42.28	295		P		P	11 09 47.8	-0.2	
BEL	Belsk	42.28	313	*e*	P		P	11 09 47.9	+0.1	
BEL					eS		S	11 16 07.2	-0.6	
BTDF	Bukit Timah Da	42.31	132		P		P	11 09 49.0	+0.6	
SLIT	Slitere, Latvi	42.33	321	*e*	P		P	11 09 47.0	-1.0	
KEF	Keuruu	42.37	328	*e*	P		P	11 09 47.8	-0.5	
PRMD	Pramanda	42.40	294		P		P	11 09 49.5	+0.4	
OHR	Ohrid	42.42	297	*i*	P		P	11 09 49.9	+0.8	
NIE	Niedzica	42.44	309	*e*	P		P	11 09 50.6	+1.5	
NIE					eS		S	11 16 13.0	+2.7	
NIE	Niedzica	42.44	309		P		P	11 09 50.4	+1.2	
	comp=Z,1µmcomp=Z,74nm,1.4s									
KBN	Korca	42.49	296		P		P	11 09 49.0	-0.8	
BNX	BinXian	42.62	56	⇑	P		P	11 09 51.5	+0.9	
BNX					S		S	11 16 09.3	-3.6	
BNX					pmax		pmax			
	comp=Z,180nm,1.1s									
BNX					pmax		pmax			
	comp=Z,2µm,8.1s									
BNX					LR		LR			
	comp=Z,10µm,9.1s									
BNX					LR		LR			
	comp=Z,12µm,14.3s									
BNX					LR		LR			
	comp=Z,18µm,11.4s									
NACB	Ninganchiao	42.64	89		P		P	11 09 51.7	+0.7	
NACB					IAmb		IAmb	11 10 00.4		
	comp=Z,258nm,1.7s									
NACB	Ninganchiao	42.64	89		P		P	11 09 53.3	+2.3	
HEH	HeiHe	42.65	50	*e*	P		P	11 09 51.5	+0.7	
HEH					pP		pP	11 09 55.3	-0.2	
HEH					PP		PP	11 11 33.0	+3.5	
HEH					S		S	11 16 13.9	+0.7	
HEH					pmax		pmax			
	comp=Z,100nm,1.1s									
HEH					pmax		pmax			
	comp=Z,2µm,5.1s									
HEH					LR		LR			
	comp=Z,19µm,11.8s									
HEH					LR		LR			
	comp=Z,16µm,14.1s									
HEH					LR		LR			
	comp=Z,44µm,12.0s									
PSZ	Piszkesteto	42.68	307		P		P	11 09 52.4	+1.2	
PSZ	Piszkesteto	42.68	307	⇑	P		P	11 09 52.9	+1.7	
PSZ	Piszkesteto	42.68	307	*e*	P		P	11 09 52.9	+1.7	
PSZ	Piszkesteto	42.68	307		P		P	11 09 52.4	+1.2	
PSZ					pmax		pmax			
	comp=Z,74nm,0.8s									
YULB	Yu-li	42.70	90		P		P	11 09 51.4	-0.2	
YULB	Yu-li	42.70	90		P		P	11 09 54.0	+2.4	
TWG	Pinlang	42.75	91		IAmb		IAmb	11 10 01.8		
	comp=Z,338nm,1.5s									
TWGBT	Beinan	42.76	91		P		P	11 09 53.8	+1.8	
OJC	Ojcow	42.80	310	*e*	P		P	11 09 52.6	+0.6	
OJC					eS		S	11 16 11.4	-4.1	
OJC	Ojcow	42.80	310		P		P	11 09 52.3	+0.3	
OJC	Ojcow	42.80	310		P		P	11 09 52.3	+0.3	
OJC	Ojcow	42.80	310		P		P	11 09 52.2	+0.2	
	comp=Z,2µmcomp=Z,94nm,1.4s									
ZEA	Zeya	42.83	45	*e*	P		P	11 09 53.7	+1.5	
ZEA				*e*				11 11 45.1		
ZEA				*e*	S		S	11 16 20.0	+4.1	
ZEA					pmax		pmax			
	comp=E,30nm,2.1s									
ZEA					pmax		pmax			
	comp=N,20nm,2.2s									
ZEA					pmax		pmax			
	comp=Z,60nm,2.2s									
ZEA					pmax		pmax			
	comp=E,700nm,8.3s									
ZEA					pmax		pmax			
	comp=N,300nm,5.3s									
ZEA					pmax		pmax			
	comp=Z,1µm,8.5s									
ZEA					smax		smax			
	comp=N,1µm,11.5s									
ZEA					smax		smax			
	comp=E,2µm,12.3s									
ZEA					MLR		MLR			
	comp=E,6µm,12.0s									
ZEA					MLR		MLR			
	comp=Z,8µm,11.0s									
IVA	Berane	42.91	299	⇑	*i*	P	P	11 09 54.8	+1.7	
INCN	Inchon	42.95	69		P		P	11 09 53.2	-0.2	
INCN					IAmb		IAmb	11 10 00.5		
	comp=Z,244nm,1.6s									
INCN	Inchon	42.95	69		P		P	11 09 53.5	0.0	
INCN	Inchon	42.95	69		P		P	11 09 53.3	-0.2	
INCN					pmax		pmax			
	comp=Z,245nm,1.6s									
LANS	Liptovska Anna	42.98	309	*e*	P		P	11 09 55.8	+2.3	
LANS					pmax		pmax			
	comp=Z,19nm,0.7s									
OUL	Oulu	43.06	333		P		P	11 09 52.2	-1.7	
TPRI	Tanjung Pinang	43.13	131		P		P	11 09 55.7	+0.7	
	comp=Z,193nm,1.0s									
KOME	Kolasin	43.19	299	⇑	*i*	P	P	11 09 56.9	+1.5	
RUDO	Rudo	43.23	300	*e*	P		P	11 09 56.4	+0.8	
HHU	Hamhung	43.24	65		P		P	11 09 55.9	+0.1	
HHU					S		S	11 16 21.2	-1.0	
HHU					AmB					
	comp=Z,2µm,3.1s									
HHU					AMS		AMS			
	comp=Z,8µm,11.8s									
KEK	Kerkira	43.37	295		P		P	11 09 55.9	-0.9	
PDG	Podgorica	43.42	299		P		P	11 09 56.2	-0.9	
PDG	Podgorica	43.42	299	⇑	P		P	11 09 58.8	+1.7	
PDG	Podgorica	43.42	299	⇑	*i*	P	P	11 09 57.6	+0.5	
RAF	Rauma	43.43	326	*e*	P		P	11 09 55.9	-1.0	
PPSI	Pulau Pagai	43.44	140		P		P	11 09 58.0	+0.5	
	comp=Z,9µmcomp=Z,334nm,1.1s									
ULC	Ulcinj	43.48	298	⇑	*i*	P	P	11 09 57.5	-0.2	
UPM	Unac-Piva	43.60	300	⇑	*i*	P	P	11 09 59.8	+1.0	
NKME	Niksic	43.61	299	⇑	*i*	P	P	11 09 59.5	+0.8	
CEME	Cevo	43.66	299	⇑	*i*	P	P	11 09 59.5	+0.3	
KRJI	Kerinci	43.69	138		P		P	11 10 00.4	+0.7	
BUM	Brajici-Budva	43.70	299	⇑	*i*	P	P	11 09 59.8	+0.3	
TJN	Taejon	43.74	70		P		P	11 09 58.9	-0.9	
TJN	Taejon	43.74	70		P		P	11 10 00.9	+1.1	
TJN	Taejon	43.74	70		P		P	11 09 58.9	-0.9	
TJN					pmax		pmax			
	comp=Z,409nm,1.3s									
SRO	Srobarova	43.75	307	*e*	P		P	11 10 01.6	+1.9	
SRO					pmax		pmax			
	comp=Z,136nm,1.0s									
RAC	Raciborz	43.82	310	*e*	P		P	11 10 01.5	+1.2	
RAC				*e*	S		S	11 16 32.2	+1.7	
RAC					AMS		AMS	11 28 27.0		
	comp=Z,5.2nm,18.4s									
RAC	Raciborz	43.82	310	*e*	P		P	11 10 01.5	+1.2	
RAC				*e*	S		S	11 16 32.2	+1.7	
RAC					MLR		MLR			
	comp=Z,5µm,18.4s									
KLINJ	Klinje	43.84	300	*e*	P		P	11 10 01.6	+1.0	
OKC	Ostrava-Krasne	43.85	310	*e*	P		P	11 10 02.3	+1.8	
OKC				*e*	S		S	11 16 32.1	+1.2	
OKC				*e*	SS		SS	11 19 51.1	+4.2	
OKC					AMS		AMS	11 31 30.0		
	comp=Z,7µm,12.5s									
OKC	Ostrava-Krasne	43.85	310	*e*	P		P	11 10 02.3	+1.8	
OKC				*e*	S		S	11 16 32.1	+1.2	
OKC				*e*	SS		SS	11 19 51.1	+4.2	
OKC					MLR		MLR			
	comp=Z,7µm,12.5s									
BRY	Bratogost	43.90	300	⇑	*i*	P	P	11 10 01.9	+0.7	
KS19	Wonju Array Si	43.91	68		P		P	11 10 01.1	-0.1	
KSAR	Wonju Array Be	43.94	68		P		P	11 10 01.1	-0.3	
KSAR	Wonju Array Be	43.94	68		P		P	11 10 01.1	-0.3	
KSRS	Korea Array	43.97	68		P		P	11 10 00.9	-0.7	
	comp=Z,34nm,1.1s,baz=281,slow=7.1,SNR=45									
KSRS					ScP		ScP	11 15 36.4	-2.2	
	comp=Z,11nm,1.1s,baz=280,slow=4.4,SNR=5.2									
KSRS					S		S	11 16 29.8	-3.1	
	comp=Z,2.1nm,1.0s,baz=262,slow=7.2,SNR=1.5									
KSRS					LR		LR	11 31 16.2		
	comp=Z,2596µm,19.7s,baz=295,slow=40									
	comp=Z,34nm,1.1s									
TREB	Trebinje	44.06	299	*e*	P		P	11 10 02.3	0.0	
AAL	Aland	44.06	325	*e*	P		P	11 10 01.2	-0.8	
JAVC	Velka Javorina	44.16	308	*e*	P		P	11 10 04.9	+1.8	
JAVC				*e*	S		S	11 16 39.3	+3.7	
MDJ	Mudanjiang	44.23	58		P		P	11 10 04.1	+0.5	
MDJ	Mudanjiang	44.23	58		P		P	11 10 04.5	+0.9	
MDJ					sP		sP	11 10 09.8	-0.5	
MDJ					S		S	11 16 36.8	+0.3	
MDJ					pmax		pmax			
	comp=Z,230nm,1.7s									
MDJ					pmax		pmax			
	comp=Z,2µm,6.2s									
MDJ					LR		LR			
	comp=Z,18µm,11.0s									
MDJ					LR		LR			
	comp=Z,13µm,12.6s									
MDJ					LR		LR			
	comp=Z,22µm,12.6s									
MDJ	Mudanjiang	44.23	58		P		P	11 10 04.7	+1.1	
MORC	Moravsky Berou	44.24	309		P		P	11 10 04.0	+0.3	
MORC					IAmb		IAmb	11 10 09.4		
	comp=Z,83nm,0.6s									
MORC	Moravsky Berou	44.24	309	*e*	P		P	11 10 03.9	+0.3	
MORC				*e*	S		S	11 16 37.1	+0.4	
MORC	Moravsky Berou	44.24	309	⇓	P		P	11 10 05.3	+1.6	
MORC	Moravsky Berou	44.24	309		P		P	11 10 04.0	+0.3	
MORC					pmax		pmax			
	comp=Z,83nm,0.6s									
DSRI	Dabo	44.24	133		P		P	11 10 04.2	+0.2	
	comp=Z,4µmcomp=Z,3µmcomp=Z,156nm,1.1s									
VADS	Vadso	44.31	340	*e*	P		P	11 10 03.4	-0.5	
VADS					IAmb		IAmb	11 10 04.3		
	comp=Z,65nm,0.6s									
VADS					eS		S	11 16 36.1	-0.9	
VADS					eSS		ScS	11 19 59.0	-2.2	
VADS					IAMs_20		IAMs_20	11 29 36.0		
	comp=Z,40µm,12.2s									
MODS	Modra-Piesok	44.43	307	*e*	P		P	11 10 06.9	+1.7	
MODS					pmax		pmax			
	comp=Z,52nm,1.0s									
ZST	Bratislava	44.55	307	*e*	P		P	11 10 08.5	+2.4	
ZST					pmax		pmax			
	comp=Z,100nm,2.2s									
GKP	Gorka Klasztor	44.55	314	*e*	P		P	11 10 06.2	+0.1	
GKP				*e*	S		S	11 16 39.5	-1.5	
GKP	Gorka Klasztor	44.55	314	*e*	P		P	11 10 07.1	+1.0	
BLY	Banja Luka	44.70	302	⇑	*i*	P	P	11 10 08.5	+1.2	
BLY	Banja Luka	44.70	302	⇓	P		P	11 10 09.0	+1.7	
KRLC	Kraliky	44.73	310	*e*	P		P	11 10 09.1	+1.5	
KRLC				*e*	pP		pP	11 10 12.5	0.0	
KRLC				*e*	S		S	11 16 46.0	+2.1	
KRLC				*e*	SS		ScS	11 20 16.9	+12	
KRLC					AMS		AMS	11 31 50.0		
	comp=Z,7µm,12.1s									
KRLC	Kraliky	44.73	310	*e*	P		P	11 10 09.1	+1.5	
KRLC				*e*	*PP		pP	11 10 12.5	0.0	
KRLC				*e*	S		S	11 16 46.0	+2.1	
KRLC					MLR		MLR			
	comp=Z,7µm,12.1s									
KEV	Kevo	44.81	339		P		P	11 10 07.9	0.0	
KEV	Kevo	44.81	339		P		P	11 10 07.9	0.0	
KEV					pmax		pmax			
	comp=Z,69nm,1.1s									
BEHE	Becsehely	44.85	305	⇑	*i*	P	P	11 10 10.0	+1.4	
VRAC	Vranov	44.86	309		S		S	11 16 47.6	+1.9	
	comp=Z,1.6nm,0.4s,baz=108,slow=20,SNR=1.2									
VRAC					LR		LR	11 30 21.9		
	comp=Z,3µm,19.1s,baz=82,slow=38									
VRAC	Vranov	44.86	309	*e*	P		P	11 10 09.6	+1.0	
VRAC				*e*	S		S	11 16 46.9	+1.2	
VRAC	Vranov	44.86	309	⇑	P		P	11 10 10.0	+1.4	
VRAC	Vranov	44.86	309		P		P	11 10 10.0	+1.4	
SJUU	Sjulsmark	44.89	332	*e*	P		P	11 10 08.4	-0.1	
MOSL	Moslavina	44.92	304	⇑	*i*	P	P	11 10 09.7	+0.5	
MASI	Maura Aman, Be	44.99	138		P		P	11 10 09.4	-0.6	
KRUC	Moravsky	45.00	308	*e*	P		P	11 10 10.6	+0.9	
KRUC				*e*	S		S	11 16 47.1	-0.5	
DPC	Dobruska-Polom	45.03	310	*e*	P		P	11 10 10.9	+0.9	
DPC				*e*	pP		pP	11 10 15.5	+0.7	
DPC				*e*	PP		PcP	11 11 51.2	+0.4	
DPC				*e*	S		S	11 16 50.0	+1.9	
DPC				*e*	SS		ScS	11 20 07.0	+0.4	
DPC					AMS		AMS	11 33 10.0		
	comp=Z,7µm,10.4s									
DPC	Dobruska-Polom	45.03	310	*e*	P		P	11 10 10.9	+0.9	
DPC				*e*	*PP		pP	11 10 15.5	+0.7	
DPC				*e*				11 11 51.2		
DPC				*e*	S		S	11 16 50.0	+1.9	
DPC				*e*	SS		ScS	11 20 07.0	+0.4	
DPC					MLR		MLR			
	comp=Z,7µm,10.4s									
DPC	Dobruska-Polom	45.03	310		P		P	11 10 10.5	+0.5	
	comp=Z,2µmcomp=Z,155nm,0.8s									
KSP	Ksiaz	45.05	311	*e*	P		P	11 10 10.1	0.0	
KSP				*e*	S		S	11 16 48.9	+0.6	
KSP	Ksiaz	45.05	311		P		P	11 10 10.6	+0.5	
OSTC	Ostas	45.10	311	*e*	P		P	11 10 12.0	+1.5	
OSTC				*e*	pP		pP	11 10 15.0	-0.3	
OSTC				*e*	PP		PP	11 11 55.3	-0.5	
OSTC				*e*	S		S	11 16 49.6	+0.5	
OSTC				*e*	SS		SS	11 20 10.0	-1.0	
OSTC					AMS		AMS	11 32 20.0		
	comp=Z,7µm,11.0s									
OSTC	Ostas	45.10	311	*e*	P		P	11 10 12.0	+1.5	
OSTC				*e*	*PP		pP	11 10 15.0	-0.3	
OSTC				*e*				11 11 55.3		
OSTC				*e*	S		S	11 16 49.6	+0.5	
OSTC				*e*	SS		SS	11 20 10.0	-1.0	
OSTC					MLR		MLR			
	comp=Z,7µm,11.0s									
RONA	Rosalia, Austr	45.11	307	*i*	P		P	11 10 11.7	+1.1	
	comp=Z,30nm,0.8s,SNR=15									
UPP	Uppsala	45.16	324	*e*	P		P	11 10 10.4	-0.4	
ARA0	ARCESS Array S	45.16	338	*e*	P		P	11 10 09.7	-1.0	
ARA0					IAmb		IAmb	11 10 10.9		
	comp=Z,76nm,0.7s									
ARA0				*e*	PP		PP	11 11 57.2	+1.0	
ARA0				*e*	S		S	11 16 48.1	-1.5	
ARA0				*e*	SS		SS	11 20 15.4	+3.7	
ARA0					IAMs_20		IAMs_20	11 29 54.4		
	comp=Z,45µm,12.2s									
ARCES	ARCESS Array B	45.16	338		P		P	11 10 10.3	-0.5	
ARCES					IAmb		IAmb	11 10 11.2		
	comp=Z,68nm,0.8s									
ARCES	ARCESS Array B	45.16	338		P		P	11 10 10.1	-0.6	
	comp=Z,48nm,0.6s,baz=121,slow=8.3,SNR=300									
ARCES					S		S	11 16 46.4	-3.1	
	comp=Z,6.2nm,1.0s,baz=90,slow=9.0,SNR=1.4									
ARCES					LR		LR	11 31 32.7		
	comp=Z,1µm,21.3s,baz=120,slow=40									
	comp=Z,48nm,0.6s									
CHVC	Chvalec	45.20	311	*e*	P		P	11 10 12.8	+1.5	
CHVC				*e*	pP		pP	11 10 16.2	+0.1	
CHVC				*e*	PP		PP	11 11 55.4

TREC ePP **pP** **11 10 19.0 -0.2**
TREC eS **S** **11 16 58.5 +2.3**
TREC eSS **ScS** **11 20 12.9 +2.7**
TREC AMS AMS 11 33 30.0
comp=Z,7μm,10.4s
TREC Trest **45.59 309** eP **P** **11 10 15.9 +1.5**
TREC e*PP **pP** **11 10 19.0 -0.2**
TREC eS **S** **11 16 58.5 +2.3**
TREC eSS **ScS** **11 20 12.9 +2.7**
TREC MLR MLR
comp=Z,7μm,10.4s
KSI Kapahiang **45.61 138** P **P** **11 10 13.8 -1.1**
KTK1 Kautokeino **45.65 337** eP **P** **11 10 13.4 -1.2**
KTK1 lAmb lAmb 11 10 14.3
comp=Z,52nm,0.7s
KTK1 ePP **PP** **11 12 02.1 +0.8**
KTK1 eS **S** **11 16 55.8 -0.7**
KTK1 eSS **SS** **11 20 24.5 +4.3**
KTK1 lAMs_20 lAMs_20 11 30 17.7
comp=Z,32μm,12.0s
ARSA Arzberg **45.66 306** P **P** **11 10 14.9 -0.1**
ARSA lAmb lAmb 11 10 17.9
comp=Z,199nm,2.0s
ARSA Arzberg **45.66 306** *i* P **P** **11 10 16.2 +1.2**
comp=Z,40nm,1.3s,SNR=16
LANU Lannavaara **45.68 336** eP **P** **11 10 14.2 -0.7**
TIP Timpagrande **45.78 295** P **P** **11 10 16.5 +0.4**
TIP lAmb lAmb 11 10 35.9
comp=Z,112nm,1.1s
TIP Timpagrande **45.78 295** ⇓P **P** **11 10 17.0 +0.9**
CRES Cresnjevec Ost **45.81 304** eP **P** **11 10 17.4 +1.2**
CRES eS **S** **11 17 00.5 +1.0**
OZLJ Ozalj **45.83 304** ⇑*i* P **P** **11 10 17.6 +1.3**
USRK Ussuriysk Ar. **45.98 58** P **P** **11 10 17.5 0.0**
comp=Z,20nm,0.8s,baz=275,slow=6.8,SNR=28
comp=Z,20nm,0.8s
PERS Pernice **45.98 305** eP **P** **11 10 18.8 +1.2**
PERS eS **S** **11 17 04.0 +2.0**
PERS eScS **ScS** **11 20 08.7 -4.2**
SOKA Soboth **46.03 305** *i* pP **P** **11 10 19.5 +1.4**
comp=Z,194nm,1.5s,SNR=52
VLA Vladivostok **46.04 60** *i* P **P** **11 10 18.0 0.0**
VLA pmax pmax
comp=Z,87nm,1.1s
VLA MLR MLR
comp=Z,3μm,11.0s
SGRT San Giovanni R **46.10 298** P **P** **11 10 19.3 +0.6**
ACER Acerenza **46.11 297** lAmb lAmb 11 10 24.8
comp=Z,124nm,0.8s
PVCC Panska Ves **46.15 311** eP **P** **11 10 20.0 +1.2**
PVCC ePP **PP** **11 12 12.0 +5.1**
PVCC eS **S** **11 17 06.8 +2.6**
PVCC eSS **SS** **11 20 33.8 +4.7**
PVCC AMS AMS 11 33 00.0
comp=Z,6μm,10.9s
PVCC Panska Ves **46.15 311** eP **P** **11 10 20.0 +1.2**
PVCC e 11 12 12.0
PVCC eS **S** **11 17 06.8 +2.6**
PVCC MLR MLR
comp=Z,6μm,10.9s
PRU Pruhonice **46.18 310** eP **P** **11 10 20.4 +1.4**
PRU epP **pP** **11 10 23.9 0.0**
PRU ePP **PP** **11 12 12.6 +5.3**
PRU eS **S** **11 17 06.2 +1.6**
PRU eSS **SS** **11 20 33.7 +4.1**
PRU AMS AMS 11 34 30.0
comp=Z,6μm,9.9s
PRU Pruhonice **46.18 310** eP **P** **11 10 20.4 +1.4**
PRU e*PP **pP** **11 10 23.9 0.0**
PRU e 11 12 12.6
PRU eS **S** **11 17 06.2 +1.6**
PRU MLR MLR
comp=Z,6μm,9.9s
HAMF Hammerfest **46.23 339** eP **P** **11 10 18.4 -0.8**
HAMF lAmb lAmb 11 10 19.5
comp=Z,86nm,0.7s
HAMF ePP **PP** **11 12 09.1 +1.6**
HAMF eS **S** **11 17 06.8 +2.0**
HAMF eSS **SS** **11 20 35.2 +5.4**
HAMF lAMs_20 lAMs_20 11 30 35.0
comp=Z,28μm,13.6s
PRA Prague **46.25 310** eP **P** **11 10 21.2 +1.7**
PRA epP **pP** **11 10 24.8 +0.4**
PRA ePP **PP** **11 12 13.4 +5.4**
PRA eS **S** **11 17 08.8 +3.2**
PRA eSS **SS** **11 20 35.8 +5.1**
PRA AMS AMS 11 33 10.0
comp=Z,7μm,12.1s
PRA Prague **46.25 310** eP **P** **11 10 21.2 +1.7**
PRA e*PP **pP** **11 10 24.8 +0.4**
PRA e 11 12 13.4
PRA eS **S** **11 17 08.8 +3.2**
PRA MLR MLR
comp=Z,7μm,12.1s
LHSI Lahat **46.28 137** P **P** **11 10 17.5 -2.7**
GBRS Gornja Briga **46.29 304** *i* P **P** **11 10 21.5 +1.5**
CKRC Cesky Krumlov **46.38 308** eP **P** **11 10 21.9 +1.2**
CKRC epP **pP** **11 10 25.0 -0.5**
CKRC ePP **PP** **11 12 12.7 +3.2**
CKRC eS **S** **11 17 09.5 +1.9**
CKRC eSS **SS** **11 20 39.3 +6.3**
CKRC AMS AMS 11 34 10.0
comp=Z,6μm,10.7s
CKRC Cesky Krumlov **46.38 308** eP **P** **11 10 21.9 +1.2**
CKRC e*PP **pP** **11 10 25.0 -0.5**
CKRC e 11 12 12.7
CKRC eS **S** **11 17 09.5 +1.9**
CKRC MLR MLR
comp=Z,6μm,10.7s
OBKA Obir **46.38 305** *i* pP **P** **11 10 22.4 +1.6**
comp=Z,84nm,1.3s,SNR=26
MNAI Manna **46.39 138** P **P** **11 10 20.3 -0.8**
MNAI Manna **46.39 138** P **P** **11 10 22.2 +1.1**
MNAI Manna **46.39 138** P **P** **11 10 19.6 -1.5**
comp=Z,7μmcomp=Z,545nm,1.3s
LODK Lodwar **46.41 239** P **P** **11 10 22.6 +1.3**
LODK lAmb lAmb 11 10 28.2
comp=Z,181nm,1.9s
LODK Lodwar **46.41 239** P **P** **11 10 23.9 +2.6**
SNR=16
ZVC Zvikov **46.43 309** eP **P** **11 10 22.3 +1.3**
ZVC epP **pP** **11 10 26.1 +0.3**
ZVC ePP **PP** **11 12 15.2 +5.3**
ZVC eS **S** **11 17 11.0 +2.8**
ZVC eSS **SS** **11 20 25.3 -8.4**
ZVC AMS AMS 11 33 00.0
comp=Z,6μm,11.2s
LJU Ljubljana **46.44 304** eP **P** **11 10 22.7 +1.5**
LJU ePP **PP** **11 12 10.4 +0.3**
LJU eS **S** **11 17 10.2 +1.7**
RICC Richard **46.45 311** eP **P** **11 10 22.0 +0.9**
RICC epP **pP** **11 10 25.9 -0.1**
RICC eS **S** **11 17 10.5 +2.1**
RICC AMS AMS 11 33 10.0
comp=Z,6μm,12.6s
MOA Molln **46.47 307** *i* P **P** **11 10 22.2 +0.8**
comp=Z,78nm,0.9s,SNR=26
KSM Kuching **46.53 125** P **P** **11 10 22.4 +0.2**
KSM Kuching **46.53 125** P **P** **11 10 23.1 +0.9**
BRG Berggiesshubel **46.54 311** eP **P** **11 10 22.6 +0.8**
BRG Amp 11 10 24.0
comp=Z,93nm,0.9s
BRG PP **PP** **11 12 11.8 +0.7**
BRG Amp 11 12 14.2
comp=Z,38nm,1.1s
BRG Berggiesshubel **46.54 311** S **S** **11 17 12.0 +2.3**
BRG Berggiesshubel **46.54 311** SS SS 11 20 41.0 +5.5
RUE Ruedersdorf **46.62 313** eP **P** **11 10 23.0 +0.6**
CEL Celeste **46.62 294** P **P** **11 10 22.1 -0.7**
CEL lAmb lAmb 11 10 27.8
comp=Z,62nm,0.9s
DEL Delary **46.71 319** *i* P **P** **11 10 22.2 -0.8**
TGY Tagaytay City **46.77 102** LR LR 11 31 43.4
comp=Z,6μm,19.3s,baz=342,slow=38
GERES GERESS Array B **46.78 308** P **P** **11 10 24.2 +0.3**
comp=Z,18nm,0.9s,baz=81,slow=7.7,SNR=60
GERES S **S** **11 17 17.0 +3.6**
comp=Z,0.3nm,0.4s,baz=77,slow=7.8,SNR=1.1
GERES LR LR 11 32 21.0
comp=Z,3μm,18.1s,baz=85,slow=39
comp=Z,18nm,0.9s
JETT Jettan, Norway **46.79 337** eP **P** **11 10 22.7 -0.9**
JETT lAmb lAmb 11 10 24.0
comp=Z,37nm,0.7s
JETT ePP **PP** **11 12 14.6 +1.1**
JETT eS **S** **11 17 14.2 +1.2**
JETT eSS **SS** **11 20 44.5 +5.5**
JETT lAMs_20 lAMs_20 11 30 54.1
comp=Z,30μm,12.8s
KHC Kasperske Hory **46.84 309** eP **P** **11 10 25.5 +1.2**
KHC epP **pP** **11 10 29.5 +0.4**
KHC ePP **PP** **11 12 15.9 +1.5**
KHC eS **S** **11 17 15.7 +1.4**
KHC eSS **SS** **11 20 46.6 +6.1**
KHC AMS AMS 11 33 20.0
comp=Z,9μm,11.6s
KHC Kasperske Hory **46.84 309** eP **P** **11 10 25.5 +1.2**
KHC e*PP **pP** **11 10 29.5 +0.4**
KHC e 11 12 15.9
KHC eS **S** **11 17 15.7 +1.4**
KHC MLR MLR
comp=Z,9μm,11.6s
SKDS Skadanscina **46.85 304** eP **P** **11 10 24.9 +0.5**
SKDS eS **S** **11 17 14.9 +0.5**
BIOA Bad Ischl, Aus **46.90 307** *i* P **P** **11 10 25.4 +0.7**
comp=Z,30nm,0.9s,SNR=14
RGN Rugen **46.93 316** P **P** **11 10 24.9 +0.1**
MYKA Terra Mystica **46.99 305** *i* pP **P** **11 10 27.1 +1.5**
comp=Z,66nm,1.6s,SNR=11
TRI Trieste **47.00 304** P **P** **11 10 25.6 +0.1**
TRI Trieste **47.00 304** P **P** **11 10 25.6 +0.1**
TRI pmax pmax
comp=Z,324nm,1.8s
SABO M.te Sabotino **47.09 304** P **P** **11 10 26.9 +0.6**
PAOL Paolisi **47.09 298** P **P** **11 10 27.0 +0.6**
PAOL lAmb lAmb 11 10 41.7
comp=Z,105nm,0.9s
BRJN Brijuni **47.11 303** ⇑*i* P **P** **11 10 26.6 +0.3**
CLL Collm **47.12 312** *i* P **P** **11 10 26.6 +0.2**
CLL eS **S** **11 17 16.0 -2.0**
CLL pmax pmax
comp=Z,73nm,1.0s
CLL Collm **47.12 312** *i* P **P** **11 10 26.6 +0.2**
comp=Z,73nm,1.0s
CLL ePP **PP** **11 12 15.0 -2.0**
CLL ePPP PPP 11 13 00.0
CLL eS **S** **11 17 16.0 -2.0**
CLL e(ScS) 11 20 17.0
CLL eSS **SS** **11 20 48.0 +3.2**
CLL eSSSS 11 22 06.0
CLL Lmax 11 37 00.0
HFS Hagfors **47.15 324** P **P** **11 10 25.4 -1.1**
comp=Z,124nm,0.6s,baz=97,slow=9.3,SNR=255
HFS S **S** **11 17 14.8 -3.4**
comp=Z,9.3nm,1.0s,baz=110,slow=17,SNR=2.0
HFS LR LR 11 33 54.8
comp=Z,8μm,18.2s,baz=100,slow=41
comp=Z,124nm,0.6s
KBA Koelnbreinsper **47.15 306** *i* P **P** **11 10 27.8 +0.9**
comp=Z,44nm,1.7s,SNR=16
SBUM Sibu **47.18 122** P **P** **11 10 28.6 +1.4**
SBUM Sibu **47.18 122** P **P** **11 10 28.7 +1.5**
MDSI Maura Dua **47.19 136** P **P** **11 10 23.9 -3.4**
JOW Kunigami **47.24 83** P **P** **11 10 27.7 0.0**
JOW lAmb lAmb 11 10 35.4
comp=Z,152nm,1.5s
JOW Kunigami **47.24 83** LR LR 11 31 56.2
comp=Z,11μm,18.7s,baz=268,slow=38
JOW Kunigami **47.24 83** P **P** **11 10 30.2 +2.6**
TRO Tromso **47.30 337** eP **P** **11 10 26.7 -0.8**
TRO lAmb lAmb 11 10 27.3
comp=Z,128nm,1.4s
TRO ePP **PP** **11 12 20.7 +2.3**
TRO eS **S** **11 17 22.3 +2.2**
TRO eSS **SS** **11 20 52.6 +5.4**
TRO lAMs_20 lAMs_20 11 31 11.5
comp=Z,26μm,12.9s
JNU Nakatsue **47.35 73** P **P** **11 10 28.2 -0.2**
JNU lAmb lAmb 11 10 54.8
comp=Z,121nm,1.3s
JNU Nakatsue **47.35 73** LR LR 11 32 00.6
comp=Z,5μm,20.1s,baz=286,slow=38
JNU Nakatsue **47.35 73** P **P** **11 10 29.8 +1.3**
FABU Falkenberg **47.38 319** *i* P **P** **11 10 27.1 -1.2**
BORU Boraas **47.39 320** *i* P **P** **11 10 27.5 -0.9**
INTR Introdacqua **47.42 299** P **P** **11 10 29.6 +0.6**
INTR lAmb lAmb 11 10 46.0
comp=Z,145nm,1.1s
COP Copenhagen **47.47 318** *i* P **P** **11 10 28.6 -0.4**
COP lAmb lAmb 11 10 30.4
comp=Z,278nm,0.9s
LWLI Liwa **47.56 137** P **P** **11 10 27.9 -2.4**
comp=Z,310nm,0.8s
LESA Schwarzleotal **47.57 306** *i* P **P** **11 10 30.7 +0.6**
comp=Z,52nm,1.2s,SNR=26
GUMA Gualdo di Mace **47.66 300** P **P** **11 10 32.0 +1.3**
STAL STALIGIAL **47.67 305** P **P** **11 10 31.3 +0.5**
STAL lAmb lAmb 11 10 32.7
comp=Z,140nm,1.1s
AQU L'Aquila **47.73 300** ⇑*i* P **P** **11 10 32.7 +1.4**
AQU L'Aquila **47.73 300** P **P** **11 10 32.9 +1.6**
ABTA Abfaltersbach **47.76 306** *i* P **P** **11 10 31.8 +0.3**
comp=Z,37nm,1.3s,SNR=9.2
ONAU Onsala **47.83 320** *i* P **P** **11 10 30.6 -1.2**
FAUS Fauske **47.88 334** eP **P** **11 10 30.6 -1.3**
FAUS lAmb lAmb 11 10 32.4
comp=Z,122nm,1.0s
FAUS ePP **PP** **11 12 23.1 -0.6**
FAUS eS **S** **11 17 27.0 -1.3**
FAUS eSS **SS** **11 21 01.0 +4.5**
FAUS lAMs_20 lAMs_20 11 31 46.1
comp=Z,27μm,9.0s
KLI Kotabumi **47.89 136** P **P** **11 10 29.2 -3.5**
MOR8 Moi Rana **47.90 332** eP **P** **11 10 30.3 -1.9**
MOR8 lAmb lAmb 11 10 31.8
comp=Z,215nm,0.8s
MOR8 ePP **PP** **11 12 24.9 +0.9**
MOR8 eS **S** **11 17 26.3 -2.5**
MOR8 eSS **SS** **11 21 01.0 +4.0**
MOR8 lAMs_20 lAMs_20 11 31 24.9
comp=Z,19μm,10.7s
TPI Tanjungpandan **47.93 131** P **P** **11 10 32.6 -0.5**
comp=Z,4μmcomp=Z,3μmcomp=Z,139nm,1.5s
VAE Valguarnera **47.94 293** LR LR 11 33 13.3
comp=Z,2μm,18.4s,baz=83,slow=39
MOX Moxa **48.02 311** eL L 11 32 44.7
comp=Z,3μm,21.2s
TJOU Tjoern **48.02 321** *i* P **P** **11 10 31.8 -1.4**
STEI Steigen **48.04 334** eP **P** **11 10 32.3 -0.9**
STEI lAmb lAmb 11 10 33.1
comp=Z,88nm,1.1s
STEI ePP **PP** **11 12 26.4 +1.3**
STEI eS **S** **11 17 27.6 -3.1**
STEI eSS **SS** **11 21 02.5 +3.3**
STEI lAMs_20 lAMs_20 11 31 31.4
comp=Z,16μm,10.2s
RAUS Rausandaksla **48.12 332** eP **P** **11 10 32.6 -1.3**
RAUS lAmb lAmb 11 10 38.7
comp=Z,40nm,0.7s
RAUS ePP **PP** **11 12 24.8 -1.1**
RAUS eS **S** **11 17 29.3 -2.5**
RAUS eSS **SS** **11 21 05.1 +4.6**
RAUS lAMs_20 lAMs_20 11 31 35.3
comp=Z,19μm,10.3s
TIXI Tiksi **48.16 20** P **P** **11 10 34.3 +0.2**
TIXI Tiksi **48.16 20** LR LR 11 33 28.4
comp=Z,3μm,21.4s,baz=268,slow=40
TIXI Tiksi **48.16 20***ce*P **P** **11 10 33.8 -0.3**
TIXI pmax pmax
comp=Z,633nm,2.7s
TIXI MLR MLR
comp=Z,15μm,14.0s
MURB Monte Urbino **48.22 301** P **P** **11 10 36.5 +1.4**
KASI Kota Agung **48.22 137** P **P** **11 10 31.8 -3.5**
NC405 NORSAR Array S **48.24 325** P **P** **11 10 34.3 -0.6**
GRA3 Grafenberg Arr **48.27 310** eP **PP** **11 12 26.2 -1.5**
baz=94,slow=6.7
NC602 NORSAR Array S **48.28 324** P **P** **11 10 34.1 -1.1**
NC602 lAmb lAmb 11 10 35.5
comp=Z,88nm,1.1s
NC602 NORSAR Array S **48.28 324** eP **P** **11 10 32.6 -2.6**
NC602 lAmb lAmb 11 10 34.6
comp=Z,95nm,1.1s
NC602 ePP **PP** **11 12 28.0 +0.5**
NC602 eS **S** **11 17 31.1 -3.2**
NC602 eSS **SS** **11 21 07.4 +4.0**
NC602 lAMs_20 lAMs_20 11 32 30.9
comp=Z,16μm,10.9s
WTTA Wattenberg **48.30 306** *i* P **P** **11 10 36.2 +0.4**
comp=Z,99nm,1.4s,SNR=21
STRU Stroemstad **48.32 322** eP **P** **11 10 34.6 -0.9**
STRU Stroemstad **48.32 322** *i* P **P** **11 10 34.0 -1.6**
WATA Walderalm **48.33 306** *i* P **P** **11 10 35.8 -0.2**
comp=Z,60nm,1.4s,SNR=14
GRF Grafenberg Arr **48.34 310** eP **P** **11 10 37.4 +1.5**
comp=Z,93nm,1.0s,baz=94,slow=6.7
GRF epP **pP** **11 10 39.9 -0.8**
baz=94,slow=6.7
GRF eL L 11 33 13.5
comp=Z,4μm,18.1s
GRFO Grafenberg **48.34 310** P **P** **11 10 37.1 +1.2**
GRFO Grafenberg **48.34 310** P **P** **11 10 37.1 +1.2**
GRFO pmax pmax
comp=Z,297nm,1.7s
KMBO Kilima Mbogo **48.35 233** P **P** **11 10 35.7 -1.0**
comp=Z,21nm,0.3s,baz=37,slow=9.6,SNR=6.7
comp=Z,21nm,0.3s
GRNR Gornyy **48.39 49** ⇑*i* P **P** **11 10 36.6 +0.3**
GRNR pmax pmax
comp=E,40nm,1.2s
GRNR pmax pmax
comp=Z,80nm,1.1s
GRNR MLR MLR
comp=E,10μm,13.0s
GRNR MLR MLR
comp=N,12μm,12.0s
GRNR MLR MLR
comp=Z,14μm,12.0s
LEIR Leirfjorden **48.41 332** eP **P** **11 10 34.6 -1.5**
LEIR lAmb lAmb 11 10 36.0
comp=Z,100nm,1.0s
LEIR ePP **PP** **11 12 27.8 -0.8**
LEIR eS **S** **11 17 32.9 -3.1**
LEIR eSS **SS** **11 21 12.2 +6.9**
LEIR lAMs_20 lAMs_20 11 31 39.8
comp=Z,18μm,11.0s
CTI Castel Tesino **48.43 305** P **P** **11 10 37.3 +0.5**
CTI lAmb lAmb 11 10 38.9
comp=Z,66nm,1.0s
CTI Castel Tesino **48.43 305** P **P** **11 10 37.3 +0.5**
CTI pmax pmax
comp=Z,66nm,1.0s
NB2 NORSAR Subarra **48.47 325** P **P** **11 10 35.1 -1.7**
comp=Z,123nm,0.8s,baz=97,slow=7.9
NB2 NORSAR Subarra **48.47 325** P **P** **11 10 35.1 -1.7**
comp=Z,123nm,0.8s,baz=97,slow=7.9
NOA NORSAR Array B **48.47 325** P **P** **11 10 35.0 -1.7**
comp=Z,83nm,0.8s,baz=95,slow=7.8,SNR=282
NOA S **S** **11 17 33.5 -3.6**
comp=Z,1.7nm,0.8s,baz=97,slow=14,SNR=2.8
NOA LR LR 11 33 44.2
comp=Z,5μm,18.1s,baz=105,slow=40
comp=Z,83nm,0.8s
VAGH Vaagaholmen **48.49 333** eP **P** **11 10 35.3 -1.4**
VAGH lAmb lAmb 11 10 36.5
comp=Z,98nm,1.1s
VAGH ePP **PP** **11 12 28.8 -0.4**
VAGH eS **S** **11 17 35.3 -1.7**
VAGH eSS **SS** **11 21 12.4 +6.0**
VAGH lAMs_20 lAMs_20 11 32 04.5
comp=Z,17μm,10.6s
KONS Konsvik **48.49 332** eP **P** **11 10 36.4 -0.3**
STOK Stokkvaagen **48.50 332** eP **P** **11 10 35.6 -1.2**
STOK lAmb lAmb 11 10 36.5
comp=Z,69nm,0.9s
STOK ePP **PP** **11 12 28.4 -0.9**
STOK eS **S** **11 17 34.2 -2.9**
STOK eSS **SS** **11 21 11.3 +4.7**
STOK lAMs_20 lAMs_20 11 31 47.9
comp=Z,17μm,10.9s
TEOL Teolo **48.51 304** P **P** **11 10 37.8 +0.6**
BLSI Bandar Lampung **48.52 136** P **P** **11 10 34.8 -2.8**
SQTA Sankt Quirin **48.59 306** *i* P **P** **11 10 37.9 -0.1**
comp=Z,45nm,0.9s,SNR=16
NSS Namsos **48.59 329** eP **P** **11 10 36.0 -1.6**
NSS lAmb lAmb 11 10 37.3
comp=Z,61nm,0.9s
NSS ePP **PP** **11 12 29.3 -1.0**
NSS eS **S** **11 17 34.8 -3.7**
NSS eSS **SS** **11 21 13.7 +5.6**
NSS lAMs_20 lAMs_20 11 32 40.7
comp=Z,21μm,8.8s
NAO01 NORSAR Array S **48.61 324** lAmb lAmb 11 10 37.9
comp=Z,90nm,1.0s
OSL Oslo **48.62 323** eP **P** **11 10 37.4 -0.4**
OSL lAmb lAmb 11 10 41.9
comp=Z,70nm,0.6s
OSL eS **S** **11 17 34.6 -4.4**
OSL eSS **SS** **11 21 12.1 +3.4**
MOTA Moosalm **48.65 306** *i* P **P** **11 10 38.3 -0.2**
comp=Z,64nm,1.5s,SNR=16
LOF Lofoten **48.71 334** eP **P** **11 10 36.6 -1.8**
LOF lAmb lAmb 11 10 37.5
comp=Z,87nm,1.3s
LOF eS **S** **11 17 38.8 -1.2**
LOF eSS **SS** **11 21 15.9 +5.9**
LOF lAMs_20 lAMs_20 11 31 53.3
comp=Z,16μm,10.1s
NC204 NORSAR Array S **48.71 325** lAmb lAmb 11 10 38.9
comp=Z,92nm,0.8s
KIBK Kibwezi **48.73 231** P **P** **11 10 41.0 +1.6**
KIBK lAmb lAmb 11 10 46.1
comp=Z,124nm,1.5s
RETA Reutte **48.86 307** *i* P **P** **11 10 40.2 +0.2**
comp=Z,39nm,1.1s,SNR=9.4
HOPEN Hopen **48.86 346** eP **P** **11 10 40.0 +0.5**
HOPEN lAmb lAmb 11 10 44.4
comp=Z,4μm,3.5s
HOPEN eS **S** **11 17 44.9 +2.9**
HOPEN lAMs_20 lAMs_20 11 33 38.1
comp=Z,18μm,12.0s
FETA Feichten **48.94 306** *i* P **P** **11 10 40.5 -0.2**
comp=Z,61nm,1.5s,SNR=24
SSRD Sdr. Stenderup **49.06 317** *i* P **P** **11 10 42.0 +0.7**
SSRD lAmb lAmb 11 10 43.0
comp=Z,142nm,0.9s
OSSC Osservatorio P **49.09 301** P **P** **11 10 42.5 +0.7**
TEY Ternei **49.13 57** ⇑eP **P** **11 10 41.5 -0.5**
TEY pmax pmax
comp=Z,20nm,1.4s
TEY pmax pmax
comp=E,30nm,0.8s
TEY pmax pmax
comp=N,10.0nm,1.1s
TEY MLR MLR
comp=E,600nm,13.0s
TEY MLR MLR
comp=N,500nm,11.0s
TEY MLR MLR
comp=Z,800nm,12.0s
ZCCA Zocca **49.15 303** P **P** **11 10 43.9 +1.7**
ZCCA lAmb lAmb 11 11 10.0
comp=Z,151nm,1.0s
KONO Kongsberg **49.17 323** P **P** **11 10 41.3 -0.8**
KONO Kongsberg **49.17 323** eP **P** **11 10 40.8 -1.2**
KONO lAmb lAmb 11 10 41.8
comp=Z,87nm,0.8s
KONO ePP **PP** **11 12 36.1 +0.6**
KONO eS **S** **11 17 42.3 -4.4**
KONO eSS **SS** **11 21 22.6 +5.0**
KONO lAMs_20 lAMs_20 11 34 10.4
comp=Z,19μm,9.8s
KONO Kongsberg **49.17 323***ce*P **P** **11 10 41.2 -0.8**
KONO pmax pmax
comp=Z,146nm,1.3s
BJO1 Bjornoya **49.20 343** eP **P** **11 10 41.6 -0.5**
FUORN Ofenpass-Fuorn **49.31 306** P **P** **11 10 44.0 +0.4**
MUD Monsted U'grnd **49.31 319** *i* P **P** **11 10 43.0 -0.2**
MUD lAmb lAmb 11 10 44.6
comp=Z,118nm,1.2s
DAVA Damuels **49.48 306** *i* P **P** **11 10 45.1 +0.2**
comp=Z,115nm,0.7s,SNR=38
DAVOX Davos/Dischmat **49.55 306** S **S** **11 17 50.6 -2.3**
comp=Z,1.2nm,0.2s,baz=32,slow=13,SNR=1.6
DAVOX LR LR 11 35 15.9
comp=Z,5μm,18.2s,baz=76,slow=40
PRMA PARMA **49.55 303** P **P** **11 10 45.5 +0.3**
JMN Monobe **49.58 72** P **P** **11 10 45.8 +0.1**
JMN lAmb lAmb 11 11 09.0
comp=Z,205nm,1.4s
JMN Monobe **49.58 72** P **P** **11 10 47.0 +1.3**
DOMB Dombas **49.59 326** eP **P** **11 10 43.6 -1.7**
DOMB lAmb lAmb 11 10 45.0

comp=Z,118nm,1.2s
DOMB *e*PP **PP** **11 12 39.5 0.0**
DOMB *e*S **S** **11 17 48.1 -4.6**
DOMB *e*SS **SS** **11 21 27.8 +3.4**
DOMB IAMs_20 IAMs_20 11 32 40.0
comp=Z,15µm,11.0s
HOMB Homborsund 49.69 321 *e*P **P** **11 10 44.3 -1.7**
HOMB IAmb IAmb 11 10 46.0
comp=Z,101nm,0.7s
HOMB *e*PP **PP** **11 12 42.4 +2.1**
HOMB *e*S **S** **11 17 50.2 -3.8**
HOMB *e*SS **SS** **11 21 29.0 +3.1**
HOMB IAMs_20 IAMs_20 11 33 34.8
comp=Z,16µm,10.6s
HOMB Homborsund 49.69 321 *i* P **P** **11 10 45.2 -0.8**
STU Stuttgart 49.75 309 P **P** **11 10 46.6 0.0**
STU Stuttgart 49.75 309 *e*P **P** **11 10 47.6 +0.8**
STU Stuttgart 49.75 309 P **P** **11 10 46.7 0.0**
STU pmax pmax
comp=Z,52nm,0.8s
CGJI Cibinong 49.79 136 P **P** **11 10 43.4 -3.9**
SKAR Skarslia 49.87 324 *e*P **P** **11 10 47.6 +0.1**
SKAR IAmb IAmb 11 10 47.8
comp=Z,74nm,1.1s
SKAR *e*PP **PP** **11 12 41.5 -0.5**
SKAR *e*S **S** **11 17 54.5 -2.2**
SKAR *e*SS **SS** **11 21 33.0 +4.1**
SKAR IAMs_20 IAMs_20 11 35 05.8
comp=Z,13µm,10.9s
TUE Stuetta 49.95 306 P **P** **11 10 48.5 0.0**
MYLDM Lahad Datu 50.03 114 IAmb IAmb 11 11 16.1
comp=Z,181nm,1.1s
MYLDM Lahad Datu 50.03 114 P **P** **11 10 50.8 +1.6**
MSSA Maissana 50.19 303 P **P** **11 10 50.3 +0.1**
MSSA IAmb IAmb 11 10 56.1
comp=Z,91nm,1.0s
MOL Molde 50.33 327 *e*P **P** **11 10 50.3 -0.6**
MOL IAmb IAmb 11 10 51.9
comp=Z,50nm,0.8s
MOL *e*S **S** **11 18 01.9 -1.0**
MOL *e*SS **SS** **11 21 43.4 +7.2**
MOL IAMs_20 IAMs_20 11 34 11.2
comp=Z,13µm,10.3s
DBJI Dramaga 50.36 135 P **P** **11 10 48.5 -3.2**
SNART Snartemo 50.37 321 *e*P **P** **11 10 50.6 -0.6**
SNART IAmb IAmb 11 10 51.6
comp=Z,214nm,0.8s
SNART *e*S **S** **11 18 04.9 +1.3**
SNART Snartemo 50.37 321 *i* P **P** **11 10 50.9 -0.4**
BFO Black Forest 50.38 308 P **P** **11 10 51.6 +0.1**
BFO Black Forest 50.38 308 P **P** **11 10 51.6 +0.1**
BFO pmax pmax
comp=Z,37nm,0.9s
AKN Aaknes 50.57 326 *e*P **P** **11 10 51.9 -0.8**
AKN *e*S **S** **11 18 07.8 +1.5**
AKN IAMs_20 IAMs_20 11 33 13.9
comp=Z,17µm,9.8s
ODD1 Odda 50.68 323 *e*P **P** **11 10 53.6 0.0**
ODD1 IAmb IAmb 11 10 58.3
comp=Z,89nm,1.0s
ODD1 *e*S **S** **11 18 06.2 -1.7**
ODD1 IAMs_20 IAMs_20 11 34 07.0
comp=Z,15µm,16.7s
BLS5 Blasjo 50.76 322 *e*P **P** **11 10 52.9 -1.3**
BLS5 IAmb IAmb 11 10 55.3
comp=Z,376nm,1.6s
BLS5 *e*S **S** **11 18 06.2 -2.8**
BLS5 IAMs_20 IAMs_20 11 34 03.1
comp=Z,17µm,11.6s
NKL Nikolayevsk 50.84 46 *e*P **P** **11 10 53.8 -1.1**
NKL *e*S **S** **11 18 12.4 +2.1**
NKL pmax pmax
comp=E,147nm,1.0s
NKL pmax pmax
comp=N,156nm,0.9s
NKL pmax pmax
comp=Z,449nm,1.1s
NKL smax smax
comp=E,942nm,4.5s
NKL smax smax
comp=N,454nm,4.3s
NKL MLR MLR
comp=E,39µm,12.0s
NKL MLR MLR
comp=N,36µm,18.0s
NKL MLR MLR
comp=Z,51µm,13.0s
HYA Hoyanger 50.92 325 *e*P **P** **11 10 54.9 -0.4**
HYA IAmb IAmb 11 10 55.5
comp=Z,79nm,1.0s
HYA *e*S **S** **11 18 12.9 +1.9**
HYA IAMs_20 IAMs_20 11 34 01.7
comp=Z,10µm,9.5s
LEM Lembang 51.09 135 LR LR 11 37 23.3
comp=Z,4µm,19.1s,baz=328,slow=42
VSL Villasalto 51.30 297 IAmb IAmb 11 11 03.8
comp=Z,121nm,1.0s
BER Bergen 51.33 324 *e*P **P** **11 10 57.6 -0.8**
BER IAmb IAmb 11 10 59.0
comp=Z,98nm,0.7s
BER *e*S **S** **11 18 17.8 +1.1**
BER *e*SS **SS** **11 21 57.2 +5.2**
BER IAMs_20 IAMs_20 11 34 51.4
comp=Z,18µm,9.8s
SPB2 Spitsbergen Ar 51.34 347 P **P** **11 10 58.3 +0.1**
SPB2 IAmb IAmb 11 11 24.3
comp=Z,168nm,1.4s
SPA0 Spitsbergen Ar 51.34 347 *e*P **P** **11 10 58.6 +0.3**
SPA0 *e*S **S** **11 18 19.2 +2.6**
SPA0 IAMs_20 IAMs_20 11 35 13.2
comp=Z,17µm,12.2s
SPITS Spitsbergen Ar 51.34 347 P **P** **11 10 57.5 -0.8**
comp=Z,35nm,0.6s,baz=110,slow=6.9,SNR=81
SPITS LR LR 11 36 37.4
comp=Z,4µm,19.2s,baz=121,slow=41
comp=Z,35nm,0.6s
SPITS Spitsbergen Ar 51.34 347 P **P** **11 10 58.8 +0.5**
SPITS pmax pmax
comp=Z,178nm,1.5s
SENIN Lac Senin/Sane 51.37 306 IAmb IAmb 11 11 05.4
comp=Z,103nm,0.8s
KMY Karmoy 51.38 322 *e*P **P** **11 10 57.1 -1.7**
KMY IAmb IAmb 11 10 59.4
comp=Z,184nm,1.5s
KMY *e*S **S** **11 18 17.1 -0.4**
KMY IAMs_20 IAMs_20 11 34 30.1
comp=Z,14µm,11.2s
ASK Askoy 51.40 324 *e*P **P** **11 10 57.6 -1.3**
BTNL Ternell 51.51 311 *d*P **P** **11 11 00.5 +0.5**
comp=Z,37nm,1.0s
SBV Sambava 51.54 210 P **P** **11 11 01.4 +0.9**
SNR=6.0
MEM Membach 51.58 311 *d*P **P** **11 11 00.9 +0.4**
comp=Z,47nm,1.0s
INU Inuyama 51.59 69 P **P** **11 11 01.0 +0.2**
INU Inuyama 51.59 69 P **P** **11 11 01.6 +0.8**
SUE Sulen 51.61 325 *e*P **P** **11 10 59.2 -1.2**
SUE IAmb IAmb 11 11 00.4
comp=Z,96nm,1.0s
SUE *e*S **S** **11 18 21.7 +1.1**
SUE IAMs_20 IAMs_20 11 37 49.1
comp=Z,12µm,10.7s
BBJI Bungbulang 51.62 135 P **P** **11 11 01.1 -0.1**
BHOU Houvegnez 51.62 311 *d*P **P** **11 11 01.6 +0.8**
comp=Z,18nm,1.2s
WLF Walferdange 51.62 310 IAmb IAmb 11 11 06.6
comp=Z,111nm,1.1s
WLF Walferdange 51.62 310 *d*P **P** **11 11 01.6 +0.8**
comp=Z,55nm,1.1s
WLF Walferdange 51.62 310 P **P** **11 11 01.9 +1.1**
JGF Kuroka 51.78 68 P **P** **11 11 02.5 +0.3**
JGF Kuroka 51.78 68 P **P** **11 11 04.4 +2.1**
JSD Sado 51.81 65 P **P** **11 11 02.6 +0.2**
BNI Bardonecchia 52.04 304 P **P** **11 11 04.5 +0.4**
BNI IAmb IAmb 11 11 10.4
comp=Z,139nm,1.2s
BNI Bardonecchia 52.04 304 P **P** **11 11 04.6 +0.4**
BNI pmax pmax
comp=Z,139nm,1.3s
BCLA Clavier 52.05 311 *d*P **P** **11 11 04.8 +0.8**
MJB9 Matsu-Tunnel 52.17 67 P **P** **11 11 05.5 +0.4**
MJB9 IAmb IAmb 11 11 12.8
comp=Z,117nm,1.0s
MAJO Matsushiro 52.18 67 P **P** **11 11 05.0 -0.2**
MAJO IAmb IAmb 11 11 09.8
comp=Z,70nm,0.8s
MAJO Matsushiro 52.18 67 P **P** **11 11 05.4 +0.2**
MAJO Matsushiro 52.18 67 P **P** **11 11 05.0 -0.2**
MAJO pmax pmax
comp=Z,70nm,0.8s
MJAR Matsushiro Arr 52.18 67 P **P** **11 11 04.7 -0.5**
MJAR Matsushiro Arr 52.18 67 P **P** **11 11 05.0 -0.2**
comp=Z,72nm,1.0s,baz=286,slow=8.9,SNR=31
MJAR ScP **ScP** **11 16 11.9 -1.4**
comp=Z,7.3nm,1.1s,baz=283,slow=4.6,SNR=3.7
MJAR S **S** **11 18 27.7 -1.5**
comp=Z,0.9nm,0.6s,baz=275,slow=13,SNR=1.6
MJAR LR LR 11 33 46.3
comp=Z,3µm,20.0s,baz=281,slow=37
comp=Z,72nm,1.0s
BGES Gesves 52.20 311 *d*P **P** **11 11 05.8 +0.8**
UGL Uglegorsk 52.20 51 *e*P **P** **11 11 06.1 +1.0**
UGL *e*S **S** **11 18 22.3 -6.8**
UGL pmax pmax
comp=Z,2µm,3.4s
UGL pmax pmax
comp=Z,200nm,1.1s
UGL smax smax
comp=E,2µm,3.0s
UGL smax smax
comp=N,4µm,9.0s
UGL MLR MLR
comp=N,9µm,13.0s
UGL MLR MLR
comp=E,12µm,13.0s
UGL MLR MLR
comp=Z,13µm,12.0s
KPJI Karang Pucung 52.28 134 P **P** **11 11 03.4 -2.7**
TYV Tymovskoe 52.31 48 *e*P **P** **11 11 07.4 +1.5**
TYV *e*S **S** **11 18 30.1 -0.5**
TYV pmax pmax
comp=Z,58nm,1.4s
TYV pmax pmax
comp=Z,1µm,3.4s
TYV smax smax
comp=N,3µm,10.2s
TYV smax smax
comp=E,2µm,10.2s
TYV MLR MLR
comp=E,10µm,16.0s
TYV MLR MLR
comp=Z,12µm,15.0s
KEST Kesra 52.33 292 IAmb IAmb 11 11 12.0
comp=Z,86nm,0.8s
KEST Kesra 52.33 292 P **P** **11 11 07.0 +0.6**
comp=Z,70nm,0.8s,baz=85,slow=2.2,SNR=37
KEST S **S** **11 18 32.0 +0.6**
comp=Z,7.4nm,1.1s,baz=69,slow=17,SNR=1.8
KEST LR LR 11 38 45.6
comp=Z,1µm,18.0s,baz=85,slow=42
comp=Z,70nm,0.8s
BMRD Maredsous 52.41 311 *d*P **P** **11 11 07.2 +0.6**
comp=Z,60nm,1.0s
BMRD *d*PcP **PcP** **11 12 17.9 +0.6**
KBS Kingsbay 52.45 348 P **P** **11 11 06.3 -0.2**
KBS Kingsbay 52.45 348 *e*P **P** **11 11 06.2 -0.3**
KBS IAmb IAmb 11 11 06.9
comp=Z,56nm,0.9s
KBS *e*S **S** **11 18 36.1 +4.4**
KBS IAMs_20 IAMs_20 11 35 58.0
comp=Z,15µm,12.7s
KBS Kingsbay 52.45 348 *ce*P **P** **11 11 06.3 -0.2**
KBS pmax pmax
comp=Z,67nm,1.0s
KBS Kingsbay 52.45 348 *i* P **P** **11 11 06.5 0.0**
MBAR Mbarara 52.51 239 P **P** **11 11 08.4 +0.4**
MBAR Mbarara 52.51 239 P **P** **11 11 08.4 +0.4**
MBAR pmax pmax
comp=Z,56nm,0.7s
DOU Dourbes 52.55 311 *d*P **P** **11 11 08.4 +0.7**
comp=Z,40nm,1.2s
UCC Uccle 52.60 312 P **P** **11 11 08.1 +0.1**
UCC Uccle 52.60 312 *d*P **P** **11 11 08.3 +0.3**
UCC Uccle 52.60 312 P **P** **11 11 08.1 +0.1**
UCC pmax pmax
comp=Z,52nm,1.2s
SMKI Samarinda 52.77 120 P **P** **11 11 10.4 +0.7**
YSS Yuzhno-Sakhali 53.03 53 P **P** **11 11 11.6 +0.3**
YSS IAmb IAmb 11 11 12.9
comp=Z,180nm,1.1s
YSS Yuzhno-Sakhali 53.03 53 P **P** **11 11 12.1 +0.9**
YSS Yuzhno-Sakhali 53.03 53 *ce*P **P** **11 11 11.3 +0.1**
YSS *e* 11 12 14.7
YSS *e* 11 13 14.6
YSS *e*PPP PPP 11 14 23.9
YSS *e*S **S** **11 18 36.0 -4.5**
YSS *e*PS **PnS** **11 18 44.7 -5.3**
YSS *e*SS **SS** **11 22 15.1 -4.2**
YSS pmax pmax
comp=Z,140nm,1.1s
YSS pmax pmax
comp=Z,1µm,7.0s
YSS pmax pmax
comp=E,700nm,5.1s
YSS MLR MLR
comp=Z,12µm,14.0s
YSS MLR MLR
comp=N,8µm,15.0s
YSS MLR MLR
comp=E,5µm,13.0s
BKB Balikpapan 53.10 121 P **P** **11 11 13.0 +0.8**
BKB Balikpapan 53.10 121 P **P** **11 11 10.9 -1.3**
JTM Tenmabayashi 53.20 61 P **P** **11 11 12.5 -0.2**
JTM Tenmabayashi 53.20 61 P **P** **11 11 13.4 +0.7**
BBKI Banjar Baru 53.21 125 P **P** **11 11 13.9 +1.0**
ASAJ Asahikawa 53.51 57 LR LR 11 34 15.8
comp=E,4µm,20.0s,baz=280,slow=36
JMM Marumori 53.78 65 IAmb IAmb 11 11 25.1
comp=Z,123nm,0.8s
JMM Marumori 53.78 65 P **P** **11 11 17.8 +0.9**
NGJI Ngawi 53.88 131 P **P** **11 11 17.4 -0.4**
comp=Z,3µmcomp=Z,137nm,1.0s
TOLI2 Tolitoli 54.38 116 P **P** **11 11 23.2 +1.7**
CLF Chambon-Foret 54.43 309 IAmb IAmb 11 11 23.2
comp=Z,225nm,1.8s
JHJ Hachijo jima 2 54.46 70 LR LR 11 35 50.8
comp=Z,5µm,19.0s,baz=285,slow=38
DAV Davao City (W) 54.47 106 LR LR 11 37 11.9
comp=Z,4µm,18.2s,baz=322,slow=39
DAV Davao City (W) 54.47 106 P **P** **11 11 23.0 +0.8**
PCI Palu 55.00 118 P **P** **11 11 27.0 +0.9**
comp=Z,100nm,1.1s
BLJI Banyuglugur 55.53 130 P **P** **11 11 28.9 -0.9**
comp=Z,5µmcomp=Z,222nm,2.1s
MRSI Marisa 55.67 115 P **P** **11 11 32.2 +1.3**
comp=Z,3µmcomp=Z,324nm,1.0s
DRUM Mains of Drumt 55.68 320 *e*P **P** **11 11 29.4 -1.0**
HPK Haverah Park 55.70 316 *e*P **P** **11 11 30.3 -0.3**
HPK IAmb IAmb 11 11 31.1
comp=Z,90nm,0.8s
MA2 Magadan 55.72 37 P **P** **11 11 31.2 +0.5**
MA2 Magadan 55.72 37 P **P** **11 11 31.9 +1.2**
MA2 Magadan 55.72 37 *ce*P **P** **11 11 31.6 +0.9**
MA2 pmax pmax
comp=Z,180nm,1.1s
MA2 MLR MLR
comp=Z,3µm,12.0s
EDMD Edmundbyers 55.74 317 *e*P **P** **11 11 30.4 -0.4**
EDMD IAmb IAmb 11 11 31.4
comp=Z,114nm,0.8s
YUK Yuzh-Kuril'sk 55.81 56 *e*P **P** **11 11 29.7 -1.8**
YUK *e* 11 13 30.6
YUK *e*PPP PPP 11 14 50.0
YUK *e*S **S** **11 19 10.8 -7.3**
YUK *e*SS **SS** **11 23 05.6 +2.3**
YUK pmax pmax
comp=Z,804nm,2.7s
YUK pmax pmax
comp=Z,572nm,1.3s
YUK pmax pmax
comp=E,419nm,1.2s
ABJI Asem Bagus 55.98 129 P **P** **11 11 32.5 -0.6**
comp=E,3µmcomp=E,5µmcomp=E,323nm,1.0s
MCD Coleburn Disti 55.99 321 *e*P **P** **11 11 31.8 -0.8**
MCD IAmb IAmb 11 11 33.1
comp=Z,211nm,0.8s
CORI Orista 56.04 301 P **P** **11 11 34.5 +1.2**
EDI Edinburgh 56.23 319 *e*P **P** **11 11 33.6 -0.8**
EDI IAmb IAmb 11 11 34.7
comp=Z,100nm,0.8s
EKA Eskdalemuir Ar 56.32 318 P **P** **11 11 34.3 -0.8**
comp=Z,39nm,0.8s,baz=76,slow=7.5,SNR=65
comp=Z,39nm,0.8s
APSI Ampana 56.35 117 P **P** **11 11 36.9 +1.1**
comp=Z,3µmcomp=Z,116nm,1.0s
ESK Eskdalemuir 56.35 318 P **P** **11 11 34.7 -0.5**
ESK IAmb IAmb 11 11 35.9
comp=Z,244nm,1.6s
ESK Eskdalemuir 56.35 318 *e*P **P** **11 11 34.5 -0.7**
ESK Eskdalemuir 56.35 318 P **P** **11 11 34.7 -0.5**
ESK pmax pmax
comp=Z,244nm,1.6s
JAGI Jajag, Banyuwa 56.43 130 IAmb IAmb 11 11 39.2
comp=Z,69nm,0.7s
JAGI Jajag, Banyuwa 56.43 130 P **P** **11 11 35.3 -1.0**
JAGI Jajag, Banyuwa 56.43 130 P **P** **11 11 33.9 -2.4**
comp=Z,2µmcomp=Z,2µmcomp=Z,94nm,0.9s
KESW Keswick, Cumbr 56.43 317 *e*P **P** **11 11 35.5 -0.3**
KESW IAmb IAmb 11 11 36.0
comp=Z,98nm,1.0s
SGSI Sangihe 56.44 110 P P 11 11 46.5 +10
STRD Stroud 56.45 314 *e*P **P** **11 11 35.5 -0.5**
INVG Invergeldie, C 56.61 319 *e*P **P** **11 11 36.4 -0.7**
INVG IAmb IAmb 11 11 37.3
comp=Z,72nm,1.0s
HLM1 Long Mynd 56.72 315 *e*P **P** **11 11 37.5 -0.5**
MONM Monmouth 56.83 314 *e*P **P** **11 11 37.8 -0.9**
MONM IAmb IAmb 11 11 39.1
comp=Z,194nm,1.3s
FOEL Foel Wylfa 56.84 315 *e*P **P** **11 11 38.5 -0.2**
FOEL IAmb IAmb 11 11 39.5
comp=Z,467nm,1.9s
SRBI Singaraja 56.84 128 P **P** **11 11 37.9 -1.3**
comp=Z,3µmcomp=Z,4µmcomp=Z,184nm,0.8s
KUR Kuril'sk 56.88 54 *e*P **P** **11 11 39.6 +0.4**
KUR *e*S **S** **11 19 33.8 +1.6**
KUR MLR MLR
comp=Z,4µm,12.0s
KUR MLR MLR
comp=N,5µm,14.0s
KUR MLR MLR
comp=E,3µm,17.0s
MCH1 Michaelchurch 56.91 314 *e*P **P** **11 11 38.3 -1.0**
MCH1 IAmb IAmb 11 11 39.1
comp=Z,100nm,0.9s
NEWG New Galloway 56.97 318 *e*P **P** **11 11 39.4 -0.2**
NEWG IAmb IAmb 11 11 40.3
comp=Z,136nm,0.9s
PGBU Glenifferbraes 56.97 319 *e*P **P** **11 11 39.3 -0.4**
PGBU IAmb IAmb 11 11 39.7
comp=Z,247nm,1.0s
SPSI Sidrap Palu 57.03 121 P **P** **11 11 39.9 -0.7**
KMSI Cibinong 57.16 114 P **P** **11 11 42.2 +0.7**
OPO Ambohidratompo 57.26 210 LR LR 11 35 48.0
comp=Z,2µm,18.2s,baz=178,slow=36
LUWI Luwuk 57.28 116 P **P** **11 11 43.8 +1.4**
LUWI Luwuk 57.28 116 P **P** **11 11 41.5 -0.9**
comp=Z,130nm,1.0s
GAL1 Galloway 57.29 318 *e*P **P** **11 11 41.3 -0.6**
GAL1 IAmb IAmb 11 11 42.4
comp=Z,365nm,1.8s
KPL Plockton 57.30 321 *e*P **P** **11 11 41.0 -0.9**
KPL IAmb IAmb 11 11 42.3
comp=Z,84nm,0.9s
IOMK Kirk Michael 57.34 317 *e*P **P** **11 11 42.1 -0.1**
IOMK IAmb IAmb 11 11 42.5
comp=Z,64nm,0.9s
LAWE Loch Awe, Argy 57.38 319 *e*P **P** **11 11 41.7 -0.9**
LAWE IAmb IAmb 11 11 43.1
comp=Z,160nm,1.1s
WPS Cemaes, Angles 57.49 316 *e*P **P** **11 11 43.0 -0.3**
WPS IAmb IAmb 11 11 44.0
comp=Z,16nm,0.8s
BNSI Bone 57.57 121 P **P** **11 11 42.6 -1.8**
comp=Z,1µmcomp=Z,56nm,1.4s
NOR Nord 57.58 350 *i* P **P** **11 11 43.1 -0.4**
NOR IAmb IAmb 11 11 47.2
comp=Z,57nm,1.1s
ABPO Ambohimpanom 57.65 210 P **P** **11 11 45.7 +0.7**
ABPO Ambohimpanom 57.65 210 P **P** **11 11 45.7 +0.7**
ABPO pmax pmax
comp=Z,259nm,1.4s
KAPI Kappang 57.74 122 P **P** **11 11 45.1 -0.5**
KAPI IAmb IAmb 11 11 50.0
comp=Z,133nm,1.2s
KAPI Kappang 57.74 122 P **P** **11 11 44.6 -1.0**
KAPI Kappang 57.74 122 P **P** **11 11 45.3 -0.3**
KAPI Kappang 57.74 122 P **P** **11 11 45.1 -0.5**
KAPI pmax pmax
comp=Z,133nm,1.3s
LEWI Lewis, Hebride 57.78 322 *e*P **P** **11 11 44.7 -0.6**
LEWI IAmb IAmb 11 11 45.5
comp=Z,90nm,1.0s
BKSI Bulukumba 58.22 122 P **P** **11 11 48.9 0.0**
comp=Z,2µmcomp=Z,1µmcomp=Z,61nm,1.0s
ILTH Belurgan, Co L 58.40 317 P **P** **11 11 49.0 -0.7**
DUB Dublin 58.62 316 P **P** **11 11 50.9 -0.3**
DSB Dublin 58.62 316 P **P** **11 11 50.6 -0.7**
DSB IAmb IAmb 11 11 52.1
comp=Z,160nm,1.7s
DAG Danmarks Havn 58.64 344 P **P** **11 11 50.4 -0.6**
DAG Danmarks Havn 58.64 344 *i* P **P** **11 11 50.5 -0.6**
DAG IAmb IAmb 11 11 51.5
comp=Z,97nm,1.0s
IDGL Inch Island, C 58.82 318 P **P** **11 11 52.7 +0.1**
BSSI Bau Bau, Buton 59.05 122 P **P** **11 11 54.3 -0.5**
comp=Z,2µmcomp=Z,4µmcomp=Z,228nm,2.1s
IWEX Carrickbyrne, 59.07 315 P **P** **11 11 54.3 -0.1**
DBG Daneborg 59.55 342 *i* P **P** **11 11 57.5 +0.1**
DBG IAmb IAmb 11 11 57.8
comp=Z,54nm,1.2s
TNTI Ternate 59.67 111 P **P** **11 11 59.2 +0.1**
TNTI Ternate 59.67 111 P **P** **11 12 00.1 +1.1**
TNTI Ternate 59.67 111 P **P** **11 11 59.4 +0.4**
comp=Z,3µmcomp=Z,194nm,1.1s
TAM Tamanrasset 60.20 279 P **P** **11 12 03.7 +0.8**
IGLA Glengowla, Co 60.31 317 P **P** **11 12 03.3 +0.4**
SANI Sanana 60.37 115 P **P** **11 12 03.9 0.0**
SANI Sanana 60.37 115 P **P** **11 12 03.7 -0.2**
comp=Z,2µmcomp=Z,3µmcomp=Z,181nm,1.4s
VOI Vohitsoka 60.41 209 P **P** **11 12 04.1 +0.1**
BILL Bilibino 60.72 26 P **P** **11 12 06.3 +0.8**
BILL IAmb IAmb 11 12 11.5
comp=Z,135nm,1.3s
BILL Bilibino 60.72 26 *ce*P **P** **11 12 06.4 +0.9**
BILL pmax pmax
comp=Z,236nm,2.5s
BILL MLR MLR
comp=Z,5µm,14.0s
WBSI Waikabubak, Su 60.77 126 P P 11 12 14.2 +7.6
PETK Petropavlovsk- 60.90 43 P **P** **11 12 06.9 -0.1**
PETK Petropavlovsk- 60.90 43 P **P** **11 12 06.5 -0.5**
comp=Z,31nm,1.0s,baz=275,slow=7.2,SNR=15
PETK S **S** **11 20 23.1 -1.1**
comp=Z,4.0nm,0.8s,baz=296,slow=14,SNR=2.0
comp=Z,31nm,1.0s
ESBB Sonseca Array 61.09 301 IAmb IAmb 11 12 13.3
comp=Z,78nm,0.8s
SCO Scoresbysund 61.09 338 P **P** **11 12 08.7 +0.8**
SCO Scoresbysund 61.09 338 P **P** **11 12 08.7 +0.8**
SCO pmax pmax
comp=Z,49nm,1.2s
SCO Scoresbysund 61.09 338 *i* P **P** **11 12 08.9 +1.0**
SCO IAmb IAmb 11 12 12.8
comp=Z,26nm,1.0s
ESDC Sonseca Array 61.09 301 P **P** **11 12 08.7 +0.1**
ESDC IAmb IAmb 11 12 13.3
comp=Z,85nm,0.8s
ESDC Sonseca Array 61.09 301 P **P** **11 12 08.9 +0.3**
comp=Z,77nm,0.8s,baz=70,slow=7.2,SNR=199
ESDC S **S** **11 20 27.1 -0.1**
comp=Z,0.4nm,0.6s,baz=39,slow=2.9,SNR=1.0
ESDC LR LR 11 41 46.2
comp=Z,1µm,21.2s,baz=68,slow=39
comp=Z,77nm,0.8s
VAL Valentia 61.25 315 P **P** **11 12 09.4 +0.1**
PET Petropavlovsk 61.47 43 *e*P P 11 12 05.0 -5.8
PET *e* 11 14 27.8
PET *e*S **S** **11 20 25.6 -5.8**
PET *e* 11 21 54.3
PET *e*SS **SS** **11 24 30.8 -1.0**
PET pmax pmax
comp=Z,57nm,1.1s
PET pmax pmax
comp=Z,900nm,8.5s
PET pmax pmax

comp=Z,700nm,12.6s
PET pmax pmax
comp=Z,600nm,14.0s
PET MLR MLR
comp=Z,4µm,16.0s
PET MLR MLR
comp=Z,4µm,14.0s
EDFI Ende, Flores 61.72 124 P **P** **11 12 09.0 -4.1**
NLAI Namlea 61.98 115 P **P** **11 12 15.9 +1.1**
comp=Z,2µmcomp=Z,178nm,0.8s
BASI Baing, Sumba 61.99 126 P **P** **11 12 12.9 -1.9**
comp=Z,4µmcomp=Z,288nm,1.4s
MMRI Maumere 62.03 123 P **P** **11 12 14.3 -0.7**
MMRI Maumere 62.03 123 P **P** **11 12 13.1 -1.9**
comp=Z,109nm,1.3s
PBRG Braganca 62.32 304 *e*P **P** **11 12 17.4 +0.6**
PBRG *i* IAmb IAmb 11 12 19.9
comp=Z,78nm,1.7s
BORG Borgarnes 62.69 331 P **P** **11 12 18.4 -0.4**
comp=Z,19nm,0.8s,baz=75,slow=7.0,SNR=7.4
BORG S **S** **11 20 43.4 -3.0**
comp=Z,19nm,1.2s,baz=102,slow=9.3,SNR=1.9
BORG LR LR 11 40 51.6
comp=Z,3µm,19.0s,baz=91,slow=37
comp=Z,19nm,0.8s
MVO Moncorvo 62.75 303 *e*P **P** **11 12 20.6 +0.9**
MVO *i* IAmb IAmb 11 12 24.9
comp=Z,174nm,1.2s
FOMA Nahampoana Res 63.09 207 P **P** **11 12 22.4 +0.5**
AAI Ambon 63.11 114 P **P** **11 12 21.5 -0.8**
comp=Z,2µmcomp=Z,72nm,1.0s
PVRL Vila Real 63.19 303 *e*P **P** **11 12 22.2 -0.4**
PVRL *i* IAmb IAmb 11 12 23.3
comp=Z,504nm,1.7s
POLO Lamas de Olo 63.21 303 *e*P **P** **11 12 23.4 +0.6**
POLO *i* IAmb IAmb 11 12 36.1
comp=Z,40nm,1.5s
PCAB Cabril 63.25 304 *e*P **P** **11 12 24.2 +1.2**
PCAB *i* IAmb IAmb 11 12 25.3
comp=Z,166nm,1.5s
PGAV Gavieira, Arco 63.32 304 *e*P **P** **11 12 24.5 +1.0**
PGAV *i* IAmb IAmb 11 12 28.8
comp=Z,102nm,1.1s
MTE Manteigas 63.39 302 *e*P **P** **11 12 25.2 +1.2**
MTE *i* IAmb IAmb 11 12 30.2
comp=Z,245nm,1.4s
MSAI Masohi 63.45 114 P **P** **11 12 24.5 -0.1**
comp=Z,120nm,1.2s
PVIS Viseu 63.52 303 *e*P **P** **11 12 26.6 +1.8**
PCBR Castelo Branco 63.55 302 *e*P **P** **11 12 25.9 +0.9**
PCBR *i* IAmb IAmb 11 12 30.3
comp=Z,97nm,1.3s
PMRV Marv??o 63.65 301 *e*P **P** **11 12 25.9 +0.2**
PMRV *i* IAmb IAmb 11 12 31.4
comp=Z,98nm,1.4s
SWI Sorong 63.73 110 P **P** **11 12 26.4 0.0**
comp=Z,2µmcomp=Z,126nm,1.1s
PBAR Barrancos 63.87 300 *e*P **P** **11 12 27.7 +0.6**
PBAR *i* IAmb IAmb 11 12 47.4
comp=Z,196nm,1.7s
PESTR Estremoz 64.00 301 IAmb IAmb 11 12 34.1
comp=Z,86nm,0.9s
PESTR Estremoz 64.00 301 *e*P **P** **11 12 28.2 +0.3**
PESTR *i* IAmb IAmb 11 12 33.7
comp=Z,139nm,1.1s
COI Coimbra 64.08 302 *e*P **P** **11 12 29.4 +0.9**
COI *i* IAmb IAmb 11 12 30.4
comp=Z,206nm,1.9s
BATI Baumata 64.12 123 LR LR 11 45 43.6
comp=Z,3µm,18.8s,baz=306,slow=41
PSARD Sardoal 64.13 302 *e*P **P** **11 12 29.6 +0.8**
PSARD *i* IAmb IAmb 11 12 34.2
comp=Z,219nm,1.2s
MDT Midelt 64.16 294 LR LR 11 43 39.5
comp=Z,916nm,18.3s,baz=74,slow=39
PCAS Casmilo, Conde 64.20 302 *e*P **P** **11 12 30.4 +1.1**
PCAS *i* IAmb IAmb 11 12 41.7
comp=Z,97nm,1.8s
SOEI Soe 64.24 122 P **P** **11 12 28.7 -1.2**
SOEI Soe 64.24 122 P **P** **11 12 28.9 -1.0**
SOEI Soe 64.24 122 P **P** **11 12 28.6 -1.2**
comp=Z,4µmcomp=Z,273nm,1.2s
MD01 Midelt array s 64.25 294 P **P** **11 12 29.7 -0.2**
PMTG Montargil 64.38 301 *e*P **P** **11 12 30.4 -0.1**
PMTG *i* IAmb IAmb 11 12 36.2
comp=Z,123nm,1.2s
EVO Evora 64.44 301 *e*P **P** **11 12 31.1 +0.3**
EVO *i* IAmb IAmb 11 12 36.7
comp=Z,217nm,1.5s
PBEJ Beja 64.53 300 *e*P **P** **11 12 32.1 +0.7**
PBEJ *i* IAmb IAmb 11 12 51.8
comp=Z,93nm,1.7s
PSBE So Bento 64.62 302 *e*P **P** **11 12 33.3 +1.3**
PSBE *i* IAmb IAmb 11 12 38.3
comp=Z,348nm,1.5s
PVAQ Vaqueiros 64.66 299 *e*P **P** **11 12 33.0 +0.7**
PVAQ *i* IAmb IAmb 11 12 52.5
comp=Z,166nm,1.8s
PCVE Castro Verde 64.81 300 *e*P **P** **11 12 33.7 +0.5**
PCVE *i* IAmb IAmb 11 12 47.7
comp=Z,106nm,1.7s
LSZ Lusaka 64.82 230 P **P** **11 12 34.7 +1.1**
LSZ Lusaka 64.82 230 LR LR 11 42 01.0
comp=Z,2µm,19.4s,baz=32,slow=37
LSZ Lusaka 64.82 230 P **P** **11 12 34.7 +1.1**
LSZ Lusaka 64.82 230 P **P** **11 12 34.7 +1.1**
LSZ pmax pmax
comp=Z,43nm,1.0s
NEEM North Greenlan 64.85 349 *i* P **P** **11 12 33.4 +0.1**
NEEM IAmb IAmb 11 12 34.2
comp=Z,109nm,0.7s
MESJ Messejana 64.86 300 *e*P **P** **11 12 34.2 +0.6**
MESJ *e*S **S** **11 21 16.3 +2.0**
MESJ IAMs_20 IAMs_20 11 41 21.8
comp=N,2µm,16.3s
MESJ Messejana 64.86 300 IAmb IAmb 11 12 39.2
comp=Z,98nm,1.1s
MESJ Messejana 64.86 300 *e*P **P** **11 12 34.4 +0.8**
MESJ *i* IAmb IAmb 11 12 40.1
comp=Z,106nm,1.2s
PBDV Barranco-do-Ve 64.88 299 *e*P **P** **11 12 34.4 +0.6**
PBDV *i* IAmb IAmb 11 12 39.1
comp=Z,153nm,1.3s
SUMG Summit 65.02 342 *i* P **P** **11 12 34.0 -0.6**
SUMG IAmb IAmb 11 12 35.8
comp=Z,110nm,0.9s
PARRA Arraiolos 65.07 301 *e*P **P** **11 12 30.9 -4.0**
PARRA *i* IAmb IAmb 11 12 35.2
comp=Z,74nm,1.2s
LIS Lisbon 65.18 301 *e*P **P** **11 12 36.3 +0.7**
LIS *e*S **S** **11 21 20.4 +2.1**
LIS IAMs_20 IAMs_20 11 44 02.8
comp=E,3µm,15.0s
PMAFR Mafra 65.18 302 *e*P **P** **11 12 36.3 +0.6**
PMAFR *i* IAmb IAmb 11 12 41.1
comp=E,278nm,1.1s
PTEO Sao Teotonio 65.34 300 *e*P **P** **11 12 37.5 +0.8**
PTEO *i* IAmb IAmb 11 12 42.8
comp=E,151nm,1.5s
MORF Marmelete 65.39 300 *e*P **P** **11 12 37.7 +0.6**
MORF *e*S **S** **11 21 23.1 +2.2**
MORF IAMs_20 IAMs_20 11 47 50.7
comp=Z,2µm,13.4s
MORF Marmelete 65.39 300 P **P** **11 12 36.5 -0.6**
MORF IAmb IAmb 11 12 56.7
comp=Z,92nm,1.3s
MORF Marmelete 65.39 300 *e*P **P** **11 12 37.0 0.0**
MORF *i* IAmb IAmb 11 12 57.5
comp=Z,112nm,1.7s
MORF Marmelete 65.39 300 P **P** **11 12 36.5 -0.6**
MORF pmax pmax
comp=Z,92nm,1.3s
PFVI Vila Bisbo 65.58 300 P **P** **11 12 37.6 -0.7**
PFVI Vila Bisbo 65.58 300 *e*P **P** **11 12 39.4 +1.1**
PFVI *i* IAmb IAmb 11 12 58.9
comp=Z,211nm,1.8s
FAKI Fak Fak 65.77 111 P **P** **11 12 39.6 -0.2**
FAKI IAmb IAmb 11 12 44.0
comp=Z,72nm,0.9s
FAKI Fak Fak 65.77 111 P **P** **11 12 39.9 +0.2**
FAKI Fak Fak 65.77 111 P **P** **11 12 39.6 -0.2**
comp=Z,1µmcomp=Z,104nm,1.2s
RKPI Ransiki, Papua 66.44 108 P **P** **11 12 44.5 +0.4**
comp=Z,89nm,1.7s
BAKI Biak 67.79 107 P **P** **11 12 51.7 -1.0**
comp=Z,2µmcomp=Z,114nm,1.0s
KULLO Kullorsuaq 67.92 347 *i* P **P** **11 12 52.1 -0.4**
KULLO IAmb IAmb 11 12 52.8
comp=Z,65nm,0.9s
TORD Torodi Ar. Bea 67.97 272 P **P** **11 12 52.2 -1.6**
comp=Z,36nm,0.7s,baz=52,slow=5.8,SNR=103
TORD S **S** **11 21 47.6 -5.0**
comp=Z,0.9nm,1.1s,baz=75,slow=28,SNR=2.2
TORD PKPPKP P'P'df 11 41 07.2 -8.7
comp=Z,0.7nm,0.8s,baz=255,slow=2.7,SNR=3.6
comp=Z,36nm,0.7s
TULEG Thule 68.18 351 *i* P **P** **11 12 53.5 -0.7**
TULEG IAmb IAmb 11 12 54.5
comp=Z,43nm,0.6s
SAUI Saumlaki 68.22 116 P **P** **11 12 57.3 +2.0**
SAUI Saumlaki 68.22 116 P **P** 11 13 00.5 +5.2
ANGG Ammassalik, Gr 68.47 335 *i* P **P** **11 12 55.1 -1.0**
ANGG IAmb IAmb 11 12 56.8
comp=Z,42nm,0.6s
KSANE Kasane 68.62 230 *i* P **P** **11 12 59.5 +1.6**
KSANE Kasane 68.62 230 IAmb IAmb 11 13 03.7
comp=Z,118nm,1.4s
UPNV Upernavik 69.02 346 *i* P **P** **11 12 58.9 -0.6**
UPNV IAmb IAmb 11 12 59.7
comp=Z,68nm,1.1s
NUUG Nuugaatsiaq 69.27 344 *i* P **P** **11 12 59.4 -1.6**
NUUG IAmb IAmb 11 13 01.1
comp=Z,33nm,1.1s
SAATT Saattut 69.41 343 *i* P **P** **11 13 00.2 -1.6**
SAATT IAmb IAmb 11 13 03.5
comp=Z,14nm,0.9s
MBWA Marble Bar 69.54 134 P **P** **11 13 02.4 -1.0**
comp=Z,54nm,1.5s
MBWA Marble Bar 69.54 134 P **P** **11 13 03.1 -0.2**
MBWA Marble Bar 69.54 134 P **P** **11 13 03.1 -0.2**
MBWA Marble Bar 69.54 134 P **P** **11 13 03.3 0.0**
BROLN Tlhalogang 69.73 226 *i* P **P** **11 13 05.1 +0.4**
A19K Wainwright 69.78 17 P **P** **11 13 05.1 +0.9**
baz=313
PSAC1 Pilbara Seismi 69.87 134 P **P** **11 13 04.2 -1.2**
comp=Z,64nm,1.4s
NIAQ Niaqornat 69.91 344 *i* P **P** **11 13 04.0 -0.9**
PSA00 Pilbara Seismi 69.92 134 P **P** **11 13 03.9 -1.8**
comp=Z,57nm,2.4s
PSA00 Pilbara Seismi 69.92 134 P **P** **11 13 05.4 -0.2**
PSA00 IAmb IAmb 11 13 11.4
comp=Z,126nm,1.9s
PSA00 Pilbara Seismi 69.92 134 IAmb IAmb 11 13 10.1
comp=Z,50nm,1.1s
PSA00 Pilbara Seismi 69.92 134 P **P** **11 13 05.5 -0.2**
C16K Lisburne Hills 69.93 20 P **P** **11 13 05.7 +0.6**
baz=310,SNR=10
PSAB3 Pilbara Seismi 69.94 134 P **P** **11 13 04.3 -1.6**
comp=Z,45nm,1.7s
PSAC2 Pilbara Seismi 69.95 134 P **P** **11 13 04.4 -1.4**
comp=Z,65nm,1.4s
SAQQ Saqqaq 70.03 343 *i* P **P** **11 13 04.8 -0.9**
SAQQ IAmb IAmb 11 13 06.3
comp=Z,35nm,0.9s
A21K Barrow 70.04 15 P **P** **11 13 06.4 +0.7**
baz=316
B18K Kokolik River 70.17 18 P **P** **11 13 07.7 +1.1**
baz=313,SNR=9.3
SHEM Shemya Is, Ala 70.18 39 IAmb IAmb 11 13 09.5
comp=Z,90nm,1.0s
SHEM Shemya Is, Ala 70.18 39 LR LR 11 45 38.1
comp=Z,2µm,19.0s,baz=302,slow=38
SMY Shemya 70.18 39 IAmb IAmb 11 13 09.6
comp=Z,123nm,1.0s
SMY Shemya 70.18 39 P **P** **11 13 08.0 +1.1**
SMPI Sarmi 70.36 106 P **P** **11 13 09.5 +0.9**
comp=Z,2µmcomp=Z,73nm,0.9s
ILULI Ilulissat 70.37 342 IAmb IAmb 11 13 08.8
comp=Z,103nm,1.1s
ILULI Ilulissat 70.37 342 *i* P **P** **11 13 07.6 -0.2**
ILULI IAmb IAmb 11 13 08.1
comp=Z,69nm,0.8s
C17K DeLong Mountai 70.40 19 P **P** **11 13 08.8 +0.7**
baz=312,SNR=20
A22K Sinclair Lake 70.64 15 P **P** **11 13 10.0 +0.6**
baz=318
GAMB Gambell 70.65 25 P **P** **11 13 10.4 +0.8**
baz=306
RDOG Red Dog Mine 70.76 19 IAmb IAmb 11 13 11.2
comp=Z,136nm,1.4s
RDOG Red Dog Mine 70.76 19 P **P** **11 13 10.7 +0.4**
baz=312,SNR=6.8
MREMI Moremi 70.78 225 IAmb IAmb 11 13 16.2
comp=Z,108nm,1.3s
PHDHD Phudubudu 70.78 229 IAmb IAmb 11 15 26.3
comp=Z,87nm,1.6s
DY2G Dye2 70.80 338 *i* P **P** **11 13 10.8 0.0**
DY2G IAmb IAmb 11 13 11.3
comp=Z,67nm,0.9s
DRS Darwin Rock St 70.82 120 P **P** **11 13 11.9 +0.6**
C18K Utukok River 70.82 18 IAmb IAmb 11 13 11.9
comp=Z,84nm,0.9s
C18K Utukok River 70.82 18 P **P** **11 13 11.2 +0.5**
baz=313,SNR=15
TNA Tin City 70.86 23 IAmb IAmb 11 13 12.8
comp=Z,85nm,1.1s
TNA Tin City 70.86 23 P **P** **11 13 12.0 +1.1**
baz=309
B20K Meade River 70.87 16 P **P** **11 13 11.7 +0.9**
baz=316,SNR=20
C19K Lookout Ridge 70.92 18 IAmb IAmb 11 13 12.9
comp=Z,100nm,0.8s
C19K Lookout Ridge 70.92 18 P **P** **11 13 12.2 +0.9**
baz=315,SNR=23
D17K Noatak River 70.95 20 P **P** **11 13 12.2 +0.9**
baz=312,SNR=33
GDH Godhavn 70.97 343 *i* P **P** **11 13 11.9 +0.5**
GDH IAmb IAmb 11 13 12.0
comp=Z,57nm,1.2s
FITZ Fitzroy Crossi 71.03 128 P **P** **11 13 12.6 0.0**
FITZ Fitzroy Crossi 71.03 128 LR LR 11 49 54.4
comp=Z,1µm,19.3s,baz=312,slow=41
FITZ Fitzroy Crossi 71.03 128 P **P** **11 13 13.1 +0.6**
F14K Arctic Creek 71.43 22 P **P** **11 13 15.7 +1.4**
baz=310,SNR=16
KNRA Kununurra 71.47 124 P **P** **11 13 15.4 +0.1**
comp=Z,105nm,1.0s
KNRA Kununurra 71.47 124 P **P** **11 13 15.5 +0.3**
KNRA IAmb IAmb 11 13 20.5
comp=Z,98nm,1.1s
B22K Teshekpuk Lake 71.48 15 P **P** **11 13 15.2 +0.6**
baz=320,SNR=20
KHWEE KHWEE 71.51 227 *i* P **P** **11 13 16.3 +0.8**
KHWEE KHWEE 71.51 227 IAmb IAmb 11 13 21.9
comp=Z,101nm,0.9s
XAUDM Khaudum 71.66 232 P **P** **11 13 17.3 +0.8**
XAUDM IAmb IAmb 11 13 22.6
comp=Z,103nm,1.6s
E17K Hotham Inlet 71.73 20 P **P** **11 13 16.8 +0.7**
baz=313,SNR=30
D19K Kuna River 71.74 18 P **P** **11 13 16.7 +0.5**
baz=316
SFJD Kangerlussuaq 71.75 340 P **P** **11 13 15.6 -0.7**
SFJD IAmb IAmb 11 13 16.8
comp=Z,67nm,1.1s
SFJD Kangerlussuaq 71.75 340 LR LR 11 45 44.5
comp=Z,3µm,18.1s,baz=54,slow=37
SFJD Kangerlussuaq 71.75 340 P **P** **11 13 15.6 -0.7**
SFJD pmax pmax
comp=Z,67nm,1.1s
SFJD Kangerlussuaq 71.75 340 *i* P **P** **11 13 15.7 -0.5**
SFJD IAmb IAmb 11 13 16.5
comp=Z,65nm,1.1s
B21K Ikpikpuk River 71.76 16 P **P** **11 13 16.7 +0.5**
baz=319,SNR=33
F15K North Star Dit 71.81 22 P **P** **11 13 17.4 +0.7**
F15K IAmb IAmb 11 13 18.6
comp=Z,118nm,0.9s
F15K North Star Dit 71.81 22 P **P** **11 13 17.9 +1.3**
baz=311,SNR=24
E18K Tukpahlearik C 71.83 19 P **P** **11 13 17.5 +0.8**
baz=314
GENI Genyem 71.89 106 P **P** **11 13 19.0 +1.1**
GENI Genyem 71.89 106 P **P** **11 13 18.6 +0.7**
comp=Z,4µmcomp=Z,276nm,0.9s
D20K Etivluk River 71.95 17 P **P** **11 13 18.0 +0.5**
baz=317
C21K Knifeblade Rid 72.07 16 P **P** **11 13 18.9 +0.8**
baz=319,SNR=37
POGA Pongola 72.13 219 IAmb IAmb 11 13 24.2
comp=Z,161nm,1.3s
RES Resolute Bay 72.26 357 LR LR 11 49 25.8
comp=Z,2µm,18.8s,baz=29,slow=40
JAY Jayapura 72.28 105 LR LR 11 45 50.4
comp=Z,2µm,20.9s,baz=314,slow=36
JAY Jayapura 72.28 105 P **P** **11 13 21.0 +0.7**
LPHEP Lephephe 72.33 226 *i* P **P** **11 13 21.0 +0.6**
LPHEP Lephephe 72.33 226 P **P** **11 13 21.1 +0.7**
LPHEP IAmb IAmb 11 13 22.8
comp=Z,195nm,1.7s
ANM Nome 72.33 23 IAmb IAmb 11 13 22.1
comp=Z,101nm,0.9s
ANM Nome 72.33 23 P **P** **11 13 21.4 +1.6**
baz=311,SNR=11
F17K Baldwin Pennin 72.33 20 P **P** **11 13 20.9 +1.2**
baz=314,SNR=41
E20K Nigu River 72.40 17 P **P** **11 13 20.7 +0.5**
baz=318
G15K Niukluk 72.48 22 P **P** **11 13 21.6 +1.0**
baz=312,SNR=17
C23K Itkillik River 72.48 15 P **P** **11 13 21.3 +0.8**
baz=322,SNR=67
F18K Selawik 72.68 20 P **P** **11 13 22.5 +0.8**
baz=315,SNR=92
E19K Redstone River 72.72 18 P **P** **11 13 22.4 +0.4**
baz=317
G16K Koyuk River 72.73 21 IAmb IAmb 11 13 24.1
comp=Z,106nm,1.1s
G16K Koyuk River 72.73 21 P **P** **11 13 23.3 +1.2**
baz=313,SNR=21
D22K Ayikyak River 72.77 16 P **P** **11 13 23.0 +0.6**
baz=320,SNR=49
E21K Killik River 72.80 17 P **P** **11 13 22.8 +0.2**
baz=319
C24K Franklin Bluff 72.98 14 P **P** **11 13 24.2 +0.7**
baz=324
F19K Shaleruckik Mo 73.03 19 IAmb IAmb 11 13 25.3
comp=Z,103nm,1.2s
F19K Shaleruckik Mo 73.03 19 P **P** **11 13 23.6 -0.2**
baz=317,SNR=48
KDWAN Kaudwane 73.06 227 *i* P **P** **11 13 24.9 +0.2**
KDWAN Kaudwane 73.06 227 P **P** **11 13 25.5 +0.7**
MEEK Meekatharra 73.12 139 P **P** **11 13 24.6 -0.3**
D23K Nanushuk River 73.16 15 P **P** **11 13 24.8 +0.2**
D23K IAmb IAmb 11 13 26.5
comp=Z,129nm,1.1s
D23K Nanushuk River 73.16 15 P **P** **11 13 25.2 +0.6**
baz=322,SNR=60
G17K Kiwalik Mounta 73.17 21 P **P** **11 13 25.6 +0.9**
baz=314,SNR=37
H16K Elim 73.29 22 P **P** **11 13 26.3 +0.9**
baz=313,SNR=15
D24K Happy Valley 73.41 15 P **P** **11 13 26.4 +0.3**
baz=324
F20K Avaraart Lake 73.42 18 IAmb IAmb 11 13 27.5
comp=Z,68nm,1.0s
F20K Avaraart Lake 73.42 18 P **P** **11 13 26.1 0.0**
baz=318,SNR=39
G18K Tagagawik 73.47 20 IAmb IAmb 11 13 27.4
comp=Z,101nm,1.5s
G18K Tagagawik 73.47 20 P **P** **11 13 26.6 +0.1**
baz=316,SNR=21
PMAR Madeira 73.49 298 *e*P **P** **11 13 28.5 +1.1**
PMAR *i* IAmb IAmb 11 13 33.3
comp=Z,249nm,1.3s
E22K Anaktuvuk Pass 73.55 16 IAmb IAmb 11 13 28.6
comp=Z,133nm,1.1s
E22K Anaktuvuk Pass 73.55 16 P **P** **11 13 27.4 +0.4**
baz=321,SNR=58
C26K Camden Bay 73.56 13 P **P** **11 13 28.2 +1.3**
baz=327,SNR=14
PMOZ Porto Moniz, M 73.65 299 P **P** **11 13 27.1 -1.2**
TOLK Toolik Lake Re 73.66 15 P **P** **11 13 28.2 +0.5**
baz=323,SNR=96
MORW Morawa 73.67 142 IAmb IAmb 11 13 29.0
comp=Z,220nm,2.0s
MORW Morawa 73.67 142 P **P** **11 13 27.8 -0.3**
G19K Purcell Mounta 73.73 19 P **P** **11 13 27.8 -0.2**
G19K IAmb IAmb 11 13 29.8
comp=Z,137nm,1.1s
G19K Purcell Mounta 73.73 19 P **P** **11 13 28.6 +0.5**
baz=317,SNR=61
LBTB Lobatse 73.73 225 LR LR 11 48 46.1
comp=Z,1µm,18.1s,baz=20,slow=38
GRTLG Ghanzi 73.75 230 *i* P **P** **11 13 30.3 +1.4**
D25K Kavik River 73.78 14 P **P** **11 13 28.9 +0.6**
D25K IAmb IAmb 11 13 30.4
comp=Z,142nm,1.0s
D25K Kavik River 73.78 14 P **P** **11 13 29.1 +0.7**
baz=326,SNR=49
H17K Granite Mounta 73.79 21 IAmb IAmb 11 13 30.7
comp=Z,107nm,1.0s
H17K Granite Mounta 73.79 21 P **P** **11 13 29.5 +1.1**
baz=315,SNR=43
F21K Alatna River 73.86 17 IAmb IAmb 11 13 29.9
comp=Z,82nm,0.9s
F21K Alatna River 73.86 17 P **P** **11 13 29.4 +0.6**
baz=320,SNR=83
NRS Narsarsuaq 73.94 334 *i* P **P** **11 13 28.7 -0.6**
NRS IAmb IAmb 11 13 31.2
comp=Z,62nm,1.1s
F22K John River 73.96 17 P **P** **11 13 30.3 +0.9**
baz=321,SNR=57
C27K Jago River 74.03 13 IAmb IAmb 11 13 32.1
comp=Z,127nm,1.0s
C27K Jago River 74.03 13 P **P** **11 13 30.9 +1.1**
baz=328,SNR=77
NUUK Nuuk 74.05 338 *i* P **P** **11 13 28.7 -1.1**
NUUK IAmb IAmb 11 13 31.3
comp=Z,46nm,0.9s
H18K Honhosa River 74.09 20 P **P** **11 13 30.9 +0.7**
baz=316
E23K Chandalar 74.12 16 IAmb IAmb 11 13 32.2
comp=Z,150nm,1.1s
E23K Chandalar 74.12 16 P **P** **11 13 30.8 +0.5**
baz=323,SNR=70
J14K Nanvaranak Lak 74.15 24 P **P** **11 13 32.0 +1.5**
baz=313
KGCAE Kacgae 74.20 229 *i* P **P** **11 13 31.8 +0.4**
I17K Unalakleet 74.30 22 IAmb IAmb 11 13 34.1
comp=Z,115nm,1.1s
I17K Unalakleet 74.30 22 P **P** **11 13 32.8 +1.5**
baz=315,SNR=7.7
K13K Kusilvak Mount 74.33 25 IAmb IAmb 11 13 34.2
comp=Z,108nm,1.0s
K13K Kusilvak Mount 74.33 25 P **P** **11 13 32.9 +1.3**
baz=312,SNR=25
SKOMA Sekoma 74.35 226 *i* P **P** **11 13 32.6 +0.3**
E24K Your Creek 74.36 15 IAmb IAmb 11 13 33.6
comp=Z,118nm,1.1s
E24K Your Creek 74.36 15 P **P** **11 13 32.3 +0.6**
baz=324,SNR=69
H19K Roundabout Mou 74.36 19 IAmb IAmb 11 13 33.2
comp=Z,101nm,0.9s
H19K Roundabout Mou 74.36 19 P **P** **11 13 32.4 +0.7**
baz=318,SNR=64
A36M Sachs Harbour 74.40 6 IAmb IAmb 11 13 45.8
comp=Z,111nm,0.8s
A36M Sachs Harbour 74.40 6 P **P** **11 13 32.2 +0.4**
baz=344,SNR=11
G21K Allakaket 74.40 18 P **P** **11 13 31.9 0.0**
baz=320
G22K Bettles 74.58 17 P **P** **11 13 33.1 +0.1**
baz=322
COLD Coldfoot 74.65 16 P **P** **11 13 34.1 +0.8**
baz=323,SNR=114
TSUM Tsumeb 74.66 234 P **P** **11 13 34.6 +0.4**
TSUM Tsumeb 74.66 234 LR LR 11 48 47.9
comp=Z,3µm,18.5s,baz=3.0,slow=38
IMAR Indian Mountai 74.75 18 P **P** **11 13 33.8 -0.2**
J16K Anvik River 74.75 22 IAmb IAmb 11 13 36.7
comp=Z,141nm,1.1s
J16K Anvik River 74.75 22 P **P** **11 13 35.5 +1.5**
baz=315,SNR=34
M11K Mekoryuk 74.80 26 P **P** **11 13 36.3 +2.1**
baz=311
MAKGR Makgori 74.80 225 *i* P **P** **11 13 35.4 +0.5**
MAKGR Makgori 74.80 225 P **P** **11 13 35.0 +0.1**
MAKGR IAmb IAmb 11 13 36.9
comp=Z,82nm,0.7s
H20K Anotleneega Mo 74.82 19 P **P** **11 13 34.9 +0.5**
baz=319,SNR=88
GCSA Galena City Sc 74.82 20 P **P** **11 13 35.3 +1.0**
baz=318,SNR=7.5
D27M Malcolm River 74.86 12 P **P** **11 13 35.6 +0.9**
baz=330,SNR=27
E25K Arctic Village 74.94 14 P **P** **11 13 35.4 +0.3**
baz=327,SNR=32
F24K Squaw Lake 74.94 15 P **P** **11 13 35.6 +0.5**
baz=325,SNR=37

G23K	**Bananza Creek**	**75.11**	**17**	IAmb	IAmb	11 13 38.0	
	comp=Z,102nm,1.1s						
G23K	**Bananza Creek**	**75.11**	**17**	P	**P**	**11 13 36.6**	**+0.6**
	baz=323,SNR=68						
K15K	**Wolf Creek Mou**	**75.15**	**23**	IAmb	IAmb	11 13 38.9	
	comp=Z,106nm,1.0s						
K15K	**Wolf Creek Mou**	**75.15**	**23**	P	**P**	**11 13 38.1**	**+1.8**
	baz=314,SNR=24						
J17K	**VABM Dome**	**75.15**	**22**	P	**P**	**11 13 37.3**	**+1.0**
	baz=316,SNR=16						
D28M	**Stokes Point**	**75.17**	**11**	P	**P**	**11 13 37.4**	**+1.2**
	baz=332,SNR=7.6						
H21K	**Melozitna Rive**	**75.25**	**18**	IAmb	IAmb	11 13 38.8	
	comp=Z,148nm,1.0s						
H21K	**Melozitna Rive**	**75.25**	**18**	P	**P**	**11 13 37.5**	**+0.6**
	baz=321,SNR=101						
BLDU	**Ballidu**	**75.26**	**143**	P	**P**	**11 13 36.8**	**-0.5**
F25K	**Christian Rive**	**75.37**	**15**	IAmb	IAmb	11 13 40.8	
	comp=Z,116nm,1.1s						
F25K	**Christian Rive**	**75.37**	**15**	P	**P**	**11 13 38.7**	**+1.1**
	baz=327,SNR=79						
L14K	**Kuka Creek**	**75.42**	**25**	IAmb	IAmb	11 13 40.3	
	comp=Z,112nm,0.9s						
L14K	**Kuka Creek**	**75.42**	**25**	P	**P**	**11 13 39.5**	**+1.7**
	baz=314,SNR=30						
H22K	**Ishtalitna Cre**	**75.43**	**17**	P	**P**	**11 13 38.6**	**+0.7**
	baz=322,SNR=42						
I20K	**Naaghedeneel**	**75.46**	**19**	P	**P**	**11 13 39.1**	**+1.1**
	baz=320,SNR=53						
KOOLE	**Kule**	**75.58**	**230**	IAmb	IAmb	11 13 45.2	
	comp=Z,148nm,1.3s						
F26K	**Sheenjek River**	**75.59**	**14**	IAmb	IAmb	11 13 41.6	
	comp=Z,81nm,1.2s						
F26K	**Sheenjek River**	**75.59**	**14**	P	**P**	**11 13 39.7**	**+0.8**
	baz=328,SNR=39						
L15K	**Ungalak Mounta**	**75.60**	**24**	P	**P**	**11 13 40.4**	**+1.5**
	baz=315,SNR=34						
E27K	**Coleen River**	**75.67**	**13**	IAmb	IAmb	11 13 41.4	
	comp=Z,140nm,1.1s						
E27K	**Coleen River**	**75.67**	**13**	P	**P**	**11 13 40.0**	**+0.8**
	baz=330,SNR=95						
E28M	**Babbage River**	**75.67**	**12**	IAmb	IAmb	11 13 41.5	
	comp=Z,122nm,1.1s						
E28M	**Babbage River**	**75.67**	**12**	P	**P**	**11 13 40.2**	**+1.0**
	baz=332,SNR=83						
G24K	**Hadweenzic Riv**	**75.71**	**16**	IAmb	IAmb	11 13 41.8	
	comp=Z,148nm,1.1s						
G24K	**Hadweenzic Riv**	**75.71**	**16**	P	**P**	**11 13 40.5**	**+1.0**
	baz=325,SNR=74						
PHPEN	**Phepeng**	**75.71**	**226**	IAmb	IAmb	11 13 44.5	
	comp=Z,60nm,0.9s						
BMAR	**Burnt Mountain**	**75.73**	**14**	P	**P**	**11 13 40.0**	**+0.3**
J19K	**Poorman**	**75.75**	**20**	P	**P**	**11 13 40.9**	**+1.2**
	baz=319,SNR=86						
J18K	**Innoko River**	**75.82**	**21**	P	**P**	**11 13 40.9**	**+0.6**
J18K				IAmb	IAmb	11 13 41.8	
	comp=Z,88nm,1.1s						
J18K	**Innoko River**	**75.82**	**21**	P	**P**	**11 13 41.2**	**+1.0**
	baz=318,SNR=42						
M13K	**Dall Lake**	**75.82**	**25**	P	**P**	**11 13 42.4**	**+2.2**
	baz=313,SNR=20						
I21K	**Tanana**	**75.83**	**18**	P	**P**	**11 13 40.9**	**+0.7**
	baz=322						
K17K	**Iditarod**	**75.89**	**22**	P	**P**	**11 13 42.0**	**+1.4**
	baz=317						
G25K	**Bearman Lake**	**75.96**	**15**	P	**P**	**11 13 41.9**	**+1.0**
	baz=326,SNR=44						
J20K	**Nowinta River**	**76.03**	**20**	P	**P**	**11 13 42.3**	**+1.0**
	baz=320,SNR=85						
M14K	**Bethel**	**76.08**	**25**	P	**P**	**11 13 43.4**	**+1.7**
	baz=314,SNR=32						
MUN	**Mundaring**	**76.11**	**144**	P	**P**	**11 13 41.7**	**-0.4**
E29M	**Blow River**	**76.15**	**12**	IAmb	IAmb	11 13 44.1	
	comp=Z,114nm,1.1s						
E29M	**Blow River**	**76.15**	**12**	P	**P**	**11 13 42.9**	**+0.9**
	baz=333,SNR=79						
L16K	**Owhat River**	**76.25**	**23**	P	**P**	**11 13 44.4**	**+1.8**
	baz=316,SNR=63						
MLY	**Manley**	**76.28**	**18**	IAmb	IAmb	11 13 44.7	
	comp=Z,135nm,1.2s						
MLY	**Manley**	**76.28**	**18**	P	**P**	**11 13 43.4**	**+0.6**
	baz=323,SNR=71						
G26K	**Porcupine Rive**	**76.30**	**14**	P	**P**	**11 13 43.9**	**+1.1**
	baz=328,SNR=21						
L17K	**Donlin**	**76.32**	**22**	P	**P**	**11 13 44.6**	**+1.6**
	baz=317,SNR=29						
H24K	**Noodor Dome**	**76.33**	**16**	IAmb	IAmb	11 13 45.4	
	comp=Z,97nm,1.1s						
H24K	**Noodor Dome**	**76.33**	**16**	P	**P**	**11 13 43.9**	**+0.8**
	baz=325,SNR=59						
H25L	**Birch Creek**	**76.44**	**15**	P	**P**	**11 13 44.9**	**+1.2**
	baz=327,SNR=20						
F28M	**Old Crow**	**76.49**	**13**	IAmb	IAmb	11 13 45.4	
	comp=Z,87nm,1.2s						
F28M	**Old Crow**	**76.49**	**13**	P	**P**	**11 13 44.8**	**+0.9**
	baz=331,SNR=46						
M15K	**Kasigluk River**	**76.57**	**24**	P	**P**	**11 13 46.0**	**+1.6**
	baz=315,SNR=27						
BOSA	**Boshof**	**76.65**	**223**	IAmb	IAmb	11 13 47.1	
	comp=Z,79nm,0.7s						
BOSA	**Boshof**	**76.65**	**223**	P	**P**	**11 13 45.0**	**-0.5**
	comp=Z,72nm,0.7s,baz=38,slow=6.8,SNR=136						
BOSA				S	**S**	**11 23 31.3**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=78,slow=19,SNR=1.1						
	comp=Z,72nm,0.7s						
K20K	**Telida**	**76.68**	**20**	IAmb	IAmb	11 13 47.4	
	comp=Z,140nm,1.1s						
K20K	**Telida**	**76.68**	**20**	P	**P**	**11 13 46.0**	**+0.9**
	baz=320,SNR=57						
L18K	**Granite Mounta**	**76.76**	**22**	P	**P**	**11 13 46.7**	**+1.1**
	baz=318,SNR=18						
N14K	**Kuskokwak Cree**	**76.76**	**25**	IAmb	IAmb	11 13 47.8	
	comp=Z,96nm,0.9s						
N14K	**Kuskokwak Cree**	**76.76**	**25**	P	**P**	**11 13 47.2**	**+1.6**
	baz=315,SNR=7.1						
CHUM	**Lake Minchumin**	**76.77**	**19**	P	**P**	**11 13 46.2**	**+0.7**
	baz=322,SNR=57						
DBIC	**Dimbokro**	**76.83**	**269**	P	**P**	**11 13 46.6**	**-0.1**
DBIC				IAmb	IAmb	11 13 50.8	
	comp=Z,71nm,1.1s						
DBIC	**Dimbokro**	**76.83**	**269**	P	**P**	**11 13 46.7**	**-0.1**
	comp=Z,33nm,0.9s,baz=71,slow=7.3,SNR=17						
DBIC				S	**S**	**11 23 30.0**	**-4.1**
	comp=Z,6.6nm,1.1s,baz=108,slow=6.4,SNR=3.4						
DBIC				LR	LR	11 51 29.8	
	comp=Z,4µm,18.4s,baz=70,slow=39						
	comp=Z,33nm,0.9s						
DBIC	**Dimbokro**	**76.83**	**269**	P	**P**	**11 13 46.6**	**-0.1**
DBIC				pmax	pmax		
	comp=Z,71nm,1.1s						
G27K	**Doyon Strip**	**76.86**	**14**	IAmb	IAmb	11 13 47.6	
	comp=Z,66nm,1.0s						
G27K	**Doyon Strip**	**76.86**	**14**	P	**P**	**11 13 46.9**	**+0.9**
	baz=330,SNR=72						
INK	**Inuvik**	**76.91**	**10**	LR	LR	11 53 15.8	
	comp=Z,914nm,18.0s,baz=356,slow=40						
INK	**Inuvik**	**76.91**	**10**	P	**P**	**11 13 46.8**	**+0.6**
	baz=337,SNR=59						
M16K	**Timber Creek**	**76.92**	**23**	P	**P**	**11 13 48.6**	**+2.1**
	baz=317,SNR=32						
BPAW	**Bear Paw Mtn.**	**76.95**	**18**	IAmb	IAmb	11 13 48.1	
	comp=Z,98nm,1.1s						
BPAW	**Bear Paw Mtn.**	**76.95**	**18**	P	**P**	**11 13 47.0**	**+0.3**
	baz=323,SNR=63						
POKR	**Poker Plat Res**	**77.03**	**17**	P	**P**	**11 13 47.4**	**+0.4**
POKR	**Poker Plat Res**	**77.03**	**17**	P	**P**	**11 13 47.8**	**+0.7**
	baz=326,SNR=46						
NEA2	**Nenana**	**77.06**	**18**	P	**P**	**11 13 47.4**	**+0.2**
	baz=324,SNR=110						
C36M	**Paulatuk**	**77.06**	**6**	P	**P**	**11 13 46.9**	**-0.1**
	baz=345,SNR=19						
COLA	**College**	**77.13**	**17**	P	**P**	**11 13 48.0**	**+0.5**
COLA	**College**	**77.13**	**17**	P	**P**	**11 13 47.3**	**-0.2**
COLA	**College**	**77.13**	**17**	P	**P**	**11 13 48.0**	**+0.5**
COLA				pmax	pmax		
	comp=Z,170nm,1.1s						
COLA	**College**	**77.13**	**17**	P	**P**	**11 13 48.1**	**+0.6**
	baz=325						
M17K	**Holitna River**	**77.14**	**23**	P	**P**	**11 13 49.6**	**+1.9**
	baz=318,SNR=46						
N15K	**Kwethluk River**	**77.15**	**24**	IAmb	IAmb	11 13 50.4	
	comp=Z,92nm,1.0s						
N15K	**Kwethluk River**	**77.15**	**24**	P	**P**	**11 13 49.7**	**+1.9**
	baz=316,SNR=18						
F30M	**Barrier River**	**77.20**	**11**	IAmb	IAmb	11 13 54.6	
	comp=Z,82nm,0.8s						
F30M	**Barrier River**	**77.20**	**11**	P	**P**	**11 13 48.5**	**+0.6**
	baz=335,SNR=32						
WIN	**Windhoek**	**77.30**	**232**	P	**P**	**11 13 49.7**	**+0.4**
WIN				IAmb	IAmb	11 14 13.7	
	comp=Z,111nm,1.8s						
WIN	**Windhoek**	**77.30**	**232**	P	**P**	**11 13 49.7**	**+0.4**
WIN				pmax	pmax		
	comp=Z,111nm,1.8s						
L19K	**White Mountain**	**77.36**	**21**	IAmb	IAmb	11 13 51.5	
	comp=Z,104nm,1.2s						
L19K	**White Mountain**	**77.36**	**21**	P	**P**	**11 13 50.1**	**+1.2**
	baz=320,SNR=30						
NWAO	**Narrogin (SRO)**	**77.38**	**144**	P	**P**	**11 13 48.6**	**-0.7**
NWAO	**Narrogin (SRO)**	**77.38**	**144**	P	**P**	**11 13 48.3**	**-0.9**
NWAO	**Narrogin (SRO)**	**77.38**	**144**	P	**P**	**11 13 48.8**	**-0.5**
NWAO	**Narrogin (SRO)**	**77.38**	**144**	P	**P**	**11 13 49.1**	**-0.2**
NWAO	**Narrogin (SRO)**	**77.38**	**144**	P	**P**	**11 13 48.6**	**-0.7**
NWAO				pmax	pmax		
	comp=Z,64nm,1.2s						
N16K	**Nishlik Lake**	**77.38**	**24**	P	**P**	**11 13 51.1**	**+2.0**
	baz=317,SNR=30						
H27K	**Steamboat Moun**	**77.38**	**14**	IAmb	IAmb	11 13 51.1	
	comp=Z,123nm,1.3s						
H27K	**Steamboat Moun**	**77.38**	**14**	P	**P**	**11 13 49.7**	**+0.7**
	baz=330,SNR=66						
O14K	**Tigyukauivet M**	**77.39**	**26**	IAmb	IAmb	11 13 51.2	
	comp=Z,80nm,1.1s						
O14K	**Tigyukauivet M**	**77.39**	**26**	P	**P**	**11 13 50.5**	**+1.4**
	baz=315						
WRH	**Wood River Hil**	**77.40**	**17**	IAmb	IAmb	11 13 53.5	
	comp=Z,100nm,1.3s						
L20K	**Farewell, AK**	**77.42**	**21**	P	**P**	**11 13 50.1**	**+0.8**
	baz=321,SNR=23						
ILAR	**Eielson Array**	**77.45**	**17**	P	**P**	**11 13 48.5**	**-0.8**
	comp=Z,41nm,0.9s,baz=325,slow=5.6,SNR=208						
ILAR				PP	**PP**	**11 16 43.3**	**+0.1**
	comp=Z,18nm,1.1s,baz=328,slow=8.2,SNR=4.3						
ILAR				S	**S**	**11 23 36.7**	**-2.5**
	comp=Z,0.4nm,0.8s,baz=339,slow=6.1,SNR=4.4						
ILAR				PKKPbc	**PKKPbc**	**11 32 52.9**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=168,slow=1.6,SNR=5.9						
ILAR				LR	LR	11 53 03.9	
	comp=Z,3µm,18.1s,baz=302,slow=40						
	comp=Z,41nm,0.9s						
G29M	**Pine Creek**	**77.45**	**12**	P	**P**	**11 13 49.9**	**+0.5**
	baz=333,SNR=18						
MANU	**Manus Island**	**77.46**	**101**	P	**P**	**11 13 49.2**	**-1.0**
MANU				IAmb	IAmb	11 13 56.0	
	comp=Z,77nm,0.8s						
PPLA	**Purkeypile**	**77.58**	**20**	IAmb	IAmb	11 14 06.3	
	comp=Z,134nm,1.4s						
PPLA	**Purkeypile**	**77.58**	**20**	P	**P**	**11 13 50.5**	**+0.2**
	baz=322,SNR=12						
M18K	**Stony River**	**77.58**	**22**	P	**P**	**11 13 51.5**	**+1.3**
	baz=319,SNR=19						
TRF	**Thorofare Moun**	**77.66**	**19**	P	**P**	**11 13 50.5**	**-0.3**
	baz=323,SNR=9.9						
F31M	**Tsiigehtchic**	**77.68**	**10**	IAmb	IAmb	11 13 52.2	
	comp=Z,144nm,1.3s						
F31M	**Tsiigehtchic**	**77.68**	**10**	P	**P**	**11 13 50.8**	**+0.3**
	baz=337,SNR=35						
G30M	**tAoh Zraii Nji**	**77.70**	**12**	IAmb	IAmb	11 13 52.1	
	comp=Z,82nm,0.9s						
G30M	**tAoh Zraii Nji**	**77.70**	**12**	P	**P**	**11 13 50.9**	**+0.1**
	baz=335,SNR=42						
HDA	**Harding Lake**	**77.73**	**17**	P	**P**	**11 13 49.9**	**-1.0**
	baz=326,SNR=36						
MCK	**McKinley**	**77.79**	**18**	IAmb	IAmb	11 13 52.7	
	comp=Z,94nm,1.2s						
MCK	**McKinley**	**77.79**	**18**	P	**P**	**11 13 51.0**	**-0.3**
	baz=324,SNR=20						
N17K	**Nushagak Hills**	**77.87**	**23**	IAmb	IAmb	11 13 54.5	
	comp=Z,101nm,1.0s						
N17K	**Nushagak Hills**	**77.87**	**23**	P	**P**	**11 13 53.8**	**+2.0**
	baz=318,SNR=24						
I27K	**Kandik River**	**77.91**	**14**	P	**P**	**11 13 52.6**	**+0.6**
	baz=330,SNR=42						
J25K	**Salcha River,**	**77.94**	**16**	P	**P**	**11 13 51.9**	**-0.2**
	baz=327,SNR=47						
O15K	**Ungalikthiuk R**	**77.96**	**25**	IAmb	IAmb	11 13 54.9	
	comp=Z,92nm,1.1s						
O15K	**Ungalikthiuk R**	**77.96**	**25**	P	**P**	**11 13 53.6**	**+1.3**
	baz=316,SNR=8.9						
H29M	**Whitestone**	**78.00**	**13**	IAmb	IAmb	11 13 53.6	
	comp=Z,82nm,0.9s						
H29M	**Whitestone**	**78.00**	**13**	P	**P**	**11 13 53.0**	**+0.5**
	baz=333,SNR=51						
G31M	**Satah River**	**78.07**	**11**	IAmb	IAmb	11 13 53.4	
	comp=Z,85nm,1.1s						
G31M	**Satah River**	**78.07**	**11**	P	**P**	**11 13 52.8**	**0.0**
	baz=336,SNR=25						
RND	**Reindeer**	**78.08**	**18**	IAmb	IAmb	11 13 53.7	
	comp=Z,156nm,1.3s						
M20K	**Styx River**	**78.10**	**21**	P	**P**	**11 13 53.7**	**+0.6**
	baz=321						
EPYK	**Eagle Plains**	**78.17**	**12**	P	**P**	**11 13 53.0**	**-0.3**
	baz=334,SNR=19						
WB0	**Warramunga Arr**	**78.18**	**123**	P	**P**	**11 13 53.7**	**-0.3**
N18K	**Kilae Creek**	**78.18**	**23**	IAmb	IAmb	11 13 55.9	
	comp=Z,66nm,1.1s						
N18K	**Kilae Creek**	**78.18**	**23**	P	**P**	**11 13 55.2**	**+1.7**
	baz=319,SNR=14						
WRA	**Warramunga Arr**	**78.26**	**123**	P	**P**	**11 13 54.3**	**-0.2**
WRA	**Warramunga Arr**	**78.26**	**123**	P	**P**	**11 13 54.2**	**-0.3**
	comp=Z,74nm,0.8s,baz=313,slow=5.4,SNR=164						
WRA				S	**S**	**11 23 47.1**	**-2.1**
	comp=Z,40nm,1.4s,baz=309,slow=12,SNR=22						
WRA				PKKPbc	**PKKPbc**	**11 32 51.9**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=118,slow=2.4,SNR=14						
WRA				PKPPKP	**P'P'df**	**11 40 50.3**	**-3.0**
	comp=Z,0.5nm,0.6s,baz=138,slow=2.3,SNR=3.2						
WRA				LR	LR	11 55 12.8	
	comp=Z,792nm,18.9s,baz=322,slow=41						
	comp=Z,74nm,0.8s						
WRA	**Warramunga Arr**	**78.26**	**123**	P	**P**	**11 13 54.3**	**-0.2**
WRA				pmax	pmax		
	comp=Z,14nm,1.0s						
O16K	**Kokwok River B**	**78.26**	**24**	IAmb	IAmb	11 13 56.4	
	comp=Z,103nm,1.0s						
O16K	**Kokwok River B**	**78.26**	**24**	P	**P**	**11 13 55.6**	**+1.7**
	baz=318,SNR=21						
WB2	**Warramunga Arr**	**78.26**	**123**	P	**P**	**11 13 54.7**	**+0.1**
WB2				IAmb	IAmb	11 13 59.4	
	comp=Z,124nm,0.9s						
WR8	**Warramunga Arr**	**78.38**	**123**	IAmb	IAmb	11 14 00.4	
	comp=Z,86nm,0.9s						
I28M	**Miner Creek**	**78.39**	**14**	IAmb	IAmb	11 14 00.7	
	comp=Z,51nm,0.8s						
I28M	**Miner Creek**	**78.39**	**14**	P	**P**	**11 13 54.8**	**+0.1**
	baz=332,SNR=47						
J26L	**Joseph Creek**	**78.45**	**16**	IAmb	IAmb	11 13 55.9	
	comp=Z,75nm,0.9s						
J26L	**Joseph Creek**	**78.45**	**16**	P	**P**	**11 13 55.1**	**+0.1**
	baz=329,SNR=68						
O17K	**Koliganek Bris**	**78.47**	**24**	P	**P**	**11 13 56.6**	**+1.5**
	baz=318,SNR=12						
SKT	**Skwentna**	**78.50**	**20**	P	**P**	**11 13 55.0**	**-0.3**
	baz=322,SNR=40						
CUT	**Chulitna**	**78.51**	**19**	IAmb	IAmb	11 14 27.6	
	comp=Z,84nm,1.0s						
CUT	**Chulitna**	**78.51**	**19**	P	**P**	**11 13 54.6**	**-0.6**
	baz=324						
K24K	**Donnelly Dome**	**78.52**	**17**	P	**P**	**11 13 55.0**	**-0.4**
	baz=327,SNR=58						
N19K	**Bonanza Creek**	**78.52**	**22**	IAmb	IAmb	11 14 01.6	
	comp=Z,82nm,0.9s						
N19K	**Bonanza Creek**	**78.52**	**22**	P	**P**	**11 13 56.9**	**+1.3**
	baz=320,SNR=26						
NIKH	**Nikolski High**	**78.55**	**33**	P	**P**	**11 13 56.1**	**+0.4**
	baz=311						
WAT1	**Susitna Watana**	**78.63**	**18**	P	**P**	**11 13 54.9**	**-1.1**
	baz=325						
P16K	**Nusagak River**	**78.71**	**24**	P	**P**	**11 13 57.6**	**+1.1**
	baz=318						
EGAK	**Eagle**	**78.73**	**14**	IAmb	IAmb	11 13 59.6	
	comp=Z,86nm,1.2s						
EGAK	**Eagle**	**78.73**	**14**	P	**P**	**11 13 56.5**	**+0.1**
	baz=331,SNR=30						
DHY	**Denali Highway**	**78.73**	**18**	IAmb	IAmb	11 13 57.8	
	comp=Z,52nm,0.8s						
DHY	**Denali Highway**	**78.73**	**18**	P	**P**	**11 13 56.3**	**-0.4**
	baz=326,SNR=24						
I29M	**Ogilvie Camp,**	**78.78**	**13**	P	**P**	**11 13 56.4**	**-0.4**
	baz=333						
SCRK	**Sand Creek**	**78.80**	**16**	P	**P**	**11 13 57.4**	**+0.4**
	baz=328,SNR=43						
RIDG	**Independent Ri**	**78.80**	**16**	P	**P**	**11 13 56.4**	**-0.5**
RIDG				IAmb	IAmb	11 13 58.0	
	comp=Z,156nm,1.3s						
RIDG	**Independent Ri**	**78.80**	**16**	P	**P**	**11 13 56.6**	**-0.3**
	baz=328,SNR=35						
SPCR	**Spurr Chakacha**	**78.92**	**21**	P	**P**	**11 13 57.7**	**0.0**
	baz=322,SNR=8.6						
N20K	**Mount Spurr**	**78.92**	**21**	P	**P**	**11 13 57.5**	**-0.1**
	baz=322						
SPU	**Mount Spurr**	**78.98**	**21**	P	**P**	**11 13 57.3**	**-0.6**
FRB	**Frobisher Bay**	**78.99**	**344**	LR	LR	11 53 24.0	
	comp=Z,2µm,19.0s,baz=29,slow=39						
WAT6	**Susitna Watana**	**79.05**	**18**	P	**P**	**11 13 58.0**	**-0.4**
	baz=326,SNR=22						
O19K	**Port Alsworth**	**79.05**	**22**	P	**P**	**11 13 59.4**	**+1.2**
	baz=320,SNR=15						
M22K	**Willow**	**79.08**	**20**	IAmb	IAmb	11 13 59.2	
	comp=Z,135nm,1.1s						
M22K	**Willow**	**79.08**	**20**	P	**P**	**11 13 58.1**	**-0.3**
	baz=324,SNR=13						
H31M	**Peel River**	**79.09**	**11**	IAmb	IAmb	11 14 14.6	
	comp=Z,191nm,1.6s						
H31M	**Peel River**	**79.09**	**11**	P	**P**	**11 13 58.2**	**-0.3**
	baz=336,SNR=26						
P17K	**Kvichak River**	**79.12**	**24**	P	**P**	**11 14 00.3**	**+1.7**
	baz=319,SNR=19						
SUA	**Susitna One**	**79.13**	**20**	IAmb	IAmb	11 14 01.5	
	comp=Z,119nm,1.2s						
SUA	**Susitna One**	**79.13**	**20**	P	**P**	**11 13 58.9**	**0.0**
	baz=323,SNR=24						
K27K	**Chicken**	**79.19**	**15**	P	**P**	**11 13 59.8**	**+0.9**
	baz=330						
I30M	**Mount Dempster**	**79.27**	**12**	IAmb	IAmb	11 14 02.4	
	comp=Z,81nm,1.1s						
I30M	**Mount Dempster**	**79.27**	**12**	P	**P**	**11 13 59.4**	**-0.1**
	baz=335,SNR=62						
PAX	**Paxson**	**79.30**	**17**	IAmb	IAmb	11 14 01.1	
	comp=Z,188nm,1.4s						
PAX	**Paxson**	**79.30**	**17**	P	**P**	**11 13 59.8**	**+0.1**
	baz=327,SNR=54						
P18K	**Big Mountain,**	**79.38**	**23**	IAmb	IAmb	11 14 01.8	
	comp=Z,112nm,1.0s						
P18K	**Big Mountain,**	**79.38**	**23**	P	**P**	**11 14 01.1**	**+1.0**
	baz=320,SNR=12						
GHO	**Glory Hole Cre**	**79.40**	**19**	IAmb	IAmb	11 14 01.1	
	comp=Z,83nm,1.0s						
Q16K	**King Salmon**	**79.44**	**24**	P	**P**	**11 14 01.8**	**+1.4**
	baz=319,SNR=14						
PMR	**Palmer**	**79.49**	**19**	P	**P**	**11 14 00.3**	**-0.3**
PMR	**Palmer**	**79.49**	**19**	P	**P**	**11 14 00.5**	**-0.1**
	baz=324,SNR=18						
CAPN	**Captain Cook N**	**79.57**	**21**	P	**P**	**11 14 01.8**	**+0.7**
	baz=323						
S12K	**Black Hills**	**79.61**	**28**	P	**P**	**11 14 01.9**	**+0.4**
	baz=315						
J29N	**Klondike Camp**	**79.61**	**13**	P	**P**	**11 14 02.0**	**+0.6**
	baz=333						
GRHM	**Grahamstown, E**	**79.62**	**219**	IAmb	IAmb	11 14 07.0	
	comp=Z,177nm,1.3s						
FALS	**False Pass**	**79.66**	**30**	P	**P**	**11 14 01.9**	**+0.2**
	baz=314						
O20K	**Slope Mountain**	**79.67**	**22**	P	**P**	**11 14 01.7**	**-0.1**
	baz=322						
M23K	**Glacier View**	**79.70**	**19**	P	**P**	**11 14 01.8**	**-0.1**
	baz=326,SNR=37						
DAWY	**Dawson**	**79.72**	**14**	IAmb	IAmb	11 14 03.4	
	comp=Z,157nm,1.3s						
DAWY	**Dawson**	**79.72**	**14**	P	**P**	**11 14 02.3**	**+0.3**
	baz=332,SNR=54						
RC01	**Rabbit Creek A**	**79.72**	**20**	P	**P**	**11 14 02.0**	**+0.1**
	baz=324,SNR=10						
MENT	**Mentasta**	**79.75**	**16**	P	**P**	**11 14 03.4**	**+1.3**
L26K	**Log Cabin Wild**	**79.77**	**16**	P	**P**	**11 14 02.8**	**+0.6**
	baz=329,SNR=26						
SCM	**Sheep Creek Mo**	**79.78**	**18**	IAmb	IAmb	11 14 03.6	
	comp=Z,150nm,1.2s						
SCM	**Sheep Creek Mo**	**79.78**	**18**	P	**P**	**11 14 02.5**	**+0.2**
	baz=326,SNR=17						
KNK	**Knik Glacier**	**79.82**	**19**	IAmb	IAmb	11 14 04.2	
	comp=Z,138nm,1.2s						
KNK	**Knik Glacier**	**79.82**	**19**	P	**P**	**11 14 02.9**	**+0.4**
	baz=325,SNR=20						
P19K	**Oil Pt**	**79.82**	**22**	IAmb	IAmb	11 14 03.8	
	comp=Z,103nm,1.1s						
P19K	**Oil Pt**	**79.82**	**22**	P	**P**	**11 14 02.5**	**-0.1**
	baz=322						
M24K	**Tolsona, Glenn**	**79.85**	**18**	P	**P**	**11 14 03.6**	**+0.9**
	baz=327,SNR=20						
HARP	**HAARP**	**79.86**	**17**	P	**P**	**11 14 04.0**	**+1.2**
	baz=328,SNR=66						
J30M	**Hart River**	**79.86**	**13**	P	**P**	**11 14 03.3**	**+0.5**
	baz=335,SNR=31						
R16K	**Pilot Point**	**79.95**	**25**	P	**P**	**11 14 02.9**	**-0.3**
	baz=318						
Q17K	**Contact Creek**	**80.02**	**24**	P	**P**	**11 14 03.7**	**-0.1**
	baz=320						
Q18K	**Katmai Hardscr**	**80.02**	**24**	P	**P**	**11 14 03.5**	**-0.3**
	baz=320,SNR=9.4						
SLKM	**Skilak Lake**	**80.06**	**20**	IAmb	IAmb	11 14 04.7	
	comp=Z,170nm,1.2s						
L27K	**Beaver Creek,**	**80.08**	**16**	P	**P**	**11 14 04.9**	**+1.0**
	baz=330						
BCAR	**Beaver Creek A**	**80.09**	**16**	P	**P**	**11 14 04.2**	**+0.3**
S14K	**Fog Glacier**	**80.17**	**27**	P	**P**	**11 14 04.9**	**+0.3**
	baz=317						
O22K	**Cooper Landing**	**80.22**	**20**	IAmb	IAmb	11 14 19.0	
	comp=Z,195nm,1.1s						
O22K	**Cooper Landing**	**80.22**	**20**	P	**P**	**11 14 04.6**	**0.0**
	baz=324,SNR=7.1						
Q19K	**Cape Douglas,**	**80.25**	**23**	P	**P**	**11 14 04.0**	**-0.9**
	baz=321						
K29M	**Barlow Dome**	**80.30**	**13**	P	**P**	**11 14 05.7**	**+0.5**
	baz=334,SNR=43						
PWL	**Port Wells**	**80.31**	**19**	IAmb	IAmb	11 14 11.4	
	comp=Z,74nm,0.9s						
PWL	**Port Wells**	**80.31**	**19**	P	**P**	**11 14 05.4**	**+0.2**
	baz=325,SNR=12						
HOM	**Homer**	**80.31**	**22**	P	**P**	**11 14 04.8**	**-0.4**
	baz=323						
R17L	**Mt. Peul

FID	Port Fidalgo	80.91	19	IAmb	IAmb	11 14 13.6	
	comp=Z,84nm,1.1s						
Q20K	Shuyak Island	80.91	22	P	P	11 14 08.3	0.0
	baz=322						
SYI	Shuyak Island	80.91	22	IAmb	IAmb	11 14 10.4	
	comp=Z,106nm,1.1s						
COEN	Coen	81.02	113	P	P	11 14 11.0	+1.4
R18K	Karluk	81.05	24	P	P	11 14 08.6	-0.5
	baz=321						
HIN	Hinchinbrook I	81.20	19	IAmb	IAmb	11 14 11.9	
	comp=Z,209nm,1.4s						
BMRM	Bremner River	81.22	18	IAmb	IAmb	11 14 12.0	
	comp=Z,87nm,1.1s						
BMRM	Bremner River	81.22	18	P	P	11 14 10.7	+0.7
	baz=328,SNR=11						
CHNA	Chernabura Isl	81.22	28	P	P	11 14 12.6	+2.5
CHNA	Chernabura Isl	81.22	28	P	P	11 14 10.2	+0.1
	baz=317						
MCARA	McCarthy VSAT	81.26	17	IAmb	IAmb	11 14 17.8	
	comp=Z,65nm,0.9s						
MCARA	McCarthy VSAT	81.26	17	P	P	11 14 10.9	+0.7
	baz=330,SNR=11						
EYAK	Cordova Ski Ar	81.28	19	IAmb	IAmb	11 14 11.8	
	comp=Z,86nm,1.0s						
EYAK	Cordova Ski Ar	81.28	19	P	P	11 14 11.7	+1.5
EYAK	Cordova Ski Ar	81.28	19	P	P	11 14 11.2	+0.9
	baz=327,SNR=7.4						
VRDI	Verde Repeater	81.29	17	IAmb	IAmb	11 14 12.3	
	comp=Z,117nm,1.1s						
M29M	Somme Creek	81.36	15	IAmb	IAmb	11 14 12.5	
	comp=Z,73nm,1.0s						
M29M	Somme Creek	81.36	15	P	P	11 14 11.8	+0.9
	baz=333,SNR=42						
PMG	Port Moresby	81.48	107	P	P	11 14 12.9	+0.8
PMG				IAmb	IAmb	11 14 17.4	
	comp=Z,107nm,0.9s						
PMG	Port Moresby	81.48	107	LR	LR	11 53 25.2	
	comp=Z,540nm,19.5s,baz=290,slow=38						
PMG	Port Moresby	81.48	107	P	P	11 14 13.7	+1.7
PMG	Port Moresby	81.48	107	P	P	11 14 13.8	+1.7
PMG	Port Moresby	81.48	107	*ce*P	P	11 14 14.1	+2.0
PMG				pmax	pmax		
	comp=Z,128nm,1.0s						
KDAK	Kodiak Island	81.50	23	P	P	11 14 11.9	+0.4
KDAK	Kodiak Island	81.50	23	LR	LR	11 53 11.0	
	comp=Z,2µm,18.8s,baz=307,slow=38						
KDAK	Kodiak Island	81.50	23	P	P	11 14 11.9	+0.4
KDAK				pmax	pmax		
	comp=Z,192nm,1.1s						
KDAK	Kodiak Island	81.50	23	P	P	11 14 12.2	+0.7
	baz=322						
M30M	Minto, Yukon	81.59	14	P	P	11 14 12.2	+0.2
	baz=334,SNR=9.9						
RAGM	Ragged Mountai	81.70	18	IAmb	IAmb	11 14 18.4	
	comp=Z,198nm,1.6s						
OHAK	Old Harbor	81.71	24	P	P	11 14 12.7	+0.1
OHAK				IAmb	IAmb	11 14 14.6	
	comp=Z,149nm,1.2s						
OHAK	Old Harbor	81.71	24	P	P	11 14 14.1	+1.5
OHAK	Old Harbor	81.71	24	P	P	11 14 13.6	+1.0
	baz=322,SNR=10						
CRQM	Cirque	81.77	17	IAmb	IAmb	11 14 14.4	
	comp=Z,77nm,1.0s						
CRQE	Cirque	81.79	17	P	P	11 14 13.9	+0.7
	baz=330,SNR=9.9						
PATS	Pohnpei	81.79	87	P	P	11 14 16.4	+2.6
TGL	Tana Glacier	81.85	17	IAmb	IAmb	11 14 15.3	
	comp=Z,74nm,1.1s						
BARN	Barnard Glacier	81.87	17	IAmb	IAmb	11 14 15.8	
	comp=Z,102nm,1.2s						
SII	Sitkinak Islan	81.92	25	P	P	11 14 14.9	+1.1
	baz=321						
CHIR	Chirikof Islan	81.98	26	P	P	11 14 14.8	+0.7
	baz=320						
SUR	Sutherland	82.00	223	P	P	11 14 15.3	+0.7
SUR				IAmb	IAmb	11 14 24.6	
	comp=Z,84nm,1.4s						
SUR	Sutherland	82.00	223	P	P	11 14 16.1	+1.4
CTG	Chitna Glacier	82.03	16	P	P	11 14 15.5	+1.0
	baz=331,SNR=11						
CTGM	Chitina Glacie	82.03	16	IAmb	IAmb	11 14 15.9	
	comp=Z,70nm,1.0s						
Q23K	Middleton Isla	82.05	19	P	P	11 14 15.2	+0.8
	baz=327						
ISLE	Juniper Island	82.10	17	IAmb	IAmb	11 14 15.9	
	comp=Z,70nm,1.1s						
WAX	Waxell Ridge	82.11	17	IAmb	IAmb	11 14 17.3	
	comp=Z,167nm,1.3s						
YUK8	Steele Glacier	82.11	16	P	P	11 14 15.5	+0.4
	baz=332,SNR=11						
GRNC	Granite Creek	82.13	17	IAmb	IAmb	11 14 17.1	
	comp=Z,128nm,1.3s						
KAIM	Kayak Island	82.16	18	P	P	11 14 15.7	+0.8
	baz=328						
LOGN	Logan Glacier	82.23	16	IAmb	IAmb	11 14 17.5	
	comp=Z,61nm,1.0s						
BGLC	Bering Glacier	82.28	18	P	P	11 14 16.4	+0.8
	baz=329						
YUK4	Talbot Arm	82.31	15	P	P	11 14 16.3	+0.3
	baz=333,SNR=18						
M31M	Drury Creek, Y	82.39	13	P	P	11 14 16.4	+0.2
	baz=336						
QIS	Mount Isa	82.41	120	P	P	11 14 17.0	+0.1
YAH	Yahtse	82.46	17	IAmb	IAmb	11 14 18.4	
	comp=Z,60nm,0.9s						
O28M	Mount Upton	82.47	16	P	P	11 14 17.6	+0.7
	baz=332,SNR=9.6						
N30M	Aishikik Lake	82.54	14	P	P	11 14 17.9	+0.8
	baz=334,SNR=14						
MESA	MESA	82.57	17	IAmb	IAmb	11 14 19.8	
	comp=Z,104nm,1.2s						
MESA	MESA	82.57	17	P	P	11 14 18.5	+1.1
	baz=330						
BLKN	Baker Lake	82.61	356	IAmb	IAmb	11 14 17.9	
	comp=Z,67nm,1.0s						
YUK6	Outpost Mounta	82.73	15	P	P	11 14 18.8	+0.6
	baz=333,SNR=7.1						
N31M	Braeburn, Yuko	82.78	14	IAmb	IAmb	11 14 19.8	
	comp=Z,98nm,1.1s						
N31M	Braeburn, Yuko	82.78	14	P	P	11 14 18.7	+0.4
	baz=335,SNR=16						
HYT	Haines Junctio	83.02	15	IAmb	IAmb	11 14 21.0	
	comp=Z,61nm,1.0s						
HYT	Haines Junctio	83.02	15	P	P	11 14 20.4	+0.8
	baz=334,SNR=18						
PCA	Pinnacle	83.05	16	IAmb	IAmb	11 14 21.8	
	comp=Z,83nm,0.9s						
PINM	Pinnacle	83.05	16	P	P	11 14 20.5	+0.8
	baz=332,SNR=7.2						
WRGLY	Wrigley	83.06	8	IAmb	IAmb	11 14 26.5	
	comp=Z,71nm,0.9s						
WRGLY	Wrigley	83.06	8	P	P	11 14 20.3	+0.7
	baz=346,SNR=17						
O29M	Mount Kennedy	83.26	16	P	P	11 14 21.1	+0.2
	baz=333						
O30N	Mendenhall	83.37	14	P	P	11 14 21.7	+0.4
	baz=335,SNR=12						
N32M	Quiet Lake	83.61	13	P	P	11 14 22.3	-0.2
	baz=338						
PNL	Peninsula	83.63	16	P	P	11 14 24.0	+1.4
PNL	Peninsula	83.63	16	P	P	11 14 23.5	+0.9
	baz=332,SNR=5.6						
WHY	Whitehorse	83.72	14	IAmb	IAmb	11 15 16.5	
	comp=Z,64nm,1.2s						
WHY	Whitehorse	83.72	14	P	P	11 14 23.3	+0.1
	baz=336,SNR=6.3						
P30M	Million Dollar	83.77	15	P	P	11 14 24.0	+0.5
	baz=334						
KUQ	Kuujjuuaa	83.79	341	IAmb	IAmb	11 14 24.3	
	comp=Z,58nm,0.9s						
P29M	Windy Craggy	84.05	15	IAmb	IAmb	11 14 26.4	
	comp=Z,53nm,1.2s						
P29M	Windy Craggy	84.05	15	P	P	11 14 25.0	+0.2
	baz=334						
TGTN	Hyland Airport	84.06	10	P	P	11 14 25.6	+0.7
	baz=342,SNR=11						
MTSU	Mount Surprise	84.41	116	P	P	11 14 28.0	+0.8
YKAW3	Yellowknife Wh	84.47	4	IAmb	IAmb	11 14 38.5	
	comp=Z,230nm,1.9s						
PLBC	Pleasant Camp	84.51	15	P	P	11 14 27.7	+0.6
	baz=335,SNR=8.1						
P33M	Teslin, Yukon	84.53	13	IAmb	IAmb	11 14 28.4	
	comp=Z,101nm,1.2s						
P33M	Teslin, Yukon	84.53	13	P	P	11 14 27.1	-0.2
	baz=338,SNR=25						
YKA	Yellowknife Ar	84.54	4	P	P	11 14 26.8	-0.3
	comp=Z,17nm,0.8s,baz=354,slow=5.4,SNR=22						
YKA				S	SKSac	11 24 47.2	-3.1
	comp=Z,1.4nm,0.9s,baz=4.9,slow=6.8,SNR=2.2						
YKA				LR	LR	11 56 30.6	
	comp=Z,2µm,18.2s,baz=356,slow=39						
	comp=Z,17nm,0.8s						
YKAW1	Yellowknife Wh	84.56	4	IAmb	IAmb	11 14 41.0	
	comp=Z,52nm,0.9s						
SKAG	Skagway	84.72	14	IAmb	IAmb	11 14 30.3	
	comp=Z,61nm,1.2s						
SKAG	Skagway	84.72	14	P	P	11 14 29.9	+1.8
SKAG	Skagway	84.72	14	P	P	11 14 29.0	+0.9
	baz=336,SNR=10.0						
P32M	Atlin	84.93	14	P	P	11 14 29.6	+0.3
	baz=337						
WTLY	Watson Lake, Y	85.33	11	P	P	11 14 31.3	+0.1
	baz=341						
R31K	City Hall, Gus	85.59	15	P	P	11 14 32.7	+0.2
	baz=335						
R33M	Jennings River	85.63	12	P	P	11 14 33.1	+0.2
	baz=339,SNR=9.1						
Q32M	Nakina River	85.80	13	P	P	11 14 34.0	+0.2
	baz=338						
S31K	Pelican	85.89	15	P	P	11 14 34.2	+0.2
	baz=335						
R32K	Eaglecrest	85.98	15	P	P	11 14 35.4	+0.9
	baz=336						
KOTAN	Kotaneelee Air	86.00	9	P	P	11 14 35.0	+0.5
	baz=345						
JIS	Juneau Island	86.01	14	P	P	11 14 33.6	-0.9
SCHQ	Schefferville	86.12	338	P	P	11 14 35.6	+0.4
	comp=Z,85nm,0.7s,baz=51,slow=6.5,SNR=5.9						
SCHQ				S	SKSac	11 25 02.7	+2.0
	comp=Z,51nm,0.9s,baz=45,slow=7.1,SNR=2.2						
SCHQ				LR	LR	11 52 50.1	
	comp=Z,27µm,20.6s,baz=36,slow=36						
	comp=Z,85nm,0.7s						
LIRD	Liard River Hi	86.41	10	P	P	11 14 37.1	+0.5
	baz=343						
DLBC	Dease Lake	86.70	12	LR	LR	12 00 51.9	
	comp=Z,11µm,18.4s,baz=315,slow=41						
DLBC	Dease Lake	86.70	12	P	P	11 14 38.6	+0.5
	baz=340,SNR=5.7						
SIT	Sitka	86.92	15	P	P	11 14 39.8	+0.8
	baz=336						
TV1H	Townsville Har	86.96	115	P	P	11 14 41.4	+1.6
S34M	Telegraph Cree	86.99	13	P	P	11 14 40.0	+0.6
	baz=339,SNR=6.9						
CTAO	Charters Tower	87.04	116	P	P	11 14 39.9	-0.3
CTAO	Charters Tower	87.04	116	P	P	11 14 41.4	+1.2
CTAO	Charters Tower	87.04	116	P	P	11 14 39.9	-0.3
CTAO				pmax	pmax		
	comp=Z,95nm,0.8s						
TOAD	Toad River Com	87.08	10	P	P	11 14 39.9	0.0
	baz=344,SNR=12						
T33K	Petersburg	87.66	14	P	P	11 14 43.7	+1.1
	baz=338						
INKA	Innaminka	87.76	125	P	P	11 14 44.4	+0.9
INKA				IAmb	IAmb	11 14 49.4	
	comp=Z,54nm,1.0s						
BBOO	Buckleboo	87.96	132	P	P	11 14 44.7	+0.3
BBOO				IAmb	IAmb	11 14 49.3	
	comp=Z,47nm,0.8s						
BBOO	Buckleboo	87.96	132	P	P	11 14 44.7	+0.3
T35M	Bob Quinn	88.04	13	P	P	11 14 45.0	+0.4
	baz=340						
WRAK	Wrangell Islan	88.15	14	P	P	11 14 45.5	+0.5
	baz=338						
U33K	Whale Pass	88.27	15	P	P	11 14 46.1	+0.5
	baz=338						
CRAG	Craig	88.87	15	P	P	11 14 49.1	+0.7
	baz=338						
WHYH	Whyalla	89.07	131	P	P	11 14 50.4	+0.9
QLP	Quilpie	89.47	122	P	P	11 14 52.7	+1.1
HTT	Hallett	90.18	131	P	P	11 14 55.7	+0.9
STKA	Stephens Creek	90.93	128	P	P	11 14 58.3	0.0
	comp=Z,30nm,0.7s,baz=310,slow=6.7,SNR=43						
STKA				LR	LR	11 59 37.2	
	comp=Z,840nm,21.4s,baz=296,slow=38						
	comp=Z,30nm,0.7s						
STKA	Stephens Creek	90.93	128	P	P	11 14 58.8	+0.5
TATA	Tatamba Isabel	91.25	99	P	P	11 15 01.4	+1.2
HNR	Honiara	91.94	100	LR	LR	11 56 06.6	
	comp=Z,562nm,21.4s,baz=296,slow=35						
GBN	Guysborough	91.98	330	IAmb	IAmb	11 15 09.3	
	comp=Z,78nm,1.2s						
LMN	Caledonia Moun	92.95	332	P	P	11 15 07.5	-0.1
BBB	Bella Bella	92.98	13	LR	LR	12 02 54.7	
	comp=Z,2µm,18.2s,baz=329,slow=40						
D62A	Allapoint, All	93.47	336	P	P	11 15 10.2	+0.2
CMSA	Cobar Meteorol	93.48	126	P	P	11 15 11.1	+1.0
EIDS	Eidsvold	93.73	118	P	P	11 15 11.6	+0.2
EIDS	Eidsvold	93.73	118	P	P	11 15 12.2	+0.8
VLDQ	Val d'Or	95.17	341	P	P	11 15 17.5	-0.2
TW1H	Toowoomba 1 Ha	95.62	119	P	P	11 15 21.6	+1.5
ULM	Lac du Bonnet	96.54	353	P	P	11 15 23.0	-0.9
	comp=Z,13nm,1.1s,baz=5.1,slow=7.4,SNR=4.8						
ULM				LR	LR	12 01 19.2	
	comp=Z,2µm,20.0s,baz=10,slow=37						
	comp=Z,13nm,1.1s						
EPLO	Experimental L	96.88	352	IAmb	IAmb	11 15 29.6	
	comp=Z,38nm,1.4s						
ARMA	Armidale	96.98	122	IAmb	IAmb	11 15 32.0	
	comp=Z,23nm,0.8s						
ARMA	Armidale	96.98	122	P	P	11 15 27.2	+0.9
NEW	Newport	98.46	7	LR	LR	12 05 55.2	
	comp=Z,2µm,18.3s,baz=2.0,slow=39						
AGMN	Agassiz Nation	98.47	353	IAmb	IAmb	11 15 47.1	
	comp=Z,45nm,1.8s						
SADO	Sadowa	98.70	341	LR	LR	12 02 59.2	
	comp=Z,17µm,18.3s,baz=30,slow=37						
MAW	Mawson	100.69	184	P	Pdif	11 15 42.3	+0.5
	comp=Z,9.7nm,1.2s,baz=356,slow=7.8,SNR=8.3						
MAW				PKKPbc	PKKPbc	11 31 56.9	-0.8
	comp=Z,1.7nm,0.9s,baz=198,slow=3.2,SNR=3.6						
DZM	Mont Dzumac	103.88	107	*e*S	Sdif	11 27 36.9	-10
	comp=Z,771nm,25.8s						
DZM				*e*SS	SS	11 34 51.6	-10
	comp=Z,1µm,28.4s						
DZM	Mont Dzumac	103.88	107	eLQ	LQ	11 45 29.8	
	comp=Z,1µm,33.7s						
DZM				eLR	LR	11 49 59.8	
	comp=Z,1µm,24.7s						
PDAR	Pinedale Array	104.48	2	Pdiff	Pdif	11 16 00.9	+1.0
	comp=Z,0.3nm,0.5s,baz=356,slow=2.4,SNR=4.5						
PDAR				PKiKP	PKiKP	11 20 16.1	+0.2
	comp=Z,1.5nm,0.9s,baz=352,slow=3.5,SNR=3.5						
PDAR				PKKPbc	PKKPbc	11 31 43.5	-2.2
	comp=Z,1.2nm,0.9s,baz=225,slow=3.7,SNR=6.7						
SYO	Syowa Base	104.83	192	*e*Pdiff	Pdif	11 16 03.0	+2.8
SYO	Syowa Base	104.83	192	*ep*Pdiff	pPdif	11 16 06.4	+1.1
NVAR	Mina Array Bea	108.00	10	Pdiff	Pdif	11 16 18.0	+2.4
	comp=Z,0.3nm,0.7s,baz=356,slow=6.4,SNR=2.2						
NVAR				PKiKP	PKiKP	11 20 22.9	+0.3
	comp=Z,0.4nm,0.6s,baz=351,slow=5.2,SNR=3.6						
NVAR				PP	PP	11 20 43.9	+0.5
	comp=Z,5.5nm,1.0s,baz=352,slow=5.5,SNR=7.5						
NVAR				PKKPbc	PKKPbc	11 31 34.7	-0.1
	comp=Z,1.2nm,0.8s,baz=187,slow=3.0,SNR=6.4						
NVL	N'lazarevskaya	112.41	198	*e*PKiKP	PKiKP	11 20 35.7	+6.4
NVL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TROLL	Troll, Antarti	115.59	199	⇑PKPdf	PKiKP	11 20 34.9	-0.7
	comp=Z,1µm,1.4s						
TROLL				⇓PP	PP	11 21 41.1	+2.5
TROLL				⇑SKSac	SKSac	11 27 22.2	-1.8
SNAA	Sanae	116.96	200	⇑PKPdf	PKPdf	11 20 38.2	0.0
	comp=Z,165nm,1.0s						
SNAA				PP	PP	11 21 51.1	+3.0
SNAA				⇑SKSac	SKSac	11 27 26.3	-2.6
SNAA	Sanae	116.96	200		PKPdf	11 20 37.7	-0.5
SNAA	Sanae	116.96	200	PKP	PKPdf	11 20 37.6	-0.6
	comp=Z,9.1nm,1.0s,baz=106,slow=4.6,SNR=16						
SNAA	Sanae	116.96	200	PKiKP	PKPdf	11 20 37.7	-0.5
TXAR	Lajitas Array	117.89	357	PKP	PKPdf	11 20 41.4	-0.1
	comp=Z,0.8nm,0.7s,baz=17,slow=1.1,SNR=5.7						
TXAR				PKKPbc	PKKPbc	11 31 00.5	-1.0
	comp=Z,4.5nm,0.9s,baz=187,slow=4.1,SNR=13						
VNA2	Neumayer--Watz	118.05	202	⇑PKPdf	PKPdf	11 20 39.6	-0.6
	comp=Z,22nm,0.6s,baz=34,slow=3.8						
VNA1	Neumayer--Stat	118.22	202	⇑PKPdf	PKPdf	11 20 40.0	-0.5
	comp=Z,25nm,0.9s						
VNA3	Neumayer Olymp	118.85	202	⇑PKPdf	PKPdf	11 20 40.8	-1.0
	comp=Z,29nm,0.8s						
VNA3				⇓PP	PP	11 21 59.6	-1.6
VNDA	Vanda	121.60	165	PKPdf	PKiKP	11 20 47.4	+0.4
VNDA	Vanda	121.60	165	PKP	PKPdf	11 20 46.3	-0.6
	comp=Z,5.4nm,0.9s,baz=284,slow=1.5,SNR=16						
VNDA	Vanda	121.60	165	PKIKP	PKiKP	11 20 47.4	+0.4
SBA	Scott Base	122.69	165		PKiKP	11 20 50.0	+0.8
SBA	Scott Base	122.69	165	PKIKP	PKiKP	11 20 50.0	+0.8
QSPA	South Pole Qui	122.86	180		PKPdf	11 20 50.1	+0.4
QSPA	South Pole Qui	122.86	180	PKP	PKiKP	11 20 50.3	+0.4
	comp=Z,45nm,0.9s,baz=265,slow=1.9,SNR=55						
BOAV	Boa Vista	124.26	300	*e*P	PKPdf	11 20 52.7	-1.2
BDFB	Brasilia	124.83	274	PKP	PKPdf	11 20 55.2	+0.2
	comp=Z,6.3nm,0.9s,baz=90,slow=4.0,SNR=4.5						
ROSC	El Rosal	131.54	315	SKPbc	SKPbc	11 24 32.8	-0.7
	comp=Z,179nm,1.2s,baz=356,slow=7.5,SNR=27						
ESPZ	Base Esperanza	137.01	210		PKPdf	11 21 14.7	-1.7
CPUP	Villa Florida	137.26	266	PKP	PKPdf	11 21 18.0	-0.1
	comp=Z,5.4nm,0.9s,baz=164,slow=1.7,SNR=12						
PPT2	Papeete2	138.25	79	*e*PP	PP	11 23 58.1	-11
	comp=Z,257nm,25.5s						
PPT2	Papeete2	138.25	79	*e*SS	SS	11 42 08.7	-13
	comp=Z,1µm,29.0s						
PPT2	Papeete2	138.25	79	eLQ	LQ	11 59 58.8	
	comp=Z,733nm,33.8s						
PPT2				eLR	LR	12 05 55.4	
	comp=Z,733nm,22.5s						
PPT2				eLR	LR	12 05 59.9	
	comp=Z,599nm,22.8s						
TAOE	Nuku Hiva Isla	140.54	60	eLR	LR	12 06 54.2	
	comp=Z,694nm,23.9s						
TBI	Tubuai	140.96	87	*e*SS	SS	11 42 45.2	-8.5
	comp=Z,4µm,27.2s						
TBI	Tubuai	140.96	87	eLQ	LQ	12 01 07.4	
	comp=Z,3µm,36.0s						
TBI				eLR	LR	12 07 04.6	
	comp=Z,3µm,23.5s						
TBI				eLR	LR	12 07 14.2	
	comp=Z,1µm,25.8s						
LPAZ	La Paz	141.78	287	PKhKP	PKPpre	11 21 19.7	
	comp=Z,3.8nm,0.7s,baz=45,slow=4.3,SNR=7.9						
AZAP	Zapla	142.97	273	*e*P	PKPdf	11 21 24.1	-4.8
SLA	San Lorenzo	143.53	272	*e*P	PKPdf	11 21 31.4	+1.7
FSA	Cafayete	144.44	270	*e*P	PKPab	11 21 29.2	-0.3
PB11	IPOC Station P	144.81	283		PKPab	11 21 30.6	-0.4
TCA	Tanti	144.85	261	*e*P	PKPab	11 21 30.3	-0.5
TCA				*e*P	PKPdf	11 21 32.1	+0.4
TCA				⇓*e*P	PKPdf	11 21 32.1	+0.4
CYA	Choya	145.07	267	*e*P	PKPbc	11 21 28.8	-2.7
CYA				⇑*e*P	PKPab	11 21 29.9	-1.7
HMBC	Humberstone	145.25	282		PKPbc	11 21 31.5	-0.9
MG01	Puerto William	145.28	219	PKPbc	PKPdf	11 21 32.5	+1.0
PB01	IPOC Station P	145.29	281		PKPbc	11 21 32.4	-0.1
PB09	IPOC Station P	145.43	279	PKPdf	PKPdf	11 21 33.6	+0.5
TA01	Diego Aracena	145.63	282		PKPdf	11 21 33.2	0.0
PB02	IPOC Station P	145.75	281	PKPdf	PKPbc	11 21 34.2	+0.2
NNA	Nana	145.86	301	PKPdf	PKPdf	11 21 34.4	+0.5
NNA	Nana	145.86	301	PKP2	PKPdf	11 21 34.4	+0.5
PB03	IPOC Station P	145.97	279	PKPdf	PKPdf	11 21 34.4	+0.4
MRA	San Martin	146.03	260	*e*P	PKPab	11 21 35.5	+0.3
AANI	Anillaco	146.13	266	⇑*e*P	PKPab	11 21 36.6	+0.9
APL	PUNTA DE LOS L	146.22	264	*e*P	PKPab	11 21 35.3	+0.3
ACLC	CERRO LA CRUZ	146.32	265	*e*P	PKPab	11 21 37.3	+0.9
ACHE	Chepes	146.53	262	*e*P	PKPbc	11 21 35.8	-0.3
AVFE	Valle Fertil	147.07	264	*e*P	PKPdf	11 21 36.6	+1.0
VCA	Vinchina	147.17	267	*e*P	PKPbc	11 21 38.4	+0.3
VCA				*e*P	PKPab	11 21 39.5	-0.3
VCA				*e*P	PKiKP	11 21 40.2	-0.2
VCA				*e*P	pPKPdf	11 21 40.6	-0.5
ACAN	Cantantal	147.21	261	*e*P	PKPbc	11 21 38.0	+0.1
AC02	Maricunga	147.34	271	*e*P	PKPab	11 21 41.0	+0.1
AGUA	GUANDACOL	147.62	266	*e*P	PKPbc	11 21 39.5	+0.3
RTLL	Cerro Villicun	148.07	263	⇑*e*P	PKPab	11 21 44.3	+1.1
RTLL				*e*P	pPKPbc	11 21 46.1	+0.6
ZON	Zonda	148.29	262	*e*P	PKPbc	11 21 41.0	+0.1
ZON				*e*P	PKiKP	11 21 41.7	-0.8
ACDV	Cuesta del Vie	148.33	265	*e*P	PKPbc	11 21 41.7	+0.5
ACCO	Cerro Coronel	148.39	264	*e*P	PKPdf	11 21 39.1	+1.1
AROD	Rodeo	148.63	265	*e*P	PKPbc	11 21 42.4	+0.3
ASAL	Salagasta	148.64	260	*e*P	PKPbc	11 21 42.1	+0.3
AAGR	Agrelo	148.73	260	*e*P	PKPbc	11 21 42.8	+0.8
ARCO	CERRO ARCO	148.77	260	*e*P	PKPbc	11 21 42.8	+0.6
RTLS	Leoncito	148.86	262	⇓*e*P	PKPbc	11 21 42.8	+0.1
AUSP	Uspallata	149.03	261	⇓*e*P	PKPbc	11 21 43.9	+0.8
VA03	San Esteban	150.09	261	*e*P	PKPbc	11 21 44.6	-0.8
PEL	Peldehue	150.27	260	*e*P	PKPbc	11 21 45.0	-0.8
PLCA	Paso Flores	150.58	245	PKP	PKPdf	11 21 41.0	+0.1
	comp=Z,9.3nm,1.0s,baz=121,slow=0.8,SNR=7.4						
PLCA				PKPbc	PKiKP	11 21 47.2	+0.2
	comp=Z,12nm,0.7s,baz=104,slow=4.0,SNR=12						
MT09	Talagante	150.62	259		PKPdf	11 21 44.2	+3.0
RKT	Rikitea	152.89	76	eLR	LR	12 12 45.3	
	comp=Z,8µm,44.5s						

*ATH **24** 11:08:26.8, 37°.52N×23°.44E, h117$^{km}_{\pm}$4^{km}, ML2.6/16, Manual Solution by M.Kolligri First location: 2019/09/24 11:09:32, This location: 2019/09/24 11:14:33 MI Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 2 km*

*THE **24** 11:08:28.8, 38°.N$^{\pm}_{

ML2.0,MW2.6
*OSPL **24** 11:10:13.2±0.3,17.56N×70.85W,h22km±2km,ML1.8*
ISC 24 11:10:11.2±2.5,17.5N±0.1×70.82W±0.07,h25km±15km, n12,σ1§16/21,8C-3D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LOVI	**El Cajuil, Ovi**	**0.59**	**297**	*i* P	**Pb**	**11 10 23.5**	**+0.6**
LOVI				*e*S	**Sb**	**11 10 30.8**	**-0.1**
LOVI				IAML		11 10 31.7	
	comp=Z,48nm,0.1s						
BRH1	**Barahona**	**0.72**	**339**	⇑*e*Sg	**Sb**	**11 10 33.3**	**-1.4**
PODR	**Polo**	**0.77**	**325**	⇑*e*Pg	**Pb**	**11 10 25.8**	**-0.3**
PODR				⇓*e*Sg	**Sb**	**11 10 35.4**	**-0.8**
PODR				IAML		11 10 37.0	
	comp=N,76nm,0.1s						
PODR	**Polo**	**0.77**	**325**	*i* P	**Pb**	**11 10 25.8**	**-0.3**
PODR				*e*S	**Sb**	**11 10 35.5**	**-0.8**
LOBH	**Bahia de las A**	**0.85**	**293**	*i* P	**Pb**	**11 10 27.5**	**+0.2**
LOBH				*e*S	**Sb**	**11 10 38.0**	**-0.2**
LOBH				IAML		11 10 44.2	
	comp=Z,32nm,0.2s						
BANI	**BANI**	**0.96**	**27**	⇑*e*Pg	**Pn**	**11 10 29.4**	**+0.1**
BANI				⇓*e*Sg	**Sb**	**11 10 40.9**	**-0.9**
BANI				IAML		11 10 43.8	
	comp=N,36nm,0.1s						
LODU1	**El Espartillar**	**1.03**	**323**	*i* P	**Pn**	**11 10 30.1**	**+0.1**
LODU1				*e*S	**Sb**	**11 10 42.8**	**-0.7**
LODU1				IAML		11 10 50.8	
	comp=Z,32nm,0.7s						
NEDR	**Neiba UASD**	**1.11**	**329**	⇑*e*Sg	**Sn**	**11 10 45.8**	**+0.2**
NEDR				IAML		11 10 54.3	
	comp=N,16nm,0.4s						
LONE3	**El Aguacate, B**	**1.23**	**331**	*i* P	**Pn**	**11 10 33.0**	**0.0**
LONE3				*e*S	**Sn**	**11 10 47.8**	**-1.1**
LONE3				IAML		11 10 50.7	
	comp=Z,18nm,4.9s						
ABDR	**Alto Bandera**	**1.29**	**8**	⇑*e*Pg	**Pn**	**11 10 33.7**	**-0.3**
ABDR				⇓*e*Sg	**Sn**	**11 10 49.4**	**-1.3**
ABDR				IAML		11 10 52.5	
	comp=N,26nm,0.6s						
REDR	**Restauracion**	**1.72**	**342**	⇑*e*Pg	**Pb**	**11 10 43.6**	**+1.6**
REDR				⇑*e*Sg	**Sb**	**11 11 06.7**	**+3.4**
REDR				IAML		11 11 08.1	
	comp=N,39nm,0.2s						
LUDR	**Luperon**	**2.35**	**357**	⇑*e*Pg	**Pn**	**11 10 49.0**	**+0.7**

*IDC **24** 11:21:57.2±1.4,33.07N×73.72E,h0km,mb3.7/8, mbtmp3.8/11,ML3.4/3,Error ellipse: s-maj=44.0km s-min=18.2km az=61.0*
*NDI **24** 11:22:05.8±0.4,33.17N×73.97E,h10km,ML3.7,MW3.8*
ISC 24 11:21:59.9±0.9,33.08N±0.07×73.61E±0.08,h15km,n19, σ2§20/27,mb3.7/6,1C-3D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMU	**Jammu**	**1.14**	**108**	*e*P	**Pn**	**11 22 21.6**	**+0.3**
JMU				IAML		11 22 32.3	
	comp=N,1μm,0.4s						
JMU				*e*S	**Sb**	**11 22 33.5**	**-2.5**
JMU				IAML		11 22 37.4	
	comp=E,656nm,0.7s						
SRNI	**Srinagar**	**1.45**	**45**	*e*P	**Pb**	**11 22 27.2**	**+0.7**
SRNI				*e*S	**Sn**	**11 22 42.9**	**-1.3**
SRNI				IAML		11 22 49.0	
	comp=N,3μm,0.9s						
SRNI				IAML		11 22 49.3	
	comp=E,2μm,0.3s						
TSSA	**Tissa**	**2.15**	**96**	*e*P	**Pb**	**11 22 38.6**	**0.0**
TSSA				*e*S	**Sn**	**11 23 02.0**	**+0.2**
TSSA				IAML		11 23 05.1	
	comp=E,800nm,0.2s						
TSSA				IAML		11 23 05.6	
	comp=N,1μm,0.4s						
DHRM	**DHARAMSHALA**	**2.41**	**109**	*e*P	**Pb**	**11 22 42.2**	**-0.9**
DHRM				*e*S	**Sn**	**11 23 09.1**	**+0.7**
DHRM				IAML		11 23 13.0	
	comp=N,2μm,0.5s						
DHRM				IAML		11 23 13.7	
	comp=E,2μm,0.2s						
SMLA	**Simla**	**3.59**	**122**	*e*P	**Pn**	**11 22 59.2**	**+4.3**
SMLA				*e*S	**Sn**	**11 23 37.7**	**+0.6**
SMLA				IAML		11 23 58.7	
	comp=N,231nm,0.5s						
SMLA				IAML		11 23 59.4	
	comp=E,244nm,1.0s						
KLP	**Kalpa**	**4.22**	**110**	*e*P	**Pn**	**11 23 06.7**	**+2.8**
KLP				*e*S	**Sn**	**11 23 51.7**	**-1.5**
KLP				IAML		11 24 09.4	
	comp=N,122nm,0.3s						
KLP				IAML		11 24 10.7	
	comp=E,172nm,0.4s						
AAK	**Ala-Archa**	**9.56**	**4**	⇓P	**Pn**	**11 24 20.4**	**+3.3**
AAK	comp=E,7.8nm,1.0s			⇓S	**Sn**	**11 26 10.7**	**+6.3**
AAK	**Ala-Archa**	**9.56**	**4**	Pn	**Pn**	**11 24 19.1**	**+2.0**
	comp=E,0.9nm,0.3s,baz=180,slow=9.1,SNR=3.1 comp=E,2.3nm,0.3s						
KK31	**Karatay Array**	**10.30**	**347**	⇓P	**Pn**	**11 24 27.6**	**+0.6**
	comp=E,4.6nm,0.4s,baz=172,slow=13,SNR=16						
KK31				⇑S	**Sn**	**11 26 18.4**	**-3.8**
	comp=E,3.6nm,0.5s,baz=174,slow=24,SNR=9.9						
MKAR	**Makanchi Array**	**15.21**	**23**	Pn	**Pn**	**11 25 33.2**	**-0.9**
	comp=E,0.2nm,0.3s,baz=205,slow=14,SNR=4.4 comp=E,0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**17.90**	**10**	P	**Pn**	**11 26 05.4**	**-2.7**
	baz=197,slow=13,SNR=4.8 comp=E,0.8nm,0.7s						
BVAR	**Borovoye Array**	**20.07**	**354**	P	**P**	**11 26 32.7**	**+0.2**
	comp=E,1.2nm,0.6s,baz=172,slow=12,SNR=4.3 comp=E,1.2nm,0.6s						
AKTO	**Aktyubinsk**	**20.80**	**331**	P	**P**	**11 26 40.6**	**+0.1**
	comp=E,3.0nm,0.7s,baz=144,slow=10,SNR=5.5 comp=E,3.0nm,0.7s						
ZALV	**Zalesovo Beam**	**22.33**	**18**	P	**P**	**11 26 56.2**	**-0.6**
	comp=E,1.0nm,0.3s,baz=207,slow=12,SNR=4.9 comp=E,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**26.97**	**116**	P	**P**	**11 27 40.2**	**-0.8**
	comp=E,0.7nm,0.6s,baz=298,slow=8.9,SNR=6.6 comp=E,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**45.11**	**338**	P	**P**	**11 30 15.2**	**0.0**
	comp=E,4.4nm,1.0s,baz=116,slow=8.3,SNR=2.0 comp=E,4.4nm,1.0s						
HFS	**Hagfors**	**47.08**	**324**	P	**P**	**11 30 30.9**	**+0.1**
	comp=E,1.3nm,0.7s,baz=98,slow=10,SNR=2.1 comp=E,1.3nm,0.7s						
WRA	**Warramunga Arr**	**78.35**	**123**	P	**P**	**11 33 59.2**	**-0.6**
	comp=E,0.5nm,0.6s,baz=310,slow=5.6,SNR=5.5 comp=E,0.5nm,0.6s						
ASAR	**Alice Springs**	**80.52**	**126**	P	**P**	**11 34 10.8**	**-0.9**
	comp=E,0.3nm,0.6s,baz=311,slow=5.7,SNR=2.0 comp=E,0.3nm,0.6s						

DJA 24 11:30:24.7±0.8,3°N±2°×12°6E±°,h19km±8km,M4.1/12, mB5.5/2,mb4.3/5,MLv4.0/12,Mw(mB)5.0/2,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.01**	**319**	P	Pb	11 30 43.5	-0.1
SGSI				S	Sn	11 30 57.3	-0.2
TNTI	**Ternate**	**2.44**	**151**	P	Pn	11 31 04.7	+1.2
KMSI	**Cibinong**	**3.21**	**224**	P	Pn	11 31 13.1	-1.1
MRSI	**Marisa**	**4.89**	**240**	P	Pn	11 31 36.1	-1.2
SANI	**Sanana**	**4.94**	**182**	P	Pn	11 31 36.5	-1.5
LUWI	**Luwuk**	**5.21**	**221**	P	Pn	11 31 43.5	+1.8
NLAI	**Namlea** 0.2nm42nm,0.8s	**6.18**	**172**	P	Pn	11 31 53.4	-1.7
RKPI	**Ransiki, Papua**	**9.12**	**119**	P	Pn	11 32 34.5	-0.9

*IDC **24** 11:31:17.2±2.5,63.84N×29.26E,h0km,mbtmp2.7/4, ML2.0/4,Error ellipse: s-maj=39.4km s-min=10.9km az=101.0*
*HEL **24** 11:31:17.8±0.1,63.98N×28.12E,h0km,ML1.7,Suspected explosion*
*KOLA **24** 11:31:21.3,64.50N×32.05E,h0km,ML2.0,Karelia*
ISC 24 11:31:17.9±0.8,64.01N±0.02×28.24E±0.03,h0km,n35, σ1§64/52,Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIF	**Nilsia** baz=8.0	**0.65**	**197**	PG	**Pg**	**11 31 28.9**	**-1.5**
NIF				SG	**Sg**	**11 31 33.3**	**-5.6**
NIF				MSG		11 31 37.3	
	comp=Z,8.6nm,0.2s						
RMF	**Romuvaara**	**0.77**	**74**	PG	**Pb**	**11 31 33.3**	**-0.9**
RMF				MSG		11 31 43.5	
	comp=Z,8.8nm,0.2s						
RMF				SB	**Sb**	**11 31 45.0**	**-0.1**
OUL	**Oulu**	**1.48**	**318**	PG	**Pn**	**11 31 44.6**	**-1.2**
OUL				SN	**Sg**	**11 32 06.8**	**+1.4**
OUF	**Merijarvi**	**1.58**	**285**	PG	**Pn**	**11 31 45.3**	**-1.8**
OUF				MSG		11 32 03.7	
	comp=Z,6.0nm,0.2s						
OUF				SN	**Sn**	**11 32 05.5**	**-2.7**
OBF4	**Vikkela, Lumij** baz=123	**1.58**	**302**	PG	**Pn**	**11 31 46.0**	**-1.2**
OBF4				MSG		11 32 04.5	
	comp=Z,4.0nm,0.2s						
KU1	**Kurvinen** baz=204	**1.66**	**19**	PG	**Pn**	**11 31 48.5**	**+0.3**
KU2	**Taivalkoski** baz=186	**1.71**	**360**	PG	**Pn**	**11 31 49.0**	**+0.1**
JOF	**Joensuu** baz=308	**1.76**	**127**	PG	**Pn**	**11 31 49.9**	**+0.3**
JOF				SN	**Sg**	**11 32 14.6**	**+0.1**
OBF0	**Syolatti, Pyha**	**1.82**	**287**	PG	**Pn**	**11 31 49.8**	**-0.6**
OBF0				MSG		11 32 10.7	
	comp=Z,6.7nm,0.2s						
OBF0				SN	**Sn**	**11 32 14.6**	**+0.6**
MSF	**Maaselka** baz=191	**1.94**	**10**	PG	**Pn**	**11 31 53.0**	**+0.9**
MSF				SG	**Sg**	**11 32 19.6**	**-0.5**
KAF	**Kangasniemi** baz=26	**2.10**	**206**	PG	**Pn**	**11 31 54.2**	**-0.1**
KAF				MSG		11 32 18.7	
	comp=Z,9.9nm,0.2s						
KAF				SG	**Sn**	**11 32 22.5**	**+1.4**
RANF	**Ranua**	**2.10**	**344**	PG	**Pn**	**11 31 55.5**	**+1.1**
RANF				SG	**Sn**	**11 32 23.1**	**+1.9**
OBF8	**Ulkokalla** baz=102	**2.12**	**281**	PG	**Pn**	**11 31 55.1**	**+0.5**
OBF8				MSG		11 32 19.5	
	comp=Z,3.2nm,0.2s						
KU6	**Riekki**	**2.14**	**18**	PG	**Pb**	**11 31 56.7**	**-0.8**
KU6				MSG		11 32 22.6	
	comp=Z,2.5nm,0.2s						
KU6				SG	**Sg**	**11 32 25.3**	**-1.3**
OLKF	**Oulanka, Finla**	**2.37**	**11**	PG	**Pb**	**11 32 00.5**	**-0.9**
OLKF				MSG		11 32 29.1	
	comp=Z,2.7nm,0.2s						
OLKF				SG	**Sb**	**11 32 31.8**	**+0.7**
KEF	**Keuruu**	**2.40**	**221**	*e*P	**Pn**	**11 32 00.1**	**+1.6**
KEF	**Keuruu** baz=40	**2.40**	**221**	PG	**Pn**	**11 31 59.5**	**+1.0**
KEF				MSG		11 32 27.2	
	comp=Z,4.6nm,0.2s						
KEF				SG	**Sn**	**11 32 29.4**	**+0.9**
RUF	**Ruokolahti**	**2.62**	**173**	PG	**Pn**	**11 32 03.8**	**+2.4**
RUF				MSG		11 32 34.2	
	comp=Z,3.1nm,0.2s						
RUF				SG	**Sb**	**11 32 38.1**	**-0.1**
TOF	**Tornio**	**2.66**	**323**	SB	**Sn**	**11 32 35.6**	**+0.8**
TOF				MSG		11 32 35.8	
	comp=Z,1.5nm,0.2s						
FIA0	**FINESS Array S** baz=21	**2.76**	**202**	PG	**Pn**	**11 32 04.9**	**+1.5**
FIA0				MSG		11 32 37.9	
	comp=Z,2.1nm,0.2s						
FIA0				SG	**Sn**	**11 32 41.1**	**+3.7**
FINES	**FINESS Array B** comp=Z,0.3nm,0.3s,baz=26,slow=17,SNR=8.3	**2.76**	**202**	Pn	**Pn**	**11 32 04.8**	**+1.4**
FINES	comp=Z,0.9nm,0.3s,baz=27,slow=26,SNR=14 comp=Z,0.8nm,0.3s			Sn	**Sn**	**11 32 39.8**	**+2.4**
KALU	**Kalix**	**2.79**	**314**	SG	**Sb**	**11 32 43.0**	**-0.2**
SJUU	**Sjulsmark**	**3.22**	**301**	*e*P	**Pn**	**11 32 11.1**	**+1.5**
UMAU	**Umeaa**	**3.34**	**271**	PN	**Pn**	**11 32 11.3**	**0.0**
VJF	**Virojoki**	**3.50**	**186**	SG	**Sb**	**11 33 03.0**	**-0.6**
KPF	**Kankaanpaa**	**3.57**	**235**	PG	Pn	11 32 19.4	+5.0
ERTU	**Ertsjaerv**	**3.60**	**318**	PN	**Pn**	**11 32 16.4**	**+1.5**
PAJU	**Pajala**	**3.70**	**327**	PN	**Pn**	**11 32 17.3**	**+1.0**
PAJU				SN	**Sn**	**11 33 01.1**	**+0.5**
LANU	**Lannavaara**	**4.79**	**331**	*e*P	**Pn**	**11 32 31.8**	**+0.6**
HEMU	**Hemsoen**	**4.79**	**258**	SG	**Sb**	**11 33 44.7**	**+4.0**
AAL	**Aland**	**5.46**	**229**	*e*P	**Pn**	**11 32 40.1**	**-0.3**
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=165,slow=9.8,SNR=3.7	**5.65**	**350**	Pn	**Pn**	**11 32 44.4**	**+1.4**
ARCES	comp=Z,0.1nm,0.3s,baz=166,slow=30,SNR=2.1 comp=Z,1.0nm,0.7s			Sn	**Sn**	**11 33 49.1**	**+0.5**
ARCES	**ARCESS Array B**	**5.65**	**350**	P	**Pn**	**11 32 44.6**	**+1.5**
ARCES				S	**Sn**	**11 33 48.9**	**+0.4**
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=61,slow=12,SNR=1.3 comp=Z,0.3nm,0.3s	**7.85**	**247**	Pn	**Pn**	**11 33 14.6**	**+1.3**
NOA	**NORSAR Array B** baz=61,slow=14,SNR=1.4 comp=Z,0.1nm,0.3s	**8.41**	**257**	Pn	**Pn**	**11 33 23.4**	**+2.4**

*IDC **24** 11:38:46.1±5.3,36.15N×70.86E,h172km±49km,mb3.3/7, mbtmp3.9/11,Error ellipse: s-maj=38.5km s-min=24.1km az=34.0*
*NEIC **24** 11:38:53.6±1.3,36.68N±0.08×70.9E±0.1,h220km±5km, mb4.4/4,Error ellipse: s-maj=13.3km s-min=11.3km az=54.0*
ISC 24 11:38:51.2±0.7,36.64N±0.06×70.91E±0.07,h200km,n49, σ1§99/56,mb3.7/6,2C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.40**	**349**		**Pn**	**11 39 37.5**	**+3.4**
CHGR	**Chuyangaron**	**2.44**	**326**		**Pn**	**11 39 37.7**	**+3.2**
SIMJ	**Simiganj**	**2.51**	**324**		**Pn**	**11 39 38.6**	**+3.2**
KBL	**Kabul**	**2.59**	**216**		**Pn**	**11 39 39.4**	**+3.0**
NIL	**Nilore**	**3.55**	**147**	Pn	**Pn**	**11 39 50.7**	**+3.1**
SRNI	**Srinagar**	**4.10**	**127**	*e*P	**Pn**	**11 39 56.5**	**+2.3**
SRNI				*e*S	**Sn**	**11 40 44.5**	**+0.8**
SRNI	comp=E,1μm,0.4s			IAML		11 40 46.2	
SRNI	comp=N,1μm,0.3s			IAML		11 40 46.5	
ARSB	**Arslanbob**	**4.95**	**18**		**Pn**	**11 40 06.5**	**+1.5**
JMU	**Jammu**	**5.12**	**139**	*e*S	**Sn**	**11 41 04.5**	**-2.4**
JMU	comp=E,154nm,0.8s			IAML		11 41 06.7	
JMU	comp=N,263nm,0.4s			IAML		11 41 07.7	
ALCI	**Alchi Leh**	**5.67**	**113**	*e*P	**Pn**	**11 40 17.3**	**+2.7**
TSSA	**Tissa**	**5.75**	**130**	*e*P	**Pn**	**11 40 18.3**	**+2.8**
TSSA				*e*S	**Sn**	**11 41 21.1**	**-0.8**
TSSA	comp=E,276nm,0.4s			IAML		11 41 22.8	
TSSA	comp=N,294nm,0.3s			IAML		11 41 23.2	
UCH	**Uchtor** SNR=5.1	**6.24**	**25**	P	**Pn**	**11 40 23.7**	**+1.8**
DHRM	**DHARAMSHALA**	**6.25**	**133**	*e*P	**Pn**	**11 40 24.7**	**+2.8**
DHRM				*e*S	**Sn**	**11 41 32.0**	**-1.6**
EKS2	**Erkin-Say** SNR=8.8	**6.41**	**19**	P	**Pn**	**11 40 25.6**	**+1.9**
KK31	**Karatay Array**	**6.46**	**357**		**Pn**	**11 40 26.0**	**+1.6**
KK31	**Karatay Array** comp=N,3.4nm,0.3s,baz=178,slow=12,SNR=46	**6.46**	**357**	⇑P	**Pn**	**11 40 25.7**	**+1.4**
KK31	comp=N,6.4nm,0.4s,baz=187,slow=25,SNR=6.0			⇑S	**Sn**	**11 41 37.0**	**-1.2**
KKAR	**Karatay Array**	**6.46**	**357**		**Pn**	**11 40 25.8**	**+1.4**
AAK	**Ala-Archa** SNR=11	**6.59**	**24**	P	**Pn**	**11 40 28.1**	**+1.9**
AAK	**Ala-Archa**	**6.59**	**24**		**Pn**	**11 40 28.1**	**+1.9**
AAK	**Ala-Archa** comp=N,3.6nm,0.4s	**6.59**	**24**	⇓P	**Pn**	**11 40 28.0**	**+1.8**
AAK	comp=N,9.4nm,0.6s			⇓S	**Sn**	**11 41 41.4**	**-0.2**
AAK	**Ala-Archa** comp=N,14nm,0.3s,baz=201,slow=9.1,SNR=32	**6.59**	**24**	P	**Pn**	**11 40 27.5**	**+1.3**
AAK	comp=N,5.7nm,0.4s,baz=156,slow=20,SNR=4.4			S	**Sn**	**11 41 39.6**	**-2.0**
BHK	**Bhakra**	**6.93**	**137**	*e*P	Pn	11 40 38.4	+7.8
BHK	comp=E,629nm,0.4s			IAML		11 44 29.2	
BHK	comp=N,624nm,1.0s			IAML		11 44 29.6	
ULHL	**Ulahol**	**6.95**	**35**	P	**Pn**	**11 40 32.6**	**+1.6**
	SNR=5.7						
BOOM	**Boomskoye usch**	**7.01**	**32**		**Pn**	**11 40 33.9**	**+2.2**
USP	**Ospenovka** SNR=7.6	**7.17**	**22**	P	**Pn**	**11 40 35.1**	**+1.5**
TKM2	**Tokmak 2** SNR=11	**7.23**	**28**	P	**Pn**	**11 40 36.0**	**+1.4**
KDJ	**Kajisay**	**7.32**	**40**		**Pn**	**11 40 37.1**	**+1.4**
SMLA	**Simla**	**7.57**	**135**	*e*P	**Pn**	**11 40 42.8**	**+3.9**
SMLA				*e*S	**Sn**	**11 42 03.1**	**-1.3**
HNLY	**HANLEY**	**7.68**	**118**	*e*P	**Pn**	**11 40 44.3**	**+3.5**
HNLY				*e*S	**Sn**	**11 42 04.2**	**-3.6**
MKAR	**Makanchi Array** comp=N,0.5nm,0.5s,baz=220,slow=13,SNR=3.6	**13.22**	**36**	P	**Pn**	**11 41 51.8**	**+0.5**
AB31	**Akbulak array**	**14.92**	**331**		**Pn**	**11 42 12.2**	**-0.1**
ABKAR	**Akbulak array**	**14.92**	**331**		**P**	**11 42 13.2**	**+0.2**
KURBB	**Kurchatov Arra** comp=N,0.5nm,0.5s,baz=208,slow=12,SNR=4.2	**15.01**	**19**	P	**Pn**	**11 42 12.6**	**-0.7**
BVAR	**Borovoye Array** comp=N,1.4nm,0.5s,baz=180,slow=16,SNR=5.5	**16.39**	**359**	P	**Pn**	**11 42 30.6**	**+0.6**
AKTO	**Aktyubinsk** comp=N,2.5nm,0.5s,baz=152,slow=8.7,SNR=10.0	**16.62**	**330**	P	**Pn**	**11 42 33.0**	**+0.2**
ZALV	**Zalesovo Beam**	**19.82**	**25**	P	**P**	**11 43 07.3**	**+1.0**
ZALV	**Zalesovo Beam** comp=N,0.7nm,0.3s,baz=213,slow=9.5,SNR=3.7 comp=N,0.7nm,0.3s	**19.82**	**25**	P	**Pn**	**11 43 08.1**	**-2.4**
FIA1	**FINESS Array S**	**37.32**	**326**	P	**P**	**11 45 44.9**	**+1.1**
FINES	**FINESS Array B**	**37.32**	**326**	P	**P**	**11 45 45.0**	**+1.2**
FINES	**FINESS Array B** comp=N,0.7nm,0.3s,baz=110,slow=8.5,SNR=9.9 comp=N,0.7nm,0.3s	**37.32**	**326**	P	**P**	**11 45 44.8**	**+0.9**
ARCES	**ARCESS Array B**	**40.98**	**338**	P	**P**	**11 46 15.3**	**+1.2**
ARCES	comp=Z,20nm,1.4s			IAmb	IAmb	11 46 24.0	
ARCES	**ARCESS Array B** comp=Z,2.9nm,0.8s,baz=119,slow=7.8,SNR=9.5 comp=Z,2.9nm,0.8s	**40.98**	**338**	P	**P**	**11 46 15.3**	**+1.2**
HFS	**Hagfors** comp=Z,1.2nm,0.5s,baz=88,slow=8.8,SNR=5.2 comp=Z,1.2nm,0.5s	**42.91**	**322**	P	**P**	**11 46 30.4**	**+0.7**
NB201	**NORSAR Array S**	**44.18**	**323**	P	**P**	**11 46 40.4**	**+0.4**
NB201	comp=Z,17nm,1.4s			IAmb	IAmb	11 47 16.2	
NOA	**NORSAR Array B** comp=Z,0.8nm,0.7s,baz=94,slow=7.9,SNR=3.7 comp=Z,0.8nm,0.7s	**44.22**	**323**	P	**P**	**11 46 40.4**	**+0.1**
NBO00	**NORSAR Array S**	**44.43**	**323**	P	**P**	**11 46 41.3**	**-0.6**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.5s,baz=54,slow=6.2,SNR=7.0 comp=Z,0.5nm,0.5s	**65.65**	**269**	P	**P**	**11 49 11.7**	**-2.6**
IMAR	**Indian Mountai**	**72.06**	**18**	P	**P**	**11 49 53.1**	**+0.1**
BCAR	**Beaver Creek A**	**77.24**	**15**	P	**P**	**11 50 23.2**	**+0.4**
ASAR	**Alice Springs** comp=Z,0.6nm,1.0s,baz=304,slow=4.4,SNR=4.6 comp=Z,0.6nm,1.0s	**84.40**	**125**	P	**P**	**11 50 58.2**	**-3.0**

*IDC **24** 11:39:47.8±0.7,49.81S×122.43E,h0km,mb4.1/10, mbtmp4.1/11,ML1.7/1,MS4.3/1,Error ellipse: s-maj=32.6km s-min=15.1km az=102.0*
ISC 24 11:39:49.2±0.7,49.79S±0.10×122.4E±0.2,h10km,n24, σ0§74/17,mb4.0/10,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H** baz=160,slow=74,SNR=51	**16.07**	**335**	T	T	12 00 08.0	
H01W2	**Cape Leeuwin H** baz=160,slow=74,SNR=39	**16.07**	**335**	T	T	12 00 07.0	
H01W3	**Cape Leeuwin H** baz=160,slow=74,SNR=40	**16.08**	**335**	T	T	12 00 09.0	
NWAO	**Narrogin (SRO)** 0.1nm,0.3s,baz=172,slow=15,SNR=2.7 5.9nm,0.8s	**17.28**	**345**	P	**Pn**	**11 43 49.2**	**-1.3**
STKA	**Stephens Creek** 3.0nm,0.9s,baz=213,slow=12,SNR=5.7 3.0nm,0.9s	**22.93**	**46**	P	**P**	**11 44 53.7**	**+0.3**
ASAR	**Alice Springs** 2.7nm,1.0s,baz=196,slow=9.4,SNR=14 2.7nm,1.0s	**27.59**	**23**	P	**P**	**11 45 36.9**	**+0.3**
WRA	**Warramunga Arr** 0.9nm,0.9s,baz=194,slow=11,SNR=4.5 0.9nm,0.9s	**31.27**	**22**	P	**P**	**11 46 09.0**	**-0.2**
VNDA	**Vanda** 0.9nm,1.0s,baz=301,slow=10.0,SNR=4.7 0.9nm,1.0s	**31.55**	**165**	P	**P**	**11 46 11.0**	**-0.1**
FITZ	**Fitzroy Crossi** 5.7nm,1.1s,baz=179,slow=16,SNR=3.5 5.7nm,1.1s	**31.72**	**6**	P	**P**	**11 46 13.7**	**+0.5**
QSPA	**South Pole Qui** 2.8nm,1.0s,baz=338,slow=2.7,SNR=9.0 2.8nm,1.0s	**40.33**	**180**	P	**P**	**11 47 27.8**	**+1.2**
JAY	**Jayapura** comp=Z,345nm,20.5s,baz=252,slow=35	**49.61**	**24**	LR	LR	12 09 00.5	
TROLL	**Troll, Antarti**	**51.43**	**200**	P	**P**	**11 48 53.5**	**-0.5**
SNAA	**Sanae**	**52.84**	**199**	P	**P**	**11 49 04.1**	**-0.2**
SNAA	**Sanae** 4.2nm,1.0s,baz=138,slow=12,SNR=11 4.2nm,1.0s	**52.84**	**199**	P	**P**	**11 49 03.8**	**-0.6**
VNA2	**Neumayer--Watz** baz=194,slow=5.8	**54.35**	**198**	P	P	11 49 09.4	-6.0
VNA3	**Neumayer Olymp**	**54.54**	**197**	P	**P**	**11 49 16.2**	**-0.6**
VNA1	**Neumayer--Stat**	**54.74**	**198**	P	**P**	**11 49 18.4**	**+0.2**
CMAR	**Chiang Mai Arr** 1.3nm,0.7s,baz=166,slow=6.3,SNR=12 1.3nm,0.7s	**71.05**	**336**	P	**P**	**11 51 08.1**	**+0.8**
BOSA	**Boshof** 1.7nm,0.4s,baz=140,slow=7.9,SNR=6.4 1.7nm,0.4s	**73.03**	**246**	P	**P**	**11 51 19.9**	**+0.6**
PLCA	**Paso Flores** 1.5nm,0.8s,baz=190,slow=19,SNR=3.0 1.5nm,0.8s	**89.14**	**170**	P	**P**	**11 52 43.5**	**-1.4**
TXAR	**Lajitas Array** 0.1nm,0.4s,baz=252,slow=4.5,SNR=3.6	**139.80**	**103**	PKhKP	PKPpre	11 59 12.4	
PDAR	**Pinedale Array** 0.4nm,0.7s,baz=269,slow=2.1,SNR=2.8	**144.03**	**81**	PKP	PKPbc	11 59 22.5	-0.1
YKA	**Yellowknife Ar** 1.1nm,0.8s,baz=266,slow=2.4,SNR=4.0	**146.97**	**46**	PKPbc	**PKPbc**	**11 59 30.6**	**-0.1**
EKA	**Eskdalemuir Ar** 2.7nm,1.1s,baz=116,slow=3.2,SNR=5.1	**147.18**	**301**	PKPbc	**PKPbc**	**11 59 31.0**	**-0.5**

*IDC **24** 11:41:42.5±1.4,34.46N×26.22E,h0km,mb3.9/6, mbtmp3.7/12,ML3.6/6,Error ellipse: s-maj=25.7km s-min=22.9km az=25.0*
*ISK **24** 11:41:42.0,34.26N×26.26E,h7km,ML3.4/16*
*ATH **24** 11:41:45.8,34.43N×26.18E,h16km±4km,ML3.2/4, Manual Solution by S.Koutrakis First location: 2019/09/24 11:43:02, This location: 2019/09/24 12:42:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
*THE **24** 11:41:46.0,34°N±28°×2°6E±1°,h9km±20km,M3.1/5, MLh3.1/5*
**ISC 24 11:41:44.7±1.3,34°35N±0°05×26°22E±0°03,h20km±4km, n41,σ1§05/54,mb3.7/5

THERA	**Ancient Thera,**	**2.10**	**343**	P		**Pn**	**11 42 19.0**	**+0.1**
SNT5	**Nea Kammeni, S**	**2.16**	**342**	P		**Pn**	**11 42 19.7**	**+0.2**
SNT5				S		**Sn**	**11 42 47.1**	**+1.3**
KNDR	**Palaiochora Ch**	**2.26**	**294**	Pn		**Pn**	**11 42 22.5**	**+1.5**
ARG	**Arkhangelos**	**2.43**	**39**	Pn		**Pn**	**11 42 24.1**	**+0.8**
DAT	**Datca**	**2.62**	**25**	Pn		**Pn**	**11 42 27.3**	**+1.2**
APE	**Apeiranthos**	**2.77**	**349**	Pn		**Pn**	**11 42 28.4**	**+0.3**
KTHA	**Kythira Island**	**3.21**	**307**	Pn		**Pn**	**11 42 35.5**	**+1.5**
AKAS	**Kas**	**3.35**	**55**	Pn		**Pn**	**11 42 36.7**	**+0.6**
CAME	**Cameli-Denizli**	**3.61**	**43**	Pn		**Pn**	**11 42 40.6**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**3.84**	**20**	Pn		**Pn**	**11 42 44.5**	**+1.7**
NAZL	**Nazilli-Aydin**	**3.98**	**24**	Pn		**Pn**	**11 42 46.5**	**+1.8**
APMY	**Acipayam-Deniz**	**4.00**	**38**	Pn		**Pn**	**11 42 46.2**	**+1.2**
ODEM	**Odemis-Izmir**	**4.20**	**20**	Pn		**Pn**	**11 42 49.3**	**+1.6**
ITM	**Ithomi**	**4.49**	**310**	Pn		**Pn**	**11 42 53.3**	**+1.7**
AKMS	**Akamas**	**5.08**	**81**	P		**Pn**	**11 43 00.1**	**+0.3**
MMAI	**Mount Meron Ar**	**7.77**	**97**	Pn		**Pn**	**11 43 37.0**	**+0.2**
	2.0nm,0.3s,baz=276,slow=39,SNR=2.0							
MMAI					Sn	**Sn**	**11 45 03.6**	**-0.6**
	1.9nm,0.3s,baz=275,slow=24,SNR=1.9							
	0.7nm,0.3s							
BRTR	**Keskin Array B**	**8.00**	**46**	Pn		**Pn**	**11 43 39.9**	**-0.1**
	0.1nm,0.3s,baz=228,slow=15,SNR=1.5							
	0.2nm,0.3s							
EIL	**Elat**	**8.76**	**120**	Pn		**Pn**	**11 43 51.0**	**+0.7**
	0.8nm,0.3s,baz=294,slow=20,SNR=4.1							
EIL					Sn	**Sn**	**11 45 26.2**	**-2.2**
	0.8nm,0.3s,baz=281,slow=19,SNR=2.2							
	4.2nm,0.5s							
AKASG	**Malin Array Be**	**16.49**	**7**	Pn		**Pn**	**11 45 34.4**	**-0.3**
	0.4nm,0.3s,baz=198,slow=11,SNR=4.5							
	0.3nm,0.3s							
VRAC	**Vranov**	**16.56**	**337**	Pn		**Pn**	**11 45 37.3**	**+1.7**
	0.5nm,0.3s,baz=173,slow=16,SNR=1.9							
	2.3nm,0.5s							
GERES	**GERESS Array B**	**17.21**	**331**	P		**Pn**	**11 45 44.7**	**+0.8**
	baz=142,slow=14,SNR=1.5							
	0.2nm,0.4s							
HFS	**Hagfors**	**27.07**	**346**	P		**P**	**11 47 23.8**	**-1.9**
	0.8nm,0.6s,baz=156,slow=11,SNR=1.8							
	0.8nm,0.6s							
FINES	**FINESS Array B**	**27.11**	**360**	P		**P**	**11 47 24.2**	**-1.8**
	1.0nm,0.6s,baz=188,slow=9.5,SNR=3.6							
	1.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**30.66**	**232**	P		**P**	**11 47 59.6**	**+1.6**
	1.4nm,1.0s,baz=38,slow=9.6,SNR=1.4							
	1.4nm,1.0s							
KURBB	**Kurchatov Arra**	**40.96**	**50**	P		**P**	**11 49 26.0**	**+0.1**
	0.4nm,0.4s,baz=271,slow=8.5,SNR=2.7							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**43.50**	**56**	P		**P**	**11 49 47.8**	**+1.1**
	1.1nm,0.5s,baz=277,slow=6.9,SNR=6.9							
	1.1nm,0.5s							
ZALV	**Zalesovo Beam**	**44.94**	**46**	P		**P**	**11 49 58.3**	**+0.2**
	1.5nm,0.6s,baz=268,slow=7.9,SNR=4.3							
	1.5nm,0.6s							

*IDC **24** 11:42:58.5±0.8,33°.02N×73°.62E,h0km,mb3.8/12, mbtmp3.8/15,ML3.6/3,Error ellipse: s-maj=24.4km s-min=16.2km az=57.0*
*NDI **24** 11:43:06.4±1.8,33°.05N×73°.82E,h10km,ML3.9,MW3.7*
ISC 24 11:43:00.7±1.6,32°.93N±0°.05×73°.67E±0°.06,h16km±10km, n36,σ2s62/51,mb3.7/9,3C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMU	**Jammu**	**1.06**	**101**	*eP*	**Pn**	**11 43 23.1**	**+2.2**
JMU				*eS*	**Sb**	**11 43 34.4**	**+0.2**
JMU				IAML		11 43 35.2	
	comp=N,1μm,0.3s						
JMU				IAML		11 43 35.6	
	comp=E,932nm,0.4s						
SRNI	**Srinagar**	**1.53**	**40**	*eP*	**Pg**	**11 43 30.1**	**0.0**
SRNI				*eS*	**Sn**	**11 43 49.2**	**+2.4**
SRNI				IAML		11 43 51.3	
	comp=N,2μm,0.2s						
SRNI				IAML		11 43 51.6	
	comp=E,3μm,0.5s						
TSSA	**Tissa**	**2.09**	**92**	*eP*	**Pg**	**11 43 39.5**	**-1.3**
TSSA				*eS*	**Sg**	**11 44 05.1**	**-2.9**
TSSA				IAML		11 44 07.3	
	comp=E,26μm,0.4s						
TSSA				IAML		11 44 07.6	
	comp=N,32μm,0.1s						
DHRM	**DHARAMSHALA**	**2.32**	**106**	*eP*	**Pg**	**11 43 44.1**	**-1.2**
DHRM				*eS*	**Sb**	**11 44 12.0**	**+1.1**
DHRM				IAML		11 44 15.8	
	comp=E,3μm,0.5s						
DHRM				IAML		11 44 16.1	
	comp=N,3μm,0.6s						
BHK	**Bhakra**	**2.78**	**122**	*eP*	**Pg**	**11 43 55.5**	**+1.6**
BHK				*eS*	**Sg**	**11 44 33.2**	**+3.3**
BHK				IAML		11 44 33.6	
	comp=N,289nm,0.2s						
BHK				IAML		11 44 33.8	
	comp=E,218nm,0.1s						
SMLA	**Simla**	**3.47**	**120**	*eP*	**Pb**	**11 43 59.9**	**-1.9**
SMLA				*eS*	**Sn**	**11 44 39.5**	**+4.7**
SMLA				IAML		11 44 49.2	
	comp=E,269nm,0.2s						
SMLA				IAML		11 44 49.8	
	comp=N,250nm,0.3s						
KLP	**Kalpa**	**4.12**	**109**	*eP*	**Pn**	**11 44 08.1**	**+4.7**
KLP				*eS*	**Sn**	**11 44 54.5**	**+3.0**
KLP				IAML		11 45 12.1	
	comp=E,241nm,0.5s						
KLP				IAML		11 45 12.7	
	comp=N,230nm,0.4s						
HNLY	**HANLEY**	**4.47**	**91**	*eP*	**Pn**	**11 44 12.5**	**+4.2**
HNLY				*eS*	**Sn**	**11 45 01.5**	**+1.3**
HNLY				IAML		11 45 20.5	
	comp=N,22nm,0.2s						
PYUN	**Piuthan**	**9.37**	**118**	Pn	**Pn**	**11 45 16.6**	**+1.3**
	baz=124,slow=0.0						
PYUN				Sn	**Sn**	**11 46 54.8**	**-5.7**
	comp=N,15nm,0.5s,baz=124,slow=0.0						
AAK	**Ala-Archa**	**9.71**	**4**	⇑P	**Pn**	**11 45 21.5**	**+1.6**
	comp=N,4.7nm,0.8s						
AAK				⇑S	**Sn**	**11 47 13.8**	**+5.1**
	comp=N,2.5nm,0.7s						
AAK	**Ala-Archa**	**9.71**	**4**	Pn	**Pn**	**11 45 20.2**	**+0.3**
	comp=N,1.6nm,0.3s,baz=168,slow=11,SNR=6.2						
AAK				Sn	**Sn**	**11 47 11.8**	**+3.1**
	comp=N,0.3nm,0.3s,baz=180,slow=20,SNR=3.6						
	comp=N,4.0nm,0.3s						
DANN	**Dangsing**	**9.82**	**115**	Pn	**Pn**	**11 45 22.9**	**+1.4**
	baz=121,slow=0.0						
DANN				Sn	**Sn**	**11 47 04.5**	**-7.1**
	comp=N,6.8nm,0.4s,baz=121,slow=0.0						
KOLN	**Koldanda**	**10.00**	**118**	Pn	**Pn**	**11 45 24.8**	**+0.9**
	baz=124,slow=0.0						
KOLN				Sn	**Sn**	**11 47 10.3**	**-5.7**
	comp=N,29nm,0.6s,baz=124,slow=0.0						
KK31	**Karatay Array**	**10.46**	**347**	⇑P	**Pn**	**11 45 29.5**	**-0.4**
	comp=N,7.3nm,0.3s,baz=168,slow=13,SNR=62						
KK31				⇓S	**Sn**	**11 47 21.7**	**-5.0**
	comp=N,12nm,0.8s,baz=174,slow=25,SNR=3.9						
GKN	**Gorkha**	**10.66**	**115**	Pn	**Pn**	**11 45 33.3**	**+0.4**
	baz=120,slow=0.0						
DMN	**Daman**	**11.22**	**115**	Pn	**Pn**	**11 45 41.2**	**+0.5**
	baz=120,slow=0.0						
DMN				Sn	Sn	11 47 37.6	-8.3
	comp=N,3.5nm,0.3s,baz=120,slow=0.0						
KKN	**Kakani**	**11.26**	**114**	Pn	**Pn**	**11 45 41.5**	**+0.3**
	baz=119,slow=0.0						
PKIN	**Phulchoki**	**11.46**	**115**	Pn	**Pn**	**11 45 44.5**	**+0.6**
	baz=120,slow=0.0						
PKIN				Sn	Sn	11 47 42.7	-9.0
	comp=N,5.7nm,0.3s,baz=120,slow=0.0						
PKI	**Pulchoki**	**11.47**	**115**	Pn	**Pn**	**11 45 44.6**	**+0.5**
	baz=120,slow=0.0						
PKI				Sn	Sn	11 47 42.7	-9.4
	comp=N,4.1nm,0.4s,baz=120,slow=0.0						
GUN	**Gumba**	**11.66**	**112**	Pn	**Pn**	**11 45 46.7**	**-0.1**
	baz=117,slow=0.0						
RAMN	**Ramite**	**12.70**	**115**	Pn	**Pn**	**11 46 01.1**	**+0.2**
	baz=119,slow=0.0						
RAMN				Sn	Sn	11 48 13.3	-8.7
	comp=N,3.3nm,0.2s,baz=119,slow=0.0						
MKAR	**Makanchi Array**	**15.33**	**23**	Pn	**Pn**	**11 46 35.3**	**-1.1**
	comp=N,0.4nm,0.3s,baz=206,slow=13,SNR=8.2						
MKAR				Sn	**Sn**	**11 49 22.8**	**-3.0**
	comp=N,0.1nm,0.3s,baz=200,slow=26,SNR=2.6						
	comp=N,1.9nm,0.7s						
KURBB	**Kurchatov Arra**	**18.04**	**10**	P	**Pn**	**11 47 07.5**	**-3.0**
	comp=N,0.1nm,0.3s,baz=198,slow=11,SNR=4.7						
	comp=N,1.8nm,0.6s						
BVAR	**Borovoye Array**	**20.22**	**354**	P	**P**	**11 47 34.9**	**0.0**
	comp=N,2.7nm,0.6s,baz=164,slow=11,SNR=6.8						
	comp=N,2.7nm,0.6s						
AKTO	**Aktyubinsk**	**20.96**	**331**	P	**P**	**11 47 42.0**	**-0.8**
	comp=N,3.3nm,0.4s,baz=142,slow=11,SNR=12						
	comp=N,3.3nm,0.4s						
ZALV	**Zalesovo Beam**	**22.46**	**17**	P	**P**	**11 47 58.1**	**-0.9**
	comp=N,2.1nm,0.4s,baz=208,slow=9.4,SNR=7.5						
	comp=N,2.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**26.86**	**116**	P	**P**	**11 48 41.9**	**+1.2**
	comp=N,0.7nm,0.6s,baz=302,slow=9.4,SNR=5.8						
	comp=N,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**45.27**	**338**	P	**P**	**11 51 16.8**	**-0.3**
	comp=N,2.4nm,0.9s,baz=119,slow=7.8,SNR=6.1						
	comp=N,2.4nm,0.9s						
HFS	**Hagfors**	**47.23**	**324**	P	**P**	**11 51 31.9**	**-0.7**
	comp=N,1.7nm,0.6s,baz=98,slow=8.9,SNR=5.5						
	comp=N,1.7nm,0.6s						
NB2	**NORSAR Subarra**	**48.55**	**325**	P	**P**	**11 51 42.8**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=102,slow=7.9						
NOA	**NORSAR Array B**	**48.55**	**325**	P	**P**	**11 51 42.1**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=97,slow=7.8,SNR=4.0						
	comp=Z,0.6nm,0.6s						
ESDC	**Sonseca Array**	**61.11**	**301**	P	**P**	**11 53 14.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=70,slow=8.5,SNR=4.0						
	comp=Z,0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**67.93**	**272**	P	**P**	**11 53 58.7**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=50,slow=5.7,SNR=5.2						
	comp=Z,0.2nm,0.4s						
ILAR	**Eielson Array**	**77.58**	**17**	P	**P**	**11 54 55.5**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=320,slow=5.0,SNR=4.1						
	comp=Z,0.2nm,0.4s						
WRA	**Warramunga Arr**	**78.22**	**123**	P	**P**	**11 55 01.1**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=311,slow=5.6,SNR=9.1						
	comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**80.40**	**126**	P	**P**	**11 55 12.3**	**+0.6**
	comp=Z,0.3nm,0.9s,baz=312,slow=4.9,SNR=7.0						
	comp=Z,0.3nm,0.9s						

*IDC **24** 11:51:20.1±1.1,27°.70N×56°.58E,h0km,mb3.7/11, mbtmp3.7/11,ML2.2/1,Error ellipse: s-maj=27.1km s-min=20.7km az=60.0*
*TEH **24** 11:51:23.4,27°.68N×56°.78E,h9km±19km*
*DSN **24** 11:51:23.6±1.3,27°.55N×57°.12E,h10km,ML3.1/6,Error ellipse: s-maj=38.6km s-min=9.0km az=125.0*
*OMAN **24** 11:51:25.4±1.2,27°.44N×56°.77E,h10km,ml3.3/16,Error ellipse: s-maj=11.0km s-min=6.6km az=16.0*
ISC 24 11:51:24.2±1.1,27°.63N±0°.04×56°.79E±0°.04,h26km±9km, n66,σ1s69/81,mb3.8/11,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**0.29**	**230**	Pg	**Pb**	**11 51 29.8**	**-1.3**
GENO	**Geno**	**0.59**	**247**	Pg	**Pb**	**11 51 35.6**	**-0.5**
KHNJ	**Kahnooj**	**0.87**	**69**	Pg	**Pb**	**11 51 40.1**	**-0.6**
KHNJ				Sg	**Sb**	**11 51 52.8**	**+0.8**
SHME	**Shamm**	**1.68**	**200**	P	**Pn**	**11 51 54.0**	**+2.0**
	SNR=37						
SHME				S	**Sn**	**11 52 12.1**	**-0.5**
SHME	**Shamm**	**1.68**	**200**	P	**Pn**	**11 51 53.7**	**+1.8**
SHME				S	**Sb**	**11 52 17.1**	**+1.9**
BANOM	**Banah**	**1.76**	**195**	P	**Pn**	**11 51 54.9**	**+1.8**
BANOM				S	**Sn**	**11 52 16.5**	**+1.8**
BANOM	**Banah**	**1.76**	**195**	P	**Pn**	**11 51 54.3**	**+1.2**
BANOM				S	**Sb**	**11 52 18.0**	**+0.5**
KBAM	**BAM**	**2.10**	**44**	Pn	**Pn**	**11 52 00.6**	**+2.9**
CHMN	**Cheshme madani**	**2.31**	**16**	Pn	**Pn**	**11 52 03.7**	**+2.7**
MASF	**Masafi**	**2.32**	**194**	P	**Pn**	**11 52 02.6**	**+1.7**
MASF				S	**Sn**	**11 52 28.8**	**+0.2**
MSFE	**Esma-Masafi**	**2.33**	**194**	P	**Pn**	**11 52 02.4**	**+1.4**
KRBR	**Kerman**	**2.34**	**359**	Pn	**Pn**	**11 52 04.2**	**+2.9**
MDH	**Madha**	**2.37**	**191**	P	**Pn**	**11 52 01.9**	**+0.5**
MDH				S	**Sn**	**11 52 28.9**	**-0.7**
MDH	**Madha**	**2.37**	**191**	P	**Pn**	**11 52 01.3**	**-0.1**
UOSS	**Minazif**	**2.73**	**191**	P	**Pn**	**11 52 08.2**	**+1.8**
UOSS	**Minazif**	**2.73**	**191**	P	**Pn**	**11 52 07.8**	**+1.4**
HATD	**Hatta, Dubai**	**2.86**	**192**	P	**Pn**	**11 52 09.3**	**+1.1**
HATD	**Hatta, Dubai**	**2.86**	**192**	P	**Pn**	**11 52 10.3**	**+2.1**
KRM1	**Kerman Provinc**	**2.89**	**8**	Pn	**Pn**	**11 52 12.2**	**+3.3**
ASHO	**Ashiyiah**	**3.01**	**193**	P	**Pn**	**11 52 12.1**	**+1.8**
ASHO	**Ashiyiah**	**3.01**	**193**	P	**Pn**	**11 52 11.9**	**+1.6**
FAQ	**Al Faqa, Dubai**	**3.07**	**201**	P	**Pn**	**11 52 12.9**	**+1.8**
	SNR=9.4						
ASUD	**Al Ashush, Dub**	**3.27**	**204**	P	**Pn**	**11 52 16.4**	**+2.6**
ZRDN	**Zarand Kerman**	**3.33**	**356**	Pn	**Pn**	**11 52 17.6**	**+2.7**
AJN	**Ajban**	**3.46**	**208**	P	**Pn**	**11 52 18.1**	**+1.6**
	SNR=5.8						
AJN				S	**Sn**	**11 52 58.6**	**+2.0**
SOHO	**SOHO**	**3.49**	**184**	P	**Pn**	**11 52 19.0**	**+2.1**
ALNE	**Al Ain**	**3.68**	**195**	P	**Pn**	**11 52 21.4**	**+1.9**
HOQ	**Hoqain**	**4.06**	**173**	P	**Pn**	**11 52 26.1**	**+1.3**
HOQ				S	**Sn**	**11 53 10.8**	**-0.7**
IBAF	**Bafgh**	**4.08**	**345**	Pn	**Pn**	**11 52 27.2**	**+2.0**
BIDO	**Bidbid**	**4.27**	**163**	P	**Pn**	**11 52 28.7**	**+1.1**
BIDO				S	**Sn**	**11 53 15.0**	**-1.6**
ARQ	**Araqi**	**4.29**	**183**	P	**Pn**	**11 52 30.0**	**+2.1**
	SNR=8.1						
NGCH	**Negor - Chabah**	**4.51**	**119**	P	**Pn**	**11 52 32.2**	**+1.4**
NGCH	**Negor - Chabah**	**4.51**	**119**	Pn	**Pn**	**11 52 33.9**	**+3.1**
WSAR	**Wadi Sarin**	**4.68**	**159**	Pn	**Pn**	**11 52 34.5**	**+1.2**
	0.1nm,0.3s,baz=0.0,slow=20,SNR=55						
WSAR				Sn	**Sn**	**11 53 25.7**	**-1.1**
	0.2nm,0.3s,baz=270,slow=20,SNR=20						
WSAR	**Wadi Sarin**	**4.68**	**159**	P	**Pn**	**11 52 34.5**	**+1.2**
WSAR				S	**Sn**	**11 53 26.9**	**+0.1**
SMDO	**Samad**	**4.70**	**166**	P	**Pn**	**11 52 34.9**	**+1.3**
SMDO				S	**Sn**	**11 53 27.9**	**+0.6**
NHDN	**Nehbandan**	**4.70**	**36**	Pn	**Pn**	**11 52 36.3**	**+2.6**
BSRN	**Basiran**	**4.77**	**25**	Pn	**Pn**	**11 52 36.6**	**+2.0**
SRVN	**Saravan**	**4.99**	**91**	Pn	**Pn**	**11 52 41.1**	**+3.6**
UMZA	**Um Al Zommool**	**5.12**	**197**	P	**Pn**	**11 52 39.8**	**+0.5**
IKOO	**Kooshah**	**5.15**	**21**	Pn	**Pn**	**11 52 42.4**	**+2.5**
TPRV	**Parvadeh(Tabas**	**5.38**	**359**	Pn	**Pn**	**11 52 45.5**	**+2.6**
MZR	**Muzera**	**5.50**	**214**	P	**Pn**	**11 52 45.5**	**+1.0**
MZR				S	**Sn**	**11 53 47.6**	**+0.7**
SHMA	**Al-Shehemyia**	**5.50**	**253**	P	**Pn**	**11 52 45.0**	**+0.5**
SHMA				S	**Sn**	**11 53 46.6**	**-0.3**
KLNJ	**Kolanjah**	**5.65**	**308**	Pn	**Pn**	**11 52 48.9**	**+2.1**
IRAM	**Ramesheh**	**5.66**	**318**	Pn	**Pn**	**11 52 49.2**	**+2.3**
IDAH	**Dahanechah**	**5.74**	**27**	Pn	**Pn**	**11 52 49.8**	**+1.7**
JLN	**Jalan Bani Buh**	**5.96**	**156**	P	**Pn**	**11 52 51.6**	**+0.8**
JLN				S	**Sn**	**11 53 56.0**	**-2.2**
MHTO	**MHTO**	**6.70**	**171**	P	**Pn**	**11 53 01.8**	**+0.7**
MHTO				S	**Sn**	**11 54 16.1**	**-0.5**
DOK	**Doka**	**9.30**	**196**	P	**Pn**	**11 53 35.8**	**-0.9**
SHAO	**Shalim**	**9.63**	**187**	P	**Pn**	**11 53 41.5**	**+0.3**
DMTO	**DMTO**	**10.02**	**190**	P	**Pn**	**11 53 47.4**	**+0.9**
WHFO	**Wadi Hawf**	**10.06**	**197**	P	**Pn**	**11 53 47.4**	**+0.2**
ABTO	**Aybut**	**10.73**	**198**	P	**Pn**	**11 53 54.4**	**-1.9**
BRTR	**Keskin Array B**	**22.66**	**308**	P	P	11 56 16.9	-6.8
	0.9nm,0.6s,baz=121,slow=13,SNR=5.3						
AKTO	**Aktyubinsk**	**22.79**	**2**	P	**P**	**11 56 22.6**	**-2.2**
	3.4nm,0.6s,baz=188,slow=8.3,SNR=10						
	3.4nm,0.6s						
MKAR	**Makanchi Array**	**27.70**	**40**	P	**P**	**11 57 12.0**	**+1.7**
	0.1nm,0.4s,baz=232,slow=7.1,SNR=1.6						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**28.29**	**30**	P	**P**	**11 57 16.3**	**+0.9**
	0.4nm,0.6s,baz=226,slow=8.6,SNR=2.1						
	0.4nm,0.6s						
AKASG	**Malin Array Be**	**31.11**	**325**	P	P	11 57 37.4	-3.0
	0.3nm,0.3s,baz=130,slow=9.1,SNR=4.8						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**33.38**	**30**	P	**P**	**11 58 00.1**	**-0.2**
	1.4nm,0.5s,baz=121,slow=8.1,SNR=6.4						
	1.4nm,0.5s						
FINES	**FINESS Array B**	**39.54**	**337**	P	**P**	**11 58 51.7**	**-1.1**
	1.4nm,0.7s,baz=110,slow=9.4,SNR=5.1						
	1.4nm,0.7s						
HFS	**Hagfors**	**43.64**	**330**	P	**P**	**11 59 25.2**	**-1.1**
	1.2nm,0.4s,baz=114,slow=9.7,SNR=9.9						
	1.2nm,0.4s						
NOA	**NORSAR Array B**	**45.15**	**331**	P	**P**	**11 59 37.1**	**-1.3**
	0.7nm,0.5s,baz=116,slow=8.6,SNR=4.0						
	0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**53.21**	**266**	P	**P**	**12 00 40.0**	**-0.7**
	0.3nm,0.5s,baz=66,slow=8.2,SNR=1.7						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**88.65**	**113**	P	**P**	**12 04 16.1**	**+0.5**
	0.2nm,0.3s,baz=304,slow=4.7,SNR=2.0						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**90.16**	**117**	P	**P**	**12 04 22.7**	**+0.1**
	0.3nm,0.8s,baz=293,slow=4.8,SNR=4.4						
	0.3nm,0.8s						

IDC 24 12:02:43.1±1.2,52°.34S×139°.47E,h0km,mb3.6/5, mbtmp3.6/5,Error ellipse: s-maj=174.8km s-min=19.1km az=85.0,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**20.51**	**5**	P	Pn	12 07 24.3	-0.5
	0.5nm,0.3s,baz=194,slow=12,SNR=2.8						
	0.5nm,0.3s						
H01W1	**Cape Leeuwin H**	**25.09**	**304**	T	T	12 34 53.6	
	baz=141,slow=75,SNR=22						
H01W2	**Cape Leeuwin H**	**25.10**	**304**	T	T	12 35 03.2	
	baz=141,slow=75,SNR=23						
H01W3	**Cape Leeuwin H**	**25.11**	**304**	T	T	12 34 51.5	
	baz=141,slow=75,SNR=20						
VNDA	**Vanda**	**26.60**	**169**	P	P	12 08 21.4	-1.2
	0.5nm,0.6s,baz=324,slow=8.7,SNR=3.9						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**28.94**	**349**	P	P	12 08 43.5	-0.4
	0.3nm,0.6s,baz=164,slow=10,SNR=9.8						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**32.58**	**351**	P	P	12 09 15.6	-0.5
	0.3nm,0.3s,baz=168,slow=8.6,SNR=4.7						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**37.77**	**180**	P	P	12 10 01.3	+0.7
	1.5nm,0.9s,baz=346,slow=5.2,SNR=12						
	1.5nm,0.9s						
H04S1	**CROZET ISLANDS**	**53.69**	**238**	T	T	13 11 04.4	
	baz=132,slow=75,SNR=123						
H04S2	**CROZET ISLANDS**	**53.69**	**238**	T	T	13 11 08.7	
	baz=132,slow=75,SNR=83						
H04S3	**CROZET ISLANDS**	**53.70**	**238**	T	T	13 11 08.4	
	baz=132,slow=75,SNR=97						

*TRN **24** 12:48:32.6,10°.27N×62°.11W,h11km,MD3.1,Gulf of Paria.*
*FUNV **24** 12:48:32.8,10°.19N×62°.04W,h10km,MW3.4*
ISC 24 12:48:31.5±1.7,10°.2N±0°.2×62°.1W±0°.1,h14km±17km,n12, σ1s26/20,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DMDM	**Guralp CMG5TDE**	**0.76**	**46**	*eP*	**Pg**	**12 48 46.0**	**-0.4**
DMDM				*eS*	**Sb**	**12 48 56.8**	**-0.1**
PSGH	**Port of Spain**	**0.77**	**50**	*eP*	**Pg**	**12 48 45.6**	**-0.8**
PSGH				*eS*	**Sb**	**12 48 56.7**	**-0.4**
TRN	**Trinidad (W)**	**0.84**	**55**	*eP*	**Pg**	**12 48 47.9**	**0.0**
TRN				*eS*	**Sb**	**12 49 00.3**	**+1.1**
GRFF	**Grenada Fort F**	**1.91**	**11**	*eP*	**Pn**	**12 49 04.5**	**+0.8**
GRFF				*eS*	**Sn**	**12 49 27.6**	**0.0**
GRGR	**Grenville**	**2.01**	**13**	*eP*	**Pn**	**12 49 06.0**	**+0.9**
GRGR				*eS*	**Sn**	**12 49 29.4**	**-0.7**
GRHS	**Sauteurs**	**2.10**	**12**	*eP*	**Pn**	**12 49 07.3**	**+1.0**
GRHS				*eS*	**Sn**	**12 49 31.4**	**-0.9**
GCMP	**Grenada, Carri**	**2.41**	**16**	*eP*	**Pn**	**12 49 11.2**	**+0.7**
GCMP				*eS*	**Sn**	**12 49 38.5**	**-1.3**
PCRV	**Puerto La Cruz**	**2.49**	**271**	*eP*	**Pn**	**12 49 13.2**	**+1.5**
PCRV				*eS*	**Sn**	**12 49 43.0**	**+1.1**
TACV	**Tcata**	**4.84**	**270**	*eP*	**Pn**	**12 49 44.5**	**+0.4**
CACV	**CAICARA DEL OR**	**5.08**	**240**	*eP*	Pn	12 49 42.8	-4.6
CACV				*eS*	Sn	12 50 34.5	-11
BENV	**Beln**	**5.41**	**268**	*eP*	**Pn**	**12 49 53.0**	**+1.1**
BAUV	**El Baul**	**5.98**	**259**	*eP*	**Pn**	**12 50 00.4**	**+0.8**
BAUV				*eS*	**Sn**	**12 51 04.5**	**-3.5**

*UPA **24** 12:51:50.0±1.1,5°.84N×79°.83W,h6km±7km,MW4.0*
*RSNC **24** 12:51:50.2±0.0,6°.N±2°×8°.W±°,h42km,M3.2,mB4.8, mb4.5,ML2.7,MLv3.6,Mw(mB)4.1*
ISC 24 12:51:44.8±1.0,5°.62N±0°.04×79°.75W±0°.04,h10km,n27, σ2s36/40,2C,South of Panama

| Code | Station Name | Δ° | AZ° | Phase ID | | Time | Res |
|---|---|---

*NEIC **24** 13:38:14.7±1.2,56°.95N±0°.07×1°.8E±0°.1,h10km±1km, mb4.6/67,Error ellipse: s-maj=12.6km s-min=10.0km az=152.0*

*BGS **24** 13:38:14.8±1.3,57°.03N×1°.94E,h10km,ML4.2*

*BER **24** 13:38:14.8±1.6,57°.06N×1°.78E,h3km,ML3.4,MW4.2, ML4.2(BGS),Confirmed Earthquake*

*NAO **24** 13:38:14.3±0.0,57°.08N×1°.70E,h6km,ML3.6*

*LDG **24** 13:38:15.0±0.2,56°.88N×1°.33E,h2km,Ml4.4/45,Error ellipse: s-maj=5.7km s-min=2.7km az=30.0*

*BGR **24** 13:38:16.6±0.6,56°.99N×1°.89E,h10km,ML4.5/22,Error ellipse: s-maj=7.8km s-min=6.7km az=129.0*

*UCC **24** 13:38:19.9,57°.04N×1°.81E,h10km,ML4.4*

ISC 24 13:38:13.3±1.6,56°.97N±0°.03×1°.98E±0°.03,h8km±10km, n559,σ2°35/684,mb4.6/66,MS3.6/5,41C-57D,North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DRUM	**Mains of Drumt**	**2.45**	**270**	*e*P		**Pn**	**13 38 52.6**	**-0.9**
DRUM				*e*S		**Sn**	**13 39 20.7**	**-2.9**
DRUM				IAML			13 39 34.0	
	comp=E,860nm,0.6s							
DRUM				IAML			13 39 36.3	
	comp=N,1μm,0.4s							
DRUM	**Mains of Drumt**	**2.45**	**270**	*e*P		**Pn**	**13 38 52.6**	**-0.9**
DRUM				*e*S		**Sn**	**13 39 20.7**	**-2.9**
DRUM				IAML			13 39 34.0	
	comp=E,860nm,0.6s							
DRUM	**Mains of Drumt**	**2.45**	**270**	*e*P		**Pn**	**13 38 52.6**	**-0.9**
DRUM				*e*S		**Sn**	**13 39 20.7**	**-2.9**
DRUM				IAML			13 39 34.0	
	comp=E,860nm,0.6s							
STAV	**Stavanger**	**2.79**	**44**	Pn		**Pn**	**13 38 59.3**	**+1.1**
STAV				Sn		**Sn**	**13 39 31.6**	**-0.5**
STAV				Sg		**Sg**	**13 39 42.0**	**-0.9**
STAV	**Stavanger**	**2.79**	**44**	*e*P		**Pn**	**13 38 59.5**	**+1.2**
STAV				*e*S		**Sn**	**13 39 32.2**	**0.0**
STAV				IAML			13 39 50.9	
	comp=Z,287nm,0.6s							
KMY	**Karmoy**	**2.84**	**36**	Pn		**Pn**	**13 38 58.8**	**0.0**
KMY				Sn		**Sn**	**13 39 32.4**	**-0.8**
KMY	**Karmoy**	**2.84**	**36**	*e*P		**Pn**	**13 38 58.8**	**0.0**
KMY				*e*S		**Sn**	**13 39 31.1**	**-2.1**
KMY	**Karmoy**	**2.84**	**36**	*e*P		**Pn**	**13 38 58.8**	**0.0**
KMY				*e*S		**Sn**	**13 39 31.1**	**-2.1**
MCD	**Coleburn Disti**	**2.91**	**284**	*e*P		**Pn**	**13 38 58.8**	**-1.1**
MCD				*e*S		**Sn**	**13 39 32.5**	**-2.5**
MCD				IAML			13 39 44.3	
	comp=N,918nm,0.3s							
MCD				IAML			13 39 56.3	
	comp=E,1μm,0.5s							
MCD	**Coleburn Disti**	**2.91**	**284**	*e*P		**Pn**	**13 38 58.8**	**-1.1**
MCD				*e*S		**Sn**	**13 39 32.5**	**-2.5**
MCD				IAML			13 39 44.3	
	comp=N,918nm,0.3s							
MCD	**Coleburn Disti**	**2.91**	**284**	*e*P		**Pn**	**13 38 58.8**	**-1.1**
MCD				*e*S		**Sn**	**13 39 32.5**	**-2.5**
MCD				IAML			13 39 44.3	
	comp=N,918nm,0.3s							
GDLE	**Glaisdale, N Y**	**3.01**	**213**	*e*P		**Pn**	**13 39 01.2**	**0.0**
GDLE				*e*S		**Sn**	**13 39 37.2**	**-0.2**
GDLE				IAML			13 39 59.8	
	comp=E,3μm,0.4s							
GDLE				IAML			13 40 00.6	
	comp=N,3μm,0.4s							
GDLE	**Glaisdale, N Y**	**3.01**	**213**	*e*P		**Pn**	**13 39 01.1**	**0.0**
GDLE				*e*S		**Sn**	**13 39 37.2**	**-0.2**
GDLE				IAML			13 39 59.8	
	comp=E,3μm,0.4s							
GDLE	**Glaisdale, N Y**	**3.01**	**213**	*e*P		**Pn**	**13 39 01.1**	**0.0**
GDLE				*e*S		**Sn**	**13 39 37.2**	**-0.2**
GDLE				IAML			13 39 59.8	
	comp=E,3μm,0.4s							
EDI	**Edinburgh**	**3.06**	**252**	*e*P		**Pn**	**13 39 01.0**	**-0.9**
EDI				*e*S		**Sn**	**13 39 36.0**	**-2.5**
EDI				IAML			13 40 01.2	
	comp=N,848nm,0.4s							
EDI				IAML			13 40 02.6	
	comp=E,761nm,0.6s							
EDI	**Edinburgh**	**3.06**	**252**	Pn		**Pn**	**13 39 01.2**	**-0.7**
EDI				Sn		**Sn**	**13 39 34.7**	**-3.8**
EDI	**Edinburgh**	**3.06**	**252**	*e*P		**Pn**	**13 39 00.9**	**-0.9**
EDI				*e*			13 39 12.8	
EDI				*e*S		**Sn**	**13 39 36.0**	**-2.5**
EDI				IAML			13 40 01.2	
	comp=N,848nm,0.4s							
EDI	**Edinburgh**	**3.06**	**252**	*e*P		**Pn**	**13 39 00.9**	**-0.9**
EDI				*e*			13 39 12.8	
EDI				*e*S		**Sn**	**13 39 36.0**	**-2.5**
EDI				IAML			13 40 01.2	
	comp=N,848nm,0.4s							
EDMD	**Edmundbyers**	**3.09**	**228**	*e*P		**Pn**	**13 39 01.5**	**-0.8**
EDMD	**Edmundbyers**	**3.09**	**228**	*e*P		**Pn**	**13 39 01.5**	**-0.8**
EDMD	**Edmundbyers**	**3.09**	**228**	*e*P		**Pn**	**13 39 01.5**	**-0.8**
SNART	**Snartemo**	**3.13**	**62**	*e*P		**Pn**	**13 39 04.5**	**+1.6**
SNART				*e*S		**Sn**	**13 39 40.1**	**-0.2**
SNART				IAML			13 39 59.8	
	comp=Z,507nm,0.4s							
SNART	**Snartemo**	**3.13**	**62**	*e*P		**Pn**	**13 39 04.5**	**+1.6**
SNART				*i* P		**Pb**	**13 39 05.0**	**-4.1**
SNART				*e*S		**Sn**	**13 39 39.0**	**-1.4**
SNART				*e*S		**Sn**	**13 39 40.1**	**-0.2**
SNART				IAML			13 39 59.8	
	comp=Z,507nm,0.4s							
EKA	**Eskdalemuir Ar**	**3.31**	**242**	Pn		**Pn**	**13 39 04.8**	**-0.6**
	baz=57,slow=18							
EKA				Sn		**Sn**	**13 39 41.8**	**-3.1**
	baz=57,slow=37							
EKA	**Eskdalemuir Ar**	**3.31**	**242**	Pn		**Pn**	**13 39 04.5**	**-0.8**
	comp=Z,100nm,0.3s,baz=60,slow=13,SNR=1043							
EKA				Sn		**Sn**	**13 39 42.2**	**-2.7**
	baz=57,slow=25							
EKA				Lg		Lg	13 39 56.6	
	baz=59,slow=27							
ESK	**Eskdalemuir**	**3.34**	**242**			**Pn**	**13 39 04.9**	**-0.8**
ESK	**Eskdalemuir**	**3.34**	**242**	*e*P		**Pn**	**13 39 05.0**	**-0.8**
ESK	**Eskdalemuir**	**3.34**	**242**	*i*P		**Pn**	**13 39 05.0**	**-0.8**
ESK	**Eskdalemuir**	**3.34**	**242**	P		**Pn**	**13 39 04.9**	**-0.8**
ESK	**Eskdalemuir**	**3.34**	**242**	*i* P		**Pn**	**13 39 05.0**	**-0.8**
INVG	**Invergeldie, C**	**3.37**	**263**	*e*P		**Pn**	**13 39 05.0**	**-1.2**
INVG	**Invergeldie, C**	**3.37**	**263**	*e*P		**Pn**	**13 39 05.0**	**-1.2**
INVG	**Invergeldie, C**	**3.37**	**263**	*e*P		**Pn**	**13 39 05.0**	**-1.2**
BLS5	**Blasjo**	**3.41**	**42**	Pn		**Pn**	**13 39 08.1**	**+1.3**
BLS5				Sn		**Sn**	**13 39 46.9**	**-0.5**
BLS5	**Blasjo**	**3.41**	**42**	*e*P		**Pn**	**13 39 07.5**	**+0.7**
BLS5				*e*S		**Sn**	**13 39 47.0**	**-0.5**
BLS5				IAML			13 40 07.1	
	comp=Z,397nm,0.5s							
BLS5	**Blasjo**	**3.41**	**42**	*e*P		**Pn**	**13 39 07.5**	**+0.7**
BLS5				*e*S		**Sn**	**13 39 47.0**	**-0.5**
BLS5				IAML			13 40 07.1	
	comp=Z,397nm,0.5s							
LRW	**Lerwick**	**3.58**	**334**	*e*P		**Pn**	**13 39 08.3**	**-0.7**
LRW	**Lerwick**	**3.58**	**334**	Pn		**Pn**	**13 39 08.2**	**-0.9**
LRW				Sn		**Sn**	**13 39 46.4**	**-5.1**
LRW	**Lerwick**	**3.58**	**334**	*e*P		**Pn**	**13 39 08.1**	**-0.9**
LRW	**Lerwick**	**3.58**	**334**	*e*P		**Pn**	**13 39 08.1**	**-0.9**
HPK	**Haverah Park**	**3.65**	**216**	*e*P		**Pn**	**13 39 09.9**	**-0.2**
HPK	**Haverah Park**	**3.65**	**216**	*e*P		**Pn**	**13 39 09.9**	**-0.2**
HPK	**Haverah Park**	**3.65**	**216**	*e*P		**Pn**	**13 39 09.9**	**-0.2**
BAS16	**BAS16**	**3.67**	**26**	*e*P		**Pn**	**13 39 10.2**	**-0.1**
BAS17	**BAS17**	**3.68**	**27**	*e*P		**Pn**	**13 39 10.1**	**-0.3**
KESW	**Keswick, Cumbr**	**3.73**	**232**	*e*P		**Pn**	**13 39 10.1**	**-1.0**
KESW	**Keswick, Cumbr**	**3.73**	**232**	*e*P		**Pn**	**13 39 10.1**	**-1.0**
KESW	**Keswick, Cumbr**	**3.73**	**232**	*e*P		**Pn**	**13 39 10.1**	**-1.0**
HOMB	**Homborsund**	**3.74**	**67**	Pn		**Pn**	**13 39 12.9**	**+1.6**
HOMB				Sn		**Sn**	**13 39 55.5**	**0.0**
HOMB	**Homborsund**	**3.74**	**67**	*e*P		**Pn**	**13 39 12.8**	**+1.6**
HOMB				*e*S		**Sn**	**13 39 56.4**	**+0.9**
HOMB				IAML			13 40 30.1	
	comp=Z,111nm,0.5s							
HOMB	**Homborsund**	**3.74**	**67**	*e*P		**Pn**	**13 39 12.8**	**+1.6**
HOMB				*i* P		Pb	13 39 12.9	-6.7
HOMB				*e*S		**Sn**	**13 39 54.1**	**-1.4**
HOMB				*e*S		**Sn**	**13 39 56.4**	**+0.9**
HOMB				IAML			13 40 30.1	
	comp=Z,111nm,0.5s							
LMK	**Market Rasen**	**3.76**	**202**	*e*P		**Pn**	**13 39 08.3**	**-3.3**
LMK	**Market Rasen**	**3.76**	**202**	*e*P		**Pn**	**13 39 08.3**	**-3.3**
LMK	**Market Rasen**	**3.76**	**202**	*e*P		**Pn**	**13 39 08.3**	**-3.3**
PGBU	**Glenifferbraes**	**3.78**	**255**	*e*P		**Pn**	**13 39 10.9**	**-0.8**
PGBU	**Glenifferbraes**	**3.78**	**255**	*e*P		**Pn**	**13 39 10.9**	**-0.8**
PGBU	**Glenifferbraes**	**3.78**	**255**	*e*P		**Pn**	**13 39 10.9**	**-0.8**
ODD1	**Odda**	**3.83**	**38**	Pn		**Pn**	**13 39 13.8**	**+1.3**
ODD1				Sn		**Sn**	**13 39 55.9**	**-1.8**
ODD1	**Odda**	**3.83**	**38**	*e*P		**Pn**	**13 39 13.1**	**+0.6**
ODD1				*e*S		**Sn**	**13 39 55.8**	**-2.0**
ODD1				IAML			13 40 05.6	
	comp=Z,121nm,0.6s							
ODD1	**Odda**	**3.83**	**38**	*e*P		**Pn**	**13 39 13.1**	**+0.6**
ODD1				*e*S		**Sn**	**13 39 55.8**	**-2.0**
ODD1				IAML			13 40 05.6	
	comp=Z,121nm,0.6s							
BER	**Bergen**	**3.84**	**26**	*e*P		**Pn**	**13 39 12.2**	**-0.5**
BER				*e*S		**Sn**	**13 39 53.7**	**-4.3**
BER				IAML			13 40 00.1	
	comp=N,49nm,0.4s							
BER				IAML			13 40 22.4	
	comp=E,70nm,0.7s							
BER	**Bergen**	**3.84**	**26**	Pn		**Pn**	**13 39 12.3**	**-0.3**
BER				Sn		**Sn**	**13 39 54.1**	**-3.9**
BER	**Bergen**	**3.84**	**26**	*e*P		**Pn**	**13 39 12.4**	**-0.3**
BER				*e*S		**Sn**	**13 39 53.7**	**-4.3**
BER				IAML			13 40 02.0	
	comp=Z,112nm,0.5s							
BER	**Bergen**	**3.84**	**26**	*e*P		**Pn**	**13 39 12.4**	**-0.3**
BER				*e*S		**Sn**	**13 39 53.7**	**-4.3**
BER				IAML			13 40 02.0	
	comp=Z,112nm,0.5s							
ASK	**Askoy**	**3.90**	**24**	Pn		**Pn**	**13 39 12.9**	**-0.5**
ASK				Sn		**Sn**	**13 39 55.3**	**-4.0**
ASK	**Askoy**	**3.90**	**24**	*e*P		**Pn**	**13 39 12.7**	**-0.7**
ASK				*e*S		**Sn**	**13 39 54.6**	**-4.7**
ASK				IAML			13 40 20.3	
	comp=Z,166nm,0.6s							
ASK	**Askoy**	**3.90**	**24**	*e*P		**Pn**	**13 39 12.7**	**-0.7**
ASK				*e*S		**Sn**	**13 39 54.6**	**-4.7**
ASK				IAML			13 40 20.3	
	comp=Z,166nm,0.6s							
BAS03	**BAS03**	**3.93**	**23**	*e*P		**Pn**	**13 39 13.1**	**-0.7**
BAS0D	**BAS04**	**3.94**	**25**	*e*P		**Pn**	**13 39 13.3**	**-0.7**
NEWG	**New Galloway**	**3.95**	**245**	*e*P		**Pn**	**13 39 13.2**	**-0.9**
NEWG	**New Galloway**	**3.95**	**245**	*e*P		**Pn**	**13 39 13.2**	**-0.9**
NEWG	**New Galloway**	**3.95**	**245**	*e*P		**Pn**	**13 39 13.2**	**-0.9**
BAS02	**BAS02**	**3.96**	**22**	*e*P		**Pn**	**13 39 13.6**	**-0.6**
BAS01	**BAS01**	**3.97**	**20**	*e*P		**Pn**	**13 39 13.6**	**-0.8**
MUD	**Monsted U'grnd**	**4.00**	**94**	Pn		**Pn**	**13 39 16.3**	**+1.5**
MUD	**Monsted U'grnd**	**4.00**	**94**	*e*P		**Pn**	**13 39 16.3**	**+1.5**
MUD	**Monsted U'grnd**	**4.00**	**94**	*e*Pn		**Pn**	**13 39 16.6**	**+1.8**
MUD				*e*Sn		**Sn**	**13 40 03.0**	**+1.2**
MUD	**Monsted U'grnd**	**4.00**	**94**	*e*P		**Pn**	**13 39 16.3**	**+1.5**
MUD				*i* P		Pb	13 39 17.0	-6.9
MUD				*e*S		**Sn**	**13 40 04.2**	**+2.4**
MUD				IAML			13 40 43.7	
	comp=Z,147nm,1.9s							
LINV	**Loch Inver, As**	**4.04**	**290**	*e*P		**Pn**	**13 39 13.5**	**-1.8**
LINV	**Loch Inver, As**	**4.04**	**290**	*e*P		**Pn**	**13 39 13.5**	**-1.8**
LINV	**Loch Inver, As**	**4.04**	**290**	*e*P		**Pn**	**13 39 13.5**	**-1.8**
LAWE	**Loch Awe, Argy**	**4.14**	**263**	*e*P		**Pn**	**13 39 15.4**	**-1.3**
LAWE	**Loch Awe, Argy**	**4.14**	**263**	*e*P		**Pn**	**13 39 15.4**	**-1.3**
LAWE	**Loch Awe, Argy**	**4.14**	**263**	*e*P		**Pn**	**13 39 15.4**	**-1.3**
LBWR	**Ladybower, Pea**	**4.16**	**212**	*e*P		**Pn**	**13 39 16.8**	**-0.2**
LBWR	**Ladybower, Pea**	**4.16**	**212**	*e*P		**Pn**	**13 39 16.8**	**-0.2**
LBWR	**Ladybower, Pea**	**4.16**	**212**	*e*P		**Pn**	**13 39 16.8**	**-0.2**
KPL	**Plockton**	**4.17**	**278**	*e*P		**Pn**	**13 39 15.5**	**-1.7**
KPL	**Plockton**	**4.17**	**278**	*e*P		**Pn**	**13 39 15.5**	**-1.7**
KPL				*e*S		**Sn**	**13 40 00.2**	**-5.9**
KPL	**Plockton**	**4.17**	**278**	*e*P		**Pn**	**13 39 15.5**	**-1.7**
KPL				*e*S		**Sn**	**13 40 00.2**	**-5.9**
GAL1	**Galloway**	**4.32**	**244**	*e*P		**Pn**	**13 39 18.1**	**-1.1**
GAL1	**Galloway**	**4.32**	**244**	*e*P		**Pn**	**13 39 18.1**	**-1.1**
GAL1	**Galloway**	**4.32**	**244**	*e*P		**Pn**	**13 39 18.1**	**-1.1**
WACR	**West Acre**	**4.33**	**191**	*e*P		**Pn**	**13 39 20.1**	**+0.8**
WACR	**West Acre**	**4.33**	**191**	*e*P		**Pn**	**13 39 20.1**	**+0.8**
WACR	**West Acre**	**4.33**	**191**	*e*P		**Pn**	**13 39 20.1**	**+0.8**
SUE	**Sulen**	**4.34**	**18**	Pn		**Pn**	**13 39 18.7**	**-0.8**
SUE				Sn		**Sn**	**13 40 05.6**	**-4.6**
SUE	**Sulen**	**4.34**	**18**	*e*P		**Pn**	**13 39 18.5**	**-1.0**
SUE				*e*S		**Sn**	**13 40 04.9**	**-5.3**
SUE				IAML			13 40 18.4	
	comp=Z,146nm,0.4s							
SUE	**Sulen**	**4.34**	**18**	*e*P		**Pn**	**13 39 18.5**	**-1.0**
SUE				*e*S		**Sn**	**13 40 04.9**	**-5.3**
SUE				IAML			13 40 18.4	
	comp=Z,146nm,0.4s							
HLG	**Helgoland**	**4.36**	**127**	*e*Pn		**Pn**	**13 39 21.5**	**+1.7**
HLG				*e*Sn		**Sn**	**13 40 08.2**	**-2.6**
HLG	**Helgoland**	**4.36**	**127**	*i* P		**Pn**	**13 39 20.6**	**+0.8**
SSRD	**Sdr. Stenderup**	**4.52**	**106**	*i* P		**Pn**	**13 39 23.2**	**+1.2**
SSRD				*e*S		**Sn**	**13 40 16.0**	**+1.2**
SSRD				IAML			13 41 29.9	
	comp=Z,265nm,1.0s							
STNC	**Stoke**	**4.57**	**214**	*e*P		**Pn**	**13 39 23.2**	**+0.5**
STNC	**Stoke**	**4.57**	**214**	*e*P		**Pn**	**13 39 23.2**	**+0.5**
STNC	**Stoke**	**4.57**	**214**	*e*P		**Pn**	**13 39 23.2**	**+0.5**
IOMK	**Kirk Michael**	**4.60**	**237**	*e*P		**Pn**	**13 39 21.6**	**-1.5**
IOMK	**Kirk Michael**	**4.60**	**237**	*e*P		**Pn**	**13 39 21.6**	**-1.5**
IOMK	**Kirk Michael**	**4.60**	**237**	*e*P		**Pn**	**13 39 21.6**	**-1.5**
CWF	**Charnwood Fore**	**4.65**	**205**	*e*P		**Pn**	**13 39 23.4**	**-0.3**
CWF	**Charnwood Fore**	**4.65**	**205**	*e*P		**Pn**	**13 39 23.4**	**-0.3**
CWF	**Charnwood Fore**	**4.65**	**205**	*e*P		**Pn**	**13 39 23.4**	**-0.3**
HYA	**Hoyanger**	**4.73**	**26**	Pn		**Pn**	**13 39 25.1**	**+0.2**
HYA				Sn		**Sn**	**13 40 15.6**	**-4.3**
HYA	**Hoyanger**	**4.73**	**26**	*i* P		**Pn**	**13 39 24.2**	**-0.7**
HYA				*e*S		**Sn**	**13 40 14.4**	**-5.4**
KON	**Kongsberg**	**4.83**	**53**	Pn		**Pn**	**13 39 27.9**	**+1.7**
KONO	**Kongsberg**	**4.83**	**53**			**Pn**	**13 39 26.7**	**+0.4**
KONO	**Kongsberg**	**4.83**	**53**	*e*P		**Pn**	**13 39 26.6**	**+0.4**
KONO				*e*S		**Sn**	**13 40 18.5**	**-3.8**
KONO				IAML			13 40 53.7	
	comp=Z,101nm,0.8s							
KONO	**Kongsberg**	**4.83**	**53**	P		**Pn**	**13 39 26.7**	**+0.4**
KONO	**Kongsberg**	**4.83**	**53**	*e*P		**Pn**	**13 39 26.6**	**+0.4**
KONO				*e*S		**Sn**	**13 40 18.5**	**-3.8**
KONO				IAML			13 40 53.7	
	comp=Z,101nm,0.8s							
LEWI	**Lewis, Hebride**	**4.91**	**288**	*e*P		**Pn**	**13 39 25.6**	**-1.7**
LEWI	**Lewis, Hebride**	**4.91**	**288**	*e*P		**Pn**	**13 39 25.6**	**-1.7**
LEWI	**Lewis, Hebride**	**4.91**	**288**	*e*P		**Pn**	**13 39 25.6**	**-1.7**
CLGH	**Cloghs, Cushen**	**4.92**	**251**	*e*P		**Pn**	**13 39 26.4**	**-1.0**
CLGH	**Cloghs, Cushen**	**4.92**	**251**	*e*P		**Pn**	**13 39 26.4**	**-1.0**
CLGH	**Cloghs, Cushen**	**4.92**	**251**	*e*P		**Pn**	**13 39 26.4**	**-1.0**
SKAR	**Skarslia**	**4.96**	**39**	Pn		**Pn**	**13 39 29.0**	**+0.9**
SKAR	**Skarslia**	**4.96**	**39**	*e*P		**Pn**	**13 39 28.7**	**+0.6**
SKAR	**Skarslia**	**4.96**	**39**	*e*P		**Pn**	**13 39 28.7**	**+0.6**
SKAR				*i* P		**Pn**	**13 39 28.8**	**+0.7**
SKAR				*e*S		**Sn**	**13 40 23.6**	**-2.1**
FOEL	**Foel Wylfa**	**5.06**	**218**	*e*P		**Pn**	**13 39 28.7**	**-0.8**
FOEL	**Foel Wylfa**	**5.06**	**218**	*e*P		**Pn**	**13 39 28.7**	**-0.8**
FOEL	**Foel Wylfa**	**5.06**	**218**	*e*P		**Pn**	**13 39 28.7**	**-0.8**
WPS	**Cemaes, Angles**	**5.16**	**229**	*e*P		**Pn**	**13 39 29.0**	**-1.7**
WPS	**Cemaes, Angles**	**5.16**	**229**	*e*P		**Pn**	**13 39 29.0**	**-1.7**
WPS	**Cemaes, Angles**	**5.16**	**229**	*e*P		**Pn**	**13 39 29.0**	**-1.7**
WLF1	**Llynfaes**	**5.20**	**227**	*e*P		**Pn**	**13 39 29.5**	**-1.7**
WLF1	**Llynfaes**	**5.20**	**227**	*e*P		**Pn**	**13 39 29.5**	**-1.7**
WLF1	**Llynfaes**	**5.20**	**227**	*e*P		**Pn**	**13 39 29.5**	**-1.7**
TJOU	**Tjoern**	**5.31**	**74**	*i* P		**Pn**	**13 39 34.1**	**+1.4**
TJOU				*e*S		**Sn**	**13 40 31.6**	**-2.5**
STRU	**Stroemstad**	**5.31**	**63**	*e*P		**Pn**	**13 39 33.4**	**+0.6**
STRU	**Stroemstad**	**5.31**	**63**	*e*P		**Pn**	**13 39 33.4**	**+0.6**
STRU				*i* P		**Pn**	**13 39 33.7**	**+0.9**
STRU				*e*S		**Sn**	**13 40 32.9**	**-1.3**
ONAU	**Onsala**	**5.42**	**81**	*i* P		**Pn**	**13 39 35.0**	**+0.7**
ONAU				*e*S		**Sn**	**13 40 33.7**	**-3.2**
SEVE	**Sevelten**	**5.46**	**137**	*e*Sn		**Sn**	**13 40 32.4**	**-5.4**
OSL	**Oslo**	**5.47**	**53**	Pn		**Pn**	**13 39 36.1**	**+1.1**
OSL	**Oslo**	**5.47**	**53**	*e*P		**Pn**	**13 39 35.9**	**+1.0**
OSL				*e*S		**Sn**	**13 40 36.6**	**-1.4**
OSL				IAML			13 41 23.5	
	comp=Z,96nm,0.7s							
OSL	**Oslo**	**5.47**	**53**	*e*P		**Pn**	**13 39 35.9**	**+1.0**
OSL				*e*S		**Sn**	**13 40 36.6**	**-1.4**
OSL				IAML			13 41 23.5	
	comp=Z,96nm,0.7s							
STE03	**Stenlille03**	**5.53**	**101**	*i* P		**Pn**	**13 39 37.4**	**+1.5**
STE05	**Stenlille05**	**5.53**	**100**	*i* P		**Pn**	**13 39 36.6**	**+0.8**
STE05	**Stenlille05**	**5.53**	**100**	IAML			13 41 27.1	
	comp=Z,97nm,0.7s							
STE06	**Stenlille06**	**5.56**	**101**	*i* P		**Pn**	**13 39 37.8**	**+1.6**
STE06	**Stenlille06**	**5.56**	**101**	IAML			13 42 14.0	
	comp=Z,66nm,2.3s							
STE00	**Stenlille00**	**5.56**	**101**	*i* P		**Pn**	**13 39 37.0**	**+0.8**
STE00	**Stenlille00**	**5.56**	**101**	IAML			13 41 59.2	
	comp=Z,132nm,0.6s							
ILTH	**Belurgan, Co L**	**5.57**	**242**	*e*P		**Pn**	**13 39 34.9**	**-1.4**
IDGL	**Inch Island, C**	**5.65**	**254**	*e*P		**Pn**	**13 39 35.8**	**-1.7**
IDGL	**Inch Island, C**	**5.65**	**254**	*e*P		**Pn**	**13 39 35.8**	**-1.7**
IDGL	**Inch Island, C**	**5.65**	**254**	*e*P		**Pn**	**13 39 35.8**	**-1.7**
STRD	**Stroud**	**5.74**	**207**	*e*P		**Pn**	**13 39 39.1**	**+0.4**
STRD	**Stroud**	**5.74**	**207**	*e*P		**Pn**	**13 39 39.1**	**+0.4**
STRD	**Stroud**	**5.74**	**207**	*e*P		**Pn**	**13 39 39.1**	**+0.4**
WTSB	**Winterswijk**	**5.75**	**149**	*e*Sn		**Sn**	**13 40 41.9**	**-3.0**
IBBN	**Ibbenburen**	**5.75**	**142**	*e*Pn		**Pn**	**13 39 41.3**	**+2.5**
IBBN				*e*Sn		**Sn**	**13 40 42.1**	**-2.9**
MCH1	**Michaelchurch**	**5.77**	**212**	*e*P		**Pn**	**13 39 39.0**	**-0.1**
MCH1	**Michaelchurch**	**5.77**	**212**	*e*P		**Pn**	**13 39 39.0**	**-0.1**
MCH1	**Michaelchurch**	**5.77**	**212**	*e*P		**Pn**	**13 39 39.0**	**-0.1**
AKN	**Aaknes**	**5.81**	**24**	Pn		**Pn**	**13 39 39.4**	**-0.3**
AKN				Sn		**Sn**	**13 40 40.7**	**-5.8**
AKN	**Aaknes**	**5.81**	**24**	*e*P		**Pn**	**13 39 40.0**	**+0.3**
AKN				*e*S		**Sn**	**13 40 40.4**	**-6.1**
AKN				IAML			13 40 51.1	
	comp=Z,55nm,0.4s							
AKN	**Aaknes**	**5.81**	**24**	*e*P		**Pn**	**13 39 40.0**	**+0.3**
AKN				*e*S		**Sn**	**13 40 40.4**	**-6.1**
AKN				IAML			13 40 51.1	
	comp=Z,55nm,0.4s							
KHUS	**Kellenhusen**	**5.85**	**115**	*e*Pn		**Pn**	**13 39 43.3**	**+3.1**
KHUS				*e*Sn		**Sn**	**13 40 43.7**	**-3.6**
MONM	**Monmouth**	**5.85**	**211**	*e*P		**Pn**	**13 39 40.3**	**+0.1**
MONM	**Monmouth**	**5.85**	**211**	*e*P		**Pn**	**13 39 40.3**	**+0.1**
MONM	**Monmouth**	**5.85**	**211**	*e*P		**Pn**	**13 39 40.3**	**+0.1**
FABU	**Falkenberg**	**5.87**	**85**	*i* P		**Pn**	**13 39 41.8**	**+1.3**
FABU				*e*S		**Sn**	**13 40 44.2**	**-3.7**
BORU	**Boraas**	**5.89**	**79**	*i* P		**Pn**	**13 39 41.6**	**+0.9**
BORU				*e*S		**Sn**	**13 40 45.2**	**-3.2**
COP	**Copenhagen**	**5.96**	**98**	*e*Sn		**Sn**	**13 40 47.0**	**-3.0**
COP	**Copenhagen**	**5.96**	**98**	*i* P		**Pn**	**13 39 44.4**	**+2.8**
COP				*e*S		**Sn**	**13 40 50.3**	**+0.3**
COP				IVMs_BB	IVMs_BB		13 42 43.8	
	comp=Z,2μm,4.2s							
NAO	**NORSAR Subarra**	**6.00**	**46**	Pn		**Pn**	**13 39 44.1**	**+1.9**
NAO				Sn		**Sn**	**13 40 49.3**	**-1.7**
RETH	**Rethem/Aller,**	**6.01**	**132**	*e*Pn		**Pn**	**13 39 43.8**	**+1.4**
NAO01	**NORSAR Array S**	**6.03**	**46**			**Pn**	**13 39 42.7**	**0.0**
NAO01	**NORSAR Array S**	**6.03**	**46**	*e*P		**Pn**	**13 39 44.0**	**+1.3**
NAO01	**NORSAR Array S**	**6

CLZ eSn **Sn** 13 41 15.1 -3.1
FLTG Flechtingen 7.10 127 ePn **Pn** 13 39 57.6 +0.2
FLTG eSn **Sn** 13 41 11.6 -6.6
GTTG Gottingen 7.17 136 ePn **Pn** 13 40 00.0 +1.7
GTTG eSn **Sn** 13 41 16.8 -3.1
LKLB Kalborn 7.31 159 dP **Pn** 13 40 01.7 +1.4
LVIA Vianden 7.49 159 dP **Pn** 13 40 04.5 +1.8
LVIA dS **Sn** 13 41 25.8 -1.9
WLF Walferdange 7.73 159 dP **Pn** 13 40 07.0 +0.9
WLF dS **Sn** 13 41 33.2 -0.6
WLF Walferdange 7.73 159 P **Pn** 13 40 07.4 +1.3
WLF Walferdange 7.73 159 ePn **Pn** 13 40 08.5 +2.4
UBBA Unterbreizbach 7.77 139 eSn **Sn** 13 41 30.1 -4.5
TNS Taunus Mts 7.78 148 ePn **Pn** 13 40 08.9 +2.1
TNS eSn **Sn** 13 41 29.8 -5.2
FLN La Foliniere 8.36 191 ePn **Pn** 13 40 13.4 -1.2
baz=7.6
FLN eSn **Sn** 13 41 42.6 -6.5
comp=Z,127nm,0.5s
LDF La Druitiere 8.49 189 ePn **Pn** 13 40 14.5 -1.9
LDF eSn **Sn** 13 41 45.9 -6.5
comp=Z,68nm,0.4s
MOX Moxa 8.52 134 P **Pn** 13 40 20.1 +3.2
SAVF Savonnieres en 8.58 166 ePn **Pn** 13 40 19.2 +1.5
baz=345
SAVF Savonnieres en 8.58 166 ePn **Pn** 13 40 19.5 +1.8
SAVF eSn **Sn** 13 41 49.3 -5.4
comp=Z,25nm,0.5s
SAVF eSn **Sn** 13 41 49.8 -4.9
comp=Z,11nm,0.3s
CLL Collm 8.60 127 **Pn** 13 40 17.6 -0.4
CLL Collm 8.60 127 eP **Pn** 13 40 18.0 0.0
CLL *e* 13 41 47.0
CLL pmax pmax
comp=Z,25nm,0.7s
CLL Collm 8.60 127 P **Pn** 13 40 17.8 -0.2
comp=Z,37nm,0.7s
CLL Collm 8.60 127 ePn **Pn** 13 40 18.0 0.0
comp=Z,25nm,0.7s
CLL *i* x x 13 40 22.4
CLL *i* x x 13 40 32.4
CLL eSn **Sn** 13 41 47.0 -8.1
CLL ex x 13 42 15.0
MEZF Maizieres J'vi 8.69 166 ePn **Pn** 13 40 20.3 +1.2
baz=344
MEZF eSn **Sn** 13 41 52.3 -4.9
comp=Z,85nm,0.7s
PAGF Fort de Pagny 8.73 163 ePn **Pn** 13 40 21.1 +1.3
PAGF eSn **Sn** 13 41 54.1 -4.2
comp=Z,22nm,0.4s
GRR Gorron 8.77 193 ePn **Pn** 13 40 18.2 -2.1
GRR eSn Sn 13 41 49.3 -10
comp=Z,29nm,0.2s
SFTF Sexfontaines 8.98 167 ePn **Pn** 13 40 23.6 +0.5
baz=345
SFTF eSn **Sn** 13 41 57.3 -7.0
comp=Z,26nm,0.3s
NSS Namsos 9.01 29 eP **Pn** 13 40 23.3 -0.2
NSS Namsos 9.01 29 eP **Pn** 13 40 23.3 -0.2
CDF Champ du Feu 9.15 157 ePn **Pn** 13 40 25.4 -0.2
CDF eSn **Sn** 13 42 04.4 -4.4
comp=Z,7.7nm,0.4s
SGMF Saint Gilles 9.15 199 ePn **Pn** 13 40 23.5 -2.1
SGMF eSn **Sn** 13 42 03.0 -5.7
comp=Z,36nm,0.3s
ROSF Rostrenen 9.22 202 ePn **Pn** 13 40 25.3 -1.1
ROSF eSn **Sn** 13 42 05.7 -4.5
comp=Z,27nm,0.2s
ECH Echery 9.32 158 **Pn** 13 40 28.8 +1.0
ECH Echery 9.32 158 P **Pn** 13 40 28.8 +1.0
BRG Berggiesshubel 9.33 126 Pn **Pn** 13 40 28.1 +0.2
BRG Sn **Sn** 13 42 07.0 -5.9
BRG Amp 13 42 14.8
comp=Z,12nm,0.5s
HAU Haudompre 9.37 162 ePn **Pn** 13 40 29.6 +1.1
HAU eSn **Sn** 13 42 07.6 -6.3
comp=Z,8.0nm,0.2s
BFO Black Forest 9.47 153 **Pn** 13 40 31.0 +1.0
BFO Black Forest 9.47 153 P **Pn** 13 40 31.0 +1.0
QUIF Quistinic 9.60 201 ePn **Pn** 13 40 30.2 -1.4
QUIF eSn **Sn** 13 42 13.6 -5.9
comp=Z,29nm,0.4s
HINF Hinteralfeld 9.64 160 ePn **Pn** 13 40 33.2 +1.0
HINF eSn **Sn** 13 42 15.7 -5.0
comp=Z,4.2nm,0.3s
HYF Humbligny 9.73 177 ePn **Pn** 13 40 33.5 +0.1
HYF eSn **Sn** 13 42 14.9 -7.9
LOR Lormes 9.79 172 ePn **Pn** 13 40 33.5 -0.8
baz=350
LOR Lormes 9.79 172 ePn **Pn** 13 40 34.0 -0.3
LOR eSn **Sn** 13 42 16.1 -8.2
comp=Z,56nm,0.5s
PVCC Panska Ves 9.85 126 ePN **Pn** 13 40 35.9 +0.8
PVCC eSN **Sn** 13 42 21.5 -4.3
PVCC Panska Ves 9.85 126 eP **Pn** 13 40 35.9 +0.8
PVCC *e* 13 42 21.5
SSF Saint Saulge 9.97 174 ePn **Pn** 13 40 35.1 -1.6
SSF eSn Sn 13 42 19.8 -8.9
comp=Z,45nm,0.5s
SSF Saint Saulge 9.97 174 P **Pn** 13 40 35.8 -0.9
AVF Avril sur Loir 10.23 175 ePn **Pn** 13 40 39.1 -1.2
AVF eSn Sn 13 42 23.5 -12
comp=Z,29nm,0.7s
PRU Pruhonice 10.23 128 ePN **Pn** 13 40 40.3 0.0
PRU eSN **Sn** 13 42 28.3 -6.9
PRU Pruhonice 10.23 128 eP **Pn** 13 40 40.3 0.0
PRU *e* 13 42 28.3
SMF Signal de Mont 10.41 173 ePn **Pn** 13 40 41.0 -1.7
SMF eSn Sn 13 42 29.6 -10
comp=Z,17nm,0.3s
SMF Signal de Mont 10.41 173 P **Pn** 13 40 41.2 -1.5
KSP Ksiaz 10.43 120 P **Pn** 13 40 43.4 +0.4
comp=Z,52nm,1.1s
BGF Bois d'Agland 10.44 177 ePn **Pn** 13 40 41.1 -2.1
BGF eSn **Sn** 13 42 34.8 -5.6
comp=Z,146nm,0.6s
MFF Saint Martin d 10.47 188 ePn **Pn** 13 40 40.7 -2.8
baz=4.1
MFF Saint Martin d 10.47 188 ePn **Pn** 13 40 40.8 -2.8
MFF eSn Sn 13 42 31.0 -10
comp=Z,12nm,0.2s
MFF eSn Sn 13 42 31.4 -10
comp=Z,23nm,0.3s
CHVC Chvalec 10.49 122 ePN **Pn** 13 40 43.5 -0.3
CHVC eSN Sn 13 42 32.1 -9.3
CHVC Chvalec 10.49 122 eP **Pn** 13 40 43.5 -0.3
KHC Kasperske Hory 10.49 134 ePN **Pn** 13 40 46.2 +2.2
KHC Kasperske Hory 10.49 134 eP **Pn** 13 40 46.2 +2.2
KHC Kasperske Hory 10.49 134 P **Pn** 13 40 45.0 +1.0
comp=Z,7.4nm,1.4s
ZVC Zvikov 10.50 131 ePN **Pn** 13 40 45.4 +1.4
UPC Upice 10.52 122 ePN **Pn** 13 40 44.2 -0.1
UPC Upice 10.52 122 eP **Pn** 13 40 44.2 -0.1
LEIR Leirfjorden 10.58 25 eP **Pn** 13 40 44.9 -0.1
LEIR eS **Sn** 13 42 35.1 -8.3
LEIR IAML 13 44 30.0
comp=Z,9.6nm,0.6s
OSTC Ostas 10.58 121 ePN **Pn** 13 40 44.4 -0.8
OSTC Ostas 10.58 121 eP **Pn** 13 40 44.4 -0.8
CABF La Chapelle 10.68 165 ePn **Pn** 13 40 46.2 -0.4
CABF eSn **Sn** 13 42 42.9 -3.4
comp=Z,93nm,0.8s
TCF Toulx Ste Croi 10.70 179 ePn **Pn** 13 40 45.7 -1.1
TCF eSn Sn 13 42 37.6 -9.1
comp=Z,7.3nm,0.3s
STOK Stokkvaagen 10.74 25 eP **Pn** 13 40 47.7 +0.6
STOK Stokkvaagen 10.74 25 eP **Pn** 13 40 47.7 +0.6
GERES GERESS Array B 10.77 134 Pn **Pn** 13 40 47.5 -0.3
comp=Z,0.1nm,0.3s,baz=327,slow=14,SNR=19
comp=Z,2.2nm,0.5s
DPC Dobruska-Polom 10.78 122 ePN **Pn** 13 40 48.2 +0.4
DPC eSN Sn 13 42 39.2 -9.3
DPC Dobruska-Polom 10.78 122 eP **Pn** 13 40 48.2 +0.4
DPC Dobruska-Polom 10.78 122 P **Pn** 13 40 48.2 +0.4
comp=Z,12nm,1.0s
DAVA Damuels 10.84 150 ePn **Pn** 13 40 50.6 +1.8
comp=Z,3.0nm,0.4s
KONS Konsvik 10.90 24 eP **Pn** 13 40 50.1 +0.8
KONS Konsvik 10.90 24 eP **Pn** 13 40 50.1 +0.8
RETA Reutte 10.91 147 ePn **Pn** 13 40 50.8 +1.2
comp=Z,1.3nm,0.5s
CKRC Cesky Krumlov 11.04 132 ePN **Pn** 13 40 52.0 +0.7
CKRC Cesky Krumlov 11.04 132 eP **Pn** 13 40 52.0 +0.7
RAUS Rausandaksla 11.06 26 eP **Pn** 13 40 51.8 +0.2

SENIN Lac Senin/Sane 11.12 161 **Pn** 13 40 54.1 +1.4
VAGH Vaagaholmen 11.12 24 eP **Pn** 13 40 52.4 0.0
MOTA Moosalm 11.14 146 ePn **Pn** 13 40 54.1 +1.3
comp=Z,3.8nm,0.8s
TREC Trest 11.16 128 ePN **Pn** 13 40 54.8 +1.8
TREC Trest 11.16 128 eP **Pn** 13 40 54.8 +1.8
KRLC Kraliky 11.18 122 ePN **Pn** 13 40 54.2 +0.9
KRLC Kraliky 11.18 122 eP **Pn** 13 40 54.2 +0.9
SQTA Sankt Quirin 11.28 146 ePn **Pn** 13 40 57.0 +2.2
comp=Z,7.1nm,0.8s
DAVOX Davos/Dischmat 11.30 151 Pn **Pn** 13 40 55.2 +0.1
comp=Z,1.4nm,0.3s,baz=27,slow=15,SNR=6.0
DAVOX Sn **Sn** 13 43 00.7 -1.0
comp=Z,0.7nm,0.3s,baz=2.6,slow=18,SNR=3.1
comp=Z,2.4nm,0.3s
FETA Feichten 11.32 148 ePn **Pn** 13 40 57.1 +1.7
comp=Z,7.4nm,0.9s
WTTA Wattenberg 11.38 145 ePn **Pn** 13 40 57.9 +1.7
comp=Z,8.0nm,1.0s
TUE Stuetta 11.46 153 **Pn** 13 40 59.9 +2.6
FUORN Ofenpass-Fuorn 11.55 150 **Pn** 13 41 00.2 +1.5
LESA Schwarzleotal 11.58 141 ePn **Pn** 13 41 00.7 +1.8
comp=Z,1.3nm,0.3s
VRAC Vranov 11.64 125 Pn **Pn** 13 40 59.5 -0.1
comp=Z,0.7nm,0.3s,baz=326,slow=13,SNR=8.1
comp=Z,6.7nm,0.9s
VRAC Vranov 11.64 125 ePN **Pn** 13 41 00.3 +0.7
VRAC Vranov 11.64 125 ⇑P **Pn** 13 40 59.9 +0.3
RJF Les Rejaudoux 11.69 182 ePn **Pn** 13 40 57.1 -3.1
RJF eSn Sn 13 43 01.9 -8.9
comp=Z,21nm,0.3s
KRUC Moravsky 11.73 126 ePN **Pn** 13 41 00.9 +0.1
MORC Moravsky Berou 11.74 121 **Pn** 13 41 00.7 -0.3
MORC Moravsky Berou 11.74 121 ePN **Pn** 13 41 00.9 0.0
MORC Moravsky Berou 11.74 121 ⇓P **Pn** 13 41 01.0 0.0
MORC Moravsky Berou 11.74 121 ⇓P **Pn** 13 41 01.0 0.0
MOA Molln 11.80 136 ePn **Pn** 13 41 02.8 +1.0
comp=Z,3.0nm,0.6s
SSB Saint Sauveur 11.82 171 **Pn** 13 41 00.7 -1.4
SSB Saint Sauveur 11.82 171 P **Pn** 13 41 00.7 -1.4
LPL La Plagne 11.85 164 ePn **Pn** 13 41 03.3 +0.7
LPL eSn **Sn** 13 43 12.7 -2.3
comp=Z,14nm,0.5s
LPG La Plagne 11.87 163 ePn **Pn** 13 41 03.1 +0.1
LPG eSn **Sn** 13 43 07.9 -7.8
comp=Z,3.6nm,0.3s
CAF Calviac 12.06 180 ePn **Pn** 13 41 02.6 -2.8
CAF eSn Sn 13 43 07.4 -13
comp=Z,19nm,0.4s
CAF Calviac 12.06 180 P **Pn** 13 41 02.9 -2.5
LFF La Frestale 12.07 184 ePn **Pn** 13 41 02.4 -3.1
LFF eSn **Sn** 13 43 12.2 -8.0
comp=Z,13nm,0.2s
LFF La Frestale 12.07 184 P **Pn** 13 41 02.7 -2.8
KBA Koelnbreinsper 12.11 140 ePn **Pn** 13 41 06.8 +0.7
comp=Z,1.9nm,0.4s
FAUS Fauske 12.12 25 eP **Pn** 13 41 06.0 0.0
FAUS Fauske 12.12 25 eP **Pn** 13 41 06.0 0.0
ABTA Abfaltersbach 12.12 143 ePn **Pn** 13 41 07.1 +0.9
comp=Z,13nm,1.1s
VIVF Saint-Julien-l 12.25 171 ePn **Pn** 13 41 07.5 -0.4
VIVF eSn **Sn** 13 43 16.0 -8.6
comp=Z,15nm,0.4s
ORIF Oris-en-Rattie 12.31 167 ePn **Pn** 13 41 08.1 -0.8
ORIF eSn **Sn** 13 43 19.1 -7.2
comp=Z,14nm,0.3s
CONA Conrad Observa 12.37 131 ePn **Pn** 13 41 10.5 +0.8
comp=Z,5.5nm,1.2s
OJC Ojcow 12.54 115 **Pn** 13 41 10.1 -1.7
OJC Ojcow 12.54 115 P **Pn** 13 41 10.1 -1.7
STAL STALIGIAL 12.61 144 **Pn** 13 41 14.7 +1.8
MBDF Montbardon 12.62 164 ePn **Pn** 13 41 14.4 +1.2
MBDF eSn **Sn** 13 43 28.2 -5.7
comp=Z,10nm,0.5s
MODS Modra-Piesok 12.63 126 eP **Pn** 13 41 17.0 +3.8
ZST Bratislava 12.69 127 eP Pn 13 41 08.0 -5.9
RONA Rosalia, Austr 12.73 131 ePn **Pn** 13 41 15.0 +0.4
comp=Z,19nm,1.8s
ARSA Arzberg 12.78 134 ePn **Pn** 13 41 15.7 +0.5
comp=Z,17nm,1.3s
LASF Ste Croix 12.97 174 ePn **Pn** 13 41 17.7 0.0
LASF eSn **Sn** 13 43 34.5 -7.6
comp=Z,6.5nm,0.3s
LANS Liptovska Anna 13.08 119 eP **Pn** 13 41 23.0 +3.7
FIA0 FINESS Array S 13.09 60 Pn **Pn** 13 41 19.4 +0.1
baz=257,slow=11
FINES FINESS Array B 13.09 60 **Pn** 13 41 19.1 -0.2
FINES FINESS Array B 13.09 60 Pn **Pn** 13 41 17.9 -1.3
comp=Z,0.9nm,0.3s,baz=260,slow=11,SNR=27
FINES Sn **Sn** 13 43 38.0 -6.9
comp=Z,0.5nm,0.3s,baz=266,slow=15,SNR=3.3
FINES Lg Lg 13 44 56.6
comp=Z,0.4nm,0.3s,baz=271,slow=26,SNR=2.7
FINES LR LR 13 46 56.2
comp=Z,120nm,19.2s,baz=266,slow=40
comp=Z,10nm,0.8s
FINES FINESS Array B 13.09 60 P **Pn** 13 41 18.0 -1.3
FIA1 FINESS Array S 13.09 60 **Pn** 13 41 19.3 -0.1
SMRF Simiane la Rot 13.21 169 ePn **Pn** 13 41 22.4 +1.4
SMRF eSn **Sn** 13 43 39.6 -8.5
comp=Z,2.2nm,0.3s
VSU Vasula 13.29 73 *ce*P **Pn** 13 41 22.2 +0.2
VSU pmax pmax
comp=Z,18nm,0.8s
MTLF Montolieu 13.65 179 ePn **Pn** 13 41 25.1 -1.9
MTLF eSn Sn 13 43 47.6 -11
comp=Z,5.2nm,0.3s
EPF Esparros 14.00 185 ePn **Pn** 13 41 28.4 -3.4
EPF eSn Sn 13 43 56.4 -11
comp=Z,3.3nm,0.2s
SJPF Ste Jean 14.02 190 ePn **Pn** 13 41 28.8 -3.3
SJPF eSn Sn 13 43 58.1 -10
comp=Z,2.4nm,0.2s
NACGM Naroch 14.03 88 eP **Pn** 13 41 33.2 +1.0
PSZ Piszkesteto 14.15 122 ⇓P **Pn** 13 41 33.3 -0.7
PSZ Piszkesteto 14.15 122 ⇓P **Pn** 13 41 33.3 -0.7
ETSF Etsaut 14.18 188 ePn **Pn** 13 41 30.6 -3.8
ETSF eSn Sn 13 43 58.3 -14
comp=Z,8.0nm,0.4s
CEST Esterri de Car 14.40 182 **Pn** 13 41 34.0 -3.3
KOLS Kolonicke sedl 14.60 115 eP **P** 13 41 47.7 +1.2
MNK Minsk 14.77 89 *i* P **Pn** 13 41 40.5 -1.8
comp=E,21nm,0.9s
MNK *i* P **Pn** 13 41 40.5 -1.8
comp=N,21nm,0.9s
MNK *i* P **Pn** 13 41 40.5 -1.8
comp=Z,24nm,0.9s,baz=290
MNK *i* PP **P** 13 41 48.4 +0.1
MNK *i* PPP PPP 13 41 56.1
MNK *i* S **Sn** 13 44 25.3 -0.6
MNK *i* SS **SnSn** 13 44 39.1 +1.2
MNK *i* SSS SSS 13 44 51.7
MNK *i* LQ LQ 13 45 47.5
MNK *i* LR LR 13 47 08.3
MNK *i* LRM MLR 13 48 18.6
comp=Z,179nm,14.3s
MNK *i* LRM MLR 13 48 26.4
comp=N,90nm,12.0s
MNK *i* LRM MLR 13 48 44.8
comp=E,57nm,17.8s
MNK Minsk 14.77 89 *i* P **Pn** 13 41 40.4 -1.8
MNK *i* S **Sn** 13 44 25.2 -0.6
MNK pmax pmax
comp=E,21nm,0.9s
MNK pmax pmax
comp=Z,24nm,0.9s
MNK pmax pmax
comp=N,21nm,0.9s
MNK MLR MLR
comp=Z,179nm,14.0s
MNK MLR MLR
comp=N,90nm,12.0s
MNK MLR MLR
comp=E,57nm,18.0s
RNPP9 Sopachiv 15.02 102 P **Pn** 13 41 47.3 +1.7
MEZ Mezhgor'ye 15.49 114 P **Pn** 13 41 53.6 +1.7
MSF Maaselka 15.60 44 P **P** 13 41 58.2 +0.7
STNU Starunia 15.86 112 P **Pn** 13 41 57.9 +1.2
MI28 Mi28,Pidlybu 16.23 101 P **Pn** 13 42 02.6 +1.2
ARA0 ARCESS Array S 16.29 30 P **Pn** 13 42 00.0 -2.1
baz=223,slow=12
ARCES ARCESS Array B 16.29 30 Pn **Pn** 13 42 00.6 -1.5
comp=E,0.2nm,0.3s,baz=226,slow=12,SNR=12
ARCES Sn **Sn** 13 44 53.1 -10
comp=E,0.1nm,0.3s,baz=220,slow=20,SNR=1.7

ARCES Lg Lg 13 46 42.6
comp=E,0.2nm,0.3s,baz=220,slow=28,SNR=5.0
comp=E,1.6nm,0.5s
DRGR 16.29 120 ⇑P **Pn** 13 42 02.2 -0.1
DRGR 16.29 120 ⇑P **Pn** 13 42 02.2 -0.1
KSV Kosov 16.41 112 P **P** 13 42 05.4 -1.1
MARR Marisel-Cluj 16.57 119 ⇑P **Pn** 13 42 06.0 +0.1
MI29 MI29, Kamyanyy 16.60 102 P **P** 13 42 07.8 -0.8
comp=E,211nm,1.0s
MI30 MI30,Zelenitsa 16.60 101 P **P** 13 42 07.8 -0.9
comp=E,55nm,0.9s
SURR Surduc 16.79 123 ⇑P **Pn** 13 42 09.5 +1.0
LUBAR Lubar, Ukraine 16.83 104 P **P** 13 42 11.2 0.0
KEV Kevo 16.84 31 Pn **P** 13 42 10.3 -0.9
KEV Kevo 16.84 31 P **P** 13 42 10.3 -0.9
KEV pmax pmax
comp=Z,46nm,1.3s
BURAR Bucovina Array 16.94 114 Pn **P** 13 42 12.4 -0.2
BURAR Bucovina Array 16.94 114 ⇑P **Pn** 13 42 08.4 -2.2
BURAR Bucovina Array 16.94 114 ⇑P **Pn** 13 42 08.4 -2.2
KMPD K-Podol'skiy 16.96 109 P **Pn** 13 42 11.7 +1.0
AK21 Malin Array Si 17.05 100 P **Pn** 13 42 12.7 +0.9
AK20 Malin Array Si 17.05 100 P **Pn** 13 42 12.7 +0.9
AK19 Malin Array Si 17.06 100 P **Pn** 13 42 12.8 +0.9
AK22 Malin Array Si 17.07 100 P **Pn** 13 42 13.0 +0.9
AK18 Malin Array Si 17.09 100 P **P** 13 42 13.8 -0.3
AK23 Malin Array Si 17.10 100 P **P** 13 42 14.0 -0.2
AK17 Malin Array Si 17.10 100 P **P** 13 42 14.0 -0.2
AK15 Malin Array Si 17.13 100 P **P** 13 42 14.3 -0.3
AK16 Malin Array Si 17.14 100 P **P** 13 42 14.3 -0.3
AK04 Malin Array Si 17.14 100 P **P** 13 42 14.4 -0.2
AK13 Malin Array Si 17.14 100 P **P** 13 42 14.4 -0.3
AK14 Malin Array Si 17.16 100 P **P** 13 42 14.6 -0.2
AK11 Malin Array Si 17.17 100 P **P** 13 42 14.7 -0.2
AK03 Malin Array Si 17.17 100 P **P** 13 42 14.8 -0.1
KIEV Kiev 17.18 100 Pn **P** 13 42 15.3 +0.3
KIEV Kiev 17.18 100 ⇑P **Pn** 13 42 09.8 -3.7
KIEV Kiev 17.18 100 P **P** 13 42 15.3 +0.3
KIEV pmax pmax
comp=Z,16nm,0.9s
AKASG Malin Array Be 17.18 100 Pn **P** 13 42 15.3 +0.2
AKASG Malin Array Be 17.18 100 P **Pn** 13 42 12.2 -1.3
comp=Z,12nm,0.8s,baz=306,slow=12,SNR=13
AKASG Malin Array Be 17.18 100 P **P** 13 42 15.3 +0.2
AKASG pmax pmax
comp=Z,19nm,0.9s
AKBB Malin Array Si 17.18 100 *ce*P **P** 13 42 14.8 -0.3
AKBB pmax pmax
comp=Z,18nm,1.0s
MDVR Moldovita 17.35 126 ⇑P **P** 13 42 17.6 +0.5
GZR Gura Zlata 17.36 123 ⇓P **P** 13 42 16.7 -0.5
GZR Gura Zlata 17.36 123 ⇓P **P** 13 42 16.7 -0.5
HERR Herculane 17.59 125 ⇑P **P** 13 42 20.0 +0.4
ESDC Sonseca Array 17.74 195 P **Pn** 13 42 19.6 -1.0
comp=Z,0.3nm,0.3s,baz=12,slow=12,SNR=12
ESDC LR LR 13 49 42.2
comp=Z,107nm,20.2s,baz=332,slow=39
comp=Z,2.3nm,0.7s
APA Apatity 17.83 41 ⇓ *e*P **Pn** 13 42 16.4 -5.0
APA *e* 13 45 33.0
APA pmax pmax
comp=Z,16nm,1.3s
DOPR Dopca 18.17 117 ⇓P **P** 13 42 26.4 +0.3
ARR Arges 18.25 120 ⇓P **P** 13 42 27.6 +0.6
BOVS Bovan 18.26 129 ⇓P **P** 13 42 28.8 +1.7
PDG Podgorica 18.27 135 ⇑P **P** 13 42 30.1 +3.0
LVZ Lovozero 18.39 40 *i* P **Pn** 13 42 28.1 -0.2
LVZ pmax pmax
comp=Z,17nm,1.0s
VOIR 18.39 119 ⇑P **P** 13 42 29.3 +0.7
VOIR 18.39 119 ⇑P **P** 13 42 29.3 +0.7
MLR Muntele Rosu 18.79 117 P **P** 13 42 33.1 +0.1
comp=Z,0.3nm,0.3s,baz=192,slow=16,SNR=1.8
comp=Z,1.1nm,0.4s
PLOR Plostina 18.87 116 ⇑P **P** 13 42 33.9 +0.1
PLOR Plostina 18.87 116 ⇑P **P** 13 42 33.9 +0.1
VRI Vrincioaia 18.90 115 ⇑P **P** 13 42 34.1 0.0
VRI Vrincioaia 18.90 115 ⇑P **P** 13 42 34.1 0.0
BISRR Bisoca 19.12 116 ⇑P **Pn** 13 42 37.3 -0.1
OBN Obninsk 19.29 81 P **P** 13 42 38.0 -0.3
comp=Z,26nm,0.4s,baz=177,slow=5.4,SNR=4.0
OBN LR LR 13 51 04.4
comp=Z,223nm,19.2s,baz=208,slow=40
OBN Obninsk 19.29 81 ⇓ *e*P **P** 13 42 37.8 -0.4
OBN pmax pmax
comp=Z,19nm,1.0s
OBN MLR MLR
comp=Z,189nm,16.0s
PARRA Arraiolos 19.57 206 *e*P **P** 13 42 40.8 -0.6
MOS Moscow 19.66 78 eP Pn 13 42 58.9 +15
PBAR Barrancos 19.73 201 *e*P **Pn** 13 42 47.0 +2.3
CFR Carcaliu 20.09 115 ⇑P **P** 13 42 47.4 +0.4
CFR Carcaliu 20.09 115 ⇑P **P** 13 42 47.4 +0.4
ELND Elena 20.68 123 ⇑P **P** 13 42 54.6 +1.2
KNT Kendrikon 20.80 131 P Pn 13 42 56.3 -0.9
KNT pmax pmax
comp=Z,13nm,1.3s
MORF Marmelete 20.91 204 *e*P Pn 13 42 57.6 -1.0
SOH Sokhos 21.27 130 P **P** 13 43 02.0 +2.1
SOH pmax pmax
comp=Z,16nm,1.2s
KEST Kesra 21.82 164 P **P** 13 43 06.7 +0.8
KEST Kesra 21.82 164 P **P** 13 43 05.7 -0.2
comp=Z,6.6nm,0.9s,baz=16,slow=5.9,SNR=4.3
comp=Z,6.6nm,0.9s
RDO Rodhopi 21.94 126 P **P** 13 43 08.3 +1.3
RDO IAmb IAmb 13 43 11.4
comp=Z,19nm,1.0s
ALN Alexandroupoli 22.37 126 P **P** 13 43 13.3 +1.6
ALN IAmb IAmb 13 43 15.6
comp=Z,35nm,1.1s
ALN Alexandroupoli 22.37 126 P **P** 13 43 13.3 +1.6
ALN pmax pmax
comp=Z,35nm,1.1s
SUMG Summit 22.57 329 P **P** 13 43 14.2 +0.2
SUMG Summit 22.57 329 P **P** 13 43 14.2 +0.2
SUMG pmax pmax
comp=Z,15nm,0.9s
KIRV Kirov 24.94 66 LR LR 13 53 56.0
comp=Z,117nm,19.2s,baz=312,slow=38
BRTR Keskin Array B 25.86 116 P **P** 13 43 56.4 +2.0
comp=Z,2.0nm,1.0s,baz=303,slow=7.1,SNR=7.2
comp=Z,2.0nm,1.0s
KIV Kislovodsk 28.53 100 *e*P **P** 13 44 10.6 +1.4
KIV pmax pmax
comp=Z,6.0nm,1.0s
SHA1 Shidzhatmaz 28.66 100 *i* P **P** 13 44 11.6 +1.1
KBZ Khabaz 28.80 100 P **P** 13 44 13.9 +2.5
comp=Z,1.0nm,0.4s,baz=320,slow=7.9,SNR=4.0
comp=Z,1.0nm,0.4s
BATM Batumi 29.61 104 ⇓P **P** 13 44 19.0 +0.3
BATM Batumi 29.61 104 ⇓P **P** 13 44 19.0 +0.3
ARTI Arti 30.24 67 P **P** 13 44 25.1 +0.9
ARTI IAmb IAmb 13 44 54.7
comp=Z,12nm,1.1s
ARTI Arti 30.24 67 *c i*P **P** 13 44 25.1 +0.9
ARTI 13 45 18.0
ARTI 13 47 22.5
ARTI S **S** 13 49 28.1 +4.5
ARTI SS **ScP** 13 51 03.0 -3.8
ARTI pmax pmax
comp=Z,9.0nm,1.0s
GNI Garni 32.27 103 *i* P **P** 13 44 43.8 +1.5
GNI pmax pmax
comp=Z,9.0nm,1.0s
ABKAR Akbulak array 34.67 78 P **P** 13 45 05.0 +2.0
BORK Borovoye 37.90 66 *ce*P **P** 13 45 31.5 +0.9
BORK pmax pmax
comp=Z,13nm,1.7s
BVAR Borovoye Array 37.95 66 P **P** 13 45 32.4 +1.5
comp=Z,6.8nm,1.0s,baz=297,slow=7.8,SNR=17
comp=Z,6.8nm,1.0s
KURK Kurchatov 43.42 64 P **P** 13 46 17.4 +1.3
KURK Kurchatov 43.42 64 P **P** 13 46 17.4 +1.3
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURBB Kurchatov Arra 43.44 64 P **P** 13 46 17.6 +1.4
comp=Z,7.0nm,0.9s,baz=310,slow=8.7,SNR=43
comp=Z,7.0nm,0.9s
TORD Torodi Ar. Bea 43.73 180 P **P** 13 46 19.7 +0.8
comp=Z,2.8nm,0.5s,baz=353,slow=9.0,SNR=30
TORD PcP **PcP** 13 48 06.4 +0.6
comp=Z,1.2nm,0.8s,baz=17,slow=3.2,SNR=3.9
comp=Z,2.8nm,0.5s

KKAR	Karatay Array	44.23	78	P		P		13 46 24.5	+1.7
KKAR	Karatay Array	44.23	78	P		P		13 46 24.5	+1.7
ZAA0	Zalesovo Array	44.34	57	P		P		13 46 25.2	+1.8
ZALV	Zalesovo Beam	44.34	57	P		P		13 46 25.3	+1.9
ZALV	Zalesovo Beam	44.34	57	P		P		13 46 25.6	+2.1
	comp=Z,20nm,0.8s,baz=310,slow=9.1,SNR=68								
	comp=Z,20nm,0.8s								
RAYN	Ar Rayn	45.85	118	P		P		13 46 37.4	+1.5
RAYN				IAmb		IAmb		13 46 38.7	
	comp=Z,6.2nm,1.1s								
RAYN	Ar Rayn	45.85	118	P		P		13 46 37.4	+1.5
RAYN				pmax		pmax			
	comp=Z,6.0nm,1.1s								
TIXI	Tiksi	46.41	20	*ce*P		P		13 46 41.0	+1.4
TIXI				pmax		pmax			
	comp=Z,4.0nm,1.1s								
CHGR	Chuyangaron	46.62	83	P		P		13 46 43.7	+1.9
CHGR	Chuyangaron	46.62	83	P		P		13 46 43.7	+1.9
CHGR				pmax		pmax			
	comp=Z,11nm,0.9s								
AAK	Ala-Archa	46.68	75	*ce*P		P		13 46 42.9	+0.6
AAK				pmax		pmax			
	comp=Z,11nm,1.3s								
ARSB	Arslanbob	46.79	78	IAmb		IAmb		13 46 46.9	
	comp=Z,8.7nm,1.2s								
MKAR	Makanchi Array	47.83	66	P		P		13 46 52.7	+1.6
MKAR	Makanchi Array	47.83	66	P		P		13 46 52.9	+1.7
	comp=Z,3.2nm,0.7s,baz=314,slow=6.8,SNR=30								
MKAR				LR		LR		14 08 27.0	
	comp=Z,99nm,19.2s,baz=348,slow=38								
	comp=Z,3.2nm,0.7s								
KDJ	Kajisay	48.45	74	IAmb		IAmb		13 46 59.9	
	comp=Z,5.8nm,1.0s								
TARG	Taragay, Kyrgy	49.06	74	IAmb		IAmb		13 47 05.8	
	comp=Z,7.2nm,1.0s								
KSH	Kashi	49.68	77	P		P		13 47 09.3	+3.8
KSH				pP		sP		13 47 13.8	+5.0
KSH				pmax		pmax			
	comp=Z,13nm,0.9s								
YKA	Yellowknife Ar	51.15	328	P		P		13 47 17.1	+1.0
	comp=Z,4.2nm,0.9s,baz=38,slow=8.3,SNR=6.8								
	comp=Z,4.2nm,0.9s								
E29M	Blow River	51.53	342	P		P		13 47 20.4	+1.4
E29M				IAmb		IAmb		13 47 22.3	
	comp=Z,13nm,1.3s								
F31M	Tsiigehtchic	51.64	340	IAmb		IAmb		13 47 22.7	
	comp=Z,14nm,1.0s								
G31M	Satah River	52.19	340	P		P		13 47 24.8	+0.9
G31M				IAmb		IAmb		13 47 30.9	
	comp=Z,7.6nm,1.0s								
E27K	Coleen River	52.31	344	P		P		13 47 26.1	+1.3
F28M	Old Crow	52.56	343	P		P		13 47 28.0	+1.4
F28M				IAmb		IAmb		13 47 48.8	
	comp=Z,8.5nm,1.4s								
FFC	Flin Flon	52.78	315	*i* P		P		13 47 29.3	+0.9
G29M	Pine Creek	52.88	341	P		P		13 47 30.1	+1.1
G29M				IAmb		IAmb		13 47 34.5	
	comp=Z,10nm,1.4s								
EPLO	Experimental L	53.08	306	P		P		13 47 31.5	+0.8
EPLO				IAmb		IAmb		13 47 36.8	
	comp=Z,14nm,1.1s								
H29M	Whitestone	53.57	341	P		P		13 47 35.0	+0.9
ULM	Lac du Bonnet	53.59	308	P		P		13 47 34.8	+0.3
	comp=Z,2.7nm,0.5s,baz=12,slow=9.1,SNR=2.5								
	comp=Z,2.7nm,0.5s								
I28M	Miner Creek	54.54	342	P		P		13 47 42.6	+1.3
I28M				IAmb		IAmb		13 48 26.0	
	comp=Z,7.8nm,1.4s								
YAK	Yakutsk	54.55	27	*i* P		P		13 47 42.0	+0.8
YAK				pmax		pmax			
	comp=Z,6.0nm,0.9s								
J30M	Hart River	54.67	339			P		13 47 43.7	+1.4
J30M				IAmb		IAmb		13 47 50.0	
	comp=Z,8.3nm,1.2s								
EGAK	Eagle	55.37	342	P		P		13 47 48.5	+1.4
EGAK				IAmb		IAmb		13 47 49.3	
	comp=Z,7.8nm,1.4s								
J26L	Joseph Creek	56.03	343	P		P		13 47 53.3	+1.3
J26L				IAmb		IAmb		13 47 58.5	
	comp=Z,5.3nm,1.1s								
G19K	Purcell Mounta	56.20	350	IAmb		IAmb		13 48 00.7	
	comp=Z,7.2nm,0.9s								
H21K	Melozitna Rive	56.21	348	IAmb		IAmb		13 47 57.2	
	comp=Z,8.5nm,1.1s								
ILAR	Eielson Array	56.28	345	P		P		13 47 55.9	+2.1
	comp=Z,1.4nm,1.0s,baz=7.9,slow=4.6,SNR=9.0								
	comp=Z,1.4nm,1.0s								
BCAR	Beaver Creek A	57.06	341	P		P		13 48 01.3	+2.0
N31M	Braeburn, Yuko	57.35	337	P		P		13 48 02.4	+1.1
N31M				IAmb		IAmb		13 48 05.4	
	comp=Z,11nm,1.1s								
WHY	Whitehorse	57.90	337	P		P		13 48 06.9	+1.6
SONM	Songino Array	58.23	50	P		P		13 48 10.6	+2.7
	comp=Z,3.2nm,0.8s,baz=312,slow=8.0,SNR=14								
SONM				LR		LR		14 14 03.3	
	comp=Z,54nm,18.6s,baz=350,slow=37								
	comp=Z,3.2nm,0.8s								
ULN	Ulaanbaatar	58.49	50	*ce*P		P		13 48 10.4	+0.7
ULN				pmax		pmax			
	comp=Z,9.0nm,2.5s								
SCM	Sheep Creek Mo	59.13	344	P		P		13 48 15.8	+2.0
SCM	Sheep Creek Mo	59.13	344	P		P		13 48 15.8	+2.0
SCM				pmax		pmax			
	comp=Z,40nm,1.3s								
L18K	Granite Mounta	59.99	349	P		P		13 48 21.7	+2.1
GTA	Gaotai	61.88	60	P		P		13 48 34.8	+1.7
GTA				pP		sP		13 48 38.9	+2.5
GTA				pmax		pmax			
	comp=Z,12nm,1.1s								
YNE	Yellowstone No	63.62	313	IAmb		IAmb		13 48 51.0	
	comp=Z,6.4nm,1.3s								
BOZ	Bozeman (W)	63.78	314	IAmb		IAmb		13 48 52.0	
	comp=Z,7.4nm,1.0s								
LOHW	Long Hollow	65.02	312	IAmb		IAmb		13 48 56.5	
	comp=Z,5.8nm,1.1s								
BW06	Boulder Array	65.29	311	IAmb		IAmb		13 49 00.9	
	comp=Z,4.5nm,1.1s								
PD31	Pinedale Array	65.29	311	P		P		13 48 55.8	+0.1
PD31				IAmb		IAmb		13 49 00.9	
	comp=Z,4.5nm,1.1s								
PDAR	Pinedale Array	65.29	311	P		P		13 48 55.7	+0.1
PDAR	Pinedale Array	65.29	311	P		P		13 48 56.0	+0.4
	comp=Z,2.1nm,0.8s,baz=53,slow=7.9,SNR=11								
PDAR				LR		LR		14 17 45.0	
	comp=Z,43nm,20.7s,baz=355,slow=36								
	comp=Z,2.1nm,0.8s								
HHC	Hu-ho-hao-te	66.05	51	*e*P		P		13 49 00.3	-0.1
HHC				pmax		pmax			
	comp=Z,39nm,0.6s								
HHC				pmax		pmax			
	comp=Z,110nm,4.5s								
LZDM	Lanzhou Array	66.49	60	P		P		13 49 05.7	+2.1
	comp=Z,2.3nm,0.4s,baz=318,slow=8.5,SNR=1.6								
	comp=Z,2.3nm,0.4s								
HLID	Hailey	66.57	315	IAmb		IAmb		13 49 10.4	
	comp=Z,3.3nm,0.9s								
BMO	Blue Mountains	66.57	317	IAmb		IAmb		13 49 05.3	
	comp=Z,7.4nm,1.0s								
HWUT	Hardware Ranch	67.08	312	IAmb		IAmb		13 49 13.4	
	comp=Z,3.7nm,0.8s								
RTBA	Rita Blanca	67.50	302	IAmb		IAmb		13 49 13.3	
	comp=Z,5.2nm,1.0s								
PV21	Cone Mtn., Par	68.54	308	IAmb		IAmb		13 49 23.0	
	comp=Z,5.1nm,0.8s								
PV03	Paradox Valley	68.74	308	IAmb		IAmb		13 49 24.0	
	comp=Z,6.2nm,0.9s								
SRU	San Rafael Swe	68.74	310	IAmb		IAmb		13 49 19.5	
	comp=Z,5.1nm,1.0s								
PV18	Skein Mesa, Pa	68.77	308	P		P		13 49 19.1	+1.3
DUG	Dugway, Tooele	68.78	312	IAmb		IAmb		13 49 24.4	
	comp=Z,4.1nm,0.8s								
DUG	Dugway, Tooele	68.78	312	P		P		13 49 19.9	+2.2
RCBR	Riachuelo	69.78	221	LR		LR		14 17 03.2	
	comp=Z,11nm,18.4s,baz=208,slow=33								
HMU	Henry Mountain	69.82	309	IAmb		IAmb		13 49 30.4	
	comp=Z,5.7nm,1.1s								
SPR3	Spring Creek 3	70.41	312	IAmb		IAmb		13 49 31.7	
	comp=Z,4.8nm,1.3s								
TIA	Tai'an	72.30	50	P		P		13 49 29.1	-10
TIA				pmax		pmax			
	comp=Z,8.0nm,0.7s								
PZH	PanZhiHua	73.25	67	P		P		13 49 47.6	+2.6
TXAR	Lajitas Array	73.81	299	P		P		13 49 49.3	+1.0
TXAR	Lajitas Array	73.81	299	P		P		13 49 49.8	+1.6
	comp=Z,1.3nm,0.8s,baz=72,slow=4.7,SNR=11								
	comp=Z,1.3nm,0.8s								

KSRS	Korea Array	75.47	42	P		P		13 49 59.0	+1.4
	comp=Z,3.5nm,0.8s,baz=337,slow=4.3,SNR=5.6								
	comp=Z,3.5nm,0.8s								
KSRS	Korea Array	75.47	42	P		P		13 49 59.0	+1.4
NJ2	Nanjing	76.60	51	*e*P		P		13 50 05.5	+1.3
NJ2				pmax		pmax			
	comp=Z,15nm,0.5s								
CMAR	Chiang Mai Arr	78.45	74	P		P		13 50 16.9	+2.2
	comp=Z,1.0nm,0.7s,baz=327,slow=5.1,SNR=4.4								
	comp=Z,1.0nm,0.7s								
MJAR	Matsushiro Arr	79.77	34	P		P		13 50 23.8	+2.1
	comp=Z,2.0nm,0.8s,baz=343,slow=5.2,SNR=5.1								
	comp=Z,2.0nm,0.8s								
ASAR	Alice Springs	132.03	67	PKP		PKPdf		13 57 27.2	+0.1
	comp=Z,0.6nm,0.7s,baz=344,slow=1.6,SNR=10								
QSPA	South Pole Qui	146.85	180	PKPbc		PKiKP		13 57 57.0	-0.1
	comp=Z,7.6nm,0.8s,baz=254,slow=2.3,SNR=16								

LJU 24 13:40:41.4, 46.39N×15.07E, h0km, 1D, Confirmed
Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAVS	Zavodnje	0.05	325	⇓*i* Pg	Pg	13 40 41.4	-1.0

SJA 24 14:17:51.8±0.7, 31.88S×67.50W, h116km±2km, ML3.5, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACAN	Cantantal	0.47	146	*e*P	Pn	14 18 09.9	+0.7
CFA	Coronel Fontan	0.69	293	*e*P	Pn	14 18 11.3	+0.6
CFA				*e*S	Sn	14 18 26.1	+1.2
SJA	San Juan	0.97	291	*e*P	Pn	14 18 08.9	-4.3
SJA				*e*P		14 18 14.4	
SJA				*e*S	Sn	14 18 29.8	+0.4
SJA				IAML		14 18 31.6	
	comp=Z,541nm,0.2s						
RTLL	Cerro Villicun	1.00	303	*e*P	Pn	14 18 14.3	+0.8
RTLL				*e*S	Sn	14 18 31.1	+1.2
RTLL				IAML		14 18 32.6	
	comp=Z,1μm,0.2s						
ZON	Zonda	1.06	288	*e*P	Pn	14 18 14.2	+0.1
ZON				*e*S	Sn	14 18 32.1	+1.0
ZON				IAML		14 18 32.7	
	comp=Z,831nm,0.5s						
ASAL	Salagasta	1.34	238	*e*P	Pn	14 18 18.1	+1.0
ASAL				*e*S	Sn	14 18 36.6	+0.1
RTLS	Leoncito	1.53	273	*e*P	Pn	14 18 20.7	+1.0
RTLS				*e*S	Sn	14 18 42.3	+1.5
RTLS				IAML		14 18 43.6	
	comp=Z,1μm,0.4s						
ARCO	CERRO ARCO	1.55	231	*e*P	Pn	14 18 20.6	+1.0
ARCO				*e*S	Sn	14 18 41.5	+0.6
ARCO				IAML		14 18 44.0	
	comp=Z,525nm,0.3s						
MRA	San Martin	1.60	110	*e*P	Pn	14 18 20.9	+0.6
MRA				*e*S	Sn	14 18 43.3	+1.4
MRA				IAML		14 18 44.9	
	comp=Z,214nm,0.3s						
AAGR	Agrelo	1.65	223	*e*P	Pn	14 18 21.8	+1.0
AAGR				*e*S	Sn	14 18 42.4	-0.5
AAGR				IAML		14 18 46.1	
	comp=Z,396nm,0.2s						
APLL	PUNTA DE LOS L	1.70	30	*e*P	Pn	14 18 22.2	+0.8
APLL				*e*S	Sn	14 18 45.4	+1.4
AVIZ	Vizcacheras	1.81	208	*e*P	Pn	14 18 23.7	+1.0
ACCO	Cerro Coronel	1.86	313	*e*P	Pn	14 18 25.1	+1.4
ACCO				*e*S	Sn	14 18 48.6	+0.7
ACDV	Cuesta del Vie	2.20	320	*e*P	Pn	14 18 29.0	+1.2
ACDV				*e*S	Sn	14 18 56.9	+1.6
ACDV				IAML		14 18 57.7	
	comp=Z,269nm,0.5s						
AROD	Rodeo	2.41	315	*e*P	Pn	14 18 31.9	+1.3
ACLC	CERRO LA CRUZ	2.49	11	*e*P	Pn	14 18 32.0	+0.5
ACLC				*e*S	Sn	14 19 02.7	+0.7
ACLC				IAML		14 19 03.2	
	comp=Z,120nm,0.3s						
AGUA	GUANDACOL	2.53	340	*e*P	Pn	14 18 33.2	+1.2
AGUA				*e*S	Sn	14 19 06.8	+4.0
AGUA				IAML		14 19 06.8	
	comp=Z,268nm,0.2s						
TCA	Tanti	2.54	78	*e*P	Pn	14 18 32.4	+0.4
TCA				*e*S	Sn	14 19 02.4	-0.4
TCA				IAML		14 19 03.4	
	comp=Z,164nm,0.5s						
MT08	Bocatoma Ro	2.64	233	*e*P	Pn	14 18 20.6	-13
MT08				*e*P		14 18 35.2	
MT08				*e*S	Sn	14 19 07.2	+1.8
MT08				IAML		14 19 09.3	
	comp=Z,129nm,0.2s						
MT04	Ro Olivares	2.70	235	*e*P	Pn	14 18 35.7	+1.5
MT04				*e*S	Sn	14 19 08.9	+2.1
MT04				IAML		14 19 09.7	
	comp=Z,83nm,0.9s						
VA03	San Esteban	2.73	250	*e*P	Pn	14 18 35.8	+1.3
VA03				*e*S	Sn	14 19 10.6	+3.2
VA03				IAML		14 19 14.6	
	comp=Z,192nm,1.0s						
CO03	El Pedregal	2.92	290	*e*P	Pn	14 18 38.5	+1.5
CO03				*e*S	Sn	14 19 13.4	+1.6
CO03				IAML		14 19 15.1	
	comp=Z,292nm,0.8s						
PEL	Peldehue	2.97	244	*e*P	Pn	14 18 38.8	+1.2
PEL				*e*S	Sn	14 19 15.4	+2.4
PEL				IAML		14 19 18.6	
	comp=Z,146nm,0.9s						
MT13	San Alfonso	3.00	231	*e*P	Pn	14 18 39.6	+1.6
MT13				*e*S	Sn	14 19 10.8	-2.8
MT13				IAML		14 19 29.6	
	comp=Z,57nm,0.2s						
RFA	San Rafael	3.00	195	*e*P	Pn	14 18 37.8	-0.2
RFA				*e*S	Sn	14 19 27.2	+14
RFA				IAML		14 19 36.2	
	comp=Z,55nm,0.4s						
LMEL	Las Melosas	3.01	229	*e*P	Pn	14 18 39.9	+1.7
LMEL				*e*S	Sn	14 19 15.7	+1.7
LMEL				IAML		14 19 20.2	
	comp=Z,45nm,1.1s						
MT03	Universidad Ad	3.01	237	*e*P	Pn	14 18 39.3	+1.2
MT03				*e*S	Sn	14 19 16.8	+2.9
MT03				IAML		14 19 21.1	
	comp=Z,127nm,0.2s						
CO02	Combarbal	3.06	282	*e*P	Pn	14 18 39.9	+1.0
CO02				*e*S	Sn	14 19 16.8	+1.6
CO02				IAML		14 19 23.5	
	comp=Z,209nm,0.4s						
MT05	Renca	3.12	240	*e*P	Pn	14 18 40.6	+1.0
MT05				*e*S	Sn	14 19 19.5	+3.0
MT05				IAML		14 19 21.9	
	comp=Z,93nm,0.2s						
ROC1	El Roble	3.17	249	*e*P	Pn	14 18 40.1	-0.3
ROC1				*e*S	Sn	14 19 18.7	+0.8
VCA	Vinchina	3.19	349	*e*P	Pn	14 18 41.9	+1.2
VCA				*e*S	Sn	14 19 19.1	+0.8
VCA				IAML		14 19 23.1	
	comp=Z,329nm,0.3s						
GO04	Tololo Observa	3.31	300	*e*P	Pn	14 18 43.0	+0.8
GO04				*e*S	Sn	14 19 22.5	+1.4
GO04				IAML		14 19 23.2	
	comp=Z,372nm,0.2s						
MT02	Curacav	3.37	245	*e*P	Pn	14 18 42.3	-0.5
MT02				*e*S	Sn	14 19 11.5	-11
MT02				IAML		14 19 24.5	
	comp=Z,50nm,0.2s						
CYA	Choya	3.73	24	*e*P	Pn	14 18 46.5	-1.1
CYA				*e*S	Sn	14 19 30.0	-1.0
CYA				IAML		14 19 30.2	
	comp=Z,55nm,0.1s						
MT01	Popeta	3.73	237	*e*P	Pn	14 18 31.1	-16
MT01				*e*S	Sn	14 19 19.4	-11
MT01				IAML		14 19 33.8	
	comp=Z,48nm,0.7s						
BO01	Tunca	3.92	229	*e*P	Pn	14 18 49.6	-0.5
BO01				*e*S	Sn	14 19 35.6	+0.3
BO01				IAML		14 19 37.6	
	comp=Z,30nm,0.8s						
LCO	Las Campanas	3.98	315	*e*P	Pn	14 18 52.1	+0.9
LCO				*e*S	Sn	14 19 36.7	-0.5
BO02	Sierra Bellavi	4.00	223	*e*P	Pn	14 18 52.0	+0.7
BO02				*e*S	Sn	14 19 38.1	+0.7
BO02				IAML		14 19 45.1	
	comp=Z,41nm,0.8s						
AC04	Llanos de Chal	4.80	319	*e*P	Pn	14 19 02.0	0.0
AC04				*e*S	Sn	14 19 58.6	+2.0
AC04				IAML		14 20 01.4	
	comp=Z,47nm,0.7s						
GO03	Copiapo	4.89	330	*e*P	Pn	14 19 04.6	+1.3
GO03				*e*S	Sn	14 19 56.4	-2.4
GO03				IAML		14 19 58.9	
	comp=Z,76nm,0.3s						
AC02	Maricunga	5.22	344	*e*P	Pn	14 19 09.9	+1.7
AC02				*e*S	Sn	14 20 08.7	+1.1
AC02				IAML		14 20 14.8	
	comp=Z,14nm,0.6s						

NEIC ***24*** *14:34:53.8±1.9, 18.2°S±0.2°×178.5°W±0.2, h539km±13km, mb4.1/16, Error ellipse: s-maj=31.3km s-min=25.3km az=152.0*
IDC ***24*** *14:35:00.3±34.0, 18.12°S×178.80°W, h616km±307km, mb3.1/4, mbtmp4.1/4, Error ellipse: s-maj=309.4km s-min=47.6km az=45.0*

ISC 24 14:34:57.1±1.2, 18.2°S±0.2°×178.7°W±0.2, h579km, n23, σ0.8 78/23, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.13	277	P	P	14 36 09.5	-6.0
MLZ	Mavora Lakes	29.27	199	P	P	14 40 12.9	-0.7
ARMA	Armidale	29.58	240	P	P	14 40 15.3	-1.3
ARMA				IAmb	IAmb	14 40 54.4	
	comp=Z,13nm,1.4s						
TOO	Toolangi	36.80	231	P	P	14 41 17.8	+0.7
TOO				IAmb	IAmb	14 41 19.3	
	comp=Z,12nm,1.5s						
STKA	Stephens Creek	38.27	241	P	P	14 41 30.3	+1.2
STKA	Stephens Creek	38.27	241	P	P	14 41 29.2	+0.1
	comp=Z,1.6nm,0.6s,baz=83,slow=17,SNR=3.7						
	comp=Z,1.6nm,0.6s						
INKA	Innaminka	38.41	248	P	P	14 41 31.5	+1.3
BBOO	Buckleboo	43.05	241	P	P	14 42 07.5	+0.5
WR8	Warramunga Arr	44.17	260	P	P	14 42 15.3	-0.6
WR8				IAmb	IAmb	14 42 55.4	
	comp=Z,9.8nm,1.5s						
WB0	Warramunga Arr	44.29	260	P	P	14 42 16.2	-0.6
WB0				IAmb	IAmb	14 42 24.5	
	comp=Z,6.3nm,1.3s						
WRA	Warramunga Arr	44.33	260	P	P	14 42 16.5	-0.5
WRA	Warramunga Arr	44.33	260	P	P	14 42 16.6	-0.5
	comp=Z,0.7nm,0.4s,baz=95,slow=6.9,SNR=18						
	comp=Z,0.7nm,0.4s						
AS31	Alice Springs	44.47	254	P	P	14 42 18.3	+0.2
AS31				IAmb	IAmb	14 42 19.0	
	comp=Z,2.1nm,0.7s						
ASAR	Alice Springs	44.47	254	P	P	14 42 17.8	-0.3
ASAR	Alice Springs	44.47	254	P	P	14 42 18.4	+0.3
	comp=Z,7.6nm,0.6s,baz=89,slow=8.0,SNR=334						
ASAR				PcP	PcP	14 43 48.1	-0.8
	comp=Z,0.2nm,0.5s,baz=103,slow=3.5,SNR=4.1						
	comp=Z,7.6nm,0.6s						
FORT	Forrest	49.66	245	P	P	14 42 56.7	-0.2
FORT				IAmb	IAmb	14 43 29.6	
	comp=Z,4.6nm,0.8s						
KNRA	Kununurra	50.20	264	P	P	14 43 00.4	-0.6
KNRA				IAmb	IAmb	14 43 32.3	
	comp=Z,17nm,1.5s						
FITZ	Fitzroy Crossi	52.73	261	P	P	14 43 19.8	+0.6
CASY	Casey	65.80	205	P	P	14 44 46.6	+1.2
QSPA	South Pole Qui	71.89	180	P	P	14 45 22.8	+0.5
QSPA	South Pole Qui	71.89	180	P	P	14 45 22.7	+0.4
	comp=Z,1.2nm,1.1s,baz=338,slow=11,SNR=2.0						
	comp=Z,1.2nm,1.1s						
BELA	Belgrano 2	81.95	173	P	P	14 46 15.3	-1.2
BELA				IAmb	IAmb	14 46 37.7	
	comp=Z,5.5nm,1.5s						
LYMT	Lyon Mountain	88.00	39	P	P	14 46 46.8	+0.3

IDC ***24*** *14:45:08.6±2.4, 43.72N×129.20W, h0km, mb3.3/3, mbtmp3.2/6, ML3.5/2, MS3.1/7, Error ellipse: s-maj=68.0km s-min=17.9km az=36.0*
NEIC ***24*** *14:45:09.3±1.0, 43.9N±0.1×129.3W±0.2, h10km±2km, ML3.1/24, Error ellipse: s-maj=26.3km s-min=19.6km az=231.0*

ISC 24 14:45:11.2±1.6, 43.8N±0.1×129.2W±0.1, h15km, n37, σ1.8 26/26, mb3.2/3, MS3.1/4, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	3.67	104	Pn	Pn	14 46 05.5	-1.9
KEBM				IAML		14 46 54.8	
	comp=E,35nm,1.6s						
I02E	Swisshome, OR	3.86	84	Pn	Pn	14 46 09.7	-0.3
I02E				IAML		14 46 55.7	
	comp=E,27nm,1.6s						
I02E				IAML		14 47 00.3	
	comp=N,22nm,1.7s						
I03D	Drain, OR	4.23	90		Pn	14 46 15.0	-0.1
BUCK	Buck Mountain	4.49	83		Pn	14 46 18.7	0.0
BUCK				IAML		14 47 15.8	
	comp=N,20nm,1.7s						
BUCK				IAML		14 47 16.2	
	comp=E,16nm,1.5s						
H04D	Lebanon	4.69	79		Pn	14 46 21.5	+0.1
H04D				IAML		14 48 21.7	
	comp=N,16nm,1.9s						
BBOR	Butler Butte	4.84	99		Pn	14 46 23.6	+0.1
BBOR				IAML		14 47 21.9	
	comp=E,12nm,1.5s						
BBOR				IAML		14 47 29.2	
	comp=N,11nm,1.9s						
H04A	Detroit Lake	5.10	78		Pn	14 46 27.0	0.0
H04A				IAML		14 47 30.0	
	comp=N,13nm,1.5s						
H04A				IAML		14 47 30.0	
	comp=E,9.8nm,0.3s						
J04A	Umpqua Nationa	5.18	94		Pn	14 46 29.2	+0.9
YBH	Yreka Blue Hor	5.21	112	Pn	Pn	14 46 28.0	-0.5
	baz=304,slow=4.3,SNR=4.8						
YBH				Sn	Sn	14 47 27.8	-0.6
	baz=335,slow=19,SNR=3.5						
L04D	Klamath Falls	5.29	105		Pn	14 46 31.2	+1.3
WIFE	Three Sisters-	5.32	85		Pn	14 46 30.6	+0.3
HOOD	Mount Hood Mea	5.58	72		Pn	14 46 33.7	-0.1
B04A	Port Angeles	5.79	41	Pn	Pn	14 46 35.1	-1.4
G05A	Wamic	5.80	73		Pn	14 46 37.3	+0.6
J05D	Fort Rock, OR	5.80	93

baz=49,slow=75
H11S2 WAKE ISLAND Hy 58.84 266 T T 15 58 53.7
baz=49,slow=75
H11S3 WAKE ISLAND Hy 58.85 266 T T 15 58 59.5
baz=49,slow=75
KURBB Kurchatov Arra 82.88 343 P **P** **14 57 35.7 +0.8**
comp=E,0.5nm,0.9s,baz=19,slow=4.8,SNR=3.2
comp=E,0.5nm,0.9s

*RSNC **24** 14:51:10.5±0.0, 7°N±1″×7°3W±″, h149km±2km, M3.0, mb3.4, ML2.7*
*FUNV **24** 14:51:17.5, 6°72N×72°28W, h19km, MW3.5*
ISC 24 14:51:07.1±1.3, **6°88N**±0°03×**73°02W**±0°04, **h163**km±9km, **n31**, σ**2s26**/56, **1C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.33**	**209**	P	**Pn**	**14 51 30.5**	**+0.9**
BARC				S	**Sn**	**14 51 46.0**	**-0.8**
PAMC	**Pamplona, Colo**	**0.56**	**35**	P	Pn	14 51 33.3	+2.5
PAMC				S	**Sn**	**14 51 50.4**	**+1.4**
BRJC	**Barrancabermej**	**0.72**	**277**	P	**Pn**	**14 51 32.1**	**+1.0**
BRJC				S	**Sn**	**14 51 49.4**	**-0.1**
RUSC	**La Rusia**	**0.98**	**183**	P	**Pn**	**14 51 34.5**	**+0.9**
RUSC				S	**Sn**	**14 51 53.2**	**-0.7**
CAPV	**Capacho**	**1.21**	**36** ⇑*i*	P	Pn	14 51 38.4	+3.3
CAPV				*eS*	**Sn**	**14 51 54.1**	**-2.6**
PTBC	**PUERTO BERRIO,**	**1.46**	**257**	P	**Pn**	**14 51 37.0**	**-0.3**
PTBC				S	**Sn**	**14 51 58.1**	**-2.4**
SPBC	**San Pablo de B**	**1.60**	**221**	P	**Pn**	**14 51 39.5**	**+0.6**
SPBC				S	**Sn**	**14 52 01.3**	**-2.0**
ZARC	**Zaragoza, Cauc**	**1.92**	**289**	P	**Pn**	**14 51 43.0**	**+0.9**
ZARC				S	**Sn**	**14 52 08.2**	**-1.0**
NORC	**Norcasia**	**2.25**	**235**	P	**Pn**	**14 51 46.6**	**+0.6**
NORC				S	**Sn**	**14 52 15.0**	**-1.1**
ROSC	**El Rosal**	**2.40**	**213**	P	**Pn**	**14 51 50.1**	**+2.0**
ROSC				S	**Sn**	**14 52 21.6**	**+1.8**
CVER	**Cruz Verde, Cu**	**2.56**	**204**	P	**Pn**	**14 51 51.6**	**+1.4**
CVER				S	**Sn**	**14 52 24.1**	**+0.6**
HELC	**Santa Helena**	**2.58**	**255**	P	**Pn**	**14 51 50.2**	**0.0**
HELC				S	**Sn**	**14 52 22.0**	**-1.5**
UREC	**San Jos de Ur**	**2.64**	**289**	P	**Pn**	**14 51 51.3**	**+0.8**
UREC				S	**Sn**	**14 52 21.6**	**-2.6**
PTGC	**Puerto Gaitan,**	**2.81**	**162**	P	**Pn**	**14 51 53.6**	**+1.0**
PTGC				S	**Sn**	**14 52 27.1**	**-0.9**
GUY2C	**Guyana, Caldas**	**2.85**	**235**	P	**Pn**	**14 51 55.4**	**+1.8**
GUY2C				S	**Sn**	**14 52 28.5**	**-1.1**
SDV	**Santo Domingo**	**3.10**	**50**	P	Pn	14 52 00.1	+3.7
SDV				S	**Sn**	**14 52 39.3**	**+4.7**
CBOC	**Ciudad Bolivar**	**3.14**	**251**	P	**Pn**	**14 51 59.0**	**+2.1**
DBBC	**Dabeiba**	**3.17**	**273**	P	**Pn**	**14 51 58.6**	**+1.4**
DBBC				S	**Sn**	**14 52 33.4**	**-2.6**
PRAC	**Prado**	**3.65**	**211**	P	**Pn**	**14 52 04.0**	**+0.7**
PRAC				S	**Sn**	**14 52 47.0**	**-0.1**
APAC	**Apartado, Choc**	**3.67**	**286**	P	**Pn**	**14 52 04.1**	**+0.6**
APAC				S	**Sn**	**14 52 47.4**	**0.0**
SJCC	**San Jacinto, C**	**3.68**	**325**	P	**Pn**	**14 52 04.5**	**+0.8**
SJCC				S	**Sn**	**14 52 45.7**	**-2.0**
ORTC	**Ortega, Tolima**	**3.69**	**217**	P	**Pn**	**14 52 05.2**	**+1.4**
ORTC				S	**Sn**	**14 52 48.0**	**+0.1**
URMC	**La Uribe, Meta**	**3.85**	**201**	P	**Pn**	**14 52 07.4**	**+1.5**
URMC				S	**Sn**	**14 52 51.8**	**0.0**
CRJC	**Cerrejon, Guaj**	**4.12**	**2**	P	**Pn**	**14 52 10.8**	**+1.5**
CRJC				S	**Sn**	**14 52 58.2**	**+0.3**
YOTC	**Yotoco, Valle**	**4.38**	**229**	P	**Pn**	**14 52 13.4**	**+0.6**
SMRC	**Santa Marta, M**	**4.42**	**345**	P	**Pn**	**14 52 15.9**	**+2.7**
SMRC				S	**Sn**	**14 53 03.7**	**-1.1**
MACC	**Macarena, Meta**	**4.77**	**190**	P	**Pn**	**14 52 17.2**	**-0.7**
MACC				S	**Sn**	**14 53 10.2**	**-3.0**
URIC	**Uribia, Colomb**	**4.90**	**12**	P	**Pn**	**14 52 20.7**	**+1.3**
URIC				S	**Sn**	**14 53 17.0**	**+1.0**
BAUV	**El Baul**	**5.34**	**67**	*eP*	**Pn**	**14 52 26.7**	**+1.4**
BAUV				*eS*	**Sn**	**14 53 18.2**	**-8.3**
BENV	**Beln**	**6.18**	**60**	*eP*	**Pn**	**14 52 38.9**	**+2.5**
BENV				*eS*	**Sn**	**14 53 38.3**	**-8.2**
CACV	**CAICARA DEL OR**	**6.47**	**84**	*eP*	Pn	14 52 47.1	+7.0
CACV				*eS*	**Sn**	**14 53 54.0**	**+0.7**

IDC 24 14:58:44.8±1.9, **31°57S**×**178°45W**, **h0**km, **mb3.7**/3, **mbtmp3.7**/4, **ML3.0**/1, **Error ellipse: s-maj=43.5km s-min=30.9km az=71.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.61**	**207**	Pn	Pn	15 00 35.0	-1.8
	0.2nm,0.3s,baz=22,slow=19,SNR=1.2						
URZ				Sn	Sn	15 02 02.4	-1.4
	1.6nm,0.3s,baz=49,slow=20,SNR=9.2						
	5.7nm,0.8s						
ASAR	**Alice Springs**	**42.68**	**268**	P	P	15 06 43.0	-0.5
	0.4nm,0.5s,baz=108,slow=7.6,SNR=10						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.77**	**274**	P	P	15 06 53.5	+1.1
	0.4nm,0.3s,baz=113,slow=7.9,SNR=6.9						
	0.4nm,0.3s						
QSPA	**South Pole Qui**	**58.55**	**180**	P	P	15 08 43.5	+0.6
	1.5nm,1.2s,baz=56,slow=3.6,SNR=11						
	1.5nm,1.2s						
FINES	**FINESS Array B**	**146.10**	**339**	PKPbc	PKPdf	15 18 23.9	-1.2
	1.1nm,0.6s,baz=44,slow=4.2,SNR=4.7						

*UCR **24** 15:23:09.4±0.7, 8°04N×83°30W, h8km±6km, MW4.2*
*UPA **24** 15:23:10.5±0.9, 8°10N×83°29W, h16km±2km, MW3.9*
*CATAC **24** 15:23:10.6±1.1, 8°N±7″×8°3W±″, h11km±4km, M4.1/7, MLv4.1/7, Error ellipse: s-maj=16.0km s-min=9.9km az=36.3, confirmed*
ISC 24 15:23:10.3±1.5, **8°12N**±0°05×**83°26W**±0°03, **h14**km±9km, **n87**, σ**0s68**/117, **1C-11D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.39**	**78** ⇓*iP*		**Pb**	**15 23 19.3**	**+0.4**
PTPM				*eS*	**Sb**	**15 23 26.8**	**+2.0**
PTJ1	**Puerto Jimnez**	**0.41**	**355** ⇓*iP*		**Pb**	**15 23 19.3**	**0.0**
PTJ1	**Puerto Jimnez**	**0.41**	**355**	*eP*	**Pb**	**15 23 19.3**	**0.0**
PTJ1				*eS*	**Sb**	**15 23 26.9**	**+1.4**
PTJ1	**Puerto Jimnez**	**0.41**	**355**	P	**Pb**	**15 23 19.4**	**0.0**
PTJ1	**Puerto Jimnez**	**0.41**	**355**	S	**Sb**	**15 23 27.2**	**+1.8**
JIME	**Puerto Jimenez**	**0.42**	**351**	*eP*	**Pb**	**15 23 19.2**	**-0.2**
JIME				*eS*	**Sb**	**15 23 26.9**	**+1.2**
FITO	**Golfito**	**0.51**	**12**	*eP*	**Pg**	**15 23 20.4**	**0.0**
EDAD	**Golfito**	**0.53**	**10**	*eP*	**Pg**	**15 23 20.8**	**0.0**
LESP3	**La Esperanza,**	**0.55**	**59**	*eP*	**Pb**	**15 23 21.4**	**-0.2**
LESP3				*eS*	**Sn**	**15 23 31.2**	**-1.3**
LPPC	**Paso Canoas**	**0.58**	**46**	*eP*	**Pb**	**15 23 22.0**	**-0.3**
CDITO	**Canoas**	**0.59**	**41** ⇓*S*		**Pg**	**15 23 22.1**	**+0.2**
CDITO				P	**Pg**	**15 23 22.1**	**+0.2**
NELY	**Ciudad Neily**	**0.61**	**31**	*eP*	**Pb**	**15 23 22.5**	**-0.3**
NELY				*eS*	**Sb**	**15 23 32.0**	**+0.8**
BAGA3	**Bagala, Chiriq**	**0.80**	**65**	*eP*	**Pb**	**15 23 26.1**	**+0.1**
BAGA3				*eS*	**Sn**	**15 23 38.2**	**-0.7**
SCLRA	**Santa Clara, W**	**0.85**	**34**	*eP*	**Pb**	**15 23 27.0**	**+0.1**
PANP	**Palmar Norte**	**0.85**	**347**	*eP*	**Pg**	**15 23 25.9**	**-0.9**
DVD	**David**	**0.86**	**69**	*eP*	**Pb**	**15 23 27.3**	**+0.3**
DVD				*eS*	**Sb**	**15 23 38.9**	**+0.4**
PEDE3	**Pedregal, Chir**	**0.87**	**73**	*eP*	**Pg**	**15 23 26.8**	**-0.3**
PEDE3				*eS*	**Sb**	**15 23 39.8**	**+1.1**
BRU2	**Volcan**	**0.87**	**40** ⇓*iP*		**Pb**	**15 23 27.3**	**0.0**
BRU2				*eS*	**Sn**	**15 23 40.4**	**-0.6**
BRU2	**Volcan**	**0.87**	**40**	*eP*	**Pb**	**15 23 27.2**	**0.0**
BRU2				*eS*	**Sn**	**15 23 40.3**	**-0.6**
BRU2	**Volcan**	**0.87**	**40** ⇓*S*		**Pb**	**15 23 27.3**	**0.0**
BRU2				P	**Pb**	**15 23 27.4**	**0.0**
LOCO3	**Loma Colorada,**	**0.88**	**71**	*eP*	**Pg**	**15 23 27.0**	**-0.4**
EDP2	**Potrero Grande**	**0.89**	**5**	*eP*	**Pg**	**15 23 27.4**	**-0.2**
TBS2		**0.90**	**42**	*eP*	**Pn**	**15 23 28.6**	**0.0**
LOMA3	**Las Lomas, Chi**	**0.92**	**70**	*eP*	**Pg**	**15 23 27.6**	**-0.4**
LOMA3				*eS*	**Sg**	**15 23 39.9**	**-0.1**
ALCO	**Alturas Coton,**	**0.92**	**27**	*eP*	**Pg**	**15 23 27.6**	**-0.6**
BANCO	**falda S V. Bar**	**0.94**	**51**	*eP*	**Pg**	**15 23 28.2**	**-0.3**
BC3P	**Paso Ancho**	**0.94**	**43** ⇓*iP*		**Pg**	**15 23 28.2**	**-0.4**
BC3P				*eS*	**Sn**	**15 23 42.4**	**-0.3**
PTAR3	**Potrerillos Ar**	**0.95**	**53**	*eP*	**Pg**	**15 23 28.4**	**-0.2**
PTAR3				*eS*	**Sn**	**15 23 42.0**	**-0.6**
CGUAY	**Guayabal, Coch**	**0.96**	**70**	*eP*	**Pg**	**15 23 28.3**	**-0.6**
BQTLY	**Boquete Panama**	**1.01**	**51**	*eP*	**Pb**	**15 23 29.1**	**-0.6**
BQSF3	**Alto Boquete,**	**1.02**	**53**	*eP*	**Pb**	**15 23 29.4**	**-0.5**
BQSF3				*eS*	**Sn**	**15 23 44.1**	**-0.5**
WILLF	**Boquete**	**1.03**	**53**	*eP*	**Pb**	**15 23 29.4**	**-0.6**
GUAL3	**Gualaca, Chiri**	**1.04**	**67**	*eP*	**Pb**	**15 23 29.8**	**-0.2**
OCHAL	**Ojochal**	**1.04**	**339**	S	**Sg**	**15 23 44.2**	**+0.2**
OCHAL	**Ojochal**	**1.04**	**339** ⇓*P*		**Pb**	**15 23 29.1**	**-0.9**
BURE	**Buenos Aires**	**1.05**	**356**	*eP*	**Pb**	**15 23 29.9**	**-0.3**
LNBQ3	**Los Naranjos,**	**1.05**	**51**	*eP*	**Pb**	**15 23 29.6**	**-0.7**
LNBQ3				*eS*	**Sg**	**15 23 44.5**	**+0.2**
EDPE	**Pejibaye, P**	**1.07**	**343**	*eP*	**Pb**	**15 23 29.8**	**-0.9**
PSOM3	**Paja de Sombre**	**1.08**	**59**	*i P*	**Pb**	**15 23 30.1**	**-0.8**
PSOM3				*eS*	**Sg**	**15 23 45.5**	**0.0**
DRK0	**Durika**	**1.13**	**1** ⇓*iP*		**Pb**	**15 23 31.0**	**-0.8**
DRK0				*eS*	**Sn**	**15 23 47.2**	**-0.1**
DRK0	**Durika**	**1.13**	**1**	*eP*	**Pb**	**15 23 30.9**	**-0.8**
DRK0	**Durika**	**1.13**	**1** ⇓*P*		**Pb**	**15 23 31.0**	**-0.8**
SAJE	**San Jernim**	**1.24**	**349**	*eP*	**Pn**	**15 23 32.5**	**-0.9**
PBNVO	**Pueblo Nuevo,**	**1.30**	**54**	*eP*	**Pn**	**15 23 33.4**	**-0.7**
RBALA	**Bur**	**1.33**	**56**	*eP*	**Pn**	**15 23 34.1**	**-0.3**
CHGR2	**Aguacate**	**1.37**	**54**	*eP*	**Pn**	**15 23 34.6**	**-0.4**
CHGR2				*eS*	**Sb**	**15 23 52.1**	**-1.0**
BUS1	**Rivas**	**1.50**	**341**	*eP*	**Pn**	**15 23 36.9**	**-0.3**
CNI2	**El Empalme, Bo**	**1.51**	**31**	*eP*	**Pn**	**15 23 36.2**	**-0.7**
CNI2				*eS*	**Sn**	**15 23 56.0**	**-0.4**
CEUA	**Cerro Uatsi, L**	**1.52**	**12**	*eP*	**Pb**	**15 23 38.1**	**-0.3**
LLNJ	**Naranjito**	**1.58**	**328**	*eP*	**Pn**	**15 23 37.8**	**-0.1**
RGM0	**Gandoca**	**1.59**	**24**	*eP*	**Pn**	**15 23 37.8**	**-0.3**
RGM0				*eS*	**Sn**	**15 23 58.7**	**+0.2**
RGM0	**Gandoca**	**1.59**	**24**	*eP*	**Pb**	**15 23 40.0**	**+0.5**
RGM0	**Gandoca**	**1.59**	**24**	P	**Pg**	**15 23 40.5**	**-0.5**
PIEC	**Cerro El Cedra**	**1.64**	**335**	*eP*	**Pn**	**15 23 38.8**	**-0.2**
LAES	**El Progreso Va**	**1.64**	**7**	*eP*	**Pb**	**15 23 39.6**	**-0.8**
PICV	**PH. Pirrs**	**1.75**	**328**	*eP*	**Pn**	**15 23 39.8**	**-0.5**
VERH	**Veragua Rainfo**	**1.79**	**2**	*eP*	**Pn**	**15 23 41.4**	**+0.6**
REPA	**Paraso**	**1.80**	**341**	*eP*	**Pn**	**15 23 41.4**	**+0.4**
TURIB	**Turrialba**	**1.82**	**347**	*eP*	**Pn**	**15 23 41.5**	**+0.2**
VINA	**Juan Vinas**	**1.82**	**345**	*eP*	**Pn**	**15 23 41.9**	**+0.6**
VERB	**Verbena**	**1.86**	**347**	*eP*	**Pn**	**15 23 42.4**	**+0.5**
PCAYA	**Pacayas**	**1.86**	**343**	*eP*	**Pn**	**15 23 42.6**	**+0.6**
ACOS	**Acosta**	**1.89**	**332**	*eP*	**Pn**	**15 23 42.1**	**-0.1**
RAFA	**San Farael, Vo**	**1.90**	**343**	*eP*	**Pn**	**15 23 43.3**	**+0.7**
ABRB	**Las Abras (San**	**1.92**	**347**	*eP*	**Pn**	**15 23 43.6**	**+0.8**
CVTV	**Tajo**	**1.93**	**346**	*eP*	**Pn**	**15 23 43.5**	**+0.5**
RESJ	**San Isidro (Tu**	**1.93**	**349**	*eP*	**Pn**	**15 23 43.7**	**+0.9**
CVTQ	**Turrialba Volc**	**1.93**	**345**	*eP*	**Pn**	**15 23 43.5**	**+0.5**
VTR0	**Volcan Turrial**	**1.94**	**345**	*eP*	**Pn**	**15 23 43.9**	**+0.6**
CVTR	**Volcan Turrial**	**1.95**	**345**	*eP*	**Pn**	**15 23 43.4**	**+0.1**
LCOCO	**El Coco**	**1.97**	**352**	*eP*	**Pn**	**15 23 44.1**	**+0.9**
IRES	**Siquirres**	**1.98**	**353**	*eP*	**Pn**	**15 23 44.5**	**+1.2**
RVLA	**Villa Bonita**	**2.00**	**351**	*eP*	**Pn**	**15 23 44.7**	**+1.1**
GMAL	**Guarumal, Vera**	**2.04**	**100**	*eS*	**Sn**	**15 24 09.4**	**-0.1**
MESA3	**La Mesa, Verag**	**2.06**	**89**	*eP*	**Pn**	**15 23 45.0**	**+0.6**
MESA3				*eS*	**Sn**	**15 24 09.8**	**-0.1**
VPS8	**V Poas**	**2.26**	**335**	*eP*	**Pn**	**15 23 49.2**	**+1.6**
STIA3	**Santiago, Vera**	**2.27**	**90**	*eP*	**Pn**	**15 23 47.3**	**-0.1**
TRT2	**Tortugero**	**2.46**	**349** ⇓*P*		**Pn**	**15 23 51.2**	**+1.2**
CACAO	**El Cacao, Vera**	**2.50**	**108** ⇓*iP*		**Pn**	**15 23 50.5**	**0.0**
CACAO				*eS*	**Sn**	**15 24 20.9**	**-0.1**
SOCE	**Pocosol**	**2.61**	**329** ⇑*P*		**Pn**	**15 23 53.4**	**+1.3**
SOCE				S	**Sb**	**15 24 29.5**	**+0.5**
JTS	**Las Juntas de**	**2.72**	**322**	*eP*	**Pn**	**15 23 53.1**	**-0.5**
JTS				*eS*	**Sn**	**15 24 25.9**	**-0.6**
JTS	**Las Juntas de**	**2.72**	**322**	P	**Pn**	**15 23 54.9**	**+1.2**
JTS				S	**Sn**	**15 24 25.0**	**-1.4**
CHIT3	**Chitre**	**2.82**	**93**	*eP*	**Pn**	**15 23 55.1**	**+0.2**
CHIT3				*eS*	**Sn**	**15 24 28.6**	**-0.2**
AZU	**Azuero**	**2.98**	**96**	*eP*	**Pn**	**15 23 57.1**	**0.0**
AZU				*eS*	**Sn**	**15 24 32.0**	**-0.7**
TEN0	**El Achiote**	**3.07**	**327**	*eP*	**Pn**	**15 23 59.8**	**+1.4**
BCIP	**Isla Barro Col**	**3.54**	**73**	*eP*	**Pn**	**15 24 06.3**	**-0.5**
BCIP				*eS*	**Sn**	**15 24 46.0**	**-0.6**
BCIP	**Isla Barro Col**	**3.54**	**73**	*eP*	**Pn**	**15 24 06.1**	**+1.2**

CATAC 24 15:39:29.4±0.4, **12°N**×**8°6W**±″, **h157**km±3km, **M2.9**/19, **MLv2.9**/19, **Error ellipse: s-maj=8.2km s-min=3.5km az=44.7, confirmed, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANN	**Nandasmo**	**0.20**	**335**	P	Pn	15 39 51.6	+1.0
NANN	**Nandasmo**	**0.20**	**335**	S	Sn	15 40 09.0	+2.1
CRUN	**El Crucero**	**0.35**	**311**	P	Pn	15 39 51.6	+0.5
UNAN	**Cigeo UNAN**	**0.42**	**327**	S	Sn	15 40 09.2	+1.2
MORN	**Al O del Volca**	**0.43**	**118**	P	Pn	15 39 52.1	+0.8
MORN				S	Sn	15 40 10.9	+2.9
WILN	**Americas 2**	**0.43**	**340**	S	Sn	15 40 09.0	+1.0
CONN	**Concepcion**	**0.44**	**115**	P	Pn	15 39 52.1	+0.7
CONN				S	Sn	15 40 10.3	+2.2
MGAN	**Managua**	**0.44**	**332**	S	Sn	15 40 09.8	+1.7
OMEN	**Al SSO del Vol**	**0.47**	**121**	P	Pn	15 39 51.8	+0.3
OMEN				S	Sn	15 40 10.7	+2.4
COPN	**Copaltepe**	**0.69**	**308**	P	Pn	15 39 52.2	-0.5
CARN	**Rivas**	**0.75**	**138**	P	Pn	15 39 53.4	+0.4
CARN				S	Sn	15 40 12.3	+1.2
ACON	**Acoyapa**	**0.87**	**76**	P	Pn	15 39 53.5	-0.4
ACON	**Acoyapa**	**0.87**	**76**	S	Sn	15 40 13.6	+1.0
MOM3	**MOM3**	**0.89**	**328**	S	Sn	15 40 14.0	+1.1
CNGA	**Al SSO del Vol**	**0.98**	**319**	P	Pn	15 39 54.4	-0.4
CNGA				S	Sn	15 40 15.5	+1.2
CNGN	**Cerro Negro**	**0.99**	**319**	P	Pn	15 39 54.7	-0.1
CNGN	**Cerro Negro**	**0.99**	**319**	S	Sn	15 40 15.1	+0.8
ILCN	**San Idelfonso**	**1.05**	**322**	P	Pn	15 39 55.3	0.0
ILCN				S	Sn	15 40 16.4	+1.3
PACN	**Al O del Volca**	**1.05**	**315**	P	Pn	15 39 55.1	-0.2
PACN				S	Sn	15 40 15.9	+0.7
PLRN	**Geotermica Pol**	**1.09**	**319**	P	Pn	15 39 55.1	-0.6
PLRN				S	Sn	15 40 15.5	-0.4
MATN	**Matagalpa**	**1.17**	**5**	P	Pn	15 39 55.8	-0.7
MATN	**Matagalpa**	**1.17**	**5**	S	Sn	15 40 17.4	0.0
ELI1	**Hacienda Flor**	**1.20**	**157**	S	Sn	15 40 18.6	+1.1
ELI1	**Hacienda Flor**	**1.20**	**157**	P	Pn	15 39 57.6	+0.9
PKGN	**Cerro Pekin**	**1.29**	**315**	P	Pn	15 39 57.5	-0.1
PKGN				S	Sn	15 40 19.9	+0.8
ESPN	**Las Esperanzas**	**1.75**	**75**	P	Pn	15 40 03.4	+1.1
ESPN	**Las Esperanzas**	**1.75**	**75**	S	Sn	15 40 27.6	+0.2
JTS	**Las Juntas de**	**1.80**	**144**	P	Pn	15 40 03.1	+0.3
JTS				S	Sn	15 40 28.6	+0.1
RCVN	**Varillal2**	**1.83**	**355**	P	Pn	15 40 03.8	+0.6
OCON	**Estacion meteo**	**1.92**	**347**	P	Pn	15 40 04.4	+0.3
CNCH	**Conchagua**	**2.32**	**311**	P	Pn	15 40 08.9	+0.1
CNCH	**Conchagua**	**2.32**	**311**	S	Sn	15 40 40.9	+1.6

*FUNV **24** 15:51:46.7, 6°82N×73°11W, h161km, MW3.5*
*RSNC **24** 15:51:47.8±0.0, 7°N±1″×7°3W±″, h142km±2km, M2.7, ML2.4*
ISC 24 15:51:44.8±1.4, **6°87N**±0°04×**73°05W**±0°04, **h160**km±8km, **n24**, σ**1s48**/44, **1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.30**	**205**	P	**Pn**	**15 52 06.9**	**0.0**
BARC				S	**Sn**	**15 52 22.2**	**-1.6**
PAMC	**Pamplona, Colo**	**0.58**	**37**	P	**Pn**	**15 52 10.0**	**+1.7**
PAMC				S	**Sn**	**15 52 26.6**	**+0.3**
BRJC	**Barrancabermej**	**0.70**	**279**	P	**Pn**	**15 52 08.7**	**+0.3**
BRJC				S	**Sn**	**15 52 25.2**	**-1.2**
RUSC	**La Rusia**	**0.97**	**182**	P	**Pn**	**15 52 10.9**	**0.0**
RUSC				S	**Sn**	**15 52 29.3**	**-1.7**
CAPV	**Capacho**	**1.23**	**36** ⇓*iP*		**Pn**	**15 52 15.1**	**+2.3**
CAPV				*eS*	**Sn**	**15 52 35.5**	**+1.1**
OCAC	**Ocana**	**1.39**	**349**	P	**Pn**	**15 52 15.8**	**+1.6**
OCAC				S	**Sn**	**15 52 36.9**	**0.0**
PTBC	**PUERTO BERRIO,**	**1.43**	**257**	P	**Pn**	**15 52 13.6**	**-0.9**
PTBC				S	**Sn**	**15 52 34.4**	**-2.9**
SPBC	**San Pablo de B**	**1.58**	**220**	P	**Pn**	**15 52 15.9**	**-0.2**
SPBC				S	**Sn**	**15 52 39.7**	**-0.5**
ZARC	**Zaragoza, Cauc**	**1.90**	**289**	P	**Pn**	**15 52 20.2**	**+0.8**
ZARC				S	**Sn**	**15 52 46.1**	**0.0**
NORC	**Norcasia**	**2.23**	**234**	P	**Pn**	**15 52 23.0**	**-0.2**
NORC				S	**Sn**	**15 52 51.4**	**-1.5**
ROSC	**El Rosal**	**2.38**	**212**	P	**Pn**	**15 52 27.0**	**+1.6**
ROSC				S	**Sn**	**15 52 58.7**	**+2.0**
CVER	**Cruz Verde, Cu**	**2.54**	**204**	P	**Pn**	**15 52 29.4**	**+1.9**
CVER				S	**Sn**	**15 53 01.3**	**+0.8**
HELC	**Santa Helena**	**2.55**	**255**	P	**Pn**	**15 52 28.9**	**+1.5**
HELC				S	**Sn**	**15 52 59.1**	**-1.2**
UREC	**San Jos de Ur**	**2.61**	**290**	P	**Pn**	**15 52 28.3**	**+0.5**
PTGC	**Puerto Gaitan,**	**2.81**	**161**	P	**Pn**	**15 52 30.3**	**+0.1**
PTGC				S	**Sn**	**15 53 03.1**	**-2.3**
GUY2C	**Guyana, Caldas**	**2.82**	**235**	P	**Pn**	**15 52 31.0**	**+0.1**
GUY2C				S	**Sn**	**15 53 07.9**	**+1.4**
CBOC	**Ciudad Bolivar**	**3.11**	**251**	P	**Pn**	**15 52 36.2**	**+2.1**
CBOC				S	**Sn**	**15 53 11.9**	**-0.4**
DBBC	**Dabeiba**	**3.14**	**273**	P	**Pn**	**15 52 35.1**	**+0.7**
DBBC				S	**Sn**	**15 53 11.2**	**-1.7**
ORTC	**Ortega, Tolima**	**3.66**	**217**	P	**Pn**	**15 52 42.3**	**+1.2**
ORTC				S	**Sn**	**15 53 25.7**	**+0.8**
SJCC	**San Jacinto, C**	**3.67**	**325**	P	**Pn**	**15 52 41.4**	**+0.2**
SJCC				S	**Sn**	**15 53 22.2**	**-2.9**
URMC	**La Uribe, Meta**	**3.83**	**200**	P	**Pn**	**15 52 43.9**	**+0.6**
URMC				S	**Sn**	**15 53 27.8**	**-1.1**
BAUV	**El Baul**	**5.37**	**67**	*eP*	**Pn**	**15 53 03.8**	**+0.4**
BAUV				*eS*	**Sn**	**15 54 01.3**	**-3.5**
BENV	**Beln**	**6.21**	**60**	*eP*	**Pn**	**15 53 15.8**	**+1.4**
CACV	**CAICARA DEL OR**	**6.50**	**83**	*eP*	Pn	15 53 26.1	+7.8

*NEIC **24** 16:08:12.9±0.7, 36°102N±0°009×117°844W±0°008, h5km±2km, Error ellipse: s-maj=1.4km s-min=0.9km az=169.0*
*PAS **24** 16:08:13.5±1.0, 36°089N±0°006×117°86W±0°01, h5km±1km, ML3.7/92, ML3.5/194(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=81.0*
*IDC **24** 16:08:15.6±1.7, 36°21N×117°88W, h0km, mbtmp3.1/4, ML3.3/3, Error ellipse: s-maj=20.2km s-min=10.9km az=58.0*
ISC 24 16:08:12.9±0.8, **36°10N**±0°02×**117°86W**±0°02, **h10**km±4km, **n88**, σ**0s59**/72, **California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.02**	**9**		**Pg**	**16 08 14.9**	**0.0**
MFS					**Sg**	**16 08 16.1**	**-0.3**
WRVM	**Rose V. Centra**	**0.09**	**196**		**Pg**	**16 08 15.5**	**0.0**
WRVM					**Sg**	**16 08 17.3**	**0.0**
WCSM	**Coso Springs S**	**0.10**	**133**		**Pg**	**16 08 15.8**	**+0.2**
WCSM					**Sg**	**16 08 17.7**	**+0.1**
WVPM	**Volcano Peak E**	**0.15**	**167**		**Pg**	**16 08 16.4**	**+0.1**
WVPM					**Sg**	**16 08 18.7**	**0.0**
TOW	**Tower One**	**0.30**	**165**		**Pg**	**16 08 19.5**	**+0.7**
TOW					**Sb**	**16 08 24.7**	**-0.6**
MPMC	**Manual Prospec**	**0.30**	**97**	Pg	**Pg**	**16 08 19.1**	**+0.1**
MPMC				IAML		16 08 25.1	
	comp=N,5μm,0.6s						
MPMC				IAML		16 08 25.3	
	comp=E,6μm,0.6s						
CWC	**Cottonwood Cre**	**0.39**	**333**		**Pg**	**16 08 20.8**	**+0.2**
CWC				IAML		16 08 26.9	
	comp=N,8μm,0.2s						
CWC				IAML		16 08 27.0	
	comp=E,6μm,0.3s						
CWC	**Cottonwood Cre**	**0.39**	**333**		**Sg**	**16 08 26.6**	**+0.9**
SRTC	**Snort**	**0.41**	**167**		**Pg**	**16 08 21.7**	**+0.7**
SRTC	

comp=N,163nm,1.3s
DANC Danby, Needles 2.49 125 IAML 16 09 39.7
comp=E,233nm,0.5s
DANC IAML 16 09 45.0
comp=N,347nm,1.0s
BELC Belle Mtn. Jos 2.59 143 IAML 16 09 43.6
comp=E,159nm,1.0s
WAKR Walker 2.71 333 IAML 16 09 43.5
comp=N,124nm,1.1s
WAKR IAML 16 09 49.1
comp=E,165nm,1.1s
DNR Dunn Ranch,Anz 2.72 158 IAML 16 09 47.2
comp=N,268nm,1.1s
DNR IAML 16 09 56.3
comp=E,316nm,1.0s
PFO Pinyon Flats O 2.73 155 IAML 16 09 47.0
comp=E,114nm,1.9s
HULI Fort Hunter Li 2.74 269 IAML 16 09 42.0
comp=E,267nm,0.9s
HULI IAML 16 09 51.6
comp=N,280nm,1.1s
CMB Columbia Colle 2.80 315 IAML 16 09 43.1
comp=N,236nm,0.5s
CMB IAML 16 09 44.1
comp=E,225nm,0.6s
R11B Troy Canyon, C 2.89 38 IAML 16 09 47.1
comp=E,119nm,0.7s
SCZ Santa Cruz 2.90 281 IAML 16 09 47.0
comp=E,103nm,0.8s
NEE2 Needles Airpor 2.96 116 IAML 16 10 09.6
comp=E,176nm,0.8s
NEE2 IAML 16 10 12.8
comp=N,170nm,0.7s
BORC Borrego Spring 3.06 157 IAML 16 09 58.3
comp=E,90nm,1.7s
MTOS Mt Oso, Westle 3.12 298 IAML 16 09 55.4
comp=E,169nm,0.5s
MTOS IAML 16 09 58.7
comp=N,196nm,0.8s
WELL Weller Preserv 3.27 317 IAML 16 09 56.8
comp=E,208nm,0.4s
WELL IAML 16 09 58.0
comp=N,198nm,0.6s
W13A Hualapai Mount 3.39 106 IAML 16 10 04.3
comp=N,76nm,1.1s
W13A IAML 16 10 11.0
comp=E,76nm,1.2s
BAR Barrett 3.55 164 IAML 16 10 04.3
comp=E,65nm,0.5s
BLYC Blythe 3.60 130 IAML 16 10 20.5
comp=E,57nm,1.5s
AFDM Forest Hills D 3.77 320 IAML 16 10 52.7
comp=E,70nm,0.9s
PAHR Pah Rah Range 3.80 342 IAML 16 10 26.1
comp=E,52nm,1.5s
LCMT Little Creek M 3.83 75 IAML 16 10 17.6
comp=N,49nm,1.1s
CCUT Cedar City 3.89 67 IAML 16 10 18.7
comp=N,48nm,1.0s
CBX Cerro Bola 3.90 165 IAML 16 10 23.6
comp=N,115nm,1.2s
GLA Glamis 3.93 140 IAML 16 10 27.7
comp=E,79nm,1.2s
GLA IAML 16 10 31.8
comp=N,72nm,1.0s
SPR3 Spring Creek 3 4.03 43 IAML 16 10 24.5
comp=E,91nm,1.0s
SPR3 IAML 16 10 24.6
comp=N,87nm,1.0s
KNB Kanab 4.16 76 IAML 16 10 28.2
comp=N,49nm,1.0s
KNB IAML 16 10 35.3
comp=E,48nm,1.9s
BEKR Beckworth 4.25 333 IAML 16 10 30.9
comp=N,56nm,0.6s
ESJX Sierra Juarez 4.38 158 IAML 16 10 21.9
comp=E,52nm,0.1s
ORV Oroville 4.50 321 IAML 16 10 35.1
comp=N,57nm,0.8s
ORV IAML 16 10 38.8
comp=E,65nm,0.9s
MNRC McLaughlin Min 4.58 309 IAML 16 10 59.3
comp=N,67nm,1.7s
MNRC IAML 16 11 00.9
comp=E,56nm,1.6s
ELK Elko 5.08 23 IAML 16 10 58.2
comp=E,21nm,0.6s
ELK Elko 5.08 23 Pn **Pn** **16 09 31.4 +2.1**
comp=E,1.3nm,0.3s,baz=217,slow=11,SNR=20
ELK Pg **Pg** **16 09 47.7 -2.4**
comp=E,2.6nm,0.3s,baz=220,slow=14,SNR=28
ELK Lg Lg 16 10 51.8
comp=E,3.2nm,0.3s,baz=291,slow=22,SNR=13
comp=E,2.7nm,0.3s
WUAZ Wupatki 5.30 94 IAML 16 11 03.6
comp=E,42nm,1.6s
WUAZ IAML 16 11 11.8
comp=E,45nm,1.6s
YBH Yreka Blue Hor 6.78 328 Pn Pn 16 09 57.7 +5.2
baz=170,slow=11,SNR=1.6
YBH Sn **Sn** **16 11 09.4 -0.4**
baz=173,slow=8.5,SNR=1.8
YBH Lg Lg 16 11 44.3
baz=181,slow=15,SNR=5.7
PDAR Pinedale Array 9.25 41 Pn Pn 16 10 32.6 +6.1
comp=E,0.1nm,0.3s,baz=222,slow=10,SNR=1.5
comp=E,0.2nm,0.8s
TXAR Lajitas Array 13.71 115 Pn **P** **16 11 36.0 -0.3**
comp=E,0.8nm,1.0s,baz=309,slow=11,SNR=4.7

*NEIC **24** 16:15:41.9, 41˚.82N×112˚.39W, h7km*
*IDC **24** 16:15:41.5±0.5, 41˚.79N×112˚.42W, h0km, mb3.8/8, mbtmp3.7/15, ML3.4/7, MS3.0/7, Error ellipse: s-maj=11.0km s-min=4.8km az=150.0*
*UUSS **24** 16:15:41.9±1.2, 41˚.82N±0˚.03×112˚.39W±0˚.04, h7km±5km, ML3.9/28, mb4.1/12(NEIC), ML4.0/144(NEIC), Mwr3.8/35(NEIC), Error ellipse: s-maj=5.7km s-min=2.7km az=128.0*
*NEIC **24** 16:15:41.5±1.4, 41˚.82N±0˚.03×112˚.42W±0˚.04, h5km±1km, Error ellipse: s-maj=6.0km s-min=3.1km az=311.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; M_{rr}=4.70; $M_{\theta\theta}$=2.53; $M_{\phi\phi}$=7.23; $M_{r\theta}$=2.93; $M_{\theta\phi}$=0.19; $M_{\phi r}$=1.76; Fault plane solution: M_0=7.22000×10^14^ NP1: ϕ_s=330.22000°, δ61.74000°, λ-127.81000°. NP2: ϕ_s=208.83000°, δ45.90000°, λ-41.25000°. Principal axes: T 7.5231, Plg9.0000°, Azm86.0000°; N -0.6509, Plg33.0000°, Azm350.0000°; P -6.8722, Plg56.0000°, Azm190.0000°;*

ISC 24 16:15:42.0±0.5, 41˚.81N±0˚.02×112˚.44W±0˚.03, h6km, n114, σ1§20/91, mb3.9/7, MS3.3/3, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTU	**Portage**	**0.15**	**35**			**Sg**		**16 15 47.2**	**-0.1**
PTU	**Portage**	**0.15**	**35**			**Pg**		**16 15 45.1**	**-0.1**
HVU	**Hansel Valley**	**0.25**	**264**			**Pb**		**16 15 48.0**	**-1.1**
HVU						**Sb**		**16 15 52.5**	**-1.3**
LTU	**Little Mountai**	**0.26**	**146**			**Sg**		**16 15 51.2**	**+0.6**
LTU	**Little Mountai**	**0.26**	**146**			**Pg**		**16 15 47.1**	**-0.1**
MLI	**Malad Range**	**0.32**	**47**			**Pg**		**16 15 47.9**	**-0.5**
NPI	**North Pocatell**	**0.34**	**350**			**Pg**		**16 15 48.9**	**0.0**
WVUT	**Wellsville**	**0.41**	**119**			**Pg**		**16 15 49.7**	**-0.3**
BCUT	**Brigham City**	**0.45**	**131**			**Pg**		**16 15 50.7**	**-0.1**
BCUT						**Sg**		**16 15 56.5**	**-0.2**
HDU	**Hyde Park**	**0.50**	**90**			**Pg**		**16 15 51.2**	**-0.6**
BEI	**Bear River Ran**	**0.58**	**57**			**Pg**		**16 15 52.7**	**-0.6**
HWUT	**Hardware Ranch**	**0.68**	**107**			**Sg**		**16 16 03.5**	**-0.6**
HWUT	**Hardware Ranch**	**0.68**	**107**			**Pg**		**16 15 54.4**	**-0.8**
HWUT					IAML			16 16 06.8	
	3μm,0.7s								
HWUT					IAML			16 16 12.0	
	2μm,0.6s								
MCU	**Monte Cristo P**	**0.78**	**116**			**Pg**		**16 15 56.5**	**-0.6**
WBC	**Weber Canyon**	**0.78**	**149**			**Pg**		**16 15 56.9**	**-0.1**
RSUT	**Red Spur Mount**	**0.78**	**102**			**Pg**		**16 15 56.5**	**-0.7**
NAIU	**Northern Antel**	**0.81**	**169**			**Pg**		**16 15 57.3**	**-0.2**
FPU	**Francis Peak**	**0.90**	**150**			**Pg**		**16 15 59.2**	**-0.2**
BMUT	**Black Mountain**	**0.91**	**80**			**Pg**		**16 15 58.7**	**-0.9**
SNUT	**Stansbury Nort**	**0.92**	**183**			**Pg**		**16 15 59.7**	**-0.1**
SAIU	**Southern Antel**	**0.97**	**168**			**Pg**		**16 16 00.2**	**-0.5**
BGU	**Big Grassy Mou**	**0.99**	**207**			**Pg**		**16 16 01.0**	**0.0**
TCUT	**Toone Canyon**	**1.04**	**131**			**Pb**		**16 16 02.0**	**-0.5**
TCUT					IAML			16 16 20.6	
	comp=E,11μm,0.4s								
TCUT					IAML			16 16 23.9	
	comp=N,8μm,0.5s								
HRU	**Hogsback Ridge**	**1.10**	**158**			**Pg**		**16 16 02.5**	**-0.7**
RBU	**Red Butte Cany**	**1.13**	**155**			**Pg**		**16 16 02.9**	**-0.8**
NOQ	**North Oquirrh**	**1.18**	**168**			**Pg**		**16 16 04.2**	**-0.4**
N16A	**Rees Ranch, Co**	**1.19**	**140**			**Pb**		**16 16 04.6**	**-0.5**
L17A	**Cokeville**	**1.20**	**75**			**Pg**		**16 16 04.1**	**-1.1**
CTU	**Camp Tracy**	**1.23**	**155**			**Pg**		**16 16 04.5**	**-1.1**
CTU					IAML			16 16 22.3	
	comp=E,5μm,0.7s								
CTU					IAML			16 16 22.8	
	comp=N,2μm,0.5s								
GMU	**Granite Mounta**	**1.33**	**157**			**Pn**		**16 16 06.5**	**-0.8**
CWU	**Camp Williams**	**1.38**	**169**			**Pn**		**16 16 07.4**	**-0.7**
JLU	**Jordanelle**	**1.42**	**148**			**Pn**		**16 16 07.8**	**-0.8**
JLU					IAML			16 16 28.0	
	comp=E,2μm,0.8s								
JLU					IAML			16 16 28.3	
	comp=N,2μm,0.7s								
DUG	**Dugway, Tooele**	**1.64**	**190**			**Pn**		**16 16 10.9**	**-0.6**
DUG					IAML			16 16 39.1	
	comp=N,1μm,1.3s								
DUG					IAML			16 16 39.9	
	comp=N,1μm,0.8s								
WMUT	**West Mountain**	**1.79**	**165**			**Pn**		**16 16 13.5**	**-0.1**
BSUT	**Blindstream Ca**	**1.79**	**135**			**Pn**		**16 16 13.8**	**-0.1**
BSUT					IAML			16 16 39.1	
	comp=E,2μm,0.5s								
BSUT					IAML			16 16 40.2	
	comp=N,1μm,1.0s								
NLU	**North Lily Min**	**1.87**	**171**			**Pn**		**16 16 14.6**	**-0.2**
MPU	**Maple Canyon**	**1.89**	**161**			**Pn**		**16 16 14.8**	**-0.3**
TPAW	**Teton Pass**	**2.01**	**33**			**Pn**		**16 16 16.6**	**-0.2**
TPAW					IAML			16 16 48.8	
	comp=N,1μm,0.6s								
TPAW					IAML			16 16 52.0	
	comp=N,699nm,0.7s								
SNOW	**Snow King Moun**	**2.07**	**36**			**Pn**		**16 16 17.2**	**-0.4**
SNOW					IAML			16 16 52.1	
	comp=N,647nm,1.4s								
FSU	**Fish Springs**	**2.20**	**199**			**Pn**		**16 16 19.5**	**+0.2**
LOHW	**Long Hollow**	**2.25**	**36**			**Pn**		**16 16 19.7**	**-0.4**
LOHW					IAML			16 16 53.5	
	comp=N,524nm,0.7s								
LOHW					IAML			16 16 56.7	
	comp=N,393nm,1.1s								
HLID	**Hailey**	**2.28**	**321**			**Pn**		**16 16 21.3**	**+0.9**
HLID					IAML			16 16 57.7	
	comp=N,392nm,0.9s								
HLID					IAML			16 17 02.5	
	comp=N,349nm,0.8s								
PD31	**Pinedale Array**	**2.34**	**65**			**Pn**		**16 16 21.3**	**0.0**
PDAR	**Pinedale Array**	**2.34**	**65**			**Pn**		**16 16 21.6**	**+0.3**
PDAR	**Pinedale Array**	**2.34**	**65**	Pn		**Pn**		**16 16 22.0**	**+0.7**
	comp=N,67nm,0.3s,baz=222,slow=13,SNR=1060								
PDAR						Lg	Lg	16 16 55.3	
	comp=N,83nm,0.3s,baz=234,slow=28,SNR=12								
PDAR						LR	LR	16 17 23.9	
	comp=N,269nm,21.7s,baz=208,slow=44								
LEVU	**Levan**	**2.35**	**168**			**Pn**		**16 16 21.3**	**0.0**
ELK	**Elko**	**2.36**	**244**			**Pn**		**16 16 21.8**	**+0.2**
ELK					IAML			16 16 57.5	
	comp=N,700nm,0.4s								
ELK	**Elko**	**2.36**	**244**	Pn		**Pn**		**16 16 22.0**	**+0.4**
	comp=N,26nm,0.3s,baz=60,slow=11,SNR=146								
ELK						Lg	Lg	16 16 55.4	
	comp=N,163nm,0.3s,baz=170,slow=19,SNR=20								
	comp=N,77nm,0.3s								
SNO	**Snow College**	**2.58**	**164**			**Pn**		**16 16 25.4**	**+0.7**
P17A	**Butcher Ranch,**	**2.67**	**150**			**Pn**		**16 16 26.0**	**+0.4**
P17A					IAML			16 17 08.4	
	comp=N,315nm,0.5s								
TMUT	**Trail Mountain**	**2.68**	**159**			**Pn**		**16 16 25.4**	**-0.6**
TMUT					IAML			16 17 14.1	
	comp=E,345nm,0.5s								
TMUT					IAML			16 17 20.4	
	comp=N,396nm,0.8s								
BCE	**Book Cliffs Ea**	**2.68**	**144**			**Pn**		**16 16 27.3**	**+1.3**
YPP	**Pitchstone Pla**	**2.74**	**25**			**Pn**		**16 16 26.3**	**-0.5**
P18A	**Preston Nutter**	**2.74**	**142**			**Pn**		**16 16 28.4**	**+1.5**
P18A					IAML			16 17 16.6	
	comp=N,392nm,0.6s								
P18A					IAML			16 17 22.9	
	comp=E,487nm,0.8s								
MFID	**Camas Ranch**	**2.97**	**304**			**Pn**		**16 16 30.3**	**+0.4**
MFID					IAML			16 17 17.1	
	comp=E,475nm,1.1s								
MFID					IAML			16 17 20.4	
	comp=E,548nm,0.6s								
MCMT	**McKenzie Canyo**	**3.04**	**354**			**Pn**		**16 16 31.1**	**+0.3**
Q16A	**Castle Valley**	**3.04**	**161**		IAML			16 17 20.1	
	comp=E,188nm,0.6s								
YMR	**Madison River**	**3.06**	**20**		IAML			16 17 27.8	
	comp=N,689nm,0.9s								
YMR					IAML			16 17 33.1	
	comp=E,372nm,1.0s								
SRU	**San Rafael Swe**	**3.06**	**151**		IAML			16 17 19.6	
	comp=E,366nm,0.7s								
SRU					IAML			16 17 36.1	
	comp=N,223nm,0.7s								
YHB	**Horse Butte**	**3.08**	**17**		IAML			16 17 30.1	
	comp=N,188nm,0.7s								
YHL	**Hebgen Lake**	**3.18**	**16**			**Pn**		**16 16 32.3**	**-0.6**
YHL					IAML			16 17 25.1	
	comp=E,198nm,0.9s								
YNM	**Yellowstone No**	**3.18**	**23**		IAML			16 16 55.9	
	comp=E,168nm,0.4s								
YNM					IAML			16 16 55.9	
	comp=N,241nm,0.6s								
YHH	**Holmes Hill**	**3.20**	**21**			**Pn**		**16 16 32.2**	**-0.9**
DLMT	**Dillon**	**3.56**	**358**	Pn		**Pn**		**16 16 37.6**	**-0.3**
DLMT					IAML			16 17 39.3	
	comp=N,151nm,0.9s								
DLMT					IAML			16 17 39.8	
	comp=N,146nm,1.4s								
BOZ	**Bozeman (W)**	**3.83**	**9**		IAML			16 17 50.0	
	comp=N,105nm,1.5s								
HMU	**Henry Mountain**	**4.08**	**161**		IAML			16 17 58.2	
	comp=N,382nm,0.9s								
HMU					IAML			16 18 28.4	
	comp=E,319nm,0.9s								
R11B	**Troy Canyon, C**	**4.21**	**216**		IAML			16 17 59.0	
	comp=E,168nm,0.5s								
R11B					IAML			16 17 59.6	
	comp=N,146nm,0.4s								
SZCU	**Shurtz Canyon**	**4.24**	**187**		IAML			16 18 04.7	
	comp=N,67nm,0.8s								
PV22	**Blue Mesa, Par**	**4.30**	**138**		IAML			16 18 03.8	
	comp=E,494nm,0.8s								
PV19	**Morning Glory**	**4.38**	**142**		IAML			16 18 06.4	
	comp=E,431nm,1.0s								
PV17	**East Wray Mesa**	**4.42**	**142**		IAML			16 18 04.8	
	comp=E,261nm,1.3s								
PV17					IAML			16 18 10.8	
	comp=N,329nm,1.1s								
PV07	**Paradox Valley**	**4.45**	**138**		IAML			16 18 03.6	
	comp=N,347nm,0.8s								
PV07					IAML			16 18 08.2	
	comp=E,403nm,0.8s								
K22A	**Casper**	**4.47**	**77**		IAML			16 18 04.5	
	comp=E,252nm,0.5s								
K22A					IAML			16 18 09.0	
	comp=E,278nm,0.6s								
PV03	**Paradox Valley**	**4.49**	**141**		IAML			16 18 05.1	
	comp=N,366nm,0.9s								
PV13	**Radium Mtn., P**	**4.58**	**141**		IAML			16 18 20.8	
	comp=N,423nm,1.0s								
WVOR	**Wild Horse Val**	**4.65**	**280**		IAML			16 18 07.4	
	comp=N,243nm,0.9s								
WVOR					IAML			16 18 11.5	
	comp=N,129nm,0.6s								
BMO	**Blue Mountains**	**4.68**	**312**		IAML			16 18 18.1	
	comp=N,57nm,2.0s								
J08A	**Circle Bar Ran**	**4.72**	**291**		IAML			16 18 17.1	
	comp=N,300nm,1.0s								
J08A					IAML			16 18 27.4	
	comp=E,235nm,0.9s								
LCMT	**Little Creek M**	**4.83**	**188**		IAML			16 18 18.2	
	comp=E,49nm,1.0s								
PRN	**Pahroc Range**	**4.83**	**206**		IAML			16 18 21.5	
	comp=N,159nm,0.5s								
PRN					IAML			16 18 33.6	
	comp=E,213nm,0.7s								
S11A	**Rachel**	**4.88**	**213**		IAML			16 18 28.1	
	comp=N,299nm,0.8s								
S11A					IAML			16 18 28.4	
	comp=E,304nm,1.2s								
MSO	**Missoula 5.14 348**				IAML			16 18 32.5	
	comp=E,57nm,1.0s								
MSO					IAML			16 18 34.8	
	comp=E,45nm,0.9s								
NVAR	**Mina Array Bea 5.62 235**			Pn		**Pn**		**16 17 07.9**	**+1.5**
	comp=E,2.0nm,0.3s,baz=49,slow=11,SNR=29								
NVAR				Pg		**Pg**		**16 17 25.6**	**-4.1**
	comp=E,7.8nm,0.3s,baz=46,slow=19,SNR=41								
NVAR				Sn		**Sn**		**16 18 13.6**	**+2.3**
	comp=E,12nm,0.3s,baz=120,slow=26,SNR=7.0								
NVAR				Lg		Lg		16 18 39.6	
	comp=E,17nm,0.3s,baz=48,slow=28,SNR=3.3								
NVAR				LR		LR		16 19 16.5	
	comp=E,54nm,20.4s,baz=310,slow=39								
	comp=E,5.0nm,0.6s								
NEW	**Newport 7.26 334**			Pn		**Pn**		**16 17 28.6**	**0.0**
	comp=E,0.3nm,0.3s,baz=146,slow=18,SNR=3.8								
NEW				Lg		Lg		16 19 29.7	
	comp=E,0.8nm,0.3s,baz=74,slow=18,SNR=6.3								
	comp=E,1.2nm,0.3s								
YBH	**Yreka Blue Hor 7.68 273**			Pn		**Pn**		**16 17 34.9**	**+0.4**
	baz=152,slow=11,SNR=1.8								
YBH				Pg		**Pb**		**16 17 54.3**	**-1.3**
	baz=68,slow=6.4,SNR=5.4								
YBH				LR		LR		16 20 44.7	
	comp=E,12nm,18.3s,baz=81,slow=39								
ANMO	**Albuquerque 8.30 144**			Pn		**Pn**		**16 17 43.1**	**0.0**
	comp=E,0.1nm,0.3s,baz=267,slow=10,SNR=1.6								
ANMO				Pg		Pg		16 18 13.5	-7.5
	comp=E,0.4nm,0.3s,baz=62,slow=10,SNR=5.1								
ANMO				Lg		Lg		16 19 54.5	
	comp=E,0.9nm,0.3s,baz=336,slow=19,SNR=7.7								
ANMO				LR		LR		16 21 13.3	
	comp=E,59nm,21.6s,baz=56,slow=40								
	comp=E,0.7nm,0.4s								
PFO	**Pinyon Flats O 8.78 203**			Pn		**Pn**		**16 17 50.5**	**+0.9**
	comp=E,0.3nm,0.3s,baz=0.0,slow=8.1,SNR=1.5								
PFO				Lg		Lg		16 20 20.2	
	comp=E,0.2nm,0.3s,baz=80,slow=12,SNR=3.9								
	comp=E,1.4nm,0.5s								
ULM	**Lac du Bonnet 14.25 48**			Pn		**Pn**		**16 19 01.6**	**-2.6**
	comp=E,1.0nm,0.3s,baz=231,slow=12,SNR=10.0								
ULM				Lg		Lg		16 23 04.3	
	comp=E,0.1nm,0.3s,baz=219,slow=14,SNR=1.9								
	comp=E,3.7nm,0.5s								
TXAR	**Lajitas Array 14.34 147**			Pn		**Pn**		**16 19 06.6**	**+1.0**
	baz=334,slow=8.3,SNR=4.4								
TXAR				Lg		Lg		16 23 10.0	
	baz=357,slow=17,SNR=2.2								
	comp=E,0.4nm,0.9s								
I40A	**Norwalk 16.13 75**			Pn		**Pn**		**16 19 26.8**	**-2.5**
I40A				IAmb		IAmb		16 20 08.2	
	comp=Z,20nm,1.1s								
FVM	**French Village 17.31 95**			Pn		**Pn**		**16 19 42.9**	**-1.4**
I42A	**Draeger Farm, 17.37 75**					**Pn**		**16 19 39.4**	**-5.6**
I42A				IAmb		IAmb		16 19 42.7	
	comp=Z,20nm,0.8s								
P43A	**Skaggs, Pawnee 17.50 89**			Pn		**Pn**		**16 19 45.5**	**-1.1**
P43A				IAmb		IAmb		16 20 11.9	
	comp=Z,8.0nm,0.7s								
LCAR	**Lake Charles 17.50 102**					**Pn**		**16 19 46.5**	**-0.2**
PBMO	**Poplar Bluff 17.75 99**			Pn		**Pn**		**16 19 47.2**	**-2.4**
PBMO				IAmb		IAmb		16 20 01.4	
	comp=Z,5.6nm,0.7s								
H43A	**Windswept, Lux 18.18 73**					**Pn**		**16 19 53.6**	**-1.4**
H43A				IAmb		IAmb		16 20 06.2	
	comp=Z,17nm,0.9s								
S44A	**Carbondale 18.28 95**					**Pn**		**16 19 54.9**	**-1.4**
S44A				IAmb		IAmb		16 20 01.4	
	comp=Z,14nm,0.6s								
SIUC	**Southern Illin 18.30 95**			P		**Pn**		**16 19 55.8**	**-0.7**
T35M	**Bob Quinn 19.01 329**					Pn		16 20 13.0	+8.0
USIN	**University of 19.37 93**			P		**P**		**16 20 07.4**	**-1.0**
YKA	**Yellowknife Ar 20.76 357**			P		Pn		16 20 25.4	-0.2
	comp=Z,1.8nm,0.8s,baz=177,slow=11,SNR=4.5								
	comp=Z,1.8nm,0.8s								
TKL	**Tuckaleechee C 23.12 96**			LR		LR		16 30 38.8	
	comp=Z,82nm,21.7s,baz=218,slow=39								
ILAR	**Eielson Array 30.20 331**			P		**P**		**16 21 53.6**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=130,slow=8.4,SNR=4.3								
	comp=Z,0.7nm,1.0s								
NOA	**NORSAR Array B 67.76 26**			LR		LR		16 56 13.0	
	comp=Z,16nm,18.0s,baz=270,slow=36								
HFS	**Hagfors 69.25 26**			P		**P**		**16 26 51.5**	**+2.0**
	comp=Z,1.1nm,0.7s,baz=357,slow=2.9,SNR=1.8								
	comp=Z,1.1nm,0.7s								
FINES	**FINESS Array B 71.74 20**			P		**P**		**16 27 07.0**	**+2.4**
	comp=Z,0.9nm,0.6s,baz=18,slow=6.6,SNR=6.1								
	comp=Z,0.9nm,0.6s								
ESDC	**Sonseca Array 76.14 49**			P		**P**		**16 27 31.3**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=305,slow=6.1,SNR=2.3								
	comp=Z,0.6nm,0.8s								
VRAC	**Vranov 78.81 31**			LR		LR		17 06 33.1	
	comp=Z,59nm,18.1s,baz=305,slow=39								
BVAR	**Borovoye Array 85.51 358**			P		**P**		**16 28 22.7**	**+2.1**
	comp=Z,0.4nm,0.5s,baz=345,slow=3.4,SNR=2.2								
	comp=Z,0.4nm,0.5s								
MKAR	**Makanchi Array 90.81 350**			P		**P**		**16 28 47.0**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=26,slow=3.7,SNR=2.7								
	comp=Z,0.3nm,0.7s								
BRTR	**Keskin Array B 93.19 26**			P		**P**		**16 28 58.0**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=318,slow=6.2,SNR=2.4								
	comp=Z,0.4nm,0.4s								
WRA	**Warramunga Arr 120.17 270**			PKP		**PKPdf**		**16 34 33.7**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=43,slow=1.5,SNR=1.4								
ASAR	**Alice Springs 122.69 266**			PKP		**PKiKP**		**16 34 38.7**	**-0.4**
	comp=Z,0.3nm,1.0s,baz=48,slow=3.1,SNR=5.0								
SNAA	**Sanae 135.18 155**			PKP		**PKPdf**		**16 34 59.7**	**-1.6**
	comp=Z,0.6nm,0.9s,baz=351,slow=4.4,SNR=1.6								

*NNC **24** 16:24:00.5±0.6, 43˚.00N×78˚.28E, h0km, mpv2.7, Error ellipse: s-maj=6.2km s-min=2.5km az=171.0*
*SOME **24** 16:24:01.6, 43˚.05N×78˚.27E, h15km*
*KRNET **24** 16:24:02.5±0.1, 43˚.03N×78˚.13E, h15km, mb2.4*

ISC 24 16:24:02.0±0.8, 43˚.02N±0˚.03×78˚.25E±0˚.02, h10km, n22, σ1§61/42, 8C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.12**	**71**			P	**Pg**	**16 24 03.5**	**-1.5**
	32nm,0.1s								
SATY						S	**Sg**	**16 24 05.3**	**-1.8**
	559nm,0.1s								
KURS	**Kuram**	**0.47**	**353**			P	**Pg**	**16 24 10.1**	**-1.1**
	1.2nm,0.1s								
KURS						S	**Sg**	**16 24 16.5**	**-0.9**
	3.0nm,0.2s								
KPKS	**Kokpek**	**0.55**	**35**			P	**Pg**	**16 24 11.0**	**-1.7**
	0.2nm,0.1s								
KPKS						S	**Sg**	**16 24 18.0**	**-1.8**
	18nm,0.2s								
PRZ	**Przheval'sk**	**0.55**	**168**	⇑*eP*			**Pb**	**16 24 13.4**	**-0.4**
PRZ				⇑*eS*			**Sb**	**16 24 21.1**	**-0.6**
UZB	**Uzunbulak**	**0.58**	**77**	P		P	**Pg**	**16 24 11.3**	**-2.0**
	9.2nm,0.1s								
UZB						S	**Sg**	**16 24 18.4**	**-2.5**
UZB	**Uzunbulak**	**0.58**	**77**	*eP*		P	**Pg**	**16 24 11.3**	**-2.0**
	10nm,0.1s								
UZB				*eS*			**Sg**	**16 24 18.4**	**-2.5**
	14nm,0.1s								
KOTS

TNSS				*e*S		**Sg**	**16 24 31.9**	**-1.0**
	3.3nm,0.2s								
KDJ	**Kajisay**	**1.19**	**222**⇑	*e*P		**Pb**	**16 24 24.0**	**-0.7**
KDJ			⇑	*e*S		**Sb**	**16 24 39.7**	**-0.5**
KTBS	**Karatobe**	**1.34**	**302**	P		**Pb**	**16 24 26.2**	**-1.0**
	3.1nm,0.2s								
KTBS				S		**Sg**	**16 24 44.0**	**-1.0**
	12nm,0.3s								
KNOS	**Konyrlen**	**1.50**	**26**	P		**Pg**	**16 24 29.8**	**-0.9**
	1.5nm,0.2s								
KNOS				S		**Sg**	**16 24 50.4**	**+0.2**
	15nm,0.2s								
ULHL	**Ulahol**	**1.67**	**243**⇑	*e*P		**Pb**	**16 24 32.2**	**-0.8**
ULHL			⇑	*e*S		**Sb**	**16 24 53.9**	**-0.3**
KST	**Kastek**	**1.68**	**272**	P		**Pg**	**16 24 32.9**	**-1.2**
	0.9nm,0.2s								
KST				S		**Sg**	**16 24 55.6**	**-0.3**
	2.6nm,0.5s								
KST	**Kastek**	**1.68**	**272**	*e*P		**Pb**	**16 24 32.6**	**-0.4**
	0.4nm,0.1s								
KST				*e*S		**Sg**	**16 24 55.0**	**-0.9**
	1.5nm,0.1s								
BOOM	**Boomskoye usch**	**1.78**	**254**⇑	*e*P		**Pb**	**16 24 33.9**	**-0.9**
BOOM			⇑	*e*S		**Sb**	**16 24 56.9**	**-0.4**
TKM2	**Tokmak 2**	**1.95**	**268**⇓	*e*P		**Pb**	**16 24 36.9**	**-0.8**
TKM2			⇓	*e*S		**Sb**	**16 25 01.9**	**-0.3**
KRBS	**Karabastau**	**2.00**	**291**	Pg		**Pb**	**16 24 37.7**	**-0.7**
	1.2nm,0.2s								
KRBS				Lg		Lg	16 25 03.8		
	1.4nm,0.3s								

IDC ***24*** *16:45:37.9±2.1, 65°.08S×179°.27E, h0km, mb3.9/3, mbtmp3.8/4, ML2.8/1, MS3.4/13, Error ellipse: s-maj=77.1km s-min=27.6km az=69.0*

NEIC ***24*** *16:45:39.7±1.6, 65°.28S±0°.07×178°.7E±0°.4, h10km±2km, mb4.0/5, Error ellipse: s-maj=31.9km s-min=8.0km az=106.0*

ISC 24 16:45:39.6±1.5, 65°.2S±0°.1×178°.8E±0°.3, h10km, n31, σ1s09/14, mb4.0/5, MS3.4/12, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**13.21**	**191**		**Pn**	**16 48 45.6**	**-1.2**
VNDA	**Vanda**	**13.40**	**196**	Pn	**Pn**	**16 48 49.5**	**0.0**
VNDA	**Vanda**	**13.40**	**196**	Pn	**Pn**	**16 48 49.7**	**+0.3**
	baz=47,slow=17,SNR=11						
VNDA				LR	LR	16 53 07.2	
	comp=Z,49nm,18.6s,baz=12,slow=33						
	1.1nm,0.7s						
QSPA	**South Pole Qui**	**24.88**	**180**	P	**P**	**16 51 02.4**	**+0.2**
QSPA				IAmb	IAmb	16 51 11.1	
	comp=Z,7.3nm,1.2s						
QSPA	**South Pole Qui**	**24.88**	**180**	P	**P**	**16 51 04.1**	**+1.9**
	comp=Z,2.5nm,1.1s,baz=23,slow=5.4,SNR=4.0						
QSPA				LR	LR	16 59 58.8	
	comp=Z,150nm,18.9s,baz=55,slow=34						
	comp=Z,2.5nm,1.1s						
URZ	**Urewera**	**27.01**	**357**	LR	LR	17 00 30.8	
	comp=Z,65nm,20.2s,baz=118,slow=33						
BELA	**Belgrano 2**	**35.72**	**168**	P	**P**	**16 52 37.0**	**-0.7**
BELA				IAmb	IAmb	16 53 16.1	
	comp=Z,4.7nm,1.5s						
MAW	**Mawson**	**39.93**	**212**	LR	LR	17 09 19.5	
	comp=Z,51nm,19.6s,baz=112,slow=35						
STKA	**Stephens Creek**	**40.34**	**307**	LR	LR	17 06 44.1	
	comp=Z,40nm,21.9s,baz=102,slow=31						
PMSA	**Palmer Station**	**42.53**	**146**	LR	LR	17 07 59.7	
	comp=Z,44nm,21.1s,baz=158,slow=32						
SNAA	**Sanae**	**43.38**	**179**	LR	LR	17 10 59.8	
	comp=Z,77nm,18.8s,baz=236,slow=35						
NWAO	**Narrogin (SRO)**	**48.75**	**280**	LR	LR	17 11 27.3	
	comp=Z,86nm,18.3s,baz=209,slow=32						
AS31	**Alice Springs**	**50.53**	**303**	P	**P**	**16 54 38.1**	**+0.3**
AS31				IAmb	IAmb	16 54 40.8	
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**50.53**	**303**	P	**P**	**16 54 36.9**	**-0.9**
ASAR	**Alice Springs**	**50.53**	**303**	P	**P**	**16 54 38.6**	**+0.8**
	comp=Z,1.5nm,0.9s,baz=158,slow=6.8,SNR=14						
	comp=Z,1.5nm,0.9s						
WRA	**Warramunga Arr**	**53.81**	**305**	P	**P**	**16 55 01.1**	**-1.2**
WRA	**Warramunga Arr**	**53.81**	**305**	P	**P**	**16 55 02.5**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=154,slow=6.6,SNR=7.1						
	comp=Z,1.6nm,0.9s						
PSA00	**Pilbara Seismi**	**57.74**	**289**	P	**P**	**16 55 30.1**	**-0.3**
PLCA	**Paso Flores**	**61.54**	**126**	LR	LR	17 16 08.6	
	comp=Z,44nm,18.3s,baz=236,slow=30						
H03S2	**Juan Fernandez**	**64.66**	**116**	T	T	18 06 52.7	
	baz=205,slow=74,SNR=6.8						
H03S1	**Juan Fernandez**	**64.66**	**116**	T	T	18 06 55.2	
	baz=205,slow=74,SNR=7.6						
H03S3	**Juan Fernandez**	**64.67**	**116**	T	T	18 06 54.5	
	baz=205,slow=74,SNR=6.6						
H03N3	**Juan Fernandez**	**65.00**	**116**	T	T	18 07 16.2	
	baz=220,slow=74						
H03N2	**Juan Fernandez**	**65.00**	**116**	T	T	18 07 12.7	
	baz=220,slow=74						
H03N1	**Juan Fernandez**	**65.01**	**116**	T	T	18 07 17.3	
	baz=220						
KAPI	**Kappang**	**72.86**	**297**	LR	LR	17 27 39.5	
	comp=Z,12nm,18.1s,baz=75,slow=35						
DAV	**Davao City (W)**	**81.98**	**307**	LR	LR	17 34 57.6	
	comp=Z,14nm,18.6s,baz=135,slow=36						
BOSA	**Boshof**	**84.26**	**203**	LR	LR	17 35 12.5	
	comp=Z,20nm,18.1s,baz=42,slow=35						
MATP	**Matopo**	**91.66**	**208**	LR	LR	17 38 28.5	
	comp=Z,32nm,18.5s,baz=215,slow=34						
ILAR	**Eielson Array**	**132.06**	**19**	PKP	**PKPdf**	**17 04 50.8**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=207,slow=5.0,SNR=4.4						
BRTR	**Keskin Array B**	**147.58**	**235**	PKPbc	**PKPdf**	**17 05 22.5**	**+1.9**
	comp=Z,1.1nm,1.0s,baz=146,slow=2.4,SNR=5.4						

NEIC ***24*** *16:48:14.5±0.9, 23°.91N±0°.05×122°.25E±0°.07, h15km±5km, mb4.5/30, Error ellipse: s-maj=9.2km s-min=6.4km az=115.0*

NIED ***24*** *16:48:15.6, 23°.90N×122°.24E, h22km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr0.54; Mθθ-1.01; Mφφ0.46; Mrθ1.06; Mθφ0.00; Mφr0.73; Fault plane solution: M₀1.55000×10¹⁵ NP1: φs305.00000°, δ27.00000°, λ153.00000°. NP2: φs59.00000°, δ78.00000°, λ65.00000°.*

JMA ***24*** *16:48:15.6±0.2, 23°.9N±0°.7×122°.2E±0°.4, h22km±3km, MV3.8/13, TAIWAN REGION*

TAP ***24*** *16:48:16.1, 23°.98N×122°.25E, h22km, ML4.2, B*

IDC ***24*** *16:48:19.0±3.4, 24°.12N×122°.39E, h52km±34km, mb3.7/17, mbtmp4.0/19, ML3.5/2, MS3.5/15, Error ellipse: s-maj=25.3km s-min=14.0km az=68.0*

ISC 24 16:48:15.7±0.8, 23°.94N±0°.02×122°.27E±0°.02, h25km±6km, n252, σ0s90/376, mb4.2/31, MS3.6/11, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.19**	**14**	*i* P	**Pb**	**16 48 20.6**	**-0.3**
EOS4				*i* S	**Sb**	**16 48 24.2**	**-0.2**
EOS3	**EOS3**	**0.35**	**8**	*i* P	**Pb**	**16 48 23.4**	**0.0**
EOS3				*i* S	**Sb**	**16 48 29.1**	**+0.4**
EOS2	**EOS2**	**0.48**	**356**	*i* P	**Pb**	**16 48 25.9**	**+0.3**
EOS2				*i* S	**Sn**	**16 48 32.9**	**-1.5**
EHP	**Heping Village**	**0.61**	**308**	*e*P	**Pb**	**16 48 27.7**	**0.0**
EHP				*e*S	**Sn**	**16 48 37.6**	**-0.2**
HWA	**Hwalien**	**0.61**	**274**	*e*P	**Pb**	**16 48 28.1**	**+0.3**
HWA				*e*S	**Sb**	**16 48 36.7**	**+0.8**
TEYL	**Yanliau Villag**	**0.62**	**264**	*e*P	**Pb**	**16 48 27.9**	**0.0**
TEYL				*e*S	**Sb**	**16 48 36.6**	**+0.4**
EAHA	**Aohua**	**0.62**	**309**	*e*P	**Pb**	**16 48 27.8**	**-0.2**
EAHA				*e*S	**Sn**	**16 48 37.3**	**-0.7**
ETL	**Fush Village**	**0.63**	**291**	*e*P	**Pb**	**16 48 28.3**	**+0.2**
ETL				*e*S	**Sn**	**16 48 37.7**	**-0.7**
TWD	**Chiawan**	**0.63**	**283**	*i* P	**Pb**	**16 48 27.6**	**-0.5**
TWD				*i* S	**Sb**	**16 48 36.5**	**-0.1**
NACB	**Ninganchiao**	**0.66**	**291**		**Pb**	**16 48 27.2**	**-1.4**
NACB	**Ninganchiao**	**0.66**	**291**	P	**Pb**	**16 48 27.5**	**-1.1**
NACB	**Ninganchiao**	**0.66**	**291**	P	**Pb**	**16 48 28.1**	**-0.5**
NACB				*e*S	**Sb**	**16 48 37.6**	**+0.2**
SHUL	**Shoufeng**	**0.66**	**257**	P	**Pb**	**16 48 28.7**	**0.0**
SHUL				S	**Sb**	**16 48 37.8**	**+0.3**
EWUT	**Wuta**	**0.67**	**319**	*e*P	**Pb**	**16 48 27.9**	**-0.9**
EWUT				*e*S	**Sn**	**16 48 38.1**	**-1.3**
ENA	**Nanau**	**0.68**	**315**	*e*P	**Pb**	**16 48 28.2**	**-0.9**
TEGC	**Jichi Village**	**0.70**	**251**	P	**Pb**	**16 48 29.3**	**-0.1**
TEGC				S	**Sb**	**16 48 39.4**	**+0.7**
ETM	**Tongmen**	**0.71**	**272**	*i* P	**Pb**	**16 48 28.8**	**-0.7**
ETM				*e*S	**Sb**	**16 48 38.4**	**-0.4**
ESAO	**Su ao**	**0.74**	**329**	*e*P	**Pb**	**16 48 29.0**	**-1.1**
ESAO				*e*S	**Sb**	**16 48 39.6**	**-0.2**
ETLH	**Xiulin Townshi**	**0.77**	**291**	P	**Pb**	**16 48 30.1**	**-0.4**
ETLH				S	**Sb**	**16 48 40.9**	**+0.3**
TWC	**Suao**	**0.77**	**330**	*i* P	**Pb**	**16 48 29.3**	**-1.2**
TWC				*e*S	**Sb**	**16 48 39.6**	**-0.9**
ESL	**Shilin**	**0.77**	**261**	P	**Pb**	**16 48 29.6**	**-1.0**
ESL				*e*S	**Sb**	**16 48 40.2**	**-0.5**
JYNG	**Yonagunijimaku**	**0.80**	**50**	*e*P	**Pb**	**16 48 30.9**	**-0.1**
JYNG				*e*S	**Sb**	**16 48 42.0**	**+0.5**
EGFH	**Guangfu**	**0.81**	**251**	*e*P	**Pb**	**16 48 30.5**	**-0.7**
EGFH				*e*S	**Sb**	**16 48 41.6**	**-0.3**
WARBT	**Fenglin Townsh**	**0.84**	**255**	*e*P	**Pb**	**16 48 30.6**	**-1.1**
WARBT				*e*S	**Sb**	**16 48 41.8**	**-0.7**
NDS	**Dongshan**	**0.85**	**324**	*e*P	**Pb**	**16 48 31.4**	**-0.6**
NDS				*e*S	**Sn**	**16 48 43.8**	**-0.1**
YOJ	**Yonaguni jima**	**0.86**	**52**		**Pb**	**16 48 31.5**	**-0.5**
YOJ	**Yonaguni jima**	**0.86**	**52**	P	**Pn**	**16 48 32.5**	**+0.3**
YOJ	**Yonaguni jima**	**0.86**	**52**	S	**Sn**	**16 48 45.2**	**+1.3**
YOJ	**Yonaguni jima**	**0.86**	**52**	*e*P	**Pn**	**16 48 32.4**	**+0.3**
YOJ				*e*S	**Sn**	**16 48 44.6**	**+0.7**
YOJ	**Yonaguni jima**	**0.86**	**52**	*e*P	**Pn**	**16 48 32.7**	**+0.5**
YOJ				*e*S	**Sn**	**16 48 44.7**	**+0.8**
HGSD	**Ruisui**	**0.89**	**240**	*e*P	**Pb**	**16 48 31.9**	**-0.7**
HGSD				*e*S	**Sb**	**16 48 44.0**	**-0.1**
LATG	**Datong**	**0.90**	**311**	*e*P	**Pb**	**16 48 32.3**	**-0.5**
LATG				*e*S	**Sn**	**16 48 46.0**	**+0.8**
WHF	**Hehuan Shan**	**0.94**	**283**	*e*P	**Pb**	**16 48 32.7**	**-0.9**
WHF				*e*S	**Sb**	**16 48 46.0**	**+0.2**
NNSB	**Datong**	**0.94**	**301**	*i* P	**Pb**	**16 48 33.0**	**-0.5**
NNSB				S	**Sn**	**16 48 46.2**	**-0.7**
ENTT	**Nioudou**	**0.95**	**318**	*e*P	**Pb**	**16 48 33.1**	**-0.4**
ENTT				*e*S	**Sn**	**16 48 46.0**	**-0.2**
ILA	**Ilan**	**0.95**	**330**	*e*P	**Pn**	**16 48 33.5**	**+0.1**
EGS		**0.95**	**341**	*e*P	**Pn**	**16 48 33.5**	**0.0**
EGS				*e*S	**Sn**	**16 48 46.2**	**-0.1**
TWE	**Neicheng**	**0.95**	**325**	*e*P	**Pb**	**16 48 32.9**	**-0.7**
TWE				*e*S	**Sn**	**16 48 45.6**	**-0.7**
EHYH	**Wanrong**	**0.95**	**243**	*e*P	**Pb**	**16 48 33.2**	**-0.4**
EHYH				*e*S	**Sb**	**16 48 46.0**	**+0.2**
NNS	**Nan Shan**	**0.96**	**302**	*i* P	**Pb**	**16 48 33.1**	**-0.7**
NNS				S	**Sn**	**16 48 46.1**	**-0.5**
EHY	**Hungye**	**0.97**	**244**	*e*P	**Pb**	**16 48 33.0**	**-0.9**
EHY				*e*S	**Sb**	**16 48 45.6**	**-0.6**
ECBN	**Changbin**	**0.97**	**231**	P	**Pb**	**16 48 33.2**	**-0.7**
ECBN				S	**Sb**	**16 48 45.8**	**-0.6**
FUSS	**Fushou**	**0.98**	**288**	P	**Pb**	**16 48 33.9**	**-0.4**
FUSS				S	**Sb**	**16 48 46.9**	**-0.2**
OWD	**Renai**	**1.00**	**271**	*e*P	**Pb**	**16 48 33.6**	**-0.8**
OWD				*e*S	**Sb**	**16 48 46.4**	**-0.9**
FUSB	**Fushanzhiwuyua**	**1.03**	**323**	P	**Pn**	**16 48 34.6**	**0.0**
FUSB				*e*S	**Sn**	**16 48 49.4**	**+1.2**
YULB	**Yu-li**	**1.04**	**239**		**Pn**	**16 48 33.5**	**-1.2**
YULB	**Yu-li**	**1.04**	**239**	P	**Pn**	**16 48 34.2**	**-0.6**
YULB	**Yu-li**	**1.04**	**239**	S	**Sb**	**16 48 47.4**	**-1.0**
YULB	**Yu-li**	**1.04**	**239**	P	**Pn**	**16 48 34.0**	**-0.8**
YULB				S	**Sb**	**16 48 48.0**	**-0.4**
TWT	**Tachien**	**1.04**	**288**	P	**Pb**	**16 48 34.9**	**-0.4**
TWT				S	**Sb**	**16 48 48.4**	**-0.2**
WUSB	**Renai**	**1.05**	**273**	*e*P	**Pn**	**16 48 34.7**	**-0.4**
WUSB				*e*S	**Sb**	**16 48 48.1**	**-0.7**
TDCB	**Techi**	**1.06**	**287**	P	**Pn**	**16 48 35.0**	**-0.1**
TDCB				*e*S	**Sn**	**16 48 49.1**	**-0.1**
TWF1	**Yuli**	**1.06**	**237**	*i* P	**Pn**	**16 48 34.7**	**-0.3**
TWF1				*e*S	**Sb**	**16 48 48.4**	**-0.6**
NWAT	**Wulai**	**1.09**	**320**	*e*P	**Pb**	**16 48 35.6**	**-0.3**
YHNB	**Yeheng**	**1.09**	**312**		**Pn**	**16 48 35.1**	**-0.4**
YHNB	**Yeheng**	**1.09**	**312**	P	**Pn**	**16 48 35.3**	**-0.2**
YHNB	**Yeheng**	**1.09**	**312**	*i* P	**Pn**	**16 48 35.3**	**-0.2**
YHNB				*e*S	**Sn**	**16 48 49.7**	**-0.2**
CHKH	**Chenggong**	**1.09**	**227**	P	**Pn**	**16 48 34.7**	**-0.7**
CHKH				*e*S	**Sb**	**16 48 48.1**	**-1.7**
TWB1	**Santiao Chiao**	**1.09**	**347**	*e*P	**Pn**	**16 48 35.5**	**0.0**
TWB1				*e*S	**Sn**	**16 48 50.0**	**+0.2**
TIPB	**Shuangxi**	**1.10**	**339**	*i* P	**Pb**	**16 48 35.8**	**-0.4**
TIPB				S	**Sn**	**16 48 49.6**	**-0.5**
NSK	**Sanguang**	**1.11**	**312**	*i* P	**Pn**	**16 48 35.5**	**-0.2**
NSK				*i* S	**Sn**	**16 48 50.2**	**-0.1**
FULB	**Fuli**	**1.16**	**231**	*e*P	**Pn**	**16 48 35.8**	**-0.5**
FULB				*e*S	**Sb**	**16 48 51.4**	**-0.3**
CHKT	**Chengkung**	**1.18**	**225**	*e*P	**Pn**	**16 48 35.6**	**-1.0**
CHKT				*e*S	**Sn**	**16 48 50.2**	**-1.6**
WPL	**Puli Township**	**1.20**	**274**	*e*P	**Pn**	**16 48 37.0**	**+0.1**
WPL				*e*S	**Sb**	**16 48 51.6**	**-0.4**
SXI1	**Grass Mountain**	**1.20**	**343**	*i* P	**Pn**	**16 48 37.2**	**+0.1**
SXI1				S	**Sn**	**16 48 53.3**	**+0.7**
TWA	**Mucha**	**1.21**	**329**	*i* P	**Pb**	**16 48 38.0**	**0.0**
TWA				S	**Sn**	**16 48 53.6**	**+1.0**
NWF	**Wu-fen Shan**	**1.21**	**339**	*i* P	**Pb**	**16 48 37.5**	**-0.6**
NWF				*i* S	**Sn**	**16 48 53.2**	**+0.4**
WFSB	**Wu-fen Shan**	**1.21**	**339**	P	**Pb**	**16 48 37.6**	**-0.4**
WFSB				S	**Sn**	**16 48 53.6**	**+0.9**
SSLB	**Suanglung**	**1.21**	**263**		**Pn**	**16 48 36.5**	**-0.6**
SSLB	**Suanglung**	**1.21**	**263**	P	**Pn**	**16 48 37.0**	**-0.2**
SSLB	**Suanglung**	**1.21**	**263**	*e*P	**Pn**	**16 48 36.9**	**-0.2**
SSLB				*e*S	**Sn**	**16 48 52.4**	**-0.3**
NHDH	**Xindian Distri**	**1.22**	**327**	P	**Pb**	**16 48 38.4**	**+0.1**
DPDB	**Guoxing**	**1.23**	**275**	*e*P	**Pn**	**16 48 37.9**	**+0.5**
WCS	**Beigang Elemen**	**1.25**	**276**	*e*P	**Pn**	**16 48 37.9**	**+0.4**
WCS				*e*S	**Sn**	**16 48 53.1**	**-0.5**
EHD	**Haiduan**	**1.25**	**231**	*e*P	**Pn**	**16 48 38.0**	**-0.7**
EHD				*e*S	**Sn**	**16 48 53.0**	**-0.7**
SMLT	**Sun Moon Lake**	**1.25**	**268**	*i* P	**Pn**	**16 48 37.8**	**+0.1**
SMLT				S	**Sn**	**16 48 53.6**	**-0.3**
TATO	**Taipei**	**1.25**	**326**		**Pn**	**16 48 37.9**	**+0.3**
TATO	**Taipei**	**1.25**	**326**	P	**Pb**	**16 48 38.6**	**-0.1**
TATO	**Taipei**	**1.25**	**326**	S	**Sb**	**16 48 55.5**	**+1.1**
WHP	**Taichung City**	**1.25**	**286**	*e*P	**Pb**	**16 48 38.3**	**-0.4**
WHP				*e*S	**Sb**	**16 48 54.4**	**-0.1**
NFF	**Wufeng Townshi**	**1.25**	**304**	P	**Pb**	**16 48 38.7**	**-0.1**
NFF				S	**Sb**	**16 48 54.5**	**0.0**
NHY	**Taipei**	**1.27**	**330**	*e*P	**Pb**	**16 48 38.6**	**-0.4**
NHY				*e*S	**Sb**	**16 48 55.1**	**+0.3**
ECS	**Chishang**	**1.28**	**229**	*e*P	**Pn**	**16 48 38.3**	**+0.3**
ECS				*e*S	**Sn**	**16 48 54.2**	**-0.1**
TNOU	**National Taiwa**	**1.29**	**340**	*e*P	**Pn**	**16 48 38.4**	**+0.3**
TNOU				*e*S	**Sb**	**16 48 55.4**	**0.0**
TYC	**Yuchr**	**1.29**	**269**	*e*P	**Pn**	**16 48 38.3**	**+0.1**
TYC				*e*S	**Sb**	**16 48 55.9**	**+0.4**
KSHI	**Guanxi Townshi**	**1.30**	**310**	*e*P	**Pb**	**16 48 39.3**	**-0.2**
EDH	**Donghe**	**1.31**	**223**	P	**Pn**	**16 48 37.6**	**-0.8**
EDH				*e*S	**Sn**	**16 48 53.4**	**-1.6**
WHYT	**Xinyi Township**	**1.32**	**260**	*i* P	**Pn**	**16 48 39.2**	**+0.6**
WHYT				*e*S	**Sn**	**16 48 55.5**	**+0.1**
NJD	**Zhudong**	**1.34**	**307**	*e*P	**Pb**	**16 48 40.2**	**+0.1**
NJD				*e*S	**Sb**	**16 48 56.1**	**-0.7**
LIOB	**Emei**	**1.34**	**302**	*i* P	**Pb**	**16 48 40.2**	**-0.1**
LIOB				S	**Sb**	**16 48 57.3**	**+0.3**
NSTT	**Nanjuang**	**1.34**	**301**	P	**Pb**	**16 48 40.1**	**-0.2**
NSTT				S	**Sb**	**16 48 57.3**	**+0.2**
YM01	**YM01**	**1.36**	**332**	*e*P	**Pb**	**16 48 39.7**	**-0.9**
YM01				*e*S	**Sb**	**16 48 57.8**	**+0.2**
ELDTW	**Lidau**	**1.37**	**237**	*e*P	**Pn**	**16 48 39.3**	**-0.1**
ELDTW				*e*S	**Sn**	**16 48 55.5**	**-1.2**
ZUZH	**Zhuzihu**	**1.38**	**332**	*e*P	**Pb**	**16 48 40.1**	**-0.8**
ZUZH				*e*S	**Sb**	**16 48 58.2**	**0.0**
YM08	**YM08**	**1.39**	**334**	*e*S	**Sb**	**16 48 57.2**	**-1.2**
TWS1	**Kuangyinshan**	**1.39**	**326**	*e*P	**Pb**	**16 48 41.7**	**+0.6**
IRIF	**Iriomote-Funau**	**1.39**	**73**	P	**Pb**	**16 48 40.9**	**-0.2**
IRIF				*e*S	**Sb**	**16 48 58.7**	**+0.2**
ALS	**Alishan**	**1.41**	**253**	*e*P	**Pn**	**16 48 40.6**	**+0.5**
ALS				*e*S	**Sn**	**16 48 58.0**	**+0.1**
HATJ	**Hateruma jima**	**1.41**	**85**	*e*P	**Pn**	**16 48 41.0**	**+1.2**
WJS	**Zhushan**	**1.41**	**266**	*e*P	**Pb**	**16 48 41.6**	**+0.2**
WJS				*e*S	**Sb**	**16 49 00.2**	**+1.2**
ANP	**Anpu**	**1.42**	**331**	*e*P	**Pb**	**16 48 42.0**	**+0.5**
NCU	**National Centr**	**1.42**	**316**	*e*P	**Pn**	**16 48 40.4**	**+0.4**
NCU				*e*S	**Sb**	**16 48 58.2**	**-1.1**
NCUH	**Zhongli**	**1.42**	**316**	*e*P	**Pb**	**16 48 40.9**	**-0.7**
TWQ1	**Liyutan**	**1.42**	**287**	*i* P	**Pb**	**16 48 41.6**	**-0.1**
TWQ1				*e*S	**Sb**	**16 49 00.2**	**+0.8**
NTST	**Danshui**	**1.43**	**329**	*e*P	**Pb**	**16 48 41.5**	**-0.3**
WWF	**Wufeng**	**1.44**	**274**	*e*P	**Pb**	**16 48 42.0**	**+0.1**
SBCB	**Hsinchu**	**1.45**	**306**	*e*P	**Pb**	**16 48 41.7**	**-0.3**
SBCB				*e*S	**Sb**	**16 49 00.9**	**+1.0**
WNT	**Mingjian**	**1.45**	**268**	*e*P	**Pb**	**16 48 42.0**	**-0.1**
WNT				*e*S	**Sb**	**16 49 00.9**	**+0.8**
NSY	**Sanyi**	**1.46**	**289**	P	**Pb**	**16 48 42.8**	**+0.6**
NSY				*e*S	**Sb**	**16 49 01.2**	**+1.0**
LDUT	**Ludao**	**1.46**	**210**	*e*P	**Pn**	**16 48 39.9**	**-0.6**
LDUT				*e*S	**Sn**	**16 48 57.5**	**-1.2**
HSN	**Hsinchu**	**1.46**	**306**	*e*P	**Pb**	**16 48 42.0**	**-0.3**
HSN				*e*S	**Sb**	**16 49 00.9**	**+0.4**
TWY	**Chenhua**	**1.46**	**336**	*e*P	**Pb**	**16 48 41.8**	**-0.5**
TWY				*e*S	**Sb**	**16 49 00.6**	**+0.1**
LONT	**Longtian**	**1.47**	**226**	*e*P	**Pn**	**16 48 40.3**	**-0.3**
LONT				*e*S	**Sn**	**16 48 58.4**	**-0.5**
TCU	**Taichung**	**1.47**	**278**	*e*P	**Pb**	**16 48 42.2**	**-0.2**
TCU				*e*S	**Sb**	**16 49 02.0**	**+1.3**
NMLH	**Miaoli**	**1.47**	**294**	*e*P	**Pb**	**16 48 42.5**	**+0.1**
NMLH				*e*S	**Sb**	**16 49 01.7**	**+0.9**
CHN5	**Tsauling**	**1.50**	**257**	*i* P	**Pn**	**16 48 42.2**	**+1.1**
CHN5				S	**Sb**	**16 49 01.2**	**-0.3**
NHW	**Xinwu Township**	**1.54**	**314**	*e*P	**Pn**	**16 48 42.0**	**+0.4**
WDJ	**Dajia District**	**1.54**	**286**	*e*P	**Pb**	**16 48 43.1**	**-0.5**
WDJ				*e*S	**Sb**	**16 49 03.2**	**+0.4**
TWGBT	**Beinan**	**1.56**	**225**	P	**Pn**	**16 48 41.4**	**-0.5**
TWGBT	**Beinan**	**1.56**	**225**	*e*P	**Pn**	**16 48 41.4**	**-0.5**
TWGBT				*e*S	**Sn**	**16 49 00.5**	**-0.8**
TWG	**Pinlang**	**1.56**	**225**		**Pn**	**16 48 40.9**	**-1.0**
TWG	**Pinlang**	**1.56**	**225**	*e*P	**Pn**	**16 48 41.2**	**-0.7**
TWG				*e*S	**Sn**	**16 49 00.7**	**-0.6**
TTN	**Taitung**	**1.57**	**221**	*e*P	**Pn**	**16 48 42.8**	**+0.8**
TTN				*e*S	**Sn**	**16 49 01.4**	**0.0**
STYH	**Taoyuan**	**1.57**	**241**	*e*P	**Pn**	**16 48 42.7**	**+0.7**
STYH				*e*S	**Sn**	**16 49 02.1**	**+0.7**
WCHH	**Zhanghua**	**1.57**	**275**	P	**Pb**	**16 48 43.8**	**-0.3**
WCHH				*e*S	**Sb**	**16 49 03.8**	**+0.3**
WCH1	**Changhua City**	**1.58**	**275**	*e*P	**Pb**	**16 48 43.7**	**-0.5**
WCH1				*e*S	**Sb**	**16 49 04.7**	**+0.9**
WGK	**Gukeng**	**1.58**	**261**	*e*P	**Pb**	**16 48 43.6**	**-0.3**
WGK				*e*S	**Sb**	**16 49 04.5**	**+0.7**
STYT	**Tauyuan**	**1.59**	**241**	*e*P	**Pn**	**16 48 43.2**	**+0.9**
STYT				*e*S	**Sn**	**16 49 03.4**	**+1.4**
WDL	**Douliou City**	**1.60**	**262**	*e*P	**Pn**	**16 48 43.6**	**+1.3**
WDL				*e*S	**Sb**	**16 49 04.7**	**+0.3**
WCKO	**Fanlu**	**1.60**	**252**	*e*P	**Pb**	**16 48 44.3**	**-0.4**
WCKO				*e*S	**Sb**	**16 49 04.5**	**0.0**
WDLH	**Douliu**	**1.60**	**261**	*e*P	**Pb**	**16 48 44.1**	**-0.5**
WDLH				*e*S	**Sb**	**16 49 05.2**	**+0.7**
JKRS	**Kuro-shima**	**1.62**	**79**	*e*P	**Pn**	**16 48 43.9**	**+1.3**
JKRS				*e*S	**Sb**	**16 49 04.7**	**-0.3**
TPUB	**Ta-pu**	**1.63**	**247**	P	**Pn**	**16 48 44.3**	**+1.4**
TPUB	**Ta-pu**	**1.63**	**247**	*e*P	**Pn**	**16 48 44.3**	**+1.4**
TPUB				*e*S	**Sb**	**16 49 05.0**	**-0.4**
WTP	**Ta-pu**	**1.67**	**246**	*e*P	**Pn**	**16 48 44.8**	**+

comp=Z,45nm,19.4s,baz=236,slow=37
ULN Ulaanbaatar 26.77 337 P P 16 53 53.3 -0.4
ULN IAmb IAmb 16 53 54.1
comp=Z,7.7nm,0.8s
SONM Songino Array 26.98 336 P P 16 53 54.8 -0.8
SONM IAmb IAmb 16 53 56.1
comp=Z,6.4nm,0.8s
SONM Songino Array 26.98 336 P P 16 53 55.0 -0.6
comp=Z,7.0nm,0.8s,baz=151,slow=9.5,SNR=32
SONM LR LR 17 05 47.1
comp=Z,148nm,18.5s,baz=159,slow=39
comp=Z,7.0nm,0.8s
KULM Kulim 27.87 232 P P 16 54 02.3 -1.4
KULM IAmb IAmb 16 54 34.7
comp=Z,27nm,1.5s
BRDH Bariadhala 28.13 274 LR LR 17 06 42.6
comp=Z,67nm,20.2s,baz=290,slow=39
YAK Yakutsk 38.41 6 LR LR 17 13 21.4
comp=Z,58nm,18.1s,baz=182,slow=39
MKAR Makanchi Array 39.20 316 P P 16 55 41.3 -0.5
MKAR Makanchi Array 39.20 316 P P 16 55 41.7 -0.1
comp=Z,1.7nm,0.7s,baz=106,slow=9.9,SNR=18
MKAR LR LR 17 13 24.7
comp=Z,66nm,19.3s,baz=144,slow=38
comp=Z,1.7nm,0.7s
MAKZ Makanchi 39.41 316 P P 16 55 43.5 0.0
ZAA0 Zalesovo Array 40.99 327 P P 16 55 55.0 -1.4
ZALV Zalesovo Beam 40.99 327 P P 16 55 55.1 -1.3
ZALV Zalesovo Beam 40.99 327 P P 16 55 55.4 -1.1
comp=Z,3.8nm,0.8s,baz=113,slow=7.1,SNR=12
comp=Z,3.8nm,0.8s
KURK Kurchatov 42.91 320 P P 16 56 10.6 -1.6
KURBB Kurchatov Arra 42.93 320 P P 16 56 12.1 -0.3
comp=Z,1.1nm,0.8s,baz=118,slow=7.5,SNR=8.4
comp=Z,1.1nm,0.8s
AAK Ala-Archa 43.44 307 LR LR 17 17 22.6
comp=Z,70nm,18.1s,baz=77,slow=40
ARSB Arslanbob 44.36 305 P P 16 56 23.9 -0.4
WRA Warramunga Arr 45.17 164 P P 16 56 31.3 +0.7
comp=Z,1.5nm,0.9s,baz=345,slow=8.5,SNR=8.7
comp=Z,1.5nm,0.9s
WR8 Warramunga Arr 45.23 164 P P 16 56 31.1 +0.1
WR8 IAmb IAmb 16 56 32.6
comp=Z,3.2nm,0.9s
GAR Garm 46.19 302 P P 16 56 38.9 +0.2
GAR IAmb IAmb 16 56 39.8
comp=Z,4.7nm,0.5s
KKAR Karatay Array 46.41 307 P P 16 56 40.2 0.0
TIXI Tiksi 47.89 3 P P 16 56 50.3 -1.0
TIXI IAmb IAmb 16 56 50.8
comp=Z,15nm,1.4s
TIXI Tiksi 47.89 3 LR LR 17 18 38.3
comp=Z,86nm,18.2s,baz=191,slow=38
BVAR Borovoye Array 48.49 321 P P 16 56 56.1 -0.2
comp=Z,1.2nm,0.5s,baz=104,slow=9.1,SNR=9.0
comp=Z,1.2nm,0.5s
ASAR Alice Springs 48.65 166 P P 16 56 59.2 +1.4
comp=Z,0.9nm,0.9s,baz=346,slow=6.6,SNR=7.9
comp=Z,0.9nm,0.9s
HNR Honiara 49.55 128 LR LR 17 16 59.7
comp=Z,82nm,19.3s,baz=214,slow=35
AB31 Akbulak array 54.32 314 P 16 57 39.8 -0.1
AB31 IAmb IAmb 16 57 40.9
comp=Z,4.3nm,0.7s
ABKAR Akbulak array 54.32 314 P P 16 57 39.8 -0.2
STKA Stephens Creek 58.50 161 P P 16 58 11.3 +1.5
comp=Z,1.6nm,0.8s,baz=291,slow=2.9,SNR=3.0
comp=Z,1.6nm,0.8s
L14K Kuka Creek 62.14 32 P P 16 58 35.6 +1.2
N15K Kwethluk River 63.43 33 P P 16 58 43.7 +0.7
D19K Kuna River 64.16 24 P P 16 58 48.2 +0.4
J20K Nowinta River 65.95 28 P P 16 59 00.4 +0.9
J20K IAmb IAmb 16 59 30.3
comp=Z,9.3nm,1.5s
G21K Allakaket 66.01 26 P P 16 59 00.4 +0.6
G21K IAmb IAmb 16 59 39.4
comp=Z,7.3nm,1.4s
D22K Ayikyak River 66.13 23 P P 16 59 00.9 +0.4
H21K Melozitna Rive 66.38 27 P P 16 59 02.7 +0.5
H21K IAmb IAmb 16 59 24.4
comp=Z,5.1nm,1.4s
KBZ Khabaz 66.40 309 P P 16 59 02.9 +0.2
comp=Z,1.3nm,0.7s,baz=80,slow=12,SNR=4.4
comp=Z,1.3nm,0.7s
F24K Squaw Lake 68.07 24 P P 16 59 13.4 +0.5
F24K IAmb IAmb 16 59 14.3
comp=Z,2.8nm,0.8s
BMAR Burnt Mountain 69.34 24 P P 16 59 21.5 +0.6
F26K Sheenjek River 69.45 24 P P 16 59 22.2 +0.7
F26K IAmb IAmb 16 59 22.9
comp=Z,1.8nm,0.8s
G26K Porcupine Rive 69.75 25 P P 16 59 24.2 +0.9
G26K IAmb IAmb 17 00 07.5
comp=Z,5.0nm,1.5s
SPITS Spitsbergen Ar 69.93 348 P P 16 59 23.1 -1.2
comp=Z,2.7nm,0.7s,baz=96,slow=6.8,SNR=5.4
comp=Z,2.7nm,0.7s
ARCES ARCESS Array B 70.13 338 P P 16 59 25.4 -0.2
comp=Z,3.0nm,0.9s,baz=70,slow=6.3,SNR=1.5
comp=Z,3.0nm,0.9s
N25K Chitina, Valde 70.70 30 P P 16 59 29.6 +0.2
EGAK Eagle 71.36 27 P P 16 59 32.9 -0.2
BCAR Beaver Creek A 71.58 29 P P 16 59 35.6 +1.0
FIA1 FINESS Array S 72.15 330 P P 16 59 37.8 -0.1
FINES FINESS Array B 72.15 330 P P 16 59 38.0 0.0
FINES FINESS Array B 72.15 330 P P 16 59 37.8 -0.2
comp=Z,1.6nm,0.8s,baz=62,slow=4.5,SNR=5.2
comp=Z,1.6nm,0.8s
AKASG Malin Array Be 73.71 319 P P 16 59 46.3 -1.1
comp=Z,1.4nm,0.6s,baz=62,slow=6.2,SNR=2.4
comp=Z,1.4nm,0.6s
M30M Minto, Yukon 73.90 28 P P 16 59 49.2 +0.8
M30M IAmb IAmb 17 00 03.6
comp=Z,2.5nm,1.1s
BRTR Keskin Array B 74.11 307 P P 16 59 49.9 -0.3
comp=Z,1.3nm,0.9s,baz=93,slow=4.9,SNR=5.8
comp=Z,1.3nm,0.9s
BURAR Bucovina Array 77.22 316 P P 17 00 07.6 -0.2
HFS Hagfors 78.26 331 LR LR 17 38 34.7
comp=Z,97nm,18.9s,baz=53,slow=39
NOA NORSAR Array B 78.90 332 LR LR 17 39 08.3
comp=Z,58nm,18.1s,baz=40,slow=39
GERES GERESS Array B 83.66 321 P P 17 00 42.2 -0.1
comp=Z,1.0nm,0.8s,baz=56,slow=3.4,SNR=8.4
comp=Z,1.0nm,0.8s

*BEO **24** 16:53:06.8±0.3, 41.°39N×20.°00E, h0km, ML2.3/14*
*TIR **24** 16:53:08.4, 41.°38N×19.°63E, h35km±1km, Ml2.9/2*
ISC 24 16:53:08.6±0.9, 41.°38N±0.°02×19.°79E±0.°03, h15km±6km, n26, σ1s12/44, 2C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TIR	**Tirane**	**0.07**	**119**	⇓Pg		**Pg**	**16 53 11.4**	**-0.1**
TIR				Sg		**Sg**	**16 53 14.3**	**+0.8**
TIR				AML		AML	16 53 16.2	
	3.6nm,0.1s							
OHR	**Ohrid**	**0.81**	**109**	*i* Pg		**Pb**	**16 53 24.6**	**+0.3**
OHR				*i* Sg		**Sn**	**16 53 37.8**	**+0.6**
DRME	**Dracevica, Mon**	**0.93**	**331**	*e*Pg		**Pb**	**16 53 25.6**	**-0.7**
VLO	**Vlora**	**0.94**	**194**	⇑Pg		**Pb**	**16 53 25.4**	**-1.1**
KBN	**Korca**	**1.07**	**135**	Pg		**Pn**	**16 53 29.6**	**+0.5**
KBN				Sg		**Sn**	**16 53 45.5**	**+1.9**
PDG	**Podgorica**	**1.12**	**339**	*e*Pg		**Pb**	**16 53 29.4**	**-0.3**
PDG				*e*Sg		**Sb**	**16 53 44.6**	**+0.5**
KOME	**Kolasin**	**1.48**	**352**	*e*Pg		**Pn**	**16 53 34.7**	**-0.1**
BEY	**Berane**	**1.49**	**3**	*e*Pg		**Pn**	**16 53 35.2**	**+0.2**
TREB	**Trebinje**	**1.71**	**322**	*e*Pg		**Pn**	**16 53 38.5**	**+0.6**
TREB				*e*Sg		**Sb**	**16 54 01.5**	**+0.4**
SJES	**Sjenica**	**1.89**	**4**	*e*Pg		**Pn**	**16 53 40.4**	**0.0**
SJES				*e*Sg		**Sb**	**16 54 06.3**	**+0.1**
IGT	**Igoumenitsa**	**1.89**	**167**	⇑Pn		**Pn**	**16 53 40.4**	**+0.1**
IGT				Sn		**Sb**	**16 54 07.1**	**+0.9**
IGT	**Igoumenitsa**	**1.89**	**167**	*i* Pn		**Pn**	**16 53 39.9**	**-0.4**
IGT	**Igoumenitsa**	**1.89**	**167**	*e*Pg		**Pn**	**16 53 39.5**	**-0.8**
IGT				*e*Sg		**Sb**	**16 54 05.8**	**-0.4**
BARS	**Barje**	**2.08**	**46**	*i* Pn		Pn	16 53 34.6	-8.4
BARS	**Barje**	**2.08**	**46**	*e*Pg		**Pn**	**16 53 41.8**	**-1.2**
BARS				*e*Sg		**Sb**	**16 54 11.1**	**-0.6**
SELS	**Selova**	**2.09**	**28**	*e*Pg		**Pb**	**16 53 44.9**	**-1.3**
SELS				*e*Sg		**Sb**	**16 54 11.0**	**-0.9**
NOCI	**Noci**	**2.14**	**255**	⇓Pn		**Pn**	**16 53 43.8**	**0.0**
NOCI				Sn		**Sn**	**16 54 09.5**	**-0.7**
NOCI				AML		AML	16 54 21.8	
	0.3nm,0.3s							

IVAS Ivanjica 2.21 7 *e*Pg **Pb 16 53 47.1 -1.2**
IVAS *e*Sg **Sb 16 54 16.0 +0.5**
BOSS Bosilegrad 2.30 60 *e*Pg **Pn 16 53 46.2 +0.3**
BOSS *e*Sg **Sb 16 54 16.5 -1.4**
GOCS Kraljevo Serbi 2.32 20 *e*Pg **Pb 16 53 48.6 -1.6**
GOCS *e*Sg **Sb 16 54 19.2 +0.4**
BBLS Lazi&#263i 2.50 354 *e*Pg **Pb 16 53 52.7 -0.5**
BBLS *e*Sg **Sb 16 54 25.0 +1.1**
GRUS Gruza 2.60 15 *e*Pg **Pn 16 53 51.2 +1.1**
GRUS *e*Sg **Sb 16 54 28.3 +1.7**
ZAPS Zavoj 2.83 47 *e*Pg **Pn 16 53 56.0 +2.7**
ZAPS *e*Sg **Sb 16 54 31.8 -1.6**
VTS Vitosha 2.85 63 *e*Pg **Pn 16 53 54.6 +0.9**
VTS *e*Sg **Sn 16 54 29.3 +1.5**
TRUS Trudelj 2.88 9 *e*Pg **Pb 16 53 58.5 -1.1**
ZAGS Zajecar 3.03 36 *e*Pg **Pb 16 53 59.7 -2.5**
ZAGS *e*Sg **Sb 16 54 37.1 -1.8**

*IDC **24** 16:55:18.0±0.5, 4.°43N×128.°44E, h0km, mb4.2/20, mbtmp4.3/22, ML4.5/2, MS3.1/3, Error ellipse: s-maj=23.9km s-min=11.0km az=80.0*
*NEIC **24** 16:55:20.1±1.3, 4.°39N±0.°08×128.°42E±0.°09, h10km±1km, mb4.7/31, Error ellipse: s-maj=16.6km s-min=13.1km az=243.0*
*DJA **24** 16:55:24.0±0.7, 4.°N±5.°×12.°9E±.°, h47km±18km, M4.6/12, mB5.1/6, mb4.6/11, MLv4.7/12, Mw(mB)4.5/6*
ISC 24 16:55:24.3±0.4, 4.°38N±0.°05×128.°44E±0.°07, h46km, n87, σ1s31/91, mb4.5/38, 1C, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**2.98**	**257**	P		**Pn**	**16 56 10.2**	**+1.0**
TNTI	**Ternate**	**3.74**	**197**			**Pn**	**16 56 17.7**	**-1.9**
TNTI	**Ternate**	**3.74**	**197**	P		**Pn**	**16 56 21.9**	**+2.4**
TNTI	**Ternate**	**3.74**	**197**	P		**Pn**	**16 56 22.0**	**+2.4**
DAV	**Davao City (W)**	**3.90**	**313**	Pn		**Pn**	**16 56 19.5**	**-2.3**
	41nm,0.3s,baz=63,slow=21,SNR=1.3							
DAV				Sn		**Sn**	**16 57 07.6**	**+1.2**
	52nm,0.3s,baz=80,slow=17,SNR=3.6							
	115nm,0.4s							
KMSI	**Cibinong**	**5.84**	**230**	P		**Pn**	**16 56 51.1**	**+2.7**
SWI	**Sorong**	**5.92**	**152**	P		**Pn**	**16 56 49.1**	**-0.5**
	0.2nm23nm,0.5s							
SWI				S		**Sn**	**16 57 53.0**	**-3.2**
	0.2nm23nm,0.5s							
SANI	**Sanana**	**6.84**	**201**	P		**Pn**	**16 57 02.5**	**+0.3**
SANI	**Sanana**	**6.84**	**201**	P		**Pn**	**16 57 02.0**	**-0.2**
MRSI	**Marisa**	**7.56**	**239**	P		**Pn**	**16 57 15.1**	**+3.1**
LUWI	**Luwuk**	**7.82**	**227**			**Pn**	**16 57 13.5**	**-2.0**
LUWI	**Luwuk**	**7.82**	**227**	P		**Pn**	**16 57 19.4**	**+3.9**
LUWI	**Luwuk**	**7.82**	**227**	P		Pn	16 57 21.9	+6.4
	0.5nm1µm120nm,0.9s							
FAKI	**Fak Fak**	**8.19**	**152**	Pn		**Pn**	**16 57 18.7**	**-2.0**
FAKI	**Fak Fak**	**8.19**	**152**	P		**Pn**	**16 57 23.8**	**+3.1**
TOLI2	**Tolitoli**	**8.31**	**247**			**Pn**	**16 57 22.3**	**0.0**
TOLI2	**Tolitoli**	**8.31**	**247**	P		**Pn**	**16 57 23.5**	**+1.2**
PCI	**Palu**	**10.07**	**239**	P		**Pn**	**16 57 47.7**	**+1.2**
	36nm,1.1s							
KDI	**Kendari**	**10.12**	**215**	P		**Pn**	**16 57 49.0**	**+1.9**
SAUI	**Saumlaki**	**12.61**	**167**	Pn		**Pn**	**16 58 19.3**	**-1.9**
KAPI	**Kappang**	**12.74**	**223**	Pn		**Pn**	**16 58 21.5**	**-1.5**
KAPI	**Kappang**	**12.74**	**223**	Pn		**Pn**	**16 58 22.9**	**0.0**
	1.9nm,0.3s,baz=108,slow=0.8,SNR=6.1							
KAPI				LR		LR	17 04 03.3	
	comp=Z,41nm,19.6s,baz=79,slow=41							
	11nm,0.6s							
JAY	**Jayapura**	**14.04**	**119**	Pn		**Pn**	**16 58 43.1**	**+2.4**
	0.1nm,0.3s,baz=206,slow=21,SNR=1.0							
EDFI	**Ende, Flores**	**14.68**	**207**	P		**Pn**	**16 58 51.6**	**+2.3**
	20nm,0.8s							
BATI	**Baumata**	**15.25**	**198**	Pn		**P**	**16 58 59.6**	**-1.3**
	4.1nm,0.3s,baz=342,slow=20,SNR=5.5							
SBUM	**Sibu**	**16.30**	**264**	P		**P**	**16 59 11.5**	**-1.1**
KNRA	**Kununurra**	**19.93**	**179**			**P**	**16 59 52.3**	**-0.2**
TPUB	**Ta-pu**	**20.26**	**339**	P		**P**	**16 59 54.2**	**-1.9**
TPUB				IAmb	IAmb		17 00 29.3	
	comp=Z,27nm,1.0s							
FITZ	**Fitzroy Crossi**	**22.51**	**187**	P		**P**	**17 00 19.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**22.51**	**187**	P		**P**	**17 00 19.1**	**-1.1**
	comp=Z,2.5nm,0.6s,baz=14,slow=11,SNR=16							
	comp=Z,2.5nm,0.6s							
COEN	**Coen**	**23.36**	**141**	P		**P**	**17 00 29.3**	**+0.3**
COEN				IAmb	IAmb		17 00 34.5	
	comp=Z,22nm,1.4s							
LEM	**Lembang**	**23.58**	**242**	LR		LR	17 10 29.2	
	comp=Z,55nm,18.9s,baz=88,slow=39							
WB0	**Warramunga Arr**	**24.70**	**166**			**P**	**17 00 41.8**	**+0.4**
WB0				IAmb	IAmb		17 00 58.4	
	comp=Z,8.6nm,0.8s							
WRA	**Warramunga Arr**	**24.86**	**167**	P		**P**	**17 00 43.1**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=345,slow=10,SNR=18							
	comp=Z,2.2nm,0.7s							
WR8	**Warramunga Arr**	**24.91**	**166**			**P**	**17 00 43.7**	**+0.5**
MNAI	**Manna**	**26.90**	**251**	P		**P**	**17 01 00.6**	**-0.7**
PSA00	**Pilbara Seismi**	**27.13**	**198**	P		**P**	**17 01 02.2**	**-1.1**
AS31	**Alice Springs**	**28.38**	**169**			**P**	**17 01 14.5**	**0.0**
ASAR	**Alice Springs**	**28.38**	**169**	P		**P**	**17 01 14.8**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=352,slow=8.1,SNR=30							
ASAR				PcP		**PcP**	**17 04 27.8**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=354,slow=2.6,SNR=2.9							
ASAR				ScP		**ScP**	**17 08 05.4**	**+1.5**
	comp=Z,0.2nm,0.8s,baz=6.1,slow=3.0,SNR=2.7							
	comp=Z,0.6nm,0.4s							
INU	**Inuyama**	**31.82**	**13**	P		**P**	**17 01 44.7**	**0.0**
INU				IAmb	IAmb		17 01 45.6	
	comp=Z,24nm,1.4s							
CMAR	**Chiang Mai Arr**	**32.04**	**298**	P		**P**	**17 01 46.8**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=100,slow=7.0,SNR=9.8							
CMAR				PcP		**PcP**	**17 04 35.8**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=107,slow=4.1,SNR=1.7							
CMAR				ScP		**ScP**	**17 08 19.3**	**+3.4**
	comp=Z,0.9nm,1.0s,baz=109,slow=5.7,SNR=5.6							
	comp=Z,1.1nm,0.6s							
CHTO	**Chiang Mai**	**32.17**	**299**	P		**P**	**17 01 47.9**	**-0.1**
KSRS	**Korea Array**	**32.92**	**359**	P		**P**	**17 01 54.4**	**+0.1**
	comp=Z,5.1nm,0.9s,baz=176,slow=10,SNR=27							
	comp=Z,5.1nm,0.9s							
MJAR	**Matsushiro Arr**	**33.24**	**14**	P		**P**	**17 01 55.9**	**-1.3**
	comp=Z,2.7nm,0.7s,baz=185,slow=10,SNR=8.2							
	comp=Z,2.7nm,0.7s							
FORT	**Forrest**	**34.97**	**181**	P		**P**	**17 02 12.1**	**0.0**
FORT				IAmb	IAmb		17 02 25.5	
	comp=Z,8.2nm,1.1s							
HNS	**HongShan**	**35.18**	**341**	⇑P		**P**	**17 02 14.0**	**0.0**
HNS				pmax	pmax			
	comp=Z,13nm,1.1s							
JMM	**Marumori**	**35.19**	**17**	P		**P**	**17 02 13.5**	**-0.5**
MORW	**Morawa**	**35.33**	**199**	P		**P**	**17 02 15.4**	**+0.1**
MORW				IAmb	IAmb		17 02 27.9	
	comp=Z,6.8nm,0.8s							
BJT	**Baijiatuau**	**37.17**	**344**	P		**P**	**17 02 29.7**	**-1.1**
BJT				IAmb	IAmb		17 02 31.4	
	comp=Z,7.3nm,0.8s							
BBOO	**Buckleboo**	**37.69**	**169**	P		**P**	**17 02 35.4**	**0.0**
BBOO				IAmb	IAmb		17 02 56.9	
	comp=Z,14nm,1.2s							
STKA	**Stephens Creek**	**38.17**	**162**	P		**P**	**17 02 39.4**	**-0.1**
STKA				IAmb	IAmb		17 03 00.8	
	comp=Z,28nm,0.9s							
STKA	**Stephens Creek**	**38.17**	**162**	P		**P**	**17 02 40.0**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=336,slow=9.5,SNR=5.5							
	comp=Z,2.0nm,0.6s							
NWAO	**Narrogin (SRO)**	**38.60**	**195**	P		**P**	**17 02 42.1**	**-0.9**
NWAO	**Narrogin (SRO)**	**38.60**	**195**	P		**P**	**17 02 43.2**	**+0.2**
	comp=Z,6.6nm,0.8s,baz=303,slow=9.2,SNR=2.4							
	comp=Z,6.6nm,0.8s							
USRK	**Ussuriysk Ar.**	**39.78**	**4**	P		**P**	**17 02 51.7**	**-1.0**
	comp=Z,4.3nm,0.8s,baz=159,slow=4.7,SNR=7.0							
	comp=Z,4.3nm,0.8s							
ARMA	**Armidale**	**41.11**	**149**	P		**P**	**17 03 03.4**	**-0.7**
ARMA				IAmb	IAmb		17 03 31.7	
	comp=Z,22nm,1.4s							
GTA	**Gaotai**	**43.44**	**327**	P		**P**	**17 03 24.5**	**+1.5**
GTA				pP	pP		17 03 35.4	+1.9
GTA				pmax	pmax			
	comp=Z,5.0nm,1.2s							
GOMU	**GeErMu**	**44.26**	**320**	P		**P**	**17 03 30.6**	**+0.7**
GOMU				pmax	pmax			
	comp=Z,3.0nm,1.4s							
SONM	**Songino Array**	**47.25**	**340**	P		**P**	**17 03 53.3**	**+0.3**
	comp=Z,3.6nm,1.0s,baz=158,slow=8.5,SNR=9.9							
SONM				PcP		**PcP**	**17 05 23.9**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=145,slow=3.5,SNR=1.5							
	comp=Z,3.6nm,1.0s							

PETK Petropavlovsk- 54.20 21 P P 17 04 45.6 +0.5
PETK Petropavlovsk- 54.20 21 P P 17 04 46.3 +1.1
comp=Z,8.3nm,0.8s,baz=187,slow=4.4,SNR=13
comp=Z,8.3nm,0.8s
YAK Yakutsk 57.52 1 P P 17 05 08.4 -0.3
MA2 Magadan 57.67 13 LR LR 17 29 48.3
comp=Z,19nm,20.1s,baz=164,slow=36
MKAR Makanchi Array 58.01 324 P P 17 05 12.5 0.0
MKAR Makanchi Array 58.01 324 P P 17 05 12.9 +0.4
comp=Z,2.1nm,0.5s,baz=122,slow=8.1,SNR=29
comp=Z,2.1nm,0.5s
MAKZ Makanchi 58.20 324 P P 17 05 13.8 0.0
MAKZ IAmb IAmb 17 05 27.1
comp=Z,11nm,1.1s
KDJ Kajisay 59.01 317 P P 17 05 19.8 0.0
KDJ IAmb IAmb 17 05 33.0
comp=Z,5.7nm,0.8s
ZALV Zalesovo Beam 60.80 332 P P 17 05 30.8 -0.7
comp=Z,1.2nm,0.4s,baz=102,slow=6.2,SNR=8.9
comp=Z,1.2nm,0.4s
THZ Tophouse 61.18 143 P P 17 05 34.7 +0.3
KURK Kurchatov 62.12 327 P P 17 05 40.1 -0.5
KURBB Kurchatov Arra 62.12 327 P P 17 05 40.4 -0.2
comp=Z,3.4nm,0.5s,baz=125,slow=5.9,SNR=35
comp=Z,3.4nm,0.5s
KK31 Karatay Array 63.93 316 P P 17 05 52.5 -0.2
KK31 IAmb IAmb 17 06 05.4
comp=Z,5.4nm,0.8s
KKAR Karatay Array 63.93 316 P P 17 05 52.6 -0.2
TIXI Tiksi 67.18 0 P P 17 06 12.9 -0.2
TIXI IAmb IAmb 17 06 21.3
comp=Z,7.1nm,1.1s
BVAR Borovoye Array 67.71 326 P P 17 06 17.3 +0.4
comp=Z,3.9nm,0.7s,baz=118,slow=8.1,SNR=23
comp=Z,3.9nm,0.7s
NIKH Nikolski High 70.31 35 P P 17 06 33.2 +0.2
AB31 Akbulak array 72.73 320 P P 17 06 46.9 -0.8
AB31 IAmb IAmb 17 06 59.9
comp=Z,4.1nm,0.9s
ABKAR Akbulak array 72.73 320 P P 17 06 47.1 -0.6
G23K Bananza Creek 82.65 23 P P 17 07 43.1 +0.5
G23K IAmb IAmb 17 07 45.3
comp=Z,6.2nm,1.1s
G24K Hadweenzic Riv 83.66 23 P P 17 07 49.0 +1.2
G24K IAmb IAmb 17 07 50.5
comp=Z,6.6nm,0.9s
ILAR Eielson Array 83.79 25 P P 17 07 48.5 0.0
comp=Z,1.2nm,1.0s,baz=252,slow=5.1,SNR=7.0
comp=Z,1.2nm,1.0s
VNDA Vanda 83.86 173 P P 17 07 49.3 +0.7
comp=Z,0.3nm,0.5s,baz=307,slow=5.0,SNR=2.0
comp=Z,0.3nm,0.5s
ARCES ARCESS Array B 90.42 340 P P 17 08 19.6 -1.0
comp=Z,2.2nm,0.8s,baz=100,slow=6.0,SNR=1.9
comp=Z,2.2nm,0.8s
FINES FINESS Array B 92.06 332 P P 17 08 27.3 -1.1
comp=Z,0.7nm,0.6s,baz=51,slow=5.5,SNR=4.5
comp=Z,0.7nm,0.6s
QSPA South Pole Qui 94.28 180 P P 17 08 39.4 +0.8
comp=Z,1.7nm,1.1s,baz=275,slow=2.4,SNR=2.2
comp=Z,1.7nm,1.1s
TXAR Lajitas Array 119.85 53 PKP PKPdf 17 14 10.2 -0.2
comp=Z,0.2nm,0.6s,baz=223,slow=1.9,SNR=3.6
TORD Torodi Ar. Bea 124.33 289 PKP PKiKP 17 14 19.6 0.0
comp=Z,0.7nm,0.7s,baz=23,slow=2.8,SNR=3.3

*IDC **24** 17:01:34.8±0.6, 14.°85N×144.°52E, h0km, mb3.9/16, mbtmp3.9/16, MS3.4/17, Error ellipse: s-maj=26.2km s-min=13.2km az=78.0*
*NEIC **24** 17:01:38.9±2.0, 14.°79N±0.°05×144.°51E±0.°09, h30km±5km, mb4.6/24, Error ellipse: s-maj=13.6km s-min=5.6km az=112.0*
ISC 24 17:01:37.7±0.5, 14.°82N±0.°06×144.°5E±0.°1, h22km, n65, σ0s86/52, mb4.2/26, MS3.5/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**1.26**	**165**			**Pn**	**17 01 59.7**	**-0.3**
GUMO				Sn		**Sn**	**17 02 15.5**	**-0.8**
GUMO	**Guam**	**1.26**	**165**	Pn		**Pn**	**17 01 59.8**	**-0.3**
	304nm,0.3s,baz=322,slow=17,SNR=242							
GUMO				Sn		**Sn**	**17 02 16.4**	**+0.1**
	248nm,0.3s,baz=0.0,slow=20,SNR=34							
PATS	**Pohnpei**	**15.68**	**119**	Pn		**Pn**	**17 05 17.1**	**-0.2**
JHJ	**Hachijo jima 2**	**18.73**	**347**	LR		LR	17 12 01.0	
	comp=Z,79nm,18.9s,baz=111,slow=34							
JOW	**Kunigami**	**19.31**	**311**	LR		LR	17 11 55.3	
	comp=Z,132nm,19.8s,baz=114,slow=32							
DAV	**Davao City (W)**	**20.13**	**250**	LR		LR	17 12 01.6	
	comp=Z,72nm,21.2s,baz=84,slow=31							
FAKI	**Fak Fak**	**21.41**	**216**	P		**P**	**17 06 24.9**	**+0.6**
FAKI				IAmb	IAmb		17 06 29.6	
	comp=Z,48nm,1.0s							
H11S3	**WAKE ISLAND Hy**	**21.53**	**77**	T		T	17 29 27.9	
	baz=262,slow=74,SNR=39							
H11S1	**WAKE ISLAND Hy**	**21.55**	**77**	T		T	17 29 26.2	
	baz=262,slow=74,SNR=15							
H11S2	**WAKE ISLAND Hy**	**21.55**	**77**	T		T	17 29 13.8	
	baz=262,slow=74,SNR=15							
H11N1	**WAKE ISLAND Hy**	**21.89**	**74**	T		T	17 30 12.1	
	baz=264,slow=75,SNR=6.3							
H11N2	**WAKE ISLAND Hy**	**21.90**	**74**	T		T	17 30 04.9	
	baz=264,slow=75,SNR=4.8							
H11N3	**WAKE ISLAND Hy**	**21.91**	**74**	T		T	17 29 41.7	
	baz=264,slow=75,SNR=5.2							
JNU	**Nakatsue**	**22.05**	**328**	LR		LR	17 13 08.7	
	comp=Z,70nm,20.1s,baz=164,slow=32							
MJAR	**Matsushiro Arr**	**22.36**	**347**	P		**P**	**17 06 33.1**	**-1.3**
MJAR	**Matsushiro Arr**	**22.36**	**347**	P		**P**	**17 06 35.6**	**+1.3**
	comp=Z,2.5nm,0.9s,baz=171,slow=9.1,SNR=6.7							
	comp=Z,2.5nm,0.9s							
TGY	**Tagaytay City**	**22.86**	**271**	LR		LR	17 14 31.9	
	comp=Z,60nm,19.8s,baz=135,slow=34							
SAUI	**Saumlaki**	**26.18**	**211**	P		**P**	**17 07 09.3**	**-1.6**
KSRS	**Korea Array**	**26.95**	**330**	P		**P**	**17 07 17.6**	**0.0**
	comp=Z,1.0nm,0.8s,baz=146,slow=9.9,SNR=5.0							
	comp=Z,1.0nm,0.8s							
COEN	**Coen**	**28.62**	**183**	P		**P**	**17 07 32.5**	**-0.2**
COEN				IAmb	IAmb		17 07 55.5	
	comp=Z,27nm,1.3s							
WRAB	**Tennant Creek**	**35.95**	**196**	P		**P**	**17 08 36.7**	**-0.3**
WRAB				IAmb	IAmb		17 08 38.3	
	comp=Z,5.6nm,0.8s							
WRA	**Warramunga

comp=Z,26nm,18.5s,baz=88,slow=37
comp=Z,0.4nm,0.4s

BKZ	**Black Stump Fm**	**61.44**	**152**	P		**P**	**17 11 52.5**	**-0.1**
KHZ	**Kahutara**	**62.90**	**156**	P		**P**	**17 12 01.7**	**-0.4**
PALK	**Pallekele**	**62.93**	**271**	LR		LR	17 36 48.7	
	comp=Z,31nm,20.7s,baz=118,slow=34							
H18K	**Honhosa River**	**63.11**	**23**	P		**P**	**17 12 02.0**	**-1.3**
H18K				IAmb		IAmb	17 12 02.6	
	comp=Z,14nm,1.4s							
GVZ	**Greta Valley S**	**63.17**	**157**	P		**P**	**17 12 04.5**	**+0.5**
P19K	**Oil Pt**	**63.40**	**30**	P		**P**	**17 12 04.3**	**-1.1**
KURBB	**Kurchatov Arra**	**63.49**	**319**	P		**P**	**17 12 05.7**	**-0.3**
	comp=Z,2.4nm,0.2s,baz=101,slow=6.6,SNR=7.1							
KURBB				LR		LR	17 39 36.2	
	comp=Z,48nm,20.2s,baz=193,slow=36							
	comp=Z,2.4nm,0.2s							
SKT	**Skwentna**	**64.87**	**28**	P		**P**	**17 12 14.0**	**-1.0**
SKT				IAmb		IAmb	17 12 50.8	
	comp=Z,10.0nm,1.4s							
AAK	**Ala-Archa**	**65.47**	**310**	LR		LR	17 42 29.1	
	comp=Z,33nm,18.6s,baz=83,slow=38							
ILAR	**Eielson Array**	**67.61**	**26**	P		**P**	**17 12 31.9**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=240,slow=6.7,SNR=5.2							
	comp=Z,0.6nm,0.8s							
DOT	**Dot Lake**	**68.59**	**27**	P		**P**	**17 12 38.3**	**-0.4**
DOT				IAmb		IAmb	17 12 43.0	
	comp=Z,4.8nm,1.2s							
BVAR	**Borovoye Array**	**68.77**	**321**	P		**P**	**17 12 39.7**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=115,slow=7.0,SNR=4.9							
BVAR				LR		LR	17 43 20.6	
	comp=Z,39nm,19.3s,baz=109,slow=36							
	comp=Z,1.4nm,0.8s							
K29M	**Barlow Dome**	**71.50**	**27**	P		**P**	**17 12 57.1**	**+0.4**
K29M				IAmb		IAmb	17 13 08.9	
	comp=Z,7.6nm,1.5s							
G31M	**Satah River**	**73.03**	**24**	P		**P**	**17 13 05.6**	**0.0**
G31M				IAmb		IAmb	17 13 17.8	
	comp=Z,12nm,1.4s							
AB31	**Akbulak array**	**75.42**	**318**	P		**P**	**17 13 18.5**	**-1.4**
AB31				IAmb		IAmb	17 13 27.4	
	comp=Z,2.1nm,0.8s							
ABKAR	**Akbulak array**	**75.42**	**318**	P		**P**	**17 13 18.6**	**-1.2**
AKTO	**Aktyubinsk**	**76.53**	**319**	LR		LR	17 47 10.1	
	comp=Z,35nm,20.1s,baz=124,slow=36							
NEW	**Newport**	**84.53**	**42**	LR		LR	17 46 58.1	
	comp=Z,34nm,20.7s,baz=320,slow=32							
CASY	**Casey**	**84.72**	**193**	P		**P**	**17 14 09.3**	**-0.2**
ARCES	**ARCESS Array B**	**85.83**	**342**	P		**P**	**17 14 15.5**	**+0.3**
ARCES	**ARCESS Array B**	**85.83**	**342**	P		**P**	**17 14 15.6**	**+0.3**
	comp=Z,6.2nm,1.1s,baz=38,slow=4.6,SNR=3.9							
	comp=Z,6.2nm,1.1s							
NVAR	**Mina Array Bea**	**86.41**	**51**	P		**P**	**17 14 20.7**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=293,slow=4.0,SNR=1.8							
	comp=Z,0.3nm,0.5s							
GNI	**Garni**	**87.87**	**311**	LR		LR	17 56 57.8	
	comp=Z,17nm,19.3s,baz=64,slow=38							
KBZ	**Khabaz**	**88.07**	**315**	LR		LR	17 55 27.0	
	comp=Z,27nm,19.1s,baz=28,slow=37							
FINES	**FINESS Array B**	**89.92**	**335**	P		**P**	**17 14 33.6**	**-1.3**
	comp=Z,1.8nm,0.9s,baz=52,slow=3.1,SNR=3.7							
	comp=Z,1.8nm,0.9s							
PDAR	**Pinedale Array**	**91.33**	**45**	P		**P**	**17 14 41.4**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=318,slow=6.7,SNR=2.4							
	comp=Z,0.4nm,0.9s							
LCO	**Las Campanas**	**144.54**	**119**			**PKPab**	**17 21 12.4**	**+0.5**
LPAZ	**La Paz**	**148.51**	**97**	PKPbc		**PKPbc**	**17 21 26.3**	**+1.8**
	comp=Z,1.4nm,0.7s,baz=259,slow=2.1,SNR=5.9							

*NDI **24** 17:23:25.1±0.3,34°.43N×71°.43E,h100km,ML3.7,MW3.7*
ISC 24 17:23:37.5±2.4,**33°.8N**±0°.1×**72°.1E**±0°.2,**h35**km,**n6,**
σ2s78/12,2C-2D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRNI	**Srinagar**	**2.31**	**82**	*e*P	**Pn**	**17 24 08.5**	**-4.6**
SRNI				*e*S	**Sn**	**17 24 40.1**	**-0.1**
SRNI				IAML		17 24 42.3	
	comp=E,467nm,0.2s						
SRNI				IAML		17 24 42.6	
	comp=N,330nm,0.2s						
JMU	**Jammu**	**2.60**	**114**	*e*P	**Pn**	**17 24 14.7**	**-2.3**
JMU				*e*S	**Sn**	**17 24 50.8**	**+3.4**
JMU				IAML		17 25 05.5	
	comp=N,147nm,0.4s						
JMU				IAML		17 25 07.1	
	comp=E,165nm,0.5s						
TSSA	**Tissa**	**3.54**	**105**	*e*P	**Pn**	**17 24 27.9**	**-2.3**
TSSA				*e*S	**Sn**	**17 25 13.7**	**+2.8**
TSSA				IAML		17 25 21.5	
	comp=E,945nm,0.2s						
TSSA				IAML		17 25 21.7	
	comp=N,1μm,0.2s						
DHRM	**DHARAMSHALA**	**3.87**	**113**	*e*P	**Pn**	**17 24 32.5**	**-2.2**
DHRM				*e*S	**Sn**	**17 25 21.8**	**+2.7**
DHRM				IAML		17 25 46.4	
	comp=E,108nm,0.6s						
DHRM				IAML		17 25 50.5	
	comp=N,118nm,0.3s						
AAK	**Ala-Archa**	**9.00**	**11**	⇓P	**Pn**	**17 25 47.4**	**+2.2**
	comp=N,1.8nm,0.6s						
AAK				⇓S	**Sn**	**17 27 25.2**	**-0.1**
	comp=N,1.9nm,0.7s						
KK31	**Karatay Array**	**9.35**	**353**	⇑P	**Pn**	**17 25 50.5**	**+0.7**
	comp=N,3.5nm,0.5s,baz=175,slow=13,SNR=28						
KK31				⇑S	**Sn**	**17 27 33.0**	**-0.7**
	comp=N,0.4nm,0.3s,baz=181,slow=17,SNR=3.6						

*IDC **24** 17:35:55.0±1.5,33°.20N×73°.91E,h0km,mb3.6/8, mbtmp3.6/11,ML3.1/3,Error ellipse: s-maj=38.0km s-min=20.8km az=51.0*
*NEIC **24** 17:35:57.6±1.4,33°.09N±0°.07×73°.8E±0°.1,h10km±2km, mb3.6/3,Error ellipse: s-maj=17.6km s-min=6.4km az=231.0*
*NDI **24** 17:35:58.6±2.6,33°.00N×73°.68E,h10km,ML3.4,MW3.4, mb3.6(NEIC)*
ISC 24 17:35:56.0±0.7,**33°.02N**±0°.05×**73°.67E**±0°.05,**h15**km,**n43,**
σ2s60/55,mb3.5/8,4C,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**0.72**	**331**		**Pb**	**17 36 10.7**	**+0.5**
NIL				Sg	**Sb**	**17 36 20.7**	**+0.8**
JMU	**Jammu**	**1.08**	**106**	*e*P	**Pb**	**17 36 16.9**	**+0.5**
JMU				*e*S	**Sb**	**17 36 29.8**	**-0.5**
JMU				IAML		17 36 30.7	
	comp=N,331nm,0.3s						
JMU				IAML		17 36 31.2	
	comp=E,334nm,0.3s						
SRNI	**Srinagar**	**1.46**	**42**	*e*P	**Pb**	**17 36 24.4**	**+1.5**
SRNI				*e*S	**Sg**	**17 36 44.9**	**+1.7**
SRNI				IAML		17 36 47.4	
	comp=E,1μm,0.4s						
SRNI				IAML		17 36 47.6	
	comp=N,862nm,0.4s						
DHRM	**DHARAMSHALA**	**2.35**	**108**	*e*P	**Pb**	**17 36 37.6**	**-0.6**
DHRM				*e*S	**Sb**	**17 37 07.1**	**0.0**
DHRM				IAML		17 37 11.4	
	comp=E,1μm,0.5s						
DHRM				IAML		17 37 11.7	
	comp=N,1μm,0.9s						
BHK	**Bhakra**	**2.83**	**124**	*e*P	**Pb**	**17 36 48.1**	**+1.9**
BHK				IAML		17 37 24.3	
	comp=E,156nm,0.5s						
BHK				IAML		17 37 24.4	
	comp=N,152nm,0.5s						
SMLA	**Simla**	**3.52**	**121**	*e*P	**Pn**	**17 36 52.7**	**+2.5**
SMLA				*e*S	**Sn**	**17 37 34.3**	**+2.8**
SMLA				IAML		17 37 47.1	
	comp=N,104nm,0.7s						
SMLA				IAML		17 37 58.7	
	comp=E,123nm,0.5s						
KBL	**Kabul**	**4.14**	**293**		**Pn**	**17 37 02.5**	**+3.7**
KLP	**Kalpa**	**4.16**	**110**	*e*P	**Pn**	**17 37 01.7**	**+2.5**
KLP				*e*S	**Sn**	**17 37 50.4**	**+2.7**
KLP				IAML		17 38 08.3	
	comp=N,96nm,0.5s						
GAR	**Garm**	**6.55**	**336**		**Pn**	**17 37 34.5**	**+2.5**
CHGR	**Chuyangaron**	**6.71**	**328**	Pn	**Pn**	**17 37 36.2**	**+2.1**
SIMJ	**Simiganj**	**6.78**	**327**		**Pn**	**17 37 36.3**	**+1.2**
ARSB	**Arslanbob**	**8.31**	**356**		**Pn**	**17 37 57.1**	**+1.1**
TARG	**Taragay, Kyrgy**	**9.29**	**20**		**Pn**	**17 38 10.8**	**+1.0**
PYUN	**Piuthan**	**9.41**	**119**	Pn	**Pn**	**17 38 12.2**	**+0.9**
	comp=N,7.7nm,0.3s,baz=115,slow=0.0						
PYUN				Sn	**Sn**	**17 39 49.4**	**-7.6**
	comp=N,16nm,0.4s,baz=115,slow=0.0						
KDJ	**Kajisay**	**9.51**	**16**	Pn	**Pn**	**17 38 12.9**	**+0.4**
AAK	**Ala-Archa**	**9.62**	**4**	⇑P	**Pn**	**17 38 18.5**	**+4.5**
	comp=N,3.4nm,0.8s						
AAK				⇑S	**Sn**	**17 40 04.7**	**+2.7**
	comp=N,1.4nm,0.7s						
BOOM	**Boomskoye usch**	**9.62**	**10**		**Pn**	**17 38 16.6**	**+2.5**
DANN	**Dangsing**	**9.86**	**116**	Pn	**Pn**	**17 38 18.9**	**+1.5**
	comp=N,8.7nm,0.2s,baz=112,slow=0.0						
KK31	**Karatay Array**	**10.37**	**347**		**Pn**	**17 38 25.4**	**+1.3**
KK31					**Sn**	**17 40 12.5**	**-7.5**
KK31	**Karatay Array**	**10.37**	**347**	⇑P	**Pn**	**17 38 25.6**	**+1.4**
	comp=N,3.4nm,0.3s,baz=155,slow=11,SNR=75						
KK31				⇑S	**Sn**	**17 40 19.9**	**-0.1**
	comp=N,5.1nm,0.9s,baz=162,slow=22,SNR=5.9						
KKAR	**Karatay Array**	**10.37**	**347**		**Pn**	**17 38 25.5**	**+1.4**
KKAR					**Sn**	**17 40 12.5**	**-7.6**
GKN	**Gorkha**	**10.70**	**115**	Pn	**Pn**	**17 38 30.2**	**+1.3**
	comp=N,6.0nm,0.2s,baz=111,slow=0.0						
GKN				Sn	**Sn**	**17 40 22.2**	**-6.3**
	comp=N,4.5nm,0.3s,baz=111,slow=0.0						
DMN	**Daman**	**11.26**	**116**	Pn	**Pn**	**17 38 37.2**	**+0.6**
	comp=N,5.4nm,0.2s,baz=112,slow=0.0						
PKIN	**Phulchoki**	**11.49**	**115**	Pn	**Pn**	**17 38 40.2**	**+0.3**
	comp=N,8.0nm,0.3s,baz=112,slow=0.0						
PKI	**Pulchoki**	**11.51**	**115**	Pn	**Pn**	**17 38 40.1**	**0.0**
	comp=N,6.4nm,0.3s,baz=112,slow=0.0						
EVN	**Everest**	**12.41**	**111**	Pn	**Pn**	**17 38 51.6**	**-1.1**
RAMN	**Ramite**	**12.73**	**115**	Pn	**Pn**	**17 38 57.1**	**+0.3**
	comp=N,4.7nm,0.3s,baz=112,slow=0.0						
MAKZ	**Makanchi**	**15.16**	**22**	Pn	**Pn**	**17 39 29.5**	**0.0**
MAKZ				IAmb	IAmb	17 39 47.8	
	comp=Z,4.8nm,1.4s						
MKAR	**Makanchi Array**	**15.25**	**23**	Pn	**Pn**	**17 39 30.9**	**+0.2**
MKAR	**Makanchi Array**	**15.25**	**23**	Pn	**Pn**	**17 39 28.6**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=205,slow=13,SNR=5.8						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**17.95**	**10**	P	**Pn**	**17 40 02.8**	**-2.1**
	comp=N,198,slow=11,SNR=6.1						
	comp=Z,0.9nm,0.7s						
AB31	**Akbulak array**	**19.18**	**332**		**P**	**17 40 18.0**	**-1.0**
AB31				IAmb	IAmb	17 40 21.8	
	comp=Z,1.3nm,0.8s						
ABKAR	**Akbulak array**	**19.18**	**332**	P	**P**	**17 40 18.4**	**-0.5**
BVAR	**Borovoye Array**	**20.13**	**354**	P	**P**	**17 40 30.5**	**+1.2**
	baz=160,slow=9.0,SNR=5.9						
	comp=Z,1.2nm,0.5s						
AKTO	**Aktyubinsk**	**20.88**	**331**	P	**P**	**17 40 38.3**	**+0.9**
	comp=Z,1.7nm,0.4s,baz=134,slow=6.0,SNR=6.6						
	comp=Z,1.7nm,0.4s						
ZAA0	**Zalesovo Array**	**22.38**	**17**	P	**P**	**17 40 51.4**	**-2.1**
ZAA0				IAmb	IAmb	17 40 55.9	
	comp=Z,2.7nm,1.1s						
ZALV	**Zalesovo Beam**	**22.38**	**17**	P	**P**	**17 40 51.5**	**-2.0**
	comp=Z,0.7nm,0.4s,baz=226,slow=8.1,SNR=4.8						
	comp=Z,0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**26.90**	**116**	P	**P**	**17 41 37.9**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=302,slow=8.6,SNR=4.3						
	comp=Z,0.4nm,0.6s						
SONM	**Songino Array**	**28.72**	**49**	P	**P**	**17 41 51.6**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=228,slow=5.6,SNR=1.8						
	comp=Z,0.2nm,0.4s						
ARCES	**ARCESS Array B**	**45.19**	**338**	P	**P**	**17 44 12.6**	**+0.7**
	comp=Z,2.6nm,0.9s,baz=122,slow=9.0,SNR=2.1						
	comp=Z,2.6nm,0.9s						
HFS	**Hagfors**	**47.16**	**324**	P	**P**	**17 44 28.5**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=103,slow=6.2,SNR=2.0						
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**48.48**	**325**	P	**P**	**17 44 38.5**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=97,slow=7.9,SNR=1.9						
	comp=Z,0.3nm,0.6s						
WRA	**Warramunga Arr**	**78.27**	**123**	P	**P**	**17 47 56.0**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=309,slow=5.8,SNR=1.2						
	comp=Z,0.2nm,0.5s						

*IDC **24** 17:55:49.1±1.4,29°.57S×177°.83W,h63km±13km,mb3.6/3, mbtmp3.9/3,Error ellipse: s-maj=39.2km s-min=30.4km az=42.0*
ISC 24 17:55:49.6±1.2,**29°.6S**±0°.2×**178°.0W**±0°.3,**h63**km,**n10,**
σ0s89/8,mb3.8/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.37**	**4**	P	**Pn**	**17 56 00.1**	**-0.5**
	844nm,0.3s,baz=96,slow=18,SNR=16						
RAO				S	**Sn**	**17 56 10.0**	**+1.4**
	3μm,0.2s,baz=108,slow=20,SNR=17						
ASAR	**Alice Springs**	**43.20**	**266**	P	**P**	**18 03 44.6**	**0.0**
	0.8nm,0.6s,baz=100,slow=6.9,SNR=16						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**44.12**	**271**	P	**P**	**18 03 52.3**	**+0.3**
	1.9nm,0.6s,baz=110,slow=7.8,SNR=20						
	1.9nm,0.6s						
QSPA	**South Pole Qui**	**60.48**	**180**	P	**P**	**18 05 53.4**	**+0.7**
	0.8nm,0.9s,baz=78,slow=0.8,SNR=7.8						
	0.8nm,0.9s						
H03S2	**Juan Fernandez**	**80.86**	**124**	T	T	19 37 23.4	
	baz=239,slow=74,SNR=5.5						
H03S1	**Juan Fernandez**	**80.87**	**124**	T	T	19 37 24.7	
	baz=239,slow=74,SNR=4.6						
H03S3	**Juan Fernandez**	**80.87**	**124**	T	T	19 37 22.9	
	baz=239,slow=74,SNR=5.1						
KURBB	**Kurchatov Arra**	**120.58**	**314**	PKP	**PKPdf**	**18 14 33.0**	**-0.7**
	0.2nm,0.7s,baz=86,slow=2.3,SNR=2.2						
FINES	**FINESS Array B**	**144.43**	**340**	PKP	**PKPab**	**18 15 15.8**	**-0.6**
	1.9nm,0.6s,baz=56,slow=3.5,SNR=14						
HFS	**Hagfors**	**148.49**	**349**	PKPbc	**PKPbc**	**18 15 27.9**	**-0.6**
	1.6nm,1.0s,baz=47,slow=2.6,SNR=4.3						

*NEIC **24** 18:07:03.7±1.4,52°.41N±0°.02×166°.77W±0°.06,h10km±2km, ML3.2/18,ML3.0(AEIC),Error ellipse: s-maj=6.7km s-min=4.3km az=98.0*
*IDC **24** 18:07:04.4±1.8,52°.82N×166°.45W,h0km,mb3.8/11, mbtmp3.9/12,ML3.1/1,MS3.3/1,Error ellipse: s-maj=49.2km s-min=20.5km az=6.0*
*AEIC **24** 18:07:07.2±1.3,52°.44N±0°.08×166°.76W±0°.05,h18km±6km, Error ellipse: s-maj=11.6km s-min=1.4km az=157.0*
ISC 24 18:07:04.6±3.6,**52°.44N**±0°.06×**166°.78W**±0°.05,
h11km±22km,**n47,σ1s90/53,mb3.9/11,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.19**	**325**		**Pb**	**18 07 27.1**	**0.0**
OKFG					**Sb**	**18 07 42.8**	**+0.3**
OKSP	**Okmok Steeple**	**1.23**	**312**		**Pn**	**18 07 27.6**	**-0.1**
OKSP					**Sb**	**18 07 44.0**	**+0.4**
OKNC	**Okmok New Cone**	**1.30**	**322**		**Pn**	**18 07 28.8**	**+0.1**
OKNC					**Sb**	**18 07 45.5**	**-0.4**
MGOD	**Makushin Gods**	**1.36**	**358**		**Pn**	**18 07 29.3**	**-0.2**
MGOD					**Sb**	**18 07 47.4**	**0.0**
NIKH	**Nikolski High**	**1.37**	**294**		**Sb**	**18 07 47.2**	**-0.5**
NIKH	**Nikolski High**	**1.37**	**294**		**Pn**	**18 07 28.9**	**-0.7**
NIKH				IAML		18 07 59.3	
	comp=E,330nm,0.7s						
NIKH				IAML		18 08 05.6	
	comp=N,419nm,0.7s						
MAPS	**Pakushin South**	**1.37**	**356**		**Pn**	**18 07 29.5**	**-0.2**
MAPS					**Sb**	**18 07 47.6**	**-0.2**
UNV	**Unalaska Valle**	**1.42**	**7**		**Sn**	**18 07 48.7**	**-0.2**
UNV	**Unalaska Valle**	**1.42**	**7**		**Pn**	**18 07 29.6**	**-0.7**
MSW	**Makushin Switc**	**1.48**	**360**		**Pn**	**18 07 31.2**	**+0.1**
MSW					**Sn**	**18 07 49.9**	**-0.5**
AKMO	**Akutan Morgan**	**1.71**	**15**		**Pn**	**18 07 34.5**	**+0.1**
AKMO					**Sn**	**18 07 56.0**	**-0.3**
ZRO	**Akutan Zero**	**1.72**	**16**		**Pn**	**18 07 34.7**	**+0.2**
ZRO					**Sn**	**18 07 56.4**	**-0.1**
LVA	**Lava Point**	**1.78**	**14**		**Pn**	**18 07 35.6**	**+0.3**
LVA	**Lava Point**	**1.78**	**14**		**Sn**	**18 07 56.1**	**-1.8**
LVA				IAML		18 08 09.6	
	comp=E,369nm,0.6s						
AKUT	**Akutan**	**1.80**	**19**		**Pn**	**18 07 35.2**	**-0.3**
AKUT				IAML		18 08 02.5	
	comp=E,204nm,0.9s						
CLCO	**Concord Point,**	**1.83**	**282**		**Pn**	**18 07 36.1**	**+0.1**
CLCO					**Sn**	**18 07 58.3**	**-0.8**
CLES	**Cleveland East**	**1.94**	**283**	Pn	**Pn**	**18 07 36.5**	**-0.9**
CLES				IAML		18 08 04.8	
	comp=E,257nm,0.7s						
WEBT	**Westdahl Beart**	**2.47**	**28**		**Pn**	**18 07 45.6**	**+0.9**
WEBT					**Sn**	**18 08 15.5**	**+0.6**
SSBA	**Shishaldin**	**2.82**	**33**		**Pn**	**18 07 50.6**	**+1.0**
SSBA					**Sn**	**18 08 24.1**	**+0.6**
ISNN	**Isanotski Nort**	**2.99**	**35**		**Pn**	**18 07 53.2**	**+1.3**
ISNN					**Sn**	**18 08 28.3**	**+0.7**
DT1	**Dutton Round H**	**3.77**	**43**		**Pn**	**18 08 04.1**	**+1.5**
DT1					**Sn**	**18 08 47.6**	**+0.6**
ATKA	**Atka Island**	**4.56**	**270**	Pn	**Pn**	**18 08 11.5**	**-1.9**
ATKA				IAML		18 10 30.0	
	comp=E,18nm,1.1s						
SDPT	**Sand Point**	**4.73**	**49**	Pn	**Pn**	**18 08 14.1**	**-1.6**
SDPT				IAML		18 09 19.4	
	comp=E,22nm,0.7s						
SDPT				IAML		18 10 31.9	
	comp=N,20nm,1.0s						
CNBA	**Chernabura Isl**	**4.90**	**58**	Pn	**Pn**	**18 08 15.1**	**-2.9**
CNBA				IAML		18 09 47.7	
	comp=E,13nm,1.0s						
CNBA				IAML		18 10 44.4	
	comp=N,14nm,1.1s						
SPIA	**Saint Paul Isl**	**5.15**	**338**	Pn	**Pn**	**18 08 21.1**	**-0.4**
ADK	**Adak**	**6.12**	**269**	Pn	**Pn**	**18 08 34.4**	**-0.6**
KIWB	**Kanaga Island**	**6.42**	**269**	Pn	**Pn**	**18 08 39.5**	**+0.6**
AMKA	**Amchitka**	**8.68**	**268**	Pn	**Pn**	**18 09 10.4**	**+0.5**
KDAK	**Kodiak Island**	**9.72**	**51**	Pn	**Pn**	**18 09 23.3**	**-0.9**
	comp=N,0.2nm,0.3s,baz=154,slow=21,SNR=1.7						
	comp=N,11nm,1.1s						
PETK	**Petropavlovsk-**	**21.37**	**286**	P	**P**	**18 11 55.1**	**+3.4**
	comp=N,2.2nm,0.5s,baz=70,slow=9.9,SNR=9.5						
	comp=N,2.2nm,0.5s						
INK	**Inuvik**	**22.42**	**32**	LR	LR	18 20 29.8	
	comp=N,85nm,21.8s,baz=254,slow=37						
H11N2	**WAKE ISLAND Hy**	**38.54**	**222**	T	T	18 56 19.2	
	baz=26						
H11N3	**WAKE ISLAND Hy**	**38.54**	**222**	T	T	18 56 12.2	
	baz=26						
H11N1	**WAKE ISLAND Hy**	**38.55**	**222**	T	T	18 56 12.8	
	baz=26						
PDAR	**Pinedale Array**	**38.83**	**81**	P	**P**	**18 14 29.2**	**-0.4**
	comp=N,0.2nm,0.6s,baz=295,slow=8.5,SNR=1.4						
	comp=N,0.2nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**39.72**	**222**	T	T	18 57 50.9	
	baz=24						
H11S2	**WAKE ISLAND Hy**	**39.73**	**222**	T	T	18 58 06.4	
	baz=24						
H11S3	**WAKE ISLAND Hy**	**39.73**	**222**	T	T	18 57 56.1	
	baz=24						
SPITS	**Spitsbergen Ar**	**49.63**	**359**	P	**P**	**18 15 53.7**	**-1.6**
	comp=N,9.9nm,1.1s,baz=350,slow=7.5,SNR=5.7						
	comp=N,9.9nm,1.1s						
TXAR	**Lajitas Array**	**51.16**	**91**	P	**P**	**18 16 07.1**	**-0.5**
	comp=N,0.3nm,0.6s,baz=308,slow=6.2,SNR=3.7						
	comp=N,0.3nm,0.6s						
SONM	**Songino Array**	**52.62**	**302**	P	**P**	**18 16 19.2**	**+0.9**
	comp=N,0.6nm,0.4s,baz=53,slow=7.4,SNR=2.7						
	comp=N,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**63.47**	**320**	P	**P**	**18 17 34.4**	**+0.2**
	comp=N,0.5nm,0.7s,baz=53,slow=7.1,SNR=6.9						
	comp=N,0.5nm,0.7s						
MKAR	**Makanchi Array**	**64.89**	**315**	P	**P**	**18 17 43.3**	**-0.3**
	comp=N,0.7nm,0.7s,baz=34,slow=6.1,SNR=7.5						
	comp=N,0.7nm,0.7s						
FINES	**FINESS Array B**	**66.00**	**353**	P	**P**	**18 17 49.8**	**-0.7**
	comp=N,1.4nm,0.8s,baz=27,slow=5.8,SNR=4.3						
	comp=N,1.4nm,0.8s						
HFS	**Hagfors**	**67.78**	**360**	P	**P**	**18 18 00.9**	**-0.9**
	comp=N,0.8nm,0.5s,baz=18,slow=5.2,SNR=5.4						
	comp=N,0.8nm,0.5s						
AKASG	**Malin Array Be**	**76.34**	**350**	P	**P**	**18 18 53.3**	**+0.1**
	comp=N,1.3nm,0.6s,baz=15,slow=5.9,SNR=4.8						
	comp=N,1.3nm,0.6s						
BRTR	**Keskin Array B**	**86.51**	**344**	P	**P**	**18 19 48.7**	**+1.3**
	comp=N,0.8nm,0.8s,baz=32,slow=5.8,SNR=4.8						
	comp=N,0.8nm,0.8s						

*IPEC **24** 18:07:27.4±0.2,51°.45N×16°.29E,h1km,ML2.6/6,Error ellipse: s-maj=2.5km s-min=1.4km az=74.0*
*DNK **24** 18:07:28.1±2.1,51°.66N×16°.79E,h0km±69km,ML2.3*
*IDC **24** 18:07:28.2±0.7,51°.45N×16°.14E,h0km,mbtmp3.3/9, ML3.0/8,Error ellipse: s-maj=11.7km s-min=6.6km az=110.0*
*VIE **24** 18:07:29.3±0.6,51°.34N×16°.10E,h0km,mb2.5/11, ml2.9/10,Error ellipse: s-maj=7.5km s-min=2.3km az=56.0 69 km WNW of Wroclaw Suspected Mining induced.*
*PRU **24** 18:07:30.1,51°.37N×16°.24E,h0km*
ISC 24 18:07:25.6±0.7,**51°.54N**±0°.03×**16°.32E**±0°.02,**h0**km,**n52,**
σ1s08/98,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**182**	*e*Pg	**Pg**	**18 07 39.4**	**+0.5**
KSP				*e*Sg	**Sg**	**18 07 47.1**	**-0.8**
CHVC	**Chvalec**	**0.97**	**190**	*e*PG	**Pg**	**18 07 44.6**	**+0.5**
CHVC				*e*SG	**Sg**	**18 07 55.9**	**-0.7**
	87nm,0.5s						
OSTC	**Ostas**	**0.98**	**184**	*e*PG	**Pg**	**18 07 44.9**	**+0.4**
OSTC				*e*SG	**Sg**	**18 07 57.0**	**-0.2**
	137nm,0.9s						
UPC	**Upice**	**1.05

KRUC	**Moravsky**	**2.48**	**179**	*e*PN		**Pn**	**18 08 07.8**	**+0.5**
KRUC				*e*SG		**Sb**	**18 08 42.3**	**+0.2**
ZVC	**Zvikov**	**2.50**	**214**	*e*PN		**Pn**	**18 08 07.6**	**0.0**
ZVC				*e*PG		**Pb**	**18 08 12.3**	**+0.9**
ZVC				*e*SG		**Sb**	**18 08 43.3**	**+0.5**
	comp=Z,60nm,0.8s							
OJC	**Ojcow**	**2.57**	**120**	*e*Pg		**Pg**	**18 08 15.2**	**+0.5**
OJC				*e*Sg		**Sg**	**18 08 49.0**	**+0.9**
JAVC	**Velka Javorina**	**2.82**	**162**	*e*PN		**Pn**	**18 08 12.6**	**+0.7**
	baz=342							
JAVC	**Velka Javorina**	**2.82**	**162**	*e*PN		**Pn**	**18 08 12.7**	**+0.8**
KHC	**Kasperske Hory**	**2.98**	**217**	*e*PN		**Pn**	**18 08 15.4**	**+1.2**
KHC				*e*PG		**Pb**	**18 08 20.9**	**+1.3**
KHC				*e*SN		**Sn**	**18 08 49.5**	**-1.2**
KHC				*e*SG		**Sb**	**18 08 58.8**	**+2.2**
	comp=Z,25nm,0.7s							
CKRC	**Cesky Krumlov**	**3.01**	**206**	*e*PN		**Pn**	**18 08 15.9**	**+1.3**
CKRC				*e*PG		**Pb**	**18 08 21.6**	**+1.5**
CKRC				*e*SG		**Sb**	**18 08 58.2**	**+0.7**
	comp=Z,42nm,0.7s							
GERES	**GERESS Array B**	**3.18**	**213**	Pn		**Pn**	**18 08 18.1**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=35,slow=14,SNR=16							
GERES				Pg		**Pb**	**18 08 23.2**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=30,slow=16,SNR=44							
GERES				Sn		**Sn**	**18 08 55.3**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=31,slow=25,SNR=5.7							
GERES				Lg		Lg	18 09 03.5	
	comp=Z,0.9nm,0.3s,baz=31,slow=29,SNR=12							
NIE	**Niedzica**	**3.31**	**128**	*e*Pg		**Pg**	**18 08 30.2**	**+1.2**
NIE				*e*Sg		**Sg**	**18 09 12.9**	**+1.0**
CONA	**Conrad Observa**	**3.63**	**185**	*e*Pn		**Pn**	**18 08 23.6**	**+0.5**
	comp=Z,0.6nm,0.3s							
CONA				*e*Sg		**Sg**	**18 09 19.0**	**-3.1**
	comp=Z,20nm,0.4s							
RONA	**Rosalia, Austr**	**3.84**	**180**	*e*Pn		**Pn**	**18 08 26.6**	**+0.6**
	comp=Z,1.0nm,0.4s							
MOA	**Molln**	**3.93**	**201**	*e*Pn		**Pn**	**18 08 27.7**	**+0.6**
	comp=Z,1.6nm,0.4s							
BIOA	**Bad Ischl, Aus**	**4.23**	**205**	*e*Pn		**Pn**	**18 08 32.0**	**+0.7**
	comp=Z,0.9nm,0.2s							
ARSA	**Arzberg**	**4.32**	**187**	*e*Pn		**Pn**	**18 08 34.6**	**+2.0**
	comp=Z,1.9nm,0.4s							
LESA	**Schwarzleotal**	**4.75**	**211**	Pg		**Pg**	**18 08 54.7**	**-1.9**
	comp=Z,0.9nm,0.3s							
KBA	**Koelnbreinsper**	**4.87**	**205**	*e*Pn		**Pn**	**18 08 41.5**	**+1.2**
	comp=Z,1.6nm,0.5s							
BJUU	**Bjuv**	**4.95**	**338**	*e*P		**Pn**	**18 08 42.3**	**+1.2**
BJUU				*e*S		**Sn**	**18 09 38.8**	**-0.2**
DEL	**Delary**	**5.15**	**345**	*e*P		**Pn**	**18 08 45.9**	**+2.0**
DEL				*e*S		**Sn**	**18 09 43.4**	**-0.5**
ABTA	**Abfaltersbach**	**5.41**	**209**	*i* Pn		**Pn**	**18 08 47.7**	**+0.2**
	comp=Z,0.7nm,0.3s							
RETA	**Reutte**	**5.43**	**224**	*e*Pn		**Pn**	**18 08 48.1**	**+0.1**
	comp=Z,0.3nm,0.1s							
FABU	**Falkenberg**	**5.87**	**340**	*e*P		**Pn**	**18 08 56.2**	**+2.5**
FABU				*e*S		**Sn**	**18 10 01.1**	**-0.5**
DAVOX	**Davos/Dischmat**	**6.36**	**224**	Pn		**Pn**	**18 09 02.0**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=30,slow=16,SNR=1.8							
DAVOX				Lg		Lg	18 10 41.4	
	comp=Z,0.2nm,0.3s,baz=2.9,slow=23,SNR=1.9							
	comp=Z,0.8nm,0.4s							
ONAU	**Onsala**	**6.41**	**338**	*e*P		**Pn**	**18 09 03.7**	**+2.6**
ONAU				*e*S		**Sn**	**18 10 14.3**	**-0.6**
BORU	**Boraas**	**6.45**	**343**	*e*P		**Pn**	**18 09 04.9**	**+3.2**
BORU				*e*S		**Sn**	**18 10 12.8**	**-3.1**
AKASG	**Malin Array Be**	**8.16**	**91**	Pn		**Pn**	**18 09 25.1**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=282,slow=12,SNR=2.0							
AKASG				Sn		**Sn**	**18 10 56.6**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=196,slow=31,SNR=1.7							
	comp=Z,0.4nm,0.4s							
HFS	**Hagfors**	**8.74**	**351**	Pn		**Pn**	**18 09 34.4**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=169,slow=16,SNR=5.4							
HFS				Sn		**Sn**	**18 11 09.7**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=171,slow=28,SNR=1.7							
	comp=Z,0.5nm,0.4s							
NOA	**NORSAR Array B**	**9.94**	**345**	Pn		**Pn**	**18 09 50.0**	**+0.4**
	baz=158,slow=14,SNR=1.4							
	comp=Z,0.2nm,0.6s							
FINES	**FINESS Array B**	**11.28**	**25**	Pn		**Pn**	**18 10 07.8**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=207,slow=12,SNR=11							
	comp=Z,1.0nm,0.5s							
EKA	**Eskdalemuir Ar**	**12.21**	**296**	Pn		**Pn**	**18 10 21.5**	**+0.8**
	baz=102,slow=13							
	comp=Z,0.9nm,0.7s							
ARCES	**ARCESS Array B**	**18.57**	**10**	Pn		**P**	**18 11 42.6**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=196,slow=12,SNR=8.3							
	comp=Z,4.3nm,1.0s							

*IDC **24** 18:11:11.7±1.5,60.°23N×153.°58W,h111km±19km,mb3.6/8, mbtmp4.1/13,MS3.3/1,Error ellipse: s-maj=23.2km s-min=14.1km az=103.0*

*NEIC **24** 18:11:13.9±0.9,60.°19N±0.°04×153.°19W±0.°08, h138km±4km,Error ellipse: s-maj=5.7km s-min=5.2km az=114.0*

*AEIC **24** 18:11:14.9±1.1,60.°18N±0.°04×153.°23W±0.°07, h135km±3km,ML3.5,ML3.8/186(NEIC),Error ellipse: s-maj=5.3km s-min=1.1km az=217.0*

ISC 24 18:11:13.6±0.6,60.°19N±0.°04×153.°12W±0.°04, h142km±5km,n229,σ0.°77/235,mb3.9/8,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILSW	**Iliamna Southw**	**0.21**	**182**		**Pn**	**18 11 32.5**	**-0.7**
ILSW				IAML		18 11 51.8	
	comp=N,803nm,0.7s						
ILSW				IAML		18 11 52.0	
	comp=E,710nm,0.7s						
ILSW	**Iliamna Southw**	**0.21**	**182**		**Sn**	**18 11 47.2**	**-0.7**
ILS	**Iliamna Low So**	**0.24**	**173**		**Pn**	**18 11 32.7**	**-0.5**
ILS					**Sn**	**18 11 47.8**	**-0.2**
O20K	**Slope Mountain**	**0.28**	**114**		**Pn**	**18 11 33.4**	**+0.1**
O20K					**Sn**	**18 11 48.2**	**+0.1**
RED	**Redoubt Volcan**	**0.29**	**38**		**Pn**	**18 11 33.1**	**-0.2**
RED				IAML		18 11 48.3	
	comp=N,760nm,0.6s						
RED				IAML		18 11 48.6	
	comp=E,663nm,0.9s						
RED	**Redoubt Volcan**	**0.29**	**38**		**Sn**	**18 11 47.9**	**-0.4**
RDSO	**Redoubt South**	**0.32**	**36**		**Pn**	**18 11 33.4**	**-0.1**
RDWB	**Redoubt West**	**0.33**	**25**		**Pn**	**18 11 33.4**	**-0.1**
RDWB					**Sn**	**18 11 48.1**	**-0.6**
NCT	**North Crescent**	**0.38**	**15**		**Pn**	**18 11 33.7**	**0.0**
NCT					**Sn**	**18 11 48.5**	**-0.5**
RDJH	**Redoubt Jeurge**	**0.43**	**22**		**Pn**	**18 11 33.8**	**-0.1**
RDJH					**Sn**	**18 11 48.2**	**-1.2**
DFR	**Drift River**	**0.46**	**28**		**Pn**	**18 11 33.8**	**-0.2**
RDT	**Redoubt**	**0.52**	**43**		**Pn**	**18 11 34.2**	**-0.1**
RDT					**Sn**	**18 11 49.0**	**-1.0**
P19K	**Oil Pt**	**0.55**	**186**		**Pn**	**18 11 34.1**	**-0.3**
P19K	**Oil Pt**	**0.55**	**186**		**Sn**	**18 11 49.8**	**-0.3**
O19K	**Port Alsworth**	**0.60**	**271**		**Pn**	**18 11 33.8**	**-0.8**
O19K	**Port Alsworth**	**0.60**	**271**		**Sn**	**18 11 48.6**	**-1.9**
AU22	**Augustine Moun**	**0.83**	**188**		**Pn**	**18 11 36.3**	**0.0**
AU22					**Sn**	**18 11 52.3**	**-1.1**
AUCH	**Augustine Cone**	**0.85**	**191**		**Pn**	**18 11 36.6**	**+0.1**
AUCH					**Sn**	**18 11 53.3**	**-0.5**
AGU	**Augustine-Summ**	**0.85**	**191**		**Pn**	**18 11 36.7**	**+0.2**
AGU					**Sn**	**18 11 53.7**	**-0.2**
AUJK	**Augustine Jueg**	**0.86**	**190**		**Pn**	**18 11 36.4**	**-0.1**
AUJK					**Sn**	**18 11 53.3**	**-0.5**
N19K	**Bonanza Creek**	**0.92**	**313**		**Pn**	**18 11 36.5**	**-0.6**
N19K				IAML		18 11 54.1	
	comp=N,412nm,0.7s						
N19K				IAML		18 11 54.4	
	comp=E,568nm,0.9s						
N19K	**Bonanza Creek**	**0.92**	**313**		**Sn**	**18 11 53.5**	**-1.4**
HOM	**Homer**	**0.92**	**125**		**Pn**	**18 11 37.2**	**+0.3**
HOM					**Sn**	**18 11 55.1**	**+0.5**
HOM	**Homer**	**0.92**	**125**	IAML		18 11 56.4	
	comp=N,2μm,0.8s						
HOM				IAML		18 11 56.8	
	comp=E,2μm,0.9s						
SPU	**Mount Spurr**	**1.12**	**28**		**Pn**	**18 11 38.9**	**+0.1**
SPBG	**Spurr Blockage**	**1.13**	**19**		**Pn**	**18 11 39.9**	**+0.9**
SPBG					**Sn**	**18 11 58.9**	**+0.6**
CAPN	**Captain Cook N**	**1.13**	**59**		**Sn**	**18 11 58.1**	**+0.1**
CNPM	**China Poot**	**1.17**	**124**		**Pn**	**18 11 39.4**	**+0.2**
CNPM	**China Poot**	**1.17**	**124**		**Sn**	**18 11 58.6**	**-0.1**
BRLK	**Bradley Lake**	**1.21**	**110**		**Pn**	**18 11 39.6**	**0.0**
BRLK				IAML		18 12 01.0	
	comp=E,931nm,0.5s						
BRLK				IAML		18 12 01.4	
	comp=N,1μm,0.6s						
SPCG	**Spurr Capps Gl**	**1.23**	**26**		**Pn**	**18 11 40.3**	**+0.4**
BRSE	**Bradley Lake S**	**1.28**	**110**		**Pn**	**18 11 40.6**	**+0.3**
BRSE					**Sn**	**18 12 00.2**	**-0.5**
Q19K	**Cape Douglas,**	**1.30**	**192**		**Pn**	**18 11 40.0**	**-0.5**
Q19K				IAML		18 12 05.0	
	comp=N,2μm,1.0s						
Q19K				IAML		18 12 06.7	
	comp=E,2μm,0.8s						
P18K	**Big Mountain,**	**1.33**	**234**		**Pn**	**18 11 39.8**	**-1.1**
STLK	**Strandline Lak**	**1.45**	**25**		**Pn**	**18 11 42.6**	**+0.5**
STLK				IAML		18 12 05.8	
	comp=N,254nm,1.1s						
N18K	**Kilae Creek**	**1.46**	**291**		**Pn**	**18 11 41.3**	**-0.8**
SLKM	**Skilak Lake**	**1.48**	**76**		**Pn**	**18 11 42.3**	**-0.1**
SLKM				IAML		18 12 04.7	
	comp=E,2μm,0.4s						
SLKM				IAML		18 12 05.3	
	comp=N,1μm,0.4s						
SYI	**Shuyak Island**	**1.63**	**166**		**Pn**	**18 11 43.5**	**-0.5**
SYI				IAML		18 12 07.6	
	comp=E,2μm,0.8s						
M20K	**Styx River**	**1.69**	**360**		**Pn**	**18 11 45.3**	**+0.5**
O22K	**Cooper Landing**	**1.71**	**79**		**Pn**	**18 11 45.2**	**+0.3**
FIS	**Fire Island**	**1.72**	**55**		**Pn**	**18 11 45.5**	**+0.6**
FIS				IAML		18 12 15.7	
	comp=E,1μm,0.8s						
SUA	**Susitna One**	**1.73**	**41**		**Pn**	**18 11 45.6**	**+0.4**
SUA				IAML		18 12 11.4	
	comp=E,1μm,0.9s						
KAHC	**Katmai Hardscr**	**1.82**	**213**		**Pn**	**18 11 45.7**	**-0.6**
SEW	**Seward**	**1.84**	**91**		**Pn**	**18 11 46.5**	**+0.2**
SEW				IAML		18 12 14.6	
	comp=N,582nm,0.6s						
SEW				IAML		18 12 16.5	
	comp=E,504nm,0.5s						
KAHG	**Katmai Hook Gl**	**1.85**	**204**		**Pn**	**18 11 46.5**	**-0.2**
M18K	**Stony River**	**1.85**	**316**		**Pn**	**18 11 46.0**	**-0.6**
RC01	**Rabbit Creek A**	**1.90**	**60**		**Pn**	**18 11 46.9**	**-0.1**
RC01				IAML		18 12 13.8	
	comp=N,644nm,0.6s						
RC01				IAML		18 12 19.2	
	comp=E,458nm,0.5s						
SKT	**Skwentna**	**1.95**	**23**		**Pn**	**18 11 48.0**	**+0.3**
SKT				IAML		18 12 16.0	
	comp=E,232nm,0.6s						
SKT				IAML		18 12 16.1	
	comp=N,215nm,0.8s						
P17K	**Kvichak River**	**1.96**	**241**		**Pn**	**18 11 47.6**	**-0.1**
O17K	**Koliganek Bris**	**2.04**	**260**		**Pn**	**18 11 48.5**	**-0.2**
N17K	**Nushagak Hills**	**2.05**	**281**		**Pn**	**18 11 48.3**	**-0.5**
M22K	**Willow**	**2.14**	**42**		**Pn**	**18 11 50.0**	**+0.2**
KAKN	**Katmai Knife C**	**2.15**	**208**		**Pn**	**18 11 49.7**	**-0.4**
L19K	**White Mountain**	**2.16**	**338**		**Pn**	**18 11 50.0**	**-0.2**
KABU	**Katmai Buttres**	**2.23**	**211**		**Pn**	**18 11 51.0**	**-0.1**
ACHA	**Angle Creek He**	**2.29**	**211**		**Pn**	**18 11 51.3**	**-0.5**
ANCK	**Angle Creek**	**2.34**	**212**		**Pn**	**18 11 52.2**	**-0.3**
PMR	**Palmer**	**2.40**	**53**		**Pn**	**18 11 52.9**	**-0.1**
PMR				IAML		18 12 23.3	
	comp=N,193nm,1.1s						
PMR				IAML		18 12 23.9	
	comp=E,292nm,0.5s						
KDAK	**Kodiak Island**	**2.44**	**173**		**Pn**	**18 11 51.9**	**-1.6**
KDAK	**Kodiak Island**	**2.44**	**173**	P	**Pn**	**18 11 52.0**	**-1.5**
	comp=E,92nm,0.4s,baz=10,slow=5.6,SNR=310						
KDAK				S	**Sn**	**18 12 21.6**	**-2.6**
	comp=E,280nm,0.5s,baz=333,slow=11,SNR=6.5						
M17K	**Holitna River**	**2.44**	**302**		**Pn**	**18 11 52.8**	**-0.7**
PWL	**Port Wells**	**2.46**	**72**		**Pn**	**18 11 53.1**	**-0.7**
PWL				IAML		18 12 24.7	
	comp=N,651nm,0.5s						
PWL				IAML		18 12 26.3	
	comp=E,597nm,0.5s						
O16K	**Kokwok River B**	**2.58**	**259**		**Pn**	**18 11 54.9**	**-0.4**
GHO	**Glory Hole Cre**	**2.59**	**50**		**Pn**	**18 11 54.8**	**-0.7**
KNK	**Knik Glacier**	**2.59**	**60**		**Pn**	**18 11 54.9**	**-0.6**
KNK				IAML		18 12 28.0	
	comp=E,645nm,0.7s						
KNK				IAML		18 12 36.9	
	comp=N,562nm,0.6s						
CUT	**Chulitna**	**2.61**	**31**		**Pn**	**18 11 56.1**	**+0.4**
L18K	**Granite Mounta**	**2.67**	**321**		**Pn**	**18 11 55.9**	**-0.5**
P16K	**Nushagak River**	**2.73**	**247**		**Pn**	**18 11 57.6**	**+0.4**
P16K				IAML		18 12 34.5	
	comp=E,124nm,1.1s						
P16K				IAML		18 12 48.5	
	comp=N,138nm,0.9s						
PPLA	**Purkeypile**	**2.75**	**9**		**Pn**	**18 11 58.8**	**+1.2**
PPLA				IAML		18 12 38.1	
	comp=E,96nm,1.1s						
N16K	**Nishlik Lake**	**2.82**	**278**		**Pn**	**18 11 58.1**	**-0.2**
OHAK	**Old Harbor**	**2.98**	**182**		**Pn**	**18 11 58.3**	**-2.1**
OHAK				IAML		18 12 34.7	
	comp=E,223nm,0.3s						
OHAK				IAML		18 12 35.6	
	comp=N,185nm,0.7s						
M16K	**Timber Creek**	**3.00**	**289**		**Pn**	**18 12 00.4**	**-0.2**
PLK1	**Peulik 1**	**3.00**	**218**		**Pn**	**18 12 00.1**	**-0.6**
GLI	**Glacier Island**	**3.06**	**74**		**Pn**	**18 12 01.8**	**+0.4**
GLI				IAML		18 12 40.9	
	comp=E,216nm,0.4s						
GLI				IAML		18 12 46.9	
	comp=N,198nm,0.8s						
PLK4	**Peulik 4**	**3.07**	**215**		**Pn**	**18 12 01.3**	**-0.3**
PLK4				IAML		18 12 40.6	
	comp=E,109nm,0.9s						
PLK4				IAML		18 12 42.0	
	comp=N,80nm,1.0s						
PLBL	**Peulik Blue Cr**	**3.15**	**219**		**Pn**	**18 12 01.6**	**-1.0**
SCM	**Sheep Creek Mo**	**3.27**	**57**		**Pn**	**18 12 03.6**	**-0.5**
SCM				IAML		18 12 45.0	
	comp=N,320nm,1.0s						
HIN	**Hinchinbrook I**	**3.30**	**84**		**Pn**	**18 12 04.5**	**-0.1**
HIN				IAML		18 12 44.2	
	comp=N,176nm,0.5s						
HIN				IAML		18 12 44.5	
	comp=E,278nm,0.4s						
FID	**Port Fidalgo**	**3.34**	**78**		**Pn**	**18 12 03.5**	**-1.4**
FID				IAML		18 12 46.2	
	comp=N,367nm,0.5s						
FID				IAML		18 12 48.6	
	comp=E,246nm,0.5s						
WAT7	**Susitna Watana**	**3.35**	**36**		**Pn**	**18 12 05.2**	**0.0**
WAT1	**Susitna Watana**	**3.43**	**38**		**Pn**	**18 12 06.3**	**+0.1**
L16K	**Owhat River**	**3.45**	**299**		**Pn**	**18 12 05.9**	**-0.4**
N15K	**Kwethluk River**	**3.48**	**273**		**Pn**	**18 12 07.0**	**+0.2**
R16K	**Pilot Point**	**3.50**	**223**	Pn	**Pn**	**18 12 07.3**	**+0.2**
R16K				IAML		18 13 33.9	
	comp=E,237nm,1.1s						
R16K				IAML		18 14 15.7	
	comp=N,246nm,1.2s						
Q23K	**Middleton Isla**	**3.51**	**100**	Pn	**Pn**	**18 12 07.4**	**+0.3**
Q23K				IAML		18 12 50.9	
	comp=N,265nm,0.8s						
Q23K				IAML		18 12 51.4	
	comp=E,229nm,1.1s						
WAT6	**Susitna Watana**	**3.53**	**45**		**Pn**	**18 12 07.3**	**-0.2**
KTH	**Kantishna Hill**	**3.53**	**16**		**Pn**	**18 12 07.7**	**+0.2**
KTH				IAML		18 12 49.9	
	comp=N,69nm,0.8s						
KTH				IAML		18 13 31.1	
	comp=E,57nm,0.9s						
TRF	**Thorofare Moun**	**3.53**	**21**		**Pn**	**18 12 07.5**	**-0.1**
TRF				IAML		18 12 50.4	
	comp=N,78nm,0.8s						
TRF				IAML		18 12 51.4	
	comp=E,137nm,0.6s						
K17K	**Iditarod**	**3.55**	**318**		**Pn**	**18 12 07.6**	**-0.1**
O15K	**Ungalikthiuk R**	**3.55**	**256**		**Pn**	**18 12 07.9**	**+0.3**
O15K				IAML		18 12 51.4	
	comp=N,56nm,1.0s						
EYAK	**Cordova Ski Ar**	**3.68**	**81**	Pn	**Pn**	**18 12 09.9**	**+0.6**
EYAK				IAML		18 12 54.1	
	comp=E,102nm,0.7s						
EYAK				IAML		18 12 57.1	
	comp=N,141nm,0.8s						
SII	**Sitkinak Islan**	**3.69**	**189**		**Pn**	**18 12 07.5**	**-2.1**
SII				IAML		18 12 52.3	
	comp=E,285nm,0.5s						
SII				IAML		18 12 55.5	
	comp=N,238nm,0.8s						
J18K	**Innoko River**	**3.70**	**334**		**Pn**	**18 12 09.2**	**-0.5**
DIV	**Divide**	**3.74**	**72**		**Pn**	**18 12 10.1**	**-0.1**
DIV				IAML		18 12 56.8	
	comp=E,204nm,0.5s						
KLU	**Klutina**	**3.76**	**67**		**Pn**	**18 12 09.8**	**-0.7**
KLU				IAML		18 12 57.5	
	comp=E,264nm,0.7s						
RND	**Reindeer**	**3.81**	**30**		**Pn**	**18 12 11.0**	**-0.1**
RND				IAML		18 12 55.7	
	comp=E,69nm,0.5s						
RND				IAML		18 12 57.5	
	comp=N,62nm,0.7s						
M24K	**Tolsona, Glenn**	**3.88**	**57**		**Pn**	**18 12 12.1**	**+0.1**
DHY	**Denali Highway**	**3.98**	**41**		**Pn**	**18 12 13.6**	**+0.1**
DHY				IAML		18 13 02.3	
	comp=N,131nm,0.6s						
DHY				IAML		18 13 02.9	
	comp=E,138nm,0.9s						
J19K	**Poorman**	**3.99**	**344**		**Pn**	**18 12 13.5**	**+0.1**
J20K	**Nowinta River**	**4.03**	**354**		**Pn**	**18 12 14.3**	**+0.4**
BPAW	**Bear Paw Mtn.**	**4.05**	**13**		**Pn**	**18 12 14.3**	**+0.2**
BPAW				IAML		18 13 00.2	
	comp=E,41nm,0.7s						
MCK	**McKinley**	**4.06**	**27**		**Pn**	**18 12 14.6**	**+0.2**
MCK				IAML		18 13 02.6	
	comp=N,68nm,0.7s						
MCK				IAML		18 13 04.6	
	comp=E,54nm,0.5s						
RAGM	**Ragged Mountai**	**4.21**	**84**		**Pn**	**18 12 16.8**	**+0.4**
O14K	**Tigyukauivet M**	**4.23**	**261**	Pn	**Pn**	**18 12 16.4**	**-0.2**
ANPK	**Aniakchak Peak**	**4.26**	**220**		**Pn**	**18 12 16.7**	**-0.5**
BMRM	**Bremner River**	**4.27**	**76**		**Pn**	**18 12 16.8**	**-0.4**
BMRM				IAML		18 13 10.6	
	comp=E,149nm,0.4s						
J17K	**VABM Dome**	**4.28**	**321**		**Pn**	**18 12 16.6**	**-0.6**
N14K	**Kuskokwak Cree**	**4.30**	**270**	Pn	**Pn**	**18 12 18.0**	**+0.5**
N14K				IAML		18 13 57.6	
	comp=E,27nm,1.0s						
N14K				IAML		18 14 27.9	
	comp=N,32nm,1.1s						
L15K	**Ungalak Mounta**	**4.34**	**294**		**Pn**	**18 12 17.4**	**-0.7**
BWN	**Browne**	**4.34**	**22**		**Pn**	**18 12 18.5**	**+0.4**
BWN				IAML		18 13 32.1	
	comp=N,122nm,1.2s						
BWN				IAML		18 13 51.3	
	comp=E,90nm,1.1s						
KAIM	**Kayak Island**	**4.37**	**90**	Pn	**Pn**	**18 12 18.8**	**+0.3**
N25K	**Chitina, Valde**	**4.40**	**68**		**Pn**	**18 12 18.9**	**0.0**
M14K	**Bethel**	**4.41**	**281**		**Pn**	**18 12 18.8**	**-0.1**
HMT	**Hamilton**	**4.42**	**84**		**Pn**	**18 12 19.6**	**+0.5**
HMT				IAML		18 13 12.4	
	comp=N,166nm,0.5s						
HARP	**HAARP**	**4.43**	**57**		**Pn**	**18 12 19.5**	**+0.2**
K15K	**Wolf Creek Mou**	**4.57**	**301**		**Pn**	**18 12 21.3**	**+0.1**
CHIR	**Chirikof Islan**	**4.58**	**198**		**Pn**	**18 12 19.2**	**-2.1**
CHIR	**Chirikof Islan**	**4.58**	**198**	IAML		18 13 17.3	
	comp=N,95nm,1.2s						
CHIR				IAML		18 14 40.2	
	comp=E,67nm,1.2s						
PAX	**Paxson**	**4.60**	**49**		**Pn**	**18 12 21.7**	**+0.2**
PAX				IAML		18 13 14.2	
	comp=N,78nm,0.8s						
PAX				IAML		18 13 27.6	
	comp=E,44nm,0.6s						
WACK	**Wrangell Chich**	**4.63**	**63**		**Pn**	**18 12 22.3**	**+0.2**
I20K	**Naaghedeneel**	**4.66**	**353**		**Pn**	**18 12 22.1**	**-0.1**
I20K	**Naaghedeneel**	**4.66**	**353**	IAML		18 14 08.7	
	comp=E,62nm,1.1s						
I20K				IAML		18 14 21.7	
	comp=N,65nm,0.8s						
SUCK	**Suckling Hills**	**4.68**	**87**	Pn	**Pn**	**18 12 23.3**	**+0.8**
SUCK				IAML		18 13 18.0	
	comp=N,102nm,0.7s						
SUCK				IAML		18 13 23.5	
	comp=E,60nm,1.1s						
BERG	**Berg Lake**	**4.69**	**83**	Pn	**Pn**	**18 12 23.1**	**+0.4**
GLB	**Gilahina Butte**	**4.73**	**71**		**Pn**	**18 12 23.2**	**0.0**
GLB				IAML		18 13 19.3	
	comp=E,143nm,0.5s						
CHGN	**Chignik**	**4.80**	**218**		**Pn**	**18 12 23.1**	**-1.1**
CHGN				IAML		18 13 17.1	
	comp=N,131nm,0.3s						
NEA2	**Nenana**	**4.80**	**21**		**Pn**	**18 12 24.0**	**-0.1**
VRDI	**Verde Repeater**	**4.86**	**74**		**Pn**	**18 12 25.9**	**+0.7**
VRDI	**Verde Repeater**	**4.86**	**74**	IAML		18 13 23.8	
	comp=E,110nm,0.8s						
WRH	**Wood River Hil**	**4.89**	**26**		**Pn**	**18 12 25.3**	**0.0**
WRH				IAML		18 13 34.2	
	comp=E,24nm,0.9s						
WRH				IAML		18 13 50.0	
	comp=N,22nm,0.7s						
CRQM	**Cirque**	**4.97**	**79**		**Pn**	**18 12 27.3**	**+0.7**
K24K	**Donnelly Dome**	**5.01**	**41**		**Pn**	**18 12 27.7**	**+0.8**
MCARA	**McCarthy VSAT**	**5.09**	**72**		**Pn**	**18 12 28.5**	**+0.5**
CCB	**Clear Creek Bu**	**5.11**	**27**		**Pn**	**18 12 28.1**	**-0.1**
CCB	**Clear Creek Bu**	**5.11**	**27**	IAML		18 13 28.7	
	comp=N,18nm,0.6s						
CCB				IAML		18 13 28.8	
	comp=E,21nm,0.5s						
VNHG	**Veniaminof 1**	**5.11**	**221**		**Pn**	**18 12 27.3**	**-1.0**
WAX	**Waxell Ridge**	**5.11**	**83**		**Pn**	**18 12 28.2**	**-0.2**
HDA	**Harding Lake**	**5.12**	**32**	IAML		18 13 26.1

F26K	Sheenjek River	8.49	24			Pn	18 13 12.3	-1.1
TOLK	Toolik Lake Re	8.62	9			Pn	18 13 14.7	-0.5
D23K	Nanushuk River	8.87	6			Pn	18 13 18.1	-0.3
J30M	Hart River	8.94	53			Pn	18 13 19.5	0.0
H29M	Whitestone	8.98	41			Pn	18 13 19.4	-0.5
F28M	Old Crow	9.44	32			Pn	18 13 25.5	-0.6
E27K	Coleen River	9.45	27			Pn	18 13 25.1	-1.1
BESE	Bessie Mountai	9.46	92			Pn	18 13 26.3	-0.1
G29M	Pine Creek	9.50	38			Pn	18 13 26.5	-0.4
D25K	Kavik River	9.60	14			Pn	18 13 27.9	-0.3
C23K	Itkillik River	9.74	5			Pn	18 13 29.6	-0.4
G30M	tAoh Zraii Nji	10.12	41			Pn	18 13 34.1	-1.0
H31M	Peel River	10.20	49			Pn	18 13 35.5	-0.6
E28M	Babbage River	10.26	29			Pn	18 13 35.0	-1.9
C27K	Jago River	10.26	19			Pn	18 13 35.9	-1.0
E29M	Blow River	10.52	32			Pn	18 13 39.7	-0.6
F30M	Barrier River	10.62	38			Pn	18 13 40.6	-1.1
G31M	Satah River	10.74	43			Pn	18 13 41.9	-1.4
U33K	Whale Pass	11.31	102	Pn		Pn	18 13 51.8	+0.9
INK	Inuvik	11.72	38			Pn	18 13 53.7	-2.4
INK	Inuvik	11.72	38	P		Pn	18 13 56.3	+0.1
	comp=N,8.6nm,0.7s,baz=237,slow=15,SNR=11							
DLBC	Dease Lake	11.91	88	P		Pn	18 14 01.4	+2.6
	comp=N,10.0nm,0.4s,baz=214,slow=13,SNR=17							
WTLY	Watson Lake, Y	12.10	80	Pn		Pn	18 14 00.5	-0.7
ATKA	Atka Island	14.14	245	Pn		Pn	18 14 27.9	+0.5
A36M	Sachs Harbour	16.12	32			Pn	18 14 51.1	-0.7
YKA	Yellowknife Ar	18.43	66	P		P	18 15 16.2	-1.5
YKA	Yellowknife Ar	18.43	66	P		P	18 15 19.8	+2.1
	comp=N,2.2nm,0.6s,baz=280,slow=11,SNR=5.9							
ANMO	Albuquerque	39.14	109	LR		LR	18 37 01.1	
	comp=N,37nm,18.2s,baz=22,slow=39							
KSRS	Korea Array	53.08	282	P		P	18 20 15.9	0.0
	comp=N,0.5nm,0.3s,baz=16,slow=5.7,SNR=4.5 comp=N,0.5nm,0.3s							
SONM	Songino Array	54.63	306	P		P	18 20 27.4	+0.2
	comp=N,1.8nm,0.7s,baz=39,slow=7.1,SNR=6.2 comp=N,1.8nm,0.7s							
ZALV	Zalesovo Beam	57.18	323	P		P	18 20 45.5	+0.4
	comp=N,2.3nm,0.5s,baz=29,slow=7.1,SNR=12 comp=N,2.3nm,0.5s							
BVAR	Borovoye Array	61.87	332	P		P	18 21 17.5	+0.3
	comp=N,3.1nm,0.6s,baz=36,slow=5.8,SNR=14 comp=N,3.1nm,0.6s							
KURBB	Kurchatov Arra	61.94	326	P		P	18 21 18.1	+0.4
	comp=N,1.1nm,0.7s,baz=27,slow=6.4,SNR=8.6 comp=N,1.1nm,0.7s							
MKAR	Makanchi Array	64.24	321	P		P	18 21 32.8	-0.2
	comp=N,0.2nm,0.3s,baz=39,slow=7.9,SNR=5.8 comp=N,0.2nm,0.3s							
AKASG	Malin Array Be	69.44	358	P		P	18 22 05.5	-0.3
	comp=N,0.2nm,0.3s,baz=3.7,slow=6.4,SNR=2.5 comp=N,0.2nm,0.3s							
CMAR	Chiang Mai Arr	82.73	294	P		P	18 23 21.4	-0.1
	comp=N,0.2nm,0.4s,baz=19,slow=5.9,SNR=4.2 comp=N,0.2nm,0.4s							
VNDA	Vanda	140.24	194	PKP		PKiKP	18 30 25.7	-0.2
	comp=N,0.2nm,0.5s,baz=160,slow=7.8,SNR=1.5							
BOSA	Boshof	148.41	3	PKPbc		PKPbc	18 30 43.5	+0.6
	comp=N,3.8nm,1.0s,baz=149,slow=8.7,SNR=2.3							
QSPA	South Pole Qui	149.99	180	PKPbc		PKiKP	18 30 48.0	+1.7
	comp=N,2.2nm,0.7s,baz=229,slow=0.5,SNR=22							

*JMA **24** 18:38:57.5±0.2, 37°N±1°×13°5E±°, h395km±2km, MV2.9/37, SEA OF JAPAN*

*IDC **24** 18:38:58.3±0.8, 37°.43N×134°.74E, h393km±10km, mb2.7/6, mbtmp3.6/11, Error ellipse: s-maj=20.1km s-min=13.6km az=50.0*

ISC 24 18:38:57.7±0.7, **37°.47N**±0°.07×**134°.72E**±0°.07, **h387**km±7km, **n42**, σ1°**28**/51, **mb3.0**/6, **Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOI	OKI	1.67	226	eP	Pn	18 39 50.7	+0.2
JKG	Kaga	1.75	132	P	Pn	18 39 51.5	+0.4
JHG	Hegura jima	1.79	77	eP	Pn	18 39 52.4	+1.3
JKY	Yasaka	1.86	170	P	Pn	18 39 52.5	+0.7
JKY				S	S	18 40 35.0	-0.3
JSZ	Suzu	2.10	90	P	Pn	18 39 54.9	+1.8
JWT	Wachi	2.25	166	P	Pn	18 39 55.2	+0.9
JWT				S	S	18 40 40.0	+0.2
JYTA	Yamagatataniai	2.48	138	P	Pn	18 39 56.5	+0.7
JYTA				eS	S	18 40 43.2	+0.5
JHS	Saijyo	2.79	208	P	Pn	18 39 58.3	-0.1
JHS				eS	S	18 40 46.3	-0.9
INU	Inuyama	2.81	138	P	Pn	18 39 58.7	+0.2
JGF	Kuroka	2.82	130	P	Pn	18 39 58.9	+0.3
JSD	Sado	2.86	77	P	Pn	18 40 00.2	+1.4
JSD	Sado	2.86	77	P	Pn	18 40 00.2	+1.4
MAJO	Matsushiro	2.94	107	P	Pn	18 40 00.5	+1.0
MAT	Matsushiro	2.94	107	eP	Pn	18 40 00.4	+0.9
MJAR	Matsushiro Arr	2.94	107	P	Pn	18 40 00.7	+1.2
	16nm,0.9s,baz=298,slow=11,SNR=34						
MJAR				S	S	18 40 51.4	+2.0
	0.5nm,0.3s,baz=98,slow=16,SNR=1.4						
JGT2	ShimaneMisato	2.99	217	eP	Pn	18 40 00.3	+0.3
JIE	Ise	3.47	152	eP	Pn	18 40 05.0	+0.9
JRY	Ryogami san	3.66	112	eP	Pn	18 40 08.2	+2.4
JTNC	Tanabenakahech	3.71	168	eS	S	18 41 01.8	-0.1
JOD2	Odawara 2	4.15	121	eP	Pn	18 40 11.0	+0.4
JMM	Marumori	4.83	83	P	Pn	18 40 18.2	+0.9
JTO	Tosashimizu	4.86	199	eP	Pn	18 40 17.6	-0.1
JTU	Tsushima	5.22	237	eP	Pn	18 40 20.8	-0.7
JMK	Ichinoseki	5.33	72	eP	Pn	18 40 23.4	+0.9
JMK				eS	S	18 41 31.6	+0.2
JNU	Nakatsue	5.36	217	P	Pn	18 40 23.7	+0.7
	4.4nm,0.5s,baz=33,slow=2.5,SNR=6.7						
JNU	Nakatsue	5.36	217	P	Pn	18 40 23.1	+0.1
KSRS	Korea Array	5.41	272	P	Pn	18 40 24.4	+1.0
	1.7nm,0.5s,baz=89,slow=11,SNR=17						
BSO1	Boso 1	5.79	117	eP	Pn	18 40 26.6	-0.4
BSO1				eS	S	18 41 38.6	-1.2
JOSM	Okushiri--Mats	5.88	37	eP	Pn	18 40 30.4	+1.9
JTM	Tenmabayashi	5.94	54	P	Pn	18 40 30.7	+1.6
JOT	Ohata	6.26	49	eP	Pn	18 40 34.1	+1.4
USRK	Ussuriysk Ar.	7.04	344	P	P	18 40 43.3	+1.2
	7.0nm,0.5s,baz=160,slow=11,SNR=15						
JSJ	Shimokoshiki	7.10	217	eP	Pn	18 40 41.9	-0.4
ERM	Erimo	7.93	52	P	Pn	18 40 51.8	+0.3
JEM	Erimo	7.93	52	P	Pn	18 40 51.9	+0.4
ASAJ	Asahikawa	8.93	39	P	Pn	18 41 03.4	+0.3
	17nm,0.3s,baz=229,slow=11,SNR=96						
ASAJ				S	S	18 42 40.4	-5.7
	7.7nm,0.5s,baz=300,slow=30,SNR=8.7						
SONM	Songino Array	23.15	306	P	P	18 43 32.5	+0.9
	0.2nm,0.3s,baz=81,slow=8.9,SNR=2.0 0.2nm,0.3s						
CMAR	Chiang Mai Arr	36.55	249	P	P	18 45 28.7	+0.2
	0.5nm,0.5s,baz=46,slow=7.4,SNR=5.6 0.5nm,0.5s						
MKAR	Makanchi Array	39.34	301	P	P	18 45 51.1	0.0
	0.2nm,0.5s,baz=73,slow=9.7,SNR=1.6						
MKAR				ScP	ScP	18 51 02.2	+0.6
	0.2nm,0.6s,baz=104,slow=3.0,SNR=2.3 0.2nm,0.5s						
KURBB	Kurchatov Arra	41.50	307	P	P	18 46 07.7	-0.8
	0.3nm,0.7s,baz=88,slow=7.5,SNR=2.0 0.3nm,0.7s						
WRA	Warramunga Arr	57.10	180	P	P	18 48 05.1	-0.3
	0.3nm,0.3s,baz=355,slow=7.7,SNR=9.8 0.3nm,0.3s						
ASAR	Alice Springs	60.81	181	P	P	18 48 30.1	-0.5
	0.5nm,0.8s,baz=360,slow=6.2,SNR=8.4 0.5nm,0.8s						

*KRSC **24** 18:50:11.9±2.4, 49°.75N×156°.74E, h99km±35km, Ml4.3*

*MOS **24** 18:50:13.0±1.4, 50°.13N×155°.62E, h141km, mb4.0/1, Error ellipse: s-maj=19.9km s-min=5.7km az=67.6*

*NEIC **24** 18:50:13.2±2.0, 50°.1N±0°.1×155°.5E±0°.2, h130km±9km, mb4.4/23, Error ellipse: s-maj=20.8km s-min=5.2km az=135.0*

*IDC **24** 18:50:15.0±2.4, 50°.29N×155°.55E, h139km±21km, mb3.3/8, mbtmp3.8/11, MS3.2/1, Error ellipse: s-maj=32.1km s-min=13.2km az=153.0*

ISC 24 18:50:13.3±0.8, **50°.02N**±0°.10×**155°.87E**±0°.09, **h129**km±7km, **n94**, σ1°**60**/97, **mb4.2**/20, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	0.69	13	ePN	Pn	18 50 33.5	+0.1
SKR				eS	Sn	18 50 48.4	-0.2
SKR				pmax	pmax		
	comp=Z,456nm,0.5s						
SKR				smax	smax		
	comp=N,3μm,0.5s						
SKR				smax	smax		
	comp=E,1μm,0.5s						
SKR	Severo-Kuril's	0.69	13	eP	Pn	18 50 33.4	+0.1
SKR				eS	Sn	18 50 48.6	0.0
PAU	Pauzhetka	1.57	22	PN	Pn	18 50 42.2	+0.2
PAU				S	Sn	18 51 04.9	+0.9
PAU	Pauzhetka	1.57	22	eP	Pn	18 50 42.3	+0.2
PAU				eS	Sn	18 51 05.0	+0.9
MIPR	Malaya Ipel'ka	2.33	14	PN	Pn	18 50 51.5	+0.3
MIPR	Malaya Ipel'ka	2.33	14	eP	Pn	18 50 51.5	+0.3
ASAK	Asacha	2.69	28	PN	Pn	18 50 56.7	+0.8
ASAK	Asacha	2.69	28	eP	Pn	18 50 56.8	+0.8
MTVR	Mutnovka	2.87	30	PN	Pn	18 50 59.2	+1.0
MTVR				S	Sn	18 51 33.0	+0.2
MTVR	Mutnovka	2.87	30	eP	Pn	18 50 59.2	+1.0
MTVR				eS	Sn	18 51 33.1	+0.2
GRL	Gorelyy	2.89	28	PN	Pn	18 51 00.0	+1.5
GRL				S	Sn	18 51 35.2	+1.9
GRL	Gorelyy	2.89	28	eP	Pn	18 51 00.0	+1.5
GRL				eS	Sn	18 51 35.3	+1.9
RUS	Russkaya	2.94	33	PN	Pn	18 50 58.3	-0.6
RUS				S	Sn	18 51 31.8	-2.3
RUS	Russkaya	2.94	33	eP	Pn	18 50 58.3	-0.6
RUS				eS	Sn	18 51 31.9	-2.3
APC	Apacha	3.02	15	PN	Pn	18 51 03.6	+3.6
APC	Apacha	3.02	15	eP	Pn	18 51 03.7	+3.6
KRMR	Karymshinskiy	3.15	26	PN	Pn	18 51 02.7	+1.0
KRMR	Karymshinskiy	3.15	26	eP	Pn	18 51 02.8	+1.0
PEA0B	Petropavlovsk-	3.30	20	Pn	Pn	18 51 04.8	+1.1
PEA0B	Petropavlovsk-	3.30	20	PN	Pn	18 51 04.8	+1.1
PETK	Petropavlovsk-	3.30	20	P	Pn	18 51 03.9	+0.3
	comp=E,14nm,0.6s,baz=173,slow=10,SNR=43						
PETK				S	Sn	18 51 54.8	+12
	comp=E,12nm,1.0s,baz=213,slow=20,SNR=2.0						
PETK	Petropavlovsk-	3.30	20	PN	Pn	18 51 04.0	+0.3
PET	Petropavlovsk	3.48	29	Pn	Pn	18 51 06.4	+0.4
PET	Petropavlovsk	3.48	29	ePN	Pn	18 51 08.2	+2.2
PET				eS	Sn	18 51 46.1	-0.7
PET				smax	smax		
	comp=N,78nm,0.5s						
PET				smax	smax		
	comp=E,71nm,0.4s						
PET	Petropavlovsk	3.48	29	eS	Sn	18 51 47.6	+0.8
DALK	Dalny	3.52	30	PN	Pn	18 51 07.1	+0.6
DALK				S	Sn	18 51 46.4	-1.3
DALK	Dalny	3.52	30	eP	Pn	18 51 07.2	+0.6
DALK				eS	Sn	18 51 46.5	-1.3
AVH	Avacha	3.71	28	PN	Pn	18 51 11.0	+1.9
AVH	Avacha	3.71	28	eP	Pn	18 51 11.1	+1.9
KRK	Arik	3.77	26	PN	Pn	18 51 11.2	+1.2
KRK	Arik	3.77	26	eP	Pn	18 51 11.2	+1.2
NLC	Nalytchevo	3.83	33	eS	Sn	18 51 51.4	-3.7
GNL	Ganaly	3.90	18	PN	Pn	18 51 12.6	+0.9
GNL	Ganaly	3.90	18	eP	Pn	18 51 12.7	+0.9
SPN	Mys Shipunski	4.03	38	PN	Pn	18 51 13.0	-0.3
SPN				S	Sn	18 51 55.6	-4.2
SPN	Mys Shipunski	4.03	38	eP	Pn	18 51 13.1	-0.3
SPN				eS	Sn	18 51 55.7	-4.2
KBTR	Krutoberegovo	7.48	31	PN	Pn	18 51 58.2	-1.3
KBTR	Krutoberegovo	7.48	31	eP	Pn	18 51 58.2	-1.3
JKA	Kamikawa-asahi	10.80	242	Pn	Pn	18 52 42.3	-1.9
ASAJ	Asahikawa	10.80	242	P	Pn	18 52 45.0	+0.8
	comp=E,11nm,0.9s,baz=76,slow=17,SNR=4.4						
ASAJ	Asahikawa	10.80	242	PN	Pn	18 52 45.0	+0.8
SHEM	Shemya Is, Ala	11.71	70		Pn	18 52 58.4	+2.2
SMY	Shemya	11.71	70		Pn	18 52 57.8	+1.6
SMY	Shemya	11.71	70	PN	Pn	18 52 57.8	+1.6
ERM	Erimo	11.91	233	Pn	Pn	18 52 55.6	-3.2
ERM	Erimo	11.91	233	PN	Pn	18 52 55.7	-3.2
JTM	Tenmabayashi	13.88	234	P	Pn	18 53 18.2	-6.1
MJAR	Matsushiro Arr	18.55	230	P	Pn	18 54 19.9	-1.9
	comp=E,1.2nm,0.5s,baz=23,slow=11,SNR=4.7						
KSRS	Korea Array	23.62	249	P	P	18 55 12.6	+0.2
	comp=E,0.9nm,0.5s,baz=44,slow=9.7,SNR=5.6 comp=E,0.9nm,0.5s						
JNU	Nakatsue	25.01	237	P	P	18 55 26.2	+1.1
JNU				lAmb	lAmb	18 55 54.1	
	comp=Z,27nm,1.4s						
L16K	Owhat River	27.07	47	P	P	18 55 42.9	-0.5
L16K				lAmb	lAmb	18 56 04.7	
	comp=Z,14nm,1.5s						
C18K	Utukok River	27.88	32	P	P	18 55 50.1	-0.3
M17K	Holitna River	28.03	48	P	P	18 55 52.7	+0.9
M17K				lAmb	lAmb	18 56 05.9	
	comp=Z,19nm,1.4s						
H18K	Honhosa River	28.03	40	P	P	18 55 52.3	+0.4
H18K				lAmb	lAmb	18 56 31.7	
	comp=Z,14nm,1.4s						
B20K	Meade River	29.67	31	P	P	18 56 05.6	-0.7
ILSW	Iliamna Southw	30.16	51	P	P	18 56 09.9	-0.9
B22K	Teshekpuk Lake	30.99	31	P	P	18 56 17.5	-0.3
CNPM	China Poot	31.16	52	P	P	18 56 19.5	-0.1
H11N2	WAKE ISLAND Hy	31.47	160	T	T	19 30 30.5	
	baz=348,slow=76,SNR=5.1						
H11N1	WAKE ISLAND Hy	31.49	160	T	T	19 30 30.8	
	baz=348,slow=76,SNR=4.0						
H11N3	WAKE ISLAND Hy	31.49	160	T	T	19 30 30.8	
	baz=348,slow=76,SNR=6.4						
COLD	Coldfoot	31.61	37	P	P	18 56 23.0	-0.4
COLD				lAmb	lAmb	18 57 05.9	
	comp=Z,7.3nm,1.5s						
C24K	Franklin Bluff	32.46	32	P	P	18 56 30.4	-0.4
C24K				lAmb	lAmb	18 56 31.7	
	comp=Z,14nm,1.4s						
H11S1	WAKE ISLAND Hy	32.61	161	T	T	19 31 11.2	
	baz=347,slow=76,SNR=31						
H11S3	WAKE ISLAND Hy	32.62	161	T	T	19 31 10.4	
	baz=347,slow=76,SNR=31						
H11S2	WAKE ISLAND Hy	32.63	161	T	T	19 31 14.4	
	baz=347,slow=76,SNR=22						
G24K	Hadweenzic Riv	32.64	38	P	P	18 56 33.1	+0.7
G24K				lAmb	lAmb	18 56 34.0	
	comp=Z,4.4nm,0.8s						
ILAR	Eielson Array	32.87	42	P	P	18 56 34.3	-0.1
	comp=Z,0.9nm,0.7s,baz=265,slow=7.7,SNR=9.7 comp=Z,0.9nm,0.7s						
D25K	Kavik River	33.23	33	P	P	18 56 36.9	-0.6
F25K	Christian Rive	33.39	36	P	P	18 56 40.0	+1.0
F25K				lAmb	lAmb	18 56 40.5	
	comp=Z,7.1nm,1.5s						
E25K	Arctic Village	33.44	35	P	P	18 56 40.2	+0.8
H27K	Steamboat Moun	35.03	39	P	P	18 56 54.4	+1.3
L27K	Beaver Creek,	35.23	44	P	P	18 56 56.2	+1.3
L27K				lAmb	lAmb	18 56 57.3	
	comp=Z,4.2nm,0.8s						
O28M	Mount Upton	36.41	48	P	P	18 57 05.8	+0.6
O28M				lAmb	lAmb	18 57 49.3	
	comp=Z,9.5nm,1.3s						
L29M	L29M	36.89	44	P	P	18 57 10.7	+1.7
L29M				lAmb	lAmb	18 57 28.6	
	comp=Z,12nm,1.5s						
G31M	Satah River	37.84	37	P	P	18 57 16.9	+0.1
MKAR	Makanchi Array	47.12	296	P	P	18 58 30.4	-1.8
	comp=Z,0.7nm,0.7s,baz=43,slow=5.4,SNR=6.6 comp=Z,0.7nm,0.7s						
KURK	Kurchatov	47.13	302	P	P	18 58 29.9	-2.2
KURK	Kurchatov	47.13	302	P	P	18 58 29.9	-2.2
KURK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
KURBB	Kurchatov Arra	47.23	302	P	P	18 58 30.2	-2.6
	comp=Z,0.5nm,0.5s,baz=66,slow=7.9,SNR=4.7 comp=Z,0.5nm,0.5s						
MAKZ	Makanchi	47.29	296	P	P	18 58 31.4	-2.1
MAKZ	Makanchi	47.29	296	P	P	18 58 31.4	-2.1
BVAR	Borovoye Array	50.23	308	P	P	18 58 53.8	-2.0
	comp=Z,0.2nm,0.4s,baz=41,slow=10,SNR=1.8 comp=Z,0.2nm,0.4s						
CMAR	Chiang Mai Arr	54.93	256	P	P	18 59 31.4	+0.7
	comp=Z,0.7nm,0.4s,baz=34,slow=6.9,SNR=8.4 comp=Z,0.7nm,0.4s						
BPMT	Black Pine Rid	56.87	56	P	P	18 59 42.7	-1.8
ABKAR	Akbulak array	57.75	310	P	P	18 59 43.9	-6.5
HNR	Honiara	59.30	175	P	P	19 00 04.1	+2.7
HNR	Honiara	59.30	175	P	P	19 00 04.1	+2.7
PMG	Port Moresby	59.66	190	LR	LR	19 25 25.4	
	comp=Z,19nm,19.1s,baz=16,slow=35						
PDAR	Pinedale Array	61.38	57	P	P	19 00 16.3	+0.7
	comp=Z,0.7nm,0.7s,baz=329,slow=2.6,SNR=7.3 comp=Z,0.7nm,0.7s						
TXAR	Lajitas Array	74.33	63	P	P	19 01 37.6	+0.9
	comp=Z,0.9nm,0.6s,baz=300,slow=4.5,SNR=10 comp=Z,0.9nm,0.6s						
H03N2	Juan Fernandez	136.89	89	T	T	21 40 45.4	
	baz=314,slow=77,SNR=6.2						
H03N1	Juan Fernandez	136.90	89	T	T	21 40 45.8	
	baz=314,slow=77,SNR=6.4						
H03N3	Juan Fernandez	136.90	89	T	T	21 40 45.2	
	baz=314,slow=77,SNR=4.7						

IDC 24 19:31:36.7±5.4, **5°.86S**×**147°.77E, h198**km±63km, **mb3.3**/1, **mbtmp3.9**/3, **Error ellipse: s-maj=154.3km s-min=45.3km az=121.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.58	190	P	Pn	19 32 34.7	+1.5
	22nm,0.4s,baz=35,slow=12,SNR=51						
PMG				S	Sn	19 33 17.2	-0.4
	15nm,0.3s,baz=218,slow=21,SNR=6.3						
WRA	Warramunga Arr	19.14	222	P	P	19 35 44.8	-0.4
	1.7nm,0.5s,baz=44,slow=9.8,SNR=26						
WRA				S	S	19 39 07.9	-3.8
	0.9nm,1.0s,baz=48,slow=20,SNR=4.2						
ASAR	Alice Springs	22.17	216	P	P	19 36 17.6	+0.8
	1.6nm,0.5s,baz=49,slow=8.2,SNR=52						
ASAR				S	S	19 40 11.9	+5.4
	1.5nm,0.8s,baz=33,slow=22,SNR=10.0 1.6nm,0.5s						
TORD	Torodi Ar. Bea	145.80	285	PKPbc	PKPdf	19 50 52.1	-0.6
	baz=62,slow=3.7						

*IDC **24** 19:36:21.8±1.6, 50°.64N×129°.97W, h0km, mb3.8/2, mbtmp3.8/7, ML3.7/5, MS3.4/7, Error ellipse: s-maj=23.3km s-min=10.2km az=71.0*

ISC 24 19:36:21.2±1.1, **50°.70N**±0°.08×**130°.20W**±0°.09, **h10**km, **n21**, σ1°**95**/14, **MS3.3**/3, **Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBB	Bella Bella	1.98	41	Pn	Pn	19 36 54.8	0.0
	30nm,0.3s,baz=226,slow=6.2,SNR=715						
BBB				Sn	Sn	19 37 18.9	-0.6
	70nm,0.3s,baz=294,slow=24,SNR=6.4						
BBB				LR	LR	19 37 26.6	
	comp=Z,142nm,19.4s,baz=211,slow=34						
H02S2	DAWSON INLET T	2.87	332	Pn	Pn	19 37 06.0	-1.0
H02S2				Sn	Sn	19 37 39.4	-2.2
DLBC	Dease Lake	7.75	1	Pn	Pn	19 38 17.0	+3.0
	12nm,0.3s,baz=163,slow=11,SNR=19						
DLBC				Sn	Sn	19 39 45.0	+3.2
	0.9nm,0.3s,baz=330,slow=12,SNR=1.5						
DLBC				LR	LR	19 40 59.5	
	comp=Z,2μm,20.3s,baz=166,slow=36						
NEW	Newport	8.86	101	Pn	Pn	19 38 29.3	0.0
	1.1nm,0.3s,baz=291,slow=12,SNR=7.4						
NEW				LR	LR	19 41 49.5	
	comp=Z,206nm,19.6s,baz=282,slow=38 3.3nm,0.4s						
YBH	Yreka Blue Hor	10.36	147	Pn	Pn	19 38 50.4	+0.5
	baz=344,slow=12,SNR=2.6						
ELK	Elko	14.41	128	LR	LR	19 45 42.2	
	comp=Z,76nm,20.6s,baz=343,slow=39						
YKA	Yellowknife Ar	14.55	30	Pn	Pn	19 39 45.2	-1.7
	0.2nm,0.3s,baz=225,slow=13,SNR=2.8 1.4nm,0.8s						
NVAR	Mina Array Bea	14.89	141	Pn	Pn	19 39 54.0	+2.1
	0.1nm,0.3s,baz=311,slow=12,SNR=1.2 0.2nm,0.3s						
PDAR	Pinedale Array	16.19	111	Pn	P	19 40 10.7	-1.4
	0.1nm,0.3s,baz=307,slow=13,SNR=18 3.8nm,0.9s						
ILAR	Eielson Array	16.59	334	Pn	P	19 40 18.8	+2.6
	baz=147,slow=11,SNR=16 2.9nm,1.1s						
INK	Inuvik	17.73	356	LR	LR	19 46 21.7	
	comp=Z,92nm,21.9s,baz=254,slow=34						
ULM	Lac du Bonnet	21.74	78	P	P	19 41 12.3	-0.2
	3.8nm,0.8s,baz=278,slow=10,SNR=5.8						
ULM				LR	LR	19 48 32.3	
	comp=Z,88nm,20.4s,baz=261,slow=34 3.8nm,0.8s						
TXAR	Lajitas Array	29.20	127	P	P	19 42 23.0	+0.1
	0.7nm,0.8s,baz=319,slow=5.5,SNR=6.3 0.7nm,0.8s						
TKL	Tuckaleechee C	36.41	96	LR	LR	19 58 40.2	
	comp=Z,69nm,19.9s,baz=324,slow=37						
H11N2	WAKE ISLAND Hy	57.87	262	T	T	20 48 41.8	
	baz=42,slow=75,SNR=1757						
H11N3	WAKE ISLAND Hy	57.87	262	T	T	20 48 42.7	
	baz=42,slow=75,SNR=1701						
H11N1	WAKE ISLAND Hy	57.88	262	T	T	20 48 43.0	
	baz=42,slow=75,SNR=1045						
H11S1	WAKE ISLAND Hy	58.90	261	T	T	20 49 54.9	
	baz=46,slow=74,SNR=77						
H11S2	WAKE ISLAND Hy	58.91	261	T	T	20 49 55.0	
	baz=46,slow=74,SNR=82						
H11S3	WAKE ISLAND Hy	58.92	261	T	T	20 49 58.2	
	baz=46,slow=74,SNR=65						
ASF	Jabal al Asfar	96.70	11	LR	LR	20 37 14.5	
	comp=Z,10nm,19.7s,baz=5.8,slow=38						

*IDC **24** 19:40:12.1±3.1, 42°.99N×104°.96W, h0km, mbtmp

comp=N,41nm,1.1s
YHL IAML 19 43 01.1
comp=E,36nm,1.2s
Q24A Divide 4.51 178 Pn **Pn 19 41 24.1 +1.1**
BOZ Bozeman (W) 4.99 297 Pn 19 41 32.4 +3.0
BOZ IAML 19 42 56.8
comp=E,16nm,1.9s
BOZ IAML 19 43 01.2
comp=E,20nm,1.9s
BSUT Blindstream Ca 5.01 236 Pn 19 41 33.2 +3.3
BSUT IAML 19 43 23.5
comp=E,22nm,2.4s
BSUT IAML 19 43 30.9
comp=N,19nm,3.3s
DGMT Dagmar 5.05 8 Pn 19 41 30.0 -0.1
TCUT Toone Canyon 5.10 245 Pn 19 41 32.9 +1.9
MCMT McKenzie Canyo 5.59 287 Pn 19 41 37.2 -0.5
PV22 Blue Mesa, Par 5.59 209 Pn 19 41 38.8 +1.0
LRM Limekiln Ridge 5.61 297 Pn **Pn 19 41 37.9 -0.1**
PV15 Paradox Valley 5.67 206 Pn 19 41 41.1 +2.3
P17A Butcher Ranch, 5.71 227 Pn 19 41 45.3 +5.9
PV23 Carpenter Ridg 5.75 210 Pn 19 41 40.2 +0.2
PV04 Paradox Valley 5.76 209 Pn 19 41 39.9 -0.1
PV12 Saucer Basin, 5.79 208 Pn 19 41 40.2 -0.3
PV10 Paradox Valley 5.83 210 Pn 19 41 41.6 +0.6
PV20 West Nyswonger 5.83 210 Pn 19 41 40.4 -0.7
PV11 David Mesa, Pa 5.84 209 Pn 19 41 40.0 -1.0
PV16 Nyswonger Mesa 5.84 209 Pn 19 41 40.7 -0.4
PV03 Paradox Valley 5.87 208 Pn 19 41 40.8 -0.7
PV02 Paradox Valley 5.87 207 Pn 19 41 41.0 -0.6
MDND Maddock 5.92 40 Pn 19 41 38.2 -3.8
PV13 Radium Mtn., P 5.94 208 Pn 19 41 42.6 0.0
T25A Trinidad 6.37 174 Pn 19 41 49.0 +0.6
I10CA LAC DU BONNET 9.25 40 I I 20 35 30.0
baz=225,slow=317,SNR=3.0
ULM Lac du Bonnet 9.36 40 Pn **Pn 19 42 29.2 +0.1**
comp=N,0.5nm,0.3s,baz=225,slow=12,SNR=1.8
ULM Lg Lg 19 45 04.7
comp=N,0.7nm,0.3s,baz=151,slow=22,SNR=3.3
comp=N,1.6nm,0.4s

JMA ***24*** *20:02:42.9±0.2, 23°.9N±1°.0×122°.2E±0°.4, h24km, MV3.4/12, TAIWAN REGION*
TAP ***24*** *20:02:43.0, 23°.97N×122°.27E, h24km, ML4.0, C*
IDC ***24*** *20:02:46.4±3.8, 24°.07N×122°.45E, h58km±39km, mb3.4/11, mbtmp3.7/13, ML3.3/2, MS3.0/4, Error ellipse: s-maj=32.1km s-min=17.9km az=67.0*

ISC 24 20:02:42.8±0.9, 23°.93N±0°.02×122°.27E±0°.02, h24km±7km, n196, σθ93/361, mb3.7/11, MS3.0/4, 8C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.19**	**15**	*i*	S	**Sb**	**20 02 51.4**	**0.0**
EOS3	**EOS3**	**0.35**	**8**	*i*	P	**Pb**	**20 02 50.6**	**+0.1**
EOS3				*i*	S	**Sn**	**20 02 56.5**	**-2.0**
EOS2	**EOS2**	**0.48**	**356**	*i*	P	**Pn**	**20 02 53.1**	**-1.1**
EOS2				*i*	S	**Sn**	**20 03 00.3**	**-1.5**
HWA	**Hwalien**	**0.60**	**274**	*i*	P	**Pb**	**20 02 55.1**	**+0.3**
HWA				*i*	S	**Sn**	**20 03 04.8**	**-0.2**
TEYL	**Yanliau Villag**	**0.61**	**264**	*i*	P	**Pb**	**20 02 55.4**	**+0.5**
TEYL					S	**Sb**	**20 03 04.3**	**+1.1**
EAHA	**Aohua**	**0.62**	**310**	*i*	P	**Pb**	**20 02 54.9**	**-0.2**
EAHA					S	**Sn**	**20 03 04.8**	**-0.5**
ETL	**Fush Village**	**0.63**	**291**	*i*	P	**Pb**	**20 02 55.1**	**-0.1**
ETL					S	**Sb**	**20 03 04.5**	**+0.8**
TWD	**Chiawan**	**0.63**	**284**	*i*	P	**Pb**	**20 02 54.7**	**-0.5**
TWD				*i*	S	**Sb**	**20 03 03.3**	**-0.3**
NACB	**Ninganchiao**	**0.66**	**292**		P	**Pb**	**20 02 54.9**	**+0.8**
NACB	**Ninganchiao**	**0.66**	**292**	⇑	*i*P	**Pb**	**20 02 55.2**	**-0.5**
NACB				*i*	S	**Sb**	**20 03 04.9**	**+0.5**
SHUL	**Shoufeng**	**0.66**	**257**	*i*	P	**Pb**	**20 02 55.7**	**+0.1**
SHUL				*i*	S	**Sb**	**20 03 05.6**	**+1.1**
EWUT	**Wuta**	**0.68**	**319**	*i*	P	**Pb**	**20 02 55.1**	**-0.9**
EWUT				*e*	S	**Sn**	**20 03 05.6**	**-1.1**
ENA	**Nanau**	**0.69**	**316**	*i*	P	**Pb**	**20 02 55.5**	**-0.7**
ENA					S	**Sn**	**20 03 05.8**	**-1.1**
TEGC	**Jichi Village**	**0.70**	**252**	*i*	P	**Pb**	**20 02 55.7**	**-0.7**
TEGC				*i*	S	**Sb**	**20 03 06.6**	**+1.0**
ETM	**Tongmen**	**0.71**	**273**	*i*	P	**Pb**	**20 02 56.0**	**-0.5**
ETM					S	**Sb**	**20 03 05.0**	**-0.9**
ESAO	**Su ao**	**0.75**	**329**	*i*	P	**Pb**	**20 02 56.1**	**-1.1**
ESAO				*e*	S	**Sb**	**20 03 06.7**	**-0.2**
ETLH	**Xiulin Townshi**	**0.77**	**291**	*i*	P	**Pb**	**20 02 56.9**	**-0.7**
ETLH				*i*	S	**Sb**	**20 03 07.6**	**0.0**
ESL	**Shilin**	**0.77**	**261**	*i*	P	**Pb**	**20 02 56.7**	**-0.1**
ESL				*i*	S	**Sb**	**20 03 07.8**	**+0.1**
TWC	**Suao**	**0.77**	**331**	*i*	P	**Pb**	**20 02 56.5**	**-1.1**
TWC					S	**Sb**	**20 03 06.9**	**-0.8**
JYNG	**Yonagunijimaku**	**0.81**	**50**		P	**Pn**	**20 02 58.4**	**-0.3**
JYNG					S	**Sb**	**20 03 08.4**	**-0.3**
EGFH	**Guangfu**	**0.81**	**251**	*i*	P	**Pb**	**20 02 58.1**	**-0.2**
EGFH				*i*	S	**Sb**	**20 03 08.8**	**0.0**
WARBT	**Fenglin Townsh**	**0.83**	**255**	*i*	P	**Pb**	**20 02 57.6**	**-1.0**
WARBT				*e*	S	**Sb**	**20 03 08.2**	**-1.2**
NDS	**Dongshan**	**0.86**	**324**	*i*	P	**Pb**	**20 02 58.1**	**-1.0**
NDS					S	**Sn**	**20 03 10.8**	**-0.4**
YOJ	**Yonaguni jima**	**0.86**	**52**		P	**Pn**	**20 02 59.7**	**+0.3**
YOJ	**Yonaguni jima**	**0.86**	**52**	*i*	P	**Pn**	**20 02 59.7**	**+0.3**
YOJ					S	**Sn**	**20 03 12.7**	**+1.5**
YOJ	**Yonaguni jima**	**0.86**	**52**		P	**Pn**	**20 03 00.2**	**+0.8**
YOJ				*e*	S	**Sn**	**20 03 11.7**	**+0.5**
HGSD	**Ruisui**	**0.89**	**241**	*i*	P	**Pb**	**20 02 58.9**	**-0.7**
HGSD				*i*	S	**Sb**	**20 03 10.9**	**-0.1**
LATG	**Datong**	**0.90**	**312**	*i*	P	**Pb**	**20 02 59.5**	**-0.4**
LATG					S	**Sn**	**20 03 12.3**	**-0.1**
WHF	**Hehuan Shan**	**0.94**	**283**	*i*	P	**Pb**	**20 02 59.9**	**-0.8**
WHF				*i*	S	**Sb**	**20 03 12.5**	**-0.4**
NNSB	**Datong**	**0.94**	**302**	⇑	*i*P	**Pb**	**20 03 00.1**	**-0.5**
NNSB					S	**Sb**	**20 03 12.6**	**-0.1**
EHYH	**Wanrong**	**0.95**	**243**	*i*	P	**Pn**	**20 03 00.8**	**+0.1**
EHYH				*i*	S	**Sb**	**20 03 13.1**	**+0.3**
ENTT	**Nioudou**	**0.95**	**318**	*i*	P	**Pb**	**20 03 00.4**	**-0.3**
ENTT				*e*	S	**Sn**	**20 03 13.9**	**+0.4**
ILA	**Ilan**	**0.95**	**330**	*i*	P	**Pn**	**20 03 00.5**	**-0.2**
ILA				*e*	S	**Sn**	**20 03 13.6**	**+0.1**
TWE	**Neicheng**	**0.95**	**325**	*i*	P	**Pb**	**20 03 00.2**	**-0.5**
TWE				*i*	S	**Sn**	**20 03 12.9**	**-0.6**
EGS		**0.96**	**342**	*i*	P	**Pn**	**20 03 00.6**	**-0.2**
EGS					S	**Sn**	**20 03 14.2**	**+0.5**
NNS	**Nan Shan**	**0.96**	**302**	⇑	*i*P	**Pb**	**20 03 00.3**	**-0.5**
NNS				*i*	S	**Sn**	**20 03 13.6**	**-0.3**
EHY	**Hungye**	**0.96**	**244**	*i*	P	**Pn**	**20 03 00.3**	**-0.6**
EHY				*i*	S	**Sb**	**20 03 12.8**	**-0.4**
ECBN	**Changbin**	**0.97**	**231**	*i*	P	**Pn**	**20 03 00.5**	**-0.3**
ECBN				*i*	S	**Sb**	**20 03 13.0**	**-0.3**
FUSS	**Fushou**	**0.98**	**289**	*i*	P	**Pb**	**20 03 00.9**	**-0.5**
FUSS				*i*	S	**Sb**	**20 03 14.0**	**0.0**
OWD	**Renai**	**1.00**	**271**	*i*	P	**Pn**	**20 02 59.7**	**-1.7**
OWD				*i*	S	**Sb**	**20 03 12.5**	**-1.8**
FUSB	**Fushanzhiwuyua**	**1.03**	**323**	⇑	*i*P	**Pb**	**20 03 01.8**	**-0.2**
FUSB				*e*	S	**Sn**	**20 03 16.0**	**+0.5**
YULB	**Yu-li**	**1.04**	**239**		P	**Pn**	**20 03 01.5**	**-0.4**
YULB	**Yu-li**	**1.04**	**239**		S	**Sb**	**20 03 14.9**	**-0.4**
YULB	**Yu-li**	**1.04**	**239**	*i*	P	**Pn**	**20 03 01.3**	**-0.6**
YULB					S	**Sb**	**20 03 13.9**	**-1.4**
EYUL	**Yuli**	**1.04**	**236**	*i*	P	**Pn**	**20 03 01.6**	**-0.4**
EYUL				*i*	S	**Sb**	**20 03 16.2**	**+0.7**
TWT	**Tachien**	**1.04**	**288**	*i*	P	**Pn**	**20 03 01.9**	**-0.2**
TWT				*i*	S	**Sn**	**20 03 16.8**	**+0.7**
WUSB	**Renai**	**1.05**	**273**	⇑	*i*P	**Pn**	**20 03 01.7**	**-0.4**
WUSB				*e*	S	**Sb**	**20 03 15.5**	**-0.3**
TWF1	**Yuli**	**1.06**	**237**	*i*	P	**Pn**	**20 03 01.8**	**-0.4**
TWF1				*i*	S	**Sb**	**20 03 15.2**	**-0.8**
TDCB	**Techi**	**1.06**	**288**	*i*	P	**Pn**	**20 03 01.9**	**-0.4**
TDCB				*i*	S	**Sb**	**20 03 15.5**	**-0.6**
CHKH	**Chenggong**	**1.09**	**227**	*i*	P	**Pn**	**20 03 01.8**	**-0.7**
CHKH				*i*	S	**Sb**	**20 03 15.0**	**-1.7**
NWLT	**Wulai**	**1.09**	**321**	*i*	P	**Pb**	**20 03 02.8**	**-0.2**
NWLT					S	**Sn**	**20 03 17.7**	**+0.7**
YHNB	**Yeheng**	**1.09**	**312**		P	**Pn**	**20 03 02.6**	**-0.1**
YHNB	**Yeheng**	**1.09**	**312**	⇑	*i*P	**Pn**	**20 03 02.6**	**-0.1**
YHNB				*e*	S	**Sn**	**20 03 17.9**	**+0.8**
TWB1	**Santiao Chiao**	**1.10**	**347**	*i*	P	**Pb**	**20 03 02.6**	**-0.6**
TWB1				*e*	S	**Sn**	**20 03 16.8**	**-0.3**
TIPB	**Shuangxi**	**1.11**	**339**	*i*	P	**Pb**	**20 03 03.1**	**-0.2**
TIPB				*i*	S	**Sn**	**20 03 17.5**	**0.0**
NSK	**Sanguang**	**1.11**	**312**	⇑	*i*P	**Pn**	**20 03 02.6**	**-0.3**
NSK				*i*	S	**Sn**	**20 03 18.1**	**+0.6**
FULB	**Fuli**	**1.15**	**231**	*i*	P	**Pn**	**20 03 02.9**	**-0.6**
FULB				*i*	S	**Sn**	**20 03 18.3**	**-0.2**
CHKT	**Chengkung**	**1.17**	**225**	*i*	P	**Pn**	**20 03 02.8**	**-0.9**
CHKT				*i*	S	**Sn**	**20 03 16.8**	**-2.1**
SSLB	**Suanglung**	**1.21**	**263**		P	**Pn**	**20 03 04.4**	**+0.2**
SSLB	**Suanglung**	**1.21**	**263**		S	**Sn**	**20 03 19.8**	**-0.1**
SSLB	**Suanglung**	**1.21**	**263**	*i*	P	**Pn**	**20 03 04.5**	**+0.2**
SSLB					S	**Sb**	**20 03 20.6**	**+0.3**
SXI1	**Grass Mountain**	**1.21**	**343**	*i*	P	**Pn**	**20 03 04.2**	**-0.1**
SXI1				*e*	S	**Sb**	**20 03 21.3**	**+1.0**
TWA	**Mucha**	**1.21**	**329**	⇑	*i*P	**Pb**	**20 03 05.1**	**-0.1**
TWA				*e*	S	**Sb**	**20 03 21.4**	**+1.0**
NWF	**Wu-fen Shan**	**1.22**	**339**	*i*	P	**Pb**	**20 03 04.7**	**-0.5**
NWF				*i*	S	**Sb**	**20 03 20.9**	**+0.3**
WFSB	**Wu-fen Shan**	**1.22**	**339**	*i*	P	**Pb**	**20 03 04.6**	**-0.5**
WFSB					S	**Sb**	**20 03 21.4**	**+1.0**
NHDH	**Xindian Distri**	**1.23**	**327**	*i*	P	**Pb**	**20 03 05.5**	**+0.2**
NHDH					S	**Sb**	**20 03 21.7**	**+0.9**
DPDB	**Guoxing**	**1.23**	**275**	*i*	P	**Pn**	**20 03 04.7**	**+0.1**
DPDB				*e*	S	**Sb**	**20 03 20.9**	**0.0**
EHD	**Haiduan**	**1.25**	**231**	*i*	P	**Pn**	**20 03 03.7**	**-1.1**
EHD				*i*	S	**Sn**	**20 03 19.7**	**-1.1**
SMLT	**Sun Moon Lake**	**1.25**	**268**	*i*	P	**Pn**	**20 03 05.0**	**+0.1**
SMLT				*i*	S	**Sn**	**20 03 21.0**	**0.0**
WHP	**Taichung City**	**1.25**	**286**	*i*	P	**Pb**	**20 03 05.5**	**-0.4**
WHP				*i*	S	**Sb**	**20 03 21.9**	**+0.3**
TATO	**Taipei**	**1.26**	**326**		P	**Pb**	**20 03 05.5**	**-0.3**
TATO	**Taipei**	**1.26**	**326**		P	**Pb**	**20 03 05.3**	**-0.6**
TATO				*e*	S	**Sb**	**20 03 23.1**	**+1.5**
NFF	**Wufeng Townshi**	**1.26**	**304**	*i*	P	**Pb**	**20 03 05.4**	**-0.5**
NFF				*i*	S	**Sb**	**20 03 21.8**	**+0.1**
ECS	**Chishang**	**1.27**	**229**	*i*	P	**Pn**	**20 03 05.2**	**+0.1**
ECS				*i*	S	**Sn**	**20 03 21.5**	**+0.1**
NHY	**Taipei**	**1.27**	**330**	*i*	P	**Pb**	**20 03 06.4**	**+0.3**
NHY				*e*	S	**Sb**	**20 03 23.4**	**+1.4**
YUS	**Yu-Shan**	**1.28**	**250**	*i*	P	**Pn**	**20 03 05.8**	**+0.1**
YUS				*i*	S	**Sn**	**20 03 21.9**	**-0.4**
TYC	**Yuchr**	**1.29**	**269**	*i*	P	**Pn**	**20 03 05.4**	**+0.1**
TYC					S	**Sn**	**20 03 21.7**	**-0.1**
TNOU	**National Taiwa**	**1.29**	**340**		P	**Pn**	**20 03 05.6**	**+0.2**
TNOU				*e*	S	**Sb**	**20 03 23.3**	**+0.7**
KSHI	**Guanxi Townshi**	**1.30**	**310**	*i*	P	**Pb**	**20 03 06.8**	**+0.2**
KSHI				*e*	S	**Sb**	**20 03 25.1**	**+2.2**
TAP	**Taipei**	**1.30**	**328**	*i*	P	**Pb**	**20 03 06.2**	**-0.4**
TAP					S	**Sb**	**20 03 23.9**	**+1.1**
EDH	**Donghe**	**1.30**	**223**	*i*	P	**Pn**	**20 03 04.6**	**-0.9**
EDH				*i*	S	**Sn**	**20 03 20.2**	**-1.9**
WHYT	**Xinyi Township**	**1.31**	**260**	*i*	P	**Pn**	**20 03 06.4**	**+0.7**
WHYT				*e*	S	**Sn**	**20 03 22.5**	**0.0**
NJD	**Zhudong**	**1.34**	**307**	*i*	P	**Pn**	**20 03 07.6**	**+0.4**
NJD				*i*	S	**Sb**	**20 03 26.4**	**+2.4**
LIOB	**Emei**	**1.34**	**302**	*i*	P	**Pb**	**20 03 07.4**	**0.0**
LIOB				*i*	S	**Sb**	**20 03 24.5**	**+0.4**
NSTT	**Nanjuang**	**1.35**	**301**	*i*	P	**Pb**	**20 03 06.9**	**-0.5**
NSTT				*i*	S	**Sb**	**20 03 24.5**	**+0.3**
ELDTW	**Lidau**	**1.36**	**237**	*i*	P	**Pn**	**20 03 05.8**	**-0.7**
ELDTW				*i*	S	**Sn**	**20 03 22.5**	**-1.3**
YM01	**YM01**	**1.36**	**333**	*i*	P	**Pn**	**20 03 06.6**	**+0.2**
YM01				*e*	S	**Sb**	**20 03 24.6**	**-0.2**
ZUZH	**Zhuzihu**	**1.39**	**332**	*i*	P	**Pn**	**20 03 07.0**	**+0.3**
ZUZH				*e*	S	**Sn**	**20 03 24.2**	**-0.2**
YM08	**YM08**	**1.39**	**334**	*i*	P	**Pn**	**20 03 03.5**	**-3.2**
YM08				*e*	S	**Sb**	**20 03 24.6**	**-1.0**
TWS1	**Kuangyinshan**	**1.40**	**327**	*i*	P	**Pb**	**20 03 07.4**	**-0.8**
TWS1				*e*	S	**Sb**	**20 03 26.5**	**+0.9**
IRIF	**Iriomote-Funau**	**1.40**	**73**		P	**Pb**	**20 03 08.0**	**-0.3**
ALS	**Alishan**	**1.40**	**253**	*i*	P	**Pn**	**20 03 07.9**	**+0.7**
ALS				*e*	S	**Sn**	**20 03 27.1**	**+1.0**
WJS	**Zhushan**	**1.41**	**266**	*i*	P	**Pb**	**20 03 08.2**	**-0.2**
WJS				*i*	S	**Sb**	**20 03 27.3**	**+1.2**
HSN1	**Hsinchu**	**1.41**	**307**	*i*	P	**Pb**	**20 03 08.8**	**+0.3**
HSN1				*e*	S	**Sb**	**20 03 27.7**	**+1.5**
ANP	**Anpu**	**1.42**	**332**	*i*	P	**Pb**	**20 03 07.9**	**-0.8**
ANP				*e*	S	**Sn**	**20 03 23.2**	**-2.0**
TWQ1	**Liyutan**	**1.42**	**287**	*i*	P	**Pb**	**20 03 08.7**	**-0.1**
TWQ1				*i*	S	**Sb**	**20 03 27.2**	**+0.7**
NCU	**National Centr**	**1.43**	**317**	*e*	P	**Pb**	**20 03 08.9**	**+0.2**
NCU				*e*	S	**Sn**	**20 03 24.9**	**-0.3**
NCUH	**Zhongli**	**1.43**	**317**	*i*	P	**Pn**	**20 03 07.7**	**+0.5**
NCUH				*e*	S	**Sb**	**20 03 26.8**	**+0.3**
NTST	**Danshui**	**1.43**	**329**	*i*	P	**Pb**	**20 03 08.0**	**-0.9**
NTST				*e*	S	**Sb**	**20 03 27.1**	**+0.4**
WWF	**Wufeng**	**1.44**	**275**		P	**Pb**	**20 03 09.5**	**+0.5**
WWF					S	**Sb**	**20 03 28.7**	**+1.9**
SBCB	**Hsinchu**	**1.45**	**307**	*i*	P	**Pb**	**20 03 09.3**	**+0.2**
SBCB				*i*	S	**Sb**	**20 03 28.4**	**+2.3**
WNT	**Mingjian**	**1.45**	**268**	*i*	P	**Pb**	**20 03 09.0**	**-0.1**
WNT				*i*	S	**Sb**	**20 03 27.4**	**+0.3**
WNT1	**Nantou City**	**1.45**	**269**	*i*	P	**Pb**	**20 03 09.2**	**0.0**
WNT1				*i*	S	**Sb**	**20 03 29.0**	**+1.8**
LDUT	**Ludao**	**1.45**	**210**	*i*	P	**Pn**	**20 03 06.2**	**-1.3**
LDUT				*i*	S	**Sn**	**20 03 23.0**	**-2.8**
NSY	**Sanyi**	**1.46**	**290**	*i*	P	**Pb**	**20 03 09.9**	**+0.6**
NSY					S	**Sb**	**20 03 29.3**	**+1.9**
LONT	**Longtian**	**1.46**	**226**	*i*	P	**Pn**	**20 03 07.3**	**-0.4**
LONT					S	**Sn**	**20 03 25.3**	**-0.8**
HSN	**Hsinchu**	**1.46**	**306**	*i*	P	**Pb**	**20 03 09.4**	**0.0**
HSN					S	**Sb**	**20 03 28.1**	**+0.5**
TWY	**Chenhua**	**1.47**	**336**	*i*	P	**Pb**	**20 03 09.0**	**-0.5**
TWY				*e*	S	**Sb**	**20 03 26.9**	**-0.8**
TCU	**Taichung**	**1.47**	**279**	*i*	P	**Pb**	**20 03 09.8**	**+0.3**
TCU				*i*	S	**Sb**	**20 03 29.2**	**+1.5**
NMLH	**Miaoli**	**1.47**	**294**	*i*	P	**Pb**	**20 03 09.1**	**-0.5**
NMLH				*i*	S	**Sb**	**20 03 29.2**	**+1.3**
CHN5	**Tsauling**	**1.49**	**257**	*i*	P	**Pn**	**20 03 09.3**	**+1.1**
CHN5				*e*	S	**Sb**	**20 03 28.3**	**-0.2**
WDJ	**Dajia District**	**1.54**	**286**	*e*	P	**Pb**	**20 03 10.2**	**-0.5**
WDJ				*i*	S	**Sb**	**20 03 30.8**	**+1.0**
WYL	**Yuanlin Townsh**	**1.54**	**271**	*i*	P	**Pb**	**20 03 10.1**	**-0.6**
WYL				*i*	S	**Sb**	**20 03 31.4**	**+1.6**
TWGBT	**Beinan**	**1.56**	**225**		P	**Pn**	**20 03 08.5**	**-0.5**
TWGBT	**Beinan**	**1.56**	**225**	*i*	P	**Pn**	**20 03 08.4**	**-0.5**
TWGBT				*i*	S	**Sn**	**20 03 27.2**	**-1.2**
TWG	**Pinlang**	**1.56**	**225**	*i*	P	**Pn**	**20 03 08.4**	**-0.6**
TWG				*i*	S	**Sn**	**20 03 27.4**	**-1.1**
TTN	**Taitung**	**1.56**	**221**		P	**Pn**	**20 03 08.5**	**-0.5**
TTN				*i*	S	**Sn**	**20 03 28.9**	**+0.4**
STYH	**Taoyuan**	**1.56**	**241**	*i*	P	**Pn**	**20 03 09.8**	**+0.7**
STYH				*i*	S	**Sb**	**20 03 30.6**	**+0.1**
WCHH	**Zhanghua**	**1.57**	**276**	*i*	P	**Pb**	**20 03 10.6**	**-0.6**
WCHH				*i*	S	**Sb**	**20 03 31.4**	**+0.9**
WCH1	**Changhua City**	**1.58**	**275**	*i*	P	**Pb**	**20 03 11.2**	**-0.1**
WCH1				*i*	S	**Sb**	**20 03 32.4**	**+1.6**
WGK	**Gukeng**	**1.58**	**261**	*i*	P	**Pb**	**20 03 11.6**	**+0.2**
WGK				*i*	S	**Sb**	**20 03 32.1**	**+1.3**
STYT	**Tauyuan**	**1.58**	**241**	*i*	P	**Pn**	**20 03 10.1**	**+0.7**
STYT				*i*	S	**Sn**	**20 03 29.8**	**+0.7**
WDL	**Douliou City**	**1.59**	**263**		P	**Pb**	**20 03 11.8**	**+0.1**
WDL				*i*	S	**Sb**	**20 03 32.5**	**+1.2**
WCKO	**Fanlu**	**1.60**	**252**	*i*	P	**Pb**	**20 03 11.5**	**-0.2**
WCKO				*i*	S	**Sb**	**20 03 32.6**	**+1.1**
WDLH	**Douliu**	**1.60**	**262**	*i*	P	**Pb**	**20 03 11.5**	**-0.2**
WDLH				*i*	S	**Sb**	**20 03 32.6**	**+1.1**
JKRS	**Kuro-shima**	**1.62**	**79**		P	**Pb**	**20 03 13.0**	**+1.0**
JKRS				*e*	S	**Sb**	**20 03 33.1**	**+0.9**
TPUB	**Ta-pu**	**1.63**	**248**		P	**Pn**	**20 03 11.4**	**+1.4**
TPUB	**Ta-pu**	**1.63**	**248**	*i*	P	**Pn**	**20 03 11.4**	**+1.4**
TPUB				*i*	S	**Sb**	**20 03 33.0**	**+0.7**
WTP	**Ta-pu**	**1.66**	**246**	*i*	P	**Pb**	**20 03 12.1**	**-0.6**
WTP					S	**Sb**	**20 03 33.4**	**+0.1**
CHN2	**Minshiung**	**1.69**	**257**	*i*	P	**Pb**	**20 03 13.1**	**-0.1**
CHN2				*i*	S	**Sb**	**20 03 35.7**	**+1.7**
PCYT	**Pengchaiyu**	**1.70**	**354**	*i*	P	**Pn**	**20 03 11.1**	**+0.1**
PCYT				*e*	S	**Sn**	**20 03 30.8**	**-1.2**
WTK	**Tuku**	**1.74**	**262**	*i*	P	**Pb**	**20 03 13.3**	**-0.7**
WTK				*i*	S	**Sb**	**20 03 35.7**	**+0.3**
CHY	**Chiayi**	**1.74**	**256**		P	**Pb**	**20 03 13.4**	**-0.7**
CHY				*i*	S	**Sb**	**20 03 36.3**	**+0.7**
RLNB	**Erlin**	**1.74**	**269**		P	**Pb**	**20 03 13.8**	**-0.4**
RLNB				*i*	S	**Sb**	**20 03 36.3**	**+0.7**
TWK	**Hsinying**	**1.76**	**248**	*i*	P	**Pb**	**20 03 13.7**	**-0.8**
TWK				*i*	S	**Sb**	**20 03 37.1**	**+1.0**
JIJ	**Ishigaki jima**	**1.77**	**76**		P	**Pn**	**20 03 12.7**	**+0.8**
SNST	**Tainan City**	**1.77**	**247**	*i*	P	**Pn**	**20 03 13.5**	**+1.6**
SNST				*i*	S	**Sb**	**20 03 37.5**	**+1.2**
ECL	**Taimali**	**1.79**	**222**	*i*	P	**Pn**	**20 03 11.5**	**-0.8**
ECL				*i*	S	**Sn**	**20 03 32.8**	**-1.5**
WTCT	**Ta-ch'eng**	**1.82**	**268**		P	**Pb**	**20 03 14.7**	**-0.7**
WTCT				*i*	S	**Sb**	**20 03 38.0**	**+0.3**
WSF	**Szhu**	**1.89**	**261**		P	**Pn**	**20 03 15.3**	**+1.7**
WSF				*i*	S	**Sb**	**20 03 39.9**	**0.0**
SSD	**Sandimen**	**1.91**	**232**	*i*	P	**Pn**	**20 03 15.0**	**+1.2**
SSD					S	**Sn**	**20 03 39.0**	**+1.9**
WSL	**Shuilin Townsh**	**1.91**	**258**	*i*	P	**Pn**	**20 03 15.3**	**+1.4**
WSL				*i*	S	**Sb**	**20 03 40.0**	**-0.5**
SCST	**Cishan**	**1.93**	**238**	*i*	P	**Pb**	**20 03 17.2**	**-0.2**
SCST				*i*	S	**Sb**	**20 03 42.5**	**+1.4**
CHN3	**Shinhua**	**1.94**	**244**	*e*	P	**Pb**	**20 03 18.0**	**+0.5**
CHN3				*i*	S	**Sb**	**20 03 43.5**	**+2.2**
CHN8	**Yiju**	**1.97**	**253**	*i*	P	**Pn**	**20 03 16.4**	**+1.7**
CHN8				*i*	S	**Sb**	**20 03 41.8**	**-0.4**
JISG	**Ishigakijimahi**	**1.98**	**70**		P	**Pn**	**20 03 15.5**	**+0.7**
MASBT	**Mashibuluo**	**2.00**	**229**	*i*	P	**Pn**	**20 03 16.1**	**+1.0**
MASBT				*i*	S	**Sn**	**20 03 40.3**	**+1.1**
LAY	**Lan-yu**	**2.00**	**199**	*i*	P	**Pn**	**20 03 14.9**	**-0.2**
LAY				*i*	S	**Sn**	**20 03 37.0**	**-2.3**
TAW	**Tawu**	**2.01**	**219**		P	**Pn**	**20 03 15.8**	**+0.6**
TAW				*i*	S	**Sn**	**20 03 38.6**	**-1.1**
EAST	**Anshuo**	**2.02**	**220**	*i*	P	**Pn**	**20 03 15.6**	**+0.2**
EAST					S	**Sn**	**20 03 40.3**	**+0.4**
TWM1	**Shoushan**	**2.02**	**237**	*i*	P	**Pb**	**20 03 19.2**	**+0.3**
TWM1					S	**Sb**	**20 03 44.7**	**+1.0**
LYUB	**Lan-yu**	**2.02**	**198**	*i*	P	**Pn**	**20 03 14.1**	**-1.4**
LYUB				*i*	S	**Sn**	**20 03 37.6**	**-2.3**
SGLT	**Jiouru**	**2.03**	**234**	*e*	P	**Pb**	**20 03 18.4**	**-0.6**
SGLT				*e*	S	**Sb**	**20 03 43.5**	**-0.3**
TAWH	**Dawu Township**	**2.03**	**219**	*i*	P	**Pn**	**20 03 15.5**	**0.0**
TAWH				*i*	S	**Sn**	**20 03 39.1**	**-1.0**
SCLT	**Jiali**	**2.04**	**249**	*e*	P	**Pb**	**20 03 17.9**	**-1.3**
SCLT				*i*	S	**Sb**	**20 03 43.3**	**-0.9**
TSCK	**Chigu Township**	**2.15**	**249**	*i*	P	**Pn**	**20 03 18.4**	**+1.3**
TSCK				*i*	S	**Sn**	**20 03 44.9**	**+1.9**
SCZT	**Fangliau**	**2.17**	**225**	*i*	P	**Pn**	**20 03 18.8**	**+1.3**
SCZT				*i*	S	**Sn**	**20 03 44.7**	**+1.1**
SLIU	**Shizi**	**2.18**	**219**	*i*	P	**Pn**	**20 03 17.8**	**+0.3**
SLIU				*e*	S	**Sn**	**20 03 42.9**	**-0.9**
WSSB	**Gushan**	**2.25**	**235**	*e*	P	**Pb**	**20 03 21.9**	**-0.8**
WSSB					S	**Sb**	**20 03 50.7**	**+0.6**
SMST	**Manzhou Townsh**	**2.31

IDE						Sn		20 19 50.9	-0.3
IDE	**Isla Desecheo**	**0.75**	**202**	⇓*e*P		**Pn**		**20 19 40.1**	**+0.1**
IDE	**Isla Desecheo**	**0.75**	**202**	*e*S		**Sn**		**20 19 50.9**	**-0.3**
AOPR	**Arecibo Observ**	**0.84**	**151**			**Pb**		**20 19 40.8**	**+0.5**
AOPR					Sg	**Sg**		**20 19 51.1**	**-0.2**
AOPR	**Arecibo Observ**	**0.84**	**151**	⇑*e*P		**Pn**		**20 19 41.2**	**-0.1**
AOPR	**Arecibo Observ**	**0.84**	**151**	*e*Pg		**Pn**		**20 19 41.2**	**-0.1**
AOPR					IAML			20 20 02.7	
	comp=N,5μm,0.5s								
PRSN	**Puerto Rico Se**	**0.87**	**177**			**Pn**		**20 19 41.7**	**+0.1**
PRSN	**Puerto Rico Se**	**0.87**	**177**			**Sb**		**20 19 53.4**	**+1.3**
PRSN	**Puerto Rico Se**	**0.87**	**177**	Pg		**Pn**		**20 19 41.5**	**-0.1**
PRSN	**Puerto Rico Se**	**0.87**	**177**	Sg		**Sg**		**20 19 52.6**	**+0.6**
PRSN	**Puerto Rico Se**	**0.87**	**177**	⇑*e*P		**Pn**		**20 19 41.7**	**+0.1**
PRSN	**Puerto Rico Se**	**0.87**	**177**	*e*S		**Sb**		**20 19 53.4**	**+1.3**
EMPR	**Esperanza - Ma**	**0.87**	**134**			**Pn**		**20 19 41.8**	**+0.2**
EMPR	**Esperanza - Ma**	**0.87**	**134**			**Sn**		**20 19 54.9**	**+0.8**
EMPR	**Esperanza - Ma**	**0.87**	**134**	Pg		**Pn**		**20 19 41.6**	**0.0**
EMPR	**Esperanza - Ma**	**0.87**	**134**	Sg		**Sg**		**20 19 51.8**	**-0.3**
EMPR	**Esperanza - Ma**	**0.87**	**134**	⇑*e*P		**Pn**		**20 19 41.8**	**+0.2**
EMPR	**Esperanza - Ma**	**0.87**	**134**	*e*S		**Sn**		**20 19 54.9**	**+0.8**
LSP	**Las Mesas**	**0.91**	**174**			**Pn**		**20 19 42.3**	**0.0**
LSP						**Sb**		**20 19 54.4**	**+0.9**
LSP	**Las Mesas**	**0.91**	**174**	⇓*e*P		**Pn**		**20 19 42.3**	**0.0**
LSP	**Las Mesas**	**0.91**	**174**	*e*S		**Sb**		**20 19 54.4**	**+0.9**
UUPR	**Utuado, UPR, P**	**0.94**	**152**			**Pn**		**20 19 42.6**	**0.0**
UUPR						**Sb**		**20 19 54.7**	**+0.5**
UUPR	**Utuado, UPR, P**	**0.94**	**152**	Pg		**Pb**		**20 19 42.2**	**+0.2**
UUPR	**Utuado, UPR, P**	**0.94**	**152**	⇑*e*P		**Pn**		**20 19 42.6**	**0.0**
UUPR	**Utuado, UPR, P**	**0.94**	**152**	*e*S		**Sb**		**20 19 54.7**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.08**	**176**			**Pn**		**20 19 44.8**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.08**	**176**			**Sb**		**20 19 57.4**	**-0.8**
CRPR					IAML			20 20 00.0	
	comp=N,3μm,0.7s								
CRPR					IAML			20 20 01.6	
	comp=E,2μm,0.4s								
CRPR	**Cabo Rojo, PR**	**1.08**	**176**	⇑*e*P		**Pn**		**20 19 44.8**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.08**	**176**	*e*S		**Sb**		**20 19 59.0**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.08**	**176**	⇑*e*Pg		**Pn**		**20 19 44.9**	**+0.4**
CRPR				⇑*e*Sg		**Sb**		**20 19 59.1**	**+0.8**
CRPR					IAML			20 20 01.5	
	comp=E,2μm,0.2s								
CRPR					IAML			20 20 02.6	
	comp=N,3μm,0.3s								
CRPR	**Cabo Rojo, PR**	**1.08**	**176**	*i* P		**Pn**		**20 19 44.9**	**+0.4**
CRPR				*e*S		**Sb**		**20 19 58.6**	**+0.4**
CRPR					IAML			20 19 59.4	
	comp=Z,2μm,0.7s								
ECPR	**Experimental S**	**1.09**	**134**	⇓*e*P		**Pn**		**20 19 44.8**	**+0.1**
ECPR	**Experimental S**	**1.09**	**134**	*e*S		**Sn**		**20 20 01.0**	**+1.4**
MLPR	**Magueyes Islan**	**1.12**	**173**	⇓*e*P		**Pg**		**20 19 45.5**	**0.0**
MLPR	**Magueyes Islan**	**1.12**	**173**	*e*S		**Sb**		**20 19 60.0**	**+0.6**
GBPR	**Guanica, Bosqu**	**1.14**	**165**			**Pb**		**20 19 44.7**	**-0.7**
GBPR	**Guanica, Bosqu**	**1.14**	**165**	⇑*e*P		**Pb**		**20 19 44.7**	**-0.7**
CELP	**Cerrillos**	**1.16**	**150**			**Pg**		**20 19 45.9**	**-0.3**
CELP	**Cerrillos**	**1.16**	**150**			**Sb**		**20 19 59.8**	**-0.8**
CELP					IAML			20 20 02.5	
	comp=N,3μm,0.2s								
CELP					IAML			20 20 05.9	
	comp=E,2μm,0.6s								
CELP	**Cerrillos**	**1.16**	**150**	⇓*e*P		**Pg**		**20 19 45.9**	**-0.3**
CELP	**Cerrillos**	**1.16**	**150**	*e*S		**Sg**		**20 20 01.3**	**-0.1**
CELP	**Cerrillos**	**1.16**	**150**	*e*Pg		**Pg**		**20 19 46.1**	**-0.1**
CELP				*e*Sg		**Sg**		**20 20 01.3**	**-0.1**
CELP					IAML			20 20 05.8	
	comp=E,2μm,0.4s								
CELP					IAML			20 20 07.2	
	comp=N,2μm,0.5s								
OBIP	**Obispado Ponce**	**1.18**	**152**			**Pg**		**20 19 46.3**	**-0.3**
OBIP						**Sb**		**20 20 01.4**	**+0.4**
OBIP	**Obispado Ponce**	**1.18**	**152**		IAML			20 20 03.6	
	comp=E,2μm,0.5s								
OBIP	**Obispado Ponce**	**1.18**	**152**	⇓*e*P		**Pg**		**20 19 46.3**	**-0.3**
OBIP	**Obispado Ponce**	**1.18**	**152**	*e*S		**Sb**		**20 20 01.4**	**+0.4**
GCPR	**Guaynabo City**	**1.30**	**126**			**Pn**		**20 19 47.3**	**-0.3**
GCPR	**Guaynabo City**	**1.30**	**126**			**Sb**		**20 20 03.8**	**-0.9**
GCPR	**Guaynabo City**	**1.30**	**126**	⇑*e*P		**Pn**		**20 19 47.3**	**-0.3**
GCPR	**Guaynabo City**	**1.30**	**126**	*e*S		**Sg**		**20 20 06.5**	**+0.6**
SJG	**San Juan**	**1.38**	**135**			**Pb**		**20 19 49.2**	**-0.2**
SJG					IAML			20 20 12.7	
	comp=E,2μm,0.3s								
SJG	**San Juan**	**1.38**	**135**	Pn		**Pb**		**20 19 49.5**	**0.0**
	comp=E,19nm,0.3s,baz=111,slow=22,SNR=9.1								
SJG				Sn		**Sn**		**20 20 06.7**	**0.0**
	comp=E,141nm,0.3s,baz=24,slow=18,SNR=6.5								
SJG				LR		LR		20 20 18.7	
	comp=E,242nm,19.2s,baz=276,slow=39								
SJG	**San Juan**	**1.38**	**135**	⇓*e*P		**Pb**		**20 19 49.4**	**0.0**
SJG	**San Juan**	**1.38**	**135**	*e*S		**Sg**		**20 20 09.3**	**+0.9**
SJG	**San Juan**	**1.38**	**135**	*i* P		**Pg**		**20 19 49.9**	**-0.5**
SJG				*e*S		**Sn**		**20 20 06.5**	**-0.3**
SJG					IAML			20 20 15.7	
	comp=Z,897nm,0.3s								
IGPR	**InterUniversit**	**1.51**	**137**			**Pn**		**20 19 51.1**	**+0.6**
IGPR						**Sg**		**20 20 11.9**	**-0.8**
IGPR	**InterUniversit**	**1.51**	**137**	⇑*e*P		**Pn**		**20 19 51.1**	**+0.6**
IGPR	**InterUniversit**	**1.51**	**137**	*e*S		**Sg**		**20 20 11.9**	**-0.8**
PDPR	**Patillas Dam,**	**1.53**	**134**	Pn		**Pb**		**20 19 51.5**	**-0.6**
PDPR					IAML			20 20 15.2	
	comp=N,2μm,0.2s								
PDPR					IAML			20 20 18.2	
	comp=E,1μm,0.4s								
PDPR	**Patillas Dam,**	**1.53**	**134**	⇑*e*P		**Pn**		**20 19 50.9**	**+0.2**
PDPR	**Patillas Dam,**	**1.53**	**134**	*e*S		**Sb**		**20 20 11.8**	**+0.5**
HIDR	**Higuey Centro**	**1.53**	**251**	*e*Pg		**Pb**		**20 19 52.5**	**+0.5**
HIDR					IAML			20 20 19.4	
	comp=N,2μm,0.2s								
HUMP	**Col San Antoni**	**1.58**	**126**	Pn		**Pb**		**20 19 52.0**	**-0.8**
MIDR	**Miches**	**1.77**	**267**	*e*Pg		**Pg**		**20 19 57.0**	**-0.8**
MIDR					IAML			20 20 26.2	
	comp=N,633nm,0.8s								
MIDR					IAML			20 20 26.2	
	comp=N,633nm,0.8s								
MIDR					IAML			20 20 27.3	
	comp=E,576nm,0.6s								
SMDR	**Samana, DR**	**1.90**	**276**	⇑*e*P		**Pn**		**20 19 56.8**	**+0.9**
SMDR	**Samana, DR**	**1.90**	**276**	*e*Pg		**Pn**		**20 19 57.0**	**+1.1**
SMDR					IAML			20 20 31.0	
	comp=E,451nm,1.3s								
SMDR					IAML			20 20 44.9	
	comp=N,614nm,0.8s								
SDD	**Santo Domingo**	**2.66**	**257**			**Pn**		**20 20 07.0**	**+0.7**
SDD					IAML			20 20 58.8	
	comp=E,389nm,1.1s								
BANI	**BANI**	**3.09**	**258**	Pn		**Pn**		**20 20 13.7**	**+1.4**
ABDR	**Alto Bandera**	**3.27**	**266**	*e*Pg		**Pb**		**20 20 19.2**	**-2.7**
ABDR					IAML			20 21 15.4	
	comp=N,453nm,0.9s								
SC01	**Santiago de lo**	**3.36**	**276**			**Pn**		**20 20 18.2**	**+2.2**
SDDR	**Presa de Saban**	**3.88**	**269**			**Pn**		**20 20 25.6**	**+2.4**
SMRT	**St. Maarten**	**4.03**	**104**	Pn		**Pn**		**20 20 24.1**	**-1.1**
SMRT					IAML			20 21 26.0	
	comp=E,217nm,0.6s								
SMRT					IAML			20 21 37.8	
	comp=N,227nm,0.8s								
ABD	**La Joyeuse, An**	**6.02**	**115**	Pn		**Pn**		**20 20 51.1**	**-1.3**
MAGL	**Barre de l'ile**	**6.44**	**118**	Pn		**Pn**		**20 20 59.0**	**+0.7**
SVN	**Savane Anatole**	**7.14**	**125**	Pn		**Pn**		**20 21 08.0**	**+0.1**
FDF	**Fort de France**	**7.22**	**126**	Pn		**Pn**		**20 21 08.1**	**-0.9**
BIM	**Bigot**	**7.41**	**127**	Pn		**Pn**		**20 21 10.1**	**-1.5**
MPOM	**Morne Pois Mar**	**7.62**	**126**	Pn		**Pn**		**20 21 13.6**	**-0.9**
PCRV	**Puerto La Cruz**	**9.20**	**164**	Pn		**Pn**		**20 21 39.6**	**+3.4**
	comp=N,2.6nm,0.3s,baz=297,slow=1.6,SNR=16								
PCRV				Sn		**Sn**		**20 23 11.6**	**-8.0**
	comp=N,0.5nm,0.3s,baz=357,slow=9.2,SNR=1.9								
PCRV				LR		LR		20 24 35.0	
	comp=N,54nm,20.8s,slow=34								
	comp=N,10nm,0.4s								
BBGH	**Gun Hill**	**9.41**	**128**	Pn		**Pn**		**20 21 38.8**	**-0.4**
BAUV	**El Baul**	**10.12**	**185**			**Pn**		**20 21 50.0**	**+1.1**
SDV	**Santo Domingo**	**10.68**	**199**	Pn		**Pn**		**20 21 59.5**	**+2.9**
	comp=N,1.0nm,0.3s,baz=20,slow=18,SNR=5.1								
SDV				Sn		**Sn**		**20 23 50.5**	**-5.6**
	comp=N,0.4nm,0.3s,baz=14,slow=12,SNR=1.4								
SDV				LR		LR		20 26 16.7	
	comp=N,56nm,21.4s,baz=59,slow=38								
	comp=N,3.1nm,0.5s								
RUSC	**La Rusia**	**14.32**	**204**			**Pn**		**20 22 46.0**	**-0.7**
BOAV	**Boa Vista**	**17.83**	**158**	P		**P**		**20 23 32.8**	**+0.5**
TEIG	**Tepich**	**19.90**	**277**	P		**P**		**20 23 54.1**	**-1.0**
	baz=130,slow=24,SNR=10								
PAULI	**Pauline**	**20.35**	**323**			**P**		**20 24 00.2**	**+0.3**
ATAH	**Atahualpa**	**28.30**	**204**	LR		LR		20 38 40.9	

	comp=N,36nm,18.2s,baz=54,slow=41								
TXAR	**Lajitas Array**	**34.68**	**294**	P		**P**		**20 26 14.8**	**+1.5**
	comp=N,0.5nm,0.7s,baz=115,slow=9.9,SNR=5.7								
	comp=N,0.5nm,0.7s								
SIV	**San Ignacio**	**35.37**	**170**	LR		LR		20 41 07.0	
	comp=N,33nm,19.2s,baz=108,slow=37								
CPUP	**Villa Florida**	**46.15**	**168**	P		**P**		**20 27 48.5**	**+0.5**
	comp=N,0.6nm,0.6s,baz=211,slow=7.4,SNR=6.2								
	comp=N,0.6nm,0.6s								
ELK	**Elko**	**46.24**	**309**	P		**P**		**20 27 48.5**	**-0.6**
	comp=N,1.1nm,0.3s,baz=89,slow=9.3,SNR=7.1								
ELK				LR		LR		20 49 13.8	
	comp=N,16nm,18.6s,baz=324,slow=39								
	comp=N,1.1nm,0.3s								
ESDC	**Sonseca Array**	**57.62**	**55**	P		**P**		**20 29 13.0**	**-0.7**
	comp=N,1.1nm,0.9s,baz=269,slow=6.2,SNR=5.8								
	comp=N,1.1nm,0.9s								
TORD	**Torodi Ar. Bea**	**66.08**	**84**	P		**P**		**20 30 11.6**	**+0.6**
	comp=N,0.3nm,0.6s,baz=282,slow=6.4,SNR=1.6								
	comp=N,0.3nm,0.6s								
ILAR	**Eielson Array**	**68.52**	**333**	P		**P**		**20 30 26.5**	**+1.0**
	comp=N,0.3nm,0.8s,baz=108,slow=8.0,SNR=2.3								
	comp=N,0.3nm,0.8s								
ARCES	**ARCESS Array B**	**73.22**	**22**	P		**P**		**20 30 54.6**	**+0.5**
	comp=N,1.8nm,0.7s,baz=283,slow=5.5,SNR=3.5								
	comp=N,1.8nm,0.7s								

CATAC ***24*** *20:20:56.4±0.7, 15°N±4°×9°3W±°, h16km±4km, M3.5/8, MLv3.5/8, Error ellipse: s-maj=9.7km s-min=4.4km az=29.5, confirmed*
GCG ***24*** *20:20:58.6±1.3, 14.°63N×92.°94W, h46km±34km, MD3.9, ML3.5*
MEX ***24*** *20:20:58.9±0.9, 14.°65N×93.°07W, h15km, MD4.2*

ISC 24 20:20:56.0±1.3,**14.°66N**±0.°05×**93.°05W**±0.°03,**h30**km±13km, **n36**,σ1°97/64,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.79**	**72**	*e*P	**Pn**	**20 21 12.1**	**+0.9**
THIG				*e*S	**Sb**	**20 21 22.0**	**+0.3**
THIG		**0.79**	**72**	*e*P	**Pn**	**20 21 12.2**	**+1.0**
THIG				*e*S	**Sb**	**20 21 22.1**	**+0.3**
PATR	**El Naranjo**	**0.91**	**60**	*e*P	**Pn**	**20 21 13.5**	**+0.5**
PATR				*e*S	**Sb**	**20 21 25.1**	**-0.1**
SMCA	**Catarina**	**0.96**	**78**	*e*P	**Pb**	**20 21 14.1**	**0.0**
SMCA				*e*S	**Sb**	**20 21 26.3**	**-0.2**
SMCA				IAML		20 21 27.4	
	comp=E,1μm,0.1s						
PAVE	**Pavencul**	**0.99**	**58**	*e*P	**Pn**	**20 21 14.9**	**+0.7**
PAVE				*e*S	**Sb**	**20 21 27.0**	**-0.7**
CHUJ	**Union Juarez**	**1.00**	**65**	*e*P	**Pb**	**20 21 14.7**	**-0.3**
CHUJ				*e*S	**Sb**	**20 21 27.2**	**-0.7**
PCIG		**1.05**	**351**	*e*P	**Pn**	**20 21 15.4**	**+0.6**
PCIG				*e*S	**Sb**	**20 21 28.3**	**-0.7**
RTAL	**Retalhuleu**	**1.32**	**96**	*e*P	**Pn**	**20 21 19.5**	**+1.1**
RTAL				*e*S	**Sn**	**20 21 35.9**	**+0.9**
RTAL	**Retalhuleu**	**1.32**	**96**	S	**Sn**	**20 21 34.9**	**-0.1**
RTAL	**Retalhuleu**	**1.32**	**96**	P	**Pn**	**20 21 19.6**	**+1.1**
QUEO	**Labor Ovalle**	**1.50**	**82**	*e*P	**Pb**	**20 21 23.0**	**-0.4**
QUEO				*e*S	**Sb**	**20 21 41.5**	**-0.6**
HUEH	**Huehuetenango**	**1.63**	**66**	*e*P	**Pn**	**20 21 23.6**	**+0.7**
HUEH				*e*S	**Sb**	**20 21 45.2**	**-0.5**
HUEH	**Huehuetenango**	**1.63**	**66**	S	**Sb**	**20 21 46.5**	**+0.7**
CCIG	**Comitan**	**1.83**	**28**	*e*P	**Pb**	**20 21 28.5**	**-0.5**
CCIG				*e*S	**Sb**	**20 21 51.6**	**0.0**
CCIG	**Comitan**	**1.83**	**28**	*e*P	**Pb**	**20 21 28.8**	**-0.2**
CCIG				*e*S	**Sb**	**20 21 51.5**	**-0.1**
CCIG	**Comitan**	**1.83**	**28**	S	**Sb**	**20 21 50.7**	**-0.9**
CCIG	**Comitan**	**1.83**	**28**	P	**Pb**	**20 21 29.0**	**0.0**
TGBT	**Tuxtla Gutierr**	**2.10**	**359**	*e*S	**Sn**	**20 21 52.2**	**+0.8**
TGIG		**2.10**	**358**	*e*P	**Pn**	**20 21 31.0**	**+1.6**
TGIG				*e*S	**Sn**	**20 21 55.5**	**+0.9**
TGIG		**2.10**	**358**	*e*P	**Pn**	**20 21 31.3**	**+2.0**
NILT	**Santiago Nilte**	**2.42**	**322**	*e*P	**Pn**	**20 21 35.0**	**+1.4**
NILT				*e*S	**Sn**	**20 22 01.2**	**-1.1**
UXUV	**UXUV**	**2.84**	**338**	*e*P	**Pn**	**20 21 42.2**	**+2.7**
UXUV				*e*S	**Sn**	**20 22 16.0**	**+3.3**
CMIG	**Matias Romero**	**2.99**	**324**	*e*P	**Pn**	**20 21 42.8**	**+1.3**
CMIG				*e*S	**Sn**	**20 22 14.9**	**-1.5**
HUIG	**Huatulco**	**3.15**	**291**	*e*P	**Pn**	**20 21 44.9**	**+1.2**
HUIG				*e*S	**Sn**	**20 22 19.7**	**-0.7**
CEVE	**Cerro Verde**	**3.42**	**104**	P	**Pn**	**20 21 51.1**	**+3.5**
PETF	**Flores**	**3.79**	**53**	*e*P	**Pn**	**20 21 52.2**	**-0.3**
PETF				*e*S	**Sn**	**20 22 32.5**	**-3.7**
NEUV	**Arroyo Zacate**	**4.03**	**319**	*e*P	**Pn**	**20 21 56.4**	**+0.7**
NEUV				*e*S	**Sn**	**20 22 41.6**	**-0.2**
PEIG	**Puerto Escondi**	**4.17**	**289**	*e*P	**Pn**	**20 21 58.6**	**+0.9**
PEIG				*e*S	**Sn**	**20 22 46.2**	**-4.7**
VHO	**Vista Hermosa**	**4.28**	**305**	*e*P	**Pn**	**20 21 55.9**	**-3.5**
VHO				*e*S	**Sn**	**20 22 51.8**	**+3.3**
SCIG	**Sabancuy**	**4.64**	**22**	*e*P	**Pn**	**20 22 05.7**	**+1.6**
SCIG				*e*S	**Sn**	**20 22 54.4**	**-2.6**
YOIG	**Yosondua**	**4.85**	**297**	*e*P	**Pn**	**20 22 10.2**	**+2.9**
YOIG				*e*S	**Sn**	**20 22 57.9**	**-4.7**
TOIG	**Toxpalan**	**5.15**	**312**	*e*P	**Pn**	**20 22 13.1**	**+1.9**
TOIG				*e*S	**Sn**	**20 23 10.1**	**+0.3**
TXIG	**Tlaxiaco**	**5.22**	**300**	*e*P	**Pn**	**20 22 14.2**	**+1.9**
TXIG				*e*S	**Sn**	**20 23 11.9**	**+0.1**
HLIG	**Huajuapan de L**	**5.55**	**305**	*e*P	**Pn**	**20 22 19.8**	**+3.0**
HLIG				*e*S	**Sn**	**20 23 22.1**	**+2.3**
FTIG	**Fresnillo de T**	**5.85**	**304**	*e*P	**Pn**	**20 22 24.9**	**+3.9**
FTIG				*e*S	**Sn**	**20 23 22.4**	**-4.8**
JAUV	**Jalcomulco**	**5.90**	**323**	*e*P	**Pn**	**20 22 20.9**	**-0.5**
JAUV				*e*S	**Sn**	**20 23 24.5**	**-3.6**

SDD ***24*** *20:23:58.1±1.2, 19.°26N×67.°13W, h31km±77km, MD3.8, ML3.0, MW3.4*
OSPL ***24*** *20:23:59.3±0.5, 19.°17N×67.°26W, h14km±4km, ML2.9*
NEIC ***24*** *20:23:59.7±1.4, 19.°09N±0.°04×67.°22W±0.°03, h26km±11km, ML3.0/15, Md2.8/19(RSPR), Error ellipse: s-maj=6.5km s-min=4.2km az=193.0*
RSPR ***24*** *20:24:00.4, 19.°16N×67.°21W, h10km±31km, MD2.8/19*

ISC 24 20:23:59.8±1.6,**19.°10N**±0.°06×**67.°21W**±0.°03,**h24**km±13km, **n70**,σ0°81/82,**9C-8D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.64**	**171**		**Pb**	**20 24 12.4**	**+0.1**
AGPR					**Sn**	**20 24 22.5**	**-0.3**
AGPR	**Aguadilla, PR**	**0.64**	**171**	⇑*e*P	**Pb**	**20 24 12.4**	**+0.1**
AGPR	**Aguadilla, PR**	**0.64**	**171**	*e*S	**Sn**	**20 24 22.5**	**-0.3**
AGPR	**Aguadilla, PR**	**0.64**	**171**	*e*Pg	**Pb**	**20 24 12.2**	**-0.1**
AGPR				*e*Sg	**Sn**	**20 24 22.4**	**-0.4**
AGPR				IAML		20 24 23.1	
	comp=N,1μm,0.1s						
AGPR				IAML		20 24 23.6	
	comp=E,1μm,0.2s						
AGPR	**Aguadilla, PR**	**0.64**	**171**	*i* P	**Pb**	**20 24 12.2**	**-0.1**
AGPR				*e*S	**Sb**	**20 24 21.2**	**+0.4**
AGPR				IAML		20 24 23.5	
	comp=Z,696nm,0.1s						
IDE	**Isla Desecheo**	**0.75**	**199**		**Pb**	**20 24 14.2**	**0.0**
IDE					**Sn**	**20 24 25.3**	**-0.3**
IDE	**Isla Desecheo**	**0.75**	**199**	⇓*i* P	**Pb**	**20 24 14.2**	**0.0**
IDE	**Isla Desecheo**	**0.75**	**199**	*e*S	**Sn**	**20 24 25.3**	**-0.3**
AOPR	**Arecibo Observ**	**0.86**	**150**		**Pb**	**20 24 15.3**	**-0.9**
AOPR					**Sb**	**20 24 26.0**	**-1.3**
AOPR	**Arecibo Observ**	**0.86**	**150**	⇑*e*P	**Pb**	**20 24 15.5**	**-0.6**
AOPR	**Arecibo Observ**	**0.86**	**150**	*e*S	**Sn**	**20 24 27.9**	**-0.5**
AOPR	**Arecibo Observ**	**0.86**	**150**	*e*Pg	**Pb**	**20 24 15.6**	**-0.6**
AOPR				IAML		20 24 40.8	
	comp=N,796nm,0.3s						
PRSN	**Puerto Rico Se**	**0.88**	**176**		**Pb**	**20 24 15.4**	**-1.0**
PRSN					**Sb**	**20 24 27.7**	**-0.1**
PRSN	**Puerto Rico Se**	**0.88**	**176**	⇑*e*P	**Pb**	**20 24 16.2**	**-0.3**
PRSN	**Puerto Rico Se**	**0.88**	**176**	*e*S	**Sn**	**20 24 29.3**	**+0.5**
EMPR	**Esperanza - Ma**	**0.89**	**134**		**Pn**	**20 24 16.3**	**-0.6**
EMPR	**Esperanza - Ma**	**0.89**	**134**	⇑*e*P	**Pn**	**20 24 16.3**	**-0.6**
EMPR	**Esperanza - Ma**	**0.89**	**134**	*e*S	**Sn**	**20 24 32.0**	**+2.9**
LSP	**Las Mesas**	**0.93**	**173**		**Pn**	**20 24 16.8**	**-0.6**
LSP					**Sn**	**20 24 30.3**	**+0.3**
LSP	**Las Mesas**	**0.93**	**173**	⇓*e*P	**Pn**	**20 24 16.8**	**-0.6**
LSP	**Las Mesas**	**0.93**	**173**	*e*S	**Sn**	**20 24 30.3**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.96**	**151**		**Pn**	**20 24 16.4**	**-1.4**
UUPR	**Utuado, UPR, P**	**0.96**	**151**	⇑*e*P	**Pn**	**20 24 16.8**	**-1.0**
UUPR	**Utuado, UPR, P**	**0.96**	**151**	*e*S	**Sn**	**20 24 34.1**	**+3.3**
CRPR	**Cabo Rojo, PR**	**1.09**	**175**		**Pn**	**20 24 19.0**	**-0.6**
CRPR				Sn	**Sb**	**20 24 34.0**	**+0.2**
CRPR				IAML		20 24 39.5	
	comp=E,301nm,0.4s						
CRPR				IAML		20 24 43.0	
	comp=N,271nm,0.4s						
CRPR	**Cabo Rojo, PR**	**1.09**	**175**	⇑*i*P	**Pn**	**20 24 19.2**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.09**	**175**	*e*S	**Sb**	**20 24 34.6**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.09**	**175**	*e*Pg	**Pn**	**20 24 19.2**	**-0.4**
CRPR				*e*Sg	**Sb**	**20 24 35.0**	**+1.2**
CRPR				IAML		20 24 39.2	
	comp=E,355nm,0.5s						
CRPR				IAML		20 24 42.9	
	comp=N,311nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.09**	**175**	*i* P	**Pn**	**20 24 19.2**	**-0.4**
CRPR				*e*S	**Sb**	**20 24 34.5**	**+0.7**
CRPR				IAML		20 24 38.2	
	comp=Z,244nm,0.4s						
ECPR	**Experimental S**	**1.12**	**134**	⇑*i*P	**Pn**	**20 24 19.6**	**-0.4**
ECPR	**Experimental S**	**1.12**	**134**	*e*S	**Sn**	**20 24 34.4**	**-0.2**
MLPR	**Magueyes Islan**	**1.13**	**172**	⇑*i*P	**Pn**	**20 24 19.9**	**-0.3**
MLPR	**Magueyes Islan**	**1.13**	**172**	*e*S	**Sb**	**20 24 35.5**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.16**	**164**		**Pn**	**20 24 20.4**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.16**	**164**	⇓*e*P	**Pn**	**20 24 20.4**	**-0.2**
CELP	**Cerrillos**	**1.18**	**149**		**Pn**	**20 24 20.6**	**-0.3**
CELP					**Sb**	**20 24 36.6**	**+0.2**
CELP	**Cerrillos**	**1.18**	**149**	IAML		20 24 43.5	
	comp=N,305nm,0.4s						
CELP				IAML		20 24 44.9	
	comp=E,249nm,0.3s						
CELP	**Cerrillos**	**1.18**	**149**	⇑*e*P	**Pn**	**20 24 20.6**	**-0.3**
CELP	**Cerrillos**	**1.18**	**149**	*e*S	**Sb**	**20 24 36.6**	**+0.2**
CELP	**Cerrillos**	**1.18**	**149**	*e*Pg	**Pn**	**20 24 20.6**	**-0.3**
CELP				*e*Sg	**Sn**	**20 24 35.1**	**-1.2**
CELP				IAML		20 24 40.0	
	comp=E,220nm,0.3s						
CELP				IAML		20 24 43.4	
	comp=N,310nm,0.2s						
OBIP	**Obispado Ponce**	**1.20**	**151**		**Pn**	**20 24 20.4**	**-0.7**
OBIP	**Obispado Ponce**	**1.20**	**151**		**Sb**	**20 24 36.8**	**-0.1**
OBIP					IAML	20 24 39.3	
	comp=E,244nm,0.4s						
OBIP				IAML		20 24 43.1	
	comp=N,280nm,0.7s						
OBIP	**Obispado Ponce**	**1.20**	**151**	⇓*e*P	**P

VTS	**Vitosha**	**3.05**	**64**	*e*Pn		**Pn**	**20 28 17.7**	**+0.6**
ZAGS	**Zajecar**	**3.18**	**38**	*e*Pn		**Pn**	**20 28 20.2**	**+1.5**
ZAGS				*e*Sn		**Sn**	**20 28 57.9**	**+1.5**

OSPL ***24*** *20:32:11.6±0.4, 19°.23N×67°.42W, h15km±2km, ML2.9*
SDD ***24*** *20:32:11.3±1.6, 19°.28N×67°.17W, h19km±122km, MD3.7, ML2.9, MW3.3*
NEIC ***24*** *20:32:11.2±2.0, 19°.16N±0°.03×67°.22W±0°.03, h10km±1km, ML3.0/19, Md2.9/15(RSPR), Error ellipse: s-maj=5.5km s-min=4.0km az=341.0*
RSPR ***24*** *20:32:13.2, 19°.19N×67°.38W, h10km±3.1km, MD2.9/15*
ISC 24 20:32:12.3±1.4, 19°.10N±0°.05×67°.23W±0°.03, h12km±9km, n68, σ0s72/87, 19C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.64**	**169**			**Pb**	**20 32 26.1**	**+0.5**
AGPR						**Sn**	**20 32 36.6**	**-0.8**
AGPR	**Aguadilla, PR**	**0.64**	**169**	⇑*e*P		**Pb**	**20 32 26.1**	**+0.5**
AGPR	**Aguadilla, PR**	**0.64**	**169**	*e*S		**Sn**	**20 32 36.6**	**-0.8**
AGPR	**Aguadilla, PR**	**0.64**	**169**	*e*Pg		**Pb**	**20 32 26.0**	**+0.5**
AGPR				*e*Sg		**Sn**	**20 32 36.6**	**-0.8**
AGPR				IAML			20 32 41.2	
	comp=E,742nm,0.3s							
AGPR				IAML			20 32 43.3	
	comp=N,658nm,0.2s							
AGPR	**Aguadilla, PR**	**0.64**	**169**	*i* P		**Pb**	**20 32 26.0**	**+0.5**
AGPR				*e*S		**Sn**	**20 32 36.5**	**-0.8**
AGPR				IAML			20 32 41.2	
	comp=Z,414nm,0.3s							
IDE	**Isla Desecheo**	**0.75**	**198**			**Pb**	**20 32 27.6**	**+0.4**
IDE						**Sb**	**20 32 39.1**	**+1.7**
IDE	**Isla Desecheo**	**0.75**	**198**	⇓*e*P		**Pb**	**20 32 27.6**	**+0.4**
IDE	**Isla Desecheo**	**0.75**	**198**	*e*S		**Sb**	**20 32 39.1**	**+1.7**
AOPR	**Arecibo Observ**	**0.88**	**149**			**Pg**	**20 32 29.4**	**+0.2**
AOPR				IAML			20 32 54.9	
	comp=N,560nm,0.3s							
AOPR	**Arecibo Observ**	**0.88**	**149**			**Sn**	**20 32 43.4**	**+0.1**
AOPR	**Arecibo Observ**	**0.88**	**149**	⇑*e*P		**Pb**	**20 32 29.6**	**0.0**
AOPR	**Arecibo Observ**	**0.88**	**149**	*e*S		**Sn**	**20 32 43.4**	**+0.1**
AOPR	**Arecibo Observ**	**0.88**	**149**	⇑*e*Pg		**Pb**	**20 32 29.5**	**0.0**
AOPR				IAML			20 32 54.9	
	comp=N,525nm,0.3s							
PRSN	**Puerto Rico Se**	**0.88**	**174**	Pn		**Pg**	**20 32 29.5**	**+0.2**
PRSN						**Sg**	**20 32 40.1**	**-0.8**
PRSN	**Puerto Rico Se**	**0.88**	**174**	⇑*e*P		**Pg**	**20 32 29.7**	**+0.3**
PRSN	**Puerto Rico Se**	**0.88**	**174**	*e*S		**Sn**	**20 32 43.4**	**0.0**
EMPR	**Esperanza - Ma**	**0.91**	**133**			**Sn**	**20 32 45.8**	**+1.7**
EMPR	**Esperanza - Ma**	**0.91**	**133**	Pn		**Pb**	**20 32 30.4**	**+0.3**
EMPR	**Esperanza - Ma**	**0.91**	**133**	⇓*e*P		**Pn**	**20 32 31.7**	**+0.7**
EMPR	**Esperanza - Ma**	**0.91**	**133**	*e*S		**Sn**	**20 32 45.8**	**+1.7**
LSP	**Las Mesas**	**0.93**	**171**			**Pg**	**20 32 30.3**	**0.0**
LSP						**Sn**	**20 32 44.4**	**-0.3**
LSP	**Las Mesas**	**0.93**	**171**	⇑*e*P		**Pg**	**20 32 30.3**	**0.0**
LSP	**Las Mesas**	**0.93**	**171**	*e*S		**Sn**	**20 32 44.4**	**-0.3**
UUPR	**Utuado, UPR, P**	**0.97**	**150**	Pn		**Pg**	**20 32 30.6**	**-0.5**
UUPR						**Sg**	**20 32 43.7**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.97**	**150**	⇑*e*P		**Pn**	**20 32 31.7**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.97**	**150**	*e*S		**Sb**	**20 32 44.9**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.09**	**174**			**Pb**	**20 32 32.6**	**-0.6**
CRPR						**Sb**	**20 32 46.2**	**-1.2**
CRPR				IAML			20 32 52.9	
	comp=E,302nm,0.5s							
CRPR				IAML			20 32 52.9	
	comp=N,281nm,0.5s							
CRPR	**Cabo Rojo, PR**	**1.09**	**174**	⇑*e*P		**Pb**	**20 32 33.4**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.09**	**174**	*e*S		**Sg**	**20 32 48.5**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.09**	**174**	⇓*e*Pg		**Pb**	**20 32 32.6**	**-0.6**
CRPR				⇓*e*Sg		**Sn**	**20 32 48.8**	**+0.1**
CRPR				IAML			20 32 52.8	
	comp=E,351nm,0.3s							
CRPR				IAML			20 32 52.8	
	comp=N,313nm,0.3s							
CRPR	**Cabo Rojo, PR**	**1.09**	**174**	*i* P		**Pb**	**20 32 32.7**	**-0.5**
CRPR				*e*S		**Sn**	**20 32 48.7**	**+0.1**
CRPR				IAML			20 32 52.6	
	comp=Z,338nm,0.4s							
ECPR	**Experimental S**	**1.13**	**133**	⇑*e*P		**Pb**	**20 32 33.7**	**-0.2**
ECPR	**Experimental S**	**1.13**	**133**	*e*S		**Sn**	**20 32 50.5**	**+0.9**
MLPR	**Magueyes Islan**	**1.14**	**171**	⇑*e*P		**Pb**	**20 32 33.5**	**-0.5**
MLPR	**Magueyes Islan**	**1.14**	**171**	*e*S		**Sb**	**20 32 49.2**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.17**	**163**			**Pn**	**20 32 34.4**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.17**	**163**	⇑*e*P		**Pn**	**20 32 34.4**	**-0.1**
CELP	**Cerrillos**	**1.19**	**149**			**Pn**	**20 32 34.2**	**-0.7**
CELP						**Sb**	**20 32 49.6**	**-0.8**
CELP				IAML			20 32 54.6	
	comp=E,263nm,0.2s							
CELP				IAML			20 32 55.3	
	comp=N,323nm,0.3s							
CELP	**Cerrillos**	**1.19**	**149**	⇑*e*P		**Pn**	**20 32 34.5**	**-0.4**
CELP	**Cerrillos**	**1.19**	**149**	*e*S		**Sn**	**20 32 51.9**	**+0.8**
CELP	**Cerrillos**	**1.19**	**149**	*e*Pg		**Pn**	**20 32 34.4**	**-0.5**
CELP				⇑*e*Sg		**Sn**	**20 32 51.9**	**+0.8**
CELP				IAML			20 32 54.5	
	comp=E,276nm,0.2s							
CELP				IAML			20 32 55.3	
	comp=N,334nm,0.2s							
OBIP	**Obispado Ponce**	**1.21**	**150**			**Pn**	**20 32 34.6**	**-0.5**
OBIP						**Sb**	**20 32 49.4**	**-1.4**
OBIP				IAML			20 32 56.7	
	comp=N,252nm,0.5s							
OBIP	**Obispado Ponce**	**1.21**	**150**	⇑*e*P		**Pn**	**20 32 34.7**	**-0.4**
OBIP	**Obispado Ponce**	**1.21**	**150**	*e*S		**Sn**	**20 32 52.1**	**+0.7**
GCPR	**Guaynabo City**	**1.34**	**126**			**Pn**	**20 32 36.9**	**-0.1**
GCPR	**Guaynabo City**	**1.34**	**126**			**Sb**	**20 32 54.3**	**-0.4**
GCPR	**Guaynabo City**	**1.34**	**126**	⇑*e*P		**Pn**	**20 32 36.9**	**-0.1**
GCPR	**Guaynabo City**	**1.34**	**126**	*e*S		**Sg**	**20 32 55.6**	**-0.1**
SJG	**San Juan**	**1.42**	**134**			**Pn**	**20 32 38.0**	**0.0**
SJG				Sn		**Sn**	**20 32 54.0**	**-2.7**
SJG				IAML			20 33 04.9	
	comp=N,183nm,0.3s							
SJG	**San Juan**	**1.42**	**134**	⇑*e*P		**Pb**	**20 32 39.1**	**+0.2**
SJG	**San Juan**	**1.42**	**134**	*i* P		**Pn**	**20 32 38.4**	**+0.4**
SJG				*e*S		**Sg**	**20 32 57.9**	**-0.3**
SJG				IAML			20 33 02.1	
	comp=Z,104nm,0.2s							
HIDR	**Higuey Centro**	**1.49**	**250**	⇑*e*P		**Pn**	**20 32 38.4**	**-0.6**
HIDR	**Higuey Centro**	**1.49**	**250**	*e*Pg		**Pn**	**20 32 38.1**	**-0.9**
HIDR				IAML			20 33 04.1	
	comp=N,215nm,0.3s							
HIDR				IAML			20 33 05.3	
	comp=E,165nm,0.2s							
IGPR	**InterUniversit**	**1.56**	**136**			**Pb**	**20 32 41.0**	**-0.1**
IGPR						**Sb**	**20 33 01.4**	**+0.6**
IGPR	**InterUniversit**	**1.56**	**136**	⇑*e*P		**Pb**	**20 32 41.0**	**-0.1**
IGPR	**InterUniversit**	**1.56**	**136**	*e*S		**Sb**	**20 33 01.4**	**+0.6**
PDPR	**Patillas Dam,**	**1.57**	**133**			**Pn**	**20 32 39.7**	**-0.4**
PDPR				Sn		**Sn**	**20 32 59.4**	**-1.0**
PDPR				IAML			20 33 06.8	
	comp=E,142nm,0.2s							
PDPR				IAML			20 33 07.9	
	comp=N,186nm,0.1s							
PDPR	**Patillas Dam,**	**1.57**	**133**	⇑*e*P		**Pn**	**20 32 40.4**	**+0.2**
PDPR	**Patillas Dam,**	**1.57**	**133**	*e*S		**Sb**	**20 33 02.2**	**+0.9**
HUMP	**Col San Antoni**	**1.62**	**126**			**Pn**	**20 32 40.3**	**-0.5**
MIDR	**Miches**	**1.72**	**266**	⇑*e*P		**Pn**	**20 32 41.9**	**-0.2**
MIDR	**Miches**	**1.72**	**266**	*e*S		**Sb**	**20 33 05.5**	**0.0**
MIDR	**Miches**	**1.72**	**266**	*e*Pg		**Pn**	**20 32 42.3**	**+0.2**
MIDR				IAML			20 33 06.2	
	comp=N,54nm,0.4s							
MIDR				*e*Sg		**Sb**	**20 33 06.2**	**+0.7**
MIDR				IAML			20 33 06.4	
	comp=N,50nm,0.5s							
MIDR				IAML			20 33 09.1	
	comp=E,68nm,0.5s							
SMDR	**Samana, DR**	**1.86**	**276**	*e*Pg		**Pn**	**20 32 44.0**	**0.0**
SMDR				IAML			20 33 16.7	
	comp=E,65nm,0.3s							
SMDR				IAML			20 33 20.7	
	comp=N,69nm,0.7s							
SDD	**Santo Domingo**	**2.62**	**256**	Pn		**Pn**	**20 32 55.0**	**+0.5**
SDD				IAML			20 33 38.6	
	comp=E,85nm,1.2s							
SDD				IAML			20 34 11.3	
	comp=N,95nm,1.2s							
BANI	**BANI**	**3.04**	**257**	Pn		**Pn**	**20 32 59.5**	**-1.0**
BANI				Sn		**Sn**	**20 33 36.5**	**-0.5**
SC01	**Santiago de lo**	**3.32**	**276**	Pn		**Pn**	**20 33 03.3**	**-0.8**
SDDR	**Presa de Saban**	**3.84**	**269**			**Pn**	**20 33 11.8**	**+0.5**

MOS ***24*** *21:11:59.7±0.8, 33°.83S×56°.44E, h11km, mb5.3/57, Error ellipse: s-maj=12.9km s-min=5.6km az=93.9*
IDC ***24*** *21:11:59.6±0.4, 33°.76S×56°.46E, h0km, mb4.7/34, mbtmp4.7/35, ML4.5/1, Error ellipse: s-maj=13.7km s-min=11.3km az=51.0*
NEIC ***24*** *21:12:01.2±1.3, 33°.82S±0°.09×56°.2E±0°.1, h10km±1km, mb5.2/116, Mww5.1/12, Error ellipse: s-maj=17.3km s-min=14.9km az=227.0*
GCMT ***24*** *21:12:02.2±0.4, 33°.82S±0°.02×56°.19E±0°.05, h12km, MW5.3/46, Moment Tensor Solution. s42,c55; s46,c59; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.71±.05; Mθθ 1.08±.05; Mϕϕ-0.37±.08; Mrθ 0.32±.10; Mθϕ0.13±.05; Mrϕ 0.15±.12; Best double couple: M0 0.98100×10^17 NP1:ϕs103.00000°, δ37.00000°, λ-64.00000°. NP2:ϕs251.00000°, δ57.00000°, λ-109.00000°. Principal axes: T 1.1520, Plg10.0000°, Azm354.0000°; N -0.3460, Plg16.0000°, Azm261.0000°; P -0.8100, Plg71.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 21:12:01.1±0.3, 33°.70S±0°.05×56°.21E±0°.06, h10km, n697, σ1s23/683, mb5.2/193, MS5.5/4, 25C-30D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**11.84**	**315**			**Pn**	**21 14 51.5**	**+1.4**
H04N2	**CROZET ISLANDS**	**12.90**	**194**	T		T	21 28 31.6	
	baz=17,slow=75,SNR=4491							
H04N1	**CROZET ISLANDS**	**12.90**	**194**	T		T	21 28 32.7	
	baz=17,slow=75,SNR=6301							
H04N3	**CROZET ISLANDS**	**12.91**	**194**	T		T	21 28 01.9	
	baz=17,slow=75,SNR=4335							
VOI	**Vohitsoka**	**14.39**	**322**			**Pn**	**21 15 26.3**	**+1.3**
ABPO	**Ambohimpanom**	**16.68**	**329**			**P**	**21 15 57.9**	**+0.4**
ABPO	**Ambohimpanom**	**16.68**	**329**	P		**P**	**21 15 57.9**	**+0.4**
ABPO				pmax	pmax			
	comp=Z,29nm,1.1s							
OPO	**Ambohidratompo**	**17.09**	**330**	P		**P**	**21 16 03.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=118,slow=18,SNR=12							
OPO				S		**Sn**	**21 19 06.2**	**-4.3**
	comp=Z,4.2nm,0.7s,baz=308,slow=23,SNR=2.3							
	comp=Z,4.6nm,0.4s							
POGA	**Pongola**	**22.01**	**280**			**P**	**21 16 56.1**	**+0.5**
POGA				IAmb		IAmb	21 17 05.2	
	comp=Z,109nm,1.3s							
GRHM	**Grahamstown, E**	**24.85**	**263**	P		**P**	**21 17 20.7**	**-3.1**
GRHM				IAmb		IAmb	21 17 34.5	
	comp=Z,96nm,1.2s							
BOSA	**Boshof**	**26.91**	**272**			**P**	**21 17 39.6**	**-3.0**
BOSA	**Boshof**	**26.91**	**272**	P		**P**	**21 17 43.4**	**+0.8**
	comp=Z,9.9nm,1.0s,baz=122,slow=9.3,SNR=4.0							
	comp=Z,9.9nm,1.0s							
BOSA	**Boshof**	**26.91**	**272**	P		**P**	**21 17 39.6**	**-3.0**
BOSA				pmax	pmax			
	comp=Z,27nm,1.2s							
MREMI	**Moremi**	**27.59**	**286**	P		**P**	**21 17 47.8**	**-0.9**
MREMI				IAmb		IAmb	21 18 01.6	
	comp=Z,66nm,1.9s							
LBTB	**Lobatse**	**27.97**	**280**			**P**	**21 17 50.6**	**-1.4**
LBTB	**Lobatse**	**27.97**	**280**	P		**P**	**21 17 50.6**	**-1.4**
LBTB				pmax	pmax			
	comp=Z,20nm,1.1s							
MAKGR	**Makgori**	**28.30**	**278**	P		**P**	**21 17 54.0**	**-1.0**
MAKGR				IAmb		IAmb	21 17 56.4	
	comp=Z,79nm,1.6s							
LPHEP	**Lephephe**	**28.49**	**283**			**P**	**21 17 56.0**	**-0.7**
LPHEP				IAmb		IAmb	21 18 10.6	
	comp=Z,44nm,1.3s							
KDWAN	**Kaudwane**	**29.46**	**282**	P		**P**	**21 18 04.8**	**-0.5**
KDWAN				IAmb		IAmb	21 18 15.4	
	comp=Z,33nm,1.2s							
H08S1	**Diego Garcia H**	**29.97**	**34**	T		T	21 49 26.9	
	baz=207,slow=75,SNR=114							
H08S2	**Diego Garcia H**	**29.98**	**34**	T		T	21 49 26.0	
	baz=207,slow=75,SNR=68							
H08S3	**Diego Garcia H**	**29.99**	**34**	T		T	21 49 33.2	
	baz=207,slow=75,SNR=110							
PHPEN	**Phepeng**	**30.04**	**277**	P		**P**	**21 18 09.1**	**-1.3**
PHDHD	**Phuduhudu**	**31.13**	**287**	P		**P**	**21 18 19.1**	**-1.1**
KGCAE	**Kacgae**	**31.70**	**281**			**P**	**21 18 24.5**	**-0.6**
KGCAE				IAmb		IAmb	21 18 27.8	
	comp=Z,43nm,1.2s							
LKGWB	**Lokgwabe**	**31.96**	**278**			**P**	**21 18 22.6**	**-4.8**
KSANE	**Kasane**	**31.98**	**292**			**P**	**21 18 27.3**	**-0.3**
GRTLG	**Ghanzi**	**33.22**	**283**	P		**P**	**21 18 38.1**	**-0.4**
GRTLG				IAmb		IAmb	21 18 47.6	
	comp=Z,46nm,1.6s							
KOOLE	**Kule**	**33.29**	**279**	P		**P**	**21 18 39.5**	**+0.3**
KOOLE				IAmb		IAmb	21 18 48.1	
	comp=Z,64nm,1.6s							
MAW	**Mawson**	**34.17**	**175**	P		**P**	**21 18 46.2**	**+0.2**
	comp=Z,3.0nm,1.8s							
MAW	**Mawson**	**34.17**	**175**	P		**P**	**21 18 45.1**	**-0.9**
	comp=Z,2.8nm,0.7s,baz=333,slow=10,SNR=10							
	comp=Z,2.8nm,0.7s							
KIBK	**Kibwezi**	**35.52**	**328**	P		**P**	**21 18 58.8**	**+0.4**
WIN	**Windhoek**	**36.03**	**278**	P		**P**	**21 19 03.1**	**+0.2**
WIN				IAmb		IAmb	21 19 31.8	
	comp=Z,61nm,1.8s							
WIN	**Windhoek**	**36.03**	**278**	P		**P**	**21 19 03.1**	**+0.2**
WIN				pmax	pmax			
	comp=Z,61nm,1.8s							
TSUM	**Tsumeb**	**37.24**	**283**			**P**	**21 19 13.6**	**+0.4**
MBAR	**Mbarara**	**40.68**	**319**	P		**P**	**21 19 42.1**	**+0.1**
MBAR	**Mbarara**	**40.68**	**319**	P		**P**	**21 19 43.2**	**+1.2**
	comp=Z,1.2nm,0.2s,baz=18,slow=21,SNR=1.6							
	comp=Z,1.2nm,0.2s							
MBAR	**Mbarara**	**40.68**	**319**	P		**P**	**21 19 42.1**	**+0.1**
MBAR				pmax	pmax			
	comp=Z,15nm,1.7s							
LODK	**Lodwar**	**41.84**	**328**	P		**P**	**21 19 51.7**	**+0.3**
ATD	**Arta Tunnel**	**46.74**	**342**	P		**P**	**21 20 31.1**	**+0.5**
ATD	**Arta Tunnel**	**46.74**	**342**	P		**P**	**21 20 31.3**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=223,slow=21,SNR=1.8							
H01W2	**Cape Leeuwin H**	**47.28**	**109**	T		T	22 11 08.5	
	baz=254,slow=74,SNR=25							
TROLL	**Troll, Antarti**	**47.28**	**200**	⇓P		**P**	**21 20 35.0**	**+0.7**
	comp=Z,194nm,0.8s							
TROLL				⇓PP		PP	21 22 16.9	-8.2
H01W3	**Cape Leeuwin H**	**47.29**	**109**	T		T	22 11 23.6	
	baz=254,slow=74,SNR=24							
H01W1	**Cape Leeuwin H**	**47.30**	**109**	T		T	22 11 09.8	
	baz=254,slow=74,SNR=21							
SNAA	**Sanae**	**48.73**	**201**	⇓P		**P**	**21 20 45.7**	**+0.2**
	comp=Z,115nm,0.8s							
SNAA				⇓PcP		**PcP**	**21 22 08.0**	**-2.3**
SNAA	**Sanae**	**48.73**	**201**	P		**P**	**21 20 44.6**	**-0.8**
SNAA				IAmb		IAmb	21 20 52.8	
	comp=Z,22nm,1.1s							
SNAA	**Sanae**	**48.73**	**201**	P		**P**	**21 20 44.8**	**-0.7**
	comp=Z,6.9nm,1.0s,baz=90,slow=5.8,SNR=21							
	comp=Z,6.9nm,1.0s							
SNAA	**Sanae**	**48.73**	**201**	⇑*i*P		**P**	**21 20 45.2**	**-0.3**
SNAA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
VNA1	**Neumayer--Stat**	**50.18**	**203**	⇓P		**P**	**21 20 59.0**	**+2.6**
	comp=Z,13nm,1.5s							
MORW	**Morawa**	**50.68**	**102**	P		**P**	**21 20 59.9**	**-0.9**
MORW				IAmb		IAmb	21 21 50.5	
	comp=Z,101nm,2.0s							
VNA3	**Neumayer Olymp**	**50.74**	**202**	⇓P		**P**	**21 21 01.2**	**+0.5**
	comp=Z,8.8nm,0.9s							
VNA3				⇓PcP		**PcP**	**21 22 13.2**	**-4.5**
GIRL	**Giralia**	**51.74**	**94**	P		**P**	**21 21 07.4**	**-1.5**
KSI	**Kapahiang**	**52.49**	**66**	P		**PKiKP**	**21 29 03.2**	**-1.6**
	comp=Z,3μmcomp=Z,63nm,0.7s							
KRJI	**Kerinci**	**52.66**	**63**	P		**P**	**21 21 16.9**	**+1.0**
PDSI	**Padang**	**52.72**	**61**	P		**P**	**21 21 17.6**	**+1.4**
	comp=Z,39nm,0.9s							
KASI	**Kota Agung**	**52.77**	**69**	P		**P**	**21 21 16.8**	**+0.2**
	comp=Z,28nm,1.0s							
PPI	**Padang Panjang**	**52.98**	**61**	P		**PKiKP**	**21 29 05.7**	**+0.5**
	comp=Z,3μmcomp=Z,2μmcomp=Z,86nm,1.0s							
PPI	**Padang Panjang**	**52.98**	**61**	P		**P**	**21 21 20.2**	**+2.1**
CGJI	**Cibinong**	**53.04**	**71**	P		**P**	**21 21 17.2**	**-1.4**
	comp=Z,1μmcomp=Z,36nm,1.4s							
LHSI	**Lahat**	**53.09**	**67**	P		**PKiKP**	**21 29 06.5**	**+1.2**
	comp=Z,5μmcomp=Z,102nm,1.1s							
MDSI	**Maura Dua**	**53.17**	**68**	P		**P**	**21 21 19.5**	**-0.1**
	comp=Z,16nm,0.9s							
MNSI	**Mandailing Nat**	**53.25**	**59**	P		P	21 21 28.3	+8.2
MEEK	**Meekatharra**	**53.71**	**100**	P		**P**	**21 21 21.9**	**-1.5**
	comp=Z,26nm,1.0s							
KCSI	**Kotacane, Aceh**	**53.92**	**55**	P		**P**	**21 21 25.8**	**+0.8**
	comp=Z,18nm,1.5s							
BKNI	**Bangkinang**	**53.98**	**61**	P		**P**	**21 21 25.7**	**+0.3**
LEM	**Lembang**	**54.44**	**73**	P		**P**	**21 21 27.8**	**-1.2**
	comp=Z,12nm,0.5s,baz=205,slow=7.6,SNR=3.8							
LEM				PcP		**PcP**	**21 22 33.0**	**+0.3**
	comp=Z,18nm,0.6s,baz=52,slow=15,SNR=3.6							
	comp=Z,12nm,0.5s							
KMBL	**Kambalda**	**54.56**	**107**	P		**P**	**21 21 28.5**	**-1.1**
	comp=Z,9.7nm,1.2s							
H09N1	**TRISTAN DA CUN**	**54.86**	**246**	T		T	22 21 10.6	
	SNR=11							
HYB	**Hyderabad**	**55.12**	**26**	*e*P		**P**	**21 21 34.1**	**+0.5**
HYB				*e*S		**S**	**21 29 18.2**	**+1.6**
QSPA	**South Pole Qui**	**56.48**	**180**	P		**P**	**21 21 43.3**	**+0.3**
QSPA	**South Pole Qui**	**56.48**	**180**	P		**P**	**21 21 43.9**	**+0.9**
	comp=Z,17nm,0.8s,baz=265,slow=3.4,SNR=35							
	comp=Z,17nm,0.8s							
SMRI	**Semarang**	**56.57**	**75**	P		**P**	**21 21 44.0**	**-0.2**
IPM	**Ipoh**	**56.86**	**57**	P		**P**	**21 21 45.9**	**-0.3**
IPM				IAmb		IAmb	21 21 48.1	
	comp=Z,38nm,1.0s							
IPM	**Ipoh**	**56.86**	**57**	P		**P**	**21 21 47.1**	**+0.9**
PSA00	**Pilbara Seismi**	**56.88**	**95**	P		**P**	**21 21 45.5**	**-0.9**
MYKOM	**Kota Tinggi**	**57.02**	**62**	P		**P**	**21 21 46.9**	**-0.5**
MYKOM				IAmb		IAmb	21 21 47.8	
	comp=Z,18nm,1.0s							
BELA	**Belgrano 2**	**57.51**	**195**	P		**P**	**21 21 49.2**	**-0.7**
JAGI	**Jajag, Banyuwa**	**58.77**	**79**			**P**	**21 21 58.9**	**-0.8**
JAGI	**Jajag, Banyuwa**	**58.77**	**79**	P		**P**	**21 22 00.5**	**+0.8**
JAGI	**Jajag, Banyuwa**	**58.77**	**79**	P		**P**	**21 21 59.6**	**-0.1**
	comp=Z,60nm,1.1s							
FORT	**Forrest**	**59.69**	**109**	P		**P**	**21 22 05.0**	**-0.9**
	comp=Z,25nm,1.1s							
FORT	**Forrest**	**59.69**	**109**	P		**P**	**21 22 04.5**	**-1.4**
FORT				IAmb		IAmb	21 22 12.9	
	comp=Z,21nm,1.0s							
VNDA	**Vanda**	**60.65**	**166**			**P**	**21 22 11.1**	**-0.6**
VNDA	**Vanda**	**60.65**	**166**	P		**P**	**21 22 10.8**	**-0.9**
	comp=Z,1.6nm,1.0s,baz=245,slow=8.3,SNR=7.7							
	comp=Z,1.6nm,1.0s							
VNDA	**Vanda**	**60.65**	**166**	P		**P**	**21 22 11.1**	**-0.6**
VNDA				pmax	pmax			
	comp=Z,17nm,1.5s							
SBA	**Scott Base**	**61.46**	**167**			**P**	**21 22 17.5**	**+0.3**
SBA				IAmb		IAmb	21 22 21.9	
	comp=Z,54nm,1.9s							
SBA	**Scott Base**	**61.46**	**167**	P		**P**	**21 22 17.5**	**+0.3**
SBA				pmax	pmax			
	comp=Z,54nm,1.9s							
PLAI	**Plampang**	**61.54**	**81**	P		**P**	**21 22 18.7**	**0.0**
PLAI	**Plampang**	**61.54**	**81**	P		**P**	**21 22 18.7**	**0.0**
WRKA	**Warakurna**	**62.29**	**103**	P		**P**	**21 22 22.5**	**-1.1**
	comp=Z,12nm,1.1s							
FITZ	**Fitzroy Crossi**	**63.31**	**95**	P		**P**	**21 22 29.4**	**-1.1**
FITZ	**Fitzroy Crossi**	**63.31**	**95**	P		**P**	**21 22 29.4**	**-1.1**
	comp=Z,8.6nm,0.8s,baz=230,slow=8.4,SNR=10							
	comp=Z,8.6nm,0.8s							
SBUM	**Sibu**	**63.76**	**67**	P		**P**	**21 22 32.9**	**-0.6**
SBUM				IAmb		IAmb	21 22 34.6	
	comp=Z,23nm,1.0s							
SBUM	**Sibu**	**63.76**	**67**	P		**P**	**21 22 34.4**	**+1.0**
EDFI	**Ende, Flores**	**64.82**	**84**	P		**P**	**21 22 40.1**	**-0.5**
	comp=Z,383nmcomp=Z,30nm,0.8s							
KAPI	**Kappang**	**65.29**	**79**	P		**P**	**21 22 41.7**	**-1.8**
KAPI	**Kappang**	**65.29**	**79**	P		**P**	**21 22 41.0**	**-2.5**
	comp=Z,22nm,0.9s,baz=251,slow=9.9,SNR=6.6							
	comp=Z,22nm,0.9s							
KAPI	**Kappang**	**65.29**	**79**	P		**P**	**21 22 41.7**	**-1.8**
KAPI				pmax	pmax			
	comp=Z,37nm,1.1s							
MMRI	**Maumere**	**65.34**	**84**

comp=Z,21nm,1.2s
DBIC Dimbokro 70.31 293 P **P** **21 23 14.2 -0.9**
DBIC IAmb IAmb 21 23 18.5
comp=Z,30nm,1.2s
DBIC Dimbokro 70.31 293 P **P** **21 23 16.4 +1.3**
comp=Z,12nm,1.0s,baz=142,slow=6.4,SNR=8.0
comp=Z,12nm,1.0s
DBIC Dimbokro 70.31 293 P **P** **21 23 14.2 -0.9**
DBIC pmax pmax
comp=Z,30nm,1.2s
TNCH TengChong 70.92 40 P **P** **21 23 19.0 +0.2**
TNCH PP **PP** **21 25 56.3 0.0**
TNCH S **S** **21 32 37.4 +2.8**
TNCH pmax pmax
comp=Z,35nm,0.8s
TNCH pmax pmax
comp=Z,220nm,3.3s
TNCH LR LR
comp=Z,610nm,19.7s
TNCH LR LR
comp=Z,550nm,15.3s
TNCH LR LR
comp=Z,1μm,24.4s
INKA Innaminka 70.97 111 **P** **21 23 18.7 -0.4**
INKA IAmb IAmb 21 23 26.4
comp=Z,21nm,1.1s
SLVN Son La 71.13 47 **P** **21 23 19.6 -0.4**
SLVN IAmb IAmb 21 23 21.7
comp=Z,20nm,0.9s
SLVN Son La 71.13 47 P **P** **21 23 21.1 +1.1**
LSA Lhasa 71.19 32 **P** **21 23 20.8 +0.1**
LSA IAmb IAmb 21 23 23.0
comp=Z,37nm,1.0s
LSA Lhasa 71.19 32 P **P** **21 23 20.8 +0.1**
LSA pmax pmax
comp=Z,37nm,1.0s
CSS Mathiatis 71.59 340 **P** **21 23 23.0 +0.6**
CSS IAmb IAmb 21 23 25.1
comp=Z,13nm,0.9s
CSS Mathiatis 71.59 340 P **P** **21 23 22.6 +0.2**
comp=Z,463nmcomp=Z,16nm,0.9s
CSS pP **sP** **21 23 26.1 +0.7**
comp=Z,463nmcomp=Z,16nm,0.9s
SANI Sanana 72.09 80 P **P** **21 23 25.2 -0.7**
SANI Sanana 72.09 80 P **P** **21 23 24.7 -1.2**
comp=Z,22nm,1.1s
MARD Mardin 72.10 347 P **P** **21 23 26.0 +0.4**
NLAI Namlea 72.33 82 P **P** **21 23 26.9 -0.5**
comp=Z,45nm,0.8s
LKRN Lenkeran, Azer 72.37 354 P **P** **21 23 29.4 +2.4**
GAZ Gaziantep 72.70 344 P **P** **21 23 30.1 +1.0**
CMSA Cobar Meteorol 72.91 117 P **P** **21 23 30.3 -0.4**
comp=Z,25nm,1.2s
CMSA Cobar Meteorol 72.91 117 P **P** **21 23 31.3 +0.7**
SIMJ Simiganj 72.97 10 **P** **21 23 31.8 +1.1**
CHGR Chuyangaron 72.99 11 **P** **21 23 32.2 +1.4**
CHGR Chuyangaron 72.99 11 P **P** **21 23 32.2 +1.4**
CHGR pmax pmax
comp=Z,98nm,1.0s
GURO Guroymak-BITLI 73.08 348 **P** **21 23 32.8 +1.4**
GURO IAmb IAmb 21 23 35.0
comp=Z,33nm,1.7s
NAX Nakhchivan 73.19 351 P **P** **21 23 34.5 +2.6**
KMI Kunming 73.34 43 ⇓P **P** **21 23 33.4 +0.1**
KMI pmax pmax
comp=Z,13nm,0.9s
KMI pmax pmax
comp=Z,110nm,4.9s
GAR Garm 73.51 11 **P** **21 23 34.0 +0.1**
GAR IAmb IAmb 21 23 35.8
comp=Z,29nm,1.1s
YNG Young 73.54 120 P **P** **21 23 34.1 -0.3**
comp=Z,14nm,1.1s
QIS Mount Isa 73.58 104 P **P** **21 23 34.0 -0.8**
comp=Z,16nm,1.3s
QIS Mount Isa 73.58 104 P **P** **21 23 34.9 +0.1**
PZH PanZhiHua 73.85 42 P **P** **21 23 35.3 -0.9**
PZH pmax pmax
comp=Z,30nm,1.0s
TAM Tamanrasset 74.05 312 **P** **21 23 38.8 +1.3**
TAM Tamanrasset 74.05 312 P **P** **21 23 38.8 +1.3**
TAM pmax pmax
comp=Z,9.0nm,0.9s
KARP Karpathos 74.06 336 **P** **21 23 38.1 +1.0**
KARP Karpathos 74.06 336 P **P** **21 23 37.3 +0.2**
comp=Z,62nm,1.0s
GNI Garni 74.24 351 **P** **21 23 39.6 +1.4**
GNI IAmb IAmb 21 23 41.6
comp=Z,52nm,1.4s
GNI Garni 74.24 351 *d i* P **P** **21 23 39.9 +1.7**
GNI pmax pmax
comp=Z,21nm,1.2s
GNI Garni 74.24 351 P **P** **21 23 38.2 0.0**
comp=Z,674nmcomp=Z,28nm,2.0s
QLP Quilpie 74.25 112 P **P** **21 23 38.7 +0.1**
comp=Z,52nm,0.9s
QLP Quilpie 74.25 112 P **P** **21 23 38.9 +0.3**
GANJ Ganja 74.54 352 P **P** **21 23 42.6 +2.8**
MNGR Mingechevir, A 74.58 353 P **P** **21 23 42.8 +2.9**
BNN Bunyan 74.62 344 **P** **21 23 41.1 +0.7**
IDI Anoyia 74.63 334 P **P** **21 23 42.0 +1.6**
comp=Z,12nm,0.9s,baz=171,slow=12,SNR=3.9
comp=Z,12nm,0.9s
KOPT Kop Dagi 74.78 348 **P** **21 23 43.0 +1.5**
SEKA Sheki 75.00 353 P **P** **21 23 45.2 +2.7**
KSH Kashi 75.11 16 P **P** **21 23 41.6 -1.7**
KSH pmax pmax
comp=Z,33nm,0.9s
AKT Akhty 75.22 353 *eP* **P** **21 23 44.7 +0.9**
AKT *e* 21 23 57.2
AKT pmax pmax
comp=Z,27nm,1.2s
AKT MLR MLR
comp=Z,6μm,22.0s
KIRS Kirsehir-Merke 75.36 342 ⇑P **P** **21 23 45.8 +1.2**
TOKA Tokat 75.88 345 P **P** **21 23 48.4 +0.9**
TOKA IAmb IAmb 21 23 50.5
comp=Z,20nm,1.3s
BR104 Keskin Array S 75.97 342 P **P** **21 23 48.2 0.0**
comp=Z,57nmcomp=Z,6.9nm,1.0s
BR104 pP **sP** **21 23 51.7 +0.6**
comp=Z,57nmcomp=Z,6.9nm,1.0s
BR105 Keskin Array S 75.98 342 P **P** **21 23 48.3 0.0**
comp=Z,61nmcomp=Z,7.7nm,0.9s
BR131 Keskin Array S 75.99 342 **P** **21 23 48.4 +0.1**
BR131 Keskin Array S 75.99 342 P **P** **21 23 48.4 +0.1**
BR131 pmax pmax
comp=Z,11nm,1.0s
BRTR Keskin Array B 75.99 342 **P** **21 23 48.7 +0.5**
BRTR Keskin Array B 75.99 342 P **P** **21 23 48.4 +0.1**
comp=Z,6.1nm,0.9s,baz=170,slow=7.6,SNR=26
comp=Z,6.1nm,0.9s
BRTR Keskin Array B 75.99 342 *i* P **P** **21 23 49.2 +0.9**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BR106 Keskin Array S 76.00 342 P **P** **21 23 48.4 +0.1**
comp=Z,77nmcomp=Z,9.4nm,0.9s
MANT Manisa 76.28 338 P **P** **21 23 51.1 +1.0**
MANT IAmb IAmb 21 23 52.7
comp=Z,21nm,1.2s
ANTO Ankara 76.34 342 P **P** **21 23 50.2 +0.1**
ANTO IAmb IAmb 21 25 04.6
comp=Z,38nm,1.4s
ANTO Ankara 76.34 342 P **P** **21 23 50.2 +0.1**
ANTO pmax pmax
comp=Z,38nm,1.5s
ANTO Ankara 76.34 342 P **P** **21 23 50.3 +0.1**
comp=Z,7.3nm,1.5s
IUG luzhnay 76.54 11 ⇓ *i* P **P** **21 23 52.3 +0.9**
comp=Z,12nm,0.6s
IUG luzhnay 76.54 11 *d i* P **P** **21 23 52.2 +0.9**
IUG pmax pmax
comp=Z,12nm,0.6s
GYA Guiyang 76.64 45 ⇑P **P** **21 23 52.8 +0.5**
GYA pP pwP 21 23 58.1 -0.8
GYA pmax pmax
comp=Z,23nm,0.8s
CHM Chimkent 76.64 10 *eP* **P** **21 23 52.8 +1.0**
comp=Z,13nm,0.8s
CHM Chimkent 76.64 10 *eP* **P** **21 23 52.7 +1.0**
CHM pmax pmax
comp=Z,13nm,0.8s
MAK Makhachkala 76.71 353 *eP* P 21 23 46.7 -5.3
MAK *eS* **S** **21 33 31.0 -7.7**
MAK pmax pmax
comp=Z,82nm,1.2s

FAKI Fak Fak 76.77 85 P **P** **21 23 52.4 -0.8**
SWI Sorong 77.10 82 P **P** **21 23 55.3 +0.3**
MDUB Mudurnu 77.33 341 P **P** **21 23 56.3 +0.5**
MDUB IAmb IAmb 21 23 58.0
comp=Z,27nm,1.0s
BRLS Borolday 77.37 10 ⇓ *i* P **P** **21 23 54.8 -1.1**
comp=Z,6.0nm,0.9s
BRLS Borolday 77.37 10 *d i* P **P** **21 23 54.8 -1.1**
BRLS pmax pmax
comp=Z,6.0nm,0.9s
DZA Taraz 77.47 11 *e*P **P** **21 23 57.4 +0.9**
comp=Z,9.1nm,0.9s
DZA Taraz 77.47 11 *e*P **P** **21 23 57.3 +0.9**
DZA pmax pmax
comp=Z,9.0nm,0.9s
KK31 Karatay Array 77.55 11 **P** **21 23 57.8 +1.0**
KK31 IAmb IAmb 21 23 59.4
comp=Z,24nm,1.1s
KK31 Karatay Array 77.55 11 P **P** **21 23 57.8 +1.0**
KK31 pmax pmax
comp=Z,24nm,1.1s
KKAR Karatay Array 77.55 11 **P** **21 23 57.9 +1.1**
KKAR Karatay Array 77.55 11 P **P** **21 23 57.9 +1.1**
TARG Taragay, Kyrgy 77.64 16 P **P** **21 23 58.2 +0.3**
TARG Taragay, Kyrgy 77.64 16 P **P** **21 23 58.2 +0.3**
TARG pmax pmax
comp=Z,8.0nm,0.9s
EKS2 Erkin-Say 77.68 13 P **P** **21 23 59.9 +2.1**
SNR=15
NCK Nalchik 77.69 351 ⇑ *i* P **P** **21 23 59.5 +1.9**
NCK pmax pmax
comp=Z,14nm,1.0s
ULHL Ulahol 77.78 15 P **P** **21 24 00.4 +2.0**
SNR=8.6
TGY Tagaytay City 77.78 64 P **P** **21 23 58.9 0.0**
comp=Z,89nm,0.4s,baz=128,slow=20,SNR=1.4
AAK Ala-Archa 77.80 14 P **P** **21 24 00.8 +2.4**
SNR=17
AAK Ala-Archa 77.80 14 **P** **21 23 58.6 +0.1**
AAK IAmb IAmb 21 24 01.4
comp=Z,31nm,1.1s
AAK Ala-Archa 77.80 14 *d i* P **P** **21 24 00.1 +1.7**
AAK pmax pmax
comp=Z,37nm,1.1s
ARMA Armidale 77.87 118 P **P** **21 23 58.7 -0.7**
comp=Z,18nm,1.5s
ARMA Armidale 77.87 118 P **P** **21 24 00.7 +1.4**
KDJ Kajisay 77.88 16 **P** **21 23 59.8 +0.9**
KDJ Kajisay 77.88 16 P **P** **21 23 59.8 +0.9**
KBK Karagaybulak 77.91 14 P **P** **21 24 01.1 +2.1**
SNR=9.4
BOOM Boomskoye usch 77.95 15 P **P** **21 24 00.0 +0.7**
BOOM Boomskoye usch 77.95 15 P **P** **21 24 00.0 +0.7**
FRU1 Bishkek 77.99 14 P **P** **21 24 00.9 +1.5**
FRU1 Bishkek 77.99 14 P **P** **21 24 00.9 +1.5**
KBZ Khabaz 78.01 350 P **P** **21 24 00.7 +1.3**
comp=Z,5.3nm,1.0s,baz=138,slow=5.4,SNR=13
comp=Z,5.3nm,1.0s
SHA1 Shidzhatmaz 78.06 350 *c i* P **P** **21 24 01.9 +2.0**
CHMS Chumysh 78.19 14 P **P** **21 24 01.2 +0.7**
SNR=13
KIV Kislovodsk 78.26 350 **P** **21 24 01.8 +0.9**
KIV IAmb IAmb 21 24 03.3
comp=Z,56nm,1.5s
KIV Kislovodsk 78.26 350 ⇑P **P** **21 24 02.7 +1.8**
KIV Kislovodsk 78.26 350 *e*P **P** **21 24 02.1 +1.2**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV Kislovodsk 78.26 350 P **P** **21 24 02.0 +1.2**
comp=Z,341nmcomp=Z,19nm,1.4s
TKM2 Tokmak 2 78.29 14 P **P** **21 23 57.3 -4.0**
SNR=14
GOMU GeErMu 78.33 31 P **P** **21 24 02.3 +0.5**
GOMU pmax pmax
comp=Z,10.0nm,1.2s
GOMU pmax pmax
comp=Z,120nm,3.9s
CD2 Chengdu 78.39 40 P **P** **21 24 02.0 +0.2**
CD2 pmax pmax
comp=Z,30nm,0.6s
USP Ospenovka 78.40 14 P **P** **21 24 02.9 +1.3**
SNR=18
PRZ Przheval'sk 78.50 17 **P** **21 24 03.6 +1.2**
PRZ Przheval'sk 78.50 17 P **P** **21 24 03.6 +1.2**
SGDS Sogindy 78.61 14 *eP* **P** **21 24 03.6 +0.8**
MTSU Mount Surprise 78.64 104 P **P** **21 24 04.8 +1.2**
TNSS Tian-Shan 78.69 15 *eP* **P** **21 24 03.1 -0.6**
TNSS Tian-Shan 78.69 15 *eP* **P** **21 24 03.9 +0.2**
MDOK Medeo 78.83 15 *eP* **P** **21 24 05.0 +0.8**
MDOK Medeo 78.83 15 *eP* **P** **21 24 04.9 +0.8**
AAA Alma-Ata 78.85 15 *eP* **P** **21 24 05.0 +0.8**
comp=Z,13nm,0.8s
AAA Alma-Ata 78.85 15 *eP* **P** **21 24 04.9 +0.8**
AAA pmax pmax
comp=Z,13nm,0.8s
SATY Saty 79.05 16 *eP* **P** **21 24 06.1 +0.8**
comp=Z,8.5nm,0.8s
SATY Saty 79.05 16 *eP* **P** **21 24 06.1 +0.8**
SATY pmax pmax
comp=Z,9.0nm,0.8s
UZB Uzynbulak 79.28 17 *eP* **P** **21 24 07.4 +0.8**
comp=Z,13nm,0.9s
UZB Uzynbulak 79.28 17 *eP* **P** **21 24 07.3 +0.8**
UZB pmax pmax
comp=Z,13nm,0.9s
GOF Gofitskoye 79.30 351 *c eP* **P** **21 24 07.4 +1.0**
SHLS Shalkode 79.39 17 *eP* **P** **21 24 08.7 +1.5**
comp=Z,14nm,0.9s
SHLS Shalkode 79.39 17 *eP* **P** **21 24 08.6 +1.5**
SHLS pmax pmax
comp=Z,14nm,0.9s
BTLS Baital 80.03 13 ⇓ *i* P **P** **21 24 11.4 +0.9**
BTLS Baital 80.03 13 *d i* P **P** **21 24 11.3 +0.9**
EIDS Eidsvold 80.14 114 **P** **21 24 11.1 -0.6**
EIDS IAmb IAmb 21 24 12.5
comp=Z,18nm,0.9s
EIDS Eidsvold 80.14 114 P **P** **21 24 11.4 -0.3**
TDK Taldyqorghan 80.89 16 *eP* **P** **21 24 15.6 +0.5**
comp=Z,18nm,1.1s
TDK Taldyqorghan 80.89 16 *eP* **P** **21 24 15.5 +0.5**
TDK pmax pmax
comp=Z,18nm,1.1s
ENH Enshi 81.13 45 **P** **21 24 16.0 -0.7**
ENH Enshi 81.13 45 P **P** **21 24 17.6 +0.9**
CNSH ChangSha 81.70 48 P **P** **21 24 19.8 +0.1**
CNSH pmax pmax
comp=Z,27nm,1.2s
LZDM Lanzhou Array 82.29 37 P **P** **21 24 22.6 -0.5**
comp=Z,3.2nm,0.4s,baz=197,slow=9.3,SNR=8.8
comp=Z,3.2nm,0.4s
WMQ Urumqi 82.33 22 *eP* **P** **21 24 23.9 +1.1**
WMQ pmax pmax
comp=Z,22nm,1.1s
WMQ pmax pmax
comp=Z,170nm,4.3s
LZH Lanzhou 82.46 37 *eP* **P** **21 24 24.8 +1.0**
LZH sP pwP 21 24 30.6 +0.1
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,130nm,3.4s
CFR Carcaliu 82.54 340 ⇑P **P** **21 24 24.3 +0.6**
CFR Carcaliu 82.54 340 P **P** **21 24 24.3 +0.6**
AB31 Akbulak array 82.66 2 **P** **21 24 24.8 +0.5**
AB31 IAmb IAmb 21 24 26.3
comp=Z,23nm,1.0s
ABKAR Akbulak array 82.66 2 **P** **21 24 24.4 +0.2**
ISR Istrita 82.94 339 P **P** **21 24 26.8 +0.9**
comp=Z,28nm,1.5s
BOVS Bovan 83.16 336 ⇓P **P** **21 24 28.1 +1.1**
GTA Gaotai 83.20 33 P **P** **21 24 28.1 +0.6**
GTA pP pwP 21 24 34.0 -0.2
GTA pmax pmax
comp=Z,76nm,1.2s
ODBI Odobesti 83.38 340 P **P** **21 24 28.3 +0.2**
comp=Z,14nm,0.7s
MAKZ Makanchi 83.44 17 P **P** **21 24 28.8 +0.4**
MAKZ IAmb IAmb 21 24 30.4
comp=Z,29nm,1.2s
MAKZ Makanchi 83.44 17 P **P** **21 24 28.8 +0.4**
MAKZ pmax pmax
comp=Z,29nm,1.3s
MLR Muntele Rosu 83.46 339 **P** **21 24 29.0 +0.3**
MLR IAmb IAmb 21 24 30.6
comp=Z,40nm,1.4s

MLR Muntele Rosu 83.46 339 ⇓P **P** **21 24 29.0 +0.3**
MLR Muntele Rosu 83.46 339 P **P** **21 24 29.0 +0.3**
MLR pmax pmax
comp=Z,40nm,1.4s
MLR Muntele Rosu 83.46 339 P **P** **21 24 28.7 0.0**
comp=Z,12nm,1.1s
MKAR Makanchi Array 83.50 18 **P** **21 24 28.9 +0.2**
MKAR Makanchi Array 83.50 18 P **P** **21 24 29.3 +0.6**
comp=Z,6.2nm,0.9s,baz=215,slow=4.8,SNR=38
comp=Z,6.2nm,0.9s
GHRR 83.55 340 P **P** **21 24 29.2 +0.3**
PLOR5 Plostina Array 83.57 340 P **P** **21 24 29.3 +0.2**
comp=Z,37nm,1.0s
VRI Vrincioaia 83.57 340 ⇓P **P** **21 24 29.8 +0.7**
VRI Vrincioaia 83.57 340 P **P** **21 24 29.7 +0.7**
VRI Vrincioaia 83.57 340 P **P** **21 24 29.3 +0.2**
PLOR Plostina 83.58 340 ⇓P **P** **21 24 29.5 +0.3**
PLOR Plostina 83.58 340 P **P** **21 24 29.4 +0.3**
VOIR 83.68 338 ⇑P **P** **21 24 29.8 +0.1**
VOIR 83.68 338 P **P** **21 24 29.8 +0.1**
VOIR 83.68 338 P **P** **21 24 29.9 +0.1**
comp=Z,13nm,1.2s
COVR Voineasa-Covas 83.70 339 ⇑P **P** **21 24 30.1 +0.3**
ARR Arges 83.74 338 ⇓P **P** **21 24 29.3 -0.8**
TURR Turia 83.95 339 ⇓P **P** **21 24 31.8 +0.8**
YULB Yu-li 84.00 57 P **P** **21 24 31.7 -0.1**
YULB IAmb IAmb 21 24 37.1
comp=Z,26nm,1.0s
SSLB Suanglung 84.01 56 **P** **21 24 31.8 -0.1**
SSLB Suanglung 84.01 56 P **P** **21 24 33.3 +1.4**
HERR Herculane 84.02 337 ⇑P **P** **21 24 31.5 +0.1**
OZUR 84.05 339 ⇑P **P** **21 24 31.2 -0.3**
MDVR Moldovita 84.17 336 ⇓P **P** **21 24 33.3 +1.0**
WHN Wuhan 84.24 47 P **P** **21 24 33.8 +1.0**
WHN pmax pmax
comp=Z,36nm,0.8s
GZR Gura Zlata 84.36 337 ⇑P **P** **21 24 33.4 +0.2**
GZR Gura Zlata 84.36 337 P **P** **21 24 33.4 +0.2**
BRZS Berezniki 84.59 11 *eP* **P** **21 24 35.2 +1.0**
BRZS Berezniki 84.59 11 *eP* **P** **21 24 35.2 +1.0**
ZSN Zaisan 84.78 19 *eP* **P** **21 24 36.0 +0.8**
comp=Z,6.8nm,0.9s
ZSN Zaisan 84.78 19 *eP* **P** **21 24 36.0 +0.8**
ZSN pmax pmax
comp=Z,7.0nm,0.9s
SURR Surduc 84.89 337 ⇑P **P** **21 24 35.9 +0.2**
BZS Buzias 84.94 336 ⇑P **P** **21 24 37.1 +1.0**
BZS Buzias 84.94 336 P **P** **21 24 37.0 +1.0**
SORM Soroca 85.20 342 ⇑P **P** **21 24 37.7 +0.4**
SORM Soroca 85.20 342 P **P** **21 24 37.6 +0.4**
MARR Marisel-Cluj 85.39 338 ⇓P **P** **21 24 39.3 +0.9**
CAMP Campotosto 85.41 330 P **P** **21 24 39.3 +0.7**
CAMP IAmb IAmb 21 24 40.5
comp=Z,28nm,1.3s
SIRR Siria 85.49 337 ⇓P **P** **21 24 39.9 +1.1**
VRH Novokhopyorsk 85.50 351 *eP* **P** **21 24 38.0 -0.6**
VRH pmax pmax
comp=Z,10.0nm,1.0s
BURAR Bucovina Array 85.59 340 **P** **21 24 40.2 +0.8**
BURAR Bucovina Array 85.59 340 ⇑P **P** **21 24 39.9 +0.5**
BURAR Bucovina Array 85.59 340 P **P** **21 24 39.8 +0.5**
VORD Divnogorie 85.61 349 *eP* **P** **21 24 39.2 0.0**
VORD pmax pmax
comp=Z,10.0nm,0.9s
DRGR 85.62 338 ⇑P **P** **21 24 40.2 +0.7**
DRGR 85.62 338 P **P** **21 24 40.2 +0.7**
BUR08 Bucovina Ar. S 85.62 340 **P** **21 24 39.7 +0.1**
BLY Banja Luka 85.75 333 ⇑P **P** **21 24 39.8 -0.3**
VSR Storozhevoye 85.87 349 *eP* **P** **21 24 38.7 -1.8**
VSR pmax pmax
comp=Z,10.0nm,1.0s
LYN LuoYang 85.96 43 P **P** **21 24 42.8 +1.4**
LYN pmax pmax
comp=Z,38nm,0.5s
LYN pmax pmax
comp=Z,290nm,4.5s
KMPD K-Podol'skiy 86.10 341 P **P** **21 24 41.0 -0.7**
KURBB Kurchatov Arra 86.25 14 P **P** **21 24 42.6 +0.2**
comp=Z,1.1nm,0.9s,baz=209,slow=5.4,SNR=64
KURBB PKPPKP **P'P'df** **21 50 48.4 +7.2**
comp=Z,0.2nm,0.3s,baz=25,slow=4.6,SNR=1.7
comp=Z,1.1nm,0.9s
VORR Voronezh 86.31 349 *eP* **P** **21 24 42.4 -0.3**
VORR pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 86.35 14 **P** **21 24 42.8 -0.1**
KURK IAmb IAmb 21 24 45.0
comp=Z,12nm,0.9s
KURK Kurchatov 86.35 14 ⇑ *i* P **P** **21 24 43.6 +0.7**
KURK pmax pmax
comp=Z,13nm,1.0s
MEZ Mezhgor'ye 86.90 339 P **P** **21 24 46.1 +0.4**
LUBAR Lubar, Ukraine 87.00 342 P **P** **21 24 46.7 +0.6**
PLTB Pedras Altas 87.21 233 P **P** **21 24 47.1 -0.8**
PLTB IAmb IAmb 21 24 56.4
comp=Z,15nm,1.1s
AK07 Malin Array Si 87.22 343 P **P** **21 24 47.1 0.0**
BVAR Borovoye Array 87.24 9 P **P** **21 24 48.1 +0.9**
comp=Z,25nm,0.8s,baz=176,slow=5.0,SNR=85
comp=Z,25nm,0.8s
AK10 Malin Array Si 87.25 343 P **P** **21 24 47.3 0.0**
AK06 Malin Array Si 87.25 343 P **P** **21 24 47.3 0.0**
BORK Borovoye 87.25 8 ⇓ *i* P **P** **21 24 47.9 +0.6**
BORK pmax pmax
comp=Z,16nm,0.8s
LPSR Galich'ya Gora 87.25 350 *eP* **P** **21 24 46.5 -0.8**
LPSR pmax pmax
comp=Z,20nm,0.9s
AK09 Malin Array Si 87.26 343 P **P** **21 24 47.3 0.0**
HOLU Holmets 87.26 338 P **P** **21 24 47.4 0.0**
AK05 Malin Array Si 87.28 343 P **P** **21 24 47.4 0.0**
AK08 Malin Array Si 87.28 343 P **P** **21 24 47.4 0.0**
AK13 Malin Array Si 87.31 343 P **P** **21 24 47.5 -0.1**
AK14 Malin Array Si 87.31 343 P **P** **21 24 47.6 0.0**
AK02 Malin Array Si 87.31 343 P **P** **21 24 47.6 0.0**
AK12 Malin Array Si 87.31 343 P **P** **21 24 47.6 0.0**
AK11 Malin Array Si 87.34 343 P **P** **21 24 47.4 -0.3**
AK01 Malin Array Si 87.34 343 P **P** **21 24 47.4 -0.3**
KIEV Kiev 87.35 343 ⇑P **P** **21 24 47.9 +0.2**
KIEV Kiev 87.35 343 P **P** **21 24 47.9 +0.2**
KIEV Kiev 87.35 343 P **P** **21 24 47.4 -0.4**
comp=Z,81nm,1.1s
AK16 Malin Array Si 87.35 343 P **P** **21 24 47.4 -0.4**
AKASG Malin Array Be 87.35 343 P **P** **21 24 47.7 0.0**
AKASG IAmb IAmb 21 24 49.3
comp=Z,14nm,1.3s
AKASG Malin Array Be 87.35 343 P **P** **21 24 48.4 +0.7**
comp=Z,5.3nm,0.8s,baz=171,slow=4.2,SNR=32
comp=Z,5.3nm,0.8s
AKASG Malin Array Be 87.35 343 *i* P **P** **21 24 48.5 +0.7**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 87.35 343 **P** **21 24 48.2 +0.4**
AKBB IAmb IAmb 21 24 49.5
comp=Z,26nm,1.1s
AKBB Malin Array Si 87.35 343 P **P** **21 24 48.2 +0.4**
AKBB pmax pmax
comp=Z,26nm,1.1s
AKBB Malin Array Si 87.35 343 P **P** **21 24 47.5 -0.3**
PSZ Piszkesteto 87.52 337 P **P** **21 24 49.1 +0.2**
PSZ IAmb IAmb 21 24 50.6
comp=Z,23nm,1.2s
PSZ Piszkesteto 87.52 337 ⇑P **P** **21 24 49.0 +0.2**
PSZ Piszkesteto 87.52 337 P **P** **21 24 49.1 +0.2**
PSZ pmax pmax
comp=Z,23nm,1.2s
MD31 MD31 87.58 313 **P** **21 24 49.3 -0.2**
MD31 IAmb IAmb 21 24 52.8
comp=Z,10nm,1.1s
MD01 Midelt array s 87.58 313 **P** **21 24 49.2 -0.3**
CEY Cerknica 87.64 332 *eP* **P** **21 24 50.4 +1.0**
KOLS Kolonicke sedl 87.65 338 *eP* **P** **21 24 51.7 +2.4**
KOLS pmax pmax
comp=Z,13nm,1.0s
PDKS Podkum 87.69 333 *eP* **P** **21 24 50.1 +0.5**
KECS Kecovo 87.82 337 *eP* **P** **21 24 51.8 +1.7**
KECS pmax pmax
comp=Z,25nm,1.1s
VNDS Vrh nad Dolski 87.84 333 *i* P **P** **21 24 51.7 +1.4**
SRO Srobarova 87.97 336 *eP* **P** **21 24 52.4 +1.6**
SRO pmax pmax
comp=Z,28nm,1.1s
NJ2 Nanjing 88.07 49 *eP* **P** **21 24 53.8 +2.1**
NJ2 pmax pmax

comp=Z,12nm,0.5s
KWP **Kalwaria Pacla** 88.14 339 *e*P P 21 24 52.5 +0.9
SOKA **Soboth** 88.19 333 *i* P P 21 24 53.3 +1.3
comp=Z,23nm,1.0s,SNR=15
OBKA **Obir** 88.23 333 *e*P P 21 24 53.7 +1.5
comp=Z,18nm,0.9s,SNR=8.5
TRQA **Tornquist** 88.39 224 P 21 24 52.4 -1.0
TRQA IAmb IAmb 21 25 00.7
comp=Z,20nm,1.2s
TRQA **Tornquist** 88.39 224 P P 21 24 52.4 -1.0
TRQA pmax pmax
comp=Z,20nm,1.2s
TEOL **Teolo** 88.44 330 P P 21 24 53.9 +0.8
ARSA **Arzberg** 88.49 334 P 21 24 53.8 +0.4
ARSA IAmb IAmb 21 24 55.9
comp=Z,14nm,1.0s
ARSA **Arzberg** 88.49 334 *e*P P 21 24 54.7 +1.3
comp=Z,11nm,1.0s,SNR=6.6
RONA **Rosalia, Austr** 88.58 334 *e*P P 21 24 55.0 +1.2
comp=Z,16nm,0.9s,SNR=11
RNPP5 **Staryi Chortor** 88.68 341 P P 21 24 54.4 +0.3
NIE **Niedzica** 88.70 337 *e*P P 21 24 56.1 +1.8
NIE **Niedzica** 88.70 337 P P 21 24 54.6 +0.3
comp=Z,7.2nm,1.4s
LANS **Liptovska Anna** 88.73 337 *e*P P 21 24 56.6 +2.1
LANS pmax pmax
comp=Z,13nm,1.1s
STAL **STALIGIAL** 88.75 331 P P 21 24 55.1 +0.4
RNPP8 **Varash** 88.79 342 P P 21 24 54.9 +0.3
MODS **Modra-Piesok** 88.81 335 *e*P P 21 24 55.8 +1.0
MODS pmax pmax
comp=Z,53nm,1.2s
RNPP9 **Sopachiv** 88.84 342 P P 21 24 55.2 +0.3
CONA **Conrad Observa** 88.93 334 *e*P P 21 24 56.4 +0.9
comp=Z,16nm,1.0s,SNR=9.9
CTI **Castel Tesino** 89.00 331 P 21 24 56.6 +0.7
CTI IAmb IAmb 21 24 59.0
comp=Z,37nm,1.6s
CTI **Castel Tesino** 89.00 331 P P 21 24 56.6 +0.7
CTI pmax pmax
comp=Z,37nm,1.6s
BTO **Baotou** 89.04 38 *e*P P 21 24 56.9 +0.7
BTO pP **pwP** 21 25 10.4 +7.5
BTO S **S** 21 35 41.5 -3.2
BTO SS **SS** 21 41 40.6 +1.8
BTO pmax pmax
comp=Z,63nm,0.9s
JAVC **Velka Javorina** 89.08 336 *e*P P 21 24 57.7 +1.5
KBA **Koelnbreinsper** 89.17 332 *i* P P 21 24 57.9 +1.1
comp=Z,12nm,1.2s,SNR=6.5
ABTA **Abfaltersbach** 89.22 332 *i* P P 21 24 58.7 +1.7
comp=Z,10nm,0.9s,SNR=7.2
HNS **HongShan** 89.26 43 ⇑P P 21 24 57.6 +0.4
HNS pmax pmax
comp=Z,19nm,1.2s
MOA **Molln** 89.46 333 *e*P P 21 24 59.1 +1.2
comp=Z,13nm,0.9s,SNR=6.7
OJC **Ojcow** 89.56 338 *e*P P 21 24 59.4 +1.1
OJC **Ojcow** 89.56 338 P P 21 24 58.4 +0.1
OJC **Ojcow** 89.56 338 P P 21 24 58.4 +0.1
OJC **Ojcow** 89.56 338 P P 21 24 58.6 +0.3
comp=Z,15nm,1.6s
BIOA **Bad Ischl, Aus** 89.56 333 *i* P P 21 24 58.9 +0.5
comp=Z,9.6nm,1.0s,SNR=8.6
KRUC **Moravsky** 89.70 335 *e*P P 21 24 59.5 +0.5
LESA **Schwarzleotal** 89.71 332 *i* P P 21 25 00.1 +0.9
comp=Z,9.3nm,0.9s,SNR=6.5
ARTI **Arti** 89.75 1 P 21 24 59.4 +0.4
ARTI **Arti** 89.75 1 *d i* P P 21 24 59.4 +0.4
ARTI PPP PPP 21 30 28.6
ARTI S **SKSac** 21 35 29.8 +0.7
ARTI pmax pmax
comp=Z,53nm,1.2s
OKC **Ostrava-Krasne** 89.76 336 *e*P P 21 25 00.6 +1.4
OKC **Ostrava-Krasne** 89.76 336 *e*P P 21 25 00.6 +1.4
TIA **Tai'an** 89.83 45 P P 21 24 59.8 -0.1
TIA pmax pmax
comp=Z,13nm,1.0s
VRAC **Vranov** 89.84 335 *e*P P 21 25 00.1 +0.5
MORC **Moravsky Berou** 89.91 336 P P 21 24 59.9 -0.1
MORC **Moravsky Berou** 89.91 336 *e*P P 21 25 00.8 +0.8
MORC **Moravsky Berou** 89.91 336 P P 21 24 59.9 -0.1
MORC pmax pmax
comp=Z,10.0nm,1.2s
WTTA **Wattenberg** 89.99 331 *e*P P 21 25 01.0 +0.4
comp=Z,13nm,1.0s
HHC **Hu-ho-hao-te** 90.02 39 *e*P P 21 25 01.8 +1.0
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,99nm,5.0s
OBN **Obninsk** 90.05 349 P P 21 25 01.0 +0.6
OBN **Obninsk** 90.05 349 ⇑*e*P P 21 25 01.6 +1.2
OBN *e* 21 28 37.0
OBN *e*S S 21 35 49.1 -4.0
OBN pmax pmax
comp=Z,16nm,1.2s
OBN **Obninsk** 90.05 349 P P 21 25 00.7 +0.3
comp=Z,23nm,2.0s
WATA **Walderalm** 90.08 331 *i* P P 21 25 01.8 +0.8
comp=Z,15nm,1.2s,SNR=5.2
SQTA **Sankt Quirin** 90.13 331 *e*P P 21 25 02.6 +1.4
comp=Z,13nm,1.5s
FETA **Feichten** 90.16 331 *e*P P 21 25 01.3 -0.1
comp=Z,11nm,1.1s
SVE **Sverdlovsk** 90.25 2 *e*P P 21 25 02.8 +1.5
SVE pmax pmax
comp=Z,35nm,1.3s
MOTA **Moosalm** 90.27 331 *e*P P 21 25 01.2 -0.7
comp=Z,3.9nm,0.8s
TUE **Stuetta** 90.30 330 P P 21 25 02.2 +0.1
MOS **Moscow** 90.49 350 *e*P P 21 25 02.0 -0.4
GERES **GERESS Array B** 90.49 333 P P 21 25 02.2 -0.6
GERES **GERESS Array B** 90.49 333 P P 21 25 02.9 +0.1
comp=Z,1.1nm,0.9s,baz=96,slow=1.3,SNR=9.3
comp=Z,1.1nm,0.9s
DAVA **Damuels** 90.72 330 *e*P P 21 25 04.8 +0.8
comp=Z,5.6nm,1.0s
ZAA0 **Zalesovo Array** 90.74 16 P 21 25 02.6 -1.1
ZALV **Zalesovo Beam** 90.74 16 P P 21 25 02.6 -1.1
comp=Z,3.4nm,0.8s,baz=223,slow=4.0,SNR=15
comp=Z,3.4nm,0.8s
ZALV **Zalesovo Beam** 90.74 16 *i* P P 21 25 03.0 -0.7
ZALV pmax pmax
comp=Z,4.0nm,0.8s
KHC **Kasperske Hory** 90.78 334 *e*P P 21 25 05.0 +1.0
KHC **Kasperske Hory** 90.78 334 ⇓*i* P P 21 25 04.3 +0.3
KHC pmax pmax
comp=Z,11nm,1.3s
UPC **Upice** 91.06 336 *e*P P 21 25 07.0 +1.7
UPC **Upice** 91.06 336 *e*P P 21 25 07.0 +1.7
UPC MLR MLR
comp=Z,4μm,24.7s
PRU **Pruhonice** 91.14 335 *e*P P 21 25 07.0 +1.4
PRU **Pruhonice** 91.14 335 *e*P P 21 25 07.0 +1.4
MNK **Minsk** 91.18 344 *i* P P 21 25 00.3 -5.4
MNK *i* S **SKSac** 21 35 32.1 -5.3
MNK *i* PS **PS** 21 37 09.3 -4.1
MNK *i* SS **SS** 21 42 05.4 -3.5
MNK *i* SSS SSS 21 45 49.3
MNK pmax pmax
comp=Z,7.0nm,0.9s
MNK pmax pmax
comp=N,4.0nm,0.8s
MNK pmax pmax
comp=E,10.0nm,1.1s
MNK MLR MLR
comp=E,803nm,24.0s
MNK MLR MLR
comp=Z,2μm,27.0s
MNK MLR MLR
comp=N,1μm,24.0s
KSP **Ksiaz** 91.24 336 *e*P P 21 25 07.8 +1.7
PRA **Prague** 91.24 335 *e*P P 21 25 07.7 +1.6
PRA **Prague** 91.24 335 *e*P P 21 25 07.7 +1.6
KNGR **Kungurtug, Tuv** 91.52 25 ⇑*e*P P 21 25 07.4 -0.2
KNGR pmax pmax
comp=Z,6.0nm,1.3s
PVCC **Panska Ves** 91.58 335 *e*P P 21 25 09.4 +1.7
PVCC **Panska Ves** 91.58 335 *e*P P 21 25 09.4 +1.7
ESDC **Sonseca Array** 91.78 318 P 21 25 09.3 +0.3
ESDC IAmb IAmb 21 25 12.0
comp=Z,13nm,1.4s
ESDC **Sonseca Array** 91.78 318 P P 21 25 10.4 +1.4
comp=Z,3.3nm,1.1s,baz=123,slow=2.9,SNR=11
comp=Z,3.3nm,1.1s
SUW **Suwalki** 91.91 341 *e*P P 21 25 10.0 +0.9
SUW **Suwalki** 91.91 341 P P 21 25 09.0 -0.1
SUW **Suwalki** 91.91 341 P P 21 25 09.0 -0.1
BRG **Berggiesshuebel** 92.08 335 *e*P P 21 25 11.6 +1.6
BRG Amp 21 25 12.7
comp=Z,7.0nm,1.0s
GRF **Grafenberg Arr** 92.12 333 *e*P P 21 25 11.6 +1.4
comp=Z,28nm,1.2s,baz=144,slow=5.4
SONM **Songino Array** 92.78 31 P P 21 25 12.6 -0.9
SONM IAmb IAmb 21 25 14.4
comp=Z,7.9nm,1.1s
SONM **Songino Array** 92.78 31 P P 21 25 13.3 -0.2
comp=Z,5.0nm,0.9s,baz=210,slow=4.6,SNR=22
comp=Z,5.0nm,0.9s
SONM **Songino Array** 92.78 31 P P 21 25 12.6 -0.9
SONM pmax pmax
comp=Z,8.0nm,1.1s
CLL **Collm** 92.78 335 *e*P P 21 25 15.0 +1.8
CLL *e* 21 25 21.0
CLL pmax pmax
comp=Z,93nm,2.8s
CLL **Collm** 92.78 335 *e*P P 21 25 15.0 +1.8
comp=Z,93nm,2.8s
CLL *ex* x 21 25 21.0
BDFB **Brasilia** 92.83 249 P P 21 25 17.5 +2.9
comp=Z,1.7nm,0.5s,baz=196,slow=4.2,SNR=4.2
comp=Z,1.7nm,0.5s
ULN **Ulaanbaatar** 93.09 32 P 21 25 14.1 -0.8
ULN IAmb IAmb 21 25 17.4
comp=Z,9.3nm,1.0s
ULN **Ulaanbaatar** 93.09 32 ⇓*i* P P 21 25 14.4 -0.5
ULN pmax pmax
comp=Z,10.0nm,1.1s
CPUP **Villa Florida** 93.16 235 P P 21 25 17.6 +1.8
comp=Z,0.6nm,0.9s,baz=130,slow=0.2,SNR=3.7
comp=Z,0.6nm,0.9s
CFA **Coronel Fontan** 96.56 225 P P 21 25 31.5 +0.1
comp=Z,0.5nm,0.3s,baz=92,slow=2.3,SNR=4.1
comp=Z,0.5nm,0.3s
KSAR **Wonju Array Be** 97.22 50 P P 21 25 33.1 -0.8
KSAR **Wonju Array Be** 97.22 50 P P 21 25 33.1 -0.8
KSRS **Korea Array** 97.25 50 P P 21 25 33.7 -0.3
comp=Z,0.9nm,0.7s,baz=217,slow=5.8,SNR=3.2
comp=Z,0.9nm,0.7s
CN2 **Changchun** 99.61 43 P Pdif 21 25 50.8 +6.3
CN2 pmax pmax
comp=Z,10.0nm,0.8s
MJAR **Matsushiro Arr** 103.53 55 Pdiff Pdif 21 26 02.1 0.0
comp=Z,1.3nm,0.7s,baz=218,slow=5.6,SNR=4.3
ZEA **Zeya** 106.46 36 *e*P Pdif 21 26 05.8 -8.9
ZEA pmax pmax
comp=Z,10.0nm,2.5s
F24K **Squaw Lake** 143.37 15 P PKPdf 21 31 33.7 -1.2
baz=325
M14K **Bethel** 143.41 31 P PKPbc 21 31 33.2 +1.1
baz=300
G23K **Bananza Creek** 143.52 17 P PKPbc 21 31 33.5 +1.0
baz=322
H21K **Melozitna Rive** 143.59 20 P PKPbc 21 31 33.7 +1.1
baz=317
I20K **Naaghedeneel** 143.71 22 P PKPbc 21 31 34.0 +1.1
baz=314
K17K **Iditarod** 143.78 26 P PKPdf 21 31 34.7 -0.9
baz=307,SNR=6.3
F25K **Christian Rive** 143.78 14 P PKPdf 21 31 34.7 -0.9
baz=328
H22K **Ishlitina Cre** 143.81 19 P PKPdf 21 31 34.7 -0.9
baz=319
J18K **Innoko River** 143.87 24 P PKPdf 21 31 34.7 -1.1
baz=310
UNV **Unalaska Valle** 143.88 43 P PKPdf 21 31 35.5 -0.5
baz=286
J19K **Poorman** 143.90 23 PKPbc 21 31 34.6 +1.0
J19K **Poorman** 143.90 23 P PKPdf 21 31 34.9 -0.9
baz=312
E28M **Babbage River** 143.92 10 P PKPbc 21 31 34.6 +1.1
baz=337
L16K **Owhat River** 143.92 28 P PKPdf 21 31 35.0 -0.8
baz=304
N14K **Kuskokwak Cree** 143.95 32 P PKPdf 21 31 34.9 -1.0
baz=299
M15K **Kasigluk River** 143.98 30 P PKPbc 21 31 34.7 +0.8
baz=302
F26K **Sheenjek River** 143.98 13 P PKPdf 21 31 35.3 -0.6
baz=336
E27K **Coleen River** 143.99 11 PKPbc 21 31 34.5 +0.7
E27K **Coleen River** 143.99 11 P PKPbc 21 31 34.8 +1.1
baz=334
L17K **Donlin** 144.12 27 P PKPdf 21 31 36.6 +0.4
baz=306,SNR=6.5
BMAR **Burnt Mountain** 144.13 14 PKPbc 21 31 35.0 +0.7
G24K **Hadweenzic Riv** 144.13 16 PKPbc 21 31 35.0 +0.8
G24K **Hadweenzic Riv** 144.13 16 P PKPdf 21 31 35.4 -0.7
baz=325
J20K **Nowinta River** 144.25 22 PKPbc 21 31 35.2 +0.6
J20K **Nowinta River** 144.25 22 P PKPdf 21 31 36.1 -0.3
baz=314
C36M **Paulatuk** 144.30 0 P PKPbc 21 31 35.3 +0.7
baz=359
H23K **Yukon River** 144.34 18 P PKPbc 21 31 35.4 +0.5
baz=321
E29M **Blow River** 144.34 9 P PKPdf 21 31 36.0 -0.4
baz=339
BIRD **Birdtown, Kers** 144.34 284 PKPbc 21 31 35.8 0.0
G25K **Bearman Lake** 144.38 15 P PKPdf 21 31 36.3 -0.2
baz=327
O14K **Tigyukauivet M** 144.46 33 P PKPdf 21 31 36.2 -0.6
baz=299
N15K **Kwethluk River** 144.51 31 P PKPbc 21 31 36.0 +0.4
baz=302
M16K **Timber Creek** 144.51 29 P PKPdf 21 31 36.3 -0.6
baz=304
U56A **King** 144.57 287 PKPbc 21 31 36.5 -0.1
MLY **Manley** 144.63 19 PKPbc 21 31 36.0 0.0
MLY **Manley** 144.63 19 P PKPdf 21 31 37.1 0.0
baz=319
L18K **Granite Mounta** 144.67 26 PKPbc 21 31 36.5 +0.5
L18K **Granite Mounta** 144.67 26 P PKPdf 21 31 37.0 -0.2
baz=308,SNR=11
G26K **Porcupine Rive** 144.70 13 P PKPbc 21 31 36.5 +0.5
baz=330
H24K **Noodor Dome** 144.75 17 PKPbc 21 31 36.8 +0.5
H24K **Noodor Dome** 144.75 17 P PKPdf 21 31 37.0 -0.2
baz=324
F28M **Old Crow** 144.78 11 PKPbc 21 31 36.3 0.0
F28M **Old Crow** 144.78 11 P PKPdf 21 31 37.1 -0.2
baz=336
K20K **Telida** 144.84 23 P PKPdf 21 31 37.4 -0.1
baz=313,SNR=48
H25L **Birch Creek** 144.87 15 P PKPdf 21 31 37.8 +0.4
baz=327
M17K **Holitna River** 144.89 28 P PKPdf 21 31 37.9 +0.3
baz=306,SNR=9.7
N16K **Nishlik Lake** 144.90 30 P PKPdf 21 31 38.5 +0.8
baz=304,SNR=7.3
INK **Inuvik** 144.90 6 PKPbc 21 31 36.6 0.0
INK **Inuvik** 144.90 6 PKIKP PKPbc 21 31 36.6 0.0
INK **Inuvik** 144.90 6 P PKPdf 21 31 37.3 -0.1
baz=346,SNR=75
I23K **Minto, Yukon-K** 144.92 19 P PKPdf 21 31 38.0 +0.5
baz=321
CHUM **Lake Minchumin** 145.03 22 P PKPdf 21 31 38.0 +0.3
baz=316,SNR=54
O15K **Ungalikthiuk R** 145.14 32 P PKPdf 21 31 38.9 +0.9
baz=301
G27K **Doyon Strip** 145.22 12 P PKPbc 21 31 37.7 0.0
baz=333,SNR=90
BPAW **Bear Paw Mtn.** 145.27 21 PKPbc 21 31 37.9 0.0
BPAW **Bear Paw Mtn.** 145.27 21 P PKPbc 21 31 38.0 0.0
baz=318,SNR=45
FALS **False Pass** 145.27 40 P PKPbc 21 31 37.3 -0.9
baz=291
PETF **Flores** 145.28 250 PKPbc PKPbc 21 31 37.8 -1.5
F30M **Barrier River** 145.34 8 P PKPbc 21 31 37.6 -0.4
baz=342,SNR=31
L19K **White Mountain** 145.36 25 P PKPbc 21 31 38.0 -0.3
baz=311,SNR=17
NEA2 **Nenana** 145.43 19 P PKPab 21 31 38.6 -0.1
baz=321,SNR=7.8
POKR **Poker Plat Res** 145.44 17 P PKPdf 21 31 38.5 0.0
baz=324
M18K **Stony River** 145.45 27 P PKPab 21 31 39.2 +0.4
baz=309,SNR=11
L20K **Farewell, AK** 145.50 24 P PKPab 21 31 39.8 +0.8
baz=312,SNR=7.6
N17K **Nushagak Hills** 145.51 29 P PKPab 21 31 39.2 +0.2
baz=306,SNR=15
COLA **College** 145.53 18 PKPdf 21 31 38.1 -0.5
COLA **College** 145.53 18 PKIKP PKPdf 21 31 38.1 -0.5
COLA **College** 145.53 18 P PKPdf 21 31 38.5 -0.1
baz=323
S12K **Black Hills** 145.67 38 P PKPab 21 31 39.8 0.0
baz=294
O16K **Kokwok River B** 145.67 31 P PKPab 21 31 40.4 +0.8
baz=303
M19K **Big River Lodg** 145.71 25 P PKPab 21 31 40.2 +0.5
baz=311,SNR=10
G29M **Pine Creek** 145.71 10 P PKPbc 21 31 39.1 -0.1
baz=338,SNR=12
F31M **Tsiigehtchic** 145.72 7 P PKPab 21 31 39.5 -0.1
baz=345,SNR=7.8
H27K **Steamboat Moun** 145.76 13 P PKPab 21 31 40.1 +0.2
baz=333,SNR=25
PPLA **Purkeypile** 145.77 23 P PKPbc 21 31 39.9 +0.1
baz=315,SNR=9.7
IL31 145.86 17 PKPdf 21 31 38.6 -0.5
ILAR **Eielson Array** 145.86 17 PKPbc PKPdf 21 31 38.5 -0.7
comp=Z,15nm,1.0s,baz=309,slow=3.4,SNR=61
G30M **tAoh Zraii Nji** 145.89 9 P PKPbc 21 31 39.8 -0.1
baz=341,SNR=8.2
N18K **Kilae Creek** 145.93 28 P PKPbc 21 31 40.1 0.0
baz=308,SNR=6.8
TRF **Thorofare Moun** 145.96 21 P PKPbc 21 31 40.0 -0.4
baz=318,SNR=16
O17K **Koliganek Bris** 145.99 30 P PKPab 21 31 40.7 -0.1
baz=305
P16K **Nushagak River** 146.02 31 P PKPbc 21 31 40.4 0.0
baz=303
HDA **Harding Lake** 146.13 18 PKPdf 21 31 39.3 -0.3
HDA **Harding Lake** 146.13 18 P PKPdf 21 31 39.8 +0.2
baz=324,SNR=16
MCK **McKinley** 146.14 20 P PKPbc 21 31 40.4 -0.3
baz=336,SNR=16
M20K **Styx River** 146.16 25 P PKPbc 21 31 40.7 -0.2
baz=313,SNR=6.3
G31M **Satah River** 146.17 7 P PKPbc 21 31 40.3 -0.3
baz=344,SNR=19
I26K **Coal Creek Min** 146.26 15 P PKPab 21 31 41.4 -0.3
baz=330
H29M **Whitestone** 146.31 11 P PKPbc 21 31 40.8 -0.3
baz=338,SNR=12
I27K **Kandik River** 146.31 13 P PKPab 21 31 42.0 +0.1
baz=332,SNR=25
J25K **Salcha River,** 146.36 17 P PKPbc 21 31 41.1 -0.3
baz=326,SNR=27
N19K **Bonanza Creek** 146.38 27 P PKPbc 21 31 41.7 +0.1
baz=310
EPYK **Eagle Plains** 146.40 9 P PKPbc 21 31 41.4 0.0
baz=340,SNR=12
P17K **Kvichak River** 146.59 30 P PKPbc 21 31 41.9 -0.1
baz=305
SDPT **Sand Point** 146.63 38 P PKPdf 21 31 41.5 +0.8
baz=295
SKT **Skwentna** 146.64 24 P PKPbc 21 31 42.1 -0.1
baz=315,SNR=6.6
O18K **Koktuh Hills** 146.70 29 P PKPbc 21 31 42.1 -0.3
baz=308,SNR=6.0
I28M **Miner Creek** 146.76 12 P PKPbc 21 31 42.9 +0.4
baz=335,SNR=12
O19K **Port Alsworth** 146.84 28 P PKPbc 21 31 43.0 +0.3
baz=309
J26L **Joseph Creek** 146.87 16 P PKPbc 21 31 43.2 +0.3
baz=329,SNR=35
K24K **Donnelly Dome** 146.93 18 P PKPbc 21 31 43.7 +0.7
baz=325,SNR=10
WAT1 **Susitna Watana** 146.95 21 P PKPbc 21 31 43.1 0.0
baz=320
N20K **Mount Spurr** 146.96 25 P PKPbc 21 31 42.3 -0.9
baz=313
SPCR **Spurr Chakacha** 146.96 25 P PKPbc 21 31 42.3 -0.9
baz=313
P18K **Big Mountain,** 146.98 29 P PKPbc 21 31 43.0 -0.3
baz=307
R16K **Pilot Point** 146.99 33 P PKPbc 21 31 43.6 +0.3
baz=302
DHY **Denali Highway** 147.09 20 PKPbc 21 31 43.7 +0.1
DHY **Denali Highway** 147.09 20 P PKPbc 21 31 43.8 +0.1
baz=322,SNR=14
I29M **Ogilvie Camp,** 147.11 11 P PKPbc 21 31 43.2 -0.3
baz=337,SNR=28
EGAK **Eagle** 147.13 14 PKPdf 21 31 40.6 -0.6
EGAK **Eagle** 147.13 14 P PKPbc 21 31 43.8 +0.3
baz=332
RIDG **Independent Ri** 147.21 17 P PKPbc 21 31 43.9 +0.1
baz=326,SNR=5.7
SCRK **Sand Creek** 147.22 16 PKPbc 21 31 43.9 0.0
SCRK **Sand Creek** 147.22 16 P PKPbc 21 31 44.2 +0.3
baz=328,SNR=15
CHGN **Chignik** 147.24 36 P PKPbc 21 31 43.6 -0.3
baz=299
H31M **Peel River** 147.24 8 P PKPbc 21 31 43.7 -0.1
baz=343,SNR=16
M22K **Willow** 147.27 23 P PKPbc 21 31 43.8 -0.1
baz=317
SUA **Susitna One** 147.27 24 P PKPbc 21 31 44.6 +0.5
baz=316,SNR=13
CHNA **Chernabura Isl** 147.32 39 P PKPbc 21 31 44.6 +0.3
baz=295
Q17K **Contact Creek** 147.36 31 P PKPbc 21 31 44.3 -0.1
baz=305
WAT6 **Susitna Watana** 147.38 20 P PKPbc 21 31 45.2 +0.7
baz=321,SNR=10
R17L **Mt. Peulik Vol** 147.51 33 P PKPbc 21 31 44.9 +0.1
baz=303
Q18K **Katmai Hardscr** 147.51 30 P PKPbc 21 31 45.3 +0.4
baz=306
I30M **Mount Dempster** 147.53 10 P PKPbc 21 31 45.2 +0.5
baz=340,SNR=28
O20K **Slope Mountain** 147.56 27 P PKPbc 21 31 45.1 +0.2
baz=311
K27K **Chicken** 147.60 15 P PKiKP 21 31 45.9 -1.0
baz=331
P19K **Oil Pt** 147.61 28 P PKPbc 21 31 45.2 +0.2
baz=310
CAPN **Captain Cook N** 147.63 25 P PKPbc 21 31 45.6 +0.7
baz=314
PAX **Paxson** 147.69 18 P PKPbc 21 31 45.1 -0.1
baz=325,SNR=13
PMR **Palmer** 147.71 23 P PKPbc 21 31 45.0 -0.1
baz=318
RC01 **Rabbit Creek A** 147.88 24 P PKiKP 21 31 46.7 -0.9
baz=316
Q19K **Cape Douglas,** 147.91 29 P PKPbc 21 31 46.6 +0.8
baz=308
J29N **Klondike Camp** 147.97 12 P PKiKP 21 31 47.1 -0.7
baz=337
M23K **Glacier View** 147.99 21 P PKPbc 21 31 46.4 +0.4
baz=320,SNR=17
KNK **Knik Glacier** 148.06 22 P PKPbc 21 31 46.6 +0.5
baz=319
SCM **Sheep Creek Mo** 148.08 21 P PKPbc 21 31 47.0 +0.7
baz=321,SNR=6.6
DAWY **Dawson** 148.11 13 P PKiKP 21 31 47.6 -0.4
baz=335,SNR=8.6
J30M **Hart River** 148.15 10 P PKiKP 21 31 47.9 -0.3
baz=340
L26K **Log Cabin Wild** 148.18 17 P PKiKP 21 31 47.8 -0.3
baz=328,SNR=7.4
M24K **Tolsona, Glenn** 148.20 20 P PKPbc 21 31 46.8 +0.3
baz=323
HOM **Homer** 148.21 27 P PKiKP 21 31 47.9 -0.4
baz=312
HARP **HAARP** 148.25 19 P PKPbc 21 31 46.9 +0.3
baz=325
O22K **Cooper Landing** 148.33 24 P PKPbc 21 31 47.0 +0.2
baz=316
L27K **Beaver Creek,** 148.51 16 P PKPbc 21 31 48.0 +0.7
baz=330
BCAR **Beaver Creek A** 148.51 16 PKPbc 21 31 47.2 -0.1
PWL **Port Wells** 148.51 23 P PKPbc 21 31 47.8 +0.5
baz=318
Q20K **Shuyak Island** 148.61 29 P PKPbc 21 31 47.4 -0.2
baz=310
K29M **Barlow Dome** 148.65 12 P PKPbc 21 31 48.0 +0.3
baz=338
SEW **Seward** 148.69 25 P PKiKP 21 31 48.8 -0.4
baz=316
KLU **Klutina** 148.76 20 P PKiKP 21 31 49.2 -0.2
baz=322
M26K **Nabesna, AK** 148.80 17 P PKPbc 21 31 48.5 +0.4
baz=328
GLI **Glacier Island** 148.89 22 P PKiKP 21 31 49.2 -0.4
baz=320
Y49A **Blount Mountai** 149.04 281 PKPbc 21 31 48.9 -0.6

N25K	**Chitina, Valde**	**149.05**	**19**	P		**PKiKP**	**21 31 49.6**	**-0.5**
	baz=325								
KDAK	**Kodiak Island**	**149.06**	**30**	PKPbc		**PKPbc**	**21 31 49.1**	**+0.4**
	comp=Z,8.2nm,0.9s,baz=195,slow=20,SNR=1.8								
M27K	**Edge Creek, AK**	**149.11**	**16**	P		**PKiKP**	**21 31 49.9**	**-0.3**
	baz=330								
L29M	**L29M**	**149.22**	**13**	P		**PKiKP**	**21 31 50.6**	**+0.3**
	baz=336								
P23K	**Montague Islan**	**149.47**	**23**	P		**PKiKP**	**21 31 50.4**	**-0.4**
	baz=319								
EYAK	**Cordova Ski Ar**	**149.57**	**21**	P		**PKiKP**	**21 31 50.5**	**-0.5**
	baz=322								
BMRM	**Bremner River**	**149.57**	**20**	P		**PKiKP**	**21 31 50.7**	**-0.4**
	baz=324								
MCARA	**McCarthy VSAT**	**149.66**	**18**	P		**PKiKP**	**21 31 51.9**	**+0.7**
	baz=327								
M29M	**Somme Creek**	**149.77**	**14**	P		**PKiKP**	**21 31 52.0**	**+0.4**
	baz=335								
M30M	**Minto, Yukon**	**149.95**	**12**	P		**PKiKP**	**21 31 51.9**	**+0.1**
	baz=338								
T47A	**Sharon Grove**	**150.01**	**287**	PKPbc		**PKPbc**	**21 31 51.1**	**-0.7**
CRQE	**Cirque**	**150.17**	**19**	P		**PKPbc**	**21 31 52.0**	**+0.4**
	baz=326								
TBO	**Thunder Bay**	**150.41**	**311**			**PKPdf**	**21 31 46.8**	**-0.3**
CTG	**Chitna Glacier**	**150.44**	**17**	P		**PKiKP**	**21 31 53.2**	**+0.2**
	baz=329								
WRGLY	**Wrigley**	**150.45**	**360**	P		**PKiKP**	**21 31 53.5**	**+0.8**
	baz=0.4								
KAIM	**Kayak Island**	**150.47**	**21**	P		**PKiKP**	**21 31 53.4**	**+0.5**
	baz=323								
WVT	**Waverly**	**150.51**	**285**			**PKPbc**	**21 31 52.0**	**-1.1**
WVT	**Waverly**	**150.51**	**285**	PKIKP		**PKPbc**	**21 31 52.0**	**-1.1**
YUK8	**Steele Glacier**	**150.54**	**16**	P		**PKiKP**	**21 31 53.5**	**+0.1**
	baz=332								
YKAW3	**Yellowknife Wh**	**150.54**	**351**			**PKPbc**	**21 31 52.4**	**+0.2**
YKA	**Yellowknife Ar**	**150.60**	**351**			**PKPdf**	**21 31 46.3**	**-0.6**
YKA	**Yellowknife Ar**	**150.60**	**351**	PKPbc		**PKPbc**	**21 31 52.6**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=78,slow=11,SNR=3.6								
YKA	**Yellowknife Ar**	**150.60**	**351**	PKIKP		**PKPdf**	**21 31 46.3**	**-0.6**
BGLC	**Bering Glacier**	**150.64**	**20**	P		**PKiKP**	**21 31 54.2**	**+1.0**
	baz=325								
MMPY	**Sheldon Lake,**	**150.68**	**7**	P		**PKiKP**	**21 31 54.1**	**+0.7**
	baz=347								
M31M	**Drury Creek, Y**	**150.69**	**10**	P		**PKiKP**	**21 31 53.9**	**+0.5**
	baz=342								
YUK4	**Talbot Arm**	**150.72**	**15**	P		**PKiKP**	**21 31 54.5**	**+0.8**
	baz=334								
O28M	**Mount Upton**	**150.89**	**17**	P		**PKiKP**	**21 31 54.0**	**-0.1**
	baz=331								
N30M	**Aishikik Lake**	**150.93**	**13**	P		**PKiKP**	**21 31 54.4**	**+0.5**
	baz=337								
MESA	**MESA**	**150.96**	**19**	P		**PKiKP**	**21 31 54.7**	**+0.5**
	baz=327								
N31M	**Braeburn, Yuko**	**151.14**	**12**	P		**PKiKP**	**21 31 54.4**	**+0.1**
	baz=339								
YUK6	**Outpost Mounta**	**151.15**	**15**	P		**PKiKP**	**21 31 55.0**	**+0.4**
	baz=334								
HYT	**Haines Junctio**	**151.43**	**14**	P		**PKiKP**	**21 31 55.5**	**+0.5**
	baz=335								
PINM	**Pinnacle**	**151.47**	**17**	P		**PKiKP**	**21 31 56.2**	**+1.1**
	baz=330								
O29M	**Mount Kennedy**	**151.68**	**16**	P		**PKiKP**	**21 31 55.7**	**+0.1**
	baz=333								
O30N	**Mendenhall**	**151.76**	**13**	P		**PKiKP**	**21 31 56.0**	**+0.4**
	baz=338								
G40A	**Rib Lake**	**151.81**	**304**			**PKPdf**	**21 31 48.6**	**-0.8**
N32M	**Quiet Lake**	**151.88**	**10**	P		**PKiKP**	**21 31 56.8**	**+0.9**
	baz=343								
TGTN	**Hyland Airport**	**152.01**	**5**	P		**PKiKP**	**21 31 56.6**	**+0.5**
	baz=352								
PNL	**Peninsula**	**152.05**	**17**	P		**PKiKP**	**21 31 56.8**	**+0.6**
	baz=331								
WHY	**Whitehorse**	**152.07**	**12**	P		**PKiKP**	**21 31 57.3**	**+0.9**
	baz=340								
P30M	**Million Dollar**	**152.19**	**14**	P		**PKiKP**	**21 31 57.8**	**+1.3**
	baz=336								
P29M	**Windy Craggy**	**152.47**	**15**	P		**PKiKP**	**21 31 58.0**	**+0.9**
	baz=334								
PLBC	**Pleasant Camp**	**152.92**	**14**	P		**PKiKP**	**21 31 59.2**	**+1.2**
	baz=336								
SKAG	**Skagway**	**153.12**	**13**	P		**PKiKP**	**21 31 59.5**	**+1.1**
	baz=338								
P32M	**Atlin**	**153.28**	**11**	P		**PKiKP**	**21 31 59.7**	**+0.9**
	baz=341								
WTLY	**Watson Lake, Y**	**153.37**	**6**	P		**PKiKP**	**21 32 00.7**	**+1.7**
	baz=350								
ULM	**Lac du Bonnet**	**153.68**	**317**	PKPbc		**PKPbc**	**21 31 59.4**	**-0.4**
	comp=Z,12nm,0.9s,baz=71,slow=3.1,SNR=11								
R33M	**Jennings River**	**153.86**	**8**	P		**PKiKP**	**21 32 01.8**	**+1.7**
	baz=346								
Q32M	**Nakina River**	**154.11**	**10**	P		**PKiKP**	**21 32 01.6**	**+0.9**
	baz=343								
S31K	**Pelican**	**154.32**	**15**	P		**PKiKP**	**21 32 02.1**	**+1.3**
	baz=335								
TOAD	**Toad River Com**	**154.82**	**2**	P		**PKiKP**	**21 32 03.3**	**+1.3**
	baz=357								
DLBC	**Dease Lake**	**154.90**	**8**	P		**PKiKP**	**21 32 03.7**	**+1.5**
	baz=347								
S34M	**Telegraph Cree**	**155.28**	**9**	P		PKPdf	21 32 03.7	+10
	baz=345								
SIT	**Sitka**	**155.35**	**15**	P		PKPdf	21 32 03.6	+10
	baz=336								
TXAR	**Lajitas Array**	**162.30**	**261**	PKP		**PKPdf**	**21 32 03.4**	**+0.1**
	comp=Z,1.4nm,1.0s,baz=134,slow=3.6,SNR=9.2								
TXAR				PKPab		**PKPab**	**21 32 51.7**	**+1.1**
	comp=Z,2.1nm,1.1s,baz=126,slow=6.4,SNR=4.5								
NEW	**Newport**	**164.61**	**343**	PKP		**PKPdf**	**21 32 04.0**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=54,slow=4.3,SNR=3.7								
NEW	**Newport**	**164.61**	**343**	PKIKP		**PKPdf**	**21 32 04.0**	**-0.8**
PD31	**Pinedale Array**	**165.63**	**313**			**PKPdf**	**21 32 05.7**	**-0.4**
PDAR	**Pinedale Array**	**165.63**	**313**	PKP		**PKPdf**	**21 32 06.5**	**+0.3**
	comp=Z,3.3nm,1.1s,baz=132,slow=2.2,SNR=14								
PDAR				PKPab		**PKPab**	**21 33 04.7**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=33,slow=3.0,SNR=1.6								
PDAR				PP		**PP**	**21 36 53.8**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=54,slow=2.6,SNR=3.9								
NVAR	**Mina Array Bea**	**173.52**	**318**	PKP		**PKPdf**	**21 32 11.9**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=187,slow=1.1,SNR=8.2								
NVAR				PKPab		**PKPab**	**21 33 41.0**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=180,slow=7.3,SNR=2.8								

IDC ***24*** *21:16:29.0±1.2, 18°.41N×39°.79E, h0km, mb3.6/7, mbtmp3.6/7, ML2.3/1, Error ellipse: s-maj=35.9km s-min=20.5km azr=72.0*

ISC 24 21:16:30.5±0.9, 18°.42N±0°.10×39°.8E±0°.2, h10km, n8, σ1§26/9, mb3.8/6, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**7.47**	**156**	Pn	**Pn**	**21 18 18.1**	**-1.6**
	baz=8.1,slow=14,SNR=3.5						
ATD				Sn	**Sn**	**21 19 46.5**	**+1.9**
	baz=102,slow=22,SNR=0.8						
MBAR	**Mbarara**	**20.88**	**206**	P	**P**	**21 21 13.1**	**-0.1**
	2.4nm,0.3s,baz=32,slow=17,SNR=3.6						
	2.4nm,0.3s						
BRTR	**Keskin Array B**	**21.88**	**347**	P	**P**	**21 21 22.5**	**-1.2**
	0.4nm,0.7s,baz=170,slow=8.8,SNR=7.9						
	0.4nm,0.7s						
GERES	**GERESS Array B**	**36.94**	**331**	P	**P**	**21 23 40.2**	**+0.4**
	0.4nm,0.9s,baz=125,slow=7.9,SNR=3.4						
	0.4nm,0.9s						
HFS	**Hagfors**	**45.67**	**342**	P	**P**	**21 24 52.4**	**+1.2**
	1.2nm,0.7s,baz=140,slow=11,SNR=2.0						
	1.2nm,0.7s						
NOA	**NORSAR Array B**	**47.13**	**342**	P	**P**	**21 25 02.8**	**+0.1**
	0.8nm,0.9s,baz=141,slow=8.7,SNR=2.6						
	0.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**55.91**	**80**	P	**P**	**21 26 08.8**	**-0.3**
	0.2nm,0.2s,baz=288,slow=9.2,SNR=1.4						
	0.2nm,0.2s						
SONM	**Songino Array**	**60.94**	**45**	P	**P**	**21 26 44.3**	**+0.4**
	0.6nm,0.8s,baz=264,slow=7.1,SNR=2.7						
	0.6nm,0.8s						

BJI ***24*** *21:19:44.9, 33°.73S×55°.95E, h14km, mB6.0/77, mb5.4/78, Ms6.0/93, Ms7 5.9/89*

MOS ***24*** *21:19:45.5±0.8, 33°.81S×56°.40E, h10km, mb5.9/98, MS5.7/83, Error ellipse: s-maj=9.2km s-min=4.5km azr=97.4*

IDC ***24*** *21:19:46.0±0.3, 33°.73S×56°.50E, h0km, mb5.3/40, mbtmp5.2/41, ML4.8/1, MS5.6/67, Error ellipse: s-maj=12.6km s-min=10.1km azr=60.0*

NEIC ***24*** *21:19:47.8, 33°.81S×56°.24E, h10km*

NEIC ***24*** *21:19:47.9, 33°.90S×56°.11E, h12km, Moment Tensor Solution. Duration: 4s1.0 Moment tensor: Scale 10¹⁸ Nm; Mrr=1.20; Mθθ 1.09; Mφφ 0.11; Mrθ -0.78; Mrφ 0.04; Mθφ-0.45; Fault plane solution: M0 1.46000×10¹⁸ NP1: φs278.55000°, δ28.47000°, λ-66.49000°. NP2:φs72.22000°, δ64.08000°, λ-102.21000°. Principal axes: T 1.3578, Plg18.0000°, Azm171.0000°; N 0.1903, Plg11.0000°, Azm78.0000°; P -1.5481, Plg69.0000°, Azm318.0000°;*

ISC-PP ***24*** *21:19:47, 33°.82S×56°.30E, h13km, Mwppsm6.2, Moment Tensor Solution. s24 Moment tensor: Scale 10¹⁸Nm; Mrr-0.42±.06; Mθθ 0.86±.18; Mφφ 0.07±.20; Mrθ 0.07±.19; Mθφ 0.12±.14; Mφr-0.11±.30; Fault plane solution: M0 2.95000×10¹⁸ NP1:φs264.10000°, δ49.30000°, λ250.80000°. NP2:φs112.20000°, δ44.30000°, λ-69.10000°.*

NEIC ***24*** *21:19:47.9, 33°.80S×56°.23E, h12km*

IPGP ***24*** *21:19:47.0, 33°.82S×56°.25E, h6km, Mw5.9, Fault plane solution: NP1:φs276.00000°, δ31.00000°, λ-77.00000°. NP2:φs81.00000°, δ60.00000°, λ-98.00000°.*

NEIC ***24*** *21:19:47.4±1.4, 33°.82S±0°.08×56°.30E±0°.10, h10km±1km, mb5.8/226, Ms_20 5.9/679, Mwb5.9/56, Mww6.0/40, Error ellipse: s-maj=14.1km s-min=12.7km az=256.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-7.01; Mθθ8.77; Mφφ-1.76; Mrθ-0.21; Mrφ0.60; Mθr-0.07; Fault plane solution: M0 8.06000×10¹⁷ NP1: φs267.37000°, δ44.23000°, λ-89.13000°. NP2:φs86.15000°, δ45.78000°, λ-90.85000°. Principal axes: T 8.8022, Plg1.0000°, Azm177.0000°; N -1.7895, Plg1.0000°, Azm87.0000°; P -7.0127, Plg89.0000°, Azm319.0000°;*

GCMT ***24*** *21:19:50.4±0.1, 33°.76S×56°.20E, h12km, MW6.0/171, Moment Tensor Solution. s148,c272; s171,c634; Duration: 2s4 Moment tensor: Scale 10¹⁸Nm; Mrr-1.22±.01; Mθθ 1.21±.01; Mφφ 0.01±.01; Mrθ 0.19±.01; Mθφ 0.08±.01; Mφr 0.14±.02; Best double couple: M0 1.24100×10¹⁸ NP1:φs92.00000°, δ41.00000°, λ-81.00000°. NP2:φs260.00000°, δ50.00000°, λ-97.00000°. Principal axes: T 1.2320, Plg5.0000°, Azm356.0000°; N 0.0190, Plg6.0000°, Azm265.0000°; P -1.2490, Plg83.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 24 21:19:47.5±0.2, 33°.82S±0°.03×56°.29E±0°.04, h10km, h10km:pP-P, n1773, σ1§54/1602, mb5.7/366, MS5.9/488, 103C-91D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**11.97**	**315**		**Pn**	**21 22 37.1**	**-1.1**
FOMA	**Nahampoana Res**	**11.97**	**315**	⇑P	**Pn**	**21 22 37.9**	**-0.4**
H04N2	**CROZET ISLANDS**	**12.80**	**194**	Pn	**Pn**	**21 22 47.6**	**-1.6**
	baz=6.8,slow=12						
H04N2				T	T	21 35 42.5	
	baz=17,slow=75,SNR=450						
H04N1	**CROZET ISLANDS**	**12.80**	**194**	Pn	**Pn**	**21 22 47.7**	**-1.6**
	baz=6.8,slow=12						
H04N1				T	T	21 35 42.0	
	baz=17,slow=75,SNR=426						
H04N3	**CROZET ISLANDS**	**12.82**	**194**	Pn	**Pn**	**21 22 48.1**	**-1.4**
	baz=6.8,slow=12						
H04N3				T	T	21 35 42.5	
	baz=17,slow=75,SNR=523						
CRZF	**Crozet Islands**	**13.04**	**194**	Pn	**Pn**	**21 22 48.5**	**-4.2**
H04S1	**CROZET ISLANDS**	**13.43**	**193**	Pn	**Pn**	**21 22 56.7**	**-1.2**
	baz=53,slow=20						
H04S1				T	T	21 36 53.0	
	baz=18,slow=76,SNR=91						
H04S3	**CROZET ISLANDS**	**13.43**	**193**	Pn	**Pn**	**21 22 57.3**	**-0.6**
	baz=53,slow=20						
H04S3				T	T	21 36 55.8	
	baz=18,slow=76,SNR=126						
H04S2	**CROZET ISLANDS**	**13.44**	**193**	Pn	**Pn**	**21 22 58.9**	**+0.9**
	baz=53,slow=20						
H04S2				T	T	21 36 58.2	
	baz=18,slow=76,SNR=90						
VOI	**Vohitsoka**	**14.53**	**322**		**Pn**	**21 23 12.1**	**-1.2**
VOI	**Vohitsoka**	**14.53**	**322**	⇑P	**Pn**	**21 23 13.5**	**+0.2**
ROCAM	**Rodrigues Isla**	**15.36**	**26**		**Pn**	**21 23 22.9**	**-1.4**
ABPO	**Ambohimpanom**	**16.81**	**329**		**Pn**	**21 23 42.5**	**-0.8**
ABPO	**Ambohimpanom**	**16.81**	**329**	P	**Pn**	**21 23 42.5**	**-0.8**
ABPO				pmax	pmax		
	comp=Z,215nm,1.5s						
ABPO	**Ambohimpanom**	**16.81**	**329**	⇑P	**Pn**	**21 23 43.8**	**+0.6**
OPO	**Ambohidratompo**	**17.23**	**330**	P	**P**	**21 23 49.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=130,slow=14,SNR=29						
OPO				S	**Sn**	**21 26 54.9**	**-5.3**
	comp=Z,13nm,0.5s,baz=16,slow=7.4,SNR=5.1						
OPO				LR	LR	21 29 08.0	
	comp=Z,30µm,18.1s,baz=20,slow=33						
	comp=Z,53nm,1.0s						
AIS	**Amsterdam Isla**	**17.70**	**109**	P	**Pn**	**21 23 53.2**	**-0.9**
PAF	**Port-aux-Franc**	**18.64**	**151**		**P**	**21 24 02.7**	**-2.5**
PAF				IAmb	IAmb	21 24 10.9	
	comp=Z,1µm,1.6s						
PAF	**Port-aux-Franc**	**18.64**	**151**	P	**P**	**21 24 02.7**	**-2.5**
PAF				pmax	pmax		
	comp=Z,1µm,1.6s						
SBV	**Sambava**	**21.08**	**343**	P	**P**	**21 24 33.9**	**+1.9**
	SNR=22						
POGA	**Pongola**	**22.10**	**280**		**P**	**21 24 42.7**	**-0.3**
POGA				IAmb	IAmb	21 24 53.9	
	comp=Z,501nm,1.2s						
POGA	**Pongola**	**22.10**	**280**	⇓P	**P**	**21 24 43.3**	**+0.3**
GRHM	**Grahamstown, E**	**24.90**	**263**	P	**P**	**21 25 10.0**	**-0.7**
GRHM	**Grahamstown, E**	**24.90**	**263**	⇑P	**P**	**21 25 12.6**	**+1.9**
ZOMB	**Zomba**	**26.35**	**309**	⇑sP	sP	21 25 31.4	+4.4
BOSA	**Boshof**	**26.98**	**273**		**P**	**21 25 28.7**	**-0.9**
BOSA				IAmb	IAmb	21 25 37.4	
	comp=Z,293nm,1.4s						
BOSA	**Boshof**	**26.98**	**273**	P	**P**	**21 25 29.3**	**-0.4**
	comp=Z,58nm,1.0s,baz=120,slow=9.5,SNR=14						
BOSA				LR	LR	21 34 10.4	
	comp=Z,7µm,22.0s,baz=114,slow=32						
	comp=Z,58nm,1.0s						
BOSA	**Boshof**	**26.98**	**273**	P	**P**	**21 25 28.7**	**-0.9**
BOSA				pmax	pmax		
	comp=Z,293nm,1.5s						
BOSA	**Boshof**	**26.98**	**273**	⇓P	**P**	**21 25 29.1**	**-0.6**
MREMI	**Moremi**	**27.69**	**286**	*i* P	**P**	**21 25 35.0**	**-0.9**
MREMI	**Moremi**	**27.69**	**286**	P	**P**	**21 25 34.5**	**-1.5**
MATP	**Matopo**	**28.00**	**291**	LR	LR	21 35 10.5	
	comp=Z,18µm,20.9s,baz=124,slow=33						
LBTB	**Lobatse**	**28.06**	**280**		**P**	**21 25 37.8**	**-1.5**
LBTB	**Lobatse**	**28.06**	**280**	LR	LR	21 35 02.2	
	comp=Z,6µm,21.2s,baz=112,slow=32						
LBTB	**Lobatse**	**28.06**	**280**	P	**P**	**21 25 37.8**	**-1.5**
LBTB				pmax	pmax		
	comp=Z,140nm,1.3s						
LBTB	**Lobatse**	**28.06**	**280**	⇑P	**P**	**21 25 38.7**	**-0.5**
MAKGR	**Makgori**	**28.38**	**278**	*i* P	**P**	**21 25 41.4**	**-0.8**
MAKGR	**Makgori**	**28.38**	**278**	P	**P**	**21 25 40.7**	**-1.5**
BROLN	**Tlhalogang**	**28.54**	**289**	*i* P	**P**	**21 25 42.5**	**-1.1**
LPHEP	**Lephephe**	**28.58**	**283**	*i* P	**P**	**21 25 43.4**	**-0.6**
LPHEP	**Lephephe**	**28.58**	**283**	P	**P**	**21 25 42.9**	**-1.1**
LPHEP				IAmb	IAmb	21 25 58.6	
	comp=Z,243nm,1.1s						
MSEY	**Mahe Island**	**29.01**	**358**	IAMs_20	IAMs_20	21 33 53.4	
	comp=Z,24µm,19.0s						
ALKP	**Alkanpan, Nort**	**29.09**	**268**	⇑P	**P**	**21 25 49.2**	**+0.8**
KDWAN	**Kaudwane**	**29.55**	**282**	*i* P	**P**	**21 25 52.0**	**-0.6**
KDWAN	**Kaudwane**	**29.55**	**282**	P	**P**	**21 25 52.0**	**-0.6**
KDWAN				IAmb	IAmb	21 26 08.0	
	comp=Z,264nm,1.4s						
KHWEE	**KHWEE**	**29.61**	**286**	*i* P	**P**	**21 25 52.5**	**-0.6**
KHWEE	**KHWEE**	**29.61**	**286**	P	**P**	**21 25 51.9**	**-1.2**
KHWEE				IAmb	IAmb	21 26 51.9	
	comp=Z,233nm,1.4s						
SKOMA	**Sekoma**	**29.64**	**280**	*i* P	**P**	**21 25 52.0**	**-1.3**
SUR	**Sutherland**	**29.67**	**263**		**P**	**21 25 52.8**	**-0.9**
SUR				IAmb	IAmb	21 25 58.3	
	comp=Z,335nm,2.0s						
SUR	**Sutherland**	**29.67**	**263**	P	**P**	**21 25 53.0**	**-0.6**
SUR				P	**P**	**21 25 53.0**	**-0.6**
H08S1	**Diego Carcia H**	**30.03**	**34**	T	T	21 57 11.1	
	baz=208,slow=75,SNR=934						
H08S2	**Diego Garcia H**	**30.04**	**34**	T	T	21 57 12.2	
	baz=208,slow=75,SNR=141						
H08S3	**Diego Garcia H**	**30.05**	**34**	T	T	21 57 12.5	
	baz=208,slow=75,SNR=855						
PHPEN	**Phepeng**	**30.12**	**277**	*i* P	**P**	**21 25 56.9**	**-0.7**
PHPEN	**Phepeng**	**30.12**	**277**	P	**P**	**21 25 56.4**	**-1.2**
DGAR	**Diego Garcia**	**30.23**	**33**	IAMs_20	IAMs_20	21 34 30.5	
	comp=Z,36µm,20.0s						
DGAR	**Diego Garcia**	**30.23**	**33**	*i* P	**P**	**21 25 58.9**	**+0.5**
DGAR				pmax	pmax		
	comp=Z,305nm,1.7s						
DGAR				MLR	MLR		
	comp=Z,28µm,18.0s						
PHDHD	**Phuduhudu**	**31.23**	**288**	P	**P**	**21 26 06.4**	**-1.1**
PHDHD				IAmb	IAmb	21 26 11.4	
	comp=Z,156nm,1.4s						
LSZ	**Lusaka**	**31.37**	**299**		**P**	**21 26 08.0**	**-0.7**
LSZ	**Lusaka**	**31.37**	**299**	LR	LR	21 36 55.2	
	comp=Z,12µm,22.0s,baz=134,slow=33						
LSZ	**Lusaka**	**31.37**	**299**	P	**P**	**21 26 09.2**	**+0.5**
LSZ				P	**P**	**21 26 09.2**	**+0.5**
LSZ				P	**P**	**21 26 09.2**	**+0.5**
LSZ	**Lusaka**	**31.37**	**299**	P	**P**	**21 26 08.0**	**-0.7**
LSZ				pmax	pmax		
	comp=Z,90nm,1.6s						
LSZ				MLR	MLR		
	comp=Z,13µm,22.0s						
LSZ	**Lusaka**	**31.37**	**299**	⇓P	**P**	**21 26 08.8**	**+0.1**
KGCAE	**Kacgae**	**31.79**	**281**	*i* P	**P**	**21 26 12.2**	**-0.2**
KGCAE	**Kacgae**	**31.79**	**281**	P	**P**	**21 26 11.7**	**-0.7**
KGCAE				IAmb	IAmb	21 26 21.6	
	comp=Z,211nm,1.1s						
LKGWB	**Lokgwabe**	**32.04**	**278**	P	P	21 26 09.8	-4.8
KSANE	**Kasane**	**32.08**	**292**	*i* P	**P**	**21 26 14.1**	**-0.9**
KSANE	**Kasane**	**32.08**	**292**	P	**P**	**21 26 14.0**	**-0.9**
KSANE				IAMs_20	IAMs_20	21 37 19.3	
	comp=Z,19µm,20.0s						
GRTLG	**Ghanzi**	**33.31**	**283**	*i* P	**P**	**21 26 24.9**	**-0.8**
GRTLG	**Ghanzi**	**33.31**	**283**	P	**P**	**21 26 24.8**	**-0.9**
GRTLG				IAmb	IAmb	21 26 34.4	
	comp=Z,118nm,1.2s						
KOOLE	**Kule**	**33.38**	**279**	*i* P	**P**	**21 26 25.8**	**-0.5**
KOOLE	**Kule**	**33.38**	**279**	P	**P**	**21 26 25.2**	**-1.1**
MAW	**Mawson**	**34.04**	**176**	P	**P**	**21 26 30.7**	**-0.7**
	comp=Z,0.0nmcomp=Z,7.2nm,1.2s						
MAW	**Mawson**	**34.04**	**176**	P	**P**	**21 26 31.6**	**+0.3**
	comp=Z,14nm,0.8s,baz=28,slow=9.3,SNR=18						
MAW				LR	LR	21 36 44.5	
	comp=Z,22µm,21.1s,baz=355,slow=30						
	comp=Z,14nm,0.8s						
MAW	**Mawson**	**34.04**	**176**	⇑P	**P**	**21 26 31.2**	**-0.2**
XAUDM	**Khaudum**	**34.67**	**287**	P	**P**	**21 26 36.1**	**-1.4**
KIBK	**Kibwezi**	**35.66**	**328**	P	**P**	**21 26 46.1**	**+0.1**
KIBK	**Kibwezi**	**35.66**	**328**	P	**P**	**21 26 45.3**	**-0.7**
KIBK				IAmb	IAmb	21 26 56.1	
	comp=Z,142nm,1.4s						
KIBK				IAMs_20	IAMs_20	21 39 23.5	
	comp=Z,20µm,20.0s						
KIBK	**Kibwezi**	**35.66**	**328**	P	**P**	**21 26 47.5**	**+1.5**
	SNR=25						
WIN	**Windhoek**	**36.12**	**278**	P	**P**	**21 26 49.3**	**-0.8**
WIN				IAmb	IAmb	21 27 06.1	
	comp=Z,166nm,1.5s						
WIN	**Windhoek**	**36.12**	**278**	P	**P**	**21 26 49.3**	**-0.8**
WIN				pmax	pmax		
	comp=Z,166nm,1.5s						
WIN				MLR	MLR		
	comp=Z,7µm,22.0s						
SYO	**Syowa Base**	**36.48**	**190**	⇑*i*P	**P**	**21 26 52.6**	**+0.3**
SYO	**Syowa Base**	**36.48**	**190**	⇑epP	pP	21 26 54.2	-0.4
SYO	**Syowa Base**	**36.48**	**190**	⇑sP	sP	21 26 55.6	+0.1
SYO	**Syowa Base**	**36.48**	**190**	⇑PnPn	PnPn	21 28 14.0	-0.7
KMBO	**Kilima Mbogo**	**37.09**	**327**	P	**P**	**21 26 59.5**	**+1.0**
	comp=Z,37nm,0.4s,baz=194,slow=12,SNR=4.2						
KMBO				LR	LR	21 40 39.0	
	comp=Z,19µm,19.7s,baz=155,slow=34						
	comp=Z,37nm,0.4s						
TSUM	**Tsumeb**	**37.34**	**283**	P	**P**	**21 26 59.6**	**-0.8**
TSUM	**Tsumeb**	**37.34**	**283**	LR	LR	21 40 55.6	
	comp=Z,12µm,19.7s,baz=120,slow=34						
TSUM	**Tsumeb**	**37.34**	**283**	⇑P	**P**	**21 27 00.5**	**+0.1**
KAAM	**Kaadhehdhoo**	**37.57**	**28**	IAMs_20	IAMs_20	21 38 11.9	
	comp=Z,19µm,20.0s						
MBAR	**Mbarara**	**40.81**	**319**	P	**P**	**21 27 29.4**	**-0.1**
MBAR	**Mbarara**	**40.81**	**319**	P	**P**	**21 27 30.9**	**+1.4**
	comp=Z,3.8nm,0.7s,baz=134,slow=7.4,SNR=11						
MBAR				LR	LR	21 44 03.2	
	comp=Z,28µm,18.1s,baz=145,slow=36						
	comp=Z,3.8nm,0.7s						
MBAR	**Mbarara**	**40.81**	**319**	P	**P**	**21 27 31.2**	**+1.7**
MBAR				P	**P**	**21 27 31.2**	**+1.7**
MBAR				P	**P**	**21 27 31.2**	**+1.7**
MBAR	**Mbarara**	**40.81**	**319**	P	**P**	**21 27 29.4**	**-0.1**
MBAR				pmax	pmax		
	comp=Z,107nm,1.9s						
MBAR				MLR	MLR		
	comp=Z,28µm,18.0s						
LODK	**Lodwar**	**41.98**	**328**

comp=Z,79nm,1.0s,baz=59,slow=6.8
VNA2 ⇓S S 21 35 51.6 +1.4
baz=331,slow=12
VNA1 Neumayer--Stat 50.09 203 ⇓P P 21 28 42.9 +0.7
comp=Z,73nm,1.2s
NWAO Narrogin (SRO) 50.23 107 LR LR 21 44 51.1
comp=Z,7µm,21.7s,baz=256,slow=30
NWAO Narrogin (SRO) 50.23 107 P P 21 28 48.2 +4.4
BLDU Ballidu 50.58 104 P P 21 28 47.1 +0.6
comp=Z,42nm,2.8s
BLDU Ballidu 50.58 104 P P 21 28 49.0 +2.5
MORW Morawa 50.59 102 P P 21 28 45.7 -0.8
comp=Z,42nm,1.9s
MORW Morawa 50.59 102 P P 21 28 46.2 -0.4
MORW Morawa 50.59 102 P P 21 28 48.8 +2.2
MORW Morawa 50.59 102 ⇑P P 21 28 46.4 -0.2
VNA3 Neumayer Olymp 50.66 202 ⇓P P 21 28 46.7 +0.2
comp=Z,67nm,1.0s
VNA3 ⇓S S 21 36 02.3 +1.2
WHFO Wadi Hawf 51.50 357 P P 21 28 56.4 +3.0
WHFO P P 21 28 56.4 +3.0
SHAO Shalim 51.55 359 P P 21 28 55.1 +1.3
GIRL Giralia 51.66 93 P P 21 28 54.8 +0.1
comp=Z,82nm,1.3s
GIRL Giralia 51.66 93 P P 21 28 54.0 -0.7
DOK Doka 52.18 357 P P 21 28 60.0 +1.6
DOK P P 21 28 60.0 +1.6
GSI Gunungsitoli 52.20 57 P P 21 28 58.3 -0.4
KRJI Kerinci 52.65 63 P P 21 29 03.1 +0.8
PDSI Padang 52.71 61 P P 21 29 03.3 +0.7
comp=Z,2µmcomp=Z,101nm,1.3s
KASI Kota Agung 52.75 69 P P 21 29 02.6 -0.3
comp=Z,2µmcomp=Z,98nm,1.2s
CGJI Cibinong 53.02 71 P P 21 29 04.8 0.0
comp=Z,2µmcomp=Z,60nm,2.2s
MDSI Maura Dua 53.16 68 P P 21 29 06.2 +0.4
MNSI Mandailing Nat 53.25 59 P P 21 29 07.4 +0.9
comp=Z,3µmcomp=Z,2µmcomp=Z,86nm,1.2s
SKJI Sukabumi 53.46 72 P P 21 29 09.0 +0.9
comp=Z,2µmcomp=Z,4µmcomp=Z,163nm,1.2s
MLSI Meulaboh, Aceh 53.56 53 P P 21 29 10.7 +1.9
comp=Z,3µmcomp=Z,95nm,1.6s
MEEK Meekatharra 53.62 100 P P 21 29 11.5 +2.3
KAD Karad 53.63 21 *e*P P 21 29 07.2 -2.0
KAD IAmb IAmb 21 29 12.9
comp=Z,105nm,1.3s
SBJI Serang 53.66 71 P P 21 29 15.1 +5.6
CNJI Cibinong 53.73 73 P P 21 29 10.6 +0.5
comp=Z,63nm,1.4s
DBJI Dramaga 53.88 72 P P 21 29 12.6 +1.4
comp=Z,4µmcomp=Z,5µmcomp=Z,170nm,1.5s
KCSI Kotacane, Aceh 53.93 55 P P 21 29 11.9 +0.4
comp=Z,2µmcomp=Z,1µmcomp=Z,33nm,1.4s
BKNI Bangkinang 53.98 61 P P 21 29 11.3 -0.6
BKNI Bangkinang 53.98 61 P P 21 29 11.8 0.0
BKNI Bangkinang 53.98 61 P P 21 29 13.5 +1.6
BKNI Bangkinang 53.98 61 P P 21 29 13.7 +1.8
CMBY CAMPBELL BAY 54.04 48 *e*P P 21 29 10.9 -1.4
CMBY IAmb IAmb 21 29 17.5
comp=Z,302nm,1.4s
BBJI Bungbulang 54.06 73 P P 21 29 13.7 +1.1
PSI Prapat 54.20 57 LR LR 21 47 06.7
comp=Z,4µm,21.1s,baz=226,slow=30
LEM Lembang 54.41 72 P P 21 29 14.8 -0.4
comp=Z,56nm,0.9s,baz=206,slow=8.4,SNR=17
LEM LR LR 21 47 31.7
comp=Z,3µm,20.8s,baz=204,slow=31
comp=Z,56nm,0.9s
LEM Lembang 54.41 72 P P 21 29 16.2 +1.0
comp=Z,3µmcomp=Z,100nm,1.2s
MHTO MHTO 54.52 2 P P 21 29 16.0 +0.4
LHMI Lhok Sumawe 54.63 53 P P 21 29 16.6 0.0
LHMI IAmb IAmb 21 29 36.5
comp=Z,109nm,1.0s
LHMI Lhok Sumawe 54.63 53 P P 21 29 16.8 +0.2
comp=Z,6µmcomp=Z,4µmcomp=Z,107nm,1.0s
POO Poona 54.68 21 *e*P P 21 29 14.6 -2.3
POO IAmb IAmb 21 29 20.7
comp=Z,104nm,1.0s
KPJI Karang Pucung 55.16 74 P P 21 29 21.0 +0.6
comp=Z,3µmcomp=Z,2µmcomp=Z,72nm,1.7s
VJD Vijayawada 55.18 29 *e*P P 21 29 18.3 -2.1
HYB Hyderabad 55.19 26 *e*P P 21 29 20.1 -0.5
HYB IVmB_BB 21 29 23.8
comp=Z,2µm,2.7s
HYB *e*PcP **PcP** 21 30 21.1 -0.5
HYB *e*PP **PP** 21 31 23.7 -0.6
HYB *e*ScP **ScP** 21 34 19.8 -0.6
HYB *e*PcS **PcS** 21 34 21.1 -0.7
HYB *e*S **S** 21 37 04.5 +0.5
HYB IVMs_BB IVMs_BB 21 50 39.7
comp=Z,4µm,15.4s
JLN Jalan Bani Buh 55.73 4 P P 21 29 25.7 +1.4
JLN P P 21 29 25.7 +1.4
DSRI Dabo 56.04 64 P P 21 29 26.4 -0.4
comp=Z,2µmcomp=Z,2µmcomp=Z,89nm,1.2s
UGM Wanagama 56.10 76 P P 21 29 26.6 -0.7
UGM Wanagama 56.10 76 P P 21 29 27.7 +0.4
comp=Z,147nm,2.0s
UMZA Um Al Zommool 56.23 359 P P 21 29 27.6 -0.2
UMZA P P 21 29 27.6 -0.2
QSPA South Pole Qui 56.36 180 P P 21 29 29.6 +1.1
QSPA South Pole Qui 56.36 180 IAMs_20 IAMs_20 21 51 10.2
comp=Z,9µm,21.0s
QSPA South Pole Qui 56.36 180 P P 21 29 30.5 +1.9
comp=Z,102nm,1.1s,baz=270,slow=2.5,SNR=59
QSPA LR LR 21 51 20.5
comp=Z,9µm,21.6s,baz=269,slow=34
QSPA PKPPKP P'P'df 21 59 25.3 -7.7
comp=Z,3.1nm,1.1s,baz=170,slow=1.3,SNR=3.1
comp=Z,102nm,1.1s
PCJI Pacitan 56.46 76 P P 21 29 30.6 +0.8
WOJI Wonogiri, Jawa 56.46 76 P P 21 29 31.2 +1.4
comp=Z,3µmcomp=Z,115nm,1.6s
SMRI Semarang 56.53 75 P P 21 29 30.3 0.0
SMRI Semarang 56.53 75 P P 21 29 31.2 +0.9
SMRI Semarang 56.53 75 P P 21 29 30.7 +0.4
comp=Z,263nm,2.2s
MZR Muzera 56.57 357 P P 21 29 32.3 +2.0
MZR P P 21 29 32.3 +2.0
SMDO Samad 56.59 2 P P 21 29 31.7 +1.2
SMDO P P 21 29 31.7 +1.2
BTDF Bukit Timah Da 56.67 62 P P 21 29 32.9 +1.6
WSAR Wadi Sarin 56.78 3 P P 21 29 31.4 -0.5
comp=Z,0.1nm,0.7s,baz=355,slow=24,SNR=3.5
WSAR LR LR 21 49 04.2
comp=Z,81nm,18.7s,baz=206,slow=31
PSAC1 Pilbara Seismi 56.78 95 P P 21 29 29.6 -2.5
PSAB3 Pilbara Seismi 56.80 95 P P 21 29 30.5 -1.6
comp=Z,55nm,2.6s
PSA00 Pilbara Seismi 56.80 95 P P 21 29 29.8 -2.4
comp=Z,48nm,1.4s
PSA00 Pilbara Seismi 56.80 95 P P 21 29 30.9 -1.2
PSA00 Pilbara Seismi 56.80 95 P P 21 29 33.7 +1.5
ARQ Araqi 56.84 0 P P 21 29 33.9 +1.7
PSAC2 Pilbara Seismi 56.85 95 P P 21 29 30.4 -2.2
comp=Z,59nm,2.6s
IPM Ipoh 56.86 57 P P 21 29 32.4 -0.3
IPM IAmb IAmb 21 29 37.6
comp=Z,116nm,1.1s
IPM Ipoh 56.86 57 P P 21 29 33.8 +1.1
MBWA Marble Bar 56.89 95 P P 21 29 31.9 -0.9
comp=Z,49nm,2.7s
MBWA Marble Bar 56.89 95 P P 21 29 31.6 -1.2
MBWA Marble Bar 56.89 95 P P 21 29 30.9 -1.9
MBWA P P 21 29 30.9 -1.9
MBWA Marble Bar 56.89 95 P P 21 29 33.3 +0.5
TPI Tanjungpandan 56.93 69 P P 21 29 33.3 +0.2
comp=Z,2µmcomp=Z,2µmcomp=Z,114nm,1.3s
TPRI Tanjung Pinang 56.93 63 P P 21 29 33.6 +0.5
comp=Z,47nm,0.9s
PBA Port Blair 56.99 44 P P 21 29 33.5 0.0
PBA Port Blair 56.99 44 P P 21 29 33.8 +0.4
PBA Port Blair 56.99 44 *e*P P 21 29 31.1 -2.4
PBA IAmb IAmb 21 29 55.0
comp=Z,99nm,1.0s
MYKOM Kota Tinggi 57.02 62 P P 21 29 32.6 -1.2
MYKOM Kota Tinggi 57.02 62 P P 21 29 35.4 +1.6
BIDO Bidbid 57.05 2 P P 21 29 34.8 +1.1
SNR=5.8
BIDO P P 21 29 34.8 +1.1
SNR=5.8
HOQ Hoqain 57.09 1 P P 21 29 35.3 +1.3
NGJI Ngawi 57.17 76 P P 21 29 36.9 +2.1
comp=Z,194nm,1.3s

KULM Kulim 57.18 56 P P 21 29 33.9 -0.9
KULM Kulim 57.18 56 P P 21 29 36.9 +2.0
EDA Edea 57.36 301 P P 21 29 35.5 -0.7
EDA IAmb IAmb 21 29 39.1
comp=Z,172nm,2.0s
EDA IAMs_20 IAMs_20 21 54 24.0
comp=Z,9µm,18.0s
BELA Belgrano 2 57.41 195 P P 21 29 36.1 +0.4
BELA IAmb IAmb 21 29 45.6
comp=Z,115nm,1.4s
SOHO SOHO 57.63 0 P P 21 29 39.9 +2.1
SOHO P P 21 29 39.9 +2.1
AKL Akola 57.70 23 *e*P P 21 29 36.8 -1.6
RAYN Ar Rayn 57.94 348 P P 21 29 39.9 -0.2
RAYN Ar Rayn 57.94 348 P P 21 29 40.6 +0.5
RAYN Ar Rayn 57.94 348 P P 21 29 39.9 -0.2
RAYN pmax pmax
comp=Z,49nm,1.0s
RAYN MLR MLR
comp=Z,5µm,19.0s
ASUD Al Ashush, Dub 58.13 359 P P 21 29 41.7 +0.4
ASHO Ashiyiah 58.18 360 P P 21 29 43.1 +1.4
HATD Hatta, Dubai 58.32 360 P P 21 29 44.3 +1.7
UOSS Minazif 58.44 360 IAMs_20 IAMs_20 21 49 59.2
comp=Z,10µm,20.0s
SMRA Abu-Samra 58.47 354 P P 21 29 45.9 +2.3
NAZ Nazwa, Dubai 58.48 359 P P 21 29 45.5 +1.7
BLJI Banyuglugur 58.68 77 P P 21 29 46.6 +1.2
comp=Z,3µmcomp=Z,73nm,1.4s
JAGI Jajag, Banyuwa 58.72 79 P P 21 29 44.9 -0.8
JAGI Jajag, Banyuwa 58.72 79 P P 21 29 46.3 +0.5
JAGI Jajag, Banyuwa 58.72 79 P P 21 29 45.9 +0.1
MASF Masafi 58.86 360 P P 21 29 47.0 +0.5
MASF P P 21 29 47.0 +0.5
ABJI Asem Bagus 59.17 78 P P 21 29 51.2 +2.3
comp=Z,4µmcomp=Z,4µmcomp=Z,166nm,1.7s
SURA Surathani 59.32 52 P P 21 29 51.2 +1.4
KMMI Kalianget 59.38 77 P P 21 29 51.9 +1.6
comp=Z,3µmcomp=Z,206nm,1.4s
BANOM Banah 59.41 0 P P 21 29 54.0 +3.8
SHMA Al-Shehemyia 59.56 354 P P 21 29 53.1 +1.9
FORT Forrest 59.59 109 P P 21 29 51.0 -0.6
comp=Z,37nm,1.1s
FORT Forrest 59.59 109 P P 21 29 51.6 0.0
NRDN NARMADA NAGAR 59.63 22 *e*P P 21 29 49.3 -2.5
NRDN IAmb IAmb 21 30 29.9
comp=Z,62nm,0.8s
SAKB Bahrain 59.72 354 P P 21 29 53.3 +1.0
SRBI Singaraja 59.80 79 P P 21 29 55.3 +2.0
comp=Z,2µmcomp=Z,4µmcomp=Z,179nm,1.4s
BHPL Bhopal 60.20 22 *e*P P 21 29 53.5 -2.2
BHPL IAmb IAmb 21 29 57.1
comp=Z,53nm,0.9s
UDPR Udaipur 60.39 18 *e*P P 21 29 55.0 -2.0
VNDA Vanda 60.52 166 P P 21 29 58.3 +1.0
VNDA Vanda 60.52 166 P P 21 29 58.4 +1.2
comp=Z,7.9nm,1.1s,baz=255,slow=8.3,SNR=25
VNDA LR LR 21 54 43.5
comp=Z,20µm,18.5s,baz=252,slow=35
VNDA PKPPKP **P'P'df** 21 59 19.2 -6.8
comp=Z,3.7nm,1.1s,baz=128,slow=2.0,SNR=4.4
comp=Z,7.9nm,1.1s
VNDA Vanda 60.52 166 P P 21 29 58.3 +1.0
VNDA pmax pmax
comp=Z,51nm,1.3s
BWNR Bhubaneshwar 60.72 32 *e*P P 21 29 56.9 -2.4
BWNR IAmb IAmb 21 30 02.5
comp=Z,57nm,1.0s
TWSI Taliwang, Sumb 60.81 81 P P 21 30 00.6 +0.5
comp=Z,2µmcomp=Z,2µmcomp=Z,91nm,1.2s
BLSP Bilaspur 60.84 28 *e*P P 21 29 59.1 -1.0
JHSG JHARSUGUGA 61.16 29 *e*P P 21 30 00.1 -2.2
JHSG IAmb IAmb 21 30 05.5
comp=Z,202nm,1.2s
SBA Scott Base 61.33 167 P P 21 30 03.1 +0.3
SBA IAmb IAmb 21 30 27.1
comp=Z,231nm,2.0s
SBA Scott Base 61.33 167 P P 21 30 03.1 +0.3
SBA pmax pmax
comp=Z,231nm,2.0s
SBA MLR MLR
comp=Z,15µm,20.0s
PLAI Plampang 61.49 81 P P 21 30 05.0 +0.2
PLAI Plampang 61.49 81 P P 21 30 04.1 -0.7
KSM Kuching 61.65 67 P P 21 30 05.4 -0.4
KSM IAmb IAmb 21 30 08.8
comp=Z,110nm,1.1s
KSM Kuching 61.65 67 P P 21 30 06.9 +1.1
BBKI Banjar Baru 62.17 74 P P 21 30 09.8 +0.4
comp=Z,3µmcomp=Z,135nm,2.1s
WRKA Wakuruma 62.20 103 P P 21 30 08.5 -0.9
comp=Z,29nm,1.5s
WBSI Waikabubak, Su 62.38 83 P P 21 30 11.6 +0.8
comp=Z,2µmcomp=Z,3µmcomp=Z,152nm,1.2s
JHNI Jhansi 62.63 23 *e*P P 21 30 09.9 -2.2
JHNI IAmb IAmb 21 30 13.2
comp=Z,48nm,1.1s
KNTI KHUNTI 62.94 30 *e*P P 21 30 15.1 +0.8
KNTI IAmb IAmb 21 30 16.3
comp=Z,82nm,1.1s
KBD Kabd 63.18 352 P P 21 30 17.8 +2.2
FITZ Fitzroy Crossi 63.24 95 P P 21 30 14.8 -1.6
FITZ Fitzroy Crossi 63.24 95 P P 21 30 15.3 -1.1
comp=Z,23nm,1.0s,baz=217,slow=7.3,SNR=17
FITZ LR LR 21 53 49.8
comp=Z,2µm,19.8s,baz=266,slow=32
comp=Z,23nm,1.0s
BKNR BIKANER 63.57 17 *e*P P 21 30 17.4 -0.9
BKNR IAmb IAmb 21 30 22.8
comp=Z,61nm,0.6s
ALBI Allahabad 63.61 26 *e*P P 21 30 15.1 -3.5
SBUM Sibu 63.74 67 P P 21 30 18.5 -1.3
SBUM IAmb IAmb 21 30 22.6
comp=Z,95nm,1.3s
SBUM Sibu 63.74 67 P P 21 30 20.3 +0.6
SBUM Sibu 63.74 67 ⇓P P 21 30 19.3 -0.4
BOK Bokaro 63.84 30 *e*P P 21 30 18.5 -1.7
BOK IAML 21 30 22.3
comp=Z,503nm,2.0s
GAYA Gaya 64.47 29 *e*P P 21 30 21.9 -2.3
GAYA IAmb IAmb 21 30 29.9
comp=Z,1µm,4.2s
KUDL Kundal 64.53 20 *e*P P 21 30 22.5 -2.1
KUDL IAmb IAmb 21 30 27.9
comp=Z,288nm,2.0s
EDFI Ende, Flores 64.77 84 P P 21 30 25.4 -1.3
comp=Z,2µmcomp=Z,2µmcomp=Z,91nm,1.5s
PWAL Palwal 64.78 21 *e*P P 21 30 24.6 -1.5
HOPE Hope Point 64.84 220 IAMs_20 IAMs_20 21 51 11.2
comp=Z,8µm,20.0s
HOPE Hope Point 64.84 220 P P 21 30 28.1 +1.7
BBOO Buckleboo 64.96 114 P P 21 30 27.1 -0.5
comp=Z,29nm,1.9s
BBOO Buckleboo 64.96 114 P P 21 30 27.1 -0.5
BBOO IAmb IAmb 21 30 31.6
comp=Z,89nm,1.6s
BBOO Buckleboo 64.96 114 P P 21 30 30.0 +2.4
JHJR Jhajjar 65.01 20 *e*P P 21 30 25.6 -2.1
AYAN Aya Nagar 65.03 20 *e*P P 21 30 26.2 -1.6
LDR Lodi Road 65.15 20 *e*P P 21 30 26.5 -2.1
JMIU JAMIA UNIVERSI 65.16 20 *e*P P 21 30 26.5 -2.1
NPLP NPLP New Delhi 65.19 20 *e*P P 21 30 26.8 -2.0
NPLP IAmb IAmb 21 30 30.1
comp=Z,18nm,0.6s
HRYA Harraiya (Bast 65.21 26 *e*P P 21 30 26.7 -2.3
NDI New Delhi 65.25 20 *e*P P 21 30 27.1 -2.1
NDI IAmb IAmb 21 30 29.8
comp=Z,33nm,1.0s
KAPI Kappang 65.25 79 P P 21 30 28.2 -1.5
KAPI Kappang 65.25 79 LR LR 21 54 00.8
comp=Z,1µm,21.6s,baz=254,slow=32
KAPI Kappang 65.25 79 P P 21 30 27.4 -2.2
KAPI Kappang 65.25 79 P P 21 30 29.4 -0.3
KAPI Kappang 65.25 79 *i* P P 21 30 28.1 -1.6
KAPI pmax pmax
comp=Z,107nm,1.1s
KAPI MLR MLR
comp=Z,942nm,18.0s
KAPI Kappang 65.25 79 ⇓P P 21 30 27.9 -1.8
MMRI Maumere 65.28 84 P P 21 30 28.8 -1.1
MMRI Maumere 65.28 84 P P 21 30 30.3 +0.4
MMRI Maumere 65.28 84 P P 21 30 28.8 -1.1
MMRI Maumere 65.28 84 ⇑P P 21 30 29.2 -0.7
NRLA Narela 65.31 20 *e*P P 21 30 28.0 -1.7

BKSI Bulukumba 65.38 79 P P 21 30 29.0 -1.5
comp=Z,2µmcomp=Z,99nm,1.2s
ASOR Ausora 65.47 21 *e*P P 21 30 31.2 +0.5
BRDH Bariadhala 65.49 36 LR LR 21 55 48.5
comp=Z,9µm,20.0s,baz=191,slow=33
BRCI Bahraich 65.59 25 *e*P P 21 30 29.4 -2.1
GNR GANAUR 65.61 20 *e*P P 21 30 29.5 -2.1
BATI Baumata 65.62 86 LR LR 21 56 24.2
comp=Z,1µm,18.9s,baz=270,slow=34
BATI Baumata 65.62 86 P P 21 30 33.2 +1.1
comp=Z,2µmcomp=Z,2µmcomp=Z,43nm,1.9s
SMKI Samarinda 65.86 73 P P 21 30 36.2 +2.6
comp=Z,3µmcomp=Z,132nm,1.2s
SPSI Sidrap Palu 65.86 78 P P 21 30 33.4 -0.2
comp=Z,2µmcomp=Z,99nm,2.0s
BELO BELONIA 65.88 35 *e*P P 21 30 31.4 -2.0
BELO IAmb IAmb 21 30 40.4
comp=Z,5µm,4.3s
BNSI Bone 65.89 79 P P 21 30 33.6 -0.2
comp=Z,2µmcomp=Z,2µmcomp=Z,82nm,1.2s
CM31 Chiang Mai Arr 65.99 45 P P 21 30 33.4 -0.9
CM31 IAmb IAmb 21 30 36.8
comp=Z,106nm,1.1s
CM31 Chiang Mai Arr 65.99 45 P P 21 30 34.0 -0.2
SNR=38
CM31 P P 21 30 34.0 -0.2
SNR=38
CM31 P P 21 30 34.0 -0.2
SNR=38
CMAR Chiang Mai Arr 65.99 45 P P 21 30 33.5 -0.8
comp=Z,51nm,1.0s,baz=229,slow=6.7,SNR=92
CMAR LR LR 21 54 07.4
comp=Z,6µm,21.9s,baz=225,slow=31
comp=Z,51nm,1.0s
CMAR Chiang Mai Arr 65.99 45 *i* P P 21 30 33.5 -0.8
CMAR pmax pmax
comp=Z,53nm,1.0s
WHYH Whyalla 66.01 115 P P 21 30 37.2 +2.8
TKRD Thakurdwara 66.17 22 *e*P P 21 30 32.9 -2.2
ACRG Accra 66.22 295 P P 21 30 35.4 -0.5
ACRG IAmb IAmb 21 30 46.8
comp=Z,99nm,1.3s
CHTO Chiang Mai 66.27 45 P P 21 30 34.8 -1.3
CHTO IAmb IAmb 21 30 40.1
comp=Z,74nm,1.3s
CHTO IAMs_20 IAMs_20 21 53 42.3
comp=Z,8µm,22.0s
CHTO Chiang Mai 66.27 45 P P 21 30 35.4 -0.7
CHTO P P 21 30 35.4 -0.7
CHTO Chiang Mai 66.27 45 P P 21 30 35.9 -0.2
CHTO Chiang Mai 66.27 45 P P 21 30 34.8 -1.3
CHTO pmax pmax
comp=Z,75nm,1.3s
CHTO MLR MLR
comp=Z,8µm,22.0s
CHTO Chiang Mai 66.27 45 ⇓P P 21 30 35.2 -0.8
EIL Elat 66.29 340 P P 21 30 35.0 -1.0
comp=Z,32nm,1.0s,baz=169,slow=2.8,SNR=7.5
EIL LR LR 21 56 28.5
comp=Z,8µm,19.5s,baz=155,slow=33
comp=Z,32nm,1.0s
AGT Agartala 66.33 35 *e*P P 21 30 34.2 -2.1
AGT IAML 21 30 40.3
comp=Z,270nm,0.8s
SOEI Soe 66.36 86 P P 21 30 35.1 -1.9
SOEI Soe 66.36 86 P P 21 30 36.1 -0.9
SOEI Soe 66.36 86 P P 21 30 38.6 +1.6
SOEI Soe 66.36 86 P P 21 30 37.4 +0.4
comp=Z,2µmcomp=Z,78nm,1.5s
SOEI Soe 66.36 86 ⇑P P 21 30 37.3 +0.4
HTT Hallett 66.86 116 P P 21 30 38.6 -1.2
comp=Z,10nm,2.0s
HTT Hallett 66.86 116 P P 21 30 41.3 +1.4
HTT Hallett 66.86 116 ⇑P P 21 30 39.5 -0.4
LGTI Lohaghat 66.88 23 *e*P P 21 30 37.0 -2.7
LGTI IAmb IAmb 21 30 47.2
comp=Z,165nm,1.7s
AZL Aizawl 66.90 36 *e*P P 21 30 38.1 -2.0
AZL IAmb IAmb 21 30 46.4
comp=Z,3µm,4.9s
KNRA Kununurra 67.03 94 P P 21 30 39.6 -1.4
comp=Z,59nm,1.5s
KNRA Kununurra 67.03 94 P P 21 30 39.5 -1.6
CGRH CHANDIGARH 67.06 19 *e*P P 21 30 38.7 -2.1
BBSI Bau Bau 67.29 81 P P 21 30 43.8 +1.0
comp=Z,2µmcomp=Z,95nm,1.2s
DLV Lat 67.33 57 P P 21 30 42.4 -0.7
DLV IAmb IAmb 21 30 44.9
comp=Z,74nm,1.4s
DLV Lat 67.33 57 P P 21 30 44.1 +1.0
ASAR Alice Springs 67.36 104 P P 21 30 41.5 -1.7
ASAR Alice Springs 67.36 104 P P 21 30 42.0 -1.2
comp=Z,18nm,0.8s,baz=237,slow=5.8,SNR=52
ASAR LR LR 21 56 03.3
comp=Z,3µm,20.4s,baz=242,slow=32
ASAR PKP2bc 21 59 10.0
comp=Z,6.4nm,1.0s,baz=70,slow=3.3,SNR=17
comp=Z,18nm,0.8s
AS31 Alice Springs 67.37 104 P P 21 30 41.9 -1.4
SMLA Simla 67.54 19 *e*P P 21 30 41.7 -2.1
SMLA IAmb IAmb 21 30 44.6
comp=Z,96nm,1.2s
ARPS Mount Arapiles 67.54 120 P P 21 30 43.5 -0.6
comp=Z,23nm,2.7s
BHK Bhakra 67.61 19 *e*P P 21 30 43.0 -1.3
BHK IAmb IAmb 21 30 47.4
comp=Z,225nm,1.6s
JOSI Joshimath 67.69 22 *e*P P 21 30 42.8 -2.3
JOSI IAmb IAmb 21 30 53.0
comp=Z,112nm,1.4s
PCI Palu 67.69 75 P P 21 30 46.3 +1.0
comp=Z,69nm,1.4s
EVN Everest 67.91 29 P P 21 30 45.9 -1.2
EVN IAmb IAmb 21 30 54.6
comp=Z,88nm,1.1s
EVN IAMs_20 IAMs_20 21 56 12.0
comp=Z,7µm,21.0s
TLWR Talawar 68.00 18 *e*P P 21 30 44.5 -2.3
SHL Shillong 68.06 35 P P 21 30 46.7 -0.8
SHL Shillong 68.06 35 P P 21 30 47.2 -0.3
SNR=53
SHL Shillong 68.06 35 *e*P P 21 30 45.4 -2.1
SHL IAmb IAmb 21 30 49.2
comp=Z,96nm,1.0s
SHL Shillong 68.06 35 P P 21 30 46.7 -0.8
SHL pmax pmax
comp=Z,567nm,1.9s
HRA Herat 68.08 5 P P 21 30 46.2 -1.2
HRA IAMs_20 IAMs_20 21 55 04.7
comp=Z,7µm,21.0s
ASF Jabal al Asfar 68.13 342 P P 21 30 48.5 +0.8
comp=Z,32nm,1.0s,baz=181,slow=2.8,SNR=20
ASF LR LR 21 57 52.8
comp=Z,5µm,20.2s,baz=191,slow=34
comp=Z,32nm,1.0s
KLP Kalpa 68.22 20 *e*P P 21 30 46.3 -2.3
KLP IAmb IAmb 21 30 49.7
comp=Z,106nm,1.0s
IMP Imphal 68.44 37 *e*P P 21 30 47.4 -2.3
IMP IAML 21 30 52.1
comp=Z,71nm,0.9s
JMU Jammu 68.46 17 *e*P P 21 30 47.9 -1.7
JMU IAmb IAmb 21 30 53.4
comp=Z,122nm,1.0s
GUWA GUWAHATI 68.50 34 *e*P P 21 30 47.9 -2.1
GUWA IAmb IAmb 21 30 51.4
comp=Z,41nm,1.0s
BRAT Ballarat 68.69 122 P P 21 30 53.9 +2.7
MOO Moorlands 68.73 127 P P 21 30 54.0 +2.6
TSSA Tissa 68.88 18 *e*P P 21 30 49.3 -3.3
NIL Nilore 68.98 15 P P 21 30 51.6 -1.3
NIL IAmb IAmb 21 30 55.9
comp=Z,77nm,1.1s
NIL Nilore 68.98 15 IAMs_20 IAMs_20 21 58 03.6
comp=Z,8µm,19.0s
NIL Nilore 68.98 15 P P 21 30 53.4 +0.5
NIL P P 21 30 53.4 +0.5
NIL Nilore 68.98 15 P P 21 30 51.6 -1.3
NIL pmax pmax
comp=Z,77nm,1.1s
NIL MLR MLR
comp=Z,8µm,19.0s
KBU Kabul Universi 69.03 11 P P 21 30 51.8 -1.6
KBL Kabul 69.05 11 P P 21 30 53.3 -0.2
KBL IAmb IAmb 21 30 57.5
comp=Z,102nm,1.1s

KBL	**Kabul**	**69.05**	**11**	P	**P**	**21 30 54.0**	**+0.5**
	SNR=38						
KBL				P	**P**	**21 30 54.0**	**+0.5**
	SNR=38						
KBL	**Kabul**	**69.05**	**11**	P	**P**	**21 30 53.3**	**-0.2**
KBL				pmax	pmax		
	comp=Z,102nm,1.1s						
CORO	**Coronation Par**	**69.14**	**126**	P	**P**	**21 30 57.7**	**+3.7**
APSI	**Ampana**	**69.16**	**77**	P	**P**	**21 30 55.3**	**+0.8**
	comp=Z,3μmcomp=Z,142nm,1.1s						
MMAI	**Mount Meron Ar**	**69.32**	**341**	P	**P**	**21 30 55.8**	**+0.7**
	comp=Z,24nm,1.0s,baz=136,slow=10.0,SNR=15						
MMAI				LR	LR	21 57 44.1	
	comp=Z,10μm,20.8s,baz=158,slow=33						
	comp=Z,24nm,1.0s						
TEZP	**TEZPUR**	**69.38**	**35**	*e*P	**P**	**21 30 53.4**	**-2.0**
TEZP				IAmb	IAmb	21 30 56.6	
	comp=Z,111nm,1.5s						
WRA	**Warramunga Arr**	**69.51**	**101**	P	**P**	**21 30 55.6**	**-1.1**
WRA	**Warramunga Arr**	**69.51**	**101**	P	**P**	**21 30 55.6**	**-1.1**
	comp=Z,42nm,1.0s,baz=239,slow=5.1,SNR=73						
WRA				LR	LR	21 58 20.8	
	comp=Z,1μm,19.0s,baz=218,slow=33						
WRA				PKP2bc		21 59 05.8	
	comp=Z,5.6nm,1.2s,baz=64,slow=3.4,SNR=17						
	comp=Z,42nm,1.0s						
WRAB	**Tennant Creek**	**69.53**	**101**	P	**P**	**21 30 55.6**	**-1.2**
WRAB	**Tennant Creek**	**69.53**	**101**	P	**P**	**21 30 55.6**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,302nm,1.8s						
WRAB				MLR	MLR		
	comp=Z,2μm,21.0s						
STKA	**Stephens Creek**	**69.57**	**115**	P	**P**	**21 30 56.5**	**-0.3**
	comp=Z,146nm,1.2s						
STKA	**Stephens Creek**	**69.57**	**115**	P	**P**	**21 30 55.5**	**-1.3**
STKA	**Stephens Creek**	**69.57**	**115**	P	**P**	**21 30 56.0**	**-0.9**
	comp=Z,26nm,1.0s,baz=271,slow=4.3,SNR=23						
STKA				LR	LR	21 56 51.0	
	comp=Z,2μm,18.3s,baz=234,slow=32						
STKA				PKPPKP	**P'P'df**	**21 59 03.1**	**-5.7**
	comp=Z,4.4nm,1.1s,baz=26,slow=3.0,SNR=5.3						
	comp=Z,26nm,1.0s						
STKA	**Stephens Creek**	**69.57**	**115**	P	**P**	**21 30 57.2**	**+0.4**
STKA	**Stephens Creek**	**69.57**	**115**	P	**P**	**21 30 55.5**	**-1.3**
STKA				pmax	pmax		
	comp=Z,218nm,1.2s						
TOLI2	**Tolitoli**	**69.65**	**74**	P	**P**	**21 30 55.7**	**-1.8**
TOLI2	**Tolitoli**	**69.65**	**74**	P	**P**	**21 30 57.5**	**0.0**
ESPZ	**Base Esperanza**	**69.73**	**206**	P	**P**	**21 30 56.2**	**-1.0**
ESPZ				IAmb	IAmb	21 31 08.5	
	comp=Z,94nm,1.1s						
SRNI	**Srinagar**	**69.77**	**16**	*e*P	**P**	**21 30 55.4**	**-2.3**
SRNI				IAmb	IAmb	21 30 58.9	
	comp=Z,127nm,0.8s						
TOO	**Toolangi**	**69.78**	**122**	P	**P**	**21 30 58.7**	**+0.6**
	comp=Z,15nm,1.6s						
TOO	**Toolangi**	**69.78**	**122**	P	**P**	**21 30 57.6**	**-0.4**
TOO	**Toolangi**	**69.78**	**122**	P	**P**	**21 30 57.7**	**-0.4**
TOO				pmax	pmax		
	comp=Z,20nm,1.3s						
TORD	**Torodi Ar. Bea**	**69.84**	**302**	P	**P**	**21 30 59.0**	**+0.4**
	comp=Z,25nm,1.0s,baz=111,slow=4.9,SNR=41						
TORD				PKPPKP	**P'P'df**	**21 59 02.8**	**+1.5**
	comp=Z,1.5nm,1.0s,baz=316,slow=4.1,SNR=5.8						
	comp=Z,25nm,1.0s						
LUWI	**Luwuk**	**69.99**	**77**	P	**P**	**21 30 58.4**	**-1.2**
LUWI	**Luwuk**	**69.99**	**77**	P	**P**	**21 30 59.3**	**-0.3**
LUWI	**Luwuk**	**69.99**	**77**	P	**P**	**21 30 59.8**	**+0.2**
LUWI	**Luwuk**	**69.99**	**77**	P	**P**	**21 30 59.6**	**0.0**
	comp=Z,3μmcomp=Z,149nm,1.5s						
SMAI	**San Martin Ant**	**70.01**	**199**	P	**P**	**21 30 59.3**	**+0.5**
SMAI				IAmb	IAmb	21 31 09.8	
	comp=Z,133nm,1.3s						
JORH	**JORHAT**	**70.18**	**36**	*e*P	**P**	**21 30 58.5**	**-2.0**
JORH				IAmb	IAmb	21 31 04.3	
	comp=Z,164nm,0.9s						
MRSI	**Marisa**	**70.20**	**76**	P	**P**	**21 31 00.0**	**-0.9**
	comp=Z,37nm,0.9s						
DBIC	**Dimbokro**	**70.42**	**293**	P	**P**	**21 31 02.2**	**0.0**
DBIC	**Dimbokro**	**70.42**	**293**	P	**P**	**21 31 03.4**	**+1.2**
	comp=Z,114nm,1.2s,baz=152,slow=6.8,SNR=21						
DBIC				LR	LR	21 59 19.9	
	comp=Z,6μm,20.9s,baz=147,slow=34						
	comp=Z,114nm,1.2s						
DBIC	**Dimbokro**	**70.42**	**293**	P	**P**	**21 31 02.2**	**0.0**
DBIC				pmax	pmax		
	comp=Z,285nm,1.6s						
DBIC	**Dimbokro**	**70.42**	**293**	⇓P	**P**	**21 31 03.4**	**+1.2**
ALCI	**Alchi Leh**	**70.46**	**18**	*e*P	**P**	**21 30 58.6**	**-3.8**
DRS	**Darwin Rock St**	**70.47**	**92**	*e*P	**P**	**21 31 03.3**	**+0.8**
ZIRO	**ZIRO**	**70.64**	**35**	*e*P	**P**	**21 31 00.9**	**-2.6**
INKA	**Innaminka**	**70.86**	**111**	P	**P**	**21 31 04.4**	**-0.4**
TNCH	**TengChong**	**70.96**	**40**	⇓P	**P**	**21 31 04.8**	**-0.7**
TNCH				pP	pP	21 31 08.0	+0.2
TNCH				PP	**PP**	**21 33 41.4**	**-1.7**
TNCH				S	**S**	**21 40 18.0**	**-3.5**
TNCH				sS	sS	21 40 27.3	+2.2
TNCH				SS	**SS**	**21 44 53.3**	**-1.7**
TNCH				pmax	pmax		
	comp=Z,74nm,1.8s						
TNCH				pmax	pmax		
	comp=Z,1μm,4.0s						
TNCH				LR	LR		
	comp=Z,2μm,17.2s						
TNCH				LR	LR		
	comp=Z,3μm,18.5s						
TNCH				LR	LR		
	comp=Z,5μm,16.9s						
SLVN	**Son La**	**71.16**	**47**	P	**P**	**21 31 06.2**	**-0.4**
SLVN	**Son La**	**71.16**	**47**	P	**P**	**21 31 07.4**	**+0.8**
LSA	**Lhasa**	**71.26**	**32**	P	**P**	**21 31 07.4**	**-0.1**
LSA				IAMs_20	IAMs_20	21 57 00.3	
	comp=Z,7μm,22.0s						
LSA	**Lhasa**	**71.26**	**32**	P	**P**	**21 31 05.3**	**-2.2**
LSA				S	**S**	**21 40 26.0**	**+0.7**
LSA				pmax	pmax		
	comp=Z,49nm,1.5s						
LSA				LR	LR		
	comp=Z,3μm,25.5s						
LSA				LR	LR		
	comp=Z,3μm,22.6s						
LSA				LR	LR		
	comp=Z,8μm,25.5s						
LSA	**Lhasa**	**71.26**	**32**	P	**P**	**21 31 07.4**	**-0.1**
LSA				pmax	pmax		
	comp=Z,288nm,1.6s						
LSA				MLR	MLR		
	comp=Z,7μm,22.0s						
PMSA	**Palmer Station**	**71.32**	**203**	LR	LR	21 58 00.4	
	comp=Z,4μm,19.5s,baz=132,slow=32						
LKP	**Lekhapani**	**71.46**	**37**	*e*P	**P**	**21 31 05.1**	**-3.1**
CSS	**Mathiatis**	**71.72**	**340**	P	**P**	**21 31 09.3**	**-0.3**
CSS				IAmb	IAmb	21 31 17.8	
	comp=Z,71nm,1.1s						
CSS				IAMs_20	IAMs_20	21 57 57.7	
	comp=Z,10μm,22.0s						
CSS	**Mathiatis**	**71.72**	**340**	⇓P	**P**	**21 31 09.8**	**+0.2**
CSS	**Mathiatis**	**71.72**	**340**	P	**P**	**21 31 09.3**	**-0.3**
	comp=Z,2μmcomp=Z,59nm,1.2s						
KMSI	**Cibinong**	**71.91**	**77**	P	**P**	**21 31 12.3**	**+1.0**
SANI	**Sanana**	**72.04**	**80**	P	**P**	**21 31 12.4**	**+0.3**
SANI	**Sanana**	**72.04**	**80**	P	**P**	**21 31 12.1**	**0.0**
SANI	**Sanana**	**72.04**	**80**	P	**P**	**21 31 10.4**	**-1.7**
	comp=Z,2μmcomp=Z,1μmcomp=Z,42nm,1.5s						
SANI	**Sanana**	**72.04**	**80**	⇓P	**P**	**21 31 10.8**	**-1.3**
MARD	**Mardin**	**72.23**	**347**	P	**P**	**21 31 12.8**	**+0.1**
MARD				IAmb	IAmb	21 31 16.8	
	comp=Z,104nm,1.6s						
MARD				IAMs_20	IAMs_20	22 00 23.2	
	comp=Z,8μm,20.0s						
NLAI	**Namlea**	**72.28**	**82**	P	**P**	**21 31 11.8**	**-1.7**
	comp=Z,2μmcomp=Z,88nm,1.4s						
LKRN	**Lenkeran, Azer**	**72.50**	**354**	P	**P**	**21 31 14.2**	**+0.1**
CMSA	**Cobar Meteorol**	**72.80**	**117**	P	**P**	**21 31 16.2**	**-0.2**
	comp=Z,53nm,1.4s						
CMSA	**Cobar Meteorol**	**72.80**	**117**	P	**P**	**21 31 17.3**	**+0.9**
GEVA	**Gevas**	**72.81**	**349**	P	**P**	**21 31 16.2**	**0.0**
GEVA				IAmb	IAmb	21 31 20.9	
	comp=Z,97nm,1.2s						
GEVA				IAMs_20	IAMs_20	22 01 12.7	
	comp=Z,5μm,20.0s						
GAZ	**Gaziantep**	**72.83**	**344**	P	**P**	**21 31 16.2**	**-0.1**
GAZ				IAmb	IAmb	21 31 20.3	
	comp=Z,78nm,1.3s						
AAI	**Ambon**	**72.94**	**83**	P	**P**	**21 31 17.3**	**-0.1**
	comp=Z,3μmcomp=Z,45nm,1.1s						
SIMJ	**Simiganj**	**73.07**	**10**	P	**P**	**21 31 17.4**	**-0.4**
SIMJ				IAmb	IAmb	21 31 22.0	
	comp=Z,118nm,1.1s						
SIMJ				IAMs_20	IAMs_20	21 59 06.1	
	comp=Z,6μm,21.0s						
CHGR	**Chuyangaron**	**73.09**	**10**	P	**P**	**21 31 17.9**	**+0.1**
CHGR	**Chuyangaron**	**73.09**	**10**	P	**P**	**21 31 17.9**	**+0.1**
CHGR				pmax	pmax		
	comp=Z,287nm,1.1s						
CHGR				MLR	MLR		
	comp=Z,18μm,22.0s						
GURO	**Guroymak-BITLI**	**73.21**	**348**	P	**P**	**21 31 18.4**	**-0.2**
GURO				IAmb	IAmb	21 31 24.3	
	comp=Z,75nm,1.3s						
GURO				IAMs_20	IAMs_20	22 02 32.2	
	comp=Z,5μm,19.0s						
QIZ	**Qiongzhong**	**73.24**	**53**	P	**P**	**21 31 22.1**	**+3.1**
QIZ				sP	**pwP**	**21 31 28.6**	**+3.2**
QIZ				S	**S**	**21 40 49.3**	**+1.8**
QIZ				SS	**SS**	**21 45 26.3**	**-3.4**
QIZ				pmax	pmax		
	comp=Z,30nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,820nm,4.4s						
QIZ				LR	LR		
	comp=Z,1μm,18.0s						
QIZ				LR	LR		
	comp=Z,2μm,16.7s						
QIZ				LR	LR		
	comp=Z,3μm,19.6s						
NAX	**Nakhchivan**	**73.31**	**351**	P	**P**	**21 31 19.2**	**+0.1**
CAN	**Canberra**	**73.34**	**122**	P	**P**	**21 31 20.8**	**+1.2**
	comp=Z,56nm,1.6s						
CAN	**Canberra**	**73.34**	**122**	P	**P**	**21 31 20.1**	**+0.5**
CAN	**Canberra**	**73.34**	**122**	P	**P**	**21 31 22.2**	**+2.6**
CAN	**Canberra**	**73.34**	**122**	P	**P**	**21 31 20.1**	**+0.5**
CAN				pmax	pmax		
	comp=Z,55nm,1.2s						
CAN				MLR	MLR		
	comp=Z,5μm,21.0s						
CAN	**Canberra**	**73.34**	**122**	⇓P	**P**	**21 31 21.6**	**+2.0**
KMI	**Kunming**	**73.38**	**43**	⇓P	**P**	**21 31 19.3**	**-0.7**
KMI				S	**S**	**21 40 48.3**	**-1.0**
KMI				SS	**SS**	**21 45 33.5**	**+1.4**
KMI				pmax	pmax		
	comp=Z,29nm,1.2s						
KMI				pmax	pmax		
	comp=Z,780nm,5.3s						
KMI				LR	LR		
	comp=Z,2μm,19.0s						
KMI				LR	LR		
	comp=Z,5μm,19.0s						
KMI				LR	LR		
	comp=Z,6μm,22.3s						
YNG	**Young**	**73.42**	**120**	P	**P**	**21 31 20.6**	**+0.6**
	comp=Z,30nm,1.4s						
QIS	**Mount Isa**	**73.49**	**104**	P	**P**	**21 31 19.5**	**-1.2**
	comp=Z,62nm,2.3s						
QIS	**Mount Isa**	**73.49**	**104**	P	**P**	**21 31 20.4**	**-0.3**
CNB	**Canberra Magne**	**73.60**	**122**	P	**P**	**21 31 23.5**	**+2.3**
GAR	**Garm**	**73.61**	**11**	P	**P**	**21 31 20.1**	**-0.8**
GAR				IAmb	IAmb	21 31 24.3	
	comp=Z,111nm,1.3s						
PZH	**PanZhiHua**	**73.89**	**42**	P	**P**	**21 31 26.5**	**+3.6**
PZH				S	**S**	**21 40 57.4**	**+2.5**
PZH				pmax	pmax		
	comp=Z,70nm,1.3s						
PZH				pmax	pmax		
	comp=Z,860nm,4.9s						
PZH				LR	LR		
	comp=Z,2μm,21.8s						
PZH				LR	LR		
	comp=Z,3μm,20.8s						
PZH				LR	LR		
	comp=Z,3μm,21.6s						
AKAS	**Kas**	**74.01**	**338**	P	**P**	**21 31 23.0**	**-0.4**
AKAS				IAmb	IAmb	21 31 27.7	
	comp=Z,142nm,1.1s						
QLP	**Quilpie**	**74.14**	**112**	P	**P**	**21 31 22.9**	**-1.5**
	comp=Z,155nm,1.2s						
QLP	**Quilpie**	**74.14**	**112**	P	**P**	**21 31 25.7**	**+1.3**
TAM	**Tamanrasset**	**74.18**	**312**	P	**P**	**21 31 24.8**	**+0.1**
TAM				IAMs_20	IAMs_20	22 02 51.4	
	comp=Z,8μm,21.0s						
TAM	**Tamanrasset**	**74.18**	**312**	P	**P**	**21 31 24.8**	**+0.1**
TAM				pmax	pmax		
	comp=Z,35nm,1.0s						
TAM				MLR	MLR		
	comp=Z,8μm,21.0s						
TAM	**Tamanrasset**	**74.18**	**312**	⇓P	**P**	**21 31 25.6**	**+0.9**
KARP	**Karpathos**	**74.19**	**336**	P	**P**	**21 31 24.3**	**0.0**
KARP				IAMs_20	IAMs_20	22 04 33.0	
	comp=Z,6μm,21.0s						
KARP	**Karpathos**	**74.19**	**336**	⇓P	**P**	**21 31 24.9**	**+0.6**
KARP	**Karpathos**	**74.19**	**336**	P	**P**	**21 31 24.1**	**-0.2**
	comp=Z,4μmcomp=Z,267nm,1.1s						
GNI	**Garni**	**74.37**	**351**	P	**P**	**21 31 25.4**	**0.0**
GNI				IAmb	IAmb	21 31 30.8	
	comp=Z,155nm,1.4s						
GNI	**Garni**	**74.37**	**351**	P	**P**	**21 31 26.3**	**+1.0**
	comp=Z,56nm,1.2s,baz=165,slow=2.0,SNR=27						
GNI				LR	LR	22 01 19.3	
	comp=Z,14μm,21.6s,baz=168,slow=34						
	comp=Z,56nm,1.2s						
GNI	**Garni**	**74.37**	**351**	P	**P**	**21 31 26.4**	**+1.0**
GNI				P	**P**	**21 31 26.4**	**+1.0**
GNI	**Garni**	**74.37**	**351**	*ce*P	**P**	**21 31 26.0**	**+0.6**
GNI				pmax	pmax		
	comp=Z,135nm,1.4s						
GNI				MLR	MLR		
	comp=Z,5μm,17.0s						
GNI	**Garni**	**74.37**	**351**	⇓P	**P**	**21 31 26.2**	**+0.8**
GNI	**Garni**	**74.37**	**351**	P	**P**	**21 31 25.5**	**+0.1**
	comp=Z,3μmcomp=Z,75nm,1.4s						
GNI				pP	**sP**	**21 31 29.5**	**+1.0**
	comp=Z,3μmcomp=Z,75nm,1.4s						
ELL	**Elmali**	**74.39**	**338**	P	**P**	**21 31 25.9**	**+0.3**
ELL				IAmb	IAmb	21 32 00.6	
	comp=Z,112nm,1.5s						
ELL	**Elmali**	**74.39**	**338**	P	**P**	**21 31 25.9**	**+0.3**
ELL				pmax	pmax		
	comp=Z,112nm,1.5s						
ELL	**Elmali**	**74.39**	**338**	⇓P	**P**	**21 31 26.0**	**+0.4**
ARPR	**Arapgir-MALATY**	**74.43**	**346**	P	**P**	**21 31 25.7**	**-0.1**
ARPR				IAmb	IAmb	21 31 35.9	
	comp=Z,90nm,1.2s						
ARG	**Arkhangelos**	**74.47**	**337**	P	**P**	**21 31 25.7**	**-0.1**
ARG	**Arkhangelos**	**74.47**	**337**	P	**P**	**21 31 25.7**	**-0.1**
ARG				pmax	pmax		
	comp=Z,353nm,1.7s						
ARG				MLR	MLR		
	comp=Z,3μm,19.0s						
ARG	**Arkhangelos**	**74.47**	**337**	⇓P	**P**	**21 31 26.3**	**+0.4**
MNGR	**Mingechevir, A**	**74.71**	**353**	P	**P**	**21 31 28.2**	**+1.1**
BNN	**Bunyan**	**74.75**	**344**	P	**P**	**21 31 27.4**	**-0.2**
BNN	**Bunyan**	**74.75**	**344**	⇓P	**P**	**21 31 27.7**	**+0.1**
IDI	**Anoyia**	**74.77**	**334**	P	**P**	**21 31 27.7**	**0.0**
IDI	**Anoyia**	**74.77**	**334**	P	**P**	**21 31 27.6**	**0.0**
IDI				IAmb	IAmb	21 31 32.8	
	comp=Z,303nm,1.9s						
IDI	**Anoyia**	**74.77**	**334**	P	**P**	**21 31 28.4**	**+0.7**
	comp=Z,32nm,0.9s,baz=165,slow=12,SNR=9.6						
IDI				LR	LR	22 04 03.3	
	comp=Z,5μm,21.4s,baz=148,slow=36						
	comp=Z,32nm,0.9s						
TNTI	**Ternate**	**74.78**	**79**	P	**P**	**21 31 27.2**	**-1.0**
TNTI				IAmb	IAmb	21 31 32.0	
	comp=Z,140nm,1.3s						
TNTI	**Ternate**	**74.78**	**79**	P	**P**	**21 31 28.6**	**+0.4**
TNTI	**Ternate**	**74.78**	**79**	P	**P**	**21 31 29.0**	**+0.8**
	comp=Z,2μmcomp=Z,90nm,1.5s						
KOPT	**Kop Dagi**	**74.91**	**347**	P	**P**	**21 31 28.5**	**-0.1**
KOPT				IAmb	IAmb	21 31 33.4	
	comp=Z,86nm,1.3s						
KOPT				IAMs_20	IAMs_20	22 01 35.1	
	comp=Z,6μm,21.0s						
SEKA	**Sheki**	**75.13**	**353**	P	**P**	**21 31 30.9**	**+1.3**
ISP	**Isparta**	**75.20**	**339**	P	**P**	**21 31 29.7**	**-0.5**
ISP				IAmb	IAmb	21 31 38.5	
	comp=Z,121nm,1.8s						
ISP	**Isparta**	**75.20**	**339**	P	**P**	**21 31 29.7**	**-0.5**
ISP				pmax	pmax		
	comp=Z,121nm,1.8s						
ISP				MLR	MLR		
	comp=Z,3μm,20.0s						
KSH	**Kashi**	**75.21**	**16**	P	**P**	**21 31 27.5**	**-2.7**
KSH				pP	sP	21 31 35.1	+1.8
KSH				S	**S**	**21 41 04.8**	**-4.3**
KSH				pmax	pmax		
	comp=Z,83nm,1.0s						
KSH				pmax	pmax		
	comp=Z,1μm,5.4s						
KSH				LR	LR		
	comp=Z,4μm,20.8s						
KSH				LR	LR		
	comp=Z,6μm,22.0s						
KSH				LR	LR		
	comp=Z,10μm,24.1s						
AKT	**Akhty**	**75.34**	**353**	*e*P	**P**	**21 31 30.2**	**-0.7**
AKT				*e*		21 31 42.5	
AKT				*e*		21 34 22.9	
AKT				*e*S	**S**	**21 41 10.4**	**0.0**
AKT				*e*		21 41 42.7	
AKT				pmax	pmax		
	comp=Z,78nm,1.2s						
AKT				MLR	MLR		
	comp=Z,6μm,24.0s						
KIRS	**Kirsehir-Merke**	**75.49**	**342**	⇑P	**P**	**21 31 32.3**	**+0.5**
TRLG	**Trialeti**	**75.82**	**351**	P	**P**	**21 31 34.3**	**+0.6**
TOKA	**Tokat**	**76.01**	**345**	P	**P**	**21 31 34.9**	**+0.2**
TOKA				IAmb	IAmb	21 32 35.5	
	comp=Z,43nm,0.4s						
BR104	**Keskin Array S**	**76.10**	**342**	P	**P**	**21 31 34.5**	**-0.8**
	comp=Z,223nmcomp=Z,27nm,1.1s						
BR105	**Keskin Array S**	**76.12**	**342**	P	**P**	**21 31 35.0**	**-0.4**
	comp=Z,247nmcomp=Z,31nm,1.0s						
BR131	**Keskin Array S**	**76.12**	**342**	P	**P**	**21 31 34.8**	**-0.7**
BR131	**Keskin Array S**	**76.12**	**342**	P	**P**	**21 31 35.1**	**-0.3**
	SNR=24						
BR131				P	**P**	**21 31 35.1**	**-0.3**
	SNR=24						
BR131	**Keskin Array S**	**76.12**	**342**	P	**P**	**21 31 34.8**	**-0.7**
BR131				pmax	pmax		
	comp=Z,176nm,1.1s						
BRTR	**Keskin Array B**	**76.12**	**342**	P	**P**	**21 31 34.4**	**-1.0**
BRTR	**Keskin Array B**	**76.12**	**342**	P	**P**	**21 31 34.7**	**-0.7**
	comp=Z,23nm,0.9s,baz=170,slow=8.7,SNR=51						
BRTR				LR	LR	22 02 25.4	
	comp=Z,3μm,20.6s,baz=141,slow=34						
	comp=Z,23nm,0.9s						
APE	**Apeiranthos**	**76.13**	**335**	⇑P	**P**	**21 31 35.8**	**+0.4**
APE	**Apeiranthos**	**76.13**	**335**	*i*P	**P**	**21 31 36.0**	**+0.6**
APE				pmax	pmax		
	comp=Z,144nm,1.4s						
APE				MLR	MLR		
	comp=Z,5μm,20.0s						
BR106	**Keskin Array S**	**76.13**	**342**	P	**P**	**21 31 34.3**	**-1.2**
	comp=Z,257nmcomp=Z,34nm,1.0s						
BATM	**Batumi**	**76.24**	**349**	⇑P	**P**	**21 31 35.4**	**-0.6**
BATM	**Batumi**	**76.24**	**349**	P	**P**	**21 31 35.3**	**-0.6**
ARSB	**Arslanbob**	**76.34**	**13**	P	**P**	**21 31 36.4**	**-0.2**
ARSB				IAmb	IAmb	21 31 52.3	
	comp=Z,192nm,1.5s						
ARSB	**Arslanbob**	**76.34**	**13**	P	**P**	**21 31 36.4**	**-0.2**
ARSB				pmax	pmax		
	comp=Z,192nm,1.5s						
ARSB				MLR	MLR		
	comp=Z,4μm,21.0s						
MANT	**Manisa**	**76.41**	**338**	P	**P**	**21 31 37.0**	**-0.3**
MANT				IAmb	IAmb	21 31 41.9	
	comp=Z,104nm,1.3s						
ANTO	**Ankara**	**76.47**	**342**	P	**P**	**21 31 36.6**	**-0.8**
ANTO				IAmb	IAmb	21 31 41.5	
	comp=Z,64nm,1.1s						
ANTO	**Ankara**	**76.47**	**342**	IAMs_20	IAMs_20	22 01 32.5	
	comp=Z,7μm,22.0s						
ANTO	**Ankara**	**76.47**	**342**	P	**P**	**21 31 37.9**	**+0.5**
ANTO				P	**P**	**21 31 37.9**	**+0.5**
ANTO	**Ankara**	**76.47**	**342**	⇑P	**P**	**21 31 36.7**	**-0.6**
ANTO	**Ankara**	**76.47**	**342**	P	**P**	**21 31 36.6**	**-0.8**
ANTO				pmax	pmax		
	comp=Z,64nm,1.1s						
ANTO				MLR	MLR		
	comp=Z,8μm,22.0s						
ANTO	**Ankara**	**76.47**	**342**	P	**P**	**21 31 36.9**	**-0.5**
	comp=Z,903nmcomp=Z,35nm,1.3s						
IUG	**Iuzhnay**	**76.64**	**10**	⇓*i*P	**P**	**21 31 38.2**	**-0.1**
	comp=Z,77nm,1.3s						
IUG				*e*S	**S**	**21 41 25.4**	**+0.7**
IUG	**Iuzhnay**	**76.64**	**10**	*di*P	**P**	**21 31 38.2**	**-0.1**
IUG				*e*S	**S**	**21 41 25.4**	**+0.7**
IUG				pmax	pmax		
	comp=Z,77nm,1.3s						
BTLR	**Botlikh**	**76.67**	**352**	*di*P	**P**	**21 31 38.8**	**+0.4**
GYA	**Guiyang**	**76.67**	**45**	⇓P	**P**	**21 31 38.1**	**-0.8**
GYA				pP	pwP	21 31 45.4	+0.1
GYA				S	**S**	**21 41 28.4**	**+2.6**
GYA				pmax	pmax		
	comp=Z,27nm,0.9s						
GYA				pmax	pmax		
	comp=Z,1μm,5.3s						
GYA				LR	LR		
	comp=Z,1μm,19.4s						
GYA				LR	LR		
	comp=Z,3μm,19.3s						
GYA				LR	LR		
	comp=Z,5μm,20.2s						
FAKI	**Fak Fak**	**76.72**	**85**	P	**P**	**21 31 39.0**	**-0.4**
FAKI				IAmb	IAmb	21 31 48.0	
	comp=Z,159nm,1.2s						
FAKI	**Fak Fak**	**76.72**	**85**	P	**P**	**21 31 41.4**	**+2.1**
FAKI	**Fak Fak**	**76.72**	**85**	P	**P**	**21 31 39.2**	**-0.1**
	comp=Z,2μmcomp=Z,3μmcomp=Z,135nm,1.1s						
CHM	**Chimkent**	**76.75**	**10**	*e*P	**P**	**21 31 38.8**	**0.0**
	comp=Z,138nm,1.1s						
CHM				LR	LR	22 02 45.2	
	comp=Z,3μm,22.1s						
CHM	**Chimkent**	**76.75**	**10**	*e*P	**P**	**21 31 38.8**	**0.0**
CHM				pmax	pmax		
	comp=Z,138nm,1.1s						
MAK	**Makhachkala**	**76.83**	**353**	*e*P	**P**	**21 31 34.9**	**-4.3**
MAK				*e*PPP	PPP	21 36 16.9	
MAK				*e*S	**S**	**21 41 19.8**	**-6.7**
MAK				*e*SS	**SS**	**21 46 17.3**	**-6.3**
MAK				pmax	pmax		
	comp=Z,211nm,1.5s						
MAK				MLR	MLR		
	comp=Z,5μm,17.0s						
DAV	**Davao City (W)**	**77.03**	**72**	LR	LR	22 02 33.5	
	comp=Z,962nm,19.8s,baz=229,slow=33						
SWI	**Sorong**	**77.05**	**82**	P	**P**	**21 31 41.1**	**-0.1**
	comp=Z,3μmcomp=Z,165nm,1.3s						
EFI	**East Falkland**	**77.31**	**216**	IAMs_20	IAMs_20	21 58 01.7	
	comp=Z,6μm,21.0s						
ILGA	**Ilgaz**	**77.35**	**343**	P	**P**	**21 31 41.9**	**-0.6**
ILGA				IAmb	IAmb	21 31 46.7

SNR=25
AAK **Ala-Archa** **77.89** **14** P **P** **21 31 46.2 +0.8**
SNR=63
AAK **Ala-Archa** **77.89** **14** P **P** **21 31 45.8 +0.4**
AAK IAmb IAmb 21 31 50.7
comp=Z,138nm,1.2s
AAK **Ala-Archa** **77.89** **14** IAMs_20 IAMs_20 22 03 36.8
comp=Z,6µm,19.0s
AAK **Ala-Archa** **77.89** **14** LR LR 22 03 57.3
comp=Z,6µm,19.6s,baz=196,slow=34
AAK **Ala-Archa** **77.89** **14** P **P** **21 31 46.1 +0.8**
AAK P **P** **21 31 46.1 +0.8**
AAK **Ala-Archa** **77.89** **14** P **P** **21 31 45.8 +0.4**
AAK pmax pmax
comp=Z,138nm,1.3s
AAK MLR MLR
comp=Z,6µm,19.0s
AAK **Ala-Archa** **77.89** **14** ⇓P **P** **21 31 46.2 +0.8**
SAHE **Sakarya_HENDEK** **77.92** **341** ⇓P **P** **21 31 44.8 -0.6**
KDJ **Kajisay** **77.97** **16** P **P** **21 31 45.9 0.0**
KDJ IAmb IAmb 21 31 49.0
comp=Z,124nm,0.9s
KDJ IAMs_20 IAMs_20 22 03 27.6
comp=Z,7µm,20.0s
KDJ **Kajisay** **77.97** **16** P **P** **21 31 45.9 0.0**
KDJ pmax pmax
comp=Z,124nm,0.9s
KDJ MLR MLR
comp=Z,7µm,20.0s
KBK **Karagaybulak** **78.00** **14** P **P** **21 31 46.7 +0.7**
SNR=41
BOOM **Boomskoye usch** **78.05** **15** P **P** **21 31 46.2 -0.1**
BOOM IAmb IAmb 21 31 51.1
comp=Z,93nm,1.2s
BOOM **Boomskoye usch** **78.05** **15** P **P** **21 31 46.2 -0.1**
BOOM pmax pmax
comp=Z,93nm,1.2s
GULI **GuiLin** **78.06** **49** P **P** **21 31 47.1 +0.6**
GULI S **S** **21 41 46.1 +5.4**
GULI SS **SS** **21 46 45.3 +2.5**
GULI pmax pmax
comp=Z,42nm,1.1s
GULI pmax pmax
comp=Z,980nm,8.4s
GULI LR LR
comp=Z,2µm,19.4s
GULI LR LR
comp=Z,2µm,19.6s
GULI LR LR
comp=Z,3µm,19.9s
FRU1 **Bishkek** **78.09** **14** P **P** **21 31 46.4 +0.1**
FRU1 IAmb IAmb 21 31 50.9
comp=Z,136nm,1.2s
FRU1 IAMs_20 IAMs_20 22 03 42.6
comp=Z,7µm,20.0s
FRU1 **Bishkek** **78.09** **14** P **P** **21 31 46.4 +0.1**
FRU1 pmax pmax
comp=Z,136nm,1.2s
FRU1 MLR MLR
comp=Z,7µm,20.0s
KBZ **Khabaz** **78.14** **350** P **P** **21 31 46.5 0.0**
comp=Z,18nm,0.9s,baz=133,slow=3.8,SNR=27
KBZ LR LR 22 04 08.3
comp=Z,7µm,21.0s,baz=164,slow=34
comp=Z,18nm,0.9s
SHA1 **Shidzhatmaz** **78.18** **350** *d* iP **P** **21 31 47.2 +0.1**
CHMS **Chumysh** **78.29** **14** P **P** **21 31 47.7 +0.2**
SNR=51
EZN **Ezine** **78.34** **337** ⇑P **P** **21 31 48.5 +0.7**
EZN **Ezine** **78.34** **337** P **P** **21 31 48.4 +0.7**
TKM2 **Tokmak 2** **78.39** **14** P **P** **21 31 48.2 0.0**
SNR=45
KVAR **Kislovodsk Arr** **78.39** **350** LR LR 22 04 24.0
comp=Z,4µm,20.9s,baz=81,slow=34
KIV **Kislovodsk** **78.39** **350** P **P** **21 31 47.7 -0.4**
KIV IAMs_20 IAMs_20 22 04 04.4
comp=Z,8µm,21.0s
KIV **Kislovodsk** **78.39** **350** P **P** **21 31 48.4 +0.4**
KIV P **P** **21 31 48.4 +0.4**
KIV **Kislovodsk** **78.39** **350** ⇑P **P** **21 31 48.0 -0.1**
KIV **Kislovodsk** **78.39** **350** *e*P **P** **21 31 47.5 -0.5**
KIV *e* 21 34 43.7
KIV eS **S** **21 41 44.1 +0.5**
KIV eSS **SS** **21 46 48.4 +1.1**
KIV pmax pmax
comp=Z,46nm,1.0s
KIV pmax pmax
comp=Z,160nm,3.1s
KIV MLR MLR
comp=Z,5µm,19.0s
KIV **Kislovodsk** **78.39** **350** ⇓P **P** **21 31 48.1 +0.1**
KIV **Kislovodsk** **78.39** **350** P **P** **21 31 47.5 -0.5**
comp=Z,2µmcomp=Z,42nm,1.2s
GOMU **GeErMu** **78.40** **31** P **P** **21 31 48.5 -0.1**
GOMU sP pwP 21 31 54.5 -0.5
GOMU PP **PP** **21 34 47.8 +1.5**
GOMU S **S** **21 41 48.3 +3.7**
GOMU SS **SS** **21 46 52.1 +3.9**
GOMU pmax pmax
comp=Z,34nm,1.3s
GOMU pmax pmax
comp=Z,1µm,8.5s
GOMU LR LR
comp=Z,2µm,20.9s
GOMU LR LR
comp=Z,3µm,18.3s
GOMU LR LR
comp=Z,6µm,21.2s
GZH **Guangzhou** **78.41** **52** P P 21 31 53.8 +5.3
GZH LR LR
comp=Z,1µm,16.8s
GZH LR LR
comp=Z,2µm,17.5s
GZH LR LR
comp=Z,4µm,19.2s
CD2 **Chengdu** **78.43** **40** P **P** **21 31 47.6 -0.9**
CD2 pP pP 21 31 50.8 0.0
CD2 S **S** **21 41 43.3 -1.2**
CD2 SS **SS** **21 46 43.1 -5.1**
CD2 pmax pmax
comp=Z,100nm,1.1s
CD2 pmax pmax
comp=Z,1µm,8.2s
CD2 LR LR
comp=Z,7µm,23.0s
CD2 LR LR
comp=Z,6µm,22.6s
CD2 LR LR
comp=Z,6µm,20.1s
USP **Ospenovka** **78.50** **13** P **P** **21 31 48.8 +0.2**
SNR=50
SOC **Sochi** **78.50** **348** *e*P **P** **21 31 47.0 -1.5**
SOC *e* 21 34 41.0
SOC *e*PPP PPP 21 36 32.9
SOC eS **S** **21 41 44.6 0.0**
SOC *e*SSS SSS 21 50 12.4
SOC pmax pmax
comp=Z,30nm,0.8s
SOC MLR MLR
comp=Z,4µm,17.0s
MTSU **Mount Surprise** **78.54** **104** P **P** **21 31 49.5 -0.1**
comp=Z,19nm,1.3s
MTSU **Mount Surprise** **78.54** **104** P **P** **21 31 50.6 +1.1**
PRZ **Przheval'sk** **78.59** **17** P **P** **21 31 50.0 +0.7**
PRZ IAMs_20 IAMs_20 22 02 41.4
comp=Z,7µm,21.0s
PRZ **Przheval'sk** **78.59** **17** P **P** **21 31 50.0 +0.7**
PRZ pmax pmax
comp=Z,228nm,1.0s
PRZ MLR MLR
comp=Z,7µm,21.0s
PYZ **Puysegur Point** **78.65** **138** IAMs_20 IAMs_20 21 59 50.8
comp=Z,5µm,19.0s
SGDS **Sogindy** **78.70** **14** ⇓*i* P **P** **21 31 49.6 -0.1**
TNSS **Tian-Shan** **78.79** **15** *e*P **P** **21 31 50.1 -0.6**
TNSS **Tian-Shan** **78.79** **15** *e*P **P** **21 31 50.0 -0.6**
MDOK **Medeo** **78.93** **15** *e*P **P** **21 31 50.9 -0.3**
MDOK eS **S** **21 41 49.9 +0.4**
MDOK LR LR 22 05 24.0
MDOK **Medeo** **78.93** **15** *e*P **P** **21 31 50.8 -0.3**
MDOK eS **S** **21 41 49.9 +0.4**
AAA **Alma-Ata** **78.94** **15** *e*P **P** **21 31 51.0 -0.1**
comp=Z,80nm,1.1s
AAA LR LR 22 03 52.9
AAA **Alma-Ata** **78.94** **15** *e*P **P** **21 31 51.0 -0.1**
AAA pmax pmax
comp=Z,80nm,1.1s
AGG **Agios Georgios** **79.02** **334** P **P** **21 31 51.7 +0.2**
AGG **Agios Georgios** **79.02** **334** ⇑P **P** **21 31 51.7 +0.2**
CTAO **Charters Tower** **79.07** **107** P **P** **21 31 51.2 -1.2**
CTAO **Charters Tower** **79.07** **107** P **P** **21 31 53.8 +1.4**
CTAO **Charters Tower** **79.07** **107** P **P** **21 31 51.2 -1.2**
CTAO pmax pmax
comp=Z,51nm,1.2s
CTAO MLR MLR
comp=Z,3µm,20.0s
CTAO **Charters Tower** **79.07** **107** ⇓P **P** **21 31 53.5 +1.2**
RKPI **Ransiki, Papua** **79.10** **84** P **P** **21 31 52.8 +0.2**
comp=Z,98nm,1.1s
SATY **Saty** **79.14** **16** ⇓*i* P **P** **21 31 52.1 -0.1**
comp=Z,117nm,1.9s
SATY *e*S **S** **21 41 52.2 +0.5**
SATY **Saty** **79.14** **16** *d* iP **P** **21 31 52.1 -0.1**
SATY *e*S **S** **21 41 52.2 +0.5**
SATY pmax pmax
comp=Z,117nm,1.9s
DCZ **Deep Cove** **79.34** **138** IAMs_20 IAMs_20 22 02 54.1
comp=Z,4µm,18.0s
LABN **Labinsk** **79.36** **349** *e*P **P** **21 31 51.8 -1.4**
LABN eS **S** **21 41 54.0 +0.3**
LABN pmax pmax
comp=Z,141nm,1.6s
LABN pmax pmax
comp=Z,740nm,2.0s
LABN MLR MLR
comp=Z,2µm,16.0s
UZB **Uzynbulak** **79.37** **17** ⇓*i* P **P** **21 31 53.4 -0.2**
comp=Z,101nm,1.4s
UZB eS **S** **21 41 54.7 +0.5**
UZB **Uzynbulak** **79.37** **17** *d* iP **P** **21 31 53.3 -0.2**
UZB eS **S** **21 41 54.7 +0.5**
UZB pmax pmax
comp=Z,101nm,1.4s
ALN **Alexandroupoli** **79.40** **337** P **P** **21 31 53.0 -0.5**
ALN **Alexandroupoli** **79.40** **337** P **P** **21 31 53.0 -0.5**
ALN pmax pmax
comp=Z,39nm,1.2s
ALN MLR MLR
comp=Z,3µm,20.0s
ALN **Alexandroupoli** **79.40** **337** ⇓P **P** **21 31 53.1 -0.4**
GOF **Gofitskoye** **79.42** **350** *ce*P **P** **21 31 53.3 -0.2**
GOF eS **S** **21 41 59.8 +5.5**
SHLS **Shalkode** **79.48** **17** *e*P **P** **21 31 54.6 +0.5**
comp=Z,115nm,1.6s
SHLS **Shalkode** **79.48** **17** *e*P **P** **21 31 54.5 +0.5**
SHLS pmax pmax
comp=Z,115nm,1.6s
WHZ **Wether Hill Ro** **79.52** **139** P **P** **21 31 54.0 -0.5**
WHZ IAmb IAmb 21 32 04.5
comp=Z,80nm,1.0s
WHZ IAMs_20 IAMs_20 22 00 34.7
comp=Z,5µm,19.0s
TW1H **Toowoomba 1 Ha** **79.53** **116** P **P** **21 31 56.3 +1.4**
USHA **Ushuaia** **79.78** **209** LR LR 21 59 52.5
comp=Z,3µm,21.0s,baz=117,slow=30
RDO **Rodhopi** **79.79** **337** P **P** **21 31 55.2 -0.4**
RDO **Rodhopi** **79.79** **337** ⇓P **P** **21 31 55.3 -0.4**
COEN **Coen** **79.82** **100** P **P** **21 31 55.1 -1.5**
comp=Z,0.0nmcomp=Z,31nm,1.7s
COEN **Coen** **79.82** **100** P **P** **21 31 55.3 -1.2**
LIT **Litokhoron** **79.91** **334** ⇑P **P** **21 31 56.0 -0.4**
MLZ **Mavora Lakes** **79.94** **138** IAMs_20 IAMs_20 22 00 49.9
comp=Z,7µm,19.0s
EIDS **Eidsvold** **80.03** **114** P **P** **21 31 56.9 -0.6**
comp=Z,49nm,1.4s
EIDS **Eidsvold** **80.03** **114** P **P** **21 31 56.7 -0.8**
EIDS **Eidsvold** **80.03** **114** P **P** **21 31 58.8 +1.3**
EIDS **Eidsvold** **80.03** **114** ⇑P **P** **21 31 57.5 0.0**
ARXS **Arharly** **80.10** **16** *e*P **P** **21 31 57.1 -0.3**
ANN **Anapa** **80.10** **346** *e*P **P** **21 31 56.6 -0.6**
ANN *e* 21 34 57.9
ANN eS **S** **21 42 00.8 -0.7**
ANN pmax pmax
comp=Z,53nm,1.0s
ANN pmax pmax
comp=Z,1µm,5.2s
ANN MLR MLR
comp=Z,6µm,18.0s
BTLS **Baital** **80.13** **13** ⇓*i* P **P** **21 31 57.1 -0.3**
BTLS eS **S** **21 42 02.4 +0.6**
BTLS **Baital** **80.13** **13** *d* iP **P** **21 31 57.0 -0.3**
BTLS eS **S** **21 42 02.4 +0.6**
KDZ **Kurdzhali** **80.29** **337** *i* P **P** **21 31 58.8 +0.4**
ERBR **Yeremizino-Bor** **80.45** **349** *e*P **P** **21 31 57.6 -1.5**
ERBR *e* 21 35 04.3
ERBR eS **S** **21 42 05.4 +0.3**
ERBR pmax pmax
comp=Z,110nm,0.9s
ERBR pmax pmax
comp=Z,1µm,3.8s
ERBR MLR MLR
comp=Z,3µm,18.0s
MMB **Musomishta** **80.75** **336** *i* P **P** **21 32 00.0 -0.8**
RAFF **Raffo Rosso** **80.75** **327** IAMs_20 IAMs_20 22 09 42.5
comp=Z,6µm,19.0s
WKZ **Wanaka** **80.77** **138** IAMs_20 IAMs_20 22 01 15.9
comp=Z,7µm,19.0s
BAKI **Biak** **80.87** **85** P **P** **21 32 03.3 +1.1**
comp=Z,2µmcomp=Z,36nm,1.9s
CEL **Celeste** **80.94** **329** IAMs_20 IAMs_20 22 10 51.5
comp=Z,7µm,19.0s
VAE **Valguarnera** **80.94** **327** LR LR 22 09 49.5
comp=Z,13µm,18.1s,baz=134,slow=37
SIM **Simferopol'** **80.94** **344** *e*P **P** **21 32 01.3 -0.4**
SIM eS **S** **21 42 13.1 +2.8**
SIM pmax pmax
comp=Z,111nm,1.2s
SIM MLR MLR
comp=Z,1µm,17.0s
VAY **Valandovo** **80.96** **335** *i* P **P** **21 32 02.3 +0.4**
TDK **Taldyqorghan** **80.98** **16** *e*P **P** **21 32 01.5 -0.5**
comp=Z,43nm,0.9s
TDK LR LR 22 04 52.2
comp=Z,3µm,18.2s
TDK **Taldyqorghan** **80.98** **16** *e*P **P** **21 32 01.5 -0.5**
TDK pmax pmax
comp=Z,43nm,0.9s
PRD **Provadia** **81.03** **339** *i* P **P** **21 32 02.5 +0.2**
ENH **Enshi** **81.16** **45** P **P** **21 32 02.3 -1.0**
ENH IAmb IAmb 21 32 07.6
comp=Z,210nm,1.4s
ENH IAMs_20 IAMs_20 22 07 14.9
comp=Z,4µm,18.0s
ENH **Enshi** **81.16** **45** P **P** **21 32 03.2 -0.1**
KKB **Krupnik** **81.22** **336** *i* P **P** **21 32 02.5 -0.8**
ELND **Elena** **81.29** **338** ⇑P **P** **21 32 03.4 -0.3**
MG03 **Isla Dawson** **81.31** **209** IAMs_20 IAMs_20 21 59 38.3
comp=Z,5µm,21.0s
TIP **Timpagrande** **81.34** **330** P **P** **21 32 03.8 -0.3**
TIP IAMs_20 IAMs_20 22 11 39.3
comp=Z,5µm,18.0s
TIP **Timpagrande** **81.34** **330** ⇑P **P** **21 32 04.7 +0.6**
OHR **Ohrid** **81.41** **334** *i* P **P** **21 32 05.5 +1.1**
LOZB **Loznitsa** **81.47** **339** ⇑P **P** **21 32 04.4 -0.2**
RAZG **Razgrad** **81.67** **339** ⇓P **P** **21 32 05.4 -0.3**
LBZ **Lake Benmore** **81.70** **139** P **P** **21 32 05.8 -0.4**
LBZ IAMs_20 IAMs_20 22 04 15.4
comp=Z,6µm,18.0s
CNSH **ChangSha** **81.73** **48** P **P** **21 32 05.9 -0.4**
CNSH S **S** **21 42 17.0 -2.2**
CNSH pmax pmax
comp=Z,68nm,1.8s
CNSH LR LR
comp=Z,2µm,18.0s
CNSH LR LR
comp=Z,2µm,16.9s
CNSH LR LR
comp=Z,3µm,19.1s
VTS **Vitosha** **81.88** **336** *i* P **P** **21 32 06.5 -0.4**
KEST **Kesra** **81.93** **323** P **P** **21 32 07.2 -0.1**
KEST IAmb IAmb 21 32 44.9
comp=Z,202nm,1.9s
KEST **Kesra** **81.93** **323** P **P** **21 32 07.3 -0.1**
comp=Z,7.8nm,0.9s,baz=172,slow=6.1,SNR=11
KEST LR LR 22 07 18.8
comp=Z,10µm,21.7s,baz=133,slow=35
comp=Z,7.8nm,0.9s
KEST **Kesra** **81.93** **323** P **P** **21 32 09.1 +1.7**
SNR=12
KEST P **P** **21 32 09.1 +1.7**
SNR=12
SKO **Skopje** **81.93** **335** *i* P **P** **21 32 07.5 +0.5**
TIRR **Tirgusor** **81.93** **340** P **P** **21 32 06.7 -0.3**
TIRR IAmb IAmb 21 32 10.0
comp=Z,86nm,1.2s
TIRR **Tirgusor** **81.93** **340** ⇓P **P** **21 32 06.7 -0.3**
TIRR **Tirgusor** **81.93** **340** P **P** **21 32 06.7 -0.3**
TIRR pmax pmax
comp=Z,86nm,1.2s
TIRR MLR MLR
comp=Z,4µm,22.0s
FOZ **Fox Glacier** **82.04** **138** P **P** **21 32 08.7 +0.8**
FOZ IAmb IAmb 21 32 19.1
comp=Z,119nm,1.1s
FOZ IAMs_20 IAMs_20 22 04 27.4
comp=Z,6µm,18.0s
PLVB **Pleven** **82.10** **337** ⇓P **P** **21 32 06.9 -1.0**
TLBR **Topalu** **82.12** **340** ⇑P **P** **21 32 06.3 -1.6**
TPGR **Topolog** **82.30** **340** ⇑P **P** **21 32 08.4 -0.6**
LZDM **Lanzhou Array** **82.34** **37** P **P** **21 32 09.3 -0.5**
comp=Z,49nm,1.0s,baz=193,slow=6.1,SNR=16
LZDM LR LR 22 08 42.2
comp=Z,2µm,18.1s,baz=250,slow=36
comp=Z,49nm,1.0s
MPEP **Malo Peshtene** **82.36** **337** *i* P **P** **21 32 08.8 -0.5**
WMQ **Urumqi** **82.41** **22** P **P** **21 32 09.5 -0.1**
WMQ pP pwP 21 32 17.1 +1.1
WMQ S **S** **21 42 26.4 +0.7**
WMQ pmax pmax
comp=Z,19nm,0.9s
WMQ pmax pmax
comp=Z,1µm,5.1s
WMQ LR LR
comp=Z,9µm,22.3s
WMQ LR LR
comp=Z,7µm,17.7s
WMQ LR LR
comp=Z,9µm,20.9s
SGRR **Singureni** **82.43** **339** ⇓P **P** **21 32 09.6 0.0**
TLCR **82.49** **341** ⇑P **P** **21 32 08.8 -1.1**
TLCR **82.49** **341** P **P** **21 32 08.8 -1.1**
LZH **Lanzhou** **82.52** **37** *e*P **P** **21 32 10.4 -0.1**
LZH sP pwP 21 32 18.4 +1.5
LZH S S 21 42 15.5 -12
LZH SS **SS** **21 47 46.3 -3.1**
LZH pmax pmax
comp=Z,52nm,1.3s
LZH pmax pmax
comp=Z,1µm,4.1s
LZH LR LR
comp=Z,3µm,17.5s
LZH LR LR
comp=Z,3µm,17.5s
LZH LR LR
comp=Z,4µm,18.2s
SMPI **Sarmi** **82.59** **87** P **P** **21 32 12.0 +0.7**
comp=Z,2µmcomp=Z,2µmcomp=Z,27nm,1.5s
MATE **Matera** **82.61** **331** ⇑P **P** **21 32 10.6 0.0**
RPZ **Rata Peaks** **82.61** **138** LR LR 22 02 27.7
comp=Z,7µm,18.3s,baz=234,slow=31
CFR **Carcaliu** **82.67** **340** ⇑P **P** **21 32 10.9 0.0**
CFR **Carcaliu** **82.67** **340** P **P** **21 32 10.8 0.0**
VLAD **Vladila** **82.72** **337** ⇓P **P** **21 32 11.4 +0.3**
SULR **82.76** **339** ⇓P **P** **21 32 11.2 -0.1**
AB31 **Akbulak array** **82.77** **2** P **P** **21 32 10.9 -0.3**
AB31 IAmb IAmb 21 32 14.8
comp=Z,94nm,1.2s
ABKAR **Akbulak array** **82.77** **2** P **P** **21 32 10.6 -0.6**
HUMR **Humele** **83.02** **338** ⇑P **P** **21 32 12.9 +0.3**
ACER **Acerenza** **83.03** **330** IAMs_20 IAMs_20 22 12 32.7
comp=Z,4µm,19.0s
ISR **Istrita** **83.08** **339** ⇑P **P** **21 32 13.5 +0.5**
ISR **Istrita** **83.08** **339** P **P** **21 32 13.5 +0.5**
ISR **Istrita** **83.08** **339** P **P** **21 32 13.2 +0.2**
comp=Z,3µmcomp=Z,100nm,1.2s
TATR **Tatarca** **83.08** **340** ⇓P **P** **21 32 12.4 -0.5**
PDG **Podgorica** **83.13** **333** P **P** **21 32 13.0 -0.2**
PDG IAmb IAmb 21 32 28.8
comp=Z,48nm,1.0s
PDG **Podgorica** **83.13** **333** ⇑P **P** **21 32 13.3 +0.1**
PDG **Podgorica** **83.13** **333** ⇓P **P** **21 32 13.6 +0.4**
QZH **Quanzhou** **83.17** **54** ⇓*i* P **P** **21 32 15.8 +1.9**
QZH S **S** **21 42 38.5 +4.4**
QZH SS **SS** **21 48 04.1 +5.0**
QZH pmax pmax
comp=Z,810nm,5.2s
QZH LR LR
comp=Z,2µm,19.2s
QZH LR LR
comp=Z,2µm,17.2s
QZH LR LR
comp=Z,2µm,16.8s
SCTR **Scanteiesti** **83.17** **340** ⇑P **P** **21 32 12.5 -0.9**
GTA **Gaotai** **83.26** **32** P **P** **21 32 14.4 +0.2**
GTA sP pwP 21 32 23.3 +2.6
GTA S **SKSac** **21 42 35.8 -0.6**
GTA SS **SS** **21 48 03.5 +3.2**
GTA pmax pmax
comp=Z,94nm,2.0s
GTA pmax pmax
comp=Z,1µm,7.4s
GTA LR LR
comp=Z,3µm,18.2s
GTA LR LR
comp=Z,4µm,18.5s
GTA LR LR
comp=Z,4µm,17.4s
BOVS **Bovan** **83.30** **335** ⇑P **P** **21 32 13.6 -0.5**
VLDR **Vladesti** **83.30** **341** ⇑P **P** **21 32 13.6 -0.5**
OXZ **Oxford** **83.41** **139** IAMs_20 IAMs_20 22 02 21.8
comp=Z,5µm,20.0s
VARL **Varlezi** **83.41** **340** ⇓P **P** **21 32 14.4 -0.3**
BISRR **Bisoca** **83.42** **340** ⇑P **P** **21 32 14.7 -0.1**
PUNG **Punghina** **83.45** **337** ⇑P **P** **21 32 14.9 0.0**
PURM **Purcari** **83.45** **342** ⇑P **P** **21 32 14.7 -0.1**
INZ **Inchbonnie** **83.47** **138** IAMs_20 IAMs_20 22 01 26.5
comp=Z,5µm,22.0s
TPUB **Ta-pu** **83.48** **57** P **P** **21 32 15.5 -0.1**
TPUB **Ta-pu** **83.48** **57** P **P** **21 32 17.0 +1.4**
MAKZ **Makanchi** **83.53** **17** P **P** **21 32 14.9 -0.4**
MAKZ IAmb IAmb 21 32 19.9
comp=Z,134nm,1.3s
MAKZ **Makanchi** **83.53** **17** P **P** **21 32 14.9 -0.4**
MAKZ pmax pmax
comp=Z,134nm,1.3s
MAKZ MLR MLR
comp=Z,2µm,21.0s
MLR **Muntele Rosu** **83.59** **339** P **P** **21 32 15.2 -0.6**
MLR IAmb IAmb 21 32 24.8
comp=Z,140nm,1.4s
MLR IAMs_20 IAMs_20 22 06 56.5
comp=Z,5µm,22.0s
MLR **Muntele Rosu** **83.59** **339** LR LR 22 07 29.5
comp=Z,5µm,21.8s,baz=174,slow=34
MLR **Muntele Rosu** **83.59** **339** ⇑P **P** **21 32 14.9 -0.9**
MLR **Muntele Rosu** **83.59** **339** P **P** **21 32 15.2 -0.6**
MLR pmax pmax
comp=Z,140nm,1.4s
MLR MLR MLR
comp=Z,5µm,22.0s
MLR **Muntele Rosu** **83.59** **339** P **P** **21 32 14.8 -0.9**
comp=Z,1µmcomp=Z,70nm,1.7s
MKAR **Makanchi Array** **83.59** **18** P **P** **21 32 15.2 -0.4**
comp=Z,17nm,0.9s,baz=213,slow=4.2,SNR=63
MKAR PKKPbc **PKKPbc** **21 50 35.1 -0.2**
comp=Z,1.1nm,0.9s,baz=2.9,slow=2.4,SNR=5.0
MKAR LR LR 22 06 46.2
comp=Z,1µm,21.8s,baz=194,slow=34
comp=Z,17nm,0.9s
XAN **Xi'an** **83.63** **42** ⇓P **P** **21 32 15.5 -0.7**
XAN pP pwP 21 32 22.3 -0.3
XAN S **SKSac** **21 42 40.8 +1.9**
XAN pmax pmax
comp=Z,120nm,1.0s
XAN pmax pmax
comp=Z,2µm,6.7s
XAN LR LR
comp=Z,4µm,21.7s
XAN LR LR
comp=Z,4µm,21.6s
XAN LR LR
comp=Z,5µm,22.4s
GHRR **83.69** **340** ⇑P **P** **21 32 15.9 -0.2**
GHRR **83.69** **340** P **P** **21 32 15.8 -0.2**
PLOR5 **Plostina Array** **83.70** **340** P **P** **21 32 15.5 -0.7**

	comp=Z,2µmcomp=Z,119nm,1.1s									
SRE	**Strehaia**	**83.70**	**337**	⇑P		**P**		**21 32 16.7**	**+0.4**	
SRE	**Strehaia**	**83.70**	**337**	P		**P**		**21 32 16.6**	**+0.4**	
VRI	**Vrincioaia**	**83.70**	**340**	⇓P		**P**		**21 32 15.8**	**-0.4**	
VRI	**Vrincioaia**	**83.70**	**340**	P		**P**		**21 32 15.8**	**-0.4**	
VRI	**Vrincioaia**	**83.70**	**340**	P		**P**		**21 32 15.5**	**-0.7**	
	comp=Z,2µmcomp=Z,141nm,0.9s									
PLOR	**Plostina**	**83.71**	**340**	⇑P		**P**		**21 32 15.6**	**-0.7**	
PLOR	**Plostina**	**83.71**	**340**	P		**P**		**21 32 16.0**	**-0.3**	
TREB	**Trebinje**	**83.72**	**333**	*e*P		**P**		**21 32 17.9**	**+1.6**	
BIR	**Birlad**	**83.81**	**340**	⇑P		**P**		**21 32 16.1**	**-0.6**	
BIR	**Birlad**	**83.81**	**340**	P		**P**		**21 32 16.1**	**-0.6**	
VOIR		**83.81**	**338**	⇓P		**P**		**21 32 15.7**	**-1.2**	
VOIR		**83.81**	**338**	P		**P**		**21 32 15.6**	**-1.2**	
VOIR		**83.81**	**338**	P		**P**		**21 32 15.2**	**-1.6**	
	comp=Z,1µmcomp=Z,46nm,1.5s									
COVR	**Voineasa-Covas**	**83.83**	**339**	⇑P		**P**		**21 32 15.7**	**-1.2**	
ARR	**Arges**	**83.88**	**338**	⇑P		**P**		**21 32 16.2**	**-0.9**	
AKTO	**Aktyubinsk**	**83.90**	**1**	LR		LR		22 09 34.7		
	comp=Z,5µm,18.3s,baz=194,slow=36									
JAY	**Jayapura**	**83.97**	**89**	P		**P**		**21 32 17.5**	**-0.9**	
	comp=Z,1µmcomp=Z,47nm,2.6s									
GO09	**Cerro Castillo**	**84.00**	**210**	P		**P**		**21 32 18.2**	**+0.3**	
GO09				IAmb		IAmb		21 32 28.7		
	comp=Z,137nm,1.4s									
YULB	**Yu-li**	**84.00**	**57**	P		**P**		**21 32 17.9**	**-0.4**	
YULB				IAmb		IAmb		21 32 22.5		
	comp=Z,72nm,1.1s									
YULB	**Yu-li**	**84.00**	**57**	P		**P**		**21 32 20.2**	**+1.9**	
KLINJ	**Klinje**	**84.02**	**333**	*e*P		**P**		**21 32 18.1**	**+0.1**	
SSLB	**Suanglung**	**84.02**	**56**	P		**P**		**21 32 17.8**	**-0.6**	
SSLB	**Suanglung**	**84.02**	**56**	P		**P**		**21 32 20.1**	**+1.7**	
TURR	**Turia**	**84.08**	**339**	⇑P		**P**		**21 32 16.8**	**-1.4**	
MILM	**Milestii Mici**	**84.09**	**341**	⇑P		**P**		**21 32 16.4**	**-1.6**	
MILM	**Milestii Mici**	**84.09**	**341**	⇓*i*P		**P**		**21 32 16.5**	**-1.6**	
	comp=Z,1µm,5.0s									
MILM	**Milestii Mici**	**84.09**	**341**	*e*PP		PP		21 35 30.0	-2.7	
MILM				*i* S		**SKSac**		**21 42 41.0**	**-0.1**	
MILM				*e*L		L		22 00 26.0		
MILM				LRM		MLR		22 07 58.0		
	comp=Z,2µm,22.5s									
MILM	**Milestii Mici**	**84.09**	**341**	*d i*P		**P**		**21 32 16.5**	**-1.6**	
MILM				*i* S		**SKSac**		**21 42 41.0**	**-0.1**	
MILM				pmax		pmax				
	comp=Z,1µm,5.0s									
STON	**Ston**	**84.10**	**333**	*e*P		**P**		**21 32 16.8**	**-1.4**	
VASR	**Vaslui**	**84.11**	**341**	⇓P		**P**		**21 32 17.8**	**-0.4**	
RUDO	**Rudo**	**84.11**	**334**	*e*P		**P**		**21 32 17.9**	**-0.4**	
HERR	**Hercliane**	**84.16**	**337**	⇑P		**P**		**21 32 18.3**	**-0.2**	
KIS	**Kishinev**	**84.16**	**341**	⇑P		**P**		**21 32 19.0**	**+0.5**	
KIS	**Kishinev**	**84.16**	**341**	⇓*i*P		**P**		**21 32 17.0**	**-1.5**	
	comp=Z,630nm,1.9s									
KIS				*i* S		**S**		**21 42 43.0**	**-0.1**	
KIS				*e*L		L		22 00 28.0		
KIS				LRM		MLR		22 12 54.0		
	comp=Z,700nm,18.0s									
KIS	**Kishinev**	**84.16**	**341**	*d i*P		**P**		**21 32 17.0**	**-1.5**	
KIS				pmax		pmax				
	comp=Z,630nm,1.9s									
KIS				MLR		MLR				
	comp=Z,700nm,18.0s									
OZUR		**84.19**	**339**	⇑P		**P**		**21 32 17.4**	**-1.3**	
DOPR	**Dopca**	**84.19**	**339**	⇑P		**P**		**21 32 18.2**	**-0.4**	
GVZ	**Greta Valley S**	**84.19**	**139**	IAMs_20		IAMs_20		22 05 03.5		
	comp=Z,4µm,19.0s									
BOSR	**Bodos**	**84.20**	**339**	⇑P		**P**		**21 32 17.6**	**-1.1**	
LOT	**Lotru**	**84.22**	**338**	⇑P		**P**		**21 32 17.8**	**-1.1**	
ONER	**Baraj Valea Uz**	**84.22**	**340**	⇑P		**P**		**21 32 18.4**	**-0.5**	
WHN	**Wuhan**	**84.27**	**47**	P		**P**		**21 32 19.6**	**+0.2**	
WHN				S		**S**		**21 42 45.8**	**+0.9**	
WHN				SS		**SS**		**21 48 18.9**	**+3.7**	
WHN				pmax		pmax				
	comp=Z,320nm,1.3s									
WHN				pmax		pmax				
	comp=Z,3µm,4.5s									
WHN				LR		LR				
	comp=Z,5µm,14.4s									
WHN				LR		LR				
	comp=Z,6µm,17.2s									
WHN				LR		LR				
	comp=Z,9µm,18.0s									
MDVR	**Moldovita**	**84.30**	**336**	⇑P		**P**		**21 32 18.8**	**-0.5**	
DSZ	**Denniston Nort**	**84.31**	**137**	IAMs_20		IAMs_20		22 03 52.8		
	comp=Z,4µm,20.0s									
TESR	**Tescani**	**84.31**	**340**	⇑P		**P**		**21 32 18.0**	**-1.3**	
TESR	**Tescani**	**84.31**	**340**	P		**P**		**21 32 16.9**	**-2.4**	
	comp=Z,1µmcomp=Z,33nm,1.3s									
GZR	**Gura Zlata**	**84.49**	**337**	⇑P		**P**		**21 32 20.3**	**0.0**	
GZR	**Gura Zlata**	**84.49**	**337**	P		**P**		**21 32 20.3**	**0.0**	
MBO	**M'Bour**	**84.51**	**291**	IAMs_20		IAMs_20		22 14 24.6		
	comp=Z,5µm,19.0s									
BRZS	**Berezniki**	**84.69**	**11**	*e*P		**P**		**21 32 21.1**	**0.0**	
BRZS	**Berezniki**	**84.69**	**11**	*e*P		**P**		**21 32 20.0**	**-1.1**	
NACB	**Ninganchiao**	**84.72**	**56**	P		**P**		**21 32 20.6**	**-1.2**	
NACB				IAmb		IAmb		21 32 29.5		
	comp=Z,91nm,1.3s									
NACB	**Ninganchiao**	**84.72**	**56**	P		**P**		**21 32 23.9**	**+2.1**	
KHZ	**Kahutara**	**84.83**	**139**	IAMs_20		IAMs_20		22 02 58.6		
	comp=Z,5µm,20.0s									
KHZ	**Kahutara**	**84.83**	**139**	⇑P		**P**		**21 32 24.6**	**+2.3**	
ZSN	**Zaisan**	**84.87**	**19**	*e*P		**P**		**21 32 22.1**	**0.0**	
	comp=Z,137nm,2.1s									
ZSN				*e*S		**SKSac**		**21 42 45.7**	**-0.5**	
ZSN	**Zaisan**	**84.87**	**19**	*e*P		**P**		**21 32 22.1**	**0.0**	
ZSN				*e*S		**SKSac**		**21 42 45.7**	**-0.5**	
ZSN				pmax		pmax				
	comp=Z,137nm,2.1s									
DEV	**Deva**	**84.88**	**337**	⇑P		**P**		**21 32 22.9**	**+0.8**	
VSL	**Villasalto**	**84.89**	**325**	IAMs_20		IAMs_20		22 09 27.7		
	comp=Z,6µm,20.0s									
THZ	**Tophouse**	**84.92**	**138**	IAMs_20		IAMs_20		22 03 58.8		
	comp=Z,5µm,19.0s									
SURR	**Surduc**	**85.02**	**337**	⇑P		**P**		**21 32 22.8**	**0.0**	
BANR	**Banloc**	**85.03**	**336**	⇑P		**P**		**21 32 22.7**	**-0.1**	
BZS	**Buzias**	**85.07**	**336**	⇑P		**P**		**21 32 23.5**	**+0.4**	
BZS	**Buzias**	**85.07**	**336**	⇑P		**P**		**21 32 23.0**	**-0.1**	
QRZ	**Quartz Range**	**85.33**	**137**	IAMs_20		IAMs_20		22 04 36.7		
	comp=Z,5µm,19.0s									
SORM	**Soroca**	**85.33**	**342**	⇓P		**P**		**21 32 22.9**	**-1.5**	
SORM	**Soroca**	**85.33**	**342**	P		**P**		**21 32 22.8**	**-1.5**	
AQU	**L'Aquila**	**85.39**	**330**	P		**P**		**21 32 24.2**	**-0.7**	
AQU	**L'Aquila**	**85.39**	**330**	P		**P**		**21 32 25.4**	**+0.5**	
AQU	**L'Aquila**	**85.39**	**330**	P		**P**		**21 32 24.4**	**-0.5**	
	comp=Z,880nmcomp=Z,26nm,1.2s									
CJR	**Cluj-Napoca**	**85.40**	**338**	⇓P		**P**		**21 32 27.3**	**+2.4**	
CJR	**Cluj-Napoca**	**85.40**	**338**	P		**P**		**21 32 27.2**	**+2.4**	
VAS01	**Vassouras-RJ**	**85.50**	**246**	*e*P		**P**		**21 32 28.8**	**+2.8**	
ARCR	**ARCALIA**	**85.51**	**339**	⇑P		**P**		**21 32 25.7**	**+0.5**	
MARR	**Marisel-Cluj**	**85.52**	**338**	⇑P		**P**		**21 32 24.4**	**-1.1**	
CAMP	**Campotosto**	**85.54**	**330**	P		**P**		**21 32 25.2**	**-0.5**	
NNZ	**Nelson**	**85.55**	**138**	IAMs_20		IAMs_20		22 04 20.5		
	comp=Z,5µm,20.0s									
PMG	**Port Moresby**	**85.56**	**98**	P		**P**		**21 32 24.7**	**-1.7**	
PMG				IAmb		IAmb		21 32 30.7		
	comp=Z,79nm,1.4s									
PMG	**Port Moresby**	**85.56**	**98**	LR		LR		22 06 20.6		
	comp=Z,3µm,21.9s,baz=232,slow=33									
PMG	**Port Moresby**	**85.56**	**98**	P		**P**		**21 32 24.7**	**-1.7**	
PMG				pmax		pmax				
	comp=Z,79nm,1.4s									
PMG				MLR		MLR				
	comp=Z,3µm,21.0s									
KIJV	**Kijevo**	**85.56**	**332**	*e*P		**P**		**21 32 25.0**	**-0.6**	
MAN01	**Angra dos Reis**	**85.57**	**246**	*e*P		**P**		**21 32 29.5**	**+3.1**	
VRH	**Novokhopyorsk**	**85.62**	**351**	*e*P		**P**		**21 32 22.8**	**-2.9**	
VRH				pmax		pmax				
	comp=Z,130nm,1.4s									
SIRR	**Siria**	**85.63**	**337**	⇓P		**P**		**21 32 25.9**	**0.0**	
BURAR	**Bucovina Array**	**85.73**	**340**	P		**P**		**21 32 26.1**	**-0.4**	
BURAR	**Bucovina Array**	**85.73**	**340**	⇑P		**P**		**21 32 27.3**	**+0.8**	
BURAR	**Bucovina Array**	**85.73**	**340**	P		**P**		**21 32 27.3**	**+0.8**	
VORD	**Divnogorie**	**85.74**	**349**	*e*P		**P**		**21 32 24.7**	**-1.6**	
DRGR		**85.75**	**338**	⇑P		**P**		**21 32 26.1**	**-0.5**	
DRGR		**85.75**	**338**	P		**P**		**21 32 26.1**	**-0.5**	
BUR08	**Bucovina Ar. S**	**85.76**	**340**	P		**P**		**21 32 26.4**	**-0.3**	
BLY	**Banja Luka**	**85.89**	**333**	*e*P		**P**		**21 32 26.6**	**-0.6**	
BLY	**Banja Luka**	**85.89**	**333**	⇑P		**P**		**21 32 27.4**	**+0.2**	
BLY	**Banja Luka**	**85.89**	**333**	⇑P		**P**		**21 32 27.5**	**+0.3**	
NRCA	**Norcia**	**85.91**	**330**	IAMs_20		IAMs_20		22 12 16.8		
	comp=Z,4µm,22.0s									
MESR	**Meseseni**	**86.00**	**338**	⇑P		**P**		**21 32 27.9**	**+0.2**	
LYN	**LuoYang**	**86.00**	**43**	P		**P**		**21 32 28.0**	**0.0**	
LYN				PP		**PP**		**21 35 49.5**	**+1.0**	
LYN				S		**S**		**21 42 58.0**	**-4.0**	
LYN				pmax		pmax				
	comp=Z,100nm,0.9s									
LYN				pmax		pmax				
	comp=Z,2µm,7.9s									
LYN				LR		LR				
	comp=Z,8µm,22.4s									
LYN				LR		LR				
	comp=Z,3µm,19.8s									
LYN				LR		LR				
	comp=Z,10µm,24.5s									
VSR	**Storozhevoye**	**86.00**	**349**	*e*P		**P**		**21 32 24.5**	**-3.1**	
VSR				pmax		pmax				
	comp=Z,90nm,1.3s									
SNZO	**South Karori**	**86.22**	**138**	IAMs_20		IAMs_20		22 05 36.3		
	comp=Z,5µm,20.0s									
BHW	**Baring Head**	**86.25**	**139**	IAMs_20		IAMs_20		22 09 17.0		
	comp=Z,4µm,18.0s									
CMC01	**Camacan, BA**	**86.30**	**254**	*e*P		**P**		**21 32 32.1**	**+2.0**	
KURBB	**Kurchatov Arra**	**86.34**	**14**	P		**P**		**21 32 28.6**	**-0.6**	
	comp=Z,34nm,0.9s,baz=209,slow=5.0,SNR=39									
KURBB				PKKPbc		**PKKPbc**		**21 50 29.2**	**+0.5**	
	comp=Z,0.7nm,0.8s,baz=13,slow=1.8,SNR=6.2									
KURBB				PKPPKP		P'P'df		21 58 37.8	+10	
	comp=Z,3.8nm,0.2s,baz=31,slow=3.8,SNR=5.8									
KURBB				LR		LR		22 08 37.3		
	comp=Z,2µm,21.6s,baz=193,slow=34									
	comp=Z,34nm,0.9s									
MGAB	**Montegabbione**	**86.40**	**329**	⇓P		**P**		**21 32 29.2**	**-0.6**	
KSV	**Kosov**	**86.40**	**340**	P		**P**		**21 32 28.1**	**-1.6**	
VORR	**Voronezh**	**86.44**	**349**	*e*P		**P**		**21 32 27.3**	**-2.4**	
KURK	**Kurchatov**	**86.45**	**14**	P		**P**		**21 32 29.3**	**-0.5**	
KURK				IAmb		IAmb		21 32 32.7		
	comp=Z,54nm,1.1s									
KURK	**Kurchatov**	**86.45**	**14**	P		**P**		**21 32 29.8**	**0.0**	
KURK	**Kurchatov**	**86.45**	**14**	P		**P**		**21 32 29.3**	**-0.5**	
KURK				pmax		pmax				
	comp=Z,54nm,1.1s									
KURK				MLR		MLR				
	comp=Z,3µm,22.0s									
MURB	**Monte Urbino**	**86.51**	**330**	IAMs_20		IAMs_20		22 13 38.7		
	comp=Z,5µm,20.0s									
PARB	**Paraibuna**	**86.55**	**244**	*e*P		**P**		**21 32 32.7**	**+1.4**	
KOVH	**Kovagototos**	**86.70**	**334**	⇓P		**P**		**21 32 30.9**	**-0.3**	
MOSL	**Moslavina**	**86.78**	**333**	*e*P		**P**		**21 32 31.0**	**-0.6**	
CNLB	**Canela**	**86.82**	**237**	*e*P		**P**		**21 32 35.0**	**+2.5**	
CASP	**Castiglione de**	**86.84**	**328**	P		**P**		**21 32 31.1**	**-0.9**	
CASP				IAmb		IAmb		21 32 36.3		
	comp=Z,87nm,1.3s									
STNU	**Starunia**	**86.92**	**340**	P		**P**		**21 32 30.6**	**-1.6**	
LUBAR	**Lubar, Ukraine**	**87.13**	**342**	P		**P**		**21 32 31.6**	**-1.6**	
MRZ	**Mangatainoka R**	**87.15**	**138**	IAMs_20		IAMs_20		22 07 26.8		
	comp=Z,5µm,18.0s									
AY03	**Cochrane**	**87.16**	**212**	P		**P**		**21 32 33.6**	**-0.1**	
PLTB	**Pedras Altas**	**87.20**	**233**	P		**P**		**21 32 34.0**	**-0.3**	
PLTB				IAmb		IAmb		21 32 44.8		
	comp=Z,78nm,1.2s									
PLTB	**Pedras Altas**	**87.20**	**233**	*e*P		**P**		**21 32 35.2**	**+0.9**	
PET01	**Itanhaem-SP**	**87.22**	**243**	*e*P		**P**		**21 32 36.4**	**+1.9**	
MUKU	**Mukachevo**	**87.23**	**338**	P		**P**		**21 32 32.2**	**-1.5**	
BSCB	**Bom Sucesso**	**87.25**	**247**	*e*P		**P**		**21 32 35.6**	**+0.9**	
OSSC	**Osservatorio P**	**87.26**	**329**	IAMs_20		IAMs_20		22 13 03.7		
	comp=Z,4µm,20.0s									
OZLJ	**Ozalj**	**87.27**	**333**	*e*P		**P**		**21 32 33.3**	**-0.6**	
BVAR	**Borovoye Array**	**87.35**	**8**	P		**P**		**21 32 33.8**	**-0.4**	
	comp=Z,68nm,0.8s,baz=180,slow=5.4,SNR=83									
BVAR				LR		LR		22 09 58.7		
	comp=Z,3µm,19.9s,baz=184,slow=34									
	comp=Z,68nm,0.8s									
AK07	**Malin Array Si**	**87.35**	**343**	P		**P**		**21 32 32.6**	**-1.6**	
BRJN	**Brijuni**	**87.35**	**331**	*e*P		**P**		**21 32 33.2**	**-1.1**	
BORK	**Borovoye**	**87.36**	**8**	*d i*P		**P**		**21 32 33.7**	**-0.5**	
BORK				pmax		pmax				
	comp=Z,71nm,0.9s									
BORK				MLR		MLR				
	comp=Z,2µm,18.0s									
BORK	**Borovoye**	**87.36**	**8**	⇓P		**P**		**21 32 33.9**	**-0.4**	
AK10	**Malin Array Si**	**87.38**	**343**	P		**P**		**21 32 32.7**	**-1.7**	
LPSR	**Galich'ya Gora**	**87.38**	**350**	*e*P		**P**		**21 32 31.6**	**-2.7**	
LPSR				pmax		pmax				
	comp=Z,120nm,1.2s									
KIEV	**Kiev**	**87.48**	**343**	P		**P**		**21 32 34.0**	**-0.8**	
KIEV	**Kiev**	**87.48**	**343**	⇑P		**P**		**21 32 34.7**	**-0.2**	
KIEV	**Kiev**	**87.48**	**343**	P		**P**		**21 32 34.0**	**-0.8**	
KIEV				pmax		pmax				
	comp=Z,152nm,1.4s									
KIEV				MLR		MLR				
	comp=Z,3µm,20.0s									
KIEV	**Kiev**	**87.48**	**343**	⇑P		**P**		**21 32 34.3**	**-0.5**	
KIEV	**Kiev**	**87.48**	**343**	P		**P**		**21 32 34.1**	**-0.8**	
	comp=Z,10µmcomp=Z,355nm,1.4s									
AKASG	**Malin Array Be**	**87.48**	**343**	P		**P**		**21 32 34.0**	**-0.8**	
AKASG				IAmb		IAmb		21 32 37.6		
	comp=Z,83nm,1.4s									
AKASG	**Malin Array Be**	**87.48**	**343**	P		**P**		**21 32 34.1**	**-0.7**	
	comp=Z,43nm,1.0s,baz=173,slow=4.3,SNR=57									
AKASG				LR		LR		22 09 54.4		
	comp=Z,2µm,21.7s,baz=146,slow=34									
	comp=Z,43nm,1.0s									
AKASG	**Malin Array Be**	**87.48**	**343**	*i* P		**P**		**21 32 34.0**	**-0.8**	
AKASG				pmax		pmax				
	comp=Z,49nm,1.0s									
AKBB	**Malin Array Si**	**87.48**	**343**	P		**P**		**21 32 34.1**	**-0.8**	
AKBB	**Malin Array Si**	**87.48**	**343**	P		**P**		**21 32 34.1**	**-0.8**	
AKBB				pmax		pmax				
	comp=Z,169nm,1.4s									
AKBB				MLR		MLR				
	comp=Z,3µm,20.0s									
AKBB	**Malin Array Si**	**87.48**	**343**	P		**P**		**21 32 33.2**	**-1.6**	
BFZ	**Birch Farm**	**87.50**	**139**	IAMs_20		IAMs_20		22 05 56.2		
	comp=Z,4µm,21.0s									
BEHE	**Becsehely**	**87.50**	**334**	P		**P**		**21 32 34.7**	**-0.3**	
BEHE				IAmb		IAmb		21 32 39.6		
	comp=Z,65nm,1.5s									
BEHE	**Becsehely**	**87.50**	**334**	*e*P		**P**		**21 32 33.9**	**-1.2**	
UZHM	**Uzhgorod**	**87.51**	**338**	P		**P**		**21 32 34.0**	**-1.0**	
MDT	**Midelt**	**87.58**	**313**	LR		LR		22 12 39.0		
	comp=Z,13µm,19.6s,baz=150,slow=96									
PSZ	**Piszkesteto**	**87.66**	**336**	P		**P**		**21 32 35.1**	**-0.8**	
PSZ				IAmb		IAmb		21 32 39.7		
	comp=Z,92nm,1.2s									
PSZ	**Piszkesteto**	**87.66**	**336**	⇑P		**P**		**21 32 35.1**	**-0.8**	
PSZ	**Piszkesteto**	**87.66**	**336**	P		**P**		**21 32 35.1**	**-0.8**	
MD31	**MD31**	**87.71**	**313**	P		**P**		**21 32 36.4**	**-0.1**	
MD31				IAmb		IAmb		21 32 41.1		
	comp=Z,49nm,1.2s									
MD01	**Midelt array s**	**87.71**	**313**	P		**P**		**21 32 36.6**	**0.0**	
VAO	**Valinhos**	**87.75**	**244**	P		**P**		**21 32 36.0**	**-1.1**	
VAO				IAmb		IAmb		21 32 42.1		
	comp=Z,63nm,1.1s									
VAO				IAMs_20		IAMs_20		22 03 28.8		
	comp=Z,5µm,20.0s									
VAO	**Valinhos**	**87.75**	**244**	*e*P		**P**		**21 32 38.8**	**+1.6**	
SPB	**Sao Paulo**	**87.75**	**243**	P		**P**		**21 32 36.1**	**-0.9**	
SPB				IAmb		IAmb		21 32 44.2		
	comp=Z,123nm,1.8s									
SPB				IAMs_20		IAMs_20		22 04 23.7		
	comp=Z,6µm,18.0s									
SPB	**Sao Paulo**	**87.75**	**243**	*e*P		**P**		**21 32 38.8**	**+1.8**	
CEY	**Cerknica**	**87.78**	**332**	*e*P		**P**		**21 32 36.2**	**-0.2**	
KOLS	**Kolonicke sedl**	**87.79**	**338**	*e*P		**P**		**21 32 37.2**	**+0.8**	
KOLS				pmax		pmax				
	comp=Z,59nm,1.0s									
PDKS	**Podkum**	**87.83**	**333**	*i* P		**P**		**21 32 37.1**	**+0.4**	
DIAM	**Diamantina, MG**	**87.94**	**249**	*e*P		**P**		**21 32 39.5**	**+1.3**	
KECS	**Kecovo**	**87.96**	**337**	*e*P		**P**		**21 32 37.2**	**0.0**	
KECS				pmax		pmax				
	comp=Z,48nm,0.9s									
VNDS	**Vrh nad Dolski**	**87.97**	**332**	*i* P		**P**		**21 32 37.5**	**+0.1**	
TIO	**Tiouine**	**87.97**	**310**	P		**P**		**21 32 37.9**	**0.0**	
LJU	**Ljubljana**	**87.99**	**332**	*i* P		**P**		**21 32 37.3**	**-0.1**	
LJU				*e*				21 43 11.8		
LJU				*e*				21 44 25.6		
LJU				*e*				21 49 29.6		
TRI	**Trieste**	**88.01**	**332**	P		**P**		**21 32 37.1**	**-0.4**	
TRI				IAmb		IAmb		21 32 40.7		
	comp=Z,51nm,1.2s									
TRI	**Trieste**	**88.01**	**332**	P		**P**		**21 32 37.1**	**-0.4**	
TRI				pmax		pmax				
	comp=Z,51nm,1.2s									
TRI				MLR		MLR				
	comp=Z,3µm,18.0s									
ZCCA	**Zocca**	**88.05**	**329**	IAMs_20		IAMs_20		22 18 06.3		
	comp=Z,4µm,20.0s									
NJ2	**Nanjing**	**88.10**	**49**	⇑P		**P**		**21 32 38.0**	**-0.3**	
NJ2				pP		**sP**		**21 32 41.5**	**+0.1**	
NJ2				S		**S**		**21 43 27.9**	**+5.6**	
NJ2				SS		**SS**		**21 49 16.3**	**+4.9**	
NJ2				pmax		pmax				
	comp=Z,27nm,2.1s									
NJ2				pmax		pmax				
	comp=Z,870nm,7.6s									
NJ2				LR		LR				
	comp=Z,1µm,18.9s									
NJ2				LR		LR				
	comp=Z,2µm,18.0s									
NJ2				LR		LR				
	comp=Z,3µm,19.9s									
SRO	**Srobarova**	**88.10**	**335**	*e*P		**P**		**21 32 38.6**	**+0.7**	
SRO				pmax		pmax				
	comp=Z,206nm,1.5s									
VLC	**Villacollemand**	**88.14**	**329**	P		**P**		**21 32 37.5**	**-0.8**	
COYC	**Coyhaique**	**88.21**	**213**	P		**P**		**21 32 38.1**	**-0.7**	
COYC	**Coyhaique**	**88.21**	**213**	IAMs_20		IAMs_20		22 04 51.3		
	comp=Z,4µm,22.0s									
HIZ	**Hauiti**	**88.21**	**136**	IAMs_20		IAMs_20		22 09 15.0		
	comp=Z,4µm,18.0s									
TIY	**Taiyuan**	**88.26**	**41**	*e*P		**P**		**21 32 38.4**	**-0.6**	
TIY				S		**S**		**21 43 29.8**	**+6.0**	
TIY				SS		**SS**		**21 49 11.8**	**-2.0**	
TIY				pmax		pmax				
	comp=Z,790nm,5.4s									
TIY				LR		LR				
	comp=Z,2µm,21.3s									
TIY				LR		LR				
	comp=Z,1µm,22.0s									
TIY				LR		LR				
	comp=Z,3µm,22.0s									
KWP	**Kalwaria Pacla**	**88.28**	**339**	*e*P		**P**		**21 32 34.7**	**-4.0**	
KWP	**Kalwaria Pacla**	**88.28**	**339**	⇓P		**P**		**21 32 38.2**	**-0.4**	
SABO	**M.te Sabotino**	**88.30**	**332**	P		**P**		**21 32 38.4**	**-0.6**	
WMELI	**Melilla**	**88.32**	**315**	P		**P**		**21 32 40.3**	**+1.1**	
SOKA	**Soboth**	**88.33**	**333**	*i* P		**P**		**21 32 39.2**	**+0.1**	
	comp=Z,81nm,1.8s,SNR=41									
ETOS	**Mallorca**	**88.34**	**322**	P		**P**		**21 32 42.3**	**+3.0**	
TRQA	**Tornquist**	**88.35**	**224**	P		**P**		**21 32 38.8**	**-0.9**	
TRQA				IAmb		IAmb		21 32 49.7		
	comp=Z,83nm,1.1s									
TRQA				IAMs_20		IAMs_20		22 03 10.6		
	comp=Z,4µm,22.0s									
TRQA	**Tornquist**	**88.35**	**224**	P		**P**		**21 32 38.8**	**-0.9**	
TRQA				pmax		pmax				
	comp=Z,83nm,1.1s									
TRQA				MLR		MLR				
	comp=Z,4µm,22.0s									
OBKA	**Obir**	**88.37**	**333**	*i* P		**P**		**21 32 39.6**	**+0.3**	
	comp=Z,65nm,0.9s,SNR=37									
EIBI	**Ibiza**	**88.57**	**320**	P		**P**		**21 32 43.1**	**+2.7**	
RCBR	**Riachuelo**	**88.61**	**264**	P		**P**		**21 32 41.5**	**+0.2**	
**RCBR

OJC	**Ojcow**	**89.69**	**338**	P	**P**	**21 32 44.0**	**-1.3**
OJC	**Ojcow**	**89.69**	**338**	P	**P**	**21 32 44.0**	**-1.3**
OJC	**Ojcow**	**89.69**	**338**	⇓P	**P**	**21 32 44.8**	**-0.6**
OUZ	**Omahuta**	**89.69**	**133**	IAMs_20	IAMs_20	22 07 37.5	
	comp=Z,5μm,18.0s						
BIOA	**Bad Ischl, Aus**	**89.70**	**333**	*e*P	**P**	**21 32 45.2**	**-0.3**
	comp=Z,107nm,1.6s,SNR=36						
MANU	**Manus Island**	**89.77**	**92**	⇑P	P	21 32 39.5	-7.2
KRUC	**Moravsky**	**89.84**	**335**	*e*P	**P**	**21 32 45.4**	**-0.6**
LESA	**Schwarzleotal**	**89.85**	**332**	*i* P	**P**	**21 32 45.9**	**-0.3**
	comp=Z,28nm,0.8s,SNR=26						
ARTI	**Arti**	**89.87**	**1**	P	**P**	**21 32 45.5**	**-0.4**
ARTI				IAMs_20	IAMs_20	22 10 30.8	
	comp=Z,5μm,22.0s						
ARTI	**Arti**	**89.87**	**1**	LR	LR	22 12 12.7	
	comp=Z,4μm,20.2s,baz=174,slow=35						
ARTI	**Arti**	**89.87**	**1**	*d i* P	**P**	**21 32 45.8**	**-0.1**
ARTI				PPP	PPP	21 38 20.0	
ARTI				S	**SKSac**	**21 43 15.7**	**-0.5**
ARTI				SP	**SPn**	**21 44 37.4**	**-6.0**
ARTI				PS	PS	21 45 08.1	+23
ARTI				SS	**SS**	**21 49 33.9**	**-2.4**
ARTI				pmax	pmax		
	comp=Z,137nm,1.1s						
ARTI	**Arti**	**89.87**	**1**	⇓P	**P**	**21 32 45.9**	**-0.1**
TIA	**Tai'an**	**89.87**	**45**	P	**P**	**21 32 45.8**	**-0.7**
TIA				SKS	**SKSac**	**21 43 18.1**	**+0.9**
TIA				pmax	pmax		
	comp=Z,17nm,1.3s						
TIA				pmax	pmax		
	comp=Z,620nm,4.9s						
TIA				LR	LR		
	comp=Z,2μm,17.9s						
TIA				LR	LR		
	comp=Z,1μm,18.5s						
TIA				LR	LR		
	comp=Z,3μm,19.2s						
OKC	**Ostrava-Krasne**	**89.90**	**336**	*e*P	**P**	**21 32 48.7**	**+2.4**
OKC				*ex*	x	21 43 31.9	
OKC				*e*SS	SS	21 49 45.9	+8.9
OKC				AMS	AMS	22 07 40.0	
	comp=Z,3μm,23.2s						
OKC	**Ostrava-Krasne**	**89.90**	**336**	*e*P	**P**	**21 32 48.7**	**+2.4**
OKC				*e*S	**S**	**21 43 31.9**	**-6.5**
OKC				MLR	MLR		
	comp=Z,3μm,23.2s						
LL02	**Futaleuf**	**89.90**	**215**	P	**P**	**21 32 46.5**	**-0.3**
LL02				IAMs_20	IAMs_20	22 05 03.2	
	comp=Z,5μm,21.0s						
PMNB	**Patos De Minas**	**89.94**	**248**	⇑P	**P**	**21 32 49.3**	**+1.8**
PMNB	**Patos De Minas**	**89.94**	**248**	*e*P	**P**	**21 32 49.0**	**+1.5**
VRAC	**Vranov**	**89.97**	**335**	P	**P**	**21 32 46.5**	**-0.2**
	comp=Z,8.4nm,1.0s,baz=161,slow=4.8,SNR=18						
VRAC				LR	LR	22 13 12.8	
	comp=Z,2μm,22.0s,baz=157,slow=36						
	comp=Z,8.4nm,1.0s						
VRAC	**Vranov**	**89.97**	**335**	*e*P	**P**	**21 32 46.2**	**-0.5**
VRAC	**Vranov**	**89.97**	**335**	⇓P	**P**	**21 32 46.3**	**-0.5**
MORC	**Moravsky Berou**	**90.05**	**336**	P	**P**	**21 32 46.5**	**-0.5**
MORC				IAmb	IAmb	21 32 51.2	
	comp=Z,62nm,1.3s						
MORC	**Moravsky Berou**	**90.05**	**336**	*e*P	**P**	**21 32 46.5**	**-0.5**
MORC	**Moravsky Berou**	**90.05**	**336**	⇑P	**P**	**21 32 47.3**	**+0.2**
MORC	**Moravsky Berou**	**90.05**	**336**	P	**P**	**21 32 46.5**	**-0.5**
MORC				pmax	pmax		
	comp=Z,62nm,1.3s						
MORC				MLR	MLR		
	comp=Z,2μm,21.0s						
MORC	**Moravsky Berou**	**90.05**	**336**	⇓P	**P**	**21 32 46.6**	**-0.5**
BB19B	**Bebedouro**	**90.05**	**245**	*e*P	**P**	**21 32 48.6**	**+0.7**
HHC	**Hu-ho-hao-te**	**90.07**	**39**	*e*P	**P**	**21 32 47.3**	**-0.2**
HHC				sP	pwP	21 32 55.3	+1.4
HHC				PP	**PP**	**21 36 18.8**	**-2.4**
HHC				SKS	**SKSac**	**21 43 18.3**	**-0.1**
HHC				S	**S**	**21 43 41.1**	**+0.4**
HHC				SS	**SS**	**21 49 41.3**	**+1.2**
HHC				pmax	pmax		
	comp=Z,39nm,1.5s						
HHC				pmax	pmax		
	comp=Z,540nm,4.4s						
HHC				LR	LR		
	comp=Z,1μm,22.2s						
HHC				LR	LR		
	comp=Z,1μm,20.6s						
HHC				LR	LR		
	comp=Z,2μm,21.4s						
WTTA	**Wattenberg**	**90.13**	**331**	*e*P	**P**	**21 32 47.7**	**0.0**
	comp=Z,41nm,1.2s,SNR=27						
CEU	**Ceuta**	**90.15**	**314**	P	**P**	**21 32 46.2**	**-1.6**
FUORN	**Ofenpass-Fuorn**	**90.17**	**330**	P	**P**	**21 32 47.0**	**-0.9**
FUORN				IAmb	IAmb	21 32 55.9	
	comp=Z,71nm,1.5s						
EMAL	**Malaga-Limoner**	**90.18**	**316**	P	**P**	**21 32 47.6**	**-0.3**
OBN	**Obninsk**	**90.18**	**349**	P	**P**	**21 32 46.8**	**-0.6**
OBN				IAMs_20	IAMs_20	22 12 00.9	
	comp=Z,4μm,21.0s						
OBN	**Obninsk**	**90.18**	**349**	P	**P**	**21 32 46.3**	**-1.0**
	comp=Z,26nm,1.0s,baz=112,slow=3.2,SNR=16						
OBN				LR	LR	22 12 03.0	
	comp=Z,4μm,20.9s,baz=94,slow=35						
	comp=Z,26nm,1.0s						
OBN	**Obninsk**	**90.18**	**349**	⇑P	**P**	**21 32 46.4**	**-1.0**
OBN	**Obninsk**	**90.18**	**349**	*de*P	**P**	**21 32 47.4**	**0.0**
OBN				*e*		21 36 26.4	
OBN				*e*PPP	PPP	21 38 20.9	
OBN				pmax	pmax		
	comp=Z,194nm,2.5s						
OBN				MLR	MLR		
	comp=Z,3μm,20.0s						
WATA	**Walderalm**	**90.21**	**331**	*e*P	**P**	**21 32 47.8**	**-0.2**
	comp=Z,40nm,1.4s,SNR=13						
SQTA	**Sankt Quirin**	**90.27**	**331**	*e*P	**P**	**21 32 48.2**	**0.0**
	comp=Z,30nm,1.3s,SNR=18						
PSAL	**Palomas, Salto**	**90.27**	**232**	*e*P	**P**	**21 32 48.8**	**+0.1**
JANB	**Januaria**	**90.28**	**252**	*e*P	**P**	**21 32 50.3**	**+1.2**
FETA	**Feichten**	**90.30**	**331**	*e*P	**P**	**21 32 48.8**	**+0.3**
	comp=Z,26nm,1.1s,SNR=16						
TREC	**Trest**	**90.35**	**335**	*e*P	**P**	**21 32 48.3**	**-0.2**
TREC				*e*SKS	**SKSac**	**21 43 25.2**	**+5.8**
TREC				*e*SS	**SS**	**21 49 45.6**	**+1.9**
TREC				AMS	AMS	22 09 10.0	
	comp=Z,3μm,25.7s						
TREC	**Trest**	**90.35**	**335**	*e*P	**P**	**21 32 48.3**	**-0.2**
TREC				*e*S	**SKSac**	**21 43 25.2**	**+5.8**
TREC				*e*SS	**SS**	**21 49 45.6**	**+1.9**
TREC				MLR	MLR		
	comp=Z,3μm,25.7s						
CORI	**Orista**	**90.36**	**323**	IAMs_20	IAMs_20	22 16 02.7	
	comp=Z,5μm,18.0s						
SVE	**Sverdlovsk**	**90.36**	**2**	*ce*P	**P**	**21 32 48.4**	**+0.1**
SVE				*e*S	**SKSac**	**21 43 20.2**	**+1.1**
SVE				*e*		21 49 39.5	
SVE				pmax	pmax		
	comp=Z,121nm,1.6s						
SVE				MLR	MLR		
	comp=Z,4μm,20.0s						
CKRC	**Cesky Krumlov**	**90.38**	**334**	*e*P	**P**	**21 32 50.4**	**+1.8**
CKRC				*e*PP	PP	21 36 36.8	+13
CKRC				*e*SKS	S	21 43 28.0	-15
CKRC				*e*SS	**SS**	**21 49 48.1**	**+3.9**
CKRC				AMS	AMS	22 08 30.0	
	comp=Z,4μm,27.6s						
CKRC	**Cesky Krumlov**	**90.38**	**334**	*e*P	**P**	**21 32 50.4**	**+1.8**
CKRC				*e*SS	SS	21 49 48.1	+3.9
CKRC				MLR	MLR		
	comp=Z,4μm,27.6s						
MOTA	**Moosalm**	**90.41**	**331**	*e*P	**P**	**21 32 48.7**	**-0.3**
	comp=Z,38nm,1.5s,SNR=22						
TUE	**Stuetta**	**90.43**	**330**	P	**P**	**21 32 47.5**	**-1.7**
TUE	**Stuetta**	**90.43**	**330**	⇑P	**P**	**21 32 49.5**	**+0.4**
DAVOX	**Davos/Dischmat**	**90.45**	**330**	LR	LR	22 14 43.9	
	comp=Z,2μm,20.9s,baz=150,slow=36						
PTGB	**Pitanga**	**90.46**	**240**	*e*P	**P**	**21 32 50.8**	**+0.9**
BNI	**Bardonecchia**	**90.48**	**327**	P	**P**	**21 32 49.3**	**0.0**
BNI				IAmb	IAmb	21 32 53.6	
	comp=Z,44nm,1.1s						
BNI				IAMs_20	IAMs_20	22 13 23.8	
	comp=Z,5μm,21.0s						
BNI	**Bardonecchia**	**90.48**	**327**	P	**P**	**21 32 49.3**	**0.0**
BNI				pmax	pmax		
	comp=Z,44nm,1.1s						
BNI				MLR	MLR		
	comp=Z,5μm,21.0s						
BNI	**Bardonecchia**	**90.48**	**327**	⇑P	**P**	**21 32 50.6**	**+1.2**
KRLC	**Kraliky**	**90.56**	**336**	*e*P	**P**	**21 32 51.9**	**+2.4**
KRLC				*e*S	S	21 43 28.5	-16
KRLC				*e*SS	**SS**	**21 49 49.0**	**+2.3**
KRLC				AMS	AMS	22 08 30.0	
	comp=Z,4μm,31.4s						
KRLC	**Kraliky**	**90.56**	**336**	*e*P	**P**	**21 32 51.9**	**+2.4**
KRLC				*e*SS	SS	21 49 49.0	+2.3
MOS	**Moscow**	**90.62**	**350**	*e*P	**P**	**21 32 48.5**	**-1.0**
MOS				*e*		21 36 23.8	
MOS				*e*		21 43 19.5	
MOS				*e*S	**S**	**21 43 44.0**	**-0.7**
MOS				*e*PS	**PS**	**21 44 50.9**	**-2.6**
MOS				*e*SS	**SS**	**21 49 41.5**	**-5.7**
MOS				pmax	pmax		
	comp=Z,106nm,1.8s						
MOS				pmax	pmax		
	comp=Z,500nm,2.8s						
MOS				MLR	MLR		
	comp=Z,2μm,18.0s						
GEC2	**GERESS Array S**	**90.63**	**333**	P	**P**	**21 32 49.0**	**-0.8**
GEC2				IAmb	IAmb	21 32 53.7	
	comp=Z,60nm,1.4s						
GERES	**GERESS Array B**	**90.63**	**333**	P	**P**	**21 32 49.5**	**-0.3**
	comp=Z,10nm,1.1s,baz=134,slow=3.9,SNR=29						
	comp=Z,10nm,1.1s						
RETA	**Reutte**	**90.66**	**331**	*e*P	**P**	**21 32 49.9**	**-0.2**
	comp=Z,41nm,1.7s,SNR=18						
LL01	**San Ignacio de**	**90.78**	**215**	P	**P**	**21 32 50.9**	**-0.1**
LL01				IAmb	IAmb	21 32 55.5	
	comp=Z,79nm,2.0s						
LL01				IAMs_20	IAMs_20	22 05 52.6	
	comp=Z,5μm,21.0s						
BEL	**Belsk**	**90.80**	**339**	*e*P	**P**	**21 32 50.4**	**0.0**
GO07	**Milladeo Hill,**	**90.82**	**214**	IAMs_20	IAMs_20	22 08 49.4	
	comp=Z,3μm,18.0s						
ZAA0	**Zalesovo Array**	**90.83**	**16**	P	**P**	**21 32 48.8**	**-1.7**
ZAA0				IAMs_20	IAMs_20	22 10 03.7	
	comp=Z,4μm,22.0s						
ZALV	**Zalesovo Beam**	**90.83**	**16**	P	**P**	**21 32 48.4**	**-2.1**
ZALV	**Zalesovo Beam**	**90.83**	**16**	P	**P**	**21 32 48.8**	**-1.7**
	comp=Z,8.4nm,0.7s,baz=212,slow=4.0,SNR=24						
ZALV				LR	LR	22 10 36.8	
	comp=Z,3μm,21.8s,baz=215,slow=34						
	comp=Z,8.4nm,0.7s						
ZALV	**Zalesovo Beam**	**90.83**	**16**	*i* P	**P**	**21 32 48.9**	**-1.6**
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.7s						
DAVA	**Damuels**	**90.86**	**330**	*e*P	**P**	**21 32 51.0**	**0.0**
	comp=Z,43nm,2.1s,SNR=7.9						
DAVA	**Damuels**	**90.86**	**330**	⇑P	**P**	**21 32 51.4**	**+0.4**
KHC	**Kasperske Hory**	**90.91**	**334**	*e*P	**P**	**21 32 50.4**	**-0.7**
KHC				*e*PP	PP	21 36 43.0	+15
KHC				*e*SKS	**SKSac**	**21 43 25.3**	**+2.6**
KHC				*e*SS	**SS**	**21 49 55.6**	**+3.8**
KHC				AMS	AMS	22 08 30.0	
	comp=Z,3μm,30.1s						
KHC	**Kasperske Hory**	**90.91**	**334**	*e*P	**P**	**21 32 50.4**	**-0.7**
KHC				*e*S	**SKSac**	**21 43 25.3**	**+2.6**
KHC				*e*SS	**SS**	**21 49 55.6**	**+3.8**
KHC	**Kasperske Hory**	**90.91**	**334**	⇑P	**P**	**21 32 50.8**	**-0.3**
ZVC	**Zvikov**	**90.94**	**334**	*e*P	**P**	**21 32 51.1**	**-0.1**
ZVC				*e*PP	PP	21 36 43.6	+16
ZVC				*e*SKS	**SKSac**	**21 43 26.7**	**+3.9**
ZVC				*e*SS	SS	21 50 03.4	+11
ZVC				AMS	AMS	22 09 40.0	
	comp=Z,3μm,29.3s						
DPC	**Dobruska-Polom**	**90.95**	**336**	*e*P	**P**	**21 32 52.0**	**+0.7**
DPC				*e*SKS	**SKSac**	**21 43 27.3**	**+4.4**
DPC				*e*SS	SS	21 50 06.8	+14
DPC				AMS	AMS	22 08 50.0	
	comp=Z,4μm,30.0s						
DPC	**Dobruska-Polom**	**90.95**	**336**	*e*P	**P**	**21 32 52.0**	**+0.7**
DPC				*e*S	**SKSac**	**21 43 27.3**	**+4.4**
DPC				*e*SS	SS	21 50 06.8	+14
SFS	**San Fernando**	**91.03**	**314**	P	**P**	**21 32 53.1**	**+1.3**
R9F13	**Warsaw-Wawer**	**91.03**	**339**	*e*P	**P**	**21 32 52.2**	**+0.7**
R9F13				*e*S	SKiKP	21 40 57.7	-21
PLCA	**Paso Flores**	**91.10**	**217**	P	**P**	**21 32 52.4**	**-0.2**
PLCA	**Paso Flores**	**91.10**	**217**	P	**P**	**21 32 53.8**	**+1.2**
	comp=Z,6.3nm,1.0s,baz=130,slow=4.5,SNR=9.8						
PLCA				LR	LR	22 06 39.0	
	comp=Z,2μm,21.9s,baz=131,slow=31						
	comp=Z,6.3nm,1.0s						
PLCA	**Paso Flores**	**91.10**	**217**	P	**P**	**21 32 52.4**	**-0.2**
PLCA				pmax	pmax		
	comp=Z,38nm,1.5s						
PLCA	**Paso Flores**	**91.10**	**217**	⇓P	**P**	**21 32 55.5**	**+2.9**
PLCA	**Paso Flores**	**91.10**	**217**	*e*P	**P**	**21 32 53.5**	**+1.0**
OSTC	**Ostas**	**91.16**	**336**	*e*P	**P**	**21 32 52.8**	**+0.6**
OSTC				*e*SKS	**SKSac**	**21 43 31.1**	**+7.1**
OSTC				*e*SS	**SS**	**21 50 02.0**	**+6.6**
OSTC				AMS	AMS	22 09 10.0	
	comp=Z,4μm,26.3s						
OSTC	**Ostas**	**91.16**	**336**	*e*P	**P**	**21 32 52.8**	**+0.6**
OSTC				*e*SS	SS	21 50 02.0	+6.6
OSTC				MLR	MLR		
	comp=Z,4μm,26.3s						
UPC	**Upice**	**91.19**	**336**	*e*S	**SKSac**	**21 43 29.8**	**+5.6**
UPC				*e*SS	SS	21 50 10.2	+14
UPC				AMS	AMS	22 09 10.0	
	comp=Z,4μm,24.7s						
SENIN	**Lac Senin/Sane**	**91.22**	**328**	P	**P**	**21 32 52.8**	**0.0**
SENIN				IAMs_20	IAMs_20	22 13 13.4	
	comp=Z,4μm,22.0s						
CHVC	**Chvalec**	**91.24**	**336**	*e*P	**P**	**21 32 53.5**	**+0.9**
CHVC				*e*SKS	**SKSac**	**21 43 30.1**	**+5.6**
CHVC				*e*SS	SS	21 50 09.2	+13
CHVC				AMS	AMS	22 09 00.0	
	comp=Z,4μm,25.0s						
CHVC	**Chvalec**	**91.24**	**336**	*e*P	**P**	**21 32 53.5**	**+0.9**
CHVC				*e*S	**SKSac**	**21 43 30.1**	**+5.6**
CHVC				*e*SS	SS	21 50 09.2	+13
CHVC				MLR	MLR		
	comp=Z,4μm,25.0s						
PRU	**Pruhonice**	**91.27**	**335**	*e*P	**P**	**21 32 54.3**	**+1.6**
PRU				*e*PP	PP	21 36 45.3	+15
PRU				*e*S	**SKSac**	**21 43 28.5**	**+3.9**
PRU				*e*SS	**SS**	**21 50 05.7**	**+8.8**
PRU				AMS	AMS	22 09 50.0	
	comp=Z,3μm,26.0s						
PRU	**Pruhonice**	**91.27**	**335**	*e*P	**P**	**21 32 54.3**	**+1.6**
PRU				*e*S	**SKSac**	**21 43 28.5**	**+3.9**
PRU				*e*SS	**SS**	**21 50 05.7**	**+8.8**
PRU				MLR	MLR		
	comp=Z,3μm,26.0s						
MNK	**Minsk**	**91.31**	**344**	*i* P	**P**	**21 32 51.2**	**-1.5**
MNK				*i*		21 36 28.2	
MNK				*i* PPP	PPP	21 38 26.4	
MNK				*i* S	**SKSac**	**21 43 23.1**	**-1.5**
MNK				*i* PS	**PS**	**21 45 00.4**	**-0.9**
MNK				*i* SS	**SS**	**21 49 56.5**	**-0.7**
MNK				*i* SSS	SSS	21 53 34.2	
MNK				pmax	pmax		
	comp=Z,29nm,1.0s						
MNK				pmax	pmax		
	comp=N,5.0nm,0.7s						
MNK				pmax	pmax		
	comp=E,12nm,0.8s						
MNK				MLR	MLR		
	comp=N,3μm,22.0s						
MNK				MLR	MLR		
	comp=Z,4μm,21.0s						
MNK				MLR	MLR		
	comp=E,2μm,22.0s						
KSP	**Ksiaz**	**91.38**	**336**	*e*P	**P**	**21 32 52.9**	**-0.2**
PRA	**Prague**	**91.38**	**335**	*e*P	**P**	**21 32 56.5**	**+3.3**
PRA				*e*SKS	**SKSac**	**21 43 33.8**	**+8.6**
PRA				*e*PKKP	**PKKPdf**	**21 50 14.2**	**+0.3**
PRA				AMS	AMS	22 09 50.0	
	comp=E,3μm,23.5s						
PRA	**Prague**	**91.38**	**335**	*e*P	**P**	**21 32 56.5**	**+3.3**
PRA				MLR	MLR		
	comp=Z,3μm,23.5s						
SSB	**Saint Sauveur**	**91.63**	**326**	P	**P**	**21 32 54.3**	**-0.2**
SSB				IAmb	IAmb	21 32 59.0	
	comp=Z,52nm,1.2s						
SSB	**Saint Sauveur**	**91.63**	**326**	IAMs_20	IAMs_20	22 13 14.1	
	comp=Z,4μm,20.0s						
SSB	**Saint Sauveur**	**91.63**	**326**	P	**P**	**21 32 54.3**	**-0.2**
SSB				pmax	pmax		
	comp=Z,52nm,1.2s						
SSB				MLR	MLR		
	comp=Z,4μm,20.0s						
SSB	**Saint Sauveur**	**91.63**	**326**	⇓P	**P**	**21 32 55.4**	**+0.8**
IPMB	**Ipameri, GO**	**91.63**	**247**	*e*P	**P**	**21 32 56.6**	**+1.2**
PVCC	**Panska Ves**	**91.71**	**335**	*e*P	**P**	**21 32 58.1**	**+3.4**
PVCC				*e*SKS	**SKSac**	**21 43 37.0**	**+10**
PVCC				*e*SS	SS	21 50 20.0	+17
PVCC				AMS	AMS	22 12 00.0	
	comp=Z,2μm,21.9s						
PVCC	**Panska Ves**	**91.71**	**335**	*e*P	**P**	**21 32 58.1**	**+3.4**
PVCC				MLR	MLR		
	comp=Z,2μm,21.9s						
LL03	**Petrohue**	**91.72**	**216**	P	**P**	**21 32 54.4**	**-1.0**
RICC	**Richard**	**91.89**	**335**	*e*P	P	21 33 04.8	+9.3
RICC				*e*SS	SS	21 50 14.7	+8.9
RICC				AMS	AMS	22 10 00.0	
	comp=Z,2μm,24.0s						
ESDC	**Sonseca Array**	**91.92**	**318**	P	**P**	**21 32 56.0**	**-0.1**
ESDC				IAmb	IAmb	21 33 01.1	
	comp=Z,68nm,1.4s						
ESDC	**Sonseca Array**	**91.92**	**318**	P	**P**	**21 32 56.7**	**+0.6**
	comp=Z,18nm,1.2s,baz=128,slow=3.6,SNR=29						
ESDC				LR	LR	22 16 03.8	
	comp=Z,10μm,18.9s,baz=139,slow=37						
	comp=Z,18nm,1.2s						
BJT	**Baijiatuao**	**91.94**	**42**	P	**P**	**21 32 54.9**	**-1.2**
BJT	**Baijiatuao**	**91.94**	**42**	IAMs_20	IAMs_20	22 10 31.1	
	comp=Z,5μm,21.0s						
BJT	**Baijiatuao**	**91.94**	**42**	P	**P**	**21 32 54.9**	**-1.2**
BJT				pmax	pmax		
	comp=Z,31nm,1.5s						
BJT				MLR	MLR		
	comp=Z,5μm,21.0s						
UCM	**Universidad Co**	**91.96**	**319**	P	**P**	**21 32 57.4**	**+1.2**
BJI	**Beijing**	**91.97**	**42**	P	**P**	**21 32 55.3**	**-0.8**
BJI				PP	**PP**	**21 36 38.8**	**+2.7**
BJI				SKS	**SKSac**	**21 43 25.3**	**-3.7**
BJI				sS	**sS**	**21 44 02.3**	**+0.6**
BJI				SS	**SS**	**21 50 08.8**	**+1.6**
BJI				pmax	pmax		
	comp=Z,170nm,5.2s						
BJI				LR	LR		
	comp=Z,2μm,21.3s						
BJI				LR	LR		
	comp=Z,880nm,20.7s						
BJI				LR	LR		
	comp=Z,3μm,22.9s						
SUW	**Suwalki**	**92.04**	**341**	*e*P	**P**	**21 32 55.5**	**-0.7**
SUW	**Suwalki**	**92.04**	**341**	P	**P**	**21 32 55.3**	**-0.8**
SUW				IAMs_20	IAMs_20	22 15 35.9	
	comp=Z,4μm,21.0s						
SUW	**Suwalki**	**92.04**	**341**	P	**P**	**21 32 55.3**	**-0.8**
SUW				MLR	MLR		
	comp=Z,4μm,21.0s						
LR05	**Currie**	**92.21**	**217**	P	**P**	**21 32 57.3**	**-0.3**
LR05				IAmb	IAmb	21 33 07.5	
	comp=Z,58nm,1.1s						
BRG	**Berggiesshubel**	**92.22**	**335**	*e*P	**P**	**21 32 57.6**	**+0.6**
BRG				Amp		21 32 59.6	
	comp=Z,58nm,1.4s						
BRG	**Berggiesshubel**	**92.22**	**335**	SP	SP	21 45 14.0	+3.9
ITRB	**Iturama**	**92.24**	**245**	*e*P	**P**	**21 33 00.2**	**+2.1**
GRA1	**Grafenberg Arr**	**92.26**	**333**	P	**P**	**21 32 57.1**	**-0.2**
GRF	**Grafenberg Arr**	**92.26**	**333**	P	**P**	**21 32 57.1**	**-0.2**
GRF				pmax	pmax		
	comp=Z,124nm,1.4s						
GRF				MLR	MLR		
	comp=Z,2μm,19.0s						
GRF	**Grafenberg Arr**	**92.26**	**333**	*e*P	**P**	**21 32 57.1**	**-0.2**
	comp=Z,84nm,1.4s,baz=144,slow=5.3						
GRF				*e*L	L	22 20 49.6	
	comp=Z,2μm,19.0s						
GRFO	**Grafenberg**	**92.26**	**333**	P	**P**	**21 32 57.3**	**0.0**
GRFO	**Grafenberg**	**92.26**	**333**	P	**P**	**21 32 57.3**	**0.0**
GRFO				pmax	pmax		
	comp=Z,114nm,1.4s						
GRFO				MLR	MLR		
	comp=Z,2μm,18.0s						
SDBA	**SAO DESIDERIO**	**92.27**	**254**	*e*P	**P**	**21 32 59.9**	**+1.5**
STU	**Stuttgart**	**92.32**	**331**	P	**P**	**21 32 57.5**	**-0.1**
STU				IAmb	IAmb	21 33 01.2	
	comp=Z,40nm,1.2s						
STU	**Stuttgart**	**92.32**	**331**	P	**P**	**21 32 57.5**	**-0.1**
STU				pmax	pmax		
	comp=Z,40nm,1.2s						
STU				MLR	MLR		
	comp=Z,2μm,19.0s						
BFO	**Black Forest**	**92.32**	**330**	P	**P**	**21 32 56.7**	**-0.9**
BFO	**Black Forest**	**92.32**	**330**	P	**P**	**21 32 56.7**	**-0.9**
BFO				pmax	pmax		
	comp=Z,36nm,1.4s						
BFO				MLR	MLR		
	comp=Z,2μm,20.0s						
GO06	**Curarrehue**	**92.43**	**218**	⇑P	**P**	**21 33 00.8**	**+2.0**
PVAQ	**Vaqueiros**	**92.55**	**314**	IAMs_20	IAMs_20	22 17 35.7	
	comp=Z,5μm,19.0s						
PVAQ	**Vaqueiros**	**92.55**	**314**	*e*P	**P**	**21 33 00.2**	**+1.3**
PVAQ				*i* IAmb	IAmb	21 33 04.7	
	comp=Z,70nm,1.9s						
PVAQ				*e*PP	**PP**	**21 36 43.4**	**+2.5**
PVAQ				*e*SS	SS	21 50 21.5	+5.7
PVAQ				*e*LQ	LQ	21 59 51.2	
PVAQ				*e*LR	LR	22 03 25.5	
PVAQ				*i* IAMs_20	IAMs_20	22 17 50.6	
	comp=Z,3μm,18.0s						
RABL	**Rabaul**	**92.56**	**97**	P	**P**	**21 32 56.8**	**-2.9**
PBDV	**Barranco-do-Ve**	**92.57**	**314**	*e*P	**P**	**21 33 01.1**	**+2.0**
PBDV				*i* IAmb	IAmb	21 33 07.4	
	comp=Z,47nm,2.8s						
PBAR	**Barrancos**	**92.66**	**315**	*e*P	**P**	**21 33 02.0**	**+2.6**
PBAR				*i* IAmb	IAmb	21 33 07.0	
	comp=Z,39nm,2.0s						
ECH	**Echery**	**92.72**	**330**	P	**P**	**21 32 58.8**	**-0.7**
ECH	**Echery**	**92.72**	**330**	P	**P**	**21 32 58.8**	**-0.7**
ECH				pmax	pmax		
	comp=Z,33nm,1.7s						
ECH				MLR	MLR		
	comp=Z,2μm,21.0s						
LR03	**Panguipulli**	**92.84**	**217**	IAMs_20	IAMs_20	22 09 36.0	
	comp=Z,3μm,20.0s						
SONM	**Songino Array**	**92.84**	**31**	P	**P**	**21 32 58.6**	**-1.5**
SONM	**Songino Array**	**92.84**	**31**	P	**P**	**21 32 59.4**	**-0.8**
	comp=Z,15nm,0.9s,baz=218,slow=4.2,SNR=30						
SONM				PP	**PP**	**21 36 42.7**	**-0.4**
	comp=Z,4.4nm,1.2s,baz=224,slow=

MORF	**Marmelete**	**93.05**	**314**	*i* IAmb	IAmb	21 33 07.0				
	comp=Z,38nm,2.0s									
PBEJ	**Beja**	**93.05**	**315**	*e*P	**P**	**21 33 03.9**	**+2.7**			
PBEJ				*i* IAmb	IAmb	21 33 08.1				
	comp=Z,80nm,1.8s									
GKP	**Gorka Klasztor**	**93.13**	**338**	*e*P	**P**	**21 33 01.1**	**0.0**			
MESJ	**Messejana**	**93.14**	**314**	*e*P	**P**	**21 33 02.5**	**+0.8**			
MESJ				*e*PP	**PP**	**21 36 45.5**	**+0.1**			
MESJ				*e*SKSac	**SKSac**	**21 43 36.5**	**+0.8**			
MESJ				*e*SS	**SS**	**21 50 25.6**	**+1.4**			
MESJ				IAMs_20	IAMs_20	22 19 05.2				
	comp=Z,4µm,17.4s									
MESJ	**Messejana**	**93.14**	**314**	P	**P**	**21 33 02.1**	**+0.4**			
MESJ				IAmb	IAmb	21 33 08.0				
	comp=Z,37nm,1.3s									
MESJ	**Messejana**	**93.14**	**314**	*e*P	**P**	**21 33 03.8**	**+2.1**			
MESJ				*i* IAmb	IAmb	21 33 09.5				
	comp=Z,70nm,1.8s									
MESJ	**Messejana**	**93.14**	**314**	P	**P**	**21 33 02.1**	**+0.4**			
MESJ				pmax	pmax					
	comp=Z,37nm,1.3s									
ULN	**Ulaanbaatar**	**93.15**	**31**	P	**P**	**21 33 00.4**	**-1.3**			
ULN				IAmb	IAmb	21 33 04.1				
	comp=Z,25nm,0.9s									
ULN	**Ulaanbaatar**	**93.15**	**31**	IAMs_20	IAMs_20	22 12 39.8				
	comp=Z,5µm,19.0s									
ULN	**Ulaanbaatar**	**93.15**	**31**	P	**P**	**21 33 00.7**	**-0.9**			
ULN				P	**P**	**21 33 00.7**	**-0.9**			
ULN	**Ulaanbaatar**	**93.15**	**31**	P	**P**	**21 33 00.4**	**-1.3**			
ULN				pmax	pmax					
	comp=Z,25nm,1.0s									
ULN				MLR	MLR					
	comp=Z,5µm,19.0s									
ULN	**Ulaanbaatar**	**93.15**	**31**	⇑P	**P**	**21 33 00.8**	**-0.9**			
CPUP	**Villa Florida**	**93.15**	**235**	P	**P**	**21 33 02.4**	**+0.2**			
CPUP	**Villa Florida**	**93.15**	**235**	P	**P**	**21 33 03.3**	**+1.1**			
	comp=Z,3.8nm,1.0s,baz=340,slow=3.9,SNR=17									
CPUP				LR	LR	22 07 56.0				
	comp=Z,559nm,20.4s,baz=5.0,slow=31									
	comp=Z,3.8nm,1.0s									
CPUP	**Villa Florida**	**93.15**	**235**	P	**P**	**21 33 02.4**	**+0.2**			
CPUP				pmax	pmax					
	comp=Z,9.0nm,1.2s									
CPUP	**Villa Florida**	**93.15**	**235**	⇑P	**P**	**21 33 04.1**	**+1.9**			
SJPY	**San Joaquin**	**93.15**	**237**	*e*P	**P**	**21 33 03.8**	**+1.5**			
PABE	**Paberze**	**93.17**	**342**	P	**P**	**21 33 00.8**	**-0.5**			
PABE				IAmb	IAmb	21 33 05.1				
	comp=Z,60nm,1.2s									
DZM	**Mont Dzumac**	**93.39**	**119**	*e*PP	**PP**	**21 36 44.7**	**-2.4**			
	comp=Z,146nm,24.8s									
DZM	**Mont Dzumac**	**93.39**	**119**	*e*SS	SS	21 50 22.6	-4.7			
	comp=Z,2µm,25.1s									
DZM				*e*LQ	LQ	21 59 02.9				
	comp=Z,11µm,40.5s									
DZM				*e*LR	LR	22 02 53.9				
	comp=Z,5µm,23.1s									
LOR	**Lormes**	**93.44**	**327**	⇑P	**P**	**21 33 03.8**	**+1.0**			
PESTR	**Estremoz**	**93.44**	**315**	P	**P**	**21 33 03.0**	**-0.1**			
PESTR	**Estremoz**	**93.44**	**315**	*e*P	**P**	**21 33 04.2**	**+1.2**			
PESTR				*i* IAmb	IAmb	21 33 09.0				
	comp=Z,90nm,1.7s									
PESTR	**Estremoz**	**93.44**	**315**	⇑P	**P**	**21 33 04.3**	**+1.2**			
EVO	**Evora**	**93.47**	**315**	P	**P**	**21 33 03.9**	**+0.7**			
EVO	**Evora**	**93.47**	**315**	*e*P	**P**	**21 33 04.5**	**+1.3**			
EVO				*i* IAmb	IAmb	21 33 10.1				
	comp=Z,67nm,2.0s									
ZAK	**Zakamensk**	**93.55**	**28**	*e*P	**P**	**21 33 01.2**	**-2.2**			
ZAK				pmax	pmax					
	comp=Z,18nm,2.3s									
AMBA	**Amambai (Brazi**	**93.67**	**239**	*e*P	**P**	**21 33 04.9**	**+0.2**			
PMRV	**Marv??o**	**93.70**	**316**	*i* IAmb	IAmb	21 33 12.7				
	comp=Z,65nm,1.8s									
PMRV				*e*PP	PP	21 36 58.4	+8.6			
PMRV				*e*SS	SS	21 50 38.9	+6.7			
PMRV				*e*LQ	LQ	22 03 56.2				
PMRV				*e*LR	LR	22 05 12.7				
PMRV				*i* IAMs_20	IAMs_20	22 16 36.9				
	comp=Z,6µm,20.0s									
MOY	**Mondy**	**93.72**	**26**	*e*P	**P**	**21 33 03.6**	**-0.5**			
MOY				pmax	pmax					
	comp=Z,37nm,2.9s									
PMTG	**Montargil**	**93.95**	**315**	*e*P	**P**	**21 33 06.9**	**+1.6**			
PMTG				*i* IAmb	IAmb	21 33 11.3				
	comp=Z,65nm,1.7s									
PCBR	**Castelo Branco**	**94.02**	**316**	*e*P	**P**	**21 33 07.6**	**+1.9**			
PCBR				*i* IAmb	IAmb	21 33 11.3				
	comp=Z,43nm,1.6s									
PARRA	**Arraiolos**	**94.26**	**315**	*e*P	**P**	**21 33 05.0**	**-1.8**			
PARRA				*i* IAmb	IAmb	21 33 10.2				
	comp=Z,56nm,1.9s									
WLF	**Walferdange**	**94.26**	**330**	P	**P**	**21 33 05.6**	**-0.9**			
WLF	**Walferdange**	**94.26**	**330**	*d*P	**P**	**21 33 06.2**	**-0.3**			
	comp=Z,17nm,1.0s									
WLF	**Walferdange**	**94.26**	**330**	P	**P**	**21 33 05.6**	**-0.9**			
WLF				pmax	pmax					
	comp=Z,22nm,0.9s									
WLF				MLR	MLR					
	comp=Z,2µm,19.0s									
LIS	**Lisbon**	**94.27**	**314**	*e*PP	**PP**	**21 36 54.2**	**0.0**			
LIS				*e*SS	SS	21 50 41.7	+1.4			
LIS				IAMs_20	IAMs_20	22 21 04.4				
	comp=E,6µm,19.6s									
DL2	**Dalian**	**94.33**	**45**	P	**P**	**21 33 04.9**	**-2.2**			
DL2				PP	**PP**	**21 37 00.3**	**+5.6**			
DL2				SKS	**SKSac**	**21 43 42.6**	**+0.5**			
DL2				S	**S**	**21 44 18.4**	**-0.3**			
DL2				SS	**SS**	**21 50 44.9**	**+3.8**			
DL2				pmax	pmax					
	comp=E,25nm,1.3s									
DL2				pmax	pmax					
	comp=E,350nm,9.2s									
DL2				LR	LR					
	comp=E,990nm,19.5s									
DL2				LR	LR					
	comp=E,3µm,19.3s									
DL2				LR	LR					
	comp=E,3µm,20.7s									
MTE	**Manteigas**	**94.43**	**317**	*e*P	**P**	**21 33 09.3**	**+1.6**			
MTE				*i* IAmb	IAmb	21 33 15.2				
	comp=E,50nm,2.2s									
MTE				*e*PP	**PP**	**21 37 02.2**	**+6.6**			
MTE				*e*SS	SS	21 50 48.2	+5.4			
MTE				*e*LQ	LQ	22 03 20.4				
MTE				*e*LR	LR	22 05 33.1				
MTE				*i* IAMs_20	IAMs_20	22 16 28.3				
	comp=E,8µm,22.0s									
BI02	**San Fabin de**	**94.52**	**220**	P	**P**	**21 33 08.0**	**-0.4**			
BI02				IAMs_20	IAMs_20	22 07 37.6				
	comp=Z,3µm,22.0s									
XLT	**XiLinHaoTe**	**94.59**	**39**	*e*P	**P**	**21 33 07.0**	**-1.3**			
XLT				pP	pP	21 33 10.8	+0.2			
XLT				sP	pwP	21 33 16.3	+1.6			
XLT				PP	**PP**	**21 36 55.6**	**-1.1**			
XLT				sS	sS	21 44 25.8	+0.9			
XLT				SS	**SS**	**21 50 43.4**	**-1.5**			
XLT				pmax	pmax					
	comp=Z,10.0nm,1.6s									
XLT				pmax	pmax					
	comp=Z,310nm,5.1s									
XLT				LR	LR					
	comp=Z,200nm,21.0s									
XLT				LR	LR					
	comp=Z,1µm,20.2s									
XLT				LR	LR					
	comp=Z,1µm,22.3s									
MVO	**Moncorvo**	**94.65**	**317**	*e*PP	**PP**	**21 37 04.7**	**+7.4**			
MVO				*e*SS	SS	21 50 53.3	+7.5			
MVO				*e*LR	LR	22 07 40.7				
MVO				*e*LQ	LQ	22 08 26.7				
MVO				*i* IAMs_20	IAMs_20	22 17 45.3				
	comp=Z,10µm,18.0s									
CLF	**Chambon-Foret**	**94.72**	**327**	P	**P**	**21 33 07.9**	**-0.7**			
CLF				IAMs_20	IAMs_20	22 15 43.1				
	comp=Z,4µm,20.0s									
BHOU	**Houvegnez**	**94.85**	**330**	*d*P	**P**	**21 33 10.5**	**+1.2**			
BTNL	**Ternell**	**94.98**	**331**	*d*P	**P**	**21 33 10.3**	**+0.5**			
	comp=Z,8.7nm,0.9s									
RCHB	**Rochefort**	**95.03**	**330**	*d*P	**P**	**21 33 09.5**	**-0.5**			
	comp=Z,8.4nm,1.2s									
MEM	**Membach**	**95.05**	**331**	*d*P	**P**	**21 33 10.7**	**+0.6**			
VSU	**Vasula**	**95.20**	**345**	*i* P	**P**	**21 33 11.4**	**+0.9**			
VSU				pmax	pmax					
	comp=Z,21nm,1.0s									
VSU				MLR	MLR					
	comp=Z,2µm,18.0s									
DOU	**Dourbes**	**95.25**	**330**	*d*P	**P**	**21 33 11.3**	**+0.3**			
	comp=Z,15nm,0.0s									
BMRD	**Maredsous**	**95.33**	**330**	*d*P	**P**	**21 33 11.1**	**-0.3**			
	comp=Z,10nm,1.3s									
IRK	**Irkutsk**	**95.41**	**27**	*e*P	**P**	**21 33 07.8**	**-3.9**			
IRK				pmax	pmax					
	comp=Z,75nm,2.3s									
BI05	**Punta Hualpn**	**95.46**	**219**	IAMs_20	IAMs_20	22 09 47.4				
	comp=Z,4µm,20.0s									
BO02	**Sierra Bellavi**	**95.65**	**221**	IAMs_20	IAMs_20	22 08 49.5				
	comp=Z,4µm,22.0s									
BO02	**Sierra Bellavi**	**95.65**	**221**	⇓P	**P**	**21 33 13.9**	**+0.3**			
AQDB	**Aquidauana**	**95.72**	**241**	P	**P**	**21 33 13.4**	**-0.7**			
AQDB				IAmb	IAmb	21 33 20.6				
	comp=Z,42nm,1.6s									
ARAG	**Araguaiana, MT**	**95.75**	**247**	*e*P	**P**	**21 33 16.0**	**+1.8**			
PGAV	**Gavieira, Arco**	**95.87**	**317**	*e*PP	**PP**	**21 37 11.0**	**+4.1**			
PGAV				*e*SS	SS	21 51 10.8	+7.5			
PGAV				*e*LQ	LQ	22 07 05.0				
PGAV				*e*LR	LR	22 08 32.2				
PGAV				*i* IAMs_20	IAMs_20	22 17 01.1				
	comp=Z,4µm,20.0s									
HNR	**Honiara**	**95.95**	**105**	LR	LR	22 12 40.3				
	comp=Z,626nm,21.1s,baz=230,slow=33									
LMEL	**Las Melosas**	**96.03**	**222**	P	**P**	**21 33 13.6**	**-1.9**			
LMEL				IAmb	IAmb	21 33 25.5				
	comp=Z,29nm,1.0s									
BO01	**Tunca**	**96.11**	**221**	P	**P**	**21 33 14.9**	**-0.8**			
BO01				IAmb	IAmb	21 33 20.5				
	comp=Z,57nm,1.4s									
BO04	**La Punta**	**96.15**	**222**	P	**P**	**21 33 14.4**	**-1.4**			
BO04				IAmb	IAmb	21 33 30.4				
	comp=Z,40nm,1.1s									
MT13	**San Alfonso**	**96.15**	**222**	P	**P**	**21 33 14.7**	**-1.3**			
MT13				IAmb	IAmb	21 33 28.1				
	comp=Z,28nm,1.1s									
MT08	**Bocatoma Ro**	**96.22**	**223**	P	**P**	**21 33 15.9**	**-0.6**			
MT08				IAmb	IAmb	21 33 20.3				
	comp=Z,44nm,1.1s									
MT08				IAMs_20	IAMs_20	22 08 47.2				
	comp=Z,5µm,22.0s									
MT03	**Universidad Ad**	**96.46**	**222**	P	**P**	**21 33 15.4**	**-2.0**			
SMTB	**Santa Maria do**	**96.46**	**255**	*e*P	**P**	**21 33 19.0**	**+1.4**			
MT16	**CCHEN**	**96.51**	**222**	P	**P**	**21 33 15.7**	**-1.9**			
MT09	**Talagante**	**96.52**	**222**	P	**P**	**21 33 15.5**	**-2.1**			
MT09				IAmb	IAmb	21 33 27.2				
	comp=Z,55nm,1.2s									
CFA	**Coronel Fontan**	**96.53**	**225**	LR	LR	22 11 24.4				
	comp=Z,1µm,19.6s,baz=156,slow=32									
MT01	**Popeta**	**96.60**	**222**	P	**P**	**21 33 16.3**	**-1.5**			
MT05	**Renca**	**96.66**	**222**	P	**P**	**21 33 17.2**	**-1.0**			
PEL	**Peldehue**	**96.82**	**222**	P	**P**	**21 33 17.8**	**-1.1**			
PEL				IAmb	IAmb	21 33 29.4				
	comp=Z,35nm,1.0s									
PEL	**Peldehue**	**96.82**	**222**	P	**P**	**21 33 17.8**	**-1.1**			
PEL				pmax	pmax					
	comp=Z,35nm,1.0s									
PEL				MLR	MLR					
	comp=Z,3µm,19.0s									
ZON	**Zonda**	**96.83**	**225**	P	**P**	**21 33 18.1**	**-0.9**			
ZON	**Zonda**	**96.83**	**225**	P	**P**	**21 33 18.2**	**-0.9**			
ZON				pmax	pmax					
	comp=Z,23nm,1.3s									
MT02	**Curacav**	**96.98**	**222**	P	**P**	**21 33 18.2**	**-1.4**			
MT02				IAmb	IAmb	21 33 29.2				
	comp=Z,33nm,1.1s									
VA03	**San Esteban**	**97.02**	**223**	P	**P**	**21 33 18.2**	**-1.7**			
VA03				IAmb	IAmb	21 33 29.9				
	comp=Z,25nm,1.1s									
VA03				IAMs_20	IAMs_20	22 10 53.0				
	comp=Z,4µm,20.0s									
KSAR	**Wonju Array Be**	**97.25**	**50**	P	**P**	**21 33 18.5**	**-1.9**			
KSAR	**Wonju Array Be**	**97.25**	**50**	P	**P**	**21 33 18.5**	**-1.9**			
KS19	**Wonju Array Si**	**97.27**	**50**	P	**P**	**21 33 18.3**	**-2.2**			
KS19				IAmb	IAmb	21 33 21.6				
	comp=Z,35nm,1.6s									
KSRS	**Korea Array**	**97.28**	**50**	P	**P**	**21 33 19.0**	**-1.5**			
	comp=Z,5.3nm,0.9s,baz=239,slow=4.1,SNR=15									
KSRS				LR	LR	22 15 41.6				
	comp=Z,1744µm,19.7s,baz=235,slow=35									
	comp=Z,5.3nm,0.9s									
SNY	**Shenyang**	**97.34**	**44**	⇑P	Pdif	21 33 28.0	+7.2			
SNY	**Shenyang**	**97.34**	**44**	S	**S**	**21 44 48.8**	**+4.1**			
SNY				pmax	pmax					
	comp=Z,5.0nm,0.9s									
SNY				pmax	pmax					
	comp=Z,320nm,7.8s									
SNY				LR	LR					
	comp=N,2µm,20.0s									
SNY				LR	LR					
	comp=E,1µm,21.4s									
SNY				LR	LR					
	comp=Z,3µm,22.9s									
SNDB	**Serra Nova Dou**	**97.58**	**250**	*e*P	Pdif	21 33 24.9	+2.3			
FINES	**FINESS Array B**	**98.06**	**346**	P	**P**	**21 33 22.6**	**-0.8**			
	comp=Z,3.7nm,0.9s,baz=181,slow=9.4,SNR=6.7									
FINES				LR	LR	22 18 20.3				
	comp=Z,2µm,19.1s,baz=155,slow=36									
	comp=Z,3.7nm,0.9s									
FINES	**FINESS Array B**	**98.06**	**346**	*i* P	**P**	**21 33 22.7**	**-0.7**			
FINES				pmax	pmax					
	comp=Z,4.0nm,0.9s									
CO02	**Combarbal**	**98.43**	**224**	IAMs_20	IAMs_20	22 09 39.4				
	comp=Z,3µm,22.0s									
CO03	**El Pedregal**	**98.52**	**224**	IAMs_20	IAMs_20	22 12 51.8				
	comp=Z,4µm,20.0s									
SALV	**Santo Antonio**	**98.57**	**244**	*e*P	Pdif	21 33 29.9	+2.8			
RAO	**Raoul Island**	**98.98**	**134**	IAMs_20	IAMs_20	22 11 40.5				
	comp=Z,3µm,20.0s									
RAO	**Raoul Island**	**98.98**	**134**	LR	LR	22 11 51.9				
	comp=Z,2µm,18.0s,baz=184,slow=32									
CIT	**Chita**	**99.05**	**32**	*e*P	**Pdif**	**21 33 27.2**	**-1.1**			
CIT				*e*		21 37 28.0				
CIT				pmax	pmax					
	comp=Z,93nm,2.5s									
CO06	**Fray Jorge**	**99.19**	**224**	IAMs_20	IAMs_20	22 10 33.4				
	comp=Z,4µm,21.0s									
CN2	**Changchun**	**99.65**	**43**	P	**Pdif**	**21 33 32.6**	**+1.6**			
CN2				sP	pwP	21 33 39.0	+1.5			
CN2				S	**S**	**21 45 02.6**	**-1.5**			
CN2				pmax	pmax					
	comp=Z,10.0nm,0.6s									
CN2				pmax	pmax					
	comp=Z,100nm,5.0s									
CN2				LR	LR					
	comp=Z,600nm,17.0s									
CN2				LR	LR					
	comp=Z,400nm,17.0s									
CN2				LR	LR					
	comp=Z,900nm,18.0s									
HFS	**Hagfors**	**99.95**	**340**	P	**Pdif**	**21 33 30.5**	**-1.5**			
	comp=Z,4.2nm,0.9s,baz=141,slow=7.4,SNR=5.5									
HFS				PP	**PP**	**21 37 37.5**	**-0.1**			
	comp=Z,2.3nm,0.9s,baz=195,slow=16,SNR=3.8									
	comp=Z,4.2nm,0.9s									
HIA	**Hailar**	**100.07**	**37**	Pdif	**Pdif**	**21 33 31.0**	**-1.8**			
HIA	**Hailar**	**100.07**	**37**	P	**Pdif**	**21 33 31.0**	**-1.8**			
HIA				MLR	MLR					
	comp=Z,2µm,21.0s									
AC02	**Maricunga**	**100.51**	**228**	Pdif	**Pdif**	**21 33 33.8**	**-2.3**			
AC02				IAMs_20	IAMs_20	22 12 22.7				
	comp=Z,3µm,21.0s									
KONO	**Kongsberg**	**100.79**	**338**	IAMs_20	IAMs_20	22 19 30.5				
	comp=Z,3µm,22.0s									
NB2	**NORSAR Subarra**	**101.41**	**339**	P	**Pdif**	**21 33 40.0**	**+1.5**			
	comp=Z,1.3nm,0.7s,baz=125,slow=6.9									
NB2	**NORSAR Subarra**	**101.41**	**339**	P	**Pdif**	**21 33 40.0**	**+1.5**			
	comp=Z,1.3nm,0.7s,baz=125,slow=6.9									
NOA	**NORSAR Array B**	**101.41**	**339**	P	**Pdif**	**21 33 37.8**	**-0.7**			
	comp=Z,2.5nm,0.8s,baz=132,slow=3.8,SNR=7.3									
BNX	**BinXian**	**101.93**	**43**	P	**Pdif**	**21 33 42.5**	**+1.4**			
BNX				PP	**PP**	**21 37 53.3**	**+0.4**			
BNX				LR	LR					
	comp=Z,2µm,17.7s									
BNX				LR	LR					
	comp=Z,2µm,16.9s									
BNX				LR	LR					
	comp=Z,2µm,17.7s									
GO02	**Mina Guanaco**	**102.00**	**229**	IAMs_20	IAMs_20	22 12 05.3				
	comp=Z,4µm,22.0s									
MSHR	**Mys Shultsa**	**102.29**	**47**	*i* P	**Pdif**	**21 33 43.3**	**+0.5**			
MSHR				pmax	pmax					
	comp=Z,38nm,13.4s									
MSHR				MLR	MLR					
	comp=Z,883nm,18.0s									
ESK	**Eskdalemuir**	**102.30**	**330**	IAMs_20	IAMs_20	22 25 47.4				
	comp=Z,3µm,18.0s									
DSB	**Dublin**	**102.30**	**327**	IAMs_20	IAMs_20	22 19 10.6				
	comp=Z,3µm,20.0s									
MDJ	**Mudanjiang**	**102.53**	**44**	P	**Pdif**	**21 33 45.3**	**+1.5**			
APA	**Apatity**	**102.55**	**351**	⇓*e*P	**Pdif**	**21 33 35.2**	**-8.1**			
APA				*i*		21 37 57.0				
APA				*e*S	Sdif	21 45 10.4	-17			
APA				*i* PS	**PS**	**21 47 00.8**	**-2.5**			
APA				*i* SS	**SS**	**21 52 38.1**	**+2.7**			
APA				pmax	pmax					
	comp=Z,9.0nm,1.2s									
APA				MLR	MLR					
	comp=Z,4µm,23.5s									
PB14	**IPOC Station P**	**102.90**	**228**	IAMs_20	IAMs_20	22 12 33.0				
	comp=Z,4µm,21.0s									
MAJO	**Matsushiro**	**103.54**	**55**	P	**Pdif**	**21 33 49.2**	**+0.6**			
MJAR	**Matsushiro Arr**	**103.54**	**55**	Pdif	**Pdif**	**21 33 46.7**	**-1.9**			
MJAR	**Matsushiro Arr**	**103.54**	**55**	Pdiff	**Pdif**	**21 33 47.2**	**-1.4**			
	comp=Z,8.4nm,1.1s,baz=230,slow=6.5,SNR=12									
MJAR				PKKPbc	**PKKPbc**	**21 49 41.0**	**-0.5**			
	comp=Z,1.5nm,0.8s,baz=105,slow=2.0,SNR=4.3									
MJAR	**Matsushiro Arr**	**103.54**	**55**	P	**Pdif**	**21 33 46.7**	**-1.9**			
HEH	**HeiHe**	**104.59**	**39**	P	**Pdif**	**21 33 51.5**	**-1.3**			
HEH				PP	**PP**	**21 38 15.0**	**+2.4**			
HEH				SS	SS	21 53 06.8	+2.5			
HEH				AMB	AMB					
	comp=Z,550nm,5.5s									
HEH				LR	LR					
	comp=Z,2µm,18.3s									
HEH				LR	LR					
	comp=Z,2µm,18.0s									
HEH				LR	LR					
	comp=Z,4µm,18.8s									
KEV	**Kevo**	**105.46**	**350**	IAMs_20	IAMs_20	22 22 01.0				
	comp=Z,3µm,20.0s									
ZEA	**Zeya**	**106.52**	**36**	*e*P	**Pdif**	**21 34 10.9**	**+10**			
ZEA				*e*		21 38 35.3				
ZEA				*e*		21 48 45.4				
ZEA				*e*SS	SS	21 53 27.8	-2.7			
ZEA				*e*		21 57 32.2				
ZEA				pmax	pmax					
	comp=Z,300nm,9.1s									
ZEA				MLR	MLR					
	comp=E,900nm,16.0s									
ZEA				MLR	MLR					
	comp=N,1µm,18.0s									
ZEA				MLR	MLR					
	comp=Z,2µm,15.0s									
KBS	**Kingsbay**	**115.37**	**351**	IAMs_20	IAMs_20	22 35 24.5				
	comp=Z,2µm,19.0s									
TIXI	**Tiksi**	**116.52**	**20**	IAMs_20	IAMs_20	22 27 51.9				
	comp=Z,2µm,20.0s									
TIXI	**Tiksi**	**116.52**	**20**	*i* PKIKP	**PKPdf**	**21 38 29.7**	**-0.8**			
TBI	**Tubuai**	**118.09**	**153**	*e*PP	**PP**	**21 39 48.3**	**-0.3**			
	comp=Z,1µm,32.5s									
TBI				*e*S	SKSdf	21 46 06.0	+18			
	comp=Z,1µm,29.5s									
TBI				*e*SS	**SS**	**21 56 03.9**	**+1.3**			
	comp=Z,9µm,30.5s									
TBI	**Tubuai**	**118.09**	**153**	*e*LQ	LQ	22 09 21.5				
	comp=Z,6µm,39.5s									
TBI				*e*LR	LR	22 14 20.5				
	comp=Z,29µm,38.2s									
TBI				*e*LR	LR	22 14 25.2				
	comp=Z,5µm,38.0s									
BBGH	**Gun Hill**	**118.61**	**267**	IAMs_20	IAMs_20	22 24 13.8				
	comp=Z,2µm,18.0s									
DAG	**Danmarks Havn**	**119.29**	**345**	*i* P	**PKiKP**	**21 38 37.0**	**+1.2**			
NOR	**Nord**	**120.80**	**351**	*i* P	**PKPdf**	**21 38 38.2**	**-0.4**			
ANGG	**Ammassalik, Gr**	**121.85**	**331**	IAMs_20	IAMs_20	22 29 51.2				
	comp=Z,2µm,20.0s									
PETK	**Petropavlovsk-**	**122.77**	**45**	PKP	**PKPdf**	**21 38 43.1**	**0.0**			
	comp=Z,3.2nm,0.8s,baz=288,slow=1.4,SNR=1.9									
PPT2	**Papeete2**	**123.24**	**150**	*e*PP	**PP**	**21 40 22.0**	**-2.1**			
	comp=Z,224nm,25.2s									
PPT2				*e*S	**SKSdf**	**21 46 00.2**	**+2.5**			
	comp=Z,159nm,24.5s									
PPT2	**Papeete2**	**123.24**	**150**	*e*SS	SS	21 57 02.1	-7.0			
	comp=Z,2µm,29.8s									
PPT2	**Papeete2**	**123.24**	**150**	*e*LQ	LQ	22 11 29.3				
	comp=Z,4µm,40.2s									
PPT2				*e*LR	LR	22 16 49.7				
	comp=Z,3µm,33.5s									
PPT2				*e*LR	LR	22 16 59.5				
	comp=Z,3µm,23.0s									
SUMG	**Summit**	**123.30**	**339**		**PKPdf**	**21 38 43.5**	**-0.6**			
SUMG				IAMs_20	IAMs_20	22 38 49.4				
	comp=Z,2µm,18.0s									
SUMG	**Summit**	**123.30**	**339**	PKIKP	**PKPdf**	**21 38 43.5**	**-0.6**			
SUMG				MLR	MLR					
	comp=Z,2µm,18.0s									
SUMG	**Summit**	**123.30**	**339**	*i* P	**PKiKP**	**21 38 44.7**	**+0.4**			
FLOC	**Florencia**	**124.85**	**245**	PKPdf	**PKPdf**	**21 38 48.0**	**-0.4**			
SDV	**Santo Domingo**	**125.40**	**256**	IAMs_20	IAM

baz=306
A22K **Sinclair Lake** 139.15 15 P PKPdf 21 39 14.6 +1.1
baz=319
K62A **Royalston** 139.16 298 IAMs_20 IAMs_20 22 40 01.8
comp=Z,3µm,20.0s
C18K **Utukok River** 139.24 20 IAMs_20 IAMs_20 22 42 42.4
comp=Z,3µm,21.0s
C18K **Utukok River** 139.24 20 P PKPdf 21 39 15.1 +1.3
baz=309
D17K **Noatak River** 139.26 22 P PKPdf 21 39 15.1 +1.4
baz=306
HNH **Hanover** 139.28 300 IAMs_20 IAMs_20 22 39 08.9
comp=Z,3µm,20.0s
B20K **Meade River** 139.38 17 IAMs_20 IAMs_20 22 42 55.1
comp=Z,3µm,21.0s
B20K **Meade River** 139.38 17 P PKPdf 21 39 15.2 +1.3
baz=315
C19K **Lookout Ridge** 139.38 19 IAMs_20 IAMs_20 22 44 02.2
comp=Z,3µm,19.0s
C19K **Lookout Ridge** 139.38 19 P PKPdf 21 39 15.2 +1.2
baz=312
BOAB **BOACO BROADBAN** 139.39 248 PKPdf 21 39 13.9 -1.7
F14K **Arctic Creek** 139.39 26 P PKPdf 21 39 15.0 +0.9
baz=300
J61A **Chester** 139.45 299 PKPdf PKPdf 21 39 15.2 +0.3
J61A IAMs_20 IAMs_20 22 38 22.4
comp=Z,3µm,20.0s
L61B **Northampton** 139.47 298 IAMs_20 IAMs_20 22 41 15.0
comp=Z,3µm,20.0s
WSPT **Westport, CT** 139.83 296 IAMs_20 IAMs_20 22 38 31.5
comp=Z,2µm,21.0s
F15K **North Star Dit** 139.86 25 IAMs_20 IAMs_20 22 48 33.4
comp=Z,2µm,20.0s
F15K **North Star Dit** 139.86 25 P PKPdf 21 39 15.3 +0.3
baz=302
N62A **Caumsett State** 139.90 295 IAMs_20 IAMs_20 22 44 31.6
comp=Z,2µm,20.0s
B22K **Teshekpuk Lake** 140.00 15 IAMs_20 IAMs_20 22 47 52.2
comp=Z,2µm,18.0s
B22K **Teshekpuk Lake** 140.00 15 P PKPdf 21 39 16.0 +0.9
baz=320
E17K **Hotham Inlet** 140.02 22 P PKPdf 21 39 16.0 +0.8
baz=307
E18K **Tukpahlearik C** 140.18 21 IAMs_20 IAMs_20 22 42 07.6
comp=Z,3µm,21.0s
E18K **Tukpahlearik C** 140.18 21 P PKPdf 21 39 16.4 +1.0
baz=309
D19K **Kuna River** 140.19 19 IAMs_20 IAMs_20 22 47 07.6
comp=Z,2µm,20.0s
D19K **Kuna River** 140.19 19 P PKPdf 21 39 16.4 +0.9
baz=313
ANM **Nome** 140.20 27 P PKPdf 21 39 16.5 +0.9
baz=300
TRY **Troy** 140.22 298 IAMs_20 IAMs_20 22 38 21.8
comp=Z,2µm,20.0s
PAL **Palisades** 140.24 295 IAMs_20 IAMs_20 22 45 18.6
comp=Z,2µm,19.0s
B21K **Ikpikpuk River** 140.27 16 IAMs_20 IAMs_20 22 46 26.5
comp=Z,2µm,19.0s
B21K **Ikpikpuk River** 140.27 16 P PKPdf 21 39 16.4 +0.8
baz=318
D20K **Etivluk River** 140.44 18 IAMs_20 IAMs_20 22 43 57.1
comp=Z,3µm,22.0s
D20K **Etivluk River** 140.44 18 P PKPdf 21 39 16.5 +0.6
baz=315
G15K **Niukluk** 140.46 26 P PKPdf 21 39 16.6 +0.6
baz=302
C21K **Knifeblade Rid** 140.58 17 P PKPdf 21 39 16.8 +0.6
baz=317
F17K **Baldwin Pennin** 140.59 23 IAMs_20 IAMs_20 22 42 42.3
comp=Z,2µm,20.0s
F17K **Baldwin Pennin** 140.59 23 P PKPdf 21 39 16.8 +0.6
baz=307
G16K **Koyuk River** 140.83 24 IAMs_20 IAMs_20 22 50 39.0
comp=Z,2µm,20.0s
G16K **Koyuk River** 140.83 24 P PKPdf 21 39 17.3 +0.6
baz=305
E20K **Nigu River** 140.87 18 P PKPdf 21 39 17.5 +0.7
baz=315
J59A **Piesco** 140.88 299 IAMs_20 IAMs_20 22 39 03.1
comp=Z,3µm,22.0s
SPIA **Saint Paul Isl** 140.94 39 P PKPdf 21 39 17.5 +0.4
baz=286
C23K **Itkillik River** 140.99 14 IAMs_20 IAMs_20 22 43 44.4
comp=Z,2µm,20.0s
C23K **Itkillik River** 140.99 14 P PKPdf 21 39 18.4 +1.6
baz=323
F18K **Selawik** 140.99 22 P PKPdf 21 39 17.8 +0.8
baz=309
R61A **Willards** 141.00 291 IAMs_20 IAMs_20 22 39 37.8
comp=Z,3µm,20.0s
E19K **Redstone River** 141.15 20 IAMs_20 IAMs_20 22 41 41.9
comp=Z,3µm,22.0s
E19K **Redstone River** 141.15 20 P PKPdf 21 39 17.8 +0.6
baz=313
S61A **Accomac** 141.16 290 IAMs_20 IAMs_20 22 40 41.0
comp=Z,3µm,20.0s
L59A **Walton** 141.19 297 IAMs_20 IAMs_20 22 41 15.7
comp=Z,3µm,20.0s
D22K **Ayikyak River** 141.29 16 IAMs_20 IAMs_20 22 45 49.3
comp=Z,3µm,19.0s
D22K **Ayikyak River** 141.29 16 P PKPdf 21 39 17.5 0.0
baz=320
H16K **Elim** 141.30 25 P PKPdf 21 39 17.9 +0.3
baz=304
E21K **Killik River** 141.31 17 IAMs_20 IAMs_20 22 45 59.0
comp=Z,3µm,19.0s
E21K **Killik River** 141.31 17 P PKPdf 21 39 18.0 +0.4
baz=318
G17K **Kiwalik Mounta** 141.35 24 P PKPdf 21 39 17.9 +0.3
baz=307
F19K **Shaleruckik Mo** 141.41 21 IAMs_20 IAMs_20 22 43 05.9
comp=Z,2µm,21.0s
F19K **Shaleruckik Mo** 141.41 21 P PKPdf 21 39 18.3 +0.6
baz=312
C24K **Franklin Bluff** 141.47 14 IAMs_20 IAMs_20 22 51 23.0
comp=Z,2µm,19.0s
C24K **Franklin Bluff** 141.47 14 P PKPdf 21 39 18.6 +0.9
baz=326
P08K **Saint George I** 141.47 40 P PKPdf 21 39 18.6 +0.6
baz=286
TGUH **Tegucigalpa,Un** 141.60 248 PKPdf PKPdf 21 39 18.0 -1.8
TGUH IAMs_20 IAMs_20 22 36 45.2
comp=Z,2µm,20.0s
D23K **Nanushuk River** 141.67 15 P PKPdf 21 39 18.9 +0.8
baz=322
G18K **Tagagawik** 141.75 22 IAMs_20 IAMs_20 22 43 39.1
comp=Z,2µm,21.0s
G18K **Tagagawik** 141.75 22 P PKPdf 21 39 18.5 +0.1
baz=310
A36M **Sachs Harbour** 141.76 1 IAMs_20 IAMs_20 22 44 56.0
comp=Z,3µm,20.0s
A36M **Sachs Harbour** 141.76 1 P PKPdf 21 39 19.1 +0.9
baz=358
K13K **Kusilvak Mount** 141.77 30 IAMs_20 IAMs_20 22 45 03.2
comp=Z,3µm,21.0s
K13K **Kusilvak Mount** 141.77 30 P PKPdf 21 39 18.5 0.0
baz=298
M11K **Mekoryuk** 141.79 33 P PKPdf 21 39 19.0 +0.4
baz=295
J14K **Nanvaranak Lak** 141.82 28 IAMs_20 IAMs_20 22 43 12.3
comp=Z,3µm,21.0s
J14K **Nanvaranak Lak** 141.82 28 P PKPdf 21 39 18.4 -0.1
baz=300
F20K **Avaraart Lake** 141.85 20 IAMs_20 IAMs_20 22 42 03.3
comp=Z,3µm,22.0s
F20K **Avaraart Lake** 141.85 20 P PKPdf 21 39 18.5 0.0
baz=314
BINY **Binghamton** 141.90 297 IAMs_20 IAMs_20 22 41 57.3
comp=Z,3µm,20.0s
D24K **Happy Valley** 141.91 14 IAMs_20 IAMs_20 22 51 24.8
comp=Z,2µm,20.0s
D24K **Happy Valley** 141.91 14 P PKPdf 21 39 19.1 +0.6
baz=325
H17K **Granite Mounta** 141.94 24 IAMs_20 IAMs_20 22 45 14.2
comp=Z,2µm,20.0s
H17K **Granite Mounta** 141.94 24 P PKPdf 21 39 19.2 +0.5
baz=307
J57A **Williamstown** 141.96 299 IAMs_20 IAMs_20 22 40 30.8
comp=Z,3µm,21.0s
C26K **Camden Bay** 142.00 12 P PKPdf 21 39 18.8 +0.2
baz=331
E22K **Anaktuvuk Pass** 142.07 17 P PKPdf 21 39 18.7 -0.2
baz=320
G19K **Purcell Mounta** 142.08 21 P PKPdf 21 39 18.4 -0.5
baz=312
TOLK **Toolik Lake Re** 142.18 15 IAMs_20 IAMs_20 22 46 59.8
comp=Z,2µm,20.0s
TOLK **Toolik Lake Re** 142.18 15 P PKPdf 21 39 18.9 -0.2
baz=324
060A **Indiantown** 142.23 272 IAMs_20 IAMs_20 22 42 04.8
comp=Z,2µm,20.0s
061Z **Ochoppi** 142.25 270 IAMs_20 IAMs_20 22 45 09.3
comp=Z,2µm,20.0s
D25K **Kavik River** 142.25 13 IAMs_20 IAMs_20 22 50 13.4
comp=Z,2µm,21.0s
I17K **Unalakleet** 142.28 26 IAMs_20 IAMs_20 22 47 26.5
comp=Z,2µm,20.0s
I17K **Unalakleet** 142.28 26 P PKPdf 21 39 18.6 -0.8
baz=305
H18K **Honhosa River** 142.32 23 P PKPdf 21 39 19.0 -0.5
baz=309
F21K **Alatna River** 142.34 18 IAMs_20 IAMs_20 22 42 28.3
comp=Z,3µm,22.0s
F21K **Alatna River** 142.34 18 P PKPdf 21 39 18.7 -0.7
baz=317
N58A **Sunbury** 142.35 295 IAMs_20 IAMs_20 22 40 09.3
comp=Z,2µm,22.0s
C27K **Jago River** 142.45 11 IAMs_20 IAMs_20 22 45 58.9
comp=Z,2µm,21.0s
C27K **Jago River** 142.45 11 P PKPdf 21 39 19.1 -0.5
baz=332
F22K **John River** 142.46 18 P PKPdf 21 39 18.8 -0.8
baz=319
E23K **Chandalar** 142.64 16 P PKPdf 21 39 18.6 -1.4
baz=323
J16K **Anvik River** 142.66 27 IAMs_20 IAMs_20 22 43 55.5
comp=Z,2µm,20.0s
J16K **Anvik River** 142.66 27 P PKPdf 21 39 19.4 -0.6
baz=304
H19K **Roundabout Mou** 142.69 22 P PKPdf 21 39 19.0 -1.0
baz=312
SOR **Soroa** 142.74 264 PKPdf 21 39 18.9 -2.6
SOR **Soroa** 142.74 264 PKIKP PKPdf 21 39 18.9 -2.6
NIKH **Nikaitchi High** 142.78 45 P PKPdf 21 39 19.1 -1.4
baz=283
G21K **Allakaket** 142.85 19 IAMs_20 IAMs_20 22 46 24.9
comp=Z,2µm,20.0s
G21K **Allakaket** 142.85 19 P PKPdf 21 39 18.6 -1.7
baz=317
K15K **Wolf Creek Mou** 142.85 28 P PKPdf 21 39 20.2 -0.2
baz=302
E24K **Your Creek** 142.87 15 P PKPdf 21 39 19.1 -1.3
baz=325
L14K **Kuka Creek** 142.88 30 IAMs_20 IAMs_20 22 44 45.6
comp=Z,3µm,21.0s
L14K **Kuka Creek** 142.88 30 P PKPdf 21 39 20.1 -0.4
baz=300
M13K **Dall Lake** 143.04 32 P PKPdf 21 39 20.2 -0.5
baz=298
L56A **Greenwood** 143.06 297 IAMs_20 IAMs_20 22 42 23.1
comp=Z,2µm,21.0s
GCSA **Galena City Sc** 143.07 23 P PKPdf 21 39 19.9 -0.8
baz=311
G22K **Bettles** 143.08 18 P PKPbc 21 39 19.5 +1.9
baz=320
DELO **Deloro Mine** 143.14 301 PKPdf PKPbc 21 39 19.9 +1.5
J17K **VABM Dome** 143.16 26 P PKPdf 21 39 20.3 -0.6
baz=307
COLD **Coldfoot** 143.16 17 IAMs_20 IAMs_20 22 52 06.9
comp=Z,2µm,21.0s
COLD **Coldfoot** 143.16 17 P PKPdf 21 39 20.1 -0.8
baz=322
H20K **Anotleneega Mo** 143.19 21 P PKPdf 21 39 20.5 -0.5
baz=314
L15K **Ungalak Mounta** 143.20 29 P PKPdf 21 39 20.4 -0.6
baz=302,SNR=15
SSPA **Standing Stone** 143.22 294 PKPab 21 39 18.4 +0.9
SSPA **Standing Stone** 143.22 294 IAMs_20 IAMs_20 22 45 12.4
comp=Z,2µm,19.0s
D27M **Malcolm River** 143.23 10 P PKPdf 21 39 20.2 -0.8
baz=336,SNR=12
E25K **Arctic Village** 143.44 14 IAMs_20 IAMs_20 22 47 22.0
comp=Z,2µm,20.0s
E25K **Arctic Village** 143.44 14 P PKPdf 21 39 20.5 -0.8
baz=329,SNR=12
D28M **Stokes Point** 143.45 9 P PKPdf 21 39 21.9 +0.7
baz=339
F24K **Squaw Lake** 143.46 15 P PKPbc 21 39 19.6 +0.9
baz=325,SNR=16
M14K **Bethel** 143.48 31 IAMs_20 IAMs_20 22 45 44.5
comp=Z,2µm,20.0s
DWPF **Disney Wildern** 143.49 273 PKPbc 21 39 20.6 +0.7
DWPF **Disney Wildern** 143.49 273 IAMs_20 IAMs_20 22 41 13.2
comp=Z,2µm,20.0s
ESQI **Esquipulas** 143.50 247 PKPdf PKPbc 21 39 20.7 +0.4
G23K **Bananza Creek** 143.61 17 IAMs_20 IAMs_20 22 46 42.9
comp=Z,2µm,19.0s
G23K **Bananza Creek** 143.61 17 P PKPbc 21 39 20.2 +1.0
baz=322,SNR=23
H21K **Melozitna Rive** 143.68 20 IAMs_20 IAMs_20 22 46 20.7
comp=Z,2µm,21.0s
H21K **Melozitna Rive** 143.68 20 P PKPbc 21 39 20.2 +0.9
baz=317,SNR=33
I20K **Naaghedeneel** 143.80 22 IAMs_20 IAMs_20 22 47 26.0
comp=Z,2µm,20.0s
I20K **Naaghedeneel** 143.80 22 P PKPbc 21 39 20.3 +0.7
baz=314,SNR=19
K17K **Iditarod** 143.85 26 IAMs_20 IAMs_20 22 44 52.9
comp=Z,2µm,20.0s
K17K **Iditarod** 143.85 26 P PKPbc 21 39 20.8 +0.9
baz=307,SNR=26
F25K **Christian Rive** 143.87 14 P PKPbc 21 39 20.4 +0.5
baz=328,SNR=28
NHSC **New Hope** 143.88 281 IAMs_20 IAMs_20 22 38 17.3
comp=Z,2µm,20.0s
H22K **Ishtalitna Cre** 143.89 19 P PKPbc 21 39 20.6 +0.6
baz=319,SNR=29
UNV **Unalaska Valle** 143.92 43 IAMs_20 IAMs_20 22 44 18.0
comp=Z,2µm,20.0s
J18K **Innoko River** 143.95 25 P PKPbc 21 39 20.6 +0.4
baz=310,SNR=21
J19K **Poorman** 143.98 23 P PKPbc 21 39 20.8 +0.5
baz=312,SNR=32
L16K **Owhat River** 143.99 28 IAMs_20 IAMs_20 22 45 35.7
comp=Z,3µm,19.0s
L16K **Owhat River** 143.99 28 P PKPbc 21 39 20.5 +0.2
baz=304,SNR=13
N14K **Kuskokwak Cree** 144.01 32 IAMs_20 IAMs_20 22 44 27.6
comp=Z,3µm,21.0s
E28M **Babbage River** 144.02 10 PKPab 21 39 20.0 +0.2
E28M IAMs_20 IAMs_20 22 45 00.2
comp=Z,2µm,19.0s
E28M **Babbage River** 144.02 10 P PKPbc 21 39 20.4 +0.1
baz=337,SNR=66
M15K **Kasigluk River** 144.05 30 P PKPab 21 39 20.1 +0.1
baz=302,SNR=12
Q56A **Snyder Ridge,** 144.07 291 IAMs_20 IAMs_20 22 43 22.2
comp=Z,3µm,20.0s
F26K **Sheenjek River** 144.08 13 IAMs_20 IAMs_20 22 46 19.9
comp=Z,2µm,21.0s
F26K **Sheenjek River** 144.08 13 P PKPab 21 39 20.6 +0.6
baz=330,SNR=40
E27K **Coleen River** 144.09 11 PKPab 21 39 20.3 +0.3
E27K **Coleen River** 144.09 11 P PKPab 21 39 20.6 +0.6
baz=334,SNR=60
L17K **Donlin** 144.20 27 P PKPbc 21 39 21.2 +0.2
baz=306,SNR=22
SADO **Sadowa** 144.22 301 PKPab 21 39 20.7 -0.5
BMAR **Burnt Mountain** 144.22 14 PKPab 21 39 20.7 +0.1
G24K **Hadweenzic Riv** 144.23 16 IAMs_20 IAMs_20 22 48 36.0
comp=Z,2µm,20.0s
G24K **Hadweenzic Riv** 144.23 16 P PKPbc 21 39 21.2 +0.2
baz=325,SNR=67
Y57A **Sumter** 144.25 283 IAMs_20 IAMs_20 22 44 20.2
comp=Z,3µm,20.0s
257A **Skidaway Islan** 144.30 279 IAMs_20 IAMs_20 22 43 55.5
comp=Z,2µm,20.0s
J20K **Nowinta River** 144.33 22 P PKPab 21 39 21.5 +0.5
baz=314,SNR=70
C36M **Paulatuk** 144.42 0 IAMs_20 IAMs_20 22 48 02.4
comp=Z,2µm,21.0s
C36M **Paulatuk** 144.42 0 P PKPab 21 39 21.5 +0.4
baz=360
H23K **Yukon River** 144.43 18 IAMs_20 IAMs_20 22 43 51.5
comp=Z,2µm,21.0s
H23K **Yukon River** 144.43 18 P PKPbc 21 39 22.2 +0.6
baz=321
E29M **Blow River** 144.44 9 PKPab 21 39 20.9 -0.4
E29M IAMs_20 IAMs_20 22 51 51.4
comp=Z,2µm,18.0s
E29M **Blow River** 144.44 9 P PKPab 21 39 21.2 -0.1
baz=340,SNR=219
G25K **Bearman Lake** 144.48 15 P PKPbc 21 39 22.3 +0.6
baz=327,SNR=73
O14K **Tigyukauivet M** 144.52 33 P PKPab 21 39 22.1 +0.3
baz=299
N15K **Kwethluk River** 144.57 31 IAMs_20 IAMs_20 22 48 25.4
comp=Z,3µm,21.0s
N15K **Kwethluk River** 144.57 31 P PKPbc 21 39 22.8 +0.5
baz=302,SNR=7.7
M16K **Timber Creek** 144.58 29 P PKPbc 21 39 23.0 +0.8
baz=304,SNR=21
PAOC **Oil Creek Stat** 144.62 296 PKPab 21 39 21.8 -1.0
MCWV **Mont Chateau** 144.64 292 PKPab 21 39 21.7 -1.2
MCWV IAMs_20 IAMs_20 22 44 25.1
comp=Z,3µm,19.0s
R55A **Marlinton** 144.72 290 IAMs_20 IAMs_20 22 47 06.3
comp=Z,3µm,20.0s
MLY **Manley** 144.72 20 PKPab 21 39 21.9 -0.6
MLY IAMs_20 IAMs_20 22 45 42.3
comp=Z,2µm,21.0s
MLY **Manley** 144.72 20 P PKPab 21 39 22.4 -0.1
baz=315,SNR=127
L18K **Granite Mounta** 144.75 26 IAMs_20 IAMs_20 22 45 40.6
comp=Z,2µm,20.0s
L18K **Granite Mounta** 144.75 26 P PKPbc 21 39 23.2 +0.5
baz=308,SNR=40
456A **Hilliard** 144.79 277 IAMs_20 IAMs_20 22 41 19.5
comp=Z,3µm,20.0s
G26K **Porcupine Rive** 144.80 14 P PKPab 21 39 22.7 +0.1
baz=330,SNR=58
656A **Willston** 144.81 274 IAMs_20 IAMs_20 22 39 35.2
comp=Z,3µm,20.0s
H24K **Noodor Dome** 144.84 17 IAMs_20 IAMs_20 22 47 41.2
comp=Z,2µm,19.0s
H24K **Noodor Dome** 144.84 17 P PKPab 21 39 23.1 +0.2
baz=324,SNR=123
ERPA **Erie** 144.87 297 PKPab 21 39 22.6 -1.1
F28M **Old Crow** 144.89 11 P PKPab 21 39 23.0 0.0
baz=336,SNR=178
K20K **Telida** 144.92 23 IAMs_20 IAMs_20 22 47 26.9
comp=Z,2µm,19.0s
K20K **Telida** 144.92 23 P PKPab 21 39 23.6 +0.3
baz=313,SNR=136
H25L **Birch Creek** 144.96 15 P PKPbc 21 39 23.7 +0.4
baz=327,SNR=51
M17K **Holitna River** 144.96 28 P PKPdf 21 39 24.4 +0.3
baz=306,SNR=24
N16K **Nishlik Lake** 144.96 30 P PKPdf 21 39 24.3 +0.1
baz=304,SNR=21
I23K **Minto, Yukon-K** 145.01 19 IAMs_20 IAMs_20 22 46 49.8
comp=Z,2µm,19.0s
I23K **Minto, Yukon-K** 145.01 19 P PKPbc 21 39 23.5 +0.1
baz=321,SNR=120
INK **Inuvik** 145.01 6 PKPbc 21 39 23.0 -0.4
INK **Inuvik** 145.01 6 PKP PKPbc 21 39 23.1 -0.2
comp=Z,341nm,1.0s,baz=1.9,slow=4.8,SNR=102
INK **Inuvik** 145.01 6 P PKPbc 21 39 23.1 -0.2
baz=346,SNR=222
CHUM **Lake Minchumin** 145.11 22 P PKPab 21 39 24.3 +0.4
baz=316,SNR=127
O15K **Ungalikthiuk R** 145.21 32 IAMs_20 IAMs_20 22 45 16.2
comp=Z,3µm,20.0s
O15K **Ungalikthiuk R** 145.21 32 P PKPbc 21 39 24.6 +0.3
baz=301,SNR=18
PETF **Flores** 145.30 249 PKPbc PKPbc 21 39 24.8 -1.0
FALS **False Pass** 145.32 40 PKPbc 21 39 23.2 -1.5
FALS IAMs_20 IAMs_20 22 45 53.0
comp=Z,2µm,22.0s
FALS **False Pass** 145.32 40 P PKPdf 21 39 25.5 +0.6
FALS **False Pass** 145.32 40 P PKPbc 21 39 25.1 +0.4
FALS **False Pass** 145.32 40 P PKPbc 21 39 24.0 -0.8
baz=291
G27K **Doyon Strip** 145.32 12 IAMs_20 IAMs_20 22 47 29.7
comp=Z,2µm,20.0s
G27K **Doyon Strip** 145.32 12 P PKPbc 21 39 24.6 +0.1
baz=333,SNR=296
BPAW **Bear Paw Mtn.** 145.35 21 IAMs_20 IAMs_20 22 50 29.1
comp=Z,2µm,21.0s
BPAW **Bear Paw Mtn.** 145.35 21 P PKPbc 21 39 24.1 -0.6
baz=318,SNR=185
L19K **White Mountain** 145.44 25 IAMs_20 IAMs_20 22 45 41.7
comp=Z,2µm,20.0s
L19K **White Mountain** 145.44 25 P PKPdf 21 39 25.2 +0.2
baz=311,SNR=65
F30M **Barrier River** 145.44 8 IAMs_20 IAMs_20 22 44 49.8
comp=Z,2µm,22.0s
F30M **Barrier River** 145.44 8 P PKPdf 21 39 24.6 -0.2
baz=342,SNR=66
N53A **Liebon** 145.47 294 IAMs_20 IAMs_20 22 46 33.9
comp=Z,2µm,20.0s
NEA2 **Nenana** 145.52 19 PKPdf 21 39 23.8 -1.2
NEA2 IAMs_20 IAMs_20 22 46 28.4
comp=Z,2µm,20.0s
NEA2 **Nenana** 145.52 19 P PKPdf 21 39 25.4 +0.4
baz=321,SNR=30
M18K **Stony River** 145.52 27 P PKPbc 21 39 25.7 +0.5
baz=309,SNR=39
POKR **Poker Plat Res** 145.53 18 IAMs_20 IAMs_20 22 46 56.5
comp=Z,2µm,19.0s
POKR **Poker Plat Res** 145.53 18 P PKPdf 21 39 25.0 -0.1
baz=324,SNR=12
PAULI **Pauline** 145.56 284 PKPdf 21 39 24.9 -1.2
N17K **Nushagak Hills** 145.58 29 P PKPab 21 39 26.5 +0.8
baz=306,SNR=51
L20K **Farewell, AK** 145.58 24 P PKPdf 21 39 25.5 +0.3
baz=312,SNR=40
HUEH **Huehuetenango** 145.60 246 PKPdf PKPdf 21 39 25.8 -1.1
COLA **College** 145.62 18 IAMs_20 IAMs_20 22 45 07.9
comp=Z,3µm,21.0s
COLA **College** 145.62 18 P PKPdf 21 39 24.8 -0.3
COLA **College** 145.62 18 P PKPdf 21 39 25.0 -0.1
COLA **College** 145.62 18 P PKPab 21 39 26.0 +0.3
baz=323
S12K **Black Hills** 145.72 39 IAMs_20 IAMs_20 22 47 46.4
comp=Z,2µm,21.0s
S12K **Black Hills** 145.72 39 P PKPbc 21 39 26.5 +0.5
baz=294
O16K **Kokwok River B** 145.73 31 IAMs_20 IAMs_20 22 45 00.1
comp=Z,2µm,20.0s
O16K **Kokwok River B** 145.73 31 P PKPdf 21 39 24.9 -0.6
baz=303,SNR=28
BWN **Browne** 145.74 20 IAMs_20 IAMs_20 22 46 25.4
comp=Z,2µm,21.0s
KTH **Kantishna Hill** 145.78 21 IAMs_20 IAMs_20 22 46 25.4
comp=Z,2µm,19.0s
M19K **Big River Lodg** 145.78 25 P PKPbc 21 39 26.2 +0.2
baz=311,SNR=46
CCB **Clear Creek Bu** 145.81 18 IAMs_20 IAMs_20 22 44 41.1
comp=Z,2µm,21.0s
G29M **Pine Creek** 145.81 10 IAMs_20 IAMs_20 22 48 38.6
comp=Z,2µm,20.0s
G29M **Pine Creek** 145.81 10 P PKPdf 21 39 25.6 +0.1
baz=338,SNR=56
F31M **Tsiigehtchic** 145.83 7 P PKPdf 21 39 25.6 +0.1
baz=345,SNR=121
TEIG **Tepich** 145.84 256 PKPdf PKPdf 21 39 25.4 -1.5
TEIG IAMs_20 IAMs_20 22 50 33.8
comp=Z,2µm,20.0s
PPLA **Purkeypile** 145.85 23 IAMs_20 IAMs_20 22 45 01.6
comp=Z,2µm,21.0s
PPLA **Purkeypile** 145.85 23 P PKPdf 21 39 25.9 +0.1
baz=315,SNR=43
H27K **Steamboat Moun** 145.86 13 IAMs_20 IAMs_20 22 53 37.0
comp=Z,2µm,21.0s
H27K **Steamboat Moun** 145.86 13 P PKPbc 21 39 26.3 +0.1
baz=333,SNR=80
WRH **Wood River Hil** 145.88 19 IAMs_20 IAMs_20 22 49 50.8
comp=Z,3µm,18.0s
M52A **Chesterland** 145.88 296 IAMs_20 IAMs_20 22 46 03.7
comp=Z,3µm,21.0s
IL31 145.95 18 PKPdf 21 39 24.6 -1.1
ILAR **Eielson Array** 145.95 18 PKPdf 21 39 24.5 -1.2
ILAR **Eielson Array** 145.95 18 PKPbc PKPdf 21 39 25.0 -0.7
comp=Z,31nm,0.8s,baz=313,slow=3.8,SNR=68
G30M **tAoh Zrail Nji** 145.99 9 IAMs_20 IAMs_20 22 50 17.3
comp=Z,2µm,21.0s
G30M **tAoh Zrail Nji** 145.99 9 P PKPdf 21 39 26.2 +0.4
baz=341,SNR=34
N18K **Kilae Creek** 146.00 28 P PKPbc 21 39 26.7 0.0
baz=308,SNR=20
TRF **Thorofare Moun** 146.04 21 PKPdf 21 39 25.2 -0.9
TRF IAMs_20 IAMs_20 22 52 09.4
comp=Z,2µm,19.0s
TRF **Thorofare Moun** 146.04 21 P PKPdf 21 39 26.1 0.0
baz=318,SNR=44
O17K **Koliganek Bris** 146.05 30 P PKPbc 21 39 27.3 +0.4
baz=305,SNR=39
P16K **Nushagak River** 146.09 31 IAMs_20 IAMs_20 22 44 47.5
comp=Z,2µm,20.0s
P16K **Nushagak River** 146.09 31 P PKPdf 21 39 26.8 +0.7
baz=303

154A	**Montrose**	146.16	279		IAMs_20	IAMs_20	22 41 48.8			
	comp=Z,2µm,20.0s									
O52A	**Adamsville**	146.20	293		IAMs_20	IAMs_20	22 44 25.3			
	comp=Z,2µm,19.0s									
MCK	**McKinley**	146.22	20		IAMs_20	IAMs_20	22 49 22.1			
	comp=Z,2µm,20.0s									
MCK	**McKinley**	146.22	20	P		**PKPdf**	**21 39 26.8**	**+0.5**		
	baz=320,SNR=51									
HDA	**Harding Lake**	146.23	18		IAMs_20	IAMs_20	22 45 15.0			
	comp=Z,2µm,22.0s									
HDA	**Harding Lake**	146.23	18	P		**PKPdf**	**21 39 26.2**	**0.0**		
	baz=324,SNR=88									
M20K	**Styx River**	146.24	25		IAMs_20	IAMs_20	22 51 48.3			
	comp=Z,2µm,19.0s									
M20K	**Styx River**	146.24	25	P		**PKPdf**	**21 39 26.7**	**+0.2**		
	baz=313									
G31M	**Satah River**	146.28	7		IAMs_20	IAMs_20	22 46 10.7			
	comp=Z,3µm,21.0s									
G31M	**Satah River**	146.28	7	P		**PKPdf**	**21 39 26.2**	**0.0**		
	baz=344,SNR=49									
I26K	**Coal Creek Min**	146.36	15		IAMs_20	IAMs_20	22 43 29.3			
	comp=Z,2µm,22.0s									
I26K	**Coal Creek Min**	146.36	15	P		**PKPdf**	**21 39 26.7**	**+0.3**		
	baz=330									
I27K	**Kandik River**	146.41	13	P		**PKPbc**	**21 39 27.7**	**-0.2**		
	baz=332,SNR=68									
H29M	**Whitestone**	146.41	11		IAMs_20	IAMs_20	22 41 49.3			
	comp=Z,2µm,22.0s									
H29M	**Whitestone**	146.41	11	P		**PKPdf**	**21 39 27.2**	**+0.7**		
	baz=338,SNR=39									
J25K	**Salcha River,**	146.45	17		IAMs_20	IAMs_20	22 49 38.8			
	comp=Z,2µm,20.0s									
J25K	**Salcha River,**	146.45	17	P		**PKPdf**	**21 39 27.5**	**+0.8**		
	baz=326,SNR=102									
N19K	**Bonanza Creek**	146.46	27			**PKPdf**	**21 39 25.9**	**-1.0**		
N19K					IAMs_20	IAMs_20	22 47 48.8			
	comp=Z,2µm,20.0s									
N19K	**Bonanza Creek**	146.46	27	P		**PKPdf**	**21 39 27.7**	**+0.9**		
	baz=310,SNR=21									
Q52A	**Bidwell**	146.46	291		IAMs_20	IAMs_20	22 48 33.3			
	comp=Z,2µm,18.0s									
RND	**Reindeer**	146.50	20		IAMs_20	IAMs_20	22 47 45.4			
	comp=Z,3µm,21.0s									
EPYK	**Eagle Plains**	146.51	9	P		**PKPdf**	**21 39 27.3**	**+0.6**		
	baz=340,SNR=57									
V53A	**Saluda**	146.51	285			**PKPdf**	**21 39 26.6**	**-1.1**		
GOGA	**Godfrey**	146.63	281		IAMs_20	IAMs_20	22 46 00.3			
	comp=Z,2µm,20.0s									
553A	**Crawfordville**	146.63	275		IAMs_20	IAMs_20	22 48 09.4			
	comp=Z,2µm,19.0s									
N51A	**Ashland**	146.63	294		IAMs_20	IAMs_20	22 43 12.8			
	comp=Z,2µm,22.0s									
P17K	**Kvichak River**	146.66	30	P		**PKPbc**	**21 39 28.3**	**-0.4**		
	baz=305,SNR=19									
CCIG	**Comitan**	146.68	246	PKPdf		**PKPdf**	**21 39 28.2**	**-0.4**		
SDPT	**Sand Point**	146.68	38	P		**PKPbc**	**21 39 29.6**	**+0.7**		
SDPT	**Sand Point**	146.68	38	P		**PKPbc**	**21 39 29.3**	**+0.4**		
SDPT	**Sand Point**	146.68	38	P		**PKPdf**	**21 39 28.2**	**+1.0**		
	baz=295									
SKT	**Skwentna**	146.72	24		IAMs_20	IAMs_20	22 52 21.5			
	comp=Z,2µm,20.0s									
SKT	**Skwentna**	146.72	24	P		**PKPdf**	**21 39 27.5**	**+0.3**		
	baz=315,SNR=24									
O18K	**Koktuh Hills**	146.77	29		IAMs_20	IAMs_20	22 46 17.4			
	comp=Z,3µm,20.0s									
O18K	**Koktuh Hills**	146.77	29	P		**PKPbc**	**21 39 28.9**	**-0.1**		
	baz=308,SNR=26									
CUT	**Chulitna**	146.83	22		IAMs_20	IAMs_20	22 51 33.2			
	comp=Z,2µm,21.0s									
CUT	**Chulitna**	146.83	22	P		**PKPbc**	**21 39 28.6**	**-0.5**		
	baz=317									
I28M	**Miner Creek**	146.85	12	P		**PKPbc**	**21 39 28.8**	**-0.4**		
	baz=335,SNR=69									
Q16K	**King Salmon**	146.86	31	P		**PKPbc**	**21 39 29.3**	**+0.1**		
	baz=304									
O19K	**Port Alsworth**	146.91	28		IAMs_20	IAMs_20	22 50 38.0			
	comp=Z,2µm,20.0s									
O19K	**Port Alsworth**	146.91	28	P		**PKPbc**	**21 39 29.3**	**-0.1**		
	baz=309,SNR=8.3									
J26L	**Joseph Creek**	146.96	16		IAMs_20	IAMs_20	22 45 09.3			
	comp=Z,3µm,22.0s									
J26L	**Joseph Creek**	146.96	16	P		**PKPbc**	**21 39 29.5**	**-0.1**		
	baz=329,SNR=129									
K24K	**Donnelly Dome**	147.02	18		IAMs_20	IAMs_20	22 50 54.9			
	comp=Z,2µm,19.0s									
K24K	**Donnelly Dome**	147.02	18	P		**PKPbc**	**21 39 29.3**	**-0.4**		
	baz=325,SNR=31									
N20K	**Mount Spurr**	147.03	25	P		**PKPbc**	**21 39 29.2**	**-0.6**		
	baz=313									
SPCR	**Spurr Chakacha**	147.03	25	P		**PKPdf**	**21 39 29.1**	**+1.4**		
	baz=313									
WAT1	**Susitna Watana**	147.03	21	P		**PKPdf**	**21 39 28.9**	**+1.2**		
	baz=320									
P18K	**Big Mountain,**	147.04	29		IAMs_20	IAMs_20	22 46 25.6			
	comp=Z,2µm,20.0s									
P18K	**Big Mountain,**	147.04	29	P		**PKPdf**	**21 39 29.2**	**+1.4**		
	baz=307,SNR=5.4									
ACSO	**Alum Creek Sta**	147.08	293			**PKPdf**	**21 39 26.9**	**-1.5**		
ACSO					IAMs_20	IAMs_20	22 47 07.6			
	comp=Z,3µm,20.0s									
M50A	**Fremont**	147.14	295		IAMs_20	IAMs_20	22 49 05.2			
	comp=Z,2µm,18.0s									
DHY	**Denali Highway**	147.18	20		IAMs_20	IAMs_20	22 47 07.3			
	comp=Z,3µm,21.0s									
DHY	**Denali Highway**	147.18	20	P		**PKPbc**	**21 39 29.9**	**-0.4**		
	baz=322,SNR=64									
Y52A	**Lilburn**	147.21	281		IAMs_20	IAMs_20	22 45 56.6			
	comp=Z,2µm,20.0s									
I29M	**Ogilvie Camp,**	147.21	11		IAMs_20	IAMs_20	22 45 32.6			
	comp=Z,3µm,22.0s									
I29M	**Ogilvie Camp,**	147.21	11	P		**PKPbc**	**21 39 29.8**	**-0.3**		
	baz=337,SNR=91									
TZTN	**Tazewell**	147.23	286	PKPdf		**PKPdf**	**21 39 28.4**	**-0.5**		
EGAK	**Eagle**	147.23	14			**PKPdf**	**21 39 28.5**	**+0.6**		
EGAK	**Eagle**	147.23	14	P		**PKPbc**	**21 39 29.8**	**-0.4**		
	baz=333,SNR=36									
CHGN	**Chignik**	147.29	36	P		**PKPbc**	**21 39 30.3**	**-0.3**		
	baz=299									
Q51A	**Peebles**	147.30	291		IAMs_20	IAMs_20	22 50 31.6			
	comp=Z,2µm,18.0s									
RIDG	**Independent Ri**	147.31	17		IAMs_20	IAMs_20	22 46 10.5			
	comp=Z,2µm,22.0s									
RIDG	**Independent Ri**	147.31	17	P		**PKPbc**	**21 39 30.4**	**-0.1**		
	baz=326,SNR=23									
SCRK	**Sand Creek**	147.31	16		IAMs_20	IAMs_20	22 49 06.6			
	comp=Z,2µm,19.0s									
SCRK	**Sand Creek**	147.31	16	P		**PKPbc**	**21 39 30.5**	**-0.1**		
	baz=328,SNR=50									
H31M	**Peel River**	147.35	8	P		**PKPbc**	**21 39 29.8**	**-0.7**		
	baz=344									
M22K	**Willow**	147.35	23		IAMs_20	IAMs_20	22 52 04.1			
	comp=Z,2µm,22.0s									
M22K	**Willow**	147.35	23	P		**PKPbc**	**21 39 30.1**	**-0.4**		
	baz=317,SNR=14									
SUA	**Susitna One**	147.35	24		IAMs_20	IAMs_20	22 52 49.2			
	comp=Z,2µm,20.0s									
SUA	**Susitna One**	147.35	24	P		**PKPbc**	**21 39 30.1**	**-0.7**		
	baz=316,SNR=44									
CHNA	**Chernabura Isl**	147.36	39	P		**PKPab**	**21 39 32.9**	**+0.2**		
CHNA	**Chernabura Isl**	147.36	39	P		**PKPdf**	**21 39 28.2**	**-0.2**		
CHNA	**Chernabura Isl**	147.36	39	P		**PKPbc**	**21 39 30.7**	**-0.1**		
	baz=295									
CNBA	**Chernabura Isl**	147.37	39		IAMs_20	IAMs_20	22 49 03.0			
	comp=Z,2µm,21.0s									
352A	**Blakely**	147.39	277		IAMs_20	IAMs_20	22 51 42.2			
	comp=Z,2µm,19.0s									
Q17K	**Contact Creek**	147.43	32	P		**PKPbc**	**21 39 30.9**	**-0.1**		
	baz=305									
WAT6	**Susitna Watana**	147.46	21	P		**PKPbc**	**21 39 30.6**	**-0.5**		
	baz=321,SNR=30									
152A	**Waverly Hall**	147.50	279		IAMs_20	IAMs_20	22 42 39.3			
	comp=Z,2µm,20.0s									
R17L	**Mt. Peulik Vol**	147.57	33	P		**PKPbc**	**21 39 31.7**	**+0.4**		
	baz=303									
DOT	**Dot Lake**	147.57	17		IAMs_20	IAMs_20	22 47 12.5			
	comp=Z,2µm,20.0s									
Q18K	**Katmai Hardscr**	147.58	30	P		**PKPbc**	**21 39 31.7**	**+0.3**		
	baz=306									
AAM	**Ann Arbor**	147.59	297	PKPdf		**PKPdf**	**21 39 27.8**	**-1.4**		
AAM	**Ann Arbor**	147.59	297	PKIKP		**PKPdf**	**21 39 27.8**	**-1.4**		
AAM				MLR	MLR					
	comp=Z,4µm,19.0s									
I30M	**Mount Dempster**	147.64	10		IAMs_20	IAMs_20	22 49 23.8			
	comp=Z,2µm,20.0s									
I30M	**Mount Dempster**	147.64	10	P		**PKPbc**	**21 39 31.9**	**+0.4**		
	baz=340,SNR=81									
K27K	**Chicken**	147.70	15		IAMs_20	IAMs_20	22 48 51.9			
	comp=Z,2µm,18.0s									
K27K	**Chicken**	147.70	15	P		**PKPbc**	**21 39 32.1**	**+0.6**		
	baz=331									
GHO	**Glory Hole Cre**	147.72	22			**PKPdf**	**21 39 28.9**	**0.0**		
GHO					IAMs_20	IAMs_20	22 48 43.9			
	comp=Z,2µm,22.0s									
PAX	**Paxson**	147.78	19		IAMs_20	IAMs_20	22 51 49.2			
	comp=Z,2µm,22.0s									
PAX	**Paxson**	147.78	19	P		**PKPbc**	**21 39 32.0**	**+0.1**		
	baz=325,SNR=52									
PMR	**Palmer**	147.79	23	P		**PKPbc**	**21 39 31.0**	**-0.8**		
PMR	**Palmer**	147.79	23	P		**PKPbc**	**21 39 32.7**	**+0.9**		
PMR	**Palmer**	147.79	23	P		**PKPbc**	**21 39 32.2**	**+0.4**		
	baz=318,SNR=6.7									
RC01	**Rabbit Creek A**	147.96	24		IAMs_20	IAMs_20	22 53 48.3			
	comp=Z,2µm,20.0s									
RC01	**Rabbit Creek A**	147.96	24	P		**PKPbc**	**21 39 32.4**	**+0.1**		
	baz=316,SNR=30									
Q19K	**Cape Douglas,**	147.98	29		IAMs_20	IAMs_20	22 50 28.2			
	comp=Z,3µm,20.0s									
Q19K	**Cape Douglas,**	147.98	29	P		**PKPbc**	**21 39 32.0**	**-0.4**		
	baz=308									
J29N	**Klondike Camp**	148.07	12	P		**PKPbc**	**21 39 33.1**	**+0.5**		
	baz=337,SNR=13									
M23K	**Glacier View**	148.08	21	P		**PKPbc**	**21 39 32.5**	**-0.2**		
	baz=320,SNR=56									
GLMI	**Grayling**	148.10	302		IAMs_20	IAMs_20	22 43 21.3			
	comp=Z,2µm,22.0s									
KNK	**Knik Glacier**	148.14	22		IAMs_20	IAMs_20	22 48 51.9			
	comp=Z,2µm,20.0s									
KNK	**Knik Glacier**	148.14	22	P		**PKPbc**	**21 39 32.9**	**+0.1**		
	baz=319,SNR=16									
SCM	**Sheep Creek Mo**	148.17	21		IAMs_20	IAMs_20	22 48 47.5			
	comp=Z,2µm,20.0s									
SCM	**Sheep Creek Mo**	148.17	21	P		**PKPbc**	**21 39 32.8**	**-0.1**		
	baz=321,SNR=18									
DAWY	**Dawson**	148.21	13	P		**PKPbc**	**21 39 32.8**	**-0.1**		
	baz=325,SNR=45									
SLKM	**Skilak Lake**	148.22	25		IAMs_20	IAMs_20	22 49 15.0			
	comp=Z,2µm,20.0s									
J30M	**Hart River**	148.25	10		IAMs_20	IAMs_20	22 49 27.1			
	comp=Z,2µm,22.0s									
J30M	**Hart River**	148.25	10	P		**PKPbc**	**21 39 32.7**	**-0.5**		
	baz=340									
MENT	**Mentasta**	148.26	17			**PKPdf**	**21 39 29.9**	**+0.1**		
MENT	**Mentasta**	148.26	17	P		**PKPbc**	**21 39 33.6**	**+0.5**		
L26K	**Log Cabin Wild**	148.28	17		IAMs_20	IAMs_20	22 46 27.1			
	comp=Z,2µm,22.0s									
L26K	**Log Cabin Wild**	148.28	17	P		**PKPbc**	**21 39 32.8**	**-0.3**		
	baz=328,SNR=22									
HOM	**Homer**	148.29	27	P		**PKPbc**	**21 39 32.5**	**-0.6**		
	baz=312									
M24K	**Tolsona, Glenn**	148.29	20		IAMs_20	IAMs_20	22 47 19.6			
	comp=Z,2µm,20.0s									
M24K	**Tolsona, Glenn**	148.29	20	P		**PKPbc**	**21 39 32.5**	**-0.7**		
	baz=323									
HARP	**HAARP**	148.33	19	P		**PKPbc**	**21 39 32.9**	**-0.3**		
	baz=325									
O22K	**Cooper Landing**	148.41	24	P		**PKPbc**	**21 39 33.8**	**+0.3**		
	baz=316									
R18K	**Karluk**	148.46	32	P		**PKPbc**	**21 39 33.9**	**+0.2**		
	baz=306									
BRSE	**Bradley Lake S**	148.56	26	P		**PKPbc**	**21 39 33.8**	**-0.1**		
	baz=314									
PWL	**Port Wells**	148.59	23		IAMs_20	IAMs_20	22 44 24.0			
	comp=Z,2µm,19.0s									
PWL	**Port Wells**	148.59	23	P		**PKPbc**	**21 39 33.8**	**-0.1**		
	baz=318,SNR=10									
L27K	**Beaver Creek,**	148.60	16		IAMs_20	IAMs_20	22 56 51.6			
	comp=Z,2µm,21.0s									
L27K	**Beaver Creek,**	148.60	16	P		**PKPbc**	**21 39 33.7**	**-0.3**		
	baz=330									
BCAR	**Beaver Creek A**	148.61	16			**PKPdf**	**21 39 28.9**	**-1.3**		
250A	**Grady**	148.62	277		IAMs_20	IAMs_20	22 47 42.9			
	comp=Z,2µm,21.0s									
Q20K	**Shuyak Island**	148.68	29	P		**PKPbc**	**21 39 34.2**	**0.0**		
	baz=310									
O48B	**Farmland**	148.74	293		IAMs_20	IAMs_20	22 44 05.6			
	comp=Z,3µm,20.0s									
K29M	**Barlow Dome**	148.75	12	P		**PKPbc**	**21 39 34.0**	**-0.4**		
	baz=338									
SEW	**Seward**	148.77	25		IAMs_20	IAMs_20	22 50 07.8			
	comp=Z,2µm,20.0s									
SEW	**Seward**	148.77	25	P		**PKPbc**	**21 39 34.1**	**-0.3**		
	baz=316,SNR=8.2									
KLU	**Klutina**	148.85	21	P		**PKPbc**	**21 39 34.0**	**-0.7**		
	baz=323,SNR=20									
CHIR	**Chirikof Islan**	148.89	35	P		**PKPbc**	**21 39 34.9**	**+0.1**		
	baz=302									
M26K	**Nabesna, AK**	148.89	17		IAMs_20	IAMs_20	22 53 17.4			
	comp=Z,2µm,20.0s									
M26K	**Nabesna, AK**	148.89	17	P		**PKPbc**	**21 39 34.7**	**0.0**		
	baz=328,SNR=19									
GLI	**Glacier Island**	148.98	22		IAMs_20	IAMs_20	22 49 17.0			
	comp=Z,2µm,20.0s									
GLI	**Glacier Island**	148.98	22	P		**PKPbc**	**21 39 34.5**	**-0.4**		
	baz=320,SNR=5.2									
BRAL	**Brewton**	149.07	275		IAMs_20	IAMs_20	22 40 52.9			
	comp=Z,2µm,22.0s									
KDAK	**Kodiak Island**	149.13	30	PKPbc		**PKPbc**	**21 39 35.2**	**-0.2**		
	comp=Z,22nm,0.7s,baz=134,slow=3.8,SNR=9.6									
KDAK	**Kodiak Island**	149.13	30	P		**PKPbc**	**21 39 35.4**	**0.0**		
	baz=308									
N25K	**Chitina, Valde**	149.13	19		IAMs_20	IAMs_20	22 48 18.0			
	comp=Z,2µm,21.0s									
N25K	**Chitina, Valde**	149.13	19	P		**PKPbc**	**21 39 35.2**	**-0.2**		
	baz=325,SNR=30									
SII	**Sitkinak Islan**	149.16	33	P		**PKPbc**	**21 39 35.2**	**-0.3**		
	baz=305									
OHAK	**Old Harbor**	149.17	32	P		**PKiKP**	**21 39 38.0**	**+1.3**		
OHAK	**Old Harbor**	149.17	32	P		**PKiKP**	**21 39 36.7**	**0.0**		
OHAK	**Old Harbor**	149.17	32	P		**PKPbc**	**21 39 35.3**	**-0.1**		
	baz=307									
DIV	**Divide**	149.18	21		IAMs_20	IAMs_20	22 49 34.4			
	comp=Z,2µm,20.0s									
M27K	**Edge Creek, AK**	149.20	16	P		**PKPbc**	**21 39 35.6**	**-0.1**		
	baz=330									
FID	**Port Fidalgo**	149.27	22		IAMs_20	IAMs_20	22 49 36.2			
	comp=Z,3µm,21.0s									
L29M	**L29M**	149.32	13		IAMs_20	IAMs_20	23 01 30.4			
	comp=Z,3µm,22.0s									
L29M	**L29M**	149.32	13	P		**PKPbc**	**21 39 35.9**	**+0.1**		
	baz=326									
I45A	**Fountain**	149.35	301		IAMs_20	IAMs_20	22 47 08.2			
	comp=Z,3µm,21.0s									
LRAL	**Lakeview Retre**	149.45	279		IAMs_20	IAMs_20	22 47 06.0			
	comp=Z,3µm,21.0s									
GLB	**Gilahina Butte**	149.49	19		IAMs_20	IAMs_20	22 48 50.2			
	comp=Z,2µm,21.0s									
P23K	**Montague Islan**	149.55	23	P		**PKPbc**	**21 39 36.2**	**-0.1**		
	baz=319									
WCI	**Wyandotte Cave**	149.56	289			**PKPdf**	**21 39 31.4**	**-1.1**		
WCI	**Wyandotte Cave**	149.56	289	PKHKP		PKPpre	21 39 31.4			
WCI				MLR	MLR					
	comp=Z,3µm,22.0s									
EYAK	**Cordova Ski Ar**	149.65	22		IAMs_20	IAMs_20	22 59 33.8			
	comp=Z,3µm,21.0s									
EYAK	**Cordova Ski Ar**	149.65	22	P		**PKiKP**	**21 39 39.0**	**+1.4**		
EYAK	**Cordova Ski Ar**	149.65	22	P		**PKiKP**	**21 39 38.6**	**+1.0**		
EYAK	**Cordova Ski Ar**	149.65	22	P		**PKPbc**	**21 39 36.3**	**-0.3**		
	baz=322									
BMRM	**Bremner River**	149.65	20		IAMs_20	IAMs_20	22 50 18.8			
	comp=Z,2µm,22.0s									
BMRM	**Bremner River**	149.65	20	P		**PKPbc**	**21 39 36.4**	**-0.3**		
	baz=324									
MCARA	**McCarthy VSAT**	149.75	18		IAMs_20	IAMs_20	22 47 41.0			
	comp=Z,2µm,22.0s									
MCARA	**McCarthy VSAT**	149.75	18	P		**PKPbc**	**21 39 36.7**	**-0.2**		
	baz=327									
VRDI	**Verde Repeater**	149.76	19		IAMs_20	IAMs_20	22 47 19.5			
	comp=Z,2µm,20.0s									
M29M	**Somme Creek**	149.86	14		IAMs_20	IAMs_20	22 51 25.9			
	comp=Z,3µm,21.0s									
M29M	**Somme Creek**	149.86	14	P		**PKPbc**	**21 39 37.2**	**0.0**		
	baz=335									
M30M	**Minto, Yukon**	150.05	12	P		**PKPbc**	**21 39 37.2**	**-0.3**		
	baz=338									
RAGM	**Ragged Mountai**	150.10	21		IAMs_20	IAMs_20	22 48 32.7			
	comp=Z,3µm,21.0s									
SFIN	**Lafayette**	150.22	293		IAMs_20	IAMs_20	22 49 03.9			
	comp=Z,3µm,19.0s									
CRQM	**Cirque**	150.24	19		IAMs_20	IAMs_20	22 48 56.6			
	comp=Z,2µm,19.0s									
CRQE	**Cirque**	150.25	19	P		**PKPbc**	**21 39 38.1**	**-0.1**		
	baz=326									
TGL	**Tana Glacier**	150.32	19		IAMs_20	IAMs_20	22 48 58.4			
	comp=Z,2µm,22.0s									
Z47A	**Carrollton**	150.37	279		IAMs_20	IAMs_20	22 47 34.2			
	comp=Z,2µm,19.0s									
BARN	**Barnard Glacie**	150.37	18		IAMs_20	IAMs_20	22 49 17.5			
	comp=Z,2µm,20.0s									
BERG	**Berg Lake**	150.38	20		IAMs_20	IAMs_20	22 43 23.0			
	comp=Z,3µm,22.0s									
CTG	**Chitna Glacier**	150.53	17	P		**PKPbc**	**21 39 38.2**	**-0.7**		
	baz=329									
CTGM	**Chitina Glacie**	150.53	17		IAMs_20	IAMs_20	22 49 20.8			
	comp=Z,3µm,21.0s									
TBO	**Thunder Bay**	150.54	311			**PKPdf**	**21 39 32.4**	**-1.4**		
KAIM	**Kayak Island**	150.55	21	P		**PKPbc**	**21 39 38.7**	**-0.1**		
	baz=323									
WRGLY	**Wrigley**	150.57	360	P		**PKPbc**	**21 39 39.0**	**+0.4**		
	baz=0.4									
ISLE	**Juniper Island**	150.58	19		IAMs_20	IAMs_20	22 49 04.2			
	comp=Z,2µm,21.0s									
GRNC	**Granite Creek**	150.63	18		IAMs_20	IAMs_20	22 52 23.4			
	comp=Z,2µm,21.0s									
YUK8	**Steele Glacier**	150.63	16	P		**PKPbc**	**21 39 38.9**	**-0.4**		
	baz=332									
BGLC	**Bering Glacier**	150.72	20	P		**PKPbc**	**21 39 39.3**	**+0.2**		
	baz=325									
YKA	**Yellowknife Ar**	150.73	351	PKPbc		**PKPbc**	**21 39 38.9**	**-0.2**		
	comp=Z,78nm,0.9s,baz=7.6,slow=2.6,SNR=20									
LOGN	**Logan Glacier**	150.74	17		IAMs_20	IAMs_20	22 49 39.2			
	comp=Z,3µm,20.0s									
MMPY	**Sheldon Lake,**	150.78	7	P		**PKPbc**	**21 39 39.2**	**-0.2**		
	baz=347									
M31M	**Drury Creek, Y**	150.79	10	P		**PKPbc**	**21 39 37.9**	**-1.4**		
	baz=342									
YUK4	**Talbot Arm**	150.82	15	P		**PKPbc**	**21 39 39.2**	**-0.4**		
	baz=334									
O28M	**Mount Upton**	150.98	17		IAMs_20	IAMs_20	22 49 20.6			
	comp=Z,2µm,21.0s									
O28M	**Mount Upton**	150.98	17	P		**PKPbc**	**21 39 38.6**	**-1.6**		
	baz=331									
N30M	**Aishikik Lake**	151.03	13	P		**PKPbc**	**21 39 38.9**	**-1.1**		
	baz=337									
TABL	**Table Mountain**	151.03	18		IAMs_20	IAMs_20	22 52 54.1			
	comp=Z,3µm,22.0s									
MESA	**MESA**	151.05	19	P		**PKPbc**	**21 39 38.6**	**-1.7**		
	baz=328									
146A	**Union**	151.07	277		IAMs_20	IAMs_20	22 45 12.8			
	comp=Z,3µm,21.0s									
346A	**Big Creek Wild**	151.12	275		IAMs_20	IAMs_20	22 44 58.3			
	comp=Z,2µm,19.0s									
YUK6	**Outpost Mounta**	151.24	15	P		**PKPbc**	**21 39 39.1**	**-1.6**		
	baz=334									
N31M	**Braeburn, Yuko**	151.25	12	P		**PKPbc**	**21 39 39.6**	**-0.8**		
	baz=339									
HYT	**Haines Junctio**	151.53	14	P		**PKPbc**	**21 39 41.0**	**-0.2**		
	baz=335									
PINM	**Pinnacle**	151.56	17	P		**PKPbc**	**21 39 40.4**	**-0.9**		
	baz=330									
O29M	**Mount Gennedy**	151.77	16	P		**PKPbc**	**21 39 40.6**	**-1.2**		
	baz=333									
O30N	**Mendenhall**	151.86	13	P		**PKPbc**	**21 39 41.6**	**-0.3**		
	baz=338

az=114.0
ISC 24 21:19:52.2±0.5, 18°11N±0°07×39°99E±0°07, h28km, n76, σ0s82/73, mb4.4/32, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**7.10**	**157**		**Pn**	**21 21 35.8**	**+1.5**
ATD	**Arta Tunnel**	**7.10**	**157**	Pn	**Pn**	**21 21 32.6**	**-1.7**
	0.1nm,0.3s,baz=314,slow=10,SNR=6.6						
ATD				Sn	Sb	21 23 10.1	-9.1
	baz=275,slow=24						
FURI	**Furi**	**9.24**	**188**	LR	LR	21 25 21.7	
	comp=Z,2μm,20.4s,baz=21,slow=36						
EIL	**Elat**	**12.39**	**339**	LR	LR	21 26 43.9	
	comp=Z,619nm,19.7s,baz=166,slow=34						
LODK	**Lodwar**	**15.28**	**198**		**Pn**	**21 23 26.4**	**+0.1**
MMAI	**Mount Meron Ar**	**15.41**	**345**	Pn	**Pn**	**21 23 27.5**	**-0.2**
	0.8nm,0.6s,baz=186,slow=12,SNR=1.5						
UOSS	**Minazif**	**16.54**	**63**	Pn	**Pn**	**21 23 41.3**	**-1.0**
CSS	**Mathiatis**	**17.80**	**342**		**Pn**	**21 23 58.0**	**0.0**
WSAR	**Wadi Sarin**	**18.17**	**71**	P	**Pn**	**21 24 01.6**	**-1.0**
	baz=255,slow=24,SNR=3.7						
MARD	**Mardin**	**19.15**	**2**	P	**P**	**21 24 12.7**	**-0.7**
GURO	**Guroymak-BITLI**	**20.45**	**5**	P	**P**	**21 24 25.5**	**-2.1**
MBAR	**Mbarara**	**20.70**	**207**	P	**P**	**21 24 30.7**	**+0.2**
MBAR	**Mbarara**	**20.70**	**207**	P	**P**	**21 24 30.8**	**+0.2**
	1.4nm,0.2s,baz=18,slow=12,SNR=10						
	1.4nm,0.2s						
ARPR	**Arapgir-MALATY**	**20.96**	**356**	P	**P**	**21 24 30.1**	**-3.1**
BNN	**Bunyan**	**20.98**	**351**	P	**P**	**21 24 31.9**	**-1.5**
BR131	**Keskin Array S**	**22.23**	**347**		**P**	**21 24 46.7**	**-0.1**
BR131				IAmb	IAmb	21 24 55.8	
	comp=Z,24nm,1.4s						
BRTR	**Keskin Array B**	**22.23**	**347**		**P**	**21 24 46.8**	**-0.1**
BRTR	**Keskin Array B**	**22.23**	**347**	P	**P**	**21 24 46.6**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=170,slow=8.8,SNR=5.6						
	comp=Z,2.1nm,0.8s						
GNI	**Garni**	**22.35**	**10**	P	**P**	**21 24 49.3**	**+1.3**
GNI				IAmb	IAmb	21 25 19.9	
	comp=Z,28nm,1.2s						
ANTO	**Ankara**	**22.56**	**345**	P	**P**	**21 24 51.1**	**+0.8**
ILGA	**Ilgaz**	**23.49**	**348**	P	**P**	**21 25 00.9**	**+1.0**
HRA	**Herat**	**25.63**	**46**		**P**	**21 25 19.8**	**+0.1**
HRA				IAmb	IAmb	21 25 30.5	
	comp=Z,26nm,1.4s						
KBZ	**Khabaz**	**25.66**	**5**	P	**P**	**21 25 19.7**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=201,slow=6.7,SNR=2.6						
	comp=Z,3.2nm,0.9s						
KIV	**Kislovodsk**	**25.87**	**4**	P	**P**	**21 25 21.2**	**-0.4**
KIV				IAmb	IAmb	21 25 28.7	
	comp=Z,12nm,1.0s						
TAM	**Tamanrasset**	**32.58**	**284**	P	**P**	**21 26 21.0**	**-0.6**
GAR	**Garm**	**33.56**	**45**	P	**P**	**21 26 30.6**	**+0.6**
AKASG	**Malin Array Be**	**33.63**	**348**	P	**P**	**21 26 30.6**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=163,slow=7.1,SNR=2.9						
	comp=Z,0.4nm,0.4s						
AB31	**Akbulak array**	**35.00**	**23**	P	**P**	**21 26 42.5**	**+0.3**
ABKAR	**Akbulak array**	**35.00**	**23**	P	**P**	**21 26 42.2**	**0.0**
ARSA	**Arzberg**	**35.32**	**331**	P	**P**	**21 26 46.0**	**+1.0**
ARSA				IAmb	IAmb	21 27 14.0	
	comp=Z,8.1nm,1.5s						
KK31	**Karatay Array**	**35.87**	**39**	P	**P**	**21 26 50.0**	**+0.3**
KK31				IAmb	IAmb	21 26 55.7	
	comp=Z,5.6nm,0.8s						
KKAR	**Karatay Array**	**35.87**	**39**	P	**P**	**21 26 49.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**37.16**	**268**	P	**P**	**21 27 00.4**	**-0.7**
	comp=Z,7.6nm,0.9s,baz=70,slow=6.2,SNR=22						
	comp=Z,7.6nm,0.9s						
GEC2	**GERESS Array S**	**37.32**	**331**	P	**P**	**21 27 02.3**	**+0.1**
GEC2				IAmb	IAmb	21 27 13.4	
	comp=Z,12nm,1.5s						
GERES	**GERESS Array B**	**37.32**	**331**	P	**P**	**21 27 01.8**	**-0.3**
GERES	**GERESS Array B**	**37.32**	**331**	P	**P**	**21 27 01.9**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=160,slow=5.5,SNR=5.1						
	comp=Z,0.9nm,0.8s						
BRG	**Berggiesshubel**	**38.70**	**334**	P	**P**	**21 27 15.4**	**+1.8**
BRG				Amp		21 27 25.2	
	comp=Z,6.8nm,1.2s						
CLL	**Collm**	**39.42**	**333**	*e*P	**P**	**21 27 21.0**	**+1.4**
BVAR	**Borovoye Array**	**42.12**	**27**	P	**P**	**21 27 42.5**	**+0.6**
	comp=Z,2.1nm,1.0s,baz=220,slow=8.8,SNR=4.5						
	comp=Z,2.1nm,1.0s						
MD01	**Midelt array s**	**42.66**	**299**	P	**P**	**21 27 46.4**	**-0.4**
ESDC	**Sonseca Array**	**43.54**	**309**	P	**P**	**21 27 53.9**	**+0.2**
ESDC	**Sonseca Array**	**43.54**	**309**	P	**P**	**21 27 54.9**	**+1.2**
	comp=Z,2.1nm,1.1s,baz=96,slow=7.3,SNR=5.4						
	comp=Z,2.1nm,1.1s						
EVN	**Everest**	**43.97**	**68**	P	**P**	**21 27 57.7**	**-0.3**
EVN				IAmb	IAmb	21 28 09.6	
	comp=Z,12nm,1.3s						
FINES	**FINESS Array B**	**44.40**	**350**	P	**P**	**21 28 00.6**	**+0.5**
FINES	**FINESS Array B**	**44.40**	**350**	P	**P**	**21 27 59.6**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=134,slow=11,SNR=4.2						
	comp=Z,2.3nm,0.8s						
KURBB	**Kurchatov Arra**	**44.60**	**34**	P	**P**	**21 28 02.9**	**+1.0**
	comp=Z,3.8nm,0.8s,baz=238,slow=8.1,SNR=13						
	comp=Z,3.8nm,0.8s						
KURK	**Kurchatov**	**44.70**	**34**		**P**	**21 28 03.1**	**+0.4**
KURK				IAmb	IAmb	21 28 07.4	
	comp=Z,3.3nm,0.8s						
MAKZ	**Makanchi**	**44.76**	**41**	P	**P**	**21 28 03.3**	**0.0**
MAKZ				IAmb	IAmb	21 28 07.6	
	comp=Z,7.1nm,1.0s						
MK31	**Makanchi Array**	**44.95**	**41**	P	**P**	**21 28 04.5**	**-0.2**
MK31				IAmb	IAmb	21 28 09.0	
	comp=Z,3.9nm,0.9s						
MKAR	**Makanchi Array**	**44.95**	**41**		**P**	**21 28 04.6**	**-0.2**
MKAR	**Makanchi Array**	**44.95**	**41**	P	**P**	**21 28 05.3**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=232,slow=7.0,SNR=9.9						
	comp=Z,2.5nm,0.8s						
DBIC	**Dimbokro**	**45.13**	**261**	P	**P**	**21 28 06.9**	**+0.3**
DBIC	**Dimbokro**	**45.13**	**261**	P	**P**	**21 28 05.9**	**-0.7**
	comp=Z,12nm,1.1s,baz=94,slow=1.0,SNR=5.2						
	comp=Z,12nm,1.1s						
HFS	**Hagfors**	**46.03**	**342**	P	**P**	**21 28 13.4**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=156,slow=12,SNR=5.0						
	comp=Z,4.0nm,0.9s						
NC602	**NORSAR Array S**	**47.16**	**341**	P	**P**	**21 28 21.2**	**-0.7**
NB2	**NORSAR Subarra**	**47.50**	**341**	P	**P**	**21 28 24.2**	**-0.4**
	comp=Z,21nm,1.7s,baz=142,slow=7.9						
NOA	**NORSAR Array B**	**47.50**	**341**	P	**P**	**21 28 24.4**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=142,slow=9.3,SNR=7.9						
	comp=Z,1.4nm,0.8s						
LSA	**Lhasa**	**47.84**	**66**	P	**P**	**21 28 28.6**	**+0.3**
LSA				IAmb	IAmb	21 28 40.8	
	comp=Z,8.6nm,1.3s						
SHL	**Shillong**	**48.49**	**72**	P	**P**	**21 28 33.2**	**+0.2**
SHL				IAmb	IAmb	21 28 37.7	
	comp=Z,6.2nm,1.0s						
EKA	**Eskdalemuir Ar**	**49.46**	**329**	P	**P**	**21 28 39.9**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=126,slow=8.4,SNR=4.1						
	comp=Z,1.8nm,0.8s						
ZAA0	**Zalesovo Array**	**49.62**	**33**		**P**	**21 28 40.2**	**-0.8**
ZALV	**Zalesovo Beam**	**49.62**	**33**		**P**	**21 28 40.3**	**-0.7**
ZALV	**Zalesovo Beam**	**49.62**	**33**	P	**P**	**21 28 40.8**	**-0.2**
	comp=Z,6.8nm,0.9s,baz=242,slow=8.2,SNR=15						
	comp=Z,6.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**55.75**	**80**	P	**P**	**21 29 26.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**55.75**	**80**	P	**P**	**21 29 26.5**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=273,slow=4.2,SNR=9.8						
	comp=Z,0.6nm,0.4s						
SONM	**Songino Array**	**61.00**	**45**	P	**P**	**21 30 03.5**	**+0.2**
SONM				IAmb	IAmb	21 30 15.2	
	comp=Z,6.4nm,1.5s						
SONM	**Songino Array**	**61.00**	**45**	P	**P**	**21 30 03.7**	**+0.3**
	comp=Z,2.2nm,1.1s,baz=275,slow=7.3,SNR=4.4						
	comp=Z,2.2nm,1.1s						
SPB2	**Spitsbergen Ar**	**61.18**	**355**	P	**P**	**21 30 04.2**	**+0.4**
SPITS	**Spitsbergen Ar**	**61.19**	**355**	P	**P**	**21 30 02.2**	**-1.7**
	comp=Z,2.8nm,0.7s,baz=145,slow=7.9,SNR=1.7						
	comp=Z,2.8nm,0.7s						
BJT	**Baijiatuau**	**68.14**	**53**	P	**P**	**21 30 50.4**	**+0.5**
BJT				IAmb	IAmb	21 30 54.8	
	comp=Z,3.1nm,0.9s						
KSAR	**Wonju Array Be**	**77.59**	**55**	P	**P**	**21 31 46.0**	**0.0**
KSRS	**Korea Array**	**77.62**	**55**	P	**P**	**21 31 46.2**	**0.0**
	comp=Z,0.7nm,0.6s,baz=276,slow=5.5,SNR=2.1						
	comp=Z,0.7nm,0.6s						
JOW	**Kunigami**	**80.55**	**65**	LR	LR	22 13 10.2	
	comp=Z,1μm,19.7s,baz=260,slow=40						
MJAR	**Matsushiro Arr**	**85.78**	**53**	P	**P**	**21 32 29.8**	**+0.5**
MJAR				IAmb	IAmb	21 32 31.5	
	comp=Z,6.1nm,1.4s						
MJAR	**Matsushiro Arr**	**85.78**	**53**	P	**P**	**21 32 29.0**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=268,slow=5.5,SNR=4.5						
MJAR				LR	LR	22 17 36.3	
	comp=Z,456nm,18.1s,baz=243,slow=40						
	comp=Z,1.2nm,0.8s						
MAW	**Mawson**	**87.11**	**171**	P	**P**	**21 32 35.5**	**+0.7**
	comp=Z,3.2nm,1.0s,baz=323,slow=8.1,SNR=2.4						
	comp=Z,3.2nm,1.0s						

*AFAD **24** 21:21:49.6, 40°22N×27°92E, h7km±3km, ML1.7*
ISK 24 21:21:49.4, 40°22N×27°94E, h13km, ML1.7, 17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDC	**Edincik**	**0.14**	**335**	Pg	Pg	21 21 53.2	+0.3
BAND	**Balkesir-Ban**	**0.18**	**42**	P	Pg	21 21 53.8	+0.3
BAND				S	Sg	21 21 56.3	-0.1
BAND				*i* IAML		21 21 57.0	
	comp=E,226nm,0.2s						
GONE	**Gonen-Balikesi**	**0.26**	**228**	Pg	Pb	21 21 55.6	-0.4
GONE				Sg	Sb	21 21 59.8	-0.6
SUSR	**Susurluk-Balik**	**0.28**	**157**	Pg	Pb	21 21 55.8	-0.5
SUSR				Sg	Sb	21 22 00.1	-0.8
BLKS	**Balkesir-Sus**	**0.35**	**176**	P	Pb	21 21 57.0	-0.4
BLKS				S	Sg	21 22 01.8	+0.6
MRMT	**Marmara Adasi**	**0.46**	**325**	Pg	Pb	21 21 59.2	-0.3
BKES	**Balkesir-Mer**	**0.49**	**181**	P	Pb	21 21 60.0	+0.1
BKES				S	Sb	21 22 06.6	-0.3
BKES				*i* IAML		21 22 14.0	
	comp=E,47nm,0.3s						
KRBG	**Karabiga-Canak**	**0.52**	**289**	Pg	Pb	21 22 00.1	-0.3
YENI	**Yenice-Canakka**	**0.61**	**242**	Pg	Pg	21 22 01.4	+0.1
CANM	**Can-anakkale**	**0.71**	**253**	Pg	Pg	21 22 02.0	-1.2
MDNY	**Mudanya-Bursa**	**0.74**	**78**	Pg	Pb	21 22 04.1	0.0
ARMT	**Armutlu**	**0.78**	**64**	Pg	Pb	21 22 04.8	-0.1
YAYO	**Edremit-Balk**	**0.90**	**228**	Pg	Pb	21 22 06.9	0.0
LPK	**Lapseki**	**0.92**	**280**	Pg	Pb	21 22 07.3	+0.2
SLVT	**Silivri**	**1.03**	**11**	Pg	Pn	21 22 10.1	+0.6
COMU	**Canakkale**	**1.13**	**264**	Pn	Pn	21 22 11.0	+0.1
GELI	**Tayfur-Gelibol**	**1.14**	**279**	Pn	Pn	21 22 11.1	+0.2
YLV	**Yalova**	**1.15**	**72**	Pn	Pg	21 22 11.5	0.0
BGKT	**Bogazkoy**	**1.15**	**33**	Pn	Pg	21 22 11.4	-0.1
ERIK	**Erikli-Kesan**	**1.18**	**293**	Pn	Pb	21 22 11.8	+0.2
KAVV	**Kandilli-Istan**	**1.20**	**45**	Pn	Pg	21 22 12.2	-0.2
KLYT	**Kilyos**	**1.33**	**39**	Pn	Pb	21 22 14.0	-0.1

*MOS **24** 21:25:08.4±0.7, 33°81S×56°39E, h10km, mb5.1/29, Error ellipse: s-maj=17.3km s-min=9.6km az=87.4*
*BJI **24** 21:25:08.7, 33°99S×56°15E, h16km, mB5.5/5, mb5.0/24, Ms5.5/2, Ms7 5.3/3*
*IDC **24** 21:25:08.7±0.5, 33°74S×56°41E, h0km, mb4.5/18, mbtmp4.5/18, Error ellipse: s-maj=19.4km s-min=17.0km az=68.0*
*NEIC **24** 21:25:10.4±0.9, 33°8S±0°1×56°3E±0°1, h10km±1km, mb5.0/44, Error ellipse: s-maj=19.3km s-min=14.7km az=190.0*
ISC 24 21:25:10.5±0.4, 33°77S±0°08×56°28E±0°08, h12km, n324, σ0s86/314, mb4.9/71, MS5.5/5, 5C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**11.94**	**315**	Pn	**Pn**	**21 28 00.2**	**-0.3**
GRHM	**Grahamstown, E**	**24.90**	**263**	P	**P**	**21 30 31.8**	**-1.6**
BOSA	**Boshof**	**26.98**	**273**	P	**P**	**21 30 52.1**	**-0.2**
BOSA	**Boshof**	**26.98**	**273**	P	**P**	**21 30 53.8**	**+1.5**
	4.7nm,1.0s,baz=88,slow=17,SNR=1.9						
	4.7nm,1.0s						
BOSA	**Boshof**	**26.98**	**273**	P	**P**	**21 30 52.1**	**-0.2**
BOSA				pmax	pmax		
	comp=Z,27nm,1.5s						
MAKGR	**Makgori**	**28.37**	**278**	P	**P**	**21 31 03.8**	**-1.0**
PHPEN	**Phepeng**	**30.11**	**277**	P	**P**	**21 31 19.8**	**-0.4**
PHPEN				IAmb	IAmb	21 31 37.4	
	comp=Z,27nm,1.2s						
KGCAE	**Kacgae**	**31.78**	**281**	P	**P**	**21 31 33.9**	**-1.1**
KOOLE	**Kule**	**33.36**	**279**	P	**P**	**21 31 48.9**	**0.0**
KOOLE				IAmb	IAmb	21 31 50.3	
	comp=Z,17nm,1.1s						
MAW	**Mawson**	**34.09**	**176**	P	**P**	**21 31 55.2**	**+0.7**
	comp=Z,4.6nm,1.1s,baz=16,slow=15,SNR=2.3						
	comp=Z,4.6nm,1.1s						
SYO	**Syowa Base**	**36.52**	**190**	*e*P	**P**	**21 32 16.7**	**+1.3**
SYO	**Syowa Base**	**36.52**	**190**	*e*pP	pP	21 32 18.0	-0.1
SNAA	**Sanae**	**48.69**	**201**	P	**P**	**21 33 54.2**	**-0.1**
SNAA				IAmb	IAmb	21 34 01.9	
	comp=Z,18nm,1.2s						
SNAA	**Sanae**	**48.69**	**201**	P	**P**	**21 33 54.6**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=96,slow=7.6,SNR=7.3						
	comp=Z,3.4nm,0.8s						
SNAA	**Sanae**	**48.69**	**201**	P	**P**	**21 33 54.2**	**-0.1**
SNAA				pmax	pmax		
	comp=Z,18nm,1.2s						
GIRL	**Giralia**	**51.67**	**93**	P	**P**	**21 34 17.1**	**-0.4**
HYB	**Hyderabad**	**55.15**	**26**	*e*P	**P**	**21 34 44.1**	**+1.1**
HYB				*e*PP	**PP**	**21 36 48.2**	**+1.6**
QSPA	**South Pole Qui**	**56.41**	**180**	P	**P**	**21 34 52.3**	**+0.7**
QSPA				IAmb	IAmb	21 35 00.4	
	comp=Z,20nm,1.1s						
QSPA	**South Pole Qui**	**56.41**	**180**	P	**P**	**21 34 52.0**	**+0.4**
	comp=Z,8.4nm,0.7s,baz=256,slow=1.7,SNR=13						
	comp=Z,8.4nm,0.7s						
MBWA	**Marble Bar**	**56.90**	**95**	P	**P**	**21 34 54.6**	**-1.0**
MBWA				IAmb	IAmb	21 35 14.0	
	comp=Z,11nm,1.1s						
RAYN	**Ar Rayn**	**57.89**	**348**	P	**P**	**21 35 02.5**	**+0.1**
RAYN	**Ar Rayn**	**57.89**	**348**	P	**P**	**21 35 02.5**	**+0.1**
RAYN				pmax	pmax		
	comp=Z,12nm,1.3s						
JAGI	**Jajag, Banyuwa**	**58.72**	**79**	P	**P**	**21 35 07.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**63.25**	**95**	P	**P**	**21 35 38.2**	**-1.0**
KAPI	**Kappang**	**65.25**	**79**	*i* P	**P**	**21 35 51.6**	**-0.7**
KAPI				pmax	pmax		
	comp=Z,16nm,1.0s						
CM31	**Chiang Mai Arr**	**65.96**	**45**	P	**P**	**21 35 56.4**	**-0.3**
CM31				IAmb	IAmb	21 35 58.0	
	comp=Z,17nm,1.1s						
CMAR	**Chiang Mai Arr**	**65.96**	**45**	P	**P**	**21 35 56.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**65.96**	**45**	P	**P**	**21 35 56.6**	**-0.1**
	comp=Z,8.0nm,1.0s,baz=231,slow=7.0,SNR=17						
	comp=Z,8.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**65.96**	**45**	*e*P	**P**	**21 35 57.1**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CHTO	**Chiang Mai**	**66.24**	**45**	P	**P**	**21 35 57.9**	**-0.6**
CHTO	**Chiang Mai**	**66.24**	**45**	P	**P**	**21 35 57.9**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KNRA	**Kununurra**	**67.04**	**94**	P	**P**	**21 36 03.0**	**-0.8**
KNRA				IAmb	IAmb	21 36 09.6	
	comp=Z,12nm,1.1s						
ASAR	**Alice Springs**	**67.38**	**104**	P	**P**	**21 36 05.2**	**-0.8**
ASAR	**Alice Springs**	**67.38**	**104**	P	**P**	**21 36 05.4**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=233,slow=6.0,SNR=14						
	comp=Z,2.8nm,0.7s						
ASAR	**Alice Springs**	**67.38**	**104**	P	**P**	**21 36 05.2**	**-0.8**
AS31	**Alice Springs**	**67.39**	**104**	P	**P**	**21 36 05.1**	**-0.9**
EVN	**Everest**	**67.87**	**29**	P	**P**	**21 36 09.8**	**+0.3**
EVN				IAmb	IAmb	21 36 17.1	
	comp=Z,13nm,1.3s						
SHL	**Shillong**	**68.02**	**35**		**P**	**21 36 09.4**	**-0.5**
SHL	**Shillong**	**68.02**	**35**	P	**P**	**21 36 09.4**	**-0.5**
SHL				pmax	pmax		
	comp=Z,45nm,1.5s						
WRA	**Warramunga Arr**	**69.53**	**101**	P	**P**	**21 36 19.3**	**-0.2**
WRA	**Warramunga Arr**	**69.53**	**101**	P	**P**	**21 36 19.0**	**-0.5**
	comp=Z,5.6nm,0.7s,baz=238,slow=5.5,SNR=22						
	comp=Z,5.6nm,0.7s						
WRAB	**Tennant Creek**	**69.54**	**101**	*i* P	**P**	**21 36 18.8**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.9s						
STKA	**Stephens Creek**	**69.59**	**115**	P	**P**	**21 36 18.9**	**-0.7**
STKA	**Stephens Creek**	**69.59**	**115**	P	**P**	**21 36 18.8**	**-0.9**
	comp=Z,5.7nm,1.1s,baz=348,slow=3.8,SNR=4.2						
	comp=Z,5.7nm,1.1s						
STKA	**Stephens Creek**	**69.59**	**115**	P	**P**	**21 36 19.0**	**-0.7**
STKA				pmax	pmax		
	comp=Z,34nm,1.0s						
TOLI2	**Tolitoli**	**69.64**	**74**	P	**P**	**21 36 19.1**	**-1.0**
WB0	**Warramunga Arr**	**69.66**	**101**	P	**P**	**21 36 19.7**	**-0.6**
WB0				IAmb	IAmb	21 36 20.6	
	comp=Z,11nm,0.8s						
TORD	**Torodi Ar. Bea**	**69.81**	**302**	P	**P**	**21 36 21.0**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=151,slow=4.5,SNR=3.9						
	comp=Z,2.6nm,0.9s						
DBIC	**Dimbokro**	**70.39**	**293**	P	**P**	**21 36 25.8**	**+1.0**
	comp=Z,11nm,1.1s,baz=142,slow=8.6,SNR=4.2						
	comp=Z,11nm,1.1s						
INKA	**Innaminka**	**70.89**	**111**	P	**P**	**21 36 27.4**	**-0.2**
TNCH	**TengChong**	**70.93**	**40**	P	**P**	**21 36 29.8**	**+1.8**
TNCH				pP	sP	21 36 32.9	+0.8
TNCH				sP	pwP	21 36 36.3	+1.2
TNCH				S	**S**	**21 45 45.5**	**+1.9**
TNCH				pmax	pmax		
	comp=Z,180nm,4.6s						
TNCH				LR	LR		
	comp=Z,1μm,17.6s						
TNCH				LR	LR		
	comp=Z,920nm,14.5s						
TNCH				LR	LR		
	comp=Z,2μm,17.0s						
LSA	**Lhasa**	**71.22**	**32**		**P**	**21 36 29.7**	**-0.3**
LSA				IAmb	IAmb	21 36 31.9	
	comp=Z,18nm,1.2s						
LSA	**Lhasa**	**71.22**	**32**	P	**P**	**21 36 29.7**	**-0.3**
LSA				pmax	pmax		
	comp=Z,18nm,1.2s						
SIMJ	**Simiganj**	**73.02**	**10**	P	**P**	**21 36 40.8**	**+0.6**
SIMJ				IAmb	IAmb	21 36 43.0	
	comp=Z,37nm,1.4s						
CHGR	**Chuyangaron**	**73.05**	**11**		**P**	**21 36 40.8**	**+0.6**
CHGR	**Chuyangaron**	**73.05**	**11**	P	**P**	**21 36 40.8**	**+0.6**
CHGR				pmax	pmax		
	comp=Z,47nm,1.2s						
QIZ	**Qiongzhong**	**73.22**	**53**	P	**P**	**21 36 41.0**	**-0.5**
PZH	**PanZhiHua**	**73.86**	**42**	P	**P**	**21 36 49.0**	**+3.6**
GNI	**Garni**	**74.32**	**351**	*i* P	**P**	**21 36 48.1**	**+0.3**
GNI				pmax	pmax		
	comp=Z,33nm,1.8s						
KSH	**Kashi**	**75.16**	**16**	P	**P**	**21 36 50.9**	**-1.7**
KSH				pmax	pmax		
	comp=Z,12nm,0.8s						
BR104	**Keskin Array S**	**76.05**	**342**	P	**P**	**21 36 56.9**	**-0.8**
	comp=Z,2.5nm,1.0s						
BR105	**Keskin Array S**	**76.07**	**342**	P	**P**	**21 36 56.5**	**-1.3**
	comp=Z,4.1nm,1.0s						
BR131	**Keskin Array S**	**76.07**	**342**	P	**P**	**21 36 57.6**	**-0.2**
BR131	**Keskin Array S**	**76.07**	**342**	P	**P**	**21 36 57.6**	**-0.2**
BR131				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRTR	**Keskin Array B**	**76.07**	**342**	P	**P**	**21 36 57.7**	**-0.1**
BRTR	**Keskin Array B**	**76.07**	**342**	P	**P**	**21 36 58.0**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=181,slow=6.2,SNR=5.7						
	comp=Z,2.0nm,0.9s						
BR106	**Keskin Array S**	**76.08**	**342**	P	**P**	**21 36 56.4**	**-1.5**
	comp=Z,2.4nm,1.0s						
MAK	**Makhachkala**	**76.78**	**353**	*e*P	**P**	**21 36 57.4**	**-4.2**
MAK				*e*S	**S**	**21 46 43.0**	**-5.4**
MAK				pmax	pmax		
	comp=Z,105nm,1.1s						
MAK				MLR	MLR		
	comp=Z,3μm,15.0s						
KK31	**Karatay Array**	**77.60**	**11**	P	**P**	**21 37 06.7**	**+0.4**
KK31				IAmb	IAmb	21 37 08.8	
	comp=Z,9.0nm,1.1s						
KK31	**Karatay Array**	**77.60**	**11**	P	**P**	**21 37 06.7**	**+0.4**
KK31				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KKAR	**Karatay Array**	**77.60**	**11**	P	**P**	**21 37 06.4**	**+0.1**
KKAR	**Karatay Array**	**77.60**	**11**	P	**P**	**21 37 06.4**	**+0.1**
AAK	**Ala-Archa**	**77.85**	**14**		**P**	**21 37 08.2**	**+0.4**
AAK				IAmb	IAmb	21 37 10.4	
	comp=Z,14nm,1.1s						
AAK	**Ala-Archa**	**77.85**	**14**	*i* P	**P**	**21 37 08.4**	**+0.6**
AAK				pmax	pmax		
	comp=Z,15nm,1.2s						
KDJ	**Kajisay**	**77.93**	**16**		**P**	**21 37 08.4**	**+0.1**
KDJ				IAmb	IAmb	21 37 10.2	
	comp=Z,14nm,1.0s						
KDJ	**Kajisay**	**77.93**	**16**	P	**P**	**21 37 08.4**	**+0.1**
KDJ				pmax	pmax		
	comp=Z,15nm,1.0s						
BOOM	**Boomskoye usch**	**78.00**	**15**	P	**P**	**21 37 08.5**	**-0.2**
BOOM				IAmb	IAmb	21 37 10.6	
	comp=Z,7.8nm,1.0s						
BOOM	**Boomskoye usch**	**78.00**	**15**	P	**P**	**21 37 08.5**	**-0.2**
BOOM				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SHA1	**Shidzhatmaz**	**78.13**	**350**	*i* P	**P**	**21 37 10.3**	**+0.8**
KIV	**Kislovodsk**	**78.34**	**350**	*e*P	**P**	**21 37 09.6**	**-0.8**

AK13	**Malin Array Si**	**87.39**	**343**	P		**P**	**21 37 56.8**	**-0.3**
AK11	**Malin Array Si**	**87.43**	**343**	P		**P**	**21 37 57.0**	**-0.2**
AKASG	**Malin Array Be**	**87.44**	**343**	P		**P**	**21 37 56.6**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=169,slow=4.6,SNR=4.8							
	comp=Z,1.2nm,0.6s							
AKASG	**Malin Array Be**	**87.44**	**343**	*i* P		**P**	**21 37 59.5**	**+2.2**
AKBB	**Malin Array Si**	**87.44**	**343**	P		**P**	**21 37 56.9**	**-0.4**
AKBB				IAmb		IAmb	21 37 58.3	
	comp=Z,23nm,1.4s							
AKBB	**Malin Array Si**	**87.44**	**343**	P		**P**	**21 37 56.9**	**-0.4**
AKBB				pmax		pmax		
	comp=Z,23nm,1.4s							
AK18	**Malin Array Si**	**87.49**	**343**	P		**P**	**21 37 56.9**	**-0.7**
MD01	**Midelt array s**	**87.67**	**313**	P		**P**	**21 37 59.3**	**+0.1**
NJ2	**Nanjing**	**88.07**	**49**	*e*P		**P**	**21 38 02.1**	**+1.3**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
SOKA	**Soboth**	**88.28**	**333**	P		**P**	**21 38 02.7**	**+1.2**
	comp=Z,4.6nm,1.1s							
OBKA	**Obir**	**88.32**	**333**	*e*P		**P**	**21 38 03.0**	**+1.2**
	comp=Z,8.3nm,1.1s							
TRQA	**Tornquist**	**88.38**	**224**	P		**P**	**21 38 01.9**	**-0.6**
TRQA				IAmb		IAmb	21 38 09.4	
	comp=Z,12nm,1.1s							
TRQA	**Tornquist**	**88.38**	**224**	P		**P**	**21 38 01.9**	**-0.6**
TRQA				pmax		pmax		
	comp=Z,12nm,1.1s							
ARSA	**Arzberg**	**88.58**	**334**	*e*P		**P**	**21 38 03.3**	**+0.4**
	comp=Z,7.9nm,1.2s							
RONA	**Rosalia, Austr**	**88.67**	**334**	*e*P		**P**	**21 38 03.9**	**+0.5**
	comp=Z,8.2nm,1.1s							
LANS	**Liptovska Anna**	**88.82**	**337**	*e*P		**P**	**21 38 08.7**	**+4.7**
RNPP8	**Varash**	**88.87**	**341**	P		**P**	**21 38 04.9**	**+0.8**
RNPP9	**Sopachiv**	**88.93**	**342**	P		**P**	**21 38 04.2**	**-0.2**
CONA	**Conrad Observa**	**89.02**	**334**	*e*P		**P**	**21 38 05.6**	**+0.6**
	comp=Z,5.8nm,1.1s							
HNS	**HongShan**	**89.27**	**43**	⇑P		**P**	**21 38 06.8**	**+0.5**
HNS				pmax		pmax		
	comp=Z,10.0nm,1.1s							
ABTA	**Abfaltersbach**	**89.31**	**332**	*e*P		**P**	**21 38 06.4**	**0.0**
	comp=Z,6.6nm,1.2s							
MOA	**Molln**	**89.55**	**333**	*e*P		**P**	**21 38 08.4**	**+1.0**
	comp=Z,7.6nm,1.4s							
ARTI	**Arti**	**89.82**	**1**			**P**	**21 38 08.7**	**+0.3**
ARTI				IAmb		IAmb	21 38 10.1	
	comp=Z,25nm,1.2s							
ARTI	**Arti**	**89.82**	**1**	*c i* P		**P**	**21 38 08.8**	**+0.3**
ARTI							21 41 38.0	
ARTI				S		**SKSac**	**21 48 38.8**	**+0.4**
ARTI				pmax		pmax		
	comp=Z,29nm,1.3s							
HHC	**Hu-ho-hao-te**	**90.03**	**39**	*e*P		**P**	**21 38 12.1**	**+2.1**
HHC				pmax		pmax		
	comp=Z,320nm,5.6s							
WTTA	**Wattenberg**	**90.08**	**331**	*e*P		**P**	**21 38 11.5**	**+1.4**
	comp=Z,9.4nm,1.3s							
OBN	**Obninsk**	**90.13**	**349**⇑	*e*P		**P**	**21 38 10.4**	**+0.5**
OBN				*e*PPP		PPP	21 43 39.4	
OBN				pmax		pmax		
	comp=Z,8.0nm,1.6s							
OBN				MLR		MLR		
	comp=Z,2μm,18.0s							
WATA	**Walderalm**	**90.17**	**331**	*e*P		**P**	**21 38 11.3**	**+0.8**
	comp=Z,5.6nm,1.1s							
RETA	**Reutte**	**90.61**	**331**	*e*P		**P**	**21 38 14.5**	**+2.0**
	comp=Z,5.9nm,1.3s							
KHC	**Kasperske Hory**	**90.86**	**334**	*i* P		**P**	**21 38 13.8**	**+0.2**
KHC				pmax		pmax		
	comp=Z,10.0nm,1.5s							
BRG	**Berggiesshubel**	**92.17**	**335**	P		**P**	**21 38 20.6**	**+1.0**
BRG				Amp			21 38 22.2	
	comp=Z,4.7nm,1.1s							
SONM	**Songino Array**	**92.80**	**31**	P		**P**	**21 38 22.8**	**+0.1**
	comp=Z,1.4nm,1.0s,baz=220,slow=3.8,SNR=2.7							
	comp=Z,1.4nm,1.0s							
CLL	**Collm**	**92.87**	**334**	*e*P		**P**	**21 38 25.0**	**+2.3**
ULN	**Ulaanbaatar**	**93.11**	**31**	*i* P		**P**	**21 38 23.6**	**-0.6**
ULN				pmax		pmax		
	comp=Z,3.0nm,1.0s							
CN2	**Changchun**	**99.62**	**43**	P		**Pdif**	**21 38 55.4**	**+1.8**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
H21K	**Melozitna Rive**	**143.63**	**20**	P		PKPbc	21 44 43.1	+1.2
	baz=317							
I20K	**Naaghedeneel**	**143.75**	**22**	P		PKPbc	21 44 42.9	+0.8
	baz=314							
K17K	**Iditarod**	**143.81**	**26**	P		**PKPdf**	**21 44 44.0**	**-0.7**
	baz=307							
F25K	**Christian Rive**	**143.83**	**14**	P		**PKPdf**	**21 44 44.1**	**-0.7**
	baz=328							
H22K	**Ishtalitna Cre**	**143.85**	**19**	P		**PKPdf**	**21 44 44.0**	**-0.8**
	baz=319							
UNV	**Unalaska Valle**	**143.89**	**43**	P		PKPbc	21 44 43.5	+0.6
	baz=286							
J18K	**Innoko River**	**143.91**	**25**	P		PKPbc	21 44 43.5	+0.8
	baz=310							
J19K	**Poorman**	**143.94**	**23**	P		PKPbc	21 44 43.5	+0.7
	baz=312							
L16K	**Owhat River**	**143.95**	**28**	P		**PKPdf**	**21 44 44.5**	**-0.5**
	baz=304							
N14K	**Kuskokwak Cree**	**143.97**	**32**	P		**PKPdf**	**21 44 44.1**	**-1.0**
	baz=299							
E28M	**Babbage River**	**143.97**	**10**	P		PKPbc	21 44 43.5	+0.7
	baz=337,SNR=6.2							
M15K	**Kasigluk River**	**144.01**	**30**	P		**PKPdf**	**21 44 44.4**	**-0.8**
	baz=302							
F26K	**Sheenjek River**	**144.03**	**13**	P		**PKPdf**	**21 44 44.3**	**-0.8**
	baz=330							
E27K	**Coleen River**	**144.04**	**11**	P		PKPbc	21 44 44.0	+0.9
	baz=334							
L17K	**Donlin**	**144.16**	**27**	P		**PKPdf**	**21 44 44.5**	**-0.8**
	baz=306							
G24K	**Hadweenzic Riv**	**144.18**	**16**			**PKPdf**	**21 44 44.7**	**-0.6**
G24K	**Hadweenzic Riv**	**144.18**	**16**	P		**PKPdf**	**21 44 44.8**	**-0.6**
	baz=325,SNR=5.4							
J20K	**Nowinta River**	**144.29**	**22**			**PKPdf**	**21 44 45.1**	**-0.4**
J20K	**Nowinta River**	**144.29**	**22**	P		**PKPdf**	**21 44 45.2**	**-0.4**
	baz=314,SNR=7.6							
C36M	**Paulatuk**	**144.37**	**0**	P		**PKPdf**	**21 44 45.0**	**-0.5**
	baz=360							
H23K	**Yukon River**	**144.38**	**18**	P		**PKPdf**	**21 44 45.0**	**-0.7**
	baz=322							
E29M	**Blow River**	**144.40**	**9**	P		PKPbc	21 44 44.7	+0.6
	baz=340,SNR=10							
G25K	**Bearman Lake**	**144.43**	**15**	P		**PKPdf**	**21 44 45.3**	**-0.4**
	baz=327							
O14K	**Tigyukauivet M**	**144.49**	**33**	P		**PKPdf**	**21 44 46.0**	**0.0**
	baz=299							
N15K	**Kwethluk River**	**144.53**	**31**	P		PKPbc	21 44 44.8	+0.1
	baz=302							
M16K	**Timber Creek**	**144.54**	**29**	P		**PKPab**	**21 44 44.6**	**+0.1**
	baz=304							
MLY	**Manley**	**144.68**	**19**			PKPbc	21 44 45.5	+0.4
MLY	**Manley**	**144.68**	**19**	P		PKPbc	21 44 45.3	+0.2
	baz=319,SNR=11							
L18K	**Granite Mounta**	**144.71**	**26**	P		PKPbc	21 44 45.8	+0.5
	baz=308							
G26K	**Porcupine Rive**	**144.75**	**14**	P		**PKPdf**	**21 44 45.9**	**-0.4**
	baz=330							
H24K	**Noodor Dome**	**144.79**	**17**	P		**PKPdf**	**21 44 46.3**	**-0.2**
	baz=324,SNR=10.0							
F28M	**Old Crow**	**144.84**	**11**	P		**PKPdf**	**21 44 46.3**	**-0.1**
	baz=336,SNR=12							
K20K	**Telida**	**144.88**	**23**	P		**PKPdf**	**21 44 46.4**	**-0.2**
	baz=313,SNR=11							
H25L	**Birch Creek**	**144.91**	**15**	P		**PKPdf**	**21 44 46.2**	**-0.3**
	baz=327							
M17K	**Holitna River**	**144.92**	**28**	P		**PKPdf**	**21 44 46.5**	**-0.3**
	baz=306							
N16K	**Nishlik Lake**	**144.92**	**30**	P		**PKPdf**	**21 44 46.6**	**-0.2**
	baz=304							
INK	**Inuvik**	**144.96**	**6**			**PKPab**	**21 44 45.8**	**0.0**
INK	**Inuvik**	**144.96**	**6**	PKP		**PKPab**	**21 44 45.5**	**-0.3**
	comp=Z,37nm,1.0s,baz=0.8,slow=5.7,SNR=14							
INK	**Inuvik**	**144.96**	**6**	P		**PKPab**	**21 44 45.8**	**0.0**
	baz=346,SNR=13							
I23K	**Minto, Yukon-K**	**144.96**	**19**	P		**PKPdf**	**21 44 46.7**	**+0.1**
	baz=321,SNR=9.1							
CHUM	**Lake Minchumin**	**145.07**	**22**	P		**PKPdf**	**21 44 46.8**	**-0.1**
	baz=316							
V55A	**Taylorsville**	**145.24**	**286**	PKPbc		**PKPbc**	**21 44 47.0**	**-0.9**
G27K	**Doyon Strip**	**145.27**	**12**	P		**PKPdf**	**21 44 48.2**	**+0.9**
	baz=333,SNR=12							
BPAW	**Bear Paw Mtn.**	**145.31**	**21**			**PKPbc**	**21 44 47.1**	**-0.1**
BPAW	**Bear Paw Mtn.**	**145.31**	**21**	P		**PKPdf**	**21 44 48.0**	**+0.7**
	baz=318,SNR=11							
L19K	**White Mountain**	**145.40**	**25**	P		**PKPab**	**21 44 48.4**	**+0.7**
	baz=311,SNR=7.5							
F30M	**Barrier River**	**145.40**	**8**	P		**PKPab**	**21 44 48.0**	**+0.4**
	baz=342,SNR=5.1							
NEA2	**Nenana**	**145.47**	**19**	P		**PKPab**	**21 44 48.6**	**+0.7**
	baz=321							
M18K	**Stony River**	**145.48**	**27**	P		**PKPab**	**21 44 49.1**	**+1.1**
	baz=309							
POKR	**Poker Plat Res**	**145.49**	**17**	P		**PKPab**	**21 44 48.8**	**+0.9**
	baz=324							
L20K	**Farewell, AK**	**145.54**	**24**	P		**PKPab**	**21 44 49.6**	**+1.4**
	baz=312,SNR=5.0							
N17K	**Nushagak Hills**	**145.54**	**29**	P		**PKPab**	**21 44 49.6**	**+1.3**
	baz=306							
S12K	**Black Hills**	**145.68**	**39**	P		**PKiKP**	**21 44 50.8**	**-1.5**
	baz=294							
O16K	**Kokwok River B**	**145.69**	**31**	P		**PKPbc**	**21 44 48.5**	**+0.1**
	baz=304							
M19K	**Big River Lodg**	**145.74**	**25**	P		**PKPab**	**21 44 49.0**	**+0.1**
	baz=311							
G29M	**Pine Creek**	**145.77**	**10**	P		**PKPbc**	**21 44 48.7**	**+0.2**
	baz=339							
F31M	**Tsiigehtchic**	**145.78**	**7**	P		**PKPab**	**21 44 48.7**	**-0.2**
	baz=345,SNR=6.1							
PPLA	**Purkeypile**	**145.81**	**23**	P		**PKPab**	**21 44 49.3**	**-0.1**
	baz=315							
H27K	**Steamboat Moun**	**145.82**	**13**	P		**PKPab**	**21 44 49.7**	**+0.5**
	baz=333							
WRH	**Wood River Hil**	**145.83**	**19**			**PKPdf**	**21 44 48.1**	**-0.1**
ILAR	**Eielson Array**	**145.90**	**18**			**PKPdf**	**21 44 47.8**	**-0.5**
ILAR	**Eielson Array**	**145.90**	**18**	PKPbc		**PKPdf**	**21 44 48.1**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=313,slow=3.6,SNR=15							
G30M	**tAoh Zraii Nji**	**145.94**	**9**	P		**PKPab**	**21 44 50.1**	**+0.4**
	baz=341							
N18K	**Kilae Creek**	**145.96**	**28**	P		**PKPab**	**21 44 49.7**	**-0.1**
	baz=308							
TRF	**Thorofare Moun**	**146.00**	**21**	P		**PKPbc**	**21 44 49.5**	**-0.1**
	baz=318							
O17K	**Koliganek Bris**	**146.01**	**30**	P		**PKPbc**	**21 44 49.1**	**-0.3**
	baz=305							
HDA	**Harding Lake**	**146.18**	**18**	P		**PKPbc**	**21 44 49.9**	**0.0**
	baz=324,SNR=5.1							
MCK	**McKinley**	**146.18**	**20**	P		**PKPbc**	**21 44 49.8**	**-0.1**
	baz=320,SNR=5.9							
M20K	**Styx River**	**146.20**	**25**	P		**PKPbc**	**21 44 49.8**	**-0.3**
	baz=313							
G31M	**Satah River**	**146.23**	**7**	P		**PKPbc**	**21 44 49.7**	**-0.1**
	baz=344							
I26K	**Coal Creek Min**	**146.31**	**15**	P		**PKPbc**	**21 44 50.1**	**-0.1**
	baz=330							
I27K	**Kandik River**	**146.36**	**13**	P		**PKPbc**	**21 44 50.5**	**+0.1**
	baz=332							
H29M	**Whitestone**	**146.36**	**11**	P		**PKPbc**	**21 44 50.3**	**-0.1**
	baz=338							
J25K	**Salcha River,**	**146.41**	**17**	P		**PKPbc**	**21 44 51.0**	**+0.4**
	baz=326,SNR=5.6							
N19K	**Bonanza Creek**	**146.42**	**27**	P		**PKPbc**	**21 44 50.7**	**-0.1**
	baz=310							
EPYK	**Eagle Plains**	**146.46**	**9**	P		**PKPbc**	**21 44 50.7**	**0.0**
	baz=340							
V53A	**Saluda**	**146.49**	**285**	PKPbc		**PKPbc**	**21 44 51.1**	**-0.6**
P17K	**Kvichak River**	**146.62**	**30**	P		**PKPbc**	**21 44 51.3**	**+0.1**
	baz=305							
SDPT	**Sand Point**	**146.65**	**38**	P		**PKPbc**	**21 44 50.9**	**-0.6**
	baz=328							
SKT	**Skwentna**	**146.68**	**24**	P		**PKPbc**	**21 44 51.4**	**0.0**
	baz=315							
S14K	**Fog Glacier**	**146.70**	**36**	P		**PKPbc**	**21 44 51.8**	**0.0**
	baz=297							
O18K	**Koktuh Hills**	**146.73**	**29**	P		**PKPab**	**21 44 52.5**	**-0.3**
	baz=308							
I28M	**Miner Creek**	**146.81**	**12**	P		**PKPab**	**21 44 52.5**	**-0.6**
	baz=335							
Q16K	**King Salmon**	**146.82**	**31**	P		**PKPbc**	**21 44 52.4**	**+0.6**
	baz=304							
J26L	**Joseph Creek**	**146.92**	**16**	P		**PKPbc**	**21 44 52.7**	**+0.6**
	baz=329,SNR=7.7							
K24K	**Donnelly Dome**	**146.97**	**18**	P		**PKPbc**	**21 44 52.1**	**-0.1**
	baz=325							
WAT1	**Susitna Watana**	**146.99**	**21**	P		**PKPab**	**21 44 53.3**	**-0.5**
	baz=320							
N20K	**Mount Spurr**	**146.99**	**25**	P		**PKPab**	**21 44 53.2**	**-0.7**
	baz=313							
SPCR	**Spurr Chakacha**	**146.99**	**25**	P		**PKPbc**	**21 44 53.0**	**+0.6**
	baz=313							
P18K	**Big Mountain,**	**147.01**	**29**	P		**PKPbc**	**21 44 53.1**	**+0.6**
	baz=307							
R16K	**Pilot Point**	**147.02**	**33**	P		**PKPbc**	**21 44 53.1**	**+0.7**
	baz=302							
DHY	**Denali Highway**	**147.13**	**20**	P		**PKPbc**	**21 44 53.2**	**+0.3**
	baz=322							
I29M	**Ogilvie Camp,**	**147.17**	**11**	P		**PKPbc**	**21 44 53.1**	**+0.4**
	baz=337							
EGAK	**Eagle**	**147.18**	**14**	P		**PKPab**	**21 44 53.6**	**-0.8**
	baz=333							
CHGN	**Chignik**	**147.25**	**36**	P		**PKPbc**	**21 44 53.6**	**+0.5**
	baz=299							
RIDG	**Independent Ri**	**147.26**	**17**	P		**PKPbc**	**21 44 53.5**	**+0.4**
	baz=326							
SCRK	**Sand Creek**	**147.27**	**16**	P		**PKPbc**	**21 44 53.2**	**0.0**
	baz=328							
H31M	**Peel River**	**147.30**	**8**	P		**PKPbc**	**21 44 53.8**	**+0.7**
	baz=344							
SUA	**Susitna One**	**147.31**	**24**	P		**PKPbc**	**21 44 53.9**	**+0.6**
	baz=316							
CHNA	**Chernabura Isl**	**147.33**	**39**	P		**PKPbc**	**21 44 54.3**	**+0.9**
	baz=295							
Q17K	**Contact Creek**	**147.39**	**31**	P		**PKPbc**	**21 44 54.2**	**+0.5**
	baz=305							
WAT6	**Susitna Watana**	**147.42**	**20**	P		**PKPbc**	**21 44 53.9**	**+0.2**
	baz=321							
R17L	**Mt. Peulik Vol**	**147.53**	**33**	P		**PKPbc**	**21 44 53.9**	**0.0**
	baz=303							
I30M	**Mount Dempster**	**147.59**	**10**	P		**PKPbc**	**21 44 54.0**	**0.0**
	baz=340							
O20K	**Slope Mountain**	**147.59**	**27**	P		**PKPbc**	**21 44 54.5**	**+0.4**
	baz=311							
P19K	**Oil Pt**	**147.64**	**28**	P		**PKPbc**	**21 44 54.4**	**+0.3**
	baz=310							
K27K	**Chicken**	**147.66**	**15**	P		**PKPbc**	**21 44 54.4**	**+0.3**
	baz=331							
CAPN	**Captain Cook N**	**147.66**	**25**	P		**PKPbc**	**21 44 54.5**	**+0.4**
	baz=314							
PAX	**Paxson**	**147.74**	**18**	P		**PKPbc**	**21 44 54.6**	**+0.2**
	baz=325							
PMR	**Palmer**	**147.75**	**23**	P		**PKiKP**	**21 44 55.4**	**-0.9**
	baz=318							
RC01	**Rabbit Creek A**	**147.92**	**24**	P		**PKPbc**	**21 44 55.4**	**+0.5**
	baz=316							
Q19K	**Cape Douglas,**	**147.94**	**29**	P		**PKPbc**	**21 44 55.2**	**+0.2**
	baz=308							
J29N	**Klondike Camp**	**148.02**	**12**	P		**PKPbc**	**21 44 56.0**	**+0.8**
	baz=337							
M23K	**Glacier View**	**148.03**	**21**	P		**PKPbc**	**21 44 56.0**	**+0.8**
	baz=320							
KNK	**Knik Glacier**	**148.10**	**22**	P		**PKPbc**	**21 44 56.2**	**+0.9**
	baz=319							
SCM	**Sheep Creek Mo**	**148.12**	**21**	P		**PKPbc**	**21 44 56.1**	**+0.7**
	baz=321							
DAWY	**Dawson**	**148.16**	**13**	P		**PKiKP**	**21 44 56.5**	**-0.7**
	baz=335							
J30M	**Hart River**	**148.21**	**10**			**PKPbc**	**21 44 55.6**	**-0.1**
J30M	**Hart River**	**148.21**	**10**	P		**PKPbc**	**21 44 56.2**	**+0.5**
	baz=340							
L26K	**Log Cabin Wild**	**148.23**	**17**	P		**PKPbc**	**21 44 56.1**	**+0.4**
	baz=328							
M24K	**Tolsona, Glenn**	**148.24**	**20**	P		**PKiKP**	**21 44 56.8**	**-0.7**
	baz=323							
HOM	**Homer**	**148.25**	**27**	P		**PKiKP**	**21 44 57.0**	**-0.4**
	baz=312							
R18K	**Karluk**	**148.42**	**32**	P		**PKPbc**	**21 44 57.0**	**+0.8**
	baz=306							
BRSE	**Bradley Lake S**	**148.52**	**26**	P		**PKiKP**	**21 44 57.4**	**-0.7**
	baz=314							
PWL	**Port Wells**	**148.55**	**23**	P		**PKiKP**	**21 44 57.4**	**-0.7**
	baz=318							
L27K	**Beaver Creek,**	**148.56**	**16**	P		**PKPbc**	**21 44 57.2**	**+0.7**
	baz=330							
BCAR	**Beaver Creek A**	**148.56**	**16**			**PKPbc**	**21 44 56.8**	**+0.3**
Q20K	**Shuyak Island**	**148.64**	**29**	P		**PKiKP**	**21 44 58.0**	**-0.2**
	baz=310							
K29M	**Barlow Dome**	**148.70**	**12**	P		**PKiKP**	**21 44 58.0**	**-0.4**
	baz=338							
SEW	**Seward**	**148.73**	**25**	P		**PKiKP**	**21 44 57.7**	**-0.7**
	baz=316							
KLU	**Klutina**	**148.81**	**20**	P		**PKiKP**	**21 44 58.5**	**-0.2**
	baz=323							
M26K	**Nabesna, AK**	**148.85**	**17**	P		**PKiKP**	**21 44 58.7**	**0.0**
	baz=328							
CHIR	**Chirikof Islan**	**148.85**	**35**	P		**PKiKP**	**21 44 58.8**	**0.0**
	baz=302							
GLI	**Glacier Island**	**148.93**	**22**	P		**PKiKP**	**21 44 59.0**	**+0.2**
	baz=320							
KDAK	**Kodiak Island**	**149.09**	**30**	P		**PKiKP**	**21 44 58.6**	**-0.6**
	baz=308							
N25K	**Chitina, Valde**	**149.09**	**19**	P		**PKiKP**	**21 44 59.3**	**0.0**
	baz=325							
SII	**Sitkinak Islan**	**149.12**	**33**	P		**PKiKP**	**21 44 58.8**	**-0.6**
	baz=305							
OHAK	**Old Harbor**	**149.13**	**32**	P		**PKiKP**	**21 44 58.7**	**-0.6**
	baz=307							
M27K	**Edge Creek, AK**	**149.16**	**16**	P		**PKPbc**	**21 44 58.5**	**+0.3**
	baz=330							
L29M	**L29M**	**149.27**	**13**	P		**PKiKP**	**21 44 59.6**	**0.0**
	baz=336							
P23K	**Montague Islan**	**149.51**	**23**	P		**PKPbc**	**21 44 59.0**	**+0.1**
	baz=319							
EYAK	**Cordova Ski Ar**	**149.61**	**21**	P		**PKiKP**	**21 45 00.3**	**+0.2**
	baz=322							
BMRM	**Bremner River**	**149.61**	**20**	P		**PKiKP**	**21 45 00.7**	**+0.4**
	baz=324							
MCARA	**McCarthy VSAT**	**149.70**	**18**	P		**PKiKP**	**21 45 00.7**	**+0.3**
	baz=327							
M29M	**Somme Creek**	**149.82**	**14**	P		**PKiKP**	**21 45 00.9**	**+0.1**
	baz=335							
M30M	**Minto, Yukon**	**150.00**	**12**	P		**PKiKP**	**21 45 01.4**	**+0.4**
	baz=338							
CRQE	**Cirque**	**150.21**	**19**	P		**PKiKP**	**21 45 01.8**	**+0.2**
	baz=326							
CTG	**Chitna Glacier**	**150.49**	**17**	P		**PKiKP**	**21 45 02.3**	**+0.1**
	baz=329							
KAIM	**Kayak Island**	**150.51**	**21**	P		**PKiKP**	**21 45 02.3**	**+0.2**
	baz=323							
WRGLY	**Wrigley**	**150.52**	**360**	P		**PKiKP**	**21 45 02.0**	**0.0**
	baz=0.4							
YUK8	**Steele Glacier**	**150.59**	**16**	P		**PKiKP**	**21 45 02.5**	**0.0**
	baz=332							
YKA	**Yellowknife Ar**	**150.68**	**351**	PKPbc		**PKiKP**	**21 45 02.0**	**-0.3**
	comp=Z,12nm,1.0s,baz=11,slow=2.8,SNR=9.9							
BGLC	**Bering Glacier**	**150.68**	**20**	P		**PKiKP**	**21 45 03.0**	**+0.6**
	baz=325							
MMPY	**Sheldon Lake,**	**150.74**	**7**	P		**PKiKP**	**21 45 02.6**	**+0.1**
	baz=347							
M31M	**Drury Creek, Y**	**150.75**	**10**	P		**PKiKP**	**21 45 03.0**	**+0.4**
	baz=342							
YUK4	**Talbot Arm**	**150.78**	**15**	P		**PKiKP**	**21 45 03.1**	**+0.2**
	baz=334							
O28M	**Mount Upton**	**150.94**	**17**	P		**PKiKP**	**21 45 03.6**	**+0.3**
	baz=331							
N30M	**Aishikik Lake**	**150.99**	**13**	P		**PKiKP**	**21 45 03.2**	**+0.1**
	baz=337							
MESA	**MESA**	**151.00**	**19**	P		**PKiKP**	**21 45 03.6**	**+0.3**
	baz=328							
N31M	**Braeburn, Yuko**	**151.20**	**12**	P		**PKiKP**	**21 45 04.1**	**+0.6**
	baz=339							
YUK6	**Outpost Mounta**	**151.20**	**15**	P		**PKiKP**	**21 45 04.3**	**+0.5**
	baz=334							
HYT	**Haines Junctio**	**151.49**	**14**	P		**PKiKP**	**21 45 04.5**	**+0.2**
	baz=335							
PINM	**Pinnacle**	**151.51**	**17**	P		**PKiKP**	**21 45 05.0**	**+0.7**
	baz=330							
O29M	**Mount Kennedy**	**151.73**	**16**	P		**PKiKP**	**21 45 05.4**	**+0.6**
	baz=333							
O30N	**Mendenhall**	**151.81**	**13**	P		**PKiKP**	**21 45 05.2**	**+0.4**
	baz=338							
N32M	**Quiet Lake**	**151.94**	**10**	P		**PKiKP**	**21 45 05.7**	**+0.6**
	baz=343							
TGTN	**Hyland Airport**	**152.07**	**5**	P		**PKiKP**	**21 45 06.1**	**+0.8**
	baz=352							
PNL	**Peninsula**	**152.10**	**17**	P		**PKiKP**	**21 45 06.2**	**+0.8**
	baz=331							
P30M	**Million Dollar**	**152.24**	**14**	P		**PKiKP**	**21 45 06.3**	**+0.5**
	baz=336							
P29M	**Windy Craggy**	**152.52**	**15**	P		**PKiKP**	**21 45 07.0**	**+0.7**
	baz=334							
P33M	**Teslin, Yukon**	**152.88**	**10**	P		**PKiKP**	**21 45 07.5**	**+0.5**
	baz=343							
PLBC	**Pleasant Camp**	**152.97**	**14**	P		**PKiKP**	**21 45 07.9**	**+0.7**
	baz=336							
SKAG	**Skagway**	**153.17**	**13**	P		**PKiKP**	**21 45 08.0**	**+0.4**
	baz=338							
P32M	**Atlin**	**153.34**	**11**	P		**PKiKP**	**21 45 08.5**	**+0.5**
	baz=341							
R33M	**Jennings River**	**153.92**	**8**	P		**PKiKP**	**21 45 09.6**	**+0.3**
	baz=346							
SIT	**Sitka**	**155.40**	**15**	P		PKPdf	21 45 11.9	+8.7
	baz=336							
PDAR	**Pinedale Array**	**165.72**	**313**	PKP		**PKPdf**	**21 45 15.1**	**-0.2**
	comp=Z,3.3nm,1.2s,baz=54,slow=1.6,SNR=4.3							

AEIC ***24*** *21:27:10.4±0.7,53°.81N±0'.08×162°.96W±0'.07, h50km±10km, Error ellipse: s-maj=12.6km s-min=4.

baz=17,slow=74,SNR=15
CRZF **Crozet Islands** 13.08 193 Pn **Pn** **21 32 46.8 +1.1**
VOI **Vohitsoka** 14.43 323 Pn **Pn** **21 33 03.8 -0.7**
ROCAM **Rodrigues Isla** 15.34 26 Pn **Pn** **21 33 17.8 +1.1**
MAKGR **Makgori** 28.29 278 P **P** **21 35 32.8 -1.1**
LPHEP **Lephephe** 28.49 283 P **P** **21 35 35.0 -0.7**
LPHEP IAmb IAmb 21 36 09.1
comp=Z,24nm,1.4s
H08S1 **Diego Carcia H** 30.03 34 T T 22 06 58.6
baz=207,slow=75,SNR=7.7
H08S2 **Diego Garcia H** 30.04 34 T T 22 07 06.0
baz=207,slow=75,SNR=6.6
H08S3 **Diego Garcia H** 30.05 34 T T 22 07 07.1
baz=207,slow=75,SNR=8.3
MAW **Mawson** 34.11 175 P **P** **21 36 24.5 0.0**
comp=Z,2.0nm,0.9s,baz=359,slow=21,SNR=4.0
comp=Z,2.0nm,0.9s
H01W2 **Cape Leeuwin H** 47.27 109 T T 22 28 54.4
baz=254
H01W3 **Cape Leeuwin H** 47.28 108 T T 22 28 49.3
baz=254
H01W1 **Cape Leeuwin H** 47.29 109 T T 22 28 50.3
baz=254
SNAA **Sanae** 48.67 201 ⇑P **P** **21 38 24.2 +0.2**
comp=Z,104nm,0.9s
SNAA **Sanae** 48.67 201 **P** **21 38 23.7 -0.3**
SNAA IAmb IAmb 21 38 30.9
comp=Z,10.0nm,1.0s
SNAA **Sanae** 48.67 201 P **P** **21 38 23.9 -0.1**
comp=Z,4.7nm,0.9s,baz=67,slow=6.1,SNR=12
comp=Z,4.7nm,0.9s
VNA3 **Neumayer Olymp** 50.68 202 ⇑P **P** **21 38 39.3 +0.1**
comp=Z,4.5nm,1.0s
BKNI **Bangkinang** 54.02 61 P **P** **21 39 04.0 -0.7**
QSPA **South Pole Qui** 56.42 180 P **P** **21 39 22.2 +0.7**
QSPA IAmb IAmb 21 39 29.9
comp=Z,14nm,0.9s
QSPA **South Pole Qui** 56.42 180 P **P** **21 39 23.3 +1.8**
comp=Z,9.2nm,0.9s,baz=268,slow=4.2,SNR=12
comp=Z,9.2nm,0.9s
RAYN **Ar Rayn** 57.87 348 P **P** **21 39 31.6 -0.5**
VNDA **Vanda** 60.60 166 P **P** **21 39 49.7 -0.6**
comp=Z,1.7nm,1.1s,baz=283,slow=7.1,SNR=3.1
comp=Z,1.7nm,1.1s
CM31 **Chiang Mai Arr** 66.01 45 P **P** **21 40 25.8 -1.1**
CM31 IAmb IAmb 21 40 27.5
comp=Z,13nm,1.1s
CMAR **Chiang Mai Arr** 66.01 45 P **P** **21 40 25.7 -1.2**
CMAR **Chiang Mai Arr** 66.01 45 P **P** **21 40 26.4 -0.5**
comp=Z,5.3nm,0.9s,baz=230,slow=7.0,SNR=25
comp=Z,5.3nm,0.9s
ASAR **Alice Springs** 67.46 104 P **P** **21 40 34.7 -1.6**
ASAR **Alice Springs** 67.46 104 P **P** **21 40 35.0 -1.3**
comp=Z,2.2nm,0.8s,baz=235,slow=6.0,SNR=16
comp=Z,2.2nm,0.8s
AS31 **Alice Springs** 67.46 104 P **P** **21 40 34.9 -1.5**
SHL **Shillong** 68.06 35 P **P** **21 40 39.4 -0.7**
SHL IAmb IAmb 21 40 48.8
comp=Z,15nm,1.1s
KBL **Kabul** 69.00 11 P **P** **21 40 46.1 +0.3**
WRA **Warramunga Arr** 69.60 101 P **P** **21 40 48.6 -1.2**
comp=Z,5.8nm,0.8s,baz=238,slow=5.6,SNR=26
comp=Z,5.8nm,0.8s
WB2 **Warramunga Arr** 69.61 101 P **P** **21 40 48.4 -1.4**
WB2 IAmb IAmb 21 40 49.7
comp=Z,12nm,1.1s
STKA **Stephens Creek** 69.67 115 P **P** **21 40 49.6 -0.4**
comp=Z,3.5nm,1.0s,baz=283,slow=7.0,SNR=4.9
comp=Z,3.5nm,1.0s
TOLI2 **Tolitoli** 69.71 74 P **P** **21 40 48.7 -1.7**
WB0 **Warramunga Arr** 69.73 101 P **P** **21 40 48.8 -1.8**
WB0 IAmb IAmb 21 40 50.3
comp=Z,9.6nm,0.9s
TORD **Torodi Ar. Bea** 69.74 302 P **P** **21 40 50.8 +0.3**
comp=Z,2.2nm,1.0s,baz=126,slow=3.2,SNR=5.7
comp=Z,2.2nm,1.0s
INKA **Innaminka** 70.96 111 P **P** **21 40 56.9 -1.1**
TNCH **TengChong** 70.97 40 eP **P** **21 41 00.8 +2.7**
TNCH pmax pmax
comp=Z,10.0nm,0.9s
LSA **Lhasa** 71.25 32 P **P** **21 40 59.5 -0.5**
LSA IAmb IAmb 21 41 01.9
comp=Z,10nm,1.2s
SIMJ **Simiganj** 73.03 10 **P** **21 41 09.7 -0.4**
SIMJ IAmb IAmb 21 41 13.1
comp=Z,24nm,1.4s
CHGR **Chuyangaron** 73.05 11 **P** **21 41 10.0 -0.1**
PZH **PanZhiHua** 73.90 42 P **P** **21 41 18.9 +3.4**
KSH **Kashi** 75.18 16 P **P** **21 41 20.4 -2.2**
KSH pP pP 21 41 25.1 +0.3
KSH pmax pmax
comp=Z,6.0nm,1.0s
BRTR **Keskin Array B** 76.04 342 P **P** **21 41 27.4 -0.1**
comp=Z,1.2nm,0.9s,baz=165,slow=6.0,SNR=5.3
comp=Z,1.2nm,0.9s
GYA **Guiyang** 76.69 45 P **P** **21 41 31.1 -0.4**
GYA pmax pmax
comp=Z,9.0nm,0.9s
KK31 **Karatay Array** 77.61 11 P **P** **21 41 36.2 +0.1**
KKAR **Karatay Array** 77.61 11 **P** **21 41 36.5 +0.3**
AAK **Ala-Archa** 77.86 14 P **P** **21 41 37.4 -0.3**
AAK IAmb IAmb 21 41 40.4
comp=Z,9.0nm,1.2s
FRU1 **Bishkek** 78.05 14 P **P** **21 41 38.5 -0.2**
FRU1 IAmb IAmb 21 41 47.3
comp=Z,19nm,1.4s
KIV **Kislovodsk** 78.32 350 P **P** **21 41 40.0 -0.1**
KIV **Kislovodsk** 78.32 350 P **P** **21 41 40.3 +0.1**
comp=Z,677nmcomp=Z,6.2nm,1.5s
PRZ **Przheval'sk** 78.56 17 P **P** **21 41 41.9 +0.2**
EIDS **Eidsvold** 80.13 114 P **P** **21 41 49.9 -0.7**
EIDS IAmb IAmb 21 42 00.3
comp=Z,20nm,1.4s
ENH **Enshi** 81.18 45 P **P** **21 41 55.5 -0.5**
ENH IAmb IAmb 21 41 56.6
comp=Z,16nm,1.1s
WMQ **Urumqi** 82.39 22 eP **P** **21 42 03.8 +1.8**
LZH **Lanzhou** 82.52 37 eP **P** **21 42 04.4 +1.4**
LZH pP pwP 21 42 10.4 +1.0
LZH pmax pmax
comp=Z,11nm,1.2s
AB31 **Akbulak array** 82.72 2 **P** **21 42 03.4 -0.1**
AB31 IAmb IAmb 21 42 04.7
comp=Z,5.8nm,1.1s
ABKAR **Akbulak array** 82.72 2 P **P** **21 42 03.0 -0.5**
GTA **Gaotai** 83.26 33 P **P** **21 42 07.3 +0.6**
GTA pP pwP 21 42 12.5 -0.6
GTA pmax pmax
comp=Z,16nm,1.4s
MAKZ **Makanchi** 83.50 18 P **P** **21 42 07.9 +0.2**
MAKZ IAmb IAmb 21 42 09.5
comp=Z,7.9nm,1.4s
MKAR **Makanchi Array** 83.56 18 **P** **21 42 07.8 -0.2**
MKAR **Makanchi Array** 83.56 18 P **P** **21 42 08.2 +0.1**
comp=Z,1.4nm,0.8s,baz=204,slow=5.3,SNR=7.1
comp=Z,1.4nm,0.9s
KMPD **K-Podol'skiy** 86.15 341 P **P** **21 42 21.1 +0.2**
KURBB **Kurchatov Arra** 86.31 14 P **P** **21 42 21.7 +0.1**
comp=Z,2.3nm,0.9s,baz=206,slow=5.4,SNR=12
comp=Z,2.3nm,0.9s
BVAR **Borovoye Array** 87.30 9 P **P** **21 42 27.0 +0.5**
comp=Z,4.7nm,0.9s,baz=176,slow=4.3,SNR=14
comp=Z,4.7nm,0.9s
AKASG **Malin Array Be** 87.41 343 P **P** **21 42 27.0 0.0**
comp=Z,0.3nm,0.3s,baz=172,slow=4.6,SNR=5.8
comp=Z,0.3nm,0.3s
NJ2 **Nanjing** 88.12 49 eP **P** **21 42 32.3 +1.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.7s
TRQA **Tornquist** 88.33 224 P **P** **21 42 31.4 -0.7**
TRQA IAmb IAmb 21 42 39.2
comp=Z,8.1nm,1.0s
NIE **Niedzica** 88.75 337 P **P** **21 42 32.8 -0.7**
RNPP8 **Varash** 88.84 342 P **P** **21 42 33.2 -0.6**
RNPP9 **Sopachiv** 88.90 342 P **P** **21 42 33.5 -0.6**
BTO **Baotou** 89.10 38 eP **P** **21 42 35.8 +0.3**
BTO pP **pwP** **21 42 42.3 +0.4**
BTO sP **sP** **21 42 44.8 +6.2**
BTO pmax pmax
comp=Z,18nm,0.9s
BTO pmax pmax
comp=Z,310nm,6.7s
ARTI **Arti** 89.81 1 P **P** **21 42 38.3 0.0**
ARTI IAmb IAmb 21 42 40.1
comp=Z,11nm,1.2s
TIA **Tai'an** 89.89 45 P **P** **21 42 38.3 -0.8**
TIA pmax pmax
comp=Z,2.0nm,0.3s
HHC **Hu-ho-hao-te** 90.07 39 eP **P** **21 42 42.4 +2.4**
HHC pmax pmax
comp=Z,11nm,0.7s
SONM **Songino Array** 92.84 31 P **P** **21 42 52.0 -0.7**
comp=Z,0.4nm,0.4s,baz=232,slow=3.8,SNR=3.9
comp=Z,0.4nm,0.4s
CPUP **Villa Florida** 93.11 235 P **P** **21 42 55.9 +1.3**
comp=Z,0.8nm,0.8s,baz=72,slow=5.5,SNR=3.6
comp=Z,0.8nm,0.8s
FINES **FINESS Array B** 97.98 346 P Pdif 21 43 16.4 +0.7
comp=Z,3.3nm,1.0s,baz=123,slow=5.1,SNR=2.6
comp=Z,3.3nm,1.0s
D27M **Malcolm River** 143.18 10 P **PKPdf** **21 49 13.0 -0.5**
baz=336
L15K **Ungalak Mounta** 143.19 29 P **PKPdf** **21 49 13.1 -0.4**
baz=302
H21K **Melozitna Rive** 143.65 20 P **PKPdf** **21 49 13.4 -0.9**
baz=317
I20K **Naaghedeneel** 143.77 22 P **PKPdf** **21 49 13.3 -1.2**
baz=314
K17K **Iditarod** 143.84 26 P PKPbc 21 49 13.4 +1.1
baz=307
F25K **Christian River** 143.84 14 P **PKPdf** **21 49 13.5 -1.1**
H22K **Ishtalitna Cre** 143.87 19 P PKPbc 21 49 13.0 +0.6
baz=319
J18K **Innoko River** 143.94 24 P PKPbc 21 49 13.4 +0.7
baz=310
UNV **Unalaska Valle** 143.94 43 P PKPbc 21 49 13.4 +0.5
baz=286
J19K **Poorman** 143.96 23 P PKPbc 21 49 13.3 +0.6
baz=312
E28M **Babbage River** 143.98 10 P PKPbc 21 49 13.4 +0.8
baz=336,SNR=5.1
M15K **Kasigluk River** 144.04 30 P **PKPdf** **21 49 14.0 -1.1**
baz=302
F26K **Sheenjek River** 144.04 13 P **PKPdf** **21 49 14.0 -1.0**
baz=330
E27K **Coleen River** 144.05 11 P PKPbc 21 49 13.8 +0.8
baz=334
L17K **Donlin** 144.19 27 P PKPbc 21 49 14.0 +0.6
baz=306
G24K **Hadweenzic Riv** 144.19 16 PKPbc 21 49 14.1 +0.7
G24K **Hadweenzic Riv** 144.19 16 P PKPbc 21 49 14.2 +0.8
baz=325,SNR=5.8
J20K **Nowinta River** 144.31 22 PKPbc 21 49 14.4 +0.7
J20K **Nowinta River** 144.31 22 P PKPbc 21 49 13.9 +0.1
baz=314,SNR=7.2
C36M **Paulatuk** 144.36 0 P **PKPab** **21 49 13.3 -0.2**
baz=360
H23K **Yukon River** 144.40 18 P PKPbc 21 49 14.7 +0.6
baz=322
E29M **Blow River** 144.40 9 P PKPbc 21 49 14.2 +0.3
baz=340,SNR=9.8
G25K **Bearman Lake** 144.44 15 P PKPbc 21 49 14.0 -0.1
baz=327,SNR=6.0
O14K **Tigyukauivet M** 144.52 33 P **PKPab** **21 49 12.9 -1.4**
baz=299
N15K **Kwethluk River** 144.57 31 P **PKPab** **21 49 13.4 -1.2**
baz=302
M16K **Timber Creek** 144.57 29 P **PKPab** **21 49 14.2 -0.3**
baz=304
MLY **Manley** 144.70 19 P **PKPab** **21 49 14.6 -0.3**
baz=319,SNR=8.3
L18K **Granite Mounta** 144.73 26 P **PKPab** **21 49 15.0 -0.1**
baz=308
G26K **Porcupine Rive** 144.76 13 P PKPbc 21 49 14.9 -0.2
baz=330
H24K **Noodor Dome** 144.81 17 P **PKPab** **21 49 15.2 -0.1**
baz=324,SNR=7.7
F28M **Old Crow** 144.84 11 P PKPbc 21 49 15.6 +0.2
baz=336,SNR=6.3
K20K **Telida** 144.90 23 P **PKPdf** **21 49 16.4 -0.2**
baz=313,SNR=10.0
H25L **Birch Creek** 144.93 15 P PKPbc 21 49 15.6 -0.1
baz=327
M17K **Holitna River** 144.95 28 P PKPbc 21 49 15.9 0.0
baz=307
N16K **Nishlik Lake** 144.96 30 P PKPbc 21 49 16.2 +0.2
baz=304
INK **Inuvik** 144.96 6 PKP PKPbc 21 49 15.8 +0.1
comp=Z,26nm,1.0s,baz=2.0,slow=4.6,SNR=22
INK **Inuvik** 144.96 6 P **PKPdf** **21 49 16.1 -0.3**
baz=346,SNR=16
I23K **Minto, Yukon-K** 144.98 19 P **PKPdf** **21 49 16.6 0.0**
baz=321,SNR=9.7
CHUM **Lake Minchumin** 145.09 22 P **PKPdf** **21 49 16.6 -0.2**
baz=316,SNR=8.5
O15K **Ungalikthiuk R** 145.20 32 P **PKPab** **21 49 16.8 0.0**
baz=301
G27K **Doyon Strip** 145.28 12 P **PKPdf** **21 49 17.3 +0.2**
baz=333,SNR=20
BPAW **Bear Paw Mtn.** 145.33 21 P **PKPdf** **21 49 17.6 +0.3**
baz=318,SNR=12
F30M **Barrier River** 145.40 8 P **PKPdf** **21 49 17.9 +0.7**
baz=342,SNR=7.0
L19K **White Mountain** 145.42 25 P **PKPbc** **21 49 16.8 -0.6**
baz=311,SNR=5.6
NEA2 **Nenana** 145.49 19 P **PKPdf** **21 49 17.5 0.0**
baz=321
POKR **Poker Plat Res** 145.50 17 P **PKPab** **21 49 17.8 -0.1**
baz=324
M18K **Stony River** 145.51 27 P **PKPab** **21 49 18.3 +0.3**
baz=309
L20K **Farewell, AK** 145.56 24 P **PKPdf** **21 49 17.5 -0.2**
baz=312
N17K **Nushagak Hills** 145.57 29 P **PKPab** **21 49 18.0 -0.2**
baz=306
S12K **Black Hills** 145.72 38 P **PKPbc** **21 49 18.6 0.0**
baz=294
O16K **Kokwok River B** 145.73 31 P **PKPdf** **21 49 16.2 -1.8**
baz=304
M19K **Big River Lodg** 145.77 25 P **PKPdf** **21 49 18.1 0.0**
baz=311
G29M **Pine Creek** 145.77 10 P **PKPab** **21 49 18.6 -0.2**
baz=305
F31M **Tsiigehtchic** 145.78 7 P **PKPab** **21 49 18.6 -0.1**
baz=345,SNR=5.9
H27K **Steamboat Moun** 145.82 13 P **PKPab** **21 49 18.8 -0.2**
baz=333,SNR=5.8
PPLA **Purkeypile** 145.84 23 P **PKPbc** **21 49 18.6 -0.3**
baz=315
ILAR **Eielson Array** 145.92 17 **PKPdf** **21 49 17.3 -0.9**
ILAR **Eielson Array** 145.92 17 PKPbc PKPdf **21 49 17.8 -0.5**
comp=Z,3.3nm,0.9s,baz=309,slow=3.3,SNR=14
G30M **Ekh Zraii Nji** 145.95 9 P **PKPbc** **21 49 18.7 -0.3**
baz=341
N18K **Kilae Creek** 145.99 28 P **PKPab** **21 49 19.5 -0.3**
baz=308
TRF **Thorofare Moun** 146.02 21 P **PKPbc** **21 49 19.3 -0.2**
baz=318
O17K **Koliganek Bris** 146.04 30 P **PKPbc** **21 49 19.0 -0.4**
baz=305
P16K **Nushagak River** 146.08 31 P **PKPdf** **21 49 18.6 0.0**
baz=306
HDA **Harding Lake** 146.20 18 P **PKPbc** **21 49 19.6 -0.2**
baz=324
MCK **McKinley** 146.20 20 P **PKPbc** **21 49 19.3 -0.5**
baz=321
M20K **Styx River** 146.22 25 P **PKPdf** **21 49 18.8 -0.1**
baz=313
G31M **Satah River** 146.23 7 **PKPdf** **21 49 19.0 +0.4**
G31M **Satah River** 146.23 7 P **PKPbc** **21 49 19.5 -0.2**
baz=344
I26K **Coal Creek Min** 146.32 15 P **PKPbc** **21 49 19.5 -0.6**
baz=330
H29M **Whitestone** 146.37 11 P **PKPbc** **21 49 19.6 -0.6**
baz=338
I27K **Kandik River** 146.37 13 P **PKPbc** **21 49 19.9 -0.5**
baz=333,SNR=5.4
J25K **Salcha River,** 146.42 17 P **PKPbc** **21 49 20.5 0.0**
baz=326,SNR=6.3
N19K **Bonanza Creek** 146.44 27 P **PKPbc** **21 49 20.6 -0.2**
baz=310
EPYK **Eagle Plains** 146.46 9 P **PKPbc** **21 49 20.3 -0.2**
baz=340
P17K **Kvichak River** 146.65 30 P **PKPbc** **21 49 20.3 -0.9**
baz=305
SDPT **Sand Point** 146.69 38 P **PKPdf** **21 49 20.4 +0.7**
baz=295
SKT **Skwentna** 146.70 24 P **PKPbc** **21 49 20.9 -0.5**
baz=315
S14K **Fog Glacier** 146.74 36 P **PKPdf** **21 49 20.6 +0.6**
baz=298
O18K **Koktuh Hills** 146.76 29 P **PKPdf** **21 49 20.1 +0.2**
baz=308
I28M **Miner Creek** 146.82 12 P **PKPbc** **21 49 21.5 -0.2**
baz=335
J26L **Joseph Creek** 146.93 16 P **PKPbc** **21 49 22.2 +0.2**
baz=329,SNR=7.3
K24K **Donnelly Dome** 146.99 18 P **PKPbc** **21 49 22.1 0.0**
baz=325
WAT1 **Susitna Watana** 147.01 21 P **PKPbc** **21 49 22.1 -0.2**
baz=320
SPCR **Spurr Chakacha** 147.01 25 P **PKPbc** **21 49 21.6 -0.7**
baz=313
N20K **Mount Spurr** 147.02 25 P **PKPbc** **21 49 22.2 -0.1**
baz=313
P18K **Big Mountain,** 147.04 29 P **PKPbc** **21 49 22.7 +0.3**
baz=307
DHY **Denali Highway** 147.15 20 P **PKPbc** **21 49 21.7 -1.0**
baz=322
EGAK **Eagle** 147.19 14 P **PKPbc** **21 49 23.0 +0.4**
baz=333
RIDG **Independent Ri** 147.28 17 P **PKPbc** **21 49 22.7 -0.2**
baz=326
SCRK **Sand Creek** 147.28 16 P **PKPbc** **21 49 22.8 -0.2**
baz=328
CHGN **Chignik** 147.29 36 P **PKPbc** **21 49 22.9 -0.2**
baz=299
H31M **Peel River** 147.30 8 P **PKPbc** **21 49 22.8 -0.2**
baz=344
M22K **Willow** 147.33 23 P **PKPbc** **21 49 23.4 +0.3**
baz=317
SUA **Susitna One** 147.33 24 P **PKPbc** **21 49 23.2 -0.1**
baz=316
CHNA **Chernabura Isl** 147.37 39 P **PKPbc** **21 49 22.8 -0.6**
baz=296
Q17K **Contact Creek** 147.42 31 P **PKPbc** **21 49 22.5 -1.1**
baz=305
WAT6 **Susitna Watana** 147.44 20 P **PKPbc** **21 49 23.2 -0.4**
baz=321
R17L **Mt. Peulik Vol** 147.57 33 P **PKPbc** **21 49 23.0 -0.9**
baz=303
Q18K **Katmai Hardscr** 147.57 30 P **PKPbc** **21 49 23.0 -1.0**
baz=306
I30M **Mount Dempster** 147.60 10 P **PKPbc** **21 49 24.3 +0.4**
baz=340
O20K **Slope Mountain** 147.62 27 P **PKPbc** **21 49 24.2 +0.2**
baz=312
K27K **Chicken** 147.67 15 P **PKPbc** **21 49 24.1 +0.2**
baz=331
P19K **Oil Pt** 147.67 28 P **PKPbc** **21 49 22.9 -1.2**
baz=310
CAPN **Captain Cook N** 147.69 25 P **PKPdf** **21 49 22.5 +1.2**
baz=314
PAX **Paxson** 147.75 18 P **PKPbc** **21 49 23.8 -0.5**
baz=325
PMR **Palmer** 147.77 23 P **PKPbc** **21 49 23.9 -0.4**
baz=318
RC01 **Rabbit Creek A** 147.94 24 P **PKPbc** **21 49 24.5 -0.3**
baz=317
M23K **Glacier View** 148.05 21 P **PKPbc** **21 49 25.4 +0.3**
baz=320
KNK **Knik Glacier** 148.12 22 P **PKPbc** **21 49 25.1 -0.1**
baz=319
SCM **Sheep Creek Mo** 148.14 21 P **PKPbc** **21 49 26.1 +0.7**
baz=321
DAWY **Dawson** 148.17 13 P **PKPbc** **21 49 25.4 +0.1**
baz=335
J30M **Hart River** 148.21 10 P **PKiKP** **21 49 26.5 -0.8**
baz=340
L26K **Log Cabin Wild** 148.24 17 P **PKiKP** **21 49 26.7 -0.6**
baz=328
HARP **HAARP** 148.31 19 P **PKPbc** **21 49 26.1 +0.4**
baz=325
O22K **Cooper Landing** 148.39 24 P **PKPbc** **21 49 26.1 +0.2**
baz=316
R18K **Karluk** 148.45 32 P **PKPbc** **21 49 26.5 +0.3**
baz=306
BRSE **Bradley Lake S** 148.55 26 P **PKPbc** **21 49 26.9 +0.5**
baz=314
L27K **Beaver Creek,** 148.57 16 P **PKiKP** **21 49 27.7 -0.3**
baz=330
PWL **Port Wells** 148.57 23 P **PKPbc** **21 49 26.6 +0.2**
baz=318
Q20K **Shuyak Island** 148.67 29 P **PKiKP** **21 49 27.6 -0.6**
baz=310
K29M **Barlow Dome** 148.71 12 P **PKiKP** **21 49 27.5 -0.8**
baz=338
SEW **Seward** 148.75 25 P **PKiKP** **21 49 28.0 -0.3**
baz=316
M26K **Nabesna, AK** 148.86 17 P **PKiKP** **21 49 28.2 -0.3**
baz=328
CHIR **Chirikof Islan** 148.89 35 P **PKiKP** **21 49 28.8 0.0**
baz=302
N25K **Chitina, Valde** 149.11 19 P **PKiKP** **21 49 28.7 -0.4**
baz=325
M27K **Edge Creek, AK** 149.17 16 P **PKiKP** **21 49 28.4 +0.3**
baz=330
L29M **L29M** 149.28 13 P **PKPbc** **21 49 28.6 +0.3**
baz=336
P23K **Montague Islan** 149.53 23 P **PKPbc** **21 49 28.7 -0.1**
baz=319
EYAK **Cordova Ski Ar** 149.63 21 P **PKPbc** **21 49 29.2 +0.2**
baz=322
BMRM **Bremner River** 149.63 20 P **PKiKP** **21 49 29.9 -0.3**
baz=324
MCARA **McCarthy VSAT** 149.72 18 P **PKiKP** **21 49 30.3 0.0**
baz=327
M29M **Somme Creek** 149.83 14 P **PKPbc** **21 49 29.5 -0.1**
baz=335
M30M **Minto, Yukon** 150.01 12 P **PKPbc** **21 49 29.8 -0.2**
baz=338
CRQE **Cirque** 150.23 19 P **PKPbc** **21 49 30.0 -0.7**
baz=326
CTG **Chitna Glacier** 150.50 17 P **PKPbc** **21 49 31.1 -0.2**
baz=329
WRGLY **Wrigley** 150.51 360 P **PKiKP** **21 49 32.1 +0.2**
baz=0.6
KAIM **Kayak Island** 150.53 21 P **PKPbc** **21 49 30.7 -0.5**
baz=324
YUK8 **Steele Glacier** 150.60 16 P **PKiKP** **21 49 32.5 +0.1**
baz=332
YKA **Yellowknife Ar** 150.66 351 PKPbc **PKPbc** **21 49 31.7 +0.2**
comp=Z,7.6nm,0.9s,baz=12,slow=2.9,SNR=11
MMPY **Sheldon Lake,** 150.74 7 P **PKiKP** **21 49 33.0 +0.5**
baz=347
M31M **Drury Creek, Y** 150.75 10 P **PKiKP** **21 49 32.8 +0.3**
baz=342
YUK4 **Talbot Arm** 150.79 15 P **PKiKP** **21 49 33.2 +0.4**
baz=334
O28M **Mount Upton** 150.95 17 P **PKiKP** **21 49 33.4 +0.2**
baz=331
N30M **Aishikik Lake** 150.99 13 P **PKPbc** **21 49 32.6 +0.2**
baz=337
MESA **MESA** 151.02 19 P **PKPbc** **21 49 32.9 +0.2**
baz=328
N31M **Braeburn, Yuko** 151.21 12 P **PKiKP** **21 49 33.8 +0.4**
baz=339
YUK6 **Outpost Mounta** 151.21 15 P **PKiKP** **21 49 33.6 -0.1**
baz=334
HYT **Haines Junctio** 151.50 14 P **PKiKP** **21 49 34.5 +0.3**
baz=336
PINM **Pinnacle** 151.53 17 P **PKiKP** **21 49 34.3 +0.1**
baz=330
O29M **Mount Kennedy** 151.74 16 P **PKiKP** **21 49 34.5 -0.2**
baz=333
O30N **Mendenhall** 151.82 13 P **PKiKP** **21 49 34.8 +0.1**
baz=338
N32M **Quiet Lake** 151.94 10 P **PKiKP** **21 49 35.4 +0.4**
baz=344
TGTN **Hyland Airport** 152.07 5 P **PKiKP** **21 49 35.3 +0.1**
baz=352
PNL **Peninsula** 152.11 17 P **PKiKP** **21 49 35.2 -0.1**
baz=332
WHY **Whitehorse** 152.14 12 P **PKiKP** **21 49 36.2 +0.8**
baz=340
P30M **Million Dollar** 152.25 14 P **PKiKP** **21 49 36.4 +0.8**
baz=336
P29M **Windy Craggy** 152.53 15 P **PKiKP** **21 49 37.2 +1.0**
baz=334
P33M **Teslin, Yukon** 152.88 10 P **PKiKP** **21 49 37.8 +0.8**
baz=343
PLBC **Pleasant Camp** 152.98 14 P **PKiKP** **21 49 37.9 +0.9**
baz=337
SKAG **Skagway** 153.18 13 P **PKiKP** **21 49 38.3 +0.9**
baz=338
P32M **Atlin** 153.34 11 P **PKiKP** **21 49 38.4 +0.6**
baz=341
R33M **Jennings River** 153.92 8 P **PKiKP** **21 49 40.6 +1.4**
baz=346
TOAD **Toad River Com** 154.88 2 P **PKiKP** **21 49 42.1 +1.0**
baz=357

TXAR	**Lajitas Array**	**162.28**	**261**	PKP	**PKPdf**	**21 49 41.5**	**-0.8**
	comp=Z,1.1nm,1.0s,baz=135,slow=0.4,SNR=3.6						
TXAR				PKPab	**pPKPab**	**21 50 31.0**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=94,slow=5.0,SNR=1.7						
PDAR	**Pinedale Array**	**165.66**	**313**	PKP	**PKPdf**	**21 49 44.4**	**-0.7**
	comp=Z,1.1nm,1.0s,baz=59,slow=4.0,SNR=4.1						
PDAR				PKPab	**PKPab**	**21 50 44.0**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=21,slow=3.5,SNR=1.5						

PRU 24 21:37:43.7, 50˚37N × 18˚81E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRLC	**Kraliky**	**1.34**	**258**	*e*SG	Sg	21 38 25.1	-1.5
DPC	**Dobruska-Polom**	**1.59**	**270**	*e*PG	Pn	21 38 12.5	-0.7
DPC				*e*SG	Sn	21 38 34.0	-0.5
DPC	**Dobruska-Polom**	**1.59**	**270**	*e*P	Pn	21 38 12.5	-0.7

IDC 24 21:45:33.0±2.5, 6˚15S × 129˚84E, h0km, mb3.5/1, mbtmp3.7/4, ML3.9/3, Error ellipse: s-maj=94.7km s-min=30.8km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.56**	**199**	Pn	Pn	21 48 34.3	+1.2
	0.5nm,0.3s,baz=27,slow=13,SNR=23						
FITZ				Sn	Sn	21 50 45.3	-8.6
	0.4nm,0.3s,baz=254,slow=19,SNR=3.1						
	2.5nm,0.4s						
WRA	**Warramunga Arr**	**14.39**	**163**	Pn	Pn	21 48 56.6	-1.6
	0.5nm,0.3s,baz=343,slow=13,SNR=12						
WRA				Sn	Sn	21 51 25.1	-14
	0.9nm,0.3s,baz=337,slow=22,SNR=7.5						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**17.85**	**168**	Pn	Pn	21 49 43.1	+0.2
	0.3nm,0.3s,baz=350,slow=12,SNR=12						
ASAR				Sn	Sn	21 52 48.9	-14
	0.2nm,0.3s,baz=356,slow=28,SNR=4.6						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**67.43**	**327**	P	P	21 56 30.4	0.0
	0.2nm,0.5s,baz=115,slow=6.5,SNR=2.5						
	0.2nm,0.5s						

IDC 24 21:56:10.8±2.3, 13˚27S × 167˚47E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=69.3km s-min=48.9km az=155.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.10**	**228**	P	P	22 02 23.3	+1.1
	1.7nm,0.4s,baz=47,slow=13,SNR=6.1						
	1.7nm,0.4s						
ASAR	**Alice Springs**	**33.40**	**247**	P	P	22 02 50.5	-0.8
	0.7nm,0.5s,baz=74,slow=9.7,SNR=14						
	0.7nm,0.5s						
QSPA	**South Pole Qui**	**76.75**	**180**	P	P	22 08 03.5	-0.5
	0.8nm,1.0s,baz=70,slow=3.8,SNR=1.7						
	0.8nm,1.0s						
ARCES	**ARCESS Array B**	**118.89**	**346**	PKP	PKiKP	22 15 01.0	+0.2
	1.8nm,0.8s,baz=51,slow=2.2,SNR=1.6						

*IDC **24** 21:58:28.4±6.0, 8˚21N × 58˚48E, h0km, mb3.8/8, mbtmp3.8/8, MS4.6/1, Error ellipse: s-maj=133.4km s-min=36.4km az=169.0*

ISC 24 21:58:30.1±5.5, 8˚2N ± 0˚8 × 58˚5E ± 0˚3, h10km, n8, σ0s51/8, mb3.8/8, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**38.45**	**329**	P	**P**	**22 05 52.5**	**+0.1**
	1.7nm,1.1s,baz=141,slow=8.0,SNR=4.0						
BRTR				LR	LR	22 22 55.1	
	comp=Z,991nm,21.9s,baz=136,slow=38						
	1.7nm,1.1s						
MKAR	**Makanchi Array**	**43.49**	**24**	P	**P**	**22 06 33.8**	**+0.1**
	2.4nm,1.3s,baz=212,slow=5.1,SNR=3.5						
	2.4nm,1.3s						
KURBB	**Kurchatov Arra**	**45.43**	**18**	P	**P**	**22 06 48.7**	**-0.3**
	0.5nm,0.6s,baz=220,slow=7.8,SNR=5.5						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**45.71**	**10**	P	**P**	**22 06 51.8**	**+0.5**
	0.5nm,0.6s,baz=207,slow=9.1,SNR=2.9						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**50.29**	**20**	P	**P**	**22 07 25.8**	**-0.9**
	1.4nm,0.6s,baz=227,slow=8.5,SNR=7.4						
	1.4nm,0.6s						
SONM	**Songino Array**	**56.50**	**37**	P	**P**	**22 08 13.0**	**+0.3**
	0.3nm,0.3s,baz=251,slow=9.0,SNR=1.4						
	0.3nm,0.3s						
HFS	**Hagfors**	**61.66**	**336**	P	**P**	**22 08 48.0**	**-0.1**
	0.9nm,0.6s,baz=132,slow=8.6,SNR=1.8						
	0.9nm,0.6s						
ESDC	**Sonseca Array**	**63.66**	**310**	P	**P**	**22 09 01.8**	**-0.1**
	0.9nm,0.9s,baz=100,slow=6.7,SNR=4.8						
	0.9nm,0.9s						

*NEIC **24** 22:03:38.8±2.5, 19˚32N ± 0˚07 × 66˚47W ± 0˚04, h35km ± 2km, ML3.5/17, Md3.4/13(RSPR), Error ellipse: s-maj=12.0km s-min=6.0km az=192.0*

*RSPR **24** 22:03:43.2, 19˚14N × 66˚47W, h24km ± 17km, MD3.4/13*

ISC 24 22:03:38.4±2.3, 19˚30N ± 0˚09 × 66˚53W ± 0˚05, h34km ± 3km, n52, σ1s34/63, 13C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**0.82**	**180**	Pn	**Pb**	**22 03 54.7**	**+0.4**
EMPR				Sn	**Sb**	**22 04 03.9**	**-1.2**
EMPR	**Esperanza - Ma**	**0.82**	**180**	*e*P	**Pb**	**22 03 54.8**	**+0.4**
EMPR	**Esperanza - Ma**	**0.82**	**180**	*e*S	**Sb**	**22 04 03.7**	**-1.4**
AOPR	**Arecibo Observ**	**0.97**	**193**		**Pn**	**22 03 57.0**	**+1.4**
AOPR				Sn	**Sn**	**22 04 07.5**	**-0.8**
AOPR	**Arecibo Observ**	**0.97**	**193**	*e*P	**Pn**	**22 03 57.0**	**+1.4**
ECPR	**Experimental S**	**0.99**	**171**	*e*P	**Pn**	**22 03 56.7**	**+0.8**
ECPR	**Experimental S**	**0.99**	**171**	*e*S	**Sn**	**22 04 07.1**	**-1.6**
AGPR	**Aguadilla, PR**	**0.99**	**214**		**Pn**	**22 03 56.5**	**+0.5**
AGPR					**Sn**	**22 04 09.1**	**+0.3**
AGPR	**Aguadilla, PR**	**0.99**	**214**	*e*P	**Pn**	**22 03 56.5**	**+0.5**
AGPR	**Aguadilla, PR**	**0.99**	**214**	*e*S	**Sn**	**22 04 09.1**	**+0.3**
UUPR	**Utuado, UPR, P**	**1.06**	**190**	Pn	**Pn**	**22 03 58.1**	**+1.2**
UUPR				Sn	**Sn**	**22 04 09.6**	**-0.8**
UUPR	**Utuado, UPR, P**	**1.06**	**190**	*e*P	**Pn**	**22 03 58.0**	**+1.2**
UUPR	**Utuado, UPR, P**	**1.06**	**190**	*e*S	**Sn**	**22 04 09.6**	**-0.8**
GCPR	**Guaynabo City**	**1.07**	**157**		**Pn**	**22 03 57.6**	**+0.6**
GCPR					**Sn**	**22 04 09.1**	**-1.6**
GCPR				IAML		22 04 10.4	
	comp=N,760nm,0.3s						
GCPR	**Guaynabo City**	**1.07**	**157**	*e*P	**Pn**	**22 03 57.7**	**+0.6**
GCPR	**Guaynabo City**	**1.07**	**157**	*e*S	**Sn**	**22 04 09.1**	**-1.6**
CELP	**Cerrillos**	**1.22**	**182**		**Pn**	**22 04 00.3**	**+1.2**
CELP					**Sn**	**22 04 13.9**	**-0.5**
CELP				IAML		22 04 14.4	
	comp=N,847nm,0.3s						
CELP	**Cerrillos**	**1.22**	**182**	*e*P	**Pn**	**22 04 00.3**	**+1.2**
CELP	**Cerrillos**	**1.22**	**182**	*e*S	**Sn**	**22 04 13.6**	**-0.8**
PRSN	**Puerto Rico Se**	**1.23**	**209**		**Sn**	**22 04 14.2**	**-0.3**
PRSN	**Puerto Rico Se**	**1.23**	**209**	Pn	**Pn**	**22 03 60.0**	**+0.8**
PRSN	**Puerto Rico Se**	**1.23**	**209**	*e*P	**Pn**	**22 04 00.5**	**+1.3**
PRSN	**Puerto Rico Se**	**1.23**	**209**	*e*S	**Sn**	**22 04 14.2**	**-0.3**
SJG	**San Juan**	**1.23**	**163**		**Pn**	**22 04 00.1**	**+0.8**
SJG				Sn	**Sn**	**22 04 13.7**	**-1.0**
SJG				IAML		22 04 15.0	
	comp=N,823nm,0.3s						
SJG				IAML		22 04 16.1	
	comp=N,635nm,0.4s						
SJG	**San Juan**	**1.23**	**163**	*e*P	**Pn**	**22 04 00.1**	**+0.8**
SJG	**San Juan**	**1.23**	**163**	*e*S	**Sn**	**22 04 13.7**	**-1.0**
LSP	**Las Mesas**	**1.24**	**205**		**Pn**	**22 04 01.1**	**+1.7**
LSP					**Sn**	**22 04 15.6**	**+0.8**
LSP	**Las Mesas**	**1.24**	**205**	*e*P	**Pn**	**22 04 01.1**	**+1.7**
LSP	**Las Mesas**	**1.24**	**205**	*e*S	**Sn**	**22 04 15.6**	**+0.8**
OBIP	**Obispado Ponce**	**1.25**	**183**		**Pn**	**22 04 00.8**	**+1.3**
OBIP					**Sn**	**22 04 14.7**	**-0.4**
OBIP				IAML		22 04 15.4	
	comp=N,728nm,0.4s						
OBIP				IAML		22 04 16.1	
	comp=E,779nm,0.4s						
OBIP	**Obispado Ponce**	**1.25**	**183**	*e*P	**Pn**	**22 04 00.8**	**+1.3**
OBIP	**Obispado Ponce**	**1.25**	**183**	*e*S	**Sn**	**22 04 14.5**	**-0.7**
IDE	**Isla Desecheo**	**1.28**	**225**		**Pn**	**22 03 58.6**	**-1.2**
IDE	**Isla Desecheo**	**1.28**	**225**	*e*P	**Pn**	**22 03 58.6**	**-1.2**
IDE	**Isla Desecheo**	**1.28**	**225**	*e*S	**Sn**	**22 04 10.5**	**-5.3**
HUMP	**Col San Antoni**	**1.32**	**151**		**Pn**	**22 04 01.2**	**+0.8**
GBPR	**Guanica, Bosqu**	**1.36**	**194**		**Pn**	**22 04 02.8**	**+1.8**
GBPR	**Guanica, Bosqu**	**1.36**	**194**	*e*P	**Pn**	**22 04 02.8**	**+1.8**
PDPR	**Patillas Dam,**	**1.36**	**159**		**Pn**	**22 04 02.0**	**+0.9**
PDPR				IAML		22 04 17.9	
	comp=E,659nm,0.2s						
PDPR				IAML		22 04 21.8	
	comp=N,729nm,0.1s						
PDPR	**Patillas Dam,**	**1.36**	**159**	*e*P	**Pn**	**22 04 02.1**	**+1.1**
PDPR	**Patillas Dam,**	**1.36**	**159**	*e*S	**Sn**	**22 04 16.7**	**-1.1**
IGPR	**InterUniversit**	**1.39**	**163**		**Pn**	**22 04 02.4**	**+1.1**
IGPR					**Sn**	**22 04 17.6**	**-0.9**
IGPR	**InterUniversit**	**1.39**	**163**	*e*P	**Pn**	**22 04 02.4**	**+1.1**
IGPR	**InterUniversit**	**1.39**	**163**	*e*S	**Sn**	**22 04 17.6**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.40**	**203**		**Pn**	**22 04 03.6**	**+2.1**
CRPR					**Sn**	**22 04 19.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.40**	**203**	*e*P	**Pn**	**22 04 03.6**	**+2.1**
CRPR	**Cabo Rojo, PR**	**1.40**	**203**	*e*S	**Sn**	**22 04 18.7**	**-0.1**
MLPR	**Magueyes Islan**	**1.41**	**200**	*e*P	**Pn**	**22 04 03.6**	**+2.0**
MLPR	**Magueyes Islan**	**1.41**	**200**	*e*S	**Sn**	**22 04 19.3**	**+0.2**
BANI	**BANI**	**3.74**	**257**	Pn	**Pn**	**22 04 34.6**	**+0.8**
SC01	**Santiago de lo**	**3.97**	**273**	Pn	**Pn**	**22 04 38.7**	**+1.8**
SDDR	**Presa de Saban**	**4.51**	**267**		**Pn**	**22 04 44.7**	**+0.3**
SDDR				IAML		22 06 07.2	
	comp=N,48nm,0.9s						

*FUNV **24** 22:04:22.4, 10˚89N × 61˚90W, h30km, MW3.5*
*TRN **24** 22:04:23.3, 11˚07N × 61˚76W, h12km, MD3.0, North-west of Trinidad.*

ISC 24 22:04:21.1±1.4, 10˚90N ± 0˚06 × 62˚03W ± 0˚07, h27km ± 18km, n13, σ1s02/22, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DMDM	**Guralp CMG5TDE**	**0.51**	**113**	*e*P	**Pb**	**22 04 31.9**	**+0.3**
DMDM				*e*S	**Sb**	**22 04 38.6**	**0.0**
PSMG	**Mucurapo Girls**	**0.54**	**115**	*e*P	**Pb**	**22 04 32.1**	**+0.1**
PSMG				*e*S	**Sb**	**22 04 39.2**	**-0.3**
PSGH	**Port of Spain**	**0.56**	**115**	*e*P	**Pb**	**22 04 32.2**	**0.0**
PSGH				*e*S	**Sb**	**22 04 39.7**	**-0.5**
TRN	**Trinidad (W)**	**0.66**	**112**	*e*P	**Pb**	**22 04 33.6**	**-0.5**
TRN				*e*S	**Sb**	**22 04 41.5**	**-1.5**
TBH	**Brigand Hill**	**1.03**	**114**	*e*P	**Pb**	**22 04 41.3**	**+1.0**
TBH				*e*S	**Sb**	**22 04 54.1**	**+0.6**
GRFF	**Grenada Fort F**	**1.18**	**14**	*e*P	**Pn**	**22 04 42.2**	**+0.4**
GRFF				*e*S	**Sb**	**22 04 57.4**	**-0.3**
GRGR	**Grenville**	**1.28**	**17**	*e*P	**Pn**	**22 04 43.3**	**+0.1**
GRGR				*e*S	**Sn**	**22 04 59.6**	**+0.2**
GRHS	**Sauteurs**	**1.37**	**16**	*e*P	**Pn**	**22 04 44.6**	**+0.2**
GRHS				*e*S	**Sn**	**22 05 01.4**	**-0.2**
GCMP	**Grenada, Carri**	**1.68**	**20**	*e*P	**Pn**	**22 04 48.9**	**+0.1**
GCMP				*e*S	**Sn**	**22 05 09.2**	**-0.1**
PCRV	**Puerto La Cruz**	**2.66**	**255**	*e*P	**Pn**	**22 05 04.0**	**+1.8**
PCRV				*e*S	**Sn**	**22 05 33.2**	**-0.5**
CACV	**CAICARA DEL OR**	**5.55**	**234**	*e*P	Pn	22 05 37.2	-4.8
CACV				*e*S	Sn	22 06 32.8	-12
BAUV	**El Baul**	**6.24**	**252**	*e*P	**Pn**	**22 05 52.2**	**+0.9**
BAUV				*e*S	**Sn**	**22 06 58.6**	**-3.2**
BAUV	**El Baul**	**6.24**	**252**	*e*P	Pb	22 06 01.2	-7.8

HEL 24 22:10:49.1±0.2, 67˚16N × 20˚66E, h0km, ML1.4, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERTU	**Ertsjaerv**	**0.86**	**135**	PG	Pg	22 11 04.3	-1.3
	baz=318						
ERTU				SB	Sg	22 11 16.8	+0.2
PAJU	**Pajala**	**0.97**	**97**	PG	Pg	22 11 06.5	-1.1
PAJU				SB	Sg	22 11 20.0	-0.2
LANU	**Lannavaara**	**1.02**	**29**	PG	Pg	22 11 07.5	-1.2
LANU				SB	Sg	22 11 21.2	-0.8
HEF	**Hetta**	**1.69**	**41**	*e*P	Pn	22 11 18.6	-1.2
HEF	**Hetta**	**1.69**	**41**	PG	Pn	22 11 19.3	-0.6
	baz=222						
HEF				MSG		22 11 39.6	
	comp=Z,2.7nm,0.2s						
HEF				SG	Sn	22 11 40.8	-1.4
KALU	**Kalix**	**1.70**	**139**	PG	Pn	22 11 19.7	-0.2
KALU				SN	Sb	22 11 43.0	+0.1
TOF	**Tornio**	**1.82**	**125**	PG	Pn	22 11 21.8	+0.1
TOF				MSG		22 11 43.5	
	comp=Z,1.0nm,0.2s						
TOF				SG	Sb	22 11 46.7	+0.1
KIF	**Kilpisjarvi**	**1.85**	**2**	*e*P	Pb	22 11 22.9	-0.8
KIF	**Kilpisjarvi**	**1.85**	**2**	PG	Pb	22 11 22.9	-0.8
KIF				MSG		22 11 45.3	
	comp=Z,2.7nm,0.2s						
KIF				SG	Sb	22 11 47.6	+0.2
KTK1	**Kautokeino**	**2.09**	**26**	PG	Pb	22 11 26.8	-1.0
KTK1				SG	Sb	22 11 54.0	-0.4
RANF	**Ranua**	**2.70**	**112**	PB	Pb	22 11 36.2	-2.0
RANF				SG	Sb	22 12 12.9	+1.0
ARA0	**ARCESS Array S**	**2.98**	**35**	SB	Sn	22 12 15.3	+1.3
KEV	**Kevo**	**3.50**	**39**	SN	Sn	22 12 26.1	-0.6

*LDG **24** 22:11:02.7±0.1, 42˚16N × 5˚05E, h11km, Ml2.8/20, Error ellipse: s-maj=3.5km s-min=1.8km az=167.0*
*STR **24** 22:11:05.6±0.5, 42˚N ± 4˚ × ±˚, h15km, MLv2.6/14, LOCSAT earthModelID haslach_taup-2.11 preliminary*
*MDD **24** 22:11:06.9±0.4, 42.17N × 4.52E, h0km, mb_Lg2.4/17, Error ellipse: s-maj=4.4km s-min=2.4km az=153.0*

ISC 24 22:11:01.9±1.4, 42.20N ± 0.04 × 5.04E ± 0.03, h25km ± 15km, n72, σ1s53/114, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEPF	**PUYLOUBIER**	**1.41**	**20**	Pn	**Pn**	**22 11 27.0**	**+1.0**
LEPF				Sn	**Sn**	**22 11 44.4**	**+0.6**
FLAF	**Flassans-sur-l**	**1.48**	**37**	Pn	**Pb**	**22 11 29.7**	**+1.0**
ARTF	**Artigues**	**1.50**	**22**	Pn	**Pn**	**22 11 28.3**	**+1.1**
LMR	**La Mourre**	**1.57**	**43**	*e*Pn	**Pn**	**22 11 28.7**	**+0.6**
LMR				*e*Sn	**Sn**	**22 11 47.0**	**-0.6**
	21nm,0.2s						
EJON	**La Jonquera**	**1.62**	**280**	Pg	**Pn**	**22 11 28.8**	**0.0**
EJON				Sg	**Sn**	**22 11 46.8**	**-2.1**
EJON				*i* IVmb_Lg		22 11 49.0	
CLAF	**Gruissan**	**1.72**	**304**	Pn	**Pn**	**22 11 31.0**	**+0.8**
BSTF	**la Bastide-des**	**1.74**	**15**	Pn	**Pn**	**22 11 30.7**	**+0.1**
BSTF				Sn	**Sn**	**22 11 51.6**	**-0.3**
SAUF	**chteau de Sau**	**1.74**	**2**	Pn	**Pn**	**22 11 31.1**	**+0.6**
RUSF	**Rustrel**	**1.77**	**10**	Pn	**Pn**	**22 11 31.9**	**+1.0**
RUSF				Sn	**Sn**	**22 11 54.2**	**+1.5**
SMRF	**Simiane la Rot**	**1.82**	**12**	*e*Pn	**Pn**	**22 11 32.8**	**+1.1**
TRIGF	**Trigance**	**1.84**	**32**	Pn	**Pn**	**22 11 33.2**	**+1.1**
TRIGF				Sn	**Sb**	**22 11 57.0**	**-0.6**
MLYF	**Mely**	**1.86**	**16**	Pn	**Pn**	**22 11 33.3**	**+1.0**
FILF	**Fillols**	**1.87**	**282**	Pn	**Pb**	**22 11 34.7**	**-0.8**
FILF				Sn	**Sb**	**22 11 59.3**	**+0.8**
TRBF	**Trabuc cave**	**2.06**	**338**	Pn	**Pn**	**22 11 35.1**	**+0.1**
TRBF				Sn	**Sn**	**22 11 59.4**	**-0.5**
LASF	**Ste Croix**	**2.07**	**336**	*e*Pn	**Pn**	**22 11 34.9**	**-0.2**
LASF				*e*Sn	**Sn**	**22 11 59.9**	**-0.1**
	13nm,0.4s						
SALSA	**La sagne**	**2.07**	**35**	Pn	**Pn**	**22 11 36.3**	**+1.1**
CALF	**Calern**	**2.08**	**41**	Pn	**Pn**	**22 11 37.1**	**+1.8**
CALF				Sn	**Sb**	**22 12 03.0**	**-1.4**
LAJAS	**L'Hospitalet-d**	**2.22**	**324**	Pn	**Pn**	**22 11 37.7**	**+0.6**
LAJAS				Sn	**Sn**	**22 12 04.4**	**+0.6**
VALC	**Valcebollere**	**2.23**	**276**	Pn	**Pn**	**22 11 38.6**	**+1.2**
VALC				Sn	**Sn**	**22 12 06.3**	**+1.9**
CARF	**Carcanieres**	**2.23**	**284**	Pn	**Pn**	**22 11 38.3**	**+0.9**
CARF				Sn	**Sn**	**22 12 06.0**	**+1.7**
FNEB	**Nbias**	**2.28**	**289**	Pn	**Pn**	**22 11 38.2**	**+0.2**
FNEB				Sn	**Sn**	**22 12 06.5**	**+1.2**
ENAUX	**Enaux**	**2.29**	**33**	Pn	**Pn**	**22 11 40.3**	**+2.1**
ENAUX				Sn	**Sn**	**22 12 08.5**	**+2.8**
MVIF	**Mont Vial**	**2.29**	**42**	Pn	**Pn**	**22 11 40.8**	**+2.5**
MVIF				Sn	**Sb**	**22 12 08.9**	**-1.8**
MTLF	**Montolieu**	**2.37**	**300**	*e*Pn	**Pn**	**22 11 39.6**	**+0.4**
MTLF	**Montolieu**	**2.37**	**300**	Pn	**Pn**	**22 11 39.8**	**+0.6**
MTLF				Sn	**Sn**	**22 12 08.5**	**+1.0**
SBF	**Sospel**	**2.42**	**46**	*e*Pn	**Pn**	**22 11 40.3**	**+0.4**
SBF				*e*Sn	**Sn**	**22 12 07.7**	**-1.0**
	14nm,0.3s						
SPIF	**crte de Spivo**	**2.45**	**40**	Pn	**Pn**	**22 11 41.9**	**+1.4**
ISO	**Isola**	**2.47**	**36**	Pn	**Pn**	**22 11 41.6**	**+1.0**
TURF	**col de Turini**	**2.47**	**43**	Pn	**Pn**	**22 11 42.6**	**+1.9**
DUNF	**Dun**	**2.52**	**290**	Pn	**Pn**	**22 11 42.3**	**+1.0**
JAUF	**Jausiers**	**2.55**	**29**	Pn	**Pn**	**22 11 43.7**	**+1.8**
JAUF				Sn	**Sn**	**22 12 14.4**	**+2.2**
SAOF	**Saorge**	**2.56**	**45**	Pn	**Pn**	**22 11 44.5**	**+2.6**
PAND	**Andorre**	**2.61**	**278**	Pn	**Pn**	**22 11 44.4**	**+1.7**
PAND				Sn	**Sn**	**22 12 15.6**	**+1.9**
CREF	**Crivoux**	**2.62**	**26**	Pn	**Pn**	**22 11 44.9**	**+2.1**
SURF	**Saint Ours**	**2.62**	**29**	Pn	**Pn**	**22 11 44.9**	**+2.0**
VIVF	**Saint-Julien-l**	**2.67**	**354**	*e*Pn	**Pn**	**22 11 43.9**	**+0.5**
VIVF				*e*Sn	**Sn**	**22 12 12.2**	**-2.7**
ORIF	**Oris-en-Rattie**	**2.79**	**12**	*e*Pn	**Pn**	**22 11 46.5**	**+1.5**
MBDF	**Montbardon**	**2.82**	**26**	*e*Pn	**Pn**	**22 11 47.0**	**+1.4**
SLVF	**La Salvetat-Pe**	**2.90**	**314**	Pn	**Pn**	**22 11 47.1**	**+0.7**
SLVF				Sn	**Sn**	**22 12 21.0**	**+0.6**
SALF	**Salau**	**2.91**	**282**	Pn	**Pn**	**22 11 48.4**	**+1.8**
SALF				Sn	**Sn**	**22 12 23.1**	**+2.4**
PGF	**Pioggiola**	**2.95**	**82**	*e*Pn	**Pn**	**22 11 47.2**	**-0.1**
PGF				*e*Sn	**Sn**	**22 12 18.2**	**-3.8**
	18nm,0.2s						
ETOS	**Mallorca**	**2.96**	**216**	*i* IVmb_Lg		22 11 43.3	
ETOS				Pn	**Pn**	**22 11 48.3**	**+1.0**
ETOS				Sn	**Sn**	**22 12 21.5**	**-0.5**
MLS	**Moulis**	**3.01**	**286**	Pn	**Pn**	**22 11 49.4**	**+1.4**
MLS				Sn	**Sn**	**22 12 25.3**	**+1.9**
EPOB	**Poblet**	**3.08**	**255**	Pn	**Pn**	**22 11 50.8**	**+1.8**
EPOB				*i* IVmb_Lg		22 11 51.8	
EPOB				Sn	**Sn**	**22 12 25.9**	**+0.8**
SSB	**Saint Sauveur**	**3.10**	**353**	Pn	**Pn**	**22 11 50.0**	**+0.7**
LEUC	**Leucamp**	**3.13**	**326**	Pn	**Pn**	**22 11 50.6**	**+0.8**
LEUC				Sn	**Sn**	**22 12 26.8**	**+0.4**
MELF	**Melles**	**3.24**	**283**	Pn	**Pn**	**22 11 52.6**	**+1.4**
LBL	**Lubilhac**	**3.30**	**337**	Pn	**Pn**	**22 11 52.8**	**+0.8**
OGSM	**Saint Maurice**	**3.44**	**8**	Pn	**Pn**	**22 11 54.7**	**+0.8**
CAF	**Calviac**	**3.48**	**323**	*e*Pn	**Pn**	**22 11 55.1**	**+0.6**
CRAS	**Crastes**	**3.51**	**297**	Pn	**Pn**	**22 11 56.3**	**+1.4**
MONQ	**Montcuq**	**3.55**	**309**	Pn	**Pn**	**22 11 56.5**	**+1.1**
EPF	**Esparros**	**3.57**	**285**	*e*Pn	**Pn**	**22 11 55.7**	**0.0**
EPF				*e*Sn	**Sn**	**22 12 32.9**	**-4.2**
	2.2nm,0.3s						
FRNF	**Fournols**	**3.66**	**331**	Pn	**Pn**	**22 11 57.7**	**+0.7**
FRNF				Sn	**Sn**	**22 12 39.2**	**-0.1**
ERTA	**Horta de San J**	**3.74**	**252**	Pn	**Pn**	**22 12 00.1**	**+2.0**
ERTA				Sn	**Sn**	**22 12 39.5**	**-1.9**
ERTA				*i* IVmb_Lg		22 12 45.8	
OG35	**Corcelles**	**3.86**	**5**	Pn	**Pn**	**22 12 00.7**	**+0.9**
PLDF	**La Plantade**	**3.91**	**345**	Pn	**Pn**	**22 12 01.0**	**+0.6**
VERF	**Verneugheol**	**4.00**	**333**	Pn	**Pn**	**22 12 01.9**	**+0.3**
RJF	**Les Rejaudoux**	**4.02**	**322**	*e*Pn	**Pn**	**22 12 02.7**	**+0.8**
RJF				*e*Sn	**Sn**	**22 12 46.8**	**-1.4**
	2.9nm,0.3s						
AGO	**Saint Agoulin**	**4.09**	**341**	Pn	**Pn**	**22 12 03.7**	**+0.8**
AGO				Sn	**Sn**	**22 12 50.7**	**+0.8**
REYF	**Montagne du Re**	**4.10**	**284**	Pn	**Pn**	**22 12 04.9**	**+1.8**
MLZA	**Monlezun-d-Arm**	**4.13**	**295**	Pn	**Pn**	**22 12 04.3**	**+1.0**
LFF	**La Frestale**	**4.16**	**313**	*e*Pn	**Pn**	**22 12 04.9**	**+1.2**
LFF				*e*Sn	**Sn**	**22 12 49.6**	**-1.9**
	3.8nm,0.3s						
ETSF	**Etsaut**	**4.20**	**281**	*e*Pn	**Pn**	**22 12 06.7**	**+2.3**
ETSF				*e*Sn	**Sn**	**22 12 49.9**	**-2.7**
	1.6nm,0.3s						
SMF	**Signal de Mont**	**4.53**	**349**	*e*Pn	**Pn**	**22 12 09.8**	**+0.9**
SMF				*e*Sn	**Sn**	**22 12 58.3**	**-2.4**
	0.5nm,0.2s						
EMOS	**Mosqueruela**	**4.54**	**248**	Pn	**Pn**	**22 12 11.7**	**+2.5**
EMOS				Sn	**Sn**	**22 12 57.2**	**-4.1**
TCF	**Toulx Ste Croi**	**4.57**	**334**	*e*Pn	**Pn**	**22 12 10.2**	**+0.8**
TCF				*e*Sn	**Sn**	**22 12 59.3**	**-2.4**
	0.6

*IDC **24** 22:37:49.1±0.8, 13˚.22N×50˚.76E, h0km, mb3.8/14, mbtmp3.8/15, ML3.5/2, MS4.3/1, Error ellipse: s-maj=21.8km s-min=18.4km az=162.0*
*OMAN **24** 22:37:52.6±0.3, 13˚.59N×50˚.59E, h12km±3km, ml3.4/1, Error ellipse: s-maj=15.9km s-min=1.2km az=326.0*
ISC 24 22:37:52.4±0.7, **13˚.3N**±0.1×**50.74E**±0.09, **h21**km, **n23**, σ0§**95**/28, **mb3.9**/14, **Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**4.70**	**31**	P	**Pn**		**22 39 01.6**	**-0.5**
	SNR=11							
ABTO				S	**Sn**		**22 39 55.9**	**-0.2**
RBK	**Rabkut**	**5.33**	**38**	P	**Pn**		**22 39 10.7**	**0.0**
RBK				S	**Sn**		**22 40 11.9**	**+0.4**
WHFO	**Wadi Hawf**	**5.42**	**32**	P	**Pn**		**22 39 11.4**	**-0.6**
	SNR=15							
WHFO				S	**Sn**		**22 40 11.2**	**-2.6**
DMTO	**DMTO**	**5.95**	**42**	P	**Pn**		**22 39 18.9**	**-0.4**
	SNR=7.4							
DMTO				S	**Sn**		**22 40 28.1**	**+1.2**
DOK	**Doka**	**6.19**	**31**	P	**Pn**		**22 39 22.1**	**-0.4**
DOK				S	**Sn**		**22 40 30.9**	**-1.7**
ATD	**Arta Tunnel**	**7.92**	**258**	Pn	**Pn**		**22 39 45.9**	**-0.4**
	0.1nm,0.3s,baz=319,slow=4.5,SNR=11							
ATD	**Arta Tunnel**	**7.92**	**258**	P	**Pn**		**22 39 46.2**	**-0.2**
KMBO	**Kilima Mbogo**	**19.63**	**224**	P	**P**		**22 42 19.1**	**-0.8**
	0.7nm,0.3s,baz=209,slow=14,SNR=3.0 4.5nm,0.4s							
KBZ	**Khabaz**	**31.04**	**349**	P	**P**		**22 44 09.2**	**+0.6**
	1.3nm,0.8s,baz=245,slow=11,SNR=2.2 1.3nm,0.8s							
AKASG	**Malin Array Be**	**41.18**	**339**	P	**P**		**22 45 35.1**	**-0.2**
	0.2nm,0.3s,baz=139,slow=7.4,SNR=2.5 0.2nm,0.3s							
MKAR	**Makanchi Array**	**42.58**	**32**	P	**P**		**22 45 48.1**	**+1.3**
	0.4nm,0.5s,baz=217,slow=7.9,SNR=8.0							
MKAR				LR	LR		23 03 26.3	
	comp=Z,319nm,18.6s,baz=354,slow=36 0.4nm,0.5s							
BVAR	**Borovoye Array**	**42.58**	**17**	P	**P**		**22 45 47.7**	**+1.0**
	0.4nm,0.6s,baz=206,slow=5.9,SNR=3.5 0.4nm,0.6s							
CMAR	**Chiang Mai Arr**	**46.53**	**77**	P	**P**		**22 46 19.1**	**+0.3**
	1.8nm,0.3s,baz=274,slow=7.4,SNR=4.3 1.8nm,0.3s							
GERES	**GERESS Array B**	**46.75**	**327**	P	**P**		**22 46 20.3**	**+0.2**
	0.1nm,0.3s,baz=122,slow=9.3,SNR=2.0 0.1nm,0.3s							
TORD	**Torodi Ar. Bea**	**47.68**	**276**	P	**P**		**22 46 28.5**	**+0.7**
	1.3nm,0.7s,baz=82,slow=8.0,SNR=8.4 1.3nm,0.7s							
ZALV	**Zalesovo Beam**	**48.60**	**26**	P	**P**		**22 46 35.1**	**+0.8**
	0.8nm,0.6s,baz=238,slow=8.1,SNR=4.4 0.8nm,0.6s							
FINES	**FINESS Array B**	**51.25**	**345**	P	**P**		**22 46 52.4**	**-1.9**
	1.2nm,0.9s,baz=154,slow=7.7,SNR=3.6							
HFS	**Hagfors**	**54.05**	**338**	P	**P**		**22 47 15.7**	**+0.6**
	1.7nm,0.9s,baz=141,slow=14,SNR=2.0 1.7nm,0.9s							
ESDC	**Sonseca Array**	**54.57**	**309**	P	**P**		**22 47 20.1**	**+0.8**
	1.0nm,0.9s,baz=77,slow=6.5,SNR=6.5 1.0nm,0.9s							
SONM	**Songino Array**	**57.36**	**41**	P	**P**		**22 47 39.5**	**+0.2**
	0.4nm,0.4s,baz=243,slow=6.3,SNR=2.1 0.4nm,0.4s							
WRA	**Warramunga Arr**	**88.60**	**111**	P	**P**		**22 50 44.2**	**-0.2**
	0.9nm,0.7s,baz=301,slow=4.0,SNR=6.2 0.9nm,0.7s							
ASAR	**Alice Springs**	**89.15**	**114**	P	**P**		**22 50 46.5**	**-0.4**
	0.8nm,0.8s,baz=295,slow=5.5,SNR=7.4 0.8nm,0.8s							
SNAA	**Sanae**	**91.97**	**195**	P	**P**		**22 50 58.2**	**-0.8**
	0.9nm,1.0s,baz=283,slow=2.7,SNR=2.1 0.9nm,1.0s							

*IDC **24** 22:50:34.4±30.0, 36˚.04N×71˚.26E, h91km±181km, mb3.5/2, mbtmp3.6/5, ML3.0/3, MS3.7/1, Error ellipse: s-maj=274.1km s-min=87.6km az=3.0*
*NNC **24** 22:50:43.5±10.0, 36˚.80N×70˚.35E, h100km, mb3.3, mpv4.0, Error ellipse: s-maj=79.9km s-min=55.1km az=171.0*
ISC 24 22:50:41.4±2.3, **36˚.7N**±0.2×**70˚.7E**±0.1, **h100**km, **n15**, σ1§**69**/18, **1C-7D**, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.41**	**359**	⇓P	**Pn**		**22 52 14.7**	**+1.5**
	8.0nm,0.3s,baz=180,slow=13,SNR=422							
KK31				⇓S	**Sn**		**22 53 26.0**	**+1.1**
	1.6nm,0.2s,baz=189,slow=24,SNR=5.2							
EKS2	**Erkin-Say**	**6.41**	**21**	P	**Pn**		**22 52 14.0**	**+0.7**
	SNR=29							
AAK	**Ala-Archa**	**6.61**	**25**	P	**Pn**		**22 52 16.5**	**+0.4**
	SNR=8.4							
AAK	**Ala-Archa**	**6.61**	**25**	⇓P	**Pn**		**22 52 16.1**	**0.0**
	3.1nm,0.5s							
AAK				⇑S	**Sn**		**22 53 32.0**	**+2.1**
	2.4nm,0.5s							
CHMS	**Chumysh**	**7.02**	**25**	P	**Pn**		**22 52 22.3**	**+0.8**
	SNR=14							
USP	**Ospenovka**	**7.18**	**23**	P	**Pn**		**22 52 24.0**	**+0.3**
	SNR=19							
TKM2	**Tokmak 2**	**7.26**	**30**	P	**Pn**		**22 52 24.9**	**-0.1**
	SNR=7.9							
MKAR	**Makanchi Array**	**13.27**	**37**	P	**Pn**		**22 53 42.9**	**-2.8**
	0.1nm,0.3s,baz=216,slow=14,SNR=6.4 0.2nm,0.6s							
AB31	**Akbulak array**	**14.81**	**331**	⇓P	**Pn**		**22 54 06.4**	**+0.9**
	0.5nm,0.3s,baz=142,slow=13,SNR=32							
AB31				⇓S	**Sn**		**22 56 45.5**	**-3.2**
	2.6nm,0.8s,baz=154,slow=22,SNR=6.4							
KURBB	**Kurchatov Arra**	**15.01**	**19**	P	**Pn**		**22 54 08.4**	**+0.3**
	baz=207,slow=10,SNR=4.9 0.5nm,0.5s							
BVAR	**Borovoye Array**	**16.33**	**359**	P	**P**		**22 54 25.6**	**-0.1**
	0.1nm,0.3s,baz=172,slow=12,SNR=9.2 1.0nm,0.4s							
AKTO	**Aktyubinsk**	**16.51**	**330**	⇓P	**P**		**22 54 29.2**	**+1.6**
	0.9nm,0.7s							
AKTO				⇓S	**Sn**		**22 57 26.8**	**-2.9**
	1.7nm,0.9s							
ZALV	**Zalesovo Beam**	**19.83**	**25**	P	**P**		**22 55 02.1**	**-1.9**
	1.4nm,0.3s,baz=214,slow=10,SNR=10 1.4nm,0.3s							
ARTI	**Arti**	**21.39**	**341**	LR	LR		23 04 24.0	
	comp=Z,189nm,18.1s,baz=356,slow=38							
ARCES	**ARCESS Array B**	**40.88**	**338**	P	**P**		**22 58 13.4**	**+0.2**
	1.9nm,0.8s,baz=118,slow=7.7,SNR=1.4 1.9nm,0.8s							

*IDC **24** 22:55:01.0±1.0, 35˚.72N×28˚.29E, h0km, mb3.5/5, mbtmp3.4/14, ML3.0/6, Error ellipse: s-maj=19.8km s-min=14.5km az=178.0*
*GII **24** 22:55:00.8±0.0, 35˚.75N×28˚.21E, h8km, Mws3.6, confirmed*
*NIC **24** 22:55:01.0, 35˚.74N×28˚.21E, h0km±1km, Ml3.2/13*
*ISK **24** 22:55:02.8, 35˚.80N×28˚.22E, h7km, ML3.5/32*
*ATH **24** 22:55:02.3, 35˚.76N×28˚.26E, h5km±1km, ML3.4/11, Manual Solution by K.Orfanogiannaki First location: 2019/09/24 22:56:22, This location: 2020/10/06 09:36:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*AFAD **24** 22:55:02.4, 35˚.76N×28˚.11E, h23km±1km, MW3.7*
*THE **24** 22:55:03.1, 36˚.N±4˚×2˚.8E±˚, h0km, 8km, M3.3/5, MLh3.3/5*
ISC 24 22:55:02.4±1.2, **35˚.75N**±0.03×**28˚.23E**±0.02, **h7**km±8km, **n139**, σ1§**35**/179, **mb3.4**/4, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.47**	**350**	Pg	**Pg**		**22 55 10.9**	**-0.7**
ARG				Sg	**Sg**		**22 55 17.9**	**+0.2**
ARG	**Arkhangelos**	**0.47**	**350**	P	**Pg**		**22 55 10.7**	**-0.8**
ARG				S	**Sg**		**22 55 17.4**	**-0.3**
ARG	**Arkhangelos**	**0.47**	**350**	P	**Pg**		**22 55 10.8**	**-0.7**
ARG				S	**Sb**		**22 55 19.6**	**-0.6**
ARG				AML	AML		22 55 21.3	
	10nm,0.6s							
ARG				AML	AML		22 55 23.5	
	8.5nm,0.6s							
ARG	**Arkhangelos**	**0.47**	**350**	P	**Pg**		**22 55 10.8**	**-0.8**
ARG				S	**Sg**		**22 55 17.5**	**-0.2**
KARP	**Karpathos**	**0.89**	**257**	Pg	**Pb**		**22 55 20.4**	**+0.2**
KARP	**Karpathos**	**0.89**	**257**	P	**Pg**		**22 55 19.7**	**+0.2**
KARP				S	**Sb**		**22 55 32.2**	**-0.2**
KARP	**Karpathos**	**0.89**	**257**	P	**Pg**		**22 55 19.8**	**+0.3**
KARP				S	**Sb**		**22 55 32.5**	**+0.1**
KARP				AML	AML		22 55 37.2	
	5.1nm,0.8s							
KARP				AML	AML		22 55 39.7	
	4.2nm,0.8s							
KARP	**Karpathos**	**0.89**	**257**	P	**Pg**		**22 55 19.5**	**0.0**
KARP				S	**Sb**		**22 55 32.0**	**-0.4**
IZZE	**Mula-Seydike**	**1.06**	**49**	P	**Pn**		**22 55 23.4**	**-0.2**
IZZE				S	**Sn**		**22 55 39.8**	**+1.2**
DATC	**Datca-Mugla**	**1.11**	**336**	Pg	**Pb**		**22 55 23.5**	**-0.4**
DATC				Sg	**Sn**		**22 55 38.8**	**-1.0**
DAT	**Datca**	**1.11**	**332**	Pg	**Pb**		**22 55 23.6**	**-0.4**
YAZI	**Mula-Dat§a-**	**1.12**	**326**	P	**Pb**		**22 55 22.9**	**-1.2**
YAZI				S	**Sb**		**22 55 37.8**	**-1.1**
KSL	**Kastellorizon**	**1.17**	**70**	P	**Pg**		**22 55 25.4**	**+0.6**
KSL				S	**Sn**		**22 55 43.1**	**+1.8**
KSL	**Kastellorizon**	**1.17**	**70**	P	**Pn**		**22 55 24.7**	**-0.4**
KSL				AML	AML		22 55 47.6	
	2.3nm,0.9s							
KSL				AML	AML		22 55 50.5	
	1.8nm,0.9s							
KSL	**Kastellorizon**	**1.17**	**70**	P	**Pb**		**22 55 24.1**	**-0.8**
KSL				S	**Sb**		**22 55 39.1**	**-1.1**
AKAS	**Kas**	**1.21**	**66**	Pn	**Pg**		**22 55 26.3**	**+0.6**
SABU	**Mula-Dalaman**	**1.23**	**29**	P	**Pn**		**22 55 25.3**	**-0.7**
SABU				S	**Sg**		**22 55 42.2**	**+0.3**
NISR	**Nisiros**	**1.24**	**314**	P	**Pb**		**22 55 25.9**	**-0.2**
NISR				S	**Sg**		**22 55 42.5**	**+0.3**
NISR	**Nisiros**	**1.24**	**314**	P	**Pg**		**22 55 26.2**	**0.0**
NISR				S	**Sg**		**22 55 42.9**	**+0.6**
BDRM	**Kayabasi**	**1.46**	**334**	P	**Pn**		**22 55 28.8**	**-0.3**
BDRM				S	**Sb**		**22 55 48.0**	**-0.7**
CAME	**Cameli-Denizli**	**1.47**	**36**	Pn	**Pb**		**22 55 29.6**	**-0.6**
MULA	**Mugla, Merkez-**	**1.50**	**3**	P	**Pb**		**22 55 30.3**	**-0.4**
MULA				S	**Sg**		**22 55 53.9**	**+3.1**
KNIK	**Mula-Seydike**	**1.54**	**44**	P	**Pb**		**22 55 31.3**	**0.0**
KNIK				S	**Sg**		**22 55 54.1**	**+2.2**
YKAV	**Yalikavak-Bodr**	**1.57**	**331**	Pn	**Pb**		**22 55 31.1**	**-0.7**
DNZT	**Denizli-Tavas-**	**1.65**	**23**	P	**Pb**		**22 55 32.9**	**-0.4**
DNZT				S	**Sg**		**22 55 56.0**	**+0.4**
ELL	**Elmali**	**1.68**	**53**	Pn	**Pb**		**22 55 32.8**	**-0.9**
ELL	**Elmali**	**1.68**	**53**	P	**Pb**		**22 55 32.8**	**-0.9**
ELL				AML	AML		22 56 01.0	
	3.0nm,1.0s							
ELL				AML	AML		22 56 19.5	
	2.8nm,0.9s							
ZKR	**Zakros**	**1.76**	**249**	Pn	**Pb**		**22 55 34.7**	**-0.3**
ZKR	**Zakros**	**1.76**	**249**	P	**Pb**		**22 55 34.8**	**-0.2**
TAVA	**DENIZLI_Tavas**	**1.80**	**18**	P	**Pb**		**22 55 35.0**	**-0.8**
GOLH	**Golhisar**	**1.83**	**35**	P	**Pb**		**22 55 36.7**	**+0.5**
GOLH				S	**Sg**		**22 56 01.3**	**+0.1**
DDIM	**Aydin, Didim**	**1.88**	**335**	P	**Pn**		**22 55 34.1**	**-0.9**
DDIM				S	**Sb**		**22 55 59.4**	**-1.3**
APMY	**Acipayam-Deniz**	**1.92**	**26**	Pn	**Pn**		**22 55 36.2**	**+0.6**
AYDN	**Tasoluk**	**1.93**	**352**	P	**Pn**		**22 55 36.3**	**+0.7**
ESEN	**Aydn-Nazilli**	**2.05**	**3**	P	**Pb**		**22 55 38.9**	**-0.9**
NPS	**Neapolis**	**2.19**	**258**	P	**Pb**		**22 55 40.7**	**-1.7**
NPS	**Neapolis**	**2.19**	**258**	P	**Pn**		**22 55 40.0**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**2.21**	**353**	Pn	**Pn**		**22 55 40.1**	**+0.5**
NAZL	**Nazilli-Aydin**	**2.21**	**1**	Pn	**Pn**		**22 55 40.3**	**+0.8**
ANTB	**Antalya**	**2.27**	**59**	Pn	**Pn**		**22 55 41.5**	**+1.3**
BRDR	**BURDUR-Merkez**	**2.44**	**37**	P	**Pb**		**22 55 44.6**	**-1.9**
BUCA	**Burdur, Bucak-**	**2.45**	**49**	P	**Pb**		**22 55 46.5**	**-0.3**
ODEM	**Odemis-Izmir**	**2.52**	**357**	Pn	**Pn**		**22 55 44.8**	**+0.9**
APE	**Apeiranthos**	**2.54**	**302**	Pn	**Pn**		**22 55 45.4**	**+1.3**
APE	**Apeiranthos**	**2.54**	**302**	P	**Pn**		**22 55 44.4**	**+0.2**
APE	**Apeiranthos**	**2.54**	**302**	P	**Pn**		**22 55 43.6**	**-0.5**
APE	**Apeiranthos**	**2.54**	**302**	P	**Pn**		**22 55 44.4**	**+0.2**
GMLD	**Gumuldur**	**2.55**	**336**	Pn	**Pn**		**22 55 45.2**	**+1.1**
BASM	**Basmaki-Afyon**	**2.61**	**33**	Pn	**Pn**		**22 55 45.8**	**+0.7**
IACM	**Heraklion**	**2.62**	**261**	P	**Pn**		**22 55 46.4**	**+1.4**
IDI	**Anoyia**	**2.76**	**261**	Pn	**Pn**		**22 55 48.0**	**+0.9**
IDI	14nm,0.4s,baz=62,slow=17,SNR=18							
					Sn		**22 56 21.6**	**+0.8**
	4.6nm,0.3s,baz=288,slow=20,SNR=7.6							
IDI	**Anoyia**	**2.76**	**261**	P	**Pn**		**22 55 47.8**	**+0.7**
ISP	**Isparta**	**2.77**	**41**	Pn	**Pn**		**22 55 48.4**	**+1.2**
KULA	**Kula-Manisa**	**2.78**	**7**	Pn	**Pn**		**22 55 48.2**	**+0.8**
BLCB	**Balcova**	**2.80**	**340**	Pn	**Pn**		**22 55 48.4**	**+0.9**
URLA	**Izmir**	**2.92**	**334**	Pn	**Pn**		**22 55 50.1**	**+0.9**
GORD	**Gordes-Manisa**	**3.15**	**359**	Pn	**Pn**		**22 55 53.4**	**+0.9**
CHOS	**Chios island**	**3.15**	**327**	Pn	**Pn**		**22 55 53.6**	**+1.1**
CHOS	**Chios island**	**3.15**	**327**	P	**Pn**		**22 55 52.5**	**0.0**
GAZI	**Gazipasa**	**3.35**	**81**	Pn	**Pn**		**22 55 55.6**	**+0.5**
GAZI	**Gazipasa**	**3.35**	**81**	P	**Pn**		**22 55 54.5**	**-0.8**
GAZI				S	**Sn**		**22 56 33.2**	**-2.0**
GEDZ	**Gediz**	**3.42**	**16**	Pn	**Pn**		**22 55 57.5**	**+1.3**
AKMS	**Akamas**	**3.43**	**101**	P	**Pn**		**22 55 56.5**	**+0.1**
AKMS				S	**Sn**		**22 56 39.2**	**+2.0**
AKMS				AML	AML		22 56 40.3	
	0.3nm,0.9s							
AKMS				AML	AML		22 56 43.0	
	0.2nm,0.9s							
AKMS	**Akamas**	**3.43**	**101**	P	**Pn**		**22 55 56.4**	**+0.1**
YVAC	**Isparta, Yalva**	**3.48**	**43**	P	**Pn**		**22 55 58.0**	**+0.9**
ALFC	**Alefka**	**3.62**	**98**	P	**Pn**		**22 55 58.7**	**-0.1**
ALFC				S	**Sn**		**22 56 44.0**	**+2.2**
ALFC				AML	AML		22 56 46.4	
	0.1nm,0.9s							
ALFC				AML	AML		22 56 47.2	
	0.2nm,0.6s							
ALFC	**Alefka**	**3.62**	**98**	P	**Pn**		**22 55 58.7**	**-0.1**
DOGA	**KONYA_Doganhis**	**3.62**	**49**	P	**Pn**		**22 56 01.9**	**+2.9**
DOGA				S	**Sn**		**22 56 40.4**	**-1.7**
NATA	**Nata**	**3.68**	**104**	P	**Pn**		**22 55 59.9**	**+0.2**
NATA				S	**Sn**		**22 56 45.0**	**+1.6**
NATA				AML	AML		22 56 47.2	
	0.5nm,0.6s							
NATA				AML	AML		22 56 51.4	
	0.5nm,1.0s							
NATA	**Nata**	**3.68**	**104**	P	**Pn**		**22 55 60.0**	**+0.2**
TVSB	**Tavsanli**	**3.82**	**14**	Pn	**Pn**		**22 56 03.0**	**+1.3**
UCKU	**Afyonkarahisar**	**3.85**	**41**	P	**Pn**		**22 56 02.7**	**+0.6**
TROD	**Troodos**	**3.87**	**101**	P	**Pn**		**22 56 02.2**	**-0.4**
TROD				S	**Sn**		**22 56 51.5**	**+3.2**
TROD				AML	AML		22 56 55.8	
	0.1nm,0.6s							
TROD				AML	AML		22 56 58.5	
	0.1nm,0.9s							
ERMK	**Ermenek**	**3.89**	**75**	P	**Pn**		**22 56 05.2**	**+2.4**
ERMK				S	**Sn**		**22 56 50.1**	**+1.3**
APOL	**The Sanctuary**	**3.94**	**105**	P	**Pn**		**22 56 03.5**	**+0.2**
APOL				S	**Sn**		**22 56 52.9**	**+3.1**
APOL				AML	AML		22 57 07.0	
	0.2nm,0.8s							
APOL				AML	AML		22 57 07.6	
	0.1nm,1.0s							
XYLS	**Xyliatos**	**4.00**	**99**	P	**Pn**		**22 56 04.2**	**0.0**
XYLS				AML	AML		22 56 53.0	
	0.1nm,1.1s							
XYLS				S	**Sn**		**22 56 54.4**	**+3.0**
XYLS				AML	AML		22 56 59.2	
	0.1nm,0.4s							
BERE	**Bereket-Mersin**	**4.09**	**80**	Pn	**Pn**		**22 56 07.7**	**+2.3**
LADK	**Ladik-KONYA**	**4.12**	**52**	Pn	**Pn**		**22 56 07.5**	**+1.7**
DION	**Dionisos Attik**	**4.15**	**305**	P	**Pn**		**22 56 07.6**	**+1.4**
KDHN	**Kadinhani**	**4.16**	**47**	P	**Pn**		**22 56 07.0**	**+0.7**
KDHN				S	**Sn**		**22 56 56.6**	**+1.3**
ASGA	**Asgata**	**4.22**	**102**	P	**Pn**		**22 56 07.3**	**+0.3**
ASGA				S	**Sn**		**22 56 59.2**	**+2.7**
ASGA				AML	AML		22 57 03.6	
	0.1nm,1.0s							
ASGA				AML	AML		22 57 07.9	
	0.1nm,0.7s							
ASGA	**Asgata**	**4.22**	**102**	P	**Pn**		**22 56 06.9**	**-0.2**
CSS	**Mathiatis**	**4.24**	**99**	Pn	**Pn**		**22 56 06.3**	**-1.1**
CSS	**Mathiatis**	**4.24**	**99**	P	**Pn**		**22 56 07.4**	**-0.1**
CSS				S	**Sn**		**22 56 59.6**	**+2.4**
CSS				AML	AML		22 57 00.1	
	0.1nm,0.9s							
CSS				AML	AML		22 57 10.5	
	0.1nm,0.8s							
CSS	**Mathiatis**	**4.24**	**99**	P	**Pn**		**22 56 06.8**	**-0.6**
CSS	**Mathiatis**	**4.24**	**99**	S	**Sn**		**22 56 56.3**	**-0.9**
CSS	**Mathiatis**	**4.24**	**99**	P	**Pn**		**22 56 07.1**	**-0.3**
TEVE	**Tevekalti-Mers**	**4.28**	**79**	Pn	**Pn**		**22 56 10.2**	**+2.2**
KRMN	**Karaman**	**4.30**	**69**	Pn	**Pn**		**22 56 10.5**	**+2.2**
MVOU	**Mavrovouni**	**4.47**	**98**	P	**Pn**		**22 56 10.3**	**-0.3**
MVOU				S	**Sn**		**22 57 05.9**	**+3.0**
MVOU				AML	AML		22 57 10.5	
	0.1nm,0.9s							
MVOU				AML	AML		22 57 11.3	
	0.1nm,0.6s							
KEBE	**Keben-Mersin**	**4.49**	**80**	Pn	**Pn**		**22 56 13.4**	**+2.5**
KERG	**Konya-Eregli**	**5.03**	**69**	P	**Pn**		**22 56 21.1**	**+2.8**
KERG				S	**Sn**		**22 57 18.6**	**+1.9**
BRTR	**Keskin Array B**	**5.84**	**46**	Pn	**Pn**		**22 56 29.0**	**-0.5**
	0.1nm,0.3s,baz=225,slow=16,SNR=5.3							
BRTR				Sn	**Sn**		**22 57 37.3**	**+0.5**
	0.4nm,0.3s,baz=216,slow=25,SNR=7.4 0.8nm,0.7s							
HWQ	**Hawqa**	**6.50**	**101**	*e*P	**Pn**		**22 56 37.9**	**-0.7**
MMA0B	**Mount Meron ar**	**6.53**	**113**	P	**Pn**		**22 56 37.0**	**-1.9**
MMA0B	**Mount Meron ar**	**6.53**	**113**	S	**Sn**		**22 57 52.2**	**-1.4**
MMAI	**Mount Meron Ar**	**6.53**	**113**	Pn	**Pn**		**22 56 37.4**	**-1.5**
	2.3nm,0.4s,baz=319,slow=13,SNR=31							
MMAI				Sn	**Sn**		**22 57 50.3**	**-3.4**
	2.2nm,0.3s,baz=338,slow=24,SNR=5.6							
ZAHL	**Zahle**	**6.57**	**104**	*e*P	**Pn**		**22 56 38.4**	**-1.2**
BEIL	**Beino**	**6.63**	**98**	*e*P	**Pn**		**22 56 39.2**	**-1.0**
GEM	**Giv'at Ha'Em**	**6.64**	**110**	P	**Pn**		**22 56 39.7**	**-0.6**
GEM	**Giv'at Ha'Em**	**6.64**	**110**	S	**Sn**		**22 57 54.4**	**-1.8**
SHBL	**Chebaa**	**6.65**	**109**	*e*P	**Pn**		**22 56 40.4**	**-0.2**
NATI	**Neve Ativ**	**6.67**	**110**	P	**Pn**		**22 56 40.0**	**-0.8**
NATI	**Neve Ativ**	**6.67**	**110**	S	**Sn**		**22 57 56.1**	**-1.0**
MMLI	**Mount Malkishu**	**6.82**	**117**	P	**Pn**		**22 56 40.8**	**-2.0**
MMLI	**Mount Malkishu**	**6.82**	**117**	S	**Sn**		**22 57 59.6**	**-1.2**
KSHT	**Keshet**	**6.85**	**112**	P	**Pn**		**22 56 42.0**	**-1.3**
KSHT	**Keshet**	**6.85**	**112**	S	**Sn**		**22 58 00.8**	**-0.8**
FKH	**Fakeheh**	**6.88**	**100**	*e*P	**Pn**		**22 56 39.9**	**-3.9**
AMAZ	**Amatzia**	**6.98**	**125**	P	**Pn**		**22 56 43.5**	**-1.6**
AMAZ	**Amatzia**	**6.98**	**125**	S	**Sn**		**22 58 03.2**	**-1.6**
HMDT	**Nahal Hemdat**	**6.99**	**118**	P	**Pn**		**22 56 44.1**	**-1.1**
HMDT	**Nahal Hemdat**	**6.99**	**118**	S	**Sn**		**22 58 04.1**	**-0.8**
KZIT	**Kziot**	**7.07**	**131**	P	**Pn**		**22 56 45.1**	**-1.2**
KZIT	**Kziot**	**7.07**	**131**	S	**Sn**		**22 58 04.9**	**-2.0**
YTIR	**Yattir**	**7.22**	**125**	P	**Pn**		**22 56 47.3**	**-1.1**
YTIR	**Yattir**	**7.22**	**125**	S	**Sn**		**22 58 09.5**	**-1.2**
DSI	**Dead Sea**	**7.27**	**123**	P	**Pn**		**22 56 47.5**	**-1.6**
MSBI	**Mazada**	**7.42**	**125**	P	**Pn**		**22 56 50.3**	**-0.7**
MSBI	**Mazada**	**7.42**	**125**	S	**Sn**		**22 58 13.9**	**-1.4**
PRNI	**Paran**	**7.83**	**132**	P	**Pn**		**22 56 55.6**	**-1.1**
KRMI	**Paran Flat**	**7.83**	**134**	P	**Pn**		**22 56 55.7**	**-1.1**
ASF	**Jabal al Asfar**	**8.04**	**114**	Pn	**Pn**		**22 56 58.5**	**-1.1**
	0.2nm,0.3s,baz=300,slow=8.9,SNR=1.6							
ASF				Sn	**Sn**		**22 58 29.4**	**-1.4**
	0.1nm,0.3s,baz=110,slow=22,SNR=1.5 0.6nm,0.3s							
HRFI	**Mount Harif**	**8.07**	**133**	P	**Pn**		**22 56 58.5**	**-1.6**
HRFI	**Mount Harif**	**8.07**	**133**	S	**Sn**		**22 58 29.6**	**-2.0**
MBRI	**Mt Berech**	**8.18**	**135**	P	**Pn**		**22 57 00.6**	**-1.0**
MBRI	**Mt Berech**	**8.18**	**135**	S	**Sn**		**22 58 33.4**	**-0.9**
EIL	**Elat**	**8.29**	**135**	Pn	**Pn**		**22 57 01.9**	**-1.2**
	0.4nm,0.3s,baz=320,slow=3.8,SNR=6.7							
EIL				Sn	**Sn**		**22 58 31.3**	**-5.7**
	0.5nm,0.3s,baz=18,slow=20,SNR=4.1 4.0nm,0.7s							
EIL	**Elat**	**8.29**	**135**	P	**Pn**		**22 57 02.1**	**-0.9**
EIL	**Elat**	**8.29**	**135**	S	**Sn**		**22 58 35.6**	**-1.4**
MLR	**Muntele Rosu**	**9.88**	**351**	Pn	**Pn**		**22 57 24.1**	**-0.8**
	1.6nm,0.7s,baz=209,slow=11							
AKASG	**Malin Array Be**	**14.96**	**2**	Pn	**Pn**		**22 58 35.2**	**+1.0**
	0.2nm,0.3s,baz=196,slow=11,SNR=4.3 0.1nm,0.2s							
KEST	**Kesra**	**15.34**	**275**	Pn	**Pn**		**22 58 40.0**	**+0.6**
	0.1nm,0.3s,baz=61,slow=22,SNR=4.0 2.2nm,0.8s							
GERES	**GERESS Array B**	**16.89**	**325**	Pn	**P**		**22 59 02.0**	**+0.6**
	baz=134,slow=11,SNR=5.9 0.3nm,0

EMPR				Sg		Sb	23 20 08.4	-0.9
EMPR	**Esperanza - Ma**	**1.02**	**135**⇓	*eP*		**Pg**	**23 19 56.3**	**+0.2**
EMPR	**Esperanza - Ma**	**1.02**	**135**	*eS*		**Sn**	**23 20 12.2**	**+1.6**
LSP	**Las Mesas**	**1.04**	**169**			**Pn**	**23 19 56.3**	**-0.4**
LSP						**Sn**	**23 20 12.3**	**+1.2**
LSP	**Las Mesas**	**1.04**	**169**⇑	*eP*		**Pn**	**23 19 56.3**	**-0.4**
LSP	**Las Mesas**	**1.04**	**169**	*eS*		**Sn**	**23 20 12.3**	**+1.2**
UUPR	**Utuado, UPR, P**	**1.09**	**150**			**Pn**	**23 19 56.7**	**-0.7**
UUPR				Sg		**Sb**	**23 20 09.2**	**-2.1**
UUPR	**Utuado, UPR, P**	**1.09**	**150**⇑	*eP*		**Pn**	**23 19 56.5**	**-0.9**
UUPR	**Utuado, UPR, P**	**1.09**	**150**	*eS*		**Sg**	**23 20 13.9**	**+2.3**
CRPR	**Cabo Rojo, PR**	**1.20**	**171**			**Pb**	**23 19 58.8**	**-0.2**
CRPR				Sg		**Sb**	**23 20 12.8**	**-1.7**
CRPR				IAML			23 20 19.5	
	comp=N,1μm,0.9s							
CRPR				IAML			23 20 26.7	
	comp=E,1μm,0.6s							
CRPR	**Cabo Rojo, PR**	**1.20**	**171**⇓	*eP*		**Pb**	**23 19 58.7**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.20**	**171**	*eS*		**Sg**	**23 20 15.2**	**0.0**
ECPR	**Experimental S**	**1.25**	**135**⇓	*eP*		**Pn**	**23 19 59.2**	**-0.3**
ECPR	**Experimental S**	**1.25**	**135**	*eS*		**Sg**	**23 20 17.6**	**+0.9**
MLPR	**Magueyes Islan**	**1.25**	**169**⇑	*eP*		**Pb**	**23 19 59.2**	**-0.6**
MLPR	**Magueyes Islan**	**1.25**	**169**	*eS*		**Sn**	**23 20 16.2**	**0.0**
GBPR	**Guanica, Bosqu**	**1.28**	**162**			**Pb**	**23 19 60.0**	**-0.4**
GBPR	**Guanica, Bosqu**	**1.28**	**162**⇑	*eP*		**Pb**	**23 19 60.0**	**-0.4**
CELP	**Cerrillos**	**1.31**	**149**			**Pn**	**23 19 60.0**	**-0.4**
CELP				IAML			23 20 20.3	
	comp=E,1μm,0.8s							
CELP				IAML			23 20 20.6	
	comp=N,2μm,0.6s							
CELP	**Cerrillos**	**1.31**	**149**⇑	*eP*		**Pn**	**23 20 00.1**	**-0.4**
CELP	**Cerrillos**	**1.31**	**149**	*eS*		**Sb**	**23 20 17.9**	**+0.3**
OBIP	**Obispado Ponce**	**1.33**	**150**	Pn		**Pn**	**23 20 00.2**	**-0.3**
OBIP				IAML			23 20 22.9	
	comp=E,1μm,0.4s							
OBIP				IAML			23 20 22.9	
	comp=N,2μm,0.7s							
OBIP	**Obispado Ponce**	**1.33**	**150**⇑	*eP*		**Pn**	**23 20 00.3**	**-0.3**
OBIP	**Obispado Ponce**	**1.33**	**150**	*eS*		**Sb**	**23 20 18.0**	**0.0**
GCPR	**Guaynabo City**	**1.45**	**128**	Pn		**Pn**	**23 20 01.9**	**-0.5**
GCPR	**Guaynabo City**	**1.45**	**128**⇑	*eP*		**Pn**	**23 20 02.4**	**+0.1**
HIDR	**Higuey Centro**	**1.48**	**246**⇓	*eP*		**Pg**	**23 20 03.6**	**-1.1**
HIDR	**Higuey Centro**	**1.48**	**246**	*eS*		**Sg**	**23 20 24.6**	**+0.7**
SJG	**San Juan**	**1.54**	**135**	Pn		**Pn**	**23 20 03.4**	**0.0**
SJG				IAML			23 20 29.8	
	comp=N,926nm,0.4s							
SJG				IAML			23 20 32.8	
	comp=N,869nm,0.5s							
SJG	**San Juan**	**1.54**	**135**⇓	*eP*		**Pn**	**23 20 03.7**	**+0.3**
SJG	**San Juan**	**1.54**	**135**	*eS*		**Sb**	**23 20 23.7**	**-0.4**
IGPR	**InterUniversit**	**1.67**	**137**			**Pb**	**23 20 05.8**	**-1.1**
IGPR						**Sb**	**23 20 27.6**	**-0.3**
IGPR	**InterUniversit**	**1.67**	**137**⇑	*eP*		**Pb**	**23 20 05.8**	**-1.1**
IGPR	**InterUniversit**	**1.67**	**137**	*eS*		**Sb**	**23 20 27.6**	**-0.3**
MIDR	**Miches**	**1.67**	**263**⇑	*eP*		**Pg**	**23 20 07.7**	**-0.8**
PDPR	**Patillas Dam,**	**1.69**	**134**	Pn		**Pn**	**23 20 05.3**	**-0.2**
PDPR	**Patillas Dam,**	**1.69**	**134**⇑	*eP*		**Pn**	**23 20 05.7**	**+0.2**
HUMP	**Col San Antoni**	**1.73**	**127**	Pn		**Pn**	**23 20 05.8**	**-0.3**
SDD	**Santo Domingo**	**2.59**	**254**	Pn		**Pb**	**23 20 20.5**	**-2.1**
SDD				IAML			23 21 02.0	
	comp=E,396nm,1.2s							
SC01	**Santiago de lo**	**3.25**	**274**	Pn		**Pn**	**23 20 28.4**	**+1.4**
SDDR	**Presa de Saban**	**3.78**	**267**	Pn		**Pn**	**23 20 36.4**	**+2.0**
SMRT	**St. Maarten**	**4.17**	**105**	Pn		**Pn**	**23 20 36.3**	**-3.3**
SMRT				IAML			23 21 43.0	
	comp=N,128nm,0.9s							
BAUV	**El Baul**	**10.23**	**184**	Pn		**Pn**	**23 22 05.3**	**+2.5**

*HEL **24** 23:33:03.1±0.3, 67°.81N×20°.20E, h0km, ML2.0, Suspected explosion*
*IDC **24** 23:33:04.2±0.9, 67°.81N×20°.68E, h0km, mbtmp3.1/5, ML2.3/5, Error ellipse: s-maj=14.9km s-min=6.1km az=119.0*
*UPP **24** 23:33:04.0±0.0, 67°.85N×20°.21E, h0km, ML2.4, Suspected explosion*

ISC 24 23:33:03.0±0.7, **67°.79N**±0°.02×**20°.25E**±0°.02, **h0km, n33, σ1§19/48, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.17**	**12**	P	**Pg**	**23 33 06.4**	**+0.3**
KUA				S	**Sg**	**23 33 08.1**	**-0.2**
RATU	**Laukkuluspa**	**0.25**	**278**	P	**Pg**	**23 33 08.7**	**+0.9**
RATU				S	**Sg**	**23 33 11.8**	**+0.8**
KOVU	**Salmi**	**0.43**	**356**	P	**Pg**	**23 33 11.2**	**-0.1**
KOVU				S	**Sg**	**23 33 16.3**	**-0.6**
NIKU	**Nikkaluokta**	**0.47**	**280**	P	**Pg**	**23 33 12.5**	**+0.6**
NIKU				S	**Sg**	**23 33 18.6**	**+0.7**
DUNU	**Dundret**	**0.69**	**169**	P	**Pb**	**23 33 17.9**	**+0.1**
LANU	**Lannavaara**	**0.71**	**68**	P	**Pg**	**23 33 17.3**	**+0.7**
LANU				S	**Sg**	**23 33 26.7**	**+1.0**
LANU	**Lannavaara**	**0.71**	**68**	PB	**Pg**	**23 33 17.2**	**+0.6**
LANU				SG	**Sg**	**23 33 26.4**	**+0.7**
SALU	**Saltoluokta**	**0.79**	**239**	P	**Pb**	**23 33 19.1**	**-0.4**
KIF	**Kilpisjarvi**	**1.23**	**9**	*eP*	**Pb**	**23 33 26.8**	**-0.3**
KIF	**Kilpisjarvi**	**1.23**	**9**	PG	**Pg**	**23 33 26.0**	**-0.6**
KIF				MSG		23 33 41.2	
	comp=Z,26nm,0.2s						
KIF				SG	**Sg**	**23 33 42.0**	**-0.6**
PAJU	**Pajala**	**1.35**	**124**	P	**Pb**	**23 33 29.5**	**+0.4**
PAJU	**Pajala**	**1.35**	**124**	PN	**Pg**	**23 33 29.0**	**+0.2**
	baz=304						
PAJU				SN	**Sn**	**23 33 48.3**	**+0.6**
HEF	**Hetta**	**1.42**	**63**	*eP*	**Pn**	**23 33 29.1**	**-0.9**
HEF	**Hetta**	**1.42**	**63**	PN	**Pn**	**23 33 29.8**	**-0.2**
	baz=250						
HEF				MSG		23 33 46.1	
	comp=Z,12nm,0.2s						
ERTU	**Ertsjaerv**	**1.46**	**148**	P	**Pb**	**23 33 31.5**	**+0.6**
ERTU	**Ertsjaerv**	**1.46**	**148**	PN	**Pb**	**23 33 31.2**	**+0.3**
KTK1	**Kautokeino**	**1.65**	**41**	PN	**Pn**	**23 33 33.5**	**+0.3**
HARU	**Harads**	**1.66**	**170**	P	**Pg**	**23 33 35.4**	**+0.6**
TRO	**Tromso**	**1.91**	**346**	PG	**Pn**	**23 33 37.3**	**+0.6**
TRO				SG	**Sb**	**23 34 02.0**	**-1.0**
KALU	**Kalix**	**2.30**	**146**	PG	**Pb**	**23 33 44.7**	**-0.6**
TOF	**Tornio**	**2.35**	**135**	PG	**Pb**	**23 33 45.8**	**-0.3**
TOF				MSG		23 34 13.3	
	comp=Z,4.7nm,0.2s						
ARA0	**ARCESS Array S**	**2.60**	**45**	PB	**Pn**	**23 33 47.3**	**+1.1**
ARA0				SG	**Sb**	**23 34 21.3**	**-1.6**
ARCES	**ARCESS Array B**	**2.60**	**45**	Pn	**Pn**	**23 33 47.3**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=228,slow=15,SNR=47						
ARCES				Lg	Lg	23 34 20.0	
	comp=Z,2.2nm,0.3s,baz=232,slow=23,SNR=14 comp=Z,2.2nm,0.3s						
RAJF	**Raja-Jooseppi**	**3.10**	**73**	PB	**Pn**	**23 33 53.9**	**+0.9**
RANF	**Ranua**	**3.14**	**122**	PB	**Pn**	**23 33 56.2**	**+2.6**
KEV	**Kevo**	**3.15**	**48**	PB	**Pn**	**23 33 55.0**	**+1.2**
KEV				SB	**Sn**	**23 34 33.4**	**+1.4**
VRF	**Varrio**	**3.56**	**86**	PB	**Pn**	**23 34 01.5**	**+2.1**
OUF	**Merijarvi**	**3.89**	**150**	PG	**Pg**	**23 34 15.3**	**-2.2**
	baz=332						
HUSU	**Husum**	**4.49**	**186**	PN	**Pn**	**23 34 15.2**	**+3.0**
FINES	**FINESS Array B**	**6.85**	**156**	Pn	**Pn**	**23 34 45.8**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=341,slow=11,SNR=3.7						
FINES				Pg	**Pb**	**23 35 01.0**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=337,slow=16,SNR=5.9						
FINES				Sn	**Sn**	**23 36 01.7**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=341,slow=21,SNR=2.5						
FINES				Lg	Lg	23 36 39.0	
	comp=Z,0.3nm,0.3s,baz=347,slow=25,SNR=4.3 comp=Z,1.8nm,0.9s						
NOA	**NORSAR Array B**	**7.82**	**214**	Pn	**Pn**	**23 34 58.8**	**+1.0**
	baz=14,slow=13,SNR=3.4						
NOA				Sn	**Sn**	**23 36 25.6**	**-1.3**
	baz=325,slow=14,SNR=1.4						
NOA				Lg	Lg	23 37 13.0	
	baz=19,slow=11,SNR=4.2 comp=Z,0.2nm,0.5s						
HFS	**Hagfors**	**8.21**	**204**	Pn	**Pn**	**23 35 02.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=20,slow=13,SNR=4.3						
HFS				Sn	**Sn**	**23 36 33.2**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=17,slow=25,SNR=1.9						
HFS				Lg	Lg	23 37 25.0	
	comp=Z,0.3nm,0.3s,baz=20,slow=22,SNR=2.3 comp=Z,0.8nm,0.4s						
SPITS	**Spitsbergen Ar**	**10.50**	**356**	Pn	**Pn**	**23 35 34.6**	**+0.1**
	baz=180,slow=14 comp=Z,1.5nm,0.6s						

*IDC **24** 23:36:00.6±1.2, 33°.69S×55°.99E, h0km, mb4.0/6, mbtmp3.9/7, ML4.0/1, Error ellipse: s-maj=39.2km s-min=25.9km az=108.0*

ISC 24 23:36:01.9±0.9, **33°.7S**±0°.2×**55°.9E**±0°.2, **h10km, n13, σ0§81/7, mb4.0/6, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**12.87**	**193**	T	T	23 52 03.5	
	baz=17,slow=75,SNR=20						
H04N1	**CROZET ISLANDS**	**12.87**	**193**	T	T	23 52 04.6	
	baz=17,slow=75,SNR=22						
H04N3	**CROZET ISLANDS**	**12.89**	**193**	T	T	23 52 03.5	
	baz=17,slow=75,SNR=19						
OPO	**Ambohidratompo**	**16.93**	**330**	Pn	**P**	**23 40 01.3**	**+0.2**
	0.1nm,0.3s,baz=326,slow=20,SNR=2.5 1.9nm,0.8s						
H08S1	**Diego Carcia H**	**30.09**	**34**	T	T	00 13 29.4	
	baz=207						
H08S2	**Diego Garcia H**	**30.09**	**34**	T	T	00 13 24.2	
	baz=207						
H08S3	**Diego Garcia H**	**30.11**	**34**	T	T	00 13 32.5	
	baz=207						
SNAA	**Sanae**	**48.68**	**201**	P	**P**	**23 44 45.4**	**-0.5**
	1.5nm,1.0s,baz=66,slow=10.0,SNR=7.3 1.5nm,1.0s						
QSPA	**South Pole Qui**	**56.51**	**180**	P	**P**	**23 45 44.8**	**+0.7**
	2.2nm,0.8s,baz=263,slow=1.4,SNR=6.0 2.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**66.11**	**45**	P	**P**	**23 46 49.8**	**+0.3**
	1.0nm,0.3s,baz=231,slow=8.4,SNR=4.6 1.0nm,0.3s						
ASAR	**Alice Springs**	**67.72**	**104**	P	**P**	**23 46 58.8**	**-1.1**
	0.5nm,0.8s,baz=244,slow=5.7,SNR=4.8 0.5nm,0.8s						
WRA	**Warramunga Arr**	**69.86**	**101**	P	**P**	**23 47 13.9**	**+0.7**
	1.3nm,0.9s,baz=239,slow=5.3,SNR=5.4 1.3nm,0.9s						
BVAR	**Borovoye Array**	**87.25**	**9**	P	**P**	**23 48 47.6**	**-0.5**
	0.5nm,0.7s,baz=190,slow=7.3,SNR=2.5 0.5nm,0.7s						

*BEO **24** 23:38:26.3±2.4, 38°.26N×20°.18E, h7km±2km, ML3.2/4*
*THE **24** 23:38:28.9, 38°.4N±0°.5×2°0E±°, h10km, M3.3/23, MLh3.3/23*
*ATH **24** 23:38:28.6, 38°.44N×20°.52E, h13km±1km, ML3.3/13, Manual Solution by K.Orfanogiannaki First location: 2019/09/24 23:38:47, This location: 2019/09/25 05:06:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*

ISC 24 23:38:28.4±0.9, **38°.44N**±0°.02×**20°.45E**±0°.03, **h14km**±5km, **n68, σ0§84/87, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.09**	**75**	P	**Pg**	**23 38 31.2**	**-0.2**
FSK				S	**Sg**	**23 38 33.1**	**-0.4**
FSK	**Fiskardo**	**0.09**	**75**	P	**Pg**	**23 38 31.3**	**-0.2**
FSK				S	**Sg**	**23 38 32.9**	**-0.6**
LXR1	**Lixouri, Cepha**	**0.24**	**183**	P	**Pg**	**23 38 33.8**	**+0.2**
LXR1				S	**Sg**	**23 38 37.5**	**+0.5**
EVGI	**Lefkada island**	**0.24**	**41**	P	**Pg**	**23 38 34.0**	**+0.2**
EVGI				S	**Sg**	**23 38 37.7**	**+0.4**
ARG2	**Argostoli**	**0.26**	**174**	P	**Pg**	**23 38 34.0**	**0.0**
ARG2				S	**Sg**	**23 38 37.9**	**+0.2**
VLS	**Valsamata**	**0.28**	**158**	P	**Pg**	**23 38 34.4**	**0.0**
VLS				S	**Sg**	**23 38 38.6**	**+0.2**
VLS	**Valsamata**	**0.28**	**158**	P	**Pg**	**23 38 34.4**	**0.0**
VLS				S	**Sg**	**23 38 38.9**	**+0.5**
NYDR	**Nydri-Lefkada**	**0.34**	**35**	P	**Pg**	**23 38 35.3**	**0.0**
NYDR				S	**Sg**	**23 38 40.1**	**0.0**
PSDA	**Pessada-Kefalo**	**0.34**	**162**	P	**Pg**	**23 38 35.3**	**0.0**
LKD2	**Lefkada island**	**0.39**	**24**	P	**Pg**	**23 38 36.2**	**0.0**
LKD2				S	**Sg**	**23 38 42.4**	**+0.9**
LKD2	**Lefkada island**	**0.39**	**24**	P	**Pg**	**23 38 36.2**	**0.0**
TSLK	**Tsoukalades, L**	**0.42**	**22**	P	**Pg**	**23 38 37.0**	**+0.1**
TSLK				S	**Sb**	**23 38 43.8**	**0.0**
AST1	**Astakos**	**0.51**	**78**	P	**Pg**	**23 38 38.6**	**+0.1**
ORTH	**Orthonies,Zaky**	**0.61**	**162**	P	**Pg**	**23 38 39.9**	**-0.6**
ORTH				S	**Sg**	**23 38 49.0**	**+0.3**
ORTH	**Orthonies,Zaky**	**0.61**	**162**	P	**Pg**	**23 38 39.7**	**-0.8**
ORTH				S	**Sg**	**23 38 48.7**	**0.0**
KYPS	**Kipseli, Zakin**	**0.68**	**155**	P	**Pg**	**23 38 41.6**	**-0.1**
KRI1	**kERI**	**0.82**	**160**	P	**Pg**	**23 38 43.8**	**-0.7**
KRI1				S	**Sb**	**23 38 55.9**	**+0.4**
PVO	**Paravola**	**0.86**	**78**	P	**Pb**	**23 38 45.1**	**0.0**
PVO	**Paravola**	**0.86**	**78**	P	**Pg**	**23 38 45.0**	**-0.1**
RLS	**Riolos of Patr**	**0.88**	**115**	P	**Pg**	**23 38 45.3**	**-0.2**
RLS	**Riolos of Patr**	**0.88**	**115**	P	**Pg**	**23 38 44.9**	**-0.6**
RLS				S	**Sg**	**23 38 56.1**	**-1.0**
IGT	**Igoumenitsa**	**1.10**	**355**	*e*Pg	**Pb**	**23 38 49.2**	**0.0**
IGT				*e*Sg	**Sn**	**23 39 06.9**	**+2.5**
DRO	**Drossia**	**1.10**	**116**	P	**Pg**	**23 38 48.8**	**-0.9**
DRO				S	**Sg**	**23 39 02.7**	**-1.3**
TETR	**Tetrakomo, Epi**	**1.11**	**35**	P	**Pg**	**23 38 48.9**	**-1.0**
TETR				S	**Sg**	**23 39 02.7**	**-1.6**
EFP	**Efpalio**	**1.14**	**90**	P	**Pb**	**23 38 49.5**	**-0.4**
EFP	**Efpalio**	**1.14**	**90**	P	**Pb**	**23 38 48.9**	**-1.0**
EFP				S	**Sg**	**23 39 04.3**	**-1.0**
ANX	**Ano Chora**	**1.16**	**82**	P	**Pb**	**23 38 50.0**	**-0.3**
ANX	**Ano Chora**	**1.16**	**82**	P	**Pb**	**23 38 49.8**	**-0.5**
EVR	**Evrytania**	**1.16**	**65**	P	**Pb**	**23 38 50.1**	**-0.3**
EVR	**Evrytania**	**1.16**	**65**	P	**Pb**	**23 38 49.8**	**-0.6**
PRMD	**Pramanda**	**1.20**	**24**	P	**Pb**	**23 38 51.0**	**0.0**
JAN	**Janina**	**1.26**	**14**	P	**Pg**	**23 38 52.8**	**+0.1**
JAN	**Janina**	**1.26**	**14**	P	**Pg**	**23 38 52.8**	**+0.1**
SERG	**Sergoula**	**1.26**	**91**	P	**Pn**	**23 38 51.5**	**-0.1**
KALE	**Kalithea**	**1.32**	**91**	P	**Pn**	**23 38 52.5**	**-0.1**
KLV	**Kalavryta, Ach**	**1.39**	**106**	P	**Pn**	**23 38 53.6**	**+0.1**
KLV	**Kalavryta, Ach**	**1.39**	**106**	P	**Pn**	**23 38 53.5**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.43**	**66**	P	**Pn**	**23 38 54.7**	**+0.7**
GUR	**Goura**	**1.57**	**108**	P	**Pn**	**23 38 56.6**	**+0.6**
GUR	**Goura**	**1.57**	**108**	P	**Pn**	**23 38 56.5**	**+0.6**
AGG	**Agios Georgios**	**1.58**	**68**	P	**Pb**	**23 38 57.3**	**-0.1**
THL	**Klokotos Trika**	**1.66**	**47**	P	**Pb**	**23 38 58.8**	**+0.1**
ITM	**Ithomi**	**1.71**	**137**	P	**Pb**	**23 38 59.2**	**+0.1**
ITM	**Ithomi**	**1.71**	**137**	P	**Pb**	**23 38 59.3**	**-0.4**
AXAR	**Agios Charalam**	**1.76**	**79**	P	**Pb**	**23 39 00.3**	**-0.1**
OHR	**Ohrid**	**2.68**	**6**	*i* Pn	**Pb**	**23 39 14.5**	**-1.8**
OHR				*i* Sn	**Sb**	**23 39 47.7**	**-1.4**
VLY	**Voula,Athens**	**2.70**	**101**	P	**Pn**	**23 39 13.1**	**+1.7**
DION	**Dionisos Attik**	**2.76**	**96**	P	**Pn**	**23 39 13.8**	**+1.5**
SRS	**Serrai**	**3.61**	**41**	*e*Pn	**Pn**	**23 39 26.3**	**+2.4**
DRME	**Dracevica, Mon**	**3.87**	**346**	*e*Pn	**Pn**	**23 39 27.7**	**+0.2**
PDG	**Podgorica**	**4.09**	**347**	*e*Pn	**Pn**	**23 39 31.0**	**+0.5**
KOME	**Kolasin**	**4.47**	**351**	*e*Pn	**Pn**	**23 39 36.7**	**+0.9**
BARS	**Barje**	**4.50**	**13**	*e*Pn	**Pn**	**23 39 37.0**	**+0.9**
TREB	**Trebinje**	**4.57**	**340**	*e*Pn	**Pn**	**23 39 36.2**	**-0.8**
TREB	**Trebinje**	**4.57**	**340**	*e*Pn	**Pn**	**23 39 36.2**	**-0.8**
SELS	**Selova**	**4.80**	**6**	*e*Pn	**Pn**	**23 39 41.0**	**+0.7**
SJES	**Sjenica**	**4.83**	**356**	*e*Pn	**Pn**	**23 39 41.7**	**+0.9**
STON	**Ston**	**4.90**	**336**	*e*Pn	**Pn**	**23 39 40.8**	**-0.8**
KLINJ	**Klinje**	**4.94**	**344**	*e*Pn	**Pn**	**23 39 42.5**	**+0.3**
IVAS	**Ivanjica**	**5.14**	**358**	*e*Pn	**Pn**	**23 39 45.2**	**+0.2**
RUDO	**Rudo**	**5.24**	**351**	*e*Pn	**Pn**	**23 39 48.7**	**+2.4**
GRUS	**Gruza**	**5.45**	**2**	*e*Pn	**Pn**	**23 39 50.2**	**+1.0**
TRUS	**Trudelj**	**5.78**	**360**	*e*Pn	**Pn**	**23 39 54.0**	**+0.3**
KIJV	**Kijevo**	**6.34**	**333**	*e*Pn	**Pn**	**23 40 01.2**	**-0.3**
BLY	**Banja Luka**	**6.76**	**340**	*e*Pn	**Pn**	**23 40 05.9**	**-1.3**
MOSL	**Moslavina**	**7.68**	**340**	*e*Pn	**Pn**	**23 40 17.7**	**-2.1**
OZLJ	**Ozalj**	**8.07**	**334**	*e*Pn	**Pn**	**23 40 24.0**	**-1.2**
BRJN	**Brijuni**	**8.18**	**324**	*e*Pn	**Pn**	**23 40 26.1**	**-0.5**

RSNC 24 23:49:12.2±0.0, **7°N**±1°×**7°3W**±°, **h4km**±3km, **M2.4, mb3.8, ML2.1, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.20**	**214**	P	Pg	23 49 16.0	-0.2
BARC				S	Sg	23 49 18.7	-0.2
PAMC	**Pamplona, Colo**	**0.68**	**33**	P	Pg	23 49 25.0	-0.4
PAMC				S	Sg	23 49 34.4	+0.1
BRJC	**Barrancabermej**	**0.70**	**288**	P	Pg	23 49 24.3	-1.4
BRJC				S	Sg	23 49 33.2	-1.6
RUSC	**La Rusia**	**0.86**	**181**	P	Pg	23 49 28.0	-0.8
RUSC				S	Sg	23 49 39.5	-0.5
PTBC	**PUERTO BERRIO,**	**1.39**	**261**	P	Pn	23 49 36.4	-2.1
PTBC				S	Sb	23 49 53.9	-3.1
SPBC	**San Pablo de B**	**1.48**	**222**	P	Pn	23 49 38.2	-1.6
SPBC				S	Sn	23 49 59.8	+0.1
OCAC	**Ocana**	**1.49**	**350**	P	Pn	23 49 38.5	-1.4
OCAC				S	Sb	23 49 58.2	-1.7
ZARC	**Zaragoza, Cauc**	**1.92**	**292**	P	Pn	23 49 44.5	-1.2
ZARC				S	Sn	23 50 08.0	-2.3
NORC	**Norcasia**	**2.15**	**236**	P	Pn	23 49 49.3	+0.4
NORC				S	Sn	23 50 16.7	+0.7
CVER	**Cruz Verde, Cu**	**2.44**	**204**	P	Pb	23 49 57.9	+1.0
HELC	**Santa Helena**	**2.51**	**257**	P	Pn	23 49 53.6	-0.5
HELC				S	Sn	23 50 23.8	-1.6
GUY2C	**Guyana, Caldas**	**2.75**	**236**	P	Pn	23 49 58.2	+0.7
GUY2C				S	Sn	23 50 33.3	+1.9
SJCC	**San Jacinto, C**	**3.75**	**326**	P	Pn	23 50 10.9	-0.1
SJCC				S	Sn	23 50 56.4	+0.8
CRJC	**Cerrejon, Guaj**	**4.24**	**2**	P	Pn	23 50 16.8	-0.9
CRJC				S	Sn	23 51 07.9	+0.2
URIC	**Uribia, Colomb**	**5.02**	**12**	P	Pn	23 50 28.2	-0.2

*VIE **25** 00:11:04.9±0.4, 50°.21N×19°.04E, h0km, mb2.3/6, ml2.6/7, Error ellipse: s-maj=3.5km s-min=2.5km az=0.0 6 km SE of Katowice Suspected Mining induced.*
*IPEC **25** 00:11:05.1±0.1, 50°.14N×19°.14E, h1km, ML2.7/6, Error ellipse: s-maj=1.7km s-min=0.8km az=2.0*
*PRU **25** 00:11:06.4, 50°.15N×19°.11E, h0km*
*IDC **25** 00:11:07.3±1.1, 50°.19N×18°.93E, h0km, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=23.3km s-min=8.1km az=144.0*

ISC 25 00:11:04.8±0.8, **50°.12N**±0°.04×**19°.15E**±0°.02, **h0km, n40, σ1§12/67, 2C-3D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.43**	**77**	*e*Pg	**Pg**	**00 11 13.8**	**+0.7**
OJC				*e*Sg	**Sg**	**00 11 19.7**	**+1.1**
RAC	**Raciborz**	**0.61**	**267**	*e*PG	**Pb**	**00 11 18.6**	**+0.2**
RAC				*e*SG	**Sb**	**00 11 27.9**	**+0.3**
OKC	**Ostrava-Krasne**	**0.70**	**246**	*e*PG	**Pb**	**00 11 19.6**	**-0.3**
OKC				*e*SG	**Sb**	**00 11 29.9**	**-0.3**
	58nm,0.5s						
NIE	**Niedzica**	**1.03**	**133**	*e*Pg	**Pb**	**00 11 25.2**	**-0.3**
NIE				*e*Sg	**Sb**	**00 11 40.1**	**+0.6**
MORC	**Moravsky Berou**	**1.09**	**252**	*e*Pg	**Pb**	**00 11 26.2**	**-0.4**
	baz=70						
MORC				*e*Sg	**Sg**	**00 11 39.4**	**-0.4**
	146nm,0.7s,baz=70						
MORC	**Moravsky Berou**	**1.09**	**252**	⇓P	**Pb**	**00 11 26.1**	**-0.4**
ANAC	**Anensky vrch**	**1.14**	**268**	*e*Pg	**Pb**	**00 11 27.1**	**-0.3**
	baz=86						
ANAC				*e*Sg	**Sg**	**00 11 40.9**	**-0.4**
	164nm,0.7s,baz=86						
MAUC	**Maruska**	**1.14**	**229**	*e*PG	**Pn**	**00 11 27.9**	**-0.2**
MAUC				*e*SG	**Sb**	**00 11 43.5**	**+0.7**
	182nm,0.5s						
LOSC	**Losov**	**1.25**	**247**	*e*Pg	**Pb**	**00 11 29.1**	**-0.2**
	baz=65						
LOSC				*e*Sg	**Sg**	**00 11 44.6**	**-0.4**
	50nm,0.5s,baz=65						
KRLC	**Kraliky**	**1.52**	**269**	*e*PG	**Pn**	**00 11 32.8**	**-0.5**
KRLC				*e*SG	**Sg**	**00 11 53.5**	**-0.2**
	69nm,0.6s						
JAVC	**Velka Javorina**	**1.59**	**218**	*e*Pn	**Pn**	**00 11 34.3**	**+0.1**
	baz=36						
JAVC	**Velka Javorina**	**1.59**	**218**	*e*PN	**Pn**	**00 11 34.4**	**+0.2**
DPC	**Dobruska-Polom**	**1.83**	**278**	*e*PG	**Pg**	**00 11 39.5**	**-0.3**
DPC				*e*SG	**Sb**	**00 12 02.5**	**0.0**
	52nm,0.6s						
VRAC	**Vranov**	**1.85**	**245**	Pg	**Pb**	**00 11 39.6**	**+0.2**
	3.4nm,0.3s,baz=61,slow=12,SNR=28			

mb4.9/354,ML4.8/29,Mww4.8/9,Md4.8/19(RSPR),Error ellipse: s-maj=9.0km s-min=4.4km az=53.0
*CATAC **25** 00:12:08.0±1.2, 19°N±7°×6°7W±°, h11km±5km,M4.9/7, mb5.1/7,mB5.1/7,MLv5.2/5,Mw(mB)4.5/7,Error ellipse: s-maj=15.9km s-min=5.5km az=22.5,confirmed*
*OSPL **25** 00:12:09.7±1.9, 19°08N×67°18W, h8km±12km, ML5.0*
*RSPR **25** 00:12:09.8, 19°09N×67°20W, h12km±31km, MD4.8/19*
ISC 25 00:12:07.7±1.1,19°11N±0°03×67°20W±0°02,h23km±8km, n793,σ1º52/686,mb4.8/193,MS3.9/38,7C-19D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.65**	**172**		**Pb**	**00 12 20.6**	**+0.2**
AGPR					**Sn**	**00 12 30.2**	**-0.8**
AGPR	**Aguadilla, PR**	**0.65**	**172**	⇓*i*P	**Pb**	**00 12 20.6**	**+0.2**
AGPR	**Aguadilla, PR**	**0.65**	**172**	P	**Pb**	**00 12 20.6**	**+0.2**
AGPR				S	**Sn**	**00 12 30.5**	**-0.5**
AGPR	**Aguadilla, PR**	**0.65**	**172**	⇓*e*Pg	**Pb**	**00 12 20.6**	**+0.2**
AGPR				⇑*e*Sg	**Sb**	**00 12 29.8**	**+0.8**
AGPR				IAML		00 12 32.3	
	comp=E,38μm,0.2s						
AGPR				IAML		00 12 35.2	
	comp=N,33μm,0.3s						
AGPR	**Aguadilla, PR**	**0.65**	**172**	*i*P	**Pb**	**00 12 20.6**	**+0.2**
AGPR				*e*S	**Sb**	**00 12 29.8**	**+0.8**
AGPR				IAML		00 12 36.8	
	comp=Z,24μm,0.6s						
IDE	**Isla Desecheo**	**0.77**	**200**		**Pb**	**00 12 22.4**	**0.0**
IDE	**Isla Desecheo**	**0.77**	**200**	⇑*i*P	**Pb**	**00 12 22.4**	**0.0**
AOPR	**Arecibo Observ**	**0.87**	**151**		**Pb**	**00 12 23.5**	**-0.8**
AOPR					**Sb**	**00 12 34.7**	**-0.8**
AOPR				IAML		00 12 43.0	
	comp=N,36μm,0.6s						
AOPR	**Arecibo Observ**	**0.87**	**151**	⇓*i*P	**Pb**	**00 12 23.8**	**-0.4**
AOPR	**Arecibo Observ**	**0.87**	**151**	*e*S	**Sb**	**00 12 35.2**	**-0.3**
AOPR	**Arecibo Observ**	**0.87**	**151**	*e*P	**Pb**	**00 12 23.9**	**-0.4**
AOPR				*e*S	**Sb**	**00 12 36.1**	**+0.6**
AOPR	**Arecibo Observ**	**0.87**	**151**	⇓*e*Pg	**Pb**	**00 12 23.8**	**-0.4**
AOPR				IAML		00 12 51.8	
	comp=N,31μm,0.3s						
PRSN	**Puerto Rico Se**	**0.89**	**176**		**Pb**	**00 12 24.2**	**-0.3**
PRSN	**Puerto Rico Se**	**0.89**	**176**		**Sn**	**00 12 37.5**	**+0.5**
PRSN	**Puerto Rico Se**	**0.89**	**176**	⇓*i*P	**Pb**	**00 12 24.2**	**-0.3**
PRSN	**Puerto Rico Se**	**0.89**	**176**	*e*S	**Sn**	**00 12 37.5**	**+0.5**
EMPR	**Esperanza - Ma**	**0.90**	**135**		**Pb**	**00 12 24.6**	**-0.1**
EMPR	**Esperanza - Ma**	**0.90**	**135**		**Sn**	**00 12 40.0**	**+2.8**
EMPR	**Esperanza - Ma**	**0.90**	**135**	⇑*i*P	**Pn**	**00 12 24.9**	**-0.1**
EMPR	**Esperanza - Ma**	**0.90**	**135**	*e*S	**Sn**	**00 12 40.0**	**+2.8**
LSP	**Las Mesas**	**0.94**	**173**		**Pb**	**00 12 25.1**	**-0.2**
LSP	**Las Mesas**	**0.94**	**173**	⇑*i*P	**Pb**	**00 12 25.1**	**-0.2**
UUPR	**Utuado, UPR, P**	**0.97**	**152**		**Pb**	**00 12 25.1**	**-0.7**
UUPR				Sg	**Sb**	**00 12 36.2**	**-2.1**
UUPR	**Utuado, UPR, P**	**0.97**	**152**	⇓*i*P	**Pb**	**00 12 25.3**	**-0.6**
UUPR	**Utuado, UPR, P**	**0.97**	**152**	*e*S	**Sn**	**00 12 41.0**	**+2.0**
CRPR	**Cabo Rojo, PR**	**1.10**	**175**		**Pn**	**00 12 27.4**	**-0.3**
CRPR				Sg	**Sb**	**00 12 42.1**	**0.0**
CRPR				IAML		00 12 46.3	
	comp=E,21μm,0.8s						
CRPR				IAML		00 12 48.3	
	comp=N,22μm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.10**	**175**	⇓*i*P	**Pn**	**00 12 27.5**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.10**	**175**	*e*S	**Sn**	**00 12 42.3**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.10**	**175**	⇓*e*Pg	**Pn**	**00 12 27.5**	**-0.3**
CRPR				*e*Sg	**Sb**	**00 12 41.5**	**-0.6**
CRPR				IAML		00 12 46.1	
	comp=E,21μm,0.4s						
CRPR				IAML		00 12 48.2	
	comp=N,24μm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.10**	**175**	*i*P	**Pn**	**00 12 27.5**	**-0.3**
CRPR				*e*S	**Sb**	**00 12 41.6**	**-0.5**
CRPR				IAML		00 12 46.7	
	comp=Z,18μm,0.6s						
ECPR	**Experimental S**	**1.12**	**135**	⇑*i*P	**Pn**	**00 12 27.8**	**-0.2**
ECPR	**Experimental S**	**1.12**	**135**	*e*S	**Sn**	**00 12 43.1**	**+0.4**
MLPR	**Magueyes Islan**	**1.15**	**172**	⇓*i*P	**Pn**	**00 12 28.1**	**-0.2**
MLPR	**Magueyes Islan**	**1.15**	**172**	*e*S	**Sb**	**00 12 43.6**	**+0.2**
GBPR	**Guanica, Bosqu**	**1.17**	**165**		**Pn**	**00 12 28.7**	**0.0**
GBPR	**Guanica, Bosqu**	**1.17**	**165**	⇑*i*P	**Pn**	**00 12 28.7**	**0.0**
CELP	**Cerrillos**	**1.19**	**150**		**Pn**	**00 12 28.5**	**-0.5**
CELP				IAML		00 12 49.8	
	comp=N,16μm,0.3s						
CELP				IAML		00 12 51.9	
	comp=E,15μm,1.2s						
CELP	**Cerrillos**	**1.19**	**150**	⇓*i*P	**Pn**	**00 12 28.8**	**-0.1**
CELP	**Cerrillos**	**1.19**	**150**	⇓*e*Pg	**Pn**	**00 12 28.9**	**-0.1**
CELP				⇓*e*Sg	**Sb**	**00 12 45.2**	**+0.6**
CELP				IAML		00 12 49.7	
	comp=N,16μm,0.3s						
CELP				IAML		00 12 51.5	
	comp=E,14μm,1.6s						
OBIP	**Obispado Ponce**	**1.21**	**152**	Pn	**Pn**	**00 12 28.9**	**-0.2**
OBIP					**Sb**	**00 12 45.0**	**-0.1**
OBIP				IAML		00 12 46.1	
	comp=E,16μm,1.1s						
OBIP				IAML		00 12 46.7	
	comp=N,20μm,0.6s						
OBIP	**Obispado Ponce**	**1.21**	**152**	⇓*i*P	**Pn**	**00 12 29.0**	**-0.1**
OBIP	**Obispado Ponce**	**1.21**	**152**	*e*S	**Sb**	**00 12 45.7**	**+0.7**
GCPR	**Guaynabo City**	**1.33**	**127**		**Pn**	**00 12 30.5**	**-0.4**
GCPR	**Guaynabo City**	**1.33**	**127**	⇓*i*P	**Pn**	**00 12 31.0**	**+0.1**
GCPR	**Guaynabo City**	**1.33**	**127**	*e*S	**Sn**	**00 12 48.1**	**+0.3**
SJG	**San Juan**	**1.41**	**135**	Pn	**Pn**	**00 12 32.5**	**+0.6**
SJG	**San Juan**	**1.41**	**135**	Pn	**Pn**	**00 12 32.7**	**+0.7**
	comp=N,505nm,0.3s,baz=318,slow=11,SNR=459						
SJG				Sn	**Sn**	**00 12 49.7**	**-0.1**
	comp=N,1μm,0.3s,baz=66,slow=21,SNR=12						
SJG	**San Juan**	**1.41**	**135**	⇑*i*P	**Pn**	**00 12 32.6**	**+0.6**
SJG	**San Juan**	**1.41**	**135**	*e*P	**Pn**	**00 12 32.7**	**+0.7**
SJG				*e*S	**Sb**	**00 12 50.7**	**-0.3**
SJG	**San Juan**	**1.41**	**135**	P	**Pn**	**00 12 32.2**	**+0.2**
SJG				S	**Sb**	**00 12 51.6**	**+0.7**
SJG	**San Juan**	**1.41**	**135**	P	**Pn**	**00 12 32.3**	**+0.3**
SJG	**San Juan**	**1.41**	**135**	*i*P	**Pb**	**00 12 32.8**	**-0.5**
SJG				*e*S	**Sb**	**00 12 51.3**	**+0.4**
SJG				IAML		00 12 54.0	
	comp=Z,5μm,0.9s						
HIDR	**Higuey Centro**	**1.52**	**250**	⇑*i*P	**Pn**	**00 12 34.0**	**+0.5**
HIDR	**Higuey Centro**	**1.52**	**250**	*e*S	**Sb**	**00 12 54.6**	**+0.4**
HIDR	**Higuey Centro**	**1.52**	**250**	⇑*e*Pg	**Pn**	**00 12 33.7**	**+0.2**
HIDR				IAML		00 12 55.2	
	comp=E,12μm,0.6s						
HIDR				⇓*e*Sg	**Sb**	**00 12 55.3**	**+1.2**
HIDR				IAML		00 13 03.9	
	comp=N,14μm,0.3s						
IGPR	**InterUniversit**	**1.54**	**137**		**Pn**	**00 12 34.2**	**+0.4**
IGPR					**Sb**	**00 12 55.4**	**+0.6**
IGPR	**InterUniversit**	**1.54**	**137**	⇓*i*P	**Pn**	**00 12 34.2**	**+0.4**
IGPR	**InterUniversit**	**1.54**	**137**	P	**Pn**	**00 12 34.6**	**+0.8**
IGPR				S	**Sb**	**00 12 55.9**	**+1.1**
PDPR	**Patillas Dam,**	**1.56**	**134**	Pn	**Pn**	**00 12 34.2**	**+0.2**
PDPR	**Patillas Dam,**	**1.56**	**134**	⇑*i*P	**Pn**	**00 12 34.2**	**+0.2**
PDPR	**Patillas Dam,**	**1.56**	**134**	*e*S	**Sb**	**00 12 55.0**	**-0.3**
HUMP	**Col San Antoni**	**1.61**	**127**	Pn	**Pn**	**00 12 34.5**	**-0.1**
MIDR	**Miches**	**1.75**	**266**	⇑*i*P	**Pn**	**00 12 37.3**	**+0.7**
MIDR	**Miches**	**1.75**	**266**	*e*S	**Sn**	**00 12 58.9**	**+0.7**
MIDR	**Miches**	**1.75**	**266**	*e*Pg	**Pn**	**00 12 37.3**	**+0.7**
MIDR				*e*Sg	**Sb**	**00 13 00.1**	**-0.6**
MIDR				IAML		00 13 07.3	
	comp=N,8μm,1.1s						
MIDR				IAML		00 13 07.3	
	comp=N,8μm,1.1s						
MIDR				IAML		00 13 09.1	
	comp=E,8μm,1.0s						
SMDR	**Samana, DR**	**1.88**	**276**	⇑*e*P	**Pn**	**00 12 38.1**	**-0.3**
SMDR	**Samana, DR**	**1.88**	**276**	*e*S	**Sn**	**00 13 01.7**	**+0.2**
SMDR	**Samana, DR**	**1.88**	**276**	*e*Pg	**Pn**	**00 12 38.2**	**-0.3**
SMDR				*e*Sg	**Sb**	**00 13 05.6**	**+1.0**
SMDR				IAML		00 13 11.8	
	comp=N,8μm,0.9s						
SMDR				IAML		00 13 17.9	
	comp=E,7μm,0.6s						
LONA1	**Toro Cenizo, N**	**2.53**	**276**	*i*P	**Pn**	**00 12 49.5**	**+2.2**
LONA1				IAML		00 13 45.1	
	comp=Z,9μm,1.6s						
SDD	**Santo Domingo**	**2.65**	**256**	Pn	**Pn**	**00 12 50.3**	**+1.3**
SDD	**Santo Domingo**	**2.65**	**256**	⇑*e*P	**Pn**	**00 12 50.8**	**+1.8**
SDD	**Santo Domingo**	**2.65**	**256**	*e*S	**Sb**	**00 13 26.1**	**-0.5**
SDD	**Santo Domingo**	**2.65**	**256**	*i*P	**Pn**	**00 12 50.9**	**+1.8**
SC01	**Santiago de lo**	**3.34**	**276**		**Pn**	**00 13 00.1**	**+1.5**
SC01	**Santiago de lo**	**3.34**	**276**	⇓*e*P	**Pn**	**00 13 00.2**	**+1.6**
SC01	**Santiago de lo**	**3.34**	**276**	*i*P	**Pn**	**00 13 00.9**	**+2.4**
LOPP1	**Punta Rusia, P**	**3.84**	**282**	*i*P	**Pn**	**00 13 06.4**	**+1.0**
LOPP1				IAML		00 14 24.5	
	comp=Z,4μm,0.9s						
SDDR	**Presa de Saban**	**3.87**	**269**	Pn	**Pn**	**00 13 07.7**	**+1.9**
SDDR	**Presa de Saban**	**3.87**	**269**	*e*P	**Pn**	**00 13 08.0**	**+2.2**
SDDR				*e*S	**Sn**	**00 13 52.4**	**+1.9**
SDDR	**Presa de Saban**	**3.87**	**269**	⇓*e*P	**Pn**	**00 13 08.1**	**+2.3**
SDDR	**Presa de Saban**	**3.87**	**269**	P	**Pn**	**00 13 08.1**	**+2.3**
SDDR				S	**Sb**	**00 14 07.7**	**+6.0**
SDDR	**Presa de Saban**	**3.87**	**269**	⇑*i*P	**Pn**	**00 13 08.9**	**+3.1**
SDDR				IAML		00 14 11.5	
	comp=Z,3μm,0.9s						
PODR	**Polo**	**3.98**	**257**	*i*P	**Pn**	**00 13 10.0**	**+2.5**
SABA	**Saba**	**4.04**	**111**		**Pn**	**00 13 08.9**	**+0.7**
SABA				IAML		00 14 23.5	
	comp=N,1μm,0.7s						
SABA	**Saba**	**4.04**	**111**	⇑*e*P	**Pn**	**00 13 09.8**	**+1.5**
SMRT	**St. Maarten**	**4.06**	**104**	Pn	**Pn**	**00 13 08.7**	**+0.3**
SMRT				IAML		00 14 11.0	
	comp=N,1μm,0.9s						
SMRT				IAML		00 14 14.8	
	comp=E,1μm,0.7s						
SMRT	**St. Maarten**	**4.06**	**104**	⇓*e*P	**Pn**	**00 13 09.1**	**+0.7**
SMRT	**St. Maarten**	**4.06**	**104**	*e*S	**Sn**	**00 13 55.1**	**-0.2**
LONE3	**El Aguacate, B**	**4.06**	**264**	*i*P	**Pn**	**00 13 11.3**	**+2.7**
LONE3				IAML		00 14 19.2	
	comp=Z,2μm,0.9s						
LODU1	**El Espartillar**	**4.12**	**260**	*i*P	**Pn**	**00 13 12.1**	**+2.8**
LODU1				IAML		00 14 32.5	
	comp=Z,3μm,0.6s						
LOVI	**El Cajuil, Ovi**	**4.16**	**252**	*i*P	**Pn**	**00 13 12.0**	**+2.2**
LOVI				IAML		00 14 16.4	
	comp=Z,2μm,1.4s						
SEUS	**St. Eustatius**	**4.32**	**111**		**Pn**	**00 13 12.3**	**+0.3**
SEUS				IAML		00 14 32.1	
	comp=E,1μm,0.8s						
SEUS				IAML		00 14 44.8	
	comp=N,1μm,0.8s						
GRTK	**Grand Turk**	**4.39**	**304**	Pn	**Pn**	**00 13 11.4**	**-1.6**
GRTK				IAML		00 14 47.6	
	comp=N,971nm,1.0s						
GRTK	**Grand Turk**	**4.39**	**304**	*e*P	**Pn**	**00 13 10.9**	**-2.0**
GRTK				*e*S	**Sn**	**00 13 57.8**	**-5.6**
SKI	**Saint Kitts**	**4.60**	**112**	*e*P	**Pn**	**00 13 17.7**	**+1.9**
SKI	**Saint Kitts**	**4.60**	**112**	*e*S	**Sb**	**00 14 16.5**	**-6.3**
SKOC	**St. Kitts, UWI**	**4.62**	**112**	*e*P	**Pn**	**00 13 17.2**	**+1.1**
PAPH	**Port-au-Prince**	**4.86**	**264**	*e*P	**Pn**	**00 13 23.3**	**+1.8**
PAPH				*e*S	**Sn**	**00 14 20.4**	**+5.3**
PAPH	**Port-au-Prince**	**4.86**	**264**	P	**Pn**	**00 13 22.0**	**+2.5**
LGNH	**Logne**	**5.15**	**264**	P	Pn	00 13 30.3	+6.8
ANWB	**Willy Bob**	**5.34**	**105**	Pn	**Pn**	**00 13 26.9**	**+0.9**
ANWB				IAML		00 14 47.7	
	comp=N,437nm,2.0s						
ANWB				IAML		00 14 49.3	
	comp=N,518nm,1.9s						
ANWB	**Willy Bob**	**5.34**	**105**	*e*P	**Pn**	**00 13 26.1**	**+0.1**
ANWB	**Willy Bob**	**5.34**	**105**	*e*S	**Sn**	**00 14 25.1**	**-1.8**
DHSZ	**Broadband at M**	**5.90**	**118**	*e*P	**Pn**	**00 13 36.2**	**+2.4**
GDHS	**Morne Mazeau,**	**5.90**	**118**		**Pn**	**00 13 34.9**	**+1.0**
ATGZ	**Broadband at L**	**6.02**	**119**	*e*P	**Pn**	**00 13 37.8**	**+2.4**
ABD	**La Joyeuse, An**	**6.04**	**115**		**Pn**	**00 13 37.2**	**+1.5**
ABD	**La Joyeuse, An**	**6.04**	**115**	⇑*e*P	**Pn**	**00 13 37.3**	**+1.6**
ABD	**La Joyeuse, An**	**6.04**	**115**	*e*S	**Sn**	**00 14 46.7**	**+2.5**
MMLZ	**Guadeloupe Bro**	**6.10**	**119**	*e*P	**Pn**	**00 13 37.7**	**+1.3**
CBE	**Ff, Capester**	**6.14**	**119**		**Pn**	**00 13 38.2**	**+1.2**
TBG	**Guadaloupe-3**	**6.22**	**121**	*e*P	**Pn**	**00 13 36.6**	**-1.5**
MAGL	**Barre de l'ile**	**6.47**	**118**	Pn	**Pn**	**00 13 41.0**	**-0.6**
DSDZ	**La Diserade, G**	**6.48**	**114**	*e*P	**Pn**	**00 13 37.9**	**-3.7**
GDSD	**La Dsirade Is**	**6.48**	**114**		**Pn**	**00 13 42.2**	**+0.5**
DSLB	**Salisbury**	**6.62**	**123**	*e*P	Pn	00 13 37.6	-6.1
MASC	**Masc**	**6.71**	**280**	*e*P	**Pn**	**00 13 41.8**	**-3.0**
MASC				*e*S	**Sn**	**00 14 54.0**	**-6.5**
MASC	**Masc**	**6.71**	**280**	P	**Pn**	**00 13 42.9**	**-1.9**
SVN	**Savane Anatole**	**7.17**	**125**	*e*P	**Pn**	**00 13 55.0**	**+3.7**
SVN	**Savane Anatole**	**7.17**	**125**	*e*S	**Sn**	**00 15 14.4**	**+2.4**
FDF	**Fort de France**	**7.25**	**126**	Pn	**Pn**	**00 13 51.4**	**-0.9**
QMBU	**Quimbuelo**	**7.25**	**280**	*e*P	**Pn**	**00 13 48.2**	**-4.1**
ILAM	**Ilet Lapin Mar**	**7.44**	**124**	*e*P	**Pn**	**00 13 56.8**	**+2.0**
BIM	**Bigot**	**7.44**	**127**	Pn	**Pn**	**00 13 55.8**	**+0.8**
BIM	**Bigot**	**7.44**	**127**	*e*P	**Pn**	**00 13 56.5**	**+1.5**
BIM	**Bigot**	**7.44**	**127**	*e*S	**Sn**	**00 15 19.4**	**+0.7**
NMDO	**Nuevo Mundo**	**7.46**	**282**	Pn	**Pn**	**00 13 52.2**	**-3.0**
NMDO	**Nuevo Mundo**	**7.46**	**282**	*e*P	**Pn**	**00 13 51.4**	**-3.7**
NMDO				*e*S	**Sn**	**00 15 12.2**	**-6.9**
GTBY	**Guantanamo Bay**	**7.50**	**278**		**Pn**	**00 13 57.4**	**+1.7**
GTBY	**Guantanamo Bay**	**7.50**	**278**	*e*P	**Pn**	**00 13 53.5**	**-2.3**
GTBY				*e*S	**Sn**	**00 15 14.5**	**-5.6**
MPOM	**Morne Pois Mar**	**7.65**	**126**		**Pn**	**00 13 59.4**	**+1.7**
SLBI	**Saint Lucia, B**	**7.83**	**129**	*e*P	**Pn**	**00 14 01.0**	**+0.8**
SLBI	**Saint Lucia, B**	**7.83**	**129**	*e*S	**Sn**	**00 15 25.8**	**-2.4**
SVB	**Belmont**	**8.15**	**135**	*e*P	**Pn**	**00 14 05.2**	**+0.5**
SVB	**Belmont**	**8.15**	**135**	*e*S	**Sn**	**00 15 39.9**	**+3.8**
PINC	**Pinares de May**	**8.20**	**281**	*e*P	**Pn**	**00 14 01.1**	**-4.2**
PINC				*e*S	Sn	00 15 27.8	-9.4
MARVS	**Santiago de Cu**	**8.25**	**278**	*e*P	**Pn**	**00 14 02.5**	**-3.5**
HLGC	**Holguin**	**8.51**	**283**	*e*P	**Pn**	**00 14 07.6**	**-2.1**
HLGC				*e*S	**Sn**	**00 15 40.9**	**-4.1**
GCMP	**Grenada, Carri**	**8.62**	**139**	*e*P	**Pn**	**00 14 12.0**	**+0.9**
GCMP	**Grenada, Carri**	**8.62**	**139**	*e*S	**Sn**	**00 15 44.7**	**-2.9**
GRHS	**Sauteurs**	**8.69**	**141**	*e*P	**Pn**	**00 14 13.7**	**+1.5**
URI	**Uribia**	**8.69**	**213**	P	**Pn**	**00 14 12.1**	**-0.1**
YAR	**Yar**	**8.71**	**280**	*e*P	**Pn**	**00 14 13.6**	**+1.3**
YAR				*e*S	**Sn**	**00 15 42.8**	**-7.1**
GRGR	**Grenville**	**8.76**	**142**		**Pn**	**00 14 14.6**	**+1.6**
GRGR	**Grenville**	**8.76**	**142**	*e*P	**Pn**	**00 14 14.9**	**+1.9**
GRGR	**Grenville**	**8.76**	**142**	*e*S	**Sn**	**00 15 46.6**	**-4.5**
PCRV	**Puerto La Cruz**	**9.22**	**164**	Pn	**Pn**	**00 14 20.1**	**+0.7**
	comp=N,42nm,0.3s,baz=323,slow=6.1,SNR=32						
PCRV				Sn	**Sn**	**00 15 59.5**	**-3.1**
	comp=N,9.5nm,0.3s,baz=170,slow=15,SNR=7.4						
PCRV				LR	LR	00 17 56.1	
	comp=N,734nm,18.5s,slow=38						
PCRV	**Puerto La Cruz**	**9.22**	**164**	*e*P	**Pn**	**00 14 20.8**	**+1.3**
PCRV	**Puerto La Cruz**	**9.22**	**164**	*e*S	**Sn**	**00 15 59.9**	**-2.7**
LMGC	**Las Mercedes**	**9.29**	**277**	*e*P	**Pn**	**00 14 16.4**	**-3.9**
LMGC				*e*S	**Sn**	**00 15 55.9**	**-8.1**
CRJC	**Cerrejon, Guaj**	**9.73**	**215**	P	**Pn**	**00 14 26.3**	**-0.2**
	comp=N,1μmcomp=N,40nm,0.5s						
MTDJ	**Mount Denham**	**9.83**	**267**	Pn	**Pn**	**00 14 28.5**	**+0.7**
MTDJ	**Mount Denham**	**9.83**	**267**	*e*P	**Pn**	**00 14 27.9**	**+0.1**
MTDJ				*e*S	**Sn**	**00 16 13.0**	**-4.6**
TRN	**Trinidad (W)**	**10.11**	**146**	*e*P	**Pn**	**00 14 35.6**	**+4.1**
TRN	**Trinidad (W)**	**10.11**	**146**	*e*S	**Sn**	**00 16 22.8**	**-1.5**
BAUV	**El Baul**	**10.14**	**185**		**Pn**	**00 14 33.5**	**+1.5**
BAUV	**El Baul**	**10.14**	**185**	*e*P	**Pn**	**00 14 34.7**	**+2.7**
BAUV	**El Baul**	**10.14**	**185**	*e*S	**Sn**	**00 16 19.4**	**-5.6**
SMRC	**Santa Marta, M**	**10.41**	**222**		**Pn**	**00 14 34.1**	**-1.6**
SDV	**Santo Domingo**	**10.70**	**199**		**Pn**	**00 14 40.8**	**+1.1**
SDV	**Santo Domingo**	**10.70**	**199**	Pn	**Pn**	**00 14 42.3**	**+2.5**
	comp=N,4.9nm,0.3s,baz=24,slow=6.7,SNR=13						
SDV	**Santo Domingo**	**10.70**	**199**	*e*P	**Pn**	**00 14 39.6**	**-0.1**
SDV	**Santo Domingo**	**10.70**	**199**	P	**Pn**	**00 14 43.1**	**+3.3**
	comp=N,948nmcomp=N,90nm,0.7s						
CBCY	**The Bluff, Cay**	**11.86**	**275**	*e*P	**Pn**	**00 14 53.0**	**-2.5**
CBCY				*e*S	Sn	00 16 57.6	-10
CAIB	**Caibarien**	**11.96**	**288**	*e*P	Pn	00 14 51.9	-4.9
CAIB				*e*S	Sn	00 16 57.0	-13
SJCC	**San Jacinto, C**	**11.98**	**221**	P	**Pn**	**00 14 59.2**	**+2.0**
LCCY	**Blossom Villag**	**12.17**	**275**	*e*P	**Pn**	**00 14 57.6**	**-2.1**
LCCY				*e*S	**Sn**	**00 17 08.7**	**-6.0**
MGV	**Manicaragua**	**12.33**	**286**	*e*P	**Pn**	**00 14 57.5**	**-4.4**
MGV				*e*S	Sn	00 17 06.0	-13
PAMC	**Pamplona, Colo**	**12.86**	**205**	P	**Pn**	**00 15 10.7**	**+1.0**
BBSR	**BB Station**	**13.39**	**9**	Pn	**Pn**	**00 15 15.1**	**-1.3**
UREC	**San Jos de Ur**	**13.89**	**217**	P	**Pn**	**00 15 24.1**	**+0.8**
RUSC	**La Rusia**	**14.33**	**204**	Pn	**Pn**	**00 15 29.0**	**-0.8**
RUSC	**La Rusia**	**14.33**	**204**	P	**Pn**	**00 15 31.8**	**+2.0**
APAC	**Apartado, Choc**	**14.39**	**220**	P	**Pn**	**00 15 31.1**	**+1.0**
	comp=N,835nmcomp=N,56nm,0.7s						
PRVC	**Isla de Provid**	**14.74**	**249**		**Pn**	**00 15 34.2**	**-0.6**
DBBC	**Dabeiba**	**14.87**	**217**	P	**Pn**	**00 15 38.6**	**+1.8**
HELC	**Santa Helena**	**15.19**	**213**	P	**Pn**	**00 15 43.2**	**+2.0**
SOR	**Soroa**	**15.21**	**287**		**Pn**	**00 15 41.4**	**+0.2**
CBOC	**Ciudad Bolivar**	**15.72**	**214**	P	**Pn**	**00 15 48.4**	**+0.5**
	comp=N,87nm,1.1s						
BCIP	**Isla Barro Col**	**15.73**	**233**		**Pn**	**00 15 48.8**	**+0.8**
BCIP	**Isla Barro Col**	**15.73**	**233**	P	**Pn**	**00 15 48.9**	**+0.9**
	comp=N,600nmcomp=N,48nm,0.8s						
ROSC	**El Rosal**	**15.79**	**207**	Pn	**Pn**	**00 15 48.8**	**-0.4**
	comp=N,2.3nm,0.3s,baz=90,slow=5.5,SNR=9.0						
ROSC				Sn	**Sn**	**00 18 42.6**	**-1.2**
	comp=N,1.0nm,0.3s,baz=19,slow=21,SNR=1.4						
ROSC				LR	LR	00 22 27.2	
	comp=N,478nm,19.5s,baz=357,slow=40						
	comp=N,22nm,0.9s						
GUY2C	**Guyana, Caldas**	**15.93**	**211**	P	**Pn**	**00 15 52.0**	**+1.0**
	comp=N,1μmcomp=N,131nm,0.7s						
ORTC	**Ortega, Tolima**	**17.03**	**208**	P	**P**	**00 16 06.6**	**+0.4**
	comp=N,1μmcomp=N,143nm,0.9s						
PRAC	**Prado**	**17.05**	**207**	P	**P**	**00 16 06.9**	**+0.5**
PRAC	**Prado**	**17.05**	**207**	P	**P**	**00 16 06.2**	**-0.2**
	comp=N,1μmcomp=N,104nm,1.0s						
656A	**Willston**	**17.29**	**309**	Pn	**Pn**	**00 16 05.8**	**-1.9**
456A	**Hilliard**	**17.71**	**314**	P	**Pn**	**00 16 13.1**	**+0.3**
Y60A	**Bolivia**	**17.78**	**329**	P	**P**	**00 16 14.7**	**+0.3**
Y60A				IAmb	IAmb	00 16 17.8	
	comp=Z,79nm,0.8s						
257A	**Skidaway Islan**	**17.85**	**319**	IAmb	IAmb	00 16 19.3	
	comp=Z,68nm,0.5s						
BOAV	**Boa Vista**	**17.86**	**158**	P	**P**	**00 16 15.8**	**+0.5**
BOAV	**Boa Vista**	**17.86**	**158**	*e*P	**Pn**	**00 16 14.7**	**-0.1**
BOAV	**Boa Vista**	**17.86**	**158**	P	**P**	**00 16 16.2**	**+0.9**
	comp=Z,30nm,0.8s						
CSU	**Charleston Sou**	**17.99**	**323**	P	**P**	**00 16 17.9**	**+1.3**
MACC	**Macarena, Meta**	**18.07**	**202**	P	**P**	**00 16 17.7**	**0.0**
	comp=Z,466nmcomp=Z,34nm,0.9s						
NHSC	**New Hope**	**18.14**	**323**	IAmb	IAmb	00 16 23.8	
	comp=Z,83nm,0.7s						
HDC	**Heredia**	**18.69**	**243**		**P**	**00 16 23.1**	**-1.5**
POPC	**Popayan, Colom**	**18.90**	**210**	P	**Pn**	**00 16 29.4**	**+1.7**
	comp=Z,512nmcomp=Z,28nm,1.2s						
SGC2	**Sao Gabriel da**	**19.14**	**179**	P	**P**	**00 16 28.8**	**-0.7**
	comp=Z,28nm,1.0s						
TIGA	**Tifton**	**19.21**	**313**	P	**Pn**	**00 16 32.2**	**+1.0**
JTS	**Las Juntas de**	**19.26**	**245**	P	**Pn**	**00 16 32.8**	**+0.9**
JTS	**Las Juntas de**	**19.26**	**245**	P	**Pn**	**00 16 32.4**	**+0.5**
	comp=Z,8.8nm,0.6

comp=Z,15nm,0.6s
Q44A Meyer Farm, Va 27.31 321 IAmb IAmb 00 18 31.4
comp=Z,19nm,0.7s
WHAR Wooly Hollow 27.41 311 IAmb IAmb 00 17 53.3
comp=Z,23nm,0.8s
X40A Basin Creek Fa 27.42 309 IAmb IAmb 00 17 52.6
comp=Z,17nm,0.9s
FCAR Ozark Folk Cen 27.59 312 IAmb IAmb 00 17 54.6
comp=Z,17nm,0.9s
CCM Cathedral Cave 28.18 317 P **P** **00 17 57.9 -0.6**
CCM IAmb IAmb 00 17 59.8
comp=Z,23nm,0.9s
ATAH Atahualpa 28.32 204 LR LR 00 30 42.4
comp=Z,177nm,20.8s,baz=27,slow=40
NPGB Novo Progresso 28.49 155 *eP* **P** **00 18 00.4 -1.0**
R40A Maddies Statio 28.98 317 IAmb IAmb 00 18 06.6
comp=Z,27nm,1.3s
U38A Gravette 29.45 311 IAmb IAmb 00 18 11.0
comp=Z,24nm,1.4s
P40A Paris 29.55 319 IAmb IAmb 00 18 11.7
comp=Z,22nm,0.9s
N41A Harden Midland 29.55 322 P **P** **00 18 10.7 +0.1**
N41A IAmb IAmb 00 18 12.4
comp=Z,32nm,1.0s
L42A Oliver, Polo 29.74 325 IAmb IAmb 00 18 13.8
comp=Z,15nm,0.8s
RLO Rose Lookout 29.78 311 IAmb IAmb 00 18 14.0
comp=Z,13nm,0.6s
TUL3 Leonard 30.22 309 IAmb IAmb 00 18 18.2
comp=Z,15nm,0.7s
Z35A Perchaven, San 30.32 304 IAmb IAmb 00 18 20.0
comp=Z,21nm,0.9s
PRPB Parauapebas 30.41 144 *eP* **P** **00 18 19.4 +0.9**
P38A Dawn 30.54 318 IAmb IAmb 00 18 20.1
comp=Z,12nm,0.6s
JFWS Jewell Farm 30.68 326 IAmb IAmb 00 18 22.1
comp=Z,18nm,0.8s
QUOK Quay 31.00 309 P **P** **00 18 23.2 -0.4**
N38A Joes South For 31.03 320 IAmb IAmb 00 18 24.7
comp=Z,27nm,1.0s
I40A Norwalk 31.55 327 IAmb IAmb 00 18 29.6
comp=Z,14nm,0.6s
JCT Junction City 31.57 297 P **P** **00 18 28.5 -0.2**
JCT IAmb IAmb 00 18 45.1
comp=Z,11nm,0.9s
CLDB Colider 31.85 158 *eP* **P** **00 18 32.1 +1.0**
ABTX Abilene, Hawle 32.00 301 IAmb IAmb 00 18 50.9
comp=Z,17nm,0.7s
WMOK Wichita Mounta 32.00 306 IAmb IAmb 00 18 47.5
comp=Z,9.1nm,0.7s
PDRB Porto dos Gac 32.23 160 *eP* **P** **00 18 33.9 -0.6**
KSU1 Kansas State U 32.29 314 P **P** **00 18 34.2 -0.6**
G40A Rib Lake 32.32 329 IAmb IAmb 00 18 37.2
comp=Z,14nm,0.9s
APMT Aspermont 32.59 302 IAmb IAmb 00 18 39.4
comp=Z,26nm,1.6s
VILB Vilhena 32.60 167 P **P** **00 18 37.1 -0.6**
VILB IAmb IAmb 00 18 53.9
comp=Z,25nm,1.0s
VILB Vilhena 32.60 167 *eP* **P** **00 18 38.4 +0.7**
OZNA Ozona 32.79 298 IAmb IAmb 00 18 53.1
comp=Z,33nm,1.6s
SGCY Sterling City 33.02 299 IAmb IAmb 00 18 56.2
comp=Z,17nm,1.1s
SMWD Samnorwood 33.26 305 IAmb IAmb 00 18 44.7
comp=Z,19nm,1.1s
R32A Long Quarter, 33.42 312 P **P** **00 18 44.7 0.0**
POST Post 33.62 301 IAmb IAmb 00 19 02.9
comp=Z,18nm,0.9s
SMTB Santa Maria do 33.86 143 *eP* **P** **00 18 48.0 -0.8**
E38A The Farm, Brul 33.94 329 IAmb IAmb 00 19 53.8
comp=Z,14nm,1.0s
MNHN Monahans 34.24 298 IAmb IAmb 00 19 06.4
comp=Z,11nm,0.7s
AMTX Amarillo 34.30 304 P **P** **00 18 52.9 +0.4**
SNDB Serra Nova Dou 34.64 152 *eP* **P** **00 18 54.2 -1.3**
TXAR Lajitas Array 34.65 294 P **P** **00 18 55.4 -0.2**
TXAR Lajitas Array 34.65 294 P **P** **00 18 56.5 +0.8**
comp=Z,3.8nm,0.8s,baz=113,slow=9.2,SNR=38
TXAR PcP **PcP** **00 21 32.6 +2.9**
comp=Z,1.1nm,0.6s,baz=93,slow=3.0,SNR=4.6
TXAR ScP **ScP** **00 25 15.3 +1.6**
comp=Z,3.3nm,0.9s,baz=92,slow=3.7,SNR=16
TXAR LR LR 00 38 26.0
comp=Z,68nm,18.1s,baz=84,slow=46
comp=Z,3.8nm,0.8s
TX31 Lajitas Ar. Si 34.65 294 P **P** **00 18 56.4 +0.8**
TX31 IAmb IAmb 00 19 22.8
comp=Z,15nm,1.1s
ECSD EROS Data Cent 34.79 321 IAmb IAmb 00 18 57.9
comp=Z,20nm,0.7s
ALPN Alpine 34.80 296 IAmb IAmb 00 19 10.6
comp=Z,16nm,0.8s
MSTX Muleshoe 34.89 302 IAmb IAmb 00 19 16.5
comp=Z,36nm,1.5s
LPAZ La Paz 35.19 182 P **P** **00 19 00.1 -0.8**
LPAZ La Paz 35.19 182 P **P** **00 18 59.9 -0.9**
comp=Z,1.3nm,0.6s,baz=342,slow=8.7,SNR=6.8
LPAZ LR LR 00 34 27.7
comp=Z,174nm,19.5s,baz=354,slow=38
comp=Z,1.3nm,0.6s
LPAZ La Paz 35.19 182 *eP* **P** **00 19 01.0 +0.1**
PTLB Pontes e Lacer 35.25 166 P **P** **00 18 59.7 -1.0**
PTLB IAmb IAmb 00 19 02.2
comp=Z,22nm,1.6s
PTLB Pontes e Lacer 35.25 166 *eP* **P** **00 18 59.5 -1.2**
SIV San Ignacio 35.40 170 LR LR 00 34 15.1
comp=Z,251nm,18.9s,baz=321,slow=38
RTBA Rita Blanca 35.61 306 P **P** **00 19 03.8 -0.1**
RTBA IAmb IAmb 00 19 05.3
comp=Z,19nm,1.3s
SCHQ Schefferville 35.66 0 P **P** **00 19 04.0 +0.1**
SCHQ Schefferville 35.66 0 P **P** **00 19 04.7 +0.9**
comp=Z,182nm,0.7s,baz=188,slow=7.6,SNR=26
SCHQ LR LR 00 32 45.8
comp=Z,1μm,20.0s,baz=174,slow=35
K30B Basset 36.05 318 P **P** **00 19 07.5 +0.1**
HPIG 36.13 290 P **P** **00 19 08.4 -0.2**
MNTX Cornudas Mount 36.51 298 P **P** **00 19 11.7 +0.2**
MNTX IAmb IAmb 00 19 25.7
comp=Z,16nm,1.1s
SALV Santo Antonio 36.59 161 *eP* **P** **00 19 12.8 +0.6**
T25A Trinidad 37.11 307 P **P** **00 19 17.2 +0.4**
PB16 IPOC Station P 37.28 184 P **P** **00 19 16.1 -2.6**
ARAG Araguaiana, MT 37.77 155 *eP* **P** **00 19 21.6 -0.6**
BNM Barren Site 38.04 301 P **P** **00 19 25.1 +0.4**
ANMO Albuquerque 38.09 303 P **P** **00 19 25.2 +0.2**
ANMO Albuquerque 38.09 303 P **P** **00 19 25.7 +0.6**
comp=Z,1.8nm,0.8s,baz=210,slow=9.4,SNR=5.3
ANMO LR LR 00 37 39.3
comp=Z,203nm,18.2s,baz=206,slow=40
comp=Z,1.8nm,0.8s
SDCO Great Sand Dun 38.12 307 P **P** **00 19 25.4 0.0**
SDBA SAO DESIDERIO 38.26 143 *eP* **P** **00 19 26.1 -0.4**
PP1B Ponte de Pedra 38.44 161 *eP* **P** **00 19 29.3 +1.4**
ULM Lac du Bonnet 38.54 330 P **P** **00 19 28.1 -0.3**
comp=Z,4.3nm,0.7s,baz=141,slow=8.9,SNR=8.4
ULM LR LR 00 34 23.6
comp=Z,121nm,21.3s,baz=145,slow=35
comp=Z,4.3nm,0.7s
121A Cookes Peak, D 38.66 298 P **P** **00 19 31.3 +1.4**
PB11 IPOC Station P 38.71 184 P **P** **00 19 28.4 -1.9**
PB11 IAmb IAmb 00 19 48.0
comp=Z,25nm,1.1s
HMBC Humberstone 39.23 184 P **P** **00 19 32.3 -2.3**
HMBC IAmb IAmb 00 19 44.4
comp=Z,24nm,0.6s
BDFB Brasilia 39.36 150 P **P** **00 19 34.5 -1.2**
BDFB Brasilia 39.36 150 P **P** **00 19 35.1 -0.7**
comp=Z,6.2nm,0.8s,baz=314,slow=11,SNR=6.0
BDFB LR LR 00 36 24.1
comp=Z,268nm,18.6s,baz=311,slow=37
comp=Z,6.2nm,0.8s
DUN6 Lazy B Ranch 39.76 298 IAmb IAmb 00 19 52.1
comp=Z,28nm,1.1s
PB01 IPOC Station P 39.97 183 IAmb IAmb 00 19 58.7
comp=Z,22nm,1.0s
LPIG La Paz 40.27 285 LR LR 00 37 12.5
comp=Z,133nm,21.6s,baz=100,slow=37
PV15 Paradox Valley 40.55 307 P **P** **00 19 46.0 +0.4**
PV01 Paradox Valley 40.56 307 P **P** **00 19 46.5 +0.8**
K22A Casper 40.59 314 P **P** **00 19 45.9 +0.1**
BDQN Bodoquena, MS 40.63 165 *eP* **P** **00 19 46.0 0.0**
JANB Januaria 40.75 145 *eP* **P** **00 19 45.4 -1.9**
PV11 David Mesa, Pa 40.83 307 IAmb IAmb 00 19 51.1
comp=Z,30nm,1.3s

AQDB Aquidauana 40.93 163 P **P** **00 19 47.6 -0.9**
AQDB IAmb IAmb 00 19 51.6
comp=Z,16nm,0.9s
AQDB Aquidauana 40.93 163 *eP* **P** **00 19 47.7 -0.8**
MURT Porto Murtinho 41.59 166 *eP* **P** **00 19 51.9 -2.1**
X16A Lo Mia Camp, P 42.00 300 P **P** **00 19 58.0 +0.5**
PMNB Patos De Minas 42.61 150 *eP* **P** **00 20 01.6 -0.8**
PDAR Pinedale Array 42.71 313 P **P** **00 20 02.5 -0.7**
PDAR Pinedale Array 42.71 313 P **P** **00 20 03.6 +0.4**
comp=Z,0.7nm,0.4s,baz=110,slow=10,SNR=19
PDAR PcP **PcP** **00 21 55.0 +0.2**
comp=Z,0.8nm,0.6s,baz=111,slow=2.6,SNR=2.5
comp=Z,0.7nm,0.4s
Y14A Wickenburg 43.20 299 P **P** **00 20 07.3 +0.1**
RLMT Red Lodge 43.38 316 IAmb IAmb 00 20 11.2
comp=Z,61nm,1.6s
AMBA Amambai (Brazi 43.45 164 *eP* **P** **00 20 08.7 -0.5**
LOHW Long Hollow 43.72 314 IAmb IAmb 00 20 13.3
comp=Z,18nm,1.1s
DIAM Diamantina, MG 43.77 147 *eP* **P** **00 20 10.9 -1.0**
BB19B Bebedouro 43.92 154 *eP* **P** **00 20 14.9 +2.0**
YHL Hebgen Lake 44.54 315 P **P** **00 20 20.2 +2.2**
YHL IAmb IAmb 00 20 21.9
comp=Z,39nm,1.6s
FRB Frobisher Bay 44.61 359 P **P** **00 20 18.9 +1.0**
comp=Z,26nm,0.7s,baz=177,slow=8.6,SNR=20
FRB LR LR 00 38 18.7
comp=Z,145nm,19.9s,baz=205,slow=35
comp=Z,26nm,0.7s
V12A Nelson 44.97 302 IAmb IAmb 00 20 38.1
comp=Z,11nm,1.0s
IRM Iron Mountain 45.00 299 IAmb IAmb 00 20 27.2
comp=Z,14nm,1.1s
LDASE Londrina, Braz 45.07 159 *eP* **P** **00 20 22.4 +0.2**
BOZ Bozeman (W) 45.10 316 IAmb IAmb 00 20 24.6
comp=Z,31nm,1.4s
SJPY San Joaquin 45.16 166 *eP* **P** **00 20 21.3 -1.4**
BC3 Big Chuckawall 45.19 299 IAmb IAmb 00 20 51.0
comp=Z,27nm,1.8s
SJMB Sao Joao De Ma 45.44 144 *eP* **P** **00 20 25.3 +0.2**
FRTB Fartura 45.58 157 *eP* **P** **00 20 26.9 +0.8**
R11B Troy Canyon, C 45.98 305 P **P** **00 20 29.7 +0.2**
PTGB Pitinga 45.99 161 *eP* **P** **00 20 30.3 +0.8**
PFO Pinyon Flats O 46.02 299 LR LR 00 41 55.1
comp=Z,33nm,21.9s,baz=122,slow=39
SHOC Shoshone, Teco 46.14 302 IAmb IAmb 00 20 47.4
comp=Z,21nm,1.2s
CPUP Villa Florida 46.18 168 P **P** **00 20 29.6 -1.1**
CPUP Villa Florida 46.18 168 P **P** **00 20 28.2 -2.6**
comp=Z,2.7nm,0.7s,baz=208,slow=7.1,SNR=11
CPUP LR LR 00 40 29.7
comp=Z,47nm,20.3s,baz=199,slow=37
comp=Z,2.7nm,0.7s
CPUP Villa Florida 46.18 168 *eP* **P** **00 20 28.0 -2.8**
RIB01 Linhares ES 46.37 144 *eP* **P** **00 20 31.8 -0.6**
GWY Greenwater Val 46.49 302 IAmb IAmb 00 20 36.2
comp=Z,6.6nm,0.7s
WCT Wildcat Mounta 46.54 303 IAmb IAmb 00 20 36.8
comp=Z,7.3nm,0.7s
QSM Queen of Sheba 46.62 302 IAmb IAmb 00 20 37.2
comp=Z,7.0nm,0.7s
MSO Missoula 47.03 317 P **P** **00 20 38.5 +1.0**
MSO IAmb IAmb 00 20 39.3
comp=Z,14nm,1.5s
WSHM Spangler Hills 47.08 301 IAmb IAmb 00 20 53.6
comp=Z,9.6nm,1.2s
LRMC Laurel Mtn Rad 47.22 301 IAmb IAmb 00 20 55.6
comp=Z,8.3nm,0.9s
MFID Camas Ranch 47.29 312 IAmb IAmb 00 20 42.3
comp=Z,11nm,1.2s
TPO Tropico Hills 47.60 300 IAmb IAmb 00 20 58.6
comp=Z,13nm,1.0s
DSP Deep Springs 47.69 303 IAmb IAmb 00 20 48.7
comp=Z,15nm,1.6s
CAM01 Campos-RJ 47.75 147 *eP* **P** **00 20 42.5 -0.6**
PLID Pearl Lake 47.86 314 IAmb IAmb 00 20 45.6
comp=Z,20nm,1.5s
NV11 Mina Array Sit 47.99 305 IAmb IAmb 00 21 11.2
comp=Z,10nm,0.8s
NVAR Mina Array Bea 48.10 305 P **P** **00 20 46.6 +0.5**
NVAR Mina Array Bea 48.10 305 P **P** **00 20 47.4 +1.3**
comp=Z,6.6nm,0.8s,baz=100,slow=6.9,SNR=19
NVAR LR LR 00 44 04.6
comp=Z,161nm,18.8s,baz=95,slow=40
comp=Z,6.6nm,0.8s
VES Vestal, Richgr 48.40 301 P **P** **00 20 48.5 +0.5**
BMO Blue Mountains 48.69 313 IAmb IAmb 00 20 53.8
comp=Z,18nm,1.6s
WAKR Walker 48.99 305 IAmb IAmb 00 21 28.8
comp=Z,20nm,1.5s
SFJD Kangerlussuaq 49.05 9 P **P** **00 20 52.0 -0.5**
comp=Z,12nm,0.9s,baz=191,slow=10,SNR=3.1
SFJD LR LR 00 39 39.8
comp=Z,93nm,21.2s,baz=190,slow=34
SFJD Kangerlussuaq 49.05 9 *i* P **P** **00 20 53.6 +1.1**
SFJD IAmb IAmb 00 20 55.1
comp=Z,24nm,1.3s
J08A Circle Bar Ran 49.15 311 IAmb IAmb 00 20 56.4
comp=Z,21nm,1.4s
DY2G Dye2 49.26 11 *i* P **P** **00 20 55.5 +0.9**
NEW Newport 49.54 318 P **P** **00 20 57.2 +0.5**
comp=Z,21nm,0.7s,baz=118,slow=6.9,SNR=35
NEW LR LR 00 43 53.7
comp=Z,157nm,18.3s,baz=121,slow=38
LNOR Lincton Mounta 49.62 314 IAmb IAmb 00 21 05.9
comp=Z,12nm,1.0s
ZON Zonda 50.39 182 P **P** **00 21 02.2 -1.0**
GDH Godhavn 50.84 6 *i* P **P** **00 21 06.8 +0.7**
GDH IAmb IAmb 00 21 08.6
comp=Z,28nm,1.1s
MXC Moxie City 51.14 315 IAmb IAmb 00 21 12.4
comp=Z,25nm,1.7s
LTY Liberty 51.56 316 IAmb IAmb 00 21 13.6
comp=Z,29nm,1.7s
WIFE Three Sisters- 51.66 311 IAmb IAmb 00 21 16.0
comp=Z,9.7nm,0.8s
J04A Umppqua Nationa 51.73 310 IAmb IAmb 00 21 18.4
comp=Z,18nm,0.8s
YBH Yreka Blue Hor 51.93 308 P **P** **00 21 13.6 -1.3**
comp=Z,0.2nm,0.6s,baz=280,slow=1.2,SNR=3.8
BBOR Butler Butte 52.08 310 IAmb IAmb 00 21 17.9
comp=Z,30nm,1.6s
YKA Yellowknife Ar 54.17 335 P **P** **00 21 30.9 0.0**
comp=Z,4.1nm,0.8s,baz=72,slow=7.4,SNR=10
YKA LR LR 00 45 48.1
comp=Z,82nm,18.7s,baz=132,slow=37
comp=Z,4.1nm,0.8s
SUMG Summit 55.94 10 P **P** **00 21 44.7 +0.6**
SUMG Summit 55.94 10 *i* P **P** **00 21 45.2 +1.2**
SUMG IAmb IAmb 00 21 46.1
comp=Z,21nm,0.8s
MD01 Midelt array s 57.05 63 P **P** **00 21 54.2 +1.8**
MD31 MD31 57.05 63 P **P** **00 21 52.9 +0.6**
MD31 IAmb IAmb 00 22 12.1
comp=Z,10nm,1.1s
KOTAN Kotaneelee Air 57.28 330 P **P** **00 21 54.6 +1.3**
baz=110
BBB Bella Bella 57.35 320 LR LR 00 48 04.3
comp=Z,76nm,19.4s,baz=144,slow=38
TOAD Toad River Com 57.43 328 P **P** **00 21 55.4 +0.9**
baz=108,SNR=6.8
RES Resolute Bay 57.57 352 LR LR 00 46 11.2
comp=Z,102nm,20.4s,baz=16,slow=36
ESDC Sonseca Array 57.62 55 P **P** **00 21 57.2 +1.1**
ESDC Sonseca Array 57.62 55 P **P** **00 21 58.2 +2.0**
comp=Z,4.0nm,0.9s,baz=271,slow=7.0,SNR=18
ESDC LR LR 00 41 28.0
comp=Z,111nm,22.0s,baz=269,slow=30
comp=Z,4.0nm,0.9s
LIRD Lizi River Hi 58.03 329 P **P** **00 22 00.2 +1.6**
baz=107
WRGLY Wrigley 58.13 334 P **P** **00 21 59.8 +0.6**
baz=112
NEEM North Greenlan 58.92 4 *i* P **P** **00 22 05.2 +0.3**
NEEM IAmb IAmb 00 22 06.6
comp=Z,11nm,0.4s
U35K Hyder 59.19 324 P **P** **00 22 07.6 +0.9**
baz=102
T35M Bob Quinn 59.53 326 P **P** **00 22 10.4 +1.2**
T35M Bob Quinn 59.53 326 P **P** **00 22 10.3 +1.2**
baz=102,SNR=5.2
WTLY Watson Lake, Y 59.54 329 P **P** **00 22 10.2 +1.1**
baz=105
PLCA Paso Flores 59.62 183 P **P** **00 22 09.2 -0.6**
PLCA Paso Flores 59.62 183 P **P** **00 22 09.0 -0.8**
comp=Z,4.0nm,0.9s,baz=358,slow=8.0,SNR=9.0
PLCA LR LR 00 51 58.2
comp=Z,54nm,18.2s,baz=34,slow=40
comp=Z,4.0nm,0.9s
PLCA Paso Flores 59.62 183 *eP* **P** **00 22 09.7 -0.2**
TGTN Hyland Airport 59.68 331 P **P** **00 22 11.1 +1.0**
baz=107
DLBC Dease Lake 59.74 327 LR LR 00 47 13.9
comp=Z,577nm,21.0s,baz=84,slow=35
DLBC Dease Lake 59.74 327 P **P** **00 22 11.5 +0.9**
baz=103,SNR=6.9
EKA Eskdalemuir Ar 59.76 36 P **P** **00 22 12.1 +1.4**
comp=Z,2.2nm,0.5s,baz=283,slow=5.7,SNR=29
comp=Z,2.2nm,0.5s
V35K Ketchikan 59.97 323 P **P** **00 22 13.4 +1.3**
baz=100
S34M Telegraph Cree 60.20 326 P **P** **00 22 14.8 +1.2**
baz=102
R33M Jennings River 60.43 328 IAmb IAmb 00 22 17.6
comp=Z,8.7nm,0.8s
R33M Jennings River 60.43 328 P **P** **00 22 17.2 +1.8**
baz=103
WRAK Wrangell Islan 60.56 325 P **P** **00 22 17.0 +0.8**
baz=100
C36M Paulatuk 60.81 340 P **P** **00 22 19.5 +1.8**
baz=115
CRAG Craig 60.84 323 P **P** **00 22 19.3 +1.3**
baz=99
U33K Whale Pass 60.94 324 P **P** **00 22 20.0 +1.3**
baz=99
T33K Petersburg 60.96 325 P **P** **00 22 19.8 +1.0**
baz=100
Q32M Nakina River 60.99 328 P **P** **00 22 20.1 +0.8**
baz=101
MMPY Sheldon Lake, 61.33 332 P **P** **00 22 22.8 +1.4**
baz=104
P33M Teslin, Yukon 61.52 329 P **P** **00 22 23.9 +1.2**
baz=102,SNR=6.0
DBIC Dimbokro 61.74 93 P **P** **00 22 24.5 -0.3**
comp=Z,4.3nm,1.0s,baz=124,slow=12,SNR=3.5
DBIC LR LR 00 45 10.1
comp=Z,72nm,20.6s,baz=203,slow=32
comp=Z,4.3nm,1.0s
N32M Quiet Lake 61.83 330 P **P** **00 22 26.3 +1.5**
baz=102
P32M Atlin 61.84 328 P **P** **00 22 26.1 +1.2**
baz=100
R32K Eaglecrest 62.03 326 P **P** **00 22 26.8 +0.7**
baz=99
SIT Sitka 62.28 325 P **P** **00 22 28.7 +0.9**
baz=98
A36M Sachs Harbour 62.29 343 P **P** **00 22 28.2 +0.7**
baz=115
DAG Danmarks Havn 62.56 11 *i* P **P** **00 22 29.0 -0.3**
DAG IAmb IAmb 00 22 30.5
comp=Z,14nm,1.0s
WHY Whitehorse 62.60 329 P **P** **00 22 31.0 +0.9**
baz=100
SKAG Skagway 62.63 328 P **P** **00 22 31.1 +1.1**
baz=99
M31M Drury Creek, Y 62.65 331 P **P** **00 22 31.9 +1.6**
baz=101,SNR=5.7
S31K Pelican 62.89 326 P **P** **00 22 32.2 +0.5**
baz=97
PLBC Pleasant Camp 63.15 328 P **P** **00 22 34.6 +1.1**
baz=98
N31M Braeburn, Yuko 63.17 330 P **P** **00 22 35.0 +1.3**
baz=100
O30N Mendenhall 63.21 329 P **P** **00 22 35.4 +1.5**
baz=99
H31M Peel River 63.39 335 P **P** **00 22 36.5 +1.5**
baz=103
P30M Million Dollar 63.54 328 P **P** **00 22 37.3 +1.1**
baz=98
F31M Tsiigehtchic 63.54 337 P **P** **00 22 38.0 +2.1**
baz=104
G31M Satah River 63.62 336 P **P** **00 22 37.0 +0.6**
baz=104
INK Inuvik 63.68 338 LR LR 00 51 29.0
comp=Z,95nm,18.6s,baz=82,slow=37
INK Inuvik 63.68 338 P **P** **00 22 37.8 +0.9**
baz=105,SNR=8.4
N30M Aishikik Lake 63.79 330 P **P** **00 22 38.7 +0.9**
baz=98
M30M Minto, Yukon 63.82 331 P **P** **00 22 38.9 +0.9**
baz=99
P29M Windy Craggy 63.87 328 P **P** **00 22 39.8 +1.4**
baz=97
HYT Haines Junctio 63.90 329 P **P** **00 22 39.9 +1.2**
baz=98
J30M Hart River 63.96 333 IAmb IAmb 00 23 03.4
comp=Z,13nm,1.4s
J30M Hart River 63.96 333 P **P** **00 22 40.5 +1.5**
baz=100
I30M Mount Dempster 64.10 334 IAmb IAmb 00 22 41.2
comp=Z,7.3nm,1.0s
I30M Mount Dempster 64.10 334 P **P** **00 22 41.0 +1.1**
baz=101,SNR=5.4
YUK6 Outpost Mounta 64.33 329 P **P** **00 22 42.0 +0.4**
baz=97
K29M Barlow Dome 64.35 332 P **P** **00 22 42.8 +1.3**
baz=99,SNR=9.0
F30M Barrier River 64.35 337 P **P** **00 22 41.8 +0.5**
baz=102
O29M Mount Kennedy 64.36 328 P **P** **00 22 42.8 +1.1**
baz=96
G30M tAoh Zraii Nji 64.38 336 IAmb IAmb 00 23 14.3
comp=Z,6.9nm,1.0s
G30M tAoh Zraii Nji 64.38 336 P **P** **00 22 42.1 +0.5**
baz=102
EPYK Eagle Plains 64.45 335 P **P** **00 22 42.7 +0.7**
baz=101
L29M L29M 64.51 332 P **P** **00 22 43.7 +1.2**
baz=98
YUK4 Talbot Arm 64.52 330 P **P** **00 22 43.4 +0.7**
baz=97,SNR=5.3
M29M Somme Creek 64.57 331 P **P** **00 22 43.3 +0.4**
baz=98
YUK8 Steele Glacier 65.05 329 P **P** **00 22 46.5 +0.2**
baz=96
G29M Pine Creek 65.06 336 P **P** **00 22 45.5 -0.6**
G29M Pine Creek 65.06 336 P **P** **00 22 47.0 +1.0**
baz=100
H29M Whitestone 65.08 335 P **P** **00 22 46.8 +0.7**
baz=99,SNR=7.2
PINM Pinnacle 65.18 328 P **P** **00 22 47.5 +0.6**
baz=95
DAWY Dawson 65.20 333 P **P** **00 22 47.4 +0.5**
baz=97
O28M Mount Upton 65.21 329 P **P** **00 22 47.2 -0.1**
baz=95
E29M Blow River 65.28 337 P **P** **00 22 47.0 -0.4**
E29M IAmb IAmb 00 22 48.4
comp=Z,9.2nm,0.8s
E29M Blow River 65.28 337 P **P** **00 22 47.6 +0.2**
baz=101,SNR=8.9
I28M Miner Creek 65.61 334 IAmb IAmb 00 22 58.7
comp=Z,7.1nm,0.9s
I28M Miner Creek 65.61 334 P **P** **00 22 50.6 +1.0**
baz=98
NOR Nord 65.78 7 *i* P **P** **00 22 47.4 -3.0**
CTG Chitna Glacier 65.78 329 P **P** **00 22 50.8 -0.1**
baz=94
F28M Old Crow 65.89 336 P **P** **00 22 51.5 +0.2**
baz=99
E28M Babbage River 65.92 337 IAmb IAmb 00 22 51.5
comp=Z,5.1nm,0.8s
E28M Babbage River 65.92 337 P **P** **00 22 51.2 -0.3**
baz=99,SNR=5.4
MESA MESA 66.03 328 P **P** **00 22 51.9 -0.6**
baz=93
EGAK Eagle 66.04 333 IAmb IAmb 00 22 54.6
comp=Z,15nm,1.1s
EGAK Eagle 66.04 333 P **P** **00 22 53.4 +1.1**
baz=96,SNR=7.0
TORD Torodi Ar. Bea 66.10 84 P **P** **00 22 52.3 -1.3**
comp=Z,1.6nm,0.7s,baz=267,slow=6.1,SNR=7.9
M27K Edge Creek, AK 66.14 331 P **P** **00 22 54.2 +1.0**
baz=94
BCAR Beaver Creek A 66.16 331 P **P** **00 22 53.4 +0.3**
L27K Beaver Creek, 66.17 331 IAmb IAmb 00 22 55.5
comp=Z,11nm,0.9s
L27K Beaver Creek, 66.17 331 P **P** **00 22 54.0 +0.8**
baz=95
I27K Kandik River 66.32 334 P **P** **00 22 55.0 +0.9**
baz=96,SNR=6.3
H27K Steamboat Moun 66.35 335 P **P** **00 22 55.2 +0.8**
baz=96
K27K Chicken 66.37 332 P **P** **00 22 55.0 +0.6**
baz=95

G27K **Doyon Strip** 66.47 335 P P 00 22 55.3 +0.2
baz=96,SNR=5.8
D27M **Malcolm River** 66.53 338 P P 00 22 55.8 +0.4
baz=98
E27K **Coleen River** 66.61 337 P P 00 22 56.5 +0.5
baz=97
MCARA **McCarthy VSAT** 66.62 329 P P 00 22 56.9 +0.8
baz=93
CRQE **Cirque** 66.63 329 P P 00 22 57.1 +0.8
baz=93
M26K **Nabesna, AK** 66.67 331 P P 00 22 57.5 +1.0
baz=93
MUD **Monsted U'grnd** 66.78 36 *i* P P 00 22 53.2 -3.9
L26K **Log Cabin Wild** 66.86 331 IAmb IAmb 00 23 00.1
comp=Z,8.4nm,0.9s
L26K **Log Cabin Wild** 66.86 331 P P 00 22 59.0 +1.3
baz=93
I26K **Coal Creek Min** 66.93 334 P P 00 22 59.8 +1.8
baz=94
MENT **Mentasta** 67.03 331 IAmb IAmb 00 23 00.9
comp=Z,16nm,1.2s
J26L **Joseph Creek** 67.05 333 IAmb IAmb 00 23 02.4
comp=Z,11nm,1.4s
J26L **Joseph Creek** 67.05 333 P P 00 22 59.3 +0.4
baz=94,SNR=6.3
SCRK **Sand Creek** 67.20 332 P P 00 23 00.9 +1.0
SCRK **Sand Creek** 67.20 332 P P 00 23 00.6 +0.7
baz=93,SNR=15
KAIM **Kayak Island** 67.26 328 P P 00 23 00.9 +0.7
baz=91
G26K **Porcupine Rive** 67.32 335 IAmb IAmb 00 23 03.3
comp=Z,6.1nm,0.8s
G26K **Porcupine Rive** 67.32 335 P P 00 23 01.2 +0.8
baz=95,SNR=7.2
BMRM **Bremner River** 67.37 329 P P 00 23 01.8 +0.9
baz=91
N25K **Chitina, Valde** 67.39 330 P P 00 23 01.9 +0.9
baz=92
TAM **Tamanrasset** 67.39 73 P P 00 23 03.3 +1.5
TAM IAmb IAmb 00 23 22.6
comp=Z,9.9nm,0.7s
F26K **Sheenjek River** 67.52 336 IAmb IAmb 00 23 04.4
comp=Z,16nm,1.4s
F26K **Sheenjek River** 67.52 336 P P 00 23 02.8 +1.0
baz=95,SNR=6.1
C27K **Jago River** 67.53 338 IAmb IAmb 00 23 02.8
comp=Z,9.2nm,0.9s
C27K **Jago River** 67.53 338 P P 00 23 02.7 +0.9
baz=96,SNR=5.2
RIDG **Independent Ri** 67.57 332 IAmb IAmb 00 23 04.0
comp=Z,14nm,1.0s
RIDG **Independent Ri** 67.57 332 P P 00 23 03.2 +1.0
baz=92,SNR=6.0
BMAR **Burnt Mountain** 67.67 336 P P 00 23 03.0 +0.4
HARP **HAARP** 67.67 330 P P 00 23 03.6 +0.8
baz=92
PAX **Paxson** 67.83 331 IAmb IAmb 00 23 05.6
comp=Z,7.9nm,1.0s
PAX **Paxson** 67.83 331 P P 00 23 05.3 +1.4
baz=91
J25K **Salcha River,** 67.84 333 P P 00 23 04.5 +0.7
baz=92,SNR=5.0
FUORN **Ofenpass-Fuorn** 67.84 47 P P 00 23 05.9 +1.4
FUORN IAmb IAmb 00 23 20.8
comp=Z,9.0nm,1.1s
NB2 **NORSAR Subarra** 67.87 31 P P 00 23 05.6 +1.5
comp=Z,4.8nm,0.8s,baz=270,slow=6.5
NB2 **NORSAR Subarra** 67.87 31 P P 00 23 05.6 +1.5
comp=Z,4.8nm,0.8s,baz=270,slow=6.5
NOA **NORSAR Array B** 67.87 31 P P 00 23 05.8 +1.7
comp=Z,2.7nm,0.7s,baz=270,slow=6.4,SNR=14
NOA LR LR 00 52 05.0
comp=Z,43nm,18.4s,baz=265,slow=35
comp=Z,2.7nm,0.7s
EYAK **Cordova Ski Ar** 67.93 328 P P 00 23 05.2 +0.9
baz=90
C26K **Camden Bay** 67.98 339 P P 00 23 05.3 +0.8
baz=95
K24K **Donnelly Dome** 67.99 332 P P 00 23 05.5 +0.7
baz=92,SNR=5.1
NC602 **NORSAR Array S** 68.03 31 *e*P P 00 23 06.8 +1.8
F25K **Christian Rive** 68.08 336 IAmb IAmb 00 23 07.3
comp=Z,11nm,0.9s
F25K **Christian Rive** 68.08 336 P P 00 23 06.5 +1.2
baz=93,SNR=7.5
E25K **Arctic Village** 68.09 337 IAmb IAmb 00 23 07.1
comp=Z,11nm,1.3s
E25K **Arctic Village** 68.09 337 P P 00 23 06.3 +1.0
baz=93
H25L **Birch Creek** 68.09 335 P P 00 23 05.8 +0.5
baz=92,SNR=5.8
RETA **Reutte** 68.11 46 *e*P P 00 23 05.7 -0.2
comp=Z,4.4nm,1.0s
FETA **Feichten** 68.12 46 *e*P P 00 23 06.0 -0.1
comp=Z,1.5nm,1.0s
M24K **Tolsona, Glenn** 68.14 330 P P 00 23 06.2 +0.4
baz=90
G25K **Bearman Lake** 68.22 335 P P 00 23 06.9 +0.8
baz=92,SNR=5.3
NSS **Namsos** 68.27 27 *e*P P 00 23 07.1 +0.7
MOTA **Moosalm** 68.35 46 *e*P P 00 23 07.8 +0.3
comp=Z,5.5nm,1.0s
KEST **Kesra** 68.40 58 P P 00 23 09.9 +2.0
comp=Z,2.7nm,0.9s,baz=181,slow=2.1,SNR=5.7
comp=Z,2.7nm,0.9s
SQTA **Sankt Quirin** 68.43 46 *e*P P 00 23 08.9 +0.9
comp=Z,1.2nm,0.7s
D25K **Kavik River** 68.45 338 IAmb IAmb 00 23 18.5
comp=Z,9.5nm,1.1s
D25K **Kavik River** 68.45 338 P P 00 23 08.5 +0.9
baz=93
IL31 68.49 333 IAmb IAmb 00 23 08.6
comp=Z,8.0nm,0.9s
ILAR **Eielson Array** 68.49 333 P P 00 23 07.3 -0.6
ILAR **Eielson Array** 68.49 333 P P 00 23 07.8 -0.1
comp=Z,4.1nm,0.8s,baz=104,slow=4.8,SNR=33
ILAR LR LR 00 53 37.5
comp=Z,149nm,19.4s,baz=88,slow=36
comp=Z,4.1nm,0.8s
HDA **Harding Lake** 68.51 333 P P 00 23 08.8 +0.8
baz=91
GLI **Glacier Island** 68.59 329 P P 00 23 08.7 +0.1
baz=89
SCM **Sheep Creek Mo** 68.69 330 P P 00 23 09.7 +0.5
baz=89
DHY **Denali Highway** 68.70 331 P P 00 23 10.0 +0.7
baz=90
WTTA **Wattenberg** 68.72 46 *e*P P 00 23 10.8 +1.0
comp=Z,3.7nm,1.3s
POKR **Poker Plat Res** 68.73 333 P P 00 23 11.2 +1.9
baz=90
STOK **Stokkvaagen** 68.74 25 *e*P P 00 23 10.9 +1.6
P23K **Montague Islan** 68.76 328 P P 00 23 09.9 +0.4
baz=88
G24K **Hadweenzic Riv** 68.77 335 IAmb IAmb 00 23 13.6
comp=Z,12nm,0.9s
G24K **Hadweenzic Riv** 68.77 335 P P 00 23 10.5 +0.9
baz=91,SNR=6.4
KONS **Konsvik** 68.78 25 *e*P P 00 23 11.4 +1.8
VAGH **Vaagaholmen** 68.85 25 *e*P P 00 23 12.2 +2.2
WAT6 **Susitna Watana** 68.87 331 P P 00 23 11.2 +0.7
baz=89
M23K **Glacier View** 68.88 330 P P 00 23 11.4 +1.0
baz=89
H24K **Noodor Dome** 68.92 334 P P 00 23 11.1 +0.5
baz=90,SNR=12
F24K **Squaw Lake** 68.94 336 IAmb IAmb 00 23 12.6
comp=Z,5.6nm,0.7s
F24K **Squaw Lake** 68.94 336 P P 00 23 10.6 0.0
baz=91
LOF **Lofoten** 68.98 23 *e*P P 00 23 12.1 +1.3
HFS **Hagfors** 69.11 32 P P 00 23 12.9 +1.2
comp=Z,1.4nm,0.6s,baz=232,slow=7.1,SNR=2.3
HFS LR LR 00 49 14.0
comp=Z,127nm,20.5s,baz=268,slow=32
comp=Z,1.4nm,0.6s
RAUS **Rausandaksla** 69.15 25 *e*P P 00 23 13.5 +1.5
E24K **Your Creek** 69.18 337 IAmb IAmb 00 23 14.0
comp=Z,8.5nm,0.8s
E24K **Your Creek** 69.18 337 P P 00 23 12.6 +0.4
baz=91
PWL **Port Wells** 69.20 329 P P 00 23 12.8 +0.4
baz=88
KNK **Knik Glacier** 69.24 329 P P 00 23 12.8 +0.2
baz=88
WAT1 **Susitna Watana** 69.24 331 P P 00 23 13.5 +0.9
baz=89
CLL **Collm** 69.25 41 *e*P P 00 23 14.0 +1.2

C24K **Franklin Bluff** 69.28 338 P P 00 23 13.1 +0.4
baz=91
D24K **Happy Valley** 69.31 338 P P 00 23 13.4 +0.5
baz=91
ABTA **Abfaltersbach** 69.37 46 *e*P P 00 23 13.7 -0.1
comp=Z,1.0nm,0.5s
MCK **McKinley** 69.39 332 IAmb IAmb 00 23 15.2
comp=Z,11nm,1.0s
MCK **McKinley** 69.39 332 P P 00 23 14.0 +0.5
baz=89
LESA **Schwarzleotal** 69.41 46 *e*P P 00 23 14.1 +0.1
comp=Z,1.5nm,1.1s
NEA2 **Nenana** 69.43 333 IAmb IAmb 00 23 14.9
comp=Z,11nm,1.0s
NEA2 **Nenana** 69.43 333 P P 00 23 14.3 +0.6
baz=89,SNR=10
I23K **Minto, Yukon-K** 69.54 333 P P 00 23 15.1 +0.8
baz=88,SNR=7.4
PMR **Palmer** 69.55 330 P P 00 23 15.1 +0.6
baz=88
TOLK **Toolik Lake Re** 69.58 337 P P 00 23 15.4 +0.8
baz=90
E23K **Chandalar** 69.60 337 P P 00 23 16.0 +1.1
baz=90
H23K **Yukon River** 69.61 334 P P 00 23 15.6 +0.8
baz=89
STEI **Steigen** 69.62 24 *e*P P 00 23 16.5 +1.8
FAUS **Fauske** 69.64 24 *e*P P 00 23 16.2 +1.3
G23K **Bananza Creek** 69.78 335 IAmb IAmb 00 23 17.4
comp=Z,8.5nm,0.8s
G23K **Bananza Creek** 69.78 335 P P 00 23 17.1 +1.2
baz=89,SNR=6.7
SEW **Seward** 69.78 328 P P 00 23 16.5 +0.6
baz=87
COLD **Coldfoot** 69.84 336 IAmb IAmb 00 23 18.2
comp=Z,7.2nm,1.0s
COLD **Coldfoot** 69.84 336 P P 00 23 16.8 +0.7
baz=89
RC01 **Rabbit Creek A** 69.87 329 P P 00 23 17.6 +1.1
baz=87
KBA **Koelnbreinsper** 69.90 46 *e*P P 00 23 16.7 -0.4
comp=Z,3.0nm,1.0s
GERES **GERESS Array B** 69.94 44 P P 00 23 19.0 +1.8
comp=Z,0.3nm,0.5s,baz=278,slow=6.8,SNR=4.0
GERES LR LR 00 53 16.7
comp=Z,61nm,18.4s,baz=323,slow=35
comp=Z,0.3nm,0.5s
C23K **Itkillik River** 69.95 338 P P 00 23 17.4 +0.6
baz=89
D23K **Nanushuk River** 69.98 338 P P 00 23 17.6 +0.6
baz=89
TRF **Thorofare Moun** 70.01 332 P P 00 23 17.7 +0.3
baz=87,SNR=8.7
M22K **Willow** 70.02 330 P P 00 23 18.5 +1.2
baz=87
BIOA **Bad Ischl, Aus** 70.02 45 *e*P P 00 23 17.9 +0.1
comp=Z,3.5nm,1.3s
CUT **Chulitna** 70.05 331 P P 00 23 18.8 +1.3
baz=87
SPA0 **Spitsbergen Ar** 70.11 13 *e*P P 00 23 18.6 +0.9
SPITS **Spitsbergen Ar** 70.11 13 P P 00 23 18.9 +1.2
comp=Z,3.4nm,0.7s,baz=200,slow=2.2,SNR=6.2
SPITS LR LR 00 54 09.6
comp=Z,37nm,19.1s,baz=273,slow=36
comp=Z,3.4nm,0.7s
MLY **Manley** 70.13 333 IAmb IAmb 00 23 22.0
comp=Z,7.7nm,0.9s
MLY **Manley** 70.13 333 P P 00 23 18.7 +0.7
baz=88
MYKA **Terra Mystica** 70.15 46 *e*P P 00 23 18.6 0.0
comp=Z,0.7nm,0.4s
BPAW **Bear Paw Mtn.** 70.28 332 IAmb IAmb 00 23 20.1
comp=Z,11nm,1.1s
BPAW **Bear Paw Mtn.** 70.28 332 P P 00 23 19.3 +0.3
baz=87,SNR=6.2
SUA **Susitna One** 70.33 330 P P 00 23 19.8 +0.4
baz=86
H22K **Ishtalitna Cre** 70.36 334 P P 00 23 20.2 +0.8
baz=87
G22K **Bettles** 70.36 335 P P 00 23 20.1 +0.8
baz=88
E22K **Anaktuvuk Pass** 70.42 337 IAmb IAmb 00 23 22.6
comp=Z,16nm,1.2s
E22K **Anaktuvuk Pass** 70.42 337 P P 00 23 20.4 +0.6
baz=88
MOA **Molln** 70.43 45 *e*P P 00 23 20.1 -0.1
comp=Z,0.1nm,0.3s
BRSE **Bradley Lake S** 70.45 328 P P 00 23 20.7 +0.6
baz=86
CAPN **Captain Cook N** 70.58 329 P P 00 23 21.8 +1.0
baz=86
F22K **John River** 70.59 336 P P 00 23 21.3 +0.5
baz=87
SKT **Skwentna** 70.67 330 P P 00 23 22.2 +0.9
baz=86
D22K **Ayikyak River** 70.71 337 P P 00 23 21.5 0.0
baz=87
OBKA **Obir** 70.79 46 *e*P P 00 23 22.0 -0.4
comp=Z,4.2nm,1.1s
CHUM **Lake Minchumin** 70.88 332 P P 00 23 22.6 0.0
baz=86
B22K **Teshekpuk Lake** 70.89 339 P P 00 23 22.8 +0.3
baz=87
TRO **Tromso** 70.90 22 *e*P P 00 23 24.4 +1.9
PPLA **Purkeypile** 70.90 331 P P 00 23 23.0 0.0
baz=85
HOM **Homer** 70.92 328 P P 00 23 23.2 +0.3
baz=85
H21K **Melozitna Rive** 70.96 334 P P 00 23 23.5 +0.5
baz=86,SNR=5.7
SPCR **Spurr Chakacha** 71.06 329 P P 00 23 24.1 +0.3
baz=85
F21K **Alatna River** 71.11 336 P P 00 23 24.1 +0.1
baz=86
G21K **Allakaket** 71.18 335 P P 00 23 24.6 +0.3
baz=86
E21K **Killik River** 71.21 337 P P 00 23 23.9 -0.6
baz=86
IMAR **Indian Mountai** 71.32 334 P P 00 23 25.0 -0.2
B21K **Ikpikpuk River** 71.35 338 P P 00 23 25.2 -0.1
baz=86
ARSA **Arzberg** 71.35 45 *e*P P 00 23 25.2 -0.6
comp=Z,2.8nm,1.0s
A22K **Sinclair Lake** 71.36 340 P P 00 23 25.9 +0.5
baz=86
O20K **Slope Mountain** 71.37 328 P P 00 23 26.1 +0.4
baz=84
Q20K **Shuyak Island** 71.41 327 P P 00 23 26.5 +0.6
baz=84
JETT **Jettan, Norway** 71.42 22 *e*P P 00 23 27.8 +1.9
M20K **Styx River** 71.43 330 IAmb IAmb 00 23 26.9
comp=Z,13nm,1.1s
M20K **Styx River** 71.43 330 P P 00 23 26.4 +0.3
baz=84
C21K **Knifeblade Rid** 71.45 338 P P 00 23 25.9 0.0
baz=85
CONA **Conrad Observa** 71.48 45 *e*P P 00 23 26.9 +0.3
comp=Z,0.1nm,0.3s
KDAK **Kodak Island** 71.60 326 LR LR 00 56 56.6
comp=Z,59nm,19.0s,baz=66,slow=38
KDAK **Kodiak Island** 71.60 326 P P 00 23 26.3 -0.8
baz=83
J20K **Nowinta River** 71.66 333 IAmb IAmb 00 23 30.9
comp=Z,5.9nm,0.6s
J20K **Nowinta River** 71.66 333 P P 00 23 26.8 -0.4
baz=84
K20K **Telida** 71.71 332 IAmb IAmb 00 24 00.6
comp=Z,14nm,1.4s
K20K **Telida** 71.71 332 P P 00 23 27.8 +0.2
baz=84
L20K **Farewell, AK** 71.72 331 P P 00 23 27.8 0.0
baz=84
P19K **Oil Pt** 71.72 328 P P 00 23 28.1 +0.3
baz=83
I20K **Naaghedeneel** 71.74 333 P P 00 23 28.0 +0.3
baz=84
RONA **Rosalia, Austr** 71.80 45 *e*P P 00 23 28.6 0.0
comp=Z,3.4nm,1.0s
H20K **Anotleneega Mo** 71.83 334 P P 00 23 29.1 +0.8
baz=84
F20K **Avaraart Lake** 72.00 336 P P 00 23 29.7 +0.4
baz=84
Q19K **Cape Douglas,** 72.02 327 P P 00 23 30.0 +0.4
baz=83
M19K **Big River Lodg** 72.02 330 P P 00 23 30.3 +0.7
baz=83
E20K **Nigu River** 72.05 337 P P 00 23 29.7 +0.1
baz=84

OHAK **Old Harbor** 72.05 325 P P 00 23 30.1 +0.4
baz=83
VAE **Valguarnera** 72.13 56 LR LR 00 50 44.6
comp=Z,97nm,20.7s,baz=316,slow=32
D20K **Etivluk River** 72.15 337 P P 00 23 31.4 +1.2
baz=83
B20K **Meade River** 72.19 339 P P 00 23 31.5 +1.2
baz=83
O19K **Port Alsworth** 72.20 328 P P 00 23 31.5 +1.0
baz=83
N19K **Bonanza Creek** 72.20 329 P P 00 23 31.2 +0.5
baz=83
L19K **White Mountain** 72.20 331 P P 00 23 30.9 +0.2
baz=83
J19K **Poorman** 72.32 332 P P 00 23 32.2 +0.9
baz=83
H19K **Roundabout Mou** 72.48 334 IAmb IAmb 00 23 55.9
comp=Z,8.7nm,1.0s
H19K **Roundabout Mou** 72.48 334 P P 00 23 33.2 +1.1
baz=82
KTK1 **Kautokeino** 72.48 22 *e*P P 00 23 33.8 +1.7
E19K **Redstone River** 72.53 336 P P 00 23 33.4 +0.9
baz=82
R18K **Karluk** 72.62 326 P P 00 23 34.3 +1.2
baz=82
SII **Sitkinak Islan** 72.63 325 P P 00 23 34.1 +0.8
baz=82
G19K **Purcell Mounta** 72.66 335 P P 00 23 33.8 +0.6
baz=82
O18K **Koktuh Hills** 72.69 328 P P 00 23 34.0 +0.4
baz=82
D19K **Kuna River** 72.72 337 P P 00 23 35.0 +1.4
baz=82
M18K **Stony River** 72.75 330 P P 00 23 34.5 +0.6
baz=82
Q18K **Katmai Hardscr** 72.76 327 P P 00 23 35.0 +0.9
baz=82
P18K **Big Mountain,** 72.76 328 P P 00 23 35.1 +1.1
baz=82
GCSA **Galena City Sc** 72.77 333 P P 00 23 34.8 +0.9
baz=82
F19K **Shaleruckik Mo** 72.83 336 P P 00 23 35.1 +0.8
baz=82
J18K **Innoko River** 72.88 332 P P 00 23 35.7 +1.1
baz=82
N18K **Kilae Creek** 72.90 329 P P 00 23 36.2 +1.4
baz=82
L18K **Granite Mounta** 73.05 331 P P 00 23 36.9 +1.3
baz=81
C19K **Lookout Ridge** 73.16 338 P P 00 23 37.5 +1.2
baz=81
ARA0 **ARCESS Array S** 73.20 22 *e*P P 00 23 37.4 +0.9
ARCES **ARCESS Array B** 73.20 22 P P 00 23 37.7 +1.2
comp=Z,5.1nm,0.5s,baz=286,slow=4.1,SNR=48
comp=Z,5.1nm,0.5s
Q17K **Contact Creek** 73.28 327 P P 00 23 37.9 +0.7
baz=81
G18K **Tagagawik** 73.33 335 P P 00 23 38.4 +1.2
baz=81
H18K **Honhosa River** 73.33 334 P P 00 23 38.4 +1.2
baz=81
P17K **Kvichak River** 73.41 328 P P 00 23 38.5 +0.7
baz=81
A19K **Wainwright** 73.48 339 P P 00 23 38.7 +0.7
baz=80
M17K **Holitna River** 73.53 330 P P 00 23 38.9 +0.4
baz=80
CHIR **Chirikof Islan** 73.54 324 P P 00 23 39.3 +0.7
baz=80
N17K **Nushagak Hills** 73.56 329 P P 00 23 40.3 +1.6
baz=80
F18K **Selawik** 73.61 335 P P 00 23 40.3 +1.5
baz=80
Q16K **King Salmon** 73.61 327 P P 00 23 40.1 +1.2
baz=80
R17L **Mt. Peulik Vol** 73.63 326 P P 00 23 40.4 +1.3
baz=80
O17K **Koliganek Bris** 73.64 328 P P 00 23 40.5 +1.4
baz=80
K17K **Iditarod** 73.71 331 P P 00 23 40.8 +1.3
baz=80
L17K **Donlin** 73.81 331 P P 00 23 41.0 +0.9
baz=80
C18K **Utukok River** 73.81 338 P P 00 23 41.1 +1.0
baz=79
E18K **Tukpahlearik C** 73.83 336 P P 00 23 40.8 +0.7
baz=79
B18K **Kokolik River** 73.89 338 P P 00 23 40.5 0.0
baz=79
J17K **VABM Dome** 73.94 332 P P 00 23 41.1 +0.3
baz=80
H17K **Granite Mounta** 74.01 334 P P 00 23 42.1 +0.9
baz=79
O16K **Kokwok River B** 74.17 328 P P 00 23 42.7 +0.5
baz=79
G17K **Kiwalik Mounta** 74.21 334 P P 00 23 42.8 +0.4
baz=79
F17K **Baldwin Pennin** 74.26 335 P P 00 23 43.1 +0.5
baz=78
R16K **Pilot Point** 74.28 326 P P 00 23 43.5 +0.6
baz=79
M16K **Timber Creek** 74.33 330 P P 00 23 44.3 +1.1
baz=79
N16K **Nishlik Lake** 74.34 329 P P 00 23 43.5 +0.3
baz=79
E17K **Hotham Inlet** 74.36 336 P P 00 23 44.3 +1.1
baz=78
L16K **Owhat River** 74.44 330 P P 00 23 44.0 +0.3
baz=79
I17K **Unalakleet** 74.55 333 P P 00 23 44.7 +0.3
baz=78
RDOG **Red Dog Mine** 74.56 337 P P 00 23 45.5 +1.1
baz=78
C17K **DeLong Mountai** 74.56 338 P P 00 23 45.4 +1.0
baz=77
J16K **Anvik River** 74.63 332 P P 00 23 45.7 +0.8
baz=78
D17K **Noatak River** 74.70 337 P P 00 23 46.7 +1.5
baz=77
G16K **Koyuk River** 74.93 334 P P 00 23 47.6 +1.1
baz=77
FINES **FINESS Array B** 74.96 30 P P 00 23 48.2 +1.4
comp=Z,3.8nm,0.7s,baz=270,slow=3.8,SNR=12
FINES LR LR 00 53 04.0
comp=Z,56nm,21.7s,baz=267,slow=33
comp=Z,3.8nm,0.7s
N15K **Kwethluk River** 75.05 329 P P 00 23 48.7 +1.3
baz=78
H16K **Elim** 75.05 334 P P 00 23 48.9 +1.7
baz=77
O15K **Ungalikthiuk R** 75.12 328 P P 00 23 49.1 +1.3
baz=78
M15K **Kasigluk River** 75.22 329 P P 00 23 49.2 +0.9
baz=78
K15K **Wolf Creek Mou** 75.26 331 P P 00 23 50.1 +1.6
baz=77
L15K **Ungalak Mounta** 75.38 331 P P 00 23 50.7 +1.5
baz=77
C16K **Lisburne Hills** 75.39 338 P P 00 23 50.7 +1.6
baz=75
S14K **Fog Glacier** 75.61 325 P P 00 23 51.5 +0.8
baz=77
G15K **Niukluk** 75.71 334 P P 00 23 51.8 +0.7
baz=76
F15K **North Star Dit** 75.78 335 P P 00 23 52.6 +1.2
baz=75
M14K **Bethel** 75.82 330 P P 00 23 53.1 +1.4
baz=76
O14K **Tigyukauivet M** 75.83 328 P P 00 23 52.9 +1.1
baz=77
N14K **Kuskokwak Cree** 75.88 329 P P 00 23 53.1 +1.0
baz=76
CHNA **Chernabura Isl** 75.95 323 P P 00 23 54.3 +1.7
baz=77
L14K **Kuka Creek** 76.02 330 P P 00 23 54.1 +1.3
baz=76
J14K **Nanvaranak Lak** 76.07 332 P P 00 23 54.4 +1.3
baz=76
SDPT **Sand Point** 76.33 324 P P 00 23 55.8 +1.0
baz=76
ANM **Nome** 76.38 334 P P 00 23 55.7 +0.8
baz=74
F14K **Arctic Creek** 76.52 335 P P 00 23 56.7 +1.1
baz=74
K13K **Kusilvak Mount** 76.78 331 P P 00 23 58.1 +1.0
baz=74
S12K **Black Hills** 77.12 325 P P 00 24 00.3 +1.1
baz=75

TNA	**Tin City**	**77.13**	**335**	P		**P**	**00 23 60.0**	**+1.0**
	baz=72								
M11K	**Mekoryuk**	**77.93**	**330**	P		**P**	**00 24 03.9**	**+0.3**
	baz=73								
MLR	**Muntele Rosu**	**78.77**	**46**	P		**P**	**00 24 10.2**	**+1.5**
MLR				IAmb		IAmb	00 24 33.9		
	comp=Z,12nm,1.0s								
GAMB	**Gambell**	**79.26**	**334**	P		**P**	**00 24 11.5**	**+0.7**
	baz=69								
AKASG	**Malin Array Be**	**79.41**	**40**	P		**P**	**00 24 13.6**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=274,slow=4.5,SNR=5.3								
UNV	**Unalaska Valle**	**80.12**	**324**	P		**P**	**00 24 16.5**	**+0.8**
	baz=71								
P08K	**Saint George I**	**80.83**	**327**	P		**P**	**00 24 20.0**	**+0.5**
	baz=69								
OBN	**Obninsk**	**82.12**	**34**	LR		LR	00 59 43.6		
	comp=Z,65nm,19.1s,baz=178,slow=35								
BRTR	**Keskin Array B**	**85.99**	**49**	P		**P**	**00 24 46.0**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=329,slow=5.0,SNR=3.0								
	comp=Z,0.7nm,0.9s								
TIXI	**Tiksi**	**88.80**	**355**	LR		LR	01 05 39.2		
	comp=Z,41nm,19.9s,baz=23,slow=36								
ARTI	**Arti**	**92.04**	**27**	LR		LR	01 07 51.6		
	comp=Z,36nm,18.0s,baz=256,slow=36								
AKTO	**Aktyubinsk**	**95.65**	**32**	LR		LR	01 05 14.5		
	comp=Z,81nm,20.6s,baz=208,slow=33								
MA2	**Magadan**	**95.69**	**342**	LR		LR	01 12 49.8		
	comp=Z,63nm,18.8s,baz=48,slow=38								
BVAR	**Borovoye Array**	**99.34**	**24**	LR		LR	01 08 43.4		
	comp=Z,31nm,20.0s,baz=280,slow=34								
SNAA	**Sanae**	**100.33**	**163**	P		**Pdif**	**00 25 53.3**	**+1.3**
	comp=Z,1.1nm,1.1s,baz=8.7,slow=7.9,SNR=2.4								
HHC	**Hu-ho-hao-te**	**120.34**	**1**	*eP*		**PKPdf**	**00 30 56.4**	**-1.1**
MAW	**Mawson**	**122.27**	**160**	PKP		**PKiKP**	**00 31 00.6**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=48,slow=8.6,SNR=2.0								
NJ2	**Nanjing**	**128.80**	**353**	*eP*		**PKiKP**	**00 31 16.6**	**+2.1**
NJ2				pmax		pmax			
	comp=Z,7.0nm,1.0s								
PZH	**PanZhiHua**	**133.40**	**14**	PKP		**PKiKP**	**00 31 25.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**140.26**	**21**	PKPdf		**PKPdf**	**00 31 35.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**140.26**	**21**	PKP		**PKPdf**	**00 31 35.6**	**0.0**
	comp=Z,0.5nm,0.3s,baz=341,slow=2.4,SNR=4.6								
STKA	**Stephens Creek**	**151.16**	**238**	PKPbc		**PKPbc**	**00 31 58.6**	**-0.9**
STKA	**Stephens Creek**	**151.16**	**238**	PKPbc		**PKPbc**	**00 31 59.0**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=90,slow=10,SNR=3.8								
WRA	**Warramunga Arr**	**159.68**	**264**	PKP		**PKPdf**	**00 32 04.2**	**-1.3**
	comp=Z,1.2nm,0.9s,baz=73,slow=2.1,SNR=5.4								
WRA				PKPab		**PKPab**	**00 32 44.3**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=86,slow=3.2,SNR=6.5								
ASAR	**Alice Springs**	**159.84**	**253**	PKP		**PKPdf**	**00 32 04.4**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=99,slow=1.1,SNR=5.6								
ASAR				PKPab		**PKPab**	**00 32 43.6**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=98,slow=4.1,SNR=3.6								

NEIC ***25*** *00:17:44.4±1.4,25°.84S±0°.09×177°.1W±0°.2,h70km±6km, mb4.5/18, Error ellipse: s-maj=20.7km s-min=12.6km az=109.0*

IDC ***25*** *00:17:45.2±2.8,25°.92S×177°.21W,h88km±24km,mb4.0/19, mbtmp4.4/20,MS3.3/1, Error ellipse: s-maj=19.1km s-min=15.9km az=53.0*

ISC 25 00:17:45.7±0.4,25°.97S±0°.06×177°.09W±0°.10,h98km,n73, σ1ˢ40/67,mb4.3/29,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
RAO	**Raoul Island**	**3.35**	**193**			**Pn**		**00 18 36.2**	**+0.1**
RAO	**Raoul Island**	**3.35**	**193**	P		**Pn**		**00 18 35.4**	**-0.7**
	299nm,0.2s,baz=72,slow=9.9,SNR=7.1								
RAO				S		**Sn**		**00 19 15.0**	**0.0**
	2µm,0.2s,baz=196,slow=22,SNR=4.5								
RAO				LR		LR		00 19 39.6	
	comp=Z,377nm,18.7s,baz=276,slow=34								
NIUE	**Niue**	**9.53**	**45**	Pn		**Pn**		**00 19 58.1**	**-2.0**
AFI	**Afiamalu**	**12.99**	**24**	Pn		**Pn**		**00 20 43.3**	**-3.5**
URZ	**Urewera**	**13.20**	**200**	P		**Pn**		**00 20 46.4**	**-2.8**
	3.3nm,0.3s,baz=240,slow=4.4,SNR=7.3								
URZ				S		Sn		00 22 60.0	-14
	6.2nm,0.3s,baz=106,slow=22,SNR=11								
BKZ	**Black Stump Fm**	**14.22**	**201**	Pn		**Pn**		**00 21 00.4**	**-2.2**
DZM	**Mont Dzumac**	**15.54**	**281**	P		**P**		**00 21 25.3**	**+3.6**
	7.1nm,0.9s,baz=94,slow=19,SNR=4.2								
RAR	**Rarotonga**	**16.56**	**77**	S		Sn		00 24 19.9	-16
	3.7nm,0.3s,baz=175,slow=19,SNR=1.2								
PLWZ	**Palliser**	**16.80**	**200**	Pn		Pn		00 21 29.2	-5.7
CTZ	**Chatham Island**	**17.73**	**179**	P		**P**		**00 21 46.0**	**+0.4**
GVZ	**Greta Valley S**	**18.79**	**203**	P		**P**		**00 21 52.6**	**-4.7**
CTAO	**Charters Tower**	**34.17**	**272**	P		**P**		**00 24 23.2**	**+1.4**
INKA	**Innaminka**	**37.53**	**258**	P		**P**		**00 24 50.6**	**+0.1**
INKA						IAmb	IAmb	00 24 51.5	
	comp=Z,3.8nm,0.5s								
PMG	**Port Moresby**	**37.67**	**289**	P		**P**		**00 24 50.9**	**-0.8**
	comp=Z,8.2nm,0.3s,baz=193,slow=23,SNR=2.6								
	comp=Z,8.2nm,0.3s								
ASAR	**Alice Springs**	**44.34**	**262**	P		**P**		**00 25 46.2**	**-0.2**
	comp=Z,3.9nm,1.1s,baz=108,slow=8.1,SNR=13								
ASAR				PcP		**PcP**		**00 27 28.4**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=96,slow=3.6,SNR=1.7								
	comp=Z,3.9nm,1.1s								
WR8	**Warramunga Arr**	**44.78**	**267**	P		**P**		**00 25 49.8**	**-0.1**
WR8						IAmb	IAmb	00 25 53.0	
	comp=Z,8.6nm,1.4s								
WRA	**Warramunga Arr**	**44.93**	**267**	P		**P**		**00 25 51.0**	**-0.1**
WRA	**Warramunga Arr**	**44.93**	**267**	P		**P**		**00 25 50.9**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=104,slow=7.9,SNR=18								
	comp=Z,2.9nm,0.6s								
WB0	**Warramunga Arr**	**44.93**	**267**	P		**P**		**00 25 50.8**	**-0.4**
WB0						IAmb	IAmb	00 25 52.9	
	comp=Z,5.1nm,0.8s								
JAY	**Jayapura**	**46.76**	**293**	P		**P**		**00 26 05.2**	**-0.3**
	comp=Z,6.5nm,0.6s,baz=156,slow=7.0,SNR=5.1								
	comp=Z,6.5nm,0.6s								
KNRA	**Kununurra**	**51.34**	**270**	P		**P**		**00 26 41.6**	**+1.1**
SBA	**Scott Base**	**52.50**	**184**	P		**P**		**00 26 50.5**	**+2.3**
SBA						IAmb	IAmb	00 27 16.7	
	comp=Z,4.6nm,1.0s								
VNDA	**Vanda**	**52.56**	**186**	P		**P**		**00 26 51.3**	**+2.7**
VNDA	**Vanda**	**52.56**	**186**	P		**P**		**00 26 49.8**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=0.0,slow=8.3,SNR=6.4								
	comp=Z,1.2nm,0.6s								
FITZ	**Fitzroy Crossi**	**53.32**	**266**	P		**P**		**00 26 54.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**53.32**	**266**	P		**P**		**00 26 55.7**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=108,slow=13,SNR=2.3								
	comp=Z,1.8nm,0.6s								
KAPI	**Kappang**	**63.73**	**278**	P		**P**		**00 28 06.3**	**-1.1**
	comp=Z,7.1nm,0.8s,baz=104,slow=3.8,SNR=2.0								
	comp=Z,7.1nm,0.8s								
QSPA	**South Pole Qui**	**64.12**	**180**	P		**P**		**00 28 10.7**	**+1.3**
QSPA	**South Pole Qui**	**64.12**	**180**	P		**P**		**00 28 10.9**	**+1.5**
	comp=Z,3.0nm,0.9s,baz=61,slow=2.4,SNR=8.1								
	comp=Z,3.0nm,0.9s								
MJAR	**Matsushiro Arr**	**75.11**	**324**	P		**P**		**00 29 16.5**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=169,slow=5.2,SNR=6.3								
	comp=Z,2.9nm,0.8s								
MAW	**Mawson**	**76.73**	**200**	P		**P**		**00 29 26.3**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=103,slow=6.8,SNR=8.1								
	comp=Z,1.9nm,0.6s								
KSRS	**Korea Array**	**81.53**	**319**	P		**P**		**00 29 52.9**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=142,slow=5.7,SNR=6.7								
	comp=Z,1.5nm,0.7s								
PETK	**Petropavlovsk-**	**81.75**	**345**	P		**P**		**00 29 54.4**	**+1.2**
PETK	**Petropavlovsk-**	**81.75**	**345**	P		**P**		**00 29 54.9**	**+1.7**
	comp=Z,10nm,0.9s,baz=130,slow=6.6,SNR=5.0								
	comp=Z,10nm,0.9s								
H03S2	**Juan Fernandez**	**82.24**	**124**	T		T		02 00 49.8	
	baz=242,slow=74,SNR=14								
H03S1	**Juan Fernandez**	**82.25**	**124**	T		T		02 00 49.8	
	baz=242,slow=74,SNR=17								
H03S3	**Juan Fernandez**	**82.25**	**124**	T		T		02 00 53.6	
	baz=242,slow=74,SNR=19								
H03N3	**Juan Fernandez**	**82.41**	**123**	T		T		02 01 03.9	
	baz=240,slow=78,SNR=9.6								
H03N2	**Juan Fernandez**	**82.41**	**123**	T		T		02 01 02.7	
	baz=240,slow=78,SNR=8.7								
H03N1	**Juan Fernandez**	**82.42**	**123**	T		T		02 00 59.8	
	baz=240,slow=78,SNR=7.3								
SNAA	**Sanae**	**82.54**	**178**	P		**P**		**00 29 57.7**	**+0.3**
	comp=Z,1.0nm,1.0s,baz=28,slow=8.8,SNR=1.7								
	comp=Z,1.0nm,1.0s								
QSM	**Queen of Sheba**	**83.80**	**45**	P		**P**		**00 30 05.4**	**+1.2**
QSM						IAmb	IAmb	00 30 06.5	
	comp=Z,4.3nm,1.1s								
WAKR	**Walker**	**83.81**	**42**	P		**P**		**00 30 05.7**	**+1.2**
WAKR						IAmb	IAmb	00 30 06.9	
	comp=Z,2.9nm,0.9s								
IRM	**Iron Mountain**	**83.82**	**47**	P		**P**		**00 30 05.9**	**+1.5**
IRM						IAmb	IAmb	00 30 07.6	
	comp=Z,4.9nm,1.1s								
USRK	**Ussuriysk Ar.**	**83.94**	**326**	P		**P**		**00 30 03.9**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=132,slow=8.5,SNR=7.5								
	comp=Z,1.4nm,0.4s								
NVAR	**Mina Array Bea**	**84.44**	**42**	P		**P**		**00 30 09.2**	**+1.5**
NVAR	**Mina Array Bea**	**84.44**	**42**	P		**P**		**00 30 09.6**	**+1.9**
	comp=Z,3.0nm,0.9s,baz=252,slow=5.8,SNR=9.7								
	comp=Z,3.0nm,0.9s								
NV11	**Mina Array Sit**	**84.53**	**43**	P		**P**		**00 30 09.6**	**+1.5**
NV11						IAmb	IAmb	00 30 10.6	
	comp=Z,4.8nm,1.1s								
TUC	**Tucson**	**85.72**	**51**	P		**P**		**00 30 16.0**	**+1.9**
TUC						IAmb	IAmb	00 30 17.4	
	comp=Z,4.3nm,0.9s								
X16A	**Lo Mia Camp, P**	**86.45**	**49**	P		**P**		**00 30 19.7**	**+1.9**
X16A						IAmb	IAmb	00 30 21.0	
	comp=Z,6.1nm,0.9s								
TXAR	**Lajitas Array**	**89.31**	**57**	P		**P**		**00 30 32.0**	**+0.7**
	comp=Z,1.2nm,1.0s,baz=224,slow=5.2,SNR=9.3								
	comp=Z,1.2nm,1.0s								
PDAR	**Pinedale Array**	**92.37**	**43**	P		**P**		**00 30 46.2**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=234,slow=5.6,SNR=11								
	comp=Z,1.1nm,0.8s								
CMAR	**Chiang Mai Arr**	**92.71**	**289**	P		**P**		**00 30 46.2**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=159,slow=2.4,SNR=7.6								
	comp=Z,0.6nm,0.3s								
ILAR	**Eielson Array**	**93.44**	**12**	P		**P**		**00 30 49.8**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=154,slow=31,SNR=3.1								
	comp=Z,0.5nm,0.8s								
ZALV	**Zalesovo Beam**	**115.23**	**320**	PKP		**PKPdf**		**00 36 14.8**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=90,slow=1.4,SNR=4.0								
MKAR	**Makanchi Array**	**115.50**	**312**	PKP		**PKPdf**		**00 36 15.5**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=102,slow=1.9,SNR=6.6								
KURBB	**Kurchatov Arra**	**118.57**	**315**	PKP		**PKPdf**		**00 36 21.3**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=104,slow=1.7,SNR=7.1								
KBL	**Kabul**	**123.13**	**296**	PKPdf		**PKPdf**		**00 36 30.5**	**-0.9**
KK31	**Karatay Array**	**123.22**	**306**	PKPdf		**PKPdf**		**00 36 30.1**	**-1.0**
KKAR	**Karatay Array**	**123.22**	**306**	PKPdf		**PKPdf**		**00 36 30.2**	**-0.8**
BVAR	**Borovoye Array**	**123.74**	**318**	PKP		**PKPdf**		**00 36 31.4**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=85,slow=3.0,SNR=8.5								
ARCES	**ARCESS Array B**	**134.43**	**349**	PKP		**PKiKP**		**00 36 53.1**	**+0.1**
	comp=Z,6.6nm,1.1s,baz=18,slow=2.0,SNR=7.4								
FINES	**FINESS Array B**	**141.23**	**342**	PKhKP		PKPpre		00 36 59.5	
	comp=Z,0.8nm,0.6s,baz=48,slow=2.1,SNR=3.5								
NB201	**NORSAR Array S**	**144.47**	**353**	PKPdf		**PKPab**		**00 37 08.9**	**+0.3**
NOA	**NORSAR Array B**	**144.49**	**353**	PKP		**PKPab**		**00 37 09.1**	**+0.4**
	comp=Z,4.6nm,0.7s,baz=13,slow=2.7,SNR=24								
HFS	**Hagfors**	**145.05**	**351**	PKP		PKPbc		00 37 10.4	-0.2
	comp=Z,6.2nm,0.8s,baz=64,slow=3.4,SNR=21								
AKASG	**Malin Array Be**	**148.13**	**328**	PKPbc		**PKPbc**		**00 37 19.5**	**-0.3**
	comp=Z,3.0nm,0.5s,baz=45,slow=3.9,SNR=24								
KIEV	**Kiev**	**148.15**	**328**	PKPdf		**PKPdf**		**00 37 18.0**	**+1.5**
EKA	**Eskdalemuir Ar**	**150.33**	**7**	PKPbc		**PKPbc**		**00 37 25.2**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=356,slow=2.2,SNR=5.0								
BR131	**Keskin Array S**	**150.93**	**306**	PKPbc		**PKPbc**		**00 37 26.3**	**-1.0**
BRTR	**Keskin Array B**	**150.93**	**306**	PKPbc		**PKPbc**		**00 37 27.7**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=103,slow=1.9,SNR=9.6								
BRTR				PKPab		**PKPab**		**00 37 35.6**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=98,slow=3.2,SNR=6.5								
MMAI	**Mount Meron Ar**	**150.94**	**292**	PKPbc		**PKiKP**		**00 37 28.8**	**+0.8**
	comp=Z,6.2nm,0.8s,baz=85,slow=4.8,SNR=11								
MMAI				PKPab		**PKPab**		**00 37 35.0**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=81,slow=3.6,SNR=5.0								
GERES	**GERESS Array B**	**155.66**	**343**	PKPab		**PKPab**		**00 37 54.0**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=1.4,slow=4.9,SNR=6.0								

IDC 25 00:22:37.2±2.0,3°.11N×126°.81E,h0km,mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=193.2km s-min=21.5km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
WRA	**Warramunga Arr**	**24.07**	**162**	P		P		00 27 53.3	-1.2
	0.6nm,0.5s,baz=340,slow=9.3,SNR=4.9								
	0.6nm,0.5s								
ASAR	**Alice Springs**	**27.49**	**166**	P		P		00 28 24.8	-0.8
	0.2nm,0.3s,baz=346,slow=9.3,SNR=4.5								
	0.2nm,0.3s								
MKAR	**Makanchi Array**	**58.11**	**325**	P		P		00 32 32.6	0.0
	0.5nm,0.5s,baz=124,slow=7.5,SNR=5.5								
	0.5nm,0.5s								
KURBB	**Kurchatov Arra**	**62.30**	**328**	P		P		00 33 02.3	+1.1
	0.4nm,0.6s,baz=132,slow=4.9,SNR=7.3								
	0.4nm,0.6s								

UCR ***25*** *00:29:06.8±0.9, 11°.84N×86°.17W,h137km±8km, MW3.6*
CATAC ***25*** *00:29:07.3±0.5, 12°.N±4°×8°.6W±°, h130km±4km, M2.7/19, MLv2.7/19, Error ellipse: s-maj=11.6km s-min=4.2km az=50.7, confirmed*

ISC 25 00:29:07.9±1.7,11°.80N±0°.07×86°.18W±0°.08, h132km±11km,n40,σ0ˢ75/45,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
NANN	**Nandasmo**	**0.15**	**22**	P		**Pn**		**00 29 26.9**	**+0.9**
NANN	**Nandasmo**	**0.15**	**22**	S		**Sn**		**00 29 39.3**	**-0.3**
NADN	**Granada**	**0.15**	**109**	P		**Pn**		**00 29 24.9**	**-0.9**
SABN	**Sabanita**	**0.16**	**6**	P		**Pn**		**00 29 25.6**	**-0.4**
MASN	**Masaya**	**0.19**	**9**	P		**Pn**		**00 29 25.9**	**-0.2**
MAS3	**Al N del Volca**	**0.23**	**1**	P		**Pn**		**00 29 25.5**	**-0.6**
UNAN	**Cigeo UNAN**	**0.32**	**344**	P		**Pn**		**00 29 25.9**	**-0.5**
COPN	**Copaltepe**	**0.55**	**313**	P		**Pn**		**00 29 26.8**	**-0.7**
MORN	**Al O del Volca**	**0.58**	**116**	P		**Pn**		**00 29 27.7**	**+0.1**
MOM3	**MOM3**	**0.78**	**335**	P		**Pn**		**00 29 28.7**	**-0.4**
CNGA	**Al SSO del Vol**	**0.86**	**324**	P		**Pn**		**00 29 29.2**	**-0.6**
CNGN	**Cerro Negro**	**0.86**	**324**	*eP*		**Pn**		**00 29 29.1**	**-0.7**
CNGN	**Cerro Negro**	**0.86**	**324**	P		**Pn**		**00 29 29.2**	**-0.6**
CARN	**Rivas**	**0.89**	**133**	*eP*		**Pn**		**00 29 29.8**	**-0.2**
CARN				*eS*		**Sn**		**00 29 47.2**	**+0.5**
CARN	**Rivas**	**0.89**	**133**	P		**Pn**		**00 29 28.9**	**-1.0**
CARN				S		**Sn**		**00 29 47.1**	**+0.5**
ILCN	**San Idelfonso**	**0.93**	**327**	P		**Pn**		**00 29 29.4**	**-1.0**
ACON	**Acoyapa**	**1.00**	**80**	P		**Pn**		**00 29 29.7**	**-1.3**
PKGN	**Cerro Pekin**	**1.17**	**318**	P		**Pn**		**00 29 32.3**	**-0.3**
PKGN				S		**Sn**		**00 29 53.8**	**+2.5**
LAPC	**Finca la Perla**	**1.26**	**144**	*eP*		**Pn**		**00 29 33.0**	**-0.6**
VRLE	**La Escondida,**	**1.28**	**141**	*eP*		**Pn**		**00 29 34.0**	**+0.1**
ELI1	**Hacienda Flor**	**1.30**	**152**	*eP*		**Pn**		**00 29 34.2**	**+0.2**
ELI1	**Hacienda Flor**	**1.30**	**152**	P		**Pn**		**00 29 34.6**	**+0.6**
ELI1	**Hacienda Flor**	**1.30**	**152**	S		**Sn**		**00 29 55.0**	**+1.2**
ALIBA	**Liberia Airpor**	**1.35**	**152**	*eP*		**Pn**		**00 29 35.1**	**+0.6**
CUI	**Cuipilapa**	**1.51**	**139**	*eP*		**Pn**		**00 29 35.8**	**-0.5**
TENO	**El Achiote**	**1.60**	**133**	*eP*		**Pn**		**00 29 37.1**	**-0.3**
QUEB	**Quebradon, Cot**	**1.72**	**133**	*eP*		**Pn**		**00 29 38.4**	**-0.3**
RCPN	**Sur Rio San Ju**	**1.72**	**3**	P		**Pn**		**00 29 39.0**	**+0.2**
JUD3	**Juan Diaz 3**	**1.74**	**159**	*eP*		**Pn**		**00 29 38.7**	**-0.3**
POTN	**Potosi Cosigui**	**1.76**	**313**	P		**Pn**		**00 29 38.3**	**-0.9**
POTN				S		**Sn**		**00 30 02.3**	**-0.8**
RCVN	**Varillal2**	**1.77**	**360**	P		**Pn**		**00 29 39.6**	**+0.2**
JTS	**Las Juntas de**	**1.92**	**141**	*eP*		**Pn**		**00 29 41.1**	**+0.1**
JTS	**Las Juntas de**	**1.92**	**141**	P		**Pn**		**00 29 40.3**	**-0.8**
JTS				S		**Sn**		**00 30 05.7**	**-0.7**
ARE1	**Arenal 1**	**1.96**	**133**	*eP*		**Pn**		**00 29 41.5**	**0.0**
VARE2	**V. Arenal**	**1.96**	**133**	*eP*		**Pn**		**00 29 41.4**	**-0.1**
NYURE	**Nandayure**	**2.01**	**153**	*eP*		**Pn**		**00 29 41.7**	**-0.4**
CNCH	**Conchagua**	**2.18**	**312**	P		**Pn**		**00 29 43.0**	**-1.4**
YUSH	**Yuscaran**	**2.24**	**343**	P		**Pn**		**00 29 45.3**	**+0.2**
CBL1	**Cabuya**	**2.44**	**154**	*eP*		**Pn**		**00 29 47.0**	**-0.5**
PACA	**Pacayal**	**2.67**	**309**	P		**Pn**		**00 29 51.0**	**+0.5**

IDC ***25*** *00:29:48.7±0.9, 19°.12N×67°.34W,h0km, mb3.8/8, mbtmp3.8/9, ML3.6/1, Error ellipse: s-maj=25.2km s-min=19.0km az=38.0*
RSPR ***25*** *00:29:48.7, 19°.31N×67°.58W, h58km±14km, MD3.6/14*
SDD ***25*** *00:29:48.3±1.1, 19°.34N×67°.17W, h12km±8km, MD3.3, ML3.8, MW4.0*
NEIC ***25*** *00:29:50.1±2.0, 19°.18N±0°.03×67°.16W±0°.03, h10km±1km, mb4.2/15, ML3.7/19, Md3.6/14(RSPR), Error ellipse: s-maj=6.0km s-min=5.1km az=221.0*

ISC 25 00:29:49.6±1.4,19°.17N±0°.04×67°.18W±0°.03,h5km±9km, n104,σ1ˢ44/114,mb4.0/15,12C-14D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
AGPR	**Aguadilla, PR**	**0.70**	**174**			**Pb**		**00 30 04.1**	**-0.1**
AGPR						**Sb**		**00 30 15.4**	**+1.3**
AGPR	**Aguadilla, PR**	**0.70**	**174**	⇓*eP*		**Pb**		**00 30 04.1**	**-0.1**
AGPR	**Aguadilla, PR**	**0.70**	**174**	*eS*		**Sb**		**00 30 15.4**	**+1.3**
AGPR	**Aguadilla, PR**	**0.70**	**174**	*ePg*		**Pb**		**00 30 03.9**	**-0.3**
AGPR					⇓*eSg*	**Sb**		**00 30 15.4**	**+1.3**
AGPR					IAML			00 30 20.1	
	comp=E,2µm,0.5s								
AGPR					IAML			00 30 24.8	
	comp=N,2µm,0.4s								
IDE	**Isla Desecheo**	**0.82**	**200**			**Pg**		**00 30 05.6**	**+0.2**
IDE						**Sg**		**00 30 17.1**	**+1.0**
IDE	**Isla Desecheo**	**0.82**	**200**	⇓*eP*		**Pg**		**00 30 05.6**	**+0.2**
IDE	**Isla Desecheo**	**0.82**	**200**	*eS*		**Sg**		**00 30 17.1**	**+1.0**
AOPR	**Arecibo Observ**	**0.91**	**153**	Pg		**Pb**		**00 30 07.5**	**-0.4**
AOPR					IAML			00 30 33.0	
	comp=N,2µm,0.6s								
AOPR	**Arecibo Observ**	**0.91**	**153**	⇑*eP*		**Pn**		**00 30 07.9**	**-1.1**
AOPR	**Arecibo Observ**	**0.91**	**153**	*eS*		**Sn**		**00 30 22.1**	**-0.4**
AOPR	**Arecibo Observ**	**0.91**	**153**	⇑*ePg*		**Pb**		**00 30 07.6**	**-0.2**
AOPR					IAML			00 30 40.8	
	comp=N,2µm,0.5s								
EMPR	**Esperanza - Ma**	**0.92**	**138**			**Pn**		**00 30 10.8**	**+1.6**
EMPR	**Esperanza - Ma**	**0.92**	**138**	Pg		**Pn**		**00 30 08.8**	**-0.3**
EMPR	**Esperanza - Ma**	**0.92**	**138**	⇑*eP*		**Pn**		**00 30 10.8**	**+1.6**
EMPR	**Esperanza - Ma**	**0.92**	**138**	*eS*		**Sn**		**00 30 27.2**	**+4.5**
PRSN	**Puerto Rico Se**	**0.94**	**178**	Pg		**Pg**		**00 30 07.7**	**-0.1**
PRSN						Sg		**00 30 21.5**	**+0.3**
PRSN	**Puerto Rico Se**	**0.94**	**178**	⇓*eP*		**Pb**		**00 30 08.3**	**-0.1**
PRSN	**Puerto Rico Se**	**0.94**	**178**	*eS*		**Sb**		**00 30 22.2**	**+1.0**
PRSN	**Puerto Rico Se**	**0.94**	**178**	*ePg*		**Pb**		**00 30 08.3**	**-0.1**
PRSN					⇓*eSg*	**Sb**		**00 30 21.9**	**+0.7**
PRSN					IAML			00 30 22.4	
	comp=E,4µm,0.3s								
PRSN					IAML			00 30 24.8	
	comp=N,4µm,0.3s								
LSP	**Las Mesas**	**0.99**	**175**			**Pg**		**00 30 08.8**	**+0.2**
LSP						**Sn**		**00 30 25.2**	**+0.7**
LSP	**Las Mesas**	**0.99**	**175**	⇓*eP*		**Pg**		**00 30 08.8**	**+0.2**
LSP	**Las Mesas**	**0.99**	**175**	*eS*		**Sn**		**00 30 25.2**	**+0.7**
UUPR	**Utuado, UPR, P**	**1.

NHSC				IAmb	IAmb	00 34 37.5		
	comp=Z,20nm,0.9s							
V61A	**Roper**	**18.52**	**335**		**Pn**	**00 34 07.7**	**+0.9**	
V58A	**Windy Hill, Pi**	**19.63**	**330**	P	**P**	**00 34 18.6**	**-0.3**	
V58A				IAmb	IAmb	00 34 36.4		
	comp=Z,9.1nm,1.0s							
R58B	**Mineral**	**20.92**	**336**	P	**P**	**00 34 32.9**	**-0.1**	
R58B				IAmb	IAmb	00 34 47.3		
	comp=Z,12nm,1.2s							
R55A	**Marlinton**	**22.12**	**332**	P	**P**	**00 34 45.9**	**-0.1**	
R55A				IAmb	IAmb	00 35 14.5		
	comp=Z,6.0nm,0.8s							
MACA	**Manacapuru-AM**	**23.09**	**163**	P	**P**	**00 34 55.0**	**-1.3**	
MACA				IAmb	IAmb	00 34 56.4		
	comp=Z,10.0nm,0.9s							
Q51A	**Peebles**	**24.24**	**328**	P	**P**	**00 35 06.9**	**-0.5**	
Q51A				IAmb	IAmb	00 35 30.4		
	comp=Z,7.4nm,0.9s							
WHAR	**Wooly Hollow**	**27.39**	**311**	P	**P**	**00 35 35.1**	**-0.8**	
WHAR				IAmb	IAmb	00 35 36.2		
	comp=Z,5.6nm,1.0s							
HHAR	**Hobbs**	**29.04**	**311**	P	**P**	**00 35 50.6**	**-0.1**	
T35A	**Sooner Cattle**	**31.17**	**311**	P	**P**	**00 36 08.4**	**-1.1**	
TXAR	**Lajitas Array**	**34.65**	**294**	P	**P**	**00 36 40.1**	**0.0**	
TXAR	**Lajitas Array**	**34.65**	**294**	P	**P**	**00 36 39.7**	**-0.4**	
	comp=Z,0.5nm,0.6s,baz=113,slow=8.9,SNR=8.1							
TXAR				PcP	**PcP**	**00 39 14.5**	**0.0**	
	comp=Z,0.4nm,0.8s,baz=81,slow=3.2,SNR=3.5							
	comp=Z,0.5nm,0.6s							
TX31	**Lajitas Ar. Si**	**34.65**	**294**	P	**P**	**00 36 38.9**	**-1.3**	
SCHQ	**Schefferville**	**35.60**	**0**	P	**P**	**00 36 48.5**	**+0.6**	
	comp=Z,26nm,0.7s,baz=267,slow=12,SNR=1.7							
VHRN	**Van Horn**	**36.01**	**296**	P	**P**	**00 36 50.9**	**-0.9**	
VHRN				IAmb	IAmb	00 37 05.1		
	comp=Z,2.9nm,1.2s							
PDAR	**Pinedale Array**	**42.69**	**313**	P	**P**	**00 37 47.5**	**-0.2**	
	comp=Z,0.2nm,0.5s,baz=91,slow=6.5,SNR=5.4							
	comp=Z,0.2nm,0.5s							
RLMT	**Red Lodge**	**43.35**	**316**	P	**P**	**00 37 51.5**	**-1.5**	
RLMT				IAmb	IAmb	00 38 33.6		
	comp=Z,4.8nm,1.4s							
ESDC	**Sonseca Array**	**57.57**	**55**	P	**P**	**00 39 42.0**	**+1.5**	
	comp=Z,0.8nm,0.7s,baz=270,slow=6.6,SNR=9.4							
	comp=Z,0.8nm,0.7s							
EKA	**Eskdalemuir Ar**	**59.71**	**37**	P	**P**	**00 39 55.7**	**+0.8**	
	comp=Z,1.0nm,0.8s,baz=273,slow=5.5,SNR=5.6							
	comp=Z,1.0nm,0.8s							
NOA	**NORSAR Array B**	**67.81**	**31**	P	**P**	**00 40 49.4**	**+1.0**	
	comp=Z,0.6nm,0.7s,baz=265,slow=4.8,SNR=2.8							
	comp=Z,0.6nm,0.7s							
ILAR	**Eielson Array**	**68.45**	**333**	P	**P**	**00 40 51.7**	**-0.6**	
	comp=Z,0.6nm,0.8s,baz=109,slow=6.0,SNR=6.0							
	comp=Z,0.6nm,0.8s							
ARCES	**ARCESS Array B**	**73.15**	**22**	P	**P**	**00 41 20.7**	**-0.1**	
	comp=Z,1.4nm,0.5s,baz=299,slow=4.9,SNR=10							
	comp=Z,1.4nm,0.5s							
FINES	**FINESS Array B**	**74.91**	**30**	P	**P**	**00 41 32.0**	**+0.8**	
	comp=Z,1.3nm,0.8s,baz=204,slow=4.2,SNR=1.4							
	comp=Z,1.3nm,0.8s							
ASAR	**Alice Springs**	**159.87**	**253**	PKPab	**PKPab**	**00 50 27.2**	**-2.4**	
	comp=Z,0.5nm,0.6s,baz=95,slow=4.0,SNR=5.7							

NEIC ***25*** *00:36:22.3±1.2, 19°.14N±0°.04×67°.18W±0°.02, h10km±1km, ML3.0/17, Md2.7/15(RSPR), Error ellipse: s-maj=6.0km s-min=4.0km az=355.0*

SDD ***25*** *00:36:22.7±2.2, 19°.21N×67°.25W, h18km±92km, MD3.4, ML3.1, MW3.4*

RSPR ***25*** *00:36:24.4, 19°.24N×67°.26W, h20km±7km, MD2.7/15*

ISC 25 00:36:19.4±1.2, 19°.28N±0°.05×67°.23W±0°.03, h11km±10km, n93, σ0°.88/137, 11C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AGPR	**Aguadilla, PR**	**0.82**	**172**			**Pn**	**00 36 36.4**	**-0.5**
AGPR						**Sb**	**00 36 47.0**	**+0.3**
AGPR	**Aguadilla, PR**	**0.82**	**172**	‖ *e*P		**Pn**	**00 36 36.4**	**-0.5**
AGPR	**Aguadilla, PR**	**0.82**	**172**	*e*S		**Sb**	**00 36 47.0**	**+0.3**
AGPR	**Aguadilla, PR**	**0.82**	**172**	*e*Pg		**Pn**	**00 36 36.9**	**0.0**
AGPR				*e*Sg		**Sb**	**00 36 46.2**	**-0.5**
AGPR				IAML			00 36 49.1	
	comp=N,742nm,0.3s							
AGPR	**Aguadilla, PR**	**0.82**	**172**	*e*Pg		**Pn**	**00 36 36.7**	**-0.2**
AGPR				*e*Sg		**Sb**	**00 36 46.2**	**-0.5**
AGPR				IAML			00 36 49.1	
	comp=N,742nm,0.3s							
IDE	**Isla Desecheo**	**0.92**	**195**			**Pb**	**00 36 37.5**	**+0.1**
IDE						**Sb**	**00 36 49.0**	**-0.7**
IDE	**Isla Desecheo**	**0.92**	**195**	‖ *i*P		**Pb**	**00 36 37.5**	**+0.1**
IDE	**Isla Desecheo**	**0.92**	**195**	*e*S		**Sb**	**00 36 49.0**	**-0.7**
AOPR	**Arecibo Observ**	**1.03**	**154**			**Pn**	**00 36 39.4**	**-0.5**
AOPR						**Sb**	**00 36 51.6**	**-1.4**
AOPR	**Arecibo Observ**	**1.03**	**154**	‖ *i*P		**Pn**	**00 36 39.6**	**-0.4**
AOPR	**Arecibo Observ**	**1.03**	**154**	*e*S		**Sb**	**00 36 52.6**	**-0.4**
AOPR	**Arecibo Observ**	**1.03**	**154**	*e*Pg		**Pn**	**00 36 39.5**	**-0.4**
AOPR				*e*Sg		**Sb**	**00 36 53.7**	**+0.7**
AOPR				IAML			00 37 01.6	
	comp=N,735nm,0.2s							
AOPR	**Arecibo Observ**	**1.03**	**154**	*e*Pg		**Pg**	**00 36 40.7**	**+1.4**
AOPR				*e*Sg		**Sb**	**00 36 52.5**	**-0.4**
AOPR				IAML			00 37 01.6	
	comp=N,735nm,0.2s							
EMPR	**Esperanza - Ma**	**1.04**	**140**			**Pg**	**00 36 41.7**	**+2.3**
EMPR						**Sn**	**00 36 55.0**	**+0.5**
EMPR	**Esperanza - Ma**	**1.04**	**140**	Pg		**Pg**	**00 36 40.7**	**+1.3**
EMPR	**Esperanza - Ma**	**1.04**	**140**	↑ *e*P		**Pg**	**00 36 41.7**	**+2.3**
EMPR	**Esperanza - Ma**	**1.04**	**140**	*e*S		**Sn**	**00 36 55.0**	**+0.5**
PRSN	**Puerto Rico Se**	**1.06**	**176**			**Pg**	**00 36 40.6**	**+0.7**
PRSN						**Sb**	**00 36 54.0**	**+0.3**
PRSN	**Puerto Rico Se**	**1.06**	**176**	Pg		**Pb**	**00 36 39.6**	**-0.2**
PRSN	**Puerto Rico Se**	**1.06**	**176**	↑ *e*P		**Pg**	**00 36 40.6**	**+0.7**
PRSN	**Puerto Rico Se**	**1.06**	**176**	*e*S		**Sb**	**00 36 54.0**	**+0.3**
PRSN	**Puerto Rico Se**	**1.06**	**176**	*e*Pg		**Pb**	**00 36 39.9**	**0.0**
PRSN				*e*Sg		**Sb**	**00 36 54.1**	**+0.3**
PRSN				IAML			00 36 54.4	
	comp=N,1μm,0.2s							
PRSN	**Puerto Rico Se**	**1.06**	**176**	*e*Pg		**Pb**	**00 36 39.7**	**-0.2**
PRSN				*e*Sg		**Sb**	**00 36 54.2**	**+0.5**
PRSN				IAML			00 36 54.4	
	comp=N,1μm,0.2s							
LSP	**Las Mesas**	**1.11**	**173**			**Pb**	**00 36 40.7**	**0.0**
LSP						**Sb**	**00 36 55.5**	**+0.4**
LSP	**Las Mesas**	**1.11**	**173**	↑ *e*P		**Pb**	**00 36 40.7**	**0.0**
LSP	**Las Mesas**	**1.11**	**173**	*e*S		**Sb**	**00 36 55.5**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.13**	**155**			**Pb**	**00 36 41.2**	**+0.2**
UUPR						**Sb**	**00 36 55.6**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.13**	**155**			**Pn**	**00 36 40.8**	**-0.5**
UUPR	**Utuado, UPR, P**	**1.13**	**155**	‖ *e*P		**Pb**	**00 36 41.2**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.13**	**155**	*e*S		**Sb**	**00 36 55.6**	**-0.1**
ECPR	**Experimental S**	**1.26**	**139**	↑ *e*P		**Pg**	**00 36 43.9**	**+0.2**
ECPR	**Experimental S**	**1.26**	**139**	*e*S		**Sn**	**00 37 00.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.27**	**175**			**Pb**	**00 36 43.6**	**+0.2**
CRPR						**Sn**	**00 36 59.0**	**-1.2**
CRPR				IAML			00 37 03.1	
	comp=N,348nm,0.5s							
CRPR				IAML			00 37 03.3	
	comp=E,262nm,0.5s							
CRPR	**Cabo Rojo, PR**	**1.27**	**175**	‖ *e*P		**Pb**	**00 36 43.8**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.27**	**175**	*e*S		**Sn**	**00 36 59.1**	**-1.2**
MLPR	**Magueyes Islan**	**1.32**	**172**	‖ *e*P		**Pn**	**00 36 43.6**	**-0.2**
MLPR	**Magueyes Islan**	**1.32**	**172**	*e*S		**Sn**	**00 37 00.6**	**-0.8**
MLPR	**Magueyes Islan**	**1.32**	**172**	*e*Pg		**Pb**	**00 36 44.2**	**+0.1**
MLPR				*e*Sg		**Sn**	**00 37 00.7**	**-0.6**
MLPR				IAML			00 37 05.2	
	comp=N,58nm,0.3s							
MLPR	**Magueyes Islan**	**1.32**	**172**	*e*Pg		**Pb**	**00 36 44.3**	**+0.1**
MLPR				*e*Sg		**Sn**	**00 37 00.8**	**-0.6**
MLPR				IAML			00 37 05.2	
	comp=N,58nm,0.3s							
PCDR	**Punta Cana, DR**	**1.33**	**235**	*e*Pg		**Pb**	**00 36 44.7**	**+0.3**
PCDR				IAML			00 37 04.7	
	comp=N,282nm,0.4s							
PCDR	**Punta Cana, DR**	**1.33**	**235**	*e*Pg		**Pg**	**00 36 45.0**	**0.0**
PCDR				IAML			00 37 04.7	
	comp=N,282nm,0.4s							
GBPR	**Guanica, Bosqu**	**1.34**	**166**			**Pb**	**00 36 45.0**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.34**	**166**	↑ *e*P		**Pb**	**00 36 45.0**	**+0.4**
CELP	**Cerrillos**	**1.35**	**153**	Pn		**Pn**	**00 36 44.1**	**-0.1**
CELP				Sn		**Sn**	**00 37 01.1**	**-1.1**
CELP	**Cerrillos**	**1.35**	**153**	‖ *i*P		**Pb**	**00 36 44.5**	**-0.2**
CELP	**Cerrillos**	**1.35**	**153**	*e*S		**Sn**	**00 37 01.8**	**-0.4**
CELP	**Cerrillos**	**1.35**	**153**	*e*Pg		**Pb**	**00 36 44.7**	**0.0**
CELP				*e*Sg		**Sn**	**00 37 01.7**	**-0.4**
CELP				IAML			00 37 02.0	
	comp=N,383nm,0.3s							
CELP	**Cerrillos**	**1.35**	**153**	*e*Pg		**Pb**	**00 36 44.5**	**-0.2**
CELP				*e*Sg		**Sn**	**00 37 01.8**	**-0.4**
CELP				IAML			00 37 02.0	
	comp=N,375nm,0.3s							
OBIP	**Obispado Ponce**	**1.37**	**154**	Pn		**Pn**	**00 36 44.4**	**0.0**
OBIP				Sn		**Sn**	**00 37 01.8**	**-0.8**
OBIP				IAML			00 37 07.0	
	comp=E,287nm,0.3s							
OBIP	**Obispado Ponce**	**1.37**	**154**	‖ *e*P		**Pb**	**00 36 44.8**	**-0.3**
OBIP	**Obispado Ponce**	**1.37**	**154**	*e*S		**Sn**	**00 37 02.0**	**-0.6**
GCPR	**Guanabo City**	**1.45**	**131**	Pn		**Pb**	**00 36 46.4**	**-0.2**
GCPR				Sn		**Sb**	**00 37 05.0**	**-0.1**
GCPR	**Guanabo City**	**1.45**	**131**	↑ *e*P		**Pb**	**00 36 46.7**	**+0.2**
GCPR	**Guanabo City**	**1.45**	**131**	*e*S		**Sb**	**00 37 05.3**	**+0.2**
SJG	**San Juan**	**1.55**	**138**	Pn		**Pb**	**00 36 48.1**	**-0.1**
SJG				IAML			00 37 11.5	
	comp=E,235nm,0.6s							
SJG				IAML			00 37 17.6	
	comp=E,243nm,0.2s							
SJG	**San Juan**	**1.55**	**138**	↑ *e*P		**Pb**	**00 36 48.1**	**-0.1**
SJG	**San Juan**	**1.55**	**138**	*e*S		**Sn**	**00 37 07.1**	**0.0**
SJG	**San Juan**	**1.55**	**138**	*e*Pg		**Pg**	**00 36 48.9**	**-0.3**
SJG				*e*Sg		**Sb**	**00 37 07.8**	**0.0**
SJG	**San Juan**	**1.55**	**138**	*e*Pg		**Pg**	**00 36 49.0**	**-0.2**
SJG				*e*Sg		**Sb**	**00 37 08.0**	**+0.2**
HIDR	**Higuey Centro**	**1.56**	**244**	‖ *e*P		**Pb**	**00 36 48.5**	**0.0**
HIDR	**Higuey Centro**	**1.56**	**244**	*e*S		**Sn**	**00 37 07.5**	**0.0**
HIDR	**Higuey Centro**	**1.56**	**244**	*e*Pg		**Pb**	**00 36 48.2**	**-0.2**
HIDR				*e*Sg		**Sb**	**00 37 07.8**	**-0.5**
HIDR				IAML			00 37 11.9	
	comp=N,438nm,0.2s							
HIDR	**Higuey Centro**	**1.56**	**244**	*e*Pg		**Pb**	**00 36 48.2**	**-0.2**
HIDR				*e*Sg		**Sb**	**00 37 07.8**	**-0.5**
HIDR				IAML			00 37 11.9	
	comp=N,438nm,0.2s							
IGPR	**InterUniversit**	**1.69**	**141**			**Pb**	**00 36 50.0**	**-0.5**
IGPR						**Sn**	**00 37 10.8**	**+0.3**
IGPR	**InterUniversit**	**1.69**	**141**	↑ *e*P		**Pb**	**00 36 50.0**	**-0.5**
IGPR	**InterUniversit**	**1.69**	**141**	*e*S		**Sn**	**00 37 10.8**	**+0.3**
PDPR	**Patillas Dam,**	**1.70**	**137**	Pn		**Pb**	**00 36 50.3**	**-0.4**
PDPR				IAML			00 37 13.9	
	comp=N,148nm,0.3s							
PDPR				IAML			00 37 19.9	
	comp=E,170nm,0.2s							
PDPR	**Patillas Dam,**	**1.70**	**137**	↑ *e*P		**Pb**	**00 36 50.3**	**-0.4**
PDPR	**Patillas Dam,**	**1.70**	**137**	*e*S		**Sn**	**00 37 10.0**	**-0.8**
HUMP	**Col San Antoni**	**1.73**	**131**	Pn		**Pb**	**00 36 50.3**	**-0.9**
MIDR	**Miches**	**1.75**	**261**	↑ *e*P		**Pg**	**00 36 51.8**	**-1.1**
MIDR	**Miches**	**1.75**	**261**	*e*Pg		**Pg**	**00 36 52.1**	**-0.7**
MIDR				*e*Sg		**Sg**	**00 37 15.6**	**+0.1**
MIDR				IAML			00 37 22.8	
	comp=N,102nm,0.9s							
MIDR	**Miches**	**1.75**	**261**	*e*Pg		**Pg**	**00 36 52.2**	**-0.7**
MIDR				*e*Sg		**Sg**	**00 37 15.8**	**+0.3**
MIDR				IAML			00 37 22.8	
	comp=N,102nm,0.9s							
SMDR	**Samana, DR**	**1.85**	**271**	↑ *i*P		**Pb**	**00 36 52.5**	**-0.8**
SMDR	**Samana, DR**	**1.85**	**271**	*e*Pg		**Pg**	**00 36 54.7**	**-0.2**
SMDR				*e*Sg		**Sg**	**00 37 19.4**	**+0.5**
SMDR				IAML			00 37 30.1	
	comp=N,141nm,0.8s							
SMDR	**Samana, DR**	**1.85**	**271**	*e*Pg		**Pg**	**00 36 54.6**	**-0.2**
SMDR				*e*Sg		**Sg**	**00 37 17.7**	**-1.2**
SMDR				IAML			00 37 30.1	
	comp=N,141nm,0.8s							
HATOM	**Hato Mayor del**	**2.09**	**257**	*e*Pg		**Pb**	**00 36 57.1**	**-0.4**
HATOM				*e*Sg		**Sb**	**00 37 23.4**	**-0.1**
HATOM				IAML			00 37 29.1	
	comp=N,100nm,0.5s							
HATOM	**Hato Mayor del**	**2.09**	**257**	*e*Pg		**Pb**	**00 36 56.9**	**-0.5**
HATOM				*e*Sg		**Sb**	**00 37 23.5**	**-0.1**
HATOM				IAML			00 37 29.1	
	comp=N,100nm,0.5s							
NADR	**Nagua**	**2.48**	**272**	*e*Pg		**Pb**	**00 37 03.4**	**-0.7**
NADR				*e*Sg		**Sg**	**00 37 36.9**	**-2.3**
NADR				IAML			00 37 48.6	
	comp=N,525nm,0.3s							
NADR	**Nagua**	**2.48**	**272**	*e*Pg		**Pb**	**00 37 03.2**	**-0.8**
NADR				IAML			00 37 48.7	
	comp=N,525nm,0.3s							
CADR	**Cabrera**	**2.58**	**279**	*e*Pg		**Pg**	**00 37 07.7**	**-1.3**
CADR				*e*Sg		**Sg**	**00 37 39.4**	**-3.1**
CADR				IAML			00 37 54.5	
	comp=N,179nm,0.3s							
CADR	**Cabrera**	**2.58**	**279**	*e*Pg		**Pb**	**00 37 05.4**	**-0.4**
CADR				*e*Sg		**Sg**	**00 37 39.5**	**-3.0**
CADR				IAML			00 37 54.5	
	comp=N,179nm,0.3s							
SDD	**Santo Domingo**	**2.67**	**253**	Pn		**Pb**	**00 37 06.7**	**-0.5**
SDD				IAML			00 37 47.6	
	comp=E,66nm,1.4s							
SDD				IAML			00 37 48.1	
	comp=N,56nm,0.9s							
SDD	**Santo Domingo**	**2.67**	**253**	*e*Pg		**Pb**	**00 37 08.4**	**+1.2**
SDD				*e*Sg		**Sb**	**00 37 40.7**	**+0.6**
SDD				IAML			00 37 57.0	
	comp=N,18nm,0.5s							
SDD	**Santo Domingo**	**2.67**	**253**	*e*Pg		**Pb**	**00 37 07.2**	**-0.1**
SDD				*e*Sg		**Sb**	**00 37 39.3**	**-0.8**
SDD				IAML			00 37 47.9	
	comp=N,19nm,0.9s							
ABDR	**Alto Bandera**	**3.25**	**262**	*e*Pg		**Pb**	**00 37 18.0**	**+0.7**
ABDR				*e*Sg		**Sb**	**00 37 59.7**	**+2.6**
ABDR				IAML			00 38 04.6	
	comp=N,118nm,0.5s							
ABDR	**Alto Bandera**	**3.25**	**262**	*e*Pg		**Pb**	**00 37 18.0**	**+0.7**
ABDR				*e*Sg		**Sb**	**00 37 58.0**	**+1.0**
ABDR				IAML			00 38 04.5	
	comp=N,118nm,0.5s							
SC01	**Santiago de lo**	**3.31**	**273**	*e*Pg		**Pb**	**00 37 19.1**	**+1.0**
SC01				*e*Sg		**Sb**	**00 37 59.0**	**+0.6**
SC01				IAML			00 38 15.7	
	comp=N,188nm,0.6s							
SDDR	**Presa de Saban**	**3.85**	**266**	Pn		**Pn**	**00 37 22.0**	**+3.3**
SDDR	**Presa de Saban**	**3.85**	**266**	*e*Pg		**Pb**	**00 37 28.7**	**+1.2**
SDDR				*e*Sg		**Sb**	**00 38 14.6**	**+0.5**
SDDR	**Presa de Saban**	**3.85**	**266**	*e*Pg		**Pb**	**00 37 28.6**	**+1.2**
SDDR				*e*Sg		**Sb**	**00 38 16.4**	**+2.3**
SDDR				IAML			00 38 30.1	
	comp=N,53nm,0.5s							
REDR	**Restauracion**	**3.94**	**269**	*e*Pg		**Pg**	**00 37 35.1**	**+0.3**
REDR				*e*Sg		**Sg**	**00 38 26.8**	**+0.9**
REDR				IAML			00 38 41.8	
	comp=N,38nm,0.2s							
PODR	**Polo**	**4.00**	**255**	*e*Pg		**Pb**	**00 37 31.0**	**+1.0**
PODR				*e*Sg		**Sb**	**00 38 19.9**	**+1.4**
PODR				IAML			00 38 29.5	
	comp=N,31nm,0.5s							

NEIC ***25*** *00:43:06.7±0.9, 19°.17N±0°.03×155°.48W±0°.02, h43km±2km, Error ellipse: s-maj=4.4km s-min=2.6km az=155.0*

HVO 25 00:43:08.5±0.9, 19°.16N±0°.02×155°.47W±0°.02, h36km±2km, ML2.4/28, ML2.5/42(NEIC), Error ellipse: s-maj=3.5km s-min=1.7km az=129.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HTC	**Hot Caves**	**0.10**	**40**			Pn	00 43 14.3	-0.4
HPO	**Honuapo**	**0.11**	**230**			Pn	00 43 14.1	-5.3
HPO						Sn	00 43 18.3	-11
KHU	**Kahuku**	**0.17**	**301**			Pn	00 43 14.5	-3.4
KHU						Sn	00 43 19.0	-7.6
HLP	**Hilina Pali**	**0.20**	**48**			Pn	00 43 14.9	-2.2
HLP						Sn	00 43 19.7	-5.1
HLP				IAML			00 43 22.4	
	comp=E,611nm,0.8s							
HLP				IAML			00 43 22.8	
	comp=N,549nm,0.7s							
AIN	**Ainahou**	**0.21**	**2**			Pn	00 43 14.9	-2.2
AIN						Sn	00 43 19.8	-4.8
SDHHI	**Sand Hill**	**0.28**	**35**			Pn	00 43 15.4	-1.3
SDHHI						Sn	00 43 20.4	-3.1
WRMHI	**West Rim**	**0.29**	**32**			Pn	00 43 15.4	-1.3
WRMHI						Sn	00 43 20.6	-2.9
RIM	**Rim**	**0.29**	**38**			Pn	00 43 15.5	-1.3
RIM						Sn	00 43 20.9	-2.6
KKO	**Keanakako'i**	**0.30**	**38**			Pn	00 43 15.6	-1.2
KKO						Sn	00 43 20.7	-2.8
UWE	**Uwekahuna**	**0.31**	**32**			Pn	00 43 15.5	-1.3
UWE						Sn	00 43 21.2	-2.3
UWE				IAML			00 43 26.3	
	comp=N,479nm,1.4s							
UWE				IAML			00 43 30.6	
	comp=E,505nm,0.3s							
OBL	**Observatory Le**	**0.31**	**34**			Pn	00 43 15.6	-1.2
OBL						Sn	00 43 20.8	-2.7
BYL	**Byron's Ledge**	**0.32**	**38**			Pn	00 43 15.6	-1.3
BYL						Sn	00 43 21.2	-2.3
UWB	**Uwekahuna Bluf**	**0.32**	**34**			Pn	00 43 15.5	-1.3
UWB						Sn	00 43 20.7	-2.8
PUH	**Pauahi**	**0.32**	**48**			Pn	00 43 15.6	-1.3
PUH						Sn	00 43 20.9	-2.6
PUH				IAML			00 43 21.2	
	comp=E,310nm,0.3s							
PUH				IAML			00 43 24.3	
	comp=N,319nm,1.0s							
HATHI	**Halema'uma'u T**	**0.32**	**36**			Pn	00 43 15.6	-1.3
HATHI						Sn	00 43 21.2	-2.3
HATHI				IAML			00 43 21.6	
	comp=N,357nm,1.4s							
HATHI				IAML			00 43 23.4	
	comp=E,312nm,0.9s							
SBLHI	**Steaming Bluff**	**0.32**	**35**			Pn	00 43 15.6	-1.3
SBLHI						Sn	00 43 20.9	-2.7
MLH	**Mauna Loa**	**0.34**	**13**			Pn	00 43 16.1	-1.1
MLH						Sn	00 43 21.6	-2.3
MLH				IAML			00 43 22.1	
	comp=E,356nm,0.2s							
MLH				IAML			00 43 23.5	
	comp=N,434nm,0.1s							
MWH	**Mokuaweoweo**	**0.35**	**339**			Pn	00 43 16.1	-1.4
MWH				IAML			00 43 33.0	
	comp=E,340nm,1.6s							
MWH	**Mokuaweoweo**	**0.35**	**339**			Sn	00 43 22.0	-2.5
RSD	**Rainshed**	**0.35**	**30**			Sn	00 43 21.3	-2.5
RSD	**Rainshed**	**0.35**	**30**			Pn	00 43 15.3	-1.8
KNHH	**Kane Nui o Ham**	**0.35**	**52**			Pn	00 43 16.0	-1.1
STCH	**Steam Cracks**	**0.39**	**55**			Pn	00 43 16.5	-1.1
STCH						Sn	00 43 22.2	-2.0
STCH				IAML			00 43 23.7	
	comp=E,267nm,0.1s							
NPOC	**North of Pu'u**	**0.41**	**55**			Pn	00 43 16.7	-1.1
NPOC						Sn	00 43 22.7	-1.9
JCUZ	**Jacuzzi**	**0.41**	**57**			Pn	00 43 16.9	-0.9
JCUZ						Sn	00 43 22.9	-1.6
ALEP	**Alea Permanent**	**0.41**	**336**			Pn	00 43 16.7	-1.5
ALEP						Sn	00 43 23.2	-2.0
HMH	**Humu'ula Sheep**	**0.44**	**358**			Pn	00 43 17.4	-1.1
HMH						Sn	00 43 24.0	-1.6
HMH				IAML			00 43 26.8	
	comp=E,293nm,0.1s							
JOKA	**Jonika Flow**	**0.51**	**58**			Pn	00 43 17.8	-1.6
JOKA						Sn	00 43 24.9	-2.0
JOKA				IAML			00 43 25.2	
	comp=E,182nm,0.4s							
JOKA				IAML			00 43 26.7	
	comp=N,248nm,0.2s							
CPH	**Captain Cook**	**0.54**	**307**			Pn	00 43 17.9	-1.9
POHA	**Pohakuloa**	**0.60**	**354**	Pn		Pn	00 43 18.7	-2.2
POHA				IAML			00 43 32.8	
	comp=N,192nm,1.8s							
POHA	**Pohakuloa**	**0.60**	**354**			Sn	00 43 26.4	-2.9
HUH	**Hualalai**	**0.63**	**326**	Pn		Pn	00 43 19.5	-1.8
HUH				IAML			00 43 26.1	
	comp=E,276nm,2.8s							
HUH				IAML			00 43 34.2	
	comp=N,252nm,1.0s							
HUH	**Hualalai**	**0.63**	**326**			Sn	00 43 27.9	-2.2
HPAH	**Hawaii Prepara**	**0.89**	**346**	Pn		Pn	00 43 22.5	-2.1
HPAH	**Hawaii Prepara**	**0.89**	**346**			Sn	00 43 33.0	-3.4
MHA	**Mahukona**	**1.10**	**338**	Pn		Pn	00 43 25.5	-1.9
MHA	**Mahukona**	**1.10**	**338**			Sn	00 43 38.5	-2.8

**IDC 25 01:00:15.4±36.0, 4°.00N×

BASM	**Basmaki-Afyon**	**1.81**	**12**	Pn	**Pn**	**01 02 11.1**	**+0.2**
ISP	**Isparta**	**1.83**	**24**	Pn	**Pn**	**01 02 11.5**	**+0.3**
ESEN	**Aydn-Nazilli**	**1.93**	**329**	P	**Pn**	**01 02 12.9**	**+0.5**
ESEN				S	**Sn**	**01 02 38.4**	**+3.0**
AYDN	**Tasoluk**	**2.04**	**318**	P	**Pn**	**01 02 14.5**	**+0.5**
KARP	**Karpathos**	**2.06**	**254**	Pn	**Pn**	**01 02 14.9**	**+0.7**
KARP	**Karpathos**	**2.06**	**254**	P	**Pn**	**01 02 15.0**	**+0.7**
KARP				S	**Sn**	**01 02 40.4**	**+1.7**
KARP	**Karpathos**	**2.06**	**254**	P	**Pn**	**01 02 15.0**	**+0.8**
KARP				S	**Sn**	**01 02 39.3**	**+0.6**
KARP				AML	AML	01 02 40.4	
	0.3nm,0.2s						
KARP				AML	AML	01 02 41.4	
	0.2nm,0.2s						
NAZL	**Nazilli-Aydin**	**2.09**	**331**	Pn	**Pn**	**01 02 14.6**	**-0.1**
SEYD	**Seydisehir-KON**	**2.20**	**54**	Pn	**Pn**	**01 02 17.7**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**2.25**	**323**	Pn	**Pn**	**01 02 16.9**	**-0.1**
GCAM	**G?zelcaml?**	**2.44**	**310**	Pn	**Pn**	**01 02 19.6**	**+0.1**
ODEM	**Odemis-Izmir**	**2.45**	**331**	Pn	**Pn**	**01 02 19.2**	**-0.4**
HDMB	**Hadim**	**2.47**	**70**	Pn	**Pn**	**01 02 22.0**	**+1.9**
KULA	**Kula-Manisa**	**2.48**	**343**	Pn	**Pn**	**01 02 19.9**	**-0.2**
AKMS	**Akamas**	**2.50**	**116**	P	**Pn**	**01 02 20.7**	**+0.4**
AKMS				S	**Sn**	**01 02 50.6**	**+0.9**
AKMS				AML	AML	01 02 51.0	
	0.1nm,0.3s						
AKMS				AML	AML	01 02 51.2	
	0.1nm,0.2s						
ALFC	**Alefka**	**2.64**	**111**	P	**Pn**	**01 02 22.1**	**-0.2**
ALFC				S	**Sn**	**01 02 53.7**	**+0.6**
ALFC				AML	AML	01 02 53.9	
	0.1nm,0.2s						
ALFC				AML	AML	01 02 57.5	
	0.1nm,0.3s						
NATA	**Nata**	**2.79**	**118**	P	**Pn**	**01 02 24.6**	**+0.4**
NATA				AML	AML	01 03 02.5	
	0.1nm,0.3s						
NATA				AML	AML	01 03 03.3	
	0.1nm,0.4s						
TROD	**Troodos**	**2.93**	**113**	P	**Pn**	**01 02 26.1**	**-0.2**
TROD				S	**Sn**	**01 03 02.1**	**+1.7**
TROD				AML	AML	01 03 08.4	
	0.1nm,0.4s						
TROD				AML	AML	01 03 10.4	
ZKR	**Zakros**	**2.93**	**250**	P	**Pn**	**01 02 28.1**	**+1.9**
XYLS	**Xyliatos**	**3.04**	**111**	P	**Pn**	**01 02 27.2**	**-0.5**
XYLS				S	**Sn**	**01 03 04.4**	**+1.5**
XYLS				AML	AML	01 03 08.1	
	0.1nm,0.3s						
XYLS				AML	AML	01 03 08.6	
	0.1nm,0.3s						
APOL	**The Sanctuary**	**3.05**	**118**	P	**Pn**	**01 02 28.0**	**+0.2**
APOL				S	**Sn**	**01 03 04.3**	**+1.2**
APOL				AML	AML	01 03 05.0	
	0.1nm,0.2s						
APOL				AML	AML	01 03 06.0	
	0.1nm,0.3s						
CSS	**Mathiatis**	**3.27**	**110**	P	**Pn**	**01 02 31.6**	**+0.8**
CSS				S	**Sn**	**01 03 09.6**	**+1.0**
CSS				AML	AML	01 03 12.1	
CSS	**Mathiatis**	**3.27**	**110**	P	**Pn**	**01 02 31.7**	**+0.8**
ASGA	**Asgata**	**3.28**	**113**	P	**Pn**	**01 02 31.1**	**+0.1**
ASGA				S	**Sn**	**01 03 09.7**	**+0.9**
ASGA				AML	AML	01 03 13.4	
ASGA				AML	AML	01 03 14.4	
NPS	**Neapolis**	**3.35**	**256**	P	**Pn**	**01 02 32.5**	**+0.5**
APE	**Apeiranthos**	**3.39**	**287**	P	Pn	01 02 40.6	+8.0
MVOU	**Mavrovouni**	**3.48**	**108**	P	**Pn**	**01 02 34.7**	**+1.0**
MVOU				S	**Sn**	**01 03 14.9**	**+1.1**
MVOU				AML	AML	01 03 17.6	
MVOU				AML	AML	01 03 18.6	
MMC7	**Mount Meron ar**	**5.71**	**121**	P	**Pn**	**01 03 03.9**	**-0.5**
MMA0B	**Mount Meron ar**	**5.72**	**121**	P	**Pn**	**01 03 04.1**	**-0.5**
GEM	**Giv'at Ha'Em**	**5.80**	**119**	P	**Pn**	**01 03 05.7**	**+0.1**
GEM	**Giv'at Ha'Em**	**5.80**	**119**	S	**Sn**	**01 04 07.5**	**-3.4**
NATI	**Neve Ativ**	**5.82**	**118**	P	**Pn**	**01 03 05.6**	**-0.3**
KSHT	**Keshet**	**6.02**	**120**	P	**Pn**	**01 03 09.1**	**+0.3**
KSHT	**Keshet**	**6.02**	**120**	S	**Sn**	**01 04 15.0**	**-1.6**
MMLI	**Mount Malkishu**	**6.08**	**126**	P	**Pn**	**01 03 09.5**	**0.0**
MMLI	**Mount Malkishu**	**6.08**	**126**	S	**Sn**	**01 04 15.0**	**-2.9**
SALP	**Salfit**	**6.17**	**130**	P	**Pn**	**01 03 10.8**	**0.0**
HMDT	**Nahal Hemdat**	**6.26**	**127**	P	**Pn**	**01 03 11.6**	**-0.4**
KZIT	**Kziot**	**6.59**	**141**	P	**Pn**	**01 03 16.2**	**-0.2**
KZIT	**Kziot**	**6.59**	**141**	S	**Sn**	**01 04 25.8**	**-4.5**
DSI	**Dead Sea**	**6.63**	**132**	P	**Pn**	**01 03 17.0**	**-0.1**
PRNI	**Paran**	**7.34**	**140**	P	**Pn**	**01 03 26.3**	**-0.5**
PRNI	**Paran**	**7.34**	**140**	S	**Sn**	**01 04 44.0**	**-5.0**

NOU ***25*** *01:02:04.8,20˚.99S×178˚.60W,h596km,mb5.0/70,Fiji Islands Region*
NEIC ***25*** *01:02:05.3±1.7,20˚.99S±0˚.10×178˚.8W±0˚.1,h590km±6km, mb4.8/289,Error ellipse: s-maj=16.4km s-min=13.7km az=117.0*
IDC ***25*** *01:02:07.0±1.1,20˚.91S×178˚.92W,h608km±12km, mb4.0/22,mbtmp4.9/25,Error ellipse: s-maj=10.6km s-min=7.7km az=153.0*

ISC 25 01:02:05.7±0.4,20.97S±0˚.05×178.75W±0˚.05, h603km±4km,h604km:pP-P,n796,σ0≥95/758,mb4.8/187, 54C-76D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**2.73**	**359**	P	**P**	**01 03 23.5**	**-0.3**
TAVE	**Taveuni**	**4.38**	**345**	P	**P**	**01 03 34.1**	**-0.2**
MSVF	**Nonsavu**	**4.42**	**316**		**P**	**01 03 34.0**	**-0.6**
MSVF	**Nonsavu**	**4.42**	**316**	P	**P**	**01 03 34.6**	**0.0**
DGTI	**Dogotuki**	**4.87**	**343**	P	**P**	**01 03 37.6**	**-0.3**
FUTU	**Fugatoga**	**6.66**	**5**		**P**	**01 03 52.2**	**-0.7**
FUTU	**Fugatoga**	**6.66**	**5**	P	**P**	**01 03 52.0**	**-0.9**
RIZ	**Raoul Island**	**8.27**	**175**	S	**S**	**01 05 45.0**	**-2.5**
RAO	**Raoul Island**	**8.28**	**175**	P	**P**	**01 04 06.4**	**-1.2**
RAO	**Raoul Island**	**8.28**	**175**	P	**P**	**01 04 08.6**	**+1.0**
	171nm,0.4s,baz=121,slow=21,SNR=1.5						
RAO				S	**S**	**01 05 49.4**	**+1.7**
	163nm,0.3s,baz=76,slow=23,SNR=1.6						
RAO	**Raoul Island**	**8.28**	**175**	S	**S**	**01 05 47.8**	**+0.2**
GLKZ	**Green Lake**	**8.29**	**175**	P	**P**	**01 04 05.7**	**-2.1**
GLKZ				S	**S**	**01 05 45.9**	**-1.9**
NIUE	**Niue**	**8.51**	**79**	P	**P**	**01 04 08.2**	**-1.8**
AFI	**Afiamalu**	**9.67**	**45**	P	**P**	**01 04 17.8**	**-3.8**
AFI	**Afiamalu**	**9.67**	**45**	P	**P**	**01 04 18.2**	**-3.3**
PINNC	**Pines Island,**	**12.93**	**260**		**P**	**01 04 52.5**	**-1.3**
PINNC	**Pines Island,**	**12.93**	**260**	P	**P**	**01 04 52.7**	**-1.1**
PINNC	**Pines Island,**	**12.93**	**260**	S	**S**	**01 07 13.6**	**+1.7**
YATNC	**Mamie plateau,**	**13.41**	**263**	P	**P**	**01 04 58.5**	**-0.2**
OUENC	**Ouen Island, N**	**13.47**	**261**	P	**P**	**01 04 59.1**	**-0.2**
OUENC	**Ouen Island, N**	**13.47**	**261**	S	**S**	**01 07 25.5**	**+3.8**
DZM	**Mont Dzumac**	**13.82**	**263**		**P**	**01 05 01.7**	**-1.3**
DZM	**Mont Dzumac**	**13.82**	**263**	P	**P**	**01 05 01.8**	**-1.2**
	33nm,0.7s,baz=85,slow=17,SNR=21						
DZM				S	**S**	**01 07 27.7**	**-0.3**
	36nm,1.3s,baz=328,slow=20,SNR=4.6						
DZM	**Mont Dzumac**	**13.82**	**263**	P	**P**	**01 05 01.6**	**-1.3**
DZM	**Mont Dzumac**	**13.82**	**263**	S	**S**	**01 07 31.5**	**+3.5**
ONTNC	**Ouen Toro**	**13.82**	**262**	P	**P**	**01 05 01.3**	**-1.5**
ONTNC	**Ouen Toro**	**13.82**	**262**	P	**P**	**01 05 01.7**	**-1.2**
OUZ	**Omahuta**	**15.71**	**204**	P	**P**	**01 05 21.9**	**+1.8**
KOUNC	**Koumac, New Ca**	**15.88**	**268**	P	**P**	**01 05 23.4**	**+1.5**
GRZ	**Great Barrier**	**16.04**	**197**	P	**P**	**01 05 24.4**	**+1.3**
WCZ	**Waipu Caves**	**16.09**	**201**	P	**P**	**01 05 25.5**	**+1.9**
KUZ	**Kuaotunu**	**16.44**	**196**	P	**P**	**01 05 28.0**	**+1.2**
KUZ	**Kuaotunu**	**16.44**	**196**	P	**P**	**01 05 27.7**	**+0.9**
MBAZ	**Motutapu North**	**16.68**	**198**	P	**P**	**01 05 31.0**	**+1.9**
MXZ	**Matakaoa Point**	**16.73**	**188**	P	**P**	**01 05 28.9**	**-0.5**
ETAZ	**East Tamaki Re**	**16.85**	**198**	P	**P**	**01 05 32.5**	**+2.0**
MKAZ	**Moumakai**	**16.92**	**197**	P	**P**	**01 05 32.8**	**+1.6**
HAZ	**Te Kaha**	**16.99**	**189**	P	**P**	**01 05 30.7**	**-1.1**
PKGZ	**Pakihiroa**	**17.06**	**189**	P	**P**	**01 05 30.0**	**-2.5**
RUGZ	**Raukumara Rang**	**17.21**	**190**	P	**P**	**01 05 32.8**	**-1.2**
PUZ	**Puketiti**	**17.23**	**188**	P	**P**	**01 05 33.7**	**-0.4**
TGRZ	**Tauranga**	**17.25**	**193**	P	**P**	**01 05 35.9**	**+1.7**
TWGZ	**Tauwhareparae**	**17.38**	**189**	P	**P**	**01 05 35.9**	**+0.5**
TOZ	**Tahuroa Road**	**17.43**	**195**		**P**	**01 05 36.9**	**+1.1**
TOZ	**Tahuroa Road**	**17.43**	**195**	P	**P**	**01 05 36.7**	**+0.9**
URZ	**Urewera**	**17.59**	**191**	P	**P**	**01 05 34.2**	**-3.1**
	36nm,0.3s,baz=244,slow=2.7,SNR=58						
URZ				S	**S**	**01 08 22.9**	**-6.3**
	16nm,0.6s,baz=146,slow=21,SNR=3.2						
URZ	**Urewera**	**17.59**	**191**	P	**P**	**01 05 35.3**	**-2.0**
URZ	**Urewera**	**17.59**	**191**	P	**P**	**01 05 34.0**	**-3.3**
MWZ	**Matawai**	**17.60**	**190**	P	**P**	**01 05 35.9**	**-1.5**
CNGZ	**Carnagh Statio**	**17.65**	**188**	P	**P**	**01 05 36.5**	**-1.3**
RAR	**Rarotonga**	**17.71**	**94**	P	**P**	**01 05 39.7**	**+1.1**
	23nm,0.8s,baz=236,slow=5.3,SNR=5.3						
MUGZ	**Murupara**	**17.87**	**192**	P	**P**	**01 05 38.4**	**-1.4**
RTZ	**Ruatahuna**	**17.96**	**191**	P	**P**	**01 05 39.0**	**-1.8**
HIZ	**Hauiti**	**18.33**	**196**	P	**P**	**01 05 45.2**	**+1.2**
BKZ	**Black Stump Fm**	**18.59**	**192**	P	**P**	**01 05 43.4**	**-3.0**
VRZ	**Vera Road**	**18.93**	**196**	P	**P**	**01 05 51.4**	**+2.0**
TSZ	**Takapari Road**	**19.55**	**192**	P	**P**	**01 05 54.3**	**-0.9**
BFZ	**Birch Farm**	**20.10**	**191**	P	**P**	**01 05 58.0**	**-2.0**
MRZ	**Mangatainoka R**	**20.21**	**193**	P	**P**	**01 05 59.2**	**-1.9**
TCW	**Tory Channel**	**21.02**	**195**	P	**P**	**01 06 06.9**	**-1.4**
QRZ	**Quartz Range**	**21.13**	**199**	P	**P**	**01 06 08.9**	**-0.4**
QRZ	**Quartz Range**	**21.13**	**199**	P	**P**	**01 06 09.1**	**-0.2**
NNZ	**Nelson**	**21.26**	**197**	P	**P**	**01 06 09.0**	**-1.4**
KHZ	**Kahutara**	**22.34**	**195**	P	**P**	**01 06 18.4**	**-1.6**
ALEG	**Aligegeo Malai**	**23.25**	**298**	P	**P**	**01 06 28.0**	**-0.5**
OXZ	**Oxford**	**23.58**	**197**	P	**P**	**01 06 28.3**	**-2.8**
TARA	**Tarawa**	**23.64**	**339**	P	**P**	**01 06 31.7**	**-0.3**
TARA	**Tarawa**	**23.64**	**339**	P	**P**	**01 06 31.6**	**-0.4**
JCZ	**Jackson Bay**	**25.26**	**201**	P	**P**	**01 06 45.9**	**-0.1**
MLZ	**Mavora Lakes**	**26.62**	**201**	P	**P**	**01 06 57.0**	**-0.8**
TW1H	**Toowoomba 1 Ha**	**27.44**	**250**	P	**P**	**01 07 06.6**	**+1.3**
EIDS	**Eidsvold**	**28.05**	**255**	P	**P**	**01 07 10.5**	**0.0**
ARMA	**Armidale**	**28.23**	**245**	P	**P**	**01 07 12.3**	**+0.1**
ARMA	**Armidale**	**28.23**	**245**	P	**P**	**01 07 13.0**	**+0.8**
XMAS	**Kiritimati**	**30.96**	**45**	P	**P**	**01 07 36.0**	**+0.3**
CNB	**Canberra Magne**	**31.38**	**236**	P	**P**	**01 07 40.0**	**+0.9**
CAN	**Canberra**	**31.67**	**236**	P	**P**	**01 07 42.3**	**+0.7**
CAN	**Canberra**	**31.67**	**236**	P	**P**	**01 07 42.2**	**+0.1**
CTAO	**Charters Tower**	**32.75**	**265**	P	**P**	**01 07 50.9**	**+0.1**
CTAO	**Charters Tower**	**32.75**	**265**	P	**P**	**01 07 51.2**	**+0.4**
CMSA	**Cobar Meteorol**	**33.45**	**244**	P	**P**	**01 07 56.9**	**+0.3**
QLP	**Quilpie**	**34.25**	**253**	P	**P**	**01 08 03.5**	**+0.2**
PMG	**Port Moresby**	**34.77**	**284**		**P**	**01 08 07.4**	**-0.4**
PMG	**Port Moresby**	**34.77**	**284**	P	**P**	**01 08 08.0**	**+0.3**
PMG	**Port Moresby**	**34.77**	**284**	P	**P**	**01 08 08.1**	**+0.3**
PMG	**Port Moresby**	**34.77**	**284**	P	**P**	**01 08 07.7**	**-0.1**
TOO	**Toolangi**	**35.05**	**234**	P	**P**	**01 08 09.7**	**-0.2**
BRAT	**Ballarat**	**36.23**	**235**	P	**P**	**01 08 20.2**	**+0.7**
COEN	**Coen**	**36.92**	**275**	P	**P**	**01 08 25.1**	**-0.3**
COEN				IAmb	IAmb	01 08 26.7	
	comp=Z,18nm,0.9s						
STKA	**Stephens Creek**	**36.95**	**245**	P	**P**	**01 08 25.3**	**-0.2**
STKA	**Stephens Creek**	**36.95**	**245**	P	**P**	**01 08 25.9**	**+0.4**
	comp=Z,11nm,0.5s,baz=87,slow=9.6,SNR=30						
STKA				PcP	**PcP**	**01 10 31.5**	**+1.5**
	comp=Z,1.8nm,0.6s,baz=86,slow=5.3,SNR=3.1						
STKA				S	**S**	**01 13 27.6**	**-1.5**
	comp=Z,2.1nm,0.8s,baz=69,slow=2.9,SNR=4.4						
	comp=Z,11nm,0.5s						
STKA	**Stephens Creek**	**36.95**	**245**	P	**P**	**01 08 25.9**	**+0.4**
INKA	**Innaminka**	**37.38**	**251**	P	**P**	**01 08 29.6**	**+0.5**
MANU	**Manus Island**	**38.01**	**295**		**P**	**01 08 34.5**	**+0.2**
HTT	**Hallett**	**39.39**	**243**	P	**P**	**01 08 45.4**	**+0.2**
WHYH	**Whyalla**	**40.46**	**243**	P	**P**	**01 08 54.4**	**+0.7**
BBOO	**Buckleboo**	**41.71**	**244**	P	**P**	**01 09 03.6**	**+0.1**
BBOO				IAmb	IAmb	01 09 03.8	
	comp=Z,18nm,0.6s						
BBOO	**Buckleboo**	**41.71**	**244**	P	**P**	**01 09 03.4**	**-0.2**
JAY	**Jayapura**	**43.53**	**289**	P	**P**	**01 09 17.9**	**-0.1**
	comp=Z,65nm,0.8s,baz=154,slow=3.9,SNR=36						
	comp=Z,65nm,0.8s						
JAY	**Jayapura**	**43.53**	**289**	P	**P**	**01 09 17.5**	**-0.5**
	comp=Z,702nmcomp=Z,86nm,1.0s						
WR8	**Warramunga Arr**	**43.69**	**263**	P	**P**	**01 09 18.2**	**-0.9**
AS31	**Alice Springs**	**43.73**	**257**	P	**P**	**01 09 19.1**	**-0.3**
AS31				PcP	**PcP**	**01 10 52.3**	**-0.3**
ASAR	**Alice Springs**	**43.73**	**257**	P	**P**	**01 09 19.4**	**0.0**
	comp=Z,7.1nm,0.8s,baz=89,slow=8.2,SNR=54						
ASAR				PcP	**PcP**	**01 10 52.9**	**+0.2**
	comp=Z,8.3nm,0.6s,baz=102,slow=4.1,SNR=18						
ASAR				ScP	**ScP**	**01 13 49.8**	**+2.3**
	comp=Z,0.9nm,0.7s,baz=87,slow=3.5,SNR=3.2						
ASAR				S	**S**	**01 15 05.6**	**-1.8**
	comp=Z,11nm,0.9s,baz=94,slow=16,SNR=35						
	comp=Z,7.1nm,0.8s						
WB0	**Warramunga Arr**	**43.82**	**263**	P	**P**	**01 09 19.0**	**-1.2**
WB0				IAmb	IAmb	01 09 20.3	
	comp=Z,11nm,0.7s						
WRAB	**Tennant Creek**	**43.84**	**263**	P	**P**	**01 09 19.7**	**-0.5**
WRAB				IAmb	IAmb	01 11 06.5	
	comp=Z,21nm,1.1s						
WRA	**Warramunga Arr**	**43.84**	**263**	P	**P**	**01 09 19.8**	**-0.6**
	comp=Z,8.6nm,0.8s,baz=94,slow=6.0,SNR=53						
WRA				PcP	**PcP**	**01 10 52.5**	**-0.5**
	comp=Z,117nm,0.8s,baz=96,slow=3.4,SNR=29						
WRA				ScP	**ScP**	**01 13 49.5**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=96,slow=3.9,SNR=3.5						
WRA				S	**S**	**01 15 05.6**	**-3.4**
	comp=Z,9.9nm,1.0s,baz=98,slow=13,SNR=10						
	comp=Z,8.6nm,0.8s						
GENI	**Genyem**	**43.97**	**289**	P	**P**	**01 09 22.1**	**+0.7**
GENI	**Genyem**	**43.97**	**289**	P	**P**	**01 09 20.9**	**-0.5**
	comp=Z,87nm,1.1s						
SRPI	**Serui, Papua**	**47.79**	**287**	P	**P**	**01 09 50.1**	**-0.1**
BAKI	**Biak**	**48.21**	**288**	P	**P**	**01 09 53.2**	**-0.2**
	comp=Z,58nm,0.9s						
FORT	**Forrest**	**48.46**	**247**	P	**P**	**01 09 54.8**	**-0.2**
KNRA	**Kununurra**	**49.93**	**267**	IAmb	IAmb	01 10 06.4	
	comp=Z,22nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.27**	**263**	P	**P**	**01 10 22.9**	**0.0**
FITZ	**Fitzroy Crossi**	**52.27**	**263**	P	**P**	**01 10 22.7**	**-0.1**
	comp=Z,7.6nm,0.6s,baz=109,slow=3.7,SNR=28						
FITZ				S	**S**	**01 17 03.6**	**-0.7**
	comp=Z,4.8nm,1.0s,baz=275,slow=21,SNR=9.8						
	comp=Z,7.6nm,0.6s						
DRV	**Dumont d'Urvil**	**52.68**	**199**	P	**P**	**01 10 25.4**	**+0.6**
SWI	**Sorong**	**52.69**	**286**	P	**P**	**01 10 25.4**	**-0.5**
NLAI	**Namlea**	**55.50**	**281**	P	**P**	**01 10 44.6**	**-0.9**
	comp=Z,65nm,0.8s						
SOEI	**Soe**	**55.82**	**272**	P	**P**	**01 10 49.5**	**+1.6**
SOEI	**Soe**	**55.82**	**272**	P	**P**	**01 10 48.4**	**+0.5**
BATI	**Baumata**	**56.24**	**272**	P	**P**	**01 10 51.0**	**+0.3**
	comp=Z,43nm,0.5s,baz=165,slow=3.9,SNR=4.3						
	comp=Z,43nm,0.5s						
PSA00	**Pilbara Seismi**	**56.88**	**257**	P	**P**	**01 10 53.9**	**-1.0**
PSA00				IAmb	IAmb	01 10 55.2	
	comp=Z,30nm,0.8s						
PSA00				PcP	**PcP**	**01 11 41.9**	**+0.1**
PSA00	**Pilbara Seismi**	**56.88**	**257**	P	**P**	**01 10 54.7**	**-0.2**
TNTI	**Ternate**	**56.91**	**285**	P	**P**	**01 10 55.5**	**+0.3**
SANI	**Sanana**	**56.99**	**282**	P	**P**	**01 10 55.3**	**-0.5**
SANI	**Sanana**	**56.99**	**282**	P	**P**	**01 10 54.7**	**-1.1**
	comp=Z,39nm,0.8s						
MBWA	**Marble Bar**	**57.07**	**258**	P	**P**	**01 10 55.5**	**-0.7**
MBWA				IAmb	IAmb	01 10 56.5	
	comp=Z,26nm,0.8s						
MBWA	**Marble Bar**	**57.07**	**258**	P	**P**	**01 10 55.7**	**-0.5**
MBWA	**Marble Bar**	**57.07**	**258**	P	**P**	**01 10 55.7**	**-0.5**
SBA	**Scott Base**	**57.35**	**184**	P	**P**	**01 10 60.0**	**+2.8**
SBA	**Scott Base**	**57.35**	**184**	P	**P**	**01 11 00.2**	**+3.0**
VNDA	**Vanda**	**57.38**	**185**	P	**P**	**01 10 59.1**	**+1.7**
VNDA	**Vanda**	**57.38**	**185**	P	**P**	**01 10 59.4**	**+2.0**
	comp=Z,1.7nm,0.4s,baz=7.1,slow=6.3,SNR=15						
VNDA				ScP	**ScP**	**01 14 45.6**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=4.9,slow=4.4,SNR=6.1						
	comp=Z,1.7nm,0.4s						
MORW	**Morawa**	**59.00**	**248**	P	**P**	**01 11 08.6**	**-0.6**
GIRL	**Giralia**	**61.75**	**255**	P	**P**	**01 11 27.8**	**+0.5**
GIRL				IAmb	IAmb	01 11 39.9	
	comp=Z,65nm,1.4s						
CCD	**Concordia, Ant**	**61.84**	**194**	P	**P**	**01 11 28.5**	**+1.1**
PLAI	**Plampang**	**62.18**	**271**	P	**P**	**01 11 30.0**	**-0.2**
PLAI	**Plampang**	**62.18**	**271**	P	**P**	**01 11 29.4**	**-0.8**
	comp=Z,75nm,1.3s						
TOLI2	**Tolitoli**	**63.02**	**283**	P	**P**	**01 11 34.9**	**-0.7**
TOLI2				IAmb	IAmb	01 11 36.0	
	comp=Z,25nm,0.9s						
TOLI2	**Tolitoli**	**63.02**	**283**	P	**P**	**01 11 35.4**	**-0.2**
TWSI	**Taliwang, Sumb**	**63.04**	**271**	P	**P**	**01 11 34.9**	**-0.8**
	comp=Z,654nmcomp=Z,66nm,1.0s						
CASY	**Casey**	**63.24**	**205**	P	**P**	**01 11 36.8**	**+0.8**
CASY				IAmb	IAmb	01 12 20.3	
	comp=Z,42nm,1.4s						
JHJ2	**Mitsune**	**66.76**	**323**	P	**P**	**01 11 59.0**	**+0.4**
MYLDM	**Lahad Datu**	**66.78**	**286**	P	**P**	**01 11 59.9**	**+0.8**
QSPA	**South Pole Qui**	**69.10**	**180**	P	**P**	**01 12 14.9**	**+2.5**
	comp=Z,5.0nm,0.6s,baz=260,slow=0.6,SNR=42						
	comp=Z,5.0nm,0.6s						
QSPA	**South Pole Qui**	**69.10**	**180**	P	**P**	**01 12 15.7**	**+3.3**
UGM	**Wanagama**	**69.25**	**269**	P	**P**	**01 12 13.9**	**-0.3**
JGF	**Kuroka**	**69.97**	**323**	P	**P**	**01 12 17.7**	**-0.2**
JGF				IAmb	IAmb	01 12 18.6	
	comp=Z,15nm,0.7s						
JGF	**Kuroka**	**69.97**	**323**	P	**P**	**01 12 18.0**	**+0.1**
MJAR	**Matsushiro Arr**	**70.18**	**324**	P	**P**	**01 12 19.0**	**-0.1**
	comp=Z,15nm,0.7s,baz=157,slow=5.8,SNR=34						
	comp=Z,15nm,0.7s						
MAJO	**Matsushiro**	**70.18**	**324**	P	**P**	**01 12 19.0**	**-0.1**
MAJO				IAmb	IAmb	01 12 19.8	
	comp=Z,18nm,0.8s						
MAJO	**Matsushiro**	**70.18**	**324**	P	**P**	**01 12 19.2**	**+0.1**
MJB9	**Matsu-Tunnel**	**70.18**	**324**	IAmb	IAmb	01 12 20.8	
	comp=Z,18nm,0.8s						
JMN	**Monobe**	**70.68**	**319**	P	**P**	**01 12 22.7**	**+0.5**
JMN				IAmb	IAmb	01 12 24.0	
	comp=Z,29nm,0.9s						
JNU	**Nakatsue**	**72.14**	**317**	P	**P**	**01 12 30.3**	**-0.4**
JNU				IAmb	IAmb	01 12 31.8	
	comp=Z,32nm,1.1s						
JNU	**Nakatsue**	**72.14**	**317**	P	**P**	**01 12 30.9**	**+0.2**
LEM	**Lembang**	**72.33**	**269**	P	**P**	**01 12 32.2**	**-0.1**
	comp=Z,55nm,0.9s,baz=67,slow=5.0,SNR=5.6						
	comp=Z,55nm,0.9s						
KIWB	**Kanaga Island**	**72.53**	**1**	P	**P**	**01 12 32.1**	**-0.2**
ADK	**Adak**	**72.56**	**1**	P	**P**	**01 12 32.1**	**-0.4**
ADK	**Adak**	**72.56**	**1**	P	**P**	**01 12 32.0**	**-0.6**
ADK	**Adak**	**72.56**	**1**	P	**P**	**01 12 32.0**	**-0.6**
KSM	**Kuching**	**72.79**	**278**	P	**P**	**01 12 35.3**	**+0.5**
ATKA	**Atka Island**	**72.97**	**3**	P	**P**	**01 12 34.1**	**-0.8**
TWGBT	**Beinan**	**73.04**	**303**	P	**P**	**01 12 35.1**	**-0.9**
YULB	**Yu-li**	**73.18**	**304**	IAmb	IAmb	01 12 36.5	
	comp=Z,27nm,0.6s						
YULB	**Yu-li**	**73.18**	**304**	P	**P**	**01 12 36.1**	**-0.7**
NACB	**Ninganchiao**	**73.36**	**305**	P	**P**	**01 12 37.2**	**-0.6**
TPUB	**Ta-pu**	**73.65**	**303**	P	**P**	**01 12 38.7**	**-0.8**
SSLB	**Suanglung**	**73.65**	**304**	P	**P**	**01 12 38.9**	**-0.6**
YHNB	**Yeheng**	**73.80**	**305**	P	**P**	**01 12 40.5**	**+0.1**
NIKH	**Nikolski High**	**74.13**	**6**	P	**P**	**01 12 40.2**	**-1.3**
	baz=190						
UNV	**Unalaska Valle**	**75.25**	**7**	IAmb	IAmb	01 12 47.7	
	comp=Z,28nm,0.7s						
UNV	**Unalaska Valle**	**75.25**	**7**	P	**P**	**01 12 46.7**	**-0.9**
	baz=192						
MDSI	**Maura Dua**	**76.34**	**270**	P	**P**	**01 12 53.5**	**-1.2**
	comp=Z,2μmcomp=Z,31nm,0.8s						
PETK	**Petropavlovsk-**	**76.55**	**346**	P	**P**	**01 12 55.1**	**+0.2**
	comp=Z,27nm,0.7s,baz=128,slow=4.8,SNR=32						
	comp=Z,27nm,0.7s						
FALS	**False Pass**	**76.66**	**9**	P	**P**	**01 12 54.7**	**-0.6**
	baz=195						
KSRS	**Korea Array**	**76.78**	**319**	P	**P**	**01 12 57.2**	**+0.7**
	comp=Z,5.3nm,0.8s,baz=138,slow=5.9,SNR=19						

M14K	Bethel	82.56	8	P	P	01 13 25.9	-0.3	
	baz=196							
M15K	Kasigluk River	82.69	9	P	P	01 13 27.0	+0.3	
	baz=197							
N16K	Nishlik Lake	82.77	10	P	P	01 13 27.7	+0.4	
	baz=199,SNR=13							
K05A	Summer Lake	82.77	39	IAmb	IAmb	01 13 30.6		
	comp=Z,37nm,0.9s							
Q09A	Carvers	82.80	44	IAmb	IAmb	01 13 30.2		
	comp=Z,19nm,0.8s							
O18K	Koktuh Hills	82.81	12	P	P	01 13 27.3	-0.2	
	baz=202							
P19K	Oil Pt	83.01	13	P	P	01 13 28.6	+0.1	
	baz=204							
L14K	Kuka Creek	83.04	8	P	P	01 13 28.3	-0.2	
	baz=195							
WIFE	Three Sisters-	83.05	37	IAmb	IAmb	01 13 31.6		
	comp=Z,19nm,0.7s							
N17K	Nushagak Hills	83.08	11	P	P	01 13 29.0	+0.2	
	baz=200							
TIA	Tai'an	83.08	313	P	P	01 13 29.9	+0.5	
TIA				pmax	pmax			
	comp=Z,20nm,1.1s							
KULM	Kulim	83.14	278	P	P	01 13 30.8	+0.6	
KULM				IAmb	IAmb	01 13 31.9		
	comp=Z,27nm,0.9s							
KULM	Kulim	83.14	278	P	P	01 13 31.0	+0.8	
H04A	Detroit Lake	83.22	37	IAmb	IAmb	01 13 31.4		
	comp=Z,15nm,0.6s							
M16K	Timber Creek	83.26	10	P	P	01 13 30.3	+0.7	
	baz=199,SNR=10.0							
O19K	Port Alsworth	83.29	12	P	P	01 13 29.1	-0.7	
	baz=203							
HOM	Homer	83.35	13	P	P	01 13 29.3	-0.8	
	baz=205							
G04A	Mulino	83.39	36	IAmb	IAmb	01 13 34.0		
	comp=Z,40nm,0.9s							
K13K	Kusilvak Mount	83.39	7	P	P	01 13 30.1	-0.1	
	baz=193							
PINE	Pine Mountain	83.39	38	IAmb	IAmb	01 13 33.6		
	comp=Z,34nm,0.8s							
N18K	Kilae Creek	83.45	11	P	P	01 13 30.6	-0.1	
	baz=201							
I05D	Terrebonne, OR	83.49	37	IAmb	IAmb	01 13 33.6		
	comp=Z,19nm,0.8s							
L15K	Ungalak Mounta	83.52	8	P	P	01 13 31.5	+0.6	
	baz=196							
O20K	Slope Mountain	83.53	13	P	P	01 13 31.5	+0.4	
	baz=204							
R11B	Troy Canyon, C	83.58	45	P	P	01 13 32.8	+0.8	
R11B				IAmb	IAmb	01 16 54.1		
	comp=Z,3.9nm,0.2s							
BRLK	Bradley Lake	83.61	14	IAmb	IAmb	01 13 32.4		
	comp=Z,37nm,0.8s							
BRSE	Bradley Lake S	83.63	14	P	P	01 13 32.0	+0.5	
	baz=206,SNR=6.1							
TUC	Tucson	83.82	52	P	P	01 13 35.7	+2.5	
N19K	Bonanza Creek	83.83	12	IAmb	IAmb	01 13 32.9		
	comp=Z,15nm,0.9s							
N19K	Bonanza Creek	83.83	12	P	P	01 13 32.2	-0.4	
	baz=203							
L16K	Owhat River	83.83	9	IAmb	IAmb	01 13 34.4		
	comp=Z,24nm,1.1s							
L16K	Owhat River	83.83	9	P	P	01 13 32.5	0.0	
	baz=198							
M17K	Holitna River	83.86	10	IAmb	IAmb	01 13 35.3		
	comp=Z,20nm,0.9s							
M17K	Holitna River	83.86	10	P	P	01 13 32.7	+0.1	
	baz=200,SNR=5.1							
NLWA	Neilton Lookou	84.02	34	P	P	01 13 35.2	+1.4	
NLWA				IAmb	IAmb	01 13 35.8		
	comp=Z,22nm,1.1s							
K15K	Wolf Creek Mou	84.11	8	P	P	01 13 33.5	-0.3	
	baz=196							
M18K	Stony River	84.22	11	P	P	01 13 34.5	+0.2	
	baz=202							
SEW	Seward	84.24	14	P	P	01 13 34.7	+0.2	
	baz=207							
J14K	Nanvaranak Lak	84.30	7	P	P	01 13 35.2	+0.5	
	baz=194							
L17K	Donlin	84.42	9	P	P	01 13 35.4	+0.1	
	baz=199							
319A	Douglas	84.49	54	IAmb	IAmb	01 13 39.6		
	comp=Z,21nm,1.0s							
GSI	Gunungsitoli	84.56	273	P	P	01 13 38.2	+1.0	
GSI	Gunungsitoli	84.56	273	P	P	01 13 37.6	+0.4	
J08A	Circle Bar Ran	84.58	40	P	P	01 13 38.1	+1.4	
J08A				IAmb	IAmb	01 13 39.0		
	comp=Z,28nm,1.4s							
SPCR	Spurr Chakacha	84.64	13	P	P	01 13 35.5	-1.0	
	baz=205							
P23K	Montague Islan	84.64	15	P	P	01 13 36.9	+0.5	
	baz=209							
LON	Longmire	84.71	35	IAmb	IAmb	01 13 39.0		
	comp=Z,26nm,1.6s							
L18K	Granite Mounta	84.75	10	P	P	01 13 37.1	+0.2	
L18K				IAmb	IAmb	01 13 38.7		
	comp=Z,14nm,0.8s							
L18K	Granite Mounta	84.75	10	P	P	01 13 37.4	+0.4	
	baz=201,SNR=7.9							
M19K	Big River Lodg	84.86	11	P	P	01 13 37.9	+0.4	
	baz=203							
D05A	Enumclaw	84.89	35	IAmb	IAmb	01 13 40.7		
	comp=Z,36nm,1.1s							
K17K	Iditarod	84.97	9	P	P	01 13 38.6	+0.6	
	baz=199							
CBB	Campbell River	84.98	31	IAmb	IAmb	01 13 40.6		
	comp=Z,33nm,1.3s							
STLK	Strandline Lak	84.98	13	IAmb	IAmb	01 13 37.9		
	comp=Z,14nm,0.8s							
L19K	White Mountain	85.03	11	IAmb	IAmb	01 13 39.7		
	comp=Z,22nm,1.1s							
L19K	White Mountain	85.03	11	P	P	01 13 39.1	+0.8	
	baz=202,SNR=8.1							
RC01	Rabbit Creek A	85.06	14	IAmb	IAmb	01 13 39.4		
	comp=Z,39nm,1.2s							
RC01	Rabbit Creek A	85.06	14	P	P	01 13 38.8	+0.3	
	baz=207							
M20K	Styx River	85.08	12	P	P	01 13 38.5	-0.1	
	baz=204							
PWL	Port Wells	85.17	14	P	P	01 13 38.6	-0.4	
PWL				IAmb	IAmb	01 13 39.8		
	comp=Z,28nm,0.9s							
PWL	Port Wells	85.17	14	P	P	01 13 39.0	0.0	
	baz=208,SNR=6.1							
SUA	Susitna One	85.18	13	IAmb	IAmb	01 13 39.7		
	comp=Z,19nm,0.7s							
SUA	Susitna One	85.18	13	P	P	01 13 39.1	0.0	
	baz=206,SNR=5.5							
J16K	Anvik River	85.18	8	P	P	01 13 39.6	+0.6	
	baz=197							
DUN6	Lazy B Ranch	85.19	53	IAmb	IAmb	01 13 42.9		
	comp=Z,31nm,0.9s							
KAIM	Kayak Island	85.34	17	P	P	01 13 39.1	-0.7	
	baz=212							
HEH	HeiHe	85.35	329	*e*P	P	01 13 40.4	+0.3	
HEH				pmax	pmax			
	comp=Z,29nm,0.7s							
HNS	HongShan	85.35	313	⇓P	P	01 13 41.3	+0.9	
HNS				pmax	pmax			
	comp=Z,25nm,1.1s							
G08A	Pilot Rock	85.42	38	IAmb	IAmb	01 13 42.9		
	comp=Z,15nm,0.9s							
CRAG	Craig	85.43	24	P	P	01 13 40.3	0.0	
	baz=222							
MXC	Moxie City	85.43	36	IAmb	IAmb	01 13 42.9		
	comp=Z,13nm,0.8s							
SKT	Skwentna	85.48	13	P	P	01 13 39.8	-0.7	
	baz=205							
GLI	Glacier Island	85.48	15	P	P	01 13 39.9	-0.6	
	baz=210							
L20K	Farewell, AK	85.48	11	P	P	01 13 40.2	-0.3	
	baz=203,SNR=5.9							
J17K	VABM Dome	85.50	9	P	P	01 13 40.8	+0.3	
	baz=198							
LYN	LuoYang	85.51	309	P	P	01 13 42.8	+1.5	
LYN				pmax	pmax			
	comp=Z,58nm,0.9s							
SURA	Surathani	85.52	282	P	P	01 13 43.6	+1.9	
EYAK	Cordova Ski Ar	85.53	16	P	P	01 13 40.8	+0.1	
	baz=211							
M22K	Willow	85.57	13	P	P	01 13 41.7	+0.8	
	baz=207,SNR=6.8							
KNK	Knik Glacier	85.63	14	P	P	01 13 41.0	-0.2	
KNK				IAmb	IAmb	01 13 42.2		
	comp=Z,18nm,0.8s							
KNK	Knik Glacier	85.63	14	P	P	01 13 41.2	-0.1	
	baz=208,SNR=7.0							
LTY	Liberty	85.64	35	IAmb	IAmb	01 13 43.5		
	comp=Z,15nm,1.1s							
PMR	Palmer	85.64	14	P	P	01 13 40.8	-0.4	
PMR	Palmer	85.64	14	P	P	01 13 41.0	-0.2	
	baz=208							
E07A	Sunnyside	85.66	36	IAmb	IAmb	01 13 44.1		
	comp=Z,21nm,0.9s							
ENH	Enshi	85.73	305	P	P	01 13 43.6	+1.2	
ENH	Enshi	85.73	305	P	P	01 13 43.1	+0.6	
BJT	Baijiatuau	85.73	316	P	P	01 13 42.7	+0.6	
BJT	Baijiatuau	85.73	316	P	P	01 13 42.8	+0.6	
BJI	Beijing	85.74	316	P	P	01 13 42.6	+0.4	
BJI				sP	sP	01 16 51.3	+1.3	
BJI				pmax	pmax			
	comp=Z,7.0nm,0.7s							
HAWA	Hanford	85.74	37	IAmb	IAmb	01 13 44.5		
	comp=Z,18nm,0.8s							
I17K	Unalakleet	85.75	8	P	P	01 13 42.1	+0.4	
	baz=197							
U33K	Whale Pass	85.91	24	P	P	01 13 41.9	-0.7	
	baz=222							
J18K	Innoko River	85.92	10	IAmb	IAmb	01 13 43.8		
	comp=Z,16nm,0.9s							
J18K	Innoko River	85.92	10	P	P	01 13 42.3	-0.2	
	baz=201,SNR=7.2							
DIV	Divide	86.02	15	IAmb	IAmb	01 13 44.7		
	comp=Z,27nm,0.9s							
E08A	Dider Farm, El	86.07	37	IAmb	IAmb	01 13 45.8		
	comp=Z,15nm,0.9s							
SYO	Syowa Base	86.11	193	⇓*e*P	P	01 13 43.2	-0.3	
SYO	Syowa Base	86.11	193	⇓*e*pP	pP	01 15 48.3	-3.4	
BMO	Blue Mountains	86.12	39	P	P	01 13 45.1	+1.1	
CUT	Chulitna	86.12	13	P	P	01 13 42.8	-0.7	
	baz=206,SNR=7.3							
M23K	Glacier View	86.14	14	P	P	01 13 43.2	-0.4	
	baz=209							
BMRM	Bremner River	86.18	16	IAmb	IAmb	01 13 45.0		
	comp=Z,30nm,1.0s							
BMRM	Bremner River	86.18	16	P	P	01 13 43.8	0.0	
	baz=212,SNR=6.1							
PPLA	Pueypile	86.18	12	P	P	01 13 43.5	-0.4	
	baz=205							
S31K	Pelican	86.21	21	P	P	01 13 43.2	-0.8	
	baz=219							
MESA	MESA	86.23	17	P	P	01 13 43.8	-0.5	
	baz=214							
K20K	Telida	86.26	11	IAmb	IAmb	01 13 45.2		
	comp=Z,29nm,1.2s							
K20K	Telida	86.26	11	P	P	01 13 44.2	+0.1	
	baz=203,SNR=7.6							
SCM	Sheep Creek Mo	86.26	14	P	P	01 13 43.9	-0.4	
	baz=209,SNR=14							
H16K	Elim	86.29	7	P	P	01 13 44.6	+0.4	
	baz=195							
KLU	Klutina	86.30	15	P	P	01 13 44.4	0.0	
	baz=210							
CRQE	Cirque	86.39	17	P	P	01 13 45.1	+0.1	
	baz=213							
WRAK	Wrangell Islan	86.43	24	P	P	01 13 45.5	+0.5	
	baz=223							
SLVN	Son La	86.44	294	P	P	01 13 47.2	+1.2	
G15K	Niukluk	86.44	6	P	P	01 13 45.2	+0.3	
	baz=194							
D08A	Wollman Farm,	86.48	36	IAmb	IAmb	01 13 47.8		
	comp=Z,21nm,1.0s							
PNL	Peninsula	86.55	19	P	P	01 13 46.0	+0.4	
	baz=216							
J19K	Poorman	86.59	10	P	P	01 13 45.5	-0.1	
J19K	Poorman	86.59	10	P	P	01 13 46.0	+0.3	
	baz=202							
E09A	Wood Farm, Sta	86.59	37	IAmb	IAmb	01 13 48.0		
	comp=Z,22nm,1.1s							
PINM	Pinnacle	86.64	18	P	P	01 13 46.6	+0.5	
	baz=216							
TNA	Tin City	86.66	4	P	P	01 13 46.3	+0.4	
	baz=190							
F14K	Arctic Creek	86.70	5	P	P	01 13 46.6	+0.5	
	baz=192							
VRDI	Verde Repeater	86.70	16	IAmb	IAmb	01 13 47.9		
	comp=Z,37nm,1.4s							
N25K	Chitina, Valde	86.72	16	IAmb	IAmb	01 13 47.3		
	comp=Z,19nm,0.7s							
N25K	Chitina, Valde	86.72	16	P	P	01 13 47.0	+0.5	
	baz=212,SNR=11							
GRNC	Granite Creek	86.74	17	IAmb	IAmb	01 13 48.1		
	comp=Z,38nm,1.2s							
M24K	Tolsona, Glenn	86.77	15	IAmb	IAmb	01 13 48.3		
	comp=Z,25nm,0.8s							
M24K	Tolsona, Glenn	86.77	15	P	P	01 13 47.0	+0.3	
	baz=210							
GLB	Gilahina Butte	86.79	16	IAmb	IAmb	01 13 47.4		
	comp=Z,14nm,0.6s							
WAT6	Susitna Watana	86.83	14	P	P	01 13 47.0	0.0	
	baz=209,SNR=14							
H17K	Granite Mounta	86.86	8	P	P	01 13 47.1	+0.2	
	baz=198							
WAT1	Susitna Watana	86.87	13	P	P	01 13 47.2	+0.1	
	baz=208							
MCARA	McCarthy VSAT	86.94	16	IAmb	IAmb	01 13 49.5		
	comp=Z,36nm,1.2s							
MCARA	McCarthy VSAT	86.94	16	P	P	01 13 48.2	+0.8	
	baz=213,SNR=5.6							
J20K	Nowinta River	87.00	11	IAmb	IAmb	01 13 48.6		
	comp=Z,25nm,1.4s							
J20K	Nowinta River	87.00	11	P	P	01 13 47.6	0.0	
	baz=203,SNR=9.4							
G16K	Koyuk River	87.01	7	P	P	01 13 48.0	+0.4	
	baz=195							
B08A	Colville Reser	87.02	35	P	P	01 13 48.6	+0.5	
B08A				IAmb	IAmb	01 13 49.5		
	comp=Z,18nm,0.7s							
KTH	Kantishna Hill	87.03	12	IAmb	IAmb	01 13 47.6		
	comp=Z,24nm,0.9s							
LOGN	Logan Glacier	87.03	17	IAmb	IAmb	01 13 49.0		
	comp=Z,21nm,0.7s							
P29M	Windy Craggy	87.03	20	P	P	01 13 48.7	+0.8	
	baz=218							
R32K	Eaglecrest	87.03	22	P	P	01 13 48.4	+0.5	
	baz=221							
CTG	Chitna Glacier	87.05	17	P	P	01 13 47.9	-0.2	
	baz=215							
TRF	Thorofare Moun	87.06	12	P	P	01 13 47.5	-0.6	
	baz=206,SNR=25							
CHUM	Lake Minchumin	87.06	11	P	P	01 13 47.4	-0.5	
	baz=205,SNR=6.6							
LLLB	Lillooet	87.06	32	IAmb	IAmb	01 13 50.1		
	comp=Z,17nm,1.1s							
TIY	Taiyuan	87.07	312	*e*P	P	01 13 49.6	+0.9	
TIY				pmax	pmax			
	comp=Z,17nm,0.8s							
F15K	North Star Dit	87.08	6	P	P	01 13 48.1	+0.1	
	baz=193							
O28M	Mount Upton	87.21	18	P	P	01 13 48.9	-0.1	
	baz=216,SNR=9.5							
TROLL	Troll, Antarti	87.25	180	⇓P	P	01 13 48.7	-0.3	
	comp=Z,157nm,0.5s							
TROLL				⇑pP	pP	01 15 58.6	+0.4	
	comp=Z,206nm,0.9s							
HARP	HAARP	87.27	15	P	P	01 13 48.9	0.0	
	baz=211							
H18K	Honhosa River	87.27	8	P	P	01 13 48.4	-0.5	
	baz=199							
G17K	Kiwalik Mounta	87.31	7	P	P	01 13 49.5	+0.5	
	baz=197							
O29M	Mount Kennedy	87.31	19	IAmb	IAmb	01 13 51.0		
	comp=Z,14nm,0.9s							
O29M	Mount Kennedy	87.31	19	P	P	01 13 49.2	-0.1	
	baz=217							
PLBC	Pleasant Camp	87.33	20	P	P	01 13 49.3	+0.1	
	baz=219							
DHY	Denali Highway	87.34	14	IAmb	IAmb	01 13 50.2		
	comp=Z,11nm,1.0s							
DHY	Denali Highway	87.34	14	P	P	01 13 48.9	-0.5	
	baz=209,SNR=5.8							
SRU	San Rafael Swe	87.36	46	IAmb	IAmb	01 13 52.1		
	comp=Z,8.2nm,0.7s							
BPAW	Bear Paw Mtn.	87.51	12	P	P	01 13 49.8	-0.2	
	baz=206							
I20K	Naaghedeneel	87.52	10	P	P	01 13 50.2	+0.3	
	baz=203,SNR=6.4							
SNAA	Sanae	87.56	179	⇑P	P	01 13 50.0	-0.4	
	comp=Z,30nm,0.6s							
SNAA				⇑pP	pP	01 16 02.1	+2.6	
	comp=Z,60nm,1.2s							
SNAA	Sanae	87.56	179	P	P	01 13 50.0	-0.4	
SNAA	Sanae	87.56	179	P	P	01 13 50.0	-0.4	
	comp=Z,0.9nm,0.6s,baz=207,slow=12,SNR=12							
	comp=Z,0.9nm,0.6s							
MCK	McKinley	87.59	13	P	P	01 13 49.7	-0.7	
	baz=208,SNR=13							
T35M	Bob Quinn	87.64	24	P	P	01 13 51.0	+0.3	
	baz=224							
P30M	Million Dollar	87.66	20	P	P	01 13 50.9	+0.1	
	baz=218							
SKAG	Skagway	87.67	21	P	P	01 13 51.5	+0.8	
	baz=220							
PAX	Paxson	87.68	15	IAmb	IAmb	01 13 51.5		
	comp=Z,9.0nm,0.9s							
PAX	Paxson	87.68	15	P	P	01 13 50.9	0.0	
	baz=211,SNR=6.4							
VNA3	Neumayer Olymp	87.72	176	⇓P	P	01 13 50.6	-0.5	
	comp=Z,9.7nm,0.7s							
VNA3				⇓pP	pP	01 15 59.8	-0.1	
	comp=Z,7.4nm,0.8s							
YUK8	Steele Glacier	87.75	18	P	P	01 13 52.1	+0.6	
	baz=216,SNR=16							
TCUT	Toone Canyon	87.77	44	IAmb	IAmb	01 13 54.3		
	comp=Z,12nm,0.8s							
M26K	Nabesna, AK	87.80	16	IAmb	IAmb	01 13 52.9		
	comp=Z,23nm,1.1s							
M26K	Nabesna, AK	87.80	16	P	P	01 13 52.2	+0.8	
	baz=213,SNR=11							
PV05	Paradox Valley	87.83	48	IAmb	IAmb	01 13 54.7		
	comp=Z,8.7nm,1.0s							
XAN	Xi'an	87.86	308	⇓P	P	01 13 53.3	+0.9	
XAN				pP	PcP	01 14 01.3	+7.7	
XAN				pmax	pmax			
	comp=Z,43nm,1.0s							
XAN	Xi'an	87.86	308	P	P	01 13 53.2	+0.9	
YUK6	Outpost Mounta	87.88	18	P	P	01 13 52.8	+0.7	
	baz=217							
H19K	Roundabout Mou	87.90	9	IAmb	IAmb	01 13 53.0		
	comp=Z,17nm,0.8s							
H19K	Roundabout Mou	87.90	9	P	P	01 13 52.2	+0.5	
	baz=201,SNR=10							
TXAR	Lajitas Array	87.90	58	P	P	01 13 54.6	+1.9	
	comp=Z,5.9nm,0.8s,baz=220,slow=6.0,SNR=25							
	comp=Z,5.9nm,0.8s							
BSUT	Blindstream Ca	87.90	45	IAmb	IAmb	01 13 55.8		
	comp=Z,24nm,1.4s							
G18K	Tagagawik	87.94	8	IAmb	IAmb	01 13 52.5		
	comp=Z,9.6nm,1.0s							
G18K	Tagagawik	87.94	8	P	P	01 13 52.2	+0.2	
	baz=199							
S34M	Telegraph Cree	87.97	23	IAmb	IAmb	01 13 54.7		
	comp=Z,23nm,0.9s							
S34M	Telegraph Cree	87.97	23	P	P	01 13 53.3	+1.0	
	baz=224,SNR=5.1							
HYT	Haines Junctio	88.05	19	P	P	01 13 53.7	+0.9	
HYT				IAmb	IAmb	01 13 53.9		
	comp=Z,15nm,1.0s							
HYT	Haines Junctio	88.05	19	P	P	01 13 53.6	+0.9	
	baz=218							
M27K	Edge Creek, AK	88.06	16	P	P	01 13 53.5	+0.8	
	baz=214,SNR=19							
MENT	Mentasta	88.08	15	IAmb	IAmb	01 13 54.0		
	comp=Z,15nm,0.9s							
MENT	Mentasta	88.08	15	P	P	01 13 53.2	+0.5	
H20K	Anotleneega Mo	88.11	10	P	P	01 13 53.2	+0.4	
	baz=202,SNR=16							
YUK4	Talbot Arm	88.12	18	P	P	01 13 54.2	+1.1	
	baz=217							
F17K	Baldwin Pennin	88.14	7	P	P	01 13 53.2	+0.4	
	baz=196							
NEW	Newport	88.17	36	IAmb	IAmb	01 13 59.6		
	comp=Z,12nm,0.7s							
L26K	Log Cabin Wild	88.24	15	IAmb	IAmb	01 13 54.8		
	comp=Z,15nm,1.2s							
L26K	Log Cabin Wild	88.24	15	P	P	01 13 53.9	+0.5	
	baz=213,SNR=8.7							
ANMO	Albuquerque	88.25	52	P	P	01 13 54.6	+0.3	
ANMO	Albuquerque	88.25	52	P	P	01 13 55.4	+1.0	
P32M	Atlin	88.30	21	P	P	01 13 54.7	+0.9	
	baz=221							
NEA2	Nenana	88.32	12	IAmb	IAmb	01 13 54.0		
	comp=Z,9.8nm,0.7s							
NEA2	Nenana	88.32	12	P	P	01 13 52.8	-1.0	
	baz=208,SNR=9.3							
Q32M	Nakina River	88.33	22	P	P	01 13 54.8	+0.7	
	baz=223							
K24K	Donnelly Dome	88.33	14	P	P	01 13 53.9	0.0	
	baz=211,SNR=14							
ALPN	Alpine	88.37	57	IAmb	IAmb	01 13 57.2		
	comp=Z,9.1nm,0.8s							
VNA1	Neumayer--Stat	88.38	177	⇑P	P	01 13 54.4	+0.3	
	comp=Z,10nm,1.0s							
VNA1				⇓pP	pP	01 16 06.5	+3.1	
	comp=Z,10.0nm,1.0s							
G19K	Purcell Mounta	88.39	9	IAmb	IAmb	01 13 55.1		
	comp=Z,16nm,0.8s							
G19K	Purcell Mounta	88.39	9	P	P	01 13 53.5	-0.5	
	baz=200,SNR=10							
MLY	Manley	88.39	12	IAmb	IAmb	01 13 54.1		
	comp=Z,10nm,0.6s							
MLY	Manley	88.39	12	P	P	01 13 53.3	-0.8	
	baz=206,SNR=11							
O30N	Mendenhall	88.44	19	P	P	01 13 54.8	+0.3	
	baz=219,SNR=6.6							
F18K	Selawik	88.48	8	P	P	01 13 54.3	-0.1	
	baz=198							
RIDG	Independent Ri	88.49	14	IAmb	IAmb	01 13 55.6		
	comp=Z,20nm,1.0s							
RIDG	Independent Ri	88.49	14	P	P	01 13 54.2	-0.4	
	baz=211,SNR=6.8							
DOT	Dot Lake	88.60	15	IAmb	IAmb	01 13 56.1		
	comp=Z,17nm,0.8s							
H21K	Melozitna Rive	88.60	10	IAmb	IAmb	01 13 56.1		
	comp=Z,14nm,0.9s							
H21K	Melozitna Rive	88.60	10	P	P	01 13 54.7	-0.3	
	baz=204,SNR=9.7							
HDA	Harding Lake	88.60	13	P	P	01 13 54.8	-0.3	
	baz=210,SNR=18							
L27K	Beaver Creek,	88.65	16	IAmb	IAmb	01 13 56.7		
	comp=Z,8.5nm,0.8s							
L27K	Beaver Creek,	88.65	16	P	P	01 13 55.3	0.0	
	baz=214,SNR=8.9							
N30M	Aishikik Lake	88.67	19	IAmb	IAmb	01 13 56.9		
	comp=Z,8.9nm,0.8s							
N30M	Aishikik Lake	88.67	19	P	P	01 13 55.7	+0.2	
	baz=218							
E17K	Hotham Inlet	88.70	7	P	P	01 13 55.4	0.0	
	baz=196,SNR=6.4							
WHY	Whitehorse	88.73	20	P	P	01 13 56.0	+0.1	
	baz=220							
DLBC	Dease Lake	88.76	23	P	P	01 13 57.2	+1.2	
	comp=Z,64nm,0.8s,baz=187,slow=4.3,SNR=8.7							
DLBC	Dease Lake	88.76	23	P	P	01 13 55.8	-0.2	
	baz=225							
I23K	Minto, Yukon-K	88.76	12	P	P	01 13 55.3	-0.5	
	baz=207,SNR=7.9							
COLA	College	88.82	13	P	P	01 13 55.5	-0.5	
COLA	College	88.82	13	P	P	01 13 55.7	-0.3	
COLA	College	88.82	13	P	P	01 13 55.8	-0.3	
	baz=209							
COLA	College	88.82	13	P	P	01 13 55.1	-0.9	
SCRK	Sand Creek	88.89	15	IAmb

	comp=Z,10nm,0.7s							
J25K	**Salcha River,** baz=211,SNR=13	89.12	14	P	P	01 13 57.6	0.0	
E18K	**Tukpahlearik C** comp=Z,14nm,0.8s	89.16	7	IAmb	IAmb	01 13 58.8		
E18K	**Tukpahlearik C** baz=197	89.16	7	P	P	01 13 57.6	0.0	
D17K	**Noatak River** baz=195	89.17	6	P	P	01 13 57.6	0.0	
HHC	**Hu-ho-hao-te**	89.18	315	⇑*i*P	P	01 13 59.8	+1.3	
HHC	comp=Z,17nm,1.0s			pmax	pmax			
HHC	comp=Z,120nm,6.7s			pmax	pmax			
DLMT	**Dillon** comp=Z,9.4nm,1.0s	89.20	40	IAmb	IAmb	01 14 00.7		
TPAW	**Teton Pass** comp=Z,7.1nm,0.9s	89.26	42	IAmb	IAmb	01 14 01.1		
G21K	**Allakaket**	89.27	10	P	P	01 13 58.4	+0.2	
G21K	**Allakaket** baz=204,SNR=11	89.27	10	P	P	01 13 57.6	-0.5	
H23K	**Yukon River** baz=207	89.33	12	P	P	01 13 58.1	-0.3	
SNOW	**Snow King Moun** comp=Z,14nm,0.8s	89.37	42	IAmb	IAmb	01 14 01.6		
O20A	**White River Ci** comp=Z,6.6nm,0.8s	89.39	46	IAmb	IAmb	01 14 01.4		
K27K	**Chicken** baz=214	89.40	15	P	P	01 13 58.6	-0.1	
F20K	**Avaraart Lake** baz=201	89.43	9	P	P	01 13 58.5	-0.3	
J26L	**Joseph Creek** baz=213,SNR=35	89.44	14	P	P	01 13 58.8	-0.2	
C16K	**Lisburne Hills** baz=192	89.53	5	P	P	01 13 58.7	-0.5	
LOHW	**Long Hollow** comp=Z,5.7nm,0.7s	89.54	42	IAmb	IAmb	01 14 02.1		
E19K	**Redstone River** baz=200,SNR=13	89.61	8	P	P	01 13 59.5	-0.2	
CMAR	**Chiang Mai Arr** comp=Z,13nm,0.8s,baz=126,slow=3.1,SNR=77	89.61	290	P	P	01 14 00.4	-0.4	
M30M	**Minto, Yukon** comp=Z,13nm,0.8s baz=219,SNR=16	89.64	18	P	P	01 13 59.8	-0.1	
H24K	**Noodor Dome** baz=209	89.66	12	P	P	01 13 59.9	-0.1	
L29M	**L29M** baz=218,SNR=15	89.68	17	P	P	01 14 00.6	+0.5	
CHTO	**Chiang Mai**	89.75	290	P	P	01 14 02.6	+1.1	
CHTO	**Chiang Mai**	89.75	290	P	P	01 14 02.7	+1.3	
CHTO	**Chiang Mai**	89.75	290	P	P	01 14 02.5	+1.1	
BW06	**Boulder Array** comp=Z,7.8nm,0.8s	89.79	44	IAmb	IAmb	01 14 02.8		
PD31	**Pinedale Array** comp=Z,7.6nm,0.8s	89.79	44	IAmb	IAmb	01 14 02.8		
PDAR	**Pinedale Array** comp=Z,6.3nm,0.7s,baz=216,slow=3.4,SNR=37	89.79	44	P	P	01 14 02.0	+0.7	
F21K	**Alatna River** comp=Z,6.3nm,0.7s	89.92	10	IAmb	IAmb	01 14 02.1		
F21K	**Alatna River** comp=Z,22nm,1.6s	89.92	10	P	P	01 14 01.6	+0.5	
G22K	**Bettles** baz=204	89.97	10	P	P	01 14 02.1	+0.8	
G23K	**Bananza Creek** baz=205	90.04	11	IAmb	IAmb	01 14 02.9		
G23K	**Bananza Creek** comp=Z,13nm,1.2s	90.04	11	P	P	01 14 02.4	+0.7	
M31M	**Bananza Creek** baz=207	90.06	19	P	P	01 14 02.7	+0.8	
M31M	**Drury Creek, Y** baz=221	90.06	19	P	P	01 14 02.7	+0.8	
BTO	**Baotou**	90.10	314	*e*P	P	01 14 04.3	+1.6	
BTO				pP	pwP	01 16 15.1	-1.0	
BTO				sP	sP	01 17 13.9	+2.4	
BTO	comp=Z,32nm,1.3s			pmax	pmax			
BTO	comp=Z,120nm,4.0s			pmax	pmax			
DAWY	**Dawson**	90.11	16	P	P	01 14 02.5	+0.4	
DAWY	comp=Z,20nm,1.0s			IAmb	IAmb	01 14 03.4		
DAWY	**Dawson** baz=216,SNR=14	90.11	16	P	P	01 14 02.6	+0.5	
I26K	**Coal Creek Min** baz=213	90.21	14	P	P	01 14 02.7	+0.2	
EGAK	**Eagle** comp=Z,14nm,0.8s	90.24	15	IAmb	IAmb	01 14 03.8		
EGAK	**Eagle** baz=215,SNR=12	90.24	15	P	P	01 14 02.9	+0.2	
C18K	**Utukok River** baz=196	90.28	6	P	P	01 14 03.0	+0.2	
PZH	**PanZhiHua**	90.31	298	P	P	01 14 05.4	+1.4	
DRIO	**Del Rio** comp=Z,12nm,0.7s	90.36	59	IAmb	IAmb	01 14 05.9		
F22K	**John River** baz=205	90.39	10	P	P	01 14 04.0	+0.7	
K29M	**Barlow Dome** comp=Z,15nm,0.9s	90.43	17	IAmb	IAmb	01 14 05.3		
K29M	**Barlow Dome** baz=218,SNR=9.6	90.43	17	P	P	01 14 04.3	+0.6	
H25L	**Birch Creek** baz=210	90.45	13	P	P	01 14 02.9	-0.6	
COLD	**Coldfoot** baz=206	90.47	11	P	P	01 14 03.8	+0.2	
D19K	**Kuna River** baz=199	90.47	7	P	P	01 14 03.9	+0.2	
E20K	**Nigu River** baz=201,SNR=12	90.50	8	P	P	01 14 04.2	+0.4	
G24K	**Hadweenzic Riv** baz=209	90.50	12	P	P	01 14 04.5	+0.7	
OZNA	**Ozona** comp=Z,5.1nm,0.7s	90.56	57	IAmb	IAmb	01 14 07.1		
I27K	**Kandik River** baz=214	90.82	15	P	P	01 14 05.8	+0.5	
G25K	**Bearman Lake** baz=210	90.83	12	P	P	01 14 05.8	+0.5	
TOAD	**Toad River Com** baz=229	90.87	25	P	P	01 14 06.6	+0.9	
D20K	**Etivluk River** baz=201	90.87	8	P	P	01 14 06.0	+0.5	
C19K	**Lookout Ridge** baz=198	90.89	7	P	P	01 14 06.4	+0.8	
B18K	**Kokolik River** baz=196	90.91	6	P	P	01 14 05.8	+0.2	
E21K	**Killik River** baz=203	90.98	9	P	P	01 14 05.8	-0.2	
E22K	**Anaktuvuk Pass** baz=205	91.02	10	P	P	01 14 06.6	+0.3	
I28M	**Miner Creek**	91.09	15	P	P	01 14 06.8	+0.1	
I28M	comp=Z,8.5nm,0.8s			IAmb	IAmb	01 14 07.5		
I28M	**Miner Creek** baz=216,SNR=8.3	91.09	15	P	P	01 14 07.0	+0.3	
F24K	**Squaw Lake** comp=Z,5.8nm,0.9s	91.14	11	IAmb	IAmb	01 14 07.8		
F24K	**Squaw Lake** baz=209	91.14	11	P	P	01 14 07.2	+0.4	
E23K	**Chandalar** comp=Z,7.5nm,0.9s	91.32	11	IAmb	IAmb	01 14 08.9		
E23K	**Chandalar** baz=207	91.32	11	P	P	01 14 08.1	+0.5	
J30M	**Hart River** baz=219	91.33	17	P	P	01 14 08.5	+0.7	
MMPY	**Sheldon Lake,** baz=224	91.35	20	P	P	01 14 09.4	+1.5	
H27K	**Steamboat Moun** comp=Z,4.7nm,0.8s	91.36	14	IAmb	IAmb	01 14 09.7		
H27K	**Steamboat Moun** baz=214,SNR=6.4	91.36	14	P	P	01 14 08.1	+0.2	
I29M	**Ogilvie Camp,** comp=Z,5.7nm,0.8s	91.43	16	IAmb	IAmb	01 14 08.9		
I29M	**Ogilvie Camp,** baz=217	91.43	16	P	P	01 14 08.2	0.0	
G26K	**Porcupine Rive** comp=Z,9.8nm,0.9s	91.46	13	IAmb	IAmb	01 14 10.6		
G26K	**Porcupine Rive** baz=212,SNR=5.7	91.46	13	P	P	01 14 08.7	+0.5	
HNDO	**Hondo** comp=Z,8.4nm,0.7s	91.47	59	IAmb	IAmb	01 14 11.3		
C21K	**Knifeblade Rid** baz=202	91.53	8	P	P	01 14 09.3	+0.8	
E24K	**Your Creek** baz=208	91.53	11	P	P	01 14 09.1	+0.5	
TGTN	**Hyland Airport** baz=226	91.56	22	P	P	01 14 09.7	+0.8	
D22K	**Ayikyak River** baz=204	91.57	9	P	P	01 14 09.4	+0.7	
F25K	**Christian Rive** baz=211	91.64	12	P	P	01 14 09.9	+0.8	
G27K	**Doyon Strip** baz=214	91.81	14	P	P	01 14 10.5	+0.6	
I30M	**Mount Dempster** comp=Z,9.2nm,0.9s	91.82	17	IAmb	IAmb	01 14 11.1		
I30M	**Mount Dempster** baz=219,SNR=7.3	91.82	17	P	P	01 14 10.5	+0.4	
TOLK	**Toolik Lake Re** baz=207	91.84	10	P	P	01 14 10.1	+0.1	
D23K	**Nanushuk River** baz=206	91.96	10	P	P	01 14 11.0	+0.6	
B21K	**Ikpikpuk River** baz=202	91.98	8	P	P	01 14 11.3	+0.7	
F26K	**Sheenjek River** baz=212	92.02	13	P	P	01 14 12.6	+1.7	
B20K	**Meade River** baz=200	92.02	7	P	P	01 14 11.6	+0.9	
H29M	**Whitestone** baz=217,SNR=6.5	92.10	15	P	P	01 14 11.8	+0.6	
E25K	**Arctic Village** baz=211	92.11	12	P	P	01 14 12.2	+1.0	
D24K	**Happy Valley** baz=208	92.43	10	P	P	01 14 13.2	+0.6	
LZH	**Lanzhou**	92.50	308	*e*P	P	01 14 15.3	+1.3	
LZH				pP	pwP	01 16 30.8	+3.1	
LZH	comp=Z,28nm,1.3s			pmax	pmax			
LZDM	**Lanzhou Array** comp=Z,12nm,0.3s,baz=79,slow=7.7,SNR=4.6 comp=Z,1.2nm,0.3s	92.56	308	P	P	01 14 14.1	-0.3	
EPYK	**Eagle Plains** comp=Z,9.7nm,0.8s	92.63	16	IAmb	IAmb	01 14 14.5		
EPYK	**Eagle Plains** baz=219	92.63	16	P	P	01 14 13.7	+0.1	
G29M	**Pine Creek** baz=218	92.73	15	P	P	01 14 14.5	+0.5	
C23K	**Itkillik River** baz=206	92.75	9	P	P	01 14 14.5	+0.5	
B22K	**Teshekpuk Lake** baz=204	92.81	8	P	P	01 14 14.5	+0.3	
H31M	**Peel River** baz=221	92.81	17	P	P	01 14 14.8	+0.3	
F28M	**Old Crow** comp=Z,26nm,1.9s	92.87	14	IAmb	IAmb	01 15 59.8		
F28M	**Old Crow** baz=216	92.87	14	P	P	01 14 14.8	+0.1	
C24K	**Franklin Bluff** baz=208	92.95	10	P	P	01 14 15.1	+0.1	
E27K	**Coleen River** baz=214	92.96	13	P	P	01 14 15.6	+0.5	
G30M	**tAoh Zraii Nji** baz=219,SNR=9.1	93.23	15	P	P	01 14 16.6	+0.2	
G31M	**Satah River** baz=221	93.68	16	P	P	01 14 18.6	+0.3	
C27K	**Jago River** baz=212	93.75	12	P	P	01 14 19.2	+0.6	
E28M	**Babbage River** comp=Z,6.5nm,0.8s	93.75	13	IAmb	IAmb	01 14 19.8		
E28M	**Babbage River** baz=216	93.75	13	P	P	01 14 19.1	+0.4	
C26K	**Camden Bay** baz=211	93.77	11	P	P	01 14 19.6	+0.9	
F30M	**Barrier River** baz=220	93.83	15	P	P	01 14 19.8	+0.8	
E29M	**Blow River** baz=218	93.94	14	P	P	01 14 20.3	+0.8	
D27M	**Malcolm River** baz=215	93.97	13	P	P	01 14 20.1	+0.4	
F31M	**Tsiigehtchic** baz=222	94.21	16	P	P	01 14 20.9	+0.2	
INK	**Inuvik**	94.91	15	P	P	01 14 23.7	-0.2	
INK	comp=Z,5.4nm,1.1s			IAmb	IAmb	01 14 24.9		
INK	**Inuvik** baz=222	94.91	15	P	P	01 14 23.7	-0.2	
SONM	**Songino Array** comp=Z,0.6nm,0.6s,baz=122,slow=2.9,SNR=4.3	95.65	319	P	P	01 14 27.5	-0.4	
SONM	comp=Z,0.4nm,0.3s,baz=126,slow=7.5,SNR=3.7 comp=Z,0.6nm,0.6s			PP	PP	01 18 30.7	+0.4	
GTA	**Gaotai**	96.73	310	*e*P	P	01 14 34.3	+1.3	
GTA	comp=Z,5.0nm,1.2s			pmax	pmax			
A36M	**Sachs Harbour** baz=230	99.51	15	P	Pdif	01 14 44.5	+0.2	
ZALV	**Zalesovo Beam** comp=Z,3.2nm,0.6s,baz=170,slow=0.7,SNR=18	110.42	321	PKiKP	PKiKP	01 19 29.1	-1.1	
ZALV	comp=Z,0.3nm,0.3s,baz=172,slow=40,SNR=1.4			PP	PP	01 20 16.1	-2.1	
MKAR	**Makanchi Array** comp=Z,0.4nm,0.7s,baz=79,slow=6.3,SNR=5.1	111.01	313	Pdiff	Pdif	01 15 37.0	+0.8	
MKAR	comp=Z,2.2nm,0.7s,baz=74,slow=2.0,SNR=16			PKiKP	PKiKP	01 19 30.5	-1.0	
MKAR	comp=Z,0.7nm,0.8s,baz=109,slow=7.8,SNR=3.6			PP	PP	01 20 18.4	-4.2	
KURBB	**Kurchatov Arra** comp=Z,3.4nm,0.7s,baz=93,slow=1.9,SNR=38	113.92	317	PKiKP	PKiKP	01 19 35.7	-1.2	
KURBB	comp=Z,1.4nm,1.1s,baz=92,slow=6.2,SNR=5.4			PP	PP	01 20 36.5	-6.2	
KSH	**Kashi**	114.58	305	PKP	PKiKP	01 19 39.4	+0.7	
NEEM	**North Greenlan**	118.18	11	*e*P	PKPdf	01 19 44.4	-0.5	
GAR	**Garm**	118.90	304		PKPdf	01 19 46.3	-0.7	
BVAR	**Borovoye Array** comp=Z,8.2nm,0.4s,baz=101,slow=1.0,SNR=46	119.99	320	PKP	PKPdf	01 19 46.0	-0.6	
KBL	**Kabul**	119.50	299		PKPdf	01 19 48.2	-0.3	
SIMJ	**Simiganj**	119.89	303	PKPdf	PKPdf	01 19 48.5	-0.5	
SPITS	**Spitsbergen Ar** comp=Z,14nm,0.7s,baz=80,slow=6.0,SNR=15	122.29	356	PKP	PKPdf	01 19 52.0	-0.3	
SUMG	**Summit**	123.77	13	*i* P	PKiKP	01 19 56.1	0.0	
ARTI	**Arti**	125.30	325	PKPdf	PKPdf	01 19 57.8	-0.8	
DY2G	**Dye2**	125.40	21	*i* P	PKPdf	01 19 58.2	-0.6	
ARCES	**ARCESS Array B** comp=Z,8.6nm,0.7s,baz=17,slow=1.3,SNR=34	129.26	349	PKP	PKPdf	01 20 04.9	-0.9	
LSZ	**Lusaka**	135.31	218	PKPdf	PKPdf	01 20 18.3	-0.6	
FINES	**FINESS Array B** comp=Z,3.8nm,0.9s,baz=62,slow=3.3,SNR=6.4	136.02	343	PKhKP	PKPpre	01 20 06.8		
FINES	comp=Z,4.6nm,0.6s,baz=104,slow=3.9,SNR=11			PKP	PKPdf	01 20 17.2	-1.5	
FINES	comp=Z,5.3nm,0.8s,baz=8.5,slow=2.8,SNR=9.0			SKP		01 22 56.6		
KBZ	**Khabaz** comp=Z,1.3nm,0.7s,baz=74,slow=3.5,SNR=4.0	138.71	313	PKP	PKPdf	01 20 23.1	-1.1	
RAYN	**Ar Rayn**	139.08	282	PKPdf	PKPdf	01 20 24.7	-0.9	
NB2	**NORSAR Subarra** comp=Z,4.6nm,0.7s,baz=17,slow=4.8	139.36	353	PKP	PKPpre	01 20 16.3		
NB2	comp=Z,1.2nm,0.7s,baz=12,slow=2.9			pPKP	SKiKP	01 23 06.1	-1.0	
NOA	**NORSAR Array B** comp=Z,3.1nm,0.6s,baz=16,slow=4.7,SNR=21	139.36	353	PKhKP	PKPpre	01 20 16.5		
NOA	comp=Z,1.3nm,0.6s,baz=63,slow=1.5,SNR=5.8			PKP	PKPdf	01 20 24.9	0.0	
NOA	comp=Z,2.5nm,0.8s,baz=15,slow=2.6,SNR=7.0			SKPbc	SKPbc	01 23 05.9	+1.5	
HFS	**Hagfors** comp=Z,3.8nm,0.4s,baz=65,slow=3.1,SNR=41	139.89	350	PKhKP	PKPpre	01 20 18.6		
HFS	comp=Z,4.2nm,0.6s,baz=48,slow=2.2,SNR=6.8			PKP	PKPdf	01 20 26.7	+0.9	
HFS	comp=Z,4.2nm,0.8s,baz=235,slow=5.2,SNR=4.8			SKPbc	SKPbc	01 23 06.6	+0.9	
HOMB	**Homborsund**	142.38	354	*i* P	PKPdf	01 20 26.9	-3.4	
BORU	**Boraas**	142.42	350	*i* P	PKPdf	01 20 26.5	-3.9	
LODK	**Lodwar**	142.51	247	PKPdf	PKPdf	01 20 29.8	-2.3	
ONAU	**Onsala**	142.79	350	*i* P	PKPdf	01 20 27.6	-3.5	
SUW	**Suwalki**	143.03	339	*e*PKP	PKPab	01 20 29.6	+0.1	
FABU	**Falkenberg**	143.04	350	*i* P	PKPab	01 20 28.9	-0.5	
AKASG	**Malin Array Be** comp=Z,42nm,0.5s,baz=44,slow=4.3,SNR=320	143.08	330	PKhKP	PKPpre	01 20 29.4		
AKASG	comp=Z,0.7nm,0.6s,baz=46,slow=2.3,SNR=6.3			SKPbc	SKPbc	01 23 14.5	+0.6	
KIEV	**Kiev**	143.09	330	⇓P	PKPab	01 20 29.0	-0.7	
DEL	**Delary**	143.33	348	*i* P	PKPab	01 20 30.2	-0.3	
BJUU	**Bjuv**	143.87	349	*i* P	PKPbc	01 20 31.8	-0.6	
MUD	**Monsted U'grnd**	144.08	353	*i* P	PKPbc	01 20 32.8	-0.2	
RNPP8	**Varash**	144.11	334	PKP	PKPbc	01 20 32.3	-1.0	
RNPP5	**Staryi Chortor**	144.18	333	PKP	PKPbc	01 20 32.3	-1.2	
LUBAR	**Lubar, Ukraine**	144.30	330	PKP	PKPbc	01 20 32.6	-1.3	
COP	**Copenhagen**	144.34	349	*i* P	PKPdf	01 20 33.6	-0.2	
BAL3X	**Bal3x, Balta**	144.73	326	PKP	PKPdf	01 20 33.9	-0.8	
SSRD	**Sdr. Stenderup**	144.97	352	*i* P	PKPbc	01 20 35.8	+0.1	
R9F13	**Warsaw-Wawer**	145.20	338	*e*PKPdf	PKPbc	01 20 36.5	0.0	
SORM	**Soroca**	145.24	328	⇓P	PKPbc	01 20 36.3	-0.4	
PURM	**Purcari**	145.47	324	⇑P	PKPbc	01 20 37.6	+0.1	
GKP	**Gorka Klasztor**	145.50	343	*e*PKP	PKPbc	01 20 37.7	+0.3	
EKA	**Eskdalemuir Ar** comp=Z,17nm,0.7s,baz=354,slow=2.5,SNR=43	145.53	4	PKPbc	PKPbc	01 20 36.8	-0.6	
ESK	**Eskdalemuir**	145.54	5	PKPdf	PKPbc	01 20 36.8	-0.7	
BEL	**Belsk**	145.64	338	*e*PKP	PKPbc	01 20 38.3	+0.5	
KIS	**Kishinev** comp=Z,50nm,1.0s	145.74	326	⇓*i*P	PKPbc	01 20 37.7	-0.6	
MILM	**Milestii Mici**	145.79	326	⇓P	PKPdf	01 20 37.0	+0.4	
MILM	**Milestii Mici** comp=Z,110nm,1.0s	145.79	326	⇓*i*P	PKPdf	01 20 37.0	+0.4	
ILGA	**Ilgaz**	146.01	313		PKPbc	01 20 39.4	-0.2	
IASR	**Iasi**	146.26	327	⇓P	PKPbc	01 20 39.4	-0.3	
VASR	**Vaslui**	146.51	326	⇑P	PKPbc	01 20 40.7	+0.3	
BRTR	**Keskin Array B** comp=Z,14nm,0.7s,baz=146,slow=3.4,SNR=78	146.63	311	PKPbc	PKPbc	01 20 40.8	-0.4	
KIRS	**Kirsehir-Merke**	146.67	310	⇓P	PKPbc	01 20 41.0	-0.2	
KSV	**Kosov**	146.69	331	PKP	PKPdf	01 20 39.3	+1.2	
HWQ	**Hawqa**	146.70	301	*e*P	PKPbc	01 20 41.4	-0.1	
KWP	**Kalwaria Pacla**	146.71	334	*e*PKP	PKPbc	01 20 41.0	+0.1	
BIR	**Birlad**	146.84	326	⇓P	PKPbc	01 20 41.9	+0.6	
VLDR	**Vladesti**	146.87	325	⇓P	PKPbc	01 20 41.7	+0.3	
TLCR		146.88	323	⇑P	PKPbc	01 20 41.4	0.0	
VARL	**Varlezi**	146.96	325	⇓P	PKPbc	01 20 41.9	+0.3	
BHL	**Bhannes**	147.02	300	*e*P	PKPbc	01 20 42.5	+0.1	
SCTR	**Scanteiesti**	147.02	325	⇓P	PKPbc	01 20 42.2	+0.4	
GHRR		147.09	326	⇓P	PKPbc	01 20 42.8	+0.8	
BURAR	**Bucovina Array**	147.12	330	⇓P	PKPbc	01 20 42.5	+0.4	
ANTO	**Ankara**	147.16	312	PKPdf	PKPdf	01 20 37.8	-1.4	
ANTO	**Ankara**	147.16	312	⇓P	PKPbc	01 20 42.6	+0.1	
NEGRR	**Negrea**	147.17	324	⇑P	PKPbc	01 20 42.5	+0.3	
TESR	**Tescani**	147.18	327	⇓P	PKPbc	01 20 42.0	-0.2	
SCHLR	**Schela**	147.24	324	⇑P	PKPbc	01 20 42.7	+0.3	
CFR	**Carcaliu**	147.26	324	⇓P	PKPbc	01 20 42.1	+0.3	
COSR	**Cosmesti PH**	147.27	325	⇑P	PKPbc	01 20 43.3	+0.8	
TPGR	**Topolog**	147.30	323	⇓P	PKPbc	01 20 42.5	-0.1	
OJC	**Ojcow**	147.34	338	*e*PKP	PKPbc	01 20 42.8	+0.3	
PANC	**Panciu**	147.35	326	⇑P	PKPbc	01 20 43.1	+0.4	
ONER	**Baraj Valea Uz**	147.43	327	⇓P	PKPbc	01 20 43.7	+0.8	
MMAI	**Mount Meron Ar** comp=Z,29nm,0.6s,baz=70,slow=4.9,SNR=74	147.43	299	PKPbc	PKPbc	01 20 44.0	+0.6	
ODBI	**Odobesti**	147.47	325	⇑P	PKiKP	01 20 43.9	-0.6	
TIRR	**Tirgusor**	147.54	322	⇑P	PKPbc	01 20 43.5	+0.3	
VRI	**Vrincioaia**	147.57	326	⇓P	PKPbc	01 20 42.9	-0.4	
PLOR	**Plostina**	147.62	326	⇓P	PKPbc	01 20 43.0	-0.4	
HARR	**Harsova**	147.68	323	⇑P	PKPbc	01 20 43.9	+0.4	
BISRR	**Bisoca**	147.79	325	⇑P	PKPbc	01 20 44.0	+0.1	
TURR	**Turia**	147.81	327	⇑P	PKPbc	01 20 44.2	+0.6	
NIE	**Niedzica**	147.82	336	*e*PKP	PKPbc	01 20 44.2	+0.4	
MANR	**Mangalia**	147.83	321	⇓P	PKPbc	01 20 44.6	+0.7	
COVR	**Voineasa-Covas**	147.86	326	⇓P	PKPbc	01 20 43.6	-0.4	
BMR	**Baia Mare**	147.87	331	⇑P	PKPbc	01 20 43.9	0.0	
OZUR		147.90	327	⇓P	PKPbc	01 20 44.4	+0.2	
ARCR	**ARCALIA**	147.91	330	⇑P	PKPbc	01 20 44.5	+0.4	
KSP	**Ksiaz**	147.93	342	*e*PKP	PKPbc	01 20 44.5	+0.5	
MDUB	**Mudurnu**	147.98	314	PKPbc	PKPbc	01 20 43.8	-0.8	
BOSR	**Bodos**	147.98	327	⇓P	PKPbc	01 20 45.0	+0.7	
SAHE	**Sakarya_HENDEK**	148.02	315	⇑P	PKPbc	01 20 44.4	-0.2	
NEHR	**Nehoiu**	148.09	326	⇑P	PKPbc	01 20 44.7	+0.1	
ISR	**Istrita**	148.16	325	⇓P	PKPbc	01 20 45.1	+0.3	
DOPR	**Dopca**	148.19	327	⇑P	PKiKP	01 20 45.8	-0.2	
OSTC	**Ostas**	148.21	342	*e*PKPDF	PKPdf	01 20 41.3	+0.8	
OSTC				⇑*e*PKP	PKiKP	01 20 46.0	+0.1	
CHVC	**Chvalec**	148.22	342	⇑*e*PKP	PKiKP	01 20 45.5	-0.5	
CHVC				*e*PKPAB	PKPab	01 20 50.9	+0.7	
OKC	**Ostrava-Krasne**	148.23	339	⇑*e*PKP	PKiKP	01 20 45.8	-0.3	
OKC				*e*PKPAB	PKPab	01 20 50.4	+0.3	
MLR	**Muntele Rosu** comp=Z,31nm,0.9s,baz=13,slow=5.1,SNR=26	148.23	326	PKPbc	PKPbc	01 20 44.9	-0.2	
MLR	**Muntele Rosu**	148.23	326	⇓P	PKPbc	01 20 44.7	-0.4	
UPC	**Upice**	148.31	342	⇑*e*PKP	PKiKP	01 20 45.7	-0.4	
UPC				*e*PKPAB	PKPab	01 20 51.3	+0.8	
CLL	**Collm**	148.36	346	*e*PKPdf	PKPdf	01 20 41.0	+0.3	
CLL	comp=Z,53nm,1.1s			⇓*i*PKPbc	PKPbc	01 20 45.1	+0.1	
CLL	comp=Z,24nm,0.7s			⇑*i*PKPab	PKPab	01 20 50.5	-0.1	
CLL				*e*SKPdf	SKPdf	01 23 17.0	-1.1	
DPC	**Dobruska-Polom**	148.36	341	*e*PKPDF	PKPdf	01 20 41.6	+0.8	
DPC				⇑*e*PKP	PKiKP	01 20 46.0	-0.3	
DPC				*e*PKPAB	PKPab	01 20 51.7	+1.0	
KRLC	**Kraliky**	148.46	341	⇑*e*PKP	PKiKP	01 20 46.1	-0.4	
KRLC				*e*PKPAB	PKPab	01 20 51.7	+0.5	
MORC	**Moravsky Berou**	148.48	340	*e*PKP	PKPbc	01 20 45.6	+0.1	
MORC	**Moravsky Berou**	148.48	340	⇓P	PKPbc	01 20 45.8	+0.3	
MESR	**Meseseni**	148.51	331	⇓P	PKPbc	01 20 46.0	+0.5	
CBBR	**Cluj-Babes-Bol**	148.52	330	⇓P	PKPbc	01 20 45.6	+0.1	
BRG	**Berggiesshubel**	148.53	345	⇓*e*PKPf	PKPdf	01 20 41.4	+0.4	
BRG	comp=Z,2.9nm,1.1s			Amp		01 20 42.9		
BRG				⇑PKP	PKPbc	01 20 45.9	+0.4	
BRG				Amp		01 20 46.4		
BRG	comp=Z,18nm,0.7s			PKPab	PKPab	01 20 51.5	+0.1	
BRG				Amp		01 20 52.2		
BRG	comp=Z,14nm,0.8s			pPKP	pPKPdf	01 22 58.8	-1.2	
BRG				Amp		01 23 00.7		
CJR	comp=Z,5.2nm,1.4s **Cluj-Napoca**	148.54	330	⇓P	PKPbc	01 20 45.9	+0.2	
MDB	**Medias**	148.57	328	⇓P	PKiKP	01 20 46.5	-0.3	
SILT	**Sile**	148.66	316	⇑P	PKPbc	01 20 46.1	0.0	
PVCC	**Panska Ves**	148.69	344	⇑*e*PKP	PKiKP	01 20 46.7	-0.2	
VOIR		148.73	327	⇑P	PKiKP	01 20 46.9	-0.3	
MAUC	**Maruska**	148.74	339	⇑*e*PKP	PKiKP	01 20 47.3	+0.2	
MARR	**Marisel-Cluj**	148.79	330	⇑P	PKPbc	01 20 46.6	+0.2	
RICC	**Richard**	148.80	344	⇑*e*PKP	PKiKP	01 20 46.9	+0.2	
DRGR		148.89	331	⇓P	PKPbc	01 20 46.4	-0.2	
ARR	**Arges**	148.99	327	⇑P	PKiKP	01 20 47.5	-0.3	
PRA	**Prague**	149.14	343	⇑*e*PKP	PKiKP	01 20 47.7	-0.1	
RAZG	**Razgrad**	149.18

BMRD				*d*PKPab	**PKPab**	**01 20 59.7**	**-0.3**
PUNG	**Punghina**	**150.62**	**327**	⇓P	**PKPbc**	**01 20 50.5**	**-0.1**
CONA	**Conrad Observa**	**150.64**	**340**	*e*PKP	**PKPbc**	**01 20 50.8**	**+0.1**
	comp=Z,24nm,0.6s,SNR=17						
BANR	**Banloc**	**150.67**	**331**	⇓P	**PKiKP**	**01 20 51.3**	**+0.2**
RONA	**Rosalia, Austr**	**150.69**	**339**	*e*PKP	**PKPbc**	**01 20 50.9**	**+0.1**
	comp=Z,34nm,0.6s,SNR=22						
RCHB	**Rochefort**	**150.71**	**355**	*d*PKPbc	**PKPbc**	**01 20 50.5**	**-0.1**
DOU	**Dourbes**	**150.82**	**356**	*d*PKP	**PKPbc**	**01 20 51.0**	**+0.1**
MDVR	**Moldovita**	**150.85**	**329**	⇓P	**PKPbc**	**01 20 50.9**	**-0.3**
WLF	**Walferdange**	**151.11**	**353**	*d*PKPbc	**PKiKP**	**01 20 52.1**	**+0.2**
WLF				*d*PKPab	**PKPab**	**01 21 01.1**	**-1.0**
MOA	**Molln**	**151.20**	**342**	*e*PKP	**PKPdf**	**01 20 44.6**	**-0.7**
	comp=Z,4.1nm,1.3s						
MOA				*e*PKP	**PKPbc**	**01 20 51.6**	**-0.3**
	comp=Z,9.2nm,0.6s,SNR=5.8						
MOA				*e*PKP	**PKPab**	**01 21 03.1**	**+0.4**
	comp=Z,11nm,1.3s						
RDO	**Rodhopi**	**151.23**	**320**	PKPbc	**PKPbc**	**01 20 51.1**	**-1.0**
ARSA	**Arzberg**	**151.34**	**340**	*i* PKP	**PKPbc**	**01 20 51.8**	**-0.4**
	comp=Z,5.3nm,1.0s						
ARSA				*e*PKP	**PKPab**	**01 21 03.2**	**0.0**
	comp=Z,11nm,1.1s						
EZN	**Ezine**	**151.51**	**317**	⇑P	**PKPbc**	**01 20 52.3**	**-0.4**
BIOA	**Bad Ischl, Aus**	**151.53**	**342**	*e*PKP	**PKPdf**	**01 20 45.0**	**-0.8**
	comp=Z,4.7nm,1.0s						
BIOA				*e*PKP	**PKPbc**	**01 20 52.1**	**-0.6**
	comp=Z,11nm,0.8s,SNR=5.1						
BIOA				*e*PKP	**PKPab**	**01 21 04.1**	**+0.1**
	comp=Z,12nm,0.7s						
KOGS	**Kog**	**151.79**	**338**	*i* PKPbc	**PKPbc**	**01 20 52.5**	**-0.6**
KOGS				*i* PKPab	**PKPab**	**01 21 04.9**	**-0.2**
SOKA	**Soboth**	**152.01**	**340**	*i* PKP	**PKPbc**	**01 20 53.0**	**-0.8**
	comp=Z,12nm,0.8s,SNR=11						
SOKA				*e*PKP	**PKPab**	**01 21 06.2**	**0.0**
	comp=Z,16nm,1.2s						
LESA	**Schwarzleotal**	**152.03**	**343**	*e*PKP	**PKPdf**	**01 20 46.2**	**-0.4**
	comp=Z,4.2nm,1.0s						
LESA				*i* PKP	**PKPbc**	**01 20 53.2**	**-0.6**
	comp=Z,11nm,0.7s,SNR=5.3						
LESA				*e*PKP	**PKPab**	**01 21 06.8**	**+0.5**
	comp=Z,31nm,1.5s						
BFO	**Black Forest**	**152.12**	**350**	PKPbc	**PKPbc**	**01 20 52.8**	**-1.1**
KBA	**Koelnbreinsper**	**152.17**	**342**	*e*PKP	**PKPdf**	**01 20 46.6**	**-0.3**
	comp=Z,5.1nm,1.2s						
KBA				*i* PKP	**PKPbc**	**01 20 53.2**	**-1.0**
	comp=Z,11nm,1.1s,SNR=6.2						
KBA				*e*PKP	**PKPab**	**01 21 07.0**	**+0.1**
	comp=Z,8.5nm,0.8s						
OBKA	**Obir**	**152.31**	**340**	*i* PKP	**PKPbc**	**01 20 53.6**	**-0.9**
	comp=Z,5.3nm,0.8s						
WATA	**Walderalm**	**152.40**	**345**	*i* PKP	**PKPbc**	**01 20 54.2**	**-0.5**
	comp=Z,8.6nm,0.6s,SNR=6.3						
WATA				*e*PKP	**PKPab**	**01 21 07.8**	**-0.1**
	comp=Z,9.2nm,0.8s						
RETA	**Reutte**	**152.45**	**346**	*e*PKP	**PKPdf**	**01 20 46.7**	**-0.5**
	comp=Z,2.2nm,0.9s						
RETA				*i* PKP	**PKPbc**	**01 20 54.4**	**-0.3**
	comp=Z,5.6nm,0.7s						
RETA				*e*PKP	**PKPab**	**01 21 07.8**	**-0.2**
	comp=Z,11nm,0.6s						
WTTA	**Wattenberg**	**152.45**	**345**	*i* PKP	**PKPbc**	**01 20 54.6**	**-0.2**
	comp=Z,14nm,0.5s,SNR=7.9						
WTTA				*e*PKP	**PKPab**	**01 21 08.4**	**+0.2**
	comp=Z,19nm,0.7s						
MYKA	**Terra Mystica**	**152.49**	**341**	*i* PKP	**PKPbc**	**01 20 53.9**	**-1.0**
	comp=Z,9.7nm,0.6s						
MOTA	**Moosalm**	**152.51**	**345**	*i* PKP	**PKPbc**	**01 20 54.5**	**-0.4**
	comp=Z,24nm,1.1s,SNR=6.0						
SQTA	**Sankt Quirin**	**152.60**	**345**	*e*PKP	**PKPdf**	**01 20 47.0**	**-0.5**
	comp=Z,6.0nm,0.9s						
SQTA				*i* PKP	**PKPbc**	**01 20 54.6**	**-0.5**
	comp=Z,13nm,0.7s						
SQTA				*e*PKP	**PKPab**	**01 21 09.0**	**+0.3**
	comp=Z,12nm,0.9s						
ABTA	**Abfaltersbach**	**152.70**	**343**	*e*PKP	**PKPdf**	**01 20 46.8**	**-0.8**
	comp=Z,4.8nm,0.9s						
ABTA				*i* PKP	**PKPbc**	**01 20 54.4**	**-0.9**
	comp=Z,18nm,0.6s,SNR=6.6						
ABTA				*e*PKP	**PKPab**	**01 21 08.5**	**-0.7**
	comp=Z,15nm,1.1s						
LJU	**Ljubljana**	**152.73**	**340**	*i* PKPbc	**PKPbc**	**01 20 55.0**	**-0.3**
DAVA	**Damuels**	**152.83**	**347**	*i* PKP	**PKPbc**	**01 20 55.0**	**-0.7**
	comp=Z,15nm,1.0s						
DAVA				*e*PKP	**PKPab**	**01 21 09.4**	**-0.3**
	comp=Z,15nm,0.9s						
FETA	**Feichten**	**152.90**	**346**	*e*PKP	**PKPdf**	**01 20 47.7**	**-0.3**
	comp=Z,5.6nm,0.9s						
FETA				*i* PKP	**PKPbc**	**01 20 55.7**	**-0.1**
	comp=Z,11nm,0.8s						
FETA				*e*PKP	**PKPab**	**01 21 09.8**	**-0.3**
	comp=Z,5.8nm,0.7s						
CEY	**Cerknica**	**153.03**	**339**	*i* PKPbc	**PKPbc**	**01 20 55.6**	**-0.3**
CEY				*e*PKPab	**PKPab**	**01 21 10.2**	**-0.3**
TUE	**Stuetta**	**153.72**	**347**		**PKPdf**	**01 20 48.8**	**-0.5**
TUE					**PKPbc**	**01 20 57.1**	**-0.6**
TUE					**PKPab**	**01 21 13.0**	**-0.6**
FDMO	**Fiordimonte**	**155.87**	**338**		**PKPab**	**01 21 21.8**	**-0.9**
INTR	**Introdacqua**	**156.47**	**336**	PKPab	**PKPab**	**01 21 24.3**	**-1.1**
ESDC	**Sonseca Array**	**160.83**	**12**	PKPab	**PKPab**	**01 21 45.1**	**+0.6**
	comp=Z,7.5nm,1.1s,baz=337,slow=4.0,SNR=15						
KEST	**Kesra**	**163.67**	**336**	PKPab	**PKPab**	**01 21 57.4**	**+0.2**
	comp=Z,11nm,0.9s,baz=303,slow=2.1,SNR=10						
DBIC	**Dimbokro**	**164.60**	**157**	PKP	**PKPdf**	**01 21 02.2**	**0.0**
	comp=Z,4.2nm,0.7s,baz=236,slow=4.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**172.21**	**183**	PKP	**PKPdf**	**01 21 06.5**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=11,slow=1.8,SNR=14						

GII 25 01:03:54.0±0.0, 33°.195N±0°.003×35°.691E±0°.001, h16km, Mws0.8, confirmed, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEM	**Giv'at Ha'Em**	**0.03**	**303**	P	Pg	01 03 57.0	+0.1
GEM	**Giv'at Ha'Em**	**0.03**	**303**	S	Sg	01 03 59.5	+0.6
GOSH	**HaGoshrim**	**0.06**	**294**	P	Pg	01 03 57.1	0.0
GOSH	**HaGoshrim**	**0.06**	**294**	S	Sg	01 03 59.6	+0.5
NATI	**Neve Ativ**	**0.08**	**30**	P	Pg	01 03 57.6	+0.4
NATI	**Neve Ativ**	**0.08**	**30**	S	Sg	01 04 00.2	+0.8
KIRY	**Kiryat Shemona**	**0.10**	**277**	P	Pg	01 03 57.4	0.0
KIRY	**Kiryat Shemona**	**0.10**	**277**	S	Sb	01 04 00.4	+0.3
KSHT	**Keshet**	**0.23**	**155**	P	Pb	01 03 59.8	-0.1
KSHT	**Keshet**	**0.23**	**155**	S	Sb	01 04 04.0	0.0
MMA0B	**Mount Meron ar**	**0.30**	**234**	P	Pg	01 03 59.7	-0.7
MMA0B	**Mount Meron ar**	**0.30**	**234**	S	Sb	01 04 05.7	-0.1
MMA0B	**Mount Meron ar**	**0.30**	**234**	S	Sb	01 04 06.2	+0.3
MMC7	**Mount Meron ar**	**0.30**	**236**	P	Pg	01 04 00.6	0.0
MMC7	**Mount Meron ar**	**0.30**	**236**	S	Sb	01 04 06.0	+0.1
HNTI	**Hanita**	**0.45**	**256**	P	Pg	01 04 02.6	-0.5

*NEIC **25** 01:03:59.5±2.2, 32°.98N±0°.06×73°.7E±0°.1, h10km±2km, mb3.7/5, Error ellipse: s-maj=16.2km s-min=6.4km az=241.0*
*NDI **25** 01:04:02.3±1.4, 32°.92N×73°.72E, h10km, ML3.5, MW3.5, mb3.7(NEIC)*

ISC 25 01:03:59.9±1.4, 33°.01N±0°.06×73°.64E±0°.05, h17km±9km, n28, σ1§67/37, 3C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**0.72**	**333**		**Pg**	**01 04 13.5**	**-0.5**
NIL				Sg	**Sg**	**01 04 23.7**	**+0.2**
JMU	**Jammu**	**1.10**	**105**	*e*P	**Pb**	**01 04 21.2**	**+0.7**
JMU				*e*S	**Sg**	**01 04 33.5**	**-2.2**
JMU				IAML		01 04 34.4	
	comp=E,681nm,0.4s						
JMU				IAML		01 04 34.4	
	comp=N,657nm,0.3s						
SRNI	**Srinagar**	**1.49**	**43**	*e*P	**Pb**	**01 04 28.6**	**+1.5**
SRNI				*e*S	**Sb**	**01 04 48.6**	**+2.9**
SRNI				IAML		01 04 50.5	
	comp=N,2μm,0.4s						
SRNI				IAML		01 04 50.7	
	comp=E,2μm,0.3s						
TSSA	**Tissa**	**2.12**	**94**	*e*P	**Pb**	**01 04 37.8**	**-0.3**
TSSA				*e*S	**Sb**	**01 05 03.7**	**-0.4**
TSSA				IAML		01 05 07.2	
	comp=N,444nm,0.3s						
TSSA				IAML		01 05 07.7	
	comp=E,560nm,0.5s						
BHK	**Bhakra**	**2.84**	**123**	*e*P	**Pb**	**01 04 51.0**	**+0.8**
BHK				*e*S	**Sb**	**01 05 26.9**	**+2.1**
BHK				IAML		01 05 28.4	
	comp=N,191nm,0.2s						
BHK				IAML		01 05 28.6	
	comp=E,213nm,0.5s						
SMLA	**Simla**	**3.53**	**121**	*e*P	**Pn**	**01 04 56.5**	**+2.4**
SMLA				*e*S	**Sn**	**01 05 35.7**	**+0.3**
SMLA				IAML		01 05 51.1	
	comp=E,193nm,0.7s						
SMLA				IAML		01 06 00.5	
	comp=N,185nm,0.4s						
KBL	**Kabul**	**4.12**	**293**	Pn	**Pn**	**01 05 03.5**	**+1.2**
KBL				Sn	**Sn**	**01 05 51.5**	**+1.3**
KLP	**Kalpa**	**4.17**	**109**	*e*P	**Pn**	**01 05 05.2**	**+2.0**
KLP				*e*S	**Sn**	**01 05 50.9**	**-0.8**
KLP				IAML		01 05 56.8	
	comp=N,85nm,0.4s						
KLP				IAML		01 05 57.0	
	comp=E,66nm,0.3s						
GAR	**Garm**	**6.56**	**337**		**Pn**	**01 05 36.2**	**+0.5**
CHGR	**Chuyangaron**	**6.71**	**328**		**Pn**	**01 05 38.3**	**+0.6**
SIMJ	**Simiganj**	**6.78**	**328**		**Pn**	**01 05 39.2**	**+0.5**
ARSB	**Arslanbob**	**8.32**	**357**	Pn	**Pn**	**01 06 01.1**	**+1.2**
TARG	**Taragay, Kyrgy**	**9.31**	**20**		**Pn**	**01 06 16.1**	**+2.3**
KDJ	**Kajisay**	**9.53**	**16**	Pn	**Pn**	**01 06 17.7**	**+1.2**
AAK	**Ala-Archa**	**9.64**	**4**	Pn	**Pn**	**01 06 20.0**	**+2.0**
AAK	**Ala-Archa**	**9.64**	**4**	⇑P	**Pn**	**01 06 20.9**	**+2.9**
	comp=E,5.3nm,0.9s						
AAK				⇓S	**Sn**	**01 08 02.6**	**-3.3**
	comp=E,1.5nm,0.7s						
BOOM	**Boomskoye usch**	**9.64**	**10**	Pn	**Pn**	**01 06 19.3**	**+1.3**
PRZ	**Przheval'sk**	**10.18**	**20**	Pn	**Pn**	**01 06 27.1**	**+1.6**
KK31	**Karatay Array**	**10.38**	**347**	Pn	**Pn**	**01 06 29.0**	**+1.0**
KK31	**Karatay Array**	**10.38**	**347**	⇑P	**Pn**	**01 06 28.8**	**+0.8**
	comp=E,4.7nm,0.4s,baz=160,slow=11,SNR=84						
KK31				⇑S	Sn	01 08 18.6	-5.2
	comp=E,6.5nm,0.7s,baz=174,slow=24,SNR=3.8						
KKAR	**Karatay Array**	**10.38**	**347**		**Pn**	**01 06 28.2**	**+0.2**
EVN	**Everest**	**12.43**	**110**	Pn	**Pn**	**01 06 55.7**	**-1.0**
MAKZ	**Makanchi**	**15.18**	**22**	Pn	**Pn**	**01 07 32.1**	**-1.4**
MAKZ				IAmb	IAmb	01 07 36.7	
	comp=Z,3.3nm,1.1s						
MKAR	**Makanchi Array**	**15.27**	**23**	Pn	**Pn**	**01 07 34.0**	**-0.7**
KURK	**Kurchatov**	**18.07**	**10**	Pn	**Pn**	**01 08 06.9**	**-3.1**
AB31	**Akbulak array**	**19.18**	**332**		**P**	**01 08 20.6**	**-2.0**
AB31				IAmb	IAmb	01 08 29.9	
	comp=Z,1.7nm,0.6s						
ZAA0	**Zalesovo Array**	**22.40**	**18**	P	**P**	**01 08 57.4**	**0.0**
ZAA0				IAmb	IAmb	01 08 59.9	
	comp=Z,2.3nm,0.6s						
ZALV	**Zalesovo Beam**	**22.40**	**18**	P	**P**	**01 08 56.6**	**-0.8**

*SDD **25** 01:05:06.2±2.7, 19°.22N×67°.11W, h15km±16km, MD4.2, ML4.5, MW4.5*
*NEIC **25** 01:05:07.6±2.0, 19°.04N±0°.03×67°.13W±0°.05, h10km±1km, mb4.6/148, ML4.6/25, Md4.4/16(RSPR), Error ellipse: s-maj=9.6km s-min=2.8km az=62.0*
*IDC **25** 01:05:07.7±3.9, 18°.91N×67°.16W, h16km±24km, mb4.1/16, mbtmp4.2/18, ML4.0/2, MS3.5/24, Error ellipse: s-maj=16.4km s-min=10.9km az=49.0*
*RSPR **25** 01:05:10.3, 19°.04N×67°.15W, h10km±31km, MD4.4/16*

ISC 25 01:05:08.8±1.1, 19°.06N±0°.03×67°.19W±0°.03, h23km±8km, n310, σ1§75/287, mb4.6/74, MS3.6/20, 26C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.59**	**173**		**Pb**	**01 05 20.5**	**-0.1**
AGPR					**Sb**	**01 05 29.2**	**+0.8**
AGPR	**Aguadilla, PR**	**0.59**	**173**	⇑*e*P	**Pb**	**01 05 20.5**	**-0.1**
AGPR	**Aguadilla, PR**	**0.59**	**173**	*e*S	**Sb**	**01 05 29.2**	**+0.8**
AGPR	**Aguadilla, PR**	**0.59**	**173**	⇑*e*Pg	**Pb**	**01 05 20.4**	**-0.1**
AGPR				⇑*e*Sg	**Sb**	**01 05 29.0**	**+0.6**
AGPR				IAML		01 05 30.1	
	comp=E,22μm,0.2s						
AGPR				IAML		01 05 35.6	
	comp=N,21μm,0.3s						
IDE	**Isla Desecheo**	**0.72**	**202**		**Pb**	**01 05 23.1**	**+0.4**
IDE	**Isla Desecheo**	**0.72**	**202**	⇓*e*P	**Pb**	**01 05 23.1**	**+0.4**
AOPR	**Arecibo Observ**	**0.82**	**150**		**Pn**	**01 05 23.2**	**-1.7**
AOPR				Sg	**Sb**	**01 05 32.7**	**-2.3**
AOPR				IAML		01 05 38.3	
	comp=N,35μm,0.3s						
AOPR	**Arecibo Observ**	**0.82**	**150**	⇑*e*P	**Pn**	**01 05 23.4**	**-1.6**
AOPR	**Arecibo Observ**	**0.82**	**150**	*e*S	**Sb**	**01 05 33.9**	**-1.1**
AOPR	**Arecibo Observ**	**0.82**	**150**	*e*P	**Pn**	**01 05 23.3**	**-1.7**
AOPR	**Arecibo Observ**	**0.82**	**150**	⇑*e*Pg	**Pn**	**01 05 23.4**	**-1.6**
AOPR				IAML		01 05 43.8	
	comp=N,30μm,0.3s						
PRSN	**Puerto Rico Se**	**0.83**	**177**	Pg	**Pn**	**01 05 24.3**	**-0.8**
PRSN	**Puerto Rico Se**	**0.83**	**177**		**Sn**	**01 05 36.4**	**-0.4**
PRSN	**Puerto Rico Se**	**0.83**	**177**	⇓*e*P	**Pn**	**01 05 24.4**	**-0.8**
PRSN	**Puerto Rico Se**	**0.83**	**177**	*e*S	**Sn**	**01 05 36.4**	**-0.4**
PRSN	**Puerto Rico Se**	**0.83**	**177**	⇑*e*Pg	**Pn**	**01 05 24.2**	**-0.8**
PRSN				IAML		01 05 46.3	
	comp=N,41μm,0.3s						
EMPR	**Esperanza - Ma**	**0.85**	**132**	Pg	**Pn**	**01 05 23.2**	**-2.1**
EMPR				Sg	**Sb**	**01 05 32.5**	**-3.3**
EMPR	**Esperanza - Ma**	**0.85**	**132**	⇑*e*P	**Pn**	**01 05 24.1**	**-1.3**
EMPR	**Esperanza - Ma**	**0.85**	**132**	*e*S	**Sn**	**01 05 37.3**	**+0.2**
LSP	**Las Mesas**	**0.88**	**174**		**Pn**	**01 05 25.1**	**-0.8**
LSP	**Las Mesas**	**0.88**	**174**	⇓*e*P	**Pn**	**01 05 25.1**	**-0.8**
UUPR	**Utuado, UPR, P**	**0.91**	**151**	Pg	**Pn**	**01 05 24.8**	**-1.5**
UUPR	**Utuado, UPR, P**	**0.91**	**151**		**Sb**	**01 05 37.3**	**-0.5**
UUPR	**Utuado, UPR, P**	**0.91**	**151**	⇑*e*P	**Pn**	**01 05 24.8**	**-1.5**
UUPR	**Utuado, UPR, P**	**0.91**	**151**	*e*S	**Sb**	**01 05 37.3**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.04**	**176**	Pg	**Pn**	**01 05 27.4**	**-0.6**
CRPR					**Sn**	**01 05 41.0**	**-0.9**
CRPR				IAML		01 05 43.3	
	comp=N,12μm,0.3s						
CRPR				IAML		01 05 44.1	
	comp=E,10μm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.04**	**176**	⇑*e*P	**Pn**	**01 05 27.5**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.04**	**176**	*e*S	**Sn**	**01 05 41.5**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.04**	**176**	⇑*e*Pg	**Pn**	**01 05 27.4**	**-0.6**
CRPR				*e*Sg	**Sn**	**01 05 41.9**	**0.0**
CRPR				IAML		01 05 42.5	
	comp=N,13μm,0.3s						
CRPR				IAML		01 05 43.9	
	comp=E,12μm,0.2s						
ECPR	**Experimental S**	**1.07**	**133**	⇑*e*P	**Pn**	**01 05 27.1**	**-1.4**
ECPR	**Experimental S**	**1.07**	**133**	*e*S	**Sb**	**01 05 43.0**	**+0.7**
MLPR	**Magueyes Islan**	**1.09**	**173**	⇑*e*P	**Pn**	**01 05 28.0**	**-0.6**
MLPR	**Magueyes Islan**	**1.09**	**173**	*e*S	**Sn**	**01 05 42.3**	**-0.7**
MLPR	**Magueyes Islan**	**1.09**	**173**	IAML		01 05 51.8	
	comp=N,2μm,0.6s						
GBPR	**Guanica, Bosqu**	**1.11**	**165**		**Pn**	**01 05 28.5**	**-0.5**
GBPR	**Guanica, Bosqu**	**1.11**	**165**	⇑*e*P	**Pn**	**01 05 28.5**	**-0.5**
CELP	**Cerrillos**	**1.13**	**149**		**Pn**	**01 05 28.2**	**-1.0**
CELP				Sg	**Sn**	**01 05 42.6**	**-1.6**
CELP				IAML		01 05 43.9	
	comp=N,17μm,0.5s						
CELP				IAML		01 05 44.7	
	comp=E,15μm,0.3s						
CELP	**Cerrillos**	**1.13**	**149**	⇑*e*P	**Pn**	**01 05 28.4**	**-1.0**
CELP	**Cerrillos**	**1.13**	**149**	*e*S	**Sn**	**01 05 43.1**	**-1.0**
CELP	**Cerrillos**	**1.13**	**149**	⇑*e*Pg	**Pn**	**01 05 28.3**	**-1.0**
CELP				⇑*e*Sg	**Sn**	**01 05 43.3**	**-0.8**
CELP				IAML		01 05 43.7	
	comp=N,16μm,0.7s						
CELP				IAML		01 05 44.6	
	comp=E,16μm,0.2s						
OBIP	**Obispado Ponce**	**1.15**	**151**		**Pn**	**01 05 28.7**	**-0.8**
OBIP				Sg	**Sn**	**01 05 42.6**	**-1.9**
OBIP				IAML		01 05 44.3	
	comp=E,11μm,0.3s						
OBIP				IAML		01 05 44.8	
	comp=N,16μm,0.3s						
OBIP	**Obispado Ponce**	**1.15**	**151**	⇑*e*P	**Pn**	**01 05 28.6**	**-0.8**
OBIP	**Obispado Ponce**	**1.15**	**151**	*e*S	**Sn**	**01 05 42.5**	**-2.0**
GCPR	**Guaynabo City**	**1.28**	**125**		**Pn**	**01 05 29.8**	**-1.6**
GCPR				Sg	**Sn**	**01 05 46.7**	**-1.2**
GCPR	**Guaynabo City**	**1.28**	**125**	⇑*e*P	**Pn**	**01 05 30.0**	**-1.4**
GCPR	**Guaynabo City**	**1.28**	**125**	*e*S	**Sn**	**01 05 47.4**	**-0.4**
SJG	**San Juan**	**1.36**	**133**	Pn	**Pn**	**01 05 31.5**	**-0.9**
SJG				IAML		01 05 55.6	
	comp=N,9μm,0.4s						
SJG				IAML		01 05 56.1	
	comp=N,11μm,0.3s						
SJG	**San Juan**	**1.36**	**133**	Pn	**Pn**	**01 05 31.1**	**-1.3**
	comp=N,273nm,0.3s,baz=322,slow=12,SNR=92						
SJG				Sn	**Sn**	**01 05 46.7**	**-3.0**
	comp=N,708nm,0.3s,baz=298,slow=17,SNR=8.6						
SJG				LR	LR	01 06 01.2	
	comp=N,2μm,19.4s,baz=306,slow=43						
SJG	**San Juan**	**1.36**	**133**	⇑*e*P	**Pn**	**01 05 31.7**	**-0.7**
SJG	**San Juan**	**1.36**	**133**	*e*S	**Sn**	**01 05 49.9**	**+0.2**
SJG	**San Juan**	**1.36**	**133**	*e*P	**Pn**	**01 05 31.1**	**-1.3**
SJG	**San Juan**	**1.36**	**133**	*e*Pg	**Pn**	**01 05 31.1**	**-1.3**
SJG	**San Juan**	**1.36**	**133**	P	**Pn**	**01 05 31.2**	**-1.3**
IGPR	**InterUniversit**	**1.49**	**136**		**Pn**	**01 05 33.2**	**-1.0**
IGPR					**Sn**	**01 05 53.0**	**0.0**
IGPR	**InterUniversit**	**1.49**	**136**	⇑*e*P	**Pn**	**01 05 33.2**	**-1.0**
IGPR	**InterUniversit**	**1.49**	**136**	*e*S	**Sn**	**01 05 53.0**	**0.0**
PDPR	**Patillas Dam,**	**1.51**	**133**	Pn	**Pn**	**01 05 33.4**	**-1.1**
PDPR				IAML		01 05 57.6	
	comp=E,5μm,0.2s						
PDPR				IAML		01 05 59.8	
	comp=N,7μm,0.5s						
PDPR	**Patillas Dam,**	**1.51**	**133**	⇓*e*P	**Pn**	**01 05 33.5**	**-1.1**
PDPR	**Patillas Dam,**	**1.51**	**133**	*e*S	**Sn**	**01 05 52.6**	**-0.8**
HIDR	**Higuey Centro**	**1.52**	**253**	⇑*e*P	**Pb**	**01 05 36.1**	**-0.2**
HIDR	**Higuey Centro**	**1.52**	**253**	*e*S	**Sb**	**01 05 56.7**	**+1.5**
HIDR	**Higuey Centro**	**1.52**	**253**	*e*Pg	**Pb**	**01 05 35.9**	**-0.4**
HIDR				*e*Sg	**Sb**	**01 05 56.6**	**+1.5**
HIDR				IAML		01 06 04.0	
	comp=N,5μm,0.7s						
HUMP	**Col San Antoni**	**1.56**	**125**	Pn	**Pn**	**01 05 33.6**	**-1.6**
MIDR	**Miches**	**1.76**	**268**	⇑*e*P	**Pn**	**01 05 39.1**	**+1.2**
MIDR	**Miches**	**1.76**	**268**	*e*Pg	**Pn**	**01 05 39.1**	**+1.2**
MIDR				IAML		01 06 09.8	
	comp=N,3μm,1.1s						
MIDR				IAML		01 06 12.1	
	comp=E,1μm,0.3s						
SMDR	**Samana, DR**	**1.90**	**277**	⇑*e*P	**Pn**	**01 05 40.3**	**+0.4**
SMDR	**Samana, DR**	**1.90**	**277**	⇑*e*Pg	**Pn**	**01 05 40.0**	**+0.2**
SMDR				IAML		01 06 17.9	
	comp=E,2μm,0.7s						
SMDR				IAML		01 06 20.0	
	comp=N,2μm,1.1s						
HATOM	**Hato Mayor del**	**2.09**	**263**	⇑*e*Pg	**Pn**	**01 05 44.2**	**+1.7**
HATOM				IAML		01 06 22.4	
	comp=E,1μm,0.9s						
HATOM				IAML		01 06 28.0	
	comp=N,1μm,0.7s						
NADR	**Nagua**	**2.54**	**277**	*e*Pg	**Pn**	**01 05 49.3**	**+0.7**
NADR				IAML		01 06 40.6	
	comp=N,9μm,0.8s						
SDD	**Santo Domingo**	**2.65**	**257**	Pn	**Pn**	**01 05 52.8**	**+2.8**
SDD	**Santo Domingo**	**2.65**	**257**	⇓*e*P	**Pn**	**01 05 52.9**	**+2.8**
SDD	**Santo Domingo**	**2.65**	**257**	*e*Pg	**Pn**	**01 05 52.5**	**+2.4**
SDD				IAML		01 06 37.1	
	comp=N,307nm,1.4s						
CADR	**Cabrera**	**2.67**	**284**	*i* P	**Pn**	**01 05 48.2**	**-2.2**
CADR				IAML		01 06 47.8	
	comp=N,3μm,0.7s						
SFDR	**San Fco. de Ma**	**2.89**	**275**	*e*Pg	**Pn**	**01 05 55.3**	**+1.8**
SFDR				IAML		01 07 01.7	
	comp=N,4μm,0.4s						
ABDR	**Alto Bandera**	**3.26**	**266**	*e*Pg	**Pn**	**01 06 02.0**	**+3.1**
ABDR				IAML		01 07 03.3	
	comp=N,2μm,0.9s						
SC01	**Santiago de lo**	**3.36**	**277**	Pn	**Pn**	**01 06 01.9**	**+1.9**
LUDR	**Luperon**	**3.65**	**284**	*i* P	**Pn**	**01 06 02.7**	**-1.2**
SDDR	**Presa de Saban**	**3.88**	**270**	Pn	**Pn**	**01 06 09.4**	**+2.3**
SDDR	**Presa de Saban**	**3.88**	**270**	*e*P	**Pn**	**01 06 09.2**	**+2.0**
SDDR				*e*S	**Sb**	**01 07 04.6**	**+1.4**
SDDR				IAML		01 07 15.8	
	comp=N,2μm,1.0s						
SDDR				IAML		01 07 24.7	
	comp=N,1μm,1.1s						
SDDR	**Presa de Saban**	**3.88**	**270**	*e*P	**Pn**	**01 06 09.4**	**+2.3**
SDDR

comp=N,18nm,0.6s
HLGC Holgui 8.54 284 *e*P Pn **01 07 09.5 -1.6**
HLGC *e*S Sn **01 08 45.8 -1.0**
HLGC IAML 01 08 49.7
comp=N,12nm,0.4s
HLGC IAML 01 08 51.6
comp=E,29nm,0.9s
YAR Yar 8.74 280 *e*P Pn **01 07 10.8 -3.0**
YAR *e*S Sn **01 08 46.3 -5.4**
YAR IAML 01 08 50.9
comp=N,19nm,1.0s
YAR IAML 01 08 53.6
comp=E,17nm,1.0s
PCRV Puerto La Cruz 9.16 164 Pn Pn **01 07 20.7 +1.0**
comp=E,7.2nm,0.3s,baz=78,slow=0.7,SNR=54
PCRV Sn Sn **01 08 59.3 -3.0**
comp=E,5.4nm,0.3s,baz=186,slow=14,SNR=4.0
PCRV LR LR 01 11 04.7
comp=E,142nm,18.1s,slow=40
BBGH Gun Hill 9.40 128 Pn Pn **01 07 26.1 +3.2**
BAUV El Baul 10.09 185 Pn Pn **01 07 34.2 +1.8**
SDV Santo Domingo 10.64 199 Pn Pn 01 07 46.1 +5.9
comp=E,3.7nm,0.3s,baz=29,slow=7.9,SNR=6.9
SDV Sn Sn **01 09 36.7 -2.1**
comp=E,2.0nm,0.3s,baz=19,slow=14,SNR=4.1
SDV LR LR 01 12 11.1
comp=E,164nm,21.9s,baz=62,slow=40
SDV Santo Domingo 10.64 199 *e*P Pn **01 07 42.6 +2.4**
SDV Santo Domingo 10.64 199 P Pn 01 07 46.0 +5.8
PAMC Pamplona, Colo 12.82 205 P Pn **01 08 12.5 +2.3**
comp=E,6µmcomp=E,31nm,0.7s
BBSR BB Station 13.45 9 Pn Pn **01 08 17.1 -1.1**
UREC San Jos de Ur 13.85 217 P Pn **01 08 26.3 +2.4**
RUSC La Rusia 14.29 204 Pn Pn **01 08 30.9 +0.6**
061Z Ochoppi 14.37 301 Pn Pn **01 08 29.6 -1.3**
060A Indiantown 14.49 306 Pn Pn **01 08 30.9 -1.6**
SOR Soroa 15.24 287 Pn Pn **01 08 43.0 +0.3**
SOR IAmb IAmb 01 08 49.3
comp=Z,17nm,0.7s
ROSC El Rosal 15.75 207 P **01 08 53.4 -0.1**
ROSC El Rosal 15.75 207 Pn P **01 08 53.5 +0.1**
comp=Z,7.1nm,0.3s,baz=42,slow=24,SNR=26
ROSC Sn Sn **01 11 42.8 -1.1**
comp=Z,1.0nm,0.3s,baz=207,slow=22,SNR=1.9
DWPF Disney Wildern 15.85 307 Pn Pn **01 08 51.4 +0.8**
GUY2C Guyana, Caldas 15.89 211 P P **01 08 55.6 +0.4**
comp=Z,496nmcomp=Z,75nm,0.9s
ORTC Ortega, Tolima 16.99 209 P P **01 09 10.8 +3.9**
comp=Z,52nm,1.0s
656A Willston 17.34 309 Pn Pn **01 09 08.5 -0.9**
656A IAmb IAmb 01 09 11.0
comp=Z,37nm,0.6s
456A Hilliard 17.76 314 P P **01 09 15.4 +0.1**
456A IAmb IAmb 01 09 30.6
comp=Z,48nm,0.7s
BOAV Boa Vista 17.80 158 Pn **01 09 14.5 -0.7**
BOAV Boa Vista 17.80 158 *e*P Pn **01 09 15.2 +0.1**
BOAV Boa Vista 17.80 158 P P **01 09 15.5 -0.3**
comp=Z,18nm,0.7s
Y60A Bolivia 17.84 329 Pn **01 09 15.8 +0.2**
Y60A IAmb IAmb 01 09 18.5
comp=Z,72nm,0.9s
257A Skidaway Islan 17.91 319 P **01 09 19.3 +2.4**
MACC Macarena, Meta 18.03 202 P P **01 09 19.5 +1.2**
comp=Z,14nm,0.7s
CSU Charleston Sou 18.04 323 P **01 09 20.4 +2.1**
NHSC New Hope 18.19 323 P **01 09 22.6 +2.6**
Y58A Scranton 18.51 326 Pn **01 09 27.2 +3.5**
POPC Popayan, Colom 18.86 211 P Pn **01 09 30.3 +2.0**
comp=Z,17nm,0.6s
SGC2 Sao Gabriel da 19.09 179 P Pn **01 09 30.7 -0.2**
comp=Z,579nmcomp=Z,23nm,0.7s
JTS Las Juntas de 19.25 246 P Pn **01 09 33.2 +0.3**
comp=Z,0.2nm,0.3s,baz=314,slow=6.5,SNR=4.4
JTS LR LR 01 17 36.5
comp=Z,103nm,18.2s,baz=66,slow=39
comp=Z,7.9nm,0.8s
TIGA Tifton 19.26 313 P P **01 09 32.3 +0.6**
BIRD Birdtown, Kers 19.50 325 P Pn **01 09 35.2 -0.5**
BBAC Balboa, Cauca 19.59 211 P Pn **01 09 40.4 +3.3**
comp=Z,22nm,0.7s
W57A Gilead 19.64 327 P P **01 09 35.5 -0.4**
154A Montrose 19.65 317 P Pn **01 09 37.7 +0.2**
154A IAmb IAmb 01 09 58.5
comp=Z,36nm,0.8s
JSC Jenkinsville 19.67 323 P P **01 09 36.7 +0.5**
JSC IAmb IAmb 01 09 57.3
comp=Z,28nm,0.8s
V58A Windy Hill, Pi 19.72 330 P P **01 09 37.1 +0.4**
CRUC La Cruz 19.84 210 P Pn **01 09 44.2 +4.0**
MDP Montagnes des 19.84 133 P P **01 09 37.8 -0.4**
comp=Z,0.7nm,0.3s,baz=324,slow=8.4,SNR=11
MDP LR LR 01 18 13.2
comp=Z,104nm,19.5s,baz=12,slow=40
comp=Z,3.1nm,0.6s
T57A Hurt 20.77 332 IAmb IAmb 01 10 00.2
comp=Z,14nm,0.7s
U56A King 20.77 329 P P **01 09 47.8 -0.4**
CMBC Cumbal 20.80 211 P Pn 01 09 54.5 +2.8
BG3 Lake Jocassee 21.14 322 IAmb IAmb 01 10 04.2
comp=Z,20nm,0.5s
S57A Dark Hollow, R 21.28 334 IAmb IAmb 01 09 59.2
comp=Z,20nm,0.9s
250A Grady 21.45 311 P P **01 09 56.0 +0.4**
BLA Blacksburg 21.48 330 P P **01 09 56.2 +0.3**
BLA IAmb IAmb 01 10 10.9
comp=Z,28nm,0.7s
V53A Saluda 21.55 323 IAmb IAmb 01 10 20.1
comp=Z,26nm,1.0s
U54A Nelsons Funny 21.64 327 P P **01 09 58.3 +0.7**
U54A IAmb IAmb 01 10 33.4
comp=Z,16nm,0.6s
PETF Flores 21.67 268 P P **01 09 58.1 +0.1**
PETF IAmb IAmb 01 10 00.1
comp=Z,24nm,0.8s
MTO3 Montecristo 21.73 261 P P **01 09 59.3 +0.4**
TKL Tuckaleechee C 22.09 322 LR LR 01 18 09.6
comp=Z,100nm,21.5s,baz=151,slow=35
R55A Marlinton 22.22 332 P P **01 10 04.5 +0.6**
R55A IAmb IAmb 01 10 20.7
comp=Z,26nm,0.7s
CPCT Cooper Cave 22.39 320 P P **01 10 06.2 +0.5**
CPCT IAmb IAmb 01 10 22.5
comp=Z,42nm,1.4s
TEFE Tefe 22.56 173 *e*P P **01 10 08.6 +1.1**
TZTN Tazewell 22.59 324 IAmb IAmb 01 10 43.3
comp=Z,20nm,0.8s
PIAT Ana Tenorio 22.70 210 P P **01 10 13.4 +3.9**
W50A Signal Mountai 22.72 319 IAmb IAmb 01 10 28.1
comp=Z,14nm,0.7s
MACA Manacapuru-AM 22.99 163 P P **01 10 11.2 -0.8**
MACA Manacapuru-AM 22.99 163 *e*P P **01 10 11.6 -0.4**
Z47A Carrollton 23.39 311 P P **01 10 16.6 +0.6**
Z47A IAmb IAmb 01 10 19.0
comp=Z,29nm,0.9s
346A Big Creek Wild 23.55 306 P P **01 10 18.8 +1.3**
T50A Nancy 23.66 323 P P **01 10 18.7 +0.1**
Q52A Bidwell 23.76 330 IAmb IAmb 01 10 40.7
comp=Z,27nm,1.1s
V48A Smith Brothers 24.01 318 P P **01 10 22.6 +0.7**
R50A Paris 24.28 326 P P **01 10 24.6 +0.2**
R50A IAmb IAmb 01 10 26.9
comp=Z,11nm,0.8s
PLAL Pickwick Lake 24.37 315 P P **01 10 25.1 -0.1**
PLAL IAmb IAmb 01 10 27.2
comp=Z,18nm,0.7s
VBMS Vicksburg 24.71 307 P P **01 10 28.1 -0.3**
Y45A Yeager Farm, C 24.78 311 P P **01 10 29.2 +0.1**
WVT Waverly 24.89 317 P P **01 10 29.4 -0.6**
WVT IAmb IAmb 01 10 32.4
comp=Z,9.3nm,0.6s
OXF Oxford 25.03 312 P P **01 10 31.5 +0.3**
ITTB Itaituba 25.86 153 *e*P P **01 10 37.7 -1.2**
USIN University of 25.95 321 P P **01 10 39.2 -0.4**
CCAR Cane Creek 26.43 309 P P **01 10 44.9 +1.0**
CCAR IAmb IAmb 01 10 46.5
comp=Z,19nm,0.9s
CGM3 Cape Girardeau 26.77 317 P P **01 10 46.7 -0.2**
CGM3 IAmb IAmb 01 10 48.5
comp=Z,12nm,0.7s
WHAR Wooly Hollow 27.46 311 IAmb IAmb 01 10 59.1
comp=Z,17nm,1.2s
X40A Basin Creek Fa 27.47 309 IAmb IAmb 01 10 54.3
comp=Z,12nm,1.1s
CCM Cathedral Cave 28.23 317 P P **01 11 00.6 +0.6**
CCM IAmb IAmb 01 11 01.5
comp=Z,10nm,0.7s
ATAH Atahualpa 28.27 204 LR LR 01 23 29.7
comp=Z,73nm,20.7s,baz=31,slow=39
NPGB Novo Progresso 28.44 155 *e*P P **01 11 00.6 -1.5**
R40A Maddies Statio 29.03 317 IAmb IAmb 01 11 07.9
comp=Z,7.0nm,0.8s
HHAR Hobbs 29.11 312 P P **01 11 08.1 +0.1**
HHAR IAmb IAmb 01 11 09.7
comp=Z,8.9nm,0.7s
U38A Gravette 29.50 312 IAmb IAmb 01 11 12.7
comp=Z,10nm,1.4s
P40A Paris 29.60 319 IAmb IAmb 01 11 13.5
comp=Z,8.8nm,0.8s
N41A Harden Midland 29.61 322 IAmb IAmb 01 11 14.1
comp=Z,16nm,1.0s
435B Jarrell 29.84 299 P P **01 11 15.0 +0.5**
P38A Dawn 30.59 318 IAmb IAmb 01 11 22.1
comp=Z,6.4nm,0.7s
HNDO Hondo 30.96 296 IAmb IAmb 01 11 26.9
comp=Z,11nm,1.2s
PLPT Palo Pinto 31.03 302 IAmb IAmb 01 11 38.6
comp=Z,7.3nm,0.7s
JCT Junction City 31.61 297 IAmb IAmb 01 11 32.5
comp=Z,5.6nm,0.7s
CLDB Colider 31.79 158 *e*P P **01 11 30.5 -1.2**
ABTX Abilene, Hawle 32.04 301 P P **01 11 34.7 +0.8**
PDRB Porto dos Gac 32.17 160 *e*P P **01 11 33.7 -1.3**
VILB Vilhena 32.54 167 *e*P P **01 11 37.6 -0.8**
SN07 Snyder 07 33.18 302 IAmb IAmb 01 11 45.5
comp=Z,7.3nm,0.9s
SMWD Samnorwood 33.30 305 IAmb IAmb 01 11 46.3
comp=Z,11nm,1.1s
DKNS Dickens 33.38 303 IAmb IAmb 01 12 19.0
comp=Z,6.7nm,1.2s
SMTB Santa Maria do 33.81 143 *e*P P **01 11 48.2 -1.2**
MNHN Monahans 34.28 298 IAmb IAmb 01 11 56.5
comp=Z,5.4nm,0.7s
SNDB Serra Nova Dou 34.59 152 *e*P P **01 11 55.0 -1.1**
TXAR Lajitas Array 34.69 294 P P **01 11 57.9 +0.8**
comp=Z,4.6nm,0.7s,baz=110,slow=8.7,SNR=70
TXAR ScP **ScP 01 18 16.6 +1.6**
comp=Z,2.4nm,0.8s,baz=98,slow=4.4,SNR=22
comp=Z,4.6nm,0.7s
TX31 Lajitas Ar. Si 34.69 294 P **01 11 58.3 +1.2**
TX31 IAmb IAmb 01 11 59.6
comp=Z,7.1nm,0.8s
ALPN Alpine 34.83 296 IAmb IAmb 01 12 00.2
comp=Z,10nm,0.8s
ECSD EROS Data Cent 34.84 321 IAmb IAmb 01 11 59.5
comp=Z,8.0nm,0.8s
MSTX Muleshoe 34.94 302 IAmb IAmb 01 12 00.5
comp=Z,8.2nm,0.8s
LPAZ La Paz 35.13 182 P P **01 11 60.0 -1.5**
comp=Z,1.7nm,0.5s,baz=13,slow=6.0,SNR=6.8
LPAZ LR LR 01 27 58.2
comp=Z,51nm,19.2s,baz=42,slow=39
comp=Z,1.7nm,0.5s
LPAZ La Paz 35.13 182 *e*P P **01 11 60.0 -1.5**
PTLB Pontes e Lacer 35.19 166 P P **01 11 59.2 -2.1**
PTLB Pontes e Lacer 35.19 166 *e*P P **01 11 59.5 -1.8**
PECS Pecos 35.22 298 IAmb IAmb 01 12 03.7
comp=Z,6.0nm,0.8s
SIV San Ignacio 35.34 170 LR LR 01 27 23.2
comp=Z,116nm,18.1s,baz=93,slow=38
SCHQ Schefferville 35.72 0 P P **01 12 06.7 +1.2**
comp=Z,25nm,0.8s,baz=197,slow=8.0,SNR=5.3
SCHQ LR LR 01 24 50.1
comp=Z,724nm,19.4s,baz=158,slow=33
comp=Z,25nm,0.8s
SALV Santo Antonio 36.53 161 *e*P P **01 12 11.5 -1.3**
PB16 IPOC Station P 37.23 184 IAmb IAmb 01 12 18.1
comp=Z,8.8nm,0.7s
ARAG Araguaiana, MT 37.71 155 *e*P P **01 12 21.6 -1.2**
ANMO Albuquerque 38.13 303 P P **01 12 26.3 -0.3**
ANMO Albuquerque 38.13 303 LR LR 01 31 27.1
comp=Z,90nm,18.8s,baz=218,slow=41
SDBA SAO DESIDERIO 38.21 143 *e*P P **01 12 26.2 -0.9**
PP1B Ponte de Pedra 38.38 161 *e*P P **01 12 26.2 -2.3**
GO01 Chusmiza 38.53 183 IAmb IAmb 01 12 41.5
comp=Z,12nm,0.7s
ULM Lac du Bonnet 38.60 330 P P **01 12 29.7 -0.3**
comp=Z,3.3nm,0.7s,baz=133,slow=8.9,SNR=6.2
ULM LR LR 01 28 15.4
comp=Z,81nm,21.6s,baz=164,slow=36
comp=Z,3.3nm,0.7s
PB11 IPOC Station P 38.65 184 P P **01 12 28.0 -2.9**
BDFB Brasilia 39.30 150 P P **01 12 34.7 -1.7**
BDFB Brasilia 39.30 150 P P **01 12 35.2 -1.2**
comp=Z,4.9nm,0.6s,baz=301,slow=9.8,SNR=7.3
BDFB LR LR 01 29 24.5
comp=Z,92nm,19.8s,baz=325,slow=37
comp=Z,4.9nm,0.6s
RCBR Riachuelo 39.51 126 LR LR 01 34 02.3
comp=Z,14nm,18.1s,baz=250,slow=44
PB01 IPOC Station P 39.91 183 IAmb IAmb 01 12 39.1
comp=Z,13nm,0.7s
LPIG La Paz 40.30 285 LR LR 01 31 11.0
comp=Z,80nm,20.7s,baz=48,slow=39
BDQN Bodoquena, MS 40.57 165 *e*P P **01 12 45.5 -1.2**
JANB Januaria 40.70 145 *e*P P **01 12 46.0 -1.9**
PV02 Paradox Valley 40.75 307 IAmb IAmb 01 13 18.6
comp=Z,10nm,1.1s
PV12 Saucer Basin, 40.83 307 IAmb IAmb 01 12 55.3
comp=Z,8.6nm,0.8s
AQDB Aquidauana 40.87 163 *e*P P **01 12 47.9 -1.3**
PV18 Skein Mesa, Pa 40.89 307 IAmb IAmb 01 12 51.8
comp=Z,7.5nm,0.8s
PV20 West Nyswonger 40.96 307 IAmb IAmb 01 12 56.6
comp=Z,9.5nm,0.9s
IPMB Ipameri, GO 41.26 152 *e*P P **01 12 50.5 -2.0**
PMNB Patos De Minas 42.55 150 *e*P P **01 13 01.1 -2.0**
PDAR Pinedale Array 42.76 313 P P **01 13 06.7 +1.8**
comp=Z,0.7nm,0.6s,baz=113,slow=7.7,SNR=7.2
comp=Z,0.7nm,0.6s
AMBA Amambai (Brazi 43.39 164 *e*P P **01 13 08.0 -1.7**
RLMT Red Lodge 43.43 316 IAmb IAmb 01 13 12.8
comp=Z,6.8nm,0.7s
DIAM Diamantina, MG 43.72 147 *e*P P **01 13 11.0 -1.6**
BB19B Bebedouro 43.86 154 *e*P P **01 13 12.1 -1.5**
GUA01 Guaratinga, BA 44.49 141 *e*P P **01 13 17.9 -0.7**
FRB Frobisher Bay 44.67 359 LR LR 01 30 47.0
comp=Z,74nm,19.9s,baz=120,slow=34
V12A Nelson 45.01 302 P P **01 13 23.6 +0.8**
V12A IAmb IAmb 01 13 29.8
comp=Z,9.3nm,1.0s
LDASE Londrina, Braz 45.01 159 *e*P P **01 13 20.2 -2.6**
IRM Iron Mountain 45.04 300 P P **01 13 22.7 -0.3**
IRM IAmb IAmb 01 13 25.0
comp=Z,18nm,1.4s
SJPY San Joaquin 45.10 166 *e*P P **01 13 21.8 -1.6**
BOZ Bozeman (W) 45.15 316 IAmb IAmb 01 14 03.9
comp=Z,5.9nm,0.9s
DANC Danby, Needles 45.29 300 P P **01 13 24.1 -0.8**
SJMB Sao Joao De Ma 45.38 144 *e*P P **01 13 23.4 -2.4**
BSCB Bom Sucesso 45.46 150 *e*P P **01 13 25.3 -1.1**
FRTB Fartura 45.52 157 *e*P P **01 13 24.9 -1.9**
MTPC Mountain Pass 45.54 301 IAmb IAmb 01 13 26.8
comp=Z,12nm,1.0s
PFO Pinyon Flats O 46.06 299 LR LR 01 37 42.6
comp=Z,40nm,18.5s,baz=127,slow=42
CPUP Villa Florida 46.12 168 P P **01 13 28.5 -2.9**
comp=Z,2.8nm,0.6s,baz=44,slow=7.6,SNR=27
CPUP LR LR 01 33 57.3
comp=Z,16nm,18.2s,baz=211,slow=38
comp=Z,2.8nm,0.6s
RIB01 Linhares ES 46.31 144 *e*P P **01 13 32.3 -0.8**
HLID Hailey 46.38 313 P P **01 13 34.3 +0.6**
HLID IAmb IAmb 01 13 51.4
comp=Z,9.5nm,0.9s
QSM Queen of Sheba 46.66 302 P P **01 13 37.5 +1.7**
QSM IAmb IAmb 01 13 38.7
comp=Z,5.5nm,0.8s
MSO Missoula 47.09 317 P P **01 13 38.9 -0.1**
MPMC Manual Prospec 47.18 302 P P **01 13 40.1 +0.1**
MPMC IAmb IAmb 01 13 42.8
comp=Z,3.2nm,0.8s
NV11 Mina Array Sit 48.03 305 IAmb IAmb 01 13 49.0
comp=Z,6.1nm,0.8s
NVAR Mina Array Bea 48.15 305 P P **01 13 48.8 +1.3**
comp=Z,2.4nm,0.7s,baz=82,slow=5.8,SNR=9.5
comp=Z,2.4nm,0.7s
SFJD Kangerlussuaq 49.10 9 LR LR 01 33 37.6
comp=Z,41nm,20.0s,baz=116,slow=35
PSAL Palomas, Salto 50.69 169 *e*P P **01 14 04.8 -1.8**
YKA Yellowknife Ar 54.23 335 P P **01 14 32.4 -0.1**
comp=Z,1.0nm,0.6s,baz=111,slow=6.3,SNR=5.7
YKA LR LR 01 37 52.3
comp=Z,94nm,20.3s,baz=124,slow=36
comp=Z,1.0nm,0.6s
RES Resolute Bay 57.63 352 LR LR 01 38 50.8
comp=Z,35nm,20.4s,baz=34,slow=35
ESDC Sonseca Array 57.64 55 P P **01 14 59.1 +1.6**
ESDC Sonseca Array 57.64 55 P P **01 14 58.6 +1.2**
comp=Z,4.1nm,0.7s,baz=273,slow=7.4,SNR=28
comp=Z,4.1nm,0.7s
DLBC Dease Lake 59.79 327 P P **01 15 14.4 +2.3**
comp=Z,36nm,1.0s,baz=74,slow=9.7,SNR=4.0
EKA Eskdalemuir Ar 59.80 36 P P **01 15 12.6 +0.5**
comp=Z,0.9nm,0.6s,baz=290,slow=5.2,SNR=6.4
comp=Z,0.9nm,0.6s
DBIC Dimbokro 61.72 93 P P **01 15 26.2 +0.4**
comp=Z,2.8nm,0.6s,baz=86,slow=9.1,SNR=1.7
DBIC LR LR 01 36 59.9
comp=Z,52nm,21.8s,baz=320,slow=31
comp=Z,2.8nm,0.6s
TORD Torodi Ar. Bea 66.09 84 P P **01 15 54.6 0.0**
comp=Z,2.0nm,0.8s,baz=293,slow=6.5,SNR=8.1
G26K Porcupine Rive 67.38 335 P P **01 16 02.2 +0.3**
G26K IAmb IAmb 01 16 35.8
comp=Z,5.5nm,1.2s
TAM Tamanrasset 67.39 73 P P **01 16 03.1 +0.1**
NOA NORSAR Array B 67.91 31 P P **01 16 06.9 +1.4**
comp=Z,1.1nm,0.9s,baz=270,slow=6.4,SNR=3.8
comp=Z,1.1nm,0.9s
F25K Christian Rive 68.14 336 P P **01 16 07.8 +0.9**
ILAR Eielson Array 68.55 333 P P **01 16 09.6 +0.3**
comp=Z,1.1nm,0.8s,baz=106,slow=3.6,SNR=10.0
ILAR LR LR 01 48 47.6
comp=Z,109nm,18.4s,baz=87,slow=38
comp=Z,1.1nm,0.8s
HDA Harding Lake 68.57 333 P P **01 16 09.7 +0.2**
HDA IAmb IAmb 01 16 15.9
comp=Z,2.7nm,0.9s
G24K Hadweenzic Riv 68.83 335 P P **01 16 11.8 +0.7**
G24K IAmb IAmb 01 16 24.7
comp=Z,6.0nm,1.1s
CLL Collm 69.28 41 *e*P P **01 16 14.0 -0.1**
ARCES ARCESS Array B 73.25 22 P P **01 16 38.1 +0.3**
comp=Z,2.4nm,0.8s,baz=305,slow=4.3,SNR=6.5
comp=Z,2.4nm,0.8s
FINES FINESS Array B 75.01 30 P P **01 16 48.6 +0.5**
comp=Z,1.9nm,0.9s,baz=252,slow=3.8,SNR=4.9
comp=Z,1.9nm,0.9s
TSUM Tsumeb 91.41 110 LR LR 01 52 11.6
comp=Z,37nm,20.2s,baz=339,slow=31
MA2 Magadan 95.75 342 LR LR 02 06 23.6
comp=Z,29nm,18.8s,baz=124,slow=38
STKA Stephens Creek 151.14 238 PKPbc **PKPbc 01 25 00.4 -0.3**
comp=Z,1.8nm,0.9s,baz=348,slow=9.3,SNR=3.6
WRA Warramunga Arr 159.69 264 PKP **PKPdf 01 25 06.6 0.0**
comp=Z,0.8nm,1.0s,baz=65,slow=1.4,SNR=3.4
ASAR Alice Springs 159.83 253 PKPab **PKPab 01 25 45.9 0.0**
comp=Z,1.5nm,0.8s,baz=95,slow=4.8,SNR=4.3

IDC 25 01:13:08.7±1.1, 16°59S×176°23W, h0km, mb3.9/4, mbtmp3.9/4, MS3.6/15, Error ellipse: s-maj=53.5km s-min=29.0km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**16.23**	**109**	LR	LR	01 21 34.9	
	comp=Z,155nm,21.9s,baz=281,slow=31						
URZ	**Urewera**	**22.37**	**194**	LR	LR	01 25 40.3	
	comp=Z,233nm,18.2s,baz=9.5,slow=34						
HNR	**Honiara**	**24.26**	**284**	LR	LR	01 26 37.3	
	comp=Z,119nm,18.5s,baz=106,slow=33						
PPT	**Papeete**	**25.49**	**96**	LR	LR	01 26 08.8	
	comp=Z,73nm,19.8s,baz=206,slow=31						
RPZ	**Rata Peaks**	**29.11**	**199**	LR	LR	01 30 04.3	
	comp=Z,178nm,18.4s,baz=92,slow=35						
PMG	**Port Moresby**	**36.34**	**277**	LR	LR	01 33 41.9	
	comp=Z,107nm,18.7s,baz=98,slow=34						
JAY	**Jayapura**	**44.58**	**284**	LR	LR	01 38 11.6	
	comp=Z,52nm,19.8s,baz=304,slow=34						
WRA	**Warramunga Arr**	**46.93**	**258**	P	P	01 21 41.2	-0.3
	0.9nm,0.8s,baz=94,slow=8.6,SNR=5.1						
WRA				LR	LR	01 40 00.4	
	comp=Z,107nm,19.8s,baz=114,slow=34						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**47.16**	**253**	P	P	01 21 42.8	-0.6
	4.6nm,0.8s,baz=86,slow=8.3,SNR=43						
ASAR				LR	LR	01 39 33.2	
	comp=Z,71nm,20.8s,baz=102,slow=34						
	4.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**55.31**	**259**	LR	LR	01 45 44.7	
	comp=Z,77nm,18.4s,baz=142,slow=35						
VNDA	**Vanda**	**61.93**	**185**	LR	LR	01 50 04.5	
	comp=Z,14nm,18.4s,baz=5.0,slow=36						
QSPA	**South Pole Qui**	**73.46**	**180**	P	P	01 24 43.3	+0.5
	1.2nm,0.8s,baz=32,slow=3.4,SNR=4.0						
	1.2nm,0.8s						
BBB	**Bella Bella**	**80.18**	**28**	LR	LR	01 52 46.3	
	comp=Z,49nm,21.3s,baz=24,slow=30						
TXAR	**Lajitas Array**	**83.53**	**57**	P	P	01 25 38.6	-0.5
	0.2nm,0.4s,baz=294,slow=4.7,SNR=19						
	0.2nm,0.4s						
SNAA	**Sanae**	**91.84**	**178**	LR	LR	02 02 19.6	
	comp=Z,21nm,22.0s,baz=232,slow=32						
JTS	**Las Juntas de**	**94.09**	**81**	LR	LR	02 00 48.0	
	comp=Z,28nm,18.4s,baz=137,slow=30						
ATAH	**Atahualpa**	**95.43**	**99**	LR	LR	02 03 37.0	
	comp=Z,18nm,18.3s,baz=329,slow=32						
BRTR	**Keskin Array B**	**145.28**	**318**	PKPbc	PKPdf	01 32 49.2	+0.2
	0.8nm,0.9s,baz=72,slow=5.2,SNR=4.4						

*RSPR **25** 01:14:40.5, 19.06N×67.11W, h10km±6km*
*SDD **25** 01:14:41.7±1.6, 18.99N×67.15W, h17km±68km, MD3.5, ML2.5, MW2.9*

ISC 25 01:14:40.6±1.2, 19.00N±0.06×67.09W±0.04, h29km, n39, σ0.8s75/43, 6C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.53**	**182**	*e*P	**Pb**	**01 14 50.7**	**-0.8**
AGPR	**Aguadilla, PR**	**0.53**	**182**	*e*S	**Sb**	**01 14 59.7**	**+0.8**
AGPR	**Aguadilla, PR**	**0.53**	**182**	*e*Pg	**Pb**	**01 14 51.6**	**+0.2**
AGPR				IAML		01 15 01.6	
	comp=N,313nm,0.2s						
IDE	**Isla Desecheo**	**0.71**	**211**	*e*P	**Pb**	**01 14 53.6**	**-0.8**
IDE	**Isla Desecheo**	**0.71**	**211**	*e*S	**Sb**	**01 15 04.0**	**+0.1**
AOPR	**Arecibo Observ**	**0.72**	**154**	*e*P	**Pb**	**01 14 54.1**	**-0.6**
AOPR	**Arecibo Observ**	**0.72**	**154**	*e*S	**Sn**	**01 15 05.6**	**+0.5**
AOPR	**Arecibo Observ**	**0.72**	**154**	*e*Pg	**Pn**	**01 14 55.4**	**+0.5**
AOPR				IAML		01 15 26.8	
	comp=N,323nm,0.1s						
PRSN	**Puerto Rico Se**	**0.78**	**184**	*e*P	**Pn**	**01 14 55.4**	**-0.3**
PRSN	**Puerto Rico Se**	**0.78**	**184**	*e*S	**Sn**	**01 15 07.3**	**+1.0**
PRSN	**Puerto Rico Se**	**0.78**	**184**	*e*Pg	**Pn**	**01 14 55.1**	**-0.6**
PRSN				IAML		01 15 28.6	
	comp=N,511nm,0.2s						
LSP	**Las Mesas**	**0.82**	**179**	*e*P	**Pn**	**01 14 55.8**	**-0.4**
LSP	**Las Mesas**	**0.82**	**179**	*e*S	**Sb**	**01 15 07.0**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.82**	**154**	*e*P	**Pn**	**01 14 55.6**	**-0.7**
UUPR	**Utuado, UPR, P**	**0.82**	**154**	*e*S	**Sb**	**01 15 06.8**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.99**	**181**	*e*P	**Pn**	**01 14 58.2**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.99**	**181**	*e*S	**Sn**	**01 15 12.3**	**+0.8**
CRPR	**Cabo Rojo, PR**	**0.99**	**181**	*e*Pg	**Pn**	**01 14 58.5**	**0.0**
CRPR				IAML		01 15 35.0	
	comp=N,88nm,0.6s						
MLPR	**Magueyes Islan**	**1.02**	**177**	*e*P	**Pn**	**01 14 57.9**	**-1.1**
MLPR	**Magueyes Islan**	**1.02**	**177**	*e*S	**Sn**	**01 15 12.5**	**+0.1**
MLPR	**Magueyes Islan**	**1.02**	**177**	*e*Pg	**Pn**	**01 14 59.0**	**0.0**
MLPR				*e*Sg	**Sn**	**01 15 12.7**	**+0.3**
MLPR				IAML		01 15 35.5	
	comp=N,21nm,0.8s						
CELP	**Cerrillos**	**1.04**	**152**	*e*P	**Pn**	**01 14 58.5**	**-0.8**
CELP	**Cerrillos**	**1.04**	**152**	*e*S	**Sb**	**01 15 13.8**	**+0.6**
CELP	**Cerrillos**	**1.04**	**152**	*e*Pg	**Pb**	**01 15 00.3**	**+0.2**
CELP				*e*Sg	**Sb**	**01 15 13.9**	**+0.6**
CELP				IAML		01 15 29.4	
	comp=N,133nm,0.4s						
OBIP	**Obispado Ponce**	**1.06**	**154**	*e*P	**Pn**	**01 14 59.7**	**+0.2**
OBIP	**Obispado Ponce**	**1.06**	**154**	*e*S	**Sb**	**01 15 14.3**	**+0.6**
GCPR	**Guaynabo City**	**1.18**	**125**	*e*P	**Pn**	**01 15 00.6**	**-0.5**
GCPR	**Guaynabo City**	**1.18**	**125**	*e*S	**Sn**	**01 15 16.3**	**+0.1**
SJG	**San Juan**	**1.26**	**134**	*e*P	**Pn**	**01 15 02.5**	**+0.3**
SJG	**San Juan**	**1.26**	**134**	*e*S	**Sn**	**01 15 17.1**	**-1.1**
SJG	**San Juan**	**1.26**	**134**	*e*Pg	**Pb**	**01 15 04.4**	**+0.8**
PDPR	**Patillas Dam,**	**1.41**	**134**	*e*P	**Pn**	**01 15 04.3**	**0.0**

PDPR	**Patillas Dam,**	**1.41**	**134**	*e*S	**Sn**	**01 15 21.0**	**-0.9**
HIDR	**Higuey Centre**	**1.59**	**256**	*e*Pg	**Pn**	**01 15 07.2**	**+0.4**
HIDR				IAML		01 15 50.7	
	comp=N,69nm,0.2s						
MIDR	**Miches**	**1.85**	**270**	*e*Pg	**Pn**	**01 15 11.4**	**+1.0**
MIDR				*e*Sg	**Sb**	**01 15 36.5**	**-0.1**
MIDR				IAML		01 15 37.3	
	comp=N,22nm,0.5s						
SMDR	**Samana, DR**	**2.00**	**279**	*e*Pg	**Pb**	**01 15 15.5**	**-0.8**
SMDR				IAML		01 15 56.0	
	comp=N,34nm,0.7s						
HATOM	**Hato Mayor del**	**2.18**	**265**	*e*Pg	**Pn**	**01 15 17.4**	**+2.5**
HATOM				*e*Sg	**Sb**	**01 15 45.5**	**-0.4**
HATOM				IAML		01 16 08.2	
	comp=N,24nm,0.4s						
ABDR	**Alto Bandera**	**3.35**	**267**	*e*Pg	**Pb**	**01 15 38.1**	**-1.4**
ABDR				IAML		01 16 29.1	
	comp=N,26nm,1.3s						
SODR	**Sosua Marina B**	**3.37**	**283**	*e*Pg	**Pb**	**01 15 38.9**	**-0.8**
SODR				IAML		01 16 39.4	
	comp=N,76nm,2.5s						

TIR **25** *01:24:02.2, 41˚.59N×19˚.55E, h37km±2km, Ml3.8/6*
MOS **25** *01:24:03.0±1.1, 41˚.40N×19˚.42E, h17km, mb4.6/6, Error ellipse: s-maj=4.8km s-min=3.6km az=78.5*
NEIC **25** *01:24:03.5±2.0, 41˚.30N±0˚.06×19˚.51E±0˚.07, h10km±1km, mb4.4/21, Error ellipse: s-maj=10.2km s-min=8.8km az=192.0*
SOF **25** *01:24:04.6, 41˚.38N±0˚.02×19˚.4E±0˚.1, h28km±15km, MD4.5/4*
PDG **25** *01:24:04.6±0.6, 41˚.32N×19˚.43E, h18km±1km, MD4.1/11, ML4.0/12, Error ellipse: s-maj=1.1km s-min=2.2km az=0.0*
THE **25** *01:24:05.3, 41˚.N±6˚×1˚.9E±˚, h89km±17km, M3.6/39, MLh3.6/39*
BEO **25** *01:24:05.2±0.4, 41˚.34N×19˚.58E, h11km±2km, ML3.9/21*
MED_RC **25** *01:24:05.0±0.6, 41˚.33N×19˚.39E, h16km±5km, MW4.1/7, Moment Tensor Solution.Mantle waves: s7,c7; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr0.22±.46; Mθθ0.28±.27; Mϕϕ-0.50±.27; Mrθ1.41±.55; Mrϕ1.07±.22; Mθϕ-0.82±.61; Best double couple: M₀1.95000×10¹⁵ NP1:ϕs13.00000°, δ32.00000°, λ171.00000°. NP2: ϕs111.00000°, δ85.00000°, λ58.00000°. Principal axes: T 1.6800, Plg41.0000°, Azm351.0000°; N 0.5300, Plg32.0000°, Azm114.0000°; P -2.2100, Plg33.0000°, Azm227.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
SKO **25** *01:24:05.3, 41˚.28N×19˚.54E, h8km, ML3.8*
RHSSO **25** *01:24:06.3±0.7, 41˚.41N×19˚.30E, h8km±3km, ML4.2/10*
IDC **25** *01:24:08.8±1.5, 41˚.40N×19˚.49E, h54km±14km, mb3.7/13, mbtmp3.9/26, ML3.4/11, MS3.3/9, Error ellipse: s-maj=13.1km s-min=11.2km az=174.0*
PRU **25** *01:24:08.8, 41˚.34N×18˚.98E, h0km, M4.4*
NAO **25** *01:24:20.7, 41˚.39N×19˚.48E, h33km, MB3.3*
ISC 25 01:24:04.8±0.8, **41˚.37N**±0˚.02×**19˚.48E**±0˚.02, **h19**km±2km, **n392**, σ1**s49**/490, **mb4.5**/25, **MS3.3**/5, **52C-24D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.29**	**94**	⇓Pg	**Pg**	**01 24 10.0**	**-1.3**
TIR				Sg	**Sg**	**01 24 14.3**	**-1.3**
TIR				AML	AML	01 24 15.2	
	36nm,0.3s						
ULC	**Ulcinj**	**0.62**	**344**	P	**Pg**	**01 24 17.0**	**-0.1**
ULC				S	**Sn**	**01 24 28.0**	**-0.1**
ULC	**Ulcinj**	**0.62**	**344**	⇓*i*Pg	**Pg**	**01 24 17.1**	**-0.1**
ULC				*i* Sg	**Sn**	**01 24 27.7**	**-0.4**
DRME	**Dracevica, Mon**	**0.85**	**345**	*e*Pg	**Pn**	**01 24 22.2**	**+0.5**
DRME				*e*Sg	**Sn**	**01 24 37.5**	**+3.8**
DRME	**Dracevica, Mon**	**0.85**	**345**	⇓*i*Pg	**Pb**	**01 24 21.1**	**+0.2**
DRME				*i* Sg	**Sn**	**01 24 35.5**	**+1.8**
VLO	**Vlora**	**0.90**	**179**	⇑Pg	**Pn**	**01 24 23.2**	**+0.8**
VLO				Sg	**Sn**	**01 24 37.9**	**+3.0**
VLO				AML	AML	01 24 42.2	
	26nm,0.6s						
VLO	**Vlora**	**0.90**	**179**	P	**Pn**	**01 24 23.3**	**+0.8**
VLO				S	**Sn**	**01 24 39.4**	**+4.6**
VLO	**Vlora**	**0.90**	**179**	P	**Pn**	**01 24 23.2**	**+0.8**
BUM	**Brajici-Budva**	**1.03**	**335**	⇑*i*Pg	**Pg**	**01 24 25.1**	**+0.3**
BUM				*i* Sg	**Sn**	**01 24 41.9**	**+3.7**
OHR	**Ohrid**	**1.03**	**104**	*i* Pg	**Pb**	**01 24 23.2**	**-0.8**
OHR				*i* Sg	**Sb**	**01 24 39.3**	**+2.1**
OHR				*e*Lg	Lg	01 24 39.6	
	comp=N,3μm,0.9s						
OHR				*e*Lg	Lg	01 24 42.4	
	comp=E,2μm,0.5s						
PDG	**Podgorica**	**1.07**	**351**	Pn	**Pb**	**01 24 25.0**	**+0.3**
PDG	**Podgorica**	**1.07**	**351**	*e*Pg	**Pg**	**01 24 25.9**	**+0.3**
PDG				*e*Sg	**Sn**	**01 24 42.7**	**+3.5**
PDG	**Podgorica**	**1.07**	**351**	⇓*i*Pg	**Pb**	**01 24 24.4**	**-0.4**
PDG				*i* Sg	**Sn**	**01 24 42.9**	**+3.7**
KBN	**Korca**	**1.24**	**126**	⇑Pg	**Pn**	**01 24 27.0**	**-0.2**
KBN				Sg	**Sb**	**01 24 44.2**	**+1.0**
KBN				AML	AML	01 24 47.6	
	comp=E,5.7nm,0.8s						
KBN	**Korca**	**1.24**	**126**	P	**Pn**	**01 24 28.3**	**+1.2**
KBN				S	**Sg**	**01 24 46.8**	**+1.7**
KBN	**Korca**	**1.24**	**126**	P	**Pn**	**01 24 28.2**	**+1.0**
KBN				S	**Sg**	**01 24 46.7**	**+1.7**
CEME	**Cevo**	**1.25**	**341**	⇑*i*Pg	**Pb**	**01 24 28.2**	**+0.4**
CEME				*i* Sg	**Sg**	**01 24 48.1**	**+2.8**
PVY	**Plav**	**1.28**	**16**	*e*Pg	**Pb**	**01 24 28.9**	**+0.6**
PVY	**Plav**	**1.28**	**16**	⇑*i*Pg	**Pn**	**01 24 28.4**	**+0.6**
PVY				*i* Sg	**Sg**	**01 24 49.9**	**+3.7**
HCY	**Herceg Novi**	**1.30**	**326**	⇑*i*Pg	**Pg**	**01 24 29.9**	**-0.1**
HCY				*i* Sg	**Sg**	**01 24 49.8**	**+2.8**
NKME	**Niksic**	**1.45**	**345**	⇑*i*Pg	**Pb**	**01 24 31.9**	**+0.7**
NKME				*i* Sg	**Sg**	**01 24 52.9**	**+1.2**
KOME	**Kolasin**	**1.48**	**1**	*e*Pg	**Pg**	**01 24 32.9**	**-0.5**
KOME				*e*Sg	**Sg**	**01 24 54.8**	**+2.1**
KOME	**Kolasin**	**1.48**	**1**	⇑*i*Pg	**Pb**	**01 24 32.0**	**+0.2**
KOME				*i* Sg	**Sg**	**01 24 53.8**	**+1.1**
BEY	**Berane**	**1.53**	**12**	*e*Pg	**Pb**	**01 24 33.2**	**+0.5**
IVA	**Berane**	**1.53**	**12**	⇑*i*Pn	**Pb**	**01 24 32.7**	**0.0**
IVA				*i* Sn	**Sg**	**01 24 55.4**	**+1.0**
TREB	**Trebinje**	**1.59**	**328**	*e*Pg	**Pb**	**01 24 33.2**	**-0.3**
TREB				*e*Sg	**Sb**	**01 24 53.0**	**-0.2**
TREB	**Trebinje**	**1.59**	**328**	*e*Pn	**Pb**	**01 24 33.5**	**0.0**
TREB				*e*Sg	**Sg**	**01 24 57.3**	**+1.3**
KEK	**Kerkira**	**1.67**	**171**	Pn	**Pn**	**01 24 33.2**	**+0.1**
BRY	**Bratogost**	**1.68**	**336**	⇓*i*Pn	**Pb**	**01 24 34.8**	**-0.4**
BRY				*i* Sn	**Sg**	**01 24 58.5**	**-0.6**
PENT	**Pentalofos**	**1.72**	**132**	P	**Pn**	**01 24 36.0**	**+2.1**
UPM	**Unac-Piva**	**1.88**	**347**	⇓*i*Pn	**Pb**	**01 24 38.8**	**+0.1**
UPM				*i* Sn	**Sg**	**01 25 03.7**	**-1.8**
NOCI	**Noci**	**1.91**	**253**	⇓Pn	**Pn**	**01 24 36.5**	**+0.1**
NOCI				Sn	**Sb**	**01 25 03.7**	**+1.1**
NOCI				AML	AML	01 25 17.4	
	comp=E,6.4nm,0.4s						
KLINJ	**Klinje**	**1.92**	**340**	*e*Pn	**Pn**	**01 24 37.2**	**+0.7**
KLINJ				*e*Sn	**Sb**	**01 25 02.0**	**-0.8**
SJES	**Sjenica**	**1.93**	**11**	*e*Pg	**Pb**	**01 24 39.7**	**+0.3**
SJES				*e*Sg	**Sg**	**01 25 06.3**	**-0.6**
IGT	**Igoumenitsa**	**1.95**	**160**	Pn	**Pn**	**01 24 38.4**	**+1.5**
IGT				Sn	**Sb**	**01 25 03.7**	**+0.2**
IGT	**Igoumenitsa**	**1.95**	**160**	P	**Pn**	**01 24 37.4**	**+0.6**
IGT				S	**Sn**	**01 25 03.1**	**+2.3**
IGT	**Igoumenitsa**	**1.95**	**160**	*i* Pn	**Pn**	**01 24 38.6**	**+1.8**
IGT				*i* Sn	**Sb**	**01 25 05.4**	**+1.8**
IGT	**Igoumenitsa**	**1.95**	**160**	*e*Pg	**Pn**	**01 24 38.5**	**+1.7**
STON	**Ston**	**2.00**	**319**	⇑*i*Pn	**Pn**	**01 24 38.6**	**+1.0**
STON				*e*Sn	**Sn**	**01 25 02.4**	**+0.3**
STON	**Ston**	**2.00**	**319**	*e*Pn	**Pn**	**01 24 38.9**	**+1.3**
JAN	**Janina**	**2.00**	**148**	P	**Pn**	**01 24 39.4**	**+1.7**
JAN	**Janina**	**2.00**	**148**	P	**Pn**	**01 24 39.3**	**+1.7**
KZN	**Kozani**	**2.04**	**121**	P	**Pn**	**01 24 39.9**	**+1.7**
KZN				S	**Sn**	**01 25 05.7**	**+2.5**
KZN	**Kozani**	**2.04**	**121**	P	**Pn**	**01 24 39.8**	**+1.7**
KZN				S	**Sn**	**01 25 05.6**	**+2.5**
PRMD	**Pramanda**	**2.21**	**146**	P	**Pn**	**01 24 42.6**	**+2.0**
SELS	**Selova**	**2.21**	**33**	*e*Pg	**Pn**	**01 24 42.0**	**+1.4**
SELS				*e*Sg	**Sb**	**01 25 10.9**	**-0.4**
MATE	**Matera**	**2.22**	**252**	⇓P	**Pn**	**01 24 41.2**	**+0.6**
KTI	**Kastanea**	**2.23**	**115**	P	**Pn**	**01 24 42.4**	**+1.6**
RUDO	**Rudo**	**2.25**	**358**	*e*Pn	**Pb**	**01 24 43.3**	**-1.5**
RUDO				*e*Sn	**Sn**	**01 25 10.5**	**+2.2**
RUDO	**Rudo**	**2.25**	**358**	*e*Pn	**Pb**	**01 24 43.8**	**-1.0**
BARS	**Barje**	**2.26**	**49**	*i* Pn	**Pn**	**01 24 42.4**	**+1.2**
BARS				*i* Sn	**Sb**	**01 25 13.1**	**+0.4**
BARS	**Barje**	**2.26**	**49**	*e*Pn	**Pn**	**01 24 42.4**	**+1.2**
BARS				*e*Sn	**Sn**	**01 25 11.3**	**+2.7**
IVAS	**Ivanjica**	**2.26**	**13**	*e*Pn	**Pn**	**01 24 42.7**	**+1.5**
VAY	**Valandovo**	**2.33**	**90**	*i* Pn	**Pn**	**01 24 43.0**	**+0.9**
VAY				*i* Sn	**Sn**	**01 25 11.8**	**+1.6**
VAY				*e*Lg	Lg	01 25 12.6	
	comp=E,442nm,0.7s						
VAY				*e*Lg	Lg	01 25 12.6	
	comp=N,741nm,0.9s						
GOCS	**Kraljevo Serbi**	**2.42**	**25**	*e*Pn	**Pn**	**01 24 45.0**	**+1.5**
TETR	**Tetrakomo, Epi**	**2.44**	**145**	P	**Pn**	**01 24 45.8**	**+2.1**
BBLS	**Lazi&#263i**	**2.50**	**359**	*e*Pn	**Pn**	**01 24 46.3**	**+1.8**
BBLS				*e*Sn	**Sb**	**01 25 18.8**	**-0.7**
BOSS	**Bosilegrad**	**2.51**	**62**	*e*Pn	**Pn**	**01 24 45.8**	**+1.2**
BOSS				*e*Sn	**Sn**	**01 25 16.6**	**+1.9**
KNT	**Kendrikon**	**2.59**	**93**	P	**Pn**	**01 24 46.2**	**+0.5**
KNT	**Kendrikon**	**2.59**	**93**	*i* Pn	**Pn**	**01 24 46.1**	**+0.5**
KNT				*i* Sn	**Sn**	**01 25 16.5**	**-0.1**
KNT	**Kendrikon**	**2.59**	**93**	P	**Pn**	**01 24 46.2**	**+0.5**
LIT	**Litokhoron**	**2.62**	**118**	Pn	**Pn**	**01 24 46.1**	**0.0**
LIT	**Litokhoron**	**2.62**	**118**	P	**Pn**	**01 24 45.8**	**-0.3**
LIT	**Litokhoron**	**2.62**	**118**	*i* Pn	**Pn**	**01 24 46.8**	**+0.7**
LIT	**Litokhoron**	**2.62**	**118**	P	**Pn**	**01 24 46.1**	**0.0**
THL	**Klokotos Trika**	**2.64**	**132**	P	**Pn**	**01 24 47.3**	**+0.9**
THL				S	**Sn**	**01 25 19.6**	**+1.7**
TYRN	**Tyrnavos**	**2.67**	**127**	P	**Pn**	**01 24 47.4**	**+0.6**
GRUS	**Gruza**	**2.68**	**20**	*e*Pn	**Pn**	**01 24 48.6**	**+1.7**
TSLK	**Tsoukalades, L**	**2.70**	**160**	P	**Pn**	**01 24 47.7**	**+0.6**
LKD2	**Lefkada island**	**2.73**	**160**	⇑Pn	**Pn**	**01 24 47.6**	**0.0**
LKD2	**Lefkada island**	**2.73**	**160**	P	**Pn**	**01 24 47.6**	**0.0**
ACER	**Acerenza**	**2.73**	**259**	Pn	**Pn**	**01 24 48.0**	**+0.3**
THE	**Thessaloniki**	**2.74**	**104**	Pn	**Pn**	**01 24 48.1**	**+0.4**
THE				Sn	**Sn**	**01 25 21.9**	**+1.6**
THE				AML	AML	01 25 24.2	
	comp=N,1.0nm,0.8s						
THE	**Thessaloniki**	**2.74**	**104**	P	**Pn**	**01 24 48.0**	**+0.2**
THE				S	**Sn**	**01 25 23.3**	**+3.0**
THE	**Thessaloniki**	**2.74**	**104**	*i* Pn	**Pn**	**01 24 48.0**	**+0.2**
THE	**Thessaloniki**	**2.74**	**104**	P	**Pn**	**01 24 47.9**	**+0.2**
THE				S	**Sn**	**01 25 23.3**	**+3.0**
KKB	**Krupnik**	**2.78**	**79**	P	**Pn**	**01 24 49.4**	**+1.1**
KKB				S	**Sn**	**01 25 22.4**	**+1.1**
KKB	**Krupnik**	**2.78**	**79**	P	**Pn**	**01 24 49.4**	**+1.1**
KKB	**Krupnik**	**2.78**	**79**	*i* Pn	**Pn**	**01 24 49.4**	**+1.1**
KKB				*i* Sn	**Sb**	**01 25 26.7**	**-0.8**
AMPL	**Ampelaki**	**2.78**	**151**	P	**Pn**	**01 24 49.3**	**+1.0**
BOVS	**Bovan**	**2.80**	**35**	⇑P	**Pn**	**01 24 49.7**	**+1.1**
BOVS	**Bovan**	**2.80**	**35**	*e*Pn	**Pn**	**01 24 50.2**	**+1.6**
BOVS				*e*Sn	**Sn**	**01 25 20.8**	**-1.0**
NYDR	**Nydri-Lefkada**	**2.81**	**160**	P	**Pn**	**01 24 48.6**	**-0.1**
SGRT	**San Giovanni R**	**2.83**	**279**	⇓P	**Pn**	**01 24 49.3**	**+0.3**
SGRT	**San Giovanni R**	**2.83**	**279**	Pn	**Pn**	**01 24 48.6**	**-0.4**
HORT	**Hortiatis**	**2.85**	**104**	P	**Pn**	**01 24 49.5**	**+0.2**
EVGI	**Lefkada island**	**2.89**	**161**	P	**Pn**	**01 24 49.4**	**-0.4**
TRUS	**Trudelj**	**2.93**	**13**	*e*Pn	**Pn**	**01 24 51.8**	**+1.4**
SOH	**Sokhos**	**2.98**	**99**	P	**Pn**	**01 24 51.8**	**+0.7**
SOH	**Sokhos**	**2.98**	**99**	*i* Pn	**Pn**	**01 24 51.8**	**+0.7**
SOH				*i* Sn	**Sn**	**01 25 28.1**	**+1.8**
SOH	**Sokhos**	**2.98**	**99**	P	**Pn**	**01 24 51.8**	**+0.7**
ZAPS	**Zavoj**	**3.02**	**50**	*e*Pn	**Pn**	**01 24 53.2**	**+1.6**
ZAPS				*e*Sn	**Sn**	**01 25 28.7**	**+1.5**
TIP	**Timpagrande**	**3.02**	**224**	Pn	**Pn**	**01 24 50.9**	**-0.7**
TIP	**Timpagrande**	**3.02**	**224**	⇑P	**Pn**	**01 24 51.7**	**+0.1**
FSK	**Fiskardo**	**3.02**	**164**	P	**Pn**	**01 24 50.9**	**-0.7**
EVR	**Evrytania**	**3.03**	**143**	P	**Pn**	**01 24 53.7**	**+1.8**
VTS	**Vitosha**	**3.07**	**65**	P	**Pn**	**01 24 53.7**	**+1.4**
VTS				S	**Sn**	**01 25 30.0**	**+1.4**
VTS	**Vitosha**	**3.07**	**65**	P	**Pn**	**01 24 53.7**	**+1.4**
VTS				S	**Sn**	**01 25 29.7**	**+1.1**
VTS	**Vitosha**	**3.07**	**65**	*e*Pn	**Pn**	**01 24 53.8**	**+1.4**
VTS	**Vitosha**	**3.07**	**65**	P	**Pn**	**01 24 53.3**	**+0.9**
CUC	**Castrocucco**	**3.10**	**245**	Pn	**Pn**	**01 24 52.8**	**-0.1**
MAKR	**Makrakomi, Fth**	**3.11**	**138**	P	**Pn**	**01 24 54.3**	**+1.5**
SRS	**Serrai**	**3.11**	**93**	P	**Pn**	**01 24 53.5**	**+0.6**
SRS	**Serrai**	**3.11**	**93**	*i* Pn	**Pn**	**01 24 53.5**	**+0.6**
SRS				*i* Sn	**Sn**	**01 25 27.4**	**-2.1**
SRS	**Serrai**	**3.11**	**93**	*e*Pn	**Pn**	**01 24 53.7**	**+0.8**
PLNA	**Plana**	**3.15**	**68**	P	**Pn**	**01 24 55.5**	**+2.0**
PLNA				S	**Sn**	**01 25 35.5**	**+2.9**
SVIS	**Svilajnac**	**3.17**	**23**	*e*Pn	**Pn**	**01 24 55.8**	**+2.2**
PVO	**Paravola**	**3.17**	**150**	P	**Pn**	**01 24 54.7**	**+1.1**
PLG	**Polygyros**	**3.17**	**107**	P	**Pn**	**01 24 54.1**	**+0.4**
PLG	**Polygyros**	**3.17**	**107**	P	**Pn**	**01 24 54.1**	**+0.4**
ZAGS	**Zajecar**	**3.18**	**39**	*e*Pn	**Pn**	**01 24 55.1**	**+1.3**
AGG	**Agios Georgios**	**3.20**	**136**	P	**Pn**	**01 24 55.5**	**+1.4**
AGG	**Agios Georgios**	**3.20**	**136**	P	**Pn**	**01 24 55.5**	**+1.4**
MMB	**Musomishta**	**3.22**	**85**	P	**Pn**	**01 24 55.2**	**+0.8**
MMB				S	**Sn**	**01 25 34.6**	**+2.4**
MMB	**Musomishta**	**3.22**	**85**	P	**Pn**	**01 24 55.5**	**+1.2**
MMB				S	**Sn**	**01 25 33.8**	**+1.6**
MMB	**Musomishta**	**3.22**	**85**	*i* Pn	**Pn**	**01 24 55.1**	**+0.8**
MMB				*i* Sn	**Sn**	**01 25 32.6**	**+0.4**
VLS	**Valsamata**	**3.30**	**165**	P	**Pn**	**01 24 54.7**	**-0.7**
VLS	**Valsamata**	**3.30**	**165**	P	**Pn**	**01 24 54.7**	**-0.7**
BORS2	**Bor- Borsko je**	**3.30**	**34**	*e*Pn	**Pn**	**01 24 55.5**	**0.0**
BORS2				*e*Sn	**Sn**	**01 25 35.6**	**+1.4**
ANX	**Ano Chora**	**3.35**	**145**	P	**Pn**	**01 24 58.2**	**+2.0**
PSDA	**Pessada-Kefalo**	**3.36**	**165**	P	**Pn**	**01 24 55.3**	**-0.9**
AVAS	**Avala Beograd**	**3.41**	**13**	*e*Pn	**Pn**	**01 24 58.0**	**+1.0**
RTZL	**Ratzakli, Kefa**	**3.44**	**163**	P	**Pn**	**01 24 57.4**	**+0.1**
KUBS	**Kucevo**	**3.44**	**27**	*e*Pn	**Pn**	**01 24 57.1**	**-0.3**
KUBS				*e*Sn	**Sn**	**01 25 36.6**	**-1.1**
KIJV	**Kijevo**	**3.47**	**320**	⇑*i*Pn	**Pn**	**01 24 59.5**	**+1.7**
KIJV				*e*Sn	**Sn**	**01 25 38.0**	**-0.5**
EFP	**Efpalio**	**3.48**	**147**	P	**Pn**	**01 24 59.6**	**+1.6**
PAIG	**Paliouri**	**3.51**	**113**	P	**Pn**	**01 24 58.5**	**+0.2**
NEO	**Neokhori**	**3.53**	**125**	P	**Pn**	**01 24 58.8**	**+0.2**
SERG	**Sergoula**	**3.56**	**145**	P	**Pn**	**01 25 00.8**	**+1.8**
OUR	**Ouranopolis**	**3.57**	**105**	P	**Pn**	**01 24 59.5**	**+0.3**
OUR	**Ouranopolis**	**3.57**	**105**	P	**Pn**	**01 24 59.4**	**+0.3**
RLS	**Riolos of Patr**	**3.65**	**154**	P	**Pn**	**01 25 00.8**	**+0.6**
PAOL	**Paolisi**	**3.72**	**266**	Pn	**Pn**	**01 25 02.7**	**+1.4**
MPEP	**Malo Peshtene**	**3.73**	**56**	P	**Pn**	**01 25 02.8**	**+1.4**
VALD	**Valchedram**	**3.73**	**50**	P	**Pn**	**01 25 03.1**	**+1.9**
BLY	**Banja Luka**	**3.77**	**334**	⇑*i*Pn	**Pn**	**01 25 03.6**	**+1.7**
BLY				*e*Sn	**Sn**	**01 25 46.2**	**+0.4**
BLY	**Banja Luka**	**3.77**	**334**	⇓P	**Pn**	**01 25 03.2**	**+1.3**
BLY	**Banja Luka**	**3.77**	**334**	*e*Pn	**Pn**	**01 25 03.7**	**+1.8**
MDVR	**Moldovita**	**3.78**	**25**	⇑P	**Pn**	**01 25 03.2**	**+1.1**
MDVR	**Moldovita**	**3.78**	**25**	*e*Pn	**Pn**	**01 25 03.4**	**+1.3**
FRGS	**Fruska Gora**	**3.80**	**4**	*e*Pn	**Pn**	**01 25 03.3**	**+1.0**
ATAL	**Atalanti**	**3.81**	**133**	P	**Pn**	**01 25 03.2**	**+0.7**
KAVA	**Kavala**	**3.82**	**94**	P	**Pn**	**01 25 03.1**	**+0.6**
DRO	**Drossia**	**3.82**	**152**	P	**Pn**	**01 25 03.1**	**+0.5**
LKR	**Lokris**	**3.83**	**134**	P	**Pn**	**01 25 03.6**	**+0.9**
PUNG	**Punghina**	**3.86**	**40**	*e*Pn	**Pn**	**01 25 04.5**	**+1.4**
KLV	**Kalavryta, Ach**	**3.91**	**147**	P	**Pn**	**01 25 05.2**	**+1.4**
DJES	**Djerdap**	**3.98**	**33**	⇓P	**Pn**	**01 25 05.7**	**+0.9**
DJES	**Djerdap**	**3.98**	**33**	*e*Pn	**Pn**	**01 25 06.2**	**+1.4**
VRSS	**Vrsac**	**3.99**	**19**	*e*Pn	**Pn**	**01 25 05.7**	**+0.8**
PLD	**Plovdiv**	**4.02**	**77**	P	**Pn**	**01 24 56.9**	**+1.6**
PLD	**Plovdiv**	**4.02**	**77**	*e*Pn	**Pn**	**01 25 06.3**	**+1.0**
HERR	**Herculane**	**4.12**	**31**	⇑P	**Pn**	**01 25 07.9**	**+1.3**
CEL	**Celeste**	**4.15**	**223**	Pn	**Pn**	**01 25 06.3**	**-0.9**
BANR	**Banloc**	**4.19**	**16**	⇑P	**Pn**	**01 25 09.0**	**+1.4**
BANR	**Introdacqua**	**4.22**	**281**	Pn	**Pn**	**01 25 09.2**	**+1.0**
SRE	**Strehaia**	**4.28**	**38**	⇓P	**Pn**	**01 25 10.8**	**+1.9**
SRE	**Strehaia**	**4.28**	**38**	P	**Pn**	**01 25 10.7**	**+1.8**
PLVB	**Pleven**	**4.31**	**60**	⇓P	**Pn**	**01 25 11.3**	**+2.0**
KDZ	**Kurdzhali**	**4.41**	**85**	P	**Pn**	**01 25 12.1**	**+1.4**
KDZ				S	**Sn**	**01 26 05.9**	**+4.3**
VLAD	**Vladila**	**4.48**	**52**	⇓P	**Pn**	**01 25 13.3**	**+1.6**
BZS	**Buzias**	**4.52**	**19**	⇑P	**Pn**	**01 25 12.9**	**+0.7**
BZS	**Buzias**	**4.52**	**19**	*e*Pn	**Pn**	**01 25 13.2**	**+1.0**
BZS	**Buzias**	**4.52**	**19**	P	**Pn**	**01 25 12.9**	**+0.7**
RDO	**Rodhopi**	**4.57**	**91**	Pn	**Pn**	**01 25 12.7**	**-0.2**
ITM	**Ithomi**	**4.59**	**155**	Pn	**Pn**	**01 25 13.4**	**+0.2**
AQU	**L'Aquila**	**4.64**	**284**	*e*Pn	**Pn**	**01 25 14.6**	**+0.7**
AQU				*e*Sn	**Sn**	**01 26 05.5**	**-1.8**
AQU	**L'Aquila**	**4.64**	**284**	P	**Pn**	**01 25 15.3**	**+1.4**
CAMP	**Campotosto**	**4.67**	**286**	Pn	**Pn**	**01 25 15.2**	**+0.7**
MOSL	**Moslavina**	**4.68**	**336**	⇑*i*Pn	**Pn**	**01 25 15.1**	**+0.6**
MOSL				*e*Sn	**Sn**	**01 26 07.8**	**-0.5**
GZR	**Gura Zlata**	**4.69**	**30**	⇓P	**Pn**	**01 25 15.8**	**+1.2**
GZR	**Gura Zlata**	**4.69**	**30**	*e*Pn	**Pn**	**01 25 15.9**	**+1.3**
GZR	**Gura Zlata**	**4.69**	**30**	P	**Pn**	**01 25 16.8**	**+2.2**
SURR	**Surduc**	**4.79**	**23**	⇑P	**Pn**	**01 25 16.3**	**+0.4**
GUMA	**Gualdo di Mace**	**4.87**	**292**	Pn	**Pn**	**01 25 17.3**	**+0.3**
NRCA	**Norcia**	**4.96**	**289**	Pn	**Pn**	**01 25 18.7**	**+0.5**
ALN	**Alexandroupoli**	**4.98**	**93**	Pn	**Pn**	**01 25 18.8**	**+0.3**
ALN	**Alexandroupoli**	**4.98**	**93**	P	**Pn**	**01 25 18.8**	**+0.3**
ELND	**Elena**	**5.00**	**70**	⇓P	**Pn**	**01 25 20.3**	**+1.4**
FDMO	**Fiordimonte**	**5.03**	**291**	Pn	**Pn**	**01 25 19.6**	**+0.4**
LOT	**Lotru**	**5.14**	**36**	⇑P	**Pn**	**01 25 21.9**	**+1.1**
SIRR	**Siria**	**5.15**	**17**	⇑P	**Pn**	**01 25 21.8**	**+0.9**
SIRR	**Siria**	**5.15**	**17**	*e*Pn	**Pn**	**01 25 21.5**	**+0.7**
OZLJ	**Ozalj**	**5.15**	**327**	*e*Pn	**Pn**	**01 25 21.5**	**+0.7**
OZLJ				*e*Sn	**Sn**	**01 26 18.8**	**-0.9**
BOJS	**Bojanci**	**5.15**	**325**	*i* Pn	**Pn**	**01 25 22.3**	**+1.4**
BOJS				*e*Sn	**Sn**	**01 26 20.0**	**+0.2**
BOJS				IAML		01 26 22.4	
	comp=Z,62nm,0.5s						
BOJS	**Bojanci**	**5.15**	**325**	*e*Pn	**Pn**	**01 25 22.3**	**+1.4**
DEV	**Deva**	**5.15**	**28**	⇑P	**Pn**	**01 25 22.3**	**+1.4**
DEV	**Deva**	**5.15**	**28**	P	**Pn**	**01 25 22.3**	**+1.4**
RIY	**Rijeka**	**5.38**	**319**	*e*Pn	**Pn**	**01 25 25.4**	**+1.5**
EZN	**Ezine**	**5.44**	**104**	⇓P	**Pn**	**01 25 26.4**	**+1.7**
EZN	**Ezine**	**5.44**	**104**	P	**Pn**	**01 25 26.4**	**+1.7**
BEHE	**Becsehely**	**5.46**	**340**	Pn	**Pn**	**01 25 27.2**	**+2.1**
BEHE	**Becsehely**	**5.46**	**340**	*e*Pn	**Pn**	**01 25 25.6**	**+0.5**
BEHE				*e*Sn	**Sn**	**01 26 26.7**	**-0.7**
BRJN	**Brijuni**	**5.48**	**312**	*e*Pn	**Pn**	**01 25 26.0**	**+0.6**
BRJN				*e*Sn	**Sn**	**01 26 26.1**	**-1.8**
ARR	**Arges**	**5.49**	**42**	⇓P	**Pn**	**01 25 27.2**	**+1.7**
MURB	**Monte Urbino**	**5.49**	**292

VRAC					LR	LR	01 29 51.7	
	comp=Z,103nm,18.5s,baz=170,slow=42 comp=Z,0.8nm,0.3s							
WATA	**Walderalm**	**8.22**	**319**	*e*Pn		**Pn**	**01 26 05.7**	**+2.6**
WATA	comp=Z,5.4nm,0.3s,SNR=7.0				*e*Sn	**Sn**	**01 27 35.6**	**0.0**
	comp=Z,10.0nm,0.5s							
CKRC	**Cesky Krumlov**	**8.30**	**336**	*e*PN		**Pn**	**01 26 05.6**	**+1.5**
CKRC					*e*SN	**Sn**	**01 27 38.4**	**+1.2**
CKRC	**Cesky Krumlov**	**8.30**	**336**	*e*P		**Pn**	**01 26 05.6**	**+1.5**
CKRC					*e*		01 27 38.4	
SQTA	**Sankt Quirin**	**8.33**	**317**	*e*Pn		**Pn**	**01 26 06.7**	**+2.1**
	comp=Z,0.5nm,0.2s,SNR=12							
SQTA					Sn	**Sn**	**01 27 37.7**	**-0.4**
	comp=Z,6.1nm,0.4s							
FETA	**Feichten**	**8.45**	**315**	*i* Pn		**Pn**	**01 26 08.0**	**+1.8**
	comp=Z,7.5nm,0.7s							
FETA					*e*Sn	**Sn**	**01 27 41.2**	**+0.1**
	comp=Z,4.7nm,0.6s							
FUORN	**Ofenpass-Fuorn**	**8.46**	**311**	Pn		**Pn**	**01 26 08.2**	**+1.6**
MOTA	**Moosalm**	**8.46**	**318**	*i* Pn		**Pn**	**01 26 07.9**	**+1.4**
	comp=Z,3.1nm,0.4s,SNR=12							
MOTA					*e*Sn	**Sn**	**01 27 42.4**	**+0.9**
	comp=Z,75nm,0.9s							
ARG	**Arkhangelos**	**8.49**	**125**	Pn		**Pn**	**01 26 08.9**	**+2.2**
ARG	**Arkhangelos**	**8.49**	**125**	P		**Pn**	**01 26 08.9**	**+2.2**
GEC2	**GERESS Array S**	**8.52**	**333**	Pn		**Pn**	**01 26 08.2**	**+1.0**
GERES	**GERESS Array B**	**8.52**	**333**	P		**Pn**	**01 26 08.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=155,slow=14,SNR=6.6							
GERES					S	**Sn**	**01 27 44.5**	**+1.8**
	comp=Z,3.8nm,0.6s,baz=153,slow=24,SNR=7.8 comp=Z,1.0nm,0.5s							
MORC	**Moravsky Berou**	**8.52**	**352**	Pn		**Pn**	**01 26 08.8**	**+1.7**
MORC	**Moravsky Berou**	**8.52**	**352**	P		**Pn**	**01 26 08.8**	**+1.7**
RETA	**Reutte**	**8.73**	**317**	*e*Pn		**Pn**	**01 26 11.8**	**+1.7**
	comp=Z,0.7nm,0.3s							
RETA					*e*Sn	**Sn**	**01 27 47.3**	**-0.6**
	comp=Z,3.1nm,0.4s							
DAVOX	**Davos/Dischmat**	**8.77**	**311**	P		**Pn**	**01 26 13.5**	**+2.8**
	comp=Z,1.6nm,0.3s,baz=270,slow=22,SNR=20							
DAVOX					S	**Sn**	**01 27 51.5**	**+2.3**
	comp=Z,5.6nm,0.5s,baz=316,slow=19,SNR=3.9							
DAVOX					LR	LR	01 29 52.5	
	comp=Z,140nm,19.4s,baz=132,slow=39 comp=Z,3.1nm,0.3s							
KHC	**Kasperske Hory**	**8.80**	**334**	*e*PN		**Pn**	**01 26 12.4**	**+1.4**
KHC				x		x	01 26 31.5	
KHC					*e*SN	**Sn**	**01 27 49.0**	**-0.7**
KHC	**Kasperske Hory**	**8.80**	**334**	*e*P		**Pn**	**01 26 12.4**	**+1.4**
KHC					*e*		01 27 49.0	
KRLC	**Kraliky**	**8.91**	**349**	*e*PN		Pn	01 26 19.4	+6.9
KRLC					*e*SN	**Sn**	**01 27 52.3**	**0.0**
KRLC	**Kraliky**	**8.91**	**349**	*e*P		Pn	01 26 19.4	+6.9
KRLC					*e*		01 27 52.3	
TUE	**Stuetta**	**8.91**	**308**	Pn		**Pn**	**01 26 13.4**	**+0.7**
DAVA	**Damuels**	**9.07**	**314**	*e*Pn		**Pn**	**01 26 17.4**	**+2.7**
	comp=Z,1.0nm,0.3s							
DAVA					*e*Sn	**Sn**	**01 27 55.0**	**-1.4**
	comp=Z,19nm,0.6s							
KEST	**Kesra**	**9.72**	**238**	P		**Pn**	**01 26 25.9**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=90,slow=23,SNR=1.3 comp=Z,1.6nm,0.9s							
BNI	**Bardonecchia**	**10.04**	**296**	Pn		**Pn**	**01 26 26.6**	**-1.5**
BNI	**Bardonecchia**	**10.04**	**296**	P		**Pn**	**01 26 26.6**	**-1.5**
SENIN	**Lac Senin/Sane**	**10.11**	**304**	Pn		**Pn**	**01 26 28.7**	**-0.4**
BFO	**Black Forest**	**10.53**	**315**	Pn		**Pn**	**01 26 34.3**	**-0.4**
BFO	**Black Forest**	**10.53**	**315**	P		**Pn**	**01 26 34.3**	**-0.4**
BR131	**Keskin Array S**	**10.90**	**94**	*i* P		**Pn**	**01 26 42.3**	**+2.4**
ECH	**Echery**	**11.10**	**312**	Pn		**Pn**	**01 26 43.4**	**+0.9**
ECH	**Echery**	**11.10**	**312**	P		**Pn**	**01 26 43.4**	**+0.9**
AKASG	**Malin Array Be**	**11.52**	**33**	P		**Pn**	**01 26 49.2**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=224,slow=13,SNR=5.4							
AKASG					LR	LR	01 31 53.4	
	comp=Z,141nm,18.3s,baz=197,slow=40 comp=Z,0.6nm,0.6s							
AKBB	**Malin Array Si**	**11.52**	**33**	*ce*P		**Pn**	**01 26 48.4**	**+0.2**
SSB	**Saint Sauveur**	**11.56**	**295**	Pn		**Pn**	**01 26 46.3**	**-2.5**
SSB	**Saint Sauveur**	**11.56**	**295**	P		**Pn**	**01 26 46.3**	**-2.5**
TOKA	**Tokat**	**12.92**	**89**	Pn		**Pn**	**01 27 07.9**	**+0.5**
MNK	**Minsk**	**14.28**	**20**	*i* P		**Pn**	**01 27 21.8**	**-4.1**
	comp=E,3.0nm,0.7s							
MNK					*i* P	**Pn**	**01 27 21.8**	**-4.1**
	comp=N,4.0nm,0.7s							
MNK					*i* P	**Pn**	**01 27 21.8**	**-4.1**
	comp=Z,3.0nm,0.7s,baz=207							
MNK					*i* PP	**P**	**01 27 29.7**	**-3.3**
MNK					*i* S	**Sn**	**01 30 00.2**	**-3.4**
MNK					*i* SS	**SnSn**	**01 30 13.8**	**-2.2**
MNK					*i* LQ	LQ	01 31 47.1	
MNK					*i* LR	LR	01 32 48.9	
MNK					*i* LRM	MLR	01 33 32.8	
	comp=Z,106nm,13.0s							
MNK					*i* LRM	MLR	01 33 46.1	
	comp=N,45nm,12.0s							
MNK					*i* LRM	MLR	01 33 56.6	
	comp=E,99nm,15.5s							
MNK	**Minsk**	**14.28**	**20**	*i* P		**Pn**	**01 27 21.7**	**-4.1**
MNK					*i* S	**Sn**	**01 30 00.2**	**-3.4**
MNK					pmax	pmax		
	comp=E,3.0nm,0.7s							
MNK					pmax	pmax		
	comp=N,4.0nm,0.7s							
MNK					pmax	pmax		
	comp=Z,3.0nm,0.7s							
MNK					MLR	MLR		
	comp=Z,106nm,13.0s							
MNK					MLR	MLR		
	comp=N,45nm,12.0s							
MNK					MLR	MLR		
	comp=E,99nm,16.0s							
NACGM	**Naroch**	**14.38**	**17**	*e*P		**P**	**01 27 34.0**	**-0.1**
	comp=Z,13nm,1.0s,baz=203							
PABE	**Paberze**	**14.45**	**10**	Pn		**Pn**	**01 27 26.9**	**-1.2**
SOC	**Sochi**	**15.10**	**75**	*e*P		**Pn**	**01 27 36.4**	**-0.6**
SOC					*e*		01 30 26.2	
SOC					pmax	pmax		
	comp=Z,16nm,0.7s							
SOC					MLR	MLR		
	comp=Z,34nm,14.0s							
MMAI	**Mount Meron Ar**	**15.17**	**118**	P		**Pn**	**01 27 40.5**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=294,slow=14,SNR=2.8 comp=Z,3.1nm,0.8s							
VORD	**Divnogorie**	**16.70**	**48**	*e*P		**Pn**	**01 27 56.1**	**-1.5**
VORD					pmax	pmax		
	comp=Z,9.0nm,1.1s							
VSR	**Storozhevoye**	**16.75**	**47**	*e*P		**Pn**	**01 27 57.0**	**-1.2**
VSR					pmax	pmax		
	comp=Z,7.0nm,0.9s							
SHA1	**Shidzhatmaz**	**17.23**	**74**	*i* P		**P**	**01 28 07.5**	**+1.5**
KIV	**Kislovodsk**	**17.26**	**74**	*e*P		**Pn**	**01 28 04.3**	**-0.4**
KIV					pmax	pmax		
	comp=Z,5.0nm,1.1s							
LPSR	**Galich'ya Gora**	**17.33**	**43**	*e*P		**Pn**	**01 28 05.6**	**+0.2**
LPSR					pmax	pmax		
	comp=Z,10.0nm,0.8s							
KBZ	**Khabaz**	**17.41**	**74**	P		**P**	**01 28 08.8**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=282,slow=8.5,SNR=8.9 comp=Z,3.0nm,0.7s							
KBZ	**Khabaz**	**17.41**	**74**	*ce*P		**P**	**01 28 09.0**	**+1.3**
KBZ					pmax	pmax		
	comp=Z,5.0nm,0.9s							
VSU	**Vasula**	**17.72**	**13**	*ce*P		**Pn**	**01 28 10.3**	**+0.1**
VSU					pmax	pmax		
	comp=Z,41nm,0.6s							
OBN	**Obninsk**	**17.78**	**34**	P		**Pn**	**01 28 10.6**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=156,slow=24,SNR=5.1 comp=Z,6.5nm,0.4s							
OBN	**Obninsk**	**17.78**	**34**	*c i*P		**Pn**	**01 28 09.4**	**-1.6**
OBN					pmax	pmax		
	comp=Z,16nm,1.0s							
ESDC	**Sonseca Array**	**17.89**	**272**	P		**P**	**01 28 14.6**	**+1.4**
	baz=71,slow=12,SNR=4.3 comp=Z,0.3nm,0.6s							
MOS	**Moscow**	**18.65**	**33**	*e*P		**P**	**01 28 19.6**	**-1.7**
MOS					pmax	pmax		
	comp=Z,31nm,0.9s							
HFS	**Hagfors**	**19.13**	**351**	P		**P**	**01 28 26.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=164,slow=12,SNR=8.5 comp=Z,1.9nm,0.7s							
GNI	**Garni**	**19.16**	**85**	P		**P**	**01 28 28.1**	**+0.8**
GNI	**Garni**	**19.16**	**85**	P		**P**	**01 28 28.0**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=245,slow=4.7,SNR=6.4 comp=Z,8.0nm,0.8s							
GNI	**Garni**	**19.16**	**85**	*ce*P		**P**	**01 28 28.0**	**+0.8**
GNI					pmax	pmax		
	comp=Z,9.0nm,0.9s							

BTLR	**Botlikh**	**19.89**	**77**	*i* P		**Pn**	**01 28 38.0**	**+1.3**
NB201	**NORSAR Array S**	**20.33**	**349**	P		**P**	**01 28 40.5**	**+0.9**
NB2	**NORSAR Subarra**	**20.34**	**348**	P		**P**	**01 28 38.5**	**-1.2**
	comp=Z,1.7nm,0.9s,baz=162,slow=11							
NOA	**NORSAR Array B**	**20.34**	**348**	P		**P**	**01 28 40.9**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=150,slow=9.9,SNR=5.7							
NOA					LR	LR	01 37 47.5	
	comp=Z,41nm,19.6s,baz=155,slow=40 comp=Z,0.5nm,0.7s							
EKA	**Eskdalemuir Ar**	**20.40**	**321**	P		**P**	**01 28 40.9**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=106,slow=9.5,SNR=5.5 comp=Z,2.3nm,0.8s							
FINES	**FINESS Array B**	**20.50**	**9**	P		**P**	**01 28 40.0**	**-1.4**
FINES	**FINESS Array B**	**20.50**	**9**	P		**P**	**01 28 40.2**	**-1.2**
	comp=Z,5.3nm,0.5s,baz=168,slow=11,SNR=36							
FINES					LR	LR	01 37 50.4	
	comp=Z,121nm,18.0s,baz=206,slow=40 comp=Z,5.3nm,0.5s							
FINES	**FINESS Array B**	**20.50**	**9**	*ce*P		**P**	**01 28 40.2**	**-1.2**
FINES					pmax	pmax		
	comp=Z,6.0nm,0.5s							
FIA1	**FINESS Array S**	**20.50**	**9**	P		**P**	**01 28 39.2**	**-2.2**
AKTO	**Aktyubinsk**	**28.04**	**58**	LR		LR	01 42 18.2	
	comp=Z,48nm,19.7s,baz=163,slow=39							
ARTI	**Arti**	**29.20**	**46**	P		**P**	**01 30 03.5**	**-1.4**
ARTI	**Arti**	**29.20**	**46**	*c i*P		**P**	**01 30 03.6**	**-1.3**
ARTI					S	**S**	**01 34 58.2**	**+2.0**
ARTI					SS	**SnSn**	**01 36 23.4**	**+2.1**
ARTI					pmax	pmax		
	comp=Z,10.0nm,0.8s							
AB31	**Akbulak array**	**29.24**	**61**	P		**P**	**01 30 04.0**	**-1.3**
TORD	**Torodi Ar. Bea**	**32.12**	**214**	P		**P**	**01 30 31.1**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=19,slow=9.7,SNR=3.8							
BORK	**Borovoye**	**35.73**	**53**	*ce*P		**P**	**01 31 01.6**	**-0.4**
BORK					pmax	pmax		
	comp=Z,6.0nm,0.8s							
BVAR	**Borovoye Array**	**35.77**	**53**	P		**P**	**01 31 02.4**	**0.0**
	comp=Z,5.1nm,0.8s,baz=284,slow=7.5,SNR=19 comp=Z,5.1nm,0.8s							
AAK	**Ala-Archa**	**40.29**	**69**	*i* P		**P**	**01 31 43.0**	**+2.2**
AAK					pmax	pmax		
	comp=Z,1.0nm,1.0s							
DBIC	**Dimbokro**	**40.78**	**219**	P		**P**	**01 31 44.0**	**-0.9**
DBIC					IAmb	IAmb	01 31 53.7	
	comp=Z,19nm,1.4s							
DBIC	**Dimbokro**	**40.78**	**219**	P		**P**	**01 31 44.0**	**-0.9**
DBIC					pmax	pmax		
	comp=Z,19nm,1.4s							
KURBB	**Kurchatov Arra**	**41.05**	**56**	P		**P**	**01 31 46.2**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=280,slow=9.7,SNR=8.9 comp=Z,1.4nm,0.8s							
KURK	**Kurchatov**	**41.09**	**56**	P		**P**	**01 31 46.0**	**-1.1**
KURK					IAmb	IAmb	01 31 47.8	
	comp=Z,7.7nm,1.4s							
KURK	**Kurchatov**	**41.09**	**56**	*ce*P		**P**	**01 31 47.2**	**+0.1**
KURK					pmax	pmax		
	comp=Z,8.0nm,2.5s							
MBAR	**Mbarara**	**43.01**	**163**	*ce*P		**P**	**01 32 03.9**	**+0.6**
MBAR					pmax	pmax		
	comp=Z,4.0nm,1.3s							
ZAA0	**Zalesovo Array**	**44.22**	**50**	P		**P**	**01 32 12.0**	**-0.4**
ZALV	**Zalesovo Beam**	**44.22**	**50**	P		**P**	**01 32 11.9**	**-0.5**
	comp=Z,7.1nm,0.4s,baz=283,slow=8.6,SNR=29							
ZALV					LR	LR	01 53 04.2	
	comp=Z,55nm,20.3s,baz=318,slow=39 comp=Z,7.1nm,0.4s							
ZALV	**Zalesovo Beam**	**44.22**	**50**	P		**P**	**01 32 12.0**	**-0.5**
MKAR	**Makanchi Array**	**44.38**	**61**	P		**P**	**01 32 13.6**	**-0.3**
MKAR	**Makanchi Array**	**44.38**	**61**	P		**P**	**01 32 13.4**	**-0.6**
	comp=Z,4.8nm,0.6s,baz=284,slow=6.9,SNR=35 comp=Z,4.8nm,0.6s							
MKAR	**Makanchi Array**	**44.38**	**61**	P		**P**	**01 32 13.6**	**-0.3**
EVN	**Everest**	**55.70**	**81**	P		**P**	**01 33 38.9**	**-1.9**
EVN					IAmb	IAmb	01 33 40.6	
	comp=Z,3.5nm,0.7s							
SONM	**Songino Array**	**59.08**	**52**	P		**P**	**01 34 03.5**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=291,slow=8.3,SNR=8.5 comp=Z,1.9nm,0.9s							
HHC	**Hu-ho-hao-te**	**65.91**	**56**	*e*P		**P**	**01 34 49.8**	**+0.3**
HHC					pmax	pmax		
	comp=Z,17nm,0.7s							
PZH	**PanZhiHua**	**67.48**	**74**	P		**P**	**01 35 00.0**	**+0.3**
E29M	**Blow River**	**69.26**	**351**	P		**P**	**01 35 09.4**	**-0.6**
E29M					IAmb	IAmb	01 35 24.3	
	comp=Z,4.9nm,1.3s							
F31M	**Tsiigehtchic**	**69.62**	**349**	P		**P**	**01 35 12.5**	**+0.2**
D23K	**Nanushuk River**	**69.74**	**356**	P		**P**	**01 35 13.8**	**+0.8**
D23K					IAmb	IAmb	01 35 40.2	
	comp=Z,1.9nm,1.1s							
F28M	**Old Crow**	**70.22**	**352**	P		**P**	**01 35 15.9**	**-0.1**
F28M					IAmb	IAmb	01 35 22.0	
	comp=Z,5.0nm,1.4s							
G29M	**Pine Creek**	**70.68**	**351**	P		**P**	**01 35 18.9**	**+0.1**
H29M	**Whitestone**	**71.39**	**351**	P		**P**	**01 35 22.3**	**-0.8**
H29M					IAmb	IAmb	01 35 52.7	
	comp=Z,6.2nm,1.3s							
H27K	**Steamboat Moun**	**71.73**	**352**	P		**P**	**01 35 24.9**	**-0.4**
I30M	**Mount Dempster**	**72.08**	**350**	P		**P**	**01 35 27.3**	**-0.2**
ULM	**Lac du Bonnet**	**72.67**	**323**	P		**P**	**01 35 31.6**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=45,slow=6.1,SNR=3.3 comp=Z,2.2nm,0.7s							
J30M	**Hart River**	**72.69**	**349**	P		**P**	**01 35 31.4**	**+0.3**
J30M					IAmb	IAmb	01 35 39.5	
	comp=Z,7.0nm,1.4s							
ILAR	**Eielson Array**	**73.66**	**354**	P		**P**	**01 35 35.2**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=351,slow=5.4,SNR=4.1 comp=Z,0.3nm,0.8s							
BPAW	**Bear Paw Mtn.**	**74.60**	**356**	P		**P**	**01 35 40.9**	**-1.3**
BPAW					IAmb	IAmb	01 35 54.3	
	comp=Z,8.0nm,1.5s							
BCAR	**Beaver Creek A**	**74.84**	**351**	P		**P**	**01 35 44.4**	**+0.8**
M29M	**Somme Creek**	**75.02**	**350**	P		**P**	**01 35 45.6**	**+0.9**
M29M					IAmb	IAmb	01 35 47.9	
	comp=Z,4.1nm,1.4s							
USRK	**Ussuriysk Ar.**	**75.51**	**43**	P		**P**	**01 35 46.3**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=347,slow=8.9,SNR=4.8 comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**80.76**	**38**	LR		LR	02 16 47.6	
	comp=Z,47nm,18.8s,baz=152,slow=39							
PDAR	**Pinedale Array**	**84.47**	**325**	P		**P**	**01 36 35.3**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=54,slow=7.5,SNR=4.1 comp=Z,0.3nm,0.7s							
TXAR	**Lajitas Array**	**92.20**	**313**	P		**P**	**01 37 14.4**	**+0.8**
	comp=Z,0.6nm,1.0s,baz=50,slow=4.1,SNR=5.7 comp=Z,0.6nm,1.0s							

*PGC **25** 01:27:38.8±0.1, 48.89N×129.69W, h10km, MLSn3.1/27, Mw3.7/27, 232km southwest of Port Alice, Bc Vancouver Island, Canada Region*
*IDC **25** 01:27:44.2±2.1, 49.10N×128.95W, h0km, mb3.9/2, mbtmp3.5/10, ML3.5/7, MS3.6/5, Error ellipse: s-maj=34.8km s-min=13.3km az=65.0*
ISC 25 01:27:38.7±1.5, 48.96N±0.06×129.42W±0.10, h4km±18km, n51, σ1s54/54, MS3.5/4, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NCHR	**NEPTUNE Canada**	**1.01**	**167**	P		**Pg**	**01 27 55.5**		**-2.5**
NCHR				S		**Sg**	**01 28 08.0**		**-3.0**
BPEB	**Brooks Peninsu**	**1.61**	**41**	Pn		**Pn**	**01 28 08.1**		**+0.1**
BPEB				Sn		**Sn**	**01 28 26.8**		**-2.4**
ETB	**Estevan Point**	**1.94**	**76**	Pn		**Pn**	**01 28 13.0**		**+0.6**
PACB	**Port Alice, BC**	**1.94**	**39**	Pn		**Pn**	**01 28 12.3**		**-0.1**
PACB				Sn		**Sn**	**01 28 34.7**		**-2.6**
NTKA	**Nootka**	**1.94**	**70**	Pn		**Pn**	**01 28 12.6**		**+0.2**
MAYB	**Maynard**	**2.06**	**44**	Pn		**Pn**	**01 28 14.4**		**+0.2**
MAYB				Sn		**Sn**	**01 28 39.0**		**-1.4**
SHPB	**Sharp Point**	**2.11**	**78**	Pn		**Pn**	**01 28 15.2**		**+0.5**
PHC	**Port Hardy**	**2.17**	**36**	Pn		**Pn**	**01 28 15.4**		**-0.2**
PHC				Sn		**Sn**	**01 28 40.9**		**-2.2**
NCBC	**Barkley Canyon**	**2.21**	**103**	Sn		**Sn**	**01 28 43.6**		**-0.3**
WOSB	**Woss**	**2.21**	**56**	Pn		**Pn**	**01 28 17.0**		**+0.7**
B012	**Ucluelet**	**2.56**	**89**	Pn		**Pn**	**01 28 21.3**		**+0.4**
B012				Sn		**Sn**	**01 28 50.4**		**-2.1**
OZB	**Mount Ozzard**	**2.59**	**88**	Pn		**Pn**	**01 28 21.8**		**+0.3**
OZB				Sn		**Sn**	**01 28 51.5**		**-1.8**
NCSB	**Newcastle Ridg**	**2.62**	**55**	Sn		**Sn**	**01 28 54.1**		**-0.2**
BFSB	**Bamfield**	**2.83**	**91**	Pn		**Pn**	**01 28 25.1**		**+0.5**
BFSB				Sn		**Sn**	**01 28 57.8**		**-1.4**
B928	**Bamfield**	**2.83**	**91**	Pn		**Pn**	**01 28 25.2**		**+0.6**
B928				Sn		**Sn**	**01 28 58.2**		**-0.9**
CBB	**Campbell River**	**2.85**	**66**	Pn		Pn	01 28 26.4		+1.3
CBB				Sn		**Sn**	**01 29 00.9**		**+1.1**
B927	**Port Alberni**	**3.04**	**83**	Pn		**Pn**	**01 28 28.6**		**+1.1**
PABB	**Port Alberni**	**3.04**	**83**	Pn		Pn	01 28 29.0		+1.4
MGRB	**Mount Grey**	**3.11**	**87**	Pn		**Pn**	**01 28 29.3**		**+0.7**
MGRB				Sn		**Sn**	**01 29 05.8**		**-0.5**
PTRF	**Port Renfrew**	**3.34**	**95**	Pn		**Pn**	**01 28 32.0**		**+0.4**
PTRF				Sn		**Sn**	**01 29 09.5**		**-2.3**
BBB	**Bella Bella**	**3.34**	**14**	Pn		Pn	01 28 33.4		+1.7
	8.0nm,0.3s,baz=217,slow=5.1,SNR=97								
BBB						Sn	**Sn**	**01 29 11.1**	**-0.6**
	22nm,0.3s,baz=312,slow=21,SNR=6.9 19nm,0.3s								
BBB	**Bella Bella**	**3.34**	**14**	Pn		**Pn**	**01 28 32.3**		**+0.7**
BBB				Sn		**Sn**	**01 29 10.3**		**-1.4**
B926	**Mesachie Lake**	**3.49**	**90**	Pn		**Pn**	**01 28 35.0**		**+1.2**
B926				Sn		**Sn**	**01 29 14.2**		**-1.3**
CLRS	**Cowichan Lake**	**3.49**	**90**	Pn		**Pn**	**01 28 34.9**		**+1.1**
NLLB	**Nanaimo Lost L**	**3.58**	**84**	Pn		Pn	01 28 36.7		+1.7
NLLB				Sn		**Sn**	**01 29 18.7**		**+1.0**
SYMB	**Survey Mountai**	**3.74**	**94**	Pn		**Pn**	**01 28 38.1**		**+0.8**
B010	**North Saanich**	**3.96**	**92**	Pn		**Pn**	**01 28 40.8**		**+0.7**
B010				Sn		**Sn**	**01 29 28.0**		**+1.0**
B009	**North Saanich**	**3.96**	**92**	Pn		**Pn**	**01 28 40.9**		**+0.8**
PGC	**Sidney**	**3.96**	**92**	Pn		**Pn**	**01 28 41.1**		**+0.9**
PGC				Sn		**Sn**	**01 29 26.9**		**-0.1**
B011	**North Saanich**	**3.96**	**92**	Pn		**Pn**	**01 28 41.0**		**+0.8**
WPB	**Watts Point**	**4.12**	**78**	Pn		**Pn**	**01 28 43.6**		**+1.2**
BUTB	**Butedale**	**4.16**	**8**	Pn		**Pn**	**01 28 43.3**		**+0.3**
BUTB				Sn		**Sn**	**01 29 29.6**		**-2.5**
WSLR	**Whistler**	**4.39**	**72**	Pn		Pn	01 28 48.3		+2.1
GNW	**Green Mountain**	**4.62**	**105**	Sn		**Sn**	**01 29 43.7**		**+0.4**
LLLB	**Lillooet**	**5.16**	**68**	Pn		Pn	01 28 58.1		+1.4
HOPB	**Hope**	**5.26**	**82**	Pn		**Pn**	**01 28 59.2**		**+1.1**
NEW	**Newport**	**8.18**	**90**	Pn		Pn	01 29 40.6		+2.4
	0.6nm,0.3s,baz=288,slow=14,SNR=5.6 1.4nm,0.3s								
YBH	**Yreka Blue Hor**	**8.63**	**144**	Pn		Pn	01 29 51.2		+6.8
	0.5nm,0.9s,baz=349,slow=13,SNR=7.1								
NVAR	**Mina Array Bea**	**13.23**	**139**	Pn		**P**	**01 30 54.9**		**-2.7**
	0.1nm,0.3s,baz=315,slow=14,SNR=6.5 0.7nm,0.7s								
PDAR	**Pinedale Array**	**15.14**	**107**	Pn		**Pn**	**01 31 17.2**		**+3.7**
	0.1nm,0.3s,baz=332,slow=11,SNR=4.6								
PDAR					LR	LR	01 36 47.9		
	comp=Z,61nm,20.6s,baz=227,slow=36 0.7nm,0.9s								
YKA	**Yellowknife Ar**	**15.87**	**26**	Pn		**Pn**	**01 31 23.3**		**+0.7**
	0.2nm,0.3s,baz=226,slow=12,SNR=13 0.9nm,0.7s								
ILAR	**Eielson Array**	**18.39**	**336**	P		P	01 32 00.3		+5.9
	baz=149,slow=11,SNR=4.7 0.4nm,0.8s								
INK	**Inuvik**	**19.52**	**355**	P		**Pn**	**01 32 12.0**		**+4.1**
	baz=162,slow=13,SNR=3.1 1.8nm,1.0s								
ULM	**Lac du Bonnet**	**21.68**	**74**	P		**P**	**01 32 32.2**		**+2.0**
	26nm,1.3s,baz=282,slow=10,SNR=13								
ULM					LR	LR	01 41 16.9		
	comp=Z,89nm,19.4s,baz=225,slow=38 26nm,1.3s								
ANMO	**Albuquerque**	**21.97**	**121**	P		P	01 32 38.7		+5.0
	0.6nm,0.4s,baz=50,slow=9.2,SNR=4.3 0.6nm,0.4s								
TKL	**Tuckaleechee C**	**35.74**	**94**	LR		LR	01 49 47.6		
	comp=Z,89nm,18.2s,baz=48,slow=37								
SCHQ	**Schefferville**	**37.91**	**57**	LR		LR	01 48 40.9		
	comp=Z,656nm,18.1s,baz=164,slow=33								
CMIG	**Matias Romero**	**42.36**	**126**	LR		LR	01 55 54.5		
	comp=Z,50nm,20.9s,baz=178,slow=40								
H11N2	**WAKE ISLAND Hy**	**58.15**	**264**	T		T	02 40 42.0		
	baz=43,slow=75,SNR=20								
H11N3	**WAKE ISLAND Hy**	**58.16**	**264**	T		T	02 40 37.1		
	baz=43,slow=75,SNR=19								
H11N1	**WAKE ISLAND Hy**	**58.17**	**264**	T		T	02 40 42.5		
	baz=43,slow=75,SNR=15								

*

comp=E,37nm,0.9s
GOCS Kraljevo Serbi 2.44 24 *e*Pn **Pn 01 48 11.6 +0.3**
BBLS Lazi&#263i 2.53 358 *e*Pn **Pn 01 48 14.1 +1.7**
KNT Kendrikon 2.57 93 P **Pn 01 48 12.5 -0.4**
KNT S **Sn 01 48 43.2 -0.9**
KNT Kendrikon 2.57 93 *i* Pn **Pn 01 48 12.4 -0.4**
KNT *i* Sn **Sn 01 48 43.1 -0.9**
LIT Litokhoron 2.58 118 *i* Pn **Pn 01 48 14.4 +1.3**
LIT *i* Sn **Sn 01 48 46.0 +1.5**
THL Klokotos Trika 2.61 132 S **Sn 01 48 45.4 +0.4**
TYRN Tyrnavos 2.64 127 P **Pn 01 48 13.4 -0.4**
LKD2 Lefkada island 2.69 160 Pn **Pn 01 48 13.8 -0.8**
LKD2 Sn **Sb 01 48 51.1 -1.5**
LKD2 AML AML 01 49 11.3
comp=E,0.4nm,1.3s
THE Thessaloniki 2.71 104 *i* Pn **Pn 01 48 14.1 -0.7**
THE *i* Sn **Sn 01 48 47.4 -0.2**
KKB Krupnik 2.77 78 *i* Pn **Pn 01 48 15.2 -0.4**
KKB *i* Sn **Sn 01 48 49.7 +0.7**
NYDR Nydri-Lefkada 2.78 160 P **Pn 01 48 14.5 -1.2**
SOH Sokhos 2.96 99 *i* Pn **Pn 01 48 18.0 -0.3**
SOH *i* Sn **Sn 01 48 54.4 +0.7**
EVR Evrytania 2.99 143 P **Pn 01 48 19.5 +0.7**
ZAPS Zavoj 3.02 49 *e*Sn **Sn 01 48 55.4 0.0**
VTS Vitosha 3.06 64 *e*Pn **Pn 01 48 19.7 -0.1**
SRS Serrai 3.09 93 *i* Pn **Pn 01 48 19.6 -0.5**
SRS *i* Sn **Sn 01 48 56.0 -1.0**
SRS Serrai 3.09 93 *e*Pn **Pn 01 48 19.6 -0.5**
PVO Paravola 3.13 150 P **Pn 01 48 20.9 +0.3**
AGG Agios Georgios 3.17 136 P **Pn 01 48 21.7 +0.5**
AGG S **Sn 01 48 58.7 -0.2**
MMB Musomishta 3.20 85 *i* Pn **Pn 01 48 21.4 -0.2**
MMB *i* Sn **Sn 01 48 58.6 -1.1**
BLKB Belogradchik 3.27 45 *e*Pn **Pn 01 48 22.8 +0.2**
MDVR Moldovita 3.81 24 *e*Pn **Pn 01 48 29.3 -0.6**
GZR Gura Zlata 4.71 29 *e*Pn **Pn 01 48 42.3 0.0**

CATAC 25 01:52:28.7±0.6, 12°N±3°×8°8W±°, h27km±3km, M3.1/11, MLv3.1/11, Error ellipse: s-maj=8.7km s-min=3.6km az=37.5, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTN	**Potosi Cosigui**	**0.63**	**25**	P	Pn	01 52 41.8	-0.1
POTN				S	Sn	01 52 51.8	+0.6
PKGN	**Cerro Pekin**	**0.82**	**73**	P	Pb	01 52 44.5	0.0
PKGN				S	Sn	01 52 56.4	+0.6
CNCH	**Conchagua**	**0.85**	**357**	S	Sn	01 52 57.7	+1.0
CNCH	**Conchagua**	**0.85**	**357**	P	Pb	01 52 45.0	0.0
LCND	**La Caada**	**0.89**	**353**	P	Pn	01 52 45.5	0.0
LCND	**La Caada**	**0.89**	**353**	S	Sn	01 52 58.0	+0.5
CNGA	**Al SSO del Vol**	**1.06**	**86**	P	Pn	01 52 47.1	-0.7
CNGA				S	Sn	01 53 01.3	-0.5
CNGN	**Cerro Negro**	**1.06**	**86**	S	Sn	01 53 01.4	-0.5
CNGN	**Cerro Negro**	**1.06**	**86**	P	Pn	01 52 48.0	+0.1
ILCN	**San Idelfonso**	**1.07**	**82**	P	Pn	01 52 47.6	-0.4
ILCN				S	Sn	01 53 01.7	-0.2
PACA	**Pacayal**	**1.17**	**333**	S	Sn	01 53 04.7	+0.2
PACA	**Pacayal**	**1.17**	**333**	P	Pn	01 52 49.2	-0.2
COPN	**Copaltepe**	**1.19**	**102**	P	Pn	01 52 48.0	-1.6
MAS3	**Al N del Volca**	**1.62**	**104**	P	Pn	01 52 55.2	-0.3
MAS3				S	Sb	01 53 19.6	+1.6
YUSH	**Yuscaran**	**1.78**	**31**	P	Pn	01 52 57.6	-0.2
YUSH	**Yuscaran**	**1.78**	**31**	S	Sn	01 53 19.8	+0.3
RCVN	**Varillal2**	**1.93**	**53**	P	Pn	01 52 59.7	-0.3

IDC 25 02:05:03.1±13.0, 33.70N×6.23E, h0km, mb4.1/3, mbtmp3.9/4, ML3.0/1, MS3.2/1, Error ellipse: s-maj=288.4km s-min=73.4km az=69.0, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GERES	**GERESS Array B**	**16.13**	**18**	Pn	Pn	02 08 50.9	-0.3
	baz=179,slow=14,SNR=5.0						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**30.56**	**19**	P	P	02 11 17.9	-0.2
	1.6nm,0.7s,baz=197,slow=8.7,SNR=5.7						
	1.6nm,0.7s						
FURI	**Furi**	**38.74**	**122**	LR	LR	02 30 25.5	
	comp=Z,33nm,18.5s,baz=152,slow=39						
ZALV	**Zalesovo Beam**	**57.12**	**44**	P	P	02 14 51.3	+0.1
	1.4nm,0.4s,baz=282,slow=8.7,SNR=5.6						
	1.4nm,0.4s						
MKAR	**Makanchi Array**	**57.37**	**52**	P	P	02 14 53.0	-0.2
	1.1nm,0.6s,baz=286,slow=7.0,SNR=9.2						
	1.1nm,0.6s						

TIR ***25*** *02:06:10.4, 41°.55N×19°.52E, h28km±1km, Ml3.2/4*
BEO ***25*** *02:06:11.6±1.0, 41°.21N×19°.45E, h7km±5km, ML3.1/17*
PDG ***25*** *02:06:13.2±0.5, 41°.32N×19°.47E, h22km±1km, MD3.3/2, ML3.2/11, Error ellipse: s-maj=0.7km s-min=1.4km az=0.0*
THE ***25*** *02:06:14.0, 41°.N±8°×1°.9E±°, h90km±22km, M3.0/11, MLh3.0/11*
SKO ***25*** *02:06:15.8, 41°.26N×19°.63E, h24km, ML2.9*

ISC 25 02:06:13.1±1.0, 41°34N±0°.02×19°.50E±0°.03, h15km±7km, n88, σ1°25/123, 8C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.28**	**88**	⇓Pg	**Pg**	**02 06 18.2**	**-0.8**
TIR				Sg	**Sg**	**02 06 23.0**	**-0.1**
TIR				AML	AML	02 06 28.5	
	5.6nm,0.3s						
ULC	**Ulcinj**	**0.65**	**343**	⇓*i*Pg	**Pg**	**02 06 25.4**	**-0.6**
ULC				*e*Sg	**Sb**	**02 06 36.3**	**+1.1**
VLO	**Vlora**	**0.87**	**180**	⇑Pg	**Pn**	**02 06 31.6**	**+0.8**
VLO				Sg	**Sn**	**02 06 44.6**	**+1.5**
VLO				AML	AML	02 06 52.9	
	4.7nm,0.4s						
VLO	**Vlora**	**0.87**	**180**	P	**Pn**	**02 06 31.5**	**+0.8**
VLO				S	**Sn**	**02 06 47.1**	**+4.0**
DRME	**Dracevica, Mon**	**0.88**	**345**	*e*Pg	**Pb**	**02 06 30.0**	**0.0**
DRME				*e*Sg	**Sn**	**02 06 44.9**	**+1.4**
DRME	**Dracevica, Mon**	**0.88**	**345**	⇑*i*Pg	**Pb**	**02 06 30.1**	**0.0**
DRME				*e*Sg	**Sn**	**02 06 44.2**	**+0.8**
OHR	**Ohrid**	**1.00**	**103**	*i* Pg	**Pb**	**02 06 31.1**	**-1.1**
OHR				*i* Sg	**Sn**	**02 06 46.7**	**+0.1**
OHR				*e*Lg	Lg	02 06 48.5	
	comp=N,371nm,0.7s						
OHR				*e*Lg	Lg	02 06 50.5	
	comp=E,272nm,0.5s						
BUM	**Brajici-Budva**	**1.06**	**335**	⇓*i*Pg	**Pn**	**02 06 33.7**	**+0.2**
BUM				*e*Sg	**Sn**	**02 06 50.2**	**+2.1**
PDG	**Podgorica**	**1.11**	**351**	*e*Pg	**Pb**	**02 06 34.0**	**+0.1**
PDG				*e*Sg	**Sn**	**02 06 51.7**	**+2.7**
PDG	**Podgorica**	**1.11**	**351**	*e*Pg	**Pb**	**02 06 33.8**	**-0.1**
PDG				*i* Sg	**Sn**	**02 06 51.6**	**+2.6**
KBN	**Korca**	**1.21**	**126**	⇑Pg	**Pb**	**02 06 36.1**	**+0.4**
KBN				Sg	**Sg**	**02 06 53.2**	**+1.0**
KBN	**Korca**	**1.21**	**126**	P	**Pb**	**02 06 36.3**	**+0.6**
KBN				S	**Sg**	**02 06 55.2**	**+3.0**
CEME	**Cevo**	**1.28**	**340**	⇑*i*Pg	**Pg**	**02 06 37.2**	**+0.2**
CEME				*i* Sg	**Sg**	**02 06 56.1**	**+1.5**
PVY	**Plav**	**1.30**	**15**	⇑*i*Pg	**Pg**	**02 06 38.5**	**+0.3**
HCY	**Herceg Novi**	**1.34**	**326**	⇓*i*Pg	**Pb**	**02 06 37.9**	**0.0**
HCY				*i* Sg	**Sg**	**02 06 57.8**	**+1.4**
NKME	**Niksic**	**1.48**	**344**	⇓*i*Pg	**Pb**	**02 06 40.3**	**-0.1**
NKME				*e*Sg	**Sg**	**02 07 01.3**	**+0.3**
KOME	**Kolasin**	**1.51**	**0**	*e*Pg	**Pb**	**02 06 41.1**	**+0.2**
KOME				*e*Sg	**Sg**	**02 07 03.7**	**+1.8**
KOME	**Kolasin**	**1.51**	**0**	*e*Pg	**Pb**	**02 06 40.4**	**-0.5**
KOME				*i* Sg	**Sg**	**02 07 02.8**	**+0.9**
BEY	**Berane**	**1.56**	**11**	*e*Pg	**Pn**	**02 06 41.1**	**+0.7**
IVA	**Berane**	**1.56**	**11**	⇓*i*Pn	**Pn**	**02 06 40.8**	**+0.4**
IVA				*e*Sn	**Sg**	**02 07 04.2**	**+0.8**
TREB	**Trebinje**	**1.62**	**328**	*e*Pn	**Pn**	**02 06 41.5**	**+0.4**
PENT	**Pentalofos**	**1.69**	**132**	P	**Pb**	**02 06 44.2**	**+0.3**
BRY	**Bratogost**	**1.72**	**336**	*e*Pn	**Pn**	**02 06 43.2**	**+0.6**
BRY				*e*Sn	**Sg**	**02 07 08.4**	**-0.1**
IGT	**Igoumenitsa**	**1.91**	**160**	⇑Pn	**Pn**	**02 06 46.3**	**+1.2**
IGT				Sn	**Sg**	**02 07 14.3**	**-0.3**
IGT	**Igoumenitsa**	**1.91**	**160**	P	**Pn**	**02 06 45.7**	**+0.6**
IGT	**Igoumenitsa**	**1.91**	**160**	*i* Pn	**Pn**	**02 06 46.3**	**+1.2**
IGT				*i* Sn	**Sg**	**02 07 14.1**	**-0.5**
UPM	**Unac-Piva**	**1.92**	**347**	*e*Pn	**Pn**	**02 06 45.9**	**+0.6**
UPM				*e*Sn	**Sb**	**02 07 11.0**	**-0.6**
NOCI	**Noci**	**1.92**	**254**	⇑Pn	**Pn**	**02 06 45.0**	**-0.3**
NOCI				Sn	**Sb**	**02 07 12.0**	**+0.4**
NOCI				AML	AML	02 07 26.7	
	comp=E,1.0nm,3.3s						
SJES	**Sjenica**	**1.95**	**10**	*e*Pg	**Pb**	**02 06 47.8**	**-0.6**
SJES				*e*Sg	**Sg**	**02 07 17.4**	**+1.4**
STON	**Ston**	**2.04**	**319**	*e*Pn	**Pn**	**02 06 46.9**	**+0.1**
SELS	**Selova**	**2.23**	**32**	*e*Pn	**Pn**	**02 06 50.7**	**+1.2**
BARS	**Barje**	**2.27**	**49**	*i* Pn	**Pn**	**02 06 51.5**	**+1.4**
BARS				*i* Sn	**Sb**	**02 07 22.2**	**+0.6**
BARS	**Barje**	**2.27**	**49**	*e*Pn	**Pn**	**02 06 51.5**	**+1.4**
IVAS	**Ivanjica**	**2.29**	**12**	*e*Pn	**Pn**	**02 06 51.6**	**+1.2**
VAY	**Valandovo**	**2.31**	**89**	*i* Pn	**Pn**	**02 06 51.7**	**+1.1**
VAY				*i* Sn	**Sb**	**02 07 21.7**	**-1.1**
VAY				*e*Lg	Lg	02 07 25.9	
	comp=N,54nm,0.7s						
VAY				*e*Lg	Lg	02 07 26.3	
	comp=E,62nm,0.7s						
GOCS	**Kraljevo Serbi**	**2.44**	**24**	*e*Pn	**Pn**	**02 06 54.3**	**+1.8**
BOSS	**Bosilegrad**	**2.51**	**62**	*e*Pn	**Pn**	**02 06 54.0**	**+0.7**
BBLS	**Lazi&#263i**	**2.53**	**358**	*e*Pn	**Pn**	**02 06 55.1**	**+1.5**
KNT	**Kendrikon**	**2.57**	**93**	P	**Pn**	**02 06 54.8**	**+0.7**
KNT				S	**Sn**	**02 07 26.6**	**+1.5**
KNT	**Kendrikon**	**2.57**	**93**	*i* Pn	**Pn**	**02 06 54.9**	**+0.7**
KNT				*i* Sn	**Sn**	**02 07 25.7**	**+0.6**
LIT	**Litokhoron**	**2.59**	**118**	P	**Pn**	**02 06 56.2**	**+1.8**
LIT				S	**Sn**	**02 07 27.8**	**+2.2**
TYRN	**Tyrnavos**	**2.64**	**127**	P	**Pn**	**02 06 56.4**	**+1.2**
TYRN				S	**Sn**	**02 07 28.2**	**+1.4**
LKD2	**Lefkada island**	**2.70**	**160**	⇓Pn	**Pn**	**02 06 56.1**	**+0.2**
LKD2	**Lefkada island**	**2.70**	**160**	P	**Pn**	**02 06 56.1**	**+0.2**
LKD2				S	**Sn**	**02 07 28.4**	**+0.1**
GRUS	**Gruza**	**2.70**	**19**	*e*Pn	**Pn**	**02 06 57.7**	**+1.7**
THE	**Thessaloniki**	**2.72**	**104**	Pn	**Pn**	**02 06 56.6**	**+0.5**
AMPL	**Ampelaki**	**2.75**	**151**	P	**Pn**	**02 06 57.7**	**+1.1**
AMPL				S	**Sn**	**02 07 30.3**	**+0.8**
KKB	**Krupnik**	**2.77**	**78**	P	**Pn**	**02 06 57.7**	**+0.9**
KKB	**Krupnik**	**2.77**	**78**	*i* Pn	**Pn**	**02 06 57.8**	**+0.9**
NYDR	**Nydri-Lefkada**	**2.78**	**160**	P	**Pn**	**02 06 56.8**	**-0.2**
NYDR				S	**Sn**	**02 07 30.7**	**+0.5**
DIVS	**Divibare**	**2.78**	**7**	*e*Pn	**Pn**	**02 06 58.0**	**+0.8**
BOVS	**Bovan**	**2.82**	**35**	*e*Pn	**Pn**	**02 06 59.1**	**+1.6**
HORT	**Hortiatis**	**2.82**	**104**	P	**Pn**	**02 06 58.4**	**+0.7**
SGRT	**San Giovanni R**	**2.85**	**280**	Pn	**Pn**	**02 06 57.8**	**-0.2**
SOH	**Sokhos**	**2.96**	**99**	*i* Pn	**Pn**	**02 07 00.5**	**+1.0**
SOH				*i* Sn	**Sn**	**02 07 31.9**	**-2.9**
TRUS	**Trudelj**	**2.96**	**13**	*e*Pn	**Pn**	**02 07 01.1**	**+1.6**
ZAPS	**Zavoj**	**3.02**	**49**	*e*Pn	**Pn**	**02 07 01.8**	**+1.4**
VTS	**Vitosha**	**3.06**	**64**	*e*Pn	**Pn**	**02 07 01.9**	**+0.8**
SRS	**Serrai**	**3.09**	**93**	*i* Pn	**Pn**	**02 07 01.8**	**+0.4**
SRS				*i* Sn	**Sn**	**02 07 33.4**	**-4.6**
SRS	**Serrai**	**3.09**	**93**	*e*Pn	**Pn**	**02 07 01.9**	**+0.5**
ZAGS	**Zajecar**	**3.19**	**38**	*e*Pn	**Pn**	**02 07 04.1**	**+1.4**
AVAS	**Avala Beograd**	**3.44**	**12**	*e*Pn	**Pn**	**02 07 07.0**	**+0.9**
KUBS	**Kucevo**	**3.46**	**27**	*e*Pn	**Pn**	**02 07 05.7**	**-0.7**
MDVR	**Moldovita**	**3.80**	**24**	*e*Pn	**Pn**	**02 07 11.6**	**+0.4**
BLY	**Banja Luka**	**3.81**	**334**	*e*Pn	**Pn**	**02 07 11.9**	**+0.7**
PLD	**Plovdiv**	**4.01**	**77**	*e*Pn	**Pn**	**02 07 14.5**	**+0.6**
VRSS	**Vrsac**	**4.01**	**19**	*e*Pn	**Pn**	**02 07 15.9**	**+1.9**
BZS	**Buzias**	**4.54**	**19**	*e*Pn	**Pn**	**02 07 21.4**	**+0.1**
ITM	**Ithomi**	**4.56**	**155**	⇑Pn	**Pn**	**02 07 21.8**	**+0.3**
GZR	**Gura Zlata**	**4.70**	**29**	*e*Pn	**Pn**	**02 07 25.0**	**+1.4**
BOJS	**Bojanci**	**5.19**	**325**	*e*Pn	**Pn**	**02 07 30.3**	**+0.2**
CEY	**Cerknica**	**5.74**	**322**	*e*Pn	**Pn**	**02 07 38.2**	**+0.5**
SOKA	**Soboth**	**6.23**	**330**	*e*Pn	**Pn**	**02 07 45.1**	**+0.5**
	comp=E,1.8nm,0.4s						
OBKA	**Obir**	**6.28**	**327**	*e*Pn	**Pn**	**02 07 46.6**	**+1.3**
	comp=E,0.4nm,0.2s						
ARSA	**Arzberg**	**6.56**	**336**	*e*Pn	**Pn**	**02 07 49.7**	**+0.7**
	comp=E,1.3nm,0.3s						
KBA	**Koelnbreinsper**	**7.24**	**324**	*e*Pn	**Pn**	**02 08 00.3**	**+1.8**
	comp=E,0.1nm,0.2s						
ABTA	**Abfaltersbach**	**7.39**	**319**	*e*Pn	**Pn**	**02 08 00.6**	**+0.2**
	comp=E,0.7nm,0.5s						
BIOA	**Bad Ischl, Aus**	**7.61**	**329**	*e*Pn	**Pn**	**02 08 05.2**	**+1.9**
	comp=E,0.8nm,0.3s						
LESA	**Schwarzleotal**	**7.80**	**324**	*e*Pn	**Pn**	**02 08 05.8**	**-0.3**
	comp=E,0.4nm,0.2s						
WTTA	**Wattenberg**	**8.18**	**319**	*i* Pn	**Pn**	**02 08 12.3**	**+1.0**
	comp=E,1.2nm,0.3s						
WTTA				*e*Sn	**Sn**	**02 09 44.1**	**+0.7**
	comp=E,3.0nm,0.4s						
WATA	**Walderalm**	**8.26**	**319**	*e*Pn	**Pn**	**02 08 14.0**	**+1.6**
	comp=E,0.7nm,0.2s						
FETA	**Feichten**	**8.48**	**315**	*i* Pn	Pn	02 08 23.4	+7.9
	comp=E,0.3nm,0.3s						
MOTA	**Moosalm**	**8.50**	**318**	*e*Pn	**Pn**	**02 08 16.3**	**+0.6**
	comp=E,0.9nm,0.3s						
MOTA				*e*Sn	**Sn**	**02 09 51.6**	**+0.2**
	comp=E,2.4nm,0.5s						
GERES	**GERESS Array B**	**8.55**	**333**	Pn	Pn	02 08 23.3	+6.9
	baz=144,slow=14,SNR=1.9						
	comp=E,0.1nm,0.3s						
RETA	**Reutte**	**8.77**	**317**	*i* Sn	**Sn**	**02 09 56.9**	**-0.9**
	comp=E,1.6nm,0.3s						
FINES	**FINESS Array B**	**20.53**	**9**	P	**P**	**02 10 47.6**	**-2.9**
	comp=E,1.2nm,0.6s,baz=183,slow=11,SNR=6.6						
	comp=E,1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**44.23**	**50**	P	**P**	**02 14 19.8**	**-1.6**
	comp=E,1.3nm,0.5s,baz=292,slow=7.6,SNR=4.5						
	comp=E,1.3nm,0.5s						
MKAR	**Makanchi Array**	**44.38**	**61**	P	**P**	**02 14 21.6**	**-1.2**
	comp=E,0.6nm,0.6s,baz=279,slow=7.5,SNR=5.6						
	comp=E,0.6nm,0.6s						

IDC ***25*** *02:23:49.8±1.7, 41°.25N×19°.47E, h0km, mb3.9/4, mbtmp3.7/8, ML3.0/3, MS3.0/1, Error ellipse: s-maj=21.9km s-min=17.6km az=15.0*
TIR ***25*** *02:23:50.6, 41°.58N×19°.64E, h34km±1km, Ml3.4/5*
PDG ***25*** *02:23:52.9±0.7, 41°.31N×19°.45E, h13km±1km, MD3.5/5, ML3.5/11, Error ellipse: s-maj=0.8km s-min=1.5km az=0.0*
THE ***25*** *02:23:52.9, 41°.N±4°×1°.9E±°, h12km, M3.1/18, MLh3.1/18*
SKO ***25*** *02:23:52.7, 41°.47N×19°.43E, h7km, ML3.2*
BEO ***25*** *02:23:54.4±0.5, 41°.33N×19°.52E, h17km±3km, ML3.2/12*

ISC 25 02:23:53.3±1.0, 41°37N±0°.02×19°.47E±0°.02, h15km±7km, n141, σ1°41/193, mb3.9/3, 22C-15D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.29**	**95**	⇓Pg	**Pg**	**02 23 58.7**	**-0.7**
TIR				AML	AML	02 24 03.3	
	8.7nm,0.3s						
TIR				Sg	**Sg**	**02 24 03.5**	**-0.2**
ULC	**Ulcinj**	**0.61**	**344**	*e*Pg	**Pb**	**02 24 05.4**	**-0.4**
ULC				*i* Sg	**Sn**	**02 24 16.4**	**-0.8**
DRME	**Dracevica, Mon**	**0.84**	**345**	*e*Pg	**Pn**	**02 24 10.1**	**-0.5**
DRME				*e*Sg	**Sn**	**02 24 24.0**	**+1.2**
DRME	**Dracevica, Mon**	**0.84**	**345**	⇑*i*Pg	**Pb**	**02 24 09.6**	**0.0**
DRME				*e*Sg	**Sn**	**02 24 23.0**	**+0.2**
VLO	**Vlora**	**0.90**	**179**	⇑Pg	**Pb**	**02 24 11.7**	**+1.1**
VLO				Sg	**Sn**	**02 24 26.4**	**+2.2**
VLO				AML	AML	02 24 30.1	
	12nm,0.7s						
VLO	**Vlora**	**0.90**	**179**	P	**Pn**	**02 24 12.2**	**+0.7**
VLO				S	**Sn**	**02 24 26.5**	**+2.2**
BUM	**Brajici-Budva**	**1.02**	**335**	⇓*i*Pg	**Pn**	**02 24 13.9**	**+0.7**
BUM				*i* Sg	**Sn**	**02 24 30.4**	**+3.0**
OHR	**Ohrid**	**1.03**	**104**	*i* Pg	**Pg**	**02 24 12.0**	**-1.2**
OHR				*i* Sg	**Sn**	**02 24 28.5**	**+0.9**
OHR				*e*Lg	Lg	02 24 29.0	
	comp=N,767nm,0.7s						
OHR				*e*Lg	Lg	02 24 30.6	
	comp=E,538nm,0.5s						
PDG	**Podgorica**	**1.07**	**351**	⇑P	**Pn**	**02 24 15.1**	**+1.3**
PDG	**Podgorica**	**1.07**	**351**	*e*Pg	**Pn**	**02 24 13.9**	**+0.1**
PDG				*e*Sg	**Sn**	**02 24 30.8**	**+2.4**
PDG	**Podgorica**	**1.07**	**351**	⇓*i*Pg	**Pn**	**02 24 13.6**	**-0.2**
PDG				*i* Sg	**Sn**	**02 24 31.5**	**+3.1**
CEME	**Cevo**	**1.24**	**341**	⇑*i*Pg	**Pg**	**02 24 17.0**	**-0.2**
CEME				*i* Sg	**Sn**	**02 24 36.2**	**+3.4**
KBN	**Korca**	**1.24**	**127**	⇑Pg	**Pn**	**02 24 14.5**	**-1.8**
KBN				Sg	**Sb**	**02 24 32.2**	**-0.2**
KBN	**Korca**	**1.24**	**127**	P	**Pn**	**02 24 16.4**	**+0.2**
KBN				S	**Sn**	**02 24 35.4**	**+2.6**
HCY	**Herceg Novi**	**1.30**	**326**	⇓*i*Pg	**Pg**	**02 24 18.2**	**-0.1**
HCY				*e*Sg	**Sn**	**02 24 38.5**	**+4.4**
NKME	**Niksic**	**1.45**	**345**	*e*Pg	**Pg**	**02 24 20.4**	**-0.7**
NKME				*e*Sg	**Sg**	**02 24 42.3**	**+2.4**
KOME	**Kolasin**	**1.48**	**1**	*e*Pg	**Pg**	**02 24 21.5**	**-0.2**
KOME				*e*Sg	**Sg**	**02 24 43.9**	**+3.0**
KOME	**Kolasin**	**1.48**	**1**	⇑*i*Pg	**Pg**	**02 24 20.9**	**-0.8**
KOME				*e*Sg	**Sg**	**02 24 43.6**	**+2.7**
BEY	**Berane**	**1.53**	**12**	*e*Pg	**Pb**	**02 24 21.3**	**-0.2**
IVA	**Berane**	**1.53**	**12**	⇑*i*Pn	**Pb**	**02 24 21.2**	**-0.2**
IVA				*i* Sn	**Sg**	**02 24 45.0**	**+2.4**
TREB	**Trebinje**	**1.58**	**328**	⇑*i*Pn	**Pb**	**02 24 21.6**	**-0.7**
TREB	**Trebinje**	**1.58**	**328**	*e*Pn	**Pb**	**02 24 21.7**	**-0.6**
BRY	**Bratogost**	**1.68**	**336**	*e*Pn	**Pb**	**02 24 23.6**	**-0.4**
BRY				*i* Sn	**Sg**	**02 24 49.2**	**+1.9**
PENT	**Pentalofos**	**1.73**	**132**	P	**Pn**	**02 24 24.7**	**+1.8**
UPM	**Unac-Piva**	**1.88**	**347**	*e*Pn	**Pb**	**02 24 27.3**	**-0.1**
UPM				*i* Sn	**Sg**	**02 24 53.8**	**+0.1**
KLNJ	**Klinje**	**1.91**	**340**	*e*Pn	**Pb**	**02 24 28.0**	**+0.1**
NOCI	**Noci**	**1.91**	**253**	⇑Pn	**Pn**	**02 24 25.4**	**0.0**
NOCI				Sn	**Sg**	**02 24 54.2**	**-0.6**
NOCI				AML	AML	02 25 02.0	
	comp=E,1.9nm,0.5s						
SJES	**Sjenica**	**1.92**	**11**	*e*Pg	**Pb**	**02 24 28.5**	**+0.4**
SJES				*e*Sg	**Sg**	**02 24 55.5**	**+0.4**
IGT	**Igoumenitsa**	**1.95**	**160**	⇑Pn	**Pn**	**02 24 27.0**	**+1.1**
IGT				Sn	**Sb**	**02 24 53.6**	**+0.9**
IGT	**Igoumenitsa**	**1.95**	**160**	P	**Pn**	**02 24 26.4**	**+0.5**
IGT				S	**Sn**	**02 24 52.2**	**+2.0**
IGT	**Igoumenitsa**	**1.95**	**160**	*i* Pn	**Pn**	**02 24 26.9**	**+1.1**
IGT				*i* Sn	**Sb**	**02 24 54.8**	**+2.1**
IGT	**Igoumenitsa**	**1.95**	**160**	*e*Pn	**Pn**	**02 24 27.0**	**+1.1**
STON	**Ston**	**2.00**	**319**	⇑*i*Pn	**Pn**	**02 24 26.8**	**+0.3**
JAN	**Janina**	**2.01**	**148**	P	**Pn**	**02 24 27.6**	**+0.8**
KZN	**Kozani**	**2.04**	**121**	P	**Pn**	**02 24 28.7**	**+1.4**
KZN				S	**Sn**	**02 24 55.3**	**+2.8**
SELS	**Selova**	**2.21**	**33**	*e*Pn	**Pn**	**02 24 30.5**	**+1.0**
SELS				*e*Sn	**Sn**	**02 24 58.0**	**+1.4**
PRMD	**Pramanda**	**2.22**	**146**	P	**Pn**	**02 24 30.9**	**+1.3**
RUDO	**Rudo**	**2.25**	**358**	*e*Pn	**Pn**	**02 24 30.9**	**+1.0**
RUDO	**Rudo**	**2.25**	**358**	*e*Pn	**Pb**	**02 24 32.0**	**-1.6**
IVAS	**Ivanjica**	**2.26**	**13**	*e*Pn	**Pn**	**02 24 31.3**	**+1.1**
BARS	**Barje**	**2.26**	**50**	*i* Pn	**Pn**	**02 24 31.6**	**+1.4**
BARS				*i* Sn	**Sn**	**02 24 58.5**	**+0.7**
BARS	**Barje**	**2.26**	**50**	*e*Pn	**Pn**	**02 24 31.7**	**+1.5**
VAY	**Valandovo**	**2.33**	**90**	*i* Pn	**Pn**	**02 24 30.7**	**-0.4**
VAY				*i* Sn	**Sn**	**02 25 00.7**	**+1.2**
VAY				*e*Lg	Lg	02 25 07.0	
	comp=N,103nm,0.7s						
VAY				*e*Lg	Lg	02 25 08.3	
	comp=E,64nm,0.7s						
GOCS	**Kraljevo Serbi**	**2.42**	**25**	*e*Pn	**Pn**	**02 24 33.9**	**+1.5**
GOCS				*e*Sn	**Sn**	**02 25 03.1**	**+1.2**
BBLS	**Lazi&#263i**	**2.49**	**359**	*e*Pn	**Pb**	**02 24 36.3**	**-1.5**
BOSS	**Bosilegrad**	**2.51**	**62**	*e*Pn	**Pn**	**02 24 34.4**	**+0.8**
KNT	**Kendrikon**	**2.59**	**94**	P	**Pn**	**02 24 35.2**	**+0.5**
KNT	**Kendrikon**	**2.59**	**94**	*i* Pn	**Pn**	**02 24 35.2**	**+0.5**
KNT				*i* Sn	**Sn**	**02 25 06.3**	**+0.4**
LIT	**Litokhoron**	**2.62**	**118**	P	**Pn**	**02 24 35.6**	**+0.5**
LIT	**Litokhoron**	**2.62**	**118**	*i* Pn	**Pn**	**02 24 35.8**	**+0.7**
LIT				*i* Sn	**Sb**	**02 25 11.1**	**-0.9**
THL	**Klokotos Trika**	**2.65**	**132**	P	**Pn**	**02 24 36.1**	**+0.6**
THL				S	**Sn**	**02 25 08.5**	**+1.1**
GRUS	**Gruza**	**2.67**	**20**	*e*Pn	**Pn**	**02 24 37.8**	**+1.9**
GRUS			

IDI	**Anoyia**	**7.42**	**143**	Pn	**Pn**	**02 25 39.0**	**-2.0**
	comp=E,4.0nm,0.8s,baz=333,slow=16,SNR=0.9						
IDI				Sn	**Sn**	**02 27 01.3**	**-3.7**
	comp=E,0.4nm,0.3s,baz=44,slow=6.7,SNR=1.4						
MOA	**Molln**	**7.46**	**332**	*e*Pn	**Pn**	**02 25 43.8**	**+2.2**
	comp=E,2.4nm,0.5s						
MOA				*e*Sn	**Sn**	**02 27 08.3**	**+2.3**
	comp=E,1.2nm,0.4s						
LESA	**Schwarzleotal**	**7.76**	**323**	*e*Pn	**Pn**	**02 25 46.5**	**+0.7**
	comp=E,1.2nm,0.3s						
LESA				*i* Sn	**Sn**	**02 27 12.0**	**-1.4**
	comp=E,2.7nm,0.4s						
WTTA	**Wattenberg**	**8.14**	**319**	*e*Pn	**Pn**	**02 25 53.1**	**+2.1**
	comp=E,4.5nm,0.3s						
WTTA				*e*Sn	**Sn**	**02 27 22.6**	**-0.2**
	comp=E,5.7nm,0.5s						
WATA	**Walderalm**	**8.22**	**319**	*e*Pn	**Pn**	**02 25 54.4**	**+2.3**
	comp=E,1.9nm,0.3s						
WATA				*e*Sn	**Sn**	**02 27 24.7**	**+0.1**
	comp=E,2.5nm,0.2s						
SQTA	**Sankt Quirin**	**8.32**	**317**	*e*Pn	**Pn**	**02 25 55.3**	**+1.8**
	comp=E,1.2nm,0.2s						
FETA	**Feichten**	**8.44**	**315**	*i* Sn	**Sn**	**02 27 30.7**	**+0.4**
	comp=E,0.5nm,0.3s						
MOTA	**Moosalm**	**8.46**	**318**	*e*Pn	**Pn**	**02 25 56.7**	**+1.3**
	comp=E,2.0nm,0.4s						
GERES	**GERESS Array B**	**8.51**	**333**	Pn	**Pn**	**02 25 57.2**	**+1.2**
	baz=150,slow=14,SNR=2.9						
	comp=E,0.2nm,0.4s						
DAVOX	**Davos/Dischmat**	**8.77**	**311**	Pn	**Pn**	**02 26 00.6**	**+1.0**
	comp=E,0.3nm,0.3s,baz=175,slow=16,SNR=4.1						
DAVOX				Sn	**Sn**	**02 27 39.1**	**+0.8**
	comp=E,0.3nm,0.3s,baz=89,slow=19,SNR=3.7						
	comp=E,1.1nm,0.4s						
DAVA	**Damuels**	**9.06**	**314**	*e*Pn	**Pn**	**02 26 06.6**	**+2.9**
	comp=E,1.6nm,0.5s						
FINES	**FINESS Array B**	**20.50**	**9**	P	**P**	**02 28 29.1**	**-1.3**
	comp=E,5.3nm,1.1s,baz=184,slow=9.3,SNR=7.9						
	comp=E,5.3nm,1.1s						
MDT	**Midelt**	**20.97**	**254**	LR	LR	02 37 27.8	
	comp=E,42nm,19.0s,baz=340,slow=39						
BVAR	**Borovoye Array**	**35.77**	**53**	P	**P**	**02 30 51.1**	**-0.4**
	comp=E,0.9nm,0.7s,baz=288,slow=7.1,SNR=3.4						
	comp=E,0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**44.22**	**50**	P	**P**	**02 32 00.4**	**-1.2**
	comp=E,1.6nm,0.4s,baz=284,slow=8.7,SNR=6.0						
	comp=E,1.6nm,0.4s						
MKAR	**Makanchi Array**	**44.38**	**61**	P	**P**	**02 32 01.7**	**-1.3**
	comp=E,1.1nm,0.6s,baz=282,slow=7.1,SNR=9.9						
	comp=E,1.1nm,0.6s						

AFAD ***25*** *02:31:52.6, 40.70N×33.00E, h12km±1km, ML2.1*
ISK ***25*** *02:31:53.7, 40.68N×32.92E, h6km, ML2.7/10*
ISC 25 02:31:52.9±1.1, 40.70N±0.03×32.98E±0.03, h7km±11km, n20, σ0961/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DERS	**Karabk-Eskip**	**0.36**	**296**	P		**Pg**	**02 32 00.6**	**+0.5**
DERS				*i* IAML			02 32 07.0	
	comp=E,318nm,0.2s							
DERS				S		**Sb**	**02 32 07.1**	**-0.6**
DERS				*i* IAML			02 32 08.0	
	comp=N,256nm,0.2s							
ELDT	**Eldivan**	**0.40**	**121**	P		**Pg**	**02 32 00.8**	**+0.1**
ELDT				S		**Sg**	**02 32 06.3**	**+0.3**
ELDT				*i* IAML			02 32 07.0	
	comp=E,305nm,0.4s							
ELDT				*i* IAML			02 32 10.0	
	comp=N,305nm,0.4s							
CMDR	**Camlidere-ANKA**	**0.43**	**243**	P		**Pg**	**02 32 01.6**	**+0.3**
CMDR				S		**Sb**	**02 32 08.4**	**-1.4**
CMDR				*i* IAML			02 32 09.0	
	comp=N,190nm,0.3s							
KBUK	**KARABUK-Merkez**	**0.60**	**334**	P		**Pg**	**02 32 04.3**	**-0.2**
KBUK				S		**Sg**	**02 32 13.4**	**+0.9**
KBUK				*i* IAML			02 32 14.0	
	comp=E,62nm,0.2s							
PELI	**Kastamonı-Ara**	**0.66**	**23**	P		**Pg**	**02 32 05.7**	**+0.1**
PELI				S		**Sg**	**02 32 14.3**	**+0.1**
ILGA	**Ilgaz**	**0.66**	**57**	P		**Pg**	**02 32 05.5**	**-0.3**
ILGA				S		**Sg**	**02 32 14.0**	**-0.4**
ILGA				*i* IAML			02 32 22.0	
	comp=E,62nm,0.5s							
ILGA				*i* IAML			02 32 24.0	
	comp=N,63nm,0.5s							
BCAM	**Yenicaga**	**0.70**	**280**	P		**Pg**	**02 32 06.8**	**+0.3**
ANTO	**Ankara**	**0.84**	**190**	Pg		**Pb**	**02 32 09.9**	**0.0**
ANTO				Sg		**Sb**	**02 32 21.8**	**+0.4**
DEVR	**Zonguldak/Devr**	**0.88**	**301**	P		**Pg**	**02 32 09.8**	**-0.1**
DEVR				S		**Sb**	**02 32 22.2**	**-0.4**
KIBS	**BOLU**	**0.90**	**253**	P		**Pg**	**02 32 10.3**	**+0.1**
KIBS				*i* IAML			02 32 29.0	
	comp=E,85nm,0.4s							
KIBS				*i* IAML			02 32 30.0	
	comp=N,97nm,0.5s							
BOLU	**Bolu-Merkez-Mu**	**0.99**	**275**	P		**Pg**	**02 32 11.9**	**-0.1**
BOLU				*i* IAML			02 32 39.0	
	comp=N,27nm,0.9s							
BOLU				*i* IAML			02 32 40.0	
	comp=E,35nm,0.7s							
YUVA	**Yuva-Kibriscik**	**1.03**	**253**	Pg		**Pb**	**02 32 12.8**	**-0.4**
KURC	**Kurucasile-Bar**	**1.16**	**351**	Pn		**Pn**	**02 32 16.2**	**+0.5**
KURC				Sn		**Sn**	**02 32 33.1**	**+1.3**
POLA	**Polatl-ANKAR**	**1.17**	**212**	Pn		**Pn**	**02 32 15.9**	**0.0**
MDUB	**Mudurnu**	**1.38**	**261**	Pn		**Pg**	**02 32 19.4**	**+0.1**
KAMT	**Kaman**	**1.44**	**157**	Pn		**Pb**	**02 32 20.2**	**0.0**
GULT	**Gulveren**	**1.90**	**263**	Pn		**Pb**	**02 32 26.8**	**-1.1**
CIFT	**Cifteler, Eski**	**1.98**	**228**	Pn		**Pb**	**02 32 28.7**	**-0.7**
KOZK	**Kozakli-Nevseh**	**2.08**	**135**	Pn		**Pb**	**02 32 30.3**	**-0.7**
YOZ	**Yozgat**	**2.08**	**120**	Pn		**Pb**	**02 32 30.4**	**-0.7**

IDC 25 02:46:48.3±4.3, 26.34N×141.53E, h0km, mb3.9/3, mbtmp3.9/3, MS3.1/1, Error ellipse: s-maj=300.9km s-min=30.6km az=84.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H11N2	**WAKE ISLAND Hy**	**24.23**	**100**	T		T	03 16 26.3	
	baz=291,slow=75,SNR=4.8							
H11N1	**WAKE ISLAND Hy**	**24.23**	**101**	T		T	03 16 39.6	
	baz=291,slow=75,SNR=3.9							
H11N3	**WAKE ISLAND Hy**	**24.25**	**100**	T		T	03 16 38.6	
	baz=291,slow=75,SNR=4.8							
H11S3	**WAKE ISLAND Hy**	**24.51**	**103**	T		T	03 16 59.7	
	baz=294,slow=75,SNR=6.3							
H11S1	**WAKE ISLAND Hy**	**24.51**	**103**	T		T	03 17 02.6	
	baz=294,slow=75,SNR=5.9							
H11S2	**WAKE ISLAND Hy**	**24.52**	**103**	T		T	03 16 55.4	
	baz=294,slow=75,SNR=5.1							
WRA	**Warramunga Arr**	**46.54**	**189**	P		P	02 55 17.9	+0.1
	1.4nm,0.5s,baz=11,slow=8.7,SNR=19							
	1.4nm,0.5s							
ZALV	**Zalesovo Beam**	**49.67**	**320**	LR		LR	03 15 26.2	
	comp=Z,18nm,18.0s,baz=30,slow=35							
ASAR	**Alice Springs**	**50.26**	**189**	P		P	02 55 46.0	-0.5
	0.2nm,0.3s,baz=3.0,slow=6.8,SNR=2.4							
	0.2nm,0.3s							
FINES	**FINESS Array B**	**78.36**	**334**	P		P	02 58 50.3	0.0
	2.6nm,1.0s,baz=72,slow=6.2,SNR=7.0							
	2.6nm,1.0s							

TIR ***25*** *03:01:15.9, 41.52N×19.66E, h36km, MI2.7/3*
BEO ***25*** *03:01:18.2±0.6, 41.32N×19.80E, h2km±4km, ML1.9/5*
ISC 25 03:01:17.9±1.3, 41.31N±0.03×19.46E±0.05, h5km±11km, n14, σ0977/23, 2C-1D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TIR	**Tirane**	**0.31**	**84**	⇓Pg		**Pg**	**03 01 23.3**	**-0.6**
TIR				Sg		**Sg**	**03 01 28.2**	**+0.2**
TIR				AML		AML	03 01 28.3	
	0.8nm,0.2s							
VLO	**Vlora**	**0.84**	**178**	⇑Pg		**Pn**	**03 01 36.8**	**+0.4**
VLO				Sg		**Sn**	**03 01 49.9**	**+0.8**
VLO				AML		AML	03 01 52.3	
	0.7nm,0.4s							
DRME	**Dracevica, Mon**	**0.90**	**347**	*e*Pg		**Pb**	**03 01 35.5**	**-0.4**
PDG	**Podgorica**	**1.13**	**352**	*e*Pg		**Pb**	**03 01 39.8**	**0.0**
PDG				*e*Sg		**Sg**	**03 01 55.3**	**+1.2**
KOME	**Kolasin**	**1.54**	**2**	*e*Pg		**Pn**	**03 01 46.0**	**0.0**
BEY	**Berane**	**1.59**	**12**	*e*Pg		**Pn**	**03 01 46.6**	**-0.2**
TREB	**Trebinje**	**1.63**	**330**	*e*Pn		**Pb**	**03 01 48.6**	**+0.3**
NOCI	**Noci**	**1.88**	**255**	Pn		**Pn**	**03 01 50.1**	**-0.5**
NOCI				Sn		**Sg**	**03 02 18.6**	**+0.3**
NOCI				AML		AML	03 02 26.6	
	0.2nm,0.5s							
IGT	**Igoumenitsa**	**1.90**	**159**	⇑Pn		**Pn**	**03 01 51.4**	**+0.5**
IGT				Sn		**Sb**	**03 02 17.4**	**+0.3**
IGT	**Igoumenitsa**	**1.90**	**159**	*e*Pn		**Pn**	**03 01 50.0**	**-0.9**
SJES	**Sjenica**	**1.98**	**11**	*e*Pg		**Pn**	**03 01 53.7**	**+1.5**
SJES				*e*Sg		**Sb**	**03 02 19.5**	**-0.1**
SELS	**Selova**	**2.27**	**32**	*e*Pg		**Pn**	**03 01 57.3**	**+1.3**
SELS				*e*Sg		**Sn**	**03 02 24.5**	**+0.1**
IVAS	**Ivanjica**	**2.32**	**13**	*e*Pn		**Pn**	**03 01 56.4**	**-0.3**
IVAS				*e*Sn		**Sn**	**03 02 25.3**	**-0.4**
GOCS	**Kraljevo Serbi**	**2.48**	**25**	*e*Pn		**Pn**	**03 01 58.9**	**-0.1**
GOCS				*e*Sn		**Sn**	**03 02 28.1**	**-1.6**

SKHL ***25*** *03:21:17.8±0.1, 45.00N×145.70E, h45km±5km, mb4.2/3*
JMA ***25*** *03:21:20.6±0.1, 44.9N±0.1×145.4E±0.8, h7km±1km, MV2.8/29, SOUTHERN SEA OF OKHOTSK*
ISC 25 03:21:19.5±2.8, 44.8N±0.1×145.53E±0.07, h19km±3km, n11, σ1910/18, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.84**	**163**	*e*P		**Pb**	**03 21 34.1**	**-1.4**
YUK				AMB		AMB	03 21 35.7	
	100nm,0.2s							
YUK				*i* S		**Sg**	**03 21 46.2**	**-0.8**
YUK				A		A	03 21 46.7	
	700nm,0.4s							
YUK				A		A	03 21 46.7	
	700nm,0.4s							
JRA	**Rausu**	**0.95**	**198**	P		**Pg**	**03 21 38.5**	**+0.6**
JRA				*e*S		**Sn**	**03 21 51.1**	**+0.3**
GLVR	**Golovnino**	**1.10**	**180**	*e*P		**Pg**	**03 21 39.9**	**-0.9**
GLVR				AMB		AMB	03 21 40.2	
	130nm,0.3s							
GLVR				*i* S		**Sg**	**03 21 55.0**	**-0.3**
GLVR				A		A	03 21 55.7	
	650nm,0.4s							
GLVR				A		A	03 21 55.7	
	290nm,0.4s							
JNSB	**Nemuroshibetsu**	**1.13**	**200**	*e*P		**Pg**	**03 21 41.6**	**+0.3**
JNSB				*e*S		**Sg**	**03 21 56.5**	**+0.3**
SHO	**Shikotan**	**1.35**	**136**	*e*P		Pg	03 21 49.2	+3.7
SHO				AMB		AMB	03 21 50.2	
	40nm,0.3s							
SHO				*e*S		**Sg**	**03 22 05.9**	**+2.8**
SHO				A		A	03 22 06.5	
	70nm,0.3s							
SHO				A		A	03 22 06.5	
	60nm,0.3s							
JNK	**Nakash**	**1.38**	**205**	*e*P		**Pg**	**03 21 45.8**	**-0.4**
JNK				*e*S		**Sb**	**03 22 03.6**	**+1.6**
JTKR	**Abashiri--Toko**	**1.45**	**234**	*e*P		**Pb**	**03 21 45.7**	**-0.2**
NMR	**Nemuro--Hokkai**	**1.48**	**174**	*e*P		**Pb**	**03 21 45.4**	**-0.9**
NMR				*i* S		**Sn**	**03 22 03.8**	**-0.1**
AKK	**Akkeshi**	**1.89**	**195**	*e*S		**Sn**	**03 22 14.0**	**0.0**
JAK	**Akkeshi**	**1.94**	**198**	*e*S		**Sb**	**03 22 18.8**	**+0.8**
JKK2	**Kamakawa 2**	**2.21**	**245**	*e*P		**Pb**	**03 21 58.5**	**-0.5**
JKK2				*e*S		**Sb**	**03 22 25.5**	**-0.5**

ISU ***25*** *03:29:51, 39.59N×71.74E, h3km*
KRNET ***25*** *03:29:56.0±0.1, 39.73N×71.97E, h15km, mb2.6*
ISC 25 03:29:59.1±1.4, 39.75N±0.06×71.88E±0.08, h19km, n8, σ0996/12, 8C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHMI	**Chimion**	**0.58**	**332**	S		**Sb**	**03 30 17.6**	**-0.9**
FRG	**Fergana**	**0.62**	**353**	S		**Sb**	**03 30 21.0**	**+1.3**
GAR	**Garm**	**1.43**	**239**	⇑*i*P		**Pn**	**03 30 23.3**	**-0.8**
GAR				⇑S		**Sn**	**03 30 42.8**	**+0.4**
ARSB	**Arslanbob**	**1.78**	**28**	⇓*e*P		**Pn**	**03 30 28.3**	**-0.7**
ARSB				⇓*e*S		**Sn**	**03 30 52.1**	**+0.9**
TRKS	**Terek-Say**	**1.86**	**343**	⇑*e*P		**Pn**	**03 30 29.4**	**-0.8**
TRKS				⇑*i*S		**Sn**	**03 30 54.1**	**+0.9**
CHGR	**Chuyangaron**	**2.38**	**244**	⇑*i*P		**Pn**	**03 30 38.5**	**+1.3**
CHGR				⇑*i*S		**Sb**	**03 31 09.6**	**-0.8**
AAK	**Ala-Archa**	**3.49**	**34**	⇓Pg		**Pb**	**03 31 00.3**	**-0.1**
	1.6nm,0.9s							
AAK				⇑Lg		Lg	03 31 38.9	
	1.6nm,0.7s							
KK31	**Karatay Array**	**3.50**	**343**	⇑Pg		**Pb**	**03 31 00.3**	**-0.2**
	0.5nm,0.3s							
KK31				⇓Lg		Lg	03 31 46.0	
	1.2nm,0.4s,baz=158,slow=28,SNR=4.7							

IDC ***25*** *03:51:56.1±1.2, 2.31S×121.17E, h0km, mb3.7/5, mbtmp3.7/6, ML3.5/1, MS2.9/3, Error ellipse: s-maj=38.8km s-min=19.7km az=68.0*
DJA ***25*** *03:51:58.1±0.2, 2°S±2'×12°1E±', h10km, M4.0/12, MLv4.0/12*
ISC 25 03:51:57.7±2.7, 2.31S±0.04×121.13E±0.06, h9km±18km, n18, σ0965/22, mb3.7/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
APSI	**Ampana**	**1.48**	**20**	P		**Pn**	**03 52 24.8**	**+0.3**
APSI				S		**Sg**	**03 52 45.6**	**+0.2**
PCI	**Palu**	**1.90**	**317**	P		**Pn**	**03 52 30.2**	**-0.2**
PCI				S		**Sn**	**03 52 54.7**	**+0.2**
LUWI	**Luwuk**	**2.06**	**52**	P		**Pn**	**03 52 33.1**	**+0.5**
LUWI				S		**Sb**	**03 53 00.6**	**-0.6**
SPSI	**Sidrap Palu**	**2.14**	**220**	P		**Pn**	**03 52 33.8**	**+0.2**
SPSI				S		**Sn**	**03 53 00.1**	**-0.1**
KDI	**Kendari**	**2.21**	**138**	P		**Pn**	**03 52 35.2**	**+0.6**
BNSI	**Bone**	**2.32**	**206**	P		**Pn**	**03 52 36.6**	**+0.5**
MRSI	**Marisa**	**2.88**	**16**	P		**Pn**	**03 52 43.8**	**0.0**
MRSI				S		**Sn**	**03 53 19.3**	**+0.7**
MPSI	**Mapaga**	**2.90**	**335**	P		**Pn**	**03 52 44.9**	**+0.8**
KAPI	**Kappang**	**3.02**	**207**	Pn		**Pn**	**03 52 46.0**	**+0.2**
	5.7nm,0.3s,baz=22,slow=9.1,SNR=6.6							
KAPI				Sn		**Sn**	**03 53 23.0**	**+0.9**
	8.5nm,0.3s,baz=30,slow=19,SNR=8.3							
KAPI				LR		LR	03 53 51.4	
	comp=Z,65nm,20.2s,baz=310,slow=38							
	15nm,0.3s							
BKSI	**Bulukumba**	**3.16**	**199**	P		**Pn**	**03 52 47.9**	**+0.3**
BSSI	**Bau Bau, Buton**	**3.86**	**190**	P		**Pn**	**03 52 57.4**	**+0.1**
BATI	**Baumata**	**8.24**	**162**	LR		LR	03 57 25.5	
	comp=Z,118nm,18.7s,baz=139,slow=40							
LEM	**Lembang**	**14.20**	**251**	LR		LR	04 00 24.5	
	comp=Z,88nm,19.1s,baz=208,slow=36							
WRA	**Warramunga Arr**	**21.76**	**145**	P		**P**	**03 56 48.9**	**-1.0**
	1.4nm,0.8s,baz=323,slow=11,SNR=9.2							
	1.4nm,0.8s							
ASAR	**Alice Springs**	**24.57**	**151**	P		**P**	**03 57 17.9**	**-0.3**
	1.6nm,0.8s,baz=323,slow=7.8,SNR=12							
	1.6nm,0.8s							
STKA	**Stephens Creek**	**35.17**	**149**	P		**P**	**03 58 51.7**	**-0.4**
	1.9nm,0.5s,baz=329,slow=10,SNR=7.2							
	1.9nm,0.5s							
MKAR	**Makanchi Array**	**59.63**	**330**	P		**P**	**04 02 01.1**	**-1.1**
	0.6nm,0.6s,baz=134,slow=6.9,SNR=4.7							
	0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**64.05**	**331**	P		**P**	**04 02 33.1**	**+1.3**
	0.1nm,0.3s,baz=124,slow=6.6,SNR=2.2							
	0.1nm,0.3s							

IDC 25 04:16:01.0±1.7, 9.77S×123.86E, h96km±17km, mb3.0/1, mbtmp3.5/4, Error ellipse: s-maj=63.1km s-min=18.3km az=58.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BATI	**Baumata**	**0.47**	**204**	P		Pn	04 16 17.6	+1.3
	193nm,0.4s,baz=22,slow=4.1,SNR=23							
BATI				S		Sn	04 16 29.4	+1.8
	128nm,0.4s,baz=287,slow=22,SNR=17							
FITZ	**Fitzroy Crossi**	**8.45**	**168**	P		Pn	04 18 01.4	+0.7
	1.4nm,0.3s,baz=9.1,slow=11,SNR=19							
FITZ				S		Sn	04 19 35.7	+1.2
	9.4nm,0.7s,baz=169,slow=11,SNR=11							
WRA	**Warramunga Arr**	**14.30**	**136**	P		Pn	04 19 18.8	-0.3
	0.2nm,0.3s,baz=314,slow=13,SNR=8.4							
WRA				S		Sn	04 21 54.2	-2.5
	2.5nm,0.9s,baz=310,slow=24,SNR=10							
ASAR	**Alice Springs**	**16.82**	**146**	P		P	04 19 52.7	+1.4
	1.0nm,0.5s,baz=326,slow=13,SNR=15							
ASAR				S		Sn	04 22 56.1	-1.4
	0.6nm,0.5s,baz=319,slow=21,SNR=5.3							
MKAR	**Makanchi Array**	**67.41**	**330**	P		P	04 26 45.6	-0.6
	0.1nm,0.4s,baz=126,slow=7.3,SNR=1.8							
	0.1nm,0.4s							

IDC ***25*** *04:29:09.7±0.5, 17.74S×173.07W, h0km, mb4.7/20, mbtmp4.7/21, ML4.0/1, MS4.6/5, Error ellipse: s-maj=18.6km s-min=14.8km az=123.0*
BJI ***25*** *04:29:10.7, 17.29S×172.71W, h10km, mB5.7/29, mb5.1/41, Ms5.0/30, Ms7 4.7/35*
NEIC ***25*** *04:29:11.4±2.0, 17.49S±0.10×172.77W±0.09, h10km±1km, mb5.2/313, Error ellipse: s-maj=18.4km s-min=12.6km az=143.0*
MOS ***25*** *04:29:11.0±1.9, 17.66S×173.02W, h10km, mb5.4/27, MS4.6/5, Error ellipse: s-maj=11.6km s-min=10.1km az=62.6*
GCMT ***25*** *04:29:15.4±0.2, 17.79S±0.01×172.51W±0.01, h15km, MW5.1/125, Moment Tensor Solution. s78,c112; s125,c203; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.82±.13; Mθθ-1.44±.09; Mφφ-3.38±.09; Mrθ2.28±.20; Mrφ-1.79±.06; Mθφ3.75±.21; Best double couple: M:6.38200×10^16 NP1:φs210.00000°, δ23.00000°, λ89.00000°. NP2:φs31.00000°, δ67.00000°, λ90.00000°. Principal axes: T 6.5690, Plg68.0000°, Azm302.0000°; N -0.3740, Plg0.0000°, Azm211.0000°; P -6.1950, Plg22.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 04:29:12.1±0.6, 17.78S±0.06×172.88W±0.05, h19km±2km, h19km:pP-P, n749, σ1944/604, mb5.1/214, MS4.7/72, 31C-25D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NIUE	**Niue**	**3.09**	**115**	P		Pn	04 29 53.2	-6.6
NIUE				S		Sn	04 30 24.0	-12
AFI	**Afiamalu**	**3.99**	**16**			Pn	04 30 05.6	-6.8
AFI	**Afiamalu**	**3.99**	**16**	P		**Pn**	**04 30 08.6**	**-3.8**
FUTU	**Fugatoga**	**6.11**	**304**			**Pn**	**04 30 39.1**	**-2.3**
MSVF	**Nonsavu**	**8.64**	**269**			**Pn**	**04 31 17.3**	**+1.0**
MSVF	**Nonsavu**	**8.64**	**269**	P		**Pn**	**04 31 17.3**	**+1.0**
RAO	**Raoul Island**	**12.32**	**201**	LR		LR	04 36 14.9	
	comp=Z,484nm,19.8s,baz=325,slow=35							
RAR	**Rarotonga**	**12.82**	**108**	Pn		Pn	04 32 06.0	-7.5
RAR	**Rarotonga**	**12.82**	**108**	Pn		Pn	04 32 05.9	-7.6
	4.9nm,0.3s,baz=259,slow=7.8,SNR=17							
RAR				Sn		Sn	04 34 18.1	-18
	1.3nm,0.3s,baz=112,slow=21,SNR=1.4							
RAR				LR		LR	04 36 26.7	
	comp=Z,2μm,18.9s,baz=332,slow=34							
RAR	**Rarotonga**	**12.82**	**108**	P		Pn	04 32 06.0	-7.5
PINNC	**Pines Island,**	**19.08**	**252**	P		**P**	**04 33 32.9**	**-0.7**
SANVU	**Saraoutou**	**19.23**	**274**	P		**P**	**04 33 34.8**	**-0.5**
SANVU				IAmb		IAmb	04 33 40.4	
	comp=Z,140nm,1.4s							
DZM	**Mont Dzumac**	**19.90**	**254**	*e*P		**P**	**04 33 39.7**	**-3.1**
	comp=Z,111nm,1.3s							
DZM				*e*S		**S**	**04 37 18.0**	**-8.2**
	comp=Z,468nm,23.1s							
DZM				*e*LR		LR	04 38 26.9	
	comp=Z,1μm,24.1s							
DZM	**Mont Dzumac**	**19.90**	**254**			**P**	**04 33 42.8**	**0.0**
DZM	**Mont Dzumac**	**19.90**	**254**	P		**P**	**04 33 41.5**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=80,slow=19,SNR=8.4							
	comp=Z,5.6nm,0.9s							
ONTNC	**Ouen Toro**	**19.93**	**254**	P		**P**	**04 33 42.5**	**-0.5**
PPT2	**Papeete2**	**22.20**	**93**	*e*P		**P**	**04 34 04.5**	**-3.2**
	comp=Z,263nm,30.5s							
PPT2				*e*S		**S**	**04 38 05.2**	**-6.4**
	comp=Z,2μm,25.5s							
PPT2				*e*LR		LR	04 39 19.0	
	comp=Z,1μm,26.2s							
PPT2				*e*LR		LR	04 39 33.3	
	comp=Z,1μm,21.0s							
PPT	**Papeete**	**22.20**	**93**	LR		LR	04 41 12.8	
	comp=Z,2μm,18.0s,baz=256,slow=32							
TOZ	**Tahuroa Road**	**22.34**	**205**			**P**	**04 34 08.7**	**-0.2**
RTZ	**Ruatahuna**	**22.57**	**201**	P		**P**	**04 34 12.3**	**+0.8**
TBI	**Tubuai**	**22.61**	**108**	*e*P		**P**	**04 34 12.3**	**+0.5**
	comp=Z,1μm,30.2s							
TBI				*e*S		**S**	**04 38 12.9**	**-5.9**
	comp=Z,5μm,24.0s							
TBI				*e*LR		LR	04 39 27.7	
	comp=Z,9μm,28.0s							
TBI				*e*LR		LR	04 39 30.4	
	comp=Z,2μm,29.8s							
HIZ	**Hauiti**	**23.27**	**205**	P		**P**	**04 34 21.3**	**+2.7**
MRZ	**Mangatainoka R**	**24.88**	**201**	P		**P**	**04 34 36.9**	**+3.1**
MSWZ	**Moikau Station**	**25.67**	**201**	P		**P**	**04 34 42.3**	**+1.5**
TUWZ	**Tuamarina**	**26.14**	**203**	P		**P**	**04 34 48.3**	**+3.2**
HNR	**Honiara**	**27.65**	**284**	LR		LR	04 44 11.5	
	comp=Z,1μm,18.9s,baz=112,slow=33							
LTZ	**Lake Taylor**	**27.94**	**204**	P		**P**	**04 35 04.3**	**+3.0**
OXZ	**Oxford**	**28.49**	**203**	P		**P**	**04 35 06.0**	**-0.2**
RPZ	**Rata Peaks**	**29.20**	**204**	P		**P**	**04 35 15.8**	**+3.2**
WHZ

ASAR Alice Springs 49.89 254 P P 04 38 03.4 -1.4
comp=Z,48nm,0.7s,baz=88,slow=8.5,SNR=282
ASAR S S 04 45 03.0 -11
comp=Z,0.7nm,0.7s,baz=97,slow=14,SNR=5.5
ASAR LR LR 04 58 45.2
comp=Z,457nm,19.2s,baz=98,slow=36
comp=Z,48nm,0.7s
ASAR Alice Springs 49.89 254 P P 04 38 03.6 -1.2
GUMO Guam 52.05 304 LR LR 04 59 12.7
comp=Z,458nm,18.5s,baz=116,slow=35
FORT Forrest 54.82 245 P P 04 38 40.2 -1.1
comp=Z,14nm,1.7s
WRKA Warakurna 54.89 252 P P 04 38 40.9 -1.0
comp=Z,9.4nm,1.1s
KNRA Kununurra 55.73 263 P P 04 38 46.5 -1.5
comp=Z,26nm,1.0s
KNRA Kununurra 55.73 263 P P 04 38 46.8 -1.2
KNRA IAmb IAmb 04 38 51.4
comp=Z,20nm,0.8s
FITZ Fitzroy Crossi 58.24 259 P P 04 39 05.3 -0.4
FITZ Fitzroy Crossi 58.24 259 LR LR 05 04 04.4
comp=Z,835nm,18.3s,baz=100,slow=36
RPN Rapa Nui 58.94 111 LR LR 04 59 07.3
comp=Z,507nm,18.8s,baz=218,slow=30
SBA Scott Base 60.94 185 P P 04 39 24.4 +1.1
SBA Scott Base 60.94 185 P P 04 39 24.5 +1.1
SBA pmax pmax
comp=Z,28nm,1.0s
VNDA Vanda 61.08 186 P P 04 39 26.3 +1.9
VNDA IAmb IAmb 04 39 29.8
comp=Z,16nm,1.0s
VNDA Vanda 61.08 186 P P 04 39 25.4 +1.0
comp=Z,10nm,0.9s,baz=8.9,slow=6.8,SNR=28
VNDA LR LR 05 02 18.8
comp=Z,224nm,19.7s,baz=22,slow=33
comp=Z,10nm,0.9s
VNDA Vanda 61.08 186 P P 04 39 26.3 +1.9
VNDA pmax pmax
comp=Z,16nm,1.0s
SOEI Soe 61.34 268 P P 04 39 26.7 -0.7
SOEI Soe 61.34 268 P P 04 39 26.6 -0.7
comp=Z,52nm,1.1s
SANI Sanana 61.93 277 P P 04 39 29.4 -1.8
comp=Z,24nm,1.2s
PSAC2 Pilbara Seismi 62.98 254 P P 04 39 37.3 -0.8
comp=Z,30nm,1.4s
PSAB3 Pilbara Seismi 63.02 254 P P 04 39 37.3 -1.1
comp=Z,30nm,1.4s
PSA00 Pilbara Seismi 63.03 254 P P 04 39 37.3 -1.1
comp=Z,29nm,1.3s
PSA00 Pilbara Seismi 63.03 254 P 04 39 38.1 -0.3
PSA00 Pilbara Seismi 63.03 254 P P 04 39 38.2 -0.3
PSA00 IAmb IAmb 04 41 09.2
comp=Z,11nm,0.8s
MBWA Marble Bar 63.20 255 P P 04 39 38.7 -0.9
comp=Z,22nm,1.1s
MBWA Marble Bar 63.20 255 P P 04 39 39.3 -0.3
MEEK Meekatharra 63.40 249 P P 04 39 39.2 -1.6
comp=Z,24nm,1.3s
NWAO Narrogin (SRO) 63.91 242 P P 04 39 40.5 -3.6
comp=Z,36nm,1.3s
NWAO Narrogin (SRO) 63.91 242 P P 04 39 44.7 +0.6
NWAO Narrogin (SRO) 63.91 242 LR LR 05 07 01.9
comp=Z,618nm,18.1s,baz=84,slow=36
NWAO Narrogin (SRO) 63.91 242 P P 04 39 44.7 +0.6
NWAO pmax pmax
comp=Z,53nm,1.3s
BLDU Ballidu 64.58 244 P P 04 39 47.7 -0.9
comp=Z,20nm,1.8s
MORW Morawa 65.34 246 P P 04 39 53.3 -0.3
comp=Z,27nm,1.4s
MORW Morawa 65.34 246 P P 04 39 53.1 -0.5
TOLI2 Tolitoli 67.88 279 IAmb IAmb 04 40 18.3
comp=Z,15nm,0.9s
GIRL Giralia 67.96 252 P P 04 40 11.2 +0.8
CASY Casey 68.47 205 P P 04 40 14.7 +2.0
TWSI Taliwang, Sumb 68.64 267 P P 04 40 12.1 -2.6
comp=Z,55nm,1.3s
NIKH Nikolski High 70.54 3 P P 04 40 26.1 +0.6
baz=184
JGF Kuroka 70.99 319 P P 04 40 27.9 -0.8
JGF IAmb IAmb 04 40 34.4
comp=Z,18nm,1.1s
MJAR Matsushiro Arr 71.07 320 P P 04 40 28.9 -0.3
comp=Z,7.9nm,0.9s,baz=152,slow=5.1,SNR=11
MJAR LR LR 05 06 52.9
comp=Z,311nm,21.0s,baz=118,slow=32
comp=Z,7.9nm,0.9s
MAJO Matsushiro 71.07 320 *i* P P **04 40 28.6 -0.6**
MAJO pmax pmax
comp=Z,11nm,1.1s
SHEM Shemya Is, Ala 71.11 352 LR LR 05 07 34.7
comp=Z,720nm,19.9s,baz=130,slow=32
JAGI Jajag, Banyuwa 71.31 267 P 04 40 30.6 -0.5
JAGI Jajag, Banyuwa 71.31 267 P P 04 40 29.0 -2.1
comp=Z,990nmcomp=Z,72nm,1.1s
MYLDM Lahad Datu 71.41 282 P P 04 40 31.1 -0.7
UNV Unalaska Valle 71.54 4 P P 04 40 31.8 +0.3
baz=186
QSPA South Pole Qui 72.28 180 P P 04 40 39.2 +2.9
QSPA South Pole Qui 72.28 180 P P 04 40 38.0 +1.8
comp=Z,15nm,1.0s,baz=62,slow=1.5,SNR=25
QSPA LR LR 05 10 13.8
comp=Z,440nm,18.5s,baz=46,slow=34
comp=Z,15nm,1.0s
JOW Kunigami 72.29 307 LR LR 05 06 42.1
comp=Z,451nm,21.9s,baz=148,slow=31
HULI Fort Hunter Li 72.44 42 P P 04 40 35.2 -2.2
FALS False Pass 72.79 6 P P 04 40 39.8 +0.8
baz=189
CHNA Chernabura Isl 73.20 8 P P 04 40 42.2 +0.7
baz=193
SDPT Sand Point 73.59 7 P P 04 40 44.4 +0.6
baz=192
ESJX Sierra Juarez 73.64 48 P P 04 40 43.3 -1.5
ESJX IAmb IAmb 04 40 60.0
comp=Z,51nm,2.0s
VES Vestal, Richgr 73.72 43 P P 04 40 44.2 -0.7
S12K Black Hills 73.76 6 P P 04 40 44.9 +0.1
baz=191
JNU Nakatsue 73.78 313 P P 04 40 45.3 -0.2
JNU IAmb IAmb 04 40 46.9
comp=Z,15nm,0.9s
JNU Nakatsue 73.78 313 LR LR 05 07 46.4
comp=Z,226nm,21.0s,baz=111,slow=32
ASAJ Asahikawa 73.81 328 LR LR 05 07 51.5
comp=Z,237nm,21.6s,baz=158,slow=32
LPIG La Paz 73.87 58 LR LR 05 07 01.4
comp=Z,361nm,18.6s,baz=228,slow=31
ISA Isabella, Lake 74.01 44 IAmb IAmb 04 41 14.7
comp=Z,33nm,1.6s
BORC Borrego Spring 74.02 47 P P 04 40 45.9 -0.9
BORC IAmb IAmb 04 41 11.7
comp=Z,26nm,1.5s
PFO Pinyon Flats O 74.18 46 LR LR 05 09 57.9
comp=Z,457nm,18.1s,baz=242,slow=33
PCJI Pacitan 74.21 266 P P 04 40 46.9 -1.5
CMB Columbia Colle 74.22 41 P 04 40 46.1 -1.9
CMB Columbia Colle 74.22 41 P P 04 40 46.1 -1.9
CMB pmax pmax
comp=Z,13nm,1.4s
WELL Weller Preserv 74.26 40 P P 04 40 47.7 -0.5
WOJI Wonogiri, Jawa 74.55 267 P P 04 40 48.9 -1.5
S14K Fog Glacier 74.62 8 P P 04 40 50.0 +0.1
baz=193
CCCA Chr Cany lake 74.66 44 IAmb IAmb 04 41 25.8
comp=Z,26nm,1.3s
PET Petropavlovsk 74.68 343 *eP* **P 04 40 53.3 +3.1**
PET *eS* **S 04 50 27.9 +2.8**
PET pmax pmax
comp=Z,100nm,10.0s
PET MLR MLR
comp=Z,200nm,18.0s
SPIA Saint Paul Isl 74.70 1 P P 04 40 50.9 +0.8
baz=183
CHIR Chirikof Islan 74.75 10 P P 04 40 51.9 +1.4
baz=197
CHGN Chignik 74.79 8 P P 04 40 51.6 +0.9
baz=194
PETK Petropavlovsk- 75.03 342 P P **04 40 52.2 0.0**
comp=Z,5.6nm,0.9s,baz=158,slow=9.2,SNR=2.0
comp=Z,5.6nm,0.9s
YBH Yreka Blue Hor 75.19 36 IAmb IAmb 04 41 24.3
comp=Z,57nm,1.9s
YBH Yreka Blue Hor 75.19 36 LR LR 05 10 33.6
comp=Z,54nm,18.1s,baz=249,slow=33
QSM Queen of Sheba 75.25 44 P P 04 40 51.6 -2.3

DSP Deep Springs 75.35 42 P P 04 40 54.0 -0.4
BEKR Beckworth 75.38 39 P P 04 40 53.8 -1.0
BEKR IAmb IAmb 04 41 23.2
comp=Z,24nm,1.5s
IRM Iron Mountain 75.39 46 P P 04 40 53.0 -1.8
LHV Little Huntoon 75.53 41 IAmb IAmb 04 41 22.8
comp=Z,29nm,1.3s
FURC Furnace Creek, 75.54 44 IAmb IAmb 04 41 20.6
comp=Z,51nm,1.9s
SHOC Shoshone, Teco 75.60 44 IAmb IAmb 04 41 30.4
comp=Z,17nm,1.1s
SII Sitkinak Islan 75.70 11 P P 04 40 56.3 +0.3
baz=198
RYN Ryan 75.75 41 IAmb IAmb 04 41 24.6
comp=Z,45nm,1.9s
NVAR Mina Array Bea 75.76 41 P P 04 40 58.4 +1.3
comp=Z,5.9nm,0.8s,baz=226,slow=8.3,SNR=20
NVAR LR LR 05 09 14.3
comp=Z,704nm,18.3s,baz=238,slow=32
comp=Z,5.9nm,0.8s
YSS Yuzhno-Sakhali 75.78 330 *eP* P 04 41 03.2 +6.5
YSS *eS* **S 04 50 44.2 +6.5**
YSS pmax pmax
comp=Z,30nm,1.4s
NV11 Mina Array Sit 75.86 41 IAmb IAmb 04 41 10.2
comp=Z,33nm,1.4s
PAHR Pah Rah Range 75.87 40 IAmb IAmb 04 41 04.7
comp=Z,19nm,1.4s
R16K Pilot Point 76.14 8 P P 04 40 59.5 +1.1
baz=195
TPNV Topopah Spring 76.22 44 IAmb IAmb 04 41 33.6
comp=Z,40nm,1.9s
TPH Tonopah 76.24 42 IAmb IAmb 04 41 06.8
comp=Z,15nm,1.0s
NACB Ninganchiao 76.29 301 P P 04 40 59.8 -0.3
R17L Mt. Peulik Vol 76.37 9 P P 04 41 00.6 +0.8
baz=196
V12A Nelson 76.46 45 IAmb IAmb 04 41 27.2
comp=Z,21nm,1.5s
OHAK Old Harbor 76.49 11 P P 04 41 01.2 +0.8
baz=199
J04A Umpqua Nationa 76.51 36 IAmb IAmb 04 41 32.0
comp=Z,37nm,1.3s
R18K Karluk 76.61 10 P P 04 41 01.4 +0.3
baz=198
K05A Summer Lake 76.86 37 IAmb IAmb 04 41 31.2
comp=Z,34nm,1.4s
S11A Rachel 76.94 43 IAmb IAmb 04 41 54.5
comp=Z,43nm,1.6s
J05D Fort Rock, OR 77.03 36 IAmb IAmb 04 41 34.7
comp=Z,29nm,1.4s
Q17K Contact Creek 77.05 9 P P 04 41 04.5 +0.8
baz=197
KDAK Kodiak Island 77.14 11 LR LR 05 08 10.8
comp=Z,336nm,20.6s,baz=195,slow=30
KDAK Kodiak Island 77.14 11 P P 04 41 04.7 +0.6
baz=200
O14K Tigyukauivet M 77.34 6 P P 04 41 05.6 +0.4
baz=191
O15K Ungalikthiuk R 77.42 7 P P 04 41 06.3 +0.7
baz=193
R11B Troy Canyon, C 77.45 43 IAmb IAmb 04 41 35.0
comp=Z,25nm,1.8s
P16K Nushagak River 77.50 8 P P 04 41 06.9 +0.8
baz=194
TUC Tucson 77.52 50 P P 04 41 06.2 -0.8
TUC Tucson 77.52 50 P P 04 41 06.2 -0.8
TUC pmax pmax
comp=Z,12nm,1.1s
PINE Pine Mountain 77.52 36 IAmb IAmb 04 41 14.4
comp=Z,38nm,1.4s
Q18K Katmai Hardscr 77.56 9 P P 04 41 06.9 +0.3
baz=197
P17K Kvichak River 77.87 9 P P 04 41 08.8 +0.7
baz=196
N14K Kuskokwak Cree 77.96 6 P P 04 41 09.6 +1.0
baz=191
Q20K Shuyak Island 77.96 11 P P 04 41 09.4 +0.8
baz=200
LEM Lembang 77.98 267 LR LR 05 16 33.7
comp=Z,216nm,18.8s,baz=162,slow=37
O16K Kokwok River B 78.03 8 P P 04 41 10.0 +0.9
baz=194
Q19K Cape Douglas, 78.04 10 P P 04 41 10.3 +1.1
baz=199
M11K Mekoryuk 78.07 3 P P 04 41 10.2 +1.0
baz=186
319A Douglas 78.16 52 IAmb IAmb 04 41 35.1
comp=Z,22nm,1.2s
KSRS Korea Array 78.20 316 P P 04 41 11.4 +0.9
comp=Z,11nm,1.1s,baz=136,slow=6.3,SNR=37
comp=Z,11nm,1.1s
P18K Big Mountain, 78.23 9 P P 04 41 10.8 +0.5
baz=197
M13K Dall Lake 78.30 5 P P 04 41 10.8 +0.3
baz=189
O17K Koliganek Bris 78.34 8 P P 04 41 11.5 +0.8
baz=195
N15K Kwethluk River 78.36 6 P P 04 41 11.7 +0.8
baz=192
CCUT Cedar City 78.46 44 IAmb IAmb 04 41 25.6
comp=Z,22nm,1.6s
KNB Kanab 78.54 45 IAmb IAmb 04 41 40.2
comp=Z,52nm,1.7s
J08A Circle Bar Ran 78.64 37 IAmb IAmb 04 41 39.9
comp=Z,22nm,1.3s
O18K Koktuh Hills 78.68 9 P P 04 41 13.2 +0.5
baz=197
M14K Bethel 78.75 5 P P 04 41 13.2 +0.3
baz=191
P19K Oil Pt 78.80 10 P P 04 41 14.0 +0.6
baz=199
N16K Nishlik Lake 78.81 7 P P 04 41 14.2 +0.9
baz=194
M15K Kasigluk River 78.81 6 P P 04 41 14.1 +0.7
baz=192
ELK Elko 79.04 41 P P 04 41 14.2 -1.2
ELK Elko 79.04 41 P P 04 41 14.2 -1.2
ELK pmax pmax
comp=Z,7.0nm,1.1s
N17K Nushagak Hills 79.05 8 P P 04 41 15.4 +0.7
baz=195
HOM Homer 79.08 11 P P 04 41 15.9 +1.1
baz=201
O19K Port Alsworth 79.14 9 IAmb IAmb 04 41 18.6
comp=Z,35nm,1.1s
O19K Port Alsworth 79.14 9 P P 04 41 16.3 +1.2
baz=198
L14K Kuka Creek 79.27 5 P P 04 41 17.1 +1.3
baz=190
O20K Slope Mountain 79.31 10 P P 04 41 16.8 +0.7
baz=200
M16K Timber Creek 79.32 7 IAmb IAmb 04 41 43.4
comp=Z,45nm,1.3s
M16K Timber Creek 79.32 7 P P 04 41 17.5 +1.3
baz=194
BRSE Bradley Lake S 79.32 11 P P 04 41 17.6 +1.4
baz=201
N18K Kilae Creek 79.38 8 P P 04 41 17.3 +0.9
baz=196
SMAI San Martin Ant 79.38 158 P P 04 41 17.7 +1.1
SMAI IAmb IAmb 04 41 20.6
comp=Z,28nm,1.1s
G08A Pilot Rock 79.56 35 P 04 41 17.1 -0.9
USRK Ussuriysk Ar. 79.57 323 P **P 04 41 18.4 +0.5**
comp=Z,1.1nm,0.4s,baz=48,slow=5.7,SNR=7.5
comp=Z,1.1nm,0.4s
L15K Ungalak Mounta 79.70 5 P P 04 41 19.7 +1.5
baz=191
N19K Bonanza Creek 79.71 9 IAmb IAmb 04 41 30.9
comp=Z,26nm,1.1s
N19K Bonanza Creek 79.71 9 P P 04 41 19.2 +0.9
baz=198
K13K Kusilvak Mount 79.71 4 P P 04 41 19.0 +0.8
baz=188
BBB Bella Bella 79.78 26 LR LR 05 14 46.7
comp=Z,438nm,18.5s,baz=222,slow=34
M17K Holitna River 79.87 7 P P 04 41 19.7 +0.5
baz=195
SEW Seward 79.90 12 P P 04 41 20.2 +0.9
baz=203
L16K Owhat River 79.94 6 IAmb IAmb 04 41 23.6
comp=Z,28nm,1.3s
L16K Owhat River 79.94 6 P P 04 41 20.2 +0.8
baz=193
HAWA Hanford 79.94 34 P P 04 41 19.7 -0.2
SLKM Skilak Lake 80.13 11 IAmb IAmb 04 41 31.1
comp=Z,45nm,1.2s

M18K Stony River 80.17 8 P P 04 41 21.6 +0.9
baz=196
CAPN Captain Cook N 80.21 11 P P 04 41 21.0 +0.1
baz=201
P23K Montague Islan 80.22 13 P P 04 41 22.0 +1.0
baz=205
K15K Wolf Creek Mou 80.31 5 P P 04 41 22.4 +0.9
baz=191
CRAG Craig 80.35 22 P P 04 41 22.4 +0.6
baz=218
SPCR Spurr Chakacha 80.43 10 P P 04 41 22.9 +0.6
baz=200
L17K Donlin 80.48 7 P P 04 41 23.6 +1.2
baz=194
J14K Nanvaranak Lak 80.59 4 P P 04 41 23.9 +1.0
baz=189
L18K Granite Mounta 80.75 8 P P 04 41 24.9 +1.0
baz=196
RC01 Rabbit Creek A 80.76 11 P P 04 41 24.3 +0.4
baz=202
M19K Big River Lodg 80.76 9 P P 04 41 24.6 +0.6
baz=198
V35K Ketchikan 80.78 22 P P 04 41 24.7 +0.6
baz=220
KAIM Kayak Island 80.81 14 P P 04 41 24.8 +0.6
baz=207
PWL Port Wells 80.82 12 IAmb IAmb 04 41 33.6
comp=Z,35nm,1.2s
PWL Port Wells 80.82 12 P P 04 41 25.2 +0.9
baz=204
U33K Whale Pass 80.86 21 P P 04 41 25.1 +0.6
baz=218
SIT Sitka 80.88 20 P P 04 41 25.2 +0.7
baz=216
SUA Susitna One 80.93 11 IAmb IAmb 04 41 28.6
comp=Z,16nm,0.8s
SUA Susitna One 80.93 11 P P 04 41 25.4 +0.5
baz=201
M20K Styx River 80.93 9 P P 04 41 25.3 +0.4
baz=199
L19K White Mountain 80.96 8 P P 04 41 25.7 +0.7
baz=197
K17K Iditarod 81.05 7 P P 04 41 25.8 +0.4
baz=194
EYAK Cordova Ski Ar 81.07 13 P P 04 41 25.9 +0.4
baz=206
GLI Glacier Island 81.08 12 P P 04 41 26.1 +0.5
baz=205
PLID Pearl Lake 81.10 37 IAmb IAmb 04 41 53.7
comp=Z,44nm,2.0s
MDJ Mudanjiang 81.20 322 P P 04 41 27.3 +0.6
MDJ pmax pmax
comp=Z,21nm,1.7s
SKT Skwentna 81.28 10 P P 04 41 26.8 +0.1
baz=200
B08A Colville Reser 81.29 33 IAmb IAmb 04 41 29.4
comp=Z,26nm,1.6s
GAMB Gambell 81.29 1 P P 04 41 26.9 +0.3
baz=181
KNK Knik Glacier 81.30 12 IAmb IAmb 04 41 54.9
comp=Z,54nm,1.6s
KNK Knik Glacier 81.30 12 P P 04 41 26.8 0.0
baz=204
M22K Willow 81.31 11 P P 04 41 27.0 +0.2
baz=202
S31K Pelican 81.33 19 P P 04 41 26.6 -0.4
baz=215
PMR Palmer 81.34 11 IAmb IAmb 04 41 44.2
comp=Z,24nm,1.2s
PMR Palmer 81.34 11 P P 04 41 27.1 +0.2
baz=203
WRAK Wrangell Islan 81.36 21 P P 04 41 27.7 +0.5
baz=219
J16K Anvik River 81.37 6 P P 04 41 27.9 +0.8
baz=192
L20K Farewell, AK 81.39 9 P P 04 41 27.1 -0.2
baz=198
TX31 Lajitas Ar. Si 81.53 56 IAmb IAmb 04 41 54.5
comp=Z,23nm,1.5s
TXAR Lajitas Array 81.53 56 P P 04 41 30.0 +1.1
comp=Z,2.8nm,0.9s,baz=216,slow=5.7,SNR=19
TXAR LR LR 05 12 11.8
comp=Z,150nm,18.1s,baz=248,slow=32
comp=Z,2.8nm,0.9s
TXAR Lajitas Array 81.53 56 P P 04 41 30.0 +1.1
DIV Divide 81.59 13 IAmb IAmb 04 41 39.1
comp=Z,20nm,1.0s
BELA Belgrano 2 81.59 172 IAmb IAmb 04 41 31.6
comp=Z,20nm,0.9s
PV05 Paradox Valley 81.61 46 IAmb IAmb 04 41 44.8
comp=Z,45nm,1.8s
MESA MESA 81.62 15 P P 04 41 28.8 +0.1
baz=210
J17K VABM Dome 81.62 6 P P 04 41 28.7 +0.2
baz=193
P18A Preston Nutter 81.63 44 IAmb IAmb 04 42 03.8
comp=Z,38nm,2.0s
WAX Waxell Ridge 81.64 15 IAmb IAmb 04 41 32.7
comp=Z,24nm,0.9s
BMRM Bremner River 81.69 14 P P 04 41 29.0 0.0
baz=207
BSUT Blindstream Ca 81.77 43 IAmb IAmb 04 41 49.8
comp=Z,34nm,2.0s
M23K Glacier View 81.79 12 P P 04 41 30.2 +0.8
baz=204
PV10 Paradox Valley 81.80 45 IAmb IAmb 04 41 54.3
comp=Z,32nm,1.3s
PMSA Palmer Station 81.81 156 LR LR 05 10 30.5
comp=Z,343nm,19.5s,baz=233,slow=30
PV18 Skein Mesa, Pa 81.83 46 IAmb IAmb 04 41 51.2
comp=Z,28nm,1.2s
PV20 West Nyswonger 81.84 46 IAmb IAmb 04 41 51.9
comp=Z,17nm,1.0s
PNL Peninsula 81.84 16 P P 04 41 29.8 0.0
baz=212
PV13 Radium Mtn., P 81.84 46 IAmb IAmb 04 41 54.9
comp=Z,29nm,1.4s
R31K City Hall, Gus 81.85 19 P P 04 41 29.9 +0.2
baz=216
CRQE Cirque 81.85 14 P P 04 41 29.9 0.0
baz=209
PV16 Nyswonger Mesa 81.86 46 IAmb IAmb 04 41 55.6
comp=Z,21nm,1.4s
PV23 Carpenter Ridg 81.86 45 IAmb IAmb 04 41 39.1
comp=Z,22nm,1.1s
PV03 Paradox Valley 81.87 46 IAmb IAmb 04 41 54.9
comp=Z,26nm,1.4s
PV11 David Mesa, Pa 81.88 46 IAmb IAmb 04 41 55.7
comp=Z,45nm,1.6s
KLU Klutina 81.88 13 IAmb IAmb 04 41 48.7
comp=Z,23nm,1.4s
KLU Klutina 81.88 13 P P 04 41 30.1 +0.1
baz=206
CUT Chulitna 81.89 10 P P 04 41 30.1 +0.2
baz=202
PV04 Paradox Valley 81.90 45 IAmb IAmb 04 41 55.2
comp=Z,28nm,1.6s
SCM Sheep Creek Mo 81.91 12 IAmb IAmb 04 41 47.2
comp=Z,34nm,1.1s
SCM Sheep Creek Mo 81.91 12 P P 04 41 30.2 +0.1
baz=204
TGL Tana Glacier 81.92 14 IAmb IAmb 04 41 33.9
comp=Z,32nm,1.2s
ANMO Albuquerque 81.95 50 P 04 41 30.4 -0.7
ANMO Albuquerque 81.95 50 LR LR 05 11 53.2
comp=Z,478nm,19.3s,baz=336,slow=31
ANMO Albuquerque 81.95 50 *ceP* **P 04 41 31.2 +0.1**
ANMO pmax pmax
comp=Z,12nm,1.3s
I17K Unalakleet 81.95 5 P P 04 41 30.1 0.0
baz=192
J18K Innoko River 81.96 7 P P 04 41 30.6 +0.4
baz=196
PINM Pinnacle 81.98 16 P P 04 41 30.8 +0.3
baz=211
NJ2 Nanjing 81.99 307 *eP* **P 04 41 30.8 -0.3**
NJ2 pmax pmax
comp=Z,11nm,0.5s
PV01 Paradox Valley 82.00 46 IAmb IAmb 04 42 02.9
comp=Z,29nm,1.7s
PPLA Purkeypile 82.04 9 P P 04 41 31.1 +0.3
baz=200
R32K Eaglecrest 82.12 19 P P 04 41 31.3 +0.1
baz=217
GRNC Granite Creek 82.15 15 IAmb IAmb 04 41 38.0
comp=Z,26nm,1.0s
K20K Telida 82.20 8 P P 04 41 31.8 +0.2
baz=198

N25K **Chitina, Valde** 82.27 13 IAmb IAmb 04 41 35.7
comp=Z,13nm,0.8s
N25K **Chitina, Valde** 82.27 13 P **P** **04 41 32.6 +0.6**
baz=207
P29M **Windy Craggy** 82.27 17 P **P** **04 41 32.6 +0.6**
baz=214
GLB **Gilahina Butte** 82.30 14 IAmb IAmb 04 41 35.8
comp=Z,12nm,0.9s
M24K **Tolsona, Glenn** 82.39 12 P **P** **04 41 33.4 +0.8**
baz=206
NEW **Newport** 82.39 34 LR LR 05 12 49.3
comp=Z,910nm,19.0s,baz=228,slow=32
LOGN **Logan Glacier** 82.42 15 IAmb IAmb 04 41 37.1
comp=Z,23nm,1.0s
MCARA **McCarthy VSAT** 82.42 14 P **P** **04 41 33.4 +0.7**
baz=209
CTG **Chitna Glacier** 82.46 15 P **P** **04 41 33.5 +0.5**
baz=210
CTGM **Chitina Glacie** 82.46 15 IAmb IAmb 04 41 35.7
comp=Z,24nm,1.2s
BARN **Barnard Glacie** 82.46 15 IAmb IAmb 04 41 37.5
comp=Z,20nm,1.0s
WAT6 **Susitna Watana** 82.51 11 P **P** **04 41 33.7 +0.4**
baz=204
PLBC **Pleasant Camp** 82.52 18 P **P** **04 41 33.7 +0.5**
baz=215
T35M **Bob Quinn** 82.54 22 P **P** **04 41 33.8 +0.4**
baz=221
H16K **Elim** 82.56 5 P **P** **04 41 34.5 +1.1**
baz=190
MA2 **Magadan** 82.57 342 LR LR 05 18 28.5
comp=Z,204nm,18.5s,baz=134,slow=36
MA2 **Magadan** 82.57 342 *i* P **P** **04 41 32.8 -0.7**
MA2 pmax pmax
comp=Z,33nm,1.3s
O28M **Mount Upton** 82.58 16 IAmb IAmb 04 41 38.1
comp=Z,16nm,0.9s
O28M **Mount Upton** 82.58 16 P **P** **04 41 34.4 +0.5**
baz=211
WAT1 **Susitna Watana** 82.59 11 P **P** **04 41 33.7 +0.1**
baz=203
J19K **Poorman** 82.60 8 IAmb IAmb 04 42 03.7
comp=Z,29nm,1.6s
J19K **Poorman** 82.60 8 P **P** **04 41 34.0 +0.4**
baz=197
O29M **Mount Kennedy** 82.60 16 IAmb IAmb 04 41 38.5
comp=Z,12nm,0.8s
O29M **Mount Kennedy** 82.60 16 P **P** **04 41 34.9 +1.0**
baz=213
G15K **Niukluk** 82.79 4 P **P** **04 41 35.2 +0.7**
baz=188
SKAG **Skagway** 82.83 18 P **P** **04 41 35.4 +0.6**
baz=216
HARP **HAARP** 82.86 13 P **P** **04 41 35.3 +0.3**
baz=206
TRF **Thorofare Moun** 82.86 10 P **P** **04 41 35.5 +0.4**
baz=202
P30M **Million Dollar** 82.90 17 P **P** **04 41 36.0 +0.8**
baz=214
S34M **Telegraph Cree** 82.94 21 P **P** **04 41 36.3 +0.8**
baz=220
CHUM **Lake Minchumin** 82.95 9 P **P** **04 41 36.0 +0.6**
baz=200
J20K **Nowinta River** 82.97 8 P **P** **04 41 36.2 +0.7**
baz=198
SAND **Sanderson** 83.00 56 IAmb IAmb 04 41 44.7
comp=Z,24nm,1.8s
DHY **Denali Highway** 83.03 11 P **P** **04 41 36.2 +0.1**
baz=204
H17K **Granite Mounta** 83.05 6 P **P** **04 41 37.1 +1.2**
baz=192
MNHN **Monahans** 83.10 54 IAmb IAmb 04 41 39.8
comp=Z,26nm,1.8s
BNX **BinXian** 83.11 322 ⇓P **P** **04 41 37.8 +1.1**
BNX pmax pmax
comp=Z,16nm,0.9s
YUK8 **Steele Glacier** 83.12 15 P **P** **04 41 37.4 +0.7**
baz=212,SNR=5.0
F14K **Arctic Creek** 83.14 3 P **P** **04 41 37.3 +1.0**
baz=186
TNA **Tin City** 83.17 2 P **P** **04 41 37.6 +1.1**
baz=185
GCSA **Galena City Sc** 83.18 7 P **P** **04 41 37.6 +1.1**
baz=195
DL2 **Dalian** 83.19 314 P **P** **04 41 38.5 +1.3**
DL2 S **SKSac** **04 52 00.8 +2.4**
DL2 pmax pmax
comp=Z,30nm,1.3s
DL2 pmax pmax
comp=Z,510nm,3.8s
DL2 LR LR
comp=Z,220nm,17.3s
DL2 LR LR
comp=Z,290nm,17.5s
DL2 LR LR
comp=Z,540nm,15.4s
YUK6 **Outpost Mounta** 83.20 16 P **P** **04 41 37.6 +0.5**
baz=213
TPAW **Teton Pass** 83.21 40 IAmb IAmb 04 42 08.3
comp=Z,16nm,1.2s
CN2 **Changchun** 83.22 320 P **P** **04 41 38.3 +1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,400nm,16.0s
O20A **White River Ci** 83.22 44 IAmb IAmb 04 42 01.6
comp=Z,40nm,1.7s
DLMT **Dillon** 83.24 38 IAmb IAmb 04 41 58.1
comp=Z,31nm,1.4s
G16K **Koyuk River** 83.30 4 P **P** **04 41 37.9 +0.8**
baz=190
PAX **Paxson** 83.31 12 P **P** **04 41 38.0 +0.7**
baz=206
SNOW **Snow King Moun** 83.32 40 IAmb IAmb 04 42 09.0
comp=Z,26nm,1.4s
M26K **Nabesna, AK** 83.33 14 IAmb IAmb 04 41 41.8
comp=Z,18nm,1.0s
M26K **Nabesna, AK** 83.33 14 P **P** **04 41 38.0 +0.6**
baz=209,SNR=12
HYT **Haines Junctio** 83.33 17 IAmb IAmb 04 41 45.4
comp=Z,15nm,1.1s
HYT **Haines Junctio** 83.33 17 P **P** **04 41 38.2 +0.6**
baz=214
MCK **McKinley** 83.35 10 P **P** **04 41 37.6 +0.1**
baz=203,SNR=13
BPAW **Bear Paw Mtn.** 83.36 9 P **P** **04 41 38.4 +0.9**
baz=201
SNY **Shenyang** 83.36 318 ⇑P **P** **04 41 39.3 +1.3**
SNY S **S** **04 51 58.8 +0.7**
SNY pmax pmax
comp=Z,19nm,1.1s
SNY pmax pmax
comp=Z,210nm,7.2s
SNY LR LR
comp=Z,310nm,10.0s
SNY LR LR
comp=Z,100nm,9.0s
SNY LR LR
comp=Z,280nm,15.2s
Q32M **Nakina River** 83.38 20 P **P** **04 41 38.7 +0.7**
baz=219
H18K **Honhosa River** 83.41 6 P **P** **04 41 39.1 +1.3**
baz=194
P32M **Atlin** 83.42 19 P **P** **04 41 38.8 +0.8**
baz=217
F15K **North Star Dit** 83.46 3 P **P** **04 41 39.1 +1.1**
baz=188
YUK4 **Talbot Arm** 83.46 16 P **P** **04 41 39.4 +1.0**
baz=213
LOHW **Long Hollow** 83.49 40 IAmb IAmb 04 41 47.1
comp=Z,25nm,1.6s
I20K **Naaghedeneel** 83.52 8 P **P** **04 41 39.4 +1.1**
baz=198
G17K **Kiwalik Mounta** 83.54 5 P **P** **04 41 39.3 +0.8**
baz=192
M27K **Edge Creek, AK** 83.54 14 IAmb IAmb 04 41 43.0
comp=Z,22nm,1.1s
M27K **Edge Creek, AK** 83.54 14 P **P** **04 41 39.2 +0.6**
baz=210,SNR=11
O30N **Mendenhall** 83.68 17 IAmb IAmb 04 41 43.5
comp=Z,8.7nm,0.8s
O30N **Mendenhall** 83.68 17 P **P** **04 41 39.9 +0.6**
baz=215
BW06 **Boulder Array** 83.70 41 IAmb IAmb 04 41 52.9
comp=Z,12nm,1.2s
PD31 **Pinedale Array** 83.70 41 IAmb IAmb 04 41 52.9
comp=Z,13nm,1.2s
PDAR **Pinedale Array** 83.70 41 P **P** **04 41 40.9 +0.8**
comp=Z,4.9nm,1.0s,baz=213,slow=2.2,SNR=21
PDAR LR LR 05 14 44.5
comp=Z,270nm,18.2s,baz=241,slow=33
comp=Z,4.9nm,1.0s
DLBC **Dease Lake** 83.72 21 LR LR 05 18 07.8
comp=Z,3µm,18.4s,baz=198,slow=35
DLBC **Dease Lake** 83.72 21 P **P** **04 41 40.3 +0.7**
baz=221
YHB **Horse Butte** 83.74 39 IAmb IAmb 04 41 54.2
comp=Z,20nm,1.1s
L26K **Log Cabin Wild** 83.80 13 IAmb IAmb 04 41 43.9
comp=Z,17nm,1.3s
L26K **Log Cabin Wild** 83.80 13 P **P** **04 41 40.7 +0.8**
baz=208
YMR **Madison River** 83.83 39 IAmb IAmb 04 42 02.8
comp=Z,30nm,1.4s
BOZ **Bozeman (W)** 83.93 38 IAmb IAmb 04 41 45.0
comp=Z,16nm,1.1s
WHY **Whitehorse** 83.93 18 P **P** **04 41 41.2 +0.5**
baz=216
SDCO **Great Sand Dun** 83.94 47 IAmb IAmb 04 41 51.7
comp=Z,19nm,1.7s
N30M **Aishikik Lake** 83.97 16 P **P** **04 41 41.1 +0.3**
baz=214
DRIO **Del Rio** 83.97 57 IAmb IAmb 04 41 48.6
comp=Z,22nm,1.3s
H19K **Roundabout Mou** 83.98 7 P **P** **04 41 41.3 +0.6**
baz=196
K24K **Donelly Dome** 84.00 12 IAmb IAmb 04 41 45.2
comp=Z,16nm,0.8s
K24K **Donnelly Dome** 84.00 12 P **P** **04 41 41.5 +0.6**
baz=206
HAYD **Hayden** 84.06 44 IAmb IAmb 04 42 02.6
comp=Z,11nm,1.0s
G18K **Tagagawik** 84.11 6 P **P** **04 41 42.6 +1.3**
baz=194
RIDG **Independent Ri** 84.12 12 IAmb IAmb 04 41 45.1
comp=Z,14nm,0.9s
RIDG **Independent Ri** 84.12 12 P **P** **04 41 42.8 +1.3**
baz=207
NEA2 **Nenana** 84.13 10 IAmb IAmb 04 41 59.7
comp=Z,10nm,1.0s
NEA2 **Nenana** 84.13 10 P **P** **04 41 42.6 +1.1**
baz=203
H20K **Anotleneega Mo** 84.13 7 P **P** **04 41 42.1 +0.7**
baz=197
R33M **Jennings River** 84.14 20 IAmb IAmb 04 42 10.1
comp=Z,29nm,1.5s
R33M **Jennings River** 84.14 20 P **P** **04 41 42.3 +0.5**
baz=220
L27K **Beaver Creek,** 84.17 14 P **P** **04 41 42.3 +0.6**
baz=210
P33M **Teslin, Yukon** 84.19 19 P **P** **04 41 42.6 +0.7**
baz=218
CMIG **Matias Romero** 84.21 70 LR LR 05 11 34.4
comp=Z,524nm,18.6s,baz=242,slow=30
MSTX **Muieshoe** 84.22 52 IAmb IAmb 04 41 46.5
comp=Z,20nm,1.1s
I21K **Tanana** 84.22 9 P **P** **04 41 41.9 0.0**
baz=200
QIZ **Qiongzhong** 84.25 292 P **P** **04 41 41.8 -1.3**
QIZ S **SKSac** **04 52 07.8 +1.6**
QIZ pmax pmax
comp=Z,380nm,7.1s
QIZ LR LR
comp=Z,140nm,9.8s
QIZ LR LR
comp=Z,230nm,14.7s
QIZ LR LR
comp=Z,300nm,24.6s
MLY **Manley** 84.27 9 IAmb IAmb 04 42 00.1
comp=Z,14nm,1.0s
MLY **Manley** 84.27 9 P **P** **04 41 42.7 +0.5**
baz=201
HDA **Harding Lake** 84.33 11 IAmb IAmb 04 42 00.1
comp=Z,14nm,0.9s
HDA **Harding Lake** 84.33 11 P **P** **04 41 42.2 -0.3**
baz=205,SNR=6.3
N31M **Braeburn, Yuko** 84.35 17 P **P** **04 41 43.2 +0.5**
baz=215
F17K **Baldwin Pennin** 84.42 5 P **P** **04 41 43.4 +0.5**
baz=191
M29M **Somme Creek** 84.44 15 IAmb IAmb 04 41 50.6
comp=Z,15nm,1.1s
M29M **Somme Creek** 84.44 15 P **P** **04 41 43.0 -0.2**
baz=213
G19K **Purcell Mounta** 84.51 6 P **P** **04 41 44.3 +0.9**
baz=195
SCRK **Sand Creek** 84.51 12 IAmb IAmb 04 42 01.1
comp=Z,12nm,1.1s
SCRK **Sand Creek** 84.51 12 P **P** **04 41 44.1 +0.6**
baz=208
H21K **Melozitna Rive** 84.56 8 IAmb IAmb 04 42 03.3
comp=Z,17nm,1.1s
H21K **Melozitna Rive** 84.56 8 P **P** **04 41 44.1 +0.4**
baz=199,SNR=11
COLA **College** 84.59 10 P **P** **04 41 42.2 -1.6**
COLA **College** 84.59 10 *i* P **P** **04 41 43.8 +0.1**
COLA pmax pmax
comp=Z,35nm,0.9s
COLA **College** 84.59 10 P **P** **04 41 44.4 +0.7**
baz=204
I23K **Minto, Yukon-K** 84.59 10 P **P** **04 41 44.2 +0.5**
baz=202
ILAR **Eielson Array** 84.67 11 P **P** **04 41 44.0 -0.2**
comp=Z,3.9nm,0.7s,baz=208,slow=2.3,SNR=23
ILAR LR LR 05 14 55.3
comp=Z,333nm,19.4s,baz=206,slow=32
comp=Z,3.9nm,0.7s
ILAR **Eielson Array** 84.67 11 P **P** **04 41 44.0 -0.2**
F18K **Selawik** 84.71 5 P **P** **04 41 44.8 +0.5**
baz=193
POST **Post** 84.80 53 IAmb IAmb 04 42 09.5
comp=Z,8.6nm,0.8s
J25K **Salcha River,** 84.81 12 IAmb IAmb 04 41 48.7
comp=Z,10nm,0.9s
J25K **Salcha River,** 84.81 12 P **P** **04 41 45.0 0.0**
baz=206,SNR=5.6
WHN **Wuhan** 84.83 304 P **P** **04 41 48.3 +2.5**
WHN S **S** **04 52 17.6 +4.2**
N32M **Quiet Lake** 84.86 18 P **P** **04 41 45.6 +0.4**
baz=218
POKR **Poker Plat Res** 84.89 11 P **P** **04 41 45.7 +0.4**
baz=204
SEY **Seymchan** 84.93 345 LR LR 05 15 29.8
comp=Z,279nm,20.2s,baz=138,slow=33
SEY **Seymchan** 84.93 345 *ce* P **P** **04 41 45.8 +0.3**
SEY pmax pmax
comp=Z,13nm,0.9s
M30M **Minto, Yukon** 84.98 16 P **P** **04 41 46.4 +0.5**
baz=214
H22K **Ishtalitna Cre** 84.98 9 P **P** **04 41 46.3 +0.5**
baz=200,SNR=9.4
E17K **Hotham Inlet** 85.01 4 P **P** **04 41 46.5 +0.7**
baz=191
J26L **Joseph Creek** 85.06 12 IAmb IAmb 04 41 51.6
comp=Z,16nm,0.8s
J26L **Joseph Creek** 85.06 12 P **P** **04 41 46.7 +0.4**
baz=208,SNR=22
L29M **L29M** 85.08 15 P **P** **04 41 46.8 +0.4**
baz=213,SNR=20
HNDO **Hondo** 85.08 57 IAmb IAmb 04 41 55.8
comp=Z,17nm,1.1s
F19K **Shaleruckik Mo** 85.11 6 P **P** **04 41 47.1 +0.8**
baz=194
TIA **Tai'an** 85.12 310 P **P** **04 41 48.3 +1.2**
TIA S **S** **04 52 18.3 +2.3**
TIA pmax pmax
comp=Z,14nm,1.3s
TIA pmax pmax
comp=Z,370nm,9.3s
TIA LR LR
comp=Z,150nm,14.2s
TIA LR LR
comp=Z,280nm,18.6s
TIA LR LR
comp=Z,450nm,15.2s
H23K **Yukon River** 85.19 9 P **P** **04 41 47.0 +0.2**
baz=202
G21K **Allakaket** 85.28 8 IAmb IAmb 04 42 10.2
comp=Z,22nm,1.2s
G21K **Allakaket** 85.28 8 P **P** **04 41 48.0 +0.8**
baz=198
M31M **Drury Creek, Y** 85.32 17 P **P** **04 41 48.4 +0.9**
baz=216
WTLY **Watson Lake, Y** 85.41 20 P **P** **04 41 48.4 +0.3**
baz=222
AMTX **Amarillo** 85.43 51 IAmb IAmb 04 41 52.5
comp=Z,13nm,1.0s
E18K **Tukpahlearik C** 85.43 5 P **P** **04 41 48.5 +0.6**
baz=192
H24K **Noodor Dome** 85.47 10 P **P** **04 41 49.1 +0.8**
baz=204
DKNS **Dickens** 85.49 53 IAmb IAmb 04 42 13.2
comp=Z,38nm,1.7s
F20K **Avaraart Lake** 85.53 7 P **P** **04 41 48.7 +0.3**
baz=196
D17K **Noatak River** 85.53 4 P **P** **04 41 49.1 +0.7**
baz=189
DAWY **Dawson** 85.59 14 IAmb IAmb 04 41 53.9
comp=Z,18nm,0.9s
DAWY **Dawson** 85.59 14 P **P** **04 41 49.2 +0.4**
baz=212,SNR=21
HEH **HeiHe** 85.65 326 *e* P **P** **04 41 48.9 -0.5**
HEH pmax pmax
comp=Z,11nm,1.3s
LL01 **San Ignacio de** 85.67 133 IAmb IAmb 04 41 58.1
comp=Z,15nm,1.3s
MAW **Mawson** 85.71 199 P **P** **04 41 50.2 +0.7**
comp=Z,3.7nm,0.9s,baz=129,slow=7.6,SNR=7.3
MAW LR LR 05 19 43.5
comp=Z,829nm,18.3s,baz=112,slow=35
comp=Z,3.7nm,0.9s
TOAD **Toad River Com** 85.73 23 P **P** **04 41 49.6 -0.1**
baz=225
E19K **Redstone River** 85.77 6 IAmb IAmb 04 41 55.4
comp=Z,15nm,0.8s
E19K **Redstone River** 85.77 6 P **P** **04 41 50.0 +0.3**
baz=195,SNR=5.1
LL02 **Futaleuf** 85.78 134 IAmb IAmb 04 41 55.1
comp=Z,35nm,1.4s
EGAK **Eagle** 85.81 13 IAmb IAmb 04 41 53.2
comp=Z,36nm,1.6s
EGAK **Eagle** 85.81 13 P **P** **04 41 50.1 +0.3**
baz=210
LIRD **Liard River Hi** 85.82 22 P **P** **04 41 50.2 +0.1**
baz=224
K29M **Barlow Dome** 85.85 15 P **P** **04 41 50.9 +0.6**
baz=214,SNR=13
I26K **Coal Creek Min** 85.86 12 P **P** **04 41 50.8 +0.7**
baz=208
RDOG **Red Dog Mine** 85.90 4 P **P** **04 41 51.0 +0.8**
baz=190
G22K **Bettles** 85.93 8 P **P** **04 41 51.0 +0.6**
baz=200
G23K **Bananza Creek** 85.95 9 IAmb IAmb 04 42 09.4
comp=Z,12nm,1.0s
G23K **Bananza Creek** 85.95 9 P **P** **04 41 50.9 +0.4**
baz=202
APMT **Aspermont** 85.96 53 IAmb IAmb 04 42 05.9
comp=Z,21nm,1.2s
F21K **Alatna River** 85.96 7 IAmb IAmb 04 42 08.4
comp=Z,12nm,1.1s
F21K **Alatna River** 85.96 7 P **P** **04 41 50.9 +0.3**
baz=198
BRDY **Brady** 86.00 56 IAmb IAmb 04 42 15.6
comp=Z,22nm,1.6s
J29N **Klondike Camp** 86.19 14 P **P** **04 41 52.8 +0.9**
baz=213
H25L **Birch Creek** 86.22 11 P **P** **04 41 52.5 +0.7**
baz=206
C17K **DeLong Mountai** 86.30 4 P **P** **04 41 52.9 +0.7**
baz=189
G24K **Hadweenzic Riv** 86.33 10 P **P** **04 41 52.6 +0.2**
baz=204
F22K **John River** 86.40 8 P **P** **04 41 53.0 +0.3**
baz=200
COLD **Coldfoot** 86.40 9 IAmb IAmb 04 41 56.7
comp=Z,24nm,1.4s
COLD **Coldfoot** 86.40 9 P **P** **04 41 53.2 +0.4**
baz=202,SNR=5.3
I27K **Kandik River** 86.43 12 P **P** **04 41 53.3 +0.3**
baz=210
MMPY **Sheldon Lake,** 86.54 18 IAmb IAmb 04 41 58.0
comp=Z,13nm,1.1s
MMPY **Sheldon Lake,** 86.54 18 P **P** **04 41 53.9 +0.2**
baz=219
C18K **Utukok River** 86.60 4 P **P** **04 41 54.0 +0.2**
baz=191
G25K **Bearman Lake** 86.62 10 P **P** **04 41 54.6 +0.8**
baz=206
TGTN **Hyland Airport** 86.63 20 P **P** **04 41 54.6 +0.5**
baz=222
E20K **Nigu River** 86.65 6 P **P** **04 41 54.7 +0.7**
baz=196
I28M **Miner Creek** 86.65 13 P **P** **04 41 54.6 +0.5**
baz=211
D19K **Kuna River** 86.69 5 P **P** **04 41 55.3 +1.1**
baz=194
J30M **Hart River** 86.75 15 P **P** **04 41 55.3 +0.6**
baz=215
I29M **Ogilvie Camp,** 86.94 14 IAmb IAmb 04 42 06.3
comp=Z,16nm,1.1s
I29M **Ogilvie Camp,** 86.94 14 P **P** **04 41 56.2 +0.8**
baz=213
H27K **Steamboat Moun** 87.00 12 IAmb IAmb 04 42 07.2
comp=Z,24nm,1.4s
H27K **Steamboat Moun** 87.00 12 P **P** **04 41 56.6 +0.9**
baz=210
F24K **Squaw Lake** 87.02 9 P **P** **04 41 56.2 +0.3**
baz=204
E22K **Anaktuvuk Pass** 87.04 8 P **P** **04 41 56.8 +0.9**
baz=200
D20K **Etivluk River** 87.05 6 P **P** **04 41 57.0 +1.1**
baz=196
KOTAN **Kotaneelee Air** 87.06 22 P **P** **04 41 57.2 +1.1**
baz=226
E21K **Killik River** 87.06 7 P **P** **04 41 57.1 +1.0**
baz=198
C19K **Lookout Ridge** 87.17 5 P **P** **04 41 57.6 +1.0**
baz=193
G26K **Porcupine Rive** 87.20 11 P **P** **04 41 57.9 +1.2**
baz=208,SNR=18
E23K **Chandalar** 87.26 9 P **P** **04 41 58.1 +1.1**
baz=202
B18K **Kokolik River** 87.26 4 P **P** **04 41 57.3 +0.4**
baz=191
I30M **Mount Dempster** 87.27 15 IAmb IAmb 04 42 01.3
comp=Z,16nm,0.8s
I30M **Mount Dempster** 87.27 15 P **P** **04 41 57.6 +0.4**
baz=215
HNS **HongShan** 87.38 311 ⇑P **P** **04 41 59.6 +1.4**
HNS S **S** **04 52 30.8 -7.2**
HNS pmax pmax
comp=Z,17nm,1.7s
HNS pmax pmax
comp=Z,280nm,5.5s
HNS LR LR
comp=Z,320nm,15.1s
HNS LR LR
comp=Z,260nm,16.5s
HNS LR LR
comp=Z,300nm,17.3s
E24K **Your Creek** 87.44 9 P **P** **04 41 57.8 0.0**
baz=203
F25K **Christian Rive** 87.45 10 P **P** **04 41 58.5 +0.5**
baz=206
BJI **Beijing** 87.46 313 P **P** **04 41 59.6 +1.1**
BJI pP **sP** **04 42 05.3 0.0**
BJI SKS **SKSac** **04 52 25.3 -0.1**
BJI S **S** **04 52 38.3 -0.3**
BJI pmax pmax
comp=Z,9.0nm,1.4s
BJI pmax pmax
comp=Z,170nm,4.5s
BJI LR LR
comp=Z,120nm,17.3s
BJI LR LR
comp=Z,110nm,18.1s
BJI LR LR
comp=Z,130nm,17.5s
G27K **Doyon Strip** 87.47 12 P **P** **04 41 59.1 +1.1**
baz=210
WMOK **Wichita Mounta** 87.54 52 IAmb IAmb 04 42 28.2
comp=Z,26nm,1.9s
PLCA **Paso Flores** 87.56 132 **P** **04 41 59.7 +0.4**
PLCA **Paso Flores** 87.56 132 P **P** **04 42 00.9 +1.6**
comp=Z,8.4nm,1.1s,baz=238,slow=11,SNR=9.0
PLCA LR LR 05 14 40.0
comp=Z,445nm,18.0s,baz=246,slow=31

comp=Z,8,4nm,1.1s
PLCA Paso Flores 87.56 132 P **P** **04 41 59.7 +0.4**
PLCA pmax pmax
comp=Z,38nm,1.8s
D22K Ayikyak River 87.63 7 P **P** **04 42 00.1 +1.4**
baz=199
H29M Whitestone 87.65 13 P **P** **04 41 59.7 +0.9**
baz=213
C21K Kniteblade Rid 87.66 6 P **P** **04 42 00.5 +1.6**
baz=197
F26K Sheenjek River 87.80 11 IAmb IAmb 04 42 36.8
comp=Z,14nm,1.4s
F26K Sheenjek River 87.80 11 P **P** **04 42 01.1 +1.6**
baz=207
TOLK Toolik Lake Re 87.81 8 P **P** **04 42 00.6 +1.0**
baz=202
RSSD Black Hills 87.87 42 **P** **04 42 00.4 -0.3**
RSSD IAmb IAmb 04 42 06.8
comp=Z,16nm,1.5s
RSSD Black Hills 87.87 42 P **P** **04 42 00.4 -0.3**
RSSD pmax pmax
comp=Z,16nm,1.5s
LYN LuoYang 87.89 307 P **P** **04 42 02.3 +1.6**
LYN S **S** **04 52 40.6 -2.4**
LYN pmax pmax
comp=Z,33nm,1.4s
LYN pmax pmax
comp=Z,330nm,5.7s
LYN LR LR
comp=Z,290nm,15.3s
LYN LR LR
comp=Z,420nm,16.8s
LYN LR LR
comp=Z,720nm,17.9s
E25K Arctic Village 87.94 10 P **P** **04 42 01.2 +1.0**
baz=206
D23K Nanushuk River 87.96 8 P **P** **04 42 01.6 +1.3**
baz=201
B21K Ikpikpuk River 88.12 6 P **P** **04 42 02.3 +1.3**
baz=197
A19K Wainwright 88.14 4 P **P** **04 42 02.4 +1.4**
baz=191
EPYK Eagle Plains 88.14 14 P **P** **04 42 02.0 +0.7**
baz=214
H31M Peel River 88.24 15 P **P** **04 42 02.5 +0.8**
baz=216
B20K Meade River 88.25 5 P **P** **04 42 02.4 +0.8**
baz=195
G29M Pine Creek 88.31 13 P **P** **04 42 02.7 +0.7**
baz=213
MTO3 Montecristo 88.33 74 IAmb IAmb 04 42 09.8
comp=Z,9.0nm,1.1s
D24K Happy Valley 88.39 8 P **P** **04 42 02.9 +0.6**
baz=203
F28M Old Crow 88.52 12 P **P** **04 42 03.9 +0.9**
baz=211
E27K Coleen River 88.69 11 IAmb IAmb 04 42 15.5
comp=Z,23nm,1.6s
E27K Coleen River 88.69 11 P **P** **04 42 04.2 +0.4**
baz=210
G30M tAoh Zraii Nji 88.76 14 IAmb IAmb 04 42 08.1
comp=Z,22nm,1.2s
G30M tAoh Zraii Nji 88.76 14 P **P** **04 42 04.7 +0.6**
baz=215
C23K Itkillik River 88.79 8 P **P** **04 42 05.0 +0.8**
baz=201
FNO Franklin 88.79 52 IAmb IAmb 04 42 10.5
comp=Z,17nm,1.1s
D25K Kavik River 88.90 9 P **P** **04 42 05.4 +0.6**
baz=205
C24K Franklin Bluff 88.93 8 P **P** **04 42 05.3 +0.5**
baz=203
B22K Teshekpuk Lake 88.94 6 P **P** **04 42 05.6 +0.8**
baz=198
PSI Prapat 89.13 273 LR LR 05 24 46.5
comp=Z,132nm,18.2s,baz=138,slow=38
TIY Taiyuan 89.16 310 *e*P **P** **04 42 08.4 +1.7**
TIY S **S** **04 52 51.8 -3.3**
TIY pmax pmax
comp=Z,190nm,4.5s
TIY LR LR
comp=Z,120nm,17.2s
TIY LR LR
comp=Z,230nm,18.6s
TIY LR LR
comp=Z,230nm,17.9s
G31M Satah River 89.16 14 IAmb IAmb 04 42 10.5
comp=Z,12nm,0.8s
G31M Satah River 89.16 14 P **P** **04 42 06.4 +0.5**
baz=216
F30M Barrier River 89.38 13 P **P** **04 42 07.2 +0.2**
baz=215
A22K Sinclair Lake 89.42 6 P **P** **04 42 07.2 +0.2**
baz=197
E28M Babbage River 89.44 12 IAmb IAmb 04 42 31.6
comp=Z,21nm,1.9s
E28M Babbage River 89.44 12 P **P** **04 42 07.9 +0.6**
baz=212
E29M Blow River 89.58 12 P **P** **04 42 08.6 +0.7**
baz=213
GYA Guiyang 89.59 298 P **P** **04 42 11.1 +2.0**
GYA S **S** **04 52 52.8 -6.9**
GYA pmax pmax
comp=Z,22nm,1.3s
C27K Jago River 89.59 10 P **P** **04 42 08.3 +0.3**
baz=208
C26K Camden Bay 89.66 9 P **P** **04 42 08.9 +0.7**
baz=207
F31M Tsiigehtchic 89.70 14 P **P** **04 42 09.1 +0.7**
baz=217
D27M Malcolm River 89.72 11 P **P** **04 42 09.5 +0.8**
baz=210
MT09 Talagante 89.75 125 IAmb IAmb 04 42 18.3
comp=Z,19nm,1.2s
D28M Stokes Point 90.21 11 P **P** **04 42 11.8 +1.0**
baz=212
PEL Peldehue 90.21 125 P **P** **04 42 12.2 +0.3**
PEL IAmb IAmb 04 42 16.3
comp=Z,19nm,1.1s
PEL Peldehue 90.21 125 P **P** **04 42 12.2 +0.3**
PEL pmax pmax
comp=Z,19nm,1.1s
SLVN Son La 90.28 292 IAmb IAmb 04 42 15.4
comp=Z,15nm,1.1s
SYO Syowa Base 90.38 191⇑ *e*PcP **PcP** **04 42 14.6 +1.6**
TROLL Troll, Antarti 90.39 179 ⇓P **P** **04 42 12.2 +0.1**
comp=Z,400nm,1.0s
INK Inuvik 90.44 14 IAmb IAmb 04 42 21.1
comp=Z,33nm,1.9s
INK Inuvik 90.44 14 P **P** **04 42 12.3 +0.4**
baz=217
VNA3 Neumayer Olymp 90.46 175 ⇓P **P** **04 42 13.1 +0.9**
comp=Z,7.5nm,1.0s
SNAA Sanae 90.52 177 ⇓P **P** **04 42 12.7 +0.1**
comp=Z,150nm,1.0s
SNAA Sanae 90.52 177 **P** **04 42 12.7 +0.1**
SNAA IAmb IAmb 04 42 18.3
comp=Z,15nm,1.2s
SNAA Sanae 90.52 177 P **P** **04 42 13.1 +0.5**
comp=Z,9.6nm,1.1s,baz=195,slow=4.2,SNR=16
SNAA LR LR 05 21 51.5
comp=Z,386nm,18.3s,baz=215,slow=35
comp=Z,9.6nm,1.1s
SNAA Sanae 90.52 177 *ce*P **P** **04 42 14.7 +2.1**
SNAA pmax pmax
comp=Z,14nm,1.2s
VNA2 Neumayer--Watz 90.96 175 ⇓P **P** **04 42 16.5 +2.0**
comp=Z,8.8nm,0.6s,baz=139,slow=3.2
HHC Hu-ho-hao-te 91.00 313 *e*P **P** **04 42 15.8 +0.5**
HHC sP sP 04 42 23.3 +1.2
HHC S **S** **04 53 08.3 -3.8**
HHC sS sS 04 53 25.8 +6.1
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,190nm,7.1s
HHC LR LR
comp=Z,210nm,14.3s
HHC LR LR
comp=Z,220nm,13.9s
HHC LR LR
comp=Z,210nm,13.5s
JTS Las Juntas de 91.14 80 P **P** **04 42 14.9 -1.5**
JTS Las Juntas de 91.14 80 LR LR 05 15 06.7
comp=Z,497nm,18.1s,baz=272,slow=30
JTS Las Juntas de 91.14 80 *i* P **P** **04 42 16.8 +0.3**
JTS pmax pmax
comp=Z,24nm,1.0s
VNA1 Neumayer--Stat 91.15 175 ⇓P **P** **04 42 16.7 +1.3**
comp=Z,17nm,1.1s
YAK Yakutsk 91.48 337 LR LR 05 20 45.8
comp=Z,63nm,18.8s,baz=134,slow=34
NVL N'lazarevskaya 91.63 182 *e*P P 04 42 32.4 +15
NVL *e*PPP PPP 04 48 07.9
NVL *e*SS SS 04 59 42.0 +20
NVL pmax pmax
comp=Z,5.0nm,0.6s
NVL MLR MLR
comp=Z,92nm,18.0s
BTO Baotou 91.99 312 *e*P **P** **04 42 22.0 +2.1**
BTO pP **sP** **04 42 26.9 +0.2**
BTO sP **pwP** **04 42 29.3 -1.3**
BTO S **S** **04 53 24.3 +3.2**
BTO sS **sS** **04 53 30.5 +1.8**
BTO SS **SS** **04 59 34.4 +3.9**
BTO pmax pmax
comp=Z,20nm,0.7s
BTO pmax pmax
comp=Z,440nm,7.2s
NNA Nana 92.03 103 LR LR 05 15 43.8
comp=Z,273nm,18.5s,baz=245,slow=30
YKA Yellowknife Ar 92.07 23 P **P** **04 42 20.5 +0.9**
comp=Z,2.5nm,0.9s,baz=242,slow=3.5,SNR=6.6
YKA LR LR 05 19 22.5
comp=Z,277nm,18.7s,baz=252,slow=33
comp=Z,2.5nm,0.9s
ATAH Atahualpa 92.09 98 LR LR 05 15 54.7
comp=Z,240nm,18.3s,baz=263,slow=30
SIUN Universidad Ur 92.34 76 IAmb IAmb 04 42 25.7
comp=Z,5.6nm,1.0s
KMI Kunming 92.50 295 P **P** **04 42 25.1 +2.3**
KMI pmax pmax
comp=Z,17nm,1.3s
KMI pmax pmax
comp=Z,130nm,3.7s
KMI LR LR
comp=Z,110nm,21.2s
KMI LR LR
comp=Z,130nm,20.1s
KMI LR LR
comp=Z,190nm,17.9s
ECSD EROS Data Cent 92.58 45 IAmb IAmb 04 42 25.8
comp=Z,25nm,1.8s
WHAR Wooly Hollow 92.70 54 IAmb IAmb 04 42 27.2
comp=Z,18nm,1.2s
CD2 Chengdu 93.47 301 *e*P **P** **04 42 27.1 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
C36M Paulatuk 93.50 16 P **P** **04 42 26.6 +0.6**
baz=226
R40A Maddies Statio 93.72 51 IAmb IAmb 04 42 31.2
comp=Z,13nm,1.2s
PZH PanZhiHua 93.78 296 P **P** **04 42 28.8 +0.3**
PZH SKS **SKSac** **04 53 06.1 +3.3**
PZH S **ScS** **04 53 43.8 +4.7**
PZH pmax pmax
comp=Z,320nm,5.1s
PZH LR LR
comp=Z,130nm,18.4s
PZH LR LR
comp=Z,170nm,16.8s
PZH LR LR
comp=Z,190nm,17.2s
AC02 Maricunga 93.79 120 P **P** **04 42 29.1 -0.1**
AC02 IAmb IAmb 04 42 35.7
comp=Z,12nm,1.2s
CMAR Chiang Mai Arr 93.83 288 P **P** **04 42 29.7 +0.9**
comp=Z,1.5nm,0.3s,baz=108,slow=3.1,SNR=18
CMAR LR LR 05 23 30.6
comp=Z,152nm,19.3s,baz=110,slow=35
comp=Z,1.5nm,0.3s
CMAR Chiang Mai Arr 93.83 288 *i* P **P** **04 42 30.6 +1.8**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
LCAR Lake Charles 93.83 53 IAmb IAmb 04 42 32.5
comp=Z,14nm,1.4s
LZH Lanzhou 95.02 306 *e*P **P** **04 42 36.8 +2.7**
LZH sP pwP 04 42 43.4 -1.9
LZH SKS **SKSac** **04 53 10.4 +1.2**
LZH pmax pmax
comp=Z,160nm,4.8s
LZH LR LR
comp=Z,190nm,16.8s
LZH LR LR
comp=Z,260nm,17.5s
LZH LR LR
comp=Z,270nm,16.8s
LZDM Lanzhou Array 95.10 306 P **P** **04 42 35.7 +1.1**
comp=Z,1.0nm,0.3s,baz=90,slow=2.9,SNR=1.3
LZDM LR LR 05 21 14.0
comp=Z,93nm,21.7s,baz=15,slow=33
comp=Z,1.0nm,0.3s
ULM Lac du Bonnet 95.46 39 LR LR 05 23 56.9
comp=Z,798nm,18.1s,baz=250,slow=34
ULN Ulaanbaatar 96.53 318 *i* P **P** **04 42 41.0 +0.4**
ULN pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 96.94 318 P **P** **04 42 42.7 +0.2**
comp=Z,0.3nm,0.3s,baz=90,slow=5.8,SNR=2.1
SONM LR LR 05 21 13.9
comp=Z,118nm,21.9s,baz=100,slow=32
comp=Z,0.3nm,0.3s
TIXI Tiksi 97.41 344 LR LR 05 23 30.1
comp=Z,182nm,20.7s,baz=170,slow=34
TIXI Tiksi 97.41 344 *i* P Pdif 04 42 45.2 +1.3
TIXI pmax pmax
comp=Z,9.0nm,0.9s
LPAZ La Paz 98.53 110 LR LR 05 18 23.8
comp=Z,228nm,19.6s,baz=248,slow=30
GTA Gaotai 99.04 308 *e*P **Pdif** **04 42 55.5 +3.3**
GTA SKS **SKSac** **04 53 34.8 +5.0**
GTA pmax pmax
comp=Z,3.0nm,1.5s
GTA LR LR
comp=Z,190nm,16.7s
GTA LR LR
comp=Z,220nm,17.8s
GTA LR LR
comp=Z,320nm,19.3s
TKL Tuckaleechee C 99.44 56 LR LR 05 23 52.3
comp=Z,199nm,18.3s,baz=261,slow=33
ROSC El Rosal 99.60 88 LR LR 05 20 45.2
comp=Z,91nm,18.9s,baz=257,slow=31
WMQ Urumqi 108.80 311 Pdif **Pdif** **04 43 36.3 +0.9**
WMQ LR LR
comp=Z,140nm,18.1s
ZALV Zalesovo Beam 111.39 322 PKiKP **PKiKP** **04 47 44.7 0.0**
comp=Z,0.6nm,0.4s,baz=186,slow=1.5,SNR=4.5
MKAR Makanchi Array 112.83 314 PKiKP **PKiKP** **04 47 47.9 +0.1**
comp=Z,3.3nm,1.0s,baz=79,slow=2.6,SNR=10.0
KURK Kurchatov 115.24 318*c* *i*PKiKP **PKiKP** **04 47 53.9 +1.7**
KURK pmax pmax
comp=Z,7.0nm,1.3s
KURBB Kurchatov Arra 115.30 318 PKP **PKPdf** **04 47 52.1 -0.3**
comp=Z,1.9nm,0.7s,baz=94,slow=1.7,SNR=11
KSH Kashi 117.27 306 PKP **PKiKP** **04 48 01.4 +4.7**
AAK Ala-Archa 118.38 309 *i* PKiKP **PKiKP** **04 47 59.8 +1.0**
BVAR Borovoye Array 120.05 321 PKP **PKiKP** **04 48 01.8 +0.3**
comp=Z,12nm,1.1s,baz=78,slow=2.1,SNR=11
BORK Borovoye 120.09 321*c* *i*PKiKP **PKiKP** **04 48 02.5 +0.9**
BORK pmax pmax
comp=Z,11nm,1.0s
GAR Garm 121.67 305 PKPdf **PKPdf** **04 48 04.5 -0.7**
SIMJ Simiganj 122.70 305 PKPdf **PKPdf** **04 48 06.4 -0.8**
ARTI Arti 125.72 328 *i* PKiKP **PKiKP** **04 48 12.9 +0.3**
ARTI 04 50 06.5
ARTI 04 55 24.2
ARTI SP SP 05 00 07.4 +4.5
ARTI SS **SS** **05 07 06.4 +3.1**
ARCES ARCESS Array B 127.02 352 PKP **PKiKP** **04 48 14.7 -0.2**
comp=Z,4.0nm,0.8s,baz=332,slow=1.8,SNR=6.0
FINES FINESS Array B 134.36 347 PKhKP PKPpre 04 48 24.2
comp=Z,4.7nm,1.0s,baz=90,slow=1.9,SNR=6.9
FINES PKP **PKiKP** **04 48 30.0 +0.2**
comp=Z,5.3nm,0.9s,baz=52,slow=6.6,SNR=4.7
FINES FINESS Array B 134.36 347 PKIKP **PKiKP** **04 48 30.0 +0.2**
OBN Obninsk 136.47 336 *i* PKiKP **PKiKP** **04 48 34.4 +0.1**
OBN pmax pmax
comp=Z,9.0nm,1.0s
NOA NORSAR Array B 136.69 357 PKP **PKiKP** **04 48 34.5 -0.1**
comp=Z,0.5nm,0.9s,baz=14,slow=2.5,SNR=1.9
MAK Makhachkala 137.63 315 *e*P **Pdif** **04 45 31.5 -12**
MAK *e* 04 48 32.7
MAK pmax pmax
comp=Z,166nm,1.8s
AKT Akhty 138.05 313 *e*PKiKP **PKPdf** **04 48 36.1 0.0**
AKT pmax pmax
comp=Z,14nm,1.0s
AKT MLR MLR
comp=Z,219nm,20.0s
MNK Minsk 140.01 341 *i* PKiKP **PKiKP** **04 48 43.0 +1.5**
MNK *i* 04 51 36.9
MNK *i* PPP PPP 04 54 37.0
MNK *i* 04 55 50.3
MNK *i* SS SS 05 10 00.1 +4.2
MNK pmax pmax
comp=E,10.0nm,0.7s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK MLR MLR
comp=E,132nm,20.0s
MNK MLR MLR
comp=Z,178nm,18.0s
KBZ Khabaz 140.30 318*c* *i*PKiKP **PKiKP** **04 48 43.2 +0.8**
KIV Kislovodsk 140.32 319 *i* PKiKP **PKPdf** **04 48 41.3 +1.2**
KIV pmax pmax
comp=Z,6.0nm,1.1s
SHA1 Shidzhatmaz 140.45 319 *i* PKiKP **PKPdf** **04 48 41.3 +0.7**
GNI Garni 140.66 312*c* *i*PKiKP **PKiKP** **04 48 43.7 +0.1**
GNI pmax pmax
comp=Z,21nm,1.7s
AKASG Malin Array Be 142.71 337 PKP **PKPdf** **04 48 43.4 -0.6**
comp=Z,2.5nm,0.8s,baz=36,slow=3.1,SNR=7.3
AKBB Malin Array Si 142.71 337*c* *i*PKiKP **PKiKP** **04 48 46.6 -0.6**
KiBK Kibwezi 143.55 240 **PKPdf** **04 48 45.8 -1.1**
BEL Belsk 144.34 345 *e*PKP **PKPdf** **04 48 46.9 0.0**
MARD Mardin 144.64 310 **PKPab** **04 48 46.4 -0.3**
KMBO Kilima Mbogo 144.88 241 *i* PKiKP **PKPdf** **04 48 50.1 +0.8**
KMBO pmax pmax
comp=Z,22nm,0.3s
ATD Arta Tunnel 144.92 265 **PKPab** **04 48 46.9 -1.4**
KWP Kalwaria Pacla 145.82 342 *e*PKP **PKPab** **04 48 51.0 +0.5**
OJC Ojcow 146.07 345 *e*PKP **PKPab** **04 48 52.0 +0.7**
KSP Ksiaz 146.21 350 *e*PKP **PKPab** **04 48 52.3 +0.4**
CLL Collm 146.22 353 *i* PKP2 **PKPab** **04 48 51.7 -0.2**
CLL pmax pmax
comp=Z,70nm,1.1s
CLL MLR MLR
comp=Z,300nm,18.5s
CLL Collm 146.22 353 *i* PKPbc **PKPab** **04 48 51.7 -0.2**
comp=Z,70nm,1.1s
CLL *i* (PKiKP) 04 48 54.2
comp=Z,116nm,1.1s
CLL *e*PP **PP** **04 52 13.0 +0.5**
CLL Lm MLR 06 00 00.0
comp=Z,300nm,18.5s
CHVC Chvalec 146.49 350 *e*PKP **PKPab** **04 48 53.0 0.0**
CHVC Chvalec 146.49 350 *e*PKP2 **PKPab** **04 48 53.0 0.0**
OSTC Ostas 146.50 349 *e*PKP **PKPab** **04 48 52.9 -0.1**
OSTC Ostas 146.50 349 *e*PKP2 **PKPab** **04 48 52.9 -0.1**
BRG Berggiesshubel 146.53 352 *e*PKP **PKPab** **04 48 52.6 -0.5**
BRG Amp 04 48 54.4
comp=Z,28nm,1.0s
BRG Berggiesshubel 146.53 352 P **PKiKP** **04 48 56.0 +0.9**
BRG Amp 04 48 57.1
comp=Z,50nm,1.0s
KOLS Kolonicke sedl 146.58 342 *e*PKP2 **PKPab** **04 48 53.8 +0.4**
UPC Upice 146.58 350 *e*PKP **PKPab** **04 48 53.8 +0.5**
UPC Upice 146.58 350 *e*PKP2 **PKPab** **04 48 53.8 +0.5**
DPC Dobruska-Polom 146.68 349 *e*PKP **PKPab** **04 48 54.1 +0.4**
DPC Dobruska-Polom 146.68 349 *e*PKP2 **PKPab** **04 48 54.1 +0.4**
NIE Niedzica 146.69 344 *e*PKP **PKPbc** **04 48 53.1 +0.4**
BURAR Bucovina Array 146.75 337 ⇑P **PKiKP** **04 48 55.6 -0.2**
BURAR Bucovina Array 146.75 337 ⇑PKP2 **PKiKP** **04 48 55.6 -0.2**
PVCC Panska Ves 146.78 351 *e*PKP **PKPab** **04 48 54.8 +0.7**
PVCC Panska Ves 146.78 351 *e*PKP2 **PKPab** **04 48 54.8 +0.7**
OKC Ostrava-Krasne 146.81 347 *e*PKP **PKiKP** **04 48 57.8 +2.2**
OKC Ostrava-Krasne 146.81 347 *e*PKP2 **PKiKP** **04 48 57.8 +2.2**
RICC Richard 146.84 352 *e*PKP **PKPab** **04 48 54.3 0.0**
KRLC Kraliky 146.85 349 *e*PKP **PKPab** **04 48 54.1 -0.4**
KRLC Kraliky 146.85 349 *e*PKP2 **PKPab** **04 48 54.1 -0.4**
UCC Uccle 146.98 3 *d*PKP **PKPab** **04 48 54.3 -0.5**
MORC Moravsky Berou 146.99 348 *e*PKP **PKPbc** **04 48 54.1 +0.5**
MORC Moravsky Berou 146.99 348 ⇓P **PKPab** **04 48 54.7 -0.3**
MORC Moravsky Berou 146.99 348 ⇓PKP2 **PKPab** **04 48 54.7 -0.3**
TESR Tescani 147.10 335 ⇑P **PKPdf** **04 48 52.6 +0.8**
LANS Liptovska Anna 147.14 345 *e*PKP2 **PKiKP** **04 48 56.3 -0.1**
MEM Membach 147.23 1 *d*PKP **PKPab** **04 48 55.2 -0.7**
BSTI Sart Tilman 147.25 2 *d*PKP **PKPab** **04 48 55.3 -0.5**
PRA Prague 147.25 351 *e*PKP **PKiKP** **04 48 58.6 +2.1**
PRA Prague 147.25 351 *e*PKP2 **PKiKP** **04 48 58.6 +2.1**
BTNL Ternell 147.26 1 *d*PKP **PKiKP** **04 48 58.3 +1.7**
PRU Pruhonice 147.31 351 *e*PKP **PKiKP** **04 48 58.7 +2.0**
PRU Pruhonice 147.31 351 *e*PKP2 **PKiKP** **04 48 58.7 +2.0**
ONER Baraj Valea Uz 147.35 335 ⇓P **PKPab** **04 48 56.5 0.0**
BHOU Houvegnez 147.49 1 *d*PKP **PKPab** **04 48 56.1 -0.8**
BMRD Maredsous 147.50 3 *d*PKP **PKiKP** **04 48 59.1 +2.1**
CFR Carcaliu 147.52 332 ⇓P **PKPbc** **04 48 54.5 -0.6**
CFR Carcaliu 147.52 332 ⇓PKP2 **PKPbc** **04 48 54.5 -0.6**
VRI Vrincioaia 147.59 334 ⇑P **PKPab** **04 48 57.8 +0.3**
VRI Vrincioaia 147.59 334 ⇑PKP2 **PKPab** **04 48 57.8 +0.3**
VRAC Vranov 147.62 348 *e*PKP **PKPbc** **04 48 56.2 +0.9**
TPGR Topolog 147.64 331 ⇑P **PKPbc** **04 48 54.5 -1.0**
DOU Dourbes 147.69 3 *d*PKP **PKPbc** **04 48 55.8 +0.3**
JAVC Velka Javorina 147.83 347 *e*PKP **PKiKP** **04 48 57.5 -0.4**
KRUC Moravsky 147.90 348 *e*PKP **PKPbc** **04 48 56.5 +0.5**
ZVC Zvikov 147.90 351 *e*PKP **PKiKP** **04 48 57.2 -0.7**
DOPR Dopca 148.05 336 ⇑P **PKPab** **04 48 58.9 -0.4**
PSZ Piszkesteto 148.17 344 PKPdf **PKPdf** **04 48 51.0 -2.7**
PSZ Piszkesteto 148.17 344 ⇑P **PKiKP** **04 48 58.6 0.0**
PSZ Piszkesteto 148.17 344 ⇑PKP2 **PKiKP** **04 48 58.6 0.0**
WLF Walferdange 148.18 1 PKPdf **PKPdf** **04 48 51.3 -2.1**
WLF Walferdange 148.18 1 *d*PKP **PKPbc** **04 48 56.9 +0.1**
WLF Walferdange 148.18 1 PKHKP PKPpre 04 48 51.3
MLR Muntele Rosu 148.22 334 PKPdf **PKPdf** **04 48 52.7 -1.2**
MLR Muntele Rosu 148.22 334 ⇑P **PKiKP** **04 48 58.6 -0.3**
MLR Muntele Rosu 148.22 334 ⇑PKP2 **PKiKP** **04 48 58.6 -0.3**
BR131 Keskin Array S 148.29 319 *i* PKiKP **PKPdf** **04 48 54.1 -0.1**
BRTR Keskin Array B 148.29 319 PKPbc **PKPbc** **04 48 57.8 +0.2**
comp=Z,17nm,1.0s,baz=126,slow=2.1,SNR=13
KHC Kasperske Hory 148.29 352 *e*PKP **PKPbc** **04 48 56.0 -1.1**
KHC pPKP **sPKPdf** **04 49 01.1 +0.6**
KHC Kasperske Hory 148.29 352 *e*PKiKP **PKPbc** **04 48 56.0 -1.1**
KHC *e* 04 49 01.1
MARR Marisel-Cluj 148.29 339 ⇓P **PKiKP** **04 48 58.5 -0.5**
DRGR 148.33 339 ⇓P **PKiKP** **04 48 58.5 -0.5**
DRGR 148.33 339 ⇓PKP2 **PKiKP** **04 48 58.5 -0.5**
MODS Modra-Piesok 148.38 347 *e*PKP2 **PKiKP** **04 48 59.6 +0.6**
CKRC Cesky Krumlov 148.49 351 *e*PKP **PKPab** **04 49 01.2 +0.3**
CKRC Cesky Krumlov 148.49 351 *e*PKP2 **PKPab** **04 49 01.2 +0.3**
GERES GERESS Array B 148.55 352 PKPbc **PKPbc** **04 48 58.0 +0.1**
comp=Z,11nm,1.0s,baz=28,slow=3.2,SNR=17
GERES GERESS Array B 148.55 352 PKP2 **PKPbc** **04 48 58.0 +0.1**
VOIR 148.63 335 ⇓P **PKiKP** **04 48 59.6 0.0**
VOIR 148.63 335 ⇓PKP2 **PKiKP** **04 48 59.6 0.0**
ARR Arges 148.85 336 ⇑P **PKiKP** **04 49 00.0 -0.1**
LODK Lodwar 148.86 246 **PKPab** **04 49 03.2 -0.4**
CONA Conrad Observa 149.09 349 *e*PKiKP **PKPbc** **04 48 59.7 +0.4**
comp=Z,13nm,1.1s,SNR=16
RONA Rosalia, Austr 149.22 348 *e*PKiKP **PKPbc** **04 49 00.1 +0.6**
comp=Z,13nm,1.2s,SNR=7.7
SURR Surduc 149.43 339 ⇑P **PKiKP** **04 49 01.4 +0.2**
MOA Molln 149.44 351 *e*PKiKP **PKiKP** **04 49 00.7 -0.5**
comp=Z,4.3nm,0.8s
GZR Gura Zlata 149.52 338 ⇑P **PKiKP** **04 49 01.7 +0.2**
GZR Gura Zlata 149.52 338 ⇑PKP2 **PKiKP** **04 49 01.7 +0.2**
CLF Chambon-Foret 149.57 6 **PKPab** **04 49 04.1 -1.2**
BIOA Bad Ischl, Aus 149.69 351 *e*PKiKP **PKiKP** **04 49 01.4 -0.3**
comp=Z,0.1nm,0.2s
BZS Buzias 149.72 340 ⇑P **PKPab** **04 49 04.5 -1.5**
BZS Buzias 149.72 340 ⇑PKP2 **PKPab** **04 49 04.5 -1.5**
ARSA Arzberg 149.80 349 *e*PKiKP **PKiKP** **04 49 01.5 -0.5**
comp=Z,5.7nm,1.3s
LESA Schwarzleotal 150.08 352 *e*PKiKP **PKiKP** **04 49 02.2 -0.4**
comp=Z,6.1nm,1.0s
HERR Herculane 150.09 338 ⇓P **PKiKP** **04 49 02.8 +0.2**
RETA Reutte 150.22 355 *e*PKiKP **PKPbc** **04 49 02.2 +0.2**
comp=Z,13nm,1.2s
WATA Walderalm 150.29 354 *e*PKiKP **PKPbc** **04 49 02.3 0.0**
comp=Z,17nm,1.3s,SNR=5.2
MOTA Moosalm 150.33 355 *e*PKiKP **PKPbc** **04 49 02.3 -0.1**
comp=Z,14nm,0.9s,SNR=7.2
KBA Koelnbreinsper 150.33 351 *e*PKiKP **PKPbc** **04 49 02.5 0.0**
comp=Z,3.8nm,0.6s

WTTA	**Wattenberg**	**150.36**	**354**	*e*PKiKP	**PKPbc**	**04 49 02.7**	**+0.2**
	comp=Z,13nm,0.8s,SNR=6.9							
MMAI	**Mount Meron Ar**	**150.41**	**306**	PKPbc	**PKiKP**	**04 49 03.4**	**-0.3**
	comp=Z,33nm,1.0s,baz=72,slow=4.7,SNR=9.6							
MDVR	**Moldovita**	**150.43**	**339**	⇑P	**PKPbc**	**04 49 01.9**	**-0.7**
SQTA	**Sankt Quirin**	**150.44**	**354**	*e*PKiKP	**PKiKP**	**04 49 03.0**	**-0.4**
	comp=Z,18nm,1.3s,SNR=5.2							
SOKA	**Soboth**	**150.44**	**349**	*e*PKiKP	**PKPbc**	**04 49 02.7**	**+0.1**
	comp=Z,11nm,1.0s,SNR=13							
DAVA	**Damuels**	**150.48**	**356**	*e*PKiKP	**PKPbc**	**04 49 03.1**	**+0.3**
	comp=Z,16nm,1.0s,SNR=11							
FETA	**Feichten**	**150.68**	**355**	*e*PKiKP	**PKPbc**	**04 49 03.4**	**+0.1**
	comp=Z,9.6nm,1.0s,SNR=8.5							
OBKA	**Obir**	**150.69**	**349**	*e*PKP	**PKPbc**	**04 49 02.9**	**-0.4**
	comp=Z,3.8nm,0.9s							
MYKA	**Terra Mystica**	**150.72**	**351**	*e*PKP	**PKPbc**	**04 49 02.7**	**-0.6**
	comp=Z,3.8nm,0.5s							
ABTA	**Abfaltersbach**	**150.77**	**352**	*e*PKP	**PKPbc**	**04 49 03.0**	**-0.4**
	comp=Z,20nm,1.1s,SNR=17							
CSS	**Mathiatis**	**151.07**	**311**	PKPdf	**PKPdf**	**04 48 56.8**	**-1.8**
LJU	**Ljubljana**	**151.15**	**349**	*i* PKPbc	**PKPbc**	**04 49 04.4**	**+0.2**
TUE	**Stuetta**	**151.32**	**357**	PKPdf	**PKPdf**	**04 48 58.1**	**-0.8**
BOVS	**Bovan**	**151.43**	**338**	⇑P	**PKiKP**	**04 49 08.5**	**+3.1**
BOJS	**Bojanci**	**151.53**	**348**	*i* PKPbc	**PKiKP**	**04 49 05.6**	**+0.1**
BLY	**Banja Luka**	**151.81**	**345**	⇑P	**PKiKP**	**04 49 07.5**	**+1.4**
BNI	**Bardonecchia**	**152.80**	**1**	PKPbc	**PKPbc**	**04 49 06.5**	**-1.7**
BNI	**Bardonecchia**	**152.80**	**1**	PKIKP	**PKPbc**	**04 49 06.5**	**-1.7**
ESDC	**Sonseca Array**	**156.16**	**22**	PKPab	**PKPab**	**04 49 33.3**	**0.0**
	comp=Z,2.6nm,1.1s,baz=339,slow=4.5,SNR=7.1							

*IDC **25** 04:29:42.6±1.2, 34°.26N×73°.54E, h0km, mb3.9/7, mbtmp3.9/11, ML3.7/4, MS3.5/1, Error ellipse: s-maj=37.8km s-min=18.2km az=56.0*
*NDI **25** 04:29:46.9±0.9, 34°.59N×73°.85E, h10km, ML3.7, MW3.6*
ISC 25 04:29:47.2±0.9, 34°.46N±0°.08×73°.7E±0°.1, h22km, n20, σ1§43/24, mb3.9/7, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JMU	**Jammu**	**2.00**	**150**	*e*P		**Pn**	**04 30 20.2**	**+0.6**
JMU				*e*S		**Sb**	**04 30 46.3**	**-0.9**
JMU				IAML			04 30 48.7	
	comp=N,705nm,0.2s							
JMU				IAML			04 30 48.9	
	comp=E,1μm,0.5s							
TSSA	**Tissa**	**2.59**	**128**	*e*P		**Pn**	**04 30 30.1**	**+2.1**
TSSA				*e*S		**Sn**	**04 31 01.0**	**+2.0**
TSSA				IAML			04 31 08.2	
	comp=N,7μm,0.1s							
TSSA				IAML			04 31 08.5	
	comp=E,6μm,0.3s							
DHRM	**DHARAMSHALA**	**3.08**	**135**	*e*P		**Pn**	**04 30 36.9**	**+2.1**
DHRM				*e*S		**Sn**	**04 31 12.4**	**+1.3**
DHRM				IAML			04 31 16.2	
	comp=E,422nm,0.2s							
DHRM				IAML			04 31 21.3	
	comp=N,351nm,0.3s							
SMLA	**Simla**	**4.41**	**138**	*e*P		**Pn**	**04 30 53.7**	**+0.9**
SMLA				*e*S		**Sn**	**04 31 43.6**	**+0.1**
SMLA				IAML			04 31 47.4	
	comp=E,106nm,0.2s							
SMLA				IAML			04 31 48.3	
	comp=N,131nm,0.3s							
HNLY	**HANLEY**	**4.69**	**109**	*e*P		**Pn**	**04 30 57.2**	**0.0**
HNLY				*e*S		**Sn**	**04 31 48.1**	**-3.1**
HNLY				IAML			04 32 02.4	
	comp=N,9.7nm,0.7s							
KLP	**Kalpa**	**4.80**	**126**	*e*P		**Pn**	**04 30 59.5**	**+1.0**
KLP				*e*S		**Sn**	**04 31 51.6**	**-1.8**
KLP				IAML			04 31 56.1	
	comp=E,86nm,0.4s							
KLP				IAML			04 32 01.0	
	comp=N,64nm,0.5s							
AAK	**Ala-Archa**	**8.19**	**4**	LR		LR	04 35 16.8	
	comp=N,31nm,19.6s,baz=74,slow=40							
MKAR	**Makanchi Array**	**13.92**	**25**	Pn		**Pn**	**04 33 05.3**	**+2.2**
	comp=N,0.1nm,0.3s,baz=212,slow=11,SNR=7.7							
	comp=N,0.1nm,0.3s							
KURBB	**Kurchatov Arra**	**16.53**	**11**	Pn		**Pn**	**04 33 37.2**	**-0.3**
	comp=N,0.1nm,0.3s,baz=201,slow=11,SNR=6.9							
	comp=N,1.1nm,0.7s							
BVAR	**Borovoye Array**	**18.71**	**354**	P		**P**	**04 34 04.6**	**+0.6**
	comp=N,0.2nm,0.3s,baz=159,slow=9.7,SNR=23							
	comp=N,4.3nm,0.4s							
AKTO	**Aktyubinsk**	**19.66**	**329**	P		**P**	**04 34 14.6**	**+0.1**
	comp=N,1.4nm,0.3s,baz=135,slow=9.2,SNR=19							
	comp=N,6.7nm,0.5s							
ZALV	**Zalesovo Beam**	**21.00**	**19**	P		**P**	**04 34 29.0**	**0.0**
	comp=N,2.1nm,0.5s,baz=214,slow=10.0,SNR=10							
	comp=N,2.1nm,0.5s							
CMAR	**Chiang Mai Arr**	**27.53**	**119**	P		**P**	**04 35 32.9**	**+0.5**
	comp=N,0.7nm,0.3s,baz=302,slow=8.5,SNR=4.5							
	comp=N,0.7nm,0.3s							
ASF	**Jabal al Asfar**	**30.75**	**276**	LR		LR	04 49 33.7	
	comp=N,92nm,21.7s,baz=166,slow=39							
ARCES	**ARCESS Array B**	**43.87**	**338**	P		**P**	**04 37 51.7**	**+0.2**
	comp=N,1.8nm,0.8s,baz=119,slow=8.3,SNR=3.6							
	comp=N,1.8nm,0.8s							
HFS	**Hagfors**	**46.03**	**323**	P		**P**	**04 38 08.2**	**-0.6**
	comp=N,2.5nm,0.5s,baz=94,slow=11,SNR=12							
	comp=N,2.5nm,0.5s							
NB2	**NORSAR Subarra**	**47.34**	**324**	P		**P**	**04 38 18.2**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**47.34**	**324**	P		**P**	**04 38 18.2**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=96,slow=7.8,SNR=5.8							
	comp=Z,0.5nm,0.5s							
WRA	**Warramunga Arr**	**79.02**	**123**	P		**P**	**04 41 47.8**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=309,slow=5.1,SNR=2.3							
	comp=Z,0.6nm,0.7s							
ASAR	**Alice Springs**	**81.26**	**126**	P		**P**	**04 42 00.7**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=311,slow=5.1,SNR=4.6							
	comp=Z,0.8nm,0.8s							

*SDD **25** 04:32:12.7±1.8, 19°.21N×67°.27W, h19km±47km, MD3.3, ML3.2, MW3.7*
*NEIC **25** 04:32:15.0±1.2, 19°.04N±0°.06×67°.21W±0°.02, h20km±8km, ML3.1/19, Md3.0/12(RSPR), Error ellipse: s-maj=8.7km s-min=1.9km az=194.0*
*RSPR **25** 04:32:14.2, 19°.21N×67°.34W, h23km±23km, MD3.0/12*
ISC 25 04:32:12.2±1.8, 19°.14N±0°.07×67°.22W±0°.03, h9km±10km, n54, σ0§58/67, 24C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
IDE	**Isla Desecheo**	**0.79**	**198**			**Pb**	**04 32 28.1**	**0.0**
IDE						**Sg**	**04 32 38.5**	**+0.8**
IDE	**Isla Desecheo**	**0.79**	**198**	⇑*e*P		**Pb**	**04 32 28.1**	**0.0**
IDE	**Isla Desecheo**	**0.79**	**198**	*e*S		**Sg**	**04 32 38.5**	**+0.8**
AOPR	**Arecibo Observ**	**0.90**	**151**			**Pb**	**04 32 30.0**	**-0.1**
AOPR						**Sn**	**04 32 44.5**	**+0.1**
AOPR				IAML			04 32 47.7	
	comp=N,1μm,0.4s							
AOPR	**Arecibo Observ**	**0.90**	**151**	⇑*e*P		**Pb**	**04 32 30.6**	**+0.4**
AOPR	**Arecibo Observ**	**0.90**	**151**	*e*S		**Sb**	**04 32 43.4**	**+1.0**
AOPR	**Arecibo Observ**	**0.90**	**151**	⇓*e*Pg		**Pn**	**04 32 30.7**	**-0.5**
AOPR				IAML			04 32 47.6	
	comp=N,995nm,0.3s							
PRSN	**Puerto Rico Se**	**0.92**	**176**			**Pb**	**04 32 30.3**	**-0.1**
PRSN						**Sb**	**04 32 42.9**	**+0.2**
PRSN	**Puerto Rico Se**	**0.92**	**176**	⇑*e*P		**Pb**	**04 32 30.3**	**-0.1**
PRSN	**Puerto Rico Se**	**0.92**	**176**	*e*S		**Sb**	**04 32 42.9**	**+0.2**
PRSN	**Puerto Rico Se**	**0.92**	**176**	⇑*e*Pg		**Pb**	**04 32 30.3**	**-0.1**
PRSN				⇓*e*Sg		**Sb**	**04 32 43.0**	**+0.3**
PRSN				IAML			04 32 48.7	
	comp=N,954nm,0.3s							
EMPR	**Esperanza - Ma**	**0.93**	**135**			**Pn**	**04 32 31.7**	**+0.2**
EMPR						**Sn**	**04 32 44.2**	**-0.7**
EMPR	**Esperanza - Ma**	**0.93**	**135**	⇑*e*P		**Pn**	**04 32 31.7**	**+0.2**
EMPR	**Esperanza - Ma**	**0.93**	**135**	*e*S		**Sn**	**04 32 44.2**	**-0.7**
LSP	**Las Mesas**	**0.97**	**172**			**Pb**	**04 32 31.4**	**+0.2**
LSP						**Sn**	**04 32 46.4**	**+0.4**
LSP	**Las Mesas**	**0.97**	**172**	⇑*e*P		**Pb**	**04 32 31.4**	**+0.2**
LSP	**Las Mesas**	**0.97**	**172**	*e*S		**Sn**	**04 32 46.4**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.00**	**152**			**Pb**	**04 32 31.8**	**0.0**
UUPR	**Utuado, UPR, P**	**1.00**	**152**	⇑*e*P		**Pb**	**04 32 31.8**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.13**	**175**			**Pg**	**04 32 33.5**	**-0.5**
CRPR				IAML			04 32 54.0	
	comp=E,541nm,0.5s							
CRPR				IAML			04 33 02.5	
	comp=N,380nm,0.5s							
CRPR	**Cabo Rojo, PR**	**1.13**	**175**			**Sg**	**04 32 48.4**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.13**	**175**	⇑*e*P		**Pg**	**04 32 33.6**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.13**	**175**	*e*S		**Sg**	**04 32 48.4**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.13**	**175**	⇑*e*Pg		**Pg**	**04 32 33.7**	**-0.4**
CRPR				⇓*e*Sg		**Sn**	**04 32 50.0**	**0.0**
CRPR				IAML			04 33 02.4	
	comp=N,420nm,0.6s							
ECPR	**Experimental S**	**1.15**	**135**	⇑*e*P		**Pg**	**04 32 34.1**	**-0.3**
ECPR	**Experimental S**	**1.15**	**135**	*e*S		**Sn**	**04 32 50.3**	**-0.2**
MLPR	**Magueyes Islan**	**1.18**	**172**	⇑*e*P		**Pg**	**04 32 34.4**	**-0.5**
MLPR	**Magueyes Islan**	**1.18**	**172**	*e*S		**Sg**	**04 32 50.2**	**+0.1**
MLPR	**Magueyes Islan**	**1.18**	**172**	⇑*e*Pg		**Pg**	**04 32 34.4**	**-0.5**
MLPR				⇑*e*Sg		**Sn**	**04 32 51.2**	**+0.1**
MLPR				IAML			04 32 56.6	
	comp=N,98nm,1.2s							
CELP	**Cerrillos**	**1.22**	**150**			**Pn**	**04 32 35.6**	**0.0**
CELP						**Sn**	**04 32 52.0**	**-0.2**
CELP	**Cerrillos**	**1.22**	**150**	IAML			04 32 55.6	
	comp=N,538nm,0.6s							
CELP				IAML			04 32 58.1	
	comp=E,392nm,1.1s							
CELP	**Cerrillos**	**1.22**	**150**	⇑*e*P		**Pn**	**04 32 35.6**	**0.0**
CELP	**Cerrillos**	**1.22**	**150**	*e*S		**Sn**	**04 32 52.0**	**-0.2**
CELP	**Cerrillos**	**1.22**	**150**	⇑*e*Pg		**Pb**	**04 32 35.5**	**-0.1**
CELP				⇑*e*Sg		**Sn**	**04 32 52.0**	**-0.2**
CELP				IAML			04 32 55.5	
	comp=N,492nm,0.6s							
OBIP	**Obispado Ponce**	**1.24**	**152**			**Pg**	**04 32 35.8**	**-0.2**
OBIP						**Sb**	**04 32 52.2**	**+0.4**
OBIP	**Obispado Ponce**	**1.24**	**152**	IAML			04 32 54.1	
	comp=N,544nm,0.8s							
OBIP				IAML			04 33 00.8	
	comp=E,401nm,0.8s							
OBIP	**Obispado Ponce**	**1.24**	**152**	⇓*e*P		**Pg**	**04 32 35.8**	**-0.2**
OBIP	**Obispado Ponce**	**1.24**	**152**	*e*S		**Sb**	**04 32 52.2**	**+0.4**
GCPR	**Guaynabo City**	**1.36**	**127**			**Pn**	**04 32 37.0**	**-0.4**
GCPR	**Guaynabo City**	**1.36**	**127**	⇑*e*P		**Pn**	**04 32 37.0**	**-0.4**
SJG	**San Juan**	**1.44**	**135**			**Pn**	**04 32 38.3**	**-0.2**
HIDR	**Higuey Centro**	**1.52**	**249**	⇑*e*Pg		**Pn**	**04 32 38.5**	**-1.1**
HIDR				⇑*e*Sg		**Sn**	**04 32 56.7**	**-2.9**
HIDR				IAML			04 33 07.9	
	comp=N,416nm,0.3s							
IGPR	**InterUniversit**	**1.57**	**138**			**Pn**	**04 32 40.7**	**+0.3**
IGPR						**Sn**	**04 33 00.8**	**-0.1**
IGPR	**InterUniversit**	**1.57**	**138**	⇑*e*P		**Pn**	**04 32 40.7**	**+0.3**
IGPR	**InterUniversit**	**1.57**	**138**	*e*S		**Sn**	**04 33 00.8**	**-0.1**
PDPR	**Patillas Dam,**	**1.59**	**134**			**Pn**	**04 32 40.6**	**-0.1**
PDPR				IAML			04 33 04.4	
	comp=E,170nm,0.7s							
PDPR				IAML			04 33 04.5	
	comp=N,175nm,0.8s							
PDPR	**Patillas Dam,**	**1.59**	**134**	⇑*e*P		**Pn**	**04 32 39.9**	**-0.8**
PDPR	**Patillas Dam,**	**1.59**	**134**	*e*S		**Sn**	**04 33 01.0**	**-0.4**
HUMP	**Col San Antoni**	**1.63**	**127**			**Pn**	**04 32 41.4**	**+0.2**
MIDR	**Miches**	**1.74**	**265**	⇑*e*Pg		**Pn**	**04 32 42.1**	**-0.6**
MIDR				⇑*e*Sg		**Sn**	**04 33 05.4**	**+0.4**
MIDR				IAML			04 33 06.4	
	comp=N,371nm,0.5s							
HATOM	**Hato Mayor del**	**2.08**	**261**	⇓*e*Pg		**Pn**	**04 32 47.4**	**0.0**
HATOM				⇑*e*Sg		**Sn**	**04 33 13.6**	**+0.2**
HATOM				IAML			04 33 19.9	
	comp=N,201nm,0.3s							
SDD	**Santo Domingo**	**2.64**	**256**			**Pn**	**04 32 56.5**	**+1.4**
SDD				IAML			04 33 37.5	
	comp=E,124nm,1.0s							
SDD				IAML			04 33 43.7	
	comp=N,117nm,0.7s							
SC01	**Santiago de lo**	**3.33**	**276**			**Pn**	**04 33 05.1**	**+0.5**
SDDR	**Presa de Saban**	**3.85**	**268**			**Pn**	**04 33 12.8**	**+0.9**

*IDC **25** 04:34:11.2±8.0, 21°.64N×143°.18E, h322km±80km, mb3.2/9, mbtmp3.9/9, Error ellipse: s-maj=36.6km s-min=23.6km az=73.0*
ISC 25 04:34:10.1±1.1, 21°.6N±0°.2×143°.2E±0°.2, h311km, n9, σ0§46/9, mb3.5/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KSRS	**Korea Array**	**20.59**	**323**	P		**P**	**04 38 26.1**	**0.0**
	0.9nm,0.6s,baz=144,slow=8.6,SNR=4.8							
	0.9nm,0.6s							
WRA	**Warramunga Arr**	**42.23**	**192**	P		**P**	**04 41 33.7**	**+0.1**
	0.3nm,0.3s,baz=15,slow=8.1,SNR=3.1							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**54.76**	**313**	P		**P**	**04 43 08.5**	**+0.2**
	0.2nm,0.4s,baz=91,slow=10,SNR=2.7							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**57.59**	**317**	P		**P**	**04 43 27.4**	**-0.6**
	0.7nm,0.4s,baz=98,slow=8.3,SNR=5.1							
	0.7nm,0.4s							
ILAR	**Eielson Array**	**62.08**	**27**	P		**P**	**04 43 58.5**	**+0.4**
	0.5nm,0.7s,baz=262,slow=6.2,SNR=2.3							
	0.5nm,0.7s							
BVAR	**Borovoye Array**	**62.74**	**320**	P		**P**	**04 44 02.6**	**-0.1**
	1.9nm,0.3s,baz=98,slow=8.4,SNR=9.4							
	1.9nm,0.3s							
ARCES	**ARCESS Array B**	**78.99**	**342**	P		**P**	**04 45 39.8**	**+0.3**
	3.0nm,0.9s,baz=60,slow=6.3,SNR=9.5							
	3.0nm,0.9s							
NVAR	**Mina Array Bea**	**83.16**	**51**	P		**P**	**04 46 01.9**	**-0.3**
	0.3nm,0.3s,baz=310,slow=5.7,SNR=3.7							
	0.3nm,0.3s							
FINES	**FINESS Array B**	**83.25**	**334**	P		**P**	**04 46 01.2**	**-0.7**
	1.1nm,0.4s,baz=64,slow=4.4,SNR=12							
	1.1nm,0.4s							

*TRN **25** 04:57:14.7, 10°.90N×62°.23W, h98km, MD3.5, North of the Paria peninsula.*
*FUNV **25** 04:57:16.1, 10°.94N×62°.31W, h25km, MW3.6*
ISC 25 04:57:13.2±2.0, 10°.88N±0°.07×62°.25W±0°.09, h110km±21km, n15, σ1§46/28, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DMDM	**Guralp CMG5TDE**	**0.71**	**105**	*e*P		**Pn**	**04 57 32.4**	**+0.8**
DMDM				*e*S		**Sn**	**04 57 44.9**	**-0.6**
PSMG	**Mucurapo Girls**	**0.73**	**106**	*e*P		**Pn**	**04 57 32.7**	**+0.9**
PSMG				*e*S		**Sn**	**04 57 44.8**	**-1.1**
TRN	**Trinidad (W)**	**0.86**	**105**	*e*P		**Pn**	**04 57 34.1**	**+1.1**
TRN				*e*S		**Sn**	**04 57 46.7**	**-1.3**
GRFF	**Grenada Fort F**	**1.27**	**23**	*e*P		**Pn**	**04 57 37.7**	**+0.4**
GRFF				*e*S		**Sn**	**04 57 54.4**	**-1.2**
GRGR	**Grenville**	**1.38**	**25**	*e*P		**Pn**	**04 57 39.0**	**+0.4**
GRGR				*e*S		**Sn**	**04 57 57.3**	**-0.5**
GRHS	**Sauteurs**	**1.46**	**24**	*e*P		**Pn**	**04 57 40.1**	**+0.6**
GRHS				*e*S		**Sn**	**04 57 58.7**	**-0.9**
GCMP	**Grenada, Carri**	**1.79**	**27**	*e*P		**Pn**	**04 57 44.3**	**+0.8**
GCMP				*e*S		**Sn**	**04 58 05.8**	**-0.9**
PCRV	**Puerto La Cruz**	**2.45**	**254**	⇑*e*P		**Pn**	**04 57 54.1**	**+2.1**
PCRV				*e*S		**Sn**	**04 58 20.4**	**-1.3**
PCRV	**Puerto La Cruz**	**2.45**	**254**	*e*P		**Pn**	**04 57 53.9**	**+1.9**
PCRV				*e*S		**Sn**	**04 58 22.7**	**+0.9**
SVB	**Belmont**	**2.57**	**22**	*e*P		**Pn**	**04 57 54.5**	**+0.9**
SVB				*e*S		**Sn**	**04 58 25.1**	**+0.5**
SLBI	**Saint Lucia, B**	**3.36**	**22**	*e*P		**Pn**	**04 58 04.4**	**+0.4**
SLBI				*e*S		**Sn**	**04 58 42.8**	**-0.5**
BENV	**Beln**	**5.34**	**261**	*e*P		**Pn**	**04 58 32.4**	**+1.8**
BENV				*e*S		**Sn**	**04 59 28.5**	**-2.5**
CACV	**CAICARA DEL OR**	**5.36**	**232**	*e*P		Pn	04 58 26.9	-4.0
CACV				*e*S		Sn	04 59 20.7	-11
BAUV	**El Baul**	**6.02**	**252**	*e*P		**Pn**	**04 58 40.1**	**+0.3**
BAUV				*e*S		**Sn**	**04 59 44.2**	**-3.3**
BAUV	**El Baul**	**6.02**	**252**	*e*P		**Pn**	**04 58 41.4**	**+1.6**
BAUV				*e*S		**Sn**	**04 59 45.0**	**-2.5**

*NEIC **25** 05:49:34.7±1.2, 36°.56N±0°.02×121°.22W±0°.02, h10km±2km, Error ellipse: s-maj=3.1km s-min=2.6km az=240.0*
NCEDC 25 05:49:34.9±1.2, 36°.59N±0°.01×121°.19W±0°.02, h7km±3km, Mwr3.2/4, ML3.0/60(NEIC), Error ellipse: s-maj=2.1km s-min=1.7km az=221.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BJOM	**Mount Johnson**	**0.10**	**290**			Pg	05 49 37.2	0.0
BBGB	**Big Mountain B**	**0.12**	**96**			Pg	05 49 38.6	+1.0
BBGB	**Big Mountain B**	**0.12**	**96**	IAML			05 49 42.5	
	comp=N,30μm,0.3s							
BBGB				IAML			05 49 43.1	
	comp=E,41μm,0.7s							
BJCM	**Johnson Can.**	**0.17**	**254**			Pg	05 49 38.2	-0.1
SCZ	**Santa Cruz**	**0.17**	**272**			Pg	05 49 38.3	0.0
BSGM	**Shirttail Gulc**	**0.18**	**196**			Pg	05 49 38.4	-0.2
BSGM						Sg	05 49 41.1	0.0
LRV	**Little Rabbit**	**0.22**	**140**			Pg	05 49 39.8	+0.6
SAO	**San Andreas Ge**	**0.27**	**310**	Pg		Pg	05 49 40.2	0.0
BSRM	**Salinas Radio**	**0.27**	**286**			Pg	05 49 40.2	-0.1
BSMM	**Soledad Missio**	**0.28**	**222**			Pg	05 49 40.6	+0.1
FRP	**Fremont Peak**	**0.29**	**304**			Pg	05 49 40.5	-0.1
BMSM	**Mercy Hot Spri**	**0.33**	**78**			Pb	05 49 42.4	-0.7
BCWM	**Chews Ridge**	**0.41**	**227**			Pg	05 49 43.0	0.0
HFEM	**San Felipe**	**0.42**	**337**			Pb	05 49 44.0	-0.8
HTUM	**Tustin Road**	**0.43**	**303**			Pg	05 49 43.1	-0.2
HERM	**Elkhorn Road**	**0.47**	**296**			Pg	05 49 44.0	+0.1
BPRM	**Ponciano Ridge**	**0.47**	**247**			Pg	05 49 43.9	-0.1
HPCM	**Pacheco Lake**	**0.47**	**352**			Pg	05 49 44.7	+0.7
FORD	**Fort Ord Natur**	**0.48**	**282**	Pg		Pg	05 49 44.3	+0.1
FORD				IAML			05 49 52.8	
	comp=E,891nm,0.7s							
FORD				IAML			05 49 58.6	
	comp=N,1μm,0.5s							
SLD	**San Luis Dam**	**0.48**	**357**			Pg	05 49 44.8	+0.6
PMPB	**Monarch Peak**	**0.49**	**140**			Pg	05 49 44.5	+0.2
PMPB	**Monarch Peak**	**0.49**	**140**	IAML			05 49 56.8	
	comp=E,1μm,0.6s							
PCCM	**Crazy Canyon**	**0.50**	**177**			Pg	05 49 44.8	+0.2
HCBM	**Chamberlain**	**0.51**	**312**			Pb	05 49 45.7	-0.5
GHS	**Gilroy Hot Spr**	**0.54**	**338**			Pb	05 49 46.1	-0.7
HLPM	**Lions Peak**	**0.57**	**322**			Pg	05 49 46.3	+0.4
HULI	**Fort Hunter Li**	**0.57**	**183**	Pg		Pg	05 49 45.9	0.0
HULI				IAML			05 49 59.1	
	comp=E,958nm,0.5s							
HULI				IAML			05 49 59.5	
	comp=N,962nm,0.8s							
SCKWR	**San Luis Creek**	**0.60**	**9**			Pg	05 49 46.7	+0.3
JELB	**Ellicott, Sant**	**0.61**	**303**			Pg	05 49 47.0	+0.4
PPTM	**Peach Tree Val**	**0.61**	**142**			Pg	05 49 46.7	0.0
PSAM	**San Ardo**	**0.62**	**156**			Pg	05 49 46.7	-0.1
CADM	**Anderson Res.**	**0.67**	**329**			Pb	05 49 48.4	-0.5
JLAB	**Laurel Hill**	**0.71**	**322**			Pg	05 49 49.0	+0.4
PSMM	**Smith Mountain**	**0.71**	**137**			Pg	05 49 48.8	+0.2
CCOB	**Coe Ranch Numb**	**0.77**	**330**			Pb	05 49 50.6	0.0
PHPM	**Hope Ranch**	**0.77**	**142**			Pg	05 49 49.3	-0.4
ARN	**Arnold Ranch**	**0.80**	**340**			Pb	05 49 50.9	-0.3
MHC	**Mount Hamilton**	**0.83**	**334**	Pg		Pg	05 49 51.0	+0.2
PKD	**Bear Valley Ra**	**0.83**	**141**			Pg	05 49 50.5	-0.3
PKD	**Bear Valley Ra**	**0.83**	**141**	IAML			05 50 08.4	
	comp=E,491nm,0.9s							
PVCM	**Vineyard Canyo**	**0.85**	**141**			Pg	05 49 50.9	-0.4
PPO	**Portuguese Can**	**0.86**	**147**			Pg	05 49 51.4	0.0
JJOM	**Saint Joseph's**	**0.88**	**314**			Pg	05 49 51.5	-0.3
SCCB	**Santa Clara Co**	**0.88**	**322**			Pg	05 49 51.8	+0.1
CMMM	**Mount Mocho**	**0.90**	**344**			Pb	05 49 52.5	-0.4
WSRE	**Westside REC,**	**0.90**	**106**			Pb	05 49 53.3	+0.5
MTOS	**Mt Oso, Westle**	**0.92**	**353**			Pb	05 49 53.2	0.0
CTM	**Castle Mountai**	**0.95**	**133**			Pb	05 49 53.9	+0.1
PHFM	**Heflinger Ranc**	**0.95**	**138**			Pg	05 49 53.0	-0.2
CMLM	**Mount Lewis**	**0.96**	**338**			Pg	05 49 53.4	+0.1
CALM	**Calaveras Res.**	**0.98**	**331**			Pg	05 49 53.9	+0.1
RAMR	**Ramage Ranch**	**0.99**	**165**			Pg	05 49 53.3	-0.6
MYLM	**Yosemite Lake**	**1.00**	**38**			Pg	05 49 54.0	-0.1
LCUV	**Le Cuvier**	**1.01

PB09	**IPOC Station P**	**2.69 293**	⇑*e*P		**Pn**	**06 04 22.8**	**+1.7**
PB09			*e*S		**S**	**06 04 58.6**	**-0.9**
PB09			IAML			06 05 03.6	
	comp=E,63nm,0.6s						
PB09	**IPOC Station P**	**2.69 293**	*e*P		**Pn**	**06 04 22.9**	**+1.8**
PB09			IAML			06 05 04.2	
	comp=Z,58nm,0.2s						
PB06	**IPOC Station P**	**2.77 273**	*e*P		**Pn**	**06 04 22.9**	**+1.1**
PB06			*e*S		**S**	**06 05 00.1**	**-0.9**
PB06			IAML			06 05 03.2	
	comp=E,127nm,0.2s						
PB06	**IPOC Station P**	**2.77 273**	*e*P		**Pn**	**06 04 22.6**	**+0.8**
PB06			*e*S		**S**	**06 05 00.5**	**-0.5**
PB06			IAML			06 05 03.3	
	comp=Z,99nm,0.3s						
PB03	**IPOC Station P**	**3.05 285**	⇑*e*P		**Pn**	**06 04 25.9**	**+1.1**
PB03			*e*S		**S**	**06 05 04.4**	**-2.1**
PB03	**IPOC Station P**	**3.05 285**	*e*P		**Pn**	**06 04 26.0**	**+1.1**
PB03			*e*S		**S**	**06 05 05.5**	**-1.0**
PB03			IAML			06 05 09.2	
	comp=Z,119nm,0.2s						
PB01	**IPOC Station P**	**3.26 303**	⇑*e*P		**Pn**	**06 04 28.3**	**+1.2**
PB01			*e*S		**S**	**06 05 09.3**	**-1.3**
PB01	**IPOC Station P**	**3.26 303**	*e*P		**Pn**	**06 04 28.3**	**+1.2**
PB01			*e*S		**S**	**06 05 09.4**	**-1.2**
PB01			IAML			06 05 10.3	
	comp=Z,83nm,0.3s						
FSA	**Cafayete**	**3.27 171**	*e*P		**Pn**	**06 04 29.3**	**+1.9**
PB05	**IPOC Station P**	**3.34 270**	⇑*e*P		**Pn**	**06 04 29.3**	**+1.2**
PB05			*e*S		**S**	**06 05 10.6**	**-1.7**
PB05	**IPOC Station P**	**3.34 270**	*e*P		**Pn**	**06 04 29.3**	**+1.2**
PB05			*e*S		**S**	**06 05 11.6**	**-0.7**
PB05			IAML			06 05 11.7	
	comp=Z,45nm,0.4s						
PB02	**IPOC Station P**	**3.44 296**	⇑*e*P		**Pn**	**06 04 30.2**	**+1.0**
PB02			*e*S		**S**	**06 05 11.6**	**-2.8**
PB02	**IPOC Station P**	**3.44 296**	*e*P		**Pn**	**06 04 29.7**	**+0.5**
PB02			*e*S		**S**	**06 05 13.1**	**-1.3**
PB02			IAML			06 05 22.4	
	comp=Z,128nm,0.3s						
GO02	**Mina Guanaco**	**3.58 230**	*e*P		**Pn**	**06 04 32.5**	**+1.6**
GO02			*e*S		**S**	**06 05 17.6**	**+0.1**
GO02	**Mina Guanaco**	**3.58 230**	*e*P		**Pn**	**06 04 32.7**	**+1.8**
GO02			*e*S		**S**	**06 05 17.6**	**+0.1**
GO02			IAML			06 05 17.9	
	comp=Z,161nm,0.3s						
PB08	**IPOC Station P**	**3.62 318**	⇑*e*P		**Pn**	**06 04 33.9**	**+2.2**
PB08			*e*S		**S**	**06 05 18.2**	**-0.4**
PB08	**IPOC Station P**	**3.62 318**	*e*P		**Pn**	**06 04 33.3**	**+1.6**
PB08			*e*S		**S**	**06 05 18.8**	**+0.1**
PB08			IAML			06 05 20.3	
	comp=Z,50nm,0.8s						
PB10	**IPOC Station P**	**3.71 259**	*e*P		**Pn**	**06 04 33.7**	**+1.5**
PB10			*e*S		**S**	**06 05 18.5**	**-1.3**
PB10			IAML			06 05 19.7	
	comp=Z,55nm,0.2s						
GO01	**Chusmiza**	**4.01 322**	*e*P		**Pn**	**06 04 37.6**	**+1.3**
GO01			*e*S		**S**	**06 05 29.1**	**+1.9**
GO01			IAML			06 05 29.6	
	comp=Z,50nm,0.5s						
TA01	**Diego Aracena**	**4.06 304**	*e*P		**Pn**	**06 04 36.8**	**+0.5**
TA01			IAML			06 05 29.9	
	comp=Z,34nm,0.3s						
PB11	**IPOC Station P**	**4.22 317**	*e*P		**Pn**	**06 04 38.7**	**+0.2**
PB11			*e*S		**S**	**06 05 28.8**	**-2.2**
PB11			IAML			06 05 32.5	
	comp=Z,72nm,0.2s						
AC02	**Maricunga**	**4.58 210**	*e*P		**Pn**	**06 04 44.9**	**+2.0**
AC02			*e*S		**S**	**06 05 34.2**	**-5.0**
AC01	**Pan de Azucar**	**4.90 228**	*e*P		**Pn**	**06 04 47.0**	**+0.5**
AC01			*e*S		**S**	**06 05 43.3**	**-2.4**
AC01			IAML			06 05 43.7	
	comp=Z,26nm,0.3s						
PB16	**IPOC Station P**	**5.28 328**	*e*P		**Pn**	**06 04 53.9**	**+2.1**
PB16			*e*S		**S**	**06 05 51.1**	**-4.1**
PB16			IAML			06 05 59.0	
	comp=Z,16nm,0.4s						

IDC ***25*** *06:05:02.9±0.9,14°.01S×177°.94W,h0km,mb4.0/7, mbtmp4.0/7,MS3.7/27,Error ellipse: s-maj=66.3km s-min=21.7km az=146.0*

ISC 25 06:05:08.4±1.0,14°.0S±0°.4×178°.0W±0°.3,h35km,n34, σ0s28/8,mb4.1/7,MS3.8/25,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.84 239**		LR	LR		06 14 35.4	
	comp=E,291nm,18.7s,baz=45,slow=34							
RAR	**Rarotonga**	**18.77 115**		LR	LR		06 14 02.6	
	comp=E,70nm,20.4s,baz=256,slow=29							
HNR	**Honiara**	**22.08 279**		LR	LR		06 17 22.8	
	comp=E,111nm,21.7s,baz=116,slow=33							
URZ	**Urewera**	**24.55 189**		LR	LR		06 18 30.0	
	comp=E,275nm,18.7s,baz=33,slow=33							
H11S2	**WAKE ISLAND Hy**	**35.64 335**		T	T		06 50 44.8	
	baz=154,slow=76,SNR=6.4							
H11S3	**WAKE ISLAND Hy**	**35.65 335**		T	T		06 50 45.1	
	baz=154,slow=76,SNR=5.9							
H11S1	**WAKE ISLAND Hy**	**35.66 335**		T	T		06 50 46.0	
	baz=154,slow=76,SNR=6.7							
H11N3	**WAKE ISLAND Hy**	**36.66 336**		T	T		06 52 04.8	
	baz=155							
H11N1	**WAKE ISLAND Hy**	**36.66 336**		T	T		06 52 03.4	
	baz=155,slow=74							
H11N2	**WAKE ISLAND Hy**	**36.67 336**		T	T		06 52 02.9	
	baz=155,slow=74							
STKA	**Stephens Creek**	**40.97 237**		LR	LR		06 28 22.9	
	comp=Z,165nm,19.5s,baz=28,slow=34							
WRA	**Warramunga Arr**	**45.87 256**		P	**P**		**06 13 27.7**	**+0.1**
	0.5nm,0.9s,baz=88,slow=8.5,SNR=2.9							
	0.5nm,0.9s							
ASAR	**Alice Springs**	**46.36 251**		P	**P**		**06 13 31.3**	**-0.2**
	4.1nm,0.8s,baz=83,slow=8.5,SNR=18							
ASAR				PcP		**PcP**	**06 15 06.4**	**+0.1**
	0.3nm,0.8s,baz=109,slow=3.2,SNR=4.1							
ASAR				LR	LR		06 31 02.3	
	comp=Z,67nm,21.4s,baz=114,slow=34							
	4.1nm,0.8s							
ASAJ	**Asahikawa**	**68.08 330**		LR	LR		06 39 37.2	
	comp=Z,29nm,21.6s,baz=118,slow=30							
PETK	**Petropavlovsk-**	**70.03 345**		LR	LR		06 44 39.1	
	comp=Z,20nm,18.8s,baz=107,slow=34							
KDAK	**Kodiak Island**	**74.53 14**		LR	LR		06 41 50.2	
	comp=Z,67nm,20.1s,baz=165,slow=30							
YBH	**Yreka Blue Hor**	**75.26 40**		LR	LR		06 41 54.1	
	comp=Z,5.4nm,19.4s,baz=274,slow=29							
PFO	**Pinyon Flats O**	**75.30 49**		LR	LR		06 42 14.6	
	comp=Z,65nm,19.0s,baz=274,slow=30							
QSPA	**South Pole Qui**	**76.03 180**		LR	LR		06 44 48.0	
	comp=Z,43nm,21.7s,baz=35,slow=31							
LPIG	**La Paz**	**76.15 61**		LR	LR		06 45 05.3	
	comp=Z,59nm,18.1s,baz=211,slow=32							
NVAR	**Mina Array Bea**	**76.34 44**		P	**P**		**06 16 54.5**	**+0.1**
	0.6nm,0.9s,baz=227,slow=5.9,SNR=6.0							
NVAR				LR	LR		06 45 07.6	
	comp=Z,35nm,18.8s,baz=266,slow=32							
	0.6nm,0.9s							
ELK	**Elko**	**79.55 43**		LR	LR		06 44 28.8	
	comp=Z,50nm,21.1s,baz=284,slow=30							
ILAR	**Eielson Array**	**82.01 13**		P	**P**		**06 17 24.6**	**+0.2**
	0.6nm,0.8s,baz=219,slow=5.4,SNR=6.6							
ILAR				LR	LR		06 45 43.6	
	comp=Z,49nm,21.0s,baz=248,slow=30							
	0.6nm,0.8s							
NEW	**Newport**	**82.13 36**		LR	LR		06 47 14.5	
	comp=Z,49nm,18.6s,baz=234,slow=31							
ANMO	**Albuquerque**	**83.36 52**		LR	LR		06 47 59.0	
	comp=Z,80nm,19.2s,baz=360,slow=31							
TXAR	**Lajitas Array**	**83.57 58**		P	**P**		**06 17 33.5**	**0.0**
	2.5nm,1.0s,baz=233,slow=4.2,SNR=12							
TXAR				LR	LR		06 47 18.4	
	comp=Z,43nm,18.7s,baz=243,slow=30							
	2.5nm,1.0s							
PDAR	**Pinedale Array**	**84.25 43**		P	**P**		**06 17 36.3**	**-0.5**
	1.5nm,1.1s,baz=232,slow=3.6,SNR=7.0							
PDAR				LR	LR		06 50 18.4	
	comp=Z,29nm,19.9s,baz=336,slow=32							
	1.5nm,1.1s							
CMIG	**Matias Romero**	**87.63 72**		LR	LR		06 48 21.9	
	comp=Z,35nm,20.8s,baz=201,slow=30							
MAW	**Mawson**	**87.66 200**		P	**P**		**06 17 53.0**	**+0.1**
	2.5nm,1.0s,baz=92,slow=3.6,SNR=5.3							
MAW				LR	LR		06 52 26.0	
	comp=Z,62nm,21.7s,baz=103,slow=32							
	2.5nm,1.0s							

INK	**Inuvik**	**88.03 15**		LR	LR		06 50 05.6	
	comp=Z,40nm,19.7s,baz=20,slow=31							
YKA	**Yellowknife Ar**	**90.63 25**		LR	LR		06 52 16.6	
	comp=Z,95nm,19.5s,baz=244,slow=31							
TIXI	**Tiksi**	**92.50 345**		LR	LR		06 56 16.3	
	comp=Z,29nm,19.8s,baz=186,slow=33							
JTS	**Las Juntas de**	**95.34 81**		LR	LR		06 51 19.1	
	comp=Z,34nm,20.7s,baz=297,slow=29							
ULM	**Lac du Bonnet**	**95.67 40**		LR	LR		06 53 45.1	
	comp=Z,66nm,19.7s,baz=287,slow=31							

JMA ***25*** *06:10:55.1±0.4,38°.2N±2°.×13°.4E±°.,h486km±4km,MV3.3/49, SEA OF JAPAN*

IDC ***25*** *06:10:56.5±1.0,38°.50N×133°.71E,h467km±12km, mb3.1/12,mbtmp3.9/17,Error ellipse: s-maj=22.4km s-min=12.5km az=68.0*

ISC 25 06:10:56.2±0.7,38°.60N±0°.09×133°.61E±0°.07,h448km,n33, σ1s25/36,mb3.5/12,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	**2.71 105**		*e*P	**P**		**06 12 02.7**	**+1.8**
JKSM	**Kasumi**	**3.12 164**		*e*P	**P**		**06 12 05.2**	**+1.2**
JKG	**Kaga**	**3.17 136**		*e*P	**P**		**06 12 06.0**	**+1.6**
JKY	**Yasaka**	**3.19 158**		*e*P	**P**		**06 12 06.0**	**+1.3**
JWT	**Wachi**	**3.61 156**		*e*P	**P**		**06 12 09.3**	**+1.3**
JHS	**Saijyo**	**3.61 186**		*e*P	**P**		**06 12 08.9**	**+0.8**
JSD	**Sado**	**3.70 97**		*e*P	**P**		**06 12 10.5**	**+1.9**
MJAR	**Matsushiro Arr**	**4.19 118**		P	**P**		**06 12 14.4**	**+1.5**
	8.1nm,0.7s,baz=298,slow=9.7,SNR=21							
KSRS	**Korea Array**	**4.63 258**		P	**P**		**06 12 19.0**	**+2.1**
	1.4nm,0.5s,baz=71,slow=8.1,SNR=4.3							
JIE	**Ise**	**4.88 148**		*e*P	**P**		**06 12 20.5**	**+1.1**
JTU	**Tsushima**	**5.29 221**		*e*P	**P**		**06 12 24.4**	**+1.0**
JOD2	**Odawara 2**	**5.51 125**		*e*P	**P**		**06 12 26.4**	**+0.8**
JRG	**Rokugo**	**5.53 80**		*e*P	**P**		**06 12 27.3**	**+1.7**
JRG				*e*S	**S**		**06 13 40.5**	**+1.9**
TTO1	**TONANKAI O.B.S**	**5.59 152**		*e*P	**P**		**06 12 27.3**	**+1.3**
TTO1				*e*S	**S**		**06 13 40.1**	**+0.8**
JMM	**Marumori**	**5.70 95**		*e*P	**P**		**06 12 28.0**	**+0.6**
JMM				*e*S	**S**		**06 13 41.8**	**0.0**
USRK	**Ussuriysk Ar.**	**5.73 348**		P	**P**		**06 12 30.0**	**+2.5**
	7.9nm,0.4s,baz=173,slow=9.7,SNR=14							
JFK	**Kawauchi**	**5.87 100**		*e*P	**P**		**06 12 29.6**	**+0.5**
JFK				*e*S	**S**		**06 13 44.3**	**-0.8**
JNU	**Nakatsue**	**5.90 203**		P	**P**		**06 12 29.8**	**+0.3**
	5.5nm,0.4s,baz=79,slow=1.8,SNR=5.6							
JMK	**Ichinoseki**	**5.96 84**		*e*S	**S**		**06 13 44.7**	**-1.8**
ASAJ	**Asahikawa**	**8.72 48**		P	**P**		**06 12 58.6**	**-0.6**
	9.2nm,0.4s,baz=212,slow=7.2,SNR=6.7							
SONM	**Songino Array**	**21.78 304**		P	**P**		**06 15 15.4**	**+1.5**
	1.0nm,0.5s,baz=109,slow=9.6,SNR=5.4							
	1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**36.27 311**		P	**P**		**06 17 19.0**	**-0.7**
	0.6nm,0.3s,baz=114,slow=6.8,SNR=3.5							
	0.6nm,0.3s							
MKAR	**Makanchi Array**	**38.01 299**		P	**P**		**06 17 33.8**	**-0.5**
	0.5nm,0.5s,baz=84,slow=9.7,SNR=5.6							
	0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**40.12 306**		P	**P**		**06 17 50.5**	**-0.8**
	2.2nm,0.2s,baz=86,slow=8.7,SNR=6.6							
	2.2nm,0.2s							
BVAR	**Borovoye Array**	**44.90 310**		P	**P**		**06 18 28.5**	**-0.6**
	0.7nm,0.4s,baz=78,slow=7.7,SNR=3.7							
	0.7nm,0.4s							
WRA	**Warramunga Arr**	**58.23 179**		P	**P**		**06 20 05.0**	**-1.3**
	0.8nm,0.6s,baz=355,slow=7.5,SNR=13							
	0.8nm,0.6s							
ARCES	**ARCESS Array B**	**60.27 337**		P	**P**		**06 20 19.2**	**-0.3**
	4.8nm,1.0s,baz=23,slow=6.6,SNR=3.6							
	4.8nm,1.0s							
ASAR	**Alice Springs**	**61.94 180**		P	P		06 20 27.4	-3.7
	0.6nm,0.8s,baz=4.8,slow=7.3,SNR=2.8							
	0.6nm,0.8s							
FINES	**FINESS Array B**	**64.44 329**		P	**P**		**06 20 46.5**	**-0.2**
	1.2nm,0.4s,baz=76,slow=6.1,SNR=12							
	1.2nm,0.4s							
AKASG	**Malin Array Be**	**69.17 319**		P	**P**		**06 21 15.3**	**-0.9**
	0.7nm,0.4s,baz=50,slow=6.5,SNR=7.1							
	0.7nm,0.4s							
HFS	**Hagfors**	**69.98 333**		P	**P**		**06 21 20.6**	**-0.5**
	0.9nm,0.4s,baz=46,slow=4.3,SNR=7.6							
	0.9nm,0.4s							
NB2	**NORSAR Subarra**	**70.22 334**		P	**P**		**06 21 22.3**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=45,slow=5.9							
NOA	**NORSAR Array B**	**70.22 334**		P	**P**		**06 21 22.3**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=46,slow=5.7,SNR=3.6							
	comp=Z,0.6nm,0.7s							

ASRS ***25*** *06:45:40.0±1.8,53°.75N×91°.05E,h0km,M2.9,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 25 06:45:45.8±3.9,53°.64N×90°.67E,h0km,mbtmp3.1/3, ML2.8/3,2C,Error ellipse: s-maj=37.4km s-min=25.1km az=28.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.48 277**		I	I		07 11 50.0	
	baz=90,slow=336,SNR=3.8							
ZAA0	**Zalesovo Array**	**3.48 277**		⇑Pg	Pb		06 46 47.5	-0.8
	1.3nm,0.8s							
ZAA0				⇑Lg	Lg		06 47 33.3	
	7.1nm,1.0s							
ZALV	**Zalesovo Beam**	**3.48 277**		Pn	Pn		06 46 42.3	+1.1
	1.4nm,0.3s,baz=95,slow=16,SNR=12							
ZALV				Lg	Lg		06 47 37.8	
	2.9nm,0.3s,baz=96,slow=28,SNR=9.6							
	0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**8.06 253**		Pn	Pn		06 47 42.7	-1.3
	0.2nm,0.3s,baz=64,slow=15,SNR=2.2							
KURBB				Sn	Sn		06 49 13.3	-2.4
	0.5nm,0.3s,baz=67,slow=26,SNR=7.2							
KURBB				Lg	Lg		06 50 02.1	
	baz=60,slow=27							
	1.2nm,0.3s							
MKAR	**Makanchi Array**	**8.71 221**		Pn	Pn		06 47 54.5	+1.5
	0.2nm,0.3s,baz=38,slow=13,SNR=4.7							
	0.4nm,0.5s							

NEIC ***25*** *07:00:06.7±1.3,19°.05N±0°.08×67°.15W±0°.02,h18km±11km, ML2.8/15,Md2.6/13(RSPR),Error ellipse: s-maj=11.4km s-min=1.5km az=165.0*

SDD ***25*** *07:00:06.4±2.0,19°.09N×67°.20W,h18km±89km,MD3.9, ML2.8,MW3.1*

RSPR ***25*** *07:00:08.1,19°.08N×67°.18W,h52km±9km,MD2.6/13*

ISC 25 07:00:05.3±1.5,19°.07N±0°.05×67°.16W±0°.03,h12km±9km, n62,σ0s48/76,17C-13D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.74 204**			**Pn**		**07 00 21.0**	**-0.7**
IDE					**Sn**		**07 00 32.4**	**-0.5**
IDE	**Isla Desecheo**	**0.74 204**		⇓*e*P	**Pn**		**07 00 21.0**	**-0.7**
IDE	**Isla Desecheo**	**0.74 204**		*e*S	**Sn**		**07 00 32.4**	**-0.5**
AOPR	**Arecibo Observ**	**0.82 152**			**Pb**		**07 00 21.7**	**+0.2**
AOPR					**Sb**		**07 00 33.3**	**+0.8**
AOPR	**Arecibo Observ**	**0.82 152**		⇑*e*P	**Pb**		**07 00 21.7**	**+0.2**
AOPR	**Arecibo Observ**	**0.82 152**		*e*S	**Sb**		**07 00 33.3**	**+0.8**
AOPR	**Arecibo Observ**	**0.82 152**		⇓*e*Pg	**Pb**		**07 00 21.7**	**+0.2**
AOPR				⇑*e*Sg	**Sb**		**07 00 33.5**	**+1.0**
AOPR				IAML			07 00 37.6	
	comp=N,576nm,0.2s							
EMPR	**Esperanza - Ma**	**0.84 135**			**Pn**		**07 00 22.8**	**-0.1**
EMPR					**Sn**		**07 00 35.9**	**+0.7**
EMPR	**Esperanza - Ma**	**0.84 135**		⇓*e*P	**Pn**		**07 00 22.8**	**-0.1**
EMPR	**Esperanza - Ma**	**0.84 135**		*e*S	**Sn**		**07 00 35.9**	**+0.7**
PRSN	**Puerto Rico Se**	**0.85 179**			**Pb**		**07 00 22.4**	**+0.4**
PRSN					**Sn**		**07 00 35.4**	**0.0**
PRSN	**Puerto Rico Se**	**0.85 179**		⇓*e*P	**Pb**		**07 00 22.4**	**+0.4**
PRSN	**Puerto Rico Se**	**0.85 179**		*e*S	**Sn**		**07 00 35.4**	**0.0**
PRSN	**Puerto Rico Se**	**0.85 179**		⇑*e*Pg	**Pb**		**07 00 22.4**	**+0.4**
PRSN				⇑*e*Sg	**Sb**		**07 00 34.4**	**+1.0**
PRSN				IAML			07 00 40.7	
	comp=N,1μm,0.2s							
LSP	**Las Mesas**	**0.89 175**			**Pn**		**07 00 23.2**	**-0.6**
LSP					**Sb**		**07 00 34.8**	**+0.1**
LSP	**Las Mesas**	**0.89 175**		⇓*i*P	**Pn**		**07 00 23.2**	**-0.6**
LSP	**Las Mesas**	**0.89 175**		*e*S	**Sb**		**07 00 34.8**	**+0.1**
UUPR	**Utuado, UPR, P**	**0.92 153**			**Pb**		**07 00 23.1**	**-0.1**
UUPR					**Sb**		**07 00 36.1**	**+0.9**
UUPR	**Utuado, UPR, P**	**0.92 153**		⇓*e*P	**Pb**		**07 00 23.1**	**-0.1**

UUPR	**Utuado, UPR, P**	**0.92 153**		*e*S		**Sb**	**07 00 36.1**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.06 177**				**Pg**	**07 00 25.6**	**-0.2**
CRPR						**Sn**	**07 00 40.6**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.06 177**		IAML			07 00 47.3	
	comp=N,203nm,0.3s							
CRPR				IAML			07 00 48.4	
	comp=E,196nm,0.2s							
CRPR	**Cabo Rojo, PR**	**1.06 177**	⇑*e*P			**Pg**	**07 00 25.6**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.06 177**	*e*S			**Sn**	**07 00 40.6**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.06 177**	⇓*e*Pg			**Pn**	**07 00 26.1**	**+0.1**
CRPR			⇑*e*Sg			**Sg**	**07 00 40.3**	**+0.7**
CRPR			IAML				07 00 47.2	
	comp=N,242nm,0.2s							
ECPR	**Experimental S**	**1.06 135**	⇓*e*P			**Pn**	**07 00 25.6**	**-0.5**
ECPR	**Experimental S**	**1.06 135**	*e*S			**Sn**	**07 00 40.6**	**-0.2**
MLPR	**Magueyes Islan**	**1.10 174**	⇓*i*P			**Pb**	**07 00 26.2**	**-0.1**
MLPR	**Magueyes Islan**	**1.10 174**	*e*S			**Sn**	**07 00 41.6**	**-0.1**
MLPR	**Magueyes Islan**	**1.10 174**	⇑*e*Pg			**Pb**	**07 00 26.2**	**-0.1**
MLPR			⇑*e*Sg			**Sb**	**07 00 39.9**	**-0.7**
MLPR			IAML				07 00 41.7	
	comp=N,50nm,0.2s							
GBPR	**Guanica, Bosqu**	**1.12 166**				**Pg**	**07 00 27.3**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.12 166**	⇑*e*P			**Pn**	**07 00 27.3**	**+0.4**
CELP	**Cerrillos**	**1.14 151**				**Pn**	**07 00 26.7**	**-0.3**
CELP						**Sg**	**07 00 41.8**	**-0.1**
CELP	**Cerrillos**	**1.14 151**		IAML			07 00 43.8	
	comp=N,297nm,0.2s							
CELP	**Cerrillos**	**1.14 151**	⇓*i*P			**Pn**	**07 00 26.7**	**-0.3**
CELP	**Cerrillos**	**1.14 151**	*e*S			**Sg**	**07 00 41.8**	**-0.1**
CELP	**Cerrillos**	**1.14 151**	⇑*e*Pg			**Pn**	**07 00 26.7**	**-0.3**
CELP			⇓*e*Sg			**Sb**	**07 00 41.0**	**-0.5**
CELP			IAML				07 00 43.6	
	comp=N,305nm,0.3s							
OBIP	**Obispado Ponce**	**1.15 153**				**Pn**	**07 00 27.0**	**-0.3**
OBIP						**Sg**	**07 00 42.4**	**-0.1**
OBIP	**Obispado Ponce**	**1.15 153**	IAML				07 00 43.9	
	comp=N,202nm,0.2s							
OBIP			IAML				07 00 47.9	
	comp=E,197nm,0.3s							
OBIP	**Obispado Ponce**	**1.15 153**	⇑*i*P			**Pn**	**07 00 27.0**	**-0.3**
OBIP	**Obispado Ponce**	**1.15 153**	*e*S			**Sg**	**07 00 42.4**	**-0.1**
GCPR	**Guaynabo City**	**1.27 126**				**Pn**	**07 00 28.6**	**-0.4**
GCPR						**Sg**	**07 00 46.4**	**0.0**
GCPR	**Guaynabo City**	**1.27 126**	⇑*e*P			**Pn**	**07 00 28.6**	**-0.4**
GCPR	**Guaynabo City**	**1.27 126**	*e*S			**Sg**	**07 00 46.4**	**0.0**
SJG	**San Juan**	**1.35 135**				**Pg**	**07 00 30.7**	**-0.6**
SJG	**San Juan**	**1.35 135**	IAML				07 00 52.4	
	comp=E,155nm,0.2s							
SJG			IAML				07 00 54.2	
	comp=E,181nm,0.2s							
SJG	**San Juan**	**1.35 135**	⇓*e*P			**Pg**	**07 00 30.7**	**-0.6**
SJG	**San Juan**	**1.35 135**	*e*S			**Sg**	**07 00 48.6**	**-0.4**
IGPR	**InterUniversit**	**1.49 138**				**Pn**	**07 00 31.8**	**-0.1**
IGPR						**Sb**	**07 00 51.5**	**-0.2**
IGPR	**InterUniversit**	**1.49 138**	⇓*e*P			**Pn**	**07 00 31.8**	**-0.1**
IGPR	**InterUniversit**	**1.49 138**	*e*S			**Sb**	**07 00 51.5**	**-0.2**
PDPR	**Patillas Dam,**	**1.50 134**				**Pn**	**07 00 32.2**	**+0.1**
PDPR				IAML			07 00 57.1	
	comp=E,122nm,0.1s							
PDPR				IAML			07 01 02.3	
	comp=N,145nm,0.1s							
PDPR	**Patillas Dam,**	**1.50 134**	⇓*e*P			**Pn**	**07 00 32.0**	**-0.1**
PDPR	**Patillas Dam,**	**1.50 134**	*e*S			**Sb**	**07 00 52.2**	**0.0**
HIDR	**Higuey Centro**	**1.55 252**	⇑*i*P			**Pn**	**07 00 32.8**	**0.0**
HIDR	**Higuey Centro**	**1.55 252**	*e*S			**Sn**	**07 00 51.9**	**-0.8**
HIDR	**Higuey Centro**	**1.55 252**	⇑*e*Pg			**Pn**	**07 00 32.6**	**-0.1**
HIDR			⇑*e*Sg			**Sn**	**07 00 51.2**	**-1.5**
HIDR			IAML				07 01 00.8	
	comp=N,162nm,0.2s							
HUMP	**Col San Antoni**	**1.55 126**				**Pn**	**07 00 32.5**	**-0.2**
MIDR	**Miches**	**1.79 267**	⇑*e*P			**Pn**	**07 00 35.8**	**-0.1**
MIDR	**Miches**	**1.79 267**	*e*S			**Sn**	**07 00 59.0**	**+0.3**
**MIDR

comp=Z,4.3nm,0.7s,baz=145,slow=7.8,SNR=23
PLCA LR LR 07 46 59.5
comp=Z,28nm,18.8s,baz=132,slow=34
comp=Z,4.3nm,0.7s
BI05 Punta Hualpn 37.47 285 P **P 07 35 22.8 +1.2**
MAW Mawson 37.61 141 P **P 07 35 23.3 +0.9**
comp=Z,1.8nm,0.5s,baz=235,slow=9.5,SNR=12
comp=Z,1.8nm,0.5s
BO02 Sierra Bellavi 37.82 290 **P 07 35 24.3 -0.4**
BO02 IAmb IAmb 07 35 27.2
comp=Z,9.7nm,0.5s
AAGR Agrelo 38.26 293‖*eP* **P 07 35 29.8 +1.3**
BO01 Tunca 38.29 290 P **P 07 35 28.6 +0.1**
BO01 IAmb IAmb 07 35 29.4
comp=Z,14nm,0.9s
BO04 La Punta 38.38 291 P **P 07 35 29.4 0.0**
BO04 IAmb IAmb 07 35 30.6
comp=Z,14nm,0.8s
ARCO CERRO ARCO 38.51 293 *eP* **P 07 35 31.2 +0.6**
MT08 Bocatoma Ro 38.53 292 P **P 07 35 31.9 +1.0**
MT08 IAmb IAmb 07 35 36.2
comp=Z,16nm,0.9s
ASAL Salagasta 38.66 294 *eP* **P 07 35 31.4 -0.4**
MT03 Universidad Ad 38.73 291 P **P 07 35 33.3 +0.9**
MT03 IAmb IAmb 07 35 35.8
comp=Z,26nm,1.0s
MT09 Talagante 38.73 290 P **P 07 35 32.5 0.0**
VAO Valinhos 38.75 329 P **P 07 35 32.5 -0.1**
VAO IAmb IAmb 07 35 36.3
comp=Z,24nm,1.4s
MT16 CCHEN 38.79 291 P **P 07 35 33.6 +0.8**
MT01 Popeta 38.79 290 P **P 07 35 32.9 +0.1**
ACHE Chepes 38.84 297 *eP* **P 07 35 32.4 -0.9**
MT05 Renca 38.92 291 P **P 07 35 34.8 +0.8**
CPUP Villa Florida 39.08 313 P **P 07 35 34.1 -1.0**
comp=Z,0.5nm,0.8s,baz=199,slow=2.3,SNR=3.7
CPUP LR LR 07 51 40.7
comp=Z,7.8nm,19.3s,baz=28,slow=36
comp=Z,0.5nm,0.8s
PEL Peldehue 39.10 291 P **P 07 35 36.3 +0.9**
PEL Peldehue 39.10 291 P **P 07 35 36.4 +0.9**
MT02 Curacav 39.23 291 **P 07 35 36.8 +0.4**
MT02 IAmb IAmb 07 35 37.6
comp=Z,27nm,0.9s
AUSP Uspallata 39.23 293 *eP* **P 07 35 36.8 0.0**
VA03 San Esteban 39.35 292 P **P 07 35 38.5 +1.0**
VA03 IAmb IAmb 07 35 50.9
comp=Z,22nm,0.8s
APLL PUNTA DE LOS L 39.42 298 *eP* **P 07 35 37.6 -0.5**
ZON Zonda 39.45 295 IAmb IAmb 07 35 39.4
comp=Z,34nm,1.5s
RTLS Leoncito 39.54 294 *eP* **P 07 35 39.6 +0.3**
AVFE Valle Fertil 39.62 297 *eP* **P 07 35 39.6 -0.2**
VA06 Catapilco 39.87 291 P **P 07 35 42.4 +0.7**
ACCO Cerro Coronel 40.44 295‖*eP* **P 07 35 48.9 +2.1**
ACDV Cuesta del Vie 40.81 296 *eP* **P 07 35 50.5 +0.9**
CO02 Combarbal 40.84 293 P **P 07 35 50.8 +1.0**
CO02 IAmb IAmb 07 35 51.9
comp=Z,35nm,1.3s
AROD Rodeo 40.98 295 *eP* **P 07 35 52.2 +1.0**
CO03 El Pedregal 41.00 293 P **P 07 35 52.0 +0.9**
CO03 IAmb IAmb 07 36 01.3
comp=Z,6.6nm,0.7s
AGUA GUANDACOL 41.09 297 *eP* **P 07 35 52.8 +0.9**
GO04 Tololo Observa 41.60 294 **P 07 35 57.0 +0.8**
GO04 IAmb IAmb 07 35 59.1
comp=Z,21nm,1.1s
LCO Las Campanas 42.53 295 **P 07 36 04.3 +0.6**
LCO IAmb IAmb 07 36 07.5
comp=Z,11nm,0.8s
AC04 Llanos de Chal 43.38 295 **P 07 36 11.3 +1.0**
AC04 IAmb IAmb 07 36 12.4
comp=Z,19nm,0.7s
AC02 Maricunga 43.64 298 **P 07 36 14.1 +1.1**
VNDA Vanda 43.81 183 P **P 07 36 15.1 +2.0**
VNDA Vanda 43.81 183 P **P 07 36 14.3 +1.2**
comp=Z,3.0nm,0.6s,baz=187,slow=5.9,SNR=15
comp=Z,3.0nm,0.6s
VNDA Vanda 43.81 183 P **P 07 36 15.0 +1.8**
GO02 Mina Guanaco 45.28 299 **P 07 36 26.4 +0.7**
GO02 IAmb IAmb 07 36 27.1
comp=Z,14nm,0.5s
H04S2 CROZET ISLANDS 45.98 111 T T 08 27 12.1
baz=224,slow=75,SNR=11
H04S3 CROZET ISLANDS 45.99 111 T T 08 26 57.3
baz=224,slow=75,SNR=10.0
H04S1 CROZET ISLANDS 46.00 111 T T 08 27 06.8
baz=224,slow=75,SNR=10
BDFB Brasilia 46.05 330 P **P 07 36 31.5 -0.1**
comp=Z,3.2nm,0.7s,baz=166,slow=11,SNR=5.5
comp=Z,3.2nm,0.7s
BOSA Boshof 46.22 72 P **P 07 36 33.4 +0.5**
comp=Z,3.9nm,0.8s,baz=200,slow=7.6,SNR=6.2
BOSA LR LR 07 53 22.1
comp=Z,20nm,19.2s,baz=262,slow=32
comp=Z,3.9nm,0.8s
PB10 IPOC Station P 47.14 299 P **P 07 36 40.5 +0.5**
PB03 IPOC Station P 48.05 301 P **P 07 36 47.7 +0.5**
PB03 IAmb IAmb 07 36 49.6
comp=Z,7.7nm,0.5s
PTLB Pontes e Lacer 49.69 317 **P 07 36 59.6 +0.2**
GO01 Chusmiza 49.90 303 P **P 07 37 02.5 +0.9**
H10N1 ASCENSION HYDR 51.66 15 T T 08 33 02.4
baz=195
H10N3 ASCENSION HYDR 51.66 15 T T 08 33 00.5
baz=195,slow=74
H10N2 ASCENSION HYDR 51.67 15 T T 08 33 08.1
baz=195,slow=74
LPAZ La Paz 52.44 306 P **P 07 37 21.2 +0.5**
LPAZ La Paz 52.44 306 P **P 07 37 20.7 0.0**
comp=Z,2.1nm,0.5s,baz=138,slow=5.3,SNR=18
comp=Z,2.1nm,0.5s
LPAZ La Paz 52.44 306 P **P 07 37 20.7 0.0**
LPAZ PcP **PcP 07 38 30.1 +0.7**
MACA Manacapuru-AM 61.65 320 P **P 07 38 23.4 -1.3**
BOAV Boa Vista 66.82 322 P **P 07 38 57.5 -0.9**
DBIC Dimbokro 67.50 23 P **P 07 39 03.4 +0.8**
DBIC IAmb IAmb 07 39 30.5
comp=Z,16nm,1.4s
DBIC Dimbokro 67.50 23 P **P 07 39 03.4 +0.8**
comp=Z,3.5nm,0.5s,baz=204,slow=9.6,SNR=6.5
comp=Z,3.5nm,0.5s
COHC Cochancay 69.59 302 P **P 07 39 16.9 +1.3**
MBAR Mbarara 72.98 61 LR LR 08 05 37.1
comp=Z,66nm,21.7s,baz=76,slow=31
TORD Torodi Ar. Bea 75.24 28 P **P 07 39 50.5 +1.5**
comp=Z,5.0nm,0.4s,baz=200,slow=5.8,SNR=29
BAUV El Baul 75.47 317 P **P 07 39 52.4 +2.1**
STKA Stephens Creek 89.06 170 P **P 07 41 01.9 +1.1**
comp=Z,1.1nm,0.5s,baz=165,slow=3.1,SNR=4.0
comp=Z,1.1nm,0.5s
ASAR Alice Springs 96.17 162 P **P 07 41 34.1 +0.4**
comp=Z,1.2nm,0.6s,baz=183,slow=4.0,SNR=16
comp=Z,1.2nm,0.6s
WRA Warramunga Arr 99.89 161 P **Pdif 07 41 49.5 -1.0**
comp=Z,0.4nm,0.9s,baz=192,slow=4.5,SNR=1.7
comp=Z,0.4nm,0.9s
PABE Paberze 120.86 31 *eP* **Pdif 07 43 16.5 -6.0**
PDAR Pinedale Array 122.25 300 PKP **PKiKP 07 46 58.4 -1.1**
comp=Z,0.2nm,0.5s,baz=124,slow=4.8,SNR=4.2
HFS Hagfors 122.67 22 PKP **PKiKP 07 46 59.0 -0.4**
comp=Z,1.0nm,0.5s,baz=190,slow=5.3,SNR=2.8
NOA NORSAR Array B 123.03 21 PKP **PKiKP 07 47 00.7 +0.5**
comp=Z,0.6nm,0.6s,baz=199,slow=1.8,SNR=3.6
CMAR Chiang Mai Arr 125.56 111 PKP **PKiKP 07 47 03.9 +1.3**
comp=Z,1.0nm,0.3s,baz=156,slow=2.4,SNR=4.4
FINES FINESS Array B 126.59 28 PKP **PKiKP 07 47 07.5 +0.3**
comp=Z,1.5nm,0.4s,baz=186,slow=4.1,SNR=15
ARCES ARCESS Array B 133.33 22 PKP **PKiKP 07 47 20.2 -0.3**
comp=Z,3.0nm,0.6s,baz=225,slow=2.2,SNR=14
BVAR Borovoye Array 135.78 59 PKP **PKiKP 07 47 25.7 -0.3**
comp=Z,1.0nm,0.5s,baz=207,slow=2.9,SNR=4.4
KURBB Kurchatov Arra 137.96 67 PKP **PKiKP 07 47 28.8 -1.6**
comp=Z,0.5nm,0.6s,baz=231,slow=3.1,SNR=4.9
YKA Yellowknife Ar 138.57 315 PKP **PKiKP 07 47 30.0 -1.3**
comp=Z,0.4nm,0.4s,baz=111,slow=2.1,SNR=4.3
ZALV Zalesovo Beam 143.05 67 PKhKP PKPpre 07 47 34.6
comp=Z,0.8nm,0.5s,baz=203,slow=5.1,SNR=3.9
M30M Minto, Yukon 147.33 307 P **PKPab 07 47 48.3 -1.3**
baz=115
YUK4 Talbot Arm 147.57 304 P **PKPab 07 47 49.1 -1.8**
baz=116
H31M Peel River 147.67 313 P **PKiKP 07 47 48.9 -1.1**
baz=112
J30M Hart River 147.97 310 P **PKPab 07 47 50.3 -2.0**
baz=112
M29M Somme Creek 147.97 306 P **PKPab 07 47 50.3 -2.0**
baz=114
O28M Mount Upton 147.99 302 P **PKPab 07 47 50.7 -2.0**
baz=116
YUK8 Steele Glacier 148.03 303 P **PKPab 07 47 50.8 -2.0**
baz=115
F31M Tsiigehtchic 148.05 316 P **PKPab 07 47 50.2 -2.1**
baz=110
G31M Satah River 148.06 315 P **PKPab 07 47 50.9 -1.4**
baz=110
L29M L29M 148.11 307 P **PKPab 07 47 50.9 -1.9**
baz=114
K29M Barlow Dome 148.16 309 P **PKiKP 07 47 50.4 -0.8**
baz=113
I30M Mount Dempster 148.23 311 P **PKPab 07 47 50.8 -2.5**
baz=111
INK Inuvik 148.27 318 P **PKPab 07 47 50.9 -2.3**
baz=109
EPYK Eagle Plains 148.78 313 P **PKiKP 07 47 52.1 -0.2**
baz=110
G30M tAoh Zraii Nji 148.80 315 P **PKiKP 07 47 51.8 -0.6**
baz=109,SNR=44
F30M Barrier River 148.85 316 P **PKiKP 07 47 52.1 -0.2**
baz=108,SNR=8.8
DAWY Dawson 149.00 308 P **PKiKP 07 47 52.3 -0.5**
baz=111
I29M Ogilvie Camp, 149.04 311 P **PKiKP 07 47 52.3 -0.5**
baz=110
CRQE Cirque 149.27 301 P **PKiKP 07 47 53.3 -0.2**
baz=114
H29M Whitestone 149.36 313 P **PKiKP 07 47 52.9 -0.6**
baz=108,SNR=10
M27K Edge Creek, AK 149.39 304 P **PKiKP 07 47 53.0 -0.8**
baz=112
G29M Pine Creek 149.45 314 P **PKiKP 07 47 53.2 -0.5**
baz=108
L27K Beaver Creek, 149.64 306 P **PKiKP 07 47 53.8 -0.4**
baz=111
I28M Miner Creek 149.71 311 P **PKiKP 07 47 53.7 -0.6**
baz=109
E29M Blow River 149.84 317 P **PKiKP 07 47 53.8 -0.6**
baz=105
M26K Nabesna, AK 149.89 304 P **PKiKP 07 47 54.5 -0.2**
baz=112
EGAK Eagle 149.97 309 P **PKiKP 07 47 54.7 0.0**
baz=109
SONM Songino Array 150.26 91 PKPbc **PKiKP 07 47 56.2 +0.2**
comp=Z,3.0nm,0.7s,baz=237,slow=2.1,SNR=11
L26K Log Cabin Wild 150.27 305 P **PKiKP 07 47 56.1 +0.7**
baz=110
N25K Chitina, Valde 150.28 302 P **PKiKP 07 47 56.3 +0.7**
baz=112
F28M Old Crow 150.34 315 P **PKiKP 07 47 56.5 +1.0**
baz=108
D28M Stokes Point 150.37 318 P **PKPab 07 47 57.2 -4.6**
baz=103,SNR=6.7
EYAK Cordova Ski Ar 150.38 300 P **PKiKP 07 47 57.0 +1.3**
baz=113
I27K Kandik River 150.42 311 P **PKiKP 07 47 56.3 +0.6**
baz=107
E28M Babbage River 150.48 317 P **PKiKP 07 47 56.1 +0.4**
baz=104
H27K Steamboat Moun 150.58 312 P **PKiKP 07 47 56.3 +0.3**
baz=106,SNR=11
G27K Doyon Strip 150.79 313 P **PKiKP 07 47 57.2 +0.8**
baz=105
HARP HAARP 150.82 303 P **PKiKP 07 47 57.8 +1.2**
baz=110
KLU Klutina 150.83 301 P **PKiKP 07 47 57.6 +0.9**
baz=112
J26L Joseph Creek 150.86 308 P **PKiKP 07 47 57.8 +1.1**
baz=108
SCRK Sand Creek 150.87 307 P **PKiKP 07 47 57.9 +1.1**
baz=108
I26K Coal Creek Min 150.95 310 P **PKiKP 07 47 57.8 +1.1**
baz=107
E27K Coleen River 151.12 316 P **PKiKP 07 47 58.2 +1.2**
baz=103
D27M Malcolm River 151.13 318 P **PKiKP 07 47 58.5 +1.4**
baz=102,SNR=9.5
RIDG Independent Ri 151.15 306 P **PKiKP 07 47 58.6 +1.3**
baz=108
M24K Tolsona, Glenn 151.16 302 P **PKiKP 07 47 59.4 +2.1**
baz=110
G26K Porcupine Rive 151.64 313 P **PKiKP 07 47 59.3 +1.2**
baz=103,SNR=7.7
J25K Salcha River, 151.64 308 P **PKiKP 07 47 59.6 +1.4**
baz=106
PWL Port Wells 151.67 299 P **PKiKP 07 47 59.4 +1.0**
baz=111
M23K Glacier View 151.74 301 P **PKiKP 07 47 59.5 +1.0**
baz=110
F26K Sheenjek River 151.95 314 P **PKiKP 07 48 00.5 +1.7**
baz=102,SNR=5.5
WAT6 Susitna Watana 152.01 303 P **PKiKP 07 48 00.8 +1.6**
baz=109
DHY Denali Highway 152.01 304 P **PKiKP 07 48 00.2 +1.0**
baz=108
C27K Jago River 152.15 318 P **PKiKP 07 48 00.7 +1.6**
baz=98
O22K Cooper Landing 152.17 298 P **PKiKP 07 48 00.6 +1.3**
baz=111
HDA Harding Lake 152.24 307 P **PKiKP 07 48 00.8 +1.3**
baz=106
H25L Birch Creek 152.26 311 P **PKiKP 07 48 01.6 +2.2**
baz=103
PMR Palmer 152.30 300 P **PKiKP 07 48 00.9 +1.3**
baz=110
ILAR Eielson Array 152.31 308 PKPbc **PKiKP 07 47 59.7 +0.1**
comp=Z,1.1nm,0.4s,baz=144,slow=2.4,SNR=32
RC01 Rabbit Creek A 152.39 299 P **PKiKP 07 48 01.3 +1.4**
baz=110
KDAK Kodiak Island 152.44 291 P **PKiKP 07 48 01.1 +1.1**
baz=115
F25K Christian River 152.49 314 P **PKiKP 07 48 01.3 +1.4**
baz=101
G25K Bearman Lake 152.49 312 P **PKiKP 07 48 00.9 +1.0**
baz=102
E25K Arctic Village 152.56 315 P **PKiKP 07 48 01.9 +1.8**
baz=100
C26K Camden Bay 152.61 319 P **PKiKP 07 48 01.4 +1.4**
baz=97
MCK McKinley 152.88 305 P **PKiKP 07 48 02.1 +1.3**
baz=106
SUA Susitna One 152.98 299 P **PKiKP 07 48 02.8 +1.6**
baz=109
H24K Nood Dome 152.98 310 P **PKiKP 07 48 02.2 +1.2**
baz=102
G24K Hadweenzic Riv 153.01 311 P **PKiKP 07 48 02.1 +1.1**
baz=101
D25K Kavik River 153.04 317 P **PKiKP 07 48 02.0 +1.0**
baz=97
NEA2 Nenana 153.17 307 P **PKiKP 07 48 02.4 +1.0**
baz=104
F24K Squaw Lake 153.32 313 P **PKiKP 07 48 02.9 +1.2**
baz=99
TRF Trafore Moun 153.38 304 P **PKiKP 07 48 02.9 +0.9**
baz=105
I23K Minto, Yukon-K 153.43 308 P **PKiKP 07 48 02.3 +0.4**
baz=103
SKT Skwentna 153.50 300 P **PKiKP 07 48 03.1 +1.0**
baz=107
E24K Your Creek 153.63 314 P **PKiKP 07 48 04.1 +1.8**
baz=98
BPAW Bear Paw Mtn. 153.85 305 P **PKiKP 07 48 04.2 +1.4**
baz=104
MLY Manley 153.97 307 P **PKiKP 07 48 04.8 +1.8**
baz=102
G23K Bananza Creek 154.00 311 P **PKiKP 07 48 05.1 +2.0**
baz=99
E23K Chandalar 154.05 314 P **PKiKP 07 48 05.7 +2.5**
baz=97
PPLA Purkeypile 154.06 302 P **PKiKP 07 48 06.0 +2.6**
baz=105
TOLK Tozlik Lake Re 154.10 316 P **PKiKP 07 48 05.3 +2.1**
baz=96
COLD Coldfoot 154.16 312 P **PKiKP 07 48 06.4 +3.1**
baz=98

IDC 25 07:41:46.6±1.2, 16°00S×173°58W, h0km, mb3.8/6, mbtmp3.8/6, MS3.5/2, Error ellipse: s-maj=48.6km s-min=27.5km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**26.62**	**281**	LR			07 56 28.9	
	comp=Z,77nm,21.1s,baz=162,slow=33							
H11S2	**WAKE ISLAND Hy**	**39.39**	**330**	T		T	08 31 49.8	
	baz=149,slow=76,SNR=3.2							
H11S3	**WAKE ISLAND Hy**	**39.40**	**330**	T		T	08 31 57.0	
	baz=149,slow=76,SNR=4.1							
H11S1	**WAKE ISLAND Hy**	**39.40**	**330**	T		T	08 31 57.3	
	baz=149,slow=76,SNR=3.8							
H11N3	**WAKE ISLAND Hy**	**40.34**	**331**	T		T	08 33 13.3	
	baz=150,slow=76,SNR=3.1							
H11N1	**WAKE ISLAND Hy**	**40.35**	**331**	T		T	08 33 00.1	
	baz=150,slow=76,SNR=3.5							
H11N2	**WAKE ISLAND Hy**	**40.36**	**331**	T		T	08 33 00.5	
	baz=150,slow=76,SNR=3.3							
STKA	**Stephens Creek**	**43.59**	**240**	P		P	07 49 52.2	-0.5
	2.2nm,0.8s,baz=61,slow=10,SNR=5.1							
	2.2nm,0.8s							
WRA	**Warramunga Arr**	**49.54**	**257**	P		P	07 50 39.4	-0.2
	0.4nm,0.5s,baz=92,slow=6.1,SNR=9.3							
	0.4nm,0.5s							
ASAR	**Alice Springs**	**49.76**	**252**	P		P	07 50 41.4	+0.1
	2.4nm,0.6s,baz=89,slow=8.2,SNR=40							
	2.4nm,0.6s							
QSPA	**South Pole Qui**	**74.05**	**180**	P		P	07 53 24.5	+0.2
	0.9nm,0.9s,baz=45,slow=3.6,SNR=5.1							
	0.9nm,0.9s							
NVAR	**Mina Array Bea**	**74.89**	**42**	LR		LR	08 20 29.3	
	comp=Z,35nm,18.8s,baz=278,slow=31							
PDAR	**Pinedale Array**	**82.82**	**42**	P		P	07 54 13.0	-0.2
	0.4nm,0.7s,baz=275,slow=6.9,SNR=3.7							
	0.4nm,0.7s							
ILAR	**Eielson Array**	**83.06**	**11**	P		P	07 54 13.8	+0.3
	0.4nm,0.7s,baz=206,slow=4.8,SNR=2.7							
	0.4nm,0.7s							

*REN **25** 07:43:52.7±0.9, 37°63N±0°02×118°95W±0°02, h7km±2km, Error ellipse: s-maj=3.5km s-min=2.2km az=172.0*
*NEIC **25** 07:43:52.8±1.1, 37°64N±0°02×118°97W±0°02, h7km±2km, Error ellipse: s-maj=3.6km s-min=2.0km az=178.0*
NCEDC 25 07:43:52.8±0.7, 37°64N±0°02×118°95W±0°02, h5km±1km, Md3.0/28, ML2.6/68(NEIC), ML2.6/9(REN), Error ellipse: s-maj=2.3km s-min=2.1km az=151.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MEMM	**East Mammoth H**	**0.03**	**14**			Pg	07 43 54.5	+0.2
MMLB	**Mammoth Lakes**	**0.03**	**309**			Pg	07 43 54.6	+0.3
MCSM	**Casa Diablo Ho**	**0.04**	**65**			Pg	07 43 54.6	+0.3
MLCM	**Laurel Creek C**	**0.04**	**136**			Pg	07 43 54.5	+0.2
MGPM	**Gravel Pit**	**0.04**	**109**			Pg	07 43 54.6	+0.3
MCBM	**Casa Benchmark**	**0.04**	**82**			Pg	07 43 54.7	+0.3
MCBM	**Casa Benchmark**	**0.04**	**82**			Sg	07 43 56.0	+0.6
MDYM	**Dry Creek**	**0.05**	**290**			Pg	07 43 54.9	+0.3
MDYM	**Dry Creek**	**0.05**	**290**			Sg	07 43 56.3	+0.6
MLIM	**Lincoln Peak**	**0.06**	**268**			Pg	07 43 55.0	+0.4
MMPM	**Mammoth Pass**	**0.07**	**246**			Pg	07 43 54.9	+0.2
MDRNC	**Doe Ridge**	**0.09**	**91**			Pg	07 43 55.4	+0.4
MLAC	**Mammoth, Mammo**	**0.09**	**96**			Pg	07 43 55.3	+0.3
MINS	**Minaret Summit**	**0.09**	**279**			Pg	07 43 55.1	+0.1
MRDM	**Red Cones**	**0.10**	**245**			Pg	07 43 55.3	+0.2
MDCM	**Deadman Creek**	**0.10**	**313**			Pg	07 43 55.3	+0.1
MDPB	**Devils Postpil**	**0.10**	**266**			Pg	07 43 55.4	+0.2
MDPB	comp=E,2μm,0.3s				IAML		07 43 57.3	
MDPB	comp=N,2μm,0.3s				IAML		07 43 57.9	
MDPB	**Devils Postpil**	**0.10**	**266**			Sg	07 43 57.2	+0.4
MCVM	**Convict Lake**	**0.11**	**117**			Pg	07 43 55.4	+0.2
MLHM	**Little Hot Cre**	**0.11**	**69**			Pg	07 43 55.9	+0.5
MTUM	**Tungsten Hills**	**0.42**	**133**			Pg	07 44 01.1	+0.1
KCC	**Kaiser Creek**	**0.43**	**223**			Pg	07 44 01.1	-0.1
KCC	**Kaiser Creek**	**0.43**	**223**			Sg	07 44 06.7	-0.1
MFBM	**Five Bridges**	**0.46**	**117**			Pg	07 44 02.5	+0.7
MMIM	**Miami Mountain**	**0.67**	**251**			Pg	07 44 05.5	-0.2
LHV	**Little Huntoon**	**0.70**	**30**			Pg	07 44 06.5	+0.1
LHV	**Little Huntoon**	**0.70**	**30**		IAML		07 44 18.5	
LHV	comp=N,199nm,0.8s				IAML		07 44 19.9	
	comp=E,267nm,0.5s							
TIN	**Tinemaha, Big**	**0.82**	**135**			Sg	07 44 20.0	+0.9
TIN	**Tinemaha, Big**	**0.82**	**135**			Pg	07 44 08.6	+0.1
TIN	comp=E,383nm,0.6s				IAML		07 44 20.8	
DSP	**Deep Springs**	**0.82**	**109**			Pg	07 44 08.6	0.0
DSP						Sg	07 44 19.8	+0.5
FRI	**Friant**	**0.89**	**223**			Pg	07 44 09.3	-0.6
NV08	**Mina Array Sit**	**0.91**	**33**			Pg	07 44 10.2	-0.2
MHDM	**Hidden Dam**	**0.92**	**236**			Pg	07 44 10.0	-0.4
NV09	**Mina Array Sit**	**0.93**	**31**			Pg	07 44 10.6	-0.2
NVAR	**Mina Array Bea**	**0.94**	**33**			Pg	07 44 10.7	-0.2
WAKR	**Walker**	**0.95**	**336**			Pg	07 44 10.9	-0.1
NV11	**Mina Array Sit**	**1.01**	**38**			Pg	07 44 11.8	-0.4
NV11	**Mina Array Sit**	**1.01**	**38**		IAML		07 44 16.1	
NV11	comp=E,57nm,0.5s				IAML		07 44 31.4	
	comp=N,60nm,1.1s							
RYN	**Ryan**	**1.04**	**19**			Pg	07 44 12.6	-0.3
RYN	**Ryan**	**1.04**	**19**		IAML		07 44 18.5	
RYN	comp=N,117nm,0.8s				IAML		07 44 28.2	
	comp=E,74nm,0.6s							
LEGD	**La Grand CA**	**1.05**	**246**	Pg		Pg	07 44 12.3	-0.6
LEGD					IAML		07 44 29.6	
LEGD	comp=N,252nm,0.7s				IAML		07 44 29.6	
	comp=E,254nm,0.8s							
LCH	**Last Change Ra**	**1.11**	**111**			Pg	07 44 13.6	-0.6
LCH						Sg	07 44 29.0	+0.3
CMB	**Columbia Colle**	**1.21**	**290**			Pg	07 44 14.9	-1.1
CMB	**Columbia Colle**	**1.21**	**290**			Pg	07 44 15.3	-0.6
CMB	comp=N,56nm,1.2s				IAML		07 44 36.2	
CMB	comp=E,46nm,1.0s				IAML		07 44 36.8	
CWC	**Cottonwood Cre**	**1.38**	**150**			Pn	07 44 18.4	-0.5
CWC	**Cottonwood Cre**	**1.38**	**150**		IAML		07 44 36.8	
	comp=N,159nm,0.2s							
GMN	**Gold Mountain**	**1.39**	**104**			Pg	07 44 19.9	+0.5
TPH	**Tonopah**	**1.43**	**72**			Pn	07 44 19.9	+0.2
TPH	**Tonopah**	**1.43**	**72**		IAML		07 44 45.5	
TPH	comp=N,80nm,0.6s				IAML		07 44 45.6	
	comp=E,56nm,0.6s							
SPG2	**Springville 2**	**1.44**	**174**			Pn	07 44 19.3	-0.3
WELL	**Weller Preserv**	**1.61**	**300**			Pn	07 44 22.0	0.0
WELL	comp=N,46nm,0.9s				IAML		07 44 44.3	
WELL	comp=E,54nm,0.3s				IAML		07 44 48.1	
SGV	**South Grapevin**	**1.66**	**113**			Pn	07 44 23.0	+0.2
BMSM	**Mercy Hot Spri**	**1.77**	**237**			Pb	07 44 25.9	+0.1
VES	**Vestal, Richgr**	**1.80**	**184**			Pb	07 44 25.4	-0.8
Q09A	**Carvers**	**1.83**	**49**			Pb	07 44 27.1	+0.2
WASM	**Alta Sierra Ca**	**1.92**	**170**			Pb	07 44 28.0	-0.5
MPMC	**Manual Prospec**	**1.96**	**143**			Pb	07 44 28.4	-0.8
MPMC	comp=E,23nm,0.8s				IAML		07 45 01.3	
MPMC	comp=N,26nm,1.1s				IAML		07 45 05.7	
BBGB	**Big Mountain B**	**1.98**	**238**			Pn	07 44 28.0	+0.9
ISA	**Isabella, Lake**	**2.01**	**169**			Pb	07 44 29.3	-0.6
ISA	comp=N,84nm,0.5s				IAML		07 44 58.9	
WCT	**Wildcat Mounta**	**2.04**	**114**			Pn	07 44 28.6	+0.7
WCT	**Wildcat Mounta**	**2.04**	**114**		IAML		07 45 04.6	
	comp=E,21nm,0.5s							
PMPB	**Monarch Peak**	**2.06**	**227**	Pn	Pb		07 44 29.5	-1.1
PAHR	**Pah Rah Range**	**2.09**	**351**	Pn	Pb		07 44 30.9	-0.5
PKD	**Bear Valley Ra**	**2.12**	**218**	Pn	Pn		07 44 29.7	+0.8
PKD	comp=N,31nm,0.7s				IAML		07 45 02.8	
PKD	comp=E,34nm,0.9s				IAML		07 45 17.4	
SAO	**San Andreas Ge**	**2.18**	**247**	Pn	Pn		07 44 30.5	+0.8
TPNV	**Topopah Spring**	**2.26**	**107**	Pn	Pn		07 44 31.6	+0.6
TPNV	comp=E,20nm,1.1s				IAML		07 45 09.7	
TPNV	comp=E,25nm,1.3s				IAML		07 45 21.4	
WSHM	**Spangler Hills**	**2.35**	**150**			Pb	07 44 36.2	+0.6
WSHM	comp=E,52nm,0.3s				IAML		07 45 08.7	
PCCM	**Crazy Canyon**	**2.35**	**230**			Pn	07 44 33.7	+1.6
QSM	**Queen of Sheba**	**2.36**	**134**	Pn		Pb	07 44 35.5	-0.3

QSM			IAML		07 45 08.8		
	comp=N,23nm,0.6s						
QSM			IAML		07 45 13.6		
	comp=E,19nm,0.8s						
TEJ	**El Tejon**	**2.41 175**		Pb	07 44 36.4	-0.4	
AMDNV	**Amargosa**	**2.44 118**		Pn	07 44 34.0	+0.7	
ELK	**Elko**	**4.23 42**		Pn	07 45 00.5	+2.3	

ASRS ***25*** *08:04:30.0±1.0, 53.57N×86.87E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 25 08:04:32.0±2.6, 53.60N×86.93E, h0km, mbtmp2.6/2, ML2.5/2, Error ellipse: s-maj=23.7km s-min=15.2km az=75.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**287**	I	I	08 13 40.0	
	baz=103,slow=322,SNR=3.9						
ZALV	**Zalesovo Beam**	**1.30**	**287**	Pg	Pg	08 04 55.0	-2.0
	1.0nm,0.3s,baz=109,slow=11,SNR=9.8						
ZALV				Lg	Lg	08 05 14.6	
	1.4nm,0.3s,baz=110,slow=30,SNR=9.6						
KURBB	**Kurchatov Arra**	**5.97**	**243**	Pn	Pn	08 06 02.4	+0.8
	0.1nm,0.3s,baz=62,slow=15,SNR=2.1						
KURBB				Lg	Lg	08 07 41.2	
	0.1nm,0.3s,baz=61,slow=19,SNR=1.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.43**	**205**	Pn	Pn	08 06 23.5	+1.8
	0.1nm,0.3s,baz=28,slow=13,SNR=4.5						
	0.2nm,0.3s						

JMA ***25*** *08:12:13.0±0.2, 23.0N×0.4×121.8E±0.5, h12km±2km, MV3.4/12, TAIWAN REGION*
TAP ***25*** *08:12:15.6, 23.18N×121.52E, h39km, ML3.6, C*

ISC 25 08:12:15.3±1.0, 23.15N±0.02×121.56E±0.02, h33km±3km, n127, σ0=86/210, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKH	**Chenggong**	**0.16**	**285**	*i* P	**Pb**	**08 12 22.0**	**+0.5**
CHKH				*i* S	**Sb**	**08 12 26.9**	**+1.2**
CHKT	**Chengkung**	**0.19**	**255**	P	**Pb**	**08 12 22.4**	**+0.7**
CHKT				*i* S	**Sb**	**08 12 27.6**	**+1.4**
ECBN	**Changbin**	**0.20**	**328**	*i* P	**Pb**	**08 12 22.6**	**+0.7**
ECBN				*i* S	**Sb**	**08 12 27.9**	**+1.6**
FULB	**Fuli**	**0.25**	**281**	*i* P	**Pb**	**08 12 22.9**	**+0.4**
FULB				*i* S	**Sb**	**08 12 28.4**	**+1.0**
EDH	**Donghe**	**0.30**	**234**	*i* P	**Pn**	**08 12 23.7**	**+0.4**
EDH				*i* S	**Sb**	**08 12 29.8**	**+1.5**
EYUL	**Yuli**	**0.30**	**311**	P	**Pn**	**08 12 23.9**	**+0.6**
TWF1	**Yuli**	**0.32**	**309**	*i* P	**Pb**	**08 12 23.4**	**+0.1**
ECS	**Chishang**	**0.32**	**260**	P	**Pn**	**08 12 24.2**	**+0.5**
ECS				S	**Sb**	**08 12 30.9**	**+2.1**
EHD	**Haiduan**	**0.33**	**270**	*i* P	**Pb**	**08 12 23.5**	**+0.1**
EHD				eS	**Sb**	**08 12 29.2**	**+0.2**
YULB	**Yu-li**	**0.34**	**315**	P	**Pb**	**08 12 23.2**	**-0.4**
YULB	**Yu-li**	**0.34**	**315**	S	**Sn**	**08 12 31.9**	**+2.3**
YULB	**Yu-li**	**0.34**	**315**	*i* P	**Pb**	**08 12 23.5**	**-0.1**
YULB				eS	**Sb**	**08 12 29.4**	**+0.1**
HGSD	**Ruisui**	**0.36**	**339**	eP	**Pb**	**08 12 23.7**	**-0.2**
EHYH	**Wanrong**	**0.40**	**330**	eP	**Pb**	**08 12 24.4**	**0.0**
EHYH				eS	**Sb**	**08 12 30.8**	**+0.3**
EHY	**Hungye**	**0.42**	**328**	*i* P	**Pb**	**08 12 24.3**	**-0.4**
EHY				S	**Sb**	**08 12 30.8**	**-0.3**
LONT	**Longtian**	**0.47**	**239**	P	**Pb**	**08 12 25.3**	**-0.1**
LONT				S	**Sb**	**08 12 32.7**	**+0.4**
LDUT	**Ludao**	**0.48**	**190**	*i* P	**Pb**	**08 12 24.7**	**-0.9**
LDUT				S	**Sb**	**08 12 32.5**	**-0.2**
ELDTW	**Lidau**	**0.51**	**275**	*i* P	**Pb**	**08 12 25.4**	**-0.6**
ELDTW				*i* S	**Sb**	**08 12 32.2**	**-1.3**
EGFH	**Guangfu**	**0.53**	**346**	eP	**Pb**	**08 12 25.9**	**-0.5**
EGFH				eS	**Sb**	**08 12 33.5**	**-0.5**
TWGBT	**Beinan**	**0.56**	**234**	P	**Pb**	**08 12 25.2**	**-1.6**
TWGBT	**Beinan**	**0.56**	**234**	S	**Sb**	**08 12 33.3**	**-1.3**
TWGBT	**Beinan**	**0.56**	**234**	eP	**Pb**	**08 12 26.2**	**-0.5**
TWGBT				eS	**Sb**	**08 12 34.4**	**-0.3**
TEGC	**Jichi Village**	**0.56**	**358**	eP	**Pb**	**08 12 26.7**	**-0.1**
TEGC				eS	**Sn**	**08 12 35.3**	**+0.4**
TWG	**Pinlang**	**0.56**	**234**	P	**Pb**	**08 12 26.2**	**-0.6**
TWG				S	**Sb**	**08 12 34.3**	**-0.4**
WARBT	**Fenglin Townsh**	**0.59**	**344**	eP	**Pn**	**08 12 26.2**	**-1.2**
SHUL	**Shoufeng**	**0.63**	**360**	eP	**Pn**	**08 12 27.7**	**-0.3**
SHUL				eS	**Sn**	**08 12 37.1**	**+0.2**
ESL	**Shilin**	**0.67**	**350**	eP	**Pn**	**08 12 27.3**	**-1.1**
ESL				eS	**Sn**	**08 12 35.8**	**-2.0**
TEYL	**Yanliau Villag**	**0.71**	**3**	eP	**Pb**	**08 12 29.6**	**+0.2**
TEYL				eS	**Sb**	**08 12 40.2**	**+1.2**
STYH	**Taoyuan**	**0.73**	**272**	eP	**Pn**	**08 12 29.1**	**-0.1**
STYH				eS	**Sn**	**08 12 38.7**	**-0.4**
ALS	**Alishan**	**0.78**	**297**	*i* P	**Pn**	**08 12 30.5**	**+0.2**
ALS				*i* S	**Sn**	**08 12 41.3**	**+0.3**
ECL	**Taimali**	**0.79**	**226**	eP	**Pn**	**08 12 29.1**	**-1.0**
ETM	**Tongmen**	**0.81**	**355**	eP	**Pn**	**08 12 29.7**	**-0.8**
SSLB	**Suanglung**	**0.85**	**319**	P	**Pb**	**08 12 30.2**	**-0.7**
SSLB	**Suanglung**	**0.85**	**319**	eP	**Pn**	**08 12 30.8**	**-0.2**
WHYT	**Xinyi Township**	**0.85**	**310**	eP	**Pn**	**08 12 31.3**	**+0.4**
WHYT				S	**Sn**	**08 12 42.2**	**-0.1**
TPUB	**Ta-pu**	**0.87**	**280**	P	**Sn**	**08 12 42.1**	**-0.7**
TPUB	**Ta-pu**	**0.87**	**280**	eP	**Pn**	**08 12 31.9**	**+0.7**
TPUB				eS	**Sb**	**08 12 44.2**	**+0.8**
OWD	**Renai**	**0.88**	**336**	eP	**Pn**	**08 12 29.9**	**-1.6**
OWD				eS	**Sn**	**08 12 41.2**	**-1.9**
WTP	**Ta-pu**	**0.88**	**276**	eP	**Pn**	**08 12 32.0**	**+0.7**
WTP				S	**Sb**	**08 12 44.2**	**+0.6**
TWD	**Chiawan**	**0.93**	**2**	eP	**Pn**	**08 12 31.4**	**-0.6**
WCKO	**Fanlu**	**0.93**	**288**	eP	**Pn**	**08 12 32.7**	**+0.7**
WCKO				eS	**Sb**	**08 12 45.6**	**+0.7**
CHN5	**Tsauling**	**0.93**	**299**	P	**Pb**	**08 12 32.9**	**-0.1**
CHN5				eS	**Sb**	**08 12 45.9**	**+0.9**
WUSB	**Renai**	**0.93**	**334**	eP	**Pn**	**08 12 31.8**	**-0.4**
WUSB				eS	**Sn**	**08 12 43.4**	**-1.1**
SSID	**Sandimen**	**0.95**	**245**	eP	**Pn**	**08 12 32.2**	**-0.1**
SSID				eS	**Sn**	**08 12 44.9**	**+0.2**
SMLT	**Sun Moon Lake**	**0.95**	**320**	*i* P	**Pn**	**08 12 32.8**	**+0.3**
SMLT				*i* S	**Sb**	**08 12 45.7**	**0.0**
SNST	**Tainan City**	**0.98**	**274**	eP	**Pb**	**08 12 33.9**	**0.0**
SNST				S	**Sb**	**08 12 47.6**	**+1.1**
TYC	**Yuchr**	**0.99**	**319**	P	**Pn**	**08 12 33.5**	**+0.6**
TYC				S	**Sb**	**08 12 46.7**	**0.0**
TWK	**Hsinying**	**1.00**	**277**	eP	**Pb**	**08 12 34.0**	**-0.2**
TWK				eS	**Sb**	**08 12 47.9**	**+0.9**
TAW	**Tawu**	**1.00**	**218**	eS	**Sn**	**08 12 45.1**	**-0.8**
ETL	**Fush Village**	**1.01**	**3**	eP	**Pn**	**08 12 32.9**	**-0.2**
EAST	**Anshuo**	**1.01**	**221**	eP	**Pn**	**08 12 32.7**	**-0.5**
MASBT	**Mashibuluo**	**1.01**	**238**	eP	**Pn**	**08 12 33.1**	**0.0**
WJS	**Zhushan**	**1.02**	**311**	eP	**Pb**	**08 12 34.2**	**-0.2**
WJS				S	**Sb**	**08 12 47.7**	**+0.1**
NACB	**Ninganchiao**	**1.02**	**2**	P	**Sn**	**08 12 36.2**	**-0.5**
NACB	**Ninganchiao**	**1.02**	**2**	S	**Sn**	**08 12 46.1**	**-0.4**
NACB	**Ninganchiao**	**1.02**	**2**	eP	**Sn**	**08 12 32.5**	**-0.8**
NACB				eS	**Sn**	**08 12 45.3**	**-1.2**
SCST	**Cishan**	**1.02**	**255**	eP	**Pb**	**08 12 34.8**	**+0.4**
SCST				eS	**Sb**	**08 12 49.4**	**+1.8**
TAWH	**Dawu Township**	**1.02**	**218**	eP	**Pn**	**08 12 33.1**	**-0.2**
TAWH				eS	**Sn**	**08 12 45.1**	**-1.3**
WHF	**Hehuan Shan**	**1.03**	**345**	P	**Pn**	**08 12 33.0**	**-0.8**
WHF				eS	**Sn**	**08 12 46.1**	**-1.2**
ETLH	**Xiulin Townshi**	**1.05**	**356**	eP	**Pn**	**08 12 32.8**	**-1.1**
ETLH				eS	**Sn**	**08 12 46.0**	**-1.5**
WGK	**Gukeng**	**1.06**	**300**	eP	**Pb**	**08 12 35.2**	**0.0**
WGK				eS	**Sb**	**08 12 50.2**	**+1.4**
CHN2	**Minshiung**	**1.07**	**291**	eP	**Pb**	**08 12 35.1**	**-0.2**
CHN2				eS	**Sb**	**08 12 50.3**	**+1.3**
WCS	**Beigang Elemen**	**1.08**	**327**	eP	**Pn**	**08 12 34.6**	**+0.5**
WDLH	**Douliu**	**1.08**	**300**	P	**Pb**	**08 12 35.4**	**-0.1**
WDLH				eS	**Sb**	**08 12 50.2**	**+0.8**
WNT	**Mingjian**	**1.08**	**312**	eP	**Sb**	**08 12 35.5**	**-0.1**
WNT				S	**Sb**	**08 12 49.6**	**+0.2**
TWM1	**Shoushan**	**1.10**	**253**	P	**Pb**	**08 12 37.4**	**+1.5**
TWM1				eS	**Sb**	**08 12 52.9**	**+3.0**
CHY	**Chiayi**	**1.10**	**288**	eP	**Pb**	**08 12 35.4**	**-0.4**
CHY				eS	**Sb**	**08 12 50.1**	**+0.1**
LAY	**Lan-yu**	**1.11**	**181**	eP	**Pn**	**08 12 34.1**	**-0.4**
LAY				S	**Sn**	**08 12 48.8**	**+0.2**
SHHT	**Tainan City**	**1.13**	**264**	eP	**Pb**	**08 12 37.0**	**+0.7**
FUSS	**Fushou**	**1.13**	**345**	P	**Pn**	**08 12 35.2**	**+0.2**
FUSS				S	**Sn**	**08 12 48.2**	**-1.3**
LYUB	**Lan-yu**	**1.14**	**179**	eP	**Pn**	**08 12 33.9**	**-1.0**
TWT	**Tachien**	**1.15**	**342**	eP	**Pn**	**08 12 35.5**	**+0.2**
TWT				eS	**Sn**	**08 12 49.9**	**-0.2**
TDCB	**Techi**	**1.16**	**341**	eP	**Pn**	**08 12 35.5**	**+0.2**
TDCB				eS	**Sn**	**08 12 50.6**	**+0.5**
SCZT	**Fangliau**	**1.17**	**229**	eP	**Pb**	**08 12 36.6**	**-0.3**
EAHA	**Aohua**	**1.19**	**8**	eP	**Pn**	**08 12 35.5**	**0.0**
EAHA				S	**Sn**	**08 12 50.3**	**-0.2**
EOS4	**EOS4**	**1.19**	**35**	eP	**Pn**	**08 12 35.3**	**+0.1**
EOS4				eS	**Sn**	**08 12 49.5**	**-0.5**
WTK	**Tuku**	**1.21**	**297**	eP	**Pn**	**08 12 36.6**	**+0.8**
WTK				eS	**Sb**	**08 12 52.4**	**-0.5**
WHP	**Taichung City**	**1.26**	**333**	eP	**Pb**	**08 12 38.2**	**-0.4**
WHP				eS	**Sb**	**08 12 54.9**	**+0.4**
CHN8	**Yiju**	**1.26**	**279**	eP	**Pn**	**08 12 37.4**	**+0.9**
CHN8				eS	**Sb**	**08 12 54.1**	**-0.3**
ENA	**Nanau**	**1.28**	**7**	eP	**Pn**	**08 12 37.6**	**+0.7**
NNSB	**Datong**	**1.28**	**353**	eP	**Pn**	**08 12 36.9**	**-0.2**
NNSB				eS	**Sn**	**08 12 51.9**	**-1.2**
WSL	**Shuilin Townsh**	**1.28**	**287**	eP	**Pn**	**08 12 37.6**	**+0.7**
WSL				S	**Sn**	**08 12 53.9**	**+1.0**
TCU	**Taichung**	**1.28**	**321**	eP	**Pb**	**08 12 38.7**	**-0.2**
TCU				eS	**Sb**	**08 12 55.4**	**+0.3**
NNS	**Nan Shan**	**1.30**	**352**	eP	**Pn**	**08 12 37.8**	**+0.6**
WCHH	**Zhanghua**	**1.31**	**315**	eP	**Pn**	**08 12 38.3**	**+1.1**
WCHH				S	**Sb**	**08 12 55.5**	**-0.2**
WCH1	**Changhua City**	**1.31**	**315**	eP	**Pb**	**08 12 38.7**	**-0.7**
WCH1				S	**Sb**	**08 12 56.3**	**+0.5**
SMST	**Manzhou Townsh**	**1.31**	**211**	eP	**Pn**	**08 12 37.6**	**+0.4**
EOS3	**EOS3**	**1.32**	**31**	S	**Sn**	**08 12 54.3**	**+0.5**
TSCK	**Chigu Township**	**1.36**	**270**	eP	**Pn**	**08 12 38.8**	**+0.9**
TSCK				eS	**Sb**	**08 12 56.9**	**-0.4**
LATG	**Datong**	**1.38**	**359**	eP	**Pn**	**08 12 38.2**	**-0.1**
TSEB	**Hengchuen, Pin**	**1.39**	**206**	eS	**Sn**	**08 12 56.5**	**+1.8**
TWKBT	**Hengchun**	**1.39**	**210**	eP	**Pn**	**08 12 38.5**	**+0.1**
TWKBT				eS	**Sn**	**08 12 55.4**	**-0.2**
TWK1	**Hengchun**	**1.39**	**210**	eP	**Pn**	**08 12 38.4**	**0.0**
TWK1				eS	**Sn**	**08 12 55.7**	**+0.1**
TWQ1	**Liyutan**	**1.40**	**329**	eP	**Pb**	**08 12 40.1**	**-0.7**
TWQ1				eS	**Sb**	**08 12 58.3**	**0.0**
TWC	**Suao**	**1.48**	**10**	eS	**Sn**	**08 12 58.0**	**+0.3**
ENTT	**Nioudou**	**1.48**	**0**	eP	**Pn**	**08 12 40.1**	**+0.4**
YHNB	**Yeheng**	**1.52**	**354**	P	**Pn**	**08 12 40.1**	**-0.2**
YHNB	**Yeheng**	**1.52**	**354**	S	**Sn**	**08 12 58.9**	**-0.1**
YHNB	**Yeheng**	**1.52**	**354**	eP	**Pn**	**08 12 40.6**	**+0.3**
YHNB				eS	**Sn**	**08 12 59.1**	**+0.1**
NFF	**Wufeng Townshi**	**1.53**	**345**	eP	**Pn**	**08 12 41.9**	**+1.6**
NFF				eS	**Sn**	**08 13 00.9**	**+1.7**
NSK	**Sanguang**	**1.53**	**353**	eP	**Pn**	**08 12 41.1**	**+0.8**
NSK				eS	**Sn**	**08 12 59.1**	**-0.1**
NMLH	**Miaoli**	**1.55**	**333**	eP	**Pn**	**08 12 42.2**	**+1.6**
NMLH				eS	**Sn**	**08 13 01.3**	**+1.7**
NSTT	**Nanjuang**	**1.56**	**341**	eP	**Pb**	**08 12 42.8**	**-0.8**
NSTT				eS	**Sn**	**08 13 01.7**	**+1.8**
LIOB	**Emei**	**1.57**	**341**	eP	**Pn**	**08 12 42.3**	**+1.4**
LIOB				eS	**Sn**	**08 13 01.5**	**+1.4**
FUSB	**Fushanzhiwuyua**	**1.60**	**1**	eP	**Pn**	**08 12 42.0**	**+0.6**
NWLT	**Wulai**	**1.62**	**358**	eP	**Pn**	**08 12 42.5**	**+0.9**
KSHI	**Guanxi Townshi**	**1.66**	**348**	eP	**Pb**	**08 12 44.3**	**-0.9**
KSHI				eS	**Sb**	**08 13 05.0**	**-0.7**
JYNG	**Yonagunijimaku**	**1.81**	**44**	eP	**Pn**	**08 12 44.9**	**+0.8**
JYNG				eS	**Sn**	**08 13 06.2**	**+0.3**
TIPB	**Shuangxi**	**1.83**	**7**	eP	**Pn**	**08 12 45.8**	**+1.3**
TIPB				eS	**Sn**	**08 13 07.1**	**+0.6**
YOJ	**Yonaguni jima**	**1.86**	**45**	P	**Pn**	**08 12 44.9**	**+0.1**
YOJ	**Yonaguni jima**	**1.86**	**45**	S	**Sn**	**08 13 08.4**	**+1.2**
YOJ	**Yonaguni jima**	**1.86**	**45**	eP	**Pn**	**08 12 45.4**	**+0.6**
YOJ				eS	**Sn**	**08 13 07.3**	**+0.1**
YOJ	**Yonaguni jima**	**1.86**	**45**	eP	**Sn**	**08 12 45.7**	**+0.9**
YOJ				eS	**Sn**	**08 13 08.0**	**+0.8**
PHUB	**P'eng-hu**	**1.87**	**282**	eP	**Sn**	**08 12 44.9**	**0.0**
PHUB				eS	**Sn**	**08 13 06.3**	**-1.0**
PNG	**Penghu**	**1.89**	**283**	eP	**Pn**	**08 12 45.3**	**0.0**
PNG				eS	**Sn**	**08 13 07.1**	**-0.9**
SXI1	**Grass Mountain**	**1.96**	**8**	eP	**Pn**	**08 12 47.7**	**+1.5**
VCHM	**Qimei**	**1.96**	**272**	P	**Pn**	**08 12 46.4**	**+0.2**
VCHM				eS	**Sn**	**08 13 09.2**	**-0.6**
ZUZH	**Zhuzihu**	**2.00**	**360**	eS	**Sn**	**08 13 10.9**	**+0.1**
HATJ	**Hateruma jima**	**2.25**	**66**	P	**Pn**	**08 12 50.5**	**+0.4**
HATJ				eS	**Sn**	**08 13 16.8**	**+0.1**
IRIF	**Iriomote-Funau**	**2.31**	**59**	P	**Pn**	**08 12 51.6**	**+0.6**
IRIF				eS	**Sn**	**08 13 19.9**	**+1.6**
JKRS	**Kuro-shima**	**2.49**	**64**	P	**Pn**	**08 12 54.3**	**+0.9**
JIJ	**Ishigaki jima**	**2.65**	**62**	P	**Pn**	**08 12 55.8**	**+0.1**
JIJ				eS	**Sn**	**08 13 26.3**	**-0.5**
JISG	**Ishigakijimahi**	**2.89**	**60**	eP	**Pn**	**08 12 59.1**	**+0.1**
PTMZ	**Houxiangcun**	**2.92**	**311**	eP	**Pn**	**08 12 58.6**	**-0.8**
MATB	**Ma-tsu**	**3.33**	**334**	eS	**Sn**	**08 13 41.8**	**-1.7**
AXDP	**Jialang**	**3.72**	**299**	eP	**Pn**	**08 13 09.9**	**-0.5**
AXDP				eS	**Sn**	**08 13 50.8**	**-2.2**
MHZQ	**Yeshan**	**3.73**	**322**	eP	**Pn**	**08 13 10.4**	**-0.2**
MHZQ				eS	**Sn**	**08 13 51.0**	**-2.4**

IDC ***25*** *08:23:30.2±2.5, 13.05N×87.84W, h52km±38km, mb3.2/2, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=93.0km s-min=17.1km az=42.0*
SNET ***25*** *08:23:30.4±0.6, 12.72N×88.26W, h64km, ML3.7*
CATAC ***25*** *08:23:30.0±0.3, 13.9N±2.2×8.8W±., h36km±5km, M3.9/37, MLv3.9/37, Error ellipse: s-maj=5.0km s-min=1.7km az=27.7, confirmed*
GCG ***25*** *08:23:31.0±1.0, 12.68N×88.28W, h50km±44km, MD4.4, ML3.2*
UCR ***25*** *08:23:39.5±0.6, 12.42N×87.54W, h28km±7km, MW3.8*

ISC 25 08:23:30.8±1.0, 12.69N±0.05×88.23W±0.03, h57km±11km, n161, σ1°15/172, 7C-30D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.70**	**28**	*i* P	**Pn**	**08 23 44.5**	**-0.3**
LCND				eP		08 23 44.7	
LCND	**La Caada**	**0.70**	**28**	⇓P	**Pn**	**08 23 44.7**	**-0.2**
CNCH	**Conchagua**	**0.70**	**34**	eP	**Pn**	**08 23 44.8**	**-0.3**
CNCH	**Conchagua**	**0.70**	**34**	⇓P	**Pn**	**08 23 44.7**	**-0.3**
CNCH	**Conchagua**	**0.70**	**34**	S	**Sn**	**08 23 55.9**	**+0.6**
LCY	**Lacayo**	**0.73**	**355**	*i* P	**Pn**	**08 23 45.1**	**-0.3**
POTN	**Potosi Cosigui**	**0.77**	**66**	eP	**Pn**	**08 23 45.5**	**-0.3**
POTN	**Potosi Cosigui**	**0.77**	**66**	P	**Pn**	**08 23 45.5**	**-0.3**
POTN				S	**Sn**	**08 23 57.4**	**+0.7**
PACA	**Pacayal**	**0.78**	**353**	eP	**Pn**	**08 23 46.0**	**-0.1**
PACA	**Pacayal**	**0.78**	**353**	⇑P	**Pn**	**08 23 45.9**	**-0.1**
PACA	**Pacayal**	**0.78**	**353**	S	**Sn**	**08 23 58.6**	**+1.5**
CNRM	**Centro Naciona**	**0.78**	**4**	eP	**Pn**	**08 23 45.8**	**-0.2**
CNRM	**Centro Naciona**	**0.78**	**4**	⇓P	**Pn**	**08 23 45.7**	**-0.2**
CNRM	**Centro Naciona**	**0.78**	**4**	S	**Sn**	**08 23 58.3**	**+1.4**
TECA	**Tecapa**	**0.84**	**342**	⇓*i* P	**Pn**	**08 23 46.4**	**-0.5**
PQSS	**Presa 15 de Se**	**0.98**	**341**	P	**Pn**	**08 23 48.7**	**+0.1**
PQSS	**Presa 15 de Se**	**0.98**	**341**	S	**Sn**	**08 24 03.1**	**+1.6**
TECO	**Alcaldia de Te**	**1.00**	**328**	eP	**Pn**	**08 23 48.1**	**-0.7**
TECO	**Alcaldia de Te**	**1.00**	**328**	⇓P	**Pn**	**08 23 48.0**	**-0.7**
TECO	**Alcaldia de Te**	**1.00**	**328**	S	**Sn**	**08 24 01.7**	**-0.2**
UESV	**Universidad de**	**1.09**	**330**	eP	**Pn**	**08 23 49.6**	**-0.4**
UESV				eP		08 23 49.8	
UESV	**Universidad de**	**1.09**	**330**	P	**Pn**	**08 23 49.7**	**-0.2**
UESV	**Universidad de**	**1.09**	**330**	S	**Sn**	**08 24 04.5**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.12**	**334**	*i* P	**Pn**	**08 23 50.3**	**0.0**
SCLA	**Alcaldia de Sa**	**1.12**	**334**	⇓P	**Pn**	**08 23 50.3**	**0.0**
SCLA	**Alcaldia de Sa**	**1.12**	**334**	S	**Sn**	**08 24 06.4**	**+1.6**
PKGN	**Cerro Pekin**	**1.22**	**91**	⇓P	**Pn**	**08 23 51.3**	**-0.4**
PKGN				S	**Sn**	**08 24 08.2**	**+0.9**
PAVA	**Las Pavas**	**1.23**	**326**	eP	**Pn**	**08 23 51.7**	**-0.2**
PAVA	**Las Pavas**	**1.23**	**326**	⇓P	**Pn**	**08 23 51.7**	**-0.2**
PAVA	**Las Pavas**	**1.23**	**326**	S	**Sn**	**08 24 08.9**	**+1.3**
LFRS	**El Faro**	**1.23**	**319**	*i* P	**Pn**	**08 23 51.5**	**-0.4**
PANCS	**Alcalda de**	**1.30**	**315**	S	**Sn**	**08 24 09.2**	**-0.1**
LBRS	**Las Brisas**	**1.31**	**323**	eP	**Pn**	**08 23 52.9**	**0.0**
LOMA	**Loma Larga**	**1.32**	**316**	*i* P	**Pn**	**08 23 52.5**	**-0.7**
LOMA	**Loma Larga**	**1.32**	**316**	⇓P	**Pn**	**08 23 52.5**	**-0.7**
LOMA	**Loma Larga**	**1.32**	**316**	S	**Sn**	**08 24 10.1**	**+0.4**
LALI	**Alcalda de L**	**1.33**	**307**	eP	**Pn**	**08 23 52.3**	**-0.8**
LALI	**Alcalda de L**	**1.33**	**307**	*i* P	**Pn**	**08 23 52.4**	**-0.6**
LALI				*i* S	**Sn**	**08 24 09.5**	**-0.3**
LALI				IAML		08 24 12.1	
	comp=E,150nm,0.4s						
LALI	**Alcalda de L**	**1.33**	**307**	⇓P	**Pn**	**08 23 52.3**	**-0.8**
QUEN	**Al S del Volca**	**1.35**	**94**	P	**Pn**	**08 23 53.2**	**-0.2**
TEL3	**Telica 3**	**1.36**	**95**	⇓P	**Pn**	**08 23 52.1**	**-1.4**
LFU	**La Fuente**	**1.36**	**321**	eP	**Pn**	**08 23 53.5**	**-0.1**
UDBS	**Universidad Do**	**1.36**	**319**	eP	**Pn**	**08 23 53.3**	**-0.3**
UDBS	**Universidad Do**	**1.36**	**319**	P	**Pn**	**08 23 53.4**	**-0.2**
UDBS	**Universidad Do**	**1.36**	**319**	S	**Sn**	**08 24 11.3**	**+0.6**
IGN	**Direccin Gen**	**1.37**	**318**	⇑P	**Pn**	**08 23 53.5**	**-0.2**
IGN	**Direccin Gen**	**1.37**	**318**	S	**Sn**	**08 24 11.7**	**+0.8**
HERN	**Volcan Telica**	**1.37**	**93**	⇑P	**Pn**	**08 23 52.2**	**-1.5**
HERN	**Volcan Telica**	**1.37**	**93**	S	**Sn**	**08 24 09.8**	**-1.1**
UTEC	**Universidad Te**	**1.38**	**317**	eP	**Pn**	**08 23 53.5**	**-0.3**
UTEC	**Universidad Te**	**1.38**	**317**	P	**Pn**	**08 23 53.6**	**-0.3**
UTEC	**Universidad Te**	**1.38**	**317**	S	**Sn**	**08 24 11.0**	**-0.2**
UESS	**Universidad de**	**1.39**	**317**	eP	**Pn**	**08 23 53.8**	**-0.2**
UEES	**Universidad Ev**	**1.42**	**316**	eP	**Pn**	**08 23 54.1**	**-0.3**
UEES	**Universidad Ev**	**1.42**	**316**	P	**Pn**	**08 23 54.1**	**-0.3**
PLRN	**Geotermica Pol**	**1.43**	**94**	⇑P	**Pn**	**08 23 53.3**	**-1.3**
PLRN				S	**Sn**	**08 24 11.1**	**-1.2**
PIC2	**El Picacho**	**1.45**	**317**	eP	**Pn**	**08 23 55.0**	**0.0**
BOQS	**Boqueron**	**1.46**	**316**	*i* P	**Pn**	**08 23 54.8**	**-0.3**
ROCN	**Rota Cerro Neg**	**1.46**	**96**	⇓P	**Pn**	**08 23 54.3**	**-0.6**
ROCN				S	**Sn**	**08 24 12.4**	**-0.6**
PMON	**Piamonte**	**1.47**	**314**	eP	**Pn**	**08 23 54.7**	**-0.3**
PMON	**Piamonte**	**1.47**	**314**	⇓P	**Pn**	**08 23 54.8**	**-0.3**
PMON	**Piamonte**	**1.47**	**314**	S	**Sn**	**08 24 13.9**	**+0.6**
CNGA	**Al SSO del Vol**	**1.51**	**97**	⇓P	**Pn**	**08 23 54.9**	**-0.6**
CNGN	**Cerro Negro**	**1.51**	**97**	eP	**Pn**	**08 23 54.8**	**-0.7**
CNGN	**Cerro Negro**	**1.51**	**97**	P	**Pn**	**08 23 54.9**	**-0.7**
CNGN	**Cerro Negro**	**1.51**	**97**	S	**Sn**	**08 24 13.8**	**-0.5**
JAYA	**Jayaque - finc**	**1.52**	**309**	eP	**Pn**	**08 23 55.1**	**-0.8**
JAYA	**Jayaque - finc**	**1.52**	**309**	eP	**Pn**	**08 23 55.1**	**-0.8**
JAYA				*i* S	**Sn**	**08 24 14.9**	**+0.1**
JAYA	**Jayaque - finc**	**1.52**	**309**	⇓P	**Pn**	**08 23 55.1**	**-0.8**
CEDA	**San Andres**	**1.58**	**314**	eP	**Pn**	**08 23 56.2**	**-0.4**
CEDA	**San Andres**	**1.58**	**314**	⇓P	**Pn**	**08 23 56.4**	**-0.2**
CEDA	**San Andres**	**1.58**	**314**	S	**Sn**	**08 24 17.1**	**+1.0**
INTHN	**La Esperanza I**	**1.62**	**4**	⇓P	**Pn**	**08 23 57.5**	**+0.2**
INTHN	**La Esperanza I**	**1.62**	**4**	S	**Sn**	**08 24 17.9**	**+0.6**
LLGN	**La Laguna**	**1.62**	**335**	⇓P	**Pn**	**08 23 56.9**	**-0.3**
TGUH	**Tegucigalpa,Un**	**1.65**	**

JMA Felt III J1 at E OFF IWATE PREF .
NEIC ***25*** *08:28:49.1±2.1,39.31N±0.05×142.10E±0.1,h53km×7km, mb4.9/69,Error ellipse: s-maj=12.9km s-min=7.2km az=105.0*

ISC 25 08:28:48.1±0.4,39.31N±0.03×142.10E±0.05,h52km±2km, h52km:pP-P,n288,σ1§34/259,mb4.8/111,MS3.5/35, 14C-25D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.34**	**321**	⇓P		**Pn**	**08 28 57.0**	**-0.8**
MIYJ				⇓S		**Sn**	**08 29 03.2**	**-1.6**
MIYJ	**Miyakonagasawa**	**0.34**	**321**	A		A	08 28 57.0	
	comp=N,31nm,0.2s,comp=E,82nm,2.2s							
OFUJ	**Ofunato**	**0.41**	**236**	⇓P		**Pn**	**08 28 58.1**	**-0.3**
OFUJ				⇓S		**Sn**	**08 29 05.0**	**-0.8**
OFUJ	**Ofunato**	**0.41**	**236**	A		A	08 28 58.1	
	comp=N,37nm,0.6s,comp=E,96nm,0.6s							
JOM	**Ohasama**	**0.65**	**285**	⇓P		**Pn**	**08 29 00.6**	**-0.7**
JOM	**Ohasama**	**0.65**	**285**	A		A	08 29 00.6	
	comp=N,20nm,0.5s,comp=E,61nm,1.0s							
JTH	**Tanohata**	**0.65**	**344**	⇓P		**Pn**	**08 29 00.6**	**-0.7**
JTH				⇓S		**Sn**	**08 29 09.2**	**-1.7**
JTH	**Tanohata**	**0.65**	**344**	A		A	08 29 00.6	
	comp=N,28nm,0.7s,comp=E,17nm,0.9s							
JKMT	**Kesennumamotoy**	**0.70**	**225**	⇓P		**Pn**	**08 29 01.6**	**-0.2**
JKMT	**Kesennumamotoy**	**0.70**	**225**	A		A	08 29 01.6	
	comp=N,16nm,0.3s,comp=E,37nm,0.8s							
JMK	**Ichinoseki**	**0.77**	**243**	⇓P		**Pn**	**08 29 02.5**	**-0.4**
JMK				⇓S		**Sn**	**08 29 12.7**	**-0.9**
JMK	**Ichinoseki**	**0.77**	**243**	A		A	08 29 02.5	
	comp=N,29nm,1.6s,comp=E,13nm,1.6s							
JKZ	**Kuzumaki**	**0.90**	**319**	⇓P		**Pn**	**08 29 04.2**	**-0.3**
JKZ				⇓*e*S		**Sn**	**08 29 15.9**	**-0.7**
JKZ	**Kuzumaki**	**0.90**	**319**	A		A	08 29 04.2	
	comp=N,40nm,0.9s,comp=E,33nm,0.4s							
JKEN	**Kujiedanarisaw**	**0.94**	**341**	A		A	08 29 04.7	
	comp=N,27nm,0.4s,comp=E,40nm,1.0s							
JSZI	**Iwateshizukuis**	**0.99**	**296**	A		A	08 29 05.2	
	comp=N,28nm,1.4s,comp=E,40nm,1.2s							
JIO	**Ouri**	**1.04**	**215**	⇓P		**Pn**	**08 29 06.1**	**-0.2**
JIO				⇓S		**Sn**	**08 29 18.8**	**-1.0**
JIO	**Ouri**	**1.04**	**215**	A		A	08 29 06.1	
	comp=N,14nm,0.4s,comp=E,14nm,0.3s							
JIKH	**Ishinomakikobu**	**1.11**	**207**	A		A	08 29 07.8	
	comp=N,7.0nm,1.2s,comp=E,9.0nm,0.6s							
JRG	**Rokugo**	**1.14**	**275**	⇓P		**Pn**	**08 29 07.2**	**-0.6**
JRG	**Rokugo**	**1.14**	**275**	A		A	08 29 07.2	
	comp=N,15nm,1.0s,comp=E,20nm,0.5s							
JANG	**Nango**	**1.15**	**337**	⇓P		**Pn**	**08 29 07.1**	**-0.8**
JANG				⇓*e*S		**Sn**	**08 29 21.3**	**-1.3**
JANG	**Nango**	**1.15**	**337**	A		A	08 29 07.1	
	comp=N,13nm,0.6s,comp=E,12nm,2.2s							
JOFO	**Osakifurukawao**	**1.17**	**233**	A		A	08 29 08.3	
	comp=N,43nm,2.5s,comp=E,36nm,1.1s							
JYK	**Kaneyama**	**1.41**	**254**	⇓P		**Pn**	**08 29 11.3**	**0.0**
JYK	**Kaneyama**	**1.41**	**254**	A		A	08 29 11.3	
	comp=N,9.0nm,2.2s,comp=E,7.0nm,1.0s							
JAH	**Hinai**	**1.43**	**308**	⇓P		**Pn**	**08 29 11.3**	**-0.4**
JAH	**Hinai**	**1.43**	**308**	A		A	08 29 11.3	
	comp=N,11nm,0.5s,comp=E,11nm,0.7s							
JOU	**Okura**	**1.47**	**230**	A		A	08 29 12.6	
	comp=N,9.0nm,0.4s,comp=E,12nm,0.6s							
JYW	**Yuwa**	**1.48**	**280**	A		A	08 29 12.5	
	comp=N,27nm,0.5s,comp=E,23nm,1.2s							
JTM	**Tenmabayashi**	**1.68**	**332**			**Pn**	**08 29 14.7**	**-0.3**
JTM	**Tenmabayashi**	**1.68**	**332**	P		**Pn**	**08 29 14.6**	**-0.3**
JYYZ	**Yamagatayuza**	**1.71**	**261**	A		A	08 29 15.9	
	comp=N,11nm,2.0s,comp=E,11nm,1.5s							
JMM	**Marumori**	**1.77**	**216**			**Pn**	**08 29 16.0**	**-0.3**
JNTW	**Noshirotokiwa**	**1.78**	**303**	A		A	08 29 16.5	
	comp=N,17nm,1.9s,comp=E,15nm,3.0s							
JARK	**Aomorirokkasho**	**1.79**	**342**	A		A	08 29 16.7	
	comp=N,5.0nm,4.6s,comp=E,4.0nm,0.5s							
JMST	**Minamisoumatoc**	**1.85**	**211**	A		A	08 29 18.3	
	comp=N,8.0nm,0.4s,comp=E,7.0nm,0.4s							
JHHS	**Hirosakihyakuz**	**1.89**	**316**	A		A	08 29 18.2	
	comp=N,17nm,0.8s,comp=E,10.0nm,0.9s							
JYS	**Shirataka**	**1.93**	**236**	A		A	08 29 19.2	
	comp=N,8.0nm,2.1s,comp=E,9.0nm,0.5s							
JYA	**Atsumi**	**1.99**	**250**	A		A	08 29 20.0	
	comp=N,10.0nm,1.1s,comp=E,10.0nm,1.0s							
JAHD	**Aomorihigashid**	**2.04**	**344**	A		A	08 29 20.3	
	comp=N,11nm,0.5s,comp=E,11nm,0.5s							
JIW	**Iwasaki**	**2.06**	**309**	A		A	08 29 20.6	
	comp=N,8.0nm,0.9s,comp=E,8.0nm,1.0s							
JYAR	**Yonezawaarcadi**	**2.07**	**228**	A		A	08 29 21.3	
	comp=N,11nm,1.0s,comp=E,10.0nm,1.3s							
JFK	**Kawauchi**	**2.17**	**207**	A		A	08 29 22.9	
	comp=N,3.0nm,1.5s,comp=E,3.0nm,0.7s							
JSI2	**Shiura 2**	**2.17**	**324**	A		A	08 29 22.2	
	comp=N,5.0nm,1.5s,comp=E,9.0nm,2.6s							
ONAJ	**Iwakimizuishiy**	**2.43**	**205**	A		A	08 29 26.6	
	comp=N,9.0nm,0.3s,comp=E,10.0nm,0.3s							
ERM	**Erimo**	**2.82**	**16**			**Pn**	**08 29 31.1**	**+0.5**
ERM	**Erimo**	**2.82**	**16**	P		**Pn**	**08 29 30.7**	**+0.1**
ERM	**Erimo**	**2.82**	**16**	S		**Sn**	**08 30 05.3**	**+2.0**
ERM	**Erimo**	**2.82**	**16**	P		**Pn**	**08 29 31.1**	**+0.5**
JEM	**Erimo**	**2.82**	**16**	P		**Pn**	**08 29 30.7**	**+0.1**
JEM	**Erimo**	**2.82**	**16**	S		**Sn**	**08 30 05.2**	**+1.9**
MJAR	**Matsushiro Arr**	**4.14**	**229**			**Pn**	**08 29 51.1**	**+2.4**
MJAR	**Matsushiro Arr**	**4.14**	**229**	P		**Pn**	**08 29 49.7**	**+1.0**
	comp=E,56nm,0.7s,baz=35,slow=11,SNR=105							
MJAR				S		**Sn**	**08 30 36.2**	**+0.4**
	comp=E,23nm,0.6s,baz=188,slow=13,SNR=4.2							
MJAR				LR		LR	08 31 25.8	
	comp=E,205nm,21.1s,baz=56,slow=38							
MJB9	**Matsu-Tunnel**	**4.14**	**229**			**Pn**	**08 29 52.2**	**+3.4**
MAJO	**Matsushiro**	**4.14**	**229**			**Pn**	**08 29 51.0**	**+2.3**
MAJO	**Matsushiro**	**4.14**	**229**	P		**Pn**	**08 29 51.0**	**+2.3**
MAJO	**Matsushiro**	**4.14**	**229**	P		**Pn**	**08 29 51.0**	**+2.3**
JKA	**Kamikawa-asahi**	**4.82**	**4**			**Pn**	**08 29 58.1**	**+0.2**
ASAJ	**Asahikawa**	**4.82**	**4**	P		**Pn**	**08 29 58.1**	**+0.2**
	comp=E,15nm,0.3s,baz=222,slow=11,SNR=23							
ASAJ				S		**Sn**	**08 30 54.2**	**+1.8**
	comp=E,84nm,0.7s,baz=59,slow=29,SNR=5.6							
JGF	**Kuroka**	**5.29**	**227**			**Pn**	**08 30 07.2**	**+2.7**
JGF	**Kuroka**	**5.29**	**227**	P		**Pn**	**08 30 07.2**	**+2.7**
RUSJ	**Misakicho**	**5.34**	**25**	⇓*i*P		**Pn**	**08 30 05.3**	**+0.2**
RUSJ				*i*S		**Sn**	**08 31 03.9**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**5.50**	**30**	*d*/*i*P		**Pn**	**08 30 07.6**	**+0.3**
YUK				*i*S		**Sn**	**08 31 04.5**	**-4.6**
YUK				pmax	pmax			
	comp=N,75nm,0.2s							
YUK				pmax	pmax			
	comp=Z,293nm,0.2s							
YUK				smax	smax			
	comp=N,1μm,0.5s							
YUK				smax	smax			
	comp=E,402nm,0.3s							
JSG	**Sagara**	**5.59**	**215**	Pn		**Pn**	**08 30 09.3**	**+0.8**
INU	**Inuyama**	**5.66**	**227**			**Pn**	**08 30 12.2**	**+2.6**
INU	**Inuyama**	**5.66**	**227**	P		**Pn**	**08 30 12.2**	**+2.6**
JHJ2	**Mitsune**	**6.46**	**197**	Pn		**Pn**	**08 30 20.8**	**+0.3**
JHJ	**Hachijo jima 2**	**6.46**	**198**	P		**Pn**	**08 30 19.9**	**-0.6**
	comp=E,55nm,0.3s,baz=326,slow=22,SNR=30							
JHJ				S		**Sn**	**08 31 29.3**	**-3.5**
	comp=E,214nm,0.5s,baz=249,slow=22,SNR=8.2							
TEY	**Ternei**	**7.03**	**326**	*e*P		**Pn**	**08 30 31.1**	**+2.8**
TEY				*e*			08 31 41.9	
KUR	**Kuril'sk**	**7.30**	**34**	*e*P		**Pn**	**08 30 32.7**	**+0.7**
KUR				*e*S		**Sn**	**08 31 48.7**	**-4.7**
KUR				pmax	pmax			
	comp=Z,139nm,0.6s							
KUR				smax	smax			
	comp=N,156nm,0.5s							
KUR				smax	smax			
	comp=E,115nm,0.3s							
YSS	**Yuzhno-Sakhali**	**7.66**	**3**	*e*P		**Pn**	**08 30 38.0**	**+1.2**
YSS				*e*S		**Sn**	**08 32 02.6**	**+0.5**
YSS				pmax	pmax			
	comp=Z,30nm,1.1s							
VLA	**Vladivostok**	**8.59**	**300**	⇓*e*P		**Pn**	**08 30 52.8**	**+3.2**
VLA				pmax	pmax			
	comp=Z,68nm,0.9s							
JMN	**Monobe**	**8.65**	**232**	Pn		**Pn**	**08 30 51.7**	**+1.2**
JMN	**Monobe**	**8.65**	**232**	P		**Pn**	**08 30 53.2**	**+2.6**
MSHR	**Mys Shultsa**	**8.90**	**295**	⇓*e*P		**Pn**	**08 30 56.4**	**+2.5**
MSHR				pmax	pmax			
	comp=Z,21nm,0.9s							
USRK	**Ussuriysk Ar.**	**9.00**	**306**			**Pn**	**08 30 56.5**	**+1.3**
USRK	**Ussuriysk Ar.**	**9.00**	**306**	P		**Pn**	**08 30 55.9**	**+0.7**
	comp=Z,42nm,0.7s,baz=114,slow=14,SNR=44							
USRK				sP			08 31 13.7	
	comp=Z,28nm,0.7s,baz=115,slow=14,SNR=8.6							
USRK	**Ussuriysk Ar.**	**9.00**	**306**	P		**Pn**	**08 30 56.6**	**+1.3**
MDJ	**Mudanjiang**	**10.71**	**304**			**Pn**	**08 31 21.1**	**+2.4**
MDJ	**Mudanjiang**	**10.71**	**304**	P		**Pn**	**08 31 21.8**	**+3.1**
MDJ				pmax	pmax			
	comp=Z,76nm,1.0s							
JNU	**Nakatsue**	**10.96**	**239**	P		**Pn**	**08 31 24.2**	**+1.9**
	comp=Z,8.9nm,0.8s,baz=63,slow=2.3,SNR=6.8							
JNU				LR		LR	08 35 40.5	
	comp=Z,140nm,21.7s,baz=40,slow=38							
JNU	**Nakatsue**	**10.96**	**239**	P		**Pn**	**08 31 25.1**	**+2.8**
KSRS	**Korea Array**	**11.28**	**265**	P		**Pn**	**08 31 29.4**	**+2.9**
	comp=Z,9.7nm,0.9s,baz=75,slow=14,SNR=23							
KS19	**Wonju Array Si**	**11.32**	**265**			**Pn**	**08 31 28.5**	**+1.5**
KSAR	**Wonju Array Be**	**11.32**	**265**			**Pn**	**08 31 30.0**	**+3.0**
KSAR	**Wonju Array Be**	**11.32**	**265**	P		**Pn**	**08 31 30.0**	**+3.0**
TJN	**Taejon**	**12.01**	**261**	⇑*e*P		**Pn**	**08 31 38.5**	**+2.0**
BNX	**BinXian**	**12.59**	**305**	⇑P		**Pn**	**08 31 47.0**	**+2.6**
BNX				pmax	pmax			
	comp=Z,11nm,0.8s							
CN2	**Changchun**	**13.25**	**295**	P		**P**	**08 31 58.0**	**-3.7**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
HEH	**HeiHe**	**15.09**	**321**	*e*P		**Pn**	**08 32 16.5**	**-1.2**
DL2	**Dalian**	**15.90**	**275**	P		**Pn**	**08 32 28.3**	**0.0**
DL2				pmax	pmax			
	comp=Z,30nm,1.0s							
PETK	**Petropavlovsk-**	**17.46**	**33**	LR		LR	08 38 53.6	
	comp=Z,85nm,20.3s,baz=226,slow=35							
BJI	**Beijing**	**19.95**	**280**	P		**P**	**08 33 13.5**	**-2.2**
BJI				pmax	pmax			
	comp=Z,8.0nm,0.9s							
XLT	**XiLinHaoTe**	**19.96**	**292**	*e*P		**P**	**08 33 12.8**	**-3.0**
XLT				pmax	pmax			
	comp=Z,8.0nm,0.8s							
XLT				pmax	pmax			
	comp=Z,230nm,5.5s							
BJT	**Baijiatuan**	**19.96**	**280**			**P**	**08 33 13.7**	**-2.1**
BJT	**Baijiatuan**	**19.96**	**280**	P		**P**	**08 33 13.7**	**-2.1**
BJT				pmax	pmax			
	comp=Z,13nm,0.9s							
TIA	**Tai'an**	**19.97**	**269**	P		**P**	**08 33 14.8**	**-1.2**
TIA				pmax	pmax			
	comp=Z,12nm,0.6s							
TIA				LR	LR			
	comp=Z,170nm,19.1s							
NJ2	**Nanjing**	**20.19**	**256**	*e*P		Pn	08 33 20.5	-0.2
NJ2				pmax	pmax			
	comp=Z,21nm,1.2s							
MA2	**Magadan**	**21.02**	**12**	P		**P**	**08 33 27.0**	**0.0**
MA2	**Magadan**	**21.02**	**12**	P		**P**	**08 33 27.2**	**+0.1**
	comp=Z,12nm,0.6s,baz=198,slow=12,SNR=6.2							
MA2				LR		LR	08 40 44.7	
	comp=Z,47nm,21.3s,baz=135,slow=34							
	comp=Z,12nm,0.6s							
MA2	**Magadan**	**21.02**	**12**	P		**P**	**08 33 27.0**	**0.0**
MA2				pmax	pmax			
	comp=Z,252nm,2.0s							
HNS	**HongShan**	**21.54**	**274**	⇑P		**P**	**08 33 33.8**	**+1.0**
HNS				pmax	pmax			
	comp=Z,10.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**23.36**	**284**	*e*P		**P**	**08 33 52.8**	**+0.8**
HHC				pmax	pmax			
	comp=Z,18nm,0.7s							
HHC				pmax	pmax			
	comp=Z,87nm,5.0s							
YAK	**Yakutsk**	**23.99**	**346**	*e*P		**P**	**08 33 56.3**	**-1.1**
YAK				*e**PP		**pP**	**08 34 10.0**	**-0.6**
YAK				*e*S		**S**	**08 38 06.9**	**-3.5**
YAK				*e**SS		**sS**	**08 38 31.4**	**-1.0**
YAK				*e*SS		**SnSn**	**08 38 56.3**	**+1.7**
YAK				pmax	pmax			
	comp=Z,20nm,1.1s							
YAK				pmax	pmax			
	comp=N,7.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,9.0nm,1.1s							
YAK				smax	smax			
	comp=E,59nm,1.7s							
YAK				smax	smax			
	comp=N,599nm,5.0s							
LYN	**LuoYang**	**24.10**	**268**	P		**P**	**08 33 59.3**	**+0.5**
LYN				pmax	pmax			
	comp=N,26nm,0.5s							
WHN	**Wuhan**	**24.30**	**257**	P		**P**	**08 34 00.0**	**-0.6**
WHN				pmax	pmax			
	comp=N,56nm,0.6s							
SEY	**Seymchan**	**24.46**	**11**	⇑*e*P		**P**	**08 34 00.7**	**-1.0**
SEY				pmax	pmax			
	comp=Z,12nm,1.2s							
BTO	**Baotou**	**24.56**	**283**	*e*P		**P**	**08 34 03.3**	**+0.3**
BTO				pP		**pP**	**08 34 17.5**	**+1.1**
BTO				sP		**sP**	**08 34 24.8**	**+2.1**
BTO				PP			08 34 40.8	
BTO				pmax	pmax			
	comp=Z,21nm,0.7s							
BTO				pmax	pmax			
	comp=Z,350nm,5.3s							
GUMO	**Guam**	**25.74**	**174**	LR		LR	08 44 29.8	
	comp=Z,21nm,20.6s,baz=349,slow=37							
CNSH	**ChangSha**	**26.56**	**254**	P		**P**	**08 34 21.0**	**-0.1**
CNSH				pmax	pmax			
	comp=Z,37nm,0.9s							
ULN	**Ulaanbaatar**	**26.60**	**300**	⇑*e*P		**P**	**08 34 22.0**	**+0.5**
ULN				pmax	pmax			
	comp=Z,3.0nm,1.0s							
XAN	**Xi'an**	**27.03**	**269**	⇑P		**P**	**08 34 24.5**	**-0.9**
XAN				pmax	pmax			
	comp=Z,14nm,0.7s							
SONM	**Songino Array**	**27.04**	**300**	P		**P**	**08 34 24.9**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=90,slow=7.8,SNR=4.0							
SONM				LR		LR	08 45 28.0	
	comp=Z,123nm,18.8s,baz=96,slow=37							
	comp=Z,1.1nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.93**	**125**	T		T	09 05 14.8	
	baz=318,slow=75,SNR=4426							
H11N1	**WAKE ISLAND Hy**	**28.94**	**125**	T		T	09 05 14.2	
	baz=318,slow=75,SNR=7375							
H11N3	**WAKE ISLAND Hy**	**28.95**	**125**	T		T	09 05 09.6	
	baz=318,slow=75,SNR=8610							
H11S1	**WAKE ISLAND Hy**	**29.72**	**127**	T		T	09 06 07.5	
	baz=319,slow=76,SNR=1513							
H11S3	**WAKE ISLAND Hy**	**29.72**	**127**	T		T	09 06 20.1	
	baz=319,slow=76,SNR=2612							
H11S2	**WAKE ISLAND Hy**	**29.74**	**127**	T		T	09 06 06.2	
	baz=319,slow=76,SNR=1185							
LZH	**Lanzhou**	**30.29**	**276**	*e*P		**P**	**08 34 52.3**	**-2.2**
LZH				pP		pP	08 35 09.0	+1.0
LZH				pmax	pmax			
	comp=Z,26nm,1.3s							
LZDM	**Lanzhou Array**	**30.45**	**276**	P		**P**	**08 34 54.8**	**-1.3**
	comp=Z,2.6nm,0.5s,baz=101,slow=3.8,SNR=4.2							
	comp=Z,2.6nm,0.5s							
GYA	**Guiyang**	**32.19**	**257**	P		**P**	**08 35 10.0**	**-1.3**
GYA				pP		sP	08 35 28.0	-3.0
GYA				pmax	pmax			
	comp=Z,18nm,1.0s							
CD2	**Chengdu**	**32.27**	**267**	P		**P**	**08 35 12.5**	**+0.6**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.4s							
GTA	**Gaotai**	**32.48**	**284**	P		**P**	**08 35 15.0**	**+1.3**
GTA				pmax	pmax			
	comp=Z,5.0nm,0.7s							
GTA				LR	LR			
	comp=Z,100nm,13.8s							
GTA				LR	LR			
	comp=Z,180nm,15.3s							
GTA				LR	LR			
	comp=Z,180nm,16.0s							
KNGR	**Kungurtug, Tuv**	**33.03**	**305**	⇑*e*P		**P**	**08 35 18.6**	**+0.2**
KNGR				pmax	pmax			
	comp=Z,6.0nm,0.9s							
TIXI	**Tiksi**	**33.10**	**352**	LR		LR	08 50 03.9	
	comp=Z,38nm,19.9s,baz=186,slow=38							
KMI	**Kunming**	**35.89**	**259**	P		**P**	**08 35 43.5**	**+0.1**
KMI				pmax	pmax			
	comp=Z,18nm,0.9s							
KMI				LR	LR			
	comp=Z,75nm,15.6s							
PZH	**PanZhiHua**	**35.92**	**262**	P		**P**	**08 35 43.5**	**-0.1**
PZH				pmax	pmax			
	comp=Z,30nm,0.9s							
GOMU	**GeErMu**	**37.19**	**280**	P		**P**	**08 35 53.3**	**-1.3**
GOMU				pP		pP	08 36 07.5	-0.8
GOMU				sP		sP	08 36 13.8	-0.7
GOMU				pmax	pmax			
	comp=Z,12nm,0.7s							
TNCH	**TengChong**	**39.17**	**262**	⇑P		**P**	**08 36 11.5**	**+0.4**
TNCH				pP		pP	08 36 25.5	+0.6
TNCH				S		**S**	**08 42 06.8**	**-0.9**
TNCH				sS		sS	08 42 31.0	+0.6
TNCH				pmax	pmax			
	comp=Z,53nm,1.0s							
TNCH				LR	LR			
	comp=Z,230nm,4.1s							
TNCH				LR	LR			
	comp=Z,54nm,4.4s							
WMQ	**Urumqi**	**40.34**	**295**	*e*P		**P**	**08 36 22.3**	**+1.8**
WMQ				pmax	pmax			
	comp=Z,35nm,1.3s							
WMQ				LR	LR			
	comp=Z,180nm,21.1s							
ZAA0	**Zalesovo Array**	**40.82**	**310**			**P**	**08 36 24.2**	**0.0**
ZAA0				IAmb	IAmb		08 36 42.0	
	comp=Z,21nm,0.7s							
ZALV	**Zalesovo Beam**	**40.82**	**310**			**P**	**08 36 24.2**	**0.0**
ZALV	**Zalesovo Beam**	**40.82**	**310**	P		**P**	**08 36 23.8**	**-0.4**
	comp=Z,8.9nm,0.5s,baz=87,slow=8.4,SNR=14							
ZALV				pP		**pP**	**08 36 37.2**	**-0.9**
	comp=Z,17nm,0.5s,baz=98,slow=7.6,SNR=4.5							
ZALV				PcP		**PcP**	**08 38 23.9**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=98,slow=2.9,SNR=3.6							
ZALV				LR		LR	08 54 05.8	
	comp=Z,102nm,18.2s,baz=98,slow=37							
	comp=Z,8.9nm,0.5s							
CHTO	**Chiang Mai**	**42.41**	**254**	P		**P**	**08 36 38.4**	**+0.7**
CHTO	**Chiang Mai**	**42.41**	**254**	P		**P**	**08 36 38.4**	**+0.7**
CHTO				pmax	pmax			
	comp=Z,10.0nm,1.0s							
G18K	**Tagagawik**	**42.42**	**32**	P		**P**	**08 36 38.9**	**+1.7**
G18K				IAmb	IAmb		08 37 29.2	
	comp=Z,50nm,1.9s							
CMAR	**Chiang Mai Arr**	**42.63**	**253**	P		**P**	**08 36 39.6**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=49,slow=5.9,SNR=6.6							
CMAR				LR		LR	08 56 22.5	
	comp=Z,16nm,18.3s,baz=40,slow=39							
	comp=Z,2.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**42.63**	**253**	*i*P		**P**	**08 36 40.0**	**+0.5**
CMAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
C19K	**Lookout Ridge**	**42.68**	**27**	P		**P**	**08 36 40.4**	**+1.1**
F19K	**Shaleruckik Mo**	**42.91**	**30**	P		**P**	**08 36 41.2**	**+0.1**
F19K				IAmb	IAmb		08 37 14.6	
	comp=Z,56nm,2.0s							
MKAR	**Makanchi Array**	**43.41**	**300**	P		**P**	**08 36 45.2**	**-0.3**
	comp=Z,5.8nm,0.7s,baz=87,slow=9.7,SNR=34							
MKAR				pP		**pP**	**08 37 00.0**	**+0.6**
	comp=Z,8.4nm,0.7s,baz=81,slow=11,SNR=14							
MKAR				LR		LR	08 55 38.4	
	comp=Z,61nm,20.6s,baz=120,slow=37							
	comp=Z,5.8nm,0.7s							
MAKZ	**Makanchi**	**43.61**	**300**	P		**P**	**08 36 47.5**	**+0.4**
MAKZ	**Makanchi**	**43.61**	**300**	P		**P**	**08 36 47.5**	**+0.4**
MAKZ				pmax	pmax			
	comp=Z,13nm,0.9s							
MAKZ	**Makanchi**	**43.61**	**300**	P		**P**	**08 36 46.8**	**-0.3**
MAKZ				pP		**pP**	**08 37 02.5**	**+1.5**
B20K	**Meade River**	**43.71**	**26**	P		**P**	**08 36 48.9**	**+1.4**
Q19K	**Cape Douglas,**	**44.42**	**42**	P		**P**	**08 36 54.5**	**+1.1**
IMAR	**Indian Mountai**	**44.43**	**32**	P		**P**	**08 36 54.2**	**+0.9**
F21K	**Alatna River**	**44.63**	**30**	P		**P**	**08 36 56.3**	**+1.3**
F21K				IAmb	IAmb		08 37 04.9	
	comp=Z,23nm,1.8s							
KURK	**Kurchatov**	**44.99**	**306**			**P**	**08 36 57.8**	**-0.2**
KURK				IAmb	IAmb		08 37 16.3	
	comp=Z,26nm,0.9s							
KURK	**Kurchatov**	**44.99**	**306**	P		**P**	**08 36 57.8**	**-0.2**
KURK				pmax	pmax			
	comp=Z,26nm,1.0s							
KURK	**Kurchatov**	**44.99**	**306**	P		**P**	**08 36 57.3**	**-0.7**
KURK				pP		**pP**	**08 37 12.5**	**+0.6**
KDAK	**Kodiak Island**	**45.06**	**43**	P		**P**	**08 36 59.4**	**+0.9**
KDAK	**Kodiak Island**	**45.06**	**43**	P		**P**	**08 36 59.4**	**+0.9**
KDAK				pmax	pmax			
	comp=Z,140nm,1.7s							
KURBB	**Kurchatov Arra**	**45.06**	**306**	P		**P**	**08 36 58.1**	**-0.5**
	comp=Z,16nm,0.8s,baz=81,slow=8.4,SNR=94							
KURBB				pP		**pP**	**08 37 13.7**	**+1.1**
	comp=Z,12nm,0.5s,baz=80,slow=8.3,SNR=12							
KURBB				PcP		**PcP**	**08 38 37.9**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=84,slow=3.4,SNR=3.0							
KURBB				LR		LR	08 56 22.7	
	comp=Z,53nm,19.7s,baz=174,slow=37							
	comp=Z,16nm,0.8s							
E22K	**Anaktuvuk Pass**	**45.34**	**29**			**P**	**08 37 02.5**	**+1.8**
E22K				IAmb	IAmb		08 37 21.

INK	**Inuvik**	**52.12**	**28**	P	**P**	**08 37 53.7**	**+1.2**		
INK				pmax	pmax				
	comp=Z,7.0nm,0.8s								
H31M	**Peel River**	**52.35**	**31**	IAmb	IAmb	08 38 10.1			
	comp=Z,9.5nm,0.8s								
KK31	**Karatay Array**	**52.48**	**299**	IAmb	IAmb	08 37 56.1			
	comp=Z,8.6nm,0.8s								
KKAR	**Karatay Array**	**52.48**	**299**	P	**P**	**08 37 55.4**	**-0.2**		
KKAR	**Karatay Array**	**52.48**	**299**	P	**P**	**08 37 55.4**	**-0.2**		
GAR	**Garm**	**54.24**	**294**	IAmb	IAmb	08 38 08.8			
	comp=Z,11nm,0.6s								
NIL	**Nilore**	**54.44**	**287**		**P**	**08 38 10.1**	**-0.1**		
NIL	**Nilore**	**54.44**	**287**	P	**P**	**08 38 10.1**	**-0.1**		
NIL				pmax	pmax				
	comp=Z,18nm,0.7s								
ARTI	**Arti**	**55.14**	**318**		**P**	**08 38 14.3**	**-0.4**		
ARTI	**Arti**	**55.14**	**318**	LR	LR	09 04 15.8			
	comp=Z,96nm,20.0s,baz=82,slow=39								
ARTI	**Arti**	**55.14**	**318**	*c i* P	**P**	**08 38 14.6**	**-0.2**		
ARTI				*PP	**pP**	**08 38 29.5**	**+0.5**		
ARTI						08 39 11.6			
ARTI						08 40 19.0			
ARTI				S	**S**	**08 45 54.3**	**+0.6**		
ARTI				SS	**SS**	**08 49 37.1**	**-0.5**		
ARTI				pmax	pmax				
	comp=Z,31nm,0.6s								
ARTI	**Arti**	**55.14**	**318**	P	**P**	**08 38 14.6**	**-0.2**		
CHGR	**Chuyangaron**	**55.20**	**294**	P	**P**	**08 38 15.6**	**-0.1**		
CHGR				pmax	pmax				
	comp=Z,84nm,0.8s								
SIMJ	**Simiganj**	**55.31**	**294**	P	**P**	**08 38 16.2**	**-0.3**		
SIMJ	**Simiganj**	**55.31**	**294**	P	**P**	**08 38 16.0**	**-0.5**		
SIMJ				pP	**pP**	**08 38 32.8**	**+2.0**		
ABKAR	**Akbulak array**	**56.91**	**309**	P	**P**	**08 38 27.2**	**-0.4**		
KBL	**Kabul**	**57.13**	**290**	P	**P**	**08 38 28.9**	**-0.7**		
KBL				pmax	pmax				
	comp=Z,9.0nm,0.7s								
AKTO	**Aktyubinsk**	**57.57**	**311**	LR	LR	09 02 56.9			
	comp=Z,42nm,21.7s,baz=143,slow=36								
SPITS	**Spitsbergen Ar**	**58.40**	**349**	P	**P**	**08 38 37.6**	**0.0**		
	comp=Z,1.8nm,0.6s,baz=62,slow=10.0,SNR=9.0								
	comp=Z,1.8nm,0.6s								
KIRV	**Kirov**	**58.77**	**322**	*e* P	**P**	**08 38 40.1**	**-0.3**		
WB0	**Warramunga Arr**	**59.21**	**188**	P	**P**	**08 38 43.6**	**-0.3**		
WB0				IAmb	IAmb	08 39 21.9			
	comp=Z,30nm,1.8s								
WRAB	**Tennant Creek**	**59.38**	**188**	*e* P	**P**	**08 38 42.2**	**-2.8**		
WRAB				pmax	pmax				
	comp=Z,4.0nm,1.0s								
WR8	**Warramunga Arr**	**59.38**	**188**		**P**	**08 38 44.8**	**-0.3**		
WR8				IAmb	IAmb	08 38 57.8			
	comp=Z,7.1nm,0.5s								
WRA	**Warramunga Arr**	**59.39**	**188**	P	**P**	**08 38 44.0**	**-1.1**		
WRA	**Warramunga Arr**	**59.39**	**188**	P	**P**	**08 38 44.6**	**-0.5**		
	comp=Z,2.1nm,0.5s,baz=5.5,slow=7.1,SNR=35								
WRA				pP	**pP**	**08 38 57.2**	**-2.1**		
	comp=Z,2.6nm,0.4s,baz=5.8,slow=7.1,SNR=14								
	comp=Z,2.1nm,0.5s								
ARCES	**ARCESS Array B**	**62.06**	**339**	P	**P**	**08 39 02.6**	**-0.1**		
	comp=Z,3.5nm,0.8s,baz=53,slow=7.4,SNR=9.8								
ARCES				LR	LR	09 08 21.9			
	comp=Z,28nm,19.8s,baz=5.0,slow=38								
	comp=Z,3.5nm,0.8s								
KLMR	**Klimovskoe**	**62.13**	**327**	*e* P	P	08 38 58.0	-5.3		
KLMR				pmax	pmax				
	comp=Z,18nm,1.5s								
ASAR	**Alice Springs**	**63.12**	**188**	P	**P**	**08 39 10.3**	**0.0**		
	comp=Z,1.4nm,0.6s,baz=9.0,slow=7.1,SNR=16								
ASAR				pP	**pP**	**08 39 23.5**	**-1.1**		
	comp=Z,0.7nm,0.5s,baz=15,slow=13,SNR=4.4								
ASAR				sP	**sP**	**08 39 30.4**	**-0.1**		
	comp=Z,1.5nm,0.7s,baz=4.7,slow=5.1,SNR=5.7								
ASAR				LR	LR	09 06 13.4			
	comp=Z,26nm,20.2s,baz=162,slow=36								
	comp=Z,1.4nm,0.6s								
DAG	**Danmarks Havn**	**63.56**	**355**	P	**P**	**08 39 12.2**	**-0.3**		
DAG				pmax	pmax				
	comp=Z,10.0nm,1.1s								
OUL	**Oulu**	**64.76**	**335**	P	**P**	**08 39 20.1**	**-0.4**		
OUL				pmax	pmax				
	comp=Z,21nm,2.0s								
DZM	**Mont Dzumac**	**65.17**	**155**	*e* LR	LR	08 59 05.3			
	comp=Z,53nm,23.6s								
DZM	**Mont Dzumac**	**65.17**	**155**	LR	LR	09 07 36.0			
	comp=Z,23nm,19.1s,baz=32,slow=36								
OBN	**Obninsk**	**66.60**	**323**	*d i* P	**P**	**08 39 31.3**	**-1.3**		
OBN				*i* *PP	**pP**	**08 39 49.9**	**+2.8**		
OBN				*i*		08 39 56.8			
OBN				pmax	pmax				
	comp=Z,8.0nm,0.8s								
FINES	**FINESS Array B**	**67.06**	**332**	P	**P**	**08 39 34.9**	**-0.5**		
	comp=Z,7.7nm,0.6s,baz=38,slow=8.7,SNR=26								
FINES				sP	**sP**	**08 39 54.0**	**-1.8**		
	comp=Z,4.2nm,0.6s,baz=38,slow=6.9,SNR=5.5								
FINES				LR	LR	09 09 47.3			
	comp=Z,43nm,19.4s,baz=34,slow=37								
	comp=Z,7.7nm,0.6s								
FINES	**FINESS Array B**	**67.06**	**332**	*i* P	**P**	**08 39 35.2**	**-0.2**		
FINES				pmax	pmax				
	comp=Z,8.0nm,0.6s								
SUMG	**Summit**	**68.41**	**0**	P	**P**	**08 39 44.5**	**+0.2**		
SUMG				pmax	pmax				
	comp=Z,12nm,2.8s								
KIV	**Kislovodsk**	**69.83**	**311**	*e* P	**P**	**08 39 54.0**	**+0.8**		
KIV				pmax	pmax				
	comp=Z,24nm,1.1s								
KIV				MLR	MLR				
	comp=Z,29nm,17.0s								
KBZ	**Khabaz**	**69.84**	**310**	P	**P**	**08 39 53.0**	**0.0**		
	comp=Z,8.0nm,0.9s,baz=67,slow=4.6,SNR=12								
	comp=Z,8.0nm,0.9s								
KBZ	**Khabaz**	**69.84**	**310**	*ce* P	**P**	**08 39 53.2**	**+0.1**		
KBZ				pmax	pmax				
	comp=Z,11nm,0.9s								
GNI	**Garni**	**70.79**	**306**	LR	LR	09 14 18.5			
	comp=Z,40nm,18.1s,baz=156,slow=39								
STKA	**Stephens Creek**	**70.83**	**180**	LR	LR	09 15 26.1			
	comp=Z,15nm,18.0s,baz=26,slow=40								
MNK	**Minsk**	**70.92**	**326**	*i* P	**P**	**08 39 59.7**	**+0.2**		
MNK				*i* *PP	**PcP**	**08 40 17.7**	**-2.0**		
MNK				*i*		08 40 26.6			
MNK				*i* PPP	PPP	08 44 21.1			
MNK				*i* S	**S**	**08 49 11.3**	**+0.5**		
MNK				*i* *SS	**ScS**	**08 50 02.2**	**+3.4**		
MNK				pmax	pmax				
	comp=E,28nm,0.8s								
MNK				pmax	pmax				
	comp=Z,14nm,0.8s								
MNK				pmax	pmax				
	comp=N,14nm,0.8s								
MNK				MLR	MLR				
	comp=Z,111nm,16.0s								
MNK				MLR	MLR				
	comp=E,407nm,17.0s								
MNK				MLR	MLR				
	comp=N,298nm,16.0s								
HFS	**Hagfors**	**72.24**	**336**	P	**P**	**08 40 07.1**	**-0.2**		
	comp=N,3.0nm,0.4s,baz=46,slow=6.4,SNR=16								
HFS				pP	**pP**	**08 40 20.8**	**-1.2**		
	comp=N,1.2nm,0.4s,baz=46,slow=8.5,SNR=2.3								
HFS				sP	**sP**	**08 40 28.0**	**+0.2**		
	comp=N,1.5nm,0.3s,baz=47,slow=6.9,SNR=2.9								
HFS				LR	LR	09 14 59.9			
	comp=N,50nm,18.4s,baz=40,slow=38								
	comp=N,3.0nm,0.4s								
NC204	**NORSAR Array S**	**72.25**	**338**	P	**P**	**08 40 07.5**	**+0.1**		
NB2	**NORSAR Subarra**	**72.30**	**337**	P	**P**	**08 40 07.4**	**-0.3**		
	comp=Z,2.5nm,0.6s,baz=36,slow=6.5								
NOA	**NORSAR Array B**	**72.30**	**337**	P	**P**	**08 40 07.5**	**-0.3**		
	comp=Z,3.0nm,0.6s,baz=38,slow=6.0,SNR=15								
NOA				LR	LR	09 14 32.7			
	comp=Z,32nm,21.0s,baz=35,slow=38								
	comp=Z,3.0nm,0.6s								
AKASG	**Malin Array Be**	**72.83**	**322**	P	**P**	**08 40 10.4**	**-0.6**		
	comp=Z,5.5nm,0.6s,baz=46,slow=6.1,SNR=28								
AKASG				LR	LR	09 12 42.1			
	comp=Z,20nm,19.1s,baz=45,slow=36								
	comp=Z,5.5nm,0.6s								
AKBB	**Malin Array Si**	**72.83**	**322**	IAmb	IAmb	08 40 11.4			
	comp=Z,8.5nm,0.8s								
AKBB	**Malin Array Si**	**72.83**	**322**	*ce* P	**P**	**08 40 10.7**	**-0.3**		
KIEV	**Kiev**	**72.84**	**322**		**P**	**08 40 10.7**	**-0.4**		
KIEV				IAmb	IAmb	08 40 11.4			
	comp=Z,7.5nm,0.7s								
KIEV	**Kiev**	**72.84**	**322**	P	**P**	**08 40 10.7**	**-0.4**		
KIEV				pmax	pmax				
	comp=Z,7.0nm,0.7s								
MDPB	**Devils Postpil**	**73.19**	**55**	IAmb	IAmb	08 40 55.0			
	comp=Z,10nm,0.7s								
NVAR	**Mina Array Bea**	**73.20**	**54**	P	**P**	**08 40 15.1**	**+1.3**		
	comp=Z,0.5nm,0.6s,baz=280,slow=5.6,SNR=6.2								
NVAR				pP	**pP**	**08 40 28.7**	**+0.4**		
	comp=Z,1.0nm,0.7s,baz=297,slow=6.3,SNR=5.6								
	comp=Z,0.5nm,0.6s								
SFJD	**Kangerlussuaq**	**73.57**	**5**	LR	LR	09 12 50.4			
	comp=Z,28nm,21.0s,baz=312,slow=36								
PD31	**Pinedale Array**	**75.69**	**46**	P	**P**	**08 40 29.2**	**+1.1**		
PDAR	**Pinedale Array**	**75.69**	**46**	P	**P**	**08 40 28.9**	**+0.7**		
	comp=Z,0.9nm,0.6s,baz=268,slow=1.7,SNR=13								
PDAR				pP	**pP**	**08 40 42.6**	**-0.1**		
	comp=Z,1.3nm,0.5s,baz=268,slow=1.3,SNR=12								
	comp=Z,0.9nm,0.6s								
KWP	**Kalwaria Pacla**	**76.60**	**324**	P	**P**	**08 40 33.4**	**+0.5**		
BUR08	**Bucovina Ar. S**	**76.85**	**322**	IAmb	IAmb	08 40 35.5			
	comp=Z,6.5nm,0.8s								
BURAR	**Bucovina Array**	**76.86**	**322**	P	**P**	**08 40 35.1**	**+0.6**		
BRTR	**Keskin Array B**	**77.75**	**312**	P	**P**	**08 40 39.4**	**-0.3**		
	comp=Z,1.0nm,0.5s,baz=69,slow=5.6,SNR=4.9								
	comp=Z,1.0nm,0.5s								
MLR	**Muntele Rosu**	**78.00**	**320**	LR	LR	09 15 53.4			
	comp=Z,63nm,20.3s,baz=52,slow=36								
HMU	**Henry Mountain**	**78.15**	**51**	P	**P**	**08 40 43.7**	**+1.6**		
LANS	**Liptovska Anna**	**78.39**	**326**	*e* P	**P**	**08 40 44.4**	**+1.5**		
PV10	**Paradox Valley**	**78.87**	**49**	IAmb	IAmb	08 41 02.5			
	comp=Z,9.9nm,0.8s								
PV19	**Morning Glory**	**78.95**	**49**	IAmb	IAmb	08 41 02.1			
	comp=Z,8.0nm,0.8s								
CLL	**Collm**	**79.39**	**330**	*e* P	**P**	**08 40 48.0**	**-0.3**		
CLL				pmax	pmax				
	comp=Z,8.0nm,0.8s								
CLL	**Collm**	**79.39**	**330**	*e* P	**P**	**08 40 48.0**	**-0.3**		
	comp=Z,8.0nm,0.8s								
VRAC	**Vranov**	**79.51**	**327**	LR	LR	09 18 32.4			
	comp=Z,57nm,18.5s,baz=22,slow=38								
VRAC	**Vranov**	**79.51**	**327**	*e* P	**P**	**08 40 49.5**	**+0.5**		
KRUC	**Moravsky**	**79.78**	**327**	*e* P	**P**	**08 40 50.7**	**+0.2**		
ASF	**Jabal al Asfar**	**80.69**	**304**	LR	LR	09 19 43.5			
	comp=Z,24nm,20.1s,baz=71,slow=38								
RONA	**Rosalia, Austr**	**80.87**	**326**	*e* P	**P**	**08 40 57.4**	**+1.0**		
	comp=Z,4.7nm,0.6s								
CONA	**Conrad Observa**	**80.88**	**327**	*e* P	**P**	**08 40 57.2**	**+0.7**		
	comp=Z,4.4nm,0.8s								
KHC	**Kasperske Hory**	**80.89**	**329**	*ce* P	**P**	**08 40 57.0**	**+0.5**		
KHC				pmax	pmax				
	comp=Z,11nm,2.5s								
GERES	**GERESS Array B**	**81.06**	**328**	P	**P**	**08 40 57.0**	**-0.5**		
	comp=Z,1.3nm,0.6s,baz=55,slow=8.5,SNR=7.3								
	comp=Z,1.3nm,0.6s								
MMAI	**Mount Meron Ar**	**81.09**	**305**	LR	LR	09 21 34.3			
	comp=Z,22nm,18.2s,baz=68,slow=39								
EKA	**Eskdalemuir Ar**	**81.17**	**341**	P	**P**	**08 40 58.0**	**+0.3**		
	comp=Z,1.3nm,0.6s,baz=27,slow=5.9,SNR=3.8								
	comp=Z,1.3nm,0.6s								
BIOA	**Bad Ischl, Aus**	**82.00**	**328**	*e* P	**P**	**08 41 01.9**	**-0.4**		
	comp=Z,3.4nm,0.6s								
SOKA	**Soboth**	**82.21**	**326**	*e* P	**P**	**08 41 03.7**	**+0.2**		
	comp=Z,2.8nm,0.5s								
OBKA	**Obir**	**82.55**	**326**	*e* P	**P**	**08 41 05.4**	**+0.1**		
	comp=Z,3.2nm,0.6s								
LESA	**Schwarzleotal**	**82.61**	**328**	*e* P	**P**	**08 41 06.3**	**+0.7**		
	comp=Z,2.9nm,1.0s								
MYKA	**Terra Mystica**	**82.84**	**327**	*e* P	**P**	**08 41 06.4**	**-0.4**		
	comp=Z,3.5nm,0.5s								
ABTA	**Abfaltersbach**	**83.22**	**328**	*e* P	**P**	**08 41 08.2**	**-0.6**		
	comp=Z,8.5nm,1.1s								
MOTA	**Moosalm**	**83.31**	**329**	*e* P	**P**	**08 41 08.8**	**-0.5**		
	comp=Z,9.1nm,0.9s								
RETA	**Reutte**	**83.33**	**329**	*e* P	**P**	**08 41 09.5**	**+0.2**		
	comp=Z,9.6nm,1.0s								
SQTA	**Sant Quirin**	**83.37**	**329**	*e* P	**P**	**08 41 09.5**	**-0.1**		
	comp=Z,5.2nm,0.7s								
STAL	**STALIGIAL**	**83.52**	**327**	IAmb	IAmb	08 41 09.8			
	comp=Z,8.5nm,0.7s								
EIL	**Elat**	**83.59**	**303**	LR	LR	09 25 20.4			
	comp=Z,26nm,18.4s,baz=349,slow=41								
FETA	**Feichten**	**83.72**	**329**	*e* P	**P**	**08 41 11.8**	**+0.3**		
	comp=Z,2.7nm,0.6s								
DAVA	**Damuels**	**83.84**	**330**	*e* P	**P**	**08 41 12.2**	**+0.1**		
	comp=Z,11nm,0.8s								
FUORN	**Ofenpass-Fuorn**	**84.23**	**329**		**P**	**08 41 14.4**	**+0.2**		
FUORN				IAmb	IAmb	08 41 15.9			
	comp=Z,25nm,1.2s								
DAVOX	**Davos/Dischmat**	**84.26**	**329**	LR	LR	09 20 34.9			
	comp=Z,26nm,19.3s,baz=253,slow=37								
PPT2	**Papeete2**	**85.19**	**117**	*e* LR	LR	09 08 08.7			
	comp=Z,114nm,28.5s								
PPT2				*e* LR	LR	09 08 13.4			
	comp=Z,84nm,29.2s								
TXAR	**Lajitas Array**	**88.31**	**53**	P	**P**	**08 41 35.0**	**+0.7**		
	comp=Z,0.2nm,0.5s,baz=285,slow=3.2,SNR=8.0								
TXAR				pP	**pP**	**08 41 49.7**	**+0.4**		
	comp=Z,0.4nm,0.8s,baz=274,slow=2.8,SNR=3.6								
TXAR				sP	**sP**	**08 41 54.7**	**-0.3**		
	comp=Z,0.3nm,0.6s,baz=300,slow=3.0,SNR=2.6								
	comp=Z,0.2nm,0.5s								
TXAR	**Lajitas Array**	**88.31**	**53**	P	**P**	**08 41 35.0**	**+0.7**		
CCM	**Cathedral Cave**	**88.76**	**39**	P	**P**	**08 41 36.9**	**+0.8**		
CCM				IAmb	IAmb	08 41 52.1			
	comp=Z,3.8nm,0.8s								
CCM	**Cathedral Cave**	**88.76**	**39**	P	**P**	**08 41 36.9**	**+0.8**		
CCM				pmax	pmax				
	comp=Z,4.0nm,0.8s								
ESDC	**Sonseca Array**	**95.48**	**334**	LR	LR	09 33 47.4			
	comp=Z,51nm,18.9s,baz=7.5,slow=41								
QSPA	**South Pole Qui**	**129.05**	**180**	PKP	**PKiKP**	**08 47 49.9**	**+0.2**		
	comp=Z,0.4nm,0.5s,baz=342,slow=3.2,SNR=8.4								
SNAA	**Sanae**	**143.08**	**198**	PKhKP	PKPpre	08 48 10.7			
	comp=Z,0.9nm,0.5s,baz=189,slow=1.7,SNR=10								
LPAZ	**La Paz**	**145.04**	**58**	PKPbc	**PKPbc**	**08 48 20.1**	**-0.1**		
	comp=Z,0.7nm,0.6s,baz=241,slow=2.3,SNR=4.2								
SIV	**San Ignacio**	**149.17**	**48**	PKPbc	**PKPdf**	**08 48 28.4**	**+1.5**		
	comp=Z,1.6nm,0.7s,baz=292,slow=2.7,SNR=3.8								

*ASRS **25** 08:45:05.0±1.0, 53.61N×87.88E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 25 08:45:09.0±2.9, 53.56N×87.80E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=24.8km s-min=17.0km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**283**	I	I	08 57 50.0	
	baz=98,slow=335,SNR=5.0						
ZALV	**Zalesovo Beam**	**1.81**	**283**	Pg	Pn	08 45 41.4	-0.1
	2.0nm,0.3s,baz=101,slow=15,SNR=21						
ZALV				Lg	Lg	08 46 06.8	
	1.9nm,0.3s,baz=102,slow=26,SNR=2.8						
KURBB	**Kurchatov Arra**	**6.43**	**246**	Pn	Pn	08 46 45.8	+1.0
	0.2nm,0.3s,baz=61,slow=14,SNR=9.3						
KURBB				Sn	Sn	08 47 57.3	-1.6
	0.1nm,0.3s,baz=60,slow=26,SNR=5.7						
KURBB				Lg	Lg	08 48 33.5	
	baz=62,slow=33						
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**7.64**	**210**	Pn	Pn	08 47 02.8	+1.2
	0.2nm,0.3s,baz=26,slow=14,SNR=5.4						
MKAR				Lg	Lg	08 49 09.7	
	0.1nm,0.3s,baz=31,slow=29,SNR=3.7						
	0.2nm,0.3s						

*IDC **25** 09:05:23.9±3.5, 54.27N×87.21E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=31.0km s-min=19.9km az=53.0*

ASRS 25 09:05:22.0±1.1, 54.21N×87.05E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**260**	I	I	09 14 50.0	
	baz=77,slow=330,SNR=4.7						
ZALV	**Zalesovo Beam**	**1.34**	**260**	Pg	Pb	09 05 50.0	+2.0
	0.7nm,0.3s,baz=78,slow=14,SNR=6.1						
ZALV				Lg	Lg	09 06 10.0	
	1.9nm,0.3s,baz=76,slow=30,SNR=7.7						
KURBB	**Kurchatov Arra**	**6.33**	**239**	Pn	Pn	09 07 00.2	+3.7
	0.1nm,0.3s,baz=53,slow=13,SNR=3.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.02**	**204**	Pn	Pn	09 07 24.4	+4.7
	0.1nm,0.3s,baz=22,slow=13,SNR=1.6						
	0.2nm,0.4s						

IDC 25 09:07:08.1±2.0, 3.48N×127.98E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=173.3km s-min=20.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.10**	**165**	P	P	09 12 25.2	-0.4
	0.3nm,0.5s,baz=345,slow=10,SNR=8.6						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**27.60**	**168**	P	P	09 12 57.8	+0.5
	0.3nm,0.8s,baz=351,slow=8.9,SNR=4.1						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**58.47**	**325**	P	P	09 17 06.8	+0.8
	1.1nm,0.6s,baz=115,slow=8.3,SNR=14						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**62.62**	**327**	P	P	09 17 34.0	-0.3
	1.6nm,0.8s,baz=123,slow=5.8,SNR=14						
	1.6nm,0.8s						
BVAR	**Borovoye Array**	**68.21**	**327**	P	P	09 18 09.6	-0.8
	0.6nm,0.5s,baz=116,slow=5.0,SNR=4.0						
	0.6nm,0.5s						

*IDC **25** 09:14:56.4±1.0, 15.90S×173.59W, h0km, mb3.6/5, mbtmp3.6/5, MS3.4/2, Error ellipse: s-maj=45.5km s-min=26.7km az=136.0*

ISC 25 09:15:06.3±1.0, 15.85S±0.3×173.7W±0.3, h79km, n9, σ0s48/8, mb3.5/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**19.78**	**249**	LR	LR	09 25 36.3	
	comp=Z,35nm,18.9s,baz=71,slow=32						
WRA	**Warramunga Arr**	**49.47**	**257**	P	**P**	**09 23 48.8**	**-0.2**
	0.2nm,0.5s,baz=95,slow=6.9,SNR=7.0						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**49.71**	**252**	P	**P**	**09 23 50.8**	**0.0**
	1.1nm,0.8s,baz=87,slow=8.6,SNR=15						
ASAR				PcP	**PcP**	**09 25 11.9**	**+0.9**
	0.2nm,0.7s,baz=91,slow=4.2,SNR=1.7						
	1.1nm,0.8s						
GUMO	**Guam**	**50.29**	**303**	LR	LR	09 40 42.4	
	comp=Z,127nm,21.4s,baz=8.0,slow=31						
QSPA	**South Pole Qui**	**74.27**	**180**	P	**P**	**09 26 34.7**	**-0.1**
	1.2nm,0.8s,baz=37,slow=5.1,SNR=6.2						
	1.2nm,0.8s						
PDAR	**Pinedale Array**	**82.74**	**42**	P	**P**	**09 27 22.1**	**+0.2**
	0.4nm,0.7s,baz=198,slow=4.2,SNR=5.2						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**82.87**	**11**	P	**P**	**09 27 21.6**	**-0.1**
	0.3nm,0.6s,baz=210,slow=5.3,SNR=8.1						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**146.26**	**320**	PKPbc	**PKiKP**	**09 34 41.0**	**-0.3**
	1.1nm,0.7s,baz=48,slow=1.8,SNR=4.9						
GERES	**GERESS Array B**	**146.47**	**351**	PKPbc	**PKiKP**	**09 34 41.1**	**-0.3**
	1.0nm,0.7s,baz=359,slow=5.3,SNR=4.3						

*IDC **25** 09:27:39.6±1.6, 27.30S×113.27W, h0km, mb3.7/4, mbtmp3.7/4, MS3.9/34, Error ellipse: s-maj=49.8km s-min=35.9km az=32.0*

*NEIC **25** 09:27:50.9±1.5, 26.35S±0.2×112.18W±0.09, h10km±2km, mb4.7/22, Error ellipse: s-maj=29.8km s-min=5.3km az=206.0*

ISC 25 09:27:45.8±1.4, 26.75S±0.2×112.8W±0.2, h10km, n73, σ1s64/31, mb4.6/16, MS3.9/33, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**3.13**	**99**	LR	LR	09 29 38.1	
	comp=Z,2μm,18.1s,baz=254,slow=34						
H03N2	**Juan Fernandez**	**29.99**	**111**	T	T	10 05 26.5	
	baz=277,slow=74,SNR=158						
H03N3	**Juan Fernandez**	**30.00**	**111**	T	T	10 05 34.1	
	baz=277,slow=74,SNR=170						
H03N1	**Juan Fernandez**	**30.01**	**111**	T	T	10 05 29.3	
	baz=277,slow=74,SNR=238						
TAOE	**Nuku Hiva Isla**	**31.38**	**299**	*e* LR	LR	09 41 25.0	
	294nm,25.1s						
PPT2	**Papeete2**	**35.14**	**277**	*e* LR	LR	09 43 30.4	
	620nm,26.8s						
PPT2				*e* LR	LR	09 43 31.8	
	439nm,28.5s						
NNA	**Nana**	**36.78**	**74**	LR	LR	09 46 18.0	
	comp=Z,223nm,19.3s,baz=185,slow=30						
BO04	**La Punta**	**36.94**	**112**	P	**P**	**09 34 56.3**	**+1.1**
BO04				IAmb	IAmb	09 35 14.3	
	comp=Z,19nm,1.4s						
CO03	**El Pedregal**	**37.00**	**107**	P	**P**	**09 34 56.7**	**+1.0**
ATAH	**Atahualpa**	**38.02**	**66**	LR	LR	09 46 55.6	
	comp=Z,195nm,19.5s,baz=229,slow=30						
COHC	**C

NVAR				LR	LR	10 00 31.1		
	comp=Z,125nm,18.9s,baz=182,slow=30							
	comp=Z,0.8nm,0.8s							
MDP	**Montagnes des**	**66.16**	**71**	LR	LR	10 03 52.8		
	comp=Z,58nm,21.8s,baz=222,slow=32							
RDMU	**Red Mountain**	**66.95**	**3**	P	**P**	**09 38 37.1**	**-1.5**	
RDMU				IAmb	IAmb	09 38 47.3		
	comp=Z,5.5nm,0.9s							
ELK	**Elko**	**67.09**	**358**	LR	LR	10 03 03.2		
	comp=Z,130nm,18.2s,baz=178,slow=31							
YBH	**Yreka Blue Hor**	**68.66**	**352**	LR	LR	10 02 43.6		
	comp=Z,8.7nm,18.4s,baz=213,slow=30							
WVOR	**Wild Horse Val**	**68.95**	**355**	P	**P**	**09 38 54.2**	**+3.1**	
WVOR				IAmb	IAmb	09 38 56.3		
	comp=Z,5.6nm,1.3s							
PDAR	**Pinedale Array**	**69.14**	**3**	P	**P**	**09 38 51.2**	**-1.2**	
	comp=Z,0.4nm,0.9s,baz=204,slow=6.2,SNR=5.1							
PDAR				LR	LR	10 03 34.3		
	comp=Z,46nm,18.2s,baz=206,slow=31							
	comp=Z,0.4nm,0.9s							
HLID	**Hailey**	**69.89**	**359**	P	**P**	**09 38 59.6**	**+2.7**	
HLID				IAmb	IAmb	09 39 06.0		
	comp=Z,4.5nm,1.1s							
G08A	**Pilot Rock**	**71.82**	**355**	P	**P**	**09 39 08.8**	**+0.2**	
DZM	**Mont Dzumac**	**72.54**	**254**	*e*LR	LR	10 00 54.8		
	comp=Z,231nm,26.8s							
DZM	**Mont Dzumac**	**72.54**	**254**	LR	LR	10 02 54.0		
	comp=Z,118nm,19.8s,baz=138,slow=29							
ULM	**Lac du Bonnet**	**78.02**	**11**	LR	LR	10 11 00.8		
	comp=Z,30nm,18.0s,baz=292,slow=33							
MAW	**Mawson**	**85.97**	**178**	LR	LR	10 16 55.6		
	comp=Z,130nm,18.3s,baz=160,slow=35							
STKA	**Stephens Creek**	**88.30**	**235**	LR	LR	10 12 57.7		
	comp=Z,71nm,18.0s,baz=44,slow=31							
YKA	**Yellowknife Ar**	**88.85**	**359**	LR	LR	10 15 31.7		
	comp=Z,107nm,21.9s,baz=216,slow=32							
H11S2	**WAKE ISLAND Hy**	**90.03**	**291**	T	T	11 20 09.4		
	baz=119,slow=75							
H11S1	**WAKE ISLAND Hy**	**90.04**	**291**	T	T	11 20 13.1		
	baz=119,slow=75							
H11S3	**WAKE ISLAND Hy**	**90.04**	**291**	T	T	11 20 12.1		
	baz=119,slow=75							
H11N3	**WAKE ISLAND Hy**	**90.43**	**292**	T	T	11 20 38.8		
	baz=120							
H11N1	**WAKE ISLAND Hy**	**90.44**	**292**	T	T	11 20 44.1		
	baz=120							
H11N2	**WAKE ISLAND Hy**	**90.45**	**292**	T	T	11 20 42.7		
	baz=120							
KDAK	**Kodiak Island**	**90.48**	**340**	LR	LR	10 12 18.4		
	comp=Z,91nm,18.3s,baz=160,slow=30							
PMG	**Port Moresby**	**94.68**	**257**	LR	LR	10 16 25.1		
	comp=Z,47nm,19.4s,baz=162,slow=31							
ILAR	**Eielson Array**	**94.91**	**346**	LR	LR	10 15 00.2		
	comp=Z,48nm,21.0s,baz=110,slow=30							
ASAR	**Alice Springs**	**98.42**	**238**	LR	LR	10 23 38.4		
	comp=Z,68nm,18.3s,baz=141,slow=34							
WRA	**Warramunga Arr**	**100.13**	**242**	LR	LR	10 20 58.5		
	comp=Z,50nm,18.6s,baz=128,slow=32							
BRTR	**Keskin Array B**	**149.22**	**56**	PKPbc	**PKPdf**	**09 47 31.1**	**+0.4**	
	comp=Z,1.3nm,0.9s,baz=264,slow=3.1,SNR=5.3							
CMAR	**Chiang Mai Arr**	**149.64**	**261**	PKPbc	**PKPdf**	**09 47 30.3**	**-1.5**	
	comp=Z,0.5nm,0.4s,baz=177,slow=0.7,SNR=6.0							
BVAR	**Borovoye Array**	**153.55**	**356**	PKPab	**PKPab**	**09 47 53.9**	**-2.8**	
	comp=Z,0.3nm,0.3s,baz=24,slow=3.9,SNR=1.6							
KURBB	**Kurchatov Arra**	**154.54**	**343**	PKPab	**PKPab**	**09 47 58.5**	**-2.5**	
	comp=Z,0.2nm,0.3s,baz=23,slow=4.7,SNR=2.1							

*IDC **25** 09:29:32.5±0.5,34.°55N×141.°71E,h0km,mb4.4/26, mbtmp4.3/31,ML3.7/5,MS3.8/32,Error ellipse: s-maj=15.0km s-min=12.4km az=65.0*

*BJI **25** 09:29:32.8,34.°65N×141.°72E,h13km,mB4.6/8,mb4.6/41, Ms4.4/36,Ms7 4.2/35*

*JMA **25** 09:29:34.1±0.3,35.°1N×14.°2E±.°,h42km±3km,MD4.7/38, MW4.4/38,FAR SE OFF BOSO PEN*

*NIED **25** 09:29:34.1,34.°53N×141.°91E,h42km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.30; Mθθ-2.63; Mφφ3.93; Mrθ0.13; Mθφ-0.69; Mφr0.87; Fault plane solution: M₀3.44000×10¹⁵ NP1: φs309.00000°,δ77.00000°,λ-180.00000°. NP2: φs219.00000°,δ90.00000°,λ-13.00000°.*

*MOS **25** 09:29:34.2±1.5,34.°66N×141.°83E,h25km,mb4.8/29 Error ellipse: s-maj=9.9km s-min=5.6km az=113.5*

*NEIC **25** 09:29:34.2±1.6,34.°55N±0.°06×141.°7E±0.°1,h10km±1km, mb4.8/88,Error ellipse: s-maj=15.0km s-min=9.1km az=116.0*

ISC 25 09:29:34.2±0.7,34.°59N±0.°04×141.°79E±0.°04,h12km±3km, n243,⌀2°00/214,mb4.8/97,MS3.9/42,12C-13D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.67**	**276**	⇓P			**Pn**	**09 29 48.7**	**-0.3**
BSO2	**Boso 2**	**0.87**	**281**	*e*S			**Sn**	**09 30 03.8**	**-0.6**
BSO3	**Boso 3**	**1.07**	**282**	P			**Pn**	**09 29 55.1**	**+0.2**
BSO4	**Boso 4**	**1.26**	**289**	⇓P			**Pg**	**09 29 58.3**	**-0.2**
KTR	**Katsuura**	**1.33**	**295**	*e*P			**Pg**	**09 29 59.4**	**-0.4**
KTR				*e*S			**Sg**	**09 30 17.0**	**-0.2**
JKUC	**kamogawauchiur**	**1.43**	**294**	⇓P			**Pn**	**09 30 00.1**	**+0.1**
JKUC				⇓S			**Sb**	**09 30 18.9**	**+0.1**
JSMT	**Sammumatsuo**	**1.52**	**314**	*e*S			**Sb**	**09 30 21.3**	**-0.3**
JSMT	**Sammumatsuo**	**1.52**	**314**	A			A	09 30 21.3	
	comp=N,27nm,5.7s,comp=E,27nm,4.3s								
JMYK	**Miyake Tsubota**	**1.93**	**255**	P			**Pn**	**09 30 06.4**	**-0.4**
JMYK				*e*S			**Sn**	**09 30 30.3**	**-0.7**
JIM2	**Oshima 3**	**1.95**	**275**	P			**Pn**	**09 30 06.4**	**-0.7**
JMKN	**Mikurajimanish**	**1.95**	**250**	⇓P			**Pn**	**09 30 06.4**	**-0.7**
JMKN				⇓*e*S			**Sn**	**09 30 30.2**	**-1.3**
TOK	**Tokyo**	**1.99**	**304**	A			A	09 30 08.0	
	comp=N,17nm,5.2s,comp=E,27nm,5.2s								
JYT	**Yasato**	**2.09**	**322**	*e*S			**Sn**	**09 30 35.6**	**+0.6**
JHJ2	**Mitsune**	**2.20**	**229**				**Pn**	**09 30 09.4**	**-1.2**
JHJ2	**Mitsune**	**2.20**	**229**	P			**Pn**	**09 30 10.3**	**-0.3**
JHJ2	**Mitsune**	**2.20**	**229**	*e*P			**Pn**	**09 30 10.2**	**-0.3**
JHJ	**Hachijo jima 2**	**2.22**	**229**	Pn			**Pn**	**09 30 10.0**	**-0.8**
	comp=E,116nm,0.3s,baz=273,slow=21,SNR=71								
JHJ				Sn			**Sn**	**09 30 33.9**	**-4.3**
	comp=E,251nm,0.3s,baz=91,slow=23,SNR=8.2								
	comp=E,235nm,0.3s								
JHO	**Hitachi**	**2.25**	**334**	⇓P			**Pn**	**09 30 10.4**	**-0.9**
JHO				⇓*e*S			**Sn**	**09 30 37.6**	**-1.4**
JSG	**Sagara**	**2.97**	**273**				**Pn**	**09 30 21.2**	**+0.1**
JMM	**Marumori**	**3.37**	**346**				**Pn**	**09 30 26.1**	**-0.5**
JMM	**Marumori**	**3.37**	**346**	P			**Pn**	**09 30 26.1**	**-0.5**
JMM	**Marumori**	**3.37**	**346**	S			**Sn**	**09 31 04.0**	**-2.6**
MJAR	**Matsushiro Arr**	**3.51**	**305**				**Pn**	**09 30 29.6**	**+1.0**
MJAR	**Matsushiro Arr**	**3.51**	**305**	Pn			**Pn**	**09 30 29.2**	**+0.6**
	comp=E,2.1nm,0.3s,baz=110,slow=6.2,SNR=67								
MJAR				Sn			**Sn**	**09 31 09.8**	**-0.3**
	comp=E,2.0nm,0.3s,baz=93,slow=24,SNR=5.9								
	comp=E,19nm,0.5s								
MAJO	**Matsushiro**	**3.51**	**305**				**Pn**	**09 30 30.3**	**+1.6**
MAJO	**Matsushiro**	**3.51**	**305**	P			**Pn**	**09 30 29.6**	**+1.0**
MAJO	**Matsushiro**	**3.51**	**305**	P			**Pn**	**09 30 30.3**	**+1.6**
MJB9	**Matsu-Tunnel**	**3.52**	**305**				**Pn**	**09 30 31.2**	**+2.5**
JGF	**Kuroka**	**3.77**	**287**				**Pn**	**09 30 33.9**	**+1.7**
JGF	**Kuroka**	**3.77**	**287**	P			**Pn**	**09 30 33.4**	**+1.2**
INU	**Inuyama**	**3.99**	**282**				**Pn**	**09 30 36.5**	**+1.3**
INU	**Inuyama**	**3.99**	**282**	P			**Pn**	**09 30 36.6**	**+1.4**
JSD	**Sado**	**4.47**	**321**	P			**Pn**	**09 30 42.0**	**+0.2**
JTM	**Tenmabayashi**	**6.22**	**355**				**Pn**	**09 31 05.0**	**-0.7**
JTM	**Tenmabayashi**	**6.22**	**355**	P			**Pn**	**09 31 05.2**	**-0.5**
JTM	**Tenmabayashi**	**6.22**	**355**	S			**Sn**	**09 32 13.7**	**-3.0**
JMN	**Monobe**	**6.61**	**265**				**Pn**	**09 31 14.5**	**+3.2**
JMN	**Monobe**	**6.61**	**265**	P			**Pn**	**09 31 12.8**	**+1.5**
ERM	**Erimo**	**7.50**	**8**	Pn			**Pn**	**09 31 21.2**	**-2.1**
ERM				Sn			**Sn**	**09 32 42.6**	**-5.6**
ERM	**Erimo**	**7.50**	**8**	P			**Pn**	**09 31 20.3**	**-3.0**
ERM	**Erimo**	**7.50**	**8**	S			**Sn**	**09 32 43.2**	**-5.0**
ERM	**Erimo**	**7.50**	**8**	P			**Pn**	**09 31 21.2**	**-2.1**
ERM								09 32 42.6	
JEM	**Erimo**	**7.50**	**8**	P			**Pn**	**09 31 20.1**	**-3.2**
JEM	**Erimo**	**7.50**	**8**	S			**Sn**	**09 32 43.5**	**-4.7**
JNU	**Nakatsue**	**9.19**	**264**	Pn			**Pn**	**09 31 46.4**	**-0.2**
	comp=E,0.9nm,0.3s,baz=216,slow=3.2,SNR=6.3								
	comp=E,5.6nm,0.8s								
ASAJ	**Asahikawa**	**9.54**	**4**	Pn			**Pn**	**09 31 48.0**	**-3.3**
	comp=E,3.0nm,0.3s,baz=224,slow=12,SNR=18								
ASAJ				Sn			**Sn**	**09 33 30.5**	**-7.9**
	comp=E,0.8nm,0.3s,baz=217,slow=15,SNR=1.3								
ASAJ	**Asahikawa**	**9.54**	**4**	P			**Pn**	**09 31 48.7**	**-2.6**
JKA	**Kamikawa-asahi**	**9.54**	**4**				**Pn**	**09 31 48.7**	**-2.6**
RUSJ	**Misakicho**	**9.87**	**15**	*e*P			**Pn**	**09 31 53.8**	**-2.1**
YUK	**Yuzh-Kuril'sk**	**9.95**	**17**	P			**Pn**	**09 31 54.8**	**-2.1**
YUK				*e*S			**Sn**	**09 33 40.4**	**-8.0**
TEY	**Ternei**	**11.17**	**341**	*e*P			**Pn**	**09 32 17.2**	**+3.6**
KSRS	**Korea Array**	**11.59**	**288**	Pn			**Pn**	**09 32 20.7**	**+1.3**
	comp=E,0.3nm,0.3s,baz=101,slow=14,SNR=16								
	comp=E,3.0nm,0.8s								
TJN	**Taejon**	**11.90**	**283**	⇑*e*P			**Pn**	**09 32 23.1**	**-0.5**
USRK	**Ussuriysk Ar.**	**12.22**	**325**	Pn			**Pn**	**09 32 27.9**	**-0.2**
	comp=E,0.5nm,0.3s,baz=134,slow=12,SNR=4.9								
	comp=E,3.7nm,0.8s								
YSS	**Yuzhno-Sakhali**	**12.38**	**3**				**Pn**	**09 32 28.3**	**-1.9**
YSS	**Yuzhno-Sakhali**	**12.38**	**3**	*e*P			**Pn**	**09 32 28.2**	**-1.9**
YSS				*e*S			**Sn**	**09 34 39.8**	**-8.1**
YSS				pmax	pmax				
	comp=Z,90nm,0.8s								
YSS				MLR	MLR				
	comp=Z,400nm,17.0s								
JOW	**Kunigami**	**13.95**	**240**	LR	LR			09 38 42.0	
	comp=Z,128nm,18.6s,baz=125,slow=40								
BNX	**BinXian**	**15.63**	**320**	⇑P			**Pn**	**09 33 13.5**	**-0.7**
BNX				pmax	pmax				
	comp=Z,9.0nm,1.1s								
CN2	**Changchun**	**15.63**	**311**	P			**Pn**	**09 33 14.5**	**+0.2**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CN2				LR	LR				
	comp=Z,600nm,10.0s								
CN2				LR	LR				
	comp=Z,600nm,10.0s								
CN2				LR	LR				
	comp=Z,400nm,17.0s								
TYV	**Tymovskoe**	**16.28**	**2**	*e*P			**P**	**09 33 32.1**	**+6.6**
TYV				pmax	pmax				
	comp=Z,24nm,0.9s								
TYV				pmax	pmax				
	comp=Z,700nm,3.6s								
DL2	**Dalian**	**16.72**	**291**	P			**Pn**	**09 33 28.5**	**+0.3**
DL2				S			**Sn**	**09 36 37.8**	**+4.0**
DL2				pmax	pmax				
	comp=Z,19nm,1.1s								
DL2				pmax	pmax				
	comp=Z,180nm,8.4s								
DL2				LR	LR				
	comp=Z,890nm,18.5s								
DL2				LR	LR				
	comp=Z,760nm,17.1s								
DL2				LR	LR				
	comp=Z,1μm,13.3s								
SSE	**Sheshan**	**17.66**	**264**	P			**Pn**	**09 33 39.3**	**-0.7**
SSE				S			**Sn**	**09 36 56.8**	**+0.2**
SSE				pmax	pmax				
	comp=Z,13nm,0.6s								
SSE				pmax	pmax				
	comp=Z,58nm,3.7s								
SSE				LR	LR				
	comp=Z,340nm,14.8s								
SSE				LR	LR				
	comp=Z,210nm,14.6s								
HEH	**HeiHe**	**18.86**	**330**	*e*P			**Pn**	**09 34 01.5**	**+6.9**
HEH				LR	LR				
	comp=N,430nm,14.6s								
HEH				LR	LR				
	comp=E,820nm,15.6s								
HEH				LR	LR				
	comp=Z,660nm,14.7s								
NJ2	**Nanjing**	**19.33**	**269**	*e*P			**Pn**	**09 33 59.8**	**-0.6**
NJ2				pmax	pmax				
	comp=Z,6.0nm,0.7s								
NJ2				LR	LR				
	comp=Z,1μm,15.3s								
NJ2				LR	LR				
	comp=Z,490nm,13.6s								
NJ2				LR	LR				
	comp=Z,250nm,11.8s								
YHNB	**Yeheng**	**20.28**	**246**	P			**P**	**09 34 07.8**	**-2.0**
GUMO	**Guam**	**21.09**	**172**	P			**P**	**09 34 19.0**	**+0.4**
	comp=Z,39nm,0.6s,baz=3.5,slow=19,SNR=5.4								
	comp=Z,39nm,0.6s								
GUMO	**Guam**	**21.09**	**172**	P			**P**	**09 34 19.0**	**+0.4**
TPUB	**Ta-pu**	**21.62**	**244**	P			**P**	**09 34 21.4**	**-2.9**
PETK	**Petropavlovsk-**	**21.69**	**27**	LR			LR	09 42 28.6	
	comp=Z,68nm,21.9s,baz=200,slow=36								
ZEA	**Zeya**	**21.72**	**336**	*e*P			**P**	**09 34 25.7**	**+0.6**
ZEA				pmax	pmax				
	comp=E,10.0nm,0.9s								
ZEA				pmax	pmax				
	comp=N,20nm,0.7s								
ZEA				pmax	pmax				
	comp=Z,30nm,0.8s								
HNS	**HongShan**	**22.07**	**285**	⇓P			**P**	**09 34 32.5**	**+3.6**
HNS				LR	LR				
	comp=Z,690nm,14.5s								
HNS				LR	LR				
	comp=Z,410nm,16.1s								
HNS				LR	LR				
	comp=Z,560nm,13.1s								
WHN	**Wuhan**	**23.44**	**268**	P			**P**	**09 34 37.0**	**-6.4**
WHN				pmax	pmax				
	comp=Z,30nm,0.5s								
HHC	**Hu-ho-hao-te**	**24.64**	**294**	*e*P			**P**	**09 34 53.8**	**-0.9**
HHC				S			**S**	**09 39 13.8**	**-2.1**
HHC				pmax	pmax				
	comp=Z,12nm,0.6s								
HHC				pmax	pmax				
	comp=Z,95nm,5.9s								
HHC				LR	LR				
	comp=Z,490nm,17.4s								
HHC				LR	LR				
	comp=Z,290nm,15.4s								
HHC				LR	LR				
	comp=Z,270nm,16.3s								
MA2	**Magadan**	**25.69**	**11**	LR			LR	09 47 08.8	
	comp=Z,115nm,18.3s,baz=104,slow=41								
MA2	**Magadan**	**25.69**	**11**	⇑*e*P			**P**	**09 35 04.9**	**+1.0**
MA2				pmax	pmax				
	comp=Z,26nm,0.9s								
BTO	**Baotou**	**25.79**	**293**	*e*P			**P**	**09 35 05.0**	**-0.1**
BTO				pP			**sP**	**09 35 09.5**	**+2.1**
BTO				sP			**pwP**	**09 35 12.0**	**-2.8**
BTO				PP			**PnPn**	**09 35 45.5**	**+3.7**
BTO				pmax	pmax				
	comp=Z,15nm,0.8s								
BTO				pmax	pmax				
	comp=Z,370nm,4.5s								
BTO				LR	LR				
	comp=Z,1μm,15.7s								
BTO				LR	LR				
	comp=Z,890nm,16.1s								
BTO				LR	LR				
	comp=Z,750nm,15.9s								
H11N2	**WAKE ISLAND Hy**	**26.70**	**117**	T	T			10 03 18.0	
	baz=309,slow=75,SNR=14								
H11N1	**WAKE ISLAND Hy**	**26.70**	**117**	T	T			10 03 11.9	
	baz=309,slow=75,SNR=12								
H11N3	**WAKE ISLAND Hy**	**26.71**	**117**	T	T			10 03 24.7	
	baz=309,slow=75,SNR=13								
H11S3	**WAKE ISLAND Hy**	**27.33**	**120**	T	T			10 04 06.0	
	baz=312,slow=76,SNR=14								
H11S1	**WAKE ISLAND Hy**	**27.33**	**119**	T	T			10 04 06.7	
	baz=312,slow=76,SNR=15								
H11S2	**WAKE ISLAND Hy**	**27.35**	**120**	T	T			10 04 07.8	
	baz=312,slow=76,SNR=11								
YAK	**Yakutsk**	**28.52**	**348**	LR	LR			09 47 46.7	
	comp=Z,192nm,18.5s,baz=153,slow=38								
ULN	**Ulaanbaatar**	**29.04**	**308**	*ce*P			**P**	**09 35 35.8**	**+1.6**
ULN				pmax	pmax				
	comp=Z,9.0nm,1.3s								
SONM	**Songino Array**	**29.46**	**307**	P			**P**	**09 35 39.0**	**+1.0**
	comp=Z,9.9nm,1.2s,baz=107,slow=7.9,SNR=18								
SONM				PcP			**PcP**	**09 38 43.8**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=118,slow=2.1,SNR=3.8								
SONM				LR	LR			09 47 33.7	
	comp=Z,76nm,18.4s,baz=105,slow=37								
	comp=Z,9.9nm,1.2s								
LZH	**Lanzhou**	**30.86**	**284**	*e*P			**P**	**09 35 51.0**	**+0.4**
LZH				pP	sP			09 35 56.3	+3.4
LZH				pmax	pmax				
	comp=Z,22nm,1.2s								
LZH				LR	LR				
	comp=Z,440nm,13.1s								
LZH				LR	LR				
	comp=Z,400nm,13.1s								
LZH				LR	LR				
	comp=Z,450nm,12.7s								
LZDM	**Lanzhou Array**	**31.00**	**284**	LR			LR	09 49 28.2	
	comp=Z,221nm,19.4s,baz=220,slow=39								
ZAK	**Zakamensk**	**32.07**	**311**	*e*P			**P**	**09 36 01.1**	**+0.2**
ZAK				pmax	pmax				
	comp=Z,9.0nm,1.5s								
CD2	**Chengdu**	**32.07**	**274**	P			**P**	**09 36 00.0**	**-1.1**
CD2				S			**S**	**09 41 14.5**	**+1.4**
CD2				pmax	pmax				
	comp=Z,30nm,0.4s								
CD2				LR	LR				
	comp=Z,1μm,16.5s								
CD2				LR	LR				
	comp=Z,510nm,14.7s								
CD2				LR	LR				
	comp=Z,680nm,14.5s								
QIZ	**Qiongzhong**	**32.28**	**250**	P			**P**	**09 36 02.0**	**-1.0**
QIZ				PP			**PP**	**09 37 12.8**	**-3.1**
QIZ				S			**S**	**09 41 17.5**	**+1.1**
QIZ				pmax	pmax				
	comp=Z,190nm,2.5s								
QIZ				LR	LR				
	comp=Z,240nm,12.7s								
QIZ				LR	LR				
	comp=Z,260nm,15.7s								
QIZ				LR	LR				
	comp=Z,190nm,12.9s								
GTA	**Gaotai**	**33.65**	**291**	P			**P**	**09 36 15.3**	**+0.4**
GTA				pP			sP	09 36 18.8	+1.6
GTA				pmax	pmax				
	comp=Z,8.0nm,1.0s								
GTA				LR	LR				
	comp=Z,460nm,16.0s								
GTA				LR	LR				
	comp=Z,270nm,16.0s								
GTA				LR	LR				
	comp=Z,360nm,17.4s								
KMI	**Kunming**	**34.97**	**265**	P			**P**	**09 36 26.5**	**-0.1**
KMI				pmax	pmax				
	comp=Z,14nm,0.7s								
KMI				LR	LR				
	comp=Z,330nm,14.3s								
KMI				LR	LR				
	comp=Z,370nm,15.6s								
KMI				LR	LR				
	comp=Z,380nm,17.0s								
PZH	**PanZhiHua**	**35.24**	**268**	P			**P**	**09 36 29.0**	**+0.2**
KNGR	**Kungurtug, Tuv**	**35.72**	**310**	⇓*e*P			**P**	**09 36 34.3**	**+1.7**
KNGR				pmax	pmax				
	comp=Z,17nm,1.2s								
TIXI	**Tiksi**	**37.75**	**353**	LR	LR			09 54 14.9	
	comp=Z,180nm,18.0s,baz=202,slow=39								
GOMU	**GeErMu**	**38.04**	**286**	P			**P**	**09 36 52.0**	**-0.9**
GOMU				PcP			**PcP**	**09 39 07.3**	**-0.9**
GOMU				pmax	pmax				
	comp=Z,6.0nm,1.0s								
GOMU				LR	LR				
	comp=Z,260nm,18.8s								
GOMU				LR	LR				
	comp=Z,140nm,16.7s								
GOMU				LR	LR				
	comp=Z,170nm,18.7s								
TNCH	**TengChong**	**38.49**	**268**	P			**P**	**09 36 57.8**	**+1.3**
TNCH				sP			09 37 01.0		+2.1
TNCH				S			**S**	**09 42 53.5**	**+1.5**
TNCH				sS			ScP	09 42 57.8	+0.5
TNCH				pmax	pmax				
	comp=Z,84nm,2.7s								
TNCH				LR	LR				
	comp=Z,480nm,14.6s								
TNCH				LR	LR				
	comp=Z,310nm,14.5s								
TNCH				LR	LR				
	comp=Z,300nm,16.8s								
CHTO	**Chiang Mai**	**41.05**	**259**	P			**P**	**09 37 16.1**	**-1.6**
CHTO	**Chiang Mai**	**41.05**	**259**	P			**P**	**09 37 16.1**	**-1.6**
CHTO				pmax	pmax				
	comp=Z,4.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**41.24**	**258**	P			**P**	**09 37 18.3**	**-1.0**
	comp=Z,1.7nm,0.4s,baz=52,slow=8.4,SNR=7.9								
CMAR				LR	LR			09 57 31.2	
	comp=Z,107nm,18.4s,baz=60,slow=41								
	comp=Z,1.7nm,0.4s								
CMAR	**Chiang Mai Arr**	**41.24**	**258**	*ce*P			**P**	**09 37 18.5**	**-0.7**
CMAR				pmax	pmax				
	comp=Z,2.0nm,0.4s								
WMQ	**Urumqi**	**42.26**	**299**	*e*P			**P**	**09 37 28.8**	**+1.4**
ZAA0	**Zalesovo Array**	**43.81**	**314**	P			**P**	**09 37 37.9**	**-1.9**
ZALV	**Zalesovo Beam**	**43.81**	**314**	P			**P**	**09 37 38.1**	**-1.6**
ZALV	**Zalesovo Beam**	**43.81**	**314**	P			**P**	**09 37 40.0**	**+0.2**
	comp=Z,4.6nm,0.7s,baz=94,slow=6.7,SNR=17								
ZALV				PcP			**PcP**	**09 39 25.5**	**-0.6**
	comp=Z,3.9nm,0.6s,baz=113,slow=3.0,SNR=5.9								
	comp=Z,4.6nm,0.7s								
ZALV	**Zalesovo Beam**	**43.81**	**314**	*i* P			**P**	**09 37 40.0**	**+0.2**
ZALV				pmax	pmax				
	comp=Z,4.0nm,0.6s								
KAPI	**Kappang**	**44.53**	**212**	LR	LR			09 56 56.3	
	comp=Z,41nm,18.4s,baz=114,slow=37								
BRDH	**Bariadhala**	**45.18**	**269**	LR	LR			10 00 29.1	
	comp=Z,195nm,18.9s,baz=91,slow=41								
MKAR	**Makanchi Array**	**45.71**	**304**	P			**P**	**09 37 55.0**	**0.0**
	comp=Z,2.9nm,0.7s,baz=90,slow=9.8,SNR=23								
	comp=Z,2.9nm,0.7s								
MKAR	**Makanchi Array**	**45.71**	**304**	*ce*P			**P**	**09 37 55.2**	**+0.1**
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
MAKZ	**Makanchi**	**45.92**	**304**	P			**P**	**09 37 56.1**	**-0.6**
MAKZ	**Makanchi**	**45.92**	**304**	P			**P**	**09 37 56.1**	**-0.6**
MAKZ				pmax	pmax	

comp=Z,2.3nm,0.6s,baz=73,slow=6.3,SNR=2.2
BVAR LR LR 10 01 27.8
comp=Z,67nm,19.9s,baz=84,slow=36
comp=Z,4.9nm,0.9s
BORK Borovoye 52.50 314 *de*P **P 09 38 46.9 0.0**
BORK pmax pmax
comp=Z,8.0nm,1.0s
C27K Jago River 52.66 25 IAmb IAmb 09 39 01.9
comp=Z,9.1nm,0.7s
SCRK Sand Creek 52.70 32 P **P 09 38 48.9 +0.5**
SCRK IAmb IAmb 09 39 01.1
comp=Z,11nm,0.9s
GSI Gunungsitoli 52.84 241 P **P 09 38 49.5 -0.4**
J26L Joseph Creek 52.85 32 P 09 38 50.2 +0.8
L26K Log Cabin Wild 53.05 33 IAmb IAmb 09 39 04.5
comp=Z,9.5nm,0.8s
E27K Coleen River 53.45 27 IAmb IAmb 09 39 07.9
comp=Z,12nm,0.8s
D27M Malcolm River 53.64 26 IAmb IAmb 09 39 09.2
comp=Z,7.8nm,0.8s
F28M Old Crow 54.14 28 IAmb IAmb 09 39 12.9
comp=Z,7.3nm,0.8s
E28M Babbage River 54.19 26 P 09 39 01.8 +2.6
E28M IAmb IAmb 09 39 13.3
comp=Z,9.9nm,0.8s
I28M Miner Creek 54.31 30 P 09 39 02.5 +2.3
I28M IAmb IAmb 09 39 14.1
comp=Z,8.9nm,0.8s
WB0 Warramunga Arr 54.51 189 P **P 09 39 01.3 -0.7**
KK31 Karatay Array 54.64 302 P 09 39 03.2 +0.4
KK31 Karatay Array 54.64 302 P **P 09 39 03.2 +0.4**
KK31 pmax pmax
comp=Z,20nm,1.1s
KKAR Karatay Array 54.64 302 P 09 39 03.1 +0.3
KKAR Karatay Array 54.64 302 P **P 09 39 03.1 +0.3**
WRAB Tennant Creek 54.68 189 P **P 09 39 02.7 -0.4**
WRAB IAmb IAmb 09 39 03.7
comp=Z,15nm,1.1s
WRAB Tennant Creek 54.68 189 P **P 09 39 02.7 -0.4**
WRAB pmax pmax
comp=Z,15nm,1.2s
WR0 Warramunga Arr 54.68 188 P **P 09 39 02.5 -0.6**
WR0 IAmb IAmb 09 39 05.6
comp=Z,11nm,0.8s
WR8 Warramunga Arr 54.68 188 P **P 09 39 02.5 -0.6**
WR8 IAmb IAmb 09 39 05.6
comp=Z,12nm,0.9s
WRA Warramunga Arr 54.69 189 P **P 09 39 02.6 -0.7**
comp=Z,6.5nm,0.6s,baz=6.3,slow=7.6,SNR=123
comp=Z,6.5nm,0.6s
WRA Warramunga Arr 54.69 189 *i* P **P 09 39 02.7 -0.5**
WRA pmax pmax
comp=Z,7.0nm,0.6s
I29M Ogilvie Camp, 55.00 30 IAmb IAmb 09 39 18.5
comp=Z,9.2nm,0.9s
M29M Somme Creek 55.35 34 IAmb IAmb 09 39 22.1
comp=Z,7.6nm,0.8s
G30M tAoh Zraii Nji 55.62 28 P 09 39 09.8 +0.3
G30M IAmb IAmb 09 39 22.9
comp=Z,10.0nm,0.8s
F30M Barrier River 55.69 27 P 09 39 13.3 +3.3
F30M IAmb IAmb 09 39 24.6
comp=Z,14nm,0.9s
NIL Nilore 55.70 290 P 09 39 10.0 -0.6
NIL IAmb IAmb 09 39 12.2
comp=Z,8.6nm,0.6s
NIL Nilore 55.70 290 P **P 09 39 10.0 -0.6**
NIL pmax pmax
comp=Z,9.0nm,0.6s
I30M Mount Dempster 55.82 30 IAmb IAmb 09 39 24.7
comp=Z,14nm,1.1s
GAR Garm 56.05 297 P 09 39 12.3 -0.9
M30M Minto, Yukon 56.09 33 IAmb IAmb 09 39 27.0
comp=Z,6.3nm,0.8s
G31M Satah River 56.38 28 P P 09 39 16.5 +1.6
G31M IAmb IAmb 09 39 28.0
comp=Z,11nm,0.8s
INK Inuvik 56.43 26 IAmb IAmb 09 39 28.3
comp=Z,9.2nm,0.8s
F31M Tsiigehtchic 56.50 27 IAmb IAmb 09 39 29.5
comp=Z,9.4nm,0.8s
H31M Peel River 56.55 29 IAmb IAmb 09 39 29.7
comp=Z,11nm,0.8s
SIMJ Simiganj 57.13 297 P 09 39 19.7 -1.2
SIMJ IAmb IAmb 09 39 43.4
comp=Z,6.5nm,0.8s
AS31 Alice Springs 58.41 188 P **P 09 39 29.1 -0.6**
ASAR Alice Springs 58.41 188 P **P 09 39 29.4 -0.3**
comp=Z,2.9nm,0.8s,baz=354,slow=7.8,SNR=47
comp=Z,2.9nm,0.8s
ARTI Arti 58.51 320 P 09 39 30.1 0.0
ARTI Arti 58.51 320 P **P 09 39 29.8 -0.3**
comp=Z,4.7nm,0.4s,baz=83,slow=5.2,SNR=10
comp=Z,4.7nm,0.4s
ARTI Arti 58.51 320 *ce*P **P 09 39 30.2 +0.1**
ARTI pmax pmax
comp=Z,10.0nm,1.0s
KBL Kabul 58.60 293 P P 09 39 31.0 -0.4
KBL IAmb IAmb 09 39 47.8
comp=Z,8.7nm,1.1s
KBL Kabul 58.60 293 P **P 09 39 31.0 -0.4**
KBL pmax pmax
comp=Z,9.0nm,1.1s
MBWA Marble Bar 59.27 204 P 09 39 35.9 +0.2
MBWA IAmb IAmb 09 39 50.0
comp=Z,15nm,1.3s
C36M Paulatuk 59.52 24 P P 09 39 37.6 +0.8
PSA00 Pilbara Seismi 59.62 204 P P 09 39 37.2 -0.8
AB31 Akbulak array 59.77 311 P 09 39 38.9 0.0
AB31 IAmb IAmb 09 39 39.5
comp=Z,6.6nm,0.6s
AKTO Aktyubinsk 60.55 313 P P 09 39 43.8 -0.5
comp=Z,6.7nm,0.7s,baz=76,slow=10,SNR=19
AKTO LR LR 10 08 34.0
comp=Z,77nm,18.7s,baz=7.5,slow=39
comp=Z,6.7nm,0.7s
INKA Innaminka 62.00 181 P 09 39 54.1 -0.1
PALK Pallekele 62.17 259 LR LR 10 10 36.6
comp=Z,47nm,18.0s,baz=88,slow=40
KIRV Kirov 62.39 324 LR LR 10 09 12.3
comp=Z,91nm,18.1s,baz=47,slow=38
KIRV Kirov 62.39 324⇑ *e*P **P 09 39 57.2 +0.7**
SPITS Spitsbergen Ar 62.98 349 P **P 09 40 01.4 +1.2**
comp=Z,4.5nm,0.8s,baz=64,slow=16,SNR=2.6
SPITS LR LR 10 10 54.8
comp=Z,89nm,18.4s,baz=32,slow=39
comp=Z,4.5nm,0.8s
KLMR Klimovskoe 65.99 328 *e*P **P 09 40 16.1 -4.0**
KLMR pmax pmax
comp=Z,11nm,1.0s
STKA Stephens Creek 66.11 180 P P 09 40 20.2 -0.9
comp=Z,1.1nm,0.8s,baz=348,slow=12,SNR=3.3
comp=Z,1.1nm,0.8s
ARCES ARCESS Array B 66.39 340 LR LR 10 13 57.3
comp=Z,65nm,18.2s,baz=42,slow=40
B08A Colville Reser 70.36 44 IAmb IAmb 09 41 01.0
comp=Z,9.3nm,1.1s
FINES FINESS Array B 71.12 333 P P 09 40 51.8 -0.4
comp=Z,5.3nm,0.9s,baz=38,slow=7.5,SNR=6.1
comp=Z,5.3nm,0.9s
FINES FINESS Array B 71.12 333 *i* P **P 09 40 53.5 +1.4**
FINES pmax pmax
comp=Z,6.0nm,1.1s
BLKN Baker Lake 71.52 23 P 09 40 55.3 +0.8
KBZ Khabaz 72.74 311 P P 09 41 02.5 +0.4
comp=Z,5.4nm,0.9s,baz=68,slow=5.4,SNR=7.9
KBZ LR LR 10 14 16.8
comp=Z,73nm,20.8s,baz=14,slow=37
comp=Z,5.4nm,0.9s
KBZ Khabaz 72.74 311⇑ *e*P **P 09 41 03.1 +1.0**
KBZ pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 72.75 312 *e*P **P 09 41 02.2 -0.2**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,57nm,18.0s
BEKR Beckworth 74.10 52 P 09 41 10.4 -0.2
CMB Columbia Colle 75.05 54 P 09 41 16.1 +0.2
CMB Columbia Colle 75.05 54 P **P 09 41 16.1 +0.2**
CMB pmax pmax
comp=Z,6.0nm,0.9s
NVAR Mina Array Bea 76.22 53 P **P 09 41 24.1 +1.3**
comp=Z,1.2nm,0.6s,baz=300,slow=6.0,SNR=11
comp=Z,1.2nm,0.6s
AKASG Malin Array Be 76.42 323 P **P 09 41 23.3 -0.2**
comp=Z,1.8nm,0.5s,baz=50,slow=5.6,SNR=8.7
AKASG LR LR 10 18 32.1
comp=Z,105nm,18.7s,baz=54,slow=38
comp=Z,1.8nm,0.5s
HFS Hagfors 76.44 336 P **P 09 41 23.2 -0.2**
comp=Z,1.5nm,0.5s,baz=72,slow=2.3,SNR=12
HFS LR LR 10 19 18.0
comp=Z,83nm,18.4s,baz=26,slow=39
comp=Z,1.5nm,0.5s
NC204 NORSAR Array S 76.52 338 P **P 09 41 24.6 +0.7**
NC204 IAmb IAmb 09 41 24.9
comp=Z,8.4nm,0.8s
NB2 NORSAR Subarra 76.56 338 P **P 09 41 24.2 +0.1**
comp=Z,6.4nm,0.8s,baz=40,slow=5.9
NOA NORSAR Array B 76.56 338 P **P 09 41 24.4 +0.2**
comp=Z,1.8nm,0.6s,baz=39,slow=5.7,SNR=11
NOA LR LR 10 18 28.4
comp=Z,80nm,20.4s,baz=25,slow=38
comp=Z,1.8nm,0.6s
PDAR Pinedale Array 79.17 45 P **P 09 41 39.7 +0.4**
comp=Z,0.6nm,0.7s,baz=274,slow=2.2,SNR=4.7
comp=Z,0.6nm,0.7s
BORG Borgarnes 80.11 353 LR LR 10 18 17.5
comp=Z,14nm,21.1s,baz=303,slow=36
PFO Pinyon Flats O 80.15 56 LR LR 10 11 04.5
comp=Z,44nm,19.5s,baz=282,slow=31
KNB Kanab 80.59 51 P P 09 41 50.5 +3.5
KNB IAmb IAmb 09 42 01.0
comp=Z,8.2nm,1.0s
KNB Kanab 80.59 51 P **P 09 41 50.5 +3.5**
KNB pmax pmax
comp=Z,8.0nm,1.0s
BRTR Keskin Array B 80.71 312 P **P 09 41 48.1 +0.6**
comp=Z,0.6nm,0.6s,baz=75,slow=7.6,SNR=1.4
comp=Z,0.6nm,0.6s
MLR Mumtele Rosu 81.45 320 LR LR 10 21 07.7
comp=Z,138nm,18.2s,baz=50,slow=38
RAYN Ar Rayn 81.88 293 P 09 41 53.4 -0.4
RAYN Ar Rayn 81.88 293 P **P 09 41 53.4 -0.4**
RAYN pmax pmax
comp=Z,3.0nm,0.7s
ASF Jabal al Asfar 83.13 304 LR LR 10 23 52.2
comp=Z,22nm,18.8s,baz=313,slow=39
PPT2 Papeete2 83.28 117 *e*LR LR 10 07 54.2
comp=Z,36nm,22.5s
CLL Collm 83.37 330 *e*P **P 09 42 01.0 -0.1**
CLL *ex* x 09 42 10.0
MMAI Mount Meron Ar 83.63 306 P **P 09 42 03.3 +0.4**
comp=Z,0.7nm,0.3s,baz=42,slow=8.8,SNR=2.0
comp=Z,0.7nm,0.3s
KHC Kasperske Hory 84.79 329⇑ *e*P **P 09 42 08.0 -0.4**
KHC pmax pmax
comp=Z,4.0nm,1.7s
GERES GERESS Array B 84.95 329 P **P 09 42 09.4 +0.1**
comp=Z,0.4nm,0.3s,baz=34,slow=5.6,SNR=3.6
comp=Z,0.4nm,0.3s
EKA Eskdalemuir Ar 85.54 341 P **P 09 42 12.1 +0.1**
comp=Z,2.0nm,1.0s,baz=40,slow=6.9,SNR=2.5
comp=Z,2.0nm,1.0s
ANMO Albuquerque 85.93 50 LR LR 10 14 13.0
comp=Z,35nm,21.9s,baz=34,slow=31
ANMO Albuquerque 85.93 50⇑ *e*P **P 09 42 16.3 +1.7**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
TBI Tubuai 87.01 121 *e*LR LR 10 09 43.5
comp=Z,401nm,32.0s
SCHQ Schefferville 87.60 16 P **P 09 42 22.9 +0.8**
comp=Z,41nm,1.0s,baz=359,slow=7.1,SNR=5.7
SCHQ LR LR 10 22 13.9
comp=Z,409nm,22.0s,baz=184,slow=36
DAVOX Davos/Dischmat 88.18 329 LR LR 10 25 32.5
comp=Z,89nm,18.2s,baz=84,slow=38
LPIG La Paz 90.13 60 LR LR 10 25 21.7
comp=Z,32nm,18.1s,baz=230,slow=37
TXAR Lajitas Array 91.37 53 P **P 09 42 41.2 +0.8**
comp=Z,0.7nm,0.7s,baz=302,slow=3.4,SNR=12
TXAR LR LR 10 22 26.0
comp=Z,17nm,18.5s,baz=294,slow=35
comp=Z,0.7nm,0.7s
TKL Tuckaleechee C 98.19 36 LR LR 10 33 25.9
comp=Z,11nm,18.1s,baz=339,slow=39
ESDC Sonseca Array 99.62 334 LR LR 10 32 31.1
comp=Z,79nm,18.7s,baz=348,slow=38
QSPA South Pole Qui 124.33 180 PKP **PKiKP 09 48 33.5 +1.1**
comp=Z,1.6nm,0.6s,baz=328,slow=1.3,SNR=18
NNA Nana 138.35 67 *c i*PKIKP **PKPdf 09 49 01.2 +1.1**
NNA pmax pmax
comp=Z,46nm,2.5s
LPAZ La Paz 147.59 63 PKPbc **PKiKP 09 49 20.9 -0.9**
LPAZ La Paz 147.59 63 PKPbc **PKPbc 09 49 20.6 +0.8**
comp=Z,5.0nm,0.6s,baz=328,slow=2.0,SNR=23
LPAZ La Paz 147.59 63 PKP2 **PKiKP 09 49 20.9 -0.9**
VILB Vilhena 150.65 48 PKPab 09 49 39.3 +5.5
LCO Las Campanas 151.91 88 PKiKP 09 49 30.7 +0.7
LCO Las Campanas 151.91 88 PKIKP **PKiKP 09 49 30.7 +0.7**
GO04 Tololo Observa 152.20 90 PKiKP 09 49 30.7 +0.1
AC02 Maricunga 152.40 82 PKiKP 09 49 32.6 +1.2
AC02 **sPKPab 09 49 43.7 -0.1**

ASRS ***25*** *09:30:01.0±1.1, 54.˚05N×86.˚42E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 25 09:30:03.5±2.6, 54.˚03N×86.˚52E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=21.0km s-min=13.2km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**266**	I	I			09 37 10.0	
	baz=83,slow=329,SNR=2.0								
ZALV	**Zalesovo Beam**	**1.01**	**266**	Pg	Pg			09 30 21.5	-1.4
	0.6nm,0.3s,baz=85,slow=20,SNR=4.3								
ZALV				Lg	Lg			09 30 37.5	
	2.1nm,0.3s,baz=87,slow=30,SNR=12								
KURBB	**Kurchatov Arra**	**5.97**	**238**	Pn	Pn			09 31 33.6	+0.5
	0.1nm,0.3s,baz=56,slow=14,SNR=8.7								
KURBB				Lg	Lg			09 33 13.2	
	baz=48,slow=29,SNR=1.4								
	1.1nm,0.6s								
MKAR	**Makanchi Array**	**7.74**	**202**	Pn	Pn			09 31 58.7	+1.4
	0.2nm,0.3s,baz=22,slow=13,SNR=5.5								
	0.2nm,0.3s								

ASRS ***25*** *09:44:55.0±1.0, 53.˚65N×86.˚81E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 25 09:44:57.2±3.0, 53.˚73N×87.˚00E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=28.2km s-min=16.8km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**281**	I	I			09 53 50.0	
	baz=99,slow=325,SNR=3.8								
ZALV	**Zalesovo Beam**	**1.31**	**281**	Pg	Pg			09 45 20.7	-1.6
	0.7nm,0.3s,baz=103,slow=16,SNR=6.6								
ZALV				Lg	Lg			09 45 39.4	
	1.1nm,0.3s,baz=101,slow=29,SNR=6.3								
KURBB	**Kurchatov Arra**	**6.07**	**243**	Pn	Pn			09 46 29.1	+1.0
	0.1nm,0.3s,baz=61,slow=14,SNR=4.3								
	0.6nm,0.5s								
MKAR	**Makanchi Array**	**7.57**	**205**	Pn	Pn			09 46 50.0	+1.3
	0.1nm,0.3s,baz=21,slow=13,SNR=1.5								
	0.2nm,0.2s								

JMA ***25*** *09:51:13.2±0.2, 24.˚N±1.˚×12.˚2E±.˚, h33km±2km, MV3.0/10, TAIWAN REGION*

TAP ***25*** *09:51:13.5, 24.˚31N×121.˚87E, h25km, ML3.7, B*

ISC 25 09:51:13.4±0.9, 24.˚26N±0.˚01×121.˚90E±0.˚02, h18km±7km, n140, σ1§04/228, 2C-30D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.16**	**289**	*i*	P		**Pb**	**09 51 18.4**	**+1.0**
EHP				*i*	S		**Sb**	**09 51 22.5**	**+2.4**
EAHA	**Aohua**	**0.17**	**295**		P		**Pb**	**09 51 18.4**	**+0.8**
EAHA					S		**Sb**	**09 51 22.6**	**+2.2**
EWUT	**Wuta**	**0.22**	**328**	*i*	P		**Pb**	**09 51 18.9**	**+0.2**
EWUT				*e*	S		**Sb**	**09 51 22.8**	**+0.6**
ENA	**Nanau**	**0.22**	**318**	*i*	P		**Pb**	**09 51 18.9**	**+0.1**
ENA					S		**Sb**	**09 51 23.1**	**+0.6**
ETL	**Fush Village**	**0.28**	**249**		P		**Pb**	**09 51 20.3**	**+0.5**
ETL				*e*	S		**Sb**	**09 51 25.4**	**+1.3**
NACB	**Ninganchiao**	**0.29**	**253**		P		**Pb**	**09 51 20.1**	**-0.1**
NACB					S		**Sb**	**09 51 25.4**	**+0.7**
TWD	**Chiawan**	**0.33**	**237**	*e*	P		**Pb**	**09 51 21.1**	**+0.2**
TWD					S		**Sb**	**09 51 27.1**	**+1.3**
EOS2	**EOS2**	**0.34**	**62**	*i*	P		**Pb**	**09 51 22.0**	**+1.1**
EOS2				*e*	S		**Sn**	**09 51 29.2**	**-0.5**
TWC	**Suao**	**0.35**	**352**	*i*	P		**Pg**	**09 51 20.8**	**-0.1**
TWC				*e*	S		**Sg**	**09 51 25.8**	**-0.1**
EOS3	**EOS3**	**0.38**	**86**		P		**Pb**	**09 51 23.0**	**+1.4**
EOS3				*e*	S		**Sn**	**09 51 30.5**	**-0.2**
ETLH	**Xiulin Townshi**	**0.39**	**262**		P		**Pb**	**09 51 21.7**	**-0.2**
ETLH				*e*	S		**Sb**	**09 51 28.3**	**+0.7**
HWA	**Hwalien**	**0.39**	**224**	*e*	P		**Pn**	**09 51 22.9**	**-1.3**
HWA				*e*	S		**Sn**	**09 51 30.8**	**-0.4**
EOS4	**EOS4**	**0.40**	**110**	⇑	P		**Pn**	**09 51 23.2**	**-0.8**
NDS	**Dongshan**	**0.41**	**335**	*i*	P		**Pg**	**09 51 21.8**	**0.0**
NDS				*e*	S		**Sg**	**09 51 27.9**	**+0.4**
LATG	**Datong**	**0.44**	**309**	*i*	P		**Pg**	**09 51 22.3**	**-0.1**
LATG				*e*	S		**Sg**	**09 51 29.0**	**+0.5**
ETM	**Tongmen**	**0.48**	**232**	*e*	P		**Pb**	**09 51 23.5**	**+0.2**
ETM				*e*	S		**Sb**	**09 51 31.3**	**+1.3**
TEYL	**Yanliau Villag**	**0.48**	**216**		P		**Pb**	**09 51 23.8**	**+0.4**
TEYL				*e*	S		**Sn**	**09 51 32.1**	**-1.3**
ENTT	**Nioudou**	**0.49**	**321**	*i*	P		**Pg**	**09 51 23.1**	**-0.1**
ENTT				*e*	S		**Sg**	**09 51 30.4**	**+0.5**
NNSB	**Datong**	**0.50**	**290**	*i*	P		**Pg**	**09 51 23.5**	**-0.1**
NNSB				*e*	S		**Sb**	**09 51 30.7**	**-0.2**
TWE	**Neicheng**	**0.51**	**335**	*i*	P		**Pg**	**09 51 23.5**	**-0.1**
TWE				*e*	S		**Sg**	**09 51 31.0**	**+0.5**
NNS	**Nan Shan**	**0.52**	**290**		P		**Pg**	**09 51 23.7**	**-0.1**
NNS					S		**Sg**	**09 51 31.0**	**+0.1**
ILA	**Ilan**	**0.52**	**344**		P		**Pg**	**09 51 24.1**	**+0.2**
ILA				*e*	S		**Sb**	**09 51 32.2**	**+0.9**
SHUL	**Shoufeng**	**0.56**	**214**	*e*	P		**Pn**	**09 51 25.5**	**-1.1**
SHUL				*e*	S		**Sn**	**09 51 36.1**	**+0.6**
FUSB	**Fushanzhiwuyua**	**0.57**	**330**	*i*	P		**Pg**	**09 51 24.6**	**-0.3**
FUSB					S		**Sg**	**09 51 32.9**	**+0.2**
EGS		**0.58**	**3**		P		**Pg**	**09 51 25.0**	**0.0**
EGS				*e*	S		**Sb**	**09 51 33.8**	**+0.8**
WHF	**Hehuan Shan**	**0.59**	**259**	*i*	P		**Pb**	**09 51 25.4**	**-0.2**
WHF				*e*	S		**Sb**	**09 51 34.6**	**+0.8**
NTC	**Toucheng**	**0.59**	**354**	*e*	P		**Pg**	**09 51 25.3**	**+0.1**
NTC				*e*	S		**Sb**	**09 51 34.5**	**+1.1**
FUSS	**Fushou**	**0.60**	**269**		P		**Pb**	**09 51 25.7**	**+0.2**
FUSS				*e*	S		**Sb**	**09 51 34.6**	**+0.8**
ESL	**Shilin**	**0.62**	**224**	*e*	P		**Pb**	**09 51 25.6**	**-0.1**
YHNB	**Yeheng**	**0.63**	**310**		P		**Pg**	**09 51 25.6**	**-0.3**
YHNB	**Yeheng**	**0.63**	**310**	*i*	P		**Pg**	**09 51 25.6**	**-0.3**
YHNB					S		**Sg**	**09 51 34.2**	**-0.2**
NWLT	**Wulai**	**0.63**	**325**	*i*	P		**Pg**	**09 51 25.4**	**-0.5**
NWLT				*e*	S		**Sg**	**09 51 34.1**	**-0.3**
TEGC	**Jichi Village**	**0.64**	**211**	*e*	P		**Pb**	**09 51 26.5**	**+0.4**
TEGC				*e*	S		**Sn**	**09 51 38.8**	**+1.4**
NSK	**Sanguang**	**0.65**	**310**	*i*	P		**Pg**	**09 51 25.8**	**-0.5**
NSK				*e*	S		**Sg**	**09 51 34.7**	**-0.2**
TWT	**Tachien**	**0.66**	**270**		P		**Pb**	**09 51 26.9**	**+0.3**
TWT				*e*	S		**Sb**	**09 51 36.1**	**+0.5**
TDCB	**Techi**	**0.68**	**270**	*i*	P		**Pb**	**09 51 26.9**	**+0.1**
TDCB				*e*	S		**Sb**	**09 51 36.1**	**+0.1**
TIPB	**Shuangxi**	**0.71**	**354**		P		**Pg**	**09 51 27.2**	**-0.2**
TIPB					S		**Sg**	**09 51 36.8**	**-0.1**
WARBT	**Fenglin Townsh**	**0.72**	**221**	*e*	P		**Pb**	**09 51 27.1**	**-0.3**
OWD	**Renai**	**0.73**	**246**	*e*	P		**Pn**	**09 51 28.2**	**-0.8**
OWD				*e*	S		**Sn**	**09 51 38.5**	**-1.3**
EGFH	**Guangfu**	**0.73**	**217**	*e*	P		**Pn**	**09 51 28.2**	**-0.7**
TWB1	**Santiao Chiao**	**0.75**	**6**	*e*	P		**Pg**	**09 51 27.8**	**-0.3**
TWB1				*e*	S		**Sg**	**09 51 37.2**	**-0.4**
WUSB	**Renai**	**0.77**	**250**		P		**Pb**	**09 51 28.2**	**-0.1**
WUSB				*e*	S		**Sb**	**09 51 39.3**	**+0.9**
NHDH	**Xindian Distri**	**0.78**	**334**	*e*	P		**Pg**	**09 51 28.7**	**0.0**
NHDH				*e*	S		**Sg**	**09 51 38.9**	**-0.2**
NFF	**Wufeng Townshi**	**0.81**	**297**	*e*	P		**Pg**	**09 51 28.9**	**-0.3**
NFF				*e*	S		**Sg**	**09 51 39.8**	**-0.1**
TATO	**Taipei**	**0.81**	**332**		P		**Pg**	**09 51 29.1**	**-0.1**
TATO	**Taipei**	**0.81**	**332**		S		**Sb**	**09 51 40.3**	**+0.8**
NWF	**Wu-fen Shan**	**0.81**	**352**	*e*	P		**Pg**	**09 51 29.3**	**-0.1**
NWF				*e*	S		**Sg**	**09 51 40.5**	**+0.2**
WFSB	**Wu-fen Shan**	**0.81**	**352**	*e*	P		**Pg**	**09 51 29.3**	**-0.1**
WFSB				*e*	S		**Sg**	**09 51 40.4**	**+0.2**
SXI1	**Grass Mountain**	**0.83**	**358**	⇑	P		**Pg**	**09 51 29.5**	**-0.2**
SXI1				*e*	S		**Sg**	**09 51 41.1**	**+0.4**
NHY	**Taipei**	**0.83**	**339**	*e*	P		**Pb**	**09 51 30.1**	**+0.7**
NHY				*e*	S		**Sb**	**09 51 41.3**	**+1.0**
KSHI	**Guanxi Townshi**	**0.84**	**308**	*e*	P		**Pn**	**09 51 30.3**	**-0.1**
KSHI				*e*	S		**Sn**	**09 51 42.1**	**+0.1**
WHP	**Taichung City**	**0.87**	**271**	*e*	P		**Pb**	**09 51 30.4**	**+0.3**
WHP				*e*	S		**Sb**	**09 51 42.1**	**+0.6**
HGSD	**Ruisui**	**0.88**	**210**	*e*	P		**Pb**	**09 51 30.1**	**-0.1**
TNOU	**National Taiwa**	**0.89**	**352**	*e*	P		**Pb**	**09 51 30.6**	**+0.2**
TNOU				*e*	S		**Sb**	**09 51 42.1**	**+0.1**
LIOB	**Emei**	**0.90**	**296**	*e*	P		**Pg**	**09 51 30.8**	**-0.1**
LIOB				*e*	S		**Sg**	**09 51 42.7**	**0.0**
NSTT	**Nanjuang**	**0.90**	**294**	*e*	P		**Pg**	**09 51 30.8**	**-0.2**
NSTT				*e*	S		**Sb**	**09 51 42.5**	**+0.3**
EHYH	**Wanrong**	**0.92**	**214**	*e*	P		**Pb**	**09 51 30.4**	**-0.4**
EHY	**Hungye**	**0.92**	**215**	*e*	P		**Pb**	**09 51 30.4**	**-0.5**
WCS	**Beigang Elemen**	**0.93**	**258**	*e*	P		**Pg**	**09 51 31.2**	**-0.3**
YM01	**YM01**	**0.93**	**341**	*e*	P		**Pb**	**09 51 31.0**	**-0.1**
YM01				*e*	S		**Sb**	**09 51 43.5**	**+0.3**
TWS1	**Kuangyinshan**	**0.95**	**332**	*e*	P		**Pb**	**09 51 31.6**	**+0.3**
TWS1				*e*	S		**Sn**	**09 51 45.6**	**+0.7**
ZUZH	**Zhuzihu**	**0.95**	**340**	*e*	P		**Pb**	**09 51 31.2**	**-0.3**
ZUZH				*e*	S		**Sb**	**09 51 44.2**	**+0.2**
NCUH	**Zhongli**	**0.96**	**317**	*e*	P		**Pb**	**09 51 31.9**	**+0.4**
NCUH				*e*	S		**Sn**	**09 51 45.9**	**+0.6**
NCU	**National Centr**	**0.96**	**317**	*e*	P		Pb	09 51 26.9	-4.7
NCU				*e*	S		**Sb**	**09 51 41.5**	**-2.4**
YM08	**YM08**	**0.97**	**343**	*e*	P		Pb	09 51 27.2	-4.5
JYNG	**Yonagunijimaku**	**0.97**	**78**		P		**Pb**	**09 51 31.8**	**+0.1**
JYNG					S		**Sn**	**09 51 45.9**	**+0.5**
ANP	**Anpu**	**0.99**	**339**	*e*	P		**Pb**	**09 51 32.0**	**0.0**
SSLB	**Suanglung**	**0.99**	**242**		P		**Pg**	**09 51 32.0**	**-0.6**
SSLB	**Suanglung**	**0.99**	**242**		S		**Sn**	**09 51 46.3**	**+0.3**
SSLB	**Suanglung**	**0.99**	**242**	*e*	P		**Pb**	**09 51 31.7**	**-0.3**
SBCB	**Hsinchu**	**0.99**	**303**	*e*	P		**Pn**	**09 51 32.7**	**+0.3**
SBCB				*e*	S		**Sn**	**09 51 47.4**	**+1.4**
NTST	**Danshui**	**0.99**	**335**	*e*	P		**Pb**	**09 51 32.5**	**+0.4**
NTST				*e*	S		**Sn**	**09 51 46.6**	**+0.6**
SMLT	**Sun Moon Lake**	**0.99**	**248**	*e*	P		**Pn**	**09 51 32.4**	**-0.2**
SMLT				*e*	S		**Sn**	**09 51 49.7**	**+3.5**
HSN	**Hsinchu**	**1.01**	**303**	*e*	P		**Pb**	**09 51 32.1**	**-0.2**
HSN				*e*	S		**Sg**	**09 51 46.4**	**+0.2**
TYC	**Yuchr**	**1.02**	**250**	*e*	P		**Pn**	**09 51 32.7**	**-0.1**
TYC				*e*	S		**Sn**	**09 51 50.4**	**+3.7**
ECBN	**Changbin**	**1.03**	**204**	*e*	P		**Pb**	**09 51 32.0**	**-0.7**
YULB	**Yu-li**	**1.03**	**213**		P		**Pb**	**09 51 31.8**	**-0.9**
YULB	**Yu-li**	**1.03**	**213**	*e*	P		**Pb**	**09 51 31.7**	**-0.9**
YOJ	**Yonaguni jima**	**1.03**	**79**		P		**Pb**	**09 51 32.6**	**-0.1**
YOJ	**Yonaguni jima**	**1.03**	**79**	*i*	P		**Pb**	**09 51 32.6**	**-0.1**
YOJ				*e*	S		**Sg**	**09 51 47.0**	**0.0**
YOJ	**Yonaguni jima**	**1.03**	**79**		P		**Pb**	**09 51 32.7**	**0.0**
YOJ					S		**Sg**	**09 51 47.3**	**+0.4**
TWQ1	**Liyutan**	**1.03**	**275**	*e*	P		**Pn**	**09 51 34.2**	**+1.1**
NMLH	**Miaoli**	**1.05**	**285**	*e*	P		**Pg**	**09 51 34.0**	**+0.2**
NMLH				*e*	S		**Sn**	**09 51 48.8**	**+1.3**
NSY	**Sanyi**	**1.05**	**279**	*e*	P		**Pb**	**09 51 31.9

WDLH				*e*S	**Sg**	**09 51 58.4**	**+0.6**
EDH	**Donghe**	**1.40**	**203**	*e*P	**Pn**	**09 51 36.4**	**-1.7**
WCKO	**Fanlu**	**1.44**	**236**	*e*P	**Pg**	**09 51 41.0**	**-0.3**
WCKO				*e*S	**Sg**	**09 52 01.1**	**+1.0**
CHN2	**Minshiung**	**1.50**	**241**	*e*S	**Sg**	**09 52 04.1**	**+2.4**
STYH	**Taoyuan**	**1.50**	**224**	*e*P	**Pb**	**09 51 40.5**	**-0.2**
STYH				*e*S	**Sg**	**09 52 01.2**	**-0.7**
WTK	**Tuku**	**1.50**	**248**	*e*P	**Pg**	**09 51 41.4**	**-0.9**
WTK				*e*S	**Sg**	**09 52 01.9**	**0.0**
TPUB	**Ta-pu**	**1.51**	**231**	P	**Pg**	**09 51 41.4**	**-1.1**
TPUB	**Ta-pu**	**1.51**	**231**	*e*P	**Pb**	**09 51 41.0**	**+0.1**
TPUB				*e*S	**Sg**	**09 52 02.6**	**+0.5**
LONT	**Longtian**	**1.52**	**208**	*e*P	**Pn**	**09 51 39.3**	**-0.5**
CHY	**Chiayi**	**1.55**	**241**	*e*P	**Pg**	**09 51 42.2**	**-1.2**
CHY				*e*S	**Sg**	**09 52 03.7**	**+0.1**
WTP	**Ta-pu**	**1.55**	**230**	*e*P	**Pb**	**09 51 41.6**	**-0.1**
WTP				*e*S	**Sg**	**09 52 04.0**	**+0.3**
TWG	**Pinlang**	**1.62**	**208**	*e*P	**Pn**	**09 51 40.9**	**-0.3**
TWGBT	**Beinan**	**1.62**	**208**	P	**Pn**	**09 51 41.4**	**+0.2**
TWGBT	**Beinan**	**1.62**	**208**	*e*P	**Pn**	**09 51 40.7**	**-0.5**
LDUT	**Ludao**	**1.63**	**194**	*e*P	**Pn**	**09 51 37.9**	**-3.3**
TWK	**Hsinying**	**1.63**	**233**	*e*P	**Pb**	**09 51 42.8**	**-0.2**
TWK				*e*S	**Sg**	**09 52 04.9**	**-1.1**
SNST	**Tainan City**	**1.65**	**231**	*e*P	**Pg**	**09 51 47.3**	**+2.1**
SNST				*e*S	**Sg**	**09 52 11.1**	**+4.3**
WSF	**Szhu**	**1.66**	**248**	*e*S	**Sg**	**09 52 06.2**	**-0.8**
WSL	**Shuilin Townsh**	**1.70**	**245**	*e*P	**Pb**	**09 51 44.4**	**+0.2**
WSL				*e*S	**Sg**	**09 52 07.9**	**-0.4**
SCST	**Cishan**	**1.88**	**224**	*e*P	**Pb**	**09 51 46.9**	**-0.4**
SSD	**Sandimen**	**1.91**	**218**	*e*P	**Pb**	**09 51 47.2**	**-0.5**
SSD				*e*S	**Sg**	**09 52 12.4**	**-2.4**
JKRS	**Kuro-shima**	**1.92**	**90**	*e*P	**Pn**	**09 51 45.5**	**+0.3**
JKRS				S	**Sn**	**09 52 10.1**	**+1.1**
MASBT	**Mashibuluo**	**2.01**	**216**	*e*P	**Pn**	**09 51 47.7**	**+1.2**
MASBT				*e*S	**Sb**	**09 52 14.9**	**+0.6**
JIJ	**Ishigaki jima**	**2.05**	**87**	P	**Pn**	**09 51 46.7**	**-0.2**
JIJ				*e*S	**Sn**	**09 52 12.8**	**+0.7**
EAST	**Anshuo**	**2.10**	**208**	*e*P	**Pb**	**09 51 49.7**	**-1.4**
TAWH	**Dawu Township**	**2.13**	**206**	*e*P	**Pb**	**09 51 51.2**	**-0.2**
JISG	**Ishigakijimahi**	**2.22**	**81**	*e*S	**Sn**	**09 52 16.7**	**+0.4**
SCZT	**Fangliau**	**2.22**	**212**	*e*P	**Pb**	**09 51 51.4**	**-1.6**
SCZT				*e*S	**Sb**	**09 52 20.0**	**-0.1**
PNG	**Penghu**	**2.26**	**253**	*e*S	**Sn**	**09 52 17.3**	**+0.1**
PHUB	**P'eng-hu**	**2.26**	**251**	*e*P	**Pn**	**09 51 50.3**	**+0.4**
PHUB				*e*S	**Sn**	**09 52 17.9**	**+0.6**
LYUB	**Lan-yu**	**2.27**	**188**	*e*P	**Pn**	**09 51 47.9**	**-2.1**
WDGT	**Dungji**	**2.28**	**245**	*e*P	**Pn**	**09 51 50.0**	**-0.2**
WDGT				*e*S	**Sn**	**09 52 19.5**	**+1.6**
VWUC	**VWUC**	**2.35**	**289**	*e*P	**Pn**	**09 51 50.2**	**-0.9**
VWUC				*e*S	**Sn**	**09 52 17.1**	**-2.4**
VCHM	**Qimei**	**2.50**	**246**	*e*S	**Sn**	**09 52 24.7**	**+1.5**
TWKBT	**Hengchun**	**2.52**	**204**	*e*P	**Pn**	**09 51 55.1**	**+1.6**
MATB	**Ma-tsu**	**2.59**	**317**	*e*P	**Pn**	**09 51 52.4**	**-2.0**
PTMZ	**Houxiangcun**	**2.65**	**288**	*e*P	**Pn**	**09 51 54.0**	**-1.2**
PTMZ				*e*S	**Sn**	**09 52 25.1**	**-1.8**
XPSS	**Dashiqiu**	**3.08**	**330**	*e*P	**Pn**	**09 51 59.7**	**-1.5**
KNMB	**Chin-men Tao**	**3.21**	**274**	*e*P	**Pn**	**09 52 00.8**	**-2.2**
KNMB				*e*S	**Sn**	**09 52 38.2**	**-2.6**
AXDP	**Jialang**	**3.64**	**281**	*e*P	**Pn**	**09 52 07.9**	**-0.9**
AXDP				*e*S	**Sn**	**09 52 48.1**	**-3.2**

IDC 25 09:52:49.0±4.2, 64°.97S×175°.36E, h0km, mb3.6/3, mbtmp3.7/4, ML3.8/1, MS3.4/6, Error ellipse: s-maj=134.3km s-min=25.7km az=74.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**13.27**	**193**	Pn	Pn	09 55 57.9	-0.4
	0.4nm,0.3s,baz=31,slow=16,SNR=15						
VNDA				Sn	Sn	09 58 25.6	-0.7
	0.2nm,0.3s,baz=25,slow=16,SNR=2.4						
VNDA				LR	LR	09 58 45.9	
	comp=Z,33nm,21.9s,baz=40,slow=27 1.3nm,0.3s						
QSPA	**South Pole Qui**	**25.12**	**180**	P	P	09 58 15.6	+0.4
	1.0nm,0.9s,baz=41,slow=11,SNR=1.9 1.0nm,0.9s						
DZM	**Mont Dzumac**	**43.28**	**348**	LR	LR	10 17 14.5	
	comp=Z,27nm,18.4s,baz=232,slow=34						
SNAA	**Sanae**	**43.62**	**181**	LR	LR	10 17 37.7	
	comp=Z,54nm,21.0s,baz=231,slow=34						
H01W1	**Cape Leeuwin H**	**46.86**	**279**	T	T	10 53 02.1	
	baz=148,slow=76,SNR=115						
H01W2	**Cape Leeuwin H**	**46.86**	**279**	T	T	10 53 03.8	
	baz=148,slow=76,SNR=74						
H01W3	**Cape Leeuwin H**	**46.88**	**279**	T	T	10 53 03.4	
	baz=148,slow=76,SNR=93						
ASAR	**Alice Springs**	**49.19**	**307**	P	P	10 01 38.8	+0.2
	0.6nm,0.7s,baz=154,slow=7.3,SNR=9.2 0.6nm,0.7s						
WRA	**Warramunga Arr**	**52.50**	**309**	P	P	10 02 03.1	-0.4
	0.7nm,0.6s,baz=158,slow=6.7,SNR=9.5 0.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**57.24**	**300**	LR	LR	10 24 58.8	
	comp=Z,75nm,19.4s,baz=170,slow=34						
H03S2	**Juan Fernandez**	**66.07**	**119**	T	T	11 14 55.7	
	baz=205,slow=74,SNR=26						
H03S1	**Juan Fernandez**	**66.07**	**119**	T	T	11 14 57.1	
	baz=205,slow=74,SNR=22						
H03S3	**Juan Fernandez**	**66.08**	**119**	T	T	11 14 58.7	
	baz=205,slow=74,SNR=26						
H03N3	**Juan Fernandez**	**66.41**	**119**	T	T	11 15 22.2	
	baz=210,slow=79						
H03N2	**Juan Fernandez**	**66.42**	**119**	T	T	11 15 24.9	
	baz=210,slow=79						
H03N1	**Juan Fernandez**	**66.42**	**119**	T	T	11 15 30.3	
	baz=210,slow=79						
BOSA	**Boshof**	**83.87**	**206**	LR	LR	10 39 42.8	
	comp=Z,26nm,21.1s,baz=203,slow=34						
LBTB	**Lobatse**	**87.30**	**207**	LR	LR	10 43 01.9	
	comp=Z,33nm,18.5s,baz=174,slow=34						
H08S2	**Diego Garcia H**	**88.53**	**255**	T	T	11 45 35.4	
	baz=155,slow=76,SNR=27						
H08S1	**Diego Garcia H**	**88.54**	**255**	T	T	11 45 30.0	
	baz=155,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**88.55**	**255**	T	T	11 45 30.8	
	baz=155,slow=76,SNR=36						

*IDC **25** 10:27:43.9±1.4, 16°.49S×178°.48W, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=103.7km s-min=19.7km az=150.0*

ISC 25 10:27:49.1±1.4, 16°.5S±0°.6×178°.5W±0°.4, h35km, n7, σ0s93/7, mb3.9/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.23**	**240**	P	**P**	**10 35 14.1**	**-0.1**
	2.7nm,0.5s,baz=90,slow=11,SNR=7.9 2.7nm,0.5s						
WRA	**Warramunga Arr**	**44.81**	**258**	P	**P**	**10 36 00.3**	**+0.3**
	0.9nm,0.4s,baz=92,slow=7.7,SNR=29 0.9nm,0.4s						
ASAR	**Alice Springs**	**45.09**	**253**	P	**P**	**10 36 02.3**	**+0.1**
	12nm,0.6s,baz=88,slow=8.3,SNR=306 12nm,0.6s						
NVAR	**Mina Array Bea**	**78.50**	**44**	P	**P**	**10 39 48.6**	**+1.6**
	0.4nm,0.7s,baz=224,slow=9.4,SNR=5.0 0.4nm,0.7s						
ILAR	**Eielson Array**	**84.57**	**13**	P	**P**	**10 40 17.8**	**-0.5**
	0.1nm,0.4s,baz=226,slow=5.0,SNR=6.6 0.1nm,0.4s						
TXAR	**Lajitas Array**	**85.34**	**58**	P	**P**	**10 40 22.9**	**-0.2**
	0.6nm,0.7s,baz=218,slow=6.5,SNR=9.3 0.6nm,0.7s						
PDAR	**Pinedale Array**	**86.42**	**44**	P	**P**	**10 40 27.5**	**-0.8**
	0.3nm,0.6s,baz=219,slow=2.1,SNR=4.6 0.3nm,0.6s						

HEL 25 10:34:13.1±0.3, 61°.04N×28°.14E, h0km, ML0.9, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUF	**Ruokolahti**	**0.55**	**45**	PG	Pg	10 34 23.0	-0.6
RUF				SG	Sg	10 34 30.2	-0.5
RUF				MSG		10 34 30.8	
	comp=Z,0.8nm,0.2s						
VJF	**Virojoki**	**0.58**	**210**	PG	Pg	10 34 23.6	-0.6
	baz=35						
VJF				MSG		10 34 31.5	
	comp=Z,1.1nm,0.2s						
VJF				SG	Sg	10 34 32.0	+0.4
FIA0	**FINESS Array S**	**1.07**	**293**	PB	Pg	10 34 32.9	-0.7
	baz=119						
FIA0				MSG		10 34 45.8	
	comp=Z,1.0nm,0.2s						
FIA0				SN	Sn	10 34 51.5	+0.5
PVF	**Pernaja**	**1.22**	**247**	PG	Pg	10 34 34.6	-1.8
PVF				MSG		10 34 50.2	
	comp=Z,1.7nm,0.2s						
PVF				SN	Sn	10 34 55.9	+1.4
KAF	**Kangasniemi**	**1.39**	**322**	PN	Pg	10 34 39.2	-0.4
KAF				MSG		10 34 54.8	
	comp=Z,1.7nm,0.2s						

*EST **25** 10:35:06.7±0.1, 59°.22N×27°.76E, h0km, ML1.3(HEL), Explosion*

LVSN 25 10:35:08.7±2.2, 59°.17N×27°.67E, h0km±116km, ML1.7, 1D, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EE04	**Vaivara Sinima**	**0.23**	**27**	*e*P	Pg	10 35 09.8	-3.3
EE04				*e*S	Sg	10 35 11.9	-4.2
EE03	**Tooma soojaam,**	**0.78**	**248**	*e*P	Pg	10 35 21.9	-1.7
EE03				*e*S	Sg	10 35 32.4	-1.3
VSU	**Vasula**	**0.86**	**215**	*e*S	Sg	10 35 35.3	-1.0
VSU	**Vasula**	**0.86**	**215**	*e*P	Pg	10 35 23.0	-2.2
ARBE	**Arbavere**	**0.90**	**288**	*e*P	Pg	10 35 23.9	-2.1
ARBE				*e*S	Sg	10 35 35.7	-2.0
ARBE				AML	AML	10 35 37.9	
	comp=E,63nm,0.1s						
ARBE				AML	AML	10 35 43.6	
	comp=N,61nm,0.1s						
ARBE				AML	AML	10 36 01.9	
	comp=Z,36nm,0.6s						
ARBE	**Arbavere**	**0.90**	**288**	*e*P	Pg	10 35 23.4	-2.6
ARBE				*e*S	Sg	10 35 35.2	-2.4
EE08	**Sarghaua, Vand**	**1.36**	**249**	*e*P	Pg	10 35 32.4	-2.3
EE08				*e*PN	Pn	10 35 33.5	-1.4
EE08				*e*S	Sg	10 35 50.4	-1.9
VJF	**Virojoki**	**1.38**	**358**	*e*P	Pg	10 35 30.3	-4.7
VJF				*e*S	Sg	10 35 47.4	-5.4
VJF				MSG		10 35 53.7	
	comp=Z,3.8nm,0.1s						
EE02	**Kiisa, Saku**	**1.53**	**272**	*e*PG	Pn	10 35 35.3	-1.9
EE02				*e*S	Sb	10 35 55.2	-2.5
PVF	**Pernaja**	**1.65**	**327**	*e*PG	Pn	10 35 36.2	-2.7
PVF				*e*S	Sn	10 35 57.0	-3.8
PVF				MSG		10 36 01.2	
	comp=Z,1.0nm,0.1s						
HEL1	**Helsinki**	**1.74**	**307**	*e*P	Pn	10 35 36.8	-3.3
HEL1				*e*SG	Sn	10 36 00.5	-2.4
HEL1				MSG		10 36 02.6	
	comp=Z,2.3nm,0.1s						
HEL5	**Espoo, Suvisaa**	**1.77**	**304**	*e*PG	Pn	10 35 39.0	-1.5
HEL5				*e*S	Sn	10 36 00.2	-3.4
MEF	**Metsahovi**	**1.96**	**304**	*e*P	Pn	10 35 42.4	-0.8
MEF				AML	AML	10 35 43.0	
	comp=E,4.8nm,0.2s						
MEF				AML	AML	10 35 43.2	
	comp=Z,6.4nm,0.6s						
MEF				*e*S	Sn	10 36 07.5	-1.0
MEF				AML	AML	10 36 08.6	
	comp=N,7.9nm,0.2s						
MEF	**Metsahovi**	**1.96**	**304**	*e*PG	Pn	10 35 42.2	-0.9
MEF				*e*SG	Sn	10 36 07.2	-1.3
MEF				MSG		10 36 08.0	
	comp=Z,1.8nm,0.1s						
NUR	**Nurmijarvi**	**2.03**	**313**	*e*SB	Sn	10 36 08.7	-1.5
EE01	**Perakula, Nova**	**2.08**	**273**	*e*P	Pn	10 35 44.1	-0.7
EE01				*e*PG	Pb	10 35 44.6	-2.6
EE01				*e*SG	Sn	10 36 11.8	+0.4
RUF	**Ruokolahti**	**2.35**	**15**	*e*P	Pn	10 35 45.6	-2.9
RUF				*e*PB	Pb	10 35 46.8	-5.0
RUF				*e*SB	Sn	10 36 16.4	-1.6
RUF				MSG		10 36 19.0	
	comp=Z,0.8nm,0.1s						
TVF	**Tvarminne**	**2.35**	**289**	*e*PB	Pn	10 35 48.1	-0.4
TVF				*e*SB	Sn	10 36 19.1	+1.1
TVF				MSG		10 36 19.9	
	comp=Z,1.4nm,0.1s						
FIA0	**FINESS Array S**	**2.42**	**342**	*e*P	Pn	10 35 46.9	-2.5
FIA0				*e*PB	Pb	10 35 48.2	-4.7
FIA0				*e*S	Sn	10 36 16.2	-3.5
FIA0				*e*SG	Sb	10 36 20.0	-3.2
FIA0				MSG		10 36 20.6	
	comp=Z,0.8nm,0.1s						
FIA1	**FINESS Array S**	**2.42**	**342**	*e*P	Pn	10 35 46.9	-2.5
FIA1				*e*PB	Pb	10 35 48.2	-4.7
FIA1				*e*S	Sn	10 36 16.3	-3.3
FIA1				*e*SG	Sb	10 36 19.9	-3.3
FIA1				MSG		10 36 20.6	
	comp=Z,1.1nm,0.1s						
RAF	**Rauma**	**3.49**	**305**	*e*P	Pn	10 36 03.5	-0.6
JOF	**Joensuu**	**4.16**	**24**	*e*P	Pn	10 36 10.4	-2.9

*NEIC **25** 10:56:09.1±1.1, 19°.03N±0°.04×67°.14W±0°.03, h10km±2km, ML2.8/15, Md2.9/15(RSPR), Error ellipse: s-maj=6.8km s-min=3.4km az=333.0*

*SDD **25** 10:56:10.2±1.5, 19°.09N×67°.21W, h30km±62km, MD3.6, ML2.7, MW3.1*

*RSPR **25** 10:56:10.1, 19°.17N×67°.21W, h13km±9km, MD2.9/15*

ISC 25 10:56:09.1±1.5, 19°.06N±0°.06×67°.19W±0°.03, h17km±9km, n55, σ0s52/66, 21C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDE	**Isla Desecheo**	**0.72**	**202**		**Pn**	**10 56 23.8**	**-0.7**
IDE	**Isla Desecheo**	**0.72**	**202**	⇓*e*P	**Pn**	**10 56 23.8**	**-0.7**
IDE	**Isla Desecheo**	**0.72**	**202**	*e*S	**Sn**	**10 56 35.0**	**-0.3**
AOPR	**Arecibo Observ**	**0.82**	**150**		**Pg**	**10 56 25.0**	**-0.1**
AOPR	**Arecibo Observ**	**0.82**	**150**	⇑*e*P	**Pg**	**10 56 25.2**	**0.0**
AOPR	**Arecibo Observ**	**0.82**	**150**	*e*S	**Sn**	**10 56 37.5**	**-0.2**
AOPR	**Arecibo Observ**	**0.82**	**150**	⇓*e*Pg	**Pg**	**10 56 25.2**	**0.0**
AOPR				IAML		10 56 43.8	
	comp=N,517nm,0.2s						
PRSN	**Puerto Rico Se**	**0.84**	**177**		**Pn**	**10 56 25.9**	**-0.3**
PRSN	**Puerto Rico Se**	**0.84**	**177**	⇑*e*P	**Pn**	**10 56 25.9**	**-0.3**
PRSN	**Puerto Rico Se**	**0.84**	**177**	*e*S	**Sn**	**10 56 39.0**	**+0.9**
PRSN	**Puerto Rico Se**	**0.84**	**177**	⇑*e*Pg	**Pn**	**10 56 25.7**	**-0.5**
PRSN				⇑*e*Sg	**Sn**	**10 56 38.6**	**+0.5**
PRSN				IAML		10 56 42.9	
	comp=N,1μm,0.2s						
EMPR	**Esperanza - Ma**	**0.85**	**133**		**Pn**	**10 56 26.1**	**-0.2**
EMPR					**Sg**	**10 56 37.7**	**+0.7**
EMPR	**Esperanza - Ma**	**0.85**	**133**	Pg	**Pn**	**10 56 26.0**	**-0.3**
EMPR	**Esperanza - Ma**	**0.85**	**133**	⇑*e*P	**Pn**	**10 56 26.1**	**-0.2**
EMPR	**Esperanza - Ma**	**0.85**	**133**	*e*S	**Sg**	**10 56 37.7**	**+0.7**
LSP	**Las Mesas**	**0.89**	**174**		**Pn**	**10 56 26.6**	**-0.2**
LSP					**Sn**	**10 56 39.6**	**+0.3**
LSP	**Las Mesas**	**0.89**	**174**	⇑*e*P	**Pn**	**10 56 26.6**	**-0.2**
LSP	**Las Mesas**	**0.89**	**174**	*e*S	**Sn**	**10 56 39.6**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.92**	**151**		**Pb**	**10 56 26.4**	**-0.2**
UUPR					**Sn**	**10 56 40.0**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.92**	**151**	Pg	**Pb**	**10 56 26.2**	**-0.4**
UUPR	**Utuado, UPR, P**	**0.92**	**151**	⇓*e*P	**Pb**	**10 56 26.4**	**-0.2**
UUPR	**Utuado, UPR, P**	**0.92**	**151**	*e*S	**Sn**	**10 56 40.0**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.05**	**176**		**Pg**	**10 56 29.0**	**-0.6**
CRPR				IAML		10 56 49.8	
	comp=N,216nm,0.4s						
CRPR	**Cabo Rojo, PR**	**1.05**	**176**	⇑*e*P	**Pg**	**10 56 28.9**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.05**	**176**	*e*S	**Sn**	**10 56 44.4**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.05**	**176**	⇓*e*Pg	**Pg**	**10 56 28.9**	**-0.6**
CRPR				⇓*e*Sg	**Sb**	**10 56 42.0**	**-0.4**
CRPR				IAML		10 56 49.7	
	comp=N,255nm,0.2s						
ECPR	**Experimental S**	**1.08**	**133**	⇑*e*P	**Pb**	**10 56 28.8**	**-0.4**
ECPR	**Experimental S**	**1.08**	**133**	*e*S	**Sb**	**10 56 43.1**	**0.0**
MLPR	**Magueyes Islan**	**1.09**	**173**	⇑*e*P	**Pn**	**10 56 29.6**	**0.0**
MLPR	**Magueyes Islan**	**1.09**	**173**	*e*S	**Sg**	**10 56 45.2**	**+0.5**
MLPR	**Magueyes Islan**	**1.09**	**173**	⇓*e*Pg	**Pn**	**10 56 29.6**	**0.0**
MLPR				⇑*e*Sg	**Sb**	**10 56 43.8**	**+0.2**
MLPR				IAML		10 56 52.7	
	comp=N,41nm,0.4s						
CELP	**Cerrillos**	**1.14**	**149**		**Pb**	**10 56 30.2**	**-0.1**
CELP				IAML		10 56 48.3	
	comp=E,176nm,0.2s						
CELP				IAML		10 56 50.3	
	comp=N,188nm,0.2s						
CELP	**Cerrillos**	**1.14**	**149**	⇑*e*P	**Pb**	**10 56 30.1**	**-0.2**
CELP	**Cerrillos**	**1.14**	**149**	⇑*e*Pg	**Pb**	**10 56 30.2**	**-0.1**
CELP				⇑*e*Sg	**Sb**	**10 56 45.2**	**+0.4**
CELP				IAML		10 56 50.2	
	comp=N,194nm,0.1s						
OBIP	**Obispado Ponce**	**1.15**	**151**		**Pb**	**10 56 30.5**	**-0.1**
OBIP					**Sg**	**10 56 46.5**	**0.0**
OBIP				IAML		10 56 47.6	
	comp=E,242nm,0.3s						
OBIP				IAML		10 56 48.8	
	comp=N,252nm,0.3s						
OBIP	**Obispado Ponce**	**1.15**	**151**	⇑*e*P	**Pb**	**10 56 30.4**	**-0.1**
OBIP	**Obispado Ponce**	**1.15**	**151**	*e*S	**Sg**	**10 56 46.7**	**+0.2**
GCPR	**Guaynabo City**	**1.29**	**125**		**Pn**	**10 56 31.0**	**-1.2**
GCPR	**Guaynabo City**	**1.29**	**125**	⇓*e*P	**Pb**	**10 56 32.4**	**-0.5**
GCPR	**Guaynabo City**	**1.29**	**125**	*e*S	**Sb**	**10 56 49.2**	**+0.1**
SJG	**San Juan**	**1.36**	**134**		**Pn**	**10 56 33.4**	**0.0**
SJG				IAML		10 56 57.2	
	comp=N,209nm,0.2s						
SJG				IAML		10 56 58.1	
	comp=N,152nm,0.4s						
SJG	**San Juan**	**1.36**	**134**	⇓*e*P	**Pb**	**10 56 33.9**	**-0.3**
SJG	**San Juan**	**1.36**	**134**	*e*S	**Sn**	**10 56 51.2**	**+0.1**
IGPR	**InterUniversit**	**1.50**	**137**		**Pn**	**10 56 35.5**	**+0.3**
IGPR					**Sn**	**10 56 54.2**	**-0.1**
IGPR	**InterUniversit**	**1.50**	**137**	⇑*e*P	**Pn**	**10 56 35.5**	**+0.3**
IGPR	**InterUniversit**	**1.50**	**137**	*e*S	**Sn**	**10 56 54.2**	**-0.1**
PDPR	**Patillas Dam,**	**1.52**	**133**		**Pn**	**10 56 35.4**	**0.0**
PDPR				IAML		10 57 01.0	
	comp=E,126nm,0.2s						
PDPR				IAML		10 57 01.6	
	comp=N,132nm,0.3s						
PDPR	**Patillas Dam,**	**1.52**	**133**	⇑*e*P	**Pn**	**10 56 35.3**	**-0.2**
PDPR	**Patillas Dam,**	**1.52**	**133**	*e*S	**Sn**	**10 56 55.1**	**+0.3**
HIDR	**Higuey Centro**	**1.52**	**252**	⇓*e*Pg	**Pn**	**10 56 34.6**	**-0.9**
HIDR				⇑*e*Sg	**Sb**	**10 56 55.4**	**-0.5**
HIDR				IAML		10 57 04.5	
	comp=N,182nm,0.2s						
HUMP	**Col San Antoni**	**1.56**	**126**		**Pn**	**10 56 35.5**	**-0.6**
MIDR	**Miches**	**1.76**	**268**	⇑*e*Pg	**Pn**	**10 56 38.3**	**-0.5**
MIDR				⇓*e*Sg	**Sn**	**10 57 00.2**	**-0.7**
MIDR				IAML		10 57 07.3	
	comp=N,40nm,0.3s						
BANI	**BANI**	**3.08**	**258**	Pn	**Pn**	**10 56 58.8**	**+1.7**
SDDR	**Presa de Saban**	**3.88**	**269**		**Pn**	**10 57 09.4**	**+1.4**

IDC 25 11:02:09.3±4.1, 31°.98N×85°.17E, h0km, mb3.6/2, mbtmp3.4/5, ML3.4/3, Error ellipse: s-maj=216.5km s-min=26.4km az=65.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**14.96**	**352**	Pn	Pn	11 05 42.9	+0.9
	0.1nm,0.3s,baz=163,slow=6.9,SNR=4.6 0.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**18.32**	**134**	P	Pn	11 06 24.3	-0.7
	0.2nm,0.3s,baz=316,slow=12,SNR=5.8 0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**19.27**	**347**	P	P	11 06 34.4	-0.9
	baz=166,slow=10,SNR=5.3 0.6nm,0.7s						
WRA	**Warramunga Arr**	**69.88**	**131**	P	P	11 13 22.1	-0.2
	0.5nm,0.7s,baz=324,slow=6.3,SNR=8.8 0.5nm,0.7s						
ASAR	**Alice Springs**	**72.33**	**134**	P	P	11 13 37.6	+0.5
	0.5nm,0.7s,baz=323,slow=6.0,SNR=6.9 0.5nm,0.7s						

*IDC **25** 11:05:38.8±5.4, 32°.96N×140°.02E, h0km, mb3.6/2, mbtmp3.4/3, ML2.2/1, Error ellipse: s-maj=301.5km s-min=26.0km az=77.0*

*JMA **25** 11:05:39.9±0.3, 33°.5N±0°.6×141°.1E±°, h51km, MV3.0/27, E OFF HACHIJOJIMA ISLAND*

ISC 25 11:05:40.2±1.5, 33°.43N±0°.06×141°.2E±0°.1, h35km, n14, σ1s22/21, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.23**	**255**	P	**Pn**	**11 06 01.3**	**+0.5**
JHJ2				*e*S	**Sn**	**11 06 16.9**	**+0.6**
JHCJ	**Hachijojimakas**	**1.25**	**254**	P	**Pn**	**11 06 01.4**	**+0.2**
JHCJ				*e*S	**Sn**	**11 06 16.9**	**0.0**
JMKN	**Mikurajimanish**	**1.45**	**289**	P	**Pn**	**11 06 03.9**	**+0.1**
JMKN				*e*S	**Sn**	**11 06 21.4**	**-0.2**
JMYK	**Miyake Tsubota**	**1.54**	**295**	*e*P	**Pn**	**11 06 05.5**	**+0.3**
JMYK				*e*S	**Sn**	**11 06 23.6**	**-0.2**
JAOM	**Aogashimamukai**	**1.57**	**232**	P	**Pn**	**11 06 05.9**	**+0.3**
JIM2	**Oshima 3**	**1.97**	**311**	P	**Pn**	**11 06 10.5**	**-0.6**
JIM2				S	**Sn**	**11 06 32.2**	**-2.5**
JIZS	**Izushimoda**	**2.34**	**304**	P	**Pn**	**11 06 16.6**	**+0.4**
JOD2	**Odawara 2**	**2.55**	**316**	P	**Pn**	**11 06 18.9**	**-0.2**
JOD2				S	**Sn**	**11 06 47.0**	**-1.9**
JHO	**

SPSI	Sidrap Palu	8.15 263	P		Pn	11 37 56.5 +1.4
	2µm87nm,0.9s					
TOLI2	Tolitoli	8.21 300			Pn	11 37 56.3 +0.5
TOLI2	Tolitoli	8.21 300	P		Pn	11 37 54.8 -1.0
BATI	Baumata	8.27 210	Pn		Pn	11 37 58.5 +1.8
	4.9nm,0.3s,baz=286,slow=21,SNR=2.0					
BATI			LR	LR		11 42 07.0
	comp=Z,356nm,19.1s,baz=42,slow=44					
	22nm,0.5s					
PCI	Palu	8.32 285	P		Pn	11 37 57.3 0.0
	163nm,0.9s					
KAPI	Kappang	8.35 256			Pn	11 37 58.7 +0.9
KAPI	Kappang	8.35 256	Pn		Pn	11 38 01.1 +3.4
	1.9nm,0.3s,baz=72,slow=7.6,SNR=21					
KAPI			LR	LR		11 41 54.0
	comp=Z,196nm,20.0s,baz=65,slow=42					
	57nm,0.8s					
KAPI	Kappang	8.35 256	P		Pn	11 38 01.0 +3.3
EDFI	Ende, Flores	8.38 227	P		Pn	11 38 01.5 +3.3
	491nm36nm,0.7s					
BAKI	Biak	8.42 78	P		Pn	11 37 59.8 +1.1
	2µm176nm,0.9s					
DRS	Darwin Rock St	9.80 162	P		Pn	11 38 22.1 +4.5
SMPI	Sarmi	10.86 85	P		Pn	11 38 32.9 +0.7
	43nm,1.1s					
BKB	Balikpapan	11.12 279	P		Pn	11 38 35.2 -0.6
	84nm,0.5s					
PLAI	Plampang	11.58 240	P		Pn	11 38 45.4 +3.3
PLAI	Plampang	11.58 240	P		Pn	11 38 44.0 +1.9
	45nm,0.9s					
KBKI	Kotabaru	11.70 268	P		Pn	11 38 44.3 +0.6
GENI	Genyem	12.28 88	P		Pn	11 38 52.2 +0.7
	71nm,1.1s					
TWSI	Taliwang, Sumb	12.32 242	P		Pn	11 38 52.6 +0.4
MYLDM	Lahad Datu	12.43 311			Pn	11 38 54.5 +0.9
MYLDM	Lahad Datu	12.43 311	P		Pn	11 38 52.3 -1.3
KNRA	Kununurra	12.59 176			Pn	11 38 55.3 -0.6
MMPI	Merauke	13.55 114	P		Pn	11 39 10.6 +1.6
SRBI	Singaraja	13.57 248	P		Pn	11 39 09.8 +0.6
	56nm,0.7s					
DNP	Denpasar	13.79 245	P		Pn	11 39 14.4 +2.1
JAGI	Jajag, Banyuwa	14.69 248	P		Pn	11 39 25.9 +1.5
KKM	Kota Kinabalu	14.74 308	Pn		Pn	11 39 26.2 +1.0
BLJI	Banyuglugur	14.97 251	P		Pn	11 39 30.1 +1.9
	3µm50nm,0.7s					
FITZ	Fitzroy Crossi	15.13 188			Pn	11 39 29.4 -0.9
FITZ	Fitzroy Crossi	15.13 188	Pn		Pn	11 39 29.9 -0.4
	0.4nm,0.3s,baz=13,slow=11,SNR=8.4					
FITZ			LR	LR		11 45 46.4
	comp=Z,339nm,20.5s,baz=15,slow=39					
	4.4nm,1.0s					
GRJI	Gresik	15.82 255	P		P	11 39 41.6 -1.1
	110nm,1.2s					
SBUM	Sibu	16.58 289			P	11 39 51.3 +0.2
PCJI	Pacitan	17.40 252	P		P	11 40 00.8 +0.7
	64nm,1.2s					
WOJI	Wonogiri, Jawa	17.54 254	P		P	11 40 03.8 +2.1
	47nm,1.2s					
WB0	Warramunga Arr	17.80 160			Pn	11 40 02.9 -1.3
WB0				IAmb	IAmb	11 40 19.0
	comp=Z,20nm,0.7s					
SMRI	Semarang	17.83 256	P		Pn	11 40 04.7 +0.2
	comp=Z,124nm,1.8s					
WRAB	Tennant Creek	17.94 160	P		Pn	11 40 04.2 -1.6
WRA	Warramunga Arr	17.95 160	P		Pn	11 40 03.5 -2.4
	comp=Z,2.3nm,0.3s,baz=332,slow=13,SNR=60					
WRA			S		Sn	11 43 23.8 -1.3
	comp=Z,1.7nm,0.7s,baz=332,slow=20,SNR=3.9					
WRA			LR	LR		11 47 37.2
	comp=Z,310nm,19.1s,baz=342,slow=39					
	comp=Z,6.5nm,0.5s					
WR8	Warramunga Arr	18.02 159			Pn	11 40 05.0 -1.8
KSM	Kuching	18.13 284	P		Pn	11 40 08.0 -0.2
KSM				IAmb	IAmb	11 40 11.5
	comp=Z,23nm,0.9s					
COEN	Coen	18.59 127			P	11 40 13.0 -0.3
COEN				IAmb	IAmb	11 40 31.1
	comp=Z,20nm,0.8s					
COEN	Coen	18.59 127	P		P	11 40 13.4 0.0
KPJI	Karang Pucung	19.35 257	P		Pn	11 40 22.9 -0.1
	comp=Z,59nm,0.7s					
MBWA	Marble Bar	19.69 203	P		P	11 40 24.7 -0.6
MBWA				IAmb	IAmb	11 40 44.1
	comp=Z,32nm,1.5s					
PSA00	Pilbara Seismi	20.02 202	P		P	11 40 28.3 -0.6
PSA00				IAmb	IAmb	11 40 56.7
	comp=Z,18nm,1.1s					
PMG	Port Moresby	20.17 109	LR		LR	11 49 41.9
	comp=Z,211nm,20.9s,baz=294,slow=42					
LEM	Lembang	20.54 259	LR		LR	11 49 27.9
	comp=Z,312nm,19.9s,baz=85,slow=39					
BBJI	Bungbulang	20.62 257	P		P	11 40 34.2 -1.4
AS31	Alice Springs	21.32 165	P		P	11 40 43.1 +0.1
AS31				IAmb	IAmb	11 40 53.5
	comp=Z,11nm,0.8s					
ASAR	Alice Springs	21.32 165	P		P	11 40 42.3 -0.7
	comp=Z,11nm,0.4s,baz=343,slow=12,SNR=164					
ASAR			S		S	11 44 37.1 -0.8
	comp=Z,4.3nm,0.9s,baz=346,slow=24,SNR=5.4					
ASAR			ScP		ScP	11 48 20.8 0.0
	comp=Z,0.9nm,0.8s,baz=1.6,slow=2.1,SNR=5.6					
ASAR			LR	LR		11 49 40.1
	comp=Z,158nm,18.8s,baz=344,slow=39					
	comp=Z,11nm,0.4s					
GUMO	Guam	23.59 45	LR	LR		11 49 48.4
	comp=Z,74nm,21.2s,baz=231,slow=36					
MDSI	Maura Dua	23.70 266	P		P	11 41 08.1 +0.3
	comp=Z,39nm,1.2s					
LHSI	Lahat	24.33 267	P		P	11 41 13.6 0.0
CTAO	Charters Tower	24.67 135	P		P	11 41 15.7 -1.0
CTAO				IAmb	IAmb	11 41 39.2
	comp=Z,16nm,1.2s					
INKA	Innaminka	27.47 155	P		P	11 41 41.7 -0.2
FORT	Forrest	27.60 180	P		P	11 41 41.8 -1.2
FORT				IAmb	IAmb	11 41 58.1
	comp=Z,5.4nm,0.8s					
MORW	Morawa	28.23 202	P		P	11 41 47.9 -0.8
JOW	Kunigami	29.69 1	LR	LR		11 52 31.1
	comp=Z,107nm,21.3s,baz=144,slow=34					
BBOO	Buckleboo	30.60 166	P		P	11 42 08.1 -1.5
BBOO				IAmb	IAmb	11 42 08.9
	comp=Z,13nm,1.4s					
NWAO	Narrogin (SRO)	31.37 197	P		P	11 42 16.4 0.0
STKA	Stephens Creek	31.46 157	P		P	11 42 16.4 -0.8
	comp=Z,2.1nm,0.4s,baz=336,slow=8.0,SNR=12					
STKA			LR	LR		11 56 04.8
	comp=Z,120nm,20.2s,baz=6.2,slow=39					
	comp=Z,2.1nm,0.4s					
HNR	Honiara	32.48 103	LR	LR		11 56 47.7
	comp=Z,69nm,21.5s,baz=278,slow=39					
CMAR	Chiang Mai Arr	35.62 308	P		P	11 42 55.1 +1.5
	comp=Z,0.4nm,0.5s,baz=133,slow=6.8,SNR=7.1					
CMAR			PcP		PcP	11 45 22.2 +0.3
	comp=Z,0.6nm,0.7s,baz=147,slow=1.6,SNR=5.1					
CMAR			LR	LR		11 59 52.6
	comp=Z,64nm,19.3s,baz=150,slow=40					
	comp=Z,0.4nm,0.5s					
CHTO	Chiang Mai	35.81 308	P		P	11 42 55.7 +0.4
CHTO				IAmb	IAmb	11 42 57.3
	comp=Z,3.8nm,0.9s					
JNU	Nakatsue	36.07 4	LR	LR		11 58 42.2
	comp=Z,58nm,19.4s,baz=206,slow=38					
CAN	Canberra	37.62 151	P		P	11 43 09.8 -0.8
CAN				IAmb	IAmb	11 43 38.3
	comp=Z,8.7nm,1.0s					
TOO	Toolangi	37.98 157	P		P	11 43 12.6 -1.0
TOO				IAmb	IAmb	11 43 28.6
	comp=Z,5.2nm,1.4s					
PZH	PanZhiHua	38.74 321	P		P	11 43 21.8 +1.6
KSRS	Korea Array	40.28 0	P		P	11 43 32.4 -0.2
	comp=Z,1.7nm,0.7s,baz=177,slow=8.8,SNR=10					
	comp=Z,1.7nm,0.7s					
MJAR	Matsushiro Arr	40.53 13	LR	LR		11 58 45.1
	comp=Z,80nm,20.5s,baz=185,slow=34					
BRDH	Bariadhala	43.64 308	LR	LR		12 05 20.4
	comp=Z,77nm,18.0s,baz=135,slow=40					
LZDM	Lanzhou Array	44.90 332	P		P	11 44 11.5 +0.9
	comp=Z,1.6nm,0.3s,baz=164,slow=11,SNR=3.7					
	comp=Z,1.6nm,0.3s					
LZH	Lanzhou	44.94 332	eP		P	11 44 12.3 +1.6
LZH			pP		pwP	11 44 27.3 +6.0
LZH			pmax		pmax	
	comp=Z,19nm,1.3s					
SHL	Shillong	45.00 311	P		P	11 44 11.8 +0.4
HHC	Hu-ho-hao-te	46.15 343	eP		P	11 44 23.0 +2.8
HHC			pmax		pmax	
	comp=Z,20nm,0.7s					

USRK	Ussuriysk Ar.	47.17 4	P		P	11 44 27.1 -0.7
	comp=Z,2.6nm,0.7s,baz=184,slow=8.1,SNR=4.4					
	comp=Z,2.6nm,0.7s					
ASAJ	Asahikawa	48.76 14	LR	LR		12 03 35.8
	comp=Z,60nm,20.9s,baz=214,slow=34					
GTA	Gaotai	49.51 331	P		P	11 44 47.5 +1.3
GTA			pmax		pmax	
	comp=Z,10.0nm,1.2s					
HEH	HeiHe	53.08 360	eP		P	11 45 13.3 +0.7
HEH			pmax		pmax	
	comp=Z,6.0nm,1.0s					
ULN	Ulaanbaatar	53.87 343	P		P	11 45 19.1 +0.3
ULN				IAmb	IAmb	11 45 20.1
	comp=Z,6.9nm,1.1s					
SONM	Songino Array	54.04 342	P		P	11 45 19.8 -0.1
	comp=Z,2.2nm,0.9s,baz=163,slow=9.2,SNR=8.8					
	comp=Z,2.2nm,0.9s					
URZ	Urewera	56.92 135	LR	LR		12 10 50.4
	comp=Z,81nm,20.5s,baz=322,slow=37					
MKAR	Makanchi Array	63.78 327	P		P	11 46 27.6 +0.2
	comp=Z,4.2nm,0.8s,baz=128,slow=7.9,SNR=34					
MKAR			LR	LR		12 17 04.9
	comp=Z,33nm,18.4s,baz=106,slow=39					
	comp=Z,4.2nm,0.8s					
YAK	Yakutsk	64.90 1	LR	LR		12 17 53.4
	comp=Z,20nm,18.1s,baz=152,slow=39					
AAK	Ala-Archa	66.17 320	P		P	11 46 44.0 +0.8
AAK				IAmb	IAmb	11 46 44.6
	comp=Z,3.9nm,0.8s					
AAK	Ala-Archa	66.17 320	LR	LR		12 19 11.6
	comp=Z,25nm,21.5s,baz=98,slow=39					
ARSB	Arslanbob	66.56 318	P		P	11 46 46.5 +0.8
ZALV	Zalesovo Beam	67.12 334	P		P	11 46 47.7 -1.1
	comp=Z,2.4nm,0.8s,baz=112,slow=4.7,SNR=8.8					
	comp=Z,2.4nm,0.8s					
GAR	Garm	67.40 315	P		P	11 46 50.7 -0.3
KURBB	Kurchatov Arra	68.05 329	P		P	11 46 54.7 0.0
	comp=Z,5.1nm,0.8s,baz=130,slow=5.6,SNR=42					
	comp=Z,5.1nm,0.8s					
KURK	Kurchatov	68.06 329	P		P	11 46 54.8 0.0
SIMJ	Simiganj	68.20 314	P		P	11 46 55.6 -0.5
SIMJ				IAmb	IAmb	11 46 56.5
	comp=Z,4.3nm,1.0s					
BVAR	Borovoye Array	73.61 328	P		P	11 47 28.3 -0.2
	comp=Z,1.5nm,0.6s,baz=142,slow=7.5,SNR=3.6					
	comp=Z,1.5nm,0.6s					
TIXI	Tiksi	74.55 0	LR	LR		12 20 54.3
	comp=Z,36nm,20.8s,baz=189,slow=36					
VNDA	Vanda	76.61 173	P		P	11 47 46.7 +1.3
	comp=Z,0.6nm,0.6s,baz=297,slow=6.8,SNR=2.9					
VNDA			LR	LR		12 22 17.6
	comp=Z,50nm,18.1s,baz=333,slow=36					
	comp=Z,0.6nm,0.6s					
AKTO	Aktyubinsk	79.67 322	LR	LR		12 26 07.2
	comp=Z,35nm,20.9s,baz=182,slow=38					
QSPA	South Pole Qui	86.92 180	P		P	11 48 40.4 +0.4
	comp=Z,2.6nm,1.1s,baz=352,slow=2.5,SNR=4.7					
	comp=Z,2.6nm,1.1s					
KDAK	Kodiak Island	86.97 32	LR	LR		12 25 51.6
	comp=Z,32nm,18.6s,baz=195,slow=35					
ILAR	Eielson Array	90.68 25	P		P	11 48 55.9 -1.8
	comp=Z,0.7nm,0.8s,baz=248,slow=4.1,SNR=4.5					
	comp=Z,0.7nm,0.8s					
EIL	Elat	94.04 299	LR	LR		12 38 09.5
	comp=Z,11nm,18.8s,baz=344,slow=40					
ARCES	ARCESS Array B	97.15 340	P		P	11 49 26.1 -1.2
	comp=Z,1.7nm,0.7s,baz=79,slow=6.3,SNR=4.0					
	comp=Z,1.7nm,0.7s					
BOSA	Boshof	99.61 240	LR	LR		12 31 18.8
	comp=Z,23nm,18.3s,baz=36,slow=33					
TXAR	Lajitas Array	124.60 56	PKP		PKPdf	11 54 55.4 0.0
	comp=Z,0.3nm,0.8s,baz=332,slow=2.5,SNR=3.4					
TORD	Torodi Ar. Bea	125.89 284	PKP		PKPdf	11 54 58.3 +0.2
	comp=Z,1.0nm,0.6s,baz=58,slow=2.5,SNR=6.9					
CPUP	Villa Florida	150.38 171	PKPbc		PKPbc	11 55 46.3 -1.0
	comp=Z,1.4nm,0.8s,baz=48,slow=2.2,SNR=10					

*SJA **25** 11:49:41.6±0.8, 25.°92S×70.°26W, h80km±4km, ML3.7, MW3.6*
*GUC **25** 11:49:42.1±0.7, 25.°92S×70.°20W, h68km±4km, ML3.9*
ISC 25 11:49:43.2±1.3, 25.°92S±0.°03×70.°28W±0.°06, h76km±9km, n23, σ0°70/37, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AC01	Pan de Azucar	0.37	231	eP		Pn	11 49 55.0	-0.5
AC01				i S		Sn	11 50 04.3	-0.3
AC01				IAML			11 50 04.6	
	comp=E,8µm,0.3s							
AC01	Pan de Azucar	0.37	231	i P		Pn	11 49 55.5	-0.1
AC01				IAML			11 50 04.7	
	comp=Z,2µm,0.2s							
AC01				i S		Sn	11 50 05.0	+0.4
GO02	Mina Guanaco	0.97	40	eP		Pn	11 50 01.6	-0.4
GO02				i S		Sn	11 50 16.0	0.0
GO02	Mina Guanaco	0.97	40	i P		Pn	11 50 01.4	-0.7
GO02				i S		Sn	11 50 16.4	+0.5
GO02				IAML			11 50 17.3	
	comp=Z,3µm,0.2s							
PB14	IPOC Station P	1.29	355	eP		Pn	11 50 06.4	+0.4
PB14				i S		Sn	11 50 24.7	+1.7
PB14	IPOC Station P	1.29	355	i P		Pn	11 50 06.1	+0.1
PB14				IAML			11 50 26.1	
	comp=Z,486nm,0.2s							
AC02	Maricunga	1.38	132	eP		Pn	11 50 07.3	0.0
AC02				i S		Sn	11 50 24.8	-0.6
AC02				IAML			11 50 26.3	
	comp=N,5µm,0.1s							
AC02	Maricunga	1.38	132	i P		Pn	11 50 07.3	0.0
AC02				i S		Sn	11 50 25.8	+0.5
AC02				IAML			11 50 25.9	
	comp=Z,1µm,0.1s							
GO03	Copiapo	1.67	179	eP		Pn	11 50 10.5	-0.2
GO03				i S		Sn	11 50 32.0	+0.5
GO03	Copiapo	1.67	179	i P		Pn	11 50 10.6	-0.2
GO03				i S		Sn	11 50 32.0	+0.5
GO03				IAML			11 50 34.4	
	comp=Z,706nm,0.3s							
AC04	Llanos de Chal	2.39	197	eP		Pn	11 50 19.0	-1.3
AC04				i S		Sn	11 50 54.4	+1.8
AC04				IAML			11 50 59.8	
	comp=E,430nm,0.4s							
AC04	Llanos de Chal	2.39	197	i P		Pn	11 50 18.9	-1.3
AC04				i S		Sn	11 50 48.8	+0.2
AC04				IAML			11 50 59.9	
	comp=Z,156nm,0.6s							
PB10	IPOC Station P	2.40	354	eP		Pn	11 50 20.4	-0.1
PB10	IPOC Station P	2.40	354	i P		Pn	11 50 20.6	+0.1
PB10				IAML			11 51 03.3	
	comp=Z,127nm,0.2s							
LCO	Las Campanas	3.11	187	eP		Pn	11 50 30.9	+0.7
LCO	Las Campanas	3.11	187	i P		Pn	11 50 30.0	-0.3
LCO				IAML			11 51 23.7	
	comp=Z,347nm,0.3s							
PB06	IPOC Station P	3.26	12	eP		Pn	11 50 32.2	-0.1
PB06				IAML			11 51 32.5	
	comp=E,211nm,0.3s							
PB06	IPOC Station P	3.26	12	i P		Pn	11 50 32.0	-0.2
PB06				i S		Sn	11 51 10.1	+0.2
PB06				IAML			11 51 30.8	
	comp=Z,197nm,0.3s							
AF01	San Pedro de A	3.52	33	eP		Pn	11 50 36.4	+0.6
PB03	IPOC Station P	3.88	7	eP		Pn	11 50 39.7	-1.0
PB03	IPOC Station P	3.88	7	i P		Pn	11 50 39.9	-0.8
PB03				i S		Sn	11 51 24.6	-0.5
PB03				IAML			11 51 43.5	
	comp=Z,171nm,0.7s							
PB09	IPOC Station P	4.21	13	i P		Pn	11 50 45.4	+0.2
PB09				i S		Sn	11 51 32.6	-0.6
PB09				IAML			11 51 58.7	
	comp=Z,94nm,0.3s							
PB01	IPOC Station P	4.90	9	i P		Pn	11 50 53.8	-0.8
PB01				IAML			11 52 14.9	
	comp=Z,58nm,0.2s							

*SDD **25** 11:57:31.2±1.0, 19.°45N×66.°59W, h14km±6km, MD3.2, ML2.5, MW3.0*
*RSPR **25** 11:57:34.5, 19.°36N×66.°48W, h26km±17km, MD2.8/13*
*NEIC **25** 11:57:36.2±0.6, 19.°12N±0.°07×66.°54W±0.°03, h35km±2km, ML2.5/13, Md2.8/13(RSPR), Error ellipse: s-maj=12.3km s-min=4.0km az=9.0*
ISC 25 11:57:29.8±2.1, 19.°39N±0.°08×66.°55W±0.°05, h18km±4km, n45, σ0°61/52, 15C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EMPR	Esperanza - Ma	0.91	179			Pn	11 57 48.5	+0.8
EMPR						Sb	11 57 57.7	-1.2
EMPR	Esperanza - Ma	0.91	179	⇑iP		Pn	11 57 48.9	+1.1
EMPR	Esperanza - Ma	0.91	179	eS		Sn	11 58 00.8	+0.4
AOPR	Arecibo Observ	1.06	191			Pg	11 57 51.0	+0.5
AOPR	Arecibo Observ	1.06	191	⇑eP		Pg	11 57 51.0	+0.5
AOPR	Arecibo Observ	1.06	191	⇑ePg		Pg	11 57 51.0	+0.5
AOPR				i S		Sg	11 58 04.7	+0.4
AOPR				IAML			11 58 08.0	
	comp=N,459nm,0.3s							
ECPR	Experimental S	1.08	171	⇑iP		Pg	11 57 51.1	+0.2
ECPR	Experimental S	1.08	171	eS		Sn	11 58 04.4	-0.3
UUPR	Utuado, UPR, P	1.15	188			Pg	11 57 51.9	-0.2
UUPR						Sb	11 58 03.7	-2.0
UUPR	Utuado, UPR, P	1.15	188	⇑eP		Pg	11 57 52.1	0.0
UUPR	Utuado, UPR, P	1.15	188	eS		Sb	11 58 05.4	-0.3
GCPR	Guaynabo City	1.16	158			Pg	11 57 52.2	-0.2
GCPR	Guaynabo City	1.16	158	⇑eP		Pg	11 57 52.4	0.0
GCPR	Guaynabo City	1.16	158	eS		Sb	11 58 05.9	-0.3
PRSN	Puerto Rico Se	1.30	206	ePg		Pg	11 57 54.8	-0.2
PRSN				IAML			11 58 22.4	
	comp=N,198nm,0.2s							
CELP	Cerrillos	1.31	181			Pg	11 57 54.7	-0.5
CELP				IAML			11 58 12.3	
	comp=E,102nm,0.3s							
CELP				IAML			11 58 13.1	
	comp=N,104nm,0.3s							
CELP	Cerrillos	1.31	181	⇑eP		Pb	11 57 54.4	+0.5
CELP	Cerrillos	1.31	181	eS		Sn	11 58 09.8	-0.5
CELP	Cerrillos	1.31	181	ePg		Pg	11 57 54.8	-0.5
CELP				eSg		Sg	11 58 12.0	-0.4
CELP				IAML			11 58 13.0	
	comp=N,103nm,0.3s							
LSP	Las Mesas	1.31	203			Pg	11 57 55.4	+0.1
LSP	Las Mesas	1.31	203	⇑eP		Pg	11 57 55.4	+0.1
LSP	Las Mesas	1.31	203	eS		Sn	11 58 10.2	-0.2
SJG	San Juan	1.33	164			Pg	11 57 54.9	-0.7
SJG				IAML			11 58 14.2	
	comp=N,97nm,0.2s							
SJG	San Juan	1.33	164	⇑eP		Pb	11 57 54.6	+0.4
SJG	San Juan	1.33	164	eS		Sn	11 58 10.0	-0.7
IDE	Isla Desecheo	1.33	221			Pg	11 57 55.3	-0.3
IDE	Isla Desecheo	1.33	221	⇑eP		Pg	11 57 55.3	-0.3
IDE	Isla Desecheo	1.33	221	eS		Sb	11 58 12.0	+0.9
OBIP	Obispado Ponce	1.34	182			Pg	11 57 55.1	-0.7
OBIP				IAML			11 58 13.6	
	comp=N,94nm,0.4s							
OBIP				IAML			11 58 18.3	
	comp=E,109nm,0.6s							
OBIP	Obispado Ponce	1.34	182	⇑eP		Pg	11 57 55.2	-0.7
OBIP	Obispado Ponce	1.34	182	eS		Sb	11 58 11.5	+0.1
HUMP	Col San Antoni	1.41	152			Pb	11 57 56.1	+0.5
PDPR	Patillas Dam,	1.46	160			Pb	11 57 56.6	+0.2
PDPR				IAML			11 58 15.5	
	comp=N,88nm,0.2s							
PDPR	Patillas Dam,	1.46	160	⇑eP		Pb	11 57 56.5	+0.2
PDPR	Patillas Dam,	1.46	160	eS		Sn	11 58 13.3	-0.5
CRPR	Cabo Rojo, PR	1.48	201			Pb	11 57 57.1	+0.4
CRPR				IAML			11 58 23.6	
	comp=E,70nm,0.8s							
CRPR	Cabo Rojo, PR	1.48	201	⇑eP		Pb	11 57 57.2	+0.4
CRPR	Cabo Rojo, PR	1.48	201	eS		Sn	11 58 14.6	+0.2
CRPR	Cabo Rojo, PR	1.48	201	ePg		Pb	11 57 57.4	+0.6
CRPR				eSg		Sg	11 58 17.4	-0.3
CRPR				IAML			11 58 26.1	
	comp=N,110nm,0.4s							
IGPR	InterUniversit	1.48	164	⇑eP		Pb	11 57 57.3	+0.5
IGPR	InterUniversit	1.48	164	eS		Sn	11 58 14.1	-0.3
MLPR	Magueyes Islan	1.49	199	⇓iP		Pb	11 57 57.7	+0.6
MLPR	Magueyes Islan	1.49	199	eS		Sb	11 58 15.7	0.0
MLPR	Magueyes Islan	1.49	199	⇑ePg		Pb	11 57 57.6	+0.6
MLPR				⇓eSg		Sg	11 58 16.8	-1.3
MLPR				IAML			11 58 19.8	
	comp=N,17nm,0.2s							
MIDR	Miches	2.40	261	⇑ePg		Pb	11 58 11.7	-0.8
MIDR				⇑eSg		Sb	11 58 42.0	+0.1
MIDR				IAML			11 59 06.1	
	comp=N,13nm,0.4s							

*SNET **25** 11:58:23.7±3.0, 15.°15N×90.°26W, h6km, ML3.3*
*GCG **25** 11:58:24.8±1.3, 15.°15N×90.°23W, h13km±999km, MD3.8, ML3.3, MW3.2*
*CATAC **25** 11:58:24.7±0.2, 15°N±2°×9°0W±°, h1km, M3.4/15, MLv3.4/15, Error ellipse: s-maj=3.8km s-min=2.1km az=29.1, confirmed*
ISC 25 11:58:23.8±1.2, 15.°19N±0.°04×90.°19W±0.°03, h12km±10km, n42, σ0°55/50, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AVCB	Coban	0.35	324	i P		Pb	11 58 32.0	-0.1
AVCB				IAML			11 58 38.3	
	comp=N,20µm,0.2s							
QUIS	Sacapulas	0.87	277	eP		Pg	11 58 40.6	-0.1
QUIS				eS		Sb	11 58 52.9	+0.1
QUIS				IAML			11 58 55.9	
	comp=E,2µm,0.3s							
FG16	Alotenango, Sa	0.96	199	eP		Pg	11 58 42.2	-0.1
ESQI	Esquipulas	1.03	127	eP		Pb	11 58 43.6	-0.2
ESQI				eS		Sb	11 58 57.2	0.0
ESQI	Esquipulas	1.03	127	P		Pb	11 58 43.5	-0.2
MTO3	Montecristo	1.12	134	eP		Pb	11 58 45.1	-0.3
MTO3				eS		Sb	11 58 59.2	-0.7
MTO3	Montecristo	1.12	134	i P		Pb	11 58 45.1	-0.3
MTO3	Montecristo	1.12	134	P		Pb	11 58 45.0	-0.3
SOKI	Kika Raxquin	1.22	253	i P		Pn	11 58 47.1	-0.1
SOKI				IAML			11 59 08.2	
	comp=N,352nm,0.4s							
LOAL	Lomas de Alarc	1.25	161	S		Sg	11 59 04.5	+0.5
LOAL	Lomas de Alarc	1.25	161	P		Pn	11 58 46.4	-0.7
HUEH	Huehuetenango

I43RU	**DUBNA INFRASON**	**20.91**	**68**	I	I	14 11 05.4
	baz=275,slow=327,SNR=2.4					
I46RU	**ZALESOVO INFRA**	**46.70**	**54**	I	I	16 56 00.0
	baz=303,slow=326,SNR=1.1					

NEIC ***25*** *12:09:57.8±1.6, 25.07N±0.07×128.12E±0.06, h10km±1km, mb4.3/9, Error ellipse: s-maj=14.2km s-min=6.9km az=146.0*
IDC ***25*** *12:09:58.6±0.8, 25.06N×127.97E, h0km, mb4.0/10, mbtmp4.0/11, ML3.7/1, MS3.1/8, Error ellipse: s-maj=30.5km s-min=14.6km az=74.0*
NIED ***25*** *12:10:01.8, 25.25N×128.05E, h77km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr=0.98; Mθθ=0.42; Mφφ=0.55; Mrθ=0.68; Mθφ=0.57; Mφr=0.27; Fault plane solution: Mo 1.26000×10¹⁵ NP1:φs=26.00000°, δ=31.00000°, λ=-117.00000°. NP2:φs=237.00000°, δ=63.00000°, λ=-75.00000°.*
JMA ***25*** *12:10:01.8±0.3, 25°N±1°×12°8E±°, h77km±4km, MV3.8/31, NEAR OKINAWAJIMA ISLAND*

ISC 25 12:09:59.1±2.4, 25.08N±0.04×128.14E±0.04, h16km±15km, n71, σ1.85/91, mb4.1/15, MS3.2/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.11**	**343**	*i* P		**Pn**	**12 10 19.9**	**0.0**
JJT3				*e*S		**Sg**	**12 10 33.7**	**-1.3**
JNTH	**Nagotoyohara**	**1.44**	**356**	*i* P		**Pn**	**12 10 24.0**	**-0.4**
JNTH				*e*S		**Sn**	**12 10 39.8**	**-3.2**
JAGN	**Aguni-jima**	**1.71**	**332**	*i* P		**Pn**	**12 10 28.3**	**+0.1**
JAGN				*e*S		**Sn**	**12 10 47.6**	**-2.1**
JKE	**Kume jima 2**	**1.74**	**316**	*i* P		**Pn**	**12 10 28.4**	**-0.3**
JKE				*e*S		**Sn**	**12 10 47.9**	**-2.6**
JOW	**Kunigami**	**1.75**	**4**	Pn		**Pn**	**12 10 28.8**	**0.0**
	100nm,0.3s,baz=158,slow=20,SNR=405							
JOW				Sn		**Sn**	**12 10 48.2**	**-2.5**
	80nm,0.3s,baz=134,slow=23,SNR=13							
JOW				LR		LR	12 11 06.5	
	comp=Z,204nm,18.5s,baz=354,slow=38							
JOW	**Kunigami**	**1.75**	**4**	P		**Pn**	**12 10 28.6**	**-0.2**
JOW	**Kunigami**	**1.75**	**4**	S		**Sn**	**12 10 48.3**	**-2.5**
JOW	**Kunigami**	**1.75**	**4**	*i* P		**Pn**	**12 10 28.7**	**0.0**
JOW				*e*S		**Sn**	**12 10 47.3**	**-3.4**
JIH	**Iheya**	**1.95**	**355**	P		**Pn**	**12 10 31.7**	**+0.2**
JIH				*e*S		**Sn**	**12 10 53.5**	**-2.3**
JYRO	**Yoronjima**	**1.95**	**8**	*i* P		**Pn**	**12 10 31.3**	**-0.3**
JYRO				*e*S		**Sn**	**12 10 52.1**	**-3.7**
JOKE	**Okinoerabujima**	**2.30**	**10**	P		**Pn**	**12 10 36.1**	**-0.3**
JOKE				*e*S		**Sn**	**12 11 00.9**	**-3.5**
JOGS	**Gusukube**	**2.50**	**263**	P		**Pn**	**12 10 40.1**	**+0.9**
JOGS				S		**Sn**	**12 11 08.3**	**-1.1**
JMJ2	**Miyako jima3**	**2.58**	**263**	P		**Pn**	**12 10 41.0**	**+0.9**
JMJ2				*e*S		**Sn**	**12 11 09.4**	**-1.8**
JMJ	**Miyako jima 2**	**2.60**	**265**	P		**Pn**	**12 10 40.9**	**+0.4**
JMJ	**Miyako jima 2**	**2.60**	**265**	S		**Sn**	**12 11 10.5**	**-1.3**
JIKM	**Ikemajima**	**2.63**	**267**	P		**Pn**	**12 10 41.8**	**+0.8**
JIKM				*e*S		**Sn**	**12 11 11.0**	**-1.5**
JIRB	**Irabujima**	**2.71**	**265**	P		**Pn**	**12 10 42.4**	**+0.4**
JIRB				*e*S		**Sn**	**12 11 12.7**	**-1.7**
JTK	**Tokunoshima**	**2.79**	**15**	P		**Pn**	**12 10 43.2**	**+0.1**
JTK				*e*S		**Sn**	**12 11 14.6**	**-1.8**
JMZ	**Minamidaito 2**	**2.88**	**75**	Pn		**Pn**	**12 10 44.5**	**+0.2**
JMZ				Sn		**Sn**	**12 11 16.7**	**-2.0**
JMZ	**Minamidaito 2**	**2.88**	**75**	P		**Pn**	**12 10 44.4**	**+0.1**
JMZ	**Minamidaito 2**	**2.88**	**75**	*i* P		**Pn**	**12 10 44.0**	**-0.3**
JMZ				S		**Sn**	**12 11 14.7**	**-4.0**
JKDJ	**Kitadaitoujima**	**2.98**	**72**	P		**Pn**	**12 10 45.6**	**-0.1**
JKDJ				S		**Sn**	**12 11 17.8**	**-3.3**
JTJ	**Tarama**	**3.16**	**263**	P		**Pn**	**12 10 48.5**	**+0.4**
JTJ				*e*S		**Sn**	**12 11 23.4**	**-2.1**
JAMN	**Amaminishikomi**	**3.28**	**16**	P		**Pn**	**12 10 50.5**	**+0.7**
JISG	**Ishigakijimahi**	**3.52**	**263**	P		**Pn**	**12 10 53.0**	**-0.1**
JISG				*e*S		**Sn**	**12 11 30.3**	**-4.1**
JAM	**Amami Oshima**	**3.56**	**21**	P		**Pn**	**12 10 54.3**	**+0.5**
JAM				*e*S		**Sn**	**12 11 32.1**	**-3.5**
JZK	**Kikaishima**	**3.61**	**27**	P		**Pn**	**12 10 55.9**	**+1.5**
JZK				S		**Sn**	**12 11 35.4**	**-1.4**
JIJ	**Ishigaki jima**	**3.71**	**260**	P		**Pn**	**12 10 55.6**	**-0.1**
JIJ				*e*S		**Sn**	**12 11 35.8**	**-3.3**
JTAJ	**Takarajima**	**4.16**	**13**	P		**Pn**	**12 11 02.2**	**+0.2**
JTAJ				S		**Sn**	**12 11 47.9**	**-2.4**
YOJ	**Yonaguni jima**	**4.71**	**264**	Pn		**Pn**	**12 11 08.9**	**-0.5**
JNN	**Nakanoshima**	**4.98**	**18**	P		**Pn**	**12 11 13.6**	**+0.3**
JYAK	**Yakushimahirau**	**5.55**	**22**	P		**Pn**	**12 11 21.1**	**+0.1**
JYAK				*e*S		**Sn**	**12 12 19.4**	**-5.1**
JKC	**Kuchinoerabu**	**5.66**	**18**	*e*P		**Pn**	**12 11 23.2**	**+0.7**
JMTN	**Minamitane**	**5.83**	**24**	*e*P		**Pn**	**12 11 25.9**	**+1.0**
NACB	**Ninganchiao**	**6.03**	**263**	Pn		**Pn**	**12 11 27.1**	**-0.5**
NACB	**Ninganchiao**	**6.03**	**263**	P		**Pn**	**12 11 26.9**	**-0.7**
YHNB	**Yeheng**	**6.16**	**268**	Pn		**Pn**	**12 11 28.4**	**-1.2**
YULB	**Yu-li**	**6.47**	**256**	Pn		**Pn**	**12 11 31.9**	**-1.9**
SSLB	**Suanglung**	**6.68**	**260**	Pn		**Pn**	**12 11 35.2**	**-1.3**
SSLB	**Suanglung**	**6.68**	**260**	P		**Pn**	**12 11 36.4**	**-0.2**
TWGBT	**Beinan**	**6.84**	**252**	P		**Pn**	**12 11 37.1**	**-1.7**
TWG	**Pinlang**	**6.85**	**252**	Pn		**Pn**	**12 11 37.1**	**-1.8**
TPUB	**Ta-pu**	**7.08**	**257**	Pn		**Pn**	**12 11 40.7**	**-1.5**
TPUB	**Ta-pu**	**7.08**	**257**	P		**Pn**	**12 11 42.0**	**-0.2**
JNU	**Nakatsue**	**8.36**	**16**	Pn		**Pn**	**12 11 59.6**	**-0.1**
JNU	**Nakatsue**	**8.36**	**16**	Pn		**Pn**	**12 12 00.6**	**+0.9**
	0.9nm,0.3s,baz=353,slow=18,SNR=7.1							
JNU				Sn		**Sn**	**12 13 32.0**	**-1.8**
	0.3nm,0.3s,baz=267,slow=8.5,SNR=1.6							
JNU				LR		LR	12 15 48.8	
	comp=Z,34nm,19.9s,baz=216,slow=42 11nm,0.9s							
GUMO	**Guam**	**19.46**	**123**	LR		LR	12 21 38.4	
	comp=Z,19nm,18.1s,baz=0.5,slow=36							
ASAJ	**Asahikawa**	**22.35**	**28**	LR		LR	12 23 42.4	
	comp=Z,28nm,18.4s,baz=46,slow=37							
LZDM	**Lanzhou Array**	**23.62**	**303**	P		**P**	**12 15 09.8**	**-0.1**
	2.6nm,0.4s,baz=106,slow=15,SNR=4.9 2.6nm,0.4s							
TNTI	**Ternate**	**24.18**	**182**	P		**P**	**12 15 13.3**	**-1.6**
TNTI				IAmb		IAmb	12 15 33.4	
	comp=Z,25nm,1.0s							
SONM	**Songino Array**	**28.48**	**328**	P		**P**	**12 15 56.4**	**+2.8**
	comp=Z,0.4nm,0.3s,baz=137,slow=9.0,SNR=2.0							
SONM				LR		LR	12 27 28.2	
	comp=Z,37nm,18.3s,baz=167,slow=37 comp=Z,0.4nm,0.3s							
PETK	**Petropavlovsk-**	**35.72**	**31**	P		**P**	**12 17 01.4**	**+4.6**
	comp=Z,3.8nm,0.9s,baz=225,slow=5.7,SNR=1.4 comp=Z,3.8nm,0.9s							
MKAR	**Makanchi Array**	**42.25**	**313**	P		**P**	**12 17 52.1**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=97,slow=11,SNR=22 comp=Z,1.6nm,0.5s							
FITZ	**Fitzroy Crossi**	**42.99**	**183**	P		**P**	**12 17 56.4**	**-1.3**
ZALV	**Zalesovo Beam**	**43.12**	**324**	P		**P**	**12 17 59.0**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=100,slow=9.3,SNR=4.7 comp=Z,1.2nm,0.3s							
WB0	**Warramunga Arr**	**44.99**	**172**	P		**P**	**12 18 12.4**	**-1.5**
WB0				IAmb		IAmb	12 18 29.7	
	comp=Z,2.6nm,0.7s							
WRA	**Warramunga Arr**	**45.16**	**172**	P		**P**	**12 18 13.3**	**-1.9**
WRA	**Warramunga Arr**	**45.16**	**172**	P		**P**	**12 18 17.1**	**+1.9**
	comp=Z,1.7nm,0.6s,baz=353,slow=8.6,SNR=17 comp=Z,1.7nm,0.6s							
WB2	**Warramunga Arr**	**45.16**	**172**	P		**P**	**12 18 15.2**	**0.0**
WB2				IAmb		IAmb	12 18 17.7	
	comp=Z,3.8nm,0.9s							
WR8	**Warramunga Arr**	**45.19**	**172**	P		**P**	**12 18 14.5**	**-0.9**
WR8				IAmb		IAmb	12 18 31.3	
	comp=Z,2.4nm,0.7s							
KURK	**Kurchatov**	**45.60**	**317**	P		**P**	**12 18 18.5**	**+0.1**
KURK				IAmb		IAmb	12 18 32.2	
	comp=Z,1.7nm,0.9s							
KURBB	**Kurchatov Arra**	**45.63**	**317**	P		**P**	**12 18 20.6**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=105,slow=7.3,SNR=4.1 comp=Z,0.6nm,0.6s							
TIXI	**Tiksi**	**46.60**	**0**	LR		LR	12 38 23.6	
	comp=Z,32nm,19.3s,baz=196,slow=37							
PALK	**Pallekele**	**48.59**	**257**	P		**P**	**12 18 40.0**	**-2.3**
ASAR	**Alice Springs**	**48.78**	**173**	P		**P**	**12 18 41.9**	**-1.6**
ASAR	**Alice Springs**	**48.78**	**173**	P		**P**	**12 18 45.2**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=3.4,slow=14,SNR=19 comp=Z,1.1nm,0.7s							
BVAR	**Borovoye Array**	**51.08**	**319**	P		**P**	**12 19 03.1**	**+2.4**
	comp=Z,0.5nm,0.4s,baz=104,slow=12,SNR=3.8							
BVAR				LR		LR	12 39 51.7	
	comp=Z,31nm,19.6s,baz=63,slow=35 comp=Z,0.5nm,0.4s							
STKA	**Stephens Creek**	**58.08**	**167**	P		**P**	**12 19 53.5**	**+1.8**
	comp=Z,2.0nm,0.7s,baz=322,slow=6.2,SNR=5.1 comp=Z,2.0nm,0.7s							
L16K	**Owhat River**	**59.91**	**32**	P		**P**	**12 20 03.6**	**-0.4**
ILAR	**Eielson Array**	**65.48**	**28**	LR		LR	12 54 07.4	
	comp=Z,42nm,18.1s,baz=230,slow=40							
NOA	**NORSAR Array B**	**80.30**	**334**	LR		LR	13 01 19.2	
	comp=Z,11nm,19.6s,baz=340,slow=38							

IDC 25 12:28:43.5±1.9, 1.47N×126.77E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=187.2km s-min=22.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.54**	**161**	P		P	12 33 45.2	-0.1
	0.6nm,0.3s,baz=340,slow=11,SNR=8.0 0.6nm,0.3s							
ASAR	**Alice Springs**	**25.93**	**165**	P		P	12 34 17.6	-0.1
	0.1nm,0.3s,baz=341,slow=9.4,SNR=8.9 0.1nm,0.3s							
MKAR	**Makanchi Array**	**59.43**	**326**	P		P	12 38 47.8	-0.3
	0.2nm,0.3s,baz=120,slow=8.5,SNR=4.2 0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**63.66**	**328**	P		P	12 39 16.9	+0.4
	1.9nm,0.2s,baz=126,slow=4.9,SNR=2.0 1.9nm,0.2s							

THE ***25*** *12:36:09.9, 40°N±3°×2°1E±°, h0km±3km, M2.6/10, MLh2.6/10*

ISC 25 12:36:10.9±1.0, 39.80N±0.04×20.83E±0.04, h13km±8km, n11, σ0.97/17, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.14**	**174**	P		**Pg**	**12 36 13.2**	**-1.1**
JAN				S		**Sg**	**12 36 17.4**	**+0.6**
PRMD	**Pramanda**	**0.34**	**142**	P		**Pg**	**12 36 16.9**	**-0.8**
PRMD				S		**Sg**	**12 36 24.2**	**+1.9**
IGT	**Igoumenitsa**	**0.47**	**236**	P		**Pg**	**12 36 19.4**	**-0.7**
IGT				S		**Sg**	**12 36 26.2**	**0.0**
TETR	**Tetrakomo, Epi**	**0.57**	**143**	P		**Pg**	**12 36 20.7**	**-1.3**
TETR				S		**Sb**	**12 36 31.4**	**+0.6**
KEK	**Kerkira**	**0.80**	**264**	P		**Pb**	**12 36 27.2**	**+0.5**
KEK				S		**Sg**	**12 36 36.8**	**0.0**
AMPL	**Ampelaki**	**0.92**	**161**	P		**Pg**	**12 36 27.7**	**-0.9**
THL	**Klokotos Trika**	**0.94**	**104**	P		**Pg**	**12 36 28.5**	**-0.5**
LKD2	**Lefkada island**	**1.01**	**188**	P		**Pg**	**12 36 29.9**	**-0.5**
LIT	**Litokhoron**	**1.31**	**76**	P		**Pn**	**12 36 34.5**	**-0.4**
OHR	**Ohrid**	**1.31**	**359**	*i* Pg		**Pg**	**12 36 36.3**	**+0.2**
OHR				*i* Sg		**Sn**	**12 36 51.2**	**-1.2**
FSK	**Fiskardo**	**1.35**	**189**	P		**Pn**	**12 36 36.2**	**+0.7**

NEIC ***25*** *13:02:04.8±0.5, 19.21N±0.03×67.24W±0.05, h10km±1km, ML2.2/11, Md3.0/9(RSPR), Error ellipse: s-maj=8.8km s-min=4.1km az=57.0*
SDD ***25*** *13:02:05.6±1.3, 19.20N×67.25W, h0km±999km, MD2.9, ML2.2, MW2.8*
RSPR ***25*** *13:02:06.6, 19.28N×67.40W, h30km±32km, MD3.0/9*

ISC 25 13:02:05.4±1.8, 19.18N±0.07×67.23W±0.04, h7km±11km, n44, σ0.98/54, 20C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.95**	**151**			**Pg**	**13 02 23.8**	**+0.1**
AOPR	**Arecibo Observ**	**0.95**	**151**	⇓ *i*P		**Pg**	**13 02 23.7**	**+0.1**
AOPR	**Arecibo Observ**	**0.95**	**151**	⇓ *e*Pg		**Pg**	**13 02 23.8**	**+0.1**
AOPR				IAML			13 02 45.8	
	comp=N,85nm,0.2s							
AOPR	**Arecibo Observ**	**0.95**	**151**	⇑ *e*Pg		**Pg**	**13 02 23.3**	**-0.4**
AOPR				IAML			13 02 45.8	
	comp=N,85nm,0.2s							
PRSN	**Puerto Rico Se**	**0.96**	**175**			**Pg**	**13 02 23.5**	**-0.5**
PRSN	**Puerto Rico Se**	**0.96**	**175**	⇓ *e*Pg		**Pg**	**13 02 23.1**	**-0.9**
PRSN				⇑ *e*Sg		**Sg**	**13 02 37.8**	**+1.2**
PRSN				IAML			13 02 38.8	
	comp=N,205nm,0.2s							
PRSN	**Puerto Rico Se**	**0.96**	**175**	⇑ *e*Pg		**Pg**	**13 02 24.7**	**+0.7**
PRSN				⇑ *e*Sg		**Sg**	**13 02 37.8**	**+1.2**
PRSN				IAML			13 02 38.8	
	comp=N,205nm,0.2s							
EMPR	**Esperanza - Ma**	**0.97**	**136**			**Pb**	**13 02 25.0**	**+0.4**
EMPR	**Esperanza - Ma**	**0.97**	**136**			**Pg**	**13 02 22.8**	**-1.3**
EMPR	**Esperanza - Ma**	**0.97**	**136**	⇑ *e*P		**Pb**	**13 02 25.0**	**+0.4**
EMPR	**Esperanza - Ma**	**0.97**	**136**	*e*S		**Sn**	**13 02 42.4**	**+2.8**
UUPR	**Utuado, UPR, P**	**1.04**	**152**			**Sg**	**13 02 39.5**	**+0.3**
UUPR	**Utuado, UPR, P**	**1.04**	**152**	Pn		**Pg**	**13 02 24.4**	**-1.1**
UUPR	**Utuado, UPR, P**	**1.04**	**152**	⇓ *e*P		**Pg**	**13 02 25.7**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.04**	**152**	*e*S		**Sg**	**13 02 39.5**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.18**	**174**			**Pn**	**13 02 27.8**	**-0.6**
CRPR						**Sb**	**13 02 43.3**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.18**	**174**	IAML			13 02 47.3	
	comp=N,57nm,0.5s							
CRPR				IAML			13 02 47.5	
	comp=E,62nm,0.4s							
CRPR	**Cabo Rojo, PR**	**1.18**	**174**	⇓ *e*P		**Pn**	**13 02 27.8**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.18**	**174**	*i* P		**Pn**	**13 02 27.6**	**-0.7**
CRPR				*i* S		**Sb**	**13 02 43.0**	**-0.6**
CRPR				IAML			13 02 47.2	
	comp=N,65nm,0.3s							
CRPR	**Cabo Rojo, PR**	**1.18**	**174**	⇑ *e*Pg		**Pn**	**13 02 28.5**	**+0.2**
CRPR				⇑ *e*Sg		**Sb**	**13 02 43.0**	**-0.7**
CRPR				IAML			13 02 47.2	
	comp=N,65nm,0.3s							
ECPR	**Experimental S**	**1.19**	**136**	⇑ *e*P		**Pn**	**13 02 28.0**	**-0.6**
ECPR	**Experimental S**	**1.19**	**136**	*e*S		**Sb**	**13 02 44.7**	**+0.7**
MLPR	**Magueyes Islan**	**1.22**	**172**	⇓ *e*P		**Pn**	**13 02 28.1**	**-0.9**
MLPR	**Magueyes Islan**	**1.22**	**172**	*e*S		**Sb**	**13 02 43.7**	**-1.2**
MLPR	**Magueyes Islan**	**1.22**	**172**	⇑ *e*Pg		**Pn**	**13 02 28.0**	**-0.9**
MLPR				⇑ *e*Sg		**Sb**	**13 02 43.9**	**-1.0**
MLPR	**Magueyes Islan**	**1.22**	**172**	⇓ *e*Pg		**Pn**	**13 02 27.7**	**-1.3**
MLPR				⇓ *e*Sg		**Sb**	**13 02 43.8**	**-1.1**
CELP	**Cerrillos**	**1.27**	**151**			**Pn**	**13 02 29.0**	**-0.6**
CELP						**Sb**	**13 02 45.8**	**-0.4**
CELP	**Cerrillos**	**1.27**	**151**	IAML			13 02 46.8	
	comp=N,46nm,0.3s							
CELP				IAML			13 02 49.2	
	comp=E,39nm,0.7s							
CELP	**Cerrillos**	**1.27**	**151**	⇓ *i*P		**Pn**	**13 02 29.0**	**-0.6**
CELP	**Cerrillos**	**1.27**	**151**	*e*S		**Sb**	**13 02 45.8**	**-0.4**
CELP	**Cerrillos**	**1.27**	**151**	⇑ *e*Pg		**Pn**	**13 02 28.0**	**-1.6**
CELP				⇑ *e*Sg		**Sb**	**13 02 45.3**	**-0.9**
CELP				IAML			13 02 46.8	
	comp=N,45nm,0.3s							
CELP	**Cerrillos**	**1.27**	**151**	⇑ *e*Pg		**Pn**	**13 02 28.1**	**-1.6**
CELP				*i* S		**Sb**	**13 02 42.7**	**-3.5**
CELP				IAML			13 02 46.8	
	comp=N,45nm,0.3s							
OBIP	**Obispado Ponce**	**1.28**	**152**			**Pn**	**13 02 29.4**	**-0.5**
OBIP						**Sb**	**13 02 46.6**	**0.0**
OBIP	**Obispado Ponce**	**1.28**	**152**	IAML			13 02 51.6	
	comp=E,35nm,0.5s							
OBIP				IAML			13 02 52.7	
	comp=N,41nm,0.3s							
OBIP	**Obispado Ponce**	**1.28**	**152**	⇓ *e*P		**Pn**	**13 02 29.4**	**-0.5**
OBIP	**Obispado Ponce**	**1.28**	**152**	*e*S		**Sb**	**13 02 46.6**	**0.0**
SJG	**San Juan**	**1.48**	**136**	Pn		**Pn**	**13 02 31.7**	**-0.8**
SJG				IAML			13 02 55.8	
	comp=N,30nm,1.4s							
SJG				IAML			13 03 07.9	
	comp=N,34nm,0.2s							
PDPR	**Patillas Dam,**	**1.63**	**135**	Pn		**Pn**	**13 02 34.1**	**-0.6**
PDPR	**Patillas Dam,**	**1.63**	**135**	⇑ *e*P		**Pn**	**13 02 34.8**	**+0.2**
PDPR	**Patillas Dam,**	**1.63**	**135**	*e*S		**Sn**	**13 02 56.5**	**+0.6**
HUMP	**Col San Antoni**	**1.67**	**128**	Pn		**Pn**	**13 02 34.5**	**-0.6**
MIDR	**Miches**	**1.73**	**264**	⇓ *e*P		**Pn**	**13 02 36.0**	**0.0**
MIDR	**Miches**	**1.73**	**264**	*e*Pg		**Pn**	**13 02 35.8**	**-0.2**
MIDR				⇑ *e*Sg		**Sb**	**13 02 59.4**	**-0.2**
MIDR				IAML			13 03 44.9	
	comp=N,19nm,2.9s							
MIDR	**Miches**	**1.73**	**264**	⇑ *e*Pg		**Pn**	**13 02 35.5**	**-0.5**
MIDR				⇑ *e*Sg		**Sn**	**13 02 58.2**	**-0.2**
MIDR				IAML			13 03 35.4	
	comp=N,15nm,0.8s							

IDC ***25*** *13:04:40.7±1.2, 17.66S×178.73W, h529km±13km, mb4.1/18, mbtmp5.0/20, Error ellipse: s-maj=12.3km s-min=10.7km az=159.0*
NEIC ***25*** *13:04:42.2±2.0, 17.7S±0.1×178.7W±0.1, h548km±8km, mb4.9/45, Error ellipse: s-maj=16.5km s-min=13.0km az=148.0*
NOU ***25*** *13:04:42.1, 17.76S×178.65W, h553km, mb5.0/96, Fiji Islands Region*

ISC 25 13:04:42.3±0.4, 17.74S±0.05×178.68W±0.05, h551km±4km, h552km; pP-P, n643, σ0.78/658, mb4.8/93, 68C-16D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.51**	**195**	P		**P**	**13 05 48.2**	**+0.4**
LKBA	**Tubou, Lakemba**	**0.51**	**195**	S		**S**	**13 06 42.1**	**+1.0**
TAVE	**Taveuni**	**1.56**	**311**	P		**P**	**13 05 51.1**	**+0.7**
TAVE	**Taveuni**	**1.56**	**311**	S		**S**	**13 06 46.9**	**+1.2**
DGTI	**Dogotuki**	**2.09**	**313**	P		**P**	**13 05 52.6**	**0.0**
DGTI	**Dogotuki**	**2.09**	**313**	S		**S**	**13 06 50.1**	**+0.5**
MSVF	**Nonsavu**	**3.12**	**270**			**P**	**13 05 58.9**	**+0.6**
MSVF	**Nonsavu**	**3.12**	**270**	P		**P**	**13 05 59.1**	**+0.8**
FUTU	**Fugatoga**	**3.45**	**9**	P		**P**	**13 05 59.9**	**-0.6**
AFI	**Afiamalu**	**7.65**	**61**			**P**	**13 06 33.4**	**-3.3**
NIUE	**Niue**	**8.41**	**100**	P		**P**	**13 06 43.5**	**-0.7**
	comp=Z,1μm,0.9s							
NIUE				S		**S**	**13 08 22.5**	**-1.6**
NIUE	**Niue**	**8.41**	**100**			**P**	**13 06 43.1**	**-1.1**
NIUE	**Niue**	**8.41**	**100**	P		**P**	**13 06 43.5**	**-0.7**
RAO	**Raoul Island**	**11.48**	**177**	S		**S**	**13 09 19.4**	**-1.8**
	comp=Z,274nm,0.4s,baz=44,slow=20,SNR=4.1							
RTV	**Rentapao**	**12.29**	**268**	P		**P**	**13 07 23.2**	**-0.6**
DVP	**Devils Point**	**12.52**	**268**	P		**P**	**13 07 26.2**	**0.0**
SANVU	**Saraoutou**	**13.73**	**277**			**P**	**13 07 36.7**	**-2.1**
SANVU	**Saraoutou**	**13.73**	**277**	P		**P**	**13 07 37.9**	**-0.8**
PINNC	**Pines Island,**	**13.90**	**247**	P		**P**	**13 07 38.4**	**-2.0**
PINNC	**Pines Island,**	**13.90**	**247**	P		**P**	**13 07 39.0**	**-1.4**
YATNC	**Mamie plateau,**	**14.24**	**250**	P		**P**	**13 07 43.2**	**-0.7**
DZM	**Mont Dzumac**	**14.64**	**250**	*e*P		**P**	**13 07 45.9**	**-2.3**
	comp=Z,202nm,0.9s							
DZM	**Mont Dzumac**	**14.64**	**250**			**P**	**13 07 45.8**	**-2.4**
DZM	**Mont Dzumac**	**14.64**	**250**	P		**P**	**13 07 46.5**	**-1.6**
	comp=Z,66nm,0.6s,baz=76,slow=15,SNR=58							
DZM	**Mont Dzumac**	**14.64**	**250**	P		**P**	**13 07 47.0**	**-1.2**
ONTNC	**Ouen Toro**	**14.69**	**250**			**P**	**13 07 46.5**	**-2.1**
ONTNC	**Ouen Toro**	**14.69**	**250**	P		**P**	**13 07 48.0**	**-0.6**
LUES	**Luesalemba Tem**	**16.51**	**293**	P		**P**	**13 08 05.7**	**-0.9**
NFK	**Norfolk Island**	**16.64**	**225**	P		**P**	**13 08 08.5**	**+0.9**
	comp=Z,241nm,1.3s							
RAR	**Rarotonga**	**18.15**	**104**			**P**	**13 08 21.7**	**+0.1**
RAR	**Rarotonga**	**18.15**	**104**	P		**P**	**13 08 21.9**	**+0.4**
	comp=Z,41nm,0.8s,baz=248,slow=6.4,SNR=8.4							
RAR	**Rarotonga**	**18.15**	**104**	P		**P**	**13 08 21.6**	**+0.1**
OUZ	**Omahuta**	**18.72**	**200**	P		**P**	**13 08 25.3**	**-1.2**
KUZ	**Kuaotunu**	**19.57**	**194**	P		**P**	**13 08 33.8**	**-0.4**
TARA	**Tarawa**	**20.70**	**336**			**P**	**13 08 43.9**	**-0.8**
URZ	**Urewera**	**20.77**	**189**	P		**P**	**13 08 42.6**	**-2.4**
	comp=Z,9.5nm,0.5s,baz=260,slow=4.9,SNR=8.7							
URZ				S		**S**	**13 12 01.2**	**-0.3**
	comp=Z,8.6nm,0.7s,baz=109,slow=18,SNR=1.7							
URZ	**Urewera**	**20.77**	**189**	P		**P**	**13 08 44.1**	**-1.0**
NGOA	**Tingoa Renbel**	**21.46**	**284**	P		**P**	**13 08 52.8**	**+1.2**
HNR	**Honiara**	**22.34**	**289**	P		**P**	**13 09 00.4**	**+0.9**
SAVO	**Savo Central**	**22.58**	**289**	P		**P**	**13 09 01.5**	**-0.1**
TATA	**Tatamba Isabel**	**22.91**	**291**	P		**P**	**13 09 05.3**	**+0.7**
BFZ	**Birch Farm**	**23.28**	**190**	P		**P**	**13 09 06.7**	**-0.8**
QRZ	**Quartz Range**	**24.22**

BBOO Buckleboo 43.27 241 P P 13 11 55.3 -0.3
KNHH Kane Nui o Ham 43.52 33 P P 13 11 57.8 0.0
HPAH Hawaii Prepara 43.79 32 P P 13 12 00.0 +0.2
WR0 Warramunga Arr 44.22 259 P P 13 12 01.5 -1.7
comp=Z,27nm,1.0s
WB9 Warramunga Arr 44.38 260 P P 13 12 02.9 -1.5
comp=Z,53nm,0.8s
WB2 Warramunga Arr 44.40 259 P P 13 12 03.0 -1.6
comp=Z,70nm,0.9s
WB1 Warramunga Ar. 44.41 259 P P 13 12 03.3 -1.3
WR1 Warramunga Arr 44.41 259 P P 13 12 03.1 -1.6
comp=Z,73nm,0.6s
WRA Warramunga Arr 44.41 259 P P 13 12 03.2 -1.5
comp=Z,25nm,0.5s,baz=95,slow=7.0,SNR=391
WRA ScP ScP 13 16 38.4 +2.2
comp=Z,4.6nm,1.1s,baz=86,slow=4.2,SNR=6.8
comp=Z,25nm,0.5s
ASAR Alice Springs 44.59 254 P P 13 12 05.5 -0.5
comp=Z,306nm,0.6s,baz=88,slow=8.1,SNR=6201
ASAR ScP ScP 13 16 39.5 +2.6
comp=Z,4.4nm,0.8s,baz=98,slow=4.3,SNR=8.1
SMPI Sarmi 44.65 286 P P 13 12 06.5 0.0
comp=Z,2µmcomp=Z,52nm,0.7s
DRS Darwin Rock St 48.86 269 P P 13 12 37.5 -0.8
FORT Forrest 49.85 244 P P 13 12 44.4 -0.9
FORT IAmb IAmb 13 12 45.2
comp=Z,58nm,0.7s
KNRA Kununurra 50.25 264 P P 13 12 47.3 -1.1
KNRA IAmb IAmb 13 12 48.6
comp=Z,49nm,0.7s
FAKI Fak Fak 50.30 281 P P 13 12 49.4 +0.5
SWI Sorong 51.96 283 P P 13 13 00.7 -0.2
comp=Z,106nm,0.8s
BNDI Bandanaira 51.96 278 P P 13 13 00.1 -0.8
BNDI Bandanaira 51.96 278 P P 13 12 53.9 -7.0
FITZ Fitzroy Crossi 52.80 260 P P 13 13 06.1 -0.8
comp=Z,4.5nm,0.8s
FITZ Fitzroy Crossi 52.80 260 P P 13 13 06.1 -0.8
FITZ Fitzroy Crossi 52.80 260 P P 13 13 06.7 -0.2
AAI Ambon 53.84 279 P P 13 13 13.3 -1.0
comp=Z,42nm,0.5s
NLAI Namlea 55.02 279 P P 13 13 22.2 -0.4
comp=Z,41nm,0.7s
KMBL Kambalda 55.16 244 P P 13 13 21.6 -1.8
comp=Z,13nm,1.1s
DRV Dumont d'Urvil 55.74 199 P P 13 13 26.7 +0.1
DRV pP pwP 13 15 15.3 -1.1
SOEI Soe 55.82 270 P P 13 13 28.0 -0.3
SOEI IAmb IAmb 13 13 30.2
comp=Z,74nm,0.8s
SOEI Soe 55.82 270 P P 13 13 29.0 +0.7
SOEI Soe 55.82 270 P P 13 13 29.2 +0.9
comp=Z,113nm,0.8s
SANI Sanana 56.46 280 P P 13 13 31.7 -0.9
comp=Z,36nm,0.9s
PSAC2 Pilbara Seismi 57.66 255 P P 13 13 39.6 -1.1
comp=Z,53nm,0.7s
PSAB3 Pilbara Seismi 57.70 255 P P 13 13 39.7 -1.2
comp=Z,65nm,0.8s
PSA00 Pilbara Seismi 57.71 255 P P 13 13 39.8 -1.3
comp=Z,60nm,1.0s
PSA00 Pilbara Seismi 57.71 255 P P 13 13 39.7 -1.3
PSA00 IAmb IAmb 13 13 41.0
comp=Z,34nm,0.7s
PSA00 Pilbara Seismi 57.71 255 P P 13 13 40.1 -0.9
MBWA Marble Bar 57.87 256 P P 13 13 40.8 -1.3
comp=Z,39nm,0.7s
MBWA Marble Bar 57.87 256 P P 13 13 40.9 -1.2
MBWA Marble Bar 57.87 256 P P 13 13 41.4 -0.7
MBWA Marble Bar 57.87 256 P P 13 13 41.2 -0.8
MEEK Meekatharra 58.26 249 P P 13 13 43.2 -1.5
comp=Z,37nm,0.9s
MEEK Meekatharra 58.26 249 P P 13 13 44.0 -0.7
EDFI Ende, Flores 58.53 270 P P 13 13 46.1 -0.7
comp=Z,30nm,1.2s
NWAO Narrogin (SRO) 59.07 242 P P 13 13 49.4 -0.6
RKGY Rocky Gully 59.23 240 P P 13 13 50.2 -0.9
comp=Z,66nm,1.2s
BLDU Ballidu 59.62 245 P P 13 13 52.4 -1.3
comp=Z,28nm,1.1s
BLDU Ballidu 59.62 245 P P 13 13 52.9 -0.8
MUN Mundaring 59.97 243 P P 13 13 55.1 -0.9
comp=Z,25nm,2.1s
MUN Mundaring 59.97 243 P P 13 13 55.6 -0.4
MORW Morawa 60.32 246 P P 13 13 57.1 -1.2
comp=Z,24nm,1.1s
MORW Morawa 60.32 246 P P 13 13 56.9 -1.5
MORW Morawa 60.32 246 P P 13 13 57.7 -0.7
VNDA Vanda 60.59 185 P P 13 14 00.5 +1.3
comp=Z,0.5nm,0.5s,baz=349,slow=6.2,SNR=5.9
PLAI Plampang 62.24 269 P P 13 14 10.6 -0.6
PLAI Plampang 62.24 269 P P 13 14 11.0 -0.2
TOLI2 Tolitoli 62.43 281 P P 13 14 13.7 +1.3
GIRL Giralia 62.70 253 P P 13 14 14.1 +0.1
comp=Z,44nm,1.3s
JHJ2 Mitsune 64.26 322 P P 13 14 24.0 +0.4
CCD Concordia, Ant 64.97 194 P P 13 14 28.3 +0.3
JGF Kuroka 67.45 322 P P 13 14 43.3 -0.3
JGF Kuroka 67.45 322 P P 13 14 44.1 +0.6
MJAR Matsushiro Arr 67.62 323 P P 13 14 44.0 -0.5
comp=Z,19nm,0.7s,baz=159,slow=6.3,SNR=44
MJAR PcP PcP 13 15 07.2 +0.5
comp=Z,4.1nm,0.8s,baz=145,slow=5.1,SNR=4.3
comp=Z,19nm,0.7s
MAJO Matsushiro 67.62 323 P P 13 14 43.6 -0.9
MAJO IAmb IAmb 13 14 44.9
comp=Z,19nm,0.6s
MAJO Matsushiro 67.62 323 P P 13 14 44.3 -0.2
MAJO Matsushiro 67.62 323 P P 13 14 44.1 -0.5
JMN Monobe 68.30 319 P P 13 14 49.2 +0.5
JMN IAmb IAmb 13 14 50.5
comp=Z,61nm,1.3s
ADK Adak 69.35 1 P P 13 14 53.8 -0.7
ADK IAmb IAmb 13 14 54.7
comp=Z,59nm,0.8s
ADK Adak 69.35 1 P P 13 14 54.1 -0.4
ADK Adak 69.35 1 P P 13 14 53.5 -1.0
UGM Wanagama 69.40 268 P P 13 14 55.3 -0.5
ATKA Atka Island 69.75 3 P P 13 14 56.3 -0.7
ATKA Atka Island 69.75 3 P P 13 14 56.1 -0.8
JNU Nakatsue 69.84 316 P P 13 14 58.2 +0.2
NIKH Nikolski High 70.93 6 P P 13 15 03.3 -0.7
NIKH Nikolski High 70.93 6 P P 13 15 03.4 -0.5
NIKH Nikolski High 70.93 6 P P 13 15 03.2 -0.7
baz=190
SSLB Suanglung 71.93 303 P P 13 15 10.1 -0.4
TPUB Ta-pu 71.95 303 P P 13 15 10.1 -0.5
UNV Unalaska Valle 72.06 8 P P 13 15 09.3 -1.1
UNV IAmb IAmb 13 15 10.1
comp=Z,39nm,0.8s
UNV Unalaska Valle 72.06 8 P P 13 15 09.4 -1.1
UNV Unalaska Valle 72.06 8 P P 13 15 09.7 -0.8
baz=192
BBJI Bungbulang 72.26 268 P P 13 15 12.3 -0.4
QSPA South Pole Qui 72.31 180 P P 13 15 14.2 +2.1
QSPA South Pole Qui 72.31 180 P P 13 15 14.5 +2.4
comp=Z,8.6nm,0.8s,baz=326,slow=0.4,SNR=60
comp=Z,8.6nm,0.8s
QSPA South Pole Qui 72.31 180 P P 13 15 15.0 +2.9
QSPA pP pP 13 17 11.0 +4.9
PET Petropavlovsk 73.15 346 P P 13 15 16.7 0.0
CHNA Chernabura Isl 74.09 11 P P 13 15 21.5 -0.6
baz=199
KSRS Korea Array 74.41 318 P P 13 15 25.1 +0.8
comp=Z,2.9nm,0.7s,baz=127,slow=6.2,SNR=17
comp=Z,2.9nm,0.7s
SDPT Sand Point 74.42 11 P P 13 15 23.2 -0.7
SDPT Sand Point 74.42 11 P P 13 15 23.0 -0.9
baz=198
SPIA Saint Paul Isl 74.96 5 P P 13 15 26.6 -0.3
baz=188
S14K Fog Glacier 75.48 11 P P 13 15 29.2 -0.7
baz=199
CHGN Chignik 75.70 11 P P 13 15 30.1 -1.0
CHGN IAmb IAmb 13 15 30.7
comp=Z,30nm,0.7s
CHGN Chignik 75.70 11 P P 13 15 30.3 -0.7
baz=200
USRK Ussuriysk Ar. 76.33 326 P P 13 15 36.1 +1.3
comp=Z,7.5nm,0.8s,baz=120,slow=5.3,SNR=8.9
comp=Z,7.5nm,0.8s
SAO San Andreas Ge 76.48 44 P P 13 15 36.5 +0.7
SAO IAmb IAmb 13 15 37.9
comp=Z,30nm,0.8s
SII Sitkinak Islan 76.82 14 P P 13 15 37.5 +0.3
baz=204
R17L Mt. Peulik Vol 77.35 12 P P 13 15 39.8 -0.3
baz=202
CBX Cerro Bola 77.43 50 P P 13 15 42.2 +0.9
CBX IAmb IAmb 13 15 43.3
comp=Z,33nm,1.0s
O02D Mt. Diablo Mer 77.59 41 P P 13 15 43.0 +1.1
O02D IAmb IAmb 13 15 44.5
comp=Z,56nm,1.3s
OHAK Old Harbor 77.63 14 P P 13 15 41.3 -0.2
OHAK IAmb IAmb 13 15 42.4
comp=Z,39nm,0.8s
OHAK Old Harbor 77.63 14 P P 13 15 41.9 +0.3
OHAK Old Harbor 77.63 14 P P 13 15 41.6 0.0
baz=205
NJ2 Nanjing 77.64 310 eP P 13 15 42.5 +0.3
NJ2 pmax pmax
comp=Z,13nm,0.6s
R18K Karluk 77.69 13 P P 13 15 41.6 -0.3
baz=204
MDJ Mudanjiang 77.90 325 P P 13 15 44.0 +0.6
MDJ pmax pmax
comp=Z,41nm,0.9s
MDJ Mudanjiang 77.90 325 P P 13 15 43.9 +0.5
O14K Tigyukauivet M 78.03 9 P P 13 15 42.8 -0.9
baz=197
Q17K Contact Creek 78.03 12 P P 13 15 43.3 -0.6
baz=202
O15K Ungalikthiuk R 78.18 10 P P 13 15 44.7 +0.2
baz=198
Q16K King Salmon 78.27 12 P P 13 15 45.1 +0.1
baz=201
KDAK Kodiak Island 78.30 14 P P 13 15 45.4 +0.2
baz=205
P16K Nushagak River 78.35 11 P P 13 15 45.1 -0.3
baz=200
Q18K Katmai Hardscr 78.57 12 P P 13 15 46.2 -0.5
baz=203
N14K Kuskokwak Cree 78.61 9 P P 13 15 46.9 +0.2
baz=196,SNR=5.1
SLBS Sierra La Lagu 78.70 61 P P 13 15 49.7 +1.5
P17K Kvichak River 78.79 11 P P 13 15 47.3 -0.4
baz=202
M13K Dall Lake 78.86 8 P P 13 15 48.4 +0.4
baz=195
O16K Kokwok River B 78.87 11 P P 13 15 47.2 -0.9
baz=200
BEKR Beckworth 78.94 42 P P 13 15 49.8 +0.5
N15K Kwethluk River 79.08 9 P P 13 15 49.6 +0.3
N15K IAmb IAmb 13 15 50.3
comp=Z,57nm,1.2s
N15K Kwethluk River 79.08 9 P P 13 15 48.9 -0.4
baz=198
Q20K Shuyak Island 79.09 14 P P 13 15 48.9 -0.4
baz=206
Q19K Cape Douglas, 79.11 13 P P 13 15 49.3 -0.2
baz=204
P18K Big Mountain, 79.21 12 P P 13 15 49.4 -0.6
baz=203
O17K Koliganek Bris 79.21 11 P P 13 15 49.4 -0.6
baz=201
M14K Bethel 79.37 8 P P 13 15 50.9 +0.2
baz=196
NVAR Mina Array Bea 79.48 44 P P 13 15 53.0 +0.8
comp=Z,17nm,0.8s,baz=225,slow=8.8,SNR=169
comp=Z,17nm,0.8s
M15K Kagluk River 79.50 9 P P 13 15 51.7 +0.2
baz=197
N16K Nishlik Lake 79.58 10 P P 13 15 52.0 0.0
baz=199
O18K Koktuh Hills 79.64 12 P P 13 15 52.2 -0.1
baz=203,SNR=16
CN2 Changchun 79.73 322 P P 13 15 52.5 -0.6
CN2 pmax pmax
comp=Z,20nm,1.0s
BNX BinXian 79.81 325 ⇑P P 13 15 53.5 0.0
BNX pmax pmax
comp=Z,38nm,0.8s
L14K Kuka Creek 79.84 8 P P 13 15 53.5 +0.2
baz=196
P19K Oil Pt 79.86 13 P P 13 15 53.1 -0.3
baz=205
N17K Nushagak Hills 79.90 11 P P 13 15 53.3 -0.3
baz=201
M16K Timber Creek 80.07 10 P P 13 15 55.1 +0.6
M16K IAmb IAmb 13 15 56.5
comp=Z,58nm,0.9s
M16K Timber Creek 80.07 10 P P 13 15 55.1 +0.6
baz=199,SNR=9.7
O19K Port Alsworth 80.13 12 P P 13 15 54.3 -0.5
baz=204,SNR=16
K13K Kusilvak Mount 80.18 7 P P 13 15 55.2 +0.2
baz=194
HOM Homer 80.21 14 P P 13 15 55.4 +0.2
baz=206
N18K Kilae Creek 80.28 11 P P 13 15 55.1 -0.5
baz=202
L15K Ungalak Mounta 80.33 8 P P 13 15 55.4 -0.4
baz=197
O20K Slope Mountain 80.38 13 P P 13 15 55.5 -0.7
baz=205
BRSE Bradley Lake S 80.49 14 P P 13 15 56.5 -0.2
baz=207
L16K Owhat River 80.65 9 P P 13 15 58.2 +0.8
baz=199,SNR=7.8
N19K Bonanza Creek 80.67 12 P P 13 15 56.7 -1.0
baz=203,SNR=5.1
M17K Holitna River 80.68 10 P P 13 15 59.0 +1.4
baz=200,SNR=9.4
K15K Wolf Creek Mou 80.91 8 P P 13 16 00.1 +1.2
baz=197,SNR=10
M18K Stony River 81.04 11 P P 13 15 59.9 +0.4
baz=202,SNR=5.2
SEW Seward 81.11 14 P P 13 15 59.7 -0.2
baz=208
L17K Donlin 81.23 10 P P 13 16 01.8 +1.3
baz=200,SNR=7.6
O22K Cooper Landing 81.38 14 P P 13 16 00.6 -0.7
baz=208
SMAI San Martin Ant 81.40 159 P P 13 16 02.0 +0.6
SMAI IAmb IAmb 13 17 34.5
comp=Z,22nm,0.9s
GAMB Gambell 81.43 3 P P 13 16 01.8 +0.4
baz=187
SPCR Spurr Chakacha 81.48 13 P P 13 16 01.1 -0.8
baz=206
P23K Montague Islan 81.51 15 P P 13 16 01.6 -0.3
baz=210
L18K Granite Mounta 81.57 10 P P 13 16 02.7 +0.5
baz=201,SNR=9.6
K17K Iditarod 81.78 9 P P 13 16 03.8 +0.6
baz=200
TUC Tucson 81.80 52 P P 13 16 05.8 +1.6
L19K White Mountain 81.86 11 P P 13 16 03.7 -0.1
baz=203
M20K Styx River 81.91 12 P P 13 16 03.2 -0.9
baz=205
RC01 Rabbit Creek A 81.92 14 P P 13 16 03.6 -0.4
baz=208,SNR=6.6
J16K Anvik River 81.99 8 P P 13 16 05.0 +0.7
baz=197,SNR=7.4
SUA Susitna One 82.03 13 P P 13 16 04.1 -0.6
baz=207,SNR=13
PWL Port Wells 82.04 14 P P 13 16 04.0 -0.7
baz=209,SNR=6.3
LCMT Little Creek M 82.20 47 P P 13 16 06.8 +0.6
KAIM Kayak Island 82.23 17 P P 13 16 05.7 +0.1
baz=213
J17K VABM Dome 82.31 9 P P 13 16 06.3 +0.3
baz=199
L20K Farewell, AK 82.31 11 P P 13 16 05.8 -0.2
baz=204,SNR=6.4
SKT Skwentna 82.32 13 P P 13 16 05.6 -0.5
baz=206
GLI Glacier Island 82.36 15 P P 13 16 05.7 -0.6
baz=210,SNR=12
BELA Belgrano 2 82.36 173 P P 13 16 05.8 -0.4
EYAK Cordova Ski Ar 82.41 16 P P 13 16 06.1 -0.4
EYAK Cordova Ski Ar 82.41 16 P P 13 16 05.8 -0.6
baz=212
M22K Willow 82.42 13 P P 13 16 06.1 -0.4
baz=207,SNR=12
KNK Knik Glacier 82.50 14 P P 13 16 06.8 -0.2
KNK IAmb IAmb 13 16 07.4
comp=Z,29nm,0.8s
KNK Knik Glacier 82.50 14 P P 13 16 06.5 -0.5
baz=209,SNR=8.3
PMR Palmer 82.50 14 P P 13 16 06.5 -0.4
PMR Palmer 82.50 14 P P 13 16 06.5 -0.4
baz=208,SNR=9.5
ANM Nome 82.68 6 P P 13 16 07.6 -0.2
baz=193
GHO Glory Hole Cre 82.70 14 P P 13 16 07.6 -0.5
J18K Innoko River 82.74 10 P P 13 16 08.0 -0.1
baz=201
U33K Whale Pass 82.94 24 P P 13 16 08.6 -0.6
baz=223
V35K Ketchikan 82.96 25 P P 13 16 08.6 -0.8
baz=225
CUT Chulitna 82.97 13 P P 13 16 08.7 -0.6
baz=207,SNR=17
M23K Glacier View 83.00 14 P P 13 16 08.6 -0.9
baz=210
PPLA Purkeypile 83.02 12 P P 13 16 08.8 -0.9
baz=205
BMRM Bremner River 83.06 16 P P 13 16 09.6 -0.3
baz=213,SNR=7.4
H16K Elim 83.08 7 P P 13 16 10.1 +0.3
baz=196
K20K Telida 83.09 11 P P 13 16 09.9 0.0
baz=204,SNR=16
SCM Sheep Creek Mo 83.13 14 P P 13 16 09.9 -0.3
baz=210,SNR=17
MESA MESA 83.14 18 P P 13 16 10.7 +0.3
baz=215
KLU Klutina 83.17 15 P P 13 16 10.2 -0.3
baz=211,SNR=6.0
S31K Pelican 83.18 21 P P 13 16 10.5 +0.1
baz=220
G15K Niukluk 83.23 6 P P 13 16 10.8 +0.2
baz=194
CRQM Cirque 83.28 17 P P 13 16 10.8 -0.3
CRQM IAmb IAmb 13 16 11.9
comp=Z,48nm,1.0s
CRQE Cirque 83.29 17 P P 13 16 10.9 -0.1
baz=214,SNR=5.7
J19K Poorman 83.41 10 P P 13 16 11.6 +0.2
baz=202,SNR=5.1
TNA Tin City 83.44 4 P P 13 16 11.8 +0.3
baz=190
WRAK Wrangell Islan 83.46 24 P P 13 16 11.9 +0.1
baz=224
PNL Peninsula 83.48 19 P P 13 16 11.5 -0.4
PNL Peninsula 83.48 19 P P 13 16 12.0 0.0
baz=217
BJI Beijing 83.49 315 P P 13 16 13.0 +0.6
BJI pmax pmax
comp=Z,6.0nm,0.8s
F14K Arctic Creek 83.49 5 P P 13 16 11.9 +0.1
baz=192
LYN LuoYang 83.52 309 P P 13 16 13.8 +1.1
LYN pmax pmax
comp=Z,31nm,0.9s
PINM Pinnacle 83.57 18 P P 13 16 12.2 -0.2
baz=217
VRDI Verde Repeater 83.59 16 P P 13 16 12.2 -0.5
VRDI IAmb IAmb 13 16 12.9
comp=Z,21nm,0.7s
N25K Chitina, Valde 83.61 16 P P 13 16 12.5 -0.1
baz=212,SNR=17
M24K Tolsona, Glenn 83.64 15 P P 13 16 13.2 +0.5
baz=211,SNR=10
H17K Granite Mounta 83.66 8 P P 13 16 12.1 -0.6
baz=198
WAT6 Susitna Watana 83.68 14 P P 13 16 12.5 -0.6
baz=210,SNR=19
WAT1 Susitna Watana 83.72 13 P P 13 16 12.5 -0.5
baz=209
G16K Koyuk River 83.80 7 P P 13 16 13.3 0.0
baz=196
J20K Nowinka River 83.83 11 P P 13 16 13.5 0.0
baz=204,SNR=8.6
MCARA McCarthy VSAT 83.83 16 P P 13 16 13.4 -0.2
baz=214,SNR=5.4
CHUM Lake Minchumin 83.89 11 P P 13 16 12.9 -0.9
baz=205,SNR=6.1
TRF Thorofare Moun 83.90 12 P P 13 16 13.2 -0.9
baz=207,SNR=38
MAW Mawson 83.93 200 P P 13 16 13.9 -0.2
comp=Z,2.1nm,0.4s,baz=136,slow=4.9,SNR=9.3
comp=Z,2.1nm,0.4s
CTG Chitna Glacier 83.95 17 P P 13 16 14.4 +0.1
baz=216,SNR=5.6
P29M Windy Craggy 83.97 20 P P 13 16 14.9 +0.6
baz=219,SNR=7.5
R32K Eaglecrest 84.02 22 P P 13 16 15.2 +0.6
baz=222
H18K Honhosa River 84.08 8 P P 13 16 15.4 +0.7
baz=200
G17K Kiwalik Mounta 84.11 7 P P 13 16 15.5 +0.6
baz=197
O28M Mount Upton 84.13 18 P P 13 16 15.2 -0.2
baz=217,SNR=10
HARP HAARP 84.14 15 P P 13 16 14.9 -0.2
baz=212,SNR=13
DHY Denali Highway 84.20 14 P P 13 16 15.1 -0.5
baz=210,SNR=10
O29M Mount Kennedy 84.24 19 P P 13 16 15.9 +0.1
baz=218
PLBC Pleasant Camp 84.28 20 P P 13 16 16.4 +0.5
baz=220,SNR=6.7
BPAW Bear Paw Mtn. 84.34 12 P P 13 16 14.8 -1.3
baz=206
I20K Naaghedeneel 84.34 10 P P 13 16 15.9 -0.1
baz=203
MCK McKinley 84.43 13 P P 13 16 15.7 -0.8
baz=208,SNR=17
PAX Paxson 84.55 15 P P 13 16 16.2 -1.1
baz=212,SNR=11
P30M Million Dollar 84.60 20 P P 13 16 18.4 +0.9
baz=220
SKAG Skagway 84.63 21 P P 13 16 18.2 +0.6
baz=221
YUK8 Steele Glacier 84.67 18 P P 13 16 18.3 +0.3
baz=217,SNR=12
T35M Bob Quinn 84.67 24 P P 13 16 18.4 +0.5
baz=226
M26K Nabesna, AK 84.69 16 P P 13 16 17.9 0.0
baz=214,SNR=26
H19K Roundabout Mou 84.71 9 P P 13 16 17.8 0.0
baz=201
G18K Tagagawik 84.74 8 P P 13 16 17.7 -0.3
baz=199
YUK6 Outpost Mounta 84.81 18 P P 13 16 18.6 -0.1
baz=218
H20K Anotleeega Mo 84.92 10 P P 13 16 18.9 +0.1
baz=203
M27K Edge Creek, AK 84.95 16 P P 13 16 19.4 +0.2
baz=215,SNR=17
HYT Haines Junctio 84.98 19 P P 13 16 19.8 +0.4
baz=219,SNR=5.8
S34M Telegraph Cree 84.99 23 P P 13 16 20.5 +1.2
baz=225,SNR=9.4
YUK4 Talbot Arm 85.04 18 P P 13 16 20.4 +0.6
baz=218,SNR=5.3
L26K Log Cabin Wild 85.12 15 P P 13 16 20.0 +0.1
baz=214,SNR=7.9
I21K Tanana 85.13 11 P P 13 16 19.3 -0.5
baz=206
NEA2 Nenana 85.17 12 P P 13 16 18.6 -1.5
baz=208
K24K Donnelly Dome 85.19 14 P P 13 16 20.2 0.0
baz=211,SNR=26
G19K Purcell Mounta 85.19 9 P P 13 16 19.7 -0.5
baz=201
MLY Manley 85.23 12 P P 13 16 19.2 -1.2
baz=207
P32M Atlin 85.28 21 P P 13 16 21.2 +0.5
baz=222
F18K Selawik 85.28 8 P P 13 16 20.8 +0.3
baz=198
Q32M Nakina River 85.32 22 P P 13 16 21.7 +0.5
baz=224,SNR=7.5
RIDG Independent Ri 85.36 14 P P 13 16 20.6 -0.5
baz=212,SNR=11
O30N Mendenhall 85.38 19 P P 13 16 21.5 +0.3
baz=220,SNR=8.4
H21K Melozitna Rive 85.42 10 P P 13 16 21.3 0.0
baz=205
HDA Harding Lake 85.45 13 P P 13 16 20.8 -0.6
baz=210,SNR=17
XLT XiLinHaoTe 85.45 319 eP P 13 16 22.3 +0.3
XLT pmax pmax
comp=Z,11nm,1.4s

XLT pmax pmax
comp=Z,83nm,4.2s
E17K **Hotham Inlet** 85.49 7 P P 13 16 21.7 +0.2
baz=196,SNR=6.2
L27K **Beaver Creek,** 85.54 16 P P 13 16 21.9 0.0
baz=215,SNR=5.9
I23K **Minto, Yukon-K** 85.60 12 P P 13 16 22.2 +0.1
baz=208
N30M **Aishikik Lake** 85.60 19 P P 13 16 22.2 -0.1
baz=219
COLA **College** 85.66 13 P P 13 16 21.6 -0.8
COLA **College** 85.66 13 P P 13 16 21.5 -0.9
baz=209
COLA **College** 85.66 13 P P 13 16 21.1 -1.3
COLA pP pP 13 18 22.1 +0.7
WHY **Whitehorse** 85.68 20 P P 13 16 23.2 +0.4
baz=221,SNR=7.6
F19K **Shaleruckik Mo** 85.75 8 P P 13 16 22.2 -0.6
baz=200,SNR=7.2
SCRK **Sand Creek** 85.76 15 P P 13 16 22.9 -0.2
baz=213,SNR=15
DLBC **Dease Lake** 85.78 23 P P 13 16 23.7 +0.5
baz=226
ILAR **Eielson Array** 85.78 13 P P 13 16 21.9 -1.1
comp=Z,7.5nm,0.5s,baz=223,slow=5.1,SNR=121
comp=Z,7.5nm,0.5s
H22K **Ishtalitna Cre** 85.89 11 P P 13 16 23.2 -0.3
baz=206,SNR=8.6
E18K **Tukpahlearik C** 85.95 7 P P 13 16 24.1 +0.3
baz=197,SNR=5.4
XAN **Xi'an** 85.96 307 ⇑P P 13 16 25.8 +1.2
XAN pP PcP 13 16 30.8 +4.4
XAN pmax pmax
comp=Z,34nm,1.0s
D17K **Noatak River** 85.96 6 P P 13 16 24.0 +0.3
baz=195
M29M **Somme Creek** 85.96 18 P P 13 16 24.2 +0.2
baz=218,SNR=11
POKR **Poker Plat Res** 85.97 13 P P 13 16 22.7 -1.1
baz=210
J25K **Salcha River,** 85.98 14 P P 13 16 23.5 -0.5
baz=212
N31M **Braeburn, Yuko** 86.02 19 P P 13 16 24.4 +0.1
baz=221,SNR=5.8
P33M **Teslin, Yukon** 86.04 21 P P 13 16 24.5 +0.1
baz=223
G21K **Allakaket** 86.09 10 P P 13 16 24.3 -0.1
baz=204
R33M **Jennings River** 86.10 22 P P 13 16 25.2 +0.4
baz=225,SNR=7.1
TXAR **Lajitas Array** 86.12 58 P P 13 16 27.3 +1.7
comp=Z,16nm,0.8s,baz=217,slow=6.1,SNR=188
comp=Z,16nm,0.8s
H23K **Yukon River** 86.17 12 P P 13 16 24.3 -0.5
baz=208
ANMO **Albuquerque** 86.19 52 P P 13 16 26.3 +0.4
ANMO pP pwP 13 18 28.3 +0.3
F20K **Avaraart Lake** 86.24 9 P P 13 16 25.0 -0.1
baz=202,SNR=5.2
J26L **Joseph Creek** 86.30 14 P P 13 16 25.7 +0.1
baz=213,SNR=26
C16K **Lisburne Hills** 86.32 5 P P 13 16 25.6 +0.2
baz=193
RDOG **Red Dog Mine** 86.32 6 P P 13 16 25.6 +0.1
baz=195
E19K **Redstone River** 86.41 8 P P 13 16 25.7 -0.2
baz=200
H24K **Noodor Dome** 86.50 12 P P 13 16 25.6 -0.9
baz=209
M30M **Minto, Yukon** 86.55 18 P P 13 16 26.9 +0.1
baz=220,SNR=16
L29M **L29M** 86.58 17 P P 13 16 27.2 +0.3
baz=218,SNR=12
N32M **Quiet Lake** 86.64 20 P P 13 16 27.5 +0.2
baz=223
F21K **Alatna River** 86.74 10 P P 13 16 27.1 -0.4
baz=204,SNR=5.8
G22K **Bettles** 86.79 10 P P 13 16 27.8 +0.1
baz=206
G23K **Bananza Creek** 86.86 11 P P 13 16 27.8 -0.4
G23K **Bananza Creek** 86.86 11 P P 13 16 28.2 0.0
baz=207,SNR=5.0
HHC **Hu-ho-hao-te** 86.97 315 *e*P P 13 16 29.8 +0.5
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,100nm,7.6s
DAWY **Dawson** 87.00 16 P P 13 16 28.8 0.0
baz=217,SNR=9.1
M31M **Drury Creek, Y** 87.00 19 P P 13 16 28.6 -0.3
baz=222
C18K **Utukok River** 87.07 6 P P 13 16 29.5 +0.4
baz=197
I26K **Coal Creek Min** 87.07 14 P P 13 16 29.0 0.0
baz=214
LOHW **Long Hollow** 87.11 42 P P 13 16 30.6 +0.5
LOHW IAmb IAmb 13 16 31.8
comp=Z,11nm,0.8s
EGAK **Eagle** 87.12 15 P P 13 16 29.2 -0.1
baz=216,SNR=11
F22K **John River** 87.21 10 P P 13 16 29.4 -0.3
baz=205,SNR=11
D19K **Kuna River** 87.28 7 P P 13 16 29.6 -0.4
baz=200
COLD **Coldfoot** 87.30 11 P P 13 16 30.4 +0.3
baz=207,SNR=15
H25L **Birch Creek** 87.30 13 P P 13 16 29.9 -0.2
baz=211
E20K **Nigu River** 87.30 8 P P 13 16 30.1 -0.1
baz=201
K29M **Barlow Dome** 87.33 17 P P 13 16 30.8 +0.3
baz=219,SNR=10
G24K **Hadweenzic Riv** 87.34 12 P P 13 16 30.3 -0.1
baz=210
PDAR **Pinedale Array** 87.40 44 P P 13 16 31.6 +0.2
comp=Z,11nm,0.7s,baz=212,slow=3.3,SNR=96
PDAR PP PP 13 20 04.1 -2.5
comp=Z,1.2nm,1.0s,baz=246,slow=6.3,SNR=5.4
comp=Z,11nm,0.7s
MAYO **Mayo, Yukon** 87.60 18 P P 13 16 32.3 +0.7
baz=220,SNR=15
J29N **Klondike Camp** 87.62 16 P P 13 16 32.6 +0.8
baz=218
G25K **Bearman Lake** 87.67 12 P P 13 16 32.4 +0.5
baz=211
D20K **Etivluk River** 87.67 8 P P 13 16 31.7 -0.2
baz=201
C19K **Lookout Ridge** 87.68 7 P P 13 16 31.9 0.0
baz=198
I27K **Kandik River** 87.68 15 P P 13 16 32.0 0.0
baz=215,SNR=5.7
B18K **Kokolik River** 87.70 6 P P 13 16 31.8 -0.1
baz=196
E21K **Killik River** 87.79 9 P P 13 16 32.0 -0.4
baz=204
E22K **Anaktuvuk Pass** 87.84 10 P P 13 16 32.4 -0.3
baz=206,SNR=8.5
TOAD **Toad River Com** 87.91 25 P P 13 16 33.4 +0.2
baz=230,SNR=14
LIRD **Liard River Hi** 87.94 24 P P 13 16 33.1 -0.1
baz=229
I28M **Miner Creek** 87.97 15 P P 13 16 33.0 -0.4
baz=217,SNR=11
F24K **Squaw Lake** 87.97 11 P P 13 16 33.3 0.0
baz=209,SNR=15
E23K **Chandalar** 88.14 11 P P 13 16 34.0 -0.1
baz=208,SNR=8.0
H27K **Steamboat Moun** 88.22 14 P P 13 16 34.2 -0.3
H27K **Steamboat Moun** 88.22 14 P P 13 16 34.5 0.0
baz=215,SNR=8.6
J30M **Hart River** 88.23 17 P P 13 16 34.7 0.0
baz=220
MMPY **Sheldon Lake,** 88.30 20 P P 13 16 35.3 +0.4
baz=225,SNR=22
G26K **Porcupine Rive** 88.31 13 P P 13 16 35.3 +0.5
baz=213,SNR=22
I29M **Ogilvie Camp,** 88.31 16 P P 13 16 34.8 -0.1
baz=218
C21K **Knifeblade Rid** 88.33 8 P P 13 16 35.2 +0.3
baz=203
E24K **Your Creek** 88.35 11 P P 13 16 35.1 0.0
baz=209,SNR=6.2
D22K **Ayikyak River** 88.38 9 P P 13 16 35.3 +0.1
baz=205,SNR=8.4
F25K **Christian Rive** 88.47 12 P P 13 16 35.9 +0.2
baz=211,SNR=6.1
TGTN **Hyland Airport** 88.55 22 P P 13 16 36.6 +0.5
baz=227,SNR=10

CMAR **Chiang Mai Arr** 88.59 290 P P 13 16 38.7 +1.4
comp=Z,2.9nm,0.9s,baz=108,slow=3.0,SNR=17
comp=Z,2.9nm,0.9s
G27K **Doyon Strip** 88.67 14 P P 13 16 36.4 -0.1
baz=215
TOLK **Toolik Lake Re** 88.67 10 P P 13 16 36.6 +0.1
baz=208
I30M **Mount Dempster** 88.71 16 P P 13 16 36.8 -0.2
baz=220,SNR=10
D23K **Nanushuk River** 88.77 10 P P 13 16 37.0 +0.1
baz=207,SNR=6.7
B21K **Ikpikpuk River** 88.79 8 P P 13 16 36.8 -0.1
baz=203
B20K **Meade River** 88.82 7 P P 13 16 37.7 +0.6
baz=200
PZH **PanZhiHua** 88.85 298 P P 13 16 37.3 -1.2
PZH pmax pmax
comp=Z,20nm,1.1s
F26K **Sheenjek River** 88.86 12 P P 13 16 37.9 +0.5
baz=213,SNR=6.2
E25K **Arctic Village** 88.94 12 P P 13 16 38.0 +0.2
baz=211,SNR=5.3
H29M **Whitestone** 88.97 15 P P 13 16 37.8 -0.1
baz=218,SNR=11
D24K **Happy Valley** 89.25 10 P P 13 16 39.2 +0.1
baz=208
EPYK **Eagle Plains** 89.51 16 P P 13 16 40.4 -0.1
baz=220,SNR=9.4
C23K **Itkillik River** 89.56 9 P P 13 16 40.8 +0.2
baz=207,SNR=7.3
G29M **Pine Creek** 89.61 15 P P 13 16 40.5 -0.4
baz=218,SNR=7.0
B22K **Teshekpuk Lake** 89.61 8 P P 13 16 40.8 0.0
baz=204
H31M **Peel River** 89.71 17 P P 13 16 41.0 -0.4
baz=222
F28M **Old Crow** 89.73 14 P P 13 16 41.2 -0.2
baz=217,SNR=8.1
C24K **Franklin Bluff** 89.77 10 P P 13 16 41.6 +0.1
baz=208
E27K **Coleen River** 89.81 13 P P 13 16 42.1 +0.2
baz=215
D25K **Kavik River** 89.83 11 P P 13 16 41.7 -0.2
baz=211
A22K **Sinclair Lake** 90.02 8 P P 13 16 43.1 +0.5
baz=203
G30M **tAoh Zraii Nji** 90.11 15 P P 13 16 42.8 -0.4
baz=220,SNR=19
TROLL **Troll, Antarti** 90.47 180 ⇑P P 13 16 44.8 -0.4
comp=Z,355nm,0.5s
TROLL pP pP 13 18 46.4 +0.7
G31M **Satah River** 90.57 16 P P 13 16 45.0 -0.3
baz=222,SNR=16
C27K **Jago River** 90.58 12 P P 13 16 45.3 0.0
baz=213,SNR=5.9
LZH **Lanzhou** 90.59 308 *e*P P 13 16 47.5 +1.1
LZH sP sP 13 19 40.5 -2.3
LZH pmax pmax
comp=Z,26nm,1.2s
E28M **Babbage River** 90.60 13 P P 13 16 45.3 -0.1
baz=217,SNR=11
C26K **Camden Bay** 90.60 11 P P 13 16 45.6 +0.3
baz=212
LZDM **Lanzhou Array** 90.65 308 P P 13 16 47.5 +0.7
comp=Z,2.0nm,0.3s,baz=115,slow=6.8,SNR=2.0
comp=Z,2.0nm,0.3s
F30M **Barrier River** 90.70 15 P P 13 16 45.7 -0.2
baz=220,SNR=5.3
SNAA **Sanae** 90.77 179 ⇑P P 13 16 45.8 -0.7
comp=Z,91nm,0.5s
SNAA pP pP 13 18 48.7 +1.5
SNAA **Sanae** 90.77 179 P P 13 16 45.2 -1.2
SNAA **Sanae** 90.77 179 P P 13 16 46.1 -0.4
comp=Z,3.5nm,0.6s,baz=210,slow=7.3,SNR=52
comp=Z,3.5nm,0.6s
E29M **Blow River** 90.80 14 P P 13 16 45.8 -0.5
baz=218
D27M **Malcolm River** 90.81 13 P P 13 16 46.9 +0.5
baz=216
VNA3 **Neumayer Olymp** 90.92 176 ⇑P P 13 16 47.0 -0.1
comp=Z,22nm,0.7s
VNA3 pP pP 13 18 48.1 +0.2
F31M **Tsiigehtchic** 91.09 16 P P 13 16 47.5 -0.2
baz=222,SNR=19
D28M **Stokes Point** 91.35 13 P P 13 16 48.6 -0.3
baz=218
VNA2 **Neumayer--Watz** 91.36 177 ⇑P P 13 16 44.5 -4.5
comp=Z,9.2nm,0.7s,baz=212,slow=5.1
VNA1 **Neumayer--Stat** 91.59 177 ⇑P P 13 16 50.5 +0.4
comp=Z,18nm,1.0s
PLCA **Paso Flores** 91.63 134 P P 13 16 51.5 +0.5
comp=Z,1.3nm,0.9s,baz=200,slow=7.9,SNR=3.3
comp=Z,1.3nm,0.9s
INK **Inuvik** 91.79 15 P P 13 16 50.2 -0.6
baz=223
SONM **Songino Array** 93.26 319 P P 13 16 58.3 0.0
comp=Z,0.9nm,0.5s,baz=126,slow=3.8,SNR=7.5
comp=Z,0.9nm,0.5s
YKA **Yellowknife Ar** 94.28 25 P P 13 17 02.3 -0.1
comp=Z,4.9nm,0.9s,baz=248,slow=3.9,SNR=8.4
comp=Z,4.9nm,0.9s
GTA **Gaotai** 94.73 310 *e*P P 13 17 06.0 +0.8
GTA pmax pmax
comp=Z,3.0nm,1.2s
C36M **Paulatuk** 95.01 17 P P 13 17 05.5 -0.1
baz=231
ZALV **Zalesovo Beam** 107.94 322 PKiKP PKiKP 13 22 06.0 -1.2
comp=Z,2.3nm,0.6s,baz=184,slow=1.8,SNR=12
MKAR **Makanchi Array** 108.83 314 PKiKP PKiKP 13 22 07.9 -1.2
comp=Z,2.1nm,0.5s,baz=133,slow=0.5,SNR=30
KURBB **Kurchatov Arra** 111.58 318 PKiKP PKiKP 13 22 12.9 -1.2
comp=Z,2.5nm,0.6s,baz=94,slow=1.8,SNR=26
KURBB PP PP 13 23 06.8 +0.1
comp=Z,0.6nm,0.7s,baz=88,slow=6.6,SNR=4.4
BVAR **Borovoye Array** 116.55 321 PKP PKPdf 13 22 22.8 -0.9
comp=Z,6.6nm,0.4s,baz=114,slow=2.5,SNR=42
SPITS **Spitsbergen Ar** 119.08 356 PKP PKPdf 13 22 27.3 -0.6
comp=Z,4.6nm,0.6s,baz=77,slow=5.4,SNR=14
ARCES **ARCESS Array B** 126.10 350 PKP PKPdf 13 22 41.0 -0.5
comp=Z,8.9nm,0.8s,baz=13,slow=2.0,SNR=20
FINES **FINESS Array B** 132.96 344 PKhKP PKPpre 13 22 42.2
comp=Z,2.6nm,0.9s,baz=75,slow=1.6,SNR=4.4
FINES PKP PKPdf 13 22 54.2 -0.5
comp=Z,3.0nm,0.6s,baz=46,slow=4.2,SNR=7.6
FINES SKPbc SKPbc 13 25 31.9 +0.8
comp=Z,7.1nm,0.9s,baz=94,slow=2.0,SNR=6.7
NB2 **NORSAR Subarra** 136.18 353 PKP PKPpre 13 22 49.6
comp=Z,0.5nm,0.4s,baz=16,slow=3.2
NB2 pPKP SKPbc 13 25 43.4 +2.0
comp=Z,0.8nm,0.8s,baz=14,slow=3.0
NOA **NORSAR Array B** 136.18 353 PKP PKPdf 13 23 00.4 -0.4
comp=Z,1.2nm,0.6s,baz=13,slow=4.0,SNR=4.9
NOA SKPbc SKPbc 13 25 43.3 +2.0
comp=Z,1.6nm,0.8s,baz=15,slow=4.5,SNR=3.3
HFS **Hagfors** 136.73 351 PKhKP PKPpre 13 22 48.0
comp=Z,2.1nm,0.4s,baz=67,slow=3.7,SNR=14
HFS PKP PKPdf 13 23 01.6 -0.2
comp=Z,4.5nm,0.9s,baz=73,slow=4.8,SNR=4.9
AKASG **Malin Array Be** 140.29 332 PKhKP PKPpre 13 22 59.3
comp=Z,1.8nm,0.4s,baz=46,slow=3.9,SNR=6.1
AKASG PKP PKPdf 13 23 09.4 +0.9
comp=Z,2.7nm,0.4s,baz=42,slow=3.4,SNR=7.8
RNPP5 **Staryi Chortor** 141.31 335 PKP PKPdf 13 23 09.2 -1.1
IDGL **Inch Island, C** 142.12 8 PKPdf PKPpre 13 23 07.7
EKA **Eskdalemuir Ar** 142.32 4 PKhKP PKPpre 13 23 07.3
comp=Z,4.9nm,0.8s,baz=351,slow=2.5,SNR=8.6
SORM **Soroca** 142.52 330 ⇑P PKPpre 13 23 07.9
ILTH **Belurgan, Co L** 143.30 8 PKPdf PKPab 13 23 11.2 -0.7
IGLA **Glengowla, Co** 143.43 11 PKPdf PKPab 13 23 11.4 -1.0
KWP **Kalwaria Pacla** 143.81 336 *e*PKP PKPab 13 23 14.3 +0.2
VASR **Vaslui** 143.83 329 ⇑P PKPab 13 23 14.5 +0.3
DSB **Dublin** 144.06 8 PKPdf PKPbc 13 23 13.7 -0.9
VLDR **Vladesti** 144.23 327 ⇑P PKPab 13 23 16.0 +0.3
TLCR 144.29 326 ⇑P PKPbc 13 23 15.0 -0.6
BURAR **Bucovina Array** 144.34 332 ⇑P PKPab 13 23 16.7 +0.4
OJC **Ojcow** 144.37 340 *e*PKP PKPdf 13 23 15.9 +0.1
SCTR **Scanteiesti** 144.39 327 ⇑P PKPab 13 23 16.2 -0.1
GHRR 144.43 328 ⇑P PKPab 13 23 17.3 +0.8
BRTR **Keskin Array B** 144.48 315 PKP PKPdf 13 23 16.4 -0.2
comp=Z,16nm,0.8s,baz=116,slow=2.9,SNR=40
TESR **Tescani** 144.48 329 ⇑P PKPab 13 23 16.5 -0.2
KIRS **Kirsehir-Merke** 144.57 314 ⇑P PKPdf 13 23 16.5 -0.1
CFR **Carcaliu** 144.66 327 ⇑P PKPbc 13 23 17.0 +0.3
VAL **Valentia** 144.67 12 PKPdf PKPdf 13 23 15.6 -0.6
TPGR **Topolog** 144.72 326 ⇑P PKPab 13 23 17.3 -0.3
ONER **Baraj Valea Uz** 144.73 329 ⇓P PKPab 13 23 17.8 +0.2
IWEX **Carrickbyrne,** 144.85 9 PKPdf PKPdf 13 23 16.6 +0.1

NIE **Niedzica** 144.88 338 *e*PKP PKPab 13 23 18.2 +0.1
KSP **Ksiaz** 144.88 343 *e*PKP PKPab 13 23 17.9 -0.1
VRI **Vrincioaia** 144.90 329 ⇑P PKPbc 13 23 17.3 -0.2
PLOR **Plostina** 144.95 329 ⇑P PKPbc 13 23 17.8 +0.1
ANTO **Ankara** 144.98 316 ⇑P PKPbc 13 23 17.9 -0.1
HARR **Harsova** 145.09 326 ⇑P PKPdf 13 23 17.3 +0.2
TLBR **Topalu** 145.12 326 ⇑P PKPbc 13 23 18.1 0.0
BISRR **Bisoca** 145.13 328 ⇑P PKPab 13 23 19.4 +0.1
OSTC **Ostas** 145.16 343⇑*e*PKP PKPbc 13 23 18.6 +0.5
CHVC **Chvalec** 145.17 344⇑*e*PKP PKPab 13 23 18.7 -0.5
COVR **Voineasa-Covas** 145.18 329 ⇓P PKPbc 13 23 18.2 -0.1
OZUR 145.20 330 ⇑P PKPbc 13 23 18.9 +0.5
OKC **Ostrava-Krasne** 145.23 341⇑*e*PKP PKPbc 13 23 18.5 +0.2
CLL **Collm** 145.24 347⇑*i*PKPbc PKPbc 13 23 18.3 0.0
comp=Z,63nm,0.6s
UPC **Upice** 145.26 343⇑*e*PKP PKPbc 13 23 18.8 +0.4
MANR **Mangalia** 145.30 324 ⇑P PKPbc 13 23 19.0 +0.3
DPC **Dobruska-Polom** 145.31 343⇑*e*PKP PKPab 13 23 19.3 -0.5
NEHR **Nehoiu** 145.43 328 ⇓P PKPbc 13 23 19.7 +0.6
KRLC **Kraliky** 145.43 342⇑*e*PKP PKPbc 13 23 19.4 +0.4
BRG **Berggiesshubel** 145.44 346 *e*PKP PKPdf 13 23 17.9 +0.3
BRG Amp 13 23 19.7
comp=Z,25nm,0.7s
MORC **Moravsky Berou** 145.47 341 *e*PKP PKPbc 13 23 19.1 0.0
MORC **Moravsky Berou** 145.47 341 ⇓P PKPdf 13 23 18.2 +0.5
DOPR **Dopca** 145.48 330 ⇓P PKPab 13 23 20.1 -0.5
ISR **Istrita** 145.52 328 ⇑P PKPbc 13 23 19.9 +0.5
MLR **Muntele Rosu** 145.56 329 ⇑P PKPbc 13 23 19.9 +0.4
PVCC **Panska Ves** 145.61 345⇑*e*PKP PKPbc 13 23 19.5 +0.1
RICC **Richard** 145.71 345⇑*e*PKP PKPbc 13 23 20.2 +0.5
SAHE **Sakarya_HENDEK** 145.73 318 ⇑P PKPbc 13 23 20.5 +0.5
CJR **Cluj-Napoca** 145.75 332 ⇑P PKPbc 13 23 19.9 -0.1
MMAI **Mount Meron Ar** 145.84 303 PKPbc PKPbc 13 23 21.1 +0.5
comp=Z,19nm,0.6s,baz=66,slow=6.5,SNR=23
MARR **Marisel-Cluj** 145.99 333 ⇑P PKPbc 13 23 21.1 +0.4
VOIR 146.03 330 ⇑P PKPbc 13 23 20.5 -0.4
PRA **Prague** 146.07 345⇑*e*PKP PKPbc 13 23 20.9 +0.2
PRA *e*PKPAB PKiKP 13 23 23.3 +0.2
DRGR 146.07 333 ⇑P PKPbc 13 23 21.1 +0.2
PRU **Pruhonice** 146.12 345⇑*e*PKP PKPbc 13 23 21.2 +0.4
PRU *e*PKPAB PKiKP 13 23 23.4 +0.2
VRAC **Vranov** 146.17 342 *e*PKP PKPbc 13 23 21.0 0.0
VRAC **Vranov** 146.17 342 ⇑P PKPbc 13 23 20.0 -1.0
JAVC **Velka Javorina** 146.24 340 *e*PKP PKPbc 13 23 22.3 +1.0
ARR **Arges** 146.28 330 ⇑P PKPbc 13 23 22.3 +0.7
KRUC **Moravsky** 146.45 342 *e*PKP PKPbc 13 23 21.7 -0.1
TREC **Trest** 146.50 343⇑*e*PKP PKPdf 13 23 20.0 +0.5
ZVC **Zvikov** 146.71 345⇑*e*PKP PKPbc 13 23 22.8 +0.3
ZVC *e*PKPAB PKPab 13 23 25.9 +0.6
SIRR **Siria** 146.93 334 ⇑P PKPbc 13 23 23.4 +0.2
MEM **Membach** 146.99 355 *d*PKP PKPbc 13 23 23.1 0.0
BTNL **Ternell** 147.00 354 *d*PKP PKPbc 13 23 23.5 +0.3
BSTI **Sart Tilman** 147.06 355 *d*PKP PKPbc 13 23 23.6 +0.2
EIL **Elat** 147.12 297 PKPbc PKPbc 13 23 23.9 -0.3
comp=Z,10nm,0.8s,baz=98,slow=7.1,SNR=3.8
GZR **Gura Zlata** 147.13 332 ⇑P PKPbc 13 23 23.3 -0.5
GRF **Grafenberg Arr** 147.14 348 *e*PKPbc PKPbc 13 23 23.8 +0.2
baz=18,slow=1.9
GRF *e*PKPab PKPab 13 23 27.3 +0.3
baz=18,slow=3.7
SURR **Surduc** 147.14 333 ⇑P PKPbc 13 23 23.5 -0.2
KHC **Kasperske Hory** 147.15 345 *e*PKPDF PKPdf 13 23 21.1 +0.5
KHC ⇑*e*PKP PKPbc 13 23 24.1 +0.4
KHC *e*PKPAB PKPab 13 23 27.6 +0.5
BHOU **Houvegnez** 147.25 354 *d*PKP PKPbc 13 23 24.4 +0.6
CKRC **Cesky Krumlov** 147.25 344⇑*e*PKP PKPbc 13 23 24.4 +0.4
PHSR **Pinarhisar** 147.30 322 ⇑P PKPbc 13 23 24.0 -0.2
ELND **Elena** 147.38 326 ⇑P PKPbc 13 23 24.5 0.0
GERES **GERESS Array B** 147.38 345 PKPbc PKPbc 13 23 24.5 +0.1
comp=Z,24nm,0.7s,baz=5.7,slow=2.7,SNR=63
BMRD **Maredsous** 147.40 356 *d*PKP PKPbc 13 23 24.3 +0.1
BZS **Buzias** 147.47 333 ⇑P PKPbc 13 23 24.5 -0.1
RCHB **Rochefort** 147.51 355 *d*PKPdf PKPdf 13 23 20.7 -0.3
RCHB *d*PKP PKPbc 13 23 24.6 +0.1
DOU **Dourbes** 147.61 356 *d*PKP PKPbc 13 23 24.8 0.0
CONA **Conrad Observa** 147.62 342 *i* PKiKP PKPbc 13 23 25.4 +0.4
comp=Z,44nm,0.8s,SNR=17
HERR **Herculane** 147.69 331 ⇑P PKPbc 13 23 25.2 0.0
RONA **Rosalia, Austr** 147.69 341 *i* PKiKP PKPbc 13 23 25.5 +0.4
comp=Z,40nm,0.8s,SNR=16
PLVB **Pleven** 147.72 327 ⇑P PKPbc 13 23 25.3 0.0
BAND **Balkesir-Ban** 147.73 320 ⇑P PKPbc 13 23 25.3 -0.1
WLF **Walferdange** 147.91 354 *d*PKP PKiKP 13 23 26.3 -0.6
MOA **Molln** 148.15 343 *i* PKP PKPbc 13 23 26.3 0.0
comp=Z,2.6nm,0.4s,SNR=6.2
LESA **Schwarzleotal** 148.96 345 *i* PKP PKPbc 13 23 28.0 -0.4
comp=Z,18nm,0.4s,SNR=13
BOVS **Bovan** 148.97 331 ⇑P PKPbc 13 23 27.7 -0.7
SOKA **Soboth** 149.00 342 *i* PKP PKPbc 13 23 27.9 -0.6
comp=Z,43nm,1.3s,SNR=12
PERS **Pernice** 149.01 341 *i* P PKPbc 13 23 27.9 -0.5
KBA **Koelnbreinsper** 149.11 344 *i* PKP PKPbc 13 23 28.0 -0.9
comp=Z,20nm,0.5s,SNR=14
EZN **Ezine** 149.13 321 ⇓P PKPbc 13 23 28.7 -0.2
WATA **Walderalm** 149.30 346 *i* PKP PKPbc 13 23 29.0 -0.3
comp=Z,16nm,0.5s,SNR=8.6
RETA **Reutte** 149.33 347 *i* PKP PKPbc 13 23 29.1 -0.2
comp=Z,14nm,0.5s,SNR=8.3
WTTA **Wattenberg** 149.35 346 *i* PKiKP PKPbc 13 23 29.4 -0.1
comp=Z,34nm,0.3s,SNR=16
MOSL **Moslavina** 149.38 338⇑*i*P PKPbc 13 23 29.2 -0.1
MOTA **Moosalm** 149.40 347 *i* PKP PKPbc 13 23 29.2 -0.3
comp=Z,22nm,0.7s,SNR=9.1
MYKA **Terra Mystica** 149.44 343 *i* PKP PKPbc 13 23 28.7 -0.9
comp=Z,21nm,0.4s,SNR=12
SQTA **Sankt Quirin** 149.49 347 *i* PKP PKPbc 13 23 29.6 -0.1
comp=Z,38nm,0.6s,SNR=11
ABTA **Abfaltersbach** 149.63 345 *i* PKP PKPbc 13 23 29.4 -0.6
comp=Z,43nm,0.6s,SNR=14
DAVA **Damuels** 149.70 348 *i* PKiKP PKPbc 13 23 30.3 0.0
comp=Z,66nm,0.9s,SNR=8.4
LJU **Ljubljana** 149.72 342 *i* P PKPbc 13 23 29.9 -0.2
FETA **Feichten** 149.78 347 *i* PKiKP PKPbc 13 23 30.4 0.0
comp=Z,40nm,1.1s,SNR=7.3
OZLJ **Ozalj** 149.81 340⇑*i*P PKPbc 13 23 30.2 -0.1
SLATY **Slatina** 149.85 337⇑*i*P PKPbc 13 23 29.8 -0.7
BLY **Banja Luka** 149.97 337⇑*i*P PKPbc 13 23 30.6 -0.1
BLY **Banja Luka** 149.97 337 ⇓P PKiKP 13 23 31.4 +0.1
CEY **Cerknica** 150.02 341 *i* P PKPbc 13 23 30.6 -0.3
RUDO **Rudo** 150.03 333 *e*P PKPbc 13 23 30.1 -0.8
VAY **Valandovo** 150.26 327 *i* P PKPbc 13 23 30.9 -0.6
SKO **Skopje** 150.35 329 *i* P PKPbc 13 23 31.8 0.0
KIJV **Kijevo** 150.89 337⇑*i*P PKPbc 13 23 32.6 -0.3
BRJN **Brijuni** 150.98 342⇑*i*P PKPbc 13 23 33.1 +0.1
TREB **Trebinje** 151.20 333⇑*i*P PKPbc 13 23 32.5 -1.1
OHR **Ohrid** 151.32 328 *i* P PKPbc 13 23 34.2 +0.2
STON **Ston** 151.34 334⇑*i*P PKPbc 13 23 32.7 -1.2
PCAB **Cabril** 154.80 17 *e*PKPab PKPab 13 23 59.5 +0.1
PBRG **Braganca** 155.04 14 *e*PKPab PKPab 13 24 00.4 0.0
POLO **Lamas de Olo** 155.18 17 *e*PKPab PKPab 13 24 01.4 +0.2
PVRL **Vila Real** 155.29 16 *e*PKPab PKPab 13 24 01.9 +0.4
MVO **Moncorvo** 155.57 15 *e*PKPdf PKPdf 13 24 34.1 +0.6
MVO *e*PKPab PKPab 13 24 03.3 +0.5
PVIS **Viseu** 155.76 17 *e*PKPab PKPab 13 24 03.8 +0.1
MTE **Manteigas** 156.15 17 *e*PKPab PKPab 13 24 05.4 0.0
PCAS **Casmilo, Conde** 156.19 19 *e*PKPab PKPab 13 24 05.2 -0.3
PCBR **Castelo Branco** 156.69 17 *e*PKPdf PKPdf 13 23 35.9 +1.1
PCBR *e*PKPab PKPab 13 24 08.4 +0.8
PSARD **Sardoal** 156.71 19 *e*PKPab PKPab 13 24 07.7 0.0
PMRV **Marv??o** 157.10 18 *e*PKPab PKPab 13 24 08.2 -1.2
PARRA **Arraiolos** 157.14 21 *e*PKPdf PKPdf 13 23 34.8 -0.6
PARRA *e*PKPab PKPab 13 24 10.3 +0.7
PMTG **Montargil** 157.18 19 *e*PKPab PKPab 13 24 09.4 -0.3
PESTR **Estremoz** 157.56 18 *e*PKPab PKPab 13 24 11.1 -0.3
ESDC **Sonseca Array** 157.66 11 PKP PKPdf 13 23 36.4 +0.3
comp=Z,0.7nm,0.6s,baz=357,slow=3.3,SNR=5.6
ESDC PKPab PKPab 13 24 10.7 -1.2
comp=Z,4.0nm,0.9s,baz=335,slow=4.3,SNR=14
PBAR **Barrancos** 158.36 18 *e*PKPab PKPab 13 24 15.1 +0.2
PCVE **Castro Verde** 158.54 21 *e*PKPab PKPab 13 24 15.8 +0.1
DBIC **Dimbokro** 167.45 151 PKP PKPdf 13 23 45.0 -1.3
comp=Z,3.2nm,0.7s,baz=270,slow=1.0,SNR=2.3
TORD **Torodi Ar. Bea** 175.42 185 PKP PKPdf 13 23 48.6 -1.4
comp=Z,2.2nm,0.8s,baz=139,slow=0.4,SNR=9.9

NOU 25 13:09:08.9, 18°46S×168°54E, h120km, MLv4.6/19,
Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RTV	Rentapao	0.67	351	P		Pn	13 09 28.3	+0.2
RTV	Rentapao	0.67	351	S		Sn	13 09 44.2	+1.7

DVP	**Devils Point**	**0.80**	**335**	P	Pn	13 09 29.8 +0.7
DVP	**Devils Point**	**0.80**	**335**	P	Sn	13 09 47.2 +2.8
SANVU	**Saraoutou**	**3.26**	**337**	P	Pn	13 09 58.1 -0.5
SANVU	**Saraoutou**	**3.26**	**337**	S	Sn	13 10 37.2 +0.2
YATNC	**Mamie plateau,**	**3.90**	**203**	P	Pn	13 10 07.4 +0.3
YATNC	**Mamie plateau,**	**3.90**	**203**	S	Sn	13 10 51.8 -0.5
DZM	**Mont Dzumac**	**4.10**	**208**	P	Pn	13 10 10.4 +0.6
DZM	**Mont Dzumac**	**4.10**	**208**	S	Sn	13 10 57.6 +0.5
OUENC	**Ouen Island, N**	**4.25**	**202**	P	Pn	13 10 12.6 +0.8
OUENC	**Ouen Island, N**	**4.25**	**202**	S	Sn	13 11 01.0 +0.4
PINNC	**Pines Island,**	**4.26**	**194**	P	Pn	13 10 12.3 +0.4
PINNC	**Pines Island,**	**4.26**	**194**	S	Sn	13 10 59.6 -1.2
ONTNC	**Ouen Toro**	**4.30**	**207**	P	Pn	13 10 13.7 +1.3
ONTNC	**Ouen Toro**	**4.30**	**207**	S	Sn	13 11 02.1 +0.3

UPP ***25*** *13:10:05.7±0.1, 58°.82N×15°.10E, h0km, ML1.5, Suspected explosion*

DNK 25 13:10:06.1±0.4**, 58°.82N×15°.09E, h0km, ML1.5**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASKU	**Askersund**	**0.15**	**299**	P	Pg	13 10 08.9	-0.2
ASKU				S	Sg	13 10 10.9	-0.1
ASKU	**Askersund**	**0.15**	**299**	P	Pg	13 10 07.1	-2.0
ASKU				S	Sg	13 10 09.6	-1.5
ASKU	**Askersund**	**0.15**	**299**	P	Pg	13 10 08.9	-0.2
ASKU				S	Sg	13 10 10.9	-0.1
LNKU	**Linkoeping**	**0.64**	**160**	P	Pg	13 10 17.7	-0.6
LNKU				S	Sg	13 10 26.7	+0.1
LNKU	**Linkoeping**	**0.64**	**160**	P	Pg	13 10 15.6	-2.7
LNKU				S	Sg	13 10 24.4	-2.1
LNKU	**Linkoeping**	**0.64**	**160**	P	Pg	13 10 17.7	-0.6
LNKU				S	Sg	13 10 26.7	+0.1
NRAU	**Nora**	**0.75**	**358**	P	Pg	13 10 19.8	-0.7
NRAU				S	Sg	13 10 30.1	-0.2
NRAU	**Nora**	**0.75**	**358**	P	Pg	13 10 18.0	-2.5
NRAU	**Nora**	**0.75**	**358**	P	Pg	13 10 19.8	-0.7
NRAU				S	Sg	13 10 30.1	-0.2
ESKU	**Eskilstuna**	**0.79**	**58**	P	Pg	13 10 20.4	-0.8
ESKU				S	Sg	13 10 31.1	-0.3
ESKU	**Eskilstuna**	**0.79**	**58**	P	Pg	13 10 18.4	-2.8
ESKU	**Eskilstuna**	**0.79**	**58**	P	Pg	13 10 20.4	-0.8
ESKU				S	Sg	13 10 31.1	-0.3
VIKU	**Vikbolandet**	**0.90**	**110**	P	Pg	13 10 22.5	-0.8
VIKU	**Vikbolandet**	**0.90**	**110**	P	Pg	13 10 20.6	-2.8
VIKU	**Vikbolandet**	**0.90**	**110**	P	Pg	13 10 22.5	-0.8
FKPU	**Falk**	**0.98**	**228**	P	Pg	13 10 24.0	-0.8
FKPU	**Falk**	**0.98**	**228**	P	Pg	13 10 22.1	-2.7
FKPU	**Falk**	**0.98**	**228**	P	Pg	13 10 24.0	-0.8
NASU	**Vaermlandsnaes**	**0.99**	**277**	P	Pg	13 10 24.4	-0.7
NASU	**Vaermlandsnaes**	**0.99**	**277**	P	Pg	13 10 22.7	-2.5
NASU	**Vaermlandsnaes**	**0.99**	**277**	P	Pg	13 10 24.4	-0.7
EKSU	**Eksjoe**	**1.26**	**175**	P	Pg	13 10 28.6	-1.5
EKSU	**Eksjoe**	**1.26**	**175**	P	Pg	13 10 26.8	-3.4
EKSU	**Eksjoe**	**1.26**	**175**	P	Pg	13 10 28.6	-1.5
VSTU	**Vaestervik**	**1.39**	**146**	P	Pn	13 10 31.4	-1.4
VSTU	**Vaestervik**	**1.39**	**146**	P	Pn	13 10 29.4	-3.4
VSTU	**Vaestervik**	**1.39**	**146**	P	Pn	13 10 31.4	-1.4
BACU	**Backbrunna**	**1.46**	**44**	P	Pn	13 10 32.5	-1.2
BACU	**Backbrunna**	**1.46**	**44**	P	Pn	13 10 30.2	-2.8
BACU	**Backbrunna**	**1.46**	**44**	P	Pn	13 10 32.5	-1.2
UDD	**Uddeholm**	**1.48**	**330**	P	Pn	13 10 32.9	-1.1
UDD	**Uddeholm**	**1.48**	**330**	P	Pn	13 10 32.9	-1.1
NYNU	**Nynaeshamn**	**1.52**	**82**	P	Pn	13 10 31.6	-2.9
FIBU	**Brunna**	**1.59**	**46**	P	Pn	13 10 34.7	-0.7
FIBU	**Brunna**	**1.59**	**46**	P	Pn	13 10 33.0	-2.4
FIBU	**Brunna**	**1.59**	**46**	P	Pn	13 10 34.7	-0.7

RSNC ***25*** *13:12:09.7±0.4, 11°.N×8°.3W±°, h0km, M2.4, ML2.4*
CATAC ***25*** *13:12:14.5±0.8, 11°.N×2°.×8°.3W±°, h24km±6km, M3.3/8, MLv3.3/8, Error ellipse: s-maj=5.8km s-min=4.2km az=122.7, confirmed*

ISC 25 13:12:11.9±0.9**, 10°.66N**±0°.03×**82°.99W**±0°.03**, h20**km**, n16,** σ1§**92**/22**, North of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRT2	**Tortugero**	**0.74**	**262**	P	**Pn**	**13 12 27.1**	**-0.1**
SOCE	**Pocosol**	**1.62**	**260**	P	**Pb**	**13 12 41.7**	**+0.4**
SOCE	**Pocosol**	**1.62**	**260**	S	**Sb**	**13 13 01.0**	**-0.4**
OCHAL	**Ojochal**	**1.68**	**203**	P	**Pb**	**13 12 41.9**	**-0.4**
OCHAL	**Ojochal**	**1.68**	**203**	S	**Sb**	**13 13 02.3**	**-0.7**
BRU2	**Volcan**	**1.88**	**171**	P	**Pb**	**13 12 45.7**	**0.0**
JTS	**Las Juntas de**	**1.96**	**259**	P	**Pb**	**13 12 45.7**	**-1.4**
JTS	**Las Juntas de**	**1.96**	**259**	P	**Pb**	**13 12 45.8**	**-1.3**
ESPN	**Las Esperanzas**	**1.99**	**320**	P	**Pb**	**13 12 47.5**	**0.0**
ESPN				S	**Sb**	**13 13 10.2**	**-1.7**
SAIC	**Isla e San And**	**2.25**	**34**	P	**Pb**	**13 12 51.6**	**-0.2**
SAIC				S	**Sb**	**13 13 18.6**	**-0.6**
ACON	**Acoyapa**	**2.50**	**301**	P	**Pn**	**13 12 52.1**	**+0.6**
ACON				S	**Sn**	**13 13 21.1**	**-0.4**
PRVC	**Isla de Provid**	**3.13**	**30**	P	**Pb**	**13 13 04.1**	**-2.9**
PRVC				S	**Sn**	**13 13 41.3**	**+4.3**
PRVC	**Isla de Provid**	**3.13**	**30**	P	**Pb**	**13 13 03.6**	**-3.3**
PRVC				S	**Sn**	**13 13 39.9**	**+2.9**
BOAB	**BOACO BROADBAN**	**3.17**	**304**	P	**Pn**	**13 13 02.5**	**+1.8**
BCIP	**Isla Barro Col**	**3.44**	**115**	P	**Pn**	**13 13 06.0**	**+1.5**
BCIP	**Isla Barro Col**	**3.44**	**115**	P	**Pn**	**13 13 05.9**	**+1.5**
BCIP				S	**Sn**	**13 13 41.9**	**-2.8**

IDC ***25*** *13:17:31.6±1.1, 31°.85N×49°.71E, h0km, mb3.9/13, mbtmp4.0/15, ML4.1/2, MS3.2/9, Error ellipse: s-maj=25.6km s-min=16.2km az=2.0*
TEH ***25*** *13:17:33.7, 31°.99N×49°.82E, h8km±27km*
THR ***25*** *13:17:34.8±0.0, 31°.82N×49°.72E, h28km±3km, ML4.0*
SGS ***25*** *13:17:36.9, 31°.99N×49°.93E, h7km, Ml4.5*
NEIC ***25*** *13:17:37.3±1.4, 31°.86N±0°.06×49°.71E±0°.10, h42km±11km, mb4.1/11, Error ellipse: s-maj=12.7km s-min=8.0km az=69.0*
OMAN ***25*** *13:17:40.3±0.1, 31°.55N×50°.05E, h10km, mb4.6/26, Error ellipse: s-maj=1.6km s-min=1.0km az=348.0*
DSN ***25*** *13:17:43.3±2.0, 31°.14N×49°.93E, h15km, ML3.5/6, Error ellipse: s-maj=26.8km s-min=11.6km az=12.0*

ISC 25 13:17:33.9±0.4**, 31°.91N**±0°.03×**49°.78E**±0°.03**, h15**km**, n157,** σ2§**22**/163**, mb3.9**/15**, MS3.2**/6**, 2C, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTMR	**Gotvand**	**0.80**	**314**	*e*Pg	**Pb**	**13 17 49.7**	**+0.1**
GTMR				*e*Sg	**Sn**	**13 18 02.9**	**+0.5**
GTMR				IAML		13 18 08.0	
	comp=Z,5μm,1.0s						
JHBN	**Jahan bin**	**0.81**	**67**	Pg	**Pg**	**13 17 49.6**	**-0.1**
ZNGN	**Zangian**	**0.93**	**77**	Pg	**Pb**	**13 17 51.7**	**-0.2**
AHWZ	**Ahwaz**	**1.14**	**240**	Pg	**Pg**	**13 17 57.1**	**+1.2**
IPIR	**Pirpir**	**1.21**	**50**	Pg	**Pn**	**13 17 56.6**	**0.0**
IBRJ	**Brojen**	**1.25**	**90**	Pg	**Pg**	**13 17 58.6**	**+0.5**
ABEH	**Behbahan**	**1.37**	**163**	Pg	**Pg**	**13 18 02.5**	**+2.2**
KLNJ	**Kolanjah**	**1.78**	**120**	Pn	**Pg**	**13 18 08.0**	**-0.2**
KHMZ	**Khomeyn**	**1.83**	**4**	*e*PnA		13 18 08.1	
KHMZ				IAML		13 18 34.6	
	comp=Z,2μm,1.0s						
IGAR	**Gharneh**	**1.97**	**75**	Pn	**Pb**	**13 18 10.2**	**+0.5**
IKLH	**Kolahrood**	**2.06**	**47**	Pn	**Pb**	**13 18 11.5**	**+0.3**
BDRS	**Dareh Seyedi**	**2.18**	**340**	Pn	**Pb**	**13 18 12.5**	**-0.6**
IRAM	**Rameshеh**	**2.21**	**92**	Pn	**Pb**	**13 18 13.6**	**-0.1**
QAMS	**Qamsar**	**2.27**	**36**	Pn	**Pb**	**13 18 14.1**	**-0.7**
IZEF	**Zefreh**	**2.36**	**65**	Pn	**Pb**	**13 18 15.3**	**-1.1**
ASAO	**Ashtian**	**2.64**	**4**	*e*PnA		13 18 19.8	
ASAO				IAML		13 19 13.4	
	comp=Z,640nm,1.0s						
NASN	**Na'in**	**2.70**	**70**	*e*Pn	**Pb**	**13 18 20.6**	**-1.6**
NASN				IAML		13 19 08.7	
	comp=Z,430nm,1.0s						
KRSH	**Karshahi**	**2.85**	**43**	Pn	**Pb**	**13 18 22.4**	**-2.2**
HAGD	**Aghdareh**	**2.95**	**350**	Pn	**Pn**	**13 18 22.6**	**+2.1**
IQOM	**Qom**	**3.11**	**20**	Pn	**Pn**	**13 18 25.5**	**+2.8**
ISFB	**Sefidab**	**3.19**	**40**	Pn	**Pn**	**13 18 26.2**	**+2.7**
SHI	**Shiraz**	**3.26**	**133**	Pn	**Pn**	**13 18 28.5**	**+3.8**
KBD	**Kabd**	**3.27**	**214**	P	**Pb**	**13 18 29.0**	**-2.7**
KBD				S	**Sb**	**13 19 08.3**	**-3.0**
SNQR	**Sonqor, Kerman**	**3.45**	**329**	Pn	**Pn**	**13 18 30.0**	**+2.6**
ILBA	**Ilam Banvizeh**	**3.47**	**300**	*e*Pn	**Pn**	**13 18 29.3**	**+1.9**
ILBA				IAML		13 19 36.4	
	comp=Z,240nm,1.0s						
IVRN	**Varamin**	**3.48**	**27**	Pn	**Pn**	**13 18 30.3**	**+2.7**
ANAR	**Anarak**	**3.56**	**68**	Pn	**Pn**	**13 18 31.6**	**+2.8**
IGHG	**Ghaleghazi**	**3.62**	**313**	Pn	**Pn**	**13 18 33.2**	**+3.5**
HGHA	**Hamedan- Ghaye**	**3.65**	**348**	Pn	**Pn**	**13 18 31.9**	**+1.8**
KFJS2	**Khafji**	**3.75**	**199**	P	**Pn**	**13 18 34.8**	**+3.5**
KFJS2	**Khafji**	**3.75**	**199**	S	**Sn**	**13 19 18.4**	**+3.2**
DSBU	**Dashti - Bushe**	**3.76**	**160**	Pn	**Pn**	**13 18 35.8**	**+4.3**
SNGE	**Sanandaj**	**3.77**	**328**	*e*PnA		13 18 34.0	
SNGE				*e*Sg	**Sn**	**13 19 18.5**	**+2.5**
SNGE				IAML		13 19 46.8	
	comp=Z,150nm,1.0s						
QABG	**Abgarm-Qazvin**	**3.79**	**357**	Pn	**Pn**	**13 18 35.0**	**+2.9**
GLG1	**Gilan-e-Gharb**	**3.93**	**305**	Pn	**Pn**	**13 18 36.7**	**+2.9**
ICHK	**Chekchek**	**3.93**	**84**	Pn	**Pn**	**13 18 37.1**	**+3.1**
IDHR	**Dehrash**	**3.98**	**315**	Pn	**Pn**	**13 18 37.3**	**+2.7**
KFJS1	**Al Wafrah**	**4.04**	**204**	P	**Pn**	**13 18 38.5**	**+3.3**
KFJS1	**Al Wafrah**	**4.04**	**204**	S	**Sn**	**13 19 25.5**	**+3.1**
THKV	**Tehran--Karaj**	**4.10**	**12**	*e*Pn	**Pn**	**13 18 39.2**	**+3.0**
THKV				IAML		13 20 05.3	
	comp=Z,140nm,1.0s						
YZKH	**Yazd**	**4.10**	**82**	*e*Pn	**Pn**	**13 18 39.6**	**+3.4**
YZKH				IAML		13 19 48.7	
	comp=Z,160nm,1.0s						
IDMV	**Damavand**	**4.11**	**26**	Pn	**Pn**	**13 18 38.7**	**+2.3**
DAMV	**Damavand**	**4.13**	**26**	*e*PnA		13 18 39.6	
DAMV				IAML		13 20 02.2	
	comp=Z,170nm,1.0s						
CHTH	**Charan**	**4.14**	**15**	*e*PnA		13 18 39.6	
CHTH				IAML		13 20 02.3	
	comp=Z,130nm,1.0s						
IMEH	**Mehriz**	**4.15**	**96**	Pn	**Pn**	**13 18 39.9**	**+2.9**
ILAS	**Lasjerd**	**4.36**	**37**	Pn	**Pn**	**13 18 42.5**	**+2.7**
IFIR	**Firoozkooh**	**4.46**	**33**	Pn	**Pn**	**13 18 44.0**	**+2.6**
IPRN	**Peran**	**4.81**	**25**	Pn	**Pn**	**13 18 48.7**	**+2.8**
WANAN	**Al Wanan**	**5.12**	**193**	P	**Pn**	**13 18 52.9**	**+2.8**
IKIA	**Kiasar**	**5.37**	**36**	Pn	**Pn**	**13 18 56.7**	**+3.0**
SRSL	**SARDASHT**	**5.61**	**321**	*e*Pn	**Pn**	**13 18 59.1**	**+2.1**
SRSL				IAML		13 20 07.1	
	comp=Z,100nm,1.0s						
RQBS	**RQBS**	**5.64**	**217**	P	**Pn**	**13 18 59.4**	**+2.1**
SMAN	**Sihmah**	**5.91**	**195**	P	**Pg**	**13 19 28.5**	**+1.5**
TPRV	**Parvadeh(Tabas**	**5.93**	**77**	Pn	**Pn**	**13 19 04.5**	**+3.2**
SAKB	**Bahrain**	**5.95**	**173**	P	**Pn**	**13 19 05.0**	**+3.6**
SAKB				S	**Sn**	**13 20 10.0**	**+0.7**
BQQSS		**6.03**	**184**	P	**Pn**	**13 19 05.7**	**+3.0**
TNSJ	**Nastanj**	**6.09**	**69**	Pn	**Pn**	**13 19 06.5**	**+3.0**
SHMA	**Al-Shehemyia**	**6.12**	**170**	P	**Pn**	**13 19 07.0**	**+3.2**
	SNR=6.4						
KRBR	**Kerman**	**6.29**	**106**	Pn	**Pn**	**13 19 09.4**	**+3.0**
NGRK	**Negar Kerman**	**6.38**	**109**	Pn	**Pn**	**13 19 11.3**	**+3.5**
TKDS	**Koohdasht(Taba**	**6.41**	**73**	Pn	**Pn**	**13 19 10.9**	**+3.0**
TABS	**Tabas**	**6.41**	**72**	*e*Pn	**Pn**	**13 19 10.6**	**+2.7**
TABS				IAML		13 21 06.5	
	comp=Z,71nm,1.0s						
ASYS		**6.46**	**229**	P	**Pn**	**13 19 09.4**	**+0.9**
SHRO	**Shahrood**	**6.58**	**50**	*e*Pn	**Pn**	**13 19 13.4**	**+3.2**
SHRO				IAML		13 19 14.1	
	comp=Z,38nm,1.0s						
TAPT	**Tabas- Tapeh t**	**6.84**	**62**	Pn	**Pn**	**13 19 15.9**	**+2.1**
SMRA	**Abu-Samra**	**7.20**	**172**	P	**Pn**	**13 19 20.9**	**+2.3**
SMRA				S	**Sn**	**13 20 38.7**	**-1.5**
TRNA	**Turayna**	**7.26**	**170**	P	**Pn**	**13 19 22.2**	**+2.8**
	SNR=16						
TRNA				S	**Sn**	**13 20 41.5**	**-0.1**
ITEG	**Tejag**	**7.64**	**80**	Pn	**Pn**	**13 19 27.9**	**+3.0**
MRVT	**Maraveh tapeh**	**7.73**	**40**	*i* P	**Pn**	**13 19 28.6**	**+2.7**
MRVT				IAML		13 20 15.5	
	comp=Z,11nm,1.0s						
IKOO	**Kooshah**	**7.83**	**84**	Pn	**Pn**	**13 19 30.3**	**+2.8**
SBZV	**Sabzevar**	**7.87**	**53**	Pn	**Pn**	**13 19 30.8**	**+2.7**
SBZV	**Sabzevar**	**7.87**	**53**	*i* P	**Pn**	**13 19 31.1**	**+3.0**
SBZV				IAML		13 21 59.9	
	comp=Z,22nm,1.0s						
SLWR	**Sila**	**7.99**	**167**	P	**Pn**	**13 19 32.1**	**+2.6**
SLWR				S	**Sn**	**13 20 58.3**	**-1.3**
SHME	**Shamm**	**8.06**	**135**	P	**Pn**	**13 19 32.4**	**+1.9**
SHME	**Shamm**	**8.06**	**135**	P	**Pn**	**13 19 30.8**	**+0.3**
SHME				S	**Sn**	**13 20 56.1**	**-5.3**
BANOM	**Banah**	**8.25**	**135**	P	**Pn**	**13 19 34.6**	**+1.4**
BANOM				S	**Sn**	**13 21 02.9**	**-3.3**
BANOM	**Banah**	**8.25**	**135**	P	**Pn**	**13 19 33.8**	**+0.6**
GEVA	**Gevas**	**8.44**	**321**	Pn	**Pn**	**13 19 34.8**	**-1.0**
ISFR	**Sfrayin**	**8.50**	**51**	Pn	**Pn**	**13 19 39.9**	**+3.2**
BJRD	**Bojnurd**	**8.52**	**45**	*e*Pn	**Pn**	**13 19 40.2**	**+3.4**
MASF	**Masafi**	**8.59**	**138**	P	**Pn**	**13 19 39.5**	**+1.7**
MASF				S	**Sn**	**13 21 10.5**	**-3.9**
MSFE	**Esma-Masafi**	**8.60**	**138**	P	**Pn**	**13 19 39.0**	**+1.1**
NAZ	**Nazwa, Dubai**	**8.62**	**142**	P	**Pn**	**13 19 37.9**	**-0.2**
MDH	**Madha**	**8.72**	**137**	P	**Pn**	**13 19 40.5**	**+0.9**
MDH				S	**Sn**	**13 21 13.4**	**-4.2**
ASUD	**Al Ashush, Dub**	**8.75**	**145**	P	**Pn**	**13 19 41.0**	**+1.1**
ASUD				S	**Sn**	**13 21 17.7**	**-0.6**
MZWR	**Madinat Zayed**	**8.89**	**155**	P	**Pn**	**13 19 43.6**	**+1.8**
UOSS	**Minazif**	**8.95**	**139**	Pn	**Pn**	**13 19 43.4**	**+0.8**
UOSS	**Minazif**	**8.95**	**139**	P	**Pn**	**13 19 44.0**	**+1.3**
UOSS	**Minazif**	**8.95**	**139**	P	**Pn**	**13 19 44.2**	**+1.5**
HATD	**Hatta, Dubai**	**9.00**	**140**	P	**Pn**	**13 19 45.6**	**+2.2**
HATD	**Hatta, Dubai**	**9.00**	**140**	P	**Pn**	**13 19 43.7**	**+0.4**
SHRT	**Shahrakht**	**9.01**	**76**	Pn	**Pn**	**13 19 46.8**	**+3.2**
SHRT	**Shahrakht**	**9.01**	**76**	*e*Pn	**Pn**	**13 19 47.1**	**+3.5**
ASHO	**Ashiyiah**	**9.07**	**141**	P	**Pn**	**13 19 46.1**	**+1.7**
ASHO	**Ashiyiah**	**9.07**	**141**	P	**Pn**	**13 19 45.7**	**+1.3**
ASHO				S	**Sn**	**13 21 20.7**	**-5.6**
HIL03	**Ash Shuqayq**	**9.10**	**242**	P	**Pn**	**13 19 45.5**	**+0.7**
HIL01	**Al Amaaer**	**9.14**	**230**	P	**Pn**	**13 19 44.9**	**-0.4**
MARD	**Mardin**	**9.17**	**308**	Pn	**Pn**	**13 19 45.4**	**-0.4**
RAYN	**Ar Rayn**	**9.18**	**205**		**Pn**	**13 19 45.2**	**-0.6**
RAYN	**Ar Rayn**	**9.18**	**205**	P	**Pn**	**13 19 45.8**	**0.0**
RAYN	**Ar Rayn**	**9.18**	**205**	P	**Pn**	**13 19 45.8**	**0.0**
ALNE	**Al Ain**	**9.43**	**145**	P	**Pn**	**13 19 53.8**	**+4.5**
MZR	**Muzera**	**9.46**	**159**	P	**Pn**	**13 19 51.9**	**+2.2**
MZR	**Muzera**	**9.46**	**159**	P	**Pn**	**13 19 51.3**	**+1.6**
ETH04	**ETH04**	**9.70**	**240**	P	**Pn**	**13 19 53.5**	**+0.5**
ETH05	**ETH05**	**9.77**	**241**	P	**Pn**	**13 19 54.1**	**+0.1**
SOHO	**SOHO**	**9.77**	**141**	P	**Pn**	**13 19 52.4**	**-1.5**
SOHO	**SOHO**	**9.77**	**141**	P	**Pn**	**13 19 52.5**	**-1.5**
ETH06	**ETH06**	**10.08**	**241**	P	**Pn**	**13 19 58.3**	**0.0**
UMZA	**Um Al Zommool**	**10.33**	**151**	P	**Pn**	**13 20 00.8**	**-0.8**
ARQ	**Araqi**	**10.42**	**143**	P	**Pn**	**13 20 05.1**	**+2.3**
	SNR=6.7						
HOQ	**Hoqain**	**10.64**	**139**	P	**Pn**	**13 20 07.5**	**+1.6**
ASF	**Jabal al Asfar**	**10.95**	**275**	Pn	**Pn**	**13 20 10.1**	**0.0**
	comp=Z,1.8nm,0.3s,baz=122,slow=11,SNR=11						
ASF				Sn	**Sn**	**13 22 06.0**	**-6.4**
	comp=Z,1.0nm,0.3s,baz=318,slow=22,SNR=3.1						
ASF				LR	LR	13 25 41.6	
	comp=Z,52nm,20.3s,baz=121,slow=45						
	comp=Z,6.9nm,0.5s						
BSY	**Bisya**	**11.25**	**142**	P	**Pn**	**13 20 15.6**	**+1.3**
SMDO	**Samad**	**11.46**	**138**	P	**Pn**	**13 20 18.9**	**+1.7**
WSAR	**Wadi Sarin**	**11.66**	**136**	Pn	**Pn**	**13 20 20.4**	**+0.6**
	baz=349,slow=24,SNR=7.4						
WSAR				Sn	**Sn**	**13 22 24.9**	**-4.9**
	baz=130,slow=24,SNR=3.0						
WSAR	**Wadi Sarin**	**11.66**	**136**	P	**Pn**	**13 20 19.7**	**-0.1**
EIL	**Elat**	**12.95**	**264**	Pn	**Pn**	**13 20 36.6**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=51,slow=11,SNR=2.5						
EIL				LR	LR	13 26 52.8	
	comp=Z,80nm,21.0s,baz=343,slow=44						
	comp=Z,2.8nm,0.5s						
JLN	**Jalan Bani Buh**	**12.96**	**136**	P	**Pn**	**13 20 39.3**	**+1.8**
MHTO	**MHTO**	**13.11**	**144**	P	**Pn**	**13 20 40.4**	**+0.8**
KVAR	**Kislovodsk Arr**	**13.26**	**337**	LR	LR	13 26 54.2	
	comp=Z,90nm,20.8s,slow=42						
DOK	**Doka**	**13.80**	**162**	P	**Pn**	**13 20 49.0**	**-0.1**
	SNR=18						
DQM	**DQM**	**13.81**	**148**	P	**Pn**	**13 20 50.9**	**+1.7**
WHFO	**Wadi Hawf**	**14.39**	**165**	P	**Pn**	**13 20 56.5**	**-0.7**
	SNR=20						
ABTO	**Aybut**	**14.84**	**167**	P	**Pn**	**13 21 02.5**	**-0.9**
DMTO	**DMTO**	**14.88**	**161**	P	**Pn**	**13 21 04.0**	**+0.1**
	SNR=13						
SIMJ	**Simiganj**	**17.06**	**61**	Pn	**Pn**	**13 21 32.4**	**+0.4**
CHGR	**Chuyangaron**	**17.17**	**62**	Pn	**Pn**	**13 21 34.2**	**+0.8**
CHGR				IAmb	IAmb	13 21 37.4	
	comp=Z,15nm,0.7s						
GAR	**Garm**	**18.14**	**61**	P	**P**	**13 21 46.8**	**+1.1**
GAR				IAmb	IAmb	13 21 56.2	
	comp=Z,11nm,0.8s						
AB31	**Akbulak array**	**18.93**	**21**	P	**Pn**	**13 21 54.9**	**+0.1**
KK31	**Karatay Array**	**19.82**	**50**	P	**Pn**	**13 22 05.7**	**+0.1**
KK31				IAmb	IAmb	13 22 15.0	
	comp=Z,10.0nm,1.4s						
ARSB	**Arslanbob**	**20.80**	**57**	P	**P**	**13 22 15.6**	**+0.8**
ARSB				IAmb	IAmb	13 22 25.7	
	comp=Z,4.6nm,0.5s						
IDI	**Anoyia**	**21.00**	**286**	P	**P**	**13 22 17.8**	**+1.0**
	comp=Z,8.4nm,0.9s,baz=37,slow=13,SNR=2.8						
	comp=Z,8.4nm,0.9s						
BOOM	**Boomskoye usch**	**23.27**	**56**	P	**P**	**13 22 42.7**	**+1.6**
BOOM				IAmb	IAmb	13 23 02.4	
	comp=Z,8.0nm,0.8s						
ITM	**Ithomi**	**23.50**	**291**	P	**P**	**13 22 42.9**	**-0.3**
AKASG	**Malin Array Be**	**24.17**	**327**	P	**P**	**13 22 49.3**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=115,slow=7.0,SNR=11						
	comp=Z,1.2nm,0.4s						
AKBB	**Malin Array Si**	**24.17**	**327**	P	**P**	**13 22 48.3**	**-1.2**
AKBB				IAmb	IAmb	13 22 51.1	
	comp=Z,5.1nm,0.6s						
KIEV	**Kiev**	**24.17**	**327**	P	**P**	**13 22 48.3**	**-1.2**
KIEV				IAmb	IAmb	13 22 51.1	
	comp=Z,4.5nm,0.6s						
KIEV	**Kiev**	**24.17**	**327**	⇑P	**P**	**13 22 49.7**	**+0.2**
BVAR	**Borovoye Array**	**25.83**	**29**	P	**P**	**13 23 05.4**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=212,slow=5.3,SNR=3.5						
BVAR				LR	LR	13 34 52.7	
	comp=Z,34nm,18.1s,baz=252,slow=40						
	comp=Z,0.9nm,0.5s						
PSZ	**Piszkesteto**	**27.72**	**314**	P	**P**	**13 23 21.2**	**-0.5**
PSZ	**Piszkesteto**	**27.72**	**314**	⇑P	**P**	**13 23 21.5**	**-0.2**
KURBB	**Kurchatov Arra**	**28.30**	**40**	P	**P**	**13 23 28.6**	**+2.0**
	comp=Z,1.0nm,0.6s,baz=241,slow=9.7,SNR=5.7						
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**28.95**	**50**	P	**P**	**13 23 34.2**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=247,slow=11,SNR=2.2						
MKAR				LR	LR	13 37 06.9	
	comp=Z,38nm,20.4s,baz=352,slow=40						
	comp=Z,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**33.28**	**38**	P	**P**	**13 24 11.2**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=245,slow=8.6,SNR=9.2						
	comp=Z,1.6nm,0.4s						
FINES	**FINESS Array B**	**33.33**	**339**	P	**P**	**13 24 11.7**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=141,slow=7.7,SNR=4.0						
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**36.93**	**331**	P	**P**	**13 24 42.3**	**+0.3**
	comp=Z,2.3nm,0.4s,baz=133,slow=8.7,SNR=10						
	comp=Z,2.3nm,0.4s						
NB2	**NORSAR Subarra**	**38.45**	**331**	P	**P**	**13 24 54.3**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=121,slow=8.6						
NOA	**NORSAR Array B**	**38.45**	**331**	P	**P**	**13 24 54.5**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=120,slow=8.2,SNR=4.5						
NOA				LR	LR	13 42 20.3	
	comp=Z,16nm,18.2s

comp=N,3µm,0.7s
MASC Masc 2.27 345 *i* P Pn 13 45 13.6 -0.5
MASC eS Sn 13 45 39.4 -1.9
MASC IAML 13 45 53.2
comp=Z,1µm,2.0s
LODA1 ITESIL, Dajabo 2.38 49 *i* P Pn 13 45 16.0 +0.3
LODA1 eS Sn 13 45 44.0 -0.2
LODA1 IAML 13 45 50.4
comp=Z,2µm,1.6s
GTBY Guantanamo Bay 2.41 324 P Pn 13 45 15.7 -0.4
GTBY Guantanamo Bay 2.41 324 *e*P Pn 13 45 16.3 +0.2
GTBY eS Sn 13 45 45.2 +0.3
GTBY IAML 13 45 46.5
comp=Z,3µm,0.3s
GTBY IAML 13 45 46.5
comp=Z,2µm,0.3s
GTBY Guantanamo Bay 2.41 324 P Pn 13 45 16.0 -0.1
GTBY S Sn 13 45 44.5 -0.3
GTBY Guantanamo Bay 2.41 324⇑ *e*Pg Pn 13 45 16.1 -0.1
GTBY ⇓ *e*Sg Sn 13 45 44.5 -0.3
GTBY IAML 13 45 46.2
comp=E,6µm,0.5s
GTBY IAML 13 45 50.5
comp=N,4µm,0.4s
GTBY Guantanamo Bay 2.41 324 P Pn 13 45 15.9 -0.1
GTBY S Sn 13 45 44.1 -0.8
GTBY Guantanamo Bay 2.41 324 *i* P Pn 13 45 16.1 -0.1
GTBY eS Sn 13 45 44.7 -0.2
GTBY IAML 13 45 56.5
comp=Z,2µm,0.6s
SDDR Presa de Saban 2.42 65 Pn Pn 13 45 16.9 +0.6
SDDR Presa de Saban 2.42 65 *e*P Pn 13 45 17.6 +1.4
SDDR eS Sn 13 45 47.5 +2.4
SDDR IAML 13 45 48.8
comp=Z,716nm,0.6s
SDDR IAML 13 45 49.1
comp=Z,576nm,0.3s
SDDR Presa de Saban 2.42 65 P Pn 13 45 17.3 +1.1
SDDR S Sn 13 45 46.6 +1.6
SDDR Presa de Saban 2.42 65⇓ *e*Pg Pn 13 45 18.2 +2.0
SDDR ⇑ *e*Sg Sn 13 45 48.0 +3.0
SDDR IAML 13 45 53.6
comp=E,1µm,0.7s
SDDR IAML 13 45 56.0
comp=N,2µm,1.6s
SDDR Presa de Saban 2.42 65 P Pn 13 45 17.4 +1.1
SDDR S Sn 13 45 47.1 +2.0
SDDR Presa de Saban 2.42 65 *i* P Pn 13 45 17.4 +1.1
SDDR IAML 13 45 54.9
comp=Z,1µm,1.2s
QMBU Quimbuelo 2.49 333 *e*P Pn 13 45 16.2 -1.1
QMBU eS Sn 13 45 44.0 -2.9
QMBU IAML 13 45 50.8
comp=N,4µm,0.3s
QMBU IAML 13 45 51.1
comp=E,2µm,0.3s
QMBU Quimbuelo 2.49 333 P Pn 13 45 16.1 -1.1
QMBU S Sn 13 45 48.4 +1.5
MCDR Montecristi 2.65 44⇑ *e*Pg Pn 13 45 19.6 +0.2
MCDR IAML 13 45 58.0
comp=E,1µm,1.9s
MCDR IAML 13 46 03.5
comp=N,2µm,1.1s
RCC Rio Carpintero 2.82 316 *e*P Pn 13 45 21.8 0.0
RCC eS Sn 13 45 53.1 -1.9
RCC IAML 13 45 56.9
comp=N,602nm,0.2s
RCC IAML 13 45 57.1
comp=E,438nm,0.2s
NMDO Nuevo Mundo 2.88 333 Pn Pn 13 45 22.1 -0.5
NMDO Nuevo Mundo 2.88 333 *e*P Pn 13 45 23.4 +0.7
NMDO eS Sn 13 45 56.6 +0.1
NMDO IAML 13 45 59.7
comp=N,1µm,0.4s
NMDO IAML 13 45 59.8
comp=E,3µm,0.5s
NMDO Nuevo Mundo 2.88 333 P Pn 13 45 23.2 +0.5
NMDO S Sn 13 45 58.4 +1.9
LOPP1 Punta Rusia, P 2.94 50 *i* P Pn 13 45 25.1 +1.7
LOPP1 IAML 13 46 07.2
comp=Z,1µm,1.1s
ABDR Alto Bandera 2.95 73 *e*Pg Pn 13 45 26.4 +2.5
ABDR IAML 13 46 05.4
comp=N,3µm,0.9s
MOAC Moa 2.96 335 *e*P Pn 13 45 25.1 +1.4
MOAC eS Sn 13 45 58.5 0.0
MOAC IAML 13 46 02.6
comp=E,710nm,0.6s
MOAC IAML 13 46 03.1
comp=N,1µm,0.4s
MARVS Santiago de Cu 2.96 313 *e*P Pn 13 45 23.4 -0.3
MARVS eS Sn 13 45 58.0 -0.6
MARVS IAML 13 46 06.8
comp=N,2µm,0.1s
MARVS IAML 13 46 07.0
comp=E,1µm,0.1s
HOJ Hope 3.00 271⇓ *i* P Pn 13 45 26.0 +1.8
STH Stony Hill 3.05 272 *e*P Pn 13 45 25.3 +0.3
STH eS Sn 13 46 02.0 +1.2
STH IAML 13 46 06.2
comp=E,58µm,0.5s
STH IAML 13 46 06.9
comp=N,69µm,0.4s
STH Stony Hill 3.05 272⇓ *i* P Pn 13 45 25.6 +0.6
SC01 Santiago de lo 3.08 62 Pn Pn 13 45 25.9 +0.5
SC01 Santiago de lo 3.08 62 P Pn 13 45 29.2 +3.8
BANI BANI 3.11 82 Pn Pn 13 45 26.7 +0.8
BANI BANI 3.11 82 *e*Pg Pn 13 45 27.3 +1.4
BANI IAML 13 46 11.6
comp=N,2µm,0.7s
BANI IAML 13 46 11.7
comp=E,1µm,1.2s
LUDR Luperon 3.15 52 *e*Pg Pn 13 45 27.8 +1.4
PINC Pinares de May 3.24 321 *e*P Pn 13 45 26.9 -0.6
PINC eS Sn 13 46 03.9 -1.5
PINC IAML 13 46 12.6
comp=E,2µm,0.3s
PINC IAML 13 46 12.8
comp=N,1µm,0.3s
CHIV Chivirico 3.32 307 *e*P Pn 13 45 28.7 0.0
CHIV eS Sn 13 46 05.0 -2.3
YAR Yar 3.53 313 *e*P Pn 13 45 31.5 0.0
YAR eS Sn 13 46 11.2 -1.3
YAR IAML 13 46 12.7
comp=N,537nm,0.5s
YAR IAML 13 46 13.3
comp=E,435nm,0.3s
SDD Santo Domingo 3.54 82 Pn Pn 13 45 32.9 +1.2
SDD Santo Domingo 3.54 82 P Pn 13 45 35.2 +3.5
MTDJ Mount Denham 3.75 274 Pn Pn 13 45 35.0 +0.4
MTDJ Mount Denham 3.75 274 *e*P Pn 13 45 35.8 +1.2
MTDJ eS Sn 13 46 18.2 +0.1
MTDJ IAML 13 46 29.9
comp=E,600nm,0.4s
MTDJ IAML 13 46 29.9
comp=E,489nm,0.3s
MTDJ Mount Denham 3.75 274⇓ *i* P Pn 13 45 36.1 +1.4
MTDJ Mount Denham 3.75 274 P Pn 13 45 35.6 +1.0
MTDJ Mount Denham 3.75 274 *e*Pg Pn 13 45 35.3 +0.7
MTDJ IAML 13 46 39.7
comp=E,772nm,0.6s
MTDJ IAML 13 46 49.5
comp=N,1µm,0.7s
MTDJ Mount Denham 3.75 274 P Pn 13 45 35.6 +1.0
MTDJ S Sn 13 46 18.7 +0.7
MTDJ Mount Denham 3.75 274 *i* P Pn 13 45 35.3 +0.7
MTDJ IAML 13 46 47.2
comp=Z,637nm,0.7s
NADR Nagua 3.81 68 IAML 13 46 54.1
comp=Z,666nm,1.2s
GRTK Grand Turk 4.22 33 P Pn 13 45 40.9 -0.1
GRTK Grand Turk 4.22 33⇑ *e*Pg Pn 13 45 40.9 -0.1
GRTK ⇑ *e*Sg Sn 13 46 28.4 -1.1
GRTK IAML 13 46 44.8
comp=N,345nm,1.1s
GRTK Grand Turk 4.22 33 P Pn 13 45 40.9 -0.1
GRTK S Sn 13 46 28.3 -1.1
GRTK Grand Turk 4.22 33 *i* P Pn 13 45 41.0 +0.1
GRTK IAML 13 46 32.9
comp=Z,279nm,0.8s
MIDR Miches 4.44 76 *e*Pg Pn 13 45 46.4 +2.4
MIDR IAML 13 47 01.9
comp=N,152nm,0.8s
MIDR IAML 13 47 01.9
comp=N,152nm,0.8s
CBCY The Bluff, Cay 6.09 288 *e*P Pn 13 46 07.6 +0.9
CBCY *e*S Sn 13 47 12.1 -3.4
CBCY IAML 13 47 17.5
comp=N,136nm,0.3s
CBCY IAML 13 47 18.1
comp=E,70nm,0.3s
CBCY The Bluff, Cay 6.09 288 P Pn 13 46 08.2 +1.5
CRPR Cabo Rojo, PR 6.18 89 Pn Pn 13 46 07.2 -0.8
CRPR Cabo Rojo, PR 6.18 89 *i* P Pn 13 46 07.3 -0.7
URIC Uribia, Colomb 6.43 166 P Pn 13 46 10.9 -0.5
comp=E,869nmcomp=E,54nm,0.6s
URIC S Sn 13 47 19.9 -4.1
comp=E,869nmcomp=E,54nm,0.6s
URI Uribia 6.43 166 P Pn 13 46 10.6 -0.9
AOPR Arecibo Observ 6.52 86 Pn Pn 13 46 13.1 +0.4
UUPR Utuado, UPR, P 6.55 87 Pn Pn 13 46 13.6 +0.5
OBIP Obispado Ponce 6.66 88 Pn Pn 13 46 13.8 -0.7
CELP Cerrillos 6.68 88 Pn Pn 13 46 14.6 -0.3
SMRC Santa Marta, M 6.80 185 Pn Pn 13 46 14.9 -1.5
SMRC Santa Marta, M 6.80 185 P Pn 13 46 14.7 -1.8
comp=E,2µmcomp=E,3µmcomp=E,107nm,0.5s
CRJC Cerrejon, Guaj 6.95 174 P Pn 13 46 18.5 -0.1
comp=E,4µmcomp=E,240nm,0.7s
CRJC S Sn 13 47 33.5 -3.5
comp=E,4µmcomp=E,240nm,0.7s
SJG San Juan 7.09 88 Pn Pn 13 46 21.5 +1.0
SJG San Juan 7.09 88 Pn Pn 13 46 20.1 -0.4
comp=E,3.2nm,0.3s,baz=252,slow=14,SNR=6.4
SJG Sn Sn 13 47 33.9 -6.4
comp=E,2.4nm,0.3s,baz=127,slow=23,SNR=1.7
comp=E,8.0nm,0.3s
CAIB Caibarien 7.11 310 P Pn 13 46 20.7 0.0
PDPR Patillas Dam, 7.21 88 Pn Pn 13 46 21.5 -0.6
MGV Manicaragua 7.27 306 *e*P Pn 13 46 23.2 +0.3
MGV *e*S Sn 13 47 41.2 -3.5
MGV IAML 13 47 45.4
comp=N,81nm,0.5s
MGV IAML 13 47 46.2
comp=E,53nm,0.6s
HUMP Col San Antoni 7.38 88 Pn Pn 13 46 24.9 +0.4
SERC Banco Serrana, 7.46 242 P Pn 13 46 31.0 +5.4
ARGC Ariguani, Magd 8.09 185 P Pn 13 46 34.5 +0.2
comp=E,1µmcomp=E,99nm,1.0s
ARGC S Sn 13 48 03.5 -1.5
comp=E,1µmcomp=E,99nm,1.0s
SJCC San Jacinto, C 8.17 191 P Pn 13 46 34.5 -0.9
SJCC San Jacinto, C 8.17 191 P Pn 13 46 35.4 0.0
comp=E,1µmcomp=E,155nm,0.8s
SJCC S Sn 13 48 04.1 -3.0
comp=E,1µmcomp=E,155nm,0.8s
PRVC Isla de Provid 8.76 240 P Pn 13 46 49.2 +5.8
CAMR Camarioca 8.86 306 Pn Pn 13 46 44.8 0.0
SDV Santo Domingo 9.48 162 Pn Pn 13 46 53.3 -0.2
SDV Santo Domingo 9.48 162 Pn Pn 13 46 53.4 -0.1
comp=E,18nm,0.3s,baz=13,slow=6.7,SNR=19
SDV Sn Sn 13 48 31.6 -7.9
comp=E,13nm,0.3s,baz=249,slow=22,SNR=3.4
SDV LR LR 13 50 56.3
comp=E,338nm,21.4s,baz=67,slow=40
comp=E,68nm,0.5s
SDV Santo Domingo 9.48 162 P Pn 13 46 54.1 +0.6
comp=E,1µmcomp=E,80nm,0.5s
SDV S Sn 13 48 34.3 -5.2
comp=E,1µmcomp=E,80nm,0.5s
OCAC Ocana 9.68 178 P Pn 13 46 58.1 +1.9
comp=E,3µmcomp=E,172nm,0.5s
OCAC S Sn 13 48 43.0 -1.3
comp=E,3µmcomp=E,172nm,0.5s
SOR Soroa 10.04 300 Pn Pn 13 47 01.7 +0.8
UREC San Jos de Ur 10.33 191 P Pn 13 47 06.5 +1.5
APAC Apartado, Choc 10.43 197 P Pn 13 47 06.6 +0.3
comp=E,2µmcomp=E,309nm,0.7s
APAC S Sn 13 49 02.4 +0.1
comp=E,2µmcomp=E,309nm,0.7s
BAUV El Baul 10.48 148 Pn Pn 13 47 07.0 0.0
ZARC Zaragoza, Cauc 10.49 187 P Pn 13 47 08.1 +0.9
comp=E,2µmcomp=E,167nm,0.6s
ZARC S Sn 13 48 59.0 -5.0
comp=E,2µmcomp=E,167nm,0.6s
PAMC Pamplona, Colo 10.61 175 P Pn 13 47 08.6 -0.6
BCIP Isla Barro Col 10.65 215 Pn Pn 13 47 07.9 -1.4
BRJC Barrancabermej 10.94 181 P Pn 13 47 14.4 +1.1
comp=E,2µmcomp=E,270nm,0.7s
BRJC S Sn 13 49 11.3 -3.6
comp=E,2µmcomp=E,270nm,0.7s
DBBC Dabeiba 11.18 193 P Pn 13 47 17.4 +0.7
BARC Barichara 11.32 178 P Pn 13 47 19.0 +0.3
PTBC PUERTO BERRIO, 11.40 184 P Pn 13 47 19.9 +0.3
comp=E,2µmcomp=E,218nm,0.8s
DHSZ Broadband at M 11.44 97 *e*P Pn 13 47 16.5 -3.6
DHSZ Broadband at M 11.44 97 *e*P Pn 13 47 18.7 -1.4
ATGZ Broadband at L 11.51 98 *e*P Pn 13 47 21.5 +0.4
MMLZ Guadeloupe Bro 11.58 98 *e*P Pn 13 47 16.7 -5.3
PCRV Puerto La Cruz 11.65 131 Pn Pn 13 47 23.4 +0.3
comp=E,77nm,0.5s,baz=295,slow=1.5,SNR=52
PCRV Sn Sn 13 49 21.7 -11
comp=E,3.1nm,0.3s,baz=243,slow=20,SNR=2.5
PCRV LR LR 13 51 37.8
comp=E,186nm,21.7s,slow=36
ABD La Joyeuse, An 11.67 96 Pn Pn 13 47 22.1 -1.2
HELC Santa Helena 11.86 189 P Pn 13 47 26.1 -0.2
comp=E,5µmcomp=E,481nm,0.6s
RUSC La Rusia 12.02 178 Pn Pn 13 47 28.3 -0.2
RUSC La Rusia 12.02 178 P Pn 13 47 30.4 +1.9
DSDZ La Iserade, G 12.10 96 *e*P Pn 13 47 17.2 -12
SPBC San Pablo de B 12.26 182 P Pn 13 47 31.4 0.0
comp=E,2µmcomp=E,158nm,0.6s
CBOC Ciudad Bolivar 12.26 191 P Pn 13 47 33.6 +2.0
comp=E,4µmcomp=E,343nm,1.0s
NORC Norcasia 12.40 186 P Pn 13 47 34.6 +1.3
comp=E,1µmcomp=E,99nm,1.0s
BIM Bigot 12.52 104 *e*P Pn 13 47 31.8 -3.1
GUY2C Guyana, Caldas 12.79 188 P Pn 13 47 39.9 +0.9
comp=E,4µmcomp=E,584nm,0.6s
ROSC El Rosal 13.07 183 Pn Pn 13 47 44.2 +1.4
ROSC El Rosal 13.07 183 Pn Pn 13 47 43.3 +0.4
comp=E,8.8nm,0.3s,baz=118,slow=11,SNR=17
ROSC Sn Sn 13 49 59.5 -8.2
comp=E,1.8nm,0.3s,baz=53,slow=22,SNR=1.0
ROSC LR LR 13 54 01.4
comp=E,187nm,19.1s,baz=61,slow=43
comp=E,80nm,0.7s
ROSC El Rosal 13.07 183 P Pn 13 47 44.7 +1.9
comp=E,837nmcomp=E,109nm,0.7s
CVER Cruz Verde, Cu 13.38 182 P Pn 13 47 50.1 +3.0
JTS Las Juntas de 13.39 237 Pn Pn 13 47 47.8 +0.9
comp=E,0.6nm,0.3s,baz=310,slow=18,SNR=1.6
JTS LR LR 13 52 44.0
comp=E,134nm,20.5s,baz=44,slow=36
comp=E,2.2nm,0.4s
TEIG Tepich 14.05 282 Pn Pn 13 47 55.7 -0.1
TEIG Tepich 14.05 282 Pn Pn 13 47 56.9 +1.1
baz=310,slow=24,SNR=7.9
TEIG Sn Sn 13 50 25.0 -6.0
baz=312,slow=24,SNR=6.0
ORTC Ortega, Tolima 14.07 187 P Pn 13 47 58.4 +2.2
comp=E,3µmcomp=E,345nm,1.1s
YOTC Yotoco, Valle 14.16 191 P Pn 13 47 58.3 +0.8
comp=E,665nmcomp=E,71nm,0.9s
PRAC Prado 14.23 185 P Pn 13 47 57.6 -0.7
URMC La Uribe, Meta 14.66 183 P Pn 13 48 06.7 +2.5
BETC Betania 15.30 187 P Pn 13 48 14.3 +1.4
POPC Popayan, Colom 15.63 191 P Pn 13 48 19.6 +2.3
553A Crawfordville 15.66 323 Pn Pn 13 48 15.5 -1.8
BBAC Balboa, Cauca 16.25 193 P P 13 48 29.0 +0.9
FLOC Florencia 16.41 187 Pn Pn 13 48 27.9 +0.8
FLOC IAmb IAmb 13 48 30.7
comp=Z,43nm,0.7s
BBSR BB Station 16.43 28 Pn Pn 13 48 26.1 -1.1
BBSR IAmb IAmb 13 48 47.2
comp=Z,64nm,1.1s
154A Montrose 16.91 331 P P 13 48 34.8 -0.2
154A IAmb IAmb 13 48 48.7
comp=Z,109nm,1.4s
152A Waverly Hall 17.73 328 P Pn 13 48 44.1 +0.6
GOGA Godfrey 17.74 332 P Pn 13 48 42.8 -0.7
250A Grady 18.04 323 P Pn 13 48 46.6 -0.6
250A IAmb IAmb 13 49 19.9
comp=Z,23nm,0.7s
PAULI Pauline 18.31 338 P P 13 48 50.2 -0.3
Y52A Lilburn 18.39 331 P 13 48 51.5 +0.1
V58A Windy Hill, Pi 18.41 346 P P 13 48 51.1 -0.6
KMSC Kings Mountain 18.43 340 P P 13 48 51.8 0.0
BG3 Lake Jocassee 18.88 336 P P 13 48 57.4 +0.6
V55A Taylorsville 19.04 341 P P 13 48 58.5 0.0
T59A Double "B" Far 19.24 350 P P 13 49 01.1 +0.4
T59A IAmb IAmb 13 49 03.1
comp=Z,45nm,1.4s
V53A Saluda 19.43 337 P P 13 49 03.7 +0.9
V53A IAmb IAmb 13 49 06.0
comp=Z,21nm,1.1s
FPAL Fort Paine 19.67 329 P P 13 49 05.8 +0.3
TKL Tuckaleechee C 19.79 335 P Pn 13 49 08.2 -0.2
comp=Z,0.2nm,0.3s,baz=161,slow=13,SNR=8.7
TKL S S 13 52 41.3 -7.2
comp=Z,3.7nm,0.5s,baz=212,slow=13,SNR=5.3
TKL LR LR 13 57 31.2
comp=Z,505nm,18.2s,baz=160,slow=39
comp=Z,4.6nm,0.8s
CPCT Cooper Cave 19.93 333 P P 13 49 09.3 +1.0
CPCT IAmb IAmb 13 49 13.7
comp=Z,28nm,1.0s
W50A Signal Mountai 20.07 331 P P 13 49 11.1 +1.2
BLA Blacksburg 20.08 344 P P 13 49 10.9 +0.9
BOAV Boa Vista 20.11 139 P P 13 49 10.3 -0.1
BOAV IAmb IAmb 13 49 17.9
comp=Z,16nm,0.9s
146A Union 20.17 319 P P 13 49 12.0 +1.1
146A IAmb IAmb 13 49 18.2
comp=Z,51nm,1.1s
CMIG Matias Romero 20.31 271 P Pn 13 49 14.2 -0.5
comp=Z,10nm,1.2s,baz=85,slow=11,SNR=9.2
comp=Z,10nm,1.2s
TZTN Tazewell 20.48 337 P P 13 49 14.9 +0.6
TZTN IAmb IAmb 13 49 19.4
comp=Z,28nm,1.1s
R55A Marlinton 21.02 346 P P 13 49 20.6 +0.5
R55A IAmb IAmb 13 49 22.4
comp=Z,24nm,1.0s
V48A Smith Brothers 21.23 329 P P 13 49 23.0 +0.6
V48A IAmb IAmb 13 49 33.6
comp=Z,15nm,0.9s
CLTN Cedars of Leba 21.27 331 P 13 49 23.6 +0.8
CLTN IAmb IAmb 13 49 31.5
comp=Z,21nm,1.3s
PLAL Pickwick Lake 21.28 326 P P 13 49 23.5 +0.6
PLAL IAmb IAmb 13 49 25.3
comp=Z,21nm,0.8s
U49A Red Boiling Sp 21.37 332 P P 13 49 24.2 +0.4
T50A Nancy 21.40 335 P P 13 49 24.9 +0.7
T50A IAmb IAmb 13 49 32.9
comp=Z,34nm,1.2s
Q56A Snyder Ridge, 21.55 348 P P 13 49 25.9 +0.1
Q56A IAmb IAmb 13 49 28.2
comp=Z,20nm,1.1s
P57A Homestead Farm 21.77 351 P P 13 49 29.1 +0.9
P57A IAmb IAmb 13 49 37.2
comp=Z,20nm,1.2s
WVT Waverly 22.03 328 P P 13 49 30.6 -0.3
WVT IAmb IAmb 13 49 38.9
comp=Z,25nm,1.1s
Z41A Richland Creek 22.99 315 P P 13 49 42.9 +1.7
HKT Hockley 23.50 305 P P 13 49 47.8 +1.5
HKT IAmb IAmb 13 49 50.9
comp=Z,19nm,0.9s
MACA Manacapuru-AM 24.56 148 P P 13 49 57.4 +1.1
CCM Cathedral Cave 25.27 326 P 13 50 03.4 +0.8
CCM IAmb IAmb 13 50 05.6
comp=Z,14nm,0.8s
833A Chaparral WMA, 25.80 298 P P 13 50 08.2 +0.7
FW06 Azle 26.19 309 P P 13 50 12.4 +1.3
SADO Sadowa 27.12 351 LR LR 14 01 21.3
comp=Z,2µm,18.8s,baz=155,slow=37
X34A Smith Ranch, M 27.21 312 P P 13 50 20.9 +0.7
SGCY Sterling City 28.46 304 P P 13 50 32.3 +0.9
SGCY IAmb IAmb 13 50 33.8
comp=Z,13nm,1.0s
TXAR Lajitas Array 29.68 298 P P 13 50 43.6 +1.2
comp=Z,1.8nm,1.0s,baz=117,slow=7.8,SNR=11
TXAR PcP PcP 13 53 47.8 +1.4
comp=Z,2.6nm,0.8s,baz=136,slow=4.0,SNR=16
comp=Z,1.8nm,1.0s
ANMO Albuquerque 33.72 307 P 13 51 19.5 +1.5
ANMO IAmb IAmb 13 51 21.0
comp=Z,5.3nm,1.2s
ANMO Albuquerque 33.72 307 LR LR 14 06 08.8
comp=Z,87nm,20.5s,baz=224,slow=38
LPAZ La Paz 34.47 171 P P 13 51 25.6 +0.6
comp=Z,11nm,0.9s,baz=344,slow=8.2,SNR=24
LPAZ LR LR 14 07 02.8
comp=Z,128nm,18.8s,baz=360,slow=39
comp=Z,11nm,0.9s
ULM Lac du Bonnet 36.81 336 P P 13 51 43.4 -0.7
comp=Z,5.4nm,0.9s,baz=116,slow=7.1,SNR=5.5
ULM LR LR 14 07 33.6
comp=Z,123nm,18.1s,baz=138,slow=37
comp=Z,5.4nm,0.9s
SCHQ Schefferville 37.16 6 LR LR 14 06 39.5
comp=Z,1µm,19.1s,baz=153,slow=36
PB11 IPOC Station P 37.70 174 P P 13 51 51.1 -1.0
PB11 IAmb IAmb 13 51 53.3
comp=Z,15nm,0.8s
P18A Preston Nutter 38.31 312 P P 13 51 57.9 +0.5
P18A IAmb IAmb 13 52 00.3
comp=Z,9.8nm,1.1s
TMUT Trail Mountain 38.87 311 P 13 52 02.5 +0.4
TMUT PcP 13 54 13.8 +1.0
PDAR Pinedale Array 39.21 317 P P 13 52 05.2 +0.5
comp=Z,1.2nm,0.6s,baz=122,slow=9.3,SNR=9.1
PDAR PcP PcP 13 54 14.0 +0.3
comp=Z,2.8nm,0.8s,baz=114,slow=5.2,SNR=12
PDAR LR LR 14 09 38.9
comp=Z,171nm,18.3s,baz=104,slow=38
comp=Z,1.2nm,0.6s
CCUT Cedar City 39.85 308 P P 13 52 11.4 +1.2
CCUT PcP PcP 13 54 17.4 +1.6
RLMT Red Lodge 40.17 320 P P 13 52 12.8 +0.1
LOHW Long Hollow 40.28 317 P P 13 52 14.1 +0.5
LOHW IAmb IAmb 13 52 16.0
comp=Z,14nm,0.9s
TPAW Teton Pass 40.45 317 P 13 52 15.7 +0.6
TPAW IAmb IAmb 13 52 16.9
comp=Z,7.4nm,0.9s
SHPR Sheep Range 40.93 305 P P 13 52 19.6 +0.6
SPR3 Spring Creek 3 41.04 309 P P 13 52 21.3 +1.2
SPR3 IAmb IAmb 13 52 23.1
comp=Z,13nm,1.2s
YHL Hebgen Lake 41.23 319 P P 13 52 22.6 +1.1
YHL IAmb IAmb 13 52 25.1
comp=Z,24nm,1.3s
BDFB Brasilia 41.85 141 LR LR 14 10 30.8
comp=Z,110nm,18.2s,baz=352,slow=37
AQDB Aquidauana 42.05 155 P P 13 52 28.4 +0.4
AQDB IAmb IAmb 13 52 29.8
comp=Z,8.4nm,0.7s
WCT Wildcat Mounta 42.14 305 P P 13 52 29.9 +1.0
WCT IAmb IAmb 13 52 32.4
comp=Z,6.8nm,1.0s
ELK Elko 42.28 311 P P 13 52 30.9 +0.8
BPMT Black Pine Rid 43.37 320 P P 13 52 39.4 +0.5
NVAR Mina Array Bea 43.85 307 P P 13 52 45.0 +2.2
comp=Z,5.0nm,0.9s,baz=108,slow=7.0,SNR=22
NVAR PcP PcP 13 54 30.8 +1.8
comp=Z,2.3nm,0.8s,baz=130,slow=4.2,SNR=7.3
comp=Z,5.0nm,0.9s
FRB Frobisher Bay 45.86 3 LR LR 14 11 16.3
comp=Z,125nm,20.7s,baz=158,slow=35
NEW Newport 46.42 321 P P 13 53 03.2 +0.3
NEW Newport 46.42 321 LR LR 14 13 51.1
comp=Z,336nm,18.6s,baz=107,slow=38
CPUP Villa Florida 46.79 160 LR LR 14 14 28.9
comp=Z,36nm,18.1s,baz=201,slow=38
YBH Yreka Blue Hor 47.95 310 LR LR 14 16 42.1
comp=Z,5.5nm,18.6s,baz=93,slow=40
SFJD Kangerlussuaq 51.21 11 LR LR 14 13 32.2
comp=Z,75nm,21.0s,baz=196,slow=34
YKA Yellowknife Ar 52.76 338 P P 13 53 51.3 +0.4
comp=Z,7.4nm,1.0s,baz=126,slow=7.2,SNR=7.3
YKA LR LR 14 16 25.7
comp=Z,37nm,18.5s,baz=142,slow=36
comp=Z,7.4nm,1.0s
BBB Bella Bella 54.41 322 LR LR 14 18 33.2
comp=Z,195nm,18.6s,baz=116,slow=37
DLBC Dease Lake 57.47 329 P P 13 54 26.0 +0.9
comp=Z,80nm,0.8s,baz=82,slow=5.6,SNR=5.4
DLBC LR LR 14 20 56.8
comp=Z,1µm,18.2s,baz=72,slow=38
RES Resolute Bay 57.90 353 LR LR 14 19 19.1
comp=Z,121nm,19.7s,baz=64,slow=36
BORG Borgarnes 58.20 24 LR LR 14 18 04.7

comp=Z,36nm,18.2s,baz=218,slow=34
PLCA Paso Flores 58.47 177 P **P 13 54 32.8 +0.5**
comp=Z,3.8nm,1.0s,baz=353,slow=7.4,SNR=5.0
PLCA LR LR 14 22 05.5
comp=Z,38nm,18.9s,baz=27,slow=38
comp=Z,3.8nm,1.0s
INK Inuvik 62.48 339 LR LR 14 23 15.4
comp=Z,153nm,18.0s,baz=332,slow=37
MDT Midelt 63.08 62 LR LR 14 19 01.9
comp=Z,47nm,19.4s,baz=238,slow=33
ESDC Sonseca Array 63.22 54 P **P 13 55 05.1 +0.4**
comp=Z,2.5nm,1.0s,baz=295,slow=6.8,SNR=7.1
ESDC LR LR 14 18 50.6
comp=Z,82nm,19.1s,baz=276,slow=32
comp=Z,2.5nm,1.0s
ILAR Eielson Array 66.77 333 P **P 13 55 27.1 -0.1**
comp=Z,2.0nm,0.9s,baz=91,slow=4.8,SNR=14
ILAR LR LR 14 26 01.2
comp=Z,81nm,18.6s,baz=56,slow=37
comp=Z,2.0nm,0.9s
RND Reindeer 67.48 332 P 13 55 32.5 +0.6
DBIC Dimbokro 67.78 90 P **P 13 55 34.6 0.0**
comp=Z,4.0nm,0.8s,baz=229,slow=7.6,SNR=3.3
comp=Z,4.0nm,0.8s
G23K Bananza Creek 68.27 335 P **P 13 55 37.0 +0.2**
G23K IAmb IAmb 13 55 38.6
comp=Z,4.4nm,0.9s
TOLK Toolik Lake Re 68.29 338 P **P 13 55 37.3 +0.4**
KDAK Kodiak Island 69.12 326 LR LR 14 27 03.8
comp=Z,183nm,18.2s,baz=75,slow=37
SENIN Lac Senin/Sane 71.00 46 P **P 13 55 55.4 +1.1**
D19K Kuna River 71.42 337 P **P 13 55 56.3 +0.2**
NB2 NORSAR Subarra 71.95 31 P **P 13 56 01.0 +1.5**
comp=Z,1.7nm,0.7s,baz=276,slow=6.2
NOA NORSAR Array B 71.95 31 P **P 13 56 00.7 +1.2**
comp=Z,4.3nm,0.9s,baz=275,slow=6.2,SNR=9.9
NOA LR LR 14 25 52.8
comp=Z,21nm,18.5s,baz=265,slow=34
comp=Z,4.3nm,0.9s
TORD Torodi Ar. Bea 72.26 82 P **P 13 56 02.2 +0.1**
comp=Z,2.3nm,0.8s,baz=293,slow=4.6,SNR=12
comp=Z,2.3nm,0.8s
SPITS Spitsbergen Ar 72.53 12 LR LR 14 27 19.2
comp=Z,48nm,19.8s,baz=282,slow=35
DAVOX Davos/Dischmat 72.72 46 LR LR 14 22 44.4
comp=Z,55nm,19.7s,baz=265,slow=32
FUORN Ofenpass-Fuorn 73.00 46 P **P 13 56 07.1 +0.8**
HFS Hagfors 73.26 31 LR LR 14 26 04.8
comp=Z,41nm,18.6s,baz=283,slow=34
CLL Collm 74.09 41 *i* P **P 13 56 13.0 +0.8**
KEST Kesra 74.13 57 P **P 13 56 14.5 +1.5**
comp=Z,3.9nm,0.6s,baz=172,slow=3.2,SNR=4.5
KEST LR LR 14 23 35.3
comp=Z,32nm,21.7s,baz=299,slow=32
comp=Z,3.9nm,0.6s
BRG Berggiesshubel 74.75 41 *e*P **P 13 56 17.1 +1.0**
BRG Amp 13 56 18.2
comp=Z,7.5nm,0.9s
GERES GERESS Array B 74.94 43 P **P 13 56 18.3 +0.9**
comp=Z,4.8nm,0.9s,baz=276,slow=5.2,SNR=24
comp=Z,4.8nm,0.9s
ARCES ARCESS Array B 76.46 21 P **P 13 56 25.6 0.0**
comp=Z,9.3nm,1.1s,baz=300,slow=4.9,SNR=6.0
comp=Z,9.3nm,1.1s
KRUC Moravsky 76.64 43 *e*P **P 13 56 27.3 +0.3**
VRAC Vranov 76.72 42 LR LR 14 25 23.7
comp=Z,92nm,20.8s,baz=270,slow=32
VRAC Vranov 76.72 42 *e*P **P 13 56 28.1 +0.7**
MORC Moravsky Berou 77.22 42 P **P 13 56 31.7 +1.4**
MORC IAmb IAmb 13 56 32.7
comp=Z,9.1nm,1.1s
MORC Moravsky Berou 77.22 42 *e*P **P 13 56 31.5 +1.2**
OJC Ojcow 78.53 41 P **P 13 56 38.4 +0.9**
FINES FINESS Array B 78.92 29 P **P 13 56 40.3 +0.9**
comp=Z,3.1nm,0.7s,baz=222,slow=5.1,SNR=7.1
FINES LR LR 14 26 44.7
comp=Z,35nm,20.9s,baz=280,slow=32
comp=Z,3.1nm,0.7s
PPT Papeete 82.64 249 LR LR 14 28 34.0
comp=Z,28nm,18.2s,baz=88,slow=32
MLR Muntele Rosu 83.86 44 P 13 57 07.4 +1.3
MLR Muntele Rosu 83.86 44 LR LR 14 32 11.2
comp=Z,56nm,18.5s,baz=299,slow=34
AKASG Malin Array Be 84.13 39 P **P 13 57 07.1 0.0**
comp=Z,1.2nm,0.6s,baz=294,slow=4.2,SNR=6.4
comp=Z,1.2nm,0.6s
SHEM Shemya Is, Ala 88.63 326 LR LR 14 37 38.9
comp=Z,48nm,19.4s,baz=268,slow=36
TIXI Tiksi 89.29 353 LR LR 14 39 00.1
comp=Z,57nm,19.3s,baz=16,slow=37
BRTR Keskin Array B 91.28 47 P **P 13 57 42.7 +0.6**
comp=Z,3.9nm,0.9s,baz=266,slow=4.7,SNR=13
comp=Z,3.9nm,0.9s
MA2 Magadan 94.72 339 LR LR 14 44 22.8
comp=Z,62nm,18.5s,baz=70,slow=38
ARTI Arti 95.69 25 LR LR 14 36 27.4
comp=Z,14nm,21.8s,baz=299,slow=32
YAK Yakutsk 98.15 349 LR LR 14 46 22.5
comp=Z,40nm,18.4s,baz=342,slow=38
WMQ Urumqi 116.16 15 *e*PKP **PKPdf 14 03 21.5 +1.8**
WMQ LR LR
comp=Z,130nm,24.0s
HHC Hu-ho-hao-te 121.28 355 *e*P **PKPdf 14 03 26.3 -3.4**
NJ2 Nanjing 128.85 346 *e*P **PKPdf 14 03 42.8 -1.4**
NJ2 pmax pmax
comp=Z,24nm,0.5s
PZH PanZhiHua 135.56 6 P **PKPdf 14 03 57.0 -0.2**
CMAR Chiang Mai Arr 143.06 12 PKhKP PKPpre 14 04 08.6
comp=Z,0.3nm,0.4s,baz=328,slow=1.9,SNR=1.6
STKA Stephens Creek 145.38 240 PKPbc **PKPbc 14 04 14.3 -0.1**
comp=Z,5.0nm,0.9s,baz=56,slow=3.9,SNR=9.5
WRA Warramunga Arr 153.51 261 PKP **PKPdf 14 04 27.7 -0.1**
comp=Z,1.0nm,0.8s,baz=84,slow=1.4,SNR=6.1
WRA PKPbc **pPKPdf 14 04 35.2 +0.2**
comp=Z,1.1nm,0.5s,baz=86,slow=2.8,SNR=22
ASAR Alice Springs 153.70 253 PKP **PKPdf 14 04 28.2 +0.2**
comp=Z,0.2nm,0.8s,baz=78,slow=2.0,SNR=2.1
ASAR PKPbc **pPKPdf 14 04 35.5 +0.2**
comp=Z,0.7nm,0.6s,baz=92,slow=2.3,SNR=15

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*AEIC **25** 13:45:13.8±1.1,63.°78N±0.°01×149.°31W±0.°05,h10km±6km, ML4.1,ML4.2/197(NEIC),Mwr3.9/111(NEIC),Error ellipse: s-maj=3.1km s-min=2.0km az=105.0*

*NEIC **25** 13:45:13.6±1.1,63.°78N±0.°02×149.°30W±0.°05,h14km±5km, Error ellipse: s-maj=4.0km s-min=2.3km az=129.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.35; $M_{\theta\theta}$-4.38; $M_{\phi\phi}$4.03; $M_{r\theta}$1.22; $M_{\theta\phi}$-7.59; $M_{\phi r}$-0.82; Fault plane solution: M_o8.80000×10^{14} NP1: ϕ_s104.19000°,δ86.43000°,λ170.76000°. NP2: ϕ_s194.77000°,δ80.78000°,λ3.61000°. Principal axes: T 8.7077, Plg9.0000°, Azm59.0000°; N 0.1873, Plg80.0000°, Azm263.0000°; P -8.8950, Plg4.0000°, Azm150.0000°;*

*NEIC **25** 13:45:13.7,63.°77N×149.°29W,h11km*

*IDC **25** 13:45:14.3±0.9,63.°86N×148.°92W,h0km,mb3.6/5, mbtmp3.8/9,ML4.0/4,MS3.0/1,Error ellipse: s-maj=16.7km s-min=10.2km az=121.0*

ISC 25 13:45:13.6±1.0,63.°77N±0.°02×149.°27W±0.°02,h12km±7km, n153,σ1§12/153,mb4.3/10,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCK	**McKinley**	**0.15**	**105**		**Pg**	**13 45 17.5**	**+0.3**
MCK				IAML		13 45 20.8	
	comp=E,45μm,0.5s						
BWN	**Browne**	**0.41**	**348**		**Pb**	**13 45 22.4**	**-0.4**
BWN				IAML		13 45 29.7	
	comp=N,24μm,0.6s						
BWN	**Browne**	**0.41**	**348**		**Sb**	**13 45 28.1**	**-0.8**
RND	**Reindeer**	**0.41**	**153**		**Pg**	**13 45 21.1**	**-0.7**
TRF	**Thorofare Moun**	**0.56**	**235**		**Pg**	**13 45 23.9**	**-0.6**
TRF	**Thorofare Moun**	**0.56**	**235**		**Sb**	**13 45 32.9**	**-0.5**
KTH	**Kantishna Hill**	**0.77**	**254**		**Pg**	**13 45 27.8**	**-0.6**
KTH				IAML		13 45 38.7	
	comp=N,10μm,1.1s						
KTH				IAML		13 45 41.7	
	comp=E,11μm,0.7s						
KTH	**Kantishna Hill**	**0.77**	**254**		**Sg**	**13 45 38.0**	**-0.6**
BPAW	**Bear Paw Mtn.**	**0.83**	**294**		**Pg**	**13 45 29.3**	**-0.2**
BPAW				IAML		13 45 42.0	
	comp=N,10μm,0.6s						
BPAW	**Bear Paw Mtn.**	**0.83**	**294**		**Sg**	**13 45 40.2**	**-0.1**
NEA2	**Nenana**	**0.83**	**6**		**Pg**	**13 45 29.8**	**+0.2**
NEA2				IAML		13 45 43.3	
	comp=N,9μm,0.6s						
NEA2				IAML		13 45 43.8	
	comp=E,7μm,0.2s						
NEA2	**Nenana**	**0.83**	**6**		**Sg**	**13 45 40.5**	**0.0**
WRH	**Wood River Hil**	**0.87**	**36**		**Pg**	**13 45 30.3**	**-0.1**
WRH				IAML		13 45 43.5	
	comp=E,6μm,0.9s						
WRH				IAML		13 45 43.8	
	comp=N,9μm,0.3s						
WRH	**Wood River Hil**	**0.87**	**36**		**Sg**	**13 45 41.9**	**+0.1**
WAT7	**Susitna Watana**	**0.96**	**168**		**Pg**	**13 45 31.0**	**-1.2**
WAT1	**Susitna Watana**	**1.00**	**161**		**Pg**	**13 45 31.8**	**-1.1**
CCB	**Clear Creek Bu**	**1.09**	**36**		**Pb**	**13 45 33.9**	**-0.4**
CCB				IAML		13 45 49.5	
	comp=E,4μm,0.3s						
CCB				IAML		13 45 50.4	
	comp=N,4μm,0.3s						
DHY	**Denali Highway**	**1.10**	**129**		**Pg**	**13 45 33.9**	**-1.0**
DHY				IAML		13 45 51.6	
	comp=E,6μm,0.5s						
DHY				IAML		13 45 52.4	
	comp=N,6μm,0.4s						
HDA	**Harding Lake**	**1.20**	**57**		**Pn**	**13 45 35.5**	**-0.7**
HDA				IAML		13 45 54.0	
	comp=N,5μm,0.8s						
COLA	**College**	**1.27**	**29**		**Pn**	**13 45 36.7**	**-0.4**
COLA	**College**	**1.27**	**29**		**Sn**	**13 45 54.4**	**+0.4**
I23K	**Minto, Yukon-K**	**1.38**	**358**		**Pn**	**13 45 38.4**	**-0.3**
WAT6	**Susitna Watana**	**1.38**	**149**		**Pn**	**13 45 38.4**	**-0.5**
MLY	**Manley**	**1.41**	**334**		**Pn**	**13 45 38.6**	**-0.6**
ILAR	**Eielson Array**	**1.45**	**45**	Pg	**Pn**	**13 45 38.9**	**-0.7**
	comp=N,253nm,0.3s,baz=229,slow=17,SNR=1561						
ILAR				Lg	Lg	13 45 56.1	
	comp=N,244nm,0.3s,baz=240,slow=16,SNR=4.4						
CUT	**Chulitna**	**1.45**	**199**		**Pn**	**13 45 39.2**	**-0.3**
K24K	**Donnelly Dome**	**1.55**	**87**		**Pn**	**13 45 40.8**	**-0.2**
POKR	**Poker Plat Res**	**1.57**	**30**		**Pn**	**13 45 40.8**	**-0.5**
POKR				IAML		13 46 04.9	
	comp=E,4μm,0.6s						
POKR				IAML		13 46 05.7	
	comp=N,3μm,0.7s						
PPLA	**Purkeypile**	**1.58**	**238**		**Pn**	**13 45 41.5**	**-0.1**
PPLA				IAML		13 46 07.3	
	comp=N,3μm,0.8s						
PPLA				IAML		13 46 07.5	
	comp=E,4μm,0.7s						
I21K	**Tanana**	**1.84**	**321**		**Pn**	**13 45 44.6**	**-0.3**
I21K				IAML		13 46 12.6	
	comp=N,2μm,0.5s						
PAX	**Paxson**	**1.89**	**114**		**Pn**	**13 45 45.7**	**-0.1**
RIDG	**Independent Ri**	**1.97**	**89**		**Pn**	**13 45 46.6**	**-0.2**
RIDG				IAML		13 46 16.9	
	comp=E,3μm,0.7s						
GHO	**Glory Hole Cre**	**2.02**	**175**		**Pn**	**13 45 46.7**	**-0.8**
GHO				IAML		13 46 17.7	
	comp=E,2μm,0.7s						
GHO				IAML		13 46 19.0	
	comp=N,2μm,0.6s						
H23K	**Yukon River**	**2.06**	**357**		**Pn**	**13 45 47.9**	**-0.2**
H23K				IAML		13 46 21.8	
	comp=E,2μm,0.8s						
M22K	**Willow**	**2.06**	**191**		**Pn**	**13 45 47.9**	**-0.1**
SKT	**Skwentna**	**2.08**	**211**		**Pn**	**13 45 48.1**	**-0.1**
M23K	**Glacier View**	**2.11**	**160**		**Pn**	**13 45 48.6**	**-0.1**
SCM	**Sheep Creek Mo**	**2.14**	**154**		**Pn**	**13 45 48.7**	**-0.5**
SCM				IAML		13 46 23.0	
	comp=E,2μm,0.6s						
H24K	**Noodor Dome**	**2.16**	**15**		**Pn**	**13 45 49.5**	**+0.1**
PMR	**Palmer**	**2.19**	**178**		**Pn**	**13 45 49.4**	**-0.3**
PMR				IAML		13 46 22.8	
	comp=E,1μm,0.8s						
M24K	**Tolsona, Glenn**	**2.19**	**138**		**Pn**	**13 45 50.5**	**+0.7**
H22K	**Ishtalitna Cre**	**2.31**	**338**		**Pn**	**13 45 51.6**	**+0.2**
HARP	**HAARP**	**2.33**	**125**		**Pn**	**13 45 53.4**	**+1.7**
SCRK	**Sand Creek**	**2.35**	**83**		**Pn**	**13 45 51.4**	**-0.7**
SCRK				IAML		13 46 27.9	
	comp=N,2μm,0.6s						
SCRK				IAML		13 46 28.7	
	comp=E,2μm,0.5s						
KNK	**Knik Glacier**	**2.40**	**171**		**Pn**	**13 45 52.2**	**-0.5**
KNK				IAML		13 46 34.3	
	comp=E,2μm,0.7s						
SUA	**Susitna One**	**2.42**	**197**		**Pn**	**13 45 53.3**	**+0.3**
SUA				IAML		13 46 27.9	
	comp=N,1μm,0.7s						
SUA				IAML		13 46 31.6	
	comp=E,1μm,0.8s						
H21K	**Melozitna Rive**	**2.42**	**323**		**Pn**	**13 45 52.5**	**-0.5**
I20K	**Naaghedeneel**	**2.49**	**297**		**Pn**	**13 45 53.3**	**-0.6**
STLK	**Strandline Lak**	**2.57**	**209**		**Pn**	**13 45 54.7**	**-0.4**
M20K	**Styx River**	**2.60**	**225**		**Pn**	**13 45 55.4**	**-0.1**
M20K				IAML		13 46 35.7	
	comp=E,792nm,0.6s						
M20K				IAML		13 46 37.9	
	comp=N,993nm,0.6s						
J26L	**Joseph Creek**	**2.61**	**71**		**Pn**	**13 45 55.4**	**-0.2**
J26L				IAML		13 46 37.7	
	comp=N,1μm,0.6s						
MENT	**Mentasta**	**2.64**	**106**		**Pn**	**13 45 56.4**	**+0.4**
RC01	**Rabbit Creek A**	**2.70**	**185**		**Pn**	**13 45 57.1**	**+0.2**
RC01				IAML		13 46 42.5	
	comp=E,870nm,0.9s						
KLU	**Klutina**	**2.76**	**144**		**Pn**	**13 45 58.3**	**+0.6**
KLU				IAML		13 46 43.3	
	comp=N,732nm,0.6s						
SPCG	**Spurr Capps Gl**	**2.80**	**208**		**Pn**	**13 45 59.0**	**+0.8**
J19K	**Poorman**	**2.82**	**277**		**Pn**	**13 45 57.6**	**-0.8**
WACK	**Wrangell Chich**	**2.89**	**126**		**Pn**	**13 46 01.6**	**+2.0**
SPU	**Mount Spurr**	**2.90**	**208**		**Pn**	**13 45 59.4**	**-0.3**
SPCR	**Spurr Chakacha**	**2.92**	**209**		**Pn**	**13 46 00.2**	**+0.4**
PWL	**Port Wells**	**2.96**	**171**		**Pn**	**13 46 01.6**	**+1.3**
PWL				IAML		13 46 46.5	
	comp=E,783nm,1.0s						
PWL				IAML		13 46 51.9	
	comp=N,824nm,0.8s						
G23K	**Bananza Creek**	**2.97**	**354**		**Pn**	**13 46 00.6**	**+0.1**
G23K				IAML		13 46 47.5	
	comp=E,918nm,0.8s						
L19K	**White Mountain**	**3.01**	**240**		**Pn**	**13 46 02.9**	**+1.8**
L19K	**White Mountain**	**3.01**	**240**	IAML		13 46 57.6	
	comp=N,591nm,0.8s						
L19K				IAML		13 46 59.1	
	comp=E,815nm,0.9s						
G24K	**Hadweenzic Riv**	**3.04**	**14**		**Pn**	**13 46 01.5**	**0.0**
G24K				IAML		13 46 52.5	
	comp=E,958nm,1.1s						
G24K				IAML		13 46 55.7	
	comp=N,778nm,0.9s						
N25K	**Chitina, Valde**	**3.06**	**133**		**Pn**	**13 46 03.1**	**+1.3**
GLI	**Glacier Island**	**3.08**	**160**		**Pn**	**13 46 03.0**	**+1.0**
GLI				IAML		13 46 43.8	
	comp=N,621nm,0.7s						
GLI				IAML		13 46 53.3	
	comp=E,536nm,0.8s						
DIV	**Divide**	**3.11**	**147**		**Pn**	**13 46 03.3**	**+0.8**
DIV				IAML		13 47 01.4	
	comp=N,572nm,0.6s						
M26K	**Nabesna, AK**	**3.17**	**113**		**Pn**	**13 46 04.2**	**+0.9**
M26K				IAML		13 46 54.6	
	comp=N,772nm,0.6s						
M26K				IAML		13 46 57.5	
	comp=E,737nm,0.7s						
G21K	**Allakaket**	**3.28**	**329**		**Pn**	**13 46 05.2**	**+0.4**
FID	**Port Fidalgo**	**3.30**	**155**		**Pn**	**13 46 06.2**	**+1.2**
SLKM	**Skilak Lake**	**3.31**	**188**		**Pn**	**13 46 06.2**	**+1.0**
SLKM	**Skilak Lake**	**3.31**	**188**	IAML		13 47 00.9	
	comp=E,668nm,0.8s						
O22K	**Cooper Landing**	**3.31**	**184**		**Pn**	**13 46 06.1**	**+0.9**
J18K	**Innoko River**	**3.34**	**268**		**Pn**	**13 46 04.2**	**-1.4**
J18K				IAML		13 47 01.5	
	comp=N,639nm,0.8s						
J18K				IAML		13 47 03.1	
	comp=E,683nm,0.7s						
L27K	**Beaver Creek,**	**3.42**	**99**		**Pn**	**13 46 06.0**	**-0.8**
GLB	**Gilahina Butte**	**3.44**	**130**		**Pn**	**13 46 08.5**	**+1.5**
COLD	**Coldfoot**	**3.49**	**354**		**Pn**	**13 46 08.2**	**+0.5**
COLD				IAML		13 47 03.4	
	comp=E,507nm,0.5s						
COLD				IAML		13 47 05.3	
	comp=N,409nm,0.6s						
H19K	**Roundabout Mou**	**3.55**	**303**		**Pn**	**13 46 07.9**	**-0.6**
H19K				IAML		13 47 05.9	
	comp=N,540nm,0.3s						
BMRM	**Bremner River**	**3.56**	**140**		**Pn**	**13 46 09.1**	**+0.5**
BMRM				IAML		13 47 05.0	
	comp=N,576nm,0.8s						
HIN	**Hinchinbrook I**	**3.63**	**158**		**Pn**	**13 46 10.6**	**+1.0**
HIN				IAML		13 47 07.3	
	comp=E,422nm,1.1s						
HIN				IAML		13 47 20.2	
	comp=N,329nm,0.6s						
EYAK	**Cordova Ski Ar**	**3.63**	**151**		**Pn**	**13 46 10.8**	**+1.2**
M27K	**Edge Creek, AK**	**3.65**	**110**		**Pn**	**13 46 10.8**	**+0.7**
M27K				IAML		13 47 13.5	
	comp=N,497nm,0.9s						
M27K				IAML		13 47 16.2	
	comp=E,541nm,0.9s						
EGAK	**Eagle**	**3.68**	**70**		**Pn**	**13 46 10.0**	**-0.2**
VRDI	**Verde Repeater**	**3.72**	**131**		**Pn**	**13 46 12.8**	**+1.9**
L18K	**Granite Mounta**	**3.73**	**249**		**Pn**	**13 46 10.4**	**-0.4**
L18K				IAML		13 47 14.4	
	comp=E,419nm,1.0s						
L18K				IAML		13 47 20.5	
	comp=N,454nm,0.7s						
MCARA	**McCarthy VSAT**	**3.75**	**127**		**Pn**	**13 46 13.9**	**+2.6**
MCARA				IAML		13 47 21.6	
	comp=E,493nm,1.1s						
M18K	**Stony River**	**3.79**	**236**		**Pn**	**13 46 12.8**	**+1.0**
F24K	**Squaw Lake**	**3.81**	**8**		**Pn**	**13 46 12.4**	**+0.4**
F24K				IAML		13 47 15.5	
	comp=E,450nm,0.8s						
F24K				IAML		13 47 17.3	
	comp=N,284nm,0.7s						
N19K	**Bonanza Creek**	**3.84**	**222**		**Pn**	**13 46 13.6**	**+1.0**
N19K				IAML		13 47 21.6	
	comp=E,302nm,0.9s						
F21K	**Alatna River**	**3.88**	**335**		**Pn**	**13 46 13.7**	**+0.7**
F21K				IAML		13 47 01.4	
	comp=N,375nm,0.5s						
P23K	**Montague Islan**	**3.89**	**166**		**Pn**	**13 46 13.5**	**+0.4**
P23K				IAML		13 47 22.3	
	comp=N,384nm,1.1s						
P23K				IAML		13 47 26.3	
	comp=E,332nm,0.8s						
G26K	**Porcupine Rive**	**3.93**	**33**		**Pn**	**13 46 13.6**	**-0.1**
PTPK	**Patty Peak**	**4.09**	**126**		**Pn**	**13 46 17.7**	**+1.7**
H27K	**Steamboat Moun**	**4.11**	**50**		**Pn**	**13 46 15.8**	**-0.4**
H27K				IAML		13 47 32.9	
	comp=N,305nm,0.7s						
H27K				IAML		13 47 34.6	
	comp=E,318nm,1.1s						
F25K	**Christian Rive**	**4.12**	**20**		**Pn**	**13 46 16.4**	**0.0**
F25K				IAML		13 47 25.6	
	comp=E,354nm,0.8s						
F25K				IAML		13 47 27.0	
	comp=N,268nm,1.1s						
CRQM	**Cirque**	**4.17**	**134**		**Pn**	**13 46 18.5**	**+1.3**
CRQM				IAML		13 47 29.2	
	comp=E,301nm,1.1s						
CRQM				IAML		13 47 33.3	
	comp=N,348nm,1.0s						
H18K	**Honhosa River**	**4.17**	**293**		**Pn**	**13 46 17.4**	**+0.3**
H18K				IAML		13 47 29.1	
	comp=E,401nm,0.9s						
H18K				IAML		13 47 31.4	
	comp=N,374nm,1.1s						
K17K	**Iditarod**	**4.22**	**259**		**Pn**	**13 46 16.3**	**-1.3**
K17K				IAML		13 47 31.5	
	comp=N,302nm,1.1s						
F20K	**Avaraart Lake**	**4.25**	**324**		**Pn**	**13 46 18.2**	**+0.1**
TGL	**Tana Glacier**	**4.27**	**132**		**Pn**	**13 46 19.2**	**+0.8**
TGL				IAML		13 47 28.1	
	comp=N,285nm,1.0s						
TGL				IAML		13 47 33.1	
	comp=E,230nm,0.9s						
BERG	**Berg Lake**	**4.29**	**140**		**Pn**	**13 46 19.9**	**+1.4**
E23K	**Chandalar**	**4.31**	**358**		**Pn**	**13 46 20.1**	**+1.2**
E23K				IAML		13 47 31.2	
	comp=E,340nm,0.9s						
E23K				IAML		13 47 35.0	
	comp=N,253nm,0.8s						
O19K	**Port Alsworth**	**4.31**	**216**	Pn	**Pn**	**13 46 19.3**	**+0.5**
O19K				IAML		13 47 41.5	
	comp=E,353nm,0.5s						
NICHA	**Nichawak Mount**	**4.34**	**142**		**Pn**	**13 46 21.4**	**+2.1**
I28M	**Miner Creek**	**4.36**	**63**		**Pn**	**13 46 19.5**	**-0.1**
I28M				IAML		13 47 41.6	
	comp=N,252nm,0.9s						
I28M				IAML		13 47 42.0	
	comp=E,266nm,1.1s						
CNPM	**China Poot**	**4.36**	**193**		**Pn**	**13 46 21.5**	**+1.9**
KHIT	**Khitrov Hills**	**4.38**	**137**		**Pn**	**13 46 21.4**	**+1.5**
N18K	**Kilae Creek**	**4.38**	**228**		**Pn**	**13 46 19.9**	**0.0**
N18K				IAML		13 47 36.6	
	comp=E,237nm,1.2s						
N18K				IAML		13 47 47.6	
	comp=N,240nm,0.8s						
G27K	**Doyon Strip**	**4.42**	**43**		**Pn**	**13 46 19.6**	**-0.7**
G27K				IAML		13 47 33.9	
	comp=N,179nm,0.5s						
BARN	**Barnard Glacie**	**4.46**	**124**		**Pn**	**13 46 23.2**	**+2.0**
F26K	**Sheenjek River**	**4.47**	**26**		**Pn**	**13 46 21.3**	**+0.2**
F26K				IAML		13 47 38.1	
	comp=N,185nm,1.0s						
F26K				IAML		13 47 41.5	
	comp=E,272nm,0.9s						
WAX	**Waxell Ridge**	**4.50**	**135**		**Pn**	**13 46 22.9**	**+1.3**
G18K	**Tagagawik**	**4.54**	**302**		**Pn**	**13 46 22.2**	**+0.2**
ISLE	**Juniper Island**	**4.54**	**131**		**Pn**	**13 46 23.3**	**+1.0**
E25K	**Arctic Village**	**4.62**	**17**		**Pn**	**13 46 23.4**	**+0.2**
E25K				IAML		13 47 41.8	
	comp=E,210nm,0.8s						
E25K				IAML		13 47 44.5	
	comp=N,168nm,1.1s						
CTGM	**Chitina Glacie**	**4.65**	**124**		**Pn**	**13 46 24.4**	**+0.7**
GRNC	**Granite Creek**	**4.65**	**128**		**Pn**	**13 46 24.8**	**+0.9**
F19K	**Shaleruckik Mo**	**4.71**	**315**		**Pn**	**13 46 24.1**	**-0.1**
F19K				IAML		13 47 40.7	
	comp=E,160nm,0.8s						
H17K	**Granite Mounta**	**4.77**	**289**		**Pn**	**13 46 24.8**	**-0.4**
LOGN	**Logan Glacier**	**4.86**	**124**		**Pn**	**13 46 26.7**	**0.0**
TOLK	**Toolik Lake Re**	**4.89**	**359**		**Pn**	**13 46 29.0**	**+2.1**
TOLK				IAML		13 47 27.6	
	comp=E,224nm,0.7s						
J29N	**Klondike Camp**	**4.89**	**77**		**Pn**	**13 46 27.3**	**+0.3**
E19K	**Redstone River**	**4.95**	**322**		**Pn**	**13 46 28.3**	**+0.5**
E19K				IAML		13 47 53.7	
	comp=E,160nm,0.9s						
E19K				IAML		13 47 56.1	
	comp=N,152nm,0.8s						
L29M	**L29M**	**5.05**	**93**		**Pn**	**13 46 28.6**	**-0.5**
I17K	**Unalakleet**	**5.06**	**276**		**Pn**	**13 46 28.4**	**-0.7**
M29M	**Somme Creek**	**5.09**	**100**		**Pn**	**13 46 29.2**	**-0.4**
K29M	**Barlow Dome**	**5.21**	**84**		**Pn**	**13 46 30.7**	**-0.7**
K29M				IAML		13 48 03.6	
	comp=E,175nm,0.7s						
H29M	**Whitestone**	**5.24**	**57**		**Pn**	**13 46 31.9**	**+0.3**
D23K	**Nanushuk River**	**5.25**	**354**		**Pn**	**13 46 33.6**	**+1.8**
D23K				IAML		13 48 01.9	
	comp=E,133nm,1.2s						
D23K				IAML		13 48 15.7	
	comp=N,125nm,0.9s						
D22K	**Ayikyak River**	**5.31**	**347**		**Pn**	**13 46 34.0**	**+1.4**
D22K				IAML		13 48 02.5	
	comp=E,161nm,0.9s						
D22K				IAML		13 48 17.9	
	comp=N,117nm,1.1s						
F28M	**Old Crow**	**5.47**	**41**		**Pn**	**13 46 34.5**	**-0.3**
G29M	**Pine Creek**	**5.66**	**51**		**Pn**	**13 46 37.6**	**+0.1**
J30M	**Hart River**	**5.71**	**

comp=N,24nm,1.1s
YKA Yellowknife Ar 15.61 79 Pn **Pn 13 48 52.6 -0.5**
comp=N,0.5nm,0.3s,baz=185,slow=15,SNR=5.8
YKA LR LR 13 55 41.1
comp=N,56nm,19.6s,baz=319,slow=40
comp=N,3.0nm,1.1s
PDAR Pinedale Array 30.93 114 P **P 13 51 32.2 +2.0**
comp=N,0.8nm,0.7s,baz=328,slow=5.8,SNR=7.6
comp=N,0.8nm,0.7s
NVAR Mina Array Bea 31.38 129 P **P 13 51 36.8 +2.5**
comp=N,0.2nm,0.5s,baz=332,slow=6.4,SNR=4.0
comp=N,0.2nm,0.5s
HHC Hu-ho-hao-te 57.99 298 *eP* **P 13 55 06.0 +0.2**
HHC pmax pmax
comp=Z,12nm,0.8s
BVAR Borovoye Array 59.51 333 P **P 13 55 17.6 +1.5**
comp=Z,0.6nm,0.6s,baz=25,slow=7.2,SNR=3.9
comp=Z,0.6nm,0.6s
MKAR Makanchi Array 62.54 323 P **P 13 55 38.5 +1.7**
comp=Z,0.4nm,0.8s,baz=26,slow=7.0,SNR=2.1
comp=Z,0.4nm,0.8s
WMQ Urumqi 63.72 317 *eP* **P 13 55 44.0 -0.7**
WMQ pmax pmax
comp=Z,39nm,1.5s
AKASG Malin Array Be 65.86 1 P **P 13 56 02.1 +3.7**
comp=Z,0.3nm,0.4s,baz=1.3,slow=6.4,SNR=1.6
comp=Z,0.3nm,0.4s
RETA Reutte 67.97 14 *eP* **P 13 56 08.7 -3.3**
comp=Z,12nm,0.9s
MOTA Moosalm 68.15 14 *eP* **P 13 56 10.2 -3.0**
comp=Z,6.2nm,0.8s
SOKA Soboth 69.20 11 *eP* **P 13 56 17.9 -1.8**
comp=Z,3.3nm,0.7s
PZH PanZhiHua 74.45 298 P **P 13 56 51.3 -0.3**

HEL 25 14:02:18.8±0.1, 62°34N×25°72E, h0km, ML1.0, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAF	**Kangasniemi**	**0.36**	**129**	PG	Pg	14 02 25.1	-0.5
KAF				SG	Sg	14 02 29.7	-0.5
SUF	**Sumiainen**	**0.43**	**27**	PG	Pg	14 02 26.5	-0.5
SUF				SG	Sg	14 02 32.3	-0.2
KEF	**Keuruu**	**0.43**	**247**	PG	Pg	14 02 26.4	-0.7
	baz=76						
KEF				SG	Sg	14 02 32.1	-0.6
FIA0	**FINESS Array S**	**0.92**	**169**	PG	Pg	14 02 35.5	-0.8
	baz=348						
FIA0				MSG		14 02 47.1	
	comp=Z,1.5nm,0.2s						
NIF	**Nilsia**	**1.42**	**41**	MSG		14 03 01.6	
	comp=Z,0.6nm,0.2s						
NIF				SN	Sg	14 03 03.9	-0.6
KPF	**Kankaanpaa**	**1.79**	**255**	PG	Pn	14 02 51.1	+0.2
KPF				MSG		14 03 12.2	
	comp=Z,0.7nm,0.2s						
KPF				SG	Sb	14 03 15.5	+0.1
OUF	**Merijarvi**	**2.08**	**348**	MSG		14 03 20.5	
	comp=Z,0.6nm,0.2s						
OUF				SG	Sb	14 03 24.4	+0.6
OBF4	**Vikkela, Lumij**	**2.50**	**354**	PB	Pn	14 03 01.9	+1.3
OBF4				MSG		14 03 32.6	
	comp=Z,0.5nm,0.2s						
JOF	**Joensuu**	**2.65**	**75**	SG	Sb	14 03 39.2	-0.8
RMF	**Romuvaara**	**2.68**	**43**	MSG		14 03 37.8	
	comp=Z,0.4nm,0.2s						
RMF				SG	Sb	14 03 40.1	-0.8

*HEL **25** 14:04:07.9±0.4, 67°.83N×20°.04E, h0km, ML1.4, Suspected explosion*
UPP 25 14:04:08.5±0.3, 67°.82N×20°.21E, h0km±1km, ML2.4, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**20**	P	Pg	14 04 11.5	+0.3
	baz=212						
KUA				S	Sg	14 04 13.6	+0.6
RATU	**Laukkuluspa**	**0.23**	**271**	P	Pg	14 04 13.2	+0.2
RATU				S	Sg	14 04 16.6	+0.6
KOVU	**Salmi**	**0.40**	**357**	P	Pg	14 04 16.3	+0.1
	baz=170						
KOVU				S	Sg	14 04 21.9	+0.4
NIKU	**Nikkaluokta**	**0.45**	**277**	P	Pg	14 04 17.2	+0.1
NIKU				S	Sg	14 04 23.6	+0.7
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	14 04 22.0	-0.1
LANU				S	Sg	14 04 31.4	+0.1
LANU	**Lannavaara**	**0.71**	**71**	PG	Pg	14 04 22.0	-0.2
LANU				SG	Sg	14 04 31.2	-0.1
DUNU	**Dundret**	**0.72**	**169**	P	Pg	14 04 22.0	-0.2
SALU	**Saltoluokta**	**0.79**	**237**	P	Pg	14 04 23.4	-0.1
KIF	**Kilpisjarvi**	**1.21**	**10**	*eP*	Pg	14 04 30.8	-0.8
KIF	**Kilpisjarvi**	**1.21**	**10**	PN	Pb	14 04 31.9	-0.3
KIF				MSG		14 04 45.8	
	comp=Z,4.6nm,0.2s						
KIF				SB	Sg	14 04 47.6	+0.3
PAJU	**Pajala**	**1.38**	**124**	PG	Pg	14 04 33.5	-1.4
	baz=301						
PAJU				SG	Sg	14 04 52.1	-0.6
HEF	**Hetta**	**1.42**	**64**	*eP*	Pn	14 04 34.8	-0.8
HEF	**Hetta**	**1.42**	**64**	PN	Pn	14 04 34.8	-0.8
HEF				MSG		14 04 52.2	
	comp=Z,2.0nm,0.2s						
HEF				SG	Sg	14 04 53.8	-0.3
ERTU	**Ertsjaerv**	**1.49**	**148**	P	Pn	14 04 35.8	-0.7
ERTU	**Ertsjaerv**	**1.49**	**148**	SG	Pn	14 04 35.7	-0.8
ERTU	**Ertsjaerv**	**1.49**	**148**	PG	Pn	14 04 35.7	-0.8
ERTU				SN	Sg	14 04 56.2	0.0
KTK1	**Kautokeino**	**1.64**	**42**	PN	Pn	14 04 38.7	+0.1
KTK1				SN	Sb	14 05 00.8	+0.1
HARU	**Harads**	**1.69**	**169**	P	Pn	14 04 39.7	+0.5
KALU	**Kalix**	**2.33**	**146**	PB	Pn	14 04 49.0	+1.0
KALU				SG	Sb	14 05 20.8	+0.2
TOF	**Tornio**	**2.38**	**135**	PB	Pn	14 04 50.0	+1.3
TOF				MSG		14 05 19.9	
	comp=Z,1.5nm,0.2s						
TOF				SG	Sb	14 05 22.2	+0.2
ARA0	**ARCESS Array S**	**2.59**	**46**	PG	Pb	14 04 54.3	-1.5
ARA0				SG	Sb	14 05 27.4	-0.7
RAJF	**Raja-Jooseppi**	**3.10**	**74**	PG	Pb	14 05 06.0	+1.6
RAJF				SB	Sb	14 05 40.9	-1.9
KEV	**Kevo**	**3.14**	**49**	SN	Sn	14 05 38.6	+1.3
RANF	**Ranua**	**3.16**	**122**	SG	Sg	14 05 47.4	-2.6
BURU	**Burvik**	**3.29**	**171**	PB	Pn	14 05 03.2	+2.1
OLKF	**Oulanka, Finla**	**3.90**	**108**	SG	Sg	14 06 11.8	-1.8
KU6	**Riekki**	**4.21**	**111**	SG	Sg	14 06 22.0	-1.8

*SKHL **25** 14:27:42.7±0.6, 44°.10N×147°.40E, h107km±3km, mb4.8/4, msha5.6/4*
*JMA **25** 14:27:43.1±0.3, 44°N±1°×147°7E±°, h107km, MV3.7/29, E OFF HOKKAIDO*
ISC 25 14:27:41.3±2.5, 44°09N±0°.09×147°.5E±0°.1, h123km±15km, n19, σ1§34/32, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.50**	**244**	*eP*	Pn	14 28 04.6	+5.1
SHO				AMB	AMB	14 28 04.9	
	380nm,0.3s						
SHO				*eS*	**Sn**	**14 28 16.7**	**+3.5**
SHO				A	A	14 28 17.2	
	410nm,0.3s						
SHO				A	A	14 28 17.2	
	1µm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.15**	**268**	*eP*	**Pn**	**14 28 04.8**	**-0.1**
YUK				AMB	AMB	14 28 05.4	
	400nm,0.2s						
YUK				*i* S	**Sn**	**14 28 20.7**	**-2.2**
YUK				A	A	14 28 21.8	
	1µm,0.4s						
YUK				A	A	14 28 21.8	
	1µm,0.4s						
KUR	**Kuril'sk**	**1.19**	**14**	*eP*	**Pn**	**14 28 05.7**	**+0.3**
KUR				AMB	AMB	14 28 06.5	
	120nm,0.5s						
KUR				*i* S	**Sn**	**14 28 22.2**	**-1.5**
KUR				A	A	14 28 23.0	
	290nm,0.4s						
KUR				A	A	14 28 23.0	
	410nm,0.4s						
NEM2	**Nemuro 2**	**1.43**	**240**	P	**Pn**	**14 28 08.2**	**+0.2**
NEM2				S	**Sn**	**14 28 26.5**	**-1.9**
GLVR	**Golovnino**	**1.44**	**257**	*i* P	**Pn**	**14 28 08.6**	**+0.5**
GLVR				AMB	AMB	14 28 08.8	
	120nm,0.2s						
GLVR				*i* S	**Sn**	**14 28 27.4**	**-1.1**
GLVR				A	A	14 28 29.0	
	860nm,0.2s						
GLVR				A	A	14 28 29.0	
	1µm,0.2s						
NMR	**Nemuro--Hokkai**	**1.44**	**241**	*i* P	**Pn**	**14 28 08.2**	**+0.1**
NMR				*i* S	**Sn**	**14 28 26.7**	**-1.8**
JRA	**Rausu**	**1.69**	**266**	*eP*	**Pn**	**14 28 11.6**	**+0.6**
JRA				*eS*	**Sn**	**14 28 33.0**	**-0.7**
JNSB	**Nemuroshibetsu**	**1.79**	**261**	*eP*	**Pn**	**14 28 13.4**	**+1.1**
JNSB				*eS*	**Sn**	**14 28 36.4**	**+0.4**
JKHN	**Kushirohamanak**	**1.94**	**240**	P	**Pn**	**14 28 14.8**	**+0.7**
JKHN				*eS*	**Sn**	**14 28 37.9**	**-1.3**
JNK	**Nakash**	**2.04**	**257**	*eP*	**Pn**	**14 28 16.1**	**+0.8**
JNK				S	**Sn**	**14 28 40.4**	**-0.9**
AKK	**Akkeshi**	**2.17**	**241**	*eP*	**Pn**	**14 28 17.5**	**+0.5**
JAK	**Akkeshi**	**2.28**	**242**	*eP*	**Pn**	**14 28 18.6**	**+0.3**
JAK				S	**Sn**	**14 28 45.4**	**-1.3**
JTKR	**Abashiri--Toko**	**2.56**	**269**	*eP*	**Pn**	**14 28 22.5**	**+0.6**
JAR	**Ashorobuto**	**2.78**	**255**	*eP*	**Pn**	**14 28 26.4**	**+1.6**
JAR				S	**Sn**	**14 28 59.3**	**+1.0**
JOB	**Onbets**	**2.88**	**247**	*eP*	**Pn**	**14 28 27.2**	**+1.1**
JOB				S	**Sn**	**14 29 00.2**	**-0.4**
JCH	**Churui**	**3.32**	**245**	*eP*	**Pn**	**14 28 32.4**	**+0.5**
JCH				S	**Sn**	**14 29 08.7**	**-2.2**
JKK2	**Kamakawa 2**	**3.40**	**268**	*eP*	**Pn**	**14 28 34.1**	**+1.2**
ASAJ	**Asahikawa**	**3.50**	**272**	*eP*	**Pn**	**14 28 35.6**	**+1.5**
YSS	**Yuzhno-Sakhali**	**4.37**	**313**	*eP*	**Pn**	**14 28 46.1**	**+0.4**

*NEIC **25** 14:27:45.7±1.9, 19°.14N±0°.04×67°.20W±0°.04, h10km±2km, ML2.6/13, Md2.9/10(RSPR), Error ellipse: s-maj=6.8km s-min=6.6km az=358.0*
*OSPL **25** 14:27:48.7±0.4, 19°.11N×67°.33W, h19km±2km, ML2.5*
*SDD **25** 14:27:48.3±2.1, 19°.13N×67°.18W, h16km±999km, MD3.5, ML2.3, MW2.9*
*RSPR **25** 14:27:49.4, 19°.16N×67°.22W, h26km±30km, MD2.9/10*
ISC 25 14:27:45.9±1.4, 19°.15N±0°.06×67°.16W±0°.03, h12km±10km, n59, σ0§46/75, 5C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.68**	**177**	*i* P	**Pn**	**14 28 00.9**	**-0.4**
AGPR				*eS*	**Sb**	**14 28 09.7**	**+0.7**
AGPR				IAML		14 28 15.0	
	comp=Z,252nm,0.3s						
AOPR	**Arecibo Observ**	**0.88**	**154**		**Pn**	**14 28 03.7**	**-0.5**
AOPR					**Sb**	**14 28 15.0**	**0.0**
AOPR	**Arecibo Observ**	**0.88**	**154**	⇑*iP*	**Pn**	**14 28 03.7**	**-0.5**
AOPR	**Arecibo Observ**	**0.88**	**154**	*eS*	**Sb**	**14 28 15.0**	**0.0**
AOPR	**Arecibo Observ**	**0.88**	**154**	*ePg*	**Pb**	**14 28 03.6**	**+0.4**
AOPR				*eSg*	**Sg**	**14 28 14.7**	**+0.1**
AOPR				IAML		14 28 28.1	
	comp=N,320nm,0.2s						
EMPR	**Esperanza - Ma**	**0.89**	**138**		**Sn**	**14 28 17.3**	**+0.2**
EMPR	**Esperanza - Ma**	**0.89**	**138**	Pn	**Pn**	**14 28 03.9**	**-0.3**
EMPR	**Esperanza - Ma**	**0.89**	**138**	⇓*eP*	**Pn**	**14 28 04.7**	**+0.5**
EMPR	**Esperanza - Ma**	**0.89**	**138**	*eS*	**Sn**	**14 28 17.3**	**+0.2**
PRSN	**Puerto Rico Se**	**0.93**	**179**		**Sb**	**14 28 16.6**	**+0.5**
PRSN	**Puerto Rico Se**	**0.93**	**179**	Pn	**Pn**	**14 28 04.5**	**-0.2**
PRSN	**Puerto Rico Se**	**0.93**	**179**	⇓*eP*	**Pn**	**14 28 04.8**	**+0.1**
PRSN	**Puerto Rico Se**	**0.93**	**179**	*eS*	**Sb**	**14 28 16.6**	**+0.5**
PRSN	**Puerto Rico Se**	**0.93**	**179**	*ePg*	**Pn**	**14 28 04.9**	**+0.2**
PRSN				*eSg*	**Sb**	**14 28 16.6**	**+0.5**
PRSN				IAML		14 28 25.6	
	comp=N,643nm,0.2s						
UUPR	**Utuado, UPR, P**	**0.98**	**155**		**Sb**	**14 28 17.7**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.98**	**155**	Pn	**Pg**	**14 28 04.9**	**0.0**
UUPR	**Utuado, UPR, P**	**0.98**	**155**	⇑*eP*	**Pg**	**14 28 05.2**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.98**	**155**	*eS*	**Sb**	**14 28 17.7**	**-0.1**
ECPR	**Experimental S**	**1.12**	**138**	⇓*eP*	**Pg**	**14 28 07.5**	**+0.1**
ECPR	**Experimental S**	**1.12**	**138**	*eS*	**Sb**	**14 28 21.4**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.14**	**178**		**Pb**	**14 28 07.4**	**-0.1**
CRPR				IAML		14 28 22.9	
	comp=E,136nm,0.2s						
CRPR				IAML		14 28 27.2	
	comp=N,130nm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.14**	**178**		**Sg**	**14 28 22.4**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.14**	**178**	⇓*iP*	**Pg**	**14 28 07.8**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.14**	**178**	*eS*	**Sg**	**14 28 22.4**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.14**	**178**	*ePg*	**Pg**	**14 28 07.8**	**0.0**
CRPR				*eSg*	**Sb**	**14 28 21.9**	**-0.4**
CRPR				IAML		14 28 27.1	
	comp=N,152nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.14**	**178**	*i* P	**Pg**	**14 28 07.9**	**0.0**
CRPR				*eS*	**Sb**	**14 28 21.8**	**-0.4**
CRPR				IAML		14 28 22.8	
	comp=Z,116nm,0.2s						
MLPR	**Magueyes Islan**	**1.18**	**175**	⇓*iP*	**Pg**	**14 28 08.4**	**-0.2**
MLPR	**Magueyes Islan**	**1.18**	**175**	*eS*	**Sb**	**14 28 23.4**	**+0.1**
MLPR	**Magueyes Islan**	**1.18**	**175**	*ePg*	**Pg**	**14 28 08.4**	**-0.2**
MLPR				*eSg*	**Sg**	**14 28 23.8**	**-0.1**
MLPR				IAML		14 28 33.4	
	comp=N,23nm,0.3s						
CELP	**Cerrillos**	**1.20**	**153**		**Pg**	**14 28 08.8**	**-0.2**
CELP					**Sb**	**14 28 23.7**	**-0.3**
CELP	**Cerrillos**	**1.20**	**153**	IAML		14 28 24.4	
	comp=N,138nm,0.5s						
CELP				IAML		14 28 24.7	
	comp=E,117nm,0.2s						
CELP	**Cerrillos**	**1.20**	**153**	⇓*iP*	**Pg**	**14 28 08.8**	**-0.2**
CELP	**Cerrillos**	**1.20**	**153**	*eS*	**Sb**	**14 28 23.7**	**-0.3**
CELP	**Cerrillos**	**1.20**	**153**	⇓*ePg*	**Pg**	**14 28 08.8**	**-0.2**
CELP				*eSg*	**Sb**	**14 28 23.6**	**-0.3**
CELP				IAML		14 28 24.1	
	comp=N,137nm,0.7s						
OBIP	**Obispado Ponce**	**1.22**	**155**		**Pb**	**14 28 08.9**	**+0.1**
OBIP					**Sb**	**14 28 24.1**	**-0.4**
OBIP	**Obispado Ponce**	**1.22**	**155**	IAML		14 28 25.2	
	comp=N,117nm,0.5s						
OBIP	**Obispado Ponce**	**1.22**	**155**	⇓*iP*	**Pb**	**14 28 08.9**	**+0.1**
OBIP	**Obispado Ponce**	**1.22**	**155**	*eS*	**Sb**	**14 28 24.1**	**-0.4**
GCPR	**Guaynabo City**	**1.31**	**129**		**Pg**	**14 28 10.9**	**-0.3**
GCPR					**Sn**	**14 28 27.6**	**0.0**
GCPR	**Guaynabo City**	**1.31**	**129**	⇑*eP*	**Pg**	**14 28 10.9**	**-0.3**
GCPR	**Guaynabo City**	**1.31**	**129**	*eS*	**Sn**	**14 28 27.6**	**0.0**
PCDR	**Punta Cana, DR**	**1.32**	**242**	*eP*	**Pg**	**14 28 11.9**	**+0.6**
PCDR				IAML		14 28 59.9	
	comp=N,0.2nm,0.8s						
SJG	**San Juan**	**1.40**	**137**		**Pb**	**14 28 12.2**	**+0.2**
SJG				IAML		14 28 37.7	
	comp=N,92nm,0.4s						
SJG	**San Juan**	**1.40**	**137**	⇓*eP*	**Pg**	**14 28 12.7**	**-0.1**
SJG	**San Juan**	**1.40**	**137**	*eS*	**Sb**	**14 28 29.8**	**-0.1**
SJG	**San Juan**	**1.40**	**137**	*ePg*	**Pg**	**14 28 12.8**	**-0.1**
SJG				*eSg*	**Sg**	**14 28 32.0**	**+0.9**
SJG	**San Juan**	**1.40**	**137**	*i* P	**Pg**	**14 28 12.8**	**0.0**
SJG				*eS*	**Sg**	**14 28 31.1**	**0.0**
SJG				IAML		14 28 33.9	
	comp=Z,58nm,0.2s						
IGPR	**InterUniversit**	**1.54**	**140**		**Pb**	**14 28 14.6**	**+0.2**
IGPR					**Sn**	**14 28 32.9**	**-0.2**
IGPR	**InterUniversit**	**1.54**	**140**	⇑*eP*	**Pb**	**14 28 14.6**	**+0.2**
IGPR	**InterUniversit**	**1.54**	**140**	*eS*	**Sn**	**14 28 32.9**	**-0.2**
PDPR	**Patillas Dam,**	**1.56**	**136**		**Pn**	**14 28 13.8**	**+0.4**
PDPR				IAML		14 28 39.4	
	comp=N,80nm,0.1s						
PDPR	**Patillas Dam,**	**1.56**	**136**	⇑*eP*	**Pb**	**14 28 14.9**	**+0.3**
PDPR	**Patillas Dam,**	**1.56**	**136**	*eS*	**Sb**	**14 28 35.0**	**+0.7**
HIDR	**Higuey Centro**	**1.58**	**250**	*ePg*	**Pg**	**14 28 16.2**	**-0.1**
HIDR				*eSg*	**Sb**	**14 28 35.0**	**+0.1**
HIDR				IAML		14 28 45.4	
	comp=N,132nm,0.2s						
HUMP	**Col San Antoni**	**1.59**	**129**	Pn	**Pb**	**14 28 15.1**	**-0.1**
MIDR	**Miches**	**1.80**	**265**	⇓*eP*	**Pb**	**14 28 19.0**	**+0.2**
MIDR	**Miches**	**1.80**	**265**	*ePg*	**Pb**	**14 28 19.2**	**+0.4**
MIDR				*eSg*	**Sb**	**14 28 41.6**	**+0.3**
MIDR				IAML		14 28 50.4	
	comp=N,40nm,0.8s						
BANI	**BANI**	**3.13**	**257**	*ePg*	**Pb**	**14 28 41.4**	**-0.1**
BANI				*eSg*	**Sb**	**14 29 21.0**	**+1.3**
BANI				IAML		14 29 34.1	
	comp=N,54nm,0.3s						
ABDR	**Alto Bandera**	**3.30**	**265**	*ePg*	**Pb**	**14 28 42.1**	**-2.6**
ABDR				IAML		14 29 25.4	
	comp=N,21nm,2.0s						
ABDR				*eSg*	**Sb**	**14 29 25.7**	**+0.7**

*FUNV **25** 14:29:42.0, 6°.83N×73°.21W, h166km, MW4.2*
*CATAC **25** 14:29:42.8±0.6, 7°N±2°×7°3W±°, h148km±5km, M3.6/10, mb3.6/2, MLv3.7/10, Error ellipse: s-maj=10.0km s-min=5.1km az=97.2, confirmed*
*RSNC **25** 14:29:43.4±0.0, 7°N±1°×7°3W±°, h146km±2km, M3.4, mB4.7, mb4.0, ML3.1, Mw(mB)4.0*
ISC 25 14:29:42.1±1.2, 6°83N±0°.03×73°13W±0°.04, h151km±8km, n45, σ1§53/83, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**192**	P	**Pn**	**14 30 03.2**	**+0.2**
BARC				S	**Sn**	**14 30 18.0**	**-0.9**
BRJC	**Barrancabermej**	**0.63**	**283**	P	**Pn**	**14 30 05.0**	**+0.7**
BRJC				S	**Sn**	**14 30 21.9**	**+0.7**
PAMC	**Pamplona, Colo**	**0.66**	**40**	P	**Pn**	**14 30 06.1**	**+1.0**
PAMC				S	**Sn**	**14 30 22.8**	**+0.1**
RUSC	**La Rusia**	**0.93**	**177**	P	**Pn**	**14 30 07.4**	**+0.3**
RUSC				S	**Sn**	**14 30 25.9**	**-0.3**
RUSC	**La Rusia**	**0.93**	**177**	P	**Pn**	**14 30 07.2**	**+0.1**
RUSC				S	**Sn**	**14 30 25.4**	**-0.7**
CAPV	**Capacho**	**1.31**	**38**	*eP*	**Pn**	**14 30 11.5**	**+1.4**
CAPV				*eS*	**Sn**	**14 30 32.2**	**+0.6**
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	P	**Pn**	**14 30 10.0**	**-0.3**
PTBC				S	**Sn**	**14 30 29.9**	**-1.9**
OCAC	**Ocana**	**1.41**	**352**	P	**Pn**	**14 30 11.7**	**+0.6**
OCAC				S	**Sn**	**14 30 32.9**	**-0.4**
SPBC	**San Pablo de B**	**1.50**	**219**	P	**Pn**	**14 30 12.2**	**+0.3**
SPBC				S	**Sn**	**14 30 33.1**	**-1.6**
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	P	**Pn**	**14 30 16.3**	**+0.8**
ZARC				S	**Sn**	**14 30 41.8**	**+0.7**
NORC	**Norcasia**	**2.14**	**234**	P	**Pn**	**14 30 19.4**	**+0.3**
NORC				S	**Sn**	**14 30 46.5**	**-1.0**
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**14 30 22.9**	**+1.5**
ROSC				S	**Sn**	**14 30 53.6**	**+2.0**
HELC	**Santa Helena**	**2.47**	**255**	P	**Pn**	**14 30 25.5**	**+2.2**
HELC				S	**Sn**	**14 30 54.9**	**-0.1**
HELC	**Santa Helena**	**2.47**	**255**	P	**Pn**	**14 30 23.7**	**+0.4**
HELC				S	**Sn**	**14 30 54.2**	**-0.8**
CVER	**Cruz Verde, Cu**	**2.48**	**202**	P	**Pn**	**14 30 25.0**	**+1.4**
CVER				S	**Sn**	**14 30 55.0**	**-0.5**
UREC	**San Jos de Ur**	**2.55**	**291**	P	**Pn**	**14 30 23.8**	**-0.2**
UREC				S	**Sn**	**14 30 55.4**	**-0.9**
GUY2C	**Guyana, Caldas**	**2.74**	**234**	P	**Pn**	**14 30 28.0**	**+1.3**
PTGC	**Puerto Gaitan,**	**2.80**	**159**	P	**Pn**	**14 30 26.4**	**-0.7**
PTGC				S	**Sn**	**14 30 59.6**	**-2.2**
CBOC	**Ciudad Bolivar**	**3.02**	**252**	P	**Pn**	**14 30 31.3**	**+1.3**
CBOC				S	**Sn**	**14 31 06.7**	**-0.3**
DBBC	**Dabeiba**	**3.06**	**274**	P	**Pn**	**14 30 31.3**	**+0.8**
DBBC				S	**Sn**	**14 31 06.5**	**-1.3**
ARGC	**Ariguani, Magd**	**3.20**	**340**	P	**Pn**	**14 30 35.1**	**+2.9**
ARGC				S	**Sn**	**14 31 12.2**	**+1.2**
SDV	**Santo Domingo**	**3.21**	**50**	P	**Pn**	**14 30 33.0**	**+0.6**
SDV				S	**Sn**	**14 31 10.2**	**-1.1**
MCQV	**Machiques**	**3.25**	**10**	*eP*	**Pn**	**14 30 31.6**	**-1.2**
MCQV				*eS*	**Sn**	**14 31 09.7**	**-2.4**
PRAC	**Prado**	**3.56**	**210**	P	**Pn**	**14 30 37.4**	**+0.6**
PRAC				S	**Sn**	**14 31 19.5**	**+0.4**
PRAC	**Prado**	**3.56**	**210**	P	**Pn**	**14 30 37.0**	**+0.2**
PRAC				S	**Sn**	**14 31 19.3**	**+0.2**
APAC	**Apartado, Choc**	**3.58**	**287**	P	**Pn**	**14 30 37.7**	**+0.7**
APAC				S	**Sn**	**14 31 19.2**	**-0.4**
ORTC	**Ortega, Tolima**	**3.59**	**216**	P	**Pn**	**14 30 37.7**	**+0.5**
ORTC				S	**Sn**	**14 31 19.5**	**-0.3**
SJCC	**San Jacinto, C**	**3.66**	**326**	P	**Pn**	**14 30 38.4**	**+0.3**
SJCC				S	**Sn**	**14 31 20.9**	**-0.7**
SJCC	**San Jacinto, C**	**3.66**	**326**	P	**Pn**	**14 30 37.7**	**-0.4**
SJCC				S	**Sn**	**14 31 19.8**	**-1.7**
URMC	**La Uribe, Meta**	**3.77**	**199**	P	**Pn**	**14 30 40.7**	**+1.1**
URMC				S	**Sn**	**14 31 24.6**	**+0.4**
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	P	**Pn**	**14 30 44.0**	**-0.8**
CRJC				S	**Sn**	**14 31 30.4**	**-3.1**
YOTC	**Yotoco, Valle**	**4.27**	**229**	P	**Pn**	**14 30 45.9**	**-0.2**
GUVC	**San Jose del G**	**4.29**	**173**	P	**Pn**	**14 30 47.4**	**+1.1**
GUVC				S	**Sn**	**14 31 34.4**	**-1.8**
SMRC	**Santa Marta, M**	**4.44**	**346**	P	**Pn**	**14 30 49.1**	**+0.9**
SMRC				S	**Sn**	**14 31 37.3**	**-2.4**
MACC	**Macarena, Meta**	**4.71**	**189**	P	**Pn**	**14 30 50.9**	**-0.9**
MACC				S	**Sn**	**14 31 42.8**	**-3.4**
URI	**Uribia**	**4.97**	**13**	P	**Pn**	**14 30 54.4**	**-0.8**
URIC	**Uribia, Colomb**	**4.97**	**13**	P	**Pn**	**14 30 54.1**	**-1.1**
	14nm,0.6s						
URIC				S	**Sn**	**14 31 49.1**	**-3.1**
	14nm,0.6s						
BAUV	**El Baul**	**5.46**	**67**	*eP*	**Pn**	**14 30 59.9**	**-1.8**
BAUV				*eS*	**Sn**	**14 31 59.3**	**-4.6**
POPC	**Popayan, Colom**	**5.54**	**220**	P	**Pn**	**14 31 03.6**	**+0.6**
	13nm,0.4s						
POPC				S	**Sn**	**14 32 07.7**	**+1.6**
	13nm,0.4s						
FLOC	**Florencia**	**5.79**	**206**	P	**Pn**	**14 31 07.4**	**+1.2**
FLOC	**Florencia**	**5.79**	**206**	P	**Pn**	**14 31 06.7**	**+0.6**
	11nm,1.0s						
FLOC				S	**Sn**	**14 32 12.7**	**+0.9**
	11nm,1.0

	7.4nm,0.5s								
MDOK	**Medeo**	**3.06**	**326**	Pg		**Pg**	**14 31 11.9**	**-1.3**
	10nm,0.6s								
MDOK				Lg		Lg	14 31 54.1		
	20nm,0.7s								
KOTS	**Kotyrbulak**	**3.09**	**328**	*e*P		**Pg**	**14 31 11.3**	**-2.5**
	18nm,0.3s								
KOTS				*e*S		**Sg**	**14 31 53.3**	**-0.5**
	25nm,0.3s								
BOOM	**Boomskoye usch**	**3.17**	**307**	⇑*e*P		**Pb**	**14 31 10.0**	**-1.1**
BOOM				⇑*e*S		**Sb**	**14 31 49.2**	**-0.6**
MTBS	**Maitube**	**3.32**	**320**	Pg		**Pb**	**14 31 13.8**	**+0.2**
	4.4nm,0.2s								
MTBS				Lg		Lg	14 31 57.5		
	8.8nm,0.5s								
MTBS	**Maitube**	**3.32**	**320**	*e*P		**Pb**	**14 31 14.8**	**+1.2**
	4.4nm,0.2s								
MTBS				*e*S		**Sg**	**14 31 59.2**	**-1.9**
	9.0nm,0.3s								
KST	**Kastek**	**3.50**	**314**	Pg		**Pg**	**14 31 19.4**	**-2.2**
	6.9nm,0.4s								
KST				Lg		Lg	14 32 07.2		
	25nm,0.7s								
KST	**Kastek**	**3.50**	**314**	*e*P		**Pg**	**14 31 19.4**	**-2.2**
	6.9nm,0.4s								
KST				*e*S		**Sg**	**14 32 07.2**	**+0.3**
	25nm,0.7s								
KTBS	**Karatobe**	**3.66**	**328**	Pg		**Pb**	**14 31 21.5**	**+2.1**
	9.0nm,0.5s								
KTBS				Lg		Lg	14 32 10.6		
	19nm,0.8s								
CHKK	**Chushkaly**	**3.67**	**332**	Pg		**Pg**	**14 31 22.7**	**-2.1**
	3.6nm,0.3s								
CHKK				Lg		Lg	14 32 12.4		
	19nm,0.4s								
CHKK	**Chushkaly**	**3.67**	**332**	*e*P		**Pg**	**14 31 22.6**	**-2.1**
	3.6nm,0.3s								
CHKK				*e*S		**Sg**	**14 32 12.4**	**+0.1**
	19nm,0.4s								
KNOS	**Konyrlen**	**3.72**	**358**	Pg		**Pb**	**14 31 22.2**	**+1.7**
	6.9nm,0.6s								
KNOS				Lg		Lg	14 32 11.5		
	21nm,0.6s								
KRBS	**Karabastau**	**4.11**	**319**	Pg		**Pg**	**14 31 30.3**	**-3.0**
	2.6nm,0.4s								
KRBS				Lg		Lg	14 32 25.5		
	2.4nm,0.7s								
AAK	**Ala-Archa**	**4.16**	**300**	⇓Pg		**Pg**	**14 31 33.1**	**-1.2**
	4.0nm,0.8s								
AAK				⇓Lg		Lg	14 32 26.7		
	5.1nm,0.6s								
SGDS	**Sogindy**	**4.51**	**310**	Pg		**Pg**	**14 31 38.5**	**-2.4**
	2.4nm,0.6s								
SGDS				Lg		Lg	14 32 39.9		
	9.9nm,0.9s								
KAPS	**Kapalarasan**	**4.64**	**360**	Pg		**Pg**	**14 31 40.2**	**-3.3**
	7.0nm,0.5s								
KAPS				Lg		Lg	14 32 42.5		
	20nm,0.7s								
MK31	**Makanchi Array**	**6.51**	**18**	Pn		**Pn**	**14 31 52.2**	**+1.8**
	0.2nm,0.2s,baz=202,slow=14,SNR=31								
MK31				⇑Sn		**Sn**	**14 33 04.6**	**0.0**
	1.5nm,0.6s,baz=229,slow=41,SNR=4.9								
MK31				⇑Lg		Lg	14 33 38.9		
	1.0nm,0.5s,baz=161,slow=43,SNR=6.2								
KK31	**Karatay Array**	**7.05**	**293**	⇓Pg		**Pg**	**14 32 26.8**	**-2.8**
	0.4nm,0.3s,baz=113,slow=17,SNR=4.1								
KK31				⇓Lg		Lg	14 34 02.0		
	2.5nm,0.8s,baz=106,slow=29								

*DJA **25** 14:31:27.2±0.2, 1°N±3′×12°6E±°, h10km, M4.2/15, mb4.3/3, MLv4.2/15*
*NEIC **25** 14:31:29.9±1.7, 0°52N±0′08×126°30E±0′03, h47km±8km, mb4.4/22, Error ellipse: s-maj=11.8km s-min=4.0km az=187.0*
*IDC **25** 14:31:31.0±4.1, 0°50N×126°17E, h65km±39km, mb3.8/13, mbtmp4.1/15, ML4.3/2, Error ellipse: s-maj=32.1km s-min=12.7km az=75.0*

ISC 25 14:31:29.3±0.5, 0°58N±0′06×126°23E±0′07, h44km, n52, σ1s24/52, mb4.3/24, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**1.15**	**80**			**Pn**	**14 31 48.2**	**-0.8**
TNTI	**Ternate**	**1.15**	**80**	P		**Pn**	**14 31 48.6**	**-0.3**
KMSI	**Cibinong**	**2.25**	**270**	P		**Pn**	**14 32 02.7**	**-1.4**
SANI	**Sanana**	**2.62**	**185**	P		**Pn**	**14 32 08.3**	**-0.9**
SGSI	**Sangihe**	**3.17**	**347**	P		**Pn**	**14 32 18.1**	**+1.4**
LUWI	**Luwuk**	**3.82**	**245**			**Pn**	**14 32 28.0**	**+2.4**
LUWI	**Luwuk**	**3.82**	**245**	P		**Pn**	**14 32 26.0**	**+0.4**
NLAI	**Namlea**	**3.89**	**167**	P		**Pn**	**14 32 26.2**	**-0.4**
AAI	**Ambon**	**4.67**	**155**	P		**Pn**	**14 32 38.7**	**+1.4**
MSAI	**Masohi**	**4.74**	**145**	P		**Pn**	**14 32 41.7**	**+3.4**
APSI	**Ampana**	**4.82**	**252**	P		**Pn**	**14 32 41.9**	**+2.6**
TOLI2	**Tolitoli**	**5.48**	**276**			**Pn**	**14 32 48.5**	**+0.1**
FAKI	**Fak Fak**	**6.94**	**120**	Pn		**Pn**	**14 33 07.4**	**-1.1**
FAKI	**Fak Fak**	**6.94**	**120**	P		**Pn**	**14 33 09.4**	**+0.8**
KAPI	**Kappang**	**8.53**	**229**	Pn		**Pn**	**14 33 31.1**	**+0.7**
KAPI	**Kappang**	**8.53**	**229**	P		**Pn**	**14 33 31.8**	**+1.5**
	5.5nm,0.3s,baz=15,slow=14,SNR=5.0								
	9.4nm,0.3s								
KSM	**Kuching**	**15.95**	**273**	P		**P**	**14 35 14.1**	**+0.3**
KSM				IAmb		IAmb	14 35 14.8		
	comp=Z,31nm,0.8s								
KNRA	**Kununurra**	**16.34**	**171**			**Pn**	**14 35 15.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**18.57**	**182**	P		**P**	**14 35 41.5**	**-1.2**
FITZ	**Fitzroy Crossi**	**18.57**	**182**	P		**P**	**14 35 41.5**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=9.2,slow=9.5,SNR=20								
	comp=Z,3.2nm,0.7s								
WB0	**Warramunga Arr**	**21.74**	**159**	P		**P**	**14 36 15.7**	**-1.4**
WB0				IAmb		IAmb	14 36 20.9		
	comp=Z,17nm,0.8s								
WRA	**Warramunga Arr**	**21.89**	**159**	P		**P**	**14 36 17.4**	**-1.2**
	comp=Z,8.7nm,0.8s,baz=337,slow=11,SNR=60								
	comp=Z,8.7nm,0.7s								
COEN	**Coen**	**22.14**	**131**	P		**P**	**14 36 22.0**	**+0.5**
COEN				IAmb		IAmb	14 36 42.6		
	comp=Z,15nm,1.1s								
TWG	**Pinlang**	**22.67**	**348**	P		**P**	**14 36 29.7**	**+2.6**
TWG				IAmb		IAmb	14 36 35.3		
	comp=Z,31nm,1.1s								
TPUB	**Ta-pu**	**23.23**	**347**	P		**P**	**14 36 33.8**	**+1.0**
AS31	**Alice Springs**	**25.23**	**163**	P		**P**	**14 36 50.9**	**-0.4**
AS31				IAmb		IAmb	14 36 56.5		
	comp=Z,3.8nm,0.4s								
ASAR	**Alice Springs**	**25.23**	**163**	P		**P**	**14 36 50.4**	**-0.8**
	comp=Z,3.3nm,0.5s,baz=341,slow=11,SNR=100								
	comp=Z,3.3nm,0.5s								
FORT	**Forrest**	**31.23**	**177**	P		**P**	**14 37 43.8**	**-0.9**
FORT				IAmb		IAmb	14 37 45.2		
	comp=Z,8.5nm,0.7s								
JMN	**Monobe**	**33.75**	**12**	P		**P**	**14 38 08.2**	**+1.4**
BBOO	**Buckleboo**	**34.48**	**165**	P		**P**	**14 38 12.3**	**-0.9**
BBOO				IAmb		IAmb	14 38 13.1		
	comp=Z,4.0nm,0.9s								
STKA	**Stephens Creek**	**35.41**	**157**	P		**P**	**14 38 19.9**	**-1.2**
	comp=Z,1.7nm,0.3s,baz=318,slow=8.3,SNR=8.7								
	comp=Z,1.7nm,0.3s								
KSRS	**Korea Array**	**36.73**	**2**	P		**P**	**14 38 33.8**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=180,slow=9.9,SNR=5.2								
	comp=Z,0.5nm,0.5s								
MJAR	**Matsushiro Arr**	**37.47**	**16**	P		**P**	**14 38 38.3**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=186,slow=10.0,SNR=5.0								
	comp=Z,0.6nm,0.4s								
MJB9	**Matsu-Tunnel**	**37.47**	**16**	P		**P**	**14 38 38.2**	**-0.5**
ARMA	**Armidale**	**39.17**	**144**	P		**P**	**14 38 54.3**	**+1.1**
ARMA				IAmb		IAmb	14 39 24.4		
	comp=Z,6.0nm,1.1s								
JTM	**Tenmabayashi**	**42.23**	**17**	P		**P**	**14 39 18.6**	**+0.4**
SONM	**Songino Array**	**50.12**	**343**	P		**P**	**14 40 20.2**	**0.0**
	comp=Z,0.6nm,0.5s,baz=160,slow=9.5,SNR=4.6								
	comp=Z,0.6nm,0.5s								
PETK	**Petropavlovsk-**	**58.52**	**22**	P		**P**	**14 41 21.9**	**+0.8**
	comp=Z,5.0nm,0.9s,baz=195,slow=8.2,SNR=6.1								
	comp=Z,5.0nm,0.9s								
MKAR	**Makanchi Array**	**59.87**	**327**	P		**P**	**14 41 30.1**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=122,slow=8.1,SNR=17								
	comp=Z,1.1nm,0.4s								
MAKZ	**Makanchi**	**60.05**	**326**	P		**P**	**14 41 31.0**	**-0.8**
MAKZ				IAmb		IAmb	14 41 36.4		
	comp=Z,1.8nm,0.6s								
ZALV	**Zalesovo Beam**	**63.17**	**334**	P		**P**	**14 41 52.2**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=130,slow=4.5,SNR=2.8								
	comp=Z,0.5nm,0.4s								
KURBB	**Kurchatov Arra**	**64.13**	**328**	P		**P**	**14 41 58.0**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=129,slow=6.1,SNR=20								
	comp=Z,2.4nm,0.6s								
KURK	**Kurchatov**	**64.13**	**329**	P		**P**	**14 41 58.5**	**-0.6**
BVAR	**Borovoye Array**	**69.69**	**328**	P		**P**	**14 42 33.7**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=134,slow=10,SNR=5.4								
	comp=Z,0.6nm,0.5s								
AB31	**Akbulak array**	**74.28**	**321**	P		**P**	**14 43 01.9**	**-0.1**
KIP	**Kipapa**	**76.53**	**68**	P		**P**	**14 43 13.7**	**-1.8**
VNDA	**Vanda**	**80.38**	**173**	P		**P**	**14 43 35.1**	**-0.5**
VNDA	**Vanda**	**80.38**	**173**	P		**P**	**14 43 34.1**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=326,slow=6.4,SNR=4.7								
	comp=Z,0.4nm,0.4s								
L18K	**Granite Mounta**	**83.47**	**27**	P		**P**	**14 43 53.9**	**+1.8**
L18K				IAmb		IAmb	14 44 24.1		
	comp=Z,4.7nm,1.1s								
C19K	**Lookout Ridge**	**83.85**	**20**	P		**P**	**14 43 54.3**	**+0.3**
C19K				IAmb		IAmb	14 44 07.3		
	comp=Z,4.5nm,1.1s								
D20K	**Etivluk River**	**84.81**	**21**	P		**P**	**14 43 59.7**	**+0.9**
D20K				IAmb		IAmb	14 44 03.4		
	comp=Z,1.8nm,0.8s								
QSPA	**South Pole Qui**	**90.50**	**180**	P		**P**	**14 44 27.2**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=311,slow=0.8,SNR=8.4								
	comp=Z,0.9nm,0.7s								

*IDC **25** 14:39:26.9±0.8, 7°07S×125°21E, h542km±11km, mb3.3/14, mbtmp4.4/17, Error ellipse: s-maj=21.6km s-min=7.6km az=72.0*
*DJA **25** 14:39:27.2±0.6, 7°S±5′×12°5E±°, h563km±10km, M4.4/12, mB4.6/3, mb4.1/6, MLv4.6/12, Mw(mB)3.8/3*
*NEIC **25** 14:39:28.2±1.8, 7°11S±0′10×125°11E±0′07, h558km±8km, mb4.6/29, Error ellipse: s-maj=15.6km s-min=7.8km az=212.0*

ISC 25 14:39:27.1±0.4, 7°11S±0′05×125°11E±0′07, h543km, n87, σ1s00/91, mb4.2/26, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SOEI	**Soe**	**2.75**	**198**			**P**	**14 40 40.8**	**+0.5**
SOEI	**Soe**	**2.75**	**198**	P		**P**	**14 40 42.0**	**+1.8**
SOEI	**Soe**	**2.75**	**198**	S		**S**	**14 41 42.0**	**+2.3**
SOEI	**Soe**	**2.75**	**198**	P		**P**	**14 40 42.2**	**+2.0**
MMRI	**Maumere**	**3.23**	**242**	P		**P**	**14 40 44.3**	**+1.3**
MMRI	**Maumere**	**3.23**	**242**	P		**P**	**14 40 44.3**	**+1.3**
BATI	**Baumata**	**3.39**	**205**	P		**P**	**14 40 46.2**	**+2.0**
	522nm,0.3s,baz=80,slow=1.9,SNR=124								
BATI				S		**S**	**14 41 46.6**	**-0.3**
	221nm,0.6s,baz=91,slow=19,SNR=6.7								
BATI	**Baumata**	**3.39**	**205**	P		**P**	**14 40 46.2**	**+2.0**
EDFI	**Ende, Flores**	**3.76**	**244**	P		**P**	**14 40 47.4**	**+0.6**
NLAI	**Namlea**	**4.33**	**27**	P		**P**	**14 40 52.2**	**+1.1**
BSSI	**Bau Bau, Buton**	**4.69**	**282**	P		**P**	**14 40 56.0**	**+2.0**
SANI	**Sanana**	**5.11**	**10**	P		**P**	**14 40 58.7**	**+1.2**
BASI	**Baing, Sumba**	**5.44**	**235**	P		**P**	**14 41 01.0**	**+0.6**
WBSI	**Waikabubak, Su**	**6.19**	**246**	P		**P**	**14 41 06.9**	**-0.3**
LUWI	**Luwuk**	**6.47**	**339**	P		**P**	**14 41 10.6**	**+0.8**
PLAI	**Plampang**	**7.46**	**256**	P		**P**	**14 41 19.5**	**+0.1**
PLAI	**Plampang**	**7.46**	**256**	S		**S**	**14 42 51.6**	**+0.3**
PLAI	**Plampang**	**7.46**	**256**	P		**P**	**14 41 19.0**	**-0.4**
	0.2nm27nm,1.0s								
DRS	**Darwin Rock St**	**7.77**	**133**	P		**P**	**14 41 23.8**	**+1.4**
FAKI	**Fak Fak**	**8.24**	**60**			**P**	**14 41 28.5**	**+1.3**
FAKI	**Fak Fak**	**8.24**	**60**	P		**P**	**14 41 28.4**	**+1.3**
FAKI	**Fak Fak**	**8.24**	**60**	P		**P**	**14 41 28.4**	**+1.3**
TWSI	**Taliwang, Sumb**	**8.31**	**258**	P		**P**	**14 41 27.1**	**-0.7**
	18nm,1.0s								
KNRA	**Kununurra**	**9.23**	**158**			**P**	**14 41 38.2**	**+1.2**
TOLI2	**Tolitoli**	**9.24**	**332**	P		**P**	**14 41 38.4**	**+1.2**
TOLI2	**Tolitoli**	**9.24**	**332**	P		**P**	**14 41 38.1**	**+0.8**
TOLI2	**Tolitoli**	**9.24**	**332**	S		**S**	**14 43 24.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**10.93**	**177**			**P**	**14 41 55.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**10.93**	**177**	P		**P**	**14 41 55.3**	**+0.8**
	16nm,0.4s,baz=6.4,slow=7.4,SNR=83								
FITZ				S		**S**	**14 43 54.2**	**-1.6**
	24nm,0.7s,baz=8.6,slow=20,SNR=20								
MBWA	**Marble Bar**	**14.90**	**200**			**P**	**14 42 35.2**	**-0.5**
MBWA	**Marble Bar**	**14.90**	**200**	P		**P**	**14 42 35.7**	**0.0**
PSA00	**Pilbara Seismi**	**15.25**	**199**			**P**	**14 42 38.9**	**-0.4**
PSA00				IAmb		IAmb	14 42 41.1		
	comp=Z,25nm,0.9s								
PSA00	**Pilbara Seismi**	**15.25**	**199**	P		**P**	**14 42 39.3**	**0.0**
WRA	**Warramunga Arr**	**15.58**	**146**	P		**P**	**14 42 41.9**	**-0.8**
	comp=Z,30nm,0.7s,baz=323,slow=11,SNR=170								
WRA				S		**S**	**14 45 21.1**	**-2.1**
	comp=Z,5.5nm,0.9s,baz=326,slow=17,SNR=12								
WR8	**Warramunga Ar**	**15.68**	**145**	P		**P**	**14 42 42.5**	**-1.2**
AS31	**Alice Springs**	**18.50**	**154**			**P**	**14 43 09.9**	**0.0**
AS31				IAmb		IAmb	14 43 12.6		
	comp=Z,12nm,0.7s								
ASAR	**Alice Springs**	**18.50**	**154**	P		**P**	**14 43 10.5**	**+0.6**
	comp=Z,31nm,0.6s,baz=330,slow=8.3,SNR=521								
ASAR				S		**S**	**14 46 10.7**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=342,slow=22,SNR=6.2								
GIRL	**Giralia**	**18.66**	**213**	P		**P**	**14 43 12.6**	**+1.2**
COEN	**Coen**	**19.00**	**112**			**P**	**14 43 13.6**	**-1.0**
COEN				IAmb		IAmb	14 43 49.7		
	comp=Z,38nm,1.5s								
COEN	**Coen**	**19.00**	**112**	P		**P**	**14 43 14.5**	**-0.1**
QIS	**Mount Isa**	**19.38**	**135**	P		**P**	**14 43 17.9**	**-0.1**
MEEK	**Meekatharra**	**20.38**	**197**	P		**P**	**14 43 27.4**	**+0.4**
MORW	**Morawa**	**23.46**	**200**	P		**P**	**14 43 54.9**	**+0.4**
FORT	**Forrest**	**23.70**	**174**			**P**	**14 43 56.2**	**-0.5**
FORT				IAmb		IAmb	14 43 58.0		
	comp=Z,16nm,0.7s								
BLDU	**Ballidu**	**24.67**	**198**	P		**P**	**14 44 05.7**	**+0.4**
INKA	**Innaminka**	**25.30**	**146**			**P**	**14 44 11.2**	**+0.3**
INKA				IAmb		IAmb	14 44 12.8		
	comp=Z,8.6nm,0.8s								
MUN	**Mundaring**	**26.10**	**197**	P		**P**	**14 44 17.9**	**+0.1**
QLP	**Quilpie**	**26.57**	**139**	P		**P**	**14 44 23.2**	**+1.1**
NWAO	**Narrogin (SRO)**	**26.71**	**195**	P		**P**	**14 44 22.4**	**-0.8**
NWAO				IAmb		IAmb	14 44 24.5		
	comp=Z,17nm,0.9s								
NWAO	**Narrogin (SRO)**	**26.71**	**195**	P		**P**	**14 44 23.6**	**+0.4**
	comp=Z,5.2nm,0.3s,baz=30,slow=6.9,SNR=25								
	comp=Z,5.2nm,0.3s								
BBOO	**Buckleboo**	**27.52**	**160**			**P**	**14 44 29.8**	**-0.5**
BBOO				IAmb		IAmb	14 44 31.3		
	comp=Z,13nm,0.7s								
BBOO	**Buckleboo**	**27.52**	**160**	P		**P**	**14 44 30.2**	**-0.1**
STKA	**Stephens Creek**	**29.04**	**150**	P		**P**	**14 44 43.3**	**+0.7**
STKA	**Stephens Creek**	**29.04**	**150**	P		**P**	**14 44 44.2**	**+0.7**
	comp=Z,12nm,0.4s,baz=323,slow=10.0,SNR=63								
STKA				S		**S**	**14 48 55.9**	**-1.2**
	comp=Z,2.3nm,1.0s,baz=142,slow=18,SNR=3.6								
	comp=Z,12nm,0.4s								
SSLB	**Suanglung**	**30.98**	**353**	P		**P**	**14 45 00.9**	**+0.4**
SSLB				IAmb		IAmb	14 45 03.8		
	comp=Z,28nm,1.3s								
ARMA	**Armidale**	**34.00**	**136**	P		**P**	**14 45 27.3**	**+1.2**
ARMA				IAmb		IAmb	14 45 58.3		
	comp=Z,17nm,1.4s								
TOO	**Toolangi**	**35.52**	**152**			**P**	**14 45 39.7**	**+1.1**
TOO				IAmb		IAmb	14 45 41.3		
	comp=Z,8.2nm,1.3s								
CAN	**Canberra**	**35.62**	**145**			**P**	**14 45 41.0**	**+1.5**
CAN				IAmb		IAmb	14 45 42.0		
	comp=Z,21nm,0.8s								
CMAR	**Chiang Mai Arr**	**36.23**	**315**	P		**P**	**14 45 45.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=144,slow=5.9,SNR=4.7								
	comp=Z,0.4nm,0.3s								
KSRS	**Korea Array**	**44.41**	**3**	P		**P**	**14 46 49.5**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=181,slow=9.7,SNR=5.3								
	comp=Z,0.9nm,0.6s								
MJAR	**Matsushiro Arr**	**45.13**	**15**	P		**P**	**14 46 54.3**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=177,slow=9.7,SNR=5.9								
	comp=Z,1.5nm,0.6s								
LZH	**Lanzhou**	**47.39**	**336**	*e*P		**P**	**14 47 13.5**	**+0.9**
LZH				pmax		pmax			
	comp=Z,17nm,1.3s								
JTM	**Tenmabayashi**	**49.88**	**16**	P		**P**	**14 47 30.9**	**+0.2**
USRK	**Ussuriysk Ar.**	**51.45**	**6**	P		**P**	**14 47 39.6**	**-2.5**
	comp=Z,1.4nm,0.5s,baz=170,slow=5.6,SNR=4.9								
	comp=Z,1.4nm,0.5s								
SONM	**Songino Array**	**57.16**	**345**	P		**P**	**14 48 21.9**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=165,slow=6.2,SNR=4.1								
	comp=Z,0.8nm,0.7s								
MKAR	**Makanchi Array**	**65.75**	**329**	P		**P**	**14 49 18.6**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=126,slow=7.9,SNR=20								
	comp=Z,1.8nm,0.6s								
MAKZ	**Makanchi**	**65.92**	**329**	P		**P**	**14 49 19.4**	**-0.1**
PEA0B	**Petropavlovsk-**	**66.05**	**21**	P		**P**	**14 49 20.4**	**+0.3**
PETK	**Petropavlovsk-**	**66.05**	**21**	P		**P**	**14 49 20.2**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=211,slow=1.7,SNR=11								
	comp=Z,1.6nm,0.5s								
BOOM	**Boomskoye usch**	**66.60**	**322**	P		**P**	**14 49 23.9**	**-0.1**
ARSB	**Arslanbob**	**67.80**	**320**	P		**P**	**14 49 31.3**	**-0.1**
ZAA0	**Zalesovo Array**	**69.62**	**336**	P		**P**	**14 49 40.6**	**-1.2**
ZALV	**Zalesovo Beam**	**69.62**	**336**	P		**P**	**14 49 41.0**	**-0.8**
	comp=Z,2.8nm,0.4s,baz=138,slow=5.9,SNR=12								
	comp=Z,2.8nm,0.4s								
KURBB	**Kurchatov Arra**	**70.15**	**331**	P		**P**	**14 49 45.0**	**0.0**
	comp=Z,1.4nm,0.5s,baz=137,slow=5.1,SNR=23								
	comp=Z,1.4nm,0.5s								
KURK	**Kurchatov**	**70.16**	**331**	P		**P**	**14 49 44.8**	**-0.3**
KURK				IAmb		IAmb	14 49 45.8		
	comp=Z,15nm,1.5s								
VNDA	**Vanda**	**72.96**	**172**	P		**P**	**14 50 00.4**	**-0.6**
VNDA	**Vanda**	**72.96**	**172**	P		**P**	**14 50 00.7**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=319,slow=5.6,SNR=6.6								
	comp=Z,0.8nm,0.7s								
BVAR	**Borovoye Array**	**75.63**	**329**	P		**P**	**14 50 16.1**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=118,slow=6.6,SNR=6.8								
	comp=Z,1.1nm,0.6s								
TIXI	**Tiksi**	**78.64**	**1**	P		**P**	**14 50 31.3**	**-1.1**
AB31	**Akbulak array**	**79.62**	**323**	P		**P**	**14 50 37.3**	**-0.8**
QSPA	**South Pole Qui**	**82.86**	**180**	P		**P**	**14 50 55.4**	**+0.7**
QSPA	**South Pole Qui**	**82.86**	**180**	P		**P**	**14 50 55.8**	**+1.2**
	comp=Z,1.5nm,0.9s,baz=334,slow=3.4,SNR=6.8								
	comp=Z,1.5nm,0.9s								
C19K	**Lookout Ridge**	**91.40**	**20**	P		**P**	**14 51 34.3**	**-0.6**
D19K	**Kuna River**	**91.75**	**21**	P		**P**	**14 51 35.7**	**-0.9**
D19K				IAmb		IAmb	14 52 12.1		
	comp=Z,13nm,1.4s								
E19K	**Redstone River**	**91.82**	**22**	P		**P**	**14 51 35.5**	**-1.3**
E19K				IAmb		IAmb	14 51 43.2		
	comp=Z,5.7nm,1.2s								
D20K	**Etivluk River**	**92.34**	**21**	P		**P**	**14 51 38.1**	**-1.1**
D20K				IAmb		IAmb	14 52 14.8		
	comp=Z,9.4nm,1.4s								
TXAR	**Lajitas Array**	**129.12**	**58**	SKPbc		SKPab	15 00 03.5	-1.4
	comp=Z,0.2nm,0.4s,baz=245,slow=2.6,SNR=3.9								

*CATAC **25** 14:39:51.0±0.8, 13°N±5′×8°9W±°, h27km±5km, M3.2/10, MLv3.2/10, Error ellipse: s-maj=10.3km s-min=4.1km az=15.1, confirmed*
*SNET **25** 14:39:51.8±1.7, 12°99N×88°98W, h29km, ML3.2*

ISC 25 14:39:50.8±1.9, 12°9N±0′1×88°96W±0′04, h27km±13km, n33, σ0s45/38, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TECO	**Alcaldia de Te**	**0.62**	**16**	P		**Pn**	**14 40 03.7**	**-0.2**
TECO	**Alcaldia de Te**	**0.62**	**16**	S		**Sn**	**14 40 12.8**	**-0.2**
LALI	**Alcalda de L**	**0.65**	**327**	*e*P		**Pn**	**14 40 05.0**	**+0.7**
LALI				*e*S		**Sn**	**14 40 13.3**	**-0.4**
LFRS	**El Faro**	**0.69**	**352**	*e*P		**Pn**	**14 40 04.6**	**-0.4**
UESV	**Universidad de**	**0.71**	**14**	P		**Pn**	**14 40 05.0**	**-0.2**
UESV	**Universidad de**	**0.71**	**14**	S		**Sn**	**14 40 15.6**	**+0.3**
LOMA	**Loma Larga**	**0.73**	**344**	*e*P		**Pn**	**14 40 05.3**	**-0.2**
LOMA	**Loma Larga**	**0.73**	**344**	S		**Sn**	**14 40 15.5**	**-0.4**
LOMA	**Loma Larga**	**0.73**	**344**	P		**Pb**	**14 40 05.1**	**0.0**
PAVA	**Las Pavas**	**0.77**	**2**	*e*S		**Sn**	**14 40 16.8**	**0.0**
PAVA	**Las Pavas**	**0.77**	**2**	P		**Pn**	**14 40 05.9**	**-0.2**
PAVA	**Las Pavas**	**0.77**	**2**	S		**Sn**	**14 40 17.0**	**+0.1**
PQSS	**

AB31	**Akbulak array**	**14.86**	**329**	P		**Pn**	**14 56 30.3**	**+1.6**
	1.2nm,0.5s,baz=139,slow=12,SNR=44							
AB31				⇓S		**Sn**	**14 59 10.7**	**-1.8**
	1.9nm,0.5s,baz=152,slow=21,SNR=6.8							
BVAR	**Borovoye Array**	**15.99**	**357**	P		**Pn**	**14 56 42.5**	**-0.3**
	0.1nm,0.3s,baz=173,slow=13,SNR=12							
	1.9nm,0.6s							
AKTO	**Aktyubinsk**	**16.57**	**328**	⇑P		**P**	**14 56 53.1**	**+2.3**
	2.4nm,0.9s							
AKTO				⇑S		**Sn**	**14 59 50.6**	**-3.0**
	1.2nm,0.6s							
ZALV	**Zalesovo Beam**	**19.19**	**24**	P		**P**	**14 57 17.9**	**-1.7**
	2.2nm,0.3s,baz=203,slow=9.7,SNR=36							
	5.9nm,0.4s							
FINES	**FINESS Array B**	**37.31**	**326**	P		**P**	**15 00 04.3**	**-1.7**
	1.1nm,0.7s,baz=111,slow=8.5,SNR=1.7							
	1.1nm,0.7s							
ARCES	**ARCESS Array B**	**40.83**	**337**	P		**P**	**15 00 33.4**	**-1.9**
	2.4nm,0.8s,baz=115,slow=10,SNR=3.8							
	2.4nm,0.8s							
HFS	**Hagfors**	**42.95**	**321**	P		**P**	**15 00 51.6**	**-1.0**
	1.1nm,0.4s,baz=80,slow=9.2,SNR=11							
	1.1nm,0.4s							

IDC ***25*** *15:18:28.3±8.2,22.76S×177.12W,h102km±72km, mb3.8/12, mbtmp4.2/13, ML5.0/1, Error ellipse: s-maj=24.7km s-min=21.9km az=78.0*

NEIC ***25*** *15:18:33.9±2.2,22.7S±0.1×177.0W±0.1, h164km±10km, mb4.3/20, Error ellipse: s-maj=24.4km s-min=5.0km az=137.0*

ISC 25 15:18:35.5±0.7,23.02S±0.10×177.1W±0.1, h167km, n47, σ1§32/39, mb4.2/23, 4C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.95**	**318**	Pn	**Pn**	**15 20 17.0**	**+1.9**
NIUE	**Niue**	**7.76**	**61**	Pn	Pn	15 20 20.2	-5.5
AFI	**Afiamalu**	**10.37**	**30**	Pn	Pn	15 20 53.2	-7.0
URZ	**Urewera**	**15.98**	**197**	P	**Pn**	**15 22 09.8**	**-1.3**
	5.4nm,0.3s,baz=297,slow=3.4,SNR=6.5						
URZ				S	S	15 24 51.7	-17
	7.8nm,0.6s,baz=25,slow=23,SNR=6.7						
	10nm,0.3s						
BKZ	**Black Stump Fm**	**17.00**	**197**	P	**P**	**15 22 20.0**	**-2.6**
RPZ	**Rata Peaks**	**22.84**	**203**	P	**P**	**15 23 23.2**	**-1.0**
	10nm,0.7s,baz=296,slow=17,SNR=1.3						
	10nm,0.7s						
FOZ	**Fox Glacier**	**23.15**	**205**	P	**P**	**15 23 25.2**	**-1.7**
WHZ	**Wether Hill Ro**	**25.85**	**204**	P	**P**	**15 23 52.2**	**+0.8**
CAN	**Canberra**	**31.88**	**240**	P	**P**	**15 24 46.0**	**+0.9**
CTAO	**Charters Tower**	**34.15**	**268**	P	**P**	**15 25 05.7**	**+0.8**
CTAO				IAmb	IAmb	15 25 24.0	
	comp=Z,15nm,1.1s						
STKA	**Stephens Creek**	**37.52**	**247**	P	**P**	**15 25 33.5**	**+0.1**
STKA	**Stephens Creek**	**37.52**	**247**	P	**P**	**15 25 33.8**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=91,slow=10,SNR=5.2						
	comp=Z,1.0nm,0.4s						
INKA	**Innaminka**	**38.24**	**254**	P	**P**	**15 25 40.2**	**+0.8**
BBOO	**Buckleboo**	**42.23**	**246**	P	**P**	**15 26 11.3**	**-1.0**
BBOO				IAmb	IAmb	15 26 44.8	
	comp=Z,9.5nm,1.2s						
AS31	**Alice Springs**	**44.81**	**259**	P	**P**	**15 26 32.1**	**-0.9**
ASAR	**Alice Springs**	**44.81**	**259**	P	**P**	**15 26 32.7**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=87,slow=6.2,SNR=49						
ASAR				PcP	**PcP**	**15 28 12.4**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=118,slow=4.2,SNR=2.1						
	comp=Z,1.5nm,0.6s						
WR8	**Warramunga Arr**	**44.98**	**264**	P	**P**	**15 26 33.4**	**-1.0**
WR8				IAmb	IAmb	15 26 34.6	
	comp=Z,5.9nm,1.2s						
WB0	**Warramunga Arr**	**45.12**	**265**	P	**P**	**15 26 34.7**	**-0.9**
WB0				IAmb	IAmb	15 26 35.5	
	comp=Z,6.3nm,0.7s						
WRA	**Warramunga Arr**	**45.13**	**264**	P	**P**	**15 26 34.9**	**-0.7**
	comp=Z,4.3nm,0.6s,baz=104,slow=8.6,SNR=49						
	comp=Z,4.3nm,0.6s						
FORT	**Forrest**	**49.11**	**249**	P	**P**	**15 27 05.1**	**-1.1**
FORT				IAmb	IAmb	15 27 09.7	
	comp=Z,9.2nm,1.2s						
KNRA	**Kununurra**	**51.37**	**268**	P	**P**	**15 27 23.0**	**-0.4**
KNRA				IAmb	IAmb	15 27 24.2	
	comp=Z,5.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**53.56**	**264**	P	**P**	**15 27 39.2**	**-0.3**
SBA	**Scott Base**	**55.43**	**184**	P	**P**	**15 27 54.5**	**+2.4**
SBA				IAmb	IAmb	15 28 29.1	
	comp=Z,5.3nm,1.5s						
VNDA	**Vanda**	**55.49**	**185**	P	**P**	**15 27 53.9**	**+1.4**
VNDA	**Vanda**	**55.49**	**185**	P	**P**	**15 27 54.3**	**+1.8**
	comp=Z,1.2nm,0.9s,baz=333,slow=5.5,SNR=5.4						
	comp=Z,1.2nm,0.9s						
MBWA	**Marble Bar**	**58.15**	**259**	P	**P**	**15 28 11.1**	**-1.1**
MBWA				IAmb	IAmb	15 28 11.1	
	comp=Z,4.0nm,0.8s						
MORW	**Morawa**	**59.67**	**249**	P	**P**	**15 28 20.7**	**-1.8**
MORW				IAmb	IAmb	15 28 21.3	
	comp=Z,8.9nm,1.4s						
QSPA	**South Pole Qui**	**67.07**	**180**	P	**P**	**15 29 13.0**	**+2.4**
QSPA				IAmb	IAmb	15 29 14.5	
	comp=Z,7.7nm,1.2s						
QSPA	**South Pole Qui**	**67.07**	**180**	P	**P**	**15 29 13.5**	**+2.9**
	comp=Z,2.2nm,0.7s,baz=5.5,slow=0.5,SNR=18						
	comp=Z,2.2nm,0.7s						
BELA	**Belgrano 2**	**76.97**	**172**	P	**P**	**15 30 08.6**	**-0.5**
MAW	**Mawson**	**79.49**	**200**	P	**P**	**15 30 23.9**	**+0.9**
	comp=Z,3.5nm,0.6s,baz=138,slow=8.3,SNR=13						
	comp=Z,3.5nm,0.6s						
NVAR	**Mina Array Bea**	**82.29**	**43**	P	**P**	**15 30 38.7**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=237,slow=6.7,SNR=4.2						
	comp=Z,0.5nm,0.6s						
H03S2	**Juan Fernandez**	**83.89**	**124**	T	T	17 03 19.6	
	baz=246,slow=74,SNR=2.8						
H03S1	**Juan Fernandez**	**83.91**	**124**	T	T	17 03 09.6	
	baz=246,slow=74,SNR=3.8						
H03S3	**Juan Fernandez**	**83.91**	**124**	T	T	17 03 19.4	
	baz=246,slow=74,SNR=3.5						
H03N2	**Juan Fernandez**	**84.05**	**124**	T	T	17 03 23.9	
	baz=250						
H03N3	**Juan Fernandez**	**84.05**	**124**	T	T	17 03 20.5	
	baz=250						
H03N1	**Juan Fernandez**	**84.06**	**124**	T	T	17 03 17.4	
	baz=250						
TROLL	**Troll, Antarti**	**85.23**	**180**	⇑P	**P**	**15 30 53.1**	**+0.1**
	comp=Z,158nm,0.5s						
SNAA	**Sanae**	**85.48**	**178**	⇑P	**P**	**15 30 53.8**	**-0.3**
	comp=Z,16nm,0.5s						
SNAA	**Sanae**	**85.48**	**178**	P	**P**	**15 30 53.8**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=208,slow=10,SNR=8.2						
	comp=Z,0.6nm,0.6s						
VNA3	**Neumayer Olymp**	**85.59**	**176**	⇑P	**P**	**15 30 54.6**	**0.0**
	comp=Z,3.1nm,0.5s						
VNA2	**Neumayer--Watz**	**86.04**	**177**	⇑P	P	15 31 01.7	+4.9
	comp=Z,5.8nm,0.4s,baz=224,slow=6.2						
TXAR	**Lajitas Array**	**87.71**	**57**	P	**P**	**15 31 06.1**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=210,slow=7.2,SNR=5.4						
	comp=Z,0.7nm,0.8s						
PDAR	**Pinedale Array**	**90.22**	**43**	P	**P**	**15 31 16.2**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=222,slow=4.7,SNR=4.0						
	comp=Z,0.5nm,0.8s						
ILAR	**Eielson Array**	**90.57**	**12**	P	**P**	**15 31 15.7**	**-2.4**
	comp=Z,0.4nm,0.8s,baz=201,slow=7.2,SNR=2.4						
	comp=Z,0.4nm,0.8s						
AKASG	**Malin Array Be**	**145.60**	**330**	PKPbc	**PKPdf**	**15 37 52.9**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=44,slow=3.9,SNR=5.5						

IDC ***25*** *15:21:49.8±0.8,33.75N×25.45E,h0km, mb4.2/17, mbtmp4.1/27, ML3.8/10, MS3.6/1, Error ellipse: s-maj=16.9km s-min=13.7km az=18.0*

NAO ***25*** *15:21:50.7,33.75N×25.45E,h10km, MB4.1*

NEIC ***25*** *15:21:50.0±1.4,33.57N±0.09×25.39E±0.07, h5km±5km, mb4.5/28, Error ellipse: s-maj=13.1km s-min=7.7km az=203.0*

MOS ***25*** *15:21:50.4±1.1,33.67N×25.33E,h17km, mb4.4/7, Error ellipse: s-maj=10.5km s-min=5.5km az=78.2*

ATH ***25*** *15:21:56.0,33.76N×25.51E, h58km±18km, ML3.4/11, Manual Solution by A.Andreou First location: 2019/09/25 15:23:17, This location: 2019/09/25 15:34:28 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 9 km; Longitude uncertainty: 3 km*

ISK ***25*** *15:21:58.1,34.15N×25.50E, h86km, ML3.0/11*

AFAD ***25*** *15:22:07.0,34.52N×26.09E, h28km, MW3.9*

ISC 25 15:21:51.5±0.5,33.71N±0.05×25.61E±0.04,h10km,n165,

σ1§82/174,mb4.3/33,2C-4D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**1.49**	**20**	Pn	**Pg**	**15 22 19.8**	**-0.3**
ZKR	**Zakros**	**1.49**	**20**	P	**Pg**	**15 22 20.5**	**+0.4**
TMBK	**Timbaki Herakl**	**1.52**	**333**	P	**Pb**	**15 22 19.9**	**0.0**
NPS	**Neapolis**	**1.55**	**0**	P	**Pb**	**15 22 20.0**	**-0.3**
NPS	**Neapolis**	**1.55**	**0**	P	**Pb**	**15 22 20.8**	**+0.5**
IACM	**Heraklion**	**1.65**	**345**	P	**Pb**	**15 22 22.0**	**-0.1**
IDI	**Anoyia**	**1.68**	**340**	Pn	**Pn**	**15 22 21.5**	**+0.4**
IDI	**Anoyia**	**1.68**	**340**		**Pn**	**15 22 21.1**	**0.0**
IDI	**Anoyia**	**1.68**	**340**	Pn	**Pn**	**15 22 21.4**	**+0.4**
	13nm,0.3s,baz=168,slow=15,SNR=71						
IDI	**Anoyia**	**1.68**	**340**	P	**Pn**	**15 22 21.5**	**+0.4**
GVD	**Gavdhos**	**1.69**	**312**	Pn	**Pb**	**15 22 22.9**	**+0.2**
GVD	**Gavdhos**	**1.69**	**312**	P	**Pb**	**15 22 22.3**	**-0.3**
GVD				S	**Sn**	**15 22 40.8**	**-1.9**
PRNS	**Prines Rethymn**	**1.89**	**331**	P	**Pb**	**15 22 25.2**	**-0.9**
KARP	**Karpathos**	**2.24**	**35**	Pn	**Pb**	**15 22 30.9**	**-1.2**
KARP				Sn	**Sn**	**15 22 54.8**	**-1.6**
KARP	**Karpathos**	**2.24**	**35**	Pn	**Pb**	**15 22 31.1**	**-0.9**
KARP	**Karpathos**	**2.24**	**35**	P	**Pb**	**15 22 31.3**	**-0.7**
RODP	**Rodopos**	**2.39**	**321**	Pn	**Pn**	**15 22 31.6**	**+0.8**
RODP	**Rodopos**	**2.39**	**321**	P	**Pn**	**15 22 30.4**	**-0.4**
THERA	**Ancient Thera,**	**2.65**	**358**	P	**Pn**	**15 22 35.5**	**+1.1**
SAP3	**Santorini-Thir**	**2.73**	**356**	P	**Pn**	**15 22 37.0**	**+1.6**
ANKY	**Antikythira Is**	**2.87**	**319**	P	**Pn**	**15 22 38.8**	**+1.5**
ARG	**Arkhangelos**	**3.25**	**39**	Pn	**Pn**	**15 22 44.6**	**+2.2**
ARG	**Arkhangelos**	**3.25**	**39**	P	**Pn**	**15 22 44.7**	**+2.2**
KTHA	**Kythira Island**	**3.29**	**321**	Pn	**Pn**	**15 22 43.5**	**+0.4**
YAZI	**Mula-Dat§a-**	**3.33**	**27**	P	**Pn**	**15 22 44.1**	**+0.5**
DAT	**Datca**	**3.42**	**28**	Pn	**Pn**	**15 22 46.4**	**+1.4**
DAT				Sn	**Sn**	**15 23 21.3**	**-4.3**
DAT	**Datca**	**3.42**	**28**	P	**Pn**	**15 22 44.8**	**-0.2**
DAT				S	Sn	15 23 16.3	-9.3
BDRM	**Kayabasi**	**3.67**	**24**	P	**Pn**	**15 22 47.3**	**-1.0**
BDRM				S	Sn	15 23 19.1	-13
VLI	**Veliai**	**3.71**	**325**	P	**Pn**	**15 22 48.4**	**-0.5**
IZZE	**Mula-Seydike**	**4.03**	**46**	P	**Pn**	**15 22 54.5**	**+1.2**
IZZE				S	**Sn**	**15 23 32.7**	**-7.8**
AKAS	**Kas**	**4.14**	**51**	Pn	**Pn**	**15 22 57.8**	**+2.9**
AKAS	**Kas**	**4.14**	**51**	Pn	**Pn**	**15 22 57.4**	**+2.5**
SABU	**Mula-Dalaman**	**4.15**	**41**	P	**Pn**	**15 22 56.5**	**+1.5**
SABU				S	**Sn**	**15 23 37.8**	**-5.7**
MET4	**Agioi Theodoro**	**4.30**	**336**	P	**Pn**	**15 22 56.8**	**-0.2**
AYDN	**Tasoluk**	**4.35**	**25**	P	**Pn**	**15 22 59.8**	**+2.0**
VLY	**Voula,Athens**	**4.39**	**341**	P	**Pn**	**15 22 58.8**	**+0.6**
KARY	**Karystos**	**4.42**	**348**	P	**Pn**	**15 22 58.8**	**+0.2**
CAME	**Cameli-Denizli**	**4.42**	**42**	Pn	**Pn**	**15 23 00.5**	**+1.7**
KNIK	**Mula-Seydike**	**4.51**	**45**	P	**Pn**	**15 22 54.6**	**-5.3**
KNIK				S	**Sn**	**15 23 46.2**	**-6.3**
DNZT	**Denizli-Tavas-**	**4.52**	**37**	P	**Pn**	**15 23 02.0**	**+1.8**
DNZT				S	Sn	15 23 42.1	-11
DION	**Dionisos Attik**	**4.56**	**343**	P	**Pn**	**15 23 00.6**	**-0.1**
ITM	**Ithomi**	**4.58**	**320**	Pn	**Pn**	**15 22 59.5**	**-1.4**
ITM	**Ithomi**	**4.58**	**320**	P	**Pn**	**15 23 00.7**	**-0.3**
TAVA	**DENIZLI_Tavas**	**4.62**	**35**	P	**Pn**	**15 23 03.7**	**+2.3**
AYDB	**Zeytinkoy-Aydi**	**4.62**	**23**	Pn	**Pn**	**15 23 02.5**	**+1.0**
ELL	**Elmali**	**4.65**	**48**	Pn	**Pn**	**15 23 04.6**	**+2.7**
ELL	**Elmali**	**4.65**	**48**	Pn	**Pn**	**15 23 04.3**	**+2.4**
ELL	**Elmali**	**4.65**	**48**	P	**Pn**	**15 23 04.3**	**+2.4**
ESEN	**Aydn-Nazilli**	**4.65**	**28**	P	**Pn**	**15 23 03.4**	**+1.6**
GOLH	**Golhisar**	**4.77**	**41**	P	**Pn**	**15 23 06.7**	**+3.1**
GOLH				S	**Sn**	**15 23 55.1**	**-3.9**
IZMR	**zmir-demi**	**4.81**	**23**	P	**Pn**	**15 23 03.3**	**-0.7**
APMY	**Acipayam-Deniz**	**4.81**	**38**	Pn	**Pn**	**15 23 05.5**	**+1.4**
GUR	**Goura**	**4.98**	**329**	P	**Pn**	**15 23 05.9**	**-0.6**
KIRA	**zmir-Kiraz**	**5.02**	**26**	P	**Pn**	**15 23 08.9**	**+1.9**
AXAR	**Agios Charalam**	**5.58**	**336**	P	**Pn**	**15 23 16.3**	**+1.7**
ANX	**Ano Chora**	**5.71**	**330**	P	**Pn**	**15 23 17.6**	**+1.2**
AKMS	**Akamas**	**5.72**	**75**	P	**Pn**	**15 23 19.1**	**+2.6**
PVO	**Paravola**	**5.90**	**327**	P	**Pn**	**15 23 20.7**	**+1.6**
ALFC	**Alefka**	**5.96**	**74**	P	**Pn**	**15 23 21.3**	**+1.5**
MAKR	**Makrakomi, Fth**	**5.99**	**333**	P	**Pn**	**15 23 21.9**	**+1.7**
VLS	**Valsamata**	**6.03**	**319**	P	**Pn**	**15 23 21.0**	**+0.1**
VLS	**Valsamata**	**6.03**	**319**	P	**Pn**	**15 23 21.4**	**+0.5**
CSS	**Mathiatis**	**6.51**	**77**	Pn	**Pn**	**15 23 28.8**	**+1.4**
CSS	**Mathiatis**	**6.51**	**77**	P	**Pn**	**15 23 29.5**	**+2.0**
THL	**Klokotos Trika**	**6.52**	**335**	P	**Pn**	**15 23 29.3**	**+1.8**
TETR	**Tetrakomo, Epi**	**6.62**	**329**	P	**Pn**	**15 23 29.9**	**+1.0**
LIT	**Litokhoron**	**6.85**	**340**	Pn	**Pn**	**15 23 32.1**	**+0.1**
LIT	**Litokhoron**	**6.85**	**340**	P	**Pn**	**15 23 32.1**	**+0.1**
RDO	**Rodhopi**	**7.42**	**360**	Pn	**Pn**	**15 23 40.6**	**+0.8**
KEK	**Kerkira**	**7.59**	**324**	Pn	**Pn**	**15 23 41.9**	**-0.3**
KEK	**Kerkira**	**7.59**	**324**	P	**Pn**	**15 23 43.9**	**+1.7**
MMAI	**Monte Meron Ar**	**8.23**	**92**	Pn	**Pn**	**15 23 50.3**	**-0.7**
	2.0nm,0.3s,baz=273,slow=13,SNR=8.1						
MMAI				Sn	**Sn**	**15 25 23.1**	**-1.0**
	2.6nm,0.3s,baz=268,slow=20,SNR=5.1						
	1.1nm,0.3s						
GHAJ	**Ghor Haditha**	**8.75**	**103**	Pn	**Pn**	**15 23 58.0**	**0.0**
BRTR	**Keskin Array B**	**8.81**	**45**	Pn	**Pn**	**15 24 01.9**	**+2.9**
	0.2nm,0.3s,baz=225,slow=12,SNR=8.3						
	3.4nm,1.0s						
BRTR	**Keskin Array B**	**8.81**	**45**	P	**Pn**	**15 24 02.0**	**+2.9**
BR131	**Keskin Array S**	**8.81**	**45**	⇑*e*P	**Pn**	**15 24 02.4**	**+3.4**
EIL	**Elat**	**8.92**	**114**	Pn	**Pn**	**15 24 00.6**	**+0.1**
	2.0nm,0.3s,baz=252,slow=4.4,SNR=11						
EIL				Sn	**Sn**	**15 25 36.8**	**-4.3**
	0.9nm,0.3s,baz=270,slow=22,SNR=1.6						
	6.6nm,0.4s						
TIP	**Timpagrande**	**8.97**	**310**	Pn	**Pn**	**15 23 59.5**	**-1.8**
CEL	**Celeste**	**9.08**	**303**	Pn	**Pn**	**15 24 00.1**	**-2.6**
ASF	**Jabal al Asfar**	**9.61**	**96**	Pn	**Pn**	**15 24 09.4**	**-0.6**
	0.3nm,0.3s,baz=260,slow=2.8,SNR=5.7						
ASF				Sn	**Sn**	**15 25 55.5**	**-2.7**
	0.3nm,0.3s,baz=210,slow=20,SNR=1.2						
	1.1nm,0.3s						
BNN	**Bunyan**	**9.73**	**55**	Pn	**Pn**	**15 24 13.9**	**+2.3**
RAFF	**Raffo Rosso**	**9.82**	**294**	Pn	**Pn**	**15 24 10.2**	**-2.5**
SGRT	**San Giovanni R**	**11.19**	**319**	Pn	**Pn**	**15 24 28.7**	**-3.0**
MLR	**Muntele Rosu**	**11.77**	**1**	Pn	**Pn**	**15 24 40.7**	**+1.2**
	0.1nm,0.3s,baz=170,slow=12,SNR=2.0						
	1.9nm,0.7s						
NRCA	**Norcia**	**13.38**	**317**	Pn	**Pn**	**15 24 59.6**	**-1.9**
FDMO	**Fiordimonte**	**13.52**	**317**	Pn	**Pn**	**15 25 00.1**	**-3.2**
GNI	**Garni**	**16.58**	**62**	Pn	**P**	**15 25 47.2**	**+0.4**
	1.3nm,0.3s,baz=270,slow=1.0,SNR=3.5						
	6.5nm,0.4s						
KIV	**Kislovodsk**	**16.75**	**47**	*e*P	**P**	**15 25 50.6**	**+2.0**
KIV				pmax	pmax		
	comp=Z,19nm,1.0s						
KBZ	**Khabaz**	**16.77**	**48**	Pn	**P**	**15 25 52.3**	**+3.7**
	comp=Z,0.3nm,0.3s,baz=243,slow=5.6,SNR=14						
	comp=Z,14nm,1.0s						
VRAC	**Vranov**	**16.96**	**339**	Pn	**P**	**15 25 51.4**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=146,slow=6.6,SNR=3.4						
	comp=Z,1.8nm,0.4s						
NCK	**Nalchik**	**17.09**	**50**	⇓*e*P	**P**	**15 25 56.2**	**+3.9**
NCK				pmax	pmax		
	comp=Z,45nm,1.0s						
WTTA	**Wattenberg**	**17.17**	**326**	*e*Pn	**Pn**	**15 25 49.9**	**-1.7**
	comp=Z,3.9nm,0.7s						
KIEV	**Kiev**	**17.18**	**8**	Pn	**Pn**	**15 25 52.2**	**+0.7**
KIEV	**Kiev**	**17.18**	**8**	P	**Pn**	**15 25 52.2**	**+0.7**
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AKASG	**Malin Array Be**	**17.18**	**8**	P	**Pn**	**15 25 51.1**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=202,slow=11,SNR=8.6						
	comp=Z,0.4nm,0.3s						
AKBB	**Malin Array Si**	**17.18**	**8**	Pn	**Pn**	**15 25 52.4**	**+0.8**
AKBB	**Malin Array Si**	**17.18**	**8**	P	**Pn**	**15 25 52.4**	**+0.8**
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SQTA	**Sankt Quirin**	**17.34**	**325**	*e*Pn	**Pn**	**15 25 53.0**	**-0.8**
	comp=Z,2.4nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**17.39**	**322**		**P**	**15 25 55.4**	**-0.4**
FETA	**Feichten**	**17.43**	**324**	*i* Pn	**Pn**	**15 25 53.5**	**-1.4**
	comp=Z,2.5nm,0.7s						
GERES	**GERESS Array B**	**17.54**	**333**	P	**Pn**	**15 25 54.8**	**-1.3**
	baz=142,slow=12,SNR=12						
	comp=Z,2.1nm,0.7s						
TUE	**Stuetta**	**17.77**	**321**		**P**	**15 26 00.1**	**+0.2**
KHC	**Kasperske Hory**	**17.82**	**333**	*de*P	**P**	**15 26 00.7**	**+0.4**
KHC				pmax	pmax		
	comp=Z,16nm,1.7s						
SENIN	**Lac Senin/Sane**	**18.82**	**318**	P	**P**	**15 26 10.5**	**-1.0**
CLL	**Collm**	**19.84**	**336**	*i* P	**P**	**15 26 23.0**	**+0.6**
CLL				pmax	pmax		
	comp=Z,11nm,1.1s						
CLL	**Collm**	**19.84**	**336**	*i* P	**P**	**15 26 23.0**	**+0.6**
	comp=Z,11nm,1.1s						
CLL				*e*PPP	PPP	15 26 47.0	
RAYN	**Ar Rayn**	**20.17**	**115**		Pn	15 26 28.9	+0.7
RAYN	**Ar Rayn**	**20.17**	**115**	P	Pn	15 26 28.9	+0.8
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MNK	**Minsk**	**20.85**	**4**	*i* P	Pn	15 26 36.2	+0.4
MNK				*i*		15 26 54.9	
MNK				*i* PPP	PPP	15 27 02.8	
MNK				*i* S	Sn	15 30 31.0	0.0
MNK				*i*		15 30 42.9	
MNK				*i* SS	**SnSn**	**15 30 53.3**	**+7.4**
MNK				pmax	pmax		
	comp=N,7.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MNK				pmax	pmax		
	comp=E,11nm,0.7s						
MNK				MLR	MLR		
	comp=E,60nm,16.0s						
MNK				MLR	MLR		
	comp=N,94nm,16.0s						
MNK				MLR	MLR		
	comp=Z,32nm,14.0s						
CEST	**Esterri de Car**	**21.05**	**302**		**P**	**15 26 36.3**	**+0.6**
CEST				IAmb	IAmb	15 26 38.7	
	comp=Z,21nm,1.1s						
OBN	**Obninsk**	**22.73**	**16**	*i* P	**P**	**15 26 54.5**	**+1.0**
OBN				pmax	pmax		
	comp=Z,14nm,1.3s						
ESDC	**Sonseca Array**	**24.38**	**293**	P	**P**	**15 27 08.2**	**-1.7**
	comp=Z,5.1nm,1.1s,baz=84,slow=8.7,SNR=14						
	comp=Z,5.1nm,1.1s						
HFS	**Hagfors**	**27.57**	**347**	P	**P**	**15 27 36.4**	**-2.0**
	comp=Z,1.1nm,0.5s,baz=117,slow=8.7,SNR=6.4						
	comp=Z,1.1nm,0.5s						
FINES	**FINESS Array B**	**27.75**	**0**	P	**P**	**15 27 38.5**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=164,slow=12,SNR=7.9						
FINES				PcP	**PcP**	**15 30 56.0**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=105,slow=1.3,SNR=5.5						
	comp=Z,1.1nm,0.5s						
FINES	**FINESS Array B**	**27.75**	**0**	*e*P	**P**	**15 27 38.7**	**-1.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**28.89**	**346**	P	**P**	**15 27 48.7**	**-1.5**
	comp=Z,2.1nm,0.9s,baz=155,slow=9.3						
NOA	**NORSAR Array B**	**28.89**	**346**	P	**P**	**15 27 48.5**	**-1.8**
	comp=Z,2.3nm,1.1s,baz=147,slow=9.0,SNR=5.0						
	comp=Z,2.3nm,1.1s						
NOA	**NORSAR Array B**	**28.89**	**346**	*e*P	**P**	**15 27 48.8**	**-1.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NBO00	**NORSAR Array S**	**28.98**	**345**	P	**P**	**15 27 49.3**	**-1.7**
NBO00				IAmb	IAmb	15 27 54.7	
	comp=Z,14nm,1.1s						
EKA	**Eskdalemuir Ar**	**29.44**	**326**	P	**P**	**15 27 53.6**	**-1.5**
	comp=Z,5.9nm,1.0s,baz=125,slow=8.6,SNR=5.6						
	comp=Z,5.9nm,1.0s						
AB31	**Akbulak array**	**29.74**	**48**	P	**P**	**15 27 59.3**	**+1.4**
TORD	**Torodi Ar. Bea**	**29.87**	**232**	P	**P**	**15 27 58.8**	**-0.5**
	comp=Z,3.9nm,0.8s,baz=35,slow=8.9,SNR=16						
	comp=Z,3.9nm,0.8s						
ARCES	**ARCESS Array B**	**35.88**	**360**	P	**P**	**15 28 49.5**	**-1.8**
	comp=Z,1.8nm,0.7s,baz=171,slow=8.6,SNR=11						
	comp=Z,1.8nm,0.7s						
ARCES	**ARCESS Array B**	**35.88**	**360**	*e*P	**P**	**15 28 49.3**	**-2.0**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BORK	**Borovoye**	**37.06**	**45**	⇓*e*P	**P**	**15 29 03.2**	**+1.6**
BORK				pmax	pmax		
	comp=Z,4.0nm,1.0

comp=Z,1.5nm,0.7s,baz=288,slow=4.3,SNR=4.7
comp=Z,1.5nm,0.7s

WRA	**Warramunga Arr**	**116.05**	**97**	PKP	**PKPdf**	**15 40 35.2**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=290,slow=2.6,SNR=2.9						
QSPA	**South Pole Qui**	**123.57**	**180**	PKPdf	**PKiKP**	**15 40 49.0**	**+0.4**
QSPA	**South Pole Qui**	**123.57**	**180**	PKP	**PKiKP**	**15 40 48.8**	**+0.2**
	comp=Z,1.0nm,1.0s,baz=256,slow=1.8,SNR=1.9						

IDC 25 15:30:49.5±8.4, 7.71S×129.75E, h132km±89km, mb3.0/1, mbtmp3.6/5, Error ellipse: s-maj=78.5km s-min=26.1km az=34.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.50**	**247**	P	Pn	15 32 22.6	-0.3
	8.2nm,0.3s,baz=79,slow=10,SNR=2.1						
BATI				S	Sn	15 33 36.8	+0.9
	7.5nm,0.3s,baz=98,slow=21,SNR=1.9						
FITZ	**Fitzroy Crossi**	**11.07**	**201**	P	Pn	15 33 24.4	+0.3
	0.8nm,0.4s,baz=24,slow=12,SNR=14						
FITZ				S	Sn	15 35 21.3	-5.0
	4.2nm,0.3s,baz=40,slow=9.8,SNR=11						
WRA	**Warramunga Arr**	**12.95**	**160**	P	Pn	15 33 47.2	-1.5
	1.0nm,0.5s,baz=341,slow=12,SNR=15						
WRA				S	Sn	15 36 05.5	-6.1
	1.0nm,0.6s,baz=331,slow=22,SNR=7.6						
ASAR	**Alice Springs**	**16.36**	**166**	P	P	15 34 33.0	+0.9
	0.3nm,0.4s,baz=339,slow=9.6,SNR=18						
ASAR				S	Sn	15 37 28.7	-5.1
	0.1nm,0.3s,baz=343,slow=25,SNR=5.0						
MKAR	**Makanchi Array**	**68.68**	**327**	P	P	15 41 38.6	0.0
	0.1nm,0.3s,baz=121,slow=7.5,SNR=2.1						
	0.1nm,0.3s						

IDC 25 15:34:27.2±1.4, 73.23N×7.49E, h0km, mb3.4/6, mbtmp3.4/10, ML2.5/3, MS2.4/2, Error ellipse: s-maj=28.2km s-min=13.8km az=80.0
NAO 25 15:34:32.4±0.6, 73.51N×8.58E, h15km±8km, ML2.9
ISC 25 15:34:29.2±0.9, 73.30N±0.06×8.36E±0.10, h10km, n21, σ1s91/23, mb3.3/6, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BEA6	**Bear Island, N**	**3.20**	**63**	Pn	**Pn**	**15 35 19.6**	**+0.2**
HSPB	**Hornsund (broa**	**4.15**	**23**	Pn	**Pn**	**15 35 31.6**	**-0.9**
BRBB	**Barentsburg B**	**5.03**	**14**	Pn	**Pn**	**15 35 42.5**	**-2.1**
SPA0	**Spitsbergen Ar**	**5.28**	**18**	Pn	**Pn**	**15 35 46.8**	**-1.2**
	baz=200,slow=14						
SPITS	**Spitsbergen Ar**	**5.28**	**18**	Pn	**Pn**	**15 35 46.6**	**-1.4**
	2.3nm,0.3s,baz=200,slow=12,SNR=74						
SPITS				Sn	**Sn**	**15 36 51.2**	**+2.4**
	baz=234,slow=17						
JETT	**Jettan, Norway**	**5.38**	**128**	Pn	**Pn**	**15 35 52.1**	**+2.7**
HOPEN	**Hopen**	**5.40**	**46**	Pn	**Pn**	**15 35 48.5**	**-1.0**
KBS	**Kingsbay**	**5.72**	**7**	Pn	**Pn**	**15 35 52.8**	**-1.2**
KIF	**Kilpisjarvi**	**5.90**	**131**	Pn	**Pn**	**15 35 58.8**	**+2.3**
ARA0	**ARCESS Array S**	**6.64**	**116**	Pn	**Pn**	**15 36 08.7**	**+2.0**
	baz=310,slow=11						
ARA0				Sn	**Sn**	**15 37 19.0**	**-3.2**
	baz=309,slow=22						
ARCES	**ARCESS Array B**	**6.64**	**116**	Pn	**Pn**	**15 36 08.2**	**+1.5**
	0.1nm,0.3s,baz=320,slow=12,SNR=17						
ARCES				Sn	**Sn**	**15 37 18.5**	**-3.8**
	0.2nm,0.3s,baz=312,slow=20,SNR=5.4						
ARCES				LR	LR	15 38 54.2	
	comp=Z,41nm,19.0s,baz=91,slow=39						
	0.9nm,0.4s						
NOA	**NORSAR Array B**	**12.37**	**173**	LR	LR	15 41 33.8	
	comp=Z,15nm,20.5s,baz=175,slow=35						
HFS	**Hagfors**	**13.39**	**168**	Pn	**Pn**	**15 37 40.2**	**+1.2**
	0.1nm,0.3s,baz=354,slow=12,SNR=1.5						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**13.62**	**142**	Pn	**Pn**	**15 37 42.5**	**+0.3**
	0.1nm,0.3s,baz=318,slow=12,SNR=3.4						
	1.2nm,0.7s						
EKA	**Eskdalemuir Ar**	**18.65**	**201**	Sn	**Sn**	**15 42 14.7**	**-0.5**
	baz=19,slow=29						
AKASG	**Malin Array Be**	**24.41**	**147**	P	**P**	**15 39 46.1**	**-1.3**
	0.3nm,0.3s,baz=348,slow=9.9,SNR=5.2						
	0.3nm,0.3s						
GERES	**GERESS Array B**	**24.66**	**172**	P	**P**	**15 39 49.0**	**-0.8**
	0.2nm,0.3s,baz=347,slow=8.1,SNR=3.8						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**32.35**	**94**	P	**P**	**15 40 59.5**	**+1.3**
	0.8nm,0.8s,baz=319,slow=7.7,SNR=4.4						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**36.83**	**88**	P	**P**	**15 41 38.3**	**+1.5**
	0.3nm,0.5s,baz=338,slow=6.6,SNR=3.3						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**41.20**	**344**	P	**P**	**15 42 13.2**	**-0.2**
	0.5nm,0.8s,baz=2.9,slow=7.2,SNR=6.2						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**41.36**	**88**	P	**P**	**15 42 17.0**	**+2.1**
	0.1nm,0.5s,baz=340,slow=8.0,SNR=2.0						
	0.1nm,0.5s						

NEIC 25 15:37:22.5±2.2, 19.28N±0.04×67.20W±0.04, h10km±1km, ML2.6/13, Md3.1/11(RSPR), Error ellipse: s-maj=7.2km s-min=6.5km az=248.0
RSPR 25 15:37:27.1, 19.13N×67.20W, h4km, MD3.1/11
SDD 25 15:37:27.1±0.6, 19.14N×67.12W, h20km±413km, MD3.6, ML2.5, MW3.0
ISC 25 15:37:25.0±1.5, 19.09N±0.07×67.18W±0.04, h11km±11km, n51, σ0s48/59, 8C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.62**	**174**		**Pn**	**15 37 39.5**	**-0.3**
AGPR					**Sn**	**15 37 49.2**	**-0.6**
AGPR	**Aguadilla, PR**	**0.62**	**174**	*eP*	**Pn**	**15 37 39.5**	**-0.3**
AGPR	**Aguadilla, PR**	**0.62**	**174**	*eS*	**Sn**	**15 37 49.2**	**-0.6**
AOPR	**Arecibo Observ**	**0.84**	**151**		**Pb**	**15 37 42.3**	**+0.6**
AOPR					**Sn**	**15 37 53.9**	**-1.4**
AOPR	**Arecibo Observ**	**0.84**	**151**	*eP*	**Pn**	**15 37 42.8**	**-0.1**
AOPR	**Arecibo Observ**	**0.84**	**151**	*eS*	**Sn**	**15 37 54.6**	**-0.7**
EMPR	**Esperanza - Ma**	**0.87**	**135**	Pg	**Pb**	**15 37 43.1**	**+1.0**
EMPR	**Esperanza - Ma**	**0.87**	**135**		**Sn**	**15 37 56.1**	**+0.2**
EMPR	**Esperanza - Ma**	**0.87**	**135**	*eP*	**Pn**	**15 37 43.7**	**+0.5**
EMPR	**Esperanza - Ma**	**0.87**	**135**	*eS*	**Sn**	**15 37 56.1**	**+0.2**
PRSN	**Puerto Rico Se**	**0.87**	**178**		**Sn**	**15 37 55.8**	**-0.1**
PRSN	**Puerto Rico Se**	**0.87**	**178**	Pg	**Pn**	**15 37 43.2**	**0.0**
PRSN	**Puerto Rico Se**	**0.87**	**178**	*eP*	**Pn**	**15 37 43.4**	**+0.2**
PRSN	**Puerto Rico Se**	**0.87**	**178**	*eS*	**Sn**	**15 37 55.8**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.94**	**152**		**Sn**	**15 37 57.6**	**0.0**
UUPR	**Utuado, UPR, P**	**0.94**	**152**		**Pg**	**15 37 42.2**	**-0.9**
UUPR	**Utuado, UPR, P**	**0.94**	**152**	*eP*	**Pn**	**15 37 43.9**	**-0.3**
UUPR	**Utuado, UPR, P**	**0.94**	**152**	*eS*	**Sn**	**15 37 57.6**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.08**	**176**		**Pn**	**15 37 46.2**	**+0.1**
CRPR				Sg	**Sn**	**15 38 00.9**	**-0.2**
CRPR				IAML		15 38 02.3	
	comp=E,107nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.08**	**176**	*eP*	**Pn**	**15 37 46.5**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.08**	**176**	*eS*	**Sn**	**15 38 01.3**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.08**	**176**	*ePg*	**Pn**	**15 37 46.6**	**+0.4**
CRPR				*eSg*	**Sn**	**15 38 01.3**	**+0.2**
CRPR				IAML		15 38 12.8	
	comp=N,88nm,0.3s						
ECPR	**Experimental S**	**1.09**	**135**	*eP*	**Pg**	**15 37 46.1**	**+0.1**
ECPR	**Experimental S**	**1.09**	**135**	*eS*	**Sn**	**15 38 01.7**	**+0.3**
MLPR	**Magueyes Islan**	**1.12**	**173**	*eP*	**Pn**	**15 37 47.0**	**+0.3**
MLPR	**Magueyes Islan**	**1.12**	**173**	*eS*	**Sn**	**15 38 02.5**	**+0.4**
CELP	**Cerrillos**	**1.16**	**150**		**Pn**	**15 37 47.4**	**+0.2**
CELP				Sg	**Sn**	**15 38 03.0**	**-0.1**
CELP				IAML		15 38 05.0	
	comp=N,129nm,0.3s						
CELP				IAML		15 38 08.9	
	comp=E,103nm,0.2s						
CELP	**Cerrillos**	**1.16**	**150**	*eP*	**Pn**	**15 37 47.5**	**+0.2**
CELP	**Cerrillos**	**1.16**	**150**	*eS*	**Sn**	**15 38 03.2**	**+0.1**
CELP	**Cerrillos**	**1.16**	**150**	*ePg*	**Pn**	**15 37 47.8**	**+0.5**
CELP				*eSg*	**Sn**	**15 38 03.2**	**+0.1**
CELP				IAML		15 38 04.9	
	comp=N,132nm,0.3s						
OBIP	**Obispado Ponce**	**1.18**	**152**		**Pb**	**15 37 47.5**	**+0.1**
OBIP				Sg	**Sn**	**15 38 03.4**	**-0.1**
OBIP	**Obispado Ponce**	**1.18**	**152**	*eP*	**Pn**	**15 37 47.8**	**+0.3**
OBIP	**Obispado Ponce**	**1.18**	**152**	*eS*	**Sn**	**15 38 03.8**	**+0.3**
GCPR	**Guaynabo City**	**1.30**	**127**	Pn	**Pn**	**15 37 48.5**	**-0.6**
GCPR	**Guaynabo City**	**1.30**	**127**	*eS*	**Sb**	**15 38 06.4**	**+0.2**
SJG	**San Juan**	**1.38**	**135**	Pn	**Pn**	**15 37 50.2**	**-0.1**
SJG	**San Juan**	**1.38**	**135**	IAML		15 38 17.0	
	comp=N,84nm,0.4s						
SJG				IAML		15 38 17.8	
	comp=N,101nm,0.2s						
SJG	**San Juan**	**1.38**	**135**	*eS*	**Sb**	**15 38 08.4**	**-0.1**
IGPR	**InterUniversit**	**1.52**	**137**		**Pb**	**15 37 53.1**	**0.0**
IGPR					**Sb**	**15 38 12.2**	**-0.2**
IGPR	**InterUniversit**	**1.52**	**137**	*eP*	**Pb**	**15 37 53.1**	**0.0**
IGPR	**InterUniversit**	**1.52**	**137**	*eS*	**Sb**	**15 38 12.2**	**-0.2**
PDPR	**Patillas Dam,**	**1.53**	**134**	Pn	**Pn**	**15 37 52.8**	**+0.4**
PDPR				IAML		15 38 17.7	
	comp=N,72nm,0.1s						
PDPR				IAML		15 38 18.5	
	comp=E,60nm,0.1s						
PDPR	**Patillas Dam,**	**1.53**	**134**	*eP*	**Pn**	**15 37 52.4**	**0.0**
PDPR	**Patillas Dam,**	**1.53**	**134**	*eS*	**Sn**	**15 38 12.5**	**+0.2**
HIDR	**Higuey Centro**	**1.54**	**251**	*eS*	**Sn**	**15 38 11.8**	**-0.5**
HUMP	**Col San Antoni**	**1.58**	**127**	Pn	**Pn**	**15 37 52.2**	**-0.7**
MIDR	**Miches**	**1.77**	**267**	*eP*	**Pn**	**15 37 56.1**	**+0.5**
MIDR	**Miches**	**1.77**	**267**	*eS*	**Sn**	**15 38 17.4**	**-0.7**
MIDR	**Miches**	**1.77**	**267**	*ePg*	**Pb**	**15 37 58.5**	**+1.1**
MIDR				*eSg*	**Sg**	**15 38 22.2**	**+0.3**
MIDR				IAML		15 38 22.6	
	comp=N,30nm,0.3s						
SMDR	**Samana, DR**	**1.91**	**276**	*eP*	**Pn**	**15 37 57.1**	**-0.3**
SMDR	**Samana, DR**	**1.91**	**276**	*eS*	**Sn**	**15 38 20.3**	**-1.2**

IDC 25 15:43:49.8±3.2, 59.18N×24.22E, h0km, mbtmp3.1/3, ML2.1/3, Error ellipse: s-maj=35.7km s-min=10.9km az=149.0
EST 25 15:43:50.4±0.0, 59.31N×23.82E, h0km, ML1.7(HEL), Explosion
LVSN 25 15:43:52.3±3.2, 59.46N×23.92E, h0km±49km, ML2.2
UPP 25 15:43:54.9±2.4, 59.42N×23.17E, h0km, ML2.0, Presumed earthquake
ISC 25 15:43:49.3±1.1, 59.38N±0.02×23.92E±0.02, h4km±9km, n39, σ1s19/61, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EE01	**Perakula, Nova**	**0.23**	**221**	*eP*	**Pg**	**15 43 52.9**	**-0.9**
EE01				*eS*	**Sg**	**15 43 55.0**	**-1.9**
EE02	**Kiisa, Saku**	**0.44**	**115**	*eP*	**Pg**	**15 43 58.5**	**+0.7**
EE02				*eS*	**Sg**	**15 44 04.5**	**+0.9**
TVF	**Tvarminne**	**0.57**	**324**	*eP*	**Pg**	**15 44 00.9**	**+0.6**
TVF				*eS*	**Sg**	**15 44 08.7**	**+0.9**
EE06	**Soera, Palade,**	**0.69**	**234**	*eP*	**Pg**	**15 44 01.2**	**-1.3**
HEL5	**Espoo, Suvisaa**	**0.85**	**29**	*eP*	**Pb**	**15 44 07.0**	**+0.4**
MEF	**Metsahovi**	**0.87**	**16**	*eP*	**Pn**	**15 44 07.5**	**-0.8**
MEF				*eS*	**Sg**	**15 44 16.7**	**-0.6**
MEF				AML	AML	15 44 26.9	
	comp=E,20nm,0.7s						
MEF				AML	AML	15 44 27.5	
	comp=N,26nm,0.6s						
MEF				AML	AML	15 44 27.6	
	comp=Z,31nm,0.6s						
MEF	**Metsahovi**	**0.87**	**16**	*eP*	**Pn**	**15 44 07.5**	**-0.8**
HEL1	**Helsinki**	**0.94**	**31**	*eP*	**Pn**	**15 44 08.7**	**-0.4**
EE08	**Sarghaua, Vand**	**1.00**	**136**	*eP*	**Pg**	**15 44 08.3**	**-0.1**
EE08				*eS*	**Sg**	**15 44 21.4**	**+0.1**
ARBE	**Arbavere**	**1.06**	**86**	*eP*	**Pb**	**15 44 10.4**	**+0.3**
ARBE				*eS*	**Sn**	**15 44 24.8**	**-1.1**
ARBE				AML	AML	15 44 27.5	
	comp=Z,72nm,0.1s						
ARBE				AML	AML	15 44 30.8	
	comp=E,165nm,0.1s						
ARBE				AML	AML	15 44 32.0	
	comp=N,215nm,0.1s						
ARBE	**Arbavere**	**1.06**	**86**	*eP*	**Pb**	**15 44 10.4**	**+0.3**
ARBE				*eSB*	**Sn**	**15 44 25.5**	**-0.5**
NUR	**Nurmijarvi**	**1.19**	**18**	*eP*	**Pn**	**15 44 13.2**	**+0.5**
NUR				*eS*	**Sn**	**15 44 29.4**	**+0.2**
EE03	**Tooma soojaam,**	**1.32**	**112**	*eP*	**Pn**	**15 44 14.4**	**0.0**
EE03				*eS*	**Sb**	**15 44 31.7**	**0.0**
PVF	**Pernaja**	**1.52**	**39**	*ePG*	**Pg**	**15 44 19.1**	**+0.7**
PVF				*eS*	**Sg**	**15 44 39.3**	**+1.1**
PVF				MSG		15 44 43.9	
	comp=Z,5.4nm,0.1s						
VSU	**Vasula**	**1.73**	**121**	*eP*	**Pn**	**15 44 20.4**	**+0.3**
VSU				AML	AML	15 44 22.3	
	comp=Z,26nm,0.2s						
VSU				*eS*	**Sn**	**15 44 43.1**	**+0.6**
VSU				AML	AML	15 44 46.6	
	comp=N,46nm,0.4s						
VSU				AML	AML	15 44 47.0	
	comp=E,50nm,0.4s						
VSU	**Vasula**	**1.73**	**121**	*eP*	**Pn**	**15 44 20.4**	**+0.3**
VSU				*eS*	**Sn**	**15 44 42.6**	**+0.1**
SLIT	**Slitere, Latvi**	**1.96**	**207**	*eP*	**Pn**	**15 44 23.6**	**+0.5**
SLIT				*eS*	**Sn**	**15 44 49.6**	**+1.5**
SLIT				AML	AML	15 44 53.5	
	comp=N,97nm,0.3s						
SLIT				AML	AML	15 44 54.0	
	comp=E,162nm,0.3s						
SLIT				AML	AML	15 44 54.3	
	comp=Z,88nm,0.4s						
SLIT	**Slitere, Latvi**	**1.96**	**207**	*ePG*	**Pn**	**15 44 23.6**	**+0.5**
RAF	**Rauma**	**1.97**	**328**	*ePB*	**Pb**	**15 44 25.7**	**+0.1**
RAF				*eSG*	**Sg**	**15 44 52.2**	**-0.2**
RAF				MSG		15 44 55.0	
	comp=Z,4.5nm,0.1s						
AAL	**Aland**	**2.14**	**294**	P	**Pn**	**15 44 27.2**	**+1.6**
AAL				S	**Sn**	**15 44 50.4**	**-2.2**
AAL	**Aland**	**2.14**	**294**	*ePB*	**Pn**	**15 44 27.5**	**+1.9**
AAL				*eSB*	**Sb**	**15 44 54.8**	**-0.5**
VJF	**Virojoki**	**2.17**	**56**	*eP*	**Pb**	**15 44 27.8**	**-1.2**
VJF				*eSG*	**Sg**	**15 44 59.2**	**+0.4**
VJF				MSG		15 45 00.9	
	comp=Z,3.8nm,0.1s						
FIA0	**FINESS Array S**	**2.33**	**26**	*ePB*	**Pb**	**15 44 32.6**	**+0.8**
FIA0				*eSB*	**Sg**	**15 45 03.1**	**-1.0**
FIA0				MSG		15 45 06.2	
	comp=Z,3.7nm,0.1s						
FINES	**FINESS Array B**	**2.33**	**26**	Pg	**Pb**	**15 44 32.7**	**+0.9**
	comp=Z,2.8nm,0.3s,baz=202,slow=15,SNR=92						
FINES				Sn	**Sg**	**15 45 03.7**	**-0.4**
	comp=Z,2.3nm,0.3s,baz=200,slow=25,SNR=13						
FIA1	**FINESS Array S**	**2.33**	**26**	*ePB*	**Pb**	**15 44 32.6**	**+0.9**
FIA1				*eSB*	**Sg**	**15 45 03.1**	**-1.0**
FIA1				MSG		15 45 06.2	
	comp=Z,4.1nm,0.1s						
KPF	**Kankaanpaa**	**2.62**	**340**	*ePB*	**Pb**	**15 44 35.7**	**-1.1**
KPF				MSG		15 45 14.1	
	comp=Z,1.6nm,0.1s						
NRTU	**Norrtaelje**	**2.71**	**279**	P	**Pn**	**15 44 34.5**	**+1.0**
KEF	**Keuruu**	**2.83**	**9**	*ePB*	**Pb**	**15 44 39.4**	**-0.9**
GRAU	**Graesoe**	**2.88**	**292**	P	**Pn**	**15 44 36.6**	**+0.8**
FLYU	**Flymyra**	**3.14**	**286**	P	**Pn**	**15 44 41.0**	**+1.5**
RUF	**Ruokolahti**	**3.23**	**48**	*eSB*	**Sg**	**15 45 29.3**	**-3.6**
BYXU	**Byxelkrok**	**4.20**	**243**	P	**Pn**	**15 44 55.1**	**+1.1**
VSTU	**Vaestervik**	**4.24**	**249**	P	**Pn**	**15 44 55.6**	**+1.1**
LNKU	**Linkoeping**	**4.53**	**259**	P	**Pn**	**15 44 59.6**	**+1.2**
OSKU	**Oskarshamn**	**4.67**	**245**	P	**Pn**	**15 45 01.3**	**+0.8**
JOF	**Joensuu**	**5.04**	**42**	*eP*	**Pn**	**15 45 07.3**	**+1.8**
HFS	**Hagfors**	**5.22**	**283**	Pn	**Pn**	**15 45 09.4**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=102,slow=12,SNR=1.7						
HFS				Sn	**Sn**	**15 46 09.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=97,slow=25,SNR=1.9						
HFS				Lg	Lg	15 46 30.2	
	comp=Z,0.5nm,0.3s,baz=98,slow=31,SNR=6.7						
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**6.54**	**290**	Pn	**Pn**	**15 45 29.2**	**+3.0**
	baz=82,slow=8.4,SNR=1.7						
NOA				Lg	Lg	15 47 10.8	
	baz=82,slow=18,SNR=4.2						
	comp=Z,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**10.22**	**3**	Pn	**Pn**	**15 46 17.1**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=180,slow=12,SNR=9.4						
ARCES				Sn	**Sn**	**15 48 08.4**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=182,slow=25,SNR=1.2						
	comp=Z,1.8nm,0.7s						

FCIAR 25 15:50:22.0, 78.79N×8.38E, h10km, station ZFI2 has station magnitude of 3.80 station OMEGA has station magnitude of 3.80
KOLA 25 15:50:24.3, 78.30N×8.24E, h0km, ML2.1, Error ellipse: s-maj=12.7km s-min=8.3km az=90.0, Greenland sea, Knipovich ridge, middle
BER 25 15:50:24.4±1.5, 78.44N×7.19E, h10km, mb(Pn)3.1, Confirmed Earthquake

ISC 25 15:50:23.4±2.2, 78.41N±0.06×7.88E±0.08, h15km±11km, n15, σ1s84/28, 1C-1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**0.96**	**55**	P	**Pn**	**15 50 43.5**	**+1.2**
KBS				S	**Sn**	**15 50 55.5**	**-0.1**
KBS	**Kingsbay**	**0.96**	**55**	*eP*	**Pn**	**15 50 43.7**	**+1.5**
KBS				*eS*	**Sn**	**15 50 55.6**	**+0.1**
KBS				IAML		15 50 58.6	
	comp=Z,65nm,0.2s						
BRBB	**Barentsburg B**	**1.33**	**101**	P	**Pg**	**15 50 48.6**	**-0.4**
BRBB				S	**Sn**	**15 51 05.4**	**+0.6**
BRBB	**Barentsburg B**	**1.33**	**101**	*eP*	**Pg**	**15 50 48.7**	**-0.3**
BRBB				*eS*	**Sn**	**15 51 07.3**	**+2.5**
BRBA	**Barentsburg A**	**1.34**	**102**	*eP*	**Pg**	**15 50 49.4**	**+0.2**
BRBA				*eS*	**Sg**	**15 51 08.0**	**+1.2**
BRBA				IAML		15 51 11.9	
	comp=Z,18nm,0.3s						
SPA0	**Spitsbergen Ar**	**1.75**	**93**	*eP*	**Pb**	**15 50 55.7**	**+0.6**
SPA0				*eS*	**Sb**	**15 51 17.1**	**+0.3**
SPA0	**Spitsbergen Ar**	**1.75**	**93**	*eP*	**Pb**	**15 50 55.7**	**+0.6**
SPA0				*eS*	**Sg**	**15 51 18.2**	**-1.4**
SPA0				IAML		15 51 19.1	
	comp=Z,18nm,0.6s						
SPITS	**Spitsbergen Ar**	**1.75**	**93**	P	**Pb**	**15 50 55.6**	**+0.5**
SPITS				S	**Sg**	**15 51 17.4**	**-2.1**
HSPB	**Hornsund (broa**	**2.16**	**127**	P	**Pn**	**15 50 59.5**	**+0.8**
HSPB				S	**Sn**	**15 51 24.9**	**-0.3**
HSPB	**Hornsund (broa**	**2.16**	**127**	*eP*	**Pn**	**15 50 56.7**	**-2.1**
HSPB				*eS*	**Sn**	**15 51 25.7**	**+0.5**
HSPB	**Hornsund (broa**	**2.16**	**127**	*eP*	**Pn**	**15 50 59.3**	**+0.5**
HSPB				IAML		15 51 29.8	
	comp=Z,5.5nm,0.4s						
HOPEN	**Hopen**	**4.18**	**108**	*eP*	**Pn**	**15 51 26.1**	**-0.3**
HOPEN				*eS*	**Sn**	**15 52 14.1**	**-0.8**
DAG	**Danmarks Havn**	**5.91**	**267**	*i P*	**Pn**	**15 51 49.0**	**-1.2**
DAG				*i S*	Sn	15 52 48.7	-8.9
ZFI2	**Zemlya Franca-**	**7.44**	**53**	*eP*	**Pn**	**15 52 13.7**	**+2.5**
ZFI2				*eS*	**Sn**	**15 53 30.6**	**-4.4**
	comp=Z,27nm,2.5s						
OMEGA	**Omega**	**7.45**	**53**	*eP*	**Pn**	**15 52 13.7**	**+2.3**
OMEGA				*eS*	**Sn**	**15 53 30.6**	**-4.7**
	comp=Z,23nm,2.6s						

BJI 25 15:57:28.4, 4.52S×143.28E, h50km, mB5.5/53, mb5.6/97, Ms4.8/92, Ms7 4.7/88
MOS 25 15:57:31.2±0.9, 4.23S×142.74E, h51km, mb5.7/55, MS4.7/6, Error ellipse: s-maj=8.7km s-min=4.7km az=112.9
NEIC 25 15:57:32.8, 4.24S×142.81E, h60km
NEIC 25 15:57:32.8, 4.14S×142.91E, h60km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^17Nm; Mrr1.18; Mθθ-0.66; Mφφ-0.52; Mrθ-0.49; Mθφ0.71; Mφr0.76; Fault plane solution: M0 1.54000×10^17 NP1: φs121.78000°, δs28.27000°, λ72.41000°. NP2: φs321.58000°, δs63.16000°, λ99.23000°. Principal axes: T 1.4964, Plg70.0000°, Azm251.0000°; N 0.0849, Plg8.0000°, Azm137.0000°; P -1.5813, Plg18.0000°, Azm45.0000°;
IDC 25 15:57:33.1±1.3, 4.25S×142.81E, h52km±10km, mb5.1/31, mbtmp5.4/36, MS4.5/49 Error ellipse: s-maj=11.9km s-min=7.3km az=76.0
NEIC 25 15:57:33.6±1.7, 4.25S±0.06×142.80E±0.06, h52km±4km, mb5.6/267, Mww5.4/33, Error ellipse: s-maj=9.8km s-min=8.2km az=216.0
GCMT 25 15:57:34.9±0.1, 4.13S±0.01×142.84E±0.01, h53km, MW5.5/152, Moment Tensor Solution. s148,c263; s152,c277; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr1.36±.02; Mθθ-1.08±.02; Mφφ-0.27±.02; Mrθ-0.63±.02; Mθφ0.96±.01; Mφr1.02±.02; Best double couple: M0 1.96700×10^17 NP1: φs104.00000°, δs30.00000°, λ58.00000°. NP2: φs320.00000°, δs65.00000°, λ107.00000°. Principal axes: T 1.8590, Plg66.0000°, Azm261.0000°; N 0.2190, Plg16.0000°, Azm133.0000°; P -2.0750, Plg18.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
DJA 25 15:57:35.4±0.3, 4.3S±2.2×14.3E±.1, h74km±3km, M5.5/88, mb5.7/88, mB6.0/77, MLv6.0/7, Mw(mB)5.6/77, MwMwp5.3/44, Mwp5.5/44
ISC 25 15:57:33.3±0.3, 4.28S±0.03×142.82E±0.03, h56km±1km, h56km:pP-P, n1024, σ1s70/1031, mb5.6/284, MS4.6/88, 37C-9D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.75**	**310**	P	**Pn**	**15 58 14.6**	**-0.3**
	185nm,0.3s,baz=160,slow=9.4,SNR=116						
JAY				S	**Sn**	**15 58 46.1**	**-0.9**
	1µm,0.6s,baz=327,slow=22,SNR=6.9						
JAY				LR	LR	15 59 37.8	
	comp=Z,14µm,19.2s,baz=168,slow=46						
JAY	**Jayapura**	**2.

TATA Tatamba Isabel 17.36 104 P P 16 01 33.6 +1.1
WB0 Warramunga Arr 17.45 207 Pn Pn 16 01 31.3 -1.6
SAVO Savo Central 17.55 107 P P 16 01 37.4 +2.8
WR8 Warramunga Arr 17.56 207 Pn Pn 16 01 32.8 -1.5
WRAB Tennant Creek 17.61 207 Pn Pn 16 01 33.7 -1.2
WRAB IAmb IAmb 16 01 36.6
comp=Z,706nm,1.1s
WRAB Tennant Creek 17.61 207 P Pn 16 01 33.7 -1.2
WRAB pmax pmax
comp=Z,706nm,1.1s
WRA Warramunga Arr 17.62 207 P Pn 16 01 32.7 -2.4
comp=Z,464nm,1.0s,baz=28,slow=13,SNR=94
WRA S S 16 04 54.1 -1.5
comp=Z,80nm,1.3s,baz=25,slow=20,SNR=4.6
WRA Warramunga Arr 17.62 207 *i* P Pn 16 01 32.9 -2.2
WRA pmax pmax
comp=Z,464nm,1.0s
HNR Honiara 17.75 108 Pn Pn 16 01 35.8 -0.9
HNR Honiara 17.75 108 Pn 16 01 35.9 -0.8
HNR IAmb IAmb 16 01 40.2
comp=Z,333nm,0.8s
HNR Honiara 17.75 108 P Pn 16 01 36.5 -0.2
comp=Z,370nm,0.8s,baz=261,slow=7.7,SNR=25
HNR LR LR 16 08 13.5
comp=Z,1µm,18.4s,baz=282,slow=36
HNR Honiara 17.75 108 P P 16 01 38.4 +1.6
KNRA Kununurra 17.87 230 P Pn 16 01 35.0 -3.0
KNRA Kununurra 17.87 230 Pn 16 01 35.8 -2.3
KNRA IAmb IAmb 16 01 40.8
comp=Z,267nm,0.6s
GUMO Guam 17.87 6 Pn 16 01 37.2 -0.9
GUMO Guam 17.87 6 P P 16 01 38.5 +0.4
comp=Z,95nm,1.0s,baz=188,slow=12,SNR=7.9
GUMO LR LR 16 07 50.3
comp=Z,1µm,19.1s,baz=204,slow=35
GUMO Guam 17.87 6 P Pn 16 01 38.0 -0.1
GUMO Guam 17.87 6 P Pn 16 01 37.2 -0.9
GUMO pmax pmax
comp=Z,343nm,1.3s
ALEG Aligegeo Malai 18.30 105 P P 16 01 43.3 +0.4
NGOA Tingoa Renbel 18.53 114 P Pn 16 01 48.3 +2.2
PATS Pohnpei 19.00 55 P Pn 16 01 51.6 -0.2
comp=Z,1µm,1.2s
PATS Pohnpei 19.00 55 P Pn 16 01 53.3 +1.5
SGSI Sangihe 19.01 294 P P 16 01 50.4 -0.3
comp=Z,7µmcomp=Z,9µmcomp=Z,800nm,1.1s
SOEI Soe 19.20 253 P 16 01 52.6 -0.3
SOEI Soe 19.20 253 P Pn 16 01 54.6 +0.3
SOEI Soe 19.20 253 P Pn 16 01 54.9 +0.6
KMSI Cibinong 19.43 284 P P 16 01 55.5 +0.2
HURO Huro Makira 19.89 109 P Pn 16 02 02.5 +0.2
BATI Baumata 19.89 252 P Pn 16 02 02.4 0.0
comp=Z,359nm,0.6s,baz=105,slow=16,SNR=66
BATI LR LR 16 11 47.0
comp=Z,2µm,20.4s,baz=74,slow=43
BATI Baumata 19.89 252 P Pn 16 02 02.4 0.0
comp=Z,11µmcomp=Z,660nm,0.6s
BBSI Bau Bau 20.21 266 P Pn 16 02 06.2 0.0
LUWI Luwuk 20.28 279 P P 16 02 05.0 +0.4
LUWI Luwuk 20.28 279 P Pn 16 02 06.7 -0.3
LUWI Luwuk 20.28 279 P P 16 02 05.6 +1.0
comp=Z,11µmcomp=Z,971nm,1.4s
DAV Davao City (W) 20.58 303 LR LR 16 12 17.8
comp=Z,523nm,18.0s,baz=130,slow=43
MMRI Maumere 20.90 257 P P 16 02 10.5 -0.7
MMRI Maumere 20.90 257 P P 16 02 12.1 +0.8
MMRI Maumere 20.90 257 P P 16 02 11.2 -0.1
comp=Z,7µmcomp=Z,7µmcomp=Z,505nm,1.1s
GD1S Gladstone Soft 21.05 158 P P 16 02 16.6 +3.9
AS31 Alice Springs 21.11 203 P P 16 02 13.6 +0.2
ASAR Alice Springs 21.11 203 P P 16 02 14.7 +1.2
comp=Z,231nm,1.1s,baz=30,slow=9.9,SNR=124
ASAR S S 16 06 06.2 +0.8
comp=Z,16nm,1.1s,baz=16,slow=28,SNR=1.8
ASAR LR LR 16 11 37.1
comp=Z,2µm,18.4s,baz=20,slow=40
comp=Z,231nm,1.1s
MRSI Marisa 21.39 282 P P 16 02 16.2 -0.3
comp=Z,6µmcomp=Z,7µmcomp=Z,684nm,1.1s
APSI Ampana 21.41 278 P P 16 02 18.2 +1.5
comp=Z,11µmcomp=Z,784nm,1.3s
EDFI Ende, Flores 21.45 257 P P 16 02 15.6 -1.7
FITZ Fitzroy Crossi 21.71 229 P P 16 02 18.6 -1.2
comp=Z,105nm,1.5s
FITZ Fitzroy Crossi 21.71 229 P P 16 02 19.1 -0.7
FITZ Fitzroy Crossi 21.71 229 P P 16 02 19.0 -0.9
comp=Z,132nm,0.9s,baz=54,slow=11,SNR=91
FITZ LR LR 16 11 11.6
comp=Z,5µm,21.1s,baz=43,slow=38
comp=Z,132nm,0.9s
FITZ Fitzroy Crossi 21.71 229 P P 16 02 18.9 -0.9
QLP Quilpie 22.22 177 P P 16 02 25.0 -0.2
comp=Z,0.0nmcomp=Z,350nm,1.1s
QLP Quilpie 22.22 177 P P 16 02 27.4 +2.2
BSSI Bau Bau, Buton 22.32 264 P P 16 02 27.1 +0.6
EIDS Eidsvold 22.42 160 P P 16 02 29.1 +1.7
comp=Z,0.0nmcomp=Z,118nm,1.2s
EIDS Eidsvold 22.42 160 P P 16 02 26.5 -0.9
EIDS Eidsvold 22.42 160 P P 16 02 31.7 +4.3
BKSI Bulukumba 22.64 266 P P 16 02 29.8 -0.2
comp=Z,5µmcomp=Z,8µmcomp=Z,622nm,1.3s
BNSI Bone 22.65 269 P P 16 02 30.2 +0.2
comp=Z,6µmcomp=Z,7µmcomp=Z,643nm,1.2s
TOLI2 Tolitoli 22.67 283 P P 16 02 29.3 -0.9
TOLI2 Tolitoli 22.67 283 P P 16 02 30.8 +0.6
RMQ Roma 22.80 166 P P 16 02 33.4 +2.0
BASI Baing, Sumba 22.83 254 P P 16 02 31.9 0.0
SPSI Sidrap Palu 23.00 270 P P 16 02 33.2 -0.4
comp=Z,6µmcomp=Z,4µmcomp=Z,324nm,1.4s
KAPI Kappang 23.01 267 P P 16 02 33.9 +0.2
KAPI IAmb IAmb 16 02 35.9
comp=Z,199nm,1.1s
KAPI Kappang 23.01 267 LR LR 16 13 58.4
comp=Z,484nm,18.6s,baz=86,slow=43
KAPI Kappang 23.01 267 P P 16 02 35.1 +1.4
KAPI Kappang 23.01 267 P P 16 02 34.3 +0.6
KAPI Kappang 23.01 267 P P 16 02 33.9 +0.2
KAPI pmax pmax
comp=Z,199nm,1.2s
PCI Palu 23.20 278 P P 16 02 36.9 +1.2
INKA Innaminka 23.41 185 P P 16 02 37.4 -0.1
INKA IAmb IAmb 16 02 54.3
comp=Z,213nm,1.4s
LUES Luesalemba Tem 23.74 107 P P 16 02 44.6 +3.9
WBSI Waikabubak, Su 23.85 256 P P 16 02 40.2 -1.6
comp=Z,4µmcomp=Z,7µmcomp=Z,623nm,1.0s
TW1H Toowoomba 1 Ha 24.72 160 P P 16 02 52.2 +2.6
WRKA Warakurna 24.92 213 P P 16 02 49.1 -2.2
comp=Z,0.0nmcomp=Z,133nm,1.2s
PLAI Plampang 25.28 258 P P 16 02 55.7 +1.0
PLAI Plampang 25.28 258 P P 16 02 51.8 -2.9
SGKI Sangatta, Kali 25.47 278 P P 16 03 14.0 +18
SMKI Samarinda 25.87 278 P P 16 03 01.9 +1.8
comp=Z,5µmcomp=Z,419nm,1.4s
BKB Balikpapan 26.07 276 P P 16 03 03.1 +1.3
TWSI Taliwang, Sumb 26.14 259 P P 16 02 59.5 -3.0
SANVU Saraoutou 26.42 117 P P 16 03 04.7 -0.3
SANVU IAmb IAmb 16 03 24.5
comp=Z,215nm,0.9s
SANVU Saraoutou 26.42 117 P P 16 03 08.4 +3.4
CMSA Cobar Meteorol 27.25 175 P P 16 03 13.0 +0.7
comp=Z,90nm,1.4s
CMSA Cobar Meteorol 27.25 175 P P 16 03 13.8 +1.5
ARMA Armidale 27.29 163 P P 16 03 14.6 +1.7
comp=Z,75nm,1.3s
ARMA Armidale 27.29 163 P P 16 03 12.6 -0.3
ARMA Armidale 27.29 163 P P 16 03 15.7 +2.9
STKA Stephens Creek 27.48 182 P P 16 03 13.6 -0.7
comp=Z,281nm,1.0s
STKA Stephens Creek 27.48 182 P P 16 03 14.6 +0.2
STKA IAmb IAmb 16 03 16.1
comp=Z,193nm,0.8s
STKA Stephens Creek 27.48 182 P P 16 03 14.5 +0.2
comp=Z,39nm,0.8s,baz=350,slow=8.8,SNR=79
STKA LR LR 16 13 41.8
comp=Z,818nm,20.4s,baz=348,slow=35
comp=Z,39nm,0.8s
STKA Stephens Creek 27.48 182 P P 16 03 14.8 +0.5
STKA Stephens Creek 27.48 182 P P 16 03 14.6 +0.2
STKA pmax pmax
comp=Z,193nm,0.9s
SRBI Singaraja 27.70 261 P P 16 03 15.3 -1.2
comp=Z,2µmcomp=Z,1µmcomp=Z,144nm,1.2s
BBKI Banjar Baru 27.93 271 P P 16 03 19.4 +0.8
comp=Z,4µmcomp=Z,207nm,1.4s

MBWA Marble Bar 28.01 231 P P 16 03 18.4 -0.8
comp=Z,110nm,1.2s
MBWA Marble Bar 28.01 231 P P 16 03 19.4 +0.1
MBWA IAmb IAmb 16 03 58.7
comp=Z,154nm,1.1s
MBWA Marble Bar 28.01 231 P P 16 03 20.0 +0.8
MBWA Marble Bar 28.01 231 P P 16 03 20.0 +0.8
PSAC2 Pilbara Seismi 28.10 230 P P 16 03 20.3 +0.3
comp=Z,126nm,1.3s
PSA00 Pilbara Seismi 28.15 230 P P 16 03 20.8 +0.3
comp=Z,124nm,1.6s
PSA00 Pilbara Seismi 28.15 230 P P 16 03 20.4 -0.1
PSA00 Pilbara Seismi 28.15 230 P P 16 03 21.0 +0.5
PSAB3 Pilbara Seismi 28.16 230 P P 16 03 20.6 0.0
comp=Z,132nm,1.3s
PSAC1 Pilbara Seismi 28.16 230 P P 16 03 21.3 +0.8
comp=Z,122nm,1.6s
DVP Devils Point 28.20 120 P P 16 03 23.9 +3.0
TGY Tagaytay City 28.37 310 LR LR 16 15 10.0
comp=Z,599nm,20.9s,baz=126,slow=37
KKM Kota Kinabalu 28.48 291 P P 16 03 23.0 -0.6
KKM IAmb IAmb 16 03 24.3
comp=Z,119nm,1.1s
KKM Kota Kinabalu 28.48 291 P P 16 03 24.2 +0.6
ABJI Asem Bagus 28.64 262 P P 16 03 23.6 -1.3
comp=Z,2µmcomp=Z,85nm,0.9s
JAGI Jajag, Banyuwa 28.79 260 P P 16 03 22.7 -3.6
JAGI IAmb IAmb 16 03 25.2
comp=Z,200nm,1.2s
JAGI Jajag, Banyuwa 28.79 260 P P 16 03 26.9 +0.7
JAGI Jajag, Banyuwa 28.79 260 P P 16 03 23.8 -2.4
KMMI Kalianget 28.84 263 P P 16 03 28.6 +1.9
comp=Z,3µmcomp=Z,159nm,1.3s
DZM Mont Dzumac 28.93 130 *e*P P 16 03 27.3 -0.2
DZM comp=Z,175nm,1.2s
DZM *e*S S 16 08 06.7 -7.8
comp=Z,399nm,28.4s
DZM *e*LQ LQ 16 09 37.7
comp=Z,2µm,31.2s
DZM *e*LR LR 16 10 57.1
comp=Z,6µm,24.6s
DZM Mont Dzumac 28.93 130 P P 16 03 27.9 +0.5
DZM Mont Dzumac 28.93 130 P P 16 03 29.1 +1.6
WHYH Whyalla 29.02 189 P P 16 03 29.8 +1.8
ONTNC Ouen Toro 29.07 130 P P 16 03 28.9 +0.3
ONTNC Ouen Toro 29.07 130 P P 16 03 29.9 +1.3
BBOO Buckleboo 29.08 192 P P 16 03 27.9 -0.7
BBOO Buckleboo 29.08 192 P P 16 03 29.1 +0.5
PTPS Port Pirie 29.09 188 P P 16 03 29.9 +1.2
HTT Hallett 29.23 187 P P 16 03 29.8 -0.2
comp=Z,9.1nm,1.6s
HTT Hallett 29.23 187 P P 16 03 30.6 +0.6
YATNC Mamie plateau, 29.26 129 P P 16 03 32.4 +2.0
BLJI Banyuglugur 29.26 262 P P 16 03 30.0 -0.5
comp=Z,4µmcomp=Z,108nm,1.0s
FORT Forrest 29.81 206 P P 16 03 35.0 -0.1
comp=Z,38nm,0.9s
FORT Forrest 29.81 206 P P 16 03 35.1 +0.1
FORT IAmb IAmb 16 04 35.9
comp=Z,129nm,1.2s
PINNC Pines Island, 30.00 130 P P 16 03 36.1 -0.7
PINNC IAmb IAmb 16 03 49.3
comp=Z,212nm,1.5s
SBUM Sibu 31.30 282 P P 16 03 49.0 +0.5
SBUM IAmb IAmb 16 03 50.5
comp=Z,114nm,1.5s
SBUM Sibu 31.30 282 P P 16 03 49.7 +1.2
NGJI Ngawi 31.34 263 P P 16 04 04.1 +15
CAN Canberra 31.41 170 P P 16 03 50.0 +0.8
CAN Canberra 31.41 170 P P 16 03 52.1 +2.9
CAN Canberra 31.41 170 P P 16 03 50.0 +0.8
CAN pmax pmax
comp=Z,48nm,1.1s
CAN Canberra 31.41 170 P P 16 03 51.1 +1.9
CNB Canberra Magne 31.47 170 P P 16 03 52.2 +2.5
PCJI Pacitan 31.69 261 P P 16 03 51.3 -0.6
comp=Z,2µmcomp=Z,206nm,1.1s
WOJI Wonogiri, Jawa 31.91 262 P P 16 03 52.8 -1.0
comp=Z,3µmcomp=Z,227nm,1.4s
MEEK Meekatharra 32.09 224 P P 16 03 56.9 +1.6
UGM Wanagama 32.31 262 P P 16 03 57.3 -0.1
UGM Wanagama 32.31 262 P P 16 03 57.5 +0.1
comp=Z,196nm,1.6s
SMRI Semarang 32.34 264 P P 16 03 58.8 +1.2
SMRI Semarang 32.34 264 P P 16 03 58.2 +0.6
KSM Kuching 32.99 279 IAmb IAmb 16 04 04.9
comp=Z,170nm,1.4s
KSM Kuching 32.99 279 P P 16 04 04.5 +1.2
BRAT Ballarat 33.13 178 P P 16 04 06.5 +2.4
GIRL Giralia 33.14 234 P P 16 04 05.8 +1.3
MGBR Mount Gambier 33.35 183 P P 16 04 07.3 +1.3
KPJI Karang Pucung 33.85 263 P P 16 04 10.5 -0.3
comp=Z,1µmcomp=Z,123nm,1.0s
JOW Kunigami 33.98 336 P P 16 04 11.9 +0.1
JOW Kunigami 33.98 336 P P 16 04 11.8 +0.1
comp=Z,87nm,1.0s,baz=153,slow=7.9,SNR=9.5
JOW LR LR 16 16 44.4
comp=Z,947nm,20.0s,baz=138,slow=34
comp=Z,87nm,1.0s
JOW Kunigami 33.98 336 P P 16 04 13.8 +2.1
YOJ Yonaguni jima 34.47 327 P P 16 04 17.1 +1.1
YULB Yu-li 34.61 324 P P 16 04 16.6 -0.6
YULB IAmb IAmb 16 04 30.1
comp=Z,94nm,1.2s
YULB Yu-li 34.61 324 P P 16 04 19.8 +2.6
TPUB Ta-pu 34.94 323 P P 16 04 20.6 +0.5
NACB Ninganchiao 35.03 325 P P 16 04 21.5 +0.6
SSLB Suanglung 35.11 324 IAmb IAmb 16 04 40.7
comp=Z,91nm,1.2s
SSLB Suanglung 35.11 324 P P 16 04 23.3 +1.7
BBJI Bungbulang 35.12 263 P P 16 04 21.1 -0.8
LEM Lembang 35.12 264 LR LR 16 23 15.6
comp=Z,305nm,18.8s,baz=85,slow=44
TPI Tanjungpandan 35.13 271 P P 16 04 23.0 +1.1
comp=Z,2µmcomp=Z,2µmcomp=Z,122nm,1.4s
MORW Morawa 35.39 223 P P 16 04 25.0 +1.1
YHNB Yeheng 35.54 325 P P 16 04 27.1 +1.8
CNJI Cibinong 35.63 263 P P 16 04 24.8 -1.3
comp=Z,2µmcomp=Z,190nm,1.2s
TATO Taipei 35.72 326 P P 16 04 26.7 0.0
TATO Taipei 35.72 326 P P 16 04 28.1 +1.4
TATO Taipei 35.72 326 P P 16 04 28.1 +1.4
TATO Taipei 35.72 326 P P 16 04 27.2 +0.5
BLDU Ballidu 35.95 220 P P 16 04 29.7 +1.0
DBJI Dramaga 35.98 265 P P 16 04 28.6 -0.6
comp=Z,3µmcomp=Z,101nm,1.1s
GLAD Gladstone 36.84 173 P P 16 04 38.5 +2.4
MSVF Nonsavu 36.98 114⇑ *i*P P 16 04 38.6 +0.9
MSVF pmax pmax
comp=Z,28nm,2.1s
CGJI Cibinong 37.03 265 P P 16 04 36.3 -1.8
comp=Z,1µmcomp=Z,104nm,1.4s
MUN Mundaring 37.17 219 P P 16 04 40.4 +1.3
NWAO Narrogin (SRO) 37.20 217 P P 16 04 39.6 +0.3
NWAO Narrogin (SRO) 37.20 217 P P 16 04 39.5 +0.2
comp=Z,108nm,1.2s,baz=44,slow=8.9,SNR=13
NWAO LR LR 16 21 01.4
comp=Z,2µm,18.9s,baz=62,slow=38
comp=Z,108nm,1.2s
NWAO Narrogin (SRO) 37.20 217 P P 16 04 40.5 +1.2
NWAO Narrogin (SRO) 37.20 217 P P 16 04 40.6 +1.3
NWAO Narrogin (SRO) 37.20 217 P P 16 04 39.6 +0.3
NWAO pmax pmax
comp=Z,183nm,1.3s
NWAO Narrogin (SRO) 37.20 217 P P 16 04 39.0 -0.3
NWAO pP pP 16 04 51.9 -1.7
CORO Coronation Par 37.21 175 P P 16 04 41.7 +2.5
JHJ Hachijo jima 2 37.31 356 LR LR 16 16 59.4
comp=Z,2µm,21.7s,baz=176,slow=31
QZH Quanzhou 37.40 322 P P 16 04 40.5 -0.5
QZH pP pP 16 04 57.3 +2.0
QZH S S 16 10 23.5 -1.9
QZH pmax pmax
comp=Z,230nm,1.4s
QZH pmax pmax
comp=Z,390nm,4.6s
QZH LR LR
comp=Z,680nm,5.8s
QZH LR LR
comp=Z,500nm,9.3s
QZH LR LR
comp=Z,760nm,17.9s
MTKN Mount Kenneth 37.42 220 P P 16 04 43.1 +1.9
MOO Moorlands 38.20 175 P P 16 04 48.7 +1.1

KASI Kota Agung 38.20 267 P P 16 04 46.3 -1.7
comp=Z,1µmcomp=Z,144nm,1.0s
HKPS Hong Kong Po S 38.52 314 P P 16 04 50.6 +0.1
HKPS Hong Kong Po S 38.52 314 P P 16 04 51.7 +1.2
MDSI Maura Dua 38.53 268 P P 16 04 49.9 -0.9
comp=Z,3µmcomp=Z,273nm,1.4s
TPRI Tanjung Pinang 38.61 277 P P 16 04 52.1 +0.6
comp=Z,2µmcomp=Z,37nm,1.0s
LWLI Liwa 38.64 267 P P 16 04 52.0 +0.2
TAU Tasmania Unive 38.67 175 P P 16 04 53.4 +1.9
TAU IAmb IAmb 16 05 06.7
comp=Z,130nm,1.4s
TAU Tasmania Unive 38.67 175 P P 16 04 53.7 +2.2
TAU Tasmania Unive 38.67 175 P P 16 04 53.4 +1.9
TAU pmax pmax
comp=Z,130nm,1.5s
JMN Monobe 38.74 348 P P 16 04 52.3 +0.1
JMN IAmb IAmb 16 04 54.1
comp=Z,114nm,1.0s
JMN Monobe 38.74 348 P P 16 04 53.1 +0.8
JNU Nakatsue 38.88 344 IAmb IAmb 16 04 55.1
comp=Z,115nm,1.1s
JNU Nakatsue 38.88 344 P P 16 04 53.2 -0.3
comp=Z,60nm,0.9s,baz=139,slow=4.4,SNR=22
JNU LR LR 16 19 06.9
comp=Z,556nm,21.4s,baz=162,slow=33
comp=Z,60nm,0.9s
JNU Nakatsue 38.88 344 P P 16 04 54.0 +0.5
LHSI Lahat 39.20 269 P P 16 04 57.5 +1.1
comp=Z,2µmcomp=Z,4µmcomp=Z,177nm,1.2s
MYKOM Kota Tinggi 39.41 278 IAmb IAmb 16 04 59.5
comp=Z,112nm,1.6s
MYKOM Kota Tinggi 39.41 278 P P 16 04 58.7 +0.6
BTDF Bukit Timah Da 39.42 277 P P 16 04 58.6 +0.3
GZH Guangzhou 39.60 315 P P 16 05 01.5 +2.0
GZH S S 16 11 01.8 +3.1
GZH pmax pmax
comp=Z,230nm,1.1s
GZH LR LR
comp=Z,600nm,21.5s
GZH LR LR
comp=Z,430nm,18.5s
INU Inuyama 39.80 353 P P 16 05 00.4 -0.6
INU Inuyama 39.80 353 P P 16 05 01.3 +0.3
QIZ Qiongzhong 39.88 307 IAmb IAmb 16 05 02.7
comp=Z,91nm,1.0s
QIZ Qiongzhong 39.88 307 P P 16 05 01.3 -0.7
QIZ S S 16 11 03.3 +0.2
QIZ pmax pmax
comp=Z,97nm,1.0s
QIZ LR LR
comp=Z,570nm,18.6s
QIZ LR LR
comp=Z,360nm,15.1s
QIZ LR LR
comp=Z,850nm,28.0s
QIZ Qiongzhong 39.88 307 P P 16 05 01.6 -0.4
JGF Kuroka 40.00 353 P P 16 05 02.5 -0.3
KSI Kapahiang 40.13 269 P P 16 05 04.3 0.0
MASI Maura Aman, Be 40.51 270 P P 16 05 07.1 -0.2
comp=Z,3µmcomp=Z,216nm,1.5s
SSE Sheshan 40.79 331 P P 16 05 10.5 +1.2
SSE S S 16 11 19.5 +3.2
SSE pmax pmax
comp=Z,160nm,1.0s
SSE pmax pmax
comp=Z,320nm,3.5s
SSE LR LR
comp=Z,230nm,17.0s
SSE LR LR
comp=Z,140nm,17.0s
SSE Sheshan 40.79 331 P P 16 05 10.1 +0.8
SSE pP pP 16 05 23.2 -0.5
MJAR Matsushiro Arr 40.84 354 P P 16 05 08.8 -0.9
comp=Z,30nm,1.0s,baz=178,slow=7.4,SNR=38
MJAR LR LR 16 20 21.0
comp=Z,803nm,20.6s,baz=143,slow=34
comp=Z,30nm,1.0s
MAJO Matsushiro 40.84 354 P P 16 05 08.2 -1.4
MAJO Matsushiro 40.84 354 P P 16 05 09.0 -0.7
MAJO Matsushiro 40.84 354 *c* *i*P P 16 05 08.7 -1.0
MAJO pmax pmax
comp=Z,61nm,1.1s
MJB9 Matsu-Tunnel 40.84 354 P P 16 05 09.6 -0.1
KRJI Kerinci 41.35 272 P P 16 05 14.3 0.0
OUZ Omahuta 41.91 141 P P 16 05 22.0 +3.5
JMM Marumori 41.98 358 IAmb IAmb 16 05 20.1
comp=Z,113nm,0.9s
JMM Marumori 41.98 358 P P 16 05 19.9 +1.0
BKNI Bangkinang 42.00 275 P P 16 05 21.3 +1.8
BKNI Bangkinang 42.00 275 P P 16 05 20.6 +1.1
comp=Z,144nm,1.1s
JSD Sado 42.32 355 P P 16 05 22.5 +0.8
PDSI Padang 42.44 273 P P 16 05 22.1 -1.1
comp=Z,2µmcomp=Z,28nm,0.6s
PPI Padang Panjang 42.55 274 P P 16 05 23.0 -1.0
comp=Z,2µmcomp=Z,175nm,1.0s
IPM Ipoh 42.65 281 P P 16 05 22.6 -2.3
IPM Ipoh 42.65 281 P P 16 05 25.6 +0.7
NJ2 Nanjing 42.72 329 ⇑P P 16 05 26.5 +1.4
NJ2 pP pP 16 05 38.8 -0.8
NJ2 sP sP 16 05 42.8 -3.2
NJ2 S S 16 11 47.0 +2.1
NJ2 sS sS 16 12 10.5 +1.2
NJ2 pmax pmax
comp=Z,100nm,1.2s
NJ2 pmax pmax
comp=Z,240nm,4.5s
NJ2 LR LR
comp=Z,430nm,19.1s
NJ2 LR LR
comp=Z,280nm,14.9s
NJ2 LR LR
comp=Z,640nm,18.6s
WCZ Waipu Caves 42.84 141 P P 16 05 29.3 +3.3
TJN Taejon 42.96 342 P P 16 05 27.5 +0.6
TJN Taejon 42.96 342 *de*P P 16 05 26.4 -0.5
GULI GuiLin 43.09 315 P P 16 05 30.3 +2.1
GULI sP sP 16 05 47.0 -2.2
GULI S S 16 11 51.5 +0.9
GULI pmax pmax
comp=Z,220nm,1.2s
GULI pmax pmax
comp=Z,250nm,3.3s
GULI LR LR
comp=Z,510nm,21.0s
GULI LR LR
comp=Z,340nm,19.2s
GULI LR LR
comp=Z,450nm,26.0s
KULM Kulim 43.18 282 P P 16 05 27.8 -1.3
KULM Kulim 43.18 282 P P 16 05 30.3 +1.2
CNSH ChangSha 43.25 320 P P 16 05 31.0 +1.6
CNSH S S 16 11 55.0 +2.3
CNSH SS SS 16 15 07.5 -0.3
CNSH pmax pmax
comp=Z,150nm,1.2s
CNSH LR LR
comp=Z,310nm,16.9s
CNSH LR LR
comp=Z,590nm,20.0s
CNSH LR LR
comp=Z,800nm,24.9s
MNSI Mandailing Nat 43.50 276 P P 16 05 31.0 -0.7
KSRS Korea Array 43.78 343 P P 16 05 34.3 +0.8
comp=Z,46nm,0.9s,baz=164,slow=9.6,SNR=179
KSRS PcP PcP 16 07 20.1 +0.7
comp=Z,13nm,1.0s,baz=168,slow=4.3,SNR=7.3
KSRS LR LR 16 22 28.8
comp=Z,382µm,20.1s,baz=160,slow=34
comp=Z,46nm,0.9s
KS19 Wonju Array Si 43.84 343 P P 16 05 34.0 0.0
KS19 IAmb IAmb 16 05 35.7
comp=Z,84nm,1.1s
WHN Wuhan 44.05 324 P P 16 05 37.0 +1.2
WHN pP pP 16 05 49.0 -1.3
WHN S S 16 12 05.8 +1.5
WHN pmax pmax
comp=Z,1µm,2.5s
WHN LR LR
comp=Z,640nm,10.5s
WHN LR LR
comp=Z,440nm,4.7s
WHN LR LR
comp=Z,1µm,22.7s

INCN	**Inchon**	**44.20 341**	P	**P**	**16 05 37.0 +0.1**	HNS		sS	**sS**	**16 13 36.0 -4.2**
INCN	**Inchon**	**44.20 341**	P	**P**	**16 05 37.7 +0.7**	HNS		SS	**SS**	**16 16 46.0 -1.2**
INCN	**Inchon**	**44.20 341**	P	**P**	**16 05 38.4 +1.5**	HNS		pmax	pmax	
INCN	**Inchon**	**44.20 341**	P	**P**	**16 05 37.0 +0.1**		comp=Z,200nm,1.1s			
INCN			pmax	pmax		HNS		LR	LR	
	comp=Z,164nm,1.0s						comp=Z,500nm,19.0s			
INCN	**Inchon**	**44.20 341**	P	**P**	**16 05 37.6 +0.7**	HNS		LR	LR	
INCN			pP	**pP**	**16 05 50.6 -0.9**		comp=Z,470nm,16.1s			
PSI	**Prapat**	**44.43 278**	LR	LR	16 26 42.6	HNS		LR	LR	
	comp=Z,482nm,21.6s,baz=100,slow=39						comp=Z,730nm,21.8s			
RAO	**Raoul Island**	**44.70 128**	LR	LR	16 22 41.5	**SNY**	**Shenyang**	**49.13 341**	⇑P	**P**	**16 06 16.0 +0.7**
	comp=Z,726nm,21.9s,baz=284,slow=34					SNY			S	**S**	**16 13 17.0 +0.4**
JTM	**Tenmabayashi**	**44.88 358**	P	**P**	**16 05 42.1 -0.2**	SNY			pmax	pmax	
JTM	**Tenmabayashi**	**44.88 358**	P	**P**	**16 05 43.5 +1.3**		comp=Z,100nm,1.0s				
SURA	**Surathani**	**45.08 287**	P	**P**	**16 05 44.7 +0.4**	SNY			pmax	pmax	
GSI	**Gunungsitoli**	**45.55 276**	P	**P**	**16 05 45.8 -2.2**		comp=Z,270nm,4.7s				
GSI			lAmb	lAmb	16 05 47.8	SNY			LR	LR	
	comp=Z,213nm,1.8s						comp=Z,340nm,17.1s				
KCSI	**Kotacane, Aceh**	**45.68 279**	P	**P**	**16 05 47.7 -1.4**	SNY			LR	LR	
JCZ	**Jackson Bay**	**45.76 154**	P	**P**	**16 05 52.7 +3.4**		comp=Z,480nm,17.5s				
JCZ	**Jackson Bay**	**45.76 154**	P	**P**	**16 05 53.0 +3.7**	SNY			LR	LR	
SLVN	**Son La**	**45.85 305**	P	**P**	**16 05 51.4 +1.1**		comp=Z,590nm,18.9s				
NNZ	**Nelson**	**45.85 148**	P	**P**	**16 05 52.8 +2.8**	**USRK**	**Ussuriysk Ar.**	**49.24 350**	P	**P**	**16 06 17.4 +1.2**
MSZ	**Milford Sound**	**45.87 155**	P	**P**	**16 05 54.2 +4.1**		comp=Z,109nm,0.7s,baz=172,slow=7.4,SNR=206				
THZ	**Tophouse**	**45.99 149**	P	**P**	**16 05 54.3 +3.1**		comp=Z,109nm,0.7s				
URZ	**Urewera**	**46.02 142**	LR	LR	16 23 57.3	**TEY**	**Ternei**	**49.41 354**	⇑*e*P	**P**	**16 06 17.5 +0.1**
	comp=Z,1µm,20.9s,baz=312,slow=34					TEY			pmax	pmax	
URZ	**Urewera**	**46.02 142**	P	**P**	**16 05 53.3 +1.9**		comp=N,10.0nm,1.2s				
COCO	**West Island**	**46.13 257**	P	**P**	**16 05 54.8 +2.2**	TEY			pmax	pmax	
COCO	**West Island**	**46.13 257**	P	**P**	**16 05 54.2 +1.6**		comp=Z,200nm,1.2s				
HAZ	**Te Kaha**	**46.13 141**	P	**P**	**16 05 55.1 +2.8**	TEY			pmax	pmax	
RTZ	**Ruatahuna**	**46.17 142**	lAmb	lAmb	16 06 12.9		comp=E,10.0nm,1.5s				
	comp=Z,75nm,0.7s					**XAN**	**Xi'an**	**49.76 323**	⇑P	**P**	**16 06 20.5 +0.1**
RTZ	**Ruatahuna**	**46.17 142**	P	**P**	**16 05 55.1 +2.5**	XAN			pP	pP	16 06 30.8 -4.4
RUGZ	**Raukumara Rang**	**46.19 141**	P	**P**	**16 05 55.8 +3.0**	XAN			S	**S**	**16 13 27.5 +1.7**
DCZ	**Deep Cove**	**46.20 156**	P	**P**	**16 05 52.5 -0.1**	XAN			pmax	pmax	
DCZ			lAmb	lAmb	16 05 56.0		comp=E,180nm,1.1s				
	comp=Z,135nm,1.2s					XAN			pmax	pmax	
BKZ	**Black Stump Fm**	**46.22 143**	P	**P**	**16 05 54.0 +1.0**		comp=E,610nm,3.6s				
BKZ			lAmb	lAmb	16 06 13.0	XAN			LR	LR	
	comp=Z,61nm,0.9s						comp=E,520nm,23.8s				
BKZ	**Black Stump Fm**	**46.22 143**	P	**P**	**16 05 56.6 +3.6**	XAN			LR	LR	
BKZ	**Black Stump Fm**	**46.22 143**	P	**P**	**16 05 55.2 +2.2**		comp=E,380nm,22.6s				
MTHZ	**Maungataniwha**	**46.23 143**	P	**P**	**16 05 55.1 +2.0**	XAN			LR	LR	
MWZ	**Matawai**	**46.33 142**	P	**P**	**16 05 56.3 +2.4**		comp=E,620nm,24.6s				
NMHZ	**Naumai**	**46.37 143**	P	**P**	**16 05 57.1 +2.9**	**MDJ**	**Mudanjiang**	**50.10 348**	lAmb	lAmb	16 06 24.6
LOEI	**Loei**	**46.38 299**	P	**P**	**16 05 52.8 -1.7**		comp=Z,66nm,0.8s				
LTZ	**Lake Taylor**	**46.41 150**	P	**P**	**16 05 56.9 +2.5**	**MDJ**	**Mudanjiang**	**50.10 348**	P	**P**	**16 06 23.3 +0.5**
RAHZ	**Arahi**	**46.42 143**	P	**P**	**16 05 56.8 +2.3**	MDJ			S	**S**	**16 13 32.5 +2.3**
GYA	**Guiyang**	**46.46 313**	⇑P	**P**	**16 05 56.8 +1.7**	MDJ			pmax	pmax	
GYA			pP	pP	16 06 12.5 +2.7		comp=Z,100nm,1.1s				
GYA			S	**S**	**16 12 42.0 +2.5**	MDJ			LR	LR	
GYA			sS	sS	16 13 02.8 -1.4		comp=Z,870nm,23.7s				
GYA			pmax	pmax		MDJ			LR	LR	
	comp=Z,200nm,1.2s						comp=Z,380nm,19.9s				
GYA			LR	LR		MDJ			LR	LR	
	comp=Z,430nm,21.6s						comp=Z,1µm,21.3s				
SNGZ	**Shannon Statio**	**46.49 142**	P	**P**	**16 05 57.2 +2.1**	**MDJ**	**Mudanjiang**	**50.10 348**	P	**P**	**16 06 24.0 +1.2**
TSZ	**Takapari Road**	**46.49 145**	P	**P**	**16 05 57.6 +2.5**	**PZH**	**PanZhiHua**	**50.16 310**	P	**P**	**16 06 24.0 +0.3**
MLZ	**Mavora Lakes**	**46.51 155**	P	**P**	**16 05 56.9 +1.8**	PZH			S	**S**	**16 13 32.0 +0.2**
MLZ	**Mavora Lakes**	**46.51 155**	P	**P**	**16 05 57.7 +2.5**	PZH			ScS	**ScS**	**16 16 10.5 0.0**
RPZ	**Rata Peaks**	**46.51 152**	LR	LR	16 25 14.9	PZH			pmax	pmax	
	comp=Z,878nm,18.0s,baz=322,slow=36						comp=Z,110nm,1.1s				
RPZ	**Rata Peaks**	**46.51 152**	P	**P**	**16 05 58.0 +2.8**	PZH			pmax	pmax	
PUZ	**Puketiti**	**46.62 141**	P	**P**	**16 05 58.1 +2.0**		comp=Z,330nm,3.5s				
MRZ	**Mangatainoka R**	**46.67 146**	P	**P**	**16 05 57.7 +1.2**	PZH			LR	LR	
KHZ	**Kahutara**	**46.79 149**	P	**P**	**16 05 58.9 +1.7**		comp=Z,240nm,22.0s				
ENH	**Enshi**	**46.88 319**	P	**P**	**16 05 59.1 +0.9**	PZH			LR	LR	
TIA	**Tai'an**	**46.91 331**	P	**P**	**16 05 58.5 +0.1**		comp=Z,310nm,24.7s				
TIA			S	**S**	**16 12 45.8 +0.3**	PZH			LR	LR	
TIA			SS	**SS**	**16 16 09.3 -3.7**		comp=Z,420nm,24.5s				
TIA			pmax	pmax		**CN2**	**Changchun**	**50.36 344**	P	**P**	**16 06 25.3 +0.6**
	comp=Z,130nm,1.1s					CN2			pP	pP	16 06 41.0 +1.5
TIA			pmax	pmax		CN2			S	**S**	**16 13 33.5 -0.2**
	comp=Z,370nm,4.9s					CN2			pmax	pmax	
TIA			LR	LR			comp=Z,80nm,1.0s				
	comp=Z,460nm,22.4s					CN2			pmax	pmax	
TIA			LR	LR			comp=Z,500nm,4.0s				
	comp=Z,380nm,23.7s					CN2			LR	LR	
TIA			LR	LR			comp=Z,700nm,20.0s				
	comp=Z,830nm,22.9s					CN2			LR	LR	
GVZ	**Greta Valley S**	**46.93 150**	P	**P**	**16 06 01.5 +3.1**		comp=Z,600nm,20.0s				
PXZ	**Pawanui**	**47.00 144**	P	**P**	**16 06 01.0 +2.0**	CN2			LR	LR	
BFZ	**Birch Farm**	**47.07 145**	P	**P**	**16 06 00.8 +1.2**		comp=Z,600nm,18.0s				
MLSI	**Meulaboh, Aceh**	**47.15 280**	P	**P**	**16 06 00.0 -0.6**	**TIY**	**Taiyuan**	**50.43 329**	P	**P**	**16 06 25.3 -0.1**
	comp=Z,3µmcomp=Z,246nm,1.3s					TIY			S	**S**	**16 13 35.8 +0.7**
DL2	**Dalian**	**47.23 337**	P	**P**	**16 06 01.5 +0.7**	TIY			pmax	pmax	
DL2			S	**S**	**16 12 50.0 +0.2**		comp=Z,42nm,0.8s				
DL2			pmax	pmax		TIY			LR	LR	
	comp=Z,77nm,1.1s						comp=Z,720nm,21.8s				
DL2			pmax	pmax		TIY			LR	LR	
	comp=Z,280nm,5.1s						comp=Z,320nm,23.9s				
DL2			LR	LR		TIY			LR	LR	
	comp=Z,370nm,20.8s						comp=Z,810nm,22.4s				
DL2			LR	LR		**BJT**	**Baijiatuau**	**50.44 333**	P	**P**	**16 06 26.1 +0.8**
	comp=Z,450nm,20.8s					**BJT**	**Baijiatuau**	**50.44 333**	P	**P**	**16 06 25.5 +0.2**
DL2			LR	LR		**BJI**	**Beijing**	**50.45 333**	P	**P**	**16 06 25.5 +0.1**
	comp=Z,590nm,19.8s					BJI			pP	**pP**	**16 06 41.5 +1.3**
TUZ	**Tuapeka**	**47.62 155**	P	**P**	**16 06 05.1 +1.4**	BJI			sP	**sP**	**16 06 48.5 +1.9**
MSHR	**Mys Shultsa**	**47.83 348**	*ce*P	**P**	**16 06 06.2 +0.9**	BJI			PP	**PP**	**16 08 23.5 +1.9**
MSHR			pmax	pmax		BJI			S	**S**	**16 13 35.0 -0.1**
	comp=Z,61nm,0.7s					BJI			pmax	pmax	
LYN	**LuoYang**	**48.06 326**	P	**P**	**16 06 07.5 +0.2**		comp=Z,74nm,1.3s				
LYN			pP	pP	16 06 19.8 -2.2	BJI			LR	LR	
LYN			PP	**PP**	**16 08 03.3 +3.4**		comp=Z,270nm,20.0s				
LYN			S	**S**	**16 13 00.3 -1.4**	BJI			LR	LR	
LYN			SS	**SS**	**16 16 27.8 -3.8**		comp=Z,130nm,17.7s				
LYN			pmax	pmax		BJI			LR	LR	
	comp=Z,210nm,0.7s						comp=Z,390nm,18.6s				
LYN			pmax	pmax		**YSS**	**Yuzhno-Sakhali**	**51.02 360**	P	**P**	**16 06 29.6 +0.1**
	comp=Z,270nm,4.5s					**YSS**	**Yuzhno-Sakhali**	**51.02 360**	P	**P**	**16 06 30.7 +1.1**
LYN			LR	LR		**YSS**	**Yuzhno-Sakhali**	**51.02 360**	*e*P	**P**	**16 06 29.9 +0.3**
	comp=Z,710nm,16.7s					YSS			*e**PP	**pP**	**16 06 41.6 -2.8**
LYN			LR	LR		YSS			eS	**S**	**16 13 40.5 -2.2**
	comp=Z,430nm,15.9s					YSS			*e*		16 16 14.6
LYN			LR	LR		YSS			pmax	pmax	
	comp=Z,1µm,22.2s						comp=Z,80nm,0.8s				
ASAJ	**Asahikawa**	**48.18 360**	P	**P**	**16 06 08.7 +0.6**	YSS			smax	smax	
	comp=Z,42nm,0.8s,baz=232,slow=9.9,SNR=18						comp=N,400nm,4.0s				
	comp=Z,42nm,0.8s					YSS			smax	smax	
VLA	**Vladivostok**	**48.21 349**	*d i*P	**P**	**16 06 09.4 +1.1**		comp=E,500nm,6.5s				
VLA			pmax	pmax		YSS			MLR	MLR	
	comp=Z,103nm,1.0s						comp=N,700nm,17.0s				
KMI	**Kunming**	**48.67 309**	⇑P	**P**	**16 06 14.0 +1.5**	YSS			MLR	MLR	
KMI			pP	pP	16 06 30.0 +2.8		comp=Z,800nm,17.0s				
KMI			PP	**PP**	**16 08 06.5 +0.5**	**CD2**	**Chengdu**	**51.13 316**	P	**P**	**16 06 31.5 +0.7**
KMI			S	**S**	**16 13 13.0 +1.8**	CD2			pP	pP	16 06 46.0 +0.4
KMI			sS	sS	16 13 37.3 +1.2	CD2			S	**S**	**16 13 47.0 +2.0**
KMI			ScS	**ScS**	**16 16 02.0 +1.3**	CD2			sS	sS	16 14 07.3 -2.6
KMI			pmax	pmax			comp=Z,350nm,0.8s		pmax	pmax	
	comp=Z,220nm,1.3s					CD2			pmax	pmax	
KMI			LR	LR			comp=Z,350nm,3.5s				
	comp=Z,170nm,19.2s					CD2			LR	LR	
KMI			LR	LR			comp=Z,580nm,18.0s				
	comp=Z,190nm,20.7s					CD2			LR	LR	
KMI			LR	LR			comp=Z,670nm,16.5s				
	comp=Z,650nm,22.0s					**JOHN**	**Johnston Islan**	**51.50 65**	P	**P**	**16 06 37.1 +3.4**
CM31	**Chiang Mai Arr**	**48.78 299**	P	**P**	**16 06 12.6 -0.6**	**BNX**	**BinXian**	**51.66 346**	⇑P	**P**	**16 06 34.5 +0.1**
CM31			lAmb	lAmb	16 06 15.0	BNX			pP	**pP**	**16 06 46.8 -2.5**
	comp=Z,72nm,0.9s					BNX			sP	**sP**	**16 06 52.5 -3.2**
CM31	**Chiang Mai Arr**	**48.78 299**	P	**P**	**16 06 13.7 +0.5**	BNX			S	**S**	**16 13 50.8 -0.9**
CMAR	**Chiang Mai Arr**	**48.78 299**	P	**P**	**16 06 13.9 +0.8**	BNX			sS	**sS**	**16 14 12.0 -4.8**
	comp=Z,44nm,0.9s,baz=122,slow=6.1,SNR=216					BNX			pmax	pmax	
CMAR			LR	LR	16 27 00.7		comp=Z,300nm,1.0s				
	comp=Z,185nm,21.3s,baz=105,slow=36					BNX			LR	LR	
	comp=Z,44nm,0.9s						comp=Z,400nm,17.0s				
CMAR	**Chiang Mai Arr**	**48.78 299**	*i* P	**P**	**16 06 13.5 +0.4**	BNX			LR	LR	
CMAR			pmax	pmax			comp=Z,370nm,14.9s				
	comp=Z,48nm,0.9s					BNX			LR	LR	
CHTO	**Chiang Mai**	**48.92 299**	P	**P**	**16 06 14.1 -0.1**		comp=Z,680nm,18.8s				
CHTO			lAmb	lAmb	16 06 15.7	**TNCH**	**TengChong**	**51.96 306**	⇑P	**P**	**16 06 37.8 +0.5**
	comp=Z,58nm,1.0s					TNCH			pP	pP	16 06 48.0 -4.1
CHTO	**Chiang Mai**	**48.92 299**	P	**P**	**16 06 13.9 -0.3**	TNCH			sP	sP	16 06 54.5 -4.0
CHTO	**Chiang Mai**	**48.92 299**	P	**P**	**16 06 14.5 +0.3**	TNCH			PP	**PP**	**16 08 36.0 +0.2**
CHTO	**Chiang Mai**	**48.92 299**	P	**P**	**16 06 14.1 -0.1**	TNCH			S	**S**	**16 13 57.3 +0.5**
CHTO			pmax	pmax		TNCH			ScS	**ScS**	**16 16 19.0 -4.1**
	comp=Z,58nm,1.0s					TNCH			pmax	pmax	
CHTO	**Chiang Mai**	**48.92 299**	P	**P**	**16 06 14.3 +0.1**		comp=Z,170nm,1.2s				
CHTO			pP	**pP**	**16 06 29.0 0.0**	TNCH			LR	LR	
CHTO			PcP	**PcP**	**16 07 38.7 +0.7**		comp=Z,180nm,19.3s				
HNS	**HongShan**	**49.03 330**	⇑P	**P**	**16 06 15.0 +0.3**	TNCH			LR	LR	
HNS			pP	**pP**	**16 06 27.3 -2.2**		comp=Z,170nm,21.3s				
HNS			ScP	**ScP**	**16 11 31.5 +3.0**	TNCH			LR	LR	
HNS			S	**S**	**16 13 16.0 +0.6**		comp=Z,660nm,26.9s				
						HHC	**Hu-ho-hao-te**	**53.25 331**	⇑*i*P	**P**	**16 06 47.3 +0.9**
						HHC			S	**S**	**16 14 13.8 0.0**
						HHC			pmax	pmax	
							comp=Z,93nm,1.1s				
						HHC			pmax	pmax	
							comp=Z,220nm,6.7s				
						HHC			LR	LR	
							comp=Z,410nm,18.5s				
						HHC			LR	LR	
							comp=Z,190nm,10.9s				
						HHC			LR	LR	
							comp=Z,570nm,20.5s				
						XLT	**XiLinHaoTe**	**53.66 336**	*e*P	**P**	**16 06 49.5 +0.1**
						XLT			S	**S**	**16 14 20.3 +1.0**
						XLT			pmax	pmax	
							comp=Z,40nm,1.2s				
						XLT			pmax	pmax	
							comp=Z,140nm,5.2s				
						XLT			LR	LR	
							comp=Z,440nm,18.4s				
						XLT			LR	LR	
							comp=Z,530nm,20.8s				
						BTO	**Baotou**	**53.84 329**	*e*P	**P**	**16 06 52.5 +1.8**
						BTO			pP	**pP**	**16 07 08.3 +2.6**
						BTO			sP	**sP**	**16 07 15.5 +3.5**
						BTO			PP	**PP**	**16 08 56.5 +4.1**
						BTO			S	**S**	**16 14 23.8 +2.1**
						BTO			sS	**sS**	**16 14 50.0 +3.4**
						BTO			SS	**SS**	**16 18 04.5 +0.9**
						BTO			pmax	pmax	
							comp=Z,190nm,1.2s				
						BTO			pmax	pmax	
							comp=Z,920nm,4.5s				
						BTO			LR	LR	
							comp=Z,2µm,21.4s				
						BTO			LR	LR	
							comp=Z,970nm,17.5s				
						BTO			LR	LR	
							comp=Z,2µm,23.6s				
						LZH	**Lanzhou**	**54.24 321**	⇑P	**P**	**16 06 55.0 +1.2**
						LZH			pP	pP	16 07 10.0 +1.2
						LZH			sP	sP	16 07 16.5 +1.4
						LZH			S	**S**	**16 14 27.3 -0.1**
						LZH			sS	sS	16 14 50.3 -2.4
						LZH			pmax	pmax	
							comp=Z,210nm,1.3s				
						LZH			pmax	pmax	
							comp=Z,510nm,4.2s				
						LZH			LR	LR	
							comp=Z,340nm,14.8s				
						LZH			LR	LR	
							comp=Z,370nm,14.8s				
						LZH			LR	LR	
							comp=Z,710nm,15.1s				
						LZDM	**Lanzhou Array**	**54.25 321**	P	**P**	**16 06 55.0 +1.0**
							comp=Z,19nm,0.7s,baz=140,slow=9.7,SNR=12				
						LZDM			LR	LR	16 28 21.5
							comp=Z,223nm,21.6s,baz=20,slow=34				
							comp=Z,19nm,0.7s				
						TYV	**Tymovskoe**	**54.93 360**	*e*P	**P**	**16 06 58.7 +0.4**
						TYV			pmax	pmax	
							comp=Z,16nm,0.9s				
						TYV			pmax	pmax	
							comp=Z,600nm,4.0s				
						GRNR	**Gornyy**	**55.11 355**	⇑*i*P	**P**	**16 07 00.5 +0.8**
						GRNR			pmax	pmax	
							comp=Z,20nm,0.9s				
						IMP	**Imphal**	**55.60 304**	*e*P	**P**	**16 06 59.3 -4.5**
						IMP			lAmb	lAmb	16 07 05.7
							comp=Z,51nm,0.9s				
						KOHI	**KOHIMA**	**55.84 305**	*e*P	**P**	**16 07 00.9 -4.6**
						HEH	**HeiHe**	**55.93 348**	*e*P	**P**	**16 07 05.3 -0.2**
						HEH			sP	**pP**	**16 07 23.5 +3.0**
						HEH			S	**S**	**16 14 47.3 -1.9**
						HEH			pmax	pmax	
							comp=Z,71nm,1.2s				
						HEH			pmax	pmax	
							comp=Z,400nm,3.7s				
						HEH			LR	LR	
							comp=Z,730nm,23.2s				
						HEH			LR	LR	
							comp=Z,460nm,21.2s				
						HEH			LR	LR	
							comp=Z,1µm,22.3s				
						JORH	**JORHAT**	**56.16 306**	*e*P	**P**	**16 07 03.3 -4.3**
						AZL	**Aizawl**	**56.21 302**	*e*P	**P**	**16 07 03.8 -4.5**
						AZL			lAmb	lAmb	16 07 09.6
							comp=Z,217nm,1.1s				
						BRDH	**Bariadhala**	**56.70 301**	LR	LR	16 33 15.1
							comp=Z,123nm,20.9s,baz=146,slow=38				
						ZIRO	**ZIRO**	**56.82 307**	*e*P	**P**	**16 07 08.2 -4.4**
						HIA	**Hailar**	**56.98 342**	lAmb	lAmb	16 07 31.7
							comp=Z,66nm,1.2s				
						HIA	**Hailar**	**56.98 342**	P	**P**	**16 07 13.9 +0.8**
						HIA	**Hailar**	**56.98 342**	P	**P**	**16 07 13.2 +0.1**
						HIA			PcP	**PcP**	**16 08 07.6 -0.2**
						BELO	**BELONIA**	**57.08 301**	*e*P	**P**	**16 07 09.9 -4.3**
						TEZP	**TEZPUR**	**57.28 305**	*e*P	**P**	**16 07 11.2 -4.4**
						TEZP			lAmb	lAmb	16 07 17.0
							comp=Z,142nm,1.0s				
						AGT	**Agartala**	**57.49 302**	*e*P	**P**	**16 07 12.8 -4.3**
						SHL	**Shillong**	**57.61 304**	P	**P**	**16 07 18.8 +0.6**
						SHL	**Shillong**	**57.61 304**	*e*P	P	16 07 12.8 -5.3
						SHL			lAmb	lAmb	16 07 19.6
							comp=Z,212nm,1.2s				
						GUWA	**GUWAHATI**	**58.01 304**	*e*P	**P**	**16 07 16.4 -4.3**
						GUWA			lAmb	lAmb	16 07 22.1
							comp=Z,122nm,0.8s				
						RAR	**Rarotonga**	**58.13 112**	LR	LR	16 30 51.6
							comp=Z,181nm,20.8s,baz=274,slow=34				
						PETK	**Petropavlovsk-**	**58.54 10**	P	**P**	**16 07 24.7 +0.7**
							comp=Z,21nm,0.8s,baz=168,slow=6.5,SNR=25				
						PETK			LR	LR	16 28 14.8
							comp=Z,432nm,21.8s,baz=198,slow=32				
							comp=Z,21nm,0.8s				
						PET	**Petropavlovsk**	**58.64 11**	*e*P	**P**	**16 07 24.9 +0.3**
						PET			*e**PP	**pP**	**16 07 36.8 -2.9**
						PET			*e**SP	**sP**	**16 07 43.5 -2.5**
						PET			*e*S	**S**	**16 15 29.1 +4.4**
						PET			pmax	pmax	
							comp=Z,12nm,0.8s				
						PET			MLR	MLR	
							comp=Z,400nm,19.0s				
						GTA	**Gaotai**	**58.80 322**	P	**P**	**16 07 27.8 +1.6**
						GTA			sP	sP	16 07 45.0 -2.6
						GTA			S	**S**	**16 15 29.5 +1.9**
						GTA			sS	sS	16 15 51.8 -1.5
						GTA			pmax	pmax	
							comp=Z,77nm,1.5s				
						GTA			pmax	pmax	
							comp=Z,370nm,8.5s				
						GTA			LR	LR	
							comp=Z,190nm,15.3s				
						GTA			LR	LR	
							comp=Z,200nm,17.1s				
						GTA			LR	LR	
							comp=Z,350nm,16.0s				
						ZEA	**Zeya**	**59.27 349**	*e*P	**P**	**16 07 29.4 +0.5**
						ZEA			pmax	pmax	
							comp=N,40nm,1.2s				
						ZEA			pmax	pmax	
							comp=Z,100nm,1.3s				
						ZEA			pmax	pmax	
							comp=Z,300nm,4.2s				
						LSA	**Lhasa**	**59.90 308**	P	**P**	**16 07 33.3 -1.1**
						LSA			pmax	pmax	
							comp=Z,120nm,1.1s				
						LSA			LR	LR	
							comp=Z,170nm,21.6s				
						LSA			LR	LR	
							comp=Z,170nm,27.5s				
						LSA	**Lhasa**	**59.90 308**	P	**P**	**16 07 35.7 +1.4**
						LSA	**Lhasa**	**59.90 308**	P	**P**	**16 07 35.8 +1.4**
						LSA			pP	**pP**	**16 07 49.4 -0.1**
						GOMU	**GeErMu**	**60.26 316**	P	**P**	**16 07 37.5 +0.9**
						GOMU			pP	pP	16 07 51.3 -0.5
						GOMU			sP	sP	16 07 57.3 -0.8
						GOMU			PcP	**PcP**	**16 08 22.5 +1.0**
						GOMU			S	**S**	**16 15 48.3 +1.2**
						GOMU			SS	**SS**	**16 19 46.0 +0.6**
						GOMU			pmax	pmax	
							comp=Z,47nm,1.1s				
						GOMU			pmax	pmax	
							comp=Z,190nm,5.4s				
						GOMU			LR	LR	
							comp=Z,190nm,20.2s				

GOMU LR LR
comp=Z,180nm,19.5s
GOMU LR LR
comp=Z,430nm,21.5s
ULN Ulaanbaatar 60.66 333 P **P** **16 07 39.0 +0.1**
ULN Ulaanbaatar 60.66 333 P **P** **16 07 39.5 +0.7**
ULN Ulaanbaatar 60.66 333*c iP* **P** **16 07 39.6 +0.7**
ULN pmax pmax
comp=Z,81nm,1.3s
SONM Songino Array 60.94 333 P **P** **16 07 41.3 +0.7**
comp=Z,23nm,1.1s,baz=152,slow=8.1,SNR=74
SONM LR LR 16 34 17.2
comp=Z,674nm,19.6s,baz=132,slow=36
SONM PKP2bc 16 37 07.5
comp=Z,9.9nm,1.0s,baz=286,slow=1.2,SNR=21
comp=Z,23nm,1.1s
BWNR Bhubaneshwar 61.05 296 *eP* **P** **16 07 37.4 -4.4**
BWNR IAmb IAmb 16 07 43.5
comp=Z,86nm,0.9s
CIT Chita 61.37 340 *eP* **P** **16 07 44.4 +1.0**
CIT *e* 16 07 56.0
CIT *e* 16 08 25.4
CIT *e* 16 16 01.0
CIT pmax pmax
comp=Z,246nm,1.9s
BOK Bokaro 62.06 300 *eP* **P** **16 07 44.3 -4.2**
BOK IAmb IAmb 16 07 50.7
comp=Z,74nm,1.1s
DRV Dumont d'Urvil 62.30 181 P **P** **16 07 50.0 +0.7**
SHEM Shemya Is, Ala 62.65 21 LR LR 16 31 58.4
comp=Z,664nm,19.6s,baz=239,slow=33
GAYA Gaya 62.95 301 *eP* **P** **16 07 50.2 -4.3**
GAYA IAmb IAmb 16 07 56.3
comp=Z,142nm,1.0s
PALK Pallekele 63.05 280 P **P** **16 07 55.2 -0.2**
PALK IAmb IAmb 16 08 13.7
comp=Z,84nm,1.1s
PALK Pallekele 63.05 280 LR LR 16 38 49.4
comp=Z,160nm,21.4s,baz=106,slow=39
PALK Pallekele 63.05 280 P **P** **16 07 56.2 +0.8**
PALK Pallekele 63.05 280 P **P** **16 07 55.2 -0.2**
PALK pmax pmax
comp=Z,84nm,1.2s
KIP Kipapa 63.30 64*de*P **P** **16 07 58.8 +2.0**
KIP pmax pmax
comp=Z,25nm,0.9s
MA2 Magadan 63.97 4 P **P** **16 08 01.4 +0.9**
comp=Z,23nm,0.8s,baz=171,slow=8.3,SNR=5.4
MA2 LR LR 16 33 32.0
comp=Z,132nm,21.5s,baz=194,slow=34
comp=Z,23nm,0.8s
ZAK Zakamensk 64.19 333 *eP* **P** **16 08 02.1 -0.2**
ZAK pmax pmax
comp=Z,94nm,1.4s
IRK Irkutsk 65.10 335 *eP* **P** **16 08 06.5 -1.6**
IRK pmax pmax
comp=Z,86nm,2.9s
ADK Adak 65.68 26 P **P** **16 08 13.6 +1.9**
CASY Casey 65.86 194 P **P** **16 08 13.2 +0.5**
CASY IAmb IAmb 16 08 30.7
comp=Z,74nm,1.1s
ALBI Allahabad 66.06 300 *eP* **P** **16 08 10.6 -4.1**
ALBI IAmb IAmb 16 08 15.9
comp=Z,125nm,0.9s
BOD Bodaibo 66.11 344 *eP* **P** **16 08 13.2 -1.2**
BOD pmax pmax
comp=Z,66nm,1.6s
MOY Mondy 66.12 333 *eP* **P** **16 08 15.4 +0.6**
MOY pmax pmax
comp=Z,104nm,2.1s
YAK Yakutsk 66.89 353 P **P** **16 08 19.0 -0.3**
YAK Yakutsk 66.89 353 P **P** **16 08 19.3 0.0**
comp=Z,26nm,0.6s,baz=72,slow=4.0,SNR=18
YAK LR LR 16 36 01.1
comp=Z,525nm,19.9s,baz=170,slow=34
comp=Z,26nm,0.6s
YAK Yakutsk 66.89 353 *eP* **P** **16 08 19.4 0.0**
YAK *e**PP **pP** **16 08 36.5 +1.8**
YAK *e* 16 10 45.7
YAK *e*S **S** **16 17 10.2 +2.4**
YAK *e**SS **pS** **16 17 28.9 +2.5**
YAK *e*SS **SS** **16 21 29.4 +2.2**
YAK pmax pmax
comp=Z,63nm,1.3s
YAK pmax pmax
comp=N,30nm,1.2s
YAK pmax pmax
comp=E,11nm,1.5s
YAK pmax pmax
comp=Z,451nm,4.1s
YAK pmax pmax
comp=E,102nm,3.2s
YAK pmax pmax
comp=N,331nm,4.3s
YAK smax smax
comp=N,129nm,2.2s
YAK smax smax
comp=E,435nm,3.8s
YAK Yakutsk 66.89 353 P **P** **16 08 19.3 0.0**
YAK PcP **PcP** **16 08 47.4 -0.2**
HYB Hyderabad 66.97 291 *eP* **P** **16 08 20.5 -0.2**
HYB *ep*P **pP** **16 08 35.3 -0.8**
HYB *eS* **S** **16 17 10.5 +0.1**
ATKA Atka Island 67.01 27 P **P** **16 08 24.1 +3.8**
KNGR Kungurtug, Tuv 67.06 331↓↓*eP* **P** **16 08 20.7 -0.1**
KNGR pmax pmax
comp=Z,49nm,1.0s
PPT Papeete 67.37 107 LR LR 16 35 15.3
comp=Z,124nm,19.5s,baz=280,slow=34
PPT2 Papeete2 67.37 107 *e*PKIKP **P** **16 08 21.6 -1.8**
comp=Z,88nm,23.2s
PPT2 *eS* **S** **16 17 07.3 -8.1**
comp=Z,251nm,25.0s
PPT2 *eSS* **SS** **16 21 28.6 -7.8**
comp=Z,171nm,30.0s
PPT2 *eLQ* LQ 16 25 46.3
comp=Z,1µm,38.2s
PPT2 *eLR* LR 16 28 43.7
comp=Z,436nm,25.8s
PPT2 *eLR* LR 16 28 46.7
comp=Z,297nm,31.2s
SEY Seymchan 67.42 5 P **P** **16 08 23.1 +0.5**
comp=Z,12nm,0.8s,baz=172,slow=5.3,SNR=14
comp=Z,12nm,0.8s
SEY Seymchan 67.42 5↓↓*eP* **P** **16 08 23.4 +0.7**
SEY pmax pmax
comp=Z,29nm,1.7s
TBI Tubuai 67.87 113 *eS* **S** **16 17 15.8 -5.2**
comp=Z,1µm,27.8s
TBI *eSS* **SS** **16 21 40.7 -3.0**
comp=Z,760nm,40.8s
TBI *eLQ* LQ 16 26 07.9
comp=Z,6µm,37.2s
TBI *eLR* LR 16 29 02.5
comp=Z,6µm,36.2s
AIS Amsterdam Isla 67.92 231 P **P** **16 08 26.5 +0.1**
PTH Pithoragarh 68.69 304 *eP* **P** **16 08 27.5 -4.1**
PTH IAmb IAmb 16 08 33.6
comp=Z,95nm,0.9s
WMQ Urumqi 68.81 320 *eP* **P** **16 08 32.0 +0.1**
WMQ S **S** **16 17 33.5 +1.9**
WMQ pmax pmax
comp=Z,63nm,1.1s
WMQ pmax pmax
comp=Z,320nm,4.5s
WMQ LR LR
comp=Z,340nm,16.5s
WMQ LR LR
comp=Z,240nm,16.5s
WMQ LR LR
comp=Z,220nm,21.3s
BHPL Bhopal 69.34 297 *eP* **P** **16 08 31.1 -4.4**
BHPL IAmb IAmb 16 08 36.2
comp=Z,35nm,0.9s
JOSI Joshimath 69.55 305 *eP* **P** **16 08 32.5 -4.4**
NIKH Nikolski High 70.00 29 P **P** **16 08 41.6 +2.7**
NIKH Nikolski High 70.00 29 P **P** **16 08 39.6 +0.6**
baz=232
DDI Dehra Dun 70.71 304 *eP* **P** **16 08 39.6 -4.2**
KLP Kalpa 70.91 305 *eP* **P** **16 08 40.9 -4.5**
NDI New Delhi 70.95 302 *eP* **P** **16 08 41.6 -3.7**
NDI IAmb IAmb 16 08 45.4
comp=Z,98nm,0.8s
AYAN Aya Nagar 70.97 302 *eP* **P** **16 08 41.4 -4.0**
JHJR Jhajjar 71.41 302 *eP* **P** **16 08 43.8 -4.2**
UNV Unalaska Valle 71.66 29 P **P** **16 08 49.3 +0.4**
baz=234
SMLA Simla 71.68 305 *eP* **P** **16 08 45.2 -4.3**
SMLA IAmb IAmb 16 08 50.7
comp=Z,308nm,1.5s
AKUT Akutan 72.18 29 P **P** **16 08 54.6 +2.6**
ZSN Zaisan 72.27 323↑↑*iP* **P** **16 08 52.9 0.0**
ZSN Zaisan 72.27 323*c iP* **P** **16 08 52.8 0.0**
DHRM DHARAMSHALA 72.71 306 *eP* **P** **16 08 51.8 -4.2**
DHRM IAmb IAmb 16 08 56.5
comp=Z,141nm,0.9s
MKAR Makanchi Array 73.55 321 P **P** **16 09 01.0 +0.5**
comp=Z,93nm,0.8s,baz=107,slow=7.3,SNR=509
MKAR PKPPKP **P'P'df** **16 36 36.6 -0.1**
comp=Z,0.7nm,0.9s,baz=289,slow=3.7,SNR=5.7
MKAR LR LR 16 41 04.7
comp=Z,176nm,21.0s,baz=109,slow=36
comp=Z,93nm,0.8s
MKAR Makanchi Array 73.55 321 *i* P **P** **16 09 00.7 +0.2**
MKAR pmax pmax
comp=Z,95nm,0.8s
FALS False Pass 73.72 29 P **P** **16 09 01.6 +0.5**
baz=237
MAKZ Makanchi 73.75 321 P **P** **16 09 01.4 -0.2**
MAKZ Makanchi 73.75 321 P **P** **16 09 01.4 -0.2**
MAKZ pmax pmax
comp=Z,115nm,0.8s
VNDA Vanda 73.89 176 P **P** **16 09 02.5 +0.7**
VNDA Vanda 73.89 176 P **P** **16 09 02.7 +0.9**
comp=Z,20nm,1.1s,baz=334,slow=6.3,SNR=36
VNDA LR LR 16 41 16.6
comp=Z,323nm,18.3s,baz=347,slow=36
comp=Z,20nm,1.1s
VNDA Vanda 73.89 176 P **P** **16 09 02.5 +0.7**
VNDA pmax pmax
comp=Z,72nm,1.5s
VNDA Vanda 73.89 176 P **P** **16 09 02.8 +0.9**
VNDA sP **sP** **16 09 23.5 -0.2**
SHLS Shalkode 73.94 317 *eP* **P** **16 09 01.0 -2.0**
comp=Z,57nm,1.1s
SHLS Shalkode 73.94 317 *eP* **P** **16 09 00.9 -2.0**
SHLS pmax pmax
comp=Z,57nm,1.1s
UZB Uzunbulak 74.23 317 *eP* **P** **16 09 04.4 -0.4**
comp=Z,58nm,1.0s
UZB Uzunbulak 74.23 317 *eP* **P** **16 09 04.3 -0.4**
UZB pmax pmax
comp=Z,58nm,1.0s
SBA Scott Base 74.60 175 P **P** **16 09 07.5 +1.6**
SBA IAmb IAmb 16 09 09.6
comp=Z,108nm,1.6s
SBA Scott Base 74.60 175 P **P** **16 09 07.5 +1.6**
SBA pmax pmax
comp=Z,108nm,1.6s
SATY Saty 74.62 317 *eP* **P** **16 09 06.6 -0.3**
comp=Z,52nm,1.1s
SATY Saty 74.62 317 *eP* **P** **16 09 06.6 -0.3**
SATY pmax pmax
comp=Z,52nm,1.1s
S12K Black Hills 74.83 29 P **P** **16 09 09.0 +1.3**
baz=238
KDJ Kajisay 75.15 315 IAmb IAmb 16 09 11.9
comp=Z,74nm,0.8s
KDJ Kajisay 75.15 315 P **P** **16 09 10.9 +0.9**
KDJ pmax pmax
comp=Z,96nm,0.9s
KSH Kashi 75.15 313 P **P** **16 09 11.5 +1.5**
KSH PcP **PcP** **16 09 23.8 +0.4**
KSH S **S** **16 18 47.0 +2.3**
KSH pmax pmax
comp=Z,45nm,1.2s
KSH pmax pmax
comp=Z,300nm,4.4s
KSH LR LR
comp=Z,170nm,13.5s
KSH LR LR
comp=Z,300nm,17.3s
KSH LR LR
comp=Z,320nm,17.6s
TDK Taldyqorghan 75.33 319 *eP* **P** **16 09 10.7 -0.2**
comp=Z,63nm,1.0s
TDK Taldyqorghan 75.33 319 *eP* **P** **16 09 10.6 -0.2**
TDK pmax pmax
comp=Z,63nm,1.0s
ZAA0 Zalesovo Array 75.37 329 P **P** **16 09 09.6 -1.2**
ZALV Zalesovo Beam 75.37 329 P **P** **16 09 10.0 -0.8**
comp=Z,34nm,0.8s,baz=111,slow=5.5,SNR=115
ZALV PKPPKP **P'P'df** **16 36 35.3 +2.4**
comp=Z,0.4nm,0.3s,baz=312,slow=7.1,SNR=3.5
ZALV LR LR 16 41 34.4
comp=Z,428nm,21.9s,baz=114,slow=35
comp=Z,34nm,0.8s
ZALV Zalesovo Beam 75.37 329 *i* P **P** **16 09 09.8 -1.0**
ZALV pmax pmax
comp=Z,34nm,0.8s
SDPT Sand Point 75.42 30 P **P** **16 09 14.7 +3.7**
SDPT Sand Point 75.42 30 P **P** **16 09 12.1 +1.1**
baz=239
ARXS Arharly 75.43 318 *i* P **P** **16 09 10.2 -1.3**
NIL Nilore 75.56 306 P **P** **16 09 12.2 -0.2**
NIL Nilore 75.56 306 P **P** **16 09 12.8 +0.4**
NIL Nilore 75.56 306 P **P** **16 09 12.2 -0.2**
NIL pmax pmax
comp=Z,174nm,0.8s
MDOK Medeo 75.59 316 *eP* **P** **16 09 12.2 -0.4**
MDOK Medeo 75.59 316 *eP* **P** **16 09 12.1 -0.4**
CHNA Chernabura Isl 75.60 30 P **P** **16 09 13.3 +1.3**
baz=240
TNSS Tian-Shan 75.62 316 *eP* **P** **16 09 12.3 -0.7**
TNSS Tian-Shan 75.62 316 *eP* **P** **16 09 12.3 -0.7**
AAA Alma-Ata 75.70 316 *eP* **P** **16 09 12.8 -0.2**
comp=Z,61nm,1.2s
AAA Alma-Ata 75.70 316 *eP* **P** **16 09 12.8 -0.2**
AAA pmax pmax
comp=Z,61nm,1.2s
CHKK Chushkaly 75.87 317 *eP* **P** **16 09 13.8 -0.1**
CHKK Chushkaly 75.87 317 *eP* **P** **16 09 13.8 -0.1**
JASL Jaisalmer 75.94 299 *eP* **P** **16 09 10.8 -3.8**
JASL IAmb IAmb 16 09 16.3
comp=Z,115nm,0.6s
BOOM Boomskoye usch 76.13 316 IAmb IAmb 16 09 17.4
comp=Z,74nm,0.7s
TIXI Tiksi 76.34 355 P **P** **16 09 15.4 -0.6**
TIXI Tiksi 76.34 355 P **P** **16 09 15.1 -0.8**
comp=Z,8.5nm,0.7s,baz=298,slow=3.6,SNR=6.5
TIXI LR LR 16 41 37.9
comp=Z,184nm,21.9s,baz=180,slow=35
comp=Z,8.5nm,0.7s
TIXI Tiksi 76.34 355↑↑*eP* **P** **16 09 16.3 +0.4**
TIXI pmax pmax
comp=Z,22nm,1.7s
TKM2 Tokmak 2 76.51 316 P **P** **16 09 18.2 +0.3**
SNR=63
TAOE Nuku Hiva Isla 76.55 98 *e*PKIKP **P** **16 09 15.1 -3.4**
comp=Z,275nm,26.6s
TAOE *eS* SKiKP 16 18 43.0 +11
comp=Z,216nm,27.5s
TAOE Nuku Hiva Isla 76.55 98 *eLQ* LQ 16 29 29.3
comp=Z,5µm,33.9s
TAOE *eLR* LR 16 32 46.1
comp=Z,486nm,26.0s
KBK Karagaybulak 76.88 315 P **P** **16 09 19.6 -0.3**
SNR=16
CHGN Chignik 76.90 29 P **P** **16 09 21.0 +1.6**
baz=241
UCH Uchtor 77.05 315 P **P** **16 09 22.4 +1.2**
SNR=9.0
O14K Tigyukauivet M 77.08 26 P **P** **16 09 22.1 +1.7**
baz=238
CHMS Chumysh 77.12 316 P **P** **16 09 21.3 +0.3**
SNR=28
AAK Ala-Archa 77.19 315 P **P** **16 09 22.2 +0.6**
SNR=16
AAK Ala-Archa 77.19 315 P **P** **16 09 21.9 +0.3**
AAK Ala-Archa 77.19 315 P **P** **16 09 21.7 +0.1**
comp=Z,30nm,0.9s,baz=113,slow=4.5,SNR=35
AAK LR LR 16 42 59.9
comp=Z,163nm,20.7s,baz=98,slow=35
comp=Z,30nm,0.9s
AAK Ala-Archa 77.19 315 P **P** **16 09 22.2 +0.6**
AAK Ala-Archa 77.19 315*c iP* **P** **16 09 21.8 +0.1**
AAK pmax pmax
comp=Z,59nm,1.3s
AAK Ala-Archa 77.19 315 P **P** **16 09 22.1 +0.5**
AAK pP **pP** **16 09 36.6 -0.7**
AAK sP **sP** **16 09 42.6 -0.9**
K13K Kusilvak Mount 77.19 23 P **P** **16 09 23.0 +2.0**
baz=234
N14K Kuskokwak Cree 77.26 25 P **P** **16 09 23.2 +1.9**
baz=237
SGDS Sogindy 77.35 316↑↑*iP* **P** **16 09 22.1 -0.3**
KURK Kurchatov 77.37 324 P **P** **16 09 21.3 -0.9**
KURK IAmb IAmb 16 09 23.2
comp=Z,70nm,1.0s
KURK Kurchatov 77.37 324 P **P** **16 09 22.1 -0.1**
KURK Kurchatov 77.37 324*c iP* **P** **16 09 21.9 -0.3**
KURK pmax pmax
comp=Z,111nm,1.3s
KURK MLR MLR
comp=Z,217nm,21.0s
USP Ospenovka 77.38 316 P **P** **16 09 22.8 +0.2**
SNR=112
KURBB Kurchatov Arra 77.39 324 P **P** **16 09 21.8 -0.5**
comp=Z,44nm,1.0s,baz=113,slow=4.8,SNR=164
KURBB PP **PP** **16 12 17.5 +0.2**
comp=Z,4.2nm,1.1s,baz=118,slow=8.8,SNR=4.1
KURBB PKPPKP **P'P'df** **16 36 28.9 -0.7**
comp=Z,0.5nm,0.8s,baz=357,slow=3.1,SNR=4.2
comp=Z,44nm,1.0s
M14K Bethel 77.60 24 P **P** **16 09 24.7 +1.5**
baz=237
L14K Kuka Creek 77.63 24 IAmb IAmb 16 09 38.7
comp=Z,37nm,0.8s
L14K Kuka Creek 77.63 24 P **P** **16 09 25.1 +1.7**
baz=236
EKS2 Erkin-Say 77.70 315 P **P** **16 09 25.0 +0.6**
SNR=75
OHH Osh 77.79 313 P **P** **16 09 23.0 -1.9**
OHH pmax pmax
comp=Z,79nm,0.8s
ARSB Arslanbob 77.87 314 IAmb IAmb 16 09 27.1
comp=Z,46nm,0.8s
CHIR Chirikof Islan 78.06 30 P **P** **16 09 26.5 +0.6**
baz=244
N15K Kwethluk River 78.07 25 P **P** **16 09 27.2 +1.3**
baz=239
J14K Nanvaranak Lak 78.09 22 P **P** **16 09 27.0 +1.1**
baz=235
M15K Kasigluk River 78.09 25 P **P** **16 09 27.7 +1.7**
baz=238
BTLS Baital 78.25 318↑↑*iP* **P** **16 09 27.2 -0.1**
comp=Z,50nm,1.0s
BTLS Baital 78.25 318*c iP* **P** **16 09 27.1 -0.1**
BTLS pmax pmax
comp=Z,50nm,1.0s
TNA Tin City 78.27 19 P **P** **16 09 27.5 +0.7**
baz=230
L15K Ungalak Mounta 78.30 24 P **P** **16 09 28.7 +1.6**
baz=237
P16K Nushagak River 78.42 27 P **P** **16 09 29.5 +1.6**
baz=241
ANM Nome 78.50 20 P **P** **16 09 29.9 +1.7**
baz=233
R17L Mt. Peulik Vol 78.52 29 P **P** **16 09 28.9 +0.4**
baz=243
K15K Wolf Creek Mou 78.61 23 P **P** **16 09 29.8 +0.9**
baz=237
O16K Kokwok River B 78.65 26 P **P** **16 09 30.0 +0.9**
baz=241
F14K Arctic Creek 78.73 19 P **P** **16 09 30.4 +1.0**
baz=232
N16K Nishlik Lake 78.79 25 P **P** **16 09 31.1 +1.2**
baz=240
Q16K King Salmon 78.86 28 P **P** **16 09 31.1 +0.9**
baz=242
M16K Timber Creek 78.99 25 P **P** **16 09 31.9 +1.0**
baz=240
Q17K Contact Creek 79.03 28 P **P** **16 09 32.0 +0.7**
baz=243
SII Sitkinak Islan 79.11 30 P **P** **16 09 32.8 +1.1**
baz=245
BTK Batken 79.11 312 P **P** **16 09 32.3 +0.1**
BTK pmax pmax
comp=Z,41nm,1.3s
L16K Owhat River 79.13 24 P **P** **16 09 32.6 +0.9**
baz=239
KBL Kabul 79.16 306 P **P** **16 09 31.2 -1.5**
KBL Kabul 79.16 306 P **P** **16 09 32.5 -0.2**
KBL Kabul 79.16 306 P **P** **16 09 31.2 -1.5**
KBL pmax pmax
comp=Z,33nm,0.9s
O17K Koliganek Bris 79.18 27 P **P** **16 09 32.8 +0.8**
baz=242,SNR=18
P17K Kvichak River 79.21 27 P **P** **16 09 33.4 +1.3**
baz=242
TRKS Terek-Say 79.26 313 P **P** **16 09 33.3 +0.2**
TRKS pmax pmax
comp=Z,145nm,1.1s
R18K Karluk 79.41 29 P **P** **16 09 34.2 +0.9**
baz=244
F15K North Star Dit 79.43 20 P **P** **16 09 34.3 +1.1**
baz=234
DZA Taraz 79.49 315 *eP* **P** **16 09 33.9 -0.3**
comp=Z,33nm,0.9s
DZA Taraz 79.49 315 *eP* **P** **16 09 33.8 -0.4**
DZA pmax pmax
comp=Z,33nm,0.9s
N17K Nushagak Hills 79.50 26 P **P** **16 09 33.3 -0.4**
N17K IAmb IAmb 16 09 47.7
comp=Z,123nm,1.7s
N17K Nushagak Hills 79.50 26 P **P** **16 09 34.6 +0.8**
baz=241
J16K Anvik River 79.51 23 P **P** **16 09 35.0 +1.3**
baz=238
Q18K Katmai Hardscr 79.62 28 P **P** **16 09 35.2 +0.6**
baz=244,SNR=5.8
H16K Elim 79.64 21 P **P** **16 09 35.4 +1.0**
baz=236
M17K Holitna River 79.82 25 IAmb IAmb 16 09 49.7
comp=Z,58nm,1.1s
M17K Holitna River 79.82 25 P **P** **16 09 36.7 +1.2**
baz=241
L17K Donlin 79.82 24 P **P** **16 09 37.0 +1.5**
baz=240
OHAK Old Harbor 79.83 30 P **P** **16 09 35.6 0.0**
OHAK Old Harbor 79.83 30 P **P** **16 09 39.0 +3.4**
OHAK Old Harbor 79.83 30 P **P** **16 09 36.5 +0.9**
baz=246
CHGR Chuyangaron 80.01 310 P **P** **16 09 37.0 -0.1**
G16K Koyuk River 80.03 20 P **P** **16 09 36.4 -0.1**
G16K Koyuk River 80.03 20 P **P** **16 09 37.5 +1.1**
baz=236
O18K Koktuh Hills 80.07 27 P **P** **16 09 37.5 +0.6**
baz=243
K17K Iditarod 80.11 24 IAmb IAmb 16 09 52.7
comp=Z,81nm,0.8s
K17K Iditarod 80.11 24 P **P** **16 09 37.6 +0.6**
baz=240
SIMJ Simiganj 80.13 310 P **P** **16 09 37.1 -0.7**
SIMJ IAmb IAmb 16 09 39.5
comp=Z,87nm,1.1s
SIMJ Simiganj 80.13 310 P **P** **16 09 37.5 -0.3**
SIMJ pP **pP** **16 09 52.9 -0.7**
KK31 Karatay Array 80.13 315 P **P** **16 09 37.1 -0.5**
KK31 IAmb IAmb 16 09 38.8
comp=Z,44nm,0.8s
KK31 Karatay Array 80.13 315 P **P** **16 09 37.1 -0.5**
KK31 pmax pmax
comp=Z,44nm,0.9s
N18K Kilae Creek 80.14 26 P **P** **16 09 38.6 +1.3**
baz=243
J17K VABM Dome 80.15 23 IAmb IAmb 16 09 51.8
comp=Z,60nm,0.8s
J17K VABM Dome 80.15 23 P **P** **16 09 38.5 +1.3**
baz=239
IUG Iuzhnay 80.22 314 *eP* **P** **16 09 37.8 -0.5**
comp=Z,41nm,0.8s
IUG Iuzhnay 80.22 314 *eP* **P** **16 09 37.7 -0.5**
IUG pmax pmax
comp=Z,41nm,0.8s
Q19K Cape Douglas, 80.38 28 P **P** **16 09 39.2 +0.6**
baz=245
KDAK Kodiak Island 80.41 29 P **P** **16 09 39.5 +0.8**
KDAK IAmb IAmb 16 10 03.5
comp=Z,50nm,0.9s
KDAK Kodiak Island 80.41 29 LR LR 16 43 36.2
comp=Z,566nm,19.0s,baz=243,slow=34
KDAK Kodiak Island 80.41 29 P **P** **16 09 39.5 +0.8**
KDAK pmax pmax
comp=Z,50nm,1.0s
KDAK Kodiak Island 80.41 29 P **P** **16 09 39.8 +1.1**
baz=246
L18K Granite Mounta 80.52 24 P **P** **16 09 40.7 +1.5**

	baz=242							
M18K	**Stony River**	80.54	25	P		P	16 09 40.8	+1.5
	baz=242							
CHM	**Chimkent**	80.57	314	*e*P		P	16 09 39.7	-0.3
	comp=Z,46nm,0.9s							
CHM	**Chimkent**	80.57	314	*e*P		P	16 09 39.6	-0.3
CHM				pmax		pmax		
	comp=Z,46nm,0.9s							
BRLS	**Borolday**	80.59	315⇑	*i*P		P	16 09 40.0	-0.1
BRLS	**Borolday**	80.59	315	*i* P		P	16 09 39.5	-0.6
BRLS				pmax		pmax		
	comp=Z,18nm,0.9s							
O19K	**Port Alsworth**	80.62	27	P		P	16 09 41.3	+1.6
	baz=244							
H17K	**Granite Mounta**	80.64	21	IAmb		IAmb	16 09 54.3	
	comp=Z,49nm,0.8s							
H17K	**Granite Mounta**	80.64	21	P		P	16 09 40.9	+1.1
	baz=238							
BRZS	**Berezniki**	80.68	322⇑	*i*P		P	16 09 40.3	0.0
BRZS	**Berezniki**	80.68	322	*c i*P		P	16 09 40.3	0.0
G17K	**Kiwalik Mounta**	80.68	21	P		P	16 09 41.4	+1.4
	baz=237,SNR=7.9							
C16K	**Lisburne Hills**	80.76	17	P		P	16 09 42.1	+1.7
	baz=233							
N19K	**Bonanza Creek**	80.82	26	IAmb		IAmb	16 09 58.1	
	comp=Z,88nm,0.8s							
N19K	**Bonanza Creek**	80.82	26	P		P	16 09 42.2	+1.2
	baz=244,SNR=12							
Q20K	**Shuyak Island**	80.84	29	P		P	16 09 41.7	+0.8
	baz=246							
P19K	**Oil Pt**	80.88	28	P		P	16 09 42.0	+0.7
	baz=245							
F17K	**Baldwin Pennin**	80.99	20	P		P	16 09 43.0	+1.4
	baz=237							
ILSW	**Iliamna Southw**	81.06	27	IAmb		IAmb	16 09 55.0	
	comp=Z,106nm,1.6s							
D17K	**Noatak River**	81.10	18	P		P	16 09 43.9	+1.7
	baz=235							
J18K	**Innoko River**	81.11	23	P		P	16 09 43.9	+1.6
	baz=241							
E17K	**Hotham Inlet**	81.15	19	P		P	16 09 44.3	+1.8
	baz=236,SNR=7.8							
RKT	**Rikitea**	81.17	113	*e*S		S	16 19 44.6	-5.2
	comp=Z,1µm,27.2s							
RKT	**Rikitea**	81.17	113	*e*LQ		LQ	16 31 33.8	
RKT				*e*LR		LR	16 35 02.8	
	comp=Z,4µm,30.8s							
L19K	**White Mountain**	81.27	25	P		P	16 09 43.5	+0.3
L19K				IAmb		IAmb	16 10 02.2	
	comp=Z,58nm,1.1s							
L19K	**White Mountain**	81.27	25	P		P	16 09 44.9	+1.6
	baz=243,SNR=12							
H18K	**Honhosa River**	81.32	21	P		P	16 09 45.4	+2.0
	baz=240							
O20K	**Slope Mountain**	81.34	27	P		P	16 09 45.1	+1.4
	baz=246							
M19K	**Big River Lodg**	81.34	25	P		P	16 09 45.1	+1.4
	baz=244							
RDOG	**Red Dog Mine**	81.36	18	IAmb		IAmb	16 09 57.9	
	comp=Z,46nm,0.9s							
RDOG	**Red Dog Mine**	81.36	18	P		P	16 09 45.3	+1.7
	baz=235							
RED	**Redoubt Volcan**	81.41	27	P		P	16 09 43.9	-0.2
C17K	**DeLong Mountai**	81.53	18	P		P	16 09 45.9	+1.5
	baz=235							
G18K	**Tagagawik**	81.59	21	IAmb		IAmb	16 09 58.7	
	comp=Z,44nm,0.8s							
G18K	**Tagagawik**	81.59	21	P		P	16 09 46.3	+1.4
	baz=239,SNR=9.0							
F18K	**Selawik**	81.61	20	P		P	16 09 46.4	+1.5
	baz=238							
E18K	**Tukpahlearik C**	81.74	19	IAmb		IAmb	16 09 59.8	
	comp=Z,47nm,0.8s							
E18K	**Tukpahlearik C**	81.74	19	P		P	16 09 47.0	+1.5
	baz=237							
J19K	**Poorman**	81.79	23	IAmb		IAmb	16 10 00.2	
	comp=Z,44nm,0.9s							
J19K	**Poorman**	81.79	23	P		P	16 09 47.2	+1.3
	baz=242,SNR=6.1							
L20K	**Farewell, AK**	81.81	25	P		P	16 09 47.6	+1.5
	baz=244							
M20K	**Styx River**	81.87	25	IAmb		IAmb	16 10 00.6	
	comp=Z,46nm,0.8s							
M20K	**Styx River**	81.87	25	P		P	16 09 47.8	+1.3
	baz=245,SNR=9.3							
N20K	**Mount Spurr**	81.98	26	P		P	16 09 48.5	+1.4
	baz=246							
BRLK	**Bradley Lake**	82.01	28	IAmb		IAmb	16 10 00.8	
	comp=Z,48nm,0.9s							
BRSE	**Bradley Lake S**	82.07	28	P		P	16 09 49.1	+1.6
	baz=247							
K20K	**Telida**	82.12	24	IAmb		IAmb	16 10 03.1	
	comp=Z,49nm,0.8s							
K20K	**Telida**	82.12	24	P		P	16 09 49.2	+1.6
	baz=244							
H19K	**Roundabout Mou**	82.20	22	IAmb		IAmb	16 10 02.3	
	comp=Z,64nm,0.9s							
H19K	**Roundabout Mou**	82.20	22	P		P	16 09 49.9	+1.9
	baz=241,SNR=16							
C18K	**Utukok River**	82.22	18	P		P	16 09 49.6	+1.4
	baz=236							
MAW	**Mawson**	82.23	202	P		P	16 09 49.2	+1.0
	comp=Z,76nm,1.0s,baz=81,slow=6.0,SNR=101							
MAW				LR		LR	16 42 49.0	
	comp=Z,284nm,21.9s,baz=76,slow=33							
	comp=Z,76nm,1.0s							
G19K	**Purcell Mounta**	82.27	21	P		P	16 09 50.3	+1.9
	baz=241							
F19K	**Shaleruckik Mo**	82.38	20	P		P	16 09 49.1	+0.2
F19K	**Shaleruckik Mo**	82.38	20	P		P	16 09 50.5	+1.6
	baz=240							
B18K	**Kokolik River**	82.44	17	P		P	16 09 51.3	+2.0
	baz=236							
J20K	**Nowinta River**	82.45	23	IAmb		IAmb	16 10 03.8	
	comp=Z,52nm,0.9s							
J20K	**Nowinta River**	82.45	23	P		P	16 09 51.4	+2.0
	baz=244,SNR=18							
SKT	**Skwentna**	82.60	26	P		P	16 09 51.0	+0.8
	baz=246							
I20K	**Naaghedeneel**	82.60	23	P		P	16 09 52.1	+2.0
	baz=243							
SLKM	**Skilak Lake**	82.61	27	IAmb		IAmb	16 10 06.4	
	comp=Z,52nm,0.9s							
PPLA	**Purkeypile**	82.69	25	IAmb		IAmb	16 10 06.2	
	comp=Z,51nm,1.2s							
PPLA	**Purkeypile**	82.69	25	P		P	16 09 51.9	+1.0
	baz=246							
SUA	**Susitna One**	82.74	26	P		P	16 09 52.2	+1.1
	baz=247							
H20K	**Anotleneega Mo**	82.76	22	P		P	16 09 53.0	+2.0
	baz=243,SNR=6.5							
SEW	**Seward**	82.81	28	IAmb		IAmb	16 10 13.4	
	comp=Z,42nm,0.9s							
SEW	**Seward**	82.81	28	P		P	16 09 53.3	+2.0
	baz=248							
O22K	**Cooper Landing**	82.82	27	P		P	16 09 53.2	+1.9
	baz=248							
E19K	**Redstone River**	82.87	20	P		P	16 09 53.1	+1.6
	baz=240,SNR=17							
BVAR	**Borovoye Array**	82.95	325	P		P	16 09 52.5	+0.3
	comp=Z,122nm,0.9s,baz=107,slow=5.1,SNR=316							
	comp=Z,122nm,0.9s							
C19K	**Lookout Ridge**	82.96	18	P		P	16 09 52.6	+0.6
C19K				IAmb		IAmb	16 10 08.4	
	comp=Z,50nm,0.9s							
C19K	**Lookout Ridge**	82.96	18	P		P	16 09 53.4	+1.4
	baz=238							
BORK	**Borovoye**	83.00	325	*c i*P		P	16 09 52.4	-0.1
BORK				pmax		pmax		
	comp=Z,171nm,1.0s							
RC01	**Rabbit Creek A**	83.05	27	IAmb		IAmb	16 10 05.5	
	comp=Z,67nm,0.9s							
RC01	**Rabbit Creek A**	83.05	27	P		P	16 09 53.4	+0.9
	baz=248							
CHUM	**Lake Minchumin**	83.05	24	P		P	16 09 53.9	+1.4
	baz=245,SNR=9.2							
D19K	**Kuna River**	83.10	19	IAmb		IAmb	16 10 08.3	
	comp=Z,57nm,1.1s							
D19K	**Kuna River**	83.10	19	P		P	16 09 54.0	+1.2
	baz=240,SNR=7.9							
M22K	**Willow**	83.12	26	P		P	16 09 54.0	+1.1
	baz=248							
F20K	**Avaraart Lake**	83.19	20	P		P	16 09 54.6	+1.5
	baz=242,SNR=14							
KTH	**Kantishna Hill**	83.48	24	IAmb		IAmb	16 10 07.6	
	comp=Z,43nm,0.9s							
PMR	**Palmer**	83.50	27	P		P	16 09 56.0	+1.2
	baz=249							
PMR	**Palmer**	83.50	27	P		P	16 09 56.0	+1.2
	baz=249							
PWL	**Port Wells**	83.60	27	P		P	16 09 56.6	+1.2
	baz=249,SNR=6.4							
E20K	**Nigu River**	83.61	19	P		P	16 09 56.7	+1.3
	baz=241,SNR=9.7							
H21K	**Melozitna Rive**	83.61	22	P		P	16 09 57.0	+1.7
	baz=245							
GHO	**Glory Hole Cre**	83.66	26	IAmb		IAmb	16 10 12.1	
	comp=Z,39nm,0.8s							
BPAW	**Bear Paw Mtn.**	83.67	24	P		P	16 09 56.9	+1.1
	baz=247							
D20K	**Etivluk River**	83.69	19	P		P	16 09 55.3	-0.5
D20K				IAmb		IAmb	16 10 11.2	
	comp=Z,50nm,0.9s							
D20K	**Etivluk River**	83.69	19	P		P	16 09 57.0	+1.2
	baz=241,SNR=8.4							
TRF	**Thorofare Moun**	83.70	25	P		P	16 09 56.7	+0.6
	baz=247							
I21K	**Tanana**	83.72	23	P		P	16 09 57.3	+1.3
	baz=246							
G21K	**Allakaket**	83.72	21	P		P	16 09 57.1	+1.1
	baz=244							
P23K	**Montague Islan**	83.73	28	P		P	16 09 57.3	+1.2
	baz=250							
KNK	**Knik Glacier**	83.74	27	IAmb		IAmb	16 10 13.2	
	comp=Z,70nm,0.9s							
KNK	**Knik Glacier**	83.74	27	P		P	16 09 57.2	+1.1
	baz=249,SNR=12							
F21K	**Alatna River**	84.04	21	P		P	16 09 58.3	+0.7
	baz=244							
MLY	**Manley**	84.14	23	P		P	16 09 59.4	+1.2
	baz=247,SNR=9.9							
B20K	**Meade River**	84.16	17	P		P	16 09 59.6	+1.6
	baz=240							
GLI	**Glacier Island**	84.17	28	IAmb		IAmb	16 10 11.5	
	comp=Z,49nm,0.8s							
GLI	**Glacier Island**	84.17	28	P		P	16 09 59.3	+1.0
	baz=250							
M23K	**Glacier View**	84.20	27	P		P	16 09 59.7	+1.2
	baz=250,SNR=5.9							
WAT1	**Susitna Watana**	84.21	25	P		P	16 09 59.4	+0.8
	baz=249							
H22K	**Ishtalitna Cre**	84.25	22	P		P	16 09 59.8	+1.2
	baz=246,SNR=8.7							
RND	**Reindeer**	84.29	25	IAmb		IAmb	16 10 15.2	
	comp=Z,72nm,0.9s							
MCK	**McKinley**	84.37	25	IAmb		IAmb	16 10 15.2	
	comp=Z,59nm,0.8s							
MCK	**McKinley**	84.37	25	P		P	16 10 00.1	+0.8
	baz=248,SNR=9.4							
SCM	**Sheep Creek Mo**	84.39	27	IAmb		IAmb	16 10 13.0	
	comp=Z,70nm,0.9s							
SCM	**Sheep Creek Mo**	84.39	27	P		P	16 10 00.6	+1.1
	baz=250							
E21K	**Killik River**	84.42	19	IAmb		IAmb	16 10 15.4	
	comp=Z,51nm,0.8s							
E21K	**Killik River**	84.42	19	P		P	16 10 01.0	+1.5
	baz=243,SNR=11							
WAT6	**Susitna Watana**	84.47	26	P		P	16 10 01.1	+1.1
	baz=250,SNR=12							
C21K	**Knifeblade Rid**	84.48	19	P		P	16 10 01.2	+1.5
	baz=243							
G22K	**Bees**	84.62	21	P		P	16 10 01.8	+1.3
	baz=246							
F22K	**John River**	84.62	21	P		P	16 10 02.1	+1.6
	baz=245,SNR=9.6							
NEA2	**Nenana**	84.64	24	P		P	16 10 01.3	+0.7
	baz=248,SNR=10							
EYAK	**Cordova Ski Ar**	84.69	28	P		P	16 10 02.2	+1.3
	baz=252							
I23K	**Minto, Yukon-K**	84.73	23	P		P	16 10 01.3	+0.3
I23K	**Minto, Yukon-K**	84.73	23	P		P	16 10 02.2	+1.2
	baz=248,SNR=5.4							
B21K	**Ikpikpuk River**	84.75	18	IAmb		IAmb	16 10 15.8	
	comp=Z,39nm,0.9s							
B21K	**Ikpikpuk River**	84.75	18	P		P	16 10 02.4	+1.4
	baz=243							
DHY	**Denali Highway**	84.80	25	IAmb		IAmb	16 10 15.0	
	comp=Z,62nm,0.9s							
DHY	**Denali Highway**	84.80	25	P		P	16 10 02.5	+0.9
	baz=250,SNR=15							
H23K	**Yukon River**	84.91	22	P		P	16 10 02.9	+0.9
	baz=248,SNR=10							
KLU	**Klutina**	84.91	27	IAmb		IAmb	16 10 20.6	
	comp=Z,56nm,0.9s							
KLU	**Klutina**	84.91	27	P		P	16 10 03.5	+1.3
	baz=252,SNR=13							
WRH	**Wood River Hil**	84.99	24	IAmb		IAmb	16 10 14.9	
	comp=Z,44nm,0.9s							
M24K	**Tolsona, Glenn**	85.00	27	IAmb		IAmb	16 10 19.5	
	comp=Z,53nm,0.8s							
M24K	**Tolsona, Glenn**	85.00	27	P		P	16 10 03.4	+0.9
	baz=251							
E22K	**Anaktuvuk Pass**	85.01	20	IAmb		IAmb	16 10 18.4	
	comp=Z,30nm,0.8s							
E22K	**Anaktuvuk Pass**	85.01	20	P		P	16 10 04.0	+1.5
	baz=246,SNR=11							
D22K	**Ayikyak River**	85.04	19	IAmb		IAmb	16 10 20.3	
	comp=Z,42nm,0.9s							
D22K	**Ayikyak River**	85.04	19	P		P	16 10 04.4	+1.9
	baz=245							
G23K	**Bananza Creek**	85.07	22	P		P	16 10 04.6	+1.8
	baz=247,SNR=9.9							
CCB	**Clear Creek Bu**	85.16	24	IAmb		IAmb	16 10 15.5	
	comp=Z,53nm,0.9s							
COLD	**Coldfoot**	85.21	21	P		P	16 10 05.6	+2.2
	baz=247							
COLA	**College**	85.22	24	P		P	16 10 05.3	+1.8
COLA	**College**	85.22	24⇑	*e*P		P	16 10 03.0	-0.5
COLA				pmax		pmax		
	comp=Z,12nm,0.8s							
COLA	**College**	85.22	24	P		P	16 10 04.6	+1.2
	baz=249							
BMRM	**Bremner River**	85.36	28	P		P	16 10 06.1	+1.8
	baz=253							
HDA	**Harding Lake**	85.43	24	P		P	16 10 05.0	+0.4
	baz=250							
B22K	**Teshekpuk Lake**	85.44	18	P		P	16 10 05.5	+1.1
	baz=244							
POKR	**Poker Plat Res**	85.48	23	P		P	16 10 05.0	+0.2
	baz=250							
JLN	**Jalan Bani Buh**	85.51	293	P		P	16 10 05.5	-0.4
HARP	**HAARP**	85.54	26	P		P	16 10 05.5	+0.4
	baz=252							
N25K	**Chitina, Valde**	85.55	27	P		P	16 10 06.3	+0.9
	baz=253							
H24K	**Noodor Dome**	85.56	23	IAmb		IAmb	16 10 18.9	
	comp=Z,31nm,0.8s							
H24K	**Noodor Dome**	85.56	23	P		P	16 10 06.1	+0.9
	baz=249,SNR=9.7							
IL31		85.58	24	P		P	16 10 03.3	-1.9
IL31				IAmb		IAmb	16 10 17.6	
	comp=Z,35nm,0.8s							
ILAR	**Eielson Array**	85.58	24	P		P	16 10 03.8	-1.5
	comp=Z,9.6nm,0.6s,baz=258,slow=4.5,SNR=78							
ILAR				PP		PP	16 13 24.6	0.0
	comp=Z,1.7nm,0.9s,baz=252,slow=10,SNR=3.1							
ILAR				PKKPbc		PKKPbc	16 28 09.2	-2.2
	comp=Z,0.4nm,0.7s,baz=178,slow=1.2,SNR=4.4							
	comp=Z,9.6nm,0.6s							
PAX	**Paxson**	85.58	26	P		P	16 10 05.7	+0.2
	baz=252,SNR=6.0							
QSPA	**South Pole Qui**	85.67	180	P		P	16 10 07.4	+1.4
QSPA	**South Pole Qui**	85.67	180	P		P	16 10 08.1	+2.1
	comp=Z,112nm,1.0s,baz=347,slow=1.9,SNR=242							
QSPA				LR		LR	16 48 42.1	
	comp=Z,699nm,19.9s,baz=10.0,slow=36							
	comp=Z,112nm,1.0s							
QSPA	**South Pole Qui**	85.67	180	P		P	16 10 08.6	+2.7
K24K	**Donnelly Dome**	85.72	25	IAmb		IAmb	16 11 28.4	
	comp=Z,41nm,1.1s							
K24K	**Donnelly Dome**	85.72	25	P		P	16 10 07.0	+0.9
	baz=251							
D23K	**Nanushuk River**	85.73	19	P		P	16 10 07.7	+1.8
	baz=246,SNR=12							
BGLC	**Bering Glacier**	85.74	29	P		P	16 10 07.5	+1.4
	baz=254							
E23K	**Chandalar**	85.74	20	IAmb		IAmb	16 10 23.4	
	comp=Z,32nm,0.9s							
E23K	**Chandalar**	85.74	20	P		P	16 10 07.9	+1.7
	baz=248							
GLB	**Gilahina Butte**	85.86	27	IAmb		IAmb	16 10 21.4	
	comp=Z,30nm,0.8s							
VRDI	**Verde Repeater**	85.97	28	IAmb		IAmb	16 10 31.7	
	comp=Z,35nm,1.2s							
TOLK	**Toolik Lake Re**	85.98	20	IAmb		IAmb	16 10 22.3	
	comp=Z,49nm,0.9s							
TOLK	**Toolik Lake Re**	85.98	20	P		P	16 10 09.3	+2.0
	baz=248,SNR=11							
CRQE	**Cirque**	86.00	28	P		P	16 10 08.6	+1.0
	baz=254,SNR=5.1							
G24K	**Hadweenzic Riv**	86.01	22	IAmb		IAmb	16 10 22.6	
	comp=Z,26nm,0.8s							
G24K	**Hadweenzic Riv**	86.01	22	P		P	16 10 09.0	+1.6
	baz=250,SNR=12							
WAX	**Waxell Ridge**	86.04	29	IAmb		IAmb	16 10 26.3	
	comp=Z,45nm,0.8s							
RIDG	**Independent Ri**	86.09	25	IAmb		IAmb	16 10 21.2	
	comp=Z,54nm,1.0s							
RIDG	**Independent Ri**	86.09	25	P		P	16 10 09.2	+1.3
	baz=252,SNR=11							
C23K	**Itkillik River**	86.10	19	P		P	16 10 09.2	+1.5
	baz=246,SNR=8.9							
TGL	**Tana Glacier**	86.13	28	P		P	16 10 08.3	0.0
E24K	**Your Creek**	86.14	21	P		P	16 10 09.1	+1.0
	baz=249							
J25K	**Salcha River,**	86.14	24	IAmb		IAmb	16 10 21.0	
	comp=Z,38nm,0.9s							
J25K	**Salcha River,**	86.14	24	P		P	16 10 08.8	+0.7
	baz=252,SNR=21							
F24K	**Squaw Lake**	86.15	21	IAmb		IAmb	16 10 23.3	
	comp=Z,37nm,0.8s							
F24K	**Squaw Lake**	86.15	21	P		P	16 10 09.2	+1.1
	baz=249,SNR=17							
MCARA	**McCarthy VSAT**	86.21	28	IAmb		IAmb	16 10 47.5	
	comp=Z,33nm,0.9s							
MCARA	**McCarthy VSAT**	86.21	28	P		P	16 10 09.9	+1.3
	baz=254							
MENT	**Mentasta**	86.34	26	P		P	16 10 11.2	+2.1
WSAR	**Wadi Sarin**	86.35	294	P		P	16 10 09.3	-0.7
	SNR=7.9							
DOT	**Dot Lake**	86.39	25	P		P	16 10 09.0	-0.4
MESA	**MESA**	86.40	29	P		P	16 10 10.8	+1.1
	baz=255							
D24K	**Happy Valley**	86.42	19	P		P	16 10 11.0	+1.6
	baz=248							
H25L	**Birch Creek**	86.49	23	P		P	16 10 11.2	+1.4
	baz=251							
M26K	**Nabesna, AK**	86.50	27	P		P	16 10 11.6	+1.6
	baz=254							
L26K	**Log Cabin Wild**	86.52	26	IAmb		IAmb	16 10 27.4	
	comp=Z,28nm,0.9s							
L26K	**Log Cabin Wild**	86.52	26	P		P	16 10 11.4	+1.3
	baz=254							
SCRK	**Sand Creek**	86.52	25	P		P	16 10 11.7	+1.5
	baz=253							
G25K	**Bearman Lake**	86.55	22	P		P	16 10 11.7	+1.7
	baz=251							
GRNC	**Granite Creek**	86.63	28	IAmb		IAmb	16 10 24.6	
	comp=Z,32nm,0.9s							
C24K	**Franklin Bluff**	86.67	19	P		P	16 10 12.4	+1.9
	baz=248							
MHTO	**MHTO**	86.72	291	P		P	16 10 11.0	-0.9
JMDO	**Jabal Madar**	86.74	293	P		P	16 10 11.4	-0.5
BIDO	**Bidbid**	86.84	294	P		P	16 10 11.4	-1.0
J26L	**Joseph Creek**	86.85	25	P		P	16 10 12.9	+1.2
	baz=253,SNR=17							
SMDO	**Samad**	86.86	293	P		P	16 10 11.1	-1.5
	SNR=7.2							
CTG	**Chitna Glacier**	86.89	28	P		P	16 10 12.9	+0.9
	baz=256,SNR=6.6							
CTGM	**Chitina Glacie**	86.89	28	P		P	16 10 11.6	-0.4
F25K	**Christian Rive**	86.99	21	P		P	16 10 13.4	+1.1
	baz=251							
M27K	**Edge Creek, AK**	87.00	27	IAmb		IAmb	16 10 26.5	
	comp=Z,45nm,0.8s							
M27K	**Edge Creek, AK**	87.00	27	P		P	16 10 13.8	+1.2
	baz=255,SNR=15							
LOGN	**Logan Glacier**	87.01	28	IAmb		IAmb	16 10 30.7	
	comp=Z,56nm,1.1s							
DQM	**DQM**	87.02	290	P		P	16 10 12.7	-0.6
E25K	**Arctic Village**	87.18	21	IAmb		IAmb	16 10 29.0	
	comp=Z,113nm,1.9s							
E25K	**Arctic Village**	87.18	21	P		P	16 10 14.3	+1.2
	baz=251,SNR=11							
PINM	**Pinnacle**	87.20	29	P		P	16 10 14.2	+0.8
	baz=257							
L27K	**Beaver Creek,**	87.20	26	IAmb		IAmb	16 10 31.1	
	comp=Z,30nm,1.1s							
L27K	**Beaver Creek,**	87.20	26	P		P	16 10 14.3	+0.9
	baz=255							
I26K	**Coal Creek Min**	87.25	24	P		P	16 10 13.3	-0.2
	baz=254							
D25K	**Kavik River**	87.30	20	P		P	16 10 13.6	-0.1
D25K	**Kavik River**	87.30	20	P		P	16 10 14.7	+0.9
	baz=251,SNR=13							
O28M	**Mount Upton**	87.39	29	IAmb		IAmb	16 10 31.6	
	comp=Z,38nm,0.8s							
O28M	**Mount Upton**	87.39	29	P		P	16 10 15.7	+1.1
	baz=257,SNR=6.6							
G26K	**Porcupine Rive**	87.47	22	IAmb		IAmb	16 10 29.2	
	comp=Z,60nm,1.1s							
G26K	**Porcupine Rive**	87.47	22	P		P	16 10 16.0	+1.4
	baz=253,SNR=23							
PNL	**Peninsula**	87.52	30	P		P	16 10 17.5	+2.6
PNL	**Peninsula**	87.52	30	P		P	16 10 15.8	+0.9
	baz=257							
F26K	**Sheenjek River**	87.56	21	IAmb		IAmb	16 10 29.8	
	comp=Z,57nm,1.1s							
F26K	**Sheenjek River**	87.56	21	P		P	16 10 16.6	+1.6
	baz=253,SNR=17							
HOQ	**Hoqain**	87.59	294	P		P	16 10 15.3	-0.8
YUK8	**Steele Glacier**	87.71	28	P		P	16 10 17.0	+0.9
	baz=257							
EGAK	**Eagle**	87.92	25	IAmb		IAmb	16 10 35.0	
	comp=Z,24nm,0.8s							
EGAK	**Eagle**	87.92	25	P		P	16 10 18.0	+1.2
	baz=256,SNR=12							
I27K	**Kandik River**	87.95	24	P		P	16 10 18.5	+1.6
	baz=255,SNR=24							
C26K	**Camden Bay**	87.98	19	P		P	16 10 18.2	+1.4
	baz=252							
O29M	**Mount Kennedy**	88.06	29	IAmb		IAmb	16 10 35.0	
	comp=Z,38nm,0.9s							
O29M	**Mount Kennedy**	88.06	29	P		P	16 10 18.9	+1.3
	baz=258,SNR=6.9							
H27K	**Steamboat Moun**	88.14	23	P		P	16 10 17.8	0.0
H27K				IAmb		IAmb	16 10 32.3	
	comp=Z,48nm,1.0s							
H27K	**Steamboat Moun**	88.14	23	P		P	16 10 18.7	+0.8
	baz=255,SNR=34							
G27K	**Do

baz=259
ASHO Ashiyiah 88.83 295 P **P** **16 10 21.6 -0.4**
L29M L29M 88.85 27 P **P** **16 10 22.2 +1.0**
baz=258,SNR=18
PLBC Pleasant Camp 88.99 30 P **P** **16 10 22.7 +0.8**
baz=260
N30M Aishikik Lake 89.00 28 IAmb IAmb 16 10 35.9
comp=Z,22nm,0.9s
N30M Aishikik Lake 89.00 28 P **P** **16 10 22.8 +0.8**
baz=259
ALNE Al Ain 89.06 294 P **P** **16 10 22.6 -0.4**
D27M Malcolm River 89.12 20 P **P** **16 10 23.2 +0.8**
baz=256
F28M Old Crow 89.12 22 P **P** **16 10 23.4 +1.1**
baz=257
SIT Sitka 89.14 33 P **P** **16 10 23.7 +1.2**
baz=261
I29M Ogilvie Camp, 89.23 24 IAmb IAmb 16 10 36.7
comp=Z,31nm,1.0s
I29M Ogilvie Camp, 89.23 24 P **P** **16 10 24.5 +1.6**
baz=258
K29M Barlow Dome 89.26 26 P **P** **16 10 24.7 +1.5**
baz=259,SNR=18
M30M Minto, Yukon 89.35 27 IAmb IAmb 16 10 40.8
comp=Z,40nm,1.6s
M30M Minto, Yukon 89.35 27 P **P** **16 10 24.4 +0.8**
baz=260
O30N Mendenhall 89.36 29 P **P** **16 10 24.3 +0.7**
baz=260
H29M Whitestone 89.39 23 P **P** **16 10 23.6 0.0**
H29M IAmb IAmb 16 10 49.1
comp=Z,21nm,0.9s
H29M Whitestone 89.39 23 P **P** **16 10 25.1 +1.5**
baz=258
E28M Babbage River 89.47 21 IAmb IAmb 16 11 13.4
comp=Z,48nm,1.6s
E28M Babbage River 89.47 21 P **P** **16 10 25.6 +1.7**
baz=257,SNR=7.6
ASUD Al Ashush, Dub 89.49 295 P **P** **16 10 24.9 0.0**
SKAG Skagway 89.52 30 P **P** **16 10 25.8 +1.5**
baz=261
N31M Braeburn, Yuko 89.63 28 P **P** **16 10 26.3 +1.5**
baz=260
G29M Pine Creek 89.67 23 IAmb IAmb 16 10 38.2
comp=Z,32nm,1.1s
G29M Pine Creek 89.67 23 P **P** **16 10 26.8 +1.9**
baz=258,SNR=10
R32K Eaglecrest 89.75 32 P **P** **16 10 27.1 +1.6**
baz=262
J30M Hart River 89.91 25 IAmb IAmb 16 10 40.4
comp=Z,38nm,0.9s
J30M Hart River 89.91 25 P **P** **16 10 27.8 +1.6**
baz=260,SNR=18
WHY Whitehorse 89.93 29 IAmb IAmb 16 10 40.7
comp=Z,29nm,0.8s
WHY Whitehorse 89.93 29 P **P** **16 10 27.4 +1.0**
baz=261
RBK Rabkut 89.96 287 P **P** **16 10 27.0 -0.4**
AKTO Aktyubinsk 89.96 320 P **P** **16 10 25.1 -1.6**
comp=Z,17nm,1.0s,baz=100,slow=3.7,SNR=23
comp=Z,17nm,1.0s
I30M Mount Dempster 90.00 25 IAmb IAmb 16 10 40.4
comp=Z,26nm,0.8s
I30M Mount Dempster 90.00 25 P **P** **16 10 27.6 +0.9**
baz=260,SNR=10
E29M Blow River 90.01 21 P **P** **16 10 27.4 +0.9**
baz=258
EPYK Eagle Plains 90.07 23 P **P** **16 10 27.4 +0.5**
EPYK IAmb IAmb 16 10 40.5
comp=Z,34nm,0.9s
EPYK Eagle Plains 90.07 23 P **P** **16 10 28.4 +1.6**
baz=260
DOK Doka 90.11 289 P **P** **16 10 27.2 -0.8**
CRAG Craig 90.12 34 P **P** **16 10 28.7 +1.5**
baz=263
U33K Whale Pass 90.21 34 P **P** **16 10 29.2 +1.6**
baz=263
P32M Atlin 90.35 30 P **P** **16 10 28.9 +0.6**
baz=262
G30M tAoh Zraii Nji 90.38 23 IAmb IAmb 16 10 41.5
comp=Z,25nm,1.1s
G30M tAoh Zraii Nji 90.38 23 P **P** **16 10 28.4 +0.1**
baz=260,SNR=5.3
WHFO Wadi Hawf 90.40 288 P **P** **16 10 28.4 -1.0**
ARTI Arti 90.45 326 P **P** **16 10 26.3 -2.5**
ARTI IAmb IAmb 16 10 27.9
comp=Z,19nm,0.9s
ARTI Arti 90.45 326 P **P** **16 10 26.5 -2.2**
comp=Z,19nm,1.1s,baz=142,slow=3.9,SNR=12
ARTI PP **PP** **16 14 04.2 +0.4**
comp=Z,5.5nm,0.9s,baz=113,slow=8.5,SNR=3.1
ARTI LR LR 16 54 15.7
comp=Z,160nm,18.5s,baz=96,slow=38
ARTI Arti 90.45 326*c iP* **P** **16 10 26.6 -2.2**
ARTI 16 14 00.4
ARTI S **SKSac** **16 20 51.6 -3.8**
ARTI SS **SS** **16 27 13.6 -7.3**
ARTI pmax pmax
comp=Z,26nm,1.1s
F30M Barrier River 90.65 22 P **P** **16 10 29.7 +0.3**
baz=260
WRAK Wrangell Islan 90.67 34 P **P** **16 10 30.8 +1.0**
baz=263
MZWR Madinat Zayed 90.74 294 P **P** **16 10 30.4 -0.4**
SYO Syowa Base 90.75 201 ⇑*iP* **P** **16 10 31.0 +1.1**
SYO Syowa Base 90.75 201 ⇑*iPcP* **PcP** **16 10 32.2 +1.3**
SYO Syowa Base 90.75 201 ⇓*ipP* pP 16 10 46.8 +0.8
N32M Quiet Lake 90.87 29 P **P** **16 10 32.0 +1.3**
baz=263
P33M Teslin, Yukon 90.88 30 IAmb IAmb 16 13 00.1
comp=Z,45nm,1.9s
P33M Teslin, Yukon 90.88 30 P **P** **16 10 31.5 +0.7**
baz=263
H31M Peel River 90.94 24 IAmb IAmb 16 10 44.2
comp=Z,23nm,0.8s
H31M Peel River 90.94 24 P **P** **16 10 31.8 +1.0**
baz=262
Q32M Nakina River 91.01 31 P **P** **16 10 32.6 +1.1**
baz=264
G31M Satah River 91.12 23 IAmb IAmb 16 10 46.1
comp=Z,22nm,0.8s
G31M Satah River 91.12 23 P **P** **16 10 33.2 +1.6**
baz=262
F31M Tsiigehtchic 91.40 23 P **P** **16 10 34.3 +1.4**
baz=262
S34M Telegraph Cree 91.49 32 P **P** **16 10 34.5 +1.0**
baz=264
INK Inuvik 91.60 22 LR LR 16 46 45.9
comp=Z,305nm,21.2s,baz=246,slow=32
INK Inuvik 91.60 22 P **P** **16 10 34.8 +1.0**
baz=263
R33M Jennings River 91.72 31 P **P** **16 10 35.0 +0.2**
baz=265
T35M Bob Quinn 91.88 33 P **P** **16 10 36.1 +0.7**
baz=265
MMPY Sheldon Lake, 91.89 27 P **P** **16 10 36.9 +1.5**
baz=264
DLBC Dease Lake 92.12 32 LR LR 16 46 06.6
comp=Z,2µm,20.2s,baz=265,slow=32
DLBC Dease Lake 92.12 32 P **P** **16 10 36.6 +0.1**
baz=265
BBB Bella Bella 92.78 38 LR LR 16 50 21.1
comp=Z,502nm,18.1s,baz=249,slow=34
TGTN Hyland Airport 93.21 29 P **P** **16 10 41.7 +0.2**
baz=267
OPO Ambohidratompo 93.98 251 LR LR 16 47 38.2
comp=Z,85nm,20.3s,baz=242,slow=32
TOAD Toad River Com 94.64 31 P **P** **16 10 48.3 +0.1**
baz=270
KOTAN Kotaneelee Air 95.25 30 P **P** **16 10 51.3 +0.5**
baz=271
KIRV Kirov 95.41 328 P **P** **16 10 50.1 -1.4**
comp=Z,11nm,0.8s,baz=121,slow=7.1,SNR=5.2
KIRV PP **PP** **16 14 43.9 +1.4**
comp=Z,5.2nm,0.7s,baz=82,slow=6.8,SNR=4.2
KIRV LR LR 16 56 45.0
comp=Z,194nm,19.2s,baz=87,slow=37
comp=Z,11nm,0.8s
KIRV Kirov 95.41 328*deP* **P** **16 10 49.9 -1.6**
LKRN Lenkeran, Azer 95.81 308 P **P** **16 10 53.8 0.0**
YBH Yreka Blue Hor 96.16 49 LR LR 16 46 20.8
comp=Z,37nm,21.8s,baz=286,slow=30
BELG Belogornoye 96.55 322 P **P** **16 10 55.1 -1.7**
comp=Z,77nm,0.9s,baz=132,slow=1.4,SNR=34
BELG PP **PP** **16 14 52.8 +1.2**
comp=Z,12nm,1.0s,baz=358,slow=9.2,SNR=4.0
comp=Z,77nm,0.9s
BELG Belogornoye 96.55 322*c iP* **P** **16 10 54.8 -2.0**
BELG pmax pmax
comp=Z,15nm,0.9s
AKT Akhty 96.63 311 *eP* **P** **16 10 54.8 -2.9**
AKT *e**PP **pP** **16 11 14.7 +1.0**
AKT *e* 16 14 47.6
AKT pmax pmax
comp=Z,16nm,1.0s
SEKA Sheki 97.03 311 P **P** **16 10 59.0 -0.5**
MNGR Mingechevir, A 97.12 310 P **P** **16 10 59.7 0.0**
J05D Fort Rock, OR 97.24 47 P **P** **16 10 59.8 -0.7**
J05D IAmb IAmb 16 11 16.6
comp=Z,18nm,1.0s
PINE Pine Mountain 97.45 47 P Pdif 16 11 02.1 +0.6
PINE IAmb IAmb 16 11 18.9
comp=Z,12nm,0.8s
GANJ Ganja 97.70 310 P **P** **16 11 02.3 -0.2**
BELA Belgrano 2 97.94 181 P **P** **16 11 02.3 -0.4**
BELA IAmb IAmb 16 11 04.1
comp=Z,23nm,1.2s
NAX Nakhchivan 98.37 309 P **P** **16 11 05.3 -0.2**
RAYN Ar Rayn 98.40 293 P **P** **16 11 04.5 -1.5**
RAYN Ar Rayn 98.40 293 P **P** **16 11 04.5 -1.5**
RAYN pmax pmax
comp=Z,4.0nm,0.9s
GNI Garni 98.92 310 LR LR 17 01 03.8
comp=Z,33nm,21.1s,baz=82,slow=38
GNI Garni 98.92 310*deP* **P** **16 11 07.1 -1.0**
GNI pmax pmax
comp=Z,14nm,1.2s
YKA Yellowknife Ar 99.58 27 LR LR 16 52 09.8
comp=Z,628nm,21.9s,baz=293,slow=33
NVAR Mina Array Bea 99.60 52 P **Pdif** **16 11 11.6 +0.4**
comp=Z,0.5nm,0.7s,baz=244,slow=4.9,SNR=3.6
NVAR PP **PP** **16 15 16.4 +0.7**
comp=Z,1.0nm,0.7s,baz=258,slow=8.3,SNR=4.3
NVAR PKKPbc **PKKPbc** **16 27 35.0 +0.8**
comp=Z,1.1nm,0.8s,baz=180,slow=4.3,SNR=5.5
NVAR LR LR 16 47 53.8
comp=Z,643nm,21.7s,baz=270,slow=30
comp=Z,0.5nm,0.7s
TROLL Troll, Antarti 99.67 192 ⇑P **Pdif** **16 11 11.2 +0.5**
comp=Z,842nm,0.8s
NEW Newport 99.88 42 LR LR 16 52 52.1
comp=Z,234nm,18.4s,baz=291,slow=33
KBZ Khabaz 100.12 314 PP **PP** **16 15 20.2 +1.0**
comp=Z,3.8nm,0.9s,baz=84,slow=7.0,SNR=4.3
KLMR Klimovskoe 100.20 331 *eP* **Pdif** **16 11 09.8 -3.2**
KLMR *e* 16 15 16.4
KLMR pmax pmax
comp=Z,26nm,1.4s
KLMR MLR MLR
comp=Z,405nm,17.0s
KIV Kislovodsk 100.26 314 *eP* **Pdif** **16 11 10.9 -3.0**
KIV *e* 16 15 18.0
KIV *eSS* SS 16 29 38.5 -2.3
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,136nm,20.0s
VRH Novokhopyorsk 100.28 321 *eP* **Pdif** **16 11 09.6 -4.0**
VRH pmax pmax
comp=Z,20nm,1.0s
SNAA Sanae 100.96 190 ⇑P **Pdif** **16 11 17.1 +0.7**
comp=Z,174nm,1.1s
SNAA ⇑PP **PP** **16 15 25.2 +0.7**
SNAA Sanae 100.96 190 P **Pdif** **16 11 16.5 +0.1**
comp=Z,11nm,1.1s,baz=138,slow=3.2,SNR=19
SNAA PP **PP** **16 15 25.3 +0.7**
comp=Z,6.8nm,1.1s,baz=153,slow=6.9,SNR=7.0
SNAA Sanae 100.96 190 *iP* **Pdif** **16 11 17.3 +0.9**
APA Apatity 101.29 338⇓ *eP* **Pdif** **16 11 12.6 -5.2**
APA *e* 16 15 25.3
APA pmax pmax
comp=Z,9.0nm,1.2s
APA MLR MLR
comp=Z,1µm,4.9s
VORR Voronezh 101.78 322 *eP* **Pdif** **16 11 15.8 -4.5**
VORR pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 101.82 323 *eP* **Pdif** **16 11 16.8 -3.6**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 101.83 321 *eP* **Pdif** **16 11 17.3 -3.2**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 101.87 321 *eP* **Pdif** **16 11 17.0 -3.7**
VSR pmax pmax
comp=Z,10.0nm,1.0s
SOC Sochi 102.43 314 *eP* **Pdif** **16 11 20.5 -2.9**
SOC *e* 16 15 34.0
VNA3 Neumayer Olymp 102.47 189 ⇑P **Pdif** **16 11 23.2 +0.1**
comp=Z,4.0nm,0.8s
VNA1 Neumayer--Stat 102.77 190 PP **PKiKP** **16 15 38.4 -6.2**
PDAR Pinedale Array 105.81 47 Pdiff **Pdif** **16 11 38.5 -0.3**
comp=Z,0.3nm,0.5s,baz=222,slow=2.0,SNR=4.3
PDAR PP **PP** **16 16 05.9 +3.8**
comp=Z,0.6nm,0.7s,baz=277,slow=5.1,SNR=4.2
PDAR PKKPbc **PKKPbc** **16 27 15.1 -0.9**
comp=Z,0.4nm,0.5s,baz=116,slow=4.7,SNR=5.9
FINES FINESS Array B 106.30 333 Pdiff **Pdif** **16 11 38.8 -1.4**
comp=Z,3.2nm,0.8s,baz=90,slow=4.8,SNR=6.9
BRTR Keskin Array B 107.45 310 Pdiff **Pdif** **16 11 43.9 -2.1**
comp=Z,1.1nm,0.8s,baz=46,slow=3.6,SNR=4.1
BRTR PP **PP** **16 16 12.8 -1.4**
comp=Z,1.3nm,0.9s,baz=79,slow=6.4,SNR=3.5
MNK Minsk 107.79 326 *iP* **Pdif** **16 11 46.4 -0.6**
comp=E,14nm,0.9s
MNK *i* P **Pdif** **16 11 46.4 -0.6**
comp=N,8.0nm,0.7s
MNK *i* P **Pdif** **16 11 46.4 -0.6**
comp=Z,5.0nm,0.6s,baz=71
MNK *i* pP **sPdif** **16 12 10.2 +1.1**
MNK *i* sP **pPdif** **16 12 14.4 +11**
MNK *i* PP PP 16 16 06.4 -9.4
MNK *i* PPP PPP 16 17 58.6
MNK *i* SKS SKSdf 16 22 40.9 -21
MNK *i* SKKS 16 24 38.7
MNK *i* PS **PS** **16 25 36.0 -3.6**
MNK *i* SS SS 16 31 57.4 +34
MNK *i* SSS SSS 16 34 43.8
MNK *i* LQ LQ 16 57 50.4
MNK *i* LR LR 17 01 03.4
MNK *i* LRM MLR 17 04 13.8
comp=Z,254nm,17.1s
MNK *i* LRM MLR 17 04 14.3
comp=E,186nm,18.2s
MNK *i* LRM MLR 17 04 25.7
comp=N,196nm,18.1s
MNK Minsk 107.79 326 *iP* **Pdif** **16 11 46.3 -0.6**
MNK *i* PS **PS** **16 25 35.9 -3.6**
MNK pmax pmax
comp=E,14nm,0.9s
MNK pmax pmax
comp=N,8.0nm,0.7s
MNK pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 108.13 322 PP **PP** **16 16 14.5 -3.9**
comp=Z,3.9nm,0.9s,baz=60,slow=7.3,SNR=4.6
MLR Muntele Rosu 111.71 318 PP **PP** **16 16 48.5 +3.8**
comp=Z,7.2nm,1.0s,baz=126,slow=8.3,SNR=4.3
HFS Hagfors 112.28 335 PP **PP** **16 16 47.6 -0.4**
comp=Z,2.9nm,0.9s,baz=7.0,slow=10.0,SNR=3.6
TXAR Lajitas Array 112.55 60 PKiKP **PKiKP** **16 16 03.7 -0.5**
comp=Z,0.9nm,0.9s,baz=236,slow=1.4,SNR=5.8
TXAR PKKPbc **PKKPbc** **16 26 52.0 -1.8**
comp=Z,0.7nm,0.7s,baz=116,slow=5.6,SNR=6.5
MORC Moravsky Berou 115.46 324 *ePKP* **PKiKP** **16 16 08.3 -0.8**
JAVC Velka Javorina 115.78 323 *ePKP* **PKiKP** **16 16 09.5 -0.2**
KRUC Moravsky 116.45 324 *ePKP* **PKPdf** **16 16 10.2 -0.7**
LKGWB Lokgwabe 116.58 240 **PKPdf** **16 16 11.6 -0.5**
BRG Berggiesshubel 117.00 326 *ePKP* **PKPdf** **16 16 12.0 0.0**
BRG Amp 16 16 12.7
comp=Z,4.7nm,1.1s
RONA Rosalia, Austr 117.11 322 *ePKiKP* **PKPdf** **16 16 12.3 0.0**
comp=Z,4.1nm,1.0s
CLL Collm 117.30 327 *i* PKIKP **PKPdf** **16 16 11.9 -0.6**
CLL *e* 16 17 25.0
CLL MLR MLR
comp=Z,400nm,19.6s
KHC Kasperske Hory 118.06 325 *ePKP* **PKPdf** **16 16 11.5 -2.6**
KHC Kasperske Hory 118.06 325 *ePKIKP* **PKPdf** **16 16 11.5 -2.6**
GERES GERESS Array B 118.12 324 PKP **PKPdf** **16 16 13.9 -0.3**
comp=Z,0.7nm,0.4s,baz=40,slow=2.3,SNR=10
GERES PKKPbc **PKKPbc** **16 26 34.7 -0.5**
comp=Z,0.4nm,0.5s,baz=191,slow=2.7,SNR=4.1
GERES GERESS Array B 118.12 324 PKIKP **PKPdf** **16 16 14.0 -0.3**
SOKA Soboth 118.33 322 *ePKiKP* **PKPdf** **16 16 14.6 -0.1**
comp=Z,4.9nm,1.1s
MYKA Terra Mystica 119.20 322 *ePKP* **PKPdf** **16 16 15.1 -1.3**
comp=Z,2.6nm,0.7s
MIAR Mount Ida 119.83 52 **PKPdf** **16 16 17.9 0.0**
MIAR Mount Ida 119.83 52 PKIKP **PKPdf** **16 16 17.9 0.0**
ABTA Abfaltersbach 119.83 323 *i* PKP **PKPdf** **16 16 16.4 -1.2**
comp=Z,9.3nm,1.5s
WATA Walderalm 120.10 324 *ePKiKP* **PKPdf** **16 16 18.4 +0.2**
comp=Z,2.5nm,0.5s
WTTA Wattenberg 120.10 324 *ePKP* **PKPdf** **16 16 17.6 -0.7**
comp=Z,10nm,0.8s
MOTA Moosalm 120.38 324 *ePKP* **PKPdf** **16 16 17.9 -0.9**
comp=Z,4.5nm,0.6s
SQTA Sankt Quirin 120.38 324 *ePKP* **PKPdf** **16 16 18.3 -0.5**
comp=Z,5.1nm,0.9s
FETA Feichten 120.76 324 *ePKP* **PKPdf** **16 16 18.8 -0.7**
comp=Z,7.4nm,1.0s
INTR Introdacqua 121.09 317 PKPdf **PKPdf** **16 16 19.9 -0.3**
DAVA Damuels 121.12 324 *ePKP* **PKPdf** **16 16 19.6 -0.7**
comp=Z,6.2nm,0.7s
TSUM Tsumeb 121.30 245 PKPdf **PKPdf** **16 16 19.9 -1.5**
DAVOX Davos/Dischmat 121.39 324 PKP **PKPdf** **16 16 19.6 -1.1**
comp=Z,1.4nm,0.3s,baz=146,slow=4.3,SNR=4.9
EKA Eskdalemuir Ar 122.22 338 PKP **PKPdf** **16 16 21.1 -0.8**
comp=Z,0.8nm,0.4s,baz=18,slow=2.7,SNR=10.0
EKA PKKPbc **PKKPab** **16 26 18.1 -0.6**
comp=Z,0.9nm,0.6s,baz=222,slow=2.2,SNR=3.9
PLCA Paso Flores 125.78 149 PKP **PKiKP** **16 16 30.1 +0.4**
comp=Z,16nm,0.8s,baz=195,slow=2.9,SNR=43
PLCA SKP 16 20 02.3
comp=Z,3.4nm,1.1s,baz=287,slow=4.9,SNR=3.3
KEST Kesra 126.97 312 PKP **PKPdf** **16 16 31.9 +0.2**
comp=Z,7.5nm,1.1s,baz=2.3,slow=3.8,SNR=6.1
BI02 San Fabin de 128.31 145 PKPdf **PKPdf** **16 16 34.5 +0.2**
F64A Sherman 130.49 28 PKPdf **PKiKP** **16 16 39.8 +1.0**
GO04 Tololo Observa 133.00 139 PKPdf **PKPdf** **16 16 43.5 -0.1**
ESDC Sonseca Array 133.72 324 PKP **PKPdf** **16 16 44.2 -0.1**
comp=Z,0.6nm,0.4s,baz=354,slow=1.4,SNR=4.7
ESDC PP **PP** **16 19 14.5 +1.4**
comp=Z,1.9nm,1.0s,baz=30,slow=7.1,SNR=5.7
ATAH Atahualpa 137.33 105 PKP **PKPdf** **16 16 52.0 -0.2**
comp=Z,5.7nm,0.8s,baz=212,slow=3.3,SNR=5.5
TORD Torodi Ar. Bea 140.63 285 PKhKP PKPpre 16 16 49.3
comp=Z,6.0nm,0.8s,baz=60,slow=3.3,SNR=15
TORD PP **PP** **16 19 58.6 +1.0**
comp=Z,0.8nm,0.8s,baz=31,slow=9.1,SNR=3.7
TORD SKPbc **SKPbc** **16 20 29.7 0.0**
comp=Z,1.7nm,0.7s,baz=64,slow=5.0,SNR=2.1
PLTB Pedras Altas 140.89 158 PKPpre PKPpre 16 16 50.6
SMRC Santa Marta, M 142.69 77 PKPdf **PKPdf** **16 17 00.8 -0.6**
ROSC El Rosal 142.97 88 PKP **PKPdf** **16 17 00.9 -1.5**
comp=Z,12nm,0.5s,baz=110,slow=0.0,SNR=7.7
LPAZ La Paz 143.19 124 PKP PKPbc 16 17 00.8 +0.8
comp=Z,14nm,0.9s,baz=260,slow=1.0,SNR=37
LPAZ SKPbc **SKPbc** **16 20 37.6 +0.7**
comp=Z,6.1nm,0.9s,baz=167,slow=0.8,SNR=3.6
CPUP Villa Florida 143.85 148 PKP PKPbc 16 17 01.7 +0.8
comp=Z,2.9nm,0.7s,baz=123,slow=1.7,SNR=23
CPUP SKPbc **SKiKP** **16 20 38.4 0.0**
comp=Z,3.8nm,1.0s,baz=188,slow=3.0,SNR=6.9
RUSC La Rusia 144.20 86 **PKPab** **16 17 02.6 0.0**
ITAB Concordia 145.50 156 PKPdf **PKPdf** **16 17 06.2 +0.3**
SDV Santo Domingo 146.46 80 PKPdf **PKPdf** **16 17 08.6 +0.4**
SDV Santo Domingo 146.46 80 PKPbc **PKPdf** **16 17 08.2 0.0**
comp=Z,14nm,0.6s,baz=256,slow=2.1,SNR=17
DBIC Dimbokro 147.74 276 PKPbc **PKPbc** **16 17 13.0 +0.1**
comp=Z,84nm,0.8s,baz=113,slow=2.7,SNR=93
SJG San Juan 148.50 62 PKPdf **PKPdf** **16 17 11.0 -0.2**
SJG San Juan 148.50 62 PKIKP **PKPdf** **16 17 11.0 -0.2**
PDPR Patillas Dam, 148.65 62 **PKPbc** **16 17 14.4 -0.8**
SIV San Ignacio 148.94 131 PKP **PKPdf** **16 17 11.4 -0.6**
comp=Z,4.6nm,0.9s,baz=198,slow=0.9,SNR=11
SIV PKPbc **PKiKP** **16 17 17.0 -0.4**
comp=Z,37nm,0.8s,baz=234,slow=3.2,SNR=68
PCRV Puerto La Cruz 152.15 76 PKPbc **PKPbc** **16 17 23.1 -0.7**
comp=Z,4.9nm,0.6s,baz=194,slow=4.2,SNR=1.1
BOAV Boa Vista 156.62 94 **PKPdf** **16 17 23.1 -0.2**
BDFB Brasilia 157.48 152 PKP **PKPdf** **16 17 23.8 -0.6**
comp=Z,12nm,0.8s,baz=228,slow=3.2,SNR=9.2
MDP Montagnes des 164.57 86 PKPab **PKPab** **16 18 27.7 +0.4**
comp=Z,13nm,1.0s,baz=271,slow=4.5,SNR=5.4

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*LDG **25** 16:03:02.4±0.3,43°.00N×13°.32E,h70km,MI3.0/20,Error ellipse: s-maj=9.0km s-min=4.7km az=51.0*
*ROM **25** 16:03:03.0±0.1,42°.898N±0°.004×13°.218E±0°.006, h68km,ML3.2/280,Error ellipse: s-maj=0.4km s-min=0.4km az=239.0*
*BGR **25** 16:03:03.5±0.8,43°.01N×13°.20E,h10km,ML3.5/20,Error ellipse: s-maj=10.0km s-min=7.8km az=175.0*

ISC 25 16:03:01.5±1.1,42°.91N±0°.02×13°.22E±0°.03,h82km±4km, n222,σ1°86/299,13C-12D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.02**	**265**	⇑P	**Pn**	**16 03 13.1**	**-0.3**
MC2				S	**Sn**	**16 03 20.3**	**-1.9**
MMO1	**Montemonaco**	**0.08**	**100**	P	**Pn**	**16 03 13.0**	**-0.3**
MMO1				S	**Sn**	**16 03 20.3**	**-1.7**
NRCA	**Norcia**	**0.11**	**223**	⇑P	**Pn**	**16 03 13.2**	**-0.2**
NRCA				S	**Sn**	**16 03 20.2**	**-1.9**
NRCA				AML	AML		
	comp=E,6465µm,0.2s						
NRCA				AML	AML		
	comp=E,6460µm,0.2s						
NRCA				AML	AML		
	comp=N,8245µm,0.7s						
NRCA				AML	AML		
	comp=N,7565µm,0.7s						
NRCA				AML	AML		
	comp=E,6915µm,0.2s						
NRCA				AML	AML		
	comp=N,7565µm,1.3s						
NRCA				AML	AML		
	comp=N,8245µm,1.3s						
NRCA				AML	AML		
	comp=E,6916µm,0.2s						
NRCA				AML	AML		
	comp=E,6462µm,0.1s						
NRCA				AML	AML		
	comp=N,7651µm,0.2s						
NRCA				AML	AML		
	comp=N,6832µm,0.1s						
FEMA	**Monte Fema**	**0.13**	**291**	P	**Pn**	**16 03 13.4**	**-0.1**
FEMA				S	**Sn**	**16 03 21.1**	**-1.3**
FEMA				AML	AML		
	comp=E,4795µm,0.5s						
FEMA				AML	AML		
	comp=N,2980µm,0.1s						
FEMA				AML	AML		
	comp=N,2980µm,0.2s						
FEMA				AML	AML		
	comp=E,4795µm,1.5s						
FEMA				AML	AML		
	comp=E,4513µm,0.4s						
FEMA				AML	AML		
	comp=N,2979µm,0.1s						
FDMO	**Fiordimonte**	**0.15**	**322**	⇑P	**Pn**	**16 03 13.3**	**-0.2**
FDMO				S	**Sn**	**16 03 20.8**	**-1.5**
FDMO				AML	AML		
	comp=N,4365µm,1.2s						
FDMO				AML	AML		
	comp=E,3410µm,1.6s						
FDMO				AML	AML		
	comp=N,4365µm,0.8s						
FDMO				AML	AML		
	comp=E,3319µm,0.2s						
FDMO				AML	AML		
	comp=N,4188µm,0.2s						
GUMA	**Gualdo di Mace**	**0.17**	**31**	⇑P	**Pn**	**16 03 13.4**	**-0.1**
GUMA				S	**Sn**	**16 03 21.1**	**-1.3**
GUMA				AML	AML		
	comp=E,12200µm,0.4s						
GUMA				AML	AML		
	comp=N,14600µm,0.4s						
GUMA				AML	AML		
	comp=E,14900µm,0.5s						
GUMA				AML	AML		
	comp=N,15250µm,0.4s						
GUMA				AML	AML		
	comp=N,14650µm,0.4s						
GUMA				AML	AML		
	comp=N,14650µm,1.6s						
GUMA				AML	AML		

	comp=N,15250µm,1.6s							
GUMA					AML	AML		
	comp=E,14459µm,0.2s							
GUMA					AML	AML		
	comp=N,10993µm,0.3s							
GUMA					AML	AML		
	comp=N,14648µm,0.4s							
GUMA					AML	AML		
	comp=E,12195µm,0.4s							
CSP1	**Cessapalombo**	**0.18**	**357**	⇑P		**Pn**	**16 03 13.4**	**-0.3**
CSP1				S		**Sn**	**16 03 21.1**	**-1.4**
MF5	**Montefalcone A**	**0.20**	**67**	⇑P		**Pn**	**16 03 13.6**	**0.0**
MF5				S		**Sn**	**16 03 21.2**	**-1.3**
MF5				AML	AML			
	comp=E,4345µm,0.3s							
MF5				AML	AML			
	comp=N,4875µm,0.5s							
MF5				AML	AML			
	comp=E,4340µm,0.3s							
MF5				AML	AML			
	comp=N,4880µm,0.5s							
MF5				AML	AML			
	comp=N,4545µm,0.5s							
MF5				AML	AML			
	comp=E,4342µm,0.3s							
MTRA	**Matera**	**0.21**	**140**	⇑P		**Pn**	**16 03 13.2**	**-0.5**
MTRA				S		**Sn**	**16 03 20.7**	**-1.9**
MTRA				AML	AML			
	comp=E,3430µm,0.2s							
MTRA				AML	AML			
	comp=N,3740µm,0.3s							
MTRA				AML	AML			
	comp=E,3440µm,0.2s							
MTRA				AML	AML			
	comp=E,3425µm,0.2s							
MTRA				AML	AML			
	comp=E,3440µm,1.8s							
MTRA				AML	AML			
	comp=E,3425µm,1.8s							
MTRA				AML	AML			
	comp=N,3705µm,0.3s							
MTRA				AML	AML			
	comp=E,3426µm,0.2s							
MTRA				AML	AML			
	comp=E,3440µm,0.2s							
MTRA				AML	AML			
	comp=N,3740µm,0.3s							
MTRA				AML	AML			
	comp=N,3708µm,0.3s							
SAP2	**Sant'Angelo in**	**0.23**	**36**	P		**Pn**	**16 03 13.7**	**+0.1**
SAP2				S		**Sn**	**16 03 21.4**	**-1.2**
SAP2				AML	AML			
	comp=E,5290µm,1.3s							
SAP2				AML	AML			
	comp=N,22250µm,1.4s							
SAP2				AML	AML			
	comp=E,5290µm,0.7s							
SAP2				AML	AML			
	comp=N,22250µm,0.6s							
SAP2				AML	AML			
	comp=E,4837µm,0.1s							
SAP2				AML	AML			
	comp=N,19553µm,0.3s							
PF6	**Pievefavera**	**0.23**	**356**	P		**Pn**	**16 03 13.4**	**-0.3**
PF6				S		**Sn**	**16 03 21.0**	**-1.7**
CESI	**CESI - Serrava**	**0.25**	**292**	⇑P		**Pn**	**16 03 13.9**	**+0.1**
CESI				S		**Sn**	**16 03 22.2**	**-0.7**
CESI				AML	AML			
	comp=E,2535µm,0.5s							
CESI				AML	AML			
	comp=N,2465µm,0.3s							
CESI				AML	AML			
	comp=N,2470µm,0.3s							
CESI				AML	AML			
	comp=N,2465µm,0.3s							
CESI				AML	AML			
	comp=E,2715µm,0.5s							
CESI				AML	AML			
	comp=N,2605µm,0.3s							
CESI				AML	AML			
	comp=E,2535µm,0.5s							
CESI				AML	AML			
	comp=E,2483µm,0.2s							
CESI				AML	AML			
	comp=E,2105µm,0.2s							
CESI				AML	AML			
	comp=N,2604µm,0.3s							
CESI				AML	AML			
	comp=N,2466µm,0.3s							
MML1	**Montelago di S**	**0.27**	**318**	P		**Pn**	**16 03 14.1**	**+0.2**
MML1				S		**Sn**	**16 03 22.3**	**-0.8**
MDAR	**Monte D'Aria**	**0.28**	**349**	P		**Pn**	**16 03 13.9**	**-0.2**
MNTP	**Montappone**	**0.29**	**40**	P		**Pn**	**16 03 14.0**	**0.0**
MNTP				S		**Sn**	**16 03 22.2**	**-0.9**
MNTP				AML	AML			
	comp=N,8350µm,0.3s							
MNTP				AML	AML			
	comp=E,9195µm,0.3s							
MNTP				AML	AML			
	comp=E,9195µm,0.3s							
MNTP				AML	AML			
	comp=E,9195µm,1.7s							
MNTP				AML	AML			
	comp=N,8347µm,0.3s							
MNTP				AML	AML			
	comp=E,9193µm,0.3s							
SMA1	**SAN MARTINO**	**0.30**	**163**	⇑P		**Pn**	**16 03 14.1**	**-0.1**
SMA1				S		**Sn**	**16 03 22.0**	**-1.5**
SMA1				AML	AML			
	comp=E,3490µm,0.3s							
SMA1				AML	AML			
	comp=N,3175µm,0.2s							
SMA1				AML	AML			
	comp=N,3175µm,1.8s							
SMA1				AML	AML			
	comp=N,3178µm,0.2s							
SMA1				AML	AML			
	comp=E,3490µm,0.3s							
SEF1	**Sefro**	**0.30**	**320**	P		**Pn**	**16 03 14.2**	**+0.2**
PIO1	**Pioraco**	**0.31**	**327**	P		**Pn**	**16 03 14.2**	**+0.1**
MNTT	**Montottone**	**0.32**	**62**	P		**Pn**	**16 03 14.5**	**+0.3**
MNTT				S		**Sn**	**16 03 22.7**	**-0.9**
MNTT				AML	AML			
	comp=N,14200µm,0.3s							
MNTT				AML	AML			
	comp=E,11450µm,0.6s							
MNTT				AML	AML			
	comp=N,14200µm,1.7s							
MNTT				AML	AML			
	comp=E,11450µm,1.4s							
MNTT				AML	AML			
	comp=E,11118µm,0.3s							
MNTT				AML	AML			
	comp=N,14245µm,0.3s							
SSM1	**San Severino M**	**0.32**	**355**	P		**Pn**	**16 03 14.2**	**+0.1**
GAVE	**Gavelli**	**0.32**	**227**	P		**Pn**	**16 03 14.2**	**-0.1**
GAVE				S		**Sn**	**16 03 22.3**	**-1.5**
GAVE				AML	AML			
	comp=N,5960µm,0.2s							
GAVE				AML	AML			
	comp=E,15400µm,0.2s							
GAVE				AML	AML			
	comp=N,19800µm,0.2s							
GAVE				AML	AML			
	comp=N,19800µm,1.8s							
GAVE				AML	AML			
	comp=N,5960µm,1.8s							
GAVE				AML	AML			
	comp=E,14600µm,0.2s							
GAVE				AML	AML			
	comp=N,5964µm,0.2s							
GAVE				AML	AML			
	comp=N,19776µm,0.2s							
GAVE				AML	AML			
	comp=E,14587µm,0.2s							
LNSS	**Leonessa**	**0.34**	**203**	⇓P		**Pn**	**16 03 14.3**	**-0.1**
LNSS				S		**Sn**	**16 03 22.6**	**-1.2**
LNSS				AML	AML			
	comp=E,6740µm,0.5s							
LNSS				AML	AML			
	comp=N,6465µm,1.2s							
LNSS				AML	AML			
	comp=N,6915µm,1.2s							
LNSS				AML	AML			
	comp=N,6465µm,1.1s							
LNSS				AML	AML			
	comp=E,6880µm,0.5s							
LNSS				AML	AML			
	comp=N,6915µm,0.8s							
LNSS				AML	AML			
	comp=N,6465µm,0.9s							
LNSS				AML	AML			
	comp=E,5174µm,0.3s							
LNSS				AML	AML			
	comp=E,5065µm,0.2s							
LNSS				AML	AML			
	comp=N,5660µm,0.1s							
LNSS				AML	AML			
	comp=N,6054µm,0.1s							
GAG1	**Gagliole**	**0.34**	**342**	P		**Pn**	**16 03 14.4**	**+0.1**
FIU1	**Fiuminata**	**0.34**	**323**	P		**Pn**	**16 03 14.5**	**+0.2**
OFFI	**Offida**	**0.35**	**86**	⇑P		**Pn**	**16 03 15.0**	**+0.7**
OFFI				S		**Sn**	**16 03 23.9**	**+0.2**
OFFI				AML	AML			
	comp=E,10880µm,0.4s							
OFFI				AML	AML			
	comp=N,10085µm,1.5s							
OFFI				AML	AML			
	comp=N,10085µm,0.5s							
OFFI				AML	AML			
	comp=E,10880µm,1.6s							
OFFI				AML	AML			
	comp=N,9709µm,0.5s							
OFFI				AML	AML			
	comp=E,10860µm,0.4s							
MTL1	**Matelica**	**0.37**	**336**	P		**Pn**	**16 03 14.8**	**+0.3**
SNTG	**Esanatoglia**	**0.40**	**329**	⇓P		**Pn**	**16 03 15.0**	**+0.3**
SNTG				S		**Sn**	**16 03 23.7**	**-0.7**
SNTG				AML	AML			
	comp=E,1078µm,0.1s							
SNTG				AML	AML			
	comp=N,1575µm,0.1s							
SNTG				AML	AML			
	comp=E,1088µm,0.1s							
SNTG				AML	AML			
	comp=N,1580µm,0.2s							
SNTG				AML	AML			
	comp=E,1078µm,0.1s							
SNTG				AML	AML			
	comp=N,1575µm,0.1s							
SNTG				AML	AML			
	comp=E,1079µm,0.1s							
SNTG				AML	AML			
	comp=E,1087µm,0.1s							
SNTG				AML	AML			
	comp=N,1574µm,0.1s							
SNTG				AML	AML			
	comp=N,1579µm,0.2s							
TRE1	**Treia**	**0.40**	**10**	P		**Pn**	**16 03 14.9**	**+0.2**
TRE1				S		**Sn**	**16 03 23.7**	**-0.8**
TRE1				AML	AML			
	comp=N,3217µm,0.2s							
TRE1				AML	AML			
	comp=E,3601µm,0.2s							
CAMP	**Campotosto**	**0.40**	**159**	⇑P		**Pn**	**16 03 14.9**	**0.0**
CAMP				S		**Sn**	**16 03 23.1**	**-1.6**
CAMP				AML	AML			
	comp=N,1355µm,0.4s							
CAMP				AML	AML			
	comp=E,866µm,0.3s							
CAMP				AML	AML			
	comp=N,1357µm,0.4s							
CAMP				AML	AML			
	comp=E,866µm,0.3s							
RM33	**Pellescritta (**	**0.41**	**180**	P		**Pn**	**16 03 15.0**	**+0.2**
RM33				S		**Sn**	**16 03 23.5**	**-1.1**
RM33				AML	AML			
	comp=E,3920µm,0.4s							
RM33				AML	AML			
	comp=N,3955µm,1.0s							
RM33				AML	AML			
	comp=E,3990µm,0.4s							
RM33				AML	AML			
	comp=E,3920µm,0.4s							
RM33				AML	AML			
	comp=N,3955µm,1.1s							
RM33				AML	AML			
	comp=N,3920µm,1.0s							
RM33				AML	AML			
	comp=N,3669µm,0.4s							
RM33				AML	AML			
	comp=N,3558µm,0.4s							
RM33				AML	AML			
	comp=E,3918µm,0.4s							
RM33				AML	AML			
	comp=E,3987µm,0.4s							
TERO	**Teramo**	**0.41**	**135**	⇑P		**Pn**	**16 03 14.8**	**0.0**
TERO				S		**Sn**	**16 03 23.6**	**-1.0**
TERO				AML	AML			
	comp=E,1245µm,1.5s							
TERO				AML	AML			
	comp=N,1038µm,1.1s							
TERO				AML	AML			
	comp=E,1245µm,0.5s							
TERO				AML	AML			
	comp=N,1038µm,0.9s							
TERO				AML	AML			
	comp=E,732µm,0.3s							
TERO				AML	AML			
	comp=E,1189µm,0.3s							
TERO				AML	AML			
	comp=N,936µm,0.2s							
TERO				AML	AML			
	comp=N,474µm,0.4s							
EL6	**Elcito**	**0.42**	**349**	⇓P		**Pn**	**16 03 15.2**	**+0.3**
EL6				S		**Sn**	**16 03 24.3**	**-0.6**
EL6				AML	AML			
	comp=N,3345µm,1.6s							
EL6				AML	AML			
	comp=N,3350µm,1.6s							
EL6				AML	AML			
	comp=E,4770µm,0.5s							
EL6				AML	AML			
	comp=N,2984µm,0.3s							
EL6				AML	AML			
	comp=E,4195µm,0.4s							
CING	**Cingoli**	**0.46**	**358**	P		**Pn**	**16 03 15.3**	**+0.1**
CING				S		**Sn**	**16 03 24.4**	**-0.9**
ARRO	**Arrone**	**0.47**	**225**	P		**Pn**	**16 03 15.4**	**+0.2**
ARRO				S		**Sn**	**16 03 24.5**	**-0.9**
MOMA	**Monte Martano**	**0.49**	**257**	P		**Pn**	**16 03 15.4**	**0.0**
MOMA				S		**Sn**	**16 03 24.7**	**-1.1**
MOMA				AML	AML			
	comp=E,2870µm,0.3s							
MOMA				AML	AML			
	comp=N,2285µm,1.0s							
MOMA				AML	AML			
	comp=E,2584µm,0.3s							
MOMA				AML	AML			
	comp=E,2450µm,0.3s							
MOMA				AML	AML			
	comp=N,2088µm,0.4s							
MOMA				AML	AML			
	comp=N,2113µm,0.4s							
CADA	**Capodarco di F**	**0.49**	**55**	P		**Pn**	**16 03 16.1**	**+0.7**
CADA				AML	AML			
	comp=E,5630µm,0.6s							
CADA				AML	AML			
	comp=N,6315µm,0.5s							
CADA				AML	AML			
	comp=E,4840µm,0.4s							
CADA				AML	AML			
	comp=N,4941µm,0.5s							
ATCC	**AVT- Casa Cast**	**0.50**	**303**	P		**Pn**	**16 03 16.3**	**+0.8**
ATCC				S		**Sn**	**16 03 25.8**	**-0.1**
ATCC				AML	AML			
	comp=N,900µm,1.2s							
ATCC				AML	AML			
	comp=E,1014µm,0.3s							
ATCC				AML	AML			
	comp=N,900µm,0.8s							
ATCC				AML	AML			
	comp=E,1014µm,0.3s							
ATCC				AML	AML			
	comp=N,837µm,0.3s							
FOSV	**Fossato di Vic**	**0.51**	**319**	P		**Pn**	**16 03 16.3**	**+0.7**
FOSV				S		**Sn**	**16 03 26.3**	**+0.4**
TRTR	**Tortoreto Alta**	**0.52**	**101**	P		**Pn**	**16 03 16.6**	**+0.9**
TRTR				S		**Sn**	**16 03 26.9**	**+0.8**
TRTR				AML	AML			
	comp=E,4285µm,0.3s							
TRTR				AML	AML			
	comp=N,4415µm,0.4s							
TRTR				AML	AML			
	comp=E,4286µm,0.3s							
TRTR				AML	AML			
	comp=N,4419µm,0.4s							
GIGS	**Gran Sasso**	**0.53**	**151**	⇑P		**Pn**	**16 03 16.1**	**+0.2**
GIGS				AML	AML			
	comp=E,220µm,0.2s							
GIGS				AML	AML			
	comp=N,252µm,0.7s							
GIGS				AML	AML			
	comp=E,220µm,0.2s							
GIGS				AML	AML			
	comp=N,178µm,0.3s							
AQU	**L'Aquila**	**0.58**	**166**	P		**Pn**	**16 03 16.7**	**+0.5**
SSFR	**Montelago di S**	**0.61**	**329**	⇓P		**Pn**	**16 03 17.4**	**+0.9**
SSFR				S		**Sn**	**16 03 28.3**	**+0.6**
SSFR				AML	AML			
	comp=E,2655µm,0.2s							
SSFR				AML	AML			
	comp=N,2800µm,0.1s							
SSFR				AML	AML			
	comp=N,2800µm,0.2s							
SSFR				AML	AML			
	comp=E,2680µm,0.2s							
SSFR				AML	AML			
	comp=N,1940µm,0.3s							
SSFR				AML	AML			
	comp=E,2680µm,1.8s							
SSFR				AML	AML			
	comp=E,2655µm,1.8s							
SSFR				AML	AML			
	comp=N,1940µm,1.7s							
SSFR				AML	AML			
	comp=N,2800µm,1.8s							
SSFR				AML	AML			
	comp=N,1821µm,0.1s							
SSFR				AML	AML			
	comp=E,2682µm,0.2s							
SSFR				AML	AML			
	comp=E,2656µm,0.2s							
SSFR				AML	AML			
	comp=N,2799µm,0.1s							
MURB	**Monte Urbino**	**0.61**	**305**	P		**Pn**	**16 03 17.7**	**+1.2**
MURB				AML	AML			
	comp=E,2345µm,0.3s							
MURB				AML	AML			
	comp=N,1490µm,0.2s							
MURB				AML	AML			
	comp=E,2345µm,0.3s							
MURB				AML	AML			
	comp=N,1490µm,0.2s							
MURB				AML	AML			
	comp=E,2580µm,0.3s							
MURB				AML	AML			
	comp=N,1625µm,0.2s							
MURB				AML	AML			
	comp=N,1492µm,0.2s							
MURB				AML	AML			
	comp=E,2348µm,0.3s							
MURB				AML	AML			
	comp=E,2583µm,0.3s							
MURB				AML	AML			
	comp=N,1623µm,0.2s							
ARVD	**Arcevia**	**0.62**	**341**	⇓P		**Pn**	**16 03 17.3**	**+0.8**
ARVD				S		**Sn**	**16 03 28.0**	**+0.3**
ARVD				AML	AML			
	comp=E,538µm,0.9s							
ARVD				AML	AML			
	comp=N,594µm,0.8s							
ARVD				AML	AML			
	comp=N,584µm,0.2s							
ARVD				AML	AML			
	comp=E,427µm,0.1s							
FIAM	**Fiamignano**	**0.65**	**186**	P		**Pn**	**16 03 17.5**	**+0.6**
FIAM				AML	AML			
	comp=N,540µm,0.6s							
FIAM				AML	AML			
	comp=E,488µm,0.5s							
FIAM				AML	AML			
	comp=E,488µm,1.5s							
FIAM				AML	AML			
	comp=E,2427µm,1.6s							
FIAM				AML	AML			
	comp=N,996µm,0.6s							
FIAM				AML	AML			
	comp=N,540µm,0.6s							
FIAM				AML	AML			
	comp=E,489µm,0.5s							
ATFO	**Monte Foce - G**	**0.65**	**314**	⇓P		**Pn**	**16 03 18.3**	**+1.3**
ATFO				AML	AML			
	comp=E,636µm,1.4s							
ATFO				AML	AML			
	comp=N,466µm,0.4s							
ATFO				AML	AML			
	comp=E,636µm,0.6s							
ATFO				AML	AML			
	comp=N,452µm,0.2s							
ATFO				AML	AML			
	comp=E,597µm,0.5s							
ATTE	**AVT- Monte Tez**	**0.69**	**294**	P		**Pn**	**16 03 18.1**	**+0.8**
ATTE				S		**Sn**	**16 03 29.1**	**-0.1**
ATTE				AML	AML			
	comp=N,1255µm,0.2s							
ATTE				AML	AML			
	comp=E,1265µm,0.5s							
ATTE				AML	AML			
	comp=N,1254µm,0.2s							
ATTE				AML	AML			
	comp=E,1232µm,0.4s							
AOI	**Ancona**	**0.69**	**24**	P		**Pn**	**16 03 17.6**	**+0.2**
AOI				S		**Sn**	**16 03 28.7**	**-0.3**
AOI				AML	AML			
	comp=E,704µm,1.1s							
AOI				AML	AML			
	comp=E,704µm,1.1s							
AOI				AML	AML			
	comp=N,560µm,0.2s							
AOI				AML	AML			
	comp=E,704µm,0.9s							
AOI				AML	AML			
	comp=E,631µm,0.2s							
AOI				AML	AML			
	comp=N,560µm,0.2s							
VCEL	**Villa Celiera**	**0.69**	**138**	P		**Pn**	**16 03 17.9**	**+0.5**
VCEL				S		**Sn**	**16 03 28.9**	**-0.3**
VCEL				AML	AML			
	comp=E,1072µm,0.5s							
VCEL				AML	AML			
	comp=N,918µm,1.5s							
VCEL				AML	AML			
	comp=N,918µm,0.5s							
VCEL				AML	AML			
	comp=E,1072µm,1.5s							
VCEL				AML	AML			
	comp=N,860µm,0.3s							
VCEL				AML	AML			
	comp=E,1074µm,0.5s							
FRON	**Frontone**	**0.70**	**329**	⇓P		**Pn**	**16 03 18.4**	**+1.0**
FRON				S		**Sn**	**16 03 30.1**	**+1.0**
FRON				AML	AML			
	comp=E,542µm,0.7s							
FRON				AML	AML			
	comp=N,886µm,0.3s							
FRON				AML	AML			
	comp=E,536µm,0.3s							
FRON				AML	AML			
	comp=N,887µm,0.3s							
COR1	**Corinaldo**	**0.73**	**348**	⇓P		**Pn**	**16 03 19.2**	**+1.5**
COR1				AML	AML			
	comp=E,980µm,0.7s							
COR1				AML	AML			
	comp=N,1615µm,0.3s							
COR1				AML	AML			
	comp=E,978µm,0.7s							
COR1				AML	AML			
	comp=E,978µm,1.3s							
COR1				AML	AML			
	comp=N,1615µm,1.7s							
COR1				AML	AML			
	comp=E,886µm,0.2s							
COR1				AML	AML			
	comp=E,2101µm,0.3s							
COR1				AML	AML			
	comp=N,1616µm,0.3s							
COR1				AML	AML			
	comp=N,1869µm,0.3s							
ATVO	**AVT- Monte Val**	**0.75**	**309**	P		**Pn**	**16 03 19.0**	**+1.0**
ATVO				AML	AML			

comp=E,340µm,0.4s
ATVO AML AML
comp=N,368µm,0.9s
MPAG Monte Paganucc 0.79 335 ⇓P **Pn 16 03 19.4 +1.0**
MPAG S **Sn 16 03 31.6 +0.7**
MPAG AML AML
comp=E,708µm,0.5s
MPAG AML AML
comp=N,980µm,0.6s
MPAG AML AML
comp=E,708µm,1.5s
MPAG AML AML
comp=N,767µm,0.2s
MPAG AML AML
comp=N,708µm,0.1s
MPAG AML AML
comp=E,501µm,0.2s
MPAG AML AML
comp=E,457µm,0.2s
SENI Senigallia 0.79 1 P **Pn 16 03 19.3 +1.1**
SENI AML AML
comp=E,2980µm,0.2s
SENI AML AML
comp=N,3370µm,0.3s
SENI AML AML
comp=E,2975µm,0.3s
SENI AML AML
comp=N,3370µm,0.3s
SENI AML AML
comp=N,434µm,0.3s
SENI AML AML
comp=E,402µm,0.4s
SENI AML AML
comp=E,2979µm,0.2s
SENI AML AML
comp=N,3368µm,0.3s
PIEI Pieia 0.80 322 ⇓P **Pn 16 03 19.7 +1.3**
PIEI S **Sn 16 03 32.3 +1.4**
PIEI AML AML
comp=N,576µm,0.7s
PIEI AML AML
comp=E,944µm,0.3s
PIEI AML AML
comp=N,576µm,1.3s
PIEI AML AML
comp=E,942µm,0.3s
PIEI AML AML
comp=N,494µm,0.2s
ATPI Pietralunga - 0.80 312 P **Pn 16 03 20.0 +1.5**
ATPI AML AML
comp=E,434µm,0.6s
ATPI AML AML
comp=N,329µm,0.3s
ATPI AML AML
comp=N,329µm,0.3s
ATPI AML AML
comp=E,429µm,0.6s
ATPI AML AML
comp=E,435µm,0.6s
ATPI AML AML
comp=N,319µm,0.4s
T0110 Collepietro 0.80 149 P **Pn 16 03 19.4 +0.8**
T0110 S **Sn 16 03 30.8 -0.4**
T0110 AML AML
comp=N,840µm,0.4s
T0110 AML AML
comp=E,1018µm,0.4s
T0110 AML AML
comp=N,839µm,0.4s
T0110 AML AML
comp=E,1019µm,0.4s
ATMI Monte Miggiano 0.81 301 P **Pn 16 03 19.7 +1.1**
ATMI S **Sn 16 03 31.0 -0.2**
ATMI AML AML
comp=E,785µm,1.6s
ATMI AML AML
comp=N,931µm,1.5s
ATMI AML AML
comp=N,931µm,0.5s
ATMI AML AML
comp=E,785µm,0.4s
ATMI AML AML
comp=E,694µm,0.2s
ATMI AML AML
comp=N,914µm,0.4s
MGAB Montegabbione 0.81 270 ⇓P **Pn 16 03 19.4 +0.9**
MGAB S **Sn 16 03 31.0 -0.2**
MGAB AML AML
comp=N,1225µm,0.3s
MGAB AML AML
comp=E,951µm,0.5s
MGAB AML AML
comp=N,1330µm,0.3s
MGAB AML AML
comp=N,1225µm,1.7s
MGAB AML AML
comp=N,1330µm,1.7s
MGAB AML AML
comp=E,986µm,0.5s
MGAB AML AML
comp=N,1223µm,0.3s
MGAB AML AML
comp=N,1331µm,0.3s
MGAB AML AML
comp=E,912µm,0.3s
MGAB AML AML
comp=E,949µm,0.5s
PTQR Pietraquaria 0.90 171 P **Pn 16 03 20.7 +1.1**
PTQR S **Sn 16 03 33.5 +0.4**
PTQR AML AML
comp=E,272µm,0.4s
PTQR AML AML
comp=N,238µm,1.2s
PTQR AML AML
comp=E,272µm,0.4s
PTQR AML AML
comp=N,225µm,0.4s
BADI Badiali 0.93 310 P **Pn 16 03 21.2 +1.4**
BADI AML AML
comp=E,491µm,0.6s
BADI AML AML
comp=N,424µm,0.4s
BADI AML AML
comp=E,433µm,0.3s
BADI AML AML
comp=N,424µm,0.4s
PE3 Peglio 0.94 326 P **Pn 16 03 22.1 +2.0**
PE3 AML AML
comp=E,2170µm,0.4s
PE3 AML AML
comp=N,2330µm,0.5s
PE3 AML AML
comp=E,2175µm,0.4s
PE3 AML AML
comp=N,2332µm,0.5s
MTCE Montecelio 0.96 202 P **Pn 16 03 21.0 +0.8**
MTCE S **Sn 16 03 33.1 -1.0**
MTCE AML AML
comp=E,448µm,0.3s
MTCE AML AML
comp=N,206µm,0.3s
MTCE AML AML
comp=N,206µm,0.3s
MTCE AML AML
comp=E,448µm,0.3s
SACS San Casciano d 0.96 267 ⇓P **Pn 16 03 21.2 +0.9**
SACS S **Sn 16 03 34.4 +0.1**
SACS AML AML
comp=N,415µm,1.1s
SACS AML AML
comp=N,416µm,0.3s
SACS AML AML
comp=N,415µm,0.9s
SACS AML AML
comp=E,294µm,0.6s
SACS AML AML
comp=E,339µm,1.4s
SACS AML AML
comp=N,411µm,0.3s
SACS AML AML
comp=N,417µm,0.3s
SACS AML AML
comp=E,308µm,0.2s
SACS AML AML
comp=E,286µm,0.2s
CERT Cerreto 0.98 190 P **Pn 16 03 21.1 +0.6**
CERT S **Sn 16 03 34.3 -0.3**
CERT AML AML
comp=N,440µm,0.4s
CERT AML AML
comp=N,440µm,1.6s
CERT AML AML
comp=E,472µm,0.9s
CERT AML AML
comp=N,431µm,0.2s
CERT AML AML
comp=E,454µm,0.3s
PARC Parchiule 1.02 316 P **Pn 16 03 23.0 +2.0**
PARC AML AML
comp=E,236µm,0.3s
PARC AML AML
comp=N,264µm,1.1s
PARC AML AML
comp=E,235µm,0.3s
PARC AML AML
comp=N,203µm,0.3s
INTR Introdacqua 1.04 150 P **Pn 16 03 22.2 +1.0**
INTR AML AML
comp=N,260µm,0.7s
PESA Pesaro 1.06 345 P **Pn 16 03 23.0 +1.6**
PESA S **Sn 16 03 37.7 +1.4**
PESA AML AML
comp=E,2035µm,0.5s
PESA AML AML
comp=E,2035µm,1.5s
PESA AML AML
comp=N,1198µm,0.4s
PESA AML AML
comp=E,1963µm,0.2s
PESA AML AML
comp=N,815µm,0.2s
LATE Laterza 1.08 254 P **Pn 16 03 22.6 +1.0**
LATE AML AML
comp=N,350µm,0.8s
LATE AML AML
comp=E,262µm,0.3s
LATE AML AML
comp=N,331µm,0.4s
LATE AML AML
comp=E,262µm,0.3s
RCAV Rocca di Cave 1.08 191 P **Pn 16 03 22.5 +0.7**
RCAV AML AML
comp=E,362µm,0.4s
RCAV AML AML
comp=E,362µm,1.6s
RCAV AML AML
comp=N,344µm,0.7s
RCAV AML AML
comp=E,362µm,0.4s
RCAV AML AML
comp=N,311µm,0.2s
VVLD Villa Vallelon 1.08 164 P **Pn 16 03 23.1 +1.3**
VVLD AML AML
comp=E,258µm,0.6s
VVLD AML AML
comp=N,261µm,0.5s
VVLD AML AML
comp=E,272µm,0.7s
VVLD AML AML
comp=N,251µm,0.5s
VVLD AML AML
comp=N,251µm,1.5s
VVLD AML AML
comp=N,261µm,1.5s
VVLD AML AML
comp=E,272µm,1.3s
VVLD AML AML
comp=N,251µm,0.5s
VVLD AML AML
comp=N,261µm,0.5s
VVLD AML AML
comp=E,271µm,0.5s
VVLD AML AML
comp=E,259µm,0.6s
BARO Barbarano Roma 1.09 233 P **Pn 16 03 22.4 +0.6**
BARO AML AML
comp=E,236µm,0.8s
BARO AML AML
comp=N,257µm,0.4s
BARO AML AML
comp=N,257µm,0.4s
BARO AML AML
comp=E,216µm,0.3s
CPGN Carpegna, Ital 1.10 324 P **Pn 16 03 24.8 +2.7**
CPGN AML AML
comp=E,373µm,0.3s
CPGN AML AML
comp=N,338µm,0.4s
CPGN AML AML
comp=E,373µm,1.7s
CPGN AML AML
comp=N,339µm,0.4s
CPGN AML AML
comp=E,373µm,0.3s
GUAR Guarcino 1.12 176 P **Pn 16 03 23.3 +1.1**
GUAR AML AML
comp=N,402µm,1.3s
GUAR AML AML
comp=E,401µm,0.7s
GUAR AML AML
comp=N,402µm,0.7s
LPEL Lama dei Pelig 1.12 140 P **Pn 16 03 23.3 +1.1**
LPEL AML AML
comp=N,214µm,0.3s
LPEL AML AML
comp=E,320µm,0.5s
LPEL AML AML
comp=E,320µm,0.5s
LPEL AML AML
comp=E,279µm,0.3s
LPEL AML AML
comp=N,214µm,0.3s
LPEL AML AML
comp=N,215µm,0.3s
SF04 Casetta 1.15 267 P **Pn 16 03 23.5 +1.0**
SF04 AML AML
comp=E,243µm,0.2s
SF04 AML AML
comp=N,328µm,0.3s
SF04 AML AML
comp=N,329µm,0.3s
SF04 AML AML
comp=E,243µm,0.2s
CRE Caprese Michel 1.16 308 P **Pn 16 03 23.7 +1.0**
CRE AML AML
comp=N,348µm,0.3s
CRE AML AML
comp=E,238µm,0.3s
CRE AML AML
comp=N,348µm,0.3s
CRE AML AML
comp=E,237µm,0.3s
SF01 Poggio Pratacc 1.22 266 P **Pn 16 03 24.3 +0.9**
POFI Posta Fibreno 1.25 163 P **Pn 16 03 25.1 +1.3**
ARCI Arcidosso 1.28 268 P **Pn 16 03 26.0 +1.8**
LRP Arpino 1.30 168 P **Pn 16 03 25.4 +1.1**
LRP AML AML
comp=N,57µm,0.3s
LRP AML AML
comp=E,197µm,0.3s
GIUL Giuliano Di Ro 1.35 179 P **Pn 16 03 25.7 +0.6**
GIUL AML AML
comp=E,188µm,0.5s
GIUL AML AML
comp=N,136µm,0.5s
GIUL AML AML
comp=N,136µm,0.5s
GIUL AML AML
comp=E,189µm,0.5s
ASQU Asqua 1.36 311 P **Pn 16 03 26.3 +1.1**
RNI2 Rionero Sannit 1.40 150 P **Pn 16 03 26.5 +0.8**
SFI Santa Sofia 1.41 315 P **Pn 16 03 27.4 +1.6**
FRES Fresagrandinar 1.43 131 P **Pn 16 03 27.2 +1.2**
FRES AML AML
comp=N,176µm,0.7s
FRES AML AML
comp=E,250µm,0.5s
FRES AML AML
comp=E,223µm,0.3s
FRES AML AML
comp=N,138µm,0.3s
CERA Filignano 1.44 155 P **Pn 16 03 27.6 +1.3**
CERA AML AML
comp=E,138µm,0.6s
CERA AML AML
comp=N,194µm,0.7s
CERA AML AML
comp=E,138µm,1.4s
CERA AML AML
comp=N,194µm,1.3s
CERA AML AML
comp=E,138µm,0.6s
CERA AML AML
comp=N,191µm,0.7s
CERA AML AML
comp=N,194µm,0.7s
CERA AML AML
comp=E,126µm,0.6s
MIDA Miranda 1.49 148 P **Pn 16 03 27.8 +0.9**
TRIV Trivento 1.52 139 P **Pn 16 03 28.6 +1.4**
TRIV AML AML
comp=E,80µm,1.6s
TRIV AML AML
comp=N,99µm,0.5s
TRIV AML AML
comp=E,80µm,0.4s
TRIV AML AML
comp=N,100µm,0.5s
TRIV AML AML
comp=E,77µm,0.5s
TRIV AML AML
comp=E,87µm,0.5s
TRIV AML AML
comp=N,92µm,0.9s
RUFI Rufina 1.55 307 P **Pn 16 03 29.2 +1.6**
RUFI AML AML
comp=E,102µm,0.3s
RUFI AML AML
comp=N,102µm,1.5s
RUFI AML AML
comp=N,102µm,0.5s
RUFI AML AML
comp=N,86µm,0.4s
RUFI AML AML
comp=E,102µm,0.3s
OSSC Osservatorio P 1.56 294 AML AML
comp=N,57µm,0.3s
OSSC AML AML
comp=E,51µm,1.3s
OSSC AML AML
comp=E,51µm,0.7s
LMD Lutirano 1.60 317 P **Pn 16 03 30.2 +2.0**
LMD AML AML
comp=E,128µm,0.8s
LMD AML AML
comp=E,128µm,1.2s
LMD AML AML
comp=N,130µm,1.4s
LMD AML AML
comp=E,128µm,0.3s
LMD AML AML
comp=N,118µm,0.4s
CASP Castiglione de 1.73 267 P **Pn 16 03 30.8 +0.8**
CASP AML AML
comp=N,45µm,0.1s
CASP AML AML
comp=E,54µm,0.3s
SEI Scarperia 1.77 311 P **Pn 16 03 32.4 +2.0**
SEI AML AML
comp=E,129µm,0.5s
SEI AML AML
comp=N,196µm,0.4s
SEI AML AML
comp=N,195µm,0.4s
SEI AML AML
comp=E,129µm,0.5s
CIGN Sant'Elia a Pi 1.78 135 P **Pn 16 03 32.2 +1.7**
CIGN AML AML
comp=N,80µm,0.5s
CIGN AML AML
comp=E,73µm,1.0s
CIGN AML AML
comp=N,80µm,0.5s
CIGN AML AML
comp=E,69µm,0.8s
MOCL Monte Cuccoli 1.84 307 P **Pn 16 03 33.0 +1.6**
MOCL AML AML
comp=N,53µm,0.1s
MOCL AML AML
comp=E,61µm,0.2s
CRMI Carmignano 1.86 299 P **Pn 16 03 33.4 +1.8**
CRMI AML AML
comp=N,19µm,0.4s
CRMI AML AML
comp=E,17µm,0.2s
BRJN Brijuni 2.03 11 *e*Pn **Pn 16 03 32.8 -1.0**
APRC Apricena 2.08 123 P **Pn 16 03 35.6 +1.0**
APRC AML AML
comp=N,244µm,0.4s
APRC AML AML
comp=N,244µm,1.6s
APRC AML AML
comp=E,184µm,0.3s
APRC AML AML
comp=N,1001µm,0.8s
APRC AML AML
comp=N,204µm,0.4s
APRC AML AML
comp=E,184µm,0.3s
APRC AML AML
comp=E,193µm,0.3s
POPM Popiglio 2.12 303 P **Pn 16 03 37.1 +2.1**
POPM AML AML
comp=E,85µm,1.2s
POPM AML AML
comp=N,106µm,0.7s
POPM AML AML
comp=N,106µm,1.3s
POPM AML AML
comp=E,85µm,0.8s
POPM AML AML
comp=N,98µm,0.2s
POPM AML AML
comp=E,72µm,0.3s
PII Pisa 2.12 293 P **Pn 16 03 36.5 +1.5**
PII AML AML
comp=N,90µm,0.4s
PII AML AML
comp=E,92µm,1.6s
PII AML AML
comp=N,90µm,0.4s
PII AML AML
comp=E,58µm,0.4s
ZCCA Zocca 2.17 312 AML AML
comp=N,75µm,0.9s
ZCCA AML AML
comp=E,76µm,1.5s
SGRT San Giovanni R 2.20 121 P **Pn 16 03 37.5 +1.2**
SGRT AML AML
comp=N,180µm,0.3s
SGRT AML AML
comp=E,210µm,0.3s
SGRT AML AML
comp=E,191µm,0.3s
SGRT AML AML
comp=N,158µm,0.3s
BDI Bagni Di Lucca 2.23 302 P **Pn 16 03 38.1 +1.6**
BDI AML AML
comp=E,112µm,0.5s
BDI AML AML
comp=N,87µm,0.5s
BDI AML AML
comp=N,67µm,0.1s
BDI AML AML
comp=E,85µm,0.1s
VLC Villacollemand 2.40 302 P **Pn 16 03 40.9 +2.0**
VLC AML AML
comp=E,76µm,1.6s
VLC AML AML
comp=N,65µm,1.6s
VLC AML AML
comp=E,76µm,0.4s
VLC AML AML
comp=N,65µm,0.4s
KIJV Kijevo 2.56 64 *e*Pn **Pn 16 03 42.4 +1.4**
BOJS Bojanci 2.97 29 *i* Pn **Pn 16 03 47.9 +1.4**
BOJS *i* Sn **Sn 16 04 20.2 -1.0**
BOJS IAML 16 04 24.5
comp=Z,8.6nm,0.2s
BOJS Bojanci 2.97 29 AML AML
comp=N,108µm,0.5s

BOJS AML AML
comp=E,113µm,0.8s
MSSA Maissana 3.03 299 P Pn 16 03 49.6 +2.2
SABO M.te Sabotino 3.08 5 P Pn 16 03 48.4 +0.4
SABO AML AML
comp=E,941µm,0.5s
SABO AML AML
comp=N,612µm,1.2s
SABO AML AML
comp=E,229µm,0.5s
SABO AML AML
comp=N,159µm,0.9s
SABO AML AML
comp=N,612µm,0.8s
SABO AML AML
comp=E,215µm,0.3s
SABO AML AML
comp=E,915µm,0.3s
SABO AML AML
comp=N,142µm,0.4s
SABO AML AML
comp=N,602µm,0.4s
PGF Pioggiola 3.13 265 ePn Pn 16 03 50.7 +2.0
PGF *e*Sn **Sn 16 04 26.0 +0.9**
comp=N,2.1nm,0.3s
CGRP Cima Grappa 3.13 342 P Pn 16 03 49.7 +0.8
CGRP AML AML
comp=E,440µm,0.4s
CGRP AML AML
comp=N,368µm,0.4s
CGRP AML AML
comp=E,444µm,0.4s
CGRP AML AML
comp=N,350µm,0.4s
CGRP AML AML
comp=N,350µm,1.6s
CGRP AML AML
comp=E,444µm,1.6s
CGRP AML AML
comp=N,368µm,1.6s
CGRP AML AML
comp=E,440µm,1.6s
CGRP AML AML
comp=N,350µm,0.4s
CGRP AML AML
comp=E,444µm,0.4s
CGRP AML AML
comp=E,440µm,0.4s
CGRP AML AML
comp=N,368µm,0.4s
OZLJ Ozalj 3.15 30 ePn Pn 16 03 49.8 +1.0
VOJS Vojsko 3.15 8 *i* Pn Pn 16 03 49.4 +0.3
VOJS *i* Sn **Sn 16 04 24.7 -0.9**
VARN Col Varnada, M 3.18 346 P Pn 16 03 50.1 +0.8
VARN AML AML
comp=N,214µm,1.2s
VARN AML AML
comp=N,217µm,1.2s
VARN AML AML
comp=E,203µm,0.6s
VARN AML AML
comp=N,217µm,0.8s
VARN AML AML
comp=N,214µm,0.8s
VARN AML AML
comp=E,212µm,0.2s
VARN AML AML
comp=N,174µm,0.2s
VARN AML AML
comp=N,164µm,0.2s
VARN AML AML
comp=E,212µm,0.2s
VARN AML AML
comp=E,203µm,0.2s
AMUR Altamura 3.23 127 P Pn 16 03 51.4 +1.4
AMUR AML AML
comp=E,93µm,0.2s
AMUR AML AML
comp=N,99µm,0.9s
AMUR AML AML
comp=N,99µm,1.1s
AMUR AML AML
comp=N,98µm,0.3s
AMUR AML AML
comp=E,93µm,0.2s
MBAL Monte Baldo - 3.26 330 P Pn 16 03 51.2 +0.8
MBAL AML AML
comp=N,570µm,0.1s
MBAL AML AML
comp=E,501µm,0.8s
MBAL AML AML
comp=N,374µm,0.3s
MBAL AML AML
comp=E,550µm,0.5s
MBAL AML AML
comp=E,437µm,0.1s
MBAL AML AML
comp=N,333µm,0.1s
MBAL AML AML
comp=E,519µm,0.1s
MBAL AML AML
comp=N,571µm,0.1s
LJU Ljubljana 3.27 16 AML AML
LJU AML AML
comp=E,827µm,0.8s
LJU AML AML
comp=N,1044µm,0.8s
DRE Drenchia 3.27 5 P Pn 16 03 51.0 +0.4
STON Ston 3.29 89 ePn Pn 16 03 51.4 +0.6
STON Ston 3.29 89 AML AML
comp=E,61µm,0.8s
STON AML AML
comp=N,91µm,0.4s
DOSS Dosso del Somm 3.30 335 P Pn 16 03 51.9 +0.7
DOSS AML AML
comp=E,180µm,0.8s
DOSS AML AML
comp=N,190µm,1.2s
DOSS AML AML
comp=E,204µm,1.0s
DOSS AML AML
comp=N,179µm,0.5s
DOSS AML AML
comp=E,204µm,1.0s
DOSS AML AML
comp=N,174µm,0.1s
DOSS AML AML
comp=E,184µm,0.2s
DOSS AML AML
comp=N,143µm,0.1s
DOSS AML AML
comp=E,139µm,0.1s
GORR Gorreto 3.31 302 P Pn 16 03 54.6 +3.5
GORR AML AML
comp=E,65µm,0.2s
GORR AML AML
comp=N,63µm,0.2s
CTI Castel Tesino 3.33 341 P Pn 16 03 52.4 +1.0
CTI AML AML
comp=N,383µm,1.4s
CTI AML AML
comp=N,383µm,0.6s
CTI AML AML
comp=E,433µm,0.2s
CTI AML AML
comp=N,328µm,0.1s
VARA Varagna 3.35 331 P Pn 16 03 52.6 +0.8
VARA AML AML
comp=N,732µm,0.2s
VARA AML AML
comp=E,1300µm,0.2s
VARA AML AML
comp=N,1236µm,0.2s
VARA AML AML
comp=E,759µm,0.2s
VARA AML AML
comp=N,732µm,0.2s
VARA AML AML
comp=E,1299µm,0.2s
STAL STALIGIAL 3.37 354 P Pn 16 03 52.4 +0.6
STAL AML AML
comp=E,378µm,0.7s
STAL AML AML
comp=E,312µm,0.4s
STAL AML AML
comp=N,371µm,0.2s
STAL AML AML
comp=N,431µm,1.1s
STAL AML AML
comp=N,417µm,0.1s
STAL AML AML
comp=N,371µm,0.2s
STAL AML AML
comp=E,339µm,0.3s
STAL AML AML
comp=E,292µm,0.2s
BLY Banja Luka 3.41 56 ePn Pn 16 03 55.9 +3.5
MAGA Magasa 3.41 328 P Pn 16 03 53.3 +0.7
MAGA AML AML
comp=E,617µm,0.6s
MAGA AML AML
comp=E,617µm,1.4s
MAGA AML AML
comp=N,518µm,0.4s
MAGA AML AML
comp=E,524µm,0.3s
MAGA AML AML
comp=N,443µm,0.3s
PANI Panarotta 3.41 337 P Pn 16 03 53.7 +1.1
PANI AML AML
comp=E,206µm,0.3s
PANI AML AML
comp=N,186µm,0.6s
PANI AML AML
comp=N,186µm,1.4s
PANI AML AML
comp=E,153µm,0.1s
PANI AML AML
comp=N,183µm,0.2s
CIMO Cimolais 3.44 351 P Pn 16 03 53.2 +0.4
CIMO AML AML
comp=E,128µm,1.4s
CIMO AML AML
comp=N,120µm,0.2s
CIMO AML AML
comp=E,109µm,0.2s
CIMO AML AML
comp=N,126µm,0.2s
CIMO AML AML
comp=E,128µm,0.6s
CIMO AML AML
comp=N,126µm,0.2s
CIMO AML AML
comp=N,121µm,0.2s
CIMO AML AML
comp=E,109µm,0.1s
CIMO AML AML
comp=E,114µm,0.2s
LUSI Trento, Gardas 3.45 333 P Pn 16 03 53.9 +0.8
LUSI AML AML
comp=E,248µm,0.1s
LUSI AML AML
comp=N,452µm,0.9s
LUSI AML AML
comp=E,248µm,0.1s
LUSI AML AML
comp=N,425µm,0.2s
PTCC Patocco-Chiusa 3.49 2 P Pn 16 03 54.0 +0.4
PTCC AML AML
comp=N,150µm,0.3s
PTCC AML AML
comp=E,195µm,0.3s
PTCC AML AML
comp=N,150µm,0.3s
PTCC AML AML
comp=E,195µm,0.3s
FUSE Fusea 3.50 358 P Pn 16 03 54.5 +0.8
LTRZ Laterza 3.55 129 P Pn 16 03 55.9 +1.6
LTRZ AML AML
comp=E,380µm,1.2s
LTRZ AML AML
comp=N,930µm,1.6s
LTRZ AML AML
comp=N,930µm,0.4s
CLUD Cludinico 3.55 356 P Pn 16 03 55.2 +0.8
CLUD AML AML
comp=E,90µm,0.4s
CLUD AML AML
comp=N,48µm,1.4s
CLUD AML AML
comp=N,48µm,0.6s
CLUD AML AML
comp=E,79µm,0.5s
CLUD AML AML
comp=E,90µm,0.4s
CLUD AML AML
comp=N,46µm,0.4s
CLUD AML AML
comp=N,57µm,0.4s
GAGG Gaggia 3.56 334 P Pn 16 03 55.6 +1.0
GAGG AML AML
comp=E,173µm,0.3s
GAGG AML AML
comp=N,188µm,0.9s
GAGG AML AML
comp=E,218µm,0.9s
GAGG AML AML
comp=N,182µm,0.4s
GAGG AML AML
comp=E,218µm,1.1s
GAGG AML AML
comp=N,182µm,1.6s
GAGG AML AML
comp=E,173µm,1.7s
GAGG AML AML
comp=N,188µm,1.1s
GAGG AML AML
comp=E,208µm,0.2s
GAGG AML AML
comp=N,181µm,0.2s
GAGG AML AML
comp=E,153µm,0.3s
GAGG AML AML
comp=N,162µm,0.3s
ZIAN Ziano 3.56 341 P Pn 16 03 55.9 +1.3
ZIAN AML AML
comp=N,205µm,0.5s
ZIAN AML AML
comp=E,214µm,0.5s
ZIAN AML AML
comp=E,124µm,0.2s
ZIAN AML AML
comp=N,135µm,0.2s
ZIAN AML AML
comp=N,184µm,0.2s
ZIAN AML AML
comp=E,192µm,0.2s
NOCI Noci 3.57 125 P Pn 16 03 56.1 +1.4
NOCI AML AML
comp=E,76µm,0.5s
NOCI AML AML
comp=N,83µm,1.5s
NOCI AML AML
comp=N,83µm,0.5s
NOCI AML AML
comp=E,76µm,1.5s
NOCI AML AML
comp=N,72µm,0.2s
NOCI AML AML
comp=E,60µm,0.3s
RONC Roncone 3.58 330 P Pn 16 03 55.8 +0.8
RONC AML AML
comp=N,732µm,0.2s
RONC AML AML
comp=N,732µm,1.8s
RONC AML AML
comp=E,466µm,0.1s
RONC AML AML
comp=N,515µm,0.2s
RONC AML AML
comp=N,733µm,0.1s
RONC AML AML
comp=E,509µm,0.2s
RONC AML AML
comp=E,465µm,0.1s
ZONE Zone 3.61 323 P Pn 16 03 56.0 +0.8
ACOM Acomizza, Ital 3.64 3 P Pn 16 03 57.2 +1.5
ACOM AML AML
comp=N,156µm,0.4s
ACOM AML AML
comp=N,140µm,0.4s
ACOM AML AML
comp=E,146µm,0.8s
ACOM AML AML
comp=E,148µm,0.8s
ACOM AML AML
comp=E,131µm,0.3s
ACOM AML AML
comp=N,141µm,0.4s
ACOM AML AML
comp=N,156µm,0.5s
ACOM AML AML
comp=E,137µm,0.4s
ZOU Zoufplan 3.65 357 P Pn 16 03 56.5 +0.7
ZOU AML AML
comp=E,116µm,0.3s
ZOU AML AML
comp=N,102µm,1.4s
ZOU AML AML
comp=E,116µm,0.3s
ZOU AML AML
comp=E,120µm,0.3s
ZOU AML AML
comp=N,101µm,0.3s
ZOU AML AML
comp=N,93µm,0.3s
MABI Malga Bissina 3.69 329 P Pn 16 03 57.5 +1.1
MABI AML AML
comp=E,240µm,0.2s
MABI AML AML
comp=N,136µm,0.1s
MABI AML AML
comp=E,240µm,1.8s
MABI AML AML
comp=E,217µm,0.1s
MABI AML AML
comp=N,136µm,0.1s
MOSL Moslavina 3.71 42 ePn Pn 16 03 56.6 +0.1
OBKA Obir 3.72 14 *i* Pn Pn 16 03 58.1 +1.5
comp=N,3.4nm,0.3s,SNR=6.8
OBKA *e*Sn **Sn 16 04 39.8 +0.5**
comp=N,4.6nm,0.2s
OBKA Obir 3.72 14 ePn Pn 16 03 57.9 +1.2
OBKA *e*Sn **Sn 16 04 38.1 -1.3**
MYKA Terra Mystica 3.73 5 *i* Pn Pn 16 03 58.3 +1.5
comp=N,2.9nm,0.1s
MYKA *e*Sn **Sn 16 04 39.1 -0.5**
comp=N,16nm,0.3s
TREB Trebinje 3.78 91 ePn Pn 16 03 57.6 +0.1
MDI Monti di Nese 3.81 320 P Pn 16 03 58.6 +0.7
MDI AML AML
comp=N,124µm,1.1s
MDI AML AML
comp=E,160µm,0.2s
MDI AML AML
comp=E,161µm,0.2s
MDI AML AML
comp=N,116µm,0.2s
OZOL Ozolo 3.82 337 P Pn 16 03 59.4 +1.4
APPI Appiano 3.83 339 P Pn 16 03 59.6 +1.4
APPI AML AML
comp=N,256µm,0.5s
APPI AML AML
comp=E,206µm,1.5s
APPI AML AML
comp=E,194µm,0.4s
APPI AML AML
comp=N,234µm,0.2s
ABTA Abfaltersbach 3.87 353 *i* Pn Pn 16 04 00.1 +1.5
comp=N,2.2nm,0.1s
ABTA *e*Sn **Sn 16 04 42.6 -0.4**
comp=N,9.7nm,0.2s
GROS Grobnik 3.90 24 *i* Pn Pn 16 04 00.5 +1.3
GROS *i* Sn **Sn 16 04 42.5 -1.4**
BRES Bressanone 3.93 345 P Pn 16 04 01.6 +1.9
BRES AML AML
comp=N,264µm,1.3s
BRES AML AML
comp=E,283µm,0.2s
BRES AML AML
comp=E,283µm,0.2s
BRES AML AML
comp=N,251µm,0.2s
CARE Lago del Cares 3.94 334 P Pn 16 04 01.7 +1.8
CARE AML AML
comp=E,270µm,1.6s
CARE AML AML
comp=N,343µm,1.5s
CARE AML AML
comp=E,58µm,0.6s
CARE AML AML
comp=N,343µm,0.5s
CARE AML AML
comp=E,270µm,0.4s
CARE AML AML
comp=N,66µm,1.0s
CARE AML AML
comp=N,64µm,0.2s
CARE AML AML
comp=E,52µm,0.2s
KLINJ Klinje 3.94 84 ePn Pn 16 03 58.5 -1.3
SOKA Soboth 3.98 18 *i* Pn Pn 16 04 01.7 +1.5
comp=E,1.3nm,0.1s
SOKA *e*Sn **Sn 16 04 45.6 -0.2**
comp=E,5.4nm,0.4s
KBA Koelnbreinsper 4.17 1 *e*Sn Sn 16 04 50.2 -0.2
comp=E,13nm,0.3s
KBA Koelnbreinsper 4.17 1 *e*Sn Sn 16 04 49.1 -1.3
ROSI Rosskopf 4.21 343 AML AML
comp=E,162µm,1.6s
ROSI AML AML
comp=N,223µm,0.3s
MUGIO Muggio 4.24 317 AML AML
comp=E,70µm,1.0s
MUGIO AML AML
comp=E,70µm,1.0s
MUGIO AML AML
comp=N,97µm,0.3s
MUGIO AML AML
comp=N,97µm,1.7s
SBF Sospel 4.32 285 ePn Pn 16 04 07.4 +2.6
SBF *e*Sn **Sn 16 04 52.7 -1.3**
comp=N,4.0nm,0.3s
VARE Varese 4.34 314 AML AML
comp=N,108µm,0.4s
VARE AML AML
comp=E,134µm,0.2s
FETA Feichten 4.47 338 ePn Pn 16 04 09.8 +2.9
comp=E,0.5nm,0.1s
FETA *i* Sn **Sn 16 04 59.6 +1.8**
comp=E,2.9nm,0.2s
WTTA Wattenberg 4.49 346 *i* Pn Pn 16 04 10.0 +2.7
comp=E,1.9nm,0.1s
WTTA *e*Sn **Sn 16 04 59.5 +1.2**
comp=E,20nm,0.4s
WTTA Wattenberg 4.49 346 ePn Pn 16 04 10.3 +3.1
WTTA *e*Sn **Sn 16 04 56.3 -2.0**
WTTA Wattenberg 4.49 346 AML AML
comp=E,66µm,0.5s
WTTA AML AML
comp=N,88µm,0.5s
TUE Stuetta 4.50 324 AML AML
comp=N,91µm,0.5s
TUE AML AML
comp=E,145µm,0.4s
TUE AML AML
comp=N,98µm,0.8s
TUE AML AML
comp=E,142µm,0.4s
TUE AML AML
comp=N,91µm,1.5s
TUE AML AML
comp=N,98µm,1.2s
LESA Schwarzleotal 4.53 355 ePn Pn 16 04 09.4 +1.7
comp=N,0.7nm,0.1s
LESA *e*Sn **Sn 16 05 00.5 +1.4**
comp=N,14nm,0.3s
SQTA Sankt Quirin 4.53 342 *i* Pn Pn 16 04 10.8 +3.0
comp=N,4.6nm,0.1s
SQTA *e*Sn **Sn 16 04 59.1 -0.1**
comp=N,14nm,0.1s
WATA Walderalm 4.57 346 *i* Pn Pn 16 04 11.1 +2.8
comp=N,2.5nm,0.2s
WATA *e*Sn **Sn 16 05 02.2 +2.0**
comp=N,18nm,0.2s
ARSA Arzberg 4.63 20 *i* Pn Pn 16 04 10.0 +1.0
comp=N,3.9nm,0.3s,SNR=8.4
ARSA *e*Sn **Sn 16 04 59.2 -2.3**
comp=N,9.9nm,0.3s
ARSA Arzberg 4.63 20 ePn Pn 16 04 10.1 +1.0
ARSA *e*Sn **Sn 16 04 59.0 -2.5**
MOTA Moosalm 4.67 342 *i* Pn Pn 16 04 13.1 +3.4
comp=N,0.9nm,0.1s

MOTA				*i* Sn	**Sn**	**16 05 04.1**	**+1.3**		
	comp=N,7.8nm,0.3s								
BIOA	**Bad Ischl, Aus**	**4.79**	**3**	*e*Pn	**Pn**	**16 04 13.1**	**+2.0**		
	comp=N,1.0nm,0.1s								
BIOA				*e*Sn	**Sn**	**16 05 05.2**	**-0.1**		
	comp=N,17nm,0.4s								
FUSIO	**Fusio**	**4.80**	**319**	AML	AML				
	comp=N,77µm,1.3s								
FUSIO				AML	AML				
	comp=E,108µm,0.7s								
RJOB	**Jochberg**	**4.83**	**357**	*e*Pn	**Pn**	**16 04 13.6**	**+1.8**		
RJOB				*e*Sn	**Sn**	**16 05 05.1**	**-1.3**		
RETA	**Reutte**	**4.89**	**340**	*i* Sn	**Sn**	**16 05 10.0**	**+2.1**		
	comp=E,3.7nm,0.2s								
LMR	**La Mourre**	**4.93**	**277**	*e*Pn	**Pn**	**16 04 14.2**	**+1.2**		
LMR	**La Mourre**	**4.93**	**277**	*e*P	Pn	16 04 18.0	+5.0		
LMR				*e*Sn	**Sn**	**16 05 08.7**	**0.0**		
	comp=E,1.1nm,0.3s								
OBER	**Oberstdorf**	**4.95**	**336**	*e*Sn	**Sn**	**16 05 06.6**	**-2.7**		
PLONS	**Plons/SG**	**4.95**	**328**	*e*Pn	**Pn**	**16 04 16.2**	**+2.8**		
PLONS				*e*Sn	**Sn**	**16 05 08.6**	**-0.7**		
DAVA	**Damuels**	**4.97**	**333**	*e*Pn	**Pn**	**16 04 16.0**	**+2.3**		
	comp=E,1.6nm,0.2s								
DAVA	**Damuels**	**4.97**	**333**	*e*Pn	**Pn**	**16 04 15.9**	**+2.2**		
DAVA				*e*Sn	**Sn**	**16 05 08.0**	**-1.9**		
MOA	**Molln**	**4.99**	**8**	*e*Pn	**Pn**	**16 04 15.8**	**+1.8**		
	comp=E,0.8nm,0.1s								
MOA				*e*Sn	**Sn**	**16 05 11.0**	**+0.7**		
	comp=E,4.0nm,0.2s								
MOA	**Molln**	**4.99**	**8**	*e*Pn	**Pn**	**16 04 15.6**	**+1.7**		
MOA				*e*Sn	**Sn**	**16 05 08.5**	**-1.8**		
MBDF	**Montbardon**	**5.00**	**293**	*e*Pn	**Pn**	**16 04 15.7**	**+1.5**		
MBDF	**Montbardon**	**5.00**	**293**	*e*P	Pn	16 04 18.7	+4.5		
MBDF				*e*Sn	**Sn**	**16 05 08.3**	**-2.5**		
	comp=E,1.1nm,0.2s								
UBR	**Ueberruh**	**5.25**	**336**	*e*Sn	**Sn**	**16 05 15.8**	**-0.8**		
RONA	**Rosalia, Austr**	**5.25**	**23**	*i* Pn	**Pn**	**16 04 19.2**	**+1.7**		
	comp=E,2.3nm,0.1s,SNR=9.3								
LPG	**La Plagne**	**5.32**	**301**	*e*Pn	**Pn**	**16 04 19.1**	**+0.5**		
LPG				*e*Sn	**Sn**	**16 05 15.0**	**-3.6**		
	comp=E,3.3nm,0.3s								
LPL	**La Plagne**	**5.34**	**301**	*e*Pn	**Pn**	**16 04 19.4**	**+0.6**		
LPL				*e*Sn	**Sn**	**16 05 14.9**	**-4.1**		
	comp=E,2.7nm,0.3s								
CONA	**Conrad Observa**	**5.35**	**19**	*i* Pn	**Pn**	**16 04 20.3**	**+1.4**		
	comp=E,4.2nm,0.2s,SNR=7.2								
CONA				*e*Sn	**Sn**	**16 05 19.2**	**+0.1**		
	comp=E,2.2nm,0.2s								
WILA	**Wila**	**5.43**	**327**	*e*Sn	**Sn**	**16 05 18.7**	**-2.5**		
SMRF	**Simiane la Rot**	**5.66**	**283**	*e*Pn	**Pn**	**16 04 25.1**	**+2.0**		
SMRF				*e*Sn	**Sn**	**16 05 25.1**	**-1.7**		
	comp=E,0.5nm,0.3s								
ORIF	**Oris-en-Rattie**	**5.67**	**293**	*e*Pn	**Pn**	**16 04 25.8**	**+2.6**		
ORIF				*e*Sn	**Sn**	**16 05 24.4**	**-2.5**		
	comp=E,0.9nm,0.2s								
SULZ	**Cheisacher**	**5.85**	**324**	*e*Sn	**Sn**	**16 05 26.7**	**-4.7**		
SLE	**Schleitheim**	**5.88**	**327**	*e*Pn	**Pn**	**16 04 26.6**	**+0.5**		
SLE				*e*Sn	**Sn**	**16 05 27.2**	**-4.8**		
BALST	**Balsthal**	**5.90**	**320**	*e*Pn	**Pn**	**16 04 27.4**	**+1.1**		
BALST				*e*Sn	**Sn**	**16 05 28.1**	**-4.4**		
GEC2	**GERESS Array S**	**5.94**	**3**	*e*Pn	**Pn**	**16 04 27.4**	**+0.4**		
GEC2				*e*Sn	**Sn**	**16 05 29.8**	**-3.8**		
WET	**Wettzell**	**6.24**	**358**	*e*Sn	**Sn**	**16 05 35.8**	**-4.9**		
CABF	**La Chapelle**	**6.28**	**309**	*e*Pn	**Pn**	**16 04 32.4**	**+0.9**		
CABF				*e*Sn	**Sn**	**16 05 37.5**	**-4.3**		
	comp=E,1.6nm,0.2s								
BFO	**Black Forest**	**6.41**	**329**	*e*Sn	**Sn**	**16 05 39.7**	**-5.2**		
VIVF	**Saint-Julien-l**	**6.47**	**290**	*e*Pn	**Pn**	**16 04 34.3**	**+0.2**		
KRUC	**Moravsky**	**6.54**	**19**	*e*PN	**Pn**	**16 04 35.8**	**+0.9**		
HINF	**Hinteralfeld**	**6.64**	**320**	*e*Pn	**Pn**	**16 04 36.3**	**-0.1**		
HINF				*e*Sn	**Sn**	**16 05 45.5**	**-5.1**		
	comp=E,10nm,0.3s								
JAVC	**Velka Javorina**	**6.71**	**26**	*e*PN	**Pn**	**16 04 39.0**	**+1.6**		
VRAC	**Vranov**	**6.81**	**19**	*e*PN	**Pn**	**16 04 39.7**	**+1.0**		
ROTZ	**Rotzenmuhle**	**6.89**	**355**	*e*Sn	**Sn**	**16 05 50.6**	**-6.0**		
LASF	**Ste Croix**	**6.91**	**283**	*e*Pn	**Pn**	**16 04 42.7**	**+2.7**		
GRF	**Grafenberg Arr**	**6.92**	**349**	*e*Sn	**Sn**	**16 05 51.9**	**-5.5**		
HAU	**Haudompre**	**7.01**	**319**	*e*Pn	**Pn**	**16 04 42.0**	**+0.5**		
HAU				*e*Sn	**Sn**	**16 05 52.9**	**-6.8**		
	comp=E,12nm,0.3s								
MORC	**Moravsky Berou**	**7.49**	**22**	*e*PN	**Pn**	**16 04 49.2**	**+1.2**		
SMF	**Signal de Mont**	**7.64**	**302**	*e*Pn	**Pn**	**16 04 50.0**	**0.0**		
SMF				*e*Sn	**Sn**	**16 06 09.7**	**-5.3**		
	comp=E,1.7nm,0.3s								
MOX	**Moxa**	**7.81**	**352**	*e*Sn	**Sn**	**16 06 12.3**	**-6.8**		
LOR	**Lormes**	**7.92**	**307**	*e*Pn	**Pn**	**16 04 54.2**	**+0.3**		
	baz=115								
LOR				*e*Sn	**Sn**	**16 06 17.1**	**-4.8**		
	comp=E,8.3nm,0.5s								
MEZF	**Maizieres J'vi**	**7.99**	**317**	*e*Pn	**Pn**	**16 04 54.2**	**-0.6**		
MEZF				*e*Sn	**Sn**	**16 06 16.3**	**-7.1**		
	comp=E,4.5nm,0.3s								
AVF	**Avril sur Loir**	**8.01**	**302**	*e*Pn	**Pn**	**16 04 55.8**	**+0.8**		
AVF				*e*Sn	**Sn**	**16 06 19.4**	**-4.5**		
	comp=E,0.4nm,0.2s								
SAVF	**Savonnieres en**	**8.03**	**318**	*e*P	Pn	16 05 00.1	+4.8		
SSF	**Saint Saulge**	**8.03**	**304**	*e*Pn	**Pn**	**16 04 56.3**	**+0.9**		
SSF				*e*Sn	**Sn**	**16 06 19.1**	**-5.5**		
	comp=E,1.7nm,0.3s								
BGF	**Bois d'Agland**	**8.23**	**300**	*e*Pn	**Pn**	**16 04 58.5**	**+0.4**		
TCF	**Toulx Ste Croi**	**8.55**	**297**	*e*Pn	**Pn**	**16 05 05.6**	**+3.2**		
TCF				*e*Sn	**Sn**	**16 06 31.4**	**-5.7**		
	comp=E,0.5nm,0.2s								

IDC 25 16:08:08.1±814.0, 53°.95N×3°.85E, h0km, Error ellipse: s-maj=354.6km s-min=147.9km az=123.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.00**	**126**	I	I	16 54 40.0	
	baz=312,slow=321,SNR=3.0						
I48TN	**KESRA INFRASON**	**18.54**	**166**	I	I	18 03 10.0	
	baz=349,slow=315,SNR=0.8						
I43RU	**DUBNA INFRASON**	**19.07**	**68**	I	I	18 00 20.0	
	baz=276,slow=328,SNR=5.6						

*DJA **25** 16:13:27.2±0.2, 3°.5×3°.1×12°.8E±°, h10km, M4.6/15, mB5.2/2, mb4.9/6, MLv4.4/15, Mw(mB)4.6/2*
*NEIC **25** 16:13:29.2±1.4, 2°.95×0°.1×127°.93E±0°.07, h46km±11km, mb4.3/12, Error ellipse: s-maj=15.4km s-min=9.8km az=200.0*
*IDC **25** 16:13:32.7±3.5, 2°.92S×128°.30E, h78km±28km, mb3.7/5, mbtmp4.1/8, MS3.6/1, Error ellipse: s-maj=59.2km s-min=10.8km az=69.0*

ISC 25 16:13:28.4±0.7, 2°.90S±0°.06×127°.90E±0°.07, h38km, n38, σ1§03/36, mb4.2/9, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.83**	**159**	P	**Pn**	**16 13 44.3**	**+0.6**
NLAI	**Namlea**	**0.87**	**247**	P	**Pn**	**16 13 44.6**	**+0.5**
MSAI	**Masohi**	**1.12**	**113**	P	**Pn**	**16 13 49.8**	**+2.2**
SANI	**Sanana**	**2.09**	**294**	P	**Pn**	**16 13 59.9**	**-1.0**
TNTI	**Ternate**	**3.69**	**352**		**Pn**	**16 14 22.4**	**-0.6**
TNTI	**Ternate**	**3.69**	**352**	P	**Pn**	**16 14 23.5**	**+0.6**
SWI	**Sorong**	**3.92**	**59**	P	**Pn**	**16 14 26.2**	**+0.1**
FAKI	**Fak Fak**	**4.34**	**90**	Pn	**Pn**	**16 14 32.2**	**+0.2**
FAKI	**Fak Fak**	**4.34**	**90**	P	**Pn**	**16 14 31.9**	**0.0**
LUWI	**Luwuk**	**5.45**	**290**	Pn	**Pn**	**16 14 47.5**	**+0.4**
LUWI	**Luwuk**	**5.45**	**290**	P	**Pn**	**16 14 47.9**	**+0.8**
	0.6nm1µm114nm,0.9s						
KMPI	**Kaimana, Papua**	**5.84**	**98**	P	**Pn**	**16 14 53.4**	**+0.8**
	0.7nm235nm,0.8s						
RKPI	**Ransiki, Papua**	**6.42**	**78**	P	**Pn**	**16 15 00.5**	**0.0**
	60nm,0.6s						
APSI	**Ampana**	**6.55**	**287**	P	**Pn**	**16 15 04.1**	**+1.8**
TOLI2	**Tolitoli**	**8.16**	**299**	Pn	**Pn**	**16 15 25.1**	**+0.7**
PCI	**Palu**	**8.30**	**284**	P	Pn	16 15 29.9	+3.6
BATI	**Baumata**	**8.39**	**210**	P	Pn	16 15 35.5	+8.0
	17nm,0.8s,baz=78,slow=0.7,SNR=4.5						
KNRA	**Kununurra**	**12.72**	**176**	Pn	Pn	16 16 30.2	+3.3
FITZ	**Fitzroy Crossi**	**15.27**	**188**		**P**	**16 17 05.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**15.27**	**188**	P	**P**	**16 17 05.2**	**-0.5**
	4.7nm,0.9s,baz=15,slow=15,SNR=6.6						
WB0	**Warramunga Arr**	**17.92**	**160**	P	**P**	**16 17 34.1**	**-1.0**
WRA	**Warramunga Arr**	**18.07**	**160**	P	**P**	**16 17 36.0**	**-0.7**
	3.0nm,0.5s,baz=340,slow=12,SNR=34						
WRA				S	**Sn**	**16 20 56.3**	**-1.0**
	0.8nm,0.6s,baz=344,slow=20,SNR=3.6						
WRA				PcP	**PcP**	**16 22 10.4**	**+0.4**
	0.3nm,0.6s,baz=333,slow=1.6,SNR=1.5						
WR8	**Warramunga Arr**	**18.13**	**160**	P	**P**	**16 17 36.7**	**-0.8**
WR8				IAmb	IAmb	16 17 59.5	
	comp=Z,16nm,1.3s						
COEN	**Coen**	**18.66**	**127**	P	**Pn**	**16 17 43.3**	**-0.7**
COEN				IAmb	IAmb	16 18 00.9	
	comp=Z,19nm,1.1s						
PSA00	**Pilbara Seismi**	**20.14**	**202**	P	Pn	16 17 59.7	-1.8
PMG	**Port Moresby**	**20.20**	**110**	LR	LR	16 28 21.8	
	comp=Z,197nm,20.2s,baz=330,slow=45						
AS31	**Alice Springs**	**21.44**	**165**	P	**P**	**16 18 13.3**	**-0.3**
ASAR	**Alice Springs**	**21.45**	**165**	P	**P**	**16 18 13.3**	**-0.3**
	comp=Z,12nm,0.8s,baz=344,slow=12,SNR=104						
ASAR				S	**S**	**16 22 05.8**	**-3.8**
	comp=Z,2.3nm,0.9s,baz=346,slow=19,SNR=12						
ASAR				PcP	**PcP**	**16 22 16.8**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=349,slow=1.8,SNR=12						
	comp=Z,12nm,0.8s						
CTAO	**Charters Tower**	**24.75**	**135**	P	**P**	**16 18 47.2**	**+0.5**
CTAO				IAmb	IAmb	16 18 54.1	
	comp=Z,17nm,1.3s						
FORT	**Forrest**	**27.73**	**180**	P	**P**	**16 19 12.8**	**-0.5**
FORT				IAmb	IAmb	16 19 56.4	
	comp=Z,6.8nm,0.9s						
TOO	**Toolangi**	**38.10**	**157**	P	**P**	**16 20 44.0**	**+0.3**
TOO				IAmb	IAmb	16 20 51.3	
	comp=Z,5.2nm,1.4s						
MKAR	**Makanchi Array**	**63.67**	**327**	P	**P**	**16 23 56.9**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=123,slow=7.8,SNR=11						
	comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**67.94**	**329**	P	**P**	**16 24 24.0**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=129,slow=5.7,SNR=14						
	comp=Z,1.4nm,0.8s						
KURK	**Kurchatov**	**67.95**	**329**	P	**P**	**16 24 23.5**	**+0.1**
KURK				IAmb	IAmb	16 24 25.9	
	comp=Z,4.1nm,1.1s						
BVAR	**Borovoye Array**	**73.50**	**328**	P	**P**	**16 24 57.5**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=124,slow=7.3,SNR=3.7						
	comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**87.05**	**180**	P	**P**	**16 26 10.4**	**+0.6**
QSPA	**South Pole Qui**	**87.05**	**180**	P	**P**	**16 26 10.5**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=300,slow=8.1,SNR=2.9						
	comp=Z,1.1nm,0.9s						
BELA	**Belgrano 2**	**98.76**	**184**	P	Pdif	16 27 02.9	-0.7

*NEIC **25** 16:13:32.1±1.9, 19°.26N±0°.03×67°.40W±0°.07, h10km±2km, ML2.3/9, Md3.1/11(RSPR), Error ellipse: s-maj=11.4km s-min=4.1km az=256.0*
*SDD **25** 16:13:36.5±1.4, 19°.12N×67°.22W, h6km±15km, MD2.9, ML2.2, MW2.6*
*RSPR **25** 16:13:37.9, 19°.17N×67°.34W, h24km±32km, MD3.1/11*

ISC 25 16:13:34.8±1.8, 19°.11N±0°.08×67°.29W±0°.04, h2km±11km, n40, σ0§66/52, 6C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.66**	**165**		**Pb**	**16 13 49.9**	**+0.8**
AGPR					**Sb**	**16 13 59.5**	**+0.9**
AGPR	**Aguadilla, PR**	**0.66**	**165**	‖ *i*P	**Pb**	**16 13 49.9**	**+0.8**
AGPR	**Aguadilla, PR**	**0.66**	**165**	*e*S	**Sb**	**16 13 59.5**	**+0.9**
AGPR	**Aguadilla, PR**	**0.66**	**165**	*e*Pg	**Pb**	**16 13 48.9**	**-0.2**
AGPR				*e*Sg	**Sg**	**16 13 56.9**	**+0.9**
AGPR				IAML		16 14 00.2	
	comp=N,137nm,0.2s						
PRSN	**Puerto Rico Se**	**0.90**	**171**		**Pb**	**16 13 52.9**	**-0.2**
PRSN	**Puerto Rico Se**	**0.90**	**171**	*e*Pg	**Pb**	**16 13 52.8**	**-0.2**
PRSN				*e*Sg	**Sb**	**16 14 05.0**	**-0.5**
PRSN				IAML		16 14 11.1	
	comp=N,215nm,0.2s						
AOPR	**Arecibo Observ**	**0.91**	**146**		**Pg**	**16 13 52.7**	**+0.4**
AOPR	**Arecibo Observ**	**0.91**	**146**	‖ *e*P	**Pb**	**16 13 53.3**	**-0.1**
AOPR	**Arecibo Observ**	**0.91**	**146**	*e*Pg	**Pg**	**16 13 52.6**	**+0.4**
AOPR				*e*Sg	**Sg**	**16 14 03.2**	**-0.9**
AOPR				IAML		16 14 13.4	
	comp=N,141nm,0.2s						
EMPR	**Esperanza - Ma**	**0.95**	**131**		**Sn**	**16 14 10.6**	**+1.3**
EMPR	**Esperanza - Ma**	**0.95**	**131**	Pn	**Pg**	**16 13 53.7**	**+0.6**
EMPR	**Esperanza - Ma**	**0.95**	**131**	‖ *e*P	**Pn**	**16 13 55.2**	**-0.1**
EMPR	**Esperanza - Ma**	**0.95**	**131**	*e*S	**Sn**	**16 14 10.6**	**+1.3**
UUPR	**Utuado, UPR, P**	**1.00**	**148**	Pn	**Pg**	**16 13 54.0**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.00**	**148**	‖ *e*P	**Pn**	**16 13 55.7**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.11**	**171**	Pn	**Pb**	**16 13 56.6**	**-0.2**
CRPR				Sn	**Sb**	**16 14 11.8**	**+0.1**
CRPR				IAML		16 14 15.8	
	comp=E,52nm,1.1s						
CRPR	**Cabo Rojo, PR**	**1.11**	**171**	‖ *e*P	**Pn**	**16 13 56.9**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.11**	**171**	*e*S	**Sb**	**16 14 12.1**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.11**	**171**	*e*Pg	**Pg**	**16 13 56.1**	**0.0**
CRPR				*e*Sg	**Sg**	**16 14 11.0**	**+0.5**
CRPR				IAML		16 14 20.2	
	comp=N,40nm,0.9s						
MLPR	**Magueyes Islan**	**1.16**	**169**	‖ *i*P	**Pb**	**16 13 57.1**	**-0.4**
MLPR	**Magueyes Islan**	**1.16**	**169**	*e*S	**Sb**	**16 14 13.3**	**+0.3**
MLPR	**Magueyes Islan**	**1.16**	**169**	*e*Pg	**Pb**	**16 13 57.1**	**-0.4**
MLPR				*e*Sg	**Sb**	**16 14 13.0**	**+0.1**
MLPR				IAML		16 14 17.3	
	comp=N,14nm,0.3s						
ECPR	**Experimental S**	**1.17**	**132**	‖ *i*P	**Pb**	**16 13 58.0**	**+0.1**
ECPR	**Experimental S**	**1.17**	**132**	*e*S	**Sg**	**16 14 12.7**	**+0.1**
PCDR	**Punta Cana, DR**	**1.20**	**241**	*i* P	**Pn**	**16 13 58.8**	**+0.2**
PCDR				*i* S	**Sn**	**16 14 14.8**	**-0.6**
PCDR				IAML		16 14 18.2	
	comp=N,117nm,1.0s						
CELP	**Cerrillos**	**1.23**	**147**	Pn	**Pg**	**16 13 57.5**	**-0.9**
CELP				Sn	**Sg**	**16 14 14.2**	**-0.1**
CELP				IAML		16 14 20.6	
	comp=N,51nm,0.7s						
CELP	**Cerrillos**	**1.23**	**147**	‖ *i*P	**Pg**	**16 13 58.2**	**-0.2**
CELP	**Cerrillos**	**1.23**	**147**	*e*S	**Sg**	**16 14 14.3**	**0.0**
CELP	**Cerrillos**	**1.23**	**147**	*e*Pg	**Pg**	**16 13 57.7**	**-0.7**
CELP				*e*Sg	**Sg**	**16 14 15.2**	**+0.9**
CELP				IAML		16 14 19.2	
	comp=N,48nm,0.6s						
OBIP	**Obispado Ponce**	**1.24**	**149**	Pn	**Pg**	**16 13 57.9**	**-0.7**
OBIP				Sn	**Sg**	**16 14 13.8**	**-0.9**
OBIP				IAML		16 14 17.3	
	comp=E,49nm,0.3s						
OBIP	**Obispado Ponce**	**1.24**	**149**	‖ *e*P	**Pg**	**16 13 58.3**	**-0.4**
OBIP	**Obispado Ponce**	**1.24**	**149**	*e*S	**Sg**	**16 14 14.1**	**-0.6**
IGPR	**InterUniversit**	**1.59**	**135**		**Pn**	**16 14 04.5**	**+0.4**
IGPR					**Sn**	**16 14 25.3**	**+0.1**
IGPR	**InterUniversit**	**1.59**	**135**	‖ *e*P	**Pn**	**16 14 04.5**	**+0.4**
IGPR	**InterUniversit**	**1.59**	**135**	*e*S	**Sn**	**16 14 25.3**	**+0.1**
PDPR	**Patillas Dam,**	**1.61**	**132**	Pn	**Pn**	**16 14 03.8**	**-0.5**
PDPR				IAML		16 14 29.2	
	comp=N,32nm,0.3s						
PDPR				IAML		16 14 33.6	
	comp=E,26nm,1.3s						
PDPR	**Patillas Dam,**	**1.61**	**132**	‖ *e*P	**Pn**	**16 14 04.1**	**-0.3**
PDPR	**Patillas Dam,**	**1.61**	**132**	*e*S	**Sn**	**16 14 23.5**	**-2.2**
HUMP	**Col San Antoni**	**1.67**	**125**	Pn	**Pn**	**16 14 04.2**	**-0.8**
MIDR	**Miches**	**1.67**	**266**	‖ *e*P	**Pg**	**16 14 07.0**	**+0.1**

*IPEC **25** 17:36:28.4±0.3, 49°.82N×18°.56E, h1km, ML2.4/6, Error ellipse: s-maj=1.8km s-min=1.4km az=71.0*
*PRU **25** 17:36:31.3, 49°.80N×18°.39E, h0km, Mining Induced Event Csm, E=7.0e+05*
*VIE **25** 17:36:31.8±1.1, 49°.74N×18°.34E, h0km, mb2.4/6, ml2.6/7, ms3.3/1, Error ellipse: s-maj=8.8km s-min=3.8km az=57.0 13 km SSE of Ostrava Suspected Mining induced.*

ISC 25 17:36:27.9±0.8, 49°.81N±0°.03×18°.50E±0°.03, h0km, n32, σ1§15/57, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.23**	**277**	*e*PG	**Pg**	**17 36 34.1**	**+1.8**
OKC				*e*SG	**Sg**	**17 36 38.4**	**+3.1**
	379nm,0.7s						
STEB	**Steborice**	**0.48**	**285**	*e*PG	**Pb**	**17 36 38.7**	**-0.7**
STEB				*e*SG	**Sb**	**17 36 46.1**	**-0.9**
MORC	**Moravsky Berou**	**0.62**	**267**	*e*Pg	**Pb**	**17 36 41.1**	**-0.6**
	baz=86						
MORC				*e*Sg	**Sb**	**17 36 49.3**	**-1.6**
	101nm,0.5s,baz=86						
LOSC	**Losov**	**0.76**	**256**	*e*Pg	**Pb**	**17 36 43.6**	**-0.3**
	baz=75						
LOSC				*e*Sg	**Sb**	**17 36 53.4**	**-1.4**
	67nm,0.5s,baz=75						
ANAC	**Anensky vrch**	**0.77**	**290**	*e*Pg	**Pb**	**17 36 43.7**	**-0.5**
	baz=108						
ANAC				*e*Sg	**Sg**	**17 36 53.5**	**+0.9**
	51nm,0.4s,baz=108						
OJC	**Ojcow**	**0.93**	**64**	*e*Pg	**Pg**	**17 36 45.5**	**-0.3**
OJC				*e*Sg	**Sg**	**17 36 58.1**	**+0.2**
JAVC	**Velka Javorina**	**1.10**	**210**	*e*Pg	**Pb**	**17 36 50.2**	**+0.4**
	baz=31						
KRLC	**Kraliky**	**1.14**	**284**	*e*PG	**Pg**	**17 36 49.5**	**-0.3**
KRLC				*e*SG	**Sb**	**17 37 05.7**	**-0.2**
	55nm,0.5s						
NIE	**Niedzica**	**1.24**	**108**	*e*Pg	**Pb**	**17 36 52.4**	**+0.3**
NIE				*e*Sg	**Sn**	**17 37 10.1**	**+0.2**
VRAC	**Vranov**	**1.34**	**249**	*e*Pg	**Pn**	**17 36 54.1**	**+0.2**
	baz=67						
VRAC				*e*Sg	**Sb**	**17 37 11.4**	**-0.2**
	67nm,0.6s,baz=67						
DPC	**Dobruska-Polom**	**1.50**	**292**	*e*PG	**Pg**	**17 36 56.4**	**-0.3**
DPC				*e*SG	**Sn**	**17 37 16.9**	**+0.4**
	28nm,0.4s						
KRUC	**Moravsky**	**1.56**	**242**	*e*Pg	**Pb**	**17 36 57.5**	**-0.2**
	baz=61						
KRUC				*e*Sg	**Sg**	**17 37 18.7**	**+0.6**
	45nm,0.6s,baz=61						
OSTC	**Ostas**	**1.65**	**298**	*e*PG	**Pb**	**17 36 59.1**	**-0.1**
OSTC				*e*SG	**Sg**	**17 37 21.6**	**+0.8**
	54nm,0.8s						
UPC	**Upice**	**1.74**	**295**	*e*PG	**Pb**	**17 37 00.8**	**0.0**
UPC				*e*SG	**Sg**	**17 37 24.7**	**+0.8**
	29nm,0.6s						
KSP	**Ksiaz**	**1.75**	**307**	*e*Pg	**Pn**	**17 36 59.1**	**-0.5**
KSP				*e*Sg	**Sb**	**17 37 22.9**	**-0.5**
CHVC	**Chvalec**	**1.75**	**297**	*e*PG	**Pb**	**17 37 00.8**	**-0.2**
CHVC				*e*SG	**Sg**	**17 37 24.7**	**+0.5**
	47nm,0.9s						
TREC	**Trest**	**2.03**	**256**	*e*PG	**Pb**	**17 37 05.4**	**-0.2**
TREC				*e*SG	**Sg**	**17 37 32.7**	**-0.3**
	21nm,0.4s						
PRU	**Pruhonice**	**2.56**	**275**	*e*Pg	**Pg**	**17 37 17.9**	**+0.9**
PRU				*e*SG	**Sg**	**17 37 49.3**	**-1.0**
	30nm,1.1s						
CONA	**Conrad Observa**	**2.56**	**224**	*e*Pn	**Pn**	**17 37 11.0**	**+0.2**
	1.4nm,0.4s						
CONA				Sn	**Sn**	**17 37 42.2**	**-0.6**
	9.0nm,0.6s						
RONA	**Rosalia, Austr**	**2.57**	**215**	Pn	**Pn**	**17 37 11.3**	**+0.5**
	2.5nm,0.4s						
RONA				Sn	**Sn**	**17 37 43.6**	**+0.9**
	7.5nm,0.5s						
PVCC	**Panska Ves**	**2.63**	**287**	*e*PG	**Pg**	**17 37 17.5**	**-0.7**
PVCC				*e*SG	**Sg**	**17 37 52.3**	**+0.1**
	40nm,0.5s						
ZVC	**Zvikov**	**2.82**	**264**	*e*PG	**Pg**	**17 37 22.0**	**0.0**
ZVC				*e*SG	**Sg**	**17 37 58.0**	**-0.6**
	13nm,0.5s						
CKRC	**Cesky Krumlov**	**2.91**	**252**	*e*PG	**Pg**	**17 37 23.2**	**-0.6**
CKRC				*e*SG	**Sg**	**17 38 00.1**	**-1.4**
	13nm,0.6s						
BRG	**Berggiesshubel**	**3.10**	**292**	Pg	**Pb**	**17 37 25.1**	**+1.1**
BRG				Sg	**Sg**	**17 38 06.3**	**-1.4**
BRG				Amp		17 38 12.5	
	comp=Z,8.5nm,0.5s						
KHC	**Kasperske Hory**	**3.28**	**260**	*e*PG	**Pg**	**17 37 29.8**	**-1.0**
KHC				*e*SG	**Sg**	**17 38 12.4**	**-0.8**
	comp=Z,16nm,0.5s						
MOA	**Molln**	**3.42**	**237**	Sg	**Sg**	**17 38 17.3**	**-0.3**
	comp=Z,4.5nm,0.3s						
CLL	**Collm**	**3.81**	**295**	*e*Pg	**Pg**	**17 37 43.0**	**+2.1**
CLL				*e*Sg	**Sg**	**17 38 28.0**	**-2.3**
	comp=Z,10.0nm,0.6s						
BIOA	**Bad Ischl, Aus**	**3.85**	**238**	Sg	**Sg**	**17 38 30.8**	**-0.8**
	comp=Z,12nm,

INCE	Denizli-Bozkur	1.40	29	P	Pn	17 42 30.6	+0.2
NAZL	Nazilli-Aydin	1.51	347	Pn	Pn	17 42 31.3	-0.7
DDIM	Aydin, Didim	1.53	310	P	Pn	17 42 32.0	-0.1
DDIM				S	Sn	17 42 47.5	-3.5
KARP	Karpathos	1.57	234	Pn	Pn	17 42 33.3	+0.5
KARP	Karpathos	1.57	234	P	Pn	17 42 33.3	+0.5
KARP				S	Sn	17 42 52.2	0.0
KARP	Karpathos	1.57	234	P	Pn	17 42 33.6	+0.7
KARP				S	Sn	17 42 53.6	+1.4
KARP				AML	AML	17 42 53.8	
	3.8nm,0.3s						
KARP				AML	AML	17 42 53.9	
	4.8nm,0.3s						
KARP	Karpathos	1.57	234	P	Pn	17 42 33.5	+0.7
KARP				S	Sn	17 42 52.1	0.0
AYDB	Zeytinkoy-Aydi	1.60	336	Pn	Pn	17 42 32.5	-0.7
BUCA	Burdur, Bucak-	1.69	60	P	Pn	17 42 36.1	+1.7
GCAM	G?zelcaml?	1.70	316	Pn	Pn	17 42 33.9	-0.5
GCAM	G?zelcaml?	1.70	316	P	Pn	17 42 33.8	-0.5
KIRA	zmir-Kiraz	1.73	352	P	Pn	17 42 34.1	-0.8
BCK	Bucak	1.78	56	Pn	Pn	17 42 37.0	+1.3
PASA	Karahalli, USA	1.96	18	P	Pn	17 42 36.8	-1.2
ISP	Isparta	1.96	47	Pn	Pn	17 42 38.9	+0.8
ISP	Isparta	1.96	47	P	Pn	17 42 43.8	+5.7
ISP	Isparta	1.96	47	P	Pn	17 42 38.7	+0.6
MANT	Manisa	2.00	356	P	Pn	17 42 37.6	-1.2
KULA	Kula-Manisa	2.02	359	Pn	Pn	17 42 38.1	-0.8
KZIL	AFYON_Kizioren	2.10	32	P	Pn	17 42 38.9	-1.1
GMLD	Gumuldur	2.14	318	Pn	Pn	17 42 40.2	-0.2
BAGO	Egridir - ISPA	2.23	47	P	Pn	17 42 42.4	+0.7
USAK	Uak-Merkez	2.24	6	P	Pn	17 42 41.0	-0.8
AFYN	Afyon-Dinar-K	2.28	38	P	Pn	17 42 42.5	+0.1
BLCB	Balcova	2.32	325	Pn	Pn	17 42 42.8	-0.1
BNAZ	Uak-Banaz	2.37	22	P	Pn	17 42 43.0	-0.8
ZKR	Zakros	2.45	237	P	Pn	17 42 46.1	+1.4
ZKR	Zakros	2.45	237	P	Pn	17 42 46.2	+1.4
ZKR				S	Sn	17 43 13.2	-0.4
ZKR				AML	AML	17 43 14.5	
	1.7nm,0.5s						
ZKR				AML	AML	17 43 18.8	
	0.4nm,0.4s						
ZKR	Zakros	2.45	237	P	Pn	17 42 46.1	+1.4
GORD	Gordes-Manisa	2.46	350	Pn	Pn	17 42 44.0	-0.8
ZEYE	Izmir, Urla-Ze	2.49	315	P	Pn	17 42 44.1	-1.0
URLA	Izmir	2.52	318	Pn	Pn	17 42 45.7	0.0
URLA	Izmir	2.52	318	P	Pn	17 42 44.8	-0.9
DEMI	Demirci	2.55	360	P	Pn	17 42 45.0	-1.2
GEDZ	Gediz	2.61	12	Pn	Pn	17 42 46.8	-0.1
SEDI	Konya, Seydise	2.61	67	P	Pn	17 42 49.0	+2.0
SMAA	Simav-Kutahya	2.62	4	Pn	Pn	17 42 47.4	+0.4
THERA	Ancient Thera,	2.62	268	P	Pn	17 42 46.6	-0.4
SEYD	Seydisehir-KON	2.66	69	Pn	Pn	17 42 49.9	+2.3
GDZ	Gediz	2.67	13	P	Pn	17 42 46.9	-0.8
ALAN	Alanya-ANTALYA	2.67	88	Pn	Pn	17 42 49.3	+1.7
YVAC	Isparta, Yalva	2.68	48	P	Pn	17 42 48.2	+0.2
SAP3	Santorini-Thir	2.72	270	P	Pn	17 42 49.0	+0.7
NPS	Neapolis	2.81	245	P	Pn	17 42 49.6	0.0
NPS				S	Sn	17 43 20.0	-2.1
NPS	Neapolis	2.81	245	P	Pn	17 42 49.5	0.0
CHOS	Chios island	2.85	313	P	Pn	17 42 49.7	-0.5
CHOS				S	Sn	17 43 20.7	-2.5
CHOS	Chios island	2.85	313	P	Pn	17 42 49.8	-0.3
KURO	Afyon-Bolvadin	2.85	37	P	Pn	17 42 49.4	-0.8
DOGA	KONYA_Doganhis	2.85	55	P	Pn	17 42 51.8	+1.4
EMET	Ktahya-Emet	2.92	9	P	Pn	17 42 50.2	-1.0
BLVD	Bolvadin-AFYON	2.98	39	Pn	Pn	17 42 52.8	+0.8
IACM	Heraklion	3.19	249	P	Pn	17 42 55.5	+0.8
AKMS	Akamas	3.28	115	P	Pn	17 42 56.0	-0.1
AKMS				S	Sn	17 43 32.8	-1.2
AKMS				AML	AML	17 43 35.2	
	1.5nm,0.3s						
AKMS				AML	AML	17 43 35.8	
	1.3nm,0.3s						
AKMS	Akamas	3.28	115	P	Pn	17 42 56.6	+0.5
IDI	Anoyia	3.33	250	Pn	Pn	17 42 55.9	-1.0
	21nm,0.3s,baz=66,slow=8.9,SNR=39						
IDI				Sn	Sn	17 43 32.5	-2.7
	20nm,0.3s,baz=333,slow=18,SNR=12						
IDI	Anoyia	3.33	250	P	Pn	17 42 56.5	-0.3
PRK	Paraskevi	3.37	326	P	Pn	17 42 56.9	-0.3
ALFC	Alefka	3.42	112	P	Pn	17 42 57.7	-0.2
ALFC				S	Sn	17 43 36.2	-1.1
ALFC				AML	AML	17 43 39.2	
	0.8nm,0.3s						
ALFC				AML	AML	17 43 40.0	
	1.0nm,0.2s						
ALFC	Alefka	3.42	112	P	Pn	17 42 58.0	0.0
NATA	Nata	3.57	117	P	Pn	17 43 00.6	+0.6
NATA				S	Sn	17 43 40.7	-0.2
NATA				AML	AML	17 43 45.6	
	1.5nm,0.3s						
NATA				AML	AML	17 43 52.1	
	1.2nm,0.6s						
NATA	Nata	3.57	117	P	Pn	17 43 00.5	+0.5
PRNS	Prines Rethymn	3.60	253	P	Pn	17 43 01.4	+1.0
TROD	Troodos	3.71	113	P	Pn	17 43 01.8	-0.2
TROD				S	Sn	17 43 44.2	-0.3
TROD				AML	AML	17 43 52.8	
	0.5nm,0.4s						
TROD				AML	AML	17 43 58.5	
	0.4nm,0.7s						
KARY	Karystos	3.75	296	P	Pn	17 43 02.5	+0.1
XYLS	Xyliatos	3.81	111	P	Pn	17 43 02.9	-0.6
XYLS				S	Sn	17 43 45.9	-1.1
XYLS				AML	AML	17 43 49.9	
	0.6nm,0.3s						
XYLS				AML	AML	17 43 53.3	
	0.4nm,0.2s						
APOL	The Sanctuary	3.83	117	P	Pn	17 43 04.0	+0.4
APOL				S	Sn	17 43 46.7	-0.6
APOL				AML	AML	17 43 49.0	
	0.5nm,0.2s						
APOL				AML	AML	17 43 49.4	
	0.6nm,0.2s						
CSS	Mathiatis	4.05	111	P	Pn	17 43 06.0	-0.6
CSS				S	Sn	17 43 52.0	-0.7
CSS				AML	AML	17 43 59.0	
	0.2nm,0.4s						
CSS				AML	AML	17 44 02.5	
	0.2nm,0.6s						
CSS	Mathiatis	4.05	111	P	Pn	17 43 06.1	-0.4
CSS	Mathiatis	4.05	111	P	Pn	17 43 05.9	-0.6
ASGA	Asgata	4.06	113	P	Pn	17 43 06.7	0.0
ASGA				S	Sn	17 43 52.9	0.0
ASGA				AML	AML	17 43 55.1	
	0.5nm,0.2s						
ASGA				AML	AML	17 44 02.8	
	0.5nm,0.3s						
ASGA	Asgata	4.06	113	P	Pn	17 43 07.1	+0.4
SKY	Skiros Island	4.08	307	P	Pn	17 43 07.7	+0.7
GVD	Gavdhos	4.12	248	P	Pn	17 43 08.7	+1.2
DION	Dionisos Attik	4.14	294	P	Pn	17 43 08.0	+0.2
VLY	Voula,Athens	4.17	291	P	Pn	17 43 08.9	+0.8
PTL	Penteli	4.18	293	P	Pn	17 43 08.8	+0.5
ATHU	Athens Univers	4.21	292	P	Pn	17 43 09.5	+0.7
KYMI	Kymi, Euboea I	4.25	302	P	Pn	17 43 10.6	+1.2
MVOU	Mavrovouni	4.25	109	P	Pn	17 43 08.5	-0.9
MVOU				AML	AML	17 44 02.6	
	0.3nm,0.3s						
MVOU				AML	AML	17 44 03.8	
	0.2nm,0.3s						
LIA	Limnos Island	4.40	322	P	Pn	17 43 11.2	-0.2
MET4	Agioi Theodoro	4.41	286	P	Pn	17 43 12.7	+1.3
ANKY	Antikythira Is	4.43	264	P	Pn	17 43 12.6	+0.8
MET5	Makryloggos,Me	4.44	286	P	Pn	17 43 12.9	+1.1
STFN	Stefani	4.46	294	P	Pn	17 43 13.4	+1.3
VLI	Veliai	4.66	275	P	Pn	17 43 15.9	+0.9
VIL2	Platees	4.67	293	P	Pn	17 43 15.6	+0.5
LOUT	Loutraki	4.82	290	P	Pn	17 43 18.4	+1.2
LTK	Loutraki	4.84	290	P	Pn	17 43 18.4	+1.0
ATAL	Atalanti	5.03	298	P	Pn	17 43 21.1	+1.1
BRTR	Keskin Array B	5.05	49	Pn	Pn	17 43 21.4	+1.1
	0.6nm,0.3s,baz=235,slow=17,SNR=17						
BRTR				Sn	Sn	17 44 16.7	-0.7
	2.6nm,0.3s,baz=215,slow=26,SNR=21						
	1.9nm,0.5s						
RDO	Rodhopi	5.28	333	P	Pn	17 43 23.7	+0.3
MATC	Matruh	5.28	194	P	Pn	17 43 23.6	+0.2
GUR	Goura	5.29	288	P	Pn	17 43 25.2	+1.5
KLV	Kalavryta, Ach	5.47	288	P	Pn	17 43 27.5	+1.4
ITM	Ithomi	5.49	279	P	Pn	17 43 27.2	+0.8
KALE	Kalithea	5.57	292	P	Pn	17 43 29.2	+1.8
EFP	Efpalio	5.76	292	P	Pn	17 43 31.4	+1.4
SLUM	Salum	5.77	211	P	Pn	17 43 29.7	-0.5
DRO	Drossia	5.78	287	P	Pn	17 43 31.9	+1.5
ANX	Ano Chora	5.80	293	P	Pn	17 43 32.3	+1.7
MAKR	Makrakomi, Fth	5.80	298	P	Pn	17 43 31.4	+0.8
BHL	Bhannes	6.23	112	eP	Pn	17 43 34.8	-1.8
HWQ	Hawqa	6.30	108	eP	Pn	17 43 37.2	-0.3
HNTI	Hanita	6.30	121	P	Pn	17 43 37.4	0.0
HNTI	Hanita	6.30	121	S	Sn	17 44 44.6	-3.4
BEIL	Beino	6.39	105	eP	Pn	17 43 38.0	-0.7
QRWL	Qaraoun	6.42	115	eP	Pn	17 43 38.8	-0.3
ZAHL	Zahle	6.43	112	eP	Pn	17 43 38.6	-0.7
MMA0B	Mount Meron ar	6.50	120	P	Pn	17 43 39.5	-0.8
MMA0B	Mount Meron ar	6.50	120	S	Sn	17 44 49.9	-3.1
MMAI	Mount Meron Ar	6.50	120	Pn	Pn	17 43 39.4	-0.8
	1.2nm,0.3s,baz=298,slow=11,SNR=11						
MMAI				Sn	Sn	17 44 50.3	-2.7
	38nm,0.3s,baz=20,slow=2.7,SNR=16						
	15nm,0.3s						
BLGI	Bet Lehem HaGe	6.52	123	P	Pn	17 43 41.4	+1.0
BLGI	Bet Lehem HaGe	6.52	123	S	Sn	17 44 50.6	-2.7
TETR	Tetrakomo, Epi	6.54	298	P	Pn	17 43 41.6	+0.8
RCY	Rachaya	6.56	115	eP	Pn	17 43 40.7	-0.3
SHBL	Chebaa	6.56	116	eP	Pn	17 43 41.1	0.0
GEM	Giv'at Ha'Em	6.58	118	P	Pn	17 43 40.8	-0.4
GEM	Giv'at Ha'Em	6.58	118	S	Sn	17 44 51.6	-3.2
NATI	Neve Ativ	6.60	117	P	Pn	17 43 41.3	-0.2
NATI	Neve Ativ	6.60	117	S	Sn	17 44 52.1	-3.2
KSHT	Keshet	6.80	119	P	Pn	17 43 44.6	+0.2
KSHT	Keshet	6.80	119	S	Sn	17 44 58.2	-2.3
MMLI	Mount Malkishu	6.85	124	P	Pn	17 43 44.4	-0.6
MMLI	Mount Malkishu	6.85	124	S	Sn	17 44 58.4	-3.2
SALP	Salfit	6.93	128	P	Pn	17 43 45.5	-0.7
HNAT	Natroun	7.02	166	P	Pn	17 43 47.6	+0.3
HMDT	Nahal Hemdat	7.03	125	P	Pn	17 43 47.6	+0.1
HMDT	Nahal Hemdat	7.03	125	S	Sn	17 45 04.4	-1.6
KOT	Kottamia	7.04	157	P	Pn	17 43 47.4	-0.2
KZIT	Kziot	7.30	138	P	Pn	17 43 51.1	-0.1
KZIT	Kziot	7.30	138	S	Sn	17 45 07.4	-5.3
YTIR	Yattir	7.37	132	P	Pn	17 43 51.8	-0.4
YTIR	Yattir	7.37	132	S	Sn	17 45 10.2	-4.3
DSI	Dead Sea	7.39	130	P	Pn	17 43 51.8	-0.6
DSI	Dead Sea	7.39	130	S	Sn	17 45 11.9	-2.8
RYAN	Fayoum	7.50	170	P	Pn	17 43 53.9	0.0
SWA2		7.73	202	P	Pn	17 43 56.9	-0.1
RMNI	Mount Ramon	7.74	138	P	Pn	17 43 56.4	-0.8
IDAN	Idan	7.85	134	P	Pn	17 43 58.0	-0.7
ZFRI	Zfri	8.00	136	P	Pn	17 44 00.5	-0.3
ZFRI	Zfri	8.00	136	S	Sn	17 45 24.7	-5.1
ASF	Jabal al Asfar	8.01	120	Pn	Pn	17 44 01.8	+0.8
	1.6nm,0.3s,baz=312,slow=3.3,SNR=15						
ASF				Sn	Sn	17 45 29.5	-0.7
	1.3nm,0.3s,baz=294,slow=18,SNR=2.0						
	3.2nm,0.3s						
PRNI	Paran	8.06	138	P	Pn	17 44 00.9	-0.7
PRNI	Paran	8.06	138	S	Sn	17 45 27.2	-4.1
KRMI	Paran Flat	8.10	140	P	Pn	17 44 01.4	-0.7
KRMI	Paran Flat	8.10	140	S	Sn	17 45 27.4	-4.8
NBNS	Bani Suef	8.14	164	P	Pn	17 44 02.0	-0.6
HRFI	Mount Harif	8.32	139	P	Pn	17 44 04.8	-0.4
HRFI	Mount Harif	8.32	139	S	Sn	17 45 33.2	-4.6
EIL	Elat	8.57	141	Pn	Pn	17 44 08.3	-0.3
	1.6nm,0.3s,baz=343,slow=4.1,SNR=32						
EIL				Sn	Sn	17 45 37.6	-6.2
	12nm,0.3s,baz=324,slow=19,SNR=14						
	4.6nm,0.4s						
EIL	Elat	8.57	141	P	Pn	17 44 08.4	-0.2
TAMRE	El Minia	8.97	167	P	Pn	17 44 13.7	-0.3
HKAT	Jabal Katrina	9.10	149	P	Pn	17 44 15.6	-0.4
HDHB	Dhahab	9.20	146	P	Pn	17 44 17.8	+0.6
MLR	Muntele Rosu	9.24	348	Pn	Pn	17 44 15.3	-2.4
	2.0nm,0.7s,baz=150,slow=14,SNR=3.1						
TR1	Tor 1	9.54	151	P	Pn	17 44 21.3	-0.6
HHRG	Al Ghardaqah	10.12	155	P	Pn	17 44 31.4	+1.8
HDK1	Dakhla	10.93	177	P	Pn	17 44 40.4	-0.4
FINES	FINESS Array B	25.03	357	P	P	17 47 25.5	-0.1
	1.9nm,0.6s,baz=166,slow=11,SNR=9.2						
	1.9nm,0.6s						
ESDC	Sonseca Array	25.85	287	P	P	17 47 33.0	-0.3
	0.6nm,0.5s,baz=85,slow=10.0,SNR=6.5						
	0.6nm,0.5s						
TORD	Torodi Ar. Bea	33.58	233	P	P	17 48 42.2	+0.2
	1.9nm,0.8s,baz=34,slow=10,SNR=10.0						
	1.9nm,0.8s						
KURBB	Kurchatov Arra	38.03	52	P	P	17 49 20.7	+1.0
	0.7nm,0.3s,baz=274,slow=8.9,SNR=4.4						
	0.7nm,0.3s						
MKAR	Makanchi Array	40.62	58	P	P	17 49 42.3	+0.9
	0.9nm,0.7s,baz=281,slow=6.4,SNR=11						
	0.9nm,0.7s						

*NIED **25** 17:57:45.7, 25°.53N × 143°.35E, h0km, MW4.2, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr=0.74; Mθθ=0.63; Mφφ=0.11; Mrθ=-0.23; Mθφ=-0.61; Mφr=1.90; Fault plane solution: M0=2.10000×10¹⁵ NP1: φ=279.00000°, δ=21.00000°, λ=-154.00000°. NP2: φ=165.00000°, δ=81.00000°, λ=-71.00000°.*

*JMA **25** 17:57:45.7±0.2, 25°.5N±0°.5 × 14°.3E±°, h0km, MV4.6/13, IOTO ISLANDS REGION*

*IDC **25** 17:57:47.3±0.6, 25°.53N × 142°.86E, h0km, mb3.9/20, mbtmp3.9/21, ML2.9/1, MS3.0/6, Error ellipse: s-maj=22.6km s-min=15.2km az=72.0*

ISC 25 17:57:52.7±0.7, 25°.49N±0°.09 × 143°.0E±0°.1, h40km, n39, σ1°33/33, mb4.0/19, MS3.0/4, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	1.35	328	eP		Pn	Pn	17 58 14.1	-0.9
JHH2				eS		Sn	Sn	17 58 34.9	+3.2
CBIJ	Chichi jima	1.75	336	eP		Pn	Pn	17 58 19.9	-0.6
CBIJ				eS		Sn	Sn	17 58 44.3	+2.7
HTO	Hitachi	11.28	350	eP		Pn	Pn	18 00 28.2	-3.1
JAG	Ashikaga	11.31	345	eP		Pn	Pn	18 00 29.3	-2.4
JNG	Nsakai	11.66	340	eP		Pn	Pn	18 00 37.4	+0.9
MJAR	Matsushiro Arr	11.75	341	Pn		Pn	Pn	18 00 35.3	-2.5
	0.1nm,0.3s,baz=154,slow=14,SNR=5.2								
	0.6nm,0.3s								
GUMO	Guam	11.97	171	LR		LR	LR	18 04 25.2	
	comp=Z,59nm,18.5s,baz=286,slow=33								
JOW	Kunigami	13.27	279	LR		LR	LR	18 05 40.4	
	comp=Z,42nm,18.2s,baz=101,slow=36								
KSRS	Kore Array	17.50	317	P			P	18 01 54.3	0.0
	0.7nm,0.8s,baz=125,slow=12,SNR=2.4								
USRK	Ussuriysk Ar.	20.70	337	P			P	18 02 30.1	+0.8
	1.2nm,0.7s,baz=134,slow=8.3,SNR=6.0								
	1.2nm,0.7s								
H11N2	WAKE ISLAND Hy	22.80	100	T		T	T	18 26 26.3	
	baz=290,slow=75,SNR=5.6								
H11N1	WAKE ISLAND Hy	22.80	100	T		T	T	18 26 28.2	
	baz=290,slow=75,SNR=5.7								
H11N3	WAKE ISLAND Hy	22.82	100	T		T	T	18 26 30.5	
	baz=290,slow=75,SNR=6.6								
H11S3	WAKE ISLAND Hy	23.04	103	T		T	T	18 26 40.7	
	baz=292,slow=75,SNR=7.5								
H11S1	WAKE ISLAND Hy	23.05	103	T		T	T	18 26 42.2	
	baz=292,slow=75,SNR=8.9								
H11S2	WAKE ISLAND Hy	23.06	103	T		T	T	18 26 42.3	
	baz=292,slow=75,SNR=11								
DAV	Davao City (W)	24.73	225	LR		LR	LR	18 11 10.2	
	comp=Z,22nm,21.5s,baz=9.0,slow=32								
LZDM	Lanzhou Array	35.14	297	P			P	18 04 41.4	-1.5
	2.3nm,0.4s,baz=140,slow=11,SNR=1.2								
	2.3nm,0.4s								
SONM	Songino Array	36.37	317	P			P	18 04 52.6	-0.5
	0.4nm,0.4s,baz=137,slow=7.4,SNR=4.6								
	0.4nm,0.4s								
CMAR	Chiang Mai Arr	41.28	269	P			P	18 05 33.8	-0.6
	0.5nm,0.8s,baz=64,slow=8.9,SNR=7.1								
CMAR				LR		LR	LR	18 22 17.0	
	comp=Z,15nm,20.4s,baz=190,slow=36								
	0.5nm,0.8s								
WRA	Warramunga Arr	45.93	191	P			P	18 06 12.1	+0.4
	2.9nm,0.4s,baz=11,slow=8.5,SNR=31								
	2.9nm,0.4s								
ASAR	Alice Springs	49.65	191	P			P	18 06 40.9	+0.4
	0.5nm,0.6s,baz=17,slow=11,SNR=12								
	0.5nm,0.6s								
ZALV	Zalesovo Beam	51.17	320	P			P	18 06 50.4	-1.2
	0.6nm,0.3s,baz=95,slow=8.9,SNR=4.4								
ZALV				PcP			PcP	18 08 07.1	+0.5
	2.8nm,0.8s,baz=116,slow=5.1,SNR=6.9								
	0.6nm,0.3s								
MKAR	Makanchi Array	52.05	311	P			P	18 06 57.4	-1.0
	0.6nm,0.6s,baz=88,slow=9.5,SNR=6.3								
MKAR				LR		LR	LR	18 30 35.9	
	comp=Z,41nm,18.4s,baz=314,slow=38								
	0.6nm,0.6s								
KURBB	Kurchatov Arra	54.67	315	P			P	18 07 17.4	-0.2
	1.4nm,0.4s,baz=92,slow=7.8,SNR=26								
	1.4nm,0.4s								
STKA	Stephens Creek	57.06	181	P			P	18 07 35.0	+0.2
	1.8nm,0.8s,baz=357,slow=11,SNR=2.9								
	1.8nm,0.8s								
ILAR	Eielson Array	58.78	28	P			P	18 07 46.4	-0.1
	1.0nm,0.9s,baz=255,slow=4.9,SNR=5.6								
	1.0nm,0.9s								
BVAR	Borovoye Array	59.70	318	P			P	18 07 52.9	-0.2
	2.9nm,0.4s,baz=90,slow=7.5,SNR=25								
	2.9nm,0.4s								
KBZ	Khabaz	79.62	313	P			P	18 09 56.9	+1.1
	2.9nm,0.9s,baz=80,slow=14,SNR=4.9								
	2.9nm,0.9s								
FINES	FINESS Array B	79.70	334	P			P	18 09 56.2	+0.3
	1.2nm,0.4s,baz=81,slow=4.7,SNR=20								
	1.2nm,0.4s								
NVAR	Mina Array Bea	80.95	52	P			P	18 10 03.9	+0.4
	0.9nm,0.8s,baz=303,slow=5.0,SNR=3.9								
	0.9nm,0.8s								
AKASG	Malin Array Be	84.33	324	P			P	18 10 21.9	+1.4
	0.3nm,0.3s,baz=50,slow=5.5,SNR=2.0								
	0.3nm,0.3s								
PDAR	Pinedale Array	84.85	45	P			P	18 10 24.8	+1.2
	0.2nm,0.6s,baz=305,slow=7.4,SNR=2.1								
	0.2nm,0.6s								
HFS	Hagfors	85.17	337	P			P	18 10 24.3	-0.2
	1.1nm,0.5s,baz=93,slow=3.3,SNR=6.8								
	1.1nm,0.5s								
NB2	NORSAR Subarra	85.36	339	P			P	18 10 25.6	+0.1
	comp=Z,3.5nm,1.0s,baz=47,slow=5.1								
NOA	NORSAR Array B	85.36	339	P			P	18 10 25.5	0.0
	comp=Z,0.4nm,0.5s,baz=47,slow=4.7,SNR=4.6								
NOA				LR		LR	LR	18 51 21.0	
	comp=Z,8.9nm,18.2s,baz=350,slow=38								
	comp=Z,0.4nm,0.5s								
BRTR	Keskin Array B	87.61	313	P			P	18 10 37.1	0.0
	comp=Z,0.6nm,0.7s,baz=90,slow=6.2,SNR=3.7								
	comp=Z,0.6nm,0.7s								
PLCA	Paso Flores	148.29	127	PKPbc			PKiKP	18 17 36.0	-0.4
	comp=Z,2.0nm,0.8s,baz=184,slow=1.9,SNR=6.5								
LPAZ	La Paz	149.59	79	PKPbc			PKiKP	18 17 41.2	+0.8
	comp=Z,1.4nm,0.6s,baz=266,slow=2.9,SNR=4.8								

IDC 25 18:00:37.8±5.1, 3°.87S × 140°.81E, h0km, mb3.2/2, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=185.4km s-min=34.8km az=90.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.17	201	P		P	Pn	18 04 38.3	-1.1
	0.1nm,0.3s,baz=31,slow=13,SNR=3.8								
	0.5nm,0.6s								
ASAR	Alice Springs	20.78	198	P			P	18 05 21.3	+0.6
	0.5nm,0.9s,baz=25,slow=11,SNR=2.9								
	0.5nm,0.9s								
MKAR	Makanchi Array	71.99	322	P			P	18 12 03.5	0.0
	0.4nm,0.7s,baz=112,slow=6.3,SNR=4.0								
	0.4nm,0.7s								

*IDC **25** 18:26:35.0±1.4, 16°.27S × 176°.94E, h0km, mb3.8/7, mbtmp3.8/7, MS3.5/20, Error ellipse: s-maj=38.3km s-min=31.2km az=109.0*

ISC 25 18:26:36.8±1.4, 16°.2S±0°.2 × 176°.9E±0°.3, h10km, n25, σ0°.91/7, mb3.8/7, MS3.6/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.45	238			LR	LR	18 33 14.9	
	comp=Z,174nm,20.1s,baz=36,slow=35								
HNR	Honiara	17.85	290			LR	LR	18 36 13.2	
	comp=Z,161nm,20.8s,baz=64,slow=32								
RAR	Rarotonga	22.64	106			LR	LR	18 38 34.2	
	comp=Z,58nm,19.0s,baz=276,slow=32								
PMG	Port Moresby	29.75	280			LR	LR	18 42 56.7	
	comp=Z,63nm,20.2s,baz=43,slow=33								
PPT	Papeete	32.09	97			LR	LR	18 42 44.8	
	comp=Z,35nm,21.7s,baz=312,slow=30								
STKA	Stephens Creek	35.60	238	P			P	18 33 35.7	+0.9
	1.4nm,0.8s,baz=63,slow=6.8

WRA	**Warramunga Arr**	**71.20**	**130**	P		**P**		**18 54 19.5**	**-0.6**
	0.4nm,0.7s,baz=325,slow=6.1,SNR=8.9								
	0.4nm,0.7s								
ASAR	**Alice Springs**	**73.67**	**133**	P		**P**		**18 54 35.1**	**+0.4**
	0.4nm,0.9s,baz=315,slow=5.7,SNR=4.3								
	0.4nm,0.9s								
ILAR	**Eielson Array**	**74.75**	**20**	P		**P**		**18 54 40.2**	**-0.3**
	0.5nm,0.8s,baz=320,slow=5.2,SNR=3.4								
	0.5nm,0.8s								

*IDC **25** 19:18:34.7±51.0, 17°.99S×178°.89W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=922.8km s-min=162.1km az=79.0*
*NEIC **25** 19:19:06.6±1.5, 18°.9S±0°.1×177°.9W±0°.2, h367km±14km, mb4.1/17, Error ellipse: s-maj=27.0km s-min=4.6km az=57.0*
ISC 25 19:19:05.8±3.8, 19°.1S±0°.4×177°.9W±0°.4, h350km, n22, σ1s48/22, mb3.9/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
MSVF	**Nonsavu**	**4.13**	**289**			**Pn**	**19**	**20**	**17.3**	**+1.1**
BKZ	**Black Stump Fm**	**20.54**	**193**	P		**P**	**19**	**23**	**17.1**	**-1.7**
PLWZ	**Palliser**	**23.11**	**193**	P		**P**	**19**	**23**	**41.2**	**-0.8**
QRZ	**Quartz Range**	**23.13**	**199**	P		**P**	**19**	**23**	**42.8**	**+0.7**
GVZ	**Greta Valley S**	**24.97**	**196**	P		**P**	**19**	**23**	**59.8**	**+1.2**
LTZ	**Lake Taylor**	**25.00**	**197**	P		**P**	**19**	**23**	**58.7**	**-0.3**
ARMA	**Armidale**	**29.80**	**242**	P		**P**	**19**	**24**	**43.9**	**+2.2**
ARMA				IAmb		IAmb	19	25	18.3	
	comp=Z,9.9nm,1.2s									
CTAO	**Charters Tower**	**33.78**	**262**	P		**P**	**19**	**25**	**15.9**	**-0.2**
CTAO				IAmb		IAmb	19	25	39.7	
	comp=Z,23nm,1.4s									
TOO	**Toolangi**	**36.81**	**232**	P		**P**	**19**	**25**	**42.2**	**+0.6**
STKA	**Stephens Creek**	**38.51**	**243**	P		**P**	**19**	**25**	**55.9**	**+0.2**
STKA				IAmb		IAmb	19	26	25.7	
	comp=Z,34nm,1.5s									
STKA	**Stephens Creek**	**38.51**	**243**	P		**P**	**19**	**25**	**56.6**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=86,slow=9.8,SNR=3.9									
	comp=Z,1.0nm,0.4s									
BBOO	**Buckleboo**	**43.28**	**242**	P		**P**	**19**	**26**	**34.9**	**+0.6**
BBOO				IAmb		IAmb	19	26	55.4	
	comp=Z,19nm,1.4s									
WR8	**Warramunga Arr**	**44.78**	**261**	P		**P**	**19**	**26**	**44.3**	**-2.0**
WR8				IAmb		IAmb	19	27	24.5	
	comp=Z,12nm,1.5s									
WB0	**Warramunga Arr**	**44.91**	**261**	P		**P**	**19**	**26**	**44.6**	**-2.6**
WB0				IAmb		IAmb	19	27	15.4	
	comp=Z,8.2nm,1.4s									
WB2	**Warramunga Arr**	**44.92**	**261**	P		**P**	**19**	**26**	**45.2**	**-2.2**
WRA	**Warramunga Arr**	**44.93**	**261**	P		**P**	**19**	**26**	**45.0**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=96,slow=7.8,SNR=8.5									
	comp=Z,0.4nm,0.3s									
AS31	**Alice Springs**	**44.97**	**255**	P		**P**	**19**	**26**	**46.0**	**-1.7**
ASAR	**Alice Springs**	**44.97**	**255**	P		**P**	**19**	**26**	**46.9**	**-0.9**
	comp=Z,2.5nm,0.5s,baz=90,slow=8.4,SNR=112									
	comp=Z,2.5nm,0.5s									
FORT	**Forrest**	**49.96**	**246**	P		**P**	**19**	**27**	**25.2**	**-0.4**
FORT				IAmb		IAmb	19	27	33.3	
	comp=Z,6.2nm,0.9s									
KNRA	**Kununurra**	**50.89**	**265**	P		**P**	**19**	**27**	**31.7**	**-1.0**
KNRA				IAmb		IAmb	19	28	00.2	
	comp=Z,10nm,1.4s									
FITZ	**Fitzroy Crossi**	**53.35**	**261**	P		**P**	**19**	**27**	**49.3**	**-1.3**
QSPA	**South Pole Qui**	**70.92**	**180**	P		**P**	**19**	**29**	**46.4**	**+0.8**
QSPA				IAmb		IAmb	19	30	28.4	
	comp=Z,4.7nm,1.4s									

*TXNET **25** 19:34:15.5, 31°.2N±0°.6×103°.6W±0°.4, h4km±1km, ML2.9/13, Error ellipse: s-maj=0.9km s-min=0.6km az=17.8, final*
NEIC 25 19:34:15.5±1.2, 31°.18N±0°.01×103°.59W±0°.01, h5km±2km, mb_Lg2.7/32, ML2.9/64, 3D, Error ellipse: s-maj=1.7km s-min=1.4km az=165.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
LWM1	**Layne Water Mi**	**0.06**	**327**	⇓P		Pg	19	34	17.0	-0.1
LWM1				S		Sg	19	34	18.6	+0.4
LWM2	**Layne Water Mi**	**0.09**	**3**	⇓P		Pg	19	34	17.4	-0.1
LWM2				S		Sg	19	34	19.4	+0.5
TPB03	**Saragosa**	**0.12**	**145**	P		Pg	19	34	18.2	+0.2
TPB03				S		Sg	19	34	20.0	+0.5
TPB10	**Southeast of T**	**0.17**	**306**	P		Pg	19	34	19.7	+0.7
TPB10				S		Sg	19	34	22.8	+1.4
PCOS	**Crockett Middl**	**0.24**	**17**			Pg	19	34	21.1	+0.8
PCOS						Sg	19	34	25.4	+1.9
PCOS	**Crockett Middl**	**0.24**	**17**	P		Pg	19	34	21.1	+0.8
PCOS				S		Sg	19	34	25.4	+1.9
TPB04	**Verhalen**	**0.28**	**88**	P		Pg	19	34	21.9	+1.0
TPB04				S		Sg	19	34	26.3	+1.7
TPB01	**Permian Basin**	**0.29**	**215**	P		Pg	19	34	21.8	+0.6
TPB01				S		Sg	19	34	26.4	+1.5
TPB16	**Coyonosa**	**0.29**	**100**	P		Pg	19	34	22.1	+0.8
TPB16				S		Sb	19	34	27.0	-1.6
PECS	**Pecos**	**0.30**	**309**			Pg	19	34	22.1	+0.6
PECS						Sg	19	34	26.8	+1.3
PECS				IAML			19	34	29.1	
	1μm,0.2s									
PECS	**Pecos**	**0.30**	**309**	P		Pg	19	34	22.0	+0.6
PECS				S		Sg	19	34	26.8	+1.3
TPB12	**Southwest of T**	**0.32**	**276**	P		Pg	19	34	22.5	+0.7
TPB12				S		Sg	19	34	27.6	+1.7
TPB05	**Hovey Rd**	**0.34**	**139**	P		Pg	19	34	22.9	+0.7
TPB05				S		Sb	19	34	28.5	-1.5
TPB07	**Mentone**	**0.40**	**351**	S		Sg	19	34	30.1	+1.3
TPB15	**Southwest of C**	**0.43**	**86**	S		Sb	19	34	31.5	-1.2
TPB08	**Permian Basin**	**0.65**	**116**	S		Sb	19	34	38.2	-0.8
MNHN	**Monahans**	**0.73**	**77**			Pg	19	34	28.8	-0.7
MNHN						Sg	19	34	39.3	+0.3
MNHN				IAML			19	34	51.3	
	342nm,0.8s									
MNHN	**Monahans**	**0.73**	**77**	P		Pg	19	34	28.8	-0.7
MNHN				S		Sg	19	34	39.3	+0.3
ALPN	**Alpine**	**0.80**	**183**			Pg	19	34	30.5	-0.5
ALPN						Sg	19	34	41.5	+0.1
ALPN	**Alpine**	**0.80**	**183**	⇓P		Pg	19	34	30.5	-0.5
ALPN				S		Sg	19	34	41.5	+0.1
TPB11	**China Draw**	**0.84**	**333**	S		Sg	19	34	43.6	+0.8
TPB09	**Culberson Coun**	**0.85**	**314**	P		Pg	19	34	32.0	+0.2
TPB09				S		Sb	19	34	43.9	-0.8
CLNB	**Carlsbad**	**1.11**	**347**	S		Sg	19	34	51.5	+0.2
NM01	**Eunice**	**1.18**	**8**	P		Pg	19	34	37.9	-0.4
NM01				S		Sb	19	34	54.3	+0.1
CLN7	**Carlsbad 7**	**1.24**	**351**			Pg	19	34	37.9	-1.5
VHRN	**Van Horn**	**1.26**	**252**			Pg	19	34	39.4	-0.3
VHRN						Sb	19	34	56.4	-0.1
VHRN				IAML			19	35	01.2	
	173nm,0.6s									
VHRN				IAML			19	35	04.0	
	162nm,0.4s									
VHRN	**Van Horn**	**1.26**	**252**	P		Pg	19	34	39.4	-0.3
VHRN				S		Sb	19	34	56.4	-0.1
HTMS	**Hat Mesa**	**1.29**	**358**			Pg	19	34	39.6	-0.7
ODSA	**Odessa**	**1.29**	**43**			Pg	19	34	39.1	-1.2
ODSA				IAML			19	35	08.1	
	143nm,0.6s									
ODSA				IAML			19	35	19.2	
	179nm,1.5s									
ODSA	**Odessa**	**1.29**	**43**	P		Pg	19	34	39.1	-1.2
MNTX	**Cornudas Mount**	**1.62**	**289**			Pb	19	34	45.4	-0.6
MNTX						Sg	19	35	07.5	0.0
MNTX				IAmb_Lg			19	35	11.0	
	comp=Z,32nm,0.7s									
MNTX	**Cornudas Mount**	**1.62**	**289**	P		Pb	19	34	45.3	-0.6
MNTX				S		Sg	19	35	07.5	0.0
TMB06	**Greenwood**	**1.72**	**62**	P		Pn	19	34	46.8	+0.5
TMB06				S		Sb	19	35	10.3	+0.5
SAND	**Sanderson**	**1.76**	**134**			Pb	19	34	47.6	-0.8
SAND						Sg	19	35	11.6	-0.4
SAND				IAML			19	35	13.5	
	comp=Z,70nm,0.3s									
SAND				IAML			19	35	14.3	
	comp=Z,93nm,0.3s									
SAND	**Sanderson**	**1.76**	**134**	P		Pb	19	34	47.6	-0.8
SAND				S		Sg	19	35	11.6	-0.4
CPRX	**Cap Rock**	**1.86**	**353**			Pn	19	34	48.9	+0.6
TMB05	**Klondike**	**2.06**	**45**	P		Pn	19	34	52.1	+1.2
OZNA	**Ozona**	**2.13**	**96**			Pn	19	34	53.2	+1.3
OZNA				IAML			19	35	23.1	
	comp=Z,140nm,0.7s									
OZNA				IAML			19	35	26.1	
	comp=Z,98nm,0.7s									
OZNA				IAmb_Lg			19	35	26.5	
	comp=Z,35nm,0.7s									
SGCY	**Sterling City**	**2.23**	**70**			Pn	19	34	54.0	+0.8
SGCY				IAML			19	35	28.4	
	comp=Z,74nm,0.5s									
SGCY				IAML			19	35	30.1	
	comp=Z,67nm,1.0s									
SGCY				IAmb_Lg			19	35	31.7	
	comp=Z,36nm,1.0s									
EPT	**El Paso**	**2.56**	**284**	Pn		Pn	19	34	59.2	+1.3
POST	**Post**	**2.58**	**43**	IAmb_Lg			19	35	38.7	
	comp=Z,29nm,0.7s									
POST				IAML			19	35	43.0	
	comp=Z,68nm,0.6s									
POST				IAML			19	35	45.5	
	comp=Z,78nm,0.5s									
MSTX	**Muleshoe**	**2.87**	**14**			Pn	19	35	03.2	+1.1
DRIO	**Del Rio**	**3.11**	**124**			Pn	19	35	03.3	-2.0
DRIO				IAmb_Lg			19	35	55.4	
	comp=Z,23nm,0.8s									
JCT	**Junction City**	**3.33**	**101**			Pn	19	35	07.6	-0.8
DKNS	**Dickens**	**3.35**	**42**	IAmb_Lg			19	36	02.0	
	comp=Z,16nm,1.1s									
APMT	**Aspermont**	**3.63**	**53**			Pn	19	35	11.4	-1.2
APMT				IAmb_Lg			19	36	13.8	
	comp=Z,20nm,0.8s									
ABTX	**Abilene, Hawle**	**3.65**	**66**	IAML			19	36	18.8	
	comp=Z,34nm,0.3s									
ABTX				IAmb_Lg			19	36	18.9	
	comp=Z,18nm,0.8s									
121A	**Cookes Peak, D**	**3.82**	**292**			Pn	19	35	14.8	-0.3
121A				IAML			19	36	23.3	
	comp=E,17nm,0.4s									
121A				IAmb_Lg			19	36	25.6	
	comp=Z,15nm,0.9s									
121A				IAML			19	36	32.9	
	comp=N,28nm,0.6s									
CRNM	**Carthage**	**3.83**	**317**			Pn	19	35	14.4	-1.0
BNM	**Barren Site**	**3.92**	**320**			Pn	19	35	14.9	-1.7
BRDY	**Brady**	**3.93**	**87**			Pb	19	35	26.1	+0.7
BRDY				IAML			19	36	23.9	
	comp=N,21nm,0.3s									
Y22A	**Socorro**	**3.96**	**315**			Pn	19	35	15.4	-1.7
Y22A				IAML			19	36	27.7	
	comp=N,20nm,0.9s									
Y22A				IAML			19	36	31.8	
	comp=E,30nm,0.6s									
AMTX	**Amarillo**	**4.03**	**23**	IAmb_Lg			19	36	27.9	
	comp=Z,17nm,0.8s									
PLPT	**Palo Pinto**	**4.77**	**69**	IAmb_Lg			19	36	51.4	
	comp=Z,12nm,0.8s									
SMWD	**Samnorwood**	**4.82**	**35**	IAmb_Lg			19	36	50.1	
	comp=Z,14nm,0.9s									
WHTX	**Lake Whitney,**	**5.30**	**80**	IAmb_Lg			19	37	15.1	
	comp=Z,12nm,0.9s									
WMOK	**Wichita Mounta**	**5.38**	**47**			Pn	19	35	36.4	-0.1
WMOK	**Wichita Mounta**	**5.38**	**47**	IAML			19	37	13.9	
	comp=Z,11nm,0.6s									
WMOK				IAML			19	37	30.0	
	comp=Z,7.0nm,1.0s									

*VAO **25** 19:43:20.5±0.6, 27°.91S×66°.89W, h152km, mb5.4*
*MOS **25** 19:43:21.1±1.4, 27°.86S×66°.65W, h154km, mb5.2/12, Error ellipse: s-maj=11.7km s-min=7.4km az=87.5*
*IDC **25** 19:43:21.6±1.0, 27°.81S×66°.63W, h146km±8km, mb4.7/17, mbtmp5.1/23, MS4.0/6, Error ellipse: s-maj=11.7km s-min=8.1km az=99.0*
*NEIC **25** 19:43:22.7, 27°.88S×66°.75W, h160km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^17Nm; Mrr=0.37; Mθθ-0.14; Mϕϕ0.51; Mrθ0.50; Mθϕ-0.82; Mϕr-0.23; Fault plane solution: M0 1.09000×10^17 NP1: ϕs188.93000°, δ52.75000°, λ-13.86000°. NP2: ϕs287.42000°, δ79.01000°, λ-141.94000°. Principal axes: T 1.2138, Plg17.0000°, Azm53.0000°; N -0.3188, Plg51.0000°, Azm301.0000°; P -0.8950, Plg34.0000°, Azm155.0000°;*
*SJA **25** 19:43:22.0±0.6, 27°.92S×66°.77W, h188km±3km, ML5.2, MW4.9*
*NEIC **25** 19:43:22.8±1.6, 27°.88S±0°.06×66°.75W±0°.09, h157km±4km, mb4.8/232, Mww5.3/40, Mwr5.4(GUC), Error ellipse: s-maj=11.3km s-min=8.0km az=82.0*
*NEIC **25** 19:43:22.7, 27°.88S×66°.75W, h160km*
*GUC **25** 19:43:24.3±0.8, 27°.82S×66°.76W, h167km±14km, ML5.3*
*GCMT **25** 19:43:26.7±0.2, 27°.94S±0°.01×66°.77W±0°.01, h176km±1km, MW5.3/139, Moment Tensor Solution. s94,c119; s139,c230; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.49±.02; Mθθ-0.31±.02; Mϕϕ0.80±.03; Mrθ0.61±.02; Mθϕ-0.81±.02; Mϕr-0.41±.02; Best double couple: M0 1.25400×10^17 NP1:ϕs194.00000°, δ46.00000°, λ-20.00000°. NP2:ϕs298.00000°, δ76.00000°, λ-134.00000°. Principal axes: T 1.4480, Plg19.0000°, Azm59.0000°; N -0.3870, Plg42.0000°, Azm311.0000°; P -1.0610, Plg42.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*RSNC **25** 19:43:26.6±5.5, 28°.5±41°×67°.7W±1°.5, h205km±33km, M4.8, mB5.3, mb4.9, mBc6.2, Mw(mB)4.8*
ISC 25 19:43:22.7±0.4, 27°.86S±0°.02×66°.80W±0°.03, h161km±3km, h161km:pP-P, n437, σ1s958/411, mb4.9/152, 15C-16D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
AANI	**Anillaco**	**0.95**	**187**	*e*P		**Pn**	**19**	**43**	**50.1**	**+1.8**
AANI				*e*S		**Sn**	**19**	**44**	**10.4**	**+2.3**
AANI				IAML			19	44	11.8	
	comp=Z,30μm,0.6s									
CYA	**Choya**	**1.05**	**124**	⇑*i*P		**Pn**	**19**	**43**	**51.0**	**+2.1**
CYA				*i*S		**Sn**	**19**	**44**	**10.4**	**+1.2**
CYA				IAML			19	44	12.4	
	comp=N,15μm,0.7s									
CYA	**Choya**	**1.05**	**124**	*e*P		**Pn**	**19**	**43**	**50.8**	**+1.9**
CYA				*e*S		**Sn**	**19**	**44**	**10.4**	**+1.2**
VCA	**Vinchina**	**1.52**	**235**	⇑*i*P		**Pn**	**19**	**43**	**55.3**	**+1.9**
VCA				*i*S		**Sn**	**19**	**44**	**20.0**	**+2.9**
VCA				IAML			19	44	23.1	
	comp=E,41μm,0.4s									
VCA	**Vinchina**	**1.52**	**235**	*e*P		**Pn**	**19**	**43**	**55.5**	**+2.0**
VCA				*e*S		**Sn**	**19**	**44**	**21.0**	**+3.9**
VCA				IAML			19	44	23.1	
	comp=Z,20μm,0.5s									
ACLC	**CERRO LA CRUZ**	**1.56**	**185**	*e*P		**Pn**	**19**	**43**	**55.5**	**+1.5**
ACLC				*e*S		**Sn**	**19**	**44**	**19.8**	**+1.7**
FSA	**Cafayete**	**1.89**	**23**	*e*P		**Pn**	**19**	**44**	**00.2**	**+2.7**
FSA				*e*S		**Sn**	**19**	**44**	**27.8**	**+3.5**
AGUA	**GUANDACOL**	**2.20**	**222**	*e*P		**Pn**	**19**	**44**	**02.1**	**+1.3**
AGUA				*e*S		**Sn**	**19**	**44**	**33.0**	**+2.6**
AC02	**Maricunga**	**2.31**	**296**			**Pn**	**19**	**44**	**04.5**	**+1.9**
AC02	**Maricunga**	**2.31**	**296**	⇓*i*P		**Pn**	**19**	**44**	**05.0**	**+2.3**
AC02				IAML			19	44	51.5	
	comp=E,3μm,0.3s									
AC02	**Maricunga**	**2.31**	**296**	*e*P		**Pn**	**19**	**44**	**05.2**	**+2.5**
AC02				*e*S		**Sn**	**19**	**44**	**37.4**	**+4.0**
APLL	**PUNTA DE LOS L**	**2.54**	**175**	*e*P		**Pn**	**19**	**44**	**05.8**	**+1.0**
AVFE	**Valle Fertil**	**2.85**	**192**	*e*P		**Pn**	**19**	**44**	**09.0**	**+0.4**
AVFE				*e*S		**Sn**	**19**	**44**	**44.6**	**+0.2**
AVFE				IAML			19	44	49.3	
	comp=Z,4μm,0.6s									
GO03	**Copiapo**	**3.06**	**274**			**Pn**	**19**	**44**	**12.2**	**+0.9**
GO03					Sn	**Sn**	**19**	**44**	**48.5**	**-0.4**
GO03	**Copiapo**	**3.06**	**274**	⇑*i*P		**Pn**	**19**	**44**	**12.2**	**+0.9**
GO03				*i*S		**Sn**	**19**	**44**	**49.4**	**+0.4**
GO03				IAML			19	44	50.4	
	comp=N,24μm,0.7s									
GO03	**Copiapo**	**3.06**	**274**	*e*P		**Pn**	**19**	**44**	**12.2**	**+0.9**
GO03				*e*S		**Sn**	**19**	**44**	**49.3**	**+0.3**
GO03				IAML			19	44	51.9	
	comp=Z,12μm,0.2s									
ACDV	**Cuesta del Vie**	**3.07**	**221**	*e*P		**Pn**	**19**	**44**	**12.6**	**+1.0**
ACDV				*e*S		**Sn**	**19**	**44**	**52.8**	**+3.3**
ACDV				IAML			19	44	53.4	
	comp=Z,3μm,0.6s									
AROD	**Rodeo**	**3.28**	**225**	*e*P		**Pn**	**19**	**44**	**15.6**	**+1.3**
AROD				*e*S		**Sn**	**19**	**44**	**56.1**	**+1.6**
ACHE	**Chepes**	**3.29**	**178**	*e*P		**Pn**	**19**	**44**	**15.0**	**+0.8**
SLA	**San Lorenzo**	**3.34**	**21**	*e*P		**Pn**	**19**	**44**	**17.6**	**+2.6**
ACCO	**Cerro Coronel**	**3.36**	**216**	*e*P		**Pn**	**19**	**44**	**16.0**	**+0.6**
ACCO				*e*S		**Sn**	**19**	**44**	**57.4**	**+1.4**
LCO	**Las Campanas**	**3.62**	**251**			**Pn**	**19**	**44**	**18.8**	**+0.1**
LCO	**Las Campanas**	**3.62**	**251**	*e*P		**Pn**	**19**	**44**	**18.8**	**+0.1**
LCO	**Las Campanas**	**3.62**	**251**	⇑*i*P		**Pn**	**19**	**44**	**18.9**	**+0.3**
LCO				*i*S		**Sn**	**19**	**45**	**01.5**	**-0.6**
LCO	**Las Campanas**	**3.62**	**251**	*e*P		**Pn**	**19**	**44**	**18.9**	**+0.3**
LCO				*e*S		**Sn**	**19**	**45**	**02.5**	**+0.4**
SALTA		**3.65**	**7**	⇓*i*P		**Pn**	**19**	**44**	**22.4**	**+3.1**
SALTA				*i*S		**Sn**	**19**	**45**	**03.4**	**+0.3**
SALTA		**3.65**	**7**	⇓*i*P		**Pn**	**19**	**44**	**22.4**	**+3.1**
SALTA				*i*S		**Sn**	**19**	**45**	**03.3**	**+0.3**
GO02	**Mina Guanaco**	**3.67**	**316**			**Pn**	**19**	**44**	**21.4**	**+2.1**
GO02	**Mina Guanaco**	**3.67**	**316**	⇓*i*P		**Pn**	**19**	**44**	**21.6**	**+2.3**
GO02				*i*S		**Sn**	**19**	**45**	**05.5**	**+2.1**
GO02	**Mina Guanaco**	**3.67**	**316**	*e*P		**Pn**	**19**	**44**	**21.1**	**+1.7**
RTLL	**Cerro Villicun**	**3.75**	**203**	*e*P		**Pn**	**19**	**44**	**20.5**	**+0.4**
RTLL				*e*S		**Sn**	**19**	**45**	**03.9**	**-0.9**
RTLL				IAML			19	45	07.3	
	comp=Z,3μm,0.5s									
AC04	**Llanos de Chal**	**3.80**	**264**			**Pn**	**19**	**44**	**20.3**	**-0.3**
AC04	**Llanos de Chal**	**3.80**	**264**	*i*P		**Pn**	**19**	**44**	**20.3**	**-0.3**
AC04				*e*S		**Sn**	**19**	**45**	**03.2**	**-2.5**
AC04	**Llanos de Chal**	**3.80**	**264**	*e*P		**Pn**	**19**	**44**	**20.4**	**-0.2**
AC04				*e*S		**Sn**	**19**	**45**	**03.9**	**-1.7**
AC04				IAML			19	45	05.6	
	comp=Z,2μm,0.7s									
AC01	**Pan de Azucar**	**3.80**	**296**			**Pn**	**19**	**44**	**20.7**	**0.0**
AC01					Sn	**Sn**	**19**	**45**	**01.7**	**-4.0**
AC01	**Pan de Azucar**	**3.80**	**296**	*e*P		**Pn**	**19**	**44**	**21.0**	**+0.3**
AC01				*i*S		**Sn**	**19**	**45**	**04.0**	**-1.7**
AC01	**Pan de Azucar**	**3.80**	**296**	*e*P		**Pn**	**19**	**44**	**21.0**	**+0.3**
AC01				*e*S		**Sn**	**19**	**45**	**05.3**	**-0.5**
AC01				IAML			19	45	11.8	
	comp=Z,2μm,1.1s									
CFA	**Coronel Fontan**	**3.94**	**198**	P		**Pn**	**19**	**44**	**22.4**	**0.0**
	comp=Z,458nm,0.3s,baz=9.8,slow=9.4,SNR=1839									
CFA				S		**Sn**	**19**	**45**	**07.5**	**-1.5**
	comp=Z,1μm,0.3s,baz=157,slow=20,SNR=24									
CFA	**Coronel Fontan**	**3.94**	**198**	*e*P		**Pn**	**19**	**44**	**22.5**	**+0.1**
CFA				*e*S		**Sn**	**19**	**45**	**07.5**	**-1.5**
TCA	**Tanti**	**3.96**	**152**	*i*P		**Pn**	**19**	**44**	**23.1**	**+0.3**
TCA				*i*S		**Sn**	**19**	**45**	**06.8**	**-2.8**
TCA	**Tanti**	**3.96**	**152**	*e*P		**Pn**	**19**	**44**	**22.9**	**+0.1**
TCA				*e*S		**Sn**	**19**	**45**	**08.1**	**-1.6**
TCA				IAML			19	45	09.1	
	comp=Z,2μm,0.5s									
SJA	**San Juan**	**3.96**	**202**	*e*P		**Pn**	**19**	**44**	**23.2**	**+0.4**
SJA				*e*S		**Sn**	**19**	**45**	**10.6**	**+0.9**
SJA				IAML			19	45	21.9	
	comp=Z,1μm,1.2s									
ZON	**Zonda**	**4.02**	**204**			**Pn**	**19**	**44**	**23.4**	**-0.1**
ZON	**Zonda**	**4.02**	**204**	P		**Pn**	**19**	**44**	**23.4**	**-0.1**
ZON	**Zonda**	**4.02**	**204**	*e*P		**Pn**	**19**	**44**	**23.9**	**+0.4**
ZON				*e*S		**Sn**	**19**	**45**	**10.6**	**-0.4**
ZON				IAML			19	45	13.2	
	comp=Z,1μm,1.1s									
GO04	**Tololo Observa**	**4.19**	**236**			**Pn**	**19**	**44**	**25.3**	**-0.6**
GO04	**Tololo Observa**	**4.19**	**236**	⇑*i*P		**Pn**	**19**	**44**	**25.7**	**-0.2**
GO04				*i*S		**Sn**	**19**	**45**	**13.6**	**-1.7**
GO04	**Tololo Observa**	**4.19**	**236**	*e*S		**Sn**	**19**	**45**	**16.8**	**+1.5**
GO04				IAML			19	45	18.0	
	comp=Z,4μm,0.4s									
CO05	**La Serena**	**4.40**	**241**			**Pn**	**19**	**44**	**27.1**	**-1.3**
CO05	**La Serena**	**4.40**	**241**	*e*P		**Pn**	**19**	**44**	**27.1**	**-1.3**
CO05				*i*S		**Sn**	**19**	**45**	**17.7**	**-2.0**
RTLS	**Leoncito**	**4.48**	**208**	*e*P		**Pn**	**19**	**44**	**29.9**	**+0.1**
RTLS				IAML			19	45	26.0	
	comp=Z,3μm,0.3s								

IPMB Ipameri, GO 19.72 64 *e*P P 19 47 39.2 -0.8
CLDB Colider 19.81 34 *e*P P 19 47 38.8 -2.2
AY03 Cochrane 19.88 192 P P 19 47 41.3 -0.1
CZSB Cruzeiro do Su 20.79 343 P P 19 47 52.0 +0.6
CZSB Cruzeiro do Su 20.79 343 P P 19 47 52.1 +0.6
comp=Z,293nm,1.2s
PMNB Patos De Minas 20.86 68 *e*P P 19 47 50.9 -1.4
BSCB Bom Sucesso 21.17 76 *e*P P 19 47 54.8 -0.7
MAN01 Angra dos Reis 21.21 82 *e*P P 19 47 54.6 -1.4
BDFB Brasilia 21.23 59 P P 19 47 54.2 -2.0
comp=Z,102nm,0.7s,baz=214,slow=11,SNR=94
BDFB S S 19 51 43.4 +0.5
comp=Z,13nm,0.8s,baz=149,slow=15,SNR=1.8
comp=Z,102nm,0.7s
SNDB Serra Nova Dou 21.46 46 *e*P P 19 47 56.2 -2.4
VAS01 Vassouras-RJ 21.86 80 *e*P P 19 48 02.0 -0.7
DUB01 Friburgo-RJ 22.86 81 *e*P P 19 48 11.8 -0.6
DIAM Diamantina, MG 23.27 71 *e*P P 19 48 15.6 -0.7
NPGB Novo Progresso 23.37 30 *e*P P 19 48 14.9 -2.1
CAM01 Campos-RJ 23.57 81 *e*P P 19 48 17.7 -1.1
MG05 Puerto Natales 24.17 189 P P 19 48 22.9 -1.0
TEFE Tefe 24.30 5 *e*P P 19 48 26.2 +0.7
JANB Januaria 24.45 63 *e*P P 19 48 25.3 -1.6
EFI East Falkland 24.68 167 P P 19 48 28.4 -0.1
EFI East Falkland 24.68 167 *d*/P P 19 48 28.6 +0.1
EFI pmax pmax
comp=Z,268nm,1.0s
ALF01 Guarapari-ES 24.81 79 *e*P P 19 48 29.2 -0.8
SJMB Sao Joao De Ma 25.19 74 *e*P P 19 48 32.7 -0.8
MACA Manacapuru-AM 25.25 14 P P 19 48 33.6 -0.4
MACA Manacapuru-AM 25.25 14 *e*P P 19 48 34.0 0.0
SDBA SAO DESIDERIO 25.60 57 *e*P P 19 48 35.6 -1.7
RIB01 Linhares ES 25.61 76 *e*P P 19 48 36.1 -1.2
ITTB Itaituba 25.63 26 *e*P P 19 48 36.0 -1.4
SMTB Santa Maria do 26.18 47 *e*P P 19 48 41.0 -1.5
MCRA Macar, Loja 26.51 329 P P 19 48 46.2 +0.7
comp=Z,13nm,1.1s
PRPB Parauapebas 26.93 40 *e*P P 19 48 47.0 -2.2
GUA01 Guaratinga, BA 27.33 71 *e*P P 19 48 52.0 -0.7
SGC2 Sao Gabriel da 27.55 360 P P 19 48 59.9 +5.2
comp=Z,2µmcomp=Z,162nm,0.8s
COHC Cochancay 27.92 333 P P 19 49 00.8 +2.9
comp=Z,20nm,0.9s
CMC01 Camacan, BA 28.17 69 *e*P P 19 48 59.0 -1.2
MAL2 Monte Alegre, 28.39 27 P P 19 48 60.0 -2.2
FLOC Florencia 30.49 342 IAmb IAmb 19 49 24.0
comp=Z,24nm,0.8s
FLOC Florencia 30.49 342 P P 19 49 22.0 +1.3
comp=Z,554nmcomp=Z,38nm,1.2s
BOAV Boa Vista 30.68 12 P P 19 49 22.4 +0.1
BOAV Boa Vista 30.68 12 *e*P P 19 49 22.5 +0.1
BOAV Boa Vista 30.68 12 P P 19 49 22.0 -0.4
comp=Z,1µmcomp=Z,97nm,0.9s
TMAB Tom-Au,PA,Br 31.02 38 *e*P P 19 49 23.8 -1.6
BBAC Balboa, Cauca 31.37 340 P P 19 49 30.1 +1.5
comp=Z,547nmcomp=Z,70nm,1.2s
POPC Popayan, Colom 31.69 341 P P 19 49 33.2 +1.8
comp=Z,484nmcomp=Z,43nm,1.3s
URMC La Uribe, Meta 31.78 346 P P 19 49 32.1 0.0
comp=Z,11nm,1.1s
YOTC Yotoco, Valle 32.97 342 P P 19 49 43.3 +0.8
comp=Z,20nm,1.2s
ROSC El Rosal 33.31 346 LR LR 20 03 35.6
comp=Z,288nm,21.0s,baz=175,slow=36
RUSC La Rusia 34.10 349 P P 19 49 52.3 -0.4
RUSC La Rusia 34.10 349 P P 19 49 51.1 -1.6
comp=Z,498nmcomp=Z,49nm,1.2s
HOPE Hope Point 34.44 148 P P 19 49 53.5 -1.1
HOPE Hope Point 34.44 148 P P 19 49 53.5 -1.1
HOPE pmax pmax
comp=Z,96nm,1.2s
HOPE Hope Point 34.44 148 P P 19 49 55.0 +0.4
HOPE x x 19 50 50.7
CBOC Ciudad Bolivar 34.69 344 P P 19 49 57.2 -0.2
comp=Z,38nm,1.0s
HELC Santa Helena 34.89 345 P P 19 49 58.7 -0.6
comp=Z,601nmcomp=Z,35nm,0.9s
PTBC PUERTO BERRIO, 34.99 347 P P 19 49 57.0 -2.8
comp=Z,280nmcomp=Z,39nm,1.0s
PAMC Pamplona, Colo 35.46 350 P P 19 50 03.5 -0.8
MPGF Montagnes des 35.51 25 P P 19 50 03.2 -1.1
ZARC Zaragoza, Cauc 36.00 346 P P 19 50 06.9 -1.5
comp=Z,55nm,1.1s
ESPZ Base Esperanza 36.11 173 P P 19 50 08.5 -0.3
UREC San Jos de Ur 36.40 345 P P 19 50 11.2 -0.6
RCBR Riachuelo 36.61 59 P 19 50 12.4 -1.3
RCBR Riachuelo 36.61 59 LR LR 20 07 53.0
comp=Z,71nm,20.8s,baz=130,slow=40
RCBR Riachuelo 36.61 59 P P 19 50 12.4 -1.3
RCBR pmax pmax
comp=Z,35nm,0.9s
SDV Santo Domingo 36.72 354 P P 19 50 13.1 -1.7
SDV IAmb IAmb 19 50 14.8
comp=Z,42nm,1.1s
SDV Santo Domingo 36.72 354 LR LR 20 06 20.8
comp=Z,290nm,20.8s,baz=200,slow=38
SDV Santo Domingo 36.72 354 *e*P P 19 50 13.8 -1.0
SDV Santo Domingo 36.72 354 P P 19 50 13.7 -1.0
comp=Z,27nm,1.0s
PCRV Puerto La Cruz 37.87 3 LR LR 20 07 44.7
comp=Z,211nm,21.1s,slow=39
SJCC San Jacinto, C 38.40 347 P P 19 50 27.4 -1.3
comp=Z,40nm,1.2s
GRGR Grenville 40.07 8 P P 19 50 41.9 -0.5
SMAI San Martin Ant 40.29 180 P P 19 50 43.3 -0.4
SMAI IAmb IAmb 19 50 45.5
comp=Z,30nm,1.1s
JTS Las Juntas de 41.80 333⇑ *e*P P 19 50 59.8 +3.1
JTS pmax pmax
comp=Z,37nm,1.1s
BIM Bigot 42.49 8 P P 19 51 00.1 -2.2
FDF Fort de France 42.69 8 P P 19 51 02.5 -1.4
FDF Fort de France 42.69 8 P P 19 51 02.5 -1.4
FDF pmax pmax
comp=Z,99nm,1.0s
OBIP Obispado Ponce 45.63 0 IAmb IAmb 19 51 27.1
comp=Z,58nm,1.3s
CELP Cerrillos 45.66 0 P P 19 51 26.1 -1.2
CELP IAmb IAmb 19 51 27.2
comp=Z,46nm,1.2s
MTDJ Mount Denham 46.98 346 P P 19 51 38.1 +0.3
MTO3 Montecristo 47.36 330 IAmb IAmb 19 51 43.8
comp=Z,30nm,1.1s
TEIG Tepich 52.13 334 P P 19 52 16.5 -0.1
TEIG IAmb IAmb 19 52 17.9
comp=Z,25nm,0.9s
TEIG Tepich 52.13 334 P P 19 52 17.1 +0.5
TEIG pP pP 19 52 52.7 -1.7
BELA Belgrano 2 52.21 172 P P 19 52 17.1 +0.6
VNA3 Neumayer Olymp 53.46 160 ⇓P P 19 52 26.4 +0.5
comp=Z,98nm,0.7s
VNA3 ⇓sP pP 19 53 06.2 +3.3
VNA1 Neumayer--Stat 53.68 159 ⇓P P 19 52 28.4 +1.1
comp=Z,58nm,0.8s
VNA1 ⇓sP pP 19 53 08.9 +4.5
VNA1 ⇑ScP ScP 19 57 10.4 -3.6
VNA2 Neumayer--Watz 54.04 160 ⇓P P 19 52 30.7 +0.7
comp=Z,110nm,0.9s,baz=284,slow=8.0
VNA2 ⇓sP pP 19 53 10.8 +3.7
baz=306,slow=8.4
SNAA Sanae 55.67 160 ⇓P P 19 52 41.2 -0.6
comp=Z,2µm,0.9s
SNAA ⇑pP pP 19 53 11.4 -7.7
SNAA Sanae 55.67 160 P P 19 52 41.2 -0.6
SNAA Sanae 55.67 160 P P 19 52 42.1 +0.4
comp=Z,47nm,0.7s,baz=285,slow=6.8,SNR=202
comp=Z,47nm,0.7s
SNAA Sanae 55.67 160 P P 19 52 41.2 -0.6
SNAA pmax pmax
comp=Z,68nm,0.9s
TROLL Troll, Antarti 57.38 160 ⇓P P 19 52 53.5 -0.5
comp=Z,3µm,0.6s
TROLL ⇑PP PP 19 54 58.6 -4.1
NVL N'lazarevskaya 60.23 158 *e*P P 19 53 14.5 +1.1
NVL *e* 19 55 30.6
NVL *e*PPP PPP 19 56 55.4
NVL *e*S S 20 01 17.8 +3.6
NVL *e* 20 02 51.8
NVL *e*SS SS 20 05 19.6 +6.0
NVL pmax pmax
comp=Z,9.0nm,0.6s
NVL smax smax
comp=E,115nm,10.5s
QSPA South Pole Qui 62.36 180 P 19 53 30.6 +2.7
QSPA South Pole Qui 62.36 180 P P 19 53 29.4 +1.5
comp=E,61nm,0.7s,baz=165,slow=1.5,SNR=249
comp=E,61nm,0.7s
QSPA South Pole Qui 62.36 180 P P 19 53 31.1 +3.2
152A Waverly Hall 62.56 343 IAmb IAmb 19 53 30.8
comp=Z,19nm,1.4s
HBVL Hebbronville 62.61 328 IAmb IAmb 19 53 32.6
comp=Z,12nm,1.0s
GOGA Godfrey 62.96 344 IAmb IAmb 19 53 33.0
comp=Z,9.1nm,0.9s
BIRD Birdtown, Kers 63.50 347 IAmb IAmb 19 53 37.2
comp=Z,12nm,0.8s
Y52A Lilburn 63.53 344 IAmb IAmb 19 53 36.8
comp=Z,13nm,0.8s
W57A Gilead 63.90 348 P 19 53 38.8 +0.6
W57A IAmb IAmb 19 53 39.7
comp=Z,17nm,1.0s
Y49A Blount Mountai 64.14 342 IAmb IAmb 19 53 40.6
comp=Z,26nm,1.3s
BG3 Lake Jocassee 64.35 345 IAmb IAmb 19 53 42.6
comp=Z,9.7nm,0.9s
FPAL Fort Paine 64.57 343 IAmb IAmb 19 53 43.5
comp=Z,12nm,1.1s
W52A Murphy 64.67 345 IAmb IAmb 19 55 23.0
comp=Z,8.7nm,0.7s
V55A Taylorsville 64.81 347 IAmb IAmb 19 53 45.8
comp=Z,17nm,1.0s
X48A Hartselle 64.87 342 IAmb IAmb 19 53 45.8
comp=Z,20nm,0.9s
V53A Saluda 64.97 346 IAmb IAmb 19 54 47.2
comp=Z,10nm,0.8s
W50A Signal Mountai 65.12 343 IAmb IAmb 19 53 47.4
comp=Z,22nm,1.1s
CPCT Cooper Cave 65.16 344 IAmb IAmb 19 53 47.4
comp=Z,12nm,0.9s
TKL Tuckaleechee C 65.18 345 P P 19 53 46.7 +0.2
comp=Z,7.0nm,0.6s,baz=145,slow=7.8,SNR=11
TKL LR LR 20 25 39.0
comp=Z,47nm,18.6s,baz=154,slow=39
comp=Z,7.0nm,0.6s
PLAL Pickwick Lake 65.66 341 IAmb IAmb 19 53 51.0
comp=Z,18nm,1.2s
BRDY Brady 66.35 330 IAmb IAmb 19 53 56.5
comp=Z,24nm,1.2s
WVT Waverly 66.67 342 P P 19 53 55.5 -0.5
WVT Waverly 66.67 342 P P 19 53 55.5 -0.5
WVT pmax pmax
comp=Z,27nm,0.8s
WVT Waverly 66.67 342 P P 19 53 55.6 -0.4
WVT pP pP 19 54 33.0 -2.4
TXAR Lajitas Array 66.93 325 P P 19 53 58.6 +0.7
comp=Z,1.2nm,0.6s,baz=141,slow=8.1,SNR=16
OZNA Ozona 67.01 328 IAmb IAmb 19 54 00.2
comp=Z,13nm,0.8s
MIAR Mount Ida 67.04 336 P 19 53 58.7 +0.3
MIAR IAmb IAmb 19 54 00.8
comp=Z,25nm,1.2s
MIAR Mount Ida 67.04 336 P P 19 53 58.7 +0.3
MIAR pmax pmax
comp=Z,25nm,1.3s
WHAR Wooly Hollow 67.27 338 IAmb IAmb 19 54 01.3
comp=Z,18nm,1.1s
T47A Sharon Grove 67.27 342 IAmb IAmb 19 55 49.5
comp=Z,23nm,0.8s
PLPT Palo Pinto 67.37 332 IAmb IAmb 19 54 02.9
comp=Z,36nm,1.4s
LCAR Lake Charles 67.61 339 IAmb IAmb 19 54 03.8
comp=Z,31nm,1.3s
ABTX Abilene, Hawle 67.78 330 IAmb IAmb 19 54 05.5
comp=Z,33nm,1.2s
P57A Homestead Farm 67.81 351 IAmb IAmb 19 54 05.6
comp=Z,14nm,0.7s
SGCY Sterling City 67.84 329 IAmb IAmb 19 54 05.8
comp=Z,13nm,1.1s
MVL Millersville 68.10 352 IAmb IAmb 19 54 07.1
comp=Z,11nm,0.8s
MNHN Monahans 68.13 327 IAmb IAmb 19 54 08.1
comp=Z,16nm,0.9s
PAGS Pennsylvania G 68.37 352 IAmb IAmb 19 54 08.6
comp=Z,22nm,0.9s
APMT Aspermont 68.58 330 IAmb IAmb 19 54 10.6
comp=Z,46nm,1.6s
SN07 Snyder 07 68.72 330 IAmb IAmb 19 54 11.2
comp=Z,12nm,0.9s
HHAR Hobbs 68.73 337 IAmb IAmb 19 54 11.3
comp=Z,18nm,1.0s
VHRN Van Horn 68.77 325 IAmb IAmb 19 54 12.0
comp=Z,17nm,1.5s
DBIC Dimbokro 68.90 70 P P 19 54 09.4 -1.1
comp=Z,24nm,0.7s,baz=255,slow=7.1,SNR=37
comp=Z,24nm,0.7s
DBIC Dimbokro 68.90 70 P P 19 54 09.3 -1.2
SSPA Standing Stone 68.92 351 P P 19 54 09.8 -0.2
SSPA IAmb IAmb 19 54 12.1
comp=Z,15nm,1.1s
MGMO Mountain Grove 68.96 338 IAmb IAmb 19 54 12.6
comp=Z,28nm,1.1s
N58A Sunbury 68.97 352 IAmb IAmb 19 54 12.5
comp=Z,22nm,1.1s
RLO Rose Lookout 69.02 336 IAmb IAmb 19 54 12.4
comp=Z,14nm,0.9s
TUL3 Leonard 69.07 335 IAmb IAmb 19 54 13.2
comp=Z,22nm,1.0s
FVM Frnch Village 69.14 340 IAmb IAmb 19 54 12.6
comp=Z,21nm,0.9s
CCM Cathedral Cave 69.46 340 P P 19 54 13.2 -0.2
CCM Cathedral Cave 69.46 340 P P 19 54 13.2 -0.2
CCM pmax pmax
comp=Z,45nm,1.4s
CCM Cathedral Cave 69.46 340 P P 19 54 13.6 +0.2
CCM PcP PcP 19 54 35.7 +0.1
CCM pP pP 19 54 51.8 -1.0
CCM sP sP 19 55 08.7 -1.6
PAMR Moraine State 69.56 349 IAmb IAmb 19 54 15.8
comp=Z,21nm,0.9s
O48B Farmland 69.89 345 IAmb IAmb 19 54 16.6
comp=Z,14nm,0.8s
SYO Syowa Base 69.90 158⇓ *i*P P 19 54 16.2 +0.5
SYO Syowa Base 69.90 158⇑ *e*PcP PcP 19 54 35.3 -1.8
SBA Scott Base 69.94 190 P P 19 54 17.4 +1.5
SBA IAmb IAmb 19 54 18.6
comp=Z,14nm,1.0s
SBA Scott Base 69.94 190 P P 19 54 17.4 +1.5
SBA pmax pmax
comp=Z,14nm,1.0s
OK048 Pawnee Station 69.95 334 IAmb IAmb 19 54 18.2
comp=Z,28nm,1.2s
R40A Maddies Statio 70.00 339 IAmb IAmb 19 54 18.7
comp=Z,31nm,1.2s
PAOC Oil Creek Stat 70.05 350 IAmb IAmb 19 54 18.5
comp=Z,18nm,0.9s
L59A Walton 70.12 353 IAmb IAmb 19 54 19.6
comp=Z,20nm,0.9s
T35A Sooner Cattle 70.23 335 IAmb IAmb 19 54 19.9
comp=Z,19nm,1.2s
N49A Columbus Grove 70.31 346 IAmb IAmb 19 54 19.5
comp=Z,20nm,0.7s
TRY Troy 70.53 355 IAmb IAmb 19 54 22.6
comp=Z,20nm,1.0s
KAN14 Manchester OK 70.82 334 IAmb IAmb 19 54 24.2
comp=Z,35nm,1.4s
VNDA Vanda 70.94 190 P P 19 54 23.8 +1.8
comp=Z,8.6nm,0.8s,baz=135,slow=5.2,SNR=42
comp=Z,8.6nm,0.8s
VNDA Vanda 70.94 190 P P 19 54 23.7 +1.7
VNDA sP sP 19 55 17.6 -1.4
P40A Paris 71.06 340 IAmb IAmb 19 54 24.3
comp=Z,14nm,0.8s
J59A Piesco 71.33 354 IAmb IAmb 19 54 26.6
comp=Z,21nm,1.0s
HNH Hanover 71.39 356 IAmb IAmb 19 54 27.6
comp=Z,28nm,1.1s
121A Cookes Peak, D 71.59 324 IAmb IAmb 19 54 30.5
comp=Z,14nm,1.1s
ANMO Albuquerque 72.85 327 P P 19 54 35.7 +1.5
comp=Z,5.9nm,0.8s,baz=233,slow=5.1,SNR=3.7
comp=Z,5.9nm,0.8s
L40A Anamosa 73.14 341 IAmb IAmb 19 54 37.0
comp=Z,28nm,0.8s
SADO Sadowa 73.16 351 LR LR 20 28 48.3
comp=Z,532nm,19.8s,baz=258,slow=37
T25A Trinidad 73.68 329 IAmb IAmb 19 54 42.4
comp=Z,29nm,1.6s
TRQ Mont Tremblant 74.07 354 IAmb IAmb 19 54 42.2
comp=Z,12nm,0.8s
E62A Clayton Lake 74.17 358 IAmb IAmb 19 54 43.7
comp=Z,22nm,1.0s
D62A Allapoint, All 74.62 358 IAmb IAmb 19 54 46.1
comp=Z,23nm,0.9s
X16A Lo Mia Camp, P 74.98 323 IAmb IAmb 19 54 50.3
comp=Z,16nm,1.1s
MVCO Mesa Verde 75.65 327 IAmb IAmb 19 54 53.8
comp=Z,26nm,1.6s
ECSD EROS Data Cent 76.32 338 IAmb IAmb 19 54 55.1
comp=Z,14nm,0.9s
TSUM Tsumeb 76.47 105 P P 19 54 55.6 +0.3
PV15 Paradox Valley 76.54 327 IAmb IAmb 19 54 59.1
comp=Z,18nm,1.3s
PV02 Paradox Valley 76.56 327 IAmb IAmb 19 54 58.9
comp=Z,21nm,1.2s
BC3 Big Chuckawall 76.62 320 P P 19 54 57.7 +2.0
PV18 Skein Mesa, Pa 76.67 327 IAmb IAmb 19 54 59.3
comp=Z,16nm,1.2s
PV12 Saucer Basin, 76.68 327 IAmb IAmb 19 54 59.6
comp=Z,29nm,1.5s
PV19 Morning Glory 76.76 327 IAmb IAmb 19 54 59.8
comp=Z,23nm,1.3s
PV04 Paradox Valley 76.78 327 IAmb IAmb 19 55 00.1
comp=Z,26nm,1.5s
PV10 Paradox Valley 76.84 327 IAmb IAmb 19 54 59.8
comp=Z,27nm,1.3s
CCD Concordia, Ant 77.08 183 P P 19 54 58.9 +0.8
KOOLE Kule 77.09 109 P P 19 54 58.8 0.0
KOOLE IAmb IAmb 19 55 00.1
comp=Z,12nm,0.6s
LKGWB Lokgwabe 77.47 111 P P 19 55 03.1 +2.2
KNB Kanab 77.68 324 IAmb IAmb 19 55 05.7
comp=Z,30nm,1.1s
GRHM Grahamstown, E 77.71 121 P 19 55 02.3 +0.3
MAW Mawson 77.71 162 P P 19 55 02.1 +0.9
comp=Z,42nm,0.7s,baz=217,slow=6.4,SNR=110
comp=Z,42nm,0.7s
TORD Torodi Ar. Bea 77.81 68 P P 19 55 00.9 -1.7
comp=Z,41nm,0.7s,baz=249,slow=3.4,SNR=128
TORD S S 20 04 39.1 -3.2
comp=Z,0.6nm,0.8s,baz=244,slow=9.2,SNR=3.8
comp=Z,41nm,0.7s
O20A White River Ci 77.86 329 IAmb IAmb 19 55 06.0
comp=Z,28nm,1.2s
Q16A Castle Valley 78.30 326 IAmb IAmb 19 55 08.7
comp=Z,25nm,1.4s
P18A Preston Nutter 78.40 327 IAmb IAmb 19 55 09.3
comp=Z,28nm,1.3s
P17A Butcher Ranch, 78.52 327 IAmb IAmb 19 55 09.4
comp=Z,23nm,1.3s
BOSA Boshof 78.84 116 P P 19 55 08.5 +0.2
comp=Z,26nm,0.6s,baz=259,slow=3.7,SNR=103
comp=Z,26nm,0.6s
BOSA Boshof 78.84 116 P P 19 55 08.5 +0.2
WSHM Spangler Hills 79.19 320 P P 19 55 10.5 +0.7
LRMC Laurel Mtn Rad 79.21 320 P P 19 55 10.3 +0.3
BSUT Blindstream Ca 79.36 327 IAmb IAmb 19 55 14.5
comp=Z,17nm,1.2s
SPR3 Spring Creek 3 79.96 324 IAmb IAmb 19 55 17.3
comp=Z,24nm,1.5s
TCUT Toone Canyon 80.12 327 IAmb IAmb 19 55 18.8
comp=Z,20nm,1.3s
PDAR Pinedale Array 80.55 330 P P 19 55 18.1 +0.9
comp=Z,1.4nm,0.4s,baz=125,slow=4.4,SNR=15
PDAR PKKPbc PKKPbc 20 13 56.6 -2.1
comp=Z,0.5nm,0.7s,baz=277,slow=0.6,SNR=4.3
comp=Z,1.4nm,0.4s
KDWAN Kaudwane 80.63 111 IAmb IAmb 19 55 20.3
comp=Z,16nm,0.6s
LBTB Lobatse 80.68 113 P P 19 55 18.8 +0.5
NVAR Mina Array Bea 81.66 322 P P 19 55 24.1 +1.0
comp=Z,0.6nm,0.6s,baz=138,slow=5.2,SNR=7.7
ULM Lac du Bonnet 81.93 342 P P 19 55 24.1 +0.2
comp=Z,4.9nm,0.6s,baz=150,slow=5.6,SNR=8.8
comp=Z,4.9nm,0.6s
ULM Lac du Bonnet 81.93 342⇑ *e*P P 19 55 24.8 +0.8
WAKR Walker 82.34 321 IAmb IAmb 19 55 30.3
comp=Z,20nm,1.5s
SCHQ Schefferville 82.35 360 P P 19 55 26.6 +0.5
comp=Z,122nm,1.1s,baz=190,slow=6.9,SNR=6.2
comp=Z,122nm,1.1s
YMR Madison River 82.68 330 IAmb IAmb 19 55 31.8
comp=Z,38nm,1.4s
YHL Hebgen Lake 82.92 330 IAmb IAmb 19 55 33.1
comp=Z,15nm,1.3s
HLID Hailey 83.42 327 IAmb IAmb 19 55 35.5
comp=Z,13nm,1.1s
DRV Dumont d'Urvil 83.59 190 P P 19 55 32.5 +0.1
DLMT Dillon 83.95 329 IAmb IAmb 19 55 37.8
comp=Z,19nm,1.2s
PBDV Barranco-do-Ve 85.11 43 *e*P P 19 55 41.8 +1.2
PBDV *i* IAmb IAmb 19 55 42.7
comp=Z,43nm,1.2s
MATP Matopo 85.14 110 P P 19 55 48.5 +7.1
comp=Z,24nm,0.7s,baz=231,slow=3.6,SNR=65
J08A Circle Bar Ran 85.27 325 IAmb IAmb 19 55 44.4
comp=Z,17nm,1.1s
PCVE Castro Verde 85.30 43 *e*P P 19 55 42.9 +1.5
PLID Pearl Lake 85.31 327 IAmb IAmb 19 55 44.3
comp=Z,13nm,1.1s
MESJ Messejana 85.33 43 *e*P P 19 55 42.8 +1.2
MESJ IAmb IAmb 19 55 44.8
comp=Z,19nm,0.9s
MESJ Messejana 85.33 43 P P 19 55 42.6 +1.0
MESJ IAmb IAmb 19 55 44.6
comp=Z,18nm,0.8s
MESJ Messejana 85.33 43 *e*P P 19 55 43.4 +1.8
MESJ Messejana 85.33 43 P P 19 55 42.6 +1.0
MESJ pmax pmax
comp=Z,18nm,0.8s
PVAQ Vaqueiros 85.35 43 *e*P P 19 55 42.7 +1.0
PVAQ *i* IAmb IAmb 19 55 48.4
comp=Z,39nm,2.1s
PARRA Arraiolos 85.48 42 *e*P P 19 55 46.8 +4.5
PARRA *i* IAmb IAmb 19 55 48.0
comp=Z,22nm,0.9s
PBEJ Beja 85.66 43 *e*P P 19 55 44.7 +1.4
PBEJ *i* IAmb IAmb 19 55 48.9
comp=Z,26nm,2.3s
EVO Evora 85.90 42 *e*P P 19 55 45.9 +1.5
EVO *i* IAmb IAmb 19 55 47.8
comp=Z,30nm,2.3s
TAM Tamanrasset 86.04 62 P 19 55 45.3 -0.3
TAM Tamanrasset 86.04 62 P P 19 55 45.3 -0.3
TAM pmax pmax
comp=Z,50nm,0.5s
TAM Tamanrasset 86.04 62 P P 19 55 46.3 +0.6
PSBE So Bento 86.08 41 *e*P P 19 55 47.6 +2.3
PMTG Montargil 86.13 42 *e*P P 19 55 46.8 +1.3
PMTG *i* IAmb IAmb 19 55 48.6
comp=Z,50nm,0.9s
CASY Casey 86.14 179 P 19 55 45.7 +0.5
PBAR Barrancos 86.26 43 *e*P P 19 55 47.5 +1.4
PESTR Estremoz 86.37 42 *e*P P 19 55 48.4 +1.7
PESTR *i* IAmb IAmb 19 55 50.3
comp=Z,38nm,1.4s
PSARD Sardoal 86.51 41 *e*P P 19 55 49.0 +1.6
PSARD *i* IAmb IAmb 19 55 52.7
comp=Z,40nm,1.4s
PCAS Casmilo, Conde 86.61 41 *e*P P 19 55 50.0 +2.2
J05D Fort Rock, OR 86.65 323 IAmb IAmb 19 55 51.1
comp=Z,14nm,1.1s
COI Coimbra 86.76 41 *e*P P 19 55 50.4 +1.9
COI *i* IAmb IAmb 19 55 50.9
comp=Z,77nm,1.1s
PINE Pine Mountain 86.85 324 IAmb IAmb 19 55 52.3
comp=Z,16nm,1.1s
PMRV Marv??o 86.85 42 *e*P P 19 55 50.1 +1.1
PMRV *i* IAmb IAmb 19 55 50.8
comp=Z,38nm,2.4s
PCBR Castelo Branco 87.07 42 *e*P P 19 55 51.8 +1.8
PCBR *i* IAmb IAmb 19 55 52.2
comp=Z,35nm,0.9s
PTO Porto 87.26 40 *e*P P 19 55 53.5 +2.5
PTO *i* IAmb IAmb 19 55 53.7
comp=Z,83nm,1.2s
LSZ Lusaka 87.28 106 P P 19 55 53.7 +1.8
comp=Z,10nm,0.8s,baz=236,slow=3.7,SNR=18
comp=Z,10nm,0.8s
MTE Manteigas 87.39 41 *e*P P 19 55 53.6 +1.9
PVIS Viseu 87.39 41 *e*P P 19 55 53.5 +1.9
PVRL Vila Real 87.86 40 *e*P P 19 55 56.5 +2.7
POLO Lamas de Olo 87.88 40 *e*P P 19 55 56.7 +2.7
PCAB Cabril 87.96 40 *e*P P 19 55 57.1 +2.8
PGAV Gavieira, Arco 87.99 40 *e*P P 19 55 57.4 +2.9
PBRG Braganca 88.76 40 *e*P P 19 56 00.4 +2.4
ESDC Sonseca Array 89.06 43 P P 19 56 00.6 +1.1
comp=Z,4.0nm,0.8s,baz=242,slow=4.1,SNR=26

	comp=Z,4.0nm,0.8s									
LTY	**Liberty**		**89.13**	**327**	IAmb	IAmb	19 57 27.4			
	comp=Z,7.3nm,0.7s									
KEST	**Kesra**		**95.61**	**53**	P	**P**	**19 56 30.3**	**+0.4**		
	comp=Z,5.6nm,0.8s,baz=310,slow=1.7,SNR=7.1									
	comp=Z,5.6nm,0.8s									
EKA	**Eskdalemuir Ar**		**99.03**	**31**	P	**Pdif**	**19 56 44.2**	**-0.4**		
	comp=Z,1.3nm,0.8s,baz=238,slow=4.4,SNR=6.1									
	comp=Z,1.3nm,0.8s									
KMBO	**Kilima Mbogo**		**101.88**	**98**	*i* P	**Pdif**	**19 56 56.7**	**-2.0**		
KMBO					pmax	pmax				
	comp=Z,186nm,0.4s									
FETA	**Feichten**		**102.02**	**43**	*e*Pdiff	**Pdif**	**19 57 00.4**	**+2.0**		
	comp=Z,2.7nm,0.9s									
MOTA	**Moosalm**		**102.39**	**43**	*e*Pdiff	**Pdif**	**19 57 02.5**	**+2.4**		
	comp=Z,1.9nm,0.5s									
SQTA	**Sankt Quirin**		**102.40**	**43**	*e*Pdiff	**Pdif**	**19 57 02.9**	**+2.8**		
	comp=Z,1.7nm,0.4s									
WTTA	**Wattenberg**		**102.68**	**43**	*e*Pdiff	**Pdif**	**19 57 03.5**	**+2.2**		
	comp=Z,1.5nm,0.5s									
ABTA	**Abfaltersbach**		**102.98**	**44**	*e*Pdiff	**Pdif**	**19 57 05.3**	**+2.7**		
	comp=Z,0.7nm,0.4s									
GERES	**GERESS Array B**		**104.62**	**42**	Pdiff	**Pdif**	**19 57 09.7**	**-0.2**		
	comp=Z,0.2nm,0.5s,baz=306,slow=3.3,SNR=2.6									
CLL	**Collm**		**105.28**	**40**	*e*SP	SP	20 10 34.0	-0.6		
CLL					*e*PPS	PPS	20 11 48.0			
HFS	**Hagfors**		**109.22**	**32**	PKKPab	PKKPab	20 12 51.6	+1.5		
	comp=Z,3.2nm,0.9s,baz=90,slow=4.4,SNR=9.1									
FINES	**FINESS Array B**		**115.41**	**32**	PKKPbc	PKKPbc	20 12 21.1	+0.4		
	comp=Z,1.1nm,0.7s,baz=46,slow=5.5,SNR=4.7									
SPITS	**Spitsbergen Ar**		**115.67**	**13**	PKKPbc	PKKPbc	20 12 22.2	+2.1		
	comp=Z,1.1nm,0.4s,baz=101,slow=8.6,SNR=5.9									
ARCES	**ARCESS Array B**		**116.60**	**23**	PKKPbc	PKKPbc	20 12 16.0	-0.7		
	comp=Z,2.4nm,0.9s,baz=106,slow=4.3,SNR=3.6									
KLMR	**Klimovskoe**		**121.81**	**34**	*e*PKIKP	**PKPdf**	**20 01 54.2**	**-2.7**		
KLMR					pmax	pmax				
	comp=Z,23nm,1.5s									
KIV	**Kislovodsk**		**122.33**	**54**	*i* PKIKP	**PKPdf**	**20 01 58.3**	**-0.3**		
KIV					pmax	pmax				
	comp=Z,5.0nm,1.0s									
KIV					MLR	MLR				
	comp=Z,266nm,22.0s									
ASAR	**Alice Springs**		**125.02**	**203**	PKP	**PKiKP**	**20 02 04.9**	**+0.1**		
	comp=Z,6.1nm,0.4s,baz=139,slow=1.6,SNR=3.5									
WRA	**Warramunga Arr**		**128.26**	**206**	PKP	**PKiKP**	**20 02 11.3**	**0.0**		
	comp=Z,6.8nm,0.4s,baz=153,slow=2.0,SNR=4.0									
BVAR	**Borovoye Array**		**139.71**	**39**	PKP	**PKPdf**	**20 02 31.4**	**+0.5**		
	comp=Z,1.3nm,0.6s,baz=329,slow=2.6,SNR=5.0									
BVAR					SKPbc	**SKPbc**	**20 05 52.6**	**+1.0**		
	comp=Z,1.7nm,0.6s,baz=335,slow=6.6,SNR=6.2									
BVAR					SKPab	**SKPab**	**20 06 04.6**	**+1.8**		
	comp=Z,2.0nm,0.7s,baz=303,slow=6.3,SNR=5.2									
YAK	**Yakutsk**		**144.12**	**347**	*e*PKIKP	**PKPab**	**20 02 36.2**	**-0.3**		
YAK					pmax	pmax				
	comp=Z,32nm,1.0s									
YAK					pmax	pmax				
	comp=N,3.0nm,1.0s									
YAK					pmax	pmax				
	comp=E,4.0nm,1.1s									
WOJI	**Wonogiri, Jawa**		**144.44**	**176**	PKP	**PKPdf**	**20 02 40.1**	**-0.5**		
WOJI					PKP	PKPbc	20 02 40.3	+0.9		
BLJI	**Banyuglugur**		**144.60**	**181**	PKP	**PKPdf**	**20 02 41.2**	**+0.3**		
BLJI					PKP	PKPbc	20 02 41.4	+1.5		
EKS2	**Erkin-Say**		**144.92**	**55**	P	**PKPdf**	**20 02 41.2**	**+0.4**		
	SNR=21									
CGJI	**Cibinong**		**144.97**	**167**	PKP	**PKPdf**	**20 02 41.8**	**+0.3**		
CGJI					PKP	**PKPab**	**20 02 42.0**	**+0.9**		
SMRI	**Semarang**		**145.19**	**175**	PKP	**PKPab**	**20 02 43.4**	**+1.4**		
SMRI					PKP	**PKiKP**	**20 02 45.5**	**-0.4**		
DBJI	**Dramaga**		**145.22**	**169**	PKP	**PKPab**	**20 02 42.2**	**+0.1**		
DBJI					PKP	**PKPdf**	**20 02 43.2**	**+1.2**		
KURBB	**Kurchatov Arra**		**145.30**	**40**	PKPbc	**PKPab**	**20 02 42.1**	**+0.8**		
	comp=E,17nm,0.7s,baz=300,slow=3.5,SNR=123									
KURBB					SKPbc	**SKiKP**	**20 06 06.1**	**+0.2**		
	comp=E,2.9nm,0.6s,baz=301,slow=3.0,SNR=7.4									
USP	**Ospenovka**		**145.31**	**53**	P	**PKPab**	**20 02 42.2**	**+0.5**		
	SNR=24									
KURK	**Kurchatov**		**145.31**	**39**		**PKPbc**	**20 02 41.0**	**-0.1**		
KURK	**Kurchatov**		**145.31**	**39**	*c*PKP2	**PKPab**	**20 02 41.7**	**+0.3**		
NIL	**Nilore**		**145.34**	**70**	PKPdf	**PKPdf**	**20 02 41.2**	**-0.4**		
NIL	**Nilore**		**145.34**	**70**	PKP2	**PKPdf**	**20 02 41.2**	**-0.4**		
AAK	**Ala-Archa**		**145.44**	**54**	P	**PKPab**	**20 02 43.6**	**+1.2**		
	SNR=26									
AAK	**Ala-Archa**		**145.44**	**54**	*c*PKP2	**PKPab**	**20 02 42.6**	**+0.2**		
UCH	**Uchtor**		**145.54**	**55**	P	**PKPab**	**20 02 44.4**	**+1.1**		
	SNR=11									
CHMS	**Chumysh**		**145.55**	**54**	P	**PKPab**	**20 02 43.4**	**+0.8**		
	SNR=17									
KASI	**Kota Agung**		**145.76**	**164**	PKP	**PKPab**	**20 02 44.4**	**+0.3**		
KASI					PKP	**PKPbc**	**20 02 44.8**	**+1.2**		
KBK	**Karagaybulak**		**145.76**	**54**	P	**PKPab**	**20 02 44.6**	**+0.9**		
	SNR=22									
TKM2	**Tokmak 2**		**146.17**	**54**	P	**PKPbc**	**20 02 44.5**	**+0.3**		
	SNR=51									
NLAI	**Namlea**		**146.31**	**206**	PKP	**PKPdf**	**20 02 43.2**	**-0.6**		
NLAI					PKP	**PKPab**	**20 02 47.0**	**+0.8**		
HYB	**Hyderabad**		**146.48**	**101**	*e*PKPab	**PKPbc**	**20 02 46.1**	**+0.5**		
KLI	**Kotabumi**		**146.48**	**165**	PKP	**PKiKP**	**20 02 48.9**	**+0.4**		
SWI	**Sorong**		**146.59**	**214**	PKP	**PKPab**	**20 02 47.5**	**+0.2**		
ZALV	**Zalesovo Beam**		**146.66**	**31**	PKPbc	**PKPbc**	**20 02 44.7**	**-0.3**		
	comp=E,13nm,0.3s,baz=305,slow=3.5,SNR=84									
ZALV					SKPbc	**SKiKP**	**20 06 08.9**	**+0.2**		
	comp=E,4.5nm,0.6s,baz=303,slow=3.1,SNR=6.3									
KAPI	**Kappang**		**146.71**	**192**	*i* PKP2	**PKPbc**	**20 02 45.8**	**-0.6**		
ULHL	**Ulahol**		**146.79**	**55**	P	**PKiKP**	**20 02 48.6**	**0.0**		
	SNR=22									
KSH	**Kashi**		**147.13**	**60**	PKPbc	**PKPbc**	**20 02 46.3**	**-0.7**		
BNSI	**Bone**		**147.24**	**193**	PKP	**PKPab**	**20 02 49.1**	**-0.8**		
SPSI	**Sidrap Palu**		**147.73**	**192**	PKP	**PKiKP**	**20 02 50.9**	**-0.2**		
TPI	**Tanjungpandan**		**149.09**	**169**	PKP	**PKiKP**	**20 02 53.8**	**-0.1**		
MKAR	**Makanchi Array**		**149.28**	**44**	PKPbc	**PKiKP**	**20 02 52.8**	**-0.5**		
	comp=E,12nm,0.7s,baz=293,slow=2.9,SNR=84									
YSS	**Yuzhno-Sakhali**		**150.03**	**317**	*e*PKIKP	**PKiKP**	**20 02 55.1**	**+0.3**		
YSS					pmax	pmax				
	comp=Z,20nm,1.1s									
WMQ	**Urumqi**		**154.05**	**45**	*e*PKPbc	**PKPdf**	**20 02 55.3**	**+0.2**		
WMQ					LR	LR				
	comp=Z,420nm,18.5s									
WMQ					LR	LR				
	comp=Z,390nm,22.7s									
WMQ					LR	LR				
	comp=Z,410nm,20.5s									
SONM	**Songino Array**		**159.37**	**13**	PKP	**PKPdf**	**20 03 02.9**	**+1.0**		
	comp=Z,2.1nm,1.0s,baz=191,slow=0.9,SNR=11									
SONM					PKPab	**PKPab**	**20 03 38.6**	**-1.5**		
	comp=Z,2.2nm,0.9s,baz=327,slow=5.1,SNR=7.1									
GOMU	**GeErMu**		**162.35**	**57**	PKP	**PKPdf**	**20 03 05.0**	**-0.7**		
GOMU					SKKS		20 14 12.8			
GOMU					AMB	AMB				
	comp=Z,110nm,5.8s									
CMAR	**Chiang Mai Arr**		**163.90**	**123**	PKP	**PKPdf**	**20 03 08.5**	**+1.3**		
	comp=Z,1.1nm,0.7s,baz=263,slow=2.2,SNR=6.0									
CMAR					PKPab	**PKPab**	**20 04 02.0**	**+1.2**		
	comp=Z,3.9nm,1.0s,baz=224,slow=4.0,SNR=6.6									
GTA	**Gaotai**		**163.99**	**41**	PKP	**PKPdf**	**20 03 08.8**	**+1.9**		
GTA					PKPab	**PKPab**	**20 04 01.5**	**+0.7**		
DL2	**Dalian**		**166.94**	**330**	PKP	**PKPdf**	**20 03 11.0**	**+1.9**		
DL2					AMB	AMB				
	comp=Z,160nm,5.2s									
HHC	**Hu-ho-hao-te**		**166.97**	**6**	*e*PKP	**PKPdf**	**20 03 08.3**	**-1.0**		
PZH	**PanZhiHua**		**169.71**	**95**	PKP	**PKPdf**	**20 03 09.5**	**-2.0**		
TIA	**Tai'an**		**171.04**	**339**	PKP	**PKPdf**	**20 03 13.0**	**+1.2**		
TIA					AMB	AMB				
	comp=Z,240nm,6.3s									
TIA					LR	LR				
	comp=Z,310nm,21.1s									
TIA					LR	LR				
	comp=Z,440nm,18.1s									
TIA					LR	LR				
	comp=Z,800nm,19.6s									
CD2	**Chengdu**		**171.22**	**68**	PKP	**PKPdf**	**20 03 11.0**	**-1.1**		
LYN	**LuoYang**		**173.30**	**5**	PKP	**PKPdf**	**20 03 14.5**	**+1.6**		
NJ2	**Nanjing**		**173.56**	**312**	*e*PKP	**PKPdf**	**20 03 14.0**	**+1.0**		

IDC 25 19:45:40.9±51.0,35.86N×23.96E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=974.9km s-min=59.3km az=35.0,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**25.64**	**2**	P	P	19 51 11.9	0.0
	1.3nm,0.9s,baz=160,slow=12,SNR=4.4						
	1.3nm,0.9s						
KURBB	**Kurchatov Arra**	**41.45**	**52**	P	P	19 53 29.6	+0.4
	0.3nm,0.4s,baz=278,slow=8.3,SNR=4.2						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**44.21**	**57**	P	P	19 53 51.5	-0.2
	1.0nm,0.4s,baz=272,slow=7.3,SNR=21						
	1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**45.23**	**47**	P	P	19 53 59.1	-0.6
	0.8nm,0.3s,baz=276,slow=7.4,SNR=5.2						
	0.8nm,0.3s						

*KRNET **25** 19:49:06.6±0.1,39.75N×74.45E,h17km,mb3.7*
*SOME **25** 19:49:06.7,39.82N×74.30E,h10km*
*NNC **25** 19:49:10.4±1.5,39.89N×74.53E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=11.8km s-min=6.0km az=172.0*

ISC 25 19:49:10.4±1.2,39.77N±0.06×74.47E±0.04,h10km,n41, σ1§95/62,25C-7D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.49**	**301**	⇑*iP*	**Pn**	**19 49 34.8**	**-2.6**
OHH				⇑*iS*	**Sn**	**19 49 55.3**	**-1.7**
JNKS	**Jany-Kuch**	**1.57**	**35**	⇓*iP*	**Pn**	**19 49 36.5**	**-2.2**
JNKS				⇓*iS*	**Sn**	**19 49 58.3**	**-1.0**
ARSB	**Arslanbob**	**1.92**	**324**	⇑*iP*	**Pn**	**19 49 42.6**	**-0.7**
ARSB				⇑*iS*	**Sn**	**19 50 08.6**	**+0.9**
ULHL	**Ulahol**	**2.82**	**28**	P	**Pb**	**19 49 59.9**	**-1.1**
	SNR=22						
BTK	**Batken**	**2.82**	**277**	⇑*iP*	**Pn**	**19 49 55.1**	**-0.5**
BTK				⇑*iS*	**Sn**	**19 50 30.3**	**+0.6**
AAK	**Ala-Archa**	**2.87**	**0**	P	**Pb**	**19 50 01.3**	**-0.5**
	SNR=11						
AAK	**Ala-Archa**	**2.87**	**0**	⇓Pg	**Pb**	**19 49 58.6**	**-3.1**
	12nm,0.7s						
AAK				⇑Lg	Lg	19 50 39.7	
	27nm,0.8s						
AAK	**Ala-Archa**	**2.87**	**0**	⇑*iP*	**Pn**	**19 49 56.1**	**-0.2**
AAK				⇑*iS*	**Sn**	**19 50 32.1**	**+1.1**
KBK	**Karagaybulak**	**2.91**	**7**	P	**Pb**	**19 49 59.2**	**-3.2**
	SNR=18						
EKS2	**Erkin-Say**	**2.94**	**350**	P	**Pb**	**19 50 03.5**	**+0.6**
	SNR=16						
BOOM	**Boomskoye usch**	**2.94**	**22**	⇑*iP*	**Pn**	**19 49 57.0**	**-0.3**
BOOM				⇑*iS*	**Sn**	**19 50 33.8**	**+1.0**
FRU1	**Bishkek**	**3.04**	**2**	⇓*iP*	**Pn**	**19 49 58.8**	**+0.1**
FRU1				⇓*iS*	**Sn**	**19 50 36.4**	**+1.2**
TRKS	**Terek-Say**	**3.08**	**306**	⇑*iP*	**Pn**	**19 49 58.0**	**-1.3**
TRKS				⇑*iS*	**Sn**	**19 50 35.6**	**-0.7**
MRKS	**Merke**	**3.12**	**343**	*eP*	**Pn**	**19 50 02.2**	**+2.4**
	12nm,0.4s						
MRKS				*eS*	**Sb**	**19 50 42.0**	**-2.1**
	37nm,0.4s						
KDJ	**Kajisay**	**3.13**	**40**	⇑*iP*	**Pn**	**19 49 59.8**	**-0.2**
KDJ				⇑*iS*	**Sn**	**19 50 38.6**	**+1.1**
TKM2	**Tokmak 2**	**3.26**	**15**	P	**Pn**	**19 50 03.8**	**+1.9**
	SNR=20						
GAR	**Garm**	**3.31**	**258**	⇑*iP*	**Pn**	**19 50 01.6**	**-0.8**
GAR				⇑*iS*	**Sn**	**19 50 41.9**	**+0.1**
KST	**Kastek**	**3.46**	**19**	*eP*	**Pn**	**19 50 06.9**	**+2.4**
	14nm,0.3s						
KST				*eS*	**Sb**	**19 50 50.4**	**-3.6**
	64nm,0.6s						
USP	**Ospenovka**	**3.50**	**0**	P	**Pb**	**19 50 12.2**	**-0.3**
	SNR=11						
MTBS	**Maitube**	**3.67**	**23**	*eP*	**Pb**	**19 50 15.3**	**0.0**
TNSS	**Tian-Shan**	**3.76**	**29**	Pg	**Pb**	**19 50 16.7**	**-0.4**
	8.4nm,0.5s						
TNSS				Lg	Lg	19 51 07.1	
	6.4nm,0.8s						
TNSS	**Tian-Shan**	**3.76**	**29**	*eP*	**Pb**	**19 50 16.8**	**-0.4**
	8.4nm,0.5s						
TNSS				*eS*	**Sb**	**19 51 07.1**	**+4.2**
	6.4nm,0.8s						
MDOK	**Medeo**	**3.91**	**29**	Pg	**Pb**	**19 50 19.1**	**-0.4**
	10nm,0.4s						
MDOK				Lg	Lg	19 51 11.0	
	17nm,0.6s						
KNDC	**Almaty**	**3.92**	**28**	⇑Pg	**Pb**	**19 50 19.7**	**0.0**
	34nm,0.6s						
KNDC				⇑Lg	Lg	19 51 12.5	
	78nm,0.8s						
KOTS	**Kotyrbulak**	**3.99**	**29**	Pg	**Pb**	**19 50 20.9**	**0.0**
	13nm,0.4s						
KOTS				Lg	Lg	19 51 14.7	
	54nm,0.6s						
KOTS	**Kotyrbulak**	**3.99**	**29**	*eP*	**Pb**	**19 50 20.9**	**0.0**
	13nm,0.4s						
KOTS				*eS*	**Sg**	**19 51 14.7**	**-4.0**
	54nm,0.6s						
KRBS	**Karabastau**	**4.03**	**13**	Pg	**Pb**	**19 50 21.7**	**+0.2**
	9.4nm,0.4s						
KRBS				Lg	Lg	19 51 15.6	
	2.8nm,0.7s						
IUG	**Iuzhnay**	**4.11**	**307**	Pg	**Pn**	**19 50 15.1**	**+1.6**
	11nm,0.3s						
IUG				Lg	Lg	19 51 03.7	
	39nm,0.5s						
CHGR	**Chuyangaron**	**4.27**	**257**	⇑*iP*	**Pn**	**19 50 15.0**	**-0.6**
CHGR				⇑*iS*	**Sn**	**19 51 05.1**	**-0.4**
KTBS	**Karatobe**	**4.28**	**22**	Pg	**Pb**	**19 50 26.0**	**+0.3**
	14nm,0.7s						
KTBS				Lg	Lg	19 51 22.8	
	28nm,0.7s						
SATY	**Saty**	**4.42**	**41**	Pg	**Pb**	**19 50 28.9**	**+0.6**
	8.5nm,0.6s						
SATY				Lg	Lg	19 51 28.7	
	28nm,0.9s						
KK31	**Karatay Array**	**4.46**	**320**	Pn	**Pn**	**19 50 19.6**	**+1.4**
	0.8nm,0.3s,baz=116,slow=12,SNR=15						
KK31				⇓Pg	**Pb**	**19 50 31.2**	**+2.3**
	0.8nm,0.3s						
KK31				⇑Sn	**Sn**	**19 51 11.5**	**+1.3**
	2.1nm,0.4s						
KK31				⇑Lg	Lg	19 51 30.3	
	4.8nm,0.5s,baz=126,slow=29,SNR=3.6						
CHKK	**Chushkaly**	**4.50**	**24**	Pg	**Pb**	**19 50 30.0**	**+0.5**
	8.8nm,0.5s						
CHKK				Lg	Lg	19 51 30.2	
	16nm,0.7s						
CHKK	**Chushkaly**	**4.50**	**24**	*eP*	**Pb**	**19 50 30.2**	**+0.7**
	8.8nm,0.5s						
CHKK				*eS*	**Sg**	**19 51 30.2**	**-4.5**
	16nm,0.7s						
KURS	**Kuram**	**4.64**	**36**	Pg	**Pb**	**19 50 31.3**	**-0.6**
	4.7nm,0.7s						
KURS				Lg	Lg	19 51 32.5	
	7.3nm,0.6s						
BRLS	**Borolday**	**4.77**	**315**	*eP*	**Pb**	**19 50 34.3**	**+0.2**
BRLS				*eS*	**Sb**	**19 51 37.0**	**+5.5**
KPKS	**Kokpek**	**4.86**	**39**	Pg	**Pb**	**19 50 35.5**	**-0.2**
	0.4nm,0.3s						
KPKS				Lg	Lg	19 51 39.9	
	21nm,0.6s						
SHLS	**Shalkode**	**5.05**	**46**	*eP*	**Pg**	**19 50 47.1**	**-0.1**
ARXS	**Arharly**	**5.10**	**28**	Pg	**Pb**	**19 50 39.6**	**-0.2**
	12nm,0.5s						
ARXS				Lg	Lg	19 51 47.1	
	8.6nm,0.5s						
ARXS	**Arharly**	**5.10**	**28**	*eP*	**Pb**	**19 50 39.6**	**-0.2**
ARXS				*eS*	**Sb**	**19 51 47.1**	**+6.0**
PDGK	**Podgornoye**	**5.18**	**45**	⇑Pn	**Pn**	**19 50 28.9**	**+0.8**
	1.4nm,0.6s						
PDGK				⇑Pg	**Pb**	**19 50 44.2**	**+3.0**
	12nm,0.8s						
PDGK				⇓Lg	Lg	19 51 48.2	
	14nm,0.9s						

*BJI **25** 19:54:21.7,6.38S×148.62E,h105km,mB5.2/34,mb5.0/73*
*IDC **25** 19:54:26.7±0.4,5.82S×148.21E,h92km±3km,mb4.8/19, mbtmp5.2/23,MS4.1/27,Error ellipse: s-maj=11.2km s-min=7.1km az=90.0*
*DJA **25** 19:54:27.9±1.2,6.5S±6.4×148.8E±1.0,h91km±8km,M5.3/25, mb5.4/25,mB5.6/19,MLv6.2/1,Mw(mB)5.1/19, MwMwp4.9/6,Mwp5.2/6*
*MOS **25** 19:54:27.2±0.8,5.81S×148.14E,h109km,mb4.9/13,Error ellipse: s-maj=10.7km s-min=7.0km az=104.3*
*NEIC **25** 19:54:28.5,5.86S×148.24E,h90km,Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^17^Nm; Mrr0.25; Mθθ0.37; Mθφ-0.62; Mrθ-0.82; Mθφ-0.57; Mφr-0.01; Fault plane solution: M0 1.14000×10^17^ NP1: φs347.52000°,δ46.61000°,λ15.63000°. NP2: φs246.64000°,δ78.71000°,λ135.54000°. Principal axes: T 1.2305, Plg39.0000°, Azm197.0000°; N -0.2171, Plg44.0000°, Azm55.0000°; P -1.0135, Plg20.0000°, Azm304.0000°;*
*NEIC **25** 19:54:28.2±1.7,5.87S±0.05×148.14E±0.07,h95km±5km, mb5.1/125,Mww5.3/23 Error ellipse: s-maj=10.2km s-min=7.8km az=83.0*
*NEIC **25** 19:54:28.5,5.86S×148.14E,h90km*
*GCMT **25** 19:54:29.5±0.1,5.97S±0.01×148.23E±0.01,h100km±1km, MW5.4/146,Moment Tensor Solution. s115,c193; s146,c290; Duration: 1s2 Moment tensor: Scale 10^17^ Nm; Mrr0.31±.02; Mθθ0.47±.02; Mθφ-0.77±.02; Mrθ-0.97±.01; Mθθ-0.78±.02; Mφr-0.14±.01; Best double couple: M0 1.42200×10^17^ NP1:φs347.00000°,δ47.00000°, λ14.00000°. NP2:φs247.00000°,δ80.00000°,λ136.00000°. Principal axes: T 1.4740, Plg37.0000°, Azm197.0000°; N -0.1030, Plg45.0000°, Azm57.0000°; P -1.3700, Plg21.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 19:54:27.8±0.3,5.92S±0.03×148.20E±0.04,h99km±2km, h99km:pP-P,n598,σ1§60/593,mb5.1/147,14C-4D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.62**	**196**		**Pn**	**19 55 22.9**	**+1.1**
PMG	**Port Moresby**	**3.62**	**196**	P	**Pn**	**19 55 23.8**	**+2.0**
	2μm,0.4s,baz=345,slow=5.7,SNR=254						
PMG				S	**Sn**	**19 56 03.6**	**-0.1**
	13μm,0.7s,baz=118,slow=20,SNR=11						
PMG	**Port Moresby**	**3.62**	**196**	P	**Pn**	**19 55 23.2**	**+1.4**
MANU	**Manus Island**	**3.93**	**348**		**Pn**	**19 55 27.1**	**+1.0**
I40PG	**Keravat**	**4.13**	**67**	I	I	20 18 00.0	
	117nm,0.5s,baz=246,slow=314,SNR=0.7						
RABL	**Rabaul**	**4.31**	**67**	Pn	**Pn**	**19 55 31.7**	**+0.6**
JAY	**Jayapura**	**8.20**	**294**	P	**Pn**	**19 56 24.1**	**+0.1**
	119nm,0.6s,baz=121,slow=4.4,SNR=76						
JAY				S	**Sn**	**19 57 54.1**	**-1.1**
	96nm,1.1s,baz=34,slow=7.8,SNR=1.6						
JAY	**Jayapura**	**8.20**	**294**	P	**Pn**	**19 56 25.5**	**+1.4**
	2μm127nm,0.8s						
GENI	**Genyem**	**8.66**	**292**	P	**Pn**	**19 56 32.3**	**+2.0**
GENI	**Genyem**	**8.66**	**292**	P	**Pn**	**19 56 30.7**	**+0.4**
	4μm4μm302nm,1.0s						
COEN	**Coen**	**9.40**	**211**	P	**Pn**	**19 56 40.2**	**-0.2**
COEN	**Coen**	**9.40**	**211**	S	**Sn**	**19 58 20.7**	**-3.6**
COEN	**Coen**	**9.40**	**211**		**Pn**	**19 56 40.4**	**0.0**
COEN	**Coen**	**9.40**	**211**	P	**Pn**	**19 56 40.5**	**+0.1**
SMPI	**Sarmi**	**10.23**	**292**	P	**Pn**	**19 56 52.9**	**+1.2**
	3μm2μm179nm,1.3s						
TATA	**Tatamba Isabel**	**11.78**	**103**	P	**Pn**	**19 57 17.1**	**+4.5**
SAVO	**Savo Central**	**11.96**	**106**	P	**Pn**	**19 57 19.6**	**+4.6**
HNR	**Honiara**	**12.16**	**107**		**Pn**	**19 57 18.4**	**+0.7**
HNR	**Honiara**	**12.16**	**107**	P	**Pn**	**19 57 17.8**	**+0.1**
	41nm,0.6s,baz=141,slow=11,SNR=8.4						
HNR				S	**Sn**	**19 59 32.1**	**+0.7**
	25nm,0.3s,baz=177,slow=16,SNR=1.0						
HNR				LR	LR	20 01 39.9	
	comp=Z,374nm,20.8s,baz=274,slow=36						
HNR	**Honiara**	**12.16**	**107**	P	**P**	**19 57 22.2**	**-3.9**
SRPI	**Serui, Papua**	**12.59**	**288**	P	**Pn**	**19 57 21.7**	**-1.7**
ALEG	**Aligegeo Malai**	**12.71**	**104**	P	**P**	**19 57 29.7**	**-2.6**
MTSU	**Mount Surprise**	**12.72**	**197**	P	**Pn**	**19 57 26.8**	**+1.6**
	comp=Z,197nm,1.0s						
MTSU	**Mount Surprise**	**12.72**	**197**	S	**Sn**	**19 59 44.9**	**-0.2**
MTSU	**Mount Surprise**	**12.72**	**197**	P	**Pn**	**19 57 27.2**	**+2.1**
BAKI	**Biak**	**12.94**	**291**	P	**P**	**19 57 36.8**	**+1.9**
NGOA	**Tingoa Renbel**	**13.00**	**116**	P	**P**	**19 57 33.7**	**-1.7**
TV1H	**Townsville Har**	**13.34**	**186**	P	**Pn**	**19 57 35.0**	**+1.8**
CTAO	**Charters Tower**	**14.21**	**187**		**Pn**	**19 57 45.1**	**+0.5**
CTAO	**Charters Tower**	**14.21**	**187**	P	**P**	**19 57 47.2**	**-1.8**
CTAO	**Charters Tower**	**14.21**	**187**	P	**Pn**	**19 57 45.1**	**+0.5**
HURO	**Huro Makira**	**14.30**	**109**	P	**P**	**19 57 50.8**	**+0.9**
RKPI	**Ransiki, Papua**	**14.65**	**287**	P	**P**	**19 57 54.1**	**+0.2**
PATS	**Pohnpei**	**16.20**	**39**	P	**P**	**19 58 11.4**	**+0.4**
	comp=Z,229nm,1.3s						
PATS	**Pohnpei**	**16.20**	**39**	P	**P**	**19 58 13.9**	**+2.9**
QIS	**Mount Isa**	**16.77**	**209**	P

FITZ	**Fitzroy Crossi**	**25.13 239**	P	**P**	**19 59 44.5 +0.7**	**BKZ**	**Black Stump Fm**	**41.81 146**	P	**P**	**20 02 08.9 +1.0**
FITZ	**Fitzroy Crossi**	**25.13 239**	P	**P**	**19 59 44.9 +1.1**	**MWZ**	**Matawai**	**41.82 145**	P	**P**	**20 02 09.9 +1.9**
	comp=Z,792nm,1.0s,baz=68,slow=8.7,SNR=42					**PKGZ**	**Pakihiroa**	**41.83 144**	P	**P**	**20 02 10.2 +2.2**
FITZ			LR	LR	20 10 05.9	**RAGZ**	**Rawiri**	**41.87 145**	P	**P**	**20 02 10.6 +2.2**
	comp=Z,985nm,18.7s,baz=62,slow=37					**THZ**	**Tophouse**	**41.93 152**	P	**P**	**20 02 09.7 +0.9**
FITZ	**Fitzroy Crossi**	**25.13 239**	P	**P**	**19 59 44.1 +0.4**	**NMHZ**	**Naumai**	**41.94 146**	P	**P**	**20 02 11.3 +2.4**
CMSA	**Cobar Meteorol**	**25.60 185**	P	**P**	**19 59 48.5 +0.6**	**KWHZ**	**Kaweka Forest**	**41.96 147**	P	**P**	**20 02 11.1 +2.0**
	comp=Z,72nm,1.1s					**RAHZ**	**Arahi**	**41.97 146**	P	**P**	**20 02 11.1 +2.0**
CMSA	**Cobar Meteorol**	**25.60 185**	P	**P**	**19 59 48.7 +0.8**	**TWGZ**	**Tauwhareparae**	**41.98 144**	P	**P**	**20 02 11.3 +2.1**
MMRI	**Maumere**	**25.89 262**			**19 59 49.1 -1.6**	**WMGZ**	**Waiomatatini S**	**41.99 143**	P	**P**	**20 02 10.9 +1.6**
MMRI			IAmb	IAmb	20 00 26.1	**SNGZ**	**Shannon Statio**	**42.02 145**	P	**P**	**20 02 11.3 +1.8**
	comp=Z,137nm,1.1s					**PUZ**	**Puketiti**	**42.07 144**	P	**P**	**20 02 11.3 +1.4**
MMRI	**Maumere**	**25.89 262**	P	**P**	**19 59 52.3 +1.5**	**TKGZ**	**Te Karaka**	**42.08 145**	P	**P**	**20 02 11.5 +1.6**
MMRI	**Maumere**	**25.89 262**	P	**P**	**19 59 52.2 +1.5**	**QZH**	**Quanzhou**	**42.08 318**	P	**P**	**20 02 11.3 +1.2**
EDFI	**Ende, Flores**	**26.43 262**	P	**P**	**19 59 54.0 -1.8**	QZH			pmax	pmax	
STKA	**Stephens Creek**	**26.56 193**	P	**P**	**19 59 57.0 +0.4**		comp=Z,87nm,1.4s				
	comp=Z,1µm,1.1s					QZH			LR	LR	
STKA	**Stephens Creek**	**26.56 193**	P	**P**	**19 59 57.2 +0.7**		comp=Z,290nm,10.0s				
	comp=Z,201nm,0.9s,baz=7.4,slow=11,SNR=46					QZH			LR	LR	
STKA			ScP	**ScP**	**20 06 51.6 +1.7**		comp=Z,610nm,7.6s				
	comp=Z,26nm,1.0s,baz=25,slow=2.7,SNR=9.6					QZH			LR	LR	
STKA			LR	LR	20 10 59.2		comp=Z,620nm,27.5s				
	comp=Z,806nm,18.3s,baz=9.2,slow=37					**JCZ**	**Jackson Bay**	**42.09 158**	P	**P**	**20 02 13.2 +3.1**
	comp=Z,201nm,0.9s					**JCZ**	**Jackson Bay**	**42.09 158**	P	**P**	**20 02 12.2 +2.2**
STKA	**Stephens Creek**	**26.56 193**	P	**P**	**19 59 57.1 +0.6**	**KRHZ**	**Kereru**	**42.09 147**	P	**P**	**20 02 11.4 +1.3**
WRKA	**Warakurna**	**26.93 223**	P	**P**	**20 00 00.8 +0.8**	**MCHZ**	**McNeill Hill**	**42.12 147**	P	**P**	**20 02 12.2 +1.8**
	comp=Z,205nm,1.2s					**JNU**	**Nakatsue**	**42.16 338**	LR	LR	20 18 19.3
MGCD	**Mangrove Creek**	**27.29 175**	P	**P**	**20 00 04.0 +0.9**		comp=Z,323nm,20.1s,baz=161,slow=34				
	comp=Z,75nm,0.9s					**JNU**	**Nakatsue**	**42.16 338**	P	**P**	**20 02 12.4 +1.7**
BASI	**Baing, Sumba**	**27.67 259**	P	**P**	**20 00 08.4 +1.7**	**TSZ**	**Takapari Road**	**42.17 148**	P	**P**	**20 02 11.7 +1.0**
SYDH	**Sydney Hard Ro**	**27.81 175**	P	**P**	**20 00 09.5 +1.8**	**PNHZ**	**Pukenui**	**42.19 147**	P	**P**	**20 02 12.3 +1.4**
RIV	**Riverview**	**27.91 175**	P	**P**	**20 00 10.3 +1.8**	**RIGZ**	**Rimuhau**	**42.21 145**	P	**P**	**20 02 10.6 -0.5**
	comp=Z,84nm,1.0s					**CNGZ**	**Carnagh Statio**	**42.31 144**	P	**P**	**20 02 13.5 +1.6**
YNG	**Young**	**28.24 180**	P	**P**	**20 00 12.6 +1.1**	**INU**	**Inuyama**	**42.37 346**	P	**P**	**20 02 11.6 -0.7**
	comp=Z,164nm,1.2s					INU			IAmb	IAmb	20 02 37.1
HTT	**Hallett**	**28.70 196**	P	**P**	**20 00 16.5 +0.8**		comp=Z,70nm,1.2s				
	comp=Z,32nm,1.3s					**INU**	**Inuyama**	**42.37 346**	P	**P**	**20 02 13.7 +1.4**
HTT	**Hallett**	**28.70 196**	P	**P**	**20 00 16.9 +1.2**	**KNZ**	**Kokohu**	**42.37 145**	P	**P**	**20 02 12.8 +0.4**
PCI	**Palu**	**28.73 279**	P	P	20 00 29.6 +13	**MRZ**	**Mangatainoka R**	**42.41 149**	P	**P**	**20 02 13.3 +0.7**
WHYH	**Whyalla**	**28.74 199**	P	**P**	**20 00 17.2 +1.3**	**LTZ**	**Lake Taylor**	**42.45 154**	P	**P**	**20 02 14.2 +1.3**
WBSI	**Waikabubak, Su**	**28.77 261**	P	**P**	**20 00 18.3 +1.7**	**JGF**	**Kuroka**	**42.53 347**	P	**P**	**20 02 13.7 0.0**
BBOO	**Buckleboo**	**29.05 201**	P	**P**	**20 00 19.5 +0.7**	JGF			IAmb	IAmb	20 02 38.1
	comp=Z,90nm,1.3s						comp=Z,44nm,1.0s				
BBOO	**Buckleboo**	**29.05 201**	P	**P**	**20 00 19.4 +0.7**	**JGF**	**Kuroka**	**42.53 347**	P	**P**	**20 02 15.4 +1.7**
CAN	**Canberra**	**29.27 179**	P	**P**	**20 00 21.9 +1.2**	**RPZ**	**Rata Peaks**	**42.68 155**	P	**P**	**20 02 15.6 +0.8**
	comp=Z,192nm,1.4s					**RPZ**	**Rata Peaks**	**42.68 155**	LR	LR	20 17 54.4
CAN	**Canberra**	**29.27 179**	P	**P**	**20 00 22.4 +1.7**		comp=Z,503nm,19.4s,baz=318,slow=33				
CAN	**Canberra**	**29.27 179**	P	**P**	**20 00 22.5 +1.7**	**RPZ**	**Rata Peaks**	**42.68 155**	P	**P**	**20 02 16.4 +1.6**
CAN			pmax	pmax		**DCZ**	**Deep Cove**	**42.71 160**	P	**P**	**20 02 16.5 +1.6**
	comp=Z,192nm,1.4s					**DCZ**	**Deep Cove**	**42.71 160**	P	**P**	**20 02 16.6 +1.6**
CNB	**Canberra Magne**	**29.28 178**	P	**P**	**20 00 21.9 +1.1**	**KHZ**	**Kahutara**	**42.73 152**	P	**P**	**20 02 15.7 +0.5**
	comp=Z,182nm,1.3s					**BFZ**	**Birch Farm**	**42.77 148**	P	**P**	**20 02 16.1 +0.5**
CNB	**Canberra Magne**	**29.28 178**	P	**P**	**20 00 22.3 +1.5**	**OXZ**	**Oxford**	**42.78 154**	IAmb	IAmb	20 02 17.1
FORT	**Forrest**	**31.14 215**	P	**P**	**20 00 37.8 +0.5**		comp=Z,50nm,1.0s				
	comp=Z,230nm,0.9s					**LBZ**	**Lake Benmore**	**42.89 157**	P	**P**	**20 02 17.2 +0.8**
ARPS	**Mount Arapiles**	**31.26 190**	P	**P**	**20 00 38.6 +0.5**	**LBZ**	**Lake Benmore**	**42.89 157**	P	**P**	**20 02 17.5 +1.1**
	comp=Z,45nm,1.0s					**GVZ**	**Greta Valley S**	**42.93 153**	P	**P**	**20 02 17.5 +0.7**
MSVF	**Nonsavu**	**31.43 115**	P	**P**	**20 00 43.4 +3.3**	**MLZ**	**Mavora Lakes**	**42.95 159**	P	**P**	**20 02 18.8 +1.8**
MSVF	**Nonsavu**	**31.43 115**	*de*P	**P**	**20 00 40.3 +0.2**	**TMZ**	**Timaru**	**43.21 156**	P	**P**	**20 02 19.5 +0.5**
MSVF			pmax	pmax		**MJAR**	**Matsushiro Arr**	**43.26 348**	P	**P**	**20 02 18.7 -0.8**
	comp=Z,19nm,0.9s						comp=Z,62nm,1.0s,baz=169,slow=8.7,SNR=88				
MBWA	**Marble Bar**	**31.46 238**	P	**P**	**20 00 40.1 0.0**	MJAR			pP	**pP**	**20 02 41.3 -1.2**
	comp=Z,142nm,1.3s						comp=Z,59nm,1.0s,baz=170,slow=8.4,SNR=12				
MBWA	**Marble Bar**	**31.46 238**	P	**P**	**20 00 40.4 +0.2**	MJAR			ScP	**ScP**	**20 07 48.2 -1.2**
MBWA	**Marble Bar**	**31.46 238**	P	**P**	**20 00 40.7 +0.5**		comp=Z,8.6nm,1.0s,baz=180,slow=4.3,SNR=12				
MBWA	**Marble Bar**	**31.46 238**	P	**P**	**20 00 40.6 +0.4**		comp=Z,62nm,1.0s				
PSAC2	**Pilbara Seismi**	**31.49 238**	P	**P**	**20 00 40.9 +0.4**	**MAJO**	**Matsushiro**	**43.26 348**	P	**P**	**20 02 20.8 +1.3**
	comp=Z,230nm,1.0s					**MAJO**	**Matsushiro**	**43.26 348**	P	**P**	**20 02 20.2 +0.7**
PSA00	**Pilbara Seismi**	**31.54 238**	P	**P**	**20 00 41.3 +0.5**	MAJO			x	x	20 02 44.5
	comp=Z,205nm,1.1s					**WHZ**	**Wether Hill Ro**	**43.35 160**	P	**P**	**20 02 21.2 +1.0**
PSA00	**Pilbara Seismi**	**31.54 238**	P	**P**	**20 00 40.8 -0.1**	**MDSI**	**Maura Dua**	**43.85 270**	P	P	20 02 32.3 +7.7
PSA00	**Pilbara Seismi**	**31.54 238**	P	**P**	**20 00 41.0 +0.1**	**LWLI**	**Liwa**	**43.94 269**	P	**P**	**20 02 28.0 +2.5**
PSAB3	**Pilbara Seismi**	**31.54 238**	P	**P**	**20 00 41.2 +0.3**	**TUZ**	**Tuapeka**	**44.00 158**	P	**P**	**20 02 26.5 +1.2**
	comp=Z,192nm,1.1s					**JMM**	**Marumori**	**44.10 352**	IAmb	IAmb	20 02 41.2
PSAC1	**Pilbara Seismi**	**31.55 238**	P	**P**	**20 00 41.1 +0.1**		comp=Z,32nm,0.8s				
	comp=Z,234nm,1.0s					**JMM**	**Marumori**	**44.10 352**	P	**P**	**20 02 28.5 +2.3**
TOO	**Toolangi**	**31.61 184**	P	**P**	**20 00 42.7 +1.4**	**JSD**	**Sado**	**44.69 349**	P	**P**	**20 02 33.1 +2.2**
	comp=Z,54nm,1.1s					**SSE**	**Sheshan**	**44.96 327**	P	**P**	**20 02 34.0 +0.9**
TOO	**Toolangi**	**31.61 184**	IAmb	IAmb	20 00 44.0	SSE			S	**S**	**20 09 06.0 +1.9**
	comp=Z,56nm,1.1s					SSE			pmax	pmax	
BRAT	**Ballarat**	**31.73 186**	P	**P**	**20 00 43.4 +1.1**		comp=Z,24nm,0.7s				
DGTI	**Dogotuki**	**32.57 111**	P	**P**	**20 00 51.0 +1.0**	SSE			pmax	pmax	
TGY	**Tagaytay City**	**33.57 307**	LR	LR	20 15 07.5		comp=Z,110nm,4.3s				
	comp=Z,136nm,18.9s,baz=110,slow=37					SSE			LR	LR	
GLAD	**Gladstone**	**34.92 180**	P	**P**	**20 01 11.4 +1.4**		comp=Z,160nm,19.9s				
MEEK	**Meekatharra**	**34.92 231**	P	**P**	**20 01 10.5 +0.3**	SSE			LR	LR	
	comp=Z,320nm,1.1s						comp=Z,190nm,19.6s				
MEEK	**Meekatharra**	**34.92 231**	P	**P**	**20 01 11.0 +0.7**	**QIZ**	**Qiongzhong**	**45.19 304**	P	**P**	**20 02 36.0 +0.8**
KMBL	**Kambalda**	**35.34 221**	P	**P**	**20 01 13.6 -0.1**	QIZ			S	**S**	**20 09 08.3 +0.4**
	comp=Z,110nm,1.2s					QIZ			sS	**sS**	**20 09 48.5 +0.5**
CORO	**Coronation Par**	**35.40 181**	P	**P**	**20 01 15.6 +1.5**	QIZ			pmax	pmax	
MOO	**Moorlands**	**36.38 181**	P	**P**	**20 01 23.6 +1.1**		comp=Z,24nm,1.2s				
	comp=Z,285nm,1.0s					QIZ			pmax	pmax	
MOO	**Moorlands**	**36.38 181**	P	**P**	**20 01 24.6 +2.1**		comp=Z,310nm,2.6s				
GIRL	**Giralia**	**36.74 240**	P	**P**	**20 01 27.4 +1.7**	QIZ			LR	LR	
	comp=Z,185nm,1.3s						comp=Z,380nm,14.7s				
TAU	**Tasmania Unive**	**36.85 181**	P	**P**	**20 01 28.0 +1.6**	QIZ			LR	LR	
TAU	**Tasmania Unive**	**36.85 181**	P	**P**	**20 01 28.0 +1.6**		comp=Z,250nm,13.9s				
TAU	**Tasmania Unive**	**36.85 181**	P	**P**	**20 01 28.0 +1.6**	QIZ			LR	LR	
TAU	**Tasmania Unive**	**36.85 181**	P	**P**	**20 01 28.2 +1.8**		comp=Z,400nm,32.2s				
OUZ	**Omahuta**	**37.39 145**	P	**P**	**20 01 33.3 +2.2**	**MASI**	**Maura Aman, Be**	**45.88 271**	P	P	20 02 52.4 +12
JOW	**Kunigami**	**37.84 330**	LR	LR	20 13 41.6	**TJN**	**Taejon**	**46.38 337**	*ie*P	**P**	**20 02 44.3 0.0**
	comp=Z,309nm,21.2s,baz=150,slow=31					**KRJI**	**Kerinci**	**46.76 273**	P	**P**	**20 02 51.2 +3.4**
MORW	**Morawa**	**38.12 229**	P	**P**	**20 01 37.5 +0.1**	**JTM**	**Tenmabayashi**	**46.93 353**	IAmb	IAmb	20 02 51.5
	comp=Z,158nm,1.2s						comp=Z,59nm,0.9s				
MORW	**Morawa**	**38.12 229**	P	**P**	**20 01 38.0 +0.6**	**NJ2**	**Nanjing**	**46.98 325**	⇑P	**P**	**20 02 49.5 +0.5**
BLDU	**Ballidu**	**38.45 226**	P	**P**	**20 01 40.3 +0.2**	NJ2			pP	**pP**	**20 03 12.8 +0.4**
	comp=Z,143nm,1.2s					NJ2			S	**S**	**20 09 33.8 +0.7**
BLDU	**Ballidu**	**38.45 226**	P	**P**	**20 01 40.7 +0.6**	NJ2			sS	**sS**	**20 10 19.0 +5.5**
KPJI	**Karang Pucung**	**39.02 266**	P	P	20 01 56.9 +12	NJ2			pmax	pmax	
YULB	**Yu-li**	**39.23 319**	P	**P**	**20 01 45.5 -1.2**		comp=Z,29nm,0.9s				
YULB			IAmb	IAmb	20 01 49.1	NJ2			pmax	pmax	
	comp=Z,27nm,0.8s						comp=Z,160nm,5.5s				
YULB	**Yu-li**	**39.23 319**	P	**P**	**20 01 48.3 +1.6**	NJ2			LR	LR	
NWAO	**Narrogin (SRO)**	**39.40 223**	P	**P**	**20 01 48.0 0.0**		comp=Z,330nm,16.6s				
	comp=Z,110nm,1.0s					NJ2			LR	LR	
NWAO	**Narrogin (SRO)**	**39.40 223**	P	**P**	**20 01 48.3 +0.3**		comp=Z,99nm,11.9s				
NWAO				**ScP**	**20 07 36.9 +2.6**	NJ2			LR	LR	
NWAO	**Narrogin (SRO)**	**39.40 223**	LR	LR	20 17 48.8		comp=Z,320nm,18.7s				
	comp=Z,407nm,20.2s,baz=104,slow=36					**KSRS**	**Korea Array**	**47.11 338**	P	**P**	**20 02 49.4 -0.6**
NWAO	**Narrogin (SRO)**	**39.40 223**	P	**P**	**20 01 48.5 +0.5**		comp=Z,12nm,0.7s,baz=152,slow=8.0,SNR=41				
NWAO	**Narrogin (SRO)**	**39.40 223**	P	**P**	**20 01 48.4 +0.5**	KSRS			pP	**pP**	**20 03 11.3 -1.7**
MUN	**Mundaring**	**39.56 225**	P	**P**	**20 01 49.5 +0.1**		comp=Z,6.8nm,0.8s,baz=152,slow=8.9,SNR=3.6				
	comp=Z,209nm,1.2s					KSRS			ScP	**ScP**	**20 08 04.2 -1.0**
MUN	**Mundaring**	**39.56 225**	P	**P**	**20 01 50.1 +0.7**		comp=Z,4.5nm,1.1s,baz=146,slow=5.6,SNR=6.8				
NACB	**Ninganchiao**	**39.59 320**	P	**P**	**20 01 51.0 +1.4**		comp=Z,12nm,0.7s				
TPUB	**Ta-pu**	**39.60 318**	P	**P**	**20 01 48.2 -1.7**	**PPI**	**Padang Panjang**	**48.01 275**	PKP	**P**	**20 02 53.4 -3.9**
JHJ	**Hachijo jima 2**	**39.63 349**	LR	LR	20 17 52.6	**CNSH**	**ChangSha**	**48.02 317**	P	**P**	**20 02 57.3 +0.2**
	comp=Z,237nm,18.9s,baz=184,slow=36					CNSH			S	**S**	**20 09 45.5 -2.5**
SSLB	**Suanglung**	**39.73 319**		**P**	**20 01 49.6 -1.2**	CNSH			pmax	pmax	
SSLB			IAmb	IAmb	20 01 55.6		comp=Z,36nm,1.0s				
	comp=Z,40nm,1.0s					CNSH			LR	LR	
SSLB	**Suanglung**	**39.73 319**	P	**P**	**20 01 53.0 +2.1**		comp=Z,320nm,12.6s				
MTKN	**Mount Kenneth**	**39.84 225**	P	**P**	**20 01 54.4 +2.7**	CNSH			LR	LR	
MTKN	**Mount Kenneth**	**39.84 225**	P	**P**	**20 01 52.3 +0.6**		comp=Z,310nm,10.9s				
YHNB	**Yeheng**	**40.08 320**		**P**	**20 01 53.2 -0.6**	CNSH			LR	LR	
YHNB	**Yeheng**	**40.08 320**	P	**P**	**20 01 56.1 +2.3**		comp=Z,650nm,37.8s				
AFI	**Afiamalu**	**40.17 104**	P	**P**	**20 01 55.7 +0.9**	**GULI**	**GuiLin**	**48.11 312**	P	**P**	**20 02 58.3 +0.4**
AFI			IAmb	IAmb	20 01 56.8	GULI			pP	**pP**	**20 03 22.0 +0.4**
	comp=Z,67nm,0.9s					GULI			S	**S**	**20 09 47.0 -2.4**
AFI	**Afiamalu**	**40.17 104**	P	**P**	**20 01 58.0 +3.2**	GULI			pmax	pmax	
AFI	**Afiamalu**	**40.17 104**	P	**P**	**20 01 55.7 +0.9**		comp=Z,11nm,1.2s				
AFI			pmax	pmax		GULI			LR	LR	
	comp=Z,67nm,0.9s						comp=Z,380nm,12.0s				
TOZ	**Tahuroa Road**	**40.25 146**	P	**P**	**20 01 56.0 +1.0**	GULI			LR	LR	
BBJI	**Bungbulang**	**40.29 265**	P	**P**	**20 01 54.8 -1.0**		comp=Z,300nm,19.5s				
LEM	**Lembang**	**40.33 266**	LR	LR	20 21 18.1	GULI			LR	LR	
	comp=Z,145nm,20.2s,baz=124,slow=40						comp=Z,250nm,32.2s				
RKGY	**Rocky Gully**	**40.57 221**	P	**P**	**20 01 58.7 +1.0**	**IPM**	**Ipoh**	**48.22 281**	P	**P**	**20 02 59.7 +0.7**
	comp=Z,340nm,1.1s					**WHN**	**Wuhan**	**48.62 320**	P	**P**	**20 03 02.3 +0.6**
CNJI	**Cibinong**	**40.81 266**	P	P	20 02 21.8 +22	WHN			pP	**pP**	**20 03 25.5 +0.4**
QRZ	**Quartz Range**	**41.02 152**	P	**P**	**20 02 04.0 +2.7**	WHN			S	**S**	**20 09 51.5 -4.9**
URZ	**Urewera**	**41.53 145**	LR	LR	20 17 21.5	WHN			sS	**sS**	**20 10 41.0 +4.0**
	comp=Z,316nm,20.9s,baz=309,slow=33					WHN			pmax	pmax	
URZ	**Urewera**	**41.53 145**	P	**P**	**20 02 06.6 +1.1**		comp=Z,50nm,0.7s				
HAZ	**Te Kaha**	**41.58 144**	P	**P**	**20 02 08.3 +2.4**	**ASAJ**	**Asahikawa**	**50.06 355**	LR	LR	20 20 52.8
RUGZ	**Raukumara Rang**	**41.66 144**	P	**P**	**20 02 08.5 +1.8**		comp=Z,139nm,21.0s,baz=180,slow=32				
JMN	**Monobe**	**41.70 342**	P	**P**	**20 02 07.2 +0.3**	**SLVN**	**Son La**	**51.19 303**	P	**P**	**20 03 21.4 0.0**
JMN	**Monobe**	**41.70 342**	P	**P**	**20 02 08.6 +1.7**	**SLVN**	**Son La**	**51.19 303**	P	**P**	**20 03 23.0 +1.6**
NNZ	**Nelson**	**41.73 151**	P	**P**	**20 02 08.4 +1.3**	**GYA**	**Guiyang**	**51.52 311**	⇑P	**P**	**20 03 23.8 -0.1**
MTHZ	**Maungataniwha**	**41.79 146**	P	**P**	**20 02 09.0 +1.3**	GYA			pP	pP	20 03 48.0 +0.2
BKZ	**Black Stump Fm**	**41.81 146**	IAmb	IAmb	20 02 10.5	GYA			PP	**PP**	**20 05 26.5 +4.2**
	comp=Z,57nm,0.8s					GYA			S	**S**	**20 10 36.5 -0.7**
BKZ	**Black Stump Fm**	**41.81 146**	P	**P**	**20 02 09.9 +2.0**	GYA			SS	**SS**	**20 14 13.5 -1.2**
GYA			pmax	pmax							
	comp=Z,8.0nm,1.6s										
GYA			LR	LR							
	comp=Z,180nm,19.0s										
ENH	**Enshi**	**51.67 316**	P	**P**	**20 03 23.1 -1.8**						
ENH			IAmb	IAmb	20 03 26.1						
	comp=Z,22nm,1.0s										
ENH	**Enshi**	**51.67 316**	P	**P**	**20 03 24.5 -0.3**						
USRK	**Ussuriysk Ar.**	**51.98 345**	P	**P**	**20 03 27.1 +0.3**						
	comp=Z,14nm,0.7s,baz=178,slow=7.5,SNR=24										
USRK			pP	**pP**	**20 03 49.5 -0.9**						
	comp=Z,10nm,0.8s,baz=166,slow=8.0,SNR=4.7										
USRK			ScP	**ScP**	**20 08 24.1 -1.9**						
	comp=Z,3.5nm,0.8s,baz=108,slow=6.2,SNR=4.2										
	comp=Z,14nm,0.7s										
LYN	**LuoYang**	**52.50 323**	P	**P**	**20 03 30.5 -0.4**						
LYN			pP	pP	20 03 54.0 -0.6						
LYN			S	**S**	**20 10 47.8 -2.3**						
LYN			pmax	pmax							
	comp=Z,38nm,0.9s										
LYN			pmax	pmax							
	comp=Z,240nm,6.3s										
LYN			LR	LR							
	comp=Z,410nm,16.8s										
LYN			LR	LR							
	comp=Z,380nm,15.4s										
LYN			LR	LR							
	comp=Z,940nm,30.6s										
YSS	**Yuzhno-Sakhali**	**52.86 355**	*e*P	**P**	**20 03 33.9 +0.7**						
YSS			*e*S	**S**	**20 10 55.6 +1.2**						
YSS			pmax	pmax							
	comp=Z,20nm,1.0s										
MDJ	**Mudanjiang**	**53.01 343**	P	**P**	**20 03 35.8 +1.4**						
MDJ			pmax	pmax							
	comp=Z,11nm,0.7s										
CN2	**Changchun**	**53.59 340**	P	**P**	**20 03 41.0 +2.4**						
CN2			ScP	**ScP**	**20 08 30.5 -2.5**						
CN2			S	**S**	**20 11 05.3 +0.9**						
CN2			pmax	pmax							
	comp=Z,10.0nm,0.7s										
CN2			LR	LR							
	comp=Z,400nm,14.0s										
CN2			LR	LR							
	comp=Z,300nm,14.0s										
CN2			LR	LR							
	comp=Z,400nm,16.0s										
KMI	**Kunming**	**53.89 307**	P	**P**	**20 03 42.3 +0.8**						
KMI			pP	pP	20 04 05.8 +0.2						
KMI			S	**S**	**20 11 03.0 -6.7**						
KMI			pmax	pmax							
	comp=Z,18nm,0.7s										
KMI			pmax	pmax							
	comp=Z,87nm,5.6s										
KMI			LR	LR							
	comp=Z,110nm,19.6s										
KMI			LR	LR							
	comp=Z,140nm,18.9s										
KMI			LR	LR							
	comp=Z,190nm,27.5s										
CMAR	**Chiang Mai Arr**	**54.26 298**	P	**P**	**20 03 44.0 -0.1**						
	comp=Z,3.2nm,0.7s,baz=123,slow=6.0,SNR=23										
CMAR			LR	LR	20 24 57.6						
	comp=Z,38nm,21.6s,baz=115,slow=34										
	comp=Z,3.2nm,0.7s										
CMAR	**Chiang Mai Arr**	**54.26 298**	*i* P	**P**	**20 03 44.0 -0.1**						
CMAR			pmax	pmax							
	comp=Z,4.0nm,0.7s										
XAN	**Xi'an**	**54.38 320**	PKP	**P**	**20 03 44.3 -0.4**						
XAN			PP	PKiKP	20 11 03.0 -19						
XAN			AMB	AMB							
	comp=Z,240nm,11.7s										
CHTO	**Chiang Mai**	**54.39 298**	P	**P**	**20 03 46.0 +1.0**						
BJT	**Baijiatuau**	**54.40 330**	IAmb	IAmb	20 03 46.2						
	comp=Z,12nm,0.9s										
BJT	**Baijiatuau**	**54.40 330**	P	**P**	**20 03 46.0 +1.3**						
BJI	**Beijing**	**54.42 330**	P	**P**	**20 03 44.0 -0.7**						
BJI			pP	**pP**	**20 04 07.8 -0.8**						
BJI			sP	**sP**	**20 04 19.0 -0.5**						
BJI			S	**S**	**20 11 14.5 -1.2**						
BJI			pmax	pmax							
	comp=Z,7.0nm,1.1s										
BJI			pmax	pmax							
	comp=Z,47nm,4.4s										
BJI			LR	LR							
	comp=Z,130nm,25.8s										
BJI			LR	LR							
	comp=Z,130nm,22.1s										
BJI			LR	LR							
	comp=Z,290nm,34.3s										
BNX	**BinXian**	**54.68 342**	⇑P	**P**	**20 03 46.8 +0.3**						
BNX			pmax	pmax							
	comp=Z,23nm,1.1s										
PZH	**PanZhiHua**	**55.34 308**	P	**P**	**20 03 53.0 +1.1**						
TNCH	**TengChong**	**57.26 305**	P	**P**	**20 04 06.5 +0.9**						
TNCH			pP	pP	20 04 29.8 -0.1						
TNCH			sP	sP	20 04 44.8 +3.9						
TNCH			S	**S**	**20 11 54.5 +0.1**						
TNCH			sS	sS	20 12 40.0 +4.7						
TNCH			pmax	pmax							
	comp=Z,9.0nm,0.8s										
TNCH			pmax	pmax							
	comp=Z,110nm,5.0s										
HHC	**Hu-ho-hao-te**	**57.39 327**	⇑*i*P	**P**	**20 04 06.8 +0.6**						
HHC			pP	pP	20 04 30.3 -0.3						
HHC			S	**S**	**20 11 55.8 +0.3**						
HHC			sS	sS	20 12 42.0 +5.9						
HHC			pmax	pmax							
	comp=Z,21nm,0.9s										
HHC			pmax	pmax							
	comp=Z,210nm,5.8s										
HHC			LR	LR							
	comp=Z,200nm,15.1s										
HHC			LR	LR							
	comp=Z,230nm,14.3s										
HHC			LR	LR							
	comp=Z,400nm,17.0s										
XLT	**XiLinHaoTe**	**57.43 333**	*e*P	**P**	**20 04 06.5 +0.2**						
XLT			sS	sS	20 12 37.5 +1.0						
XLT			pmax	pmax							
	comp=Z,12nm,0.9s										
XLT			LR	LR							
	comp=Z,170nm,18.8s										
XLT			LR	LR							
	comp=Z,250nm,21.8s										
BTO	**Baotou**	**58.06 326**	*e*P	**P**	**20 04 12.0 +1.2**						
BTO			pP	**pP**	**20 04 36.0 +0.7**						
BTO			sP	**sP**	**20 04 47.0 +0.7**						
BTO			S	**S**	**20 12 05.5 +1.3**						
BTO			sS	**sS**	**20 12 47.5 +2.6**						
BTO			SS	**SS**	**20 16 02.0 +4.7**						
BTO			pmax

PETK LR LR 20 26 12.5
comp=Z,214nm,21.9s,baz=198,slow=32
comp=Z,21nm,0.8s
PET Petropavlovsk 59.38 7 *e*P P 20 04 26.4 +6.9
PET *e**PP sP 20 04 50.8 -4.0
PET *e*S **S** **20 12 29.0 +8.4**
PET pmax pmax
comp=Z,100nm,9.6s
HIA Hailar 60.29 339 IAmb IAmb 20 04 28.0
comp=Z,41nm,1.1s
HIA Hailar 60.29 339 P **P** **20 04 27.2 +1.2**
HIA Hailar 60.29 339 P **P** **20 04 26.9 +0.9**
PPT2 Papeete2 61.78 107 *e*S **S** **20 12 46.1 -6.6**
comp=Z,207nm,25.0s
PPT2 *e*LQ LQ 20 20 22.9
comp=Z,611nm,33.5s
PPT2 *e*LR LR 20 23 01.4
comp=Z,197nm,31.0s
PPT2 *e*LR LR 20 23 05.8
comp=Z,300nm,32.2s
ZEA Zeya 62.00 346 *e*P **P** **20 04 37.9 +0.6**
ZEA *e* 20 05 03.8
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=Z,50nm,0.9s
BRDH Bariadhala 62.15 299 LR LR 20 29 25.7
comp=Z,58nm,21.7s,baz=130,slow=34
TBI Tubuai 62.31 113 *e*P **P** **20 04 40.3 +0.3**
comp=Z,970nm,32.5s
TBI *e*S **S** **20 12 58.0 -1.0**
comp=Z,759nm,26.5s
TBI Tubuai 62.31 113 *e*LR LR 20 23 23.9
comp=Z,1µm,31.8s
TBI *e*LR LR 20 23 24.2
comp=Z,4µm,39.2s
SHEM Shemya Is, Ala 62.42 17 LR LR 20 26 11.2
comp=Z,147nm,20.1s,baz=226,slow=31
SHL Shillong 62.97 302 P **P** **20 04 44.4 -0.2**
SHL IAmb IAmb 20 05 13.0
comp=Z,59nm,1.6s
SHL Shillong 62.97 302 P **P** **20 04 44.4 -0.2**
SHL pmax pmax
comp=Z,59nm,1.6s
GTA Gaotai 63.44 320 P **P** **20 04 47.8 +0.4**
GTA pP pP 20 05 12.0 -0.2
GTA sP PcP 20 05 24.8 +1.4
GTA S **S** **20 13 14.0 +1.1**
GTA sS sS 20 13 59.0 +4.8
GTA ScS **SKSac** **20 14 30.0 -1.7**
GTA pmax pmax
comp=Z,11nm,1.6s
GTA LR LR
comp=Z,210nm,15.6s
GTA LR LR
comp=Z,93nm,15.3s
GTA LR LR
comp=Z,230nm,17.1s
ULN Ulaanbaatar 64.61 331 P **P** **20 04 54.5 -0.4**
ULN IAmb IAmb 20 05 22.6
comp=Z,19nm,1.1s
ULN Ulaanbaatar 64.61 331 P **P** **20 04 54.5 -0.4**
ULN pmax pmax
comp=Z,19nm,1.1s
ULN Ulaanbaatar 64.61 331 P **P** **20 04 55.3 +0.3**
CIT Chita 64.83 337 *e*P **P** **20 04 56.4 +0.2**
CIT *e* 20 05 20.2
CIT *e* 20 08 51.6
CIT *e* 20 14 38.0
CIT pmax pmax
comp=Z,179nm,2.3s
SONM Songino Array 64.92 330 P **P** **20 04 56.0 -0.9**
comp=Z,8.6nm,0.9s,baz=146,slow=9.3,SNR=29
SONM pP **pP** **20 05 19.0 -2.8**
comp=Z,7.8nm,0.9s,baz=149,slow=4.8,SNR=4.9
SONM LR LR 20 33 18.9
comp=Z,217nm,20.6s,baz=132,slow=36
SONM PKP2bc 20 33 39.8
comp=Z,0.9nm,1.0s,baz=242,slow=3.2,SNR=3.8
comp=Z,8.6nm,0.9s
SONM Songino Array 64.92 330 P **P** **20 04 56.0 -0.9**
SONM *PP **pP** **20 05 19.0 -2.8**
GOMU GeErMu 65.18 314 P **P** **20 04 59.0 -0.1**
GOMU pP pP 20 05 23.5 -0.6
GOMU pmax pmax
comp=Z,6.0nm,0.9s
MA2 Magadan 65.31 1 LR LR 20 28 23.9
comp=Z,131nm,21.9s,baz=197,slow=31
CASY Casey 65.66 196 P **P** **20 05 01.6 +0.4**
CASY IAmb IAmb 20 05 02.3
comp=Z,36nm,0.8s
CASY Casey 65.66 196 P **P** **20 05 01.4 +0.3**
CASY x x 20 05 28.8
ZAK Zakamensk 68.14 331 *e*P **P** **20 05 16.2 -1.1**
ZAK pmax pmax
comp=Z,21nm,1.1s
SEY Seymchan 68.73 2⇓ *e*P **P** **20 05 21.8 +1.3**
SEY pmax pmax
comp=Z,8.0nm,1.2s
YAK Yakutsk 69.24 351 P **P** **20 05 24.1 +0.4**
YAK Yakutsk 69.24 351 LR LR 20 35 03.1
comp=Z,65nm,19.9s,baz=157,slow=35
YAK Yakutsk 69.24 351 *e*P **P** **20 05 24.7 +1.0**
YAK *e* 20 05 46.1
YAK *e**PP **pP** **20 05 52.0 +3.3**
YAK *e* 20 07 55.3
YAK *e*S **S** **20 14 20.2 -1.6**
YAK *e*SS **sS** **20 14 58.9 -4.8**
YAK *e*SS **SS** **20 18 44.6 -5.9**
YAK pmax pmax
comp=Z,28nm,1.2s
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,433nm,4.4s
YAK pmax pmax
comp=E,210nm,4.4s
YAK pmax pmax
comp=N,326nm,3.3s
YAK smax smax
comp=E,226nm,3.7s
YAK smax smax
comp=N,371nm,4.8s
MOY Mondy 70.07 331 *e*P P 20 05 16.8 -12
MOY *e* 20 05 51.9
CCD Concordia, Ant 70.59 187 P **P** **20 05 33.3 +0.9**
CCD pP **pP** **20 05 57.7 +0.9**
VNDA Vanda 71.93 177 P **P** **20 05 40.7 +0.8**
comp=N,28nm,0.9s,baz=331,slow=6.6,SNR=90
comp=N,28nm,0.9s
VNDA Vanda 71.93 177 P **P** **20 05 41.0 +1.1**
VNDA pP **pP** **20 06 05.7 +1.3**
HYB Hyderabad 72.55 290 *e*P **P** **20 05 44.7 -0.1**
HYB *es*P **sP** **20 06 19.5 -0.8**
HYB *e*S **S** **20 15 01.8 -0.1**
SBA Scott Base 72.55 176 P **P** **20 05 45.4 +1.8**
SBA IAmb IAmb 20 05 46.5
comp=Z,25nm,1.1s
SBA Scott Base 72.55 176 P **P** **20 05 45.4 +1.8**
SBA pmax pmax
comp=Z,25nm,1.1s
WMQ Urumqi 73.51 319 *e*P **P** **20 05 47.5 -2.4**
WMQ pmax pmax
comp=Z,36nm,0.9s
WMQ LR LR
comp=Z,96nm,19.5s
RKT Rikitea 75.61 112 *e*LR LR 20 29 21.6
comp=Z,6µm,37.2s
GAMB Gambell 75.74 17 P **P** **20 06 04.0 +1.8**
baz=221
M13K Dall Lake 76.20 22 P **P** **20 06 06.6 +1.7**
baz=230
CHIR Chirikof Islan 76.83 29 P **P** **20 06 09.1 +0.5**
baz=238
O15K Ungalikthiuk R 76.84 25 P **P** **20 06 10.0 +1.4**
baz=234
M14K Bethel 76.95 23 P **P** **20 06 10.8 +1.7**
baz=231
L14K Kuka Creek 77.05 22 P **P** **20 06 11.5 +1.8**
baz=231
N15K Kwethluk River 77.32 24 P **P** **20 06 12.2 +0.9**
baz=233
M15K Kasigluk River 77.40 23 P **P** **20 06 12.9 +1.2**
baz=232

R17L Mt. Peulik Vol 77.45 27 P **P** **20 06 13.3 +1.1**
baz=237
P16K Nushagak River 77.52 25 P **P** **20 06 13.8 +1.4**
baz=235
N16K Nishlik Lake 78.03 24 P **P** **20 06 16.7 +1.4**
baz=234
K15K Wolf Creek Mou 78.07 22 P **P** **20 06 16.8 +1.4**
baz=232
MKAR Makanchi Array 78.19 320 P **P** **20 06 15.3 -1.2**
comp=Z,4.4nm,0.6s,baz=101,slow=7.4,SNR=14
MKAR pP **pP** **20 06 39.9 -2.3**
comp=Z,6.5nm,0.9s,baz=106,slow=6.7,SNR=5.9
MKAR LR LR 20 39 47.9
comp=Z,72nm,21.8s,baz=105,slow=35
comp=Z,4.4nm,0.6s
MKAR Makanchi Array 78.19 320 *i* P **P** **20 06 15.3 -1.2**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
M16K Timber Creek 78.28 23 P **P** **20 06 18.2 +1.6**
baz=234
O17K Koliganek Bris 78.32 25 P **P** **20 06 18.4 +1.6**
baz=236
MAKZ Makanchi 78.40 320 P **P** **20 06 15.9 -1.7**
MAKZ Makanchi 78.40 320 P **P** **20 06 15.9 -1.7**
MAKZ pmax pmax
comp=Z,15nm,1.2s
MAKZ Makanchi 78.40 320 P **P** **20 06 16.3 -1.3**
MAKZ pP **pP** **20 06 41.5 -1.9**
TIXI Tiksi 78.45 354 LR LR 20 36 58.6
comp=Z,72nm,21.8s,baz=196,slow=33
TIXI Tiksi 78.45 354⇓ *e*P **P** **20 06 16.7 -0.6**
TIXI pmax pmax
comp=Z,5.0nm,1.1s
Q18K Katmai Hardscr 78.61 27 P **P** **20 06 19.5 +0.9**
baz=238
L17K Donlin 79.19 23 P **P** **20 06 23.2 +1.7**
baz=234
PRZ Przheval'sk 79.32 315 IAmb IAmb 20 06 24.9
comp=Z,33nm,1.2s
K17K Iditarod 79.53 22 P **P** **20 06 25.0 +1.7**
baz=234
ZALV Zalesovo Beam 79.58 328 P **P** **20 06 21.5 -2.3**
comp=Z,6.5nm,0.6s,baz=110,slow=4.2,SNR=11
ZALV pP **pP** **20 06 45.5 -4.0**
comp=Z,8.5nm,0.8s,baz=97,slow=6.0,SNR=5.4
ZALV LR LR 20 41 23.2
comp=Z,181nm,21.7s,baz=110,slow=35
comp=Z,6.5nm,0.6s
J17K VABM Dome 79.64 21 P **P** **20 06 25.4 +1.4**
baz=234
G16K Koyuk River 79.76 19 P **P** **20 06 26.2 +1.6**
baz=230
Q20K Shuyak Island 79.76 27 P **P** **20 06 25.8 +1.0**
baz=240
L18K Granite Mounta 79.86 23 P **P** **20 06 26.3 +1.1**
baz=236
N19K Bonanza Creek 79.98 25 P **P** **20 06 26.9 +0.9**
baz=238
KSH Kashi 80.21 312 P **P** **20 06 27.3 -0.5**
H17K Granite Mounta 80.28 20 P **P** **20 06 28.5 +1.1**
baz=233
L19K White Mountain 80.56 23 P **P** **20 06 30.0 +1.0**
baz=238
M19K Big River Lodg 80.59 24 P **P** **20 06 30.2 +1.0**
baz=236
F17K Baldwin Pennin 80.78 18 P **P** **20 06 31.5 +1.5**
baz=231
NIL Nilore 80.85 305 P **P** **20 06 29.9 -1.3**
NIL IAmb IAmb 20 06 31.6
comp=Z,26nm,1.0s
NIL Nilore 80.85 305 P **P** **20 06 29.9 -1.3**
NIL pmax pmax
comp=Z,26nm,1.0s
E17K Hotham Inlet 81.01 18 P **P** **20 06 32.8 +1.5**
baz=230
D17K Noatak River 81.03 17 P **P** **20 06 33.0 +1.6**
baz=229
M20K Styx River 81.09 24 P **P** **20 06 32.4 +0.5**
baz=239
L20K Farewell, AK 81.10 23 P **P** **20 06 32.8 +1.0**
baz=239
N20K Mount Spurr 81.13 25 P **P** **20 06 33.0 +0.9**
baz=240
G18K Tagagawik 81.28 19 P **P** **20 06 33.4 +0.7**
baz=234
RDOG Red Dog Mine 81.32 17 P **P** **20 06 33.5 +0.6**
baz=229
K20K Telida 81.49 23 P **P** **20 06 34.9 +1.0**
baz=238
C17K DeLong Mountai 81.52 16 P **P** **20 06 35.3 +1.3**
baz=229
E18K Tukpahlearik C 81.59 18 P **P** **20 06 35.8 +1.5**
baz=232
SEW Seward 81.80 27 P **P** **20 06 37.3 +1.8**
baz=243
H19K Roundabout Mou 81.81 20 IAmb IAmb 20 07 04.7
comp=Z,31nm,1.4s
H19K Roundabout Mou 81.81 20 P **P** **20 06 37.3 +1.9**
baz=236
KURK Kurchatov 81.86 323 P **P** **20 06 34.9 -1.2**
KURK Kurchatov 81.86 323 *ce*P **P** **20 06 35.5 -0.6**
KURK pmax pmax
comp=Z,10.0nm,1.1s
KURBB Kurchatov Arra 81.88 323 P **P** **20 06 34.6 -1.6**
comp=Z,3.1nm,0.8s,baz=105,slow=4.1,SNR=15
KURBB pP **pP** **20 07 00.2 -1.9**
comp=Z,7.9nm,1.1s,baz=109,slow=4.8,SNR=6.6
KURBB PKKPbc **PKKPbc** **20 25 07.6 -1.2**
comp=Z,0.3nm,0.6s,baz=298,slow=3.3,SNR=4.6
comp=Z,3.1nm,0.8s
J20K Nowinta River 81.89 22 P **P** **20 06 37.4 +1.4**
baz=238
G19K Purcell Mounta 81.94 20 P **P** **20 06 36.8 +0.6**
baz=235
PPLA Purkeypile 81.98 24 P **P** **20 06 37.2 +0.6**
baz=240
F19K Shaleruckik Mo 82.12 19 IAmb IAmb 20 07 02.0
comp=Z,38nm,1.8s
F19K Shaleruckik Mo 82.12 19 P **P** **20 06 37.8 +0.7**
baz=234
AAK Ala-Archa 82.13 314⇓ *e*P **P** **20 06 36.6 -1.3**
AAK pmax pmax
comp=Z,4.0nm,0.9s
H20K Anotleneega Mo 82.33 21 P **P** **20 06 38.9 +0.6**
baz=237
CHUM Lake Minchumin 82.43 23 P **P** **20 06 39.4 +0.6**
baz=240
CUT Chulitna 82.52 24 P **P** **20 06 39.9 +0.6**
baz=242
PMR Palmer 82.62 25 P **P** **20 06 40.3 +0.5**
baz=243
PWL Port Wells 82.63 26 IAmb IAmb 20 06 40.7
comp=Z,19nm,0.7s
PWL Port Wells 82.63 26 P **P** **20 06 40.5 +0.5**
baz=244
E19K Redstone River 82.65 18 IAmb IAmb 20 06 42.4
comp=Z,14nm,0.8s
E19K Redstone River 82.65 18 P **P** **20 06 40.7 +0.8**
baz=235,SNR=9.1
P23K Montague Islan 82.68 27 P **P** **20 06 40.4 +0.2**
baz=245
MAW Mawson 82.78 203 P **P** **20 06 40.3 -0.2**
comp=Z,5.2nm,0.9s
MAW Mawson 82.78 203 P **P** **20 06 40.8 +0.2**
comp=Z,13nm,0.7s,baz=95,slow=5.8,SNR=39
MAW pP **pP** **20 07 03.7 -2.1**
comp=Z,10nm,0.9s,baz=77,slow=5.4,SNR=4.2
comp=Z,13nm,0.7s
KNK Knik Glacier 82.83 26 P **P** **20 06 41.1 +0.2**
baz=244
ARSB Arslanbob 82.88 313 IAmb IAmb 20 07 08.6
comp=Z,24nm,1.3s
F20K Avaraart Lake 82.90 19 IAmb IAmb 20 07 06.4
comp=Z,43nm,2.0s
F20K Avaraart Lake 82.90 19 P **P** **20 06 42.0 +0.8**
baz=236
C19K Lookout Ridge 82.93 17 P **P** **20 06 41.4 +0.1**
baz=232
D19K Kuna River 82.99 17 P **P** **20 06 41.8 +0.2**
baz=234
TRF Thorofare Moun 83.01 23 P **P** **20 06 42.8 +0.8**
baz=242
BPAW Bear Paw Mtn. 83.05 23 P **P** **20 06 42.4 +0.3**
baz=241
SML Sawmill 83.06 25 IAmb IAmb 20 06 44.4
comp=Z,106nm,1.8s
SML Sawmill 83.06 25 P **P** **20 06 42.5 +0.4**
baz=244

H21K Melozitna Rive 83.15 21 P **P** **20 06 43.5 +1.0**
baz=239
GLI Glacier Island 83.19 26 IAmb IAmb 20 06 44.2
comp=Z,44nm,1.3s
GLI Glacier Island 83.19 26 P **P** **20 06 43.3 +0.5**
baz=245
M23K Glacier View 83.31 25 P **P** **20 06 44.2 +0.8**
baz=244
G21K Allakaket 83.36 20 P **P** **20 06 43.8 +0.3**
baz=238
WAT1 Susitna Watana 83.42 24 P **P** **20 06 44.4 +0.4**
baz=243
E20K Nigu River 83.44 18 P **P** **20 06 44.9 +0.9**
baz=236,SNR=6.0
SCM Sheep Creek Mo 83.50 26 P **P** **20 06 45.3 +0.9**
baz=245
RND Reindeer 83.56 24 IAmb IAmb 20 06 45.7
comp=Z,12nm,0.7s
D20K Etivluk River 83.57 18 P **P** **20 06 45.1 +0.5**
baz=235
MLY Manley 83.59 22 P **P** **20 06 44.4 -0.4**
MLY Manley 83.59 22 P **P** **20 06 45.5 +0.7**
baz=241,SNR=9.6
WAT6 Susitna Watana 83.65 25 P **P** **20 06 45.2 -0.1**
baz=244
MCK McKinley 83.67 23 IAmb IAmb 20 06 45.9
comp=Z,20nm,0.8s
MCK McKinley 83.67 23 P **P** **20 06 45.1 -0.1**
baz=243,SNR=7.7
F21K Alatna River 83.74 19 P **P** **20 06 45.3 -0.2**
baz=238
H22K Ishtalitna Cre 83.78 21 P **P** **20 06 45.9 +0.2**
baz=240
KLU Klutina 83.96 26 IAmb IAmb 20 07 14.4
comp=Z,14nm,0.9s
KLU Klutina 83.96 26 P **P** **20 06 46.8 0.0**
baz=246
DHY Denali Highway 84.01 24 P **P** **20 06 47.3 +0.1**
baz=244
NEA2 Nenana 84.02 23 P **P** **20 06 46.4 -0.6**
baz=243,SNR=5.6
QSPA South Pole Qui 84.05 180 P **P** **20 06 49.1 +1.8**
QSPA South Pole Qui 84.05 180 P **P** **20 06 48.2 +0.8**
comp=Z,40nm,0.9s,baz=347,slow=1.8,SNR=102
QSPA pP **pP** **20 07 11.0 -1.7**
comp=Z,10nm,0.7s,baz=285,slow=2.8,SNR=3.1
comp=Z,40nm,0.9s
QSPA South Pole Qui 84.05 180 P **P** **20 06 49.8 +2.5**
QSPA pP **pP** **20 07 14.2 +1.5**
M24K Tolsona, Glenn 84.11 26 P **P** **20 06 47.9 +0.3**
baz=246
I23K Minto, Yukon-K 84.16 22 P **P** **20 06 47.7 +0.1**
baz=242
E21K Killik River 84.23 18 P **P** **20 06 48.2 +0.2**
baz=238
G22K Bettles 84.25 20 P **P** **20 06 48.2 +0.2**
baz=240
F22K John River 84.32 19 P **P** **20 06 48.8 +0.4**
baz=240
BMRM Bremner River 84.34 27 P **P** **20 06 49.1 +0.4**
baz=247
WRH Wood River Hil 84.34 23 IAmb IAmb 20 07 13.5
comp=Z,17nm,1.1s
C21K Knifeblade Rid 84.36 18 P **P** **20 06 48.6 -0.1**
baz=237
H23K Yukon River 84.41 21 IAmb IAmb 20 07 20.7
comp=Z,25nm,1.6s
H23K Yukon River 84.41 21 P **P** **20 06 49.5 +0.5**
baz=242
N25K Chitina, Valde 84.59 26 P **P** **20 06 50.0 0.0**
baz=247
COLA College 84.61 23 P **P** **20 06 49.7 -0.2**
COLA College 84.61 23 P **P** **20 06 50.8 +1.0**
baz=244
G23K Bananza Creek 84.66 21 P **P** **20 06 50.8 +0.6**
baz=242,SNR=12
HARP HAARP 84.66 25 P **P** **20 06 51.3 +1.0**
baz=247
B21K Ikpikpuk River 84.67 17 P **P** **20 06 50.9 +0.8**
baz=237
E22K Anaktuvuk Pass 84.75 19 P **P** **20 06 51.4 +0.8**
baz=240,SNR=5.4
PAX Paxson 84.76 25 P **P** **20 06 51.6 +0.8**
baz=246
HDA Harding Lake 84.76 23 P **P** **20 06 50.8 +0.1**
baz=245
COLD Coldfoot 84.84 20 P **P** **20 06 51.8 +0.7**
baz=242,SNR=5.9
D22K Ayikyak River 84.86 18 P **P** **20 06 51.9 +0.8**
baz=239
POKR Poker Plat Res 84.88 23 P **P** **20 06 52.0 +0.8**
baz=244
ILAR Eielson Array 84.94 23 P **P** **20 06 49.8 -1.8**
comp=Z,9.5nm,0.7s,baz=253,slow=5.0,SNR=50
ILAR pP **pP** **20 07 14.6 -2.9**
comp=Z,9.8nm,0.9s,baz=258,slow=5.3,SNR=7.3
comp=Z,9.5nm,0.7s
CRQE Cirque 84.94 27 P **P** **20 06 52.5 +0.6**
baz=249
H24K Noodor Dome 85.03 22 P **P** **20 06 52.8 +0.7**
baz=244,SNR=6.5
CHGR Chuyangaron 85.16 310 P **P** **20 06 51.5 -1.9**
CHGR Chuyangaron 85.16 310 P **P** **20 06 51.5 -1.9**
SIMJ Simiganj 85.27 309 P **P** **20 06 52.1 -1.9**
RIDG Independent Ri 85.33 24 IAmb IAmb 20 07 19.4
comp=Z,19nm,1.0s
RIDG Independent Ri 85.33 24 P **P** **20 06 53.7 +0.1**
baz=247,SNR=5.6
E23K Chandalar 85.44 19 P **P** **20 06 54.7 +0.6**
baz=242
J25K Salcha River, 85.47 23 IAmb IAmb 20 07 23.7
comp=Z,19nm,0.9s
J25K Salcha River, 85.47 23 P **P** **20 06 54.3 0.0**
baz=246,SNR=20
MENT Mentasta 85.48 25 P **P** **20 06 55.4 +1.0**
D23K Nanushuk River 85.53 18 P **P** **20 06 55.0 +0.5**
D23K IAmb IAmb 20 07 21.6
comp=Z,26nm,1.0s
D23K Nanushuk River 85.53 18 P **P** **20 06 54.8 +0.4**
baz=241,SNR=7.8
G24K Hadweenzic Riv 85.56 21 P **P** **20 06 55.2 +0.6**
baz=244,SNR=7.8
DOT Dot Lake 85.61 24 P **P** **20 06 54.5 -0.5**
DOT IAmb IAmb 20 07 20.9
comp=Z,17nm,1.0s
L26K Log Cabin Wild 85.67 25 P **P** **20 06 55.5 +0.2**
baz=248,SNR=7.6
TOLK Toolik Lake Re 85.73 19 IAmb IAmb 20 07 21.3
comp=Z,18nm,1.3s
TOLK Toolik Lake Re 85.73 19 P **P** **20 06 56.1 +0.6**
baz=242
SCRK Sand Creek 85.77 24 IAmb IAmb 20 07 24.8
comp=Z,27nm,1.8s
SCRK Sand Creek 85.77 24 P **P** **20 06 55.8 -0.1**
baz=248,SNR=5.3
F24K Squaw Lake 85.77 20 P **P** **20 06 56.1 +0.4**
baz=244,SNR=11
CTG Chitna Glacier 85.82 27 P **P** **20 06 56.0 -0.2**
baz=250
E24K Your Creek 85.82 20 P **P** **20 06 55.9 -0.1**
baz=243
CTGM Chitina Glacie 85.82 27 IAmb IAmb 20 07 22.3
comp=Z,16nm,0.9s
H25L Birch Creek 85.97 22 P **P** **20 06 57.2 +0.5**
baz=246
C23K Itkillik River 85.97 18 IAmb IAmb 20 07 22.1
comp=Z,20nm,1.1s
C23K Itkillik River 85.97 18 P **P** **20 06 56.8 +0.2**
baz=241
M27K Edge Creek, AK 86.06 26 IAmb IAmb 20 07 24.0
comp=Z,29nm,0.9s
M27K Edge Creek, AK 86.06 26 P **P** **20 06 57.3 -0.1**
baz=250,SNR=11
J26L Joseph Creek 86.14 24 P **P** **20 06 57.4 -0.3**
baz=248,SNR=7.0
D24K Happy Valley 86.21 19 IAmb IAmb 20 09 00.6
comp=Z,43nm,1.8s
D24K Happy Valley 86.21 19 P **P** **20 06 58.0 +0.2**
baz=243
O28M Mount Upton 86.28 28 P **P** **20 06 58.2 -0.5**
baz=251
PNL Peninsula 86.31 29 P **P** **20 06 58.3 -0.2**
baz=252
L27K Beaver Creek, 86.33 25 IAmb IAmb 20 07 28.9
comp=Z,15nm,1.1s
L27K Beaver Creek, 86.33 25 P **P** **20 06 58.6 +0.1**
baz=250
C24K Franklin Bluff 86.51 18 P **P** **20 06 59.2 0.0**

	baz=243						
F25K	**Christian Rive**	86.58	21	P		**P**	**20 07 00.1 +0.3**
	baz=246						
I26K	**Coal Creek Min**	86.60	23	P		**P**	**20 06 59.6 -0.2**
	baz=248						
YUK8	**Steele Glacier**	86.65	27	P		**P**	**20 07 00.0 -0.4**
	baz=252						
E25K	**Arctic Village**	86.83	20	P		**P**	**20 07 01.7 +0.8**
	baz=246						
O29M	**Mount Kennedy**	86.90	29	IAmb		IAmb	20 07 27.9
	comp=Z,17nm,0.9s						
O29M	**Mount Kennedy**	86.90	29	P		**P**	**20 07 01.6 +0.1**
	baz=253						
G26K	**Porcupine Rive**	86.99	21	IAmb		IAmb	20 07 28.4
	comp=Z,14nm,0.9s						
G26K	**Porcupine Rive**	86.99	21	P		**P**	**20 07 02.5 +0.8**
	baz=248,SNR=13						
D25K	**Kavik River**	87.06	19	P		**P**	**20 07 02.6 +0.6**
	baz=245,SNR=6.6						
P29M	**Windy Craggy**	87.10	29	P		**P**	**20 07 03.5 +1.1**
	baz=253						
F26K	**Sheenjek River**	87.15	21	IAmb		IAmb	20 07 28.8
	comp=Z,16nm,1.2s						
F26K	**Sheenjek River**	87.15	21	P		**P**	**20 07 03.1 +0.7**
	baz=247,SNR=6.0						
YUK4	**Talbot Arm**	87.18	28	P		**P**	**20 07 03.3 +0.3**
	baz=252						
EGAK	**Eagle**	87.21	24	IAmb		IAmb	20 07 28.9
	comp=Z,18nm,1.1s						
EGAK	**Eagle**	87.21	24	P		**P**	**20 07 03.2 +0.5**
	baz=250,SNR=8.2						
I27K	**Kandik River**	87.31	23	P		**P**	**20 07 03.7 +0.4**
	baz=250,SNR=11						
BVAR	**Borovoye Array**	87.40	324	P		**P**	**20 07 01.8 -2.2**
	comp=Z,9.7nm,0.9s,baz=106,slow=5.4,SNR=18						
BVAR				pP		**pP**	**20 07 26.9 -3.1**
	comp=Z,8.6nm,0.9s,baz=104,slow=3.8,SNR=4.8						
BVAR				LR		LR	20 45 43.5
	comp=Z,111nm,21.7s,baz=93,slow=35						
	comp=Z,9.7nm,0.9s						
BORK	**Borovoye**	87.45	324	*ce*P		**P**	**20 07 02.6 -1.6**
BORK				pmax		pmax	
	comp=Z,12nm,1.1s						
HYT	**Haines Junctio**	87.56	28	IAmb		IAmb	20 07 31.5
	comp=Z,34nm,1.0s						
HYT	**Haines Junctio**	87.56	28	P		**P**	**20 07 04.7 +0.1**
	baz=254,SNR=8.2						
H27K	**Steamboat Moun**	87.57	22	IAmb		IAmb	20 07 31.1
	comp=Z,16nm,1.1s						
H27K	**Steamboat Moun**	87.57	22	P		**P**	**20 07 05.0 +0.5**
	baz=250,SNR=9.6						
M29M	**Somme Creek**	87.59	26	IAmb		IAmb	20 07 30.8
	comp=Z,16nm,1.0s						
M29M	**Somme Creek**	87.59	26	P		**P**	**20 07 05.4 +0.6**
	baz=253,SNR=7.5						
P30M	**Million Dollar**	87.62	29	P		**P**	**20 07 05.5 +0.6**
	baz=254						
DAWY	**Dawson**	87.69	25	IAmb		IAmb	20 07 31.8
	comp=Z,26nm,1.2s						
DAWY	**Dawson**	87.69	25	P		**P**	**20 07 06.1 +0.9**
	baz=252,SNR=7.4						
G27K	**Doyon Strip**	87.72	22	P		**P**	**20 07 06.6 +1.4**
	baz=250,SNR=5.6						
PLBC	**Pleasant Camp**	87.72	30	P		**P**	**20 07 05.9 +0.6**
	baz=254						
I28M	**Miner Creek**	87.92	23	P		**P**	**20 07 07.1 +0.8**
	baz=251						
N30M	**Aishikik Lake**	87.93	28	P		**P**	**20 07 07.7 +1.4**
	baz=254						
L29M	**L29M**	87.94	26	IAmb		IAmb	20 07 32.0
	comp=Z,18nm,0.9s						
L29M	**L29M**	87.94	26	P		**P**	**20 07 07.3 +1.0**
	baz=253,SNR=8.5						
C27K	**Jago River**	88.05	19	IAmb		IAmb	20 07 32.3
	comp=Z,12nm,0.9s						
C27K	**Jago River**	88.05	19	P		**P**	**20 07 07.6 +0.9**
	baz=248						
O30N	**Mendenhall**	88.21	28	IAmb		IAmb	20 07 37.9
	comp=Z,31nm,1.4s						
O30N	**Mendenhall**	88.21	28	P		**P**	**20 07 08.0 +0.4**
	baz=255						
E27K	**Coleen River**	88.23	21	IAmb		IAmb	20 07 34.4
	comp=Z,17nm,1.1s						
E27K	**Coleen River**	88.23	21	P		**P**	**20 07 08.3 +0.7**
	baz=250,SNR=7.5						
M30M	**Minto, Yukon**	88.37	27	P		**P**	**20 07 09.1 +0.7**
	baz=254						
K29M	**Barlow Dome**	88.42	25	IAmb		IAmb	20 07 34.2
	comp=Z,13nm,0.9s						
K29M	**Barlow Dome**	88.42	25	P		**P**	**20 07 09.5 +0.9**
	baz=253,SNR=9.1						
I29M	**Ogilvie Camp,**	88.54	24	IAmb		IAmb	20 07 39.8
	comp=Z,14nm,1.2s						
I29M	**Ogilvie Camp,**	88.54	24	P		**P**	**20 07 10.2 +1.1**
	baz=253						
N31M	**Braeburn, Yuko**	88.54	28	P		**P**	**20 07 09.9 +0.7**
	baz=255						
WHY	**Whitehorse**	88.75	29	P		**P**	**20 07 10.8 +0.5**
	baz=256						
D27M	**Malcolm River**	88.81	20	P		**P**	**20 07 10.6 +0.2**
	baz=250						
E28M	**Babbage River**	89.09	20	IAmb		IAmb	20 07 13.7
	comp=Z,26nm,1.6s						
E28M	**Babbage River**	89.09	20	P		**P**	**20 07 12.2 +0.6**
	baz=251						
G29M	**Pine Creek**	89.11	22	P		**P**	**20 07 12.7 +0.9**
	baz=253						
J30M	**Hart River**	89.12	25	IAmb		IAmb	20 07 39.5
	comp=Z,14nm,1.3s						
J30M	**Hart River**	89.12	25	P		**P**	**20 07 12.6 +0.6**
	baz=254						
I30M	**Mount Dempster**	89.28	24	P		**P**	**20 07 14.0 +1.3**
	baz=254						
M31M	**Drury Creek, Y**	89.36	27	P		**P**	**20 07 14.3 +1.3**
	baz=256						
EPYK	**Eagle Plains**	89.45	23	IAmb		IAmb	20 07 38.3
	comp=Z,11nm,0.8s						
EPYK	**Eagle Plains**	89.45	23	P		**P**	**20 07 14.1 +0.7**
	baz=254						
G30M	**tAoh Zraii Nji**	89.81	22	IAmb		IAmb	20 07 40.1
	comp=Z,14nm,1.1s						
G30M	**tAoh Zraii Nji**	89.81	22	P		**P**	**20 07 15.8 +0.8**
	baz=254						
F30M	**Barrier River**	90.14	22	P		**P**	**20 07 17.6 +1.0**
	baz=255						
R33M	**Jennings River**	90.40	30	P		**P**	**20 07 18.3 +0.3**
	baz=259						
G31M	**Satah River**	90.54	23	P		**P**	**20 07 19.0 +0.6**
	baz=256						
DLBC	**Dease Lake**	90.70	31	P		**P**	**20 07 19.7 +0.3**
	baz=260						
F31M	**Tsiigehtchic**	90.86	22	P		**P**	**20 07 20.4 +0.6**
	baz=257						
SYO	**Syowa Base**	91.08	200⇑	*e*P		**P**	**20 07 20.6 -0.3**
SYO	**Syowa Base**	91.08	200⇓	*e*PcP		**PcP**	**20 07 22.5 +0.7**
INK	**Inuvik**	91.14	21	IAmb		IAmb	20 07 45.9
	comp=Z,7.9nm,1.0s						
INK	**Inuvik**	91.14	21	P		**P**	**20 07 21.9 +0.8**
	baz=257						
TGTN	**Hyland Airport**	92.07	28	P		**P**	**20 07 26.1 +0.5**
	baz=262						
ARTI	**Arti**	94.78	326⇑	*e*P		**P**	**20 07 36.5 -1.6**
ARTI				pmax		pmax	
	comp=Z,3.0nm,0.9s						
NVL	**N'lazarevskaya**	98.16	193	*e*P		P	20 07 44.1 -9.1
NVL				*e*PS		**PS**	**20 20 41.3 -7.3**
NVL				pmax		pmax	
	comp=Z,9.0nm,1.3s						
TROLL	**Troll, Antarti**	99.09	190	⇑P		**Pdif**	**20 07 57.3 -0.3**
	comp=Z,450nm,0.9s						
KIRV	**Kirov**	99.60	328	LR		LR	20 55 10.6
	comp=Z,131nm,20.1s,baz=106,slow=37						
SNAA	**Sanae**	100.27	189	⇑P		**Pdif**	**20 08 02.3 -0.5**
	comp=Z,120nm,1.0s						
SNAA	**Sanae**	100.27	189	P		**Pdif**	**20 08 02.7 -0.1**
	comp=Z,8.9nm,1.1s,baz=120,slow=3.1,SNR=13						
VNA3	**Neumayer Olymp**	101.61	187	⇑P		**Pdif**	**20 08 07.9 -0.7**
	comp=Z,6.3nm,0.6s						
PDAR	**Pinedale Array**	102.98	48	P		**Pdif**	**20 08 14.8 -0.8**
	comp=Z,0.3nm,0.5s,baz=186,slow=5.2,SNR=3.8						
ARCES	**ARCESS Array B**	106.55	342	Pdiff		**Pdif**	**20 08 27.3 -3.2**
	comp=Z,5.8nm,1.1s,baz=329,slow=0.7,SNR=3.5						
ARCES				PKKPbc		**PKKPbc**	**20 23 56.3 -7.4**
	comp=Z,4.4nm,1.0s,baz=356,slow=1.7,SNR=7.6						
ARCES				PKKPab		**PKKPdf**	**20 24 08.8 -6.3**
	comp=Z,1.4nm,0.5s,baz=187,slow=8.6,SNR=13						
TXAR	**Lajitas Array**	108.68	61	PKKPab		PKKPab	20 24 08.6 +0.4
	comp=Z,0.6nm,0.7s,baz=112,slow=5.6,SNR=4.7						
FINES	**FINESS Array B**	110.11	334	Pdiff		**Pdif**	**20 08 43.9 -2.6**
	comp=Z,1.1nm,0.7s,baz=76,slow=8.0,SNR=3.9						
HFS	**Hagfors**	115.95	337	PKKPbc		PKKPbc	20 23 29.4 -3.1
	comp=Z,1.3nm,0.5s,baz=174,slow=4.5,SNR=4.8						
NOA	**NORSAR Array B**	116.32	338	PKKPbc		PKKPbc	20 23 28.8 -2.5
	comp=Z,1.9nm,0.7s,baz=230,slow=3.5,SNR=13						
MODS	**Modra-Piesok**	120.71	324	*i* P		**Pdif**	**20 09 33.5 -0.5**
CLL	**Collm**	121.51	329	*e*PKPdf		**PKiKP**	**20 13 11.0 +1.1**
CLL	**Collm**	121.51	329	epPKKPbc		pPKPdf	20 13 32.0 -5.0
CLL	**Collm**	121.51	329	esPKKPdf		sPKiKP	20 13 59.0 +12
PLCA	**Paso Flores**	121.53	146	PKP		**PKPdf**	**20 13 09.6 -0.8**
	comp=Z,3.0nm,0.7s,baz=243,slow=2.3,SNR=16						
PLCA				pPKP		**pPKPdf**	**20 13 37.1 -0.3**
	comp=Z,1.3nm,0.7s,baz=247,slow=4.9,SNR=2.2						
GERES	**GERESS Array B**	122.51	326	PKP		**PKPdf**	**20 13 10.3 -1.6**
	comp=Z,0.8nm,0.6s,baz=45,slow=0.8,SNR=7.1						
GERES				pPKP		**pPKPdf**	**20 13 35.8 -3.4**
	comp=Z,1.0nm,0.9s,baz=40,slow=2.3,SNR=3.2						
GERES				PKKPab		**PKKPab**	**20 23 06.8 -0.2**
	comp=Z,0.7nm,0.6s,baz=251,slow=4.1,SNR=6.6						
BIOA	**Bad Ischl, Aus**	123.16	325	*e*PKiKP		**PKiKP**	**20 13 13.3 -0.1**
	comp=Z,2.6nm,0.2s						
SCHQ	**Schefferville**	123.69	24	PKKPbc		PKKPbc	20 23 01.5 -2.2
	comp=Z,48nm,0.7s,baz=145,slow=6.4,SNR=4.0						
LESA	**Schwarzleotal**	123.85	325	*e*PKKP		**PKKPbc**	**20 23 02.3 -0.7**
	comp=Z,1.3nm,0.4s						
ABTA	**Abfaltersbach**	124.32	324	*e*PKKP		**PKKPab**	**20 23 00.6 +1.3**
	comp=Z,4.1nm,0.8s						
WATA	**Walderalm**	124.53	325	*e*PKP		**PKPdf**	**20 13 15.4 -0.5**
	comp=Z,1.3nm,0.4s						
WTTA	**Wattenberg**	124.53	325	*e*PKP		**PKPdf**	**20 13 15.4 -0.6**
	comp=Z,0.7nm,0.2s						
WTTA	**Wattenberg**	124.53	325	*i* PKKP		**PKKPab**	**20 22 59.5 +1.1**
	comp=Z,1.5nm,0.4s						
MOTA	**Moosalm**	124.79	326	*e*PKP		**PKPdf**	**20 13 15.0 -1.4**
	comp=Z,1.6nm,0.5s						
MOTA	**Moosalm**	124.79	326	*e*PKKP		**PKKPab**	**20 22 58.4 +1.1**
	comp=Z,1.7nm,0.5s						
SQTA	**Sankt Quirin**	124.80	326	*i* PKKP		**PKKPab**	**20 22 58.5 +1.3**
	comp=Z,1.2nm,0.3s						
RETA	**Reutte**	124.90	326	*e*PKKP		**PKKPab**	**20 22 58.2 +1.4**
	comp=Z,5.2nm,1.2s						
EKA	**Eskdalemuir Ar**	125.65	340	PKP		**PKPdf**	**20 13 16.1 -1.4**
	comp=Z,0.9nm,0.5s,baz=19,slow=3.3,SNR=6.0						
ESDC	**Sonseca Array**	138.07	327	SKPbc		**SKPbc**	**20 17 06.6 -0.3**
	comp=Z,1.0nm,0.9s,baz=37,slow=5.5,SNR=4.3						
CPUP	**Villa Florida**	139.50	143	PKP		**PKPdf**	**20 13 44.0 -0.5**
	comp=Z,0.8nm,0.5s,baz=99,slow=1.3,SNR=5.4						
CPUP				SKPbc		**SKPbc**	**20 17 11.7 +0.4**
	comp=Z,1.3nm,0.8s,baz=120,slow=4.6,SNR=5.2						
SIV	**San Ignacio**	143.76	127	PKP		PKPbc	20 13 50.4 +0.2
	comp=Z,14nm,0.8s,baz=223,slow=3.2,SNR=6.7						
AQDB	**Aquidauana**	144.80	139			**PKPab**	**20 13 52.0 -1.2**
TRCB	**Terra Rica**	144.94	145	PKPdf		**PKPab**	**20 13 53.4 -0.3**
PTLB	**Pontes e Lacer**	145.59	128	PKPdf		**PKPdf**	**20 13 54.5 -1.0**
TORD	**Torodi Ar. Bea**	146.22	285	PKPbc		**PKPdf**	**20 13 56.2 -0.4**
	comp=Z,8.9nm,0.7s,baz=43,slow=3.7,SNR=33						
TORD				SKPbc		**SKPbc**	**20 17 27.3 -0.7**
	comp=Z,3.0nm,0.7s,baz=50,slow=2.7,SNR=4.0						
DBIC	**Dimbokro**	153.21	273	PKPbc		**PKPbc**	**20 14 14.9 -0.4**
	comp=Z,4.4nm,0.9s,baz=208,slow=2.1,SNR=3.7						
BDFB	**Brasilia**	153.23	143	PKPbc		**PKPbc**	**20 14 15.3 -0.1**
	comp=Z,18nm,0.7s,baz=249,slow=0.3,SNR=22						
BDFB				PKPab		**PKPab**	**20 14 27.8 +0.4**
	comp=Z,39nm,0.7s,baz=197,slow=4.9,SNR=21						

CATAC ***25*** *19:57:00.1±0.7, 13°N±4°×9°0W±°, h16km±4km, M3.8/11, MLv3.8/11, Error ellipse: s-maj=7.9km s-min=4.9km az=23.2, confirmed*

SNET ***25*** *19:57:01.7±1.2, 13°.19N×89°.89W, h31km±4km, ML3.3*

ISC 25 19:56:59.7±2.9, 13°.1N±0°.1×89°.95W±0°.09, h27km±13km, n34, σ0°47/43, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LALI	**Alcalda de L**	0.72	58	P		**Pb**	**19 57 13.9**	**+0.1**
LALI	**Alcalda de L**	0.72	58	S		**Sb**	**19 57 23.0**	**-0.3**
JAYA	**Jayaque - finc**	0.73	42	*e*P		**Pn**	**19 57 14.4**	**0.0**
JAYA				*e*S		**Sn**	**19 57 24.3**	**-0.5**
JAYA	**Jayaque - finc**	0.73	42	P		**Pn**	**19 57 14.5**	**0.0**
JAYA	**Jayaque - finc**	0.73	42	S		**Sn**	**19 57 23.8**	**-1.0**
FAME	**Alcaldia de Sa**	0.74	355	P		**Pb**	**19 57 13.8**	**-0.2**
FAME	**Alcaldia de Sa**	0.74	355	S		**Sn**	**19 57 23.8**	**-1.0**
CEVE	**Cerro Verde**	0.79	24	*e*P		**Pn**	**19 57 15.4**	**+0.2**
CEVE				*e*S		**Sn**	**19 57 26.5**	**+0.2**
CEVE				IAML			19 57 29.2	
	comp=Z,3μm,0.3s							
CEVE	**Cerro Verde**	0.79	24	P		**Pb**	**19 57 15.2**	**+0.2**
CEVE	**Cerro Verde**	0.79	24	S		**Sn**	**19 57 25.7**	**-0.5**
SBLS	**San Blas**	0.80	23	*e*P		**Pn**	**19 57 15.4**	**0.0**
SBLS				*e*P		**Pb**	**19 57 15.5**	**+0.3**
SBLS				*e*S		**Sn**	**19 57 26.5**	**0.0**
NUBE	**Las Nubes**	0.81	12	*e*P		**Pb**	**19 57 15.4**	**+0.1**
NUBE				*e*S		**Sn**	**19 57 26.3**	**-0.4**
NUBE				IAML			19 57 28.3	
	comp=Z,1μm,0.2s							
NUBE	**Las Nubes**	0.81	12	P		**Pb**	**19 57 15.3**	**-0.1**
NUBE	**Las Nubes**	0.81	12	S		**Sn**	**19 57 25.8**	**-1.0**
PMON	**Piamonte**	0.86	46	P		**Pn**	**19 57 16.4**	**+0.2**
PMON	**Piamonte**	0.86	46	S		**Sn**	**19 57 28.5**	**+0.5**
CEDA	**San Andres**	0.88	38	S		**Sn**	**19 57 28.1**	**-0.1**
PANCS	**Alcalda de**	0.90	56	S		**Sn**	**19 57 28.5**	**-0.4**
BOQS	**Boqueron**	0.90	46	*e*P		**Pn**	**19 57 17.3**	**+0.5**
BOQS				*e*S		**Sn**	**19 57 29.3**	**+0.2**
LOMA	**Loma Larga**	0.93	55	*e*P		**Pb**	**19 57 17.5**	**+0.1**
LOMA				*e*S		**Sn**	**19 57 29.6**	**-0.1**
LOMA	**Loma Larga**	0.93	55	P		**Pb**	**19 57 17.3**	**0.0**
LFRS	**El Faro**	1.01	59	*e*P		**Pb**	**19 57 18.6**	**0.0**
LFRS				*e*S		**Sn**	**19 57 31.3**	**-0.2**
RBDL	**Robledal**	1.03	14	*e*P		**Pn**	**19 57 19.1**	**+0.5**
RBDL				*e*S		**Sn**	**19 57 33.1**	**+0.8**
LBRS	**Las Brisas**	1.08	54	*e*P		**Pb**	**19 57 20.5**	**+0.6**
PAVA	**Las Pavas**	1.16	58	P		**Pb**	**19 57 21.4**	**+0.3**
TECO	**Alcaldia de Te**	1.22	69	P		**Pn**	**19 57 21.2**	**+0.2**
TECO	**Alcaldia de Te**	1.22	69	S		**Sn**	**19 57 36.6**	**0.0**
SCLA	**Alcaldia de Sa**	1.33	63	P		**Pb**	**19 57 23.7**	**-0.3**
MTO3	**Montecristo**	1.41	24	P		**Pn**	**19 57 24.4**	**+0.6**
LLGN	**La Laguna**	1.44	43	P		**Pn**	**19 57 24.4**	**+0.3**
LLGN	**La Laguna**	1.44	43	S		**Sb**	**19 57 42.8**	**-1.0**
ESQI	**Esquipulas**	1.56	22	S		**Sb**	**19 57 48.1**	**+0.6**
ESQI	**Esquipulas**	1.56	22	P		**Pn**	**19 57 26.4**	**+0.6**
PACA	**Pacayal**	1.62	77	P		**Pb**	**19 57 29.0**	**-0.1**

GCG ***25*** *19:57:26.1±1.0, 13°.32N×89°.95W, h47km±198km, MD3.6, ML4.1*

SNET ***25*** *19:57:27.3±1.7, 13°.28N×89°.91W, h27km, ML3.8*

ISC 25 19:57:23.2±4.0, 13°.1N±0°.2×89°.97W±0°.09, h29km±19km, n9, σ0°69/16, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LALI	**Alcalda de L**	0.74	59	*e*P		**Pn**	**19 57 38.4**	**+0.6**
LALI				*e*S		**Sb**	**19 57 46.9**	**-0.6**
JAYA	**Jayaque - finc**	0.75	43	*e*P		**Pn**	**19 57 37.1**	**-0.9**
JAYA				*e*S		**Sb**	**19 57 47.8**	**0.0**
JAYA	**Jayaque - finc**	0.75	43	*e*P		**Pn**	**19 57 38.5**	**+0.5**
JAYA				*e*S		**Sb**	**19 57 47.9**	**0.0**
SBLS	**San Blas**	0.81	25	*e*P		**Pn**	**19 57 39.4**	**+0.5**
SBLS				*e*S		**Sn**	**19 57 50.2**	**+0.2**
NUBE	**Las Nubes**	0.82	13	*e*P		**Pn**	**19 57 39.3**	**+0.3**
NUBE				*e*S		**Sb**	**19 57 49.9**	**+0.1**
NUBE	**Las Nubes**	0.82	13	*e*P		**Pn**	**19 57 39.3**	**+0.3**
NUBE				*e*S		**Sb**	**19 57 49.2**	**-0.6**
RBDL	**Robledal**	1.04	15	*e*P		**Pn**	**19 57 42.9**	**+0.8**
RBDL				*e*S		**Sb**	**19 57 56.8**	**+0.6**
FG16	**Alotenango, Sa**	1.28	336	IAML			19 58 14.3	
	comp=N,7μm,0.2s							
ESSG	**Sabana Grande**	1.52	327	*e*P		**Pn**	**19 57 49.2**	**+0.6**
ESSG				*e*S		**Sn**	**19 58 06.1**	**-1.3**
ESSG				IAML			19 58 08.0	
	comp=E,1μm,0.2s							

JMA ***25*** *20:05:30.8±0.5, 26°N±1°×14°3E±°, h0km, IOTO ISLANDS REGION*

IDC ***25*** *20:05:33.1±0.8, 25°.72N×142°.84E, h0km, mb4.0/18, mbtmp3.9/20, ML3.1/2, Error ellipse: s-maj=28.5km s-min=14.4km az=82.0*

NEIC ***25*** *20:05:35.4±1.7, 25°.8N±0°.1×142°.68E±0°.06, h10km±1km, mb4.5/13, Error ellipse: s-maj=19.2km s-min=7.2km az=165.0*

ISC 25 20:05:38.5±0.7, 25°.75N±0°.07×143°.0E±0°.1, h40km, n43, σ1s88/42, mb4.3/24, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	1.15	320	P		**Pn**	**20 05 58.2**	**+0.1**
JHH2				*e*S		**Sn**	**20 06 18.6**	**+5.9**
CBIJ	**Chichi jima**	1.53	332	*e*P		**Pn**	**20 06 03.5**	**+0.2**
CBIJ				*e*S		**Sn**	**20 06 26.7**	**+4.7**
MJAR	**Matsushiro Arr**	11.52	340	Pn		**Pn**	**20 08 18.4**	**-1.9**
	baz=130,slow=13,SNR=1.4							
	0.6nm,0.5s							
JMM	**Marumori**	12.23	352	Pn		**Pn**	**20 08 28.1**	**-1.9**
JMM				Sn		**Sn**	**20 10 40.2**	**-4.8**
KSRS	**Korea Array**	17.33	316	P		**Pn**	**20 09 36.7**	**-0.6**
	0.2nm,0.3s,baz=131,slow=9.7,SNR=2.1							
	0.4nm,0.4s							
USRK	**Ussuriysk Ar.**	20.47	337	P		**P**	**20 10 12.6**	**0.0**
	1.3nm,0.5s,baz=136,slow=8.7,SNR=5.3							
	1.3nm,0.5s							
H11N2	**WAKE ISLAND Hy**	22.82	100	T		T	20 34 11.6	
	baz=290,slow=75,SNR=23							
H11N1	**WAKE ISLAND Hy**	22.82	100	T		T	20 34 12.1	
	baz=290,slow=75,SNR=16							
H11N3	**WAKE ISLAND Hy**	22.84	100	T		T	20 34 13.2	
	baz=290,slow=75,SNR=22							
H11S3	**WAKE ISLAND Hy**	23.07	103	T		T	20 34 36.7	
	baz=292,slow=75,SNR=3.4							
H11S1	**WAKE ISLAND Hy**	23.08	103	T		T	20 34 35.0	
	baz=292,slow=75,SNR=3.8							
H11S2	**WAKE ISLAND Hy**	23.09	103	T		T	20 34 33.9	
	baz=292,slow=75,SNR=4.6							
SONM	**Songino Array**	36.20	317	P		**P**	**20 12 36.2**	**-1.2**
	0.6nm,0.5s,baz=124,slow=7.5,SNR=5.1							
	0.6nm,0.5s							
CMAR	**Chiang Mai Arr**	41.31	269	P		**P**	**20 13 19.8**	**-0.7**
	0.3nm,0.3s,baz=72,slow=8.6,SNR=1.4							
	0.3nm,0.3s							
WR8	**Warramunga Arr**	46.17	191	P		**P**	**20 13 59.6**	**+0.2**
WRA	**Warramunga Arr**	46.19	191	P		**P**	**20 13 59.3**	**-0.3**
	1.7nm,0.6s,baz=10,slow=8.7,SNR=12							
	1.7nm,0.6s							
FITZ	**Fitzroy Crossi**	46.74	203	P		**P**	**20 14 03.6**	**-0.2**
FITZ	**Fitzroy Crossi**	46.74	203	P		**P**	**20 14 03.6**	**-0.2**
	2.3nm,0.7s,baz=29,slow=9.5,SNR=9.6							
	2.3nm,0.7s							
ASAR	**Alice Springs**	49.90	191	P		**P**	**20 14 27.2**	**-1.0**
	0.3nm,0.6s,baz=13,slow=7.5,SNR=6.7							
	0.3nm,0.6s							
ZALV	**Zalesovo Beam**	50.99	320	P		**P**	**20 14 33.9**	**-2.2**
	0.4nm,0.4s,baz=99,slow=9.1,SNR=2.5							
ZALV				PcP		**PcP**	**20 15 51.9**	**+0.1**
	0.8nm,0.6s,baz=123,slow=5.5,SNR=2.7							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	51.90	310	P		**P**	**20 14 41.8**	**-1.4**
	0.5nm,0.5s,baz=93,slow=9.1,SNR=7.2							
MKAR				PcP		**PcP**	**20 15 56.0**	**+0.6**
	1.1nm,1.2s,baz=77,slow=6.0,SNR=3.7							
	0.5nm,0.5s							
KURK	**Kurchatov**	54.45	315	P		**P**	**20 15 01.4**	**-0.3**
KURK				IAmb		IAmb	20 15 02.5	
	comp=Z,2.1nm,0.6s							
KURBB	**Kurchatov Arra**	54.51	315	P		**P**	**20 15 02.2**	**0.0**
	comp=Z,3.0nm,0.6s,baz=91,slow=8.1,SNR=28							
	comp=Z,3.0nm,0.6s							
J20K	**Nowinta River**	55.35	28	P		**P**	**20 15 10.4**	**+2.4**
J20K				IAmb		IAmb	20 15 33.6	
	comp=Z,7.4nm,1.3s							
D20K	**Etivluk River**	55.60	23	P		**P**	**20 15 12.0**	**+2.2**
D20K				IAmb		IAmb	20 15 23.1	
	comp=Z,6.6nm,1.3s							
STKA	**Stephens Creek**	57.32	181	P		**P**	**20 15 23.1**	**+0.8**
	comp=Z,1.5nm,0.2s,baz=0.8,slow=12,SNR=3.7							
	comp=Z,1.5nm,0.2s							
D23K	**Nanushuk River**	57.75	23	P		**P**	**20 15 28.2**	**+3.2**
D23K				IAmb		IAmb	20 15 41.8	
	comp=Z,9.0nm,1.3s							
FORT	**Forrest**	58.00	195	P		**P**	**20 15 26.9**	**-0.2**
ILAR	**Eielson Array**	58.55	28	P		**P**	**20 15 31.9**	**+1.2**
	comp=

GO01	**Chusmiza**	**11.15**	**150**			**Pn**		20 11 23.3	-5.3
GCUF	**Volcan Galeras**	**11.37**	**348**		P	**Pn**		**20 11 32.0**	**+0.3**
	27nm,0.5s								
FLOC	**Florencia**	**11.50**	**357**		Pn	**Pn**		**20 11 31.1**	**-1.8**
FLOC	**Florencia**	**11.50**	**357**		P	**Pn**		**20 11 32.6**	**-0.4**
	456nm22nm,0.6s								
MACC	**Macarena, Meta**	**12.10**	**5**		P	**Pn**		**20 11 39.8**	**-1.1**
	17nm,0.6s								
BBAC	**Balboa, Cauca**	**12.13**	**349**		P	**Pn**		**20 11 43.1**	**+1.6**
	17nm,0.6s								
POPC	**Popayan, Colom**	**12.55**	**352**		P	**Pn**		**20 11 49.0**	**+1.9**
	9.3nm,1.0s								
URMC	**La Uribe, Meta**	**13.15**	**3**		P	**Pn**		**20 11 54.5**	**-0.4**
	18nm,0.7s								
ORTC	**Ortega, Tolima**	**13.80**	**359**		P	**Pn**		**20 12 03.6**	**+0.3**
	20nm,0.8s								
ROSC	**El Rosal**	**14.73**	**3**		P	**Pn**		**20 12 17.9**	**+2.3**
	8.2nm,0.5s,baz=260,slow=23,SNR=1.3								
ROSC					S	**Sn**		**20 14 60.0**	**+1.5**
	5.9nm,0.3s,baz=127,slow=20,SNR=1.3								
VILB	**Vilhena**	**14.80**	**103**		Pn	**Pn**		**20 12 16.9**	**+0.7**
SIV	**San Ignacio**	**14.82**	**115**		P	**Pn**		**20 12 19.5**	**+3.0**
	15nm,0.5s,baz=300,slow=11,SNR=33								
SIV					S	**Sn**		**20 15 00.6**	**+0.6**
	8.0nm,0.9s,baz=217,slow=15,SNR=1.5								
RUSC	**La Rusia**	**15.88**	**7**		Pn	**Pn**		**20 12 29.4**	**-0.8**
RUSC					IAmb	IAmb		20 12 36.8	
	comp=Z,22nm,0.8s								
BOAV	**Boa Vista**	**18.94**	**50**			**P**		**20 13 06.9**	**+1.7**
BOAV					IAmb	IAmb		20 13 10.7	
	comp=Z,21nm,0.8s								
SDV	**Santo Domingo**	**19.24**	**13**		P	**P**		**20 13 09.5**	**+1.0**
	comp=Z,6.9nm,0.4s,baz=210,slow=9.0,SNR=5.5								
SDV					S	**S**		**20 16 42.8**	**+1.4**
	comp=Z,5.3nm,0.4s,baz=11,slow=5.2,SNR=1.3								
MAL2	**Monte Alegre,**	**22.14**	**70**		P	**P**		**20 13 39.5**	**-0.2**
JTS	**Las Juntas de**	**22.44**	**334**		P	**P**		**20 13 42.5**	**-0.1**
	comp=Z,4.3nm,0.7s,baz=128,slow=14,SNR=2.1								
	comp=Z,4.3nm,0.7s								
CPUP	**Villa Florida**	**23.32**	**137**		P	**P**		**20 13 46.2**	**-5.0**
TEIG	**Tepich**	**32.74**	**336**		P	**P**		**20 15 15.8**	**+0.6**
TEIG					IAmb	IAmb		20 15 16.1	
	comp=Z,6.4nm,0.8s								
V53A	**Saluda**	**46.00**	**351**		P	**P**		**20 17 04.0**	**-1.2**
CPCT	**Cooper Cave**	**46.07**	**349**			**P**		**20 17 04.8**	**-1.0**
CPCT					IAmb	IAmb		20 17 05.4	
	comp=Z,3.3nm,0.7s								
T57A	**Hurt**	**46.90**	**355**		P	**P**		**20 17 12.1**	**-0.1**
TZTN	**Tazewell**	**46.97**	**351**		P	**P**		**20 17 11.8**	**-0.9**
TZTN					IAmb	IAmb		20 17 29.1	
	comp=Z,4.2nm,0.7s								
BRDY	**Brady**	**47.04**	**332**		P	**P**		**20 17 12.6**	**-0.9**
BRDY					IAmb	IAmb		20 17 13.8	
	comp=Z,6.1nm,1.4s								
TXAR	**Lajitas Array**	**47.87**	**326**		P	**P**		**20 17 20.3**	**+0.3**
	comp=Z,2.1nm,0.6s,baz=134,slow=8.9,SNR=15								
TXAR					PcP	**PcP**		**20 18 46.4**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=143,slow=5.3,SNR=1.0								
	comp=Z,2.1nm,0.6s								
PFO	**Pinyon Flats O**	**58.59**	**320**		LR	LR		20 43 08.1	
	comp=Z,108nm,20.6s,baz=226,slow=35								
PDAR	**Pinedale Array**	**61.25**	**332**		P	**P**		**20 18 56.0**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=127,slow=9.5,SNR=8.0								
PDAR					LR	LR		20 49 39.1	
	comp=Z,59nm,19.9s,baz=230,slow=40								
	comp=Z,0.8nm,0.6s								
ULM	**Lac du Bonnet**	**62.68**	**345**		P	**P**		**20 19 04.9**	**-0.9**
	comp=Z,5.3nm,0.9s,baz=184,slow=8.4,SNR=4.4								
	comp=Z,5.3nm,0.9s								
NVAR	**Mina Array Bea**	**62.84**	**323**		P	**P**		**20 19 06.6**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=138,slow=6.3,SNR=4.2								
	comp=Z,0.8nm,0.8s								
DBIC	**Dimbokro**	**71.79**	**80**		P	**P**		**20 20 04.1**	**0.0**
	comp=Z,4.8nm,1.1s,baz=268,slow=6.1,SNR=4.7								
	comp=Z,4.8nm,1.1s								
SNAA	**Sanae**	**75.00**	**162**		LR	LR		20 52 47.0	
	comp=Z,306nm,20.8s,baz=197,slow=35								
YKA	**Yellowknife Ar**	**78.47**	**342**		P	**P**		**20 20 40.5**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=151,slow=6.3,SNR=2.7								
	comp=Z,1.3nm,0.7s								
TORD	**Torodi Ar. Bea**	**79.51**	**75**		P	**P**		**20 20 48.5**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=274,slow=5.1,SNR=7.1								
	comp=Z,1.8nm,0.9s								
ILAR	**Eielson Array**	**91.39**	**336**		P	**P**		**20 21 45.6**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=93,slow=10.0,SNR=4.8								
	comp=Z,0.4nm,0.8s								
BVAR	**Borovoye Array**	**128.82**	**26**		PKP	**PKPdf**		**20 27 47.7**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=318,slow=1.9,SNR=2.2								
ZALV	**Zalesovo Beam**	**133.26**	**16**		PKP	**PKPdf**		**20 27 56.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=298,slow=3.2,SNR=3.8								
KURBB	**Kurchatov Arra**	**133.98**	**23**		PKP	**PKPdf**		**20 27 57.8**	**+0.4**
	comp=Z,0.3nm,0.2s,baz=331,slow=2.8,SNR=4.6								
ASAR	**Alice Springs**	**136.22**	**220**		PKP	**PKPdf**		**20 28 02.1**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=125,slow=2.0,SNR=5.7								
WRA	**Warramunga Arr**	**138.55**	**224**		PKP	**PKPdf**		**20 28 06.0**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=120,slow=2.1,SNR=4.8								
KSRS	**Korea Array**	**145.72**	**327**		PKPbc	**PKPdf**		**20 28 19.1**	**0.0**
	comp=Z,4.0nm,1.0s,baz=42,slow=3.6,SNR=9.8								

IDC ***25*** *20:15:52.9±0.5, 40.˚52S×16.˚67W, h0km, mb4.5/21, mbtmp4.5/21, Error ellipse: s-maj=15.5km s-min=13.9km az=146.0*

NEIC ***25*** *20:15:54.0±2.1, 40.˚66S±0.˚05×16.˚8W±0.˚1, h10km±1km, mb5.2/60, Error ellipse: s-maj=17.6km s-min=4.2km az=244.0*

BJI ***25*** *20:15:54.0, 40.˚70S×16.˚70W, h10km, mB5.4/2, Ms5.5/10, Ms7 5.2/10*

GCMT ***25*** *20:15:55.0±0.2, 40.˚70S±0.˚02×16.˚64W±0.˚01, h12km, MW5.2/129, Moment Tensor Solution. s56,c71; s129,c196; Duration: 1s0 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.71±.02; Mθθ 0.07±.02; Mϕϕ 0.63±.01; Mrθ-0.43±.07; Mθϕ-0.15±.01; Mϕr-0.11±.05; Best double couple: M0.79400×10¹⁷ NP1:ϕs143.00000°, δ50.00000°, λ-123.00000°. NP2:ϕs9.00000°, δ50.00000°, λ-57.00000°. Principal axes: T 0.6700, Plg0.0000°, Azm76.0000°; N 0.2480, Plg25.0000°, Azm166.0000°; P -0.9180, Plg65.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 20:15:53.6±0.3, 40.˚61S±0.˚08×16.˚87W±0.˚07, h10km, n147, σ1ˢ23/133, mb5.0/60, MS5.2/4, 19C-3D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09W1	**TRISTAN DA CUN**	**4.98**	**47**	T	T	20 21 59.0	
	SNR=12						
HOPE	**Hope Point**	**18.96**	**217**	P	**P**	**20 20 13.4**	**-1.4**
VNA1	**Neumayer--Stat**	**30.43**	**174**	⇑P	**P**	**20 22 07.3**	**+1.5**
	comp=Z,17nm,0.9s						
PLTB	**Pedras Altas**	**30.76**	**275**	P	**P**	**20 22 10.4**	**+1.3**
PLTB				IAmb	IAmb	20 22 19.8	
	comp=Z,37nm,1.8s						
VNA2	**Neumayer--Watz**	**30.77**	**174**	⇑P	**P**	**20 22 09.9**	**+1.1**
	comp=Z,22nm,0.7s,baz=332,slow=9.2						
VNA3	**Neumayer Olymp**	**30.92**	**175**	⇑P	**P**	**20 22 11.1**	**+1.0**
	comp=Z,24nm,0.8s						
SNAA	**Sanae**	**31.92**	**172**	⇑P	**P**	**20 22 17.9**	**-1.1**
	comp=Z,59nm,0.7s						
SNAA	**Sanae**	**31.92**	**172**		**P**	**20 22 17.4**	**-1.5**
SNAA	**Sanae**	**31.92**	**172**	P	**P**	**20 22 19.6**	**+0.7**
	comp=Z,3.2nm,0.9s,baz=335,slow=10,SNR=6.9						
	comp=Z,3.2nm,0.9s						
H10N1	**ASCENSION HYDR**	**32.70**	**4**	T	T	20 56 50.9	
	baz=181,slow=74						
H10N3	**ASCENSION HYDR**	**32.70**	**4**	T	T	20 56 52.0	
	baz=181						
H10N2	**ASCENSION HYDR**	**32.72**	**4**	T	T	20 56 53.3	
	baz=181,slow=74						
TROLL	**Troll, Antarti**	**32.91**	**169**	⇑P	**P**	**20 22 29.2**	**+1.4**
	comp=Z,1μm,1.0s						
TRQA	**Tornquist**	**34.70**	**259**		**P**	**20 22 42.1**	**-1.4**
TRQA				IAmb	IAmb	20 22 53.0	
	comp=Z,39nm,1.8s						
TRCB	**Terra Rica**	**34.93**	**290**	P	**P**	**20 22 45.9**	**+0.2**
TRCB				IAmb	IAmb	20 22 59.2	
	comp=Z,30nm,1.3s						
KOOLE	**Kule**	**35.74**	**72**	P	**P**	**20 22 51.4**	**-1.4**
MG01	**Puerto William**	**36.15**	**229**	P	**P**	**20 22 54.4**	**-1.4**
CPUP	**Villa Florida**	**36.31**	**280**	P	**P**	**20 22 58.2**	**+0.7**
CPUP	**Villa Florida**	**36.31**	**280**	P	**P**	**20 22 59.3**	**+1.9**
	comp=Z,4.3nm,1.1s,baz=191,slow=4.7,SNR=7.6						
	comp=Z,4.3nm,1.1s						

BOSA	**Boshof**	**36.35**	**84**		P	**P**		**20 22 58.0**	**0.0**
BOSA	**Boshof**	**36.35**	**84**		P	**P**		**20 22 57.1**	**-0.9**
	comp=Z,8.8nm,1.0s,baz=235,slow=6.7,SNR=5.4								
	comp=Z,8.8nm,1.0s								
TSUM	**Tsumeb**	**36.37**	**64**			**P**		**20 22 56.0**	**-2.1**
BDFB	**Brasilia**	**36.73**	**304**		P	**P**		**20 22 59.8**	**-1.5**
BDFB	**Brasilia**	**36.73**	**304**		P	**P**		**20 23 02.4**	**+1.2**
	comp=Z,6.3nm,0.8s,baz=109,slow=5.4,SNR=3.4								
	comp=Z,6.3nm,0.8s								
GRTLG	**Ghanzi**	**37.50**	**71**		P	**P**		**20 23 07.2**	**-0.6**
BELA	**Belgrano 2**	**38.09**	**186**		P	**P**		**20 23 09.9**	**-2.1**
BELA					IAmb	IAmb		20 23 20.2	
	comp=Z,44nm,1.3s								
AY03	**Cochrane**	**39.94**	**241**		P	**P**		**20 23 27.3**	**-0.5**
AY03					IAmb	IAmb		20 23 37.6	
	comp=Z,105nm,1.8s								
COYC	**Coyhaique**	**39.95**	**244**		P	**P**		**20 23 27.2**	**-0.7**
COYC					IAmb	IAmb		20 23 51.4	
	comp=Z,72nm,1.5s								
PLCA	**Paso Flores**	**40.17**	**252**		P	**P**		**20 23 32.6**	**+2.6**
	comp=Z,4.5nm,1.1s,baz=112,slow=5.4,SNR=5.0								
	comp=Z,4.5nm,1.1s								
LL02	**Futaleuf**	**40.38**	**248**			**P**		**20 23 30.7**	**-0.9**
PHDHD	**Phuduhudu**	**40.64**	**73**		P	**P**		**20 23 33.7**	**-0.3**
SYO	**Syowa Base**	**40.85**	**153**	‖ep	P	**P**		**20 23 35.4**	**+0.4**
LL01	**San Ignacio de**	**41.01**	**249**		P	**P**		**20 23 36.9**	**+0.2**
ZON	**Zonda**	**42.32**	**265**		P	**P**		**20 23 47.0**	**-0.7**
ZON					IAmb	IAmb		20 23 54.6	
	comp=Z,55nm,1.8s								
LMEL	**Las Melosas**	**42.45**	**261**		P	**P**		**20 23 50.0**	**+1.1**
MT08	**Bocatoma Ro**	**42.49**	**262**		P	**P**		**20 23 50.1**	**+0.9**
BO04	**La Punta**	**42.70**	**261**		P	**P**		**20 23 50.6**	**-0.2**
MT16	**CCHEN**	**42.88**	**262**		P	**P**		**20 23 52.0**	**-0.2**
MT16					IAmb	IAmb		20 23 59.7	
	comp=Z,33nm,0.8s								
BO01	**Tunca**	**42.89**	**260**		P	**P**		**20 23 53.3**	**+1.1**
MT09	**Talagante**	**43.08**	**261**		P	**P**		**20 23 54.2**	**+0.3**
MT09					IAmb	IAmb		20 24 01.4	
	comp=Z,70nm,1.4s								
PEL	**Peldehue**	**43.12**	**262**		P	**P**		**20 23 54.4**	**+0.2**
VA03	**San Esteban**	**43.19**	**263**		P	**P**		**20 23 56.2**	**+1.4**
MT01	**Popeta**	**43.24**	**261**		P	**P**		**20 23 55.5**	**+0.5**
MT01					IAmb	IAmb		20 24 01.7	
	comp=Z,55nm,1.2s								
MATP	**Matopo**	**43.40**	**76**		P	**P**		**20 23 56.4**	**-0.2**
	comp=Z,2.3nm,1.0s,baz=242,slow=9.9,SNR=8.7								
	comp=Z,2.3nm,1.0s								
MT02	**Curacav**	**43.41**	**262**			**P**		**20 23 57.8**	**+1.3**
MT02					IAmb	IAmb		20 24 04.1	
	comp=Z,56nm,1.3s								
CO03	**El Pedregal**	**44.17**	**265**		P	**P**		**20 24 03.0**	**+0.3**
CO03					IAmb	IAmb		20 24 15.6	
	comp=Z,73nm,1.7s								
GO04	**Tololo Observa**	**44.57**	**266**			**P**		**20 24 06.8**	**+0.7**
GO04					IAmb	IAmb		20 24 13.3	
	comp=Z,52nm,1.3s								
CO06	**Fray Jorge**	**44.97**	**265**		P	**P**		**20 24 10.1**	**+1.2**
CO06					IAmb	IAmb		20 24 16.7	
	comp=Z,60nm,1.4s								
LCO	**Las Campanas**	**45.06**	**267**			**P**		**20 24 11.4**	**+1.3**
LCO					IAmb	IAmb		20 24 18.0	
	comp=Z,47nm,1.6s								
GO02	**Mina Guanaco**	**46.21**	**273**			**P**		**20 24 20.7**	**+1.5**
GO02					IAmb	IAmb		20 24 27.9	
	comp=Z,47nm,1.5s								
LSZ	**Lusaka**	**46.47**	**70**			**P**		**20 24 19.8**	**-1.3**
LSZ					IAmb	IAmb		20 24 23.4	
	comp=Z,49nm,1.8s								
LSZ	**Lusaka**	**46.47**	**70**		P	**P**		**20 24 20.7**	**-0.4**
	comp=Z,6.7nm,1.0s,baz=196,slow=7.8,SNR=9.0								
	comp=Z,6.7nm,1.0s								
PB03	**IPOC Station P**	**48.07**	**276**		IAmb	IAmb		20 24 41.4	
	comp=Z,36nm,1.3s								
DBIC	**Dimbokro**	**48.33**	**16**		P	**P**		**20 24 34.8**	**-0.5**
	comp=Z,13nm,1.2s,baz=196,slow=6.2,SNR=3.1								
	comp=Z,13nm,1.2s								
H04S2	**CROZET ISLANDS**	**48.63**	**122**		T	T		21 17 15.0	
	baz=133,slow=74,SNR=46								
H04S1	**CROZET ISLANDS**	**48.65**	**122**		T	T		21 17 12.8	
	baz=251,slow=74,SNR=75								
PB08	**IPOC Station P**	**48.74**	**279**		IAmb	IAmb		20 24 46.8	
	comp=Z,35nm,1.2s								
PB11	**IPOC Station P**	**49.34**	**279**		IAmb	IAmb		20 26 13.4	
	comp=Z,14nm,0.9s								
MAW	**Mawson**	**49.39**	**150**		P	**P**		**20 24 43.9**	**+1.0**
	comp=Z,8.5nm,1.0s,baz=256,slow=9.2,SNR=13								
	comp=Z,8.5nm,1.0s								
QSPA	**South Pole Qui**	**49.65**	**180**			**P**		**20 24 46.3**	**+1.2**
QSPA					IAmb	IAmb		20 24 51.0	
	comp=Z,28nm,1.1s								
QSPA	**South Pole Qui**	**49.65**	**180**		P	**P**		**20 24 47.3**	**+2.2**
	comp=Z,15nm,0.9s,baz=217,slow=4.9,SNR=22								
	comp=Z,15nm,0.9s								
PB16	**IPOC Station P**	**50.09**	**280**		P	**P**		**20 24 50.5**	**+0.8**
PB16					IAmb	IAmb		20 24 59.2	
	comp=Z,29nm,1.6s								
LPAZ	**La Paz**	**50.34**	**283**		P	**P**		**20 24 53.9**	**+2.3**
	comp=Z,0.7nm,0.5s,baz=113,slow=5.0,SNR=5.5								
	comp=Z,0.7nm,0.5s								
MAL2	**Monte Alegre,**	**51.11**	**309**		P	**P**		**20 24 56.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**56.19**	**22**		P	**P**		**20 25 32.8**	**-0.9**
	comp=Z,4.4nm,1.1s,baz=182,slow=5.1,SNR=14								
	comp=Z,4.4nm,1.1s								
BOAV	**Boa Vista**	**58.44**	**306**		P	**P**		**20 25 48.9**	**-0.9**
BOAV					IAmb	IAmb		20 25 57.1	
	comp=Z,32nm,1.8s								
MBAR	**Mbarara**	**58.67**	**60**		P	**P**		**20 25 51.7**	**+0.2**
MBAR					IAmb	IAmb		20 25 55.6	
	comp=Z,27nm,1.3s								
MBAR	**Mbarara**	**58.67**	**60**		P	**P**		**20 25 51.2**	**-0.3**
	comp=Z,10nm,0.9s,baz=205,slow=6.4,SNR=12								
	comp=Z,10nm,0.9s								
SBA	**Scott Base**	**61.78**	**181**		P	**P**		**20 26 12.0**	**+0.2**
SBA					IAmb	IAmb		20 26 20.7	
	comp=Z,33nm,1.5s								
VNDA	**Vanda**	**62.14**	**180**		P	**P**		**20 26 15.7**	**+1.4**
	comp=Z,4.6nm,1.1s,baz=192,slow=6.8,SNR=9.5								
	comp=Z,4.6nm,1.1s								
KMBO	**Kilima Mbogo**	**62.69**	**66**		P	**P**		**20 26 19.6**	**+0.5**
	comp=Z,288nm,0.5s,baz=210,slow=16,SNR=9.1								
LODK	**Lodwar**	**64.72**	**61**		P	**P**		**20 26 32.0**	**-0.2**
LODK					IAmb	IAmb		20 26 36.5	
	comp=Z,22nm,1.8s								
TAM	**Tamanrasset**	**66.43**	**23**		P	**P**		**20 26 43.1**	**-0.1**
BAUV	**El Baul**	**68.20**	**304**		P	**P**		**20 26 52.0**	**-2.4**
RUSC	**La Rusia**	**69.21**	**298**		P	**P**		**20 26 58.9**	**-2.4**
ROSC	**El Rosal**	**69.28**	**296**		P	**P**		**20 27 03.4**	**+1.8**
	comp=Z,5.8nm,0.3s,baz=120,slow=20,SNR=4.4								
	comp=Z,5.8nm,0.3s								
SABA	**Saba**	**72.19**	**314**		P	**P**		**20 27 19.5**	**+0.7**
KEST	**Kesra**	**79.71**	**21**		P	**P**		**20 28 01.2**	**-0.1**
	comp=Z,17nm,1.0s,baz=255,slow=3.4,SNR=10								
	comp=Z,17nm,1.0s								
ESDC	**Sonseca Array**	**80.77**	**10**		P	**P**		**20 28 07.4**	**+0.5**
	comp=Z,6.2nm,1.0s,baz=189,slow=5.0,SNR=21								
	comp=Z,6.2nm,1.0s								
RAYN	**Ar Rayn**	**86.17**	**55**		P	**P**		**20 28 35.6**	**+0.4**
RAYN					IAmb	IAmb		20 31 15.5	
	comp=Z,18nm,1.4s								
INTR	**Introdacqua**	**86.84**	**22**		P	**P**		**20 28 36.8**	**-1.2**
MMAI	**Mount Meron Ar**	**87.72**	**42**		P	**P**		**20 28 43.8**	**+1.3**
	comp=Z,2.3nm,0.8s,baz=298,slow=46,SNR=1.8								
	comp=Z,2.3nm,0.8s								
ASF	**Jabal al Asfar**	**87.82**	**43**		P	**P**		**20 28 44.4**	**+1.4**
	comp=Z,1.8nm,0.9s,baz=271,slow=2.6,SNR=5.4								
	comp=Z,1.8nm,0.9s								
DAVOX	**Davos/Dischmat**	**90.22**	**18**		P	**P**		**20 28 54.4**	**+0.3**
	comp=Z,6.5nm,1.0s,baz=140,slow=3.8,SNR=6.9								
	comp=Z,6.5nm,1.0s								
DAVA	**Damuels**	**90.70**	**18**		ep	**P**		**20 28 57.2**	**+1.0**
	comp=Z,15nm,1.3s								
BOVS	**Bovan**	**90.79**	**27**		⇑P	**P**		**20 28 57.3**	**+0.8**
ABTA	**Abfaltersbach**	**90.84**	**20**		eP	**P**		**20 28 57.6**	**+0.8**
	comp=Z,9.9nm,1.5s								
SQTA	**Sankt Quirin**	**90.95**	**19**		eP	**P**		**20 28 57.9**	**+0.6**
	comp=Z,6.6nm,1.1s								
MOTA	**Moosalm**	**91.04**	**19**		eP	**P**		**20 28 57.9**	**+0.1**
	comp=Z,8.4nm,1.2s								
WTTA	**Wattenberg**	**91.10**	**19**		eP	**P**		**20 28 58.7**	**+0.6**
	comp=Z,9.4nm,1.5s								
WATA	**Walderalm**	**91.15**	**19**		eP	**P**		**20 28 58.7**	**+0.4**
	comp=Z,6.7nm,1.0s								
OBKA	**Obir**	**91.16**	**21**		eP	**P**		**20 29 00.4**	**+2.1**
	comp=Z,10nm,1.3s								
SOKA	**Soboth**	**91.45**	**21**		eP	**P**		**20 29 00.7**	**+1.0**
	comp=Z,5.8nm,1.1s								
MDVR	**Moldovita**	**91.80**	**26**		⇑P	**P**		**20 29 01.7**	**+0.4**

ARSA	**Arzberg**	**92.11**	**21**		eP	**P**		**20 29 03.7**	**+1.1**
	comp=Z,6.5nm,1.3s								
HERR	**Herculane**	**92.13**	**27**		⇑P	**P**		**20 29 02.8**	**+0.1**
BRTR	**Keskin Array B**	**92.26**	**37**		P	**P**		**20 29 04.5**	**+0.9**
	comp=Z,4.6nm,1.0s,baz=193,slow=4.9,SNR=14								
	comp=Z,4.6nm,1.0s								
H01W2	**Cape Leeuwin H**	**92.36**	**142**		T	T		22 12 34.2	
	baz=216,slow=75,SNR=22								
H01W1	**Cape Leeuwin H**	**92.38**	**142**		T	T		22 12 37.3	
	baz=216,slow=75,SNR=27								
H01W3	**Cape Leeuwin H**	**92.38**	**142**		T	T		22 12 35.2	
	baz=216,slow=75,SNR=24								
BZS	**Buzias**	**92.50**	**26**		⇑P	**P**		**20 29 04.6**	**+0.2**
GZR	**Gura Zlata**	**92.70**	**27**		⇓P	**P**		**20 29 05.7**	**+0.3**
RONA	**Rosalia, Austr**	**92.73**	**22**		eP	**P**		**20 29 06.9**	**+1.4**
	comp=Z,8.5nm,0.9s								
SURR	**Surduc**	**92.79**	**26**		⇑P	**P**		**20 29 05.9**	**+0.1**
CONA	**Conrad Observa**	**92.82**	**21**		eP	**P**		**20 29 06.8**	**+0.9**
	comp=Z,6.6nm,1.2s								
SIRR	**Siria**	**93.09**	**26**		⇓P	**P**		**20 29 08.6**	**+1.4**
ARR	**Arges**	**93.32**	**28**		⇑P	**P**		**20 29 08.6**	**+0.3**
VOIR		**93.53**	**28**		⇑P	**P**		**20 29 09.6**	**+0.3**
DRGR		**93.90**	**26**		⇑P	**P**		**20 29 11.6**	**+0.6**
MLR	**Muntele Rosu**	**93.90**	**29**		P	**P**		**20 29 10.3**	**-0.7**
MLR	**Muntele Rosu**	**93.90**	**29**		⇑P	**P**		**20 29 10.9**	**-0.1**
MARR	**Marisel-Cluj**	**93.93**	**26**		⇑P	**P**		**20 29 11.8**	**+0.7**
DOPR	**Dopca**	**94.11**	**28**		⇑P	**P**		**20 29 12.4**	**+0.5**
OZUR		**94.36**	**28**		⇑P	**P**		**20 29 13.6**	**+0.6**
RKT	**Rikitea**	**94.42**	**235**		eLR	LR		20 59 33.0	
	comp=Z,2μm,27.2s								
MORC	**Moravsky Berou**	**94.97**	**22**		eP	**P**		**20 29 16.1**	**+0.4**
CLL	**Collm**	**95.19**	**18**		eP	**P**		**20 29 18.0**	**+1.4**
GURO	**Guroymak-BITLI**	**95.40**	**42**		P	**P**		**20 29 18.5**	**+0.4**
GURO					IAmb	IAmb		20 32 06.8	
	comp=Z,16nm,1.7s								
TBI	**Tubuai**	**102.59**	**224**		eLR	LR		21 03 17.1	
	comp=Z,3μm,31.8s								
TBI					eLR	LR		21 03 18.5	
	comp=Z,957nm,28.5s								
PPT2	**Papeete2**	**107.32**	**227**		eLR	LR		21 05 34.4	
	comp=Z,1μm,29.8s								
PPT2					eLR	LR		21 05 40.0	
	comp=Z,604nm,32.5s								
TAOE	**Nuku Hiva Isla**	**108.28**	**240**		eLR	LR		21 06 01.1	
	comp=Z,627nm,24.3s								
DZM	**Mont Dzumac**	**117.56**	**183**		eLR	LR		21 10 26.0	
	comp=Z,557nm,25.8s								
BVAR	**Borovoye Array**	**119.65**	**44**		PKP	**PKiKP**		**20 34 43.3**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=300,slow=3.2,SNR=2.8								
CMAR	**Chiang Mai Arr**	**121.24**	**92**		PKP	**PKPdf**		**20 34 46.6**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=237,slow=4.6,SNR=3.5								
KURBB	**Kurchatov Arra**	**123.06**	**49**		PKP	**PKPdf**		**20 34 48.8**	**-0.8**
	comp=Z,1.1nm,1.0s,baz=229,slow=2.5,SNR=4.8						

MAGU	Magoula	3.82	10	P		Pn	20 18 15.9 +1.3
RLS	Riolos of Patr	3.85	346	P		Pn	20 18 16.9 +2.0
RLS				S		Sn	20 18 58.9 -0.3
PTL	Penteli	3.85	15	P		Pn	20 18 16.5 +1.4
ORTH	Orthonies,Zaky	3.86	337	P		Pn	20 18 15.5 +0.4
DION	Dionisos Attik	3.90	15	P		Pn	20 18 16.9 +1.2
DION				S		Sn	20 18 59.5 -1.0
KARP	Karpathos	3.92	70			Pn	20 18 18.4 +2.5
KARP	Karpathos	3.92	70	P		Pn	20 18 18.8 +2.8
STFN	Stefani	3.92	11	P		Pn	20 18 17.1 +1.1
STFN				S		Sn	20 18 59.3 -1.8
VIL2	Platees	3.92	7	P		Pn	20 18 16.4 +0.5
KARY	Karystos	3.98	21	P		Pn	20 18 18.0 +1.2
AXS	Araxos	4.00	346	P		Pn	20 18 19.3 +2.3
KALE	Kalithea	4.08	355	P		Pn	20 18 19.6 +1.3
VLS	Valsamata	4.19	337	P		Pn	20 18 19.9 +0.2
VLS				S		Sn	20 19 05.2 -2.6
ANX	Ano Chora	4.30	353	P		Pn	20 18 23.0 +1.6
LKR	Lokris	4.33	4	P		Pn	20 18 22.8 +1.2
ATAL	Atalanti	4.38	4	P		Pn	20 18 23.1 +0.9
PVO	Paravola	4.38	349	P		Pn	20 18 25.0 +2.7
AXAR	Agios Charalam	4.44	0	P		Pn	20 18 24.3 +1.2
KYMI	Kymi, Euboea I	4.47	15	P		Pn	20 18 24.4 +1.0
EVR	Evrytania	4.64	352	P		Pn	20 18 28.7 +2.8
MAKR	Makrakomi, Fth	4.70	355	P		Pn	20 18 29.2 +2.5
SKY	Skiros Island	4.80	18	P		Pn	20 18 29.0 +0.9
ARG	Arkhangelos	4.88	66	Pn		Pn	20 18 29.3 +0.2
THL	Klokotos Trika	5.26	355	P		Pn	20 18 35.7 +1.3
LIT	Litokhoron	5.77	359	Pn		Pn	20 18 42.2 +0.7
KEK	Kerkira	5.84	338	Pn		Pn	20 18 40.4 -2.0
KEK	Kerkira	5.84	338	P		Pn	20 18 46.7 +4.3
LIA	Limnos Island	5.93	19	P		Pn	20 18 44.2 +0.7
PENT	Pentalofos	5.99	349	P		Pn	20 18 46.7 +2.2
AKAS	Kas	6.01	70	Pn		Pn	20 18 45.4 +0.5
MANT	Manisa	6.34	47	Pn		Pn	20 18 50.6 +1.2
ELL	Elmali	6.41	66			Pn	20 18 52.6 +2.3
CEL	Celeste	6.71	308			Pn	20 18 52.8 -1.6
ALN	Alexandroupoli	7.10	21	Pn		Pn	20 19 00.1 +0.5
RDO	Rodhopi	7.19	18	Pn		Pn	20 19 01.5 +0.6
RAFF	Raffo Rosso	7.32	296			Pn	20 19 01.6 -1.0
VAE	Valguarnera	7.38	298	Pn		Pn	20 19 02.7 -0.8
	5.7nm,0.3s,baz=38,slow=5.2,SNR=6.9						
VAE				Sn		Sn	20 20 25.8 -0.6
	1.6nm,0.3s,baz=358,slow=8.1,SNR=2.3						
CUC	Castrocucco	7.85	318			Pn	20 19 09.5 -0.6
ACER	Acerenza	8.36	323	Pn		Pn	20 19 16.4 -0.5
PDG	Podgorica	8.52	343	Pn		Pn	20 19 17.8 -1.3
CSS	Mathiatis	8.84	83	Pn		Pn	20 19 22.5 -1.1
SGRT	San Giovanni R	9.20	326	Pn		Pn	20 19 26.9 -1.5
BRTR	Keskin Array B	10.32	55	Pn		Pn	20 19 43.8 -0.2
	0.1nm,0.3s,baz=229,slow=13,SNR=11						
MMAI	Mount Meron Ar	10.72	93	Pn		Pn	20 19 47.4 -2.0
	2.1nm,0.3s,baz=271,slow=11,SNR=14						
MMAI				Sn		Sn	20 21 46.6 -1.9
	2.0nm,0.3s,baz=277,slow=22,SNR=4.2						
GHAJ	Ghor Haditha	11.29	102	Pn		Pn	20 19 56.5 -0.5
NRCA	Norcia	11.30	322	Pn		Pn	20 19 57.4 +0.1
EIL	Elat	11.44	111	Pn		Pn	20 19 59.7 +0.6
	0.3nm,0.3s,baz=173,slow=20,SNR=2.2						
EIL				Sn		Sn	20 22 02.4 -3.6
	0.9nm,0.3s,baz=44,slow=19,SNR=5.8						
	2.4nm,0.6s						
MLR	Muntele Rosu	11.44	12	Pn		Pn	20 19 58.7 -0.6
	0.9nm,0.8s,baz=156,slow=20						
ASF	Jabal al Asfar	12.13	96	Pn		Pn	20 20 10.1 +1.3
	0.4nm,0.3s,baz=304,slow=10,SNR=4.9						
ASF				Sn		Sn	20 22 19.3 -3.8
	0.2nm,0.3s,baz=211,slow=17,SNR=1.6						
	1.2nm,0.4s						
SOKA	Soboth	13.62	337	*i* Pn		Pn	20 20 26.4 -2.6
	1.0nm,0.3s						
OBKA	Obir	13.63	336	*e*Pn		Pn	20 20 30.5 +1.3
	0.4nm,0.2s						
CTI	Castel Tesino	14.39	328	Pn		Pn	20 20 37.2 -2.3
VRAC	Vranov	15.63	345	Pn		Pn	20 20 53.8 -2.0
	0.2nm,0.3s,baz=161,slow=12,SNR=4.5						
	1.0nm,0.5s						
TUE	Stuetta	15.78	324	Pn		Pn	20 20 58.3 +0.3
TUE				IAmb		IAmb	20 21 33.8
	comp=Z,8.1nm,1.2s						
OKC	Ostrava-Krasne	15.86	349	*e*P		P	20 21 04.3 +2.0
MORC	Moravsky Berou	15.90	348	P		P	20 21 03.1 +0.3
GERES	GERESS Array B	15.96	338	Pn		Pn	20 20 57.5 -2.7
	baz=158,slow=11,SNR=4.7						
	comp=Z,0.2nm,0.3s						
DPC	Dobruska-Polom	16.68	346	*e*P		P	20 21 13.5 +2.1
SENIN	Lac Senin/Sane	16.74	321	Pn		Pn	20 21 10.0 -0.2
UPC	Upice	16.89	345	*e*P		P	20 21 15.9 +2.2
OSTC	Ostas	16.89	346	*e*P		P	20 21 16.3 +2.5
KIEV	Kiev	17.06	14	Pn		Pn	20 21 10.2 -3.7
AKASG	Malin Array Be	17.07	14	Pn		Pn	20 21 11.0 -3.1
	comp=Z,1.2nm,0.7s,baz=206,slow=11,SNR=4.7						
AKBB	Malin Array Si	17.07	14	Pn		Pn	20 21 10.4 -3.7
KVAR	Kislovodsk Arr	18.26	52	LR		LR	20 28 41.8
	comp=Z,106nm,21.6s,baz=3.5,slow=38						
KBZ	Khabaz	18.30	53	P		P	20 21 29.4 +0.2
	comp=Z,0.1nm,0.3s,baz=330,slow=4.1,SNR=1.4						
	comp=Z,1.3nm,0.9s						
SUW	Suwalki	19.69	1	P		P	20 21 42.6 -1.8
PABE	Paberze	21.21	2	P		P	20 21 58.9 -2.0
PABE				IAmb		IAmb	20 22 01.8
	comp=Z,22nm,0.7s						
BELG	Belogornoye	25.42	37	P		P	20 22 43.0 +0.4
	comp=Z,16nm,0.9s,baz=198,slow=2.7,SNR=8.8						
	comp=Z,16nm,0.9s						
HFS	Hagfors	26.48	350	P		P	20 22 51.6 -0.7
	comp=Z,1.6nm,0.4s,baz=154,slow=11,SNR=12						
	comp=Z,1.6nm,0.4s						
FINES	FINESS Array B	27.23	4	P		P	20 22 59.5 +0.6
	comp=Z,1.3nm,0.4s,baz=160,slow=11,SNR=22						
	comp=Z,1.3nm,0.4s						
FIA1	FINESS Array S	27.23	4	P		P	20 22 59.4 +0.5
EKA	Eskdalemuir Ar	27.58	328	P		P	20 23 02.0 -0.1
	comp=Z,1.0nm,0.7s,baz=124,slow=7.6,SNR=3.8						
	comp=Z,1.0nm,0.7s						
NAO01	NORSAR Array S	27.61	348	P		P	20 23 01.9 -0.5
NAO01				IAmb		IAmb	20 23 23.7
	comp=Z,8.1nm,1.1s						
NB2	NORSAR Subarra	27.74	348	P		P	20 23 03.5 0.0
	comp=Z,0.3nm,0.4s,baz=158,slow=10						
NOA	NORSAR Array B	27.74	348	P		P	20 23 03.2 -0.3
	comp=Z,0.6nm,0.7s,baz=156,slow=8.9,SNR=3.9						
	comp=Z,0.6nm,0.7s						
NBO00	NORSAR Array S	27.80	348	P		P	20 23 03.2 -0.9
NBO00				IAmb		IAmb	20 23 26.5
	comp=Z,14nm,1.3s						
TORD	Torodi Ar. Bea	28.37	227	P		P	20 23 10.1 +0.5
	comp=Z,0.2nm,0.5s,baz=32,slow=7.4,SNR=1.8						
	comp=Z,0.2nm,0.5s						
ARCES	ARCESS Array B	35.31	2	P		P	20 24 10.3 +0.5
	comp=Z,1.5nm,0.5s,baz=190,slow=6.2,SNR=3.9						
	comp=Z,1.5nm,0.5s						
KEV	Kevo	35.57	3	P		P	20 24 13.2 +1.1
CHGR	Chuyangaron	37.35	69	P		P	20 24 27.7 -0.1
CHGR				IAmb		IAmb	20 24 30.5
	comp=Z,6.5nm,0.7s						
KK31	Karatay Array	37.94	62	P		P	20 24 34.2 +1.6
KK31				IAmb		IAmb	20 24 35.7
	comp=Z,3.6nm,0.7s						
BVAR	Borovoye Array	38.43	46	P		P	20 24 37.2 +0.6
	comp=Z,0.9nm,0.6s,baz=288,slow=6.1,SNR=5.5						
	comp=Z,0.9nm,0.6s						
ARSB	Arslanbob	39.92	65	P		P	20 24 51.0 +1.6
ARSB				IAmb		IAmb	20 25 02.6
	comp=Z,2.8nm,0.9s						
KURBB	Kurchatov Arra	43.26	50	P		P	20 25 16.9 +0.4
	comp=Z,2.0nm,0.4s,baz=274,slow=8.8,SNR=30						
	comp=Z,2.0nm,0.4s						
SPB2	Spitsbergen Ar	44.04	358	P		P	20 25 23.6 +1.2
SPITS	Spitsbergen Ar	44.05	358	P		P	20 25 23.0 +0.6
	comp=Z,1.2nm,0.4s,baz=156,slow=11,SNR=10						
	comp=Z,1.2nm,0.4s						
MAKZ	Makanchi	45.75	56	P		P	20 25 37.4 +0.9
MAKZ				IAmb		IAmb	20 25 38.0
	comp=Z,3.5nm,0.5s						
MKAR	Makanchi Array	45.97	56	P		P	20 25 39.0 +0.9
	comp=Z,6.2nm,0.4s,baz=269,slow=7.8,SNR=151						
	comp=Z,6.2nm,0.4s						
ZAA0	Zalesovo Array	47.08	46	P		P	20 25 46.6 -0.2
ZALV	Zalesovo Beam	47.08	46	P		P	20 25 46.7 0.0
	comp=Z,4.3nm,0.4s,baz=269,slow=8.1,SNR=25						
	comp=Z,4.3nm,0.4s						
SONM	Songino Array	61.62	50	P		P	20 27 34.1 +1.3
	comp=Z,1.4nm,0.8s,baz=284,slow=6.5,SNR=8.9						
	comp=Z,1.4nm,0.8s						
CMAR	Chiang Mai Arr	68.74	82	P		P	20 28 19.5 +0.3
	comp=Z,0.2nm,0.4s,baz=306,slow=5.9,SNR=2.8						
	comp=Z,0.2nm,0.4s						
MA2	Magadan	77.12	24	LR		LR	21 05 48.3
	comp=Z,63nm,18.4s,baz=106,slow=38						
LEM	Lembang	89.68	98	LR		LR	21 15 33.3
	comp=Z,461nm,18.4s,baz=190,slow=39						

MOS ***25*** *20:18:28.9± 1.2, 40.˚58S× 16.˚83W, h10km, mb5.4/15, Error ellipse: s-maj=13.8km s-min=10.0km az=59.1*
IDC ***25*** *20:18:29.0± 0.5, 40.˚47S× 16.˚91W, h0km, mb4.4/24, mbtmp4.4/24, MS4.4/24, Error ellipse: s-maj=15.7km s-min=14.0km az=148.0*
NEIC ***25*** *20:18:31± 2.4, 40.˚5S± 0.˚1× 16.˚8W± 0.˚1, h10km± 1km, mb5.4/72, Error ellipse: s-maj=19.4km s-min=16.6km az=157.0*
BJI ***25*** *20:18:31.0, 40.˚60S× 16.˚80W, h10km, mB5.6/2, Ms5.5/18, Ms7 5.2/18*
GCMT ***25*** *20:18:35.0± 0.1, 40.˚61S± 0.˚01× 16.˚70W± 0.˚01, h12km, MW5.3/150, Moment Tensor Solution. s84,c115; s150,c271; Duration: 1ŝ1 Moment tensor: Scale 10^17 Nm; Mrr=1.22±.02; Mθθ=0.05±.02; Mϕϕ=1.17±.02; Mrθ=-0.35±.06; Mrϕ=-0.11±.01; Mθϕ=0.04±.06; Best double couple: M=1.24700×10^17 NP1:ϕ=8.00000°, δ=45.00000°, λ=-70.00000°. NP2:ϕ=160.00000°, δ=49.00000°, λ=-109.00000°. Principal axes: T 1.1840, Plg2.0000°, Azm264.0000°; N 0.1300, Plg14.0000°, Azm173.0000°; P -1.3100, Plg76.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 20:18:30.8±0.3, 40.˚48S±0.˚06× 16.˚80W±0.˚06, h10km, n259, σ1ŝ36/224, mb5.2/80, MS5.0/32, 24C-9D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HOPE	Hope Point	19.10	217	P		P	20 22 51.0	-2.4
HOPE	Hope Point	19.10	217	P		P	20 22 51.0	-2.4
HOPE				pmax		pmax		
	comp=Z,82nm,1.3s							
SHEL	Horse Pasture	26.26	25	P		P	20 24 04.8	-1.4
SHEL				IAmb		IAmb	20 24 07.9	
	comp=Z,128nm,1.1s							
SHEL	Horse Pasture	26.26	25	P		P	20 24 04.8	-1.4
SHEL				pmax		pmax		
	comp=Z,128nm,1.2s							
VNA1	Neumayer--Stat	30.56	174	⇑P		P	20 24 44.5	+0.4
	comp=Z,24nm,1.0s							
PLTB	Pedras Altas	30.80	275			P	20 24 47.0	+0.3
VAO	Valinhos	30.80	295	P		P	20 24 47.3	+0.5
VAO				IAmb		IAmb	20 25 19.3	
	comp=Z,101nm,1.8s							
VNA2	Neumayer--Watz	30.89	174	⇑P		P	20 24 47.2	+0.1
	comp=Z,7.8nm,0.5s,baz=334,slow=12							
VNA3	Neumayer Olymp	31.05	176	⇑P		P	20 24 47.7	-0.7
	comp=Z,31nm,0.8s							
CPSB	Cacapava Do Su	31.30	277	*e*P		P	20 24 52.3	+1.2
H10S2	ASCENSION HYDR	31.45	4	T		T	20 58 04.5	
	baz=183,slow=74,SNR=88							
H10S3	ASCENSION HYDR	31.45	4	T		T	20 58 04.9	
	baz=37,slow=74,SNR=93							
SNAA	Sanae	32.04	172	⇑P		P	20 24 56.5	-0.7
	comp=Z,123nm,1.1s							
SNAA	Sanae	32.04	172			P	20 24 56.4	-0.9
SNAA	Sanae	32.04	172	P		P	20 24 56.6	-0.6
	comp=Z,6.5nm,1.2s,baz=342,slow=7.8,SNR=4.8							
	comp=Z,6.5nm,1.2s							
H10N1	ASCENSION HYDR	32.56	4	T		T	20 59 25.8	
	baz=181,slow=73,SNR=37							
H10N3	ASCENSION HYDR	32.57	4	T		T	20 59 23.2	
	baz=181,slow=73,SNR=484							
H10N2	ASCENSION HYDR	32.58	4	T		T	20 59 26.0	
	baz=181,slow=73,SNR=52							
TROLL	Troll, Antarti	33.04	169	⇑P		P	20 25 05.8	-0.2
	comp=Z,1μm,1.1s							
TROLL				⇑PKiKP		PKiKP	20 35 19.7	+4.7
	comp=Z,350nm,0.8s							
NVL	N'lazarevskaya	33.70	163	*e*P		P	20 25 16.9	+5.3
NVL				*e*			20 26 28.4	
NVL				*e*PPP		PPP	20 26 39.3	
NVL				*e*S		S	20 30 40.1	+5.8
NVL				*e*SS		SnSn	20 32 34.9	-3.0
NVL				pmax		pmax		
	comp=Z,7.0nm,0.6s							
NVL				smax		smax		
	comp=N,235nm,10.9s							
NVL				MLR		MLR		
	comp=Z,115nm,18.0s							
WIN	Windhoek	33.70	68	P		P	20 25 10.5	-1.9
WIN				IAmb		IAmb	20 25 35.4	
	comp=Z,91nm,2.0s							
WIN	Windhoek	33.70	68	P		P	20 25 10.5	-1.9
WIN				pmax		pmax		
	comp=Z,91nm,2.0s							
PSAL	Palomas, Salto	34.15	273	*e*P		P	20 25 17.5	+1.6
TRQA	Tornquist	34.77	259	P		P	20 25 20.4	-0.9
TRQA	Tornquist	34.77	259	P		P	20 25 20.4	-0.9
TRQA				pmax		pmax		
	comp=Z,30nm,1.4s							
TRQA	Tornquist	34.77	259	*e*P		P	20 25 21.6	+0.3
JANB	Januaria	34.86	309	*e*P		P	20 25 22.1	-0.2
IPMB	Ipameri, GO	35.11	300	*e*P		P	20 25 25.5	+1.0
NBAN	Anadia - AL	35.22	325	*e*P		P	20 25 26.0	+0.6
ITRB	Iturama	35.35	296	*e*P		P	20 25 27.6	+1.2
SJPY	San Joaquin	36.16	283	*e*P		P	20 25 33.7	+0.3
TSUM	Tsumeb	36.26	64			P	20 25 33.6	-0.9
TSUM	Tsumeb	36.26	64	LR		LR	20 36 51.9	
	comp=Z,4μm,20.6s,baz=182,slow=30							
PMSA	Palmer Station	36.28	212	*e*P		P	20 25 37.8	+3.9
BOSA	Boshof	36.29	84	P		P	20 25 33.5	-1.1
	comp=Z,6.1nm,0.9s,baz=249,slow=9.9,SNR=6.8							
BOSA				LR		LR	20 37 42.0	
	comp=Z,2μm,18.7s,baz=231,slow=32							
	comp=Z,6.1nm,0.9s							
CPUP	Villa Florida	36.33	280	P		P	20 25 33.7	-1.1
	comp=Z,3.3nm,1.2s,baz=207,slow=6.8,SNR=6.3							
CPUP				LR		LR	20 38 16.9	
	comp=Z,1μm,19.8s,baz=342,slow=33							
	comp=Z,3.3nm,1.2s							
AMBA	Amambai (Brazi	36.56	287	*e*P		P	20 25 37.5	+0.7
BDFB	Brasilia	36.70	303	P		P	20 25 37.9	-0.2
	comp=Z,1.8nm,0.3s,baz=105,slow=12,SNR=2.4							
BDFB				LR		LR	20 37 53.3	
	comp=Z,1μm,18.5s,baz=133,slow=32							
	comp=Z,1.8nm,0.3s							
USHA	Ushuaia	36.74	229	LR		LR	20 38 32.5	
	comp=Z,1μm,21.3s,baz=82,slow=33							
SDBA	SAO DESIDERIO	37.31	311	*e*P		P	20 25 43.1	-0.2
GRTLG	Ghanzi	37.41	71	P		P	20 25 43.0	-1.2
C2SB	Chapadao do Su	37.70	294	*e*P		P	20 25 47.4	+0.9
MG03	Isla Dawson	37.93	231	P		P	20 25 46.9	-1.2
BELA	Belgrano 2	38.23	186	P		P	20 25 48.9	-1.4
LBTB	Lobatse	38.46	80	LR		LR	20 38 43.4	
	comp=Z,4μm,19.6s,baz=227,slow=32							
RCBR	Riachuelo	38.53	328	LR		LR	20 38 25.8	
	comp=Z,414nm,19.2s,baz=157,slow=31							
RCBR	Riachuelo	38.53	328	*e*P		P	20 25 53.9	+0.4
SMAI	San Martin Ant	38.55	208	P		P	20 25 53.3	+0.2
AQDB	Aquidauana	38.60	289	P		P	20 25 51.7	-2.4
AQDB	Aquidauana	38.60	289	*e*P		P	20 25 55.4	+1.2
ARAG	Araguaiana, MT	39.13	299	*e*P		P	20 25 59.9	+1.3
BDQN	Bodoquena, MS	39.38	288	*e*P		P	20 26 01.1	+0.5
PP1B	Ponte de Pedra	39.91	294	*e*P		P	20 26 05.2	+0.1
COYC	Coyhaique	40.05	244	P		P	20 26 06.6	+0.6
PLCA	Paso Flores	40.26	251	P		P	20 26 08.0	+0.2
	comp=Z,1.6nm,0.6s,baz=116,slow=4.0,SNR=7.8							
PLCA				LR		LR	20 40 29.8	
	comp=Z,3μm,20.1s,baz=111,slow=33							
	comp=Z,1.6nm,0.6s							
LL02	Futaleuf	40.48	247			P	20 26 09.3	-0.2
SYO	Syowa Base	40.94	153	*e*P		P	20 26 11.6	-1.4
MREMI	Moremi	41.25	78	P		P	20 26 16.4	+0.2
SNDB	Serra Nova Dou	41.54	303	*e*P		P	20 26 19.2	+0.6
SALV	Santo Antonio	41.64	295	*e*P		P	20 26 20.6	+1.3
SMTB	Santa Maria do	41.71	311	*e*P		P	20 26 19.9	0.0
CFA	Coronel Fontan	42.02	265	LR		LR	20 41 19.0	
	comp=Z,2μm,21.2s,baz=143,slow=33							
ZON	Zonda	42.38	265	P		P	20 26 25.7	+0.4
ZON				IAmb		IAmb	20 26 32.3	
	comp=Z,132nm,2.0s							
ZON	Zonda	42.38	265	P		P	20 26 25.7	+0.4
ZON				pmax		pmax		
	comp=Z,131nm,2.0s							
LMEL	Las Melosas	42.52	261	P		P	20 26 27.2	+0.6
MT08	Bocatoma Ro	42.55	262	P		P	20 26 28.2	+1.2
BO01	Tunca	42.96	260	P		P	20 26 29.9	0.0
MT09	Talagante	43.15	261	P		P	20 26 31.3	-0.4
MT09				IAmb		IAmb	20 26 38.0	
	comp=Z,57nm,1.3s							
PEL	Peldehue	43.19	262	P		P	20 26 32.3	+0.4
PEL				IAmb		IAmb	20 26 38.4	
	comp=Z,81nm,1.2s							
PEL	Peldehue	43.19	262	P		P	20 26 32.3	+0.4
PEL				pmax		pmax		
	comp=Z,81nm,1.2s							
VA03	San Esteban	43.25	263	P		P	20 26 32.5	0.0
VA03				IAmb		IAmb	20 26 48.1	
	comp=Z,53nm,1.1s							
MT01	Popeta	43.31	261	IAmb		IAmb	20 26 38.3	
	comp=Z,68nm,1.4s							
MATP	Matopo	43.32	76	P		P	20 26 34.0	+0.8
	comp=Z,3.9nm,1.1s,baz=235,slow=3.2,SNR=6.3							
MATP				LR		LR	20 42 00.6	
	comp=Z,3μm,19.1s,baz=231,slow=32							
	comp=Z,3.9nm,1.1s							
MT02	Curacav	43.48	262			P	20 26 34.0	-0.2
MT02				IAmb		IAmb	20 26 45.9	
	comp=Z,64nm,1.2s							
CO03	El Pedregal	44.23	265	IAmb		IAmb	20 26 47.9	
	comp=Z,98nm,1.9s							
CO02	Combarbal	44.30	264	IAmb		IAmb	20 26 58.8	
	comp=Z,38nm,1.1s							
GO04	Tololo Observa	44.63	266	IAmb		IAmb	20 26 50.1	
	comp=Z,30nm,1.1s							
CO06	Fray Jorge	45.03	265	IAmb		IAmb	20 26 47.3	
	comp=Z,78nm,1.6s							
LCO	Las Campanas	45.12	267			P	20 26 47.6	-0.1
LCO				IAmb		IAmb	20 26 59.5	
	comp=Z,89nm,1.7s							
LCO	Las Campanas	45.12	267	*e*P		P	20 26 47.6	-0.1
PRPB	Parauapebas	45.17	310	*e*P		P	20 26 48.1	+0.2
CLDB	Colider	45.29	300	*e*P		P	20 26 49.5	+0.7
PDRB	Porto dos Gac	45.38	298	*e*P		P	20 26 50.2	+0.7
SIV	San Ignacio	45.38	289	LR		LR	20 43 06.2	
	comp=Z,1μm,21.7s,baz=142,slow=33							
GO02	Mina Guanaco	46.25	273			P	20 26 56.6	-0.1
LSZ	Lusaka	46.37	70			P	20 26 57.3	-0.2
LSZ				IAmb		IAmb	20 26 59.8	
	comp=Z,96nm,1.9s							
LSZ	Lusaka	46.37	70	P		P	20 26 57.9	+0.4
	comp=Z,6.6nm,1.0s,baz=218,slow=9.7,SNR=7.3							
LSZ				LR		LR	20 42 47.4	
	comp=Z,1μm,20.9s,baz=221,slow=31							
	comp=Z,6.6nm,1.0s							
LSZ	Lusaka	46.37	70	P		P	20 26 57.3	-0.2
LSZ				pmax		pmax		
	comp=Z,96nm,1.9s							
AC01	Pan de Azucar	46.50	271	IAmb		IAmb	20 27 04.8	
	comp=Z,51nm,1.1s							
VILB	Vilhena	46.82	293	*e*P		P	20 27 01.8	+0.9
PB14	IPOC Station P	47.16	273	PP		PP	20 28 50.5	-4.1
TMAB	Tom-Au,PA,Br	47.33	315	*e*P		P	20 27 05.2	+0.4
NPGB	Novo Progresso	47.87	303	*e*P		P	20 27 09.5	+0.5
DBIC	Dimbokro	48.19	16	P		P	20 27 11.4	0.0
	comp=Z,21nm,1.2s,baz=187,slow=8.1,SNR=9.0							
DBIC				LR		LR	20 43 17.9	
	comp=Z,181nm,18.2s,baz=206,slow=31							
	comp=Z,21nm,1.2s							
PB01	IPOC Station P	48.49	277	IAmb		IAmb	20 27 30.6	
	comp=Z,72nm,1.8s							
H04S2	CROZET ISLANDS	48.66	122	T		T	21 19 58.9	
	baz=252,slow=75,SNR=38							
H04S3	CROZET ISLANDS	48.66	122	T		T	21 19 47.4	
	baz=252,slow=75,SNR=114							
H04S1	CROZET ISLANDS	48.68	122	T		T	21 19 56.6	
	baz=252,slow=75,SNR=35							
PB08	IPOC Station P	48.77	278	IAmb		IAmb	20 27 28.5	
	comp=Z,60nm,1.4s							
MAW	Mawson	49.48	150	P		P	20 27 20.7	0.0
	comp=Z,11nm,1.2s,baz=245,slow=7.9,SNR=6.0							
MAW				LR		LR	20 43 48.7	
	comp=Z,986nm,21.7s,baz=270,slow=31							
	comp=Z,11nm,1.2s							
QSPA	South Pole Qui	49.78	180			P	20 27 24.8	+1.5
QSPA				IAmb		IAmb	20 27 33.2	
	comp=Z,26nm,1.1s							
QSPA	South Pole Qui	49.78	180	P		P	20 27 23.9	+0.6
	comp=Z,7.4nm,1.0s,baz=215,slow=1.1,SNR=8.7							
QSPA				LR		LR	20 45 39.5	
	comp=Z,348nm,20.1s,baz=176,slow=33							
	comp=Z,7.4nm,1.0s							
PB16	IPOC Station P	50.12	280

EGRO **El Granado** 78.11 8 P P 20 30 30.9 +1.3
PCVE **Castro Verde** 78.15 7 eP P 20 30 31.5 +1.7
EQTA **Presa de Quent** 78.28 11 P P 20 30 30.6 -0.1
MESJ **Messejana** 78.34 7 eP P 20 30 33.2 +2.4
PBAR **Barrancos** 78.79 8 eP P 20 30 35.0 +1.7
PBAR i IAmb IAmb 20 30 37.4
comp=Z,51nm,1.7s
PARRA **Arraiolos** 79.24 6 eP P 20 30 38.1 +2.3
PARRA i IAmb IAmb 20 30 42.4
comp=Z,35nm,2.0s
PMAFR **Mafra** 79.36 6 eP P 20 30 38.6 +2.2
PMTG **Montargil** 79.56 7 eP P 20 30 39.6 +2.1
PMTG i IAmb IAmb 20 30 42.5
comp=Z,40nm,1.7s
KEST **Kesra** 79.57 21 P P 20 30 38.4 +0.6
comp=Z,11nm,0.9s,baz=192,slow=4.3,SNR=10
comp=Z,11nm,0.9s
HDC **Heredia** 79.73 293 eP P 20 30 36.8 -2.4
PMRV **Marv??o** 79.99 7 eP P 20 30 42.3 +2.4
PMRV i IAmb IAmb 20 30 45.0
comp=Z,54nm,1.8s
PCAS **Casmilo, Conde** 80.51 6 eP P 20 30 39.3 -3.4
JTS **Las Juntas de** 80.53 292⇓ eP P 20 30 44.1 +0.7
JTS pmax pmax
comp=Z,7.0nm,1.1s
ESDC **Sonseca Array** 80.63 10 P P 20 30 43.4 0.0
comp=Z,5.7nm,1.0s,baz=188,slow=4.9,SNR=15
ESDC LR LR 21 03 30.7
comp=Z,184nm,18.4s,baz=178,slow=34
comp=Z,5.7nm,1.0s
PVIS **Viseu** 81.22 7 eP P 20 30 47.9 +1.4
MVO **Moncorvo** 81.75 7 eP P 20 30 49.3 0.0
MVO i IAmb IAmb 20 30 53.5
comp=Z,54nm,1.7s
SIUN **Universidad Ur** 82.78 295 P P 20 30 54.5 -0.7
SIUN IAmb IAmb 20 31 06.1
comp=Z,38nm,1.7s
ITM **Ithomi** 85.06 30 P P 20 31 07.1 +0.7
PAOL **Paolisi** 86.00 23 P P 20 31 10.7 -0.3
PAOL IAmb IAmb 20 31 13.6
comp=Z,66nm,1.6s
RAYN **Ar Rayn** 86.06 55 P P 20 31 12.5 +0.8
RAYN **Ar Rayn** 86.06 55 P P 20 31 12.5 +0.8
RAYN pmax pmax
comp=Z,18nm,1.5s
INTR **Introdacqua** 86.70 22 P P 20 31 14.5 0.0
ASF **Jabal al Asfar** 87.69 43 P P 20 31 20.3 +0.8
comp=Z,0.9nm,0.5s,baz=290,slow=2.1,SNR=4.6
comp=Z,0.9nm,0.5s
TUE **Stuetta** 89.67 18 IAmb IAmb 20 31 31.1
comp=Z,46nm,1.9s
ALN **Alexandroupoli** 89.88 31 IAmb IAmb 20 31 32.0
comp=Z,30nm,1.5s
RDO **Rodhopi** 89.89 31 IAmb IAmb 20 31 31.9
comp=Z,56nm,1.8s
FUORN **Ofenpass-Fuorn** 90.02 18 IAmb IAmb 20 31 38.8
comp=Z,66nm,1.9s
DAVOX **Davos/Dischmat** 90.08 18 P P 20 31 31.2 +0.7
comp=Z,7.0nm,1.2s,baz=228,slow=5.2,SNR=5.2
comp=Z,7.0nm,1.2s
CEY **Cerknica** 90.28 21 eP P 20 31 32.8 +1.5
STAL **STALIGIAL** 90.30 20 IAmb IAmb 20 33 11.8
comp=Z,11nm,0.6s
DAVA **Damuels** 90.56 18 i P P 20 31 33.3 +0.5
comp=Z,21nm,1.2s,SNR=5.9
LJU **Ljubljana** 90.58 21 i P P 20 31 34.1 +1.4
ABTA **Abfaltersbach** 90.70 20 eP P 20 31 34.4 +1.1
comp=Z,30nm,1.6s,SNR=6.9
SQTA **Sankt Quirin** 90.81 19 eP P 20 31 34.5 +0.7
comp=Z,23nm,1.5s,SNR=6.6
MOTA **Moosalm** 90.90 19 eP P 20 31 35.1 +0.8
comp=Z,17nm,1.4s,SNR=7.1
RETA **Reute** 90.95 18 eP P 20 31 35.2 +0.7
comp=Z,18nm,1.7s
WTTA **Wattenberg** 90.96 19 i P P 20 31 35.7 +1.0
comp=Z,37nm,1.8s,SNR=11
WATA **Walderalm** 91.01 19 i P P 20 31 36.2 +1.4
comp=Z,32nm,1.6s,SNR=10
BFO **Black Forest** 91.19 16 P P 20 31 35.7 +0.2
BFO IAmb IAmb 20 31 38.2
comp=Z,27nm,1.4s
BFO **Black Forest** 91.19 16 eP P 20 31 35.7 +0.2
PERS **Pernice** 91.29 21 i P P 20 31 37.5 +1.4
SOKA **Soboth** 91.31 21 eP P 20 31 38.0 +1.9
comp=Z,25nm,1.5s,SNR=9.5
LESA **Schwarzleotal** 91.37 20 i P P 20 31 37.3 +0.9
comp=Z,7.7nm,1.2s
MDVR **Moldovita** 91.66 26 ⇑P P 20 31 37.3 -0.5
BIOA **Bad Ischl, Aus** 91.86 20 eP P 20 31 39.2 +0.6
comp=Z,12nm,1.3s
ARSA **Arzberg** 91.97 21 IAmb IAmb 20 31 41.4
comp=Z,16nm,1.3s
ARSA **Arzberg** 91.97 21 eP P 20 31 40.6 +1.5
comp=Z,11nm,1.2s,SNR=5.7
HERR **Herculane** 91.98 27 ⇑P P 20 31 39.6 +0.4
BRTR **Keskin Array B** 92.12 37 P P 20 31 41.3 +1.1
comp=Z,3.5nm,1.1s,baz=186,slow=7.1,SNR=13
comp=Z,3.5nm,1.1s
BRTR **Keskin Array B** 92.12 37 i P P 20 31 41.2 +1.1
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BZS **Buzias** 92.36 26 ⇓P P 20 31 42.6 +1.7
BZS **Buzias** 92.36 26 ⇓P P 20 31 42.6 +1.7
H01W2 **Cape Leeuwin H** 92.44 142 T T 22 15 28.6
baz=216,slow=75,SNR=30
H01W3 **Cape Leeuwin H** 92.45 142 T T 22 15 13.1
baz=216,slow=75,SNR=23
H01W1 **Cape Leeuwin H** 92.45 142 T T 22 15 13.0
baz=216,slow=75,SNR=22
GZR **Gura Zlata** 92.56 27 ⇑P P 20 31 42.6 +0.6
GZR **Gura Zlata** 92.56 27 ⇑P P 20 31 42.6 +0.6
RONA **Rosalia, Austr** 92.59 22 i P P 20 31 43.9 +1.8
comp=Z,21nm,1.3s,SNR=10.0
SURR **Surduc** 92.65 26 ⇑P P 20 31 43.0 +0.7
CONA **Conrad Observa** 92.68 21 eP P 20 31 44.0 +1.6
comp=Z,23nm,1.7s,SNR=9.2
GERES **GERESS Array B** 92.94 20 P P 20 31 43.7 +0.1
comp=Z,0.1nm,0.3s,baz=218,slow=6.2,SNR=4.5
comp=Z,0.1nm,0.3s
SIRR **Siria** 92.95 26 ⇓P P 20 31 44.5 +0.8
GRFO **Grafenberg** 93.12 18 P P 20 31 44.6 +0.2
GRFO **Grafenberg** 93.12 18 P P 20 31 44.6 +0.2
GRFO pmax pmax
comp=Z,116nm,2.0s
GRF **Grafenberg Arr** 93.12 18 eP P 20 31 45.3 +0.9
comp=Z,72nm,1.9s,baz=201,slow=4.8
GRF eL L 21 11 49.6
comp=Z,203nm,21.0s
VOIR 93.39 28 ⇑P P 20 31 44.9 -0.9
VOIR 93.39 28 ⇑P P 20 31 44.9 -0.9
DRGR 93.76 26 ⇑P P 20 31 48.4 +0.9
DRGR 93.76 26 ⇑P P 20 31 48.4 +0.9
MLR **Muntele Rosu** 93.76 29 ⇓P P 20 31 49.2 +1.6
MLR **Muntele Rosu** 93.76 29 ⇓P P 20 31 49.2 +1.6
MARR **Marisel-Cluj** 93.79 26 ⇑P P 20 31 48.9 +1.2
KRUC **Moravsky** 93.86 21 eP P 20 31 48.2 +0.4
JAVC **Velka Javorina** 94.03 22 eP P 20 31 49.9 +1.3
MOX **Moxa** 94.10 18 eL L 21 08 55.2
comp=Z,248nm,20.6s
VRAC **Vranov** 94.14 21 eP P 20 31 49.9 +0.8
OZUR 94.22 28 ⇑P P 20 31 50.9 +1.3
VRI **Vrincioaia** 94.37 29 ⇑P P 20 31 50.0 -0.2
VRI **Vrincioaia** 94.37 29 ⇑P P 20 31 50.0 -0.2
MORC **Moravsky Berou** 94.82 22 eP P 20 31 52.9 +0.7
BRG **Berggiesshubel** 94.87 19 eP P 20 31 54.3 +2.0
BRG Amp 20 31 55.6
comp=Z,8.5nm,1.3s
CLL **Collm** 95.05 18 eP P 20 31 54.0 +0.9
CLL pmax pmax
comp=Z,36nm,2.1s
CLL **Collm** 95.05 18 eP P 20 31 54.0 +0.9
comp=Z,36nm,2.1s
AKASG **Malin Array Be** 99.34 28 P Pdif 20 32 12.6 0.0
comp=Z,0.2nm,0.3s,baz=258,slow=0.9,SNR=1.9
comp=Z,0.2nm,0.3s
BORK **Borovoye** 119.50 44⇓ i PKIKP PKiKP 20 37 23.9 +4.0
CMAR **Chiang Mai Arr** 121.20 92 PKP PKPdf 20 37 22.9 -1.2
comp=Z,0.6nm,0.7s,baz=223,slow=3.3,SNR=4.4
CMAR **Chiang Mai Arr** 121.20 92 PKIKP PKPdf 20 37 23.0 -1.2
KURBB **Kurchatov Arra** 122.93 49 PKP PKPdf 20 37 26.0 -0.5
comp=Z,1.7nm,1.2s,baz=258,slow=3.1,SNR=7.0
KURK **Kurchatov** 123.03 49⇑ i PKIKP PKPdf 20 37 25.6 -1.1
MKAR **Makanchi Array** 123.55 54 PKP PKPdf 20 37 27.4 -0.4
comp=Z,0.3nm,0.7s,baz=273,slow=2.3,SNR=3.9
BMO **Blue Mountains** 123.61 303 PKPdf 20 37 26.2 -1.9
BMO **Blue Mountains** 123.61 303 PKIKP PKPdf 20 37 26.3 -1.9
G08A **Pilot Rock** 124.85 303 PKPdf 20 37 29.0 -1.5
WMQ **Urumqi** 125.76 60 ePKP PKiKP 20 37 33.3 +0.6
WMQ LR LR
comp=Z,330nm,17.9s
WMQ LR LR
comp=Z,380nm,20.5s
WMQ LR LR
comp=Z,410nm,20.5s
GOMU **GeErMu** 127.41 71 PKP PKPdf 20 37 35.5 -0.6
GOMU SS SS 20 56 49.8 +2.3
GOMU LR LR
comp=Z,280nm,16.8s
GOMU LR LR
comp=Z,190nm,17.6s
GOMU LR LR
comp=Z,350nm,17.0s
PZH **PanZhiHua** 127.85 86 PKP PKPdf 20 37 36.5 -0.4
QIZ **Qiongzhong** 129.81 99 PKP PKPdf 20 37 39.5 -1.2
QIZ SS SS 20 57 16.8 +0.3
QIZ LR LR
comp=Z,420nm,16.7s
QIZ LR LR
comp=Z,320nm,17.6s
QIZ LR LR
comp=Z,620nm,17.7s
CD2 **Chengdu** 131.60 82 PKP PKPdf 20 37 43.0 -0.8
GTA **Gaotai** 132.35 70 ePKP PKPdf 20 37 44.5 -0.6
GTA sPKP 20 37 51.5
GTA LR LR
comp=Z,150nm,18.2s
GTA LR LR
comp=Z,540nm,20.0s
GTA LR LR
comp=Z,640nm,18.9s
LZH **Lanzhou** 133.96 75 ePKP PKiKP 20 37 50.0 +0.5
LZH LR LR
comp=Z,320nm,18.2s
LZH LR LR
comp=Z,370nm,18.9s
LZH LR LR
comp=Z,480nm,19.9s
K29M **Barlow Dome** 138.80 325 PKPdf 20 37 54.9 -1.4
H29M **Whitestone** 138.85 328 PKPdf 20 37 53.8 -2.3
SONM **Songino Array** 139.40 60 PKP PKPdf 20 37 57.3 -0.6
comp=Z,1.9nm,1.1s,baz=240,slow=2.1,SNR=7.1
I28M **Miner Creek** 139.62 327 PKPdf 20 37 56.0 -1.7
L27K **Beaver Creek,** 140.81 324 PKPdf 20 37 59.4 -0.5
G26K **Porcupine Rive** 140.82 330 PKPdf 20 37 59.0 -0.7
M27K **Edge Creek, AK** 140.94 323 PKPdf 20 37 57.6 -2.6
HHC **Hu-ho-hao-te** 141.31 72 ePKP PKPdf 20 37 57.5 -4.0
ILAR **Eielson Array** 142.63 327 PKP PKPdf 20 38 01.8 -1.3
comp=Z,1.2nm,0.8s,baz=18,slow=1.5,SNR=6.3
NJ2 **Nanjing** 143.59 89 ePKP PKPdf 20 38 05.0 -0.7
TIXI **Tiksi** 144.38 18 PKPab 20 38 02.8 -1.2
TIXI **Tiksi** 144.38 18 cePKIKP PKPab 20 38 04.0 0.0
BJT **Baijiatuan** 144.44 75 PKPab 20 38 02.6 -2.5
BJT **Baijiatuan** 144.44 75 PKIKP PKPab 20 38 02.7 -2.5
BJI **Beijing** 144.45 75 PKP PKPab 20 38 05.0 -0.2
CIT **Chita** 144.45 54 ePKIKP PKPab 20 38 04.2 -0.8
CIT e 20 38 11.2
CIT e 20 44 37.4
CIT pmax pmax
comp=Z,118nm,2.0s
SEW **Seward** 144.94 320 PKPab 20 38 05.4 -1.0
XLT **XiLinHaoTe** 145.29 68 ePKPbc PKPbc 20 38 08.0 -0.2
XLT pPKP PKiKP 20 38 14.3 +1.9
XLT LR LR
comp=Z,31nm,20.4s
XLT LR LR
comp=Z,260nm,14.7s
XLT LR LR
comp=Z,300nm,18.1s
BRLK **Bradley Lake** 145.72 320 PKPdf 20 38 05.0 -3.6
SNY **Shenyang** 150.32 74 ⇑PKPbc PKPbc 20 38 21.0 -0.8
YAK **Yakutsk** 150.47 32 PKPdf 20 38 18.0 +1.8
YAK **Yakutsk** 150.47 32 ePKIKP PKPdf 20 38 17.1 +0.9
YAK pmax pmax
comp=Z,23nm,1.6s
YAK pmax pmax
comp=E,10.0nm,1.4s
CN2 **Changchun** 151.97 71 PKPbc PKPbc 20 38 24.8 -0.9
CN2 LR LR
comp=E,400nm,19.0s
CN2 LR LR
comp=E,200nm,19.0s
CN2 LR LR
comp=E,300nm,18.0s
KSRS **Korea Array** 152.52 85 PKPbc PKPbc 20 38 25.9 -1.2
comp=E,0.5nm,0.3s,baz=252,slow=2.5,SNR=4.7
KSRS PKPab PKPab 20 38 37.0 -0.6
comp=E,1.3nm,0.8s,baz=242,slow=3.5,SNR=5.0
BNX **BinXian** 153.50 67 ⇑PKPbc PKPbc 20 38 27.0 -2.0

*IDC **25** 20:24:09.9±1.7, 4.°39S×138.°49E, h171km±22km, mb3.4/6, mbtmp3.9/10, Error ellipse: s-maj=30.8km s-min=11.1km az=95.0*

ISC 25 20:24:08.5±0.8, 4.°36S±0.°09×138.°3E±0.°1, h150km±10, n10, σ1§06/13, mb3.5/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	3.02	53	P	**Pn**	**20 24 56.7**	**+0.4**
	16nm,0.4s,baz=216,slow=14,SNR=16						
JAY				S	**Sn**	**20 25 33.5**	**+0.3**
	26nm,0.4s,baz=156,slow=20,SNR=6.6						
WRA	**Warramunga Arr**	15.96	194	P	**Pn**	**20 27 45.1**	**+0.2**
	7.4nm,0.7s,baz=16,slow=12,SNR=44						
WRA				S	**S**	**20 30 41.8**	**-1.2**
	0.6nm,0.4s,baz=16,slow=22,SNR=5.4						
FITZ	**Fitzroy Crossi**	18.43	221	P	**P**	**20 28 13.6**	**+0.9**
	1.5nm,0.8s,baz=40,slow=11,SNR=5.1						
ASAR	**Alice Springs**	19.66	192	P	**P**	**20 28 27.1**	**+1.2**
	5.8nm,0.5s,baz=20,slow=11,SNR=113						
ASAR				S	**S**	**20 31 57.8**	**-1.8**
	2.5nm,0.8s,baz=16,slow=26,SNR=9.7						
STKA	**Stephens Creek**	27.55	174	P	**P**	**20 29 41.9**	**+0.5**
	1.1nm,0.3s,baz=8.7,slow=13,SNR=3.3						
	1.1nm,0.3s						
CMAR	**Chiang Mai Arr**	44.92	302	P	**P**	**20 32 09.1**	**+0.4**
	0.9nm,0.6s,baz=115,slow=6.9,SNR=8.0						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	70.84	323	P	**P**	**20 35 08.6**	**-0.4**
	0.4nm,0.6s,baz=120,slow=7.2,SNR=4.4						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	74.84	325	P	**P**	**20 35 32.3**	**-0.1**
	0.5nm,0.8s,baz=116,slow=6.2,SNR=3.8						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	80.43	325	P	**P**	**20 36 03.7**	**+0.3**
	1.3nm,0.8s,baz=123,slow=5.3,SNR=5.7						
	1.3nm,0.8s						
ILAR	**Eielson Array**	87.50	24	P	**P**	**20 36 37.2**	**-1.8**
	0.3nm,0.6s,baz=269,slow=3.6,SNR=1.4						
	0.3nm,0.6s						

*IDC **25** 20:28:43.5±0.8, 40.°34S×16.°92W, h0km, mb4.3/10, mbtmp4.3/10, MS4.3/9, Error ellipse: s-maj=29.3km s-min=19.4km az=106.0*

*NEIC **25** 20:28:44.0±2.6, 40.°4S±0.°1×16.°9W±0.°1, h10km±1km, mb4.8/30, Error ellipse: s-maj=21.2km s-min=18.5km az=184.0*

*GCMT **25** 20:28:47.0±0.2, 40.°80S±0.°03×16.°72W±0.°02, h12km, MW5.0/102, Moment Tensor Solution. s14,c14; s102,c145; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.85±.10; Mθθ-0.07±.11; Mϕϕ2.92±.08; Mrθ-3.74±.48; Mθϕ-0.76±.08; Mϕr0.77±.38; Best double couple: Mo4.63000×10¹⁶ NP1:ϕs4.00000°, δ32.00000°, λ-37.00000°. NP2:ϕs126.00000°, δ72.00000°, λ-117.00000°. Principal axes: T 3.8060, Plg22.0000°, Azm236.0000°; N 1.6510, Plg25.0000°, Azm135.0000°; P -5.4530, Plg55.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 20:28:43.7±0.5, 40.°33S±0.°10×16.°98W±0.°09, h10km, n62, σ1§66/47, mb4.7/22, MS4.3/9, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	32.21	172	P	**P**	**20 35 09.4**	**-2.3**
SNAA	**Sanae**	32.21	172	P	**P**	**20 35 13.6**	**+1.9**
	1.8nm,0.9s,baz=317,slow=9.9,SNR=4.2						
H10N1	**ASCENSION HYDR**	32.42	5	T	T	21 09 43.0	
	baz=191,slow=78,SNR=11						
H10N3	**ASCENSION HYDR**	32.42	5	T	T	21 09 43.1	
	baz=191,slow=78,SNR=58						
H10N2	**ASCENSION HYDR**	32.44	5	T	T	21 09 38.0	
	baz=191,slow=78,SNR=16						
TRQA	**Tornquist**	34.67	259	P	**P**	**20 35 31.5**	**-2.0**
TRQA				IAmb	IAmb	20 36 07.1	
	comp=Z,15nm,1.5s						
CPUP	**Villa Florida**	36.17	280	P	**P**	**20 35 46.6**	**+0.2**
CPUP	**Villa Florida**	36.17	280	P	**P**	**20 35 48.9**	**+2.5**
	comp=Z,0.5nm,0.2s,baz=337,slow=8.4,SNR=4.4						
CPUP				LR	LR	20 49 01.0	
	comp=Z,232nm,18.7s,baz=12,slow=34						
	comp=Z,0.5nm,0.2s						
TSUM	**Tsumeb**	36.32	65	LR	LR	20 47 16.4	
	comp=Z,969nm,20.7s,baz=172,slow=31						
PMSA	**Palmer Station**	36.34	212	LR	LR	20 48 36.5	
	comp=Z,156nm,19.3s,baz=46,slow=33						
BOSA	**Boshof**	36.41	85	LR	LR	20 47 55.5	
	comp=Z,502nm,18.3s,baz=214,slow=32						
BDFB	**Brasilia**	36.51	303	P	**P**	**20 35 50.4**	**+0.9**
BDFB				IAmb	IAmb	20 35 53.0	
	comp=Z,36nm,1.8s						
BDFB	**Brasilia**	36.51	303	LR	LR	20 48 10.0	
	comp=Z,302nm,20.4s,baz=151,slow=32						
BELA	**Belgrano 2**	38.37	186	P	**P**	**20 36 02.4**	**-2.0**
LBTB	**Lobatse**	38.57	80	LR	LR	20 49 16.8	
	comp=Z,663nm,18.9s,baz=204,slow=32						
PLCA	**Paso Flores**	40.18	251	P	**P**	**20 36 21.7**	**+1.5**
PLCA	**Paso Flores**	40.18	251	LR	LR	20 51 23.5	
	comp=Z,813nm,18.9s,baz=128,slow=34						
LL02	**Futaleuf**	40.42	247	P	**P**	**20 36 23.9**	**+1.9**
LL02				IAmb	IAmb	20 36 30.8	
	comp=Z,61nm,2.0s						
ZON	**Zonda**	42.26	265	P	**P**	**20 36 36.9**	**-0.4**
ZON				IAmb	IAmb	20 36 46.2	
	comp=Z,38nm,1.9s						
LMEL	**Las Melosas**	42.42	261	P	**P**	**20 36 37.9**	**-0.8**
MT13	**San Alfonso**	42.52	261	P	**P**	**20 36 38.0**	**-1.5**
MT13				IAmb	IAmb	20 37 20.1	
	comp=Z,37nm,1.8s						
MT09	**Talagante**	43.04	261	P	**P**	**20 36 44.0**	**+0.2**
MT09				IAmb	IAmb	20 36 57.3	
	comp=Z,23nm,1.5s						
PEL	**Peldehue**	43.08	262	P	**P**	**20 36 45.8**	**+1.9**
PEL				IAmb	IAmb	20 36 53.1	
	comp=Z,26nm,1.1s						
MATP	**Matopo**	43.41	77	P	**P**	**20 36 49.0**	**+2.2**
	comp=Z,4.4nm,1.2s,baz=277,slow=9.5,SNR=2.3						
MATP				LR	LR	20 51 54.3	
	comp=Z,741nm,21.3s,baz=234,slow=32						
	comp=Z,4.4nm,1.2s						
CO03	**El Pedregal**	44.11	265	P	**P**	**20 36 52.3**	**-0.1**
CO03				IAmb	IAmb	20 36 55.2	
	comp=Z,25nm,1.5s						
LSZ	**Lusaka**	46.45	71	P	**P**	**20 37 11.4**	**+0.4**
LSZ				IAmb	IAmb	20 37 12.6	
	comp=Z,26nm,1.6s						
PB08	**IPOC Station P**	48.61	278	P	**P**	**20 37 28.5**	**+0.4**
PB08				IAmb	IAmb	20 37 43.0	
	comp=Z,9.9nm,0.9s						
H04S2	**CROZET ISLANDS**	48.85	122	T	T	21 30 07.5	
	baz=252,slow=75,SNR=22						
H04S3	**CROZET ISLANDS**	48.85	122	T	T	21 30 24.7	
	baz=252,slow=75,SNR=19						
H04S1	**CROZET ISLANDS**	48.87	122	T	T	21 30 24.0	
	baz=252,slow=75,SNR=22						
GO01	**Chusmiza**	48.92	279	P	**P**	**20 37 31.3**	**+0.6**
GO01				IAmb	IAmb	20 37 43.4	
	comp=Z,17nm,1.2s						
MAW	**Mawson**	49.68	150	LR	LR	20 53 50.3	
	comp=Z,257nm,22.0s,baz=263,slow=30						
QSPA	**South Pole Qui**	49.93	180	P	**P**	**20 37 38.6**	**+1.2**
QSPA	**South Pole Qui**	49.93	180	P	**P**	**20 37 39.2**	**+1.7**
	comp=Z,1.1nm,0.5s,baz=224,slow=5.3,SNR=4.2						
	comp=Z,1.1nm,0.5s						
TORD	**Torodi Ar. Bea**	55.96	22	P	**P**	**20 38 23.4**	**+1.2**
	comp=Z,5.0nm,1.2s,baz=216,slow=3.0,SNR=16						
	comp=Z,5.0nm,1.2s						
BOAV	**Boa Vista**	58.20	306	P	**P**	**20 38 39.9**	**+1.7**
BOAV				IAmb	IAmb	20 39 13.9	
	comp=Z,14nm,1.7s						
MBAR	**Mbarara**	58.59	60	P	**P**	**20 38 38.4**	**-2.8**
MBAR	**Mbarara**	58.59	60	P	**P**	**20 38 43.0**	**+1.9**
	comp=Z,1.6nm,0.2s,baz=280,slow=4.0,SNR=7.8						
	comp=Z,1.6nm,0.2s						
VNDA	**Vanda**	62.42	180	P	**P**	**20 39 07.1**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=172,slow=7.1,SNR=3.8						
	comp=Z,0.6nm,0.6s						
LODK	**Lodwar**	64.66	61	P	**P**	**20 39 21.6**	**-0.4**
LODK				IAmb	IAmb	20 39 25.6	
	comp=Z,9.9nm,1.6s						
TAM	**Tamanrasset**	66.20	23	P	**P**	**20 39 30.8**	**-1.0**
COHC	**Cochancay**	67.49	287	P	**P**	**20 39 39.9**	**-0.2**
BAUV	**El Baul**	67.97	304	P	**P**	**20 39 43.0**	**-0.1**
RUSC	**La Rusia**	69.00	298	P	**P**	**20 39 49.4**	**-0.7**
PAYG	**Puerto Ayora**	76.88	280	P	**P**	**20 40 33.5**	**-2.9**
KEST	**Kesra**	79.47	22	P	**P**	**20 40 49.1**	**-1.1**
KEST				IAmb	IAmb	20 40 53.9	
	comp=Z,20nm,1.2s						
KEST	**Kesra**	79.47	22	P	**P**	**20 40 52.1**	**+1.9**
	comp=Z,12nm,1.1s,baz=195,slow=14,SNR=6.6						
	comp=Z,12nm,1.1s						
ESDC	**Sonseca Array**	80.50	10	P	**P**	**20 40 56.7**	**+1.0**
	comp=Z,3.4nm,1.0s,baz=186,slow=6.0,SNR=12						
	comp=Z,3.4nm,1.0s						
CHIV	**Chivirico**	81.56	305	P	**P**	**20 41 00.3**	**-1.4**
CHIV				IAmb	IAmb	20 41 07.1	
	comp=Z,30nm,1.7s						
BRTR	**Keskin Array B**	92.08	37	P	**P**	**20 41 54.8**	**+1.9**
	comp=Z,2.3nm,1.1s,baz=240,slow=2.4,SNR=8.2						
	comp=Z,2.3nm,1.1s						
H01W2	**Cape Leeuwin H**	92.64	142	T	T	22 25 35.9	
	baz=216,slow=75,SNR=7.8						
H01W1	**Cape Leeuwin H**	92.65	142	T	T	22 25 47.6	
	baz=216,slow=75,SNR=6.8						
H01W3	**Cape Leeuwin H**	92.65	142	T	T	22 25 39.3	
	baz=216,slow=75,SNR=5.8						
MLR	**Muntele Rosu**	93.69	29	P	**P**	**20 41 58.3**	**-1.9**
CMAR	**Chiang Mai Arr**	121.33	92	PKP	**PKPdf**	**20 47 37.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=154,slow=1.8,SNR=4.1						
ILAR	**Eielson Array**	142.43	327	PKP	**PKPdf**	**20 48 16.1**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=22,slow=1.0,SNR=4.8						
SLKM	**Skilak Lake**	145.02	321		**PKPab**	**20 48 19.9**	**+0.1**
E19K	**Redstone River**	145.23	334	PKPbc	**PKPbc**	**20 48 14.6**	**-5.6**
SKT	**Skwentna**	145.24	324		**PKPbc**	**20 48 19.6**	**-0.7**
I20K	**Naaghedeneel**	145.48	329	PKPdf	**PKPdf**	**20 48 20.6**	**-0.2**
J20K	**Nowinta River**	145.59	328	PKPdf	**PKPdf**	**20 48 20.8**	**-0.3**
KSRS	**Korea Array**	152.64	85	PKPbc	**PKPbc**	**20 48 39.1**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=10.0,slow=6.6,SNR=2.0						
KSRS				PKPab	**PKPab**	**20 48 50.5**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=214,slow=4.1,SNR=4.1						

*IDC **25** 20:32:32.0±0.9, 27.°63S×178.°30W, h279km±7km, mb3.4/8, mbtmp4.1/9, Error ellipse: s-maj=21.5km s-min=15.9km az=65.0*

ISC 25 20:32:33.7±0.7, 28.°12S±0.°07×178.°6W±0.°2, h300km, n56, σ2§33/73, mb3.9/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	1.27	152	P	**Pn**	**20 33 16.2**	**+0.8**
RAO	**Raoul Island**	1.28	152	P	**Pn**	**20 33 15.5**	**0.0**
	660nm,0.3s,baz=85,slow=8.4,SNR=21						
RAO				S	**S**	**20 33 47.4**	**-1.3**
	2µm,0.3s,baz=6.5,slow=22,SNR=8.3						
RAO	**Raoul Island**	1.28	152	P	**Pn**	**20 33 16.2**	**+0.7**
GLKZ	**Green Lake**	1.29	152	P	**Pn**	**20 33 16.2**	**+0.7**
GLKZ				S	**S**	**20 33 47.1**	**-1.7**
MXZ	**Matakaoa Point**	9.76	195	S	**S**	**20 36 38.1**	**-0.9**
WCZ	**Waipu Caves**	9.82	216	P	P	20 34 58.7	+5.5
KUZ	**Kuaotunu**	9.84	208	P	**P**	**20 34 56.2**	**+2.7**
WMGZ	**Waiomatatini S**	9.99	194	P	**Pn**	**20 34 51.4**	**-0.1**
WMGZ				S	**S**	**20 36 44.3**	**+0.2**
HAZ	**Te Kaha**	10.07	197	P	**Pn**	**20 34 53.2**	**+0.7**
HAZ				S	**S**	**20 36 47.8**	**+1.8**
PKGZ	**Pakihiroa**	10.10	195	P	**Pn**	**20 34 51.8**	**-1.2**
PKGZ				S	**S**	**20 36 46.5**	**-0.3**
PUZ	**Puketiti**	10.26	194	S	**S**	**20 36 47.4**	**-2.9**
RUGZ	**Raukumara Rang**	10.29	197	P	**P**	**20 34 56.3**	**-2.4**
RUGZ				S	**S**	**20 36 47.3**	**-4.0**
TWGZ	**Tauwhareparae**	10.42	195	S	**S**	**20 36 55.1**	**+1.1**
CNGZ	**Carnagh Statio**	10.67	194	P	**P**	**20 35 03.4**	**+0.7**

CNGZ				S	S	20 36 51.9	-7.6	
MWZ	**Matawai**	**10.68**	**197**	P	**Pn**	**20 34 59.9**	**-0.2**	
MWZ				S	S	20 36 58.7	-1.2	
TKGZ	**Te Karaka**	**10.71**	**195**	P	**Pn**	**20 34 59.8**	**-0.5**	
TKGZ				S	S	20 36 59.7	-0.6	
URZ	**Urewera**	**10.72**	**198**	P	**P**	**20 35 05.1**	**+1.8**	
	6.7nm,0.3s,baz=257,slow=4.1,SNR=20							
URZ				S	S	20 37 03.3	+2.6	
	20nm,0.3s,baz=114,slow=22,SNR=16							
URZ	**Urewera**	**10.72**	**198**	P	**Pn**	**20 35 00.3**	**-0.2**	
URZ				S	S	20 37 00.2	-0.5	
RAGZ	**Rawiri**	**10.86**	**197**	P	**P**	**20 35 06.4**	**+1.4**	
RAGZ				S	S	20 37 05.7	+1.6	
RIGZ	**Rimuhau**	**10.98**	**195**	S	S	20 37 07.6	+1.0	
MUGZ	**Murupara**	**11.02**	**199**	P	**Pn**	**20 35 02.4**	**-1.9**	
MUGZ				S	S	20 37 07.7	+0.1	
PRGZ	**Paritu Road**	**11.16**	**194**	S	S	20 37 09.7	-1.0	
DVHZ	**Dannevirke**	**12.89**	**198**	P	**P**	**20 35 28.3**	**+1.0**	
DVHZ				S	S	20 37 46.2	-3.3	
PRWZ	**Pori Road**	**13.18**	**198**	P	**Pn**	**20 35 29.3**	**-1.1**	
PRWZ				S	S	20 37 52.2	-3.8	
BFZ	**Birch Farm**	**13.22**	**197**	P	**P**	**20 35 31.2**	**+0.1**	
MRZ	**Mangatainoka R**	**13.39**	**199**	P	**P**	**20 35 32.4**	**-0.4**	
MRZ				S	S	20 37 55.1	-5.6	
TIWZ	**Tintock**	**13.41**	**198**	P	**P**	**20 35 33.3**	**+0.2**	
TIWZ				S	S	20 37 56.3	-4.9	
HOWZ	**Holdsworth Sta**	**13.63**	**199**	P	**Pn**	**20 35 35.2**	**-0.6**	
HOWZ				S	S	20 38 00.2	-5.7	
OGWZ	**Otaki Gorge**	**13.65**	**200**	P	**Pn**	**20 35 34.8**	**-1.3**	
OGWZ				S	S	20 38 03.0	-3.5	
KIW	**Kapiti Island**	**13.78**	**201**	P	**Pn**	**20 35 37.4**	**-0.1**	
KIW				S	S	20 38 05.3	-3.8	
TRWZ	**Traveller**	**14.04**	**198**	P	**Pn**	**20 35 41.4**	**+0.8**	
DUWZ	**D'Urville Isla**	**14.06**	**204**	P	**Pn**	**20 35 39.6**	**-1.2**	
DUWZ				S	S	20 38 15.1	0.0	
MSWZ	**Moikau Station**	**14.18**	**199**	P	**Pn**	**20 35 41.7**	**-0.6**	
MSWZ				S	S	20 38 13.8	-3.9	
TCW	**Tory Channel**	**14.30**	**202**	P	**Pn**	**20 35 42.7**	**-1.0**	
TCW				S	S	20 38 16.2	-3.8	
PLWZ	**Palliser**	**14.32**	**199**	P	**Pn**	**20 35 44.4**	**+0.4**	
PLWZ				S	S	20 38 17.4	-3.1	
TUWZ	**Tuamarina**	**14.61**	**203**	P	**Pn**	**20 35 47.4**	**+0.1**	
TUWZ				S	S	20 38 25.1	-1.2	
RPZ	**Rata Peaks**	**17.64**	**205**	S	S	**20 39 31.3**	**+4.6**	
	9.7nm,0.6s,baz=339,slow=19,SNR=1.6							
HNR	**Honiara**	**27.44**	**308**	P	**P**	**20 37 53.2**	**+0.4**	
	69nm,0.3s,baz=187,slow=11,SNR=5.9							
ASAR	**Alice Springs**	**42.74**	**265**	P	P	20 40 04.7	+2.3	
	0.5nm,0.5s,baz=91,slow=6.6,SNR=12							
	0.5nm,0.5s							
WRA	**Warramunga Arr**	**43.52**	**270**	P	P	20 40 10.7	+2.2	
	0.7nm,0.4s,baz=110,slow=7.2,SNR=12							
	0.7nm,0.4s							
VNDA	**Vanda**	**50.30**	**185**	P	P	20 41 04.8	+5.0	
	1.1nm,0.7s,baz=4.2,slow=7.8,SNR=4.0							
	1.1nm,0.7s							
QSPA	**South Pole Qui**	**61.98**	**180**	P	**P**	**20 42 26.1**	**+3.9**	
	1.7nm,0.6s,baz=13,slow=0.5,SNR=6.4							
	1.7nm,0.6s							
MAW	**Mawson**	**74.25**	**200**	P	P	20 43 41.9	+4.2	
	2.4nm,0.6s,baz=131,slow=7.9,SNR=7.2							
	2.4nm,0.6s							
SNAA	**Sanae**	**80.44**	**179**	P	**P**	**20 44 14.9**	**+2.9**	
	1.3nm,0.7s,baz=301,slow=5.9,SNR=4.2							
	1.3nm,0.7s							
H03S2	**Juan Fernandez**	**82.17**	**124**	T	T	22 15 11.0		
	baz=239,slow=74,SNR=4.9							
H03S1	**Juan Fernandez**	**82.19**	**124**	T	T	22 15 14.6		
	baz=239,slow=74,SNR=4.2							
H03S3	**Juan Fernandez**	**82.19**	**124**	T	T	22 15 15.4		
	baz=239,slow=74,SNR=5.1							
PETK	**Petropavlovsk-**	**83.48**	**346**	P	**P**	**20 44 25.3**	**-2.3**	
	7.4nm,1.0s,baz=151,slow=5.2,SNR=2.3							
	7.4nm,1.0s							
NVAR	**Mina Array Bea**	**86.94**	**43**	P	**P**	**20 44 43.8**	**-1.5**	
	0.2nm,0.4s,baz=255,slow=5.5,SNR=2.2							
	0.2nm,0.4s							
ARCES	**ARCESS Array B**	**136.26**	**348**	PKP	**PKiKP**	**20 51 19.3**	**-1.2**	
	3.9nm,1.0s,baz=28,slow=5.5,SNR=1.8							
FINES	**FINESS Array B**	**142.83**	**341**	PKhKP	PKPpre	20 51 26.8		
	0.4nm,0.5s,baz=34,slow=4.3,SNR=3.8							
FINES				PKP	**PKPdf**	**20 51 30.9**	**+0.1**	
	0.6nm,0.7s,baz=42,slow=4.3,SNR=1.4							
NOA	**NORSAR Array B**	**146.43**	**351**	PKPbc	**PKPdf**	**20 51 37.3**	**+0.1**	
	0.5nm,0.7s,baz=38,slow=1.6,SNR=1.9							
HFS	**Hagfors**	**146.91**	**349**	PKPbc	**PKPdf**	**20 51 38.7**	**+0.8**	
	0.9nm,0.4s,baz=101,slow=1.5,SNR=9.8							
AKASG	**Malin Array Be**	**149.15**	**325**	PKPbc	**PKPbc**	**20 51 45.3**	**-1.1**	
	0.3nm,0.4s,baz=47,slow=3.6,SNR=5.2							
MMAI	**Mount Meron Ar**	**150.39**	**288**	PKPbc	**PKiKP**	**20 51 50.3**	**-0.4**	
	0.3nm,0.4s,baz=116,slow=3.4,SNR=3.8							
TORD	**Torodi Ar. Bea**	**165.10**	**181**	PKPab	**PKPab**	**20 53 02.5**	**+1.3**	
	1.1nm,1.0s,baz=183,slow=3.8,SNR=4.6							

*IDC **25** 20:35:11.3±0.8,28˚.42N×103˚.00E,h0km,mb3.9/8, mbtmp3.9/9,ML3.8/1, Error ellipse: s-maj=31.5km s-min=17.6km az=66.0*

ISC 25 20:35:12.9±0.9,28˚.5N±0˚.1×103˚.0E±0˚.2,h10km,n10, σ9§76/9,mb4.0/8,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.54**	**15**	Pg	Pn	20 35 42.5	-12
CD2				Sg	Sn	20 36 04.8	-20
CD2				smax	smax		
	comp=N,990nm,0.5s						
CD2				smax	smax		
	comp=E,1μm,0.5s						
CMAR	**Chiang Mai Arr**	**10.62**	**201**	Pn	**Pn**	**20 37 45.6**	**+0.4**
	comp=E,0.2nm,0.3s,baz=350,slow=15,SNR=5.0						
	comp=E,0.2nm,0.3s						
MKAR	**Makanchi Array**	**24.46**	**324**	P	**P**	**20 40 33.1**	**+1.2**
	comp=E,0.2nm,0.4s,baz=117,slow=11,SNR=5.9						
	comp=E,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**28.74**	**337**	P	**P**	**20 41 09.9**	**-0.5**
	comp=E,0.3nm,0.4s,baz=141,slow=7.4,SNR=1.8						
	comp=E,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**28.85**	**327**	P	**P**	**20 41 11.2**	**-0.2**
	comp=E,0.5nm,0.8s,baz=131,slow=9.3,SNR=4.4						
	comp=E,0.5nm,0.8s						
PETK	**Petropavlovsk-**	**46.77**	**42**	P	**P**	**20 43 43.2**	**+0.8**
	comp=E,8.0nm,1.0s,baz=264,slow=11,SNR=1.4						
	comp=E,8.0nm,1.0s						
WRA	**Warramunga Arr**	**56.85**	**144**	P	**P**	**20 44 57.0**	**-0.9**
	comp=E,1.4nm,0.6s,baz=338,slow=8.2,SNR=20						
	comp=E,1.4nm,0.6s						
FINES	**FINESS Array B**	**59.24**	**327**	P	**P**	**20 45 13.8**	**-0.4**
	comp=E,1.1nm,0.8s,baz=114,slow=8.5,SNR=4.5						
	comp=E,1.1nm,0.8s						
ASAR	**Alice Springs**	**59.76**	**147**	P	**P**	**20 45 18.3**	**0.0**
	comp=E,0.6nm,0.5s,baz=330,slow=7.0,SNR=12						
	comp=E,0.6nm,0.5s						
OPO	**Ambohidratompo**	**71.38**	**236**	P	**P**	**20 46 33.5**	**-0.1**
	comp=E,7.9nm,0.7s,baz=79,slow=2.3,SNR=9.7						
	comp=E,7.9nm,0.7s						

*IDC **25** 20:41:23.7±0.9,50˚.85N×90˚.21E,h0km,mb4.0/9, mbtmp4.0/16,ML3.6/7,MS4.4/3, Error ellipse: s-maj=12.8km s-min=10.3km az=14.0*

*ASRS **25** 20:41:24.8±0.2,51˚.1±1˚.9˚0E±1˚,h5km,MLh4.6/17, Error ellipse: s-maj=2.9km s-min=1.9km az=142.8,confirmed*

*NEIC **25** 20:41:24.4±1.6,50˚.82N±0˚.09×90˚.22E±0˚.06,h10km±2km, mb4.0/17, Error ellipse: s-maj=14.8km s-min=7.1km az=0.0*

*MOS **25** 20:41:24.4±1.7,50˚.64N×90˚.18E,h12km,mb4.2/5, Error ellipse: s-maj=7.8km s-min=5.9km az=64.9*

*NNC **25** 20:41:28.2±1.8,50˚.85N×89˚.68E,h0km,mb4.3,mpv3.9, Error ellipse: s-maj=15.9km s-min=10.5km az=95.0*

ISC 25 20:41:25.5±1.0,50.78N±0˚.03×90.11E±0˚.02,h11km±6km, n108,σ1§68/147,mb4.0/12,MS4.5/4,5C-8D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEL	**Teeli**	**0.25**	**13**	⇓Pg	**Pg**	**20 41 30.7**	**0.0**
TEL				Sg	**Sg**	**20 41 34.5**	**+0.2**
TEL	**Teeli**	**0.25**	**13**	PG	**Pg**	**20 41 30.8**	**0.0**
CUR	**Chagan-Uzun**	**1.31**	**240**	Pg	**Pb**	**20 41 50.5**	**+0.2**
CUR				Sg	**Sg**	**20 42 08.1**	**+0.2**
CUR	**Chagan-Uzun**	**1.31**	**240**	PG	**Pg**	**20 41 51.2**	**+0.4**
CUR						20 42 07.5	
ULGR	**Ulagan, Altay**	**1.38**	**264**	Pg	**Pb**	**20 41 51.4**	**+0.1**
ULGR				Sg	**Sb**	**20 42 09.3**	**+0.4**
ULGR	**Ulagan, Altay**	**1.38**	**264**	PG	**Pb**	**20 41 51.3**	**+0.1**
AKAR	**Aktash**	**1.66**	**255**	Pg	**Pb**	**20 41 56.7**	**+0.7**
AKAR				Sg	**Sb**	**20 42 17.8**	**+0.9**
AKAR	**Aktash**	**1.66**	**255**	PN	**Pb**	**20 41 56.7**	**+0.7**
AKAR						20 42 17.8	
CHBI	**Chibit, Altay**	**1.73**	**255**	Pg	**Pb**	**20 41 58.0**	**+0.8**
CHBI				Sg	**Sg**	**20 42 20.8**	**-0.3**
CHBI	**Chibit, Altay**	**1.73**	**255**	PN	**Pb**	**20 41 58.0**	**+0.8**
CHBI						20 42 20.2	
YALR	**Yailyu, Altay**	**1.86**	**303**	Pg	**Pb**	**20 42 00.1**	**+0.6**
YALR				Sg	**Sb**	**20 42 23.6**	**+1.0**
YALR	**Yailyu, Altay**	**1.86**	**303**	PN	**Pb**	**20 42 00.0**	**+0.6**
YALR						20 42 22.8	
DGZ	**Jazzator, Alta**	**2.03**	**239**	Pg	**Pb**	**20 42 02.8**	**+0.3**
DGZ				Sg	**Sg**	**20 42 29.9**	**-0.9**
DGZ	**Jazzator, Alta**	**2.03**	**239**	PN	**Pb**	**20 42 02.7**	**+0.3**
DGZ						20 42 30.2	
ARTR	**Artybash**	**2.05**	**301**	Pg	**Pb**	**20 42 02.7**	**0.0**
ARTR				Sg	**Sg**	**20 42 30.8**	**-0.6**
ARTR	**Artybash**	**2.05**	**301**	PN	**Pb**	**20 42 03.4**	**+0.7**
ARTR						20 42 30.3	
DJO	**Djoy, Khakassi**	**2.12**	**18**	Pg	**Pb**	**20 42 03.6**	**-0.3**
DJO				Sg	**Sb**	**20 42 31.5**	**+1.2**
DJO	**Djoy, Khakassi**	**2.12**	**18**	PN	**Pb**	**20 42 03.7**	**-0.3**
DJO						20 42 31.6	
CERR	**Cheremushki**	**2.23**	**21**	Pg	**Pb**	**20 42 05.5**	**-0.3**
CERR				Sg	**Sb**	**20 42 34.8**	**+1.4**
CERR	**Cheremushki**	**2.23**	**21**	PN	**Pb**	**20 42 05.2**	**-0.6**
CERR						20 42 34.7	
VEH	**Verkhnyaya Baz**	**2.48**	**3**	Pg	**Pb**	**20 42 09.7**	**-0.5**
VEH				Sg	**Sb**	**20 42 41.1**	**+0.4**
VEH	**Verkhnyaya Baz**	**2.48**	**3**	PN	**Pb**	**20 42 10.0**	**-0.1**
VEH						20 42 41.7	
ELDR	**Elanda**	**2.58**	**281**	Pg	**Pb**	**20 42 10.2**	**-1.5**
ELDR				Sg	**Sb**	**20 42 45.9**	**+2.5**
ELDR	**Elanda**	**2.58**	**281**	PN	**Pb**	**20 42 10.3**	**-1.5**
ELDR						20 42 45.3	
ARDR	**Aradan**	**2.74**	**48**	Pg	**Pb**	**20 42 13.4**	**-1.1**
ARDR				Sg	**Sb**	**20 42 50.1**	**+1.9**
ARDR	**Aradan**	**2.74**	**48**	PN	**Pb**	**20 42 13.5**	**-1.1**
ARDR						20 42 47.9	
KZLR	**Kyzyl**	**2.88**	**70**	Pg	**Pg**	**20 42 20.7**	**0.0**
KZLR				Sg	**Sg**	**20 42 56.6**	**-1.4**
LUZB	**Luzhba, Kemero**	**2.98**	**346**	Pg	**Pb**	**20 42 18.6**	**0.0**
LUZB				Sg	**Sb**	**20 42 56.8**	**+1.8**
LUZB	**Luzhba, Kemero**	**2.98**	**346**	PN	**Pb**	**20 42 18.9**	**+0.3**
LUZB						20 42 56.3	
KALT1	**Kaltan 1**	**3.12**	**329**	Pn	**Pn**	**20 42 16.9**	**+2.3**
KALT1				Pg	**Pb**	**20 42 22.5**	**+1.6**
KALT1				Sg	**Sg**	**20 43 03.6**	**-2.0**
KALT2	**Kaltan 2**	**3.14**	**328**	Pn	**Pn**	**20 42 16.9**	**+2.1**
KALT2				Pg	**Pb**	**20 42 22.1**	**+0.8**
KALT2				Sg	**Sg**	**20 43 03.7**	**-2.6**
KIYZ	**Kiyzas, Kuzbas**	**3.14**	**333**	Pn	**Pn**	**20 42 16.9**	**+2.1**
KIYZ				Pg	**Pb**	**20 42 22.1**	**+0.8**
KIYZ				Sg	**Sg**	**20 43 05.1**	**-1.2**
MALIN	**Malinovka, Kuz**	**3.17**	**328**	Pg	**Pb**	**20 42 23.2**	**+1.4**
MALIN				Sg	**Sg**	**20 43 06.0**	**-1.4**
TAIL	**Tailep, Kuzbas**	**3.22**	**327**	Pg	**Pb**	**20 42 24.2**	**+1.5**
TAIL				Sg	**Sg**	**20 43 06.5**	**-2.4**
UKR	**Ust'-Kan**	**3.39**	**275**	Pg	**Pb**	**20 42 27.6**	**+2.1**
UKR				Sg	**Sg**	**20 43 13.7**	**-0.6**
ELT	**Eltsovka**	**3.45**	**318**	Pn	**Pn**	**20 42 20.5**	**+1.4**
ELT				Pg	**Pb**	**20 42 29.0**	**+2.4**
ELT				Sg	**Sg**	**20 43 13.4**	**-2.8**
ERU	**Erunakovo, Kuz**	**3.76**	**335**	Pg	**Pb**	**20 42 33.9**	**+2.1**
ERU				Sg	**Sg**	**20 43 23.0**	**-3.2**
BJR3	**Bachatsky-3 (S**	**4.22**	**327**	Pn	**Pn**	**20 42 31.6**	**+2.0**
BJR3				Pg	**Pb**	**20 42 42.3**	**+2.7**
BJR3				Sg	**Sg**	**20 43 39.5**	**-1.3**
SALR	**Pechorkino, Sa**	**4.53**	**325**	Pn	**Pn**	**20 42 35.8**	**+1.9**
SALR				Pg	**Pb**	**20 42 48.8**	**+3.9**
SALR				Sg	**Sb**	**20 43 45.1**	**+5.7**
ZAA0	**Zalesovo Array**	**4.54**	**316**	Pn	**Pn**	**20 42 33.4**	**-0.6**
ZAA0	**Zalesovo Array**	**4.54**	**316**	⇓Pn	**Pn**	**20 42 34.5**	**+0.5**
	1.1nm,0.5s						
ZAA0				⇓Pg	**Pb**	**20 42 48.6**	**+3.5**
	5.2nm,0.7s						
ZAA0				⇓Lg	Lg	20 43 44.6	
	39nm,0.7s						
ZALV	**Zalesovo Beam**	**4.54**	**316**	Pn	**Pn**	**20 42 33.5**	**-0.6**
	5.5nm,0.3s,baz=136,slow=13,SNR=46						
ZALV				Pg	**Pb**	**20 42 46.5**	**+1.4**
	9.4nm,0.3s,baz=135,slow=14,SNR=12						
ZALV				Sn	**Sn**	**20 43 26.4**	**-0.4**
	12nm,0.3s,baz=142,slow=28,SNR=6.8						
ZALV				Lg	Lg	20 43 44.4	
	37nm,0.3s,baz=138,slow=25,SNR=6.5						
	9.5nm,0.3s						
MK31	**Makanchi Array**	**6.53**	**235**	⇑Pn	**Pn**	**20 43 03.2**	**+1.8**
	28nm,0.5s,baz=63,slow=12,SNR=406						
MK31				⇑Lg	Lg	20 44 51.6	
	115nm,0.8s,baz=47,slow=26,SNR=7.6						
MK31	**Makanchi Array**	**6.53**	**235**	PN	**Pn**	**20 43 03.2**	**+1.8**
MKAR	**Makanchi Array**	**6.53**	**235**		**Pn**	**20 43 03.0**	**+1.7**
MKAR	**Makanchi Array**	**6.53**	**235**		**Pn**	**20 43 03.3**	**+2.0**
	6.2nm,0.3s,baz=60,slow=12,SNR=280						
MKAR				Sn	**Sn**	**20 44 18.5**	**+2.8**
	5.4nm,0.3s,baz=69,slow=27,SNR=5.2						
MKAR				Lg	Lg	20 44 52.8	
	13nm,0.3s,baz=50,slow=27,SNR=12						
	21nm,0.4s						
MAKZ	**Makanchi**	**6.68**	**237**	Pn	**Pn**	**20 43 05.0**	**+1.5**
MAKZ	**Makanchi**	**6.68**	**237**	Pn	**Pn**	**20 43 04.9**	**+1.5**
	21nm,0.7s						
MAKZ				Lg	Lg	20 44 55.1	
	66nm,0.7s						
MAKZ	**Makanchi**	**6.68**	**237**	PN	**Pn**	**20 43 05.0**	**+1.5**
MOY	**Mondy**	**6.89**	**78**	eP*	**Pb**	**20 43 29.6**	**+4.4**
MOY				*e*		20 44 55.7	
MOY				*i*		20 45 17.8	
KURK	**Kurchatov**	**7.29**	**274**		**Pn**	**20 43 12.2**	**+0.4**
KURK	**Kurchatov**	**7.29**	**274**	⇑Pn	**Pn**	**20 43 12.1**	**+0.3**
	1.7nm,0.3s						
KURK				⇓Lg	Lg	20 45 14.3	
	80nm,0.8s						
KURK	**Kurchatov**	**7.29**	**274**	P	**Pn**	**20 43 13.5**	**+1.7**
KURK						20 44 35.9	
KURBB	**Kurchatov Arra**	**7.36**	**273**	⇓Pn	**Pn**	**20 43 13.2**	**+0.5**
	17nm,0.4s						
KURBB				⇓Sn	**Sn**	**20 44 35.3**	**-0.8**
	83nm,0.7s						
KURBB				⇑Lg	Lg	20 45 14.7	
	211nm,0.7s						
KURBB	**Kurchatov Arra**	**7.36**	**273**	Pn	**Pn**	**20 43 13.5**	**+0.8**
	0.5nm,0.3s,baz=88,slow=15,SNR=87						
KURBB				Sn	**Sn**	**20 44 35.9**	**-0.2**
	1.3nm,0.3s,baz=158,slow=30,SNR=5.0						
KURBB				Lg	Lg	20 45 18.8	
	1.4nm,0.3s,baz=88,slow=32,SNR=6.4						
	3.0nm,0.4s						
KURBB	**Kurchatov Arra**	**7.36**	**273**	P	**Pn**	**20 43 13.2**	**+0.5**
KURBB					SN	**Sn**	**20 44 35.3**	**-0.8**
SONM	**Songino Array**	**11.03**	**99**	Pn	**Pn**	**20 44 04.2**	**+1.0**
	0.1nm,0.3s,baz=119,slow=43,SNR=2.2						
SONM				Pg		20 44 47.8	
	0.4nm,0.3s,baz=291,slow=15,SNR=5.7						
SONM				Sn	**Sn**	**20 46 11.2**	**+4.8**
	baz=281,slow=16						
SONM				Lg	Lg	20 47 09.2	
	0.8nm,0.3s,baz=292,slow=28,SNR=6.9						
	0.2nm,0.3s						
PRZ	**Przheval'sk**	**11.55**	**229**	Pn	**Pn**	**20 44 06.7**	**-3.6**
PRZ	**Przheval'sk**	**11.55**	**229**	P	**Pn**	**20 44 06.7**	**-3.6**
BVA0	**Borovoye Array**	**12.39**	**288**	Pn	**Pn**	**20 44 19.9**	**-1.6**
	5.7nm,0.8s,baz=110,slow=11,SNR=19						
BVA0				⇑Sn	**Sn**	**20 46 35.8**	**-3.6**
	6.5nm,0.6s,baz=0.0,slow=0.1,SNR=4.7						
BVA0				⇓Lg	Lg	20 47 49.2	
	36nm,1.4s						
BVA0	**Borovoye Array**	**12.39**	**288**	P	**Pn**	**20 44 19.9**	**-1.6**
BVA0					SN	**Sn**	**20 46 35.8**	**-3.6**
BVAR	**Borovoye Array**	**12.39**	**288**	Pn	**Pn**	**20 44 20.2**	**-1.3**
	0.2nm,0.3s,baz=89,slow=13,SNR=28						
BVAR				Sn	**Sn**	**20 46 37.7**	**-1.7**
	0.3nm,0.3s,baz=94,slow=22,SNR=5.9						
BVAR				Lg	Lg	20 47 56.6	
	baz=83,slow=26						
	6.2nm,0.6s						
TARG	**Taragay, Kyrgy**	**12.41**	**228**	Pn	**Pn**	**20 44 21.0**	**-1.3**
TARG	**Taragay, Kyrgy**	**12.41**	**228**	P	**Pn**	**20 44 21.0**	**-1.3**
BOOM	**Boomskoye usch**	**12.77**	**235**	Pn	**Pn**	**20 44 26.9**	**-0.1**
BOOM	**Boomskoye usch**	**12.77**	**235**	P	**Pn**	**20 44 26.9**	**-0.1**
AAK	**Ala-Archa**	**13.44**	**239**	Pn	**Pn**	**20 44 36.5**	**+0.4**
	0.5nm,0.3s,baz=54,slow=20,SNR=2.1						
AAK				Lg	Lg	20 48 30.5	
	0.1nm,0.3s,baz=172,slow=18,SNR=4.9						
	1.4nm,0.3s						
ARSB	**Arslanbob**	**15.16**	**238**		**Pn**	**20 44 59.5**	**0.0**
ARSB	**Arslanbob**	**15.16**	**238**	P	**Pn**	**20 44 59.5**	**0.0**
ARSB				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KK31	**Karatay Array**	**15.40**	**248**	Pn	**Pn**	**20 45 01.5**	**-1.1**
KK31	**Karatay Array**	**15.40**	**248**	P	**Pn**	**20 45 01.5**	**-1.1**
KK31				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BTK	**Batken**	**17.22**	**239**	Pn	**Pn**	**20 45 24.1**	**-1.7**
BTK	**Batken**	**17.22**	**239**	P	**Pn**	**20 45 24.2**	**-1.7**
BTK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GAR	**Garm**	**18.25**	**237**		**Pn**	**20 45 36.3**	**-2.3**
GAR				IAmb	IAmb	20 45 51.7	
	comp=Z,8.4nm,0.6s						
CHGR	**Chuyangaron**	**19.12**	**239**	P	**P**	**20 45 44.3**	**-4.1**
CHGR				IAmb	IAmb	20 45 57.2	
	comp=Z,9.3nm,0.9s						
CHGR	**Chuyangaron**	**19.12**	**239**	P	**P**	**20 45 44.3**	**-4.1**
CHGR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SIMJ	**Simiganj**	**19.20**	**239**		**P**	**20 45 49.0**	**-0.2**
AB31	**Akbulak array**	**19.39**	**277**	P	**P**	**20 45 51.7**	**+0.6**
AB31				IAmb	IAmb	20 45 53.4	
	comp=Z,7.2nm,1.2s						
ABKAR	**Akbulak array**	**19.39**	**277**	P	**P**	**20 45 50.7**	**-0.4**
ARTI	**Arti**	**19.54**	**299**	P	**P**	**20 45 50.5**	**-2.2**
ARTI				IAmb	IAmb	20 45 54.4	
	comp=Z,6.2nm,0.5s						
ARTI	**Arti**	**19.54**	**299**	P	**P**	**20 45 52.8**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=109,slow=5.9,SNR=8.3						
ARTI				S	**Sn**	**20 49 33.4**	**+0.5**
	comp=Z,1.5nm,0.4s,baz=261,slow=18,SNR=3.3						
	comp=Z,2.3nm,0.4s						
AKTO	**Aktyubinsk**	**20.29**	**282**	P	**P**	**20 46 01.3**	**+0.3**
	comp=Z,6.6nm,0.7s,baz=85,slow=8.3,SNR=18						
	comp=Z,6.6nm,0.7s						
LSA	**Lhasa**	**21.07**	**177**		**P**	**20 46 11.4**	**+1.4**
LSA				IAmb	IAmb	20 46 18.4	
	comp=Z,4.3nm,0.7s						
LSA	**Lhasa**	**21.07**	**177**	P	**P**	**20 46 11.4**	**+1.4**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NIL	**Nilore**	**21.10**	**222**		**P**	**20 46 09.4**	**-0.5**
NIL	**Nilore**	**21.10**	**222**	P	**P**	**20 46 09.4**	**-0.5**
NIL				pmax	pmax		
	comp=Z,9.0nm,0.4s						
KBL	**Kabul**	**22.31**	**231**	P	**P**	**20 46 23.0**	**-0.1**
KBL				IAmb	IAmb	20 46 34.6	
	comp=Z,5.7nm,1.0s						
KBL	**Kabul**	**22.31**	**231**	P	**P**	**20 46 23.0**	**-0.1**
KBL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SHL	**Shillong**	**25.21**	**176**	P	**P**	**20 46 49.9**	**-1.3**
SHL				IAmb	IAmb	20 47 02.0	
	comp=Z,5.4nm,1.0s						
SHL	**Shillong**	**25.21**	**176**	P	**P**	**20 46 49.9**	**-1.3**
SHL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FINES	**FINESS Array B**	**35.79**	**312**	P	**P**	**20 48 23.6**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=66,slow=11,SNR=4.9						
	comp=Z,1.5nm,0.8s						
AKASG	**Malin Array Be**	**37.56**	**294**	P	**P**	**20 48 39.4**	**0.0**
	comp=Z,0.4nm,0.4s,baz=53,slow=9.4,SNR=2.2						
	comp=Z,0.4nm,0.4s						
BRTR	**Keskin Array B**	**40.34**	**277**	P	**P**	**20 49 04.5**	**+1.6**
	comp=Z,2.5nm,0.9s,baz=70,slow=8.0,SNR=10						
	comp=Z,2.5nm,0.9s						
BUR08	**Bucovina Ar. S**	**41.30**	**292**	P	**P**	**20 49 09.4**	**-1.4**
HFS	**Hagfors**	**41.97

ASAR				S		**S**	**20 52 25.3**	**+1.3**
	comp=Z,6.0nm,0.9s,baz=31,slow=23,SNR=13								
	comp=Z,14nm,0.6s								
INKA	**Innaminka**	**22.79**	**197**	P		**P**	**20 48 29.4**	**-0.2**
INKA				IAmb		IAmb	20 48 32.3		
	comp=Z,11nm,1.0s								
DZM	**Mont Dzumac**	**23.87**	**134**	P		**P**	**20 48 39.6**	**-0.3**
DZM				IAmb		IAmb	20 48 41.3		
	comp=Z,11nm,0.6s								
DZM	**Mont Dzumac**	**23.87**	**134**	P		**P**	**20 48 40.5**	**+0.6**
	comp=Z,8.8nm,0.5s,baz=332,slow=15,SNR=15								
	comp=Z,8.8nm,0.5s								
FITZ	**Fitzroy Crossi**	**25.07**	**239**	P		**P**	**20 48 51.8**	**+1.0**
STKA	**Stephens Creek**	**26.51**	**193**	P		**P**	**20 49 05.7**	**+2.0**
	comp=Z,5.0nm,0.7s,baz=336,slow=9.4,SNR=8.8								
	comp=Z,5.0nm,0.7s								
FORT	**Forrest**	**31.08**	**215**	P		**P**	**20 49 45.2**	**+1.0**
FORT				IAmb		IAmb	20 49 45.6		
	comp=Z,8.4nm,0.7s								
MJAR	**Matsushiro Arr**	**43.28**	**348**	P		**P**	**20 51 26.4**	**-0.9**
	comp=Z,2.6nm,1.0s,baz=174,slow=8.8,SNR=5.6								
	comp=Z,2.6nm,1.0s								
PETK	**Petropavlovsk-**	**59.39**	**7**	P		**P**	**20 53 27.1**	**0.0**
	comp=Z,2.6nm,0.8s,baz=174,slow=7.5,SNR=8.7								
	comp=Z,2.6nm,0.8s								
SONM	**Songino Array**	**64.92**	**330**	P		**P**	**20 54 04.6**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=145,slow=7.6,SNR=2.4								
	comp=Z,0.3nm,0.4s								
VNDA	**Vanda**	**71.90**	**177**	P		**P**	**20 54 49.6**	**+2.4**
MKAR	**Makanchi Array**	**78.19**	**320**	P		**P**	**20 55 22.8**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=91,slow=8.3,SNR=3.0								
ILAR	**Eielson Array**	**84.99**	**23**	P		**P**	**20 55 57.6**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=253,slow=5.6,SNR=3.6								
	comp=Z,0.6nm,0.6s								
TORD	**Torodi Ar. Bea**	**146.18**	**285**	PKPbc		**PKPbc**	**21 03 04.8**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=75,slow=4.2,SNR=8.9								

IPEC ***25*** *20:43:40.6±0.1, 50.°12N×19.°13E, h1km, ML2.3/6, Error ellipse: s-maj=1.7km s-min=0.8km az=2.0*
VIE ***25*** *20:43:40.0±0.4, 50.°23N×19.°05E, h0km, mb2.5/7, ml2.3/5, ms3.5/1, Error ellipse: s-maj=3.9km s-min=2.3km az=175.0*
5 km ESE of Katowice Suspected Mining induced.
PRU ***25*** *20:43:41.7, 50.°11N×19.°09E, h0km*

ISC 25 20:43:40.8±0.9, 50.°08N±0.°04×19.°10E±0.°03, h0km, n30, σ1§22/48, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.47**	**72**	*e*Pg		**Pg**	**20 43 49.3**	**-0.5**
OJC				*e*Sg		**Sg**	**20 43 56.3**	**+0.4**
OKC	**Ostrava-Krasne**	**0.66**	**249**	*e*PG		**Pb**	**20 43 54.9**	**-0.2**
OKC				*e*SG		**Sb**	**20 44 04.5**	**-0.3**
	34nm,0.6s							
NIE	**Niedzica**	**1.02**	**130**	*e*Pg		**Pg**	**20 44 00.4**	**+0.1**
NIE				*e*Sg		**Sn**	**20 44 16.7**	**-0.6**
MORC	**Moravsky Berou**	**1.05**	**254**	*e*Pg		**Pb**	**20 44 01.5**	**-0.3**
	baz=71							
MORC				*e*Sg		**Sg**	**20 44 14.6**	**+0.1**
	50nm,0.5s,baz=71							
MORC	**Moravsky Berou**	**1.05**	**254**	*e*PG		**Pb**	**20 44 01.6**	**-0.3**
MORC				*e*SG		**Sg**	**20 44 14.7**	**+0.2**
ANAC	**Anensky vrch**	**1.11**	**271**	*e*Pg		**Pb**	**20 44 02.4**	**-0.4**
	baz=87							
ANAC				*e*Sg		**Sg**	**20 44 16.2**	**-0.1**
	33nm,0.3s,baz=87							
LOSC	**Losov**	**1.21**	**249**	*e*Pg		**Pb**	**20 44 04.3**	**-0.2**
	baz=66							
LOSC				*e*Sg		**Sg**	**20 44 19.6**	**+0.1**
	30nm,0.4s,baz=66							
KRLC	**Kraliky**	**1.49**	**271**	*e*PG		**Pn**	**20 44 07.8**	**-1.1**
KRLC				*e*SG		**Sn**	**20 44 28.5**	**-0.6**
	17nm,0.5s							
JAVC	**Velka Javorina**	**1.53**	**218**	*e*Pn		**Pn**	**20 44 09.7**	**+0.3**
	baz=37							
JAVC	**Velka Javorina**	**1.53**	**218**	*e*PN		**Pn**	**20 44 09.8**	**+0.3**
VRAC	**Vranov**	**1.80**	**246**	*e*Pn		**Pn**	**20 44 13.5**	**+0.5**
	baz=63							
VRAC				*e*Sg		**Sg**	**20 44 38.2**	**-0.3**
	15nm,0.5s,baz=63							
DPC	**Dobruska-Polom**	**1.81**	**280**	*e*Pg		**Pn**	**20 44 13.1**	**-0.1**
DPC				*e*SG		**Sb**	**20 44 37.3**	**-0.6**
	18nm,0.6s							
OSTC	**Ostas**	**1.91**	**286**	*e*PG		**Pb**	**20 44 15.9**	**-0.6**
OSTC				*e*SG		**Sb**	**20 44 40.2**	**-0.7**
	11nm,0.5s							
KSP	**Ksiaz**	**1.95**	**294**	*e*Pg		**Pg**	**20 44 18.8**	**+0.6**
KSP				*e*Sg		**Sg**	**20 44 44.0**	**+0.6**
CHVC	**Chvalec**	**2.02**	**286**	*e*PG		**Pg**	**20 44 18.6**	**-0.8**
CHVC				*e*SG		**Sg**	**20 44 45.7**	**+0.2**
	7.0nm,0.6s							
UPC	**Upice**	**2.03**	**283**	*e*PG		**Pg**	**20 44 19.7**	**+0.1**
UPC				*e*SG		**Sg**	**20 44 46.8**	**+1.0**
	7.4nm,0.4s							
KRUC	**Moravsky**	**2.03**	**241**	*e*Pn		**Pn**	**20 44 16.2**	**0.0**
	baz=58							
KRUC				*e*Sg		**Sg**	**20 44 45.5**	**-0.5**
	15nm,0.6s,baz=58							
PRU	**Pruhonice**	**2.94**	**270**	*e*SG		**Sg**	**20 45 14.1**	**-1.1**
	5.4nm,0.6s							
PVCC	**Panska Ves**	**2.94**	**281**	*e*SG		**Sg**	**20 45 16.1**	**+0.9**
	9.8nm,0.6s							
RONA	**Rosalia, Austr**	**3.01**	**219**	*e*Pn		**Pn**	**20 44 31.6**	**+1.8**
	0.5nm,0.3s							
CONA	**Conrad Observa**	**3.03**	**226**	*e*Sn		**Sn**	**20 45 08.6**	**+1.7**
	1.6nm,0.4s							
ZVC	**Zvikov**	**3.25**	**261**	*e*PG		**Pg**	**20 44 40.7**	**-2.2**
ZVC				*e*SG		**Sg**	**20 45 23.1**	**-1.9**
	6.0nm,0.8s							
CKRC	**Cesky Krumlov**	**3.37**	**250**	*e*SG		**Sg**	**20 45 27.8**	**-1.1**
	11nm,1.0s							
BRG	**Berggiesshubel**	**3.39**	**286**	Pg		**Pg**	**20 44 49.5**	**+3.8**
BRG				Sg		**Sg**	**20 45 29.1**	**-0.5**
BRG				Amp			20 45 33.7	
	comp=Z,4.4nm,0.5s							
KHC	**Kasperske Hory**	**3.71**	**257**	*e*PG		**Pg**	**20 44 50.0**	**-1.9**
KHC				*e*SG		**Sg**	**20 45 40.7**	**+0.7**
	comp=Z,5.6nm,0.5s							
BIOA	**Bad Ischl, Aus**	**4.32**	**239**	*e*Sg		**Sg**	**20 46 00.7**	**+1.2**
	comp=Z,4.1nm,0.4s							
LESA	**Schwarzleotal**	**5.01**	**240**	Sg		**Sg**	**20 46 20.0**	**-1.5**
	comp=Z,2.1nm,0.5s							
WTTA	**Wattenberg**	**5.69**	**243**	*e*Sg		**Sg**	**20 46 44.7**	**+1.3**
	comp=Z,3.0nm,0.7s							
MOTA	**Moosalm**	**5.96**	**246**	*e*Sg		**Sg**	**20 46 53.6**	**+1.6**
	comp=Z,1.2nm,0.3s							
RETA	**Reutte**	**6.09**	**248**	*e*Sg		**Sg**	**20 47 00.2**	**+3.9**
	comp=Z,1.1nm,0.3s							

IDC 25 20:50:55.2±239.0, 53.°22N×34.°33E, h0km, Error ellipse: s-maj=107.8km s-min=73.2km az=6.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON 3.89**		**24**	I		I	21 15 40.0	
	0.2nm,1.0s,baz=210,slow=322,SNR=32							
I26DE	**FREYUNG INFRAS13.67**		**260**	I		I	22 12 20.0	
	baz=64,slow=332,SNR=0.4							
I37NO	**I37NO**	**17.52**	**341**	I		I	22 43 00.0	
	baz=150,slow=328,SNR=1.7							
I48TN	**KESRA INFRASON24.72**		**235**	I		I	23 23 30.0	
	baz=41,slow=317,SNR=0.9							
I46RU	**ZALESOVO INFRA29.47**		**68**	I		I	23 46 00.0	
	baz=283,slow=326,SNR=1.3							

DJA ***25*** *20:57:27.7±3.1, 10.°N±5.°×12.°7E±.°, h17km±25km, M4.9/10, mb5.0/10, mB5.2/7, MLv5.2/4, Mw(mB)4.6/7*
MOS ***25*** *20:57:34.2±1.0, 8.°89N×126.°66E, h47km, mb5.1/15, Error ellipse: s-maj=16.0km s-min=7.1km az=123.0*
BJI ***25*** *20:57:34.2, 8.°79N×126.°43E, h41km, mB4.9/9, mb4.6/34, Ms4.3/15, Ms7 4.2/14*
NEIC ***25*** *20:57:35.1±1.8, 8.°85N±0.°07×126.°68E±0.°09, h35km±2km, mb4.8/34, Error ellipse: s-maj=16.1km s-min=11.7km az=73.0*
IDC ***25*** *20:57:36.3±2.1, 8.°98N×126.°83E, h52km±19km, mb4.0/22, mbtmp4.3/26, ML4.4/3, MS3.7/7, Error ellipse: s-maj=19.5km s-min=9.4km az=85.0*

ISC 25 20:57:36.7±0.4, 8.°91N±0.°04×126.°66E±0.°07, h54km, n120, σ1§47/120, mb4.6/59, MS4.1/9, 7C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.11**	**210**			**Pn**	**20 58 08.2**	**-1.4**
DAV	**Davao City (W)**	**2.11**	**210**	P		**Pn**	**20 58 12.6**	**+2.9**
	105nm,0.3s,baz=78,slow=4.0,SNR=8.6							
DAV				S		**Sn**	**20 58 38.8**	**+4.1**
	880nm,0.6s,baz=308,slow=23,SNR=6.3							
DAV				LR		LR	20 59 19.5	
	comp=Z,4μm,18.5s,baz=354,slow=46							
	235nm,0.3s							
DAV	**Davao City (W)**	**2.11**	**210**	P		Pn	20 58 15.0	+5.3
TGY	**Tagaytay City**	**7.62**	**313**	P		**Pn**	**20 59 25.6**	**+0.4**
	65nm,0.3s,baz=197,slow=18,SNR=0.4							
TNTI	**Ternate**	**8.11**	**175**			**Pn**	**20 59 29.8**	**-2.1**
TNTI	**Ternate**	**8.11**	**175**	P		**Pn**	**20 59 32.6**	**+0.7**
	698nm65nm,0.9s							
TOLI2	**Tolitoli**	**9.70**	**217**	Pn		**Pn**	**20 59 51.7**	**-2.0**
LUWI	**Luwuk**	**10.61**	**202**	Pn		**Pn**	**21 00 03.2**	**-3.0**
LUWI	**Luwuk**	**10.61**	**202**	P		Pn	21 00 11.2	+5.0
	895nm51nm,1.1s							
TPUB	**Ta-pu**	**15.44**	**339**	P		**P**	**21 01 12.9**	**-1.8**
TPUB				IAmb		IAmb	21 01 13.8	
	comp=Z,125nm,2.0s							
JOW	**Kunigami**	**17.90**	**5**	P		**Pn**	**21 01 39.5**	**-2.4**
	comp=Z,26nm,1.1s,baz=250,slow=13,SNR=2.5							
JAY	**Jayapura**	**18.02**	**128**	P		**P**	**21 01 43.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=178,slow=20,SNR=1.3							
JAY				LR		LR	21 06 55.8	
	comp=Z,320nm,21.7s,baz=324,slow=31							
	comp=Z,6.2nm,0.8s							
EDFI	**Ende, Flores**	**18.22**	**196**	P		**Pn**	**21 01 48.0**	**+2.0**
GUMO	**Guam**	**18.46**	**74**	LR		LR	21 09 06.9	
	comp=Z,150nm,19.1s,baz=261,slow=38							
SOEI	**Soe**	**18.69**	**187**	P		**P**	**21 01 47.9**	**-3.0**
QIZ	**Qiongzhong**	**19.15**	**303**	P		**P**	**21 01 54.0**	**-1.8**
QIZ				S		**S**	**21 05 29.0**	**-1.2**
QIZ				pmax		pmax		
	comp=Z,25nm,1.7s							
QIZ				LR		LR		
	comp=Z,210nm,15.1s							
QIZ				LR		LR		
	comp=Z,220nm,13.7s							
QIZ				LR		LR		
	comp=Z,310nm,13.1s							
BATI	**Baumata**	**19.22**	**189**	P		**P**	**21 01 57.1**	**+0.6**
	comp=Z,5.2nm,0.3s,baz=128,slow=1.0,SNR=5.6							
BATI				S		**Sn**	**21 05 35.9**	**+3.1**
	comp=Z,5.6nm,0.3s,baz=90,slow=4.0,SNR=1.8							
	comp=Z,15nm,0.4s							
BATI	**Baumata**	**19.22**	**189**	P		**Pn**	**21 01 59.3**	**+1.4**
MANU	**Manus Island**	**23.33**	**117**	P		**P**	**21 02 40.2**	**-0.3**
MANU				IAmb		IAmb	21 02 41.8	
	comp=Z,31nm,1.3s							
NJ2	**Nanjing**	**24.14**	**344**	*e*P		**P**	**21 02 48.0**	**+0.3**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
JNU	**Nakatsue**	**24.41**	**9**	P		**P**	**21 02 49.1**	**-1.2**
JNU				IAmb		IAmb	21 02 58.8	
	comp=Z,15nm,0.9s							
KNRA	**Kununurra**	**24.51**	**175**	P		**P**	**21 02 49.8**	**-1.4**
KNRA				IAmb		IAmb	21 03 07.9	
	comp=Z,14nm,0.8s							
SLVN	**Son La**	**25.16**	**302**			**P**	**21 02 57.9**	**+0.8**
IPM	**Ipoh**	**25.82**	**262**			**P**	**21 03 00.2**	**-3.1**
IPM				IAmb		IAmb	21 03 18.3	
	comp=Z,24nm,1.0s							
KULM	**Kulim**	**26.05**	**264**			**P**	**21 03 03.3**	**-2.0**
KULM				IAmb		IAmb	21 03 11.0	
	comp=Z,44nm,1.3s							
FITZ	**Fitzroy Crossi**	**26.85**	**182**			**P**	**21 03 10.7**	**-1.7**
FITZ	**Fitzroy Crossi**	**26.85**	**182**	LR		LR	21 16 16.1	
	comp=Z,338nm,19.5s,baz=232,slow=42							
JHJ	**Hachijo Jima 2**	**26.98**	**25**	LR		LR	21 12 19.7	
	comp=Z,64nm,21.8s,baz=358,slow=33							
KSRS	**Korea Array**	**28.45**	**2**	P		**P**	**21 03 25.3**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=170,slow=10,SNR=7.7							
	comp=Z,0.9nm,0.5s							
CMAR	**Chiang Mai Arr**	**28.51**	**292**	P		**P**	**21 03 28.1**	**+0.7**
	comp=Z,3.1nm,1.0s,baz=105,slow=7.0,SNR=22							
	comp=Z,3.1nm,1.0s							
CMAR	**Chiang Mai Arr**	**28.51**	**292**	*ce*P		**P**	**21 03 28.7**	**+1.4**
CMAR				pmax		pmax		
	comp=Z,3.0nm,1.0s							
CHTO	**Chiang Mai**	**28.61**	**293**			**P**	**21 03 28.5**	**+0.3**
CHTO	**Chiang Mai**	**28.61**	**293**	P		**P**	**21 03 28.5**	**+0.3**
CHTO				pmax		pmax		
	comp=Z,3.0nm,0.9s							
PZH	**PanZhiHua**	**29.39**	**310**	P		**P**	**21 03 37.5**	**+2.3**
WRA	**Warramunga Arr**	**29.65**	**165**	P		**P**	**21 03 36.3**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=345,slow=9.6,SNR=5.0							
WRA				LR		LR	21 20 53.1	
	comp=Z,153nm,18.3s,baz=39,slow=47							
	comp=Z,0.5nm,0.7s							
HNS	**HongShan**	**30.36**	**341**	⇑P		**P**	**21 03 43.5**	**+0.1**
HNS				pmax		pmax		
	comp=Z,4.0nm,0.9s							
PSA00	**Pilbara Seismi**	**31.02**	**192**	P		**P**	**21 03 46.2**	**-3.2**
TNCH	**TengChong**	**31.22**	**304**	P		**P**	**21 03 50.5**	**-1.0**
TNCH				pP		pP	21 03 59.5	-5.4
TNCH				sP		pwP	21 04 04.8	-0.1
TNCH				S		**S**	**21 08 54.5**	**+0.1**
TNCH				sS		sS	21 09 14.3	-1.7
TNCH				pmax		pmax		
	comp=Z,8.0nm,1.5s							
TNCH				pmax		pmax		
	comp=Z,64nm,4.0s							
TNCH				LR		LR		
	comp=Z,290nm,19.5s							
TNCH				LR		LR		
	comp=Z,250nm,19.4s							
TNCH				LR		LR		
	comp=Z,600nm,21.2s							
BJT	**Baijiatuau**	**32.37**	**345**	P		**P**	**21 04 01.5**	**+0.4**
BJT	**Baijiatuau**	**32.37**	**345**	P		**P**	**21 04 01.5**	**+0.4**
BJT				pmax		pmax		
	comp=Z,4.0nm,0.8s							
ASAR	**Alice Springs**	**33.14**	**168**	P		**P**	**21 04 06.7**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=346,slow=7.2,SNR=12							
	comp=Z,0.5nm,0.3s							
VLA	**Vladivostok**	**34.39**	**7**	⇑*e*P		**P**	**21 04 20.7**	**+2.1**
VLA				pmax		pmax		
	comp=Z,29nm,1.2s							
HHC	**Hu-ho-hao-te**	**34.52**	**340**	*e*P		**P**	**21 04 23.0**	**+3.0**
HHC				pmax		pmax		
	comp=Z,15nm,0.7s							
HHC				pmax		pmax		
	comp=Z,97nm,5.9s							
CN2	**Changchun**	**34.78**	**358**	P		P	21 04 29.0	+7.0
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**35.47**	**7**	P		**P**	**21 04 27.6**	**-0.3**
	comp=Z,8.6nm,0.8s,baz=180,slow=6.4,SNR=12							
	comp=Z,8.6nm,0.8s							
MDJ	**Mudanjiang**	**35.67**	**4**	P		**P**	**21 04 30.5**	**+0.9**
MDJ	**Mudanjiang**	**35.67**	**4**	P		**P**	**21 04 31.8**	**+2.1**
MDJ				pmax		pmax		
	comp=Z,23nm,1.1s							
BNX	**BinXian**	**36.71**	**1**	⇑P		**P**	**21 04 40.3**	**+1.8**
BNX				pmax		pmax		
	comp=Z,6.0nm,0.9s							
SHL	**Shillong**	**36.96**	**301**			**P**	**21 04 40.8**	**-0.4**
SHL				IAmb		IAmb	21 04 46.6	
	comp=Z,10nm,0.8s							
SHL	**Shillong**	**36.96**	**301**	P		**P**	**21 04 40.8**	**-0.4**
SHL				pmax		pmax		
	comp=Z,10.0nm,0.8s							
ASAJ	**Asahikawa**	**37.72**	**19**	LR		LR	21 20 33.7	
	comp=Z,96nm,21.3s,baz=230,slow=37							
GTA	**Gaotai**	**38.72**	**326**	*e*P		**P**	**21 04 56.5**	**+0.7**
GTA				sP		pP	21 05 08.3	-0.8
GTA				PcP		**PcP**	**21 07 08.5**	**+1.8**
GTA				pmax		pmax		
	comp=Z,4.0nm,1.4s							
GTA				LR		LR		
	comp=Z,170nm,15.6s							
GTA				LR		LR		
	comp=Z,200nm,15.6s							
GTA				LR		LR		
	comp=Z,260nm,18.9s							
LSA	**Lhasa**	**39.13**	**307**	P		**P**	**21 05 00.2**	**+0.4**
LSA	**Lhasa**	**39.13**	**307**	P		**P**	**21 04 58.0**	**-1.8**
LSA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
LSA				LR		LR		
	comp=Z,180nm,21.1s							
LSA				LR		LR		
	comp=Z,210nm,21.6s							
LSA	**Lhasa**	**39.13**	**307**	P		**P**	**21 05 00.2**	**+0.4**
LSA				pmax		pmax		
	comp=Z,1.5nm,1.6s							
H11S3	**WAKE ISLAND Hy**	**39.96**	**72**	T		T	21 48 05.6	
	baz=262,slow=74,SNR=42							
H11S1	**WAKE ISLAND Hy**	**39.98**	**72**	T		T	21 48 15.7	
	baz=262,slow=74,SNR=28							
H11S2	**WAKE ISLAND Hy**	**39.98**	**72**	T		T	21 48 04.9	
	baz=262,slow=74,SNR=21							
H11N1	**WAKE ISLAND Hy**	**40.34**	**70**	T		T	21 48 52.4	
	baz=265,slow=74,SNR=14							
H11N2	**WAKE ISLAND Hy**	**40.35**	**70**	T		T	21 48 48.4	
	baz=265,slow=74,SNR=17							
H11N3	**WAKE ISLAND Hy**	**40.36**	**70**	T		T	21 48 44.2	
	baz=265,slow=74,SNR=20							
HEH	**HeiHe**	**41.22**	**1**	*e*P		**P**	**21 05 17.8**	**+1.6**
HEH				pmax		pmax		
	comp=Z,12nm,0.8s							
SONM	**Songino Array**	**42.42**	**340**	P		**P**	**21 05 25.7**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=166,slow=9.6,SNR=5.9							
	comp=Z,0.9nm,0.6s							
STKA	**Stephens Creek**	**42.99**	**161**	P		**P**	**21 05 30.7**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=343,slow=10.0,SNR=4.0							
	comp=Z,2.1nm,0.8s							
WMQ	**Urumqi**	**48.53**	**323**	*e*P		**P**	**21 06 18.8**	**+4.3**
WMQ				LR		LR		
	comp=Z,340nm,19.3s							
WMQ				LR		LR		
	comp=Z,390nm,22.5s							
WMQ				LR		LR		
	comp=Z,390nm,20.3s							
YAK	**Yakutsk**	**53.07**	**2**	*de*P		**P**	**21 06 49.7**	**+1.5**
YAK				pmax		pmax		
	comp=Z,40nm,2.5s							
MKAR	**Makanchi Array**	**53.34**	**323**	P		**P**	**21 06 50.8**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=122,slow=8.1,SNR=94							
MKAR				PcP		**PcP**	**21 07 57.9**	**+0.4**
	comp=Z,2.7nm,0.9s,baz=130,slow=4.5,SNR=3.7							
	comp=Z,1.1nm,0.7s							
MAKZ	**Makanchi**	**53.53**	**323**	P		**P**	**21 06 52.1**	**+0.1**
MAKZ				pP		**pP**	**21 07 03.0**	**-2.2**
KSH	**Kashi**	**54.43**	**313**	P		**P**	**21 07 00.3**	**+1.5**
KSH				pmax		pmax		
	comp=Z,5.0nm,1.2s							
KSH				LR		LR		
	comp=Z,460nm,18.8s							
KSH				LR		LR		
	comp=Z,280nm,17.7s							
KSH				LR		LR		
	comp=Z,480nm,17.8s							
NIL	**Nilore**	**54.82**	**305**			**P**	**21 07 01.7**	**+0.1**
NIL	**Nilore**	**54.82**	**305**	P		**P**	**21 07 01.7**	**+0.1**
NIL				pmax		pmax		
	comp=Z,27nm,1.0s							
ZALV	**Zalesovo Beam**	**56.00**	**332**	P		**P**	**21 07 09.4**	**-0.2**
	comp=Z,4.5nm,0.7s,baz=125,slow=5.9,SNR=14							
	comp=Z,4.5nm,0.7s							
KURK	**Kurchatov**	**57.40**	**326**			**P**	**21 07 19.2**	**-0.5**
KURK	**Kurchatov**	**57.40**	**326**	*c i*P		**P**	**21 07 19.6**	**-0.1**
KURK				pmax		pmax		
	comp=Z,30nm,1.3s							
KURK	**Kurchatov**	**57.40**	**326**	P		**P**	**21 07 19.8**	**+0.1**
KURK				pP		**pP**	**21 07 30.9**	**-2.2**
KURBB	**Kurchatov Arra**	**57.41**	**326**	P		**P**	**21 07 19.8**	**+0.1**
	comp=Z,8.6nm,0.7s,baz=125,slow=6.5,SNR=64							
KURBB				PcP		**PcP**	**21 08 12.8**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=123,slow=6.2,SNR=0.8							
	comp=Z,8.6nm,0.7s							
GAR	**Garm**	**58.46**	**310**			**P**	**21 07 27.4**	**0.0**
CHGR	**Chuyangaron**	**59.24**	**310**	P		**P**	**21 07 33.3**	**+0.4**
CHGR	**Chuyangaron**	**59.24**	**310**	P		**P**	**21 07 33.3**	**+0.4**
CHGR				pmax		pmax		
	comp=Z,17nm,1.0s							
SIMJ	**Simiganj**	**59.36**	**310**			**P**	**21 07 33.3**	**-0.4**
SIMJ				IAmb		IAmb	21 07 35.8	
	comp=Z,4.9nm,1.1s							
TIXI	**Tiksi**	**62.70**	**1**			**P**	**21 07 55.9**	**+0.3**
TIXI	**Tiksi**	**62.70**	**1**	⇓*e*P		**P**	**21 07 56.7**	**+1.1**
TIXI				pmax		pmax		
	comp=Z,12nm,0.8s							
TIXI	**Tiksi**	**62.70**	**1**	P		**P**	**21 07 56.6**	**+1.1**
TIXI				pP		**pP**	**21 08 08.1**	**-1.0**
TIXI				sP		**sP**	**21 08 12.6**	**-2.1**
BVAR	**Borovoye Array**	**63.00**	**326**	P		**P**	**21 07 58.3**	**+0.3**
	comp=Z,4.4nm,0.7s,baz=116,slow=8.4,SNR=19							
BVAR				PcP		**PcP**	**21 08 36.0**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=159,slow=4.6,SNR=3.8							
	comp=Z,4.4nm,0.7s							
BORK	**Borovoye**	**63.05**	**326**	*c i*P		**P**	**21 07 58.2**	**0.0**
BORK				pmax		pmax		
	comp=Z,9.0nm,1.0s							
ARTI	**Arti**	**70.66**	**327**			**P**	**21 08 45.4**	**-1.2**
ARTI				IAmb		IAmb	21 08 47.0	
	comp=Z,5.4nm,0.7s							
ARTI	**Arti**	**70.66**	**327**	*c i*P		**P**	**21 08 46.2**	**-0.4**
ARTI							21 09 05.1	
ARTI							21 11 19.0	
ARTI				S		**S**	**21 17 58.3**	**+1.8**
ARTI				pmax		pmax		
	comp=Z,8.0nm,1.2s							
ARTI	**Arti**	**70.66**	**327**	P		**P**	**21 08 45.7**	**-0.9**
KIRV	**Kirov**	**75.80**	**328**	*de*P		**P**	**21 09 17.0**	**+0.2**
BELG	**Belogornoye**	**76.31**	**322**	*de*P		**P**	**21 09 20.0**	**+0.2**
BELG				pmax		pmax		
	comp=Z,2.0nm,0.9s				

FINES	**FINES Array B**	**87.27**	**332**	P		**P**	**21 10 17.2**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=74,slow=4.0,SNR=7.8							
	comp=Z,0.9nm,0.4s							
AKASG	**Malin Array Be**	**87.86**	**321**	P		**P**	**21 10 20.9**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=69,slow=4.6,SNR=2.0							
	comp=Z,0.4nm,0.5s							
VNDA	**Vanda**	**88.54**	**173**	P		**P**	**21 10 23.5**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=319,slow=9.9,SNR=2.7							
	comp=Z,1.1nm,0.9s							
YKA	**Yellowknife Ar**	**94.84**	**24**	P		**P**	**21 10 51.1**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=308,slow=4.9,SNR=2.9							
	comp=Z,1.7nm,0.8s							
GERES	**GERESS Array B**	**98.00**	**322**	P	Pdif		21 11 07.9	+0.5
	comp=Z,0.1nm,0.3s,baz=76,slow=7.9,SNR=2.1							
	comp=Z,0.1nm,0.3s							
TORD	**Torodi Ar. Bea**	**121.12**	**291**	PKP		**PKPdf**	**21 16 24.2**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=56,slow=2.2,SNR=4.0							
PMSA	**Palmer Station**	**123.71**	**175**	PKPdf		**PKPdf**	**21 16 27.8**	**-0.2**
CMLA	**Cha da Macela**	**126.78**	**332**	*i* PKIKP		**PKiKP**	**21 16 38.3**	**+3.0**
PLCA	**Paso Flores**	**144.81**	**157**	PKPbc		**PKiKP**	**21 17 10.8**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=220,slow=2.4,SNR=3.0							

NEIC ***25*** *20:59:49.5±1.9, 53.1°S±0.1°×28.9°E±0.4, h10km±2km, mb4.5/9, Error ellipse: s-maj=40.7km s-min=24.7km az=264.0*

IDC ***25*** *20:59:49.1±1.2, 53.04°S×28.83°E, h0km, mb4.0/5, mbtmp4.0/5, MS3.5/5, Error ellipse: s-maj=39.4km s-min=29.0km az=97.0*

ISC 25 20:59:49.6±0.9, 53.1°S±0.1°×28.7°E±0.2, h10km, n21, σ1§30/18, mb4.3/7, MS3.4/5, 3C, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SUR	**Sutherland**	**21.45**	**341**			**P**	**21 04 36.5**	**-1.6**
SUR				IAmb		IAmb	21 04 48.7	
	comp=Z,41nm,1.4s							
TROLL	**Troll, Antarti**	**22.16**	**201**	⇑P		**P**	**21 04 44.5**	**-0.8**
	comp=Z,146nm,0.8s							
SNAA	**Sanae**	**23.21**	**205**	⇑P		**P**	**21 04 56.2**	**-0.1**
SNAA	**Sanae**	**23.21**	**205**	P		**P**	**21 04 56.2**	**-0.1**
SNAA				IAmb		IAmb	21 05 05.5	
	comp=Z,13nm,1.2s							
SNAA	**Sanae**	**23.21**	**205**	P		**P**	**21 04 56.4**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=48,slow=9.8,SNR=19							
SNAA				LR		LR	21 11 42.0	
	comp=Z,116nm,21.6s,baz=28,slow=31							
	comp=Z,5.4nm,0.8s							
VNA1	**Neumayer--Stat**	**24.16**	**209**	⇑P		**P**	**21 05 05.1**	**-0.4**
BOSA	**Boshof**	**24.56**	**353**	P		**P**	**21 05 09.8**	**+0.1**
BOSA				IAmb		IAmb	21 05 47.4	
	comp=Z,13nm,1.4s							
BOSA	**Boshof**	**24.56**	**353**	LR		LR	21 14 16.7	
	comp=Z,144nm,18.5s,baz=208,slow=35							
LBTB	**Lobatse**	**28.11**	**354**	LR		LR	21 15 15.4	
	comp=Z,55nm,19.6s,baz=151,slow=33							
MATP	**Matopo**	**32.58**	**360**	LR		LR	21 17 02.0	
	comp=Z,78nm,21.4s,baz=226,slow=32							
BELA	**Belgrano 2**	**33.22**	**200**	P		**P**	**21 06 25.2**	**-1.0**
QSPA	**South Pole Qui**	**37.15**	**180**	P		**P**	**21 07 00.3**	**0.0**
QSPA				IAmb		IAmb	21 07 05.1	
	comp=Z,6.1nm,0.9s							
QSPA	**South Pole Qui**	**37.15**	**180**	P		**P**	**21 07 02.9**	**+2.6**
	comp=Z,3.3nm,0.7s,baz=238,slow=4.1,SNR=13							
QSPA				LR		LR	21 22 16.7	
	comp=Z,70nm,18.9s,baz=212,slow=36							
	comp=Z,3.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**69.92**	**332**	P		**P**	**21 11 02.3**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=166,slow=5.3,SNR=4.0							
	comp=Z,0.7nm,0.7s							
ASAR	**Alice Springs**	**80.01**	**116**	P		**P**	**21 11 59.6**	**+0.4**
ASAR	**Alice Springs**	**80.01**	**116**	P		**P**	**21 12 00.6**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=211,slow=4.1,SNR=8.9							
	comp=Z,1.0nm,0.8s							
AS31	**Alice Springs**	**80.01**	**116**	P		**P**	**21 11 58.0**	**-1.2**
WRA	**Warramunga Arr**	**83.24**	**114**	P		**P**	**21 12 16.3**	**0.0**
	comp=Z,0.8nm,0.8s,baz=220,slow=6.3,SNR=9.9							
	comp=Z,0.8nm,0.8s							
WB2	**Warramunga Arr**	**83.25**	**114**	P		**P**	**21 12 16.0**	**-0.4**
WB2				IAmb		IAmb	21 12 41.9	
	comp=Z,5.4nm,1.2s							
WR8	**Warramunga Arr**	**83.32**	**114**	P		**P**	**21 12 15.2**	**-1.6**
WB0	**Warramunga Arr**	**83.41**	**114**	P		**P**	**21 12 14.9**	**-2.3**

IDC ***25*** *21:00:50.1±3.1, 35.79°N×71.36°E, h0km, mb3.9/8, mbtmp3.9/11, ML3.5/3, Error ellipse: s-maj=63.7km s-min=22.8km az=138.0*

NNC ***25*** *21:01:02.3±6.4, 36.68°N×70.79°E, h0km, mb4.2, mpv4.1, Error ellipse: s-maj=50.7km s-min=39.0km az=165.0*

ISC 25 21:01:06.5±1.4, 36.6°N±0.1×71.0°E±0.1, h100km, n23, σ1§49/28, mb3.8/6, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
EKS2	**Erkin-Say**	**6.46**	**18**	P		**Pn**	**21 02 39.3**	**+0.2**
	SNR=22							
KK31	**Karatay Array**	**6.55**	**357**	⇓P		**Pn**	**21 02 39.7**	**-0.6**
	3.9nm,0.2s,baz=176,slow=12,SNR=256							
KK31				S		**Sn**	**21 03 56.0**	**+2.6**
	2.4nm,0.3s,baz=184,slow=23,SNR=4.4							
AAK	**Ala-Archa**	**6.63**	**23**	P		**Pn**	**21 02 41.7**	**+0.2**
	SNR=13							
AAK	**Ala-Archa**	**6.63**	**23**	⇑P		**Pn**	**21 02 41.0**	**-0.5**
	5.9nm,0.5s							
AAK				⇑S		**Sn**	**21 03 55.8**	**0.0**
	14nm,1.2s							
AAK	**Ala-Archa**	**6.63**	**23**	Pn		**Pn**	**21 02 41.0**	**-0.5**
	6.5nm,0.3s,baz=178,slow=6.8,SNR=25							
AAK				Sn		**Sn**	**21 03 56.3**	**+0.6**
	baz=149,slow=23,SNR=1.6							
	16nm,0.4s							
KBK	**Karagaybulak**	**6.80**	**25**	P		**Pn**	**21 02 44.3**	**+0.4**
	SNR=6.3							
CHMS	**Chumysh**	**7.04**	**23**	P		**Pn**	**21 02 47.1**	**+0.1**
	SNR=6.0							
USP	**Ospenovka**	**7.21**	**21**	P		**Pn**	**21 02 49.9**	**+0.6**
	SNR=19							
TKM2	**Tokmak 2**	**7.26**	**28**	P		**Pn**	**21 02 49.9**	**-0.2**
	SNR=20							
MKAR	**Makanchi Array**	**13.23**	**36**	Pn		**Pn**	**21 04 08.2**	**-2.1**
	0.1nm,0.3s,baz=222,slow=13,SNR=6.7							
	0.6nm,0.7s							
AB31	**Akbulak array**	**15.04**	**331**	P		**Pn**	**21 04 31.5**	**-2.1**
	0.5nm,0.3s,baz=139,slow=13,SNR=25							
AB31				S		**Sn**	**21 07 16.7**	**-2.8**
	1.4nm,0.7s,baz=152,slow=23,SNR=3.7							
KURBB	**Kurchatov Arra**	**15.06**	**19**	Pn		**P**	**21 04 36.1**	**-0.6**
	0.1nm,0.3s,baz=207,slow=10,SNR=4.5							
BVAR	**Borovoye Array**	**16.47**	**359**	P		**Pn**	**21 04 50.8**	**-0.6**
	0.1nm,0.3s,baz=162,slow=11,SNR=8.3							
	0.9nm,0.4s							
AKTO	**Aktyubinsk**	**16.74**	**330**	⇓P		**P**	**21 04 55.8**	**+0.4**
	3.5nm,0.8s							
AKTO				⇓S		**Sn**	**21 07 57.5**	**-2.9**
	2.3nm,1.1s							
ZALV	**Zalesovo Beam**	**19.85**	**25**	P		**P**	**21 05 28.6**	**-0.8**
	3.7nm,0.5s,baz=207,slow=10,SNR=17							
	3.7nm,0.5s							
AKASG	**Malin Array Be**	**32.93**	**309**	P		**P**	**21 07 32.6**	**+1.4**
	0.8nm,0.5s,baz=81,slow=7.0,SNR=5.3							
	0.8nm,0.5s							
FINES	**FINESS Array B**	**37.45**	**326**	P		**P**	**21 08 11.5**	**+1.7**
	0.6nm,0.3s,baz=121,slow=8.2,SNR=9.9							
	0.6nm,0.3s							
ARCES	**ARCESS Array B**	**41.10**	**338**	P		**P**	**21 08 41.4**	**+1.3**
	1.1nm,0.7s,baz=114,slow=8.6,SNR=6.9							
	1.1nm,0.7s							
HFS	**Hagfors**	**43.03**	**322**	P		**P**	**21 08 57.6**	**+1.7**
	2.1nm,0.5s,baz=107,slow=7.7,SNR=18							
	2.1nm,0.5s							
NB2	**NORSAR Subarra**	**44.35**	**323**	P		**P**	**21 09 07.1**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=99,slow=7.9							
NOA	**NORSAR Array B**	**44.35**	**323**	P		**P**	**21 09 07.5**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=98,slow=7.7,SNR=9.8							
	comp=Z,0.8nm,0.5s							
EKA	**Eskdalemuir Ar**	**52.26**	**316**	P		**P**	**21 10 08.7**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=70,slow=7.3,SNR=2.1							
	comp=Z,0.6nm,0.5s							
TORD	**Torodi Ar. Bea**	**65.74**	**269**	P		**P**	**21 11 38.4**	**-2.6**
	comp=Z,1.4nm,0.5s,baz=48,slow=6.4,SNR=17							
	comp=Z,1.4nm,0.5s							

NEIC ***25*** *21:07:29.4±1.8, 19.11°N±0.03×67.20°W±0.03, h10km±2km, ML2.8/15, Md2.9/15(RSPR), Error ellipse: s-maj=5.9km s-min=5.0km az=20.0*

RSPR ***25*** *21:07:32.6, 19.10°N×67.25°W, h56km±5km, MD2.9/15*

OSPL ***25*** *21:07:32.4±0.3, 19.07°N×67.40°W, h18km±2km, ML2.6*

ISC 25 21:07:29.9±2.0, 19.12°N±0.08×67.15°W±0.04, h9km±10km, n49, σ0§48/62, 11C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.65**	**177**			**Pb**	**21 07 44.0**	**+0.6**
AGPR						**Sb**	**21 07 52.6**	**+0.1**
AGPR	**Aguadilla, PR**	**0.65**	**177**	⇓*e*P		**Pb**	**21 07 44.0**	**+0.6**
AGPR	**Aguadilla, PR**	**0.65**	**177**	*e*S		**Sb**	**21 07 52.6**	**+0.1**
AGPR	**Aguadilla, PR**	**0.65**	**177**	*i* P		**Pb**	**21 07 44.1**	**+0.8**
AGPR				*e*S		**Sb**	**21 07 52.7**	**+0.3**
AGPR				IAML			21 07 54.0	
	comp=Z,306nm,0.2s							
IDE	**Isla Desecheo**	**0.79**	**203**			**Pb**	**21 07 46.1**	**+0.3**
IDE						**Sb**	**21 07 57.8**	**+1.2**
IDE	**Isla Desecheo**	**0.79**	**203**	⇓*e*P		**Pb**	**21 07 46.1**	**+0.3**
IDE	**Isla Desecheo**	**0.79**	**203**	*e*S		**Sb**	**21 07 57.8**	**+1.2**
AOPR	**Arecibo Observ**	**0.85**	**154**			**Pb**	**21 07 47.2**	**+0.3**
AOPR						**Sn**	**21 08 00.0**	**-0.7**
AOPR	**Arecibo Observ**	**0.85**	**154**	⇓*e*P		**Pb**	**21 07 47.2**	**+0.3**
AOPR	**Arecibo Observ**	**0.85**	**154**	*e*S		**Sn**	**21 08 00.0**	**-0.7**
EMPR	**Esperanza - Ma**	**0.86**	**137**	Pn		**Pn**	**21 07 48.1**	**-0.2**
EMPR				Sn		**Sn**	**21 08 00.7**	**-0.3**
EMPR	**Esperanza - Ma**	**0.86**	**137**	⇓*e*P		**Pn**	**21 07 48.5**	**+0.2**
EMPR	**Esperanza - Ma**	**0.86**	**137**	*e*S		**Sn**	**21 08 01.9**	**+0.8**
PRSN	**Puerto Rico Se**	**0.89**	**180**	Pn		**Pb**	**21 07 47.4**	**-0.1**
PRSN				Sn		**Sb**	**21 07 59.6**	**0.0**
PRSN	**Puerto Rico Se**	**0.89**	**180**	⇑*e*P		**Pb**	**21 07 47.8**	**+0.2**
PRSN	**Puerto Rico Se**	**0.89**	**180**	*e*S		**Sb**	**21 08 00.0**	**+0.4**
LSP	**Las Mesas**	**0.94**	**176**			**Pb**	**21 07 48.7**	**+0.3**
LSP	**Las Mesas**	**0.94**	**176**	⇑*e*P		**Pb**	**21 07 48.7**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.95**	**154**			**Pg**	**21 07 48.3**	**+0.1**
UUPR						**Sg**	**21 07 59.8**	**-0.7**
UUPR	**Utuado, UPR, P**	**0.95**	**154**	⇑*e*P		**Pn**	**21 07 49.2**	**-0.2**
ECPR	**Experimental S**	**1.09**	**137**	⇑*e*P		**Pn**	**21 07 51.4**	**0.0**
ECPR	**Experimental S**	**1.09**	**137**	*e*S		**Sn**	**21 08 06.1**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.10**	**178**			**Pg**	**21 07 50.9**	**-0.2**
CRPR						**Sg**	**21 08 05.3**	**-0.2**
CRPR				IAML			21 08 06.8	
	comp=E,229nm,0.3s							
CRPR				IAML			21 08 16.6	
	comp=N,194nm,0.5s							
CRPR	**Cabo Rojo, PR**	**1.10**	**178**	⇑*e*P		**Pg**	**21 07 51.0**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.10**	**178**	*e*S		**Sg**	**21 08 05.5**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.10**	**178**	*i* P		**Pg**	**21 07 51.1**	**-0.1**
CRPR				*e*S		**Sg**	**21 08 05.0**	**-0.4**
CRPR				IAML			21 08 07.2	
	comp=Z,227nm,0.3s							
MLPR	**Magueyes Islan**	**1.14**	**175**	⇑*e*P		**Pb**	**21 07 51.6**	**-0.2**
MLPR	**Magueyes Islan**	**1.14**	**175**	*e*S		**Sg**	**21 08 06.4**	**-0.3**
GBPR	**Guanica, Bosqu**	**1.16**	**167**			**Pn**	**21 07 52.5**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.16**	**167**	⇑*e*P		**Pn**	**21 07 52.5**	**+0.1**
CELP	**Cerrillos**	**1.17**	**152**			**Pb**	**21 07 52.3**	**0.0**
CELP				Sn		**Sg**	**21 08 06.1**	**-1.4**
CELP				IAML			21 08 15.2	
	comp=E,151nm,0.6s							
CELP				IAML			21 08 17.4	
	comp=N,209nm,0.5s							
CELP	**Cerrillos**	**1.17**	**152**	⇑*e*P		**Pn**	**21 07 52.6**	**+0.1**
CELP	**Cerrillos**	**1.17**	**152**	*e*S		**Sb**	**21 08 07.7**	**+0.1**
OBIP	**Obispado Ponce**	**1.19**	**154**			**Pb**	**21 07 52.5**	**0.0**
OBIP						**Sb**	**21 08 07.7**	**-0.4**
OBIP				IAML			21 08 09.0	
	comp=N,172nm,0.6s							
OBIP				IAML			21 08 16.3	
	comp=E,187nm,0.5s							
OBIP	**Obispado Ponce**	**1.19**	**154**	⇓*e*P		**Pn**	**21 07 52.7**	**0.0**
OBIP	**Obispado Ponce**	**1.19**	**154**	*e*S		**Sb**	**21 08 07.8**	**-0.2**
GCPR	**Guaynabo City**	**1.29**	**128**	Pn		**Pn**	**21 07 54.0**	**-0.2**
SJG	**San Juan**	**1.38**	**136**			**Pn**	**21 07 55.0**	**-0.3**
SJG				IAML			21 08 21.4	
	comp=E,142nm,0.4s							
SJG				IAML			21 08 21.8	
	comp=E,166nm,0.2s							
SJG	**San Juan**	**1.38**	**136**	⇓*e*P		**Pg**	**21 07 57.1**	**+0.7**
SJG	**San Juan**	**1.38**	**136**	*e*S		**Sg**	**21 08 14.9**	**+0.6**
SJG	**San Juan**	**1.38**	**136**	*i* P		**Pg**	**21 07 57.1**	**+0.7**
SJG				IAML			21 08 21.4	
	comp=Z,77nm,0.3s							
IGPR	**InterUniversit**	**1.51**	**139**			**Pg**	**21 07 59.0**	**+0.1**
IGPR						**Sn**	**21 08 17.0**	**0.0**
IGPR	**InterUniversit**	**1.51**	**139**	⇑*e*P		**Pg**	**21 07 59.0**	**+0.1**
IGPR	**InterUniversit**	**1.51**	**139**	*e*S		**Sn**	**21 08 17.0**	**0.0**
PDPR	**Patillas Dam,**	**1.53**	**135**			**Pb**	**21 07 58.4**	**-0.1**
PDPR				Sn		**Sn**	**21 08 16.7**	**-0.8**
PDPR				IAML			21 08 23.3	
	comp=N,86nm,0.3s							
PDPR	**Patillas Dam,**	**1.53**	**135**	⇑*e*P		**Pb**	**21 07 58.6**	**+0.2**
PDPR	**Patillas Dam,**	**1.53**	**135**	*e*S		**Sn**	**21 08 17.4**	**0.0**
HUMP	**Col San Antoni**	**1.57**	**128**	Pn		**Pn**	**21 07 58.2**	**+0.2**
SDDR	**Presa de Saban**	**3.92**	**269**	Pn		**Pn**	**21 08 29.7**	**-0.7**

NAO ***25*** *21:15:13.5, 35.66°N×22.52°E, h10km, MB3.7*

BEO ***25*** *21:15:42.7±2.1, 38.44°N×20.17°E, h16km±1km, ML2.9/3*

IDC ***25*** *21:15:43.1±1.2, 38.84°N×20.66°E, h0km, mb3.5/7, mbtmp3.4/12, ML3.0/3, Error ellipse: s-maj=22.1km s-min=18.0km az=144.0*

ATH ***25*** *21:15:43.0, 38.69°N×20.52°E, h16km±1km, ML3.4/21, Manual Solution by M.Kolligri First location: 2019/09/25 21:16:41, This location: 2019/09/25 21:26:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

THE ***25*** *21:15:44.3, 38.7°N±0.5°×21°E±°, h9km±1km, M3.3/21, MLh3.3/21*

ISC 25 21:15:44.3±0.7, 38.66°N±0.02×20.60°E±0.02, h11km±4km, n90, σ0§97/123, mb3.6/6, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
EVGl	**Lefkada island**	**0.06**	**128**	P		**Pg**	**21 15 46.5**	**-0.1**
EVGl				S		**Sg**	**21 15 48.1**	**-0.1**
NYDR	**Nydri-Lefkada**	**0.10**	**54**	P		**Pg**	**21 15 46.8**	**-0.1**
NYDR				S		**Sg**	**21 15 48.4**	**-0.5**
LKD2	**Lefkada island**	**0.14**	**20**	P		**Pg**	**21 15 47.5**	**-0.2**
LKD2				S		**Sg**	**21 15 50.0**	**0.0**
LKD2	**Lefkada island**	**0.14**	**20**	P		**Pg**	**21 15 47.5**	**-0.2**
LKD2				S		**Sg**	**21 15 49.9**	**-0.1**
TSLK	**Tsoukalades, L**	**0.17**	**15**	P		**Pg**	**21 15 48.2**	**+0.1**
TSLK				S		**Sg**	**21 15 51.3**	**+0.4**
FSK	**Fiskardo**	**0.20**	**188**	P		**Pg**	**21 15 48.5**	**-0.1**
FSK				S		**Sg**	**21 15 51.7**	**+0.2**
FSK	**Fiskardo**	**0.20**	**188**	P		**Pg**	**21 15 48.5**	**-0.1**
FSK				S		**Sg**	**21 15 51.5**	**+0.1**
VSK1	**VASILIKIADES**	**0.25**	**186**	P		**Pg**	**21 15 49.3**	**-0.1**
VSK1				S		**Sg**	**21 15 53.3**	**+0.4**
AST1	**Astakos**	**0.40**	**107**	P		**Pg**	**21 15 52.5**	**+0.2**
AST1				S		**Sg**	**21 15 59.2**	**+1.6**
SMHA	**Samh**	**0.41**	**174**	P		**Pg**	**21 15 51.0**	**-1.4**
SMHA				S		**Sg**	**21 15 57.2**	**-0.5**
LXR1	**Lixouri, Cepha**	**0.47**	**195**	P		**Pg**	**21 15 53.4**	**-0.1**
LXR1				S		**Sb**	**21 16 00.9**	**-0.7**
VLS	**Valsamata**	**0.48**	**181**	P		**Pg**	**21 15 52.9**	**-0.8**
VLS				S		**Sg**	**21 16 00.7**	**+0.7**
VLS	**Valsamata**	**0.48**	**181**	P		**Pg**	**21 15 53.1**	**-0.5**
VLS				S		**Sg**	**21 16 00.5**	**+0.5**
ARG2	**Argostoli**	**0.49**	**190**	P		**Pg**	**21 15 53.4**	**-0.4**
ARG2				S		**Sg**	**21 16 00.5**	**+0.3**
ARG2	**Argostoli**	**0.49**	**190**	P		**Pg**	**21 15 53.2**	**-0.6**
ARG2				S		**Sg**	**21 16 00.7**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.54**	**181**	P		**Pg**	**21 15 54.4**	**-0.5**
PSDA				S		**Sg**	**21 16 03.0**	**+0.9**
PSDA	**Pessada-Kefalo**	**0.54**	**181**	P		**Pg**	**21 15 54.4**	**-0.5**
PSDA				S		**Sg**	**21 16 02.5**	**+0.5**
AMPL	**Ampelaki**	**0.55**	**61**	P		**Pg**	**21 15 54.8**	**-0.2**
AMPL				S		**Sg**	**21 16 03.2**	**+0.9**
RTZL	**Ratzakli, Kefa**	**0.60**	**167**	P		**Pg**	**21 15 55.4**	**-0.5**
RTZL				S		**Sg**	**21 16 04.9**	**+1.1**
MSL1	**Messolongi**	**0.71**	**113**	P		**Pg**	**21 15 58.1**	**+0.1**
PVO	**Paravola**	**0.73**	**93**	P		**Pg**	**21 15 58.6**	**+0.2**
PVO				S		**Sb**	**21 16 09.8**	**+0.9**
PVO	**Paravola**	**0.73**	**93**	P		**Pg**	**21 15 58.8**	**+0.4**
AXS	**Araxos**	**0.77**	**127**	P		**Pg**	**21 15 58.8**	**-0.3**
AXS				S		**Sb**	**21 16 10.7**	**+0.7**
AXS	**Araxos**	**0.77**	**127**	P		**Pg**	**21 15 58.8**	**-0.3**
AXS				S		**Sg**	**21 16 10.2**	**+1.1**
ORTH	**Orthonies,Zaky**	**0.81**	**174**	P		**Pg**	**21 15 58.9**	**-1.1**
ORTH				S		**Sg**	**21 16 10.9**	**+0.4**
ORTH	**Orthonies,Zaky**	**0.81**	**174**	P		**Pg**	**21 15 58.7**	**-1.2**
ORTH				S		**Sg**	**21 16 10.9**	**+0.4**
KYPS	**Kipseli, Zakin**	**0.86**	**168**	P		**Pg**	**21 16 00.7**	**-0.1**
KYPS				S		**Sb**	**21 16 13.1**	**+0.4**
TETR	**Tetrakomo, Epi**	**0.87**	**37**	P		**Pg**	**21 16 00.2**	**-0.8**
TETR	**Tetrakomo, Epi**	**0.87**	**37**	P		**Pg**	**21 16 00.3**	**-0.8**
TETR				S		**Sg**	**21 16 13.0**	**+0.6**
CLEM	**Kyllini,Ilia,G**	**0.87**	**151**	P		**Pg**	**21 16 00.9**	**-0.2**
CLEM				S		**Sb**	**21 16 13.9**	**+0.8**
LCHA	**Lechaina**	**0.89**	**144**	P		**Pg**	**21 16 02.1**	**+0.7**
IGT	**Igoumenitsa**	**0.90**	**347**	P		**Pg**	**21 16 00.7**	**-1.0**
IGT				S		**Sb**	**21 16 14.4**	**+0.5**
IGT	**Igoumenitsa**	**0.90**	**347**	*e*Pg		**Pb**	**21 16 02.3**	**+0.4**
IGT				*e*Sg		**Sn**	**21 16 17.7**	**+1.8**
IGT	**Igoumenitsa**	**0.90**	**347**	P		**Pg**	**21 16 00.6**	**-1.0**
RLS	**Riolos of Patr**	**0.91**	**131**	P		**Pg**	**21 16 01.2**	**-0.6**
RLS				S		**Sb**	**21 16 15.8**	**+1.7**
RLS	**Riolos of Patr**	**0.91**	**131**	P		**Pg**	**21 16 01.2**	**-0.6**
LTHK	**Lithakia**	**0.96**	**169**	P		**Pg**	**21 16 01.9**	**-1.0**
LTHK				S		**Sb**	**21 16 16.4**	**+0.6**
EVR	**Evrytania**	**0.98**	**74**	P		**Pg**	**21 16 02.7**	**-0.5**
EVR	**Evrytania**	**0.98**	**74**	P		**Pg**	**21 16 02.6**	**-0.6**
UPR	**University Cam**	**1.00**	**111**	P		**Pg**	**21 16 03.4**	**-0.2**
KRI1	**kERI**	**1.01**	**170**	P		**Pg**	**21 16 02.1**	**-1.7**
JAN	**Janina**	**1.02**	**11**	P		**Pg**	**21 16 03.4**	**-0.5**
ANX	**Ano Chora**	**1.04**	**93**	P		**Pg**	**21 16 03.4**	**-0.9**
EFP	**Efpalio**	**1.05**	**102**	P		**Pg**	**21 16 03.5**	**-1.0**
EFP	**Efpalio**	**1.05**	**102**	P		**Pg**	**21 16 03.6**	**-0.9**
DRO	**Drossia**	**1.12**	**128**	P		**Pb**	**21 16 05.0**	**-0.8**
DRO	**Drossia**	**1.12**	**128**	P		**Pb**	**21 16 05.0**	**-0.8**
SERG	**Sergoula**	**1.17**	**102**	P		**Pb**	**21 16 05.7**	**-0.8**
SERG	**Sergoula**	**1.17**	**102**	P		**Pb**	**21 16 05.8**	**-0.8**
KALE	**Kalithea**	**1.24**	**102**	P		**Pn**	**21 16 06.9**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.25**	**73**	P		**Pn**	**21 16 07.8**	**0.0**
KLV	**Kalavryta, Ach**	**1.37**	**116**	P		**Pn**	**21 16 08.5**	**-0.9**
KLV	**Kalavryta, Ach**	**1.37**	**116**	P		**Pn**	**21 16 08.5**	**-0.9**
AMT	**Artemida-Makis**	**1.43**	**142**	P		**Pn**	**21 16 10.6**	**+0.5**
THL	**Klokotos Trika**	**1.43**	**50**	P		**Pn**	**21 16 10.1**	**0.0**
GUR	**Goura**	**1.55**	**117**	P		**Pn**	**21 16 11.8**	**-0.2**
AXAR	**Agios Charalam**	**1.62**	**85**	P		**Pn**	**21 16 12.6**	**-0.2**
TYRN	**Tyrnavos**	**1.65**	**50**	P		**Pn**	**21 16 14.3**	**+1.1**
OHR	**Ohrid**	**2.46**	**4**	*i* Pn		**Pb**	**21 16 27.3**	**-1.2**
VAY	**Valandovo**	**3.06**	**29**	*i* Pn		**Pg**	**21 16 41.8**	**-1.2**
SRS	**Serrai**	**3.37**	**42**	*e*Pn		**Pn**	**21 16 40.8**	**+3.9**
DRME	**Dracevica, Mon**	**3.69**	**343**	*e*Pn		**Pn**	**21 16 41.5**	**+0.3**
BOSS	**Bosilegrad**	**4.09**	**20**	*e*Pn		**Pn**	**21 16 49.1**	**+2.3**
BEY	**Berane**	**4.24**	**353**	*e*Pn		**Pn**	**21 16 50.4**	**+1.4**
BARS	**Barje**	**4.26**	**12**	*e*Pn		**Pn**	**21 16 49.6**	**+0.5**
TREB	**Trebinje**	**4.40**	**338**	*e*Pn		**Pn**	**21 16 50.1**	**-0.9**
VTS	**Vitosha**	**4.44**	**26

BTK				⇑	*i*S		**Sn**	**21 36 01.1**	**+1.9**
TARG	**Taragay, Kyrgy**	**3.21**	**43**	⇓	*e*P		**Pn**	**21 35 22.6**	**+0.6**
TARG				⇓	*e*S		**Sn**	**21 36 02.1**	**+1.5**
AAK	**Ala-Archa**	**3.22**	**355**	⇑	Pg		**Pb**	**21 35 28.3**	**-0.1**
	27nm,1.2s								
AAK				⇓	Lg		Lg	21 36 17.4	
	15nm,0.9s								
KDJ	**Kajisay**	**3.23**	**32**	⇑	*e*P		**Pn**	**21 35 22.6**	**+0.6**
KDJ				⇑	*e*S		**Sn**	**21 36 02.6**	**+2.1**
FRU1	**Bishkek**	**3.38**	**357**	⇑	*e*P		**Pn**	**21 35 25.6**	**+1.6**
FRU1				⇑	*e*S		**Sn**	**21 36 07.4**	**+3.1**
TRKS	**Terek-Say**	**3.52**	**308**	⇑	*e*P		**Pn**	**21 35 26.4**	**+0.3**
TRKS				⇑	*i*S		**Sn**	**21 36 09.1**	**+1.2**
MRKS	**Merke**	**3.53**	**340**		*e*P		**Pg**	**21 35 36.0**	**-2.8**
	11nm,0.7s								
MRKS					*e*S		**Sg**	**21 36 26.1**	**+1.5**
	17nm,0.7s								
KST	**Kastek**	**3.71**	**13**		*e*P		**Pb**	**21 35 37.1**	**+0.4**
	4.1nm,0.6s								
KST					*e*S		**Sg**	**21 36 28.0**	**-2.1**
	29nm,0.8s								
MTBS	**Maitube**	**3.88**	**17**		Pg		**Pg**	**21 35 41.8**	**-3.7**
	5.1nm,0.4s								
MTBS					Lg		Lg	21 36 36.0	
	16nm,0.7s								
MTBS	**Maitube**	**3.88**	**17**		*e*P		**Pg**	**21 35 41.8**	**-3.7**
	5.1nm,0.4s								
MTBS					*e*S		**Sg**	**21 36 36.0**	**+0.2**
	16nm,0.7s								
TNSS	**Tian-Shan**	**3.94**	**23**		Pg		**Pg**	**21 35 43.9**	**-2.6**
TNSS					Lg		Lg	21 36 39.5	
	8.1nm,1.2s								
TNSS	**Tian-Shan**	**3.94**	**23**		*e*P		**Pg**	**21 35 43.9**	**-2.6**
TNSS					*e*S		**Sg**	**21 36 39.5**	**+2.0**
	8.1nm,1.2s								
PRZ	**Przheval'sk**	**4.06**	**40**	⇑	*e*P		**Pn**	**21 35 34.2**	**+0.7**
PRZ				⇑	*e*S		**Sn**	**21 36 22.3**	**+1.1**
MDOK	**Medeo**	**4.08**	**23**		Pg		**Pg**	**21 35 46.2**	**-3.0**
	7.6nm,0.6s								
MDOK					Lg		Lg	21 36 43.5	
	20nm,1.2s								
KNDC	**Almaty**	**4.11**	**22**	⇑	Pg		**Pg**	**21 35 46.6**	**-3.2**
	14nm,0.5s								
KNDC				⇑	Lg		Lg	21 36 44.8	
	49nm,1.0s								
KOTS	**Kotyrbulak**	**4.16**	**23**		Pg		**Pg**	**21 35 47.5**	**-3.4**
	10nm,0.5s								
KOTS					Lg		Lg	21 36 45.6	
	61nm,0.7s								
KOTS	**Kotyrbulak**	**4.16**	**23**		*e*P		**Pg**	**21 35 47.5**	**-3.4**
	10nm,0.5s								
KOTS					*e*S		**Sg**	**21 36 45.6**	**+0.8**
	61nm,0.7s								
KRBS	**Karabastau**	**4.31**	**8**		Pg		**Pg**	**21 35 51.2**	**-2.4**
	6.9nm,0.6s								
KRBS					Lg		Lg	21 36 52.2	
	15nm,0.9s								
KTBS	**Karatobe**	**4.49**	**17**		Pg		**Pg**	**21 35 53.3**	**-3.9**
	6.8nm,0.7s								
KTBS					Lg		Lg	21 36 56.1	
	22nm,0.7s								
SATY	**Saty**	**4.51**	**35**		Pg		**Pb**	**21 35 51.5**	**+1.1**
	15nm,0.7s								
SATY					Lg		Lg	21 36 52.8	
	23nm,1.1s								
IUG	**Iuzhnay**	**4.56**	**308**		Pg		**Pg**	**21 35 56.6**	**-1.8**
	52nm,0.7s								
IUG					Lg		Lg	21 37 01.3	
	50nm,0.9s								
KUU	**Kurty**	**4.60**	**14**		Pg		**Pg**	**21 35 55.5**	**-3.6**
KUU					Lg		Lg	21 36 59.5	
KUU	**Kurty**	**4.60**	**14**		*e*P		**Pg**	**21 35 55.5**	**-3.6**
KUU					*e*S		**Sg**	**21 36 59.5**	**+0.8**
CHKK	**Chushkaly**	**4.70**	**19**		*e*P		Pg	21 35 55.9	-5.2
	3.8nm,0.6s								
CHKK					*e*S		**Sg**	**21 37 00.6**	**-1.4**
	12nm,0.6s								
KURS	**Kuram**	**4.76**	**30**		Pg		Pg	21 35 56.7	-5.6
	5.8nm,1.1s								
KURS					Lg		Lg	21 37 01.7	
	16nm,1.8s								
UZB	**Uzynbulak**	**4.86**	**39**		Pg		**Pb**	**21 35 57.6**	**+1.1**
	7.1nm,0.5s								
UZB					Lg		Lg	21 37 03.3	
	9.4nm,0.8s								
UZB	**Uzynbulak**	**4.86**	**39**		*e*P		**Pb**	**21 35 57.6**	**+1.1**
	7.1nm,0.5s								
UZB					*e*S		**Sg**	**21 37 03.3**	**-3.9**
	9.4nm,0.8s								
KK31	**Karatay Array**	**4.92**	**320**	⇑	Pn		**Pn**	**21 35 45.9**	**+0.8**
	0.5nm,0.3s,baz=129,slow=13,SNR=22								
KK31				⇓	Pg		**Pb**	**21 35 59.9**	**+2.5**
	4.1nm,0.7s,baz=134,slow=13,SNR=3.8								
KK31				⇑	Sn		**Sn**	**21 36 46.4**	**+4.3**
	3.6nm,0.6s								
KK31				⇑	Lg		Lg	21 37 08.1	
	6.3nm,0.7s								
KPKS	**Kokpek**	**4.96**	**34**		Pg		**Pb**	**21 35 59.5**	**+1.5**
	0.3nm,0.2s								
KPKS					Lg		Lg	21 37 06.8	
	19nm,1.0s								
SHLS	**Shalkode**	**5.09**	**41**		Pg		**Pg**	**21 36 06.7**	**-1.9**
	14nm,0.7s								
SHLS					Lg		Lg	21 37 18.9	
	23nm,1.0s								
SHLS	**Shalkode**	**5.09**	**41**		*e*P		**Pg**	**21 36 06.7**	**-1.9**
	14nm,0.7s								
SHLS					*e*S		**Sg**	**21 37 18.9**	**+4.3**
	23nm,1.0s								
BRLS	**Boroldaу**	**5.22**	**315**		Pg		**Pg**	**21 36 08.6**	**-2.5**
	5.0nm,0.6s								
BRLS					Lg		Lg	21 37 22.1	
	6.1nm,1.0s								
BRLS	**Boroldaу**	**5.22**	**315**		*e*P		**Pg**	**21 36 08.6**	**-2.5**
	5.0nm,0.6s								
BRLS					*e*S		**Sg**	**21 37 22.1**	**+3.5**
	6.1nm,1.0s								
PDGK	**Podgornoye**	**5.23**	**40**	⇑	Pn		**Pn**	**21 35 47.7**	**-1.7**
	9.3nm,1.2s								
PDGK				⇑	Pg		**Pb**	**21 36 02.5**	**-0.2**
	10nm,1.0s								
PDGK				⇑	Sn		**Sn**	**21 36 54.7**	**+4.9**
	18nm,0.9s								
PDGK				⇓	Lg		Lg	21 37 17.9	
	25nm,1.0s								

*DJA **25** 21:41:31.0±0.3, 1°S±3″×12°8E±°, h10km, M3.9/11, mb4.3/1, MLv3.6/11*
*IDC **25** 21:41:56.5±2.3, 3°.49S×129°.23E, h0km, mb3.3/2, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=108.8km s-min=20.2km az=72.0*
ISC 25 21:41:30.3±1.2, 1°.18S±0°.09×128°.30E±0°.08, h17km, n11, σ1♀98/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**2.15**	**334**	P		**Pn**	**21 42 04.9**	**-0.5**
MSAI	**Masohi**	**2.24**	**164**	P		**Pg**	**21 42 12.7**	**-0.6**
NLAI	**Namlea**	**2.37**	**210**	P		**Pg**	**21 42 13.6**	**-2.2**
SANI	**Sanana**	**2.46**	**250**	P		**Pb**	**21 42 13.4**	**-0.8**
AAI	**Ambon**	**2.49**	**182**	P		**Pg**	**21 42 16.4**	**-1.7**
SWI	**Sorong**	**2.98**	**84**	P		**Pn**	**21 42 15.4**	**-1.4**
APSI	**Ampana**	**6.65**	**272**	P		**Pn**	**21 43 10.4**	**+3.0**
FITZ	**Fitzroy Crossi**	**17.01**	**189**	Pn		**P**	**21 45 28.7**	**-0.7**
	baz=6.3,slow=9.2,SNR=1.9							
FITZ				Sn		Sn	21 48 07.3	-29
	0.1nm,0.3s,baz=160,slow=10,SNR=2.3							
	2.3nm,1.1s							
WRA	**Warramunga Arr**	**19.56**	**163**	P		**Pn**	**21 45 59.0**	**+0.2**
	0.3nm,0.3s,baz=345,slow=12,SNR=14							
	1.0nm,0.6s							
ASAR	**Alice Springs**	**23.00**	**167**	P		**P**	**21 46 37.1**	**+2.6**
	1.0nm,0.7s,baz=346,slow=10,SNR=19							
ASAR				S		S	21 50 28.8	-16
	0.3nm,0.7s,baz=356,slow=26,SNR=2.1							
	1.0nm,0.7s							
MKAR	**Makanchi Array**	**62.47**	**326**	P		P	21 52 37.6	+45
	0.2nm,0.6s,baz=111,slow=7.9,SNR=1.5							
	0.2nm,0.6s							

*SJA **25** 21:59:45.1±0.7, 23°.18S×66°.44W, h254km±6km, ML4.3, MW3.9*
*IDC **25** 21:59:46.3±1.5, 23°.22S×66°.41W, h214km±15km, mb3.1/3, mbtmp3.9/10, Error ellipse: s-maj=19.4km s-min=14.6km az=73.0*
*NEIC **25** 21:59:47.3±1.4, 23°.26S±0°.08×66°.6W±0°.1, h239km±12km, mb4.1/4, ML4.3(GUC), Error ellipse: s-maj=18.8km s-min=11.7km az=99.0*
*GUC **25** 21:59:47.4±0.6, 23°.24S×66°.59W, h235km±8km, ML4.3*
*VAO **25** 21:59:50.2±1.7, 22°.94S×66°.29W, h239km, mb4.0*
ISC 25 21:59:46.7±0.6, 23°.22S±0°.04×66°.51W±0°.04, h227km±7km, n88, σ1♀46/114, 4C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SALTA		**1.01**	**171**	*e*P		**Pn**	**22 00 16.1**	**-3.8**
SALTA				*e*P			22 00 21.3	
HJA	**Humahuaca**	**1.02**	**89**	*e*P		**Pn**	**22 00 21.1**	**+1.2**
YJA	**Yavi**	**1.39**	**42**	*e*P		**Pn**	**22 00 23.9**	**+1.3**
YJA	**Yavi**	**1.39**	**42**	*e*P		**Pn**	**22 00 23.7**	**+1.2**
YJA				*e*S		**S**	**22 00 45.9**	**-4.5**
AF01	**San Pedro de A**	**1.56**	**280**			**Pn**	**22 00 25.4**	**+1.8**
AF01				Sn		**S**	**22 00 55.1**	**+2.7**
AF01	**San Pedro de A**	**1.56**	**280**	*e*P		**Pn**	**22 00 26.1**	**+2.4**
AF01				*e*S		S	22 01 03.3	+11
AZAP	**Zapla**	**1.66**	**127**	*e*P		**Pn**	**22 00 24.9**	**+0.4**
SLA	**San Lorenzo**	**1.75**	**148**	*e*P		**Pn**	**22 00 26.7**	**+1.5**
SLA				*e*S		**S**	**22 00 59.1**	**+3.9**
PB06	**IPOC Station P**	**2.87**	**280**			**Pn**	**22 00 37.0**	**+0.6**
PB06	**IPOC Station P**	**2.87**	**280**	⇑	*e*P	**Pn**	**22 00 37.4**	**+0.9**
PB06					*e*S	**S**	**22 01 14.7**	**-0.7**
PB06					IAML		22 01 17.4	
	comp=E,768nm,0.1s							
PB06	**IPOC Station P**	**2.87**	**280**	*e*P		**Pn**	**22 00 37.9**	**+1.4**
PB06				*e*S		**S**	**22 01 15.8**	**+0.4**
PB06					IAML		22 01 19.7	
	comp=Z,414nm,0.1s							
PB09	**IPOC Station P**	**2.89**	**299**			**Pn**	**22 00 38.3**	**+1.5**
PB09	**IPOC Station P**	**2.89**	**299**	⇑	*e*P	**Pn**	**22 00 38.3**	**+1.5**
PB09					*e*S	**S**	**22 01 16.2**	**+0.2**
PB09					IAML		22 01 21.1	
	comp=E,261nm,0.3s							
PB09	**IPOC Station P**	**2.89**	**299**	*e*P		**Pn**	**22 00 38.3**	**+1.5**
PB09				*e*S		**S**	**22 01 16.8**	**+0.8**
PB09					IAML		22 01 17.6	
	comp=Z,306nm,0.6s							
FSA	**Cafayete**	**2.92**	**171**	*e*P		**Pn**	**22 00 38.2**	**+1.2**
FSA				*e*S		**S**	**22 01 17.3**	**+0.7**
PB03	**IPOC Station P**	**3.21**	**291**			**Pn**	**22 00 41.1**	**+0.7**
PB03	**IPOC Station P**	**3.21**	**291**	*e*P		**Pn**	**22 00 41.0**	**+0.7**
PB03	**IPOC Station P**	**3.21**	**291**	*e*P		**Pn**	**22 00 41.1**	**+0.7**
PB03				*e*S		**S**	**22 01 20.9**	**-1.5**
PB03					IAML		22 01 22.7	
	comp=Z,1μm,0.3s							
GO02	**Mina Guanaco**	**3.41**	**235**			**Pn**	**22 00 44.0**	**+1.2**
GO02	**Mina Guanaco**	**3.41**	**235**	⇑	*e*P	**Pn**	**22 00 43.8**	**+1.0**
GO02					*e*S	**S**	**22 01 26.8**	**0.0**
GO02	**Mina Guanaco**	**3.41**	**235**	*e*P		**Pn**	**22 00 43.9**	**+1.2**
GO02				*e*S		**S**	**22 01 27.9**	**+1.1**
GO02					IAML		22 01 30.8	
	comp=Z,210nm,0.2s							
PB01	**IPOC Station P**	**3.51**	**308**			**Pn**	**22 00 44.6**	**+0.8**
PB01	**IPOC Station P**	**3.51**	**308**	*e*P		**Pn**	**22 00 44.6**	**+0.8**
PB01	**IPOC Station P**	**3.51**	**308**	*e*P		**Pn**	**22 00 44.0**	**+0.2**
PB01				*e*S		**S**	**22 01 28.5**	**-0.1**
PB01					IAML		22 01 29.2	
	comp=Z,533nm,0.1s							
PB02	**IPOC Station P**	**3.66**	**301**			**Pn**	**22 00 46.0**	**+0.5**
PB02	**IPOC Station P**	**3.66**	**301**	*e*P		**Pn**	**22 00 46.3**	**+0.7**
PB02				*e*S		**S**	**22 01 29.8**	**-2.1**
PB02	**IPOC Station P**	**3.66**	**301**	*e*P		**Pn**	**22 00 46.1**	**+0.5**
PB02				*e*S		**S**	**22 01 30.3**	**-1.5**
PB02					IAML		22 01 33.4	
	comp=Z,596nm,0.2s							
PB10	**IPOC Station P**	**3.72**	**265**			**Pn**	**22 00 47.1**	**+0.9**
PB10	**IPOC Station P**	**3.72**	**265**	⇑	*e*P	**Pn**	**22 00 47.0**	**+0.9**
PB10					*e*S	**S**	**22 01 31.8**	**-1.2**
PB10	**IPOC Station P**	**3.72**	**265**	*e*P		**Pn**	**22 00 46.5**	**+0.3**
PB10				*e*S		**S**	**22 01 32.8**	**-0.1**
PB10					IAML		22 01 34.7	
	comp=Z,102nm,0.2s							
PB14	**IPOC Station P**	**3.82**	**248**			**Pn**	**22 00 48.4**	**+0.8**
PB14	**IPOC Station P**	**3.82**	**248**	*e*P		**Pn**	**22 00 48.3**	**+0.6**
PB14	**IPOC Station P**	**3.82**	**248**	*e*P		**Pn**	**22 00 48.5**	**+0.8**
PB14				*e*S		**S**	**22 01 34.7**	**-1.0**
PB08	**IPOC Station P**	**3.93**	**321**			**Pn**	**22 00 50.6**	**+1.5**
PB08	**IPOC Station P**	**3.93**	**321**	*e*P		**Pn**	**22 00 50.6**	**+1.5**
PB08	**IPOC Station P**	**3.93**	**321**	*e*P		**Pn**	**22 00 50.0**	**+1.0**
PB08				*e*S		**S**	**22 01 38.8**	**+0.7**
PB08					IAML		22 01 43.6	
	comp=Z,156nm,0.4s							
PATCX	**Punta Patache**	**4.14**	**305**			**Pn**	**22 00 51.9**	**+0.6**
PATCX	**Punta Patache**	**4.14**	**305**	*e*P		**Pn**	**22 00 51.5**	**+0.2**
PATCX				*e*S		**S**	**22 01 40.9**	**-1.3**
PATCX					IAML		22 01 42.2	
	comp=Z,261nm,0.3s							
HMBC	**Humberstone**	**4.29**	**312**			**Pn**	**22 00 52.9**	**-0.3**
HMBC	**Humberstone**	**4.29**	**312**	*e*P		**Pn**	**22 00 52.9**	**-0.3**
HMBC	**Humberstone**	**4.29**	**312**	*e*P		**Pn**	**22 00 52.3**	**-0.9**
HMBC				*e*S		**S**	**22 01 42.6**	**-3.1**
HMBC					IAML		22 01 43.8	
	comp=Z,714nm,0.4s							
AC02	**Maricunga**	**4.31**	**213**			**Pn**	**22 00 54.7**	**+1.0**
AC02	**Maricunga**	**4.31**	**213**	*e*P		**Pn**	**22 00 54.7**	**+1.0**
AC02	**Maricunga**	**4.31**	**213**	*e*P		**Pn**	**22 00 55.0**	**+1.3**
AC02				*e*S		**S**	**22 01 49.7**	**+3.2**
TA01	**Diego Aracena**	**4.31**	**307**			**Pn**	**22 00 53.1**	**-0.3**
TA01	**Diego Aracena**	**4.31**	**307**	*e*P		**Pn**	**22 00 53.0**	**-0.3**
TA01	**Diego Aracena**	**4.31**	**307**	*e*P		**Pn**	**22 00 52.7**	**-0.6**
TA01				*e*S		S	22 01 37.0	-8.8
TA01					IAML		22 01 48.5	
	comp=Z,183nm,0.4s							
GO01	**Chusmiza**	**4.33**	**324**			**Pn**	**22 00 55.0**	**+1.0**
GO01	**Chusmiza**	**4.33**	**324**	*e*P		**Pn**	**22 00 54.4**	**+0.4**
GO01				*e*S		**S**	**22 01 48.3**	**+1.3**
GO01					IAML		22 01 49.6	
	comp=Z,136nm,0.1s							
PB11	**IPOC Station P**	**4.52**	**319**			**Pn**	**22 00 55.9**	**-0.2**
PB11	**IPOC Station P**	**4.52**	**319**	*e*P		**Pn**	**22 00 55.7**	**-0.4**
PB11				*e*S		**S**	**22 01 48.5**	**-2.3**
PB11					IAML		22 01 50.1	
	comp=Z,254nm,0.2s							
AC01	**Pan de Azucar**	**4.72**	**231**			**Pn**	**22 00 57.8**	**-0.5**
AC01	**Pan de Azucar**	**4.72**	**231**	*e*P		**Pn**	**22 00 57.9**	**-0.4**
AC01				*e*S		**S**	**22 01 52.2**	**-2.7**
AC01					IAML		22 01 56.4	
	comp=Z,48nm,0.4s							
GO03	**Copiapo**	**5.50**	**217**			**Pn**	**22 01 07.4**	**-0.7**
PB16	**IPOC Station P**	**5.61**	**330**			**Pn**	**22 01 10.8**	**+0.7**
PB18	**Visviri**	**6.26**	**333**			**Pn**	**22 01 19.6**	**+1.3**
LCO	**Las Campanas**	**6.88**	**212**			**Pn**	**22 01 24.9**	**-0.9**
LPAZ	**La Paz**	**7.07**	**347**			**Pn**	**22 01 29.0**	**+0.4**
LPAZ	**La Paz**	**7.07**	**347**	P		**Pn**	**22 01 29.4**	**+0.7**
	comp=Z,14nm,0.5s,baz=158,slow=7.0,SNR=37							
LPAZ				S		**S**	**22 02 48.2**	**-1.6**
	comp=Z,3.4nm,0.7s,baz=350,slow=19,SNR=4.4							
LPAZ	**La Paz**	**7.07**	**347**	*e*P		**Pn**	**22 01 29.1**	**+0.4**
CFA	**Coronel Fontan**	**8.49**	**190**	P		**Pn**	**22 01 45.5**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=320,slow=9.4,SNR=19							
CFA				S		**S**	**22 03 16.3**	**-5.9**
	comp=Z,8.4nm,0.4s,baz=144,slow=20,SNR=24							
SIV	**San Ignacio**	**8.83**	**36**	P		**Pn**	**22 01 49.4**	**-1.3**
	comp=Z,10nm,0.9s,baz=210,slow=12,SNR=38							
CPUP	**Villa Florida**	**8.90**	**112**	P		**Pn**	**22 01 50.6**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=170,slow=8.3,SNR=4.3							
PTLB	**Pontes e Lacer**	**10.40**	**43**			**Pn**	**22 02 09.5**	**-1.3**
PTLB	**Pontes e Lacer**	**10.40**	**43**	*e*P		**Pn**	**22 02 09.3**	**-1.5**
MT02	**Curacav**	**10.80**	**201**	Pn		**Pn**	**22 02 15.4**	**-0.2**
SALV	**Santo Antonio**	**12.53**	**56**	*e*P		**Pn**	**22 02 37.1**	**-0.4**
NNA	**Nana**	**14.88**	**317**	P		**P**	**22 03 08.4**	**+1.7**
	comp=Z,7.1nm,0.4s,baz=110,slow=12,SNR=1.9							
TRQA	**Tornquist**	**15.29**	**166**	P		**Pn**	**22 03 10.4**	**-0.8**
TRQA				IAmb		IAmb	22 03 11.2	
	comp=Z,6.4nm,1.4s							
ARAG	**Araguaiana, MT**	**15.74**	**64**	*e*P		**Pn**	**22 03 16.5**	**-0.4**
CLDB	**Colider**	**15.98**	**42**	*e*P		**P**	**22 03 15.6**	**-3.3**
PLCA	**Paso Flores**	**17.79**	**190**	P		**P**	**22 03 38.9**	**+0.4**
	comp=Z,2.2nm,1.1s,baz=325,slow=16,SNR=3.1							
IPMB	**Ipameri, GO**	**17.90**	**76**	*e*P		**P**	**22 03 39.4**	**-0.5**
SNDB	**Serra Nova Dou**	**18.30**	**55**	*e*P		**P**	**22 03 44.3**	**+0.2**
BDFB	**Brasilia**	**19.00**	**70**	P		**P**	**22 03 51.8**	**0.0**
BDFB				IAmb		IAmb	22 03 53.4	
	comp=Z,10nm,1.0s							
BDFB	**Brasilia**	**19.00**	**70**	P		**P**	**22 03 52.0**	**+0.2**
	comp=Z,4.1nm,0.4s,baz=242,slow=14,SNR=7.5							
NPGB	**Novo Progresso**	**19.34**	**35**	*e*P		**P**	**22 03 55.5**	**+0.3**
ITTB	**Itaituba**	**21.45**	**31**	*e*P		**P**	**22 04 15.6**	**-1.9**
JANB	**Januaria**	**22.47**	**73**	*e*P		**P**	**22 04 26.4**	**-0.7**
SMTB	**Santa Maria do**	**23.08**	**55**	*e*P		**P**	**22 04 32.1**	**-0.5**
SDBA	**SAO DESIDERIO**	**23.18**	**66**	*e*P		**P**	**22 04 32.9**	**-0.7**
PRPB	**Parauapebas**	**23.37**	**46**	*e*P		**P**	**22 04 35.0**	**-0.2**
MAL2	**Monte Alegre,**	**24.23**	**31**	P		**P**	**22 04 43.1**	**0.0**
TXAR	**Lajitas Array**	**63.31**	**324**	P		**P**	**22 09 53.4**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=143,slow=6.9,SNR=4.2							
	comp=Z,0.2nm,0.3s							
TORD	**Torodi Ar. Bea**	**75.87**	**69**	P		**P**	**22 11 07.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**75.87**	**69**	P		**P**	**22 11 08.5**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=263,slow=5.8,SNR=16							
	comp=Z,0.6nm,0.4s							
PDAR	**Pinedale Array**	**76.71**	**329**	P		**P**	**22 11 13.9**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=126,slow=7.7,SNR=3.7							
	comp=Z,0.3nm,0.6s							
MKAR	**Makanchi Array**	**145.64**	**39**	PKPbc		**PKPbc**	**22 19 00.2**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=348,slow=2.5,SNR=1.7							

IDC 25 22:01:06.0±9.4, 15°.43S×172°.52W, h0km, mb4.3/4, mbtmp4.3/4, Error ellipse: s-maj=197.1km s-min=152.5km az=123.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**20.97**	**248**	P		P	22 05 50.9	-0.1
	4.1nm,0.7s,baz=84,slow=16,SNR=1.8							
	4.1nm,0.7s							
STKA	**Stephens Creek**	**44.76**	**240**	P		P	22 09 22.1	+0.7
	2.7nm,0.8s,baz=95,slow=7.7,SNR=4.8							
	2.7nm,0.8s							
WRA	**Warramunga Arr**	**50.66**	**257**	P		P	22 10 06.9	-0.6
	1.5nm,0.7s,baz=96,slow=7.0,SNR=25							
	1.5nm,0.7s							
ASAR	**Alice Springs**	**50.91**	**252**	P		P	22 10 09.2	-0.2
	11nm,0.5s,baz=88,slow=8.1,SNR=155							
	11nm,0.5s							

*SJA **25** 22:27:41.8±1.7, 21°.27S×68°.57W, h100km, ML3.6, MW3.5*
*GUC **25** 22:27:42.4±0.7, 21°.23S×68°.81W, h118km±4km, ML3.5*
ISC 25 22:27:42.9±1.4, 21°.25S±0°.03×68°.85W±0°.06, h116km±11km, n29, σ0♀86/48, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB01	**IPOC Station P**	**0.63**	**289**	*e*P		**Pn**	**22 28 00.7**	**-0.8**
PB01				*e*S		**Sn**	**22 28 14.8**	**-0.6**
PB01					IAML		22 28 17.1	
	comp=E,1μm,0.2s							
PB01	**IPOC Station P**	**0.63**	**289**	*e*P		Pn	22 28 15.6	+14
PB01				*e*P			22 28 16.4	
PB01				*e*S		**Sn**	**22 28 18.2**	**+2.8**
PB01					IAML		22 28 19.1	
	comp=Z,848nm,0.2s							
PB09	**IPOC Station P**	**0.66**	**214**	*e*P		**Pn**	**22 28 01.4**	**-0.3**
PB09				*e*S		**Sn**	**22 28 15.8**	**-0.2**
PB09					IAML		22 28 16.6	
	comp=N,1μm,0.4s							
PB09	**IPOC Station P**	**0.66**	**214**	*e*P		Pn	22 28 16.4	+15
PB02	**IPOC Station P**	**0.98**	**266**	⇑	*e*P	**Pn**	**22 28 04.4**	**-0.1**
PB02				*e*S		**Sn**	**22 28 20.6**	**-0.2**
PB02					IAML		22 28 23.4	
	comp=E,2μm,0.2s							
PB02	**IPOC Station P**	**0.98**	**266**	*e*P		**Pn**	**22 28 03.6**	**-0.9**
PB02				*e*S		**Sn**	**22 28 21.5**	**+0.7**
PB02					IAML		22 28 22.7	
	comp=Z,3μm,0.2s							
PB08	**IPOC Station P**	**1.14**	**345**	⇑	*e*P	**Pn**	**22 28 06.1**	**-0.4**
PB08				*e*S		**Sn**	**22 28 23.8**	**-0.4**
PB08	**IPOC Station P**	**1.14**	**345**	*e*P		**Pn**	**22 28 06.1**	**-0.4**
PB08				*e*S		**Sn**	**22 28 24.3**	**+0.1**
PB08					IAML		22 28 26.3	
	comp=Z,594nm,0.4s							
PATCX	**Punta Patache**	**1.29**	**289**	*e*P		**Pn**	**22 28 07.8**	**0.0**
PATCX				*e*S		**Sn**	**22 28 26.9**	**+0.2**
PATCX	**Punta Patache**	**1.29**	**289**	*e*P		**Pn**	**22 28 07.8**	**0.0**
PATCX				*e*S		**Sn**	**22 28

mb4.4/7, Error ellipse: s-maj=22.2km s-min=11.6km az=200.0
*KRSC **25** 22:57:08.2±1.7, 52°.47N×160°.92E, h11km±21km, Ml4.1*
*MOS **25** 22:57:09.4±1.2, 52°.46N×161°.04E, h44km, mb4.4/6, Error ellipse: s-maj=12.0km s-min=6.2km az=45.0*
*IDC **25** 22:57:13.3±2.4, 52°.41N×161°.01E, h59km±19km, mb3.5/14, mbtmp3.9/16, ML3.8/3, MS2.9/4, Error ellipse: s-maj=20.9km s-min=17.0km az=2.0*

ISC 25 22:57:06.8±1.6, **52°.37N**±0°.05×**160°.92E**±0°.04, **h11**km±9km, **n84**, σ1§**20**/90, **mb4.1/19**, **1D**, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunskiy**	**0.91**	**323**	PN	**Pg**	**22 57 24.5**	**+0.2**
SPN				S	**Sn**	**22 57 36.5**	**-2.1**
SPN	**Mys Shipunskiy**	**0.91**	**323**	*e*P	**Pg**	**22 57 24.5**	**+0.2**
SPN				*e*S	**Sn**	**22 57 36.6**	**-2.1**
NLC	**Nalytchevo**	**1.25**	**310**	PN	**Pb**	**22 57 30.0**	**-0.3**
NLC	**Nalytchevo**	**1.25**	**310**	*e*P	**Pb**	**22 57 30.0**	**-0.3**
DALK	**Dalny**	**1.48**	**297**	PN	**Pb**	**22 57 34.1**	**-0.1**
DALK	**Dalny**	**1.48**	**297**	*e*P	**Pb**	**22 57 34.2**	**-0.1**
RUS	**Russkaya**	**1.48**	**273**	PN	**Pb**	**22 57 34.7**	**+0.5**
RUS				S	**Sg**	**22 57 53.8**	**-0.5**
RUS	**Russkaya**	**1.48**	**273**	*e*P	**Pb**	**22 57 34.7**	**+0.5**
RUS				*e*S	**Sg**	**22 57 53.9**	**-0.5**
UGLR	**Uglovaya**	**1.53**	**304**	PN	**Pb**	**22 57 35.2**	**+0.1**
UGLR	**Uglovaya**	**1.53**	**304**	*e*P	**Pb**	**22 57 35.2**	**+0.1**
PET	**Petropavlovsk**	**1.53**	**296**		**Pb**	**22 57 35.0**	**-0.1**
PET				Sn	**Sb**	**22 57 54.3**	**-0.2**
PET	**Petropavlovsk**	**1.53**	**296**	*e*PN	**Pb**	**22 57 34.9**	**-0.1**
PET				*e*S	**Sg**	**22 57 55.2**	**-0.7**
PET	comp=Z,582nm,0.5s			pmax	pmax		
PET	comp=E,1μm,0.8s			smax	smax		
PET	comp=N,1μm,0.7s			smax	smax		
SDLR	**Sedlovina**	**1.54**	**307**	PN	**Pb**	**22 57 34.8**	**-0.4**
SDLR	**Sedlovina**	**1.54**	**307**	*e*P	**Pb**	**22 57 34.9**	**-0.4**
SMAR	**Somma**	**1.57**	**306**	PN	**Pb**	**22 57 35.2**	**-0.6**
SMAR	**Somma**	**1.57**	**306**	*e*P	**Pb**	**22 57 35.3**	**-0.6**
INSR	**Institute**	**1.57**	**297**	PN	**Pb**	**22 57 35.6**	**-0.2**
INSR	**Institute**	**1.57**	**297**	*e*P	**Pb**	**22 57 35.7**	**-0.2**
AVH	**Avacha**	**1.60**	**305**	PN	**Pb**	**22 57 36.4**	**0.0**
AVH	**Avacha**	**1.60**	**305**	*e*P	**Pb**	**22 57 36.4**	**0.0**
KOK	**Koryaka**	**1.67**	**305**	PN	**Pb**	**22 57 37.1**	**-0.4**
KOK	**Koryaka**	**1.67**	**305**	*e*P	**Pb**	**22 57 37.1**	**-0.4**
MTVR	**Mutnovka**	**1.68**	**275**	PN	**Pb**	**22 57 37.0**	**-0.1**
MTVR				S	**Sb**	**22 57 59.3**	**+0.3**
MTVR	**Mutnovka**	**1.68**	**275**	*e*P	**Pb**	**22 57 37.7**	**-0.1**
MTVR				*e*S	**Sb**	**22 57 59.3**	**+0.3**
KRX	**Arik**	**1.70**	**307**	PN	**Pb**	**22 57 37.2**	**-0.8**
KRX	**Arik**	**1.70**	**307**	*e*P	**Pb**	**22 57 37.3**	**-0.8**
GRL	**Gorelyy**	**1.75**	**277**	PN	**Pb**	**22 57 39.3**	**+0.3**
GRL	**Gorelyy**	**1.75**	**277**	*e*P	**Pb**	**22 57 39.4**	**+0.3**
KRMR	**Karymshinskiy**	**1.77**	**286**	PN	**Pb**	**22 57 38.1**	**-1.0**
KRMR	**Karymshinskiy**	**1.77**	**286**	*e*P	**Pb**	**22 57 38.2**	**-1.0**
ASAK	**Asacha**	**1.85**	**272**	PN	**Pb**	**22 57 40.8**	**+0.1**
ASAK	**Asacha**	**1.85**	**272**	*e*P	**Pb**	**22 57 40.8**	**+0.1**
KII	**Karymskiy**	**1.89**	**333**	PN	**Pb**	**22 57 40.6**	**-0.6**
KII	**Karymskiy**	**1.89**	**333**	*e*P	**Pb**	**22 57 40.7**	**-0.6**
PEA0B	**Petropavlovsk-**	**2.10**	**292**		**Pb**	**22 57 43.0**	**-1.8**
PEA0B	**Petropavlovsk-**	**2.10**	**292**	PN	**Pb**	**22 57 43.3**	**-1.4**
PETK	**Petropavlovsk-**	**2.10**	**292**		**Pn**	**22 57 42.7**	**+0.9**
PETK	**Petropavlovsk-**	**2.10**	**292**	P	**Pb**	**22 57 44.6**	**-0.2**
PETK	comp=N,48nm,0.3s,baz=97,slow=18,SNR=129			S	**Sg**	**22 58 13.7**	**-0.3**
PETK	comp=N,50nm,0.5s,baz=67,slow=15,SNR=2.1			LR	LR	22 58 59.9	
GNL	**Ganaly**	**2.24**	**308**	PN	**Pb**	**22 57 46.2**	**-1.0**
GNL	**Ganaly**	**2.24**	**308**	*e*P	**Pb**	**22 57 46.2**	**-1.0**
APC	**Apacha**	**2.36**	**285**	PN	**Pb**	**22 57 50.5**	**+1.3**
APC	**Apacha**	**2.36**	**285**	*e*P	**Pb**	**22 57 50.5**	**+1.3**
TUMD	**Tumrok D**	**2.85**	**354**	PN	**Pn**	**22 57 54.0**	**+1.8**
TUMD	**Tumrok D**	**2.85**	**354**	*e*P	**Pn**	**22 57 54.0**	**+1.8**
SKR	**Severo-Kuril's**	**3.44**	**243**	*e*PN	**Pn**	**22 57 56.1**	**-4.2**
SHEM	**Shemya Is, Ala**	**8.04**	**82**	P	**Pn**	**22 59 05.1**	**+1.7**
SHEM	comp=N,7.3nm,0.3s,baz=259,slow=16,SNR=1.2			S	**Sn**	**23 00 31.1**	**-3.1**
MA2	comp=N,52nm,0.6s,baz=158,slow=5.0,SNR=6.1 **Magadan**	**9.19**	**326**	LR	LR	23 03 44.3	
ADK	comp=N,42nm,18.1s,baz=162,slow=43 **Adak**	**13.76**	**83**	Pn	**Pn**	**23 00 20.8**	**-0.7**
ADK	**Adak**	**13.76**	**83**	P	**Pn**	**23 00 20.8**	**-0.7**
JKA	**Kamikawa-asahi**	**14.71**	**243**	Pn	**Pn**	**23 00 34.3**	**-0.3**
ASAJ	**Asahikawa**	**14.71**	**243**	P	**Pn**	**23 00 37.1**	**+2.5**
	comp=N,0.6nm,0.3s,baz=93,slow=17,SNR=5.0 comp=N,5.5nm,0.8s						
JTM	**Tenmabayashi**	**17.84**	**237**	Pn	**Pn**	**23 01 12.6**	**-2.1**
JTM	comp=Z,27nm,1.1s			IAmb	IAmb	23 01 33.5	
YAK	**Yakutsk**	**19.30**	**312**	LR	LR	23 09 56.6	
MJAR	comp=Z,37nm,18.6s,baz=150,slow=40 **Matsushiro Arr**	**22.51**	**234**	P	**P**	**23 02 09.7**	**+3.4**
	comp=Z,1.9nm,0.8s,baz=17,slow=11,SNR=5.2 comp=Z,1.9nm,0.8s						
C19K	**Lookout Ridge**	**24.88**	**33**	P	**P**	**23 02 30.0**	**+0.8**
C19K	comp=Z,3.2nm,0.9s			IAmb	IAmb	23 02 56.4	
D20K	**Etivluk River**	**25.76**	**35**	P	**P**	**23 02 36.2**	**-0.9**
D20K	comp=Z,5.8nm,1.1s			IAmb	IAmb	23 02 50.1	
SONM	**Songino Array**	**34.56**	**285**	LR	LR	23 19 51.9	
YKA	comp=Z,38nm,19.4s,baz=70,slow=39 **Yellowknife Ar**	**43.35**	**42**	*i* P	P	23 05 03.0	-5.4
YKA	comp=Z,1.0nm,0.7s			pmax	pmax		
SPITS	**Spitsbergen Ar**	**47.93**	**351**	P	**P**	**23 05 45.1**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=65,slow=8.4,SNR=13 comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**48.55**	**303**	P	**P**	**23 05 48.2**	**-1.3**
KURK	comp=Z,4.0nm,0.6s			IAmb	IAmb	23 05 49.6	
KURK	**Kurchatov**	**48.55**	**303**	P	**P**	**23 05 48.2**	**-1.3**
KURK	comp=Z,4.0nm,0.6s			pmax	pmax		
KURBB	**Kurchatov Arra**	**48.65**	**303**	P	**P**	**23 05 49.9**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=59,slow=7.5,SNR=13 comp=Z,1.5nm,0.5s						
MKAR	**Makanchi Array**	**48.93**	**297**	P	**P**	**23 05 50.9**	**-1.7**
MKAR	**Makanchi Array**	**48.93**	**297**	P	**P**	**23 05 51.5**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=54,slow=7.8,SNR=5.6 comp=Z,0.2nm,0.4s						
MAKZ	**Makanchi**	**49.09**	**297**	P	**P**	**23 05 52.1**	**-1.7**
MAKZ	**Makanchi**	**49.09**	**297**	P	**P**	**23 05 52.1**	**-1.7**
MAKZ	comp=Z,1.0nm,1.0s			pmax	pmax		
BVAR	**Borovoye Array**	**51.23**	**309**	P	**P**	**23 06 09.1**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=57,slow=7.4,SNR=8.9 comp=Z,1.3nm,0.5s						
ARTI	**Arti**	**54.37**	**318**	P	**P**	**23 06 31.4**	**-1.7**
ARTI	comp=Z,3.1nm,0.4s			IAmb	IAmb	23 06 35.6	
ARTI	**Arti**	**54.37**	**318**	P	**P**	**23 06 31.4**	**-1.7**
ARTI	comp=Z,3.0nm,0.4s			pmax	pmax		
KKAR	**Karatay Array**	**57.68**	**300**	P	**P**	**23 06 56.3**	**-0.7**
KKAR	**Karatay Array**	**57.68**	**300**	P	**P**	**23 06 56.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**58.53**	**259**	P	**P**	**23 07 03.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**58.53**	**259**	P	**P**	**23 07 05.4**	**+2.2**
	comp=Z,1.0nm,0.3s,baz=31,slow=6.3,SNR=6.1 comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**60.98**	**337**	P	**P**	**23 07 19.6**	**+0.1**
FINES	**FINESS Array B**	**60.98**	**337**	P	**P**	**23 07 20.2**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=38,slow=9.1,SNR=14 comp=Z,1.6nm,0.6s						
FINES	**FINESS Array B**	**60.98**	**337**	*i* P	**P**	**23 07 20.7**	**+1.3**
FINES	comp=Z,2.0nm,0.6s			pmax	pmax		
NOA	**NORSAR Array B**	**64.38**	**344**	P	**P**	**23 07 42.4**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=22,slow=6.4,SNR=3.7 comp=Z,0.5nm,0.7s						
HFS	**Hagfors**	**64.79**	**343**	P	**P**	**23 07 45.0**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=32,slow=8.5,SNR=1.5 comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**64.79**	**343**	P	**P**	**23 07 45.0**	**+0.2**
AKASG	**Malin Array Be**	**69.49**	**330**	P	**P**	**23 08 15.3**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=31,slow=6.8,SNR=3.6 comp=Z,0.4nm,0.4s						
KBZ	**Khabaz**	**70.41**	**317**	P	**P**	**23 08 20.4**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=27,slow=6.8,SNR=1.5						
	comp=Z,1.3nm,0.8s						
TXAR	**Lajitas Array**	**70.45**	**67**	P	**P**	**23 08 23.0**	**+1.8**
	comp=Z,0.1nm,0.5s,baz=319,slow=8.2,SNR=1.9 comp=Z,0.1nm,0.5s						
BRTR	**Keskin Array B**	**77.50**	**321**	P	**P**	**23 09 03.7**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=354,slow=4.3,SNR=2.3 comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**79.31**	**205**	P	**P**	**23 09 11.8**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=18,slow=5.0,SNR=1.4 comp=Z,0.3nm,0.9s						

*JMA **25** 22:58:07.5±0.1, 24°.1N±0°.7×122°.4E±0°.2, h43km±1km, MV3.2/16, TAIWAN REGION*
*TAP **25** 22:58:08.0, 24°.17N×122°.34E, h47km, ML3.7, C*

ISC 25 22:58:07.9±1.2, **24°.15N**±0°.02×**122°.37E**±0°.02, **h47**km±6km, **n133**, σ1§**17**/237, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.06**	**242**	*i* P	**Pn**	**22 58 14.9**	**+0.2**
EOS4				S	**Sn**	**22 58 20.3**	**+0.7**
EOS3	**EOS3**	**0.15**	**340**	*i* P	**Pn**	**22 58 15.6**	**+0.2**
EOS3				*i* S	**Sn**	**22 58 21.4**	**+0.7**
EOS2	**EOS2**	**0.30**	**335**	*i* P	**Pn**	**22 58 16.9**	**+0.3**
EOS2				S	**Sn**	**22 58 23.9**	**+1.1**
EHP	**Heping Village**	**0.60**	**286**	*e*P	**Pn**	**22 58 20.1**	**-0.2**
JYNG	**Yonagunijimaku**	**0.60**	**60**	P	**Pn**	**22 58 20.1**	**-0.2**
JYNG				*e*S	**Sn**	**22 58 29.1**	**-0.1**
EAHA	**Aohua**	**0.61**	**288**	P	**Pn**	**22 58 20.0**	**-0.3**
EAHA				*e*S	**Sn**	**22 58 29.6**	**+0.4**
ENA	**Nanau**	**0.64**	**296**	P	**Pn**	**22 58 20.4**	**-0.4**
ENA				*e*S	**Sn**	**22 58 29.7**	**-0.3**
YOJ	**Yonaguni jima**	**0.66**	**62**	P	**Pn**	**22 58 20.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.66**	**62**	*i* P	**Pn**	**22 58 20.9**	**-0.2**
YOJ				S	**Sn**	**22 58 30.6**	**+0.1**
YOJ	**Yonaguni jima**	**0.66**	**62**	P	**Pn**	**22 58 20.9**	**-0.1**
YOJ				S	**Sn**	**22 58 30.3**	**-0.2**
TWC	**Suao**	**0.66**	**314**	P	**Pn**	**22 58 20.4**	**-0.6**
TWC				*e*S	**Sn**	**22 58 29.0**	**-1.5**
ETL	**Fush Village**	**0.69**	**271**	P	**Pn**	**22 58 21.0**	**-0.4**
ETL				*e*S	**Sn**	**22 58 31.2**	**+0.1**
NACB	**Ninganchiao**	**0.71**	**272**	P	**Pn**	**22 58 21.1**	**-0.6**
NACB	**Ninganchiao**	**0.71**	**272**	*i* P	**Pn**	**22 58 21.3**	**-0.4**
NACB				S	**Sn**	**22 58 31.1**	**-0.6**
TWD	**Chiawan**	**0.71**	**265**	P	**Pn**	**22 58 21.2**	**-0.5**
TWD				*e*S	**Sn**	**22 58 31.0**	**-0.6**
HWA	**Hwalien**	**0.72**	**257**	*e*P	**Pn**	**22 58 21.8**	**0.0**
HWA				*e*S	**Sn**	**22 58 32.1**	**+0.2**
TEYL	**Yanliau Villag**	**0.76**	**249**	*e*P	**Pn**	**22 58 22.4**	**-0.2**
TEYL				*e*S	**Sn**	**22 58 32.4**	**-0.4**
NDS	**Dongshan**	**0.77**	**309**	*e*P	**Pn**	**22 58 22.6**	**+0.1**
NDS				*e*S	**Sn**	**22 58 33.1**	**+0.1**
EGS		**0.80**	**330**	*e*P	**Pn**	**22 58 22.9**	**0.0**
EGS				*e*S	**Sn**	**22 58 33.4**	**-0.4**
ETLH	**Xiulin Townshi**	**0.81**	**274**	*i* P	**Pn**	**22 58 22.8**	**-0.4**
ETLH				S	**Sn**	**22 58 34.0**	**-0.3**
SHUL	**Shoufeng**	**0.82**	**244**	P	**Pn**	**22 58 23.0**	**-0.2**
SHUL				S	**Sn**	**22 58 34.4**	**+0.1**
ETM	**Tongmen**	**0.82**	**257**	P	**Pn**	**22 58 22.7**	**-0.5**
ETM				*e*S	**Sn**	**22 58 33.5**	**-0.8**
TWE	**Neicheng**	**0.86**	**312**	P	**Pn**	**22 58 23.8**	**+0.1**
TWE				*e*S	**Sn**	**22 58 34.6**	**-0.6**
LATG	**Datong**	**0.86**	**297**	P	**Pn**	**22 58 23.6**	**-0.2**
LATG				*e*S	**Sn**	**22 58 35.3**	**-0.1**
TEGC	**Jichi Village**	**0.88**	**240**	P	**Pn**	**22 58 23.8**	**-0.1**
TEGC				S	**Sn**	**22 58 35.6**	**0.0**
ENTT	**Nioudou**	**0.88**	**304**	P	**Pn**	**22 58 23.7**	**+0.1**
ENTT				*e*S	**Sn**	**22 58 36.0**	**+0.2**
LXIB	**Xiulin Townshi**	**0.89**	**262**	*i* P	**Pn**	**22 58 23.6**	**-0.5**
LXIB				S	**Sn**	**22 58 35.5**	**-0.5**
ESL	**Shilin**	**0.92**	**249**	*i* P	**Pn**	**22 58 23.8**	**-0.7**
ESL				*e*S	**Sn**	**22 58 35.9**	**-0.7**
TWB1	**Santiao Chiao**	**0.93**	**338**	*e*P	**Pn**	**22 58 24.1**	**-0.4**
TWB1				*e*S	**Sn**	**22 58 35.5**	**-1.2**
FUSB	**Fushanzhiwuyua**	**0.94**	**311**	P	**Pn**	**22 58 25.1**	**+0.3**
FUSB				S	**Sn**	**22 58 37.3**	**+0.1**
NNSB	**Datong**	**0.94**	**287**	P	**Pn**	**22 58 24.6**	**-0.3**
NNSB				*e*S	**Sn**	**22 58 36.9**	**-0.5**
NNS	**Nan Shan**	**0.96**	**288**	*i* P	**Pn**	**22 58 24.9**	**-0.2**
NNS				*e*S	**Sn**	**22 58 37.8**	**+0.1**
TIPB	**Shuangxi**	**0.96**	**329**	*e*P	**Pn**	**22 58 24.9**	**-0.2**
TIPB				*e*S	**Sn**	**22 58 36.6**	**-1.0**
EGFH	**Guangfu**	**0.99**	**241**	*e*P	**Pn**	**22 58 24.9**	**-0.5**
EGFH				*e*S	**Sn**	**22 58 37.7**	**-0.5**
WARBT	**Fenglin Townsh**	**1.00**	**245**	P	**Pn**	**22 58 24.2**	**-0.7**
WARBT				S	**Sn**	**22 58 37.6**	**-1.2**
NWLT	**Wulai**	**1.01**	**309**	P	**Pn**	**22 58 26.1**	**+0.3**
NWLT				S	**Sn**	**22 58 39.1**	**+0.2**
WHF	**Hehuan Shan**	**1.01**	**270**	P	**Pn**	**22 58 25.7**	**-0.4**
WHF				*e*S	**Sn**	**22 58 39.3**	**-0.2**
FUSS	**Fushou**	**1.03**	**276**	P	**Pn**	**22 58 26.1**	**-0.1**
FUSS				*e*S	**Sn**	**22 58 39.6**	**-0.2**
SXI1	**Grass Mountain**	**1.04**	**334**	*i* P	**Pn**	**22 58 25.6**	**-0.6**
SXI1				S	**Sn**	**22 58 38.5**	**-1.3**
YHNB	**Yeheng**	**1.05**	**300**	P	**Pn**	**22 58 26.4**	**+0.2**
YHNB	**Yeheng**	**1.05**	**300**	S	**Sn**	**22 58 40.2**	**+0.4**
YHNB	**Yeheng**	**1.05**	**300**	*i* P	**Pn**	**22 58 26.4**	**+0.2**
YHNB				S	**Sn**	**22 58 39.1**	**-0.7**
NSK	**Sanguang**	**1.06**	**300**	P	**Pn**	**22 58 26.6**	**+0.1**
NSK				*e*S	**Sn**	**22 58 40.0**	**-0.3**
NWF	**Wu-fen Shan**	**1.06**	**330**	*e*P	**Pn**	**22 58 26.0**	**-0.5**
NWF				S	**Sn**	**22 58 39.3**	**-1.0**
WFSB	**Wu-fen Shan**	**1.06**	**330**	P	**Pn**	**22 58 26.0**	**-0.2**
WFSB				*e*S	**Sn**	**22 58 39.3**	**-0.9**
HGSD	**Ruisui**	**1.09**	**233**	*e*P	**Pn**	**22 58 26.7**	**0.0**
HGSD				*e*S	**Sn**	**22 58 40.1**	**-0.6**
TWT	**Tachien**	**1.10**	**276**	P	**Pn**	**22 58 27.6**	**+0.5**
OWD	**Renai**	**1.11**	**260**	P	**Pn**	**22 58 27.2**	**0.0**
OWD				*e*S	**Sn**	**22 58 40.4**	**-1.1**
TDCB	**Techi**	**1.11**	**276**	P	**Pn**	**22 58 27.4**	**+0.1**
TDCB				*e*S	**Sn**	**22 58 41.5**	**-0.1**
NHDH	**Xindian Distri**	**1.12**	**317**	*e*P	**Pn**	**22 58 28.2**	**+1.0**
NHDH				*e*S	**Sn**	**22 58 42.5**	**+1.0**
TNOU	**National Taiwa**	**1.14**	**331**	*e*P	**Pn**	**22 58 26.8**	**-0.7**
TNOU				*e*S	**Sn**	**22 58 40.6**	**-1.3**
EHYH	**Wanrong**	**1.14**	**236**	P	**Pn**	**22 58 27.2**	**-0.3**
EHYH				*e*S	**Sn**	**22 58 42.2**	**+0.1**
TATO	**Taipei**	**1.15**	**316**	P	**Pn**	**22 58 29.3**	**+1.7**
TATO	**Taipei**	**1.15**	**316**	S	**Sn**	**22 58 43.5**	**+1.2**
EHY	**Hungye**	**1.16**	**237**	P	**Pn**	**22 58 27.7**	**-0.5**
EHY				*e*S	**Sn**	**22 58 42.2**	**-0.1**
ECBN	**Changbin**	**1.18**	**226**	*e*P	**Pn**	**22 58 28.0**	**0.0**
ECBN				*e*S	**Sn**	**22 58 42.2**	**-0.7**
YM01	**YM01**	**1.23**	**324**	P	**Pn**	**22 58 28.6**	**-0.2**
YM01				*e*S	**Sn**	**22 58 43.5**	**-0.8**
YULB	**Yu-li**	**1.24**	**233**	P	**Pn**	**22 58 28.5**	**-0.3**
YULB	**Yu-li**	**1.24**	**233**	P	**Pn**	**22 58 28.3**	**-0.6**
YULB				S	**Sn**	**22 58 43.8**	**-0.7**
NFF	**Wufeng Townshi**	**1.24**	**293**	*e*P	**Pn**	**22 58 29.5**	**+0.6**
NFF				*e*S	**Sn**	**22 58 45.6**	**+1.0**
EYUL	**Yuli**	**1.25**	**231**	*e*P	**Pn**	**22 58 29.2**	**+0.2**
EYUL				*e*S	**Sn**	**22 58 45.5**	**+0.8**
IRIF	**Iriomote-Funau**	**1.25**	**81**	P	**Pn**	**22 58 29.0**	**+0.1**
IRIF				S	**Sn**	**22 58 44.9**	**+0.2**
KSHI	**Guanxi Townshi**	**1.26**	**300**	*e*P	**Pn**	**22 58 30.0**	**+0.9**
KSHI				*e*S	**Sn**	**22 58 46.6**	**+1.8**
ZUZH	**Zhuzihu**	**1.26**	**323**	*e*P	**Pn**	**22 58 29.8**	**+0.7**
ZUZH				*e*S	**Sn**	**22 58 44.2**	**-0.2**
TWF1	**Yuli**	**1.26**	**231**	P	**Pn**	**22 58 29.0**	**-0.2**
TWF1				*e*S	**Sn**	**22 58 44.5**	**-0.5**
TWS1	**Kuangyinshan**	**1.29**	**318**	*e*P	**Pn**	**22 58 29.6**	**+0.2**
TWS1				*e*S	**Sn**	**22 58 45.9**	**+0.4**
CHKH	**Chenggong**	**1.31**	**223**	*e*P	**Pn**	**22 58 29.4**	**-0.4**
CHKH				*e*S	**Sn**	**22 58 44.3**	**-1.7**
WHP	**Taichung City**	**1.31**	**276**	P	**Pn**	**22 58 30.6**	**+0.8**
WHP				*e*S	**Sn**	**22 58 49.0**	**+2.8**
HATJ	**Hateruma jima**	**1.31**	**94**	P	**Pn**	**22 58 30.5**	**+0.7**
HATJ				S	**Sn**	**22 58 47.3**	**+1.2**
NTST	**Danshui**	**1.31**	**321**	*e*S	**Sn**	**22 58 46.1**	**-0.2**
LIOB	**Emei**	**1.33**	**292**	P	**Pn**	**22 58 31.1**	**+1.0**
LIOB				*e*S	**Sn**	**22 58 47.8**	**+1.1**
NSTT	**Nanjuang**	**1.34**	**291**	*e*P	**Pn**	**22 58 31.3**	**+1.1**
NSTT				*e*S	**Sn**	**22 58 47.7**	**+0.9**
SSLB	**Suanglung**	**1.35**	**255**	P	**Pn**	**22 58 30.6**	**+0.3**
SSLB	**Suanglung**	**1.35**	**255**	S	**Sn**	**22 58 46.9**	**-0.2**
SSLB	**Suanglung**	**1.35**	**255**	P	**Pn**	**22 58 30.4**	**+0.1**
NCUH	**Zhongli**	**1.35**	**307**	*e*S	**Sn**	**22 58 47.5**	**+0.3**
FULB	**Fuli**	**1.37**	**227**	*e*P	**Pn**	**22 58 30.2**	**-0.3**
FULB				*e*S	**Sn**	**22 58 47.4**	**-0.2**
SMLT	**Sun Moon Lake**	**1.37**	**259**	P	**Pn**	**22 58 31.3**	**+0.5**
SMLT				*e*S	**Sn**	**22 58 47.8**	**0.0**
CHKT	**Chengkung**	**1.39**	**222**	*e*P	**Pn**	**22 58 29.5**	**-1.4**
CHKT				*e*S	**Sn**	**22 58 45.7**	**-2.4**
EHD	**Haiduan**	**1.46**	**227**	*e*P	**Pn**	**22 58 31.8**	**0.0**
EHD				*e*S	**Sn**	**22 58 49.0**	**-0.8**
WHYT	**Xinyi Township**	**1.46**	**252**	*e*P	**Pn**	**22 58 32.9**	**+1.0**
WHYT				*e*S	**Sn**	**22 58 50.6**	**+0.7**
TWQ1	**Liyutan**	**1.47**	**278**	*e*P	**Pn**	**22 58 33.1**	**+1.1**
TWQ1				*e*S	**Sn**	**22 58 51.9**	**+1.8**
ECS	**Chishang**	**1.49**	**226**	*e*P	**Pn**	**22 58 33.1**	**+0.9**
ECS				*e*S	**Sn**	**22 58 50.8**	**+0.3**
NMLH	**Miaoli**	**1.49**	**285**	*e*P	**Pn**	**22 58 33.2**	**+0.9**
NMLH				*e*S	**Sn**	**22 58 52.6**	**+2.0**
JKRS	**Kuro-shima**	**1.50**	**86**	P	**Pn**	**22 58 33.0**	**+0.7**
JKRS				S	**Sn**	**22 58 52.2**	**+1.5**
PCYT	**Pengchaiyu**	**1.50**	**350**	*e*P	**Pn**	**22 58 32.1**	**-0.3**
EDH	**Donghe**	**1.53**	**220**	*e*P	**Pn**	**22 58 32.2**	**-0.6**
EDH				*e*S	**Sn**	**22 58 49.5**	**-1.9**
WJS	**Zhushan**	**1.54**	**258**	*e*P	**Pn**	**22 58 34.7**	**+1.8**
WJS				*e*S	**Sn**	**22 58 54.8**	**+3.1**
TCU	**Taichung**	**1.55**	**270**	*e*P	**Pn**	**22 58 34.5**	**+1.5**
ELDTW	**Lidau**	**1.57**	**233**	*e*P	**Pn**	**22 58 33.2**	**-0.2**
ELDTW				*e*S	**Sn**	**22 58 51.2**	**-1.4**
WNT	**Mingjian**	**1.57**	**260**	*e*P	**Pn**	**22 58 34.9**	**+1.6**
WNT				*e*S	**Sn**	**22 58 55.1**	**+2.7**
ALS	**Alishan**	**1.57**	**246**	*e*P	**Pn**	**22 58 34.3**	**+0.7**
ALS				*e*S	**Sn**	**22 58 53.4**	**+0.5**
JIJ	**Ishigaki jima**	**1.63**	**82**	P	**Pn**	**22 58 34.1**	**0.0**
JIJ				*e*S	**Sn**	**22 58 53.5**	**-0.5**
CHN5	**Tsauling**	**1.65**	**251**	*e*P	**Pn**	**22 58 35.8**	**+1.3**
CHN5				*e*S	**Sn**	**22 58 56.4**	**+2.0**
LONT	**Longtian**	**1.68**	**223**	*e*P	**Pn**	**22 58 34.3**	**-0.6**
LONT				*e*S	**Sn**	**22 58 54.6**	**-0.7**
LDUT	**Ludao**	**1.69**	**210**	*e*S	**Sn**	**22 58 52.0**	**-3.3**
WDLH	**Douliu**	**1.74**	**255**	*e*P	**Pn**	**22 58 37.2**	**+1.6**
WDLH				*e*S	**Sn**	**22 58 59.8**	**+3.1**
STYH	**Taoyuan**	**1.76**	**237**	*e*P	**Pn**	**22 58 36.6**	**+0.7**
STYH				*e*S	**Sn**	**22 58 57.7**	**+0.6**
WCKO	**Fanlu**	**1.77**	**247**	*e*P	**Pn**	**22 58 37.8**	**+1.8**
WCKO				*e*S	**Sn**	**22 58 59.9**	**+2.5**
TWGBT	**Beinan**	**1.78**	**222**	P	**Pn**	**22 58 36.6**	**+0.4**
TWGBT	**Beinan**	**1.78**	**222**	S	**Sn**	**22 58 57.2**	**-0.4**
TWGBT	**Beinan**	**1.78**	**222**	*e*P	**Pn**	**22 58 35.5**	**-0.7**
TWGBT				*e*S	**Sn**	**22 58 56.6**	**-1.0**
TWG	**Pinlang**	**1.78**	**222**	*e*P	**Pn**	**22 58 35.9**	**-0.4**
TWG				*e*S	**Sn**	**22 58 56.6**	**-1.1**
TPUB	**Ta-pu**	**1.81**	**243**	P	**Pn**	**22 58 38.2**	**+1.6**
TPUB	**Ta-pu**	**1.81**	**243**	S	**Sn**	**22 59 01.3**	**+3.0**
TPUB	**Ta-pu**	**1.81**	**243**	P	**Pn**	**22 58

WBSI			S		Sn	23 45 19.8 +0.7
WSI	**Waingapu**	**1.42 160**	P		Pn	23 44 58.1 +2.1
WSI			S		Sn	23 45 20.6 +0.9
EDFI	**Ende, Flores**	**1.90 103**	P		Pn	23 45 03.0 +2.0
BASI	**Baing, Sumba**	**2.03 158**	P		Pn	23 45 04.3 +1.9
PLAI	**Plampang**	**2.08 256**	P		Pn	23 45 04.8 +1.9
PLAI	**Plampang**	**2.08 256**	P		Pn	23 45 05.2 +2.3
BSSI	**Bau Bau, Buton**	**2.26 17**	P		Pn	23 45 07.8 +2.8
MMRI	**Maumere**	**2.42 98**			Pn	23 45 09.1 +2.4
MMRI			Sn		Sn	23 45 41.0 +2.3
MMRI	**Maumere**	**2.42 98**	P		Pn	23 45 09.0 +2.3
MMRI	**Maumere**	**2.42 98**	P		Pn	23 45 09.2 +2.4
TWSI	**Taliwang, Sumb**	**2.93 262**	P		Pn	23 45 14.7 +1.8
BKSI	**Bulukumba**	**2.99 6**	P		Pn	23 45 16.9 +3.2
KAPI	**Kappang**	**3.29 359**			Pn	23 45 20.7 +3.4
KAPI			Sn		Sn	23 46 01.5 +3.7
KAPI	**Kappang**	**3.29 359**	P		Pn	23 45 20.1 +2.8
	143nm,0.5s,baz=181,slow=8.1,SNR=51					
KAPI			S		Sn	23 45 58.3 +0.5
	231nm,0.8s,baz=356,slow=19,SNR=11					
KAPI	**Kappang**	**3.29 359**	P		Pn	23 45 20.7 +3.4
BNSI	**Bone**	**3.91 4**	P		Pn	23 45 29.2 +4.0
BBSI	**Bau Bau**	**3.92 44**	P		Pn	23 45 29.3 +3.9
BATI	**Baumata**	**4.24 117**	P		Pn	23 45 31.9 +2.4
	305nm,0.3s,baz=108,slow=3.9,SNR=48					
BATI			S		Sn	23 46 17.2 -2.2
	754nm,0.3s,baz=301,slow=23,SNR=15					
BATI	**Baumata**	**4.24 117**	P		Pn	23 45 31.5 +2.1
SPSI	**Sidrap Palu**	**4.33 359**	P		Pn	23 45 33.9 +3.3
SRBI	**Singaraja**	**4.56 273**	P		Pn	23 45 35.6 +2.0
DNP	**Denpasar**	**4.57 265**	P		Pn	23 45 35.8 +2.1
SOEI	**Soe**	**4.62 108**			Pn	23 45 36.6 +2.1
SOEI			Sn		Sn	23 46 28.1 -0.4
SOEI	**Soe**	**4.62 108**	P		Pn	23 45 36.7 +2.2
SOEI	**Soe**	**4.62 108**	S		Sn	23 46 29.9 +1.4
SOEI	**Soe**	**4.62 108**	P		Pn	23 45 36.3 +1.8
KDI	**Kendari**	**5.15 33**	P		Pn	23 45 44.3 +3.0
ABJI	**Asem Bagus**	**5.55 275**	P		Pn	23 45 48.6 +2.1
	1.1nm3µm255nm,1.0s					
JAGI	**Jajag, Banyuwa**	**5.61 268**			Pn	23 45 46.2 -1.1
JAGI	**Jajag, Banyuwa**	**5.61 268**	P		Pn	23 45 48.9 +1.6
JAGI	**Jajag, Banyuwa**	**5.61 268**	P		Pn	23 45 48.8 +1.5
	1.9nm3µm143nm,0.8s					
KMMI	**Kalianget**	**5.93 282**	P		Pn	23 45 55.9 +4.3
	0.8nm217nm,1.7s					
BLJI	**Banyuglugur**	**6.19 275**	P		Pn	23 45 57.1 +2.2
	1.0nm3µm223nm,1.0s					
LUWI	**Luwuk**	**7.81 22**			Pn	23 46 18.7 +2.4
LUWI	**Luwuk**	**7.81 22**	P		Pn	23 46 19.6 +3.3
PCJI	**Pacitan**	**8.55 270**	P		Pn	23 46 26.0 -0.1
	3µm191nm,0.6s					
SANI	**Sanana**	**8.75 45**	P		Pn	23 46 31.3 +2.5
SANI	**Sanana**	**8.75 45**	P		Pn	23 46 31.5 +2.7
	304µm99nm,1.2s					
WOJI	**Wonogiri, Jawa**	**8.82 272**	P		Pn	23 46 30.5 +0.8
	3µm121nm,0.8s					
UGM	**Wanagama**	**9.21 272**			Pn	23 46 34.8 -0.1
UGM	**Wanagama**	**9.21 272**	P		Pn	23 46 35.2 +0.3
	99nm,1.1s					
SMRI	**Semarang**	**9.38 277**			Pn	23 46 38.4 +1.3
SMRI	**Semarang**	**9.38 277**	P		Pn	23 46 40.2 +3.1
TOLI2	**Tolitoli**	**9.42 6**			Pn	23 46 39.4 +1.8
TOLI2	**Tolitoli**	**9.42 6**	P		Pn	23 46 40.3 +2.9
BNDI	**Bandanaira**	**10.71 70**	P		Pn	23 46 55.7 +1.2
KPJI	**Karang Pucung**	**10.83 274**	P		Pn	23 46 55.7 -0.4
	38nm,0.6s					
FITZ	**Fitzroy Crossi**	**11.25 150**	P		Pn	23 47 04.5 +3.0
	16nm,0.5s,baz=334,slow=11,SNR=45					
FITZ			S		Sn	23 49 02.1 -4.3
	108nm,0.6s,baz=169,slow=18,SNR=9.5					
SAUI	**Saumlaki**	**11.37 89**	Pn		Pn	23 47 03.0 -0.2
SAUI	**Saumlaki**	**11.37 89**	P		Pn	23 47 03.5 +0.3
	741µm813nm,0.9s					
KNRA	**Kununurra**	**11.40 131**			Pn	23 47 03.3 -0.2
DRS	**Darwin Rock St**	**11.64 111**	P		Pn	23 47 06.6 0.0
TNTI	**Ternate**	**11.76 40**			Pn	23 47 08.1 0.0
TNTI	**Ternate**	**11.76 40**	P		Pn	23 47 09.6 +1.5
BBJI	**Bungbulang**	**12.08 273**	P		Pn	23 47 11.9 -0.5
LEM	**Lembang**	**12.18 276**	P		Pn	23 47 15.6 +1.8
	26nm,0.7s,baz=37,slow=16,SNR=4.4					
MBWA	**Marble Bar**	**12.77 180**	P		Pn	23 47 21.5 +0.5
SBUM	**Sibu**	**13.11 324**	P		P	23 47 27.4 -1.9
PSA00	**Pilbara Seismi**	**13.18 180**			Pn	23 47 26.6 +0.3
PSA00	**Pilbara Seismi**	**13.18 180**			Pn	23 47 26.1 -0.1
PSA00	**Pilbara Seismi**	**13.18 180**	P		Pn	23 47 26.5 +0.3
MYLDM	**Lahad Datu**	**13.47 354**			P	23 47 32.1 -1.3
FAKI	**Fak Fak**	**13.48 67**			Pn	23 47 29.0 -1.1
FAKI	**Fak Fak**	**13.48 67**	P		Pn	23 47 29.8 -0.3
FAKI	**Fak Fak**	**13.48 67**	P		Pn	23 47 29.5 -0.6
KSM	**Kuching**	**13.58 315**	P		P	23 47 34.0 -0.6
KSM	**Kuching**	**13.58 315**	P		P	23 47 33.8 -0.8
SWI	**Sorong**	**13.60 58**	P		Pn	23 47 31.9 +0.4
XMI	**Christmas Isla**	**14.10 260**	P		P	23 47 41.5 +1.2
CGJI	**Cibinong**	**14.11 276**	P		Pn	23 47 38.0 +0.1
	85nm,0.7s					
KMPI	**Kaimana, Papua**	**14.56 72**	P		Pn	23 47 43.3 -0.4
KKM	**Kota Kinabalu**	**14.71 346**	P		P	23 47 47.9 +0.6
RKPI	**Ransiki, Papua**	**15.82 65**	P		P	23 47 59.8 +0.4
MDSI	**Maura Dua**	**16.00 283**	P		P	23 48 02.3 +0.9
LHSI	**Lahat**	**16.80 284**	P		Pn	23 48 11.2 +0.2
	42nm,1.0s					
MNAI	**Manna**	**17.21 282**	P		P	23 48 13.8 -1.0
MNAI	**Manna**	**17.21 282**	P		P	23 48 15.2 +0.5
	136nm,1.4s					
BAKI	**Biak**	**17.70 67**	P		Pn	23 48 22.0 +0.3
	167µm79µm4µm,0.8s					
WB0	**Warramunga Arr**	**18.13 130**			P	23 48 25.0 +0.3
WB0			IAmb		IAmb	23 48 51.0
	comp=Z,21nm,0.9s					
WRA	**Warramunga Arr**	**18.20 131**			P	23 48 25.2 -0.3
WRA	**Warramunga Arr**	**18.20 131**	P		P	23 48 25.6 +0.1
	comp=Z,11nm,0.7s,baz=303,slow=13,SNR=69					
WRAB	**Tennant Creek**	**18.20 131**	P		P	23 48 25.7 +0.2
WRAB			IAmb		IAmb	23 48 37.7
	comp=Z,20nm,0.8s					
MEEK	**Meekatharra**	**18.25 183**	P		Pn	23 48 27.3 -0.8
BTDF	**Bukit Timah Da**	**18.66 300**	P		Pn	23 48 32.7 -0.3
MYKOM	**Kota Tinggi**	**18.82 302**	P		P	23 48 33.4 +1.1
MYKOM			IAmb		IAmb	23 48 35.9
	comp=Z,34nm,0.8s					
MYKOM	**Kota Tinggi**	**18.82 302**	P		Pn	23 48 34.4 -0.4
AS31	**Alice Springs**	**20.37 140**			P	23 48 49.9 +0.9
ASAR	**Alice Springs**	**20.37 140**	P		P	23 48 49.7 +0.8
ASAR	**Alice Springs**	**20.37 140**	P		P	23 48 49.9 +0.9
	comp=Z,6.4nm,0.4s,baz=322,slow=11,SNR=62					
	comp=Z,6.4nm,0.4s					
PPSI	**Pulau Pagai**	**20.46 285**	P		P	23 48 50.6 +0.6
	comp=Z,78nm,0.9s					
MORW	**Morawa**	**20.94 189**	P		P	23 48 56.0 +1.1
GENI	**Genyem**	**21.04 75**	P		P	23 48 56.3 +0.2
JAY	**Jayapura**	**21.57 76**	P		P	23 49 00.2 -1.7
	comp=Z,22nm,0.7s,baz=217,slow=6.7,SNR=8.7					
	comp=Z,22nm,0.7s					
JAY	**Jayapura**	**21.57 76**	P		P	23 49 01.3 -0.5
	comp=Z,112µmcomp=Z,15µmcomp=Z,25nm,0.8s					
TGY	**Tagaytay City**	**22.30 3**	P		P	23 49 07.7 -1.4
	comp=Z,216nm,0.3s,baz=162,slow=9.7,SNR=8.4					
BLDU	**Ballidu**	**22.37 187**	P		P	23 49 09.7 +0.2
IPM	**Ipoh**	**22.65 303**			P	23 49 12.8 +0.5
IPM	**Ipoh**	**22.65 303**	P		P	23 49 13.4 +1.1
QIS	**Mount Isa**	**22.66 125**	P		P	23 49 12.4 0.0
KULM	**Kulim**	**23.41 305**	P		P	23 49 18.7 -0.5
KULM	**Kulim**	**23.41 305**	P		P	23 49 19.7 +0.5
COEN	**Coen**	**23.58 106**			P	23 49 20.7 0.0
COEN	**Coen**	**23.58 106**	P		P	23 49 20.8 0.0
FORT	**Forrest**	**23.64 162**			P	23 49 21.6 +0.5
NWAO	**Narrogin (SRO)**	**24.60 185**	P		P	23 49 29.9 0.0
NWAO			IAmb		IAmb	23 49 33.5
	comp=Z,24nm,0.8s					
NWAO	**Narrogin (SRO)**	**24.60 185**	P		P	23 49 31.4 +1.5
	comp=Z,19nm,0.8s,baz=6.6,slow=9.9,SNR=13					
	comp=Z,19nm,0.8s					
NWAO	**Narrogin (SRO)**	**24.60 185**	P		P	23 49 31.1 +1.2
MTSU	**Mount Surprise**	**25.74 115**	P		P	23 49 40.9 +0.6
MLSI	**Meulaboh, Aceh**	**26.49 297**	P		P	23 49 46.8 -0.3
	comp=Z,45nm,1.2s					
SURA	**Surathani**	**26.57 310**	P		P	23 49 48.7 +0.9
CTAO	**Charters Tower**	**28.12 117**	P		P	23 50 01.6 0.0
CTAO			IAmb		IAmb	23 50 29.1
	comp=Z,29nm,1.4s					
BBOO	**Buckleboo**	**28.64 151**	P		P	23 50 06.4 +0.4
BBOO	**Buckleboo**	**28.64 151**	P		P	23 50 06.7 +0.7
STKA	**Stephens Creek**	**30.98 142**			P	23 50 27.2 +0.6
STKA	**Stephens Creek**	**30.98 142**	P		P	23 50 27.8 +1.1
	comp=Z,4.4nm,0.3s,baz=317,slow=9.1,SNR=15					
	comp=Z,4.4nm,0.3s					
STKA	**Stephens Creek**	**30.98 142**	P		P	23 50 27.3 +0.6
TPUB	**Ta-pu**	**31.44 1**	P		P	23 50 30.5 -0.2
SSLB	**Suanglung**	**31.93 2**	P		P	23 50 34.1 -1.0
SSLB			IAmb		IAmb	23 50 37.3
	comp=Z,19nm,1.0s					
SLVN	**Son La**	**33.35 332**	P		P	23 50 48.4 +0.8
SLVN			IAmb		IAmb	23 50 50.3
	comp=Z,7.4nm,0.8s					
SLVN	**Son La**	**33.35 332**	P		P	23 50 49.6 +2.0
CMSA	**Cobar Meteorol**	**33.37 137**	P		P	23 50 48.2 +0.6
CMAR	**Chiang Mai Arr**	**33.65 322**	P		P	23 50 50.1 0.0
CMAR	**Chiang Mai Arr**	**33.65 322**	P		P	23 50 50.5 +0.4
	comp=Z,1.1nm,0.4s,baz=148,slow=6.6,SNR=8.0					
CMAR			PcP		PcP	23 53 26.6 +0.4
	comp=Z,1.1nm,0.5s,baz=171,slow=2.6,SNR=6.0					
	comp=Z,1.1nm,0.4s					
CHTO	**Chiang Mai**	**33.92 323**	P		P	23 50 51.6 -0.8
CHTO	**Chiang Mai**	**33.92 323**	P		P	23 50 53.9 +1.5
ARMA	**Armidale**	**36.98 131**	P		P	23 51 20.9 +2.3
ARMA			IAmb		IAmb	23 51 24.1
	comp=Z,11nm,0.9s					
WHN	**Wuhan**	**38.99 352**	P		P	23 51 35.8 +0.6
WHN			pmax		pmax	
	comp=Z,42nm,0.8s					
ENH	**Enshi**	**39.63 346**	P		P	23 51 40.4 -0.2
ENH			IAmb		IAmb	23 51 41.5
	comp=Z,17nm,0.7s					
ENH	**Enshi**	**39.63 346**	P		P	23 51 41.2 +0.6
ALEG	**Aligegeo Malai**	**40.41 94**	P		P	23 51 45.4 -1.8
KSRS	**Korea Array**	**46.16 9**	P		P	23 52 32.2 -0.6
	comp=Z,1.6nm,0.5s,baz=181,slow=8.5,SNR=6.2					
KSRS			PcP		PcP	23 54 05.0 -0.9
	comp=Z,1.9nm,0.7s,baz=188,slow=5.5,SNR=4.8					
	comp=Z,1.6nm,0.5s					
LZDM	**Lanzhou Array**	**46.58 342**	P		P	23 52 37.9 +1.3
	comp=Z,3.4nm,0.5s,baz=166,slow=13,SNR=5.6					
	comp=Z,3.4nm,0.5s					
DZM	**Mont Dzumac**	**46.84 112**	P		P	23 52 39.0 +0.4
DZM			IAmb		IAmb	23 53 14.1
	comp=Z,36nm,1.4s					
PINNC	**Pines Island,**	**47.84 113**	P		P	23 52 47.5 +1.3
MJAR	**Matsushiro Arr**	**47.85 20**	P		P	23 52 43.3 -2.7
	comp=Z,2.1nm,0.6s,baz=193,slow=10,SNR=7.0					
	comp=Z,2.1nm,0.6s					
BJT	**Baijiatuan**	**48.21 356**	P		P	23 52 48.0 -0.7
BJT			IAmb		IAmb	23 52 48.7
	comp=Z,11nm,0.6s					
BJT	**Baijiatuan**	**48.21 356**	P		P	23 52 48.5 -0.2
BJI	**Beijing**	**48.23 356**	P		P	23 52 48.0 -0.8
BJI			pmax		pmax	
	comp=Z,7.0nm,0.7s					
JSD	**Sado**	**49.23 19**	P		P	23 52 54.4 -2.0
JSD			IAmb		IAmb	23 52 55.4
	comp=Z,10nm,0.6s					
JSD	**Sado**	**49.23 19**	P		P	23 52 54.7 -1.7
JMM	**Marumori**	**49.95 22**	P		P	23 53 01.3 -0.6
JMM			IAmb		IAmb	23 53 04.9
	comp=Z,12nm,0.7s					
GTA	**Gaotai**	**50.99 340**	eP		P	23 53 11.0 +1.2
GTA			pmax		pmax	
	comp=Z,7.0nm,1.1s					
JTM	**Tenmabayashi**	**52.64 20**	P		P	23 53 19.6 -2.3
USRK	**Ussuriysk Ar.**	**53.42 11**	P		P	23 53 25.7 -1.8
	comp=Z,4.9nm,0.4s,baz=194,slow=6.3,SNR=10					
	comp=Z,4.9nm,0.4s					
ASAJ	**Asahikawa**	**56.12 20**	P		P	23 53 44.9 -2.0
	comp=Z,3.7nm,0.3s,baz=184,slow=8.2,SNR=4.5					
	comp=Z,3.7nm,0.3s					
ULN	**Ulaanbaatar**	**57.07 350**			P	23 53 53.2 -0.6
ULN			IAmb		IAmb	23 53 54.5
	comp=Z,4.9nm,0.8s					
SONM	**Songino Array**	**57.16 349**	P		P	23 53 53.8 -0.6
SONM	**Songino Array**	**57.16 349**	P		P	23 53 54.1 -0.3
	comp=Z,2.7nm,0.4s,baz=167,slow=8.1,SNR=22					
	comp=Z,2.7nm,0.4s					
MSVF	**Nonsavu**	**57.31 106**			P	23 53 56.3 +0.3
MSVF			IAmb		IAmb	23 53 58.2
	comp=Z,17nm,0.7s					
MSVF	**Nonsavu**	**57.31 106**	P		P	23 53 57.3 +1.3
CASY	**Casey**	**58.23 184**	P		P	23 54 02.1 +0.7
CASY			IAmb		IAmb	23 54 13.6
	comp=Z,12nm,1.2s					
BKZ	**Black Stump Fm**	**59.13 131**	P		P	23 54 08.8 +0.6
KSH	**Kashi**	**62.55 323**	P		P	23 54 30.3 -1.0
KSH			pmax		pmax	
	comp=Z,12nm,0.7s					
TARG	**Taragay, Kyrgy**	**62.93 326**	P		P	23 54 33.5 -0.6
KBL	**Kabul**	**64.18 315**	P		P	23 54 40.6 -1.7
KBL			IAmb		IAmb	23 54 43.4
	comp=Z,9.3nm,0.7s					
MKAR	**Makanchi Array**	**64.23 332**	P		P	23 54 41.4 -0.7
	comp=Z,5.4nm,0.7s,baz=142,slow=7.9,SNR=58					
	comp=Z,5.4nm,0.7s					
MAKZ	**Makanchi**	**64.38 332**	P		P	23 54 42.4 -0.6
BOOM	**Boomskoye usch**	**64.48 325**	P		P	23 54 42.8 -1.2
AAK	**Ala-Archa**	**65.39 325**	P		P	23 54 48.9 -0.9
AAK			IAmb		IAmb	23 54 50.9
	comp=Z,3.2nm,0.6s					
ARSB	**Arslanbob**	**65.46 323**	P		P	23 54 49.4 -0.9
ARSB			IAmb		IAmb	23 54 51.3
	comp=Z,11nm,0.7s					
BTK	**Batken**	**66.03 321**	P		P	23 54 53.4 -0.5
BTK			IAmb		IAmb	23 54 57.8
	comp=Z,4.1nm,0.6s					
CHGR	**Chuyangaron**	**66.31 319**	P		P	23 54 54.2 -1.6
CHGR			IAmb		IAmb	23 54 55.9
	comp=Z,11nm,0.6s					
SIMJ	**Simiganj**	**66.41 319**			P	23 54 54.4 -2.0
KKAR	**Karatay Array**	**67.99 323**	P		P	23 55 05.3 -0.8
ZAA0	**Zalesovo Array**	**68.70 339**			P	23 55 08.8 -1.5
ZAA0			IAmb		IAmb	23 55 09.8
	comp=Z,9.2nm,0.6s					
ZALV	**Zalesovo Beam**	**68.70 339**			P	23 55 08.6 -1.6
ZALV	**Zalesovo Beam**	**68.70 339**	P		P	23 55 08.8 -1.4
	comp=Z,9.9nm,0.5s,baz=140,slow=5.0,SNR=55					
	comp=Z,9.9nm,0.5s					
KURBB	**Kurchatov Arra**	**68.72 333**	P		P	23 55 09.7 -0.7
	comp=Z,2.7nm,0.2s,baz=146,slow=5.4,SNR=14					
	comp=Z,2.7nm,0.2s					
KURK	**Kurchatov**	**68.75 333**			P	23 55 09.5 -1.1
PEA0B	**Petropavlovsk-**	**69.13 23**	P		P	23 55 11.8 -1.1
PETK	**Petropavlovsk-**	**69.13 23**	P		P	23 55 11.7 -1.2
	comp=Z,7.9nm,0.6s,baz=207,slow=3.1,SNR=8.7					
	comp=Z,7.9nm,0.6s					
MAW	**Mawson**	**70.15 200**	P		P	23 55 20.4 +1.5
	comp=Z,6.7nm,0.7s,baz=77,slow=8.5,SNR=19					
	comp=Z,6.7nm,0.7s					
ABPO	**Ambohimpanom**	**70.93 253**	P		P	23 55 24.9 +0.1
ABPO			IAmb		IAmb	23 55 27.1
	comp=Z,5.6nm,0.7s					
VOI	**Vohitsoka**	**71.24 250**	P		P	23 55 26.8 +0.2
VNDA	**Vanda**	**72.53 171**	P		P	23 55 34.3 +1.2
VNDA	**Vanda**	**72.53 171**	P		P	23 55 34.4 +1.3
	comp=Z,1.8nm,0.5s,baz=309,slow=6.6,SNR=19					
	comp=Z,1.8nm,0.5s					
SBA	**Scott Base**	**73.52 171**	P		P	23 55 40.5 +1.5
BVAR	**Borovoye Array**	**74.08 332**	P		P	23 55 42.8 +0.2
	comp=Z,2.4nm,0.6s,baz=103,slow=5.2,SNR=10					
	comp=Z,2.4nm,0.6s					
AB31	**Akbulak array**	**77.48 325**			P	23 56 00.4 -1.5
ABKAR	**Akbulak array**	**77.48 325**	P		P	23 56 00.5 -1.3
RAYN	**Ar Rayn**	**79.13 296**			P	23 56 10.4 -1.2
QSPA	**South Pole Qui**	**81.67 180**	P		P	23 56 26.2 +1.9
QSPA			IAmb		IAmb	23 56 28.4
	comp=Z,12nm,1.5s					
QSPA	**South Pole Qui**	**81.67 180**	P		P	23 56 26.9 +2.5
	comp=Z,2.2nm,0.6s,baz=140,slow=0.7,SNR=15					
	comp=Z,2.2nm,0.6s					
ARTI	**Arti**	**81.74 330**	P		P	23 56 22.8 -1.8
ARTI			IAmb		IAmb	23 56 24.1
	comp=Z,6.9nm,0.5s					
GNI	**Garni**	**84.09 312**	P		P	23 56 38.7 +1.4
	comp=Z,1.8nm,0.4s,baz=135,slow=5.7,SNR=2.0					
	comp=Z,1.8nm,0.4s					
POGA	**Pongola**	**84.56 243**	P		P	23 56 39.9 -0.1
LODK	**Lodwar**	**85.01 274**	P		P	23 56 41.7 -0.8
GURO	**Guroymak-BITLI**	**85.70 310**	P		P	23 56 45.5 +0.1
GURO			IAmb		IAmb	23 56 46.2
	comp=Z,6.4nm,0.8s					
KBZ	**Khabaz**	**86.37 315**	P		P	23 56 47.4 -1.0
	comp=Z,3.4nm,0.8s,baz=100,slow=5.4,SNR=6.5					
	comp=Z,3.4nm,0.8s					
MBAR	**Mbarara**	**89.00 270**	P		P	23 57 01.3 -0.5
MBAR			IAmb		IAmb	23 57 02.8
	comp=Z,5.1nm,0.7s					
LSZ	**Lusaka**	**89.40 255**	P		P	23 57 03.3 -0.3
LSZ			IAmb		IAmb	23 57 05.5
	comp=Z,6.0nm,0.6s					
MMAI	**Mount Meron Ar**	**89.83 303**	P		P	23 57 05.2 +0.1
	comp=Z,0.9nm,0.4s,baz=99,slow=5.2,SNR=8.9					
	comp=Z,0.9nm,0.4s					
BOSA	**Boshof**	**90.04 241**	P		P	23 57 06.2 -0.2
BOSA			IAmb		IAmb	23 57 07.8
	comp=Z,12nm,1.2s					
BOSA	**Boshof**	**90.04 241**	P		P	23 57 06.9 +0.5
	comp=Z,3.7nm,0.6s,baz=111,slow=3.8,SNR=24					
	comp=Z,3.7nm,0.6s					
LBTB	**Lobatse**	**90.32 245**	P		P	23 57 07.7 0.0
LBTB			IAmb		IAmb	23 57 09.1
	comp=Z,6.7nm,0.9s					
LPHEP	**Lephephe**	**90.35 246**	P		P	23 57 06.9 -1.0
SNAA	**Sanae**	**91.87 195**	P		P	23 57 14.7 +0.9
SNAA			IAmb		IAmb	23 57 15.9
	comp=Z,3.1nm,0.7s					
SNAA	**Sanae**	**91.87 195**	P		P	23 57 15.0 +1.2
	comp=Z,3.0nm,0.7s,baz=163,slow=5.5,SNR=25					
	comp=Z,3.0nm,0.7s					
BRTR	**Keskin Array B**	**92.33 310**	P		P	23 57 14.7 -1.9
	comp=Z,0.7nm,0.8s,baz=118,slow=5.6,SNR=4.1					
	comp=Z,0.7nm,0.8s					
EKA	**Eskdalemuir Ar**	**115.20 328**	PKP		**PKPdf**	00 02 46.2 0.0
	comp=Z,0.9nm,0.7s,baz=50,slow=3.8,SNR=1.8					
TORD	**Torodi Ar. Bea**	**119.14 280**	PKP		**PKPdf**	00 02 53.8 -1.2
	comp=Z,1.4nm,0.5s,baz=51,slow=2.3,SNR=15					
NVAR	**Mina Array Bea**	**119.97 50**	PKP		**PKiKP**	00 02 56.5 +0.2
	comp=Z,0.8nm,0.7s,baz=327,slow=3.4,SNR=1.7					
ESDC	**Sonseca Array**	**121.07 312**	PKP		**PKPdf**	00 02 57.8 -0.3
	comp=Z,0.4nm,0.5s,baz=36,slow=2.2,SNR=4.3					
PDAR	**Pinedale Array**	**124.87 43**	PKP		**PKPdf**	00 03 04.8 -0.8
	comp=Z,0.4nm,0.5s,baz=326,slow=2.2,SNR=1.8					
SCHQ	**Schefferville**	**133.31 5**	PKP		**PKPdf**	00 03 21.3 +0.4
	comp=Z,31nm,0.8s,baz=326,slow=3.6,SNR=2.1					
TXAR	**Lajitas Array**	**134.19 57**	PKP		**PKPdf**	00 03 22.1 -1.3
	comp=Z,0.7nm,0.9s,baz=205,slow=2.2,SNR=3.6					
CPUP	**Villa Florida**	**145.44 185**	PKPbc		**PKPab**	00 03 44.8 +0.4
	comp=Z,1.6nm,0.6s,baz=1.2,slow=2.3,SNR=19					
BDFB	**Brasilia**	**153.31 207**	PKP		**PKPdf**	00 03 56.5 -0.1
	comp=Z,1.0nm,0.4s,baz=127,slow=5.1,SNR=3.4					
BDFB			PKPbc		**PKPbc**	00 04 04.1 -0.2
	comp=Z,1.8nm,0.5s,baz=232,slow=12,SNR=2.3					
BDFB			PKPab		**PKPab**	00 04 17.2 +0.5
	comp=Z,2.5nm,1.0s,baz=135,slow=6.9,SNR=4.5					
SIV	**San Ignacio**	**155.83 178**	PKPab		**PKPab**	00 04 28.8 +1.5
	comp=Z,2.4nm,0.6s,baz=170,slow=4.2,SNR=15					

RSPR 25 23:45:45.4,19°.14N×66°.42W,h35km±7km,MD2.5/8,8C,
Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.67**	**189**	⇑*e*P			Pn	23 45 57.5	-0.9
EMPR	**Esperanza - Ma**	**0.67**	**189**	*e*S			Sn	23 46 06.5	-1.1
ECPR	**Experimental S**	**0.82**	**176**	⇑*e*P			Pn	23 45 59.0	-1.4
ECPR	**Experimental S**	**0.82**	**176**	*e*S			Sn	23 46 09.6	-1.7
AOPR	**Arecibo Observ**	**0.85**	**202**	⇑*e*P			Pn	23 45 59.4	-1.5
AOPR	**Arecibo Observ**	**0.85**	**202**	*e*S			Sn	23 46 10.3	-1.8
UUPR	**Utuado, UPR, P**	**0.93**	**198**	*e*S			Sn	23 46 12.4	-1.6
CELP	**Cerrillo, PR**	**1.07**	**188**	*e*S			Sn	23 46 16.3	-1.3
OBIP	**Obispado Ponce**	**1.10**	**189**	⇑*e*P			Pn	23 46 03.7	-0.7
OBIP	**Obispado Ponce**	**1.10**	**189**	*e*S			Sn	23 46 17.3	-1.1
LSP	**Las Mesas**	**1.15**	**213**	⇑*e*P			Pn	23 46 03.7	-1.3
LSP	**Las Mesas**	**1.15**	**213**	*e*S			Sn	23 46 18.1	-1.5
PDPR	**Patillas Dam,**	**1.18**	**161**	⇑*e*P			Pn	23 46 03.6	-1.8
PDPR	**

SAUI Saumlaki 5.28 147 P Pn 23 48 05.9 +4.2
SAUI Saumlaki 5.28 147 ⇑P Pn 23 48 06.0 +4.2
KMPI Kaimana, Papua 5.31 91 P Pn 23 48 03.3 +1.1
KDI Kendari 5.77 266 P Pn 23 48 11.3 +2.7
KMSI Cibinong 6.01 313 P Pn 23 48 12.0 +0.2
BBSI Bau Bau 6.11 251 P Pn 23 48 16.6 +3.3
18nm421µm75µm4µm,1.2s
RKPI Ransiki, Papua 6.12 71 P Pn 23 48 14.0 +0.6
LUWI Luwuk 6.14 294 S Sn 23 49 31.7 +8.6
LUWI P Pn 23 48 11.1 -2.5
LUWI Luwuk 6.14 294 Pn Pn 23 48 13.9 +0.3
LUWI Luwuk 6.14 294 P Pn 23 48 15.3 +1.7
12µm,1.6s
LUWI Luwuk 6.14 294 P Pn 23 48 14.5 +0.9
APSI Ampana 7.22 291 P Pn 23 48 30.2 +1.7
SOEI Soe 7.41 213 Pn Pn 23 48 34.2 +3.1
SOEI Soe 7.41 213 P Pn 23 48 35.0 +3.8
22nm5µm,1.9s
MRSI Marisa 7.58 302 P Pn 23 48 34.2 +0.8
11nm51µm3µm,1.0s
SGSI Sangihe 7.73 338 P Pn 23 48 35.7 +0.3
MMRI Maumere 7.94 230 Pn Pn 23 48 41.7 +3.3
MMRI Maumere 7.94 230 P Pn 23 48 40.5 +2.2
57µm1µm,1.6s
SRPI Serui, Papua 8.02 78 P Pn 23 48 40.1 +0.7
8.0nm148µm30µm2µm,0.5s
BAKI Biak 8.06 73 P Pn 23 48 41.1 +1.1
BATI Baumata 8.12 215 Pn Pn 23 48 42.7 +1.9
53nm,0.3s,baz=328,slow=1.1,SNR=13
BATI Lg Lg 23 51 01.4
6.7nm,0.3s,baz=190,slow=23,SNR=1.2
BATI LR LR 23 51 45.7
comp=Z,315µm,21.8s,baz=74,slow=37
336nm,0.7s
BATI Baumata 8.12 215 P Pn 23 48 45.8 +5.0
45µm2µm,1.5s
BSSI Bau Bau, Buton 8.28 252 P Pn 23 48 47.4 +4.3
163µm30µm2µm,0.8s
BNSI Bone 8.31 264 P Pn 23 48 47.6 +4.2
209µm32µm1µm,0.9s
BKSI Bulukumba 8.43 258 P Pn 23 48 48.4 +3.3
175µm41µm3µm,1.4s
EDFI Ende, Flores 8.43 232 P Pn 23 48 49.0 +3.8
40µm1µm,1.5s
SPSI Sidrap Palu 8.61 267 P Pn 23 48 51.1 +3.5
236µm48µm2µm,1.0s
KAPI Kappang 8.74 260 Pn Pn 23 48 51.7 +2.4
KAPI Kappang 8.74 260 Pn Pn 23 48 51.2 +2.0
34nm,0.3s,baz=108,slow=5.1,SNR=13
KAPI LR LR 23 52 50.1
comp=Z,183µm,21.4s,baz=80,slow=42
128nm,0.6s
KAPI Kappang 8.74 260 P Pn 23 48 51.7 +2.4
KAPI Kappang 8.74 260 ⇑P Pn 23 48 54.3 +5.0
KAPI Kappang 8.74 260 P Pn 23 48 54.0 +4.7
KAPI S Sn 23 50 42.3 +15
TOLI2 Tolitoli 8.90 301 Pn 23 48 51.7 +0.2
TOLI2 Tolitoli 8.90 301 P Pn 23 48 53.1 +1.6
1µm,0.8s
PCI Palu 8.94 287 P Pn 23 48 55.7 +3.6
DRS Darwin Rock St 9.18 164 P Pn 23 49 00.1 +4.8
1µm,0.8s
WSI Waingapu 10.08 232 P Pn 23 49 12.4 +4.7
308µm2µm,1.1s
BASI Baing, Sumba 10.20 229 P Pn 23 49 12.0 +2.6
54µm3µm,1.4s
SMPI Sarmi 10.42 82 P Pn 23 49 14.0 +1.6
186µm49µm1µm,1.0s
WBSI Waikabubak, Su 10.80 235 P Pn 23 49 21.7 +4.1
213µm35µm2µm,1.6s
DAV Davao City (W) 10.91 345 Pn 23 49 18.7 -0.4
DAV Davao City (W) 10.91 345 Pn Pn 23 49 20.1 +1.0
421nm,0.8s,baz=114,slow=3.5,SNR=17
DAV Sn Sn 23 51 18.9 -1.6
30nm,0.3s,baz=225,slow=21,SNR=1.0
DAV Davao City (W) 10.91 345 P Pn 23 49 23.4 +4.3
3µm,2.1s
DAV Davao City (W) 10.91 345 P Pn 23 49 19.7 +0.6
DAV S Sn 23 51 27.9 +7.4
DAV Davao City (W) 10.91 345 P Pn 23 49 16.0 -3.1
SMKI Samarinda 11.59 285 P Pn 23 49 32.5 +4.1
40µm2µm,1.2s
BKB Balikpapan 11.70 281 Pn Pn 23 49 32.0 +2.0
BKB Balikpapan 11.70 281 P Pn 23 49 34.5 +4.5
50µm2µm,0.9s
BKB Balikpapan 11.70 281 ⇑P Pn 23 49 32.8 +2.8
PLAI Plampang 11.78 243 P Pn 23 49 34.6 +3.5
152µm31µm1µm,1.6s
GENI Genyem 11.80 86 P Pn 23 49 34.8 +3.5
2µm,0.9s
GENI Genyem 11.80 86 P Pn 23 49 32.7 +1.4
202µm50µm2µm,1.0s
GENI Genyem 11.80 86 ⇑P Pn 23 49 31.5 +0.2
KNRA Kununurra 12.07 178 P Pn 23 49 35.1 +0.2
comp=Z,0.0nmcomp=Z,1µm,1.1s
KNRA Kununurra 12.07 178 Pn Pn 23 49 36.6 +1.7
JAY Jayapura 12.34 86 Pn Pn 23 49 40.9 +2.1
comp=Z,50nm,0.8s,baz=256,slow=4.2,SNR=3.7
JAY Jayapura 12.34 86 P Pn 23 49 38.3 -0.4
TWSI Taliwang, Sumb 12.55 245 P Pn 23 49 44.0 +2.5
comp=Z,138µmcomp=Z,32µmcomp=Z,699nm,1.3s
MYLDM Lahad Datu 13.14 311 Pn Pn 23 49 49.3 -0.3
MYLDM Lahad Datu 13.14 311 P Pn 23 49 52.1 +2.5
comp=Z,3µm,1.3s
BBKI Banjar Baru 13.52 270 P Pn 23 49 59.1 +4.2
comp=Z,120µmcomp=Z,1µm,1.5s
SRBI Singaraja 13.86 250 P P 23 50 05.5 -2.0
comp=Z,119µmcomp=Z,34µmcomp=Z,1µm,1.4s
DNP Denpasar 14.06 248 P P 23 50 06.6 -3.1
comp=Z,131µmcomp=Z,3µm,2.8s
ABJI Asem Bagus 14.70 253 P P 23 50 16.5 -0.4
comp=Z,112µmcomp=Z,59µmcomp=Z,2µm,1.5s
FITZ Fitzroy Crossi 14.72 190 P Pn 23 50 09.7 -1.5
FITZ Fitzroy Crossi 14.72 190 Pn Pn 23 50 10.0 -1.1
FITZ Fitzroy Crossi 14.72 190 Pn Pn 23 50 13.7 +2.6
comp=Z,5.4nm,0.3s,baz=40,slow=13,SNR=5.7
FITZ LR LR 23 56 37.5
comp=Z,157µm,18.2s,baz=14,slow=40
comp=Z,223nm,0.9s
FITZ Fitzroy Crossi 14.72 190 P P 23 50 16.5 -0.5
comp=Z,1µm,0.8s
KMMI Kalianget 14.78 256 P P 23 50 17.3 -0.4
comp=Z,94µmcomp=Z,54µmcomp=Z,3µm,1.3s
JAGI Jajag, Banyuwa 14.98 250 Pn 23 50 14.4 -0.3
JAGI Jajag, Banyuwa 14.98 250 P P 23 50 20.7 +0.7
comp=Z,2µm,1.1s
JAGI Jajag, Banyuwa 14.98 250 P P 23 50 18.5 -1.5
comp=Z,106µmcomp=Z,52µmcomp=Z,2µm,1.1s
JAGI Jajag, Banyuwa 14.98 250 ⇑P Pn 23 50 16.0 +1.3
BLJI Banyuglugur 15.30 254 P P 23 50 23.9 +0.3
comp=Z,134µmcomp=Z,48µmcomp=Z,2µm,1.6s
KKM Kota Kinabalu 15.44 308 Pn 23 50 19.8 -1.1
KKM Kota Kinabalu 15.44 308 P P 23 50 23.5 -1.7
comp=Z,746nm,1.3s
KKM Kota Kinabalu 15.44 308 ⇑S P 23 50 20.4 -4.9
BWJI Bawean 15.85 261 P P 23 50 30.2 +0.6
GRJI Gresik 16.19 257 P P 23 50 35.2 +1.7
TBJI Tambak Boyo 16.79 258 P P 23 50 42.2 +2.1
comp=Z,117µmcomp=Z,62µmcomp=Z,3µm,1.3s
WB0 Warramunga Arr 17.16 160 Pn Pn 23 50 39.9 -2.8
SBUM Sibu 17.22 290 P P 23 50 44.5 -0.4
SBUM Sibu 17.22 290 P P 23 50 48.2 +3.3
comp=Z,586nm,2.1s
SBUM Sibu 17.22 290 ⇑P P 23 50 44.5 -0.4
NGJI Ngawi 17.27 257 P P 23 50 47.4 +1.9
comp=Z,2µm,2.5s
STKI Sintang 17.28 282 P P 23 50 46.5 +1.0
comp=Z,131µmcomp=Z,55µmcomp=Z,822nm,1.5s
WRAB Tennant Creek 17.30 161 Pn 23 50 41.6 -2.9
WRAB IAmb IAmb 23 50 52.4
comp=Z,4µm,1.6s
WRAB Tennant Creek 17.30 161 P Pn 23 50 41.6 -2.9
WRAB pmax pmax
comp=Z,4µm,1.7s
WRA Warramunga Arr 17.31 161 Pn Pn 23 50 40.3 -4.3
WRA Warramunga Arr 17.31 161 P Pn 23 50 44.9 +0.3
comp=Z,1.4nm,0.3s,baz=343,slow=12,SNR=30
WRA S Sn 23 53 58.5 +1.9
comp=Z,66nm,0.9s,baz=345,slow=18,SNR=2.6
comp=Z,50nm,0.5s
WB2 Warramunga Arr 17.31 161 P Pn 23 50 41.6 -3.0
PCJI Pacitan 17.73 254 P P 23 50 50.5 0.0
comp=Z,106µmcomp=Z,40µmcomp=Z,2µm,1.1s
COEN Coen 17.89 126 P Pn 23 50 48.9 -2.9
COEN Coen 17.89 126 P Pn 23 50 52.2 +0.4
comp=Z,1µm,1.5s

COEN Coen 17.89 126 ⇑P Pn 23 50 48.1 -3.7
WOJI Wonogiri, Jawa 17.89 255 P P 23 50 53.2 +0.9
SMRI Semarang 18.21 258 P Pn 23 50 55.7 0.0
SMRI Semarang 18.21 258 P P 23 50 57.6 +1.8
comp=Z,5µm,1.4s
SMRI Semarang 18.21 258 P P 23 50 57.2 +1.4
SMRI Semarang 18.21 258 ⇑P P 23 50 56.7 +0.9
UGM Wanagama 18.30 255 P 23 50 56.9 +0.1
UGM Wanagama 18.30 255 P P 23 51 00.4 +3.6
comp=Z,2µm,1.5s
UGM Wanagama 18.30 255 P P 23 50 58.7 +1.9
comp=Z,100µmcomp=Z,51µmcomp=Z,2µm,1.5s
KSM Kuching 18.75 285 P P 23 51 01.2 -0.5
KSM Kuching 18.75 285 P Pn 23 51 03.4 +1.1
comp=Z,1µm,1.6s
KSM Kuching 18.75 285 ⇑P Pn 23 51 02.2 -0.1
MANU Manus Island 19.01 86 P 23 51 05.3 +0.7
MANU IAmb IAmb 23 51 15.6
comp=Z,2µm,1.8s
MANU Manus Island 19.01 86 ⇑P Pn 23 51 07.3 +1.8
TGY Tagaytay City 19.02 337 P Pn 23 51 06.3 +0.7
comp=Z,2µm,1.0s,baz=204,slow=2.0,SNR=31
MBWA Marble Bar 19.43 205 P P 23 51 09.6 +0.4
comp=Z,1µm,1.3s,comp=Z,0.0nm
MBWA Marble Bar 19.43 205 P P 23 51 10.0 +0.8
MBWA IAmb IAmb 23 51 22.8
comp=Z,2µm,1.2s
MBWA Marble Bar 19.43 205 P Pn 23 51 12.1 +1.6
comp=Z,755nm,1.3s
MBWA Marble Bar 19.43 205 ⇓P Pn 23 51 11.6 +1.1
MBWA Marble Bar 19.43 205 P Pn 23 51 12.0 +1.6
MBWA S Sn 23 54 51.5 +3.6
PMG Port Moresby 19.53 108 P 23 51 09.5 -0.8
PMG IAmb IAmb 23 51 22.7
comp=Z,3µm,1.5s
PMG Port Moresby 19.53 108 P Pn 23 51 12.9 +1.2
comp=Z,209nm,0.8s,baz=306,slow=9.2,SNR=38
PMG LR LR 00 00 49.7
comp=Z,233µm,20.6s,baz=315,slow=43
PMG Port Moresby 19.53 108 P Pn 23 51 14.2 +2.5
comp=Z,2µm,1.9s
PMG Port Moresby 19.53 108 P P 23 51 09.5 -0.8
PMG pmax pmax
comp=Z,3µm,1.5s
PMG Port Moresby 19.53 108 ⇑P P 23 51 08.7 -1.6
PSAC2 Pilbara Seismi 19.72 204 P P 23 51 12.5 +0.1
comp=Z,1µm,1.7s,comp=Z,0.0nm
KPJI Karang Pucung 19.73 258 P P 23 51 12.7 +0.2
PSAC1 Pilbara Seismi 19.73 204 P P 23 51 13.1 +0.6
comp=Z,755nm,1.8s,comp=Z,0.0nm
PSA00 Pilbara Seismi 19.75 204 P P 23 51 13.0 +0.3
comp=Z,774nm,1.9s,comp=Z,0.0nm
PSA00 Pilbara Seismi 19.75 204 P 23 51 12.5 -0.2
PSA00 Pilbara Seismi 19.75 204 P Pn 23 51 15.4 +1.1
comp=Z,774nm,1.9s
PSAB3 Pilbara Seismi 19.77 204 P P 23 51 13.4 +0.5
comp=Z,957nm,1.2s,comp=Z,0.0nm
QIS Mount Isa 20.14 148 P P 23 51 17.0 +0.1
comp=Z,2µm,1.7s,comp=Z,0.0nm
QIS Mount Isa 20.14 148 P P 23 51 17.5 +0.6
comp=Z,2µm,1.7s
AS31 Alice Springs 20.71 166 P P 23 51 24.1 +1.0
AS31 IAmb IAmb 23 51 34.8
comp=Z,1µm,1.1s
ASAR Alice Springs 20.71 166 P P 23 51 23.8 +0.7
ASAR Alice Springs 20.71 166 P Pn 23 51 24.8 -0.7
comp=Z,436nm,0.7s,baz=348,slow=12,SNR=68
ASAR S Sn 23 55 16.8 -1.9
comp=Z,28nm,0.9s,baz=340,slow=22,SNR=2.5
ASAR PcP PcP 23 55 32.7 0.0
comp=Z,25nm,0.5s,baz=2.6,slow=1.5,SNR=5.5
ASAR ScP ScP 23 59 06.5 -1.6
comp=Z,4.5nm,0.7s,baz=344,slow=2.6,SNR=1.8
TPI Tanjungpandan 20.72 272 P P 23 51 23.4 +0.1
comp=Z,84µmcomp=Z,25µmcomp=Z,480nm,0.9s
LEM Lembang 20.94 260 P Pn 23 51 27.6 -0.9
comp=Z,188nm,0.7s,baz=52,slow=12,SNR=10
LEM LR LR 00 01 56.1
comp=Z,209µm,18.0s,baz=84,slow=44
comp=Z,188nm,0.7s
LEM Lembang 20.94 260 P P 23 51 27.0 +1.1
comp=Z,111µmcomp=Z,37µmcomp=Z,930nm,1.2s
BBJI Bungbulang 21.00 258 P P 23 51 26.6 +0.2
comp=Z,1µm,1.0s
MTSU Mount Surprise 21.30 134 P P 23 51 29.0 -0.6
comp=Z,443nm,0.8s
MTSU Mount Surprise 21.30 134 P P 23 51 30.7 +1.2
comp=Z,444nm,0.8s
WRKA Warakurna 21.37 180 P P 23 51 31.3 +1.0
comp=Z,0.0nmcomp=Z,843nm,1.3s
CNJI Cibinong 21.49 259 P P 23 51 30.7 -0.9
comp=Z,1µm,1.3s
DBJI Dramaga 21.76 261 P P 23 51 35.0 +0.5
comp=Z,64µmcomp=Z,24µmcomp=Z,615nm,1.0s
TNG Tangerang 21.82 262 P P 23 51 37.0 +1.9
comp=Z,69µmcomp=Z,31µmcomp=Z,823nm,0.9s
SKJI Sukabumi 22.01 260 P P 23 51 38.5 +1.3
comp=Z,48µmcomp=Z,30µmcomp=Z,1µm,1.7s
PPBI Pangkal Pinang 22.27 273 P P 23 51 41.0 +1.0
SBJI Serang 22.33 263 P P 23 51 40.3 -0.3
comp=Z,65µmcomp=Z,20µmcomp=Z,748nm,1.4s
SZP Santa 22.37 340 P P 23 51 47.6 +6.6
comp=Z,1µm,1.9s
CGJI Cibinong 22.81 261 P P 23 51 43.4 -2.3
comp=Z,478nm,1.0s
BLSI Bandar Lampung 23.14 265 P P 23 51 48.5 -0.7
GIRL Giralia 23.43 215 P P 23 51 51.1 -0.8
comp=Z,0.0nmcomp=Z,776nm,1.9s
GIRL Giralia 23.43 215 P P 23 51 51.4 -0.5
KLI Kotabumi 23.50 266 P P 23 51 53.5 +0.7
comp=Z,72µmcomp=Z,20µmcomp=Z,860nm,1.2s
XMI Christmas Isla 23.54 252 P P 23 51 54.2 +1.1
comp=Z,735nm,1.5s
XMI Christmas Isla 23.54 252 ⇑P P 23 51 51.1 -2.0
PMBI Palembang 23.59 271 P P 23 51 54.5 +1.0
PMBI Palembang 23.59 271 P P 23 51 57.6 +4.0
comp=Z,77µmcomp=Z,26µmcomp=Z,1µm,1.4s
GUMO Guam 23.60 44 P P 23 51 51.8 -1.9
GUMO Guam 23.60 44 P P 23 51 52.9 -0.7
comp=Z,513nm,1.1s,baz=4.9,slow=3.6,SNR=15
GUMO LR LR 00 00 28.2
comp=Z,39µm,21.6s,baz=222,slow=35
comp=Z,513nm,1.1s
GUMO Guam 23.60 44 P P 23 51 54.0 +0.3
comp=Z,931nm,1.7s
GUMO Guam 23.60 44 P P 23 51 51.8 -1.9
GUMO pmax pmax
comp=Z,4µm,1.5s
RABL Rabaul 23.73 92 P 23 51 55.4 +0.4
TV1H Townsville Har 23.82 132 P P 23 51 57.4 +1.7
comp=Z,378nm,1.1s
KASI Kota Agung 23.90 264 P P 23 51 55.8 -0.7
CTAO Charters Tower 23.96 135 P P 23 51 57.4 +0.4
CTAO Charters Tower 23.96 135 P P 23 51 57.8 +0.7
comp=Z,438nm,2.1s
CTAO Charters Tower 23.96 135 P P 23 51 57.4 +0.4
CTAO pmax pmax
comp=Z,2µm,1.3s
CTAO MLR MLR
comp=Z,86µm,20.0s
CTAO Charters Tower 23.96 135 ⇑P P 23 51 57.5 +0.4
DSRI Dabo 23.99 277 P P 23 51 57.4 0.0
comp=Z,77µmcomp=Z,26µmcomp=Z,1µm,1.4s
TPRI Tanjung Pinang 24.26 280 P P 23 52 00.5 +0.6
comp=Z,83µmcomp=Z,30µmcomp=Z,1µm,1.9s
LWLI Liwa 24.31 266 P P 23 52 02.0 +1.5
comp=Z,60µmcomp=Z,21µmcomp=Z,814nm,1.0s
MEEK Meekatharra 24.80 201 P P 23 52 05.2 +0.4
comp=Z,0.0nmcomp=Z,2µm,1.0s
LHSI Lahat 24.82 269 P P 23 52 05.3 +0.3
comp=Z,69µmcomp=Z,31µmcomp=Z,1µm,2.5s
DLV Lat 25.06 308 P P 23 52 07.0 -0.3
DLV IAmb IAmb 23 52 19.4
comp=Z,848nm,1.3s
DLV Lat 25.06 308 P P 23 52 08.9 +1.5
comp=Z,567nm,1.3s
DLV Lat 25.06 308 ⇑P P 23 52 07.9 +0.5
BTDF Bukit Timah Da 25.08 281 P P 23 52 10.1 +2.7
comp=Z,778nm,1.3s
MYKOM Kota Tinggi 25.09 282 P P 23 52 07.8 +0.3
MYKOM IAMs_20 IAMs_20 00 03 25.4
comp=Z,122µm,18.0s
MYKOM Kota Tinggi 25.09 282 P P 23 52 10.3 +2.8
comp=Z,702nm,1.5s
MYKOM Kota Tinggi 25.09 282 ⇑P P 23 52 07.8 +0.3
MNAI Manna 25.39 267 P P 23 52 10.5 +0.3

MNAI IAMs_20 IAMs_20 00 03 02.6
comp=Z,144µm,20.0s
MNAI Manna 25.39 267 P P 23 52 13.3 +3.1
comp=Z,54µmcomp=Z,28µmcomp=Z,1µm,1.8s
KSI Kapahiang 25.75 269 P P 23 52 16.5 +3.0
comp=Z,57µmcomp=Z,830nm,2.7s
MASI Maura Aman, Be 26.11 270 P P 23 52 17.9 +1.1
comp=Z,60µmcomp=Z,34µmcomp=Z,2µm,1.3s
INKA Innaminka 26.80 155 P P 23 52 22.6 -0.2
INKA IAmb IAmb 23 53 03.3
comp=Z,668nm,1.6s
KRJI Kerinci 26.93 272 P P 23 52 24.6 +0.3
comp=Z,65µmcomp=Z,1µm,1.7s
FORT Forrest 27.09 181 P P 23 52 26.4 +1.0
comp=Z,0.0nmcomp=Z,180nm,0.8s
FORT Forrest 27.09 181 P P 23 52 26.8 +1.4
TWG Pinlang 27.16 345 P P 23 52 25.1 -0.9
TWG IAmb IAmb 23 52 48.9
comp=Z,486nm,1.1s
QLP Quilpie 27.48 148 P P 23 52 28.5 -0.5
comp=Z,0.0nmcomp=Z,573nm,1.6s
QLP Quilpie 27.48 148 P P 23 52 29.6 +0.7
comp=Z,573nm,1.6s
QLP Quilpie 27.48 148 ⇑P P 23 52 28.7 -0.2
BKNI Bangkinang 27.60 277 P P 23 52 31.3 +1.1
BKNI Bangkinang 27.60 277 P P 23 52 30.0 -0.2
BKNI IAMs_20 IAMs_20 00 03 13.9
comp=Z,133µm,22.0s
BKNI Bangkinang 27.60 277 P P 23 52 30.9 +0.7
comp=Z,65µmcomp=Z,18µmcomp=Z,1µm,1.2s
YULB Yu-li 27.65 346 P P 23 52 29.6 -0.8
TPUB Ta-pu 27.73 345 P P 23 52 30.5 -0.7
MORW Morawa 27.97 204 P P 23 52 34.6 +1.3
comp=Z,0.0nmcomp=Z,239nm,1.3s
MORW Morawa 27.97 204 P P 23 52 33.7 +0.5
MORW Morawa 27.97 204 P P 23 52 36.9 +3.6
comp=Z,238nm,1.3s
MORW Morawa 27.97 204 ⇑P P 23 52 35.5 +2.2
PDSI Padang 28.02 275 P P 23 52 33.5 -0.5
comp=Z,55µmcomp=Z,11µmcomp=Z,285nm,0.9s
SSLB Suanglung 28.11 345 P P 23 52 33.2 -1.4
SSLB IAmb IAmb 23 53 01.9
comp=Z,518nm,1.1s
SSLB Suanglung 28.11 345 P P 23 52 35.4 +0.8
comp=Z,436nm,1.0s
PPI Padang Panjang 28.14 276 P P 23 52 34.4 -0.6
comp=Z,64µmcomp=Z,13µmcomp=Z,424nm,1.0s
YOJ Yonaguni jima 28.32 350 P P 23 52 35.8 -0.6
YOJ IAmb IAmb 23 52 45.8
comp=Z,580nm,1.2s
YOJ Yonaguni jima 28.32 350 P P 23 52 35.8 -0.6
YOJ pmax pmax
comp=Z,580nm,1.2s
YOJ Yonaguni jima 28.32 350 ⇑P P 23 52 39.2 +2.8
NACB Ninganchiao 28.33 347 P P 23 52 36.1 -0.4
PPSI Pulau Pagai 28.35 271 P P 23 52 40.6 +3.8
comp=Z,14µmcomp=Z,612nm,1.9s
KMBL Kambalda 28.35 192 P P 23 52 37.5 +0.9
comp=Z,0.0nmcomp=Z,144nm,1.1s
IPM Ipoh 28.48 286 P P 23 52 37.4 -0.6
IPM IAmb IAmb 23 52 49.1
comp=Z,362nm,0.9s
IPM IAMs_20 IAMs_20 00 05 43.8
comp=Z,97µm,21.0s
IPM Ipoh 28.48 286 P P 23 52 38.7 +0.7
comp=Z,427nm,1.3s
IPM Ipoh 28.48 286 ⇑P P 23 52 38.2 +0.2
YHNB Yeheng 28.86 347 P P 23 52 40.8 -0.5
YHNB IAmb IAmb 23 53 01.7
comp=Z,709nm,1.4s
YHNB Yeheng 28.86 347 P P 23 52 44.5 +3.2
comp=Z,419nm,1.6s
QIZ Qiongzhong 28.92 322 P P 23 52 42.2 +0.4
QIZ IAmb IAmb 23 53 01.4
comp=Z,1µm,1.7s
QIZ Qiongzhong 28.92 322 P P 23 52 44.0 +2.2
QIZ S S 23 57 31.5 +0.3
QIZ pmax pmax
comp=Z,160nm,1.6s
QIZ pmax pmax
comp=Z,9µm,10.4s
QIZ LR LR
comp=Z,33µm,15.1s
QIZ LR LR
comp=Z,36µm,13.1s
QIZ LR LR
comp=Z,36µm,17.2s
QIZ Qiongzhong 28.92 322 P P 23 52 45.2 +3.4
comp=Z,320nm,1.8s
KULM Kulim 29.06 287 P P 23 52 43.5 +0.3
KULM IAmb IAmb 23 53 07.9
comp=Z,1µm,1.7s
KULM Kulim 29.06 287 P P 23 52 45.0 +1.8
comp=Z,337nm,1.7s
KULM Kulim 29.06 287 ⇑P P 23 52 42.0 -1.2
BLDU Ballidu 29.10 201 P P 23 52 45.2 +1.8
comp=Z,0.0nmcomp=Z,259nm,2.2s
BLDU Ballidu 29.10 201 P P 23 52 46.2 +2.9
comp=Z,259nm,2.2s
MNSI Mandailing Nat 29.11 278 P P 23 52 43.7 +0.1
comp=Z,39µmcomp=Z,12µmcomp=Z,372nm,0.8s
TATO Taipei 29.13 347 P P 23 52 43.1 -0.4
TATO IAmb IAmb 23 52 53.4
comp=Z,1µm,1.8s
HKPS Hong Kong Po S 29.20 332 P P 23 52 43.8 -0.4
HKPS IAmb IAmb 23 52 53.4
comp=Z,544nm,1.4s
HKPS Hong Kong Po S 29.20 332 P P 23 52 49.8 +5.6
comp=Z,300nm,1.4s
HKC Hong Kong Obse 29.20 332 ⇑P P 23 52 47.0 +2.7
JMZ Minamidaito 2 29.32 5 P P 23 52 45.1 -0.1
MCO Taipa Grande 29.34 331 P P 23 52 52.0 +6.5
SISI Saibi 29.35 274 P P 23 52 45.4 -0.4
comp=Z,43µmcomp=Z,9µmcomp=Z,486nm,1.1s
KNMB Chin-men Tao 29.49 341 P P 23 52 46.4 -0.4
KNMB IAmb IAmb 23 52 57.0
comp=Z,626nm,1.1s
GD1S Gladstone Soft 29.85 135 P P 23 52 56.1 +6.0
comp=Z,107nm,0.6s
QZH Quanzhou 29.87 342 P P 23 52 50.3 +0.2
QZH S S 23 57 40.8 -5.2
QZH pmax pmax
comp=Z,480nm,0.9s
QZH pmax pmax
comp=Z,4µm,7.9s
QZH LR LR
comp=Z,40µm,22.4s
QZH LR LR
comp=Z,35µm,24.1s
QZH LR LR
comp=Z,62µm,22.6s
BBOO Buckleboo 29.99 167 P P 23 52 49.0 -2.2
comp=Z,0.0nmcomp=Z,274nm,1.4s
BBOO Buckleboo 29.99 167 P P 23 52 51.1 -0.1
BBOO IAMs_20 IAMs_20 00 05 24.2
comp=Z,94µm,18.0s
BBOO Buckleboo 29.99 167 P P 23 52 51.8 +0.6
comp=Z,274nm,1.4s
PSI Prapat 30.11 282 LR LR 00 05 51.0
comp=Z,84µm,18.5s,baz=126,slow=38
JOW Kunigami 30.19 360 P P 23 52 52.8 -0.2
JOW IAmb IAmb 23 53 05.5
comp=Z,365nm,1.0s
JOW Kunigami 30.19 360 P P 23 52 52.9 -0.2
comp=Z,100nm,1.1s,baz=230,slow=3.2,SNR=10
JOW LR LR 00 04 53.0
comp=Z,33µm,20.8s,baz=174,slow=36
comp=Z,100nm,1.1s
JOW Kunigami 30.19 360 P P 23 52 54.0 +1.0
comp=Z,436nm,1.1s
JOW Kunigami 30.19 360 ⇓P P 23 52 53.3 +0.3
GZH Guangzhou 30.27 332 P P 23 52 57.5 +3.8
GZH S S 23 58 01.5 +9.2
GZH pmax pmax
comp=Z,480nm,1.0s
GZH LR LR
comp=Z,76µm,20.2s
GZH LR LR
comp=Z,66µm,26.9s
GZH LR LR
comp=Z,78µm,23.3s
PBSI Pulau Batu 30.29 276 P P 23 52 56.8 +2.7
comp=Z,44µmcomp=Z,10µmcomp=Z,355nm,1.4s
MUN Mundaring 30.52 201 P P 23 52 55.5 -0.4
comp=Z,0.0nmcomp=Z,220nm,1.2s
MUN Mundaring 30.52 201 P P 23 52 59.4 +3.5

comp=Z,220nm,1.2s
WHYH Whyalla 30.57 165 P **P** **23 52 57.1 +0.8**
comp=Z,299nm,0.9s
TSI Tuntungan 30.61 283 P **P** **23 52 59.6 +2.7**
comp=Z,40μmcomp=Z,12μmcomp=Z,304nm,1.3s
MTKN Mount Kenneth 30.63 201 P **P** **23 53 00.8 +3.9**
EIDS Eidsvold 30.77 137 P **P** **23 52 56.0 -2.2**
comp=Z,133nm,1.7s
EIDS Eidsvold 30.77 137 P **P** **23 52 57.3 -0.9**
EIDS Eidsvold 30.77 137 P **P** **23 52 58.2 0.0**
comp=Z,133nm,1.9s
EIDS Eidsvold 30.77 137 ⇑P **P** **23 52 57.4 -0.9**
STKA Stephens Creek 30.80 158 P **P** **23 52 57.3 -1.1**
comp=Z,1μm,1.9s,comp=Z,0.0nm
STKA Stephens Creek 30.80 158 P **P** **23 52 58.1 -0.2**
STKA Stephens Creek 30.80 158 P **P** **23 52 58.2 -0.2**
comp=Z,90nm,0.9s,baz=327,slow=9.1,SNR=28
STKA LR LR 00 06 20.1
comp=Z,69μm,19.6s,baz=329,slow=38
comp=Z,90nm,0.9s
STKA Stephens Creek 30.80 158 P **P** **23 52 58.5 +0.1**
comp=Z,60nm,1.9s
STKA Stephens Creek 30.80 158 P **P** **23 52 58.2 -0.2**
STKA pmax pmax
comp=Z,3μm,1.5s
STKA MLR MLR
comp=Z,447μm,19.0s
NWAO Narrogin (SRO) 31.05 198 P **P** **23 53 02.0 +1.5**
comp=Z,0.0nmcomp=Z,268nm,1.2s
NWAO Narrogin (SRO) 31.05 198 P **P** **23 53 01.4 +1.0**
NWAO Narrogin (SRO) 31.05 198 P **P** **23 52 59.9 -0.6**
comp=Z,53nm,0.8s,baz=12,slow=9.4,SNR=14
NWAO LR LR 00 06 50.3
comp=Z,42μm,18.9s,baz=13,slow=39
comp=Z,53nm,0.8s
NWAO Narrogin (SRO) 31.05 198 P **P** **23 53 03.1 +2.6**
comp=Z,152nm,1.2s
NWAO Narrogin (SRO) 31.05 198 P **P** **23 53 01.5 +1.0**
NWAO pmax pmax
comp=Z,1μm,1.7s
NWAO MLR MLR
comp=Z,53μm,20.0s
GSI Gunungsitoli 31.17 278 P **P** **23 53 00.3 -1.5**
GSI IAMs_20 IAMs_20 00 07 09.5
comp=Z,114μm,18.0s
GSI Gunungsitoli 31.17 278 P **P** **23 53 02.2 +0.3**
comp=Z,797nm,1.5s
GSI Gunungsitoli 31.17 278 P **P** **23 53 02.2 +0.3**
comp=Z,54μmcomp=Z,11μmcomp=Z,801nm,1.5s
GSI Gunungsitoli 31.17 278 ⇑P **P** **23 53 00.6 -1.3**
SURA Surathani 31.32 294 P **P** **23 53 05.4 +2.3**
comp=Z,198nm,3.0s
HTT Hallett 31.32 163 P **P** **23 53 02.5 -0.6**
comp=Z,51nm,1.6s
HTT Hallett 31.32 163 P **P** **23 53 03.7 +0.7**
comp=Z,204nm,1.6s
HTT Hallett 31.32 163 ⇑P **P** **23 53 02.9 -0.2**
KCSI Kotacane, Aceh 31.39 283 P **P** **23 53 02.9 -0.9**
PATS Pohnpei 31.60 71 P **P** **23 53 04.2 -1.4**
comp=Z,0.0nmcomp=Z,659nm,1.7s
PATS Pohnpei 31.60 71 P **P** **23 53 05.6 0.0**
PATS Pohnpei 31.60 71 P **P** **23 53 06.8 +1.2**
comp=Z,710nm,1.7s
SAVO Savo Central 31.71 102 P **P** **23 53 11.1 +4.5**
comp=Z,85nm,1.3s
HNR Honiara 31.88 102 P **P** **23 53 08.1 0.0**
HNR IAmb IAmb 23 53 30.9
comp=Z,503nm,1.1s
HNR Honiara 31.88 102 LR LR 00 07 43.3
comp=Z,43μm,20.4s,baz=282,slow=40
HNR Honiara 31.88 102 P **P** **23 53 08.1 0.0**
HNR pmax pmax
comp=Z,503nm,1.2s
HNR MLR MLR
comp=Z,52μm,22.0s
CMSA Cobar Meteorol 32.26 152 P **P** **23 53 09.5 -1.7**
comp=Z,0.0nmcomp=Z,387nm,1.7s
CMSA Cobar Meteorol 32.26 152 P **P** **23 53 11.4 +0.2**
comp=Z,387nm,1.7s
ALEG Aligegeo Malai 32.52 101 P **P** **23 53 18.0 +4.3**
comp=Z,192nm,1.1s
SNSI Sinabang, Aceh 32.59 280 P **P** **23 53 15.6 +1.3**
comp=Z,25μmcomp=Z,11μmcomp=Z,325nm,1.4s
LHMI Lhok Sumawe 32.59 285 P **P** **23 53 14.2 -0.2**
LHMI Lhok Sumawe 32.59 285 P **P** **23 53 18.8 +4.4**
comp=Z,544nm,1.2s
LHMI Lhok Sumawe 32.59 285 P **P** **23 53 15.7 +1.3**
comp=Z,42μmcomp=Z,546nm,1.2s
LHMI Lhok Sumawe 32.59 285 ⇑P **P** **23 53 15.5 +1.2**
RKGY Rocky Gully 32.68 198 P **P** **23 53 17.1 +2.2**
comp=Z,0.0nmcomp=Z,605nm,1.4s
TW1H Toowoomba 1 Ha 32.81 139 P **P** **23 53 18.2 +2.0**
comp=Z,137nm,1.1s
MLSI Meulaboh, Aceh 32.89 283 P **P** **23 53 16.3 -0.6**
GULI GuiLin 33.58 330 P **P** **23 53 23.8 +1.0**
GULI S **S** **23 58 50.8 +6.8**
GULI pmax pmax
comp=Z,140nm,1.1s
GULI pmax pmax
comp=Z,5μm,7.9s
GULI LR LR
comp=Z,32μm,22.6s
GULI LR LR
comp=Z,42μm,25.5s
GULI LR LR
comp=Z,48μm,22.0s
SLVN Son La 34.44 317 P **P** **23 53 30.1 -0.4**
SLVN IAmb IAmb 23 53 53.7
comp=Z,375nm,1.3s
SLVN Son La 34.44 317 P **P** **23 53 32.2 +1.8**
comp=Z,245nm,2.0s
ARMA Armidale 34.60 143 P **P** **23 53 32.0 +0.2**
comp=Z,0.0nmcomp=Z,360nm,2.2s
ARMA Armidale 34.60 143 P **P** **23 53 32.4 +0.7**
ARMA Armidale 34.60 143 P **P** **23 53 33.1 +1.3**
comp=Z,360nm,2.2s
ARMA Armidale 34.60 143 ⇑P **P** **23 53 32.2 +0.4**
CNSH ChangSha 34.87 336 P **P** **23 53 31.0 -3.0**
CNSH S **S** **23 59 03.5 -0.4**
CNSH LR LR
comp=Z,37μm,25.0s
CNSH LR LR
comp=Z,52μm,26.0s
CNSH LR LR
comp=Z,49μm,22.2s
SSE Sheshan 35.12 349 P **P** **23 53 37.3 +1.3**
SSE S **S** **23 59 09.5 +1.9**
SSE pmax pmax
comp=Z,120nm,1.1s
SSE pmax pmax
comp=Z,1μm,5.8s
SSE LR LR
comp=Z,4μm,19.9s
SSE LR LR
comp=Z,9μm,19.9s
ARPS Mount Arapiles 35.31 161 P **P** **23 53 37.8 +0.1**
comp=Z,0.0nmcomp=Z,194nm,1.4s
MGBR Mount Gambier 35.81 163 P **P** **23 53 43.2 +1.3**
MGBR IAMs_20 IAMs_20 00 09 52.2
comp=Z,64μm,18.0s
YNG Young 35.82 151 P **P** **23 53 42.2 0.0**
comp=Z,0.0nmcomp=Z,280nm,1.9s
CMBY CAMPBELL BAY 35.96 287 *e*P **P** **23 53 42.5 -1.0**
CM31 Chiang Mai Arr 36.32 308 P **P** **23 53 46.8 +0.2**
CM31 IAmb IAmb 23 54 14.2
comp=Z,603nm,1.5s
CMAR Chiang Mai Arr 36.32 308 P **P** **23 53 46.3 -0.3**
CMAR Chiang Mai Arr 36.32 308 P **P** **23 53 47.2 +0.7**
comp=Z,33nm,0.9s,baz=140,slow=7.7,SNR=40
CMAR PcP **PcP** **23 56 12.3 +1.1**
comp=Z,5.8nm,0.7s,baz=129,slow=3.6,SNR=1.8
CMAR ScP **ScP** **23 59 56.2 -0.3**
comp=Z,10nm,1.0s,baz=125,slow=4.5,SNR=4.5
CMAR LR LR 00 09 41.0
comp=Z,30μm,19.8s,baz=125,slow=38
comp=Z,33nm,0.9s
MGCD Mangrove Creek 36.36 147 P **P** **23 53 47.7 +1.0**
comp=Z,198nm,1.7s
MGCD Mangrove Creek 36.36 147 P P 23 53 52.4 +5.6
comp=Z,198nm,1.7s
WHN Wuhan 36.45 339 ⇓P **P** **23 53 48.5 +1.0**
WHN pP **pP** **23 53 54.0 -0.5**
WHN sP **sP** **23 53 56.0 -1.4**
WHN PP **PP** **23 55 16.3 +5.6**
WHN PcP **PcP** **23 56 09.8 -1.6**
WHN S **S** **23 59 24.5 -3.6**
WHN pmax pmax
comp=Z,190nm,1.1s
WHN pmax pmax
comp=Z,13μm,4.4s
WHN LR LR
comp=Z,103μm,20.7s
WHN LR LR
comp=Z,81μm,17.6s
WHN LR LR
comp=Z,124μm,22.3s
GYA Guiyang 36.48 326 P **P** **23 53 49.0 +1.0**
GYA pP pP 23 53 54.0 -1.1
GYA S **S** **23 59 25.8 -3.2**
GYA pmax pmax
comp=Z,140nm,1.2s
GYA pmax pmax
comp=Z,7μm,8.3s
GYA LR LR
comp=Z,24μm,21.0s
GYA LR LR
comp=Z,25μm,17.2s
GYA LR LR
comp=Z,25μm,24.2s
CHTO Chiang Mai 36.52 309 P **P** **23 53 48.4 +0.1**
CHTO IAmb IAmb 23 54 14.7
comp=Z,680nm,1.6s
CHTO Chiang Mai 36.52 309 P **P** **23 53 48.8 +0.5**
comp=Z,157nm,2.3s
CHTO Chiang Mai 36.52 309 P **P** **23 53 48.4 +0.1**
CHTO pmax pmax
comp=Z,680nm,1.6s
CHTO Chiang Mai 36.52 309 ⇑P **P** **23 53 48.8 +0.5**
CHTO Chiang Mai 36.52 309 P **P** **23 53 49.0 +0.7**
CHTO S **S** **23 59 31.2 +1.7**
NJ2 Nanjing 36.54 346 ⇓P **P** **23 53 48.8 +0.6**
NJ2 pP **pP** **23 53 53.8 -1.5**
NJ2 PP **PnPn** **23 55 09.8 -1.6**
NJ2 S **S** **23 59 30.0 +0.6**
NJ2 pmax pmax
comp=Z,53nm,1.3s
NJ2 pmax pmax
comp=Z,3μm,6.2s
NJ2 LR LR
comp=Z,13μm,16.2s
NJ2 LR LR
comp=Z,26μm,18.7s
NJ2 LR LR
comp=Z,22μm,23.8s
JNU Nakatsue 36.54 4 P **P** **23 53 47.7 -0.5**
JNU IAmb IAmb 23 53 57.5
comp=Z,1μm,1.8s
JNU Nakatsue 36.54 4 P **P** **23 53 47.8 -0.5**
comp=Z,53nm,1.1s,baz=184,slow=5.7,SNR=21
JNU LR LR 00 08 42.1
comp=Z,40μm,20.6s,baz=183,slow=36
comp=Z,53nm,1.1s
JNU Nakatsue 36.54 4 P **P** **23 53 48.1 -0.2**
comp=Z,323nm,2.0s
JNU Nakatsue 36.54 4 ⇑P **P** **23 53 47.8 -0.5**
SYDH Sydney Hard Ro 36.59 148 P **P** **23 53 51.5 +2.9**
comp=Z,98nm,0.8s
BRAT Ballarat 36.73 159 P **P** **23 53 51.5 +1.8**
comp=Z,114nm,1.4s
RIV Riverview 36.86 148 P **P** **23 53 50.9 -0.1**
comp=Z,0.0nmcomp=Z,411nm,2.1s
RIV Riverview 36.86 148 P P 23 53 56.7 +5.7
comp=Z,413nm,1.9s
CAN Canberra 36.94 151 P **P** **23 53 51.6 -0.1**
comp=Z,0.0nmcomp=Z,201nm,1.2s
CAN Canberra 36.94 151 P **P** **23 53 52.5 +0.8**
CAN IAmb IAmb 23 53 57.7
comp=Z,496nm,1.3s
CAN IAMs_20 IAMs_20 00 09 21.0
comp=Z,80μm,18.0s
CAN Canberra 36.94 151 P **P** **23 53 53.2 +1.5**
comp=Z,308nm,1.2s
CAN Canberra 36.94 151 P **P** **23 53 52.5 +0.8**
CAN pmax pmax
comp=Z,496nm,1.3s
CAN MLR MLR
comp=Z,80μm,18.0s
CAN Canberra 36.94 151 ⇑P **P** **23 53 52.5 +0.8**
CNB Canberra Magne 37.11 151 P **P** **23 53 53.6 +0.4**
comp=Z,0.0nmcomp=Z,284nm,1.9s
CNB Canberra Magne 37.11 151 P **P** **23 53 54.8 +1.6**
comp=Z,284nm,1.9s
TOO Toolangi 37.32 157 P **P** **23 53 55.9 +1.0**
comp=Z,0.0nmcomp=Z,105nm,2.3s
TOO Toolangi 37.32 157 P **P** **23 53 56.3 +1.4**
TOO Toolangi 37.32 157 P **P** **23 53 56.3 +1.4**
TOO pmax pmax
comp=Z,175nm,1.4s
TOO MLR MLR
comp=Z,30μm,20.0s
TOO Toolangi 37.32 157 ⇑P **P** **23 53 56.1 +1.2**
JMN Monobe 37.43 8 P **P** **23 53 55.7 -0.1**
JMN Monobe 37.43 8 P **P** **23 53 56.4 +0.6**
comp=Z,278nm,1.0s
JMN Monobe 37.43 8 ⇓P **P** **23 53 56.4 +0.6**
KMI Kunming 37.84 320 P **P** **23 54 01.0 +1.3**
KMI PP **PnPn** **23 55 31.0 +3.4**
KMI S **S** **23 59 50.5 +0.6**
KMI pmax pmax
comp=Z,420nm,1.3s
KMI pmax pmax
comp=Z,5μm,8.6s
KMI LR LR
comp=Z,28μm,22.3s
KMI LR LR
comp=Z,20μm,19.7s
KMI LR LR
comp=Z,35μm,19.1s
JTU Tsushima 37.87 1 ⇓P **P** **23 54 00.2 +0.7**
JHJ Hachijo jima 2 38.02 16 LR LR 00 08 20.5
comp=Z,45μm,21.6s,baz=206,slow=34
ENH Enshi 38.17 333 **P** **23 54 02.3 +0.2**
ENH IAmb IAmb 23 54 15.9
comp=Z,986nm,1.4s
ENH Enshi 38.17 333 P **P** **23 54 03.0 +0.8**
comp=Z,547nm,1.7s
MILA Mila 38.42 153 P **P** **23 54 07.2 +2.9**
comp=Z,0.0nmcomp=Z,42nm,1.7s
MILA Mila 38.42 153 P **P** **23 54 08.5 +4.2**
PBA Port Blair 38.53 294 P **P** **23 54 04.3 -1.0**
PBA IAmb IAmb 23 54 40.3
comp=Z,1μm,1.8s
PBA Port Blair 38.53 294 *e*P **P** **23 54 05.9 +0.5**
KOUNC Koumac, New Ca 38.82 119 P P 23 54 14.0 +6.3
comp=Z,184nm,1.7s
DGPR DIGLIPUR 38.92 296 *e*P **P** **23 54 08.0 -0.7**
JSG Sagara 39.11 13 P **P** **23 54 09.5 -0.4**
JSG IAmb IAmb 23 54 19.0
comp=Z,542nm,1.2s
PZH PanZhiHua 39.45 321 P **P** **23 54 14.0 +1.0**
PZH pmax pmax
comp=Z,120nm,1.4s
PZH pmax pmax
comp=Z,5μm,7.9s
PZH LR LR
comp=Z,17μm,20.6s
PZH LR LR
comp=Z,38μm,20.1s
PZH LR LR
comp=Z,25μm,19.6s
INU Inuyama 39.52 11 P **P** **23 54 13.1 -0.2**
INU IAmb IAmb 23 54 23.4
comp=Z,1μm,1.7s
INU Inuyama 39.52 11 P **P** **23 54 13.6 +0.2**
comp=Z,211nm,0.9s
INU Inuyama 39.52 11 ⇑P **P** **23 54 13.6 +0.2**
TJN Taejon 39.72 359 P **P** **23 54 14.9 -0.1**
TJN Taejon 39.72 359 P **P** **23 54 15.2 +0.2**
comp=Z,1μm,2.1s
TJN Taejon 39.72 359 *d*P **P** **23 54 14.9 -0.1**
TJN MLR MLR
comp=Z,2μm,20.0s
JGF Kuroka 39.83 11 P **P** **23 54 15.2 -0.8**
JGF IAmb IAmb 23 54 24.6
comp=Z,849nm,1.6s
JGF Kuroka 39.83 11 P **P** **23 54 15.8 -0.3**
comp=Z,226nm,1.2s
JGF Kuroka 39.83 11 ⇓P **P** **23 54 15.7 -0.3**
SANVU Saraoutou 39.98 110 P **P** **23 54 18.4 +0.9**
SANVU IAmb IAmb 23 54 23.9
comp=Z,1μm,1.8s
SANVU IAMs_20 IAMs_20 00 11 51.1
comp=Z,46μm,18.0s
SANVU Saraoutou 39.98 110 P **P** **23 54 20.3 +2.8**
comp=Z,459nm,1.6s
SANVU Saraoutou 39.98 110 ⇑P **P** **23 54 18.8 +1.2**
LHI Lord Howe Isla 40.09 137 P **P** **23 54 18.9 +0.8**
comp=Z,0.0nmcomp=Z,132nm,2.3s
LHI Lord Howe Isla 40.09 137 P **P** **23 54 19.6 +1.4**
LHI Lord Howe Isla 40.09 137 P **P** **23 54 20.3 +2.2**
TNCH TengChong 40.59 316 ⇓P **P** **23 54 24.0 +1.4**
TNCH pP pP 23 54 28.3 -1.4
TNCH sP sP 23 54 33.3 +0.7
TNCH PP **PP** **23 55 55.5 -0.9**
TNCH pmax pmax
comp=Z,410nm,2.2s
TNCH pmax pmax
comp=Z,3μm,4.1s
TNCH LR LR
comp=Z,17μm,19.9s
TNCH LR LR
comp=Z,21μm,17.6s
TNCH LR LR
comp=Z,39μm,23.6s
LYN LuoYang 40.75 340 ⇓P **P** **23 54 23.5 0.0**
LYN pP pP 23 54 28.8 -1.8
LYN sP sP 23 54 35.3 +1.8
LYN PP **PnPn** **23 56 03.0 +1.1**
LYN pmax pmax
comp=Z,47nm,0.5s
LYN pmax pmax
comp=Z,7μm,5.9s
LYN LR LR
comp=Z,26μm,25.3s
LYN LR LR
comp=Z,47μm,19.8s
LYN LR LR
comp=Z,61μm,23.6s
KSAR Wonju Array Be 40.78 359 P **P** **23 54 24.1 +0.4**
KSAR Wonju Array Be 40.78 359 P **P** **23 54 24.1 +0.4**
KSRS Korea Array 40.79 359 P **P** **23 54 24.2 +0.4**
comp=Z,25nm,0.6s,baz=178,slow=11,SNR=32
KSRS ScP **ScP** **00 00 12.9 -0.1**
comp=Z,5.7nm,0.9s,baz=189,slow=4.4,SNR=6.1
KSRS LR LR 00 11 43.8
comp=Z,17080μm,20.8s,baz=185,slow=37
comp=Z,25nm,0.6s
KS19 Wonju Array Si 40.84 359 P **P** **23 54 23.8 -0.5**
INCN Inchon 40.85 358 P **P** **23 54 24.3 -0.1**
INCN Inchon 40.85 358 P **P** **23 54 25.4 +1.1**
comp=Z,232nm,1.8s
INCN Inchon 40.85 358 P **P** **23 54 24.3 -0.1**
INCN pmax pmax
comp=Z,281nm,1.1s
INCN MLR MLR
comp=Z,41μm,20.0s
MAJO Matsushiro 40.92 12 P **P** **23 54 23.7 -1.2**
MAJO IAmb IAmb 23 54 33.8
comp=Z,2μm,1.8s
MAJO Matsushiro 40.92 12 P **P** **23 54 23.9 -1.0**
comp=Z,418nm,1.5s
MAJO Matsushiro 40.92 12 P **P** **23 54 23.7 -1.2**
MAJO pmax pmax
comp=Z,2μm,1.8s
MAJO Matsushiro 40.92 12 ⇓P **P** **23 54 23.9 -1.0**
MAJO Matsushiro 40.92 12 P **P** **23 54 23.9 -1.0**
MAJO S **S** **00 00 35.3 -0.1**
MJAR Matsushiro Arr 40.92 12 P **P** **23 54 23.9 -1.1**
MJAR IAmb IAmb 23 54 33.9
comp=Z,801nm,1.6s
MJAR Matsushiro Arr 40.92 12 P **P** **23 54 23.8 -1.1**
comp=Z,54nm,0.9s,baz=185,slow=9.4,SNR=62
MJAR ScP **ScP** **00 00 13.9 +0.2**
comp=Z,2.0nm,0.8s,baz=201,slow=5.4,SNR=2.5
MJAR LR LR 00 10 51.8
comp=Z,32μm,20.7s,baz=198,slow=35
comp=Z,54nm,0.9s
MJAR Matsushiro Arr 40.92 12 P **P** **23 54 23.9 -1.1**
MJAR pmax pmax
comp=Z,801nm,1.6s
MJB9 Matsu-Tunnel 40.92 12 P **P** **23 54 24.4 -0.5**
MJB9 IAmb IAmb 23 54 34.8
comp=Z,1μm,1.7s
TIA Tai'an 40.92 346 P **P** **23 54 24.3 -0.7**
TIA PP **PP** **23 56 06.8 +7.1**
TIA pmax pmax
comp=Z,88nm,1.5s
TIA pmax pmax
comp=Z,4μm,7.1s
TIA LR LR
comp=Z,14μm,22.1s
TIA LR LR
comp=Z,19μm,20.6s
TIA LR LR
comp=Z,24μm,22.6s
DZM Mont Dzumac 41.24 120 *e*P **P** **23 54 27.2 -0.8**
comp=Z,523nm,1.4s
DZM Mont Dzumac 41.24 120 *e*PP **PP** **23 55 59.3 -4.1**
comp=Z,8μm,23.9s
DZM *e*S **S** **00 00 36.3 -4.5**
comp=Z,42μm,42.5s
DZM *e*SS **SS** **00 03 46.2 +1.6**
comp=Z,33μm,26.6s
DZM *e*LR LR 00 05 45.6
comp=Z,82μm,28.8s
DZM Mont Dzumac 41.24 120 P **P** **23 54 28.1 +0.1**
DZM IAMs_20 IAMs_20 00 14 40.2
comp=Z,47μm,19.0s
DZM Mont Dzumac 41.24 120 P **P** **23 54 29.0 +1.0**
comp=Z,139nm,1.1s
DZM Mont Dzumac 41.24 120 ⇑P **P** **23 54 28.2 +0.2**
GLAD Gladstone 41.25 157 P P 23 54 33.1 +5.5
comp=Z,84nm,1.6s
CORO Coronation Par 41.33 159 P P 23 54 34.0 +5.8
comp=Z,43nm,1.0s
ONTNC Ouen Toro 41.34 120 P **P** **23 54 28.3 -0.3**
ONTNC IAMs_20 IAMs_20 00 12 43.1
comp=Z,43μm,18.0s
ONTNC Ouen Toro 41.34 120 P **P** **23 54 29.8 +1.2**
comp=Z,298nm,1.4s
ONTNC Ouen Toro 41.34 120 ⇓P **P** **23 54 29.4 +0.8**
HJU Haeju 41.45 357 P **P** **23 54 29.6 +0.4**
HJU S **S** **00 00 43.6 +0.4**
HJU AmB
comp=Z,6μm,3.4s
HJU AMS AMS
comp=Z,39μm,21.5s
CD2 Chengdu 41.54 327 P **P** **23 54 30.3 +0.1**
CD2 sP pP 23 54 37.8 +0.4
CD2 PP **PP** **23 56 07.0 +0.5**
CD2 pmax pmax
comp=Z,150nm,0.7s
CD2 pmax pmax
comp=Z,7μm,6.5s
CD2 LR LR
comp=Z,61μm,21.1s
CD2 LR LR
comp=Z,83μm,23.5s
CD2 LR LR
comp=Z,56μm,24.0s
YATNC Mamie plateau, 41.62 120 P **P** **23 54 32.6 +1.6**
comp=Z,345nm,1.8s
XAN Xi'an 41.65 335 ⇓P **P** **23 54 30.5 -0.5**
XAN pP pP 23 54 35.8 -2.3
XAN pmax pmax
comp=Z,42nm,1.1s
XAN pmax pmax
comp=Z,2μm,6.7s
XAN LR LR
comp=Z,42μm,20.7s
XAN LR LR
comp=Z,18μm,21.1s
XAN LR LR
comp=Z,46μm,21.8s
OUENC Ouen Island, N 41.71 120 P **P** **23 54 33.9 +2.2**
comp=Z,202nm,1.9s
MOO Moorlands 42.21 159 P **P** **23 54 36.5 +1.0**
comp=Z,0.0nmcomp=Z,214nm,1.3s
MOO Moorlands 42.21 159 P P 23 54 41.0 +5.5
comp=Z,213nm,1.3s
MOO Moorlands 42.21 159 P **P** **23 54 39.1 +3.6**
PINNC Pines Island, 42.30 120 P **P** **23 54 36.1 -0.4**
PINNC IAmb IAmb 23 55 10.2
comp=Z,520nm,1.4s
PINNC Pines Island, 42.30 120 P **P** **23 54 38.1 +1.6**
comp=Z,277nm,2.0s
JSD Sado 42.37 12 P **P** **23 54 36.0 -0.8**
JSD Sado 42.37 12 P **P** **23 54 36.4 -0.4**
comp=Z,161nm,1.5s

PYAG Pyongyang 42.45 357 P P 23 54 38.0 +0.6
PYAG S S 00 00 58.9 +1.0
PYAG AmB
comp=Z,4μm,3.1s
PYAG AMS AMS
comp=Z,26μm,19.7s
TAU Tasmania Unive 42.67 159 P P 23 54 40.4 +1.2
TAU Tasmania Unive 42.67 159 P P 23 54 44.3 +5.1
comp=Z,173nm,2.0s
TAU Tasmania Unive 42.67 159 P P 23 54 40.4 +1.2
TAU pmax pmax
comp=Z,356nm,1.5s
TAU Tasmania Unive 42.67 159 ⇓P P 23 54 43.3 +4.1
HNS HongShan 42.67 344 ⇓P P 23 54 38.8 -0.4
HNS PcP **PcP 23 56 31.0 0.0**
HNS pmax pmax
comp=Z,43nm,1.4s
HNS pmax pmax
comp=Z,4μm,9.0s
HNS LR LR
comp=Z,17μm,17.6s
HNS LR LR
comp=Z,5μm,19.4s
HNS LR LR
comp=Z,25μm,20.8s
DL2 Dalian 42.69 352 P P 23 54 39.0 -0.4
DL2 PP **PP 23 56 23.0 +4.3**
DL2 pmax pmax
comp=Z,160nm,1.6s
DL2 pmax pmax
comp=Z,4μm,6.3s
DL2 LR LR
comp=Z,18μm,17.6s
DL2 LR LR
comp=Z,58μm,24.2s
DL2 LR LR
comp=Z,26μm,21.8s
JMM Marumori 42.78 14 P P 23 54 39.8 -0.2
JMM Marumori 42.78 14 P P 23 54 40.4 +0.3
comp=Z,784nm,1.0s
HHU Hamhung 43.26 359 P P 23 54 44.5 +0.5
HHU S **S 00 01 10.0 +0.2**
HHU AmB
comp=Z,4μm,2.9s
HHU AMS AMS
comp=Z,24μm,22.5s
TIY Taiyuan 43.64 342 *e*P **P 23 54 46.8 -0.4**
TIY pmax pmax
comp=Z,76nm,0.9s
TIY pmax pmax
comp=Z,3μm,7.1s
TIY LR LR
comp=Z,12μm,22.2s
TIY LR LR
comp=Z,18μm,17.5s
TIY LR LR
comp=Z,19μm,22.0s
LKP Lekhapani 43.90 316 *e*P **P 23 54 48.0 -1.4**
WAKE Wake Island 43.94 57 P **P 23 54 50.3 +0.6**
WAKE IAmb IAmb 23 55 07.2
comp=Z,704nm,1.2s
AZL Aizawl 44.09 310 *e*P **P 23 54 49.6 -1.4**
AZL IAmb IAmb 23 55 13.2
comp=Z,3μm,1.7s
BRDH Bariadhala 44.34 308 LR LR 00 16 29.6
comp=Z,39μm,19.6s,baz=132,slow=40
JORH JORHAT 44.66 314 *e*P **P 23 54 55.2 -0.3**
JORH IAmb IAmb 23 55 17.1
comp=Z,1μm,1.3s
BJT Baijiatuau 44.78 347 P 23 54 55.2 -0.9
BJT IAmb IAmb 23 55 10.9
comp=Z,360nm,1.2s
BJT Baijiatuau 44.78 347 P **P 23 54 55.7 -0.4**
comp=Z,242nm,0.9s
BJT Baijiatuau 44.78 347 P P 23 54 55.2 -0.9
BJT pmax pmax
comp=Z,360nm,1.2s
TARA Tarawa 44.78 85 P P 23 54 56.6 0.0
TARA IAmb IAmb 23 55 07.7
comp=Z,330nm,1.1s
TARA Tarawa 44.78 85 IAMs_20 IAMs_20 00 12 31.0
comp=Z,60μm,20.0s
BJI Beijing 44.80 347 P P 23 54 55.5 -0.8
BJI pP **pP 23 55 01.5 -2.0**
BJI sP **sP 23 55 04.8 -1.5**
BJI PP **PP 23 56 42.3 +1.1**
BJI pmax pmax
comp=Z,1μm,7.5s
BJI LR LR
comp=Z,7μm,28.4s
BJI LR LR
comp=Z,8μm,26.9s
BJI LR LR
comp=Z,10μm,23.5s
AGT Agartala 45.28 309 *e*P **P 23 54 59.5 -1.0**
NFK Norfolk Island 45.29 128 P P 23 55 03.5 +3.0
SNY Shenyang 45.37 355 ⇓P P 23 55 00.3 -0.5
SNY pmax pmax
comp=Z,50nm,1.5s
SNY pmax pmax
comp=Z,3μm,7.3s
SNY LR LR
comp=Z,7μm,18.0s
SNY LR LR
comp=Z,38μm,20.8s
SNY LR LR
comp=Z,27μm,25.1s
ZIRO ZIRO 45.42 315 *e*P **P 23 55 01.1 -0.6**
LZDM Lanzhou Array 45.58 332 P P 23 55 03.9 +0.8
comp=Z,47nm,0.7s,baz=169,slow=10,SNR=21
LZDM LR LR 00 16 09.8
comp=Z,27μm,20.2s,baz=145,slow=39
comp=Z,47nm,0.7s
JTM Tenmabayashi 45.61 13 P P 23 55 02.5 -0.3
JTM Tenmabayashi 45.61 13 P P 23 55 04.0 +1.2
comp=Z,735nm,1.3s
JTM Tenmabayashi 45.61 13 ⇓P P 23 55 03.4 +0.6
LZH Lanzhou 45.62 332 *e*P **P 23 55 03.8 +0.7**
LZH pP pP 23 55 10.8 +0.5
LZH PP **PP 23 56 53.8 +3.6**
LZH pmax pmax
comp=Z,120nm,1.3s
LZH pmax pmax
comp=Z,4μm,4.5s
LZH LR LR
comp=Z,30μm,14.8s
LZH LR LR
comp=Z,20μm,14.8s
LZH LR LR
comp=Z,38μm,15.1s
TEZP TEZPUR 45.63 313 *e*P **P 23 55 02.0 -1.1**
TEZP IAmb IAmb 23 55 25.2
comp=Z,264nm,0.8s
SHL Shillong 45.71 311 P P 23 55 03.4 -0.6
SHL IAmb IAmb 23 55 15.0
comp=Z,293nm,0.8s
SHL Shillong 45.71 311 *e*P **P 23 55 02.1 -2.0**
SHL IAmb IAmb 23 55 15.3
comp=Z,522nm,1.3s
SHL Shillong 45.71 311 P P 23 55 03.4 -0.6
SHL pmax pmax
comp=Z,293nm,0.8s
MSHR Mys Shultsa 45.97 3*d i*P **P 23 55 06.0 +0.4**
MSHR pmax pmax
comp=Z,245nm,0.9s
MSHR MLR MLR
comp=Z,10μm,18.0s
GUWA GUWAHATI 46.20 312 *e*P **P 23 55 06.7 -1.0**
GUWA IAmb IAmb 23 55 29.5
comp=Z,1μm,1.8s
VLA Vladivostok 46.55 4*ce*P **P 23 55 10.9 +0.8**
VLA pmax pmax
comp=Z,386nm,0.9s
VLA MLR MLR
comp=Z,27μm,20.0s
HHC Hu-ho-hao-te 46.78 342⇑*i*P **P 23 55 12.8 +0.7**
HHC pP pP 23 55 17.8 -1.5
HHC pmax pmax
comp=Z,33nm,1.4s
HHC pmax pmax
comp=Z,3μm,7.0s
HHC LR LR
comp=Z,22μm,20.2s
HHC LR LR
comp=Z,16μm,21.3s
HHC LR LR
comp=Z,34μm,21.4s
CAL Calcutta 46.93 305 *e*P **P 23 55 12.3 -1.2**
BTO Baotou 47.04 341 *e*P **P 23 55 15.5 +1.3**
BTO pP **sP 23 55 25.5 +1.3**
BTO sP pP 23 55 29.5 +8.1
BTO PP **PP 23 57 06.0 +0.9**
BTO pmax pmax
comp=Z,50nm,1.8s
BTO pmax pmax
comp=Z,6μm,8.0s
BTO LR LR
comp=Z,37μm,23.1s
BTO LR LR
comp=Z,58μm,24.9s
BTO LR LR
comp=Z,47μm,22.2s
CN2 Changchun 47.20 357⇑*i*P **P 23 55 14.0 -1.2**
CN2 pP sP 23 55 24.0 -1.2
CN2 sP pP 23 55 28.0 +5.6
CN2 PcP **PcP 23 56 46.5 +0.1**
CN2 PP **PP 23 57 05.0 -1.4**
CN2 pmax pmax
comp=Z,40nm,1.3s
CN2 pmax pmax
comp=Z,3μm,6.0s
CN2 LR LR
comp=Z,19μm,18.0s
CN2 LR LR
comp=Z,20μm,18.0s
CN2 LR LR
comp=Z,21μm,18.0s
ERM Erimo 47.29 15 P P 23 55 16.4 +0.5
ERM Erimo 47.29 15 P **P 23 55 16.4 +0.5**
ERM pmax pmax
comp=Z,1μm,2.0s
ERM Erimo 47.29 15 ⇓P P 23 55 17.2 +1.3
ERM Erimo 47.29 15 P **P 23 55 17.3 +1.4**
ERM S **S 00 02 12.8 +4.9**
USRK Ussuriysk Ar. 47.63 4 P **P 23 55 18.7 +0.2**
USRK Ussuriysk Ar. 47.63 4 P **P 23 55 19.0 +0.4**
comp=Z,63nm,0.8s,baz=188,slow=7.3,SNR=50
comp=Z,63nm,0.8s
MDJ Mudanjiang 47.95 1 P 23 55 20.8 -0.2
MDJ Mudanjiang 47.95 1 P **P 23 55 21.5 +0.5**
MDJ pmax pmax
comp=Z,180nm,1.5s
MDJ LR LR
comp=Z,20μm,19.2s
MDJ LR LR
comp=Z,24μm,21.3s
MDJ LR LR
comp=Z,37μm,22.0s
MDJ Mudanjiang 47.95 1 P **P 23 55 21.8 +0.8**
comp=Z,491nm,1.9s
BWNR Bhubaneshwar 48.03 301 *e*P **P 23 55 20.9 -1.2**
BWNR IAML 23 55 44.9
comp=Z,404nm,1.1s
XLT XiLinHaoTe 48.51 348 *e*P **P 23 55 25.8 +0.4**
XLT pP pP 23 55 31.8 -0.9
XLT pmax pmax
comp=Z,49nm,1.7s
XLT pmax pmax
comp=Z,3μm,6.9s
XLT LR LR
comp=Z,20μm,26.4s
XLT LR LR
comp=Z,22μm,26.5s
HALK Hakmana 48.59 281 ⇓P P 23 55 25.6 -0.9
LSA Lhasa 48.61 315 P 23 55 27.1 +0.1
LSA IAmb IAmb 23 56 03.8
comp=Z,518nm,1.3s
LSA Lhasa 48.61 315 P **P 23 55 25.8 -1.2**
LSA pmax pmax
comp=Z,33nm,0.8s
LSA LR LR
comp=Z,19μm,17.5s
LSA LR LR
comp=Z,17μm,19.8s
LSA Lhasa 48.61 315 P **P 23 55 27.5 +0.5**
LSA Lhasa 48.61 315 P **P 23 55 27.1 +0.1**
LSA pmax pmax
comp=Z,518nm,1.3s
PALK Pallekele 48.79 283 P **P 23 55 26.7 -1.4**
PALK IAmb IAmb 23 55 36.0
comp=Z,365nm,1.4s
PALK Pallekele 48.79 283 IAMs_20 IAMs_20 00 19 30.2
comp=Z,38μm,18.0s
PALK Pallekele 48.79 283 LR LR 00 17 40.0
comp=Z,28μm,19.3s,baz=102,slow=38
PALK Pallekele 48.79 283 P **P 23 55 26.7 -1.4**
PALK pmax pmax
comp=Z,365nm,1.5s
PALK MLR MLR
comp=Z,38μm,18.0s
PALK Pallekele 48.79 283 P **P 23 55 28.8 +0.8**
PALK S **S 00 02 38.9 +8.6**
TEY Ternei 48.91 8⇓*e*P **P 23 55 28.9 +0.5**
TEY pmax pmax
comp=N,20nm,1.9s
TEY pmax pmax
comp=Z,30nm,1.9s
BNX BinXian 49.07 359 ⇓P P 23 55 29.0 -0.6
BNX pP **pP 23 55 34.5 -2.4**
BNX pmax pmax
comp=Z,79nm,1.5s
BNX pmax pmax
comp=Z,3μm,6.5s
BNX LR LR
comp=Z,26μm,19.4s
BNX LR LR
comp=Z,20μm,21.3s
BNX LR LR
comp=Z,41μm,20.6s
ASAJ Asahikawa 49.13 14 P P 23 55 30.9 +0.8
comp=Z,33nm,0.7s,baz=216,slow=10,SNR=14
ASAJ LR LR 00 16 24.2
comp=Z,27μm,21.0s,baz=211,slow=36
comp=Z,33nm,0.7s
ASAJ Asahikawa 49.13 14 P **P 23 55 29.9 -0.2**
ASAJ pmax pmax
comp=Z,657nm,1.1s
JKA Kamikawa-asahi 49.13 14 P P 23 55 29.9 -0.2
MALK Mahakanadarawa 49.17 284 P P 23 55 31.1 +0.2
MALK Mahakanadarawa 49.17 284⇑P **P 23 55 30.4 -0.5**
BOK Bokaro 49.50 306 *e*P **P 23 55 31.5 -1.9**
BOK IAmb IAmb 23 55 56.4
comp=Z,1μm,1.9s
KNTI KHUNTI 49.66 304 *e*P **P 23 55 35.3 +0.6**
YUK Yuzh-Kuril'sk 49.90 16 *e*P **P 23 55 35.4 -0.5**
YUK *i* 23 57 26.8
YUK *i* PPP PPP 23 58 19.9
YUK *i* S **S 00 02 48.7 +4.0**
YUK *i* SS **SS 00 06 15.9 -2.0**
YUK *i* SSS SSS 00 07 42.7
YUK pmax pmax
comp=Z,675nm,1.3s
YUK pmax pmax
comp=E,222nm,0.9s
YUK pmax pmax
comp=Z,1μm,2.4s
GTA Gaotai 50.19 331 P P 23 55 39.3 +0.9
GTA sP sP 23 55 52.0 +3.5
GTA PP **PP 23 57 32.0 -1.9**
GTA pmax pmax
comp=Z,24nm,1.2s
GTA pmax pmax
comp=Z,3μm,9.9s
GTA LR LR
comp=Z,11μm,17.1s
GTA LR LR
comp=Z,31μm,18.5s
GTA LR LR
comp=Z,29μm,21.1s
GOMU GeErMu 50.46 325 P P 23 55 43.8 +2.9
GOMU pP pP 23 55 46.0 -2.1
GOMU pmax pmax
comp=Z,77nm,2.2s
GOMU pmax pmax
comp=Z,5μm,8.9s
GOMU LR LR
comp=Z,28μm,20.3s
GOMU LR LR
comp=Z,24μm,20.5s
GAYA Gaya 50.50 306 *e*P **P 23 55 39.7 -1.1**
MSVF Nonsavu 50.63 110 P **P 23 55 43.2 +1.1**
MSVF Nonsavu 50.63 110 P **P 23 55 45.5 +3.4**
comp=Z,389nm,1.6s
MSVF Nonsavu 50.63 110*c i*P **P 23 55 43.0 +0.9**
MSVF pmax pmax
comp=Z,678nm,1.5s
MSVF MLR MLR
comp=Z,41μm,20.0s
MSVF Nonsavu 50.63 110⇑P **P 23 55 44.0 +1.9**
FUNA Funafuti 50.74 98 P **P 23 55 44.1 +1.3**
FUNA Funafuti 50.74 98 P **P 23 55 46.2 +3.4**
comp=Z,665nm,1.7s
FUNA Funafuti 50.74 98⇑P **P 23 55 46.9 +4.0**
VJD Vijayawada 51.20 294 *e*P **P 23 55 44.4 -1.9**
KUR Kuril'sk 51.57 18 *e*P **P 23 55 49.9 +1.4**
KUR *e* 23 57 03.3
KUR *e* 23 57 46.1
KUR *e*PPP PPP 23 58 46.0
KUR *e*S **S 00 03 09.0 +1.1**
KUR pmax pmax
comp=N,358nm,1.3s
KUR pmax pmax
comp=Z,1μm,1.3s
KUR pmax pmax
comp=E,211nm,1.4s
YSS Yuzhno-Sakhali 51.85 12 P **P 23 55 50.0 -0.6**
YSS IAmb IAmb 23 56 07.7
comp=Z,415nm,1.3s
YSS Yuzhno-Sakhali 51.85 12*ce*P **P 23 55 54.7 +4.1**
YSS *e* 23 57 03.5
YSS *e*S **S 00 03 14.5 +2.8**
YSS *e*PS SPn 00 03 24.8 +5.5
YSS pmax pmax
comp=Z,3μm,4.2s
YSS pmax pmax
comp=N,1μm,3.1s
YSS pmax pmax
comp=E,900nm,3.6s
YSS pmax pmax
comp=Z,180nm,1.2s
YSS smax smax
comp=N,3μm,10.5s
YSS smax smax
comp=E,8μm,10.8s
YSS MLR MLR
comp=E,9μm,18.0s
YSS MLR MLR
comp=Z,11μm,18.0s
YSS MLR MLR
comp=N,9μm,17.0s
BLSP Bilaspur 51.91 302 *e*P **P 23 55 51.4 -0.2**
DGTI Dogotuki 51.99 108 P **P 23 55 55.0 +2.8**
comp=N,656nm,1.7s
SALM Salem 52.14 288 *e*P **P 23 55 52.5 -0.8**
OUZ Omahuta 52.34 133 IAMs_20 IAMs_20 00 16 47.2
comp=Z,56μm,21.0s
OUZ Omahuta 52.34 133 P **P 23 55 58.0 +3.5**
TAVE Taveuni 52.39 108 P P 23 56 01.2 +6.0
comp=Z,571nm,1.9s
KOD Kodaikanal 52.52 286 *e*P **P 23 55 55.5 -1.1**
TRD Trivandrum 52.66 283 *e*P **P 23 55 55.6 -1.6**
HIA Hailar 53.13 353 P **P 23 56 00.3 +0.2**
HIA Hailar 53.13 353 P **P 23 56 03.5 +3.4**
HIA Hailar 53.13 353 P **P 23 56 00.3 +0.2**
HIA pmax pmax
comp=Z,309nm,1.6s
WCZ Waipu Caves 53.20 133 P **P 23 56 04.0 +3.1**
HYB Hyderabad 53.39 295 *e*P **P 23 56 02.4 -0.2**
HYB *ep*P **pP 23 56 06.4 -3.6**
HYB IVmB_BB 23 56 07.0
comp=Z,4μm,2.3s
HYB *e*PcP **PcP 23 57 09.7 -0.2**
HYB *e*PP **PP 23 58 03.1 -0.1**
HYB *e*PcS **PcS 00 01 08.7 -0.4**
HYB *e*S **S 00 03 34.8 +0.9**
HYB IVMs_BB IVMs_BB 00 14 08.5
comp=Z,8μm,37.3s
ALBI Allahabad 53.50 305 *e*P **P 23 56 02.1 -1.1**
ALBI IAmb IAmb 23 56 25.1
comp=Z,806nm,1.4s
HEH HeiHe 53.59 359 *e*P **P 23 56 02.5 -0.9**
HEH pP **pP 23 56 09.0 -1.7**
HEH pmax pmax
comp=Z,430nm,1.3s
HEH pmax pmax
comp=Z,4μm,4.0s
HEH LR LR
comp=Z,12μm,21.1s
HEH LR LR
comp=Z,18μm,16.7s
HEH LR LR
comp=Z,33μm,22.2s
HRYA Harraiya (Bast 53.61 307 *e*P **P 23 56 03.4 -0.6**
LKBA Tubou, Lakemba 53.65 110 P P 23 56 09.8 +5.3
comp=Z,96nm,1.6s
MSZ Milford Sound 53.69 146 P **P 23 56 06.7 +2.4**
UGL Uglegorsk 53.74 11 *e*P P 23 56 13.2 +8.7
UGL *e* 23 57 09.3
UGL *e*S S 00 03 47.1 +10
UGL pmax pmax
comp=Z,700nm,1.1s
UGL pmax pmax
comp=Z,5μm,2.5s
UGL MLR MLR
comp=E,14μm,18.0s
UGL MLR MLR
comp=Z,14μm,18.0s
UGL MLR MLR
comp=N,23μm,17.0s
DCZ Deep Cove 53.75 147 P **P 23 56 06.8 +2.1**
DCZ IAmb IAmb 23 56 42.1
comp=Z,450nm,1.6s
DCZ Deep Cove 53.75 147 P **P 23 56 07.6 +2.9**
FUTU Fugatoga 53.79 105 P **P 23 56 06.9 +1.3**
FUTU IAmb IAmb 23 56 14.3
comp=Z,460nm,1.1s
JCZ Jackson Bay 53.81 145 P P 23 56 11.1 +5.7
comp=Z,240nm,1.4s
JCZ Jackson Bay 53.81 145 P **P 23 56 08.4 +3.0**
PYZ Puysegur Point 53.95 148 IAMs_20 IAMs_20 00 19 11.5
comp=Z,49μm,19.0s
FOZ Fox Glacier 54.10 144 IAMs_20 IAMs_20 00 22 00.6
comp=Z,46μm,18.0s
FOZ Fox Glacier 54.10 144 P **P 23 56 09.7 +2.4**
MLZ Mavora Lakes 54.22 146 P **P 23 56 11.0 +2.8**
QRZ Quartz Range 54.30 139 P **P 23 56 13.5 +4.6**
DSZ Denniston Nort 54.32 141 P P 23 56 14.4 +5.4
WVZ Waitaha Valley 54.39 143 P P 23 56 14.3 +4.8
WKZ Wanaka 54.40 145 P **P 23 56 14.3 +4.7**
WHZ Wether Hill Ro 54.45 147 P **P 23 56 10.5 +0.6**
ULN Ulaanbaatar 54.50 342 P **P 23 56 09.7 -0.7**
ULN IAmb IAmb 23 56 24.3
comp=Z,452nm,1.4s
ULN Ulaanbaatar 54.50 342 P **P 23 56 09.7 -0.7**
ULN pmax pmax
comp=Z,452nm,1.4s
ULN MLR MLR
comp=Z,22μm,21.0s
ULN Ulaanbaatar 54.50 342⇓P **P 23 56 10.6 +0.2**
GRNR Gornyy 54.54 6⇓*i*P **P 23 56 11.1 +0.8**
GRNR pmax pmax
comp=Z,20nm,1.3s
GRNR MLR MLR
comp=E,7μm,17.0s
GRNR MLR MLR
comp=N,7μm,16.0s
GRNR MLR MLR
comp=Z,10μm,18.0s
KUZ Kuaotunu 54.56 134 P P 23 56 17.0 +6.2
comp=Z,214nm,1.9s
BRCI Bahraich 54.67 308 *e*P **P 23 56 12.0 +0.2**
SONM Songino Array 54.67 342 P **P 23 56 11.2 -0.4**
SONM IAmb IAmb 23 56 25.5
comp=Z,313nm,1.3s
SONM Songino Array 54.67 342 P **P 23 56 12.1 +0.5**
comp=Z,33nm,1.0s,baz=164,slow=7.0,SNR=34
SONM LR LR 00 21 41.2
comp=Z,28μm,20.4s,baz=158,slow=38
comp=Z,33nm,1.0s
SONM Songino Array 54.67 342 P **P 23 56 11.2 -0.4**
SONM pmax pmax
comp=Z,313nm,1.3s
HIZ Hauiti 54.73 136 IAMs_20 IAMs_20 00 17 15.6
comp=Z,35μm,19.0s
LBZ Lake Benmore 54.81 144 P **P 23 56 13.2 +0.7**
LBZ IAmb IAmb 23 56 57.7
comp=Z,617nm,1.8s

LBZ					IAMs_20	IAMs_20	00 19 12.4				
	comp=Z,47µm,21.0s										
LBZ	**Lake Benmore**	**54.81**	**144**		P	**P**	**23 56 13.7**	**+1.2**			
TOZ	**Tahuroa Road**	**54.83**	**135**		IAMs_20	IAMs_20	00 22 54.2				
	comp=Z,49µm,19.0s										
TOZ	**Tahuroa Road**	**54.83**	**135**		P	**P**	**23 56 16.7**	**+3.9**			
RPZ	**Rata Peaks**	**54.94**	**143**		P	**P**	**23 56 14.9**	**+1.5**			
RPZ	**Rata Peaks**	**54.94**	**143**		P	**P**	**23 56 15.0**	**+1.5**			
THZ	**Tophouse**	**55.03**	**140**		IAMs_20	IAMs_20	00 21 09.7				
	comp=Z,49µm,19.0s										
THZ	**Tophouse**	**55.03**	**140**		P	**P**	**23 56 15.3**	**+1.1**			
NNZ	**Nelson**	**55.05**	**139**		P	**P**	**23 56 17.3**	**+3.0**			
APZ	**The Paps**	**55.07**	**148**		P	P	23 56 19.2	+4.8			
TLZ	**Tolley Road**	**55.13**	**135**		P	**P**	**23 56 19.0**	**+4.0**			
LTZ	**Lake Taylor**	**55.17**	**142**		P	**P**	**23 56 16.3**	**+1.1**			
LTZ					IAmb	IAmb	23 56 24.7				
	comp=Z,632nm,1.8s										
LTZ	**Lake Taylor**	**55.17**	**142**		P	**P**	**23 56 18.2**	**+3.0**			
TMZ	**Timaru**	**55.29**	**144**		P	**P**	**23 56 17.3**	**+1.3**			
OXZ	**Oxford**	**55.32**	**142**		P	P	23 56 22.6	+6.4			
ODZ	**Otahua Downs**	**55.46**	**145**		IAMs_20	IAMs_20	00 21 28.0				
	comp=Z,46µm,19.0s										
ODZ	**Otahua Downs**	**55.46**	**145**		P	P	23 56 23.7	+6.5			
KAAM	**Kaadhehdhoo**	**55.51**	**273**		IAMs_20	IAMs_20	00 19 59.5				
	comp=Z,54µm,20.0s										
TUWZ	**Tuamarina**	**55.53**	**139**		P	**P**	**23 56 18.4**	**+0.7**			
NGZ	**Ngauruhoe**	**55.56**	**136**		P	P	23 56 23.1	+5.0			
TYV	**Tymovskoe**	**55.56**	**11**		*e*P	**P**	**23 56 18.2**	**+0.5**			
TYV					*e*S	**S**	**00 04 05.1**	**+3.3**			
TYV					pmax	pmax					
	comp=Z,1µm,4.3s										
TYV					pmax	pmax					
	comp=Z,76nm,1.0s										
TYV					smax	smax					
	comp=N,2µm,6.6s										
TYV					smax	smax					
	comp=E,3µm,6.6s										
TYV					smax	smax					
	comp=N,22nm,2.1s										
TYV					smax	smax					
	comp=E,28nm,2.1s										
GVZ	**Greta Valley S**	**55.74**	**141**		IAMs_20	IAMs_20	00 21 36.6				
	comp=Z,49µm,20.0s										
GVZ	**Greta Valley S**	**55.74**	**141**		P	**P**	**23 56 20.6**	**+1.3**			
KHZ	**Kahutara**	**55.77**	**141**		IAMs_20	IAMs_20	00 20 52.4				
	comp=Z,50µm,20.0s										
KHZ	**Kahutara**	**55.77**	**141**		P	**P**	**23 56 19.0**	**-0.4**			
KHZ	**Kahutara**	**55.77**	**141**	⇑	P	**P**	**23 56 19.5**	**+0.1**			
DGAR	**Diego Garcia**	**55.78**	**263**		IAMs_20	IAMs_20	00 18 03.2				
	comp=Z,30µm,21.0s										
AKL	**Akola**	**55.82**	**298**		*e*P	**P**	**23 56 19.0**	**-1.2**			
MQZ	**McQueen's Vall**	**55.90**	**142**		IAMs_20	IAMs_20	00 22 07.8				
	comp=Z,39µm,19.0s										
MQZ	**McQueen's Vall**	**55.90**	**142**		P	**P**	**23 56 23.0**	**+2.6**			
BHW	**Baring Head**	**56.12**	**139**		IAMs_20	IAMs_20	00 22 06.7				
	comp=Z,41µm,21.0s										
BKZ	**Black Stump Fm**	**56.17**	**136**		P	**P**	**23 56 22.9**	**+0.4**			
BKZ	**Black Stump Fm**	**56.17**	**136**		P	P	23 56 27.4	+4.9			
	comp=Z,158nm,2.0s										
BKZ	**Black Stump Fm**	**56.17**	**136**		P	**P**	**23 56 23.1**	**+0.7**			
URZ	**Urewera**	**56.21**	**135**		P	**P**	**23 56 22.4**	**-0.2**			
URZ	**Urewera**	**56.21**	**135**	⇑	P	**P**	**23 56 26.2**	**+3.6**			
TSZ	**Takapari Road**	**56.21**	**137**		P	**P**	**23 56 24.8**	**+2.2**			
MRZ	**Mangatainoka R**	**56.23**	**138**		P	**P**	**23 56 25.2**	**+2.4**			
JHNI	**Jhansi**	**56.25**	**304**		*e*P	**P**	**23 56 21.8**	**-1.4**			
RTZ	**Ruatahuna**	**56.27**	**135**		IAMs_20	IAMs_20	00 19 31.6				
	comp=Z,52µm,19.0s										
BHPL	**Bhopal**	**56.35**	**301**		*e*P	**P**	**23 56 23.0**	**-0.9**			
NRDN	**NARMADA NAGAR**	**56.38**	**300**		*e*P	**P**	**23 56 23.0**	**-1.2**			
NRDN					IAmb	IAmb	23 56 37.5				
	comp=Z,414nm,1.6s										
MWZ	**Matawai**	**56.53**	**135**		P	**P**	**23 56 25.0**	**0.0**			
LGTI	**Lohaghat**	**56.57**	**309**		*e*P	**P**	**23 56 25.2**	**-0.2**			
BFZ	**Birch Farm**	**56.69**	**138**		P	**P**	**23 56 27.1**	**+1.0**			
CIT	**Chita**	**56.77**	**349**		*e*P	**P**	**23 56 26.4**	**0.0**			
CIT					*e*		23 57 26.7				
CIT					*e*		23 58 34.1				
CIT					*e*		00 04 17.0				
CIT					pmax	pmax					
	comp=Z,866nm,2.7s										
MXZ	**Matakaoa Point**	**56.77**	**133**		IAMs_20	IAMs_20	00 22 35.0				
	comp=Z,46µm,20.0s										
MXZ	**Matakaoa Point**	**56.77**	**133**		P	**P**	**23 56 30.1**	**+3.4**			
RAO	**Raoul Island**	**56.89**	**123**		LR	LR	00 22 05.9				
	comp=Z,18µm,18.8s,baz=302,slow=37										
PUZ	**Puketiti**	**56.95**	**134**		P	**P**	**23 56 30.9**	**+2.9**			
ZEA	**Zeya**	**57.08**	**359**		*e*P	**P**	**23 56 28.7**	**+0.2**			
ZEA					*e*S	**S**	**00 04 25.9**	**+4.0**			
ZEA					pmax	pmax					
	comp=E,200nm,5.8s										
ZEA					pmax	pmax					
	comp=N,600nm,5.4s										
ZEA					pmax	pmax					
	comp=Z,1µm,8.1s										
ZEA					pmax	pmax					
	comp=N,50nm,1.7s										
ZEA					pmax	pmax					
	comp=Z,100nm,1.3s										
ZEA					MLR	MLR					
	comp=N,7µm,18.0s										
GOA	**Goa**	**57.20**	**291**		*e*P	**P**	**23 56 28.9**	**-1.1**			
KAD	**Karad**	**57.35**	**293**		*e*P	**P**	**23 56 30.2**	**-0.9**			
AGRA	**Agra**	**57.45**	**305**		*e*P	**P**	**23 56 29.8**	**-1.8**			
TKRD	**Thakurdwara**	**57.53**	**308**		*e*P	**P**	**23 56 31.3**	**-0.9**			
JOSI	**Joshimath**	**57.60**	**310**		*e*P	**P**	**23 56 31.8**	**-1.1**			
ZAK	**Zakamensk**	**57.89**	**341**		*e*P	**P**	**23 56 34.0**	**-0.5**			
ZAK					pmax	pmax					
	comp=Z,151nm,1.8s										
ASOR	**Ausora**	**58.22**	**307**		*e*P	**P**	**23 56 34.6**	**-2.4**			
JMIU	**JAMIA UNIVERSI**	**58.52**	**307**		*e*P	**P**	**23 56 38.0**	**-1.2**			
LDR	**Lodi Road**	**58.59**	**307**		*e*P	**P**	**23 56 36.7**	**-2.9**			
AYAN	**Aya Nagar**	**58.62**	**306**		*e*P	**P**	**23 56 38.5**	**-1.3**			
NDI	**New Delhi**	**58.63**	**307**		*e*P	**P**	**23 56 39.0**	**-0.9**			
NDI					IAmb	IAmb	23 56 48.2				
	comp=Z,127nm,0.9s										
NPLP	**NPLP New Delhi**	**58.65**	**307**		*e*P	**P**	**23 56 38.9**	**-1.2**			
NPLP					IAmb	IAmb	23 56 43.7				
	comp=Z,106nm,0.6s										
DDI	**Dehra Dun**	**58.66**	**309**		*e*P	**P**	**23 56 39.3**	**-0.9**			
NRLA	**Narela**	**58.77**	**307**		*i* P	**P**	**23 56 41.6**	**+0.7**			
NRLA					*e*P	**P**	**23 56 41.6**	**+0.7**			
GNR	**GANAUR**	**58.97**	**307**		*e*P	**P**	**23 56 40.7**	**-1.6**			
KUDL	**Kundal**	**59.00**	**306**		*e*P	**P**	**23 56 41.4**	**-1.1**			
KLP	**Kalpa**	**59.05**	**310**		*e*P	**P**	**23 56 41.0**	**-2.2**			
JHJR	**Jhajjar**	**59.06**	**306**		*e*P	**P**	**23 56 41.6**	**-1.3**			
IRK	**Irkutsk**	**59.22**	**343**		*e*P	**P**	**23 56 40.4**	**-3.1**			
IRK					pmax	pmax					
	comp=Z,546nm,3.6s										
WMQ	**Urumqi**	**59.64**	**327**	⇓	P	**P**	**23 56 47.3**	**+0.6**			
WMQ					pmax	pmax					
	comp=Z,43nm,1.1s										
WMQ					pmax	pmax					
	comp=Z,1µm,4.5s										
WMQ					LR	LR					
	comp=Z,45µm,24.1s										
WMQ					LR	LR					
	comp=Z,20µm,22.5s										
WMQ					LR	LR					
	comp=Z,28µm,24.1s										
MOY	**Mondy**	**59.74**	**341**		*e*P	**P**	**23 56 47.4**	**+0.1**			
MOY					pmax	pmax					
	comp=Z,628nm,3.4s										
CGRH	**CHANDIGARH**	**59.83**	**309**		*e*P	**P**	**23 56 49.0**	**+0.8**			
AFI	**Afiamalu**	**59.89**	**104**		P	**P**	**23 56 50.1**	**+1.2**			
AFI					IAmb	IAmb	23 57 05.8				
	comp=Z,252nm,1.3s										
AFI	**Afiamalu**	**59.89**	**104**		P	**P**	**23 56 50.1**	**+1.2**			
AFI					pmax	pmax					
	comp=Z,252nm,1.3s										
BHK	**Bhakra**	**60.40**	**309**		*e*P	**P**	**23 56 48.4**	**-3.8**			
BHK					IAmb	IAmb	23 56 56.8				
	comp=Z,711nm,1.3s										
TLWR	**Talawar**	**60.99**	**310**		*e*P	**P**	**23 56 55.1**	**-1.0**			
ALCI	**Alchi Leh**	**61.06**	**312**		*e*P	**P**	**23 56 55.8**	**-1.2**			
TSSA	**Tissa**	**61.22**	**311**		*e*P	**P**	**23 56 57.0**	**-0.9**			
BKNR	**BIKANER**	**61.57**	**304**		*e*P	**P**	**23 56 59.1**	**-1.0**			
BKNR					IAmb	IAmb	23 57 26.1				
	comp=Z,699nm,1.3s										
PEA0B	**Petropavlovsk-**	**61.59**	**20**		P	**P**	**23 57 00.1**	**+0.4**			
PEA0B					IAmb	IAmb	23 57 13.3				
	comp=Z,314nm,1.1s										
PEA0B	**Petropavlovsk-**	**61.59**	**20**		P	**P**	**23 57 00.1**	**+0.4**			
PEA0B					pmax	pmax					
	comp=Z,314nm,1.2s										
PETK	**Petropavlovsk-**	**61.59**	**20**		P	**P**	**23 56 59.3**	**-0.5**			
PETK	**Petropavlovsk-**	**61.59**	**20**		P	**P**	**23 57 00.4**	**+0.7**			
	comp=Z,26nm,0.9s,baz=191,slow=3.8,SNR=15										
PETK					LR	LR	00 22 14.5				
	comp=Z,8µm,21.9s,baz=213,slow=35										
	comp=Z,26nm,0.9s										
PET	**Petropavlovsk**	**61.84**	**20**		*e*P	**P**	**23 57 05.4**	**+4.0**			
PET					*e*S	**S**	**00 05 27.7**	**+4.2**			
PET					pmax	pmax					
	comp=Z,236nm,1.3s										
PET					MLR	MLR					
	comp=Z,10µm,21.0s										
NIUE	**Niue**	**62.12**	**110**		P	**P**	**23 57 07.1**	**+3.1**			
NIUE	**Niue**	**62.12**	**110**		P	**P**	**23 57 04.9**	**+1.0**			
JMU	**Jammu**	**62.12**	**310**		*e*P	**P**	**23 57 03.0**	**-0.7**			
JMU					IAML		23 57 08.8				
	comp=Z,375nm,1.0s										
BOD	**Bodaibo**	**62.25**	**351**		*e*P	**P**	**23 57 04.1**	**0.0**			
BOD					pmax	pmax					
	comp=Z,600nm,1.5s										
SRNI	**Srinagar**	**62.74**	**311**		*e*P	**P**	**23 57 03.6**	**-4.2**			
JASL	**Jaisalmer**	**63.17**	**302**		*e*P	**P**	**23 57 11.9**	**+1.1**			
ZSN	**Zaisan**	**63.50**	**329**		*e*P	**P**	**23 57 12.4**	**-0.3**			
ZSN	**Zaisan**	**63.50**	**329**		*e*P	**P**	**23 57 12.3**	**-0.3**			
NIL	**Nilore**	**63.76**	**310**		P	**P**	**23 57 13.8**	**-0.9**			
NIL					IAmb	IAmb	23 57 40.6				
	comp=Z,337nm,1.2s										
NIL	**Nilore**	**63.76**	**310**		P	**P**	**23 57 13.8**	**-0.9**			
NIL					pmax	pmax					
	comp=Z,337nm,1.3s										
NIL					MLR	MLR					
	comp=Z,17µm,20.0s										
CASY	**Casey**	**63.87**	**188**		P	**P**	**23 57 14.4**	**-0.3**			
CASY	**Casey**	**63.87**	**188**		IAMs_20	IAMs_20	00 23 26.5				
	comp=Z,33µm,20.0s										
CASY	**Casey**	**63.87**	**188**	⇑	P	**P**	**23 57 14.4**	**-0.3**			
SHLS	**Shalkode**	**64.02**	**322**	⇓	*i* P	**P**	**23 57 14.5**	**-1.8**			
	comp=Z,313nm,1.8s										
SHLS					*e*S	**S**	**00 05 49.1**	**-2.4**			
SHLS	**Shalkode**	**64.02**	**322**	*d*	*i* P	**P**	**23 57 14.4**	**-1.8**			
SHLS					*e*S	**S**	**00 05 49.1**	**-2.4**			
SHLS					pmax	pmax					
	comp=Z,313nm,1.8s										
PDGK	**Podgornoye**	**64.10**	**322**	*i*	P	**P**	**23 57 16.0**	**-0.8**			
PDGK					pmax	pmax					
	comp=Z,236nm,1.0s										
UZB	**Uzynbulak**	**64.28**	**322**	⇓	*i* P	**P**	**23 57 17.8**	**-0.3**			
UZB					*e*S	**S**	**00 05 55.2**	**+0.3**			
UZB	**Uzynbulak**	**64.28**	**322**	*d*	*i* P	**P**	**23 57 17.7**	**-0.3**			
UZB					*e*S	**S**	**00 05 55.1**	**+0.3**			
TARG	**Taragay, Kyrgy**	**64.30**	**320**			**P**	**23 57 17.7**	**-0.8**			
TARG	**Taragay, Kyrgy**	**64.30**	**320**		P	**P**	**23 57 17.7**	**-0.8**			
TARG					pmax	pmax					
	comp=Z,951nm,2.0s										
PRZ	**Przheval'sk**	**64.31**	**321**		P	**P**	**23 57 18.1**	**-0.2**			
PRZ					IAmb	IAmb	23 57 38.7				
	comp=Z,275nm,1.1s										
PRZ	**Przheval'sk**	**64.31**	**321**		P	**P**	**23 57 18.1**	**-0.2**			
PRZ					pmax	pmax					
	comp=Z,275nm,1.1s										
PRZ					MLR	MLR					
	comp=Z,15µm,22.0s										
KSH	**Kashi**	**64.40**	**317**		P	**P**	**23 57 19.3**	**+0.4**			
KSH					sP	sP	23 57 29.0	-0.1			
KSH					PcP	**PcP**	**23 57 52.5**	**-0.7**			
KSH					pmax	pmax					
	comp=Z,93nm,0.9s										
KSH					pmax	pmax					
	comp=Z,4µm,7.0s										
KSH					LR	LR					
	comp=Z,13µm,29.5s										
KSH					LR	LR					
	comp=Z,12µm,22.7s										
KSH					LR	LR					
	comp=Z,14µm,20.6s										
MK31	**Makanchi Array**	**64.47**	**327**	*d*	*i* P	**P**	**23 57 18.6**	**-0.5**			
MK31					pmax	pmax					
	comp=Z,145nm,0.8s										
MKAR	**Makanchi Array**	**64.47**	**327**		P	**P**	**23 57 18.6**	**-0.5**			
MKAR	**Makanchi Array**	**64.47**	**327**		P	**P**	**23 57 18.7**	**-0.3**			
	comp=Z,30nm,0.6s,baz=119,slow=8.1,SNR=81										
MKAR					LR	LR	00 26 38.5				
	comp=Z,25µm,21.7s,baz=114,slow=37										
	comp=Z,30nm,0.6s										
JOHN	**Johnston Islan**	**64.52**	**70**		P	**P**	**23 57 19.2**	**-0.6**			
JOHN	**Johnston Islan**	**64.52**	**70**		IAMs_20	IAMs_20	00 25 00.6				
	comp=Z,29µm,19.0s										
JOHN	**Johnston Islan**	**64.52**	**70**		P	P	23 57 26.1	+6.3			
	comp=Z,235nm,1.9s										
JOHN	**Johnston Islan**	**64.52**	**70**	⇓	P	P	23 57 26.6	+6.8			
SATY	**Saty**	**64.62**	**322**	⇓	*i* P	**P**	**23 57 20.1**	**-0.1**			
SATY					*e*S	**S**	**00 05 59.3**	**+0.4**			
SATY	**Saty**	**64.62**	**322**	*d*	*i* P	**P**	**23 57 20.1**	**-0.1**			
SATY					*e*S	**S**	**00 05 59.2**	**+0.4**			
MAKZ	**Makanchi**	**64.65**	**327**		P	**P**	**23 57 19.5**	**-0.7**			
MAKZ					IAmb	IAmb	23 57 28.6				
	comp=Z,129nm,0.9s										
MAKZ					IAMs_20	IAMs_20	00 26 33.9				
	comp=Z,26µm,22.0s										
MAKZ	**Makanchi**	**64.65**	**327**		P	**P**	**23 57 19.5**	**-0.7**			
MAKZ					pmax	pmax					
	comp=Z,129nm,1.0s										
MAKZ					MLR	MLR					
	comp=Z,26µm,22.0s										
KPKS	**Kokpek**	**64.66**	**322**		*e*P	**P**	**23 57 20.3**	**-0.2**			
KPKS					*e*S	**S**	**00 06 00.2**	**+0.8**			
KPKS	**Kokpek**	**64.66**	**322**		*e*P	**P**	**23 57 20.2**	**-0.2**			
KPKS					*e*S	**S**	**00 06 00.2**	**+0.8**			
KDJ	**Kajisay**	**64.90**	**320**		P	**P**	**23 57 21.9**	**-0.3**			
KDJ	**Kajisay**	**64.90**	**320**		P	**P**	**23 57 21.9**	**-0.3**			
KDJ					MLR	MLR					
	comp=Z,15µm,20.0s										
MA2	**Magadan**	**65.36**	**12**		P	**P**	**23 57 24.4**	**-0.1**			
MA2	**Magadan**	**65.36**	**12**		LR	LR	00 25 03.8				
	comp=Z,12µm,20.7s,baz=207,slow=35										
MA2	**Magadan**	**65.36**	**12**		P	**P**	**23 57 27.0**	**+2.5**			
	comp=Z,301nm,1.7s										
MA2	**Magadan**	**65.36**	**12**	⇑	*e*P	**P**	**23 57 24.2**	**-0.3**			
MA2					pmax	pmax					
	comp=Z,604nm,1.8s										
YAK	**Yakutsk**	**65.40**	**1**		P	**P**	**23 57 24.4**	**-0.2**			
YAK	**Yakutsk**	**65.40**	**1**		IAMs_20	IAMs_20	00 28 31.8				
	comp=Z,23µm,19.0s										
YAK	**Yakutsk**	**65.40**	**1**		*e*P	**P**	**23 57 24.5**	**-0.2**			
YAK					*e**PP	**sP**	**23 57 38.2**	**+3.3**			
YAK					*e*		23 57 55.4				
YAK					*e*PPP	PPP	00 01 21.4				
YAK					*e*S	**S**	**00 06 06.9**	**-0.5**			
YAK					*e**SS	sS	00 06 34.7	+15			
YAK					*e*SS	**SS**	**00 10 21.7**	**+0.6**			
YAK					pmax	pmax					
	comp=Z,606nm,1.4s										
YAK					pmax	pmax					
	comp=N,104nm,0.9s										
YAK					pmax	pmax					
	comp=E,50nm,1.1s										
YAK					smax	smax					
	comp=N,8µm,10.4s										
YAK					smax	smax					
	comp=E,6µm,9.6s										
YAK					MLR	MLR					
	comp=E,16µm,28.0s										
YAK					MLR	MLR					
	comp=N,15µm,27.0s										
YAK	**Yakutsk**	**65.40**	**1**	⇓	P	**P**	**23 57 24.7**	**+0.1**			
TNSS	**Tian-Shan**	**65.52**	**321**		*e*P	**P**	**23 57 25.9**	**-0.5**			
TNSS	**Tian-Shan**	**65.52**	**321**		*e*P	**P**	**23 57 25.9**	**-0.5**			
MDOK	**Medeo**	**65.52**	**321**		*e*P	**P**	**23 57 26.0**	**-0.2**			
MDOK					*e*S	**S**	**00 06 10.4**	**+0.3**			
MDOK					LR	LR	00 26 44.8				
MDOK	**Medeo**	**65.52**	**321**		*e*P	**P**	**23 57 25.9**	**-0.2**			
MDOK					*e*S	**S**	**00 06 10.3**	**+0.3**			
ARXS	**Arharly**	**65.59**	**322**		*i* P	**P**	**23 57 25.4**	**-1.0**			
AAA	**Alma-Ata**	**65.62**	**321**		*e*P	**P**	**23 57 26.5**	**-0.2**			
	comp=N,200nm,1.0s										
AAA					LR	LR	00 26 38.1				
	comp=N,16µm,20.9s										
AAA	**Alma-Ata**	**65.62**	**321**		*e*P	**P**	**23 57 26.5**	**-0.2**			
AAA					pmax	pmax					
	comp=Z,200nm,1.0s										
AAA					MLR	MLR					
	comp=Z,16µm,21.0s										
TDK	**Taldyqorghan**	**65.66**	**323**		*e*P	**P**	**23 57 26.7**	**-0.1**			
	comp=Z,286nm,1.5s										
TDK					*e*S	**S**	**00 06 12.2**	**+0.8**			
TDK					LR	LR	00 26 38.1				
	comp=Z,12µm,17.2s										
TDK	**Taldyqorghan**	**65.66**	**323**		*e*P	**P**	**23 57 26.7**	**-0.1**			
TDK					*e*S	**S**	**00 06 12.2**	**+0.8**			
TDK					pmax	pmax					
	comp=Z,286nm,1.5s										
BOOM	**Boomskoye usch**	**65.88**	**320**		P	**P**	**23 57 28.0**	**-0.5**			
BOOM					IAmb	IAmb	23 57 39.5				
	comp=Z,152nm,1.1s										
BOOM	**Boomskoye usch**	**65.88**	**320**		P	**P**	**23 57 28.0**	**-0.5**			
BOOM					pmax	pmax					
	comp=Z,153nm,1.1s										
CHKK	**Chushkaly**	**65.91**	**322**	*e*	P	**P**	**23 57 27.9**	**-0.6**			
CHKK	**Chushkaly**	**65.91**	**322**	*e*	P	**P**	**23 57 27.8**	**-0.6**			
TKM2	**Tokmak 2**	**66.31**	**320**		P	**P**	**23 57 30.8**	**-0.5**			
	SNR=59										
KUU	**Kurty**	**66.33**	**322**	*e*	P	**P**	**23 57 31.1**	**-0.1**			
	comp=Z,436nm,1.8s										
KUU					LR	LR	00 27 27.1				
	comp=Z,6µm,14.5s										
KUU	**Kurty**	**66.33**	**322**	*e*	P	**P**	**23 57 31.0**	**-0.1**			
KUU					pmax	pmax					
	comp=Z,436nm,1.8s										
KUU					MLR	MLR					
	comp=Z,6µm,15.0s										
KBK	**Karagaybulak**	**66.60**	**320**		P	**P**	**23 57 33.0**	**-0.1**			
	SNR=15										
UCH	**Uchtor**	**66.67**	**319**		P	P	23 57 39.5	+5.5			
	SNR=5.2										
FRU1	**Bishkek**	**66.88**	**320**		P	**P**	**23 57 34.4**	**-0.4**			
FRU1					IAmb	IAmb	23 58 29.6				
	comp=Z,412nm,1.9s										
FRU1	**Bishkek**	**66.88**	**320**		P	**P**	**23 57 34.4**	**-0.4**			
FRU1					pmax	pmax					
	comp=Z,412nm,1.9s										
AAK	**Ala-Archa**	**66.88**	**320**		P	**P**	**23 57 35.1**	**+0.2**			
	SNR=18										
AAK	**Ala-Archa**	**66.88**	**320**		P	**P**	**23 57 34.0**	**-0.9**			
AAK	**Ala-Archa**	**66.88**	**320**		IAMs_20	IAMs_20	00 24 35.7				
	comp=Z,20µm,21.0s										
AAK	**Ala-Archa**	**66.88**	**320**	*i*	P	**P**	**23 57 33.6**	**-1.3**			
	SNR=48										
AAK	**Ala-Archa**	**66.88**	**320**	*d*	*i* P	**P**	**23 57 34.9**	**0.0**			
AAK					pmax	pmax					
	comp=Z,292nm,1.9s										
AAK	**Ala-Archa**	**66.88**	**320**	⇓	P	**P**	**23 57 34.9**	**0.0**			
AAK	**Ala-Archa**	**66.88**	**320**		P	**P**	**23 57 34.8**	**0.0**			
AAK					S	**S**	**00 06 31.0**	**+4.3**			
CHMS	**Chumysh**	**66.89**	**320**		P	**P**	**23 57 34.3**	**-0.4**			
	SNR=10										
PAF	**Port-aux-Franc**	**67.01**	**217**		IAMs_20	IAMs_20	00 26 31.4				
	comp=Z,22µm,19.0s										
USP	**Ospenovka**	**67.18**	**320**		P	**P**	**23 57 36.4**	**-0.2**			
	SNR=39										
SGDS	**Sogindy**	**67.19**	**320**	*e*	P	**P**	**23 57 36.5**	**-0.2**			
KBU	**Kabul Universi**	**67.25**	**310**		P	**P**	**23 57 37.4**	**0.0**			
KBL	**Kabul**	**67.33**	**310**		P	**P**	**23 57 36.8**	**-1.1**			
KBL					IAmb	IAmb	23 58 02.8				
	comp=Z,181nm,1.2s										
KBL	**Kabul**	**67.33**	**310**		P	**P**	**23 57 36.8**	**-1.1**			
KBL					pmax	pmax					
	comp=Z,181nm,1.3s										
EKS2	**Erkin-Say**	**67.36**	**319**		P	**P**	**23 57 38.1**	**+0.3**			
	SNR=33										
ZAA0	**Zalesovo Array**	**67.79**	**334**		P	**P**	**23 57 39.0**	**-1.2**			
ZAA0					IAmb	IAmb	23 57 56.0				
	comp=Z,428nm,1.4s

HRA Herat 72.58 308 P **P** **23 58 08.4 -1.8**
HRA IAmb IAmb 23 58 24.8
comp=Z,376nm,1.9s
MSEY Mahe Island 72.70 266 IAMs_20 IAMs_20 00 27 41.7
comp=Z,26µm,20.0s
WSAR Wadi Sarin 72.93 295 P **P** **23 58 12.3 0.0**
comp=Z,0.8nm,1.2s,baz=114,slow=24,SNR=11
WSAR LR LR 00 34 52.2
comp=Z,53nm,18.1s,baz=130,slow=40
ATKA Atka Island 73.59 33 P **P** **23 58 15.0 -0.5**
ATKA IAmb IAmb 23 58 41.5
comp=Z,422nm,1.3s
BVAR Borovoye Array 74.30 328 P **P** **23 58 19.1 -0.6**
comp=Z,22nm,0.9s,baz=133,slow=6.5,SNR=51
comp=Z,22nm,0.9s
XMAS Kiritimati 74.34 87 P **P** **23 58 20.7 0.0**
XMAS IAmb IAmb 23 58 34.9
comp=Z,215nm,1.1s
XMAS Kiritimati 74.34 87 IAMs_20 IAMs_20 00 28 37.7
XMAS Kiritimati 74.34 87 P P 23 58 27.4 +6.7
comp=Z,141nm,1.2s
BORK Borovoye 74.35 328*d iP* **P** **23 58 19.5 -0.5**
BORK pmax pmax
comp=Z,303nm,1.6s
BORK MLR MLR
comp=Z,14µm,22.0s
SHAO Shalim 74.78 290 *i* P **P** **23 58 21.6 -1.6**
SNR=8.4
SOHO SOHO 74.99 296 *i* P **P** **23 58 22.7 -1.5**
SNR=48
TIXI Tiksi 75.05 0 P **P** **23 58 22.9 -0.7**
TIXI Tiksi 75.05 0 IAMs_20 IAMs_20 00 30 54.8
comp=Z,21µm,21.0s
TIXI Tiksi 75.05 0 LR LR 00 32 56.0
comp=Z,21µm,20.3s,baz=198,slow=37
TIXI Tiksi 75.05 0*ce*P **P** **23 58 23.4 -0.2**
TIXI pmax pmax
comp=Z,142nm,1.7s
TIXI MLR MLR
comp=Z,31nm,21.0s
TIXI Tiksi 75.05 0 ⇑P **P** **23 58 23.0 -0.7**
MDH Madha 75.42 297 *i* P **P** **23 58 25.7 -1.0**
SNR=9.5
UOSS Minazif 75.43 297 P **P** **23 58 25.1 -1.8**
UOSS Minazif 75.43 297 *i* P **P** **23 58 24.7 -2.2**
SNR=7.8
UOSS Minazif 75.43 297 ⇑P **P** **23 58 27.8 +1.0**
UOSS Minazif 75.43 297 P **P** **23 58 26.4 -0.5**
UOSS S **S** **00 08 06.3 +0.2**
HATD Hatta, Dubai 75.48 297 *i* P **P** **23 58 26.0 -1.1**
SNR=48
ASHO Ashiyiah 75.52 296 *i* P **P** **23 58 25.7 -1.6**
SNR=25
BANOM Banah 75.54 298 *i* P **P** **23 58 26.1 -1.3**
SNR=16
MSFE Esma-Masafi 75.55 297 *i* P **P** **23 58 25.7 -1.8**
SNR=12
ALNE Al Ain 75.67 296 *i* P **P** **23 58 27.0 -1.2**
SNR=51
SHME Shamm 75.70 298 *i* P **P** **23 58 27.1 -1.3**
SNR=15
NAZ Nazwa, Dubai 75.93 297 *i* P **P** **23 58 28.2 -1.4**
SNR=28
FAQ Al Faqa, Dubai 75.94 296 *i* P **P** **23 58 27.6 -2.2**
SNR=29
VNDA Vanda 76.05 173 P **P** **23 58 28.8 -0.6**
VNDA Vanda 76.05 173 P **P** **23 58 29.1 -0.2**
comp=Z,19nm,0.9s,baz=315,slow=6.4,SNR=20
comp=Z,19nm,0.9s
VNDA Vanda 76.05 173 P **P** **23 58 28.8 -0.6**
VNDA pmax pmax
comp=Z,71nm,1.1s
KIP Kipapa 76.09 67 IAMs_20 IAMs_20 00 29 44.1
comp=Z,30µm,19.0s
BILL Bilibino 76.14 14 P **P** **23 58 29.2 -0.8**
BILL IAmb IAmb 23 59 03.9
comp=Z,365nm,1.9s
BILL Bilibino 76.14 14*ce*P **P** **23 58 30.9 +0.9**
BILL pmax pmax
comp=Z,132nm,1.6s
BILL MLR MLR
comp=Z,15µm,21.0s
ASUD Al Ashush, Dub 76.16 296 *i* P **P** **23 58 30.1 -0.9**
SNR=16
AJN Ajban 76.45 296 *i* P **P** **23 58 30.8 -1.8**
SNR=22
NIKH Nikolski High 76.85 34 P **P** **23 58 34.1 -0.2**
baz=246
SBA Scott Base 76.95 172 P **P** **23 58 34.5 0.0**
SBA Scott Base 76.95 172 IAMs_20 IAMs_20 00 37 01.8
comp=Z,20µm,20.0s
SBA Scott Base 76.95 172 P **P** **23 58 34.5 0.0**
SBA pmax pmax
comp=Z,115nm,1.2s
SBA MLR MLR
comp=Z,20µm,20.0s
MZR Muzera 77.55 294 *i* P **P** **23 58 38.5 -0.4**
SNR=27
MAW Mawson 77.58 201 P **P** **23 58 37.5 -0.6**
comp=Z,0.0nmcomp=Z,15nm,1.2s
MAW Mawson 77.58 201 P **P** **23 58 37.5 -0.6**
comp=Z,20nm,0.9s,baz=78,slow=7.0,SNR=17
MAW LR LR 00 31 45.9
comp=Z,5µm,18.6s,baz=68,slow=35
comp=Z,20nm,0.9s
HUH Hualalai 77.84 69 P **P** **23 58 40.3 -0.6**
SPIA Saint Paul Isl 77.93 29 IAMs_20 IAMs_20 00 27 45.6
comp=Z,20µm,22.0s
SPIA Saint Paul Isl 77.93 29 P **P** **23 58 40.8 +0.6**
baz=244
P08K Saint George I 78.02 30 P **P** **23 58 41.4 +0.7**
baz=244
POHA Pohakuloa 78.14 69 P **P** **23 58 42.0 -0.5**
POHA IAmb IAmb 23 59 07.8
comp=Z,377nm,1.2s
POHA Pohakuloa 78.14 69 IAMs_20 IAMs_20 00 31 17.3
comp=Z,25µm,19.0s
POHA Pohakuloa 78.14 69 ⇑P P 23 58 47.7 +5.2
HMH Humu'ula Sheep 78.16 69 P **P** **23 58 42.0 -0.7**
MLH Mauna Loa 78.24 69 P **P** **23 58 43.1 0.0**
UNV Unalaska Valle 78.49 33 **P** **23 58 43.7 +0.3**
UNV IAmb IAmb 23 59 16.0
comp=Z,664nm,1.7s
UNV IAMs_20 IAMs_20 00 27 45.6
comp=Z,17µm,22.0s
UNV Unalaska Valle 78.49 33 P P 23 58 48.4 +5.0
comp=Z,213nm,1.5s
UNV Unalaska Valle 78.49 33 P **P** **23 58 44.8 +1.4**
baz=248
AB31 Akbulak array 78.82 322 P **P** **23 58 44.4 -0.9**
AB31 IAmb IAmb 23 58 55.7
comp=Z,165nm,0.9s
ABKAR Akbulak array 78.82 322 P **P** **23 58 44.2 -1.2**
LVA Lava Point 78.87 33 P **P** **23 58 45.3 -0.2**
LVA IAmb IAmb 23 58 56.1
comp=Z,266nm,1.0s
AKUT Akutan 79.00 33 P **P** **23 58 46.8 +0.6**
AKUT Akutan 79.00 33 P P 23 58 52.1 +5.9
comp=Z,338nm,2.1s
AKUT Akutan 79.00 33 ⇓P **P** **23 58 50.5 +4.3**
GAMB Gambell 80.36 23 P **P** **23 58 53.6 +0.2**
GAMB IAmb IAmb 23 59 11.5
comp=Z,478nm,1.6s
GAMB Gambell 80.36 23 P **P** **23 58 53.8 +0.5**
baz=241
ABPO Ambohimpanom 80.50 251 P **P** **23 58 55.4 0.0**
ABPO Ambohimpanom 80.50 251 P **P** **23 58 55.4 0.0**
ABPO pmax pmax
comp=Z,185nm,1.9s
FALS False Pass 80.54 33 IAMs_20 IAMs_20 00 37 09.9
comp=Z,15µm,20.0s
FALS False Pass 80.54 33 P **P** **23 58 54.5 0.0**
baz=250
VOI Vohitsoka 80.90 248 P **P** **23 58 56.5 -0.8**
VOI Vohitsoka 80.90 248 ⇓P **P** **23 58 57.0 -0.4**
M11K Mekoryuk 81.20 27 P **P** **23 58 58.5 +0.6**
baz=247
PAE Paea 81.35 107 *e*P **P** **23 59 00.5 +0.8**
comp=Z,98nm,1.3s
PPT2 Papeete2 81.35 107 *e*P P 23 59 06.8 +7.0
comp=Z,296nm,1.4s
PPT2 Papeete2 81.35 107 *e*PP **PP** **00 02 06.4 +0.6**
comp=Z,3µm,29.8s
PPT2 *e*S **S** **00 09 11.7 +1.7**
comp=Z,7µm,24.0s
PPT2 *e*SS **SS** **00 14 24.5 -1.9**
comp=Z,12µm,27.5s
PPT2 *e*LQ LQ 00 20 55.1
comp=Z,29µm,34.5s
PPT2 *e*LR LR 00 24 22.0
comp=Z,26µm,43.2s
PPT2 *e*LR LR 00 24 29.8
comp=Z,42µm,32.2s
PPT Papeete 81.35 107 P **P** **23 59 00.8 +1.1**
comp=Z,27nm,0.4s,baz=297,slow=4.5,SNR=2.5
PPT LR LR 00 33 26.4
comp=Z,6µm,19.9s,baz=272,slow=34
comp=Z,27nm,0.4s
PPTF Pamatai, Papee 81.36 107 P **P** **23 58 59.9 0.0**
PPTF IAmb IAmb 23 59 14.1
comp=Z,415nm,1.3s
TBI Tubuai 81.41 113 *e*P **P** **23 58 56.2 -3.7**
comp=Z,178nm,1.0s
TBI Tubuai 81.41 113 *e*PP PP 00 01 55.0 -11
comp=Z,9µm,29.0s
TBI *e*S **S** **00 09 16.5 +6.3**
comp=Z,41µm,26.5s
TBI *e*SS **SS** **00 14 32.8 +6.0**
comp=Z,17µm,23.2s
TBI *e*LQ LQ 00 20 58.6
comp=Z,34µm,27.0s
TBI *e*LR LR 00 24 23.2
comp=Z,212µm,34.0s
TBI *e*LR LR 00 24 27.3
comp=Z,37µm,35.0s
S12K Black Hills 81.56 32 P **P** **23 58 59.1 -0.9**
baz=251
TIAR Tiarei 81.57 107 *e*P **P** **23 59 00.4 -0.5**
comp=Z,647nm,1.5s
TVO Taravao 81.66 107 *e*P P 23 59 07.1 +5.7
comp=Z,126nm,1.3s
ARTI Arti 82.02 328 P **P** **23 59 01.0 -1.4**
ARTI IAmb IAmb 23 59 13.8
comp=Z,399nm,1.3s
ARTI Arti 82.02 328 P **P** **23 59 01.4 -0.9**
comp=Z,49nm,0.9s,baz=120,slow=3.8,SNR=24
comp=Z,49nm,0.9s
ARTI Arti 82.02 328*d iP* **P** **23 59 01.3 -1.1**
ARTI 00 02 09.7
ARTI PPP PPP 00 04 06.1
ARTI S **S** **00 09 16.6 +1.3**
ARTI SS **SS** **00 14 29.3 -5.3**
ARTI SSS SSS 00 17 55.3
ARTI pmax pmax
comp=Z,152nm,1.9s
ARTI MLR MLR
comp=Z,13µm,21.0s
SDPT Sand Point 82.30 33 P **P** **23 59 03.8 -0.1**
SDPT IAmb IAmb 23 59 09.4
comp=Z,261nm,0.8s
SDPT Sand Point 82.30 33 P **P** **23 59 06.5 +2.7**
comp=Z,362nm,1.2s
SDPT Sand Point 82.30 33 P **P** **23 59 03.5 -0.3**
baz=252,SNR=6.3
K13K Kusilvak Mount 82.49 26 P **P** **23 59 05.8 +1.1**
baz=248
M13K Dall Lake 82.52 28 P **P** **23 59 05.7 +0.9**
baz=249
TNA Tin City 82.63 22 P **P** **23 59 05.5 +0.1**
TNA Tin City 82.63 22 P **P** **23 59 06.5 +1.2**
baz=244
CNBA Chernabura Isl 82.63 34 P **P** **23 59 05.6 0.0**
CNBA IAmb IAmb 23 59 11.3
comp=Z,116nm,0.9s
CHNA Chernabura Isl 82.63 34 P **P** **23 59 05.8 +0.2**
baz=253
PMOR Pomariorio Ree 83.03 105 *e*P **P** **23 59 09.5 +1.0**
comp=Z,546nm,1.4s
S14K Fog Glacier 83.08 32 P **P** **23 59 08.7 +0.7**
baz=253
O14K Tigyukauivet M 83.12 29 IAMs_20 IAMs_20 00 30 45.7
comp=Z,21µm,22.0s
O14K Tigyukauivet M 83.12 29 P **P** **23 59 07.5 -0.5**
baz=251
N14K Kuskokwak Cree 83.13 28 P **P** **23 59 08.9 +0.8**
baz=251,SNR=7.3
L14K Kuka Creek 83.15 27 P **P** **23 59 08.7 +0.6**
baz=250,SNR=10.0
F14K Arctic Creek 83.20 22 P **P** **23 59 08.9 +0.6**
baz=246
ANM Nome 83.20 23 P **P** **23 59 09.1 +0.7**
baz=247
J14K Nanvaranak Lak 83.27 25 P **P** **23 59 09.4 +0.7**
baz=249
M14K Bethel 83.28 28 P **P** **23 59 08.6 -0.2**
baz=250,SNR=8.8
VAH Vaihoa 83.28 105 *e*P **P** **23 59 11.4 +1.6**
comp=Z,58nm,1.1s
CHGN Chignik 83.69 32 P **P** **23 59 10.6 -0.4**
CHGN IAmb IAmb 23 59 40.7
comp=Z,149nm,1.1s
CHGN Chignik 83.69 32 P **P** **23 59 12.3 +1.3**
baz=254
O15K Ungalikthiuk R 83.80 29 IAMs_20 IAMs_20 00 31 06.7
comp=Z,21µm,22.0s
O15K Ungalikthiuk R 83.80 29 P **P** **23 59 11.3 -0.2**
baz=252
L15K Ungalak Mounta 83.81 27 P **P** **23 59 12.9 +1.3**
baz=251,SNR=5.3
M15K Kasigluk River 83.85 28 P **P** **23 59 12.4 +0.6**
baz=252,SNR=7.5
G15K Niukluk 83.90 23 P **P** **23 59 12.4 +0.5**
baz=248
F15K North Star Dit 83.93 23 P **P** **23 59 13.4 +1.3**
baz=248,SNR=20
N15K Kwethluk River 83.97 28 IAMs_20 IAMs_20 00 31 12.1
comp=Z,14µm,22.0s
N15K Kwethluk River 83.97 28 P **P** **23 59 13.2 +0.8**
baz=252
K15K Wolf Creek Mou 83.99 26 P **P** **23 59 13.7 +1.2**
baz=251,SNR=18
H16K Elim 84.49 24 P **P** **23 59 15.8 +0.8**
baz=250
P16K Nushagak River 84.66 30 IAMs_20 IAMs_20 00 31 56.6
comp=Z,16µm,22.0s
P16K Nushagak River 84.66 30 P **P** **23 59 16.4 +0.5**
baz=254
C16K Lisburne Hills 84.69 20 P **P** **23 59 16.6 +0.7**
baz=247
N16K Nishlik Lake 84.69 28 P **P** **23 59 16.5 +0.4**
baz=253
G16K Koyuk River 84.70 23 P **P** **23 59 16.0 0.0**
baz=250
J16K Anvik River 84.72 25 P **P** **23 59 16.1 0.0**
baz=251
L16K Owhat River 84.72 27 P **P** **23 59 17.0 +0.8**
baz=253,SNR=31
M16K Timber Creek 84.76 28 P **P** **23 59 17.4 +1.0**
baz=253,SNR=12
O16K Kokwok River B 84.77 29 IAMs_20 IAMs_20 00 31 48.3
comp=Z,19µm,22.0s
O16K Kokwok River B 84.77 29 P **P** **23 59 17.2 +0.7**
baz=254
I17K Unalakleet 84.87 25 P **P** **23 59 17.7 +0.8**
baz=251
RAYN Ar Rayn 84.89 294 P **P** **23 59 17.0 -0.9**
RAYN Ar Rayn 84.89 294 IAMs_20 IAMs_20 00 36 35.7
comp=Z,29µm,22.0s
RAYN Ar Rayn 84.89 294 *i* P **P** **23 59 16.7 -1.3**
SNR=122
RAYN Ar Rayn 84.89 294 P **P** **23 59 17.0 -0.9**
RAYN pmax pmax
comp=Z,330nm,1.2s
RAYN MLR MLR
comp=Z,29µm,22.0s
CHIR Chirikof Islan 85.08 33 P **P** **23 59 18.0 -0.2**
baz=256
R17L Mt. Peulik Vol 85.12 31 P **P** **23 59 18.2 -0.2**
baz=256
PLK4 Peulik 4 85.13 31 IAMs_20 IAMs_20 00 32 04.0
comp=Z,13µm,20.0s
Q16K King Salmon 85.24 30 P **P** **23 59 17.9 -0.9**
baz=255
D17K Noatak River 85.25 21 P **P** **23 59 19.8 +1.1**
baz=249,SNR=15
O17K Koliganek Bris 85.30 29 P **P** **23 59 19.0 -0.1**
baz=255
L17K Donlin 85.38 27 P **P** **23 59 20.2 +0.7**
baz=254,SNR=22
J17K VABM Dome 85.41 26 P **P** **23 59 19.3 -0.3**
baz=253
G17K Kiwalik Mounta 85.41 23 P **P** **23 59 19.3 -0.3**
baz=251
RDOG Red Dog Mine 85.44 21 P **P** **23 59 20.2 +0.5**
RDOG IAmb IAmb 23 59 53.4
comp=Z,227nm,1.6s
RDOG Red Dog Mine 85.44 21 P **P** **23 59 19.5 -0.3**
baz=249
N17K Nushagak Hills 85.46 29 IAMs_20 IAMs_20 00 31 58.5
comp=Z,17µm,22.0s
N17K Nushagak Hills 85.46 29 P **P** **23 59 20.3 +0.4**
baz=255,SNR=16
P17K Kvichak River 85.48 30 P **P** **23 59 20.2 +0.2**
baz=256
F17K Baldwin Pennin 85.49 22 P **P** **23 59 19.7 -0.2**
baz=251
E17K Hotham Inlet 85.49 22 P **P** **23 59 20.2 +0.3**
baz=250
C17K DeLong Mountai 85.50 20 P **P** **23 59 19.5 -0.5**
baz=249
Q17K Contact Creek 85.53 31 P **P** **23 59 19.9 -0.6**
baz=256
H17K Granite Mounta 85.53 24 IAMs_20 IAMs_20 00 38 55.0
comp=Z,14µm,20.0s
H17K Granite Mounta 85.53 24 P **P** **23 59 20.9 +0.8**
baz=252
K17K Iditarod 85.55 26 P **P** **23 59 21.0 +0.7**
baz=254,SNR=26
M17K Holitna River 85.57 28 P **P** **23 59 21.4 +1.0**
baz=254,SNR=11
MAK Makhachkala 85.73 313*c iP* P 23 59 16.2 -5.4
MAK *e* 00 02 39.9
MAK *e*PPP PPP 00 04 38.2
MAK *e* 00 09 37.6
MAK *e*SS SS 00 15 25.3 -4.8
MAK pmax pmax
comp=Z,645nm,1.7s
SII Sitkinak Islan 86.03 33 IAMs_20 IAMs_20 00 40 04.0
comp=Z,15µm,20.0s
SII Sitkinak Islan 86.03 33 P **P** **23 59 23.5 +0.6**
baz=258
E18K Tukpahlearik C 86.05 21 P **P** **23 59 22.5 -0.3**
baz=251,SNR=13
Q18K Katmai Hardscr 86.06 31 P **P** **23 59 22.5 -0.6**
baz=257
R18K Karluk 86.11 32 P **P** **23 59 22.8 -0.4**
baz=257
N18K Kilae Creek 86.11 29 IAMs_20 IAMs_20 00 32 40.9
comp=Z,14µm,22.0s
N18K Kilae Creek 86.11 29 P **P** **23 59 23.6 +0.4**
baz=256,SNR=16
P18K Big Mountain, 86.13 30 P **P** **23 59 22.8 -0.5**
baz=256
L18K Granite Mounta 86.13 27 P **P** **23 59 24.0 +0.8**
baz=255,SNR=23
F18K Selawik 86.15 22 P **P** **23 59 23.6 +0.5**
baz=252
H18K Honhosa River 86.22 24 IAMs_20 IAMs_20 00 39 55.2
comp=Z,12µm,20.0s
H18K Honhosa River 86.22 24 P **P** **23 59 23.8 +0.2**
baz=253
O18K Koktuh Hills 86.25 29 IAMs_20 IAMs_20 00 32 56.4
comp=Z,16µm,22.0s
O18K Koktuh Hills 86.25 29 P **P** **23 59 24.1 +0.2**
baz=256
C18K Utukok River 86.25 20 P **P** **23 59 23.1 -0.6**
baz=250
B18K Kokolik River 86.29 19 P **P** **23 59 23.6 -0.2**
baz=250
SYO Syowa Base 86.29 201 ⇑*iP* **P** **23 59 25.0 +1.1**
SYO Syowa Base 86.29 201 ⇑*ipP* pP 23 59 29.2 -2.0
SYO Syowa Base 86.29 201 ⇑*iSP* sP 23 59 32.2 -2.1
G18K Tagagawik 86.32 23 P **P** **23 59 24.0 -0.1**
baz=253,SNR=8.0
ATD Arta Tunnel 86.34 282 P **P** **23 59 25.4 +0.1**
ATD Arta Tunnel 86.34 282 LR LR 00 36 06.2
comp=Z,376nm,21.5s,baz=90,slow=34
M18K Stony River 86.34 28 P **P** **23 59 25.2 +1.0**
baz=256,SNR=32
QSPA South Pole Qui 86.41 180 P **P** **23 59 25.3 +0.5**
QSPA IAmb IAmb 00 00 04.1
comp=Z,132nm,1.1s
QSPA South Pole Qui 86.41 180 P **P** **23 59 25.9 +1.2**
comp=Z,47nm,0.9s,baz=332,slow=3.1,SNR=27
QSPA PKKPbc **PKKPbc** **00 17 25.1 0.0**
comp=Z,5.1nm,1.0s,baz=298,slow=1.8,SNR=6.7
comp=Z,47nm,0.9s
J18K Innoko River 86.44 26 IAMs_20 IAMs_20 00 32 19.4
comp=Z,15µm,22.0s
J18K Innoko River 86.44 26 P **P** **23 59 24.6 -0.1**
baz=255
OHAK Old Harbor 86.65 32 P **P** **23 59 26.4 +0.6**
OHAK IAmb IAmb 23 59 32.0
comp=Z,160nm,0.9s
OHAK Old Harbor 86.65 32 P **P** **23 59 29.2 +3.4**
comp=Z,224nm,1.1s
OHAK Old Harbor 86.65 32 P **P** **23 59 25.4 -0.4**
baz=258
GCSA Galena City Sc 86.71 24 P **P** **23 59 26.0 0.0**
baz=255
O19K Port Alsworth 86.76 29 P **P** **23 59 25.4 -0.9**
baz=257
A19K Wainwright 86.81 19 P **P** **23 59 27.2 +0.8**
baz=250
N19K Bonanza Creek 86.82 29 P **P** **23 59 27.0 +0.3**
baz=257,SNR=46
Q19K Cape Douglas, 86.82 31 P **P** **23 59 26.6 -0.1**
baz=258
F19K Shaleruckik Mo 86.93 22 P **P** **23 59 26.7 -0.3**
baz=254
C19K Lookout Ridge 86.95 20 P **P** **23 59 27.3 +0.2**
baz=252,SNR=17
L19K White Mountain 86.96 27 P **P** **23 59 27.4 +0.1**
baz=257,SNR=24
G19K Purcell Mounta 87.00 23 P **P** **23 59 27.6 +0.2**
baz=254,SNR=41
J19K Poorman 87.05 25 IAMs_20 IAMs_20 00 41 21.3
comp=Z,19µm,20.0s
J19K Poorman 87.05 25 P **P** **23 59 28.1 +0.4**
baz=256,SNR=24
H19K Roundabout Mou 87.09 24 P **P** **23 59 28.6 +0.8**
baz=255,SNR=34
M19K Big River Lodg 87.11 28 IAMs_20 IAMs_20 00 37 53.0
comp=Z,13µm,20.0s
M19K Big River Lodg 87.11 28 P **P** **23 59 28.7 +0.6**
baz=257
KDAK Kodiak Island 87.14 32 P **P** **23 59 28.4 +0.2**
KDAK Kodiak Island 87.14 32 IAMs_20 IAMs_20 00 40 44.1
comp=Z,17µm,20.0s
KDAK Kodiak Island 87.14 32 LR LR 00 36 22.6
comp=Z,8µm,20.1s,baz=249,slow=34
KDAK Kodiak Island 87.14 32 P **P** **23 59 28.4 +0.2**
KDAK pmax pmax
comp=Z,491nm,1.6s
KDAK MLR MLR
comp=Z,17µm,20.0s
KDAK Kodiak Island 87.14 32 P **P** **23 59 29.1 +0.9**
baz=259
BELG Belogornoye 87.15 323 P **P** **23 59 28.0 -0.4**
comp=Z,906nm,1.0s,baz=78,slow=1.7,SNR=16
BELG Belogornoye 87.15 323*d iP* **P** **23 59 28.4 0.0**
BELG pmax pmax
comp=Z,116nm,0.9s
BELG MLR MLR
comp=Z,2µm,21.0s
P19K Oil Pt 87.18 30 IAMs_20 IAMs_20 00 34 15.1
comp=Z,14µm,21.0s
P19K Oil Pt 87.18 30 P **P** **23 59 29.8 +1.4**
baz=258
KIRV Kirov 87.26 329 P **P** **23 59 29.0 +0.2**
comp=Z,72nm,0.7s,baz=99,slow=0.7,SNR=29
comp=Z,72nm,0.7s
KIRV Kirov 87.26 329*de*P **P** **23 59 27.5 -1.3**
D19K Kuna River 87.28 21 P **P** **23 59 28.9 +0.2**
baz=253,SNR=43
E19K Redstone River 87.30 22 P **P** **23 59 28.5 -0.3**
baz=254,SNR=40
Q20K Shuyak Island 87.39 31 P **P** **23 59 29.8 +0.4**
baz=259
SYI Shuyak Island 87.39 31 IAMs_20 IAMs_20 00 41 24.9
comp=Z,17µm,21.0s
GNI Garni 87.41 310 P **P** **23 59 29.6 -0.6**
GNI Garni 87.41 310 P **P** **23 59 30.8 +0.6**
comp=Z,31nm,1.2s,baz=149,slow=13,SNR=12
GNI LR LR 00 45 33.6
comp=Z,4µm,20.3s,baz=118,slow=40
comp=Z,31nm,1.2s
GNI Garni 87.41 310 P **P** **23 59 30.4 +0.2**
GNI Garni 87.41 310 P **P** **23 59 29.6 -0.6**
GNI pmax pmax
comp=Z,421nm,1.6s
GNI Garni 87.41 310 P **P** **23 59 30.9 +0.7**

comp=Z,6µmcomp=Z,161nm,1.7s
L20K Farewell, AK 87.47 27 P P 23 59 29.6 -0.2
baz=258,SNR=9.1
O20K Slope Mountain 87.56 30 P P 23 59 30.3 -0.1
baz=259
K20K Telida 87.57 26 IAMs_20 IAMs_20 00 33 14.3
comp=Z,14µm,22.0s
K20K Telida 87.57 26 P P 23 59 30.1 -0.2
baz=257,SNR=21
M20K Styx River 87.68 28 P P 23 59 30.6 -0.3
baz=258
H20K Anotleneega Mo 87.72 24 P P 23 59 31.3 +0.4
baz=256,SNR=12
I20K Naaghedeneel 87.72 25 IAMs_20 IAMs_20 00 39 32.1
comp=Z,12µm,20.0s
I20K Naaghedeneel 87.72 25 P P 23 59 30.5 -0.3
baz=257
J20K Nowinta River 87.72 25 IAMs_20 IAMs_20 00 41 41.1
comp=Z,13µm,21.0s
J20K Nowinta River 87.72 25 P P 23 59 30.5 -0.4
baz=257
F20K Avaraart Lake 87.76 22 P P 23 59 29.4 -1.6
baz=256
D20K Etivluk River 87.87 21 P P 23 59 30.7 -0.9
baz=255,SNR=36
E20K Nigu River 87.90 21 P P 23 59 30.8 -1.0
baz=255,SNR=132
HOM Homer 87.97 30 P P 23 59 31.2 -1.0
baz=260
N20K Mount Spurr 87.98 28 P P 23 59 30.7 -1.6
baz=259
SPCR Spurr Chakacha 87.98 28 P P 23 59 31.0 -1.4
baz=259
B20K Meade River 88.03 19 P P 23 59 32.4 +0.1
B20K IAmb IAmb 23 59 41.8
comp=Z,93nm,1.0s
B20K Meade River 88.03 19 P P 23 59 32.2 0.0
baz=254
IMAR Indian Mountai 88.28 24 P P 23 59 33.1 -0.4
PPLA Purkeypile 88.31 27 P P 23 59 33.2 -0.8
PPLA IAmb IAmb 00 00 18.5
comp=Z,181nm,1.6s
PPLA Purkeypile 88.31 27 P P 23 59 33.3 -0.6
baz=259
BRLK Bradley Lake 88.37 30 P P 23 59 33.8 -0.4
BRLK IAmb IAmb 00 00 04.5
comp=Z,220nm,1.2s
BRSE Bradley Lake S 88.44 30 P P 23 59 34.0 -0.4
baz=260
SKT Skwentna 88.44 28 IAMs_20 IAMs_20 00 39 21.4
comp=Z,12µm,20.0s
SKT Skwentna 88.44 28 P P 23 59 33.7 -0.7
baz=260,SNR=18
CHUM Lake Minchumin 88.45 26 P P 23 59 34.5 +0.1
baz=259,SNR=7.3
G21K Allakaket 88.50 23 P P 23 59 34.2 -0.4
baz=258
GEVA Gevas 88.51 308 P P 23 59 35.6 +0.1
H21K Melozitna Rive 88.60 24 P P 23 59 34.6 -0.4
baz=258
C21K Knifeblade Rid 88.62 20 P P 23 59 35.3 +0.2
baz=256
F21K Alatna River 88.66 22 P P 23 59 35.2 -0.2
baz=258,SNR=11
SUA Susitna One 88.72 28 P P 23 59 36.8 +0.9
SUA IAmb IAmb 00 00 00.9
comp=Z,119nm,1.1s
SUA Susitna One 88.72 28 P P 23 59 34.7 -1.2
baz=260,SNR=12
E21K Killik River 88.74 21 P P 23 59 36.1 +0.4
baz=257
B21K Ikpikpuk River 88.78 20 P P 23 59 35.1 -0.8
baz=257
SLKM Skilak Lake 88.82 29 IAMs_20 IAMs_20 00 34 06.4
comp=Z,19µm,22.0s
FIS Fire Island 88.92 29 IAMs_20 IAMs_20 00 41 28.1
comp=Z,13µm,21.0s
A22K Sinclair Lake 88.99 19 P P 23 59 35.9 -0.8
baz=256
O22K Cooper Landing 89.06 29 IAMs_20 IAMs_20 00 34 24.7
comp=Z,17µm,21.0s
O22K Cooper Landing 89.06 29 P P 23 59 36.0 -1.3
baz=261
BPAW Bear Paw Mtn. 89.06 26 P P 23 59 36.6 -0.8
baz=260,SNR=11
M22K Willow 89.06 28 P P 23 59 36.1 -1.2
baz=261,SNR=13
CUT Chulitna 89.10 27 P P 23 59 36.5 -1.0
baz=261
SEW Seward 89.13 30 P P 23 59 37.8 +0.1
SEW IAmb IAmb 00 00 07.3
comp=Z,244nm,1.3s
SEW IAMs_20 IAMs_20 00 42 34.8
comp=Z,14µm,20.0s
SEW Seward 89.13 30 P P 23 59 37.7 +0.1
baz=262
RC01 Rabbit Creek A 89.14 29 IAMs_20 IAMs_20 00 41 33.9
comp=Z,16µm,21.0s
RC01 Rabbit Creek A 89.14 29 P P 23 59 36.9 -0.8
baz=261
KBZ Khabaz 89.16 314 P P 23 59 38.0 -0.1
comp=Z,16nm,0.8s,baz=119,slow=4.2,SNR=23
KBZ LR LR 00 44 31.0
comp=Z,3µm,20.6s,baz=70,slow=39
comp=Z,16nm,0.8s
KBZ Khabaz 89.16 314 *de*P P 23 59 37.8 -0.4
KBZ pmax pmax
comp=Z,157nm,1.8s
GOF Gofitskoye 89.19 315 *ce*P P 23 59 38.3 0.0
F22K John River 89.21 22 P P 23 59 37.0 -1.0
baz=259
H22K Ishtalitna Cre 89.22 24 P P 23 59 37.8 -0.2
baz=260,SNR=15
TRF Thorofare Moun 89.26 26 P P 23 59 38.6 +0.2
TRF IAMs_20 IAMs_20 00 44 16.9
comp=Z,13µm,21.0s
TRF Thorofare Moun 89.26 26 P P 23 59 37.0 -1.5
baz=261
D22K Ayikyak River 89.30 21 P P 23 59 37.6 -0.7
baz=258
KVAR Kislovodsk Arr 89.33 314 P P 23 59 39.8 +0.6
comp=Z,3.9nm,0.6s,baz=124,slow=3.6,SNR=3.0
comp=Z,3.9nm,0.6s
MLY Manley 89.33 25 P P 23 59 38.2 -0.3
MLY IAMs_20 IAMs_20 00 42 34.5
comp=Z,15µm,20.0s
MLY Manley 89.33 25 P P 23 59 38.3 -0.3
baz=260,SNR=32
GURO Guroymak-BITLI 89.33 309 P P 23 59 39.2 -0.1
KIV Kislovodsk 89.34 314 P P 23 59 38.5 -0.6
KIV IAmb IAmb 00 00 16.1
comp=Z,159nm,1.2s
KIV Kislovodsk 89.34 314 *i* P P 23 59 37.9 -1.2
SNR=28
KIV Kislovodsk 89.34 314 *e*P P 23 59 37.7 -1.4
KIV *e* 00 03 09.4
KIV *e* 00 10 06.0
KIV *e*SS SS 00 16 23.6 +0.7
KIV *e*SSS SSS 00 19 57.0
KIV pmax pmax
comp=Z,338nm,4.9s
KIV pmax pmax
comp=Z,32nm,1.1s
KIV Kislovodsk 89.34 314 P P 23 59 40.9 +1.8
KIV S S 00 10 28.9 +0.9
B22K Teshekpuk Lake 89.35 19 P P 23 59 37.9 -0.6
baz=258,SNR=10
G22K Bettles 89.36 23 P P 23 59 38.2 -0.4
baz=260
E22K Anaktuvuk Pass 89.46 22 P P 23 59 38.4 -0.7
baz=259,SNR=41
PMR Palmer 89.51 28 P P 23 59 39.7 +0.3
PMR Palmer 89.51 28 P P 23 59 42.8 +3.4
comp=Z,64nm,1.0s
PMR Palmer 89.51 28 P P 23 59 39.7 +0.3
PMR pmax pmax
comp=Z,75nm,1.1s
PMR Palmer 89.51 28 P P 23 59 38.1 -1.2
baz=262
PWL Port Wells 89.79 29 IAMs_20 IAMs_20 00 34 48.0
comp=Z,18µm,22.0s
PWL Port Wells 89.79 29 P P 23 59 40.2 -0.5
baz=262,SNR=6.3
KNK Knik Glacier 89.80 29 IAMs_20 IAMs_20 00 34 49.4
comp=Z,16µm,22.0s
KNK Knik Glacier 89.80 29 P P 23 59 40.7 -0.1
baz=262,SNR=13

G23K Bananza Creek 89.90 23 P P 23 59 40.4 -0.8
baz=261,SNR=67
MCK McKinley 89.90 26 IAMs_20 IAMs_20 00 44 35.8
comp=Z,14µm,21.0s
MCK McKinley 89.90 26 P P 23 59 39.7 -1.6
baz=262
COLD Coldfoot 89.91 23 P P 23 59 40.8 -0.4
baz=261,SNR=28
SML Sawmill 89.91 28 P P 23 59 42.0 +0.6
SML IAmb IAmb 00 00 00.5
comp=Z,139nm,1.0s
SML IAMs_20 IAMs_20 00 42 13.3
comp=Z,13µm,21.0s
SML Sawmill 89.91 28 P P 23 59 40.0 -1.4
baz=262,SNR=20
I23K Minto, Yukon-K 89.93 25 IAMs_20 IAMs_20 00 42 51.3
comp=Z,16µm,20.0s
I23K Minto, Yukon-K 89.93 25 P P 23 59 40.3 -1.0
baz=262,SNR=42
WAT1 Susitna Watana 89.95 27 P P 23 59 40.7 -0.8
baz=262
H23K Yukon River 89.95 24 P P 23 59 41.2 -0.2
baz=261
NEA2 Nenana 89.97 25 P P 23 59 41.8 +0.3
baz=262,SNR=8.0
D23K Nanushuk River 90.02 21 P P 23 59 42.0 +0.3
baz=260,SNR=23
P23K Montague Islan 90.14 30 IAMs_20 IAMs_20 00 44 05.4
comp=Z,12µm,20.0s
P23K Montague Islan 90.14 30 P P 23 59 41.6 -0.8
baz=263
C23K Itkillik River 90.19 20 P P 23 59 41.8 -0.6
baz=260,SNR=20
M23K Glacier View 90.20 28 P P 23 59 41.8 -0.9
baz=263,SNR=10
KIBK Kibwezi 90.20 268 P P 23 59 44.8 +1.0
KIBK Kibwezi 90.20 268 P P 23 59 42.6 -1.3
KIBK IAmb IAmb 00 00 12.9
comp=Z,218nm,1.8s
MARD Mardin 90.22 307 P P 23 59 42.7 -0.8
MARD IAmb IAmb 23 59 53.1
comp=Z,476nm,1.8s
FURI Furi 90.25 279 P P 23 59 44.1 -0.3
FURI IAmb IAmb 00 00 15.2
comp=Z,217nm,1.4s
FURI Furi 90.25 279 IAMs_20 IAMs_20 00 38 42.3
comp=Z,21µm,20.0s
E23K Chandalar 90.26 22 P P 23 59 43.0 0.0
baz=261,SNR=39
WAT6 Susitna Watana 90.29 27 P P 23 59 42.3 -1.0
baz=263,SNR=17
TOLK Toolik Lake Re 90.37 21 P P 23 59 43.2 -0.2
TOLK Toolik Lake Re 90.37 21 P P 23 59 41.2 -2.2
baz=261,SNR=23
SCM Sheep Creek Mo 90.39 28 P P 23 59 44.2 +0.5
SCM IAmb IAmb 00 00 14.6
comp=Z,199nm,1.2s
SCM IAMs_20 IAMs_20 00 42 27.9
comp=Z,15µm,21.0s
SCM Sheep Creek Mo 90.39 28 P P 23 59 44.2 +0.5
SCM pmax pmax
comp=Z,199nm,1.2s
SCM MLR MLR
comp=Z,16µm,21.0s
SCM Sheep Creek Mo 90.39 28 P P 23 59 41.9 -1.7
baz=263,SNR=11
GLI Glacier Island 90.39 29 IAMs_20 IAMs_20 00 43 48.0
comp=Z,15µm,21.0s
GLI Glacier Island 90.39 29 P P 23 59 42.8 -0.8
baz=264
DHY Denali Highway 90.51 27 P P 23 59 42.8 -1.5
baz=263,SNR=14
COLA College 90.52 25 ‖P P 23 59 48.8 +4.8
COLA College 90.52 25 ‖P P 23 59 47.7 +3.7
COLA College 90.52 25 P P 23 59 42.5 -1.5
baz=263
COLA College 90.52 25 P P 23 59 45.1 +1.1
HIN Hinchinbrook I 90.63 30 IAMs_20 IAMs_20 00 44 33.3
comp=Z,13µm,21.0s
H24K Noodor Dome 90.63 24 P P 23 59 42.5 -2.1
baz=263
KOPT Kop Dagi 90.64 310 P P 23 59 45.5 -0.1
KOPT IAmb IAmb 23 59 56.6
comp=Z,238nm,1.0s
VRH Novokhopyorsk 90.64 321 *e*P P 23 59 44.8 -0.1
VRH *e*S S 00 10 29.5 -10
VRH pmax pmax
comp=Z,40nm,0.8s
VRH smax smax
comp=N,5µm,12.7s
FID Port Fidalgo 90.68 29 IAMs_20 IAMs_20 00 36 26.0
comp=Z,15µm,22.0s
E24K Your Creek 90.69 22 P P 23 59 42.5 -2.4
baz=262
D24K Happy Valley 90.71 21 P P 23 59 42.3 -2.6
baz=262
POKR Poker Plat Res 90.73 25 P P 23 59 42.7 -2.4
baz=263
LABN Labinsk 90.80 314 *e*P P 23 59 47.0 +1.2
LABN *e**PP pP 23 59 53.9 +0.4
LABN *e* 00 03 27.3
LABN *e* 00 10 18.1
LABN *e*SS SS 00 16 42.5 -1.3
LABN pmax pmax
comp=Z,120nm,1.2s
C24K Franklin Bluff 90.83 20 IAMs_20 IAMs_20 00 43 16.0
comp=Z,14µm,21.0s
C24K Franklin Bluff 90.83 20 P P 23 59 44.2 -1.2
baz=262
F24K Squaw Lake 90.84 22 P P 23 59 44.3 -1.3
baz=263,SNR=24
HDA Harding Lake 90.86 26 P P 23 59 44.1 -1.5
baz=264,SNR=45
G24K Hadweenzic Riv 90.90 23 P P 23 59 45.1 -0.8
baz=263,SNR=34
TAOE Nuku Hiva Isla 90.91 99 *e*P P 23 59 43.7 -3.4
comp=Z,2µm,26.5s
TAOE Nuku Hiva Isla 90.91 99 *e*PP PP 00 03 11.0 -12
comp=Z,2µm,29.0s
TAOE *e*S **S** **00 10 37.8 -5.8**
comp=Z,8µm,25.4s
TAOE *e*SS **SS** **00 16 49.3 +2.4**
comp=Z,9µm,27.4s
TAOE *e*LQ LQ 00 24 57.1
comp=Z,24µm,38.9s
TAOE *e*LR LR 00 28 49.0
comp=Z,30µm,29.7s
IL31 90.92 25 P P 23 59 44.3 -1.6
ILAR Eielson Array 90.92 25 P P 23 59 43.9 -2.1
ILAR Eielson Array 90.92 25 P P 23 59 45.2 -0.8
comp=Z,12nm,0.8s,baz=260,slow=4.4,SNR=25
ILAR PP **PP** **00 03 24.7 +2.6**
comp=Z,4.1nm,0.9s,baz=262,slow=5.5,SNR=4.3
ILAR PKKPbc **PKKPdf** **00 17 11.6 +1.8**
comp=Z,2.0nm,1.0s,baz=8.8,slow=1.9,SNR=8.1
ILAR LR LR 00 35 53.5
comp=Z,8µm,21.6s,baz=246,slow=32
comp=Z,12nm,0.8s
M24K Tolsona, Glenn 90.96 28 P P 23 59 45.4 -0.8
baz=264
EYAK Cordova Ski Ar 91.02 30 IAMs_20 IAMs_20 00 40 14.5
comp=Z,14µm,20.0s
EYAK Cordova Ski Ar 91.02 30 P P 23 59 45.9 -0.5
baz=265
KLU Klutina 91.02 29 IAMs_20 IAMs_20 00 35 27.6
comp=Z,16µm,22.0s
KLU Klutina 91.02 29 P P 23 59 46.4 -0.2
baz=265,SNR=8.8
ERBR Yeremizino-Bor 91.04 316 *e*P P 23 59 45.4 -1.5
ERBR *e**PP pP 23 59 52.4 -2.2
ERBR *e* 00 10 31.6
ERBR *e*SP SP 00 11 53.6 +2.6
ERBR *e*SS **SS** **00 16 44.0 -3.3**
ERBR pmax pmax
comp=Z,204nm,1.1s
ERBR MLR MLR
comp=N,10µm,22.0s
ERBR MLR MLR
comp=Z,13µm,23.0s
ERBR MLR MLR
comp=E,17µm,24.0s
DIV Divide 91.06 29 IAMs_20 IAMs_20 00 35 28.6
comp=Z,21µm,22.0s
KMBO Kilima Mbogo 91.06 269 LR LR 00 37 32.0
comp=Z,21µm,20.7s,baz=108,slow=34
VSLR Vesyoloye 91.22 313 *ce*P P 23 59 47.1 -0.7
VSLR pmax pmax

comp=Z,511nm,1.5s
K24K Donnelly Dome 91.31 26 P P 23 59 47.2 -0.6
baz=265
PAX Paxson 91.37 27 P P 23 59 47.2 -0.9
baz=265,SNR=35
G25K Bearman Lake 91.45 23 P P 23 59 48.1 -0.2
baz=264,SNR=15
SOC Sochi 91.45 313 *e*P P 23 59 47.4 -1.5
SOC *e* 00 03 24.2
SOC *e*PPP PPP 00 05 21.9
SOC *e*S **SKSac** **00 10 18.5 -1.6**
SOC *e*SS **SS** **00 16 45.5 -7.8**
SOC pmax pmax
comp=Z,57nm,0.9s
SOC MLR MLR
comp=Z,8µm,22.0s
HARP HAARP 91.46 28 P P 23 59 46.4 -2.2
baz=265
H25L Birch Creek 91.52 24 P P 23 59 48.2 -0.5
baz=265,SNR=39
RAGM Ragged Mountai 91.53 30 IAMs_20 IAMs_20 00 45 00.2
comp=Z,13µm,19.0s
J25K Salcha River, 91.56 25 P P 23 59 46.8 -2.2
baz=265,SNR=34
D25K Kavik River 91.60 21 P P 23 59 48.3 -0.8
baz=264
BMRM Bremner River 91.61 29 P P 23 59 49.2 -0.1
BMRM IAmb IAmb 00 00 18.3
comp=Z,142nm,1.3s
BMRM IAMs_20 IAMs_20 00 35 56.2
comp=Z,14µm,22.0s
BMRM Bremner River 91.61 29 P P 23 59 48.4 -0.9
baz=266
N25K Chitina, Valde 91.66 29 IAMs_20 IAMs_20 00 35 47.5
comp=Z,15µm,22.0s
N25K Chitina, Valde 91.66 29 P P 23 59 49.7 +0.1
baz=266,SNR=12
F25K Christian Rive 91.70 22 P P 23 59 49.3 -0.3
baz=265,SNR=15
RIDG Independent Ri 91.71 26 P P 23 59 48.9 -0.9
RIDG IAmb IAmb 00 00 21.6
comp=Z,185nm,1.5s
RIDG IAMs_20 IAMs_20 00 44 59.7
comp=Z,13µm,20.0s
RIDG Independent Ri 91.71 26 P P 23 59 48.8 -0.9
baz=266,SNR=26
E25K Arctic Village 91.78 22 P P 23 59 48.8 -1.1
baz=265,SNR=22
SUCK Suckling Hills 91.96 30 IAMs_20 IAMs_20 00 47 35.4
comp=Z,12µm,19.0s
BERG Berg Lake 92.02 30 P P 23 59 51.7 +0.5
BERG IAmb IAmb 00 00 20.6
comp=Z,196nm,1.3s
GLB Gilahina Butte 92.03 29 IAMs_20 IAMs_20 00 36 10.2
comp=Z,15µm,21.0s
DOT Dot Lake 92.05 26 IAMs_20 IAMs_20 00 40 51.6
comp=Z,17µm,20.0s
BMAR Burnt Mountain 92.10 23 P P 23 59 51.1 -0.3
SCRK Sand Creek 92.11 26 P P 23 59 51.3 -0.4
baz=266,SNR=13
VORD Divnogorie 92.15 321 *e*P P 23 59 50.5 -1.4
VORD pmax pmax
comp=Z,20nm,1.0s
C26K Camden Bay 92.16 20 P P 23 59 50.6 -1.0
baz=266
VRDI Verde Repeater 92.19 29 P P 23 59 51.9 -0.2
VRDI IAMs_20 IAMs_20 00 36 15.4
comp=Z,12µm,21.0s
VORR Voronezh 92.24 321 *e*P P 23 59 52.1 -0.2
VORR pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 92.25 321 *e*P P 23 59 49.7 -2.7
VSR *e*S **S** **00 10 50.5 -3.5**
VSR pmax pmax
comp=Z,20nm,1.2s
VSR smax smax
comp=N,5µm,16.3s
F26K Sheenjek River 92.28 22 P P 23 59 50.9 -1.4
baz=266,SNR=19
CRQM Cirque 92.31 29 P P 23 59 52.8 +0.1
CRQM IAmb IAmb 00 00 21.2
comp=Z,140nm,1.3s
J26L Joseph Creek 92.33 26 IAMs_20 IAMs_20 00 45 50.8
comp=Z,12µm,21.0s
J26L Joseph Creek 92.33 26 P P 23 59 51.6 -0.9
baz=267,SNR=66
CRQE Cirque 92.34 29 P P 23 59 51.7 -1.0
baz=267,SNR=6.4
L26K Log Cabin Wild 92.34 27 P P 23 59 52.5 0.0
baz=267
G26K Porcupine Rive 92.38 23 P P 23 59 51.9 -0.8
baz=267,SNR=28
MCARA McCarthy VSAT 92.40 29 P P 23 59 51.7 -1.1
baz=267,SNR=15
SNH Sunshine Point 92.43 30 IAMs_20 IAMs_20 00 35 46.0
comp=Z,13µm,22.0s
WAX Waxell Ridge 92.44 30 P P 23 59 53.7 +0.6
WAX IAmb IAmb 00 00 22.8
comp=Z,208nm,1.3s
WAX IAMs_20 IAMs_20 00 47 44.2
comp=Z,15µm,19.0s
LPSR Galich'ya Gora 92.46 322 *e*P P 23 59 52.0 -1.3
LPSR *e*S S 00 10 44.8 -11
LPSR pmax pmax
comp=Z,30nm,0.9s
LPSR smax smax
comp=N,4µm,15.4s
TGL Tana Glacier 92.47 29 P P 23 59 53.8 +0.5
TGL IAmb IAmb 00 00 05.8
comp=Z,93nm,1.0s
M26K Nabesna, AK 92.47 28 P P 23 59 51.8 -1.5
baz=267
KLMR Klimovskoe 92.51 331 *e*P P 23 59 58.4 +5.0
KLMR *e* 00 03 33.6
KLMR pmax pmax
comp=Z,199nm,1.2s
I26K Coal Creek Min 92.54 25 IAMs_20 IAMs_20 00 44 29.5
comp=Z,13µm,20.0s
I26K Coal Creek Min 92.54 25 P P 23 59 52.9 -0.5
baz=267,SNR=25
C27K Jago River 92.56 21 P P 23 59 53.4 0.0
baz=267,SNR=18
ISLE Juniper Island 92.70 30 P P 23 59 54.2 -0.2
ISLE IAmb IAmb 00 00 23.8
comp=Z,221nm,1.3s
MESA MESA 92.88 30 P P 23 59 55.0 -0.4
baz=268
K27K Chicken 92.95 26 IAMs_20 IAMs_20 00 46 22.4
comp=Z,14µm,19.0s
K27K Chicken 92.95 26 P P 23 59 55.8 +0.5
baz=268
M27K Edge Creek, AK 92.99 28 P P 23 59 55.5 -0.3
baz=268,SNR=8.2
L27K Beaver Creek, 93.03 27 P P 23 59 55.7 -0.1
baz=268,SNR=36
BARN Barnard Glacie 93.05 29 IAMs_20 IAMs_20 00 36 42.2
comp=Z,15µm,22.0s
BCAR Beaver Creek A 93.05 27 P P 23 59 55.9 0.0
GAZ Gaziantep 93.06 307 P P 23 59 55.5 -1.1
GAZ IAmb IAmb 00 00 05.1
comp=Z,136nm,1.3s
ASF Jabal al Asfar 93.13 302 P P 23 59 57.9 +0.9
comp=Z,11nm,0.9s,baz=150,slow=2.9,SNR=15
ASF LR LR 00 49 59.0
comp=Z,9µm,18.1s,baz=135,slow=41
comp=Z,11nm,0.9s
ANN Anapa 93.15 315 *e*P P 23 59 56.1 -0.6
ANN *e**PP pP 00 00 03.3 -1.1
ANN *e* 00 03 38.9
ANN *e* 00 10 29.2
ANN *e* 00 10 54.5
ANN *e*SS SS 00 17 20.6 +3.0
ANN pmax pmax
comp=Z,237nm,0.9s
ANN pmax pmax
comp=N,93nm,1.1s
ANN pmax pmax
comp=E,47nm,0.8s
I27K Kandik River 93.20 25 P P 23 59 56.4 -0.1
baz=269,SNR=44
CTG Chitna Glacier 93.20 29 P P 23 59 56.5 -0.3
baz=269,SNR=7.2
G27K Doyon Strip 93.21 23 P P 23 59 55.9 -0.6
baz=269,SNR=22
LODK Lodwar 93.22 273 P P 23 59 56.2 -1.6
LODK IAMs_20 IAMs_20 00 36 47.3
comp=Z,14µm,22.0s

H27K	**Steamboat Moun**	**93.25**	**24**	P	**P**	**23 59 56.7**	**-0.1**
	baz=269,SNR=29						
E27K	**Coleen River**	**93.27**	**22**	P	**P**	**23 59 56.4**	**-0.4**
	baz=269,SNR=20						
MOS	**Moscow**	**93.33**	**325**	*e*P	**P**	**23 59 54.7**	**-2.5**
MOS				*e*		00 03 39.1	
MOS				*e*PPP	PPP	00 05 39.1	
MOS				*e*		00 10 26.6	
MOS				*e*S	**S**	**00 10 56.5**	**-6.9**
MOS				*e*PS	PS	00 12 20.1	+0.9
MOS				*e*SS	**SS**	**00 17 13.3**	**-6.3**
MOS				pmax	pmax		
	comp=Z,103nm,1.3s						
MOS				MLR	MLR		
	comp=Z,7μm,20.0s						
EGAK	**Eagle**	**93.37**	**25**	P	**P**	**23 59 56.5**	**-0.8**
	baz=269,SNR=22						
D27M	**Malcolm River**	**93.52**	**21**	IAMs_20	IAMs_20	00 46 53.9	
	comp=Z,11μm,20.0s						
D27M	**Malcolm River**	**93.52**	**21**	P	**P**	**23 59 57.1**	**-0.9**
	baz=269						
PINM	**Pinnacle**	**93.72**	**30**	P	**P**	**23 59 59.1**	**0.0**
	baz=270						
TOKA	**Tokat**	**93.73**	**310**	P	**P**	**23 59 58.4**	**-1.2**
O28M	**Mount Upton**	**93.76**	**29**	P	**P**	**23 59 59.3**	**-0.2**
	baz=270,SNR=12						
I28M	**Miner Creek**	**93.89**	**25**	IAMs_20	IAMs_20	00 46 54.2	
	comp=Z,13μm,20.0s						
I28M	**Miner Creek**	**93.89**	**25**	P	**P**	**23 59 59.1**	**-0.7**
	baz=270,SNR=73						
F28M	**Old Crow**	**93.91**	**23**	P	**P**	**23 59 58.6**	**-1.1**
	baz=270,SNR=32						
OBN	**Obninsk**	**93.92**	**325**	P	**P**	**23 59 58.8**	**-1.2**
OBN				IAmb	IAmb	00 00 26.4	
	comp=Z,71nm,0.9s						
OBN				IAMs_20	IAMs_20	00 49 05.2	
	comp=Z,15μm,21.0s						
OBN	**Obninsk**	**93.92**	**325**	P	**P**	**23 59 59.9**	**-0.1**
	comp=Z,38nm,0.9s,baz=282,slow=3.2,SNR=9.6						
	comp=Z,38nm,0.9s						
OBN	**Obninsk**	**93.92**	**325***c*	*i*P	**P**	**23 59 58.1**	**-1.9**
OBN				*i*		00 00 01.1	
OBN				*i*		00 03 50.8	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YUK8	**Steele Glacier**	**93.97**	**29**	P	**P**	**23 59 59.2**	**-1.2**
	baz=270,SNR=6.7						
E28M	**Babbage River**	**94.03**	**22**	P	**P**	**00 00 00.5**	**+0.2**
	baz=271						
DAWY	**Dawson**	**94.13**	**26**	P	**P**	**00 00 00.2**	**-0.7**
	baz=270,SNR=20						
PNL	**Peninsula**	**94.15**	**31**	P	**P**	**00 00 00.5**	**-0.5**
	baz=270						
BNN	**Bunyan**	**94.18**	**309**	P	**P**	**00 00 00.7**	**-1.1**
GHAJ	**Ghor Haditha**	**94.23**	**301**	IAMs_20	IAMs_20	00 47 09.6	
	comp=Z,17μm,21.0s						
D28M	**Stokes Point**	**94.31**	**21**	P	**P**	**00 00 02.5**	**+1.1**
	baz=272						
POGA	**Pongola**	**94.32**	**242**	P	**P**	**00 00 02.2**	**-0.3**
MMAI	**Mount Meron Ar**	**94.41**	**303**	P	**P**	**00 00 03.6**	**+0.7**
	comp=Z,6.1nm,0.8s,baz=81,slow=2.1,SNR=9.0						
MMAI				LR	LR	00 51 14.2	
	comp=Z,9μm,18.4s,baz=103,slow=41						
	comp=Z,6.1nm,0.8s						
YUK4	**Talbot Arm**	**94.51**	**29**	P	**P**	**00 00 02.7**	**-0.2**
	baz=271,SNR=11						
H29M	**Whitestone**	**94.53**	**24**	IAMs_20	IAMs_20	00 47 24.9	
	comp=Z,14μm,20.0s						
H29M	**Whitestone**	**94.53**	**24**	P	**P**	**00 00 02.9**	**+0.3**
	baz=272,SNR=12						
O29M	**Mount Kennedy**	**94.56**	**30**	IAMs_20	IAMs_20	00 46 57.3	
	comp=Z,15μm,20.0s						
O29M	**Mount Kennedy**	**94.56**	**30**	P	**P**	**00 00 01.6**	**-1.4**
	baz=271						
M29M	**Somme Creek**	**94.58**	**28**	IAMs_20	IAMs_20	00 45 01.5	
	comp=Z,14μm,21.0s						
M29M	**Somme Creek**	**94.58**	**28**	P	**P**	**00 00 03.0**	**0.0**
	baz=271,SNR=34						
I29M	**Ogilvie Camp,**	**94.58**	**25**	P	**P**	**00 00 01.8**	**-1.0**
	baz=272,SNR=70						
J29N	**Klondike Camp**	**94.64**	**26**	IAMs_20	IAMs_20	00 47 24.0	
	comp=Z,13μm,21.0s						
J29N	**Klondike Camp**	**94.64**	**26**	P	**P**	**00 00 03.0**	**-0.2**
	baz=272						
E29M	**Blow River**	**94.64**	**22**	P	**P**	**00 00 02.0**	**-1.0**
	baz=272,SNR=7.5						
G29M	**Pine Creek**	**94.65**	**23**	IAMs_20	IAMs_20	00 43 20.0	
	comp=Z,11μm,20.0s						
G29M	**Pine Creek**	**94.65**	**23**	P	**P**	**00 00 01.9**	**-1.2**
	baz=272,SNR=45						
YUK6	**Outpost Mounta**	**94.65**	**29**	P	**P**	**00 00 02.0**	**-1.6**
	baz=271						
LVZ	**Lovozero**	**94.67**	**338**	P	**P**	**00 00 02.0**	**-1.2**
LVZ				IAMs_20	IAMs_20	00 46 20.0	
	comp=Z,16μm,22.0s						
LVZ	**Lovozero**	**94.67**	**338**⇑	*e*P	**P**	**00 00 04.1**	**+0.9**
LVZ				pmax	pmax		
	comp=Z,96nm,1.5s						
L29M	**L29M**	**94.72**	**27**	P	**P**	**00 00 03.3**	**-0.2**
	baz=272,SNR=35						
RKT	**Rikitea**	**94.72**	**113**	*e*P	**P**	**00 00 02.0**	**-2.4**
	comp=Z,6μm,31.8s						
RKT	**Rikitea**	**94.72**	**113**	*e*PP	**PP**	**00 03 57.3**	**+4.3**
RKT	comp=Z,9μm,44.5s			*e*S	**S**	**00 11 10.3**	**-6.7**
	comp=Z,18μm,27.2s						
RKT				*e*SS	**SS**	**00 17 34.8**	**-6.2**
	comp=Z,21μm,35.0s						
RKT				*e*LQ	LQ	00 26 34.6	
	comp=Z,36μm,30.2s						
RKT				*e*LR	LR	00 30 24.4	
	comp=Z,57μm,28.8s						
EIL	**Elat**	**94.72**	**299**	P	**P**	**00 00 05.2**	**+0.9**
	comp=Z,5.3nm,0.8s,baz=298,slow=1.6,SNR=8.8						
EIL				LR	LR	00 48 39.1	
	comp=Z,11μm,20.2s,baz=96,slow=39						
	comp=Z,5.3nm,0.8s						
K29M	**Barlow Dome**	**94.97**	**26**	IAMs_20	IAMs_20	00 42 00.6	
	comp=Z,11μm,20.0s						
K29M	**Barlow Dome**	**94.97**	**26**	P	**P**	**00 00 03.9**	**-0.8**
	baz=272,SNR=32						
P29M	**Windy Craggy**	**95.00**	**31**	P	**P**	**00 00 03.8**	**-1.1**
	baz=272						
HYT	**Haines Junctio**	**95.08**	**29**	P	**P**	**00 00 05.5**	**+0.2**
	baz=272,SNR=9.7						
APA	**Apatity**	**95.16**	**337**⇓	*i*P	**P**	**00 00 07.6**	**+2.2**
APA				*i* S	**S**	**00 11 24.0**	**+5.1**
APA				*i* SS	**SS**	**00 17 46.7**	**+1.7**
APA				pmax	pmax		
	comp=Z,19nm,1.1s						
NVL	**N'lazarevskaya**	**95.16**	**197**	*e*P	P	23 59 58.1	-7.3
NVL				*e*S	**SKSac**	**00 10 33.7**	**-5.8**
NVL				*e*		00 11 14.3	
NVL				*e*PS	PS	00 12 32.7	-6.0
NVL				*e*SSS	SSS	00 21 24.5	
NVL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NVL				MLR	MLR		
	comp=Z,159nm,19.0s						
EPYK	**Eagle Plains**	**95.19**	**24**	IAMs_20	IAMs_20	00 48 05.3	
	comp=Z,14μm,20.0s						
EPYK	**Eagle Plains**	**95.19**	**24**	P	**P**	**00 00 04.9**	**-0.7**
	baz=273,SNR=30						
N30M	**Aishikik Lake**	**95.26**	**29**	IAMs_20	IAMs_20	00 38 12.5	
	comp=Z,15μm,22.0s						
N30M	**Aishikik Lake**	**95.26**	**29**	P	**P**	**00 00 04.7**	**-1.4**
	baz=272,SNR=7.4						
M30M	**Minto, Yukon**	**95.35**	**28**	IAMs_20	IAMs_20	00 45 25.8	
	comp=Z,14μm,20.0s						
M30M	**Minto, Yukon**	**95.35**	**28**	P	**P**	**00 00 07.3**	**+0.8**
	baz=273,SNR=14						
G30M	**tAoh Zraii Nji**	**95.35**	**23**	IAMs_20	IAMs_20	00 47 07.6	
	comp=Z,11μm,20.0s						
G30M	**tAoh Zraii Nji**	**95.35**	**23**	P	**P**	**00 00 05.7**	**-0.7**
	baz=274,SNR=37						
P30M	**Million Dollar**	**95.37**	**30**	P	**P**	**00 00 07.5**	**+0.9**
	baz=272						
I30M	**Mount Dempster**	**95.39**	**25**	P	**P**	**00 00 06.7**	**-0.1**
	baz=273,SNR=19						
J30M	**Hart River**	**95.45**	**26**	P	**P**	**00 00 07.2**	**+0.2**
	baz=273,SNR=30						
F30M	**Barrier River**	**95.48**	**23**	P	**P**	**00 00 07.6**	**+0.7**
	baz=274,SNR=30						
SIM	**Simferopol'**	**95.51**	**315**	*e*P	**P**	**00 00 05.6**	**-1.9**
SIM				*e*		00 03 58.0	
SIM				*e*S	**S**	**00 11 15.0**	**-8.0**
SIM				pmax	pmax		
	comp=Z,253nm,1.5s						
O30N	**Mendenhall**	**95.77**	**29**	IAMs_20	IAMs_20	00 38 34.3	
	comp=Z,15μm,22.0s						
O30N	**Mendenhall**	**95.77**	**29**	P	**P**	**00 00 09.2**	**+0.8**
	baz=273						
ILGA	**Ilgaz**	**95.83**	**311**	P	**P**	**00 00 08.1**	**-1.3**
S31K	**Pelican**	**95.84**	**32**	IAMs_20	IAMs_20	00 37 25.4	
	comp=Z,14μm,22.0s						
N31M	**Braeburn, Yuko**	**95.88**	**29**	IAMs_20	IAMs_20	00 38 21.1	
	comp=Z,15μm,22.0s						
N31M	**Braeburn, Yuko**	**95.88**	**29**	P	**P**	**00 00 08.4**	**-0.5**
	baz=274						
BR104	**Keskin Array S**	**95.90**	**309**	P	**P**	**00 00 08.6**	**-1.0**
	comp=Z,164nmcomp=Z,19nm,1.1s						
BR131	**Keskin Array S**	**95.90**	**309**	P	**P**	**00 00 08.5**	**-1.1**
BR131	**Keskin Array S**	**95.90**	**309**	P	**P**	**00 00 08.5**	**-1.1**
BR131				pmax	pmax		
	comp=Z,33nm,1.1s						
BRTR	**Keskin Array B**	**95.90**	**309**	P	**P**	**00 00 08.5**	**-1.1**
BRTR	**Keskin Array B**	**95.90**	**309**	P	**P**	**00 00 09.3**	**-0.3**
	comp=Z,8.9nm,1.0s,baz=108,slow=4.4,SNR=11						
BRTR				PP	**PP**	**00 03 59.8**	**-2.1**
	comp=Z,7.5nm,1.1s,baz=120,slow=7.3,SNR=5.1						
BRTR				PKKPbc	**PKKPbc**	**00 16 57.9**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=218,slow=1.6,SNR=2.1						
BRTR				LR	LR	00 50 38.4	
	comp=Z,5μm,19.6s,baz=92,slow=40						
	comp=Z,8.9nm,1.0s						
BRTR	**Keskin Array B**	**95.90**	**309**	*i* P	**P**	**00 00 11.6**	**+2.0**
BRTR				pmax	pmax		
	comp=Z,23nm,1.1s						
BR105	**Keskin Array S**	**95.92**	**309**	P	**P**	**00 00 08.4**	**-1.3**
	comp=Z,184nmcomp=Z,25nm,1.0s						
BR106	**Keskin Array S**	**95.92**	**309**	P	**P**	**00 00 08.4**	**-1.3**
	comp=Z,149nmcomp=Z,20nm,1.0s						
G31M	**Satah River**	**96.12**	**23**	IAMs_20	IAMs_20	00 47 48.9	
	comp=Z,11μm,19.0s						
G31M	**Satah River**	**96.12**	**23**	P	**P**	**00 00 08.7**	**-1.1**
	baz=275,SNR=29						
CSS	**Mathiatis**	**96.16**	**305**	P	**P**	**00 00 10.2**	**-0.6**
CSS				IAMs_20	IAMs_20	00 48 52.2	
	comp=Z,15μm,21.0s						
CSS	**Mathiatis**	**96.16**	**305**	P	**P**	**00 00 11.8**	**+1.0**
	comp=Z,1μmcomp=Z,50nm,1.0s						
H31M	**Peel River**	**96.20**	**24**	P	**P**	**00 00 09.5**	**-0.8**
	baz=275						
SKAG	**Skagway**	**96.23**	**31**	P	**P**	**00 00 09.9**	**-0.5**
	baz=274						
INK	**Inuvik**	**96.27**	**22**	P	**P**	**00 00 09.5**	**-0.9**
INK				IAmb	IAmb	00 00 32.5	
	comp=Z,94nm,1.4s						
INK	**Inuvik**	**96.27**	**22**	P	**P**	**00 00 10.1**	**-0.3**
	comp=Z,12nm,0.8s,baz=295,slow=6.4,SNR=13						
	comp=Z,12nm,0.8s						
INK	**Inuvik**	**96.27**	**22**	P	**P**	**00 00 09.5**	**-0.9**
INK				pmax	pmax		
	comp=Z,94nm,1.4s						
INK	**Inuvik**	**96.27**	**22**	P	**P**	**00 00 09.2**	**-1.2**
	baz=276,SNR=14						
F31M	**Tsiigehtchic**	**96.28**	**23**	P	**P**	**00 00 09.8**	**-0.7**
	baz=276,SNR=22						
WHY	**Whitehorse**	**96.37**	**29**	P	**P**	**00 00 10.8**	**-0.4**
	baz=274						
SIT	**Sitka**	**96.38**	**33**	P	**P**	**00 00 11.4**	**+0.3**
	baz=273						
VADS	**Vadso**	**96.39**	**340**	*e*P	**P**	**00 00 10.8**	**-0.2**
VADS				*e*PP	**PP**	**00 04 05.1**	**+0.6**
VADS				IVmB_BB		00 04 20.9	
	comp=Z,3μm,3.3s						
VADS				*e*SS	SS	00 17 54.2	-8.1
VADS				IVMs_BB	IVMs_BB	00 46 49.1	
	comp=Z,5μm,15.3s						
M31M	**Drury Creek, Y**	**96.49**	**28**	IAMs_20	IAMs_20	00 39 07.0	
	comp=Z,13μm,22.0s						
M31M	**Drury Creek, Y**	**96.49**	**28**	P	**P**	**00 00 11.7**	**+0.1**
	baz=275						
HOPEN	**Hopen**	**96.54**	**347**	*e*P	**P**	**00 00 11.4**	**-0.1**
HOPEN				IVmB_BB		00 01 55.9	
	comp=Z,5μm,3.6s						
HOPEN				*e*PP	**PP**	**00 04 05.9**	**+0.3**
HOPEN				*e*		00 11 30.2	
HOPEN				*e*SS	SS	00 17 39.5	-25
ANTO	**Ankara**	**96.55**	**310**	⇑P	**P**	**00 00 12.9**	**+0.4**
ANTO	**Ankara**	**96.55**	**310**	P	**P**	**00 00 11.7**	**-0.8**
	comp=Z,635nmcomp=Z,11nm,1.5s						
R32K	**Eaglecrest**	**96.73**	**32**	IAMs_20	IAMs_20	00 46 00.8	
	comp=Z,12μm,19.0s						
R32K	**Eaglecrest**	**96.73**	**32**	P	**P**	**00 00 12.8**	**0.0**
	baz=274						
P32M	**Atlin**	**97.04**	**31**	IAMs_20	IAMs_20	00 40 17.9	
	comp=Z,12μm,21.0s						
P32M	**Atlin**	**97.04**	**31**	P	**P**	**00 00 13.9**	**-0.3**
	baz=275						
TROLL	**Troll, Antarti**	**97.09**	**195**	⇑P	**P**	**00 00 14.2**	**-0.2**
	comp=Z,498nm,0.7s						
N32M	**Quiet Lake**	**97.21**	**29**	P	**P**	**00 00 15.1**	**+0.1**
	baz=276						
P33M	**Teslin, Yukon**	**97.43**	**30**	IAMs_20	IAMs_20	00 38 40.2	
	comp=Z,14μm,22.0s						
P33M	**Teslin, Yukon**	**97.43**	**30**	P	**P**	**00 00 16.1**	**+0.1**
	baz=276						
MBAR	**Mbarara**	**97.60**	**269**	P	**P**	**00 00 16.5**	**-1.5**
MBAR	**Mbarara**	**97.60**	**269**	IAMs_20	IAMs_20	00 41 13.9	
	comp=Z,20μm,21.0s						
MBAR	**Mbarara**	**97.60**	**269**	LR	LR	00 41 15.9	
	comp=Z,15μm,20.6s,baz=90,slow=34						
MBAR	**Mbarara**	**97.60**	**269***c*	*e*P	Pdif	00 00 18.4	+0.4
MBAR				pmax	pmax		
	comp=Z,32nm,1.6s						
U33K	**Whale Pass**	**97.66**	**34**	IAMs_20	IAMs_20	00 42 44.7	
	comp=Z,14μm,20.0s						
CRAG	**Craig**	**97.72**	**35**	P	**P**	**00 00 17.3**	**0.0**
	baz=275						
ARA0	**ARCESS Array S**	**97.80**	**340**	*e*P	**P**	**00 00 16.1**	**-1.3**
ARA0				*e*PP	PP	00 03 57.8	-18
ARA0				IVmB_BB		00 04 30.6	
	comp=Z,3μm,4.1s						
ARA0				*e*SS	SS	00 18 22.6	+0.3
ARA0				IVMs_BB	IVMs_BB	00 49 10.5	
	comp=Z,5μm,24.2s						
ARCES	**ARCESS Array B**	**97.80**	**340**	P	**P**	**00 00 15.8**	**-1.6**
ARCES	**ARCESS Array B**	**97.80**	**340**	P	**P**	**00 00 16.2**	**-1.2**
	comp=Z,11nm,0.6s,baz=82,slow=5.8,SNR=24						
ARCES				PKiKP	**PKiKP**	**00 04 53.6**	**+2.5**
	comp=Z,6.0nm,1.1s,baz=64,slow=2.8,SNR=6.2						
ARCES				PKKPbc	**PKKPbc**	**00 16 51.8**	**-3.5**
	comp=Z,1.9nm,0.8s,baz=315,slow=0.7,SNR=5.2						
ARCES				LR	LR	00 49 36.2	
	comp=Z,6μm,19.3s,baz=81,slow=39						
	comp=Z,11nm,0.6s						
ARCES	**ARCESS Array B**	**97.80**	**340**	P	**P**	**00 00 15.8**	**-1.6**
ARCES				pmax	pmax		
	comp=Z,472nm,2.0s						
Q32M	**Nakina River**	**97.84**	**31**	P	**P**	**00 00 16.6**	**-1.5**
	baz=276						
SPB2	**Spitsbergen Ar**	**97.88**	**349**	P	**P**	**00 00 17.1**	**-0.5**
SPA0	**Spitsbergen Ar**	**97.89**	**349**	*e*P	Pdif	00 00 18.5	+0.8
SPA0				*e*PP	PP	00 04 07.0	-9.0
SPA0				*e*SS	SS	00 18 26.3	+3.1
SPITS	**Spitsbergen Ar**	**97.89**	**349**	P	**P**	**00 00 17.1**	**-0.6**
	comp=Z,21nm,0.9s,baz=102,slow=9.7,SNR=10						
SPITS				LR	LR	00 50 43.2	
	comp=Z,6μm,18.9s,baz=54,slow=39						
	comp=Z,21nm,0.9s						
SPITS	**Spitsbergen Ar**	**97.89**	**349**	P	**P**	**00 00 17.7**	**+0.1**
SPITS				pmax	pmax		
	comp=Z,164nm,1.3s						
MMPY	**Sheldon Lake,**	**97.89**	**27**	P	**P**	**00 00 16.8**	**-1.2**
	baz=278						
MATP	**Matopo**	**98.02**	**249**	LR	LR	00 38 43.9	
	comp=Z,10μm,21.9s,baz=96,slow=32						
WRAK	**Wrangell Islan**	**98.06**	**34**	IAMs_20	IAMs_20	00 46 24.3	
	comp=Z,14μm,19.0s						
WRAK	**Wrangell Islan**	**98.06**	**34**	P	Pdif	00 00 19.2	+0.4
	baz=276						
BELA	**Belgrano 2**	**98.16**	**184**	P	**P**	**00 00 17.6**	**-1.3**
HAMF	**Hammerfest**	**98.18**	**341**	*e*P	**P**	**00 00 18.7**	**-0.3**
HAMF				IVmB_BB		00 01 50.6	
	comp=Z,4μm,3.6s						
HAMF				*e*PP	**PP**	**00 04 18.5**	**+0.1**
HAMF				*e*SS	SS	00 18 26.0	-1.6
ISP	**Isparta**	**98.37**	**308**	P	**P**	**00 00 19.8**	**-1.0**
ISP	**Isparta**	**98.37**	**308**	P	**P**	**00 00 19.8**	**-1.0**
ISP				pmax	pmax		
	comp=Z,31nm,0.9s						
KBS	**Kingsbay**	**98.40**	**350**	IAMs_20	IAMs_20	00 46 41.3	
	comp=Z,10μm,20.0s						
KBS	**Kingsbay**	**98.40**	**350**	*e*P	Pdif	00 00 20.8	+0.9
KBS				IVmB_BB		00 04 24.5	
	comp=Z,2μm,3.6s						
KBS				IVMs_BB	IVMs_BB	00 46 48.9	
	comp=Z,4μm,24.1s						
R33M	**Jennings River**	**98.45**	**31**	P	**P**	**00 00 20.6**	**-0.1**
	baz=277						
HSPB	**Hornsund (broa**	**98.48**	**348**	*e*P	**P**	**00 00 19.5**	**-0.8**
AK09	**Malin Array Si**	**98.50**	**321**	P	Pdif	00 00 21.1	+0.2
AK08	**Malin Array Si**	**98.52**	**321**	P	Pdif	00 00 21.1	+0.1
AK10	**Malin Array Si**	**98.53**	**320**	P	Pdif	00 00 21.2	+0.2
AKASG	**Malin Array Be**	**98.54**	**321**	P	**P**	**00 00 19.4**	**-1.6**
AKASG	**Malin Array Be**	**98.54**	**321**	P	**P**	**00 00 20.1**	**-1.0**
	comp=Z,5.2nm,0.9s,baz=76,slow=4.5,SNR=10						
AKASG				PP	**PP**	**00 04 22.1**	**+0.5**
	comp=Z,3.7nm,0.9s,baz=80,slow=7.1,SNR=4.5						
AKASG				LR	LR	00 47 51.3	
	comp=Z,6μm,20.7s,baz=77,slow=37						
	comp=Z,5.2nm,0.9s						
AKASG	**Malin Array Be**	**98.54**	**321**	P	**P**	**00 00 19.4**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,31nm,1.5s						
AKBB	**Malin Array Si**	**98.54**	**321**	P	**P**	**00 00 19.6**	**-1.5**
AKBB	**Malin Array Si**	**98.54**	**321**	P	**P**	**00 00 19.6**	**-1.5**
AKBB				pmax	pmax		
	comp=Z,15nm,1.0s						
KIEV	**Kiev**	**98.55**	**321**	⇑P	**P**	**00 00 20.5**	**-0.6**
AK02	**Malin Array Si**	**98.55**	**321**	P	Pdif	00 00 22.3	+1.1
S34M	**Telegraph Cree**	**98.56**	**32**	IAMs_20	IAMs_20	00 42 48.1	
	comp=Z,13μm,21.0s						
S34M	**Telegraph Cree**	**98.56**	**32**	P	**P**	**00 00 20.9**	**0.0**
	baz=277						
V35K	**Ketchikan**	**98.59**	**35**	IAMs_20	IAMs_20	00 42 40.3	
	comp=Z,21μm,20.0s						
V35K	**Ketchikan**	**98.59**	**35**	P	**P**	**00 00 19.6**	**-1.5**
	baz=276						
SNAA	**Sanae**	**98.62**	**194**	⇑P	Pdif	00 00 23.5	+2.3
	comp=Z,260nm,0.8s						
SNAA	**Sanae**	**98.62**	**194**	P	**P**	**00 00 20.5**	**-0.6**
SNAA	**Sanae**	**98.62**	**194**	P	**P**	**00 00 20.8**	**-0.3**
	comp=Z,8.9nm,0.9s,baz=125,slow=5.1,SNR=20						
SNAA				PKKPbc	**PKKPbc**	**00 16 52.7**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=19,slow=2.7,SNR=6.0						
SNAA				LR	LR	00 46 30.9	
	comp=Z,17μm,18.4s,baz=112,slow=36						
	comp=Z,8.9nm,0.9s						
SNAA	**Sanae**	**98.62**	**194**	P	**P**	**00 00 20.5**	**-0.6**
SNAA				pmax	pmax		
	comp=Z,21nm,1.1s						
SNAA				MLR	MLR		
	comp=Z,25μm,20.0s						
KTK1	**Kautokeino**	**98.70**	**339**	*e*Pdif	Pdif	00 00 22.4	+1.0
KTK1				IVmB_BB		00 00 37.2	
	comp=Z,2μm,3.6s						
KTK1				*e*PP	PP	00 03 58.9	-23
KTK1				*e*SS	SS	00 18 45.9	+11
KTK1				IVMs_BB	IVMs_BB	00 53 29.7	
	comp=Z,5μm,24.0s						
LSZ	**Lusaka**	**98.89**	**254**	P	**P**	**00 00 21.7**	**-1.9**
LSZ	**Lusaka**	**98.89**	**254**	IAMs_20	IAMs_20	00 41 25.9	
	comp=Z,22μm,21.0s						
LSZ	**Lusaka**	**98.89**	**254**	LR	LR	00 41 48.6	
	comp=Z,16μm,21.1s,baz=102,slow=33						
LSZ	**Lusaka**	**98.89**	**254**	P	**P**	**00 00 21.7**	**-1.9**
ELL	**Elmali**	**98.90**	**306**	P	**P**	**00 00 20.8**	**-2.4**
ELL				IAmb	IAmb	00 00 51.1	
	comp=Z,63nm,1.3s						
ELL	**Elmali**	**98.90**	**306**	P	**P**	**00 00 20.8**	**-2.4**
ELL				pmax	pmax		
	comp=Z,63nm,1.3s						
MNK	**Minsk**	**98.97**	**325**	*e*P	Pdif	00 00 23.0	+0.1
FIA1	**FINESS Array S**	**98.98**	**332**	P	**P**	**00 00 21.0**	**-1.8**
FIA1				IAmb	IAmb	00 00 34.0	
	comp=Z,74nm,0.9s						
FINES	**FINESS Array B**	**98.98**	**332**	P	**P**	**00 00 20.9**	**-1.9**
FINES	**FINESS Array B**	**98.98**	**332**	P	**P**	**00 00 21.0**	**-1.8**
	comp=Z,7.9nm,0.8s,baz=69,slow=6.3,SNR=12						
FINES				PKiKP	**PKiKP**	**00 04 54.2**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=100,slow=3.8,SNR=3.5						
	comp=Z,7.9nm,0.8s						
FINES	**FINESS Array B**	**98.98**	**332**	*i* P	**P**	**00 00 21.0**	**-1.8**
FINES				pmax	pmax		
	comp=Z,8.0nm,0.9s						
DLBC	**Dease Lake**	**99.07**	**31**	LR	LR	00 43 50.5	
	comp=Z,89μm,19.6s,baz=270,slow=35						
DLBC	**Dease Lake**	**99.07**	**31**	P	**Pdif**	**00 00 22.0**	**-1.4**
	baz=278						
KIS	**Kishinev**	**99.11**	**317**	*e*P	**Pdif**	**00 00 22.0**	**-1.7**
KIS	**Kishinev**	**99.11**	**317**	*e*L	L	00 36 18.0	
KIS				*e*PP	**PP**	**00 04 31.0**	**+4.8**
KIS				LQM		00 42 29.0	
	comp=Z,3μm,22.5s						
KIS				LRM	MLR	00 55 38.0	
	comp=Z,2μm,18.5s						
KIS	**Kishinev**	**99.11**	**317**	*e*P	**Pdif**	**00 00 22.0**	**-1.7**
KIS				*e*		00 04 31.0	
MILM	**Milestii Mici**	**99.12**	**317**⇑	*i*P	**Pdif**	**00 00 22.0**	**-1.8**
	comp=Z,620nm,4.1s						
MILM	**Milestii Mici**	**99.12**	**317**	*i* S	**S**	**00 11 47.0**	**-6.7**
MILM				*e*PP	**PP**	**00 04 31.0**	**+4.8**
MILM				*e*L	L	00 35 27.0	
MILM				LRM	MLR	00 55 39.0	
	comp=Z,6μm,19.0s						
MILM	**Milestii Mici**	**99.12**	**317***c*	*i*P	**Pdif**	**

MLR	Muntele Rosu	101.24	316	P		Pdif		00 00 32.9	-0.5		
	comp=Z,1µmcomp=Z,72nm,1.5s										
BURAR	Bucovina Array	101.48	318	⇑P		Pdif		00 00 34.6	+0.2		
EZN	Ezine	101.52	310	⇓P		Pdif		00 00 36.6	+2.0		
SUW	Suwalki	101.77	324	eP		Pdif		00 00 34.4	-1.1		
STEI	Steigen	101.83	339	ePdif		Pdif		00 00 29.6	-5.8		
STEI				ePP		PP		00 04 28.8	-17		
STEI				eSS		SS		00 19 15.8	-2.7		
STEI				IVMs_BB		IVMs_BB		00 50 31.8			
	comp=Z,6µm,26.1s										
VOIR		101.87	316	⇑P		Pdif		00 00 36.4	+0.2		
FAUS	Fauske	102.01	339	ePdif		Pdif		00 00 35.1	-1.0		
FAUS				ePP		PP		00 04 35.4	-12		
FAUS				eSS		SS		00 19 23.8	+2.8		
FAUS				IVMs_BB		IVMs_BB		00 57 43.9			
	comp=Z,4µm,18.0s										
LOF	Lofoten	102.36	340	ePdif		Pdif		00 00 34.4	-3.3		
LOF				ePP		PP		00 04 28.8	-21		
LOF				eSS		SS		00 19 23.8	-1.9		
LOF				IVMs_BB		IVMs_BB		00 53 49.4			
	comp=Z,4µm,15.0s										
BMR	Baia Mare	102.62	318	⇑P		Pdif		00 00 40.7	+1.3		
CJR	Cluj-Napoca	102.70	317	⇑P		Pdif		00 00 40.2	+0.4		
MOR8	Moi Rana	102.75	338	ePdif		Pdif		00 00 38.0	-1.5		
MOR8				ePP		PP		00 04 42.9	-10		
MOR8				IVMs_BB		IVMs_BB		00 55 15.9			
	comp=Z,4µm,18.2s										
RAUS	Rausandaksla	102.80	338	ePdif		Pdif		00 00 40.2	+0.4		
RAUS				ePP		PP		00 04 40.9	-13		
RAUS				eSS		SS		00 19 34.3	+2.4		
RAUS				IVMs_BB		IVMs_BB		00 52 46.2			
	comp=Z,5µm,19.5s										
KWP	Kalwaria Pacla	102.83	320	eP		Pdif		00 00 41.5	+1.3		
KWP	Kalwaria Pacla	102.83	320	P		Pdif		00 00 41.0	+0.8		
SUR	Sutherland	102.85	236	IAMs_20		IAMs_20		00 46 24.0			
	comp=Z,13µm,20.0s										
VAGH	Vaagaholmen	102.98	338	ePdif		Pdif		00 00 36.9	-3.5		
VAGH				ePP		PP		00 04 45.7	-8.9		
VAGH				eSS		SS		00 19 37.6	+3.2		
VAGH				IVMs_BB		IVMs_BB		00 58 24.0			
	comp=Z,5µm,19.5s										
IDI	Anoyia	103.05	305	P		Pdif		00 00 39.4	-2.3		
IDI				PP		PP		00 04 48.9	-7.5		
IDI	Anoyia	103.05	305	PKiKP		PKiKP		00 05 00.7	-1.0		
	comp=Z,6.9nm,0.9s,baz=87,slow=2.5,SNR=3.6										
STOK	Stokkvaagen	103.22	338	ePdif		Pdif		00 00 39.5	-2.0		
KOLS	Kolonicke sedl	103.23	319	iP		Pdif		00 00 46.7	+4.7		
LEIR	Leirfjorden	103.27	338	ePdif		Pdif		00 00 39.5	-2.3		
LEIR				IVMs_BB		IVMs_BB		00 56 33.7			
	comp=Z,5µm,21.8s										
DRGR		103.29	317	⇓P		Pdif		00 00 43.0	+0.5		
DEV	Deva	103.30	316	⇓P		Pdif		00 00 43.8	+1.4		
GZR	Gura Zlata	103.46	316	⇑P		Pdif		00 00 44.4	+1.2		
NIE	Niedzica	104.41	320	eP		Pdif		00 00 48.0	+0.7		
OJC	Ojcow	104.56	321	eP		Pdif		00 00 53.8	+5.8		
NLWA	Neilton Lookou	104.58	42	IAMs_20		IAMs_20		00 40 53.5			
	comp=Z,11µm,22.0s										
DAG	Danmarks Havn	104.63	353	PKP		PKiKP		00 05 02.3	-0.9		
PSZ	Piszkesteto	104.97	319	⇑P		Pdif		00 00 51.2	+1.3		
KEBM	Edson Butte	105.04	47	IAMs_20		IAMs_20		00 45 01.4			
	comp=Z,12µm,20.0s										
HFS	Hagfors	105.18	332	Pdiff		Pdif		00 00 49.3	-1.1		
	comp=Z,5.0nm,0.8s,baz=101,slow=6.2,SNR=12										
HFS				PKKPbc		PKKPbc		00 16 33.1	-0.4		
	comp=Z,1.5nm,0.8s,baz=264,slow=1.3,SNR=4.5										
KBO	Bosley Butte	105.22	47	IAMs_20		IAMs_20		00 43 40.4			
	comp=Z,10µm,20.0s										
YKA	Yellowknife Ar	105.35	25	Pdiff		Pdif		00 00 51.0	-0.2		
	comp=Z,2.3nm,0.9s,baz=295,slow=4.9,SNR=4.4										
YKA				PKiKP		PKiKP		00 05 02.5	-2.4		
	comp=Z,2.2nm,1.1s,baz=324,slow=2.3,SNR=3.8										
YKA				PKKPbc		PKKPbc		00 16 32.0	-1.0		
	comp=Z,3.0nm,0.9s,baz=95,slow=2.5,SNR=5.6										
GKP	Gorka Klasztor	105.39	324	eP		Pdif		00 00 50.2	-1.3		
COR	Corvallis	105.48	45	IAMs_20		IAMs_20		00 41 30.8			
	comp=Z,19µm,20.0s										
KRPM	Rodgers	105.54	48	IAMs_20		IAMs_20		00 51 33.9			
	comp=Z,17µm,18.0s										
JCC	Jacoby Creek,	105.59	49	IAMs_20		IAMs_20		00 42 13.2			
	comp=Z,13µm,21.0s										
OKC	Ostrava-Krasne	105.68	321	ePDIFF		Pdif		00 01 02.2	+9.3		
OKC				ePP		PP		00 05 22.8	+7.4		
OKC				AMS		AMS		00 50 50.0			
	comp=Z,10µm,29.3s										
OKC	Ostrava-Krasne	105.68	321	iP		Pdif		00 01 02.2	+9.3		
OKC				e				00 05 22.8			
KHMM	Horse Mountain	105.81	49	IAMs_20		IAMs_20		00 42 20.8			
	comp=Z,15µm,21.0s										
NC602	NORSAR Array S	105.96	333	ePdif		Pdif		00 00 52.8	-1.1		
NB2	NORSAR Subarra	105.99	333	P		Pdif		00 00 52.0	-2.1		
	comp=Z,36nm,1.4s,baz=70,slow=4.4										
NB2	NORSAR Subarra	105.99	333	P		Pdif		00 00 52.0	-2.1		
	comp=Z,36nm,1.4s,baz=70,slow=4.4										
NOA	NORSAR Array B	105.99	333	Pdiff		Pdif		00 00 53.2	-0.9		
	comp=Z,6.4nm,0.9s,baz=69,slow=4.5,SNR=12										
NOA				PKKPbc		PKKPbc		00 16 30.2	-0.9		
	comp=Z,1.0nm,0.9s,baz=67,slow=3.2,SNR=3.5										
MORC	Moravsky Berou	106.08	321	ePDIFF		Pdif		00 00 53.7	-1.1		
MORC	Moravsky Berou	106.08	321	⇑P		Pdif		00 00 54.5	-0.3		
KCPM	Cahto Peak	106.10	50	IAMs_20		IAMs_20		00 48 14.9			
	comp=Z,19µm,20.0s										
JAVC	Velka Javorina	106.22	320	ePDIFF		Pdif		00 00 54.3	-1.1		
KHBM	Hayfork Bally	106.22	49	IAMs_20		IAMs_20		00 42 22.0			
	comp=Z,12µm,21.0s										
TULEG	Thule	106.44	4	IAMs_20		IAMs_20		00 51 50.5			
	comp=Z,10µm,21.0s										
KRLC	Kraliky	106.48	321	ePDIFF		Pdif		00 01 02.4	+5.9		
KRLC				ePP		PP		00 05 30.1	+8.8		
KRLC				AMS		AMS		00 52 20.0			
	comp=Z,10µm,21.8s										
KRLC	Kraliky	106.48	321	iP		Pdif		00 01 02.4	+5.9		
KRLC				e				00 05 30.1			
KRLC				MLR		MLR					
	comp=Z,10µm,21.8s										
DOMB	Dombas	106.53	335	ePdif		Pdif		00 00 52.8	-3.6		
DOMB				ePP		PP		00 05 15.3	-5.9		
DOMB				IVMs_BB		IVMs_BB		00 56 14.7			
	comp=Z,5µm,18.9s										
N02D	Trinity Center	106.56	48	IAMs_20		IAMs_20		00 42 45.7			
	comp=Z,18µm,22.0s										
KSP	Ksiaz	106.59	322	eP		Pdif		00 00 57.9	+1.0		
OSL	Oslo	106.64	332	ePdif		Pdif		00 00 49.5	-7.4		
DPC	Dobruska-Polom	106.70	322	ePDIFF		Pdif		00 01 05.2	+7.7		
DPC				ePP		PP		00 05 32.1	+9.2		
DPC				AMS		AMS		00 52 00.0			
	comp=Z,13µm,21.8s										
DPC	Dobruska-Polom	106.70	322	iP		Pdif		00 01 05.2	+7.7		
DPC				MLR		MLR					
	comp=Z,13µm,21.8s										
OSTC	Ostas	106.71	322	ePDIFF		Pdif		00 01 00.7	+3.2		
OSTC				ePP		PP		00 05 32.1	+9.2		
OSTC				AMS		AMS		00 52 00.0			
	comp=Z,14µm,21.7s										
OSTC	Ostas	106.71	322	iP		Pdif		00 01 00.7	+3.2		
OSTC				e				00 05 32.1			
OSTC				MLR		MLR					
	comp=Z,14µm,21.7s										
VRAC	Vranov	106.79	321	ePDIFF		Pdif		00 00 57.5	-0.4		
VRAC	Vranov	106.79	321	⇓P		Pdif		00 00 56.9	-1.0		
CHVC	Chvalec	106.80	322	ePDIFF		Pdif		00 01 05.3	+7.4		
CHVC				ePP		PP		00 05 38.3	+15		
CHVC				AMS		AMS		00 52 10.0			
	comp=Z,12µm,21.4s										
CHVC	Chvalec	106.80	322	iP		Pdif		00 01 05.3	+7.4		
CHVC				MLR		MLR					
	comp=Z,12µm,21.4s										
UPC	Upice	106.85	322	ePDIFF		Pdif		00 01 05.7	+7.6		
UPC				ePP		PP		00 05 33.2	+9.3		
UPC				AMS		AMS		00 52 00.0			
	comp=Z,14µm,21.5s										
UPC	Upice	106.85	322	iP		Pdif		00 01 05.7	+7.6		
UPC				e				00 05 33.2			
UPC				MLR		MLR					
	comp=Z,14µm,21.5s										
MOL	Molde	106.94	335	ePdif		Pdif		00 00 56.1	-2.0		
KRUC	Moravsky	106.98	320	ePDIFF		Pdif		00 00 58.9	+0.2		
RGN	Rugen	107.23	326	IAMs_20		IAMs_20		00 53 40.0			
	comp=Z,12µm,22.0s										
JMIC	Jan Mayen	107.27	346	ePdif		Pdif		00 01 02.8	+3.3		
KONO	Kongsberg	107.28	332	IAMs_20		IAMs_20		00 52 50.6			
	comp=Z,17µm,22.0s										
KONO	Kongsberg	107.28	332	ePdif		Pdif		00 01 02.8	+3.0		
AKN	Aaknes	107.34	335	ePdif		Pdif		00 00 56.1	-3.9		
O03E	Paynes Creek	107.35	49	IAMs_20		IAMs_20		00 49 11.8			
	comp=Z,16µm,20.0s										
RONA	Rosalia, Austr	107.39	319	iPdiff		pPdif		00 01 05.4	-2.9		
	comp=Z,6.0nm,1.4s										
SKAR	Skarslia	107.44	333	ePdif		Pdif		00 01 06.1	+5.6		
TREC	Trest	107.50	321	ePDIFF		Pdif		00 01 06.6	+5.6		
TREC				ePP		PP		00 05 36.3	+7.6		
TREC				AMS		AMS		00 53 20.0			
	comp=Z,10µm,27.1s										
TREC	Trest	107.50	321	iP		Pdif		00 01 06.6	+5.6		
TREC				e				00 05 36.3			
TREC				MLR		MLR					
	comp=Z,10µm,27.1s										
HATC	Hat Creek Radi	107.51	48	IAMs_20		IAMs_20		00 43 27.0			
	comp=Z,11µm,22.0s										
SUTB	Sutter Butte	107.55	50	IAMs_20		IAMs_20		00 43 13.3			
	comp=Z,12µm,21.0s										
CONA	Conrad Observa	107.61	319	ePP		PP		00 00 30.2	+0.4		
	comp=Z,3.7nm,0.8s										
HAWA	Hanford	107.69	42	IAMs_20		IAMs_20		00 43 03.0			
	comp=Z,14µm,21.0s										
PVCC	Panska Ves	107.73	322	ePDIFF		Pdif		00 01 11.8	+10		
PVCC				ePP		PP		00 05 39.3	+9.0		
PVCC				AMS		AMS		00 51 20.0			
	comp=Z,12µm,26.3s										
PVCC	Panska Ves	107.73	322	iP		Pdif		00 01 11.8	+10		
PVCC				e				00 05 39.3			
PVCC				MLR		MLR					
	comp=Z,12µm,26.3s										
PRU	Pruhonice	107.90	322	ePDIFF		Pdif		00 01 13.4	+11		
PRU				ePP		PP		00 05 40.4	+8.8		
PRU				AMS		AMS		00 52 50.0			
	comp=Z,14µm,22.8s										
PRU	Pruhonice	107.90	322	iP		Pdif		00 01 13.4	+11		
PRU				e				00 05 40.4			
PRU				MLR		MLR					
	comp=Z,14µm,22.8s										
PRA	Prague	107.94	322	ePDIFF		Pdif		00 01 11.5	+8.6		
PRA				ePP		PP		00 05 47.6	+16		
PRA				AMS		AMS		00 52 50.0			
	comp=Z,12µm,21.5s										
PRA	Prague	107.94	322	iP		Pdif		00 01 11.5	+8.6		
PRA				MLR		MLR					
	comp=Z,12µm,21.5s										
BRG	Berggiesshubel	108.01	323	⇓ePif				00 01 09.6			
BRG				Amp				00 01 11.7			
	comp=Z,6.7nm,1.0s										
BRG	Berggiesshubel	108.01	323	PS		PS		00 14 58.0	+1.9		
RICC	Richard	108.01	322	AMS		AMS		00 51 50.0			
	comp=Z,10µm,24.9s										
HYA	Hoyanger	108.15	334	ePdif		Pdif		00 01 06.1	+2.5		
WIN	Windhoek	108.15	245	IAMs_20		IAMs_20		00 47 38.0			
	comp=Z,13µm,21.0s										
ZVC	Zvikov	108.27	321	ePDIFF		Pdif		00 01 10.0	+5.6		
ZVC				ePP		PP		00 05 47.6	+13		
ZVC				AMS		AMS		00 53 10.0			
	comp=Z,14µm,22.8s										
HOMB	Homborsund	108.35	331	ePdif		Pdif		00 01 06.1	+1.6		
TSUM	Tsumeb	108.36	249	IAMs_20		IAMs_20		00 48 22.7			
	comp=Z,12µm,19.0s										
CKRC	Cesky Krumlov	108.37	321	ePDIFF		Pdif		00 01 12.7	+7.8		
CKRC				ePP		PP		00 05 43.5	+8.4		
CKRC				AMS		AMS		00 51 20.0			
	comp=Z,8µm,24.4s										
CKRC	Cesky Krumlov	108.37	321	iP		Pdif		00 01 12.7	+7.8		
CKRC				e				00 05 43.5			
CKRC				MLR		MLR					
	comp=Z,8µm,24.4s										
CLL	Collm	108.44	323	IAMs_20		IAMs_20		01 00 49.3			
	comp=Z,11µm,21.0s										
WELL	Weller Preserv	108.51	51	IAMs_20		IAMs_20		00 44 30.7			
	comp=Z,15µm,21.0s										
ODD1	Odda	108.52	333	ePdif		Pdif		00 01 06.1	+0.7		
KHC	Kasperske Hory	108.75	321	IAMs_20		IAMs_20		00 53 55.5			
	comp=Z,13µm,22.0s										
KHC	Kasperske Hory	108.75	321	ePDIFF		Pdif		00 01 02.6	-4.0		
KHC				x		x		00 04 08.0			
KHC				x		x		00 04 22.0			
KHC				ePP		PP		00 05 44.5	+6.6		
KHC				AMS		AMS		00 53 30.0			
	comp=Z,14µm,22.1s										
KHC	Kasperske Hory	108.75	321	iP		Pdif		00 01 02.6	-4.0		
KHC				e				00 05 44.5			
KHC				MLR		MLR					
	comp=Z,14µm,22.1s										
GERES	GERESS Array B	108.75	321	Pdiff		Pdif		00 01 06.3	-0.4		
	comp=Z,0.9nm,0.7s,baz=255,slow=4.0,SNR=5.6										
GERES				PKiKP		PKiKP		00 05 11.9	+0.1		
	comp=Z,3.1nm,0.7s,baz=66,slow=3.2,SNR=9.2										
NEW	Newport	108.79	40	IAMs_20		IAMs_20		00 44 34.7			
	comp=Z,14µm,22.0s										
SUE	Sulen	108.81	335	ePdif		Pdif		00 01 06.1	-0.4		
BLS5	Blasjo	108.82	333	ePdif		Pdif		00 01 06.1	-0.6		
BER	Bergen	108.88	334	ePdif		Pdif		00 01 06.1	-0.8		
ASK	Askoy	108.90	334	ePdif		Pdif		00 01 06.1	-0.8		
WVOR	Wild Horse Val	109.25	46	IAMs_20		IAMs_20		00 46 14.7			
	comp=Z,13µm,20.0s										
KMY	Karmoy	109.47	333	ePdif		Pdif		00 01 06.1	-3.4		
GRA1	Grafenberg Arr	110.04	322	IAMs_20		IAMs_20		00 54 39.6			
	comp=Z,12µm,22.0s										
GRFO	Grafenberg	110.04	322	IAMs_20		IAMs_20		00 54 38.6			
	comp=Z,12µm,21.0s										
ABTA	Abfaltersbach	110.13	319	epPKiKP		PKiKP		00 05 19.6	+5.1		
	comp=Z,14nm,0.8s										
VES	Vestal, Richgr	110.27	53	IAMs_20		IAMs_20		00 58 00.7			
	comp=Z,15µm,18.0s										
NVAR	Mina Array Bea	110.37	50	Pdiff		Pdif		00 01 14.0	-0.3		
	comp=Z,1.0nm,0.9s,baz=313,slow=4.8,SNR=2.5										
NVAR				PKiKP		PKiKP		00 05 16.1	+0.8		
	comp=Z,2.3nm,0.9s,baz=11,slow=1.7,SNR=3.7										
NVAR				PKKPbc		PKKPbc		00 16 17.3	+0.6		
	comp=Z,1.3nm,0.7s,baz=138,slow=3.4,SNR=6.6										
PLID	Pearl Lake	110.42	43	IAMs_20		IAMs_20		00 44 02.3			
	comp=Z,15µm,22.0s										
ISA	Isabella, Lake	110.79	53	IAMs_20		IAMs_20		00 47 42.5			
	comp=Z,16µm,20.0s										
MFID	Camas Ranch	111.00	45	IAMs_20		IAMs_20		00 44 48.8			
	comp=Z,15µm,21.0s										
MSO	Missoula	111.28	41	IAMs_20		IAMs_20		00 51 12.6			
	comp=Z,9µm,21.0s										
LRMC	Laurel Mtn Rad	111.46	53	IAMs_20		IAMs_20		00 51 47.2			
	comp=Z,17µm,19.0s										
WSHM	Spangler Hills	111.59	53	IAMs_20		IAMs_20		00 48 17.5			
	comp=Z,14µm,20.0s										
FUORN	Ofenpass-Fuorn	111.64	319	IAMs_20		IAMs_20		00 59 55.4			
	comp=Z,12µm,22.0s										
DAVOX	Davos/Dischmat	111.84	319	PKiKP		PKiKP		00 05 18.4	+0.6		
	comp=Z,5.0nm,0.7s,baz=256,slow=11,SNR=6.1										
HLID	Hailey	111.95	44	IAMs_20		IAMs_20		00 45 09.8			
	comp=Z,14µm,21.0s										
ELK	Elko	112.13	47	IAMs_20		IAMs_20		00 52 10.1			
	comp=Z,13µm,20.0s										
TPNV	Topopah Spring	112.28	51	IAMs_20		IAMs_20		00 47 01.8			
	comp=Z,17µm,20.0s										
SHOC	Shoshone, Teco	112.49	53	IAMs_20		IAMs_20		00 50 55.5			
	comp=Z,14µm,20.0s										
DLMT	Dillon	112.63	42	IAMs_20		IAMs_20		00 45 57.6			
	comp=Z,15µm,21.0s										
WLF	Walferdange	113.11	323	IAMs_20		IAMs_20		01 01 34.9			
	comp=Z,13µm,22.0s										
BOZ	Bozeman (W)	113.19	41	IAMs_20		IAMs_20		00 47 52.5			
	comp=Z,14µm,21.0s										
EGMT	Eagleton	113.52	38	IAMs_20		IAMs_20		00 47 29.2			
	comp=Z,10µm,22.0s										
NEE2	Needles Airpor	114.06	53	IAMs_20		IAMs_20		00 48 54.2			
	comp=Z,16µm,20.0s										
DRUM	Mains of Drumt	114.18	333	eP		PKPdf		00 05 19.3	-2.4		
TPAW	Teton Pass	114.36	43	IAMs_20		IAMs_20		00 49 52.5			
	comp=Z,11µm,20.0s										
BNI	Bardonecchia	114.53	318	IAMs_20		IAMs_20		01 03 57.9			
	comp=Z,9µm,21.0s										
HWUT	Hardware Ranch	114.54	46	IAMs_20		IAMs_20		00 50 41.7			
	comp=Z,15µm,21.0s										
LOHW	Long Hollow	114.56	43	IAMs_20		IAMs_20		00 46 37.8			
	comp=Z,14µm,22.0s										
LINV	Loch Inver, As	114.64	335	eP		PKiKP		00 05 21.1	-1.4		
GDLE	Glaisdale, N Y	114.74	330	eP		PKiKP		00 05 18.9	-3.9		
FFC	Flin Flon	114.79	29	IAMs_20		IAMs_20		00 52 47.1			
	comp=Z,15µm,20.0s										
WACR	West Acre	114.86	328	eP		PKiKP		00 05 17.1	-6.0		
RLMT	Red Lodge	114.92	41	IAMs_20		IAMs_20		00 49 08.1			
	comp=Z,9µm,21.0s										
ELMS	Elmsett, Ipswi	114.98	327	eP		PKiKP		00 05 21.1	-2.3		
EDI	Edinburgh	115.06	332	eP		PKiKP		00 05 22.8	-0.6		
EDMD	Edmundbyers	115.08	331	eP		PKiKP		00 05 21.8	-1.6		
INVG	Invergeldie, C	115.16	333	eP		PKPdf		00 05 26.4	+2.8		
KPL	Plockton	115.33	334	eP		PKiKP		00 05 22.7	-1.1		
LEWI	Lewis, Hebride	115.34	336	eP		PKiKP		00 05 23.7	-0.2		
ELSH	Elham, Standar	115.35	326	eP		PKiKP		00 05 18.8	-5.3		
EKA	Eskdalemuir Ar	115.38	332	PKP		PKPdf		00 05 25.6	+1.5		
	comp=Z,2.2nm,0.8s,baz=57,slow=2.6,SNR=2.7										
EKA				PKKPbc		PKKPbc		00 15 59.3	-0.8		
	comp=Z,0.7nm,0.5s,baz=236,slow=3.9,SNR=3.5										
ESK	Eskdalemuir	115.41	332	IAMs_20		IAMs_20		00 54 31.7			
	comp=Z,12µm,22.0s										
ESK	Eskdalemuir	115.41	332	eP		PKPdf		00 05 25.3	+1.2		
KEST	Kesra	115.46	308	PKP		PKPdf		00 05 25.5	+0.6		
	comp=Z,6.5nm,0.9s,baz=190,slow=3.9,SNR=3.6										
BW06	Boulder Array	115.57	44	IAMs_20		IAMs_20		00 47 28.6			
	comp=Z,12µm,20.0s										
PDAR	Pinedale Array	115.57	44			PKiKP		00 05 24.6	-0.5		
PDAR	Pinedale Array	115.57	44	PKP		PKPdf		00 05 25.6	+0.5		
	comp=Z,0.9nm,0.6s,baz=161,slow=1.0,SNR=5.5										
PDAR				PKKPbc		PKKPbc		00 15 59.0	-0.4		
	comp=Z,4.0nm,0.9s,baz=122,slow=5.6,SNR=12										
PGBU	Glenifferbraes	115.72	333	eP		PKiKP		00 05 24.8	+0.1		
KESW	Keswick, Cumbr	115.77	331	eP		PKPdf		00 05 25.4	+0.5		
LAWE	Loch Awe, Argy	115.87	333	eP		PKPdf		00 05 28.0	+3.0		
CWF	Charnwood Fore	115.87	329	eP		PKiKP		00 05 22.6	-2.5		
HMNX	Herstmonceux	115.93	326	eP		PKiKP		00 05 23.2	-2.0		
NEWG	New Galloway	116.01	332	eP		PKPdf		00 05 25.7	+0.5		
SRU	San Rafael Swe	116.07	48	PKPdf		PKiKP		00 05 26.9	+0.7		
SRU	San Rafael Swe	116.07	48	PKiKP		PKiKP		00 05 26.9	+0.7		
CLF	Chambon-Foret	116.14	323	IAMs_20		IAMs_20		00 56 18.9			
	comp=Z,10µm,22.0s										
LAO	LASA Array	116.26	39	IAMs_20		IAMs_20		00 49 36.1			
	comp=Z,10µm,21.0s										
WUAZ	Wupatki	116.46	52	PKPdf		PKiKP		00 05 27.2	+0.2		
WUAZ				IAMs_20		IAMs_20		00 47 26.3			
	comp=Z,16µm,22.0s										
VA02	Isla de Pascua	116.47	123	IAMs_20		IAMs_20		01 00 17.9			
	comp=Z,8µm,20.0s										
SFJD	Kangerlussuaq	116.66	360	IAMs_20		IAMs_20		00 58 54.3			
	comp=Z,7µm,19.0s										
DGMT	Dagmar	116.70	36	IAMs_20		IAMs_20		00 50 15.6			
	comp=Z,14µm,22.0s										
FOEL	Foel Wylfa	116.76	330	eP		PKPdf		00 05 19.9	-6.9		
STRD	Stroud	116.82	328	eP		PKiKP		00 05 28.8	+1.8		
OLDB	Oldbury-Upon-S	117.09	328	eP		PKiKP		00 05 31.3	+3.9		
O20A	White River

MTE Manteigas 125.97 319 ePKP PKiKP 00 05 47.4 +2.0
MTE ePP PP 00 07 40.9 +3.0
MTE eSS SS 00 24 53.8 +16
MTE eLR LR 00 50 15.4
MTE i IAMs_20 IAMs_20 01 12 56.1
comp=Z,7µm,20.0s
PVIS Viseu 126.03 319 ePKP PKiKP 00 05 46.1 +0.6
PVIS ePP PP 00 07 41.8 +3.6
PCBR Castelo Branco 126.21 318 ePKP PKiKP 00 05 48.4 +2.6
PCBR ePP PP 00 07 44.9 +5.6
PTO Porto 126.26 320 ePKP PKiKP 00 05 47.1 +1.3
PTO ePP PP 00 07 47.2 +7.5
PMRV Marv??o 126.36 318 ePKP PKiKP 00 05 48.4 +2.3
PMRV ePP PP 00 07 42.0 +1.6
PMRV eSS SS 00 24 51.7 +8.7
PMRV eLR LR 00 50 11.1
PMRV i IAMs_20 IAMs_20 01 18 46.5
comp=Z,6µm,18.0s
WMOK Wichita Mounta 126.41 49 PKPdf 00 05 45.3 -0.6
WMOK Wichita Mounta 126.41 49 IAMs_20 IAMs_20 00 53 28.4
comp=Z,14µm,22.0s
WMOK Wichita Mounta 126.41 49 PKiKP PKPdf 00 05 45.3 -0.6
G40A Rib Lake 126.47 33 IAMs_20 IAMs_20 01 02 21.5
comp=Z,12µm,20.0s
TORD Torodi Ar. Bea 126.50 284 PKP PKPdf 00 05 46.6 0.0
comp=Z,26nm,0.8s,baz=44,slow=2.4,SNR=28
CEU Ceuta 126.61 313 PKP PKPdf 00 05 44.1 -2.1
COI Coimbra 126.63 319 IAMs_20 IAMs_20 01 05 40.1
comp=Z,7µm,21.0s
COI Coimbra 126.63 319 ePP PP 00 07 44.2 +2.0
SCIA State Center 126.72 38 IAMs_20 IAMs_20 00 59 37.9
comp=Z,10µm,20.0s
PBAR Barrancos 126.74 316 ePKP PKiKP 00 05 53.8 +7.0
PBAR ePP PP 00 07 46.6 +3.7
PCAS Casmilo, Conde 126.77 319 ePKP PKiKP 00 05 56.7 +10
PCAS ePP PP 00 07 45.5 +2.4
PESTR Estremoz 126.77 317 ePP PP 00 07 44.9 +1.7
PSARD Sardoal 126.78 318 ePKP PKiKP 00 05 54.0 +7.1
PSARD ePP PP 00 07 44.9 +1.7
OK029 Liberty Lake 126.94 47 IAMs_20 IAMs_20 00 54 57.0
comp=Z,12µm,21.0s
OK051 E0350 and S346 127.07 46 IAMs_20 IAMs_20 00 56 57.2
comp=Z,13µm,20.0s
I40A Norwalk 127.09 35 IAMs_20 IAMs_20 01 00 39.3
comp=Z,14µm,21.0s
PMTG Montargil 127.10 318 ePKP PKPdf 00 05 46.9 -0.2
PMTG ePP PP 00 07 47.2 +1.9
ZAIG Zacatecas 127.15 64 PKPdf PKPdf 00 05 47.2 -0.8
EVO Evora 127.23 317 PP PP 00 07 49.0 -3.2
EVO Evora 127.23 317 ePP PP 00 07 49.5 +3.3
PSBE So Bento 127.25 319 ePP PP 00 07 48.4 +2.1
JCT Junction City 127.26 54 PKPdf PKPdf 00 05 47.5 -0.2
JCT Junction City 127.26 54 PKiKP PKPdf 00 05 47.5 -0.2
MDT Midelt 127.32 309 PKP PKiKP 00 05 48.4 0.0
comp=Z,11nm,0.9s,baz=53,slow=4.7,SNR=4.3
N38A Joes South For 127.33 39 IAMs_20 IAMs_20 01 03 12.2
comp=Z,10µm,20.0s
PBEJ Beja 127.38 317 ePKP PKiKP 00 05 56.1 +7.9
PBEJ ePP PP 00 07 53.0 +5.7
SCHQ Schefferville 127.39 11 PKPdf PKPdf 00 05 47.4 +0.2
SCHQ Schefferville 127.39 11 PKP PKiKP 00 05 48.0 +0.3
comp=Z,138nm,1.0s,baz=300,slow=0.6,SNR=8.9
MD01 Midelt array s 127.42 309 PKPdf 00 05 47.6 -0.5
MD31 MD31 127.42 309 PKPdf PKPdf 00 05 47.9 -0.1
PVAQ Vaqueiros 127.58 316 ePKP PKiKP 00 05 56.6 +8.1
PVAQ ePP PP 00 07 53.5 +5.0
PVAQ eSS SS 00 25 04.8 +6.4
PVAQ eLQ LQ 00 39 43.7
PVAQ eLR LR 00 51 01.0
PVAQ i IAMs_20 IAMs_20 01 08 59.7
comp=Z,7µm,22.0s
PCVE Castro Verde 127.69 316 ePKP PKiKP 00 05 56.5 +7.7
PCVE ePP PP 00 07 52.1 +2.8
MESJ Messejana 127.71 317 ePP PP 00 07 50.2 +0.8
MESJ eSS SS 00 25 02.0 +2.0
MESJ IAMs_20 IAMs_20 01 05 53.3
comp=Z,11µm,31.4s
MESJ Messejana 127.71 317 ePKP PKiKP 00 05 56.7 +7.9
MESJ ePP PP 00 07 51.3 +1.8
PARRA Arraiolos 127.77 318 ePKP PKiKP 00 05 54.2 +5.3
PARRA ePP PP 00 07 46.6 -3.1
P38A Dawn 127.77 41 PKPdf 00 05 48.1 -0.2
P38A IAMs_20 IAMs_20 01 00 31.2
comp=Z,11µm,20.0s
PBDV Barranco-do-Ve 127.81 316 ePKP PKiKP 00 05 59.9 +11
PBDV ePP PP 00 07 49.5 -0.6
COYC Coyhaique 127.82 162 PKPdf PKiKP 00 05 48.8 0.0
L40A Anamosa 127.84 37 IAMs_20 IAMs_20 01 02 47.5
comp=Z,13µm,20.0s
PMAFR Mafra 127.86 318 ePP PP 00 07 54.1 +3.8
LIS Lisbon 127.90 318 ePP PP 00 07 51.4 +0.8
LIS eSS SS 00 25 04.4 +2.3
LIS IAMs_20 IAMs_20 00 55 57.9
comp=N,16µm,23.9s
LIS Lisbon 127.90 318 ePP PP 00 07 53.0 +2.5
JFWS Jewell Farm 127.91 36 IAMs_20 IAMs_20 01 06 56.9
comp=Z,11µm,20.0s
I42A Draeger Farm, 128.05 34 IAMs_20 IAMs_20 01 04 14.5
comp=Z,13µm,20.0s
PTEO Sao Teotonio 128.21 316 ePP PP 00 07 53.6 +0.9
MORF Marmelete 128.28 316 ePP PP 00 07 53.7 +0.5
MORF IAMs_20 IAMs_20 00 54 31.2
comp=N,10µm,24.2s
MORF Marmelete 128.28 316 ePKP PKiKP 00 05 58.3 +8.2
MORF ePP PP 00 08 05.6 +12
H43A Windswept, Lux 128.30 33 IAMs_20 IAMs_20 01 00 59.9
comp=Z,14µm,21.0s
PFVI Vila Bisbo 128.48 316 ePKP PKiKP 00 05 51.7 +1.3
PFVI ePP PP 00 08 00.4 +5.9
P40A Paris 128.79 40 IAMs_20 IAMs_20 01 00 08.9
comp=Z,8µm,20.0s
L42A Oliver, Polo 128.81 36 IAMs_20 IAMs_20 01 04 06.8
comp=Z,11µm,20.0s
N41A Harden Midland 128.87 38 IAMs_20 IAMs_20 00 57 19.7
comp=Z,11µm,21.0s
K43A Burlington 129.14 35 IAMs_20 IAMs_20 01 04 50.3
comp=Z,13µm,20.0s
HHAR Hobbs 129.22 45 PKPdf 00 05 51.0 -0.2
R40A Maddies Statio 129.32 42 IAMs_20 IAMs_20 01 02 58.3
comp=Z,12µm,20.0s
GLMI Grayling 129.70 30 IAMs_20 IAMs_20 01 01 50.6
comp=Z,13µm,21.0s
L44A Lake County Fo 129.71 35 IAMs_20 IAMs_20 01 04 55.6
comp=Z,11µm,19.0s
KVTX Kingsville 129.84 57 IAMs_20 IAMs_20 01 07 28.5
comp=Z,9µm,19.0s
HDIL Hopedale 129.91 37 IAMs_20 IAMs_20 01 02 41.2
comp=Z,10µm,21.0s
HQIL Hanson Quary C 129.99 35 IAMs_20 IAMs_20 01 08 27.9
comp=Z,13µm,20.0s
LL02 Futaleuf 130.02 161 PKPdf 00 05 51.1 -1.5
LL02 IAMs_20 IAMs_20 00 56 07.0
comp=Z,14µm,21.0s
CCM Cathedral Cave 130.13 41 IAMs_20 IAMs_20 01 07 44.5
comp=Z,9µm,19.0s
M44A Midewin, Midew 130.14 36 IAMs_20 IAMs_20 01 05 15.0
comp=Z,13µm,19.0s
TIO Tiouine 130.14 308 PKP PKiKP 00 05 57.1 +3.0
P43A Skaggs, Pawnee 130.32 38 IAMs_20 IAMs_20 00 58 14.2
comp=Z,10µm,21.0s
MIAR Mount Ida 130.33 46 PKPdf 00 05 52.7 -0.7
MIAR Mount Ida 130.33 46 PKiKP PKPdf 00 05 52.7 -0.7
LL01 San Ignacio de 130.55 160 PKPdf 00 05 53.9 +0.3
SHEL Horse Pasture 130.68 246 IAMs_20 IAMs_20 01 01 09.7
comp=Z,9µm,21.0s
L46A Eue Claire 130.73 34 IAMs_20 IAMs_20 01 06 35.5
comp=Z,12µm,19.0s
NATX Nacogdoches 130.80 50 PKPdf PKPdf 00 05 54.7 +0.3
NATX IAMs_20 IAMs_20 00 59 58.8
comp=Z,12µm,20.0s
Q44A Meyer Farm, Va 131.07 39 IAMs_20 IAMs_20 01 04 26.2
comp=Z,11µm,21.0s
I49A Point Hope 131.23 30 IAMs_20 IAMs_20 00 59 30.0
comp=Z,13µm,21.0s
SFIN Lafayette 131.33 36 IAMs_20 IAMs_20 01 13 46.7
comp=Z,11µm,19.0s
LL03 Petrohue 131.65 159 IAMs_20 IAMs_20 00 58 43.5
comp=Z,14µm,21.0s
P46A Rosedale 131.75 37 IAMs_20 IAMs_20 01 02 47.8
comp=Z,12µm,20.0s
441A DeRidder 132.38 51 IAMs_20 IAMs_20 00 59 55.6
comp=Z,10µm,20.0s
O48B Farmland 132.54 35 IAMs_20 IAMs_20 01 10 56.5
comp=Z,8µm,19.0s

LR05 Currie 132.59 159 PKPdf PKiKP 00 05 59.0 +0.4
LR05 IAMs_20 IAMs_20 00 59 12.1
comp=Z,13µm,20.0s
LDAQ Lac Daran 132.63 18 PKPdf PKPdf 00 05 57.9 +0.5
N49A Columbus Grove 132.64 34 IAMs_20 IAMs_20 01 10 24.9
comp=Z,12µm,20.0s
PLCA Paso Flores 132.65 160 PKPdf 00 05 57.1 -0.6
PLCA Paso Flores 132.65 160 PKP PKiKP 00 05 59.9 +1.1
comp=Z,14nm,1.0s,baz=220,slow=2.2,SNR=10
PLCA SKPbc SKPab 00 09 25.1 +0.2
comp=Z,22nm,1.3s,baz=240,slow=3.0,SNR=4.0
PLCA Paso Flores 132.65 160 PKP PKiKP 00 06 00.1 +1.3
PLCA Paso Flores 132.65 160 eP PKPdf 00 05 57.8 0.0
P48A Milroy 132.91 36 IAMs_20 IAMs_20 01 13 35.3
comp=Z,8µm,19.0s
M50A Fremont 132.93 32 IAMs_20 IAMs_20 00 58 06.3
comp=Z,14µm,21.0s
OXF Oxford 133.31 44 PKPdf 00 05 57.8 -1.2
OXF Oxford 133.31 44 PKiKP PKPdf 00 05 57.8 -1.2
DBIC Dimbokro 133.34 276 PKPdf PKPdf 00 05 57.9 -1.7
DBIC Dimbokro 133.34 276 PKiKP PKPpre 00 05 51.7
comp=Z,5.8nm,0.9s,baz=134,slow=3.3,SNR=3.8
DBIC PKP PKiKP 00 06 01.8 +1.0
comp=Z,17nm,0.9s,baz=129,slow=3.2,SNR=9.3
DBIC SKPbc SKPbc 00 09 26.9 +0.3
comp=Z,22nm,1.0s,baz=213,slow=6.3,SNR=6.7
DBIC SKKPbc SKKPbc 00 18 43.0 -0.3
comp=Z,5.6nm,0.9s,baz=319,slow=9.8,SNR=3.2
T47A Sharon Grove 133.43 40 IAMs_20 IAMs_20 01 06 20.6
comp=Z,12µm,20.0s
Y45A Yeager Farm, C 133.56 45 IAMs_20 IAMs_20 00 58 39.9
comp=Z,13µm,21.0s
N51A Ashland 133.63 32 IAMs_20 IAMs_20 00 58 37.9
comp=Z,12µm,21.0s
ACSO Alum Creek Sta 133.78 34 IAMs_20 IAMs_20 01 13 38.0
comp=Z,9µm,20.0s
ERPA Erie 133.98 29 IAMs_20 IAMs_20 01 01 04.6
comp=Z,8µm,21.0s
D62A Allapoint, All 134.07 17 IAMs_20 IAMs_20 01 06 08.7
comp=Z,11µm,21.0s
E62A Clayton Lake 134.35 17 IAMs_20 IAMs_20 01 05 38.2
comp=Z,10µm,21.0s
V48A Smith Brothers 134.35 41 IAMs_20 IAMs_20 01 07 41.4
comp=Z,12µm,19.0s
LONY Lake Ozonia 134.36 23 IAMs_20 IAMs_20 01 10 20.1
comp=Z,12µm,20.0s
Q51A Peebles 134.40 35 IAMs_20 IAMs_20 01 05 01.7
comp=Z,13µm,20.0s
O52A Adamsville 134.49 33 IAMs_20 IAMs_20 01 08 14.9
comp=Z,10µm,20.0s
J57A Williamstown 134.79 25 IAMs_20 IAMs_20 01 08 05.6
comp=Z,10µm,20.0s
Z47A Carrollton 134.95 45 IAMs_20 IAMs_20 00 59 23.8
comp=Z,13µm,21.0s
Q52A Bidwell 135.06 34 IAMs_20 IAMs_20 01 02 42.0
comp=Z,10µm,22.0s
K57A Scipio Center 135.11 26 IAMs_20 IAMs_20 01 04 42.3
comp=Z,13µm,21.0s
BI05 Punta Hualpn 135.15 155 IAMs_20 IAMs_20 01 08 28.1
comp=Z,11µm,19.0s
P53A Whipple 135.18 33 IAMs_20 IAMs_20 01 05 27.9
comp=Z,13µm,22.0s
J59A Piesco 135.36 24 IAMs_20 IAMs_20 01 10 14.5
comp=Z,11µm,20.0s
F64A Sherman 135.38 17 IAMs_20 IAMs_20 01 12 18.3
comp=Z,9µm,20.0s
PKME Peaks-Kenny Pk 135.65 18 IAMs_20 IAMs_20 01 03 44.4
comp=Z,10µm,21.0s
LBNH Lisbon 135.68 21 IAMs_20 IAMs_20 01 08 18.6
comp=Z,9µm,20.0s
Q54A Coxs Mills 135.84 33 IAMs_20 IAMs_20 01 07 52.4
comp=Z,13µm,20.0s
PMPST Porto Santo, M 135.84 316 ePKP PKiKP 00 06 09.0 +3.6
PMPST ePP PP 00 08 48.2 +6.4
PMPS Porto Santo 135.85 316 ePKP PKiKP 00 06 05.4 0.0
BI02 San Fabin de 136.00 157 PKPdf 00 06 02.9 -1.2
BI02 IAMs_20 IAMs_20 01 07 13.7
comp=Z,11µm,21.0s
SSPA Standing Stone 136.13 29 PKPdf PKPdf 00 06 04.3 +0.2
WVL Waterville 136.16 19 IAMs_20 IAMs_20 01 07 11.1
comp=Z,12µm,21.0s
G65A Princeton 136.21 16 IAMs_20 IAMs_20 01 06 58.3
comp=Z,10µm,21.0s
J61A Chester 136.22 22 IAMs_20 IAMs_20 01 06 37.1
comp=Z,12µm,21.0s
TRY Troy 136.31 24 IAMs_20 IAMs_20 01 03 39.6
comp=Z,13µm,22.0s
I63A Otisfield 136.31 20 IAMs_20 IAMs_20 01 06 57.3
comp=Z,11µm,20.0s
X51A Calhoun 136.35 41 IAMs_20 IAMs_20 01 13 24.1
comp=Z,12µm,20.0s
S54A Dingess, Beckl 136.40 35 IAMs_20 IAMs_20 01 13 02.7
comp=Z,9µm,20.0s
PMAR Madeira 136.45 316 ePP PP 00 08 55.1 +9.3
PMOZ Porto Moniz, M 136.59 316 ePKP PKPdf 00 06 03.8 -1.6
PMOZ eLR LR 00 55 25.1
PMOZ i IAMs_20 IAMs_20 01 21 42.3
comp=Z,4µm,20.0s
Q56A Snyder Ridge, 136.68 32 IAMs_20 IAMs_20 01 02 48.4
comp=Z,13µm,22.0s
EMMW East Machias 136.69 16 IAMs_20 IAMs_20 01 07 10.0
comp=Z,11µm,21.0s
R55A Marlinton 136.73 33 IAMs_20 IAMs_20 01 13 15.0
comp=Z,11µm,19.0s
L61B Northampton 136.94 23 IAMs_20 IAMs_20 01 19 06.2
comp=Z,9µm,21.0s
V53A Saluda 136.95 38 IAMs_20 IAMs_20 01 04 42.7
comp=Z,13µm,21.0s
TRQA Tornquist 137.51 168 IAMs_20 IAMs_20 01 04 54.7
comp=Z,9µm,21.0s
S57A Dark Hollow, R 137.74 33 IAMs_20 IAMs_20 01 10 37.7
comp=Z,12µm,20.0s
WSPT Westport, CT 137.75 25 IAMs_20 IAMs_20 01 07 15.0
comp=Z,12µm,20.0s
BO02 Sierra Bellavi 137.82 156 IAMs_20 IAMs_20 01 10 11.7
comp=Z,12µm,21.0s
451A Vernon 138.01 46 IAMs_20 IAMs_20 01 04 27.2
comp=Z,12µm,22.0s
352A Blakely 138.12 45 IAMs_20 IAMs_20 01 07 20.4
comp=Z,11µm,19.0s
T57A Hurt 138.13 34 IAMs_20 IAMs_20 01 01 35.2
comp=Z,11µm,21.0s
CBN Corbin Frederi 138.24 31 IAMs_20 IAMs_20 01 02 55.8
comp=Z,13µm,22.0s
MT01 Popeta 138.43 155 IAMs_20 IAMs_20 01 10 41.0
comp=Z,10µm,20.0s
M65A Busby, Falmout 138.47 22 IAMs_20 IAMs_20 01 10 45.6
comp=Z,12µm,20.0s
BO04 La Punta 138.59 156 IAMs_20 IAMs_20 01 11 10.1
comp=Z,8µm,20.0s
MT09 Talagante 138.62 155 IAMs_20 IAMs_20 01 10 53.9
comp=Z,9µm,20.0s
LMEL Las Melosas 138.88 156 IAMs_20 IAMs_20 01 03 49.7
comp=Z,9µm,20.0s
MT13 San Alfonso 138.94 156 IAMs_20 IAMs_20 01 02 45.6
comp=Z,8µm,22.0s
VA01 Torpederas 138.98 154 IAMs_20 IAMs_20 01 00 55.8
comp=Z,10µm,22.0s
MT02 Curacav 139.00 155 IAMs_20 IAMs_20 01 04 47.1
comp=Z,12µm,21.0s
W57A Gilead 139.00 36 IAMs_20 IAMs_20 01 11 25.7
comp=Z,12µm,20.0s
MT05 Renca 139.06 155 IAMs_20 IAMs_20 01 11 14.8
comp=Z,8µm,20.0s
MT03 Universidad Ad 139.06 156 IAMs_20 IAMs_20 01 02 31.6
comp=Z,8µm,21.0s
MT16 CCHEN 139.11 156 IAMs_20 IAMs_20 01 02 32.0
comp=Z,9µm,22.0s
PEL Peldehue 139.29 155 IAMs_20 IAMs_20 01 04 56.9
comp=Z,8µm,21.0s
MT08 Bocatoma Ro 139.31 156 IAMs_20 IAMs_20 01 04 02.7
comp=Z,8µm,21.0s
VA06 Catapilco 139.53 154 IAMs_20 IAMs_20 01 01 10.5
comp=Z,8µm,22.0s
VA03 San Esteban 139.68 155 IAMs_20 IAMs_20 01 05 35.9
comp=Z,8µm,20.0s
AAGR Agrelo 140.09 157 eP PKPdf 00 06 10.8 -1.0
ASAL Salagasta 140.53 157 eP PKPdf 00 06 11.7 -0.9
456A Hilliard 140.57 43 IAMs_20 IAMs_20 01 06 30.4
comp=Z,10µm,21.0s
AUSP Uspallata 140.63 156 eP PKPdf 00 06 12.5 -0.5
CO02 Combarbal 140.82 153 IAMs_20 IAMs_20 01 05 45.6
comp=Z,9µm,19.0s
CO06 Fray Jorge 140.97 152 PKPdf PKPdf 00 06 13.6 +0.3
CO06 IAMs_20 IAMs_20 01 03 40.9
comp=Z,11µm,20.0s
656A Willston 141.02 45 IAMs_20 IAMs_20 01 10 46.5
comp=Z,11µm,19.0s
RTLS Leoncito 141.04 156 eP PKPdf 00 06 07.1 -6.6
PAYG Puerto Ayora 141.12 95 IAMs_20 IAMs_20 01 06 47.8
comp=Z,7µm,18.0s
ASCN Ascension 141.13 253 IAMs_20 IAMs_20 01 08 01.3
comp=Z,6µm,20.0s
CO03 El Pedregal 141.27 153 IAMs_20 IAMs_20 01 06 07.6
comp=Z,9µm,20.0s
CFA Coronel Fontan 141.63 157 PKhKP PKPpre 00 06 10.4
comp=Z,9.7nm,0.5s,baz=214,slow=3.1,SNR=13
CFA PKP PKPdf 00 06 15.3 +0.8
comp=Z,9.7nm,0.5s,baz=198,slow=3.0,SNR=16
GO04 Tololo Observa 141.78 153 IAMs_20 IAMs_20 01 04 15.3
comp=Z,10µm,21.0s
MRA San Martin 141.81 161 eP PKPdf 00 06 10.8 -4.1
ACCO Cerro Coronel 142.19 155 eP PKPdf 00 06 17.0 +1.1
AROD Rodeo 142.38 154 eP PKPdf 00 06 17.4 +1.2
ACDV Cuesta del Vie 142.53 155 eP PKPdf 00 06 17.4 +1.1
DWPF Disney Wildern 142.53 46 IAMs_20 IAMs_20 01 14 11.8
comp=Z,9µm,19.0s
ACHE Chepes 142.63 158 eP PKPdf 00 06 16.6 +0.2
AVFE Valle Fertil 142.78 157 eP PKPdf 00 06 16.2 -0.4
LCO Las Campanas 142.81 152 IAMs_20 IAMs_20 01 04 53.5
comp=Z,11µm,21.0s
TCA Tanti 143.18 161 eP PKPdf 00 06 17.8 +0.5
AC04 Llanos de Chal 143.30 151 IAMs_20 IAMs_20 01 02 25.6
comp=Z,10µm,21.0s
TGUH Tegucigalpa,Un 143.30 71 IAMs_20 IAMs_20 01 04 49.0
comp=Z,8µm,20.0s
APLL PUNTA DE LOS L 143.37 158 eP PKPdf 00 06 18.2 +0.6
AGUA GUANDACOL 143.39 155 eP PKPdf 00 06 17.4 -0.3
CRIN San Cristobal 143.80 73 IAMs_20 IAMs_20 01 04 53.3
comp=Z,6µm,21.0s
060A Indiantown 143.93 47 IAMs_20 IAMs_20 01 08 55.8
comp=Z,9µm,20.0s
HERN Volcan Telica 144.03 73 PKPdf PKPbc 00 06 17.7 +0.6
ACLC CERRO LA CRUZ 144.07 157 eP PKPab 00 06 16.6 +0.1
SOR Soroa 144.08 55 PKPdf PKPbc 00 06 17.6 +0.6
SOR Soroa 144.08 55 eP PKPdf 00 06 19.2 +0.3
SOR Soroa 144.08 55 PKiKP PKPbc 00 06 17.6 +0.6
VCA Vinchina 144.16 155 eP PKPdf 00 06 18.7 -0.6
VCA eP PKiKP 00 06 21.1 -1.6
MBO M'Bour 144.17 290 IAMs_20 IAMs_20 01 16 07.7
comp=Z,12µm,21.0s
061Z Ochoppi 144.18 49 IAMs_20 IAMs_20 01 13 47.9
comp=Z,9µm,19.0s
GO03 Copiapo 144.21 151 PKPab 00 06 17.0 +0.1
GO03 IAMs_20 IAMs_20 01 02 45.8
comp=Z,9µm,21.0s
GO03 Copiapo 144.21 151 eP PKPdf 00 06 19.9 +0.7
AANI Anillaco 144.62 156 eP PKPbc 00 06 19.5 +0.8
MGAN Managua 144.68 74 PKPdf PKPab 00 06 19.0 +0.2
PLTB Pedras Altas 144.84 177 PKPab 00 06 18.6 -0.4
PLTB Pedras Altas 144.84 177 eP PKPab 00 06 19.1 0.0
PSAL Palomas, Salto 145.10 171 eP PKPbc 00 06 20.0 0.0
AC01 Pan de Azucar 145.23 149 PKPbc 00 06 19.4 -1.1
CAMR Camarioca 145.28 53 eP PKiKP 00 06 24.2 -0.7
AC02 Maricunga 145.38 152 IAMs_20 IAMs_20 01 12 05.7
comp=Z,12µm,22.0s
AC02 Maricunga 145.38 152 eP PKPab 00 06 22.4 +0.6
CYA Choya 145.40 158 eP PKPbc 00 06 21.1 +0.1
CYA eP PKPab 00 06 23.2 +2.0
SIUN Universidad Ur 145.74 71 PKPdf PKPdf 00 06 21.3 -0.7
CPSB Cacapava Do Su 146.20 177 PKP PKPbc 00 06 23.2 -0.2
SOCE Pocosol 146.56 77 PKPdf PKPdf 00 06 23.2 -0.3
PB14 IPOC Station P 146.57 148 PKPdf 00 06 24.3 +0.7
MGV Manicaragua 146.87 54 eP PKPab 00 06 26.5 -0.4
CAIB Caibarien 147.08 53 eP PKiKP 00 06 28.5 -0.1
HDC Heredia 147.11 77 IAMs_20 IAMs_20 01 06 56.7
comp=Z,9µm,20.0s
HDC Heredia 147.11 77 eP PKPdf 00 06 23.1 -1.4
CNLB Canela 147.32 181 PKP PKPab 00 06 29.0 +0.5
CNLB Canela 147.32 181 eP PKPdf 00 06 23.7 -0.8
PB10 IPOC Station P 147.38 146 IAMs_20 IAMs_20 01 05 46.2
comp=Z,11µm,21.0s
FSA Cafayete 147.40 156 eP PKPbc 00 06 26.9 -0.4
PB06 IPOC Station P 148.56 147 PKPbc PKPdf 00 06 28.6 +1.8
PB06 IAMs_20 IAMs_20 01 06 21.5
comp=Z,11µm,21.0s
BRU2 Volcan 148.68 79 PKPbc 00 06 29.6 -1.4
BBSR BB Station 148.80 22 IAMs_20 IAMs_20 01 18 45.1
comp=Z,10µm,21.0s
SLA San Lorenzo 148.83 155 eP PKiKP 00 06 32.3 -0.2
SALTA 148.90 153 eP PKPbc 00 06 31.8 +0.2
PB03 IPOC Station P 148.99 146 IAMs_20 IAMs_20 01 15 24.9
comp=Z,9µm,21.0s
PRVC Isla de Provid 149.03 70 PKPdf 00 06 29.0 +1.5
AF01 San Pedro de A 149.10 149 PKPdf 00 06 29.7 +1.8
AF01 IAMs_20 IAMs_20 01 05 35.4
comp=Z,11µm,22.0s
ITAB Concordia 149.40 179 PKP PKPbc 00 06 32.5 +0.3
ITAB Concordia 149.40 179 eP PKPdf 00 06 27.0 -0.8
AZAP Zapla 149.45 155 eP PKPbc 00 06 32.7 -0.1
PB09 IPOC Station P 149.47 146 IAMs_20 IAMs_20 01 19 49.7
comp=Z,9µm,20.0s
PB02 IPOC Station P 149.48 145 PKPbc PKPdf 00 06 30.1 +1.8
PB02 IAMs_20 IAMs_20 01 09 55.1
comp=Z,9µm,20.0s
PATCX Punta Patache 149.72 144 IAMs_20 IAMs_20 01 15 46.5
comp=Z,9µm,20.0s
CPUP Villa Florida 149.79 170 PKPdf 00 06 28.3 -0.2
CPUP Villa Florida 149.79 170 PKPbc PKPbc 00 06 32.1 -1.1
comp=Z,3.1nm,0.7s,baz=47,slow=2.0,SNR=17
CPUP Villa Florida 149.79 170 PKP PKPbc 00 06 33.2 0.0
TA01 Diego Aracena 149.90 143 IAMs_20 IAMs_20 01 17 19.3
comp=Z,8µm,20.0s
PB01 IPOC Station P 149.93 145 PKPdf 00 06 29.0 0.0
SACV Santiago Islan 150.17 294 IAMs_20 IAMs_20 01 15 32.1
comp=Z,9µm,22.0s
LMGC Las Mercedes 150.29 54 eP PKPbc 00 06 33.5 -1.0
HMBC Humberstone 150.30 144 PKPdf PKPdf 00 06 29.6 0.0
HMBC IAMs_20 IAMs_20 01 17 38.8
comp=Z,8µm,18.0s
NNA Nana 150.55 122 PKPbc PKPbc 00 06 34.0 -1.4
NNA Nana 150.55 122 PKPbc PKPbc 00 06 35.9 +0.5
comp=Z,105nm,0.9s,baz=249,slow=7.3,SNR=25
NNA Nana 150.55 122 PKiKP PKPbc 00 06 34.0 -1.4
HLGC Holguin 150.62 52 eP PKPdf 00 06 31.9 +2.0
YAR Yar 150.65 53 eP PKiKP 00 06 36.8 +0.7
MTDJ Mount Denham 150.72 58 IAMs_20 IAMs_20 01 28 10.8
comp=Z,7µm,22.0s
MTDJ Mount Denham 150.72 58 eP PKPdf 00 06 31.9 +1.6
PB11 IPOC Station P 150.83 143 IAMs_20 IAMs_20 01 19 15.0
comp=Z,8µm,19.0s
PB08 IPOC Station P 150.83 144 PKPdf PKPdf 00 06 30.4 -0.4
PB08 IAMs_20 IAMs_20 01 11 49.9
comp=Z,9µm,21.0s
PINC Pinares de May 151.04 52 eP PKPbc 00 06 35.9 -0.5
YJA Yavi 151.05 153 eP PKiKP 00 06 40.1 +2.6
GO01 Chusmiza 151.18 144 IAMs_20 IAMs_20 01 12 12.1
comp=Z,9µm,22.0s
TIJ01 Guaruva-PR 151.20 185 PKP PKPbc 00 06 35.6 -1.1
MARVS Santiago de Cu 151.21 53 eP PKPbc 00 06 34.2 -2.5
ATAH Atahualpa 151.24 112 PKPbc PKPbc 00 06 37.4 -0.2
comp=Z,28nm,0.8s,baz=149,slow=0.8,SNR=13
SJPY San Joaquin 151.30 171 eP PKPdf 00 06 29.9 -0.9
RCC Rio Carpintero 151.38 53 eP PKPdf 00 06 33.5 +2.5
STH Stony Hill 151.41 58 eP PKPbc 00 06 35.9 -1.4
GTBY Guantanamo Bay 151.88 53 IAMs_20 IAMs_20 01 24 16.6
comp=Z,7µm,20.0s
PTGB Pitanga 151.91 179 PKP PKPbc 00 06 37.2 -1.2
PTGB Pitanga 151.91 179 eP PKPdf 00 06 30.9 -1.0
QMBU Quimbuelo 151.97 52 eP PKPbc 00 06 35.5 -3.0
PB16 IPOC Station P 152.01 142 IAMs_20 IAMs_20 01 09 08.4
comp=Z,7µm,20.0s
PET01 Itanhaem-SP 152.02 188 PKP PKPbc 00 06 36.6 -1.9
PET01 Itanhaem-SP 152.02 188 eP PKPdf 00 06 31.1 -0.8
PB18 Visviri 152.58 141 PKPdf 00 06 32.5 -1.1
PARB Paraibuna 152.65 192 eP PKPdf 00 06 32.0 -1.0
MAN01 Angra dos Reis 152.71 196 eP PKPdf 00 06 32.1 -1.0
SPB Sao Paulo 152.73 188 PKPbc 00 06 37.9 -2.2
SPB IAMs_20 IAMs_20 01 15 21.5
comp=Z,11µm,22.0s
SPB Sao Paulo 152.73 188 eP PKPdf 00 06 32.1 -0.9
CAM01 Campos-RJ 152.97 201 PKP PKPdf 00 06 36.3 +2.9
CAM01 Campos-RJ 152.97 201 eP PKPdf 00 06 32.5 -0.9
DUB01 Friburgo-RJ 152.98 199 eP PKPdf 00 06 32.5 -1.0
VAS01 Vassouras-RJ 153.12 197 eP PKPdf 00 06 32.7 -1.0
FRTB Fartura 153.21 184 eP PKPdf 00 06 32.8 -1.0
VAO Valinhos 153.23 190 PKPbc 00 06 38.6 -2.8
VAO Valinhos 153.23 190 eP PKPdf 00 06 32.8 -1.1
AMBA Amambai (Brazi 153.49 173 eP PKPdf 00 06 33.2 -1.0
ALF01 Guarapari-ES 153.72 204 PKP PKPbc 00 06 39.6 -2.7

ALF01	Guarapari-ES	153.72	204	*e*P	PKPdf	00 06 33.6	-0.9
TRCB	Terra Rica	153.81	178	PKPdf	PKPdf	00 06 34.2	-0.4
TRCB	Terra Rica	153.81	178	PKP	PKPbc	00 06 39.2	-3.4
TRCB	Terra Rica	153.81	178	*e*P	PKPdf	00 06 33.7	-0.9
RCLB	Rio Claro- Sao	153.89	189	*e*P	PKPdf	00 06 33.9	-1.0
LPAZ	La Paz	154.41	141	PKPdf	PKPdf	00 06 35.7	-0.7
LPAZ	La Paz	154.41	141	PKP	PKPdf	00 06 36.5	+0.1
	comp=Z,4.9nm,0.9s,baz=298,slow=0.7,SNR=10						
LPAZ				PKPbc	PKPbc	00 06 44.8	+0.1
	comp=Z,8.5nm,0.3s,baz=217,slow=4.3,SNR=13						
LPAZ	La Paz	154.41	141	PKP	PKPdf	00 06 39.3	+2.9
LPAZ	La Paz	154.41	141	*e*P	PKPdf	00 06 34.3	-2.0
BSCB	Bom Sucesso	154.71	195	PKP	PKPbc	00 06 41.3	-3.3
BSCB	Bom Sucesso	154.71	195	*e*P	PKPdf	00 06 34.9	-1.1
RIB01	Linhares ES	154.75	206	PKP	PKPdf	00 06 39.9	+3.9
BB19B	Bebedouro	155.36	187	PKP	PKPdf	00 06 42.4	+5.5
BB19B	Bebedouro	155.36	187	*e*P	PKPdf	00 06 35.9	-1.0
SDDR	Presa de Saban	155.39	50		PKPdf	00 06 36.4	-0.5
SJMB	Sao Joao De Ma	155.63	205	PKP	PKPdf	00 06 38.6	+1.3
SJMB	Sao Joao De Ma	155.63	205	*e*P	PKPdf	00 06 36.2	-1.0
AQDB	Aquidauana	155.80	171	PKPdf	PKPdf	00 06 36.4	-1.0
AQDB	Aquidauana	155.80	171	PKP	PKPdf	00 06 40.0	+2.6
FLOC	Florencia	155.91	94	PKPdf	PKPdf	00 06 37.0	-0.8
CZSB	Cruzeiro do Su	156.16	118	PKPdf	PKPdf	00 06 37.5	-0.5
GUA01	Guaratinga, BA	156.85	210	PKP	PKPdf	00 06 41.3	+2.4
GUA01	Guaratinga, BA	156.85	210	*e*P	PKPdf	00 06 37.9	-0.9
ITRB	Iturama	156.87	183	PKP	PKPdf	00 06 40.4	+1.6
ITRB	Iturama	156.87	183	*e*P	PKPdf	00 06 37.8	-1.1
DIAM	Diamantina, MG	156.93	200	PKP	PKPdf	00 06 42.8	+3.7
DIAM	Diamantina, MG	156.93	200	*e*P	PKPdf	00 06 37.9	-1.3
ROSC	El Rosal	157.32	86	PKPdf	PKPdf	00 06 39.2	-0.9
ROSC	El Rosal	157.32	86	PKP	PKPdf	00 06 40.5	+0.4
	comp=Z,6.3nm,0.4s,baz=97,slow=5.3,SNR=4.9						
PMNB	Patos De Minas	157.48	193	*e*P	PKPdf	00 06 38.6	-1.1
CMC01	Camacan, BA	157.73	212	PKP	PKPdf	00 06 42.1	+2.1
CMC01	Camacan, BA	157.73	212	*e*P	PKPdf	00 06 39.0	-1.0
C2SB	Chapadao do Su	157.80	177	PKP	PKPdf	00 06 43.0	+3.0
C2SB	Chapadao do Su	157.80	177	*e*P	PKPdf	00 06 39.0	-1.0
ITU3	Corumbazu	158.21	187	PKP	PKPdf	00 06 44.4	+3.8
SFA1	Serra Facao	158.28	190	PKP	PKPdf	00 06 46.2	+5.5
IPMB	Ipameri, GO	158.35	189	PKP	PKPdf	00 06 43.1	+2.3
IPMB	Ipameri, GO	158.35	189	*e*P	PKPdf	00 06 39.7	-1.1
SIV	San Ignacio	158.46	154	PKP	PKPdf	00 06 41.9	+1.0
	comp=Z,7.6nm,1.0s,baz=188,slow=1.3,SNR=11						
SIV				PKPab	PKPab	00 07 17.1	+1.7
	comp=Z,9.3nm,0.7s,baz=194,slow=3.0,SNR=9.2						
RUSC	La Rusia	158.47	83		PKPdf	00 06 39.8	-1.8
PP1B	Ponte de Pedra	158.75	171	*e*P	PKPdf	00 06 40.2	-1.0
SJG	San Juan	159.69	43	IAMs_20	IAMs_20	01 30 00.9	
	comp=Z,10µm,21.0s						
PTLB	Pontes e Lacer	159.72	159	PKPdf	PKPdf	00 06 41.9	-0.4
PTLB	Pontes e Lacer	159.72	159	PKP	PKPdf	00 06 43.1	+0.8
PTLB	Pontes e Lacer	159.72	159	*e*P	PKPdf	00 06 41.3	-1.0
NBAN	Anadia - AL	159.86	229	*e*P	PKPdf	00 06 41.5	-1.1
JANB	Januaria	160.16	201	PKP	PKPdf	00 06 46.2	+3.3
JANB	Januaria	160.16	201	*e*P	PKPdf	00 06 41.8	-1.1
SALV	Santo Antonio	160.27	168	PKP	PKPdf	00 06 45.6	+2.7
SALV	Santo Antonio	160.27	168	*e*P	PKPdf	00 06 41.8	-1.1
SDV	Santo Domingo	160.36	73	PKP	PKPdf	00 06 45.5	+2.1
SDV	Santo Domingo	160.36	73	*e*P	PKPdf	00 06 41.9	-1.5
BDFB	Brasilia	160.61	190	PKP	PKPdf	00 06 45.0	+1.6
	comp=Z,12nm,1.1s,baz=115,slow=5.3,SNR=3.1						
BDFB				PKPab	PKPab	00 07 26.1	+1.3
	comp=Z,12nm,0.7s,baz=113,slow=5.7,SNR=3.3						
ARAG	Araguaiana, MT	160.88	179	*e*P	PKPdf	00 06 42.5	-1.1
LABB	L¡brea	161.04	132	PKP	PKPdf	00 06 45.6	+1.8
VILB	Vilhena	161.53	153	PKP	PKPdf	00 06 47.2	+2.8
VILB	Vilhena	161.53	153	*e*P	PKPdf	00 06 43.2	-1.2
RCBR	Riachuelo	161.76	239	PKP	PKPdf	00 06 48.7	+4.0
RCBR	Riachuelo	161.76	239	*e*P	PKPdf	00 06 43.9	-0.8
SDBA	SAO DESIDERIO	162.81	203	PKP	PKPdf	00 06 48.6	+2.9
SDBA	SAO DESIDERIO	162.81	203	*e*P	PKPdf	00 06 44.6	-1.1
BAUV	El Baul	162.81	71		PKPdf	00 06 43.8	-1.9
CAN3	Cana Brava	163.14	191	PKP	PKPdf	00 06 51.6	+5.6
PDRB	Porto dos Gac	164.11	161	PKP	PKPdf	00 06 48.3	+1.4
SGC2	Sao Gabriel da	164.21	103	PKP	PKPdf	00 06 49.2	+2.1
SNDB	Serra Nova Dou	164.58	181	PKP	PKPdf	00 06 50.9	+3.5
SNDB	Serra Nova Dou	164.58	181	*e*P	PKPdf	00 06 46.3	-1.1
CLDB	Colider	165.09	164	PKP	PKPdf	00 06 49.6	+1.8
CLDB	Colider	165.09	164	*e*P	PKPdf	00 06 46.7	-1.1
TEFE	Tefe	165.22	118	PKP	PKPdf	00 06 49.5	+1.5
TEFE	Tefe	165.22	118	*e*P	PKPdf	00 06 46.7	-1.2
SBBR	Sobral	166.55	238	PKP	PKPdf	00 06 50.2	+1.2
SMTB	Santa Maria do	167.04	198	PKP	PKPdf	00 06 51.3	+1.9
SMTB	Santa Maria do	167.04	198	*e*P	PKPdf	00 06 48.3	-1.0
NBPS	Pedro II - PI	167.14	232	PKP	PKPdf	00 06 51.4	+1.9
MACA	Manacapuru-AM	168.75	126	PKP	PKPdf	00 06 52.4	+1.9
MACA	Manacapuru-AM	168.75	126	*e*P	PKPdf	00 06 49.7	-0.8
NPGB	Novo Progresso	168.84	160	PKP	PKPdf	00 06 52.4	+1.8
NPGB	Novo Progresso	168.84	160	*e*P	PKPdf	00 06 49.5	-1.1
PAL2	UHE Estreito -	168.92	203	PKP	PKPdf	00 06 52.0	+1.3
PAL01	Palmeiras do T	169.11	202	PKP	PKPdf	00 06 52.1	+1.3
PRPB	Parauapebas	170.19	191	*e*P	PKPdf	00 06 49.6	-1.8
BOAV	Boa Vista	171.03	97		PKPdf	00 06 50.0	-1.9
BOAV	Boa Vista	171.03	97	*e*P	PKPdf	00 06 50.9	-1.0
ITTB	Itaituba	171.13	152	*e*P	PKPdf	00 06 50.8	-1.1
TMAB	Tom-Au,PA,Br	173.16	211	PKP	PKPdf	00 06 54.8	+2.0
TMAB	Tom-Au,PA,Br	173.16	211	*e*P	PKPdf	00 06 52.0	-0.8

*IDC **26** 00:04:43.7±2.3,3˚.65S×127˚.98E, h0km, mb3.9/2, mbtmp4.0/3, ML3.7/1, Error ellipse: s-maj=174.8km s-min=29.6km az=67.0*
*DJA **26** 00:04:44.9±0.5,4˚S±5˚×12˚8E±˚, h10km, M4.0/3, MLv4.0/3*
ISC 26 00:04:44.9±1.3**,3˚.5S**±0˚.1×**128˚.35E**±0˚.09**,h10**km**,n6,**
σ0§26/7,Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.23**	**220**	P	**Pg**	**00 04 49.9**	**+0.2**
AAI				S	**Sg**	**00 04 53.2**	**+0.3**
MSAI	**Masohi**	**0.60**	**75**	P	**Pg**	**00 04 56.9**	**+0.3**
BNDI	**Bandanaira**	**1.85**	**123**	P	**Pn**	**00 05 16.7**	**0.0**
WRA	**Warramunga Arr**	**17.35**	**161**	P	**Pn**	**00 08 47.1**	**-0.2**
	0.3nm,0.3s,baz=342,slow=12,SNR=8.4 2.7nm,0.7s						
ASAR	**Alice Springs**	**20.75**	**165**	P	**P**	**00 09 25.8**	**-0.2**
	14nm,0.8s,baz=346,slow=11,SNR=18 14nm,0.8s						
MKAR	**Makanchi Array**	**64.42**	**327**	P	**P**	**00 15 21.3**	**-0.1**
	0.4nm,0.6s,baz=128,slow=7.2,SNR=2.9 0.4nm,0.6s						

*SSNC **26** 00:04:57.4±1.2, 18˚.27N×76˚.75W, h7km±11km, ML2.5*
*JSN **26** 00:04:57.5±0.3, 18˚.14N×76˚.75W, h21km±1km, MD2.6*
ISC 26 00:04:55.5±1.1**,18˚.34N**±0˚.05×**76˚.73W**±0˚.06**,h10**km**,n9,**
σ0§75/14,4C-1D,Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STH	**Stony Hill**	**0.27**	**197**	*e*P	**Pg**	**00 05 01.2**	**+0.3**
STH				*e*S	**Sg**	**00 05 04.1**	**-0.5**
STH				IAML		00 05 05.0	
	comp=E,129µm,0.1s						
STH				IAML		00 05 05.1	
	comp=N,104µm,0.1s						
STH	**Stony Hill**	**0.27**	**197**	↑*i*P	**Pg**	**00 05 01.3**	**+0.3**
HOJ	**Hope**	**0.33**	**184**	↑*i*P	**Pg**	**00 05 01.8**	**-0.3**
MTDJ	**Mount Denham**	**0.77**	**262**	*e*P	**Pg**	**00 05 10.4**	**0.0**
MTDJ				↑*e*S	**Sg**	**00 05 20.4**	**-0.2**
MTDJ				IAML		00 05 24.1	
	comp=N,40nm,0.2s						
MTDJ				IAML		00 05 24.5	
	comp=N,100nm,0.2s						
MTDJ	**Mount Denham**	**0.77**	**262**	↓↓*i*P	**Pg**	**00 05 11.1**	**+0.6**
LMGC	**Las Mercedes**	**1.74**	**351**	*e*P	**Pn**	**00 05 26.2**	**+0.5**
LMGC				*e*S	**Sn**	**00 05 46.6**	**-1.4**
LMGC				*e*Sg	**Sb**	**00 05 48.7**	**-0.8**
RCC	**Rio Carpintero**	**1.92**	**30**	*e*S	**Sn**	**00 05 52.3**	**-0.2**
YAR	**Yar**	**2.05**	**10**	↑↑*e*P	**Pn**	**00 05 31.5**	**+1.4**
YAR				*e*S	**Sn**	**00 05 55.2**	**-0.6**
YAR				IAML		00 05 58.4	
	comp=N,6.4nm,0.1s						
YAR				IAML		00 05 58.6	
	comp=E,2.2nm,0.1s						
PINC	**Pinares de May**	**2.32**	**22**	*e*S	**Sn**	**00 06 01.8**	**-0.4**
PINC				IAML		00 06 03.7	
	comp=N,3.7nm,0.0s						
PINC				IAML		00 06 03.8	
	comp=E,11nm,0.1s						

*FUNV **26** 00:07:15.9, 6˚.71N×72˚.98W, h171km, MW3.8*
*RSNC **26** 00:07:17.2±0.0, 7˚N±1˚×7˚3W±˚, h148km±2km, M3.3, mb3.9, ML3.1*
ISC 26 00:07:15.1±1.1**,6˚.84N**±0˚.03×**73˚.10W**±0˚.04**,h159**km±8km**,**
n52,σ1§58/92,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**198**	P	**Pn**	**00 07 37.4**	**+0.5**
BARC	**Barichara**	**0.26**	**198**	P	**Pn**	**00 07 37.2**	**+0.3**
BARC				S	**Sn**	**00 07 52.0**	**-1.6**
PAMC	**Pamplona, Colo**	**0.63**	**39**	P	**Pn**	**00 07 40.0**	**+1.2**
PAMC				S	**Sn**	**00 07 57.3**	**+0.5**
BRJC	**Barrancabermej**	**0.65**	**281**	P	**Pn**	**00 07 38.8**	**+0.5**
BRJC				S	**Sn**	**00 07 56.0**	**+0.1**
RUSC	**La Rusia**	**0.94**	**179**	P	**Pn**	**00 07 41.2**	**+0.3**
RUSC				S	**Sn**	**00 07 59.8**	**-0.8**
CAPV	**Capacho**	**1.28**	**37**	*e*P	**Pn**	**00 07 45.1**	**+1.7**
CAPV				*e*S	**Sn**	**00 08 06.1**	**+0.9**
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	P	**Pn**	**00 07 44.3**	**+0.1**
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	P	**Pn**	**00 07 44.0**	**-0.1**
PTBC				S	**Sn**	**00 08 04.7**	**-1.8**
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	P	**Pn**	**00 07 44.1**	**-0.1**
OCAC	**Ocana**	**1.40**	**351**	P	**Pn**	**00 07 45.4**	**+0.9**
OCAC				P	**Pn**	**00 07 45.5**	**+0.9**
OCAC				P	**Pn**	**00 07 45.5**	**+0.9**
OCAC	**Ocana**	**1.40**	**351**	P	**Pn**	**00 07 45.2**	**+0.6**
OCAC				S	**Sn**	**00 08 07.3**	**0.0**
SPBC	**San Pablo de B**	**1.53**	**219**	P	**Pn**	**00 07 46.1**	**+0.4**
SPBC				S	**Sn**	**00 08 08.0**	**-1.3**
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	P	**Pn**	**00 07 50.8**	**+1.6**
ZARC				P		00 07 50.9	
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	P	**Pn**	**00 07 49.6**	**+0.4**
ZARC				S	**Sn**	**00 08 15.0**	**-0.5**
NORC	**Norcasia**	**2.17**	**234**	P	**Pn**	**00 07 53.5**	**+0.7**
NORC				P		00 07 53.9	
NORC	**Norcasia**	**2.17**	**234**	P	**Pn**	**00 07 53.2**	**+0.4**
NORC				S	**Sn**	**00 08 21.1**	**-0.8**
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**00 07 57.0**	**+2.0**
ROSC				S	**Sn**	**00 08 25.9**	**0.0**
HELC	**Santa Helena**	**2.50**	**255**	P	**Pn**	**00 07 58.2**	**+1.2**
HELC				S	**Sn**	**00 08 28.8**	**-0.5**
CVER	**Cruz Verde, Cu**	**2.50**	**203**	P	**Pn**	**00 07 58.3**	**+1.1**
CVER				S	**Sn**	**00 08 29.0**	**-0.7**
UREC	**San Jos de Ur**	**2.58**	**291**	P	**Pn**	**00 07 57.9**	**+0.3**
UREC				P		00 07 58.0	
UREC				P		00 07 58.1	
UREC				S	**Sn**	**00 08 28.9**	**-1.6**
UREC	**San Jos de Ur**	**2.58**	**291**	P	**Pn**	**00 07 57.0**	**-0.6**
UREC				S	**Sn**	**00 08 26.7**	**-3.8**
GUY2C	**Guyana, Caldas**	**2.77**	**235**	P	**Pn**	**00 08 01.7**	**+1.3**
GUY2C				P		00 08 02.0	
GUY2C	**Guyana, Caldas**	**2.77**	**235**	P	**Pn**	**00 08 01.0**	**+0.6**
GUY2C				S	**Sn**	**00 08 38.6**	**+3.2**
NIZA	**Niza - Manizal**	**2.95**	**233**	P	**Pn**	**00 08 06.0**	**+3.5**
NIZA				S	**Sn**	**00 08 43.0**	**+3.8**
CBOC	**Ciudad Bolivar**	**3.05**	**252**	P	**Pn**	**00 08 04.9**	**+1.2**
CBOC				S	**Sn**	**00 08 40.4**	**-0.9**
DBBC	**Dabeiba**	**3.09**	**273**	P	**Pn**	**00 08 05.5**	**+1.4**
DBBC				P		00 08 05.7	
DBBC				P		00 08 05.8	
DBBC	**Dabeiba**	**3.09**	**273**	P	**Pn**	**00 08 04.1**	**0.0**
DBBC				S	**Sn**	**00 08 39.4**	**-2.6**
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**00 08 06.5**	**+1.3**
SDV				S	**Sn**	**00 08 46.3**	**+2.2**
ARGC	**Ariguani, Magd**	**3.20**	**339**	P	**Pn**	**00 08 07.5**	**+2.1**
ARGC	**Ariguani, Magd**	**3.20**	**339**	P	**Pn**	**00 08 06.5**	**+1.1**
ARGC				S	**Sn**	**00 08 45.2**	**+0.7**
MCQV	**Machiques**	**3.23**	**10**	*e*P	**Pn**	**00 08 07.4**	**+1.6**
MCQV				*e*S	**Sn**	**00 08 45.6**	**+0.4**
PRAC	**Prado**	**3.58**	**210**	P	**Pn**	**00 08 10.7**	**+0.4**
PRAC				P	**Pn**	**00 08 10.7**	**+0.4**
PRAC	**Prado**	**3.58**	**210**	P	**Pn**	**00 08 10.2**	**-0.1**
PRAC				S	**Sn**	**00 08 53.0**	**-0.2**
APAC	**Apartado, Choc**	**3.61**	**287**	P	**Pn**	**00 08 10.7**	**+0.2**
APAC				S	**Sn**	**00 08 53.6**	**0.0**
ORTC	**Ortega, Tolima**	**3.61**	**216**	P	**Pn**	**00 08 11.6**	**+0.9**
ORTC				P		00 08 11.8	
ORTC	**Ortega, Tolima**	**3.61**	**216**	P	**Pn**	**00 08 11.2**	**+0.5**
ORTC				S	**Sn**	**00 08 54.3**	**+0.4**
SJCC	**San Jacinto, C**	**3.67**	**326**	P	**Pn**	**00 08 10.5**	**-0.9**
SJCC				S	**Sn**	**00 08 52.7**	**-2.4**
URMC	**La Uribe, Meta**	**3.79**	**200**	P	**Pn**	**00 08 13.9**	**+0.9**
URMC				S	**Sn**	**00 08 57.4**	**-0.7**
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	P	**Pn**	**00 08 17.6**	**-0.1**
CRJC				P		00 08 17.7	
CRJC				P		00 08 17.8	
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	P	**Pn**	**00 08 17.1**	**-0.6**
CRJC				S	**Sn**	**00 09 05.1**	**-1.5**
YOTC	**Yotoco, Valle**	**4.30**	**229**	P	**Pn**	**00 08 19.3**	**-0.4**
YOTC				S	**Sn**	**00 09 10.3**	**+0.3**
SMRC	**Santa Marta, M**	**4.43**	**346**	P	**Pn**	**00 08 22.9**	**+1.6**
SMRC	**Santa Marta, M**	**4.43**	**346**	P	**Pn**	**00 08 22.1**	**+0.8**
SMRC				S	**Sn**	**00 09 11.3**	**-1.6**
MACC	**Macarena, Meta**	**4.73**	**189**	P	**Pn**	**00 08 24.6**	**-0.5**
MACC				P	**P**	**00 08 25.5**	**+0.4**
MACC				P	**P**	**00 08 25.5**	**+0.4**
MACC	**Macarena, Meta**	**4.73**	**189**	P	**Pn**	**00 08 23.9**	**-1.2**
MACC				S	**Sn**	**00 09 16.0**	**-3.8**
URIC	**Uribia, Colomb**	**4.95**	**13**	P	**Pn**	**00 08 27.8**	**-0.2**
URIC				S	**Sn**	**00 09 24.0**	**-1.1**
BAUV	**El Baul**	**5.43**	**67**	*e*P	**Pn**	**00 08 32.3**	**-2.1**
BAUV				*e*S	**Sn**	**00 09 29.0**	**-7.3**
POPC	**Popayan, Colom**	**5.56**	**220**	P	**Pn**	**00 08 39.0**	**+2.6**
	19nm,1.8s						
POPC				S	**Sn**	**00 09 39.4**	**-0.6**
	19nm,1.8s						
FLOC	**Florencia**	**5.81**	**206**	P	**Pn**	**00 08 39.8**	**+0.3**
	35nm,1.7s						
BENV	**Beln**	**6.26**	**60**	*e*P	**Pn**	**00 08 45.2**	**-0.2**
BBAC	**Balboa, Cauca**	**6.33**	**221**	P	**Pn**	**00 08 48.1**	**+1.6**
BBAC				S	**Sn**	**00 09 56.6**	**-1.5**
TACV	**Tcata**	**6.84**	**61**	*e*P	**Pn**	**00 08 51.2**	**-1.9**

*IDC **26** 00:11:31.0±1.8, 3˚.28S×129˚.02E, h0km, mb4.0/3, mbtmp4.1/5, ML3.6/2, Error ellipse: s-maj=108.0km s-min=23.8km az=72.0*
*DJA **26** 00:11:33.7±0.6, 4˚S±7˚×12˚8E±˚, h10km, M4.0/6, MLv4.0/6*
ISC 26 00:11:33.1±0.9**,3˚.62S**±0˚.10×**128˚.41E**±0˚.06**,h10**km**,n9,**
σ1§02/9,Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.23**	**252**	P	**Pg**	**00 11 38.8**	**+1.0**
MSAI	**Masohi**	**0.58**	**62**	P	**Pg**	**00 11 45.1**	**+0.7**
NLAI	**Namlea**	**1.36**	**286**	P	**Pn**	**00 11 57.4**	**-0.8**
SANI	**Sanana**	**2.88**	**303**	P	**Pn**	**00 12 18.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**14.64**	**190**	Pn	**P**	**00 15 05.8**	**-1.1**
	0.1nm,0.3s,baz=13,slow=11,SNR=5.1 3.0nm,1.0s						
WRA	**Warramunga Arr**	**17.23**	**161**	P	**Pn**	**00 15 33.4**	**-0.6**
	0.3nm,0.3s,baz=342,slow=11,SNR=13 3.9nm,0.7s						
ASAR	**Alice Springs**	**20.63**	**166**	P	**P**	**00 16 14.5**	**+1.6**
	17nm,0.7s,baz=346,slow=11,SNR=50 17nm,0.7s						
MKAR	**Makanchi Array**	**64.55**	**327**	P	**P**	**00 22 10.5**	**0.0**
	0.2nm,0.4s,baz=120,slow=7.2,SNR=5.5 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**68.82**	**329**	P	**P**	**00 22 37.5**	**-0.1**
	0.5nm,0.3s,baz=134,slow=6.4,SNR=1.0 0.5nm,0.3s						

*IDC **26** 00:12:38.3±1.8, 3˚.01S×129˚.17E, h0km, mb3.9/4, mbtmp4.0/6, ML3.9/2, Error ellipse: s-maj=116.2km s-min=22.7km az=73.0*
*DJA **26** 00:12:40.2±0.5, 3˚S±4˚×12˚8E±˚, h10km, M4.0/5, MLv4.0/5*
*NEIC **26** 00:12:40.6±1.3, 3˚.4S±0˚.1×128˚.42E±0˚.09, h10km±1km, mb4.0/6, Error ellipse: s-maj=18.2km s-min=15.4km az=9.0*
ISC 26 00:12:39.9±0.8**,3˚.46S**±0˚.07×**128˚.39E**±0˚.06**,h10**km**,n21,**
σ0§97/21,mb3.9/3,Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.30**	**221**	P	**Pb**	**00 12 46.9**	**-0.5**
AAI				S	**Sb**	**00 12 51.2**	**-1.2**
MSAI	**Masohi**	**0.55**	**78**	P	**Pb**	**00 12 51.9**	**+0.3**
NLAI	**Namlea**	**1.31**	**280**	P	**Pn**	**00 13 04.7**	**+0.5**
SANI	**Sanana**	**2.78**	**300**	P	**Pn**	**00 13 25.6**	**+1.1**
FAKI	**Fak Fak**	**3.89**	**82**	Pn	**Pn**	**00 13 39.8**	**0.0**
TNTI	**Ternate**	**4.33**	**346**	Pn	**Pn**	**00 13 44.4**	**-1.4**
LUWI	**Luwuk**	**6.11**	**293**	Pn	**Pn**	**00 14 10.9**	**+0.6**
TOLI2	**Tolitoli**	**8.86**	**301**	Pn	**Pn**	**00 14 48.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**14.80**	**190**	Pn	**P**	**00 16 18.2**	**+2.9**
	0.5nm,0.3s,baz=10,slow=11,SNR=12 3.0nm,0.6s						
WB0	**Warramunga Arr**	**17.24**	**161**		**P**	**00 16 41.8**	**-0.6**
WB0				IAmb	IAmb	00 16 48.7	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**17.38**	**161**	P	**P**	**00 16 44.2**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=345,slow=12,SNR=5.1 comp=Z,2.2nm,0.8s						
WR8	**Warramunga Arr**	**17.45**	**160**	Pn	**Pn**	**00 16 43.9**	**+0.4**
COEN	**Coen**	**17.94**	**126**		**P**	**00 16 50.6**	**+0.4**
COEN				IAmb	IAmb	00 17 10.7	
	comp=Z,29nm,1.4s						
PSA00	**Pilbara Seismi**	**19.83**	**204**		**P**	**00 17 11.0**	**0.0**
PSA00				IAmb	IAmb	00 17 20.4	
	comp=Z,4.9nm,0.8s						
AS31	**Alice Springs**	**20.78**	**166**	P	**P**	**00 17 21.4**	**0.0**
AS31				IAmb	IAmb	00 17 28.3	
	comp=Z,4.4nm,0.6s						
ASAR	**Alice Springs**	**20.78**	**166**	P	**P**	**00 17 21.9**	**+0.5**
ASAR	**Alice Springs**	**20.78**	**166**	P	Pn	00 17 23.9	+0.1
	comp=Z,9.0nm,0.7s,baz=346,slow=10,SNR=12 comp=Z,9.0nm,0.7s						
MKAR	**Makanchi Array**	**64.41**	**327**	P	**P**	**00 23 16.8**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=134,slow=8.3,SNR=4.6 comp=Z,0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**67.72**	**334**	P	**P**	**00 23 36.9**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=132,slow=6.4,SNR=1.5 comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**68.67**	**328**	P	**P**	**00 23 43.9**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=129,slow=6.8,SNR=1.7 comp=Z,0.5nm,0.3s						
QSPA	**South Pole Qui**	**86.50**	**180**	P	**P**	**00 25 21.7**	**-1.2**

*IDC **26** 00:15:08.4±1.4, 3˚.46S×128˚.35E, h0km, mb3.9/3, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=67.6km s-min=23.1km az=80.0*
*NEIC **26** 00:15:10.9±1.2, 3˚.44S±0˚.09×128˚.45E±0˚.08, h10km±1km, mb4.0/5, Error ellipse: s-maj=14.6km s-min=13.3km az=9.0*
*DJA **26** 00:15:11.9±0.3, 3˚S±3˚×12˚8E±˚, h10km, M4.7/13, mb4.7/7, MLv4.7/13*
ISC 26 00:15:10.6±0.7**,3˚.48S**±0˚.07×**128˚.40E**±0˚.05**,h10**km**,n28,**
σ1§08/29,Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.29**	**225**	P	**Pg**	**00 15 17.4**	**+0.9**
MSAI	**Masohi**	**0.55**	**76**	P	**Pg**	**00 15 22.3**	**+1.0**
NLAI	**Namlea**	**1.32**	**280**	P	**Pn**	**00 15 34.0**	**-1.1**
SANI	**Sanana**	**2.79**	**301**	P	**Pn**	**00 15 55.2**	**-0.3**
SWI	**Sorong**	**3.87**	**48**	P	**Pn**	**00 16 11.8**	**+1.6**
SWI				S	**Sn**	**00 16 55.6**	**-0.1**
FAKI	**Fak Fak**	**3.88**	**82**	Pn	**Pn**	**00 16 10.4**	**0.0**
FAKI	**Fak Fak**	**3.88**	**82**	P	**Pn**	**00 16 11.8**	**+1.3**
TNTI	**Ternate**	**4.35**	**346**	Pn	**Pn**	**00 16 16.2**	**-0.6**
KMPI	**Kaimana, Papua**	**5.30**	**92**	P	**Pn**	**00 16 31.3**	**+1.4**
RKPI	**Ransiki, Papua**

comp=Z,1.3nm,0.7s,baz=128,slow=5.5,SNR=7.8
comp=Z,1.3nm,0.7s

ABKAR	**Akbulak array**	**78.82**	**322**	P	**P**	**00 35 30.1**	**-0.7**
QSPA	**South Pole Qui**	**86.42**	**180**	P	**P**	**00 36 10.1**	**-0.1**
QSPA	**South Pole Qui**	**86.42**	**180**	P	**P**	**00 36 09.8**	**-0.4**

comp=Z,2.0nm,1.0s,baz=334,slow=9.6,SNR=3.7
comp=Z,2.0nm,1.0s

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*UCR **26** 00:24:36.3±1.1, 11°.66N×86°.60W, h61km±20km, MW3.8*
*CATAC **26** 00:24:36.9±0.4, 12°.N±3°×8°.7W±°, h56km±4km, M3.2/20, MLv3.2/20, Error ellipse: s-maj=8.9km s-min=3.4km az=41.1, confirmed*
ISC 26 00:24:36.9±1.5, 11°.78N±0°.06×86°.52W±0°.06, h76km±9km, n45, σ0°56/54, 10C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.29**	**46**	P	**Pn**	**00 24 48.5**	**-0.4**
SABN	**Sabanita**	**0.39**	**63**	⇑P	**Pn**	**00 24 49.1**	**-0.3**
COPN	**Copaltepe**	**0.41**	**350**	*e*P	**Pn**	**00 24 48.6**	**-0.9**
COPN	**Copaltepe**	**0.41**	**350**	⇑P	**Pn**	**00 24 48.5**	**-1.1**
UNAN	**Cigeo UNAN**	**0.41**	**36**	⇑P	**Pn**	**00 24 49.4**	**-0.2**
UNAN				S	**Sn**	**00 24 59.6**	**+0.8**
MAS3	**Al N del Volca**	**0.41**	**54**	P	**Pn**	**00 24 49.2**	**-0.4**
MAS3				S	**Sn**	**00 24 59.0**	**+0.1**
NANN	**Nandasmo**	**0.42**	**68**	⇑P	**Pn**	**00 24 50.3**	**+0.7**
NANN	**Nandasmo**	**0.42**	**68**	S	**Sn**	**00 25 00.2**	**+1.2**
TISN	**Laguna Tiscapa**	**0.43**	**34**	⇑P	**Pn**	**00 24 48.6**	**-1.2**
MGAN	**Managua**	**0.45**	**36**	*e*P	**Pn**	**00 24 49.5**	**-0.3**
MGAN				*e*S	**Sn**	**00 25 00.1**	**+0.7**
MGAN	**Managua**	**0.45**	**36**	⇑P	**Pn**	**00 24 49.8**	**-0.1**
NADN	**Granada**	**0.47**	**94**	*e*P	**Pn**	**00 24 49.6**	**-0.4**
NADN				*e*S	**Sn**	**00 24 59.9**	**+0.2**
WILN	**Americas 2**	**0.50**	**40**	⇑P	**Pn**	**00 24 50.1**	**-0.2**
WILN				S	**Sn**	**00 25 00.8**	**+0.7**
CNGA	**Al SSO del Vol**	**0.73**	**346**	⇑P	**Pn**	**00 24 52.4**	**-0.3**
CNGN	**Cerro Negro**	**0.74**	**346**	*e*P	**Pn**	**00 24 52.3**	**-0.4**
CNGN	**Cerro Negro**	**0.74**	**346**	⇓P	**Pn**	**00 24 52.4**	**-0.4**
CNGN	**Cerro Negro**	**0.74**	**346**	S	**Sn**	**00 25 04.7**	**+0.2**
ILCN	**San Idelfonso**	**0.81**	**347**	⇑P	**Pn**	**00 24 53.0**	**-0.6**
ILCN				S	**Sn**	**00 25 06.0**	**+0.1**
MORN	**Al O del Volca**	**0.88**	**105**	⇓P	**Pn**	**00 24 53.9**	**-0.5**
MORN				S	**Sn**	**00 25 08.1**	**+0.8**
PKGN	**Cerro Pekin**	**0.99**	**333**	⇓P	**Pn**	**00 24 55.6**	**0.0**
PKGN				S	**Sn**	**00 25 09.9**	**+0.3**
LCRUZ	**La Cruz**	**1.11**	**129**	*e*P	**Pn**	**00 24 56.7**	**-0.5**
CARN	**Rivas**	**1.14**	**121**	*e*P	**Pn**	**00 24 57.1**	**-0.4**
CARN	**Rivas**	**1.14**	**121**	P	**Pn**	**00 24 56.9**	**-0.5**
CARN				S	**Sn**	**00 25 12.5**	**-0.3**
MATN	**Matagalpa**	**1.28**	**27**	⇑P	**Pn**	**00 24 58.9**	**-0.5**
MATN	**Matagalpa**	**1.28**	**27**	S	**Sn**	**00 25 16.0**	**-0.2**
ACON	**Acoyapa**	**1.33**	**82**	*e*P	**Pn**	**00 24 59.0**	**-0.9**
ACON	**Acoyapa**	**1.33**	**82**	P	**Pn**	**00 24 58.8**	**-1.0**
ACON	**Acoyapa**	**1.33**	**82**	S	**Sn**	**00 25 16.7**	**-0.4**
LAPC	**Finca la Perla**	**1.46**	**133**	*e*P	**Pn**	**00 25 01.0**	**-0.7**
BUAI	**Buenos Aires**	**1.47**	**128**	*e*P	**Pn**	**00 25 01.4**	**-0.4**
VRLE	**La Escondida,**	**1.50**	**131**	*e*P	**Pn**	**00 25 02.0**	**-0.2**
ALIBA	**Liberia Airpor**	**1.52**	**141**	*e*P	**Pn**	**00 25 02.7**	**+0.4**
GPS2	**Hotel Rincn d**	**1.53**	**132**	*e*P	**Pn**	**00 25 02.2**	**-0.4**
POTN	**Potosi Cosigui**	**1.55**	**322**	*e*P	**Pn**	**00 25 02.4**	**-0.4**
POTN	**Potosi Cosigui**	**1.55**	**322**	⇓P	**Pn**	**00 25 02.4**	**-0.4**
VMAR	**Armenia, Volca**	**1.68**	**125**	*e*P	**Pn**	**00 25 04.2**	**-0.3**
COLC	**Colonia**	**1.70**	**131**	*e*P	**Pn**	**00 25 04.8**	**0.0**
CUI	**Cuipilapa**	**1.73**	**130**	*e*P	**Pn**	**00 25 05.1**	**-0.1**
MOTZ	**Rio Naranjo**	**1.79**	**127**	*e*P	**Pn**	**00 25 05.5**	**-0.4**
RCVN	**Varillal2**	**1.82**	**10**	P	**Pn**	**00 25 07.4**	**+0.9**
TENO	**El Achiote**	**1.85**	**125**	*e*P	**Pn**	**00 25 06.6**	**-0.2**
JUD3	**Juan Diaz 3**	**1.87**	**149**	*e*P	**Pn**	**00 25 06.5**	**-0.5**
JTS	**Las Juntas de**	**2.13**	**134**	*e*P	**Pn**	**00 25 10.6**	**+0.1**
ARE1	**Arenal 1**	**2.20**	**126**	*e*P	**Pn**	**00 25 11.9**	**+0.5**
JCR1	**Jicaral**	**2.36**	**144**	*e*P	**Pn**	**00 25 13.5**	**-0.2**

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*IDC **26** 00:27:41.6±1.4, 3°.44S×128°.63E, h0km, mb3.9/4, mbtmp4.0/7, ML3.6/3, Error ellipse: s-maj=52.6km s-min=22.7km az=73.0*
*DJA **26** 00:27:43.8±0.5, 4°S±5°×12°8E±°, h10km, M3.9/5, MLv3.9/5*
*NEIC **26** 00:27:44.4±1.6, 3°.63S±0°.07×128°.33E±0°.09, h10km±2km, mb4.2/4, Error ellipse: s-maj=17.2km s-min=6.7km az=234.0*
ISC 26 00:27:44.0±0.7, 3°.63S±0°.07×128°.42E±0°.05, h10km, n22, σ1§27/20, mb3.9/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.23**	**255**	P	**Pg**	**00 27 49.0**	**+0.2**
MSAI	**Masohi**	**0.58**	**61**	P	**Pb**	**00 27 56.3**	**0.0**
NLAI	**Namlea**	**1.37**	**286**	P	**Pn**	**00 28 08.4**	**-0.8**
BNDI	**Bandanaira**	**1.73**	**121**	P	**Pn**	**00 28 13.5**	**-0.7**
SANI	**Sanana**	**2.89**	**303**	P	**Pn**	**00 28 30.4**	**+0.3**
FAKI	**Fak Fak**	**3.89**	**80**	Pn	**Pn**	**00 28 44.9**	**+1.0**
FAKI				Sn	**Sn**	**00 29 31.7**	**+2.0**
TNTI	**Ternate**	**4.49**	**346**	Pn	**Pn**	**00 28 51.9**	**-0.3**
LUWI	**Luwuk**	**6.20**	**294**	Pn	**Pn**	**00 29 14.0**	**-1.6**
KAPI	**Kappang**	**8.75**	**261**	Pn	**Pn**	**00 29 53.9**	**+3.2**
	2.3nm,0.3s,baz=78,slow=9.3,SNR=4.8 18nm,0.6s						
KNRA	**Kununurra**	**11.98**	**178**	Pn	**Pn**	**00 30 35.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**14.64**	**191**	Pn	**Pn**	**00 31 11.1**	**-0.2**
	0.1nm,0.3s,baz=9.5,slow=6.1,SNR=1.4 1.9nm,0.8s						
WB0	**Warramunga Arr**	**17.07**	**160**	Pn	**Pn**	**00 31 42.2**	**-0.8**
WB0				IAmb	IAmb	00 31 49.0	
	comp=Z,33nm,1.4s						
WRA	**Warramunga Arr**	**17.22**	**161**	P	**Pn**	**00 31 43.3**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=341,slow=12,SNR=5.1 comp=Z,3.3nm,1.0s						
COEN	**Coen**	**17.82**	**126**		**Pn**	**00 31 52.1**	**-0.2**
AS31	**Alice Springs**	**20.62**	**166**	P	Pn	00 32 24.9	-1.1
AS31				IAmb	IAmb	00 32 27.7	
	comp=Z,8.1nm,0.7s						
ASAR	**Alice Springs**	**20.62**	**166**	P	Pn	00 32 24.6	-1.4
ASAR	**Alice Springs**	**20.62**	**166**	P	Pn	00 32 25.2	-0.8
	comp=Z,20nm,0.7s,baz=346,slow=11,SNR=54 comp=Z,20nm,0.7s						
CTAO	**Charters Tower**	**23.88**	**135**	P	**P**	**00 32 58.6**	**+0.6**
MKAR	**Makanchi Array**	**64.56**	**327**	P	**P**	**00 38 20.8**	**-0.6**
MKAR	**Makanchi Array**	**64.56**	**327**	P	**P**	**00 38 19.9**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=123,slow=5.3,SNR=4.7 comp=Z,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**67.88**	**334**	P	**P**	**00 38 41.5**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=117,slow=8.3,SNR=1.6 comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**68.83**	**329**	P	**P**	**00 38 47.7**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=134,slow=5.6,SNR=4.6 comp=Z,0.5nm,0.7s						

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*IDC **26** 00:28:45.2±1.6, 3°.61S×128°.18E, h0km, mb3.9/4, mbtmp4.0/6, ML3.7/2, Error ellipse: s-maj=113.8km s-min=22.6km az=72.0*
*DJA **26** 00:28:46.2±0.5, 4°S±5°×12°8E±°, h10km, M4.0/4, MLv4.0/4*
ISC 26 00:28:46.3±1.5, 3°.52S±0°.08×128°.34E±0°.05, h10km±11km, n11, σ1§00/10, mb3.8/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.22**	**220**	P	**Pg**	**00 28 51.2**	**+0.3**
MSAI	**Masohi**	**0.61**	**74**	P	**Pg**	**00 28 58.1**	**-0.1**
NLAI	**Namlea**	**1.27**	**283**	P	**Pg**	**00 29 10.2**	**-0.4**
BNDI	**Bandanaira**	**1.85**	**123**	P	**Pn**	**00 29 18.4**	**+0.3**
SWI	**Sorong**	**3.94**	**48**	P	Pn	00 29 32.9	-14
FITZ	**Fitzroy Crossi**	**14.73**	**190**	Pn	**Pn**	**00 32 14.1**	**-0.8**
	0.1nm,0.3s,baz=6.0,slow=11,SNR=1.2 2.0nm,0.9s						
WRA	**Warramunga Arr**	**17.34**	**161**	P	**Pn**	**00 32 47.3**	**-1.3**
	0.5nm,0.3s,baz=342,slow=12,SNR=9.0 3.7nm,0.6s						
ASAR	**Alice Springs**	**20.74**	**165**	P	**P**	**00 33 27.5**	**+0.2**
	21nm,0.7s,baz=346,slow=11,SNR=16 21nm,0.7s						
MKAR	**Makanchi Array**	**64.42**	**327**	P	**P**	**00 39 23.2**	**+0.3**
	0.3nm,0.4s,baz=130,slow=8.2,SNR=5.9 0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**67.75**	**334**	P	**P**	**00 39 45.7**	**+1.8**
	0.4nm,0.3s,baz=131,slow=7.9,SNR=1.2 0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**68.70**	**329**	P	**P**	**00 39 49.6**	**-0.4**
	0.3nm,0.4s,baz=125,slow=6.1,SNR=2.2 0.3nm,0.4s						

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*NAO **26** 00:35:18.1,31°.85N×48°.97E, h33km, MB3.8*
*IDC **26** 00:35:28.2±0.9, 33°.13N×47°.47E, h0km, mb4.0/18, mbtmp4.1/25, ML3.5/8, Error ellipse: s-maj=20.1km s-min=12.8km az=169.0*
*MOS **26** 00:35:28.5±1.2, 33°.06N×47°.50E, h10km, mb4.4/25, Error ellipse: s-maj=6.6km s-min=4.1km az=111.4*
*ISN **26** 00:35:30.8±1.3, 33°.16N×47°.50E, h6km±5km, ML4.2*
*TEH **26** 00:35:30.9, 33°.15N×47°.52E, h8km±22km*
*THR **26** 00:35:31.3±0.0, 33°.20N×47°.49E, h10km±4km, ML4.1*
*NEIC **26** 00:35:31.7±1.7, 33°.29N±0°.04×47°.5E±0°.1, h10km±1km, mb4.4/39, Error ellipse: s-maj=14.7km s-min=7.1km az=270.0*
*OMAN **26** 00:35:37.0±0.7, 32°.91N×47°.59E, h79km±15km, mb4.7/19, Error ellipse: s-maj=7.8km s-min=5.6km az=64.0*
ISC 26 00:35:30.9±0.3, 33°.07N±0°.03×47°.46E±0°.03, h15km, n338, σ1§48/345, mb4.4/72, 23C-15D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**1.19**	**298**	Pg	**Pn**	**00 35 53.1**	**+0.1**
ILBA	**Ilam Banvizeh**	**1.19**	**298**	*e*PgA		00 35 52.9	
ILBA				IAML		00 36 18.4	
	comp=Z,3μm,1.0s						
KCHF	**Cheshme Sefid,**	**1.25**	**344**	Pg	**Pn**	**00 35 53.0**	**-1.1**
IBDR	**Badra**	**1.28**	**272**	*e*Pg	**Pg**	**00 35 57.0**	**+1.4**
IBDR				*e*Sg	**Sg**	**00 36 14.0**	**+1.7**
IBDR				AML	AML	00 36 20.4	
	comp=N,7μm,0.7s						
IBDR				AML	AML	00 36 20.6	
	comp=E,5μm,0.6s						
IBZA	**Bozab**	**1.44**	**13**	Pg	**Pn**	**00 35 56.1**	**-0.6**
IGHG	**Ghaleghazi**	**1.46**	**330**	Pg	**Pb**	**00 35 57.5**	**-0.5**
BDRS	**Dareh Seyedi**	**1.48**	**53**	Pg	**Pn**	**00 35 56.8**	**-0.5**
GTMR	**Gotvand**	**1.52**	**113**	*e*PgA		00 35 59.4	
GTMR				IAML		00 36 24.6	
	comp=Z,2μm,1.0s						
GLG1	**Gilan-e-Gharb**	**1.66**	**309**	Pg	**Pb**	**00 36 01.6**	**+0.4**
RAFI	**Al-Rafai**	**1.76**	**221**	*e*Pn	**Pg**	**00 36 05.0**	**+0.4**
RAFI				*e*Sn	**Sg**	**00 36 30.0**	**+2.6**
SNQR	**Sonqor, Kerman**	**1.79**	**4**	Pg	**Pb**	**00 36 02.9**	**-0.8**
IDHR	**Dehrash**	**1.86**	**332**	Pn	**Pb**	**00 36 03.7**	**-1.0**
AHWZ	**Ahwaz**	**2.00**	**150**	Pn	**Pb**	**00 36 07.0**	**0.0**
SNGE	**Sanandaj**	**2.02**	**357**	*e*PnA		00 36 05.9	
SNGE				IAML		00 36 37.8	
	comp=Z,2μm,1.0s						
KGS1	**Ghasr-e-Shirin**	**2.12**	**313**	Pn	**Pb**	**00 36 07.7**	**-1.3**
KHMZ	**Khomeyn**	**2.20**	**72**	*e*PnA		00 36 08.6	
KHMZ				IAML		00 36 50.0	
	comp=Z,710nm,1.0s						
HAGD	**Aghdareh**	**2.24**	**38**	Pn	**Pn**	**00 36 08.1**	**+0.4**
BHD	**Baghdad**	**2.59**	**275**	*e*Pn	**Pb**	**00 36 15.0**	**-2.0**
BHD				*e*Sn	**Sb**	**00 36 48.0**	**-0.6**
ASAO	**Ashtian**	**2.60**	**55**	*e*PnA		00 36 14.3	
ASAO				IAML		00 37 08.8	
	comp=Z,940nm,1.0s						
HGHA	**Hamedan- Ghaye**	**2.68**	**25**	Pn	**Pn**	**00 36 14.5**	**+0.8**
JHBN	**Jahan bin**	**2.83**	**106**	Pn	**Pn**	**00 36 17.3**	**+1.4**
IPIR	**Pirpir**	**2.91**	**97**	Pn	**Pn**	**00 36 18.7**	**+1.7**
ZNGN	**Zangian**	**3.02**	**107**	Pn	**Pn**	**00 36 20.0**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.17**	**33**	Pn	**Pn**	**00 36 21.3**	**+0.9**
QAMS	**Qamsar**	**3.36**	**77**	Pn	**Pn**	**00 36 24.6**	**+1.5**
IBRJ	**Brojen**	**3.41**	**109**	Pn	**Pn**	**00 36 25.3**	**+1.5**
ABEH	**Behbahan**	**3.42**	**135**	Pn	**Pn**	**00 36 26.0**	**+2.3**
IKLH	**Kolahrood**	**3.46**	**85**	Pn	**Pn**	**00 36 25.9**	**+1.3**
IKRK	**Kirkuk**	**3.48**	**313**	*e*Pn	**Pn**	**00 36 26.0**	**+1.5**
IKRK				*e*Sn	**Sn**	**00 37 08.0**	**+2.6**
IKRK				AML	AML	00 37 24.4	
	comp=N,730nm,0.5s						
IKRK				AML	AML	00 37 28.2	
	comp=E,741nm,0.6s						
IQOM	**Qom**	**3.49**	**58**	Pn	**Pn**	**00 36 25.5**	**+0.7**
GHVR	**GHOM**	**3.49**	**65**	*e*PnA		00 36 26.5	
GHVR				IAML		00 37 43.7	
	comp=Z,470nm,1.0s						
SRSL	**SARDASHT**	**3.56**	**333**	*e*PnA		00 36 27.2	
SRSL				*e*Sg	**Sn**	**00 37 10.2**	**+2.7**
SRSL				IAML		00 37 13.0	
	comp=Z,710nm,1.0s						
ZNJK	**Zanjan**	**3.73**	**15**	Pn	**Pn**	**00 36 28.9**	**+0.7**
ZNJK	**Zanjan**	**3.73**	**15**	*e*PnA		00 36 30.3	
ZNJK				IAML		00 37 42.2	
	comp=Z,250nm,1.0s						
KBD	**Kabd**	**3.88**	**177**	P	**Pn**	**00 36 33.8**	**+3.8**
KBD				S	**Sn**	**00 37 16.6**	**+1.2**
IGAR	**Gharneh**	**3.92**	**98**	Pn	**Pn**	**00 36 32.1**	**+1.4**
MAHB	**Mahabad**	**3.96**	**339**	Pn	**Pn**	**00 36 32.6**	**+1.4**
THKV	**Tehran--Karaj**	**4.01**	**44**	*e*PnA		00 36 33.4	
THKV				IAML		00 38 01.5	
	comp=Z,300nm,1.0s						
KRSH	**Karshahi**	**4.01**	**76**	Pn	**Pn**	**00 36 33.1**	**+1.2**
IGZV	**Ghazvin**	**4.02**	**34**	Pn	**Pn**	**00 36 33.2**	**+1.2**
IVRN	**Varamin**	**4.03**	**63**	Pn	**Pn**	**00 36 33.1**	**+0.9**
KLNJ	**Kolanjah**	**4.07**	**119**	Pn	**Pn**	**00 36 34.2**	**+1.3**
KLNJ	**Kolanjah**	**4.07**	**119**	*e*Pn	**Pn**	**00 36 35.0**	**+2.1**
KLNJ				IAML		00 38 12.4	
	comp=Z,150nm,1.0s						
IZEF	**Zefreh**	**4.10**	**91**	Pn	**Pn**	**00 36 34.4**	**+1.2**
JIR1	**Jirandeh**	**4.11**	**27**	Pn	**Pn**	**00 36 34.4**	**+1.1**
CHTH	**Charan**	**4.15**	**46**	*e*PnA		00 36 34.7	
CHTH				IAML		00 37 53.8	
	comp=Z,240nm,1.0s						
ISFB	**Sefidab**	**4.19**	**71**	Pn	**Pn**	**00 36 35.3**	**+1.0**
GIDE	**GILAN DEYLAMAN**	**4.34**	**27**	Pn	**Pn**	**00 36 37.7**	**+1.1**
GIDE	**GILAN DEYLAMAN**	**4.34**	**27**	*e*Pn	**Pn**	**00 36 38.0**	**+1.5**
GIDE				IAML		00 37 54.8	
	comp=Z,2μm,1.0s						
IRAM	**Ramesheh**	**4.35**	**105**	Pn	**Pn**	**00 36 37.7**	**+1.1**
NASN	**Na'in**	**4.51**	**92**	*e*PnA		00 36 39.8	
NASN				IAML		00 37 01.0	
	comp=Z,71nm,1.0s						
DAMV	**Damavand**	**4.53**	**54**	*e*PnA		00 36 39.8	
DAMV				IAML		00 38 21.2	
	comp=Z,140nm,1.0s						
IDMV	**Damavand**	**4.54**	**55**	Pn	**Pn**	**00 36 40.2**	**+0.9**
MSL	**Mosul**	**4.89**	**314**	*e*Pn	**Pn**	**00 36 46.0**	**+2.2**
MSL				*e*Sn	**Sn**	**00 37 41.0**	**+0.9**
IFIR	**Firoozkooh**	**5.08**	**58**	Pn	**Pn**	**00 36 47.6**	**+0.9**
ILAS	**Lasjerd**	**5.11**	**62**	Pn	**Pn**	**00 36 47.8**	**+0.7**
IPRN	**Peran**	**5.12**	**56**	Pn	**Pn**	**00 36 47.8**	**+0.7**
IHRS	**Heris**	**5.25**	**356**	Pn	**Pn**	**00 36 50.4**	**+1.4**
ANAR	**Anarak**	**5.26**	**87**	Pn	**Pn**	**00 36 49.8**	**+0.7**
ITBZ	**Tabriz**	**5.26**	**349**	Pn	**Pn**	**00 36 49.4**	**+0.2**
IALA	**Alasht**	**5.34**	**54**	Pn	**Pn**	**00 36 51.0**	**+0.6**
ISHB	**Shabestar**	**5.42**	**344**	Pn	**Pn**	**00 36 51.7**	**+0.4**
DSBU	**Dashti - Bushe**	**5.72**	**144**	Pn	**Pn**	**00 36 58.0**	**+2.7**
LKRN	**Lenkeran, Azer**	**5.73**	**10**	P	**Pn**	**00 36 59.3**	**+3.9**
GRMI	**Germi**	**5.74**	**3**	*e*PnA		00 36 57.7	
GRMI				IAML		00 38 56.1	
	comp=Z,67nm,1.0s						
ICHK	**Chekchek**	**5.92**	**96**	Pn	**Pn**	**00 36 58.8**	**+0.6**
IMEH	**Mehriz**	**6.29**	**103**	Pn	**Pn**	**00 37 04.2**	**+0.8**
NAX	**Nakhchivan**	**6.30**	**346**	P	**Pn**	**00 37 04.0**	**+0.7**
GEVA	**Gevas**	**6.34**	**327**	Pn	**Pn**	**00 37 03.8**	**-0.2**
MARD	**Mardin**	**6.92**	**310**		**Pn**	**00 37 11.3**	**-0.5**
GURO	**Guroymak-BITLI**	**7.03**	**323**		**Pn**	**00 37 12.9**	**-0.4**
GNI	**Garni**	**7.40**	**344**		**Pn**	**00 37 17.8**	**-0.7**
GNI	**Garni**	**7.40**	**344**	Pn	**Pn**	**00 37 19.3**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=173,slow=19,SNR=7.2						
GNI				Lg	Lg	00 39 28.8	
	comp=Z,0.2nm,0.3s,baz=197,slow=17,SNR=2.0 comp=Z,7.1nm,0.8s						
GNI	**Garni**	**7.40**	**344**	P	Pn	00 37 24.4	+5.9
GNI	**Garni**	**7.40**	**344**	P	**Pn**	**00 37 17.8**	**-0.7**
SAKB	**Bahrain**	**7.55**	**158**	P	**Pn**	**00 37 23.4**	**+2.9**
SAKB				S	**Sn**	**00 38 45.7**	**-0.2**
GANJ	**Ganja**	**7.62**	**353**	P	**Pn**	**00 37 23.5**	**+2.1**
SHRO	**Shahrood**	**7.63**	**65**	*e*Pn	**Pn**	**00 37 23.6**	**+1.9**
SHRO				IAML		00 39 24.4	
	comp=Z,31nm,1.0s						
TNSJ	**Nastanj**	**7.69**	**81**	Pn	**Pn**	**00 37 23.4**	**+0.9**
MNGR	**Mingechevir, A**	**7.70**	**358**	P	**Pn**	**00 37 25.2**	**+2.8**
TPRV	**Parvadeh(Tabas**	**7.75**	**88**	Pn	**Pn**	**00 37 24.3**	**+1.1**
SHMA	**Al-Shehemyia**	**7.81**	**156**	P	**Pn**	**00 37 26.4**	**+2.5**
ZRDN	**Zarand Kerman**	**7.99**	**103**	Pn	**Pn**	**00 37 28.2**	**+1.5**
TKDS	**Koohdasht(Taba**	**8.11**	**84**	Pn	**Pn**	**00 37 28.7**	**+0.5**
SEKA	**Sheki**	**8.13**	**359**	P	**Pn**	**00 37 31.3**	**+2.9**
TAPT	**Tabas- Tapeh t**	**8.26**	**75**	Pn	**Pn**	**00 37 30.7**	**+0.4**
MRVT	**Maraveh tapeh**	**8.41**	**55**	*e*Pn	**Pn**	**00 37 33.8**	**+1.6**
KRM1	**Kerman Provinc**	**8.73**	**104**	Pn	**Pn**	**00 37 37.7**	**+0.8**
SMRA	**Abu-Samra**	**8.80**	**160**	P	**Pn**	**00 37 40.3**	**+2.7**
SMRA				S	**Sn**	**00 39 16.4**	**-0.1**
TRNA	**Turayna**	**8.93**	**157**	P	**Pn**	**00 37 42.1**	**+2.8**
TRNA				S	**Sn**	**00 39 19.7**	**0.0**
ASF	**Jabal al Asfar**	**8.95**	**267**	Pn	**Pn**	**00 37 39.4**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=114,slow=12,SNR=9.1						
ASF				Sn	**Sn**	**00 39 17.6**	**-2.8**
	comp=Z,1.7nm,0.3s,baz=63,slow=11,SNR=2.0						
ASF				Lg	Lg	00 40 18.3	
	comp=Z,1.0nm,0.3s,baz=94,slow=16,SNR=3.7 comp=Z,3.1nm,0.3s						
SBZV	**Sabzevar**	**8.99**	**66**	Pn	**Pn**	**00 37 41.1**	**+0.7**
GAZ	**Gaziantep**	**9.34**	**299**	Pn	**Pn**	**00 37 44.3**	**-0.7**
ARPR	**Arapgir-MALATY**	**9.52**	**312**	Pn	**Pn**	**00 37 47.6**	**0.0**
RAYN	**Ar Rayn**	**9.66**	**191**	Pn	**Pn**	**00 37 50.2**	**+0.8**
RAYN	**Ar Rayn**	**9.66**	**191**	P	**Pn**	**00 37 49.7**	**+0.2**
RAYN				S	**Sn**	**00 39 35.4**	**-2.4**
RAYN	**Ar Rayn**	**9.66**	**191**	P	**Pn**	**00 37 50.3**	**+0.8**
MMAI	**Mount Meron Ar**	**10.12**	**273**	Pn	**Pn**	**00 37 54.5**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=84,slow=15,SNR=6.4						
MMAI				Sn	**Sn**	**00 39 47.2**	**-1.9**
	comp=Z,1.2nm,0.3s,baz=90,slow=25,SNR=2.4						
MMAI				Lg	Lg	00 40 57.4	
	comp=Z,1.2nm,0.3s,baz=86,slow=39,SNR=2.7						
GHAJ	**Ghor Haditha**	**10.23**	**263**	Pn	**Pn**	**00 37 58.3**	**+1.2**
GHWR	**Ruwais**	**10.24**	**151**	P	**Pn**	**00 37 59.7**	**+2.3**
GHWR				S	**Sn**	**00 39 50.6**	**-1.3**
SHME	**Shamm**	**10.29**	**131**	P	**Pn**	**00 37 58.7**	**+0.6**
BANOM	**Banah**	**10.48**	**130**	P	**Pn**	**00 38 00.4**	**-0.3**
BANOM				S	**Sn**	**00 39 56.0**	**-1.9**
NAZ	**Nazwa, Dubai**	**10.78**	**136**	P	**Pn**	**00 38 05.8**	**+1.1**
NAZ				S	**Sn**	**00 40 03.8**	**-1.3**
MASF	**Masafi**	**10.79**	**133**	P	**Pn**	**00 38 06.1**	**+1.2**
MZWR	**Madinat Zayed**	**10.85**	**147**	P	**Pn**	**00 38 06.6**	**+0.9**
ASUD	**Al Ashush, Dub**	**10.87**	**139**	P	**Pn**	**00 38 07.4**	**+1.4**
TBJM	**Torbat-e-JAM**	**10.89**	**75**	Pn	**Pn**	**00 38 07.4**	**+1.0**
MDH	**Madha**	**10.93**	**133**	P	**Pn**	**00 38 07.9**	**+1.1**
MDH				S	**Sn**	**00 40 06.7**	**-2.1**
BNN	**Bunyan**	**11.04**	**305**		**Pn**	**00 38 07.1**	**-1.2**
UOSS	**Minazif**	**11.13**	**134**	Pn	**Pn**	**00 38 09.6**	**0.0**
UOSS	**Minazif**	**11.13**	**134**	P	**Pn**	**00 38 11.2**	**+1.6**
HATD	**Hatta, Dubai**	**11.18**	**135**	P	**Pn**	**00 38 11.5**	**+1.3**
EIL	**Elat**	**11.21**	**256**	Pn	**Pn**	**00 38 09.9**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=72,slow=6.4,SNR=8.2						
EIL				Lg	Lg	00 41 32.4	
	comp=Z,1.2nm,0.3s,baz=30,slow=16,SNR=4.6 comp=Z,5.8nm,0.8s						
ASHO	**Ashiyiah** SNR=8.6	**11.24**	**136**	P	**Pn**	**00 38 11.1**	**0.0**
MZR	**Muzera** SNR=29	**11.35**	**151**	P	**Pn**	**00 38 14.2**	**+1.7**
MZR				S	**Sn**	**00 40 17.0**	**-2.0**
KIV	**Kislovodsk**	**11.49**	**342**	*e*P	**Pn**	**00 38 15.2**	**+0.7**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ALNE	**Al Ain**	**11.56**	**139**	P	**Pn**	**00 38 17.0**	**+1.6**
ALNE				S	**Sn**	**00

SORM Soroca 20.82 322 P **P** **00 40 10.9 -0.8**
ONER Baraj Valea Uz 20.85 316 ⇑P **P** **00 40 13.3 +1.2**
HUMR Humele 20.86 310 ⇑P Pn 00 40 14.0 -0.6
TURR Turia 20.93 315 ⇓P **P** **00 40 14.3 +1.3**
OZUR 21.09 314 ⇑P **P** **00 40 15.9 +1.2**
AGG Agios Georgios 21.14 293 P **P** **00 40 16.8 +1.5**
AGG pmax pmax
comp=Z,22nm,1.2s
KNT Kendrikon 21.14 300 P **P** **00 40 17.5 +2.3**
KNT pmax pmax
comp=Z,5.0nm,1.7s
VOIR 21.22 312 ⇓P **P** **00 40 17.9 +1.7**
VOIR 21.22 312 P **P** **00 40 17.8 +1.7**
ITM Ithomi 21.26 288 P **P** **00 40 16.4 -0.1**
DOPR Dopca 21.27 314 ⇑P **P** **00 40 18.0 +1.5**
ARR Arges 21.45 312 ⇑P **P** **00 40 20.1 +1.6**
NIL Nilore 21.54 81 P **P** **00 40 19.5 -0.1**
NIL IAmb IAmb 00 40 25.8
comp=Z,27nm,1.2s
NIL Nilore 21.54 81 P **P** **00 40 19.5 -0.1**
NIL pmax pmax
comp=Z,27nm,1.3s
ARSB Arslanbob 21.88 61 **P** **00 40 22.1 -1.3**
ARSB IAmb IAmb 00 40 39.7
comp=Z,12nm,1.0s
ARSB Arslanbob 21.88 61 P **P** **00 40 22.1 -1.3**
ARSB pmax pmax
comp=Z,12nm,1.0s
LOT Lotru 22.03 311 ⇑P **P** **00 40 25.9 +1.0**
AKASG Malin Array Be 22.14 328 P **P** **00 40 24.1 -1.8**
comp=Z,3.1nm,0.7s,baz=135,slow=10,SNR=17
comp=Z,3.1nm,0.7s
AKASG Malin Array Be 22.14 328 *i* P **P** **00 40 27.1 +1.2**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 22.14 328 P **P** **00 40 24.5 -1.4**
AKBB Malin Array Si 22.14 328 P **P** **00 40 24.5 -1.4**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 22.14 328 P **P** **00 40 24.4 -1.5**
KIEV Kiev 22.14 328 ⇓P **P** **00 40 25.1 -0.8**
KIEV Kiev 22.14 328 P **P** **00 40 24.4 -1.5**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
BURAR Bucovina Array 22.22 317 **P** **00 40 25.1 -1.8**
BURAR IAmb IAmb 00 40 33.7
comp=Z,6.1nm,0.8s
BURAR Bucovina Array 22.22 317 ⇑P **P** **00 40 29.0 +2.1**
BURAR Bucovina Array 22.22 317 P **P** **00 40 29.0 +2.1**
BUR08 Bucovina Ar. S 22.25 317 P **P** **00 40 26.4 -0.7**
BUR08 IAmb IAmb 00 40 37.2
comp=Z,9.0nm,0.9s
GZR Gura Zlata 22.64 310 ⇓P **P** **00 40 33.3 +1.9**
GZR Gura Zlata 22.64 310 P **P** **00 40 33.2 +1.9**
BOVS Bovan 22.70 305 ⇓P **P** **00 40 33.3 +1.4**
MARR Marisel-Cluj 22.99 313 ⇑P **P** **00 40 35.7 +0.7**
MDVR Moldovita 23.09 308 ⇓P **P** **00 40 37.1 +1.0**
KEK Kerkira 23.18 295 P **P** **00 40 37.9 +0.9**
KEK IAmb IAmb 00 40 50.4
comp=Z,12nm,0.9s
DRGR 23.29 313 ⇑P **P** **00 40 38.9 +0.8**
DRGR 23.29 313 P **P** **00 40 38.8 +0.8**
AAK Ala-Archa 23.30 58 P **P** **00 40 40.0 +1.6**
comp=Z,0.7nm,0.3s,baz=260,slow=12,SNR=4.2
AAK Ala-Archa 23.30 58⇓ *e*P **P** **00 40 40.5 +2.1**
AAK pmax pmax
comp=Z,3.0nm,1.1s
OBN Obninsk 23.33 344 P **P** **00 40 36.6 -1.6**
OBN Obninsk 23.33 344 ⇓P **P** **00 40 38.4 +0.1**
OBN *i* *PP **pP** **00 40 41.2 -1.7**
OBN *i* *SP **sP** **00 40 42.5 -2.4**
OBN PPP PPP 00 41 12.0
OBN *eS* **S** **00 44 51.0 +0.7**
OBN pmax pmax
comp=Z,21nm,0.9s
OBN MLR MLR
comp=Z,15µm,21.0s
BZS Buzias 23.48 310 ⇑P **P** **00 40 40.8 +1.0**
BZS Buzias 23.48 310 P **P** **00 40 40.8 +1.0**
MOS Moscow 23.68 346 *e*P **P** **00 40 41.0 -0.7**
MOS pmax pmax
comp=Z,35nm,0.7s
BANR Banloc 23.70 309 ⇑P **P** **00 40 42.2 +0.2**
SIRR Siria 23.71 311 ⇓P **P** **00 40 44.1 +2.0**
KSH Kashi 23.81 66 P **P** **00 40 41.5 -1.8**
KSH sP pP 00 40 48.5 +0.5
KSH pmax pmax
comp=Z,5.0nm,1.0s
PDG Podgorica 24.09 301 P **P** **00 40 44.9 -0.8**
PDG IAmb IAmb 00 41 01.6
comp=Z,11nm,1.2s
BOOM Boomskoye usch 24.30 59 P **P** **00 40 47.3 -0.7**
BOOM IAmb IAmb 00 41 01.8
comp=Z,9.0nm,1.2s
BOOM Boomskoye usch 24.30 59 P **P** **00 40 47.3 -0.7**
BOOM pmax pmax
comp=Z,9.0nm,1.2s
ARTI Arti 24.52 15 P **P** **00 40 49.9 +0.4**
ARTI IAmb IAmb 00 41 00.4
comp=Z,5.0nm,0.8s
ARTI Arti 24.52 15*c* *i*P **P** **00 40 51.4 +1.9**
ARTI 00 41 20.3
ARTI S **S** **00 45 15.3 +6.0**
ARTI SS 00 45 57.9
ARTI pmax pmax
comp=Z,6.0nm,1.0s
KOLS Kolonicke sedl 24.59 318 *e*P **P** **00 40 52.0 +1.7**
KOLS *eS* **S** **00 45 12.0 +1.3**
KOLS pmax pmax
comp=Z,12nm,0.7s
KECS Kecovo 25.40 315 *e*P **P** **00 41 04.7 +7.1**
KECS pmax pmax
comp=Z,13nm,1.1s
MNK Minsk 25.50 333 *i* P **P** **00 40 57.5 -1.0**
comp=E,8.0nm,0.8s
MNK *i* P **P** **00 40 57.5 -1.0**
comp=N,10.0nm,0.8s
MNK *i* P **P** **00 40 57.5 -1.0**
comp=Z,7.0nm,0.6s,baz=139
MNK *i* PP **PnPn** **00 41 33.0 -1.0**
MNK *i* S **S** **00 45 26.0 +0.9**
MNK *i* SS **SnSn** **00 46 18.0 -0.2**
MNK *i* LQ LQ 00 50 36.2
MNK *i* LR LR 00 51 16.0
MNK *i* LRM MLR 00 52 27.3
comp=N,4µm,14.8s
MNK *i* LRM MLR 00 52 28.8
comp=E,4µm,15.8s
MNK *i* LRM MLR 00 52 32.5
comp=Z,5µm,14.6s
MNK Minsk 25.50 333 *i* P **P** **00 40 57.4 -1.0**
MNK *i* 00 41 33.0
MNK *i* S **S** **00 45 26.0 +0.9**
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK pmax pmax
comp=N,10.0nm,0.8s
MNK pmax pmax
comp=Z,7.0nm,0.6s
MNK MLR MLR
comp=N,4µm,15.0s
MNK MLR MLR
comp=E,4µm,16.0s
MNK MLR MLR
comp=Z,5µm,15.0s
PSZ Piszkesteto 25.50 314 P **P** **00 40 59.1 +0.5**
PSZ IAmb IAmb 00 41 29.4
comp=Z,5.7nm,0.9s
PSZ Piszkesteto 25.50 314 ⇓P **P** **00 41 00.5 +1.8**
PSZ Piszkesteto 25.50 314 P **P** **00 40 59.1 +0.5**
PSZ pmax pmax
comp=Z,6.0nm,0.9s
KIRV Kirov 25.56 2⇑ *e*P **P** **00 41 00.1 +1.2**
BORK Borovoye 25.84 33⇑ *e*P **P** **00 41 01.5 0.0**
BORK pmax pmax
comp=Z,7.0nm,1.0s
BVAR Borovoye Array 25.85 33 P **P** **00 41 01.3 -0.4**
comp=Z,8.4nm,0.9s,baz=230,slow=11,SNR=16
comp=Z,8.4nm,0.9s
CEL Celeste 26.09 290 P **P** **00 41 04.3 +0.3**
CEL IAmb IAmb 00 41 48.2
comp=Z,16nm,1.1s
NACGM Naroch 26.23 333 *e*P **P** **00 41 05.4 +0.4**
comp=E,10.0nm,0.9s

LANS Liptovska Anna 26.31 316 *e*P **P** **00 41 07.2 +1.3**
LANS pmax pmax
comp=Z,3.0nm,0.8s
SRO Srobarova 26.43 312 *e*P **P** **00 41 10.6 +3.7**
SRO pmax pmax
comp=Z,9.0nm,0.9s
OJC Ojcow 26.63 318 P **P** **00 41 08.6 -0.1**
OJC Ojcow 26.63 318 P **P** **00 41 08.6 -0.1**
JAVC Velka Javorina 27.25 314 *e*P **P** **00 41 15.5 +1.1**
MODS Modra-Piesok 27.29 313 *e*P **P** **00 41 18.8 +4.1**
MODS pmax pmax
comp=Z,14nm,1.0s
ZST Bratislava 27.33 313 *e*P **P** **00 41 21.6 +6.6**
ZST pmax pmax
comp=Z,3.0nm,0.9s
OKC Ostrava-Krasne 27.39 316 *e*P **P** **00 41 16.7 +1.2**
OKC Ostrava-Krasne 27.39 316 *e*P **P** **00 41 16.7 +1.2**
RONA Rosalia, Austr 27.65 311 *e*pP **P** **00 41 19.9 +1.9**
comp=Z,8.8nm,1.5s
MORC Moravsky Berou 27.71 316 P **P** **00 41 18.5 0.0**
MORC Moravsky Berou 27.71 316 *e*P **P** **00 41 18.6 0.0**
MORC Moravsky Berou 27.71 316 ⇓P **P** **00 41 19.3 +0.8**
MORC Moravsky Berou 27.71 316 P **P** **00 41 18.5 0.0**
MORC pmax pmax
comp=Z,3.0nm,0.8s
CONA Conrad Observa 28.01 311 P **P** **00 41 22.5 +1.3**
comp=Z,4.8nm,1.1s
VRAC Vranov 28.08 314 *e*P **P** **00 41 22.2 +0.5**
KRUC Moravsky 28.10 314 *e*P **P** **00 41 22.1 +0.2**
SOKA Soboth 28.14 308 *e*pP pP 00 41 31.1 +3.9
comp=Z,9.6nm,1.4s
KLMR Klimovskoe 28.28 352 *e*P P 00 41 18.2 -5.2
KLMR pmax pmax
comp=Z,11nm,1.3s
KRLC Kraliky 28.28 316 *e*P **P** **00 41 23.2 -0.4**
KRLC Kraliky 28.28 316 *e*P **P** **00 41 23.2 -0.4**
FDMO Fiordimonte 28.66 300 P **P** **00 41 27.9 +0.8**
FDMO IAmb IAmb 00 41 52.1
comp=Z,11nm,1.2s
DPC Dobruska-Polom 28.67 316 *e*P **P** **00 41 27.9 +0.9**
DPC Dobruska-Polom 28.67 316 *e*P **P** **00 41 27.9 +0.9**
TREC Trest 28.74 314 *e*P **P** **00 41 28.7 +1.1**
TREC Trest 28.74 314 *e*P **P** **00 41 28.7 +1.1**
KURBB Kurchatov Arra 28.75 43 P **P** **00 41 27.5 -0.1**
comp=Z,1.0nm,0.8s,baz=249,slow=9.5,SNR=6.7
comp=Z,1.0nm,0.8s
OSTC Ostas 28.82 317 *e*P **P** **00 41 28.3 0.0**
OSTC Ostas 28.82 317 *e*P **P** **00 41 28.3 0.0**
KURK Kurchatov 28.84 43⇑ *e*P **P** **00 41 28.7 +0.2**
KURK pmax pmax
comp=Z,3.0nm,1.0s
SABO M.te Sabotino 28.90 306 P **P** **00 41 29.8 +0.7**
UPC Upice 28.91 316 *e*P **P** **00 41 29.9 +0.7**
UPC Upice 28.91 316 *e*P **P** **00 41 29.9 +0.7**
CHVC Chvalec 28.92 317 *e*P **P** **00 41 29.9 +0.6**
CHVC Chvalec 28.92 317 *e*P **P** **00 41 29.9 +0.6**
MOA Molln 28.99 310 *e*P **P** **00 41 31.3 +1.4**
comp=Z,10nm,0.9s
CKRC Cesky Krumlov 29.29 312 *e*P P 00 41 41.7 +9.2
CKRC Cesky Krumlov 29.29 312 *e*P P 00 41 41.7 +9.2
BIOA Bad Ischl, Aus 29.35 310 *e*P **P** **00 41 33.9 +0.8**
comp=Z,6.6nm,0.8s
KBA Koelnbreinsper 29.36 309 *e*P **P** **00 41 34.2 +0.8**
comp=Z,12nm,0.8s
PRU Pruhonice 29.57 315 *e*P **P** **00 41 37.5 +2.5**
PRU Pruhonice 29.57 315 *e*P **P** **00 41 37.5 +2.5**
ZVC Zvikov 29.58 313 *e*P **P** **00 41 33.9 -1.2**
GERES GERESS Array B 29.67 312 P **P** **00 41 36.0 0.0**
comp=Z,0.8nm,0.7s,baz=101,slow=10,SNR=5.6
comp=Z,0.8nm,0.7s
MK31 Makanchi Array 29.76 52⇑ *e*P **P** **00 41 37.2 +0.5**
MKAR Makanchi Array 29.76 52 P **P** **00 41 36.5 -0.3**
comp=Z,0.7nm,0.7s,baz=248,slow=10,SNR=4.9
comp=Z,0.7nm,0.7s
MKAR Makanchi Array 29.76 52 *i* P **P** **00 41 37.5 +0.8**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
ABTA Abfaltersbach 29.82 308 *e*pP **P** **00 41 39.0 +1.6**
comp=Z,6.4nm,1.0s
KHC Kasperske Hory 29.85 313 *e*P **P** **00 41 40.6 +3.1**
KHC Kasperske Hory 29.85 313 *e*P **P** **00 41 40.6 +3.1**
LESA Schwarzleotal 29.89 309 *e*P **P** **00 41 38.3 +0.3**
comp=Z,6.5nm,0.8s
WTTA Wattenberg 30.53 308 *e*P **P** **00 41 44.0 +0.2**
comp=Z,16nm,1.1s
WATA Walderalm 30.59 308 *e*P **P** **00 41 44.8 +0.5**
comp=Z,10nm,1.1s
SQTA Sankt Quirin 30.80 308 *e*P **P** **00 41 46.4 +0.3**
comp=Z,17nm,1.0s
MOTA Moosalm 30.90 308 *e*P **P** **00 41 46.8 -0.2**
comp=Z,13nm,1.0s
CLL Collm 30.98 316 *i* P **P** **00 41 47.0 -0.4**
FETA Feichten 31.07 308 *e*P **P** **00 41 49.0 +0.5**
comp=Z,10nm,0.9s
FIA1 FINESS Array S 31.58 340 P **P** **00 41 52.0 -0.5**
FINES FINESS Array B 31.58 340 P **P** **00 41 51.8 -0.7**
comp=Z,3.9nm,0.8s,baz=137,slow=8.8,SNR=9.6
comp=Z,3.9nm,0.8s
DAVA Damuels 31.70 308 *i* P **P** **00 41 54.0 0.0**
comp=Z,20nm,1.0s
SENIN Lac Senin/Sane 33.26 305 P **P** **00 42 07.0 -0.8**
SENIN IAmb IAmb 00 42 24.7
comp=Z,8.7nm,1.1s
BNI Bardonecchia 33.51 303 **P** **00 42 10.2 +0.3**
BNI Bardonecchia 33.51 303 P **P** **00 42 10.2 +0.3**
BNI pmax pmax
comp=Z,21nm,1.0s
ZALV Zalesovo Beam 33.64 40 P **P** **00 42 10.0 -0.7**
comp=Z,0.8nm,0.5s,baz=260,slow=8.8,SNR=5.2
comp=Z,0.8nm,0.5s
ZALV Zalesovo Beam 33.64 40 *i* P **P** **00 42 10.6 -0.1**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
HFS Hagfors 34.96 331 P **P** **00 42 21.6 -0.5**
comp=Z,7.5nm,0.8s,baz=123,slow=7.5,SNR=15
comp=Z,7.5nm,0.8s
NC405 NORSAR Array S 36.33 331 P **P** **00 42 32.5 -1.3**
NC405 IAmb IAmb 00 43 16.4
comp=Z,10nm,1.2s
NB2 NORSAR Suburra 36.49 331 P **P** **00 42 34.0 -1.2**
comp=Z,1.0nm,0.7s,baz=122,slow=8.6
NOA NORSAR Array B 36.49 331 P **P** **00 42 33.3 -1.9**
comp=Z,2.0nm,0.9s,baz=123,slow=8.4,SNR=8.2
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 38.53 348 P **P** **00 42 49.6 -2.8**
comp=Z,2.9nm,1.0s,baz=147,slow=7.9,SNR=4.5
comp=Z,2.9nm,1.0s
EKA Eskdalemuir Ar 41.40 318 P **P** **00 43 15.6 -0.8**
comp=Z,4.4nm,1.0s,baz=100,slow=7.6,SNR=4.4
comp=Z,4.4nm,1.0s
ESDC Sonseca Array 41.46 294 P **P** **00 43 16.9 -0.2**
comp=Z,1.7nm,1.1s,baz=81,slow=8.6,SNR=5.9
comp=Z,1.7nm,1.1s
PBRG Braganca 43.29 298 *e*P **P** **00 43 32.8 +0.8**
PBRG IAmb IAmb 00 43 40.1
comp=Z,27nm,1.8s
MD01 Midelt array s 43.42 285 P **P** **00 43 34.9 +1.6**
MVO Moncorvo 43.59 297 *e*P **P** **00 43 36.8 +2.3**
MVO *i* IAmb IAmb 00 43 38.5
comp=Z,20nm,1.5s
PBAR Barrancos 44.06 293 *e*P **P** **00 43 39.0 +0.8**
PBAR *i* IAmb IAmb 00 43 47.0
comp=Z,30nm,1.5s
PGAV Gavieira, Arco 44.41 298 *e*P **P** **00 43 42.5 +1.4**
PGAV *i* IAmb IAmb 00 43 54.1
comp=Z,69nm,1.6s
PVAQ Vaqueiros 44.74 292 *e*P **P** **00 43 44.8 +1.1**
PVAQ *i* IAmb IAmb 00 43 48.0
comp=Z,26nm,1.6s
PCAS Casmilo, Conde 44.85 296 *e*P **P** **00 43 46.3 +1.8**
PCAS *i* IAmb IAmb 00 43 57.1
comp=Z,60nm,1.9s
LZH Lanzhou 45.97 70 *e*P **P** **00 43 56.8 +3.1**
LZH sP sP 00 44 04.0 +3.4
LZH pmax pmax
comp=Z,16nm,1.2s
TORD Torodi Ar. Bea 46.10 256 P **P** **00 43 55.6 +0.9**
comp=Z,1.9nm,0.8s,baz=57,slow=6.6,SNR=9.2
comp=Z,1.9nm,0.8s
SONM Songino Array 46.12 53 P **P** **00 43 54.9 +0.3**
SONM IAmb IAmb 00 44 06.7
comp=Z,3.4nm,1.4s
SONM Songino Array 46.12 53 P **P** **00 43 52.7 -1.9**
comp=Z,0.4nm,0.5s,baz=270,slow=7.2,SNR=1.7
comp=Z,0.4nm,0.5s
SONM Songino Array 46.12 53 P **P** **00 43 54.9 +0.3**
SONM pmax pmax
comp=Z,3.0nm,1.4s
ULN Ulaanbaatar 46.56 53 P **P** **00 43 57.9 -0.2**
ULN IAmb IAmb 00 44 08.1
comp=Z,3.6nm,0.8s
ULN Ulaanbaatar 46.56 53 P **P** **00 43 57.9 -0.2**
ULN pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 48.15 94 P **P** **00 44 09.5 -1.2**
comp=Z,1.5nm,0.3s,baz=299,slow=9.1,SNR=2.0
comp=Z,1.5nm,0.3s
HHC Hu-ho-hao-te 50.80 62 *e*P **P** **00 44 32.0 +1.2**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,410nm,5.1s
BORG Borgarnes 51.62 329 *i* P **P** **00 44 33.3 -3.1**
DBIC Dimbokro 55.07 253 P **P** **00 45 03.2 +0.7**
DBIC Dimbokro 55.07 253 P **P** **00 45 00.5 -1.9**
comp=Z,2.3nm,0.6s,baz=45,slow=2.0,SNR=3.9
comp=Z,2.3nm,0.6s
DBIC Dimbokro 55.07 253 P **P** **00 45 03.2 +0.7**
DBIC pmax pmax
comp=Z,14nm,1.2s
B20K Meade River 75.68 9 P **P** **00 47 15.4 +0.4**
B21K Ikpikpuk River 76.35 8 P **P** **00 47 19.0 +0.1**
TOLK Toolik Lake Re 77.81 6 P **P** **00 47 27.3 +0.1**
ILAR Eielson Array 81.84 6 P **P** **00 47 48.4 -0.7**
comp=Z,0.4nm,0.7s,baz=352,slow=8.9,SNR=4.2
comp=Z,0.4nm,0.7s

IDC 26 00:36:28.0±2.0, 3°21S×129°24E, h0km, mb3.8/3, mbtmp3.7/5, ML3.3/2, Error ellipse: s-maj=125.5km s-min=24.4km az=73.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.21**	**193**	Pn	Pn		00 40 05.0	+0.7
	0.1nm,0.3s,baz=11,slow=16,SNR=2.0 1.6nm,0.8s							
WRA	**Warramunga Arr**	**17.36**	**164**	P	Pn		00 40 30.9	-1.0
	0.1nm,0.3s,baz=342,slow=12,SNR=6.3 0.8nm,0.7s							
ASAR	**Alice Springs**	**20.83**	**168**	P	P		00 41 11.4	0.0
	10.0nm,0.8s,baz=346,slow=11,SNR=23 10.0nm,0.8s							
MKAR	**Makanchi Array**	**64.66**	**326**	P	P		00 47 07.0	-0.7
	0.3nm,0.6s,baz=120,slow=6.4,SNR=2.9 0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**68.91**	**328**	P	P		00 47 35.5	+0.8
	0.3nm,0.5s,baz=121,slow=5.5,SNR=4.0 0.3nm,0.5s							

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*IDC **26** 00:39:53.4±0.8, 36°16S×53°06E, h0km, mb4.1/6, mbtmp4.1/6, MS5.0/1, Error ellipse: s-maj=30.0km s-min=21.4km az=84.0*

ISC 26 00:39:54.9±0.8, 36°25±0°.1×53°08E±0°.2, h10km, n21, σ1s08/14, mb4.2/6, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**9.97**	**185**	Pn	**Pn**		**00 42 17.3**	**-0.7**
	baz=6.9,slow=12							
H04N1				T	T		00 52 26.7	
	baz=6.9,slow=75,SNR=1473							
H04N2	**CROZET ISLANDS**	**9.98**	**185**	Pn	**Pn**		**00 42 17.0**	**-1.0**
	baz=6.9,slow=12							
H04N2				T	T		00 52 25.4	
	baz=6.9,slow=75,SNR=1528							
H04N3	**CROZET ISLANDS**	**9.99**	**185**	Pn	**Pn**		**00 42 17.1**	**-1.1**
	baz=6.9,slow=12							
H04N3				T	T		00 52 25.7	
	baz=6.9,slow=75,SNR=1679							
H04S3	**CROZET ISLANDS**	**10.64**	**184**	Pn	**Pn**		**00 42 26.6**	**-0.6**
H04S1	**CROZET ISLANDS**	**10.64**	**184**	Pn	**Pn**		**00 42 26.4**	**-0.8**
H04S2	**CROZET ISLANDS**	**10.66**	**184**	Pn	**Pn**		**00 42 26.6**	**-0.7**
OPO	**Ambohidratompo**	**18.32**	**342**	P	P		00 44 15.7	+6.3
	2.9nm,0.7s,baz=169,slow=16,SNR=2.3							
H08S1	**Diego Carcia H**	**33.54**	**37**	T	T		01 21 54.0	
	baz=208,slow=75,SNR=58							
H08S2	**Diego Garcia H**	**33.55**	**37**	T	T		01 21 49.7	
	baz=208,slow=75,SNR=50							
H08S3	**Diego Garcia H**	**33.56**	**37**	T	T		01 21 55.2	
	baz=208,slow=75,SNR=39							
KMBO	**Kilima Mbogo**	**37.85**	**334**	P	**P**		**00 47 10.5**	**-1.7**
	220nm,0.6s,baz=210,slow=16,SNR=7.7							
KMBO				LR	LR		01 00 23.9	
	comp=Z,2µm,18.4s,baz=113,slow=32							
SNAA	**Sanae**	**45.44**	**202**	P	**P**		**00 48 13.9**	**+0.4**
	1.9nm,0.7s,baz=93,slow=6.2,SNR=10 1.9nm,0.7s							
H01W2	**Cape Leeuwin H**	**49.00**	**108**	T	T		01 40 58.9	
	baz=249,slow=75,SNR=364							
H01W3	**Cape Leeuwin H**	**49.01**	**107**	T	T		01 40 59.4	
	baz=249,slow=75,SNR=227							
H01W1	**Cape Leeuwin H**	**49.02**	**108**	T	T		01 41 00.2	
	baz=249,slow=75,SNR=286							
QSPA	**South Pole Qui**	**53.97**	**180**	P	**P**		**00 49 20.0**	**+1.3**
	2.1nm,0.8s,baz=239,slow=3.5,SNR=5.7 2.1nm,0.8s							
TORD	**Torodi Ar. Bea**	**68.94**	**305**	P	**P**		**00 51 01.7**	**+1.3**
	2.4nm,1.0s,baz=118,slow=5.2,SNR=3.3 2.4nm,1.0s							
ASAR	**Alice Springs**	**69.38**	**105**	P	**P**		**00 51 03.3**	**+0.1**
	1.0nm,0.5s,baz=236,slow=6.2,SNR=4.3 1.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**69.59**	**47**	P	**P**		**00 51 05.2**	**+0.9**
	0.9nm,0.3s,baz=215,slow=7.1,SNR=1.0 0.9nm,0.3s							
WRA	**Warramunga Arr**	**71.69**	**102**	P	**P**		**00 51 16.2**	**-1.1**
	1.3nm,0.8s,baz=235,slow=7.3,SNR=2.0 1.3nm,0.8s							
ILAR	**Eielson Array**	**149.03**	**16**	PKPbc	**PKPbc**		**00 59 41.9**	**-0.4**
	1.2nm,0.7s,baz=320,slow=3.2,SNR=8.5							

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*BJI **26** 00:39:49.0, 4°46S×128°98E, h10km, mB5.9/15, mb5.2/90, Ms5.3/20, Ms7 5.0/19*

*IDC **26** 00:39:51.2±0.3, 3°43S×128°60E, h0km, mb4.4/26, mbtmp4.5/29, ML4.3/4, MS5.0/9, Error ellipse: s-maj=15.8km s-min=7.5km az=75.0*

*MOS **26** 00:39:56.6±0.9, 3°62S×128°30E, h10km, mb5.6/68, MS5.3/5, Error ellipse: s-maj=8.7km s-min=4.9km az=115.8*

*DJA **26** 00:39:57.0±0.1, 3°S±1°×12°8E±°, h10km, MS.8/114, mb5.5/114, mB6.1/60, MLv5.7/25, Mw(mB)5.8/60*

*NEIC **26** 00:39:59.4±2.2, 3°63S±0°.05×128°42E±0°.06, h10km±1km, mb5.6/152, Mww5.5/17, Error ellipse: s-maj=10.2km s-min=8.5km az=226.0*

*GCMT **26** 00:40:00.4±0.2, 3°.54S±0°.02×128°.45E±0°.02, h12km, MW5.5/107, Moment Tensor Solution. s30,c33; s107,c168; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr-1.60±.08; Mθθ 0.01±.07; Mφφ 1.59±.06; Mrθ-0.04±.24; Mθφ 1.43±.05; Mφr-0.67±.21; Best double couple: Mo2.15300×10^17 NP1:φs229.00000°, δ40.00000°, λ-62.00000°. NP2:φs15.00000°, δ56.00000°, λ-111.00000°. Principal axes: T 2.5220, Plg8.0000°, Azm120.0000°; N -0.7350, Plg17.0000°, Azm27.0000°; P -1.7840, Plg71.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **26** 00:40:04.2, 3°.67S×128°.66E, h24km, Moment Tensor Solution. Duration: 3s0 Moment tensor: Scale 10^17Nm; Mrr-1.97; Mθθ 0.17; Mφφ 1.80; Mrθ 0.42; Mθφ 1.22; Mφr-0.75; Fault plane solution: Mo2.41000×10^17 NP1: φs228.91000°, δ43.14000°, λ-57.69000°. NP2:φs8.01000°, δ54.70000°, λ-116.60000°. Principal axes: T 2.4977, Plg6.0000°, Azm117.0000°; N -0.1953, Plg21.0000°, Azm24.0000°; P -2.3024, Plg68.0000°, Azm222.0000°;*

*NEIC **26** 00:40:04.2, 3.57S×128.46E, h24km*

ISC 26 00:39:58.1±0.2, 3.72S±0°.03×128°31E±0°.04, h10km, n690, σ1s89/698, mb5.5/202, MS5.0/20, 30C-7D, Seram

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.72**	**59**	P	P		00 40 03.6	-8.4
NLAI	**Namlea**	**1.30**	**291**	P	**Pn**		**00 40 19.6**	**-2.7**
BNDI	**Bandanaira**	**1.78**	**117**	P	**Pn**		**00 40 28.9**	**0.0**
BNDI	**Bandanaira**	**1.78**	**117**	P	**Pn**		**00 40 28.3**	**-0.6**
SANI	**Sanana**	**2.85**	**305**	P	**Pn**		**00 40 44.7**	**+1.0**

SANI	Sanana	2.85	305	P		Pn	00 40 42.8	-0.9	
FAKI	Fak Fak	4.01	79			Pn	00 41 00.1	+0.4	
FAKI	Fak Fak	4.01	79	P		Pn	00 41 01.0	+1.4	
FAKI	Fak Fak	4.01	79	P		Pn	00 40 54.2	-5.4	
SWI	Sorong	4.09	46	P		Pn	00 40 54.3	-6.4	
TNTI	Ternate	4.56	348			Pn	00 41 08.4	+1.2	
TNTI	Ternate	4.56	348	P		Pn	00 41 09.0	+1.9	
TNTI	Ternate	4.56	348	P		Pn	00 41 02.0	-5.1	
SAUI	Saumlaki	5.18	145	Pn		Pn	00 41 17.3	+1.6	
SAUI	Saumlaki	5.18	145	P		Pn	00 41 20.0	+4.3	
SAUI	Saumlaki	5.18	145	P		Pn	00 41 15.1	-0.6	
KMPI	Kaimana, Papua	5.38	90	P		Pn	00 41 14.6	-3.9	
KDI	Kendari	5.69	267	P		Pn	00 41 22.4	-0.3	
KMSI	Cibinong	6.07	314	P		Pn	00 41 26.0	-2.0	
LUWI	Luwuk	6.14	295			Pn	00 41 32.5	+3.6	
LUWI	Luwuk	6.14	295	P		Pn	00 41 31.6	+2.7	
LUWI	Luwuk	6.14	295	P		Pn	00 41 26.6	-2.3	
RKPI	Ransiki, Papua	6.25	70	P		Pn	00 41 25.8	-4.7	
APSI	Ampana	7.22	293	P		Pn	00 41 42.8	-0.9	
SOEI	Soe	7.22	214			Pn	00 41 48.4	+4.6	
SOEI	Soe	7.22	214	P		Pn	00 41 50.4	+6.5	
SOEI	Soe	7.22	214	P		Pn	00 41 48.5	+4.6	
	3.4nm14µm858nm,1.4s								
MRSI	Marisa	7.61	303	P		Pn	00 41 47.2	-1.9	
	1.6nm470nm,1.0s								
MMRI	Maumere	7.77	231			Pn	00 41 56.1	+4.8	
MMRI	Maumere	7.77	231	P		Pn	00 41 55.8	+4.5	
MMRI	Maumere	7.77	231	P		Pn	00 41 53.2	+1.9	
	340nm,1.5s								
SGSI	Sangihe	7.86	339	P		Pn	00 41 48.1	-4.5	
BATI	Baumata	7.93	215	Pn		Pn	00 41 55.2	+1.6	
	19nm,0.3s,baz=88,slow=1.3,SNR=61								
	38nm,0.5s								
BATI	Baumata	7.93	215	P		Pn	00 41 57.3	+3.8	
	575nm,1.3s								
SRPI	Serui, Papua	8.13	77	P		Pn	00 41 53.1	-3.2	
	1.5nm355nm,0.9s								
BSSI	Bau Bau, Buton	8.16	252	P		Pn	00 41 56.8	+0.2	
	7µm631nm,0.9s								
BAKI	Biak	8.18	72	P		Pn	00 41 54.8	-2.2	
BNSI	Bone	8.21	265	P		Pn	00 42 01.1	+3.7	
EDFI	Ende, Flores	8.27	232	P		Pn	00 42 02.3	+4.1	
	186nm,0.9s								
SPSI	Sidrap Palu	8.53	268	P		Pn	00 42 01.4	-0.3	
	7µm428nm,1.8s								
KAPI	Kappang	8.63	261			Pn	00 42 08.7	+5.6	
KAPI	Kappang	8.63	261	Pn		Pn	00 42 03.3	+0.1	
	4.2nm,0.3s,baz=78,slow=14,SNR=11								
	29nm,0.5s								
KAPI	Kappang	8.63	261	P		Pn	00 42 10.6	+7.4	
KAPI	Kappang	8.63	261	P		Pn	00 42 10.4	+7.2	
PCI	Palu	8.91	288	P		Pn	00 42 08.8	+1.7	
TOLI2	Tolitoli	8.92	302			Pn	00 42 11.8	+4.6	
TOLI2	Tolitoli	8.92	302	P		Pn	00 42 08.1	+0.9	
DRS	Darwin Rock St	9.03	164	P		Pn	00 42 13.0	+4.4	
WSI	Waingapu	9.91	233	P		Pn	00 42 25.5	+4.7	
	966nm,1.6s								
BASI	Baing, Sumba	10.03	230	P		Pn	00 42 25.7	+3.3	
	9µm384nm,1.3s								
SMPI	Sarmi	10.53	81	P		Pn	00 42 29.5	+0.4	
	228nm,1.3s								
WBSI	Waikabubak, Su	10.63	236	P		Pn	00 42 33.2	+2.5	
	6µm292nm,1.6s								
DAV	Davao City (W)	11.06	346	Pn		Pn	00 42 36.0	-0.4	
SMKI	Samarinda	11.56	286	P		Pn	00 42 42.7	-0.6	
	13µm236nm,0.7s								
PLAI	Plampang	11.64	244	P		Pn	00 42 51.0	+6.6	
PLAI	Plampang	11.64	244	P		Pn	00 42 47.8	+3.4	
	5µm452nm,1.4s								
BKB	Balikpapan	11.66	282	Pn		Pn	00 42 47.7	+3.0	
BKB	Balikpapan	11.66	282	P		Pn	00 42 49.3	+4.6	
BKB	Balikpapan	11.66	282	P		Pn	00 42 46.0	+1.3	
	181nm,0.9s								
GENI	Genyem	11.89	85	P		Pn	00 42 52.3	+4.4	
GENI	Genyem	11.89	85	P		Pn	00 42 46.1	-1.8	
	380nm,1.6s								
KNRA	Kununurra	11.89	178	P		Pn	00 42 50.1	+2.2	
	comp=Z,285nm,0.9s								
KNRA	Kununurra	11.89	178			Pn	00 42 50.1	+2.2	
TWSI	Taliwang, Sumb	12.41	246	P		Pn	00 42 57.2	+2.3	
	comp=Z,5µmcomp=Z,276nm,1.6s								
JAY	Jayapura	12.43	85	P		Pn	00 42 54.3	-1.0	
MYLDM	Lahad Datu	13.20	312			Pn	00 43 07.0	+1.3	
MYLDM	Lahad Datu	13.20	312	P		Pn	00 43 08.9	+3.2	
BBKI	Banjar Baru	13.45	271	P		Pn	00 43 10.5	+1.4	
	comp=Z,325nm,1.9s								
SRBI	Singaraja	13.73	251	P		Pn	00 43 15.3	+2.3	
	comp=Z,7µmcomp=Z,225nm,1.2s								
DNP	Denpasar	13.92	249	P		Pn	00 43 18.0	+2.4	
	comp=Z,564nm,1.3s								
FITZ	Fitzroy Crossi	14.53	190	P		Pn	00 43 23.7	-0.3	
	comp=Z,33nm,1.5s								
FITZ	Fitzroy Crossi	14.53	190			Pn	00 43 25.3	+1.3	
FITZ	Fitzroy Crossi	14.53	190	Pn		Pn	00 43 21.7	-2.2	
	comp=Z,0.6nm,0.3s,baz=17,slow=16,SNR=12								
FITZ				Sn		S	00 46 21.2	-3.6	
	comp=Z,0.2nm,0.3s,baz=342,slow=9.6,SNR=2.0								
FITZ				LR		LR	00 48 51.1		
	comp=Z,5µm,18.9s,baz=2.5,slow=36								
	comp=Z,43nm,0.9s								
FITZ	Fitzroy Crossi	14.53	190	P		Pn	00 43 25.3	+1.3	
ABJI	Asem Bagus	14.58	253	P		Pn	00 43 27.4	+2.8	
	comp=Z,9µmcomp=Z,457nm,1.1s								
KMMI	Kalianget	14.66	256	P		Pn	00 43 27.9	+2.2	
	comp=Z,9µmcomp=Z,540nm,1.2s								
JAGI	Jajag, Banyuwa	14.85	251			Pn	00 43 32.1	+3.8	
JAGI	Jajag, Banyuwa	14.85	251	P		P	00 43 34.5	+0.4	
JAGI	Jajag, Banyuwa	14.85	251	P		Pn	00 43 31.5	+3.2	
	comp=Z,9µmcomp=Z,352nm,1.6s								
BLJI	Banyuglugur	15.18	254	P		Pn	00 43 35.2	+2.5	
	comp=Z,8µmcomp=Z,484nm,0.8s								
KKM	Kota Kinabalu	15.49	309			Pn	00 43 38.9	+1.9	
KKM	Kota Kinabalu	15.49	309	P		P	00 43 41.3	-0.1	
GRJI	Gresik	16.08	258	P		Pn	00 43 47.0	+2.5	
PBKI	Pangkalan Bun	16.65	273	P		Pn	00 43 49.1	-2.6	
TBJI	Tambak Boyo	16.68	259	P		Pn	00 43 52.0	-0.1	
WB0	Warramunga Arr	17.02	160	P		Pn	00 43 58.8	+2.4	
NGJI	Ngawi	17.16	257	P		Pn	00 44 00.0	+1.9	
	comp=Z,721nm,1.1s								
WRA	Warramunga Arr	17.17	160	P		Pn	00 43 54.5	-3.8	
	comp=Z,0.8nm,0.3s,baz=342,slow=10,SNR=31								
WRA				S		Sn	00 47 06.3	-3.1	
	comp=Z,17nm,1.1s,baz=341,slow=20,SNR=2.5								
WRA				ScP		ScP	00 52 13.8	-4.0	
	comp=Z,2.5nm,1.1s,baz=338,slow=2.5,SNR=2.0								
SBUM	Sibu	17.21	291			P	00 44 01.8	+1.4	
SBUM	Sibu	17.21	291	P		P	00 44 02.7	+2.3	
STKI	Sintang	17.24	282	P		Pn	00 44 00.1	+0.9	
	comp=Z,198nm,1.6s								
PCJI	Pacitan	17.61	255	P		Pn	00 44 05.5	+1.7	
	comp=Z,6µmcomp=Z,459nm,1.0s								
WOJI	Wonogiri, Jawa	17.77	256	P		P	00 44 08.3	+1.7	
	comp=Z,10µmcomp=Z,653nm,1.7s								
COEN	Coen	17.85	126	P		Pn	00 44 01.7	-5.1	
COEN	Coen	17.85	126	P		Pn	00 44 08.4	+1.6	
COEN				IAmb		IAmb	00 44 11.6		
	comp=Z,432nm,1.1s								
SMRI	Semarang	18.10	259	P		P	00 44 13.0	+2.8	
SMRI	Semarang	18.10	259	P		P	00 44 14.2	+4.0	
SMRI	Semarang	18.10	259	P		P	00 44 12.2	+2.0	
UGM	Wanagama	18.18	256	P		P	00 44 13.1	+2.0	
UGM				IAmb		IAmb	00 44 19.2		
	comp=Z,961nm,1.5s								
UGM	Wanagama	18.18	256	P		P	00 44 14.0	+2.9	
UGM	Wanagama	18.18	256	P		P	00 44 12.9	+1.8	
	comp=Z,9µmcomp=Z,477nm,1.8s								
KSM	Kuching	18.72	286	P		P	00 44 18.2	+1.2	
KSM				IAmb		IAmb	00 44 23.0		
	comp=Z,954nm,2.0s								
MANU	Manus Island	19.10	86	P		P	00 44 21.7	+0.4	
TGY	Tagaytay City	19.15	338	P		P	00 44 17.2	-4.7	
	comp=Z,177nm,0.3s,baz=186,slow=5.6,SNR=9.0								
MBWA	Marble Bar	19.24	205	P		P	00 44 24.5	+1.8	
	comp=Z,190nm,1.3s								
MBWA	Marble Bar	19.24	205	P		P	00 44 24.6	+1.9	
MBWA	Marble Bar	19.24	205	P		Pn	00 44 25.2	+1.5	
MBWA	Marble Bar	19.24	205	P		P	00 44 24.8	+2.1	
PSAC2	Pilbara Seismi	19.53	204	P		P	00 44 27.4	+1.5	
	comp=Z,183nm,2.1s								
PSAC1	Pilbara Seismi	19.54	204	P		P	00 44 27.6	+1.6	
	comp=Z,143nm,1.7s								
PMG	Port Moresby	19.55	108	P		P	00 44 27.2	+1.0	
PMG				IAmb		IAmb	00 44 33.8		
	comp=Z,691nm,1.2s								
PMG	Port Moresby	19.55	108	P		P	00 44 14.2	-12	
	comp=Z,11nm,0.5s,baz=285,slow=19,SNR=1.8								
PMG				S		Sn	00 48 06.6	-0.6	
	comp=Z,6.1nm,0.3s,baz=260,slow=12,SNR=1.2								
PMG	Port Moresby	19.55	108	P		Pn	00 44 29.2	+1.7	
PMG	Port Moresby	19.55	108	P		P	00 44 27.2	+1.0	
PMG				pmax		pmax			
	comp=Z,691nm,1.3s								
PSA00	Pilbara Seismi	19.56	204	P		P	00 44 24.7	-1.6	
PSA00	Pilbara Seismi	19.56	204	P		P	00 44 28.6	+2.3	
PSA00	Pilbara Seismi	19.56	204	P		P	00 44 28.4	+2.1	
PSA00				IAmb		IAmb	00 44 37.7		
	comp=Z,342nm,1.5s								
PSA00	Pilbara Seismi	19.56	204	P		P	00 44 28.6	+2.3	
KPJI	Karang Pucung	19.62	259	P		P	00 44 25.0	-1.9	
	comp=Z,9µmcomp=Z,875nm,1.2s								
AS31	Alice Springs	20.56	165			P	00 44 38.9	+1.8	
AS31				IAmb		IAmb	00 44 42.8		
	comp=Z,274nm,0.9s								
ASAR	Alice Springs	20.56	165			P	00 44 38.7	+1.6	
ASAR	Alice Springs	20.56	165	P		P	00 44 32.7	-4.4	
	comp=Z,23nm,0.6s,baz=346,slow=11,SNR=100								
ASAR				S		S	00 48 27.7	+0.5	
	comp=Z,15nm,0.9s,baz=348,slow=21,SNR=4.3								
ASAR				PcP		PcP	00 48 42.6	-5.8	
	comp=Z,8.2nm,0.7s,baz=343,slow=2.3,SNR=5.0								
ASAR				ScP		ScP	00 52 20.0	-5.3	
	comp=Z,1.4nm,0.8s,baz=349,slow=2.3,SNR=2.5								
ASAR				LR		LR	00 54 00.5		
	comp=Z,4µm,18.7s,baz=360,slow=41								
	comp=Z,23nm,0.6s								
TPI	Tanjungpandan	20.65	272	P		P	00 44 39.9	+1.8	
	comp=Z,128nm,1.6s								
LEM	Lembang	20.84	261	P		P	00 44 37.8	-2.5	
	comp=Z,19nm,0.3s,baz=112,slow=16,SNR=9.1								
LEM				LR		LR	00 53 35.1		
	comp=Z,6µm,20.5s,baz=107,slow=39								
	comp=Z,19nm,0.3s								
LEM	Lembang	20.84	261	P		P	00 44 41.3	+1.0	
	comp=Z,4µmcomp=Z,161nm,1.0s								
WRKA	Warakurna	21.20	180	P		P	00 44 45.5	+1.4	
	comp=Z,228nm,1.4s								
MTSU	Mount Surprise	21.23	134	P		P	00 44 44.9	+0.5	
	comp=Z,165nm,1.0s								
MTSU	Mount Surprise	21.23	134	P		P	00 44 47.8	+3.3	
CNJI	Cibinong	21.38	259	P		P	00 44 45.6	-0.4	
	comp=Z,119nm,1.0s								
DBJI	Dramaga	21.66	262	P		P	00 44 50.0	+0.9	
	comp=Z,12µmcomp=Z,137nm,0.9s								
SKJI	Sukabumi	21.90	261	P		P	00 44 52.4	+0.7	
	comp=Z,5µmcomp=Z,152nm,1.8s								
CGJI	Cibinong	22.71	262	P		P	00 44 58.6	-1.7	
	comp=Z,6µmcomp=Z,90nm,1.1s								
GIRL	Giralia	23.24	215	P		P	00 45 06.1	+0.5	
	comp=Z,210nm,1.4s								
GIRL	Giralia	23.24	215	P		P	00 45 07.4	+1.8	
GIRL				IAmb		IAmb	00 45 11.9		
	comp=Z,201nm,1.1s								
PMBI	Palembang	23.51	271	P		P	00 45 11.5	+3.0	
TV1H	Townsville Har	23.76	132	P		P	00 45 12.7	+1.8	
GUMO	Guam	23.78	43	P		P	00 45 09.5	-1.6	
GUMO	Guam	23.78	43	P		P	00 45 12.0	+0.9	
GUMO	Guam	23.78	43	P		P	00 45 09.5	-1.6	
GUMO				pmax		pmax			
	comp=Z,680nm,1.3s								
RABL	Rabaul	23.80	92	P		P	00 45 11.5	+0.1	
KASI	Kota Agung	23.80	265	P		P	00 45 10.1	-1.3	
CTAO	Charters Tower	23.89	134			P	00 45 11.9	-0.3	
CTAO				IAmb		IAmb	00 45 17.5		
	comp=Z,303nm,1.2s								
CTAO	Charters Tower	23.89	134	P		P	00 45 13.4	+1.2	
CTAO	Charters Tower	23.89	134	P		P	00 45 11.9	-0.3	
CTAO				pmax		pmax			
	comp=Z,303nm,1.3s								
DSRI	Dabo	23.93	277	P		P	00 45 13.6	+1.0	
	comp=Z,210nm,1.0s								
MDSI	Maura Dua	24.08	267	P		P	00 45 13.2	-0.8	
TPRI	Tanjung Pinang	24.21	281	P		P	00 45 16.1	+0.8	
	comp=Z,97nm,0.6s								
LWLI	Liwa	24.22	266	P		P	00 45 15.8	+0.4	
	comp=Z,135nm,0.5s								
MEEK	Meekatharra	24.61	201	P		P	00 45 18.6	-0.2	
	comp=Z,309nm,1.1s								
LHSI	Lahat	24.73	269	P		P	00 45 20.7	+0.7	
BTDF	Bukit Timah Da	25.04	281	P		P	00 45 25.5	+2.8	
MYKOM	Kota Tinggi	25.05	282			P	00 45 24.7	+1.9	
MYKOM				IAmb		IAmb	00 45 28.4		
	comp=Z,350nm,1.6s								
MYKOM	Kota Tinggi	25.05	282	P		P	00 45 26.2	+3.3	
DLV	Lat	25.11	309			P	00 45 24.9	+1.4	
DLV				IAmb		IAmb	00 45 27.1		
	comp=Z,226nm,1.5s								
DLV	Lat	25.11	309	P		P	00 45 25.6	+2.0	
KSI	Kapahiang	25.66	269	P		P	00 45 28.6	+0.1	
MASI	Maura Aman, Be	26.03	270	P		P	00 45 32.7	+0.9	
	comp=Z,5µmcomp=Z,135nm,1.1s								
INKA	Innaminka	26.68	155			P	00 45 37.8	+0.4	
KRJI	Kerinci	26.86	273	P		P	00 45 39.6	+0.2	
FORT	Forrest	26.92	180	P		P	00 45 40.8	+1.2	
	comp=Z,82nm,1.0s								
FORT	Forrest	26.92	180			P	00 45 41.3	+1.8	
TWGBT	Beinan	27.30	345	P		P	00 45 43.9	+0.8	
TWG	Pinlang	27.31	345	P		P	00 45 43.0	-0.1	
QLP	Quilpie	27.38	148	P		P	00 45 44.2	+0.4	
	comp=Z,178nm,1.6s								
QLP	Quilpie	27.38	148	P		P	00 45 45.2	+1.4	
BKNI	Bangkinang	27.55	278	P		P	00 45 47.4	+2.0	
BKNI	Bangkinang	27.55	278	P		P	00 45 45.8	+0.3	
MORW	Morawa	27.78	204	P		P	00 45 46.3	-1.0	
	comp=Z,60nm,1.4s								
MORW	Morawa	27.78	204			P	00 45 48.9	+1.6	
MORW	Morawa	27.78	204	P		P	00 45 48.8	+1.5	
YULB	Yu-li	27.80	346	P		P	00 45 49.7	+2.2	
TPUB	Ta-pu	27.88	345			P	00 45 48.7	+0.4	
TPUB				IAmb		IAmb	00 45 53.4		
	comp=Z,201nm,1.3s								
TPUB	Ta-pu	27.88	345	P		P	00 45 49.6	+1.3	
PDSI	Padang	27.96	275	P		P	00 45 48.2	-1.0	
	comp=Z,28nm,0.8s								
PPI	Padang Panjang	28.08	276	P		P	00 45 50.2	0.0	
	comp=Z,77nm,1.0s								
KMBL	Kambalda	28.16	192	P		P	00 45 50.2	-0.6	
	comp=Z,34nm,1.0s								
SSLB	Suanglung	28.26	346			P	00 45 51.3	-0.4	
SSLB				IAmb		IAmb	00 46 02.2		
	comp=Z,100nm,1.2s								
SSLB	Suanglung	28.26	346	P		P	00 45 52.5	+0.8	
IPM	Ipoh	28.45	286			P	00 45 55.0	+1.5	
IPM				IAmb		IAmb	00 45 56.8		
	comp=Z,85nm,1.0s								
IPM	Ipoh	28.45	286	P		P	00 45 55.5	+1.9	
YOJ	Yonaguni jima	28.48	350	P		P	00 45 53.6	0.0	
YOJ	Yonaguni jima	28.48	350	P		P	00 45 55.0	+1.4	
YOJ	Yonaguni jima	28.48	350	P		P	00 45 53.6	0.0	
YOJ				pmax		pmax			
	comp=Z,203nm,1.1s								
NACB	Ninganchiao	28.48	347	P		P	00 45 55.1	+1.5	
BLDU	Ballidu	28.91	201	P		P	00 45 58.3	+0.9	
	comp=Z,75nm,2.1s								
BLDU	Ballidu	28.91	201	P		P	00 45 59.2	+1.8	
QIZ	Qiongzhong	29.00	322	P		P	00 45 59.2	+0.8	
QIZ				IAmb		IAmb	00 46 02.6		
	comp=Z,138nm,1.6s								
QIZ	Qiongzhong	29.00	322	P		P	00 46 01.0	+2.6	
QIZ				S		S	00 50 52.5	+2.8	
QIZ				pmax		pmax			
	comp=Z,49nm,1.6s								
YHNB	Yeheng	29.01	347			P	00 45 59.0	+0.6	
YHNB				IAmb		IAmb	00 46 05.3		
	comp=Z,166nm,1.5s								
YHNB	Yeheng	29.01	347	P		P	00 46 00.1	+1.7	
KULM	Kulim	29.04	288			P	00 46 00.4	+1.6	
KULM	Kulim	29.04	288	P		P	00 46 01.7	+2.9	
MNSI	Mandailing Nat	29.06	278	P		P	00 45 58.7	-0.3	
	comp=Z,67nm,0.7s								
SISI	Saibi	29.29	274	P		P	00 46 00.4	-0.6	
	comp=Z,54nm,0.6s								
KNMB	Chin-men Tao	29.63	341			P	00 46 03.5	-0.2	
BBOO	Buckleboo	29.84	167	P		P	00 46 04.7	-1.0	
	comp=Z,49nm,1.1s								
BBOO	Buckleboo	29.84	167			P	00 46 05.8	+0.1	
BBOO	Buckleboo	29.84	167	P		P	00 46 05.9	+0.3	
QZH	Quanzhou	30.01	342	P		P	00 46 08.8	+1.6	
RPSI	Rantau Prapat	30.05	282	P		P	00 46 08.2	+0.5	
RPSI				IAmb		IAmb	00 46 10.1		
	comp=Z,74nm,0.9s								
PSI	Prapat	30.08	282	LR		LR	00 58 38.9		
	comp=Z,2µm,20.5s,baz=117,slow=37								
PSI	Prapat	30.08	282	P		P	00 46 08.2	+0.1	
PSI				pmax		pmax			
	comp=Z,74nm,0.9s								
MUN	Mundaring	30.33	201	P		P	00 46 10.0	0.0	
	comp=Z,35nm,1.7s								
MUN	Mundaring	30.33	201	P		P	00 46 11.8	+1.8	
JOW	Kunigami	30.37	360			P	00 46 09.7	-0.7	
JOW				IAmb		IAmb	00 46 14.2		
	comp=Z,175nm,1.1s								
JOW	Kunigami	30.37	360	P		P	00 46 11.8	+1.5	
GZH	Guangzhou	30.38	332	P		P	00 46 15.0	+4.5	
GZH				sP		sP	00 46 23.5	+9.5	
GZH				S		S	00 51 17.5	+6.3	
GZH				pmax		pmax			
	comp=Z,120nm,1.5s								
GZH				LR		LR			
	comp=Z,2µm,17.1s								
GZH				LR		LR			
	comp=Z,2µm,16.5s								
GZH				LR		LR			
	comp=Z,4µm,17.5s								
WHYH	Whyalla	30.43	165	P		P	00 46 12.3	+1.5	
STKA	Stephens Creek	30.67	157	P		P	00 46 12.8	-0.2	
	comp=Z,430nm,1.2s								
STKA	Stephens Creek	30.67	157			P	00 46 13.3	+0.3	
STKA	Stephens Creek	30.67	157	P		P	00 46 06.7	-6.2	
	comp=Z,78nm,1.1s,baz=331,slow=11,SNR=31								
STKA				S		S	00 51 13.5	-2.1	
	comp=Z,12nm,1.2s,baz=305,slow=16,SNR=1.7								
STKA				LR		LR	00 57 56.0		
	comp=Z,3µm,19.5s,baz=327,slow=35								
STKA	Stephens Creek	30.67	157	P		P	00 46 13.8	+0.8	
STKA	Stephens Creek	30.67	157	P		P	00 46 13.3	+0.3	
STKA				pmax		pmax			
	comp=Z,601nm,1.3s								
EIDS	Eidsvold	30.70	137	P		P	00 46 12.7	-0.6	
	comp=Z,25nm,1.4s								
EIDS	Eidsvold	30.70	137	P		P	00 46 13.2	-0.1	
EIDS				IAmb		IAmb	00 47 12.0		
	comp=Z,112nm,1.4s								
EIDS	Eidsvold	30.70	137	P		P	00 46 13.9	+0.6	
NWAO	Narrogin (SRO)	30.86	198	P		P	00 46 16.2	+1.6	
	comp=Z,55nm,1.2s								
NWAO	Narrogin (SRO)	30.86	198			P	00 46 16.5	+1.9	
NWAO	Narrogin (SRO)	30.86	198	P		P	00 46 12.2	-2.4	
	comp=Z,16nm,0.8s,baz=22,slow=11,SNR=9.3								
	comp=Z,16nm,0.8s								
NWAO	Narrogin (SRO)	30.86	198	P		P	00 46 16.2	+1.6	
NWAO	Narrogin (SRO)	30.86	198	P		P	00 46 16.9	+2.3	
NWAO	Narrogin (SRO)	30.86	198	P		P	00 46 16.5	+1.9	
NWAO				pmax		pmax			
	comp=Z,59nm,1.1s								
GSI	Gunungsitoli	31.12	279	P		P	00 46 17.9	+0.6	
GSI				IAmb		IAmb	00 46 18.5		
	comp=Z,116nm,1.0s								
GSI	Gunungsitoli	31.12	279	P		P	00 46 17.4	+0.2	
GSI	Gunungsitoli	31.12	279	P		P	00 46 17.0	-0.2	
	comp=Z,118nm,0.9s								
HTT	Hallett	31.18	163	P		P	00 46 17.8	+0.3	
	comp=Z,13nm,1.5s								
HTT	Hallett	31.18	163	P		P	00 46 18.3	+0.8	
SURA	Surathani	31.32	294	P		P	00 46 20.9	+2.0	
KCSI	Kotacane, Aceh	31.36	283	P		P	00 46 18.8	-0.5	
PATS	Pohnpei	31.73	71	P		P	00 46 23.4	+0.9	
PATS	Pohnpei	31.73	71	P		P	00 46 22.5	-0.1	
PATS	Pohnpei	31.73	71	P		P	00 46 23.1	+0.6	
SAVO	Savo Central	31.75	101	P		P	00 46 26.0	+3.2	
HNR	Honiara	31.92	102	LR		LR	01 02 21.3		
	comp=Z,3µm,18.2s,baz=290,slow=43								
CMSA	Cobar Meteorol	32.15	151	P		P	00 46 25.9	-0.1	
	comp=Z,153nm,1.2s								
CMSA	Cobar Meteorol	32.15	151	P		P	00 46 26.9	+0.9	
RKGY	Rocky Gully	32.49	198	P		P	00 46 30.2	+1.2	
	comp=Z

PZH	PanZhiHua	39.53	321	P	P	00 47 32.5	+2.9			
PZH				pmax	pmax					
comp=Z,40nm,1.2s										
INU	Inuyama	39.71	11	P	P	00 47 29.9	-0.8			
INU				IAmb	IAmb	00 47 33.5				
comp=Z,98nm,1.0s										
INU	Inuyama	39.71	11	P	P	00 47 30.9	+0.2			
TJN	Taejon	39.89	359	P	P	00 47 31.3	-0.9			
TJN	Taejon	39.89	359	P	P	00 47 34.0	+1.8			
TJN	Taejon	39.89	359	P	P	00 47 31.3	-0.9			
TJN				pmax	pmax					
comp=Z,684nm,1.3s										
SANVU	Saraoutou	40.00	110	P	P	00 47 35.2	+1.8			
JGF	Kuroka	40.02	11	P	P	00 47 32.1	-1.3			
JGF				IAmb	IAmb	00 47 35.8				
comp=Z,141nm,1.3s										
JGF	Kuroka	40.02	11	P	P	00 47 33.0	-0.4			
TNCH	TengChong	40.66	316	P	P	00 47 41.5	+2.5			
TNCH				pP	sP	00 47 45.3	+2.7			
TNCH				sP	pP	00 47 50.8	+9.2			
TNCH				PP	PnPn	00 49 22.8	+6.0			
TNCH				S	S	00 53 49.5	+0.1			
TNCH				pmax	pmax					
comp=Z,150nm,1.4s										
TNCH				pmax	pmax					
comp=Z,630nm,2.6s										
TNCH				LR	LR					
comp=Z,1μm,12.0s										
TNCH				LR	LR					
comp=Z,1μm,13.6s										
TNCH				LR	LR					
comp=Z,2μm,18.9s										
LYN	LuoYang	40.88	340	⇑P	P	00 47 40.8	+0.3			
LYN				sP	sP	00 47 47.5	+3.4			
LYN				PP	PnPn	00 49 19.5	+0.5			
LYN				pmax	pmax					
comp=Z,92nm,1.5s										
KSAR	Wonju Array Be	40.95	359	P	P	00 47 40.8	-0.2			
KSAR	Wonju Array Be	40.95	359	P	P	00 47 40.8	-0.2			
KSRS	Korea Array	40.96	360	P	P	00 47 33.7	-7.3			
comp=Z,0.9nm,0.6s,baz=175,slow=8.0,SNR=41										
KSRS				S	S	00 53 55.1	+2.0			
comp=Z,0.5nm,0.3s,baz=191,slow=23,SNR=1.6										
comp=Z,0.9nm,0.6s										
KS19	Wonju Array Si	41.01	359	P	P	00 47 40.9	-0.6			
INCN	Inchon	41.02	358	P	P	00 47 41.3	-0.3			
INCN				IAmb	IAmb	00 47 45.4				
comp=Z,165nm,1.1s										
INCN	Inchon	41.02	358	P	P	00 47 44.4	+2.8			
INCN	Inchon	41.02	358	P	P	00 47 41.3	-0.3			
INCN				pmax	pmax					
comp=Z,165nm,1.2s										
TIA	Tai'an	41.08	346	P	P	00 47 41.0	-1.0			
TIA				pmax	pmax					
comp=Z,39nm,1.5s										
MJAR	Matsushiro Arr	41.10	12	P	P	00 47 42.2	-0.1			
MJAR				IAmb	IAmb	00 47 45.7				
comp=Z,88nm,1.1s										
MJAR	Matsushiro Arr	41.10	12	P	P	00 47 34.6	-7.6			
comp=Z,1.3nm,0.6s,baz=189,slow=8.4,SNR=46										
MJAR				S	S	00 53 46.4	-8.9			
comp=Z,1.5nm,0.3s,baz=169,slow=7.1,SNR=4.3										
comp=Z,1.3nm,0.6s										
MAJO	Matsushiro	41.10	12	P	P	00 47 40.9	-1.4			
MAJO				IAmb	IAmb	00 47 45.8				
comp=Z,136nm,1.1s										
MAJO	Matsushiro	41.10	12	P	P	00 47 42.7	+0.4			
MAJO	Matsushiro	41.10	12	P	P	00 47 40.9	-1.4			
MAJO				pmax	pmax					
comp=Z,136nm,1.1s										
MJB9	Matsu-Tunnel	41.10	12	P	P	00 47 41.1	-1.2			
MJB9				IAmb	IAmb	00 47 46.8				
comp=Z,131nm,1.1s										
DZM	Mont Dzumac	41.22	120	P	P	00 47 43.7	+0.1			
DZM	Mont Dzumac	41.22	120	P	P	00 47 44.4	+0.8			
ONTNC	Ouen Toro	41.31	120	P	P	00 47 44.3	+0.1			
ONTNC				IAmb	IAmb	00 47 53.9				
comp=Z,149nm,1.5s										
ONTNC	Ouen Toro	41.31	120	P	P	00 47 45.7	+1.5			
YATNC	Mamie plateau,	41.61	119	P	P	00 47 48.0	+1.3			
CD2	Chengdu	41.65	327	P	P	00 47 47.8	+0.9			
CD2				pmax	pmax					
comp=Z,30nm,0.5s										
XAN	Xi'an	41.77	336	⇑P	P	00 47 47.8	-0.1			
XAN				pmax	pmax					
comp=Z,77nm,1.8s										
MOO	Moorlands	42.08	159	P	P	00 47 55.0	+4.8			
PINNC	Pines Island,	42.28	120	P	P	00 47 53.7	+1.6			
JSD	Sado	42.55	12	P	P	00 47 53.3	-0.8			
JSD	Sado	42.55	12	P	P	00 47 55.2	+1.1			
HNS	HongShan	42.82	344	⇑P	P	00 47 56.0	-0.2			
HNS				pmax	pmax					
comp=Z,73nm,1.1s										
DL2	Dalian	42.86	352	P	P	00 47 58.0	+1.5			
DL2				pmax	pmax					
comp=Z,58nm,1.4s										
JMM	Marumori	42.96	15	P	P	00 47 57.6	+0.2			
JMM	Marumori	42.96	15	P	P	00 47 59.3	+1.9			
TIY	Taiyuan	43.78	342	eP	P	00 48 06.3	+2.2			
TIY				pmax	pmax					
comp=Z,49nm,0.5s										
AZL	Aizawl	44.14	310	eP	P	00 48 02.4	-4.9			
AZL				IAmb	IAmb	00 48 21.6				
comp=Z,161nm,1.2s										
BJT	Baijiatuau	44.93	347	P	P	00 48 12.4	-0.7			
BJT				IAmb	IAmb	00 48 15.6				
comp=Z,90nm,1.3s										
BJT	Baijiatuau	44.93	347	P	P	00 48 13.2	0.0			
BJT	Baijiatuau	44.93	347	P	P	00 48 12.5	-0.7			
BJT				pmax	pmax					
comp=Z,90nm,1.3s										
BJI	Beijing	44.95	347	P	P	00 48 12.5	-0.8			
BJI				pP	sP	00 48 19.0	+2.0			
BJI				pmax	pmax					
comp=Z,28nm,1.5s										
SNY	Shenyang	45.53	355	⇑P	P	00 48 17.5	-0.4			
SNY				pmax	pmax					
comp=Z,20nm,1.3s										
LZDM	Lanzhou Array	45.70	332	P	P	00 48 13.4	-6.3			
comp=Z,1.6nm,0.4s,baz=152,slow=16,SNR=16										
comp=Z,1.6nm,0.4s										
LZH	Lanzhou	45.73	332	eP	P	00 48 21.0	+1.1			
LZH				sP	sP	00 48 26.5	+2.9			
LZH				PcP	PcP	00 49 54.0	-3.7			
LZH				pmax	pmax					
comp=Z,49nm,1.3s										
LZH				LR	LR					
comp=Z,2μm,15.1s										
LZH				LR	LR					
comp=Z,2μm,14.4s										
LZH				LR	LR					
comp=Z,3μm,14.4s										
SHL	Shillong	45.77	312	P	P	00 48 20.5	+0.2			
SHL				IAmb	IAmb	00 48 36.4				
comp=Z,72nm,0.9s										
SHL	Shillong	45.77	312	P	P	00 48 21.8	+1.4			
SNR=30										
SHL	Shillong	45.77	312	eP	P	00 48 14.3	-6.0			
SHL				IAmb	IAmb	00 48 36.1				
comp=Z,81nm,1.1s										
SHL	Shillong	45.77	312	P	P	00 48 20.5	+0.2			
SHL				pmax	pmax					
comp=Z,72nm,0.9s										
JTM	Tenmabayashi	45.80	14	P	P	00 48 20.0	-0.1			
JTM				IAmb	IAmb	00 48 25.3				
comp=Z,89nm,1.0s										
JTM	Tenmabayashi	45.80	14	P	P	00 48 22.3	+2.2			
MSHR	Mys Shultsa	46.15	3⇑	eP	P	00 48 22.5	-0.3			
MSHR				pmax	pmax					
comp=Z,73nm,1.2s										
VLA	Vladivostok	46.73	4⇓	eP	P	00 48 25.7	-1.6			
VLA				pmax	pmax					
comp=Z,34nm,1.0s										
HHC	Hu-ho-hao-te	46.92	343⇓	iP	P	00 48 28.5	-0.6			
HHC				sP	sP	00 48 35.8	+3.0			
HHC				pmax	pmax					
comp=Z,39nm,1.3s										
BTO	Baotou	47.18	341	eP	P	00 48 33.5	+2.4			
BTO				pmax	pmax					
comp=Z,27nm,1.1s										
CN2	Changchun	47.37	357	eP	P	00 48 31.5	-0.9			
CN2				pmax	pmax					
comp=Z,10.0nm,0.5s										
USRK	Ussuriysk Ar.	47.81	4	P	P	00 48 27.0	-8.7			
comp=Z,0.5nm,0.3s,baz=189,slow=7.3,SNR=26										
comp=Z,0.5nm,0.3s										
MDJ	Mudanjiang	48.13	1	P	P	00 48 38.1	-0.2			
MDJ	Mudanjiang	48.13	1	P	P	00 48 38.5	+0.3			
MDJ				S	S	00 55 41.8	+4.8			
MDJ				pmax	pmax					
comp=Z,37nm,1.5s										
MDJ	Mudanjiang	48.13	1	P	P	00 48 39.1	+0.9			
XLT	XiLinHaoTe	48.66	348	eP	P	00 48 41.8	-0.7			
XLT				pmax	pmax					
comp=Z,49nm,1.8s										
LSA	Lhasa	48.68	316	P	P	00 48 44.3	+0.9			
LSA				IAmb	IAmb	00 48 47.8				
comp=Z,140nm,1.6s										
LSA	Lhasa	48.68	316	P	P	00 48 42.8	-0.6			
LSA				S	S	00 55 41.0	-5.3			
LSA				pmax	pmax					
comp=Z,30nm,0.6s										
LSA				LR	LR					
comp=Z,1μm,16.5s										
LSA				LR	LR					
comp=Z,1μm,15.7s										
LSA				LR	LR					
comp=Z,1μm,24.7s										
LSA	Lhasa	48.68	316	P	P	00 48 44.3	+0.9			
LSA				pmax	pmax					
comp=Z,140nm,1.6s										
PALK	Pallekele	48.75	283	P	P	00 48 44.1	+0.5			
PALK	Pallekele	48.75	283	LR	LR	01 11 34.7				
comp=Z,1μm,18.6s,baz=86,slow=39										
PALK	Pallekele	48.75	283	P	P	00 48 44.1	+0.5			
PALK				pmax	pmax					
comp=Z,45nm,1.2s										
TEY	Ternei	49.10	8	eP	P	00 48 45.6	-0.1			
BNX	BinXian	49.24	359	⇑P	P	00 48 46.0	-0.8			
BNX				pmax	pmax					
comp=Z,57nm,1.0s										
ASAJ	Asahikawa	49.32	14	P	P	00 48 47.7	+0.3			
ASAJ				pmax	pmax					
comp=Z,103nm,1.2s										
JKA	Kamikawa-asahi	49.32	14	P	P	00 48 47.7	+0.4			
JKA				IAmb	IAmb	00 48 50.5				
comp=Z,103nm,1.2s										
GTA	Gaotai	50.30	331	P	P	00 48 56.0	+0.8			
GTA				ScS	ScS	00 58 45.0	-1.9			
GTA				pmax	pmax					
comp=Z,28nm,1.2s										
GAYA	Gaya	50.54	306	eP	P	00 48 52.3	-4.7			
GAYA				IAmb	IAmb	00 49 20.3				
comp=Z,52nm,1.1s										
GOMU	GeErMu	50.56	325	P	P	00 48 58.5	+1.0			
GOMU				PcP	PcP	00 50 15.5	+0.2			
GOMU				pmax	pmax					
comp=Z,17nm,1.7s										
MSVF	Nonsavu	50.64	110	P	P	00 48 58.0	0.0			
MSVF				IAmb	IAmb	00 49 02.6				
comp=Z,97nm,1.2s										
MSVF	Nonsavu	50.64	110	P	P	00 49 00.2	+2.2			
MSVF	Nonsavu	50.64	110	deP	P	00 48 59.2	+1.2			
MSVF				pmax	pmax					
comp=Z,110nm,1.3s										
FUNA	Funafuti	50.79	98	P	P	00 48 59.1	0.0			
FUNA	Funafuti	50.79	98	P	P	00 49 00.7	+1.6			
DGTI	Dogotuki	52.01	108	P	P	00 49 09.6	+1.4			
TAVE	Taveuni	52.41	108	P	P	00 49 13.6	+2.4			
HIA	Hailar	53.29	353	P	P	00 49 18.1	+1.0			
HIA	Hailar	53.29	353	P	P	00 49 18.1	+1.0			
HIA				pmax	pmax					
comp=Z,92nm,1.9s										
HYB	Hyderabad	53.39	295	eP	P	00 49 19.5	+1.0			
HYB				ePP	PP	00 51 20.1	+1.1			
HYB				eS	S	00 56 52.8	+1.7			
LKBA	Tubou, Lakemba	53.67	110	P	P	00 49 22.0	+1.6			
HEH	HeiHe	53.76	359	eP	P	00 49 20.0	-0.5			
HEH				pmax	pmax					
comp=Z,53nm,1.3s										
HEH				LR	LR					
comp=Z,770nm,15.6s										
HEH				LR	LR					
comp=Z,2μm,17.4s										
HEH				LR	LR					
comp=Z,3μm,18.9s										
QRZ	Quartz Range	54.22	139	P	P	00 49 25.2	+1.0			
ULN	Ulaanbaatar	54.65	343	P	P	00 49 27.1	-0.2			
ULN				IAmb	IAmb	00 49 30.4				
comp=Z,79nm,1.3s										
ULN	Ulaanbaatar	54.65	343	P	P	00 49 28.2	+0.9			
ULN	Ulaanbaatar	54.65	343	P	P	00 49 27.1	-0.2			
ULN				pmax	pmax					
comp=Z,79nm,1.3s										
SONM	Songino Array	54.82	342	P	P	00 49 28.2	-0.3			
SONM				IAmb	IAmb	00 49 31.6				
comp=Z,71nm,1.4s										
SONM	Songino Array	54.82	342	P	P	00 49 21.4	-7.1			
comp=Z,0.4nm,0.3s,baz=157,slow=4.7,SNR=3.9										
comp=Z,0.4nm,0.3s										
SONM	Songino Array	54.82	342	P	P	00 49 28.2	-0.3			
SONM				pmax	pmax					
comp=Z,71nm,1.4s										
RPZ	Rata Peaks	54.85	143	P	P	00 49 30.0	+1.4			
TCW	Tory Channel	55.56	139	P	P	00 49 33.6	-0.2			
TYV	Tymovskoe	55.74	11	eP	P	00 49 37.2	+2.3			
TYV				eS	S	00 57 26.1	+4.6			
TYV				pmax	pmax					
comp=Z,23nm,1.2s										
TYV				pmax	pmax					
comp=Z,500nm,4.4s										
TYV				smax	smax					
comp=N,600nm,5.5s										
TYV				smax	smax					
comp=E,400nm,5.5s										
LGTI	Lohaghat	56.62	309	eP	P	00 49 36.5	-5.1			
LGTI				IAmb	IAmb	00 49 50.2				
comp=Z,32nm,0.8s										
CIT	Chita	56.93	349	eP	P	00 49 44.0	+0.6			
CIT				e		00 50 39.4				
CIT				pmax	pmax					
comp=Z,180nm,2.1s										
ZEA	Zeya	57.25	359	eP	P	00 49 45.7	+0.1			
ZEA				pmax	pmax					
comp=N,20nm,1.2s										
ZEA				pmax	pmax					
comp=Z,30nm,1.1s										
KAD	Karad	57.34	293	eP	P	00 49 41.6	-5.4			
KAD				IAmb	IAmb	00 49 48.1				
comp=Z,106nm,1.7s										
JOSI	Joshimath	57.66	310	eP	P	00 49 43.5	-5.7			
JOSI				IAmb	IAmb	00 49 54.5				
comp=Z,185nm,1.0s										
ZAK	Zakamensk	58.03	341	eP	P	00 49 49.4	-1.9			
ZAK				pmax	pmax					
comp=Z,35nm,2.0s										
IRK	Irkutsk	59.36	343	eP	P	00 50 00.1	-0.3			
IRK				pmax	pmax					
comp=Z,109nm,2.1s										
WMQ	Urumqi	59.74	327	eP	P	00 50 03.3	0.0			
WMQ				PcP	PcP	00 50 52.3	+2.2			
WMQ				S	S	00 58 13.3	-1.2			
WMQ				pmax	pmax					
comp=Z,33nm,0.9s										
MOY	Mondy	59.88	341	eP	P	00 50 03.8	-0.3			
MOY				pmax	pmax					
comp=Z,142nm,2.2s										
PEA0B	Petropavlovsk-	61.78	20	P	P	00 50 17.2	+0.3			
PEA0B	Petropavlovsk-	61.78	20	P	P	00 50 17.2	+0.3			
PEA0B				pmax	pmax					
comp=Z,91nm,1.1s										
PETK	Petropavlovsk-	61.78	20	P	P	00 50 17.4	+0.5			
PETK	Petropavlovsk-	61.78	20	P	P	00 50 07.3	-10			
comp=Z,5.3nm,1.0s,baz=209,slow=13,SNR=2.0										
comp=Z,5.3nm,1.0s										
PETK	Petropavlovsk-	61.78	20	P	P	00 50 17.4	+0.5			
PET	Petropavlovsk	62.03	20⇑	eP	P	00 50 18.4	-0.2			
PET				pmax	pmax					
comp=Z,82nm,1.1s										
BOD	Bodaibo	62.41	351	eP	P	00 50 20.4	-0.6			
BOD				pmax	pmax					
comp=Z,125nm,1.4s										
ZSN	Zaisan	63.61	329⇑	iP	P	00 50 29.1	-0.2			
comp=Z,27nm,1.5s										
ZSN				eS	S	00 59 03.1	-0.2			
ZSN	Zaisan	63.61	329	ciP	P	00 50 29.1	-0.2			
ZSN				eS	S	00 59 03.0	-0.2			
ZSN				pmax	pmax					
comp=Z,27nm,1.5s										
CASY	Casey	63.69	188	P	P	00 50 29.6	+0.2			
NIL	Nilore	63.82	310	P	P	00 50 30.6	-0.3			
NIL	Nilore	63.82	310	P	P	00 50 30.6	-0.3			
NIL				pmax	pmax					
comp=Z,26nm,1.0s										
SHLS	Shalkode	64.11	322	eP	P	00 50 30.7	-2.1			
comp=Z,24nm,1.0s										
SHLS	Shalkode	64.11	322	eP	P	00 50 30.6	-2.1			
SHLS				pmax	pmax					
comp=Z,24nm,1.0s										
UZB	Uzynbulak	64.37	322	eP	P	00 50 34.3	-0.3			
comp=Z,31nm,1.1s										
UZB	Uzynbulak	64.37	322	eP	P	00 50 34.2	-0.3			
UZB				pmax	pmax					
comp=Z,31nm,1.1s										
TARG	Taragay, Kyrgy	64.38	320	P	P	00 50 35.0	+0.1			
TARG				IAmb	IAmb	00 51 07.1				
comp=Z,103nm,1.6s										
TARG	Taragay, Kyrgy	64.38	320	P	P	00 50 35.0	+0.1			
TARG				pmax	pmax					
comp=Z,103nm,1.6s										
KSH	Kashi	64.48	317	P	P	00 50 35.3	0.0			
KSH				sP	sP	00 50 46.8	+7.7			
KSH				pmax	pmax					
comp=Z,18nm,1.8s										
MK31	Makanchi Array	64.58	327	ciP	P	00 50 35.6	0.0			
MKAR	Makanchi Array	64.58	327	P	P	00 50 35.5	-0.1			
MKAR	Makanchi Array	64.58	327	P	P	00 50 29.1	-6.6			
comp=Z,1.4nm,0.7s,baz=126,slow=8.1,SNR=104										
MKAR				PP	PP	00 52 49.0	-8.8			
comp=Z,0.2nm,0.3s,baz=116,slow=11,SNR=5.9										
MKAR				S	S	00 59 11.9	-3.4			
comp=Z,0.2nm,0.6s,baz=96,slow=15,SNR=1.7										
MKAR				PKPPKP	P'P'df	01 19 18.8	-3.9			
comp=Z,0.9nm,0.9s,baz=318,slow=1.9,SNR=6.3										
comp=Z,1.4nm,0.7s										
JOHN	Johnston Islan	64.65	70	P	P	00 50 39.8	+3.2			
SATY	Saty	64.70	322	eP	P	00 50 36.5	-0.3			
comp=Z,20nm,0.8s										
SATY				eS	S	00 59 16.9	-0.3			
SATY	Saty	64.70	322	eP	P	00 50 36.4	-0.3			
SATY				eS	S	00 59 16.9	-0.3			
SATY				pmax	pmax					
comp=Z,20nm,0.8s										
MAKZ	Makanchi	64.75	327	P	P	00 50 36.3	-0.5			
MAKZ	Makanchi	64.75	327	P	P	00 50 36.3	-0.5			
MAKZ				pmax	pmax					
comp=Z,147nm,1.6s										
KDJ	Kajisay	64.99	320	P	P	00 50 39.0	+0.4			
KDJ				IAmb	IAmb	00 50 41.9				
comp=Z,68nm,1.3s										
KDJ	Kajisay	64.99	320	P	P	00 50 39.0	+0.4			
KDJ				pmax	pmax					
comp=Z,68nm,1.3s										
MA2	Magadan	65.55	12⇑	eP	P	00 50 41.8	+0.2			
MA2				pmax	pmax					
comp=Z,76nm,1.3s										
YAK	Yakutsk	65.57	1	P	P	00 50 41.8	+0.1			
YAK	Yakutsk	65.57	1	eP	P	00 50 40.7	-1.0			
YAK				e		00 51 12.2				
YAK				e		00 53 02.5				
YAK				ePPP	PPP	00 54 38.5				
YAK				eS	S	00 59 22.2	-4.6			
YAK				e*SS	sS	00 59 46.4	+14			
YAK				e		01 00 33.2				
YAK				eSS	SS	01 03 37.8	-3.1			
YAK				pmax	pmax					
comp=Z,159nm,1.0s										
YAK				pmax	pmax					
comp=N,56nm,1.1s										
YAK				pmax	pmax					
comp=E,24nm,1.2s										
YAK				pmax	pmax					
comp=Z,5μm,18.0s										
YAK				pmax	pmax					
comp=N,1μm,12.1s										
YAK				pmax	pmax					
comp=E,2μm,18.6s										
YAK				smax	smax					
comp=N,547nm,4.7s										
YAK				smax	smax					
comp=E,373nm,5.2s										
TNSS	Tian-Shan	65.60	321	eP	P	00 50 42.2	-0.7			
TNSS	Tian-Shan	65.60	321	eP	P	00 50 42.2	-0.7			
MDOK	Medeo	65.61	321	eP	P	00 50 42.5	-0.1			
MDOK				eS	S	00 59 28.2	-0.2			
MDOK	Medeo	65.61	321	eP	P	00 50 42.4	-0.1			
MDOK				eS	S	00 59 28.1	-0.2			
ARXS	Arharly	65.68	322	iP	P	00 50 41.4	-1.5			
AAA	Alma-Ata	65.71	321	eP	P	00 50 42.8	-0.4			
comp=E,31nm,1.1s										
AAA	Alma-Ata	65.71	321	eP	P	00 50 42.8	-0.4			
AAA				pmax	pmax					
comp=Z,31nm,1.1s										
TDK	Taldyqorghan	65.76	323	eP	P	00 50 43.2	-0.1			
comp=Z,23nm,0.8s										
TDK	Taldyqorghan	65.76	323	eP	P	00 50 43.2	-0.1			
TDK				pmax	pmax					
comp=Z,23nm,0.8s										
BOOM	Boomskoye usch	65.96	320	P	P	00 50 44.7	-0.2			
BOOM				IAmb	IAmb	00 50 47.9				
comp=Z,108nm,1.6s										
BOOM	Boomskoye usch	65.96	320	P	P	00 50 44.7	-0.2			
BOOM				pmax	pmax					
comp=Z,108nm,1.6s										
CHKK	Chushkaly	66.00	322	eP	P	00 50 44.7	-0.2			
CHKK	Chushkaly	66.00	322	eP	P	00 50 44.7	-0.2			
KUU	Kurty	66.42	322	eP	P	00 50 47.6	-0.1			
comp=Z,40nm,1.2s										
KUU	Kurty	66.42	322	eP	P	00 50 47.6	-0.1			
KUU				pmax	pmax					
comp=Z,40nm,1.2s										
AAK	Ala-Archa	66.97	320	P	P	00 50 51.9	+0.5			
AAK				IAmb	IAmb	00 50 59.2				
comp=Z,51nm,1.4s										
AAK	Ala-Archa	66.97	320	P	P	00 50 52.3	+0.9			
AAK	Ala-Archa	66.97	320	deP	P	00 50 52.4	+1.1			
AAK				pmax	pmax					
comp=Z,59nm,1.7s										
SGDS	Sogindy	67.27	320	eP	P	00 50 53.0	-0.2			
ARSB	Arslanbob	67.34	318	P	P	00 50 53.7	0.0			
ARSB	Arslanbob	67.34	318	P	P	00 50 53.7	0.0			
ARSB				pmax	pmax					
comp=Z,189nm,1.8s										
KBL	Kabul	67.38	310	P	P	00 50 53.8	-0.4			
KBL	Kabul	67.38	310	P	P	00 50 54.7	+0.5			
SNR=13										
KBL				S	S	00 59 48.3	-2.0			
KBL	Kabul	67.38	310	P	P	00 50 53.8	-0.4			
KBL				pmax	pmax					
comp

CHGR Chuyangaron 68.86 314 P P 00 51 02.7 -0.6
CHGR pmax pmax
comp=Z,133nm,1.5s
SEY Seymchan 68.93 12⇑ eP P 00 51 03.6 +0.6
SEY pmax pmax
comp=Z,233nm,1.7s
SIMJ Simiganj 68.97 314 P P 00 51 03.0 -1.0
SIMJ IAmb IAmb 00 51 09.2
comp=Z,32nm,1.1s
DZA Taraz 69.15 319 eP P 00 51 04.7 -0.2
DZA Taraz 69.15 319 eP P 00 51 04.6 -0.2
IUG Iuzhnay 69.69 318 eP P 00 51 08.2 -0.1
comp=Z,52nm,1.3s
IUG Iuzhnay 69.69 318 eP P 00 51 08.2 -0.1
IUG pmax pmax
comp=Z,52nm,1.3s
KK31 Karatay Array 69.78 319 P P 00 51 08.5 -0.3
KK31 IAmb IAmb 00 51 11.1
comp=Z,107nm,1.8s
KK31 Karatay Array 69.78 319 P P 00 51 08.5 -0.3
KK31 pmax pmax
comp=Z,107nm,1.8s
KKAR Karatay Array 69.78 319 P P 00 51 08.3 -0.4
KKAR Karatay Array 69.78 319 P P 00 51 08.3 -0.4
CHM Chimkent 70.05 318 eP P 00 51 10.5 +0.1
comp=Z,23nm,1.2s
CHM Chimkent 70.05 318 eP P 00 51 10.5 +0.1
CHM pmax pmax
comp=Z,23nm,1.2s
BRLS Boroldoy 70.19 318⇑ iP P 00 51 11.1 -0.2
BRLS Boroldoy 70.19 318 i P P 00 51 11.0 -0.3
BRLS pmax pmax
comp=Z,31nm,1.8s
BRZS Berezniki 71.67 326 eP P 00 51 20.2 0.0
BRZS Berezniki 71.67 326 eP P 00 51 20.1 0.0
JLN Jalan Bani Buh 72.01 295 P P 00 51 23.6 +0.9
ADK Adak 72.29 32 P P 00 51 23.8 0.0
ADK Adak 72.29 32 P P 00 51 25.6 +1.9
ADK Adak 72.29 32 P P 00 51 23.8 0.0
ADK pmax pmax
comp=Z,368nm,1.7s
HRA Herat 72.63 308 P P 00 51 26.0 -0.4
WSAR Wadi Sarin 72.93 296 LR LR 01 27 09.9
comp=Z,5.4nm,18.0s,baz=172,slow=39
WSAR Wadi Sarin 72.93 296 P P 00 51 28.5 +0.3
SNR=6.3
WSAR P P **00 51 29.3 +1.1**
MHTO MHTO 73.10 293 P P 00 51 28.3 -0.9
JMDO Jabal Madar 73.24 295 P P 00 51 29.5 -0.5
SNR=5.3
SMDO Samad 73.42 295 P P 00 51 31.0 -0.2
BIDO Bidbid 73.44 296 P P 00 51 31.4 +0.2
SNR=11
HOQ Hoqain 74.19 296 P P 00 51 36.2 +0.6
SNR=8.5
HOQ S S **01 01 11.0 +1.4**
BVAR Borovoye Array 74.41 328 P P 00 51 29.5 -6.7
comp=Z,0.4nm,0.5s,baz=116,slow=6.6,SNR=50
BVAR S **SKiKP 01 01 06.8 +3.4**
comp=Z,0.4nm,0.4s,baz=124,slow=36,SNR=1.0
comp=Z,0.4nm,0.5s
BORK Borovoye 74.45 328 *ce* **P P 00 51 36.2 -0.3**
BORK pmax pmax
comp=Z,116nm,1.7s
BORK MLR MLR
comp=Z,1μm,17.0s
ARQ Araqi 74.85 295 P P 00 51 39.8 +0.4
SNR=5.4
SOHO SOHO 74.99 296 P P 00 51 40.4 +0.1
SOHO S S **01 01 16.2 -2.3**
TIXI Tiksi 75.22 0 P P 00 51 40.0 -0.5
TIXI IAmb IAmb 00 51 43.3
comp=Z,66nm,1.1s
TIXI Tiksi 75.22 0⇑ eP P 00 51 39.9 -0.7
TIXI pmax pmax
comp=Z,80nm,1.3s
TIXI MLR MLR
comp=Z,980nm,18.0s
DMTO DMTO 75.35 289 P P 00 51 42.7 +0.3
UOSS Minazif 75.44 297 P P 00 51 42.1 -0.7
UOSS Minazif 75.44 297 P P 00 51 42.7 -0.1
UOSS S S **01 01 23.3 -0.3**
HATD Hatta, Dubai 75.48 297 P P 00 51 43.5 +0.4
SNR=5.2
HATD S S **01 01 23.5 -0.5**
ASHO Ashiyiah 75.52 297 P P 00 51 43.4 0.0
BANOM Banah 75.55 298 P P 00 51 45.0 +1.5
MASF Masafi 75.57 297 P P 00 51 44.1 +0.5
ALNE Al Ain 75.68 296 P P 00 51 45.5 +1.2
SNR=6.9
ALNE S S **01 01 22.3 -3.9**
VNDA Vanda 75.89 173 P P 00 51 44.4 0.0
VNDA Vanda 75.89 173 P P 00 51 40.0 -4.4
comp=Z,2.3nm,1.0s,baz=321,slow=6.3,SNR=18
VNDA LR LR 01 24 42.9
comp=Z,1μm,19.8s,baz=276,slow=35
comp=Z,2.3nm,1.0s
VNDA Vanda 75.89 173 P P 00 51 44.4 0.0
VNDA pmax pmax
comp=Z,23nm,1.6s
ASUD Al Ashush, Dub 76.17 296 S S 01 01 29.6 -1.8
DOK Doka 76.26 290 P P 00 51 46.2 -1.4
BILL Bilibino 76.33 14 P P 00 51 48.0 +1.0
BILL Bilibino 76.33 14⇑ eP P 00 51 46.8 -0.2
BILL pmax pmax
comp=Z,29nm,1.5s
WHFO Wadi Hawf 76.49 289 P P 00 51 48.1 -0.9
SBA Scott Base 76.79 172 P P 00 51 49.9 +0.4
SBA Scott Base 76.79 172 P P 00 51 49.9 +0.4
SBA pmax pmax
comp=Z,32nm,1.4s
MAW Mawson 77.39 201 P P 00 51 50.5 -2.4
comp=Z,3.4nm,0.8s,baz=68,slow=8.5,SNR=17
comp=Z,3.4nm,0.8s
MWH Mokuaweoweo 78.17 69 P P 00 51 57.6 -1.4
POHA Pohakuloa 78.27 69 P P 00 52 01.2 +2.0
AB31 Akbulak array 78.91 322 P P 00 52 01.4 -0.3
AKUT Akutan 79.19 33 P P 00 52 05.0 +1.8
SMRA Abu-Samra 80.22 296 P P 00 52 09.4 -0.1
AKTO Aktyubinsk 80.46 322 P P 00 52 05.2 -5.0
comp=Z,6.8nm,1.1s,baz=105,slow=5.3,SNR=30
comp=Z,6.8nm,1.1s
VOI Vohitsoka 80.76 249 P P 00 52 11.9 -0.7
VOI IAmb IAmb 00 54 21.4
comp=Z,83nm,1.7s
ARTI Arti 82.13 328 P P 00 52 18.9 -0.1
ARTI IAmb IAmb 00 52 21.4
comp=Z,86nm,1.2s
ARTI Arti 82.13 328 P P 00 52 15.0 -3.9
comp=Z,26nm,1.1s,baz=121,slow=3.5,SNR=28
comp=Z,26nm,1.1s
ARTI Arti 82.13 328 *c iP* **P 00 52 18.0 -0.9**
ARTI 00 55 26.0
ARTI PPP PPP 00 57 18.8
ARTI S S **01 02 32.2 -1.5**
ARTI pmax pmax
comp=Z,92nm,1.2s
SDPT Sand Point 82.49 33 P P 00 52 20.8 0.0
SDPT Sand Point 82.49 33 P P 00 52 22.3 +1.5
CNBA Chernabura Isl 82.82 34 P P 00 52 22.1 -0.4
L14K Kuka Creek 83.34 27 P P 00 52 25.0 0.0
L14K IAmb IAmb 00 52 28.6
comp=Z,65nm,1.2s
LKRN Lenkeran, Azer 84.16 309 P P 00 52 31.3 +1.5
RAYN Ar Rayn 84.89 294 P P 00 52 33.7 -0.2
RAYN Ar Rayn 84.89 294 P P 00 52 33.8 -0.1
RAYN Ar Rayn 84.89 294 P P 00 52 33.7 -0.2
RAYN pmax pmax
comp=Z,97nm,1.5s
SEKA Sheki 85.75 312 P P 00 52 38.8 +0.9
MNGR Mingechevir, A 85.77 311 P P 00 52 39.3 +1.4
MAK Makhachkala 85.80 313 *c iP* **P** 00 52 33.6 -4.3
MAK *e* 00 55 50.8
MAK *e* 01 02 55.4
MAK *e* SS SS 01 08 45.0 -3.1
MAK *e* SSS SSS 01 12 12.6
MAK pmax pmax
comp=Z,299nm,1.7s
ACHA Angle Creek He 85.99 31 P P 00 52 37.9 -0.8
ACHA IAmb IAmb 00 52 44.5
comp=Z,42nm,1.0s
SYO Syowa Base 86.10 201⇓ eP P 00 52 40.2 +1.3
QSPA South Pole Qui 86.24 180 P P 00 52 40.6 +0.7
QSPA IAmb IAmb 00 52 44.4
comp=Z,35nm,1.0s
QSPA South Pole Qui 86.24 180 P P 00 52 36.1 -3.7
comp=Z,8.9nm,1.0s,baz=334,slow=3.4,SNR=31
comp=Z,8.9nm,1.0s
ATD Arta Tunnel 86.30 282 P P 00 52 42.0 +0.8
ATD Arta Tunnel 86.30 282 P P 00 52 35.8 -5.4
comp=Z,0.7nm,0.8s,baz=105,slow=4.8,SNR=19
ATD Arta Tunnel 86.30 282 P P 00 52 43.3 +2.2
SNR=14
GANJ Ganja 86.33 311 P P 00 52 42.0 +1.3
NAX Nakhchivan 86.76 309 P P 00 52 44.2 +1.3
OHAK Old Harbor 86.84 32 P P 00 52 42.5 -0.2
OHAK IAmb IAmb 00 52 47.7
comp=Z,61nm,1.0s
OHAK Old Harbor 86.84 32 P P 00 52 43.9 +1.2
BELG Belogornoye 87.24 323 *ce* **P P 00 52 44.5 -0.3**
BELG pmax pmax
comp=Z,17nm,1.0s
KDAK Kodiak Island 87.32 32 P P 00 52 45.9 +0.8
KDAK Kodiak Island 87.32 32 P P 00 52 45.9 +0.8
KDAK pmax pmax
comp=Z,125nm,1.2s
KIRV Kirov 87.37 329 P P 00 52 40.9 -4.4
comp=Z,15nm,0.9s,baz=105,slow=9.0,SNR=20
comp=Z,15nm,0.9s
KIRV Kirov 87.37 329 *ce* **P P 00 52 45.2 -0.1**
GNI Garni 87.46 310 P P 00 52 46.7 +0.3
GNI IAmb IAmb 00 53 24.0
comp=Z,68nm,1.6s
GNI Garni 87.46 310 P P 00 52 46.9 +0.5
GNI Garni 87.46 310 P P 00 52 46.7 +0.3
GNI pmax pmax
comp=Z,68nm,1.6s
GEVA Gevas 88.55 308 P P 00 52 51.9 +0.2
GEVA IAmb IAmb 00 53 01.3
comp=Z,49nm,0.9s
BRLK Bradley Lake 88.56 30 P P 00 52 50.1 -0.9
E21K Killik River 88.93 21 P P 00 52 52.3 -0.3
KBZ Khabaz 89.23 314 P P 00 52 49.1 -5.3
comp=Z,1.8nm,1.0s,baz=88,slow=4.8,SNR=6.9
KBZ S **SKSac 01 03 23.2 -1.5**
comp=Z,2.5nm,1.2s,baz=104,slow=8.3,SNR=1.5
comp=Z,1.8nm,1.0s
KBZ Khabaz 89.23 314⇑ eP P 00 52 55.1 +0.7
KBZ pmax pmax
comp=Z,27nm,2.2s
BPAW Bear Paw Mtn. 89.26 26 P P 00 52 55.3 +1.1
GOF Gofitskoye 89.26 315 *ce* **P P 00 52 55.4 +0.8**
GURO Guroymak-BITLI 89.38 309 P P 00 52 55.3 -0.2
GURO IAmb IAmb 00 53 00.4
comp=Z,76nm,1.3s
KIV Kislovodsk 89.40 314 eP P 00 52 55.1 -0.3
KIV pmax pmax
comp=Z,4.0nm,1.0s
MLY Manley 89.52 25 P P 00 52 56.4 +0.9
PMR Palmer 89.70 28 P P 00 52 57.1 +0.9
KNK Knik Glacier 89.99 29 P P 00 52 57.8 +0.1
KNK IAmb IAmb 00 53 02.0
comp=Z,29nm,0.9s
RND Reindeer 90.08 27 P P 00 52 57.6 -0.6
RND IAmb IAmb 00 52 59.2
comp=Z,78nm,1.5s
RND Reindeer 90.08 27 P P 00 52 57.6 -0.6
RND pmax pmax
comp=Z,78nm,1.5s
MCK McKinley 90.09 26 P P 00 52 57.5 -0.6
MCK McKinley 90.09 26 P P 00 52 57.5 -0.6
MCK pmax pmax
comp=Z,99nm,1.0s
COLD Coldfoot 90.10 23 P P 00 52 57.6 -0.4
SML Sawmill 90.10 28 P P 00 52 57.8 -0.4
SML IAmb IAmb 00 53 02.3
comp=Z,64nm,1.1s
MARD Mardin 90.26 307 P P 00 52 59.3 -0.4
MARD IAmb IAmb 00 53 04.1
comp=Z,45nm,1.5s
WRH Wood River Hil 90.56 26 P P 00 52 59.3 -1.0
WRH IAmb IAmb 00 53 03.0
comp=Z,28nm,1.0s
KOPT Kop Dagi 90.69 310 P P 00 53 02.0 +0.3
KOPT IAmb IAmb 00 53 28.4
comp=Z,54nm,1.5s
CCB Clear Creek Bu 90.71 25 P P 00 53 00.1 -0.8
COLA College 90.71 25 P P 00 53 02.3 +1.4
ILAR Eielson Array 91.11 25 P P 00 52 56.6 -6.2
comp=Z,2.9nm,1.1s,baz=268,slow=5.3,SNR=4.4
ILAR PKKPbc **PKKPdf 01 10 25.5 0.0**
comp=Z,1.3nm,0.9s,baz=101,slow=0.9,SNR=7.5
comp=Z,2.9nm,1.1s
DIV Divide 91.25 29 P P 00 53 02.7 -0.9
BMRM Bremner River 91.80 29 P P 00 53 06.4 +0.2
RIDG Independent Ri 91.90 26 P P 00 53 06.4 -0.1
MENT Mentasta 92.35 27 P P 00 53 09.0 +0.4
MENT IAmb IAmb 00 53 12.1
comp=Z,72nm,1.8s
MENT Mentasta 92.35 27 P P 00 53 10.7 +2.1
KLMR Klimovskoe 92.63 331 eP P 00 53 03.4 -6.5
KLMR pmax pmax
comp=Z,48nm,1.9s
GAZ Gaziantep 93.10 307 P P 00 53 12.4 -0.3
GAZ IAmb IAmb 00 53 16.8
comp=Z,35nm,1.5s
MOS Moscow 93.43 325 eP P 00 53 11.8 -1.9
MOS *e* 00 57 00.4
EGAK Eagle 93.56 25 P P 00 53 14.3 +0.2
OBN Obninsk 94.02 325 P P 00 53 16.0 -0.5
OBN Obninsk 94.02 325⇓ eP P 00 53 15.9 -0.5
OBN *e* PP **PcP 00 53 19.0 +2.2**
OBN *e* SP **sP 00 53 21.6 +1.2**
OBN *e*S **SKSac 01 03 45.6 -5.7**
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN MLR MLR
comp=Z,785nm,20.0s
POGA Pongola 94.17 242 P P 00 53 17.7 -0.1
DAWY Dawson 94.32 26 P P 00 53 17.2 -0.5
DAWY IAmb IAmb 00 53 22.4
comp=Z,44nm,1.2s
LVZ Lovozero 94.80 338⇓ eP P 00 53 19.0 -0.8
LVZ pmax pmax
comp=Z,43nm,1.3s
LVZ Lovozero 94.80 338 P P 00 53 19.0 -0.8
comp=Z,59nm,1.7s
NVL N'lazarevskaya 94.97 197 eP P 00 53 11.7 -8.8
NVL *e* 01 04 27.4
NVL *e*SS SS 01 10 59.5 +0.4
NVL pmax pmax
comp=Z,8.0nm,0.9s
NVL MLR MLR
comp=Z,116nm,20.0s
APA Apatity 95.29 337⇓ eP P 00 53 18.6 -3.4
APA pmax pmax
comp=Z,10.0nm,1.3s
APA MLR MLR
comp=Z,2μm,19.8s
BRTR Keskin Array B 95.95 309 P P 00 53 20.8 -5.1
comp=Z,0.6nm,0.8s,baz=90,slow=2.9,SNR=2.1
BRTR PKKP **PKKPbc 01 10 12.3 -3.2**
comp=Z,1.2nm,1.1s,baz=267,slow=5.2,SNR=3.8
comp=Z,0.6nm,0.8s
INK Inuvik 96.46 22 P P 00 53 26.6 -0.7
INK IAmb IAmb 00 53 28.8
comp=Z,39nm,1.4s
INK Inuvik 96.46 22 P P 00 53 26.6 -0.7
INK pmax pmax
comp=Z,39nm,1.4s
TROLL Troll, Antarti 96.90 195 ⇑P P 00 53 29.4 0.0
comp=Z,226nm,0.9s
ARCES ARCESS Array B 97.94 340 P P 00 53 28.1 -5.9
comp=Z,1.9nm,1.0s,baz=78,slow=5.1,SNR=8.0
comp=Z,1.9nm,1.0s
BELA Belgrano 2 97.98 184 P P 00 53 33.9 -0.1
BELA IAmb IAmb 00 53 37.6
comp=Z,9.1nm,0.9s
SNAA Sanae 98.44 194 ⇑P P 00 53 36.5 +0.2
comp=Z,85nm,0.9s
SNAA Sanae 98.44 194 P P 00 53 36.4 +0.1
SNAA Sanae 98.44 194 P P 00 53 32.0 -4.3
comp=Z,1.6nm,0.9s,baz=141,slow=7.7,SNR=10.0
comp=Z,1.6nm,0.9s
SNAA Sanae 98.44 194 P P 00 53 36.4 +0.1
SNAA pmax pmax
comp=Z,8.0nm,1.1s
AKASG Malin Array Be 98.62 321 PP PP 00 57 32.7 -5.5
comp=Z,0.1nm,0.2s,baz=71,slow=7.5,SNR=4.4
LSZ Lusaka 98.77 254 P P 00 53 36.5 -2.5
comp=Z,5.0nm,0.9s,baz=133,slow=2.5,SNR=6.3
LSZ Lusaka 98.77 254 P P 00 53 38.0 -1.0
MNK Minsk 99.07 324 *i* **P Pdif 00 53 39.3 0.0**
MNK *i* 00 57 41.8
MNK *i* PPP PPP 00 59 47.0
MNK *i* S **SKSac 01 04 17.5 -0.2**
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=Z,8.0nm,0.9s
MNK MLR MLR
comp=E,636nm,19.0s
MNK MLR MLR
comp=Z,799nm,17.0s
MNK MLR MLR
comp=N,827nm,18.0s
FINES FINESS Array B 99.09 332 P Pdif 00 53 31.7 -7.5
comp=N,3.4nm,1.2s,baz=100,slow=7.2,SNR=6.4
comp=N,3.4nm,1.2s
FINES FINESS Array B 99.09 332 *i* **P Pdif 00 53 41.5 +2.2**
FINES pmax pmax
comp=Z,3.0nm,0.9s
BOSA Boshof 99.64 240 Pdif Pdif 00 53 42.2 -0.5
BOSA IAmb IAmb 00 54 30.5
comp=Z,39nm,1.8s
BOSA Boshof 99.64 240 P Pdif 00 53 39.9 -2.8
comp=Z,3.7nm,0.9s,baz=101,slow=12,SNR=3.9
BOSA PP PP 00 57 42.9 -3.8
comp=Z,1.6nm,0.9s,baz=90,slow=20,SNR=3.1
BOSA Boshof 99.64 240 P Pdif 00 53 42.2 -0.5
BOSA pmax pmax
comp=Z,39nm,1.8s
RNPP1 Kostyukhnivka 100.72 321 P Pdif 00 53 47.1 +0.3
KOLS Kolonicke sedl 103.31 319 *i* **P Pdif 00 54 03.2 +4.8**
KOLS *e* 00 58 16.3
YKA Yellowknife Ar 105.54 25 PKKPbc PKKPbc 01 09 43.2 -5.2
comp=Z,1.5nm,0.8s,baz=96,slow=2.5,SNR=4.4
NOA NORSAR Array B 106.11 333 Pdiff **Pdif 00 54 06.0 -4.6**
comp=Z,2.1nm,1.0s,baz=67,slow=4.5,SNR=5.1
GERES GERESS Array B 108.84 321 PKiKP **PKiKP 00 58 24.4 -3.5**
comp=Z,0.2nm,0.5s,baz=108,slow=3.2,SNR=3.7
NVAR Mina Array Bea 110.54 50 Pdiff **Pdif 00 54 20.8 -10**
comp=Z,0.1nm,0.4s,baz=284,slow=5.0,SNR=1.3
NVAR PKiKP **PKiKP 00 58 28.0 -3.7**
comp=Z,1.3nm,0.8s,baz=295,slow=2.0,SNR=7.8
NVAR PKKPbc **PKKPbc 01 09 29.2 -3.0**
comp=Z,0.4nm,0.9s,baz=124,slow=2.2,SNR=3.7
PDAR Pinedale Array 115.75 44 PKP **PKiKP 00 58 37.0 -4.5**
comp=Z,2.9nm,1.1s,baz=291,slow=2.6,SNR=11
PDAR PKKPbc **PKKPbc 01 09 11.5 -3.3**
comp=Z,1.2nm,0.8s,baz=96,slow=3.1,SNR=8.4
WUAZ Wupatki 116.62 52 PKPdf 00 58 43.4 +0.1
TUC Tucson 117.92 55 PKPdf 00 58 44.7 -1.1
TUC Tucson 117.92 55 PKiKP **PKPdf 00 58 44.7 -1.1**
MVCO Mesa Verde 118.35 49 PKPdf 00 58 46.9 +0.2
RSSD Black Hills 118.93 41 PKPdf 00 58 47.0 -0.6
RSSD Black Hills 118.93 41 PKiKP **PKPdf 00 58 47.0 -0.6**
ISCO Idaho Springs 119.59 46 PKPdf **PKPdf 00 58 46.9 -2.2**
ISCO Idaho Springs 119.59 46 PKiKP **PKPdf 00 58 46.9 -2.2**
SDCO Great Sand Dun 120.42 48 PKPdf 00 58 49.8 -0.9
ANMO Albuquerque 120.64 51 PKPdf 00 58 50.3 -0.8
ANMO Albuquerque 120.64 51 PKiKP **PKPdf 00 58 50.3 -0.8**
MNTX Cornudas Mount 122.50 55 PKPdf 00 58 54.1 -0.4
ECSD EROS Data Cent 123.81 38 PKPdf 00 58 56.3 -0.4
ESDC Sonseca Array 123.99 316 PKP PKPdf 00 58 50.4 -6.8
comp=Z,3.1nm,1.2s,baz=92,slow=3.0,SNR=7.0
TXAR Lajitas Array 124.62 57 PKP **PKPdf 00 58 53.7 -5.1**
comp=Z,4.1nm,1.0s,baz=314,slow=1.7,SNR=26
TXAR PKKPbc **PKKPab 01 08 39.5 -0.9**
comp=Z,0.6nm,1.0s,baz=86,slow=5.0,SNR=4.4
TORD Torodi Ar. Bea 126.47 284 PKP PKPdf 00 58 55.8 -6.7
comp=Z,3.6nm,0.7s,baz=50,slow=2.4,SNR=17
WMOK Wichita Mounta 126.59 49 PKPdf 00 59 01.1 -1.2
WMOK Wichita Mounta 126.59 49 PKiKP **PKPdf 00 59 01.1 -1.2**
ZAIG Zacatecas 127.30 64 PKiKP **PKPdf 00 59 04.8 +0.5**
JCT Junction City 127.42 54 PKPdf 00 59 03.1 -0.9
JCT Junction City 127.42 54 PKiKP **PKPdf 00 59 03.1 -0.9**
COYC Coyhaique 127.68 162 PKPdf PKPdf 00 59 05.5 +1.5
BRDY Brady 127.77 53 PKPdf PKPdf 00 59 03.8 -0.9
LL02 Futaleuf 129.88 161 PKPdf PKPdf 00 59 09.2 +0.8
CCM Cathedral Cave 130.31 41 PKPdf PKPdf 00 59 10.6 +1.4
CCM Cathedral Cave 130.31 41 PKiKP **PKPdf 00 59 10.6 +1.4**
LL01 San Ignacio de 130.42 160 PKiKP 00 59 11.8 +1.7
MIAR Mount Ida 130.51 46 PKPdf PKPdf 00 59 11.5 +1.8
MIAR Mount Ida 130.51 46 PKiKP **PKPdf 00 59 11.5 +1.8**
HKT Hockley 130.80 53 PKPdf PKPdf 00 59 11.1 +0.8
HKT Hockley 130.80 53 PKiKP **PKPdf 00 59 11.1 +0.8**
LR05 Jarrie 132.46 159 PKPdf PKPdf 00 59 14.2 +1.0
PLCA Paso Flores 132.51 161 PKPdf PKPdf 00 59 14.6 +1.1
PLCA Paso Flores 132.51 161 PKP PKPdf 00 59 09.0 -4.5
comp=Z,9.1nm,1.0s,baz=234,slow=3.8,SNR=9.8
PLCA Paso Flores 132.51 161 PKiKP PKPdf 00 59 14.6 +1.1
DBIC Dimbokro 133.28 276 PKP PKPdf 00 59 10.1 -5.4
comp=Z,4.6nm,0.8s,baz=105,slow=1.9,SNR=3.6
MT03 Universidad Ad 138.94 156 PKPdf PKPdf 00 59 26.3 +0.6
CFA Coronel Fontan 141.50 157 PKP PKPdf 00 59 24.5 -5.8
comp=Z,3.0nm,0.7s,baz=240,slow=4.2,SNR=10.0
LCO Las Campanas 142.69 152 PKPdf 00 59 32.4 -0.4
LCO Las Campanas 142.69 152 PKiKP **PKPdf 00 59 32.4 -0.4**
GO03 Copiapo 144.10 151 PKPdf PKPab 00 59 32.9 +0.4
HERN Volcan Telica 144.15 74 PKPdf PKPab 00 59 33.7 +0.6
SOR Soroa 144.25 55 PKPdf PKPab 00 59 33.3 +0.2
SOR Soroa 144.25 55 PKiKP **PKPab 00 59 33.3 +0.2**
PLTB Pedras Altas 144.67 177 PKPdf PKPab 00 59 34.4 -0.1
MGAN Managua 144.80 74 PKPdf PKPab 00 59 35.0 -0.4
AC01 Pan de Azucar 145.12 149 PKPbc PKPbc 00 59 36.1 -0.1
BOAB BOACO BROADBAND 146.30 74 PKPbc PKPbc 00 59 36.4 -0.6
PB14 IPOC Station P 146.46 148 PKPbc PKPdf 00 59 40.6 +1.1
HDC Heredia 147.23 77 PKPbc PKPdf 00 59 42.2 +1.5
PB06 IPOC Station P 148.46 147 PKPdf 00 59 45.0 +2.3
AF01 San Pedro de A 148.99 149 PKPdf 00 59 45.6 +1.9
ITAB Concordia 149.23 179 PKPdf 00 59 46.5 +2.9
CPUP Villa Florida 149.64 170 PKPdf PKPdf 00 59 43.5 -0.8
CPUP Villa Florida 149.64 170 PKPbc PKPdf 00 59 44.0 -0.2
comp=Z,11nm,1.1s,baz=105,slow=0.6,SNR=7.0
HMBC Humberstone 150.20 144 PKPdf PKPdf 00 59 44.4 -1.1
NNA Nana 150.53 122 PKPdf 00 59 46.4 +0.4
NNA Nana 150.53 122 PKPbc PKPdf 00 59 47.1 +1.1
comp=Z,172nm,1.0s,baz=264,slow=4.4,SNR=32
PB08 IPOC Station P 150.74 145 PKPdf PKPdf 00 59 45.4 -1.2
ATAH Atahualpa 151.25 112 PKPbc PKPdf 00 59 48.1 +0.5
comp=Z,12nm,0.9s,baz=297,slow=4.8,SNR=8.8
PB18 Visviri 152.50 141 PKPdf 00 59 48.2 -1.3
TRCB Terra Rica 153.63 178 PKPdf PKPdf 00 59 49.3 -1.1
LPAZ La Paz 154.32 141 PKPdf PKPdf 00 59 51.5 -0.8
LPAZ La Paz 154.32 141 PKPbc PKPdf 00 59 53.5 +1.2
comp=Z,15nm,1.2s,baz=200,slow=4.6,SNR=20
CZSB Cruzeiro do Su 156.15 118 PKPdf PKPdf 00 59 53.3 -0.8
ROSC El Rosal 157.40 86 PKP PKPdf 00 59 50.7 -5.5
comp=Z,5.5nm,0.4s,baz=260,slow=19,SNR=5.5
SIV San Ignacio 158.33 155 PKP PKPdf 00 59 51.7 -5.1
comp=Z,6.7nm,1.0s,baz=207,slow=2.3,SNR=20
SIV PKPab **PKPab 01 00 26.0 -4.8**
comp=Z,11nm,0.8s,baz=211,slow=5.9,SNR=22
RUSC La Rusia 158.57 83 PKPdf 00 59 56.1 -1.6
PTLB Pontes e Lacer 159.58 159 PKPdf 00 59 56.7 -1.5
BDFB Brasilia 160.43 191 PKP PKPdf 00 59 54.3 -5.0
comp=Z,1.7nm,0.4s,baz=145,slow=2.3,SNR=3.7
BDFB PKPab **PKPab 01 00 36.6 -3.3**
comp=Z,12nm,1.1s,baz=202,slow=5.7,SNR=6.0
BAUV El Baul 162.94 71 PKPdf 01 00 00.3 -1.5
BOAV Boa Vista 171.08 98 PKPdf 01 00 06.0 -2.0

FCIAR ***26*** *00:42:23.0, 79°.33N×3°.93E, h10km, station OMEGA has station magnitude of 3.90 station ZFI2 has station magnitude of 3.90*
BER ***26*** *00:42:26.2±2.2, 79°.19N×2°.95E, h10km, mb(Pn)4.5, Confirmed Earthquake*
DNK ***26*** *00:42:27.6±1.5, 79°.18N×3°.11E, h40km±33km*
NAO ***26*** *00:42:27.2±0.7, 79°.55N×4°.39E, h10km, ML3.8*
KOLA ***26*** *00:42:27.9, 79°.02N×4°.01E, h0km, ML3.0, Error ellipse: s-maj=38.4km s-min=20.7km az=170.0, Greenland sea, Knipovich ridge, north*
IDC ***26*** *00:42:27.1±1.0, 79°.07N×2°.69E, h0km, mb3.4/7, mbtmp3.5/11, ML2.9/3, Error ellipse: s-maj=23.5km s-min=16.6km az=36.0*
ISC 26 00:42:26.6±0.6, 79°.13N±0°.05×3°.13E±0°.04, h10km, n53,

σ3$42/83, **mb3.3**/7, **5C, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.70**	**93**	Pn	**Pn**	**00 42 55.3**	**-1.0**
KBS				Sn	**Sn**	**00 43 13.7**	**-4.3**
KBS	**Kingsbay**	**1.70**	**93**	P	**Pn**	**00 42 54.6**	**-1.6**
KBS				S	**Sn**	**00 43 13.9**	**-4.1**
KBS	**Kingsbay**	**1.70**	**93**	*eP*	**Pn**	**00 42 55.1**	**-1.1**
KBS				*eS*	**Sn**	**00 43 13.6**	**-4.3**
KBS				IAML		00 43 16.0	
	comp=Z,390nm,0.2s						
KBS	**Kingsbay**	**1.70**	**93**	*iP*	**Pn**	**00 42 55.2**	**-1.1**
KBS				*iS*	**Sn**	**00 43 13.7**	**-4.3**
BRBB	**Barentsburg B**	**2.43**	**110**	Pn	**Pn**	**00 43 05.7**	**-0.6**
BRBB				Sn	**Sn**	**00 43 32.0**	**-4.0**
BRBB	**Barentsburg B**	**2.43**	**110**	P	**Pn**	**00 43 05.0**	**-1.3**
BRBB				S	**Sn**	**00 43 32.5**	**-3.5**
BRBB	**Barentsburg B**	**2.43**	**110**	*eP*	**Pn**	**00 43 05.3**	**-1.0**
BRBB				*eS*	**Sn**	**00 43 32.1**	**-4.0**
BRBA	**Barentsburg A**	**2.45**	**111**	Pn	**Pn**	**00 43 05.8**	**-0.8**
BRBA				Sn	**Sn**	**00 43 33.7**	**-2.8**
BRBA	**Barentsburg A**	**2.45**	**111**	*eP*	**Pn**	**00 43 05.9**	**-0.8**
BRBA				*eS*	**Sn**	**00 43 33.1**	**-3.4**
BRBA				IAML		00 43 38.0	
	comp=Z,311nm,0.4s						
SPA0	**Spitsbergen Ar**	**2.79**	**104**	Pn	**Pn**	**00 43 11.1**	**-0.1**
	baz=296,slow=8.6						
SPA0				Sn	**Sn**	**00 43 42.7**	**-2.1**
	baz=298,slow=16						
SPA0	**Spitsbergen Ar**	**2.79**	**104**	*eP*	**Pn**	**00 43 09.0**	**-2.2**
SPA0				*eS*	**Sn**	**00 43 41.3**	**-3.5**
SPA0	**Spitsbergen Ar**	**2.79**	**104**	*eP*	**Pn**	**00 43 11.2**	**-0.1**
SPA0				*e*		00 43 19.5	
SPA0				*eS*	**Sn**	**00 43 42.3**	**-2.5**
SPA0				IAML		00 43 47.4	
	comp=Z,150nm,0.5s						
SPITS	**Spitsbergen Ar**	**2.79**	**104**	Pn	**Pn**	**00 43 11.2**	**-0.1**
	comp=Z,114nm,0.3s,baz=298,slow=9.3,SNR=5482						
SPITS				Sn	**Sn**	**00 43 42.3**	**-2.5**
	baz=280,slow=20						
SPITS	**Spitsbergen Ar**	**2.79**	**104**	P	**Pn**	**00 43 10.6**	**-0.6**
SPITS				S	**Sn**	**00 43 42.8**	**-2.1**
HSPB	**Hornsund (broa**	**3.34**	**124**	Pn	**Pn**	**00 43 18.4**	**-0.5**
HSPB				Sn	**Sn**	**00 43 54.3**	**-4.2**
HSPB	**Hornsund (broa**	**3.34**	**124**	P	**Pn**	**00 43 18.0**	**-0.8**
HSPB				S	**Sn**	**00 43 53.9**	**-4.6**
HSPB	**Hornsund (broa**	**3.34**	**124**	*eP*	**Pn**	**00 43 15.7**	**-3.1**
HSPB				*eS*	**Sn**	**00 43 54.6**	**-3.9**
HSPB	**Hornsund (broa**	**3.34**	**124**	*eP*	**Pn**	**00 43 18.1**	**-0.8**
HSPB				IAML		00 43 59.4	
	comp=Z,41nm,0.4s						
NOR	**Nord**	**4.12**	**316**	Pn	**Pn**	**00 43 27.5**	**-2.0**
NOR				Sn	**Sn**	**00 44 14.0**	**-3.7**
NOR	**Nord**	**4.12**	**316**	*iP*	**Pn**	**00 43 27.6**	**-2.0**
NOR				*eS*	**Sn**	**00 44 09.9**	**-7.9**
NOR	**Nord**	**4.12**	**316**	*i* P	**Pn**	**00 43 27.6**	**-2.0**
NOR				*eS*	**Sn**	**00 44 09.9**	**-7.9**
DAG	**Danmarks Havn**	**5.11**	**254**	*eP*	**Pn**	**00 43 41.3**	**-1.8**
DAG				*eS*	**Sn**	**00 44 34.5**	**-7.6**
DAG	**Danmarks Havn**	**5.11**	**254**	*eP*	**Pn**	**00 43 41.3**	**-1.8**
DAG				*eS*	**Sn**	**00 44 34.5**	**-7.6**
HOPEN	**Hopen**	**5.30**	**109**	Pn	**Pn**	**00 43 44.8**	**-0.8**
HOPEN				Sn	**Sn**	**00 44 41.8**	**-4.8**
HOPEN	**Hopen**	**5.30**	**109**	*eP*	**Pn**	**00 43 44.2**	**-1.4**
HOPEN				*eS*	**Sn**	**00 44 41.7**	**-4.9**
HOPEN	**Hopen**	**5.30**	**109**	*eP*	**Pn**	**00 43 44.5**	**-1.1**
HOPEN				*eS*	**Sn**	**00 44 40.6**	**-6.0**
HOPEN				IAML		00 44 44.5	
	comp=Z,48nm,0.2s						
DBG	**Daneborg**	**7.17**	**240**	Pn	**Pn**	**00 44 12.0**	**+0.7**
DBG				Sn	Sn	00 45 23.0	-10
DBG	**Daneborg**	**7.17**	**240**	*eP*	**Pn**	**00 44 07.9**	**-3.4**
DBG				*eS*	Sn	00 45 22.6	-10
DBG	**Daneborg**	**7.17**	**240**	*eP*	**Pn**	**00 44 07.9**	**-3.4**
DBG				*eS*	Sn	00 45 22.6	-10
ZFI2	**Zemlya Franca-**	**7.78**	**56**	*eP*	**Pn**	**00 44 18.9**	**-0.7**
ZFI2				*eS*	**Sn**	**00 45 40.1**	**-7.3**
	comp=Z,34nm,1.4s						
OMEGA	**Omega**	**7.79**	**57**	*eP*	**Pn**	**00 44 18.9**	**-0.9**
OMEGA				*eS*	**Sn**	**00 45 40.1**	**-7.8**
	comp=Z,36nm,2.8s						
NEEM	**North Greenlan**	**10.79**	**289**	*i* P	**Pn**	**00 44 57.6**	**-3.5**
NEEM				*eS*	Sn	00 46 50.2	-12
NEEM	**North Greenlan**	**10.79**	**289**	*i* P	**Pn**	**00 44 57.6**	**-3.5**
NEEM				*eS*	Sn	00 46 50.2	-12
KIF	**Kilpisjarvi**	**11.18**	**146**	Pn	**Pn**	**00 45 06.8**	**+0.6**
VADS	**Vadso**	**11.24**	**129**	Pn	**Pn**	**00 45 07.8**	**+0.8**
VADS	**Vadso**	**11.24**	**129**	P	**Pn**	**00 45 07.7**	**+0.7**
VADS				S	**Sn**	**00 47 05.0**	**-7.4**
ARA0	**ARCESS Array S**	**11.24**	**137**	Pn	**Pn**	**00 45 07.6**	**+0.5**
	baz=350,slow=12						
ARCES	**ARCESS Array B**	**11.24**	**137**	Pn	**Pn**	**00 45 07.3**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=338,slow=11,SNR=23						
ARCES				Sn	**Sn**	**00 47 07.7**	**-4.8**
	comp=Z,0.1nm,0.3s,baz=341,slow=27,SNR=1.0						
	comp=Z,0.9nm,0.4s						
ARCES	**ARCESS Array B**	**11.24**	**137**	P	**Pn**	**00 45 10.5**	**+3.4**
ARCES				S	Sn	**00 47 10.3**	**-2.2**
SUMG	**Summit**	**11.77**	**259**	*iP*	**Pn**	**00 45 13.5**	**-1.1**
SUMG				*eS*	Sn	00 47 16.4	-10
SUMG	**Summit**	**11.77**	**259**	*iP*	**Pn**	**00 45 13.5**	**-1.1**
SUMG				*eS*	Sn	00 47 16.4	-10
VAGH	**Vaagaholmen**	**12.78**	**162**	P	**Pn**	**00 45 30.5**	**+2.4**
STOK	**Stokkvaagen**	**13.16**	**162**	P	**Pn**	**00 45 35.3**	**+2.1**
FINES	**FINESS Array B**	**19.09**	**145**	P	**Pn**	**00 46 52.0**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=354,slow=11,SNR=5.5						
	comp=Z,1.7nm,0.9s						
HFS	**Hagfors**	**19.37**	**164**	P	**Pn**	**00 46 54.2**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=359,slow=13,SNR=5.4						
	comp=Z,2.4nm,0.8s						
BVAR	**Borovoye Array**	**34.23**	**98**	P	**P**	**00 49 16.0**	**+4.0**
	comp=Z,0.6nm,0.5s,baz=334,slow=9.6,SNR=3.0						
	comp=Z,0.6nm,0.5s						
ILAR	**Eielson Array**	**35.25**	**338**	P	**P**	**00 49 23.6**	**+2.9**
	comp=Z,0.3nm,0.8s,baz=7.6,slow=8.2,SNR=2.4						
	comp=Z,0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**38.06**	**91**	P	**P**	**00 49 47.5**	**+2.8**
	comp=Z,0.5nm,0.7s,baz=336,slow=8.3,SNR=2.7						
	comp=Z,0.5nm,0.7s						
ESDC	**Sonseca Array**	**39.67**	**189**	P	**P**	**00 50 00.8**	**+2.4**
	comp=Z,0.3nm,0.5s,baz=0.7,slow=7.6,SNR=5.7						
	comp=Z,0.3nm,0.5s						
BRTR	**Keskin Array B**	**41.31**	**144**	P	**P**	**00 50 11.4**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=359,slow=14,SNR=1.5						
MKAR	**Makanchi Array**	**42.45**	**89**	P	**P**	**00 50 23.9**	**+2.8**
	comp=Z,0.5nm,0.6s,baz=352,slow=8.9,SNR=9.1						
	comp=Z,0.5nm,0.6s						
TXAR	**Lajitas Array**	**64.49**	**292**	P	**P**	**00 53 03.3**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=25,slow=5.3,SNR=1.4						
	comp=Z,0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**66.00**	**182**	P	**P**	**00 53 14.1**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=0.8,slow=7.0,SNR=4.7						
	comp=Z,0.5nm,0.5s						

*UCR **26** 00:51:31.4±0.7, 10°.59N×85°.52W, h54km±3km, MW3.6*
*CATAC **26** 00:51:33.1±0.4, 11°.3N×8°.5W±°, h38km±4km, M2.9/8, MLv2.9/8, Error ellipse: s-maj=8.3km s-min=4.5km az=44.1, confirmed*

ISC 26 00:51:33.1±1.5, **10°.60N**±0°.04×**85°.48W**±0°.05, **h50**km±7km, **n62**, σ0$**84**/68, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIBA	**Liberia Airpor**	**0.07**	**266**	*eP*	**Pn**	**00 51 40.6**	**-0.3**
ALIBA				*eS*	**Sn**	**00 51 47.6**	**+1.2**
ELI1	**Hacienda Flor**	**0.09**	**301**	*eP*	**Pn**	**00 51 40.8**	**-0.1**
ELI1	**Hacienda Flor**	**0.09**	**301**	P	**Pn**	**00 51 40.5**	**-0.5**
ELI1	**Hacienda Flor**	**0.09**	**301**	S	**Sn**	**00 51 47.3**	**+0.8**
DELF	**Filadelfia**	**0.17**	**207**	*eP*	**Pn**	**00 51 40.5**	**-0.8**
DELF				*eS*	**Sn**	**00 51 47.5**	**+0.4**
LAPC	**Finca la Perla**	**0.17**	**14**	*eP*	**Pn**	**00 51 40.6**	**-0.8**
LAPC				*eS*	**Sn**	**00 51 47.2**	**-0.1**
GPS3	**Bodega del ICE**	**0.19**	**35**	*eP*	**Pn**	**00 51 42.1**	**+0.6**
GPS2	**Hotel Rincn d**	**0.20**	**38**	*eP*	**Pn**	**00 51 40.9**	**-0.6**
GPS1	**Guardaparques**	**0.21**	**35**	*eP*	**Pn**	**00 51 41.1**	**-0.6**
VRLE	**La Escondida,**	**0.22**	**30**	*eP*	**Pn**	**00 51 41.1**	**-0.6**
BAGA	**Bagaces**	**0.22**	**108**	*eP*	**Pn**	**00 51 41.0**	**-0.6**
VORI	**VORI**	**0.25**	**30**	*eP*	**Pn**	**00 51 41.4**	**-0.7**
COLC	**Colonia**	**0.28**	**76**	*eP*	**Pn**	**00 51 41.5**	**-0.6**
PLVR	**Palo Verde**	**0.28**	**154**	*eP*	**Pn**	**00 51 41.3**	**-1.0**
BUAI	**Buenos Aires**	**0.31**	**27**	*eP*	**Pn**	**00 51 42.3**	**-0.1**
CUI	**Cuipilapa**	**0.31**	**79**	*eP*	**Pn**	**00 51 41.9**	**-0.5**
HORNC	**Hornillas**	**0.31**	**69**	*eP*	**Pn**	**00 51 41.9**	**-0.6**
PEJA	**Penjamo Buenos**	**0.34**	**28**	*eP*	**Pn**	**00 51 42.5**	**-0.2**
MOTZ	**Rio Naranjo**	**0.41**	**78**	*eP*	**Pn**	**00 51 43.0**	**-0.3**
CNAS	**Canas**	**0.41**	**114**	*eP*	**Pn**	**00 51 44.2**	**+0.8**
VMAR	**Armenia, Volca**	**0.41**	**59**	*eP*	**Pn**	**00 51 43.1**	**-0.4**
INVE	**Universidad In**	**0.42**	**107**	*eP*	**Pn**	**00 51 43.0**	**-0.5**
JUD3	**Juan Diaz 3**	**0.43**	**188**	*eP*	**Pn**	**00 51 42.3**	**-1.4**
TIMP	**Tierras Morena**	**0.45**	**92**	*eP*	**Pn**	**00 51 43.1**	**-0.8**
NICO	**Nicoya**	**0.46**	**177**	*eP*	**Pn**	**00 51 42.5**	**-1.4**
TENO	**El Achiote**	**0.50**	**78**	*eP*	**Pn**	**00 51 43.5**	**-1.0**
LCRUZ	**La Cruz**	**0.50**	**342**	*eP*	**Pn**	**00 51 44.0**	**-0.5**
TILA	**Tilaran**	**0.51**	**104**	*eP*	**Pn**	**00 51 43.8**	**-0.8**
UPAL	**Upala**	**0.54**	**57**	*eP*	**Pn**	**00 51 44.4**	**-0.5**
UPAL	**Upala**	**0.54**	**57**	P	**Pn**	**00 51 44.2**	**-0.7**
UPAL	**Upala**	**0.54**	**57**	S	**Sn**	**00 51 48.0**	**+0.7**
QUEB	**Quebradon, Cot**	**0.57**	**87**	*eP*	**Pn**	**00 51 44.8**	**-0.5**
CHIK	**Chiripa**	**0.58**	**105**	*eP*	**Pn**	**00 51 44.9**	**-0.5**
CARN	**Rivas**	**0.59**	**355**	*eP*	**Pn**	**00 51 45.0**	**-0.5**
CARN	**Rivas**	**0.59**	**355**	P	**Pn**	**00 51 44.7**	**-0.7**
CARN				S	**Sn**	**00 51 55.3**	**+0.9**
JUNT	**Juntas**	**0.60**	**122**	*eP*	**Pn**	**00 51 44.8**	**-0.8**
JTS	**Las Juntas de**	**0.60**	**121**	*eP*	**Pn**	**00 51 44.8**	**-0.8**
JTS	**Las Juntas de**	**0.60**	**121**	P	**Pn**	**00 51 44.6**	**-1.0**
JTS				S	**Sn**	**00 51 54.6**	**0.0**
NYURE	**Nandayure**	**0.64**	**160**	*eP*	**Pn**	**00 51 44.7**	**-1.4**
MTEVE	**Monteverde**	**0.69**	**113**	*eP*	**Pn**	**00 51 46.3**	**-0.6**
TABAC	**Tabacon**	**0.70**	**98**	*eP*	**Pn**	**00 51 46.6**	**-0.4**
ARE1	**Arenal 1**	**0.76**	**100**	*eP*	**Pn**	**00 51 47.3**	**-0.3**
VARE2	**V. Arenal**	**0.76**	**100**	*eP*	**Pn**	**00 51 47.3**	**-0.4**
CEDE	**Laguna Cedeo**	**0.77**	**98**	*eP*	**Pn**	**00 51 47.5**	**-0.3**
VACR	**Volcan Arenal**	**0.79**	**99**	*eP*	**Pn**	**00 51 47.6**	**-0.5**
FORC	**Fortuna**	**0.80**	**99**	*eP*	**Pn**	**00 51 47.6**	**-0.6**
SOCE	**Pocosol**	**0.87**	**104**	*eP*	**Pn**	**00 51 48.3**	**-0.8**
SOCE	**Pocosol**	**0.87**	**104**	P	**Pn**	**00 51 48.3**	**-0.8**
SOCE	**Pocosol**	**0.87**	**104**	S	**Sn**	**00 52 02.3**	**+1.4**
MORN	**Al O del Volca**	**0.96**	**350**	P	**Pn**	**00 51 49.5**	**-0.8**
MORN				S	**Sn**	**00 52 03.2**	**+0.2**
VPL1	**V. Platanar**	**1.14**	**107**	*eP*	**Pn**	**00 51 52.4**	**-0.6**
ACON	**Acoyapa**	**1.39**	**12**	*eP*	**Pn**	**00 51 54.7**	**-1.5**
ACON	**Acoyapa**	**1.39**	**12**	P	**Pn**	**00 51 54.6**	**-1.5**
ACON	**Acoyapa**	**1.39**	**12**	S	**Sn**	**00 52 11.9**	**-1.6**
NANN	**Nandasmo**	**1.48**	**335**	P	**Pn**	**00 51 59.3**	**+2.0**
PAR1A	**Puntarenas Pro**	**1.56**	**129**	*eP*	**Pn**	**00 51 59.4**	**+0.9**
TRT2	**Tortugero**	**1.71**	**91**	*eP*	**Pn**	**00 51 59.5**	**-1.1**
VICA	**Volcano Irazu**	**1.72**	**111**	*eP*	**Pn**	**00 52 02.4**	**+1.4**
CVTQ	**Turrialba Volc**	**1.78**	**109**	*eP*	**Pn**	**00 52 01.7**	**-0.1**
PIEC	**Cerro El Cedra**	**1.78**	**123**	*eP*	**Pn**	**00 52 01.7**	**0.0**
BUS1	**Rivas**	**1.99**	**121**	*eP*	**Pn**	**00 52 04.2**	**-0.6**
DRK0	**Durika**	**2.57**	**121**	*eP*	**Pn**	**00 52 13.2**	**+0.8**

*IDC **26** 00:52:16.7±2.3, 3°.23S×128°.84E, h0km, mb3.4/3, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=207.7km s-min=26.1km az=69.0*
*DJA **26** 00:52:19.5±0.5, 3°.5S×12°.8E±°, h10km, M3.7/6, MLv3.7/6*

ISC 26 00:52:18.8±1.0, **3°.5S**±0°.1×**128°.36E**±0°.07, **h10**km, **n8,** σ0$**79**/8, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.29**	**215**	P	**Pb**	**00 52 26.2**	**+0.2**
MSAI	**Masohi**	**0.58**	**80**	P	**Pb**	**00 52 31.1**	**+0.1**
NLAI	**Namlea**	**1.28**	**279**	P	**Pn**	**00 52 42.6**	**-0.1**
SWI	**Sorong**	**3.87**	**48**	P	**Pn**	**00 53 18.4**	**0.0**
WRA	**Warramunga Arr**	**17.40**	**161**	P	**Pn**	**00 56 20.6**	**-1.2**
	0.1nm,0.3s,baz=345,slow=13,SNR=2.7						
	0.9nm,1.0s						
ASAR	**Alice Springs**	**20.80**	**166**	P	**P**	**00 57 01.5**	**+1.1**
	0.9nm,0.7s,baz=347,slow=12,SNR=7.5						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**64.38**	**327**	P	**P**	**01 02 55.3**	**+0.3**
	0.2nm,0.4s,baz=135,slow=8.4,SNR=4.2						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**68.65**	**328**	P	**P**	**01 03 21.8**	**-0.4**
	0.2nm,0.3s,baz=139,slow=5.3,SNR=4.1						
	0.2nm,0.3s						

*BUC **26** 00:57:05.4±0.3, 45°.82N×21°.08E, h13km±1km, ml2.6/19, Error ellipse: s-maj=2.0km s-min=1.4km az=92.0*
*BEO **26** 00:57:05.3±0.3, 45°.80N×21°.11E, h19km±2km, ML2.4/10*

ISC 26 00:57:04.8±0.9, **45°.81N**±0°.02×**21°.05E**±0°.02, **h16**km±6km, **n56**, σ0$**90**/85, **28C-9D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIM	**Timisoara**	**0.14**	**123**	⇑P	**Pg**	**00 57 08.4**	**-0.2**
TIM				⇑S	**Sg**	**00 57 11.8**	**+0.7**
BANR	**Banloc**	**0.43**	**172**	⇑P	**Pb**	**00 57 14.1**	**0.0**
BANR				⇑S	**Sb**	**00 57 21.0**	**+0.6**
BANR	**Banloc**	**0.43**	**172**	*e*Pg	**Pb**	**00 57 14.2**	**+0.1**
BANR				*e*Sg	**Sb**	**00 57 21.8**	**+1.4**
BZS	**Buzias**	**0.44**	**116**	⇑P	**Pb**	**00 57 13.8**	**-0.4**
BZS				⇑S	**Sb**	**00 57 20.3**	**-0.3**
BZS	**Buzias**	**0.44**	**116**	*e*Pg	**Pb**	**00 57 13.9**	**-0.4**
BZS				*e*Sg	**Sb**	**00 57 20.2**	**-0.4**
SIRR	**Siria**	**0.62**	**43**	⇓P	**Pb**	**00 57 16.8**	**-0.5**
SIRR				⇓S	**Sb**	**00 57 25.3**	**-0.5**
SIRR	**Siria**	**0.62**	**43**	*e*Pg	**Pb**	**00 57 16.9**	**-0.5**
SIRR				*e*Sg	**Sb**	**00 57 25.6**	**-0.2**
VRSS	**Vrsac**	**0.72**	**164**	*e*Pg	**Pg**	**00 57 18.6**	**+0.2**
VRSS				*e*Sg	**Sb**	**00 57 29.3**	**+0.8**
SURR	**Surduc**	**0.75**	**94**	⇑P	**Pb**	**00 57 19.4**	**-0.1**
SURR				⇑S	**Sb**	**00 57 30.5**	**+1.0**
SUBS	**Subotica**	**1.02**	**287**	*e*Pg	**Pn**	**00 57 25.3**	**+0.8**
FRGS	**Fruska Gora**	**1.09**	**234**	*e*Pg	**Pg**	**00 57 25.5**	**-0.4**
FRGS				*e*Sg	**Sn**	**00 57 41.9**	**+1.6**
MDVR	**Moldovita**	**1.13**	**155**	⇓P	**Pb**	**00 57 26.1**	**+0.1**
MDVR				⇑S	**Sn**	**00 57 41.8**	**+0.5**
MDVR	**Moldovita**	**1.13**	**155**	*e*Pg	**Pg**	**00 57 25.7**	**-0.9**
MDVR				*e*Sg	**Sn**	**00 57 41.8**	**+0.5**
AVAS	**Avala Beograd**	**1.18**	**199**	*e*Pg	**Pg**	**00 57 27.8**	**+0.2**
AVAS				*e*Sg	**Sn**	**00 57 43.2**	**+0.7**
GZR	**Gura Zlata**	**1.28**	**109**	⇑P	**Pg**	**00 57 29.2**	**-0.3**
GZR				⇑S	**Sn**	**00 57 45.8**	**+0.8**
GZR	**Gura Zlata**	**1.28**	**109**	*e*Pg	**Pn**	**00 57 28.3**	**+0.2**
GZR				*e*Sg	**Sn**	**00 57 45.4**	**+0.4**
DEV	**Deva**	**1.29**	**86**	⇑P	**Pg**	**00 57 29.1**	**-0.6**
DEV				⇑S	**Sn**	**00 57 46.0**	**+0.7**
HERR	**Herculane**	**1.34**	**134**	⇓P	**Pb**	**00 57 29.5**	**0.0**
HERR				⇓S	**Sg**	**00 57 47.3**	**-0.7**
BORR	**Bors**	**1.37**	**21**	⇑S	**Sg**	**00 57 48.5**	**-0.6**
KUBS	**Kucevo**	**1.47**	**162**	*e*Pg	**Pn**	**00 57 29.0**	**-1.7**
KUBS				*e*Sg	**Sb**	**00 57 50.9**	**+0.7**
DRGR		**1.51**	**49**	⇑P	**Pn**	**00 57 31.6**	**+0.3**
DRGR				⇑S	**Sb**	**00 57 51.8**	**+0.4**
DRGR		**1.51**	**49**	*e*Pg	**Pn**	**00 57 31.3**	**0.0**
DRGR				*e*Sg	**Sg**	**00 57 53.0**	**-0.5**
DJES	**Djerdap**	**1.55**	**137**	⇓P	**Pb**	**00 57 33.0**	**0.0**
DJES				⇑S	**Sg**	**00 57 53.4**	**-1.2**
RMGR	**Halanga-Turnu**	**1.63**	**134**	⇑S	**Sg**	**00 57 55.8**	**-1.5**
TRUS	**Trudelj**	**1.66**	**196**	*e*Pn	**Pn**	**00 57 33.1**	**-0.1**
TRUS				*e*Sg	**Sb**	**00 57 56.6**	**+1.1**
TEKS	**Tekeris**	**1.66**	**221**	*e*Pn	**Pn**	**00 57 32.5**	**-0.8**
TEKS				*e*Sg	**Sg**	**00 57 57.8**	**+0.5**
MARR	**Marisel-Cluj**	**1.67**	**58**	⇓P	**Pn**	**00 57 34.1**	**+0.5**
MARR				⇑S	**Sn**	**00 57 55.7**	**+1.0**
BORS2	**Bor- Borsko je**	**1.85**	**158**	*e*Pn	**Pn**	**00 57 34.8**	**-1.2**
MESR	**Meseseni**	**1.87**	**44**	⇑P	**Pn**	**00 57 37.5**	**+1.3**
DIVS	**Divibare**	**1.87**	**204**	*e*Pn	**Pn**	**00 57 36.4**	**+0.1**
GRUS	**Gruza**	**1.94**	**187**	*e*Pn	**Pb**	**00 57 39.2**	**-0.6**
LOT	**Lotru**	**1.94**	**100**	⇑P	**Pn**	**00 57 37.7**	**+0.5**
CJR	**Cluj-Napoca**	**1.98**	**62**	⇑P	**Pn**	**00 57 39.1**	**+1.4**
ZAGS	**Zajecar**	**2.17**	**157**	*e*Pn	**Pn**	**00 57 40.5**	**+0.2**
BOVS	**Bovan**	**2.23**	**168**	⇑P	**Pn**	**00 57 41.8**	**+0.7**
PSZ	**Piszkesteto**	**2.25**	**340**	⇑P	**Pn**	**00 57 42.2**	**+0.7**
BBLS	**Lazi&#263i**	**2.27**	**212**	*e*Pn	**Pn**	**00 57 44.0**	**+2.2**
IVAS	**Ivanjica**	**2.33**	**196**	*e*Pn	**Pn**	**00 57 42.0**	**-0.5**
SELS	**Selova**	**2.59**	**179**	*e*Pn	**Pn**	**00 57 45.7**	**-0.5**
ARCR	**ARCALIA**	**2.61**	**60**	⇑P	**Pn**	**00 57 47.0**	**+0.6**
SJES	**Sjenica**	**2.67**	**197**	*e*Pn	**Pn**	**00 57 47.6**	**+0.4**
ZAPS	**Zavoj**	**2.78**	**155**	*e*Pn	**Pn**	**00 57 49.3**	**+0.6**
VOIR		**2.83**	**96**	⇓P	**Pn**	**00 57 50.0**	**+1.2**
BLY	**Banja Luka**	**2.93**	**250**	⇑P	**Pn**	**00 57 51.5**	**+0.8**
DOPR	**Dopca**	**3.03**	**86**	⇑P	**Pn**	**00 57 53.6**	**+1.5**
BARS	**Barje**	**3.05**	**169**	*e*Pn	**Pn**	**00 57 51.3**	**-1.1**
MLR	**Muntele Rosu**	**3.44**	**94**	⇓P	**Pn**	**00 57 59.2**	**+1.3**
RONA	**Rosalia, Austr**	**3.77**	**302**	*e*Pn	**Pn**	**00 58 03.9**	**+1.5**
	0.3nm,0.1s						
RONA				*e*Sn	**Sn**	**00 58 45.1**	**-1.4**
	2.0nm,0.4s						
JAVC	**Velka Javorina**	**3.82**	**324**	*e*Pn	**Pn**	**00 58 03.9**	**+0.9**
ARSA	**Arzberg**	**4.08**	**293**	*e*Sn	**Sn**	**00 58 52.2**	**-1.8**
	1.1nm,0.4s						
CONA	**Conrad Observa**	**4.14**	**303**	*e*Pn	**Pb**	**00 58 18.3**	**+1.0**
	0.6nm,0.3s						
CONA				*e*Sn	**Sn**	**00 58 55.0**	**-0.6**
	2.2nm,0.5s						
SOKA	**Soboth**	**4.27**	**284**	*e*Sn	**Sn**	**00 58 56.3**	**-2.4**
	0.6nm,0.3s						
KRUC	**Moravsky**	**4.53**	**317**	*e*PN	**Pn**	**00 58 13.3**	**+0.5**
KRUC				*e*SN	**Sn**	**00 59 04.1**	**-1.0**
MORC	**Moravsky Berou**	**4.62**	**330**	⇑P	**Pn**	**00 58 15.4**	**+1.4**
MORC	**Moravsky Berou**	**4.62**	**330**	*e*PN	**Pn**	**00 58 14.7**	**+0.7**
MORC				*e*SN	**Sn**	**00 59 06.2**	**-1.1**
VRAC	**Vranov**	**4.62**	**321**	*e*PN	**Pn**	**00 58 14.8**	**+0.8**
VRAC				*e*SN	**Sn**	**00 59 06.3**	**-1.0**

*IDC **26** 00:57:39.7±19.0, 42°.33N×141°.64E, h0km, mb3.8/6, mbtmp3.8/6, MS4.6/1, Error ellipse: s-maj=429.3km s-min=74.6km az=162.0*
*JMA **26** 00:57:42.7±0.1, 41°.5N±0°.4×142°.0E±0°.6, h63km±1km, MV3.2/37, E OFF AOMORI PREF*

ISC 26 00:57:42.8±1.0, **41°.48N**±0°.04×**141°.96E**±0°.05, **h64**km±9km, **n27**, σ0$**82**/30, **mb3.8**/6, **8D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.51**	**246**	⇓*iP*	**Pn**	**00 57 55.5**	**+0.3**
JAHD				⇓S	**Sn**	**00 58 04.8**	**+0.6**
JARK	**Aomorirokkasho**	**0.65**	**224**	S	**Sn**	**00 58 06.3**	**-0.6**
JOT	**Ohata**	**0.69**	**262**	⇓*iP*	**Pn**	**00 57 57.1**	**0.0**
JOT				⇓S	**Sn**	**00 58 07.9**	**+0.2**
JKB	**Kayabe**	**0.80**	**301**	⇓*iP*	**Pn**	**00 57 58.2**	**-0.3**
JTM	**Tenmabayashi**	**0.96**	**224**	⇓*iP*	**Pn**	**00 58 00.8**	**+0.3**
JTM				⇓S	**Sn**	**00 58 13.8**	**+0.1**
JNBK	**Urakawa-nobuka**	**1.00**	**36**	P	**Pn**	**00 58 00.3**	**-0.6**
JEM	**Erimo**	**1.05**

AAI	**Ambon**	**0.27**	**252**	P	**Pg**	**01 02 43.1**	**-0.3**
AAI				S	**Sg**	**01 02 46.6**	**-0.4**
MSAI	**Masohi**	**0.54**	**62**	P	**Pb**	**01 02 49.7**	**+0.1**
NLAI	**Namlea**	**1.40**	**285**	P	**Pn**	**01 02 59.9**	**-3.6**
BNDI	**Bandanaira**	**1.71**	**122**	P	**Pn**	**01 03 05.6**	**-2.3**
SANI	**Sanana**	**2.90**	**302**	P	**Pn**	**01 03 23.8**	**-0.5**
FAKI	**Fak Fak**	**3.85**	**80**	Pn	**Pn**	**01 03 36.5**	**-0.9**
LUWI	**Luwuk**	**6.22**	**294**	Pn	**Pn**	**01 04 10.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**14.66**	**191**	Pn	**Pn**	**01 06 04.6**	**-1.0**
	0.1nm,0.3s,baz=8.7,slow=13,SNR=2.2 1.6nm,0.8s						
WB0	**Warramunga Arr**	**17.08**	**161**		**P**	**01 06 40.1**	**+1.3**
WB0				IAmb	IAmb	01 06 42.2	
	comp=Z,8.1nm,0.8s						
WRA	**Warramunga Arr**	**17.23**	**161**	P	**Pn**	**01 06 38.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=342,slow=12,SNR=9.7 comp=Z,4.9nm,0.8s						
WB2	**Warramunga Arr**	**17.23**	**161**		**P**	**01 06 41.6**	**+1.2**
WB2				IAmb	IAmb	01 06 43.9	
	comp=Z,8.5nm,0.9s						
WR8	**Warramunga Arr**	**17.29**	**161**	P	**P**	**01 06 42.2**	**+1.0**
COEN	**Coen**	**17.81**	**126**	P	**P**	**01 06 46.4**	**-0.5**
COEN				IAmb	IAmb	01 07 16.7	
	comp=Z,13nm,1.1s						
MBWA	**Marble Bar**	**19.40**	**205**	P	**Pn**	**01 07 07.3**	**+1.8**
MBWA				IAmb	IAmb	01 07 47.6	
	comp=Z,10nm,1.3s						
AS31	**Alice Springs**	**20.63**	**166**	P	Pn	01 07 19.1	-0.9
AS31				IAmb	IAmb	01 07 21.1	
	comp=Z,7.6nm,0.8s						
ASAR	**Alice Springs**	**20.63**	**166**	P	Pn	01 07 18.6	-1.5
ASAR	**Alice Springs**	**20.63**	**166**	P	Pn	01 07 19.0	-1.1
	comp=Z,21nm,0.7s,baz=346,slow=11,SNR=23 comp=Z,21nm,0.7s						
CASY	**Casey**	**63.81**	**188**	P	**P**	**01 13 11.7**	**+1.6**
MKAR	**Makanchi Array**	**64.56**	**327**	P	**P**	**01 13 15.8**	**+0.4**
MKAR	**Makanchi Array**	**64.56**	**327**	P	**P**	**01 13 14.3**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=122,slow=7.8,SNR=5.7 comp=Z,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**67.88**	**334**	P	**P**	**01 13 38.0**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=134,slow=8.2,SNR=3.7 comp=Z,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**68.83**	**328**	P	**P**	**01 13 42.0**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=140,slow=5.7,SNR=1.9 comp=Z,0.5nm,0.3s						

*IDC **26** 01:04:15.2±1.6,3°.23S×128°.83E,h0km,mb3.7/3, mbtmp3.7/5,ML3.4/2,Error ellipse: s-maj=106.4km s-min=24.7km az=72.0*
*DJA **26** 01:04:18.2±0.4,4°S±5°×12°.8E±°,h10km,M3.6/6,MLv3.6/6*
ISC 26 01:04:17.6±0.9,**3°.47S**±0°.09×**128°.34E**±0°.06,**h10**km,**n10,**
σ0§98/11,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.26**	**215**	P		**Pg**		**01 04 23.9**	**+1.0**
MSAI	**Masohi**	**0.60**	**78**	P		**Pg**		**01 04 29.6**	**+0.4**
NLAI	**Namlea**	**1.26**	**281**	P		**Pn**		**01 04 41.6**	**+0.3**
SANI	**Sanana**	**2.74**	**301**	P		**Pn**		**01 05 03.0**	**+1.3**
FAKI	**Fak Fak**	**3.94**	**82**	P		**Pn**		**01 05 19.5**	**+1.3**
FITZ	**Fitzroy Crossi**	**14.78**	**190**	Pn		**P**		**01 07 52.0**	**-0.9**
	0.2nm,0.3s,baz=11,slow=8.7,SNR=5.4 1.5nm,0.6s								
WRA	**Warramunga Arr**	**17.38**	**161**	P		**Pn**		**01 08 20.3**	**-0.2**
	0.1nm,0.3s,baz=340,slow=12,SNR=4.5 1.3nm,0.8s								
ASAR	**Alice Springs**	**20.78**	**165**	P		**P**		**01 08 59.1**	**0.0**
	2.6nm,0.5s,baz=346,slow=10,SNR=7.9								
ASAR				PcP		**PcP**		**01 13 07.1**	**-1.3**
	0.2nm,0.5s,baz=340,slow=2.0,SNR=1.7 2.6nm,0.5s								
MKAR	**Makanchi Array**	**64.39**	**327**	P		**P**		**01 14 54.0**	**+0.1**
	0.3nm,0.7s,baz=124,slow=7.7,SNR=2.6 0.3nm,0.7s								
KURBB	**Kurchatov Arra**	**68.66**	**329**	P		**P**		**01 15 20.2**	**-0.9**
	0.4nm,0.3s,baz=137,slow=5.9,SNR=1.8 0.4nm,0.3s								

*IDC **26** 01:11:17.1±1.5,3°.52S×128°.71E,h0km,mb3.9/4, mbtmp3.8/7,ML3.4/3,Error ellipse: s-maj=52.7km s-min=23.1km az=72.0*
*DJA **26** 01:11:19.7±0.5,4°S±6°×12°.8E±°,h10km,M3.8/7,MLv3.8/7*
ISC 26 01:11:20.0±0.9,**3°.54S**±0°.09×**128°.35E**±0°.05,**h10**km,**n12,**
σ2§15/12,mb3.9/3,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.21**	**227**	P		**Pg**		**01 11 23.9**	**-0.5**
MSAI	**Masohi**	**0.61**	**71**	P		**Pg**		**01 11 31.2**	**-0.6**
NLAI	**Namlea**	**1.28**	**283**	P		**Pn**		**01 11 43.6**	**-0.4**
SANI	**Sanana**	**2.79**	**302**	P		**Pn**		**01 12 05.6**	**+0.9**
FAKI	**Fak Fak**	**3.94**	**81**	P		**Pn**		**01 12 21.1**	**+0.5**
KAPI	**Kappang**	**8.70**	**260**	Pn		**Pn**		**01 13 30.1**	**+4.1**
	1.7nm,0.3s,baz=62,slow=15,SNR=4.4 7.1nm,0.5s								
FITZ	**Fitzroy Crossi**	**14.71**	**190**	Pn		**Pn**		**01 14 48.0**	**-0.3**
	0.1nm,0.3s,baz=12,slow=11,SNR=1.9 0.4nm,0.5s								
WRA	**Warramunga Arr**	**17.32**	**161**	P		**Pn**		**01 15 17.5**	**-4.5**
	0.1nm,0.3s,baz=340,slow=13,SNR=5.2 0.6nm,0.6s								
ASAR	**Alice Springs**	**20.71**	**165**	P		**P**		**01 15 59.3**	**-1.4**
	6.3nm,0.8s,baz=345,slow=10,SNR=34 6.3nm,0.8s								
MKAR	**Makanchi Array**	**64.45**	**327**	P		**P**		**01 21 56.3**	**-0.4**
	0.5nm,0.7s,baz=131,slow=7.2,SNR=4.1 0.5nm,0.7s								
ZALV	**Zalesovo Beam**	**67.78**	**334**	P		**P**		**01 22 17.7**	**-0.2**
	0.4nm,0.4s,baz=132,slow=8.0,SNR=1.5 0.4nm,0.4s								
KURBB	**Kurchatov Arra**	**68.72**	**329**	P		**P**		**01 22 23.8**	**0.0**
	0.7nm,0.2s,baz=134,slow=5.8,SNR=2.9 0.7nm,0.2s								

*IDC **26** 01:13:05.8±1.2,3°.52S×128°.67E,h0km,mb4.0/4, mbtmp4.1/7,ML3.7/3,Error ellipse: s-maj=49.2km s-min=22.0km az=71.0*
*DJA **26** 01:13:08.1±0.4,4°S±5°×12°.8E±°,h10km,M3.9/6,MLv3.9/6*
ISC 26 01:13:08.0±0.8,**3°.60S**±0°.07×**128°.36E**±0°.04,**h10**km,**n14,**
σ1§03/15,mb4.0/3,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.19**	**242**	P		**Pg**		**01 13 12.5**	**+0.5**
AAI				S		**Sg**		**01 13 15.6**	**+0.8**
MSAI	**Masohi**	**0.62**	**66**	P		**Pg**		**01 13 20.0**	**0.0**
NLAI	**Namlea**	**1.31**	**286**	P		**Pn**		**01 13 31.9**	**-0.5**
SANI	**Sanana**	**2.83**	**303**	P		**Pn**		**01 13 54.7**	**+1.4**
FAKI	**Fak Fak**	**3.94**	**80**	P		**Pn**		**01 14 10.0**	**+1.4**
SWI	**Sorong**	**3.97**	**47**	P		**Pn**		**01 14 09.5**	**+0.5**
SAUI	**Saumlaki**	**5.24**	**146**	P		**Pg**		**01 14 49.3**	**+0.8**
KAPI	**Kappang**	**8.70**	**260**	Pn		Pn		01 15 19.0	+4.9
	2.0nm,0.3s,baz=84,slow=3.7,SNR=10 14nm,0.6s								
FITZ	**Fitzroy Crossi**	**14.65**	**190**	Pn		**Pn**		**01 16 34.7**	**-0.9**
	0.1nm,0.3s,baz=8.7,slow=10,SNR=5.8 3.4nm,0.8s								
WRA	**Warramunga Arr**	**17.26**	**161**	P		**Pn**		**01 17 07.0**	**-2.3**
	0.3nm,0.3s,baz=341,slow=13,SNR=9.1 2.9nm,0.9s								
ASAR	**Alice Springs**	**20.66**	**165**	P		**P**		**01 17 48.2**	**0.0**
	19nm,0.8s,baz=345,slow=11,SNR=35								
ASAR				PcP		**PcP**		**01 21 57.9**	**-0.7**
	0.5nm,0.5s,baz=341,slow=2.3,SNR=5.7 19nm,0.8s								
MKAR	**Makanchi Array**	**64.51**	**327**	P		**P**		**01 23 44.9**	**-0.2**
	0.5nm,0.5s,baz=121,slow=6.9,SNR=5.1 0.5nm,0.5s								
ZALV	**Zalesovo Beam**	**67.83**	**334**	P		**P**		**01 24 06.4**	**+0.1**
	0.6nm,0.6s,baz=116,slow=6.6,SNR=3.7 0.6nm,0.6s								
KURBB	**Kurchatov Arra**	**68.78**	**329**	P		**P**		**01 24 12.1**	**-0.1**
	0.5nm,0.4s,baz=128,slow=5.9,SNR=4.9 0.5nm,0.4s								

IDC 26 01:15:55.7±3.7,**52°.59N**×**160°.68E,h0**km,**mb3.6/2,**
mbtmp3.6/2,Error ellipse: s-maj=59.5km s-min=39.6km az=161.0,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**1.89**	**287**	Pn		Pb		01 16 30.6	-0.4
	14nm,0.3s,baz=103,slow=20,SNR=118								
PETK						Sn	Sn	01 16 53.5	-0.1
	5.7nm,0.3s,baz=104,slow=35,SNR=8.1								
H11N2	**WAKE ISLAND Hy**	**33.15**	**169**	T		T		01 58 01.1	
	baz=353,slow=76,SNR=14								
H11N3	**WAKE ISLAND Hy**	**33.16**	**169**	T		T		01 58 02.4	
	baz=353,slow=76,SNR=10								
H11N1	**WAKE ISLAND Hy**	**33.16**	**169**	T		T		01 58 02.6	
	baz=353,slow=76,SNR=11								
H11S1	**WAKE ISLAND Hy**	**34.33**	**170**	T		T		01 59 26.6	
	baz=352								
H11S3	**WAKE ISLAND Hy**	**34.34**	**170**	T		T		01 59 29.3	
	baz=352,SNR=3.7								
H11S2	**WAKE ISLAND Hy**	**34.35**	**170**	T		T		01 59 23.1	
	baz=352								
MKAR	**Makanchi Array**	**48.70**	**296**	P		P		01 24 39.8	-1.7
	0.2nm,0.5s,baz=53,slow=6.5,SNR=1.4 0.2nm,0.5s								
FINES	**FINESS Array B**	**60.73**	**337**	P		P		01 26 09.1	+0.7
	1.5nm,0.9s,baz=30,slow=6.6,SNR=2.0 1.5nm,0.9s								

*IDC **26** 01:18:25.3±1.7,3°.53S×128°.69E,h0km,mb4.1/3, mbtmp4.1/6,ML3.6/3,Error ellipse: s-maj=54.5km s-min=24.6km az=70.0*
*DJA **26** 01:18:27.7±0.4,4°S±5°×12°.8E±°,h10km,M3.8/6,MLv3.8/6*
ISC 26 01:18:27.1±0.9,**3°.58S**±0°.09×**128°.36E**±0°.05,**h10**km,**n11,**
σ1§16/10,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.19**	**236**	P		**Pg**		**01 18 32.0**	**+0.8**
MSAI	**Masohi**	**0.62**	**68**	P		**Pg**		**01 18 38.8**	**-0.3**
NLAI	**Namlea**	**1.30**	**285**	P		**Pn**		**01 18 51.4**	**+0.1**
SANI	**Sanana**	**2.81**	**303**	P		**Pn**		**01 19 11.7**	**-0.4**
FAKI	**Fak Fak**	**3.94**	**81**	P		**Pn**		**01 19 29.1**	**+1.4**
KAPI	**Kappang**	**8.70**	**260**	Pn		Pn		01 20 38.4	+5.3
	1.4nm,0.3s,baz=76,slow=8.3,SNR=1.8 4.5nm,0.3s								
FITZ	**Fitzroy Crossi**	**14.67**	**190**	Pn		**Pn**		**01 21 53.6**	**-1.2**
	0.1nm,0.3s,baz=8.6,slow=13,SNR=2.5 2.1nm,0.9s								
WRA	**Warramunga Arr**	**17.28**	**161**	P		**Pn**		**01 22 26.6**	**-2.0**
	0.3nm,0.3s,baz=342,slow=13,SNR=15 5.2nm,0.8s								
ASAR	**Alice Springs**	**20.68**	**165**	P		**P**		**01 23 07.6**	**+0.2**
	18nm,0.8s,baz=346,slow=11,SNR=63 18nm,0.8s								
MKAR	**Makanchi Array**	**64.49**	**327**	P		**P**		**01 29 04.6**	**+0.5**
	1.0nm,0.7s,baz=122,slow=8.3,SNR=1.2 1.0nm,0.7s								
KURBB	**Kurchatov Arra**	**68.76**	**329**	P		**P**		**01 29 31.9**	**+0.7**
	0.8nm,0.6s,baz=130,slow=5.9,SNR=2.0 0.8nm,0.6s								

*MOS **26** 01:22:22.6±0.8,54°.86N×111°.67E,h12km,mb4.7/12,Error ellipse: s-maj=8.3km s-min=5.4km az=82.6*
MOS Felt (III) at Ulyunkhan.
*IDC **26** 01:22:22.7±0.5,54°.88N×111°.80E,h0km,mb4.0/22, mbtmp4.1/27,ML4.2/5,MS4.3/1,Error ellipse: s-maj=12.6km s-min=9.7km az=179.0*
*BYKL **26** 01:22:23.4±0.1,54°.85N×111°.70E,h5km±2km,FELT I–III MSK at Ulyunkhan, II-III at Varvarinskiy.*
*NEIC **26** 01:22:24.5±1.0,54°.89N±0°.07×111°.6E±0°.1,h10km±1km, mb4.6/47,Error ellipse: s-maj=17.8km s-min=3.9km az=130.0*
*BJI **26** 01:22:24.6,54°.80N×111°.60E,h9km,mB5.0/3,mb4.3/34, Ms4.2/3,Ms7 4.2/2*
ISC 26 01:22:23.3±0.8,**54°.91N**±0°.02×**111°.74E**±0°.02,**h3**km±5km,
n189,σ1§83/266,mb4.5/56,13C-8D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.34**	**264**	⇑*i*Pg		**Pg**		**01 22 29.2**	**-0.6**
YLYR				Pmax				01 22 29.4	
	18μm,0.5s								
YLYR				*e*Sg		**Sg**		**01 22 33.3**	**-0.8**
YLYR				Smax				01 22 36.0	
	72μm,0.7s								
YLYR	**Ulyunkhan**	**0.34**	**264**	⇑*i*PG		**Pg**		**01 22 29.2**	**-0.6**
YLYR				*e*				01 22 32.7	
YLYR				pmax	pmax				
	comp=Z,19μm,0.3s								
YLYR				smax	smax				
	comp=N,72μm,0.8s								
KMO	**Kumora**	**1.02**	**343**	⇑*i*Pg		**Pb**		**01 22 42.5**	**-1.1**
KMO				Pmax				01 22 49.0	
	comp=N,4μm,0.4s								
KMO				*e*Sg		**Sb**		**01 22 56.8**	**-0.7**
KMO				Smax				01 23 01.5	
	comp=N,12μm,0.6s								
KMO	**Kumora**	**1.02**	**343**	⇑*i*PG		**Pb**		**01 22 42.5**	**-1.1**
KMO				*e*				01 22 55.5	
KMO				pmax	pmax				
	comp=Z,3μm,0.4s								
KMO				smax	smax				
	comp=N,12μm,0.8s								
UKT	**Uakit**	**1.23**	**61**	⇑*i*Pg		**Pn**		**01 22 46.0**	**-1.4**
UKT				*e*				01 22 48.7	
UKT				max				01 22 49.2	
	comp=N,2μm,0.5s								
UKT				*e*Sg		**Sb**		**01 23 03.1**	**-0.3**
UKT				*e*				01 23 08.1	
UKT				max				01 23 09.1	
	comp=N,13μm,0.5s								
UKT	**Uakit**	**1.23**	**61**	⇑*i*PG		**Pn**		**01 22 46.1**	**-1.4**
UKT				*e*				01 23 03.2	
UKT				pmax	pmax				
	comp=Z,2μm,0.5s								
UKT				smax	smax				
	comp=N,15μm,0.5s								
YOAB	**Uoyan, Buryati**	**1.23**	**360**	*e*Pg		**Pn**		**01 22 46.9**	**-0.5**
YOAB				Pmax				01 22 49.9	
	comp=N,2μm,0.4s								
YOAB				*e*Sg		**Sb**		**01 23 04.1**	**+0.7**
YOAB				*e*				01 23 08.0	
YOAB				max				01 23 15.1	
	comp=N,18μm,0.6s								
YOAB	**Uoyan, Buryati**	**1.23**	**360**	*e*PG		**Pn**		**01 22 46.8**	**-0.6**
YOAB				*e*				01 23 03.2	
YOAB				pmax	pmax				
	comp=Z,2μm,0.3s								
YOAB				smax	smax				
	comp=N,18μm,0.6s								
NIZB	**Nizh Angarsk**	**1.52**	**305**	⇑*i*Pg		**Pn**		**01 22 50.9**	**-0.5**
NIZB				Pmax				01 22 51.8	
	comp=N,2μm,0.8s								
NIZB				*e*				01 22 52.6	
NIZB				*e*Sg		**Sn**		**01 23 11.3**	**-0.3**
NIZB				Smax				01 23 15.7	
	comp=N,9μm,0.6s								
NIZB	**Nizh Angarsk**	**1.52**	**305**	⇑*i*PN		**Pn**		**01 22 50.9**	**-0.5**
NIZB				*e*				01 23 11.3	
NIZB				pmax	pmax				
	comp=Z,2μm,0.8s								
NIZB				smax	smax				
	comp=E,9μm,0.5s								
SVKR	**Severomuysk**	**1.59**	**40**	*e*Pg		**Pb**		**01 22 54.2**	**+0.9**
SVKR				Pmax				01 22 55.5	
	comp=E,2μm,0.4s								
SVKR				*e*				01 22 58.6	
SVKR				*e*Sg		**Sg**		**01 23 16.1**	**+1.7**
SVKR				Smax				01 23 22.2	
	comp=E,27μm,0.7s								
SYVR	**Suvo**	**1.62**	**220**	*e*Pg		**Pn**		**01 22 51.9**	**-0.8**
SYVR				Pmax				01 22 55.0	
	comp=E,1μm,0.8s								
SYVR				*e*Sg		**Sn**		**01 23 12.6**	**-1.5**
SYVR				Smax				01 23 16.4	
	comp=E,14μm,0.8s								
SYVR	**Suvo**	**1.62**	**220**	*e*PN		**Pn**		**01 22 51.9**	**-0.8**
SYVR				*e*				01 23 13.6	
SYVR				pmax	pmax				
	comp=Z,1μm,0.6s								
SYVR				smax	smax				
	comp=N,14μm,0.8s								
MXMB	**Maximikha**	**2.42**	**228**	*e*Pn		**Pn**		**01 23 03.1**	**-0.6**
MXMB				*e*Pg		**Pb**		**01 23 05.6**	**-1.8**
MXMB				*e*Sn		**Sn**		**01 23 31.8**	**-2.0**
MXMB				*e*Sg		**Sb**		**01 23 37.1**	**-0.5**
OGRR	**Ongureny**	**2.74**	**244**	*e*Pn		**Pn**		**01 23 08.1**	**-0.1**
OGRR				*e*Pg		**Pb**		**01 23 11.3**	**-1.6**
OGRR				Pmax				01 23 16.5	
	comp=N,540nm,0.6s								
OGRR				*e*Sn		**Sn**		**01 23 40.4**	**-1.4**
OGRR				*e*Sg		**Sb**		**01 23 47.0**	**+0.1**
OGRR				Smax				01 23 50.3	
	comp=N,4μm,0.7s								
OGRR	**Ongureny**	**2.74**	**244**	*e*PN		**Pn**		**01 23 06.9**	**-1.3**
OGRR				*e*				01 23 11.6	
OGRR				*e*				01 23 46.4	
OGRR				pmax	pmax				
	comp=Z,570nm,0.7s								
OGRR				smax	smax				
	comp=N,4μm,1.3s								
NLYR	**Nelyaty**	**2.75**	**53**	⇓*i*Pn		**Pn**		**01 23 09.4**	**+1.2**
NLYR				*e*Pg		**Pb**		**01 23 13.7**	**+0.7**
NLYR				Pmax				01 23 23.7	
	comp=N,528nm,0.7s								
NLYR				*e*Sn		**Sn**		**01 23 40.8**	**-1.1**
NLYR				*e*Sg		**Sb**		**01 23 50.5**	**+3.5**
NLYR				Smax				01 24 05.1	
	comp=N,10μm,1.6s								
GORB	**Goryachinsk**	**2.81**	**228**	Smax				01 23 08.6	
GORB				Smax				01 23 13.5	
GORB				*e*Sg		**Sb**		**01 23 49.4**	**+0.6**
KELR	**Kotokel**	**3.06**	**227**	*e*Pn		**Pn**		**01 23 12.0**	**-0.5**
KELR				*e*Pg		**Pb**		**01 23 16.8**	**-1.5**
KELR				*e*PgPg		**PnPn**		**01 23 19.3**	**-0.3**
KELR				*e*Sn		**Sn**		**01 23 47.9**	**-1.7**
KELR				*e*Sg		**Sb**		**01 23 56.5**	**+0.5**
CIT	**Chita**	**3.10**	**159**	*e*Pn		**Pn**		**01 23 12.6**	**-0.4**
CIT				*e*Pg		**Pb**		**01 23 18.2**	**-0.8**
CIT				*e*PgPg		**Pg**		**01 23 22.5**	**-0.1**
CIT				max				01 23 26.1	
	comp=N,377nm,0.2s								
CIT				*e*Sn		**Sn**		**01 23 49.2**	**-1.3**
CIT				*e*Sg		**Sb**		**01 23 58.1**	**+1.0**
CIT				Smax				01 24 00.8	
	comp=N,7μm,0.5s								
CIT	**Chita**	**3.10**	**159**	*e*PN		**Pn**		**01 23 12.4**	**-0.6**
CIT				*e*				01 23 18.2	
CIT				*e*S		**Sn**		**01 23 49.0**	**-1.5**
CIT				*e*				01 23 58.1	
CIT				pmax	pmax				
	comp=Z,1μm,1.5s								
CIT				smax	smax				
	comp=E,8μm,1.0s								
BOD	**Bodaibo**	**3.17**	**22**	⇓*i*Pn		**Pn**		**01 23 14.8**	**+0.7**
BOD				*e*Pg		**Pb**		**01 23 21.5**	**+1.2**
BOD				Pmax				01 23 27.4	
	comp=E,392nm,0.8s								
BOD				*e*Sn		**Sn**		**01 23 53.3**	**+1.0**
BOD				*e*Sg		**Sb**		**01 24 02.3**	**+3.0**
BOD				*e*SgSg		**Sg**		**01 24 10.5**	**+5.3**
BOD				max				01 24 12.6	
	comp=E,4μm,1.4s								
BOD	**Bodaibo**	**3.17**	**22**	⇓*i*PN		**Pn**		**01 23 14.8**	**+0.7**
ZRHB	**Zarechye**	**3.61**	**231**	*e*Pn		**Pn**		**01 23 19.2**	**-0.8**
ZRHB				*e*Pg		**Pb**		**01 23 27.5**	**-0.2**
ZRHB				*e*PgPg		**Pg**		**01 23 30.6**	**-1.8**
ZRHB				max				01 23 33.0	
	comp=E,659nm,0.6s								
ZRHB				*e*				01 23 35.5	
ZRHB				*e*Sn		**Sn**		**01 23 58.9**	**-4.2**
ZRHB				*e*Sg		**Sb**		**01 24 13.9**	**+2.1**
ZRHB				*e*Sg		Sg		01 24 36.0	+17
	comp=E,8μm,1.2s								
ZRHB				*e*				01 24 40.4	
TRG	**Tyrgan**	**3.85**	**238**	*e*Pn		**Pn**		**01 23 23.1**	**-0.4**
TRG				*e*Pg		**Pb**		**01 23 31.9**	**0.0**
TRG				Pmax				01 23 36.4	
	comp=E,257nm,1.0s								
TRG				*e*Sn		**Sn**		**01 24 06.9**	**-2.3**
TRG				*e*Sg		**Sb**		**01 24 21.0**	**+2.1**
TRG				Smax				01 24 34.4	
	comp=E,2μm,1.4s								
TRG	**Tyrgan**	**3.85**	**238**	*e*PN		**Pn**		**01 23 23.1**	**-0.4**
TRG				*e*				01 23 32.2	
TRG				*e*S		**Sn**		**01 24 08.3**	**-0.9**
TRG				*e*				01 24 21.0	
TRG				pmax	pmax				
	comp=Z,259nm,0.7s								
TRG				smax	smax				
	comp=N,2μm,1.1s								
UUDB	**Ulan-Yde**	**3.91**	**220**	*e*Pn		**Pn**		**01 23 24.0**	**-0.2**
UUDB				*e*Pg		**Pb**		**01 23 33.1**	**+0.3**
UUDB				Pmax				01 23 36.6	
	comp=N,269nm,0.9s								
UUDB				*e*Sg		**Sb**		**01 24 23.6**	**+3.2**
UUDB				Smax				01 24 32.0	
	comp=N,7μm,1.9s								
KAB	**Kabansk**	**4.18**	**229**	*e*		Pg		01 24 12.1	+29
KAB				*e*Sg		**Sb**		**01 24 30.5**	**+2.3**
KAB				Smax				01 24 57.5	
	comp=N,9μm,1.2s								
CRS	**Chara**	**4.18**	**59**	*e*Pn		**Pn**		**01 23 29.4**	**+1.5**
CRS				*e*Pg		**Pb**		**01 23 39.6**	**+2.2**
CRS				Pmax				01 23 42.9	
	comp=N,382nm,1.0s								
CRS				*e*Sg		**Sg**		**01 24 34.3**	**-3.2**
CRS				Smax				01 24 54.0	
	comp=N,3μm,1.3s								
STDB	**Stepnoy Dvoret**	**4.22**	**232**	*e*Pn		**Pn**		**01 23 28.4**	**-0.1**
STDB				*e*Pg		**Pb**		**01 23 38.4**	**+0.2**
STDB				*e*Sn		**Sn**		**01 24 16.1**	**-2.1**
STDB				*e*Sg		**Sb**		**01 24 31.9**	**+2.4**
HRMR	**Khuramsha**	**4.37**	**223**	⇑*i*Pn		**Pn**		**01 23 30.2**	**-0.3**
HRMR				*e*				01 23 39.8	
HRMR				*e*Pg		**Pb**		**01 23 40.4**	**-0.2**
HRMR				Pmax				01 23 48.6	
	comp=N,528nm,1.1s								
HRMR				*e*Sn		**Sn**		**01 24 18.2**	**-3.7**
HRMR				*e*Sg		**Sb**		**01 24 37.4**	**+3.7**
HRMR				Smax				01 24 45.0	
	comp=N,3μm,0.7s								
HRMR				*e*				01 24 54.1	
VTMR	**Vitim**	**4.56**	**5**	*e*Pn		**Pn**		**01 23 34.4**	**+1.3**
VTMR				*e*Pg		**Pb**		**01 23 46.4**	**+2.5**
VTMR				*e*				01 24 24.3	
V

IRK Smax 01 25 08.8
comp=N,3µm,0.8s
IRK Irkutsk 5.19 242 *e*Pn **Pn 01 23 42.6 +0.8**
IRK *e* 01 23 55.4
IRK *e* 01 25 03.0
IRK pmax pmax
comp=Z,149nm,0.2s
IRK smax smax
comp=N,3µm,0.8s
KPC Khapcheranga 5.23 175 *e*Pn **Pn 01 23 41.4 -1.0**
KPC *e*Pg **Pb 01 23 56.6 +1.2**
KPC Pmax 01 24 07.4
comp=N,133nm,0.8s
KPC *e* 01 24 50.1
KPC *e*Sg **Sb 01 25 03.6 +5.0**
KPC Smax 01 25 07.7
comp=N,3µm,1.1s
KPC Khapcheranga 5.23 175 *e*Pn **Pn 01 23 41.3 -1.1**
KPC *e* 01 23 56.6
KPC *e* 01 25 03.6
KPC pmax pmax
comp=Z,133nm,0.9s
KPC smax smax
comp=E,3µm,1.4s
IVK Ivanovka 5.38 238 *e*Pn **Pn 01 23 43.7 -0.7**
IVK *e* 01 23 59.4
IVK *e* 01 25 07.4
IVK pmax pmax
comp=Z,177nm,0.5s
IVK smax smax
comp=E,2µm,1.3s
TLY Talaya 5.83 240 *e*Pn **Pn 01 23 49.7 -0.9**
TLY *e*Pg **Pb 01 24 07.3 +1.7**
TLY Pmax 01 24 16.4
comp=E,64nm,0.6s
TLY *e*Sn **Sn 01 24 53.6 -4.4**
TLY *e*Sg **Sb 01 25 21.3 +5.5**
TLY Smax 01 25 32.6
comp=E,781nm,1.1s
YKLR Yuktali 5.85 69 *e*Pn **Pn 01 23 51.7 +0.9**
YKLR *e*Pg **Pb 01 24 08.6 +2.8**
YKLR *e*Sn **Sn 01 24 55.8 -2.4**
YKLR *e*Sg **Sg 01 25 25.3 -5.6**
ARS Arshan 6.32 246 *e*Pn **Pn 01 23 57.1 -0.3**
ARS *e*Pg **Pb 01 24 16.1 +2.1**
ARS Pmax 01 24 25.4
comp=E,171nm,0.7s
ARS *e*Sn **Sn 01 25 06.9 -3.2**
ARS *e*Sg **Sb 01 25 36.2 +6.2**
ARS Smax 01 25 42.1
comp=E,3µm,1.0s
ZAK Zakamensk 6.86 232 *e*Pn **Pn 01 24 04.8 0.0**
ZAK *e*Pg **Pb 01 24 26.5 +3.4**
ZAK Pmax 01 24 52.0
comp=E,60nm,1.1s
ZAK *e*Sg Sg 01 25 54.1 -9.3
ZAK Smax 01 26 18.7
comp=E,629nm,1.2s
ZAK *e* 01 26 49.1
ZAK Zakamensk 6.86 232 *e*PN Pn 01 24 10.0 +5.2
ZAK *e* 01 24 27.5
ZAK *e* 01 25 54.8
ZAK pmax pmax
comp=Z,59nm,0.8s
ZAK smax smax
comp=N,628nm,1.3s
MOY Mondy 7.21 248 *e*Pn **Pn 01 24 09.8 +0.1**
MOY *e* 01 24 20.5
MOY max 01 24 52.2
comp=N,112nm,1.0s
MOY *e* 01 25 30.2
MOY *e*Sg Sb 01 26 03.8 +8.2
MOY Smax 01 26 13.0
comp=N,1µm,1.2s
MOY Mondy 7.21 248 *e*Pn **Pn 01 24 10.8 +1.1**
MOY *e* 01 24 33.8
MOY *e*S **Sn 01 25 30.6 -1.5**
MOY *e* 01 26 03.7
ORL Orlik 7.46 256 *e*Pn **Pn 01 24 13.7 +0.6**
ORL max 01 24 19.4
comp=N,159nm,1.2s
ORL *e*Sn **Sn 01 25 35.1 -3.2**
ORL *e*Sg Sg 01 26 13.4 -9.4
ORL Smax 01 26 19.8
comp=N,2µm,1.5s
ORL Orlik 7.46 256 *e*Pn **Pn 01 24 13.9 +0.8**
ORL *e* 01 24 38.0
ORL *e*S **Sn 01 25 35.4 -2.9**
ORL *e* 01 26 13.1
ORL pmax pmax
comp=Z,182nm,0.7s
ORL smax smax
comp=N,2µm,1.0s
ULN Ulaanbaatar 7.64 204 **Pn 01 24 15.0 -0.6**
ULN Ulaanbaatar 7.64 204 PN **Pn 01 24 15.0 -0.6**
CLNS Chul'man 7.65 70 *e*Pn **Pn 01 24 16.0 +0.5**
CLNS *e*Pg Pb 01 24 41.5 +5.0
CLNS *e*Sn **Sn 01 25 39.6 -3.0**
CLNS *e*Sg Sg 01 26 20.7 -7.9
SONM Songino Array 7.83 207 **Pn 01 24 17.7 -0.5**
SONM Songino Array 7.83 207 Pn **Pn 01 24 18.0 -0.2**
comp=N,6.6nm,0.3s,baz=23,slow=12,SNR=66
SONM Sn **Sn 01 25 44.7 -2.7**
comp=N,8.0nm,0.3s,baz=17,slow=21,SNR=4.9
SONM Lg Lg 01 26 29.7
comp=N,13nm,0.3s,baz=18,slow=28,SNR=23
comp=N,10nm,0.4s
ZEA Zeya 9.14 91 *e*P **Pn 01 24 37.4 +1.4**
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ZEA MLR MLR
comp=E,1µm,4.0s
ZEA MLR MLR
comp=Z,1µm,5.0s
TDJR Todzha 9.62 261 *e*Pn **Pn 01 24 43.9 +1.3**
TDJR *e* 01 24 48.8
TDJR *e*Pg 01 25 16.3
TDJR *e* 01 26 34.4
TDJR *e*Sg Sn 01 27 19.3 +48
KNGR Kungurtug, Tuv 9.64 249 *e*Sg Sn 01 27 19.7 +48
MINR Mina 10.10 277 *e* **Pn 01 24 47.6 -1.5**
MINR *e*Sn **Sn 01 26 38.0 -4.8**
MINR *e*Sg 01 27 36.4
HEH HeiHe 10.61 110 *e*P **Pn 01 24 56.0 -0.1**
HEH S **Sn 01 26 59.5 +4.2**
KZLR Kyzyl 10.83 260 *e*Sg Sn 01 27 56.7 +56
YAK Yakutsk 11.76 45 Pn **Pn 01 25 13.3 +1.6**
YAK Yakutsk 11.76 45 Sn **Sn 01 27 30.1 +6.8**
comp=Z,9.0nm,0.3s,baz=174,slow=9.2,SNR=2.4
YAK Lg Lg 01 28 23.6
comp=Z,7.5nm,0.3s,baz=246,slow=20,SNR=9.4
YAK Yakutsk 11.76 45 *e*P **Pn 01 25 08.6 -3.1**
YAK *e*S **Sn 01 27 21.5 -1.8**
YAK pmax pmax
comp=Z,15nm,1.2s
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK smax smax
comp=N,682nm,6.3s
YAK smax smax
comp=E,427nm,5.6s
YAK MLR MLR
comp=Z,756nm,16.0s
YAK MLR MLR
comp=N,641nm,20.0s
YAK MLR MLR
comp=E,847nm,23.0s
BNX BinXian 13.55 126 ⇑P **P 01 25 44.5 -1.1**
HHC Hu-ho-hao-te 14.07 181 *e*P **Pn 01 25 46.0 +2.5**
HHC pmax pmax
comp=E,9.0nm,0.7s
HHC pmax pmax
comp=E,86nm,4.5s
BTO Baotou 14.36 185 *e*P **Pn 01 25 48.0 +0.5**
BTO pP **P 01 25 51.5 -3.2**
BTO sP 01 25 55.0
BTO PP **PnPn 01 25 59.5 +4.3**
BTO pmax pmax
comp=E,23nm,0.5s
BJI Beijing 15.18 167 P **Pn 01 25 58.8 +0.4**
BJI sP **pP 01 26 06.0 +1.0**
BJI pmax pmax
comp=E,3.0nm,1.0s
BJT Baijiatuau 15.20 167 **Pn 01 25 58.4 -0.2**
BJT Baijiatuau 15.20 167 P **Pn 01 25 58.4 -0.2**
BJT pmax pmax
comp=Z,10.0nm,0.9s
ZAA0 Zalesovo Array 15.66 278 **Pn 01 26 03.4 -1.3**
ZAA0 IAmb IAmb 01 26 07.1
comp=Z,65nm,1.3s
ZALV Zalesovo Beam 15.66 278 **Pn 01 26 03.3 -1.4**
ZALV Zalesovo Beam 15.66 278 Pn **Pn 01 26 04.1 -0.5**
comp=Z,0.5nm,0.3s,baz=75,slow=11,SNR=55
ZALV Lg Lg 01 30 34.4
baz=76,slow=24
ZALV LR LR 01 32 12.6
comp=Z,1µm,19.6s,baz=330,slow=38
comp=Z,37nm,1.0s
USRK Ussuriysk Ar. 16.89 121 Pn **Pn 01 26 20.9 +0.4**
comp=Z,0.2nm,0.3s,baz=341,slow=6.6,SNR=5.8
USRK Lg Lg 01 31 09.4
baz=322,slow=16
comp=Z,1.3nm,0.7s
GTA Gaotai 17.46 212 *e*P **P 01 26 29.3 +0.2**
GTA pmax pmax
comp=Z,4.0nm,0.7s
HNS HongShan 17.64 172 ⇓P **P 01 26 33.5 +2.7**
HNS pmax pmax
comp=Z,17nm,0.8s
TIXI Tiksi 18.34 17 P **P 01 26 38.8 +0.4**
TIXI Tiksi 18.34 17 P **P 01 26 39.1 +0.7**
comp=Z,1.6nm,0.3s,baz=216,slow=11,SNR=4.5
TIXI S Sn 01 29 50.5 -13
comp=Z,5.1nm,0.4s,baz=270,slow=20,SNR=2.1
TIXI Lg Lg 01 31 54.7
comp=Z,0.8nm,0.3s,baz=302,slow=10,SNR=5.9
comp=Z,14nm,0.9s
TIXI Tiksi 18.34 17 P **P 01 26 38.8 +0.4**
TIXI pmax pmax
comp=Z,11nm,0.8s
TIA Tai'an 19.07 167 P **Pn 01 26 50.5 +3.1**
TIA pmax pmax
comp=Z,16nm,1.2s
WMQ Urumqi 19.09 244 *e*P **Pn 01 26 49.0 +1.4**
LZDM Lanzhou Array 19.76 200 P **Pn 01 26 54.9 -1.0**
baz=25,slow=7.2
LZDM Lg Lg 01 32 57.4
baz=2.9,slow=14
comp=Z,2.7nm,0.3s
MK31 Makanchi Array 20.17 258 *de*P **P 01 26 58.1 -0.5**
MKAR Makanchi Array 20.17 258 **P 01 26 58.5 -0.1**
MKAR Makanchi Array 20.17 258 P **P 01 26 58.3 -0.3**
comp=Z,2.3nm,0.6s,baz=55,slow=9.0,SNR=14
MKAR S Sn 01 30 51.9 +4.3
comp=Z,0.7nm,0.7s,baz=51,slow=11,SNR=1.4
MKAR PcP **PcP 01 31 12.3 -0.7**
comp=Z,1.1nm,0.6s,baz=46,slow=2.3,SNR=2.9
MKAR Lg Lg 01 32 56.7
comp=Z,0.1nm,0.3s,baz=55,slow=25,SNR=2.2
comp=Z,2.3nm,0.6s
INCN Inchon 20.18 144 P **P 01 26 59.1 +0.3**
INCN IAmb IAmb 01 27 20.6
comp=Z,19nm,0.6s
INCN Inchon 20.18 144 P **P 01 26 59.1 +0.3**
INCN pmax pmax
comp=Z,19nm,0.6s
KURK Kurchatov 20.33 272 **P 01 27 00.7 +0.3**
KURK Kurchatov 20.33 272 P Pn 01 27 01.3 -1.0
KURK S Sn 01 30 49.6 -1.9
MAKZ Makanchi 20.34 259 **P 01 27 00.6 +0.1**
MAKZ Makanchi 20.34 259 P **P 01 27 00.6 +0.1**
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
LYN LuoYang 20.37 178 P Pn 01 27 05.5 +2.7
LYN pmax pmax
comp=Z,26nm,1.3s
KURBB Kurchatov Arra 20.43 272 P **P 01 27 01.3 0.0**
comp=Z,9.6nm,0.8s,baz=64,slow=11,SNR=40
KURBB S **S 01 30 49.6 -0.8**
comp=Z,0.3nm,0.3s,baz=67,slow=15,SNR=5.4
KURBB Lg Lg 01 32 59.7
comp=Z,0.1nm,0.3s,baz=66,slow=32,SNR=1.9
comp=Z,9.6nm,0.8s
KSAR Wonju Array Be 20.66 141 P Pn 01 27 04.8 -1.4
KSAR Wonju Array Be 20.66 141 P Pn 01 27 04.8 -1.4
KSRS Korea Array 20.66 141 P **P 01 27 04.4 +0.5**
comp=Z,0.6nm,0.3s,baz=337,slow=10,SNR=16
KSRS Lg Lg 01 33 12.8
comp=Z,0.2nm,0.3s,baz=331,slow=25,SNR=8.6
comp=Z,0.6nm,0.3s
XAN Xi'an 20.96 187 P **P 01 27 08.0 +0.7**
XAN pmax pmax
comp=Z,22nm,1.1s
GOMU GeErMu 22.05 219 P **P 01 27 18.3 -1.0**
GOMU pmax pmax
comp=Z,9.0nm,1.0s
SEY Seymchan 22.11 52⇑ *e*P **P 01 27 16.2 -3.2**
SEY pmax pmax
comp=Z,13nm,1.5s
BVAR Borovoye Array 24.15 283 P **P 01 27 39.9 -0.3**
comp=Z,2.6nm,0.6s,baz=69,slow=7.9,SNR=11
BVAR S **S 01 32 03.1 +4.6**
comp=Z,0.8nm,0.4s,baz=59,slow=25,SNR=1.7
BVAR Lg Lg 01 35 08.4
baz=75,slow=36,SNR=1.1
comp=Z,2.6nm,0.6s
BORK Borovoye 24.18 283⇓ *e*P **P 01 27 39.4 -1.1**
BORK pmax pmax
comp=Z,3.0nm,0.8s
WHN Wuhan 24.43 175 ⇑P **P 01 27 44.3 +1.4**
BOOM Boomskoye usch 26.38 257 P **P 01 27 58.8 -2.0**
BOOM Boomskoye usch 26.38 257 P **P 01 27 58.8 -2.0**
BOOM pmax pmax
comp=Z,6.0nm,0.8s
KSH Kashi 28.38 252 P P 01 28 23.8 +5.2
KSH pmax pmax
comp=Z,4.0nm,0.7s
PZH PanZhiHua 29.32 199 P **P 01 28 30.0 +2.9**
BTK Batken 30.88 258 P **P 01 28 40.4 -0.4**
BTK IAmb IAmb 01 28 44.3
comp=Z,7.7nm,1.1s
BTK Batken 30.88 258 P **P 01 28 40.4 -0.4**
BTK pmax pmax
comp=Z,8.0nm,1.2s
AB31 Akbulak array 31.70 282 **P 01 28 46.9 -1.0**
ABKAR Akbulak array 31.70 282 **P 01 28 47.7 -0.2**
GAR Garm 31.89 257 **P 01 28 49.2 -0.5**
GAR IAmb IAmb 01 28 53.9
comp=Z,5.9nm,0.8s
CHGR Chuyangaron 32.78 258 **P 01 28 56.8 -0.7**
CHGR Chuyangaron 32.78 258 P **P 01 28 56.8 -0.7**
CHGR pmax pmax
comp=Z,12nm,0.7s
APA Apatity 36.99 321⇓ *e*P **P 01 29 35.9 +2.5**
APA pmax pmax
comp=Z,9.0nm,1.4s
APA MLR MLR
comp=Z,2µm,19.3s
KLMR Klimovskoe 37.03 309 *e*P **P 01 29 30.7 -3.1**
KLMR pmax pmax
comp=Z,10.0nm,1.0s
SPITS Spitsbergen Ar 38.02 341 P **P 01 29 42.8 +0.7**
comp=Z,4.7nm,1.0s,baz=69,slow=12,SNR=1.5
comp=Z,4.7nm,1.0s
ARCES ARCESS Array B 38.95 326 P **P 01 29 48.9 -1.0**
comp=Z,1.9nm,0.8s,baz=63,slow=6.8,SNR=6.9
comp=Z,1.9nm,0.8s
FINES FINESS Array B 42.52 315 P **P 01 30 18.9 -0.5**
comp=Z,2.6nm,0.7s,baz=66,slow=8.1,SNR=14
comp=Z,2.6nm,0.7s
FINES FINESS Array B 42.52 315 *i* P **P 01 30 19.2 -0.2**
FINES pmax pmax
comp=Z,3.0nm,0.6s
F21K Alatna River 42.84 35 **P 01 30 22.6 +0.6**
H21K Melozitna Rive 43.92 36 P **P 01 30 31.4 +0.7**
H21K IAmb IAmb 01 30 33.6
comp=Z,13nm,1.3s
F24K Squaw Lake 44.46 33 **P 01 30 36.3 +1.2**
I23K Minto, Yukon-K 45.40 36 P **P 01 30 42.9 +0.4**
I23K IAmb IAmb 01 30 55.6
comp=Z,12nm,1.4s
BMAR Burnt Mountain 45.54 32 P **P 01 30 45.1 +1.4**
CCB Clear Creek Bu 46.23 36 **P 01 30 50.7 +1.7**
CCB IAmb IAmb 01 30 51.9
comp=Z,13nm,1.4s
IL31 46.46 35 P **P 01 30 52.0 +1.1**
IL31 IAmb IAmb 01 30 53.1
comp=Z,7.6nm,0.9s
ILAR Eielson Array 46.46 35 P **P 01 30 51.2 +0.3**
ILAR Eielson Array 46.46 35 P **P 01 30 52.1 +1.2**
comp=Z,4.1nm,0.8s,baz=310,slow=7.9,SNR=32
comp=Z,4.1nm,0.8s
AKASG Malin Array Be 47.31 301 P **P 01 30 57.8 0.0**
comp=Z,0.3nm,0.4s,baz=48,slow=8.6,SNR=4.6
comp=Z,0.3nm,0.4s
AKASG Malin Array Be 47.31 301 *ce*P **P 01 30 57.5 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
DHY Denali Highway 47.37 37 P **P 01 30 58.7 +0.5**
DHY IAmb IAmb 01 30 59.5
comp=Z,4.7nm,0.6s
INK Inuvik 48.08 27 P **P 01 31 03.8 +0.4**
INK pmax pmax
comp=Z,4.0nm,2.1s
DOT Dot Lake 48.13 36 P **P 01 31 03.6 -0.3**
HFS Hagfors 48.21 318 P **P 01 31 04.1 -0.4**
comp=Z,1.5nm,0.5s,baz=56,slow=7.8,SNR=15
comp=Z,1.5nm,0.5s
NB2 NORSAR Subarra 48.55 320 P **P 01 31 06.9 -0.4**
comp=Z,0.6nm,0.5s,baz=50,slow=7.4
NOA NORSAR Array B 48.55 320 P **P 01 31 07.2 -0.1**
comp=Z,1.0nm,0.7s,baz=49,slow=7.7,SNR=7.6
comp=Z,1.0nm,0.7s
L27K Beaver Creek, 49.27 35 **P 01 31 13.8 +1.0**
M31M Drury Creek, Y 52.29 33 P **P 01 31 36.2 +0.7**
M31M IAmb IAmb 01 31 37.9
comp=Z,6.9nm,1.0s
BRTR Keskin Array B 52.30 287 P **P 01 31 34.7 -1.3**
comp=Z,1.0nm,0.8s,baz=49,slow=8.9,SNR=6.3
comp=Z,1.0nm,0.8s
P33M Teslin, Yukon 54.30 34 P **P 01 31 50.8 +0.4**
P33M IAmb IAmb 01 31 52.1
comp=Z,5.6nm,0.8s
GERES GERESS Array B 55.97 308 P **P 01 32 03.9 +1.3**
comp=Z,0.6nm,0.8s,baz=34,slow=11,SNR=4.1
comp=Z,0.6nm,0.8s
SOKA Soboth 56.93 305 *ep*P pP 01 32 13.4 +2.3
comp=Z,0.9nm,0.5s
OBKA Obir 57.28 305 *ep*P **P 01 32 13.7 +1.8**
comp=Z,4.1nm,0.7s
YKA Yellowknife Ar 57.45 23 P **P 01 32 12.1 -0.7**
comp=Z,1.0nm,0.7s,baz=320,slow=7.4,SNR=2.0
comp=Z,1.0nm,0.7s
LESA Schwarzleotal 57.48 307 *ep*P pP 01 32 16.7 +1.7
comp=Z,2.2nm,0.7s
RAYN Ar Rayn 57.48 265 P **P 01 32 13.2 -0.4**
RAYN pmax pmax
comp=Z,3.0nm,0.9s
EKA Eskdalemuir Ar 57.91 322 P **P 01 32 16.4 +0.3**
comp=Z,0.8nm,0.5s,baz=42,slow=7.1,SNR=3.0
comp=Z,0.8nm,0.5s
ESK Eskdalemuir 57.94 322 *i* P **P 01 32 13.9 -2.4**
MOTA Moosalm 58.25 308 *ep*P pP 01 32 21.7 +1.1
comp=Z,6.4nm,1.0s
FUORN Ofenpass-Fuorn 59.18 308 P **P 01 32 25.5 0.0**
FUORN IAmb IAmb 01 32 29.0
comp=Z,4.7nm,0.8s
ESDC Sonseca Array 70.98 313 **P 01 33 41.7 -0.3**
ESDC Sonseca Array 70.98 313 P **P 01 33 42.4 +0.5**
comp=Z,1.8nm,0.9s,baz=44,slow=5.8,SNR=8.0
comp=Z,1.8nm,0.9s
BMO Blue Mountains 72.26 34 **P 01 33 50.3 +0.7**
BMO IAmb IAmb 01 33 51.5
comp=Z,5.9nm,0.9s
BMO Blue Mountains 72.26 34 P **P 01 33 50.3 +0.7**
BMO pmax pmax
comp=Z,6.0nm,1.0s
J08A Circle Bar Ran 73.20 36 **P 01 33 56.2 +0.9**
J08A IAmb IAmb 01 33 57.7
comp=Z,6.5nm,1.1s
YHL Hebgen Lake 74.15 30 P **P 01 34 01.5 +0.4**
YHL IAmb IAmb 01 34 02.3
comp=Z,3.4nm,0.7s
RLMT Red Lodge 74.45 29 **P 01 34 02.8 +0.1**
RLMT IAmb IAmb 01 34 04.4
comp=Z,11nm,1.2s
AGMN Agassiz Nation 74.57 19 **P 01 34 02.2 -0.8**
AGMN IAmb IAmb 01 34 03.0
comp=Z,4.9nm,0.8s
TPAW Teton Pass 75.46 31 **P 01 34 09.2 +0.5**
TPAW IAmb IAmb 01 34 10.9
comp=Z,4.3nm,0.8s
PDAR Pinedale Array 76.53 30 P **P 01 34 14.1 -0.6**
comp=Z,1.0nm,0.6s,baz=346,slow=4.8,SNR=9.1
comp=Z,1.0nm,0.6s
HWUT Hardware Ranch 77.00 32 **P 01 34 17.5 +0.2**
HWUT IAmb IAmb 01 34 19.2
comp=Z,7.7nm,0.9s
WRA Warramunga Arr 77.02 158 P **P 01 34 16.3 -1.0**
comp=Z,1.8nm,0.6s,baz=347,slow=5.9,SNR=25
comp=Z,1.8nm,0.6s
NVAR Mina Array Bea 77.64 38 P **P 01 34 21.8 +0.8**
comp=Z,1.2nm,0.7s,baz=336,slow=6.7,SNR=12
comp=Z,1.2nm,0.7s
SUSD Miller 77.64 22 P **P 01 34 20.9 +0.3**
G40A Rib Lake 78.47 16 P **P 01 34 25.4 +0.1**
SPR3 Spring Creek 3 78.49 35 **P 01 34 25.3 -0.5**
ECSD EROS Data Cent 78.81 21 **P 01 34 27.1 0.0**
ECSD IAmb IAmb 01 34 28.7
comp=Z,7.8nm,1.1s
O20A White River Ci 79.34 30 **P 01 34 30.2 -0.1**
O20A IAmb IAmb 01 34 31.9
comp=Z,5.0nm,0.8s
ASAR Alice Springs 80.54 159 P **P 01 34 35.8 -0.8**
comp=Z,1.1nm,0.8s,baz=347,slow=7.8,SNR=7.2
comp=Z,1.1nm,0.8s
HMU Henry Mountain 80.61 33 **P 01 34 37.1 -0.2**
HMU IAmb IAmb 01 34 39.1
comp=Z,7.3nm,1.3s
KNB Kanab 80.78 35 **P 01 34 38.2 0.0**
KNB IAmb IAmb 01 34 40.3
comp=Z,7.5nm,1.0s
KNB Kanab 80.78 35 P **P 01 34 38.2 0.0**
KNB pmax pmax
comp=Z,8.0nm,1.0s
SDCO Great Sand Dun 82.34 29 **P 01 34 46.8 +0.3**
P40A Paris 83.74 18 **P 01 34 53.1 -0.3**
CCM Cathedral Cave 85.32 18 P **P 01 35 01.1 -0.3**
CCM pmax pmax
comp=Z,8.0nm,0.8s
U38A Gravette 86.28 21 **P 01 35 05.6 -0.7**
WMOK Wichita Mounta 86.93 25 **P 01 35 09.6 +0.1**
WMOK Wichita Mounta 86.93 25 P **P 01 35 09.6 +0.1**
WMOK pmax pmax
comp=Z,8.0nm,1.1s
LCAR Lake Charles 87.27 18 **P 01 35 10.4 -0.6**
LCAR IAmb IAmb 01 35 11.9
comp=Z,4.4nm,0.9s
CLTN Cedars of Leba 88.04 15 **P 01 35 14.3 -0.4**
W57A Gilead 89.73 10 **P 01 35 22.9 +0.3**
BRDY Brady 90.17 26 **P 01 35 24.8 -0.1**
BRDY IAmb IAmb 01 35 26.4
comp=Z,3.3nm,0.9s
TORD Torodi Ar. Bea 90.47 294 P **P 01 35 26.0 -0.5**
comp=Z,1.3nm,0.8s,baz=36,slow=3.9,SNR=6.0
comp=Z,1.3nm,0.8s
TXAR Lajitas Array 90.74 30 P **P 01 35 28.6 +1.0**
comp=Z,0.5nm,0.9s,baz=344,slow=5.0,SNR=4.0
comp=Z,0.5nm,0.9s
QSPA South Pole Qui 144.67 180 PKP **PKPdf 01 41 59.4 -0.4**
comp=Z,7.8nm,0.8s,baz=304,slow=2.2,SNR=38
SNAA Sanae 148.27 213 PKPbc **PKPbc 01 42 08.3 -0.9**
comp=Z,1.4nm,0.5s,baz=60,slow=7.4,SNR=6.6
CPUP Villa Florida 150.34 340 PKPbc **PKPbc 01 42 14.8 -0.8**
comp=Z,1.1nm,0.8s,baz=351,slow=4.7,SNR=8.4

DJA 26 01:31:35.6±0.5, 4°S±5°×12°8E±°, h10km, M3.7/6, MLv3.7/6, Seram

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.16**	**237**	P	Pg		01 31 40.2	+1.1
AAI				S	Sg		01 31 43.0	+1.4
MSAI	**Masohi**	**0.65**	**67**	P	Pb		01 31 48.8	-0.2
NLAI	**Namlea**	**1.28**	**286**	P	Pg		01 32 00.2	0.0
SANI	**Sanana**	**2.80**	**303**	P	Pn		01 32 20.2	-0.3

*IDC **26** 01:32:20.6±1.8, 3.°56S×128.°31E, h0km, mb4.1/3, mbtmp4.1/4, ML3.5/1, Error ellipse: s-maj=165.4km s-min=25.4km az=69.0*

DJA ***26*** *01:32:23.5±0.4,4˚S±5˚×12˚8E±˚, h10km,M3.9/7,MLv3.9/7*
ISC 26 01:32:23.6±1.0,3˚62S±0˚.09×128˚36E±0˚.05, h16km±7km, n10, σ1ᵍ35/12, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.17**	**249**	P	**Pg**	**01 32 27.9**	**0.0**
AAI				S	**Sg**	**01 32 30.9**	**+0.1**
MSAI	**Masohi**	**0.64**	**64**	P	**Pg**	**01 32 35.1**	**-1.0**
MSAI				S	**Sg**	**01 32 44.6**	**0.0**
NLAI	**Namlea**	**1.31**	**287**	P	**Pb**	**01 32 47.6**	**-0.2**
SANI	**Sanana**	**2.83**	**303**	P	**Pn**	**01 33 09.3**	**+1.1**
FAKI	**Fak Fak**	**3.95**	**80**	P	**Pn**	**01 33 25.3**	**+1.7**
SWI	**Sorong**	**3.99**	**47**	P	**Pn**	**01 33 26.2**	**+2.0**
WRA	**Warramunga Arr**	**17.24**	**161**	P	**Pn**	**01 36 22.4**	**-1.5**
	0.2nm,0.3s,baz=343,slow=12,SNR=8.0 1.5nm,0.7s						
ASAR	**Alice Springs**	**20.64**	**165**	P	**P**	**01 37 03.4**	**+0.8**
	19nm,0.8s,baz=346,slow=11,SNR=30 19nm,0.8s						
MKAR	**Makanchi Array**	**64.52**	**327**	P	**P**	**01 42 58.2**	**-1.6**
	0.8nm,0.8s,baz=124,slow=7.7,SNR=5.3 0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**67.85**	**334**	P	**P**	**01 43 20.9**	**0.0**
	0.8nm,0.3s,baz=133,slow=8.1,SNR=1.7 0.8nm,0.3s						

IDC 26 01:32:58.5±1.8,3˚40S×128˚72E, h0km, mb4.2/3, mbtmp4.3/4, ML3.7/1, Error ellipse: s-maj=137.7km s-min=25.6km az=69.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.33**	**162**	P	Pn	01 37 01.6	-0.4
	0.3nm,0.3s,baz=341,slow=12,SNR=8.0 5.1nm,0.8s						
ASAR	**Alice Springs**	**20.76**	**166**	P	P	01 37 41.1	-0.1
	19nm,0.7s,baz=347,slow=11,SNR=15 19nm,0.7s						
MKAR	**Makanchi Array**	**64.54**	**327**	P	P	01 43 37.3	-0.2
	0.6nm,0.7s,baz=131,slow=6.7,SNR=4.1 0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**67.82**	**334**	P	P	01 43 58.7	+0.4
	1.2nm,0.3s,baz=139,slow=6.8,SNR=1.9 1.2nm,0.3s						

RSNC 26 01:37:45.7±0.0,7˚N±1˚×77˚4W±˚, h107km±2km, M2.5, mb3.8, ML2.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.35**	**88**	P	Pn	01 38 01.5	-0.1
BARC				S	Sn	01 38 14.1	+0.6
BRJC	**Barrancabermej**	**0.45**	**331**	P	Pn	01 38 01.4	-0.5
BRJC				S	Sn	01 38 14.5	+0.5
RUSC	**La Rusia**	**0.81**	**147**	P	Pn	01 38 04.5	-0.9
RUSC				S	Sn	01 38 19.5	-0.6
PTBC	**PUERTO BERRIO,**	**0.92**	**268**	P	Pn	01 38 04.3	-1.6
PTBC				S	Sn	01 38 19.4	-1.7
SPBC	**San Pablo de B**	**1.07**	**210**	P	Pn	01 38 07.1	-0.4
SPBC				S	Sn	01 38 23.3	-0.6
PAMC	**Pamplona, Colo**	**1.12**	**47**	P	Pn	01 38 08.0	-0.4
PAMC				S	Sn	01 38 25.2	-0.3
ZARC	**Zaragoza, Cauc**	**1.60**	**305**	P	Pn	01 38 13.6	0.0
ZARC				S	Sn	01 38 36.1	+1.3
OCAC	**Ocana**	**1.66**	**7**	P	Pn	01 38 13.7	-0.8
OCAC				S	Sn	01 38 35.8	-0.6
NORC	**Norcasia**	**1.67**	**233**	P	Pn	01 38 13.3	-1.2
NORC				S	Sn	01 38 34.9	-1.5
ROSC	**El Rosal**	**1.90**	**204**	P	Pn	01 38 17.8	+0.1
ROSC				S	Sn	01 38 42.7	+0.7
HELC	**Santa Helena**	**2.02**	**259**	P	Pn	01 38 18.5	-0.7
HELC				S	Sn	01 38 44.0	-0.8
GUY2C	**Guyana, Caldas**	**2.27**	**234**	P	Pn	01 38 22.2	-0.3
GUY2C				S	Sn	01 38 52.1	+1.5
UREC	**San Jos de Ur**	**2.30**	**300**	P	Pn	01 38 20.9	-1.6
UREC				S	Sn	01 38 49.0	-1.7
CBOC	**Ciudad Bolivar**	**2.57**	**254**	P	Pn	01 38 25.7	-0.4
CBOC				S	Sn	01 38 55.1	-2.0
DBBC	**Dabeiba**	**2.70**	**279**	P	Pn	01 38 27.2	-0.5
DBBC				S	Sn	01 38 59.3	-0.7
PRAC	**Prado**	**3.15**	**205**	P	Pn	01 38 32.7	-1.0
PRAC				S	Sn	01 39 09.8	-0.9
ORTC	**Ortega, Tolima**	**3.16**	**213**	P	Pn	01 38 33.5	-0.3
ORTC				S	Sn	01 39 11.7	+0.8
APAC	**Apartado, Choc**	**3.30**	**294**	P	Pn	01 38 34.6	-1.0
APAC				S	Sn	01 39 14.4	+0.2
ARGC	**Ariguani, Magd**	**3.33**	**348**	P	Pn	01 38 37.3	+1.2
ARGC				S	Sn	01 39 19.2	+4.2
URMC	**La Uribe, Meta**	**3.42**	**194**	P	Pn	01 38 36.5	-0.8
URMC				S	Sn	01 39 17.2	0.0
SJCC	**San Jacinto, C**	**3.68**	**334**	P	Pn	01 38 38.2	-2.6
SJCC				S	Sn	01 39 20.0	-3.4
CRJC	**Cerrejon, Guaj**	**4.46**	**8**	P	Pn	01 38 49.7	-1.6
CRJC				S	Sn	01 39 40.0	-2.2
URIC	**Uribia, Colomb**	**5.31**	**16**	P	Pn	01 39 00.1	-2.6
URIC				S	Sn	01 39 59.1	-3.6

IDC 26 01:47:26.4±2.4,3˚23S×128˚85E, h0km, mb3.6/2, mbtmp3.8/3, ML3.5/1, Error ellipse: s-maj=152.9km s-min=29.5km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.46**	**163**	P	P	01 51 32.4	-0.5
	0.2nm,0.3s,baz=342,slow=12,SNR=7.3 2.9nm,0.9s						
ASAR	**Alice Springs**	**20.90**	**167**	P	P	01 52 09.9	-0.8
	4.7nm,0.7s,baz=343,slow=11,SNR=13 4.7nm,0.7s						
MKAR	**Makanchi Array**	**64.46**	**326**	P	P	01 58 05.2	+0.3
	0.2nm,0.5s,baz=118,slow=8.3,SNR=2.0 0.2nm,0.5s						

NEIC ***26*** *01:50:38.8±0.9, 19˚6S±0˚.1×177˚6W±0˚.2, h560km±8km, mb4.3/16, Error ellipse: s-maj=24.5km s-min=10.2km az=121.0*
IDC ***26*** *01:50:42.0±10.0, 19˚72S×177˚88W, h581km±124km, mb3.1/6, mbtmp4.0/6, Error ellipse: s-maj=49.2km s-min=34.5km az=59.0*
ISC 26 01:50:38.4±0.8, 19˚6S±0˚.1×177˚8W±0˚.1, h550km, n23, σ0ᵍ67/24, mb4.0/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.39**	**294**	P	**P**	**01 52 04.7**	**+1.3**
DZM	**Mont Dzumac**	**14.98**	**258**	P	**P**	**01 53 47.0**	**-0.9**
DZM				IAmb	IAmb	01 53 55.3	
	comp=Z,30nm,1.5s						
BKZ	**Black Stump Fm**	**20.14**	**193**	P	**P**	**01 54 36.4**	**+0.7**
COEN	**Coen**	**37.77**	**272**	P	**P**	**01 57 08.6**	**+0.3**
STKA	**Stephens Creek**	**38.40**	**243**	P	**P**	**01 57 12.9**	**-0.3**
STKA	**Stephens Creek**	**38.40**	**243**	P	**P**	**01 57 13.2**	**0.0**
	comp=Z,1.6nm,0.4s,baz=88,slow=12,SNR=3.6 comp=Z,1.6nm,0.4s						
BBOO	**Buckleboo**	**43.17**	**243**	P	**P**	**01 57 50.5**	**-0.6**
BBOO				IAmb	IAmb	01 57 51.4	
	comp=Z,14nm,1.3s						
WR8	**Warramunga Arr**	**44.81**	**261**	P	**P**	**01 58 04.4**	**+0.4**
WR8				IAmb	IAmb	01 58 29.2	
	comp=Z,7.9nm,1.4s						
WB0	**Warramunga Arr**	**44.94**	**261**	P	**P**	**01 58 05.2**	**+0.2**
WB0				IAmb	IAmb	01 58 42.5	
	comp=Z,10nm,1.4s						
ASAR	**Alice Springs**	**44.96**	**256**	P	**P**	**01 58 05.1**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=98,slow=8.0,SNR=18						
ASAR				PcP	**PcP**	**01 59 33.9**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=98,slow=1.8,SNR=1.6 comp=Z,2.8nm,0.7s						
WRA	**Warramunga Arr**	**44.97**	**261**	P	**P**	**01 58 05.3**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=98,slow=8.5,SNR=16 comp=Z,1.2nm,0.3s						
FORT	**Forrest**	**49.88**	**246**	P	**P**	**01 58 41.0**	**-0.8**
FORT				IAmb	IAmb	01 59 14.8	
	comp=Z,8.0nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.39**	**262**	P	**P**	**01 59 07.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**53.39**	**262**	P	**P**	**01 59 07.9**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=104,slow=5.6,SNR=5.3 comp=Z,1.0nm,0.6s						
PSA00	**Pilbara Seismi**	**58.11**	**256**	P	**P**	**01 59 39.4**	**-0.6**
MBWA	**Marble Bar**	**58.28**	**257**	P	**P**	**01 59 40.8**	**-0.4**
MBWA				IAmb	IAmb	02 00 12.1	
	comp=Z,17nm,1.4s						
VNDA	**Vanda**	**58.84**	**185**	P	**P**	**01 59 44.0**	**+0.1**
NWAO	**Narrogin (SRO)**	**58.99**	**243**	P	**P**	**01 59 45.9**	**+0.1**
NWAO				IAmb	IAmb	01 59 48.0	
	comp=Z,27nm,1.2s						
QSPA	**South Pole Qui**	**70.48**	**180**	P	**P**	**02 00 57.7**	**0.0**
QSPA	**South Pole Qui**	**70.48**	**180**	P	**P**	**02 00 57.9**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=32,slow=1.6,SNR=9.3 comp=Z,1.4nm,0.7s						
SAO	**San Andreas Ge**	**77.20**	**43**	P	**P**	**02 01 35.0**	**-1.1**
SAO				IAmb	IAmb	02 01 38.4	
	comp=Z,14nm,1.1s						
SII	**Sitkinak Islan**	**78.40**	**13**	P	**P**	**02 01 41.5**	**-0.6**
PDAR	**Pinedale Array**	**88.14**	**43**	P	**P**	**02 02 32.6**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=261,slow=5.1,SNR=1.6 comp=Z,0.1nm,0.5s						

IDC 26 01:52:53.0±1.9,3˚15S×128˚06E, h0km, mb3.8/3, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=145.3km s-min=25.4km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.78**	**160**	P	Pn	01 57 01.6	-0.5
	0.2nm,0.3s,baz=339,slow=12,SNR=10 3.4nm,0.9s						
ASAR	**Alice Springs**	**21.16**	**165**	P	P	01 57 40.5	+0.5
	8.1nm,0.8s,baz=348,slow=10.0,SNR=8.4 8.1nm,0.8s						
MKAR	**Makanchi Array**	**63.97**	**327**	P	P	02 03 28.2	0.0
	0.2nm,0.5s,baz=134,slow=8.3,SNR=2.1 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**68.24**	**329**	P	P	02 03 55.4	-0.2
	0.4nm,0.2s,baz=126,slow=4.8,SNR=0.8 0.4nm,0.2s						

IDC 26 01:52:53.6±1.8,3˚86S×129˚59E, h0km, mb3.6/3, mbtmp3.6/5, ML2.9/2, Error ellipse: s-maj=94.1km s-min=25.2km az=74.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.67**	**195**	Pn	Pn	01 56 23.3	+0.8
	baz=22,slow=11,SNR=2.8 1.5nm,0.9s						
WRA	**Warramunga Arr**	**16.64**	**164**	Pn	Pn	01 56 48.1	-0.3
	baz=344,slow=11,SNR=2.4 0.4nm,0.5s						
ASAR	**Alice Springs**	**20.13**	**168**	P	P	01 57 29.2	-0.1
	2.1nm,0.9s,baz=346,slow=10,SNR=11 2.1nm,0.9s						
MKAR	**Makanchi Array**	**65.40**	**326**	P	P	02 03 37.9	-0.3
	0.3nm,0.4s,baz=126,slow=3.9,SNR=5.8 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**69.64**	**328**	P	P	02 04 05.2	+0.4
	0.2nm,0.3s,baz=141,slow=5.9,SNR=1.6 0.2nm,0.3s						

NOU 26 01:56:18.4,17˚04S×167˚93E, h43km, MLv4.5/16, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**0.72**	**160**	P	Pn	01 56 33.1	+0.8
DVP	**Devils Point**	**0.72**	**160**	S	Sn	01 56 44.5	+2.3
SANVU	**Saraoutou**	**1.73**	**336**	P	Pn	01 56 45.7	-0.3
SANVU	**Saraoutou**	**1.73**	**336**	S	Sn	01 57 07.6	+0.7
KOUNC	**Koumac, New Ca**	**4.91**	**224**	P	Pn	01 57 30.3	+0.6
YATNC	**Mamie plateau,**	**5.09**	**191**	P	Pn	01 57 31.8	-0.4
DZM	**Mont Dzumac**	**5.20**	**195**	P	Pn	01 57 33.8	+0.1
DZM	**Mont Dzumac**	**5.20**	**195**	S	Sn	01 58 32.3	-0.2
ONTNC	**Ouen Toro**	**5.42**	**195**	P	Pn	01 57 37.8	+1.1
ONTNC	**Ouen Toro**	**5.42**	**195**	S	Sn	01 58 37.2	-0.7
OUENC	**Ouen Island, N**	**5.45**	**191**	P	Pn	01 57 38.6	+1.5
OUENC	**Ouen Island, N**	**5.45**	**191**	S	Sn	01 58 39.6	+1.1

IDC ***26*** *02:12:13.8±0.6, 42˚84N×146˚54E, h0km, mb4.3/27, mbtmp4.2/31, ML4.4/1, MS3.5/1, Error ellipse: s-maj=15.4km s-min=13.9km az=168.0*
MOS ***26*** *02:12:16.6±1.0, 42˚76N×146˚60E, h34km, mb5.0/24, MS4.5/4, Error ellipse: s-maj=9.7km s-min=5.4km az=109.3*
JMA ***26*** *02:12:17.6±0.2, 42˚9N±0˚.6×14˚7E±˚, h48km±3km, MD4.5/40, MV4.6/40, OFF NEMURO PENINSULA*
JMA Felt I J1 at OFF NEMURO PENINSULA .
NIED ***26*** *02:12:17.6, 42˚86N×146˚64E, h48km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr5.71; Mθθ-3.59; Mϕϕ-2.13; Mrθ2.62; Mrϕ-2.60; Mθϕ3.65; Fault plane solution: M₀7.20000×10¹⁵ NP1: ϕs242.00000°, δ27.00000°, λ107.00000°. NP2: ϕs43.00000°, δ64.00000°, λ81.00000°.*
SKHL ***26*** *02:12:17.8±0.6, 42˚80N×146˚70E, h50km±6km, mb5.6/4*
NEIC ***26*** *02:12:19.4±1.4, 42˚89N±0˚.10×146˚5E±0˚.1, h35km±2km, mb4.7/39, Error ellipse: s-maj=17.4km s-min=13.9km az=155.0*
ISC 26 02:12:19.1±0.6, 42˚81N±0˚.04×146˚49E±0˚.04, h34km±1km, h33km:pP-P, n313, σ1ᵍ18/328, mb4.7/81, MS4.6/7, 14C-6D, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.78**	**315**	⇓P	**Pn**	**02 12 33.1**	**-0.5**
NEM2				⇓*e*S	**Sn**	**02 12 44.2**	**+0.1**
NEM2	**Nemuro 2**	**0.78**	**315**	A	A	02 12 33.1	
	comp=N,25nm,1.6s,comp=E,48nm,1.7s						
NMR	**Nemuro--Hokkai**	**0.79**	**315**	⇓*i*PN	**Pn**	**02 12 33.1**	**-0.7**
NMR				*i* S	**Sn**	**02 12 44.2**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.79**	**315**	*i* P	**Pn**	**02 12 33.1**	**-0.7**
NMR				*i* S	**Sb**	**02 12 45.0**	**+0.2**
JKHN	**Kushirohamanak**	**1.01**	**286**	P	**Pn**	**02 12 37.0**	**+0.1**
JKHN				*e*S	**Sb**	**02 12 52.6**	**+1.4**
JKHN	**Kushirohamanak**	**1.01**	**286**	A	A	02 12 37.0	
	comp=N,28nm,2.1s,comp=E,33nm,4.6s						
SHO	**Shikotan**	**1.09**	**13**	*i* P	**Pb**	**02 12 41.4**	**+2.0**
SHO				AMB	AMB	02 12 42.7	
	comp=E,3μm,0.4s						
SHO				*i* S	**Sb**	**02 12 55.6**	**+2.3**
SHO				A	A	02 12 57.1	
	comp=E,35μm,0.6s						
SHO				A	A	02 12 57.1	
	comp=E,22μm,0.6s						
GLVR	**Golovnino**	**1.17**	**323**	*i* P	**Pn**	**02 12 38.3**	**-0.6**
GLVR				*i* S	**Sn**	**02 12 53.6**	**-0.1**
GLVR				pmax	pmax		
	comp=E,735nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,5μm,0.3s						
GLVR				pmax	pmax		
	comp=N,1μm,0.4s						
GLVR				smax	smax		
	comp=N,8μm,0.4s						
GLVR				smax	smax		
	comp=E,10μm,0.4s						
GLVR				smax	smax		
	comp=E,10μm,1.0s						
GLVR				smax	smax		
	comp=N,14μm,1.1s						
GLVR	**Golovnino**	**1.17**	**323**	*i* P	**Pn**	**02 12 38.3**	**-0.6**
GLVR				AMB	AMB	02 12 39.1	
	comp=N,5μm,0.3s						
GLVR				*i* S	**Sn**	**02 12 53.6**	**-0.1**
GLVR				A	A	02 12 56.3	
	comp=N,8μm,0.4s						
GLVR				A	A	02 12 56.3	
	comp=N,10μm,0.4s						
AKK	**Akkeshi**	**1.23**	**280**	*i* P	**Pn**	**02 12 40.1**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**1.30**	**340**	*i* PN	**Pn**	**02 12 39.7**	**-1.2**
YUK				*e*S	**Sn**	**02 12 56.0**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**1.30**	**340**	*i* P	**Pn**	**02 12 39.6**	**-1.3**
YUK				AMB	AMB	02 12 41.3	
	comp=N,4μm,0.4s						
YUK				*i* S	**Sn**	**02 12 56.0**	**-1.1**
YUK				A	A	02 12 58.8	
	comp=N,22μm,0.8s						
YUK				A	A	02 12 58.8	
	comp=N,23μm,0.8s						
JAK	**Akkeshi**	**1.33**	**279**	P	**Pn**	**02 12 41.4**	**+0.2**
JAK	**Akkeshi**	**1.33**	**279**	A	A	02 12 41.4	
	comp=N,27nm,1.9s,comp=E,30nm,0.9s						
JNSB	**Nemuroshibetsu**	**1.45**	**312**	P	**Pn**	**02 12 42.5**	**-0.4**
JNSB				*e*S	**Sn**	**02 13 01.4**	**+0.7**
JNSB	**Nemuroshibetsu**	**1.45**	**312**	A	A	02 12 42.5	
	comp=N,18nm,2.6s,comp=E,18nm,3.5s						
JRA	**Rausu**	**1.50**	**319**	P	**Pn**	**02 12 43.4**	**-0.2**
JRA				*e*S	**Sn**	**02 13 02.0**	**0.0**
JRA	**Rausu**	**1.50**	**319**	A	A	02 12 43.4	
	comp=N,9.0nm,2.1s,comp=E,9.0nm,1.5s						
JNK	**Nakash**	**1.51**	**301**	P	**Pn**	**02 12 43.4**	**-0.2**
JNK				*e*S	**Sn**	**02 13 02.6**	**+0.5**
JNK	**Nakash**	**1.51**	**301**	A	A	02 12 43.4	
	comp=N,10.0nm,1.1s,comp=E,9.0nm,4.0s						
RUSJ	**Misakicho**	**1.58**	**325**	⇑*i*PN	**Pn**	**02 12 44.4**	**-0.2**
RUSJ				*i* S	**Sb**	**02 13 06.0**	**-1.2**
JOB	**Onbets**	**1.96**	**274**	P	**Pn**	**02 12 50.2**	**+0.5**
JOB	**Onbets**	**1.96**	**274**	A	A	02 12 50.2	
	comp=N,6.0nm,4.3s,comp=E,8.0nm,3.3s						
JAR	**Ashorobuto**	**2.05**	**285**	P	**Pn**	**02 12 51.7**	**+0.6**
JAR				S	**Sn**	**02 13 16.6**	**+1.0**
JAR	**Ashorobuto**	**2.05**	**285**	A	A	02 12 51.7	
	comp=N,14nm,1.6s,comp=E,13nm,1.9s						
JTKR	**Abashiri--Toko**	**2.21**	**302**	P	**Pn**	**02 12 54.2**	**+0.9**
JTKR				S	**Sn**	**02 13 21.4**	**+2.0**
JCH	**Churui**	**2.31**	**266**	P	**Pn**	**02 12 56.2**	**+1.5**
JMP	**Maruseppu**	**2.58**	**299**	P	**Pn**	**02 12 59.4**	**+1.1**
ERM	**Erimo**	**2.59**	**253**		**Pn**	**02 13 00.8**	**+2.2**
ERM	**Erimo**	**2.59**	**253**	P	**Pn**	**02 13 01.3**	**+2.7**
ERM	**Erimo**	**2.59**	**253**	PN	**Pn**	**02 13 00.8**	**+2.2**
JEM	**Erimo**	**2.59**	**253**	P	**Pn**	**02 13 01.0**	**+2.4**
JEM	**Erimo**	**2.59**	**253**	P	**Pn**	**02 13 01.2**	**+2.6**
KUR	**Kuril'sk**	**2.62**	**22**	*e*PN	**Pn**	**02 12 57.7**	**-1.2**
KUR				*e*S	**Sn**	**02 13 27.3**	**-2.1**
KUR	**Kuril'sk**	**2.62**	**22**	*e*P	**Pn**	**02 12 58.4**	**-0.5**
KUR				AMB	AMB	02 13 01.8	
	comp=E,340nm,0.6s						
KUR				*e*S	**Sn**	**02 13 28.8**	**-0.6**
KUR				A	A	02 13 38.6	
	comp=E,520nm,0.5s						
KUR				A	A	02 13 38.6	
	comp=E,930nm,0.5s						
JNBK	**Urakawa-nobuka**	**2.81**	**260**	P	**Pn**	**02 13 02.9**	**+1.3**
JKA	**Kamikawa-asahi**	**3.12**	**296**		**Pn**	**02 13 06.6**	**+0.8**
JKA	**Kamikawa-asahi**	**3.12**	**296**	*e*P	**Pn**	**02 13 06.3**	**+0.5**
ASAJ	**Asahikawa**	**3.12**	**296**	Pn	**Pn**	**02 13 06.3**	**+0.5**
	comp=E,29nm,0.3s,baz=115,slow=8.5,SNR=48						
ASAJ				Sn	**Sn**	**02 13 43.8**	**+1.9**
	comp=E,21nm,0.3s,baz=294,slow=9.4,SNR=4.6						
ASAJ				LR	LR	02 14 06.3	
	comp=E,688nm,19.4s,baz=140,slow=36 comp=E,88nm,0.4s						
JTM	**Tenmabayashi**	**4.53**	**245**		**Pn**	**02 13 25.7**	**+0.5**
JTM	**Tenmabayashi**	**4.53**	**245**	P	**Pn**	**02 13 26.1**	**+0.9**
JTM	**Tenmabayashi**	**4.53**	**245**	S	**Sn**	**02 14 14.9**	**-1.8**
YSS	**Yuzhno-Sakhali**	**4.92**	**329**	*e*PN	**Pn**	**02 13 31.2**	**+0.7**
YSS				pmax	pmax		
	comp=Z,40nm,1.2s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=N,2μm,18.0s						
YSS				MLR	MLR		
	comp=E,2μm,17.0s						
YSS	**Yuzhno-Sakhali**	**4.92**	**329**	*e*P	**Pn**	**02 13 31.2**	**+0.7**
YSS				*e*S	**Sn**	**02 14 24.4**	**-1.8**
JMM	**Marumori**	**6.58**	**223**		**Pn**	**02 13 50.9**	**-2.5**
JMM	**Marumori**	**6.58**	**223**	P	**Pn**	**02 13 52.9**	**-0.5**
JMM	**Marumori**	**6.58**	**223**	S	**Sn**	**02 15 01.9**	**-5.3**
TEY	**Ternei**	**7.48**	**291**	⇑*e*PN	Pn	02 14 12.4	+6.8
TEY				pmax	pmax		
	comp=E,10.0nm,1.1s						
TEY				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TYV	**Tymovskoe**	**8.47**	**343**	*e*PN	**Pn**	**02 14 22.3**	**+3.1**
TYV				pmax	pmax		
	comp=Z,13nm,1.3s						
TYV				pmax	pmax		
	comp=Z,300nm,4.3s						
TYV	**Tymovskoe**	**8.47**	**343**	*e*P	**Pn**	**02 14 22.3**	**+3.1**
TYV				*e*S	**Sn**	**02 15 54.4**	**+0.9**
MAJO	**Matsushiro**	**8.94**	**228**	Pn	**Pn**	**02 14 26.4**	**+0.6**
MAJO	**Matsushiro**	**8.94**	**228**	*e*PN	**Pn**	**02 14 26.4**	**+0.6**
MJAR	**Matsushiro Arr**	**8.94**	**228**	Pn	**Pn**	**02 14 25.5**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=29,slow=13,SNR=4.4						
JGF	**Kuroka**	**10.10**	**228**		**Pn**	**02 14 43.7**	**+2.0**
USRK	**Ussuriysk Ar.**	**10.63**	**282**	Pn	**Pn**	**02 14 46.6**	**-2.2**
	comp=Z,0.7nm,0.5s,baz=96,slow=12,SNR=1.0						
OKH	**Okha**	**11.00**	**349**	*e*P	**Pn**	**02 14 55.8**	**+1.9**
PETK	**Petropavlovsk-**	**12.73**	**32**	Pn	**Pn**	**02 15 15.9**	**-1.6**
	comp=Z,4.7nm,0.9s,baz=198,slow=9.1,SNR=2.3						
BNX	**BinXian**	**13.98**	**289**	⇑P	**Pn**	**02 15 34.5**	**-0.1**
BNX				pmax	pmax		
	comp=Z,12nm,0.9s						
HEH	**HeiHe**	**15.07**	**306**	*e*P	**P**	**02 15 53.3**	**-0.9**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KSRS	**Korea Array**	**15.17**	**256**	Pn	**P**	**02 15 55.8**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=61,slow=14,SNR=4.9						
ZEA	**Zeya**	**16.78**	**317**	*e*P	P	02 16 26.8	+14
ZEA				pmax	pmax		
	comp=E,10.0nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SEY	**Seymchan**	**20.45**	**8**	P	**P**	**02 16 53.0**	**-0.3**
	comp=Z,3.4nm,0.7s,baz=54,slow=7.0,SNR=4.3 comp=Z,3.4nm,0.7s						
BJI	**Beijing**	**22.84**	**273**	P	**P**	**02 17 17.3**	**-1.8**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BJT	**Baijiatuau**	**22.85**	**273**		**P**	**02 17 17.5**	**-1.8**
BJT				IAmb	IAmb	02 17 32.4	
	comp=Z,34nm,1.4s						
BJT	**Baijiatuau**	**22.85**	**273**	P	**P**	**02 17 17.5**	**-1.8**
BJT				pmax	pmax		
	comp=Z,33nm,1.4s						
TIA	**Tai'an**	**23.52**	**264**	P	**P**	**02 17 26.0**	**0.0**
TIA				pmax	pmax		
	comp=Z,15nm,1.2s						
NJ2	**Nanjing**	**24.33**	**253**	*e*P	**P**	**02 17 34.0**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s

comp=Z,19nm,1.3s
LZH Lanzhou 33.33 273 *e*P P 02 18 58.3 +4.4
LZH sP pwP 02 19 12.0 +5.2
LZH pmax pmax
comp=Z,14nm,1.2s
GTA Gaotai 34.98 281 *e*P P 02 19 09.3 +1.1
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA LR LR
comp=N,660nm,23.3s
GTA LR LR
comp=E,540nm,22.5s
GTA LR LR
comp=Z,1μm,22.5s
G17K Kiwalik Mounta 36.80 34 P P 02 19 24.2 +1.0
baz=260
C18K Utukok River 37.36 29 P P 02 19 27.2 -0.9
baz=255
B18K Kokolik River 37.36 27 P P 02 19 26.2 -1.7
baz=253
F18K Selawik 37.43 32 P P 02 19 29.1 +0.7
baz=259
H18K Honhosa River 37.68 35 P P 02 19 31.5 +0.8
baz=262
G18K Tagagawik 37.69 33 P 02 19 30.0 -0.8
G18K IAmb IAmb 02 19 32.9
comp=Z,13nm,0.8s
G18K Tagagawik 37.69 33 P P 02 19 31.5 +0.7
baz=261,SNR=8.0
M17K Holitna River 37.70 41 P P 02 19 31.0 +0.1
J18K Innoko River 38.19 37 P P 02 19 35.8 +0.8
baz=266
F19K Shaleruckik Mo 38.20 32 P 02 19 33.7 -1.4
F19K IAmb IAmb 02 19 49.7
comp=Z,20nm,1.4s
F19K PcP PcP 02 21 48.9 +0.1
F19K Shaleruckik Mo 38.20 32 P P 02 19 35.1 0.0
baz=261
G19K Purcell Mounta 38.36 33 P 02 19 36.0 -0.4
G19K Purcell Mounta 38.36 33 P P 02 19 36.6 +0.2
baz=262
Q17K Contact Creek 38.45 46 P P 02 19 40.0 +2.5
baz=273
E19K Redstone River 38.53 31 P 02 19 37.6 -0.2
E19K IAmb IAmb 02 19 52.9
comp=Z,11nm,1.0s
E19K Redstone River 38.53 31 P P 02 19 38.4 +0.5
baz=260,SNR=5.3
H19K Roundabout Mou 38.53 34 P 02 19 37.8 -0.1
H19K Roundabout Mou 38.53 34 P P 02 19 38.3 +0.5
baz=264,SNR=8.2
J19K Poorman 38.72 37 P P 02 19 40.7 +1.2
baz=266
O18K Koktuh Hills 38.77 43 P P 02 19 41.6 +1.7
baz=272
D20K Etivluk River 39.00 29 P P 02 19 41.7 -0.1
baz=260
F20K Avaraart Lake 39.04 32 P P 02 19 42.1 +0.1
baz=262
E20K Nigu River 39.07 30 P P 02 19 42.0 -0.3
baz=261
B20K Meade River 39.10 27 P P 02 19 42.4 -0.1
baz=258
H20K Anotleneega Mo 39.18 34 P P 02 19 43.7 +0.4
baz=265
J20K Nowinta River 39.38 36 P P 02 19 45.6 +0.7
baz=268
C21K Knifeblade Rid 39.73 29 P P 02 19 47.9 0.0
baz=261
PZH PanZhiHua 39.75 261 P P 02 19 49.8 +1.2
M20K Styx River 39.77 40 P P 02 19 49.5 +1.2
baz=271
G21K Allakaket 39.84 33 P 02 19 48.5 -0.3
G21K IAmb IAmb 02 19 50.7
comp=Z,12nm,0.9s
G21K Allakaket 39.84 33 P P 02 19 49.6 +0.8
baz=265,SNR=8.7
B21K Ikpikpuk River 39.88 28 P P 02 19 48.8 -0.3
baz=260
F21K Alatna River 39.93 32 P 02 19 49.0 -0.5
F21K Alatna River 39.93 32 P P 02 19 50.1 +0.5
baz=264
H21K Melozitna Rive 40.05 34 P P 02 19 51.2 +0.6
baz=267
D22K Ayikyak River 40.44 29 P P 02 19 54.1 +0.4
baz=263
F22K John River 40.46 31 P P 02 19 54.8 +0.8
baz=265
H22K Ishtalitna Cre 40.65 34 P P 02 19 56.6 +1.1
baz=268
E22K Anaktuvuk Pass 40.66 30 P 02 19 55.6 -0.1
E22K Anaktuvuk Pass 40.66 30 P P 02 19 56.1 +0.4
baz=265
G22K Bettles 40.67 32 P P 02 19 56.1 +0.5
baz=267
MLY Manley 40.88 35 P P 02 19 58.4 +0.9
baz=270
TRF Thorofare Moun 41.07 38 P P 02 20 00.9 +1.7
baz=272
D23K Nanushuk River 41.17 29 P P 02 20 00.4 +0.7
baz=265
ZALV Zalesovo Beam 41.19 308 P P 02 19 59.7 -0.3
comp=Z,1.7nm,0.4s,baz=85,slow=8.3,SNR=8.4
ZALV PcP PcP 02 21 59.4 +0.8
comp=Z,1.0nm,0.4s,baz=64,slow=3.4,SNR=6.6
comp=Z,1.7nm,0.4s
ZALV Zalesovo Beam 41.19 308 *i*P P 02 20 00.4 +0.4
ZALV pmax pmax
comp=Z,2.0nm,0.4s
COLD Coldfoot 41.20 32 P P 02 20 00.9 +0.9
baz=268,SNR=5.8
G23K Bananza Creek 41.24 33 P 02 20 00.2 -0.2
G23K Bananza Creek 41.24 33 P P 02 20 01.5 +1.1
baz=268,SNR=7.1
C23K Itkillik River 41.29 28 P P 02 20 00.4 -0.3
baz=264
H23K Yukon River 41.41 34 P P 02 20 03.0 +1.3
baz=270
BWN Browne 41.43 37 P P 02 20 01.8 -0.1
E23K Chandalar 41.48 31 P 02 20 00.7 -1.7
E23K Chandalar 41.48 31 P P 02 20 02.5 +0.2
baz=267
NEA2 Nenana 41.59 36 P P 02 20 03.6 +0.3
baz=272
MCK McKinley 41.67 37 P P 02 20 03.6 -0.3
MCK IAmb IAmb 02 20 18.0
comp=Z,20nm,1.3s
MCK McKinley 41.67 37 P P 02 20 03.6 -0.3
MCK pmax pmax
comp=Z,19nm,1.3s
D24K Happy Valley 41.85 29 P P 02 20 05.3 0.0
baz=267
E24K Your Creek 41.90 31 P P 02 20 06.1 +0.3
baz=268
C24K Franklin Bluff 41.94 28 P P 02 20 05.9 -0.1
baz=266
WMQ Urumqi 42.00 292 *e*P P 02 20 08.0 +1.1
WMQ LR LR
comp=N,1μm,22.3s
WMQ LR LR
comp=E,1μm,21.1s
WMQ LR LR
comp=Z,1μm,24.7s
SML Sawmill 42.05 40 P P 02 20 08.3 +1.2
baz=275
H24K Noodor Dome 42.09 34 P P 02 20 08.0 +0.6
H24K Noodor Dome 42.09 34 P P 02 20 08.1 +0.7
baz=271
F24K Squaw Lake 42.11 31 P P 02 20 08.2 +0.7
baz=270
G24K Hadweenzic Riv 42.26 33 P 02 20 08.4 -0.2
G24K IAmb IAmb 02 20 24.5
comp=Z,23nm,1.2s
G24K Hadweenzic Riv 42.26 33 P P 02 20 09.2 +0.5
baz=271,SNR=6.5
POKR Poker Plat Res 42.28 35 P P 02 20 07.1 -1.8
baz=272
DHY Denali Highway 42.40 38 P P 02 20 08.4 -1.6
HDA Harding Lake 42.52 36 P P 02 20 11.0 +0.2
baz=274
ILAR Eielson Array 42.53 36 P P 02 20 10.3 -0.6
comp=Z,1.5nm,0.8s,baz=259,slow=6.3,SNR=14
comp=Z,1.5nm,0.8s
D25K Kavik River 42.73 29 P P 02 20 12.6 +0.1
baz=269
G25K Bearman Lake 42.80 33 P P 02 20 14.0 +1.0
baz=272

H25L Birch Creek 42.92 33 P P 02 20 14.8 +0.7
baz=273
F25K Christian River 42.97 31 P P 02 20 15.5 +1.0
baz=271
E25K Arctic Village 43.00 31 P P 02 20 15.3 +0.6
baz=271
K24K Donnelly Dome 43.07 37 P P 02 20 15.8 +0.5
baz=275
J25K Salcha River, 43.19 36 P P 02 20 16.4 +0.1
baz=275
C26K Camden Bay 43.26 28 P P 02 20 15.9 -0.8
baz=270
F26K Sheenjek River 43.54 31 P P 02 20 19.5 +0.4
baz=273,SNR=8.1
C27K Jago River 43.68 28 P P 02 20 20.5 +0.4
baz=271
G26K Porcupine Rive 43.71 32 P 02 20 21.1 +0.8
G26K IAmb IAmb 02 20 36.6
comp=Z,24nm,1.3s
G26K Porcupine Rive 43.71 32 P P 02 20 21.3 +0.9
baz=274,SNR=9.9
SCRK Sand Creek 43.84 37 P P 02 20 23.2 +1.5
baz=277
M26K Nabesna, AK 44.48 39 P P 02 20 28.8 +2.1
baz=279
E27K Coleen River 44.48 30 P P 02 20 27.7 +1.1
baz=274
G27K Doyon Strip 44.56 32 P P 02 20 26.7 -0.5
G27K Doyon Strip 44.56 32 P P 02 20 28.7 +1.5
baz=276
MK31 Makanchi Array 44.60 298*c* *i*P P 02 20 27.8 0.0
MKAR Makanchi Array 44.60 298 P P 02 20 28.1 +0.3
comp=Z,12nm,0.7s,baz=81,slow=9.1,SNR=87
comp=Z,12nm,0.7s
H27K Steamboat Moun 44.66 33 P P 02 20 27.9 -0.2
H27K IAmb IAmb 02 20 44.5
comp=Z,12nm,1.1s
H27K Steamboat Moun 44.66 33 P P 02 20 29.3 +1.3
baz=276
K27K Chicken 44.67 36 P P 02 20 28.8 +0.7
baz=278
L27K Beaver Creek, 44.91 38 P 02 20 30.5 +0.4
L27K IAmb IAmb 02 20 45.4
comp=Z,6.0nm,0.7s
L27K Beaver Creek, 44.91 38 P P 02 20 31.4 +1.2
baz=279
EGAK Eagle 44.97 35 P P 02 20 31.1 +0.6
baz=278
M27K Edge Creek, AK 45.00 39 P P 02 20 32.4 +1.4
baz=280
F28M Old Crow 45.18 31 P P 02 20 32.9 +0.7
baz=277,SNR=8.8
E28M Babbage River 45.22 30 P P 02 20 33.3 +0.9
baz=276
I28M Miner Creek 45.40 34 P P 02 20 35.0 +1.0
baz=279,SNR=5.4
D28M Stokes Point 45.44 29 P P 02 20 35.3 +1.2
baz=276
KURK Kurchatov 45.66 305 P 02 20 35.9 -0.2
KURK IAmb IAmb 02 20 37.0
comp=Z,15nm,1.1s
KURK Kurchatov 45.66 305*de*P P 02 20 36.4 +0.3
KURK pmax pmax
comp=Z,13nm,1.0s
KURK Kurchatov 45.66 305 *e*P P 02 20 36.4 +0.3
KURBB Kurchatov Arra 45.74 304 P P 02 20 36.8 0.0
comp=Z,9.3nm,0.9s,baz=75,slow=8.7,SNR=45
KURBB PcP PcP 02 22 14.6 +0.5
comp=Z,0.7nm,0.7s,baz=78,slow=3.5,SNR=5.3
comp=Z,9.3nm,0.9s
E29M Blow River 45.84 30 P 02 20 37.1 -0.2
E29M Blow River 45.84 30 P P 02 20 38.3 +1.0
baz=278,SNR=6.1
H29M Whitestone 45.93 33 P P 02 20 39.0 +0.9
baz=279
G29M Pine Creek 45.97 32 P P 02 20 39.2 +0.8
baz=279
O28M Mount Upton 46.08 41 P P 02 20 41.1 +1.4
baz=283
I29M Ogilvie Camp, 46.09 34 P P 02 20 40.7 +1.3
baz=280,SNR=5.7
L29M L29M 46.56 37 P P 02 20 43.7 +0.5
baz=282
EPYK Eagle Plains 46.57 33 P P 02 20 43.8 +0.7
baz=280
G30M tAoh Zraii Nji 46.66 32 P P 02 20 44.7 +0.8
baz=280
K29M Barlow Dome 46.69 36 P P 02 20 45.2 +1.0
baz=282
F30M Barrier River 46.73 31 P 02 20 44.9 +0.6
F30M Barrier River 46.73 31 P P 02 20 45.6 +1.2
baz=280,SNR=11
CMAR Chiang Mai Arr 46.80 254 P P 02 20 44.7 -0.7
comp=Z,1.8nm,0.3s,baz=51,slow=8.3,SNR=1.7
comp=Z,1.8nm,0.3s
I30M Mount Dempster 46.91 34 P 02 20 44.4 -1.5
I30M IAmb IAmb 02 20 48.2
comp=Z,6.5nm,0.8s
I30M Mount Dempster 46.91 34 P P 02 20 46.9 +0.9
baz=282,SNR=8.2
J30M Hart River 47.06 35 P P 02 20 47.9 +0.8
baz=282
M30M Minto, Yukon 47.27 38 P P 02 20 50.1 +1.4
baz=284
HYT Haines Junctio 47.35 40 P 02 20 48.5 -0.9
HYT Haines Junctio 47.35 40 P P 02 20 51.5 +2.1
baz=285
G31M Satah River 47.43 32 P P 02 20 50.5 +0.8
baz=282
INK Inuvik 47.45 30 P 02 20 48.6 -1.3
INK IAmb IAmb 02 20 51.6
comp=Z,7.3nm,0.8s
INK Inuvik 47.45 30 P P 02 20 48.6 -1.3
INK pmax pmax
comp=Z,7.0nm,0.8s
INK Inuvik 47.45 30 P P 02 20 50.6 +0.7
baz=282
F31M Tsiigehtchic 47.53 31 P P 02 20 51.1 +0.6
baz=282
P29M Windy Craggy 47.54 42 P P 02 20 52.8 +2.1
baz=286
H31M Peel River 47.63 33 P 02 20 50.3 -1.1
H31M IAmb IAmb 02 21 07.8
comp=Z,12nm,1.0s
H31M Peel River 47.63 33 P P 02 20 52.6 +1.2
baz=283
M31M Drury Creek, Y 48.45 38 P P 02 20 58.9 +1.1
baz=286
BVAR Borovoye Array 49.73 310 P P 02 21 08.0 +0.4
comp=Z,3.6nm,0.4s,baz=82,slow=8.5,SNR=28
comp=Z,3.6nm,0.4s
BORK Borovoye 49.76 310⇑ *e*P P 02 21 08.6 +0.7
BORK pmax pmax
comp=Z,5.0nm,1.7s
BOOM Boomskoye usch 50.44 295 P P 02 21 13.4 0.0
BOOM pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 51.33 296⇑ *e*P P 02 21 20.3 +0.2
AAK pmax pmax
comp=Z,7.0nm,1.5s
AAK Ala-Archa 51.33 296 *e*P P 02 21 20.3 +0.2
TRKS Terek-Say 54.06 296 P P 02 21 41.1 +0.8
TRKS pmax pmax
comp=Z,6.0nm,0.9s
ARTI Arti 54.81 317 P 02 21 42.4 -2.9
ARTI Arti 54.81 317*c* *i*P P 02 21 44.6 -0.7
ARTI 02 22 41.2
ARTI S S 02 29 24.2 +0.6
ARTI SS SS 02 33 08.8 +2.4
ARTI pmax pmax
comp=Z,18nm,0.9s
SPITS Spitsbergen Ar 55.61 349 P P 02 21 50.8 0.0
comp=Z,3.7nm,0.9s,baz=40,slow=14,SNR=1.9
comp=Z,3.7nm,0.9s
CHGR Chuyangaron 56.80 294 P 02 21 58.6 -1.4
CHGR Chuyangaron 56.80 294 P P 02 21 58.6 -1.4
CHGR pmax pmax
comp=Z,15nm,0.8s
YKA Yellowknife Ar 56.85 33 P P 02 21 59.5 -0.2
comp=Z,0.6nm,0.8s,baz=304,slow=8.4,SNR=4.7
comp=Z,0.6nm,0.8s
YKA Yellowknife Ar 56.85 33*ce*P P 02 22 03.2 +3.4
SIMJ Simiganj 56.90 294 P 02 21 58.9 -1.9
SIMJ IAmb IAmb 02 22 01.7
comp=Z,6.6nm,0.8s
ABKAR Akbulak array 57.28 309 P 02 22 02.1 -0.9
KIRV Kirov 58.04 322⇑ *e*P P 02 22 07.5 -0.7

NEEM North Greenlan 59.52 4 *i*P P 02 22 17.8 -0.8
NEEM IAmb IAmb 02 22 18.5
comp=Z,12nm,0.9s
ARCES ARCESS Array B 59.96 340 P P 02 22 21.2 -0.2
comp=Z,3.9nm,0.8s,baz=51,slow=5.2,SNR=8.8
comp=Z,3.9nm,0.8s
DAG Danmarks Havn 60.32 356 *i*P P 02 22 22.6 -1.1
KLMR Klimovskoe 60.97 328 *e*P P 02 22 25.2 -3.2
KLMR pmax pmax
comp=Z,21nm,1.3s
BELG Belogornoye 62.25 317 *ce*P P 02 22 36.8 -0.3
BELG pmax pmax
comp=Z,8.0nm,0.9s
WRA Warramunga Arr 63.44 193 P P 02 22 45.3 0.0
comp=Z,1.3nm,0.8s,baz=13,slow=7.0,SNR=7.1
comp=Z,1.3nm,0.8s
SUMG Summit 64.86 2 P P 02 22 54.9 +0.3
SUMG pmax pmax
comp=Z,21nm,1.2s
SUMG Summit 64.86 2 *i*P P 02 22 54.5 -0.1
SUMG IAmb IAmb 02 22 55.7
comp=Z,11nm,0.6s
MOS Moscow 64.92 324 *e*P P 02 22 53.3 -1.4
FINES FINESS Array B 65.49 333 P P 02 22 57.6 -0.7
comp=Z,10.0nm,0.8s,baz=42,slow=7.9,SNR=32
comp=Z,10.0nm,0.8s
FINES FINESS Array B 65.49 333 *i*P P 02 22 57.5 -0.8
FINES pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 65.78 324⇑ *i*P P 02 22 59.6 -0.7
OBN *PP pP 02 23 08.0 -1.9
OBN *i* *SP sP 02 23 12.8 -0.4
OBN 02 23 35.0
OBN 02 25 28.0
OBN SS SS 02 36 03.0 +4.9
OBN SSS SSS 02 38 50.0
OBN pmax pmax
comp=Z,23nm,1.0s
OBN MLR MLR
comp=Z,322nm,17.0s
OBN Obninsk 65.78 324 *e*P P 02 22 59.6 -0.7
VRH Novokhopyorsk 65.90 318 *e*P P 02 22 58.2 -2.9
VRH pmax pmax
comp=Z,20nm,1.0s
LPSR Galich'ya Gora 66.35 321 *e*P P 02 23 01.4 -2.6
LPSR pmax pmax
comp=Z,20nm,0.9s
SAQQ Saqqaq 66.69 7 *i*P P 02 23 05.1 -0.7
SAQQ IAmb IAmb 02 23 07.1
comp=Z,13nm,0.7s
VORR Voronezh 66.82 320 *e*P P 02 23 05.1 -1.9
VORR pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 67.13 319 *e*P P 02 23 05.6 -3.4
VSR pmax pmax
comp=Z,10.0nm,0.9s
ASAR Alice Springs 67.16 193 P P 02 23 09.9 +0.5
comp=Z,0.8nm,0.7s,baz=11,slow=4.9,SNR=6.9
comp=Z,0.8nm,0.7s
NVAR Mina Array Bea 68.49 57 P P 02 23 18.1 0.0
comp=Z,0.6nm,0.6s,baz=290,slow=7.1,SNR=5.2
comp=Z,0.6nm,0.6s
MNK Minsk 69.85 327 *i*P P 02 23 26.3 +0.4
MNK *i* 02 25 58.5
MNK *i* PPP PPP 02 27 42.2
MNK *i* S S 02 32 34.7 +1.9
MNK *i* SS SS 02 37 02.5 +1.6
MNK *i* SSS SSS 02 40 10.6
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK pmax pmax
comp=E,14nm,0.8s
MNK pmax pmax
comp=Z,28nm,0.9s
MNK MLR MLR
comp=N,201nm,16.0s
MNK MLR MLR
comp=Z,367nm,17.0s
MNK MLR MLR
comp=E,166nm,15.0s
KIV Kislovodsk 70.03 312 *e*P P 02 23 28.4 +1.0
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,326nm,18.0s
KBZ Khabaz 70.06 311 P P 02 23 28.3 +0.9
comp=Z,5.5nm,0.9s,baz=356,slow=1.5,SNR=7.1
comp=Z,5.5nm,0.9s
KBZ Khabaz 70.06 311*de*P P 02 23 28.5 +1.1
NB2 NORSAR Subarra 70.30 339 P P 02 23 27.8 -0.9
comp=Z,5.4nm,1.0s,baz=32,slow=6.5
NOA NORSAR Array B 70.30 339 P P 02 23 28.1 -0.6
comp=Z,9.3nm,0.9s,baz=34,slow=6.0,SNR=31
comp=Z,9.3nm,0.9s
HFS Hagfors 70.37 337 P P 02 23 28.2 -0.8
comp=Z,7.5nm,0.8s,baz=33,slow=7.2,SNR=21
comp=Z,7.5nm,0.8s
PDAR Pinedale Array 70.88 49 P P 02 23 32.6 -0.2
comp=Z,0.4nm,0.5s,baz=45,slow=0.6,SNR=5.2
comp=Z,0.4nm,0.5s
SOC Sochi 71.89 313 *e*P P 02 23 38.4 -0.1
SOC *e*PPP PPP 02 28 01.9
SOC *e*S S 02 32 58.1 +1.2
SOC *e*SSS SSS 02 40 45.5
SOC MLR MLR
comp=Z,263nm,21.0s
AKASG Malin Array Be 72.05 324 P P 02 23 39.3 0.0
comp=Z,2.3nm,0.3s,baz=42,slow=6.5,SNR=25
comp=Z,2.3nm,0.3s
AKBB Malin Array Si 72.05 324*de*P P 02 23 39.3 0.0
KIEV Kiev 72.06 324 P 02 23 39.1 -0.3
KIEV IAmb IAmb 02 23 40.0
comp=Z,14nm,1.1s
KIEV Kiev 72.06 324 P P 02 23 39.1 -0.3
KIEV pmax pmax
comp=Z,14nm,1.1s
PV19 Morning Glory 74.17 52 P P 02 23 52.9 +0.5
PV19 IAmb IAmb 02 24 08.3
comp=Z,11nm,1.0s
MARD Mardin 75.53 308 P 02 23 60.0 -0.2
MARD IAmb IAmb 02 24 02.5
comp=Z,10nm,0.9s
KWP Kalwaria Pacla 75.62 326 P P 02 24 00.5 +0.2
BURAR Bucovina Array 76.10 323 P 02 24 02.6 -0.6
OJC Ojcow 76.32 328 P P 02 24 05.1 +0.8
KOLS Kolonicke sedl 76.34 326 *e*P P 02 24 05.7 +1.3
KOLS pmax pmax
comp=Z,4.0nm,1.2s
LANS Liptovska Anna 77.30 327 *e*P P 02 24 10.8 +0.9
LANS pmax pmax
comp=Z,3.0nm,0.8s
CHVC Chvalec 77.44 330 *e*P P 02 24 11.1 +0.5
CHVC Chvalec 77.44 330 *e*P P 02 24 11.1 +0.5
UPC Upice 77.52 330 *e*P P 02 24 10.5 -0.5
UPC Upice 77.52 330 *e*P P 02 24 10.5 -0.5
DPC Dobruska-Polom 77.53 330 *e*P P 02 24 11.8 +0.6
DPC Dobruska-Polom 77.53 330 *e*P P 02 24 11.8 +0.6
MORC Moravsky Berou 77.55 329 P P 02 24 10.6 -0.6
MORC pmax pmax
comp=Z,5.0nm,2.0s
BRTR Keskin Array B 77.84 313 P P 02 24 13.4 +0.2
comp=Z,1.1nm,0.7s,baz=77,slow=3.1,SNR=7.4
comp=Z,1.1nm,0.7s
BRTR Keskin Array B 77.84 313*ce*P P 02 24 13.3 +0.1
BRTR pmax pmax
comp=Z,1.0nm,0.8s
VOIR 77.84 322 P P 02 24 13.5 +0.5
CLL Collm 77.92 332 *i*P P 02 24 13.2 0.0
CLL *e*PP sP 02 24 25.0 -1.3
CLL Collm 77.92 332 *i*P P 02 24 13.2 0.0
CLL *e*pP sP 02 24 25.0 -1.3
CLL *i* sP pwP 02 24 28.5 +1.6
CLL *e*PP PP 02 27 09.0 +0.4
PVCC Panska Ves 78.02 331 *e*P P 02 24 24.6 +11
PRU Pruhonice 78.48 331 *e*P P 02 24 17.8 +1.4
PRU Pruhonice 78.48 331 *e*P P 02 24 17.8 +1.4
MODS Modra-Piesok 78.79 328 *e*P P 02 24 19.3 +1.2
MODS pmax pmax
comp=Z,14nm,1.3s
EKA Eskdalemuir Ar 78.88 343 P P 02 24 18.0 -0.4
comp=Z,0.7nm,0.4s,baz=31,slow=5.1,SNR=8.5
comp=Z,0.7nm,0.4s
CKRC Cesky Krumlov 79.54 330 *e*P P 02 24 22.3 +0.1
CKRC Cesky Krumlov 79.54 330 *e*P P 02 24 22.3 +0.1
KHC Kasperske Hory 79.54 331 *e*P P 02 24 22.6 +0.3

KHC	Kasperske Hory	79.54	331	*e*P		P	02 24 22.6	+0.3
GERES	GERESS Array B	79.74	330	P		P	02 24 23.3	-0.1
	comp=Z,0.5nm,0.5s,baz=46,slow=8.4,SNR=4.9							
	comp=Z,0.5nm,0.5s							
RDO	Rodhopi	80.91	319	P		P	02 24 28.7	-0.9
RDO				IAmb		IAmb	02 24 45.8	
	comp=Z,10.0nm,1.2s							
MMAI	Mount Meron Ar	81.68	308	P		P	02 24 34.0	0.0
	comp=Z,5.1nm,0.8s,baz=8.9,slow=5.9,SNR=10							
	comp=Z,5.1nm,0.8s							
WATA	Walderalm	81.78	331	*e*P		P	02 24 35.2	+0.9
	comp=Z,1.9nm,0.4s							
WTTA	Wattenberg	81.82	331	*e*P		P	02 24 35.5	+0.9
	comp=Z,1.8nm,0.4s							
RETA	Reutte	81.94	331	*e*P		P	02 24 35.8	+0.7
	comp=Z,0.4nm,0.3s							
MOTA	Moosalm	81.94	331	*e*P		P	02 24 36.0	+0.7
	comp=Z,2.2nm,0.6s							
DAVA	Damuels	82.42	332	*e*P		P	02 24 39.2	+1.4
	comp=Z,1.1nm,0.4s							
TXAR	Lajitas Array	83.57	56	P		P	02 24 44.2	+0.3
	comp=Z,0.7nm,0.9s,baz=308,slow=4.0,SNR=5.2							
	comp=Z,0.7nm,0.9s							
TKL	Tuckaleechee C	89.43	39	P		P	02 25 12.5	0.0
	comp=Z,3.3nm,0.8s,baz=268,slow=2.2,SNR=3.7							
	comp=Z,3.3nm,0.8s							
ESDC	Sonseca Array	93.64	338	P		P	02 25 31.6	-0.4
	comp=Z,0.2nm,0.3s,baz=354,slow=2.6,SNR=2.2							
	comp=Z,0.2nm,0.3s							
TORD	Torodi Ar. Bea	115.64	321	PKP		PKiKP	02 30 56.8	-1.3
	comp=Z,0.7nm,0.9s,baz=20,slow=2.5,SNR=5.1							
QSPA	South Pole Qui	132.55	180	PKP		PKPdf	02 31 29.3	+0.5
	comp=Z,0.7nm,0.9s,baz=200,slow=2.9,SNR=1.7							
H03N2	Juan Fernandez	143.44	91	T		T	05 12 09.6	
	baz=301,slow=77,SNR=3.4							
H03N3	Juan Fernandez	143.46	91	T		T	05 12 16.8	
	baz=301,slow=77,SNR=3.4							
H03N1	Juan Fernandez	143.46	91	T		T	05 12 21.8	
	baz=301,slow=77,SNR=3.9							
NVL	N'lazarevskaya	144.12	204	*e*PKIKP		PKPab	02 31 45.3	-2.2
NVL				*e*			02 35 00.3	
NVL				*e*			02 38 53.7	
NVL				*e*SS		SS	02 53 42.5	-4.5
NVL				*i* SSS		SSS	02 59 08.5	
NVL				pmax		pmax		
	comp=Z,12nm,1.0s							
NVL				pmax		pmax		
	comp=N,269nm,18.5s							
SNAA	Sanae	147.42	197	PKPbc		PKPbc	02 31 57.3	-0.7
	comp=N,1.5nm,0.9s,baz=187,slow=2.9,SNR=4.4							
PLCA	Paso Flores	152.44	98	PKPbc		PKPbc	02 32 11.1	-0.2
	comp=N,0.6nm,0.7s,baz=342,slow=12,SNR=1.5							

SDD **26** *02:12:35.8±2.2, 19°.31N×67°.19W, h12km±25km, MD3.9, ML4.5, MW4.4*
IDC **26** *02:12:35.7±0.6, 19°.18N×67°.25W, h0km, mb3.8/11, mbtmp4.0/16, ML3.7/5, Error ellipse: s-maj=16.7km s-min=13.0km az=62.0*
OSPL **26** *02:12:37.9±2.7, 19°.18N×67°.22W, h12km±24km, ML4.2*
CATAC **26** *02:12:37.4±0.4, 19°.N±4°×6°.7W±°, h1km, M4.9/11, mb5.0/3, mB5.2/1, MLv4.8/11, Mw(mB)4.6/1, Error ellipse: s-maj=8.8km s-min=4.9km az=33.0, confirmed*
RSPR **26** *02:12:39.2, 19°.13N×67°.25W, h8km±31km, MD4.1/20*
NEIC **26** *02:12:39.4±1.8, 18°.99N±0°.03×67°.21W±0°.04, h10km±1km, mb4.3/23, ML4.4/23, ML4.2/20(RSPR), Error ellipse: s-maj=7.2km s-min=4.4km az=245.0*

ISC 26 02:12:38.8±1.3, 19°.12N±0°.04×67°.28W±0°.03, h23km±9km, n200, σ2°.03/223, mb4.2/20, 18C-18D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.67	166				Pb	02 12 51.0	-0.8
AGPR							Sb	02 13 01.0	+0.3
AGPR	Aguadilla, PR	0.67	166	||*i*P		Pb	02 12 51.0	-0.8
AGPR	Aguadilla, PR	0.67	166	*e*S			Sb	02 13 01.0	+0.3
AGPR	Aguadilla, PR	0.67	166	P			Pb	02 12 51.2	-0.6
AGPR				S			Sb	02 13 00.8	+0.1
AGPR	Aguadilla, PR	0.67	166	*e*Pg			Pb	02 12 51.2	-0.6
AGPR				⇑*e*Sg			Sn	02 13 02.0	-0.6
AGPR				IAML				02 13 06.2	
	comp=N,18μm,0.3s								
AGPR	Aguadilla, PR	0.67	166	*i* P			Pb	02 12 51.0	-0.8
AGPR				*e*S			Sb	02 13 00.9	+0.3
AGPR				IAML				02 13 02.1	
	comp=Z,11μm,0.3s								
IDE	Isla Desecheo	0.75	194				Pb	02 12 52.8	-0.4
IDE	Isla Desecheo	0.75	194	⇑*i*P			Pb	02 12 52.8	-0.4
PRSN	Puerto Rico Se	0.91	172				Pb	02 12 54.7	-1.2
PRSN	Puerto Rico Se	0.91	172				Sb	02 13 07.6	+0.1
PRSN	Puerto Rico Se	0.91	172	||*i*P		Pb	02 12 54.7	-1.2
PRSN	Puerto Rico Se	0.91	172	*e*S			Sb	02 13 07.6	+0.1
PRSN	Puerto Rico Se	0.91	172	*e*Pg			Pb	02 12 54.8	-1.1
PRSN				⇑*e*Sg			Sb	02 13 07.8	+0.2
PRSN				IAML				02 13 15.6	
	comp=N,23μm,0.2s								
AOPR	Arecibo Observ	0.91	147				Pb	02 12 54.3	-1.7
AOPR				IAML				02 13 18.4	
	comp=N,18μm,0.3s								
AOPR	Arecibo Observ	0.91	147				Sb	02 13 07.1	-0.7
AOPR	Arecibo Observ	0.91	147	||*i*P		Pb	02 12 54.3	-1.7
AOPR	Arecibo Observ	0.91	147	*e*S			Sb	02 13 07.1	-0.7
AOPR	Arecibo Observ	0.91	147	*e*P			Pb	02 12 54.1	-1.9
AOPR	Arecibo Observ	0.91	147	*e*			Pn	02 13 01.4	+5.0
AOPR	Arecibo Observ	0.91	147	⇑*e*Pg			Pb	02 12 54.6	-1.4
AOPR				⇑*e*Sg			Sb	02 13 08.1	+0.3
AOPR				IAML				02 13 18.4	
	comp=N,18μm,0.3s								
EMPR	Esperanza - Ma	0.95	132				Pb	02 12 55.0	-1.7
EMPR	Esperanza - Ma	0.95	132				Sn	02 13 10.6	+0.9
EMPR	Esperanza - Ma	0.95	132	||*e*P		Pb	02 12 55.1	-1.6
EMPR	Esperanza - Ma	0.95	132	*e*S			Sn	02 13 10.6	+0.9
LSP	Las Mesas	0.96	169				Pb	02 12 55.6	-1.1
LSP	Las Mesas	0.96	169	⇑*i*P			Pb	02 12 55.6	-1.1
UUPR	Utuado, UPR, P	1.01	148				Pn	02 12 55.6	-2.0
UUPR	Utuado, UPR, P	1.01	148				Sn	02 13 13.3	+2.1
UUPR	Utuado, UPR, P	1.01	148	||*e*P		Pn	02 12 55.8	-1.8
UUPR	Utuado, UPR, P	1.01	148	*e*S			Sn	02 13 13.3	+2.1
CRPR	Cabo Rojo, PR	1.12	172				Pn	02 12 57.9	-1.2
CRPR				IAML				02 13 14.9	
	comp=N,8μm,0.5s								
CRPR				IAML				02 13 20.4	
	comp=E,8μm,0.6s								
CRPR	Cabo Rojo, PR	1.12	172				Sb	02 13 13.4	-0.3
CRPR	Cabo Rojo, PR	1.12	172	||*i*P		Pn	02 12 58.0	-1.2
CRPR	Cabo Rojo, PR	1.12	172	*e*S			Sb	02 13 13.4	-0.3
CRPR	Cabo Rojo, PR	1.12	172	||*e*Pg		Pn	02 12 58.1	-1.0
CRPR				⇑*e*Sg			Sn	02 13 14.3	+0.5
CRPR				IAML				02 13 19.1	
	comp=N,9μm,0.6s								
CRPR	Cabo Rojo, PR	1.12	172	*i* P			Pn	02 12 58.0	-1.2
CRPR				*e*S			Sb	02 13 13.0	-0.6
CRPR				IAML				02 13 25.1	
	comp=Z,6μm,0.3s								
MLPR	Magueyes Islan	1.17	169	||*i*P		Pn	02 12 58.6	-1.1
MLPR	Magueyes Islan	1.17	169	*e*S			Sn	02 13 13.9	-1.0
MLPR	Magueyes Islan	1.17	169	||*e*Pg		Pn	02 12 58.8	-1.0
MLPR				⇑*e*Sg			Sb	02 13 17.2	+2.2
MLPR				IAML				02 13 21.3	
	comp=N,2μm,0.2s								
ECPR	Experimental S	1.18	132	||*e*P		Pn	02 12 58.0	-1.9
ECPR	Experimental S	1.18	132	*e*S			Sn	02 13 14.5	-0.7
GBPR	Guanica, Bosqu	1.20	162				Pn	02 12 59.2	-1.0
GBPR	Guanica, Bosqu	1.20	162	⇑*i*P			Pn	02 12 59.2	-1.0
CELP	Cerrillos	1.23	147				Pn	02 12 59.3	-1.4
CELP				IAML				02 13 16.1	
	comp=E,7μm,0.5s								
CELP				IAML				02 13 20.5	
	comp=N,9μm,0.4s								
CELP	Cerrillos	1.23	147				Sn	02 13 15.2	-1.4
CELP	Cerrillos	1.23	147	||*i*P		Pn	02 12 59.3	-1.4
CELP	Cerrillos	1.23	147	*e*S			Sn	02 13 15.2	-1.4
CELP	Cerrillos	1.23	147	⇑*e*Pg			Pn	02 12 59.6	-1.1
CELP				⇑*e*Sg			Sn	02 13 15.1	-1.4
CELP				IAML				02 13 19.2	
	comp=N,8μm,0.8s								
OBIP	Obispado Ponce	1.25	149				Pn	02 12 59.5	-1.3
OBIP				IAML				02 13 22.4	
	comp=N,10μm,0.6s								
OBIP	Obispado Ponce	1.25	149				Sn	02 13 15.4	-1.5
OBIP	Obispado Ponce	1.25	149	||*i*P		Pn	02 12 59.6	-1.3
OBIP	Obispado Ponce	1.25	149	*e*S			Sn	02 13 15.4	-1.5
GCPR	Guaynabo City	1.39	125				Pn	02 13 01.0	-1.9
GCPR	Guaynabo City	1.39	125				Sn	02 13 19.2	-1.3
GCPR	Guaynabo City	1.39	125	⇑*e*P			Pn	02 13 01.6	-1.3
GCPR	Guaynabo City	1.39	125	*e*S			Sn	02 13 19.2	-1.3
HGY1	Higuey	1.46	249	⇑*e*Pg			Pn	02 13 04.4	+0.6
HGY1				IAML				02 13 33.0	
	comp=N,919nm,0.5s								
HIDR	Higuey Centro	1.46	249	⇑*e*P			Pn	02 13 04.1	+0.2
HIDR	Higuey Centro	1.46	249	*e*S			Sb	02 13 24.8	+1.2
HIDR	Higuey Centro	1.46	249	||*e*Pg		Pn	02 13 04.3	+0.5
HIDR				*e*Sg			Sb	02 13 25.6	+2.1
HIDR				IAML				02 13 32.5	
	comp=N,4μm,1.1s								
SJG	San Juan	1.47	133				Pn	02 13 02.2	-1.6
SJG				IAML				02 13 29.5	
	comp=N,6μm,0.3s								
SJG	San Juan	1.47	133	Pn			Pn	02 13 02.2	-1.6
	comp=N,170nm,0.3s,baz=296,slow=9.3,SNR=319								
SJG				Sn			Sn	02 13 21.8	-0.5
	comp=N,588nm,0.3s,baz=294,slow=22,SNR=8.6								
SJG	San Juan	1.47	133	⇑*e*P			Pn	02 13 03.2	-0.7
SJG	San Juan	1.47	133	*e*S			Sn	02 13 21.4	-0.9
SJG	San Juan	1.47	133	*e*P			Pn	02 13 02.7	-1.2
SJG	San Juan	1.47	133	P			Pn	02 13 03.2	-0.7
SJG				S			Sn	02 13 20.0	-2.4
SJG	San Juan	1.47	133	*e*Pg			Pn	02 13 02.8	-1.0
SJG	San Juan	1.47	133	*i* P			Pn	02 13 03.2	-0.7
SJG				*e*S			Sn	02 13 22.3	0.0
SJG				IAML				02 13 28.4	
	comp=Z,3μm,0.3s								
IGPR	InterUniversit	1.60	136				Pn	02 13 04.7	-1.0
IGPR							Sn	02 13 26.5	+0.9
IGPR	InterUniversit	1.60	136	||*e*P		Pn	02 13 04.7	-1.0
IGPR	InterUniversit	1.60	136	*e*S			Sn	02 13 26.5	+0.9
IGPR	InterUniversit	1.60	136	P			Pn	02 13 04.6	-1.1
IGPR	InterUniversit	1.60	136	S			Sn	02 13 24.0	-1.6
PDPR	Patillas Dam,	1.62	132				Pn	02 13 04.5	-1.5
PDPR				IAML				02 13 31.4	
	comp=E,4μm,0.5s								
PDPR	Patillas Dam,	1.62	132	⇑*e*P			Pn	02 13 05.3	-0.6
PDPR	Patillas Dam,	1.62	132	*e*S			Sb	02 13 27.2	-0.8
HUMP	Col San Antoni	1.67	125				Pn	02 13 05.4	-1.3
MIDR	Miches	1.68	266	⇑*e*P			Pn	02 13 07.5	+0.6
SMDR	Samana, DR	1.81	276	⇑*e*P			Pn	02 13 08.4	-0.3
SMDR	Samana, DR	1.81	276	*e*Pg			Pn	02 13 08.7	0.0
SMDR				IAML				02 13 41.8	
	comp=N,2μm,0.6s								
SDD	Santo Domingo	2.58	256				Pn	02 13 21.2	+1.9
SDD				IAML				02 14 07.6	
	comp=N,1μm,1.6s								
SDD				IAML				02 14 08.6	
	comp=E,1μm,1.1s								
SDD	Santo Domingo	2.58	256	||*e*P		Pn	02 13 21.6	+2.4
SDD	Santo Domingo	2.58	256	P			Pn	02 13 19.3	0.0
SDD	Santo Domingo	2.58	256	*i* P			Pn	02 13 21.6	+2.4
DR08	Loma La Naviza	2.60	267	||*e*Pg		Pn	02 13 21.4	+1.9
DR08				⇑*e*Sg			Sb	02 13 54.5	-1.9
DR08				IAML				02 14 08.4	
	comp=N,19μm,0.2s								
SFDR	San Fco. de Ma	2.81	274	*e*Pg			Pn	02 13 24.3	+2.0
SFDR				*e*Sg			Sb	02 14 00.4	-1.9
SFDR				IAML				02 14 18.9	
	comp=N,3μm,0.5s								
ABDR	Alto Bandera	3.19	265	*i* P			Pn	02 13 26.3	-1.6
ABDR				⇑*e*Sg			Sb	02 14 13.8	+0.3
ABDR				IAML				02 14 24.6	
	comp=N,2μm,1.1s								
SC01	Santiago de lo	3.27	276				Pn	02 13 31.3	+2.5
SC01	Santiago de lo	3.27	276	⇑*e*P			Pn	02 13 31.3	+2.5
SC01	Santiago de lo	3.27	276	P			Pn	02 13 31.9	+3.1
SDDR	Presa de Saban	3.80	269				Pn	02 13 38.4	+2.4
SDDR	Presa de Saban	3.80	269	*e*P			Pn	02 13 38.3	+2.2
SDDR	Presa de Saban	3.80	269	||*e*P		Pn	02 13 38.2	+2.2
SDDR	Presa de Saban	3.80	269	*e*P			Pn	02 13 38.7	+2.7
SDDR	Presa de Saban	3.80	269	*e*S			Sb	02 14 35.1	+4.3
SDDR	Presa de Saban	3.80	269	P			Pn	02 13 38.9	+2.8
SDDR				S			Sb	02 14 36.6	+5.8
SDDR	Presa de Saban	3.80	269	*i* P			Pn	02 13 38.1	+2.1
SDDR				*e*Sg			Sb	02 14 31.3	+0.5
SDDR				IAML				02 14 42.2	
	comp=N,1μm,0.8s								
NEDR	Neiba UASD	3.97	262	||*e*Pg		Pb	02 13 46.0	-2.2
NEDR				⇑*e*Sg			Sb	02 14 38.5	+2.7
NEDR				IAML				02 14 51.9	
	comp=N,334nm,1.6s								
SABA	Saba	4.11	111				Pn	02 13 40.9	+0.6
SABA				IAML				02 14 46.0	
	comp=N,770nm,0.6s								
SABA	Saba	4.11	111	P			Pn	02 13 43.0	+2.7
SMRT	St. Maarten	4.12	104	IAML				02 14 33.4	
	comp=N,593nm,0.9s								
SMRT				IAML				02 14 35.6	
	comp=E,538nm,0.6s								
GRTK	Grand Turk	4.33	304	P			Pn	02 13 41.0	-2.3
GRTK	Grand Turk	4.33	304	*i* P			Pn	02 13 41.2	-2.1
GRTK				IAML				02 14 40.2	
	comp=Z,87nm,1.8s								
JIDR	Jimani	4.38	263	*e*Sg			Sb	02 14 48.4	+0.9
JIDR				IAML				02 15 24.5	
	comp=N,309nm,0.9s								
SEUS	St. Eustatius	4.39	111	P			Pn	02 13 46.3	+2.2
SKI	Saint Kitts	4.66	112	*e*P			Pn	02 13 47.9	0.0
PAPH	Port-au-Prince	4.79	264	*e*P			Pn	02 13 52.5	+2.8
PAPH	Port-au-Prince	4.79	264	P			Pn	02 13 55.2	+5.5
LGNH	Logne	5.08	264	P			Pn	02 13 55.5	+1.8
ANWB	Willy Bob	5.41	105	*e*P			Pn	02 13 57.5	-0.6
ANWB	Willy Bob	5.41	105	*e*			Sn	02 14 59.5	-0.3
DHSZ	Broadband at M	5.97	117	*e*P			Pn	02 14 06.4	+0.6
GDHS	Morne Mazeau,	5.97	117				Pn	02 14 06.1	+0.2
ATGZ	Broadband at L	6.09	119	*e*P			Pn	02 14 07.4	-0.1
MMLZ	Guadeloupe Bro	6.16	119	*e*P			Pn	02 14 08.8	+0.3
CBE	Ff, Capester	6.20	118				Pn	02 14 10.1	+1.0
CBE	Ff, Capester	6.20	118	P			Pn	02 14 08.1	-1.0
TBG	Guadaloupe-3	6.28	120	*e*P			Pn	02 14 11.3	+1.2
MAGL	Barre de l'Ile	6.53	118	Pn			Pn	02 14 14.6	+1.1
DSDZ	La Diserade, G	6.54	114	*e*P			Pn	02 14 14.0	+0.3
H05N1	Guadeloupe/Mar	6.55	114	Pn			Pn	02 14 13.6	-0.3
H05N1				Sn			Sn	02 15 28.5	+0.6
MASC	Masc	6.64	280	*e*P			Pn	02 14 12.6	-2.4
MASC				*e*S			Sn	02 15 24.3	-5.7
DSLB	Salisbury	6.69	122	*e*P			Pn	02 14 15.8	+0.1
DWS	Wesley	6.70	121	*e*P			Pn	02 14 15.0	-0.9
QMBU	Quimbuelo	7.18	280	*e*P			Pn	02 14 19.2	-3.3
QMBU				*e*S			Sn	02 15 37.0	-6.5
QMBU				IAML				02 15 40.1	
	comp=N,26nm,0.3s								
QMBU				IAML				02 15 40.7	
	comp=E,44nm,0.3s								
SVN	Savane Anatole	7.23	125				Pn	02 14 21.9	-1.4
FDF	Fort de France	7.31	126	P			Pn	02 14 26.3	+2.0
NMDO	Nuevo Mundo	7.39	282	*e*P			Pn	02 14 20.7	-4.7
GTBY	Guantanamo Bay	7.43	277	*e*P			Pn	02 14 24.9	-1.1
GTBY				*e*S			Sn	02 15 45.4	-4.2
GTBY				IAML				02 15 47.4	
	comp=E,15nm,0.3s								
GTBY				IAML				02 15 48.5	
	comp=E,12nm,0.2s								
BIM	Bigot	7.50	127				Pn	02 14 23.2	-3.8
MPOM	Morne Pois Mar	7.71	126				Pn	02 14 30.3	+0.6
H05S1	Guadeloupe/Mar	7.73	126	Pn			Pn	02 14 31.7	+1.6
H05S1				Sn			Sn	02 15 52.3	-4.7
RCC	Rio Carpintero	7.99	278	*e*P			Pn	02 14 31.5	-2.1
RCC				*e*S			Sn	02 15 58.1	-5.1
PINC	Pinares de May	8.13	281	*e*P			Pn	02 14 32.0	-3.5
PINC				*e*S			Sn	02 15 59.6	-7.2
PINC				IAML				02 16 04.5	
	comp=N,7.4nm,0.2s								
PINC				IAML				02 16 04.8	
	comp=E,8.8nm,0.2s								
MARVS	Santiago de Cu	8.18	278	*e*P			Pn	02 14 34.5	-1.7
MARVS				*e*S			Sn	02 16 02.1	-5.9
MARVS				IAML				02 16 15.1	
	comp=N,13nm,0.4s								
MARVS				IAML				02 16 15.5	
	comp=E,14nm,0.5s								
HLGC	Holguin	8.44	284	*e*P			Pn	02 14 37.9	-2.0
YAR	Yar	8.64	280	*e*P			Pn	02 14 39.9	-2.7
LMGC	Las Mercedes	9.22	277	*e*P			Pn	02 14 48.0	-2.5
LMGC				*e*S			Sn	02 16 27.8	-5.7
PCRV	Puerto La Cruz	9.25	164	Pn			Pn	02 14 50.9	0.0
	comp=E,3.2nm,0.3s,baz=358,slow=9.8,SNR=23								
PCRV				Sn			Sn	02 16 30.7	-3.7
	comp=E,5.8nm,0.3s,baz=297,slow=12,SNR=4.3								
	comp=E,19nm,0.5s								
BAUV	El Baul	10.14	184				Pn	02 15 04.0	+0.9
SDV	Santo Domingo	10.68	198				Pn	02 15 11.0	+0.3
SDV	Santo Domingo	10.68	198	Pn			Pn	02 15 11.3	+0.6
	comp=E,2.3nm,0.3s,baz=3.0,slow=12,SNR=5.8								
SDV				Sn			Sn	02 17 06.5	-3.2
	comp=E,2.0nm,0.3s,baz=328,slow=24,SNR=3.8								
	comp=E,8.6nm,0.5s								
BRJC	Barrancabermej	13.61	208	P			Pn	02 15 48.1	-2.6
UREC	San Jos de Ur	13.86	216	P			Pn	02 15 55.1	+1.1
RUSC	La Rusia	14.31	204				Pn	02 16 00.6	0.0
PTBC	PUERTO BERRIO,	14.32	210	P			Pn	02 15 59.1	-1.3
DBBC	Dabeiba	14.84	217	P			Pn	02 16 09.5	+2.0
SPBC	San Pablo de B	14.93	207	P			Pn	02 16 07.7	-1.1
HELC	Santa Helena	15.16	213	P			Pn	02 16 11.0	-1.0
NORC	Norcasia	15.37	210	P			Pn	02 16 13.8	-0.7
CBOC	Ciudad Bolivar	15.68	214	P			Pn	02 16 16.9	-1.8
ROSC	El Rosal	15.77	207	Pn			Pn	02 16 21.8	+1.8
	comp=E,2.6nm,0.3s,baz=9.6,slow=22,SNR=11								
	comp=E,9.0nm,0.6s								
ROSC	El Rosal	15.77	207	P			P	02 16 22.2	-1.6
GUY2C	Guyana, Caldas	15.90	211	P			Pn	02 16 21.8	0.0
ORTC	Ortega, Tolima	17.00	208	P			Pn	02 16 30.3	-5.1
PRAC	Prado	17.02	207	P			Pn	02 16 34.1	-1.5
URMC	La Uribe, Meta	17.24	205	P			Pn	02 16 38.6	+0.3
BOAV	Boa Vista	17.89	158				P	02 16 47.0	+0.2
CSU	Charleston Sou	17.94	323				P	02 16 51.0	+3.7
NHSC	New Hope	18.09	323	P			P	02 16 52.0	+3.0
POPC	Popayan, Colom	18.87	210	P			Pn	02 17 00.3	+1.7
	comp=E,21nm,1.1s								
JTS	Las Juntas de	19.20	245	P			Pn	02 17 03.5	+1.1
	comp=E,0.4nm,0.3s,baz=342,slow=9.2,SNR=4.7								
	comp=E,6.3nm,0.8s								
FLOC	Florencia	19.26	206				P	02 17 02.2	+0.2
FLOC				IAmb			IAmb	02 17 20.6	
	comp=Z,36nm,1.0s								
FLOC	Florencia	19.26	206	P			Pn	02 17 02.8	-0.3
	comp=Z,39nm,0.9s								
BIRD	Birdtown, Kers	19.40	326				Pn	02 17 03.7	+2.8
BIRD				IAmb			IAmb	02 17 13.9	
	comp=Z,17nm,0.9s								
W57A	Gilead	19.54	327	IAmb			IAmb	02 17 52.0	
	comp=Z,10.0nm,0.8s								
JSC	Jenkinsville	19.57	323	IAmb			IAmb	02 17 22.6	
	comp=Z,12nm,0.7s								
BBAC	Balboa, Cauca	19.60	211	P			P	02 17 05.5	-0.4
	comp=Z,15nm,0.9s								
T59A	Double "B" Far	19.94	335				Pn	02 17 10.8	-0.1
MDP	Montagnes des	19.95	132	P			P	02 17 10.1	+0.7
	comp=Z,0.4nm,0.3s,baz=324,slow=11,SNR=5.8								
	comp=Z,5.0nm,0.6s								
T57A	Hurt	20.68	332				Pn	02 17 20.6	+1.0
CMBC	Cumbal	20.82	211	P			Pn	02 17 26.9	+5.0
S57A	Dark Hollow, R	21.19	334	P			P	02 17 26.1	+3.3
S57A				IAmb			IAmb	02 18 02.5	
	comp=Z,9.3nm,0.4s								
TKL	Tuckaleechee C	21.99	322	P			P	02 17 42.8	+11
	comp=Z,4.6nm,0.4s,baz=166,slow=10,SNR=16								
TKL				S			S	02 21 26.3	-6.8
	comp=Z,4.9nm,0.5s,baz=228,slow=19,SNR=5.0								
CCIG	Comitan	23.84	267	P			P	02 17 52.0	+1.2
MAL2	Monte Alegre,	24.64	147	P			P	02 17 58.4	+0.5
BRDY	Brady	31.04	299	P			P	02 19 00.6	+5.4
BRDY				IAmb			IAmb	02 19 02.1	
	comp=Z,2.6nm,0.8

ORTC				S	Sn	02 19 58.2	-0.5	
OCAC	**Ocana**	**3.88**	**75**	P	Pn	02 19 16.4	+0.3	
OCAC				S	Sn	02 19 59.8	-0.8	
PRAC	**Prado**	**4.16**	**148**	P	Pn	02 19 20.5	+0.6	
RUSC	**La Rusia**	**4.22**	**109**	P	Pn	02 19 21.3	+0.1	
RUSC				S	Sn	02 20 08.9	-0.6	
PAMC	**Pamplona, Colo**	**4.38**	**89**	P	Pn	02 19 23.8	+0.6	
PAMC				S	Sn	02 20 12.8	-0.4	
POPC	**Popayan, Colom**	**4.71**	**175**	P	Pn	02 19 27.3	-0.3	
POPC				S	Sn	02 20 20.4	-0.7	
BBAC	**Balboa, Cauca** 7.2nm,0.7s	**5.21**	**182**	P	Pn	02 19 35.0	+0.6	
CRJC	**Cerrejon, Guaj** 9.6nm,0.7s	**5.60**	**48**	P	Pn	02 19 38.7	-1.0	
CRJC				S	Sn	02 20 39.1	-3.8	
	9.6nm,0.7s							
FLOC	**Florencia** 7.5nm,1.1s	**5.82**	**165**	P	Pn	02 19 42.4	-0.3	
URIC	**Uribia, Colomb**	**6.71**	**48**	P	Pn	02 19 54.2	-0.6	
URIC				S	Sn	02 21 07.4	-2.6	

IDC ***26*** *02:20:08.8±2.2,3.°60S×128.°30E, h0km, mb3.9/4, mbtmp3.9/5, ML3.0/1, Error ellipse: s-maj=161.0km s-min=25.9km az=74.0*
DJA ***26*** *02:20:11.4±0.4,4.°5S×12.°8E±.°, h10km, M3.8/4, MLv3.8/4*
NEIC ***26*** *02:20:13.5±1.5,3.°92S±0.°09×128.°6E±0.°1, h10km±2km, mb4.3/9, Error ellipse: s-maj=18.7km s-min=14.9km az=245.0*

ISC 26 02:20:11.4±1.0, 3.°73S±0.°08×128.°40E±0.°04, h13km±7km, n21, σ1§42/24, mb4.1/6, Seram

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.21**	**283**	P	**Pg**		**02 20 16.2**	**+0.2**
AAI				S	**Sg**		**02 20 19.3**	**+0.2**
MSAI	**Masohi**	**0.66**	**54**	P	**Pg**		**02 20 23.7**	**-0.5**
MSAI				S	**Sg**		**02 20 32.0**	**-0.9**
NLAI	**Namlea**	**1.38**	**291**	P	**Pn**		**02 20 36.3**	**-0.1**
NLAI				S	**Sn**		**02 20 54.4**	**-0.2**
FAKI	**Fak Fak**	**3.93**	**78**	Pn	**Pn**		**02 21 12.9**	**+1.4**
KNRA	**Kununurra**	**11.88**	**178**	Pn	**Pn**		**02 23 00.7**	**+0.2**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=12,slow=9.4,SNR=2.5 1.8nm,0.8s	**14.53**	**191**	Pn	**Pn**		**02 23 36.5**	**-0.3**
PBKI	**Pangkalan Bun**	**16.73**	**273**	P	**P**		**02 24 07.3**	**-0.7**
WB0	**Warramunga Arr**	**16.98**	**160**	Pn	**Pn**		**02 24 07.0**	**-1.8**
WRA	**Warramunga Arr** 5.8nm,0.9s,baz=339,slow=13,SNR=15	**17.12**	**161**	P	**Pn**		**02 24 07.4**	**-3.2**
WR8	**Warramunga Arr**	**17.19**	**160**	Pn	**Pn**		**02 24 10.7**	**-0.8**
COEN	**Coen**	**17.77**	**126**		**Pn**		**02 24 18.4**	**-0.4**
COEN	comp=Z,28nm,1.4s			IAmb	IAmb		02 24 18.9	
AS31	**Alice Springs**	**20.52**	**165**		**P**		**02 24 49.7**	**+0.1**
AS31	comp=Z,7.4nm,0.7s			IAmb	IAmb		02 24 54.1	
ASAR	**Alice Springs** comp=Z,21nm,0.8s,baz=346,slow=11,SNR=48 comp=Z,21nm,0.8s	**20.52**	**165**	P	**P**		**02 24 50.7**	**+1.2**
FORT	**Forrest**	**26.90**	**181**	P	**P**		**02 25 52.2**	**0.0**
FORT	comp=Z,6.5nm,1.1s			IAmb	IAmb		02 26 01.8	
MAJO	**Matsushiro**	**41.10**	**12**	P	**P**		**02 27 57.0**	**+2.0**
MAJO	comp=Z,9.1nm,1.1s			IAmb	IAmb		02 28 04.3	
MJB9	**Matsu-Tunnel**	**41.10**	**12**	P	**P**		**02 27 58.0**	**+2.9**
MJB9	comp=Z,8.1nm,1.1s			IAmb	IAmb		02 28 05.3	
DZM	**Mont Dzumac**	**41.14**	**120**	P	**P**		**02 27 55.3**	**-0.4**
MRZ	**Mangatainoka R**	**56.09**	**138**	P	**P**		**02 29 51.5**	**+1.0**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.5s,baz=114,slow=7.1,SNR=3.8 comp=Z,0.3nm,0.5s	**64.64**	**327**	P	**P**		**02 30 48.2**	**-0.6**
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.3s,baz=126,slow=7.4,SNR=1.6 comp=Z,0.4nm,0.3s	**67.97**	**334**	P	**P**		**02 31 07.7**	**-2.2**
KURBB	**Kurchatov Arra** comp=Z,0.4nm,0.6s,baz=132,slow=5.6,SNR=5.5 comp=Z,0.4nm,0.6s	**68.91**	**329**	P	**P**		**02 31 14.4**	**-1.5**

IDC ***26*** *02:22:23.8±10.0, 11.°33S×165.°82E, h146km±107km, mb3.4/6, mbtmp3.9/7, ML4.2/1, Error ellipse: s-maj=73.4km s-min=24.5km az=164.0*

ISC 26 02:22:24.2±0.9, 11.°33S±0.°10×165.°8E±0.°2, h150km, n14, σ1§11/9, mb3.6/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 1.9nm,0.3s,baz=356,slow=19,SNR=19	**10.70**	**177**	P		**Pn**	**02 24 52.2**	**-1.4**
DZM	2.5nm,0.5s,baz=317,slow=24,SNR=1.2 6.4nm,0.4s			S		**Sn**	**02 26 53.7**	**+1.6**
H11S2	**WAKE ISLAND Hy 29.64** baz=181,slow=76,SNR=7.3		**2**	T		T	02 58 37.5	
H11S3	**WAKE ISLAND Hy 29.64** baz=181,slow=76,SNR=3.6		**2**	T		T	02 58 33.2	
H11S1	**WAKE ISLAND Hy 29.66** baz=181,slow=76,SNR=3.7		**2**	T		T	02 58 38.6	
H11N1	**WAKE ISLAND Hy 30.86** baz=182,slow=76,SNR=3.7		**2**	T		T	02 59 56.7	
H11N3	**WAKE ISLAND Hy 30.87** baz=182,slow=76,SNR=3.7		**2**	T		T	03 00 05.6	
H11N2	**WAKE ISLAND Hy 30.88** baz=182,slow=76,SNR=4.1		**2**	T		T	03 00 11.9	
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=75,slow=8.4,SNR=5.6 0.7nm,0.5s	**31.42**	**250**	P		**P**	**02 28 32.1**	**+0.6**
ASAR	**Alice Springs** 1.2nm,0.8s,baz=75,slow=8.8,SNR=10 1.2nm,0.8s	**32.70**	**244**	P		**P**	**02 28 42.8**	**+0.1**
FITZ	**Fitzroy Crossi** 1.7nm,0.9s,baz=96,slow=13,SNR=2.4 1.7nm,0.9s	**39.34**	**255**	P		**P**	**02 29 39.2**	**0.0**
SONM	**Songino Array** 0.4nm,0.5s,baz=116,slow=6.6,SNR=2.3 0.4nm,0.5s	**78.91**	**324**	P		**P**	**02 34 11.6**	**+0.5**
ILAR	**Eielson Array** 0.8nm,0.8s,baz=231,slow=5.6,SNR=6.5 0.8nm,0.8s	**83.77**	**18**	P		**P**	**02 34 36.2**	**0.0**
NVAR	**Mina Array Bea** 0.7nm,0.9s,baz=243,slow=4.1,SNR=3.7 0.7nm,0.9s	**86.17**	**50**	P		**P**	**02 34 49.8**	**+0.7**
ARCES	**ARCESS Array B** 6.0nm,1.2s,baz=60,slow=2.2,SNR=2.1	**116.61**	**345**	PKP		**PKPdf**	**02 40 48.7**	**-1.3**

IDC 26 02:24:19.2±1.7, 3.°17S×129.°07E, h0km, mb3.8/4, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=107.6km s-min=22.8km az=72.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=14,slow=8.3,SNR=8.0 1.3nm,0.6s	**15.21**	**193**	Pn		Pn	02 27 56.8	+1.3
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=342,slow=12,SNR=8.1 2.2nm,0.8s	**17.45**	**163**	P		Pn	02 28 24.9	+0.6
ASAR	**Alice Springs** 8.9nm,0.8s,baz=347,slow=11,SNR=37 8.9nm,0.8s	**20.91**	**167**	P		P	02 29 02.9	-0.6
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=126,slow=7.3,SNR=3.1 0.2nm,0.5s	**64.54**	**326**	P		P	02 34 57.7	-0.5
KURBB	**Kurchatov Arra** 0.6nm,0.8s,baz=138,slow=5.6,SNR=6.3 0.6nm,0.8s	**68.78**	**328**	P		P	02 35 25.9	+0.8
QSPA	**South Pole Qui** 0.8nm,0.9s,baz=336,slow=1.9,SNR=1.8 0.8nm,0.9s	**86.78**	**180**	P		P	02 37 04.7	-0.7

IDC ***26*** *02:34:19.1±0.8,31.°55S×179.°81E, h425km±8km, mb3.3/8, mbtmp4.2/11, Error ellipse: s-maj=17.7km s-min=13.7km az=130.0*
WEL ***26*** *02:34:23.4±0.7,32.°5S±5.°×18.°0W±1.°3, h370km±11km, mB5.0/12, ML5.5/8, MLv5.2/19, Mw(mB)4.2/12, Error ellipse: s-maj=18.2km s-min=3.9km az=107.9, confirmed*

ISC 26 02:34:18.9±0.6, 31.°70S±0.°06×180.°0W±0.°1, h400km, n59, σ2§38/74, mb3.6/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.02**	**37**	P		**Pn**	**02 35 23.1**	**+0.7**
GLKZ				S		**S**	**02 36 16.6**	**+3.0**
RAO	**Raoul Island** 170nm,0.3s,baz=88,slow=23,SNR=1.8	**3.02**	**37**	P		**Pn**	**02 35 24.3**	**+1.9**
RAO	790nm,0.3s,baz=262,slow=22,SNR=8.7			S		**S**	**02 36 17.7**	**+4.0**
RIZ	**Raoul Island**	**3.02**	**37**	P		**Pn**	**02 35 22.5**	**+0.1**
RIZ				S		**S**	**02 36 15.3**	**+1.6**
MXZ	**Matakaoa Point**	**6.01**	**193**	P		**Pn**	**02 35 53.7**	**+2.2**
MXZ				S		**S**	**02 37 07.4**	**+0.3**
KUZ	**Kuaotunu**	**6.16**	**214**	P		**Pn**	**02 35 57.0**	**+3.9**
WMGZ	**Waiomatatini S**	**6.25**	**192**	P		**Pn**	**02 35 56.3**	**+2.2**
WMGZ				S		**S**	**02 37 12.0**	**+0.3**
HAZ	**Te Kaha**	**6.31**	**196**	P		**Pn**	**02 35 54.9**	**+0.1**
HAZ				S		**S**	**02 37 13.6**	**+0.5**
WCZ	**Waipu Caves**	**6.33**	**227**	P		**Pn**	**02 35 58.8**	**+3.7**
PKGZ	**Pakihiroa**	**6.35**	**194**	P		**Pn**	**02 35 57.5**	**+2.2**
PKGZ				S		**S**	**02 37 15.4**	**+1.4**
OUZ	**Omahuta**	**6.41**	**235**	P		**Pn**	**02 35 59.4**	**+3.5**
PUZ	**Puketiti**	**6.52**	**192**	P		**Pn**	**02 35 59.7**	**+2.5**
PUZ				S		**S**	**02 37 16.8**	**-0.5**
RUGZ	**Raukumara Rang**	**6.54**	**196**	P		**Pn**	**02 35 59.8**	**+2.4**
RUGZ				S		**S**	**02 37 18.0**	**+0.1**
TWGZ	**Tauwhareparae**	**6.67**	**194**	P		**P**	**02 36 01.2**	**+1.7**
TWGZ				S		**S**	**02 37 22.2**	**+1.7**
MKAZ	**Moumakai**	**6.72**	**215**	P		**P**	**02 36 04.5**	**+4.6**
OPRZ	**Ohinepanea**	**6.76**	**204**	P		**P**	**02 36 03.9**	**+3.5**
OPRZ				S		**S**	**02 37 23.6**	**+1.5**
MWZ	**Matawai**	**6.92**	**196**	P		**P**	**02 36 03.4**	**+1.2**
MWZ				S		**S**	**02 37 23.5**	**-2.1**
CNGZ	**Carnagh Statio**	**6.93**	**192**	P		**P**	**02 36 03.9**	**+1.6**
CNGZ				S		**S**	**02 37 27.6**	**+2.0**
AWAZ	**Awhitu Peninsu**	**6.95**	**218**	P		**P**	**02 36 06.1**	**+3.6**
TKGZ	**Te Karaka**	**6.95**	**194**	P		**P**	**02 36 04.1**	**+1.6**
TKGZ				S		**S**	**02 37 24.8**	**-1.3**
URZ	**Urewera** 62nm,0.3s,baz=270,slow=4.0,SNR=94	**6.96**	**199**	P		**Pn**	**02 36 02.3**	**+0.3**
URZ	106nm,0.6s,baz=207,slow=23,SNR=16			S		**S**	**02 37 26.8**	**+0.5**
URZ	**Urewera**	**6.96**	**199**	P		**Pn**	**02 36 02.5**	**+0.5**
URZ				S		**S**	**02 37 23.8**	**-2.5**
TOZ	**Tahuroa Road**	**7.07**	**210**	P		**P**	**02 36 08.4**	**+4.6**
RAGZ	**Rawiri**	**7.11**	**197**	P		**P**	**02 36 04.5**	**+0.2**
RAGZ				S		**S**	**02 37 27.4**	**-2.0**
RIGZ	**Rimuhau**	**7.23**	**194**	P		**P**	**02 36 07.4**	**+1.7**
RIGZ				S		**S**	**02 37 32.7**	**+0.8**
MUGZ	**Murupara**	**7.26**	**201**	P		**P**	**02 36 06.8**	**+0.8**
HRRZ	**Handcock Road**	**7.34**	**204**	P		**P**	**02 36 09.2**	**+2.4**
SNGZ	**Shannon Statio**	**7.40**	**196**	P		**P**	**02 36 10.2**	**+2.7**
SNGZ				S		**S**	**02 37 34.9**	**-0.4**
PRGZ	**Paritu Road**	**7.41**	**193**	P		**P**	**02 36 09.8**	**+2.2**
PRGZ				S		**S**	**02 37 33.3**	**-2.4**
KNZ	**Kokohu**	**7.55**	**194**	P		**P**	**02 36 10.9**	**+1.7**
KNZ				S		**S**	**02 37 35.0**	**-3.5**
RAHZ	**Arahi**	**7.59**	**198**	P		**P**	**02 36 10.8**	**+1.2**
MTHZ	**Maungataniwha**	**7.59**	**199**	P		**P**	**02 36 11.8**	**+2.1**
MHGZ	**Mahia Peninsul**	**7.63**	**192**	P		**P**	**02 36 12.1**	**+2.0**
MHGZ				S		**S**	**02 37 40.2**	**0.0**
DZM	**Mont Dzumac** 12nm,0.9s,baz=177,slow=16,SNR=6.8	**15.43**	**305**	P		**P**	**02 37 33.7**	**-2.5**
STKA	**Stephens Creek** 2.8nm,0.8s,baz=104,slow=13,SNR=5.0 2.8nm,0.8s	**32.54**	**259**	P		**P**	**02 40 12.8**	**-1.9**
ASAR	**Alice Springs** 1.5nm,0.7s,baz=105,slow=7.4,SNR=14 1.5nm,0.7s	**41.36**	**269**	P		**P**	**02 41 24.8**	**-3.3**
WRA	**Warramunga Arr** 1.8nm,0.3s,baz=113,slow=7.5,SNR=22	**42.47**	**275**	P		P	02 41 33.2	-3.7
WRA	0.7nm,0.6s,baz=130,slow=3.3,SNR=4.9			PcP		**PcP**	**02 43 18.9**	**-2.4**
WRA	0.7nm,0.9s,baz=116,slow=3.0,SNR=2.6			ScP		**ScP**	**02 46 27.8**	**-5.3**
WRA	0.3nm,0.7s,baz=112,slow=14,SNR=2.1 1.8nm,0.3s			S		S	02 47 19.5	-9.1
QSPA	**South Pole Qui** 0.5nm,0.5s,baz=70,slow=2.3,SNR=7.5 0.5nm,0.5s	**58.41**	**180**	P		**P**	**02 43 33.5**	**-0.6**
SNAA	**Sanae** 0.7nm,0.7s,baz=17,slow=22,SNR=2.3 0.7nm,0.7s	**76.90**	**179**	P		**P**	**02 45 26.5**	**-1.4**
H03S2	**Juan Fernandez** baz=239	**81.16**	**124**	T		T	04 16 36.4	
H03S1	**Juan Fernandez** baz=239	**81.17**	**124**	T		T	04 16 12.5	
H03S3	**Juan Fernandez** baz=239	**81.18**	**124**	T		T	04 16 06.0	
H03N3	**Juan Fernandez** baz=240	**81.36**	**124**	T		T	04 16 10.4	
H03N2	**Juan Fernandez** baz=240	**81.37**	**124**	T		T	04 16 12.6	
H03N1	**Juan Fernandez** baz=240	**81.38**	**124**	T		T	04 16 20.3	
KSRS	**Korea Array** 1.1nm,0.6s,baz=140,slow=5.4,SNR=5.1 1.1nm,0.6s	**84.25**	**321**	P		P	02 46 03.5	-3.2
USRK	**Ussuriysk Ar.** 1.7nm,0.7s,baz=128,slow=2.4,SNR=2.0 1.7nm,0.7s	**87.32**	**328**	P		P	02 46 18.4	-3.0
NVAR	**Mina Array Bea** 0.6nm,0.7s,baz=222,slow=9.0,SNR=5.2 0.6nm,0.7s	**90.35**	**44**	P		**P**	**02 46 34.4**	**-1.6**
KURBB	**Kurchatov Arra** 0.8nm,0.6s,baz=96,slow=2.3,SNR=8.4	**120.74**	**313**	PKP		**PKPdf**	**02 52 19.7**	**-4.0**
BVAR	**Borovoye Array** 0.9nm,0.6s,baz=90,slow=2.9,SNR=4.0	**126.13**	**315**	PKP		**PKPdf**	**02 52 30.9**	**-3.0**
ARCES	**ARCESS Array B** 2.5nm,0.8s,baz=56,slow=1.4,SNR=7.4	**139.47**	**347**	PKhKP		PKPpre	02 52 46.9	
KBZ	**Khabaz** 0.7nm,0.5s,baz=306,slow=4.2,SNR=3.6	**144.38**	**302**	PKP		PKPbc	02 53 03.5	-3.9
FINES	**FINESS Array B** 7.1nm,0.6s,baz=45,slow=4.5,SNR=66	**145.74**	**338**	PKPbc		**PKPdf**	**02 53 07.4**	**-2.3**
NB2	**NORSAR Subarra** comp=Z,0.9nm,0.5s,baz=17,slow=2.6	**149.74**	**349**	PKP		**PKPdf**	**02 53 18.2**	**+1.8**
NOA	**NORSAR Array B** comp=Z,1.1nm,0.5s,baz=17,slow=4.2,SNR=12	**149.74**	**349**	PKPbc		**PKPdf**	**02 53 18.1**	**+1.8**
NOA	comp=Z,1.0nm,0.6s,baz=25,slow=4.1,SNR=7.1			PKPab		**PKiKP**	**02 53 24.6**	**+2.2**
HFS	**Hagfors** comp=Z,1.4nm,0.4s,baz=126,slow=2.0,SNR=20	**150.14**	**346**	PKPbc		**PKPdf**	**02 53 18.7**	**+1.7**
HFS	comp=Z,2.2nm,0.4s,baz=57,slow=5.5,SNR=16			PKPab		**PKiKP**	**02 53 26.1**	**+2.9**
MMAI	**Mount Meron Ar** comp=Z,1.4nm,0.4s,baz=103,slow=3.7,SNR=5.7	**150.16**	**282**	PKPbc		**PKPdf**	**02 53 21.3**	**+3.3**
AKASG	**Malin Array Be** comp=Z,0.6nm,0.4s,baz=49,slow=3.2,SNR=4.8	**151.24**	**320**	PKPbc		**PKPdf**	**02 53 21.8**	**+2.8**
BRTR	**Keskin Array B** comp=Z,0.5nm,0.5s,baz=156,slow=4.1,SNR=5.7	**151.67**	**296**	PKPbc		**PKPdf**	**02 53 23.1**	**+2.9**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.7s,baz=173,slow=4.5,SNR=2.0	**161.47**	**185**	PKPab		**PKPab**	**02 54 17.8**	**-2.1**

KRSC 26 02:34:59.6±1.2, 56.°14N×164.°37E, h19km±17km, Ml4.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	ID Op	ID ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.87**	**275**	*e*P	Pb	02 35 16.0	-0.1
KBTR				*e*S	Sb	02 35 27.0	-0.4
KBG	**Krutoberegovo**	**0.94**	**278**	*e*P	Pb	02 35 17.1	-0.1
KBG				*e*S	Sb	02 35 28.7	-0.6
BKI	**Bering**	**1.30**	**135**	*e*P	Pg	02 35 24.2	-0.5
BKI				*e*S	Sg	02 35 41.0	-0.7
SMKR	**Semkarok**	**1.68**	**287**	*e*P	Pb	02 35 29.7	-0.1
SMKR				*e*S	Sn	02 35 49.6	+0.6
BDR	**Baidarnaya**	**1.81**	**285**	*e*S	Sb	02 35 54.1	-0.4
ZLN	**Zelenaya**	**2.00**	**268**	*e*P	Pb	02 35 34.7	-0.8
ZLN				*e*S	Sb	02 36 00.2	+0.1
CIRR	**Tsirk**	**2.03**	**271**	*e*P	Pb	02 35 35.0	-0.9
CIRR				*e*S	Sb	02 36 00.8	0.0
LGNR	**Loginova**	**2.06**	**270**	*e*S	Sb	02 36 00.4	-1.5
BZGR	**Bezymyannyi-Gr**	**2.07**	**266**	*e*P	Pb	02 35 35.5	-1.1
BZGR				*e*S	Sb	02 36 00.7	-1.3
KLY	**Klyuchi**	**2.08**	**276**	*e*P	Pn	02 35 33.8	+0.3
KLY				*e*S	Sn	02 35 57.7	-1.1
BZP	**Bezymyannyi-Pe**	**2.16**	**266**	*e*P	Pb	02 35 36.9	-1.3
BZP				*e*S	Sb	02 36 03.6	-1.1
BZWR	**Bezymyannyi-We**	**2.18**	**267**	*e*P	Pb	02 35 37.5	-1.0
BZWR				*e*S	Sb	02 36 04.5	-0.7
BZMR	**Bezymyannaya**	**2.19**	**266**	*e*P	Pb	02 35 37.3	-1.3
BZMR				*e*S	Sb	02 36 04.2	-1.2
MKZ	**Mys Kozlova**	**2.19**	**225**	*e*P	Pn	02 35 36.6	+1.7
MKZ				*e*S	Sn	02 36 01.7	+0.4
KIRR	**Kirishev**	**2.27**	**267**	*e*P	Pb	02 35 38.4	-1.6
KIRR				*e*S	Sb	02 36 06.3	-1.3
KPT	**Kopyto**	**2.33**	**268**	*e*P	Pb	02 35 39.6	-1.4
KPT				*e*S	Sb	02 36 08.1	-1.4
KMNR	**Kamenistaya**	**2.36**	**262**	*e*P	Pb	02 35 39.9	-1.6
KMNR				*e*S	Sb	02 36 08.8	-1.4
TUMD	**Tumrok D**	**2.44**	**249**	*e*P	Pb	02 35 40.6	-2.1
TUMD				*e*S	Sb	02 36 10.0	-2.4
KOZ	**Kozyrevsk**	**2.52**	**270**	*e*P	Pb	02 35 42.3	-1.9
KOZ				*e*S	Sb	02 36 13.8	-1.0
SRDR	**Sredinnyy**	**2.60**	**276**	*e*P	Pb	02 35 43.4	-2.3
SRDR				*e*S	Sn	02 36 14.4	+2.6
ESO	**Esso**	**3.19**	**269**	*e*P	Pn	02 35 51.5	+2.8
ESO				*e*S	Sb	02 36 30.3	-3.8
OSSR	**Ossora**	**3.20**	**348**	*e*P	Pn	02 35 48.9	+0.2
SDLR	**Sedlovina**	**4.28**	**230**	*e*P	Pn	02 36 06.9	+3.1
SMAR	**Somma**	**4.33**	**231**	*e*P	Pn	02 36 07.3	+2.8
KRX	**Arik**	**4.33**	**232**	*e*P	Pn	02 36 07.8	+3.4
GNL	**Ganaly**	**4.44**	**239**	*e*P	Pn	02 36 08.8	+2.8
KRMR	**Karymshinskiy**	**4.92**	**230**	*e*P	Pn	02 36 16.4	+4.0
KRMR				*e*S	Sn	02 37 12.2	+3.5
GRL	**Gorelyy**	**5.14**	**228**	*e*P	Pn	02 36 20.0	+4.4

TRN 26 02:35:48.3, 18.°23N×61.°02W, h3km, MD3.9, Far North-east of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	ID Op	ID ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.92**	**233**	*e*P	Pn	02 36 09.3	+1.1
ANWB				*e*S	Sn	02 36 25.9	+4.0
SKI	**Saint Kitts**	**1.87**	**242**	*e*P	Pg	02 36 23.7	-0.5
SKI				*e*S	Sg	02 36 49.5	+1.1
DSDZ	**La Diserade, G**	**1.91**	**181**	*e*P	Pb	02 36 23.1	-0.7
DSDZ				*e*S	Sg	02 36 49.5	-0.3
DHSZ	**Broadband at M**	**2.08**	**200**	*e*P	Pg	02 36 27.5	-0.7
DHSZ				*e*S	Sg	02 36 54.5	-0.6
ATGZ	**Broadband at L**	**2.23**	**198**	*e*P	Pb	02 36 28.7	-0.5
ATGZ				*e*S	Sb	02 36 57.1	-0.2
MMLZ	**Guadeloupe Bro**	**2.26**	**196**	*e*P	Pb	02 36 29.5	-0.4
MMLZ				*e*S	Sb	02 36 59.6	+1.3
DSLB	**Salisbury**	**2.81**	**188**	*e*P	Pb	02 36 38.3	-0.8
DSLB				*e*S	Sb	02 37 11.2	-2.7
BIM	**Bigot**	**3.69**	**181**	*e*P	Pn	02 36 47.9	+1.5
BIM				*e*S	Sn	02 37 32.8	+2.3

MOS ***26*** *02:47:30.2±1.5,54.°81N×111.°67E, h12km, mb3.5/1, Error ellipse: s-maj=18.0km s-min=12.7km az=98.7*
BYKL ***26*** *02:47:31.2±0.1,54.°89N×111.°67E, h9km±2km*
IDC ***26*** *02:47:35.3±2.2,54.°61N×111.°11E, h0km, mb3.5/5, mbtmp3.4/8, ML3.1/3, Error ellipse: s-maj=43.6km s-min=27.2km az=138.0*

ISC 26 02:47:30.1±0.6, 54.°89N±0.°02×111.°68E±0.°02, h10km, n51, σ2§98/80, mb3.7/4, 5C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.30**	**269**	*i*P	*i*Pg	**Pb**	**02 47 36.7**	**-0.9**
YLYR					*e*Sg	**Sb**	**02 47 41.2**	**-1.4**
YLYR					*e*		02 47 43.1	
YLYR	1μm,0.3s				Pmax			
YLYR	5μm,0.4s				Smax			
YLYR	**Ulyunkhan**	**0.30**	**269**	⇑*i*	*i*PG	**Pb**	**02 47 36.7**	**-0.9**
YLYR					*e*		02 47 41.3	
YLYR	comp=Z,2μm,0.4s				pmax	pmax		
YLYR	comp=N,6μm,0.6s				smax	smax		
KMO	**Kumora**	**1.04**	**345**	⇑*i*	*i*Pg	**Pb**	**02 47 50.1**	**-0.2**
KMO					*e*Sg	**Sb**	**02 48 03.6**	**-0.4**
KMO	comp=N,417nm,0.9s				Pmax			
KMO	comp=N,783nm,0.9s				Smax			
KMO	**Kumora**	**1.04**	**345**	⇑*i*	*i*PG	**Pb**	**02 47 50.0**	**-0.2**
KMO					*e*		02 48 03.6	
KMO	comp=Z,418nm,0.3s				pmax	pmax		
KMO	comp=N,779nm,0.7s				smax	smax		
YOAB	**Uoyan, Buryati**	**1.26**	**1**	*e*Pg		**Pn**	**02 47 53.0**	**-0.8**
YOAB				*e*Sg		**Sg**	**02 48 10.1**	**-0.6**
YOAB	comp=N,127nm,0.2s				Pmax			
YOAB	comp=N,577nm,0.4s				Smax			
UKT	**Uakit**	**1.27**	**61**	⇑*i*	*i*Pg	**Pn**	**02 47 53.6**	**-0.5**
UKT					*e*		02 47 56.3	
UKT					*e*Sg	**Sn**	**02 48 10.7**	**-0.5**
UKT					*e*		02 48 14.9	
UKT	comp=N,165nm,0.4s				max			
UKT	comp=N,972nm,0.4s				max			
UKT	**Uakit**	**1.27**	**61**	*e*P	G	**Pb**	**02 47 53.8**	**-0.4**
UKT					*e*		02 48 10.6	
UKT	comp=Z,137nm,0.2s				pmax	pmax		
UKT	comp=E,961nm,0.4s				smax	smax		
NIZB	**Nizh Angarsk**	**1.51**	**307**	*e*Pg		**Pg**	**02 47 58.4**	**-0.6**
NIZB				*e*Sg		**Sb**	**02 48 17.1**	**-0.3**
NIZB	comp=E,116nm,0.4s				Pmax			
NIZB	comp=E,550nm,0.7s				Smax			
NIZB	**Nizh Angarsk**	**1.51**	**307**	*e*PN		**Pg**	**02 47 58.9**	**-0.1**
NIZB					*e*		02 48 20.1	
NIZB	comp=Z,115nm,0.3s				pmax	pmax		
NIZB	comp=E,541nm,0.6s				smax	smax		
SYVR	**Suvo**	**1.57**	**219**	*e*Pg		**Pg**	**02 47 59.7**	**-0.6**
SYVR				*e*Sg		**Sg**	**02 48 20.7**	**0.0**
SYVR	comp=E,217nm,0.7s				Pmax			
SYVR	comp=E,753nm,0.7s				Smax			
SVKR	**Severomuysk**	**1.64**	**40**	*e*Pg		**Pg**	**02 48 01.0**	**-0.5**
SVKR				*e*Sg		**Sg**	**02 48 22.7**	**0.0**
SVKR	comp=E,305nm,0.2s				Pmax			
SVKR	comp=E,1μm,0.8s

	comp=E,383nm,0.6s							
TRG	**Tyrgan**	**3.81**	**238**	*e*Pn	**Pn**	**02 48 30.2**	**+1.4**
TRG				*e*Pg	**Pb**	**02 48 39.6**	**+2.2**
TRG				Pmax			
	comp=E,27nm,0.6s						
TRG				Smax			
	comp=E,88nm,0.4s						
UUDB	**Ulan-Yde**	**3.86**	**220**	*e*Pn	**Pn**	**02 48 31.6**	**+2.0**
UUDB				*e*Pg	**Pb**	**02 48 40.5**	**+2.2**
UUDB				*e*Sg	**Sg**	**02 49 31.1**	**-3.0**
UUDB				Pmax			
	comp=E,25nm,0.6s						
UUDB				Smax			
	comp=E,223nm,1.1s						
STDB	**Stepnoy Dvoret**	**4.18**	**232**	*e*Sg	**Sg**	**02 49 41.1**	**-3.0**
CRS	**Chara**	**4.22**	**59**	*e*Pn	**Pn**	**02 48 35.5**	**+0.9**
CRS				*e*Pg	**Pb**	**02 48 46.3**	**+1.8**
CRS				*e*Sg	**Sg**	**02 49 41.3**	**-4.4**
CRS				Pmax			
	comp=E,25nm,1.0s						
CRS				Smax			
	comp=E,170nm,0.8s						
HRMR	**Khuramsha**	**4.32**	**223**	*e*Pn	**Pn**	**02 48 37.7**	**+1.8**
HRMR				*e*Pg	**Pb**	**02 48 49.1**	**+2.9**
HRMR				*e*Sg	**Sg**	**02 49 46.3**	**-2.5**
HRMR				Pmax			
	comp=E,82nm,0.6s						
HRMR				Smax			
	comp=E,168nm,0.9s						
VTMR	**Vitim**	**4.59**	**6**	*e*Sg	**Sg**	**02 49 52.2**	**-5.2**
BGT	**Bolshoye Golou**	**4.70**	**235**	*e*Pg	**Pb**	**02 48 55.5**	**+2.9**
BGT				*e*Sg	**Sg**	**02 49 56.6**	**-4.4**
BGT				Pmax			
	comp=E,10.0nm,0.1s						
BGT				Smax			
	comp=E,54nm,0.3s						
TUP	**Tupik**	**4.83**	**92**	*e*Pn	**Pn**	**02 48 44.2**	**+1.4**
TUP				*e*Sg	**Sg**	**02 50 00.6**	**-4.5**
TUP				Pmax			
	comp=E,41nm,0.5s						
TUP				Smax			
	comp=E,222nm,0.4s						
TUP	**Tupik**	**4.83**	**92**	*e*PN	**Pn**	**02 48 44.3**	**+1.4**
TUP				*e*		02 48 58.7	
TUP				*e*S	**Sn**	**02 49 38.9**	**+0.1**
TUP				*e*		02 50 01.6	
TUP				pmax	pmax		
	comp=Z,41nm,0.5s						
TUP				smax	smax		
	comp=E,381nm,0.7s						
LSTR	**Listvyanka**	**5.09**	**236**	*e*Pn	**Pn**	**02 48 48.5**	**+2.1**
LSTR				*e*Pg	**Pb**	**02 49 02.7**	**+3.5**
LSTR				*e*Sg	**Sg**	**02 50 08.6**	**-4.8**
LSTR				Pmax			
	comp=E,7.0nm,0.4s						
LSTR				Smax			
	comp=E,42nm,0.7s						
IRK	**Irkutsk**	**5.14**	**242**	*e*Sg	**Sg**	**02 50 09.4**	**-5.8**
IRK				Smax			
	comp=E,221nm,0.3s						
KPC	**Khapcheranga**	**5.21**	**175**	*e*Pn	**Pn**	**02 48 49.9**	**+1.8**
KPC				*e*Sg	**Sg**	**02 50 12.0**	**-5.2**
KPC				max			
	comp=E,16nm,0.6s						
KPC				Smax			
	comp=E,194nm,1.0s						
KPC	**Khapcheranga**	**5.21**	**175**	*e*PN	**Pn**	**02 48 49.9**	**+1.8**
KPC				*e*		02 50 12.2	
KPC				pmax	pmax		
	comp=Z,16nm,0.5s						
KPC				smax	smax		
	comp=E,253nm,0.8s						
IVK	**Ivanovka**	**5.33**	**238**	*e*Pn	**Pn**	**02 48 51.6**	**+1.8**
IVK				*e*Pg	**Pb**	**02 49 07.2**	**+3.8**
IVK				*e*Sg	**Sg**	**02 50 16.3**	**-5.0**
IVK				Pmax			
	comp=E,19nm,0.5s						
IVK				Smax			
	comp=E,110nm,0.6s						
TLY	**Talaya**	**5.79**	**240**	*e*Pg	**Pb**	**02 49 15.0**	**+3.9**
TLY				*e*Sg	**Sg**	**02 50 29.6**	**-6.2**
TLY				Pmax			
	comp=E,13nm,0.5s						
TLY				Smax			
	comp=E,40nm,0.4s						
YKLR	**Yuktali**	**5.89**	**69**	*e*Pn	**Pn**	**02 48 59.3**	**+1.9**
YKLR				*e*Sg	**Sg**	**02 50 34.2**	**-4.9**
ARS	**Arshan**	**6.28**	**246**	*e*Pn	**Pn**	**02 49 05.2**	**+2.4**
ARS				*e*Pg	Pb	02 49 24.3	+4.8
ARS				*e*Sg	**Sg**	**02 50 45.5**	**-6.1**
ARS				Pmax			
	comp=E,22nm,0.8s						
ARS				Smax			
	comp=E,195nm,0.9s						
MOY	**Mondy**	**7.17**	**248**	*e*Pn	**Pn**	**02 49 17.2**	**+2.1**
MOY				*e*Sg	Sg	02 51 11.2	-8.9
ORL	**Orlik**	**7.42**	**256**	*e*Pn	**Pn**	**02 49 21.0**	**+2.4**
ORL				*e*Pg	Pg	02 49 45.4	-6.8
ORL				*e*Sg	**Sg**	**02 51 21.2**	**-7.0**
ORL				Pmax			
	comp=E,18nm,1.1s						
ORL				Smax			
	comp=E,72nm,1.6s						
CLNS	**Chul'man**	**7.69**	**70**	*e*Sg	**Sg**	**02 51 30.1**	**-6.6**
SONM	**Songino Array**	**7.79**	**207**	Pn	**Pn**	**02 49 24.5**	**+0.9**
	comp=E,0.9nm,0.3s,baz=23,slow=12,SNR=9.4						
	comp=E,1.1nm,0.3s						
KNGR	**Kungurtug, Tuv**	**9.59**	**249**	*e*Sg	Sn	02 52 27.8	+52
ARDR	**Aradan**	**11.05**	**265**	*e*Sg		02 53 12.3	
ZALV	**Zalesovo Beam**	**15.63**	**278**	Pn	**Pn**	**02 51 11.6**	**+1.3**
	comp=E,0.2nm,0.3s,baz=76,slow=12,SNR=2.0						
	comp=E,0.4nm,0.4s						
MKAR	**Makanchi Array**	**20.12**	**258**	P	Pn	02 52 06.0	+0.1
	baz=70,slow=12,SNR=1.2						
	comp=E,0.2nm,0.5s						
MKAR	**Makanchi Array**	**20.12**	**258**	P	Pn	02 52 06.0	+0.1
KURK	**Kurchatov**	**20.30**	**272**	P	Pn	02 52 10.5	+2.7
KURBB	**Kurchatov Arra**	**20.39**	**272**	P	Pn	02 52 10.5	+1.6
	comp=E,0.3nm,0.6s,baz=65,slow=12,SNR=4.4						
	comp=E,0.3nm,0.6s						
BVAR	**Borovoye Array**	**24.12**	**283**	P	**P**	**02 52 51.1**	**+5.3**
	comp=E,1.2nm,0.7s,baz=90,slow=12,SNR=4.7						
	comp=E,1.2nm,0.7s						
ARCES	**ARCESS Array B**	**38.96**	**326**	P	P	02 55 04.0	+8.2
	comp=E,3.3nm,1.1s,baz=49,slow=5.6,SNR=1.8						
	comp=E,3.3nm,1.1s						
FINES	**FINESS Array B**	**42.52**	**315**	P	**P**	**02 55 29.5**	**+4.3**
	comp=E,1.9nm,1.0s,baz=51,slow=6.5,SNR=1.6						
	comp=E,1.9nm,1.0s						
ILAR	**Eielson Array**	**46.50**	**35**	P	P	02 56 06.9	+10
	comp=E,0.1nm,0.4s,baz=309,slow=6.7,SNR=1.5						
	comp=E,0.1nm,0.4s						

*BYKL **26** 02:47:45.2±0.1,54°.88N×111°.71E,h10km±3km*
*MOS **26** 02:47:48.0±1.3,54°.83N×111°.28E,h14km,mb3.7/1,Error ellipse: s-maj=20.4km s-min=15.9km az=80.4*
*IDC **26** 02:47:59.9±7.5,54°.27N×109°.70E,h0km,mb3.8/1, mbtmp3.6/5,ML3.3/3,Error ellipse: s-maj=103.1km s-min=29.9km az=81.0*
ISC 26 02:47:47.6±0.9,54°.89N±0'.02×111°.40E±0'.03,h14km±6km, n46,σ2s46/83,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.14**	**264**	*e*Pg	**Pg**	**02 47 51.0**	**-0.2**
YLYR				Pmax		02 47 51.3	
	4μm,0.3s						
YLYR				*e*Sg	**Sg**	**02 47 55.6**	**+1.8**
YLYR				Smax		02 47 57.8	
	9μm,0.6s						
YLYR	**Ulyunkhan**	**0.14**	**264**	*e*PG	**Pg**	**02 47 51.1**	**-0.2**
YLYR				*e*		02 47 55.2	
YLYR				pmax	pmax		
	comp=Z,4μm,0.4s						
YLYR				smax	smax		
	comp=N,9μm,0.4s						
KMO	**Kumora**	**1.01**	**354**	*e*Pg	**Pb**	**02 48 04.4**	**-2.5**
KMO				Pmax		02 48 09.0	
	comp=N,564nm,0.4s						
KMO				*e*Sg	**Sb**	**02 48 18.0**	**-2.0**
KMO				Smax		02 48 27.0	
	comp=N,1μm,0.8s						
NIZB	**Nizh Angarsk**	**1.38**	**311**	*e*Pg	**Pn**	**02 48 13.0**	**+0.5**
NIZB				Pmax		02 48 15.2	
	comp=N,204nm,0.2s						
NIZB				*e*Sg	**Sg**	**02 48 33.5**	**+1.4**
NIZB				Smax		02 48 37.7	
	comp=N,1μm,0.5s						
NIZB	**Nizh Angarsk**	**1.38**	**311**	*e*PG	**Pb**	**02 48 13.3**	**+0.1**
NIZB				*e*		02 48 32.0	
NIZB				pmax	pmax		
	comp=Z,202nm,0.2s						
NIZB				smax	smax		
	comp=E,1μm,0.6s						
UKT	**Uakit**	**1.41**	**64**	*e*Pg	Pn	02 48 08.1	-4.9
UKT				Pmax		02 48 13.4	
	comp=E,325nm,0.2s						
UKT				*e*Sg	Sn	02 48 24.3	-7.1
UKT				*e*		02 48 28.9	
UKT				max		02 48 31.1	
	comp=E,2μm,0.5s						
SYVR	**Suvo**	**1.48**	**214**	*e*Pg	**Pb**	**02 48 14.0**	**-1.0**
SYVR				Pmax		02 48 16.8	
	comp=E,337nm,0.7s						
SYVR				*e*Sg	**Sg**	**02 48 35.1**	**-0.3**
SYVR				Smax		02 48 38.1	
	comp=E,2μm,0.6s						
SYVR	**Suvo**	**1.48**	**214**	*e*PG	**Pb**	**02 48 13.7**	**-1.3**
SYVR				*e*		02 48 35.7	
SYVR				pmax	pmax		
	comp=Z,378nm,0.7s						
SYVR				smax	smax		
	comp=N,2μm,0.6s						
SVKR	**Severomuysk**	**1.74**	**44**	*e*Pg	**Pn**	**02 48 15.0**	**-2.5**
SVKR				Pmax		02 48 17.2	
	comp=N,390nm,0.3s						
SVKR				*e*Sg	**Sn**	**02 48 36.2**	**-3.3**
SVKR				Smax		02 48 44.6	
	comp=N,3μm,0.7s						
MXMB	**Maximikha**	**2.26**	**225**	*e*Pg	**Pb**	**02 48 28.0**	**-0.2**
MXMB				*e*Sn	**Sb**	**02 48 53.5**	**-2.5**
MXMB				*e*Sg	**Sg**	**02 48 59.6**	**-0.6**
OGRR	**Ongureny**	**2.56**	**242**	*e*Pn	**Pn**	**02 48 29.6**	**+0.9**
OGRR				*e*Pg	**Pb**	**02 48 33.6**	**+0.3**
OGRR				Pmax		02 48 35.5	
	comp=N,116nm,0.2s						
OGRR				*e*Sn	**Sb**	**02 49 02.3**	**-2.2**
OGRR				*e*Sg	**Sg**	**02 49 09.1**	**-0.6**
OGRR				Smax		02 49 12.1	
	comp=N,404nm,0.4s						
OGRR	**Ongureny**	**2.56**	**242**	*e*PN	**Pn**	**02 48 28.8**	**+0.1**
OGRR				*e*		02 48 33.5	
OGRR				*e*		02 49 08.6	
OGRR				pmax	pmax		
	comp=Z,116nm,0.8s						
OGRR				smax	smax		
	comp=E,519nm,0.8s						
GORB	**Goryachinsk**	**2.65**	**225**	*e*Sg	**Sg**	**02 49 11.6**	**-1.1**
KELR	**Kotokel**	**2.90**	**224**	*e*Pn	**Pn**	**02 48 34.0**	**+0.6**
KELR				*e*Pg	**Pb**	**02 48 39.6**	**+0.5**
KELR				*e*Sn	**Sn**	**02 49 08.0**	**-0.1**
KELR				*e*Sg	**Sg**	**02 49 19.2**	**-1.6**
NLYR	**Nelyaty**	**2.92**	**55**	*e*Pg	**Pn**	**02 48 35.3**	**+1.7**
NLYR				*e*PgPg	**Pb**	**02 48 39.7**	**+0.3**
NLYR				Pmax		02 48 40.9	
	comp=E,126nm,0.8s						
NLYR				*e*Sg	**Sn**	**02 49 10.4**	**+1.9**
NLYR				Smax		02 49 15.5	
	comp=E,969nm,1.0s						
CIT	**Chita**	**3.15**	**155**	*e*Pg	**Pb**	**02 48 41.0**	**-2.4**
CIT				Pmax		02 48 45.4	
	comp=E,126nm,0.2s						
CIT				*e*Sg	**Sb**	**02 49 20.3**	**-1.3**
CIT				Smax		02 49 23.6	
	comp=E,1μm,0.2s						
BOD	**Bodaibo**	**3.27**	**25**	*e*Pn	**Pn**	**02 48 36.7**	**-1.8**
BOD				*e*Pg	**Pb**	**02 48 43.3**	**-2.2**
BOD				Pmax		02 48 49.4	
	comp=E,51nm,0.5s						
BOD				*e*Sn	**Sn**	**02 49 14.4**	**-2.8**
BOD				*e*Sg	**Sb**	**02 49 24.2**	**-0.9**
BOD				Smax		02 49 36.2	
	comp=E,328nm,1.6s						
ZRHB	**Zarechye**	**3.44**	**229**	*e*Pg	**Pb**	**02 48 48.8**	**+0.5**
ZRHB				Pmax		02 48 53.7	
	comp=E,147nm,0.6s						
ZRHB				*e*Sg	**Sg**	**02 49 35.5**	**-2.6**
ZRHB				Smax		02 49 47.9	
	comp=E,1μm,0.8s						
TRG	**Tyrgan**	**3.68**	**237**	*e*Pn	**Pn**	**02 48 44.6**	**+0.5**
TRG				*e*Pg	**Pb**	**02 48 53.8**	**+1.5**
TRG				Pmax		02 48 56.9	
	comp=E,44nm,0.6s						
TRG				*e*Sg	**Sg**	**02 49 42.6**	**-3.0**
TRG				Smax		02 49 49.5	
	comp=E,234nm,0.4s						
UUDB	**Ulan-Yde**	**3.77**	**218**	*e*Pn	**Pn**	**02 48 45.8**	**+0.5**
UUDB				*e*Pg	**Pb**	**02 48 55.0**	**+1.1**
UUDB				Pmax		02 48 58.3	
	comp=E,47nm,0.7s						
UUDB				*e*Sg	**Sg**	**02 49 45.2**	**-3.2**
UUDB				Smax		02 49 52.4	
	comp=E,675nm,1.5s						
KAB	**Kabansk**	**4.02**	**227**	*e*Pn	**Pn**	**02 48 49.3**	**+0.6**
KAB				*e*		02 48 56.5	
KAB				max		02 48 58.1	
	comp=E,312nm,0.2s						
KAB				*e*Sn	**Sn**	**02 49 36.4**	**+0.9**
KAB				*e*Sg	**Sg**	**02 49 54.2**	**-2.3**
KAB				Smax		02 50 20.0	
	comp=E,1μm,1.2s						
STDB	**Stepnoy Dvoret**	**4.05**	**230**	*e*Sg	**Sg**	**02 49 55.5**	**-2.3**
HRMR	**Khuramsha**	**4.22**	**221**	*e*Pg	**Pb**	**02 49 03.1**	**+1.5**
HRMR				Pmax		02 49 05.6	
	comp=E,124nm,0.7s						
HRMR				*e*Sn	**Sn**	**02 49 41.3**	**+0.8**
HRMR				*e*Sg	**Sg**	**02 49 59.6**	**-3.4**
HRMR				Smax		02 50 06.8	
	comp=E,435nm,0.8s						
CRS	**Chara**	**4.36**	**60**	*e*Pn	Pn	02 48 49.9	-3.5
CRS				*e*Pg	**Pb**	**02 49 01.3**	**-2.7**
CRS				Pmax		02 49 04.2	
	comp=E,43nm,0.8s						
CRS				*e*Sg	**Sb**	**02 49 55.7**	**-0.7**
CRS				Smax		02 50 00.9	
	comp=E,379nm,1.4s						
BGT	**Bolshoye Golou**	**4.58**	**234**	*e*Pg	**Pb**	**02 49 09.6**	**+2.0**
BGT				Pmax		02 49 23.6	
	comp=E,23nm,0.6s						
BGT				*e*Sn	**Sn**	**02 49 49.8**	**+0.5**
BGT				*e*Sg	**Sg**	**02 50 11.2**	**-3.2**
BGT				Smax		02 50 21.8	
	comp=E,134nm,0.5s						
VTMR	**Vitim**	**4.61**	**7**	*e*Sg	**Sb**	**02 50 07.1**	**+3.7**
LSTR	**Listvyanka**	**4.96**	**235**	*e*Pg	**Pb**	**02 49 16.4**	**+2.2**
LSTR				Pmax		02 49 20.3	
	comp=E,14nm,0.6s						
LSTR				*e*Sn	**Sn**	**02 50 00.0**	**+1.2**
LSTR				*e*Sg	**Sg**	**02 50 23.0**	**-3.8**
LSTR				Smax		02 50 29.0	
	comp=E,113nm,0.6s						
TUP	**Tupik**	**4.99**	**92**	*e*Pn	Pn	02 48 57.4	-4.7
TUP				*e*Pg	**Pb**	**02 49 11.5**	**-3.2**
TUP				Pmax		02 49 13.2	
	comp=E,52nm,0.8s						
TUP				*e*Sg	**Sb**	**02 50 14.8**	**+0.3**
TUP				Smax		02 50 19.7	
	comp=E,381nm,0.7s						
IVK	**Ivanovka**	**5.20**	**236**	*e*Pn	**Pn**	**02 49 05.5**	**+0.5**
IVK				*e*Pg	**Pb**	**02 49 21.3**	**+3.0**
IVK				Pmax		02 49 33.5	
	comp=E,23nm,0.7s						
IVK				*e*Sg	**Sg**	**02 50 30.0**	**-4.5**
IVK				Smax		02 50 37.3	
	comp=E,253nm,1.1s						
KPC	**Khapcheranga**	**5.23**	**173**	*e*Pn	**Pn**	**02 49 03.7**	**-1.7**
KPC				*e*Pg	**Pb**	**02 49 18.9**	**+0.1**
KPC				Pmax		02 49 27.5	
	comp=E,21nm,0.5s						
KPC				*e*Sg	**Sb**	**02 50 25.7**	**+4.2**
KPC				Smax		02 50 29.5	
	comp=E,253nm,0.8s						
YKLR	**Yuktali**	**6.04**	**69**	*e*Pn	**Pn**	**02 49 13.9**	**-2.6**
YKLR				*e*Sg	**Sb**	**02 50 47.1**	**+2.5**
ARS	**Arshan**	**6.14**	**245**	*e*	Pn	02 49 22.2	+4.3
ARS				*e*Pg	Pg	02 49 38.9	-6.1
ARS				Pmax		02 49 47.2	
	comp=E,38nm,0.5s						
ARS				*e*Sg	**Sg**	**02 51 00.5**	**-3.9**
ARS				Smax		02 51 03.5	
	comp=E,446nm,0.9s						
ARS				*e*		02 51 10.3	
ZAK	**Zakamensk**	**6.69**	**231**	*e*Sg	**Sg**	**02 51 16.2**	**-6.0**
ZAK				Smax		02 51 48.7	
	comp=E,65nm,1.3s						
MOY	**Mondy**	**7.02**	**247**	*e*Pn	**Pn**	**02 49 32.0**	**+1.9**
MOY				*e*Pg	Pb	02 49 53.3	+3.9
MOY				Pmax		02 50 01.2	
	comp=E,17nm,1.0s						
MOY				*e*Sg	**Sg**	**02 51 26.1**	**-6.8**
MOY				Smax		02 51 31.5	
	comp=E,139nm,1.3s						
ORL	**Orlik**	**7.27**	**256**	*e*Pn	**Pn**	**02 49 35.7**	**+2.2**
ORL				max		02 50 02.2	
	comp=E,18nm,1.1s						
ORL				*e*Sn	**Sn**	**02 50 54.3**	**-1.5**
ORL				*e*Sg	**Sg**	**02 51 35.3**	**-5.4**
ORL				Smax		02 51 42.3	
	comp=E,163nm,1.2s						
ORL	**Orlik**	**7.27**	**256**	*e*PN	**Pn**	**02 49 36.1**	**+2.6**
ORL				*e*		02 50 01.3	
ORL				*e*		02 51 35.1	
ORL				pmax	pmax		
	comp=Z,20nm,0.7s						
ORL				smax	smax		
	comp=N,163nm,1.0s						
SONM	**Songino Array**	**7.73**	**206**	Pn	**Pn**	**02 49 40.8**	**+1.0**
	comp=N,1.4nm,0.3s,baz=19,slow=13,SNR=3.6						
SONM				Lg	Lg	02 51 34.4	
	comp=N,1.7nm,0.3s,baz=18,slow=30,SNR=6.4						
	comp=N,2.0nm,0.3s						
CLNS	**Chul'man**	**7.84**	**70**	*e*Sg	**Sb**	**02 51 41.4**	**+5.0**
KNGR	**Kungurtug, Tuv**	**9.45**	**249**	*e*Sg	Sn	02 52 41.9	+53
MINR	**Mina**	**9.91**	**277**	*e*Pn	**Pn**	**02 50 10.2**	**+0.7**
MINR				*e*Sg	Sn	02 52 59.0	+59
ARDR	**Aradan**	**10.89**	**265**	*e*Sg		02 53 27.1	
ZALV	**Zalesovo Beam**	**15.47**	**277**	Pn	**Pn**	**02 51 26.1**	**+1.0**
	comp=N,2.4nm,0.8s,baz=76,slow=12,SNR=7.5						
MKAR	**Makanchi Array**	**19.97**	**258**	P	**Pn**	**02 52 22.1**	**+1.1**
	comp=N,0.1nm,0.3s,baz=56,slow=11,SNR=3.0						
	comp=N,0.3nm,0.5s						
KURK	**Kurchatov**	**20.14**	**272**	P	Pn	02 52 26.2	+3.3
KURBB	**Kurchatov Arra**	**20.23**	**271**	P	Pn	02 52 26.1	+2.2
	baz=64,slow=11,SNR=7.1						
	comp=N,1.4nm,0.8s						
BVAR	**Borovoye Array**	**23.96**	**283**	P	**P**	**02 53 07.1**	**+5.9**
	comp=N,2.5nm,0.7s,baz=66,slow=11,SNR=7.0						
	comp=N,2.5nm,0.7s						

*MDD **26** 02:49:05.7±1.4,36°.69N×12°.81W,h30km,Mb4.3/7, M_mb3.7/7,Error ellipse: s-maj=11.1km s-min=5.5km az=93.0*
*INMG **26** 02:49:09.0±1.0,36°.69N×12°.87W,h10km,ML1.9,Error ellipse: s-maj=6.6km s-min=3.7km az=95.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Gorringe*
*CNRM **26** 02:49:34.4,35°.69N×11°.47W,h31km*
ISC 26 02:49:05.7±3.2,36.72N±0'.07×12.5W±0'.2,h10km,n37, σ2s92/55,7C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.99**	**81**	Pn	**Pn**	**02 49 54.0**	**+0.9**
PFVI				Sn	**Sn**	**02 50 26.5**	**-2.6**
PFVI	**Vila Bisbo**	**2.99**	**81**	*e*P	**Pn**	**02 49 54.1**	**+0.9**
PMAFR	**Mafra**	**3.40**	**48**	Sn	**Sn**	**02 50 36.9**	**-2.3**
PMAFR				Pn	**Pn**	**02 49 59.4**	**+0.5**
PMAFR	**Mafra**	**3.40**	**48**	*e*P	**Pn**	**02 49 59.8**	**+1.0**
PMAFR				*e*S	**Sn**	**02 50 37.5**	**-1.7**
PARRA	**Arraiolos**	**3.46**	**52**	*e*P	**Pb**	**02 50 09.3**	**+2.2**
PARRA				*e*S	**Sb**	**02 50 53.7**	**+4.2**
PARRA				*i* IAML		02 50 54.7	
PARRA				*i* IAML		02 51 00.5	
PARRA				*i* IAML		02 51 03.1	
MESJ	**Messejana**	**3.61**	**71**	*e*S	**Sn**	**02 50 43.6**	**-0.8**
PCVE	**Castro Verde**	**3.69**	**74**	Pn	**Pn**	**02 50 04.3**	**+1.5**
PCVE				Sn	**Sn**	**02 50 44.8**	**-1.7**
PCVE	**Castro Verde**	**3.69**	**74**	*e*P	**Pn**	**02 50 04.4**	**+1.5**
PCVE				*e*S	**Sn**	**02 50 45.1**	**-1.4**
PCVE				*i* IAML		02 50 46.8	
PCVE				*i* IAML		02 50 55.8	
PBDV	**Barranco-do-Ve**	**3.71**	**81**	Pn	**Pn**	**02 50 03.6**	**+0.4**
PBDV				Sn	**Sn**	**02 50 46.6**	**-0.4**
PBDV	**Barranco-do-Ve**	**3.71**	**81**	*e*P	**Pn**	**02 50 04.7**	**+1.6**
PBDV				*e*S	**Sn**	**02 50 46.1**	**-0.9**
PBDV				*i* IAML		02 50 50.5	
PBDV				*i* IAML		02 50 58.2	
PBDV				*i* IAML		02 51 09.8	
PVAQ	**Vaqueiros**	**3.90**	**79**	*e*P	**Pn**	**02 50 07.4**	**+1.6**
PVAQ				*e*S	**Sn**	**02 50 49.9**	**-1.7**
PVAQ				*i* IAML		02 50 53.9	
PVAQ				*i* IAML		02 50 57.0	
PVAQ				*i* IAML		02 51 13.7	
EVO	**Evora**	**4.01**	**62**	Sn	**Sn**	**02 50 50.8**	**-3.5**
EVO	**Evora**	**4.01**	**62**	*e*P	Pn	02 50 03.0	-4.2
EVO				*e*S	**Sn**	**02 50 51.2**	**-3.0**
EVO				*i* IAML		02 50 54.6	
EVO				*i* IAML		02 50 55.4	
EGRO	**El Granado**	**4.11**	**77**	Pn	**Pn**	**02 50 09.5**	**+1.0**
EGRO	**El Granado**	**4.11**	**77**	Pn	**Pn**	**02 50 09.2**	**+0.6**
EGRO				⇑*i*Vmb_VC		02 50 15.2	
	167nm,SNR=1.9						
EGRO				Sn	**Sn**	**02 50 55.3**	**-1.4**
PMTG	**Montargil**	**4.13**	**54**	*e*P	**Pn**	**02 50 09.3**	**+0.5**
PMTG				*e*S	**Sn**	**02 50 54.6**	**-2.6**
PMTG				*i* IAML		02 50 58.4	
PMTG				*i* IAML		02 50 58.4	
PMTG				*i* IAML		02 51 06.1	
PESTR	**Estremoz**	**4.46**	**60**	Pn	**Pn**	**02 50 14.5**	**+1.2**
PESTR				Sn	**Sn**	**02 51 00.5**	**-4.8**
PESTR	**Estremoz**	**4.46**	**60**	*e*P	**Pn**	**02 50 13.6**	**+0.3**
PESTR				*e*S	**Sn**	**02 51 01.6**	**-3.7**
PSARD	**Sardoal**	**4.48**	**49**	*e*P	**Pn**	**02 50 14.6**	**+0.9**
PSARD				*e*S	**Sn**	**02 51 02.9**	**-3.0**
PSARD				*i* IAML		02 51 05.8	
PSARD				*i* IAML		02 51 07.8	
PSARD				*i* IAML		02 51 09.3	
PCAS	**Casmilo, Conde**	**4.59**	**42**	*e*S	**Sn**	**02 51 05.2**	**-3.3**
PCAS				*i* IAML		02 51 07.4	
PCAS				*i* IAML		02 51 07.9	
PCAS				*i* IAML		02 51 09.4	
PBAR	**Barrancos**	**4.60**	**70**	Pn	**Pn**	**02 50 15.7**	**+0.4**
PBAR				Sn	**Sn**	**02 51 06.1**	**-2.7**
PBAR	**Barrancos**	**4.60**	**70**	*e*P	**Pn**	**02 50 16.2**	**+0.9**
PBAR				*e*S	**Sn**	**02 51 06.3**	**-2.4**
PBAR				*i* IAML		02 51 07.8	
PBAR				*i* IAML		02 51 13.5	
EBAD	**Badajoz**	**4.82**	**63**	Sn	**Sn**	**02 51 09.5**	**-4.6**
EBAD				Pn	**Pn**	**02 50 18.1**	**-0.2**
EBAD	**Badajoz**	**4.82**	**63**	Pn	**Pn**	**02 50 18.5**	**+0.2**
EBAD				⇑*i*Vmb_VC		02 50 27.9	
	97nm,SNR=1.1						
EBAD				Sn	**Sn**	**02 51 11.8**	**-2.3**
**P

OUZM	**OUZ**	**7.52**	**139**	P	Pn	02 51 03.7 +8.1
OUZM	**OUZ**	**7.52**	**139**	S	**Sn**	**02 52 14.2 -6.8**

*IDC **26** 03:16:33.5±3.7,38.84N×75.18E,h0km,mb3.6/3, mbtmp3.5/6,ML2.9/3,Error ellipse: s-maj=57.0km s-min=32.9km az=178.0*
*NNC **26** 03:16:39.5±2.5,39.26N×74.87E,h4km±9km,mb4.1, mpv3.7,Error ellipse: s-maj=20.6km s-min=7.6km az=178.0*
*SOME **26** 03:16:45.7,39.63N×74.78E,h20km*
ISC 26 03:16:40.5±1.5,39.36N±0.08×74.81E±0.04,h10km±,n39,
σ2§99/51,mb3.5/3,6C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**3.29**	**356**	⇓Pn	**Pn**	**03 17 33.8**	**+1.6**
	8.0nm,0.6s						
AAK				⇑Lg	Lg	03 18 27.7	
	13nm,0.7s						
MRKS	**Merke**	**3.59**	**341**	Pg	**Pb**	**03 17 45.3**	**+1.2**
	19nm,0.5s						
MRKS				Lg	Lg	03 18 27.7	
	31nm,0.7s						
MRKS	**Merke**	**3.59**	**341**	*e*P	**Pb**	**03 17 45.3**	**+1.2**
	19nm,0.5s						
MRKS				*e*S	**Sb**	**03 18 27.7**	**-0.1**
	31nm,0.7s						
KST	**Kastek**	**3.79**	**13**	Pg	**Pb**	**03 17 49.6**	**+2.2**
	8.1nm,0.3s						
KST				Lg	Lg	03 18 35.3	
	33nm,0.8s						
KST	**Kastek**	**3.79**	**13**	*e*P	**Pb**	**03 17 49.6**	**+2.2**
	8.1nm,0.3s						
KST				*e*S	**Sb**	**03 18 35.3**	**+1.9**
	33nm,0.8s						
MTBS	**Maitube**	**3.96**	**17**	Pg	**Pb**	**03 17 52.6**	**+2.1**
	13nm,0.5s						
MTBS				Lg	Lg	03 18 40.5	
	20nm,0.5s						
MTBS	**Maitube**	**3.96**	**17**	*e*P	**Pb**	**03 17 52.6**	**+2.1**
	13nm,0.5s						
MTBS				*e*S	**Sb**	**03 18 40.5**	**+2.0**
	20nm,0.5s						
TNSS	**Tian-Shan**	**4.02**	**23**	Pg	**Pb**	**03 17 54.0**	**+2.5**
	4.6nm,0.5s						
TNSS				Lg	Lg	03 18 42.7	
	6.4nm,1.1s						
TNSS	**Tian-Shan**	**4.02**	**23**	*e*P	**Pb**	**03 17 54.0**	**+2.5**
	4.6nm,0.5s						
TNSS				*e*S	**Sb**	**03 18 42.7**	**+2.3**
	6.4nm,1.1s						
SGDS	**Sogindy**	**4.09**	**358**	Pg	**Pb**	**03 17 54.5**	**+1.8**
	11nm,0.7s						
SGDS				Lg	Lg	03 18 43.8	
	12nm,0.6s						
MDOK	**Medeo**	**4.16**	**23**	Pg	**Pb**	**03 17 56.8**	**+2.9**
	11nm,0.5s						
MDOK				Lg	Lg	03 18 47.6	
	12nm,0.9s						
KOTS	**Kotyrbulak**	**4.25**	**23**	Pg	**Pb**	**03 17 57.9**	**+2.6**
	18nm,0.5s						
KOTS				Lg	Lg	03 18 49.7	
	47nm,0.6s						
KOTS	**Kotyrbulak**	**4.25**	**23**	*e*P	**Pb**	**03 17 57.9**	**+2.6**
	18nm,0.5s						
KOTS				*e*S	**Sb**	**03 18 49.7**	**+3.0**
	47nm,0.6s						
KRBS	**Karabastau**	**4.39**	**8**	Pg	**Pb**	**03 17 59.8**	**+2.2**
	6.8nm,0.8s						
KRBS				Lg	Lg	03 18 52.9	
	15nm,0.8s						
KTBS	**Karatobe**	**4.57**	**17**	Pg	**Pb**	**03 18 04.5**	**+3.6**
	9.4nm,0.5s						
KTBS				Lg	Lg	03 19 00.7	
	5.3nm,0.9s						
IUG	**Iuzhnay**	**4.58**	**309**	Pg	**Pb**	**03 18 04.9**	**+4.0**
	72nm,0.7s						
IUG				Lg	Lg	03 19 01.5	
	40nm,0.9s						
SATY	**Saty**	**4.59**	**35**	Pg	**Pg**	**03 18 05.1**	**-3.2**
	18nm,0.5s						
SATY				Lg	Lg	03 19 02.0	
	18nm,0.6s						
KUU	**Kurty**	**4.68**	**14**	Pg	**Pb**	**03 18 06.4**	**+3.8**
	7.0nm,0.1s						
KUU				Lg	Lg	03 19 04.0	
	33nm,0.6s						
KUU	**Kurty**	**4.68**	**14**	*e*P	**Pb**	**03 18 06.3**	**+3.8**
	7.0nm,0.1s						
KUU				*e*S	**Sb**	**03 19 04.0**	**+5.0**
	33nm,0.6s						
CHKK	**Chushkaly**	**4.78**	**19**	*e*P	**Pb**	**03 18 06.1**	**+1.7**
	4.7nm,0.4s						
CHKK				*e*S	**Sb**	**03 19 03.3**	**+1.3**
	10nm,0.6s						
KURS	**Kuram**	**4.84**	**30**	Pg	**Pg**	**03 18 09.5**	**-3.7**
	8.1nm,0.6s						
KURS				Lg	Lg	03 19 09.4	
	12nm,1.3s						
UZB	**Uzynbulak**	**4.94**	**39**	Pg	**Pg**	**03 18 11.7**	**-3.4**
	6.3nm,0.5s						
UZB				Lg	Lg	03 19 13.1	
	7.9nm,0.6s						
UZB	**Uzynbulak**	**4.94**	**39**	*e*P	**Pg**	**03 18 11.8**	**-3.4**
	6.3nm,0.5s						
UZB				*e*S	**Sb**	**03 19 13.1**	**+6.4**
	7.9nm,0.6s						
KK31	**Karatay Array**	**4.95**	**321**	⇑Pn	**Pn**	**03 17 56.5**	**+1.6**
	0.6nm,0.2s,baz=120,slow=12,SNR=21						
KK31				⇑Pg	**Pb**	**03 18 11.6**	**+4.4**
	4.2nm,0.6s,baz=134,slow=13,SNR=4.6						
KK31				⇓Lg	Lg	03 19 22.6	
	8.1nm,0.7s,baz=138,slow=17,SNR=4.8						
KPKS	**Kokpek**	**5.04**	**34**	Pg	**Pb**	**03 18 12.6**	**+3.9**
	0.6nm,0.4s						
KPKS				Lg	Lg	03 19 14.6	
	24nm,0.5s						
SHLS	**Shalkode**	**5.17**	**41**	*e*P	**Pg**	**03 18 21.0**	**+1.6**
	14nm,0.4s						
SHLS				*e*S	**Sg**	**03 19 28.7**	**+2.3**
	17nm,0.4s						
BRLS	**Borolday**	**5.25**	**316**	Pg	**Pb**	**03 18 15.5**	**+3.2**
	5.5nm,0.5s						
BRLS				Lg	Lg	03 19 19.7	
	6.5nm,0.3s						
BRLS	**Borolday**	**5.25**	**316**	*e*P	**Pb**	**03 18 15.5**	**+3.2**
	5.5nm,0.5s						
BRLS				*e*S	**Sb**	**03 19 19.7**	**+4.3**
	6.5nm,0.3s						
PDGK	**Podgornoye**	**5.31**	**40**	⇑Pn	**Pn**	**03 17 58.7**	**-1.2**
	6.5nm,0.8s						
PDGK				⇑Pg	**Pb**	**03 18 16.2**	**+2.8**
	15nm,1.0s						
PDGK				⇑Lg	Lg	03 19 27.6	
	16nm,0.8s						
BTLS	**Baital**	**5.71**	**355**	Pg	**Pg**	**03 18 26.9**	**-2.9**
	2.3nm,0.5s						
BTLS				Lg	Lg	03 19 39.2	
	1.4nm,0.4s						
BTLS	**Baital**	**5.71**	**355**	*e*P	**Pg**	**03 18 26.9**	**-2.9**
	2.3nm,0.5s						
BTLS				*e*S	**Sg**	**03 19 39.2**	**-4.5**
	1.4nm,0.4s						
KNOS	**Konyrlen**	**5.97**	**32**	Pg	**Pg**	**03 18 32.4**	**-2.4**
	4.4nm,0.7s						
KNOS				Lg	Lg	03 19 48.7	
	4.4nm,0.4s						
MKAR	**Makanchi Array**	**9.23**	**34**	Pn	**Pn**	**03 18 52.2**	**-1.4**
	0.1nm,0.3s,baz=210,slow=14,SNR=5.3						
MKAR				Pg		03 19 25.0	
	0.1nm,0.3s,baz=216,slow=14,SNR=2.2						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**11.57**	**12**	Lg	Lg	03 22 46.4	
	baz=192,slow=26,SNR=5.0						
BVAR	**Borovoye Array**	**14.01**	**349**	Pn	**Pn**	**03 19 58.8**	**-0.1**
	baz=165,slow=6.0,SNR=2.8						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**16.11**	**22**	Pn	**Pn**	**03 20 24.7**	**-2.1**
	0.2nm,0.3s,baz=202,slow=11,SNR=1.8						
	0.4nm,0.4s						
SONM	**Songino Array**	**24.26**	**59**	P	**P**	**03 21 53.1**	**-4.7**
	0.7nm,0.7s,baz=251,slow=9.0,SNR=3.7						
	0.7nm,0.7s						
FINES	**FINESS Array B**	**36.91**	**323**	P	**P**	**03 23 47.8**	**-1.2**
	0.4nm,0.5s,baz=121,slow=16,SNR=1.4						
	0.4nm,0.5s						
ARCES	**ARCESS Array B**	**39.73**	**335**	P	**P**	**03 24 12.6**	**-0.2**
	1.3nm,0.8s,baz=118,slow=8.5,SNR=1.4						
	1.3nm,0.8s						

*IDC **26** 03:17:35.0±1.7,3.56S×128.40E,h0km,mb3.7/3, mbtmp3.8/5,ML3.3/2,Error ellipse: s-maj=105.0km s-min=23.7km az=71.0*
*DJA **26** 03:17:36.3±0.4,4°S±5°×12°8E±°,h10km,M3.6/4,MLv3.6/4*
ISC 26 03:17:36.8±0.9,3.52S±0.09×128.34E±0.06,h10km,n10,
σ1§51/12,Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.22**	**222**	P	**Pg**	**03 17 42.0**	**+0.6**
AAI				S	**Sg**	**03 17 45.8**	**+1.3**
MSAI	**Masohi**	**0.61**	**74**	P	**Pg**	**03 17 48.1**	**-0.6**
MSAI				S	**Sg**	**03 17 56.0**	**-0.8**
NLAI	**Namlea**	**1.27**	**283**	P	**Pn**	**03 17 59.8**	**-0.9**
SWI	**Sorong**	**3.93**	**48**	P	**Pn**	**03 18 40.1**	**+2.8**
FAKI	**Fak Fak**	**3.95**	**81**	P	**Pn**	**03 18 38.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**14.73**	**190**	Pn	**Pn**	**03 21 04.9**	**-0.5**
	0.1nm,0.3s,baz=15,slow=10,SNR=3.6						
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**17.34**	**161**	P	**Pn**	**03 21 36.5**	**-2.7**
	0.2nm,0.3s,baz=339,slow=12,SNR=13						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**20.74**	**165**	P	**P**	**03 22 17.4**	**-0.4**
	9.5nm,0.8s,baz=348,slow=11,SNR=47						
	9.5nm,0.8s						
MKAR	**Makanchi Array**	**64.43**	**327**	P	**P**	**03 28 13.4**	**0.0**
	0.3nm,0.4s,baz=120,slow=7.5,SNR=4.6						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**68.70**	**329**	P	**P**	**03 28 41.0**	**+0.4**
	0.2nm,0.3s,baz=132,slow=4.7,SNR=4.4						
	0.2nm,0.3s						

*NNC **26** 03:30:52.0±3.9,37.52N×69.32E,h0km,mb4.2,mpv3.8, Error ellipse: s-maj=36.5km s-min=28.1km az=147.0*
*IDC **26** 03:31:04.1±1.0,38.55N×69.95E,h0km,mb3.7/13, mbtmp3.6/17,ML3.1/3,MS4.0/1,Error ellipse: s-maj=21.0km s-min=13.5km az=160.0*
ISC 26 03:31:05.2±0.9,38.53N±0.09×70.00E±0.08,h10km,n26,
σ1§68/25,mb3.7/11,5C,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.58**	**5**	P	**Pn**	**03 32 15.9**	**+1.3**
	4.3nm,0.5s,baz=163,slow=11,SNR=45						
KK31				⇑S	**Sb**	**03 33 24.1**	**+3.0**
	23nm,0.5s,baz=187,slow=33,SNR=4.3						
AAK	**Ala-Archa**	**5.34**	**38**	⇑P	**Pn**	**03 32 27.3**	**+2.1**
	3.8nm,0.5s						
AAK				⇑S	**Sb**	**03 33 44.6**	**+1.6**
	26nm,1.0s						
AAK	**Ala-Archa**	**5.34**	**38**	Pn	**Pn**	**03 32 27.6**	**+2.4**
	2.1nm,0.3s,baz=189,slow=3.8,SNR=9.1						
AAK				Sn	**Sn**	**03 33 23.7**	**-3.1**
	0.9nm,0.3s,baz=237,slow=13,SNR=4.5						
AAK				Lg	Lg	03 33 47.8	
	1.1nm,0.3s,baz=249,slow=3.8,SNR=4.2						
	4.1nm,0.4s						
MK31	**Makanchi Array**	**12.24**	**44**	⇑P	Pn	03 34 05.4	+5.9
	1.2nm,0.8s,baz=217,slow=9.2,SNR=5.9						
MKAR	**Makanchi Array**	**12.24**	**44**	Pn	**Pn**	**03 33 59.7**	**+0.2**
	0.1nm,0.3s,baz=221,slow=10,SNR=5.5						
MKAR				Lg	Lg	03 37 28.9	
	0.1nm,0.3s,baz=237,slow=19,SNR=1.4						
	0.1nm,0.4s						
AB31	**Akbulak array**	**12.93**	**329**	P	**Pn**	**03 34 05.6**	**-3.3**
	2.4nm,0.5s,baz=136,slow=11,SNR=90						
KURBB	**Kurchatov Arra**	**13.52**	**24**	Pn	**Pn**	**03 34 15.6**	**-1.4**
	0.2nm,0.3s,baz=218,slow=12,SNR=1.8						
KURBB				Lg	Lg	03 38 06.9	
	baz=210,slow=31,SNR=4.4						
BVA0	**Borovoye Array**	**14.50**	**1**	P	**Pn**	**03 34 31.3**	**+0.9**
	3.6nm,1.1s,baz=155,slow=9.7,SNR=7.4						
BVAR	**Borovoye Array**	**14.50**	**1**	Pn	Pn	03 34 25.8	-4.6
	baz=181,slow=14,SNR=7.3						
	0.4nm,0.4s						
AKTO	**Aktyubinsk**	**14.63**	**328**	⇑P	**Pn**	**03 34 30.4**	**-1.8**
	10nm,0.7s						
ZALV	**Zalesovo Beam**	**18.46**	**29**	P	**P**	**03 35 18.1**	**-2.8**
	0.9nm,0.4s,baz=221,slow=11,SNR=5.8						
KBZ	**Khabaz**	**21.02**	**293**	P		03 35 49.1	
	1.0nm,0.7s,baz=86,slow=16,SNR=2.0						
	1.0nm,0.7s						
BRTR	**Keskin Array B**	**28.11**	**284**	P	**P**	**03 36 58.7**	**+1.3**
	0.5nm,0.7s,baz=98,slow=6.4,SNR=3.0						
	0.5nm,0.7s						
AKASG	**Malin Array Be**	**31.07**	**306**	P	**P**	**03 37 23.1**	**-0.2**
	0.2nm,0.3s,baz=82,slow=6.8,SNR=2.3						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**35.36**	**325**	P	**P**	**03 38 00.5**	**-0.1**
	0.5nm,0.4s,baz=103,slow=8.3,SNR=1.5						
	0.5nm,0.4s						
ARCES	**ARCESS Array B**	**38.97**	**337**	P	**P**	**03 38 30.3**	**-0.8**
	1.5nm,0.9s,baz=331,slow=4.7,SNR=4.5						
	1.5nm,0.9s						
HFS	**Hagfors**	**40.98**	**321**	P	**P**	**03 38 48.0**	**0.0**
	2.2nm,0.4s,baz=104,slow=11,SNR=22						
	2.2nm,0.4s						
NB2	**NORSAR Subarra**	**42.29**	**322**	P	**P**	**03 38 58.2**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=95,slow=8.6						
NOA	**NORSAR Array B**	**42.29**	**322**	P	**P**	**03 38 58.2**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=106,slow=8.1,SNR=6.7						
	comp=Z,0.6nm,0.5s						
KSRS	**Korea Array**	**45.00**	**72**	P	**P**	**03 39 21.3**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=291,slow=10,SNR=1.8						
	comp=Z,0.4nm,0.3s						
EKA	**Eskdalemuir Ar**	**50.28**	**315**	P	**P**	**03 40 01.0**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=81,slow=8.7,SNR=3.4						
	comp=Z,0.8nm,0.6s						
ESDC	**Sonseca Array**	**55.82**	**296**	P	**P**	**03 40 43.0**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=69,slow=7.1,SNR=6.9						
	comp=Z,0.9nm,0.7s						
PETK	**Petropavlovsk-**	**59.08**	**45**	LR	LR	04 05 59.4	
	comp=Z,116nm,18.6s,baz=102,slow=36						
TORD	**Torodi Ar. Bea**	**64.99**	**267**	P	**P**	**03 41 46.1**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=58,slow=5.3,SNR=2.5						
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**83.74**	**121**	P	**P**	**03 43 35.0**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=310,slow=5.6,SNR=1.5						
	comp=Z,0.3nm,0.5s						
ASAR	**Alice Springs**	**86.06**	**124**	P	**P**	**03 43 47.0**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=322,slow=4.6,SNR=1.0						
	comp=Z,0.9nm,0.9s						

*MEX **26** 03:32:06.5±1.3,15.63N×93.52W,h87km±10km,MD4.2*
*GCG **26** 03:32:06.2±2.1,15.64N×93.52W,h65km±48km,MD4.1, ML3.5*
*CATAC **26** 03:32:07.2±0.6,16°N±3°×9°3W±°,h72km±5km,M3.5/7, MLv3.5/7,Error ellipse: s-maj=10.5km s-min=5.2km az=55.8,confirmed*
ISC 26 03:32:04.9±1.2,15.65N±0.04×93.52W±0.03,h95km±9km,
n48,σ1§81/87,1C,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.29**	**79**	*e*P	**Pn**	**03 32 18.1**	**-0.6**
PCIG				*e*S	**Sn**	**03 32 28.1**	**-1.0**
TGIG		**1.18**	**19**	*e*P	**Pn**	**03 32 27.3**	**+0.2**
TGIG				*e*S	**Sn**	**03 32 42.5**	**-1.2**
TGIG		**1.18**	**19**	*i*P	**Pn**	**03 32 27.3**	**+0.2**
TGIG				*i*S	**Sn**	**03 32 42.7**	**-1.0**
TGIG				IAML		03 32 43.5	
	comp=E,1μm,0.3s						
TGBT	**Tuxtla Gutierr**	**1.19**	**20**	*e*P	**Pn**	**03 32 27.4**	**+0.3**
TGBT				*i*S	**Sn**	**03 32 43.0**	**-0.8**
PATR	**El Naranjo**	**1.34**	**113**	*e*P	**Pn**	**03 32 28.8**	**-0.4**
PATR				*e*S	**Sn**	**03 32 45.8**	**-1.7**
PAVE	**Pavencul**	**1.37**	**109**	*e*P	**Pn**	**03 32 29.8**	**+0.4**
PAVE				*e*S	**Sn**	**03 32 47.9**	**-0.1**
NILT	**Santiago Nilte**	**1.40**	**311**	*e*P	**Pn**	**03 32 30.8**	**+1.3**
NILT				*e*S	**Sn**	**03 32 49.9**	**+1.7**
THIG		**1.41**	**121**	*e*P	**Pn**	**03 32 29.8**	**+0.1**
THIG				*e*S	**Sn**	**03 32 48.7**	**+0.1**
THIG		**1.41**	**121**	*i*P	**Pn**	**03 32 30.6**	**+0.9**
THIG				*i*S	**Sn**	**03 32 49.0**	**+0.4**
CHUJ	**Union Juarez**	**1.47**	**112**	*e*P	**Pn**	**03 32 30.2**	**-0.4**
CHUJ				*e*S	**Sn**	**03 32 50.6**	**+0.4**
CCIG	**Comitan**	**1.47**	**64**	*e*P	**Pn**	**03 32 31.7**	**+1.2**
CCIG				*e*S	**Sn**	**03 32 49.4**	**-0.7**
CCIG	**Comitan**	**1.47**	**64**	*i*P	**Pn**	**03 32 31.8**	**+1.2**
CCIG				*i*S	**Sn**	**03 32 52.5**	**+2.4**
CCIG				IAML		03 32 54.1	
	comp=N,1μm,0.5s						
CCIG	**Comitan**	**1.47**	**64**	P	**Pn**	**03 32 32.4**	**+1.8**
SMCA	**Catarina**	**1.60**	**119**	*i*P	**Pn**	**03 32 32.5**	**+0.4**
SMCA				*i*S	**Sn**	**03 32 52.0**	**-0.7**
UXUV	**UXUV**	**1.77**	**340**	*e*P	**Pn**	**03 32 35.9**	**+1.6**
UXUV				*e*S	**Sn**	**03 32 56.3**	**-0.2**
CMIG	**Matias Romero**	**1.94**	**318**	*e*P	**Pn**	**03 32 37.6**	**+1.1**
CMIG				*e*S	**Sn**	**03 33 01.4**	**+0.7**
HUEH	**Huehuetenango**	**1.97**	**99**	*e*P	**Pn**	**03 32 34.7**	**-2.4**
HUEH				*e*S	**Sn**	**03 33 00.8**	**-0.8**
RTAL	**Retalhuleu**	**2.08**	**122**	*e*P	**Pn**	**03 32 38.7**	**+0.4**
RTAL				*e*S	**Sn**	**03 33 04.2**	**+0.3**
RTAL	**Retalhuleu**	**2.08**	**122**	P	**Pn**	**03 32 39.7**	**+1.4**
RTAL	**Retalhuleu**	**2.08**	**122**	S	**Sn**	**03 33 04.0**	**0.0**
QUIS	**Sacapulas**	**2.36**	**98**	*i*P	**Pn**	**03 32 43.3**	**+1.2**
QUIS				*i*S	**Sn**	**03 33 11.3**	**+0.6**
QUIS				IAML		03 33 15.9	
	comp=E,472nm,0.3s						
VHSA	**Villahermosa**	**2.38**	**13**	*e*S	**Sn**	**03 33 14.5**	**+3.5**
HUIG	**Huatulco**	**2.50**	**273**	*e*P	**Pn**	**03 32 43.4**	**-0.4**
HUIG				*e*S	**Sn**	**03 33 12.3**	**-1.4**
HUIG	**Huatulco**	**2.50**	**273**	*i*P	**Pn**	**03 32 44.5**	**+0.6**
HUIG				IAML		03 33 16.7	
	comp=N,56nm,0.3s						
TUIG	**Tuzandepetl**	**2.52**	**340**	*e*P	**Pn**	**03 32 44.6**	**+0.4**
TUIG				*e*S	**Sn**	**03 33 12.5**	**-1.8**
NEUV	**Arroyo Zacate**	**3.00**	**313**	*e*P	**Pn**	**03 32 52.4**	**+1.9**
NEUV				*e*S	**Sn**	**03 33 26.2**	**+0.5**
PMUV	**Sontecomapan**	**3.26**	**332**	*e*P	**Pn**	**03 32 53.0**	**-1.1**
PMUV				*e*S	**Sn**	**03 33 30.5**	**-1.6**
OXLC	**Oaxaca**	**3.37**	**295**	*e*S	**Sn**	**03 33 35.4**	**+0.5**
VHO	**Vista Hermosa**	**3.40**	**295**	*e*P	Pn	03 33 01.4	+5.4
VHO				*e*S	**Sn**	**03 33 39.0**	**+3.5**
PEIG	**Puerto Escondi**	**3.51**	**276**	*e*P	**Pn**	**03 32 57.9**	**+0.5**
PEIG				*e*S	**Sn**	**03 33 33.2**	**-4.9**
PETF	**Flores**	**3.72**	**70**	*e*P	**Pn**	**03 32 59.0**	**-1.2**
PETF				*e*S	**Sn**	**03 33 41.5**	**-1.6**
SCIG	**Sabancuy**	**3.98**	**34**	*e*P	**Pn**	**03 33 04.0**	**+0.3**
SCIG				*e*S	**Sn**	**03 33 47.5**	**-1.8**
YOIG	**Yosondua**	**4.05**	**288**	*e*P	**Pn**	**03 33 07.1**	**+2.2**
YOIG				*e*S	**Sn**	**03 33 47.8**	**-3.7**
TOIG	**Toxpalan**	**4.18**	**306**	*e*P	**Pn**	**03 33 08.3**	**+1.8**
TOIG				*e*S	**Sn**	**03 33 56.6**	**+2.3**
MTO3	**Montecristo**	**4.20**	**107**	P	**Pn**	**03 33 06.9**	**0.0**
TXIG	**Tlaxiaco**	**4.38**	**292**	*e*P	**Pn**	**03 33 12.7**	**+3.2**
TXIG				*e*S	**Sn**	**03 34 01.6**	**+2.1**
TPIG	**Tehuac#an**	**4.60**	**307**	*e*P	**Pn**	**03 33 13.7**	**+1.4**
TPIG				*e*S	**Sn**	**03 34 04.8**	**+0.3**
HLIG	**Huajuapan de L**	**4.65**	**298**	*e*P	**Pn**	**03 33 14.1**	**+1.1**
HLIG				*e*S	**Sn**	**03 34 02.2**	**-3.6**
JAUV	**Jalcomulco**	**4.85**	**320**	*e*P	**Pn**	**03 33 15.8**	**+0.2**
JAUV				*e*S	**Sn**	**03 34 07.7**	**-2.8**
LVIG	**Laguna Verde**	**4.91**	**326**	*e*P	**Pn**	**03 33 15.8**	**-0.5**
LVIG				*e*S	**Sn**	**03 34 05.9**	**-5.9**
POHV	**Veracruz**	**4.95**	**314**	*e*P	**Pn**	**03 33 18.2**	**+0.8**
FTIG	**Fresnillo de T**	**4.96**	**298**	*e*P	**Pn**	**03 33 19.4**	**+2.3**
FTIG				*e*S	**Sn**	**03 34 10.8**	**-2.6**
TLIG	**Tlapa**	**5.20**	**292**	*e*P	**Pn**	**03 33 23.4**	**+3.0**
TLIG				*e*S	**Sn**	**03 34 18.9**	**-0.4**
CRIG	**Cruz Grande**	**5.50**	**282**	*e*P	**Pn**	**03 33 26.5**	**+2.1**
CRIG				*e*S	**Sn**	**03 34 25.1**	**-1.3**
CXUV	**Coxquihui**	**5.94**	**320**	*e*P	**Pn**	**03 33 31.1**	**+0.7**
CXUV				*e*S	**Sn**	**03 34 36.6**	**-0.4**
DAIG	**Los Arroyos**	**6.05**	**284**	*e*P	**Pn**	**03 33 33.5**	**+1.7**
DAIG				⇑*e*S	**Sn**	**03 34 37.6**	**-2.0**
YAIG	**Yautepec**	**6.19**	**302**	*e*P	**Pn**	**03 33 36.1**	**+2.2**
YAIG				*e*S	**Sn**	**03 34 42.1**	**-1.2**
MEIG	**Mezcala**	**6.27**	**292**	*e*P	**Pn**	**03 33 37.5**	**+2.6**
MEIG				*e*S	**Sn**	**03 34 41.8**	**-3.4**

*IDC **26** 03:36:02.9±1.6,3.45S×128.70E,h0km,mb4.1/6, mbtmp4.1/8,ML3.7/2,Error ellipse: s-maj=126.0km s-min=20.8km az=73.0*
*DJA **26** 03:36:04.9±0.5,4°S±5°×12°8E±°,h10km,M4.0/7,MLv4.0/7*
ISC 26 03:36:05.4±0.8,3.55S±0.08×128.36E±0.05,h10km,n14,
σ1§08/16,mb4.0/5,Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.21**	**232**	P	**Pg**	**03 36 09.9**	**+0.1**
AAI				S	**Sg**	**03 36 13.7**	**+0.9**
MSAI	**Masohi**	**0.60**	**70**	P	**Pg**	**03 36 17.0**	**-0.1**
MSAI				S	**Sg**	**03 36 25.4**	**+0.4**
NLAI	**Namlea**	**1.30**	**284**	P	**Pn**	**03 36 29.0**	**-0.6**
SANI	**Sanana**	**2.80**	**302**	P	**Pn**	**03 36 50.5**	**+0.2**
FAKI	**Fak Fak**	**3.93**	**81**	P	**Pn**	**03 37 06.0**	**+0.1**
SWI	**Sorong**	**3.94**	**47**	P	**Pn**	**03 37 07.1**	**+1.1**
FITZ	**Fitzroy Crossi**	**14.70**	**190**	Pn	**Pn**	**03 39 35.1**	**+1.6**
	0.2nm,0.3s,baz=15,slow=16,SNR=8.7						
	1.5nm,0.8s						
WRA	**Warramunga Arr**	**17.30**	**161**	P	**Pn**	**03 40 04.2**	**-3.0**
	0.3nm,0.3s,baz=340,slow=11,SNR=14						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**20.70**	**165**	P	**P**	**03 40 45.5**	**-0.4**
	23nm,0.9s,baz=345,slow=11,SNR=94						
	23nm,0.9s						
MKAR	**Makanchi Array**	**64.47**	**327**	P	**P**	**03 46 41.5**	**-0.7**

AS31	**Alice Springs**	**20.75**	**166**		**P**		**03 41 58.6**	**+0.4**
AS31				IAmb	IAmb		03 42 01.7	
	comp=Z,6.6nm,0.8s							
ASAR	**Alice Springs**	**20.75**	**166**		**P**		**03 41 58.6**	**+0.4**
ASAR	**Alice Springs**	**20.75**	**166**	P	**P**		**03 41 58.1**	**-0.1**
	comp=Z,20nm,0.8s,baz=345,slow=11,SNR=16							
	comp=Z,20nm,0.8s							
MJAR	**Matsushiro Arr**	**40.86**	**12**	P	**P**		**03 44 56.8**	**-2.5**
	comp=Z,0.3nm,0.4s,baz=182,slow=9.7,SNR=4.3							
	comp=Z,0.3nm,0.4s							
MKAR	**Makanchi Array**	**64.44**	**327**	P	**P**		**03 47 53.4**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=124,slow=7.8,SNR=4.1							
	comp=Z,0.5nm,0.6s							
ZALV	**Zalesovo Beam**	**67.76**	**334**	P	**P**		**03 48 13.3**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=132,slow=4.1,SNR=1.5							
	comp=Z,0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**68.71**	**328**	P	**P**		**03 48 20.2**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=126,slow=5.5,SNR=1.8							
	comp=Z,0.5nm,0.5s							
QSPA	**South Pole Qui**	**86.46**	**180**	P	**P**		**03 50 01.1**	**+1.1**
QSPA	**South Pole Qui**	**86.46**	**180**	P	**P**		**03 50 01.9**	**+1.9**
	comp=Z,1.2nm,0.8s,baz=68,slow=3.7,SNR=2.9							
D19K	**Kuna River**	**87.22**	**21**	P	**P**		**03 50 00.2**	**-3.3**

NEIC ***26*** *03:43:42.0±1.9, 19°.96S±0°.07×169°.3E±0°.1, h55km±7km, mb4.6/22, Error ellipse: s-maj=16.0km s-min=9.8km az=102.0*

IDC ***26*** *03:43:42.1±3.8, 19°.92S×169°.23E, h57km±32km, mb3.9/10, mbtmp4.3/13, ML4.6/3, MS3.2/2, Error ellipse: s-maj=24.6km s-min=20.0km az=79.0*

NOU ***26*** *03:43:43.4, 20°.17S×169°.27E, h30km, MLv5.1/19, Vanuatu Islands*

ISC 26 03:43:41.4±0.5, 20°.11S±0°.04×169°.33E±0°.08, h50km, n82, σ1§61/78, mb4.4/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RTV	**Rentapao**	**2.46**	**339**	P	Pn		03 44 22.6	+3.5
RTV	**Rentapao**	**2.46**	**339**	S	**Sn**		**03 44 52.5**	**+4.5**
DVP	**Devils Point**	**2.61**	**335**	P	**Pn**		**03 44 24.3**	**+3.1**
DVP	**Devils Point**	**2.61**	**335**	S	**Sn**		**03 44 55.0**	**+3.3**
YATNC	**Mamie plateau,**	**2.99**	**229**	P	**Pn**		**03 44 27.3**	**+0.9**
PINNC	**Pines Island,**	**3.05**	**215**		**Pn**		**03 44 28.4**	**+1.2**
PINNC				Sn	**Sn**		**03 45 02.8**	**+0.4**
PINNC	**Pines Island,**	**3.05**	**215**	P	**Pn**		**03 44 28.8**	**+1.7**
PINNC	**Pines Island,**	**3.05**	**215**	S	**Sn**		**03 45 02.7**	**+0.3**
OUENC	**Ouen Island, N**	**3.27**	**225**	P	**Pn**		**03 44 32.4**	**+2.2**
OUENC	**Ouen Island, N**	**3.27**	**225**	S	**Sn**		**03 45 08.9**	**+1.1**
DZM	**Mont Dzumac**	**3.33**	**234**		**Pn**		**03 44 32.2**	**+1.1**
DZM				Sn	**Sn**		**03 45 09.7**	**+0.2**
DZM	**Mont Dzumac**	**3.33**	**234**	P	**Pn**		**03 44 32.6**	**+1.5**
	21nm,0.3s,baz=118,slow=16,SNR=123							
DZM				S	**Sn**		**03 45 06.9**	**-2.6**
	baz=163,slow=19							
	111nm,0.6s							
DZM	**Mont Dzumac**	**3.33**	**234**	P	**Pn**		**03 44 32.6**	**+1.5**
DZM	**Mont Dzumac**	**3.33**	**234**	S	**Sn**		**03 45 10.1**	**+0.6**
ONTNC	**Ouen Toro**	**3.46**	**230**		**Pn**		**03 44 34.3**	**+1.5**
ONTNC				Sn	**Sn**		**03 45 13.1**	**+0.5**
ONTNC	**Ouen Toro**	**3.46**	**230**	P	**Pn**		**03 44 35.3**	**+2.5**
ONTNC	**Ouen Toro**	**3.46**	**230**	S	**Sn**		**03 45 13.6**	**+1.0**
KOUNC	**Koumac, New Ca**	**4.76**	**264**	P	**Pn**		**03 44 53.3**	**+2.7**
SANVU	**Saraoutou**	**5.06**	**336**	Pn	**Pn**		**03 44 52.3**	**-2.6**
SANVU	**Saraoutou**	**5.06**	**336**	P	**Pn**		**03 44 57.8**	**+2.9**
MSVF	**Nonsavu**	**8.58**	**75**		Pn		03 45 51.2	+8.0
HNR	**Honiara**	**13.96**	**318**	P	**Pn**		**03 46 53.5**	**-3.1**
	12nm,0.3s,baz=204,slow=6.7,SNR=2.6							
HNR				LR	LR		03 51 50.6	
	comp=Z,116nm,19.7s,baz=289,slow=36							
	127nm,0.7s							
EIDS	**Eidsvold**	**17.62**	**249**	P	**P**		**03 47 47.8**	**+3.8**
ARMA	**Armidale**	**18.99**	**234**	Pn	**P**		**03 48 00.9**	**+1.8**
ARMA				IAmb	IAmb		03 48 04.1	
	comp=Z,15nm,1.0s							
URZ	**Urewera**	**19.30**	**161**	P	**P**		**03 48 04.8**	**+2.6**
	comp=Z,1.1nm,0.3s,baz=355,slow=6.2,SNR=7.0							
	comp=Z,20nm,0.7s							
RTZ	**Ruatahuna**	**19.59**	**162**	P	**P**		**03 48 07.5**	**+2.1**
RTZ				IAmb	IAmb		03 48 27.6	
	comp=Z,51nm,1.1s							
BKZ	**Black Stump Fm**	**19.97**	**164**	P	**P**		**03 48 12.0**	**+2.5**
BKZ				IAmb	IAmb		03 48 15.0	
	comp=Z,39nm,1.1s							
MRZ	**Mangatainoka R**	**21.16**	**167**	P	**P**		**03 48 23.8**	**+1.3**
TUWZ	**Tuamarina**	**21.61**	**171**	P	**P**		**03 48 28.9**	**+1.7**
CTAO	**Charters Tower**	**21.67**	**266**	P	**P**		**03 48 30.2**	**+2.1**
CTAO				IAmb	IAmb		03 48 31.9	
	comp=Z,32nm,1.5s							
STKA	**Stephens Creek**	**27.47**	**239**	P	**P**		**03 49 23.0**	**+0.1**
STKA				IAmb	IAmb		03 49 25.3	
	comp=Z,17nm,0.8s							
STKA	**Stephens Creek**	**27.47**	**239**	P	**P**		**03 49 22.7**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=60,slow=8.7,SNR=7.5							
	comp=Z,2.7nm,0.8s							
RAR	**Rarotonga**	**28.91**	**98**	LR	LR		03 59 15.7	
	comp=Z,44nm,20.1s,baz=276,slow=32							
WR8	**Warramunga Arr**	**32.69**	**264**	P	**P**		**03 50 08.3**	**-1.0**
WB0	**Warramunga Arr**	**32.81**	**264**	P	**P**		**03 50 09.2**	**-1.1**
WB0				IAmb	IAmb		03 50 10.6	
	comp=Z,5.1nm,0.8s							
WRAB	**Tennant Creek**	**32.84**	**264**	P	**P**		**03 50 09.8**	**-0.8**
WRA	**Warramunga Arr**	**32.84**	**264**	P	**P**		**03 50 09.7**	**-1.0**
WRA	**Warramunga Arr**	**32.84**	**264**	P	**P**		**03 50 09.9**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=92,slow=8.4,SNR=30							
	comp=Z,1.9nm,0.5s							
AS31	**Alice Springs**	**33.01**	**257**	P	**P**		**03 50 12.1**	**0.0**
ASAR	**Alice Springs**	**33.01**	**257**	P	**P**		**03 50 11.4**	**-0.7**
ASAR	**Alice Springs**	**33.01**	**257**	P	**P**		**03 50 12.2**	**+0.1**
	comp=Z,16nm,0.6s,baz=84,slow=9.0,SNR=142							
	comp=Z,16nm,0.6s							
FORT	**Forrest**	**38.56**	**246**	P	**P**		**03 50 59.4**	**-0.1**
FORT				IAmb	IAmb		03 51 10.3	
	comp=Z,8.5nm,1.1s							
FITZ	**Fitzroy Crossi**	**41.25**	**265**	P	**P**		**03 51 21.9**	**-0.1**
MBWA	**Marble Bar**	**46.28**	**260**	P	**P**		**03 52 00.8**	**-1.6**
MBWA				IAmb	IAmb		03 52 03.6	
	comp=Z,9.9nm,0.9s							
NWAO	**Narrogin (SRO)**	**47.90**	**243**	P	**P**		**03 52 14.7**	**-0.2**
VNDA	**Vanda**	**57.56**	**182**	P	**P**		**03 53 25.9**	**+0.3**
VNDA	**Vanda**	**57.56**	**182**	P	**P**		**03 53 25.8**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=50,slow=1.7,SNR=3.8							
	comp=Z,0.4nm,0.6s							
CASY	**Casey**	**59.37**	**204**	P	**P**		**03 53 37.9**	**-0.3**
MAJO	**Matsushiro**	**63.56**	**332**	P	**P**		**03 54 04.7**	**-2.2**
MAJO				IAmb	IAmb		03 54 38.3	
	comp=Z,12nm,1.4s							
MJB9	**Matsu-Tunnel**	**63.57**	**332**	P	**P**		**03 54 05.0**	**-2.0**
MJB9				IAmb	IAmb		03 54 39.2	
	comp=Z,14nm,1.5s							
QSPA	**South Pole Qui**	**69.94**	**180**	P	**P**		**03 54 49.2**	**+1.8**
QSPA				IAmb	IAmb		03 54 50.3	
	comp=Z,3.4nm,0.8s							
QSPA	**South Pole Qui**	**69.94**	**180**	P	**P**		**03 54 49.0**	**+1.6**
	comp=Z,3.2nm,0.7s,baz=342,slow=0.8,SNR=28							
	comp=Z,3.2nm,0.7s							
MAW	**Mawson**	**77.66**	**202**	P	**P**		**03 55 32.8**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=90,slow=6.4,SNR=3.6							
	comp=Z,1.0nm,0.7s							
SONM	**Songino Array**	**87.97**	**323**	P	**P**		**03 56 25.6**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=148,slow=8.5,SNR=3.1							
	comp=Z,0.6nm,0.6s							
NVAR	**Mina Array Bea**	**89.31**	**48**	P	**P**		**03 56 33.0**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=222,slow=7.3,SNR=5.2							
	comp=Z,0.6nm,0.7s							
PINE	**Pine Mountain**	**90.00**	**43**	P	**P**		**03 56 35.5**	**-0.3**
PINE				IAmb	IAmb		03 56 38.7	
	comp=Z,3.9nm,0.8s							
ILAR	**Eielson Array**	**91.03**	**17**	P	**P**		**03 56 38.8**	**-1.1**
ILAR	**Eielson Array**	**91.03**	**17**	P	**P**		**03 56 37.8**	**-2.1**
	comp=Z,0.5nm,0.6s,baz=236,slow=5.2,SNR=9.2							
	comp=Z,0.5nm,0.6s							
F21K	**Alatna River**	**91.34**	**14**	P	**P**		**03 56 41.5**	**+0.2**
TXAR	**Lajitas Array**	**97.10**	**61**	P	Pdif		03 57 09.3	+0.5
	comp=Z,0.1nm,0.8s,baz=278,slow=4.1,SNR=1.5							
	comp=Z,0.1nm,0.8s							
SPITS	**Spitsbergen Ar**	**120.47**	**354**	PKP	**PKPdf**		**04 02 25.0**	**-1.6**
	comp=Z,7.2nm,1.0s,baz=29,slow=3.3,SNR=2.2							
ARCES	**ARCESS Array B**	**125.93**	**345**	PKP	**PKPdf**		**04 02 36.2**	**-1.0**
	comp=Z,6.3nm,1.1s,baz=45,slow=3.6,SNR=19							
FINES	**FINESS Array B**	**131.42**	**337**	PKP	**PKPdf**		**04 02 45.6**	**-2.2**
	comp=Z,1.5nm,0.9s,baz=97,slow=4.8,SNR=1.5							
AKASG	**Malin Array Be**	**136.25**	**324**	PKP	**PKPdf**		**04 02 55.8**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=87,slow=0.8,SNR=2.2							
NOA	**NORSAR Array B**	**136.31**	**345**	PKP	**PKPdf**		**04 02 56.6**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=36,slow=2.2,SNR=2.1							
CHVC	**Chvalec**	**142.98**	**332**	*e*PKP	PKPpre		04 03 01.8	
EKA	**Eskdalemuir Ar**	**144.38**	**353**	PKP	**PKPab**		**04 03 09.7**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=345,slow=2.4,SNR=7.1							
ZVC	**Zvikov**	**144.64**	**332**	*e*PKP	PKPbc		04 03 11.4	+0.1
RONA	**Rosalia, Austr**	**144.87**	**328**	*i* PKP	PKPbc		04 03 12.7	+0.6
	comp=Z,7.3nm,0.9s							
CONA	**Conrad Observa**	**144.93**	**328**	*i* PKiKP	**PKPdf**		**04 03 13.0**	**-0.1**
	comp=Z,3.3nm,0.5s							
CKRC	**Cesky Krumlov**	**145.04**	**331**	*e*PKP	**PKPab**		**04 03 12.6**	**-0.1**
KHC	**Kasperske Hory**	**145.14**	**332**	*e*PKP	PKPbc		04 03 12.8	-0.2
GERES	**GERESS Array B**	**145.30**	**331**	PKPbc	**PKPbc**		**04 03 13.3**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=26,slow=3.4,SNR=20							
MOA	**Molln**	**145.76**	**330**	*i* PKiKP	**PKPab**		**04 03 15.3**	**0.0**
	comp=Z,2.5nm,0.5s							
OBKA	**Obir**	**146.56**	**328**	*e*PKP	**PKPdf**		**04 03 15.1**	**-0.8**
	comp=Z,0.9nm,0.4s							
LESA	**Schwarzleotal**	**146.81**	**331**	*i* PKP	**PKPbc**		**04 03 17.7**	**-0.5**
	comp=Z,3.8nm,0.5s,SNR=5.5							
ABTA	**Abtaersbach**	**147.38**	**330**	*e*PKP	**PKPdf**		**04 03 18.6**	**+1.3**
	comp=Z,3.5nm,0.6s							
MOTA	**Moosalm**	**147.58**	**332**	*e*PKP	**PKPbc**		**04 03 19.9**	**-0.5**
	comp=Z,4.1nm,0.7s,SNR=4.2							
RETA	**Reutte**	**147.62**	**332**	*i* PKP	**PKPbc**		**04 03 20.0**	**-0.4**
	comp=Z,4.2nm,0.9s							
SQTA	**Sankt Quirin**	**147.63**	**332**	*e*PKP	**PKPbc**		**04 03 20.2**	**-0.2**
	comp=Z,5.8nm,0.5s							
FETA	**Feichten**	**147.99**	**332**	*e*PKiKP	**PKPbc**		**04 03 21.4**	**-0.1**
	comp=Z,5.7nm,0.8s,SNR=6.8							
DAVA	**Damuels**	**148.15**	**333**	*e*PKiKP	**PKPbc**		**04 03 21.5**	**-0.4**
	comp=Z,5.9nm,0.9s							

IDC 26 03:50:46.0±2.0, 3°.51S×128°.20E, h0km, mb3.4/3, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=164.6km s-min=27.3km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**17.39**	**160**	P	Pn		03 54 50.8	+0.5
	0.1nm,0.3s,baz=339,slow=12,SNR=3.2							
	0.8nm,0.8s							
ASAR	**Alice Springs**	**20.78**	**165**	P	P		03 55 28.8	-0.1
	1.2nm,0.6s,baz=348,slow=12,SNR=4.1							
	1.2nm,0.6s							
MKAR	**Makanchi Array**	**64.34**	**327**	P	P		04 01 23.6	0.0
	0.2nm,0.6s,baz=112,slow=6.4,SNR=2.2							
	0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**68.62**	**329**	P	P		04 01 50.9	0.0
	0.3nm,0.6s,baz=108,slow=4.2,SNR=1.7							
	0.3nm,0.6s							

AEIC ***26*** *03:55:38.2±0.4, 53°.9N±0°.2×165°.9W±0°.2, h67km±8km, Error ellipse: s-maj=30.8km s-min=4.2km az=153.0*

NEIC 26 03:55:38.9±0.5, 53°.9N±0°.3×165°.9W±0°.2, h65km±15km, ML2.7/12, ML2.2(AEIC), Error ellipse: s-maj=44.9km s-min=2.3km az=154.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AKBBA	**Akutan Broad B**	**0.22**	**350**		Pn		03 55 49.0	0.0
ZRO	**Akutan Zero**	**0.22**	**342**		Pn		03 55 49.1	0.0
ZRO					Sn		03 55 57.1	+0.8
AKMO	**Akutan Morgan**	**0.22**	**338**		Pn		03 55 49.1	+0.1
AKMO					Sn		03 55 57.4	+1.1
AKUT	**Akutan**	**0.26**	**13**		Pn		03 55 49.2	+0.1
AKUT				Sn	Sn		03 55 57.6	+1.0
AKUT				IAML			03 55 57.8	
	comp=E,532nm,0.2s							
AKUT				IAML			03 55 57.9	
	comp=N,371nm,0.2s							
AKSA	**Akutan Strait**	**0.27**	**22**		Pn		03 55 49.1	-0.2
AKSA					Sn		03 55 57.5	+0.7
AKRB	**Akutan Reef Bi**	**0.27**	**334**		Pn		03 55 49.5	+0.2
AKRB					Sn		03 55 57.9	+1.0
AKLV	**Akutan Long Va**	**0.28**	**349**		Pn		03 55 49.4	-0.1
LVA	**Lava Point**	**0.29**	**340**		Pn		03 55 49.7	+0.2
LVA	**Lava Point**	**0.29**	**340**	IAML			03 55 59.2	
	comp=N,216nm,0.6s							
AKGG	**Akutan Green G**	**0.32**	**347**		Pn		03 55 49.8	+0.1
UNV	**Unalaska Valle**	**0.38**	**264**		Pn		03 55 50.0	-0.1
MNAT	**Makushin Natee**	**0.48**	**270**		Pn		03 55 51.0	-0.1
MREP	**Makushin Rep't**	**0.53**	**262**		Pn		03 55 51.4	-0.2
MSW	**Makushin Switc**	**0.54**	**273**		Pn		03 55 51.5	-0.2
MSW					Sn		03 56 02.2	+1.2
MGOD	**Makushin Gods**	**0.60**	**262**		Pn		03 55 52.0	-0.4
MAPS	**Pakushin South**	**0.64**	**263**		Pn		03 55 52.4	-0.3
WEBT	**Westdahl Beart**	**0.96**	**42**		Pn		03 55 56.5	-0.2
SSBA	**Shishaldin**	**1.35**	**48**		Pn		03 56 01.2	-0.6
SSLS	**Shishaldin Sou**	**1.37**	**52**		Pn		03 56 01.7	-0.4
OKTU	**Okmok Mt. Tuli**	**1.39**	**250**		Pn		03 56 02.4	+0.1
OKNC	**Okmok New Cone**	**1.41**	**253**		Pn		03 56 02.5	0.0
ISNN	**Isanotski Nort**	**1.55**	**51**		Pn		03 56 04.3	-0.1
FALS	**False Pass**	**1.73**	**55**		Pn		03 56 06.6	-0.2
NIKH	**Nikolski High**	**2.01**	**244**		Pn		03 56 10.6	0.0
NIKH	**Nikolski High**	**2.01**	**244**	IAML			03 56 40.7	
	comp=E,53nm,1.0s							
NIKH				IAML			03 57 27.5	
	comp=N,50nm,1.0s							
DT1	**Dutton Round H**	**2.42**	**58**		Pn		03 56 15.8	-0.3
SDPT	**Sand Point**	**3.46**	**63**	Pn	Pn		03 56 30.4	+0.2
SDPT				IAML			03 58 20.9	
	comp=E,22nm,1.2s							

NEIC ***26*** *03:57:13.7±1.3, 42°.6N±0°.1×146°.6E±0°.1, h10km±2km, mb4.4/26, Error ellipse: s-maj=19.3km s-min=15.6km az=155.0*

MOS ***26*** *03:57:16.3±1.1, 42°.77N×146°.55E, h40km, mb4.6/5, Error ellipse: s-maj=15.3km s-min=8.3km az=114.2*

JMA ***26*** *03:57:17.1±0.2, 42°.9N±0°.7×14°7E±°, h49km±3km, MV3.9/34, OFF NEMURO PENINSULA*

NIED ***26*** *03:57:17.1, 42°.88N×146°.60E, h49km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.26; Mθθ-0.65; Mφφ-0.61; Mrθ0.47; Mrφ-0.62; Mθφ0.27; Fault plane solution: Mo1.37000×10¹⁵ NP1: φs221.00000°, δ34.00000°, λ81.00000°. NP2:φs51.00000°, δ57.00000°, λ96.00000°.*

SKHL ***26*** *03:57:17.5±0.6, 42°.80N×146°.70E, h50km±8km, mb5.0/4*

IDC ***26*** *03:57:26.5±2.8, 42°.68N×145°.72E, h96km±24km, mb3.6/14, mbtmp3.9/16, MS3.3/2, Error ellipse: s-maj=23.8km s-min=18.9km az=80.0*

ISC 26 03:57:17.5±1.5, 42°.82N±0°.05×146°.43E±0°.05, h28km±10km, n91, σ1§13/99, mb4.3/28, 2C-2D, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
NEM2	**Nemuro 2**	**0.74**	**318**	P	**Pn**		**03 57 32.1**	**+0.1**
NEM2				*e*S	**Sn**		**03 57 42.9**	**+0.5**
NMR	**Nemuro--Hokkai**	**0.75**	**318**	⇓*i* PN	**Pb**		**03 57 32.1**	**+0.1**
NMR				*i* S	**Sn**		**03 57 42.9**	**+0.2**
NMR	**Nemuro--Hokkai**	**0.75**	**318**	*i* P	**Pb**		**03 57 32.1**	**+0.1**
NMR				*i* S	**Sn**		**03 57 43.2**	**+0.5**
JKHN	**Kushirohamanak**	**0.97**	**287**	P	**Pn**		**03 57 36.3**	**+1.2**
JKHN				*e*S	**Sn**		**03 57 50.5**	**+2.6**
SHO	**Shikotan**	**1.10**	**16**	*e*P	**Pb**		**03 57 40.4**	**+2.6**
SHO				AMB	AMB		03 57 41.0	
	600nm,0.6s							
SHO				*e*S	**Sn**		**03 57 54.4**	**+3.3**
SHO				A	A		03 57 55.3	
	10μm,0.6s							
SHO				A	A		03 57 55.3	
	7μm,0.6s							
GLVR	**Golovnino**	**1.14**	**325**	⇓*i* PN	**Pn**		**03 57 37.6**	**+0.1**
GLVR				*i* S	**Sb**		**03 57 52.4**	**-0.4**
GLVR				pmax	pmax			
	comp=E,185nm,0.2s							
GLVR				pmax	pmax			
	comp=Z,634nm,0.2s							
GLVR				smax	smax			
	comp=N,5μm,0.4s							
GLVR				smax	smax			
	comp=E,4μm,0.4s							
GLVR	**Golovnino**	**1.14**	**325**	AMB	AMB		03 57 38.3	
	comp=E,630nm,0.2s							
GLVR				*i* S	**Sb**		**03 57 52.4**	**-0.4**
GLVR				A	A		03 57 54.2	
	comp=E,5μm,0.4s							
GLVR				A	A		03 57 54.2	
	comp=E,4μm,0.4s							
AKK	**Akkeshi**	**1.18**	**280**	*i* P	**Pb**		**03 57 39.3**	**+0.1**
JAK	**Akkeshi**	**1.28**	**279**	*e*P	**Pn**		**03 57 40.5**	**+1.0**
YUK	**Yuzh-Kuril'sk**	**1.29**	**342**	*c i*PN	**Pn**		**03 57 38.6**	**-0.9**
YUK				*i* S	**Sn**		**03 57 54.5**	**-1.3**
YUK				pmax	pmax			
	comp=N,427nm,0.3s							
YUK				pmax	pmax			
	comp=Z,1μm,0.3s							
YUK				pmax	pmax			
	comp=E,365nm,0.2s							
YUK				smax	smax			
	comp=N,4μm,0.5s							
YUK				smax	smax			
	comp=E,5μm,0.5s							
YUK				smax	smax			
	comp=N,4μm,1.2s							
YUK				smax	smax			
	comp=E,7μm,1.1s							
YUK	**Yuzh-Kuril'sk**	**1.29**	**342**	*i* P	**Pn**		**03 57 38.7**	**-0.8**
YUK				AMB	AMB		03 57 39.7	
	comp=E,2μm,0.6s							
YUK				*i* S	**Sn**		**03 57 54.5**	**-1.3**
YUK				A	A		03 57 56.9	
	comp=E,6μm,0.5s							
YUK				A	A		03 57 56.9	
	comp=E,6μm,0.5s							
JNSB	**Nemuroshibetsu**	**1.41**	**313**	*e*P	**Pn**		**03 57 41.6**	**+0.3**
JNSB				*e*S	**Sn**		**03 57 59.5**	**+0.6**
JNK	**Nakash**	**1.47**	**302**	*e*P	**Pn**		**03 57 42.4**	**+0.4**
JNK				*e*S	**Sn**		**03 58 01.0**	**+0.7**
JRA	**Rausu**	**1.47**	**320**	*e*P	**Pn**		**03 57 42.3**	**+0.2**
JRA				*e*S	**Sn**		**03 58 01.0**	**+0.6**
RUSJ	**Misakicho**	**1.55**	**327**	⇑*i* PN	**Pn**		**03 57 43.5**	**+0.4**
RUSJ				*i* S	**Sb**		**03 58 03.9**	**-0.7**
JOB	**Onbets**	**1.91**	**274**	*e*P	**Pn**		**03 57 49.5**	**+1.5**
JAR	**Ashorobuto**	**2.00**	**285**	P	**Pn**		**03 57 50.7**	**+1.3**
JAR				*e*S	**Sn**		**03 58 16.1**	**+2.6**
JTKR	**Abashiri--Toko**	**2.17**	**303**	P	**Pn**		**03 57 53.2**	**+1.6**
JCH	**Churui**	**2.27**	**266**	*e*P	**Pn**		**03 57 54.8**	**+1.8**
ERM	**Erimo**	**2.55**	**253**		**Pn**		**03 57 56.6**	**-0.3**
ERM	**Erimo**	**2.55**	**253**	PN	**Pn**		**03 57 56.6**	**-0.3**
KUR	**Kuril'sk**	**2.63**	**23**	PN	**Pn**		**03 57 58.5**	**+0.5**
KUR				*e*S	**Sn**		**03 58 28.4**	**-0.6**
KUR				smax	smax			
	comp=E,294nm,0.4s							
KUR				smax	smax			
	comp=N,131nm,0.2s							
KUR	**Kuril'sk**	**2.63**	**23**	*e*P	**Pn**		**03 57 57.5**	**-0.5**
KUR				AMB	AMB		03 57 59.9	
	comp=N,160nm,0.6s							
KUR				*e*S	**Sn**		**03 58 27.4**	**-1.6**
KUR				A	A		03 58 29.9	
	comp=N,350nm,0.4s							
KUR				A	A		03 58 29.9	
	comp=N,240nm,0.4s							
JKA	**Kamikawa-asahi**	**3.07**	**296**		**Pn**		**03 58 06.7**	**+2.6**
JKA	**Kamikawa-asahi**	**3.07**	**296**	*e*P	**Pn**		**03 58 07.1**	**+3.0**
ASAJ	**Asahikawa**	**3.08**	**296**	P	**Pn**		**03 58 07.1**	**+2.9**
	comp=N,39nm,0.5s,baz=104,slow=10,SNR=28							
ASAJ				S	**Sb**		**03 58 46.8**	**-1.8**
	comp=N,100nm,0.6s,baz=9.2,slow=30,SNR=7.7							
JTM	**Tenmabayashi**	**4.49**	**245**	Pn	**Pn**		**03 58 22.7**	**-0.8**
JTM				Sn	**Sn**		**03 59 14.7**	**-0.1**
YSS	**Yuzhno-Sakhali**	**4.89**	**329**	*e*PN	**Pn**		**03 58 28.3**	**-0.8**
YSS				pmax	pmax			
	comp=Z,20nm,0.9s							
YSS				MLR	MLR			
	comp=Z,400nm,17.0s							
YSS				MLR	MLR			
	comp=N,500nm,15.0s							
YSS	**Yuzhno-Sakhali**	**4.89**	**329**	*e*P	**Pn**		**03 58 28.3**	**-0.8**
YSS				*e*S	**Sn**		**03 59 21.7**	**-3.0**
MJA0	**Matsu Arr-Jizo**	**8.88**	**228**	*e*PN	Pn		03 59 40.6	+17
MJA0				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MJAR	**Matsushiro Arr**	**8.90**	**228**	P	**Pn**		**03 59 25.7**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=38,slow=15,SNR=1.9							
JMN	**Monobe**	**13.38**	**231**	Pn	**Pn**		**04 00 24.4**	**

BVAR	**Borovoye Array**	**49.69**	**310**	P	**P**	**04 06 06.6**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=73,slow=11,SNR=2.7						
	comp=Z,0.6nm,0.4s						
ARTI	**Arti**	**54.78**	**317**	P	**P**	**04 06 44.5**	**+0.2**
ARTI				IAmb	IAmb	04 06 45.9	
	comp=Z,4.6nm,0.7s						
ARTI	**Arti**	**54.78**	**317**	P	**P**	**04 06 44.5**	**+0.2**
ARTI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AB31	**Akbulak array**	**57.24**	**309**		**P**	**04 07 02.1**	**+0.1**
AB31				IAmb	IAmb	04 07 03.0	
	comp=Z,3.4nm,0.6s						
ABKAR	**Akbulak array**	**57.24**	**309**		**P**	**04 07 02.1**	**+0.2**
E03A	**Lebam**	**60.67**	**52**	P	**P**	**04 07 25.6**	**-0.2**
WRA	**Warramunga Arr**	**63.43**	**193**	P	**P**	**04 07 44.6**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=11,slow=6.8,SNR=1.9						
	comp=Z,0.3nm,0.7s						
FINES	**FINESS Array B**	**65.47**	**333**	P	**P**	**04 07 56.8**	**-0.6**
	comp=Z,3.6nm,0.9s,baz=46,slow=8.2,SNR=8.2						
	comp=Z,3.6nm,0.9s						
ASAR	**Alice Springs**	**67.15**	**192**	P	**P**	**04 08 07.5**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=24,slow=6.8,SNR=4.4						
	comp=Z,0.4nm,0.7s						
NB2	**NORSAR Subarra**	**70.28**	**339**	P	**P**	**04 08 26.9**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=33,slow=6.5						
NOA	**NORSAR Array B**	**70.28**	**339**	P	**P**	**04 08 27.0**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=34,slow=6.1,SNR=6.4						
	comp=Z,1.9nm,0.9s						
NOA	**NORSAR Array B**	**70.28**	**339**	*e*P	**P**	**04 08 27.2**	**-0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HFS	**Hagfors**	**70.34**	**337**	P	**P**	**04 08 27.4**	**-0.7**
	comp=Z,2.8nm,0.9s,baz=43,slow=6.7,SNR=5.8						
	comp=Z,2.8nm,0.9s						
PDAR	**Pinedale Array**	**70.92**	**49**	P	P	04 08 38.3	+6.1
	comp=Z,0.1nm,0.5s,baz=308,slow=7.6,SNR=2.4						
	comp=Z,0.1nm,0.5s						
AKASG	**Malin Array Be**	**72.02**	**324**	P	**P**	**04 08 37.5**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=42,slow=7.2,SNR=6.2						
	comp=Z,0.5nm,0.4s						
AKASG	**Malin Array Be**	**72.02**	**324**	*e*P	**P**	**04 08 39.2**	**+0.8**
BRTR	**Keskin Array B**	**77.80**	**313**	P	**P**	**04 09 12.5**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=42,slow=4.5,SNR=2.6						
	comp=Z,0.5nm,0.7s						
TXAR	**Lajitas Array**	**83.61**	**56**	P	**P**	**04 09 44.2**	**+0.8**
	comp=Z,0.1nm,0.6s,baz=324,slow=8.2,SNR=1.4						

NEIC ***26*** *04:01:45.0±1.2, 19.2°21N±0.°04×67.°24W±0.°02, h10km±1km, ML2.8/13, Md3.0/15(RSPR), Error ellipse: s-maj=6.4km s-min=3.3km az=171.0*
SDD ***26*** *04:01:49.1±2.2, 19.°10N×67.°14W, h22km±149km, MD3.6, ML2.7, MW3.1*
OSPL ***26*** *04:01:49.0±0.3, 19.°11N×67.°27W, h20km±1km, ML2.6*
RSPR ***26*** *04:01:50.5, 19.°07N×67.°17W, h10km±31km, MD3.0/15*

ISC 26 04:01:47.6±1.4, 19.°13N±0.°06×67.°18W±0.°03, h28km±12km, n61, σ0°65/79, 26C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.67**	**174**				**Pn**	**04 02 01.2**	**-0.1**
AGPR							**Sb**	**04 02 10.1**	**+0.4**
AGPR	**Aguadilla, PR**	**0.67**	**174**	↓	*e*P		**Pn**	**04 02 01.2**	**-0.1**
AGPR	**Aguadilla, PR**	**0.67**	**174**		*e*S		**Sb**	**04 02 10.1**	**+0.4**
AGPR	**Aguadilla, PR**	**0.67**	**174**	↑	*e*Pg		**Pb**	**04 02 00.9**	**+0.2**
AGPR				↓	*e*Sg		**Sb**	**04 02 09.3**	**-0.4**
AGPR					IAML			04 02 15.0	
	comp=N,541nm,0.2s								
AGPR	**Aguadilla, PR**	**0.67**	**174**	*i*	P		**Pb**	**04 02 00.7**	**-0.1**
AGPR					*e*S		**Sb**	**04 02 09.5**	**-0.2**
AGPR					IAML			04 02 11.2	
	comp=Z,286nm,0.1s								
AOPR	**Arecibo Observ**	**0.88**	**153**				**Pn**	**04 02 03.7**	**-0.5**
AOPR	**Arecibo Observ**	**0.88**	**153**				**Sn**	**04 02 16.0**	**0.0**
AOPR	**Arecibo Observ**	**0.88**	**153**	↑	*e*P		**Pn**	**04 02 03.9**	**-0.3**
AOPR	**Arecibo Observ**	**0.88**	**153**		*e*S		**Sn**	**04 02 16.0**	**0.0**
AOPR	**Arecibo Observ**	**0.88**	**153**	↑	*e*Pg		**Pn**	**04 02 04.0**	**-0.2**
AOPR					*e*Sg		**Sb**	**04 02 13.6**	**-2.2**
AOPR					IAML			04 02 30.8	
	comp=N,308nm,0.2s								
EMPR	**Esperanza - Ma**	**0.90**	**137**				**Pb**	**04 02 05.5**	**+0.9**
EMPR							**Sn**	**04 02 17.0**	**+0.6**
EMPR	**Esperanza - Ma**	**0.90**	**137**		Pg		**Pb**	**04 02 04.8**	**+0.2**
EMPR	**Esperanza - Ma**	**0.90**	**137**	↑	*e*P		**Pb**	**04 02 05.5**	**+0.9**
EMPR	**Esperanza - Ma**	**0.90**	**137**		*e*S		**Sn**	**04 02 17.0**	**+0.6**
PRSN	**Puerto Rico Se**	**0.91**	**178**				**Pn**	**04 02 04.5**	**-0.1**
PRSN							**Sn**	**04 02 17.1**	**+0.3**
PRSN	**Puerto Rico Se**	**0.91**	**178**	↑	*e*P		**Pn**	**04 02 04.5**	**-0.1**
PRSN	**Puerto Rico Se**	**0.91**	**178**		*e*S		**Sn**	**04 02 17.1**	**+0.3**
PRSN	**Puerto Rico Se**	**0.91**	**178**	↑	*e*Pg		**Pn**	**04 02 04.6**	**0.0**
PRSN				↑	*e*Sg		**Sb**	**04 02 16.3**	**-0.4**
PRSN					IAML			04 02 18.7	
	comp=N,735nm,0.2s								
LSP	**Las Mesas**	**0.96**	**175**				**Pn**	**04 02 05.3**	**0.0**
LSP							**Sb**	**04 02 18.5**	**+0.6**
LSP	**Las Mesas**	**0.96**	**175**	↑	*e*P		**Pn**	**04 02 05.3**	**0.0**
LSP	**Las Mesas**	**0.96**	**175**		*e*S		**Sb**	**04 02 18.5**	**+0.6**
UUPR	**Utuado, UPR, P**	**0.98**	**154**				**Pn**	**04 02 05.2**	**-0.4**
UUPR							**Sn**	**04 02 18.2**	**-0.3**
UUPR	**Utuado, UPR, P**	**0.98**	**154**				**Pn**	**04 02 05.0**	**-0.5**
UUPR	**Utuado, UPR, P**	**0.98**	**154**	↑	*e*P		**Pn**	**04 02 05.2**	**-0.4**
UUPR	**Utuado, UPR, P**	**0.98**	**154**		*e*S		**Sn**	**04 02 18.2**	**-0.3**
ECPR	**Experimental S**	**1.12**	**136**	↑	*e*P		**Pn**	**04 02 07.8**	**+0.3**
ECPR	**Experimental S**	**1.12**	**136**		*e*S		**Sn**	**04 02 21.8**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.12**	**177**				**Pn**	**04 02 07.7**	**+0.2**
CRPR							**Sn**	**04 02 22.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.12**	**177**		IAML			04 02 23.4	
	comp=E,185nm,0.4s								
CRPR	**Cabo Rojo, PR**	**1.12**	**177**	↑	*e*P		**Pn**	**04 02 07.7**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.12**	**177**		*e*S		**Sn**	**04 02 22.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.12**	**177**		*e*Pg		**Pn**	**04 02 08.0**	**+0.5**
CRPR				↑	*e*Sg		**Sn**	**04 02 21.1**	**-0.9**
CRPR					IAML			04 02 23.2	
	comp=N,145nm,0.2s								
CRPR	**Cabo Rojo, PR**	**1.12**	**177**	*i*	P		**Pn**	**04 02 07.7**	**+0.2**
CRPR					*e*S		**Sn**	**04 02 21.6**	**-0.4**
CRPR					IAML			04 02 23.3	
	comp=Z,160nm,0.3s								
MLPR	**Magueyes Islan**	**1.17**	**174**	↑	*e*P		**Pn**	**04 02 08.4**	**+0.3**
MLPR	**Magueyes Islan**	**1.17**	**174**		*e*S		**Sn**	**04 02 23.0**	**0.0**
MLPR	**Magueyes Islan**	**1.17**	**174**		*e*Pg		**Pn**	**04 02 08.5**	**+0.5**
MLPR				↓	*e*Sg		**Sn**	**04 02 23.4**	**+0.3**
MLPR					IAML			04 02 23.4	
	comp=N,56nm,0.3s								
GBPR	**Guanica, Bosqu**	**1.19**	**166**				**Pn**	**04 02 08.9**	**+0.6**
GBPR	**Guanica, Bosqu**	**1.19**	**166**	↑	*e*P		**Pn**	**04 02 08.9**	**+0.6**
CELP	**Cerrillos**	**1.20**	**152**				**Pn**	**04 02 08.7**	**+0.2**
CELP					IAML			04 02 28.6	
	comp=E,138nm,0.3s								
CELP	**Cerrillos**	**1.20**	**152**	↑	*e*Pg		**Pn**	**04 02 09.1**	**+0.5**
CELP				↑	*e*Sg		**Sn**	**04 02 24.1**	**+0.2**
CELP					IAML			04 02 25.3	
	comp=N,248nm,0.2s								
OBIP	**Obispado Ponce**	**1.21**	**153**				**Pn**	**04 02 08.9**	**+0.2**
OBIP					IAML			04 02 25.6	
	comp=N,161nm,0.3s								
OBIP					IAML			04 02 29.8	
	comp=E,153nm,0.2s								
GCPR	**Guaynabo City**	**1.32**	**128**				**Pn**	**04 02 10.9**	**+0.6**
GCPR	**Guaynabo City**	**1.32**	**128**				**Sb**	**04 02 28.2**	**-0.2**
GCPR	**Guaynabo City**	**1.32**	**128**	↑	*e*P		**Pb**	**04 02 11.1**	**-0.7**
GCPR	**Guaynabo City**	**1.32**	**128**		*e*S		**Sb**	**04 02 28.2**	**-0.2**
SJG	**San Juan**	**1.41**	**136**				**Pb**	**04 02 12.7**	**-0.6**
SJG					IAML			04 02 38.3	
	comp=E,129nm,0.3s								
SJG					IAML			04 02 38.7	
	comp=E,115nm,0.2s								
SJG	**San Juan**	**1.41**	**136**	↑	*e*P		**Pb**	**04 02 12.8**	**-0.5**
SJG	**San Juan**	**1.41**	**136**	↑	*e*Pg		**Pb**	**04 02 14.2**	**+0.9**
SJG				↑	*e*Sg		**Sn**	**04 02 29.1**	**0.0**
SJG	**San Juan**	**1.41**	**136**	*i*	P		**Pb**	**04 02 12.6**	**-0.6**
SJG					*e*S		**Sn**	**04 02 29.9**	**+0.9**
SJG					IAML			04 02 38.8	
	comp=Z,66nm,0.5s								
IGPR	**InterUniversit**	**1.54**	**139**				**Pn**	**04 02 14.1**	**+0.8**
IGPR							**Sn**	**04 02 32.7**	**+0.3**
IGPR	**InterUniversit**	**1.54**	**139**	↑	*e*P		**Pn**	**04 02 14.1**	**+0.8**
IGPR	**InterUniversit**	**1.54**	**139**		*e*S		**Sn**	**04 02 32.7**	**+0.3**
HIDR	**Higuey Centro**	**1.55**	**250**	↑	*e*P		**Pb**	**04 02 15.2**	**-0.6**
HIDR	**Higuey Centro**	**1.55**	**250**	↑	*e*Pg		**Pb**	**04 02 15.3**	**-0.5**
HIDR				↑	*e*Sg		**Sb**	**04 02 36.2**	**+1.2**
HIDR					IAML			04 02 40.6	
	comp=N,173nm,0.2s								

PDPR	**Patillas Dam,**	**1.56**	**135**			**Pn**	**04 02 14.1**	**+0.6**
PDPR					IAML		04 02 35.7	
	comp=E,86nm,0.1s							
PDPR	**Patillas Dam,**	**1.56**	**135**	↑	*e*P	**Pb**	**04 02 14.9**	**-1.0**
PDPR	**Patillas Dam,**	**1.56**	**135**		*e*S	**Sb**	**04 02 34.1**	**-1.1**
MIDR	**Miches**	**1.78**	**265**	↑	*e*P	**Pb**	**04 02 19.0**	**-0.6**
MIDR	**Miches**	**1.78**	**265**	↓	*e*Pg	**Pb**	**04 02 19.2**	**-0.4**
MIDR					IAML		04 02 49.2	
	comp=N,46nm,0.3s							
SMDR	**Samana, DR**	**1.91**	**275**	↑	*e*P	**Pb**	**04 02 20.5**	**-1.2**
SMDR	**Samana, DR**	**1.91**	**275**	↓	*e*Pg	**Pb**	**04 02 20.0**	**-1.8**
SMDR				↑	*e*Sg	**Sb**	**04 02 47.2**	**+2.1**
SMDR					IAML		04 02 54.3	
	comp=N,49nm,1.9s							

HEL 26 04:02:15.3±0.5, 69.°37N×30.°64E, h0km, ML1.0, Suspected explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**1.23**	**224**			PG	Pg	04 02 37.5	-1.3
RAJF						SB	Sg	04 02 53.4	-1.3
KEV	**Kevo**	**1.34**	**289**			PG	Pg	04 02 39.2	-1.6
KEV						SG	Sg	04 02 56.7	-1.5
VRF	**Varrio**	**1.67**	**194**			MSG		04 03 05.3	
	comp=Z,1.0nm,0.2s								
VRF						SN	Sg	04 03 08.7	-0.1
ARA0	**ARCESS Array S**	**1.82**	**278**			PG	Pn	04 02 47.8	0.0
ARA0						SG	Sn	04 03 11.8	+0.2
KTK1	**Kautokeino**	**2.67**	**266**			PG	Pb	04 03 03.0	-0.9
KTK1						SG	Sb	04 03 35.9	-1.3
HEF	**Hetta**	**2.71**	**252**			MSG		04 03 35.1	
	comp=Z,0.3nm,0.2s								
HEF						SB	Sb	04 03 36.6	-1.6

HEL 26 04:03:10.1±0.2, 65.°78N×24.°69E, h0km, ML1.2, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TOF	**Tornio**	**0.34**	**334**			PN	Pb	04 03 19.3	+0.3
TOF	**Tornio**	**0.34**	**334**			PG	Pg	04 03 16.2	-0.4
TOF						SG	Sg	04 03 19.3	-1.6
KALU	**Kalix**	**0.56**	**279**			PB	Pn	04 03 33.2	+8.0
KALU	**Kalix**	**0.56**	**279**			PG	Pg	04 03 20.2	-0.5
KALU						SG	Sg	04 03 27.7	-0.2
OUL	**Oulu**	**0.86**	**144**			PN	Pg	04 03 25.8	-0.8
OUL	**Oulu**	**0.86**	**144**			PB	Pg	04 03 25.8	-0.8
RANF	**Ranua**	**0.89**	**74**			PG	Pg	04 03 26.2	-1.0
RANF						SB	Sg	04 03 38.6	-0.1
OBF4	**Vikkela, Lumij**	**0.99**	**170**			PB	Pn	04 03 31.4	+0.3
OBF4						MSG		04 03 40.2	
	comp=Z,1.6nm,0.2s								
ERTU	**Ertsjaerv**	**1.28**	**309**			PN	Pg	04 03 33.9	-0.7
ERTU						SN	Sn	04 03 54.3	+1.3
OBF0	**Syolatti, Pyha**	**1.30**	**189**			MSG		04 03 49.5	
	comp=Z,1.9nm,0.2s								
OBF0						SN	Sn	04 03 55.0	+1.5
PAJU	**Pajala**	**1.40**	**334**			SB	Sn	04 04 02.7	+6.6
PAJU	**Pajala**	**1.40**	**334**			PG	Pn	04 03 35.8	-1.1
	baz=154								
PAJU						SN	Sn	04 03 58.1	+2.0
OUF	**Merijarvi**	**1.42**	**179**			PN	Pn	04 03 36.2	-0.9
	baz=4.0								
OUF						MSG		04 03 52.9	
	comp=Z,1.8nm,0.2s								
OUF						SN	Sn	04 03 57.8	+1.4
KU2	**Taivalkoski**	**1.46**	**91**			PG	Pn	04 03 36.4	-1.3
KU1	**Kurvinen**	**2.03**	**94**			PG	Pn	04 03 46.5	+1.0
KU6	**Riekki**	**2.15**	**81**			SN	Pn	04 03 48.5	+1.4
KU6	**Riekki**	**2.15**	**81**			PG	Pb	04 03 48.5	-1.3
	baz=270								
KU6						MSG		04 04 13.8	
	comp=Z,1.0nm,0.2s								
LANU	**Lannavaara**	**2.51**	**336**			SB	Pn	04 03 54.2	+2.0
LANU	**Lannavaara**	**2.51**	**336**			PG	Pb	04 03 54.2	-1.9
UMAU	**Umeaa**	**2.56**	**224**			PB	Pn	04 03 53.4	+0.6
	baz=43								
HEF	**Hetta**	**2.67**	**352**			PB	Pn	04 03 56.0	+1.7
HEF						MSG		04 04 28.9	
	comp=Z,0.6nm,0.2s								
HUSU	**Husum**	**3.40**	**226**			SB	Sn	04 04 46.8	+1.5
ARA0	**ARCESS Array S**	**3.79**	**4**			SB	Sb	04 04 59.5	-4.5

IDC ***26*** *04:07:32.3±32.0, 23.°42S×179.°53E, h700km±348km, mb2.7/5, mbtmp3.8/5, Error ellipse: s-maj=256.5km s-min=33.7km az=55.0*
ISC 26 04:07:19.5±1.6, 22.°5S±0.°3×179.°6W±0.°3, h600km, n7, σ0°41/7, mb3.4/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.61**	**259**			P	**P**	**04 14 24.9**	**+0.1**
	0.5nm,0.5s,baz=104,slow=7.4,SNR=7.0								
	0.5nm,0.5s								
WRA	**Warramunga Arr**	**42.85**	**265**			P	**P**	**04 14 26.9**	**+0.3**
	0.8nm,0.4s,baz=104,slow=8.0,SNR=21								
	0.8nm,0.4s								
FITZ	**Fitzroy Crossi**	**51.28**	**264**			P	**P**	**04 15 29.6**	**-0.2**
	1.8nm,1.1s,baz=121,slow=5.9,SNR=1.7								
	1.8nm,1.1s								
QSPA	**South Pole Qui**	**67.54**	**180**			P	**P**	**04 17 17.3**	**+0.3**
	1.2nm,0.9s,baz=269,slow=2.0,SNR=7.5								
	1.2nm,0.9s								
SNAA	**Sanae**	**86.02**	**179**			P	**P**	**04 18 56.8**	**-0.3**
	0.3nm,0.5s,baz=296,slow=16,SNR=1.0								
	0.3nm,0.5s								
HFS	**Hagfors**	**141.28**	**349**			PKP	**PKiKP**	**04 25 45.8**	**+0.5**
	0.7nm,0.3s,baz=37,slow=3.6,SNR=8.7								
AKASG	**Malin Array Be**	**144.00**	**329**			PKP	**PKiKP**	**04 25 50.9**	**-0.4**
	0.2nm,0.3s,baz=48,slow=1.4,SNR=3.1								

IDC ***26*** *04:11:52.2±1.9, 3.°64S×128.°19E, h0km, mb3.5/3, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=144.1km s-min=26.4km az=68.0*
DJA ***26*** *04:11:52.9±0.4, 4.°S±4.°×12.°8E±1.°, h10km, M3.1/4, MLv3.1/4*
ISC 26 04:11:53.4±0.9, 3.°6S±0.°1×128.°37E±0.°06, h10km, n8, σ0°73/10, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.20**	**243**			P	**Pg**	**04 11 57.7**	**+0.1**
AAI						S	**Sg**	**04 12 00.9**	**+0.5**
MSAI	**Masohi**	**0.61**	**66**			P	**Pg**	**04 12 05.3**	**+0.1**
MSAI						S	**Sb**	**04 12 14.8**	**0.0**
NLAI	**Namlea**	**1.32**	**286**			P	**Pb**	**04 12 17.4**	**-0.9**
SANI	**Sanana**	**2.83**	**303**			P	**Pn**	**04 12 39.3**	**+0.6**
WRA	**Warramunga Arr**	**17.26**	**161**			P	**P**	**04 15 55.7**	**-0.5**
	0.1nm,0.3s,baz=339,slow=13,SNR=3.1								
	0.4nm,0.5s								
ASAR	**Alice Springs**	**20.66**	**165**			P	**P**	**04 16 33.6**	**+0.1**
	1.9nm,0.6s,baz=347,slow=10,SNR=20								
	1.9nm,0.6s								
MKAR	**Makanchi Array**	**64.51**	**327**			P	**P**	**04 22 31.6**	**+1.1**
	0.2nm,0.5s,baz=122,slow=7.0,SNR=2.8								
	0.2nm,0.5s								
KURBB	**Kurchatov Arra**	**68.78**	**329**			P	**P**	**04 22 56.7**	**-1.0**
	0.4nm,0.8s,baz=120,slow=5.5,SNR=2.3								
	0.4nm,0.8s								

CATAC 26 04:18:29.8±0.5, 12.°N±3.°×8.°7W±.°, h53km±4km, M2.7/16, MLv2.7/16, Error ellipse: s-maj=10.7km s-min=4.1km az=52.8, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.29**	**19**			P	Pn	04 18 40.6	+1.5
COPN						S	Sn	04 18 48.4	+2.6
UNAN	**Cigeo UNAN**	**0.46**	**63**			P	Pn	04 18 42.2	+1.4
UNAN						S	Sn	04 18 51.5	+2.9
APQ2	**Apoyeque**	**0.46**	**50**			P	Pn	04 18 42.0	+1.2
APQ2						S	Sn	04 18 51.0	+2.3
TISN	**Laguna Tiscapa**	**0.47**	**59**			P	Pn	04 18 41.2	+0.2
TISN						S	Sn	04 18 49.6	+0.6
MAS3	**Al N del Volca**	**0.52**	**76**			P	Pn	04 18 42.3	+0.8
MAS3						S	Sn	04 18 52.6	+2.7
SABN	**Sabanita**	**0.52**	**84**			P	Pn	04 18 41.7	+0.2
SABN						S	Sn	04 18 52.0	+2.1
WILN	**Americas 2**	**0.55**	**62**			P	Pn	04 18 42.9	+1.1
WILN						S	Sn	04 18 53.5	+2.9
NANN	**Nandasmo**	**0.56**	**86**			P	Pn	04 18 44.0	+2.1
NANN	**Nandasmo**	**0.56**	**86**			S	Sn	04 18 55.0	+4.3
CNGA	**Al SSO del Vol**	**0.59**	**359**			P	Pn	04 18 43.5	+1.1
CNGA						S	Sn	04 18 54.1	+2.7
CNGN	**Cerro Negro**	**0.60**	**359**			P	Pn	04 18 43.5	+1.1
CNGN	**Cerro Negro**	**0.60**	**359**			S	Sn	04 18 54.9	+3.3
NADN	**Granada**	**0.66**	**103**			P	Pn	04 18 44.0	+0.9
NADN						S	Sn	04 18 55.4	+2.6
ILCN	**San Idelfonso**	**0.67**	**359**			P	Pn	04 18 43.9	+0.6
ILCN						S	Sn	04 18 55.9	+2.7
MORN	**Al O del Volca**	**1.08**	**109**			P	Pn	04 18 49.4	+0.8
MATN	**Matagalpa**	**1.27**	**36**			P	Pn	04 18 50.5	-0.8
MATN	**Matagalpa**	**1.27**	**36**			S	Sn	04 19 07.2	0.0
CARN	**Rivas**	**1.34**	**122**			P	Pn	04 18 52.5	+0.3
CARN						S	Sn	04 19 09.8	+0.8
ACON	**Acoyapa**	**1.48**	**87**			P	Pn	04 18 53.1	-1.0
RCPN	**Sur Rio San Ju**	**1.72**	**20**			P	Pn	04 18 58.1	+0.6
RCVN	**Varillal2**	**1.74**	**16**			P	Pn	04 18 58.5	+0.7

SNET ***26*** *04:20:47.9±2.4, 12.°57N×88.°64W, h28km, ML3.6*
GCG ***26*** *04:20:49.9±0.7, 12.°53N×88.°85W, h48km±134km, MD4.0*
CATAC ***26*** *04:20:49.6±0.5, 13.°N±2.°×8.°9W±.°, h29km±4km, M3.7/28, MLv3.7/28, Error ellipse: s-maj=5.1km s-min=1.8km az=29.8, confirmed*
ISC 26 04:20:49.0±1.7, 12.°61N±0.°05×88.°68W±0.°03, h25km±15km, n104, σ0°71/125, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.89**	**25**	*e*P		**Pn**		**04 21 05.6**	**-0.5**
TECA	**Tecapa**	**0.90**	**11**	*e*P		**Pn**		**04 21 05.8**	**-0.4**
RANC	**El Ranchito**	**0.90**	**25**	*e*P		**Pn**		**04 21 05.1**	**-1.2**
PACA	**Pacayal**	**0.92**	**22**	*e*P		**Pn**		**04 21 06.4**	**-0.1**
PACA				*e*S		**Sn**		**04 21 17.5**	**-1.5**
PACA	**Pacayal**	**0.92**	**22**	P		**Pn**		**04 21 06.6**	**+0.1**
PACA	**Pacayal**	**0.92**	**22**	S		**Sn**		**04 21 19.0**	**0.0**
TECO	**Alcaldia de Te**	**0.93**	**354**	*e*P		**Pn**		**04 21 05.9**	**-0.6**
TECO				*e*S		**Sn**		**04 21 17.0**	**-2.0**
TECO	**Alcaldia de Te**	**0.93**	**354**	P		**Pn**		**04 21 05.9**	**-0.6**
TECO	**Alcaldia de Te**	**0.93**	**354**	S		**Sn**		**04 21 18.2**	**-0.8**
CNRM	**Centro Naciona**	**0.99**	**30**	*e*P		**Pn**		**04 21 07.0**	**-0.4**
CNRM	**Centro Naciona**	**0.99**	**30**	P		**Pn**		**04 21 07.3**	**0.0**
CNRM	**Centro Naciona**	**0.99**	**30**	S		**Sn**		**04 21 21.3**	**+0.7**
UESV	**Universidad de**	**1.03**	**354**	*e*P		**Pn**		**04 21 07.2**	**-0.7**
UESV	**Universidad de**	**1.03**	**354**	P		**Pn**		**04 21 07.7**	**-0.2**
UESV	**Universidad de**	**1.03**	**354**	S		**Sn**		**04 21 20.8**	**-0.7**
LCND	**La Caada**	**1.03**	**48**	*e*P		**Pn**		**04 21 07.2**	**-0.8**
LCND	**La Caada**	**1.03**	**48**	P		**Pn**		**04 21 07.3**	**-0.6**
LCND	**La Caada**	**1.03**	**48**	S		**Sb**		**04 21 22.6**	**+1.1**
CNCH	**Conchagua**	**1.05**	**51**	*e*P		**Pn**		**04 21 07.6**	**-0.8**
CNCH	**Conchagua**	**1.05**	**51**	P		**Pn**		**04 21 07.5**	**-0.8**
CNCH	**Conchagua**	**1.05**	**51**	S		**Sb**		**04 21 23.3**	**+1.1**
LFRS	**El Faro**	**1.08**	**340**	*e*P		**Pn**		**04 21 08.0**	**-0.7**
LALI	**Alcalda de L**	**1.08**	**324**	S		**Sn**		**04 21 22.1**	**-0.5**
LALI	**Alcalda de L**	**1.08**	**324**	P		**Pn**		**04 21 08.0**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.09**	**357**	*e*P		**Pn**		**04 21 08.8**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.09**	**357**	P		**Pn**		**04 21 08.8**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.09**	**357**	S		**Sn**		**04

mbtmp3.7/11,ML1.7/1,MS3.4/3,Error ellipse: s-maj=24.1km s-min=22.2km az=109.0
*TEH **26** 04:45:20.5,27°.24N×54°.53E,h18km±17km*
*OMAN **26** 04:45:21.7±1.1,27°.09N×54°.57E,h10km,mb4.6/7, ml3.9/19,Error ellipse: s-maj=10.6km s-min=4.2km az=9.0*
*DSN **26** 04:45:22.4±2.5,27°.20N×54°.67E,h15km,ML3.6/10,Error ellipse: s-maj=27.6km s-min=6.4km az=161.0*

ISC 26 04:45:20.5±1.4,**27°.25N**±0°.04×**54°.61E**±0°.03,**h12**km±10km, **n86**,σ1§**46**/105,**mb3.6/9**,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.46**	**334**	**Pg**	**Pg**	**04 45 29.2**	**-0.5**
LMD1	**Lamerd**	**1.29**	**274**	**Pg**	**Pn**	**04 45 43.5**	**-0.9**
GENO	**Geno**	**1.40**	**84**	**Pg**	**Pg**	**04 45 48.3**	**+0.8**
JHRM	**Jahrom**	**1.54**	**324**	**Pg**	**Pn**	**04 45 49.3**	**+1.3**
IBND	**Bandar-abas**	**1.73**	**83**	**Pg**	**Pb**	**04 45 52.3**	**0.0**
SHME	**Shamm** SNR=9.1	**1.82**	**131**	P	**Pn**	**04 45 51.7**	**0.0**
SHME				S	**Sg**	**04 46 18.2**	**-1.0**
SHME	**Shamm** SNR=15	**1.82**	**131**	*e*P	**Pn**	**04 45 51.7**	**0.0**
QIR1	**Qir**	**1.84**	**312**	Pg	**Pn**	**04 45 52.4**	**+0.4**
BANOM	**Banah**	**2.01**	**131**	P	**Pn**	**04 45 54.6**	**+0.2**
BANOM				S	**Sb**	**04 46 21.4**	**-0.7**
BANOM	**Banah** SNR=81	**2.01**	**131**	*e*P	**Pn**	**04 45 54.6**	**+0.2**
MASF	**Masafi** SNR=5.1	**2.34**	**143**	P	**Pn**	**04 45 59.6**	**+0.8**
MASF				S	**Sn**	**04 46 28.9**	**+1.4**
MSFE	**Esma-Masafi** SNR=12	**2.35**	**143**	*e*P	**Pn**	**04 45 59.5**	**+0.5**
NAZ	**Nazwa, Dubai**	**2.45**	**157**	P	**Pn**	**04 46 01.7**	**+1.4**
MDH	**Madha** SNR=5.5	**2.47**	**142**	P	**Pn**	**04 46 01.1**	**+0.5**
MDH				S	**Sn**	**04 46 30.9**	**+0.2**
MDH	**Madha** SNR=5.5	**2.47**	**142**	*e*P	**Pn**	**04 46 02.0**	**+1.4**
ASUD	**Al Ashush, Dub** SNR=5.4	**2.70**	**166**	P	**Pn**	**04 46 05.4**	**+1.7**
ASUD	**Al Ashush, Dub**	**2.70**	**166**	P	**Pn**	**04 46 04.5**	**+0.8**
AJN	**Ajban**	**2.70**	**173**	P	**Pn**	**04 46 04.9**	**+1.1**
AJN				S	**Sn**	**04 46 36.0**	**-0.4**
UOSS	**Minazif**	**2.71**	**148**	P	**Pn**	**04 46 04.8**	**+0.9**
UOSS				S	**Sn**	**04 46 37.7**	**+1.0**
UOSS	**Minazif** SNR=6.1	**2.71**	**148**	*e*P	**Pn**	**04 46 04.3**	**+0.3**
HATD	**Hatta, Dubai**	**2.78**	**150**	P	**Pn**	**04 46 05.9**	**+1.0**
HATD				S	**Sn**	**04 46 38.8**	**+0.4**
HATD	**Hatta, Dubai**	**2.78**	**150**	P	**Pn**	**04 46 05.2**	**+0.3**
JRN	**Qarnain Island**	**2.79**	**215**	P	**Pn**	**04 46 05.5**	**+0.5**
JRN				S	**Sn**	**04 46 38.1**	**-0.6**
KHNJ	**Kahnooj**	**2.84**	**75**	Pn	**Pn**	**04 46 07.4**	**+1.7**
ASHO	**Ashiyiah** SNR=28	**2.87**	**153**	P	**Pn**	**04 46 07.0**	**+0.8**
ASHO				S	**Sn**	**04 46 42.8**	**+2.1**
ASHO	**Ashiyiah** SNR=28	**2.87**	**153**	*e*P	**Pn**	**04 46 07.0**	**+0.8**
NGRK	**Negar Kerman**	**3.03**	**38**	Pn	**Pn**	**04 46 10.0**	**+1.4**
DSBU	**Dashti - Bushe**	**3.16**	**291**	Pn	**Pn**	**04 46 10.3**	**+0.1**
KRBR	**Kerman**	**3.31**	**34**	Pn	**Pn**	**04 46 14.4**	**+1.9**
KHGB	**Koh Gabri**	**3.52**	**27**	Pn	**Pn**	**04 46 16.9**	**+1.7**
MZWR	**Madinat Zayed**	**3.54**	**191**	P	**Pn**	**04 46 16.5**	**+1.1**
MZWR				S	**Sn**	**04 46 58.2**	**+1.0**
SHMA	**Al-Shehemyia** SNR=21	**3.55**	**248**	P	**Pn**	**04 46 15.5**	**+0.1**
SHMA				S	**Sn**	**04 46 57.0**	**-0.3**
SOHO	**SOHO**	**3.56**	**150**	P	**Pn**	**04 46 15.6**	**0.0**
SOHO				S	**Sn**	**04 46 57.5**	**-0.1**
SOHO	**SOHO** SNR=13	**3.56**	**150**	*i* P	**Pn**	**04 46 16.0**	**+0.4**
CHMN	**Cheshme madani**	**3.66**	**44**	Pn	**Pn**	**04 46 19.1**	**+1.8**
SAKB	**Bahrain**	**3.86**	**252**	S	**Sn**	**04 47 03.5**	**-1.5**
KBAM	**BAM**	**3.88**	**60**	Pn	**Pn**	**04 46 22.7**	**+2.6**
TRNA	**Turayna** SNR=8.2	**3.95**	**231**	P	**Pn**	**04 46 20.4**	**-0.6**
TRNA				S	**Sn**	**04 47 06.0**	**-1.3**
ZRDN	**Zarand Kerman**	**4.07**	**24**	Pn	**Pn**	**04 46 24.4**	**+1.6**
IMEH	**Mehriz**	**4.12**	**0**	Pn	**Pn**	**04 46 25.3**	**+1.7**
SMRA	**Abu-Samra**	**4.22**	**235**	P	**Pn**	**04 46 24.4**	**-0.3**
SMRA				S	**Sn**	**04 47 12.1**	**-1.9**
ARQ	**Araqi** SNR=25	**4.27**	**156**	P	**Pn**	**04 46 26.0**	**+0.6**
HOQ	**Hoqain**	**4.40**	**146**	P	**Pn**	**04 46 27.4**	**+0.2**
HOQ	SNR=6.9			S	**Sn**	**04 47 17.0**	**-1.4**
HOQ	**Hoqain**	**4.40**	**146**	Pn	**Pn**	**04 46 28.6**	**+1.4**
UMZA	**Um Al Zommool**	**4.55**	**174**	P	**Pn**	**04 46 29.5**	**+0.3**
UMZA				S	**Sn**	**04 47 19.8**	**-2.2**
KLNJ	**Kolanjah**	**4.58**	**326**	Pn	**Pn**	**04 46 30.1**	**+0.2**
BIDO	**Bidbid**	**4.89**	**139**	P	**Pn**	**04 46 34.6**	**+0.6**
BIDO				S	**Sn**	**04 47 28.7**	**-1.9**
IRAM	**Rameshen**	**4.94**	**337**	Pn	**Pn**	**04 46 35.5**	**+0.8**
ICHK	**Chekchek**	**4.98**	**358**	Pn	**Pn**	**04 46 36.5**	**+1.2**
BSY	**Bisya**	**5.07**	**152**	P	**Pn**	**04 46 37.2**	**+0.8**
BSY				S	**Sn**	**04 47 33.0**	**-1.9**
SMDO	**Samad** SNR=17	**5.21**	**142**	P	**Pn**	**04 46 39.0**	**+0.6**
SMDO	SNR=9.8			S	**Sn**	**04 47 37.2**	**-1.4**
WSAR	**Wadi Sarin** baz=310,slow=23,SNR=48	**5.41**	**137**	Pn	**Pn**	**04 46 41.4**	**+0.3**
WSAR	0.1nm,0.3s,baz=154,slow=24,SNR=14			Sn	**Sn**	**04 47 38.5**	**-4.8**
WSAR	baz=233,slow=24,SNR=3.7			Lg	Lg	04 48 05.2	
WSAR	**Wadi Sarin** SNR=26	**5.41**	**137**	P	**Pn**	**04 46 41.3**	**+0.3**
WSAR				S	**Sn**	**04 47 40.2**	**-3.1**
JMDO	**Jabal Madar**	**5.81**	**146**	P	**Pn**	**04 46 47.4**	**+0.8**
JMDO				S	**Sn**	**04 47 49.5**	**-3.6**
TPRV	**Parvadeh(Tabas**	**6.03**	**17**	Pn	**Pn**	**04 46 51.6**	**+1.9**
WBK	**Wadi Bani Khal** SNR=9.4	**6.09**	**138**	P	**Pn**	**04 46 50.0**	**-0.4**
WBK				S	**Sn**	**04 47 57.5**	**-2.5**
BSRN	**Basiran**	**6.12**	**39**	Pn	**Pn**	**04 46 52.9**	**+1.9**
NGCH	**Negor - Chabah**	**6.16**	**106**	P	**Pn**	**04 46 51.4**	**+0.1**
NGCH	**Negor - Chabah**	**6.16**	**106**	Pn	**Pn**	**04 46 53.5**	**+2.2**
IKOO	**Kooshah**	**6.41**	**35**	Pn	**Pn**	**04 46 57.2**	**+2.2**
JLN	**Jalan Bani Buh** SNR=7.4	**6.70**	**138**	P	**Pn**	**04 46 57.7**	**-1.1**
JLN				S	**Sn**	**04 48 11.3**	**-3.8**
TKDS	**Koohdasht(Taba**	**6.70**	**18**	Pn	**Pn**	**04 47 00.4**	**+1.6**
TNSJ	**Nastanj**	**6.91**	**14**	Pn	**Pn**	**04 47 02.6**	**+0.9**
SRVN	**Saravan**	**6.93**	**87**	Pn	**Pn**	**04 47 04.1**	**+2.0**
MHTO	**MHTO** SNR=45	**6.95**	**153**	P	**Pn**	**04 47 01.9**	**-0.3**
DQM	**DQM**	**7.77**	**159**	P	**Pn**	**04 47 12.7**	**-0.8**
DOK	**Doka**	**8.61**	**183**	P	**Pn**	**04 47 24.0**	**-1.0**
SHAO	**Shalim**	**9.24**	**174**	P	**Pn**	**04 47 32.2**	**-1.4**
WHFO	**Wadi Hawf** SNR=8.8	**9.32**	**185**	P	**Pn**	**04 47 33.7**	**-1.2**
DMTO	**DMTO**	**9.50**	**178**	P	**Pn**	**04 47 36.1**	**-1.1**
ILBA	**Ilam Banvizeh**	**9.63**	**313**	Pn	**Pn**	**04 47 39.1**	**+0.1**
ABTO	**Aybut**	**9.93**	**187**	P	**Pn**	**04 47 41.7**	**-1.4**
MMAI	**Mount Meron Ar** 0.5nm,0.3s,baz=50,slow=20,SNR=3.6	**17.57**	**294**	P	**Pn**	**04 49 25.7**	**+0.3**
KBZ	**Khabaz** comp=Z,37nm,18.6s,baz=192,slow=42	**18.97**	**333**	LR	LR	04 58 37.5	
BRTR	**Keskin Array B** 1.3nm,0.7s,baz=131,slow=13,SNR=7.3 1.3nm,0.7s	**21.40**	**311**	P	**P**	**04 50 08.9**	**+0.6**
BVAR	**Borovoye Array** 0.4nm,0.3s,baz=207,slow=9.1,SNR=1.8 0.4nm,0.3s	**28.30**	**20**	P	P	04 51 09.3	-4.6
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=231,slow=9.1,SNR=1.4 0.2nm,0.6s	**29.24**	**41**	P	P	04 51 17.1	-5.2
ZALV	**Zalesovo Beam** 0.9nm,0.5s,baz=224,slow=8.3,SNR=5.1 0.9nm,0.5s	**34.70**	**32**	P	**P**	**04 52 07.5**	**-2.5**
FINES	**FINESS Array B** 0.8nm,0.6s,baz=138,slow=9.3,SNR=4.5 0.8nm,0.6s	**39.17**	**339**	P	**P**	**04 52 47.6**	**-0.3**
HFS	**Hagfors** 2.7nm,1.0s,baz=119,slow=12,SNR=2.1 2.7nm,1.0s	**43.02**	**331**	P	**P**	**04 53 18.2**	**-1.5**
NOA	**NORSAR Array B** 0.4nm,0.8s,baz=117,slow=7.9,SNR=1.8 0.4nm,0.8s	**44.54**	**332**	P	**P**	**04 53 31.1**	**-0.8**
ARCES	**ARCESS Array B** 2.0nm,1.0s,baz=125,slow=8.0,SNR=1.5 2.0nm,1.0s	**45.58**	**346**	P	**P**	**04 53 39.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**51.25**	**265**	P	**P**	**04 54 27.6**	**+3.1**
	0.6nm,0.6s,baz=62,slow=6.6,SNR=5.2 0.6nm,0.6s						
BOSA	**Boshof** 3.9nm,1.1s,baz=78,slow=15,SNR=1.6 3.9nm,1.1s	**62.27**	**209**	P	**P**	**04 55 45.8**	**+3.1**
JNU	**Nakatsue** comp=Z,7nm,18.1s,baz=30,slow=38	**64.85**	**64**	LR	LR	05 26 11.5	
PMG	**Port Moresby** comp=Z,42nm,21.0s,baz=170,slow=38	**96.49**	**97**	LR	LR	05 46 33.2	

CATAC 26 04:54:59.0±0.3,**12°N**±2°×**8°8W**±°,**h29**km,**M3.0**/18, **MLv3.0**/18,**2C-7D**,**Error ellipse: s-maj=4.8km s-min=2.2km az=26.3**,**confirmed**,**Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTN	**Potosi Cosigui**	**0.66**	**16**	⇓P	Pn	04 55 12.8	+0.4
POTN				S	Sn	04 55 22.5	+0.8
PKGN	**Cerro Pekin**	**0.76**	**67**	⇓P	Pn	04 55 14.5	+0.7
PKGN				S	Sn	04 55 25.5	+1.2
CNCH	**Conchagua**	**0.92**	**351**	S	Sn	04 55 29.0	+0.6
CNCH	**Conchagua**	**0.92**	**351**	⇑P	Pn	04 55 16.1	0.0
PLRN	**Geotermica Pol**	**0.93**	**76**	P	Pn	04 55 15.8	-0.3
PLRN				S	Sb	04 55 28.6	+0.1
LCND	**La Caada**	**0.96**	**348**	S	Sb	04 55 29.5	+0.1
LCND	**La Caada**	**0.96**	**348**	⇑P	Pn	04 55 16.5	0.0
CNGA	**Al SSO del Vol**	**0.97**	**82**	⇓P	Pn	04 55 17.0	+0.2
CNGA				S	Sb	04 55 30.2	+0.3
CNGN	**Cerro Negro**	**0.98**	**82**	S	Sb	04 55 30.6	+0.5
CNGN	**Cerro Negro**	**0.98**	**82**	⇓P	Pn	04 55 16.9	0.0
ILCN	**San Idelfonso**	**0.99**	**78**	P	Pn	04 55 16.9	-0.1
ILCN				S	Sb	04 55 30.8	+0.5
COPN	**Copaltepe**	**1.09**	**100**	⇓P	Pn	04 55 18.2	-0.1
PACA	**Pacayal**	**1.26**	**331**	P	Pn	04 55 21.1	+0.3
PACA	**Pacayal**	**1.26**	**331**	S	Sn	04 55 37.2	+0.4
APQ2	**Apoyeque**	**1.35**	**97**	P	Pn	04 55 22.1	+0.2
APQ2				S	Sn	04 55 39.4	+0.6
TISN	**Laguna Tiscapa**	**1.41**	**99**	P	Pn	04 55 21.7	-1.1
TECO	**Alcaldia de Te**	**1.57**	**318**	S	Sn	04 55 45.3	+0.8
TECO	**Alcaldia de Te**	**1.57**	**318**	P	Pn	04 55 24.5	-0.6
NANN	**Nandasmo**	**1.59**	**105**	S	Sn	04 55 46.2	+1.3
SCLA	**Alcaldia de Sa**	**1.67**	**323**	S	Sn	04 55 47.9	+1.0
SCLA	**Alcaldia de Sa**	**1.67**	**323**	P	Pn	04 55 26.6	+0.3
OCON	**Estacion meteo**	**1.73**	**43**	⇓P	Pn	04 55 26.7	-0.5
OCON				S	Sn	04 55 47.3	-0.9
TGUH	**Tegucigalpa,Un**	**1.73**	**14**	P	Pn	04 55 26.8	-0.5
TGUH				S	Sn	04 55 47.6	-0.8
NADN	**Granada**	**1.73**	**111**	P	Pn	04 55 26.3	-0.9
NADN				S	Sn	04 55 48.8	+0.4
YUSH	**Yuscaran**	**1.78**	**28**	S	Sn	04 55 49.8	+0.1
YUSH	**Yuscaran**	**1.78**	**28**	⇓P	Pn	04 55 28.0	+0.1
MATN	**Matagalpa**	**1.81**	**72**	S	Sn	04 55 51.0	+0.6
MATN	**Matagalpa**	**1.81**	**72**	P	Pn	04 55 27.8	-0.5
RCVN	**Varillal2**	**1.90**	**50**	P	Pn	04 55 29.9	+0.3
RCVN	**Varillal2**	**1.90**	**50**	S	Sn	04 55 53.1	+0.5
LOMA	**Loma Larga**	**1.92**	**312**	S	Sn	04 55 53.4	+0.2
LOMA	**Loma Larga**	**1.92**	**312**	P	Pn	04 55 30.1	+0.2
RCPN	**Sur Rio San Ju**	**1.94**	**53**	P	Pn	04 55 30.5	+0.3
RCPN	**Sur Rio San Ju**	**1.94**	**53**	S	Sn	04 55 54.6	+1.0
PMON	**Piamonte**	**2.07**	**310**	S	Sn	04 55 57.3	+0.4
JAYA	**Jayaque - finc**	**2.14**	**307**	P	Pn	04 55 32.1	-0.8
JAYA	**Jayaque - finc**	**2.14**	**307**	S	Sn	04 55 58.8	+0.2
MORN	**Al O del Volca**	**2.16**	**112**	S	Sn	04 55 58.5	-0.4
CEDA	**San Andres**	**2.19**	**311**	P	Pn	04 55 33.2	-0.3

*IDC **26** 04:58:14.8±1.4,3°.49S×128°.23E,h0km,mb3.9/5, mbtmp4.0/7,ML3.5/2,Error ellipse: s-maj=92.4km s-min=20.2km az=69.0*

ISC 26 04:58:16.1±1.3,**3°.5S**±0°.2×**128°.4E**±0°.3,**h10**km,**n7**,σ1§**02**/6, **mb3.9**/4,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=3.4,slow=17,SNR=5.3 1.6nm,0.7s	**14.81**	**190**	Pn	**Pn**	**05 01 45.5**	**-0.2**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=339,slow=12,SNR=22 3.3nm,0.7s	**17.37**	**161**	P	**Pn**	**05 02 17.6**	**-1.2**
ASAR	**Alice Springs** 20nm,0.7s,baz=348,slow=11,SNR=82 20nm,0.7s	**20.78**	**166**	P	Pn	05 02 58.4	-1.5
STKA	**Stephens Creek** 2.5nm,1.0s,baz=339,slow=17,SNR=3.8 2.5nm,1.0s	**30.87**	**158**	P	**P**	**05 04 33.8**	**+1.0**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=134,slow=7.9,SNR=6.7 0.3nm,0.6s	**64.42**	**327**	P	**P**	**05 08 52.1**	**-0.6**
KURBB	**Kurchatov Arra** 0.3nm,0.2s,baz=130,slow=6.0,SNR=4.9 0.3nm,0.2s	**68.69**	**328**	P	**P**	**05 09 20.2**	**+0.4**
QSPA	**South Pole Qui** 0.6nm,1.0s,baz=342,slow=3.2,SNR=1.2 0.6nm,1.0s	**86.50**	**180**	P	**P**	**05 10 59.0**	**-0.2**

*IDC **26** 05:17:38.0±1.6,13°.13N×86°.76W,h0km,mb3.6/3, mbtmp3.6/5,ML3.2/2,MS3.2/3,Error ellipse: s-maj=98.7km s-min=25.7km az=51.0*
*SNET **26** 05:17:38.3±3.2, 12°.13N×87°.63W,h14km,ML3.9*
*CATAC **26** 05:17:39.4±0.4, 12°.N±2°×8°.8W±°,h17km±2km,M4.1/36, MLv4.1/36,Error ellipse: s-maj=4.2km s-min=1.8km az=33.5,confirmed*
*GCG **26** 05:17:40.7±0.5, 12°.14N×88°.03W,h0km±53km,MD4.5, ML4.1*

ISC 26 05:17:38.4±1.4,**12°.12N**±0°.04×**87°.67W**±0°.03,**h12**km±10km, **n88**,σ1§**13**/114,**mb3.6/3**,**12C-11D**,**Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGN	**Cerro Pekin**	**0.87**	**51**	P	**Pn**	**05 17 56.9**	**+0.4**
PKGN				S	**Sn**	**05 18 09.1**	**+0.1**
POTN	**Potosi Cosigui**	**0.89**	**10**	⇓P	Pn	**05 17 57.4**	**+0.7**
POTN				S	**Sn**	**05 18 10.8**	**+0.8**
PLRN	**Geotermica Pol**	**0.99**	**62**	⇓P	**Pg**	**05 17 57.8**	**+0.1**
PLRN				S	**Sn**	**05 18 12.3**	**+0.1**
CNGA	**Al SSO del Vol**	**1.02**	**69**	⇑P	**Pn**	**05 17 58.7**	**+0.2**
CNGA				S	**Sn**	**05 18 12.9**	**+0.2**
CNGN	**Cerro Negro**	**1.02**	**68**	⇓P	**Pn**	**05 17 58.6**	**0.0**
ILCN	**San Idelfonso**	**1.05**	**64**	⇓P	**Pg**	**05 17 59.0**	**+0.3**
ILCN				S	**Sn**	**05 18 14.1**	**+0.5**
COPN	**Copaltepe**	**1.06**	**87**	⇓P	**Pb**	**05 17 58.9**	**+0.2**
CNCH	**Conchagua**	**1.16**	**352**	*e*P	**Pn**	**05 18 01.2**	**+0.6**
LCND	**La Caada**	**1.20**	**350**	*e*P	**Pn**	**05 18 01.7**	**+0.6**
LCND	**La Caada**	**1.20**	**350**	P	**Pb**	**05 18 01.8**	**+0.7**
APQ2	**Apoyeque**	**1.32**	**87**	P	**Pn**	**05 18 02.8**	**+0.2**
APQ2				S	**Sg**	**05 18 20.6**	**-0.4**
CRUN	**El Crucero**	**1.35**	**96**	P	**Pb**	**05 18 03.8**	**+0.1**
UNAN	**Cigeo UNAN**	**1.37**	**90**	P	**Pn**	**05 18 03.4**	**0.0**
UNAN				S	**Sg**	**05 18 22.7**	**+0.1**
TISN	**Laguna Tiscapa**	**1.37**	**89**	⇑P	**Pn**	**05 18 02.6**	**-0.8**
BLLM	**Bellamira**	**1.43**	**337**	*e*P	**Pn**	**05 18 04.2**	**0.0**
VSM	**San Miguel**	**1.43**	**336**	*e*P	**Pn**	**05 18 04.9**	**+0.5**
CNRM	**Centro Naciona**	**1.43**	**340**	*e*P	**Pn**	**05 18 04.8**	**+0.6**
CNRM	**Centro Naciona**	**1.43**	**340**	P	**Pn**	**05 18 05.1**	**+0.9**
CNRM	**Centro Naciona**	**1.43**	**340**	S	**Sb**	**05 18 24.1**	**+0.9**
LCY	**Lacayo**	**1.43**	**335**	*e*P	**Pn**	**05 18 04.7**	**+0.4**
RANC	**El Ranchito**	**1.44**	**335**	*e*P	**Pn**	**05 18 04.8**	**+0.3**
RANC				*e*S	**Sn**	**05 18 21.6**	**-1.7**
WILN	**Americas 2**	**1.45**	**88**	⇓P	**Pn**	**05 18 04.7**	**+0.2**
MAS3	**Al N del Volca**	**1.47**	**94**	⇑P	**Pn**	**05 18 04.8**	**+0.1**
MAS3				S	**Sb**	**05 18 24.3**	**0.0**
PACA	**Pacayal**	**1.48**	**335**	*e*P	**Pn**	**05 18 05.6**	**+0.6**
PACA				*e*S	**Sn**	**05 18 23.6**	**-0.8**
PACA	**Pacayal**	**1.48**	**335**	P	**Pn**	**05 18 06.1**	**+1.1**
PACA	**Pacayal**	**1.48**	**335**	S	**Sb**	**05 18 25.5**	**+0.7**
SABN	**Sabanita**	**1.48**	**96**	⇓P	**Pn**	**05 18 05.1**	**+0.2**
MASN	**Masaya**	**1.49**	**95**	P	**Pb**	**05 18 06.0**	**-0.2**
MASN				S	**Sb**	**05 18 24.8**	**-0.3**
NANN	**Nandasmo**	**1.53**	**97**	S	**Sb**	**05 18 26.1**	**0.0**
NANN	**Nandasmo**	**1.53**	**97**	⇑P	**Pb**	**05 18 06.4**	**-0.3**
TECA	**Tecapa**	**1.59**	**329**	*e*P	**Pn**	**05 18 06.7**	**+0.2**
TECO	**Alcaldia de Te**	**1.77**	**323**	*e*P	**Pn**	**05 18 09.0**	**+0.1**
TECO				*e*S	**Sn**	**05 18 29.6**	**-1.9**
TECO	**Alcaldia de Te**	**1.77**	**323**	S	**Sn**	**05 18 33.2**	**+1.7**
TECO	**Alcaldia de Te**	**1.77**	**323**	⇑P	**Pn**	**05 18 09.1**	**+0.1**
UESV	**Universidad de**	**1.86**	**324**	*e*P	**Pn**	**05 18 10.4**	**+0.3**
UESV				*e*S	**Sn**	**05 18 32.7**	**-0.8**
UESV	**Universidad de**	**1.86**	**324**	S	**Sn**	**05 18 35.1**	**+1.6**
UESV	**Universidad de**	**1.86**	**324**	⇑P	**Pn**	**05 18 10.7**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.88**	**327**	*e*P	**Pn**	**05 18 11.2**	**+0.8**
SCLA	**Alcaldia de Sa**	**1.88**	**327**	P	**Pn**	**05 18 11.3**	**+0.9**
SCLA	**Alcaldia de Sa**	**1.88**	**327**	S	**Sb**	**05 18 36.3**	**+0.1**
MATN	**Matagalpa**	**1.88**	**65**	S	**Sb**	**05 18 35.3**	**-1.1**
MATN	**Matagalpa**	**1.88**	**65**	⇓P	**Pn**	**05 18 10.1**	**-0.4**
OCON	**Estacion meteo**	**1.90**	**38**	⇓P	**Pn**	**05 18 11.5**	**+0.8**
OCON				S	**Sb**	**05 18 35.4**	**-1.4**
PAVA	**Las Pavas**	**2.01**	**322**	*e*P	**Pn**	**05 18 12.9**	**+0.7**
PAVA				*e*S	**Sn**	**05 18 37.1**	**-0.3**
PAVA	**Las Pavas**	**2.01**	**322**	S	**Sn**	**05 18 39.3**	**+1.9**
PAVA	**Las Pavas**	**2.01**	**322**	⇑P	**Pn**	**05 18 13.3**	**+1.1**
LFRS	**El Faro**	**2.02**	**318**	*e*P	**Pn**	**05 18 12.5**	**+0.1**
LFRS				*e*S	**Sn**	**05 18 36.4**	**-1.2**
JAPN	**Al SSO del Vol**	**2.04**	**107**	P	**Pn**	**05 18 12.4**	**-0.2**
RCVN	**Varillal2**	**2.05**	**45**	S	**Sb**	**05 18 39.6**	**-1.5**
RCVN	**Varillal2**	**2.05**	**45**	⇑P	**Pn**	**05 18 14.4**	**+1.6**
MORN	**Al O del Volca**	**2.06**	**106**	⇓P	**Pn**	**05 18 12.4**	**-0.6**
MORN				S	**Sn**	**05 18 39.6**	**+1.1**
RCPN	**Sur Rio San Ju**	**2.08**	**48**	⇑P	**Pn**	**05 18 14.6**	**+1.4**
CONN	**Concepcion**	**2.08**	**105**	P	**Pn**	**05 18 12.5**	**-0.6**
CONN				S	**Sn**	**05 18 39.9**	**+1.0**
LBRS	**Las Brisas**	**2.09**	**320**	*e*P	**Pn**	**05 18 14.1**	**+0.7**
LOMA	**Loma Larga**	**2.10**	**316**	*e*P	**Pn**	**05 18 13.7**	**0.0**
LOMA				*e*S	**Sn**	**05 18 39.2**	**-0.5**
LOMA	**Loma Larga**	**2.10**	**316**	S	**Sn**	**05 18 41.7**	**+1.9**
LOMA	**Loma Larga**	**2.10**	**316**	⇑P	**Pn**	**05 18 13.9**	**+0.3**
LALI	**Alcalda de L**	**2.11**	**310**	⇓*e*P	**Pn**	**05 18 14.0**	**+0.5**
LALI				*e*S	**Sn**	**05 18 37.6**	**-2.0**
LFU	**La Fuente**	**2.14**	**319**	*e*P	**Pn**	**05 18 14.0**	**-0.1**
PIC2	**El Picacho**	**2.23**	**316**	*e*P	**Pn**	**05 18 16.5**	**+1.0**
BOQS	**Boqueron**	**2.24**	**316**	*e*P	**Pn**	**05 18 16.6**	**+1.0**
PMON	**Piamonte**	**2.25**	**315**	*e*P	**Pn**	**05 18 16.4**	**+0.9**
CARN	**Rivas**	**2.30**	**114**	⇑P	**Pn**	**05 18 16.3**	**+0.1**
CARN				S	**Sn**	**05 18 44.8**	**+0.4**
JAYA	**Jayaque - finc**	**2.31**	**312**	*e*P	**Pn**	**05 18 16.1**	**-0.3**
JAYA				*e*S	**Sn**	**05 18 42.5**	**-2.3**
JAYA	**Jayaque - finc**	**2.31**	**312**	*e*P	**Pn**	**05 18 16.1**	**-0.3**
JAYA				*e*S	**Sn**	**05 18 44.5**	**-0.4**
JAYA	**Jayaque - finc**	**2.31**	**312**	S	**Sn**	**05 18 46.8**	**+2.0**
JAYA	**Jayaque - finc**	**2.31**	**312**	⇑P	**Pn**	**05 18 17.1**	**+0.6**
CEDA	**San Andres**	**2.37**	**315**	*e*P	**Pn**	**05 18 16.9**	**-0.3**
LLGN	**La Laguna**	**2.38**	**329**	P	**Pn**	**05 18 18.5**	**+1.2**
CEVE	**Cerro Verde**	**2.55**	**312**	*e*P	**Pn**	**05 18 20.9**	**+1.0**
SBLS	**San Blas**	**2.56**	**312**	*e*P	**Pn**	**05 18 21.2**	**+1.3**
SNJE	**San Jose**	**2.56**	**313**	*e*P	**Pn**	**05 18 20.6**	**+0.6**
NUBE	**Las Nubes**	**2.71**	**311**	*e*P	**Pn**	**05 18 22.2**	**+0.2**
NUBE				*e*S	**Sn**	**05 18 53.8**	**-1.0**
NUBE	**Las Nubes**	**2.71**	**311**	*e*P	**Pn**	**05 18 22.2**	**+0.2**
NUBE				*e*S	**Sn**	**05 18 53.8**	**-1.0**
RBDL	**Robledal**	**2.79**	**315**	*e*P	**Pn**	**05 18 24.0**	**+1.0**
RBDL				*e*S	**Sn**	**05 18 55.7**	**-1.0**
MTO3	**Montecristo**	**2.80**	**324**	*e*P	**Pn**	**05 18 24.1**	**+0.8**
MTO3	**Montecristo**	**2.80**	**324**	*e*P	**Pn**	**05 18 24.3**	**+1.1**
SARH	**Santa Rosa de**	**2.84**	**338**	*e*P	**Pn**	**05 18 25.9**	**+2.2**
ESQI	**Esquipulas**	**2.92**	**326**	*e*P	**Pn**	**05 18 25.1**	**+0.3**
JTS	**Las Juntas de** 3.4nm,0.3s,baz=308,slow=14,SNR=22	**3.23**	**124**	Pn	**Pn**	**05 18 32.7**	**+3.7**
JTS	9.2nm,0.3s,baz=291,slow=22,SNR=4.1			Sn	**Sg**	**05 19 20.4**	**-1.9**
JTS	comp=Z,276nm,18.1s,baz=283,slow=47 14nm,0.4s			LR	LR	05 20 14.2	
FG8	**

comp=Z,1.0nm,0.3s
PZH PanZhiHua 39.59 321 P P 05 36 15.5 +2.8
KSRS Korea Array 40.97 359 P P 05 36 22.9 -0.9
comp=Z,0.5nm,0.4s,baz=170,slow=8.9,SNR=5.5
comp=Z,0.5nm,0.4s
HHC Hu-ho-hao-te 46.96 343 *e*P P 05 37 15.3 +3.3
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,73nm,4.5s
SONM Songino Array 54.85 342 P P 05 38 10.6 -0.8
comp=Z,0.4nm,0.4s,baz=162,slow=8.1,SNR=4.4
comp=Z,0.4nm,0.4s
CASY Casey 63.68 188 P P 05 39 13.1 +1.0
MKAR Makanchi Array 64.63 327 P P 05 39 17.9 -0.8
MKAR Makanchi Array 64.63 327 P P 05 39 18.0 -0.6
comp=Z,0.5nm,0.5s,baz=122,slow=7.0,SNR=7.1
comp=Z,0.5nm,0.5s
ZAA0 Zalesovo Array 67.96 334 P P 05 39 38.0 -1.8
ZAA0 IAmb IAmb 05 39 42.9
comp=Z,2.6nm,1.1s
ZALV Zalesovo Beam 67.96 334 P P 05 39 38.0 -1.7
ZALV Zalesovo Beam 67.96 334 P P 05 39 38.9 -0.9
comp=Z,0.7nm,0.4s,baz=90,slow=4.4,SNR=5.0
comp=Z,0.7nm,0.4s
KURBB Kurchatov Arra 68.90 329 P P 05 39 44.4 -1.4
comp=Z,2.5nm,0.2s,baz=128,slow=5.4,SNR=4.1
comp=Z,2.5nm,0.2s
KURK Kurchatov 68.91 329 P P 05 39 45.2 -0.6
KKAR Karatay Array 69.84 319 P P 05 39 50.1 -1.7
VNDA Vanda 75.87 173 P P 05 40 27.7 +0.8
PPT Papeete 81.30 107 P P 05 40 57.9 -0.1
comp=Z,36nm,1.0s,baz=204,slow=20,SNR=1.9
QSPA South Pole Qui 86.23 180 P P 05 41 23.1 +0.7
comp=Z,1.8nm,1.0s,baz=311,slow=0.7,SNR=8.8
comp=Z,1.8nm,1.0s
ILAR Eielson Array 91.09 25 P P 05 41 44.0 -1.3
comp=Z,0.4nm,1.0s,baz=261,slow=6.2,SNR=2.1
comp=Z,0.4nm,1.0s
SNAA Sanae 98.44 194 P P 05 42 19.0 0.0
SNAA IAmb IAmb 05 42 33.6
comp=Z,0.9nm,1.0s

IDC 26 05:43:59.8±14.0, 6°.84S×129°.41E, h112km±153km, mb3.4/1, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=106.3km s-min=57.9km az=32.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.78**	**198**	P		Pn	05 46 45.2	+1.0
	0.5nm,0.3s,baz=12,slow=12,SNR=18							
FITZ				S		Sn	05 48 49.5	-4.4
	2.8nm,0.6s,baz=72,slow=13,SNR=4.5							
	1.3nm,0.4s							
WRA	**Warramunga Arr**	**13.88**	**160**	P		Pn	05 47 10.0	-1.8
	0.4nm,0.3s,baz=338,slow=13,SNR=8.3							
WRA				S		Sn	05 49 35.6	-9.1
	2.0nm,0.7s,baz=338,slow=22,SNR=6.8							
	0.9nm,0.4s							
ASAR	**Alice Springs**	**17.28**	**166**	P		Pn	05 47 54.3	+0.1
	0.3nm,0.3s,baz=340,slow=10,SNR=22							
ASAR				S		Sn	05 50 56.7	-10
	0.6nm,0.6s,baz=355,slow=26,SNR=5.3							
	2.0nm,0.6s							
MKAR	**Makanchi Array**	**67.77**	**327**	P		P	05 54 45.5	0.0
	0.3nm,0.3s,baz=116,slow=7.8,SNR=6.9							
	0.3nm,0.3s							

IDC 26 06:02:23.2±2.1, 3°.81S×128°.25E, h0km, mb3.6/2, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=169.4km s-min=26.8km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.10**	**160**	P		P	06 06 25.4	-0.3
	0.1nm,0.3s,baz=342,slow=12,SNR=8.1							
	1.2nm,0.8s							
ASAR	**Alice Springs**	**20.49**	**165**	P		P	06 07 02.2	-0.7
	5.4nm,0.8s,baz=346,slow=11,SNR=28							
	5.4nm,0.8s							
MKAR	**Makanchi Array**	**64.62**	**327**	P		P	06 13 02.7	0.0
	0.1nm,0.4s,baz=122,slow=7.4,SNR=11							
	0.1nm,0.4s							

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*ISK **26** 06:03:54.5, 35°.56N×32°.32E, h26km, ML3.3/29*
*IDC **26** 06:03:54.7±1.5, 35°.52N×32°.13E, h83km±28km, mb3.5/2, mbtmp3.7/8, Error ellipse: s-maj=22.3km s-min=14.1km az=33.0*
*AFAD **26** 06:03:54.0, 35°.49N×32°.33E, h31km±8km, ML3.0*
*GRAL **26** 06:03:55.9±0.3, 35°.67N×32°.29E, h80km±999km, MD3.5*
*NIC **26** 06:03:55.2, 35°.73N×32°.40E, h53km±6km, Ml2.9/13*
*GII **26** 06:03:57.3±0.0, 35°.487N±0°.003×32°.455E±0°.001, h30km, Mws3.3, confirmed*
ISC 26 06:03:55.0±0.9, 35°.60N±0°.02×32°.31E±0°.03, h71km±7km, n129, σ1°27/168, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ALFC	**Alefka**	**0.50**	**151**	P		Pn	**06 04 08.0**	**0.0**
ALFC				S		Sn	**06 04 17.6**	**+0.1**
ALFC				AML		AML	06 04 20.0	
	3.4nm,0.2s							
ALFC				AML		AML	06 04 22.0	
	3.8nm,0.2s							
AKMS	**Akamas**	**0.58**	**178**	P		Pn	**06 04 09.5**	**+0.8**
AKMS				S		Sn	**06 04 20.6**	**+1.9**
AKMS				AML		AML	06 04 21.6	
	2.4nm,0.3s							
AKMS				AML		AML	06 04 23.7	
	1.6nm,0.2s							
GAZI	**Gazipasa**	**0.64**	**1**	Pg		Pn	**06 04 08.9**	**-0.5**
GAZI				Sg		Sn	**06 04 18.8**	**-1.1**
GAZI	**Gazipasa**	**0.64**	**1**	P		Pn	**06 04 10.3**	**+0.9**
GAZI				S		Sn	**06 04 19.2**	**-0.7**
BOZY	**Bozyazi-Mersin**	**0.74**	**47**	Pg		Pn	**06 04 10.2**	**-0.3**
BOZY				Sg		Sn	**06 04 20.8**	**-1.1**
TROD	**Troodos**	**0.79**	**145**	P		Pn	**06 04 11.5**	**+0.3**
TROD				S		Sn	**06 04 24.7**	**+1.5**
TROD				AML		AML	06 04 31.9	
	1.0nm,0.3s							
TROD				AML		AML	06 04 36.7	
	0.7nm,0.4s							
XYLS	**Xyliatos**	**0.84**	**133**	P		Pn	**06 04 11.7**	**+0.1**
XYLS				S		Sn	**06 04 23.9**	**0.0**
XYLS				AML		AML	06 04 26.2	
	1.9nm,0.3s							
XYLS				AML		AML	06 04 26.6	
	2.2nm,0.3s							
NATA	**Nata**	**0.84**	**165**	P		Pn	**06 04 12.9**	**+1.3**
NATA				S		Sn	**06 04 25.5**	**+1.6**
NATA				AML		AML	06 04 32.5	
	1.4nm,0.3s							
NATA				AML		AML	06 04 37.1	
	2.0nm,0.3s							
TEKE	**Tekeli-Mersin**	**0.85**	**50**	Pg		Pn	**06 04 11.6**	**-0.1**
TEKE				Sg		Sn	**06 04 23.4**	**-0.8**
ALAN	**Alanya-ANTALYA**	**0.99**	**347**	Pg		Pn	**06 04 13.6**	**+0.2**
ALAN				Sg		Sn	**06 04 27.3**	**+0.2**
ATHAL	**Athalassa**	**1.00**	**117**	P		Pn	**06 04 14.1**	**+0.6**
ATHAL				S		Sn	**06 04 27.8**	**+0.6**
ATHAL				AML		AML	06 04 28.5	
	2.2nm,0.4s							
ATHAL				AML		AML	06 04 29.4	
	3.0nm,0.5s							
APOL	**The Sanctuary**	**1.03**	**154**	P		Pn	**06 04 14.9**	**+1.0**
APOL				S		Sn	**06 04 30.1**	**+2.1**
APOL				AML		AML	06 04 36.3	
	0.6nm,0.3s							
APOL				AML		AML	06 04 38.4	
	0.7nm,0.2s							
CSS	**Mathiatis**	**1.05**	**127**	Pg		Pn	**06 04 13.6**	**-0.6**
CSS				Sg		Sn	**06 04 27.5**	**-0.9**
CSS	**Mathiatis**	**1.05**	**127**	P		Pn	**06 04 13.7**	**-0.4**
CSS				S		Sn	**06 04 28.2**	**-0.2**
CSS				AML		AML	06 04 37.2	
	0.6nm,0.5s							
CSS				AML		AML	06 04 38.3	
	0.6nm,0.3s							
CSS	**Mathiatis**	**1.05**	**127**	P		Pn	**06 04 14.3**	**+0.1**
YORU	**Yoruktepe-Mers**	**1.05**	**58**	Pg		Pn	**06 04 14.3**	**+0.1**
YORU				Sg		Sn	**06 04 28.1**	**-0.4**
BERE	**Bereket-Mersin**	**1.06**	**44**	Pg		Pn	**06 04 14.6**	**+0.2**
BERE				Sg		Sn	**06 04 29.2**	**+0.4**
ASGA	**Asgata**	**1.11**	**136**	P		Pn	**06 04 15.7**	**+0.7**
ASGA				S		Sn	**06 04 31.8**	**+1.9**
ASGA				AML		AML	06 04 37.5	
	0.7nm,0.3s							
ASGA				AML		AML	06 04 39.0	
	0.8nm,0.4s							
OREN	**Orenkoy-Mersin**	**1.12**	**56**	Pn		Pn	**06 04 14.9**	**-0.1**
AKK1	**Akkuyu-Mersin**	**1.14**	**61**	Pn		Pn	**06 04 15.8**	**+0.5**
ERMK	**Ermenek**	**1.15**	**25**	P		Pn	**06 04 15.2**	**-0.5**
ERMK				S		Sn	**06 04 34.7**	**+3.6**
GULN	**MERSIN_Gulnar**	**1.16**	**59**	P		Pn	**06 04 16.0**	**+0.4**
GULN				S		Sn	**06 04 29.8**	**-1.2**
TEPK	**Tepekoy-MERSIN**	**1.18**	**58**	Pn		Pn	**06 04 16.1**	**+0.2**
MVOU	**Mavrovouni**	**1.23**	**118**	P		Pn	**06 04 16.1**	**-0.3**
MVOU				S		Sn	**06 04 32.3**	**-0.1**
MVOU				AML		AML	06 04 33.5	
	0.7nm,0.3s							
MVOU				AML		AML	06 04 37.9	
	1.0nm,0.5s							
YESI	**Yesilovacik-Me**	**1.24**	**61**	Pn		Pn	**06 04 16.4**	**-0.1**
TEVE	**Tevekalti-Mers**	**1.25**	**47**	Pn		Pn	**06 04 17.2**	**+0.5**
TISA	**Tisan-Mersin**	**1.25**	**63**	Pn		Pn	**06 04 16.7**	**0.0**
HDMB	**Hadim**	**1.37**	**6**	Pn		Pn	**06 04 19.5**	**+1.0**
MNVG	**Manavgat-Antal**	**1.40**	**329**	Pn		Pn	**06 04 19.5**	**+0.9**
KEBE	**Keben-Mersin**	**1.42**	**53**	Pn		Pn	**06 04 19.9**	**+0.9**
SILI	**Silifke-Mersin**	**1.52**	**59**	Pn		Pn	**06 04 20.9**	**+0.7**
PARAL	**Paralimni**	**1.54**	**112**	P		Pn	**06 04 20.9**	**+0.4**
PARAL				S		Sn	**06 04 38.7**	**-1.0**
PARAL				AML		AML	06 04 47.5	
	0.5nm,0.4s							
PARAL				AML		AML	06 04 53.4	
	0.5nm,0.5s							
SLFK	**Silifke-Mersin**	**1.55**	**59**	Pn		Pn	**06 04 21.4**	**+0.8**
KKBE	**Karaman, Kazim**	**1.70**	**17**	P		Pn	**06 04 22.5**	**-0.2**
KKBE				S		Sn	**06 04 45.3**	**+1.6**
KIZK	**Mersin**	**1.73**	**59**	Pn		Pn	**06 04 23.8**	**+0.8**
KIZK	**Mersin**	**1.73**	**59**	P		Pn	**06 04 23.3**	**+0.3**
KIZK				S		Sn	**06 04 43.7**	**-0.6**
AKUM	**Antalya-Kumluc**	**1.75**	**295**	P		Pn	**06 04 23.3**	**0.0**
AKUM				*i*	IAML		06 04 58.0	
	comp=E,122nm,0.6s							
AKUM				*i*	IAML		06 04 59.0	
	comp=N,114nm,0.5s							
KRMN	**Karaman**	**1.75**	**26**	Pn		Pn	**06 04 24.8**	**+1.3**
SEYD	**Seydisehir-KON**	**1.85**	**348**	Pn		Pn	**06 04 26.4**	**+1.7**
SEDI	**Konya, Seydise**	**1.91**	**347**	P		Pn	**06 04 26.6**	**+1.1**
SEDI				S		Sn	**06 04 52.7**	**+4.0**
SEDI				*i*	IAML		06 04 59.0	
	comp=N,70nm,0.5s							
MERS	**Mersin**	**2.19**	**54**	Pn		Pn	**06 04 30.3**	**+1.0**
BUCA	**Bucak, Bucak-**	**2.23**	**321**	P		Pn	**06 04 29.8**	**0.0**
ELL	**Elmali**	**2.26**	**301**	Pn		Pn	**06 04 31.6**	**+1.4**
ELL	**Elmali**	**2.26**	**301**	P		Pn	**06 04 30.4**	**+0.2**
ELL				AML		AML	06 05 04.8	
	0.5nm,0.3s							
ELL				AML		AML	06 05 07.1	
	0.4nm,0.3s							
KSL	**Kastellorizon**	**2.28**	**285**	P		Pn	**06 04 30.2**	**-0.3**
KSL				AML		AML	06 04 57.6	
	0.1nm,0.4s							
KSL				AML		AML	06 04 59.1	
	0.1nm,0.4s							
AKAS	**Kas**	**2.29**	**287**	Pn		Pn	**06 04 31.2**	**+0.6**
KERG	**Konya-Eregli**	**2.33**	**38**	P		Pn	**06 04 32.3**	**+1.0**
KERG				S		Sn	**06 05 00.8**	**+1.8**
KNIK	**Mula-Seydike**	**2.54**	**300**	P		Pn	**06 04 33.9**	**-0.1**
KNIK				S		Sn	**06 05 04.9**	**+0.9**
KNIK				*i*	IAML		06 05 07.0	
	comp=N,94nm,0.3s							
KNIK				*i*	IAML		06 05 07.0	
	comp=E,76nm,0.3s							
LADK	**Ladik-KONYA**	**2.60**	**1**	Pn		Pn	**06 04 36.6**	**+1.7**
GOLH	**Golhisar**	**2.76**	**307**	P		Pn	**06 04 38.8**	**+1.8**
GOLH				S		Sn	**06 05 11.4**	**+2.2**
GOLH				*i*	IAML		06 05 14.0	
	comp=N,61nm,0.5s							
GOLH				*i*	IAML		06 05 14.0	
	comp=E,88nm,0.6s							
KARA	**Karaisali**	**2.77**	**52**	Pn		Pn	**06 04 38.2**	**+1.1**
CAME	**Cameli-Denizli**	**2.78**	**300**	Pn		Pn	**06 04 38.7**	**+1.4**
YVAC	**Isparta, Yalva**	**2.81**	**343**	P		Pn	**06 04 38.0**	**+0.3**
YVAC				*i*	IAML		06 05 19.0	
	comp=E,10nm,0.6s							
BASM	**Basmaki-Afyon**	**2.94**	**323**	Pn		Pn	**06 04 41.6**	**+2.1**
SABU	**Mula-Dalaman**	**2.97**	**295**	P		Pn	**06 04 41.2**	**+1.5**
SABU				S		Sn	**06 05 10.6**	**-3.6**
SABU				*i*	IAML		06 05 15.0	
	comp=N,71nm,0.2s							
SABU				*i*	IAML		06 05 18.0	
	comp=E,52nm,0.3s							
CMRD	**Camardi-Nigde**	**2.98**	**45**	Pn		Pn	**06 04 41.9**	**+1.8**
DNZT	**Denizli-Tavas-**	**3.14**	**303**	P		Pn	**06 04 42.9**	**+0.8**
DNZT				S		Sn	**06 05 17.1**	**-1.4**
DNZT				*i*	IAML		06 05 18.0	
	comp=N,27nm,0.5s							
HWQ	**Hawqa**	**3.27**	**113**	*e*P		Pn	**06 04 44.2**	**+0.3**
HWQ				*e*S		Sn	**06 05 19.7**	**-1.9**
TAVA	**DENIZLI_Tavas**	**3.31**	**305**	P		Pn	**06 04 44.5**	**0.0**
TAVA				S		Sn	**06 05 21.2**	**-1.6**
TAVA				*i*	IAML		06 05 24.0	
	comp=N,37nm,0.3s							
TAVA				*i*	IAML		06 05 24.0	
	comp=E,30nm,0.3s							
BEIL	**Beino**	**3.35**	**107**	*e*P		Pn	**06 04 45.1**	**+0.1**
BEIL				*e*S		Sn	**06 05 21.4**	**-2.2**
HNTI	**Hanita**	**3.45**	**136**	P		Pn	**06 04 46.7**	**+0.4**
HNTI	**Hanita**	**3.45**	**136**	S		Sn	**06 05 25.5**	**-0.5**
QRWL	**Qaraoun**	**3.45**	**125**	*e*P		Pn	**06 04 46.7**	**+0.3**
RCY	**Rachaya**	**3.58**	**125**	*e*P		Pn	**06 04 48.5**	**+0.2**
RCY				*e*S		Sn	**06 05 27.5**	**-2.1**
SHBL	**Chebaa**	**3.62**	**127**	*e*P		Pn	**06 04 48.9**	**+0.2**
MULA	**Mugla, Merkez-**	**3.62**	**298**	P		Pn	**06 04 49.3**	**+0.7**
MULA				S		Sn	**06 05 25.3**	**-5.0**
MULA				*i*	IAML		06 05 30.0	
	comp=N,57nm,0.5s							
MULA				*i*	IAML		06 05 32.0	
	comp=E,48nm,0.3s							
MMC7	**Mount Meron ar**	**3.62**	**134**	P		Pn	**06 04 49.5**	**+0.8**
FKH	**Fakeheh**	**3.63**	**111**	*e*P		Pn	**06 04 48.9**	**+0.1**
MMA0B	**Mount Meron ar**	**3.63**	**134**	P		Pn	**06 04 49.4**	**+0.5**
MMA0B	**Mount Meron ar**	**3.63**	**134**	S		Sn	**06 05 29.6**	**-1.0**
MMAI	**Mount Meron Ar**	**3.63**	**134**	P		Pn	**06 04 48.5**	**-0.3**
	12nm,0.3s,baz=5.0,slow=35,SNR=44							
MMAI				S		Sn	**06 05 28.9**	**-1.6**
	18nm,0.3s,baz=303,slow=29,SNR=16							
GEM	**Giv'at Ha'Em**	**3.65**	**130**	P		Pn	**06 04 50.0**	**+0.9**
GEM	**Giv'at Ha'Em**	**3.65**	**130**	P		Pn	**06 04 49.7**	**+0.6**
GEM	**Giv'at Ha'Em**	**3.65**	**130**	S		Sn	**06 05 29.6**	**-1.4**
NATI	**Neve Ativ**	**3.67**	**128**	P		Pn	**06 04 50.3**	**+1.1**
NATI	**Neve Ativ**	**3.67**	**128**	P		Pn	**06 04 50.1**	**+0.8**
NATI	**Neve Ativ**	**3.67**	**128**	S		Sn	**06 05 29.9**	**-1.4**
OFRI	**`Ofer**	**3.71**	**142**	P		Pn	**06 04 49.9**	**+0.1**
OFRI	**`Ofer**	**3.71**	**142**	S		Sn	**06 05 31.1**	**-1.2**
BLGI	**Bet Lehem HaGe**	**3.72**	**139**	P		Pn	**06 04 51.6**	**+1.6**
BLGI	**Bet Lehem HaGe**	**3.72**	**139**	P		Pn	**06 04 50.9**	**+0.9**
KSHT	**Keshet**	**3.90**	**131**	P		Pn	**06 04 53.6**	**+1.1**
KSHT	**Keshet**	**3.90**	**131**	S		Sn	**06 05 36.1**	**-1.0**
SLTI	**Sal'it**	**4.04**	**145**	P		Pn	**06 04 55.2**	**+0.8**
SLTI	**Sal'it**	**4.04**	**145**	P		Pn	**06 04 54.8**	**+0.4**
SLTI	**Sal'it**	**4.04**	**145**	S		Sn	**06 05 39.5**	**-1.1**
SHMJ	**Saham**	**4.05**	**134**	P		Pn	**06 04 56.0**	**+1.5**
MMLI	**Mount Malkishu**	**4.07**	**140**	P		Pn	**06 04 55.7**	**+0.9**
MMLI	**Mount Malkishu**	**4.07**	**140**	S		Sn	**06 05 40.9**	**-0.5**
YAZI	**Mula-Dat§a-**	**4.08**	**287**	P		Pn	**06 04 54.3**	**-0.6**
YAZI				S		Sn	**06 05 37.5**	**-3.8**
YAZI				*i*	IAML		06 05 44.0	
	comp=N,44nm,0.5s							
YAZI				*i*	IAML		06 05 44.0	
	comp=E,49nm,0.3s							
QRNJ	**Al-Qirein**	**4.24**	**139**	P		Pn	**06 04 58.6**	**+1.6**
BRTR	**Keskin Array B**	**4.26**	**14**	P		Pn	**06 04 57.9**	**+0.5**
	1.7nm,0.5s,baz=192,slow=14,SNR=11							
SALP	**Salfit**	**4.26**	**145**	P		Pn	**06 04 58.3**	**+0.9**
SALP	**Salfit**	**4.26**	**145**	P		Pn	**06 04 58.2**	**+0.9**
HMDT	**Nahal Hemdat**	**4.27**	**140**	P		Pn	**06 04 59.1**	**+1.5**
HMDT	**Nahal Hemdat**	**4.27**	**140**	P		Pn	**06 04 58.8**	**+1.3**
HMDT	**Nahal Hemdat**	**4.27**	**140**	S		Sn	**06 05 45.7**	**-0.4**
UJAP	**Al Uja**	**4.48**	**143**	P		Pn	**06 05 01.5**	**+1.1**
UJAP	**Al Uja**	**4.48**	**143**	S		Sn	**06 05 51.1**	**-0.1**
DSI	**Dead Sea**	**4.76**	**147**	P		Pn	**06 05 05.6**	**+1.4**
	175nm,0.5s							
DSI	**Dead Sea**	**4.76**	**147**	P		Pn	**06 05 05.4**	**+1.1**
DSI	**Dead Sea**	**4.76**	**147**	S		Sn	**06 05 58.2**	**0.0**
YTIR	**Yattir**	**4.83**	**150**	P		Pn	**06 05 06.3**	**+1.0**
YTIR	**Yattir**	**4.83**	**150**	S		Sn	**06 05 59.7**	**-0.2**
MDBI	**Mazsada**	**4.97**	**148**	P		Pn	**06 05 08.5**	**+1.4**
	2.8nm,0.6s,2.8nm,0.6s							
MDBI	**Mazsada**	**4.97**	**148**	P		Pn	**06 05 08.2**	**+1.1**
MSBI	**Mazada**	**4.97**	**148**	P		Pn	**06 05 08.6**	**+1.5**
KZIT	**Kziot**	**4.99**	**159**	P		Pn	**06 05 07.8**	**+0.5**
KZIT	**Kziot**	**4.99**	**159**	S		Sn	**06 06 03.4**	**-0.4**
GHAJ	**Ghor Haditha**	**5.07**	**147**	P		Pn	**06 05 10.2**	**+1.8**
	36nm,0.7s,36nm,0.7s							
GHAJ	**Ghor Haditha**	**5.07**	**147**	P		Pn	**06 05 09.5**	**+1.0**
ASF	**Jabal al Asfar**	**5.12**	**131**	P		Pn	**06 05 11.1**	**+1.9**
	3.8nm,0.3s,baz=348,slow=9.3,SNR=6.9							
ASF				S		Sn	**06 06 09.7**	**+2.6**
	7.5nm,0.4s,baz=78,slow=14,SNR=4.6							
ASF	**Jabal al Asfar**	**5.12**	**131**	P		Pn	**06 05 10.9**	**+1.7**
	57nm,0.7s,57nm,0.7s							
PRNI	**Paran**	**5.70**	**156**	P		Pn	**06 05 17.6**	**+0.5**
	34nm,0.7s,34nm,0.7s							
PRNI	**Paran**	**5.70**	**156**	P		Pn	**06 05 17.9**	**+0.8**
PRNI	**Paran**	**5.70**	**156**	S		Sn	**06 06 21.9**	**+0.7**
KRMI	**Paran Flat**	**5.83**	**159**	P		Pn	**06 05 19.3**	**+0.4**
KRMI	**Paran Flat**	**5.83**	**159**	P		Pn	**06 05 19.3**	**+0.4**
HRFI	**Mount Harif**	**6.00**	**157**	P		Pn	**06 05 22.0**	**+0.8**
	22nm,0.7s,22nm,0.7s							
HRFI	**Mount Harif**	**6.00**	**157**	P		Pn	**06 05 21.8**	**+0.6**
HRFI	**Mount Harif**	**6.00**	**157**	S		Sn	**06 06 28.2**	**-0.3**
IDI	**Anoyia**	**6.06**	**269**	P		Pn	**06 05 21.8**	**-0.3**
	3.1nm,0.3s,baz=72,slow=16,SNR=12							
IDI				S		Sn	**06 06 25.7**	**-4.4**
	7.6nm,0.3s,baz=270,slow=20,SNR=9.4							
MBRI	**Mt Berech**	**6.19**	**158**	P		Pn	**06 05 24.6**	**+0.8**
	199nm,0.6s							
MBRI	**Mt Berech**	**6.19**	**158**	P		Pn	**06 05 25.0**	**+1.2**
EIL	**Elat**	**6.31**	**159**	P		Pn	**06 05 25.5**	**+0.1**
	11nm,0.4s,baz=27,slow=16,SNR=14							
EIL				S		Sn	**06 06 35.4**	**-0.8**
	5.2nm,0.4s,baz=66,slow=8.9,SNR=5.2							
EIL	**Elat**	**6.31**	**159**	P		Pn	**06 05 25.9**	**+0.5**
AKASG	**Malin Array Be**	**15.26**	**353**	P		Pn	**06 07 26.6**	**+0.5**
	0.2nm,0.3s,baz=181,slow=11,SNR=6.5							
FINES	**FINESS Array B**	**26.17**	**353**	P		P	**06 09 21.8**	**-0.6**
	0.9nm,0.5s,baz=151,slow=11,SNR=8.5							
	0.9nm,0.5s							
ARCES	**ARCESS Array B**	**34.20**	**356**	P		P	**06 10 31.9**	**-1.3**
	0.8nm,0.8s,baz=170,slow=9.2,SNR=6.2							
	0.8nm,0.8s							

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*SOME **26** 06:11:35.6, 42°.25N×76°.27E, h5km*
*NNC **26** 06:11:36.9±1.0, 42°.30N×76°.22E, h0km, mb3.3, mpv2.8, Error ellipse: s-maj=6.7km s-min=4.6km az=12.0*
*KRNET **26** 06:11:36.0±0.1, 42°.25N×76°.25E, h9km, mb2.6*
ISC 26 06:11:35.6±0.9, 42°.26N±0°.04×76°.26E±0°.03, h2km±7km, n22, σ0°71/40, 8C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ULHL	**Ulahol**	**0.01**	**226**	⇑*e*P		Pg	**06 11 36.4**	**0.0**
ULHL				⇑*e*S		Sg	**06 11 36.6**	**-0.4**
BOOM	**Boomskoye usch**	**0.33**	**315**	⇑*e*P		Pg	**06 11 42.7**	**+0.6**
BOOM				⇑*e*S		Sg	**06 11 47.6**	**+1.2**
KDJ	**Kajisay**	**0.70**	**100**	⇓*e*P		Pg	**06 11 49.8**	**+0.8**
KDJ				⇓*e*S		Sb	**06 11 59.7**	**-1.1**
KST	**Kastek**	**0.82**	**345**	P		Pg	**06 11 51.0**	**-0.3**
	3.3nm,0.3s							
KST				S		Sg	**06 12 02.4**	**+0.5**
	7.1nm,0.4s							
KST	**Kastek**	**0.82**	**345**	*e*P		Pg	**06 11 51.0**	**-0.3**
	3.3nm,0.3s							
KST				*e*S		Sg	**06 12 02.4**	**+0.5**
	7.1nm,0.4s							
TKM2	**Tokmak 2**	**0.82**	**324**	⇑*e*P		Pg	**06 11 52.0**	**+0.5**
TKM2				⇑*e*S		Sb	**06 12 03.5**	**-0.9**
MTBS	**Maitube**	**0.88**	**8**	P		Pg	**06 11 52.5**	**-0.1**
	3.5nm,0.2s							
MTBS				S		Sg	**06 12 04.8**	**+0.8**
	6.3nm,0.2s							
MTBS	**Maitube**	**0.88**	**8**	*e*P		Pg	**06 11 52.5**	**-0.1**
	3.5nm,0.2s							
MTBS				*e*S		Sg	**06 12 04.8**	**+0.8**
	6.3nm,0.2s							
TNSS	**Tian-Shan**	**0.93**	**33**	P		Pg	**06 11 53.8**	**+0.3**
	1.6nm,0.3s							
TNSS				S		Sb	**06 12 07.1**	**-0.7**
	2.0nm,0.3s							
TNSS	**Tian-Shan**	**0.93**	**33**	*e*P		Pg	**06 11 53.8**	**+0.3**
	1.6nm,0.3s							
TNSS				*e*S		Sb	**06 12 07.1**	**-0.7**
	2.0nm,0.3s							
TARG	**Taragay, Kyrgy**	**1.27**	**114**	⇓*e*P		Pn	**06 12 00.3**	**-0.5**
TARG				⇓*e*S		Sn	**06 12 17.9**	**-0.7**
KTBS	**Karatobe**	**1.49**	**12**	P		Pb	**06 12 04.3**	**+0.2**
	2.3nm,0.3s							
KTBS				S		Sg	**06 12 25.0**	**+1.5**
	3.1nm,0.4s							
KRBS	**Karabastau**	**1.50**	**344**	P		Pb	**06 12 04.0**	**-0.3**
	1.6nm,0.3s							
KRBS

0.6nm,0.4s
ASAR Alice Springs 29.82 234 P **P** 06 22 59.6 +0.3
1.0nm,0.7s,baz=60,slow=9.3,SNR=7.9
1.0nm,0.7s
STKA Stephens Creek 29.84 213 P **P** 06 22 58.0 -1.4
1.8nm,0.5s,baz=35,slow=14,SNR=5.5
1.8nm,0.5s
FITZ Fitzroy Crossi 35.07 249 P **P** 06 23 44.8 -0.6
1.0nm,0.6s,baz=344,slow=8.6,SNR=3.2
1.0nm,0.6s
PETK Petropavlovsk- 60.21 358 LR LR 06 49 46.4
comp=Z,22nm,20.5s,baz=97,slow=33
SONM Songino Array 72.32 325 P **P** 06 28 19.7 +2.1
0.8nm,0.5s,baz=116,slow=5.7,SNR=4.0
0.8nm,0.5s
ILAR Eielson Array 81.91 20 P **P** 06 29 09.5 -1.5
0.3nm,0.5s,baz=256,slow=5.6,SNR=5.2
0.3nm,0.5s
QSPA South Pole Qui 82.67 180 P **P** 06 29 16.0 +0.8
1.2nm,0.8s,baz=354,slow=3.7,SNR=4.3
1.2nm,0.8s
MKAR Makanchi Array 86.91 318 P **P** 06 29 36.8 0.0
1.1nm,0.6s,baz=94,slow=5.8,SNR=11
1.1nm,0.6s

IDC 26 06:20:02.1±2.9, 13°.66N×120°.50E, h178km±50km, mb3.1/4, mbtmp3.6/4, Error ellipse: s-maj=275.9km s-min=17.0km az=63.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.61**	**44**	P		Pn	06 20 28.6	+1.4
	775nm,0.3s,baz=304,slow=7.3,SNR=24						
TGY				S		Sn	06 20 46.2	-0.4
	342nm,0.4s,baz=326,slow=20,SNR=1.3						
WRA	**Warramunga Arr**	**36.06**	**158**	P		P	06 26 45.9	-0.9
	0.4nm,0.5s,baz=337,slow=8.6,SNR=5.7						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**39.35**	**160**	P		P	06 27 14.4	+0.1
	1.1nm,0.4s,baz=336,slow=6.8,SNR=17						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**45.95**	**324**	P		P	06 28 07.8	+0.6
	0.2nm,0.3s,baz=128,slow=9.3,SNR=3.8						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**50.11**	**326**	P		P	06 28 38.0	-1.0
	0.4nm,0.6s,baz=137,slow=7.7,SNR=5.3						
	0.4nm,0.6s						

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*JMA **26** 06:21:08.0±0.1, 24°.1N±0°.9×123°.2E±0°.5, h22km±3km, MV3.3/10, NEAR ISHIGAKIJIMA ISLAND*
ISC 26 06:21:08.1±1.0, 24°.13N±0°.07×123°.18E±0°.03, h20km±10km, n17, σ0s73/25, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.36**	**335**	P	**Pb**	**06 21 15.7**	**-0.1**
YOJ	**Yonaguni jima**	**0.36**	**335**	S	**Sb**	**06 21 21.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.36**	**335**	P	**Pb**	**06 21 15.7**	**-0.1**
YOJ				*e*S	**Sb**	**06 21 20.9**	**-0.1**
JYNG	**Yonagunijimaku**	**0.38**	**326**	P	**Pb**	**06 21 15.9**	**-0.3**
JYNG				*e*S	**Sb**	**06 21 21.2**	**-0.5**
IRIF	**Iriomote-Funau**	**0.54**	**68**	P	**Pb**	**06 21 18.9**	**-0.1**
IRIF				*e*S	**Sb**	**06 21 27.3**	**+1.0**
HATJ	**Hateruma jima**	**0.58**	**97**	*e*P	**Pb**	**06 21 19.2**	**-0.3**
HATJ				*e*S	**Sb**	**06 21 27.4**	**+0.1**
JKRS	**Kuro-shima**	**0.76**	**82**	P	**Pb**	**06 21 22.8**	**0.0**
JKRS				*e*S	**Sn**	**06 21 34.0**	**-0.7**
JIJ	**Ishigaki jima**	**0.91**	**75**	P	**Pb**	**06 21 24.5**	**-0.7**
JIJ				*e*S	**Sb**	**06 21 37.0**	**+0.2**
JISG	**Ishigakijimahi**	**1.13**	**66**	P	**Pn**	**06 21 28.1**	**-0.7**
JISG				*e*S	**Sb**	**06 21 43.2**	**+0.1**
NACB	**Ninganchiao**	**1.45**	**272**	P	**Pn**	**06 21 33.0**	**-0.2**
JTJ	**Tarama**	**1.48**	**70**	*e*P	**Pn**	**06 21 33.6**	**+0.1**
JTJ				*e*S	**Sn**	**06 21 52.4**	**+0.1**
YHNB	**Yeheng**	**1.73**	**288**	P	**Pb**	**06 21 38.7**	**-0.6**
YULB	**Yu-li**	**1.88**	**247**	P	**Pn**	**06 21 38.8**	**-0.3**
YULB	**Yu-li**	**1.88**	**247**	S	**Sn**	**06 22 01.4**	**-0.8**
SSLB	**Suanglung**	**2.06**	**261**	P	**Pb**	**06 21 43.6**	**-1.4**
TPUB	**Ta-pu**	**2.48**	**251**	P	**Pn**	**06 21 49.1**	**+1.7**
TPUB	**Ta-pu**	**2.48**	**251**	S	**Sn**	**06 22 18.7**	**+1.6**

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*NEIC **26** 06:30:42.0±1.4, 19°.31N±0°.02×67°.27W±0°.05, h10km±2km, ML2.9/15, Md2.9/10(RSPR), Error ellipse: s-maj=8.1km s-min=3.2km az=248.0*
*OSPL **26** 06:30:45.4±0.4, 19°.20N×67°.35W, h14km±3km, ML2.7*
*RSPR **26** 06:30:46.9, 19°.18N×67°.28W, h10km±5km, MD2.9/10*
*SDD **26** 06:30:46.1±2.2, 19°.20N×67°.15W, h20km±98km, MD3.6, ML2.9, MW3.2*
ISC 26 06:30:42.7±1.3, 19°.26N±0°.05×67°.20W±0°.03, h10km±10km, n63, σ0s56/83, 29C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.79**	**174**		**Pn**	**06 30 59.9**	**0.0**
AGPR					**Sb**	**06 31 10.2**	**+0.9**
AGPR	**Aguadilla, PR**	**0.79**	**174**	*e*P	**Pn**	**06 30 59.9**	**0.0**
AGPR	**Aguadilla, PR**	**0.79**	**174**	*e*S	**Sb**	**06 31 10.2**	**+0.9**
AGPR	**Aguadilla, PR**	**0.79**	**174**	*e*Pg	**Pb**	**06 30 59.2**	**+0.7**
AGPR				*e*Sg	**Sb**	**06 31 09.7**	**+0.4**
AGPR				IAML		06 31 11.8	
	comp=N,574nm,0.4s						
AGPR	**Aguadilla, PR**	**0.79**	**174**	*i* P	**Pb**	**06 30 59.0**	**+0.5**
AGPR				*e*S	**Sg**	**06 31 08.8**	**+0.6**
AGPR				IAML		06 31 11.2	
	comp=Z,338nm,0.2s						
IDE	**Isla Desecheo**	**0.90**	**197**		**Pn**	**06 31 01.1**	**-0.4**
IDE					**Sg**	**06 31 12.2**	**+0.3**
IDE	**Isla Desecheo**	**0.90**	**197**	*e*P	**Pn**	**06 31 01.1**	**-0.4**
IDE	**Isla Desecheo**	**0.90**	**197**	*e*S	**Sg**	**06 31 12.2**	**+0.3**
AOPR	**Arecibo Observ**	**1.00**	**155**		**Pb**	**06 31 02.4**	**+0.2**
AOPR	**Arecibo Observ**	**1.00**	**155**	*e*P	**Pn**	**06 31 02.6**	**-0.3**
AOPR	**Arecibo Observ**	**1.00**	**155**	*e*Pg	**Pn**	**06 31 02.7**	**-0.2**
AOPR				*e*Sg	**Sg**	**06 31 13.9**	**-1.1**
AOPR				IAML		06 31 22.8	
	comp=N,348nm,0.3s						
EMPR	**Esperanza - Ma**	**1.00**	**140**		**Pn**	**06 31 03.8**	**+1.0**
EMPR	**Esperanza - Ma**	**1.00**	**140**		**Pn**	**06 31 03.6**	**+0.8**
EMPR	**Esperanza - Ma**	**1.00**	**140**	*e*P	**Pn**	**06 31 03.8**	**+1.0**
PRSN	**Puerto Rico Se**	**1.03**	**177**		**Pb**	**06 31 03.0**	**+0.3**
PRSN					**Sb**	**06 31 16.7**	**+0.3**
PRSN	**Puerto Rico Se**	**1.03**	**177**	Pg	**Pb**	**06 31 02.9**	**+0.1**
PRSN	**Puerto Rico Se**	**1.03**	**177**	*e*P	**Pb**	**06 31 03.0**	**+0.3**
PRSN	**Puerto Rico Se**	**1.03**	**177**	*e*S	**Sb**	**06 31 16.7**	**+0.3**
PRSN	**Puerto Rico Se**	**1.03**	**177**	*e*Pg	**Pb**	**06 31 03.0**	**+0.3**
PRSN				*e*Sg	**Sg**	**06 31 15.8**	**-0.2**
PRSN				IAML		06 31 19.9	
	comp=N,889nm,0.3s						
LSP	**Las Mesas**	**1.08**	**174**		**Pb**	**06 31 03.8**	**+0.2**
LSP	**Las Mesas**	**1.08**	**174**	*e*P	**Pb**	**06 31 03.8**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.10**	**155**		**Pb**	**06 31 03.9**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.10**	**155**	Pg	**Pb**	**06 31 03.8**	**0.0**
UUPR	**Utuado, UPR, P**	**1.10**	**155**	*e*P	**Pb**	**06 31 03.9**	**+0.1**
ECPR	**Experimental S**	**1.22**	**139**	*e*P	**Pg**	**06 31 06.7**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.25**	**176**		**Pn**	**06 31 06.1**	**-0.1**
CRPR				IAML		06 31 23.1	
	comp=N,179nm,0.3s						
CRPR				IAML		06 31 29.4	
	comp=E,176nm,0.4s						
CRPR	**Cabo Rojo, PR**	**1.25**	**176**	*e*Pg	**Pn**	**06 31 06.1**	**-0.1**
CRPR				*e*Sg	**Sg**	**06 31 22.8**	**0.0**
CRPR				IAML		06 31 23.0	
	comp=N,203nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.25**	**176**	*i* P	**Pn**	**06 31 06.0**	**-0.2**
CRPR				*e*S	**Sb**	**06 31 21.5**	**-0.9**
CRPR				IAML		06 31 22.8	
	comp=Z,191nm,0.2s						
MLPR	**Magueyes Islan**	**1.29**	**173**	*e*P	**Pn**	**06 31 06.7**	**0.0**
MLPR	**Magueyes Islan**	**1.29**	**173**	*e*S	**Sb**	**06 31 22.4**	**-1.3**
MLPR	**Magueyes Islan**	**1.29**	**173**	*e*Pg	**Pn**	**06 31 06.8**	**0.0**
MLPR				*e*Sg	**Sb**	**06 31 23.7**	**+0.1**
MLPR				IAML		06 31 25.8	
	comp=N,34nm,0.5s						
GBPR	**Guanica, Bosqu**	**1.31**	**166**		**Pb**	**06 31 07.4**	**0.0**
GBPR	**Guanica, Bosqu**	**1.31**	**166**	*e*P	**Pb**	**06 31 07.4**	**0.0**
CELP	**Cerrillos**	**1.31**	**153**		**Pb**	**06 31 07.6**	**+0.1**
CELP					**Sb**	**06 31 24.4**	**0.0**
CELP				IAML		06 31 25.5	
	comp=E,167nm,0.3s						
CELP				IAML		06 31 27.2	
	comp=N,192nm,0.2s						
CELP	**Cerrillos**	**1.31**	**153**	*e*P	**Pg**	**06 31 07.7**	**-0.2**
CELP	**Cerrillos**	**1.31**	**153**	*e*Pg	**Pg**	**06 31 07.8**	**-0.2**
CELP				*e*Sg	**Sb**	**06 31 24.1**	**-0.3**
CELP				IAML		06 31 27.2	
	comp=N,198nm,0.2s						
OBIP	**Obispado Ponce**	**1.33**	**155**		**Pb**	**06 31 07.8**	**0.0**
OBIP					**Sb**	**06 31 24.3**	**-0.6**
OBIP				IAML		06 31 26.3	
	comp=E,194nm,0.4s						
OBIP				IAML		06 31 29.4	
	comp=N,175nm,0.5s						
OBIP	**Obispado Ponce**	**1.33**	**155**	*e*P	**Pg**	**06 31 08.1**	**-0.2**
OBIP	**Obispado Ponce**	**1.33**	**155**	*e*S	**Sb**	**06 31 24.1**	**-0.8**
GCPR	**Guaynabo City**	**1.42**	**131**		**Pn**	**06 31 08.9**	**+0.3**
GCPR					**Sn**	**06 31 27.3**	**+0.1**
GCPR	**Guaynabo City**	**1.42**	**131**	*e*P	**Pg**	**06 31 09.6**	**-0.3**
GCPR	**Guaynabo City**	**1.42**	**131**	*e*S	**Sb**	**06 31 27.6**	**+0.2**
SJG	**San Juan**	**1.51**	**139**		**Pb**	**06 31 11.0**	**+0.1**
SJG				IAML		06 31 34.8	
	comp=N,146nm,0.3s						
SJG				IAML		06 31 38.5	
	comp=N,118nm,0.3s						
SJG	**San Juan**	**1.51**	**139**	*e*P	**Pb**	**06 31 11.2**	**+0.3**
SJG	**San Juan**	**1.51**	**139**	*e*S	**Sn**	**06 31 29.6**	**0.0**
SJG	**San Juan**	**1.51**	**139**	*e*Pg	**Pg**	**06 31 12.1**	**+0.3**
SJG				*e*Sg	**Sn**	**06 31 29.6**	**0.0**
SJG	**San Juan**	**1.51**	**139**	*i* P	**Pb**	**06 31 11.2**	**+0.3**
SJG				IAML		06 31 38.2	
	comp=Z,69nm,0.6s						
HIDR	**Higuey Centro**	**1.58**	**246**	*e*Pg	**Pb**	**06 31 12.4**	**+0.3**
HIDR				*e*Sg	**Sg**	**06 31 33.8**	**+0.2**
HIDR				IAML		06 31 41.6	
	comp=N,156nm,0.2s						
IGPR	**InterUniversit**	**1.65**	**141**		**Pb**	**06 31 13.1**	**-0.1**
IGPR					**Sn**	**06 31 32.7**	**-0.3**
IGPR	**InterUniversit**	**1.65**	**141**	*e*P	**Pb**	**06 31 13.1**	**-0.1**
IGPR	**InterUniversit**	**1.65**	**141**	*e*S	**Sn**	**06 31 32.7**	**-0.3**
PDPR	**Patillas Dam,**	**1.66**	**138**	Pn	**Pb**	**06 31 12.9**	**-0.6**
PDPR				IAML		06 31 38.3	
	comp=N,100nm,0.1s						
PDPR	**Patillas Dam,**	**1.66**	**138**	*e*P	**Pb**	**06 31 13.0**	**-0.4**
PDPR	**Patillas Dam,**	**1.66**	**138**	*e*S	**Sn**	**06 31 33.6**	**+0.3**
HUMP	**Col San Antoni**	**1.69**	**131**		**Pb**	**06 31 13.4**	**-0.6**
MIDR	**Miches**	**1.77**	**262**	*e*Pg	**Pb**	**06 31 15.7**	**+0.4**
MIDR				IAML		06 31 46.1	
	comp=N,46nm,0.4s						
SMDR	**Samana, DR**	**1.88**	**271**	*e*Pg	**Pg**	**06 31 18.8**	**0.0**
SMDR				*e*Sg	**Sg**	**06 31 45.1**	**+1.9**
SMDR				IAML		06 31 50.0	
	comp=N,73nm,0.5s						
NADR	**Nagua**	**2.51**	**273**	*e*Pg	**Pg**	**06 31 30.7**	**-0.2**
NADR				*e*Sg	**Sg**	**06 32 03.2**	**-0.2**
NADR				IAML		06 32 21.6	
	comp=N,154nm,0.2s						
SFDR	**San Fco. de Ma**	**2.87**	**271**	*e*Pg	**Pg**	**06 31 37.3**	**-0.5**
SFDR				*e*Sg	**Sg**	**06 32 12.8**	**-2.3**
SFDR				IAML		06 32 37.0	
	comp=N,95nm,0.5s						
SABA	**Saba**	**4.09**	**113**	Pn	**Pn**	**06 31 46.7**	**+1.2**
ANWB	**Willy Bob**	**5.38**	**106**	Pn	**Pn**	**06 32 02.4**	**-0.6**
ANWB	**Willy Bob**	**5.38**	**106**	*e*P	**Pn**	**06 32 02.9**	**-0.1**
ANWB				*e*S	Sn	06 32 06.6	-58

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*SOME **26** 06:33:23.7, 39°.68N×81°.35E, h20km*
IDC 26 06:33:11.7±2.9, 46°.86N×84°.28E, h0km, mbtmp4.0/2, ML2.3/2, 1D, Error ellipse: s-maj=39.4km s-min=18.5km az=154.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.37**	**268**	Pn	Pg	06 33 36.6	-1.3
	0.3nm,0.4s,baz=130,slow=15,SNR=9.7						
MK31				Lg	Lg	06 34 56.8	
	1.4nm,0.6s,baz=136,slow=24,SNR=5.6						
MKAR	**Makanchi Array**	**1.37**	**268**	Pg	Pg	06 33 37.1	-0.8
	0.3nm,0.3s,baz=127,slow=16,SNR=7.9						
MKAR				Lg	Lg	06 33 55.4	
	0.2nm,0.3s,baz=132,slow=15,SNR=4.1						
SHLS	**Shalkode**	**5.04**	**224**	*e*P	Pn	06 34 29.4	+0.8
	2.5nm,0.2s						
SHLS				*e*S	Sn	06 35 16.8	-11
	11nm,0.6s						
UZB	**Uzynbulak**	**5.26**	**227**	*e*P	Pn	06 34 34.5	+2.7
	2.5nm,0.3s						
UZB				*e*S	Sn	06 35 25.3	-7.8
	5.1nm,0.6s						
KURBB	**Kurchatov Arra**	**5.35**	**317**	Pn	Pn	06 34 33.4	+0.6
	baz=302,slow=8.9,SNR=2.3						
KURBB				Sn	Sn	06 35 29.7	-5.4
	baz=149,slow=24,SNR=1.1						
KTBS	**Karatobe**	**6.22**	**242**	*e*P	Pn	06 34 42.0	-2.7
	0.4nm,0.3s						
KTBS				*e*S	Sn	06 35 38.5	-18
	6.3nm,0.5s						
ZALV	**Zalesovo Beam**	**7.11**	**3**	Pn	Pn	06 34 56.8	-0.1
	0.8nm,0.3s,baz=148,slow=30,SNR=2.5						
ZALV				Pg	Pb	06 35 21.2	+5.3
	2.3nm,0.3s,baz=46,slow=13,SNR=6.6						
	1.1nm,0.4s						
SONM	**Songino Array**	**15.02**	**78**	Pn	Pn	06 36 44.8	-0.4
	2.9nm,0.3s,baz=133,slow=17,SNR=41						

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*CATAC **26** 06:41:32.0±0.5, 12°.N±2°.×8°.8W±°., h21km±4km, M3.2/24, MLv3.2/24, Error ellipse: s-maj=4.9km s-min=2.3km az=29.6, confirmed*
*SNET **26** 06:41:35.0±1.0, 12°.09N×87°.81W, h22km±13km, ML3.0*
ISC 26 06:41:32.0±2.1, 11°.90N±0°.05×87°.74W±0°.04, h18km±5km, n53, σ0s64/69, 8C-10D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PKGN	**Cerro Pekin**	**1.07**	**44**	⇓P	**Pb**	**06 41 52.0**	**0.0**
PKGN				S	**Sg**	**06 42 06.8**	**0.0**
PACN	**Al O del Volca**	**1.10**	**57**	⇓P	**Pn**	**06 41 51.5**	**-1.1**
PACN				S	**Sg**	**06 42 08.5**	**+0.5**
POTN	**Potosi Cosigui**	**1.12**	**12**	⇓P	**Pn**	**06 41 51.9**	**-0.8**
POTN				S	**Sb**	**06 42 07.3**	**+0.3**
COPN	**Copaltepe**	**1.16**	**76**	⇑P	**Pn**	**06 41 53.3**	**0.0**
PLRN	**Geotermica Pol**	**1.17**	**54**	P	**Pn**	**06 41 52.3**	**-1.1**
PLRN				S	**Sn**	**06 42 08.9**	**0.0**
CNGA	**Al SSO del Vol**	**1.18**	**60**	P	**Pn**	**06 41 53.3**	**-0.3**
CNGN	**Cerro Negro**	**1.18**	**60**	S	**Sn**	**06 42 09.7**	**+0.4**
CNGN	**Cerro Negro**	**1.18**	**60**	⇑P	**Pn**	**06 41 53.7**	**0.0**
ILCN	**San Idelfonso**	**1.22**	**56**	⇑P	**Pn**	**06 41 53.5**	**-0.7**
ILCN				S	**Sn**	**06 42 10.8**	**+0.6**
CNCH	**Conchagua**	**1.37**	**356**	*e*P	**Pn**	**06 41 55.6**	**-0.7**
CNCH				*e*S	**Sn**	**06 42 13.2**	**-0.9**
CNCH				IAML		06 42 16.8	
	comp=Z,477nm,0.3s						
CNCH	**Conchagua**	**1.37**	**356**	⇓P	**Pn**	**06 41 55.6**	**-0.7**
LCND	**La Caada**	**1.41**	**354**	*e*P	**Pn**	**06 41 56.2**	**-0.5**
LCND				IAML		06 42 19.9	
	comp=Z,158nm,0.3s						
LCND	**La Caada**	**1.41**	**354**	S	**Sb**	**06 42 15.8**	**+0.4**
LCND	**La Caada**	**1.41**	**354**	⇓P	**Pn**	**06 41 56.5**	**-0.2**
UNAN	**Cigeo UNAN**	**1.46**	**82**	P	**Pn**	**06 41 57.2**	**-0.1**
UNAN				S	**Sn**	**06 42 15.7**	**-0.3**
TISN	**Laguna Tiscapa**	**1.46**	**80**	⇑P	**Pn**	**06 41 57.0**	**-0.5**
MGAN	**Managua**	**1.48**	**80**	P	**Pb**	**06 41 58.7**	**-0.4**
MAS3	**Al N del Volca**	**1.54**	**85**	P	**Pb**	**06 41 59.5**	**-0.4**
MAS3				S	**Sn**	**06 42 18.3**	**+0.2**
WILN	**Americas 2**	**1.54**	**80**	⇓P	**Pn**	**06 41 59.2**	**+0.6**
WILN				S	**Sb**	**06 42 19.1**	**-0.2**
SABN	**Sabanita**	**1.55**	**88**	⇓P	**Pn**	**06 41 57.9**	**-0.8**
NANN	**Nandasmo**	**1.59**	**88**	S	**Sn**	**06 42 19.7**	**+0.5**
NANN	**Nandasmo**	**1.59**	**88**	⇓P	**Pn**	**06 41 59.2**	**0.0**
VSM	**San Miguel**	**1.60**	**341**	*e*P	**Pn**	**06 42 00.2**	**+0.5**
LCY	**Lacayo**	**1.61**	**340**	*e*P	**Pn**	**06 42 00.1**	**+0.5**
RANC	**El Ranchito**	**1.61**	**341**	*e*P	**Pn**	**06 41 59.3**	**-0.5**
PACA	**Pacayal**	**1.66**	**340**	*e*P	**Pn**	**06 42 00.4**	**+0.1**
PACA				*e*S	**Sn**	**06 42 19.9**	**-1.3**
PACA	**Pacayal**	**1.66**	**340**	P	**Pn**	**06 42 00.3**	**0.0**
PACA	**Pacayal**	**1.66**	**340**	S	**Sn**	**06 42 21.2**	**-0.1**
NADN	**Granada**	**1.68**	**95**	⇓P	**Pn**	**06 42 00.1**	**-0.4**
NADN				S	**Sn**	**06 42 22.4**	**+0.8**
TECA	**Tecapa**	**1.75**	**335**	*e*P	**Pn**	**06 42 01.7**	**+0.1**
TECA				*e*S	**Sn**	**06 42 21.9**	**-1.6**
TECO	**Alcaldia de Te**	**1.92**	**328**	*e*P	**Pn**	**06 42 03.6**	**-0.2**
TECO				*e*S	**Sn**	**06 42 26.0**	**-1.4**
TECO	**Alcaldia de Te**	**1.92**	**328**	P	**Pn**	**06 42 03.6**	**-0.2**
TECO	**Alcaldia de Te**	**1.92**	**328**	S	**Sn**	**06 42 27.0**	**-0.4**
UESV	**Universidad de**	**2.00**	**330**	S	**Sn**	**06 42 29.4**	**-0.2**
UESV	**Universidad de**	**2.00**	**330**	P	**Pn**	**06 42 05.2**	**+0.2**
SCLA	**Alcaldia de Sa**	**2.03**	**332**	*e*P	**Pn**	**06 42 05.7**	**+0.3**
SCLA				*e*S	**Sn**	**06 42 29.9**	**-0.5**
SCLA	**Alcaldia de Sa**	**2.03**	**332**	S	**Sn**	**06 42 31.0**	**+0.6**
SCLA	**Alcaldia de Sa**	**2.03**	**332**	⇑P	**Pn**	**06 42 05.9**	**+0.5**
MATN	**Matagalpa**	**2.05**	**60**	P	**Pn**	**06 42 04.7**	**-0.9**
MATN	**Matagalpa**	**2.05**	**60**	S	**Sn**	**06 42 31.6**	**+0.8**
MORN	**Al O del Volca**	**2.08**	**100**	⇓P	**Pn**	**06 42 05.2**	**-0.8**
CONN	**Concepcion**	**2.10**	**99**	P	**Pn**	**06 42 05.6**	**-0.7**
OCON	**Estacion meteo**	**2.12**	**36**	P	**Pn**	**06 42 06.0**	**-0.6**
OCON				S	**Sn**	**06 42 33.4**	**+0.9**
PAVA	**Las Pavas**	**2.15**	**327**	S	**Sn**	**06 42 32.9**	**-0.3**
YUSH	**Yuscaran**	**2.22**	**23**	S	**Sn**	**06 42 35.7**	**+0.7**
YUSH	**Yuscaran**	**2.22**	**23**	⇑P	**Pn**	**06 42 08.0**	**0.0**
LOMA	**Loma Larga**	**2.23**	**321**	S	**Sn**	**06 42 34.9**	**-0.3**
RCVN	**Varillal2**	**2.25**	**42**	S	**Sn**	**06 42 36.6**	**+0.6**
RCVN	**Varillal2**	**2.25**	**42**	⇑P	**Pn**	**06 42 08.8**	**+0.2**
RCPN	**Sur Rio San Ju**	**2.28**	**45**	⇑P	**Pn**	**06 42 09.2**	**+0.3**
CARN	**Rivas**	**2.29**	**108**	P	**Pn**	**06 42 08.3**	**-0.5**
CARN				S	**Sn**	**06 42 36.8**	**+0.2**
JAYA	**Jayaque - finc**	**2.41**	**317**	P	**Pn**	**06 42 12.5**	**+1.8**
JAYA	**Jayaque - finc**	**2.41**	**317**	S	**Sn**	**06 42 40.1**	**+0.3**

IDC 26 06:45:10.8±14.0, 4°.93S×127°.93E, h0km, mb3.9/1, mbtmp3.5/3, ML3.0/2, MS3.4/2, Error ellipse: s-maj=215.8km s-min=160.1km az=140.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.74**	**219**	LR	LR	06 50 12.4	
	comp=Z,177nm,18.2s,baz=52,slow=45						
WRA	**Warramunga Arr**	**16.18**	**158**	Pn	Pn	06 49 00.3	+0.6
	baz=336,slow=12,SNR=2.1						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**19.50**	**163**	P	P	06 49 39.2	-0.5
	0.1nm,0.3s,baz=345,slow=10,SNR=10						
	1.3nm,0.7s						
STKA	**Stephens Creek**	**29.71**	**156**	P	P	06 51 18.9	+0.2
	0.5nm,0.3s,baz=348,slow=9.3,SNR=2.5						
	0.5nm,0.3s						
KVAR	**Kislovodsk Arr**	**89.95**	**314**	LR	LR	07 45 39.7	
	comp=Z,27nm,18.0s,baz=328,slow=40						

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*BJI **26** 06:57:03.8, 38°.71N×73°.37E, h47km, mB4.1/1, mb4.3/5, ML4.4/7*
*MOS **26** 06:57:06.3±1.0, 38°.71N×73°.54E, h103km, mb4.6/4, Error ellipse: s-maj=9.4km s-min=4.8km az=85.3*
*NEIC **26** 06:57:06.9±1.1, 38°.69N±0°.06×73°.44E±0°.09, h147km±5km, mb4.5/14, Error ellipse: s-maj=10.9km s-min=7.1km az=118.0*
*IDC **26** 06:57:06.8±2.7, 38°.59N×73°.62E, h95km±21km, mb3.9/14, mbtmp4.3/18, MS4.2/1, Error ellipse: s-maj=20.4km s-min=14.5km az=164.0*
*NNC **26** 06:57:08.2±2.2, 38°.81N×73°.41E, h157km±24km, mb3.8, mpv4.5, Error ellipse: s-maj=24.3km s-min=8.8km az=17.0*
ISC 26 06:57:07.4±0.6, 38°.71N±0°.06×73°.37E±0°.05, h150km, n122, σ1s39/109, mb4.3/21, 10C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.18**	**67**	P	P	06 57 35.8	-8.9
KSH				S	Sn	06 57 57.5	-16
KSH				smax	smax		
	comp=N,5μm,0.4s						
KSH				smax	smax		
	comp=E,6μm,0.5s						
BTK	**Batken**	**2.39**	**305**		**Pn**	**06 57 48.3**	**+1.1**
BTK	**Batken**	**2.39**	**305**	PN	**Pn**	**06 57 48.3**	**+1.1**
GAR	**Garm**	**2.40**	**278**		**Pn**	**06 57 47.1**	**-0.3**
GAR					Sn	**06 58 18.8**	**+0.6**
ARSB	**Arslanbob**	**2.63**	**354**		**Pn**	**06 57 49.4**	**-0.8**
ARSB	**Arslanbob**	**2.63**	**354**	PN	**Pn**	**06 57 49.4**	**-0.8**
CHGR	**Chuyangaron**	**3.29**	**270**		**Pn**	**06 57 58.4**	**-0.2**
CHGR	**Chuyangaron**	**3.29**	**270**	PN	**Pn**	**06 57 58.4**	**-0.2**
SIMJ	**Simiganj**	**3.41**	**271**		**Pn**	**06 57 59.9**	**-0.2**
UCH	**Uchtor**	**3.62**	**14**	P	**Pn**	**06 58 03.0**	**-0.1**
	SNR=74						
EKS2	**Erkin-Say**	**3.96**	**4**	P	**Pn**	**06 58 07.5**	**+0.3**
	SNR=127						
AAK	**Ala-Archa**	**4.02**	**12**	P	**Pn**	**06 58 08.1**	**+0.1**
	SNR=26						
AAK	**Ala-Archa**	**4.02**	**12**	⇑P	**Pn**	**06 58 08.0**	**+0.1**
	43nm,0

11nm,0.9s,baz=220,slow=14,SNR=62
MK31 Makanchi Array 10.40 36 *i* P **Pn 06 59 32.1 -0.5**
MKAR Makanchi Array 10.40 36 P **Pn 06 59 32.5 0.0**
7.1nm,0.8s,baz=215,slow=13,SNR=59
WMQ Urumqi 11.93 60 *eP* **Pn 06 59 53.0 +0.4**
KURBB Kurchatov Arra 12.46 15 ⇑P **Pn 06 59 57.9 -1.5**
15nm,0.7s
KURBB Kurchatov Arra 12.46 15 P **Pn 06 59 58.1 -1.3**
4.3nm,0.6s,baz=202,slow=12,SNR=27
KURBB Kurchatov Arra 12.46 15 P **Pn 06 59 57.9 -1.5**
KURK Kurchatov 12.57 16 **Pn 06 59 59.6 -1.2**
KURK Kurchatov 12.57 16 ⇓P **Pn 06 59 58.4 -2.3**
5.1nm,0.8s
KURK Kurchatov 12.57 16 P **Pn 06 59 59.6 -1.2**
AB31 Akbulak array 14.28 322 Pn **Pn 07 00 22.8 +0.2**
AB31 Akbulak array 14.28 322 P **Pn 07 00 23.4 +0.8**
7.7nm,0.5s,baz=128,slow=13,SNR=45
AB31 Akbulak array 14.28 322 P **Pn 07 00 23.4 +0.8**
BVA0 Borovoye Array 14.47 353 ⇑P **Pn 07 00 26.0 +1.1**
49nm,0.7s,baz=163,slow=11,SNR=6.2
BVA0 Borovoye Array 14.47 353 P **P 07 00 26.4 -1.0**
BVAR Borovoye Array 14.47 353 P **P 07 00 26.3 -1.1**
6.4nm,0.8s,baz=172,slow=12,SNR=22
BORK Borovoye 14.49 353 *i* P **P 07 00 26.5 -1.2**
BRVK Borovoye 14.51 353 ⇑P **Pn 07 00 26.5 +1.1**
32nm,0.7s
AKTO Aktyubinsk 15.99 322 P **P 07 00 47.6 +3.2**
19nm,0.7s,baz=112,slow=11,SNR=26
AKTO S **S 07 03 35.6 -6.3**
6.0nm,0.8s,baz=254,slow=5.2,SNR=3.7
ZAA0 Zalesovo Array 17.14 23 P **P 07 00 56.1 -0.8**
ZALV Zalesovo Beam 17.14 23 P **Pn 07 00 59.3 +1.8**
20nm,0.4s,baz=210,slow=11,SNR=47
LSA Lhasa 17.21 116 P **P 07 00 55.4 -3.1**
LSA IAmb IAmb 07 01 22.4
comp=Z,12nm,0.5s
LSA Lhasa 17.21 116 P **P 07 00 55.4 -3.1**
LSA pmax pmax
comp=Z,13nm,0.5s
WSAR Wadi Sarin 19.89 223 P **Pn 07 01 31.2 +0.8**
comp=Z,0.1nm,0.8s,baz=46,slow=24,SNR=5.9
UOSS Minazif 19.98 232 P **P 07 01 26.4 -1.7**
ARTI Arti 20.29 336 P **P 07 01 30.6 -0.5**
ARTI Arti 20.29 336 P Pn 07 01 37.3 +2.5
comp=Z,13nm,0.7s,baz=142,slow=7.4,SNR=15
comp=Z,13nm,0.7s
ARTI Arti 20.29 336*c i*P Pn 07 01 36.6 +1.8
ARTI *PP pP 07 02 02.7 +4.5
ARTI 07 02 14.2
ARTI S Sn 07 05 18.0 -6.4
ARTI pmax pmax
comp=Z,10.0nm,0.6s
GTA Gaotai 20.53 80 *eP* Pn 07 01 36.5 -1.4
GTA pmax pmax
comp=Z,11nm,0.7s
GNI Garni 22.12 283 P **P 07 01 49.8 -1.1**
GNI IAmb IAmb 07 02 05.5
comp=Z,19nm,1.0s
GNI Garni 22.12 283 P **P 07 01 49.8 -1.1**
GNI pmax pmax
comp=Z,19nm,1.0s
BELG Belogornoye 22.48 316 *i* P **P 07 01 53.5 -0.4**
KIV Kislovodsk 23.55 293 *eP* **P 07 02 06.0 +1.9**
KIV *eS* **S 07 06 08.0 +1.1**
KIV pmax pmax
comp=Z,5.0nm,0.9s
GURO Guroymak-BITLI 24.42 280 P **P 07 02 12.0 -0.1**
SONM Songino Array 25.55 58 P **P 07 02 26.7 +4.4**
comp=Z,4.8nm,0.9s,baz=258,slow=10,SNR=15
comp=Z,4.8nm,0.9s
HHC Hu-ho-hao-te 29.28 74 *eP* **P 07 02 57.3 +1.8**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,70nm,4.7s
BRTR Keskin Array B 30.63 285 P P 07 03 14.8 +7.4
comp=Z,1.3nm,0.8s,baz=90,slow=8.6,SNR=5.9
comp=Z,1.3nm,0.8s
AKASG Malin Array Be 33.10 306 P P 07 03 35.2 +6.4
comp=Z,0.9nm,0.5s,baz=78,slow=8.6,SNR=5.8
comp=Z,0.9nm,0.5s
FIA1 FINESS Array S 36.76 324 P **P 07 04 00.6 +0.6**
FINES FINESS Array B 36.76 324 P P 07 04 06.5 +6.6
comp=Z,3.4nm,0.4s,baz=115,slow=9.5,SNR=33
comp=Z,3.4nm,0.4s
VSVD Vaisvydziai 36.77 314 *eP* P 07 03 54.3 -5.8
NJ2 Nanjing 37.37 86 *eP* **P 07 04 04.5 -1.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
ARCES ARCESS Array B 39.86 336 P P 07 04 32.5 +6.7
comp=Z,5.4nm,0.5s,baz=108,slow=8.5,SNR=55
comp=Z,5.4nm,0.5s
KSRS Korea Array 42.42 74 P **P 07 04 50.5 +3.4**
comp=Z,1.2nm,0.7s,baz=288,slow=7.8,SNR=5.2
comp=Z,1.2nm,0.7s
HFS Hagfors 42.53 320 P P 07 04 54.3 +6.6
comp=Z,6.6nm,0.5s,baz=98,slow=11,SNR=37
comp=Z,6.6nm,0.5s
NB2 NORSAR Subarra 43.79 322 P P 07 05 03.8 +6.0
comp=Z,2.7nm,0.5s,baz=91,slow=7.9
NOA NORSAR Array B 43.79 322 P P 07 05 04.2 +6.3
comp=Z,3.6nm,0.6s,baz=92,slow=7.6,SNR=18
comp=Z,3.6nm,0.6s
GRA1 Grafenberg Arr 44.69 305 P **P 07 05 04.7 -0.4**
GRA1 IAmb IAmb 07 05 17.1
comp=Z,10nm,0.7s
GRF Grafenberg Arr 44.69 305 P **P 07 05 04.7 -0.4**
GRF pmax pmax
comp=Z,10.0nm,0.7s
GRFO Grafenberg 44.69 305 P **P 07 05 04.7 -0.4**
GRFO IAmb IAmb 07 05 22.8
comp=Z,9.8nm,0.6s
GRFO Grafenberg 44.69 305 P **P 07 05 04.7 -0.4**
GRFO pmax pmax
comp=Z,10.0nm,0.6s
SPITS Spitsbergen Ar 45.79 346 P P 07 05 20.8 +7.4
comp=Z,1.8nm,0.5s,baz=133,slow=8.1,SNR=6.6
comp=Z,1.8nm,0.5s
TGY Tagaytay City 48.47 107 LR LR 07 28 35.4
comp=Z,301nm,21.4s,baz=18,slow=39
KMBO Kilima Mbogo 51.70 229 *i* P **P 07 06 01.0 +1.5**
EKA Eskdalemuir Ar 52.03 315 P P 07 06 07.7 +6.6
comp=Z,1.2nm,0.6s,baz=89,slow=8.8,SNR=4.4
comp=Z,1.2nm,0.6s
B20K Meade River 65.56 17 P **P 07 07 34.2 0.0**
B20K IAmb IAmb 07 08 01.8
comp=Z,9.5nm,1.1s
C19K Lookout Ridge 65.65 18 P **P 07 07 34.8 -0.2**
C19K IAmb IAmb 07 07 41.9
comp=Z,3.6nm,0.6s
E18K Tukpahlearik C 66.62 20 P **P 07 07 41.1 0.0**
E18K IAmb IAmb 07 07 47.1
comp=Z,3.3nm,0.7s
TORD Torodi Ar. Bea 67.64 269 P P 07 07 54.2 +5.9
comp=Z,0.7nm,0.4s,baz=49,slow=5.9,SNR=12
comp=Z,0.7nm,0.4s
COLD Coldfoot 69.33 17 P **P 07 07 58.9 +0.8**
ILAR Eielson Array 72.13 17 P P 07 08 20.1 +5.1
comp=Z,1.3nm,0.8s,baz=318,slow=4.8,SNR=14
comp=Z,1.3nm,0.8s
YKA Yellowknife Ar 78.94 4 P P 07 08 59.7 +5.9
comp=Z,2.4nm,0.8s,baz=22,slow=11,SNR=13
comp=Z,2.4nm,0.8s

MDD ***26*** *06:58:45.5±0.9, 43.°04N×14.°70W, h25km±29km, Mb4.3/14, M_mb3.7/15, Error ellipse: s-maj=31.4km s-min=6.1km az=111.0*

INMG 26 06:58:48.4±1.1, 43.°01N×14.°80W, h10km, ML2.6, 14C, Error ellipse: s-maj=6.3km s-min=4.5km az=92.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Abissal Iberica,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMAZ	**Mazaricos**	**4.28**	**89**	Pn	Pn	06 59 47.5	-6.0
EMAZ				⇑*i*IVmb_VC		06 59 50.0	
	236nm,SNR=0.9						
EMAZ				Sn	Sn	07 00 31.3	-12
EZAM	**Zamans**	**4.59**	**99**	Pn	Pn	06 59 51.8	-6.1
EZAM				⇑*i*IVmb_VC		06 59 54.0	
	458nm,SNR=2.2						
EZAM				Sn	Sn	07 00 39.3	-12
EAGO	**Agolada(Pontev**	**4.94**	**90**	Pn	Pn	06 59 55.9	-6.7
EAGO				⇑*i*IVmb_VC		06 59 58.1	
	211nm,SNR=1.0						
EAGO				Sn	Sn	07 00 47.9	-12
PGAV	**Gavieira, Arco**	**4.94**	**100**	*eP*	Pn	06 59 57.0	-5.8
PGAV				*eS*	Sn	07 00 48.1	-12
PGAV				*i* IAML		07 00 49.9	
PGAV				*i* IAML		07 00 50.3	
PGAV				*i* IAML		07 00 51.4	
ELOB	**Lobios**	**5.12**	**101**	Pn	Pn	06 59 59.3	-5.9
ELOB				⇑*i*IVmb_VC		07 00 00.1	
	197nm,SNR=1.4						
ELOB				Sn	Sn	07 00 52.4	-12
PCAB	**Cabril**	**5.18**	**102**	*eP*	Pn	07 00 00.5	-5.5
PCAB				*eS*	Sn	07 00 54.2	-12
PCAB				*i* IAML		07 00 56.8	
PCAB				*i* IAML		07 00 58.9	
PCAB				*i* IAML		07 00 59.9	
POLO	**Lamas de Olo**	**5.46**	**105**	*eP*	Pn	07 00 03.9	-6.0
POLO				*eS*	Sn	07 01 00.9	-12
POLO				*i* IAML		07 01 05.1	
POLO				*i* IAML		07 01 06.9	
POLO				*i* IAML		07 01 11.4	
PCAS	**Casmilo, Conde**	**5.58**	**120**	*eP*	Pn	07 00 05.0	-6.4
PCAS				*eS*	Sn	07 01 02.8	-13
PCAS				*i* IAML		07 01 05.6	
PCAS				*i* IAML		07 01 06.5	
PCAS				*i* IAML		07 01 07.2	
EPON	**Pontenova**	**5.61**	**84**	Pn	Pn	07 00 05.1	-6.7
EPON				⇑*i*IVmb_VC		07 00 06.1	
	206nm,SNR=0.8						
EPON				Sn	Sn	07 01 02.4	-14
PVIS	**Viseu**	**5.64**	**112**	*eP*	Pn	07 00 05.8	-6.5
PVIS				*eS*	Sn	07 01 04.4	-13
PSBE	**So Bento**	**5.71**	**126**	*eP*	Pn	07 00 07.3	-6.0
PSBE				*eS*	Sn	07 01 06.3	-13
PSBE				*i* IAML		07 01 10.1	
PSBE				*i* IAML		07 01 11.4	
PSBE				*i* IAML		07 01 15.3	
PMAFR	**Mafra**	**5.81**	**132**	*eP*	Pn	07 00 08.8	-5.9
PMAFR				*eS*	Sn	07 01 08.8	-13
PMAFR				*i* IAML		07 01 13.5	
PMAFR				*i* IAML		07 01 13.6	
PMAFR				*i* IAML		07 01 13.7	
MTE	**Manteigas**	**6.02**	**113**	*eS*	Sn	07 01 13.5	-13
MTE				*i* IAML		07 01 16.9	
MTE				*i* IAML		07 01 17.7	
MTE				*i* IAML		07 01 29.2	
PARRA	**Arraiolos**	**6.05**	**132**	*eP*	Pn	07 00 19.1	+1.2
PARRA				*eS*	Sn	07 01 26.7	-0.4
PARRA				*i* IAML		07 01 30.9	
PARRA				*i* IAML		07 01 31.5	
PARRA				*i* IAML		07 01 32.3	
PSARD	**Sardoal**	**6.05**	**122**	*eP*	Pn	07 00 11.2	-6.6
PSARD				*eS*	Sn	07 01 14.0	-13
PSARD				*i* IAML		07 01 16.5	
PSARD				*i* IAML		07 01 16.8	
PSARD				*i* IAML		07 01 20.5	
ECAL	**Calabor**	**6.06**	**97**	Pn	Pn	07 00 12.6	-5.5
ECAL				⇑*i*IVmb_VC		07 00 13.2	
	174nm,SNR=1.0						
ECAL				Sn	Sn	07 01 15.1	-12
MVO	**Moncorvo**	**6.07**	**105**	*eP*	Pn	07 00 12.0	-6.3
MVO				*eS*	Sn	07 01 14.7	-13
MVO				*i* IAML		07 01 16.8	
MVO				*i* IAML		07 01 19.2	
MVO				*i* IAML		07 01 26.5	
PMTG	**Montargil**	**6.34**	**126**	*eP*	Pn	07 00 15.6	-6.3
PMTG				*eS*	Sn	07 01 21.0	-13
PMTG				*i* IAML		07 01 25.4	
PMTG				*i* IAML		07 01 25.6	
PMTG				*i* IAML		07 01 37.9	
PCBR	**Castelo Branco**	**6.35**	**117**	*eS*	Sn	07 01 18.8	-16
PMRV	**Marv??o**	**6.63**	**120**	*eP*	Pn	07 00 19.0	-6.9
PMRV				*eS*	Sn	07 01 28.1	-13
PMRV				*i* IAML		07 01 33.0	
PMRV				*i* IAML		07 01 33.8	
PMRV				*i* IAML		07 01 36.4	
PESTR	**Estremoz**	**6.85**	**125**	*eP*	Pn	07 00 22.1	-6.8
PESTR				*eS*	Sn	07 01 35.1	-12
EARI	**Arriondas**	**7.02**	**84**	Pn	Pn	07 00 25.0	-6.3
EARI				⇑*i*IVmb_VC		07 00 25.2	
	217nm,SNR=0.7						
EARI				Sn	Sn	07 01 38.7	-12
PTEO	**Sao Teotonio**	**7.16**	**138**	*eP*	Pn	07 00 27.8	-5.4
PTEO				*eS*	Sn	07 01 43.0	-12
EPLA	**Plasencia**	**7.17**	**111**	Pn	Pn	07 00 27.2	-6.2
EPLA				⇑*i*IVmb_VC		07 00 28.2	
	59nm,SNR=0.7						
EPLA				Sn	Sn	07 01 41.5	-13
MESJ	**Messejana**	**7.20**	**134**	*eP*	Pn	07 00 27.8	-5.9
MESJ				*eS*	Sn	07 01 42.2	-13
EBAD	**Badajoz**	**7.27**	**123**	Pn	Pn	07 00 27.8	-6.8
EBAD				⇑*i*IVmb_VC		07 00 29.6	
	111nm,SNR=1.7						
EBAD				Sn	Sn	07 01 42.7	-14
MORF	**Marmelete**	**7.39**	**138**	*eP*	Pn	07 00 29.6	-6.7
MORF				*eS*	Sn	07 01 45.5	-15
MORF				*i* IAML		07 01 50.1	
MORF				*i* IAML		07 01 50.1	
MORF				*i* IAML		07 01 50.5	
PFVI	**Vila Bisbo**	**7.44**	**140**	*eS*	Sn	07 01 46.2	-15
PCVE	**Castro Verde**	**7.45**	**134**	*eP*	Pn	07 00 31.2	-6.0
PCVE				*eS*	Sn	07 01 48.0	-14
PCVE				*i* IAML		07 01 50.2	
PCVE				*i* IAML		07 01 51.0	
PCVE				*i* IAML		07 01 51.5	
PBAR	**Barrancos**	**7.63**	**127**	*eP*	Pn	07 00 33.3	-6.2
PBAR				*eS*	Sn	07 01 52.0	-14
PBAR				*i* IAML		07 01 54.0	
PBAR				*i* IAML		07 01 56.1	
PBAR				*i* IAML		07 01 59.0	
PBDV	**Barranco-do-Ve**	**7.80**	**135**	*eP*	Pn	07 00 36.5	-5.5
PBDV				*eS*	Sn	07 01 55.7	-15
PBDV				*i* IAML		07 01 58.8	
PBDV				*i* IAML		07 02 19.0	
PBDV				*i* IAML		07 02 20.3	
EGRO	**El Granado**	**7.82**	**132**	Pn	Pn	07 00 36.4	-5.8
EGRO				⇑*i*IVmb_VC		07 00 37.5	
	117nm,SNR=1.3						
EGRO				Sn	Sn	07 01 57.8	-13
EMIN	**Mina Concepcio**	**8.11**	**127**	Pn	Pn	07 00 40.2	-6.0
EMIN				⇑*i*IVmb_VC		07 00 42.4	
	101nm,SNR=1.5						
EMIN				Sn	Sn	07 02 05.8	-12
GUD	**Guadarrama**	**8.29**	**103**	Pn	Pn	07 00 42.8	-6.0
GUD				⇑*i*IVmb_VC		07 00 44.9	
	117nm,SNR=2.0						
ELAN	**Lanestosa**	**8.32**	**85**	Pn	Pn	07 00 43.4	-5.7
PAB	**San Pablo**	**8.60**	**110**	Pn	Pn	07 00 46.2	-6.7
PAB				⇑*i*IVmb_VC		07 00 48.8	
	38nm,SNR=0.7						
ECAB	**El Cabril**	**8.68**	**121**	Pn	Pn	07 00 47.2	-6.7
ECAB				⇑*i*IVmb_VC		07 00 47.6	
	66nm,SNR=1.2						
ECAB				Sn	Sn	07 02 16.8	-15

BJI ***26*** *07:01:21.2, 33.°21N×73.°27E, h10km, mB4.6/8, mb4.6/26, ML4.5/3, Ms4.1/13, Ms7 3.8/11*

IDC ***26*** *07:01:23.7±0.5, 33.°05N×73.°60E, h0km, mb4.3/26, mbtmp4.4/28, ML1.8/1, MS3.3/6, Error ellipse: s-maj=14.0km s-min=11.3km az=35.0*

MOS ***26*** *07:01:24.3±1.2, 33.°10N×73.°71E, h13km, mb4.5/9, Error ellipse: s-maj=9.0km s-min=4.7km az=98.2*

NEIC ***26*** *07:01:25.8±2.3, 33.°05N±0.°06×73.°6E±0.°1, h10km±1km, mb4.7/16, Error ellipse: s-maj=16.5km s-min=8.2km az=243.0*

NDI ***26*** *07:01:29.6±1.0, 32.°88N×73.°74E, h10km, ML4.7, MW4.5, mb4.7(NEIC)*

NNC ***26*** *07:01:35.0±3.9, 33.°47N×73.°79E, h88km±29km, mb4.4, Error ellipse: s-maj=33.2km s-min=24.1km az=28.0*

ISC 26 07:01:25.4±0.4, 33.°06N±0.°04×73.°61E±0.°03, h15km, n154, σ2s51/182, mb4.5/42, MS3.3/8, 17C-14D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIL	**Nilore**	**0.67**	**333**		**Pg**	**07 01 38.3**	**-0.1**
NIL	**Nilore**	**0.67**	**333**	P	**Pg**	**07 01 38.3**	**-0.1**
JMU	**Jammu**	**1.13**	**107**	*eP*	**Pg**	**07 01 47.6**	**+0.4**
JMU				*eS*	**Sb**	**07 02 00.4**	**-0.8**
JMU				IAML		07 02 00.8	
	comp=N,10μm,0.3s						
JMU				IAML		07 02 01.2	
	comp=E,7μm,0.3s						
SRNI	**Srinagar**	**1.47**	**44**	*eP*	**Pg**	**07 01 57.3**	**+3.7**
SRNI				*eS*	**Sg**	**07 02 16.1**	**+3.4**
SRNI				IAML		07 02 16.1	
	comp=N,41μm,0.4s						
SRNI				IAML		07 02 16.5	
	comp=E,35μm,0.5s						
TLWR	**Talawar**	**2.26**	**118**	*eP*	**Pb**	**07 02 04.7**	**-1.2**
TLWR				*eS*	**Sn**	**07 02 31.0**	**+1.1**
TLWR				IAML		07 02 36.5	
	comp=E,3μm,0.3s						
TLWR				IAML		07 02 38.1	
	comp=N,5μm,0.3s						
DHRM	**DHARAMSHALA**	**2.40**	**109**	*eP*	**Pb**	**07 02 07.1**	**-1.3**
DHRM				*eS*	**Sb**	**07 02 35.6**	**-2.4**
DHRM				IAML		07 02 41.2	
	comp=N,26μm,0.4s						
DHRM				IAML		07 02 41.3	
	comp=E,25μm,0.8s						
KBL	**Kabul**	**4.08**	**293**	Pn	**Pn**	**07 02 30.5**	**+3.0**
KBL	**Kabul**	**4.08**	**293**	P	**Pn**	**07 02 30.5**	**+3.0**
KLP	**Kalpa**	**4.21**	**110**	*eP*	**Pn**	**07 02 31.5**	**+2.2**
KLP				*eS*	**Sn**	**07 03 18.2**	**-0.2**
KLP				IAML		07 03 21.6	
	comp=E,2μm,0.4s						
KLP				IAML		07 03 22.3	
	comp=N,3μm,0.3s						
DDI	**Dehra Dun**	**4.66**	**125**	*eP*	**Pn**	**07 02 37.8**	**+2.4**
DDI				*eS*	**Sn**	**07 03 26.9**	**-2.4**
DDI				IAML		07 03 32.5	
	comp=E,1μm,0.3s						
DDI				IAML		07 03 32.6	
	comp=N,1μm,0.3s						
GAR	**Garm**	**6.50**	**337**	Pn	**Pn**	**07 03 03.1**	**+2.5**
CHGR	**Chuyangaron**	**6.66**	**328**	Pn	**Pn**	**07 03 04.0**	**+1.3**
CHGR	**Chuyangaron**	**6.66**	**328**	P	**Pn**	**07 03 04.0**	**+1.3**
KSH	**Kashi**	**6.72**	**16**	Pn	**Pn**	**07 03 02.0**	**-1.7**
KSH				Sn	Sn	07 04 10.0	-10
KSH				smax	smax		
	comp=N,230nm,0.8s						
KSH				smax	smax		
	comp=E,230nm,0.8s						
SIMJ	**Simiganj**	**6.72**	**328**		**Pn**	**07 03 05.6**	**+1.9**
BTK	**Batken**	**7.34**	**343**	Pn	**Pn**	**07 03 16.1**	**+4.1**
BTK	**Batken**	**7.34**	**343**	P	**Pn**	**07 03 16.2**	**+4.1**
ARSB	**Arslanbob**	**8.27**	**357**	Pn	**Pn**	**07 03 26.3**	**+1.4**
ARSB	**Arslanbob**	**8.27**	**357**	P	**Pn**	**07 03 26.3**	**+1.4**
UCH	**Uchtor**	**9.18**	**4**	P	**Pn**	**07 03 40.3**	**+2.6**
	SNR=17						
TARG	**Taragay, Kyrgy**	**9.28**	**20**		**Pn**	**07 03 41.1**	**+2.2**
TARG	**Taragay, Kyrgy**	**9.28**	**20**	P	**Pn**	**07 03 41.1**	**+2.2**
ULHL	**Ulahol**	**9.41**	**12**	P	**Pn**	**07 03 43.1**	**+2.6**
	SNR=18						
PYUN	**Piuthan**	**9.47**	**119**	Pn	**Pn**	**07 03 41.3**	**-0.1**
	baz=119,slow=0.0						
PYUN				Sn	**Sn**	**07 05 21.5**	**-6.3**
	comp=E,598nm,0.5s,baz=119,slow=0.0						
KDJ	**Kajisay**	**9.49**	**16**	Pn	**Pn**	**07 03 43.2**	**+1.6**
KDJ	**Kajisay**	**9.49**	**16**	P	**Pn**	**07 03 43.2**	**+1.6**
AAK	**Ala-Archa**	**9.59**	**4**	P	**Pn**	**07 03 45.6**	**+2.6**
	SNR=23						
AAK	**Ala-Archa**	**9.59**	**4**		**Pn**	**07 03 45.4**	**+2.4**
AAK	**Ala-Archa**	**9.59**	**4**	⇑P	**Pn**	**07 03 46.0**	**+3.0**
	comp=E,22nm,0.6s						
AAK				⇓S	**Sn**	**07 05 27.9**	**-2.6**
	comp=E,76nm,1.3s						
AAK	**Ala-Archa**	**9.59**	**4**	Pn	**Pn**	**07 03 46.1**	**+3.1**
	comp=E,46nm,0.6s,baz=167,slow=6.4,SNR=17						
AAK				Sn	**Sn**	**07 05 31.6**	**+1.0**
	comp=E,0.3nm,0.3s,baz=193,slow=20,SNR=1.1						
AAK				LR	LR	07 08 01.6	
	comp=E,154nm,21.1s,baz=200,slow=42						
EKS2	**Erkin-Say**	**9.59**	**1**	P	**Pn**	**07 03 46.3**	**+3.3**
	SNR=46						
BOOM	**Boomskoye usch**	**9.60**	**10**	Pn	**Pn**	**07 03 45.0**	**+1.9**
BOOM	**Boomskoye usch**	**9.60**	**10**	P	**Pn**	**07 03 45.0**	**+1.9**
KBK	**Karagaybulak**	**9.64**	**6**	P	**Pn**	**07 03 48.2**	**+4.4**
	SNR=7.3						
DANN	**Dangsing**	**9.91**	**116**	Pn	**Pn**	**07 03 47.7**	**+0.1**
	baz=116,slow=0.0						
DANN				Sn	**Sn**	**07 05 33.2**	**-5.5**
	comp=E,208nm,0.4s,baz=116,slow=0.0						
CHMS	**Chumysh**	**9.97**	**5**	P	**Pn**	**07 03 50.6**	**+2.5**
	SNR=12						
TKM2	**Tokmak 2**	**9.97**	**8**	P	**Pn**	**07 03 51.2**	**+2.9**
	SNR=8.3						
PRZ	**Przheval'sk**	**10.14**	**21**		**Pn**	**07 03 53.1**	**+2.5**
PRZ	**Przheval'sk**	**10.14**	**21**	P	**Pn**	**07 03 53.1**	**+2.5**
USP	**Ospenovka**	**10.22**	**4**	P	**Pn**	**07 03 54.4**	**+2.9**
	SNR=9.2						
KK31	**Karatay Array**	**10.32**	**347**	⇑P	**Pn**	**07 03 54.1**	**+1.1**
	comp=E,34nm,0.4s,baz=156,slow=11,SNR=183						
KK31				⇑S	**Sn**	**07 05 44.6**	**-3.7**
	comp=E,59nm,0.7s,baz=171,slow=22,SNR=12						
KK31	**Karatay Array**	**10.32**	**347**	P	**Pn**	**07 03 54.6**	**+1.7**
KK31				S	**Sn**	**07 05 44.6**	**-3.7**
GKN	**Gorkha**	**10.75**	**115**	Pn	**Pn**	**07 03 58.6**	**-0.4**
	baz=115,slow=0.0						
GKN				Sn	**Sn**	**07 05 52.8**	**-6.4**
	comp=E,635nm,0.6s,baz=115,slow=0.0						
PDGK	**Podgornoye**	**11.25**	**23**	⇑P	**Pn**	**07 04 07.2**	**+1.6**
	comp=E,32nm,0.6s						
PDGK	**Podgornoye**	**11.25**	**23**	P	**Pn**	**07 04 07.2**	**+1.6**
DMN	**Daman**	**11.31**	**116**	Pn	**Pn**	**07 04 05.8**	**-0.9**
	baz=116,slow=0.0						
DMN				Sn	**Sn**	**07 06 05.8**	**-7.2**
	comp=E,310nm,0.6s,baz=116,slow=0.0						
PKIN	**Phulchoki**	**11.55**	**115**	Pn	**Pn**	**07 04 09.3**	**-0.7**
	baz=115,slow=0.0						
PKIN				Sn	**Sn**	**07 06 11.7**	**-7.2**
	comp=E,173nm,0.4s,baz=115,slow=0.0						
PKI	**Pulchoki**	**11.56**	**115**	Pn	**Pn**	**07 04 09.7**	**-0.5**
	baz=115,slow=0.0						
PKI				Sn	**Sn**	**07 06 12.4**	**-6.9**
	baz=115,slow=0.0						
GUN	**Gumba**	**11.75**	**113**	Pn	**Pn**	**07 04 12.8**	**-0.1**
	baz=113,slow=0.0						
GUN				Sn	**Sn**	**07 06 17.5**	**-6.5**
	comp=E,152nm,0.5s,baz=113,slow=0.0						
RAMN	**Ramite**	**12.79**	**115**	Pn	**Pn**	**07 04 26.6**	**-0.3**
	baz=115,slow=0.0						
RAMN				Sn	**Sn**	**07 06 41.6**	**-7.6**
	comp=E,230nm,0.4s,baz=115,slow=0.0						
MAKZ	**Makanchi**	**15.15**	**22**		**Pn**	**07 04 57.5**	**-1.2**
MAKZ				IAmb	IAmb	07 05 02.2	
	comp=Z,35nm,0.9s						
MAKZ	**Makanchi**	**15.15**	**22**	⇓P	**Pn**	**07 04 57.0**	**-1.7**
	comp=Z,33nm,0.8s						
MAKZ	**Makanchi**	**15.15**	**22**	P	**Pn**	**07 04 57.5**	**-1.2**
MAKZ				pmax	pmax		
	comp=Z,35nm,0.9s						
MK31	**Makanchi Array**	**15.23**	**23**	P	**Pn**	**07 04 58.2**	**-1.7**
	comp=Z,20nm,1.2s,baz=189,slow=11,SNR=50						
MK31	**Makanchi Array**	**15.23**	**23***c e*P		**Pn**	**07 04 58.2**	**-1.7**
MKAR	**Makanchi Array**	**15.23**	**23**	Pn	**Pn**	**07 04 59.4**	**-0.5**
	comp=Z,6.0nm,0.6s,baz=203,slow=11,SNR=28						
MKAR				Sn	**Sn**	**07 07 44.8**	**-3.5**
	comp=Z,0.4nm,0.3s,baz=269,slow=26,SNR=2.3						
WMQ	**Urumqi**	**15.38**	**42**	*eP*	**Pn**	**07 05 03.5**	**+1.6**
WSAR	**Wadi Sarin**	**16.42**	**237**	Pn	**Pn**	**07 05 15.5**	**+0.1**
	baz=52,slow=20,SNR=4.3						
WSAR				Sn	Sn	07 08 04.3	-13
	baz=346,slow=24,SNR=1.2						
KURBB	**Kurchatov Arra**	**17.92**	**10**	⇓P	**Pn**	**07 05 31.1**	**-2.8**
	comp=Z,24nm,0.6s						
KURBB	**Kurchatov Arra**	**17.92**	**10**	P	**Pn**	**07 05 32.0**	**-1

comp=Z,13nm,0.6s,baz=163,slow=10,SNR=14
BVAR LR LR 07 14 50.0
comp=Z,65nm,20.6s,baz=181,slow=40
comp=Z,13nm,0.6s
BORK Borovoye 20.12 354 *i* P **P 07 05 58.7 +0.1**
BORK pmax pmax
comp=Z,10.0nm,0.4s
AKTO Aktyubinsk 20.83 331 ⇑P **P 07 06 06.4 +0.1**
comp=Z,30nm,0.8s
AKTO Aktyubinsk 20.83 331 P **P 07 06 07.1 +0.8**
comp=Z,38nm,0.7s,baz=146,slow=7.2,SNR=20
comp=Z,38nm,0.7s
GTA Gaotai 22.02 66 *e*P **P 07 06 21.5 +2.1**
GTA pmax pmax
comp=Z,10.0nm,1.1s
ZAA0 Zalesovo Array 22.36 18 ⇓P **P 07 06 21.6 -1.0**
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 22.36 18 P **P 07 06 22.6 0.0**
comp=Z,12nm,0.4s,baz=207,slow=9.9,SNR=29
ZALV S **S 07 10 25.5 -2.3**
comp=Z,1.7nm,0.8s,baz=210,slow=17,SNR=2.1
comp=Z,12nm,0.4s
MAK Makhachkala 22.75 303 *d i*P **P 07 06 21.7 -5.2**
MAK *e*S **S 07 10 27.3 -7.7**
MAK MLR MLR
comp=Z,244nm,10.0s
TNCH TengChong 23.16 104 P **P 07 06 34.5 +3.0**
TNCH pmax pmax
comp=Z,180nm,4.3s
GNI Garni 24.17 295 LR LR 07 18 05.3
comp=Z,40nm,18.5s,baz=109,slow=42
LZDM Lanzhou Array 24.91 75 P **P 07 06 48.9 +0.7**
comp=Z,2.9nm,0.3s,baz=264,slow=13,SNR=5.3
comp=Z,2.9nm,0.3s
LZH Lanzhou 25.03 75 *e*P **P 07 06 49.3 +0.2**
LZH pP pP 07 06 54.3 +0.6
LZH sS sS 07 11 26.3 +5.8
LZH pmax pmax
comp=Z,20nm,1.3s
LZH LR LR
comp=Z,180nm,13.4s
LZH LR LR
comp=Z,150nm,13.1s
PZH PanZhiHua 25.23 98 P **P 07 06 51.8 +0.9**
ARTI Arti 25.60 340 P **P 07 06 54.0 +0.2**
comp=Z,3.9nm,0.5s,baz=181,slow=12,SNR=3.9
comp=Z,3.9nm,0.5s
ARTI Arti 25.60 340 *d i*P **P 07 06 53.2 -0.6**
ARTI 07 07 27.9
ARTI 07 10 20.1
ARTI S **S 07 11 22.7 +1.6**
ARTI pmax pmax
comp=Z,4.0nm,0.6s
KBZ Khabaz 26.19 303 P **P 07 06 59.2 0.0**
comp=Z,3.2nm,0.8s,baz=194,slow=8.1,SNR=4.3
comp=Z,3.2nm,0.8s
KBZ Khabaz 26.19 303 *i*P **P 07 07 01.2 +1.9**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
SHA1 Shidzhatmaz 26.36 303 *i*P **P 07 07 02.9 +1.8**
KIV Kislovodsk 26.39 303 *e*P **P 07 07 00.0 -1.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,40nm,15.0s
CHTO Chiang Mai 26.74 116 P **P 07 07 04.8 +0.3**
CHTO Chiang Mai 26.74 116 P **P 07 07 04.8 +0.3**
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CMAR Chiang Mai Arr 26.96 116 P **P 07 07 07.3 +0.9**
comp=Z,9.9nm,0.7s,baz=297,slow=9.6,SNR=42
comp=Z,9.9nm,0.7s
SONM Songino Array 28.73 49 P **P 07 07 23.5 +1.3**
comp=Z,0.7nm,0.3s,baz=245,slow=9.1,SNR=6.2
comp=Z,0.7nm,0.3s
XAN Xi'an 29.36 78 *e*P **P 07 07 28.8 +1.0**
KIRV Kirov 30.27 335 *ce*P **P 07 07 33.6 -1.9**
HHC Hu-ho-hao-te 31.12 65 *e*P **P 07 07 45.5 +2.1**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,120nm,4.5s
BRTR Keskin Array B 32.66 293 P **P 07 07 59.0 +2.0**
comp=Z,2.0nm,0.7s,baz=112,slow=8.8,SNR=8.9
comp=Z,2.0nm,0.7s
OBN Obninsk 33.96 322 ⇓*e*P **P 07 08 08.5 +0.6**
OBN *PP **pP 07 08 11.0 -1.6**
OBN *i *SP **sP 07 08 12.8 -1.8**
OBN S **S 07 13 31.0 -1.1**
OBN *e*SS **SnSn 07 15 35.5 -2.9**
OBN SSS SSS 07 16 00.0
OBN pmax pmax
comp=Z,8.0nm,1.2s
ELL Elmali 35.80 288 P **P 07 08 27.0 +2.7**
ELL Elmali 35.80 288 P **P 07 08 27.0 +2.7**
ELL pmax pmax
comp=Z,15nm,0.7s
AKAS Kas 36.12 288 P **P 07 08 28.4 +1.5**
AKASG Malin Array Be 36.81 312 P **P 07 08 33.6 +1.0**
comp=Z,0.6nm,0.5s,baz=85,slow=6.9,SNR=6.3
comp=Z,0.6nm,0.5s
AKASG Malin Array Be 36.81 312 *i*P **P 07 08 33.0 +0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
NJ2 Nanjing 37.92 79 *e*P **P 07 08 41.8 -0.4**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
PLOR Plostina 37.92 304 ⇓P **P 07 08 45.7 +3.6**
PLOR Plostina 37.92 304 ⇓P **P 07 08 45.7 +3.6**
COVR Voineasa-Covas 38.23 304 ⇓P **P 07 08 47.6 +2.9**
PSI Prapat 38.31 136 P **P 07 08 45.7 0.0**
PSI pmax pmax
comp=Z,8.0nm,0.6s
RPSI Rantau Prapat 38.40 137 P **P 07 08 45.7 -0.6**
RPSI IAmb IAmb 07 08 46.7
comp=Z,8.5nm,0.6s
MLR Muntele Rosu 38.40 303 ⇓P **P 07 08 50.1 +3.8**
MLR Muntele Rosu 38.40 303 ⇓P **P 07 08 50.1 +3.8**
VOIR 39.03 303 ⇑P **P 07 08 54.1 +2.6**
VOIR 39.03 303 ⇑P **P 07 08 54.1 +2.6**
ARR Arges 39.32 303 ⇓P **P 07 08 56.8 +2.9**
MARR Marisel-Cluj 40.40 305 ⇑P **P 07 09 05.4 +2.6**
MESR Meseseni 40.53 306 ⇓P **P 07 09 05.8 +2.0**
GZR Gura Zlata 40.63 303 ⇑P **P 07 09 02.0 -2.8**
GZR Gura Zlata 40.63 303 ⇑P **P 07 09 02.0 -2.8**
SURR Surduc 41.09 304 ⇑P P 07 09 04.6 -3.8
MDVR Moldovita 41.40 302 ⇑P **P 07 09 13.7 +2.7**
FINES FINESS Array B 41.54 328 P **P 07 09 12.3 +0.4**
comp=Z,1.9nm,0.8s,baz=111,slow=10,SNR=4.9
comp=Z,1.9nm,0.8s
FINES FINESS Array B 41.54 328 *i*P **P 07 09 13.3 +1.4**
FINES pmax pmax
comp=Z,1.0nm,0.6s
BNX BinXian 42.70 56 ⇑P **P 07 09 23.3 +1.7**
BNX pmax pmax
comp=Z,9.0nm,0.9s
KSRS Korea Array 44.06 68 P **P 07 09 33.5 +0.9**
comp=Z,0.9nm,0.5s,baz=280,slow=7.5,SNR=4.2
comp=Z,0.9nm,0.5s
ARCES ARCESS Array B 45.14 338 P **P 07 09 41.5 +0.6**
comp=Z,1.6nm,0.4s,baz=115,slow=8.1,SNR=23
comp=Z,1.6nm,0.4s
YAK Yakutsk 45.59 33 P **P 07 09 44.1 -0.4**
YAK Yakutsk 45.59 33 *e*P **P 07 09 44.5 0.0**
YAK *e*PP **pP 07 09 47.7 -1.6**
YAK *e* 07 11 30.2
YAK *e*PPP PPP 07 12 09.7
YAK *e*S **S 07 16 26.8 +0.7**
YAK *e*SS **sS 07 16 32.8 -1.2**
YAK *e*SSS SSS 07 20 38.6
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,190nm,3.3s
YAK pmax pmax
comp=N,63nm,3.3s
YAK pmax pmax
comp=E,110nm,4.6s
YAK smax smax
comp=N,75nm,2.8s
YAK smax smax
comp=E,208nm,3.3s

USRK Ussuriysk Ar. 46.06 58 P **P 07 09 50.4 +1.9**
comp=E,1.1nm,0.5s,baz=263,slow=6.1,SNR=1.9
comp=E,1.1nm,0.5s
HFS Hagfors 47.10 324 P **P 07 09 56.7 +0.2**
comp=E,4.7nm,0.5s,baz=111,slow=8.6,SNR=23
HFS LR LR 07 33 23.5
comp=E,49nm,19.2s,baz=100,slow=41
comp=E,4.7nm,0.5s
FDMO Fiordimonte 47.77 300 P **P 07 10 04.7 +2.7**
FDMO IAmb IAmb 07 10 26.4
comp=Z,13nm,1.2s
CIMO Cimolais 47.78 305 P **P 07 10 04.0 +2.1**
CIMO IAmb IAmb 07 10 05.0
comp=Z,5.0nm,1.0s
TIXI Tiksi 48.20 20 LR LR 07 31 51.8
comp=Z,88nm,18.1s,baz=209,slow=38
NB2 NORSAR Subarra 48.42 325 P **P 07 10 06.3 -0.4**
comp=Z,3.9nm,0.7s,baz=97,slow=7.9
NOA NORSAR Array B 48.42 325 P **P 07 10 06.6 -0.1**
comp=Z,2.5nm,0.6s,baz=97,slow=7.6,SNR=14
NOA LR LR 07 32 38.0
comp=Z,22nm,18.1s,baz=220,slow=39
comp=Z,2.5nm,0.6s
SPITS Spitsbergen Ar 51.33 347 P **P 07 10 29.3 +0.8**
comp=Z,4.2nm,0.7s,baz=110,slow=9.3,SNR=5.5
comp=Z,4.2nm,0.7s
KEST Kesra 52.24 292 P **P 07 10 39.2 +3.1**
comp=Z,2.9nm,0.7s,baz=72,slow=3.2,SNR=4.2
MJAR Matsushiro Arr 52.27 67 P **P 07 10 37.2 +1.0**
comp=Z,1.0nm,0.3s,baz=285,slow=10,SNR=6.0
comp=Z,1.0nm,0.3s
EKA Eskdalemuir Ar 56.27 318 P **P 07 11 05.5 +0.6**
comp=Z,1.3nm,0.6s,baz=82,slow=6.5,SNR=3.5
comp=Z,1.3nm,0.6s
ESDC Sonseca Array 61.01 300 P **P 07 11 39.5 +1.1**
comp=Z,1.7nm,0.7s,baz=59,slow=7.8,SNR=10
comp=Z,1.7nm,0.7s
TORD Torodi Ar. Bea 67.88 272 P **P 07 12 23.2 -0.3**
comp=Z,2.1nm,0.7s,baz=42,slow=6.2,SNR=12
comp=Z,2.1nm,0.7s
E18K Tukpahlearik C 71.87 19 **P 07 12 48.1 +0.8**
E18K IAmb IAmb 07 12 49.0
comp=Z,6.7nm,0.8s
E21K Killik River 72.84 17 P **P 07 12 53.7 +0.6**
E21K IAmb IAmb 07 12 54.8
comp=Z,6.5nm,0.8s
TOLK Toolik Lake Re 73.69 15 P **P 07 12 59.0 +0.8**
F21K Alatna River 73.89 17 **P 07 13 00.2 +0.8**
F21K IAmb IAmb 07 13 03.9
comp=Z,4.2nm,0.8s
E24K Your Creek 74.39 15 P **P 07 13 03.1 +0.8**
BOSA Boshof 76.59 222 P **P 07 13 16.9 +1.6**
comp=Z,4.1nm,0.6s,baz=42,slow=3.2,SNR=14
comp=Z,4.1nm,0.6s
BOSA Boshof 76.59 222 P **P 07 13 17.0 +1.6**
ILAR Eielson Array 77.48 17 P **P 07 13 20.0 +0.1**
comp=Z,0.8nm,0.7s,baz=317,slow=5.6,SNR=11
ILAR PP **PP 07 16 14.8 +1.0**
comp=Z,0.5nm,0.8s,baz=308,slow=6.7,SNR=4.2
comp=Z,0.8nm,0.7s
ILAR Eielson Array 77.48 17 P **P 07 13 20.0 +0.1**
WRA Warramunga Arr 78.33 123 P **P 07 13 25.8 +0.5**
comp=Z,3.1nm,0.6s,baz=322,slow=5.3,SNR=51
comp=Z,3.1nm,0.6s
ASAR Alice Springs 80.51 126 P **P 07 13 37.5 +0.4**
comp=Z,2.3nm,0.7s,baz=310,slow=5.1,SNR=31
comp=Z,2.3nm,0.7s
YKA Yellowknife Ar 84.55 4 *ce*P **P 07 13 57.4 -0.2**
YKA pmax pmax
comp=Z,1.0nm,1.0s
STKA Stephens Creek 91.00 128 P **P 07 14 29.9 +0.9**
comp=Z,2.0nm,0.7s,baz=322,slow=3.9,SNR=5.1
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 117.90 357 PKKPbc PKKPbc 07 30 32.1 +0.3
comp=Z,0.2nm,0.7s,baz=184,slow=5.9,SNR=3.5
QSPA South Pole Qui 122.86 180 PKP **PKiKP 07 20 21.6 +1.4**
comp=Z,1.4nm,0.9s,baz=225,slow=1.4,SNR=5.1
PLCA Paso Flores 150.49 245 PKPbc **PKPbc 07 21 15.4 -1.0**
comp=Z,1.9nm,1.0s,baz=95,slow=8.1,SNR=2.9

IDC 26 07:18:51.1±1.9, 31°.17S×178°.80W, h0km, mb3.9/3, mbtmp3.9/4, ML3.0/1, Error ellipse: s-maj=44.1km s-min=33.9km az=79.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.83**	**204**	Pn	Pn		07 20 44.7	-1.5
	0.2nm,0.3s,baz=350,slow=20,SNR=1.5							
URZ				Sn	Sn		07 22 14.5	-1.1
	0.7nm,0.3s,baz=307,slow=14,SNR=8.3							
	11nm,1.1s							
ASAR	**Alice Springs**	**42.39**	**268**	P	P		07 26 47.6	+0.1
	0.8nm,0.5s,baz=106,slow=7.2,SNR=14							
	0.8nm,0.5s							
WRA	**Warramunga Arr**	**43.45**	**273**	P	P		07 26 56.1	+0.1
	0.6nm,0.4s,baz=112,slow=8.0,SNR=9.6							
	0.6nm,0.4s							
SNAA	**Sanae**	**77.41**	**179**	P	P		07 30 48.7	+1.0
	1.6nm,1.1s,baz=187,slow=8.1,SNR=3.7							
	1.6nm,1.1s							
H03S2	**Juan Fernandez**	**80.61**	**124**	T	T		09 00 01.5	
	baz=235							
H03S1	**Juan Fernandez**	**80.62**	**124**	T	T		09 00 06.9	
	baz=235							
H03S3	**Juan Fernandez**	**80.63**	**124**	T	T		09 00 02.4	
	baz=235							
FINES	**FINESS Array B**	**145.62**	**339**	PKPbc	PKPdf		07 38 28.9	-1.7
	0.8nm,0.5s,baz=42,slow=2.3,SNR=5.4							

*IDC **26** 07:20:45.7±6.7, 35°.96N×67°.97E, h0km, mb3.5/2, mbtmp3.5/3, ML3.2/1, MS3.8/2, Error ellipse: s-maj=192.5km s-min=40.8km az=101.0*
*NNC **26** 07:21:17.5±3.6, 36°.81N×70°.18E, h122km±54km, mb3.1, mpv3.7, Error ellipse: s-maj=39.2km s-min=24.7km az=54.0*

ISC 26 07:21:12.5±3.4, 36°.5N±0°.2×70°.3E±0°.2, h100km, n9, σ2°.8 45/7, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.57**	**1**	⇓P	**Pn**		**07 22 48.2**	**+1.7**
	6.2nm,0.3s,baz=8.5,slow=33,SNR=62							
KK31				⇑S	**Sn**		**07 23 59.0**	**-1.0**
	1.6nm,0.3s,baz=188,slow=21,SNR=4.5							
AAK	**Ala-Archa**	**6.91**	**27**	⇓P	**Pn**		**07 22 53.1**	**+1.9**
	0.6nm,0.3s							
MK31	**Makanchi Array**	**13.61**	**37**	⇑P	**Pn**		**07 24 23.6**	**+2.3**
	0.7nm,0.6s,baz=218,slow=12,SNR=5.0							
MKAR	**Makanchi Array**	**13.61**	**37**	Pn	**Pn**		**07 24 20.8**	**-0.4**
	0.1nm,0.3s,baz=225,slow=15,SNR=5.3							
	0.5nm,0.6s							
AB31	**Akbulak array**	**14.79**	**333**	⇓P	**Pn**		**07 24 36.4**	**0.0**
	0.3nm,0.3s,baz=162,slow=11,SNR=17							
ZALV	**Zalesovo Beam**	**20.13**	**26**	P	**P**		**07 25 35.0**	**-3.3**
	0.9nm,0.3s,baz=205,slow=9.4,SNR=4.8							
	0.9nm,0.3s							
HFS	**Hagfors**	**42.69**	**322**	LR	LR		07 46 32.8	
	comp=Z,41nm,18.9s,baz=160,slow=37							
BATI	**Baumata**	**68.36**	**122**	LR	LR		08 07 37.6	
	comp=Z,149nm,18.6s,baz=344,slow=40							
WRA	**Warramunga Arr**	**82.49**	**121**	P	P		07 33 17.3	-6.9
	0.3nm,0.6s,baz=319,slow=5.3,SNR=2.6							
	0.3nm,0.6s							

*IDC **26** 07:30:10.9±3.0, 54°.05N×87°.25E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=26.3km s-min=17.8km az=61.0*

ASRS 26 07:30:06.0±1.2, 54°.11N×87°.18E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**264**	I	I		07 38 20.0	
	baz=87,slow=328,SNR=1.7							
ZALV	**Zalesovo Beam**	**1.40**	**264**	Pg	Pb		07 30 35.9	+2.9
	1.7nm,0.3s,baz=86,slow=18,SNR=14							
ZALV				Lg	Lg		07 30 57.2	
	1.7nm,0.3s,baz=86,slow=25,SNR=5.4							
KURBB	**Kurchatov Arra**	**6.34**	**240**	Pn	Pn		07 31 46.6	+5.9
	0.1nm,0.3s,baz=55,slow=14,SNR=2.8							
KURBB				Lg	Lg		07 33 32.4	
	baz=48,slow=29,SNR=2.2							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**7.96**	**205**	Pn	Pn		07 32 08.6	+5.7
	0.1nm,0.3s,baz=26,slow=13,SNR=5.5							
MKAR				Lg	Lg		07 34 22.5	
	0.1nm,0.3s,baz=29,slow=25,SNR=1.7							
	0.1nm,0.3s							

*SOF **26** 07:32:03.6, 40°.78N±0°.03×28°.27E±0°.03, h2km±15km, MD3.9/7*
*ISK **26** 07:32:06.6, 40°.88N×28°.22E, h8km, ML3.8/43*
*AFAD **26** 07:32:07.2, 40°.85N×28°.26E, h8km±3km, MW3.6*
*CFUSG **26** 07:32:08.6, 40°.98N×28°.42E, h10km, mb2.6/1, MD3.3/3, Sea of Marmara Magtype MSH 3.3 from 5 stations*

ISC 26 07:32:07.0±1.0, 40°.86N±0°.02×28°.22E±0°.02, h12km±8km, n97, σ0°.84/112, 12C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SLVT	**Silivri**	**0.37**	**359**	Pg	**Pg**		**07 32 14.6**	**+0.1**
SLVT				Sg	**Sg**		**07 32 20.1**	**+0.6**
CTKS	**Kestanelik-??a**	**0.44**	**30**	Pg	**Pg**		**07 32 15.1**	**-0.6**
CTKS				Sg	**Sg**		**07 32 21.1**	**-0.4**
BAND	**Balkesir-Ban**	**0.51**	**190**	P	**Pb**		**07 32 17.7**	**-0.2**
BAND				S	**Sb**		**07 32 25.5**	**+0.3**
BAND	**Balkesir-Ban**	**0.51**	**190**	⇓P	**Pg**		**07 32 17.2**	**+0.2**
BGKT	**Bogazkoy**	**0.53**	**52**	Pg	**Pg**		**07 32 16.9**	**-0.5**
BGKT				Sg	**Sg**		**07 32 24.7**	**+0.3**
TKR	**Tekirdag**	**0.53**	**285**	Pg	**Pb**		**07 32 17.9**	**-0.4**
TKR				Sg	**Sg**		**07 32 25.1**	**+0.5**
MRMT	**Marmara Adasi**	**0.54**	**242**	Pg	**Pb**		**07 32 18.1**	**-0.3**
ARMT	**Armutlu**	**0.57**	**121**	Pg	**Pb**		**07 32 18.7**	**-0.2**
ARMT				Sg	**Sb**		**07 32 26.9**	**-0.1**
EDC	**Edincik**	**0.58**	**208**	Pg	**Pb**		**07 32 19.1**	**0.0**
CTYL	**Yalikoy Yolu**	**0.62**	**5**	Pg	**Pg**		**07 32 18.9**	**-0.2**
CTYL	**Yalikoy Yolu**	**0.62**	**5**	⇓P	**Pb**		**07 32 19.8**	**0.0**
ISK	**Istanbul-Kandi**	**0.67**	**72**	Pg	**Pg**		**07 32 19.7**	**-0.3**
KAVV	**Kandilli-Istan**	**0.67**	**72**	Pg	**Pg**		**07 32 18.4**	**-1.6**
MDNY	**Mudanya-Bursa**	**0.70**	**134**	Pg	**Pb**		**07 32 20.9**	**-0.3**
KLYT	**Kilyos**	**0.74**	**57**	Pg	**Pg**		**07 32 21.2**	**-0.1**
KLYT	**Kilyos**	**0.74**	**57**	⇑P	**Pg**		**07 32 21.2**	**-0.1**
KRBG	**Karabiga-Canak**	**0.84**	**237**	Pg	**Pg**		**07 32 23.0**	**-0.3**
SUSR	**Susurluk-Balik**	**0.90**	**187**	Pg	**Pb**		**07 32 24.6**	**0.0**
GONE	**Gonen-Balikesi**	**0.91**	**207**	Pg	**Pb**		**07 32 24.8**	**+0.1**
YLV	**Yalova**	**0.92**	**108**	Pg	**Pg**		**07 32 24.7**	**-0.2**
PHSR	**Pinarhisar**	**0.93**	**326**	Pg	**Pg**		**07 32 24.6**	**-0.4**
PHSR	**Pinarhisar**	**0.93**	**326**	⇓P	**Pb**		**07 32 25.5**	**+0.4**
ORLT	**Orhaneli**	**0.96**	**147**	Pg	**Pb**		**07 32 25.9**	**+0.3**
BLKS	**Balkesir-Sus**	**1.00**	**191**	S	**Sn**		**07 32 40.6**	**-0.3**
HRT	**Hereke**	**1.10**	**91**	Pn	**Pb**		**07 32 27.7**	**-0.3**
SILT	**Sile**	**1.12**	**74**	Pn	**Pb**		**07 32 27.9**	**-0.4**
SILT	**Sile**	**1.12**	**74**	⇓P	**Pb**		**07 32 28.3**	**0.0**
BKES	**Balkesir-Mer**	**1.15**	**191**	P	**Pn**		**07 32 28.9**	**0.0**
BKES				S	**Sn**		**07 32 44.6**	**+0.1**
BKES				*i* IAML			07 32 47.0	
	comp=N,1μm,0.5s							
BKES				*i* IAML			07 32 54.0	
	comp=E,1μm,0.6s							
SEMS	**Kocaeli-K¶rfe**	**1.15**	**89**	P	**Pb**		**07 32 28.9**	**0.0**
SEMS				S	**Sg**		**07 32 44.0**	**-0.2**
SEMS				*i* IAML			07 32 45.0	
	comp=E,908nm,0.4s							
SEMS				*i* IAML			07 32 53.0	
	comp=N,917nm,0.5s							
OSMT	**Osmaniye**	**1.15**	**102**	Pn	**Pn**		**07 32 29.3**	**+0.3**
YENI	**Yenice-Canakka**	**1.19**	**219**	Pn	**Pg**		**07 32 29.9**	**+0.1**
BALY	**Balya**	**1.21**	**203**	P	**Pg**		**07 32 30.6**	**+0.4**
BALY				S	**Sn**		**07 32 47.4**	**+1.3**
BALY				*i* IAML			07 32 48.0	
	comp=E,2μm,0.6s							
BALY				*i* IAML			07 32 51.0	
	comp=N,1μm,0.7s							
LPK	**Lapseki**	**1.21**	**247**	Pn	**Pn**		**07 32 29.2**	**-0.6**
CANM	**Can-anakkale**	**1.23**	**227**	Pn	**Pg**		**07 32 30.3**	**-0.3**
ADVT	**Abdulvahap**	**1.23**	**110**	Pn	**Pb**		**07 32 30.3**	**+0.1**
UKOP	**Uzunkopru-Edir**	**1.23**	**283**	Pn	**Pg**		**07 32 30.5**	**-0.2**
DST	**Dursunbey**	**1.29**	**166**	Pn	**Pg**		**07 32 31.8**	**0.0**
ERIK	**Erikli-Kesan**	**1.31**	**262**	Pn	**Pn**		**07 32 30.8**	**-0.3**
HISA	**Bilecik-Osmane**	**1.35**	**106**	P	**Pb**		**07 32 32.3**	**-0.1**
HISA				S	**Sg**		**07 32 51.3**	**+0.7**
HISA				*i* IAML			07 32 52.0	
	comp=N,2μm,0.6s							
HISA				*i* IAML			07 32 52.0	
	comp=E,1μm,0.7s							
GELI	**Tayfur-Gelibol**	**1.41**	**252**	Pn	**Pn**		**07 32 32.5**	**+0.1**
BILE	**Bilecik/Merkez**	**1.44**	**118**	P	**Pg**		**07 32 53.5**	**-0.2**
BILE				S	**Sg**		**07 32 53.5**	**+0.1**
BILE				*i* IAML			07 32 57.0	
	comp=N,477nm,0.8s							
BILE				*i* IAML			07 32 59.0	
	comp=E,384nm,0.5s							
EDRB	**Edirne**	**1.49**	**312**	Pn	**Pn**		**07 32 34.0**	**+0.4**
YAYO	**Edremit-Balk**	**1.52**	**216**	Pn	**Pb**		**07 32 35.1**	**-0.1**
COMU	**Canakkale**	**1.53**	**241**	Pn	**Pb**		**07 32 34.8**	**-0.5**
DOMA	**Ktahya-Doman**	**1.56**	**133**	P	**Pg**		**07 32 36.7**	**-0.1**
DOMA				S	**Sg**		**07 32 57.5**	**+0.4**
DOMA				*i* IAML			07 32 59.0	
	comp=E,784nm,0.4s							
DOMA				*i* IAML			07 33 00.0	
	comp=N,252nm,0.3s							
CAVK	**Edirne/Enez-Ca**	**1.57**	**265**	⇑P	**Pb**		**07 32 35.3**	**-0.6**
ENZZ	**Sultanice-Enez**	**1.60**	**262**	Pn	**Pb**		**07 32 36.1**	**-0.4**
CNKL	**anakkale-Mer**	**1.60**	**241**	S	**Sg**		**07 32 58.0**	**-0.7**
SAUV	**Serdivan-Sakar**	**1.60**	**93**	Pn	**Pb**		**07 32 36.2**	**-0.4**
ALN	**Alexandroupoli**	**1.65**	**272**	Pn	**Pb**		**07 32 36.8**	**-0.5**
GPA	**Golpazari**	**1.69**	**109**	Pn	**Pn**		**07 32 37.1**	**+0.7**
BAYC	**CANAKKALE_Bayr**	**1.70**	**229**	P	**Pb**		**07 32 37.3**	**-0.9**
TVSB	**Tavsanli**	**1.70**	**145**	Pn	**Pb**		**07 32 37.4**	**-0.8**
EZN	**Ezine**	**1.78**	**235**	Pn	**Pb**		**07 32 38.9**	**-0.6**
EZN	**Ezine**	**1.78**	**235**	⇓P	**Pb**		**07 32 39.6**	**+0.1**
SOMA	**Soma-Manisa**	**1.78**	**197**	Pn	**Pb**		**07 32 38.9**	**-0.6**
EZNE	**Ezine-Canakkal**	**1.79**	**233**	Pn	**Pn**		**07 32 38.3**	**+0.5**
GULT	**Gulveren**	**1.80**	**103**	Pn	**Pb**		**07 32 39.2**	**-0.7**
SMAA	**Simav-Kutahya**	**1.85**	**161**	Pn	**Pb**		**07 32 40.0**	**-0.8**
GADA	**Gvkgeada**	**1.89**	**250**	Pn	**Pn**		**07 32 39.3**	**+0.2**
BOZC	**Bozcaada**	**1.94**	**239**	Pn	**Pb**		**07 32 41.1**	**-1.2**
SAHE	**Sakarya_HENDEK**	**2.00**	**89**	⇓P	**Pn**		**07 32 41.8**	**+1.2**
RDO	**Rodhopi**	**2.05**	**279**	Pn	**Pn**		**07 32 41.5**	**+0.2**
JMB	**Yambol**	**2.06**	**323**	P	**Pn**		**07 32 41.6**	**+0.1**
KDZ	**Kurdzhali**	**2.30**	**291**	P	**Pn**		**07 32 44.3**	**-0.5**
KDZ				S	**Sb**		**07 33 18.4**	**+1.5**
KDZ	**Kurdzhali**	**2.30**	**291**	Pn	**Pn**		**07 32 45.7**	**+0.9**
PRD	**Provadia**	**2.38**	**346**	*e*P	**Pn**		**07 32 46.3**	**+0.5**
NEF	**NEVSHA**	**2.51**	**344**	P	**Pn**		**07 32 47.8**	**+0.2**
ELND	**Elena**	**2.71**	**321**	⇑P	**Pn**		**07 32 50.8**	**+0.4**
SZH	**Strazhitsa**	**2.93**	**326**	*e*P	**Pn**		**07 32 53.8**	**+0.4**
PVL	**Pavlikeni**	**3.21**	**316**	P	**Pn**		**07 32 57.8**	**+0.6**
MMB	**Musomishta**	**3.44**	**283**	*e*P	**Pn**		**07 33 01.5**	**+1.0**
TIRR	**Tirgusor**	**3.60**	**2**	⇓P	**Pn**		**07 33 04.3**	**+1.7**
PLVB	**Pleven**	**3.68**	**315**	⇓P	**Pn**		**07 33 05.4**	**+1.7**
KKB	**Krupnik**	**3.96**	**286**	*e*P	**Pb**		**07 33 15.2**	**-1.5**
MPEP	**Malo Peshtene**	**4.16**	**308**	P	**Pn**		**07 33 10.7**	**+0.3**
VAY	**Valandovo**	**4.29**	**278**	*i* Pn	**Pg**		**07 33 28.8**	**-0.5**
VAY				*i* Sn	**Sg**		**07 34 23.9**	**-1.0**
CFR	**Carcaliu**	**4.32**	**359**	⇑P	**Pn**		**07 33 14.5**	**+2.0**
MLR	**Muntele Rosu**	**4.92**	**341**	⇑P	**Pn**		**07 33 22.7**	**+1.8**
PLOR	**Plostina**	**5.12**	**348**	⇓P	**Pn**		**07 33 25.4**	**+1.9**
VRI	**Vrincioaia**	**5.12**	**348**	⇓P	**Pn**		**07 33 25.4**	**+1.9**
VOIR		**5.13**	**334**	⇓P	**Pn**		**07 33 25.2**	**+1.5**
ARR	**Arges**	**5.22**	**331**	⇑P	**Pn**		**07 33 25.5**	**+0.6**
SEV	**Sevastopol'**	**5.45**	**46**	*e*P	**Pn**		**07 33 27.3**	**-0.7**
SEV				Pm			07 33 31.5	
	comp=Z,3.0nm,0.3s							
SEV				*e*S	**Sn**		**07 34 29.1**	**-1.5**
SEV				Sm			07 34 34.4	
	comp=N,9.0nm,0.4s							
SEV				Sm			07 34 34.4	

ALU				Sm		07 34 41.8	
	comp=N,38nm,0.3s						
ALU				Sm		07 34 41.8	
	comp=E,34nm,0.4s						
GZR	**Gura Zlata**	**6.03**	**321**	⇑P	**Pn**	**07 33 37.2**	**+1.1**
MDVR	**Moldovita**	**6.18**	**311**	⇓P	**Pn**	**07 33 39.3**	**+1.2**
SUDU	**Sudak**	**6.41**	**49**	*ex*	x	07 33 43.2	
SUDU				*eS*	**Sn**	**07 34 53.5**	**-0.6**
SUDU				Sm		07 35 02.0	
	comp=N,32nm,0.5s						
SUDU				Sm		07 35 02.0	
	comp=E,9.0nm,0.4s						
SURR	**Surduc**	**6.61**	**320**	⇑P	**Pn**	**07 33 44.8**	**+0.9**
BZS	**Buzias**	**6.77**	**317**	⇑P	**Pn**	**07 33 46.8**	**+0.6**
MARR	**Marisel-Cluj**	**6.89**	**329**	⇑P	**Pn**	**07 33 49.0**	**+1.1**
BURAR	**Bucovina Array**	**7.09**	**343**	⇓P	**Pn**	**07 33 52.7**	**+2.1**

NNC ***26*** *07:36:18.0±0.6,49.97N×78.43E,h0km,mb3.4,mpv3.1, Error ellipse: s-maj=6.5km s-min=2.8km az=81.0, Suspected Mining explosion.*
IDC ***26*** *07:36:19.8±1.0,50.08N×78.77E,h0km,mbtmp2.8/2, ML2.1/2,Error ellipse: s-maj=12.7km s-min=6.3km az=64.0.*
ISC 26 07:36:19.4±0.8,50.03N±0.03×78.70E±0.05,h0km,n27, σ1§21/39,17C-10D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.57**	**348**	⇑P	**Pg**	**07 36 30.0**	**-0.3**
KUR07				⇑S	**Sb**	**07 36 39.1**	**-1.8**
KUR06	**Kurchatov Arra**	**0.59**	**349**	⇓P	**Pg**	**07 36 30.3**	**-0.4**
KUR06				⇑S	**Sb**	**07 36 39.8**	**-1.7**
KUR14	**Kurchatov Arra**	**0.59**	**353**	⇑P	**Pg**	**07 36 30.5**	**-0.3**
KUR14				⇓S	**Sg**	**07 36 39.5**	**+1.0**
KUR15	**Kurchatov Arra**	**0.60**	**352**	⇓P	**Pg**	**07 36 30.5**	**-0.5**
KUR15				⇑S	**Sg**	**07 36 39.6**	**+0.9**
KURBB	**Kurchatov Arra**	**0.61**	**350**	⇓P	**Pg**	**07 36 30.5**	**-0.5**
	32nm,0.5s						
KURBB				⇓S	**Sb**	**07 36 40.5**	**-1.6**
	101nm,0.6s						
KURBB	**Kurchatov Arra**	**0.61**	**350**	Pg	**Pg**	**07 36 30.4**	**-0.7**
	1.1nm,0.3s,baz=166,slow=19,SNR=60						
KURBB				Lg	Lg	07 36 39.5	
	1.9nm,0.3s,baz=164,slow=32,SNR=6.1						
KUR16	**Kurchatov Arra**	**0.61**	**348**	⇓P	**Pg**	**07 36 30.9**	**-0.3**
KUR16				⇑S	**Sg**	**07 36 39.8**	**+0.6**
KUR17	**Kurchatov Arra**	**0.62**	**346**	⇑P	**Pg**	**07 36 31.3**	**-0.1**
KUR17				⇓S	**Sb**	**07 36 40.9**	**-1.6**
KUR05	**Kurchatov Arra**	**0.63**	**350**	⇑P	**Pg**	**07 36 31.0**	**-0.4**
KUR05				⇑S	**Sb**	**07 36 40.5**	**-2.0**
KUR04	**Kurchatov Arra**	**0.65**	**351**	⇑P	**Pg**	**07 36 31.4**	**-0.4**
KUR04				⇑S	**Sg**	**07 36 40.9**	**+0.8**
KURK	**Kurchatov**	**0.69**	**356**	⇓P	**Pg**	**07 36 31.6**	**-1.1**
	5.0nm,0.5s						
KURK				⇑S	**Sb**	**07 36 43.0**	**-1.5**
	39nm,1.1s						
SEM	**Semipalatinsk**	**1.07**	**68**	P	Pn	07 36 47.4	+5.5
	8.6nm,0.2s						
SEM				S	**Sn**	**07 37 00.7**	**+3.2**
	45nm,0.3s						
BRZS	**Berezniki**	**3.88**	**272**	Pg	Pg	07 37 41.4	+7.5
	0.7nm,0.3s						
BRZS				Lg	Lg	07 38 32.4	
	5.1nm,0.7s						
MAKZ	**Makanchi**	**3.89**	**145**	⇑Pn	**Pn**	**07 37 19.6**	**-0.9**
	0.7nm,0.8s						
MAKZ				⇓Pg	**Pb**	**07 37 29.6**	**+0.7**
	2.6nm,0.6s						
MAKZ				⇑Lg	Lg	07 38 21.3	
	14nm,0.7s						
MK31	**Makanchi Array**	**4.02**	**142**	Pn	**Pn**	**07 37 21.9**	**-0.4**
	0.6nm,0.5s,baz=318,slow=10.0,SNR=5.6						
MK31				⇑Pg	**Pb**	**07 37 32.1**	**+0.9**
	2.1nm,0.5s,baz=324,slow=15,SNR=16						
MK31				⇑Lg	Lg	07 38 26.0	
	15nm,0.8s,baz=300,slow=27,SNR=6.1						
MKAR	**Makanchi Array**	**4.02**	**142**	Pn	**Pn**	**07 37 22.6**	**+0.3**
	0.2nm,0.3s,baz=321,slow=10.0,SNR=8.6						
MKAR				Pg	**Pb**	**07 37 31.2**	**+0.1**
	0.6nm,0.3s,baz=321,slow=13,SNR=20						
MKAR				Sn	**Sn**	**07 38 11.3**	**+1.2**
	0.3nm,0.3s,baz=334,slow=21,SNR=4.3						
MKAR				Lg	Lg	07 38 24.7	
	0.9nm,0.3s,baz=332,slow=31,SNR=16						
	0.6nm,0.6s						
ZSN	**Zaisan**	**4.83**	**120**	Pg	**Pg**	**07 37 49.9**	**-1.9**
	3.7nm,0.2s						
ZSN				Lg	Lg	07 38 47.6	
	14nm,0.7s						
I46RU	**ZALESOVO INFRA**	**5.45**	**42**	I	I	08 06 20.0	
	baz=223,slow=320,SNR=2.8						
ZALV	**Zalesovo Beam**	**5.45**	**42**	Pn	**Pn**	**07 37 43.4**	**+1.5**
	0.2nm,0.3s,baz=235,slow=15,SNR=5.1						
ZALV				Lg	Lg	07 39 08.4	
	0.2nm,0.3s,baz=226,slow=29,SNR=2.4						
	2.2nm,0.6s						
KNOS	**Konyrlen**	**5.68**	**177**	Pg	**Pg**	**07 38 07.0**	**-1.3**
	1.4nm,0.6s						
KNOS				Lg	Lg	07 39 16.5	
	5.3nm,0.6s						
ARXS	**Arharly**	**5.85**	**186**	Pg	**Pg**	**07 38 10.6**	**-0.8**
	0.9nm,0.3s						
ARXS				Lg	Lg	07 39 22.3	
	14nm,0.8s						
BTLS	**Baital**	**5.90**	**214**	Pg	**Pg**	**07 38 14.2**	**+1.7**
	1.5nm,0.4s						
BTLS				Lg	Lg	07 39 28.7	
	1.5nm,0.4s						
BVA0	**Borovoye Array**	**5.99**	**303**	⇑Sn	**Sn**	**07 38 59.1**	**+0.5**
	2.3nm,0.7s,baz=116,slow=24,SNR=5.8						
BVA0				⇓Lg	Lg	07 39 29.2	
	3.6nm,0.8s,baz=119,slow=27,SNR=4.1						
BVAR	**Borovoye Array**	**5.99**	**303**	Sn	**Sn**	**07 38 56.8**	**-1.8**
	0.1nm,0.3s,baz=108,slow=23,SNR=7.8						
BVAR				Lg	Lg	07 39 28.0	
	0.1nm,0.3s,baz=119,slow=26,SNR=5.9						
KTBS	**Karatobe**	**6.47**	**193**	Pg	**Pg**	**07 38 23.3**	**0.0**
	0.8nm,0.4s						
KTBS				Lg	Lg	07 39 43.4	
	3.6nm,0.7s						
KRBS	**Karabastau**	**6.66**	**199**	Pg	**Pg**	**07 38 26.5**	**-0.5**
	0.3nm,0.3s						
KRBS				Lg	Lg	07 39 49.3	
	5.2nm,0.6s						
KST	**Kastek**	**7.24**	**196**	Pg	**Pg**	**07 38 37.9**	**-0.1**
	3.0nm,0.4s						
KST				Lg	Lg	07 40 09.1	
	5.8nm,0.8s						

AFAD ***26*** *07:50:10.1,35.83N×26.42E,h11km±2km,ML3.0*
NIC ***26*** *07:50:11.2,35.79N×28.23E,h4km±1km,Ml2.9/9*
IDC ***26*** *07:50:11.0±1.1,35.75N×28.31E,h0km,mb3.5/3, mbtmp3.4/8,ML3.0/3,Error ellipse: s-maj=25.8km s-min=15.6km az=175.0*
ATH ***26*** *07:50:11.4,35.75N±28.28E,h10km±2km,ML3.1/7, Manual Solution by A.Fokaefs First location: 2019/09/26 07:51:45, This location: 2020/11/16 10:58:10 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
ISK ***26*** *07:50:11.9,35.83N±28.21E,h5km,ML3.2/17*
THE ***26*** *07:50:13.3,36.42N×28.5°9,h0km±29km,M3.0/5, MLh3.0/5*
ISC 26 07:50:11.3±1.4,35.81N±0.02×28.23E±0.02,h3km±10km, n61,σ0§91/88,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RGE1	**Gennadi, Rhodi**	**0.32**	**312**	P	**Pb**	**07 50 19.1**	**-0.6**
RGE1				S	**Sb**	**07 50 24.4**	**-1.0**
ARG	**Arkhangelos**	**0.41**	**349**	Pg	**Pb**	**07 50 20.9**	**-0.4**
ARG				Sg	**Sb**	**07 50 27.5**	**-0.5**
ARG	**Arkhangelos**	**0.41**	**349**	P	**Pb**	**07 50 20.4**	**-0.9**
ARG				S	**Sb**	**07 50 26.2**	**-1.8**
ARG	**Arkhangelos**	**0.41**	**349**	P	**Pb**	**07 50 20.4**	**-0.9**
ARG				S	**Sb**	**07 50 27.6**	**-0.5**
ARG				AML	AML	07 50 27.9	
	4.1nm,0.8s						
ARG				AML	AML	07 50 35.6	
	4.3nm,0.7s						
ARG	**Arkhangelos**	**0.41**	**349**	P	**Pb**	**07 50 20.4**	**-0.9**
ARG				S	**Sb**	**07 50 27.2**	**-0.8**
RDI1	**Rhodes Town Ha**	**0.64**	**360**	P	**Pb**	**07 50 25.0**	**-0.1**
RDI1				S	**Sb**	**07 50 34.1**	**-0.4**
KARP	**Karpathos**	**0.91**	**253**	Pg	**Pb**	**07 50 30.3**	**+0.6**
KARP	**Karpathos**	**0.91**	**253**	P	**Pb**	**07 50 30.0**	**+0.3**
KARP				S	**Sb**	**07 50 42.9**	**+0.7**
KARP	**Karpathos**	**0.91**	**253**	P	**Pg**	**07 50 28.7**	**+0.1**
KARP				S	**Sb**	**07 50 42.5**	**+0.3**
KARP				AML	AML	07 50 46.8	
	3.7nm,0.7s						
KARP				AML	AML	07 50 54.5	
	2.5nm,0.5s						
KARP	**Karpathos**	**0.91**	**253**	P	**Pg**	**07 50 29.2**	**+0.5**
KARP				S	**Sb**	**07 50 42.1**	**-0.1**
DATC	**Datca-Mugla**	**1.05**	**334**	Pg	**Pn**	**07 50 32.8**	**-0.2**
DATC				Sg	**Sn**	**07 50 48.4**	**+0.2**
DAT	**Datca**	**1.05**	**330**	Pg	**Pn**	**07 50 32.9**	**-0.3**
DAT				Sg	**Sn**	**07 50 48.4**	**-0.1**
DAT	**Datca**	**1.05**	**330**	S	**Sn**	**07 50 48.1**	**-0.4**
DALY	**Dalyan (Mula)**	**1.06**	**19**	Pg	**Pn**	**07 50 32.6**	**-0.5**
DALY				Sg	**Sn**	**07 50 49.2**	**+0.8**
YAZI	**Mula-Dat§a-**	**1.07**	**324**	P	**Pn**	**07 50 32.6**	**-0.7**
YAZI				S	**Sn**	**07 50 49.7**	**+1.1**
YAZI				*i* IAML		07 50 53.0	
	comp=E,513nm,0.7s						
YAZI				*i* IAML		07 50 54.0	
	comp=N,510nm,0.8s						
KSL	**Kastellorizon**	**1.15**	**73**	P	**Pn**	**07 50 34.0**	**-0.4**
KSL				S	**Sn**	**07 50 51.9**	**+1.2**
KSL				AML	AML	07 51 00.1	
	0.9nm,0.8s						
KSL				AML	AML	07 51 14.5	
	1.0nm,1.0s						
NISR	**Nisiros**	**1.19**	**312**	P	**Pb**	**07 50 34.4**	**-0.2**
NISR	**Nisiros**	**1.19**	**312**	P	**Pn**	**07 50 34.9**	**-0.1**
AKAS	**Kas**	**1.20**	**69**	Pn	**Pn**	**07 50 35.9**	**+0.8**
BDRM	**Kayabasi**	**1.40**	**334**	P	**Pg**	**07 50 38.3**	**+0.1**
BDRM				S	**Sn**	**07 50 57.9**	**+1.0**
BDRM				*i* IAML		07 51 05.0	
	comp=E,327nm,0.5s						
CAME	**Cameli-Denizli**	**1.43**	**37**	Pn	**Pg**	**07 50 40.0**	**+1.4**
MULA	**Mugla, Merkez-**	**1.44**	**3**	P	**Pg**	**07 50 39.9**	**+0.9**
BODT	**Bodrum**	**1.45**	**330**	Pn	**Pg**	**07 50 39.9**	**+0.8**
YKAV	**Yalikavak-Bodr**	**1.52**	**330**	Pn	**Pg**	**07 50 41.0**	**+0.6**
MLSB	**Milas**	**1.52**	**346**	Pn	**Pg**	**07 50 41.2**	**+0.7**
ELL	**Elmali**	**1.65**	**55**	Pn	**Pg**	**07 50 43.4**	**+0.4**
DIDI	**Didim-Aydin**	**1.75**	**333**	Pn	**Pg**	**07 50 44.4**	**-0.5**
ZKR	**Zakros**	**1.78**	**248**	P	**Pg**	**07 50 45.5**	**0.0**
ZKR	**Zakros**	**1.78**	**248**	P	**Pb**	**07 50 44.2**	**-0.4**
STIA	**Sitia Lasithi**	**1.84**	**251**	P	**Pn**	**07 50 43.3**	**-0.6**
AYDN	**Tasoluk**	**1.87**	**352**	P	**Pg**	**07 50 46.5**	**-0.6**
AYDN				S	**Sg**	**07 51 10.9**	**-0.4**
AYDN				*i* IAML		07 51 19.0	
	comp=N,135nm,0.5s						
AYDN				*i* IAML		07 51 19.0	
	comp=E,150nm,0.4s						
APMY	**Acipayam-Deniz**	**1.87**	**27**	Pn	**Pb**	**07 50 46.2**	**0.0**
ESEN	**Aydn-Nazilli**	**1.98**	**3**	P	**Pg**	**07 50 48.9**	**-0.5**
GCAM	**G?zelcaml?**	**2.05**	**337**	P	**Pn**	**07 50 47.3**	**+0.6**
GCAM				S	**Sb**	**07 51 14.2**	**-0.8**
GCAM				*i* IAML		07 51 26.0	
	comp=E,112nm,0.5s						
GCAM				*i* IAML		07 51 30.0	
	comp=N,107nm,0.6s						
AYDB	**Zeytinkoy-Aydi**	**2.15**	**353**	Pn	**Pb**	**07 50 50.1**	**-0.9**
NAZL	**Nazilli-Aydin**	**2.15**	**1**	Pn	**Pb**	**07 50 50.2**	**-0.7**
NPS	**Neapolis**	**2.20**	**256**	P	**Pb**	**07 50 50.9**	**-0.9**
ANTB	**Antalya**	**2.24**	**60**	Pn	**Pb**	**07 50 51.7**	**-0.8**
THERA	**Ancient Thera,**	**2.29**	**285**	P	**Pn**	**07 50 50.1**	**0.0**
IZMR	**zmir-demi**	**2.33**	**355**	P	**Pb**	**07 50 53.8**	**-0.2**
IZMR				*i* IAML		07 51 36.0	
	comp=N,39nm,0.8s						
SNT5	**Nea Kammeni, S**	**2.37**	**285**	P	**Pn**	**07 50 52.1**	**+1.0**
DGB	**zmir**	**2.48**	**335**	P	**Pn**	**07 50 52.2**	**-0.5**
DGB				S	**Sn**	**07 51 24.8**	**+1.3**
IDI	**Anoyia**	**2.77**	**260**	Pn	**Pn**	**07 50 57.5**	**+0.8**
	6.6nm,0.5s,baz=64,slow=16,SNR=14						
IDI				Sn	**Sn**	**07 51 32.1**	**+1.4**
	2.9nm,0.3s,baz=135,slow=8.6,SNR=4.9						
CHOS	**Chios island**	**3.10**	**327**	P	**Pn**	**07 51 01.7**	**+0.4**
CHOS	**Chios island**	**3.10**	**327**	P	**Pn**	**07 51 01.6**	**+0.4**
SEYD	**Seydisehir-KON**	**3.31**	**60**	Pn	**Pn**	**07 51 07.2**	**+3.0**
GAZI	**Gazipasa**	**3.34**	**82**	Pn	**Pn**	**07 51 05.5**	**+1.0**
AKMS	**Akamas**	**3.45**	**102**	P	**Pn**	**07 51 05.7**	**-0.3**
AKMS				S	**Sn**	**07 51 48.6**	**+1.1**
AKMS				AML	AML	07 51 51.2	
	0.1nm,0.3s						
AKMS				AML	AML	07 51 54.3	
	0.1nm,0.6s						
AKMS	**Akamas**	**3.45**	**102**	P	**Pn**	**07 51 05.3**	**-0.7**
ALFC	**Alefka**	**3.63**	**99**	P	**Pn**	**07 51 08.3**	**-0.2**
ALFC				S	**Sn**	**07 51 52.1**	**+0.2**
ALFC				AML	AML	07 51 55.4	
	0.1nm,0.6s						
ALFC				AML	AML	07 51 58.5	
	0.1nm,0.5s						
NATA	**Nata**	**3.70**	**105**	P	**Pn**	**07 51 09.6**	**+0.2**
NATA				S	**Sn**	**07 51 54.6**	**+1.0**
NATA				AML	AML	07 52 02.9	
	0.2nm,0.6s						
NATA				AML	AML	07 52 04.7	
	0.2nm,0.6s						
TROD	**Troodos**	**3.89**	**101**	P	**Pn**	**07 51 11.7**	**-0.5**
TROD				S	**Sn**	**07 51 59.3**	**+0.7**
TROD				AML	AML	07 52 06.9	
	0.1nm,0.4s						
TROD				AML	AML	07 52 11.2	
	0.1nm,0.7s						
XYLS	**Xyliatos**	**4.02**	**100**	P	**Pn**	**07 51 14.1**	**+0.2**
XYLS				S	**Sn**	**07 52 02.9**	**+1.4**
XYLS				AML	AML	07 52 08.1	
	0.1nm,0.4s						
XYLS				AML	AML	07 52 10.2	
	0.1nm,0.4s						
CSS	**Mathiatis**	**4.26**	**100**	P	**Pn**	**07 51 17.3**	**+0.2**
CSS				AML	AML	07 52 14.1	
CSS				AML	AML	07 52 20.0	
BRTR	**Keskin Array B**	**5.80**	**46**	Pn	**Pn**	**07 51 39.9**	**+1.4**
	0.1nm,0.3s,baz=205,slow=18,SNR=2.7						
BRTR				Sn	**Sn**	**07 52 46.1**	**+0.6**
	0.2nm,0.3s,baz=238,slow=13,SNR=1.6						
	0.6nm,0.5s						
MMAI	**Mount Meron Ar**	**6.55**	**113**	Pn	**Pn**	**07 51 47.9**	**-0.8**
	2.2nm,0.4s,baz=303,slow=14,SNR=5.1						
MMAI				Sn	**Sn**	**07 53 00.6**	**-3.5**
	0.9nm,0.3s,baz=272,slow=16,SNR=1.5						
ASF	**Jabal al Asfar**	**8.06**	**114**	Pn	**Pn**	**07 52 09.1**	**-0.4**
	0.4nm,0.3s,baz=328,slow=13,SNR=1.7						
	1.4nm,0.5s						
EIL	**Elat**	**8.34**	**135**	Pn	**Pn**	**07 52 12.9**	**-0.3**
	0.5nm,0.3s,baz=19,slow=18,SNR=2.1						
EIL				Sn	**Sn**	**07 53 45.5**	**-2.4**
	1.2nm,0.3s,baz=319,slow=20,SNR=5.6						
	3.5nm,0.7s						
ESDC	**Sonseca Array**	**25.67**	**288**	P	**P**	**07 55 43.9**	**+1.4**
	0.5nm,0.8s,baz=89,slow=9.2,SNR=4.3						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**32.85**	**233**	P	**P**	**07 56 46.1**	**-0.4**
	0.3nm,0.6s,baz=31,slow=9.1,SNR=4.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**41.32**	**57**	P	**P**	**07 57 58.2**	**-0.1**
	0.7nm,0.7s,baz=269,slow=6.4,SNR=7.0						
	0.7nm,0.7s						

IDC ***26*** *07:57:28.3±0.7,52.15N×117.69W,h0km,mb2.9/1, mbtmp3.5/9,ML3.9/6,MS2.5/3,Error ellipse: s-maj=9.5km s-min=6.5km az=74.0*
ISC 26 07:57:28.2±0.7,52.34N±0.05×117.36W±0.07,h10km,n11, σ2§90/16,Alberta

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEW	**Newport**	**4.08**	**178**	Pn	**Pn**	**07 58 29.7**	**-1.0**
	2.2nm,0.3s,baz=348,slow=12,SNR=32						
NEW				Pg	**Pb**	**07 58 40.9**	**+0.7**
	4.2nm,0.3s,baz=323,slow=13,SNR=16						
NEW				Sn	**Sn**	**07 59 16.9**	**-1.6**
	2.5nm,0.3s,baz=344,slow=5.5,SNR=3.2						
NEW				Lg	Lg	07 59 29.7	
	6.5nm,0.3s,baz=69,slow=21,SNR=8.6						
NEW				LR	LR	07 59 33.5	
	comp=Z,46nm,18.4s,baz=318,slow=32						
	5.2nm,0.4s						
BBB	**Bella Bella**	**6.61**	**273**	Pn	**Pn**	**07 59 04.2**	**-1.0**
	2.7nm,0.3s,baz=95,slow=9.5,SNR=14						
BBB				Sn	**Sn**	**08 00 16.4**	**-4.1**
	0.7nm,0.3s,baz=41,slow=20,SNR=5.4						
BBB				Lg	Lg	08 00 48.8	
	0.5nm,0.3s,baz=120,slow=6.8,SNR=1.8						
	9.9nm,0.5s						
DLBC	**Dease Lake**	**9.44**	**315**	Pn	**Pn**	**07 59 48.0**	**+3.9**
	2.2nm,0.3s,baz=101,slow=6.5,SNR=4.8						
DLBC				Lg	Lg	08 02 23.3	
	2.0nm,0.3s,baz=174,slow=24,SNR=3.1						
YKA	**Yellowknife Ar**	**10.29**	**7**	Pn	**Pn**	**07 59 57.5**	**+1.9**
	0.8nm,0.3s,baz=206,slow=25,SNR=27						
YKA				Sn	**Sn**	**08 01 50.4**	**-0.5**
	1.4nm,0.3s,baz=192,slow=22,SNR=7.3						
YKA				Lg	Lg	08 02 52.4	
	0.9nm,0.3s,baz=190,slow=28,SNR=7.3						
	1.0nm,0.4s						
PDAR	**Pinedale Array**	**10.92**	**148**	Pn	**Pn**	**08 00 04.0**	**-0.7**
	0.1nm,0.3s,baz=336,slow=10,SNR=6.0						
PDAR				Lg	Lg	08 03 04.1	
	baz=350,slow=22,SNR=1.5						
PDAR				LR	LR	08 04 23.3	
	comp=Z,32nm,21.1s,baz=280,slow=38						
	0.1nm,0.3s						
ELK	**Elko**	**11.69**	**172**	LR	LR	08 05 07.5	
	comp=Z,24nm,18.2s,baz=308,slow=40						
ULM	**Lac du Bonnet**	**13.60**	**90**	Pn	**Pn**	**08 00 41.8**	**+0.8**
	2.1nm,0.5s,baz=277,slow=8.0,SNR=2.1						
ULM				Sn	**Sn**	**08 03 07.5**	**-4.5**
	0.3nm,0.3s,baz=13,slow=16,SNR=2.0						
ULM				Lg	Lg	08 04 38.5	
	baz=243,slow=18,SNR=3.1						
INK	**Inuvik**	**17.80**	**340**	P	**P**	**08 01 38.4**	**+2.0**
	0.5nm,0.3s,baz=144,slow=12,SNR=10						
INK				S	**Sn**	**08 04 47.5**	**-6.2**
	2.3nm,0.8s,baz=141,slow=6.5,SNR=2.3						
	1.8nm,0.5s						
PFO	**Pinyon Flats O**	**18.73**	**178**	P	**Pn**	**08 01 48.3**	**+0.9**
	0.2nm,0.3s,baz=340,slow=4.9,SNR=4.9						
	2.6nm,0.8s						
ILAR	**Eielson Array**	**19.57**	**321**	P	**Pn**	**08 01 58.7**	**+1.5**
	0.5nm,0.7s,baz=122,slow=11,SNR=5.9						
TXAR	**Lajitas Array**	**25.12**	**151**	P	**P**	**08 02 54.4**	**+1.2**
	0.2nm,0.7s,baz=351,slow=8.6,SNR=3.8						
	0.2nm,0.7s						

SOME ***26*** *07:59:30.5,41.83N×77.88E*
NNC 26 07:59:31.2±1.9,41.74N×77.92E,h0km,mb3.5,mpv2.7, Error ellipse: s-maj=13.6km s-min=7.2km az=3.0, Suspected Mining explosion.,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNSS	**Tian-Shan**	**1.49**	**331**	P	Pn	07 59 59.1	-0.5
	0.9nm,0.2s						
TNSS				S	Sn	08 00 19.9	0.0
	0.6nm,0.1s						
MDOK	**Medeo**	**1.56**	**336**	Pg	Pn	07 59 59.8	-0.6
	0.6nm,0.1s						
MDOK				Lg	Lg	08 00 20.9	
	2.9nm,0.3s						
KPKS	**Kokpek**	**1.82**	**18**	P	Pn	08 00 04.2	+0.4
	0.3nm,0.1s						
KPKS				S	Sb	08 00 28.5	-0.2
	5.6nm,0.3s						
SHLS	**Shalkode**	**1.82**	**38**	Pg	Pg	08 00 07.5	+1.4
	2.4nm,0.1s						
SHLS				Lg	Lg	08 00 34.1	
	3.4nm,0.1s						
KST	**Kastek**	**1.95**	**313**	Pg	Pb	08 00 07.0	-0.7
	1.4nm,0.1s						
KST				Lg	Lg	08 00 33.0	
	14nm,1.0s						
CHKK	**Chushkaly**	**2.23**	**342**	Pg	Pn	08 00 10.7	+1.3
	5.3nm,0.4s						
CHKK				Lg	Lg	08 00 39.6	
	17nm,0.5s						
KRBS	**Karabastau**	**2.56**	**321**	Pg	Pb	08 00 17.4	-0.7
	1.8nm,0.6s						
KRBS				Lg	Lg	08 00 51.1	
	1.6nm,0.6s						

IDC 26 08:02:31.3±999.0,63.71N×46.34E,h0km,Error ellipse: s-maj=538.7km s-min=203.4km az=56.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**21.83**	**99**	I	I	10 13 30.0	
	baz=311,slow=324,SNR=2.1						
I34MN	**SONGINO INFRAS**	**35.80**	**87**	I	I	11 40 50.0	
	baz=321,slow=322,SNR=1.0						
I53US	**FAIRBANKS INFR**	**51.29**	**8**	I	I	13 16 40.0	
	baz=353,slow=328,SNR=1.2						

IDC ***26*** *08:16:26.8±1.3,6.63S×150.10E,h0km,mb4.0/5, mbtmp4.1/6,ML2.0/1,MS3.2/3,Error ellipse: s-maj=62.2km s-min=22.5km az=130.0*
ISC 26 08:16:32.5±1.3,6.6S±0.3×150.1E±0.3,h43km,n9,σ1§43/8, mb3.9/4,MS3.2/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.02**	**227**	Pn	**Pn**	**08 17 31.4**	**-0.2**
	6.8nm,0.3s,baz=40,slow=13,SNR=10.0						
PMG				Sn	**Sn**	**08 18 19.2**	**+1.6**
	5.3nm,0.3s,baz=53,slow=20,SNR=7.1						
	64nm,0.9s						
WRA	**Warramunga Arr**	**20.24**	**228**	P	**P**	**08 21 03.0**	**-1.4**
	4.7nm,0.7s,baz=52,slow=11,SNR=27						
WRA				LR	LR	08 28 40.9	
	comp=Z,84nm,19.7s,baz=203,slow=36						
	4.7nm,0.7s						
ASAR	**Alice Springs**	**23.02**	**221**	P	**P**	**08 21 31.9**	**-2.2**
	3.1nm,0.9s,baz=54,slow=9.2,SNR=26						
	3.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**26.45**	**242**	P	**P**	**08 22 05.9**	**+0.2**
	5.2nm,1.0s,baz=60,slow=9.9,SNR=6.0	

DSP			IAML		08 30 22.7		
	comp=N,990nm,0.6s						
DSP			IAML		08 30 22.9		
	comp=E,1μm,0.5s						
DSP	**Deep Springs**	**0.57 268**		Sg	08 30 22.4	+0.4	
TPH	**Tonopah**	**0.68 2**		Pg	08 30 16.8	0.0	
TPH	**Tonopah**	**0.68 2**		Sg	08 30 26.2	+0.5	
WCT	**Wildcat Mounta**	**0.78 140**		Pg	08 30 18.0	-0.7	
WCT			IAML		08 30 29.1		
	comp=E,1μm,0.6s						
WCT			IAML		08 30 37.6		
	comp=N,594nm,0.5s						
WCT	**Wildcat Mounta**	**0.78 140**		Sg	08 30 28.6	-0.2	
TIN	**Tinemaha, Big**	**0.85 247**		Pg	08 30 20.2	+0.3	
TIN	**Tinemaha, Big**	**0.85 247**		Sg	08 30 31.5	+0.5	
TPNV	**Topopah Spring**	**0.92 119**		Pg	08 30 21.1	-0.1	
TPNV	**Topopah Spring**	**0.92 119**	IAML		08 30 42.3		
	comp=N,1μm,0.5s						
FURC	**Furnace Creek,**	**0.98 161**		Pg	08 30 22.1	-0.2	
SDH	**Striped Hills**	**1.05 135**		Pg	08 30 23.3	-0.4	
NSP	**Numbskull Pass**	**1.07 128**		Pg	08 30 23.7	-0.4	
CWC	**Cottonwood Cre**	**1.16 215**		Pg	08 30 25.8	0.0	
AMDNV	**Amargosa**	**1.22 140**		Pb	08 30 26.3	-0.5	
S11A	**Rachel**	**1.23 78**		Pb	08 30 26.7	-0.4	
NV11	**Mina Array Sit**	**1.26 326**		Pn	08 30 27.3	-0.3	
NV11	**Mina Array Sit**	**1.26 326**	IAML		08 30 46.7		
	comp=E,294nm,0.9s						
NV11			IAML		08 30 49.1		
	comp=N,425nm,0.5s						
MCY	**Mercury**	**1.27 125**		Pn	08 30 27.4	-0.2	
MLAC	**Mammoth, Mammo**	**1.28 281**		Pb	08 30 28.0	0.0	
GWY	**Greenwater Val**	**1.29 158**		Pn	08 30 27.6	-0.5	
GWY			IAML		08 30 54.7		
	comp=E,734nm,0.5s						
LHV	**Little Huntoon**	**1.31 311**		Pn	08 30 28.1	+0.1	
LHV			IAML		08 30 50.3		
	comp=E,806nm,0.5s						
LHV			IAML		08 30 50.3		
	comp=N,805nm,0.6s						
NV08	**Mina Array Sit**	**1.31 321**		Pn	08 30 28.1	-0.2	
NVAR	**Mina Array Bea**	**1.33 322**		Pn	08 30 28.2	-0.4	
MCBM	**Casa Benchmark**	**1.33 281**		Pg	08 30 29.0	-0.1	
MPMC	**Manual Prospec**	**1.34 188**		Pn	08 30 28.6	-0.3	
MPMC			IAML		08 30 49.8		
	comp=E,204nm,0.4s						
NV09	**Mina Array Sit**	**1.35 321**		Pn	08 30 28.7	-0.2	
MDYM	**Dry Creek**	**1.42 281**		Pg	08 30 30.7	-0.2	
Q09A	**Carvers**	**1.44 2**		Pn	08 30 30.1	0.0	
QSM	**Queen of Sheba**	**1.46 168**		Pn	08 30 29.8	-0.4	
QSM			IAML		08 30 52.8		
	comp=N,315nm,0.4s						
QSM			IAML		08 30 54.3		
	comp=E,252nm,0.7s						
MDPB	**Devils Postpil**	**1.47 280**		Pn	08 30 30.3	-0.2	
JRC2	**Joshua Ridge**	**1.48 198**		Pb	08 30 31.2	-0.1	
RYN	**Ryan**	**1.59 321**		Pn	08 30 32.2	+0.1	
RYN			IAML		08 31 02.2		
	comp=N,409nm,0.5s						
CLC	**China Lake**	**1.60 190**		Pn	08 30 32.2	+0.1	
TVH1	**TV Hill, Hawth**	**1.60 312**		Pb	08 30 33.7	+0.1	
R11B	**Troy Canyon, C**	**1.63 54**		Pn	08 30 31.9	-0.9	
R11B			IAML		08 30 57.7		
	comp=N,144nm,0.4s						
TOW	**Tower One**	**1.63 195**		Pn	08 30 33.2	+0.6	
KCC	**Kaiser Creek**	**1.65 268**		Pb	08 30 34.3	+0.1	
KCC				Sb	08 30 55.2	+0.1	
SHOC	**Shoshone, Teco**	**1.69 152**		Pn	08 30 33.0	-0.3	
SRTC	**Snort**	**1.74 193**		Pb	08 30 35.0	-0.8	
PRN	**Pahroc Range**	**1.76 89**		Pn	08 30 34.0	-0.4	
WSHM	**Spangler Hills**	**1.80 186**		Pn	08 30 34.5	-0.4	
CCCA	**Chr Cany lake**	**1.87 183**		Pn	08 30 35.9	+0.1	
CCCA			IAML		08 31 13.6		
	comp=E,334nm,0.8s						
CCCA			IAML		08 31 20.3		
	comp=N,252nm,0.8s						
SHPR	**Sheep Range**	**1.90 117**		Pn	08 30 36.6	+0.2	
ISA	**Isabella, Lake**	**1.99 210**		Pn	08 30 37.9	+0.4	
WAKR	**Walker**	**2.05 303**		Pn	08 30 38.6	+0.1	
TUQ	**Turquoise Moun**	**2.23 151**		Pn	08 30 41.1	+0.2	
LEGD	**La Grand CA**	**2.31 266**		Pn	08 30 42.2	+0.3	
TPO	**Tropico Hills**	**2.63 198**	Pn	Pn	08 30 46.5	+0.2	
SPR3	**Spring Creek 3**	**2.81 54**		Pn	08 30 48.3	-0.7	
SPR3			IAML		08 31 35.5		
	comp=N,126nm,0.7s						
SPR3			IAML		08 31 36.3		
	comp=E,115nm,0.8s						
PAHR	**Pah Rah Range**	**2.85 325**		Pn	08 30 49.4	-0.1	
PAHR			IAML		08 31 41.8		
	comp=N,43nm,1.1s						
PAHR			IAML		08 31 44.8		
	comp=E,48nm,1.0s						
PKD	**Bear Valley Ra**	**3.01 242**		Pn	08 30 53.0	+1.4	
PKD			IAML		08 31 51.2		
	comp=E,55nm,1.0s						
PKD			IAML		08 31 51.2		
	comp=N,58nm,1.4s						
PMPB	**Monarch Peak**	**3.08 249**		Pn	08 30 54.1	+1.6	
PMPB			IAML		08 31 54.4		
	comp=N,112nm,1.0s						
PMPB			IAML		08 31 55.2		
	comp=E,127nm,0.8s						
BFSC	**Mount Baldy Ra**	**3.16 186**		Pn	08 30 53.7	-0.1	
LCMT	**Little Creek M**	**3.23 96**		Pn	08 30 54.7	+0.1	
LCMT			IAML		08 31 47.7		
	comp=E,32nm,0.7s						
LCMT			IAML		08 31 47.9		
	comp=N,37nm,0.8s						
SZCU	**Shurtz Canyon**	**3.32 85**		Pn	08 30 56.0	0.0	
SZCU			IAML		08 31 54.4		
	comp=N,62nm,0.3s						
SZCU			IAML		08 31 58.7		
	comp=E,74nm,0.4s						
BEKR	**Beckworth**	**3.46 316**		Pn	08 30 58.7	+0.8	
IRM	**Iron Mountain**	**3.66 151**		Pn	08 31 01.0	+0.6	
IRM			IAML		08 32 01.0		
	comp=N,23nm,0.6s						
IRM			IAML		08 32 02.3		
	comp=E,58nm,0.6s						
ELK	**Elko**	**3.70 25**		Pn	08 31 02.1	+0.9	
ELK	**Elko**	**3.70 25**	IAML		08 32 02.1		
	comp=E,29nm,0.6s						
ELK			IAML		08 32 02.3		
	comp=E,22nm,0.6s						
ELS	**Elsinore Mount**	**3.74 182**		Pn	08 31 01.1	-0.5	
PMD	**Palm Desert**	**3.81 169**		Pn	08 31 02.4	-0.1	
PFO	**Pinyon Flats O**	**3.83 170**		Pn	08 31 03.3	+0.4	
PFO			IAML		08 32 12.9		
	comp=E,20nm,3.0s						
BC3	**Big Chuckawall**	**4.01 158**		Pn	08 31 06.2	+0.9	
BC3			IAML		08 32 25.7		
	comp=E,18nm,1.5s						
BLYC	**Blythe**	**4.26 148**	Pn	Pn	08 31 08.0	-0.8	
BLYC			IAML		08 32 31.4		
	comp=E,29nm,0.8s						
BLYC			IAML		08 32 32.6		
	comp=N,25nm,1.0s						
DPP	**Dos Picos Cty**	**4.39 177**	Pn	Pn	08 31 09.9	-0.6	
O03E	**Paynes Creek**	**4.58 311**	Pn	Pn	08 31 13.9	+0.7	
O03E			IAML		08 32 50.3		
	comp=N,22nm,4.3s						
O03E			IAML		08 33 00.3		
	comp=E,24nm,3.9s						
BAR	**Barrett**	**4.73 174**	Pn	Pn	08 31 13.2	-2.0	
BAR			IAML		08 32 32.2		
	comp=E,15nm,4.6s						
BAR			IAML		08 33 35.4		
	comp=N,9.9nm,5.0s						
Y14A	**Wickenburg**	**4.88 134**	Pn	Pn	08 31 15.4	-1.9	
Y14A			IAML		08 32 42.0		
	comp=E,16nm,0.8s						
Y14A			IAML		08 32 43.9		
	comp=N,23nm,0.8s						
CBX	**Cerro Bola**	**5.09 174**	Pn	Pn	08 31 20.7	+0.4	
TMUT	**Trail Mountain**	**5.12 66**	Pn	Pn	08 31 19.5	-1.3	
TMUT			IAML		08 32 48.2		
	comp=E,19nm,0.5s						
TMUT			IAML		08 32 58.8		
	comp=N,23nm,0.8s						
DCMP	**DeCamp, Califo**	**5.21 295**	Pn	Pn	08 31 22.4	+0.7	
ESJX	**Sierra Juarez**	**5.48 168**	Pn	Pn	08 31 26.3	+0.6	
X16A	**Lo Mia Camp, P**	**5.58 120**	Pn	Pn	08 31 26.3	-0.7	
K05A	**Summer Lake**	**6.01 333**	Pn	Pn	08 31 34.7	+1.8	
YBH	**Yreka Blue Hor**	**6.04 317**	Pn	Pn	08 31 34.9	+1.6	

*UPP **26** 08:30:59.8±0.1, 58°.99N×18°.20E, h0km, ML2.4, Suspected explosion*
*DNK **26** 08:31:00.3±0.5, 58°.99N×18°.21E, h0km, ML2.4(UPP), Explosion*
*IDC **26** 08:31:03.5±1.9, 59°.24N×18°.10E, h0km, mbtmp2.9/3, ML1.5/3, Error ellipse: s-maj=25.5km s-min=6.7km az=179.0*

ISC 26 08:30:59.0±0.9, 58°.99N±0°.03×18°.20E±0°.03, h0km, n38, σ0s83/44, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.10**	**279**	P	**Pg**		**08 31 02.1**	**+1.1**
NYNU				S	**Sg**		**08 31 03.5**	**+1.2**
NYNU	**Nynaeshamn**	**0.10**	**279**	P	**Pg**		**08 31 02.1**	**+1.1**
NYNU				S	**Sg**		**08 31 03.5**	**+1.2**
NRTU	**Norrtaelje**	**0.72**	**17**	P	**Pg**		**08 31 13.4**	**+0.5**
NRTU				S	**Sg**		**08 31 23.1**	**+0.8**
NRTU	**Norrtaelje**	**0.72**	**17**	P	**Pg**		**08 31 13.4**	**+0.5**
NRTU				S	**Sg**		**08 31 23.1**	**+0.8**
UPP	**Uppsala**	**0.92**	**341**	P	**Pg**		**08 31 17.0**	**+0.3**
UPP	**Uppsala**	**0.92**	**341**	P	**Pg**		**08 31 17.0**	**+0.3**
VIKU	**Vikbolandet**	**0.92**	**239**	P	**Pb**		**08 31 17.2**	**-0.6**
VIKU	**Vikbolandet**	**0.92**	**239**	P	**Pb**		**08 31 17.2**	**-0.6**
ESKU	**Eskilstuna**	**0.96**	**285**	P	**Pg**		**08 31 17.7**	**+0.3**
ESKU	**Eskilstuna**	**0.96**	**285**	P	**Pg**		**08 31 17.7**	**+0.3**
FIBU	**Brunna**	**1.01**	**335**	P	**Pg**		**08 31 18.7**	**+0.3**
FIBU	**Brunna**	**1.01**	**335**	P	**Pg**		**08 31 18.7**	**+0.3**
BACU	**Backbrunna**	**1.03**	**328**	P	**Pg**		**08 31 19.0**	**+0.2**
BACU	**Backbrunna**	**1.03**	**328**	P	**Pg**		**08 31 19.0**	**+0.2**
FLYU	**Flymyra**	**1.16**	**352**	P	**Pg**		**08 31 21.3**	**+0.2**
FLYU	**Flymyra**	**1.16**	**352**	P	**Pg**		**08 31 21.3**	**+0.2**
GOTU	**Gotland**	**1.32**	**171**	P	**Pg**		**08 31 24.1**	**-0.2**
GOTU	**Gotland**	**1.32**	**171**	P	**Pg**		**08 31 24.1**	**-0.2**
OSTU	**Oestervaala**	**1.36**	**337**	P	**Pg**		**08 31 24.9**	**-0.1**
OSTU	**Oestervaala**	**1.36**	**337**	P	**Pg**		**08 31 24.9**	**-0.1**
GRAU	**Graesoe**	**1.36**	**7**	P	**Pg**		**08 31 25.0**	**0.0**
GRAU	**Graesoe**	**1.36**	**7**	P	**Pg**		**08 31 25.0**	**0.0**
FORU	**Forsmark**	**1.40**	**360**	P	**Pn**		**08 31 25.8**	**0.0**
FORU	**Forsmark**	**1.40**	**360**	P	**Pn**		**08 31 25.8**	**0.0**
AAL	**Aland**	**1.50**	**37**	P	**Pb**		**08 31 27.4**	**-0.3**
AAL	**Aland**	**1.50**	**37**	P	**Pb**		**08 31 27.4**	**-0.3**
VSTU	**Vaestervik**	**1.60**	**214**	P	**Pg**		**08 31 29.4**	**-0.2**
VSTU	**Vaestervik**	**1.60**	**214**	P	**Pg**		**08 31 29.4**	**-0.2**
LNKU	**Linkoeping**	**1.61**	**243**	P	**Pb**		**08 31 29.5**	**0.0**
LNKU	**Linkoeping**	**1.61**	**243**	P	**Pb**		**08 31 29.5**	**0.0**
NRAU	**Nora**	**1.73**	**291**	P	**Pb**		**08 31 31.6**	**+0.1**
NRAU	**Nora**	**1.73**	**291**	P	**Pb**		**08 31 31.6**	**+0.1**
ASKU	**Askersund**	**1.75**	**268**	P	**Pb**		**08 31 31.8**	**-0.2**
ASKU	**Askersund**	**1.75**	**268**	P	**Pb**		**08 31 31.8**	**-0.2**
HFS	**Hagfors**	**2.57**	**299**	Pn	**Pn**		**08 31 43.8**	**+2.0**
	0.3nm,0.3s,baz=107,slow=14,SNR=15							
HFS				Lg	Lg		08 32 17.8	
	1.7nm,0.3s,baz=114,slow=28,SNR=20							
NOA	**NORSAR Array B**	**4.07**	**303**	Pn	**Pn**		**08 32 03.4**	**+0.9**
	baz=158,slow=14,SNR=1.5							
NOA				Pg	**Pb**		**08 32 10.9**	**-0.5**
	baz=138,slow=11,SNR=1.3							
NOA				Lg	Lg		08 33 06.5	
	0.1nm,0.3s,baz=101,slow=16,SNR=6.2							
	0.4nm,0.7s							
FINES	**FINESS Array B**	**4.63**	**55**	Pn	**Pn**		**08 32 12.9**	**+2.8**
	0.1nm,0.3s,baz=248,slow=12,SNR=8.2							
FINES				Sn	**Sn**		**08 33 06.5**	**+1.8**
	0.4nm,0.3s,baz=244,slow=21,SNR=9.1							
FINES				Lg	Lg		08 33 23.1	
	0.6nm,0.3s,baz=247,slow=23,SNR=10							
	0.4nm,0.4s							
ARCES	**ARCESS Array B**	**11.04**	**14**	Pn	**Pn**		**08 33 36.1**	**-1.8**
	2.3nm,0.9s,baz=195,slow=14,SNR=4.6							

*IDC **26** 08:40:23.1±1.6, 3°.21S×129°.17E, h0km, mb3.9/4, mbtmp3.8/6, ML3.3/2, Error ellipse: s-maj=95.2km s-min=21.2km az=74.0*

ISC 26 08:40:24.2±1.4, 3°.2S±0°.1×129°.2E±0°.4, h10km, n6, σ1s90/7, mb4.0/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.19**	**193**	Pn	**P**		**08 44 01.1**	**-3.0**
	baz=6.1,slow=8.7,SNR=3.7							
FITZ				Sn	**Sn**		**08 46 49.3**	**+1.9**
	baz=112,slow=19,SNR=2.3							
	2.0nm,0.8s							
WRA	**Warramunga Arr**	**17.34**	**164**	P	**Pn**		**08 44 26.1**	**-0.5**
	0.1nm,0.3s,baz=344,slow=12,SNR=12							
	0.7nm,0.7s							
ASAR	**Alice Springs**	**20.81**	**168**	P	**P**		**08 45 06.3**	**+0.4**
	7.2nm,0.9s,baz=347,slow=10.0,SNR=37							
	7.2nm,0.9s							
MKAR	**Makanchi Array**	**64.68**	**326**	P	**P**		**08 51 02.6**	**+0.1**
	0.6nm,0.6s,baz=125,slow=7.7,SNR=6.4							
	0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**68.92**	**328**	P	**P**		**08 51 29.5**	**+0.1**
	1.0nm,0.7s,baz=128,slow=5.3,SNR=7.6							
	2.9nm,0.7s							
QSPA	**South Pole Qui**	**86.72**	**180**	P	**P**		**08 53 09.6**	**+1.3**
	0.7nm,0.8s,baz=1.8,slow=6.7,SNR=2.3							
	0.7nm,0.8s							

*IDC **26** 08:46:56.7±1.1, 6°.13N×125°.25E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=41.2km s-min=10.0km az=100.0*

ISC 26 08:46:58.0±0.9, 6°.24N±0°.09×125°.5E±0°.4, h10km, n7, σ0s78/8, mb3.6/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.83**	**3**	Pg	**Pg**		**08 47 13.8**	**-0.3**
	58nm,0.3s,baz=234,slow=19,SNR=1.6							
DAV				Lg	Lg		08 47 30.7	
	206nm,0.3s,baz=198,slow=20,SNR=18							
FITZ	**Fitzroy Crossi**	**24.18**	**180**	P	**P**		**08 52 15.5**	**+0.7**
	2.9nm,0.5s,baz=5.2,slow=6.5,SNR=22							
	2.9nm,0.5s							
WRA	**Warramunga Arr**	**27.42**	**162**	P	**P**		**08 52 44.2**	**0.0**
	0.5nm,0.8s,baz=338,slow=10,SNR=9.6							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**30.82**	**165**	P	**P**		**08 53 14.5**	**+0.1**
	0.2nm,0.4s,baz=339,slow=7.0,SNR=6.8							
ASAR				PcP	**PcP**		**08 56 10.9**	**-0.8**
	0.3nm,0.8s,baz=1.1,slow=2.9,SNR=2.5							
	0.2nm,0.4s							
STKA	**Stephens Creek**	**40.88**	**159**	P	**P**		**08 54 39.8**	**-0.7**
	1.3nm,0.6s,baz=319,slow=8.8,SNR=5.8							
	1.3nm,0.6s							
MKAR	**Makanchi Array**	**54.83**	**325**	P	**P**		**08 56 28.4**	**-0.1**
	0.2nm,0.5s,baz=111,slow=7.9,SNR=1.6							
	0.2nm,0.5s							
ILAR	**Eielson Array**	**83.37**	**26**	P	**P**		**08 59 26.4**	**+1.1**
	0.4nm,0.7s,baz=245,slow=6.1,SNR=7.3							
	0.4nm,0.7s							

*IDC **26** 08:50:00.8±0.3, 1.54°.45N×87°.17E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=27.4km s-min=20.1km az=50.0*

ASRS 26 08:50:00.0±0.8, 54°.40N×86°.82E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**250**	I	I		08 59 05.0	
	baz=69,slow=330,SNR=15							
ZALV	**Zalesovo Beam**	**1.26**	**250**	Pg	Pn		08 50 26.8	+1.9
	1.0nm,0.3s,baz=67,slow=16,SNR=12							
ZALV				Lg	Lg		08 50 47.3	
	1.3nm,0.3s,baz=71,slow=31,SNR=5.1							
KURBB	**Kurchatov Arra**	**6.32**	**237**	Pn	Pn		08 51 38.8	+4.5
	0.1nm,0.3s,baz=53,slow=14,SNR=11							
KURBB				Lg	Lg		08 53 29.6	
	baz=45,slow=33,SNR=4.1							
	1.7nm,0.5s							
MKAR	**Makanchi Array**	**8.14**	**203**	Pn	Pn		08 52 02.9	+3.5
	0.1nm,0.3s,baz=24,slow=14,SNR=4.0							
MKAR				Lg	Lg		08 54 21.4	
	baz=23,slow=30,SNR=2.5							
	0.2nm,0.4s							

*NEIC **26** 08:55:23.8±1.2, 35°.67N±0°.01×117°.44W±0°.01, h11km±3km, Error ellipse: s-maj=1.5km s-min=1.5km az=75.0*

PAS 26 08:55:24.3±1.3, 35°.667N±0°.010×117°.45W±0°.01, h9km±6km, ML3.0/169, ML2.8/110(NEIC), Error ellipse: s-maj=1.6km s-min=1.5km az=68.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.08**	**209**			Pg	08 55 26.4	-0.2
CCCA	**Chr Cany lake**	**0.16**	**154**			Pg	08 55 27.9	+0.2
GPO	**China Lake**	**0.17**	**264**			Pg	08 55 28.1	+0.1
GPO						Sg	08 55 31.1	+0.5
CLC	**China Lake**	**0.19**	**321**			Pg	08 55 28.2	-0.2
CLC				IAML			08 55 31.6	
	comp=N,3μm,0.3s							
CLC				IAML			08 55 31.6	
	comp=E,2μm,0.3s							
SRTC	**Snort**	**0.25**	**276**			Pg	08 55 29.6	+0.3
SRTC						Sg	08 55 34.0	+1.3
LRMC	**Laurel Mtn Rad**	**0.27**	**226**			Pg	08 55 29.4	-0.3
TOW	**Tower One**	**0.29**	**299**			Pg	08 55 30.4	+0.3
TOW						Sb	08 55 35.7	-1.0
MPMC	**Manual Prospec**	**0.39**	**355**			Pg	08 55 31.7	-0.4
MPMC				IAML			08 55 38.0	
	comp=E,618nm,0.7s							
MPMC	**Manual Prospec**	**0.39**	**355**			Sg	08 55 37.3	0.0
WNMM	**Nine Mile Cany**	**0.41**	**295**			Pg	08 55 32.2	-0.1
WNMM						Sg	08 55 38.2	+0.5
WVPM	**Volcano Peak E**	**0.41**	**313**			Pg	08 55 32.2	-0.2
WVPM						Sg	08 55 38.4	+0.5
WCSM	**Coso Springs S**	**0.44**	**324**			Pg	08 55 32.6	-0.4
WCSM						Sg	08 55 39.0	+0.1
WRVM	**Rose V. Centra**	**0.49**	**314**			Pg	08 55 33.6	-0.3
WRVM						Sg	08 55 40.6	+0.1
DTP	**Desert Tortois**	**0.51**	**219**			Pg	08 55 33.7	-0.6
DTP						Sg	08 55 40.2	-0.4
QSM	**Queen of Sheba**	**0.56**	**58**			Pg	08 55 34.7	-0.4
QSM				IAML			08 55 42.8	
	comp=N,1μm,0.5s							
QSM	**Queen of Sheba**	**0.56**	**58**			Sg	08 55 42.3	-0.1
MFS	**McCloud Flat S**	**0.56**	**324**			Pg	08 55 34.7	-0.4
MFS						Sg	08 55 42.5	0.0
WBSM	**Bird Springs**	**0.58**	**257**			Pg	08 55 35.1	-0.4
WBSM						Sg	08 55 42.9	-0.3
GSC	**Goldstone, Bar**	**0.64**	**125**			Pg	08 55 36.1	-0.5
GSC				IAML			08 55 45.1	
	comp=N,620nm,0.5s							
GSC				IAML			08 55 46.7	
	comp=E,627nm,0.3s							
GSC	**Goldstone, Bar**	**0.64**	**125**			Sg	08 55 44.8	-0.2
WORM	**Onyx Ranch**	**0.65**	**273**			Pg	08 55 36.2	-0.6
WORM						Sg	08 55 44.7	-0.6
CCAC	**Calif City Air**	**0.69**	**222**			Pg	08 55 37.1	-0.5
CCAC						Sg	08 55 46.5	-0.2
WHFM	**Hanning Flat**	**0.73**	**273**			Pg	08 55 37.8	-0.6
WHFM						Sg	08 55 47.7	-0.4
HYS	**Haystack Butte**	**0.81**	**187**			Pg	08 55 39.0	-0.8
HYS						Sg	08 55 49.8	-0.6
GWY	**Greenwater Val**	**0.82**	**50**			Pg	08 55 39.4	-0.7
GWY				IAML			08 55 53.2	
	comp=N,346nm,0.3s							
GWY				IAML			08 55 54.1	
	comp=E,643nm,0.3s							
GWY	**Greenwater Val**	**0.82**	**50**			Sg	08 55 50.4	-0.4
ISA	**Isabella, Lake**	**0.84**	**270**			Pg	08 55 39.5	-0.8
ISA				IAML			08 55 53.4	
	comp=N,240nm,0.3s							
ISA	**Isabella, Lake**	**0.84**	**270**			Sg	08 55 50.9	-0.4
RRX	**Edison Barstow**	**0.87**	**155**			Pg	08 55 40.4	-0.6
RRX						Sb	08 55 53.0	-0.3
EDW2	**Edwards Air Fo**	**0.90**	**210**			Pg	08 55 40.8	-0.8
EDW2						Sg	08 55 52.3	-1.1
WASM	**Alta Sierra Ca**	**0.91**	**275**			Pg	08 55 40.9	-0.8
WASM						Sg	08 55 53.3	-0.2
CWC	**Cottonwood Cre**	**0.93**	**327**			Pg	08 55 41.6	-0.5
CWC						Sb	08 55 55.0	-0.1
CWC	**Cottonwood Cre**	**0.93**	**327**	IAML			08 55 56.1	
	comp=E,175nm,0.2s							
CWC				IAML			08 55 56.5	
	comp=N,155nm,0.2s							
CGO	**Cerro Gordo**	**0.93**	**342**			Pg	08 55 41.2	-1.0
CGO						Sb	08 55 54.9	-0.4
FURC	**Furnace Creek,**	**0.93**	**31**			Pg	08 55 41.7	-0.4
FURC				IAML			08 55 56.6	
	comp=N,275nm,0.6s							
FURC				IAML			08 55 57.0	
	comp=E,394nm,0.4s							
FURC	**Furnace Creek,**	**0.93**	**31**			Sg	08 55 54.4	+0.2
SHOC	**Shoshone, Teco**	**0.98**	**76**			Pg	08 55 42.8	-0.4
SHOC	**Shoshone, Teco**	**0.98**	**76**			Sg	08 55 56.0	+0.1
TPO	**Tropico Hills**	**1.01**	**219**			Pg	08 55 43.5	-0.3
TPO				IAML			08 56 02.7	
	comp=E,409nm,0.6s							
TPO				IAML			08 56 02.9	
	comp=N,491nm,0.6s							
TPO	**Tropico Hills**	**1.01**	**219**			Sb	08 55 58.1	+0.7
SBB	**Saddle Back Bu**	**1.02**	**198**			Pg	08 55 43.0	-1.0
SBB						Sg	08 55 57.5	+0.2
TEJ	**El Tejon**	**1.10**	**247**			Pg	08 55 44.2	-1.3
VTV	**Victorville**	**1.11**	**175**			Sn	08 56 00.9	-0.5
SPG2	**Springville 2**	**1.20**	**297**			Pb	08 55 46.0	-1.1
SPG2						Sb	08 56 02.1	-0.6
DSCC	**Desert Studies**	**1.22**	**115**			Pn	08 55 46.3	-1.1
DSCC						Sb	08 56 02.3	-0.9
LRRC	**Littlerock Res**	**1.23**	**203**			Pg	08 55 47.9	-0.1
LRRC						Sn	08 56 04.4	0.0
HEC	**Hector,Ludlow**	**1.24**	**132

CRGC	**Crocker Grade**	**1.91**	**258**		Pn	08 55 57.6	+0.6
EW2	**E Wide Canyon**	**1.92**	**153**		Pg	08 56 00.5	-0.7
TPC	**Twentynine Pal**	**1.94**	**143**		Pb	08 56 00.0	+0.3
DANC	**Danby, Needles**	**1.98**	**121**		Pn	08 55 58.1	+0.2
DANC				IAML		08 56 29.4	
	comp=N,119nm,0.4s						
DANC				IAML		08 56 29.6	
	comp=E,142nm,0.4s						
HMTC	**Hemet**	**1.99**	**169**		Pn	08 55 57.4	-0.7
ELS	**Elsinore Mount**	**2.01**	**180**		Pn	08 55 58.1	-0.3
POB	**Polly Butte**	**2.02**	**168**		Pn	08 55 57.9	-0.7
SHPR	**Sheep Range**	**2.03**	**65**	Pn	Pn	08 55 57.8	-1.0
MURC	**Murrieta**	**2.07**	**174**		Pn	08 55 58.9	-0.3
PMD	**Palm Desert**	**2.20**	**156**		Pn	08 55 59.6	-1.3
PFO	**Pinyon Flats O**	**2.21**	**158**		Pn	08 55 59.7	-1.4
TPH	**Tonopah**	**2.41**	**4**		Pn	08 56 03.2	-0.8
TPH				IAML		08 56 43.4	
	comp=N,28nm,0.7s						
IRM	**Iron Mountain**	**2.42**	**128**		Pn	08 56 04.5	+0.6
IRM				IAML		08 56 41.2	
	comp=E,53nm,0.3s						
IRM				IAML		08 56 44.4	
	comp=N,32nm,0.5s						
NEE2	**Needles Airpor**	**2.48**	**110**		Pn	08 56 05.0	+0.2
NEE2				IAML		08 56 50.1	
	comp=N,93nm,0.6s						
NEE2				IAML		08 56 50.3	
	comp=E,84nm,0.6s						
PKD	**Bear Valley Ra**	**2.53**	**277**		Pn	08 56 03.9	-1.6
PKD				IAML		08 56 40.4	
	comp=N,32nm,4.9s						
PKD				IAML		08 57 18.8	
	comp=E,24nm,4.6s						
PRN	**Pahroc Range**	**2.60**	**47**	Pn	Pn	08 56 05.9	-0.6
PRN				IAML		08 56 53.6	
	comp=N,39nm,0.8s						
PRN				IAML		08 56 55.2	
	comp=E,40nm,1.1s						
DPP	**Dos Picos Cty**	**2.69**	**171**		Pn	08 56 06.4	-1.4
DPP				IAML		08 56 49.0	
	comp=E,26nm,0.2s						
LHV	**Little Huntoon**	**2.71**	**342**	Pn	Pn	08 56 07.7	-0.3
LHV				IAML		08 56 54.9	
	comp=E,24nm,3.2s						
PMPB	**Monarch Peak**	**2.78**	**282**	Pn	Pn	08 56 08.7	-0.2
PMPB				IAML		08 56 57.3	
	comp=N,57nm,4.1s						
PMPB				IAML		08 57 44.0	
	comp=E,55nm,4.7s						
NVAR	**Mina Array Bea**	**2.84**	**346**		Pn	08 56 09.0	-0.9
BAR	**Barrett**	**3.05**	**168**		Pn	08 56 11.4	-1.2
BAR				IAML		08 57 00.1	
	comp=E,30nm,0.5s						
BAR				IAML		08 57 00.4	
	comp=N,25nm,0.3s						
HULI	**Fort Hunter Li**	**3.10**	**278**	Pn	Pn	08 56 13.6	+0.4
CBX	**Cerro Bola**	**3.41**	**169**	Pn	Pn	08 56 16.5	-1.2
CBX				IAML		08 57 18.1	
	comp=E,44nm,0.9s						
CBX				IAML		08 57 20.0	
	comp=N,44nm,4.1s						
LCMT	**Little Creek M**	**3.65**	**67**	Pn	Pn	08 56 21.1	+0.1

*DJA **26** 08:59:45.0±0.3, 4°S±2°×12°8E±°, h10km, M4.0/9, MLv4.0/9*
*IDC **26** 08:59:54.4±4.1, 3.78S×128.18E, h97km±38km, mb3.7/9, mbtmp4.0/11, MS2.9/2, Error ellipse: s-maj=39.7km s-min=15.9km az=72.0*

ISC 26 08:59:44.7±0.6, 3.66S±0.06×128.42E±0.04, h10km, n23, σ1°80/27, mb4.0/9, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.23**	**264**	P	**Pg**	**08 59 49.7**	**+0.3**
AAI				S	**Sg**	**08 59 53.6**	**+1.0**
MSAI	**Masohi**	**0.59**	**58**	P	**Pg**	**08 59 55.6**	**-0.6**
NLAI	**Namlea**	**1.39**	**288**	P	**Pn**	**09 00 08.4**	**-1.7**
NLAI				S	**Sb**	**09 00 26.2**	**-2.2**
BNDI	**Bandanaira**	**1.71**	**120**	P	**Pn**	**09 00 16.4**	**+1.9**
SANI	**Sanana**	**2.91**	**303**	P	**Pn**	**09 00 30.7**	**-0.4**
SANI				S	**Sn**	**09 01 05.0**	**-1.2**
FAKI	**Fak Fak**	**3.89**	**79**	P	**Pn**	**09 00 46.1**	**+1.5**
SWI	**Sorong**	**3.97**	**46**	P	**Pn**	**09 00 47.0**	**+1.3**
SWI				S	**Sn**	**09 01 33.9**	**+1.6**
KMPI	**Kaimana, Papua**	**5.27**	**90**	P	**Pn**	**09 01 05.8**	**+2.2**
KAPI	**Kappang**	**8.75**	**261**	P	**Pn**	**09 01 55.1**	**+3.7**
	6.9nm,0.3s,baz=94,slow=16,SNR=5.0						
JAY	**Jayapura**	**12.32**	**85**	LR	LR	09 08 39.6	
	comp=Z,32nm,18.2s,baz=1.0,slow=42						
FITZ	**Fitzroy Crossi**	**14.60**	**191**	P	**Pn**	**09 03 12.2**	**+0.7**
	2.6nm,0.8s,baz=5.8,slow=13,SNR=4.1						
WRA	**Warramunga Arr**	**17.18**	**161**	P	**Pn**	**09 03 44.1**	**-0.9**
	6.3nm,0.8s,baz=340,slow=12,SNR=23						
WRA				LR	LR	09 10 37.9	
	comp=Z,60nm,19.0s,baz=266,slow=38						
ASAR	**Alice Springs**	**20.58**	**166**	P	**P**	**09 04 25.3**	**+1.3**
	28nm,0.7s,baz=348,slow=11,SNR=138						
ASAR				PcP	**PcP**	**09 08 33.3**	**-1.8**
	0.6nm,0.5s,baz=348,slow=2.0,SNR=11						
	28nm,0.7s						
STKA	**Stephens Creek**	**30.68**	**158**	P	**P**	**09 05 59.8**	**+0.2**
	1.6nm,0.7s,baz=353,slow=10.0,SNR=4.2						
	1.6nm,0.7s						
KSRS	**Korea Array**	**40.91**	**359**	P	**P**	**09 07 29.6**	**+2.5**
	0.7nm,0.5s,baz=176,slow=9.2,SNR=3.0						
	0.7nm,0.5s						
MJAR	**Matsushiro Arr**	**41.03**	**12**	P	**P**	**09 07 28.8**	**+0.5**
	1.4nm,0.7s,baz=171,slow=10,SNR=4.2						
	1.4nm,0.7s						
SONM	**Songino Array**	**54.80**	**342**	P	**P**	**09 09 18.0**	**+3.1**
	0.5nm,0.5s,baz=152,slow=6.5,SNR=2.7						
MKAR	**Makanchi Array**	**64.59**	**327**	P	**P**	**09 10 21.4**	**-0.9**
	1.0nm,0.6s,baz=122,slow=8.2,SNR=10						
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**67.91**	**334**	P	**P**	**09 10 42.3**	**-1.1**
	0.4nm,0.3s,baz=126,slow=7.5,SNR=3.6						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**68.86**	**329**	P	**P**	**09 10 47.6**	**-1.9**
	0.9nm,0.5s,baz=129,slow=5.6,SNR=7.3						
	0.9nm,0.5s						
QSPA	**South Pole Qui**	**86.29**	**180**	P	**P**	**09 12 24.9**	**-1.8**
	0.8nm,0.8s,baz=318,slow=8.4,SNR=5.4						
	0.8nm,0.8s						
ILAR	**Eielson Array**	**91.02**	**25**	P	**P**	**09 12 47.6**	**-1.3**
	0.2nm,0.5s,baz=241,slow=4.2,SNR=4.1						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**124.50**	**57**	PKP	**PKPdf**	**09 18 42.8**	**-2.3**
	0.2nm,0.8s,baz=274,slow=4.1,SNR=1.3						

DJA 26 09:15:34.3±2.1, 4°S±9°×12°8E±1°6, h15km±12km, M3.6/2, MLv3.6/2, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.15**	**211**	P	Pb	09 15 39.2	+0.4
AAI				S	Sb	09 15 43.2	+1.4
MSAI	**Masohi**	**0.69**	**72**	P	Pb	09 15 48.2	+0.1

IDC 26 09:15:57.6±1.4, 2.98S×128.58E, h0km, mb3.9/4, mbtmp3.9/5, ML3.7/1, MS3.4/2, Error ellipse: s-maj=123.3km s-min=15.0km az=69.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**9.04**	**257**	LR	LR	09 22 18.4	
	comp=Z,84nm,20.6s,baz=82,slow=42						
WRA	**Warramunga Arr**	**17.77**	**162**	P	Pn	09 20 06.0	-0.6
	0.3nm,0.3s,baz=339,slow=12,SNR=19						
WRA				S	Sn	09 23 26.1	+0.7
	0.4nm,1.0s,baz=346,slow=22,SNR=1.8						
	2.8nm,0.8s						
ASAR	**Alice Springs**	**21.20**	**166**	P	P	09 20 45.6	+0.7
	3.9nm,0.5s,baz=344,slow=10,SNR=26						
ASAR				PcP	PcP	09 24 50.0	-0.8
	0.3nm,0.6s,baz=3.5,slow=1.2,SNR=5.4						
	3.9nm,0.5s						
MKAR	**Makanchi Array**	**64.11**	**326**	P	P	09 26 34.2	+0.5
	0.6nm,0.6s,baz=120,slow=8.0,SNR=5.5						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**68.37**	**328**	P	P	09 27 00.4	-0.5
	0.7nm,0.6s,baz=130,slow=5.8,SNR=6.4						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**73.93**	**328**	P	P	09 27 35.1	+0.5
	0.5nm,0.4s,baz=99,slow=7.4,SNR=2.5						
	0.5nm,0.4s						

OBN	**Obninsk**	**93.58**	**325**	LR	LR	10 15 45.6	
	comp=Z,43nm,19.5s,baz=62,slow=38						

*IDC **26** 09:24:52.3±3.3, 54.25N×87.29E, h0km, mbtmp3.0/2, ML2.4/2, Error ellipse: s-maj=30.4km s-min=19.8km az=54.0*

ASRS 26 09:24:49.0±1.2, 54.17N×87.06E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**261**	I	I	09 34 25.0	
	baz=76,slow=330,SNR=6.0						
ZALV	**Zalesovo Beam**	**1.34**	**261**	Pg	Pb	09 25 17.6	+2.6
	0.8nm,0.3s,baz=72,slow=16,SNR=7.7						
ZALV				Lg	Lg	09 25 39.4	
	0.9nm,0.3s,baz=76,slow=25,SNR=8.1						
MKAR	**Makanchi Array**	**7.99**	**204**	Pn	Pn	09 26 52.1	+5.9
	0.1nm,0.3s,baz=27,slow=11,SNR=1.9						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**9.98**	**270**	Pn	Pn	09 27 19.0	+5.5
	baz=70,slow=22,SNR=2.3						
	0.6nm,0.5s						

IDC 26 09:32:19.6±29.0, 15.79S×172.68W, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=576.4km s-min=163.6km az=84.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.44**	**240**	P	P	09 40 32.7	+0.1
	1.0nm,0.5s,baz=85,slow=12,SNR=4.4						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**50.43**	**257**	P	P	09 41 18.7	-0.7
	0.8nm,0.5s,baz=94,slow=6.8,SNR=41						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**50.65**	**252**	P	P	09 41 20.8	-0.3
	6.0nm,0.5s,baz=88,slow=8.2,SNR=143						
	6.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**58.80**	**258**	P	P	09 42 21.0	+0.8
	0.4nm,0.3s,baz=90,slow=4.0,SNR=1.4						
	0.4nm,0.3s						

UCR 26 09:32:40.9±0.8, 10.39N×84.37W, h99km±2km, MW3.5, 52C-4D, Fault plane solution: NP1:φs96.8300°, δ60.22000°, λ54.82000°, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VPL2	**V. Platanar**	**0.08**	**190**	*eP*	Pn	09 32 55.2	+0.3
QUEU	**Ciudad Quesada**	**0.09**	**226**	*eP*	Pn	09 32 55.3	+0.5
QUEU				*eS*	Sn	09 33 06.3	+1.1
VPL1	**V. Platanar**	**0.13**	**179**	*eP*	Pn	09 32 55.2	+0.1
ARTO	**Ro Cuarto**	**0.16**	**106**	*eP*	Pn	09 32 55.2	+0.3
VPS8	**V Poas**	**0.24**	**149**	*eP*	Pn	09 32 55.7	+0.1
SOCE	**Pocosol**	**0.25**	**269**	*eP*	Pn	09 32 55.7	+0.6
SOCE				*eS*	Sn	09 33 06.7	+0.9
SARCI	**Sarchi**	**0.29**	**176**	*eP*	Pn	09 32 55.7	+0.2
FORC	**Fortuna**	**0.31**	**285**	*eP*	Pn	09 32 56.1	+0.7
FORC				*eS*	Sn	09 33 07.5	+1.3
RAMO	**San Ramon**	**0.31**	**198**	*eP*	Pn	09 32 55.6	0.0
GREC	**Grecia**	**0.32**	**169**	*eP*	Pn	09 32 56.8	+1.1
VACR	**Volcan Arenal**	**0.32**	**286**	*eP*	Pn	09 32 56.2	+0.8
VACR				*eS*	Sn	09 33 07.4	+1.0
SRA1	**San Ramn**	**0.32**	**200**	*eP*	Pn	09 32 55.6	-0.1
PALD	**Palmares**	**0.34**	**191**	*eP*	Pn	09 32 55.6	-0.2
CEDE	**Laguna Cedeo**	**0.34**	**287**	*eP*	Pn	09 32 56.4	+0.8
TCS1	**Tacares**	**0.35**	**169**	*eP*	Pn	09 32 56.0	+0.2
ARE1	**Arenal 1**	**0.35**	**282**	*eP*	Pn	09 32 56.4	+0.7
VARE2	**V. Arenal**	**0.35**	**282**	*eP*	Pn	09 32 56.4	+0.7
REZ	**Monterey de S**	**0.35**	**293**	*eP*	Pn	09 32 56.5	+0.8
UELA	**Alajuela**	**0.40**	**157**	*eP*	Pn	09 32 56.0	-0.1
ATEO	**Atenas**	**0.41**	**182**	*eP*	Pn	09 32 55.9	-0.2
TABAC	**Tabacon**	**0.41**	**286**	*eP*	Pn	09 32 56.7	+0.6
BELE	**Belen**	**0.44**	**156**	*eP*	Pn	09 32 56.4	+0.1
HEME	**Heredia, Merce**	**0.45**	**150**	*eP*	Pn	09 32 57.6	+1.2
HDC	**Heredia**	**0.46**	**147**	*eP*	Pn	09 32 56.4	0.0
MTEVE	**Monteverde**	**0.46**	**262**	*eP*	Pn	09 32 56.9	+0.4
DOMI	**Santo Domingo**	**0.48**	**146**	*eP*	Pn	09 32 57.0	+0.3
SANTA	**Santa Ana**	**0.48**	**158**	*eP*	Pn	09 32 56.5	-0.1
ARZA	**Esparza**	**0.49**	**217**	*eP*	Pn	09 32 56.5	0.0
OROT	**Orotina**	**0.50**	**198**	*eP*	Pn	09 32 56.5	-0.1
LUPE	**Guadalupe**	**0.53**	**145**	*eP*	Pn	09 32 57.1	+0.1
CENT	**San Jose**	**0.53**	**148**	*eP*	Pn	09 32 58.0	+1.0
CHIK	**Chiripa**	**0.53**	**276**	*eP*	Pn	09 32 57.8	+0.8
PURI	**Puriscal**	**0.54**	**174**	*eP*	Pn	09 32 57.0	-0.1
SJS	**Escuela Geolog**	**0.54**	**145**	*eP*	Pn	09 32 57.1	+0.1
ECI	**Escuela Centro**	**0.54**	**145**	*eP*	Pn	09 32 57.1	0.0
ROBF	**Roble, Puntare**	**0.54**	**222**	*eP*	Pn	09 32 56.8	-0.1
SJS3	**Mercedes San J**	**0.54**	**145**	*eP*	Pn	09 32 57.4	+0.3
CORON	**Coronado**	**0.55**	**139**	*eP*	Pn	09 32 57.4	+0.3
CVIMO	**Finca Echandi**	**0.55**	**131**	*eP*	Pn	09 32 57.3	+0.1
QUEB	**Quebradon, Cot**	**0.57**	**294**	*eP*	Pn	09 32 57.7	+0.5
AMPA	**Desamparados**	**0.57**	**148**	*eP*	Pn	09 32 57.1	-0.2
JTS	**Las Juntas de**	**0.58**	**261**	*eP*	Pn	09 32 57.2	0.0
JUNT	**Juntas**	**0.59**	**260**	*eP*	Pn	09 32 57.3	+0.1
PILE	**Guapiles**	**0.59**	**106**	*eP*	Pn	09 32 57.9	+0.6
TILA	**Tilaran**	**0.60**	**278**	*eP*	Pn	09 32 58.0	+0.6
TRIO	**Tres Rios**	**0.60**	**142**	*eP*	Pn	09 32 57.5	-0.1
ACOS	**Acosta**	**0.62**	**161**	*eP*	Pn	09 32 57.5	-0.2
TRT2	**Tortugero**	**0.65**	**75**	*eP*	Pn	09 32 58.2	+0.5
VICA	**Volcano Irazu**	**0.65**	**128**	*eP*	Pn	09 32 58.3	0.0
TIMP	**Tierras Morena**	**0.67**	**287**	*eP*	Pn	09 32 58.6	+0.6
TENO	**El Achiote**	**0.68**	**298**	*eP*	Pn	09 32 58.9	+0.9
INVE	**Universidad In**	**0.69**	**278**	*eP*	Pn	09 32 58.8	+0.9
CVTR	**Volcan Turrial**	**0.70**	**121**	*eP*	Pn	09 32 58.8	+0.1
VTR0	**Volcan Turrial**	**0.70**	**121**	*eP*	Pn	09 32 58.9	+0.2
CVTQ	**Turrialba Volc**	**0.70**	**123**	*eP*	Pn	09 32 59.0	+0.3
CVTV	**Tajo**	**0.72**	**122**	*eP*	Pn	09 32 59.1	+0.4
PCAYA	**Pacayas**	**0.72**	**130**	*eP*	Pn	09 32 59.0	+0.3
LCHIL	**Los Chiles**	**0.73**	**332**	*eP*	Pn	09 32 59.3	+0.8
LCR2	**La Lucha 2**	**0.73**	**151**	*eP*	Pn	09 32 58.6	-0.2
REPA	**Paraso**	**0.74**	**138**	*eP*	Pn	09 32 59.0	+0.2
ABRB	**Las Abras (San**	**0.74**	**120**	*eP*	Pn	09 32 59.3	+0.4
MOTZ	**Rio Naranjo**	**0.75**	**293**	*eP*	Pn	09 32 59.7	+1.0
PICV	**PH. Pirrs**	**0.77**	**167**	*eP*	Pn	09 32 58.8	-0.2
VINA	**Juan Vinas**	**0.78**	**128**	*eP*	Pn	09 32 59.4	+0.2
PAQE	**Paquera**	**0.79**	**225**	*eP*	Pn	09 32 58.9	-0.2
PAR1A	**Puntarenas Pro**	**0.79**	**172**	*eP*	Pn	09 32 59.7	+0.6
VERB	**Verbena**	**0.80**	**123**	*eP*	Pn	09 32 59.8	+0.5
PITB	**Pirrs, San**	**0.80**	**155**	*eP*	Pn	09 32 59.1	-0.3
RESJ	**San Isidro (Tu**	**0.80**	**116**	*eP*	Pn	09 32 59.8	+0.6
RAZU	**San Marcos de**	**0.80**	**155**	*eP*	Pn	09 32 59.1	-0.2
BITO	**Garabito Jaco**	**0.80**	**198**	*eP*	Pn	09 32 59.4	+0.2
UPAL	**Upala**	**0.81**	**309**	*eP*	Pn	09 33 00.0	+0.8
TURIB	**Turrialba**	**0.82**	**125**	*eP*	Pn	09 32 59.6	+0.2
CUI	**Cuipilapa**	**0.83**	**289**	*eP*	Pn	09 33 00.3	+0.8
VMAR	**Armenia, Volca**	**0.85**	**300**	*eP*	Pn	09 33 00.4	+0.7
LCOCO	**El Coco**	**0.85**	**111**	*eP*	Pn	09 32 60.0	+0.3
HORNC	**Hornillas**	**0.86**	**292**	*eP*	Pn	09 33 00.5	+0.6
PIEC	**Cerro El Cedra**	**0.86**	**152**	*eP*	Pn	09 32 59.7	-0.4
COLC	**Colonia**	**0.87**	**289**	*eP*	Pn	09 33 00.6	+0.7
MESS	**Mesas**	**0.89**	**294**	*eP*	Pn	09 33 01.2	+1.2
LLNJ	**Naranjito**	**0.94**	**164**	*eP*	Pn	09 33 00.9	+0.3
NYURE	**Nandayure**	**0.95**	**246**	*eP*	Pn	09 33 00.8	+0.1
QUEP	**Quepos**	**0.97**	**168**	*eP*	Pn	09 33 00.9	0.0
BUS1	**Rivas**	**1.03**	**143**	*eP*	Pn	09 33 01.7	-0.4
NICO	**Nicoya**	**1.09**	**257**	*eP*	Pn	09 33 02.8	+0.6
JUD3	**Juan Diaz 3**	**1.17**	**259**	*eP*	Pn	09 33 03.6	+0.4
VERH	**Veragua Rainfo**	**1.25**	**111**	*eP*	Pn	09 33 04.3	+0.2
LCRUZ	**La Cruz**	**1.42**	**299**	*eP*	Pn	09 33 07.4	+1.3
LAES	**El Progreso Va**	**1.44**	**115**	*eP*	Pn	09 33 06.7	+0.4
EDPE	**Pejibaye, P**	**1.45**	**147**	*eP*	Pn	09 33 06.7	+0.1
DRK0	**Durika**	**1.57**	**135**	*eP*	Pn	09 33 08.0	-0.2
BURE	**Buenos Aires**	**1.58**	**140**	*eP*	Pn	09 33 08.1	0.0
ACON	**Acoyapa**	**1.76**	**333**	*eP*	Pn	09 33 10.1	-0.2
ESPN	**Las Esperanzas**	**1.80**	**2**	*eP*	Pn	09 33 11.9	+1.1
ALCO	**Alturas Coton,**	**2.08**	**133**	*eP*	Pn	09 33 14.6	-0.1
PIRO	**Carate, Puerto**	**2.22**	**153**	*eP*	Pn	09 33 17.6	+1.3
PBNVO	**Pueblo Nuevo,**	**2.61**	**125**	*eP*	Pn	09 33 22.0	+0.6
RBALA	**Bur**	**2.65**	**124**	*eP*	Pn	09 33 22.0	0.0

HEL 26 09:34:22.0±0.2, 67.19N×20.68E, h0km, ML1.3, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERTU	**Ertsjaerv**	**0.87**	**136**	PG	Pg	09 34 37.4	-1.2
ERTU				SB	Sg	09 34 49.5	-0.4
PAJU	**Pajala**	**0.97**	**99**	PG	Pg	09 34 40.4	-0.1
	baz=279						
PAJU				SG	Sg	09 34 52.7	-0.3
HEF	**Hetta**	**1.67**	**41**	PG	Pn	09 34 51.8	-0.7
	baz=216						
HEF				MSG		09 35 12.0	
	comp=Z,0.9nm,0.2s						
HEF				SG	Sn	09 35 14.5	-0.1
KIF	**Kilpisjarvi**	**1.83**	**1**	PG	Pb	09 34 55.5	-0.8
KIF				MSG		09 35 17.7	
	comp=Z,1.4nm,0.2s						
KIF				SG	Sg	09 35 21.0	+0.3
TOF	**Tornio**	**1.83**	**126**	PG	Pn	09 34 55.0	+0.3
TOF				MSG		09 35 16.7	
	comp=Z,0.5nm,0.2s						
TOF				SN	Sn	09 35 18.5	+0.1
KTK1	**Kautokeino**	**2.07**	**26**	PG	Pn	09 34 59.1	+1.1
KTK1				SG	Sb	09 35 26.5	-0.2
ARA0	**ARCESS Array S**	**2.96**	**35**	SG	Sb	09 35 51.6	-0.6
OBF4	**Vikkela, Lumij**	**2.99**	**141**	PG	Pb	09 35 15.7	-0.4
	baz=323						
OBF4				MSG		09 35 49.8	
	comp=Z,1.3nm,0.2s						
RAJF	**Raja-Jooseppi**	**3.17**	**62**	SN	Sn	09 35 53.0	+1.5
KEV	**Kevo**	**3.48**	**39**	SN	Sn	09 35 59.1	0.0

HEL 26 09:35:27.6±0.1, 64.12N×25.26E, h0km, ML1.1, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OUF	**Merijarvi**	**0.34**	**318**	PG	Pg	09 35 33.4	-0.7
OUF				SG	Sg	09 35 38.0	-0.5
OBF0	**Syolatti, Pyha**	**0.59**	**311**	SN	Sg	09 35 46.4	0.0
OBF0				MSG		09 35 52.2	
	comp=Z,2.4nm,0.2s						
OBF0	**Syolatti, Pyha**	**0.59**	**311**	PG	Pg	09 35 38.1	-0.7
OBF0				MSG		09 35 46.3	
	comp=Z,2.4nm,0.2s						
OBF0				SG	Sg	09 35 46.4	0.0
OBF8	**Ulkokalla**	**0.82**	**286**	MSG		09 35 52.7	
	comp=Z,1.0nm,0.2s						
OBF8				SB	Sg	09 35 53.9	0.0
OBF8	**Ulkokalla**	**0.82**	**286**	PB	Pg	09 35 43.1	-0.2
OBF8				MSG		09 35 53.0	
	comp=Z,1.0nm,0.2s						
OBF8				SB	Sg	09 35 53.9	0.0
OUL	**Oulu**	**1.01**	**16**	SN	Pg	09 35 45.7	-1.3
OUL	**Oulu**	**1.01**	**16**	PG	Pg	09 35 45.7	-1.3
NIF	**Nilsia**	**1.35**	**122**	PG	Pg	09 35 51.9	-1.5
NIF				MSG		09 36 08.3	
	comp=Z,0.9nm,0.2s						
SUF	**Sumiainen**	**1.46**	**164**	PN	Pn	09 35 54.4	-0.7
SUF				MSG		09 36 11.4	
	comp=Z,0.8nm,0.2s						
BURU	**Burvik**	**1.75**	**287**	SN	Sg	09 36 23.5	-0.3
KEF	**Keuruu**	**1.96**	**185**	PG	Pn	09 36 02.8	+0.7
KEF				MSG		09 36 25.9	
	comp=Z,1.7nm,0.2s						
KEF				SG	Sb	09 36 29.2	0.0
TOF	**Tornio**	**2.01**	**349**	MSG		09 36 27.2	
	comp=Z,0.4nm,0.2s						
TOF				SG	Sb	09 36 29.9	-0.6
RANF	**Ranua**	**2.01**	**18**	SG	Sn	09 36 28.6	0.0
UMAU	**Umeaa**	**2.03**	**265**	SG	Pg	09 36 04.0	-2.5
UMAU	**Umeaa**	**2.03**	**265**	PG	Pn	09 36 04.0	+1.0
	baz=81						
UMAU				SG	Sb	09 36 30.8	-0.3
RMF	**Romuvaara**	**2.05**	**85**	PG	Pn	09 36 04.4	+1.2
RMF				MSG		09 36 28.5	
	comp=Z,1.5nm,0.2s						
RMF				SG	Sn	09 36 29.8	+0.3
KAF	**Kangasniemi**	**2.07**	**166**	PG	Pb	09 36 04.8	-1.2
KAF				MSG		09 36 29.0	
	comp=Z,1.3nm,0.2s						
KAF				SG	Sb	09 36 32.2	0.0
KU1	**Kurvinen**	**2.34**	**50**	SG	Sb	09 36 40.2	+0.1
KU6	**Riekki**	**2.74**	**44**	MSG		09 36 48.4	
	comp=Z,0.4nm,0.2s						
KU6				SG	Sb	09 36 50.4	-1.1
JOF	**Joensuu**	**2.97**	**111**	SG	Sb	09 36 57.1	-0.9
HEF	**Hetta**	**4.36**	**352**	SG	Sb	09 37 39.3	+1.3

TAP 26 09:39:17.9, 24.56N×121.88E, h6km, ML1.3, C, Taiwan

| Code | Station Name | Δ

ALEG	**Aligegeo Malai**	**8.61 309**	S	**Sn**	**09 50 41.0**	**+2.9**
HNR	**Honiara**	**8.80 302**		**Pn**	**09 49 04.6**	**-0.1**
HNR	**Honiara**	**8.80 302**	P	**Pn**	**09 49 06.8**	**+2.1**
	83nm,0.6s,baz=117,slow=6.8,SNR=4.7					
HNR			S	**Sn**	**09 50 46.6**	**+4.1**
	28nm,0.3s,baz=23,slow=18,SNR=1.6					
HNR	**Honiara**	**8.80 302**	P	**Pn**	**09 49 07.4**	**+2.7**
HNR	**Honiara**	**8.80 302**	S	**Sn**	**09 50 45.1**	**+2.6**
SAVO	**Savo Central**	**9.07 303**	P	**Pn**	**09 49 10.8**	**+2.5**
SAVO	**Savo Central**	**9.07 303**	S	**Sn**	**09 50 51.7**	**+2.7**
EIDS	**Eidsvold**	**18.93 232**		**P**	**09 51 10.6**	**+0.5**
EIDS			IAmb	IAmb	09 51 11.7	
	comp=Z,14nm,0.8s					
EIDS	**Eidsvold**	**18.93 232**	P	**P**	**09 51 11.0**	**+0.9**
RAO	**Raoul Island**	**20.12 140**	P	**P**	**09 51 26.4**	**+3.5**
CTAO	**Charters Tower**	**21.06 251**	P	**P**	**09 51 32.0**	**-1.1**
CTAO			IAmb	IAmb	09 51 55.3	
	comp=Z,17nm,1.3s					
ARMA	**Armidale**	**21.69 220**		**P**	**09 51 39.1**	**-0.7**
ARMA			IAmb	IAmb	09 51 40.7	
	comp=Z,23nm,0.9s					
ARMA	**Armidale**	**21.69 220**	P	**P**	**09 51 40.1**	**+0.3**
QLP	**Quilpie**	**24.92 237**	P	**P**	**09 52 09.7**	**-0.2**
URZ	**Urewera**	**25.36 162**	P	**P**	**09 52 14.4**	**+0.6**
CMSA	**Cobar Meteorol**	**26.32 226**	P	**P**	**09 52 22.1**	**-0.4**
CAN	**Canberra**	**26.74 215**	P	**P**	**09 52 25.9**	**-0.4**
CAN			IAmb	IAmb	09 52 39.9	
	comp=Z,28nm,1.4s					
INKA	**Innaminka**	**28.23 237**		**P**	**09 52 39.0**	**-0.6**
INKA			IAmb	IAmb	09 52 39.6	
	comp=Z,10nm,1.1s					
STKA	**Stephens Creek**	**29.43 229**	P	**P**	**09 52 50.0**	**-0.1**
STKA	**Stephens Creek**	**29.43 229**	P	**P**	**09 52 48.9**	**-1.2**
	comp=Z,23nm,0.5s,baz=48,slow=8.5,SNR=64					
	comp=Z,23nm,0.5s					
STKA	**Stephens Creek**	**29.43 229**	P	**P**	**09 52 49.6**	**-0.6**
TOO	**Toolangi**	**30.32 216**		**P**	**09 52 57.6**	**-0.4**
WR8	**Warramunga Arr**	**31.97 255**	P	**P**	**09 53 10.2**	**-2.5**
WR8			IAmb	IAmb	09 53 20.7	
	comp=Z,10.0nm,1.5s					
WB0	**Warramunga Arr**	**32.06 256**	P	**P**	**09 53 11.1**	**-2.4**
WRAB	**Tennant Creek**	**32.11 255**	P	**P**	**09 53 11.8**	**-2.1**
WRA	**Warramunga Arr**	**32.12 255**	P	**P**	**09 53 11.2**	**-2.8**
	comp=Z,1.5nm,0.6s,baz=85,slow=8.9,SNR=33					
WRA			PcP	**PcP**	**09 55 58.6**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=76,slow=2.8,SNR=2.6					
WRA			S	S	09 58 06.5	-9.1
	comp=Z,2.2nm,0.9s,baz=85,slow=14,SNR=7.2					
	comp=Z,1.5nm,0.6s					
HTT	**Hallett**	**32.16 229**	P	**P**	**09 53 13.7**	**-0.5**
AS31	**Alice Springs**	**33.01 249**	P	**P**	**09 53 19.8**	**-2.0**
AS31			IAmb	IAmb	09 53 21.3	
	comp=Z,3.4nm,0.5s					
ASAR	**Alice Springs**	**33.01 248**	P	**P**	**09 53 18.9**	**-2.9**
	comp=Z,5.0nm,0.4s,baz=74,slow=9.5,SNR=165					
ASAR			PcP	**PcP**	**09 56 00.7**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=94,slow=2.4,SNR=2.4					
ASAR			S	S	09 58 20.3	-9.1
	comp=Z,0.7nm,0.9s,baz=86,slow=17,SNR=5.3					
	comp=Z,5.0nm,0.4s					
BBOO	**Buckleboo**	**34.00 232**		**P**	**09 53 29.3**	**-0.9**
BBOO	**Buckleboo**	**34.00 232**	P	**P**	**09 53 28.6**	**-1.6**
KNRA	**Kununurra**	**37.38 263**	P	**P**	**09 53 57.7**	**-1.5**
KNRA			IAmb	IAmb	09 53 58.8	
	comp=Z,9.8nm,0.9s					
FORT	**Forrest**	**39.69 239**	P	**P**	**09 54 17.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**40.29 259**	P	**P**	**09 54 21.9**	**-1.4**
PSA00	**Pilbara Seismi**	**45.75 254**	P	**P**	**09 55 06.3**	**-0.9**
MBWA	**Marble Bar**	**45.85 254**		**P**	**09 55 06.9**	**-1.1**
MBWA			IAmb	IAmb	09 55 07.8	
	comp=Z,14nm,0.9s					
NWAO	**Narrogin (SRO)**	**49.14 239**	P	**P**	**09 55 31.4**	**-2.0**
MORW	**Morawa**	**49.63 244**	P	**P**	**09 55 35.4**	**-1.7**
MORW			IAmb	IAmb	09 55 36.2	
	comp=Z,13nm,0.8s					
MJAR	**Matsushiro Arr**	**57.60 332**	P	**P**	**09 56 34.8**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=174,slow=9.4,SNR=5.7					
	comp=Z,1.5nm,0.6s					
VNDA	**Vanda**	**63.31 181**	P	**P**	**09 57 12.4**	**-0.6**
	comp=Z,3.9nm,1.0s,baz=354,slow=7.4,SNR=16					
	comp=Z,3.9nm,1.0s					
KSRS	**Korea Array**	**63.48 326**	P	**P**	**09 57 15.1**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=129,slow=7.4,SNR=2.5					
	comp=Z,0.6nm,0.5s					
SBA	**Scott Base**	**63.58 180**		**P**	**09 57 15.2**	**+0.4**
SBA			IAmb	IAmb	09 57 16.3	
	comp=Z,12nm,0.9s					
MASI	**Maura Aman, Be**	**65.23 273**	P	**P**	**09 57 24.1**	**-2.6**
NJ2	**Nanjing**	**65.49 316**	*e*P	**P**	**09 57 28.5**	**+0.6**
NJ2			pmax	pmax		
	comp=Z,8.0nm,0.6s					
PETK	**Petropavlovsk-**	**67.64 354**	P	**P**	**09 57 42.7**	**+1.6**
	comp=Z,3.8nm,0.6s,baz=162,slow=5.2,SNR=2.2					
	comp=Z,3.8nm,0.6s					
BNX	**BinXian**	**69.84 331**	⇓P	**P**	**09 57 55.8**	**+0.9**
BNX			pmax	pmax		
	comp=Z,10.0nm,0.6s					
CMAR	**Chiang Mai Arr**	**74.94 294**	P	**P**	**09 58 26.2**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=126,slow=4.3,SNR=12					
	comp=Z,2.0nm,0.6s					
HHC	**Hu-ho-hao-te**	**75.37 320**	*e*P	**P**	**09 58 27.8**	**0.0**
HHC			pmax	pmax		
	comp=Z,9.0nm,0.5s					
HHC			pmax	pmax		
	comp=Z,80nm,5.0s					
PZH	**PanZhiHua**	**75.62 303**	P	**P**	**09 58 31.3**	**+1.7**
PZH			pmax	pmax		
	comp=Z,20nm,1.1s					
QSPA	**South Pole Qui**	**75.74 180**	P	**P**	**09 58 30.7**	**+1.1**
QSPA			IAmb	IAmb	09 58 31.7	
	comp=Z,8.5nm,1.0s					
QSPA	**South Pole Qui**	**75.74 180**	P	**P**	**09 58 30.2**	**+0.6**
	comp=Z,6.6nm,1.0s,baz=24,slow=1.6,SNR=17					
	comp=Z,6.6nm,1.0s					
SONM	**Songino Array**	**82.25 323**	P	**P**	**09 59 05.2**	**0.0**
	comp=Z,0.7nm,0.4s,baz=140,slow=8.5,SNR=4.8					
	comp=Z,0.7nm,0.4s					
MAW	**Mawson**	**82.37 202**	P	**P**	**09 59 04.5**	**-0.9**
	comp=Z,5.2nm,0.7s,baz=121,slow=6.3,SNR=15					
	comp=Z,5.2nm,0.7s					
RIDG	**Independent Ri**	**85.94 19**	P	**P**	**09 59 20.6**	**-2.8**
ILAR	**Eielson Array**	**86.04 18**	P	**P**	**09 59 23.8**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=236,slow=4.6,SNR=12					
	comp=Z,1.0nm,0.7s					
NVAR	**Mina Array Bea**	**86.83 49**	P	**P**	**09 59 29.8**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=232,slow=5.6,SNR=3.7					
	comp=Z,0.3nm,0.6s					
WMQ	**Urumqi**	**92.55 315**	*e*P	**P**	**09 59 54.3**	**-0.8**
WMQ			LR	LR		
	comp=Z,160nm,24.1s					
TROLL	**Troll, Antarti**	**93.32 185**	⇑P	**P**	**09 59 56.5**	**-1.7**
	comp=Z,268nm,0.6s					
SNAA	**Sanae**	**94.00 183**	⇑P	**P**	**09 59 59.7**	**-1.6**
	comp=Z,51nm,0.7s					
SNAA	**Sanae**	**94.00 183**		**P**	**09 59 59.9**	**-1.4**
SNAA			IAmb	IAmb	10 00 03.4	
	comp=Z,3.6nm,1.0s					
SNAA	**Sanae**	**94.00 183**	P	**P**	**09 59 59.1**	**-2.2**
	comp=Z,2.0nm,0.7s,baz=180,slow=7.6,SNR=24					
	comp=Z,2.0nm,0.7s					
VNA3	**Neumayer Olymp**	**94.66 181**	⇑P	**P**	**10 00 02.5**	**-1.8**
	comp=Z,6.4nm,0.6s					
MKAR	**Makanchi Array**	**97.02 316**	P	**P**	**10 00 14.5**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=93,slow=6.6,SNR=8.4					
	comp=Z,1.2nm,0.7s					
ZALV	**Zalesovo Beam**	**97.15 324**	P	**P**	**10 00 14.9**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=104,slow=6.3,SNR=4.2					
	comp=Z,0.4nm,0.3s					
ARCES	**ARCESS Array B**	**119.87 346**	PKP	**PKPdf**	**10 05 32.2**	**-0.4**
	comp=Z,5.4nm,0.4s,baz=73,slow=1.8,SNR=66					
KTK1	**Kautokeino**	**120.80 346**	*e*P	**PKPdf**	**10 05 33.9**	**-0.5**
JETT	**Jettan, Norway**	**121.02 347**	*e*P	**PKPdf**	**10 05 34.7**	**-0.1**
TRO	**Tromso**	**121.28 348**	*e*P	**PKPdf**	**10 05 35.0**	**-0.2**
STEI	**Steigen**	**123.44 348**	*e*P	**PKPdf**	**10 05 39.3**	**-0.1**
LOF	**Lofoten**	**123.61 349**	*e*P	**PKPdf**	**10 05 39.8**	**+0.1**
BOSA	**Boshof**	**123.84 220**	PKP	**PKPdf**	**10 05 40.5**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=135,slow=7.1,SNR=2.1					
FAUS	**Fauske**	**123.90 347**	*e*P	**PKPdf**	**10 05 39.6**	**-0.7**
VAGH	**Vaagaholmen**	**124.87 348**	*e*P	**PKPdf**	**10 05 42.2**	**0.0**
RAUS	**Rausandaksla**	**124.96 347**	*e*P	**PKPdf**	**10 05 42.3**	**0.0**
KONS	**Konsvik**	**125.10 348**	*e*P	**PKPdf**	**10 05 42.9**	**+0.3**
MOR8	**Moi Rana**	**125.10 347**	*e*P	**PKPdf**	**10 05 42.0**	**-0.6**
STOK	**Stokkvaagen**	**125.27 348**	*e*P	**PKPdf**	**10 05 42.9**	**0.0**
FINES	**FINESS Array B**	**125.38 338**	PKP	**PKPdf**	**10 05 42.7**	**-0.6**
	comp=Z,3.1nm,0.7s,baz=28,slow=2.4,SNR=14					
LEIR	**Leirfjorden**	**125.44 348**	*e*P	**PKPdf**	**10 05 43.2**	**-0.1**
NSS	**Namsos**	**127.05 347**	*e*P	**PKPdf**	**10 05 43.0**	**-3.4**
NB2	**NORSAR Subarra**	**130.24 345**	PKPdf	**PKPdf**	**10 05 53.2**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=31,slow=1.9					
NOA	**NORSAR Array B**	**130.24 345**	PKP	**PKPdf**	**10 05 52.4**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=35,slow=2.1,SNR=7.2					
NOA			SKPbc	**SKPab**	**10 08 56.5**	**-5.3**
	comp=Z,1.3nm,0.7s,baz=33,slow=3.1,SNR=6.4					
HFS	**Hagfors**	**130.35 343**	PKP	**PKPdf**	**10 05 52.7**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=65,slow=8.1,SNR=6.0					
AKASG	**Malin Array Be**	**130.47 326**	PKP	**PKPdf**	**10 05 53.1**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=51,slow=1.9,SNR=4.8					
BRTR	**Keskin Array B**	**132.36 311**	PKP	**PKPdf**	**10 05 56.9**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=83,slow=4.5,SNR=4.6					
EKA	**Eskdalemuir Ar**	**138.40 352**	PKP	**PKPdf**	**10 06 08.3**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=20,slow=2.7,SNR=4.0					
GERES	**GERESS Array B**	**139.33 333**	PKP	**PKPdf**	**10 06 10.2**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=18,slow=1.7,SNR=6.5					
KEST	**Kesra**	**150.99 321**	PKPbc	**PKPbc**	**10 06 36.8**	**+0.5**
	comp=Z,14nm,0.7s,baz=137,slow=3.8,SNR=14					
ESDC	**Sonseca Array**	**153.61 345**	PKPbc	**PKPbc**	**10 06 42.0**	**0.0**
	comp=Z,1.4nm,0.7s,baz=18,slow=2.9,SNR=8.8					

IDC 26 09:47:22.9±1.8, 12.96N×121.45E, h144km±14km, mb3.5/4, mbtmp3.9/4, Error ellipse: s-maj=160.7km s-min=24.9km az=65.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.25 336**		P	Pn	09 47 49.2	-0.2
	287nm,0.4s,baz=165,slow=12,SNR=8.2						
TGY				S	Sn	09 48 04.2	-5.5
	769nm,0.4s,baz=179,slow=5.8,SNR=8.7						
SONM	**Songino Array**	**36.98 343**		P	P	09 54 18.6	+0.2
	0.8nm,0.6s,baz=167,slow=8.6,SNR=2.0						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**47.06 324**		P	P	09 55 40.3	+0.2
	0.3nm,0.3s,baz=123,slow=8.8,SNR=6.7						
	0.3nm,0.3s						
STKA	**Stephens Creek**	**48.58 157**		P	P	09 55 51.8	-0.1
	2.0nm,0.7s,baz=0.0,slow=6.1,SNR=3.0						
	2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**50.05 333**		P	P	09 56 02.1	-0.7
	1.0nm,0.3s,baz=122,slow=7.0,SNR=5.0						
	1.0nm,0.3s						

*IDC **26** 09:49:56.4±1.9, 26.75S×178.56W, h310km±18km, mb3.3/8, mbtmp3.9/8, Error ellipse: s-maj=22.1km s-min=20.0km az=154.0*

ISC 26 09:49:57.2±0.8, 27.23S±0.08×178.5W±0.1, h300km, n49, σ2.561/51, mb3.6/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**2.07 167**		P	**Pn**	**09 50 47.5**	**+3.1**
RIZ				S	**S**	**09 51 27.9**	**+5.8**
RAO	**Raoul Island**	**2.08 167**		P	**Pn**	**09 50 48.0**	**+3.5**
	542nm,0.3s,baz=49,slow=6.1,SNR=8.1						
RAO				S	**S**	**09 51 18.3**	**-3.8**
	874nm,0.4s,baz=74,slow=24,SNR=6.3						
GLKZ	**Green Lake**	**2.08 167**		P	**Pn**	**09 50 48.1**	**+3.6**
GLKZ				S	**S**	**09 51 25.2**	**+2.9**
OUZ	**Omahuta**	**10.47 218**		P	**P**	**09 52 26.0**	**+2.0**
WCZ	**Waipu Caves**	**10.63 213**		P	**P**	**09 52 27.6**	**+1.8**
MXZ	**Matakaoa Point**	**10.66 194**		P	**Pn**	**09 52 23.5**	**+0.2**
MXZ				S	**S**	**09 54 19.5**	**-3.2**
KUZ	**Kuaotunu**	**10.69 206**		P	**Pn**	**09 52 27.1**	**+3.4**
WMGZ	**Waiomatatini S**	**10.88 193**		P	Pn	09 52 23.0	-3.0
WMGZ				S	**S**	**09 54 24.3**	**-3.6**
HAZ	**Te Kaha**	**10.96 196**		P	Pn	09 52 23.4	-3.6
HAZ				S	**S**	**09 54 26.2**	**-3.5**
PKGZ	**Pakihiroa**	**11.00 194**		P	**Pn**	**09 52 25.0**	**-2.5**
MBAZ	**Motutapu North**	**11.05 209**		P	**Pn**	**09 52 31.3**	**+3.3**
PUZ	**Puketiti**	**11.16 193**		P	Pn	09 52 25.5	-3.9
PUZ				S	S	09 54 27.1	-7.0
RUGZ	**Raukumara Rang**	**11.19 196**		P	**Pn**	**09 52 27.3**	**-2.6**
MKAZ	**Moumakai**	**11.23 207**		P	**P**	**09 52 34.6**	**+2.2**
TWGZ	**Tauwhareparae**	**11.32 194**		P	**Pn**	**09 52 33.6**	**+2.3**
TWGZ				S	S	09 54 33.0	-4.9
AWAZ	**Awhitu Peninsu**	**11.41 209**		P	**P**	**09 52 36.0**	**+1.5**
CNGZ	**Carnagh Statio**	**11.57 193**		P	**Pn**	**09 52 34.7**	**+0.3**
MWZ	**Matawai**	**11.58 196**		P	Pn	09 52 31.7	-2.8
MWZ				S	**S**	**09 54 39.3**	**-4.3**
TKGZ	**Te Karaka**	**11.60 195**		P	Pn	09 52 29.6	-5.1
URZ	**Urewera**	**11.61 198**		P	**Pn**	**09 52 32.8**	**-2.1**
	48nm,0.4s,baz=260,slow=3.0,SNR=29						
URZ				S	**S**	**09 54 40.6**	**-3.7**
	15nm,0.4s,baz=87,slow=22,SNR=12						
URZ	**Urewera**	**11.61 198**		P	**Pn**	**09 52 32.9**	**-1.9**
URZ				S	**S**	**09 54 40.6**	**-3.7**
RAGZ	**Rawiri**	**11.76 196**		P	**Pn**	**09 52 36.6**	**-0.1**
RIGZ	**Rimuhau**	**11.88 194**		P	**Pn**	**09 52 36.0**	**-2.1**
MUGZ	**Murupara**	**11.91 198**		P	**Pn**	**09 52 38.3**	**-0.2**
RTZ	**Ruatahuna**	**11.98 197**		P	**Pn**	**09 52 38.2**	**-1.2**
SNGZ	**Shannon Statio**	**12.05 196**		P	Pn	09 52 35.4	-4.8
SNGZ				S	**S**	**09 54 49.7**	**-4.4**
PRGZ	**Paritu Road**	**12.06 194**		P	**Pn**	**09 52 40.2**	**-0.2**
PRGZ				S	S	09 54 47.0	-7.4
ALRZ	**Allen Road**	**12.11 200**		P	**Pn**	**09 52 42.0**	**+1.0**
TLZ	**Tolley Road**	**12.16 203**		P	**Pn**	**09 52 44.2**	**+2.6**
RAHZ	**Arahi**	**12.24 197**		P	**Pn**	**09 52 42.4**	**-0.1**
MHGZ	**Mahia Peninsul**	**12.27 193**		P	**Pn**	**09 52 43.4**	**+0.5**
NMHZ	**Naumai**	**12.48 197**		P	Pn	09 52 40.7	-4.8
ARHZ	**Aropaoanui**	**12.59 196**		P	Pn	09 52 43.3	-3.3
BKZ	**Black Stump Fm**	**12.63 198**		P	Pn	09 52 43.4	-3.9
BKZ				S	**S**	**09 55 03.6**	**-3.8**
MCHZ	**McNeill Hill**	**12.84 197**		P	**Pn**	**09 52 49.8**	**+0.1**
NGZ	**Ngauruhoe**	**12.90 201**		P	**Pn**	**09 52 49.8**	**-0.9**
CKHZ	**Cape Kidnapper**	**12.94 196**		P	**Pn**	**09 52 49.7**	**-1.2**
CKHZ				S	S	09 55 07.2	-7.0
PKVZ	**Pokaka**	**13.09 202**		P	**Pn**	**09 52 50.6**	**-2.2**
KAHZ	**Kahuranaki**	**13.12 196**		P	**Pn**	**09 52 52.3**	**-0.8**
ASAR	**Alice Springs**	**42.96 264**		P	**P**	**09 57 26.3**	**-1.3**
	0.5nm,0.4s,baz=96,slow=6.9,SNR=14						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**43.65 269**		P	**P**	**09 57 31.1**	**-2.0**
	1.0nm,0.7s,baz=111,slow=6.3,SNR=6.4						
	1.0nm,0.7s						
VNDA	**Vanda**	**51.20 185**		P	**P**	**09 58 31.6**	**+1.7**
	1.2nm,0.6s,baz=0.0,slow=4.0,SNR=6.4						
	1.2nm,0.6s						
QSPA	**South Pole Qui**	**62.87 180**		P	**P**	**09 59 53.2**	**+1.6**
	2.9nm,0.9s,baz=16,slow=2.5,SNR=4.5						
	2.9nm,0.9s						
MAW	**Mawson**	**75.13 200**		P	**P**	**10 01 06.4**	**+0.2**
	1.6nm,0.7s,baz=140,slow=6.9,SNR=8.0						
	1.6nm,0.7s						
NVAR	**Mina Array Bea**	**86.20 43**		P	**P**	**10 02 02.8**	**-2.4**
	1.0nm,0.8s,baz=220,slow=8.5,SNR=7.3						
	1.0nm,0.8s						
TXAR	**Lajitas Array**	**91.03 57**		P	**P**	**10 02 26.3**	**-1.8**
	0.5nm,0.9s,baz=262,slow=4.0,SNR=4.3						
	0.5nm,0.9s						
PDAR	**Pinedale Array**	**94.12 44**		P	**P**	**10 02 39.7**	**-2.5**
	0.3nm,0.6s,baz=258,slow=5.1,SNR=3.7						
	0.3nm,0.6s						
AKASG	**Malin Array Be**	**148.50 326**		PKPbc	**PKPdf**	**10 09 02.6**	**-1.7**
	1.7nm,0.6s,baz=48,slow=4.2,SNR=11						
BRTR	**Keskin Array B**	**150.62 303**		PKPbc	**PKPdf**	**10 09 10.7**	**+2.4**
	1.3nm,0.9s,baz=89,slow=1.2,SNR=5.7						

*UPP **26** 09:50:36.4±0.1, 63.01N×17.57E, h0km, ML2.4, Suspected explosion*
*HEL **26** 09:50:36.1±0.4, 63.04N×17.48E, h0km, ML1.7, Explosion*
*DNK **26** 09:50:36.6±0.3, 63.01N×17.56E, h0km, ML2.4(UPP), Explosion*
*IDC **26** 09:50:37.0±0.9, 63.09N×17.57E, h0km, mbtmp2.5/3, ML1.8/3, Error ellipse: s-maj=12.2km s-min=6.8km az=155.0*

ISC 26 09:50:36.2±0.7, 63.03N±0.02×17.59E±0.02, h0km, n38, σ1.940/56, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLU	**Sollefteaa**	**0.27 326**		P	**Pg**	**09 50 41.8**	**+0.5**
SOLU				S	**Sg**	**09 50 45.7**	**+0.9**
SOLU	**Sollefteaa**	**0.27 326**		P	**Pg**	**09 50 41.8**	**+0.5**
SOLU				S	**Sg**	**09 50 45.7**	**+0.9**
HEMU	**Hemsoen**	**0.41 149**		P	**Pg**	**09 50 44.0**	**0.0**
HEMU				S	**Sg**	**09 50 49.5**	**+0.2**
HEMU	**Hemsoen**	**0.41 149**		P	**Pg**	**09 50 44.0**	**0.0**
HEMU				S	**Sg**	**09 50 49.5**	**+0.2**
HEMU	**Hemsoen**	**0.41 149**		PG	**Pg**	**09 50 44.0**	**0.0**
HEMU				SG	**Sg**	**09 50 49.4**	**+0.1**
HUSU	**Husum**	**0.81 66**		P	**Pg**	**09 50 51.8**	**+0.2**
HUSU				S	**Sg**	**09 51 03.0**	**+1.0**
HUSU	**Husum**	**0.81 66**		P	**Pg**	**09 50 51.8**	**+0.2**
HUSU				S	**Sg**	**09 51 03.0**	**+1.0**
HUSU	**Husum**	**0.81 66**		PB	**Pg**	**09 50 51.6**	**0.0**
	baz=248						
HUSU				SB	**Sg**	**09 51 03.4**	**+1.3**
BREU	**Bredtraesk**	**0.97 27**		P	**Pg**	**09 50 55.0**	**+0.1**
BREU				S	**Sg**	**09 51 08.2**	**+0.7**
BREU	**Bredtraesk**	**0.97 27**		P	**Pg**	**09 50 55.0**	**+0.1**
BREU				S	**Sg**	**09 51 08.2**	**+0.7**
HASU	**Hassela**	**0.99 208**		P	**Pg**	**09 50 54.6**	**-0.5**
HASU	**Hassela**	**0.99 208**		P	**Pg**	**09 50 54.6**	**-0.5**
NOD	**Norderasen**	**1.30 290**		P	**Pg**	**09 51 00.5**	**-0.7**
NOD	**Norderasen**	**1.30 290**		P	**Pg**	**09 51 00.5**	**-0.7**
ARNU	**Arnoeviken**	**1.34 184**		P	**Pg**	**09 51 00.9**	**-1.0**
ARNU	**Arnoeviken**	**1.34 184**		P	**Pg**	**09 51 00.9**	**-1.0**
UMAU	**Umeaa**	**1.63 57**		P	**Pn**	**09 51 06.6**	**+0.4**
UMAU	**Umeaa**	**1.63 57**		P	**Pn**	**09 51 06.6**	**+0.4**
UMAU	**Umeaa**	**1.63 57**		PN	**Pn**	**09 51 06.5**	**+0.4**
UMAU				SN	**Sb**	**09 51 28.3**	**+0.1**
SVAU	**Svanoeiden**	**1.71 30**		P	**Pn**	**09 51 07.9**	**+0.7**
SVAU	**Svanoeiden**	**1.71 30**		P	**Pn**	**09 51 07.9**	**+0.7**
ROTU	**Roteberg**	**1.81 208**		P	**Pn**	**09 51 08.8**	**+0.2**
ROTU	**Roteberg**	**1.81 208**		P	**Pn**	**09 51 08.8**	**+0.2**
BURU	**Burvik**	**2.30 45**		PG	**Pb**	**09 51 17.2**	**-1.2**
BURU				SG	**Sb**	**09 51 47.6**	**+0.2**
KPF	**Kankaanpaa**	**2.41 118**		PB	**Pb**	**09 51 18.9**	**-1.4**
	baz=304						
KPF				MSG		09 51 48.4	
	comp=Z,6.5nm,0.2s						
KPF				SG	**Sb**	**09 51 50.9**	**+0.4**
RAF	**Rauma**	**2.81 134**		PB	**Pn**	**09 51 24.7**	**+2.3**
RAF				MSG		09 52 00.1	
	comp=Z,2.1nm,0.2s						
RAF				SB	**Sb**	**09 52 01.5**	**-0.7**
OBF8	**Ulkokalla**	**2.92 61**		MSG		09 52 03.2	
	comp=Z,1.1nm,0.2s						
OBF8				SG	**Sb**	**09 52 05.7**	**+0.4**
AAL	**Aland**	**3.08 157**		SG	**Sb**	**09 52 11.1**	**+1.2**
HFS	**Hagfors**	**3.45 214**		Pg	**Pb**	**09 51 38.6**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=34,slow=20,SNR=7.1						
HFS				Sn	**Sn**	**09 52 12.8**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=34,slow=24,SNR=6.9						
NOA	**NORSAR Array B**	**3.60 239**		Pn	**Pn**	**09 51 35.5**	**+2.2**
	baz=56,slow=16,SNR=5.0						
NOA				Sn	**Sn**	**09 52 15.9**	**-0.6**
	baz=47,slow=26,SNR=1.5						
NOA				Lg	Lg	09 52 28.6	
	comp=Z,0.1nm,0.3s,baz=46,slow=25,SNR=5.8						
	comp=Z,0.1nm,0.3s						
ERTU	**Ertsjaerv**	**4.05 27**		SN	**Sn**	**09 52 27.4**	**0.0**
KAF	**Kangasniemi**	**4.14 99**		PG	**Pb**	**09 51 51.8**	**+2.0**
NUR	**Nurmijarvi**	**4.20 124**		SN	**Sn**	**09 52 30.1**	**-1.0**
FIA0	**FINESS Array S**	**4.28 108**		PG	**Pb**	**09 51 54.5**	**+2.3**
	baz=299						
FIA0				SG	**Sg**	**09 52 49.5**	**-4.0**
FINES	**FINESS Array B**	**4.28 108**		Pn	**Pn**	**09 51 45.5**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=294,slow=13,SNR=6.2						
FINES				Sn	**Sn**	**09 52 34.8**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=280,slow=21,SNR=5.9						
FINES				Lg	Lg	09 52 49.2	
	comp=Z,0.6nm,0.3s,baz=295,slow=25,SNR=10.0						
	comp=Z,2.2nm,1.0s						
PAJU	**Pajala**	**4.65 28**		SN	**

	comp=Z,2.8nm,0.2s						
TOF				SB	**Sb**	**10 02 08.8**	**+0.3**
APA0	**Apatity Array**	**3.04**	**18**	P	**Pn**	**10 01 30.8**	**+2.3**
APA0				S	**Sn**	**10 02 06.8**	**+1.3**
VRF	**Varrio**	**3.04**	**353**	PB	**Pn**	**10 01 29.5**	**+1.0**
VRF				MSG		10 02 08.1	
	comp=Z,3.8nm,0.2s						
OBF8	**Ulkokalla**	**3.10**	**266**	PB	**Pn**	**10 01 31.2**	**+1.9**
	baz=78						
KALU	**Kalix**	**3.22**	**294**	SG	**Sg**	**10 02 23.1**	**+0.5**
KAF	**Kangasniemi**	**3.26**	**218**	PB	**Pb**	**10 01 35.5**	**-2.4**
	baz=37						
RUF	**Ruokolahti**	**3.41**	**193**	PB	**Pn**	**10 01 35.9**	**+2.3**
	baz=12						
LVZ	**Lovozero**	**3.57**	**26**	SG	**Sb**	**10 02 24.1**	**-2.9**
KEF	**Keuruu**	**3.63**	**227**	*eP*	**Pn**	**10 01 38.4**	**+1.8**
KEF	**Keuruu**	**3.63**	**227**	PB	**Pn**	**10 01 39.4**	**+2.7**
PAJU	**Pajala**	**3.81**	**310**	PB	**Pb**	**10 01 45.1**	**-2.3**
RAJF	**Raja-Jooseppi**	**3.85**	**348**	PB	**Pn**	**10 01 40.7**	**+1.1**
SJUU	**Sjulsmark**	**3.86**	**285**	*eP*	**Pn**	**10 01 41.0**	**+1.3**
FINES	**FINESS Array B**	**3.89**	**214**	Pn	**Pn**	**10 01 40.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=36,slow=13,SNR=10						
FINES				Sn	**Sn**	**10 02 25.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=45,slow=24,SNR=1.8						
FINES				Lg	Lg	10 02 38.6	
	comp=Z,0.7nm,0.3s,baz=35,slow=29,SNR=4.9						
	comp=Z,0.5nm,0.2s						
ERTU	**Ertsjaerv**	**3.91**	**301**	PB	**Pb**	**10 01 48.0**	**-0.9**
BURU	**Burvik**	**3.95**	**272**	PN	**Pn**	**10 01 43.1**	**+2.1**
UMAU	**Umeaa**	**4.39**	**263**	PN	**Pn**	**10 01 49.2**	**+2.3**
VJF	**Virojoki**	**4.44**	**200**	SG	**Sb**	**10 02 55.3**	**+3.3**
LANU	**Lannavaara**	**4.78**	**318**	*eP*	**Pn**	**10 01 52.9**	**+0.5**
TERR	**Teriberka**	**4.82**	**20**	P	**Pn**	**10 01 55.1**	**+2.2**
ARCES	**ARCESS Array B**	**5.20**	**340**	Pn	**Pn**	**10 01 57.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=149,slow=13,SNR=30						
ARCES				Sn	**Sn**	**10 02 59.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=156,slow=22,SNR=2.3						
ARCES				Lg	Lg	10 03 20.8	
	comp=Z,0.3nm,0.3s,baz=152,slow=24,SNR=6.9						
	comp=Z,0.4nm,0.4s						
ARCES	**ARCESS Array B**	**5.20**	**340**	P	**Pn**	**10 01 59.4**	**+1.2**
ARCES				S	**Sn**	**10 02 55.4**	**-3.2**
RAF	**Rauma**	**5.49**	**231**	*eP*	**Pn**	**10 02 02.8**	**+0.7**
I37NO	**I37NO**	**6.39**	**318**	I	I	10 46 20.0	
	baz=124,slow=321,SNR=2.4						
AAL	**Aland**	**6.70**	**232**	*eP*	**Pn**	**10 02 19.1**	**+0.4**
HFS	**Hagfors**	**9.07**	**247**	Pn	**Pn**	**10 02 50.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=60,slow=15,SNR=1.8						
HFS				Sn	**Sn**	**10 04 33.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=103,slow=18,SNR=1.7						
	comp=Z,1.0nm,0.7s						

*ISU **26** 10:00:49,41˚.03N×69˚.82E,h30km*
*SOME **26** 10:00:50.0,41˚.10N×70˚.03E,h5km*
*NNC **26** 10:00:52.3±6.8,41˚.13N×70˚.02E,h0km,mb3.2,mpv3.1, Error ellipse: s-maj=54.3km s-min=37.9km az=64.0, Suspected Mining explosion.*

ISC 26 10:00:47.5±2.1,41.12N±0.07×69.7E±0.1,h0km,n9, σ1§15/15,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHRV	**Charvak**	**0.56**	**21**	S	**Sn**	**10 01 10.9**	**-2.1**
IUG	**Iuzhnay**	**1.06**	**14**	P	**Pn**	**10 01 09.6**	**-0.2**
	23nm,0.2s						
IUG				S	**Sb**	**10 01 23.0**	**-0.4**
	42nm,0.7s						
CHMI	**Chimion**	**1.64**	**121**	P	**Pn**	**10 01 17.4**	**-0.2**
CHMI				S	**Sn**	**10 01 39.2**	**-0.2**
FRG	**Fergana**	**1.76**	**114**	S	**Sn**	**10 01 42.2**	**-0.2**
BRLS	**Borolday**	**1.92**	**3**	P	**Pb**	**10 01 23.3**	**-0.1**
	7.0nm,0.5s						
BRLS				S	**Sn**	**10 01 46.7**	**+0.3**
	7.3nm,0.6s						
BRLS	**Borolday**	**1.92**	**3**	*eP*	**Pn**	**10 01 21.5**	**0.0**
	7.0nm,0.5s						
BRLS				*eS*	**Sn**	**10 01 44.1**	**-2.2**
	7.3nm,0.6s						
KK31	**Karatay Array**	**2.08**	**17**	P	**Pg**	**10 01 28.1**	**+0.7**
	3.0nm,0.5s,baz=195,slow=17,SNR=17						
KK31				S	**Sg**	**10 01 56.7**	**+2.3**
	3.9nm,0.5s,baz=194,slow=24,SNR=9.8						
MRKS	**Merke**	**3.10**	**57**	Pg	**Pb**	**10 01 43.4**	**-0.2**
	3.9nm,0.7s						
MRKS				Lg	Lg	10 02 21.5	
	9.4nm,0.7s						
MRKS	**Merke**	**3.10**	**57**	*eP*	**Pb**	**10 01 43.5**	**-0.2**
	3.9nm,0.7s						
MRKS				*eS*	**Sb**	**10 02 21.5**	**-0.6**
	9.4nm,0.7s						

*ASRS **26** 10:16:17.0±1.3,53˚.81N×91˚.10E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 26 10:16:13.9±3.6,53˚.94N×91˚.13E,h0km,mbtmp2.8/3, ML2.5/3,Error ellipse: s-maj=29.8km s-min=27.0km az=38.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**3.73**	**273**	Pn	Pn	10 17 13.1	+0.5
	0.4nm,0.3s,baz=94,slow=17,SNR=5.2						
ZALV				Lg	Lg	10 18 10.9	
	0.6nm,0.3s,baz=91,slow=27,SNR=5.5						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**8.40**	**252**	Pn	Pn	10 18 16.6	-0.2
	0.1nm,0.3s,baz=64,slow=15,SNR=5.2						
KURBB				Sn	Sn	10 19 51.1	-1.2
	baz=64,slow=25,SNR=4.0						
KURBB				Lg	Lg	10 20 38.3	
	baz=74,slow=34						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**9.11**	**222**	Pn	Pn	10 18 26.4	0.0
	0.1nm,0.3s,baz=34,slow=12,SNR=3.7						
MKAR				Sn	Sn	10 20 09.8	+0.2
	0.1nm,0.3s,baz=40,slow=21,SNR=1.5						
MKAR				Lg	Lg	10 21 00.1	
	0.1nm,0.3s,baz=29,slow=30,SNR=5.3						
	0.2nm,0.6s						
SONM	**Songino Array**	**11.40**	**116**	Lg	Lg	10 22 13.8	
	0.1nm,0.3s,baz=291,slow=24,SNR=2.2						
I34MN	**SONGINO INFRAS**	**11.43**	**116**	I	I	11 22 30.0	
	baz=310,slow=322,SNR=0.8						

*SJA **26** 10:16:54.3±0.7,22˚.82S×66˚.45W,h249km±7km,ML3.7, MW3.6*

ISC 26 10:16:55.9±1.3,22.86S±0.04×66.49W±0.05,h222km,n32, σ1§36/45,1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**1.05**	**109**	*eP*	**Pn**	**10 17 30.4**	**+1.6**
YJA	**Yavi**	**1.13**	**53**	*eP*	**Pn**	**10 17 30.6**	**+1.1**
YJA	**Yavi**	**1.13**	**53**	*eP*	**Pn**	**10 17 30.8**	**+1.4**
YJA				*eS*	**S**	**10 17 50.6**	**-4.7**
SALTA		**1.36**	**174**	*eP*	**Pn**	**10 17 32.5**	**+1.4**
SALTA		**1.36**	**174**	*eP*	**Pn**	**10 17 28.0**	**-3.1**
SALTA				*eP*		10 17 32.5	
AF01	**San Pedro de A**	**1.56**	**266**	*eP*	Pn	10 17 18.6	-14
SLA	**San Lorenzo**	**2.06**	**154**	*eP*	**Pn**	**10 17 38.3**	**+1.5**
SLA	**San Lorenzo**	**2.06**	**154**	*eP*	**Pn**	**10 17 38.4**	**+1.5**
PB09	**IPOC Station P**	**2.76**	**292**	*eP*	**Pn**	**10 17 45.5**	**+1.2**
PB09				*eS*	**S**	**10 18 22.9**	**+0.9**
PB09				IAML		10 18 26.4	
	comp=N,107nm,0.2s						
PB09	**IPOC Station P**	**2.76**	**292**	*eP*	**Pn**	**10 17 45.5**	**+1.2**
PB09				IAML		10 18 29.7	
	comp=Z,68nm,1.1s						
PB06	**IPOC Station P**	**2.85**	**273**	*eP*	**Pn**	**10 17 46.0**	**+0.7**
PB06				IAML		10 18 25.9	
	comp=E,184nm,0.1s						
PB06	**IPOC Station P**	**2.85**	**273**	*eP*	**Pn**	**10 17 45.9**	**+0.7**
PB06				*eS*	**S**	**10 18 24.4**	**+0.7**
PB06				IAML		10 18 29.9	
	comp=Z,105nm,0.1s						
PB03	**IPOC Station P**	**3.13**	**284**	*eP*	**Pn**	**10 17 48.8**	**+0.3**
PB03				IAML		10 18 29.7	
	comp=E,280nm,0.1s						
PB03	**IPOC Station P**	**3.13**	**284**	*eP*	**Pn**	**10 17 48.7**	**+0.3**
PB03				*eS*	**S**	**10 18 28.5**	**-0.9**
PB03				IAML		10 18 31.7	
	comp=Z,215nm,0.3s						
FSA	**Cafayete**	**3.27**	**172**	*eP*	**Pn**	**10 17 51.2**	**+1.2**
PB01	**IPOC Station P**	**3.32**	**302**	*eP*	**Pn**	**10 17 50.9**	**+0.2**
PB01	**IPOC Station P**	**3.32**	**302**	*eP*	**Pn**	**10 17 51.0**	**+0.4**
PB01				*eS*	**S**	**10 18 32.9**	**-0.5**
PB01				IAML		10 18 35.4	
	comp=Z,235nm,0.2s						
PB02	**IPOC Station P**	**3.52**	**295**	*eP*	**Pn**	**10 17 53.0**	**+0.1**
PB02	**IPOC Station P**	**3.52**	**295**	*eP*	**Pn**	**10 17 53.2**	**+0.3**
PB02				*eS*	**S**	**10 18 35.9**	**-1.5**
PB02				IAML		10 18 38.3	
	comp=Z,282nm,0.3s						
GO02	**Mina Guanaco**	**3.65**	**231**	*eP*	**Pn**	**10 17 55.3**	**+0.7**
GO02	**Mina Guanaco**	**3.65**	**231**	*eP*	**Pn**	**10 17 54.8**	**+0.2**
GO02				*eS*	**S**	**10 18 41.3**	**+0.8**
GO02				IAML		10 18 42.8	
	comp=Z,136nm,0.3s						
PB08	**IPOC Station P**	**3.67**	**317**	⇓*iP*	**Pn**	**10 17 56.1**	**+1.0**
PB08	**IPOC Station P**	**3.67**	**317**	*eP*	**Pn**	**10 17 56.2**	**+1.1**
PB08				*eS*	**S**	**10 18 41.8**	**+0.4**
PB08				IAML		10 18 44.7	
	comp=Z,57nm,0.2s						
PB10	**IPOC Station P**	**3.80**	**259**	*eP*	**Pn**	**10 17 56.4**	**+0.3**
PB10	**IPOC Station P**	**3.80**	**259**	*eP*	**Pn**	**10 17 56.3**	**+0.2**
PB10				*eS*	**S**	**10 18 42.3**	**-1.0**
PB10				IAML		10 18 43.5	
	comp=Z,23nm,0.2s						
PB14	**IPOC Station P**	**3.99**	**243**	*eP*	**Pn**	**10 17 59.3**	**+0.5**
PB14				*eS*	**S**	**10 18 48.2**	**+0.1**
PB14				IAML		10 19 17.4	
	comp=Z,54nm,0.1s						
GO01	**Chusmiza**	**4.06**	**321**	*eP*	**Pn**	**10 18 00.3**	**+0.5**
GO01	**Chusmiza**	**4.06**	**321**	*eP*	**Pn**	**10 17 59.7**	**-0.1**
GO01				*eS*	**S**	**10 18 52.3**	**+2.4**
GO01				IAML		10 18 54.1	
	comp=E,64nm,0.1s						
PB11	**IPOC Station P**	**4.27**	**316**	*eP*	**Pn**	**10 18 01.2**	**-0.9**
PB11				*eS*	**S**	**10 18 52.3**	**-1.8**
PB11				IAML		10 18 54.3	
	comp=Z,107nm,0.2s						
AC02	**Maricunga**	**4.62**	**211**	*eP*	**Pn**	**10 18 06.4**	**-0.3**
AC02				*eS*	**S**	**10 19 03.8**	**+1.3**
AC02				IAML		10 19 10.4	
	comp=Z,13nm,0.3s						
AC01	**Pan de Azucar**	**4.97**	**228**	*eP*	**Pn**	**10 18 09.7**	**-0.9**
AC01				*eS*	**S**	**10 19 07.0**	**-2.5**
AC01				IAML		10 19 10.6	
	comp=Z,25nm,0.3s						
PB16	**IPOC Station P**	**5.32**	**327**	*eP*	**Pn**	**10 18 15.6**	**0.0**
PB16				IAML		10 19 20.9	
	comp=Z,12nm,0.7s						

IDC 26 10:19:44.5±9.6,31.94S×179.02W,h129km±94km, mb3.2/3,mbtmp3.7/4,ML3.4/1,Error ellipse: s-maj=86.3km s-min=52.9km az=172.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.06**	**206**	P	Pn	10 21 26.1	+0.9
	0.6nm,0.3s,baz=264,slow=5.3,SNR=16						
URZ				S	Sn	10 22 43.0	-1.0
	21nm,1.2s,baz=151,slow=3.2,SNR=1.7						
	12nm,0.8s						
ASAR	**Alice Springs**	**42.18**	**269**	P	P	10 27 25.2	+0.5
	0.3nm,0.7s,baz=109,slow=7.5,SNR=7.4						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**43.31**	**274**	P	P	10 27 33.5	-0.4
	0.3nm,0.5s,baz=112,slow=7.6,SNR=7.7						
	0.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**51.50**	**272**	P	P	10 28 36.7	-0.5
	1.3nm,0.6s,baz=108,slow=9.6,SNR=1.8						
	1.3nm,0.6s						
FINES	**FINESS Array B**	**146.27**	**338**	PKPbc	PKPdf	10 39 08.2	+0.4
	0.5nm,0.4s,baz=65,slow=4.7,SNR=6.3						

*SDD **26** 10:20:31.8±0.8, 19˚.18N×67˚.08W,h31km±23km,MD3.7, ML2.8,MW3.1*
*NEIC **26** 10:20:33.6±1.0, 18˚.97N±0˚.04×67˚.12W±0˚.01,h24km±11km, ML2.7/16,Md2.8/15(RSPR),Error ellipse: s-maj=6.4km s-min=1.3km az=170.0*
*OSPL **26** 10:20:33.4±0.8, 19˚.09N×67˚.03W,h44km±21km,ML2.6*
*RSPR **26** 10:20:34.8, 19˚.03N×67˚.10W,h44km±9km,MD2.8/15*

ISC 26 10:20:31.9±1.7,19.05N±0.06×67.08W±0.03,h20km±4km, n57,σ0§54/74,25C-1D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.58**	**183**		**Pn**	**10 20 44.6**	**-0.4**
AGPR					**Sn**	**10 20 54.1**	**0.0**
AGPR	**Aguadilla, PR**	**0.58**	**183**	⇑*eP*	**Pn**	**10 20 44.6**	**-0.4**
AGPR	**Aguadilla, PR**	**0.58**	**183**	*eS*	**Sn**	**10 20 54.1**	**0.0**
AGPR	**Aguadilla, PR**	**0.58**	**183**	⇑*e*	**Pn**	**10 20 44.5**	**-0.5**
AGPR				⇑*ePg*	**Pn**	**10 20 44.5**	**-0.5**
AGPR				⇑*eSg*	**Sn**	**10 20 54.0**	**0.0**
AGPR				IAML		10 20 55.2	
	comp=N,604nm,0.3s						
AGPR	**Aguadilla, PR**	**0.58**	**183**	*i P*	**Pn**	**10 20 44.7**	**-0.4**
AGPR				*eS*	**Sn**	**10 20 54.0**	**0.0**
AGPR				IAML		10 20 54.9	
	comp=Z,416nm,0.3s						
IDE	**Isla Desecheo**	**0.76**	**210**		**Pb**	**10 20 46.7**	**+0.3**
IDE					**Sn**	**10 20 58.2**	**-0.2**
IDE	**Isla Desecheo**	**0.76**	**210**	⇑*eP*	**Pb**	**10 20 46.7**	**+0.3**
IDE	**Isla Desecheo**	**0.76**	**210**	*eS*	**Sn**	**10 20 58.2**	**-0.2**
AOPR	**Arecibo Observ**	**0.76**	**156**		**Pn**	**10 20 47.8**	**+0.1**
AOPR					**Sn**	**10 20 58.4**	**-0.2**
AOPR	**Arecibo Observ**	**0.76**	**156**	IAML		10 21 00.4	
	comp=E,348nm,0.4s						
AOPR	**Arecibo Observ**	**0.76**	**156**	⇑*eP*	**Pn**	**10 20 47.8**	**+0.1**
AOPR	**Arecibo Observ**	**0.76**	**156**	*eS*	**Sn**	**10 20 58.4**	**-0.2**
EMPR	**Esperanza - Ma**	**0.77**	**137**		**Pn**	**10 20 48.5**	**+0.7**
EMPR					**Sn**	**10 21 00.6**	**+1.8**
EMPR	**Esperanza - Ma**	**0.77**	**137**	⇑*eP*	**Pn**	**10 20 48.5**	**+0.7**
EMPR	**Esperanza - Ma**	**0.77**	**137**	*eS*	**Sn**	**10 21 00.6**	**+1.8**
PRSN	**Puerto Rico Se**	**0.83**	**184**		**Pg**	**10 20 48.3**	**+0.1**
PRSN					**Sn**	**10 21 00.8**	**+0.6**
PRSN	**Puerto Rico Se**	**0.83**	**184**	⇑*eP*	**Pg**	**10 20 48.3**	**+0.1**
PRSN	**Puerto Rico Se**	**0.83**	**184**	*eS*	**Sn**	**10 21 00.8**	**+0.6**
UUPR	**Utuado, UPR, P**	**0.86**	**156**		**Pn**	**10 20 49.2**	**+0.2**
UUPR					**Sb**	**10 20 59.2**	**-0.2**
UUPR	**Utuado, UPR, P**	**0.86**	**156**	⇑*eP*	**Pn**	**10 20 49.2**	**+0.2**
UUPR	**Utuado, UPR, P**	**0.86**	**156**	*eS*	**Sb**	**10 20 59.2**	**-0.2**
LSP	**Las Mesas**	**0.87**	**180**		**Pn**	**10 20 49.2**	**+0.2**
LSP					**Sg**	**10 21 00.6**	**+0.1**
LSP	**Las Mesas**	**0.87**	**180**	⇑*eP*	**Pn**	**10 20 49.2**	**+0.2**
LSP	**Las Mesas**	**0.87**	**180**	*eS*	**Sg**	**10 21 00.6**	**+0.1**
ECPR	**Experimental S**	**0.99**	**137**	⇑*eP*	**Pn**	**10 20 51.4**	**+0.5**
ECPR	**Experimental S**	**0.99**	**137**	*eS*	**Sb**	**10 21 01.8**	**-1.4**
CRPR	**Cabo Rojo, PR**	**1.04**	**181**		**Pn**	**10 20 51.7**	**+0.4**
CRPR					**Sb**	**10 21 04.3**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.04**	**181**	IAML		10 21 09.9	
	comp=N,166nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.04**	**181**	⇑*eP*	**Pn**	**10 20 51.7**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.04**	**181**	*eS*	**Sb**	**10 21 04.3**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.04**	**181**	⇑*ePg*	**Pn**	**10 20 51.8**	**+0.4**
CRPR				⇑*eSg*	**Sn**	**10 21 06.1**	**+0.8**
CRPR				IAML		10 21 13.2	
	comp=N,197nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.04**	**181**	*i P*	**Pn**	**10 20 51.6**	**+0.3**
CRPR				*eS*	**Sb**	**10 21 04.1**	**-0.3**
CRPR				IAML		10 21 06.6	
	comp=Z,130nm,0.3s						
MLPR	**Magueyes Islan**	**1.07**	**178**	⇑*eP*	**Pn**	**10 20 52.1**	**+0.3**
MLPR	**Magueyes Islan**	**1.07**	**178**	*eS*	**Sg**	**10 21 06.6**	**-0.3**
MLPR	**Magueyes Islan**	**1.07**	**178**	⇑*ePg*	**Pn**	**10 20 52.1**	**+0.3**
MLPR				⇓*eSg*	**Sn**	**10 21 07.2**	**+1.0**
MLPR				IAML		10 21 07.8	
	comp=N,44nm,0.3s						
CELP	**Cerrillos**	**1.08**	**154**		**Pg**	**10 20 52.5**	**-0.4**
CELP					**Sb**	**10 21 05.2**	**-0.4**
CELP	**Cerrillos**	**1.08**	**154**	⇑*eP*	**Pg**	**10 20 52.5**	**-0.4**
CELP	**Cerrillos**	**1.08**	**154**	*eS*	**Sb**	**10 21 05.2**	**-0.4**
CELP	**Cerrillos**	**1.08**	**154**	⇑*ePg*	**Pg**	**10 20 52.5**	**-0.4**
CELP				⇑*eSg*	**Sn**	**10 21 07.2**	**+0.8**
CELP				IAML		10 21 09.7	
	comp=N,272nm,0.2s						
OBIP	**Obispado Ponce**	**1.10**	**156**		**Pg**	**10 20 52.8**	**-0.4**
OBIP					**Sb**	**10 21 05.5**	**-0.7**
OBIP	**Obispado Ponce**	**1.10**	**156**	IAML		10 21 09.9	
	comp=N,196nm,0.2s						
OBIP				IAML		10 21 13.9	
	comp=E,171nm,0.3s						
OBIP	**Obispado Ponce**	**1.10**	**156**	⇑*eP*	**Pg**	**10 20 52.8**	**-0.4**
OBIP	**Obispado Ponce**	**1.10**	**156**	*eS*	**Sb**	**10 21 05.5**	**-0.7**
GCPR	**Guaynabo City**	**1.20**	**128**		**Pb**	**10 20 53.8**	**-0.2**
GCPR					**Sb**	**10 21 08.3**	**-0.7**
GCPR	**Guaynabo City**	**1.20**	**128**	⇑*eP*	**Pb**	**10 20 53.8**	**-0.2**
GCPR	**Guaynabo City**	**1.20**	**128**	*eS*	**Sb**	**10 21 08.3**	**-0.7**
SJG	**San Juan**	**1.28**	**136**	Pn	**Pb**	**10 20 55.5**	**+0.1**
SJG				IAML		10 21 18.5	
	comp=E,118nm,0.2s						
SJG				IAML		10 21 20.3	
	comp=E,131nm,0.2s						
SJG	**San Juan**	**1.28**	**136**	*i* P	**Pn**	**10 20 54.0**	**-0.7**
SJG				IAML		10 21 18.9	
	comp=Z,58nm,0.7s						
IGPR	**InterUniversit**	**1.42**	**139**		**Pb**	**10 20 58.1**	**+0.4**
IGPR					**Sg**	**10 21 18.1**	**+0.1**
IGPR	**InterUniversit**	**1.42**	**139**	⇑*eP*	**Pb**	**10 20 58.1**	**+0.4**
IGPR	**InterUniversit**	**1.42**	**139**	*eS*	**Sg**	**10 21 18.1**	**+0.1**
PDPR	**Patillas Dam,**	**1.44**	**135**		**Pb**	**10 20 58.2**	**+0.2**
PDPR				IAML		10 21 23.8	
	comp=N,111nm,0.1s						
PDPR				IAML		10 21 24.7	
	comp=E,84nm,0.2s						
PDPR	**Patillas Dam,**	**1.44**	**135**	⇑*eP*	**Pb**	**10 20 58.2**	**+0.2**
PDPR	**Patillas Dam,**	**1.44**	**135**	*eS*	**Sn**	**10 21 15.0**	**-0.2**
HUMP	**Col San Antoni**	**1.48**	**127**		**Pb**	**10 20 58.4**	**-0.3**
HIDR	**Higuey Centro**	**1.61**	**254**	⇑*e*Pg	**Pn**	**10 20 58.7**	**-0.6**
HIDR				⇑*e*Sg	**Sn**	**10 21 20.1**	**+0.6**
HIDR				IAML		10 21 26.9	
	comp=N,183nm,0.2s						
SDDR	**Presa de Saban**	**3.98**	**270**		**Pn**	**10 21 32.5**	**+0.5**

*IDC **26** 10:31:37.9±0.7,26˚.13N×129˚.31E,h0km,mb4.4/26, mbtmp4.3/30,ML4.0/3,MS3.3/11,Error ellipse: s-maj=17.1km s-min=14.8km az=69.0*
*BJI **26** 10:31:38.1,25˚.96N×129˚.31E,h10km,mB4.6/8,mb4.5/29, Ms4.0/17,Ms7 3.7/17*
*MOS **26** 10:31:38.8±0.9,26˚.14N×129˚.36E,h17km,mb4.9/23,Error ellipse: s-maj=10.5km s-min=5.4km az=106.7*
*NEIC **26** 10:31:40.4±1.8,26˚.12N±0˚.07×129˚.42E±0˚.04,h10km±1km, mb4.9/74,Error ellipse: s-maj=12.7km s-min=3.6km az=202.0*
*NIED **26** 10:31:40.3,26˚.12N×129˚.43E,h45km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.99; $M_{\theta\theta}$2.58; $M_{\phi\phi}$0.41; $M_{r\theta}$-2.50; $M_{\theta\phi}$1.26; $M_{\theta r}$-0.12; Fault plane solution: $M_0$3.97000×10^{15} NP1: ϕ_s232.00000°,δ28.00000°,λ-114.00000°. NP2: ϕ_s79.00000°,δ65.00000°,λ-78.00000°.*
*JMA **26** 10:31:40.3±0.1,26˚.1N±1˚.0×129˚.4E±0˚.6,h45km,MD4.1/18, MV4.5/18,NEAR MINAMI-DAITOJIMA IS*

ISC 26 10:31:39.8±0.8,26.14N±0.04×129.40E±0.04,h11km±4km, n213,σ1§46/197,mb4.8/78,MS3.7/13,11C-3D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**1.22**	**305**		**Pn**	**10 32 02.2**	**-0.6**
JOW	**Kunigami**	**1.22**	**305**	Pn	**Pn**	**10 32 01.9**	**-0.9**
	334nm,0.3s,baz=123,slow=22,SNR=1748						
JOW				Sn	**Sb**	**10 32 15.5**	**-3.1**
	996nm,0.3s,baz=119,slow=20,SNR=18						
JOW				LR	LR	10 32 41.7	
	comp=Z,2μm,19.5s,baz=188,slow=55						
JOW	**Kunigami**	**1.22**	**305**	P	**Pn**	**10 32 02.1**	**-0.7**
JOW	**Kunigami**	**1.22**	**305**	*i* P	**Pn**	**10 32 02.2**	**-0.6**
JOW				*eS*	**Sb**	**10 32 16.4**	**-2.2**
JOW	**Kunigami**	**1.22**	**305**	A	A	10 32 02.2	
	comp=N,5.0nm,0.8s,comp=E,9.0nm,0.8s						
JYRO	**Yoronjima**	**1.22**	**316**	*i* P	**Pn**	**10 32 02.1**	**-0.7**
JYRO				S	**Sb**	**10 32 16.6**	**-2.1**
JYRO	**Yoronjima**	**1.22**	**316**	A	A	10 32 02.1	
	comp=N,5.0nm,3.0s,comp=E,7.0nm,1.7s						
JNTH	**Nagotoyohara**	**1.29**	**287**	*i* P	**Pn**	**10 32 02.8**	**-0.9**
JOKE	**Okinoerabujima**	**1.42**	**329**	*i* P	**Pn**	**10 32 05.1**	**-0.5**
JJT3	**Tamagusuku3**	**1.45**	**271**	*i* P	**Pn**	**10 32 05.4**	**-0.5**
JJT3				S	**Sn**	**10 32 23.4**	**-1.6**
JJT3	**Tamagusuku3**	**1.45**	**271**	A	A	10 32 05.4	
	comp=N,10.0nm,0.8s,comp=E,6.0nm,0.7s						
JIH	**Iheya**	**1.56**	**305**	*i* P	**Pn**	**10 32 07.1**	**-0.3**
JIH				S	**Sn**	**10 32 25.4**	**-2.3**
JIH	**Iheya**	**1.56**	**305**	A	A	10 32 07.1	
	comp=N,7.0nm,1.3s,comp=E,5.0nm,0.9s						
JMZ	**Minamidaito 2**	**1.68**	**101**	Pn	**Pn**	**10 32 07.5**	**-1.6**
JMZ	**Minamidaito 2**	**1.68**	**101**	P	**Pn**	**10 32 07.3**	**-1.8**
JMZ	**Minamidaito

HNS pmax pmax
comp=E,12nm,0.9s
HNS LR LR
comp=E,170nm,15.9s
HNS LR LR
comp=E,360nm,15.5s
HNS LR LR
comp=E,270nm,14.7s
JTM Tenmabayashi 17.53 31 Pn **Pn** **10 35 44.3 +0.2**
CN2 Changchun 17.91 351 *eP* **P** **10 35 52.3 +2.9**
CN2 *eS* **Sn** **10 39 06.8 -1.7**
CN2 pmax pmax
comp=E,20nm,0.3s
CN2 pmax pmax
comp=E,200nm,6.0s
CN2 LR LR
comp=E,200nm,14.0s
CN2 LR LR
comp=E,200nm,14.0s
CN2 LR LR
comp=E,300nm,15.1s
USRK Ussuriysk Ar. 18.14 6 P **P** **10 35 53.0 +1.1**
comp=E,0.3nm,0.3s,baz=176,slow=8.4,SNR=9.6
comp=E,3.0nm,0.6s
GUMO Guam 19.15 128 LR LR 10 41 51.1
comp=E,38nm,20.4s,baz=302,slow=32
DAV Davao City (W) 19.31 192 LR LR 10 44 56.2
comp=E,98nm,18.1s,baz=358,slow=41
XAN Xi'an 19.36 299 P **P** **10 36 05.5 -0.1**
XAN S **Sn** **10 39 43.3 -0.6**
XAN pmax pmax
comp=E,20nm,0.8s
XAN LR LR
comp=E,320nm,13.1s
XAN LR LR
comp=E,250nm,15.1s
XAN LR LR
comp=E,300nm,19.2s
BNX BinXian 19.62 356 ⇓P **Pn** **10 36 13.0 +3.4**
BNX pmax pmax
comp=E,9.0nm,0.9s
HHC Hu-ho-hao-te 20.83 319 *e*P Pn 10 36 23.5 -0.5
HHC pmax pmax
comp=E,14nm,0.6s
HHC pmax pmax
comp=E,120nm,4.9s
HHC LR LR
comp=E,220nm,14.2s
HHC LR LR
comp=E,310nm,17.6s
HHC LR LR
comp=E,340nm,16.6s
ASAJ Asahikawa 20.89 27 P **P** **10 36 21.8 -0.2**
comp=E,5.5nm,0.9s,baz=211,slow=20,SNR=8.6
comp=E,5.5nm,0.9s
ASAJ Asahikawa 20.89 27 P **P** **10 36 22.2 +0.2**
ASAJ pmax pmax
comp=E,13nm,0.8s
JKA Kamikawa-asahi 20.89 27 P **P** **10 36 22.2 +0.2**
CD2 Chengdu 23.00 288 P **P** **10 36 46.0 +1.2**
CD2 pmax pmax
comp=E,20nm,0.4s
YSS Yuzhno-Sakhali 23.32 24*ce*P **P** **10 36 48.3 +0.5**
YSS pmax pmax
comp=E,11nm,0.6s
LZH Lanzhou 23.96 301 *e*P P 10 36 43.3 -11
LZH sP pP 10 36 54.0 -1.9
LZH pmax pmax
comp=E,28nm,1.3s
LZH LR LR
comp=N,280nm,12.4s
LZH LR LR
comp=E,180nm,12.0s
LZH LR LR
comp=E,240nm,12.4s
LZDM Lanzhou Array 24.03 300 P **P** **10 36 54.1 -1.1**
comp=E,2.8nm,0.3s,baz=159,slow=9.4,SNR=5.6
comp=E,2.8nm,0.3s
HIA Hailar 24.28 345 P **P** **10 36 57.7 +0.7**
HIA pmax pmax
comp=E,6.0nm,0.8s
PZH PanZhiHua 24.77 277 P **P** **10 37 02.8 +0.9**
GRNR Gornyy 25.18 11 ⇓*i*P **P** **10 37 06.2 +1.1**
GRNR pmax pmax
comp=E,20nm,1.1s
GRNR MLR MLR
comp=E,240nm,15.0s
GRNR MLR MLR
comp=N,190nm,16.0s
GRNR MLR MLR
comp=E,260nm,16.0s
TOLI2 Tolitoli 26.23 200 P **P** **10 37 16.8 +1.8**
TYV Tymovskoe 26.69 19 *e*P P 10 37 05.0 -14
TYV pmax pmax
comp=E,300nm,5.3s
TYV pmax pmax
comp=E,7.0nm,1.6s
ZEA Zeya 27.61 357 *e*P **P** **10 37 29.2 +2.1**
ULN Ulaanbaatar 27.90 327 *e*P **P** **10 37 29.1 -0.8**
ULN pmax pmax
comp=E,1.0nm,0.8s
GTA Gaotai 28.03 306 *e*P **P** **10 37 30.8 -0.4**
GTA pmax pmax
comp=E,6.0nm,0.6s
GTA LR LR
comp=E,170nm,14.2s
GTA LR LR
comp=E,170nm,15.6s
GTA LR LR
comp=E,230nm,14.9s
SONM Songino Array 28.20 326 P **P** **10 37 31.3 -1.3**
comp=E,0.4nm,0.4s,baz=140,slow=10,SNR=4.2
SONM LR LR 10 50 17.9
comp=E,71nm,18.6s,baz=130,slow=40
comp=E,0.4nm,0.4s
JAY Jayapura 30.52 157 LR LR 10 48 56.0
comp=E,69nm,20.0s,baz=206,slow=34
PETK Petropavlovsk- 34.24 31 P **P** **10 38 26.4 +0.9**
PETK Petropavlovsk- 34.24 31 P **P** **10 38 25.8 +0.2**
comp=E,7.2nm,0.8s,baz=213,slow=7.5,SNR=5.3
PETK LR LR 10 54 43.7
comp=E,32nm,18.4s,baz=210,slow=40
comp=E,7.2nm,0.8s
PETK Petropavlovsk- 34.24 31 P **P** **10 38 26.4 +0.9**
YAK Yakutsk 35.88 0 LR LR 10 54 09.4
comp=E,55nm,18.0s,baz=170,slow=38
YAK Yakutsk 35.88 0*ce*P **P** **10 38 39.6 +0.1**
YAK pmax pmax
comp=E,24nm,1.3s
WMQ Urumqi 37.99 309 *e*P **P** **10 39 00.0 +2.2**
WMQ LR LR
comp=E,120nm,20.7s
PMG Port Moresby 39.33 152 LR LR 10 52 56.9
comp=E,40nm,21.9s,baz=300,slow=32
SEY Seymchan 39.81 16 P **P** **10 39 12.5 -0.2**
comp=E,4.2nm,0.7s,baz=215,slow=8.0,SNR=10
comp=E,4.2nm,0.7s
ZSN Zaisan 40.82 313 *e*P **P** **10 39 20.8 -0.7**
ZSN Zaisan 40.82 313 *e*P **P** **10 39 20.7 -0.7**
KNRA Kununurra 41.57 181 P **P** **10 39 28.5 +0.8**
KNRA IAmb IAmb 10 39 39.6
comp=E,9.6nm,0.6s
MK31 Makanchi Array 42.37 312*ce*P **P** **10 39 34.6 +0.5**
MKAR Makanchi Array 42.37 312 **P** **10 39 33.7 -0.4**
MKAR Makanchi Array 42.37 312 P **P** **10 39 33.3 -0.8**
comp=E,2.1nm,0.5s,baz=96,slow=9.7,SNR=20
MKAR PcP **PcP** **10 41 27.1 -0.2**
comp=E,1.5nm,0.9s,baz=97,slow=5.8,SNR=4.3
comp=E,2.1nm,0.5s
MKAR Makanchi Array 42.37 312 *i* P **P** **10 39 33.5 -0.6**
MKAR pmax pmax
comp=E,2.0nm,0.5s
ZAA0 Zalesovo Array 42.95 322 P **P** **10 39 38.0 -0.7**
ZALV Zalesovo Beam 42.95 322 **P** **10 39 38.2 -0.5**
ZALV Zalesovo Beam 42.95 322 P **P** **10 39 37.4 -1.3**
comp=E,3.7nm,0.5s,baz=108,slow=8.4,SNR=13
comp=E,3.7nm,0.5s
ZALV Zalesovo Beam 42.95 322 *i* P **P** **10 39 37.9 -0.8**
ZALV pmax pmax
comp=E,4.0nm,0.6s
SHLS Shalkode 43.78 306 *e*P **P** **10 39 42.3 -3.3**
SHLS Shalkode 43.78 306 *e*P **P** **10 39 42.3 -3.3**
UZB Uzynbulak 44.09 306 *e*P **P** **10 39 47.7 -0.6**
UZB Uzynbulak 44.09 306 *e*P **P** **10 39 47.6 -0.6**
FITZ Fitzroy Crossi 44.12 185 P **P** **10 39 48.6 +0.2**
KPKS Kokpek 44.37 306 *e*P **P** **10 39 50.0 -0.5**
KPKS Kokpek 44.37 306 *e*P **P** **10 39 49.9 -0.5**

SATY Saty 44.54 306 *e*P **P** **10 39 51.2 -0.5**
SATY Saty 44.54 306 *e*P **P** **10 39 51.2 -0.5**
TDK Taldyqorghan 44.75 308 *e*P **P** **10 39 53.1 -0.2**
TDK Taldyqorghan 44.75 308 *e*P **P** **10 39 53.0 -0.2**
MDOK Medeo 45.54 306 *e*P **P** **10 39 59.2 -0.6**
MDOK Medeo 45.54 306 *e*P **P** **10 39 59.1 -0.6**
KURK Kurchatov 45.60 316 P **P** **10 39 59.6 -0.3**
KURBB Kurchatov Arra 45.64 316 P **P** **10 39 59.6 -0.6**
comp=E,2.3nm,0.5s,baz=103,slow=9.0,SNR=11
comp=E,2.3nm,0.5s
WB0 Warramunga Arr 45.89 173 **P** **10 40 02.6 +0.1**
WB0 IAmb IAmb 10 40 14.7
comp=E,7.0nm,0.8s
WRAB Tennant Creek 46.05 174 P **P** **10 40 03.9 +0.2**
WRAB IAmb IAmb 10 40 16.1
comp=E,7.9nm,0.8s
WRAB Tennant Creek 46.05 174 P **P** **10 40 03.9 +0.2**
WRAB pmax pmax
comp=E,8.0nm,0.9s
WRA Warramunga Arr 46.06 174 P **P** **10 40 03.3 -0.5**
comp=E,2.8nm,0.8s,baz=348,slow=7.7,SNR=20
WRA LR LR 11 01 10.4
comp=E,80nm,18.8s,baz=294,slow=38
comp=E,2.8nm,0.8s
WRA Warramunga Arr 46.06 174 *i* P **P** **10 40 03.5 -0.3**
WRA pmax pmax
comp=E,2.0nm,0.5s
WR8 Warramunga Arr 46.09 173 P **P** **10 40 04.0 0.0**
SGDS Sogindy 47.31 306 *e*P **P** **10 40 13.2 -0.4**
BILL Bilibino 47.43 18*ce*P **P** **10 40 14.0 0.0**
BILL pmax pmax
comp=E,8.0nm,1.0s
BTLS Baital 47.83 308 *e*P **P** **10 40 17.3 -0.2**
BTLS Baital 47.83 308 *e*P **P** **10 40 17.2 -0.2**
PSA00 Pilbara Seismi 48.33 192 P **P** **10 40 22.8 +1.4**
CTAO Charters Tower 48.78 159 P **P** **10 40 24.7 -0.3**
CTAO Charters Tower 48.78 159 P **P** **10 40 24.7 -0.3**
CTAO pmax pmax
comp=E,33nm,1.6s
AS31 Alice Springs 49.70 175 **P** **10 40 31.9 -0.2**
ASAR Alice Springs 49.70 175 P **P** **10 40 32.6 +0.5**
ASAR Alice Springs 49.70 175 P **P** **10 40 32.0 0.0**
comp=E,1.3nm,0.8s,baz=353,slow=7.7,SNR=22
ASAR LR LR 11 02 41.9
comp=E,52nm,19.6s,baz=268,slow=38
comp=E,1.3nm,0.8s
ASAR Alice Springs 49.70 175 P **P** **10 40 32.6 +0.5**
DZA Taraz 49.71 305 *e*P **P** **10 40 31.7 -0.3**
DZA Taraz 49.71 305 *e*P **P** **10 40 31.7 -0.3**
KKAR Karatay Array 50.31 305 **P** **10 40 37.0 +0.4**
KKAR Karatay Array 50.31 305 P **P** **10 40 37.0 +0.4**
IUG luzhnay 50.68 304 *e*P **P** **10 40 39.2 -0.4**
comp=E,6.9nm,0.5s
IUG luzhnay 50.68 304 *e*P **P** **10 40 39.1 -0.4**
IUG pmax pmax
comp=E,7.0nm,0.5s
BRLS Boroldoy 50.81 305 *e*P **P** **10 40 40.7 +0.3**
BRLS Boroldoy 50.81 305 *e*P **P** **10 40 40.6 +0.3**
CHM Chimkent 51.00 304 *e*P **P** **10 40 41.2 -0.6**
CHM Chimkent 51.00 304 *e*P **P** **10 40 41.1 -0.6**
BVAR Borovoye Array 51.04 318 P **P** **10 40 41.5 -0.4**
comp=E,3.9nm,0.5s,baz=78,slow=8.5,SNR=22
comp=E,3.9nm,0.5s
BORK Borovoye 51.08 318*ce*P **P** **10 40 42.7 +0.5**
BORK pmax pmax
comp=E,8.0nm,0.8s
ABKAR Akbulak array 57.47 313 **P** **10 41 29.2 +0.5**
ARTI Arti 58.21 322 **P** **10 41 33.8 0.0**
ARTI Arti 58.21 322*c i*P **P** **10 41 33.5 -0.3**
ARTI 10 42 21.5
ARTI S **S** **10 49 35.6 +0.3**
ARTI SS **SS** **10 53 23.8 -2.8**
ARTI pmax pmax
comp=E,11nm,0.7s
C18K Utukok River 58.43 24 P **P** **10 41 36.3 +1.0**
C18K IAmb IAmb 10 41 37.2
comp=E,15nm,1.1s
D19K Kuna River 59.53 24 P **P** **10 41 44.4 +1.4**
D19K IAmb IAmb 10 41 45.2
comp=E,12nm,1.1s
E19K Redstone River 59.77 25 P **P** **10 41 45.9 +1.4**
E19K IAmb IAmb 10 41 46.7
comp=E,5.2nm,0.8s
H19K Roundabout Mou 59.96 28 **P** **10 41 46.0 +0.2**
B21K Ikpikpuk River 60.88 23 P **P** **10 41 53.4 +1.3**
E21K Kíllik River 61.06 24 IAmb IAmb 10 41 55.5
comp=E,6.7nm,1.1s
IMAR Indian Mountai 61.09 27 P **P** **10 41 54.7 +1.2**
MLY Manley 62.36 28 **P** **10 42 03.8 +1.5**
MLY IAmb IAmb 10 42 04.6
comp=E,6.0nm,1.1s
G23K Bananza Creek 62.58 26 IAmb IAmb 10 42 05.5
comp=E,6.3nm,1.0s
H23K Yukon River 62.82 27 IAmb IAmb 10 42 08.1
comp=E,7.0nm,0.8s
KIRV Kirov 62.92 325*ce*P **P** **10 42 07.7 +1.8**
NEA2 Nenana 63.10 29 P **P** **10 42 08.4 +1.3**
F24K Squaw Lake 63.37 25 IAmb IAmb 10 42 11.3
comp=E,6.2nm,0.8s
ILAR Eielson Array 64.02 28 P **P** **10 42 12.7 -0.5**
comp=E,0.9nm,0.8s,baz=264,slow=6.1,SNR=8.2
comp=E,0.9nm,0.8s
HDA Harding Lake 64.03 29 IAmb IAmb 10 42 13.9
comp=E,6.0nm,0.8s
F26K Sheenjek River 64.77 25 IAmb IAmb 10 42 21.2
comp=E,7.6nm,1.0s
J26L Joseph Creek 65.47 28 IAmb IAmb 10 42 23.7
comp=E,6.3nm,0.8s
M26K Nabesna, AK 66.09 31 IAmb IAmb 10 42 28.7
comp=E,9.5nm,1.1s
AKT Akhty 67.23 306 *e*P **P** **10 42 32.0 -2.4**
AKT *e* 10 42 59.3
AKT pmax pmax
comp=E,18nm,1.2s
G30M tAoh Zraii Nji 67.92 25 IAmb IAmb 10 42 39.4
comp=E,8.1nm,1.0s
L29M L29M 68.12 29 IAmb IAmb 10 42 42.3
comp=E,11nm,1.1s
I30M Mount Dempster 68.32 27 IAmb IAmb 10 42 43.3
comp=E,17nm,1.8s
H31M Peel River 68.97 26 **P** **10 42 46.0 +1.2**
H31M IAmb IAmb 10 42 46.5
comp=E,7.7nm,0.8s
SPITS Spitsbergen Ar 69.13 348 P **P** **10 42 45.6 0.0**
comp=E,11nm,0.9s,baz=79,slow=5.2,SNR=12
comp=E,11nm,0.9s
KBS Kingsbay 69.53 349*ce*P **P** **10 42 49.0 +1.0**
KBS pmax pmax
comp=E,13nm,1.0s
KBZ Khabaz 70.02 310 P **P** **10 42 52.5 +0.9**
comp=E,7.4nm,0.8s,baz=91,slow=3.9,SNR=12
comp=E,7.4nm,0.8s
KBZ Khabaz 70.02 310*ce*P **P** **10 42 53.3 +1.7**
KIV Kislovodsk 70.10 310 *e*P **P** **10 42 53.8 +1.5**
KIV pmax pmax
comp=E,10.0nm,1.1s
ARCES ARCESS Array B 70.47 339 P **P** **10 42 53.9 -0.1**
comp=E,4.2nm,0.8s,baz=74,slow=8.9,SNR=14
comp=E,4.2nm,0.8s
OBN Obninsk 70.54 323⇓*e*P **P** **10 42 54.6 0.0**
OBN *e**PP **sP** **10 42 58.1 +1.5**
OBN *SP **pwP** **10 43 02.0 -2.9**
OBN 10 43 14.0
OBN *eSS SS 10 56 33.3 -5.1
OBN *eSSS SSS 10 59 43.2
OBN pmax pmax
comp=E,8.0nm,0.6s
FINES FINESS Array B 73.45 331 P **P** **10 43 12.0 0.0**
comp=E,6.4nm,0.7s,baz=66,slow=4.9,SNR=22
comp=E,6.4nm,0.7s
FINES FINESS Array B 73.45 331 *i* P **P** **10 43 12.1 +0.1**
FINES pmax pmax
comp=E,6.0nm,0.7s
AKASG Malin Array Be 76.28 320 P **P** **10 43 28.0 -0.5**
comp=E,3.8nm,0.6s,baz=58,slow=6.1,SNR=18
comp=E,3.8nm,0.6s
AKASG Malin Array Be 76.28 320 *i* P **P** **10 43 27.1 -1.4**
AKASG pmax pmax
comp=E,3.0nm,0.5s
AKBB Malin Array Si 76.28 320 IAmb IAmb 10 43 28.8
comp=E,6.1nm,0.6s
AKBB Malin Array Si 76.28 320*ce*P **P** **10 43 28.3 -0.2**
AKBB pmax pmax
comp=E,5.0nm,0.6s
KIEV Kiev 76.29 320 P **P** **10 43 28.4 -0.1**

KIEV IAmb IAmb 10 43 28.8
comp=E,5.3nm,0.6s
KIEV Kiev 76.29 320 P **P** **10 43 28.5 -0.1**
KIEV pmax pmax
comp=E,5.0nm,0.6s
BR131 Keskin Array S 77.91 308 P **P** **10 43 37.9 -0.3**
BR131 IAmb IAmb 10 43 39.4
comp=E,6.5nm,0.9s
BR131 Keskin Array S 77.91 308 P **P** **10 43 37.9 -0.3**
BR131 pmax pmax
comp=E,7.0nm,0.9s
BRTR Keskin Array B 77.91 308 **P** **10 43 37.8 -0.3**
BRTR Keskin Array B 77.91 308 P **P** **10 43 38.2 0.0**
comp=E,4.0nm,0.8s,baz=86,slow=3.5,SNR=16
comp=E,4.0nm,0.8s
BRTR Keskin Array B 77.91 308 *i* P **P** **10 43 38.5 +0.4**
BRTR pmax pmax
comp=E,4.0nm,0.8s
YKA Yellowknife Ar 78.16 25 P **P** **10 43 39.1 +0.3**
comp=E,1.2nm,0.8s,baz=309,slow=4.6,SNR=3.5
comp=E,1.2nm,0.8s
HFS Hagfors 79.38 333 P **P** **10 43 45.3 -0.3**
comp=E,8.7nm,1.0s,baz=74,slow=6.3,SNR=10
comp=E,8.7nm,1.0s
NC405 NORSAR Array S 79.61 334 P **P** **10 43 47.0 +0.1**
NC405 IAmb IAmb 10 43 47.6
comp=E,13nm,1.1s
NB2 NORSAR Subarra 79.85 334 P **P** **10 43 48.0 -0.2**
comp=E,2.1nm,0.6s,baz=51,slow=5.6
NOA NORSAR Array B 79.85 334 P **P** **10 43 47.5 -0.8**
comp=E,2.6nm,0.6s,baz=51,slow=5.5,SNR=14
comp=E,2.6nm,0.6s
SUMG Summit 81.19 356 P **P** **10 43 56.1 +0.4**
SUMG Summit 81.19 356 P **P** **10 43 56.1 +0.4**
SUMG pmax pmax
comp=E,68nm,2.0s
RDO Rodhopi 82.84 312 IAmb IAmb 10 44 05.7
comp=E,6.3nm,1.1s
CLL Collm 84.82 326 *i* P **P** **10 44 14.9 +0.6**
CLL pmax pmax
comp=E,7.0nm,1.0s
CLL Collm 84.82 326 *i* P **P** **10 44 14.9 +0.6**
comp=E,7.0nm,1.0s
NEW Newport 85.03 38 IAmb IAmb 10 44 17.5
comp=E,14nm,1.5s
PINE Pine Mountain 85.23 43 **P** **10 44 18.2 +1.4**
GERES GERESS Array B 85.90 323 P **P** **10 44 19.6 -0.4**
comp=E,1.5nm,0.7s,baz=54,slow=6.8,SNR=8.3
comp=E,1.5nm,0.7s
BMO Blue Mountains 86.84 41 IAmb IAmb 10 46 10.7
comp=E,9.0nm,1.6s
J08A Circle Bar Ran 86.97 43 IAmb IAmb 10 44 27.4
comp=E,5.5nm,0.8s
SFJD Kangerlussuaq 87.16 0 P **P** **10 44 25.3 -0.3**
comp=E,8.2nm,0.8s,baz=336,slow=7.0,SNR=4.0
comp=E,8.2nm,0.8s
WVOR Wild Horse Val 87.39 43 IAmb IAmb 10 44 29.6
comp=E,8.2nm,1.3s
MFID Camas Ranch 88.53 41 IAmb IAmb 10 44 36.1
comp=E,12nm,1.6s
DLMT Dillon 89.25 38 IAmb IAmb 10 44 38.0
comp=E,4.5nm,0.8s
HLID Hailey 89.28 41 **P** **10 44 37.3 +0.9**
HLID IAmb IAmb 10 44 39.2
comp=E,14nm,1.8s
EKA Eskdalemuir Ar 89.30 335 P **P** **10 44 35.7 -0.3**
comp=E,0.4nm,0.4s,baz=46,slow=4.8,SNR=3.7
comp=E,0.4nm,0.4s
NVAR Mina Array Bea 89.81 47 P **P** **10 44 40.0 +0.9**
comp=E,1.0nm,0.8s,baz=287,slow=5.7,SNR=8.6
comp=E,1.0nm,0.8s
TPNV Topopah Spring 91.99 47 IAmb IAmb 10 45 38.0
comp=E,3.1nm,0.5s
HWUT Hardware Ranch 92.14 41 IAmb IAmb 10 44 53.0
comp=E,5.4nm,1.1s
PDAR Pinedale Array 92.58 39 P **P** **10 44 52.4 +0.6**
comp=E,0.3nm,0.6s,baz=283,slow=7.9,SNR=4.7
comp=E,0.3nm,0.6s
V12A Nelson 93.62 47 IAmb IAmb 10 44 58.8
comp=E,3.5nm,1.0s
KNB Kanab 94.17 45 **P** **10 44 58.0 -1.2**
KNB IAmb IAmb 10 45 02.0
comp=E,7.4nm,1.1s
KNB Kanab 94.17 45 P **P** **10 44 58.0 -1.2**
KNB pmax pmax
comp=E,7.0nm,1.1s
IRM Iron Mountain 94.33 49 IAmb IAmb 10 45 02.1
comp=E,8.6nm,1.2s
MBAR Mbarara 98.04 273 LR LR 11 31 50.3
comp=Z,1μm,20.2s,baz=356,slow=37

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*NNC **26** 10:40:09.5±1.3,42.°10N×78.°90E,h0km,mb3.5,mpv2.9,*
Error ellipse: s-maj=8.5km s-min=6.0km az=140.0
*SOME **26** 10:40:09.4,42.°13N×78.°80E,h10km*
*KRNET **26** 10:40:10.2±0.1,42.°13N×78.°76E,h22km,mb2.4*
ISC 26 10:40:09.5±1.7,42.°10N±0.°05×78.°81E±0.°06,h12km±11km,
n20,σ0°98/36,6C-4D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**0.49**	**321**	⇑*e*P	**Pg**	**10 40 19.2**	**+0.1**
PRZ				⇑*e*S	**Sb**	**10 40 25.9**	**-1.5**
TARG	**Taragay, Kyrgy**	**0.84**	**244**	⇓*e*P	**Pg**	**10 40 25.6**	**-0.2**
TARG				⇓*e*S	**Sg**	**10 40 36.9**	**+0.1**
SATY	**Saty**	**1.00**	**343**	P	**Pn**	**10 40 29.4**	**-0.1**
SATY	3.3nm,0.1s			S	**Sn**	**10 40 44.0**	**+0.4**
	18nm,0.1s						
UZB	**Uzynbulak**	**1.05**	**8**	*e*P	**Pg**	**10 40 29.0**	**-0.8**
UZB	1.4nm,0.2s			*e*S	**Sb**	**10 40 43.2**	**-0.5**
	14nm,0.2s						
KDJ	**Kajisay**	**1.22**	**272**	⇓*e*P	**Pb**	**10 40 31.6**	**-0.9**
KDJ				⇓*e*S	**Sb**	**10 40 47.3**	**-0.9**
KPKS	**Kokpek**	**1.37**	**356**	P	**Pn**	**10 40 34.5**	**0.0**
KPKS	0.3nm,0.2s			S	**Sg**	**10 40 53.2**	**-0.3**
	6.0nm,0.2s						
TNSS	**Tian-Shan**	**1.66**	**305**	P	**Pg**	**10 40 41.6**	**+0.2**
TNSS	0.3nm,0.1s			S	**Sg**	**10 41 05.1**	**+2.0**
	2.0nm,0.2s						
TNSS	**Tian-Shan**	**1.66**	**305**	*e*P	**Pg**	**10 40 41.6**	**+0.2**
TNSS	0.3nm,0.1s			*e*S	**Sg**	**10 41 05.1**	**+2.0**
	2.0nm,0.2s						
KOTS	**Kotyrbulak**	**1.69**	**313**	P	**Pb**	**10 40 40.7**	**+0.1**
KOTS	1.9nm,0.3s			S	**Sg**	**10 41 04.1**	**+0.3**
	9.4nm,0.2s						
KOTS	**Kotyrbulak**	**1.69**	**313**	*e*P	**Pb**	**10 40 40.7**	**+0.1**
KOTS	1.9nm,0.3s			*e*S	**Sg**	**10 41 03.6**	**-0.3**
	9.4nm,0.2s						
ULHL	**Ulahol**	**1.92**	**275**	⇑*e*P	**Pb**	**10 40 43.7**	**-0.8**
ULHL				⇑*e*S	**Sb**	**10 41 08.2**	**-0.3**
MTBS	**Maitube**	**2.04**	**301**	Pg	**Pb**	**10 40 47.3**	**+0.8**
MTBS	1.9nm,0.1s			Lg	Lg	10 41 14.4	
	8.9nm,0.2s						
MTBS	**Maitube**	**2.04**	**301**	*e*P	**Pb**	**10 40 47.2**	**+0.8**
MTBS	1.9nm,0.1s			*e*S	**Sg**	**10 41 14.4**	**-0.5**
	8.9nm,0.2s						
BOOM	**Boomskoye usch**	**2.17**	**281**	⇑*e*P	**Pn**	**10 40 47.1**	**+1.5**
BOOM				⇑*e*S	**Sb**	**10 41 14.0**	**-1.6**
CHKK	**Chushkaly**	**2.20**	**323**	Pg	**Pg**	**10 40 50.7**	**-1.0**
CHKK	10nm,0.3s			Lg	Lg	10 41 20.8	
	23nm,0.5s						
CHKK	**Chushkaly**	**2.20**	**323**	*e*P	**Pg**	**10 40 50.7**	**-1.0**
CHKK	10nm,0.3s			*e*S	**Sg**	**10 41 20.8**	**+0.5**
	23nm,0.5s						
KST	**Kastek**	**2.31**	**295**	Pg	**Pb**	**10 40 52.1**	**+1.0**
KST	4.7nm,0.3s			Lg	Lg	10 41 23.0	
	27nm,0.6s						
KST	**Kastek**	**2.31**	**295**	*e*P	**Pb**	**10 40 52.1**	**+1.0**
KST	4.7nm,0.3s			*e*S	**Sg**	**10 41 23.1**	**-0.5**
	27nm,0.6s						
KUU	**Kurty**	**2.55**	**315**	*e*P	**Pb**	**10 40 56.0**	**+0.9**
KUU	4.2nm,0.1s			*e*S	**Sg**	**10 41 29.6**	**-1.8**
	26nm,0.4s						

KAPS	**Kapalarasan**	**3.21**	**7**	Pg	**Pb**	**10 41 07.7**	**+1.3**
KAPS				Lg	Lg	10 41 49.5	

*SDD **26** 10:40:21.6±1.6, 19°.20N×67°.10W, h20km±81km, MD3.3, ML2.3, MW2.8*
*NEIC **26** 10:40:24.8±1.7, 18°.8N±0°.1×67°.33W±0°.05, h63km±6km, ML2.2/14, Md2.8/10(RSPR), Error ellipse: s-maj=15.4km s-min=5.5km az=160.0*
*RSPR **26** 10:40:25.2, 18°.95N×67°.22W, h10km±31km, MD2.8/10*
ISC 26 10:40:21.9±1.6, **18°.99N**±0°.06×**67°.17W**±0°.03, **h5**km±10km, **n47**, σ1**08**/55, **22C-1D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.52**	**174**			**Pn**	**10 40 34.8**	**-1.3**
AGPR						**Sn**	**10 40 44.9**	**-0.4**
AGPR	**Aguadilla, PR**	**0.52**	**174**	↑*eP*		**Pn**	**10 40 34.8**	**-1.3**
AGPR	**Aguadilla, PR**	**0.52**	**174**	*eS*		**Sn**	**10 40 44.9**	**-0.4**
AGPR	**Aguadilla, PR**	**0.52**	**174**	↑*eP*		**Pb**	**10 40 33.7**	**+0.2**
AGPR				↑*eSg*		**Sn**	**10 40 45.1**	**-0.1**
AGPR				IAML			10 40 49.4	
	comp=N,147nm,0.3s							
IDE	**Isla Desecheo**	**0.66**	**206**			**Pb**	**10 40 36.4**	**+0.4**
IDE						**Sb**	**10 40 46.4**	**+0.9**
IDE	**Isla Desecheo**	**0.66**	**206**	↑*eP*		**Pb**	**10 40 36.4**	**+0.4**
IDE	**Isla Desecheo**	**0.66**	**206**	*eS*		**Sb**	**10 40 46.4**	**+0.9**
AOPR	**Arecibo Observ**	**0.75**	**148**			**Pn**	**10 40 39.6**	**+0.4**
AOPR	**Arecibo Observ**	**0.75**	**148**			**Sb**	**10 40 49.0**	**+1.0**
AOPR	**Arecibo Observ**	**0.75**	**148**	IAML			10 40 46.8	
	comp=E,431nm,0.2s							
AOPR	**Arecibo Observ**	**0.75**	**148**	↑*eP*		**Pn**	**10 40 39.6**	**+0.4**
AOPR	**Arecibo Observ**	**0.75**	**148**	*eS*		**Sb**	**10 40 49.0**	**+1.0**
EMPR	**Esperanza - Ma**	**0.79**	**130**			**Pn**	**10 40 40.2**	**+0.5**
EMPR						**Sn**	**10 40 52.3**	**+0.4**
EMPR	**Esperanza - Ma**	**0.79**	**130**	↑*eP*		**Pn**	**10 40 40.2**	**+0.5**
EMPR	**Esperanza - Ma**	**0.79**	**130**	*eS*		**Sn**	**10 40 52.3**	**+0.4**
LSP	**Las Mesas**	**0.81**	**174**			**Pg**	**10 40 36.4**	**-1.0**
LSP	**Las Mesas**	**0.81**	**174**	↑*eP*		**Pg**	**10 40 36.4**	**-1.0**
UUPR	**Utuado, UPR, P**	**0.84**	**150**			**Pn**	**10 40 40.6**	**+0.1**
UUPR	**Utuado, UPR, P**	**0.84**	**150**	↑*eP*		**Pn**	**10 40 40.6**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.97**	**177**			**Pb**	**10 40 41.6**	**+0.3**
CRPR						**Sg**	**10 40 53.5**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.97**	**177**	IAML			10 41 02.2	
	comp=N,55nm,0.6s							
CRPR	**Cabo Rojo, PR**	**0.97**	**177**	↑*eP*		**Pb**	**10 40 41.6**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.97**	**177**	*eS*		**Sg**	**10 40 53.5**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.97**	**177**	↑*eP*		**Pn**	**10 40 42.9**	**+0.6**
CRPR				↑*eSg*		**Sn**	**10 40 57.5**	**+1.0**
CRPR				IAML			10 41 02.0	
	comp=N,63nm,0.5s							
ECPR	**Experimental S**	**1.01**	**131**	↑*eP*		**Pb**	**10 40 41.9**	**-0.1**
MLPR	**Magueyes Islan**	**1.02**	**173**	↑*eP*		**Pb**	**10 40 42.3**	**+0.2**
MLPR	**Magueyes Islan**	**1.02**	**173**	*eS*		**Sg**	**10 40 53.8**	**-0.9**
MLPR	**Magueyes Islan**	**1.02**	**173**	↑*ePg*		**Pb**	**10 40 42.2**	**+0.2**
MLPR				↑*eSg*		**Sn**	**10 40 58.1**	**+0.5**
MLPR				IAML			10 41 02.1	
	comp=N,13nm,0.6s							
CELP	**Cerrillos**	**1.06**	**148**			**Pn**	**10 40 43.1**	**-0.4**
CELP						**Sg**	**10 40 55.6**	**-0.6**
CELP	**Cerrillos**	**1.06**	**148**	IAML			10 41 01.0	
	comp=E,52nm,0.3s							
CELP	**Cerrillos**	**1.06**	**148**	↑*eP*		**Pn**	**10 40 43.1**	**-0.4**
CELP	**Cerrillos**	**1.06**	**148**	*eS*		**Sg**	**10 40 55.6**	**-0.6**
CELP	**Cerrillos**	**1.06**	**148**	↓↑*eP*		**Pn**	**10 40 43.4**	**-0.2**
CELP				↑*eSg*		**Sn**	**10 40 59.4**	**+0.6**
CELP				IAML			10 41 01.0	
	comp=N,94nm,0.2s							
OBIP	**Obispado Ponce**	**1.08**	**150**			**Pg**	**10 40 42.6**	**0.0**
OBIP						**Sb**	**10 40 59.2**	**+1.7**
OBIP	**Obispado Ponce**	**1.08**	**150**	IAML			10 41 04.3	
	comp=E,47nm,0.6s							
OBIP				IAML			10 41 06.3	
	comp=N,49nm,0.5s							
OBIP	**Obispado Ponce**	**1.08**	**150**	↑*eP*		**Pg**	**10 40 42.6**	**0.0**
OBIP	**Obispado Ponce**	**1.08**	**150**	*eS*		**Sb**	**10 40 59.2**	**+1.7**
GCPR	**Guaynabo City**	**1.23**	**123**	Pn		**Pg**	**10 40 47.1**	**+1.6**
GCPR				IAML			10 41 12.5	
	comp=E,29nm,0.4s							
SJG	**San Juan**	**1.30**	**132**	Pn		**Pg**	**10 40 47.3**	**+0.4**
SJG				IAML			10 41 13.5	
	comp=E,40nm,0.2s							
SJG				IAML			10 41 14.4	
	comp=E,41nm,0.4s							
IGPR	**InterUniversit**	**1.43**	**135**			**Pn**	**10 40 47.3**	**-1.3**
IGPR						**Sn**	**10 41 03.8**	**-4.0**
IGPR	**InterUniversit**	**1.43**	**135**	↑*eP*		**Pn**	**10 40 47.3**	**-1.3**
IGPR	**InterUniversit**	**1.43**	**135**	*eS*		**Sn**	**10 41 03.8**	**-4.0**
PDPR	**Patillas Dam,**	**1.45**	**131**	Pn		**Pb**	**10 40 49.2**	**-0.2**
PDPR				IAML			10 41 14.6	
	comp=N,37nm,0.2s							
PDPR	**Patillas Dam,**	**1.45**	**131**	↑*eP*		**Pn**	**10 40 48.6**	**-0.3**
PDPR	**Patillas Dam,**	**1.45**	**131**	*eS*		**Sn**	**10 41 07.9**	**-0.4**
HUMP	**Col San Antoni**	**1.51**	**124**	Pn		**Pb**	**10 40 50.0**	**-0.4**
HIDR	**Higuey Centro**	**1.52**	**255**	↑*ePg*		**Pg**	**10 40 50.4**	**-0.6**
HIDR				↑*eSg*		**Sg**	**10 41 11.3**	**+0.6**
HIDR				IAML			10 41 32.0	
	comp=N,114nm,0.1s							

*NEIC **26** 10:45:37.7±2.0, 19°.23N±0°.03×67°.33W±0°.04, h10km±1km, ML2.4/10, Md2.9/12(RSPR), Error ellipse: s-maj=6.8km s-min=5.8km az=93.0*
*SDD **26** 10:45:41.1±1.3, 19°.21N×67°.14W, h29km±49km, MD2.9, ML2.3, MW2.9*
*RSPR **26** 10:45:42.2, 19°.20N×67°.25W, h23km±24km, MD2.9/12*
ISC 26 10:45:37.9±2.0, **19°.23N**±0°.08×**67°.21W**±0°.04, **h7**km±11km, **n46**, σ0**88**/58, **16C-6D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.76**	**173**			**Pb**	**10 45 54.5**	**+1.0**
AGPR						**Sg**	**10 46 03.7**	**+1.2**
AGPR	**Aguadilla, PR**	**0.76**	**173**	↑*iP*		**Pb**	**10 45 54.5**	**+1.0**
AGPR	**Aguadilla, PR**	**0.76**	**173**	*eS*		**Sg**	**10 46 03.7**	**+1.2**
AGPR	**Aguadilla, PR**	**0.76**	**173**	↑*ePg*		**Pb**	**10 45 54.5**	**+1.0**
AGPR				↑*eSg*		**Sg**	**10 46 03.9**	**+1.3**
AGPR				IAML			10 46 09.5	
	comp=N,208nm,0.2s							
IDE	**Isla Desecheo**	**0.88**	**197**			**Pn**	**10 45 56.7**	**0.0**
IDE						**Sb**	**10 46 07.6**	**+0.2**
IDE	**Isla Desecheo**	**0.88**	**197**	↓*eP*		**Pn**	**10 45 56.7**	**0.0**
IDE	**Isla Desecheo**	**0.88**	**197**	*eS*		**Sb**	**10 46 07.6**	**+0.2**
AOPR	**Arecibo Observ**	**0.98**	**154**			**Pb**	**10 45 57.5**	**+0.2**
AOPR						**Sg**	**10 46 09.9**	**+0.5**
AOPR	**Arecibo Observ**	**0.98**	**154**	↑*eP*		**Pb**	**10 45 57.5**	**+0.2**
AOPR	**Arecibo Observ**	**0.98**	**154**	*eS*		**Sg**	**10 46 09.9**	**+0.5**
EMPR	**Esperanza - Ma**	**0.99**	**139**			**Pn**	**10 45 58.6**	**+0.5**
EMPR						**Sb**	**10 46 11.2**	**+0.6**
EMPR	**Esperanza - Ma**	**0.99**	**139**	↑*eP*		**Pn**	**10 45 58.6**	**+0.5**
EMPR	**Esperanza - Ma**	**0.99**	**139**	*eS*		**Sb**	**10 46 11.2**	**+0.6**
PRSN	**Puerto Rico Se**	**1.01**	**177**	Pn		**Pn**	**10 46 00.0**	**+1.5**
LSP	**Las Mesas**	**1.05**	**174**			**Pb**	**10 45 58.9**	**+0.4**
LSP						**Sg**	**10 46 10.9**	**-1.0**
LSP	**Las Mesas**	**1.05**	**174**	↓*eP*		**Pb**	**10 45 58.9**	**+0.4**
LSP	**Las Mesas**	**1.05**	**174**	*eS*		**Sg**	**10 46 10.9**	**-1.0**
UUPR	**Utuado, UPR, P**	**1.08**	**155**			**Pg**	**10 45 59.1**	**+0.6**
UUPR						**Sg**	**10 46 11.7**	**-0.8**
UUPR	**Utuado, UPR, P**	**1.08**	**155**	↑*eP*		**Pg**	**10 45 59.1**	**+0.6**
UUPR	**Utuado, UPR, P**	**1.08**	**155**	*eS*		**Sg**	**10 46 11.7**	**-0.8**
ECPR	**Experimental S**	**1.21**	**138**	↓*eP*		**Pg**	**10 46 01.1**	**0.0**
ECPR	**Experimental S**	**1.21**	**138**	*eS*		**Sg**	**10 46 16.4**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.22**	**176**			**Pg**	**10 46 01.3**	**0.0**
CRPR						**Sg**	**10 46 16.3**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.22**	**176**	IAML			10 46 24.1	
	comp=E,53nm,0.3s							
CRPR	**Cabo Rojo, PR**	**1.22**	**176**	↑*eP*		**Pg**	**10 46 01.3**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.22**	**176**	*eS*		**Sg**	**10 46 16.3**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.22**	**176**	↑*ePg*		**Pn**	**10 46 02.2**	**+0.8**
CRPR				↑*eSg*		**Sg**	**10 46 16.5**	**-0.7**
CRPR				IAML			10 46 20.8	
	comp=N,49nm,0.5s							
MLPR	**Magueyes Islan**	**1.26**	**173**	↓*eP*		**Pg**	**10 46 01.9**	**-0.3**
MLPR	**Magueyes Islan**	**1.26**	**173**	*eS*		**Sg**	**10 46 16.6**	**-2.0**
MLPR	**Magueyes Islan**	**1.26**	**173**	↑*ePg*		**Pg**	**10 46 02.0**	**-0.1**
MLPR				↑*eSg*		**Sg**	**10 46 17.0**	**-1.6**
MLPR				IAML			10 46 17.3	
	comp=N,15nm,0.3s							
CELP	**Cerrillos**	**1.29**	**153**	↑		**Pg**	**10 46 02.5**	**-0.3**
CELP						**Sg**	**10 46 18.2**	**-1.3**
CELP	**Cerrillos**	**1.29**	**153**	IAML			10 46 19.5	
	comp=N,79nm,0.3s							
CELP	**Cerrillos**	**1.29**	**153**	↓*eP*		**Pg**	**10 46 02.5**	**-0.3**
CELP	**Cerrillos**	**1.29**	**153**	*eS*		**Sg**	**10 46 18.2**	**-1.3**
CELP	**Cerrillos**	**1.29**	**153**	↑*ePg*		**Pg**	**10 46 02.2**	**-0.5**
CELP				↑*eSg*		**Sg**	**10 46 17.6**	**-2.0**
CELP				IAML			10 46 19.4	
	comp=N,80nm,0.3s							
OBIP	**Obispado Ponce**	**1.31**	**154**			**Pg**	**10 46 02.7**	**-0.4**
OBIP						**Sg**	**10 46 18.5**	**-1.6**
OBIP	**Obispado Ponce**	**1.31**	**154**	IAML			10 46 19.4	
	comp=N,55nm,0.2s							
OBIP				IAML			10 46 19.9	
	comp=E,57nm,0.2s							
OBIP	**Obispado Ponce**	**1.31**	**154**	↑*eP*		**Pg**	**10 46 02.7**	**-0.4**
OBIP	**Obispado Ponce**	**1.31**	**154**	*eS*		**Sg**	**10 46 18.5**	**-1.6**
HIDR	**Higuey Centro**	**1.56**	**246**	↑*ePg*		**Pb**	**10 46 06.9**	**-0.3**
HIDR				↑*eSg*		**Sg**	**10 46 28.1**	**-0.1**
HIDR				IAML			10 46 34.8	
	comp=N,50nm,0.2s							
IGPR	**InterUniversit**	**1.63**	**140**			**Pn**	**10 46 07.5**	**+0.4**
IGPR						**Sn**	**10 46 27.4**	**-1.0**
IGPR	**InterUniversit**	**1.63**	**140**	↓*eP*		**Pn**	**10 46 07.5**	**+0.4**
IGPR	**InterUniversit**	**1.63**	**140**	*eS*		**Sn**	**10 46 27.4**	**-1.0**
PDPR	**Patillas Dam,**	**1.65**	**137**	Pn		**Pb**	**10 46 09.2**	**+0.6**
PDPR				IAML			10 46 32.4	
	comp=N,41nm,0.1s							
PDPR				IAML			10 46 32.4	
	comp=E,33nm,0.2s							
PDPR	**Patillas Dam,**	**1.65**	**137**	↑*eP*		**Pn**	**10 46 07.6**	**+0.3**
PDPR	**Patillas Dam,**	**1.65**	**137**	*eS*		**Sn**	**10 46 28.2**	**-0.6**

*NAO **26** 10:59:19.7, 40°.83N×29°.59E, h10km, MB5.6*
*GII **26** 10:59:23.1±0.0, 40°.88N×28°.20E, h2km, confirmed*
*IDC **26** 10:59:23.6±0.4, 40°.86N×28°.25E, h0km, mb5.2/33, mbtmp5.0/45, ML3.8/10, MS5.4/76, Error ellipse: s-maj=7.8km s-min=6.4km az=22.0*
*SOF **26** 10:59:23.8, 40°.85N±0°.06×28°.18E±0°.05, h12km±11km, MD5.6/11*
*BJI **26** 10:59:24.7, 40°.90N×28°.20E, h7km, mB5.8/82, mb5.5/93, Ms5.9/99, Ms7 5.6/97*
*ISK **26** 10:59:24.6, 40°.88N×28°.22E, h13km, ML5.7/60*
*MOS **26** 10:59:24.8±1.0, 40°.92N×28°.22E, h19km, mb5.9/55, MS5.5/59, Error ellipse: s-maj=3.6km s-min=2.5km az=98.0*
*NEIC **26** 10:59:25.6±1.8, 40°.90N±0°.05×28°.15E±0°.06, h8km±1km, mb5.8/803, Ms_20 5.6/953, Mwr5.6/27, Mww5.7/88, Error ellipse: s-maj=8.9km s-min=7.0km az=201.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.42; $M_{\theta\theta}$-2.31; $M_{\phi\phi}$-0.11; $M_{r\theta}$0.24; $M_{\theta\phi}$-2.04; $M_{\phi r}$1.21; Fault plane solution: $M_0$3.36000×10^{17} NP1: ϕ_s264.23000°, δ43.20000°, λ128.89000°. NP2: ϕ_s36.34000°, δ57.80000°, λ59.48000°. Principal axes: T 2.9741, Plg63.0000°, Azm254.0000°; N 0.6747, Plg25.0000°, Azm54.0000°; P -3.6487, Plg8.0000°, Azm148.0000°;*
*ISC-PP **26** 10:59:25, 40°.90N×28°.15E, h7km, Mwppsm5.8, Moment Tensor Solution. s42 Moment tensor: Scale 10^{17}Nm; M_{rr}0.51±.13; $M_{\theta\theta}$0.06±.11; $M_{\phi\phi}$0.51±.11; $M_{r\theta}$0.39±.09; $M_{\theta\phi}$0.30±.08; $M_{\phi r}$-0.01±.09; Fault plane solution: $M_0$7.41000×10^{17} NP1:ϕ_s55.60000°, δ81.30000°, λ68.10000°. NP2:ϕ_s304.90000°, δ23.50000°, λ157.60000°.*
*MED_RC **26** 10:59:25.0±0.1, 40°.88N×28°.30E, h10km, MW5.7/40, Moment Tensor Solution. Body waves: s21,c28;Mantle waves: s40,c89; Duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}2.24±.11; $M_{\theta\theta}$-2.85±.09; $M_{\phi\phi}$0.61±.08; $M_{r\theta}$-0.70±.28; $M_{\theta\phi}$-3.45±.08; $M_{\phi r}$0.80±.29; Best double couple: $M_0$4.27000×10^{17} NP1:ϕ_s20.00000°, δ63.00000°, λ28.00000°. NP2:ϕ_s276.00000°, δ65.00000°, λ150.00000°. Principal axes: T 3.5600, Plg38.0000°, Azm237.0000°; N 1.4200, Plg52.0000°, Azm60.0000°; P -4.9800, Plg1.0000°, Azm329.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*
*AFAD **26** 10:59:25.8, 40°.88N×28°.21E, h8km, MW5.8*
*MCSM **26** 10:59:25.9±0.3, 41°.N±2°×2°.8E±°, h8km±2km, mb5.5, mB6.1, MLv6.1, Mw(mB)5.7*
*GCMT **26** 10:59:26.6±0.1, 40°.86N±0°.01×28°.25E±0°.01, h12km, MW5.7/161, Moment Tensor Solution. s134,c241; s161,c336; Duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}2.49±.04; $M_{\theta\theta}$-2.93±.04; $M_{\phi\phi}$0.43±.04; $M_{r\theta}$0.88±.09; $M_{\theta\phi}$-3.42±.03; $M_{\phi r}$0.81±.10; Best double couple: $M_0$4.03800×10^{17} NP1:ϕ_s273.00000°, δ49.00000°, λ144.00000°. NP2:ϕ_s29.00000°, δ64.00000°, λ47.00000°. Principal axes: T 2.8410, Plg51.0000°, Azm249.0000°; N 2.3920, Plg38.0000°, Azm51.0000°; P -5.2360, Plg9.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **26** 10:59:26.3, 40°.89N×28°.15E, h10km*
*NEIC **26** 10:59:26.3, 40°.88N×28°.15E, h12km*
*NEIC **26** 10:59:26.3, 40°.88N×28°.28E, h12km, Moment Tensor Solution. Duration: 3s6 Moment tensor: Scale 10^{17}Nm; M_{rr}2.66; $M_{\theta\theta}$-3.17; $M_{\phi\phi}$0.51; $M_{r\theta}$1.90; $M_{\theta\phi}$-2.94; $M_{\phi r}$0.11; Fault plane solution: $M_0$4.58000×10^{17} NP1: ϕ_s209.87000°, δ41.51000°, λ42.00000°. NP2:ϕ_s85.88000°, δ63.67000°, λ123.34000°. Principal axes: T 3.5097, Plg57.0000°, Azm42.0000°; N 1.6646, Plg30.0000°, Azm250.0000°; P -5.1743, Plg12.0000°, Azm152.0000°;*
*IPGP **26** 10:59:26.0, 40°.89N×28°.17E, h10km, Mw5.6, Fault plane solution: NP1:ϕ_s261.00000°, δ31.00000°, λ119.00000°. NP2:ϕ_s49.00000°, δ63.00000°, λ74.00000°.*
*BEO **26** 10:59:27.6±0.5, 41°.03N×28°.03E, h0km, ML5.7/16*
*THE **26** 10:59:27.1, 41°.N±3°×2°.8E±°, h11km, M5.2/30, MLh5.2/30*
*BGR **26** 10:59:28.5±3.9, 40°.75N×27°.85E, h10km, Ms5.3, Error ellipse: s-maj=86.7km s-min=35.6km az=139.0*
*CFUSG **26** 10:59:28.6, 40.91N×28.74E, h7km, mb5.2/8, MD5.2/7, Sea of Marmara Magtype MSH 5.3 from 7 stations*
ISC 26 10:59:25.9±0.4, **40.89N**±0.01×**28.19E**±0.01, **h12**km±2km, **h12**km:**pP-P, n2519,** σ1**62**/2092, **mb5.8**/564, **MS5.7**/591, **134C-103D, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ELBA	**Catalca**	**0.31**	**35**	Op		**Pg**	**10 59 31.4**	**-0.9**
ELBA						**Sg**	**10 59 36.2**	**-0.4**
SLVT	**Silivri**	**0.34**	**2**	Pg		**Pg**	**10 59 32.6**	**-0.2**
CTKS	**Kestanelik-??a**	**0.42**	**34**	Pg		**Pg**	**10 59 33.4**	**-0.8**
CTKS				Sg		**Sg**	**10 59 39.6**	**-0.2**
TKR	**Tekirdag**	**0.51**	**282**	Pg		**Pg**	**10 59 35.5**	**-0.4**
TKR				Sg		**Sb**	**10 59 43.4**	**-0.7**
BGKT	**Bogazkoy**	**0.53**	**56**	Pg		**Pg**	**10 59 35.2**	**-1.0**
BGKT				Sg		**Sg**	**10 59 42.8**	**-0.4**
MRMT	**Marmara Adasi**	**0.54**	**238**	Pg		**Pg**	**10 59 35.8**	**-0.6**
BAND	**Balkesir-Ban**	**0.54**	**188**	P		**Pg**	**10 59 35.8**	**-0.7**
BAND				S		**Sg**	**10 59 42.4**	**-1.2**
BAND	**Balkesir-Ban**	**0.54**	**188**	↓P		**Pg**	**10 59 35.5**	**-1.0**
BAND				↓S		**Sg**	**10 59 42.4**	**-1.2**
CTYL	**Yalikoy Yolu**	**0.59**	**7**	Pg		**Pg**	**10 59 36.6**	**-0.8**
CTYL				Sg		**Sg**	**10 59 45.5**	**+0.3**
CTYL	**Yalikoy Yolu**	**0.59**	**7**	↓P		**Pb**	**10 59 38.1**	**0.0**
CTYL				↓S		**Sb**	**10 59 46.4**	**0.0**
EDC	**Edincik**	**0.60**	**205**	Pg		**Pg**	**10 59 36.7**	**-0.9**
EDC				Sg		**Sg**	**10 59 45.6**	**+0.1**
ARMT	**Armutlu**	**0.60**	**122**	Pg		**Pg**	**10 59 36.4**	**-1.3**
ARMT				Sg		**Sg**	**10 59 45.1**	**-0.5**
ISK	**Istanbul-Kandi**	**0.68**	**75**	Pg		**Pg**	**10 59 37.9**	**-1.2**
ISK				Sg		**Sg**	**10 59 47.4**	**-0.6**
ISK	**Istanbul-Kandi**	**0.68**	**75**	P		**Pg**	**10 59 37.7**	**-1.4**
ISK				SG		**Sg**	**10 59 46.4**	**-1.6**
KLYT	**Kilyos**	**0.74**	**60**	Pg		**Pg**	**10 59 39.2**	**-1.0**
KLYT				Sg		**Sg**	**10 59 49.6**	**-0.3**
KLYT	**Kilyos**	**0.74**	**60**	↓P		**Pg**	**10 59 39.3**	**-0.9**
VIZE	**Kirklareli, Vi**	**0.74**	**339**	P		**Pg**	**10 59 39.8**	**-0.5**
VIZE				S		**Sg**	**10 59 49.7**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.74**	**134**	Pg		**Pg**	**10 59 39.1**	**-1.1**
MDNY				Sg		**Sg**	**10 59 49.5**	**-0.4**
SART	**Tekirdag**	**0.80**	**256**	P		**Pg**	**10 59 40.5**	**-0.8**
SART				S		**Sb**	**10 59 52.4**	**0.0**
KURT	**Yalova, Merkez**	**0.83**	**111**	P		**Pg**	**10 59 40.7**	**-1.2**
KURT				P		**Pg**	**10 59 40.7**	**-1.2**
KURT				S		**Sg**	**10 59 50.8**	**-1.9**
KURT				S		**Sb**	**10 59 51.7**	**-1.6**

KRBG	**Karabiga-Canak**	**0.84**	**234**	Pg		**Pg**	**10 59 41.2**	**-1.0**
PHSR	**Pinarhisar**	**0.90**	**326**	Pg		**Pg**	**10 59 42.5**	**-0.7**
PHSR				Sg		**Sb**	**10 59 56.0**	**+0.7**
PHSR	**Pinarhisar**	**0.90**	**326**	↓↑P		**Pg**	**10 59 42.6**	**-0.6**
PHSR				↓↑S		**Sb**	**10 59 56.0**	**+0.7**
GONE	**Gonen-Balikesi**	**0.93**	**205**	Pg		**Pg**	**10 59 42.4**	**-1.4**
GONE				Sg		**Sb**	**10 59 56.2**	**0.0**
SUSR	**Susurluk-Balik**	**0.93**	**185**	Pg		**Pg**	**10 59 42.5**	**-1.4**
SUSR				Sg		**Sb**	**10 59 56.3**	**0.0**
YLV	**Yalova**	**0.95**	**109**	Pg		**Pg**	**10 59 42.9**	**-1.4**
YLV				Sg		**Sg**	**10 59 56.4**	**-0.3**
ORLT	**Orhaneli**	**1.00**	**147**	Pg		**Pg**	**10 59 43.7**	**-1.5**
ORLT				Sg		**Sb**	**10 59 58.5**	**+0.2**
BLKS	**Balkesir-Sus**	**1.03**	**190**	P		**Pg**	**10 59 44.9**	**-0.8**
BLKS				P		**Pg**	**10 59 44.9**	**-0.8**
BLKS				S		**Sb**	**10 59 59.1**	**0.0**
BLKS				S		**Sb**	**10 59 59.1**	**0.0**
ULDT	**Uludag**	**1.04**	**136**	P		**Pg**	**10 59 44.5**	**-1.5**
ULDT				S		**Sg**	**10 59 58.9**	**-0.6**
HRT	**Hereke**	**1.12**	**93**	Pn		**Pb**	**10 59 46.1**	**-1.2**
HRT				Sn		**Sb**	**11 00 01.1**	**-0.7**
SILT	**Sile**	**1.13**	**76**	Pn		**Pb**	**10 59 46.2**	**-1.1**
SILT				Sn		**Sb**	**11 00 01.4**	**-0.6**
SILT	**Sile**	**1.13**	**76**	↓P		**Pb**	**10 59 46.7**	**-0.6**
ARMN	**Kirklareli, Me**	**1.13**	**330**	P		**Pb**	**10 59 46.7**	**-0.7**
ARMN				S		**Sb**	**11 00 02.1**	**0.0**
KESN	**Edirne-Kesan**	**1.15**	**267**	P		**Pb**	**10 59 46.3**	**-1.6**
KESN				S		**Sg**	**11 00 02.8**	**-0.3**
BKES	**Balkesir-Mer**	**1.17**	**190**	P		**Pb**	**10 59 46.8**	**-1.3**
BKES				S		**Sg**	**11 00 03.5**	**-0.3**
SEMS	**Kocaeli-K¶rfe**	**1.17**	**90**	P		**Pb**	**10 59 47.4**	**-0.7**
SEMS				S		**Sb**	**11 00 01.6**	**-1.7**
OSMT	**Osmaniye**	**1.18**	**104**	Pn		**Pb**	**10 59 46.5**	**-1.8**
OSMT				Sn		**Sb**	**11 00 02.9**	**-0.7**
YENI	**Yenice-Canakka**	**1.20**	**218**	Pn		**Pn**	**10 59 47.2**	**-1.3**
YENI				Sn		**Sb**	**11 00 04.0**	**0.0**
UKOP	**Uzunkopru-Edir**	**1.21**	**282**	Pn		**Pn**	**10 59 47.9**	**-0.7**
LPK	**Lapseki**	**1.21**	**245**	Pn		**Pn**	**10 59 47.3**	**-1.3**
LPK				Sn		**Sb**	**11 00 04.3**	**+0.1**
KIRK	**Kırklareli**	**1.21**	**318**	P		**Pn**	**10 59 48.2**	**-0.5**
KIRK				S		**Sn**	**11 00 05.1**	**0.0**
BALY	**Balya**	**1.23**	**201**	P		**Pn**	**10 59 47.5**	**-1.5**
BALY				S		**Sb**	**11 00 04.3**	**-0.6**
CANM	**Can-anakkale**	**1.24**	**225**	Pn		**Pn**	**10 59 47.8**	**-1.2**
CANM				Sn		**Sg**	**11 00 05.3**	**-0.4**
ADVT	**Abdulvahap**	**1.26**	**111**	Pn		**Pn**	**10 59 48.1**	**-1.2**
ADVT				Sn		**Sb**	**11 00 04.9**	**-0.9**
ERIK	**Erikli-Kesan**	**1.29**	**261**	Pn		**Pn**	**10 59 48.9**	**-0.9**
ERIK				Sn		**Sb**	**11 00 06.6**	**-0.1**
DURS	**Dursunbey**	**1.30**	**170**	P		**Pn**	**10 59 48.6**	**-1.4**
DURS				S		**Sb**	**11 00 06.0**	**-1.2**
DST	**Dursunbey**	**1.32**	**166**	Pn		**Pn**	**10 59 49.1**	**-1.2**
DST				Sn		**Sb**	**11 00 06.8**	**-0.9**
HISA	**Bilecik-Osmane**	**1.38**	**107**	P		**Pn**	**10 59 50.2**	**-0.9**
HISA				S		**Sb**	**11 00 07.5**	**-1.8**
GELI	**Tayfur-Gelibol**	**1.40**	**250**	Pn		**Pn**	**10 59 49.9**	**-1.3**
GELI				Sn		**Sn**	**11 00 09.5**	**-0.1**
EDRB	**Edirne**	**1.45**	**312**	Pn

MDUB	Mudurnu	2.32	99		Pn	11 00 04.4	+0.3	VTS	Vitosha	4.09	297	P	Pn	11 00 28.7	+0.3	KARP	Karpathos	5.40	189 ⇑P Pn	11 00 45.2	-1.0
PRD	Provadia	2.34	346	P	Pn	11 00 04.2	0.0	VTS	Vitosha	4.09	297	*e*Pn	Pn	11 00 28.7	+0.3	KARP	Karpathos	5.40	189 Pn Pn	11 00 45.8	-0.4
MANT	Manisa	2.41	173		Pn	11 00 04.5	-0.9	VTS				*e*Sn	Sn	11 01 15.0	-1.3		comp=Z,12nmcomp=Z,19µmcomp=Z,1µm,0.9s				
MANT	Manisa	2.41	173	P	Pn	11 00 04.0	-1.4	SABU	Mula-Dalaman	4.11	171	P	Pn	11 00 27.0	-1.5	TURR	Turia	5.40	344 ⇓P Pn	11 00 47.8	+1.5
SGAZ	Eskisehir, Sey	2.44	123	P	Pn	11 00 04.0	-1.7	GOKD	Ankara-Kalecik	4.11	100	P	Pn	11 00 27.4	-1.2	SEV	Sevastopol'	5.44	46 ⇑*i*P Pn	11 00 46.2	-0.6
SGAZ				S	Sb	11 00 40.7	+0.9	MPEP	Malo Peshtene	4.13	308	P	Pn	11 00 28.8	0.0	SEV			*e*S Sn	11 01 47.7	-1.6
SIGR	SIGRI	2.46	228	Pn	Pn	11 00 04.3	-1.5	CBEY	Konya-Cihanbey	4.16	120	P	Pn	11 00 28.2	-1.1	SEV	Sevastopol'	5.44	46 *i*P Pn	11 00 46.2	-0.6
SIGR	SIGRI	2.46	228	P	Pn	11 00 04.8	-1.0	KNIK	Mula-Seydike	4.18	165	P	Pn	11 00 29.0	-0.6	SEV			Pm	11 00 51.0	
NEF	NEVSHA	2.47	344	P	Pn	11 00 06.1	+0.1	ILGA	Ilgaz	4.18	86		Pn	11 00 30.0	+0.2		comp=Z,613nm,0.4s				
LIA	Limnos Island	2.50	248	P	Pn	11 00 05.0	-1.4	ILGA	Ilgaz	4.18	86	P	Pn	11 00 28.9	-0.9	SEV			*e*S Sn	11 01 47.7	-1.6
KALB	Balgarevo	2.52	4 ⇓P	Pn	Pn	11 00 08.3	+1.6	YAZI	Mula-Dat§a-	4.24	188	P	Pn	11 00 28.4	-2.0	SEV			Sm	11 01 51.2	
BNAZ	Uak-Banaz	2.56	149	P	Pn	11 00 06.7	-0.7	SEYI	Kastamonu-Seyd	4.25	78	P	Pn	11 00 29.9	-0.6		comp=N,2µm,0.6s				
BNAZ				S	Sg	11 00 47.2	-1.0	KMON	Kastamonu	4.25	82	Pn	Pn	11 00 30.9	+0.4	SEV			Sm	11 01 51.2	
ODEM	Odemis-Izmir	2.61	182	Pn	Pn	11 00 06.6	-1.4	VAY	Valandovo	4.27	278	*i* Pn	Pn	11 00 30.7	0.0		comp=E,2µm,0.6s				
KARB	zmir-Karabur	2.61	212	P	Pn	11 00 06.2	-1.8	VAY				*i* Sn	Sg	11 01 42.7	-0.3	SEV			x x	11 04 45.3	
KARB				S	Sg	11 00 48.1	-1.8	CFR	Carcaliu	4.29	359 ⇑P		Pn	11 00 31.3	+0.3		comp=Z,2µm,13.0s				
BOLU	Bolu-Merkez-Mu	2.65	91	P	Pn	11 00 07.7	-0.8	CFR	Carcaliu	4.29	359	P	Pn	11 00 31.2	+0.3	DOPR	Dopca	5.47	339 ⇑P Pn	11 00 48.5	+1.3
BOLU				S	Sb	11 00 47.1	+1.3	YENC	ankr-Yen	4.29	91	P	Pn	11 00 30.6	-0.6	OZUR		5.49	342 ⇑P Pn	11 00 48.3	+0.8
AFYO	Afyonkarahisar	2.65	142	P	Pn	11 00 07.8	-0.8	BR106	Keskin Array S	4.30	104	Pn	Pn	11 00 30.5	-0.8	TARU	Tarkhankut	5.49	34 *i* P Pn	11 00 47.0	-0.5
AFYO				S	Sg	11 00 50.4	-0.7	KESK	Krkkale-Ke	4.31	105	P	Pn	11 00 29.6	-1.8	TARU			Pm	11 00 56.3	
THAS	Thassos island	2.65	265	P	Pn	11 00 07.0	-1.5	BR105	Keskin Array S	4.31	104	Pn	Pn	11 00 30.9	-0.5		comp=Z,2µm,0.6s				
BLCB	Balcova	2.66	200	Pn	Pn	11 00 06.8	-1.7	TLCR		4.32	6 ⇓P		Pn	11 00 32.2	+0.9	TARU			*e*S Sn	11 01 50.5	-0.1
BLCB	Balcova	2.66	200	P	Pn	11 00 07.7	-0.8	TLCR		4.32	6 P		Pn	11 00 32.2	+0.9	TARU			Sm	11 01 52.9	
ELND	Elena	2.67	320 ⇑P		Pn	11 00 08.9	+0.1	BR131	Keskin Array S	4.32	104		Pn	11 00 31.4	-0.2		comp=N,11µm,0.8s				
CIFT	Cifteler, Eski	2.68	124	Pn	Pn	11 00 08.2	-0.7	BR131	Keskin Array S	4.32	104	P	Pn	11 00 30.8	-0.8	TARU			Sm	11 01 52.9	
KIRA	zmir-Kiraz	2.69	177	P	Pn	11 00 06.8	-2.3		SNR=260								comp=E,3µm,0.6s				
PASA	Karahalli, USA	2.73	158	P	Pn	11 00 07.8	-1.8	BR131	Keskin Array S	4.32	104	*i* P	Pn	11 00 30.6	-1.0	TARU			x x	11 07 43.9	
PASA				S	Sg	11 00 51.1	-2.5	BRTR	Keskin Array B	4.32	104		Pn	11 00 31.4	-0.2		comp=Z,28µm,13.8s				
PSN	Preselentsi	2.75	359	P	Pn	11 00 09.9	+0.1	BRTR	Keskin Array B	4.32	104	Pn	Pn	11 00 30.6	-1.0	BOSR	Bodos	5.50	341 ⇑P Pn	11 00 48.9	+1.3
LOZB	Loznitsa	2.75	335 ⇑P		Pn	11 00 09.9	+0.1		16nm,0.3s,baz=278,slow=14,SNR=188							BOVS	Bovan	5.54	302 ⇓P Pn	11 00 48.7	+0.5
KHL	Karahalli	2.76	158	Pn	Pn	11 00 10.1	0.0	BRTR				Lg	Lg	11 01 40.2		BOVS	Bovan	5.54	302 *e*Pn Pn	11 00 48.4	+0.2
KAVA	Kavala	2.79	273	P	Pn	11 00 09.6	-0.7		62nm,0.3s,baz=260,slow=28,SNR=5.5							BOVS			*e*Sn Sn	11 01 49.0	-2.7
URLA	Izmir	2.81	207	Pn	Pn	11 00 09.2	-1.5	BRTR				LR	LR	11 02 10.6		TNR	Turnu Rosu	5.55	330 ⇑P	11 00 49.3	+0.9
URLA	Izmir	2.81	207	P	Pn	11 00 08.3	-2.4		comp=Z,40µm,18.2s,baz=289,slow=39							TNR	Turnu Rosu	5.55	330 P Pn	11 00 49.3	+0.9
URLA				S	Sg	11 00 54.8	-1.4		125nm,0.6s							BORS2	Bor- Borsko je	5.57	307 *e*Pn Pn	11 00 46.7	-1.9
KIBS	BOLU	2.82	98	P	Pn	11 00 09.7	-1.3	BRTR	Keskin Array B	4.32	104	*i* P	Pn	11 00 30.6	-1.0	BORS2			*e*Sn Sn	11 01 49.3	-3.3
KIBS				S	Sg	11 00 55.3	-1.3	BRTR				pmax	pmax			LOT	Lotru	5.59	326 ⇑P Pn	11 00 48.7	-0.2
DEVR	Zonguldak/Devr	2.87	84	P	Pn	11 00 10.7	-0.8		comp=Z,129nm,0.6s							ONER	Baraj Valea Uz	5.60	347 ⇓P Pn	11 00 50.1	+1.1
PLD	Plovdiv	2.88	297	P	Pn	11 00 11.5	-0.1	PLAR	PLOIESTI	4.33	339 ⇓P		Pn	11 00 32.4	+1.0	OHR	Ohrid	5.60	275 *i* Pn Pn	11 00 50.4	+1.4
PLD	Plovdiv	2.88	297	Pn	Pn	11 00 11.5	-0.1	DION	Dionisos Attik	4.33	231	P	Pn	11 00 30.2	-1.3	OHR			*i* Sn Sg	11 02 41.8	+16
PLD	Plovdiv	2.88	297	P	Pn	11 00 11.4	-0.1	BR104	Keskin Array S	4.33	104	Pn	Pn	11 00 31.1	-0.6	DJES	Djerdap	5.63	314 ⇑P Pn	11 00 48.3	-1.1
PLD	Plovdiv	2.88	297	*e*Pn	Pn	11 00 11.7	+0.2	APE	Apeiranthos	4.34	209 ⇓P		Pn	11 00 31.2	-0.6	DJES	Djerdap	5.63	314 *e*Pn Pn	11 00 48.1	-1.3
PLD				*e*Sn	Sn	11 00 46.0	-0.1	APE	Apeiranthos	4.34	209	P	Pn	11 00 31.2	-0.6	DJES			*e*Sn Sn	11 01 52.4	-1.5
SZH	Strazhitsa	2.89	326	P	Pn	11 00 11.9	+0.1	APE	Apeiranthos	4.34	209 ⇑P		Pn	11 00 29.7	-2.1	YAL	Yalta	5.68	49 *e*P Pn	11 00 49.8	-0.2
SZH				S	Sn	11 00 46.6	+0.2	ELL	Elmali	4.35	162		Pn	11 00 33.0	+1.1	YAL			*e*S Sn	11 01 51.7	-3.4
BYAT	Afyon-Bayat	2.89	131	P	Pn	11 00 10.5	-1.4	ELL	Elmali	4.35	162	P	Pn	11 00 33.0	+1.1	YAL	Yalta	5.68	49 *e*P Pn	11 00 49.8	-0.2
BYAT				S	Sg	11 00 57.0	-1.9	ELL	Elmali	4.35	162 ⇑P		Pn	11 00 32.0	0.0	YAL			Pm	11 00 55.5	
NAZL	Nazilli-Aydin	2.92	178	Pn	Pn	11 00 10.9	-1.3	PTL	Penteli	4.39	231	P	Pn	11 00 31.0	-1.4		comp=Z,446nm,0.3s				
BCAM	Yenicaga	2.94	90	P	Pn	11 00 11.7	-0.8	ISR	Istrita	4.40	345 ⇓P		Pn	11 00 33.9	+1.3	YAL			*e*S Sn	11 01 51.7	-3.4
BCAM				S	Sb	11 00 52.1	-2.1	ISR	Istrita	4.40	345	P	Pn	11 00 33.8	+1.3	YAL			Sm	11 02 00.1	
MANR	Mangalia	2.94	6 ⇑P		Pn	11 00 13.4	+1.0	ISR	Istrita	4.40	345	Pn	Pn	11 00 33.1	+0.6		comp=N,1µm,0.6s				
RAZG	Razgrad	2.95	335 ⇓P		Pn	11 00 12.7	0.0	SEDI	Konya, Seydise	4.41	140	P	Pn	11 00 32.1	-0.7	YAL			Sm	11 02 00.1	
ZEYE	Izmir, Urla-Ze	2.95	207	P	Pn	11 00 10.0	-2.6	LIT	Litokhoron	4.42	262		Pn	11 00 31.4	-1.4		comp=E,2µm,0.5s				
ZEYE				S	Sb	11 00 56.2	+1.7	LIT	Litokhoron	4.42	262	P	Pn	11 00 31.3	-1.4	YAL			x x	11 05 58.8	
GMLD	Gumuldur	2.98	200	Pn	Pn	11 00 12.9	0.0	LIT	Litokhoron	4.42	262	P	Pn	11 00 31.4	-1.4		comp=Z,20µm,16.8s				
CHOS	Chios island	3.00	214	Pn	Pn	11 00 12.0	-1.3	LIT	Litokhoron	4.42	262 ⇑P		Pn	11 00 31.4	-1.4	TESR	Tescani	5.73	349 ⇑P Pn	11 00 51.0	+0.2
CHOS	Chios island	3.00	214	P	Pn	11 00 11.7	-1.5	ALIN	Konya, Altiinte	4.45	124	P	Pn	11 00 32.1	-1.2	TESR	Tescani	5.73	349 Pn Pn	11 00 50.8	0.0
DGB	zmir	3.01	200	P	Pn	11 00 10.5	-2.9	DELI	KIRIKKALE	4.46	100	P	Pn	11 00 31.6	-1.9		comp=Z,11nmcomp=Z,19µmcomp=Z,842nm,1.1s				
DGB				S	Sg	11 01 02.7	+0.1	ATHU	Athens Univers	4.49	231	P	Pn	11 00 32.8	-1.0	SELS	Selova	5.76	296 *e*Pn Pn	11 00 51.1	-0.1
KURO	Afyon-Bolvadin	3.02	135	P	Pn	11 00 12.9	-0.7	BZK	Bozkurt	4.50	74	Pn	Pn	11 00 33.9	+0.1	SELS			*e*Sn Sn	11 01 56.1	-1.1
KZIL	AFYON_Kizioren	3.03	150	P	Pn	11 00 12.4	-1.4	BZK	Bozkurt	4.50	74		Pn	11 00 34.1	+0.3	VASR	Vaslui	5.76	357 ⇓P Pn	11 00 51.6	+0.5
KZIL				S	Sg	11 01 03.2	0.0	BZK	Bozkurt	4.50	74 ⇑P		Pn	11 00 34.5	+0.7	DNZ2	Donuzlav2	5.79	38 *e*P Pn	11 00 51.4	-0.2
ESEN	Aydn-Nazilli	3.09	178	P	Pn	11 00 12.1	-2.4	STFN	Stefani	4.50	234	P	Pn	11 00 33.5	-0.4	DNZ2			Pm	11 01 02.5	
BTIN	Bartın	3.15	75	P	Pn	11 00 13.4	-1.9	VALD	Valchedram	4.50	310	P	Pn	11 00 33.8	-0.1		comp=Z,455nm,0.4s				
PVL	Pavlikeni	3.17	316	P	Pn	11 00 15.8	+0.2	ATH	Athens Observa	4.53	231	P	Pn	11 00 35.0	+0.8	DNZ2			*e*S Sn	11 01 55.6	-2.4
EFOR	EFORIE	3.20	6 ⇑P		Pn	11 00 17.2	+1.2	ATAL	Atalanti	4.55	243	P	Pn	11 00 32.9	-1.7	DNZ2			Sm	11 02 03.1	
AYON	Tasoluk	3.23	184	P	Pn	11 00 13.9	-2.6	VLY	Voula,Athens	4.56	230	P	Pn	11 00 34.1	-0.7		comp=N,2µm,0.6s				
CTIK	Konya-Celtik	3.23	124	P	Pn	11 00 14.9	-1.7	BOSS	Bosilegrad	4.57	292	*e*Pn	Pn	11 00 35.9	+1.1	DNZ2			Sm	11 02 03.1	
ICOR	Ion Corvin	3.24	355 ⇑P		Pn	11 00 16.9	+0.4	BOSS				*e*Sn	Sn	11 01 25.2	-2.6		comp=E,4µm,0.6s				
OUR	Ouranopolis	3.25	262	Pn	Pn	11 00 15.2	-1.5	LKR	Lokris	4.58	242	P	Pn	11 00 33.8	-1.2	DNZ2			x x	11 07 33.3	
OUR	Ouranopolis	3.25	262	P	Pn	11 00 15.2	-1.5	SCHLR	Schela	4.59	357 ⇓P		Pn	11 00 36.8	+1.7		comp=Z,80µm,14.5s				
OUR	Ouranopolis	3.25	262	P	Pn	11 00 15.6	-1.1	GIUM	Giurgiulesti	4.59	0 ⇓P		Pn	11 00 36.6	+1.5	HERR	Herculane	5.82	315 ⇑P Pn	11 00 51.2	-0.8
POLA	Polati-ANKAR	3.26	110	Pn	Pn	11 00 16.4	-0.6	SCHL	Schela	4.62	357 ⇓P		Pn	11 00 36.2	+0.7	MDB	Medias	5.94	333 ⇑P Pn	11 00 55.0	+1.4
GCAM	G?zelcaml?	3.27	193	P	Pn	11 00 14.4	-2.6	NEGRR	Negrea	4.65	357 ⇑P		Pn	11 00 36.9	+0.9	MDB	Medias	5.94	333 P Pn	11 00 55.0	+1.4
CMDR	Camlidere-ANKA	3.28	96	P	Pn	11 00 15.2	-2.0	VILL	Villia	4.65	236	P	Pn	11 00 34.8	-1.2	SIM	Simferopol'	5.95	45 *e*P Pn	11 00 53.2	-0.5
TSCT	Constanta Port	3.29	6 ⇓P		Pn	11 00 18.8	+1.6	AKPI	Kirsehir/Akpin	4.66	105	P	Pn	11 00 33.9	-2.2	SIM			*e*S Sn	11 01 58.3	-3.4
MFTR	Murfatlar	3.29	3 ⇓P		Pn	11 00 18.0	+0.8	IZVR	Izvoarele	4.66	356 ⇑P		Pn	11 00 37.9	+1.8	SIM	Simferopol'	5.95	45 *e*P Pn	11 00 53.2	-0.5
DERS	Karabk-Eskip	3.31	89	P	Pn	11 00 16.6	-1.0	SUNG	orum-Sungurl	4.67	97	P	Pn	11 00 34.3	-1.9	SIM			Pm	11 01 03.7	
DNIZ	Denizli-Tavas-	3.33	168	P	Pn	11 00 15.6	-2.2	ARG	Arkhangelos	4.67	181		Pn	11 00 36.1	-0.1		comp=Z,2µm,0.6s				
INCE	Denizli-Bozkur	3.35	161	P	Pn	11 00 16.9	-1.3	ARG	Arkhangelos	4.67	181	P	Pn	11 00 36.5	+0.3	SIM			*e*S Sn	11 01 58.3	-3.4
UCKU	Afyonkarahisar	3.36	131	P	Pn	11 00 17.3	-1.0	ARG	Arkhangelos	4.67	181	P	Pn	11 00 35.6	-0.6	SIM			Sm	11 02 09.0	
KBUK	KARABUK-Merkez	3.37	83	P	Pn	11 00 17.4	-1.0	ARG	Arkhangelos	4.67	181	⇓P	Pn	11 00 36.0	-0.2		comp=N,13µm,1.1s				
MMB	Musomishta	3.42	283	P	Pn	11 00 18.7	-0.3	TATR	Tatarca	4.71	359 ⇓P		Pn	11 00 37.9	+1.2	SIM			Sm	11 02 09.0	
MMB	Musomishta	3.42	283	P	Pn	11 00 19.0	0.0	KIRS	Kirsehir-Merke	4.73	110	P	Pn	11 00 35.5	-1.7	SIM			x x	11 07 41.5	
SAFT	Safranbolu	3.42	273	Pn	Pn	11 00 19.4	-0.7	KIRS	Kirsehir-Merke	4.73	110 ⇑P		Pn	11 00 37.9	+0.8		comp=Z,39µm,16.8s				
PGB	Panagyurishte	3.42	300	P	Pb	11 00 26.6	+0.2	NEHR	Nehoiu	4.74	344 ⇑P		Pn	11 00 39.3	+2.1	KUBS	Kucevo	5.96	308 *e*Pn Pn	11 00 51.7	-2.2
CVDA	Cernavoda	3.44	358 ⇑P		Pn	11 00 20.9	+1.6	BAIL	Bailesti	4.76	313 ⇓P		Pn	11 00 37.3	-0.1	KUBS			*e*Sn Sn	11 01 58.3	-3.7
TAVA	DENIZLI_Tavas	3.46	170	P	Pn	11 00 17.1	-2.7	AXAR	Agios Charalam	4.76	245	P	Pn	11 00 36.5	-0.9	GZR	Gura Zlata	6.00	320 ⇑P Pn	11 00 54.0	-0.5
ZIMR		3.47	324	P	Pn	11 00 20.1	+0.4	KAGI	orum-Kargı	4.76	85	P	Pn	11 00 35.5	-2.0	GZR	Gura Zlata	6.00	320 *e*Pn Pn	11 00 53.7	-0.8
SRS	Serrai	3.49	275	P	Pn	11 00 19.2	-0.8	ZAPS	Zavoj	4.77	302	*e*Pn	Pn	11 00 37.9	+0.2	GZR	Gura Zlata	6.00	320 P Pn	11 00 53.9	-0.5
SRS	Serrai	3.49	275	*e*Pn	Pn	11 00 19.3	-0.7	ZAPS				*e*Sn	Sn	11 01 28.9	-4.0	MILM	Milestii Mici	6.04	4 ⇓P Pn	11 00 54.9	-0.1
SRS				*e*Sn	Sn	11 01 00.3	-0.9	AKAS	Kas	4.78	166		Pn	11 00 38.4	+0.5	MILM	Milestii Mici	6.04	4 *e*P Pn	11 00 54.0	-1.0
BRDR	BURDUR-Merkez	3.50	155	P	Pn	11 00 18.3	-2.0	AKAS	Kas	4.78	166	P	Pn	11 00 36.6	-1.2	MILM			*e*S Sn	11 02 03.0	-1.1
DDIM	Aydin, Didim	3.51	192	P	Pn	11 00 17.1	-3.1	BISRR	Bisoca	4.78	347	Pn	Pn	11 00 38.6	+0.8	MILM			eL L	11 02 18.0	
YVAC	Isparta, Yalva	3.52	137	P	Pn	11 00 19.6	-0.9	SCTR	Scanteiesti	4.78	358 ⇑P		Pn	11 00 38.5	+0.8	MILM			LgM	11 02 58.0	
BAGO	Egridir - ISPA	3.52	144	P	Pn	11 00 20.0	-0.6	AKSY	AKSARAY - Alti	4.84	116	P	Pn	11 00 37.1	-1.5		comp=Z,123µm,13.0s				
KURC	Kurucasile-Bar	3.56	73	Pn	Pn	11 00 20.6	-0.3	KSL	Kastellorizon	4.86	167	P	Pn	11 00 39.4	+0.6	MILM			LRM MLR	11 03 20.0	
ISP	Isparta	3.56	149		Pn	11 00 20.0	-1.0	AKUM	Antalya-Kumluc	4.86	159	P	Pn	11 00 39.2	+0.3		comp=Z,79µm,11.0s				
ISP	Isparta	3.56	149	P	Pn	11 00 20.0	-1.0	AGG	Agios Georgios	4.88	249	P	Pn	11 00 37.8	-1.3	MILM	Milestii Mici	6.04	4 *e*P Pn	11 00 54.0	-1.0
ISP	Isparta	3.56	149	⇓P	Pn	11 00 19.9	-1.0	AGG	Agios Georgios	4.88	249	P	Pn	11 00 37.3	-1.8	MILM			*e*S Sn	11 02 03.0	-1.1
TIRR	Tirgusor	3.57	3	Pn	Pn	11 00 21.2	+0.1	AGG	Agios Georgios	4.88	249	⇑P	Pn	11 00 37.3	-1.8	MILM			MLR MLR		
TIRR	Tirgusor	3.57	3		Pn	11 00 21.1	+0.1	MLR	Muntele Rosu	4.88	341	Pn	Pn	11 00 40.4	+1.1		comp=Z,79µm,11.0s				
TIRR	Tirgusor	3.57	3	⇑P	Pn	11 00 21.2	+0.1	MLR	Muntele Rosu	4.88	341		Pn	11 00 39.7	+0.4	GOCS	Kraljevo Serbi	6.05	299 *e*Pn Pn	11 00 55.0	-0.3
TIRR	Tirgusor	3.57	3	P	Pn	11 00 21.0	-0.1	MLR	Muntele Rosu	4.88	341	Pn	Pn	11 00 39.9	+0.6	NE56	Odesa	6.11	18 Pn Pn	11 00 55.6	-0.3
TIRR				S	Sn	11 01 02.7	-0.5		comp=Z,158nm,0.3s,baz=188,slow=2.2,SNR=966							KIS	Kishinev	6.12	4 ⇓P Pn	11 00 57.9	+1.8
TIRR	Tirgusor	3.57	3	⇑P	Pn	11 00 20.8	-0.3	MLR				Lg	Lg	11 02 00.7		KIS	Kishinev	6.12	4 *e*P Pn	11 00 55.0	-1.1
TIRR	Tirgusor	3.57	3	Pn	Pn	11 00 21.4	+0.3		comp=Z,94nm,0.3s,baz=14,slow=11,SNR=5.2							KIS			*e*S Sn	11 02 05.0	-1.1
PAIG	Paliouri	3.58	256	P	Pn	11 00 19.5	-1.6	MLR	Muntele Rosu	4.88	341 ⇑P		Pn	11 00 40.7	+1.5	KIS			eL L	11 02 47.0	
MLSB	Milas	3.60	185	Pn	Pn	11 00 21.5	-0.1	MLR	Muntele Rosu	4.88	341	*e*Pn	Pn	11 00 41.2	+1.9	KIS			LgM	11 03 07.0	
MULA	Mugla, Merkez-	3.63	178	P	Pn	11 00 19.6	-2.4	MLR	Muntele Rosu	4.88	341	P	Pn	11 00 40.7	+1.5		comp=Z,61µm,12.5s				
PLVB	Pleven	3.64	314 ⇓P		Pn	11 00 22.4	+0.3	MLR	Muntele Rosu	4.88	341	Pn	Pn	11 00 39.9	+0.6	KIS			LRM MLR	11 03 26.0	
PLG	Polygyros	3.65	263	P	Pn	11 00 20.7	-1.5	CDAG	Cicekdag	4.89	103	P	Pn	11 00 37.6	-1.8		comp=Z,32µm,11.0s				
TLBR	Topalu	3.65	358 ⇑P		Pn	11 00 22.4	+0.2	MTUR	Matau	4.90	333 ⇓P		Pn	11 00 40.3	+0.8	KIS	Kishinev	6.12	4 *e*P Pn	11 00 55.0	-1.1
ANTO	Ankara	3.66	105	Pn	Pn	11 00 22.2	-0.2	MTUR	Matau	4.90	333	P	Pn	11 00 40.3	+0.8	KIS			*e*S Sn	11 02 05.0	-1.1
ANTO	Ankara	3.66	105		Pn	11 00 23.1	+0.7	THL	Klokotos Trika	4.91	256	P	Pn	11 00 38.1	-1.4	KIS			eL L	11 02 47.0	
ANTO	Ankara	3.66	105	P	Pn	11 00 23.3	+0.9	BLKB	Belogradchik	4.92	306	⇑P	Pn	11 00 39.6	-0.1	KIS			LgM	11 03 07.0	
ANTO	Ankara	3.66	105	⇓P	Pn	11 00 21.9	-0.5	BLKB	Belogradchik	4.92	306	*e*Pn	Pn	11 00 39.4	-0.3		comp=Z,61µm,12.5s				
ANTO	Ankara	3.66	105	P	Pn	11 00 21.9	-0.5	BLKB				*e*Sn	Sn	11 01 34.3	-2.3	KIS			LRM MLR	11 03 26.0	
ANTO	Ankara	3.66	105	⇓P	Pn	11 00 21.2	-1.2	KZN	Kozani	4.92	265	P	Pn	11 00 40.0	+0.2		comp=Z,32µm,11.0s				
ANTO	Ankara	3.66	105	Pn	Pn	11 00 22.0	-0.2	BOYA	Sinop/Boyabat-	4.94	80	P	Pn	11 00 39.0	-0.9	ITM	Ithomi	6.12	235 Pn	11 00 56.6	+0.4
DNZT	Denizli-Tavas-	3.66	170	P	Pn	11 00 20.6	-1.9	ODBI	Odobesti	4.94	351 ⇑P		Pn	11 00 41.4	+1.5	ITM	Ithomi	6.12	235 ⇑P Pn	11 00 56.1	-0.1
SOH	Sokhos	3.67	271	P	Pn	11 00 21.5	-1.0	ODBI	Odobesti	4.94	351	Pn	Pn	11 00 40.6	+0.7	MDVR	Moldovita	6.15	311 ⇑P Pn	11 00 56.2	-0.3
SOH	Sokhos	3.67	271	P	Pn	11 00 21.4	-1.1	VLDR	Vladesti	4.95	355 ⇓P		Pn	11 00 40.8	+0.7	MDVR	Moldovita	6.15	311 *e*Pn Pn	11 00 56.0	-0.6
CIDE	Kastamonu/Cide	3.71	73	P	Pn	11 00 22.0	-1.0	LTK	Loutraki	4.96	236	P	Pn	11 00 39.1	-1.0	SVIS	Svilajnac	6.16	306 *e*Pn Pn	11 00 56.8	+0.2
CIDE	Kastamonu/Cide	3.71	73	⇑P	Pn	11 00 23.8	+0.8	COSR	Cosmesti PH	5.00	353 ⇓P		Pn	11 00 41.6	+0.8	IGT	Igoumenitsa	6.17	260 *e*Pn Pn	11 00 58.7	+1.9
SGRR	Singureni	3.71	335 ⇑P		Pn	11 00 23.2	+0.2	VARL	Varlezi	5.01	357 ⇑P		Pn	11 00 42.2	+1.3	IDI	Anoyia	6.17	206 P Pn	11 00 56.4	-0.5
LEHL	Lehliu	3.72	345 ⇑P		Pn	11 00 24.0	+0.8	AYAZ	Ayas K¶y, M	5.06	90	P	Pn	11 00 40.5	-1.2	IDI	Anoyia	6.17	206 S Sn	11 02 19.2	+7.8
AOS	Alonnisos	3.73	244	P	Pn	11 00 22.1	-1.2	PLOR5	Plostina Array	5.08	348	Pn	Pn	11 00 42.4	+0.6	IDI	Anoyia	6.17	206 Pn Pn	11 00 56.6	-0.3
AMRR	Amara	3.77	351 ⇓P		Pn	11 00 24.4	+0.5		comp=Z,21nmcomp=Z,40µmcomp=Z,1µm,1.0s							IDI	Anoyia	6.17	206 Pn Pn	11 00 55.4	-1.5
AMRR	Amara	3.77	351	P	Pn	11 00 24.3	+0.5	PLOR	Plostina	5.08	348 ⇑P		Pn	11 00 43.4	+1.5		comp=Z,3.2nm,0.3s,baz=37,slow=17,SNR=19				
GOLH	Golhisar	3.80	163	P	Pn	11 00 23.3	-1.0	PLOR	Plostina	5.08	348	P	Pn	11 00 43.4	+1.5	IDI			LR LR	11 03 11.4	
HARR	Harsova	3.80	357 ⇑P		Pn	11 00 24.3	0.0	VRI	Vrincioaia	5.09	348	Pn	Pn	11 00 43.0	+1.1		com

BZS Buzias 6.73 317 ⇓P Pn 11 01 02.8 -1.7
CBBR Cluj-Babes-Bol 6.77 332 ⇑P Pn 11 01 05.5 +0.5
KOME Kolasin 6.77 290 *e*Pn **Pn 11 01 06.4 +1.3**
ARCR ARCALIA 6.78 337 ⇑P Pn 11 01 05.9 +0.6
AVAS Avala Beograd 6.81 306 *e*Pn **Pn 11 01 04.7 -0.9**
BANR Banloc 6.84 313 ⇓P Pn 11 01 06.1 +0.1
BANR Banloc 6.84 313 *e*Pn **Pn 11 01 05.8 -0.2**
MARR Marisel-Cluj 6.85 329 ⇓P Pn 11 01 07.4 +1.2
DIVS Divibare 6.86 301 *e*Pn **Pn 11 01 05.7 -0.6**
DRME Dracevica, Mon 6.88 284 *e*Pn **Pn 11 01 09.1 +2.5**
BEO Beograd 6.89 307 *e*Pn **Pn 11 01 05.8 -0.9**
BURAR Bucovina Array 7.05 343 Pn 11 01 09.6 +0.5
BURAR Bucovina Array 7.05 343 ⇑P Pn 11 01 10.3 +1.3
BURAR Bucovina Array 7.05 343 P Pn 11 01 10.3 +1.3
BUR08 Bucovina Ar. S 7.08 343 Pn 11 01 09.7 +0.2
RUDO Rudo 7.09 296 *e*Pn **Pn 11 01 08.3 -1.2**
RUDO Rudo 7.09 296 *e*Pn **Pn 11 01 08.9 -0.6**
DRGR 7.11 328 ⇓P Pn 11 01 09.5 -0.2
DRGR 7.11 328 *e*Pn **Pn 11 01 09.2 -0.5**
DRGR 7.11 328 P Pn 11 01 09.5 -0.2
BAL3X Bal3x, Balta 7.12 8 Pn Pn 11 01 08.9 -0.9
BBLS Lazi&#263i 7.15 297 *e*Pn **Pn 11 01 10.3 -0.1**
SIRR Siria 7.17 321 ⇓P Pn 11 01 10.1 -0.4
SIRR Siria 7.17 321 *e*Pn **Pn 11 01 09.8 -0.7**
CSS Mathiatis 7.17 144 Pn 11 01 10.0 -0.7
CSS Mathiatis 7.17 144 ⇓P Pn 11 01 08.8 -1.8
CSS Mathiatis 7.17 144 Pn Pn 11 01 09.6 -1.1
comp=E,3.2nmcomp=E,10μmcomp=E,426nm,1.5s
MESR Meseseni 7.31 331 ⇑P Pn 11 01 12.5 +0.1
TEKS Tekeris 7.35 303 *e*Pn **Pn 11 01 12.1 -1.0**
FRGS Fruska Gora 7.48 308 *e*Pn **Pn 11 01 14.5 -0.3**
KERU Kerch 7.49 51 *e*P **Pn 11 01 18.6 +3.7**
KERU Kerch 7.49 51 *e*P **Pn 11 01 18.6 +3.7**
KERU Pm 11 00 30.4
comp=Z,1μm,0.8s
KERU Sm 11 01 58.2
comp=E,4μm,1.2s
KERU *e*S **Sn 11 02 43.5 +3.8**
KERU Sm 11 02 58.2
comp=N,4μm,1.3s
KERU x x 11 09 00.4
comp=Z,32μm,15.6s
KLINJ Klinje 7.51 291 *e*Pn **Pn 11 01 16.6 +1.3**
BMR Baia Mare 7.57 335 ⇑P Pn 11 01 17.0 +1.0
BMR Baia Mare 7.57 335 P Pn 11 01 17.0 +1.0
TREB Trebinje 7.58 287 ⇑ *i*Pn **Pn 11 01 18.8 +2.7**
TREB Trebinje 7.58 287 *e*Pn **Pn 11 01 18.8 +2.7**
CHRU Chernivtsi 7.58 348 Pn Pn 11 01 15.3 -0.9
comp=Z,1.7nmcomp=Z,4μmcomp=Z,188nm,1.2s
RAKU Rahkiv 7.69 339 Pn Pn 11 01 16.3 -1.4
NDNU Novodnistrovsk 7.73 356 Pn Pn 11 01 16.9 -1.2
BORR Bors 7.73 325 ⇑P Pn 11 01 18.8 +0.7
KSV Kosov 7.75 344 Pn Pn 11 01 17.1 -1.4
KMPD K-Podol'skiy 7.77 351 Pn Pn 11 01 16.4 -2.3
ANN Anapa 7.83 57 *e*P **Pn 11 01 18.7 -0.9**
ANN *e*S **Sn 11 02 45.1 -3.0**
ANN pmax pmax
comp=Z,1μm,1.5s
GAZ Gaziantep 7.94 115 ⇓P Pn 11 01 22.0 +0.8
STON Ston 8.08 288 ⇑ *i*Pn **Pn 11 01 24.3 +1.4**
STON Ston 8.08 288 *e*Pn **Pn 11 01 24.8 +1.9**
KORU Korolevo 8.11 335 Pn Pn 11 01 24.1 +0.7
TRSU Trosnyk 8.12 334 P Pn 11 01 24.7 +1.2
TRSU Trosnyk 8.12 334 Pn Pn 11 01 22.9 -0.6
STNU Starunia 8.25 343 Pn Pn 11 01 25.7 +0.4
BRIU Brid 8.31 335 Pn Pn 11 01 25.5 -0.6
MEZ Mezhgor'ye 8.32 338 Pn Pn 11 01 26.6 +0.3
BERU Beregovo 8.34 334 Pn Pn 11 01 25.7 -0.8
HORU Horodok 8.42 352 P Pn 11 01 25.6 -2.0
HORU Horodok 8.42 352 Pn Pn 11 01 25.8 -1.8
MUKU Mukachevo 8.52 334 Pn Pn 11 01 28.5 -0.5
HOLU Holmets 8.68 334 Pn Pn 11 01 30.4 -0.8
MATE Matera 8.72 272 ⇓P Pn 11 01 31.1 -0.6
MATE Matera 8.72 272 ⇑P Pn 11 01 31.2 -0.6
MORH Mrgy, Hungar 8.74 311 ⇓P Pn 11 01 31.5 -0.5
MORH Mrgy, Hungar 8.74 311 *e*Pn **Pn 11 01 31.7 -0.3**
MORH Mrgy, Hungar 8.74 311 Pn Pn 11 01 30.8 -1.2
comp=Z,2μmcomp=Z,184nm,0.7s
TIP Timpagrande 8.94 263 ⇑P Pn 11 01 33.7 -1.2
TIP Timpagrande 8.94 263 ⇑P Pn 11 01 34.0 -0.8
BEIL Beino 8.96 132 *e*P **Pn 11 01 35.2 +0.1**
BLY Banja Luka 8.96 299 *e*Pn **Pn 11 01 33.7 -1.4**
BLY Banja Luka 8.96 299 ⇑P Pn 11 01 35.3 +0.2
BLY Banja Luka 8.96 299 ⇑P Pn 11 01 35.8 +0.7
SOC Sochi 8.96 69 *c i*P **Pn 11 01 32.0 -3.1**
SOC *e* 11 03 14.0
SOC pmax pmax
comp=Z,204nm,1.2s
SOC MLR MLR
comp=Z,6μm,11.0s
KOVH Kovagotottos 8.99 309 ⇑P Pn 11 01 34.4 -1.1
HWQ Hawqa 9.02 135 *e*P **Pn 11 01 36.9 +0.8**
LUBAR Lubar, Ukraine 9.04 358 Pn Pn 11 01 33.9 -2.2
KOLS Kolonicke sedl 9.07 334 *e*P **Pn 11 01 37.2 +0.6**
BHL Bhannes 9.15 137 *e*P **Pn 11 01 37.7 -0.2**
VSLR Vesyoloye 9.16 70 *i*P **Pn 11 01 35.0 -2.8**
PSZ Piszkesteto 9.20 323 ⇓P Pn 11 01 38.0 -0.4
PSZ Piszkesteto 9.20 323 P Pn 11 01 37.9 -0.4
PSZ Piszkesteto 9.20 323 ⇓P Pn 11 01 37.1 -1.2
KIJV Kijevo 9.25 294 ⇑ *i*Pn **Pn 11 01 40.5 +1.4**
DORL Deir Qamar 9.27 138 *e*P **Pn 11 01 41.2 +1.8**
FKH Fakeheh 9.30 134 *e*P **Pn 11 01 41.0 +1.1**
KECS Kecovo 9.36 327 *e*P **Pn 11 01 40.4 -0.2**
LVV L'vov 9.39 343 P Pn 11 01 41.1 +0.1
LVV L'vov 9.39 343 Pn Pn 11 01 41.3 +0.3
SGRT San Giovanni R 9.41 279 Pn 11 01 41.4 0.0
QRWL Qaraoun 9.45 138 *e*P **Pn 11 01 43.6 +1.6**
CUC Castrocucco 9.48 269 Pn 11 01 42.4 +0.1
CUC Castrocucco 9.48 269 ⇑P Pn 11 01 42.3 +0.1
KWP Kalwaria Pacla 9.55 338 *e*P **Pn 11 01 44.2 +1.0**
KWP *e*S 11 04 39.3
KWP *e*L L 11 06 33.4
comp=Z,53μm,19.4s
KWP Kalwaria Pacla 9.55 338 ⇑P Pn 11 01 44.2 +1.0
KWP Kalwaria Pacla 9.55 338 Pn Pn 11 01 44.3 +1.1
comp=Z,8μmcomp=Z,704nm,1.2s
RCY Rachaya 9.57 138 *e*P **Pn 11 01 44.1 +0.5**
HNTI Hanita 9.58 142 ⇓P Pn 11 01 42.5 -1.1
MOSL Moslavina 9.59 303 ⇑ *i*Pn **Pn 11 01 43.1 -0.6**
SHBL Chebaa 9.64 139 *e*P **Pn 11 01 44.6 0.0**
AK07 Malin Array Si 9.69 4 Pn Pn 11 01 43.8 -1.2
NATI Neve Ativ 9.71 139 ⇓P Pn 11 01 44.4 -0.9
GEM Giv'at Ha'Em 9.71 140 ⇓P Pn 11 01 44.9 -0.5
GEM Giv'at Ha'Em 9.71 140 ⇓P Pn 11 01 44.7 -0.8
AK06 Malin Array Si 9.72 4 Pn Pn 11 01 44.2 -1.3
AK10 Malin Array Si 9.74 4 Pn Pn 11 01 44.2 -1.5
AK13 Malin Array Si 9.74 3 Pn Pn 11 01 44.3 -1.5
MMA0B Mount Meron ar 9.75 141 ⇓P Pn 11 01 44.7 -1.3
MMAI Mount Meron Ar 9.75 141 Pn Pn 11 01 45.6 -0.4
comp=Z,3.3nm,0.3s,baz=321,slow=14,SNR=106
MMAI LR LR 11 06 11.5
comp=Z,44μm,18.3s,baz=327,slow=42
comp=Z,146nm,1.0s
AK09 Malin Array Si 9.76 4 Pn Pn 11 01 44.7 -1.3
KIEV Kiev 9.83 4 Pn 11 01 45.5 -1.5
KIEV Kiev 9.83 4 ⇓P Pn 11 01 46.5 -0.5
KIEV Kiev 9.83 4 *i*P **Pn 11 01 45.5 -1.5**
SNR=8.8
KIEV Kiev 9.83 4 P Pn 11 01 46.5 -0.5
KIEV Kiev 9.83 4 ⇑P Pn 11 01 45.3 -1.7
KIEV Kiev 9.83 4 Pn Pn 11 01 45.5 -1.5
comp=Z,16μmcomp=Z,1μm,0.9s
AKASG Malin Array Be 9.84 4 Pn 11 01 45.3 -1.8
AKASG Malin Array Be 9.84 4 Pn Pn 11 01 45.2 -1.9
comp=Z,17nm,0.5s,baz=187,slow=12,SNR=44
AKASG Sn **Sn 11 03 33.2 -4.1**
comp=Z,48nm,0.3s,baz=184,slow=20,SNR=5.2
AKASG LR LR 11 06 13.5
comp=Z,12μm,19.4s,baz=181,slow=42
AKBB Malin Array Si 9.84 4 *c e*P **Pn 11 01 45.6 -1.5**
AKBB Malin Array Si 9.84 4 Pn 11 01 45.5 -1.5
CEL Celeste 9.85 259 ⇑P Pn 11 01 45.1 -2.3
BLGI Bet Lehem HaGe 9.88 143 ⇓P Pn 11 01 46.7 -1.1
OFRI Ofer 9.88 144 ⇓P Pn 11 01 46.1 -1.8
SRO Srobarova 9.89 318 *e*P **Pn 11 01 56.7 +8.9**
LABN Labinsk 9.95 64 *e*P **Pn 11 01 47.4 -1.2**
LABN *e*S **Sn 11 03 32.6 -7.5**
LABN pmax pmax
comp=Z,470nm,1.0s
LABN MLR MLR
comp=Z,13μm,12.0s
KSHT Keshet 9.97 140 ⇓P Pn 11 01 48.5 -0.5

BEHE Becsehely 9.97 308 ⇑ *i*Pn **Pn 11 01 48.9 -0.1**
BEHE Becsehely 9.97 308 *i*Pn **Pn 11 01 47.5 -1.4**
ERBR Yeremizino-Bor 10.17 58 *e*P **Pn 11 01 50.7 -1.0**
ERBR *e*S **Sn 11 03 41.2 -4.4**
ERBR pmax pmax
comp=Z,559nm,1.4s
ERBR MLR MLR
comp=Z,13μm,24.0s
NIE Niedzica 10.18 330 *e*P **Pn 11 01 52.6 +0.8**
NIE *e*S 11 04 54.9
NIE *e*L L 11 05 52.0
comp=Z,22μm,22.4s
BATM Batumi 10.20 82 ⇓P Pn 11 01 52.5 +0.4
BATM Batumi 10.20 82 P Pn 11 01 52.4 +0.4
SLTI Sal'it 10.23 145 ⇓P Pn 11 01 50.8 -1.8
MMLI Mount Malkishu 10.24 143 ⇓P Pn 11 01 51.5 -1.2
KOGS Kog 10.28 307 *i*Pn **Pn 11 01 52.9 -0.2**
KOGS *e*Sn Sn 11 04 07.8 +20
LANS Liptovska Anna 10.31 326 *e*P **Pn 11 01 56.7 +3.1**
PAOL Paolisi 10.31 275 Pn 11 01 54.2 +0.6
OZLJ Ozalj 10.41 301 ⇑ *i*Pn **Pn 11 01 54.9 0.0**
HMDT Nahal Hemdat 10.44 143 ⇓P Pn 11 01 54.7 -0.7
SALP Salfit 10.45 145 ⇓P Pn 11 01 54.0 -1.5
BOJS Bojanci 10.51 300 *e*Pn **Pn 11 01 55.9 -0.4**
RNPP8 Varash 10.57 352 P Pn 11 01 55.1 -2.0
RNPP9 Sopachiv 10.64 352 P Pn 11 01 56.0 -2.1
ZST Bratislava 10.76 316 *e*P **Pn 11 02 08.4 +8.7**
MODS Modra-Piesok 10.78 318 *e*P **Pn 11 02 07.9 +7.8**
INTR Introdacqua 10.79 281 Pn 11 02 00.2 +0.1
RONA Rosalia, Austr 10.90 313 *e*Pn **Pn 11 02 01.5 -0.2**
comp=Z,55nm,0.8s,SNR=16
JAVC Velka Javorina 10.91 320 *e*PN **Pn 11 02 01.7 -0.1**
GURO Guroymak-BITLI 10.91 98 ⇑P Pn 11 02 03.9 +1.9
DSI Dead Sea 10.96 146 P Pn 11 02 01.1 -1.4
OJC Ojcow 11.02 331 *e*P **Pn 11 02 03.2 -0.1**
OJC *e*S Sn 11 04 27.5 +21
OJC *e*L L 11 06 51.8
comp=Z,25μm,21.2s
OJC Ojcow 11.02 331 Pn 11 02 02.8 -0.5
OJC Ojcow 11.02 331 P Pn 11 02 02.8 -0.5
OJC Ojcow 11.02 331 ⇓P Pn 11 02 03.3 -0.1
OJC Ojcow 11.02 331 P Pn 11 02 02.9 -0.4
comp=Z,3μmcomp=Z,91nm,1.6s
YTIR Yattir 11.03 147 ⇓P Pn 11 02 01.9 -1.6
SHA1 Shidzhatmaz 11.08 70 *i*P **Pn 11 02 02.6 -1.8**
ARSA Arzberg 11.11 309 *i*Pn **Pn 11 02 04.6 +0.1**
comp=Z,43nm,1.1s,SNR=17
ARSA Arzberg 11.11 309 ⇑P Pn 11 02 04.7 +0.1
ARSA Arzberg 11.11 309 *e*P **Pn 11 02 04.6 +0.1**
SOKA Soboth 11.13 306 *i*Pn **Pn 11 02 04.7 -0.2**
comp=Z,84nm,0.9s,SNR=35
KIV Kislovodsk 11.14 69 Pn 11 02 03.4 -1.7
KIV Kislovodsk 11.14 69 P Pn 11 02 03.0 -2.1
KIV P Pn 11 02 03.0 -2.1
KIV P Pn 11 02 03.0 -2.1
KIV Kislovodsk 11.14 69 *i*P **Pn 11 02 03.7 -1.4**
SNR=6.9
KIV Kislovodsk 11.14 69 *e*P **Pn 11 02 03.6 -1.5**
KIV *e*S **Sn 11 04 09.0 -0.6**
KIV pmax pmax
comp=Z,108nm,1.1s
KIV MLR MLR
comp=Z,7μm,13.0s
KIV Kislovodsk 11.14 69 ⇑P Pn 11 02 03.9 -1.2
KIV Kislovodsk 11.14 69 P Pn 11 02 03.9 -1.2
comp=Z,4μmcomp=Z,325nm,1.0s
KVAR Kislovodsk Arr 11.15 69 Pn Pn 11 02 03.3 -1.9
baz=264,slow=19
KVAR Sn **Sn 11 04 06.3 -3.4**
baz=267,slow=14
comp=Z,7.3nm,0.6s
KZIT Kziot 11.16 151 ⇓P Pn 11 02 02.8 -2.4
KZIT Kziot 11.16 151 ⇓P Pn 11 02 02.8 -2.4
ASF Jabal al Asfar 11.16 138 Pn Pn 11 02 05.3 0.0
comp=Z,0.2nm,0.3s,baz=348,slow=5.1,SNR=47
ASF LR LR 11 07 18.0
comp=Z,51μm,18.4s,baz=350,slow=43
comp=Z,76nm,1.3s
AQU L'Aquila 11.17 282 P Pn 11 02 04.9 -0.5
AQU L'Aquila 11.17 282 ⇑ *i*Pn **Pn 11 02 05.1 -0.3**
AQU L'Aquila 11.17 282 P Pn 11 02 06.5 +1.1
AQU L'Aquila 11.17 282 ⇑P Pn 11 02 05.3 -0.2
AQU L'Aquila 11.17 282 P Pn 11 02 06.3 +0.9
comp=Z,3μmcomp=Z,286nm,1.7s
MSBI Mazada 11.17 147 ⇓P Pn 11 02 04.2 -1.2
MSBI Mazada 11.17 147 ⇓P Pn 11 02 04.1 -1.3
VAE Valguarnera 11.22 257 Pn Pn 11 02 06.9 +0.7
comp=Z,7.2nm,0.5s,baz=70,slow=11,SNR=5.4
VAE LR LR 11 06 28.3
comp=Z,6μm,19.2s,baz=60,slow=38
KBZ Khabaz 11.25 71 Pn Pn 11 02 05.9 -0.6
comp=Z,0.6nm,0.3s,baz=256,slow=12,SNR=13
comp=Z,5.9nm,0.7s
KBZ Khabaz 11.25 71 *c e*P **Pn 11 02 06.8 +0.3**
GHAJ Ghor Haditha 11.27 146 P Pn 11 02 05.9 -0.8
GHAJ Ghor Haditha 11.27 146 ⇓P Pn 11 02 05.8 -0.9
CONA Conrad Observa 11.27 313 *e*Pn **Pn 11 02 06.6 -0.2**
comp=Z,159nm,1.4s,SNR=12
BRJN Brijuni 11.33 296 ⇑ *i*Pn **Pn 11 02 06.7 -0.8**
OBKA Obir 11.36 304 *e*Pn **Pn 11 02 08.3 +0.3**
comp=Z,18nm,0.5s,SNR=9.9
OBKA Obir 11.36 304 *e*P **Pn 11 02 08.3 +0.3**
OKC Ostrava-Krasne 11.39 325 *e*PN **Pn 11 02 09.2 +0.9**
OKC AMS AMS 11 07 20.0
comp=Z,120μm,46.6s
OKC Ostrava-Krasne 11.39 325 *e*P **Pn 11 02 09.2 +0.9**
JAVS Javornik 11.43 301 *e*Pn **Pn 11 02 07.9 -1.1**
RAC Raciborz 11.55 326 *e*P **Pn 11 02 13.1 +2.5**
RAC *e*S **Sn 11 04 24.2 +4.8**
RAC AMS AMS 11 08 01.0
comp=Z,51nm,13.5s
RAC Raciborz 11.55 326 *e*P **Pn 11 02 13.1 +2.5**
RAC *e*S **Sn 11 04 24.2 +4.8**
RAC MLR MLR
comp=Z,51μm,13.5s
TRI Trieste 11.56 299 Pn 11 02 08.7 -2.0
TRI Trieste 11.56 299 P Pn 11 02 08.7 -2.0
MORC Moravsky Berou 11.61 323 Pn 11 02 10.6 -0.8
MORC Moravsky Berou 11.61 323 *e*PN **Pn 11 02 11.1 -0.3**
MORC Moravsky Berou 11.61 323 P Pn 11 02 10.6 -0.8
MORC Moravsky Berou 11.61 323 ⇑P Pn 11 02 10.9 +0.4
GOF Gofitskoye 11.65 64 *c e*P **Pn 11 02 09.4 -2.5**
GOF *e*S **Sn 11 04 29.8 +8.0**
KRUC Moravsky 11.67 318 *e*PN **Pn 11 02 11.4 -0.8**
NCK Nalchik 11.72 72 *i*P **Pn 11 02 13.2 +0.3**
VRAC Vranov 11.74 320 Pn Pn 11 02 12.5 -0.6
comp=Z,0.2nm,0.3s,baz=144,slow=15,SNR=12
VRAC LR LR 11 07 13.4
comp=Z,25μm,20.9s,baz=126,slow=40
comp=Z,12nm,1.0s
VRAC Vranov 11.74 320 *e*PN **Pn 11 02 13.2 +0.1**
ZFRI Zfri 11.77 149 ⇓P Pn 11 02 11.0 -2.6
WDD Wied Dalam 11.85 249 Pn 11 02 13.2 -1.5
MYKA Terra Mystica 11.98 303 *e*Pn **Pn 11 02 16.9 +0.4**
comp=Z,66nm,1.0s,SNR=21
BEL Belsk 12.07 338 *e*P **Pn 11 02 18.3 +0.6**
BEL *e*S 11 05 42.4
BEL *e*L L 11 07 39.6
comp=Z,1130μm,17.7s
MOA Molln 12.14 310 *e*Pn **Pn 11 02 18.9 +0.2**
comp=Z,52nm,0.9s,SNR=16
MOA Molln 12.14 310 *e*P **Pn 11 02 19.2 +0.5**
MGAB Montegabbione 12.15 285 ⇑P Pn 11 02 18.7 -0.1
KRLC Kraliky 12.17 323 *e*PN **Pn 11 02 19.7 +0.6**
KRLC AMS AMS 11 07 50.0
comp=Z,63μm,12.8s
KRLC Kraliky 12.17 323 *e*P **Pn 11 02 19.7 +0.6**
KRLC MLR MLR
comp=Z,63μm,12.8s
HRFI Mount Harif 12.18 151 ⇓P Pn 11 02 16.5 -2.7
TREC Trest 12.28 317 AMS AMS 11 07 50.0
comp=Z,47μm,13.7s
R9F13 Warsaw-Wawer 12.32 339 *e*P **Pn 11 02 24.5 +3.5**
R9F13 *e*S Sn 11 04 17.0 -21
R9F13 *e*Sg 11 05 50.9
KBA Koelnbreinsper 12.35 305 *e*Pn **Pn 11 02 21.8 +0.2**
comp=Z,51nm,1.1s
KBA Koelnbreinsper 12.35 305 ⇑P Pn 11 02 22.3 +0.7
KBA Koelnbreinsper 12.35 305 *e*P **Pn 11 02 23.4 +1.8**
BIOA Bad Ischl, Aus 12.44 308 *e*Pn **Pn 11 02 23.3 +0.6**
comp=Z,68nm,1.1s,SNR=13
EIL Elat 12.48 152 Pn Pn 11 02 20.5 -2.8
comp=Z,0.5nm,0.3s,baz=352,slow=3.3,SNR=12
EIL LR LR 11 08 43.5
comp=Z,15μm,19.5s,baz=323,slow=45
comp=Z,22nm,0.8s
DPC Dobruska-Polom 12.57 323 *e*PN **Pn 11 02 26.2 +1.6**
DPC AMS AMS 11 08 10.0
comp=Z,58μm,12.9s
DPC Dobruska-Polom 12.57 323 *e*P **Pn 11 02 26.2 +1.6**
DPC MLR MLR
comp=Z,58μm,12.9s
DPC Dobruska-Polom 12.57 323 P Pn 11 02 25.7 +1.1
comp=Z,5μmcomp=Z,48nm,1.2s
GNI Garni 12.62 88 Pn 11 02 28.9 +3.5
GNI Garni 12.62 88 Pn Pn 11 02 26.3 +1.0
comp=Z,0.8nm,0.3s,baz=276,slow=10,SNR=16
GNI LR LR 11 07 35.7
comp=Z,15μm,21.6s,baz=256,slow=39
comp=Z,24nm,0.9s
GNI Garni 12.62 88 P Pn 11 02 27.2 +1.9
GNI P Pn 11 02 27.2 +1.9
GNI Garni 12.62 88 ⇑P Pn 11 02 29.0 +3.6
GNI Garni 12.62 88 P Pn 11 02 24.8 -0.5
comp=Z,11μmcomp=Z,379nm,1.2s
CKRC Cesky Krumlov 12.63 314 *e*PN **Pn 11 02 26.3 +1.0**
CKRC AMS AMS 11 08 00.0
comp=Z,47μm,12.6s
CKRC Cesky Krumlov 12.63 314 *e*P **Pn 11 02 26.3 +1.0**
CKRC MLR MLR
comp=Z,47μm,12.6s
VORD Divnogorie 12.68 34 *e*P **Pn 11 02 24.0 -2.0**
VORD pmax pmax
comp=Z,170nm,1.0s
VORD MLR MLR
comp=Z,3μm,7.0s
ABTA Abfaltersbach 12.74 303 *e*Pn **Pn 11 02 26.6 -0.3**
comp=Z,57nm,0.7s,SNR=22
OSTC Ostas 12.77 323 *e*PN **Pn 11 02 29.9 +2.7**
OSTC AMS AMS 11 08 10.0
comp=Z,56μm,12.2s
OSTC Ostas 12.77 323 *e*P **Pn 11 02 29.9 +2.7**
OSTC MLR MLR
comp=Z,56μm,12.2s
VSR Storozhevoye 12.82 33 *e*P **Pn 11 02 24.4 -3.4**
VSR pmax pmax
comp=Z,210nm,1.0s
VSR MLR MLR
comp=Z,15μm,11.0s
UPC Upice 12.83 323 *e*PN **Pn 11 02 29.9 +1.9**
UPC AMS AMS 11 08 20.0
comp=Z,50μm,12.5s
UPC Upice 12.83 323 *e*P **Pn 11 02 29.9 +1.9**
UPC MLR MLR
comp=Z,50μm,12.5s
CHVC Chvalec 12.86 323 *e*PN **Pn 11 02 29.9 +1.4**
CHVC AMS AMS 11 08 10.0
comp=Z,51μm,12.3s
CHVC Chvalec 12.86 323 *e*P **Pn 11 02 29.9 +1.4**
CHVC MLR MLR
comp=Z,51μm,12.3s
LESA Schwarzleotal 12.90 306 *e*Pn **Pn 11 02 29.4 +0.3**
comp=Z,34nm,0.8s,SNR=15
KSP Ksiaz 12.94 324 *e*P **Pn 11 02 30.4 +0.9**
KSP *e*S Sn 11 05 47.7 +54
KSP *e*L L 11 08 34.1
comp=Z,47μm,15.9s
KSP Ksiaz 12.94 324 ⇑P Pn 11 02 30.1 +0.6
KSP Ksiaz 12.94 324 P Pn 11 02 29.9 +0.4
comp=Z,5μmcomp=Z,94nm,1.6s
RJOB Jochberg 12.97 307 *e*P **Pn 11 02 30.8 +0.8**
GEC2 GERESS Array S 12.98 313 *e*P **Pn 11 02 30.9 +0.7**
GERES GERESS Array B 12.98 313 Pn Pn 11 02 30.2 0.0
comp=Z,0.1nm,0.3s,baz=122,slow=13,SNR=33
GERES Sn **Sn 11 04 49.6 -4.9**
comp=Z,0.1nm,0.3s,baz=116,slow=29,SNR=1.1
GERES LR LR 11 08 12.3
comp=Z,27μm,21.4s,baz=128,slow=41
comp=Z,5.2nm,0.6s
ZVC Zvikov 13.05 316 *e*PN **Pn 11 02 33.3 +2.3**
ZVC AMS AMS 11 08 30.0
comp=Z,55μm,12.1s
VORR Voronezh 13.19 31 *e*P **Pn 11 02 31.3 -1.5**
VORR pmax pmax
comp=Z,150nm,0.4s
VORR MLR MLR
comp=Z,9μm,7.0s
PRU Pruhonice 13.20 318 *e*PN **Pn 11 02 32.8 -0.2**
PRU AMS AMS 11 08 30.0
comp=Z,61μm,13.0s
PRU Pruhonice 13.20 318 *e*P **Pn 11 02 32.8 -0.2**
PRU MLR MLR
comp=Z,61μm,13.0s
KHC Kasperske Hory 13.20 313 *e*PN **Pn 11 02 33.0 -0.2**
KHC x x 11 03 24.0
KHC AMS AMS 11 08 20.0
comp=Z,59μm,12.7s
KHC Kasperske Hory 13.20 313 *e*P **Pn 11 02 33.0 -0.2**
KHC MLR MLR
comp=Z,59μm,12.7s
KHC Kasperske Hory 13.20 313 ⇑P Pn 11 02 33.2 0.0
KHC Kasperske Hory 13.20 313 P Pn 11 02 34.1 +0.9
comp=Z,3μmcomp=Z,67nm,1.8s
PRA Prague 13.30 318 AMS AMS 11 08 30.0
comp=Z,60μm,13.2s
WTTA Wattenberg 13.49 304 *e*Pn **Pn 11 02 37.3 +0.1**
comp=Z,211nm,1.7s
PVCC Panska Ves 13.53 320 *e*PN **Pn 11 02 40.0 +2.5**
PVCC AMS AMS 11 08 50.0
comp=Z,78μm,12.2s
PVCC Panska Ves 13.53 320 *e*P **Pn 11 02 40.0 +2.5**
PVCC MLR MLR
comp=Z,78μm,12.2s
VLC Villacollemand 13.53 290 P Pn 11 02 36.1 -1.6
VLC Villacollemand 13.53 290 ⇑P Pn 11 02 37.3 -0.3
SUW Suwalki 13.55 347 *e*P **Pn 11 02 34.0 -3.9**
SUW *e*S S 11 06 44.0 +72
SUW *e*L L 11 08 20.8
comp=Z,17μm,18.8s
SUW Suwalki 13.55 347 Pn 11 02 33.9 -3.9
SUW Suwalki 13.55 347 *e*P **Pn 11 02 34.3 -3.5**
SUW Suwalki 13.55 347 P Pn 11 02 33.9 -3.9
WATA Walderalm 13.55 304 Pn Pn 11 02 37.1 -0.9
comp=Z,208nm,1.7s,SNR=17
WET Wettzell 13.60 312 *e*P **Pn 11 02 38.1 -0.5**
MNK Minsk 13.62 359 *i*P **Pn 11 02 38.0 -0.7**
comp=E,204nm,1.1s
MNK *i* P **Pn 11 02 38.0 -0.7**
comp=N,24nm,0.8s
MNK *i* P **Pn 11 02 38.0 -0.7**
comp=Z,132nm,0.9s,baz=179
MNK *i* PP **P 11 02 48.2 +0.5**
MNK *i* S **Sn 11 05 09.9 0.0**
MNK *i* SS **S 11 05 29.2 -3.8**
MNK *i* LR LR 11 07 06.2
MNK *i* LRM MLR 11 08 10.2
comp=Z,17μm,14.0s
MNK *i* LRM MLR 11 08 16.4
comp=N,11μm,12.8s
MNK *i* LRM MLR 11 08 22.5
comp=E,14μm,14.3s
MNK Minsk 13.62 359 *i*P **Pn 11 02 38.0 -0.7**
MNK *i* S **Sn 11 05 09.9 0.0**
MNK pmax pmax
comp=E,204nm,1.1s
MNK pmax pmax
comp=N,24nm,0.8s
MNK pmax pmax
comp=Z,132nm,0.9s
MNK MLR MLR
comp=Z,17μm,14.0s
MNK MLR MLR
comp=N,11μm,13.0s
MNK MLR MLR
comp=E,14μm,14.0s
PRMA PARMA 13.68 292 Pn 11 02 38.4 -1.2
SQTA Sankt Quirin 13.74 303 *e*Pn **Pn 11 02 40.6 -0.1**
comp=E,181nm,1.7s,SNR=11
RICC Richard 13.77 319 AMS AMS 11 09 00.0
comp=E,59μm,14.4s
LPSR Galich'ya Gora 13.81 28 *e*P **Pn 11 02 37.8 -3.6**
LPSR pmax pmax
comp=Z,990nm,1.8s
LPSR MLR MLR
comp=Z,17μm,16.0s
MOTA Moosalm 13.86 303 *i*Pn **Pn 11 02 41.9 -0.3**
comp=Z,15nm,0.9s,SNR=11
VRH Novokhopyorsk 13.93 38 *e*P **Pn 11 02 40.1 -2.8**
VRH pmax pmax
comp=Z,580nm,0.8s

VRH MLR MLR
comp=Z,12µm,18.0s
FETA Feichten 13.98 302 *e*Pn **Pn 11 02 43.2 -0.7**
comp=Z,50nm,1.1s,SNR=13
BRG Berggiesshubel 14.05 320 *e*P **Pn 11 02 45.3 +0.6**
BRG Berggiesshubel 14.05 320 *e*P **Pn 11 02 45.9 +1.2**
BRG Amp 11 02 47.3
comp=Z,18nm,1.2s
BRG Berggiesshubel 14.05 320 P **P 11 02 50.6 -1.9**
BRG Amp 11 02 52.7
comp=Z,82nm,1.5s
BRG Berggiesshubel 14.05 320 P P 11 02 57.5 +5.0
BRG Amp 11 03 01.0
comp=Z,70nm,1.2s
BRG Berggiesshubel 14.05 320 S **Sn 11 05 20.0 -0.5**
BRG Berggiesshubel 14.05 320 SS **S 11 05 36.0 -5.9**
BRG ⇑PP 11 08 11.8
BRG Amp 11 08 13.7
comp=Z,81nm,1.6s
NACGM Naroch 14.05 357⇑ *i*P **Pn 11 02 40.1 -4.6**
comp=N,200nm,1.3s
RETA Reutte 14.12 304 *e*Pn **Pn 11 02 44.8 -0.9**
comp=N,72nm,1.1s
BOB Bobbio (Coli) 14.29 292 ⇓P **Pn 11 02 51.6 +3.6**
GKP Gorka Klasztor 14.44 333 *e*P **Pn 11 02 50.3 +0.4**
GKP *e*S S 11 06 55.0 +65
GKP *e*L L 11 09 29.3
comp=N,71µm,17.9s
GKP Gorka Klasztor 14.44 333 *e*P **Pn 11 02 52.5 +2.6**
VSL Villasalto 14.45 271 **Pn 11 02 49.3 -0.9**
VSL Villasalto 14.45 271 ⇑P **Pn 11 02 49.3 -0.9**
TANN Tannenbergstha 14.52 316 *e*P **Pn 11 02 50.6 -0.6**
MAK Makhachkala 14.53 75⇓ *i*P **Pn 11 02 54.2 +3.0**
MAK *e*S **Sn 11 05 39.2 +7.1**
MAK pmax pmax
comp=Z,2µm,1.2s
MAK MLR MLR
comp=Z,7µm,11.0s
UBR Ueberruh 14.61 304 *e*P **Pn 11 02 50.9 -1.5**
DAVA Damuels 14.62 302 Pn **Pn 11 02 52.4 -0.1**
comp=Z,15nm,1.1s,SNR=18
DAVA Damuels 14.62 302 ⇓P **Pn 11 02 53.7 +1.1**
TUE Stuetta 14.72 299 ⇓P **Pn 11 02 55.5 +1.4**
TUE Stuetta 14.72 299 P **Pn 11 02 56.0 +1.9**
comp=Z,13µmcomp=Z,483nm,1.7s
PLN Plauen 14.72 316 *e*P **Pn 11 02 53.1 -0.8**
ISAL Salakas 14.76 355 *e*P **Pn 11 02 51.0 -3.2**
CLL Collm 14.79 320 *i*P **Pn 11 02 55.1 +0.4**
CLL *e*S **Sn 11 05 36.0 -2.3**
CLL pmax pmax
comp=Z,456nm,1.9s
CLL Collm 14.79 320 P **Pn 11 02 54.6 -0.1**
comp=Z,7µmcomp=Z,118nm,2.1s
CLL Collm 14.79 320 *e*P **Pn 11 02 54.5 -0.3**
CLL Collm 14.79 320 *i*P **Pn 11 02 55.1 +0.4**
comp=Z,456nm,1.9s
CLL *e*sP **P 11 02 56.0 -4.7**
comp=Z,47nm,1.6s
CLL *i*x x 11 02 58.3
CLL *i*PP **PnPn 11 03 00.3 -2.3**
comp=Z,456nm,1.9s
CLL *i*sPP 11 03 05.3
CLL *e*x x 11 03 54.0
CLL *e*S **Sn 11 05 36.0 -2.3**
CLL Lmax 11 09 48.0
GRF Grafenberg Arr 14.81 312 *e*L L 11 09 17.0
comp=Z,30µm,18.4s
PABE Paberze 14.89 351 *e*P **Pn 11 02 53.8 -2.2**
MOX Moxa 15.10 316 *e*P **Pn 11 02 58.1 -0.9**
MOX *e*L L 11 08 56.7
comp=Z,20µm,19.5s
RUE Ruedersdorf 15.20 325 *e*P **Pn 11 02 57.9 -2.3**
RUE Ruedersdorf 15.20 325 *e*P **Pn 11 02 58.8 -1.5**
OBN Obninsk 15.28 19 Pn **Pn 11 02 58.9 -2.3**
comp=Z,5.4nm,0.3s,baz=170,slow=3.6,SNR=16
OBN Sn Sn 11 05 35.5 -15
comp=Z,7.1nm,0.3s,baz=276,slow=23,SNR=1.2
OBN LR LR 11 08 43.0
comp=Z,7µm,19.5s,baz=151,slow=37
OBN Obninsk 15.28 19*d i*P **Pn 11 02 58.4 -2.8**
OBN *e*S **Sn 11 05 50.3 +0.1**
OBN pmax pmax
comp=Z,368nm,1.3s
OBN MLR MLR
comp=Z,19µm,16.0s
NEUB Neuenburg 15.34 318 *e*P **Pn 11 03 03.0 +0.9**
MONC Moncucco Torin 15.40 292 ⇓P **P 11 03 06.1 -1.5**
STU Stuttgart 15.59 307 *e*P **P 11 03 08.1 -1.5**
STU Stuttgart 15.59 307 *e*P **Pn 11 03 05.8 +0.4**
KEST Kesra 15.66 257 Pn **Pn 11 03 05.9 -0.5**
comp=Z,0.2nm,0.3s,baz=66,slow=8.8,SNR=30
KEST LR LR 11 10 52.1
comp=Z,6µm,19.5s,baz=58,slow=44
comp=Z,18nm,1.0s
KEST Kesra 15.66 257 P **Pn 11 03 07.4 +1.0**
SNR=74
PBUR Paburge 15.69 347 *e*P **Pn 11 03 01.2 -5.5**
BFO Black Forest 15.95 304 **Pn 11 03 08.5 -1.6**
BFO Black Forest 15.95 304 P **Pn 11 03 08.5 -1.6**
BFO pmax pmax
comp=Z,120nm,1.0s
BFO Black Forest 15.95 304 ⇓P **Pn 11 03 10.8 +0.7**
BFO Black Forest 15.95 304 *e*P **Pn 11 03 08.4 -1.8**
UBBA Unterbreizbach 16.06 314 *e*P **Pn 11 03 11.8 +0.5**
MOS Moscow 16.10 20 *e*P **Pn 11 03 07.6 -4.3**
MOS *i*S **Sn 11 06 06.7 -3.6**
MOS pmax pmax
comp=Z,3µm,2.0s
MOS pmax pmax
comp=Z,1µm,1.4s
MOS pmax pmax
comp=N,1µm,1.4s
MOS pmax pmax
comp=E,657nm,1.4s
MOS MLR MLR
comp=Z,19µm,12.0s
BNI Bardonecchia 16.28 292 P **P 11 03 16.9 -0.5**
BNI Bardonecchia 16.28 292 P **P 11 03 16.9 -0.5**
BNI pmax pmax
comp=Z,123nm,1.1s
BNI Bardonecchia 16.28 292 ⇑P **P 11 03 16.6 -0.8**
FLTG Flechtingen 16.28 320 ⇑P **Pn 11 03 13.2 -1.0**
FLTG Flechtingen 16.28 320 *e*P **P 11 03 16.5 -0.7**
CLZ Clausthal 16.42 318 *e*P **Pn 11 03 15.0 -1.1**
ASSE Asse, Remlinge 16.44 319 *e*P **P 11 03 18.6 -0.3**
GTTG Gottingen 16.46 316 *e*P **Pn 11 03 16.5 -0.1**
TNS Taunus Mts 16.64 311 *e*P **Pn 11 03 18.0 -0.8**
ECH Echery 16.65 303 P **P 11 03 22.7 +1.2**
ECH Echery 16.65 303 ⇓P **P 11 03 20.7 -0.8**
GORT1 Trebel 16.66 322 *e*P **Pn 11 03 20.0 +1.0**
CMAH Djebel Manchou 16.75 262 P **P 11 03 23.0 +0.4**
ABSA Djebel Ababsia 16.83 261 P **Pn 11 03 21.0 -0.5**
KASTN Kahler Asten 17.12 314 *e*P **P 11 03 27.0 +0.4**
CAEH 'Ain El Ouahch 17.12 263 P **P 11 03 27.7 +1.0**
SLIT Slitere, Latvi 17.18 349 *e*P **Pn 11 03 21.5 -4.0**
CKFL Kef-Lekhel 17.35 262 P **P 11 03 31.3 +1.9**
RETH Rethem/Aller, 17.45 319 *e*P **P 11 03 29.9 -0.1**
BELG Belogornoye 17.55 43 P **Pn 11 03 28.8 -1.5**
comp=Z,596nm,1.0s,baz=66,slow=3.6,SNR=37
BELG S **Sn 11 06 38.2 -7.3**
comp=Z,101nm,0.8s,baz=2.7,slow=20,SNR=2.5
BELG Belogornoye 17.55 43 *i*P **Pn 11 03 27.7 -2.5**
CASM Ain Smara 17.58 262 P **P 11 03 36.9 +5.1**
VSU Vasula 17.61 357 *e*P **P 11 03 31.8 -0.1**
VSU Vasula 17.61 357 *i*P **Pn 11 03 25.4 -5.5**
CTEI Djebel Teioual 17.71 261 P **P 11 03 38.5 +5.1**
WLF Walferdange 17.77 307 P **Pn 11 03 30.1 -2.8**
WLF S **Sn 11 06 48.4 -2.4**
WLF Walferdange 17.77 307 *d*P **Pn 11 03 33.2 +0.3**
comp=Z,50nm,1.4s
WLF Walferdange 17.77 307 *e*P **Pn 11 03 30.3 -2.7**
SSB Saint Sauveur 17.80 292 P **Pn 11 03 32.0 -1.5**
SSB Saint Sauveur 17.80 292 ⇑P **P 11 03 34.2 0.0**
DFRA Djebel Bou Aff 17.93 263 P **P 11 03 36.8 +1.0**
IBBN Ibbenburen 18.03 316 *e*P **P 11 03 36.6 0.0**
COP Copenhagen 18.07 330 *i*P **Pn 11 03 36.3 -0.3**
COP IAmb IAmb 11 03 42.1
comp=Z,155nm,0.9s
BHOU Houvegnez 18.12 309 *d*P **Pn 11 03 36.8 -0.5**
comp=Z,34nm,1.5s
BTNL Ternell 18.14 310 *d*P **P 11 03 38.0 +0.2**
comp=Z,41nm,1.8s
BJUU Bjuv 18.15 332 *i*P **Pn 11 03 36.8 -0.8**
DEL Delary 18.17 334 *i*P **Pn 11 03 35.4 -2.4**

MEM Membach 18.21 310 *d*P **Pn 11 03 38.3 -0.1**
comp=Z,66nm,1.4s
MAHO Mahon 18.24 275 P **Pn 11 03 37.1 -1.7**
MAHO S **S 11 07 06.3 -1.2**
CKHR Kef el Ahmar 18.40 262 P **Pn 11 03 46.3 +5.3**
SET Setif 18.42 263 P **Pn 11 03 46.0 +4.9**
BSTI Sart Tilman 18.46 309 *d*P **Pn 11 03 42.8 +1.4**
BEBN Eben Emael 18.48 310 *d*P **P 11 03 39.4 -2.2**
RCHB Rochefort 18.50 308 *d*P **Pn 11 03 41.9 -0.1**
comp=Z,34nm,1.1s
LOR Lormes 18.57 298⇑P **Pn 11 03 43.4 +0.6**
ARBE Arbavere 18.62 356 *e*P **P 11 03 42.2 -0.8**
BGES Gesves 18.67 308 *d*P **Pn 11 03 44.4 +0.4**
comp=Z,44nm,0.0s
BMRD Maredsous 18.83 308 *d*P **Pn 11 03 48.8 +2.9**
DOU Dourbes 18.86 307 *d*P **Pn 11 03 46.4 0.0**
comp=Z,32nm,1.3s
EJON La Jonquera 18.95 283 P **P 11 03 46.4 -0.5**
EJON S **S 11 07 22.6 +0.7**
PUL Pulkovo 18.95 3 *e*P **P 11 03 45.2 -1.4**
PUL Pulkovo 18.95 3 *i*P **Pn 11 03 47.3 0.0**
FABU Falkenberg 18.98 333 *i*P **P 11 03 46.5 -0.5**
UCC Uccle 19.26 309 *d*P **Pn 11 03 50.8 -0.2**
ETOS Mallorca 19.37 275 P **Pn 11 03 52.1 -0.4**
ETOS S **S 11 07 35.4 +5.1**
MTLF Montolieu 19.40 286⇑P **Pn 11 03 52.8 -0.1**
BORU Boraas 19.47 335 *i*P **P 11 03 52.5 +0.3**
MEF Metsahovi 19.49 354 *e*P **P 11 03 49.5 -3.1**
ONAU Onsala 19.57 333 *i*P **P 11 03 53.2 -0.1**
KBD Kabd 19.74 120 P **Pn 11 03 57.2 +0.2**
CLF Chambon-Foret 19.78 300 IAmb IAmb 11 04 09.4
comp=Z,612nm,1.6s
AAL Aland 19.97 348 *e*P **P 11 03 56.9 -0.8**
UPP Uppsala 20.10 344 *e*P **P 11 03 59.6 +0.5**
CEST Esterri de Car 20.15 284 P Pn 11 04 01.2 -0.7
CEST IAmb IAmb 11 04 08.2
comp=Z,593nm,1.4s
TJOU Tjoern 20.16 334 *i*P **P 11 04 00.4 +0.6**
RAF Rauma 20.54 351 *e*P **P 11 04 03.0 -0.9**
FINES FINESS Array B 20.62 357 P **P 11 04 03.6 -1.2**
FINES FINESS Array B 20.62 357 P **P 11 04 03.3 -1.5**
comp=Z,20nm,0.9s,baz=156,slow=14,SNR=27
FINES S **S 11 07 45.3 -10**
comp=Z,35nm,0.8s,baz=164,slow=21,SNR=5.3
FINES LR LR 11 11 49.8
comp=Z,3µm,19.8s,baz=174,slow=36
comp=Z,20nm,0.9s
FINES FINESS Array B 20.62 357 *i*P **P 11 04 03.2 -1.6**
FIA1 FINESS Array S 20.62 357 P **P 11 04 03.6 -1.2**
FIA1 IAmb IAmb 11 04 09.5
comp=Z,842nm,1.7s
EIBI Ibiza 20.64 274 P Pn 11 04 06.5 -1.1
EIBI S Sn 11 07 59.0 -1.2
EBR Ebro Roquetas 20.92 279 P **P 11 04 09.0 +0.7**
EBR Ebro Roquetas 20.92 279 P **P 11 04 09.0 +0.7**
STRU Stroemstad 21.09 335 *e*P **P 11 04 08.2 -1.7**
STRU Stroemstad 21.09 335 *i*P **P 11 04 10.4 +0.5**
KLMR Klimovskoe 21.17 15*d i*P P 11 04 02.8 -7.9
KLMR *e**PP sP 11 04 28.2 +13
KLMR S S 11 07 53.4 -12
KLMR pmax pmax
comp=Z,2µm,1.4s
KLMR MLR MLR
comp=Z,22µm,12.0s
HFS Hagfors 21.27 340 P **P 11 04 10.0 -1.8**
comp=Z,37nm,1.0s,baz=148,slow=12,SNR=23
HFS S Sn 11 08 11.8 -3.1
comp=Z,5.7nm,0.6s,baz=111,slow=29,SNR=2.0
HFS LR LR 11 13 43.6
comp=Z,28µm,18.4s,baz=146,slow=40
comp=Z,37nm,1.0s
KEF Keuruu 21.40 356 *e*P **P 11 04 13.1 -0.1**
HOMB Hombersund 21.43 331 *e*P **P 11 04 13.7 +0.1**
ELMS Elmsett, Ipswi 21.69 310 *e*P **P 11 04 18.6 +2.2**
ELMS IAmb IAmb 11 04 25.6
comp=Z,211nm,0.9s
ELMS IAMs_20 IAMs_20 11 13 51.8
comp=Z,30µm,14.2s
OSL Oslo 21.95 336 *e*P **P 11 04 19.3 +0.2**
SNART Snartemo 21.97 330 *e*P **P 11 04 19.9 +0.6**
KONO Kongsberg 22.08 334 P **P 11 04 18.6 -1.9**
KONO IAmb IAmb 11 04 27.8
comp=Z,451nm,1.4s
KONO Kongsberg 22.08 334 *e*P **P 11 04 19.9 -0.7**
KONO Kongsberg 22.08 334*ce*P **P 11 04 18.8 -1.7**
KONO pmax pmax
comp=Z,190nm,1.7s
KONO MLR MLR
comp=Z,29µm,16.0s
KONO Kongsberg 22.08 334⇓P **P 11 04 18.7 -1.9**
WACR West Acre 22.12 312 *e*P **P 11 04 23.1 +2.0**
WACR IAMs_20 IAMs_20 11 14 46.9
comp=Z,26µm,13.1s
JOF Joensuu 22.14 4 *e*P **P 11 04 20.5 -0.7**
KIRV Kirov 22.23 30 P **P 11 04 21.2 -1.0**
comp=Z,44nm,0.6s,baz=227,slow=9.9,SNR=22
KIRV LR LR 11 13 56.4
comp=Z,10µm,18.7s,baz=227,slow=39
comp=Z,44nm,0.6s
KIRV Kirov 22.23 30*ce*P **P 11 04 21.9 -0.3**
ECHE Chera 22.26 276 P **P 11 04 22.4 -0.2**
ECHE S Sn 11 08 35.3 -3.8
NC602 NORSAR Array S 22.36 338 *e*P **P 11 04 20.5 -3.0**
RAYN Ar Rayn 22.61 135 P **P 11 04 27.1 +0.5**
RAYN Ar Rayn 22.61 135 IAMs_20 IAMs_20 11 14 17.1
comp=Z,21µm,19.0s
RAYN Ar Rayn 22.61 135 P **P 11 04 28.0 +1.4**
RAYN Ar Rayn 22.61 135 *i*P **P 11 04 26.7 +0.1**
SNR=115
RAYN Ar Rayn 22.61 135 P **P 11 04 27.1 +0.5**
RAYN pmax pmax
comp=Z,886nm,1.1s
RAYN MLR MLR
comp=Z,21µm,19.0s
RAYN Ar Rayn 22.61 135⇓P **P 11 04 26.8 +0.3**
NC405 NORSAR Array S 22.62 339 IAmb IAmb 11 04 48.2
comp=Z,512nm,1.6s
NAO01 NORSAR Array S 22.63 338 IAmb IAmb 11 04 33.5
comp=Z,393nm,1.3s
NB2 NORSAR Subarra 22.70 338 P **P 11 04 24.9 -2.3**
comp=Z,446nm,2.0s,baz=142,slow=10
NB2 NORSAR Subarra 22.70 338 P **P 11 04 24.9 -2.3**
comp=Z,446nm,2.0s,baz=142,slow=10
NOA NORSAR Array B 22.70 338 P **P 11 04 25.4 -1.8**
comp=Z,16nm,0.7s,baz=142,slow=10.0,SNR=23
NOA LR LR 11 14 04.7
comp=Z,25µm,18.9s,baz=145,slow=39
comp=Z,16nm,0.7s
AKTO Aktyubinsk 22.79 55 LR LR 11 18 02.5
comp=Z,9µm,18.4s,baz=257,slow=49
AKTO Aktyubinsk 22.79 55 P **P 11 04 26.6 -1.6**
CART Cartagena 22.80 271 P **P 11 04 27.2 -1.2**
CART S **S 11 08 37.1 -0.2**
CART Cartagena 22.80 271 P **P 11 04 26.9 -1.6**
NBO00 NORSAR Array S 22.81 338 IAmb IAmb 11 04 34.5
comp=Z,371nm,1.4s
EMUR La Murta 22.91 272 P **P 11 04 28.5 -1.1**
EMUR S **S 11 08 41.7 +2.3**
ETOB Tobarra 22.92 274 P **P 11 04 28.5 -1.3**
BLS5 Blasjo 23.01 331 *e*P **P 11 04 30.7 +0.3**
SWN1 Swindon 23.16 307 *e*P **P 11 04 32.3 +0.3**
SWN1 IAMs_20 IAMs_20 11 15 04.8
comp=Z,23µm,14.5s
SKAR Skarslia 23.29 335 *e*P **P 11 04 32.6 -0.7**
ODD1 Odda 23.29 332 *e*P **P 11 04 32.2 -1.1**
TLOR Lorca, Murcia 23.30 272 P **P 11 04 32.7 -1.0**
KMY Karmoy 23.32 330 *e*P **P 11 04 31.9 -1.6**
STRD Stroud 23.45 308 *e*P **P 11 04 34.9 0.0**
STRD IAmb IAmb 11 04 41.7
comp=Z,406nm,1.0s
STRD IAMs_20 IAMs_20 11 14 57.5
comp=Z,20µm,12.1s
ROSF Rostrenen 23.48 299⇑P **P 11 04 34.3 -1.0**
OLDB Oldbury-Upon-S 23.65 307 *e*P **P 11 04 36.9 0.0**
OLDB IAMs_20 IAMs_20 11 15 14.6
comp=Z,20µm,12.9s
LBWR Ladybower, Pea 23.69 312 *e*P **P 11 04 36.5 -0.8**
LBWR IAMs_20 IAMs_20 11 15 06.7
comp=Z,18µm,15.2s
SAKB Bahrain 23.76 122 P **P 11 04 39.3 +1.2**
AB31 Akbulak array 23.79 59 P **P 11 04 37.7 -0.6**
AB31 Akbulak array 23.79 59 P **P 11 04 39.1 +0.8**
ABKAR Akbulak array 23.79 59 P **P 11 04 38.1 -0.2**
UCM Universidad Co 23.82 279 P **P 11 04 37.4 -1.2**

UCM S **S 11 08 59.8 +5.7**
HPK Haverah Park 23.83 313 *e*P **P 11 04 37.3 -1.3**
HPK IAmb IAmb 11 04 45.4
comp=Z,565nm,1.7s
HPK IAMs_20 IAMs_20 11 15 53.5
comp=Z,34µm,13.6s
MONM Monmouth 23.85 308 *e*P **P 11 04 37.7 -1.1**
MONM IAmb IAmb 11 04 45.0
comp=Z,224nm,1.0s
ENIJ Nijar 23.91 271 P **P 11 04 37.1 -2.4**
ENIJ S **S 11 09 03.5 +7.8**
MCH1 Michaelchurch 24.01 308 *e*P **P 11 04 39.5 -0.8**
MCH1 IAmb IAmb 11 04 46.7
comp=Z,1µm,2.2s
MCH1 IAMs_20 IAMs_20 11 15 22.1
comp=Z,19µm,12.1s
MCH1 Michaelchurch 24.01 308⇓P **P 11 04 39.7 -0.6**
HLM1 Long Mynd 24.08 309 *e*P **P 11 04 40.3 -0.8**
HLM1 IAmb IAmb 11 04 47.7
comp=Z,203nm,1.2s
HLM1 IAMs_20 IAMs_20 11 15 24.3
comp=Z,29µm,15.1s
BER Bergen 24.08 332 *e*P **P 11 04 39.3 -1.6**
SHMA Al-Shehemyia 24.12 121 P **P 11 04 43.0 +1.4**
SNR=70
DOMB Dombas 24.12 338 *e*P **P 11 04 38.4 -2.9**
ASK Askoy 24.20 332 *e*P **P 11 04 38.5 -3.5**
EDMD Edmundbyers 24.34 315 *e*P **P 11 04 42.0 -1.3**
EDMD IAMs_20 IAMs_20 11 16 16.7
comp=Z,33µm,14.0s
HYA Hoyanger 24.34 334 *e*P **P 11 04 41.2 -2.1**
FOEL Foel Wylfa 24.37 310 *e*P **P 11 04 43.2 -0.5**
FOEL IAMs_20 IAMs_20 11 15 34.1
comp=Z,20µm,13.1s
ESBB Sonseca Array 24.49 278 IAmb IAmb 11 04 52.2
comp=Z,242nm,1.2s
ESDC Sonseca Array 24.49 278 P **P 11 04 44.6 -0.4**
ESDC IAmb IAmb 11 04 52.2
comp=Z,245nm,1.2s
ESDC Sonseca Array 24.49 278 P **P 11 04 44.9 -0.1**
comp=Z,34nm,0.6s,baz=67,slow=9.0,SNR=106
ESDC LR LR 11 15 03.8
comp=Z,9µm,18.1s,baz=88,slow=38
comp=Z,34nm,0.6s
LLW Llanuwchllyn 24.63 310 *e*P **P 11 04 44.9 -1.1**
LLW IAmb IAmb 11 04 46.4
comp=Z,55nm,1.2s
LLW IAMs_20 IAMs_20 11 15 42.7
comp=Z,12µm,13.5s
SUE Sulen 24.75 332 *e*P **P 11 04 43.5 -3.5**
EQTA Presa de Quent 24.77 272 P **P 11 04 46.1 -1.5**
EQTA S **S 11 09 15.7 +6.1**
PAB San Pablo 24.81 278 P **P 11 04 48.0 +0.1**
PAB San Pablo 24.81 278 P **P 11 04 48.0 +0.1**
PAB pmax pmax
comp=Z,520nm,1.4s
PAB MLR MLR
comp=Z,9µm,18.0s
SMRA Abu-Samra 24.81 124 P **P 11 04 47.9 +0.1**
SNR=20
AKN Aaknes 24.84 336 *e*P **P 11 04 43.5 -4.3**
EALB Alboran 24.89 269 P **P 11 04 46.4 -2.1**
SJUU Sjulsmark 24.95 353 *e*P **P 11 04 46.1 -2.6**
MOL Molde 24.97 337 *e*P **P 11 04 47.1 -1.9**
ARTI Arti 24.99 41 P **P 11 04 48.6 -0.7**
ARTI Arti 24.99 41 LR LR 11 15 52.9
comp=Z,7µm,19.7s,baz=242,slow=40
ARTI Arti 24.99 41*c i*P **P 11 04 48.4 -0.9**
ARTI 11 05 18.7
ARTI PPP PPP 11 05 36.5
ARTI 11 08 19.7
ARTI S **S 11 09 15.2 +2.6**
ARTI SS **SnSn 11 10 05.6 +4.6**
ARTI pmax pmax
comp=Z,401nm,1.4s
ARTI MLR MLR
comp=Z,9µm,14.0s
ARTI Arti 24.99 41⇑P **P 11 04 48.3 -0.9**
ELGU Los Guajares, 25.02 271 P **P 11 04 48.3 -1.5**
ELGU S **S 11 09 17.5 +3.9**
WMELI Melilla 25.05 267 P **P 11 04 48.6 -1.4**
EMLI Melilla 25.06 267 P **P 11 04 50.9 +0.8**
TRNA Turayna 25.06 123 P **P 11 04 50.7 +0.5**
SNR=23
EKA Eskdalemuir Ar 25.16 316 P **P 11 04 49.5 -1.4**
comp=Z,50nm,1.0s,baz=110,slow=9.0,SNR=30
EKA PcP **PcP 11 08 23.6 -0.8**
comp=Z,3.8nm,0.7s,baz=117,slow=2.6,SNR=6.8
comp=Z,50nm,1.0s
ESK Eskdalemuir 25.18 316 P **P 11 04 49.6 -1.3**
ESK IAmb IAmb 11 05 07.1
comp=Z,217nm,1.3s
ESK Eskdalemuir 25.18 316 *e*P **P 11 04 49.9 -1.0**
ESK IAMs_20 IAMs_20 11 16 51.9
comp=Z,36µm,14.4s
ESK Eskdalemuir 25.18 316 P **P 11 04 49.7 -1.3**
ESK pmax pmax
comp=Z,217nm,1.3s
ESK Eskdalemuir 25.18 316⇑P **P 11 04 50.3 -0.6**
EGOR Sierra Gorda, 25.31 272 P **P 11 04 49.6 -2.9**
EDI Edinburgh 25.40 317 *e*P **P 11 04 51.8 -1.2**
EDI IAmb IAmb 11 05 00.8
comp=Z,793nm,1.6s
EDI IAMs_20 IAMs_20 11 17 19.2
comp=Z,34µm,13.8s
NSS Namsos 25.48 344 *e*P **P 11 04 52.8 -0.7**
NEWG New Galloway 25.66 315 *e*P **P 11 04 54.2 -1.1**
NEWG IAMs_20 IAMs_20 11 17 15.9
comp=Z,24µm,13.2s
EMAL Malaga-Limoner 25.66 271 P **P 11 04 54.1 -1.4**
SLWR Sila 25.84 123 P **P 11 04 58.4 +1.2**
JRN Qarnain Island 25.98 120 P **P 11 04 59.7 +1.3**
SNR=36
INVG Invergeldie, C 26.04 318 *e*P **P 11 04 58.1 -0.6**
INVG IAmb IAmb 11 05 00.4
comp=Z,64nm,0.7s
INVG IAMs_20 IAMs_20 11 17 55.6
comp=Z,29µm,13.1s
MCD Coleburn Disti 26.13 320 *e*P **P 11 04 58.2 -1.4**
MCD IAMs_20 IAMs_20 11 18 04.7
comp=Z,16µm,14.2s
PBRG Braganca 26.14 284 *e*P **P 11 05 03.0 +3.1**
PBRG *i*IAmb IAmb 11 05 08.3
comp=Z,238nm,1.3s
TAM Tamanrasset 26.26 233 P **P 11 05 02.0 +0.7**
TAM Tamanrasset 26.26 233 P **P 11 05 02.0 +0.7**
TAM pmax pmax
comp=Z,61nm,0.8s
TAM MLR MLR
comp=Z,5µm,20.0s
TAM Tamanrasset 26.26 233⇑P **P 11 05 02.2 +1.0**
DSB Dublin 26.31 310 P **P 11 05 01.8 +0.5**
DSB Dublin 26.31 310 P **P 11 05 02.2 +0.9**
DSB Dublin 26.31 310 P **P 11 05 01.4 +0.2**
DSB IAMs_20 IAMs_20 11 16 42.0
comp=Z,13µm,18.0s
IWEX Carrickbyrne, 26.36 308 P **P 11 05 04.5 +2.9**
MVO Moncorvo 26.47 282 *e*P **P 11 05 03.4 +0.6**
MVO *i*IAmb IAmb 11 05 11.2
comp=Z,176nm,1.5s
MVO *e*S **S 11 09 44.5 +8.0**
MVO *e*LR LR 11 15 50.5
MVO *i*IAMs_20 IAMs_20 11 16 35.1
comp=Z,7µm,16.0s
MOR8 Moi Rana 26.49 347 *e*P **P 11 05 02.3 -0.4**
ILTH Belurgan, Co L 26.49 311 P **P 11 05 05.9 +3.1**
LEIR Leirfjorden 26.66 346 *e*P **P 11 05 01.3 -3.0**
CEU Ceuta 26.67 270 P **P 11 05 02.5 -2.2**
GHWR Ruwais 26.68 122 P **P 11 05 06.2 +1.4**
GHWR P **P 11 05 06.2 +1.4**
RAUS Rausandaksla 26.80 347 *e*P **P 11 05 02.2 -3.3**
STOK Stokkvaagen 26.88 346 *e*P **P 11 05 03.3 -2.8**
APA Apatity 26.89 4⇓ *i*P **P 11 05 04.4 -1.9**
APA *i*S **S 11 09 38.9 -3.5**
APA MLR MLR
comp=Z,21µm,15.2s
POLO Lamas de Olo 26.99 283 *e*P **P 11 05 07.4 -0.2**
POLO *i*IAmb IAmb 11 05 17.9
comp=Z,88nm,1.4s
MTE Manteigas 27.01 281 IAmb IAmb 11 05 18.1
comp=Z,409nm,1.4s
MTE Manteigas 27.01 281 *e*P **P 11 05 08.5 +0.7**
MTE *i*IAmb IAmb 11 05 18.2
comp=Z,534nm,1.6s

MTE eS S 11 09 58.0 +13
MTE eLR LR 11 15 31.3
MTE i IAms_20 IAms_20 11 19 22.6
comp=Z,5µm,16.0s
MTE Manteigas 27.01 281 eP **P** **11 05 06.8 -0.9**
MTE Manteigas 27.01 281 ⇓P **P** **11 05 08.1 +0.4**
KONS Konsvik 27.01 347 eP **P** **11 05 07.1 -0.2**
CNIL Conil 27.02 272 P **P** **11 05 10.6 +2.7**
PCBR Castelo Branco 27.09 280 eP **P** **11 05 09.1 +0.7**
PCBR i IAmb IAmb 11 05 15.2
comp=Z,482nm,1.6s
PCAB Cabril 27.10 284 eP **P** **11 05 09.0 +0.5**
PCAB i IAmb IAmb 11 05 18.3
comp=Z,211nm,1.6s
SFS San Fernando 27.11 272 P **P** **11 05 11.7 +3.2**
SFS San Fernando 27.11 272 IAms_20 IAms_20 11 15 17.2
comp=Z,15µm,20.0s
PMRV Marv??o 27.12 279 eP **P** **11 05 09.3 +0.5**
PMRV i IAmb IAmb 11 05 16.3
comp=Z,539nm,1.7s
PMRV eS S **11 09 52.9 +6.2**
PMRV eLR LR 11 14 22.6
PMRV i IAMs_20 IAMs_20 11 18 37.2
comp=Z,5µm,18.0s
VAGH Vaagaholmen 27.19 347 eP **P** **11 05 09.2 +0.2**
PBAR Barrancos 27.20 276 eP **P** **11 05 09.9 +0.5**
PBAR i IAmb IAmb 11 05 19.4
comp=Z,263nm,1.6s
PVIS Viseu 27.20 282 eP **P** **11 05 09.7 +0.2**
PGAV Gavieira, Arco 27.23 284 eP **P** **11 05 09.6 -0.3**
PGAV i IAmb IAmb 11 05 22.6
comp=Z,290nm,1.7s
PGAV eS S 11 10 02.0 +13
PGAV eLR LR 11 15 35.0
PGAV i IAMs_20 IAMs_20 11 18 28.4
comp=Z,11µm,18.0s
LVZ Lovozero 27.29 5 P **P** **11 05 10.9 +0.9**
LVZ IAmb IAmb 11 05 41.2
comp=Z,295nm,1.2s
LVZ Lovozero 27.29 5 i P **P** **11 05 08.8 -1.2**
LVZ pmax pmax
comp=Z,118nm,1.1s
LVZ MLR MLR
comp=Z,11µm,14.0s
LVZ Lovozero 27.29 5 ⇓P **P** **11 05 13.4 +3.4**
LVZ Lovozero 27.29 5 P **P** **11 05 10.6 +0.6**
comp=Z,125nm,1.3s
ARNO Arenosillo 27.30 273 P **P** **11 05 11.0 +0.8**
MDT Midelt 27.34 263 P **P** **11 05 10.1 -0.7**
comp=Z,18nm,1.0s,baz=82,slow=9.2,SNR=20
MDT LR LR 11 16 12.2
comp=Z,4µm,21.9s,baz=60,slow=37
comp=Z,18nm,1.0s
PESTR Estremoz 27.42 278 eP **P** **11 05 11.9 +0.5**
PESTR i IAmb IAmb 11 05 18.8
comp=Z,459nm,1.6s
LANU Lannavaara 27.42 355 eP **P** **11 05 09.4 -1.7**
IDGL Inch Island, C 27.43 313 P **P** **11 05 13.2 +1.9**
SHME Shamm 27.47 114 P **P** **11 05 12.3 +0.4**
SNR=46
SHME P **P** **11 05 12.3 +0.4**
SNR=46
SHME Shamm 27.47 114 P **P** **11 05 10.2 -1.7**
MZWR Madinat Zayed 27.47 121 P **P** **11 05 12.9 +1.0**
MZWR P **P** **11 05 12.9 +1.0**
UMQ Umm Al-Quwin 27.47 115 P **P** **11 05 12.4 +0.5**
UMQ P **P** **11 05 12.4 +0.5**
FAUS Fauske 27.48 349 eP **P** **11 05 10.1 -1.5**
AJN Ajban 27.65 118 P **P** **11 05 13.6 +0.1**
SNR=32
AJN Ajban 27.65 118 i P **P** **11 05 13.3 -0.2**
SNR=30
BANOM Banah 27.66 114 P **P** **11 05 13.5 -0.1**
BANOM P **P** **11 05 13.5 -0.1**
BANOM P **P** **11 05 13.5 -0.1**
BANOM Banah 27.66 114 i P **P** **11 05 14.0 +0.3**
SNR=41
PSARD Sardoal 27.66 279 eP **P** **11 05 14.2 +0.7**
PSARD i IAmb IAmb 11 05 20.5
comp=Z,494nm,1.6s
COI Coimbra 27.70 281 eP **P** **11 05 14.6 +0.8**
COI i IAmb IAmb 11 05 19.8
comp=Z,384nm,1.3s
COI Coimbra 27.70 281 ⇑P **P** **11 05 14.6 +0.8**
MZR Muzera 27.75 122 P **P** **11 05 15.1 +0.7**
SNR=37
MZR Muzera 27.75 122 i P **P** **11 05 14.0 -0.4**
SNR=33
PCAS Casmilo, Conde 27.80 280 eP **P** **11 05 15.5 +0.8**
PCAS i IAmb IAmb 11 05 27.0
comp=Z,266nm,1.7s
NAZ Nazwa, Dubai 27.82 116 P **P** **11 05 15.6 +0.5**
SNR=47
NAZ P **P** **11 05 15.6 +0.5**
SNR=47
NAZ P **P** **11 05 15.6 +0.5**
SNR=47
NAZ Nazwa, Dubai 27.82 116 i P **P** **11 05 14.9 -0.3**
SNR=36
EVO Evora 27.83 277 P **P** **11 05 16.3 +1.3**
EVO Evora 27.83 277 eP **P** **11 05 19.0 +4.0**
EVO i IAmb IAmb 11 05 21.7
comp=Z,131nm,1.6s
ASUD Al Ashush, Dub 27.84 117 P **P** **11 05 15.9 +0.6**
SNR=37
ASUD P **P** **11 05 15.9 +0.6**
SNR=37
ASUD Al Ashush, Dub 27.84 117 i P **P** **11 05 15.2 0.0**
SNR=34
PMTG Montargil 27.84 278 eP **P** **11 05 15.3 +0.1**
PMTG i IAmb IAmb 11 05 21.6
comp=Z,393nm,1.5s
PBEJ Beja 27.87 276 eP **P** **11 05 15.9 +0.5**
PBEJ i IAmb IAmb 11 05 22.2
comp=Z,142nm,1.6s
MASF Masafi 27.91 115 P **P** **11 05 15.6 -0.4**
SNR=24
MASF P **P** **11 05 15.6 -0.4**
SNR=24
MSFE Esma-Masafi 27.92 115 i P **P** **11 05 15.2 -0.8**
SNR=24
FAQ Al Faqa, Dubai 27.94 117 P **P** **11 05 16.8 +0.7**
SNR=30
FAQ P **P** **11 05 16.8 +0.7**
SNR=30
FAQ Al Faqa, Dubai 27.94 117 i P **P** **11 05 15.7 -0.5**
SNR=19
PVAQ Vaqueiros 27.94 275 eP **P** **11 05 16.5 +0.5**
PVAQ i IAmb IAmb 11 05 22.9
comp=Z,221nm,1.8s
PVAQ eS S 11 10 15.7 +16
PVAQ eLR LR 11 13 26.1
PVAQ i IAMs_20 IAMs_20 11 18 24.9
comp=Z,5µm,18.0s
PVAQ Vaqueiros 27.94 275 ⇑P **P** **11 05 16.6 +0.5**
STEI Steigen 28.00 350 eP **P** **11 05 15.1 -1.1**
MDH Madha 28.06 115 P **P** **11 05 16.4 -0.8**
SNR=26
MDH P **P** **11 05 16.4 -0.8**
SNR=26
MDH Madha 28.06 115 i P **P** **11 05 16.0 -1.1**
SNR=25
IGLA Glengowla, Co 28.11 309 P **P** **11 05 19.7 +2.4**
PCVE Castro Verde 28.12 275 eP **P** **11 05 17.9 +0.3**
PCVE i IAmb IAmb 11 05 24.4
comp=Z,181nm,1.6s
PSBE So Bento 28.15 279 eP **P** **11 05 19.3 +1.3**
PSBE i IAmb IAmb 11 05 25.3
comp=Z,568nm,1.6s
PBDV Barranco-do-Ve 28.16 274 eP **P** **11 05 18.4 +0.3**
PBDV i IAmb IAmb 11 05 25.1
comp=Z,339nm,1.7s
MESJ Messejana 28.19 276 eP **P** **11 05 18.2 -0.1**
MESJ eS **S** **11 10 05.1 +1.6**
MESJ IAMs_20 IAMs_20 11 18 49.3
comp=Z,7µm,11.6s
MESJ Messejana 28.19 276 eP **P** **11 05 18.7 +0.4**
MESJ i IAmb IAmb 11 05 25.2
comp=Z,147nm,1.7s
MESJ Messejana 28.19 276 eP **P** **11 05 18.2 -0.1**
MESJ eS **S** **11 10 05.1 +1.6**
UOSS Minazif 28.22 116 P **P** **11 05 18.1 -0.6**
UOSS IAmb IAmb 11 05 22.9
comp=Z,270nm,1.4s
UOSS Minazif 28.22 116 IAMs_20 IAMs_20 11 17 38.4
comp=Z,16µm,20.0s
UOSS Minazif 28.22 116 i P **P** **11 05 17.6 -1.1**
SNR=36
UOSS Minazif 28.22 116 ⇓P **P** **11 05 17.6 -1.1**
HATD Hatta, Dubai 28.25 116 P **P** **11 05 18.9 0.0**
SNR=66
HATD Hatta, Dubai 28.25 116 i P **P** **11 05 18.2 -0.7**
SNR=58
ASHO Ashiyiah 28.30 116 P **P** **11 05 19.5 +0.1**
SNR=77
ASHO P **P** **11 05 19.5 +0.1**
SNR=77
ASHO Ashiyiah 28.30 116 i P **P** **11 05 18.5 -0.9**
SNR=76
VAL Valentia 28.39 306 P **P** **11 05 24.0 +4.1**
LOF Lofoten 28.43 349 eP **P** **11 05 18.3 -1.8**
ALNE Al Ain 28.51 118 P **P** **11 05 21.0 -0.2**
SNR=83
ALNE Al Ain 28.51 118 i P **P** **11 05 20.8 -0.4**
SNR=40
PARRA Arraiolos 28.52 278 eP **P** 11 05 14.5 -6.7
PARRA i IAmb IAmb 11 05 21.8
comp=Z,281nm,2.0s
LIS Lisbon 28.63 278 eP **P** **11 05 22.2 0.0**
LIS IAMs_20 IAMs_20 11 18 41.4
comp=E,20µm,15.2s
LIS Lisbon 28.63 278 eP **P** **11 05 22.2 0.0**
PTEO Sao Teotonio 28.66 275 eP **P** **11 05 23.2 +0.8**
PTEO i IAmb IAmb 11 05 30.5
comp=E,258nm,1.9s
MORF Marmelete 28.68 275 eP **P** **11 05 22.6 -0.1**
MORF IAMs_20 IAMs_20 11 19 11.6
comp=E,11µm,13.0s
MORF Marmelete 28.68 275 eP **P** **11 05 22.4 -0.3**
MORF i IAmb IAmb 11 05 30.5
comp=E,244nm,2.0s
MORF Marmelete 28.68 275 eP **P** **11 05 22.6 -0.1**
ARA0 ARCESS Array S 28.74 358 eP **P** **11 05 21.7 -1.2**
ARCES ARCESS Array B 28.74 358 P **P** **11 05 22.9 0.0**
ARCES IAmb IAmb 11 05 29.5
comp=Z,231nm,1.2s
ARCES ARCESS Array B 28.74 358 P **P** **11 05 22.9 0.0**
comp=Z,48nm,0.9s,baz=179,slow=6.1,SNR=40
ARCES LR LR 11 18 03.0
comp=Z,4µm,19.2s,baz=162,slow=39
comp=Z,48nm,0.9s
PFVI Vila Bisbo 28.87 275 eP **P** **11 05 23.8 -0.5**
PFVI i IAmb IAmb 11 05 31.4
comp=Z,416nm,1.8s
KEV Kevo 28.94 359 P **P** **11 05 24.9 +0.3**
KEV Kevo 28.94 359 P **P** **11 05 24.9 +0.3**
KEV pmax pmax
comp=Z,98nm,1.1s
KEV MLR MLR
comp=Z,4µm,19.0s
KEV Kevo 28.94 359 ⇓P **P** **11 05 25.1 +0.6**
SOHO SOHO 28.98 116 P **P** **11 05 25.1 -0.3**
SOHO P **P** **11 05 25.1 -0.3**
SOHO SOHO 28.98 116 i P **P** **11 05 24.6 -0.8**
SNR=69
JETT Jettan, Norway 29.02 354 eP **P** **11 05 23.4 -2.0**
UMZA Um Al Zommool 29.04 120 P **P** **11 05 25.9 -0.1**
UMZA P **P** **11 05 25.9 -0.1**
TRO Tromso 29.22 353 eP **P** **11 05 25.1 -2.0**
VADS Vadso 29.30 1 eP **P** **11 05 25.1 -2.7**
ARQ Araqi 29.51 118 P **P** **11 05 29.7 -0.4**
SNR=65
HOQ Hoqain 29.88 116 P **P** **11 05 33.2 -0.2**
SNR=55
HOQ P **P** **11 05 33.2 -0.2**
SNR=55
HOQ P **P** **11 05 33.2 -0.2**
SNR=55
TIO Tiouine 30.21 262 P **P** **11 05 36.7 +0.2**
BSY Bisya 30.37 118 P **P** **11 05 38.0 +0.2**
SNR=32
BIDO Bidbid 30.48 115 P **P** **11 05 39.0 +0.3**
SNR=68
BIDO P **P** **11 05 39.0 +0.3**
SNR=68
SMDO Samad 30.73 116 P **P** **11 05 41.0 -0.1**
SNR=90
SMDO P **P** **11 05 41.0 -0.1**
SNR=90
SMDO P **P** **11 05 41.0 -0.1**
SNR=90
BORK Borovoye 30.76 52 i P **P** **11 05 40.5 -0.4**
BORK pmax pmax
comp=Z,138nm,1.6s
BORK Borovoye 30.76 52 ⇑P **P** **11 05 41.3 +0.4**
BVA0 Borovoye Array 30.80 52 i P **P** **11 05 40.3 -1.0**
BVAR Borovoye Array 30.80 52 P **P** **11 05 41.4 +0.1**
comp=Z,29nm,1.2s,baz=258,slow=5.9,SNR=41
BVAR LR LR 11 21 13.2
comp=Z,3µm,18.6s,baz=258,slow=42
comp=Z,29nm,1.2s
BRLS Borolday 30.82 72 eP **P** **11 05 40.9 -0.7**
comp=Z,102nm,1.5s
BRLS eS **S** **11 10 44.8 0.0**
BRLS Borolday 30.82 72 eP **P** **11 05 40.8 -0.7**
BRLS eS **S** **11 10 44.8 0.0**
BRLS pmax pmax
comp=Z,102nm,1.5s
WSAR Wadi Sarin 31.01 115 LR LR 11 20 09.9
comp=Z,32nm,19.5s,baz=328,slow=40
WSAR Wadi Sarin 31.01 115 P **P** **11 05 43.4 0.0**
SNR=61
IUG Iuzhnay 31.13 74 eP **P** **11 05 44.3 -0.1**
comp=Z,143nm,1.3s
IUG eS **S** **11 10 50.7 +0.8**
IUG Iuzhnay 31.13 74 eP **P** **11 05 44.3 -0.1**
IUG eS **S** **11 10 50.6 +0.8**
IUG pmax pmax
comp=Z,143nm,1.3s
JMDO Jabal Madar 31.23 117 P **P** **11 05 46.0 +0.7**
SNR=125
JMDO P **P** **11 05 46.0 +0.7**
SNR=125
SIMJ Simiganj 31.25 81 P **P** **11 05 46.8 +1.2**
SIMJ IAmb IAmb 11 05 54.6
comp=Z,144nm,1.1s
KK31 Karatay Array 31.29 72 i P **P** **11 05 46.3 +0.6**
KKAR Karatay Array 31.29 72 P **P** **11 05 41.2 -4.5**
KKAR Karatay Array 31.29 72 P **P** **11 05 41.2 -4.5**
DOK Doka 31.41 127 P **P** **11 05 48.1 +1.2**
SNR=25
DOK P **P** **11 05 48.1 +1.2**
SNR=25
WHFO Wadi Hawf 31.73 129 P **P** **11 05 50.1 +0.3**
SNR=16
ABTO Aybut 31.90 130 P **P** **11 05 51.7 +0.4**
SNR=41
ABTO P **P** **11 05 51.7 +0.4**
SNR=41
ATD Arta Tunnel 31.96 152 P **P** **11 05 52.6 +0.7**
ATD IAmb IAmb 11 05 59.2
comp=Z,139nm,1.3s
ATD Arta Tunnel 31.96 152 P **P** **11 05 53.5 +1.6**
BRZS Berezniki 32.09 58 eP **P** **11 05 52.7 0.0**
BRZS Berezniki 32.09 58 eP **P** **11 05 52.7 0.0**
MHTO MHTO 32.10 119 P **P** **11 05 52.6 -0.4**
SNR=47
GAR Garm 32.13 79 IAMs_20 IAMs_20 11 20 44.4
comp=Z,10µm,19.0s
JLN Jalan Bani Buh 32.27 116 P **P** **11 05 53.6 -0.9**
JLN P **P** **11 05 53.6 -0.9**
JLN P **P** **11 05 54.4 -0.1**
SNR=86
JLN P **P** **11 05 54.4 -0.1**
SNR=86
RBK Rabkut 32.31 128 P **P** **11 05 54.8 -0.1**
SNR=20
RBK P **P** **11 05 54.8 -0.1**
SNR=20
DQM DQM 32.57 121 P **P** **11 05 57.1 0.0**
SNR=40
DQM P **P** **11 05 57.1 0.0**
SNR=40
DMTO DMTO 32.60 127 P **P** **11 05 57.9 +0.6**
SNR=15
DMTO P **P** **11 05 57.9 +0.6**
SNR=15
DMTO P **P** **11 05 57.9 +0.6**
SNR=15
KBL Kabul 32.71 88 P **P** **11 05 59.6 +1.1**
KBL Kabul 32.71 88 P **P** **11 05 56.9 -1.6**
KBL P **P** **11 05 56.9 -1.6**
KBL Kabul 32.71 88 P **P** **11 05 59.6 +1.1**
KBL pmax pmax
comp=Z,87nm,1.0s
SHAO Shalim 32.77 126 P **P** **11 05 58.7 -0.2**
SNR=14
SHAO P **P** **11 05 58.7 -0.2**
SNR=14
SHAO Shalim 32.77 126 i P **P** **11 05 57.7 -1.2**
SNR=11
KBU Kabul Universi 32.79 88 P **P** **11 05 59.6 +0.4**
FURI Furi 33.20 161 IAMs_20 IAMs_20 11 21 43.7
comp=Z,10µm,19.0s
BTLS Baital 33.46 67 eP **P** **11 06 04.6 -0.1**
comp=Z,91nm,1.2s
BTLS eS **S** **11 11 26.7 +0.8**
BTLS Baital 33.46 67 eP **P** **11 06 04.6 -0.1**
BTLS eS **S** **11 11 26.7 +0.8**
BTLS pmax pmax
comp=Z,91nm,1.2s
EKS2 Erkin-Say 33.73 72 P **P** **11 06 08.5 +1.3**
SNR=63
USP Ospenovka 34.12 70 P **P** **11 06 12.3 +1.9**
SNR=21
SGDS Sogindy 34.17 70 eP **P** **11 06 10.8 -0.2**
AAK Ala-Archa 34.25 71 P **P** **11 06 13.3 +1.6**
SNR=38
AAK Ala-Archa 34.25 71 P **P** **11 06 12.2 +0.5**
AAK Ala-Archa 34.25 71 LR LR 11 24 13.7
comp=Z,6µm,19.2s,baz=284,slow=44
AAK Ala-Archa 34.25 71 P **P** **11 06 13.4 +1.6**
AAK P **P** **11 06 13.4 +1.6**
AAK Ala-Archa 34.25 71 i P **P** **11 06 12.1 +0.3**
SNR=92
AAK Ala-Archa 34.25 71 P **P** **11 06 12.3 +0.5**
AAK pmax pmax
comp=Z,579nm,1.4s
AAK MLR MLR
comp=Z,3µm,21.0s
AAK Ala-Archa 34.25 71 ⇑P **P** **11 06 13.1 +1.3**
CHMS Chumysh 34.35 71 P **P** **11 06 15.1 +2.5**
SNR=15
UCH Uchtor 34.36 72 P **P** **11 06 16.4 +3.4**
SNR=19
KBK Karagaybulak 34.57 71 P **P** **11 06 17.5 +2.9**
SNR=13
TKM2 Tokmak 2 34.98 71 P **P** **11 06 18.8 +0.7**
SNR=27
KUU Kurty 35.29 69 eP **P** **11 06 20.5 -0.1**
KUU LR LR 11 22 56.2
comp=Z,3µm,12.9s
KUU Kurty 35.29 69 eP **P** **11 06 20.5 -0.1**
KUU MLR MLR
comp=Z,3µm,13.0s
JMIC Jan Mayen 35.38 340 LR LR 11 21 10.8
comp=Z,6µm,20.2s,baz=130,slow=37
ULHL Ulahol 35.60 72 P P 11 06 30.6 +7.1
SNR=12
CHKK Chushkaly 35.76 69 eP **P** **11 06 24.5 -0.2**
CHKK Chushkaly 35.76 69 eP **P** **11 06 24.4 -0.2**
KURBB Kurchatov Arra 35.81 57 P **P** **11 06 25.0 +0.1**
comp=Z,30nm,1.0s,baz=279,slow=9.1,SNR=76
KURBB PcP **PcP** **11 08 51.7 -0.6**
comp=Z,10.0nm,1.0s,baz=271,slow=4.0,SNR=4.0
KURBB LR LR 11 24 45.0
comp=Z,6µm,18.3s,baz=284,slow=42
comp=Z,30nm,1.0s
KURK Kurchatov 35.87 57 P **P** **11 06 25.2 -0.2**
KURK IAmb IAmb 11 06 32.7
comp=Z,163nm,1.2s
KURK Kurchatov 35.87 57 P **P** **11 06 25.7 +0.3**
KURK P **P** **11 06 25.7 +0.3**
KURK Kurchatov 35.87 57 P **P** **11 06 25.2 -0.2**
KURK pmax pmax
comp=Z,163nm,1.2s
KURK MLR MLR
comp=Z,2µm,18.0s
MDOK Medeo 35.95 70 eP **P** **11 06 26.2 -0.2**
MDOK LR LR 11 23 26.8
MDOK Medeo 35.95 70 eP **P** **11 06 26.2 -0.2**
TORD Torodi Ar. Bea 36.07 228 P **P** **11 06 27.0 -0.5**
comp=Z,8.7nm,0.8s,baz=32,slow=9.5,SNR=41
KSH Kashi 36.16 76 P **P** **11 06 28.8 +0.6**
KSH PP **PP** **11 07 50.3 -0.1**
KSH S **S** **11 12 06.0 -1.9**
KSH ScS **ScS** **11 16 45.0 -0.7**
KSH pmax pmax
comp=Z,170nm,1.4s
KSH pmax pmax
comp=Z,2µm,5.5s
KSH LR LR
comp=Z,11µm,21.1s
KSH LR LR
comp=Z,3µm,14.7s
KSH LR LR
comp=Z,7µm,18.1s
NIL Nilore 36.26 87 P **P** **11 06 30.0 +1.0**
NIL Nilore 36.26 87 P **P** **11 06 30.0 +1.0**
NIL pmax pmax
comp=Z,612nm,1.2s
NIL MLR MLR
comp=Z,3µm,18.0s
TDK Taldyqorghan 36.51 66 eP **P** **11 06 30.8 -0.2**
comp=Z,183nm,1.1s
TDK LR LR 11 23 48.0
comp=Z,4µm,17.7s
TDK Taldyqorghan 36.51 66 eP **P** **11 06 30.8 -0.2**
TDK pmax pmax
comp=Z,183nm,1.1s
TDK MLR MLR
comp=Z,4µm,18.0s
BORG Borgarnes 36.85 327 IAMs_20 IAMs_20 11 22 14.6
comp=Z,13µm,21.0s
TARG Taragay, Kyrgy 36.86 72 IAmb IAmb 11 06 43.2
comp=Z,326nm,1.4s
PMOZ Porto Moniz, M 36.86 272 eS **S** **11 12 20.4 +1.8**
PMOZ i IAMs_20 IAMs_20 11 24 38.4
comp=Z,2µm,20.0s
SATY Saty 36.95 70 eP **P** **11 06 34.7 -0.2**
comp=Z,202nm,1.4s
SATY Saty 36.95 70 eP **P** **11 06 34.6 -0.3**
SATY pmax pmax
comp=Z,202nm,1.4s
UZB Uzynbulak 37.36 69 eP **P** **11 06 38.1 -0.3**
UZB Uzynbulak 37.36 69 eP **P** **11 06 38.1 -0.3**
PDGK Podgornoye 37.65 69 P **P** **11 06 40.4 -0.4**
SHLS Shalkode 37.67 69 eP **P** **11 06 43.4 +2.3**
comp=Z,131nm,1.6s
SHLS Shalkode 37.67 69 eP **P** **11 06 43.3 +2.3**
SHLS pmax pmax
comp=Z,131nm,1.6s
SPB2 Spitsbergen Ar 37.71 356 IAmb IAmb 11 06 48.1
comp=Z,169nm,1.3s
SPITS Spitsbergen Ar 37.71 356 P **P** **11 06 41.2 +0.4**
comp=Z,37nm,0.9s,baz=160,slow=8.5,SNR=15
SPITS LR LR 11 23 27.7
comp=Z,4µm,19.4s,baz=164,slow=38
comp=Z,37nm,0.9s
SPITS Spitsbergen Ar 37.71 356 P **P** **11 06 41.4 +0.6**
SPITS pmax pmax
comp=Z,334nm,1.5s
JASL Jaisalmer 37.71 98 eP **P** **11 06 39.0 -2.4**
JASL IAmb IAmb 11 06 46.8
comp=Z,192nm,1.0s
LODK Lodwar 37.86 168 P **P** **11 06 43.5 +0.8**
LODK Lodwar 37.86 168 P **P** **11 06 44.3 +1.6**
JMU Jammu 37.91 87 eP **P** **11 06 39.5 -3.4**
JMU IAmb IAmb 11 06 48.9
comp=Z,106nm,0.9s
MAKZ Makanchi 38.59 63 P **P** **11 06 44.3 -4.3**
KBS Kingsbay 38.69 355 P **P** **11 06 48.5 -0.6**
KBS IAMs_20 IAMs_20 11 23 22.2
comp=Z,8µm,18.0s
KBS Kingsbay 38.69 355 P **P** **11 06 48.5 -0.6**
KBS pmax pmax
comp=Z,189nm,1.3s
KBS MLR MLR
comp=Z,8µm,18.0s
KBS Kingsbay 38.69 355 ⇑P **P** **11 06 49.9 +0.8**
KBS Kingsbay 38.69 355 i P **P** **11 06 49.2 +0.2**
TSSA Tissa 38.80 86 eP **P** **11 06 47.6 -3.1**
TSSA IAML 11 06 56.7
comp=Z,112nm,0.6s
MK31 Makanchi Array 38.81 63 i P **P** **11 06 50.4 0.0**
MKAR Makanchi Array 38.81 63 P **P** **11 06 51.3 +0.8**
MKAR Makanchi Array 38.81 63 P **P** **11 06 50.7 +0.3**

MKAR PP **PP** **11 08 19.4 +0.2**
comp=Z,56nm,1.0s,baz=287,slow=4.9,SNR=150
MKAR LR LR 11 25 50.2
comp=Z,62nm,1.0s,baz=273,slow=9.5,SNR=5.8
comp=Z,4μm,20.5s,baz=264,slow=41
comp=Z,56nm,1.0s
BKNR BIKANER 38.92 95 *e*P **P** **11 06 47.7 -3.9**
ALCI Alchi Leh 38.99 84 *e*P **P** **11 06 49.2 -3.4**
TLWR Talawar 39.04 88 *e*P **P** **11 06 49.4 -3.2**
DHRM DHARAMSHALA 39.17 87 *e*P **P** **11 06 50.7 -3.2**
ZALV Zalesovo Beam 39.42 51 P **P** **11 06 55.2 -0.2**
ZALV Zalesovo Beam 39.42 51 P **P** **11 06 55.4 0.0**
comp=Z,11nm,0.7s,baz=282,slow=7.4,SNR=49
ZALV PP **PP** **11 08 25.2 -0.5**
comp=Z,21nm,0.9s,baz=282,slow=10,SNR=3.8
ZALV LR LR 11 25 51.8
comp=Z,3μm,20.2s,baz=276,slow=40
comp=Z,11nm,0.7s
BHK Bhakra 39.64 88 *e*P **P** **11 06 58.2 +0.6**
SMLA Simla 40.34 88 *e*P **P** **11 07 00.5 -2.8**
EDA Edea 40.36 209 P **P** **11 07 03.6 0.0**
HNLY HANLEY 40.96 85 *e*P **P** **11 07 05.6 -3.5**
HNLY IAmb IAmb 11 07 15.6
comp=Z,119nm,1.1s
KLP Kalpa 40.97 87 *e*P **P** **11 07 04.2 -4.8**
KLP IAmb IAmb 11 07 14.0
comp=Z,98nm,0.6s
DAG Danmarks Havn 41.06 345 P **P** **11 07 06.6 -2.1**
DAG Danmarks Havn 41.06 345 *i*P **P** **11 07 07.0 -1.7**
DAG IAmb IAmb 11 07 15.9
comp=Z,143nm,1.3s
JHJR Jhajjar 41.17 92 *e*P **P** **11 07 07.8 -2.4**
KUDL Kundal 41.29 92 *e*P **P** **11 07 08.6 -2.6**
BHGR Bahadurgarh 41.35 91 *e*P **P** **11 07 10.0 -1.7**
MBAR Mbarara 41.36 176 P **P** **11 07 12.4 +0.5**
MBAR Mbarara 41.36 176 P **P** **11 07 12.5 +0.5**
MBAR Mbarara 41.36 176 *i*P **P** **11 07 11.7 -0.3**
MBAR pmax pmax
comp=Z,137nm,1.4s
MBAR MLR MLR
comp=Z,2μm,17.0s
DDI Dehra Dun 41.40 88 *e*P **P** **11 07 09.0 -3.1**
DDI IAmb IAmb 11 07 17.1
comp=Z,187nm,1.2s
NDI New Delhi 41.57 91 *e*P **P** **11 07 10.7 -2.8**
NDI IAmb IAmb 11 07 19.1
comp=Z,177nm,0.5s
AYAN Aya Nagar 41.60 92 *e*P **P** **11 07 09.3 -4.4**
LDR Lodi Road 41.62 91 *e*P **P** **11 07 10.9 -3.0**
JMIU JAMIA UNIVERSI 41.68 91 *e*P **P** **11 07 11.5 -2.9**
JMIU IAmb IAmb 11 07 19.7
comp=Z,105nm,1.1s
ASOR Ausora 41.95 91 *e*P **P** **11 07 14.4 -2.2**
UGON Onchagaon 42.28 91 *e*P **P** **11 07 16.2 -3.1**
JOSI Joshimath 42.42 87 *e*P **P** **11 07 17.6 -3.2**
JOSI IAmb IAmb 11 07 26.0
comp=Z,131nm,1.0s
WMQ Urumqi 43.24 66 *e*P **P** **11 07 29.3 +2.2**
WMQ pP sP 11 07 33.3 +1.3
WMQ PP **PP** **11 09 11.0 +3.6**
WMQ S **S** **11 13 57.5 +3.7**
WMQ pmax pmax
comp=Z,65nm,1.3s
WMQ pmax pmax
comp=Z,1μm,4.7s
WMQ LR LR
comp=Z,5μm,22.7s
WMQ LR LR
comp=Z,6μm,16.3s
WMQ LR LR
comp=Z,4μm,18.9s
ACRG Accra 43.33 224 P **P** **11 07 27.5 -0.4**
PTH Pithoragarh 43.41 88 *e*P **P** **11 07 25.4 -3.3**
PTH IAmb IAmb 11 07 33.4
comp=Z,145nm,1.5s
LGTI Lohaghat 43.48 88 *e*P **P** **11 07 25.6 -3.5**
LGTI IAmb IAmb 11 07 33.1
comp=Z,104nm,1.2s
NOR Nord 43.61 351 ⇑P **P** **11 07 29.3 -0.2**
NOR Nord 43.61 351 *i*P **P** **11 07 28.5 -1.0**
NOR IAmb IAmb 11 07 36.0
comp=Z,230nm,1.4s
ANGG Ammassalik, Gr 43.77 327 IAMs_20 IAMs_20 11 25 46.5
comp=Z,12μm,22.0s
ANGG Ammassalik, Gr 43.77 327 *i*P **P** **11 07 35.1 +4.3**
ANGG IAmb IAmb 11 07 38.0
comp=Z,56nm,1.6s
KIBK Kibwezi 43.95 166 P **P** **11 07 34.3 +1.3**
KIBK Kibwezi 43.95 166 P **P** **11 07 35.2 +2.2**
SNR=5.4
JHNI Jhansi 44.26 94 *e*P **P** **11 07 33.6 -1.7**
ISOG Isortoq, Green 44.33 327 *i*P **P** **11 07 38.7 +3.3**
ISOG IAmb IAmb 11 07 40.1
comp=Z,58nm,1.2s
SUMG Summit 44.58 337 P **P** **11 07 39.4 +1.7**
SUMG Summit 44.58 337 IAmb IAmb 11 07 47.0
comp=Z,168nm,1.5s
SUMG IAMs_20 IAMs_20 11 27 00.8
comp=Z,5μm,19.0s
SUMG Summit 44.58 337 ⇓P **P** **11 07 39.0 +1.2**
SUMG Summit 44.58 337 *i*P **P** **11 07 42.2 +4.4**
SUMG IAmb IAmb 11 07 47.3
comp=Z,151nm,1.4s
BHPL Bhopal 44.66 98 *e*P **P** **11 07 37.5 -1.2**
BHPL IAML 11 07 44.0
comp=Z,153nm,1.4s
POO Poona 44.87 106 *e*P **P** **11 07 36.8 -3.5**
POO IAmb IAmb 11 07 46.0
comp=Z,144nm,0.8s
DBIC Dimbokro 45.05 230 IAmb IAmb 11 07 46.2
comp=Z,178nm,1.0s
DBIC Dimbokro 45.05 230 P **P** **11 07 41.5 -0.2**
comp=Z,112nm,0.8s,baz=54,slow=8.5,SNR=23
DBIC LR LR 11 27 22.5
comp=Z,3μm,18.8s,baz=53,slow=37
comp=Z,112nm,0.8s
DBIC Dimbokro 45.05 230 ⇑P **P** **11 07 40.9 -0.8**
AKL Akola 45.85 101 *e*P **P** **11 07 45.3 -2.8**
AKL IAmb IAmb 11 07 53.5
comp=Z,171nm,1.1s
KAD Karad 45.89 107 *e*P **P** **11 07 45.8 -2.6**
HRYA Harraiya (Bast 46.54 90 *e*P **P** **11 07 50.5 -2.9**
BBTS Babate 46.74 249 LR LR 11 30 33.0
comp=Z,8μm,19.1s,baz=251,slow=40
ALBI Allahabad 46.82 92 *e*P **P** **11 07 53.0 -2.6**
GOA Goa 46.83 109 *e*P **P** **11 07 53.4 -2.3**
MBO M'Bour 47.22 249 IAMs_20 IAMs_20 11 30 37.9
comp=Z,7μm,20.0s
DY2G Dye2 47.25 328 *i*P **P** **11 07 59.5 +0.7**
DY2G IAmb IAmb 11 08 03.6
comp=Z,129nm,1.3s
NRS Narsarsuaq 47.62 321 *i*P **P** **11 08 04.5 +3.2**
NRS IAmb IAmb 11 08 08.4
comp=Z,99nm,1.4s
NEEM North Greenlan 48.15 343 *i*P **P** **11 08 07.7 +2.0**
NEEM IAmb IAmb 11 08 13.8
comp=Z,919nm,2.1s
SAATT Saattut 48.72 334 *i*P **P** **11 08 11.2 +1.5**
SAATT IAmb IAmb 11 08 15.0
comp=Z,63nm,1.2s
ILULI Ilulissat 48.75 332 IAMs_20 IAMs_20 11 29 17.9
comp=Z,8μm,21.0s
ILULI Ilulissat 48.75 332 *i*P **P** **11 08 11.2 +1.3**
BLSP Bilaspur 48.85 95 *e*P **P** **11 08 09.1 -2.3**
BLSP IAmb IAmb 11 08 16.0
comp=Z,105nm,1.2s
SFJD Kangerlussuaq 48.90 329 P **P** **11 08 11.6 +0.5**
SFJD Kangerlussuaq 48.90 329 IAMs_20 IAMs_20 11 29 11.8
comp=Z,4μm,19.0s
SFJD Kangerlussuaq 48.90 329 LR LR 11 29 22.7
comp=Z,5μm,19.7s,baz=88,slow=37
SFJD Kangerlussuaq 48.90 329 P **P** **11 08 11.6 +0.5**
SFJD pmax pmax
comp=Z,100nm,1.8s
SFJD MLR MLR
comp=Z,4μm,19.0s
SFJD Kangerlussuaq 48.90 329 *i*P **P** **11 08 10.0 -1.1**
SFJD IAmb IAmb 11 08 18.3
comp=Z,114nm,1.9s
IVI Ivigtut 48.92 321 *i*P **P** **11 08 13.2 +1.8**
IVI IAmb IAmb 11 08 18.1
comp=Z,80nm,1.1s
SAQQ Saqqaq 48.93 333 *i*P **P** **11 08 12.8 +1.4**
SAQQ IAmb IAmb 11 08 18.1
comp=Z,56nm,1.1s

HYB Hyderabad 49.02 103 *e*P **P** **11 08 13.1 +0.2**
HYB *e*pP **pP** **11 08 15.6 -0.8**
HYB *e*PcP **PcP** **11 09 36.8 +0.1**
HYB *e*PP **PP** **11 10 07.0 +0.7**
HYB *e*ScP **ScP** **11 13 32.0 +0.5**
HYB *e*S **S** **11 15 18.8 +1.5**
NIAQ Niaqornat 49.39 334 *i*P **P** **11 08 16.3 +1.4**
NIAQ IAmb IAmb 11 08 29.7
comp=Z,290nm,1.6s
MOY Mondy 49.47 52 *e*P **P** **11 08 17.6 +1.7**
MOY pmax pmax
comp=Z,276nm,2.3s
GDH Godhavn 49.60 332 *i*P **P** **11 08 17.1 +0.7**
GDH IAmb IAmb 11 08 20.9
comp=Z,131nm,1.4s
GAYA Gaya 49.69 90 *e*P **P** **11 08 14.6 -3.2**
GAYA IAmb IAmb 11 08 23.6
comp=Z,107nm,1.3s
UPNV Upernavik 49.85 337 *i*P **P** **11 08 17.9 -0.5**
UPNV IAmb IAmb 11 08 25.7
comp=Z,75nm,1.0s
KULLO Kullorsuaq 49.87 340 *i*P **P** **11 08 17.1 -1.4**
KULLO IAmb IAmb 11 08 26.0
comp=Z,83nm,1.1s
NUUK Nuuk 49.88 326 *i*P **P** **11 08 18.3 -0.4**
NUUK IAmb IAmb 11 08 25.4
comp=Z,118nm,1.7s
GOMU GeErMu 51.19 72 P **P** **11 08 29.8 +0.3**
GOMU pP pP 11 08 32.3 -0.7
GOMU PcP **PcP** **11 09 46.0 +1.2**
GOMU PP **PP** **11 10 27.0 +0.9**
GOMU S **S** **11 15 48.0 +0.2**
GOMU ScS **ScS** **11 18 21.5 +1.2**
GOMU pmax pmax
comp=Z,42nm,0.9s
GOMU pmax pmax
comp=Z,900nm,5.4s
GOMU LR LR
comp=Z,2μm,17.4s
GOMU LR LR
comp=Z,2μm,19.2s
GOMU LR LR
comp=Z,3μm,17.7s
IRK Irkutsk 51.21 50 *e*P **P** **11 08 28.3 -0.7**
IRK *e* 11 11 32.5
IRK pmax pmax
comp=Z,324nm,2.2s
ZAK Zakamensk 51.26 52 *e*P **P** **11 08 29.9 +0.5**
ZAK pmax pmax
comp=Z,185nm,1.9s
LSA Lhasa 51.59 82 IAmb IAmb 11 08 38.9
comp=Z,255nm,1.7s
LSA IAMs_20 IAMs_20 11 34 38.2
comp=Z,4μm,20.0s
LSA Lhasa 51.59 82 P **P** **11 08 32.0 -0.6**
LSA S **S** **11 15 54.5 +0.9**
LSA pmax pmax
comp=Z,43nm,1.2s
LSA LR LR
comp=Z,4μm,19.9s
LSA LR LR
comp=Z,2μm,15.8s
LSA LR LR
comp=Z,4μm,18.6s
MSEY Mahe Island 51.77 144 P **P** **11 08 33.2 -0.3**
TULEG Thule 52.25 343 IAMs_20 IAMs_20 11 31 07.4
comp=Z,6μm,20.0s
HMDM Hanimaadhoo 52.49 118 IAMs_20 IAMs_20 11 33 44.4
comp=Z,7μm,18.0s
BWNR Bhubaneshwar 52.70 95 *e*P **P** **11 08 37.9 -2.5**
BWNR IAmb IAmb 11 08 45.2
comp=Z,107nm,1.4s
GTA Gaotai 53.31 66 *e*P **P** **11 08 44.5 -0.4**
GTA pP sP 11 08 49.8 0.0
GTA PcP **PcP** **11 09 54.0 +1.6**
GTA PP **PP** **11 10 43.5 -1.4**
GTA S **S** **11 16 17.5 +1.2**
GTA pmax pmax
comp=Z,24nm,1.0s
GTA pmax pmax
comp=Z,880nm,6.5s
GTA LR LR
comp=Z,3μm,21.4s
GTA LR LR
comp=Z,3μm,21.8s
GTA LR LR
comp=Z,5μm,22.5s
GUWA GUWAHATI 53.83 85 *e*P **P** **11 08 45.7 -3.0**
GUWA IAmb IAmb 11 08 53.1
comp=Z,59nm,1.1s
SONM Songino Array 54.10 55 P **P** **11 08 51.0 +0.4**
SONM Songino Array 54.10 55 P **P** **11 08 51.0 +0.4**
comp=Z,28nm,1.1s,baz=284,slow=8.4,SNR=67
SONM PcP **PcP** **11 09 55.5 +0.2**
comp=Z,18nm,1.0s,baz=298,slow=3.8,SNR=4.0
SONM LR LR 11 35 37.6
comp=Z,5μm,18.0s,baz=294,slow=40
comp=Z,28nm,1.1s
SONM Songino Array 54.10 55 P **P** **11 08 51.0 +0.4**
SONM pmax pmax
comp=Z,403nm,1.8s
SHL Shillong 54.31 85 P **P** **11 08 51.5 -1.0**
SHL Shillong 54.31 85 *e*P **P** **11 08 49.7 -2.8**
TEZP TEZPUR 54.43 84 *e*P **P** **11 08 50.2 -2.9**
TEZP IAmb IAmb 11 08 57.9
comp=Z,100nm,1.3s
ULN Ulaanbaatar 54.50 54 P **P** **11 08 54.1 +0.6**
ULN IAmb IAmb 11 08 59.9
comp=Z,100nm,1.1s
ULN Ulaanbaatar 54.50 54 IAMs_20 IAMs_20 11 35 38.8
comp=Z,4μm,20.0s
ULN Ulaanbaatar 54.50 54 P **P** **11 08 54.5 +1.0**
ULN P **P** **11 08 54.5 +1.0**
ULN Ulaanbaatar 54.50 54 P **P** **11 08 54.1 +0.6**
ULN pmax pmax
comp=Z,100nm,1.1s
ULN MLR MLR
comp=Z,4μm,20.0s
BOD Bodaibo 54.52 41 *e*P **P** **11 08 53.0 -0.2**
BOD pmax pmax
comp=Z,161nm,1.8s
ZIRO ZIRO 54.74 82 *e*P **P** **11 08 52.5 -3.0**
AGT Agartala 54.76 88 *e*P **P** **11 08 52.9 -2.6**
TIXI Tiksi 54.97 22 P **P** **11 08 56.4 +0.1**
TIXI Tiksi 54.97 22 IAMs_20 IAMs_20 11 35 29.1
comp=Z,7μm,18.0s
TIXI Tiksi 54.97 22 LR LR 11 35 35.1
comp=Z,8μm,18.9s,baz=310,slow=40
TIXI Tiksi 54.97 22 *i*P **P** **11 08 55.9 -0.4**
TIXI pmax pmax
comp=Z,119nm,1.7s
TIXI MLR MLR
comp=Z,7μm,17.0s
BRDH Bariadhala 55.74 89 LR LR 11 36 33.3
comp=Z,3μm,18.1s,baz=308,slow=40
KOHI KOHIMA 55.91 84 *e*P **P** **11 09 00.7 -3.3**
AZL Aizawl 55.93 87 *e*P **P** **11 08 59.9 -4.2**
IMP Imphal 56.27 85 *e*P **P** **11 09 03.3 -3.2**
LKP Lekhapani 56.34 81 *e*P **P** **11 09 04.2 -2.6**
CIT Chita 56.59 48 *e*P **P** **11 09 08.6 +0.3**
CIT *e* 11 09 20.2
CIT *e* 11 10 12.2
CIT *e* 11 11 16.0
CIT *e* 11 12 28.8
CIT pmax pmax
comp=Z,403nm,2.0s
FRB Frobisher Bay 57.01 328 LR LR 11 33 56.8
comp=Z,5μm,19.9s,baz=72,slow=36
PALK Pallekele 57.33 111 P **P** **11 09 14.1 0.0**
PALK IAmb IAmb 11 09 19.7
comp=Z,90nm,1.1s
PALK Pallekele 57.33 111 IAMs_20 IAMs_20 11 35 29.5
comp=Z,3μm,18.0s
PALK Pallekele 57.33 111 LR LR 11 35 31.8
comp=Z,2μm,18.3s,baz=303,slow=38
PALK Pallekele 57.33 111 P **P** **11 09 14.0 0.0**
PALK Pallekele 57.33 111 *i*P **P** **11 09 13.9 -0.1**
PALK pmax pmax
comp=Z,136nm,1.1s
PALK MLR MLR
comp=Z,4μm,16.0s
LZDM Lanzhou Array 57.64 68 P **P** **11 09 16.8 +0.4**
comp=Z,54nm,0.9s,baz=284,slow=6.0,SNR=14
LZDM LR LR 11 38 10.4
comp=Z,3μm,21.1s,baz=330,slow=40

comp=Z,54nm,0.9s
LZH Lanzhou 57.68 68 *e*P **P** **11 09 17.0 +0.5**
LZH pP sP 11 09 22.0 +0.6
LZH PP **PP** **11 11 23.0 -1.1**
LZH S **S** **11 17 17.3 +2.4**
LZH sS sS 11 17 26.5 +5.7
LZH SS **SS** **11 21 11.0 +6.2**
LZH pmax pmax
comp=Z,100nm,1.3s
LZH pmax pmax
comp=Z,920nm,4.2s
LZH LR LR
comp=Z,4μm,14.4s
LZH LR LR
comp=Z,4μm,14.4s
LZH LR LR
comp=Z,4μm,14.4s
SBV Sambava 57.70 155 P **P** **11 09 20.0 +3.6**
RES Resolute Bay 58.76 345 LR LR 11 35 08.9
comp=Z,5μm,20.0s,baz=56,slow=36
TNCH TengChong 59.61 82 ⇑*i*P **P** **11 09 30.3 +0.3**
TNCH pP sP 11 09 34.3 -0.7
TNCH sP pP 11 09 37.3 +3.7
TNCH S **S** **11 17 38.5 -1.7**
TNCH pmax pmax
comp=Z,140nm,1.1s
TNCH pmax pmax
comp=Z,730nm,5.7s
TNCH LR LR
comp=Z,1μm,19.0s
TNCH LR LR
comp=Z,1μm,15.2s
TNCH LR LR
comp=Z,2μm,21.7s
BTO Baotou 59.68 61 *e*P **P** **11 09 30.0 -0.2**
BTO pP **sP** **11 09 34.5 -0.7**
BTO sP **pP** **11 09 37.3 +3.5**
BTO PP **PP** **11 11 43.0 +1.4**
BTO S **S** **11 17 44.3 +3.7**
BTO sS **sS** **11 17 48.3 +1.8**
BTO SS **SS** **11 21 33.5 -2.3**
BTO pmax pmax
comp=Z,87nm,1.1s
BTO pmax pmax
comp=Z,2μm,5.6s
BTO LR LR
comp=Z,8μm,15.4s
BTO LR LR
comp=Z,7μm,14.5s
BTO LR LR
comp=Z,12μm,17.2s
YAK Yakutsk 59.74 32 P **P** **11 09 29.8 -0.3**
YAK Yakutsk 59.74 32 IAMs_20 IAMs_20 11 38 48.5
comp=Z,4μm,19.0s
YAK Yakutsk 59.74 32 LR LR 11 37 31.3
comp=Z,3μm,20.6s,baz=302,slow=38
YAK Yakutsk 59.74 32 *e*P **P** **11 09 29.2 -0.9**
YAK *e**PP **sP** **11 09 37.1 +2.0**
YAK *e* 11 10 15.2
YAK *e* 11 11 41.1
YAK *e*S **S** **11 17 41.1 +0.6**
YAK *e**SS sS 11 17 59.9 +13
YAK *e*SS **SS** **11 21 38.2 +2.6**
YAK *e*SSS SSS 11 24 01.6
YAK pmax pmax
comp=N,39nm,1.5s
YAK pmax pmax
comp=E,104nm,1.7s
YAK pmax pmax
comp=Z,202nm,0.9s
YAK pmax pmax
comp=Z,218nm,2.3s
YAK pmax pmax
comp=E,212nm,2.3s
YAK pmax pmax
comp=N,163nm,2.8s
YAK smax smax
comp=N,1μm,6.5s
YAK smax smax
comp=E,480nm,5.4s
YAK MLR MLR
comp=E,5μm,20.0s
YAK MLR MLR
comp=N,5μm,23.0s
YAK MLR MLR
comp=Z,5μm,21.0s
GMARE Gumare 60.23 187 IAMs_20 IAMs_20 11 38 56.8
comp=Z,5μm,19.0s
CD2 Chengdu 60.28 73 P **P** **11 09 34.8 +0.4**
CD2 PP **PP** **11 11 52.5 +5.4**
CD2 S **S** **11 17 47.8 -0.7**
CD2 pmax pmax
comp=Z,120nm,0.8s
CD2 pmax pmax
comp=Z,730nm,4.6s
CD2 LR LR
comp=Z,3μm,16.7s
CD2 LR LR
comp=Z,3μm,23.7s
CD2 LR LR
comp=Z,2μm,15.3s
SCHQ Schefferville 60.43 318 P **P** **11 09 33.9 -1.1**
comp=Z,192nm,0.9s,baz=48,slow=4.8,SNR=18
SCHQ LR LR 11 34 44.7
comp=Z,37μm,20.3s,baz=63,slow=35
comp=Z,192nm,0.9s
HHC Hu-ho-hao-te 60.58 60 ⇑*i*P **P** **11 09 37.0 +0.6**
HHC pP sP 11 09 42.0 +0.6
HHC S **S** **11 17 46.5 -5.6**
HHC SS **SS** **11 21 56.8 +6.9**
HHC pmax pmax
comp=Z,80nm,1.3s
HHC pmax pmax
comp=Z,860nm,3.6s
HHC LR LR
comp=Z,2μm,18.0s
HHC LR LR
comp=Z,3μm,20.8s
HHC LR LR
comp=Z,4μm,23.6s
TSUM Tsumeb 60.59 192 P **P** **11 09 36.2 -0.3**
TSUM IAmb IAmb 11 09 41.7
comp=Z,74nm,1.2s
TSUM Tsumeb 60.59 192 IAMs_20 IAMs_20 11 36 48.3
comp=Z,5μm,20.0s
TSUM Tsumeb 60.59 192 LR LR 11 37 57.3
comp=Z,4μm,18.2s,baz=348,slow=38
MATP Matopo 61.00 180 LR LR 11 35 38.0
comp=Z,2μm,21.1s,baz=6.0,slow=36
PZH PanZhiHua 61.20 79 P **P** **11 09 40.5 -0.3**
PZH ScS SKiKP 11 19 30.0 -42
PZH pmax pmax
comp=Z,200nm,1.1s
PZH pmax pmax
comp=Z,670nm,5.3s
PZH LR LR
comp=Z,1μm,17.9s
PZH LR LR
comp=Z,2μm,19.0s
PZH LR LR
comp=Z,3μm,21.6s
HIA Hailar 61.36 48 IAMs_20 IAMs_20 11 39 23.3
comp=Z,3μm,19.0s
HIA Hailar 61.36 48 P **P** **11 09 42.8 +1.3**
OPO Ambohidratompo 61.73 159 LR LR 11 36 19.0
comp=Z,2μm,21.2s,baz=177,slow=36
XLT XiLinHaoTe 61.91 55 *e*P **P** **11 09 45.8 +0.4**
XLT pP sP 11 09 50.8 +0.4
XLT PcP **PcP** **11 10 26.5 +0.4**
XLT S **S** **11 18 09.0 0.0**
XLT pmax pmax
comp=Z,76nm,1.6s
XLT pmax pmax
comp=Z,720nm,4.3s
XLT LR LR
comp=Z,410nm,18.0s
XLT LR LR
comp=Z,3μm,14.4s
XLT LR LR
comp=Z,4μm,19.4s
ABPO Ambohimpanom 62.17 160 P **P** **11 09 47.9 +0.6**
ABPO IAmb IAmb 11 09 53.0
comp=Z,62nm,1.2s
ABPO Ambohimpanom 62.17 160 P **P** **11 09 47.9 +0.6**
ABPO pmax pmax
comp=Z,62nm,1.3s

ABPO MLR MLR
comp=Z,2µm,22.0s
GRTLG Ghanzi 62.27 187 IAMs_20 IAMs_20 11 38 28.8
comp=Z,4µm,18.0s
XAN Xi'an 62.30 68 P **P** **11 09 48.0 -0.1**
XAN PP **PP** **11 12 03.8 -1.1**
XAN S **S** **11 18 14.0 -0.2**
XAN sS sS 11 18 23.5 +3.4
XAN pmax pmax
comp=Z,220nm,1.5s
XAN LR LR
comp=Z,2µm,15.1s
XAN LR LR
comp=Z,4µm,20.0s
XAN LR LR
comp=Z,4µm,18.6s
DGPR DIGLIPUR 62.43 96 *e*P **P** **11 09 46.8 -2.3**
KHWEE KHWEE 62.56 183 IAMs_20 IAMs_20 11 40 43.7
comp=Z,3µm,18.0s
KMI Kunming 62.71 79 ⇑P **P** **11 09 50.5 -0.6**
KMI PcP **PcP** **11 10 33.5 +3.7**
KMI S **S** **11 18 17.8 -2.1**
KMI ScS **ScS** **11 19 42.3 -1.6**
KMI SS **SS** **11 22 21.5 -2.7**
KMI pmax pmax
comp=Z,38nm,0.9s
KMI pmax pmax
comp=Z,740nm,5.3s
KMI LR LR
comp=Z,2µm,18.1s
KMI LR LR
comp=Z,1µm,16.8s
KMI LR LR
comp=Z,2µm,24.7s
TIY Taiyuan 62.77 63 *e*P **P** **11 09 51.5 +0.3**
TIY S **S** **11 18 22.8 +2.8**
TIY ScS **ScS** **11 19 46.5 +2.8**
TIY pmax pmax
comp=Z,590nm,3.7s
TIY LR LR
comp=Z,2µm,16.1s
TIY LR LR
comp=Z,2µm,19.1s
TIY LR LR
comp=Z,3µm,19.1s
DGAR Diego Garcia 62.94 129 IAMs_20 IAMs_20 11 36 13.3
comp=Z,6µm,20.0s
ZEA Zeya 63.02 41 *e*P **P** **11 09 53.2 +0.7**
ZEA *e* 11 12 14.3
ZEA *e*S **S** **11 18 27.3 +4.8**
ZEA *e* 11 25 18.4
ZEA pmax pmax
comp=E,200nm,2.5s
ZEA pmax pmax
comp=Z,500nm,3.3s
ZEA pmax pmax
comp=E,30nm,1.2s
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=Z,50nm,1.4s
ZEA smax smax
comp=E,300nm,6.1s
ZEA smax smax
comp=N,500nm,6.7s
ZEA MLR MLR
comp=E,2µm,15.0s
ZEA MLR MLR
comp=Z,3µm,14.0s
MREMI Moremi 63.14 181 IAMs_20 IAMs_20 11 40 54.9
comp=Z,3µm,20.0s
CHTO Chiang Mai 63.53 87 P **P** **11 09 55.7 -0.7**
CHTO Chiang Mai 63.53 87 P **P** **11 09 56.2 -0.2**
CHTO P **P** **11 09 56.2 -0.2**
CHTO P **P** **11 09 56.2 -0.2**
CHTO Chiang Mai 63.53 87 P **P** **11 09 56.3 0.0**
CHTO Chiang Mai 63.53 87 P **P** **11 09 55.7 -0.7**
CHTO pmax pmax
comp=Z,60nm,1.3s
CHTO MLR MLR
comp=Z,2µm,22.0s
KGCAE Kacgae 63.66 186 IAmb IAmb 11 10 02.6
comp=Z,98nm,1.1s
KGCAE IAMs_20 IAMs_20 11 40 55.7
comp=Z,5µm,18.0s
CMAR Chiang Mai Arr 63.74 88 P **P** **11 09 56.9 -0.9**
comp=Z,19nm,1.0s,baz=302,slow=7.4,SNR=38
CMAR PP **PP** **11 12 17.0 -0.8**
comp=Z,32nm,1.2s,baz=301,slow=10,SNR=5.1
CMAR PKP2ab 11 39 05.2
comp=Z,0.6nm,0.3s,baz=180,slow=1.7,SNR=5.0
comp=Z,19nm,1.0s
WIN Windhoek 63.97 191 IAMs_20 IAMs_20 11 41 57.8
comp=Z,7µm,21.0s
KOOLE Kule 63.99 188 IAmb IAmb 11 10 04.5
comp=Z,59nm,1.1s
KOOLE IAMs_20 IAMs_20 11 39 43.3
comp=Z,4µm,19.0s
BJI Beijing 64.00 59 P **P** **11 09 59.5 +0.4**
BJI pP **sP** **11 10 04.0 -0.2**
BJI sP **pP** **11 10 07.0 +4.2**
BJI PcP **PcP** **11 10 35.5 +1.0**
BJI PP **PP** **11 12 20.5 +0.9**
BJI S **S** **11 18 32.5 -2.5**
BJI pmax pmax
comp=Z,18nm,1.3s
BJI pmax pmax
comp=Z,390nm,5.7s
BJI LR LR
comp=Z,2µm,15.1s
BJI LR LR
comp=Z,1µm,16.3s
BJI LR LR
comp=Z,2µm,18.8s
BJT Baijiatuau 64.01 59 IAMs_20 IAMs_20 11 43 11.9
comp=Z,4µm,18.0s
BJT Baijiatuau 64.01 59 P **P** **11 09 59.7 +0.5**
HNS HongShan 64.46 62 ⇑P **P** **11 10 02.5 +0.3**
HNS PP PP 11 12 31.8 +8.1
HNS S **S** **11 18 44.3 +3.5**
HNS pmax pmax
comp=Z,83nm,1.3s
HNS pmax pmax
comp=Z,760nm,6.4s
HNS LR LR
comp=Z,4µm,18.6s
HNS LR LR
comp=Z,2µm,17.8s
HNS LR LR
comp=Z,3µm,17.7s
LYN LuoYang 64.50 65 P **P** **11 10 03.0 +0.5**
LYN pP sP 11 10 07.8 +0.3
LYN PP **PP** **11 12 30.8 +6.7**
LYN S **S** **11 18 41.0 -0.4**
LYN sS sS 11 18 47.5 +0.2
LYN pmax pmax
comp=Z,46nm,1.1s
LYN pmax pmax
comp=Z,1µm,5.4s
LYN LR LR
comp=Z,4µm,17.2s
LYN LR LR
comp=Z,2µm,12.3s
LYN LR LR
comp=Z,3µm,17.1s
ENH Enshi 64.76 71 P **P** **11 10 04.4 0.0**
VOI Vohitsoka 64.83 161 IAMs_20 IAMs_20 11 39 34.9
comp=Z,3µm,19.0s
GYA Guiyang 64.86 76 ⇓P **P** **11 10 06.0 +0.8**
GYA S **S** **11 18 44.5 -1.8**
GYA pmax pmax
comp=Z,51nm,1.1s
GYA pmax pmax
comp=Z,1µm,5.3s
GYA LR LR
comp=Z,2µm,21.3s
GYA LR LR
comp=Z,1µm,22.7s
GYA LR LR
comp=Z,2µm,25.1s
HEH HeiHe 65.04 44 *e*P **P** **11 10 05.5 -0.3**
HEH PP **PP** **11 12 28.8 +0.4**
HEH S **S** **11 18 50.8 +3.3**
HEH SS **SS** **11 23 03.5 +4.7**
HEH pmax pmax
comp=Z,220nm,1.1s
HEH pmax pmax
comp=Z,1µm,5.4s
HEH LR LR
comp=Z,5µm,13.6s
HEH LR LR
comp=Z,6µm,15.4s
HEH LR LR
comp=Z,12µm,16.8s
GGN Saint George 65.58 309 IAmb IAmb 11 10 15.5
comp=Z,92nm,1.3s
LBTB Lobatse 65.61 183 IAmb IAmb 11 10 15.7
comp=Z,81nm,1.1s
LBTB Lobatse 65.61 183 LR LR 11 39 48.8
comp=Z,2µm,18.5s,baz=359,slow=37
D62A Allapoint, All 65.75 312 IAMs_20 IAMs_20 11 40 37.9
comp=Z,3µm,18.0s
SLVN Son La 65.78 82 IAmb IAmb 11 10 16.4
comp=Z,78nm,1.1s
SLVN Son La 65.78 82 P **P** **11 10 11.1 0.0**
A36M Sachs Harbour 65.87 351 IAMs_20 IAMs_20 11 40 57.5
comp=Z,6µm,20.0s
A36M Sachs Harbour 65.87 351 P **P** **11 10 11.9 +1.1**
baz=22
G65A Princeton 65.96 310 IAmb IAmb 11 10 17.5
comp=Z,107nm,1.3s
G65A IAMs_20 IAMs_20 11 36 29.5
comp=Z,4µm,20.0s
F64A Sherman 66.04 311 IAmb IAmb 11 10 18.9
comp=Z,78nm,1.3s
F64A IAMs_20 IAMs_20 11 37 43.6
comp=Z,4µm,21.0s
EMMW East Machias 66.17 309 IAmb IAmb 11 10 19.7
comp=Z,108nm,1.4s
EMMW IAMs_20 IAMs_20 11 37 26.2
comp=Z,3µm,20.0s
LMQ La Malbaie 66.20 313 IAmb IAmb 11 10 19.0
comp=Z,63nm,1.3s
E62A Clayton Lake 66.28 312 IAmb IAmb 11 10 20.3
comp=Z,81nm,1.2s
E62A IAMs_20 IAMs_20 11 40 43.9
comp=Z,3µm,18.0s
BLKN Baker Lake 66.34 337 IAmb IAmb 11 10 21.8
comp=Z,95nm,1.4s
MAKGR Makgori 66.44 183 IAmb IAmb 11 10 20.4
comp=Z,57nm,1.1s
MAKGR IAMs_20 IAMs_20 11 42 09.2
comp=Z,2µm,20.0s
LDAQ Lac Daran 66.47 314 IAmb IAmb 11 10 21.7
comp=Z,103nm,1.3s
TIA Tai'an 66.73 62 P **P** **11 10 16.5 -0.5**
TIA PP **PP** **11 12 46.3 +2.7**
TIA S **S** **11 19 10.3 +1.6**
TIA SKS **SKiKP** **11 20 17.0 -1.9**
TIA SS **SS** **11 23 30.0 +4.1**
TIA pmax pmax
comp=Z,120nm,1.3s
TIA pmax pmax
comp=Z,700nm,6.5s
TIA LR LR
comp=Z,3µm,23.5s
TIA LR LR
comp=Z,3µm,23.0s
TIA LR LR
comp=Z,4µm,23.5s
BILL Bilibino 66.92 16 P **P** **11 10 17.7 +0.1**
BILL Bilibino 66.92 16 IAMs_20 IAMs_20 11 43 19.0
comp=Z,3µm,19.0s
BILL Bilibino 66.92 16 *i* P **P** **11 10 17.2 -0.4**
BILL pmax pmax
comp=Z,121nm,1.5s
BILL MLR MLR
comp=Z,2µm,18.0s
PKME Peaks-Kenny Pk 66.92 310 IAmb IAmb 11 10 24.9
comp=Z,84nm,1.2s
PKME IAMs_20 IAMs_20 11 40 13.1
comp=Z,4µm,20.0s
SEY Seymchan 67.36 24 LR LR 11 42 44.4
comp=Z,3µm,19.1s,baz=320,slow=39
SEY Seymchan 67.36 24 *i* P **P** **11 10 21.6 +1.2**
SEY pmax pmax
comp=Z,229nm,1.5s
SEY MLR MLR
comp=Z,4µm,21.0s
WVL Waterville 67.54 310 IAMs_20 IAMs_20 11 40 21.5
comp=Z,4µm,18.0s
BNX BinXian 67.64 48 ⇑P **P** **11 10 22.0 -0.5**
BNX PP **PP** **11 12 55.3 +4.1**
BNX S **S** **11 19 21.0 +1.7**
BNX ScS **ScS** **11 20 22.3 +1.6**
BNX pmax pmax
comp=Z,79nm,1.3s
BNX pmax pmax
comp=Z,720nm,3.5s
BNX LR LR
comp=Z,2µm,20.6s
BNX LR LR
comp=Z,4µm,15.2s
BNX LR LR
comp=Z,3µm,18.4s
CN2 Changchun 67.64 51 *e*P **P** **11 10 23.0 +0.5**
CN2 PP **PP** **11 12 50.0 -1.2**
CN2 *e*S **S** **11 19 22.5 +3.2**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,800nm,4.0s
CN2 LR LR
comp=Z,3µm,19.0s
CN2 LR LR
comp=Z,2µm,19.0s
CN2 LR LR
comp=Z,3µm,17.6s
SNY Shenyang 67.66 54 ⇑P **P** **11 10 23.0 +0.3**
SNY S **S** **11 19 16.3 -3.3**
SNY pmax pmax
comp=Z,20nm,1.1s
SNY pmax pmax
comp=Z,640nm,6.3s
SNY LR LR
comp=Z,2µm,13.5s
SNY LR LR
comp=Z,2µm,16.7s
SNY LR LR
comp=Z,2µm,13.5s
G62A West of Eustis 67.66 311 IAmb IAmb 11 10 29.9
comp=Z,99nm,1.3s
G62A IAMs_20 IAMs_20 11 41 00.6
comp=Z,5µm,18.0s
POGA Pongola 67.97 177 IAMs_20 IAMs_20 11 45 21.9
comp=Z,3µm,19.0s
A21K Barrow 68.04 2 P **P** **11 10 25.6 +1.0**
baz=356
WHN Wuhan 68.06 68 P **P** **11 10 25.8 +0.4**
WHN PP **PP** **11 12 56.8 +1.5**
WHN S **S** **11 19 28.3 +3.5**
WHN pmax pmax
comp=Z,880nm,1.8s
WHN pmax pmax
comp=Z,2µm,6.2s
WHN LR LR
comp=Z,4µm,12.3s
WHN LR LR
comp=Z,4µm,13.0s
WHN LR LR
comp=Z,7µm,22.1s
DL2 Dalian 68.13 57 P **P** **11 10 21.0 -4.7**
DL2 PP **PP** **11 12 55.3 -0.4**
DL2 S **S** **11 19 26.0 +0.6**
DL2 Dalian 68.13 57 SS SS 11 23 44.5 -2.8
DL2 pmax pmax
comp=Z,63nm,1.3s
DL2 pmax pmax
comp=Z,890nm,5.5s
DL2 LR LR
comp=N,3µm,23.2s
DL2 LR LR
comp=E,3µm,16.1s
DL2 LR LR
comp=Z,3µm,18.6s
C36M Paulatuk 68.19 350 IAMs_20 IAMs_20 11 41 21.7
comp=Z,4µm,20.0s
C36M Paulatuk 68.19 350 P **P** **11 10 26.3 +0.7**
baz=22,SNR=7.1
GULI GuiLin 68.25 75 P **P** **11 10 25.5 -1.2**
GULI S **S** **11 19 25.3 -1.9**
GULI pmax pmax
comp=Z,42nm,1.4s
GULI pmax pmax
comp=Z,630nm,3.8s
GULI LR LR
comp=Z,1µm,19.1s
GULI LR LR
comp=Z,1µm,16.7s
GULI LR LR
comp=Z,2µm,16.1s
I63A Otisfield 68.38 310 IAMs_20 IAMs_20 11 38 52.6
comp=Z,3µm,21.0s
A22K Sinclair Lake 68.39 1 P **P** **11 10 28.5 +1.7**
baz=357
H62A Milan 68.40 311 IAmb IAmb 11 10 34.2
comp=Z,79nm,1.3s
CNSH ChangSha 68.42 71 P **P** **11 10 27.5 -0.2**
CNSH PP **PP** **11 13 02.0 +3.5**
CNSH S **S** **11 19 28.8 -0.4**
CNSH pmax pmax
comp=Z,56nm,1.2s
CNSH LR LR
comp=Z,2µm,19.8s
CNSH LR LR
comp=Z,1µm,15.3s
CNSH LR LR
comp=Z,3µm,17.8s
I62A Tamworth 68.92 310 IAmb IAmb 11 10 38.0
comp=Z,98nm,1.4s
I62A IAMs_20 IAMs_20 11 38 10.0
comp=Z,3µm,21.0s
A19K Wainwright 69.01 3 P **P** **11 10 32.0 +1.3**
baz=352
LBNH Lisbon 69.05 311 IAmb IAmb 11 10 38.8
comp=Z,110nm,1.3s
B22K Teshekpuk Lake 69.08 1 IAmb IAmb 11 10 38.2
comp=Z,79nm,1.1s
B22K Teshekpuk Lake 69.08 1 P **P** **11 10 32.5 +1.4**
baz=359
BOSA Boshof 69.21 183 P **P** **11 10 31.5 -1.0**
comp=Z,29nm,1.1s,baz=358,slow=7.5,SNR=9.4
BOSA LR LR 11 41 35.7
comp=Z,2µm,18.6s,baz=359,slow=37
comp=Z,29nm,1.1s
MNTQ Montreal, Queb 69.24 313 IAmb IAmb 11 10 39.4
comp=Z,147nm,1.6s
MA2 Magadan 69.29 27 P **P** **11 10 33.7 +1.1**
MA2 IAMs_20 IAMs_20 11 44 11.8
comp=Z,4µm,19.0s
MA2 Magadan 69.29 27 LR LR 11 44 22.8
comp=Z,3µm,19.1s,baz=320,slow=39
MA2 Magadan 69.29 27 P **P** **11 10 34.3 +1.7**
MA2 Magadan 69.29 27 *i* P **P** **11 10 34.0 +1.4**
MA2 pmax pmax
comp=Z,258nm,1.3s
MA2 MLR MLR
comp=Z,4µm,16.0s
MA2 Magadan 69.29 27 P **P** **11 10 33.1 +0.5**
comp=Z,4µmcomp=Z,220nm,1.1s
GRNR Gornyy 69.32 40 *e*P **P** **11 10 29.9 -3.1**
GRNR MLR MLR
comp=E,2µm,15.0s
GRNR MLR MLR
comp=N,1µm,18.0s
GRNR MLR MLR
comp=Z,3µm,17.0s
TRQ Mont Tremblant 69.32 314 IAmb IAmb 11 10 39.7
comp=Z,77nm,1.2s
B20K Meade River 69.35 2 IAmb IAmb 11 10 41.3
comp=Z,102nm,1.1s
B20K Meade River 69.35 2 P **P** **11 10 34.1 +1.3**
baz=356,SNR=11
C26K Camden Bay 69.39 357 P **P** **11 10 34.8 +1.8**
baz=5.6
VT1 Waterbury 69.46 311 IAmb IAmb 11 10 41.2
comp=Z,106nm,1.3s
VT1 IAMs_20 IAMs_20 11 42 22.3
comp=Z,5µm,19.0s
MDJ Mudanjiang 69.55 48 IAMs_20 IAMs_20 11 45 27.9
comp=Z,3µm,21.0s
MDJ Mudanjiang 69.55 48 P **P** **11 10 35.0 +0.5**
MDJ S **S** **11 19 43.8 +1.8**
MDJ pmax pmax
comp=Z,23nm,1.3s
MDJ LR LR
comp=Z,3µm,19.2s
MDJ LR LR
comp=Z,4µm,15.1s
MDJ LR LR
comp=Z,3µm,20.6s
MDJ Mudanjiang 69.55 48 P **P** **11 10 35.5 +1.0**
HNH Hanover 69.58 310 IAmb IAmb 11 10 42.1
comp=Z,131nm,1.3s
HNH IAMs_20 IAMs_20 11 39 52.2
comp=Z,3µm,20.0s
C23K Itkillik River 69.59 360 P **P** **11 10 36.0 +1.8**
baz=1.0,SNR=19
FRNY Flat Rock 69.63 312 IAmb IAmb 11 10 41.6
comp=Z,78nm,1.3s
FRNY IAMs_20 IAMs_20 11 41 25.6
comp=Z,4µm,18.0s
C27K Jago River 69.64 357 P **P** **11 10 35.9 +1.3**
baz=6.5,SNR=24
D28M Stokes Point 69.67 355 P **P** **11 10 36.3 +1.5**
baz=10
C24K Franklin Bluff 69.68 359 P **P** **11 10 36.3 +1.4**
baz=2.5,SNR=10
VLDQ Val d'Or 69.70 317 IAmb IAmb 11 10 42.4
comp=Z,94nm,1.2s
B21K Ikpikpuk River 69.79 1 IAmb IAmb 11 10 44.0
comp=Z,102nm,1.1s
B21K Ikpikpuk River 69.79 1 P **P** **11 10 37.1 +1.7**
baz=358,SNR=14
L64A Middleborough 69.80 308 IAMs_20 IAMs_20 11 39 36.1
comp=Z,5µm,22.0s
WES Weston 69.81 309 IAMs_20 IAMs_20 11 39 16.5
comp=Z,4µm,20.0s
B18K Kokolik River 69.81 4 P **P** **11 10 37.4 +1.7**
baz=352,SNR=13
HRV Adam Dziewonsk 69.88 309 P **P** **11 10 37.5 +1.0**
HRV IAmb IAmb 11 10 43.5
comp=Z,130nm,1.4s
HRV Adam Dziewonsk 69.88 309 IAMs_20 IAMs_20 11 40 58.2
comp=Z,3µm,19.0s
HRV Adam Dziewonsk 69.88 309 P **P** **11 10 37.5 +1.0**
HRV pmax pmax
comp=Z,130nm,1.5s
HRV MLR MLR
comp=Z,3µm,19.0s
D27M Malcolm River 69.89 356 IAmb IAmb 11 10 40.1
comp=Z,128nm,1.4s
D27M Malcolm River 69.89 356 P **P** **11 10 37.5 +1.3**
baz=8.7,SNR=14
M65A Busby, Falmout 69.91 308 IAMs_20 IAMs_20 11 39 14.0
comp=Z,5µm,22.0s
M65A Busby, Falmout 69.91 308 P **P** **11 10 37.5 +0.8**
baz=53
J61A Chester 69.95 310 IAmb IAmb 11 10 44.4
comp=Z,101nm,1.2s
J61A IAMs_20 IAMs_20 11 41 38.0
comp=Z,5µm,18.0s
D25K Kavik River 70.03 358 IAmb IAmb 11 10 45.2
comp=Z,91nm,1.1s
D25K Kavik River 70.03 358 P **P** **11 10 38.4 +1.3**
baz=4.4,SNR=23
C19K Lookout Ridge 70.17 3 IAMs_20 IAMs_20 11 44 55.2
comp=Z,2µm,18.0s
C19K Lookout Ridge 70.17 3 P **P** **11 10 39.3 +1.3**
baz=354,SNR=7.1
K62A Royalston 70.18 310 IAmb IAmb 11 10 45.9
comp=Z,118nm,1.4s
K62A IAMs_20 IAMs_20 11 42 23.2
comp=Z,4µm,19.0s
C21K Knifeblade Rid 70.25 1 P **P** **11 10 40.1 +1.7**
baz=358,SNR=17
D24K Happy Valley 70.25 359 IAmb IAmb 11 10 46.7
comp=Z,71nm,0.9s
D24K Happy Valley 70.25 359 P **P** **11 10 39.6 +1.3**
baz=2.4,SNR=21
INK Inuvik 70.26 353 IAmb IAmb 11 10 45.3
comp=Z,80nm,1.4s
INK Inuvik 70.26 353 LR LR 11 43 50.0
comp=Z,2µm,21.6s,baz=20,slow=38
INK Inuvik 70.26 353 P **P** **11 10 38.3 -0.1**
baz=15,SNR=18
NJ2 Nanjing 70.31 64 ⇑P **P** **11 10 39.0 -0.3**
NJ2 pP **sP** **11 10 44.0 -0.4**
NJ2 sP **pP** **11 10 47.3 +4.3**
NJ2 PP **PP** **11 13 19.8 +5.2**
NJ2 S **S** **11 19 52.8 +1.5**

NJ2 SS **SS** **11 24 25.0 +3.8**
NJ2 pmax pmax
comp=Z,39nm,1.2s
NJ2 pmax pmax
comp=Z,630nm,3.5s
NJ2 LR LR
comp=Z,3µm,16.4s
NJ2 LR LR
comp=Z,2µm,19.2s
NJ2 LR LR
comp=Z,1µm,24.3s
LONY Lake Ozonia **70.32 312** IAmb IAmb 11 10 46.0
comp=Z,82nm,1.2s
LONY IAMs_20 IAMs_20 11 40 26.9
comp=Z,4µm,21.0s
E28M Babbage River **70.44 355** IAmb IAmb 11 10 47.6
comp=Z,116nm,1.1s
E28M Babbage River **70.44 355** P **P** **11 10 40.9 +1.3**
baz=9.8,SNR=35
D23K Nanushuk River **70.46 360** P **P** **11 10 41.3 +1.6**
baz=0.9,SNR=19
NCB Newcomb **70.52 312** IAMs_20 IAMs_20 11 43 04.1
comp=Z,4µm,18.0s
E29M Blow River **70.54 355** IAMs_20 IAMs_20 11 44 50.1
comp=Z,3µm,21.0s
E29M Blow River **70.54 355** P **P** **11 10 41.2 +1.0**
baz=11,SNR=77
D22K Ayikyak River **70.55 0** IAmb IAmb 11 10 48.6
comp=Z,84nm,1.1s
D22K Ayikyak River **70.55 0** P **P** **11 10 42.0 +1.8**
baz=359,SNR=20
C18K Utukok River **70.56 4** P **P** **11 10 41.5 +1.2**
baz=352,SNR=14
ACCN Adirondack Com **70.57 311** IAmb IAmb 11 10 48.0
comp=Z,147nm,1.3s
L61B Northampton **70.57 310** IAmb IAmb 11 10 48.2
comp=Z,138nm,1.4s
L61B IAMs_20 IAMs_20 11 39 17.5
comp=Z,3µm,21.0s
C17K DeLong Mountai **70.62 4** P **P** **11 10 41.9 +1.2**
baz=351,SNR=20
PYAG Pyongyang **70.64 55** P **P** **11 10 40.3 -1.0**
PYAG S **S** **11 19 54.8 -0.2**
PYAG AmB
comp=Z,387nm,2.3s
PYAG AMS AMS
comp=Z,2µm,15.9s
D20K Etivluk River **70.66 2** IAmb IAmb 11 10 49.1
comp=Z,64nm,1.1s
D20K Etivluk River **70.66 2** P **P** **11 10 42.5 +1.6**
baz=356
C16K Lisburne Hills **70.68 5** IAmb IAmb 11 10 43.2
comp=Z,87nm,1.3s
C16K Lisburne Hills **70.68 5** P **P** **11 10 41.6 +0.6**
baz=349,SNR=9.4
UCCT U. Connecticut **70.70 309** IAMs_20 IAMs_20 11 39 53.1
comp=Z,5µm,22.0s
TOLK Toolik Lake Re **70.78 359** IAmb IAmb 11 10 51.1
comp=Z,143nm,1.5s
TOLK Toolik Lake Re **70.78 359** P **P** **11 10 43.0 +1.4**
baz=1.8,SNR=15
MLSI Meulaboh, Aceh **70.80 101** P **P** **11 10 41.4 -1.1**
comp=Z,183nm,1.1s
D19K Kuna River **70.83 2** IAmb IAmb 11 10 50.2
comp=Z,98nm,1.0s
D19K IAMs_20 IAMs_20 11 45 42.8
comp=Z,2µm,19.0s
D19K Kuna River **70.83 2** P **P** **11 10 43.3 +1.3**
baz=355
M63A Gales Ferry **70.84 308** IAMs_20 IAMs_20 11 40 05.7
comp=Z,6µm,22.0s
TRY Troy **70.97 310** IAmb IAmb 11 10 49.9
comp=Z,82nm,1.3s
E27K Coleen River **70.97 356** IAmb IAmb 11 10 50.8
comp=Z,96nm,1.1s
E27K Coleen River **70.97 356** P **P** **11 10 43.8 +0.9**
baz=8.2,SNR=31
E21K Killik River **70.98 1** P **P** **11 10 43.6 +0.7**
baz=358,SNR=21
J59A Piesco **70.99 311** IAmb IAmb 11 10 50.5
comp=Z,123nm,1.3s
J59A IAMs_20 IAMs_20 11 40 52.7
comp=Z,4µm,20.0s
RDOG Red Dog Mine **71.06 4** IAmb IAmb 11 10 46.8
comp=Z,151nm,1.5s
RDOG IAMs_20 IAMs_20 11 42 14.6
comp=Z,2µm,19.0s
RDOG Red Dog Mine **71.06 4** P **P** **11 10 44.2 +0.9**
baz=351,SNR=9.0
F31M Tsiigehtchic **71.12 353** IAMs_20 IAMs_20 11 44 22.3
comp=Z,3µm,20.0s
F31M Tsiigehtchic **71.12 353** P **P** **11 10 44.5 +0.8**
baz=14,SNR=25
E20K Nigu River **71.13 2** P **P** **11 10 45.2 +1.4**
baz=356
F30M Barrier River **71.14 354** IAmb IAmb 11 10 53.9
comp=Z,96nm,1.1s
F30M IAMs_20 IAMs_20 11 44 11.9
comp=Z,3µm,22.0s
F30M Barrier River **71.14 354** P **P** **11 10 44.3 +0.4**
baz=13,SNR=20
USRK Ussuriysk Ar. **71.16 48** P **P** **11 10 43.8 -0.5**
comp=Z,32nm,1.1s,baz=288,slow=4.4,SNR=32
comp=Z,32nm,1.1s
HHU Hamhung **71.20 53** P **P** **11 10 42.8 -1.8**
HHU S **S** **11 20 01.3 -0.1**
HHU AmB
comp=Z,333nm,2.2s
HHU AMS AMS
comp=Z,3µm,13.5s
E25K Arctic Village **71.21 358** IAmb IAmb 11 10 55.9
comp=Z,151nm,1.3s
E25K Arctic Village **71.21 358** P **P** **11 10 45.5 +1.2**
baz=5.0,SNR=31
HJU Haeju **71.23 56** P **P** **11 10 43.6 -1.2**
HJU S **S** **11 20 01.8 0.0**
HJU AmB
comp=Z,742nm,2.6s
HJU AMS AMS
comp=Z,5µm,18.6s
E22K Anaktuvuk Pass **71.30 0** IAmb IAmb 11 10 52.8
comp=Z,75nm,1.2s
E22K Anaktuvuk Pass **71.30 0** P **P** **11 10 46.0 +1.2**
baz=0.0,SNR=19
E24K Your Creek **71.33 359** IAmb IAmb 11 10 57.8
comp=Z,87nm,1.4s
E24K IAMs_20 IAMs_20 11 47 26.7
comp=Z,2µm,20.0s
E24K Your Creek **71.33 359** P **P** **11 10 46.2 +1.2**
baz=2.7,SNR=14
E23K Chandalar **71.36 359** P **P** **11 10 46.7 +1.5**
baz=1.8,SNR=25
D17K Noatak River **71.40 5** P **P** **11 10 46.3 +0.9**
baz=351
F28M Old Crow **71.44 355** IAmb IAmb 11 10 54.1
comp=Z,76nm,1.1s
F28M Old Crow **71.44 355** P **P** **11 10 46.4 +0.7**
baz=9.5,SNR=27
F26K Sheenjek River **71.58 357** IAmb IAmb 11 10 55.0
comp=Z,94nm,1.1s
F26K Sheenjek River **71.58 357** P **P** **11 10 48.0 +1.4**
baz=6.1,SNR=50
QIZ Qiongzhong **71.61 81** IAmb IAmb 11 10 52.9
comp=Z,158nm,1.3s
QIZ Qiongzhong **71.61 81** P **P** **11 10 47.5 +0.1**
QIZ PP **PP** **11 13 29.3 +3.1**
QIZ S **S** **11 20 07.8 +1.0**
QIZ SS **SS** **11 24 48.5 +6.7**
QIZ pmax pmax
comp=Z,99nm,1.2s
QIZ pmax pmax
comp=Z,590nm,4.0s
QIZ LR LR
comp=Z,2µm,20.1s
QIZ LR LR
comp=Z,1µm,24.0s
QIZ LR LR
comp=Z,2µm,27.0s
G31M Satah River **71.68 353** IAmb IAmb 11 10 54.1
comp=Z,114nm,1.2s
G31M IAMs_20 IAMs_20 11 44 28.9
comp=Z,3µm,21.0s
G31M Satah River **71.68 353** P **P** **11 10 47.2 +0.1**
baz=14,SNR=24
MSHR Mys Shultsa **71.70 49** *i* P **P** **11 10 47.0 -0.6**
MSHR MLR MLR
comp=Z,1µm,17.0s
F25K Christian Rive **71.74 358** IAmb IAmb 11 10 56.0
comp=Z,65nm,1.1s
F25K Christian Rive **71.74 358** P **P** **11 10 49.0 +1.5**
baz=4.9,SNR=28
WSPT Westport, CT **71.74 309** IAmb IAmb 11 10 54.3
comp=Z,90nm,1.3s
WSPT IAMs_20 IAMs_20 11 40 32.5
comp=Z,6µm,22.0s
GZH Guangzhou **71.74 75** P **P** **11 10 46.8 -1.4**
GZH S **S** **11 20 08.3 +0.1**
GZH pmax pmax
comp=Z,100nm,1.2s
GZH pmax pmax
comp=Z,1µm,5.6s
GZH LR LR
comp=Z,1µm,22.8s
GZH LR LR
comp=Z,1µm,20.6s
GZH LR LR
comp=Z,4µm,15.0s
VLA Vladivostok **71.78 49** *i* P **P** **11 10 47.6 -0.4**
VLA pmax pmax
comp=Z,203nm,1.3s
VLA MLR MLR
comp=Z,2µm,16.0s
G30M tAoh Zrail Nji **71.80 354** IAMs_20 IAMs_20 11 44 39.1
comp=Z,2µm,21.0s
G30M tAoh Zrail Nji **71.80 354** P **P** **11 10 48.3 +0.4**
baz=12,SNR=34
E18K Tukpahlearik C **71.81 4** IAmb IAmb 11 10 55.7
comp=Z,81nm,1.0s
E18K Tukpahlearik C **71.81 4** P **P** **11 10 49.0 +1.1**
baz=353
BMAR Burnt Mountain **71.87 357** P **P** **11 10 49.8 +1.5**
J57A Williamstown **71.87 312** IAmb IAmb 11 10 55.5
comp=Z,67nm,1.1s
J57A IAMs_20 IAMs_20 11 44 14.0
comp=Z,4µm,18.0s
F24K Squaw Lake **71.88 358** IAmb IAmb 11 11 00.2
comp=Z,137nm,1.3s
F24K Squaw Lake **71.88 358** P **P** **11 10 50.1 +1.8**
baz=3.1,SNR=35
E19K Redstone River **71.90 2** P **P** **11 10 49.6 +1.2**
baz=356
F22K John River **71.93 0** P **P** **11 10 50.0 +1.4**
baz=360,SNR=15
N62A Caumsett State **71.97 309** IAMs_20 IAMs_20 11 40 37.7
comp=Z,5µm,22.0s
G29M Pine Creek **72.01 354** P **P** **11 10 49.7 +0.6**
baz=11,SNR=38
DELO Deloro Mine **72.07 314** IAmb IAmb 11 10 56.8
comp=Z,82nm,1.1s
DELO IAMs_20 IAMs_20 11 42 10.1
comp=Z,4µm,19.0s
E17K Hotham Inlet **72.08 4** P **P** **11 10 50.5 +1.0**
baz=352,SNR=12
PECO Prince Edward **72.10 313** IAMs_20 IAMs_20 11 41 52.9
comp=Z,4µm,20.0s
L59A Walton **72.10 311** IAMs_20 IAMs_20 11 41 17.0
comp=Z,5µm,22.0s
INCN Inchon **72.14 56** P **P** **11 10 50.4 0.0**
INCN Inchon **72.14 56** IAMs_20 IAMs_20 11 47 40.8
comp=Z,4µm,19.0s
INCN Inchon **72.14 56** P **P** **11 10 51.1 +0.7**
INCN Inchon **72.14 56** P **P** **11 10 50.4 0.0**
INCN pmax pmax
comp=Z,57nm,1.0s
INCN MLR MLR
comp=Z,4µm,19.0s
PAL Palisades **72.19 309** IAMs_20 IAMs_20 11 40 57.3
comp=Z,5µm,22.0s
COLD Coldfoot **72.20 359** IAmb IAmb 11 10 58.3
comp=Z,82nm,1.2s
COLD Coldfoot **72.20 359** P **P** **11 10 51.4 +1.2**
baz=1.3,SNR=32
F21K Alatna River **72.21 1** IAmb IAmb 11 10 58.6
comp=Z,100nm,1.1s
F21K Alatna River **72.21 1** P **P** **11 10 51.8 +1.5**
baz=359,SNR=53
TYV Tymovskoe **72.21 37** *e*P **P** **11 10 50.4 -0.1**
TYV *e*S **S** **11 20 17.1 +4.3**
TYV pmax pmax
comp=Z,300nm,3.0s
TYV pmax pmax
comp=Z,34nm,1.1s
TYV smax smax
comp=N,400nm,6.5s
TYV smax smax
comp=E,500nm,6.5s
KCSI Kotacane, Aceh **72.31 101** P **P** **11 10 50.4 -1.3**
comp=E,1µmcomp=E,55nm,1.2s
G26K Porcupine Rive **72.31 357** IAmb IAmb 11 10 59.5
comp=Z,101nm,1.0s
G26K Porcupine Rive **72.31 357** P **P** **11 10 52.6 +1.8**
baz=6.4,SNR=52
F20K Avarut Lake **72.35 2** P **P** **11 10 52.3 +1.3**
baz=357,SNR=35
G27K Doyon Strip **72.35 356** IAMs_20 IAMs_20 11 48 36.6
comp=Z,2µm,21.0s
G27K Doyon Strip **72.35 356** P **P** **11 10 52.5 +1.4**
baz=8.1,SNR=31
BUKO Buck Lake **72.44 315** IAmb IAmb 11 10 57.9
comp=Z,76nm,1.2s
EPYK Eagle Plains **72.44 354** P **P** **11 10 51.8 +0.1**
baz=12,SNR=22
SSE Sheshan **72.47 64** P **P** **11 10 52.3 -0.1**
SSE S **S** **11 20 17.0 +0.7**
SSE pmax pmax
comp=Z,27nm,1.0s
SSE pmax pmax
comp=Z,260nm,4.8s
SSE LR LR
comp=Z,1µm,20.1s
SSE LR LR
comp=Z,420nm,20.3s
F19K Shaleruckik Mo **72.51 2** IAmb IAmb 11 10 59.4
comp=Z,98nm,1.1s
F19K Shaleruckik Mo **72.51 2** P **P** **11 10 52.5 +0.4**
baz=355,SNR=36
G22K Bettles **72.52 360** P **P** **11 10 53.2 +1.1**
baz=0.2
G25K Bearman Lake **72.58 358** P **P** **11 10 54.2 +1.7**
baz=4.5,SNR=21
K57A Scipio Center **72.60 312** IAMs_20 IAMs_20 11 41 48.2
comp=Z,3µm,20.0s
BINY Binghamton **72.64 311** IAmb IAmb 11 11 00.3
comp=Z,164nm,1.4s
YKAW3 Yellowknife Wh **72.65 343** IAmb IAmb 11 11 00.6
comp=Z,76nm,1.1s
F18K Selawik **72.67 3** P **P** **11 10 53.7 +0.7**
baz=354,SNR=22
G24K Hadweenzic Riv **72.69 358** IAmb IAmb 11 11 02.7
comp=Z,80nm,1.1s
G24K Hadweenzic Riv **72.69 358** P **P** **11 10 54.7 +1.6**
baz=3.5,SNR=33
YKAW1 Yellowknife Wh **72.69 343** IAmb IAmb 11 11 01.7
comp=Z,214nm,1.6s
YKA Yellowknife Ar **72.71 343** P **P** **11 10 54.1 +0.8**
YKA Yellowknife Ar **72.71 343** P **P** **11 10 53.9 +0.6**
comp=Z,15nm,0.9s,baz=25,slow=6.9,SNR=30
YKA LR LR 11 43 31.8
comp=Z,4µm,20.5s,baz=32,slow=36
comp=Z,15nm,0.9s
YKA Yellowknife Ar **72.71 343** *i* P **P** **11 10 54.0 +0.7**
YKA pmax pmax
comp=Z,15nm,0.9s
H29M Whitestone **72.72 354** IAmb IAmb 11 11 00.7
comp=Z,77nm,1.1s
H29M IAMs_20 IAMs_20 11 45 57.4
comp=Z,2µm,20.0s
H29M Whitestone **72.72 354** P **P** **11 10 54.1 +0.7**
baz=11,SNR=18
G23K Bananza Creek **72.72 359** P **P** **11 10 54.4 +1.0**
baz=1.4,SNR=25
SADO Sadowa **72.74 315** IAmb IAmb 11 10 59.8
comp=Z,72nm,1.0s
SADO Sadowa **72.74 315** LR LR 11 41 45.2
comp=Z,26µm,21.3s,baz=66,slow=35
F17K Baldwin Pennin **72.75 4** IAmb IAmb 11 11 00.9
comp=Z,63nm,1.0s
F17K Baldwin Pennin **72.75 4** P **P** **11 10 54.0 +0.6**
baz=352
FYU Fort Yukon **72.75 357** IAmb IAmb 11 11 02.2
comp=Z,166nm,1.3s
BRNJ Basking Ridge **72.78 309** IAMs_20 IAMs_20 11 41 03.0
comp=Z,5µm,21.0s
H31M Peel River **72.78 353** IAmb IAmb 11 11 04.5
comp=Z,146nm,1.3s
H31M IAMs_20 IAMs_20 11 44 56.9
comp=Z,4µm,21.0s
H31M Peel River **72.78 353** P **P** **11 10 54.2 +0.5**
baz=14,SNR=19
HKPS Hong Kong Po S **72.82 75** P **P** **11 10 56.5 +1.9**
H27K Steamboat Moun **72.92 356** IAmb IAmb 11 11 03.0
comp=Z,104nm,1.0s
H27K IAMs_20 IAMs_20 11 46 39.6
comp=Z,2µm,22.0s
H27K Steamboat Moun **72.92 356** P **P** **11 10 55.9 +1.4**
baz=8.1,SNR=36
G21K Allakaket **72.92 1** IAmb IAmb 11 11 02.5
comp=Z,123nm,1.0s
G21K Allakaket **72.92 1** P **P** **11 10 55.8 +1.3**
baz=359
KSPA Keystone Colle **72.92 310** IAmb IAmb 11 11 01.9
comp=Z,145nm,1.4s
KSPA IAMs_20 IAMs_20 11 41 38.8
comp=Z,3µm,21.0s
KSAR Wonju Array Be **72.95 55** P **P** **11 10 55.1 -0.1**
KSAR Wonju Array Be **72.95 55** P **P** **11 10 55.1 -0.1**
KSRS Korea Array **72.97 55** P **P** **11 10 55.0 -0.3**
comp=Z,33nm,1.1s,baz=306,slow=5.3,SNR=67
KSRS LR LR 11 48 30.1
comp=Z,1418µm,19.7s,baz=300,slow=40
comp=Z,33nm,1.1s
KSRS Korea Array **72.97 55** P **P** **11 10 55.0 -0.3**
J55A Hilton **72.99 313** IAmb IAmb 11 11 02.0
comp=Z,101nm,1.1s
J55A IAMs_20 IAMs_20 11 42 38.4
comp=Z,4µm,19.0s
H25L Birch Creek **73.08 357** P **P** **11 10 57.3 +1.9**
baz=4.8,SNR=43
TEY Ternei **73.14 45** *e*P **P** **11 10 56.1 0.0**
TEY MLR MLR
comp=E,200nm,16.0s
TEY MLR MLR
comp=N,200nm,15.0s
TEY MLR MLR
comp=Z,300nm,15.0s
TNA Tin City **73.14 7** IAMs_20 IAMs_20 11 44 46.8
comp=Z,3µm,21.0s
TNA Tin City **73.14 7** P **P** **11 10 56.4 +0.6**
baz=347
UGL Uglegorsk **73.17 39** *e*P **P** **11 10 53.2 -3.0**
UGL *e*S S 11 20 14.7 -9.0
UGL pmax pmax
comp=Z,400nm,1.1s
UGL MLR MLR
comp=E,5µm,16.0s
UGL MLR MLR
comp=Z,5µm,15.0s
G19K Purcell Mounta **73.22 2** IAmb IAmb 11 11 04.3
comp=Z,96nm,1.1s
G19K Purcell Mounta **73.22 2** P **P** **11 10 57.1 +0.8**
baz=356,SNR=28
SUR Sutherland **73.22 187** IAMs_20 IAMs_20 11 46 32.0
comp=Z,5µm,19.0s
SUR Sutherland **73.22 187** P **P** **11 10 60.0 +3.2**
SUR P **P** **11 10 60.0 +3.2**
F15K North Star Dit **73.27 6** IAMs_20 IAMs_20 11 47 42.1
comp=Z,3µm,21.0s
F15K North Star Dit **73.27 6** P **P** **11 10 57.1 +0.5**
baz=350,SNR=8.5
TJN Taejon **73.29 56** P **P** **11 10 57.1 -0.1**
TJN Taejon **73.29 56** *i* P **P** **11 10 56.6 -0.6**
KULM Kulim **73.31 98** P **P** **11 10 58.1 +0.5**
F14K Arctic Creek **73.37 6** P **P** **11 10 57.9 +0.8**
baz=349
MMNY Mt. Morris Dam **73.38 312** IAmb IAmb 11 11 04.2
comp=Z,128nm,1.2s
MEDO Medina **73.41 313** IAMs_20 IAMs_20 11 42 51.5
comp=Z,4µm,20.0s
G18K Tagagawik **73.42 3** IAmb IAmb 11 11 05.1
comp=Z,84nm,0.9s
G18K Tagagawik **73.42 3** P **P** **11 10 58.2 +0.7**
baz=355,SNR=49
IMAR Indian Mountai **73.45 1** P **P** **11 10 58.8 +1.2**
I30M Mount Dempster **73.54 353** IAmb IAmb 11 11 05.7
comp=Z,103nm,0.9s
I30M IAMs_20 IAMs_20 11 45 26.0
comp=Z,3µm,21.0s
I30M Mount Dempster **73.54 353** P **P** **11 10 58.9 +0.6**
baz=12,SNR=61
I27K Kandik River **73.55 356** P **P** **11 10 59.5 +1.3**
baz=8.1,SNR=36
H22K Ishtalitna Cre **73.55 360** P **P** **11 11 00.2 +1.9**
baz=0.4,SNR=36
P61A Hammonton **73.55 308** IAMs_20 IAMs_20 11 44 25.5
comp=Z,3µm,18.0s
I29M Ogilvie Camp, **73.56 354** IAmb IAmb 11 11 05.7
comp=Z,117nm,0.9s
I29M IAMs_20 IAMs_20 11 45 45.7
comp=Z,3µm,22.0s
I29M Ogilvie Camp, **73.56 354** P **P** **11 10 58.6 +0.3**
baz=11,SNR=65
H24K Noodor Dome **73.56 358** P **P** **11 10 59.6 +1.2**
baz=3.1,SNR=16
L56A Greenwood **73.57 312** IAmb IAmb 11 11 05.5
comp=Z,119nm,1.2s
L56A IAMs_20 IAMs_20 11 41 39.9
comp=Z,3µm,21.0s
I28M Miner Creek **73.59 355** IAmb IAmb 11 11 06.1
comp=Z,137nm,1.4s
I28M Miner Creek **73.59 355** P **P** **11 10 59.2 +0.6**
baz=9.4,SNR=43
H23K Yukon River **73.61 359** IAmb IAmb 11 11 07.3
comp=Z,123nm,1.3s
H23K Yukon River **73.61 359** P **P** **11 11 00.4 +1.9**
baz=1.8
GSI Gunungsitoli **73.64 103** IAmb IAmb 11 11 04.9
comp=Z,116nm,1.2s
GSI Gunungsitoli **73.64 103** P **P** **11 11 00.7 +1.2**
GSI Gunungsitoli **73.64 103** P **P** **11 11 00.7 +1.2**
comp=Z,84nm,1.5s
PSI Prapat **73.65 101** LR LR 11 47 06.4
comp=Z,2µm,19.0s,baz=302,slow=39
RPSI Rantau Prapat **73.72 101** IAmb IAmb 11 11 05.1
comp=Z,182nm,1.3s
RPSI IAMs_20 IAMs_20 11 46 55.5
comp=Z,2µm,20.0s
G17K Kiwalik Mounta **73.72 4** P **P** **11 10 59.8 +0.5**
baz=353,SNR=13
G16K Koyuk River **73.73 5** IAmb IAmb 11 11 07.0
comp=Z,68nm,1.0s
G16K IAMs_20 IAMs_20 11 43 59.4
comp=Z,2µm,21.0s
G16K Koyuk River **73.73 5** P **P** **11 11 00.1 +0.8**
baz=352,SNR=15
PSUB Penn St. - Bra **73.78 309** IAmb IAmb 11 11 06.4
comp=Z,138nm,1.3s
H21K Melozitna Rive **73.78 0** IAmb IAmb 11 11 08.3
comp=Z,123nm,1.1s
H21K Melozitna Rive **73.78 0** P **P** **11 11 01.6 +2.0**
baz=359,SNR=52
WRGLY Wrigley **73.78 347** IAMs_20 IAMs_20 11 46 06.6
comp=Z,3µm,19.0s
WRGLY Wrigley **73.78 347** P **P** **11 11 00.7 +1.1**
baz=22,SNR=19
PRP Porcupine Dome **73.81 357** P **P** **11 11 01.3 +1.4**
baz=5.0,SNR=27
M57A Sunshine Farm, **73.85 311** IAmb IAmb 11 11 07.3
comp=Z,192nm,1.3s
H19K Roundabout Mou **73.86 2** P **P** **11 11 01.3 +1.3**
baz=356,SNR=24
WUPA West Chester U **73.87 309** IAMs_20 IAMs_20 11 41 45.8
comp=Z,2µm,21.0s
I26K Coal Creek Min **73.92 356** IAmb IAmb 11 11 08.5
comp=Z,80nm,1.1s
I26K Coal Creek Min **73.92 356** P **P** **11 11 01.3 +0.9**
baz=6.8
H20K Anotleneega Mo **73.93 1** P **P** **11 11 01.8 +1.3**
baz=358,SNR=21
N58A Sunbury **73.93 310** IAMs_20 IAMs_20 11 43 53.5
comp=Z,3µm,18.0s
G15K Niukluk **74.02 5** P **P** **11 11 01.6 +0.7**
baz=350,SNR=9.4
IPM Ipoh **74.12 98** P **P** **11 11 01.7 -0.7**
J30M Hart River **74.17 353** IAmb IAmb 11 11 10.0
comp=Z,127nm,1.1s
J30M IAMs_20 IAMs_20 11 45 53.7
comp=Z,4µm,20.0s
J30M Hart River **74.17 353** P **P** **11 11 03.2 +1.2**
baz=12,SNR=56
H18K Honhosa River **74.17 3** P **P** **11 11 03.0 +1.1**
baz=355
MVL Millersville **74.26 309** IAmb IAmb 11 11 09.7
comp=Z,191nm,1.3s
MVL IAMs_20 IAMs_20 11 42 01.2

	comp=Z,4µm,21.0s									
POKR	**Poker Plat Res**	**74.28**	**358**		IAmb	IAmb	11 11 10.7			
	comp=Z,103nm,1.1s									
POKR	**Poker Plat Res**	**74.28**	**358**		P	**P**	**11 11 04.0**	**+1.5**		
	baz=3.5,SNR=14									
I23K	**Minto, Yukon-K**	**74.28**	**359**		P	**P**	**11 11 04.0**	**+1.5**		
	baz=1.9,SNR=27									
H17K	**Granite Mounta**	**74.32**	**4**		IAMs_20	IAMs_20	11 49 14.8			
	comp=Z,2µm,18.0s									
H17K	**Granite Mounta**	**74.32**	**4**		P	**P**	**11 11 03.4**	**+0.6**		
	baz=354									
EGAK	**Eagle**	**74.34**	**355**		IAmb	IAmb	11 11 11.7			
	comp=Z,129nm,1.4s									
EGAK	**Eagle**	**74.34**	**355**		P	**P**	**11 11 03.6**	**+0.8**		
	baz=8.4,SNR=20									
ANM	**Nome**	**74.34**	**6**		IAMs_20	IAMs_20	11 49 28.5			
	comp=Z,2µm,18.0s									
ANM	**Nome**	**74.34**	**6**		P	**P**	**11 11 03.6**	**+0.8**		
	baz=349									
E46A	**Sault Ste Mari**	**74.36**	**318**		IAmb	IAmb	11 11 09.9			
	comp=Z,153nm,1.3s									
MLY	**Manley**	**74.41**	**360**		IAmb	IAmb	11 11 11.7			
	comp=Z,110nm,1.4s									
MLY	**Manley**	**74.41**	**360**		P	**P**	**11 11 04.7**	**+1.4**		
	baz=0.8,SNR=35									
QZH	**Quanzhou**	**74.41**	**70**		P	**P**	**11 11 03.3**	**-0.6**		
QZH					S	**S**	**11 20 38.5**	**0.0**		
QZH					pmax	pmax				
	comp=Z,490nm,4.5s									
QZH					LR	LR				
	comp=Z,2µm,16.5s									
QZH					LR	LR				
	comp=Z,2µm,21.0s									
QZH					LR	LR				
	comp=Z,2µm,17.9s									
J29N	**Klondike Camp**	**74.45**	**354**		IAMs_20	IAMs_20	11 46 11.2			
	comp=Z,4µm,21.0s									
J29N	**Klondike Camp**	**74.45**	**354**		P	**P**	**11 11 04.9**	**+1.3**		
	baz=11									
GAMB	**Gambell**	**74.48**	**9**		IAMs_20	IAMs_20	11 46 38.3			
	comp=Z,2µm,20.0s									
GAMB	**Gambell**	**74.48**	**9**		P	**P**	**11 11 03.7**	**0.0**		
	baz=344									
H16K	**Elim**	**74.49**	**5**		P	**P**	**11 11 04.7**	**+1.0**		
	baz=352									
COLA	**College**	**74.53**	**358**		P	**P**	**11 11 05.1**	**+1.2**		
COLA					IAmb	IAmb	11 11 11.7			
	comp=Z,93nm,1.1s									
COLA	**College**	**74.53**	**358**		P	**P**	**11 11 05.1**	**+1.2**		
COLA	**College**	**74.53**	**358**		P	**P**	**11 11 05.1**	**+1.2**		
COLA					pmax	pmax				
	comp=Z,93nm,1.1s									
COLA					MLR	MLR				
	comp=Z,1µm,21.0s									
COLA	**College**	**74.53**	**358**		P	**P**	**11 11 04.8**	**+0.9**		
	baz=3.1									
KNMB	**Chin-men Tao**	**74.56**	**71**		IAMs_20	IAMs_20	11 49 57.8			
	comp=Z,2µm,20.0s									
ILAR	**Eielson Array**	**74.61**	**358**		P	**P**	**11 11 04.8**	**+0.4**		
	comp=Z,4.6nm,0.6s,baz=351,slow=4.3,SNR=42									
	comp=Z,4.6nm,0.6s									
GCSA	**Galena City Sc**	**74.63**	**2**		P	**P**	**11 11 05.5**	**+1.0**		
	baz=356,SNR=12									
I20K	**Naaghedeneel**	**74.63**	**1**		IAmb	IAmb	11 11 13.7			
	comp=Z,151nm,1.1s									
I20K	**Naaghedeneel**	**74.63**	**1**		P	**P**	**11 11 06.3**	**+1.8**		
	baz=358,SNR=21									
RCBR	**Riachuelo**	**74.71**	**248**		IAMs_20	IAMs_20	11 44 34.5			
	comp=Z,3µm,20.0s									
RCBR	**Riachuelo**	**74.71**	**248**		LR	LR	11 44 54.5			
	comp=Z,1µm,19.4s,baz=58,slow=36									
RCBR	**Riachuelo**	**74.71**	**248**		*e*P	**P**	**11 11 10.2**	**+4.4**		
J25K	**Salcha River,**	**74.71**	**357**		P	**P**	**11 11 06.0**	**+0.9**		
	baz=5.1,SNR=16									
R61A	**Willards**	**74.74**	**308**		IAMs_20	IAMs_20	11 44 45.0			
	comp=Z,3µm,20.0s									
SSPA	**Standing Stone**	**74.74**	**311**		P	**P**	**11 11 06.2**	**+0.6**		
SSPA					IAmb	IAmb	11 11 12.4			
	comp=Z,151nm,1.2s									
SSPA	**Standing Stone**	**74.74**	**311**		IAMs_20	IAMs_20	11 43 06.8			
	comp=Z,3µm,21.0s									
J26L	**Joseph Creek**	**74.75**	**356**		P	**P**	**11 11 06.1**	**+0.7**		
	baz=6.5,SNR=33									
NEA2	**Nenana**	**74.83**	**359**		IAmb	IAmb	11 11 13.4			
	comp=Z,81nm,1.0s									
NEA2	**Nenana**	**74.83**	**359**		P	**P**	**11 11 06.6**	**+0.8**		
	baz=2.2,SNR=35									
DAWY	**Dawson**	**74.92**	**354**		P	**P**	**11 11 07.4**	**+1.1**		
DAWY					IAmb	IAmb	11 11 14.2			
	comp=Z,100nm,1.2s									
DAWY	**Dawson**	**74.92**	**354**		P	**P**	**11 11 07.0**	**+0.7**		
	baz=9.7,SNR=32									
SDMD	**Soldier's Deli**	**74.93**	**309**		IAmb	IAmb	11 11 13.2			
	comp=Z,92nm,1.2s									
SDMD					IAMs_20	IAMs_20	11 45 21.0			
	comp=Z,2µm,18.0s									
WRH	**Wood River Hil**	**74.94**	**358**		IAmb	IAmb	11 11 13.8			
	comp=Z,94nm,1.0s									
ERPA	**Erie**	**74.95**	**313**		IAmb	IAmb	11 11 13.3			
	comp=Z,120nm,1.2s									
HDA	**Harding Lake**	**74.97**	**358**		IAmb	IAmb	11 11 13.8			
	comp=Z,76nm,0.9s									
HDA	**Harding Lake**	**74.97**	**358**		P	**P**	**11 11 07.2**	**+0.7**		
	baz=3.8,SNR=37									
DLV	**Lat**	**74.98**	**87**		P	**P**	**11 11 08.0**	**+0.4**		
YSS	**Yuzhno-Sakhali**	**74.98**	**40**		P	**P**	**11 11 07.6**	**+0.8**		
YSS					IAMs_20	IAMs_20	11 47 08.9			
	comp=Z,4µm,20.0s									
YSS	**Yuzhno-Sakhali**	**74.98**	**40**		P	**P**	**11 11 07.7**	**+0.8**		
YSS	**Yuzhno-Sakhali**	**74.98**	**40**	α *i*	P	**P**	**11 11 07.4**	**+0.6**		
YSS					*e*		11 13 49.1			
YSS					*e*PPP	PPP	11 15 43.0			
YSS					*e*S	**S**	**11 20 44.4**	**+0.3**		
YSS					*e*SSS	SSS	11 28 39.0			
YSS					pmax	pmax				
	comp=Z,150nm,1.2s									
YSS					pmax	pmax				
	comp=Z,1µm,7.7s									
YSS					smax	smax				
	comp=N,1µm,6.9s									
YSS					smax	smax				
	comp=E,700nm,6.5s									
YSS					MLR	MLR				
	comp=N,2µm,14.0s									
YSS					MLR	MLR				
	comp=Z,4µm,14.0s									
YSS					MLR	MLR				
	comp=E,2µm,17.0s									
K29M	**Barlow Dome**	**74.99**	**353**		IAmb	IAmb	11 11 16.1			
	comp=Z,115nm,1.4s									
K29M					IAMs_20	IAMs_20	11 46 22.5			
	comp=Z,2µm,20.0s									
K29M	**Barlow Dome**	**74.99**	**353**		P	**P**	**11 11 08.2**	**+1.3**		
	baz=11,SNR=23									
MAYO	**Mayo, Yukon**	**75.09**	**353**		IAMs_20	IAMs_20	11 46 08.0			
	comp=Z,3µm,21.0s									
MAYO	**Mayo, Yukon**	**75.09**	**353**		P	**P**	**11 11 08.2**	**+0.9**		
	baz=12									
K27K	**Chicken**	**75.14**	**356**		IAmb	IAmb	11 11 15.8			
	comp=Z,94nm,0.9s									
K27K	**Chicken**	**75.14**	**356**		P	**P**	**11 11 08.9**	**+1.4**		
	baz=7.6									
PAOC	**Oil Creek Stat**	**75.18**	**312**		IAMs_20	IAMs_20	11 43 47.3			
	comp=Z,5µm,19.0s									
TBO	**Thunder Bay**	**75.22**	**323**		IAmb	IAmb	11 11 14.9			
	comp=Z,145nm,1.3s									
J20K	**Nowinta River**	**75.26**	**1**		IAmb	IAmb	11 11 12.3			
	comp=Z,118nm,1.5s									
J20K	**Nowinta River**	**75.26**	**1**		P	**P**	**11 11 09.6**	**+1.4**		
	baz=358,SNR=24									
SCRK	**Sand Creek**	**75.29**	**356**		IAmb	IAmb	11 11 18.7			
	comp=Z,137nm,1.6s									
SCRK	**Sand Creek**	**75.29**	**356**		P	**P**	**11 11 09.6**	**+1.0**		
	baz=6.1,SNR=28									
I17K	**Unalakleet**	**75.33**	**4**		IAMs_20	IAMs_20	11 48 48.5			
	comp=Z,2µm,19.0s									
I17K	**Unalakleet**	**75.33**	**4**		P	**P**	**11 11 09.5**	**+0.9**		
	baz=353									
BPAW	**Bear Paw Mtn.**	**75.35**	**360**		P	**P**	**11 11 09.2**	**+0.5**		
	baz=0.7,SNR=20									
S61A	**Accomac**	**75.36**	**307**		IAMs_20	IAMs_20	11 44 52.4			
	comp=Z,4µm,20.0s									
J19K	**Poorman**	**75.41**	**2**		IAmb	IAmb	11 11 17.4			
	comp=Z,79nm,1.1s									
J19K	**Poorman**	**75.41**	**2**		P	**P**	**11 11 10.3**	**+1.2**		
	baz=357,SNR=34									
MNSI	**Mandailing Nat**	**75.47**	**102**		P	**P**	**11 11 11.1**	**+1.0**		
	comp=Z,43nm,1.2s									
MMPY	**Sheldon Lake,**	**75.52**	**350**		IAMs_20	IAMs_20	11 45 49.5			
	comp=Z,3µm,20.0s									
MMPY	**Sheldon Lake,**	**75.52**	**350**		P	**P**	**11 11 11.8**	**+2.0**		
	baz=16,SNR=35									
K24K	**Donnelly Dome**	**75.54**	**357**		IAmb	IAmb	11 11 17.4			
	comp=Z,116nm,0.9s									
K24K	**Donnelly Dome**	**75.54**	**357**		P	**P**	**11 11 10.5**	**+0.7**		
	baz=4.7,SNR=32									
RIDG	**Independent Ri**	**75.57**	**357**		IAmb	IAmb	11 11 19.1			
	comp=Z,113nm,1.1s									
RIDG	**Independent Ri**	**75.57**	**357**		P	**P**	**11 11 11.0**	**+1.0**		
	baz=5.5,SNR=14									
P57A	**Homestead Farm**	**75.57**	**310**		IAmb	IAmb	11 11 17.1			
	comp=Z,145nm,1.4s									
P57A					IAMs_20	IAMs_20	11 43 03.8			
	comp=Z,4µm,21.0s									
CHUM	**Lake Minchumin**	**75.57**	**0**		P	**P**	**11 11 11.3**	**+1.3**		
	baz=360,SNR=22									
GLMI	**Grayling**	**75.58**	**317**		IAmb	IAmb	11 11 16.9			
	comp=Z,141nm,1.1s									
GLMI					IAMs_20	IAMs_20	11 43 49.9			
	comp=Z,4µm,20.0s									
DOT	**Dot Lake**	**75.62**	**356**		IAmb	IAmb	11 11 18.5			
	comp=Z,79nm,1.0s									
FFC	**Flin Flon**	**75.67**	**333**		P	**P**	**11 11 11.3**	**+0.6**		
FFC					IAmb	IAmb	11 11 17.1			
	comp=Z,76nm,1.1s									
FFC	**Flin Flon**	**75.67**	**333**		P	**P**	**11 11 11.3**	**+0.6**		
FFC					pmax	pmax				
	comp=Z,76nm,1.2s									
MCK	**McKinley**	**75.70**	**359**		IAmb	IAmb	11 11 18.1			
	comp=Z,80nm,1.1s									
MCK	**McKinley**	**75.70**	**359**		P	**P**	**11 11 10.9**	**+0.1**		
	baz=2.3,SNR=28									
L29M	**L29M**	**75.77**	**354**		IAmb	IAmb	11 11 20.4			
	comp=Z,248nm,1.9s									
L29M					IAMs_20	IAMs_20	11 46 49.0			
	comp=Z,3µm,21.0s									
L29M	**L29M**	**75.77**	**354**		P	**P**	**11 11 12.2**	**+1.0**		
	baz=11,SNR=12									
PAMR	**Moraine State**	**75.79**	**312**		IAmb	IAmb	11 11 18.3			
	comp=Z,169nm,1.4s									
J17K	**VABM Dome**	**75.90**	**3**		IAMs_20	IAMs_20	11 50 30.5			
	comp=Z,2µm,18.0s									
J17K	**VABM Dome**	**75.90**	**3**		P	**P**	**11 11 12.9**	**+1.1**		
	baz=354,SNR=12									
J18K	**Innoko River**	**75.92**	**2**		IAmb	IAmb	11 11 20.1			
	comp=Z,83nm,1.3s									
J18K					IAMs_20	IAMs_20	11 51 18.2			
	comp=Z,2µm,19.0s									
J18K	**Innoko River**	**75.92**	**2**		P	**P**	**11 11 13.2**	**+1.2**		
	baz=356									
J16K	**Anvik River**	**75.93**	**4**		P	**P**	**11 11 12.9**	**+0.9**		
	baz=353									
K50A	**Casco**	**75.94**	**315**		IAMs_20	IAMs_20	11 43 31.5			
	comp=Z,4µm,19.0s									
TRF	**Thorofare Moun**	**76.00**	**359**		P	**P**	**11 11 13.2**	**+0.5**		
	baz=1.2,SNR=8.3									
RND	**Reindeer**	**76.02**	**359**		IAmb	IAmb	11 11 20.4			
	comp=Z,128nm,1.7s									
RND					IAMs_20	IAMs_20	11 50 43.8			
	comp=Z,2µm,20.0s									
CBN	**Corbin Frederi**	**76.03**	**309**		IAMs_20	IAMs_20	11 43 32.2			
	comp=Z,3µm,20.0s									
BCAR	**Beaver Creek A**	**76.08**	**355**		P	**P**	**11 11 14.4**	**+1.4**		
K20K	**Telida**	**76.08**	**1**		IAMs_20	IAMs_20	11 47 41.4			
	comp=Z,2µm,20.0s									
K20K	**Telida**	**76.08**	**1**		P	**P**	**11 11 14.0**	**+1.1**		
	baz=358									
L27K	**Beaver Creek,**	**76.09**	**355**		IAmb	IAmb	11 11 21.3			
	comp=Z,92nm,1.3s									
L27K	**Beaver Creek,**	**76.09**	**355**		P	**P**	**11 11 14.6**	**+1.6**		
	baz=7.8									
M52A	**Meisterland**	**76.09**	**313**		IAMs_20	IAMs_20	11 43 19.5			
	comp=Z,2µm,19.0s									
TGTN	**Hyland Airport**	**76.16**	**349**		P	**P**	**11 11 15.6**	**+2.1**		
	baz=18,SNR=25									
M30M	**Minto, Yukon**	**76.18**	**353**		IAMs_20	IAMs_20	11 46 52.8			
	comp=Z,3µm,20.0s									
M30M	**Minto, Yukon**	**76.18**	**353**		P	**P**	**11 11 14.5**	**+1.0**		
	baz=12,SNR=9.0									
L26K	**Log Cabin Wild**	**76.21**	**356**		IAmb	IAmb	11 11 23.0			
	comp=Z,157nm,1.7s									
L26K	**Log Cabin Wild**	**76.21**	**356**		P	**P**	**11 11 14.8**	**+1.1**		
	baz=6.6,SNR=19									
J14K	**Nanvaranak Lak**	**76.28**	**6**		IAMs_20	IAMs_20	11 45 32.6			
	comp=Z,3µm,21.0s									
J14K	**Nanvaranak Lak**	**76.28**	**6**		P	**P**	**11 11 14.7**	**+0.7**		
	baz=351									
M31M	**Drury Creek, Y**	**76.30**	**352**		IAmb	IAmb	11 11 18.5			
	comp=Z,154nm,1.6s									
M31M					IAMs_20	IAMs_20	11 46 51.0			
	comp=Z,3µm,20.0s									
M31M	**Drury Creek, Y**	**76.30**	**352**		P	**P**	**11 11 15.6**	**+1.4**		
	baz=14,SNR=32									
N53A	**Lisbon**	**76.30**	**312**		IAmb	IAmb	11 11 21.0			
	comp=Z,101nm,1.2s									
MENT	**Mentasta**	**76.31**	**356**		P	**P**	**11 11 15.6**	**+1.3**		
MENT	**Mentasta**	**76.31**	**356**		P	**P**	**11 11 16.4**	**+2.1**		
DHY	**Denali Highway**	**76.32**	**358**		IAmb	IAmb	11 11 22.0			
	comp=Z,88nm,1.0s									
DHY	**Denali Highway**	**76.32**	**358**		P	**P**	**11 11 15.3**	**+0.9**		
	baz=3.5,SNR=34									
PAX	**Paxson**	**76.36**	**357**		P	**P**	**11 11 15.0**	**+0.4**		
	baz=5.0,SNR=12									
EPLO	**Experimental L**	**76.39**	**325**		IAmb	IAmb	11 11 21.1			
	comp=Z,160nm,1.4s									
M29M	**Somme Creek**	**76.45**	**354**		IAmb	IAmb	11 11 23.6			
	comp=Z,84nm,1.1s									
M29M					IAMs_20	IAMs_20	11 47 09.1			
	comp=Z,3µm,21.0s									
M29M	**Somme Creek**	**76.45**	**354**		P	**P**	**11 11 16.8**	**+1.6**		
	baz=10,SNR=32									
R58B	**Mineral**	**76.49**	**309**		IAmb	IAmb	11 11 21.9			
	comp=Z,160nm,1.6s									
R58B					IAMs_20	IAMs_20	11 43 45.3			
	comp=Z,3µm,20.0s									
MCWV	**Mont Chateau**	**76.51**	**311**		IAMs_20	IAMs_20	11 43 12.7			
	comp=Z,4µm,22.0s									
Q56A	**Snyder Ridge,**	**76.54**	**310**		IAMs_20	IAMs_20	11 44 17.6			
	comp=Z,4µm,21.0s									
PPLA	**Purkeypile**	**76.56**	**0**		P	**P**	**11 11 16.0**	**+0.2**		
	baz=360									
YHNB	**Yeheng**	**76.56**	**69**		P	**P**	**11 11 18.2**	**+1.8**		
WAT1	**Susitna Watana**	**76.59**	**358**		P	**P**	**11 11 16.7**	**+0.8**		
	baz=2.5									
K17K	**Iditarod**	**76.61**	**3**		IAmb	IAmb	11 11 19.6			
	comp=Z,143nm,1.7s									
K17K	**Iditarod**	**76.61**	**3**		P	**P**	**11 11 16.9**	**+1.0**		
	baz=355									
F42A	**Maple Grove Fa**	**76.69**	**320**		IAMs_20	IAMs_20	11 44 39.0			
	comp=Z,5µm,20.0s									
PETK	**Petropavlovsk-**	**76.73**	**29**		P	**P**	**11 11 17.0**	**+0.2**		
PETK	**Petropavlovsk-**	**76.73**	**29**		P	**P**	**11 11 17.3**	**+0.6**		
	comp=Z,20nm,0.9s,baz=29,slow=7.1,SNR=6.9									
PETK					LR	LR	11 47 14.3			
	comp=Z,3µm,19.7s,baz=323,slow=37									
	comp=Z,20nm,0.9s									
KOTAN	**Kotaneelee Air**	**76.78**	**346**		P	**P**	**11 11 18.5**	**+1.6**		
	baz=21,SNR=10									
M27K	**Edge Creek, AK**	**76.79**	**355**		P	**P**	**11 11 18.6**	**+1.4**		
	baz=7.7									
J47A	**Sunmer**	**76.79**	**316**		IAmb	IAmb	11 11 23.6			
	comp=Z,131nm,1.1s									
M26K	**Nabesna, AK**	**76.81**	**356**		P	**P**	**11 11 18.6**	**+1.4**		
	baz=6.9,SNR=22									
SSLB	**Suanglung**	**76.82**	**70**		IAMs_20	IAMs_20	11 50 56.4			
	comp=Z,3µm,21.0s									
SSLB	**Suanglung**	**76.82**	**70**		P	**P**	**11 11 18.6**	**+0.8**		
WAT6	**Susitna Watana**	**76.83**	**358**		P	**P**	**11 11 17.9**	**+0.6**		
	baz=3.2,SNR=27									
ULM	**Lac du Bonnet**	**76.86**	**327**		P	**P**	**11 11 17.6**	**0.0**		
	comp=Z,74nm,1.2s,baz=46,slow=5.3,SNR=25									
ULM					LR	LR	11 46 39.9			
	comp=Z,6µm,18.2s,baz=40,slow=37									
	comp=Z,74nm,1.2s									
BKNI	**Bangkinang**	**76.86**	**101**		P	P	11 11 10.2	-7.8		
BKNI	**Bangkinang**	**76.86**	**101**		IAMs_20	IAMs_20	11 50 28.0			
	comp=Z,2µm,18.0s									
K15K	**Wolf Creek Mou**	**76.87**	**5**		IAMs_20	IAMs_20	11 50 52.2			
	comp=Z,2µm,19.0s									
K15K	**Wolf Creek Mou**	**76.87**	**5**		P	**P**	**11 11 18.1**	**+0.7**		
	baz=352,SNR=8.3									
O53A	**New Philadelph**	**76.89**	**312**		IAmb	IAmb	11 11 24.4			
	comp=Z,136nm,1.4s									
TPUB	**Ta-pu**	**76.89**	**71**		P	**P**	**11 11 18.5**	**+0.3**		
ASAJ	**Asahikawa**	**76.89**	**42**		LR	LR	11 49 59.7			
	comp=Z,4µm,18.2s,baz=320,slow=40									
JKA	**Kamikawa-asahi**	**76.90**	**42**		IAMs_20	IAMs_20	11 48 36.6			
	comp=Z,3µm,19.0s									
PPI	**Padang Panjang**	**76.91**	**102**		P	**P**	**11 11 20.6**	**+2.3**		
	comp=Z,2µmcomp=Z,26nm,0.9s									
HARP	**HAARP**	**76.92**	**357**		P	**P**	**11 11 18.6**	**+0.9**		
	baz=5.2,SNR=6.0									
T59A	**Double "B" Far**	**76.95**	**308**		IAmb	IAmb	11 11 24.6			
	comp=Z,121nm,1.3s									
T59A					IAMs_20	IAMs_20	11 46 30.6			
	comp=Z,4µm,18.0s									
I45A	**Fountain**	**76.96**	**318**		IAMs_20	IAMs_20	11 45 21.4			
	comp=Z,3µm,18.0s									
L20K	**Farewell, AK**	**76.97**	**1**		P	**P**	**11 11 18.7**	**+0.7**		
	baz=358,SNR=15									
K13K	**Kusilvak Mount**	**77.00**	**6**		IAMs_20	IAMs_20	11 46 55.7			
	comp=Z,3µm,21.0s									
K13K	**Kusilvak Mount**	**77.00**	**6**		P	**P**	**11 11 18.5**	**+0.4**		
	baz=350									
CUT	**Chulitna**	**77.05**	**359**		IAmb	IAmb	11 11 23.7			
	comp=Z,102nm,1.2s									
CUT	**Chulitna**	**77.05**	**359**		P	**P**	**11 11 17.9**	**-0.5**		
	baz=1.2									
N51A	**Ashland**	**77.08**	**313**		IAmb	IAmb	11 11 24.9			
	comp=Z,100nm,1.3s									
N51A					IAMs_20	IAMs_20	11 46 11.6			
	comp=Z,4µm,18.0s									
PET	**Petropavlovsk**	**77.14**	**28**		IAMs_20	IAMs_20	11 47 13.4			
	comp=Z,3µm,20.0s									
PET	**Petropavlovsk**	**77.14**	**28**		*e*P	**P**	**11 11 19.4**	**+0.3**		
PET					*e*S	**S**	**11 21 05.5**	**-2.2**		
PET					pmax	pmax				
	comp=Z,600nm,11.1s									
PET					MLR	MLR				
	comp=Z,2µm,17.0s									
N31M	**Braeburn, Yuko**	**77.15**	**352**		IAmb	IAmb	11 11 27.3			
	comp=Z,123nm,1.4s									
N31M					IAMs_20	IAMs_20	11 47 19.4			
	comp=Z,3µm,21.0s									
N31M	**Braeburn, Yuko**	**77.15**	**352**		P	**P**	**11 11 19.4**	**+0.3**		
	baz=12,SNR=12									
L18K	**Granite Mounta**	**77.16**	**2**		P	**P**	**11 11 20.4**	**+1.3**		
	baz=356,SNR=13									
N32M	**Quiet Lake**	**77.17**	**351**		IAMs_20	IAMs_20	11 46 53.1			
	comp=Z,4µm,21.0s									
N32M	**Quiet Lake**	**77.17**	**351**		P	**P**	**11 11 20.5**	**+1.3**		
	baz=14									
L17K	**Donlin**	**77.19**	**3**		P	**P**	**11 11 20.2**	**+1.0**		
	baz=355,SNR=8.7									
L19K	**White Mountain**	**77.25**	**1**		IAmb	IAmb	11 11 23.6			
	comp=Z,131nm,1.7s									
L19K	**White Mountain**	**77.25**	**1**		P	**P**	**11 11 20.9**	**+1.3**		
	baz=358,SNR=16									
M24K	**Tolsona, Glenn**	**77.25**	**357**		IAmb	IAmb	11 11 23.5			
	comp=Z,141nm,1.4s									
M24K	**Tolsona, Glenn**	**77.25**	**357**		P	**P**	**11 11 20.3**	**+0.6**		
	baz=4.4,SNR=8.7									
PDSI	**Padang**	**77.26**	**102**		P	**P**	**11 11 20.6**	**+0.3**		
	comp=Z,85nm,1.2s									
S57A	**Dark Hollow, R**	**77.26**	**309**		IAMs_20	IAMs_20	11 43 49.7			
	comp=Z,3µm,21.0s									
N30M	**Aishikik Lake**	**77.30**	**353**		IAmb	IAmb	11 11 27.8			
	comp=Z,107nm,1.7s									
N30M					IAMs_20	IAMs_20	11 47 38.5			
	comp=Z,3µm,20.0s									
N30M	**Aishikik Lake**	**77.30**	**353**		P	**P**	**11 11 20.6**	**+0.6**		
	baz=11,SNR=9.9									
YULB	**Yu-li**	**77.31**	**70**		IAmb	IAmb	11 11 31.3			
	comp=Z,116nm,1.3s									
YULB					IAMs_20	IAMs_20	11 51 22.5			
	comp=Z,3µm,20.0s									
YULB	**Yu-li**	**77.31**	**70**		P	**P**	**11 11 22.3**	**+1.8**		
O52A	**Adamsville**	**77.33**	**312**		IAmb	IAmb	11 11 26.4			
	comp=Z,167nm,1.4s									
O52A					IAMs_20	IAMs_20	11 46 38.5			
	comp=Z,4µm,18.0s									
SKT	**Skwentna**	**77.48**	**360**		IAmb	IAmb	11 11 29.0			
	comp=Z,78nm,1.1s									
SKT					IAMs_20	IAMs_20	11 49 37.3			
	comp=Z,2µm,20.0s									
SKT	**Skwentna**	**77.48**	**360**		P	**P**	**11 11 20.8**	**-0.1**		
	baz=0.2,SNR=28									
L15K	**Ungalak Mounta**	**77.48**	**5**		P	**P**	**11 11 21.7**	**+0.9**		
	baz=352,SNR=9.9									
TWG	**Pinlang**	**77.51**	**71**		IAmb	IAmb	11 11 28.9			
	comp=Z,183nm,1.5s									
TWGBT	**Beinan**	**77.51**	**71**		P	**P**	**11 11 24.3**	**+2.6**		
Q54A	**Coxs Mills**	**77.53**	**311**		IAmb	IAmb	11 11 27

T57A	**Hurt**		**77.95**	**309**	IAmb	IAmb	11 11 30.5			
	comp=Z,105nm,1.4s									
T57A					IAMs_20	IAMs_20	11 46 49.9			
	comp=Z,3µm,18.0s									
M17K	**Holitna River**		**77.96**	**3**	IAmb	IAmb	11 11 30.4			
	comp=Z,66nm,1.0s									
M17K	**Holitna River**		**77.96**	**3**	P	**P**	**11 11 25.0**	**+1.5**		
	baz=356,SNR=15									
HYT	**Haines Junctio**		**77.97**	**353**	IAmb	IAmb	11 11 32.7			
	comp=Z,131nm,1.2s									
HYT	**Haines Junctio**		**77.97**	**353**	P	**P**	**11 11 25.1**	**+1.4**		
	baz=11,SNR=23									
SUA	**Susitna One**		**78.00**	**359**	IAmb	IAmb	11 11 31.5			
	comp=Z,112nm,1.0s									
SUA	**Susitna One**		**78.00**	**359**	P	**P**	**11 11 24.5**	**+0.7**		
	baz=0.8,SNR=12									
MYKOM	**Kota Tinggi**		**78.00**	**98**	P	**P**	**11 11 23.9**	**-0.5**		
VRDI	**Verde Repeater**		**78.01**	**356**	IAMs_20	IAMs_20	11 48 58.2			
	comp=Z,2µm,21.0s									
KNK	**Knik Glacier**		**78.01**	**358**	IAmb	IAmb	11 11 33.6			
	comp=Z,102nm,1.2s									
KNK	**Knik Glacier**		**78.01**	**358**	P	**P**	**11 11 24.5**	**+0.7**		
	baz=2.6,SNR=14									
G40A	**Rib Lake**		**78.05**	**321**	IAmb	IAmb	11 11 30.4			
	comp=Z,158nm,1.7s									
G40A					IAMs_20	IAMs_20	11 47 35.9			
	comp=Z,3µm,18.0s									
P33M	**Teslin, Yukon**		**78.05**	**350**	IAmb	IAmb	11 11 32.0			
	comp=Z,93nm,1.3s									
P33M					IAMs_20	IAMs_20	11 47 17.3			
	comp=Z,3µm,20.0s									
P33M	**Teslin, Yukon**		**78.05**	**350**	P	**P**	**11 11 25.1**	**+0.9**		
	baz=15,SNR=20									
BARN	**Barnard Glacie**		**78.07**	**355**	P	**P**	**11 11 24.9**	**+0.6**		
SKR	**Severo-Kuril's**		**78.07**	**31**	*eP*	P	11 11 31.7	+7.4		
SKR					*eS*	**S**	**11 21 11.6**	**-6.2**		
SKR					pmax	pmax				
	comp=Z,600nm,3.5s									
SKR					MLR	MLR				
	comp=Z,3µm,22.0s									
CTGM	**Chitina Glacie**		**78.14**	**355**	IAmb	IAmb	11 11 33.9			
	comp=Z,121nm,1.5s									
CTGM					IAMs_20	IAMs_20	11 48 31.7			
	comp=Z,3µm,20.0s									
CTG	**Chitna Glacier**		**78.14**	**355**	P	**P**	**11 11 25.7**	**+1.0**		
	baz=8.1,SNR=8.1									
TOAD	**Toad River Com**		**78.19**	**346**	P	**P**	**11 11 25.9**	**+1.0**		
	baz=20,SNR=44									
BTDF	**Bukit Timah Da**		**78.22**	**98**	P	**P**	**11 11 24.3**	**-1.4**		
O28M	**Mount Upton**		**78.25**	**354**	IAmb	IAmb	11 11 33.5			
	comp=Z,65nm,1.1s									
O28M					IAMs_20	IAMs_20	11 48 19.5			
	comp=Z,3µm,22.0s									
O28M	**Mount Upton**		**78.25**	**354**	P	**P**	**11 11 26.2**	**+0.7**		
	baz=9.0,SNR=11									
LOGN	**Logan Glacier**		**78.25**	**355**	IAmb	IAmb	11 11 34.3			
	comp=Z,124nm,1.3s									
LOGN					IAMs_20	IAMs_20	11 48 33.7			
	comp=Z,3µm,21.0s									
N20K	**Mount Spurr**		**78.26**	**0**	P	**P**	**11 11 25.3**	**0.0**		
	baz=360									
SPCR	**Spurr Chakacha**		**78.26**	**0**	P	**P**	**11 11 25.6**	**+0.3**		
	baz=360									
M16K	**Timber Creek**		**78.27**	**4**	IAMs_20	IAMs_20	11 50 57.3			
	comp=Z,2µm,18.0s									
M16K	**Timber Creek**		**78.27**	**4**	P	**P**	**11 11 26.2**	**+0.9**		
	baz=354,SNR=12									
BMRM	**Bremner River**		**78.33**	**356**	IAmb	IAmb	11 11 29.1			
	comp=Z,147nm,1.4s									
BMRM	**Bremner River**		**78.33**	**356**	P	**P**	**11 11 26.1**	**+0.5**		
	baz=5.6,SNR=8.2									
AGMN	**Agassiz Nation**		**78.35**	**326**	IAmb	IAmb	11 11 32.0			
	comp=Z,102nm,1.4s									
Q52A	**Bidwell**		**78.36**	**312**	IAmb	IAmb	11 11 32.1			
	comp=Z,174nm,1.4s									
Q52A					IAMs_20	IAMs_20	11 47 54.6			
	comp=Z,4µm,19.0s									
RC01	**Rabbit Creek A**		**78.36**	**359**	IAmb	IAmb	11 11 33.4			
	comp=Z,72nm,0.9s									
RC01	**Rabbit Creek A**		**78.36**	**359**	P	**P**	**11 11 26.5**	**+0.7**		
	baz=1.6,SNR=14									
M14K	**Bethel**		**78.37**	**5**	IAMs_20	IAMs_20	11 48 29.0			
	comp=Z,2µm,20.0s									
M14K	**Bethel**		**78.37**	**5**	P	**P**	**11 11 26.6**	**+0.9**		
	baz=352,SNR=6.5									
M11K	**Mekoryuk**		**78.39**	**7**	IAMs_20	IAMs_20	11 48 25.5			
	comp=Z,2µm,22.0s									
M11K	**Mekoryuk**		**78.39**	**7**	P	**P**	**11 11 26.6**	**+0.8**		
	baz=349									
GRNC	**Granite Creek**		**78.40**	**355**	IAmb	IAmb	11 11 34.2			
	comp=Z,79nm,1.1s									
GRNC					IAMs_20	IAMs_20	11 48 41.5			
	comp=Z,3µm,21.0s									
JTM	**Tenmabayashi**		**78.43**	**46**	P	**P**	**11 11 27.7**	**+1.2**		
TGL	**Tana Glacier**		**78.44**	**356**	IAmb	IAmb	11 11 36.4			
	comp=Z,162nm,1.4s									
TGL					IAMs_20	IAMs_20	11 48 58.7			
	comp=Z,2µm,21.0s									
P51A	**Williamsport**		**78.45**	**313**	IAMs_20	IAMs_20	11 44 14.9			
	comp=Z,2µm,21.0s									
CRQM	**Cirque**		**78.46**	**356**	IAMs_20	IAMs_20	11 49 11.2			
	comp=Z,2µm,20.0s									
CRQE	**Cirque**		**78.46**	**356**	P	**P**	**11 11 26.9**	**+0.4**		
	baz=6.7,SNR=14									
BLA	**Blacksburg**		**78.49**	**309**	IAMs_20	IAMs_20	11 47 26.3			
	comp=Z,4µm,18.0s									
M15K	**Kasigluk River**		**78.51**	**4**	P	**P**	**11 11 27.6**	**+1.0**		
	baz=353,SNR=13									
GLI	**Glacier Island**		**78.51**	**358**	IAmb	IAmb	11 11 35.5			
	comp=Z,96nm,1.3s									
GLI	**Glacier Island**		**78.51**	**358**	P	**P**	**11 11 27.5**	**+0.9**		
	baz=3.6									
ISLE	**Juniper Island**		**78.56**	**355**	IAmb	IAmb	11 11 35.8			
	comp=Z,145nm,1.4s									
ISLE					IAMs_20	IAMs_20	11 48 14.9			
	comp=Z,2µm,21.0s									
PWL	**Port Wells**		**78.56**	**358**	P	**P**	**11 11 27.4**	**+0.5**		
	baz=2.7									
O29M	**Mount Kennedy**		**78.58**	**353**	IAMs_20	IAMs_20	11 48 31.3			
	comp=Z,2µm,20.0s									
O29M	**Mount Kennedy**		**78.58**	**353**	P	**P**	**11 11 27.7**	**+0.5**		
	baz=10,SNR=9.3									
R33M	**Jennings River**		**78.59**	**349**	IAmb	IAmb	11 11 36.2			
	comp=Z,128nm,1.1s									
R33M					IAMs_20	IAMs_20	11 47 21.7			
	comp=Z,4µm,20.0s									
R33M	**Jennings River**		**78.59**	**349**	P	**P**	**11 11 29.4**	**+2.1**		
	baz=16,SNR=40									
P30M	**Million Dollar**		**78.61**	**352**	P	**P**	**11 11 28.7**	**+1.5**		
	baz=11									
M13K	**Dall Lake**		**78.61**	**6**	IAMs_20	IAMs_20	11 47 34.2			
	comp=Z,3µm,21.0s									
M13K	**Dall Lake**		**78.61**	**6**	P	**P**	**11 11 28.4**	**+1.4**		
	baz=351									
S54A	**Dingess, Beckl**		**78.61**	**310**	IAMs_20	IAMs_20	11 47 03.3			
	comp=Z,4µm,18.0s									
FID	**Port Fidalgo**		**78.62**	**357**	IAmb	IAmb	11 11 36.5			
	comp=Z,93nm,1.2s									
N19K	**Bonanza Creek**		**78.63**	**1**	IAMs_20	IAMs_20	11 52 42.7			
	comp=Z,2µm,19.0s									
N19K	**Bonanza Creek**		**78.63**	**1**	P	**P**	**11 11 28.3**	**+0.9**		
	baz=358,SNR=19									
ANWB	**Willy Bob**		**78.64**	**283**	P	P	11 11 21.5	-6.5		
	comp=Z,2µmcomp=Z,159nm,1.4s									
TABL	**Table Mountain**		**78.65**	**355**	IAMs_20	IAMs_20	11 48 57.1			
	comp=Z,3µm,21.0s									
O49A	**Covington**		**78.66**	**314**	IAmb	IAmb	11 11 33.4			
	comp=Z,130nm,1.0s									
O49A					IAMs_20	IAMs_20	11 46 28.5			
	comp=Z,4µm,19.0s									
JEM	**Erimo**		**78.67**	**44**	P	**P**	**11 11 30.8**	**+3.0**		
ERM	**Erimo**		**78.67**	**44**	P	**P**	**11 11 27.9**	**+0.1**		
ERM					IAmb	IAmb	11 11 35.6			
	comp=Z,123nm,1.1s									
ERM	**Erimo**		**78.67**	**44**	P	**P**	**11 11 30.5**	**+2.7**		
ERM	**Erimo**		**78.67**	**44**	P	**P**	**11 11 27.9**	**+0.1**		
ERM					pmax	pmax				
	comp=Z,123nm,1.1s									
ERM					MLR	MLR				
	comp=Z,4µm,18.0s									
V58A	**Windy Hill, Pi**		**78.68**	**308**	IAmb	IAmb	11 11 34.3			
	comp=Z,144nm,1.4s									
V58A					IAMs_20	IAMs_20	11 49 23.2			
	comp=Z,3µm,18.0s									
W59A	**Clinton**		**78.69**	**307**	IAMs_20	IAMs_20	11 48 53.7			
	comp=Z,3µm,18.0s									
CAPN	**Captain Cook N**		**78.69**	**360**	P	**P**	**11 11 29.1**	**+1.6**		
	baz=0.5									
N18K	**Kilae Creek**		**78.73**	**2**	IAMs_20	IAMs_20	11 49 24.4			
	comp=Z,3µm,21.0s									
N18K	**Kilae Creek**		**78.73**	**2**	P	**P**	**11 11 28.9**	**+1.1**		
	baz=357,SNR=7.9									
WAX	**Waxell Ridge**		**78.75**	**355**	IAMs_20	IAMs_20	11 49 18.8			
	comp=Z,2µm,20.0s									
YAH	**Yahtse**		**78.76**	**355**	IAMs_20	IAMs_20	11 48 52.3			
	comp=Z,3µm,20.0s									
P32M	**Atlin**		**78.77**	**351**	IAMs_20	IAMs_20	11 47 52.3			
	comp=Z,4µm,21.0s									
P32M	**Atlin**		**78.77**	**351**	P	**P**	**11 11 28.4**	**+0.3**		
	baz=14,SNR=14									
JSD	**Sado**		**78.77**	**49**	P	**P**	**11 11 29.4**	**+1.0**		
EYAK	**Cordova Ski Ar**		**78.79**	**357**	IAMs_20	IAMs_20	11 48 52.0			
	comp=Z,2µm,21.0s									
EYAK	**Cordova Ski Ar**		**78.79**	**357**	P	**P**	**11 11 30.2**	**+2.1**		
EYAK	**Cordova Ski Ar**		**78.79**	**357**	P	**P**	**11 11 29.0**	**+0.9**		
	baz=4.7,SNR=6.4									
N16K	**Nishlik Lake**		**78.83**	**4**	P	**P**	**11 11 29.5**	**+1.1**		
	baz=355,SNR=9.3									
N17K	**Nushagak Hills**		**78.84**	**3**	P	**P**	**11 11 29.1**	**+0.7**		
	baz=356,SNR=5.8									
BERG	**Berg Lake**		**78.85**	**356**	IAMs_20	IAMs_20	11 49 24.6			
	comp=Z,2µm,20.0s									
N47A	**Urbana**		**78.91**	**315**	IAmb	IAmb	11 11 34.5			
	comp=Z,77nm,0.9s									
RAGM	**Ragged Mountai**		**78.91**	**356**	IAMs_20	IAMs_20	11 49 44.1			
	comp=Z,2µm,20.0s									
PCA	**Pinnacle**		**78.92**	**354**	IAmb	IAmb	11 11 36.3			
	comp=Z,134nm,1.1s									
PCA					IAMs_20	IAMs_20	11 48 51.4			
	comp=Z,3µm,20.0s									
PINM	**Pinnacle**		**78.92**	**354**	P	**P**	**11 11 29.9**	**+0.9**		
	baz=8.9,SNR=9.5									
Q51A	**Peebles**		**78.92**	**312**	IAmb	IAmb	11 11 35.1			
	comp=Z,140nm,1.1s									
Q51A					IAMs_20	IAMs_20	11 44 49.5			
	comp=Z,3µm,21.0s									
MESA	**MESA**		**78.96**	**355**	IAMs_20	IAMs_20	11 48 58.4			
	comp=Z,3µm,21.0s									
MESA	**MESA**		**78.96**	**355**	P	**P**	**11 11 30.2**	**+0.9**		
	baz=7.6									
O22K	**Cooper Landing**		**78.97**	**359**	P	**P**	**11 11 29.7**	**+0.6**		
	baz=1.6									
K43A	**Burlington**		**78.98**	**318**	IAmb	IAmb	11 11 35.4			
	comp=Z,86nm,1.0s									
K43A					IAMs_20	IAMs_20	11 45 55.9			
	comp=Z,4µm,19.0s									
BCPM	**Bancas Point**		**79.01**	**354**	IAMs_20	IAMs_20	11 48 40.8			
	comp=Z,3µm,21.0s									
SNH	**Sunshine Point**		**79.02**	**355**	IAMs_20	IAMs_20	11 49 15.9			
	comp=Z,3µm,22.0s									
U56A	**King**		**79.06**	**309**	IAmb	IAmb	11 11 36.5			
	comp=Z,113nm,1.2s									
U56A					IAMs_20	IAMs_20	11 47 23.3			
	comp=Z,3µm,19.0s									
O48B	**Farmland**		**79.06**	**314**	IAmb	IAmb	11 11 35.5			
	comp=Z,126nm,1.2s									
N15K	**Kwethluk River**		**79.07**	**4**	IAmb	IAmb	11 11 39.9			
	comp=Z,113nm,1.6s									
N15K	**Kwethluk River**		**79.07**	**4**	P	**P**	**11 11 31.0**	**+1.4**		
	baz=354									
JMN	**Monobe**		**79.07**	**55**	IAMs_20	IAMs_20	11 51 49.1			
	comp=Z,4µm,18.0s									
JMN	**Monobe**		**79.07**	**55**	P	**P**	**11 11 32.7**	**+2.5**		
SKAG	**Skagway**		**79.08**	**352**	IAmb	IAmb	11 11 41.2			
	comp=Z,98nm,1.3s									
SKAG					IAMs_20	IAMs_20	11 48 16.6			
	comp=Z,3µm,20.0s									
SKAG	**Skagway**		**79.08**	**352**	P	**P**	**11 11 31.8**	**+2.1**		
SKAG	**Skagway**		**79.08**	**352**	P	**P**	**11 11 30.3**	**+0.6**		
	baz=13,SNR=6.4									
P29M	**Windy Craggy**		**79.17**	**353**	IAMs_20	IAMs_20	11 48 45.8			
	comp=Z,3µm,21.0s									
P29M	**Windy Craggy**		**79.17**	**353**	P	**P**	**11 11 31.3**	**+1.1**		
	baz=11									
SUCK	**Suckling Hills**		**79.18**	**356**	IAMs_20	IAMs_20	11 49 36.1			
	comp=Z,3µm,20.0s									
Q32M	**Nakina River**		**79.19**	**350**	IAMs_20	IAMs_20	11 48 47.6			
	comp=Z,3µm,20.0s									
Q32M	**Nakina River**		**79.19**	**350**	P	**P**	**11 11 31.2**	**+0.5**		
	baz=15,SNR=8.3									
PLBC	**Pleasant Camp**		**79.20**	**352**	P	**P**	**11 11 30.6**	**+0.3**		
	baz=12,SNR=12									
N14K	**Kuskokwak Cree**		**79.21**	**5**	IAMs_20	IAMs_20	11 48 53.2			
	comp=Z,3µm,21.0s									
N14K	**Kuskokwak Cree**		**79.21**	**5**	P	**P**	**11 11 30.9**	**+0.5**		
	baz=352									
O19K	**Port Alsworth**		**79.25**	**1**	P	**P**	**11 11 30.8**	**+0.2**		
	baz=358									
PNL	**Peninsula**		**79.28**	**354**	P	**P**	**11 11 33.4**	**+2.6**		
PNL	**Peninsula**		**79.28**	**354**	P	**P**	**11 11 31.5**	**+0.7**		
	baz=9.5									
SPMN	**Marine on St.**		**79.31**	**322**	IAmb	IAmb	11 11 37.2			
	comp=Z,148nm,1.4s									
Y60A	**Bolivia**		**79.33**	**306**	IAMs_20	IAMs_20	11 42 33.7			
	comp=Z,3µm,22.0s									
SEW	**Seward**		**79.34**	**359**	IAmb	IAmb	11 11 39.9			
	comp=Z,87nm,1.0s									
SEW	**Seward**		**79.34**	**359**	P	**P**	**11 11 31.3**	**+0.2**		
	baz=1.8									
KAIM	**Kayak Island**		**79.36**	**356**	P	**P**	**11 11 32.7**	**+1.5**		
	baz=5.7									
DLBC	**Dease Lake**		**79.38**	**349**	LR	LR	11 50 04.7			
	comp=Z,32µm,19.6s,baz=2.0,slow=38									
DLBC	**Dease Lake**		**79.38**	**349**	P	**P**	**11 11 32.5**	**+1.0**		
	baz=17,SNR=13									
O20K	**Slope Mountain**		**79.38**	**0**	P	**P**	**11 11 31.5**	**0.0**		
	baz=359									
P23K	**Montague Islan**		**79.40**	**358**	P	**P**	**11 11 31.6**	**+0.1**		
	baz=3.4									
ILSW	**Iliamna Southw**		**79.48**	**1**	IAMs_20	IAMs_20	11 49 49.1			
	comp=Z,2µm,21.0s									
O18K	**Koktuh Hills**		**79.57**	**2**	P	**P**	**11 11 32.5**	**+0.1**		
	baz=357,SNR=8.0									
O17K	**Koliganek Bris**		**79.60**	**3**	P	**P**	**11 11 32.3**	**-0.2**		
	baz=356,SNR=7.3									
W57A	**Gilead**		**79.64**	**308**	IAmb	IAmb	11 11 39.1			
	comp=Z,126nm,1.5s									
W57A					IAMs_20	IAMs_20	11 49 43.7			
	comp=Z,3µm,19.0s									
X58A	**Rowland**		**79.65**	**307**	IAmb	IAmb	11 11 39.8			
	comp=Z,183nm,1.3s									
BRLK	**Bradley Lake**		**79.70**	**360**	IAmb	IAmb	11 11 37.4			
	comp=Z,134nm,1.4s									
BRLK					IAMs_20	IAMs_20	11 53 29.4			
	comp=Z,2µm,20.0s									
BRSE	**Bradley Lake S**		**79.72**	**359**	P	**P**	**11 11 33.2**	**0.0**		
	baz=0.8									
O16K	**Kokwok River B**		**79.74**	**3**	P	**P**	**11 11 33.6**	**+0.3**		
	baz=355									
MDP	**Montagnes des**		**79.75**	**268**	LR	LR	11 46 15.3			
	comp=Z,1µm,19.1s,baz=41,slow=35									
MJB9	**Matsu-Tunnel**		**79.76**	**50**	IAMs_20	IAMs_20	11 51 21.2			
	comp=Z,3µm,19.0s									
MAJO	**Matsushiro**		**79.77**	**50**	P	**P**	**11 11 33.4**	**-0.5**		
MAJO	**Matsushiro**		**79.77**	**50**	IAMs_20	IAMs_20	11 51 19.2			
	comp=Z,3µm,18.0s									
MAJO	**Matsushiro**		**79.77**	**50**	P	**P**	**11 11 34.8**	**+0.9**		
MAJO	**Matsushiro**		**79.77**	**50**	P	**P**	**11 11 33.4**	**-0.5**		
MAJO					pmax	pmax				
	comp=Z,81nm,1.2s									
MAJO					MLR	MLR				
	comp=Z,3µm,18.0s									
P48A	**Milroy**		**79.77**	**314**	IAMs_20	IAMs_20	11 49 14.8			
	comp=Z,3µm,18.0s									
MJAR	**Matsushiro Arr**		**79.77**	**50**	P	**P**	**11 11 34.1**	**+0.1**		
MJAR					IAmb	IAmb	11 11 40.3			
	comp=Z,98nm,1.2s									
MJAR	**Matsushiro Arr**		**79.77**	**50**	P	**P**	**11 11 33.6**	**-0.4**		
	comp=Z,30nm,1.1s,baz=313,slow=5.5,SNR=38									
	comp=Z,30nm,1.1s									
MJAR	**Matsushiro Arr**		**79.77**	**50**	P	**P**	**11 11 34.1**	**+0.1**		
MJAR					pmax	pmax				
	comp=Z,98nm,1.2s									
U54A	**Nelsons Funny**		**79.78**	**310**	IAmb	IAmb	11 11 40.0			
	comp=Z,178nm,1.3s									
U54A					IAMs_20	IAMs_20	11 45 20.4			
	comp=Z,5µm,22.0s									
P19K	**Oil Pt**		**79.81**	**1**	IAMs_20	IAMs_20	11 53 33.9			
	comp=Z,2µm,19.0s									
P19K	**Oil Pt**		**79.81**	**1**	P	**P**	**11 11 33.1**	**-0.6**		
	baz=359									
HOM	**Homer**		**79.81**	**360**	P	**P**	**11 11 33.4**	**-0.3**		
	baz=0.1									
INU	**Inuyama**		**79.89**	**52**	IAMs_20	IAMs_20	11 51 47.7			
	comp=Z,2µm,18.0s									
INU	**Inuyama**		**79.89**	**52**	P	**P**	**11 11 36.2**	**+1.7**		
V55A	**Taylorsville**		**79.89**	**309**	IAmb	IAmb	11 11 41.0			
	comp=Z,152nm,1.4s									
V55A					IAMs_20	IAMs_20	11 46 16.2			
	comp=Z,3µm,22.0s									
BESE	**Bessie Mountai**		**79.89**	**351**	IAMs_20	IAMs_20	11 48 26.0			
	comp=Z,4µm,22.0s									
O14K	**Tigyukauivet M**		**79.91**	**5**	IAmb	IAmb	11 11 37.9			
	comp=Z,173nm,1.9s									
O14K					IAMs_20	IAMs_20	11 49 36.6			
	comp=Z,3µm,21.0s									
O14K	**Tigyukauivet M**		**79.91**	**5**	P	**P**	**11 11 34.6**	**+0.4**		
	baz=353									
JGF	**Kuroka**		**79.92**	**51**	IAmb	IAmb	11 11 41.2			
	comp=Z,138nm,1.4s									
JGF	**Kuroka**		**79.92**	**51**	P	**P**	**11 11 35.0**	**+0.2**		
JOW	**Kunigami**		**79.97**	**63**	LR	LR	11 52 26.7			
	comp=Z,855nm,19.7s,baz=322,slow=40									
JOW	**Kunigami**		**79.97**	**63**	P	**P**	**11 11 35.8**	**+0.7**		
MPOM	**Morne Pois Mar**		**79.99**	**280**	IAmb	IAmb	11 11 41.3			
	comp=Z,263nm,1.7s									
R50A	**Paris**		**79.99**	**312**	IAMs_20	IAMs_20	11 48 48.8			
	comp=Z,3µm,18.0s									
S51A	**Beattyville**		**80.03**	**312**	IAMs_20	IAMs_20	11 44 44.8			
	comp=Z,3µm,22.0s									
DSRI	**Dabo**		**80.04**	**99**	P	**P**	**11 11 35.2**	**-0.4**		
	comp=Z,2µmcomp=Z,66nm,1.4s									
P18K	**Big Mountain,**		**80.04**	**2**	P	**P**	**11 11 34.3**	**-0.7**		
	baz=357									
S34M	**Telegraph Cree**		**80.05**	**349**	IAMs_20	IAMs_20	11 50 26.1			
	comp=Z,4µm,20.0s									
S34M	**Telegraph Cree**		**80.05**	**349**	P	**P**	**11 11 35.9**	**+0.9**		
	baz=16,SNR=30									
MASI	**Maura Aman, Be**		**80.06**	**103**	P	**P**	**11 11 35.9**	**+0.1**		
O15K	**Ungalikthiuk R**		**80.07**	**4**	P	**P**	**11 11 35.1**	**0.0**		
	baz=354									
JIS	**Juneau Island**		**80.13**	**351**	P	**P**	**11 11 37.8**	**+2.4**		
R32K	**Eaglecrest**		**80.15**	**351**	IAMs_20	IAMs_20	11 48 53.8			
	comp=Z,4µm,20.0s									
R32K	**Eaglecrest**		**80.15**	**351**	P	**P**	**11 11 36.2**	**+0.7**		
	baz=13									
L42A	**Oliver, Polo**		**80.17**	**318**	IAmb	IAmb	11 11 41.5			
	comp=Z,113nm,1.4s									
L42A					IAMs_20	IAMs_20	11 47 13.3			
	comp=Z,3µm,19.0s									
P17K	**Kvichak River**		**80.20**	**2**	P	**P**	**11 11 35.9**	**+0.2**		
	baz=356,SNR=7.0									
BIRD	**Birdtown, Kers**		**80.27**	**308**	IAmb	IAmb	11 11 42.9			
	comp=Z,183nm,1.5s									
BIRD					IAMs_20	IAMs_20	11 50 11.3			
	comp=Z,3µm,18.0s									
Y58A	**Scranton**		**80.29**	**307**	IAmb	IAmb	11 11 43.1			
	comp=Z,116nm,1.1s									
P16K	**Nushagak River**		**80.31**	**3**	IAMs_20	IAMs_20	11 48 42.1			
	comp=Z,3µm,22.0s									
P16K	**Nushagak River**		**80.31**	**3**	P	**P**	**11 11 37.4**	**+1.1**		
	baz=355									
JMM	**Marumori**		**80.33**	**48**	IAmb	IAmb	11 11 42.8			
	comp=Z,122nm,1.1s									
JMM	**Marumori**		**80.33**	**48**	P	**P**	**11 11 36.9**	**0.0**		
SZP	**Santa**		**80.39**	**75**	P	**P**	**11 11 38.6**	**+1.1**		
F33A	**5 Mile Ranch,**		**80.43**	**324**	IAmb	IAmb	11 11 43.3			
	comp=Z,144nm,1.4s									
KMSC	**Kings Mountain**		**80.44**	**308**	IAmb	IAmb	11 11 43.8			
	comp=Z,199nm,1.6s									
KMSC					IAMs_20	IAMs_20	11 48 56.0			
	comp=Z,3µm,18.0s									
R49A	**Shelbyville**		**80.45**	**313**	IAmb	IAmb	11 11 43.5			
	comp=Z,223nm,1.4s									
I37A	**Lemond, Waseca**		**80.50**	**321**	IAmb	IAmb	11 11 43.7			
	comp=Z,141nm,1.2s									
I37A					IAMs_20

comp=Z,703nmcomp=Z,20nm,1.5s
DGMT Dagmar 81.57 330 IAmb IAmb 11 11 50.3
comp=Z,193nm,1.6s
DGMT Dagmar 81.57 330 IAMs_20 IAMs_20 11 47 40.8
comp=Z,4µm,21.0s
HODGE Hodges 81.62 308 IAmb IAmb 11 11 50.1
comp=Z,96nm,1.4s
WRAK Wrangell Islan 81.67 349 IAMs_20 IAMs_20 11 49 06.0
comp=Z,3µm,20.0s
WRAK Wrangell Islan 81.67 349 P P **11 11 43.7 0.0**
baz=15,SNR=10
KDAK Kodiak Island 81.69 0 IAMs_20 IAMs_20 11 54 59.6
comp=Z,3µm,20.0s
OLIL Olney 81.74 315 IAmb IAmb 11 11 49.9
comp=Z,163nm,1.4s
PLK4 Peulik 4 81.77 2 IAMs_20 IAMs_20 11 48 54.7
comp=Z,2µm,22.0s
R17L Mt. Peulik Vol 81.77 2 P P **11 11 42.7 -1.5**
baz=356
PMBI Palembang 81.80 101 IAMs_20 IAMs_20 11 50 51.0
comp=Z,2µm,20.0s
U35K Hyder 81.80 348 IAMs_20 IAMs_20 11 51 21.6
comp=Z,3µm,20.0s
U35K Hyder 81.80 348 P P **11 11 44.9 +0.5**
baz=16
AOPR Arecibo Observ 81.84 287 IAmb IAmb 11 11 50.7
comp=Z,116nm,1.1s
R18K Karluk 81.88 1 P P **11 11 44.2 -0.5**
baz=358
CELP Cerrillos 81.89 287 IAmb IAmb 11 11 51.5
comp=Z,163nm,1.4s
W52A Murphy 82.00 310 IAmb IAmb 11 11 52.1
comp=Z,142nm,1.4s
W52A IAMs_20 IAMs_20 11 46 50.2
comp=Z,3µm,22.0s
GRGR Grenville 82.06 279 P P **11 11 44.8 -1.6**
comp=Z,3µmcomp=Z,282nm,1.4s
U49A Red Boiling Sp 82.06 312 IAMs_20 IAMs_20 11 47 44.5
comp=Z,2µm,19.0s
USIN University of 82.06 314 IAmb IAmb 11 11 51.4
comp=Z,172nm,1.4s
USIN IAMs_20 IAMs_20 11 47 43.5
comp=Z,3µm,19.0s
U33K Whale Pass 82.07 350 IAMs_20 IAMs_20 11 51 31.6
comp=Z,3µm,21.0s
U33K Whale Pass 82.07 350 P P **11 11 45.8 0.0**
baz=14
CPCT Cooper Cave 82.10 311 IAMs_20 IAMs_20 11 47 39.6
comp=Z,4µm,20.0s
Q44A Meyer Farm, Va 82.10 316 IAmb IAmb 11 11 52.0
comp=Z,111nm,1.4s
SHEM Shemya Is, Ala 82.19 20 LR LR 11 52 20.1
comp=Z,3µm,18.6s,baz=314,slow=39
ECSD EROS Data Cent 82.21 323 IAmb IAmb 11 11 52.8
comp=Z,153nm,1.5s
OHAK Old Harbor 82.25 1 IAmb IAmb 11 11 50.4
comp=Z,176nm,1.8s
OHAK Old Harbor 82.25 1 P P **11 11 48.1 +1.4**
OHAK Old Harbor 82.25 1 P P **11 11 46.8 +0.1**
baz=359
COCO West Island 82.35 113 IAMs_20 IAMs_20 11 50 28.6
comp=Z,4µm,18.0s
MDSI Maura Dua 82.39 103 P P **11 11 45.6 -2.5**
257A Skidaway Islan 82.44 306 IAMs_20 IAMs_20 11 47 41.0
comp=Z,2µm,21.0s
T47A Sharon Grove 82.46 313 IAmb IAmb 11 11 53.7
comp=Z,111nm,1.2s
V35K Ketchikan 82.62 349 IAMs_20 IAMs_20 11 51 15.1
comp=Z,3µm,22.0s
V35K Ketchikan 82.62 349 P P **11 11 49.1 +0.5**
baz=15
LWLI Liwa 82.66 103 P P **11 11 51.0 +1.3**
CLTN Cedars of Leba 82.67 312 IAmb IAmb 11 11 55.2
comp=Z,83nm,1.5s
CLTN IAMs_20 IAMs_20 11 48 12.7
comp=Z,2µm,20.0s
CRAG Craig 82.70 349 IAMs_20 IAMs_20 11 52 09.2
comp=Z,3µm,20.0s
CRAG Craig 82.70 349 P P **11 11 49.4 +0.4**
baz=14
GOGA Godfrey 82.92 308 IAMs_20 IAMs_20 11 48 22.4
comp=Z,2µm,20.0s
X51A Calhoun 82.92 310 IAMs_20 IAMs_20 11 46 31.3
comp=Z,4µm,22.0s
Y52A Lilburn 82.95 309 IAMs_20 IAMs_20 11 50 52.2
comp=Z,3µm,19.0s
TGY Tagaytay City 82.95 78 LR LR 11 55 18.9
comp=Z,1µm,18.7s,baz=354,slow=40
S14K Fog Glacier 82.97 4 P P **11 11 50.0 -0.6**
baz=354
CHGN Chignik 83.02 4 P P **11 11 50.5 -0.2**
baz=355
SWET Sewanee 83.07 311 IAmb IAmb 11 11 56.2
comp=Z,83nm,1.6s
KSM Kuching 83.07 94 IAmb IAmb 11 11 57.9
comp=Z,83nm,1.2s
KSM Kuching 83.07 94 P P **11 11 53.2 +1.5**
V48A Smith Brothers 83.20 312 IAmb IAmb 11 11 57.7
comp=Z,129nm,1.6s
V48A IAMs_20 IAMs_20 11 48 37.7
comp=Z,3µm,19.0s
P40A Paris 83.22 318 IAmb IAmb 11 11 57.6
comp=Z,64nm,1.3s
P40A IAMs_20 IAMs_20 11 48 24.9
comp=Z,4µm,19.0s
KASI Kota Agung 83.32 103 P P **11 11 53.4 +0.5**
comp=Z,68nm,1.1s
FPAL Fort Paine 83.37 311 IAmb IAmb 11 11 59.2
comp=Z,109nm,1.5s
FPAL IAMs_20 IAMs_20 11 48 17.3
comp=Z,2µm,20.0s
S12K Black Hills 83.38 6 P P **11 11 52.2 -0.5**
baz=352
WVT Waverly 83.48 313 P P **11 11 52.2 -1.3**
WVT IAmb IAmb 11 11 58.7
comp=Z,78nm,1.5s
WVT Waverly 83.48 313 P P **11 11 52.2 -1.3**
WVT pmax pmax
comp=Z,78nm,1.5s
WVT MLR MLR
comp=Z,4µm,19.0s
FVM French Village 83.53 316 IAmb IAmb 11 11 59.7
comp=Z,112nm,1.4s
FVM IAMs_20 IAMs_20 11 48 48.3
comp=Z,4µm,19.0s
TPI Tanjungpandan 83.84 99 P P **11 11 56.3 +0.7**
comp=Z,2µmcomp=Z,88nm,1.0s
SDPT Sand Point 83.85 5 IAmb IAmb 11 12 02.4
comp=Z,84nm,1.1s
SDPT Sand Point 83.85 5 P P **11 11 55.5 +0.5**
SDPT Sand Point 83.85 5 P P **11 11 54.4 -0.5**
baz=353
SBUM Sibu 83.89 92 P P **11 11 57.1 +1.2**
CCM Cathedral Cave 83.91 316 P P **11 11 55.5 -0.2**
CCM Cathedral Cave 83.91 316 P P **11 11 55.5 -0.2**
CCM pmax pmax
comp=Z,235nm,1.7s
CCM MLR MLR
comp=Z,5µm,19.0s
456A Hilliard 83.92 306 IAMs_20 IAMs_20 11 48 35.2
comp=Z,3µm,21.0s
CMC01 Camacan, BA 83.93 244 eP P **11 11 56.5 +0.5**
HICK Hickman 83.95 314 IAMs_20 IAMs_20 11 51 50.5
comp=Z,3µm,18.0s
SC01 Santiago de lo 83.99 290 IAMs_20 IAMs_20 11 51 54.0
comp=Z,2µm,18.0s
FALS False Pass 84.11 7 IAMs_20 IAMs_20 11 51 07.7
comp=Z,2µm,19.0s
FALS False Pass 84.11 7 P P **11 11 56.2 -0.1**
baz=351
PARMO Parma 84.14 314 IAMs_20 IAMs_20 11 52 07.6
comp=Z,3µm,18.0s
152A Waverly Hall 84.18 309 IAMs_20 IAMs_20 11 51 39.9
comp=Z,3µm,19.0s
GLAT Glass 84.18 314 IAMs_20 IAMs_20 11 47 07.7
comp=Z,4µm,22.0s
X48A Hartselle 84.26 311 IAMs_20 IAMs_20 11 50 09.7
comp=Z,4µm,18.0s
TIGA Tifton 84.38 307 IAMs_20 IAMs_20 11 51 48.2
comp=Z,4µm,19.0s
LNXT Lenox 84.42 314 IAMs_20 IAMs_20 11 47 25.9
comp=Z,5µm,22.0s
CHNA Chernabura Isl 84.42 5 P P **11 11 59.3 +1.4**
CHNA Chernabura Isl 84.42 5 P P **11 11 57.7 -0.2**
baz=354
CNBA Chernabura Isl 84.43 5 IAmb IAmb 11 12 00.8
comp=Z,57nm,1.2s
CNBA IAMs_20 IAMs_20 11 53 10.8
comp=Z,2µm,21.0s
KKM Kota Kinabalu 84.59 87 IAMs_20 IAMs_20 11 54 41.4
comp=Z,2µm,22.0s
KKM Kota Kinabalu 84.59 87 P P **11 12 01.4 +1.8**
SDDR Presa de Saban 84.68 290 IAMs_20 IAMs_20 11 47 06.2
comp=Z,2µm,21.0s
SDDR Presa de Saban 84.68 290 P P 11 11 52.6 -7.4
comp=Z,3µmcomp=Z,205nm,1.6s
UNV Unalaska Valle 84.79 9 IAMs_20 IAMs_20 11 52 39.9
comp=Z,2µm,20.0s
UNV Unalaska Valle 84.79 9 P P **11 11 59.1 -0.8**
baz=349
DIB Dawson Inlet, 84.81 348 IAmb IAmb 11 12 08.1
comp=Z,117nm,1.3s
CGJI Cibinong 84.93 103 P P **11 12 00.1 -1.0**
comp=Z,2µmcomp=Z,97nm,1.1s
GUA01 Guaratinga, BA 84.99 243 eP P **11 12 01.7 +0.4**
PRPB Parauapebas 85.01 257 eP P **11 12 01.9 +0.3**
BBB Bella Bella 85.04 346 LR LR 11 51 02.6
comp=Z,2µm,20.3s,baz=20,slow=36
RSSD Black Hills 85.10 328 P P **11 12 02.2 +0.3**
RSSD Black Hills 85.10 328 P P **11 12 02.2 +0.3**
RSSD pmax pmax
comp=Z,127nm,1.3s
RSSD MLR MLR
comp=Z,5µm,19.0s
352A Blakely 85.15 308 IAMs_20 IAMs_20 11 52 51.1
comp=Z,3µm,18.0s
SMTB Santa Maria do 85.17 254 eP P **11 12 02.8 +0.5**
656A Willston 85.18 305 IAMs_20 IAMs_20 11 48 37.7
comp=Z,3µm,21.0s
LCAR Lake Charles 85.34 315 IAMs_20 IAMs_20 11 49 45.3
comp=Z,4µm,20.0s
NIKH Nikolski High 85.36 10 P P **11 12 02.5 -0.2**
baz=347
DWPF Disney Wildern 85.37 303 P P **11 12 02.8 -0.4**
MET Memphis--Engin 85.38 314 IAMs_20 IAMs_20 11 50 27.4
comp=Z,4µm,19.0s
HBAR Harrisburg 85.46 314 IAMs_20 IAMs_20 11 47 57.4
comp=Z,4µm,22.0s
OXF Oxford 85.54 313 IAMs_20 IAMs_20 11 51 46.7
comp=Z,4µm,18.0s
250A Grady 85.59 309 IAMs_20 IAMs_20 11 52 02.2
comp=Z,3µm,18.0s
SDBA SAO DESIDERIO 85.63 250 eP P **11 12 04.9 +0.2**
DBJI Dramaga 85.67 102 P P **11 12 05.5 +0.7**
comp=Z,68nm,1.4s
Z47A Carrollton 85.75 311 IAMs_20 IAMs_20 11 49 31.3
comp=Z,4µm,20.0s
553A Crawfordville 85.77 307 IAMs_20 IAMs_20 11 52 58.1
comp=Z,3µm,19.0s
NEW Newport 86.07 338 IAmb IAmb 11 12 13.3
comp=Z,138nm,1.6s
NEW Newport 86.07 338 IAMs_20 IAMs_20 11 52 09.5
comp=Z,2µm,18.0s
NEW Newport 86.07 338 LR LR 11 52 19.9
comp=Z,2µm,18.9s,baz=30,slow=37
NMDO Nuevo Mundo 86.23 294 IAmb IAmb 11 12 14.0
comp=Z,247nm,1.8s
NMDO IAMs_20 IAMs_20 11 52 31.1
comp=Z,2µm,18.0s
451A Vernon 86.26 308 IAMs_20 IAMs_20 11 53 35.0
comp=Z,3µm,19.0s
RLMT Red Lodge 86.27 331 IAmb IAmb 11 12 14.9
comp=Z,138nm,1.4s
RLMT IAMs_20 IAMs_20 11 52 28.1
comp=Z,3µm,18.0s
MSO Missoula 86.38 335 IAmb IAmb 11 12 11.1
comp=Z,95nm,1.6s
LEM Lembang 86.49 102 LR LR 11 55 16.6
comp=Z,1µm,19.0s,baz=306,slow=39
CBB Campbell River 86.52 343 IAmb IAmb 11 12 15.7
comp=Z,121nm,1.4s
B08A Colville Reser 86.60 339 IAMs_20 IAMs_20 11 51 54.6
comp=Z,2µm,19.0s
BRAL Brixton 86.64 309 IAMs_20 IAMs_20 11 50 46.9
comp=Z,2µm,21.0s
HHAR Hobbs 86.65 317 IAmb IAmb 11 12 14.0
comp=Z,118nm,1.7s
HHAR IAMs_20 IAMs_20 11 50 56.9
comp=Z,4µm,20.0s
BOZ Bozeman (W) 86.69 333 IAMs_20 IAMs_20 11 50 59.3
comp=Z,3µm,21.0s
U38A Gravette 86.76 317 IAmb IAmb 11 12 14.5
comp=Z,120nm,1.6s
C09A Chrisman Ranch 86.81 338 IAmb IAmb 11 12 16.1
comp=Z,157nm,1.6s
C09A IAMs_20 IAMs_20 11 50 39.3
comp=Z,3µm,20.0s
OGNE Ogallala 86.86 325 IAMs_20 IAMs_20 11 51 02.9
comp=Z,4µm,20.0s
MYLDM Lahad Datu 86.88 86 IAmb IAmb 11 12 17.2
comp=Z,105nm,1.2s
MYLDM Lahad Datu 86.88 86 P P **11 12 11.7 +0.9**
BBJI Bungbulang 86.94 102 P P **11 12 10.1 -1.1**
UALR University of 86.95 315 IAmb IAmb 11 12 15.8
comp=Z,100nm,1.6s
JANB Januaria 87.03 247 eP P **11 12 11.5 0.0**
A04D Lummi Island 87.14 341 IAMs_20 IAMs_20 11 53 43.8
comp=Z,2µm,18.0s
CCAR Cane Creek 87.29 314 IAMs_20 IAMs_20 11 49 59.9
comp=Z,4µm,22.0s
RLO Rose Lookout 87.30 317 IAmb IAmb 11 12 17.8
comp=Z,86nm,1.7s
K22A Casper 87.33 328 IAmb IAmb 11 12 18.1
comp=Z,102nm,1.3s
R32A Long Quarter, 87.36 321 IAmb IAmb 11 12 18.0
comp=Z,66nm,1.1s
SJMB Sao Joao De Ma 87.41 243 eP P **11 12 13.4 +0.2**
X40A Basin Creek Fa 87.44 315 IAmb IAmb 11 12 17.1
comp=Z,117nm,1.9s
X40A IAMs_20 IAMs_20 11 48 56.7
comp=Z,4µm,22.0s
BOAV Boa Vista 87.47 271 IAMs_20 IAMs_20 11 50 41.2
comp=Z,2µm,21.0s
BOAV Boa Vista 87.47 271 eP P **11 12 13.7 0.0**
BOAV Boa Vista 87.47 271 P P **11 12 14.3 +0.6**
comp=Z,1µmcomp=Z,55nm,1.7s
T35A Sooner Cattle 87.47 319 IAmb IAmb 11 12 18.9
comp=Z,72nm,1.4s
CHIV Chivirico 87.61 294 IAmb IAmb 11 12 20.8
comp=Z,64nm,1.6s
D08A Wollman Farm, 87.67 338 IAmb IAmb 11 12 20.1
comp=Z,95nm,1.8s
D08A IAMs_20 IAMs_20 11 51 15.0
comp=Z,2µm,21.0s
KPJI Karang Pucung 87.80 102 P P **11 12 16.6 +1.4**
comp=Z,57nm,1.7s
VBMS Vicksburg 87.86 312 IAMs_20 IAMs_20 11 49 24.2
comp=Z,4µm,22.0s
346A Big Creek Wild 87.88 311 IAMs_20 IAMs_20 11 52 25.7
comp=Z,3µm,18.0s
KAN01 Argonia South 87.91 320 IAmb IAmb 11 12 20.7
comp=Z,65nm,1.2s
E09A Wood Farm, Sta 87.95 337 IAmb IAmb 11 12 20.9
comp=Z,139nm,1.8s
E09A IAMs_20 IAMs_20 11 53 05.2
comp=Z,3µm,19.0s
B04A Port Angeles 87.95 341 IAMs_20 IAMs_20 11 57 19.2
comp=Z,2µm,19.0s
OK051 E0350 and S346 87.96 319 IAmb IAmb 11 12 22.4
comp=Z,43nm,0.8s
LTY Liberty 87.97 339 IAMs_20 IAMs_20 11 52 38.9
comp=Z,2µm,20.0s
LOHW Long Hollow 88.06 331 IAmb IAmb 11 12 22.6
comp=Z,59nm,1.5s
LOHW IAMs_20 IAMs_20 11 53 17.4
comp=Z,3µm,20.0s
OK048 Pawnee Station 88.08 319 IAmb IAmb 11 12 23.0
comp=Z,54nm,1.1s
WAH2 Wahluke Slope 88.13 338 IAMs_20 IAMs_20 11 54 33.1
comp=Z,3µm,18.0s
QUOK Quay 88.16 318 IAmb IAmb 11 12 22.8
comp=Z,72nm,1.2s
WLAR White Oak Lake 88.19 315 IAMs_20 IAMs_20 11 55 20.7
comp=Z,3µm,18.0s
E08A Dider Farm, El 88.23 338 IAMs_20 IAMs_20 11 55 40.7
comp=Z,2µm,20.0s
SNOW Snow King Moun 88.24 331 IAMs_20 IAMs_20 11 51 39.3
comp=Z,3µm,20.0s
GNW Green Mountain 88.24 341 IAMs_20 IAMs_20 11 56 03.0
comp=Z,3µm,18.0s
ITTB Itaituba 88.24 263 eP P **11 12 17.3 -0.1**
TPAW Teton Pass 88.29 332 IAmb IAmb 11 12 24.0
comp=Z,65nm,1.4s
TPAW IAMs_20 IAMs_20 11 51 40.6
comp=Z,2µm,22.0s
DEOK Depew 88.31 318 IAmb IAmb 11 12 22.9
comp=Z,116nm,1.5s
OK052 Battle Ridge R 88.34 318 IAmb IAmb 11 12 23.1
comp=Z,87nm,1.5s
OK052 IAMs_20 IAMs_20 11 52 47.5
comp=Z,3µm,18.0s
Z41A Richland Creek 88.35 314 IAMs_20 IAMs_20 11 50 42.0
comp=Z,3µm,21.0s
PDAR Pinedale Array 88.40 330 P P **11 12 17.1 -1.0**
PDAR Pinedale Array 88.40 330 P P **11 12 17.7 -0.4**
comp=Z,9.7nm,1.0s,baz=5.1,slow=4.3,SNR=27
PDAR LR LR 11 53 48.4
comp=Z,3µm,18.4s,baz=20,slow=37
comp=Z,9.7nm,1.0s
HAWA Hanford 88.45 338 IAMs_20 IAMs_20 11 50 43.6
comp=Z,2µm,21.0s
MXC Moxie City 88.49 339 IAMs_20 IAMs_20 11 53 01.7
comp=Z,3µm,19.0s
CROK Carrier 88.53 319 IAmb IAmb 11 12 23.6
comp=Z,49nm,1.1s
YPT Yellepit 88.61 338 IAMs_20 IAMs_20 11 53 26.7
comp=Z,4µm,20.0s
NLWA Neilton Lookou 88.66 341 IAMs_20 IAMs_20 11 56 04.0
comp=Z,3µm,19.0s
DIAM Diamantina, MG 88.81 245 eP P **11 12 20.6 +0.6**
OK029 Liberty Lake 88.82 319 IAmb IAmb 11 12 25.3
comp=Z,114nm,1.6s
CAMR Camarioca 88.84 300 IAmb IAmb 11 12 28.2
comp=Z,1µm,1.6s
CAMR IAMs_20 IAMs_20 11 52 53.9
comp=Z,3µm,19.0s
OK038 West end E0370 88.92 320 IAmb IAmb 11 12 25.8
comp=Z,81nm,1.3s
AHID Auburn Hatcher 88.97 331 IAMs_20 IAMs_20 11 54 11.6
comp=Z,3µm,18.0s
F07A Phinny Hill Vi 89.02 338 IAmb IAmb 11 12 24.4
comp=Z,82nm,1.8s
F07A IAMs_20 IAMs_20 11 57 15.6
comp=Z,2µm,18.0s
ISCO Idaho Springs 89.34 326 IAmb IAmb 11 12 27.7
comp=Z,92nm,1.9s
E03A Lebam 89.38 341 IAMs_20 IAMs_20 11 55 30.0
comp=Z,2µm,19.0s
HAYD Hayden 89.42 328 IAMs_20 IAMs_20 11 53 01.5
comp=Z,2µm,20.0s
Z38A Mt. Pleasant 89.52 315 IAmb IAmb 11 12 28.7
comp=Z,134nm,1.5s
RADR Rader Ridge 89.55 341 IAMs_20 IAMs_20 11 58 19.6
comp=Z,3µm,19.0s
WOJI Wonogiri, Jawa 89.62 101 P P **11 12 24.4 +0.6**
comp=Z,57nm,1.3s
F04D Rainier, OR 89.67 340 IAMs_20 IAMs_20 11 51 32.7
comp=Z,2µm,22.0s
NPGB Novo Progresso 89.71 260 eP P **11 12 23.8 -0.5**
G06A Carlson Farm, 89.82 339 IAmb IAmb 11 12 30.4
comp=Z,67nm,1.5s
G06A IAMs_20 IAMs_20 11 55 44.8
comp=Z,3µm,18.0s
CAM01 Campos-RJ 89.91 241 eP P **11 12 25.0 +0.1**
SNDB Serra Nova Dou 89.95 254 eP P **11 12 25.5 +0.2**
F03A Seaside 89.95 341 IAMs_20 IAMs_20 11 52 16.1
comp=Z,3µm,22.0s
X34A Smith Ranch, M 89.95 318 IAmb IAmb 11 12 31.2
comp=Z,85nm,1.6s
URIC Uribia, Colomb 90.00 285 P P 11 12 20.3 -5.3
comp=Z,1µmcomp=Z,54nm,1.7s
G05A Wamic 90.00 339 IAMs_20 IAMs_20 11 55 43.6
comp=Z,3µm,19.0s
HOOD Mount Hood Mea 90.02 339 IAMs_20 IAMs_20 11 55 56.0
comp=Z,3µm,18.0s
MFID Camas Ranch 90.03 335 IAmb IAmb 11 12 32.2
comp=Z,92nm,1.8s
BDFB Brasilia 90.03 249 IAmb IAmb 11 12 31.5
comp=Z,63nm,1.2s
BDFB IAMs_20 IAMs_20 11 54 59.7
comp=Z,3µm,18.0s
BDFB Brasilia 90.03 249 P P **11 12 26.1 +0.3**
comp=Z,23nm,0.9s,baz=47,slow=6.2,SNR=19
BDFB LR LR 11 55 19.7
comp=Z,3µm,18.4s,baz=63,slow=37
comp=Z,23nm,0.9s
PCJI Pacitan 90.04 101 P P **11 12 25.7 -0.1**
comp=Z,73nm,1.2s
SOR Soroa 90.11 301 IAMs_20 IAMs_20 11 57 35.3
comp=Z,2µm,18.0s
O20A White River Ci 90.14 328 IAmb IAmb 11 12 31.6
comp=Z,59nm,1.3s
O20A IAMs_20 IAMs_20 11 53 59.7
comp=Z,3µm,20.0s
HWUT Hardware Ranch 90.15 331 IAmb IAmb 11 12 32.2
comp=Z,92nm,1.2s
RDMU Red Mountain 90.29 329 IAmb IAmb 11 12 32.5
comp=Z,97nm,1.2s
WMOK Wichita Mounta 90.32 319 IAmb IAmb 11 12 32.4
comp=Z,81nm,1.5s
G04A Mulino 90.35 340 IAMs_20 IAMs_20 11 54 14.7
comp=Z,2µm,19.0s
441A DeRidder 90.47 313 IAMs_20 IAMs_20 11 51 41.1
comp=Z,4µm,22.0s
NATX Nacogdoches 90.50 314 IAMs_20 IAMs_20 11 51 60.0
comp=Z,4µm,22.0s
TCUT Toone Canyon 90.52 331 IAmb IAmb 11 12 33.9
comp=Z,76nm,1.3s
G03D McMinnville, O 90.55 340 IAMs_20 IAMs_20 11 53 20.9
comp=Z,2µm,20.0s
DUB01 Friburgo-RJ 90.56 241 eP P **11 12 31.6 +3.5**
H04A Detroit Lake 90.75 339 IAMs_20 IAMs_20 11 54 07.5
comp=Z,3µm,20.0s
BSUT Blindstream Ca 90.78 330 IAmb IAmb 11 12 35.2
comp=Z,59nm,1.3s
I05D Terrebonne, OR 90.84 339 IAMs_20 IAMs_20 11 52 18.9
comp=Z,2µm,22.0s
SDV Santo Domingo 90.85 282 P P **11 12 30.7 +0.7**
comp=Z,11nm,0.8s,baz=48,slow=6.3,SNR=6.7
SDV LR LR 11 52 57.9
comp=Z,654nm,19.2s,baz=54,slow=35
comp=Z,11nm,0.8s
SDV Santo Domingo 90.85 282 eP P **11 12 30.3 +0.4**
SDV Santo Domingo 90.85 282 P P **11 12 30.6 +0.7**
comp=Z,872nmcomp=Z,38nm,1.4s
RTBA Rita Blanca 90.85 322 IAmb IAmb 11 12 34.6
comp=Z,98nm,1.3s
PMNB Patos De Minas 90.88 246 eP P **11 12 29.8 +0.1**
J08A Circle Bar Ran 90.91 336 IAMs_20 IAMs_20 11 53 47.7
comp=Z,4µm,21.0s
237A Washetta, Mont 90.93 315 IAmb IAmb 11 12 36.2
comp=Z,120nm,1.6s
WTFS Witchita Falls 90.93 318 IAmb IAmb 11 12 35.3
comp=Z,100nm,1.4s
DAV Davao City (W) 90.97 80 IAMs_20 IAMs_20 12 00 31.2
comp=Z,2µm,20.0s
DAV Davao City (W) 90.97 80 LR LR 12 00 23.1
comp=Z,1µm,18.9s,baz=314,slow=40
JLU Jordanelle 90.98 330 IAmb IAmb 11 12 36.3
comp=Z,92nm,1.3s
CTU Camp Tracy 91.02 331 IAmb IAmb 11 12 36.1
comp=Z,47nm,1.2s
T25A Trinidad 91.04 324 IAmb IAmb 11 12 36.1
comp=Z,77nm,1.2s
H04D Lebanon 91.05 340 IAmb IAmb 11 12 36.0
comp=Z,85nm,1.8s
H04D IAMs_20 IAMs_20 11 54 54.3
comp=Z,2µm,19.0s
FW06 Azle 91.09 317 IAmb IAmb 11 12 36.0
comp=Z,89nm,1.6s
CRJC Cerrejon, Guaj 91.10 285 P P 11 12 23.2 -7.7
comp=Z,1µmcomp=Z,51nm,1.8s
COR Corvallis 91.14 340 IAMs_20 IAMs_20 11 56 31.6
comp=Z,2µm,19.0s
MACA Manacapuru-AM 91.20 267 eP P **11 12 32.4 +1.2**
WIFE Three Sisters- 91.23 339 IAmb IAmb 11 12 37.3
comp=Z,61nm,1.4s
WIFE IAMs_20 IAMs_20 11 56 51.1
comp=Z,3µm,20.0s
PINE Pine Mountain 91.24 338 IAmb IAmb 11 12 38.6
comp=Z,72nm,1.6s
PINE IAMs_20 IAMs_20 11 54 39.3
comp=Z,3µm,22.0s
TOLI2 Tolitoli 91.24 87 P P **11 12 31.6 +0.2**
P18A Preston Nutter 91.37 329 IAmb IAmb 11 12 37.5
comp=Z,54nm,1.2s
BUCK Buck Mountain 91.42 340 IAMs_20 IAMs_20 11 57 52.0
comp=Z,2µm,18.0s
MPU Maple Canyon 91.56 330 IAmb IAmb 11 12 38.9
comp=Z,73nm,1.5s
I02E Swisshome, OR 91.72 340 IAMs_20 IAMs_20 11 53 45.1
comp=Z,3µm,22.0s
PV22 Blue Mesa, Par 91.73 328 IAmb IAmb 11 12 39.1
comp=Z,54nm,1.3s

PV22				IAMs_20	IAMs_20	11 56 00.6		
	comp=Z,3µm,20.0s							
PV07	**Paradox Valley**	**91.75 327**		IAmb	IAmb	11 12 39.3		
	comp=Z,64nm,1.3s							
PV15	**Paradox Valley**	**91.77 327**		IAMs_20	IAMs_20	11 55 28.7		
	comp=Z,3µm,20.0s							
PV21	**Cone Mtn., Par**	**91.78 328**		IAmb	IAmb	11 12 39.5		
	comp=Z,64nm,1.3s							
PV21				IAMs_20	IAMs_20	11 56 03.1		
	comp=Z,3µm,19.0s							
J05D	**Fort Rock, OR**	**91.79 338**		IAMs_20	IAMs_20	11 58 43.8		
	comp=Z,3µm,18.0s							
WHTX	**Lake Whitney,**	**91.81 316**		IAmb	IAmb	11 12 39.3		
	comp=Z,54nm,1.4s							
PV04	**Paradox Valley**	**91.89 328**		IAmb	IAmb	11 12 40.2		
	comp=Z,82nm,1.4s							
PV12	**Saucer Basin,**	**91.92 328**		IAmb	IAmb	11 12 45.3		
	comp=Z,82nm,1.2s							
SRU	**San Rafael Swe**	**91.92 329**		IAmb	IAmb	11 12 39.7		
	comp=Z,54nm,1.2s							
PV14	**Lion Creek, Pa**	**91.96 328**		IAmb	IAmb	11 12 40.3		
	comp=Z,43nm,1.2s							
PV14				IAMs_20	IAMs_20	11 51 21.8		
	comp=Z,2µm,20.0s							
PV11	**David Mesa, Pa**	**91.96 328**		IAMs_20	IAMs_20	11 55 14.9		
	comp=Z,4µm,20.0s							
PV20	**West Nyswonger**	**91.97 328**		IAmb	IAmb	11 12 40.4		
	comp=Z,77nm,1.2s							
PV16	**Nyswonger Mesa**	**91.97 328**		IAmb	IAmb	11 12 40.4		
	comp=Z,72nm,1.2s							
PV16				IAMs_20	IAMs_20	11 56 19.1		
	comp=Z,3µm,19.0s							
I03D	**Drain, OR**	**91.98 340**		IAMs_20	IAMs_20	11 55 06.9		
	comp=Z,2µm,19.0s							
SMRC	**Santa Marta, M**	**91.98 286**		P	**P**	**11 12 34.2**	**-0.7**	
	comp=Z,43nm,1.3s							
PV01	**Paradox Valley**	**91.98 327**		IAmb	IAmb	11 12 39.8		
	comp=Z,50nm,1.4s							
PV03	**Paradox Valley**	**91.99 328**		IAmb	IAmb	11 12 39.8		
	comp=Z,82nm,1.4s							
PV03				IAMs_20	IAMs_20	11 56 28.6		
	comp=Z,3µm,20.0s							
PV19	**Morning Glory**	**92.00 328**		IAmb	IAmb	11 12 40.6		
	comp=Z,82nm,1.2s							
PV17	**East Wray Mesa**	**92.01 328**		IAmb	IAmb	11 12 40.6		
	comp=Z,57nm,1.2s							
PV17				IAMs_20	IAMs_20	11 56 28.3		
	comp=Z,3µm,19.0s							
TMUT	**Trail Mountain**	**92.03 330**		IAmb	IAmb	11 12 40.0		
	comp=Z,49nm,1.4s							
PV13	**Radium Mtn., P**	**92.06 327**		IAmb	IAmb	11 12 40.1		
	comp=Z,60nm,1.5s							
PV13				IAMs_20	IAMs_20	11 55 40.5		
	comp=Z,3µm,19.0s							
J04A	**Umpqua Nationa**	**92.07 339**		IAMs_20	IAMs_20	11 58 06.3		
	comp=Z,3µm,18.0s							
APMT	**Aspermont**	**92.12 319**		IAmb	IAmb	11 12 40.5		
	comp=Z,71nm,1.5s							
K05A	**Summer Lake**	**92.20 338**		IAmb	IAmb	11 12 42.9		
	comp=Z,97nm,1.6s							
ELK	**Elko**	**92.22 333**		IAmb	IAmb	11 12 43.0		
	comp=Z,56nm,1.6s							
ELK				IAMs_20	IAMs_20	11 54 16.4		
	comp=Z,2µm,22.0s							
ELK	**Elko**	**92.22 333**		LR	LR	11 55 42.2		
	comp=Z,2µm,19.0s,baz=31,slow=37							
PV05	**Paradox Valley**	**92.24 328**		IAmb	IAmb	11 12 41.2		
	comp=Z,53nm,1.4s							
PV05				IAMs_20	IAMs_20	11 56 25.4		
	comp=Z,3µm,19.0s							
Q16A	**Castle Valley**	**92.34 329**		IAmb	IAmb	11 12 42.0		
	comp=Z,51nm,1.3s							
MRSI	**Marisa**	**92.53 87**		P	**P**	**11 12 36.3**	**-1.1**	
	comp=Z,47nm,1.1s							
CLDB	**Colider**	**92.53 258**	*e*P		**P**	**11 12 36.6**	**-0.8**	
HKT	**Hockley**	**92.54 314**		P	**P**	**11 12 37.0**	**-0.1**	
HKT	**Hockley**	**92.54 314**		P	**P**	**11 12 37.0**	**-0.1**	
HKT				pmax	pmax			
	comp=Z,163nm,1.8s							
HKT				MLR	MLR			
	comp=Z,5µm,18.0s							
K04D	**Chiloquin, OR**	**92.54 338**		IAMs_20	IAMs_20	11 55 00.8		
	comp=Z,2µm,21.0s							
BBOR	**Butler Butte**	**92.55 339**		IAMs_20	IAMs_20	11 53 16.1		
	comp=Z,2µm,21.0s							
J01E	**Myrtle Point**	**92.63 340**		IAMs_20	IAMs_20	12 01 23.1		
	comp=Z,2µm,20.0s							
SN07	**Snyder 07**	**92.69 319**		IAmb	IAmb	11 12 42.8		
	comp=Z,60nm,1.6s							
ARGC	**Ariguani, Magd**	**92.87 286**		P	**P**	**11 12 36.6**	**-2.4**	
	comp=Z,1µmcomp=Z,48nm,0.7s							
MSTX	**Muleshoe**	**92.89 321**		IAmb	IAmb	11 12 43.7		
	comp=Z,57nm,1.4s							
K02D	**Willamette Mer**	**93.00 340**		IAMs_20	IAMs_20	11 58 53.8		
	comp=Z,3µm,18.0s							
KEBM	**Edson Butte**	**93.00 340**		IAMs_20	IAMs_20	11 55 44.0		
	comp=Z,3µm,20.0s							
HMU	**Henry Mountain**	**93.02 329**		IAmb	IAmb	11 12 44.9		
	comp=Z,59nm,1.2s							
L04D	**Klamath Falls**	**93.07 339**		IAmb	IAmb	11 12 45.8		
	comp=Z,58nm,1.4s							
L04D				IAMs_20	IAMs_20	11 58 02.8		
	comp=Z,3µm,19.0s							
APSI	**Ampana**	**93.21 88**		P	**P**	**11 12 41.6**	**+1.1**	
	comp=Z,32nm,1.3s							
PAMC	**Pamplona, Colo**	**93.40 283**		P	**P**	**11 12 38.7**	**-3.3**	
SPR3	**Spring Creek 3**	**93.45 332**		IAmb	IAmb	11 12 49.1		
	comp=Z,86nm,1.4s							
L02F	**Cave Junction**	**93.51 339**		IAMs_20	IAMs_20	11 58 39.3		
	comp=Z,2µm,19.0s							
SJCC	**San Jacinto, C**	**93.52 286**		P	P	11 12 37.0	-5.1	
	comp=Z,1µmcomp=Z,79nm,1.4s							
YBH	**Yreka Blue Hor**	**93.64 339**		LR	LR	11 58 40.2		
	comp=Z,151nm,18.1s,baz=22,slow=38							
PDRB	**Porto dos Gac**	**93.71 258**	*e*P		**P**	**11 12 42.7**	**-0.1**	
ANMO	**Albuquerque**	**93.78 324**		P	**P**	**11 12 43.1**	**0.0**	
ANMO	**Albuquerque**	**93.78 324**		LR	LR	11 54 59.2		
	comp=Z,6µm,21.2s,baz=139,slow=36							
ANMO	**Albuquerque**	**93.78 324**		P	**P**	**11 12 43.1**	**0.0**	
ANMO				pmax	pmax			
	comp=Z,19nm,1.4s							
ANMO				MLR	MLR			
	comp=Z,6µm,21.0s							
KSXB	**Camp Six Broad**	**93.86 339**		IAMs_20	IAMs_20	11 56 33.7		
	comp=Z,3µm,18.0s							
M03C	**McCloud**	**93.89 338**		IAmb	IAmb	11 12 49.6		
	comp=Z,73nm,1.6s							
M02C	**Callahan**	**93.99 339**		IAMs_20	IAMs_20	11 56 03.1		
	comp=Z,3µm,21.0s							
SGC2	**Sao Gabriel da**	**94.02 273**		P	**P**	**11 12 44.0**	**-0.3**	
HATC	**Hat Creek Radi**	**94.13 337**		IAmb	IAmb	11 12 51.0		
	comp=Z,82nm,1.4s							
LUWI	**Luwuk**	**94.15 88**		PP	PP	11 16 26.9	-4.4	
JCT	**Junction City**	**94.23 317**		IAmb	IAmb	11 12 50.6		
	comp=Z,68nm,1.6s							
VAO	**Valinhos**	**94.27 243**		IAMs_20	IAMs_20	11 55 06.9		
	comp=Z,3µm,20.0s							
KAPI	**Kappang**	**94.43 93**		LR	LR	11 59 14.1		
	comp=Z,881nm,21.7s,baz=304,slow=38							
R11B	**Troy Canyon, C**	**94.47 332**		IAmb	IAmb	11 12 52.0		
	comp=Z,52nm,1.6s							
OZNA	**Ozona**	**94.55 318**		IAmb	IAmb	11 12 51.4		
	comp=Z,92nm,1.5s							
O03E	**Paynes Creek**	**94.71 337**		IAmb	IAmb	11 12 56.3		
	comp=Z,58nm,1.6s							
O03E				IAMs_20	IAMs_20	11 57 11.2		
	comp=Z,3µm,20.0s							
Y22D	**IRIS PASSCAL I**	**94.72 324**		P	**P**	**11 12 47.3**	**-0.1**	
	baz=32							
KHBM	**Hayfork Bally**	**94.77 339**		IAMs_20	IAMs_20	11 59 16.8		
	comp=Z,2µm,18.0s							
MNHN	**Monahans**	**95.03 320**		IAmb	IAmb	11 12 53.8		
	comp=Z,67nm,1.7s							
O02D	**Mt. Diablo Mer**	**95.10 338**		IAmb	IAmb	11 13 05.4		
	comp=Z,50nm,1.6s							
O02D				IAMs_20	IAMs_20	11 57 37.6		
	comp=Z,3µm,20.0s							
PRN	**Pahroc Range**	**95.12 331**		IAmb	IAmb	11 12 56.2		
	comp=Z,37nm,1.2s							
S11A	**Rachel**	**95.16 332**		IAmb	IAmb	11 12 55.9		
	comp=Z,52nm,1.5s							
UREC	**San Jos de Ur**	**95.21 285**		P	**P**	**11 12 52.9**	**+3.1**	
	comp=Z,335nmcomp=Z,12nm,1.5s							
PTBC	**PUERTO BERRIO,**	**95.23 283**		P	**P**	**11 12 46.0**	**-3.9**	
	comp=Z,142nmcomp=Z,14nm,1.2s							
ORV	**Oroville**	**95.30 337**		IAmb	IAmb	11 12 55.6		
	comp=Z,45nm,1.6s							
NVAR	**Mina Array Bea**	**95.33 334**		P	**P**	**11 12 50.6**	**+0.4**	
	comp=Z,0.2nm,0.4s,baz=33,slow=5.8,SNR=9.5							
NVAR				PKKPbc	**PKKPdf**	**11 29 40.4**	**-0.1**	
	comp=Z,0.7nm,0.7s,baz=188,slow=4.3,SNR=5.8							
NVAR				LR	LR	11 57 10.8		
	comp=Z,4µm,21.3s,baz=32,slow=36							
	comp=Z,0.2nm,0.4s							
TEIG	**Tepich**	**95.35 302**		IAMs_20	IAMs_20	11 56 45.1		
	comp=Z,1µm,20.0s							
TEIG	**Tepich**	**95.35 302**		P	**P**	**11 12 48.4**	**-1.9**	
	comp=Z,2µmcomp=Z,78nm,1.4s							
DRIO	**Del Rio**	**95.50 317**		IAmb	IAmb	11 12 56.0		
	comp=Z,87nm,1.6s							
SPBC	**San Pablo de B**	**95.54 282**		P	**P**	**11 12 49.3**	**-2.1**	
	comp=Z,16nm,1.6s							
PECS	**Pecos**	**95.55 320**		IAmb	IAmb	11 12 56.6		
	comp=Z,65nm,1.5s							
LHV	**Little Huntoon**	**95.56 334**		IAmb	IAmb	11 12 58.3		
	comp=Z,61nm,1.6s							
PRVC	**Isla de Provid**	**95.57 293**		IAMs_20	IAMs_20	11 57 19.6		
	comp=Z,1µm,18.0s							
PRVC	**Isla de Provid**	**95.57 293**		P	**P**	**11 12 50.1**	**-1.3**	
	comp=Z,38nm,1.6s							
SUTB	**Sutter Butte**	**95.69 337**		IAMs_20	IAMs_20	11 56 55.1		
	comp=Z,3µm,21.0s							
SAND	**Sanderson**	**95.84 318**		IAmb	IAmb	11 12 58.0		
	comp=Z,51nm,1.6s							
TPNV	**Topopah Spring**	**95.96 332**		IAMs_20	IAMs_20	12 00 28.5		
	comp=Z,2µm,18.0s							
MNTX	**Cornudas Mount**	**96.00 322**		IAmb	IAmb	11 12 58.0		
	comp=Z,47nm,1.6s							
WELL	**Weller Preserv**	**96.09 336**		IAmb	IAmb	11 12 56.7		
	comp=Z,48nm,1.9s							
DSP	**Deep Springs**	**96.18 333**		IAmb	IAmb	11 13 00.4		
	comp=Z,42nm,1.5s							
DBBC	**Dabeiba**	**96.20 285**		P	**P**	**11 12 56.1**	**+1.7**	
ROSC	**El Rosal**	**96.26 282**		IAMs_20	IAMs_20	11 56 09.4		
	comp=Z,2µm,20.0s							
ROSC	**El Rosal**	**96.26 282**		LR	LR	11 55 51.7		
	comp=Z,1µm,19.2s,baz=34,slow=35							
HOPS	**Hopland Field**	**96.28 338**		IAMs_20	IAMs_20	11 59 55.8		
	comp=Z,3µm,19.0s							
TNTI	**Ternate**	**96.44 83**		IAmb	IAmb	11 12 58.5		
	comp=Z,29nm,0.8s							
TNTI	**Ternate**	**96.44 83**		P	**P**	**11 12 53.8**	**-1.5**	
TNTI	**Ternate**	**96.44 83**		P	**P**	**11 12 56.4**	**+1.1**	
BILN	**Bilwi Airport**	**96.50 295**		IAMs_20	IAMs_20	11 59 51.0		
	comp=Z,527nm,20.0s							
V12A	**Nelson**	**96.54 331**		IAmb	IAmb	11 13 02.3		
	comp=Z,28nm,1.2s							
TIN	**Tinemaha, Big**	**96.55 334**		IAMs_20	IAMs_20	11 57 08.1		
	comp=Z,4µm,22.0s							
FURC	**Furnace Creek,**	**96.61 332**		IAmb	IAmb	11 13 02.8		
	comp=Z,55nm,1.6s							
FURC				IAMs_20	IAMs_20	12 00 50.6		
	comp=Z,3µm,19.0s							
W13A	**Hualapai Mount**	**96.73 330**		IAMs_20	IAMs_20	11 58 36.1		
	comp=Z,2µm,20.0s							
GWY	**Greenwater Val**	**96.79 332**		IAmb	IAmb	11 13 03.7		
	comp=Z,53nm,1.3s							
SHOC	**Shoshone, Teco**	**96.91 332**		IAmb	IAmb	11 13 03.3		
	comp=Z,36nm,1.3s							
MCCM	**Marconi Confer**	**97.01 337**		IAMs_20	IAMs_20	11 57 58.2		
	comp=Z,3µm,21.0s							
TXAR	**Lajitas Array**	**97.12 319**		P	**P**	**11 12 57.4**	**-1.0**	
TXAR	**Lajitas Array**	**97.12 319**		P	**P**	**11 12 57.6**	**-0.8**	
	comp=Z,17nm,1.2s,baz=62,slow=3.0,SNR=35							
TXAR				LR	LR	11 57 42.7		
	comp=Z,2µm,19.9s,baz=38,slow=36							
	comp=Z,17nm,1.2s							
VILB	**Vilhena**	**97.15 259**	*e*P		Pdif	11 13 00.2	+1.6	
NEE2	**Needles Airpor**	**97.30 330**		IAMs_20	IAMs_20	11 57 39.1		
	comp=Z,3µm,21.0s							
FARB	**Farallon Islan**	**97.46 337**		IAMs_20	IAMs_20	12 01 15.1		
	comp=Z,3µm,18.0s							
CCCA	**Chr Cany lake**	**97.63 332**		IAMs_20	IAMs_20	11 59 09.7		
	comp=Z,1µm,19.0s							
SIUN	**Universidad Ur**	**97.69 295**		IAmb	IAmb	11 13 06.5		
	comp=Z,28nm,1.8s							
LRMC	**Laurel Mtn Rad**	**97.78 332**		IAMs_20	IAMs_20	12 00 51.8		
	comp=Z,3µm,18.0s							
TUC	**Tucson**	**97.90 326**		P	**P**	**11 13 01.2**	**-0.6**	
TUC	**Tucson**	**97.90 326**		P	**P**	**11 13 01.2**	**-0.6**	
TUC				pmax	pmax			
	comp=Z,27nm,1.7s							
TUC				MLR	MLR			
	comp=Z,4µm,18.0s							
VES	**Vestal, Richgr**	**97.94 334**		IAMs_20	IAMs_20	11 58 57.8		
	comp=Z,3µm,20.0s							
PTLB	**Pontes e Lacer**	**97.96 257**		IAMs_20	IAMs_20	12 01 52.7		
	comp=Z,2µm,18.0s							
IRM	**Iron Mountain**	**98.04 330**		IAmb	IAmb	11 13 09.2		
	comp=Z,28nm,1.4s							
PMPB	**Monarch Peak**	**98.16 335**		IAMs_20	IAMs_20	11 59 13.6		
	comp=Z,3µm,20.0s							
BLYC	**Blythe**	**98.16 329**		IAmb	IAmb	11 13 09.5		
	comp=Z,30nm,1.6s							
TPO	**Tropico Hills**	**98.52 333**		IAMs_20	IAMs_20	12 01 33.2		
	comp=Z,2µm,18.0s							
BC3	**Big Chuckawall**	**98.60 330**		IAmb	IAmb	11 13 10.9		
	comp=Z,24nm,1.4s							
BC3				IAMs_20	IAMs_20	11 58 31.6		
	comp=Z,3µm,21.0s							
113A	**Mohawk Valley,**	**98.73 328**		IAMs_20	IAMs_20	11 59 13.1		
	comp=Z,2µm,20.0s							
GLA	**Glamis**	**98.90 329**		IAMs_20	IAMs_20	11 59 08.4		
	comp=Z,3µm,21.0s							
OSI	**Osito Audit: C**	**98.93 333**		IAMs_20	IAMs_20	12 01 02.0		
	comp=Z,3µm,20.0s							
PMD	**Palm Desert**	**98.96 331**		IAmb	IAmb	11 13 13.1		
	comp=Z,31nm,1.4s							
PFO	**Pinyon Flats O**	**99.02 331**		P	**Pdif**	**11 13 07.6**	**+0.8**	
PFO				IAmb	IAmb	11 13 13.6		
	comp=Z,26nm,1.2s							
PFO	**Pinyon Flats O**	**99.02 331**		LR	LR	11 58 55.9		
	comp=Z,3µm,22.0s,baz=29,slow=36							
PFO	**Pinyon Flats O**	**99.02 331**		P	**Pdif**	**11 13 07.6**	**+0.8**	
PFO				pmax	pmax			
	comp=Z,26nm,1.3s							
PFO				MLR	MLR			
	comp=Z,3µm,21.0s							
DNR	**Dunn Ranch,Anz**	**99.12 331**		IAmb	IAmb	11 13 14.1		
	comp=Z,28nm,1.2s							
SALN	**Salton City**	**99.14 330**		IAMs_20	IAMs_20	11 58 13.7		
	comp=Z,3µm,22.0s							
ACON	**Acoyapa**	**99.20 294**		IAMs_20	IAMs_20	11 59 49.7		
	comp=Z,2µm,19.0s							
BORC	**Borrego Spring**	**99.31 331**		IAmb	IAmb	11 13 14.8		
	comp=Z,29nm,1.6s							
ELS	**Elsinore Mount**	**99.34 331**		IAmb	IAmb	11 13 11.2		
	comp=Z,53nm,1.9s							
CPBX	**Cerro Prieto**	**99.64 329**		IAMs_20	IAMs_20	12 01 08.1		
	comp=Z,2µm,18.0s							
PTLC	**Puerto Leguiza**	**99.70 279**		P	**Pdif**	**11 13 06.4**	**-3.6**	
SIV	**San Ignacio**	**99.74 257**		LR	LR	12 00 46.4		
	comp=Z,1µm,18.3s,baz=80,slow=37							
DPP	**Dos Picos Cty**	**99.75 331**		IAMs_20	IAMs_20	11 58 45.8		
	comp=Z,3µm,21.0s							
CPE	**Camp Elliot**	**99.90 331**		IAMs_20	IAMs_20	11 58 51.0		
	comp=Z,3µm,21.0s							
HPIG		**100.09 319**		IAMs_20	IAMs_20	12 00 22.4		
	comp=Z,3µm,18.0s							
TJX	**Tijuana**	**100.22 331**		IAMs_20	IAMs_20	11 58 46.5		
	comp=Z,3µm,20.0s							
ITAB	**Concordia**	**100.57 243**		IAMs_20	IAMs_20	11 59 01.8		
	comp=Z,3µm,20.0s							
SFX	**San Felipe**	**100.69 328**		IAMs_20	IAMs_20	11 58 59.9		
	comp=Z,2µm,21.0s							
CCIG	**Comitan**	**100.72 302**		IAMs_20	IAMs_20	12 00 27.4		
	comp=Z,2µm,20.0s							
VTX	**Valle De La Tr**	**100.74 329**		IAMs_20	IAMs_20	12 04 07.2		
	comp=Z,2µm,20.0s							
ZAIG	**Zacatecas**	**101.88 314**		IAMs_20	IAMs_20	11 59 23.4		
	comp=Z,2µm,21.0s							
UNM	**Universidad Na**	**102.71 310**		IAMs_20	IAMs_20	12 00 43.6		
	comp=Z,2µm,22.0s							
MOIG	**Morelia**	**103.59 311**		IAMs_20	IAMs_20	12 03 48.1		
	comp=Z,2µm,21.0s							
TLIG	**Tlapa**	**103.72 308**		IAMs_20	IAMs_20	12 07 23.6		
	comp=Z,1µm,18.0s							
MBWA	**Marble Bar**	**104.66 105**		IAMs_20	IAMs_20	12 03 12.8		
	comp=Z,2µm,20.0s							
PSA00	**Pilbara Seismi**	**105.00 106**		IAMs_20	IAMs_20	12 03 41.8		
	comp=Z,2µm,20.0s							
MORW	**Morawa**	**106.87 114**		IAMs_20	IAMs_20	11 56 26.5		
	comp=Z,2µm,20.0s							
PB16	**IPOC Station P**	**107.48 261**		IAMs_20	IAMs_20	12 03 45.5		
	comp=Z,1µm,21.0s							
GO01	**Chusmiza**	**108.06 259**		IAMs_20	IAMs_20	12 03 17.9		
	comp=Z,1µm,20.0s							
PB08	**IPOC Station P**	**108.32 259**		IAMs_20	IAMs_20	12 04 18.8		
	comp=Z,1µm,20.0s							
PB11	**IPOC Station P**	**108.46 260**		IAMs_20	IAMs_20	12 03 49.5		
	comp=Z,1µm,20.0s							
PATCX	**Punta Patache**	**109.47 259**		IAMs_20	IAMs_20	12 08 09.6		
	comp=Z,1µm,20.0s							
PB02	**IPOC Station P**	**109.58 258**		IAMs_20	IAMs_20	12 05 13.3		
	comp=Z,1µm,20.0s							
SYO	**Syowa Base**	**109.91 176**↑	*e*Pdiff		**Pdif**	**11 13 55.5**	**+1.6**	
GO02	**Mina Guanaco**	**111.64 255**		IAMs_20	IAMs_20	12 08 40.8		
	comp=Z,2µm,19.0s							
NVL	**N'lazarevskaya**	**111.97 186**	*i* PKIKP		PKiKP	11 18 08.1	+8.4	
NVL			*e*PPP		PPP	11 21 12.7		
NVL			*e*SS		SS	11 34 30.8	+10	
NVL			*e*SSS		SSS	11 38 37.0		
NVL			pmax		pmax			
	comp=Z,7.0nm,1.1s							
AC02	**Maricunga**	**112.28 253**		IAMs_20	IAMs_20	12 09 44.8		
	comp=Z,2µm,19.0s							
SNAA	**Sanae**	**114.40 190**		IAMs_20	IAMs_20	12 04 35.8		
	comp=Z,2µm,21.0s							
WRA	**Warramunga Arr**	**114.80 95**		PKP	PKPdf	11 18 06.3	-0.3	
	comp=Z,2.2nm,0.9s,baz=299,slow=2.4,SNR=5.7							
WRA				PKKPab	**PKKPab**	**11 28 46.9**	**-2.0**	
	comp=Z,0.5nm,0.9s,baz=124,slow=3.4,SNR=5.1							
CO05	**La Serena**	**115.56 252**		IAMs_20	IAMs_20	12 09 54.6		
	comp=Z,2µm,20.0s							
CO02	**Combarbal**	**116.10 250**		IAMs_20	IAMs_20	12 10 01.0		
	comp=Z,2µm,20.0s							
ASAR	**Alice Springs**	**116.65 99**		PKP	**PKPdf**	**11 18 08.6**	**-1.5**	
	comp=Z,5.4nm,0.8s,baz=334,slow=1.9,SNR=17							
ASAR				PKKPbc	**PKKPbc**	**11 28 35.2**	**-0.9**	
	comp=Z,1.3nm,1.0s,baz=123,slow=3.5,SNR=4.8							
VA06	**Catapilco**	**117.05 249**		IAMs_20	IAMs_20	12 11 03.2		
	comp=Z,2µm,19.0s							
BO04	**La Punta**	**117.34 248**		IAMs_20	IAMs_20	12 07 31.7		
	comp=Z,3µm,22.0s							
MT09	**Talagante**	**117.49 248**		IAMs_20	IAMs_20	12 10 16.7		
	comp=Z,2µm,20.0s							
VA01	**Torpederas**	**117.55 249**		IAMs_20	IAMs_20	12 09 53.2		
	comp=Z,2µm,20.0s							
MT01	**Popeta**	**117.72 248**		IAMs_20	IAMs_20	12 10 45.9		
	comp=Z,2µm,19.0s							
BI02	**San Fabin de**	**119.21 245**		IAMs_20	IAMs_20	12 11 54.1		
	comp=Z,2µm,21.0s							
HATHI	**Halema'uma'u T**	**119.91 4**		IAMs_20	IAMs_20	12 09 38.6		
	comp=Z,2µm,20.0s							
BYL	**Byron's Ledge**	**119.92 4**		IAMs_20	IAMs_20	11 56 13.9		
	comp=Z,2µm,18.0s							
PLCA	**Paso Flores**	**120.76 241**		PKP	**PKPdf**	**11 18 16.4**	**-1.1**	
	comp=Z,3.7nm,0.9s,baz=192,slow=7.1,SNR=4.1							
LL01	**San Ignacio de**	**122.77 240**		IAMs_20	IAMs_20	12 11 46.4		
	comp=Z,2µm,22.0s							
BBOO	**Buckleboo**	**123.20 107**		IAMs_20	IAMs_20	12 12 11.9		
	comp=Z,2µm,20.0s							
CASY	**Casey**	**123.74 151**		IAMs_20	IAMs_20	12 10 16.0		
	comp=Z,1µm,19.0s							
CTAO	**Charters Tower**	**123.91 88**			**PKPdf**	**11 18 23.7**	**-0.5**	
CTAO	**Charters Tower**	**123.91 88**		P	**PKiKP**	**11 18 27.9**	**+3.5**	
CTAO	**Charters Tower**	**123.91 88**		P	**PKiKP**	**11 18 24.4**	**0.0**	
CTAO	**Charters Tower**	**123.91 88**		PKIKP	**PKPdf**	**11 18 23.7**	**-0.5**	
BELA	**Belgrano 2**	**124.34 193**		IAMs_20	IAMs_20	12 14 16.8		
	comp=Z,2µm,20.0s							
HTT	**Hallett**	**125.59 106**		P	**PKiKP**	**11 18 30.0**	**+2.5**	
HTT	**Hallett**	**125.59 106**		P	**PKiKP**	**11 18 27.3**	**-0.2**	
QLP	**Quilpie**	**126.04 96**		P	**PKiKP**	**11 18 31.0**	**+2.5**	
QLP	**Quilpie**	**126.04 96**		P	**PKiKP**	**11 18 28.7**	**+0.2**	
STKA	**Stephens Creek**	**126.79 103**		PKP	**PKPdf**	**11 18 28.0**	**-1.4**	
	comp=Z,7.1nm,0.9s,baz=302,slow=2.9,SNR=5.7							
STKA	**Stephens Creek**	**126.79 103**		P	**PKPdf**	**11 18 29.3**	**0.0**	
STKA	**Stephens Creek**	**126.79 103**		P	**PKPdf**	**11 18 28.7**	**-0.6**	
STKA	**Stephens Creek**	**126.79 103**		PKIKP	**

OBF4					MSG			11 04 00.7	
	comp=Z,0.8nm,0.2s								
PAJU	**Pajala**	**1.24**	**336**		PG		Pg	11 03 49.0	-0.9
PAJU					SB		Sg	11 04 05.0	-1.0
OUF	**Merijarvi**	**1.55**	**175**		PG		Pn	11 03 54.3	-0.7
OUF					MSG			11 04 12.6	
	comp=Z,1.1nm,0.2s								
OUF					SN		Sb	11 04 15.9	0.0
KU2	**Taivalkoski**	**1.58**	**95**		PN		Pn	11 03 55.8	+0.4
	baz=274								
OBF8	**Ulkokalla**	**1.64**	**195**		MSG			11 04 15.2	
	comp=Z,0.8nm,0.2s								
OBF8					SN		Sb	11 04 18.2	0.0
BURU	**Burvik**	**1.85**	**225**		PG		Pn	11 03 59.0	0.0
BURU					SG		Sn	11 04 23.1	+0.1
MSF	**Maaselka**	**1.90**	**88**		SG		Sb	11 04 25.9	+0.1
OLKF	**Oulanka, Finla**	**2.07**	**76**		PG		Pn	11 04 02.9	+0.8
OLKF					MSG			11 04 27.6	
	comp=Z,0.9nm,0.2s								
OLKF					SG		Sb	11 04 29.8	-1.0
KU1	**Kurvinen**	**2.15**	**97**		SG		Sb	11 04 32.8	-0.3
KU6	**Riekki**	**2.24**	**84**		PG		Pn	11 04 05.8	+1.3
	baz=269								
KU6					MSG			11 04 32.5	
	comp=Z,0.6nm,0.2s								
KU6					SG		Sb	11 04 35.0	-0.8
LANU	**Lannavaara**	**2.35**	**337**		SG		Sb	11 04 38.5	-0.5
HEF	**Hetta**	**2.53**	**354**		SB		Sn	11 04 40.3	+0.3
HEF					MSG			11 04 40.8	
	comp=Z,0.5nm,0.2s								
UMAU	**Umeaa**	**2.58**	**220**		PG		Pb	11 04 12.6	-0.7
UMAU					SN		Sn	11 04 39.8	-1.4
KTK1	**Kautokeino**	**3.15**	**352**		SG		Sb	11 05 02.5	+0.5
ARA0	**ARCESS Array S**	**3.67**	**6**		SN		Sn	11 05 07.7	-0.3
KAF	**Kangasniemi**	**3.90**	**167**		PN		Pn	11 04 25.0	-2.2
KPF	**Kankaanpaa**	**4.22**	**195**		PN		Pn	11 04 30.8	-0.9
JOF	**Joensuu**	**4.23**	**132**		PN		Pn	11 04 31.8	0.0
HEMU	**Hemsoen**	**4.27**	**224**		PN		Pn	11 04 32.4	0.0
LVZ	**Lovozero**	**4.50**	**59**		SB		Sb	11 05 39.2	-1.4

*IGIL **26** 11:07:10.8,37˚.14N×5˚.23W,h3km*
*INMG **26** 11:07:11.1±1.9,37˚.10N×5˚.24W,h9km±2km,ML2.9,Error ellipse: s-maj=2.5km s-min=2.1km az=175.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
*SFS **26** 11:07:11.3,37˚.12N×5˚.22W,h4km,ML3.2/13,ML3.0/20, MLv2.9/20*
MDD 26 11:07:11.2±0.2,37˚.14N×5˚.23W,h3km±1km,mb_Lg3.1/36, 1C,Error ellipse: s-maj=1.7km s-min=1.2km az=173.0, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E1302	**La Puebla de C**	**0.01**	**243**	⇑Pg	Pg	11 07 11.8	0.0
E1302				Sg	Sg	11 07 14.1	+1.8
EXMOR	**Moron de la Fr**	**0.18**	**265**	Pg	Pg	11 07 14.8	+0.1
EXMOR				Sg	Sg	11 07 19.4	+2.3
ESPR	**Espera**	**0.57**	**242**	Pg	Pg	11 07 22.6	+0.5
ESPR				Sg	Sg	11 07 30.2	+0.6
ESPR	**Espera**	**0.57**	**242**	Pg	Pg	11 07 22.5	+0.3
ESPR				Sg	Sg	11 07 30.3	+0.7
ESPR				*i* IVmb_Lg		11 07 38.4	
EJIF	**Jimena Fronter**	**0.71**	**196**	Pg	Pg	11 07 23.1	-1.8
EMAL	**Malaga-Limoner**	**0.74**	**120**	Pg	Pg	11 07 22.3	-3.1
EMAL				Sg	Sg	11 07 33.3	-1.8
EGOR	**Sierra Gorda,**	**0.89**	**92**	Pg	Pg	11 07 27.0	-1.4
EGOR	**Sierra Gorda,**	**0.89**	**92**	Pg	Pg	11 07 26.9	-1.5
EGOR				Sg	Sn	11 07 43.4	-1.0
EGOR				*i* IVmb_Lg		11 07 45.8	
EXCBR	**El Cabril**	**0.94**	**351**	Pg	Pg	11 07 29.3	-0.1
EXCBR				Sg	Sb	11 07 43.5	+0.2
ECAB	**El Cabril**	**0.95**	**351**	Pg	Pg	11 07 29.1	-0.3
ECAB				Sg	Sb	11 07 43.1	-0.2
ECAB	**El Cabril**	**0.95**	**351**	Pg	Pg	11 07 29.0	-0.4
ECAB				Sg	Sg	11 07 40.0	-1.6
ECAB				*i* IVmb_Lg		11 07 45.3	
CNIL	**Conil**	**1.01**	**221**	Pg	Pg	11 07 31.0	+0.3
EXAGR	**Agron**	**1.12**	**95**	Pg	Pg	11 07 32.9	+0.2
EADA	**Adamuz**	**1.15**	**27**	Pg	Pg	11 07 32.7	-0.6
EADA				Sg	Sb	11 07 49.1	0.0
EADA	**Adamuz**	**1.15**	**27**	Pg	Pg	11 07 32.7	-0.6
EADA				Sg	Sb	11 07 49.0	-0.1
EADA				*i* IVmb_Lg		11 07 51.3	
ARNO	**Arenosillo**	**1.20**	**269**	Pg	Pg	11 07 33.8	-0.5
ARNO				Sg	Sb	11 07 50.6	0.0
EMIN	**Mina Concepcio**	**1.31**	**299**	Pn	Pg	11 07 34.3	-2.1
EMIN				Sn	Sb	11 07 53.5	-0.2
EMIN	**Mina Concepcio**	**1.31**	**299**	Pg	Pg	11 07 33.9	-2.4
EMIN				Sg	Sg	11 07 52.2	-1.1
EMIN				*i* IVmb_Lg		11 07 55.2	
ELGU	**Los Guajares,**	**1.31**	**101**	Pn	Pg	11 07 35.2	-1.1
ELGU	**Los Guajares,**	**1.31**	**101**	Pg	Pg	11 07 35.3	-1.1
ELGU				Sg	Sn	11 07 56.6	+2.0
ELGU				*i* IVmb_Lg		11 08 00.5	
EQTA	**Presa de Quent**	**1.43**	**87**	Pn	Pn	11 07 37.0	-1.2
EQTA				Sn	Sg	11 07 56.4	-0.7
EQUE	**Quentar**	**1.43**	**87**	Pg	Pn	11 07 36.8	-1.4
EQUE				Sg	Sn	11 07 58.0	+0.4
EQUE				*i* IVmb_Lg		11 08 00.6	
E0803	**Jimena (Jaen)**	**1.56**	**63**	Pn	Pn	11 07 38.4	-1.6
E0803				Sg	Sn	11 08 00.5	-0.3
E0802	**Ubeda,Jaen**	**1.72**	**58**	Pg	Pn	11 07 42.6	+0.4
E0802				Sg	Sn	11 08 03.9	-0.8
EXAYA	**Ayamonte**	**1.74**	**273**	Sg	Sn	11 08 05.2	+0.1
PBAR	**Barrancos**	**1.77**	**306**	Pn	Pn	11 07 40.7	-2.1
PBAR				Sn	Sn	11 08 05.2	-0.7
PBAR	**Barrancos**	**1.77**	**306**	*e*Pn	Pn	11 07 40.7	-2.1
PBAR				*e*Pg	Pb	11 07 43.1	-1.3
PBAR				*e*Sn	Sn	11 08 03.3	-2.6
PBAR				*e*Sg	Sg	11 08 08.6	+0.4
PBAR				*i* IAML		11 08 10.9	
PBAR				*i* IAML		11 08 12.4	
PBAR				*i* IAML		11 08 15.4	
EQES	**Quesada**	**1.84**	**68**	Pn	Pn	11 07 42.1	-1.8
EQES				Pg	Pb	11 07 44.8	-0.8
EQES				Sg	Sb	11 08 08.7	-0.4
EQES				*i* IVmb_Lg		11 08 14.7	
EGRO	**El Granado**	**1.84**	**283**	Pn	Pn	11 07 41.4	-2.4
EGRO				Sn	Sn	11 08 05.8	-1.8
EGRO	**El Granado**	**1.84**	**283**	Pn	Pn	11 07 41.2	-2.6
EGRO				Pn	Pb	11 07 41.8	-3.7
EGRO				Sg	Sb	11 08 08.8	-0.2
EGRO				Sg	Sg	11 08 09.5	-0.8
EGRO				*i* IVmb_Lg		11 08 11.3	
PVAQ	**Vaqueiros**	**2.00**	**278**	*e*Pn	Pn	11 07 43.5	-2.5
PVAQ				*e*Sn	Sn	11 08 07.9	-3.7
PVAQ				*e*Sg	Sg	11 08 15.1	-0.5
PVAQ				*i* IAML		11 08 18.1	
PVAQ				*i* IAML		11 08 18.1	
PVAQ				*i* IAML		11 08 23.9	
PSIM	**Granatula de C**	**2.04**	**34**	Pn	Pn	11 07 45.1	-1.5
PSIM				Pg	Pb	11 07 47.1	-1.9
PSIM				Sg	Sb	11 08 15.6	+0.7
EALB	**Alboran**	**2.13**	**123**	Pn	Pn	11 07 46.4	-1.4
EALB				Sn	Sn	11 08 13.8	-1.0
EALB	**Alboran**	**2.13**	**123**	Pn	Pn	11 07 46.1	-1.7
EALB				Pn	Pb	11 07 46.2	-4.4
EALB				Sn	Sn	11 08 13.9	-0.9
EALB				Sg	Sb	11 08 13.9	-3.5
EALB				*i* IVmb_Lg		11 08 17.2	
EBAD	**Badajoz**	**2.14**	**319**	Pn	Pn	11 07 45.9	-2.1
EBAD				Sn	Sn	11 08 13.6	-1.4
EBAD	**Badajoz**	**2.14**	**319**	Pn	Pn	11 07 45.9	-2.1
EBAD				Sg	Sg	11 08 19.4	-0.8
EBAD				*i* IVmb_Lg		11 08 22.1	
PBDV	**Barranco-do-Ve**	**2.16**	**274**	Pn	Pn	11 07 46.1	-2.1
PBDV				Sn	Sn	11 08 13.0	-2.5
PBDV	**Barranco-do-Ve**	**2.16**	**274**	*e*Pn	Pn	11 07 46.0	-2.2
PBDV				*e*Sn	Sn	11 08 11.7	-3.9
PBDV				*e*Sg	Sg	11 08 19.7	-0.9
PBDV				*i* IAML		11 08 26.0	
PBDV				*i* IAML		11 08 27.6	
PBDV				*i* IAML		11 08 28.6	
PBEJ	**Beja**	**2.27**	**294**	*e*Pn	Pn	11 07 49.3	-0.4
PBEJ				*e*Pg	Pg	11 07 56.0	+1.2
PBEJ				*e*Sn	Sb	11 08 20.6	-0.9
PBEJ				*e*Sg	Sg	11 08 26.4	+2.1
PBEJ				*i* IAML		11 08 29.6	
PBEJ				*i* IAML		11 08 32.4	
PBEJ				*i* IAML		11 08 33.9	
PCVE	**Castro Verde**	**2.29**	**283**	Pn	Pn	11 07 47.6	-2.4
PCVE	**Castro Verde**	**2.29**	**283**	*e*Pn	Pn	11 07 47.6	-2.4
PCVE				*e*Pg	Pg	11 07 55.1	0.0
PCVE				*e*Sg	Sg	11 08 23.7	-1.2
PCVE				*i* IAML		11 08 31.1	
PCVE				*i* IAML		11 08 33.0	
PCVE				*i* IAML		11 08 36.4	
ENIJ	**Nijar**	**2.42**	**93**	Pg	Pn	11 07 52.6	+0.8
ENIJ				Sg	Sg	11 08 27.7	-1.4
MESJ	**Messejana**	**2.48**	**287**	*e*P	Pn	11 07 50.2	-2.3
MESJ	**Messejana**	**2.48**	**287**	*e*Pn	Pn	11 07 50.4	-2.2
MESJ				*e*Pg	Pg	11 07 58.0	-0.7
MESJ				*e*Sn	Sn	11 08 19.9	-3.5
MESJ				*e*Sg	Sg	11 08 31.3	+0.4
MESJ				*i* IAML		11 08 35.1	
MESJ				*i* IAML		11 08 38.2	
MESJ				*i* IAML		11 08 44.6	
PAB	**San Pablo**	**2.50**	**16**	Pn	Pn	11 07 52.1	-0.8
PAB				Pn	Pb	11 07 52.8	-4.0
PAB				Pg	Pg	11 07 57.7	-1.4
PAB				Pg	Pg	11 07 57.9	-1.3
PAB				Sn	Sn	11 08 21.9	-2.1
PAB				Sg	Sg	11 08 30.5	-1.1
PAB				Sg	Sb	11 08 30.5	+2.5
PESTR	**Estremoz**	**2.54**	**313**	Sn	Sn	11 08 21.8	-3.1
PESTR	**Estremoz**	**2.54**	**313**	*e*Pn	Pn	11 07 51.8	-1.7
PESTR				*e*Pg	Pb	11 07 57.8	+0.3
PESTR				*e*Sn	Sn	11 08 24.1	-0.9
PESTR				*e*Sg	Sg	11 08 31.6	-1.3
PESTR				*i* IAML		11 08 39.3	
EVO	**Evora**	**2.61**	**303**	Sn	Sn	11 08 24.5	-2.0
EVO	**Evora**	**2.61**	**303**	*e*Pn	Pn	11 07 46.1	-8.2
EVO				*e*Pg	Pg	11 08 00.7	-0.5
EVO				*e*Sn	Sn	11 08 25.4	-1.1
EVO				*e*Sg	Sb	11 08 32.4	+1.3
EVO				*i* IAML		11 08 39.2	
EVO				*i* IAML		11 08 40.2	
EVO				*i* IAML		11 08 43.1	
ESDC	**Sonseca Array**	**2.72**	**21**	Pn	Pn	11 07 55.2	-0.7
ESDC				Sn	Sn	11 08 27.1	-2.3
ESDC				Sg	Sg	11 08 37.2	-1.4
ESDC				*i* IVmb_Lg		11 08 45.4	
ESBB	**Sonseca Array**	**2.72**	**21**	Pn	Pn	11 07 55.3	-0.6
ESBB				Sn	Sn	11 08 26.9	-2.5
ESBB				Sg	Sg	11 08 37.4	-1.3
MORF	**Marmelete**	**2.74**	**274**	*e*P	Pn	11 07 53.8	-2.4
MORF	**Marmelete**	**2.74**	**274**	*e*Pn	Pn	11 07 54.8	-1.3
MORF				*e*Pg	Pg	11 08 03.1	-0.6
MORF				*e*Sn	Sn	11 08 27.4	-2.4
MORF				*e*Sg	Sg	11 08 39.0	-0.2
MORF				*i* IAML		11 08 39.6	
MORF				*i* IAML		11 08 41.5	
MORF				*i* IAML		11 08 45.8	
PTEO	**Sao Teotonio**	**2.82**	**279**	*e*Pn	Pn	11 07 55.1	-2.1
PTEO				*e*Pg	Pb	11 08 03.7	+1.5
PTEO				*e*Sn	Sn	11 08 29.8	-1.9
PTEO				*e*Sg	Sg	11 08 41.2	-0.5
PTEO				*i* IAML		11 08 47.6	
PTEO				*i* IAML		11 08 55.9	
PTEO				*i* IAML		11 08 57.2	
PMRV	**Marv??o**	**2.85**	**324**	*e*Pn	Pn	11 07 55.8	-1.9
PMRV				*e*Pg	Pb	11 08 02.0	-0.8
PMRV				*e*Sn	Sn	11 08 29.8	-2.8
PMRV				*e*Sg	Sb	11 08 39.9	+1.8
PMRV				*i* IAML		11 08 45.0	
PMRV				*i* IAML		11 08 46.8	
PMRV				*i* IAML		11 08 48.2	
PFVI	**Vila Bisbo**	**2.88**	**271**	Pn	Pn	11 07 55.6	-2.4
PFVI				Sn	Sn	11 08 29.4	-3.8
PFVI	**Vila Bisbo**	**2.88**	**271**	*e*Pn	Pn	11 07 55.8	-2.2
PFVI				*e*Sn	Sn	11 08 29.5	-3.6
PFVI				*i* IAML		11 08 31.1	
PFVI				*e*Sg	Sg	11 08 42.6	-1.0
PFVI				*i* IAML		11 08 50.7	
PFVI				*i* IAML		11 08 57.0	
EPLA	**Plasencia**	**3.00**	**347**	Pn	Pn	11 07 57.8	-1.9
EPLA				Pg	Pb	11 08 06.5	+1.2
EPLA				Sn	Sn	11 08 32.9	-3.3
EPLA				Sg	Sg	11 08 47.3	-0.2
EPLA				*i* IVmb_Lg		11 08 49.2	
PMTG	**Montargil**	**3.05**	**310**	*e*Pn	Pn	11 07 59.1	-1.3
PMTG				*e*Pg	Pb	11 08 06.6	+0.4
PMTG				*e*Sn	Sn	11 08 36.3	-1.2
PMTG				*e*Sg	Sb	11 08 49.4	+2.6
PMTG				*i* IAML		11 08 53.1	
PMTG				*i* IAML		11 08 59.3	
PMTG				*i* IAML		11 09 02.2	
PCBR	**Castelo Branco**	**3.22**	**327**	*e*Pn	Pn	11 08 01.4	-1.3
PCBR				*e*Sn	Sn	11 08 38.3	-3.4
PCBR				*e*Sg	Sg	11 08 52.2	-2.5
PCBR				*i* IAML		11 08 58.7	
PCBR				*i* IAML		11 09 59.1	
PCBR				*i* IAML		11 08 59.4	
ETOB	**Tobarra**	**3.28**	**62**	Pn	Pn	11 08 02.0	-1.6
ETOB	**Tobarra**	**3.28**	**62**	Pn	Pn	11 08 01.9	-1.7
ETOB				Pg	Pg	11 08 14.2	+0.2
ETOB				Sn	Sn	11 08 43.2	+0.1
ETOB				Sg	Sg	11 08 54.6	-1.9
ETOB				*i* IVmb_Lg		11 09 05.1	
PSARD	**Sardoal**	**3.37**	**318**	*e*Pn	Pn	11 08 03.0	-1.8
PSARD				*e*Pg	Pg	11 08 16.2	+0.4
PSARD				*e*Sn	Sn	11 08 43.4	-2.0
PSARD				*e*Sg	Sb	11 08 55.3	+2.3
PSARD				*i* IAML		11 09 03.3	
PSARD				*i* IAML		11 09 03.6	
PSARD				*i* IAML		11 09 06.6	
PARRA	**Arraiolos**	**3.45**	**300**	*e*Pn	Pn	11 07 54.9	-11
PARRA				*e*Pg	Pb	11 08 00.6	-12
PARRA				*e*Sn	Sn	11 08 28.4	-19
PARRA				*e*Sg	Sb	11 08 37.7	-17
PARRA				*i* IAML		11 08 43.8	
PARRA				*i* IAML		11 08 48.8	
PARRA				*i* IAML		11 08 49.3	
GUD	**Guadarrama**	**3.60**	**13**	Pn	Pn	11 08 07.1	-1.0
GUD				Pg	Pg	11 08 18.7	-1.5
GUD				Sn	Sn	11 08 50.0	-1.2
GUD				Sg	Sg	11 09 06.2	-0.6
GUD				*i* IVmb_Lg		11 09 14.8	
PSBE	**So Bento**	**3.67**	**311**	*e*Pn	Pn	11 08 50.3	-1.3
PSBE				*e*Sn	Sn	11 08 50.4	-2.5
PSBE				*e*Sg	Sg	11 09 09.7	+0.5
PSBE				*i* IAML		11 09 13.9	
PSBE				*i* IAML		11 09 19.0	
PSBE				*i* IAML		11 09 20.2	
PMAFR	**Mafra**	**3.68**	**301**	*e*Pn	Pn	11 08 05.8	-3.3
PMAFR				*e*Sn	Sn	11 08 49.9	-3.1
PMAFR				*i* IAML		11 09 12.7	
PMAFR				*i* IAML		11 09 17.1	
PMAFR				*i* IAML		11 09 22.3	
MTE	**Manteigas**	**3.73**	**332**	*e*Pn	Pn	11 08 08.9	-0.8
MTE				*e*Sg	Sg	11 09 08.4	-2.5
MTE				*i* IAML		11 09 13.9	
MTE				*i* IAML		11 09 15.7	
MTE				*i* IAML		11 09 16.9	
YEBES	**Yebes (Guadala**	**3.77**	**26**	Sg	Sg	11 09 12.7	+0.4
EVIV	**Cofrentes, Val**	**3.87**	**55**	Pg	Pb	11 08 20.3	+0.1
EVIV				Sg	Sg	11 09 12.1	-3.5
EVIV				*i* IVmb_Lg		11 09 23.0	
PCAS	**Casmilo, Conde**	**3.88**	**320**	*e*Pn	Pn	11 08 10.8	-1.0
PCAS				*e*Sn	Sn	11 08 55.1	-2.8
PCAS				*e*Sg	Sg	11 09 14.6	-1.1
PCAS				*i* IAML		11 09 18.5	
PCAS				*i* IAML		11 09 20.9	
PCAS				*i* IAML		11 09 21.8	
COI	**Coimbra**	**3.95**	**322**	*e*Sg	Sg	11 09 15.4	-2.7
EJUZ	**Juzbado, Salam**	**3.98**	**353**	Sn	Sn	11 08 56.9	-3.5
EJUZ				Sg	Sg	11 09 17.4	-1.5
AFON	**Font Roja**	**4.01**	**66**	Pn	Pn	11 08 13.9	+0.2
AFON				Sg	Sg	11 09 18.1	-1.9
AFON				*i* IVmb_Lg		11 09 25.3	
PVIS	**Viseu**	**4.13**	**331**	*e*Pn	Pn	11 08 14.5	-0.8
PVIS				*e*Sn	Sn	11 09 00.5	-3.7
PVIS				*e*Sg	Sg	11 09 21.6	-2.4
ECHE	**Chera**	**4.15**	**53**	Pn	Pn	11 08 24.3	-1.3
ECHE				Sg	Sg	11 09 24.1	-0.4
ECHE				*i* IVmb_Lg		11 09 35.8	
MVO	**Moncorvo**	**4.26**	**341**	*e*Pn	Pn	11 08 15.2	-1.8
MVO				*e*Sn	Sn	11 09 04.3	-3.0
MVO				*e*Sg	Sg	11 09 24.9	-3.0
MVO				*i* IAML		11 09 32.1	
MVO				*i* IAML		11 09 35.8	
MVO				*i* IAML		11 09 39.2	
ETOR	**Torete**	**4.43**	**33**	Pn	Pn	11 08 18.0	-1.5
ETOR				Sg	Sg	11 09 31.4	-2.0
ETOR				*i* IVmb_Lg		11 09 37.3	
PVRL	**Vila Real**	**4.56**	**336**	*e*Sn	Sn	11 09 12.0	-2.7
PVRL				*e*Sg	Sg	11 09 37.5	-0.2
POLO	**Lamas de Olo**	**4.67**	**336**	*e*Pn	Pn	11 08 21.5	-1.3
POLO				*e*Sn	Sn	11 09 13.8	-3.9
POLO				*e*Sg	Sg	11 09 38.2	-3.1
POLO				*i* IAML		11 09 43.0	
POLO				*i* IAML		11 09 46.7	
POLO				*i* IAML		11 09 49.3	
PBRG	**Braganca**	**4.80**	**346**	*e*Sn	Sn	11 09 17.1	-3.7
PBRG				*e*Sg	Sg	11 09 43.8	-1.7
PBRG				*i* IAML		11 09 48.2	
PBRG				*i* IAML		11 09 48.4	
PBRG				*i* IAML		11 09 48.8	
EMOS	**Mosqueruela**	**4.92**	**48**	Sn	Sn	11 09 20.4	-3.3
EMOS				Sg	Sg	11 09 48.2	-1.0
ECAL	**Calabor**	**4.94**	**347**	Pn	Pn	11 08 25.5	-0.9
ECAL				Sn	Sn	11 09 19.7	-4.3
ECAL				Sg	Sg	11 09 48.5	-1.2
ECAL				*i* IVmb_Lg		11 09 53.0	
PCAB	**Cabril**	**5.05**	**335**	*e*Pn	Pn	11 08 26.2	-1.8
PCAB				*e*Sn	Sn	11 09 23.3	-3.6
PCAB				*e*Sg	Sg	11 09 50.9	-2.6
PCAB				*i* IAML		11 09 57.8	
PCAB				*i* IAML		11 10 00.7	
PCAB				*i* IAML		11 10 01.3	
ELOB	**Lobios**	**5.21**	**336**	Pn	Pn	11 08 28.0	-2.1
ELOB				Sn	Sn	11 09 25.9	-4.8
ELOB				Sg	Sg	11 09 56.2	-2.2
ELOB				*i* IVmb_Lg		11 10 03.7	
PGAV	**Gavieira, Arco**	**5.36**	**335**	*e*Pn	Pn	11 08 30.4	-1.9
PGAV				*e*Sn	Sn	11 09 30.5	-4.1
PGAV				*e*Sg	Sg	11 10 03.2	-0.2
PGAV				*i* IAML		11 10 09.5	
PGAV				*i* IAML		11 10 11.8	
PGAV				*i* IAML		11 10 12.1	
EAGO	**Agolada(Pontev**	**6.07**	**340**	Sg	Sg	11 10 24.8	-1.2
EALK	**Alkurruntz**	**6.71**	**24**	Pn	Pn	11 08 50.5	-0.2
EALK				Sn	Sn	11 09 59.7	-8.0

*NEIC **26** 11:08:32.2±1.3,7˚.17S±0˚.06×150˚.60E±0˚.08,h10km±1km, mb5.1/99,Error ellipse: s-maj=12.8km s-min=9.6km az=87.0*
*BJI **26** 11:08:36.2,7˚.51S×150˚.11E,h41km,mb4.8/13*
*IDC **26** 11:08:38.1±2.5,7˚.01S×150˚.29E,h60km±23km,mb4.1/18, mbtmp4.5/20,ML2.6/1,MS3.6/9,Error ellipse: s-maj=16.4km s-min=14.0km az=84.0*
*DJA **26** 11:08:40.1±1.3,8˚.5S±6˚×15˚.0E±˚,h35km±13km,M4.8/9, mb4.7/9,mB5.2/2,MLv4.9/1,Mw(mB)4.6/2*
ISC 26 11:08:35.2±0.4,7˚.18S±0˚.06×150˚.46E±0˚.06,h26km,n313, σ1s06/268,mb5.0/72,MS3.6/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.42**	**30**		**Pn**	**11 09 24.5**	**-2.4**
PMG	**Port Moresby**	**3.95**	**236**		**Pn**	**11 09 35.2**	**+1.1**
PMG	**Port Moresby**	**3.95**	**236**	P	**Pn**	**11 09 35.8**	**+1.7**
	32nm,0.3s,baz=56,slow=10,SNR=50						
PMG				S	**Sn**	**11 10 22.1**	**+2.5**
	584nm,1.0s,baz=2.3,slow=20,SNR=11						
PMG				LR	LR	11 11 24.3	
	comp=Z,618nm,21.2s,baz=82,slow=42						
	257nm,0.6s						
MANU	**Manus Island**	**5.96**	**329**		**Pn**	**11 10 02.2**	**+0.4**
HNR	**Honiara**	**9.65**	**104**	P	**Pn**	**11 10 57.1**	**+4.5**
	22nm,0.3s,baz=151,slow=4.9,SNR=4.6						
HNR				LR	LR	11 13 32.9	
	comp=Z,102nm,20.6s,baz=349,slow=30						
COEN	**Coen**	**9.83**	**226**	Pn	**Pn**	**11 10 54.7**	**-0.3**
JAY	**Jayapura**	**10.76**	**295**	LR	LR	11 15 57.8	
	comp=Z,259nm,18.1s,baz=26,slow=42						
CTAO	**Charters Tower**	**13.47**	**197**	Pn	**Pn**	**11 11 44.7**	**-0.2**
EIDS	**Eidsvold**	**18.10**	**178**		**Pn**	**11 12 42.6**	**-2.4**
FAKI	**Fak Fak**	**18.62**	**282**		**P**	**11 12 50.3**	**-0.7**
FAKI	**Fak Fak**	**18.62**	**282**	P	**P**	**11 12 51.9**	**+0.9**
WB0	**Warramunga Arr**	**19.99**	**230**		**P**	**11 13 05.6**	**-0.4**
WR8	**Warramunga Arr**	**20.02**	**229**		**P**	**11 13 05.8**	**-0.5**
WRAB	**Tennant Creek**	**20.12**	**229**	P	**P**	**11 13 06.6**	**-0.8**
WRA	**Warramunga Arr**	**20.14**	**229**	P	**P**	**11 13 05.8**	**-1.8**
WRA	**Warramunga Arr**	**20.14**	**229**	P	**P**	**11 13 06.7**	**-0.9**
	30nm,0.6s,baz=56,slow=11,SNR=296						
WRA				LR	LR	11 20 50.4	
	comp=Z,147nm,20.1s,baz=48,slow=36						
	30nm,0.6s						
GUMO	**Guam**	**21.36**	**345**	LR	LR	11 19 58.9	
	comp=Z,146nm,21.5s,baz=166,slow=32						
DZM	**Mont Dzumac**	**21.38**	**136**	P	**P**	**11 13 23.0**	**+1.9**
	6.6nm,0.6s,baz=312,slow=15,SNR=7.2						
	6.6nm,0.6s						
INKA	**Innaminka**	**22.43**	**203**		**P**	**11 13 31.0**	**-1.2**
AS31	**Alice Springs**	**22.83**	**222**		**P**	**11 13 35.

BTO sS sS 11 27 20.0 +14
BTO pmax pmax
comp=Z,12nm,0.8s
LZH Lanzhou 61.36 318 *e*P P 11 18 49.0 -0.3
LZH pmax pmax
comp=Z,16nm,1.3s
SONM Songino Array 67.12 329 P P 11 19 24.4 -2.4
comp=Z,1.3nm,0.5s,baz=142,slow=5.6,SNR=7.2
comp=Z,1.3nm,0.5s
NIKH Nikolski High 69.13 25 P P 11 19 38.3 -0.8
baz=224
VNDA Vanda 70.57 177 P P 11 19 47.9 +0.2
comp=Z,1.0nm,0.6s,baz=334,slow=6.6,SNR=4.1
comp=Z,1.0nm,0.6s
UNV Unalaska Valle 70.74 25 P P 11 19 48.3 -0.7
baz=226
P08K Saint George I 71.52 22 P P 11 19 53.6 0.0
baz=222
SPIA Saint Paul Isl 71.69 21 P P 11 19 53.9 -0.8
baz=221
SDPT Sand Point 74.37 27 P P 11 20 10.1 -0.4
baz=231
HYB Hyderabad 75.09 290 *e*P P 11 20 15.1 -0.4
S14K Fog Glacier 75.36 26 P P 11 20 17.1 +0.7
baz=232
CHGN Chignik 75.87 27 P P 11 20 19.3 +0.1
baz=233
WMQ Urumqi 75.93 318 *e*P P 11 20 21.0 +1.1
M13K Dall Lake 76.52 22 P P 11 20 23.2 +0.5
baz=227
O14K Tigyukauivet M 76.54 23 P P 11 20 23.1 +0.2
baz=230
N14K Kuskokwak Cree 76.81 23 P P 11 20 24.7 +0.2
baz=229
R16K Pilot Point 77.00 26 P P 11 20 26.4 +0.9
baz=233
O15K Ungalikthiuk R 77.06 24 P P 11 20 26.4 +0.5
baz=231
M14K Bethel 77.25 22 P P 11 20 27.9 +1.0
baz=229
L14K Kuka Creek 77.39 21 P P 11 20 28.5 +0.8
baz=228
R17L Mt. Peulik Vol 77.57 26 P P 11 20 29.4 +0.6
baz=234
N15K Kwethluk River 77.58 23 P P 11 20 29.3 +0.5
baz=230
M15K Kasigluk River 77.69 22 P P 11 20 29.6 +0.2
baz=230
P16K Nushagak River 77.71 24 P P 11 20 29.8 +0.3
baz=233
O16K Kokwok River B 78.01 24 P P 11 20 32.1 +0.9
baz=232
Q16K King Salmon 78.06 25 P P 11 20 31.3 -0.1
baz=234
Q17K Contact Creek 78.14 26 P P 11 20 31.8 -0.3
baz=235
N16K Nishlik Lake 78.29 23 P P 11 20 33.3 +0.5
baz=232
ACHA Angle Creek He 78.35 26 IAmb IAmb 11 20 33.4
comp=Z,7.9nm,0.7s
K15K Wolf Creek Mou 78.43 21 P P 11 20 34.2 +0.8
baz=229
O17K Koliganek Bris 78.52 24 P P 11 20 34.1 +0.1
baz=233
M16K Timber Creek 78.55 23 IAmb IAmb 11 20 35.0
comp=Z,13nm,0.9s
M16K Timber Creek 78.55 23 P P 11 20 34.3 +0.1
baz=231
TNA Tin City 78.71 16 P P 11 20 35.4 +0.5
baz=222
OHAK Old Harbor 78.71 27 P P 11 20 35.1 0.0
baz=237
ANM Nome 78.73 18 P P 11 20 34.8 -0.3
baz=225
Q18K Katmai Hardscr 78.74 26 P P 11 20 35.3 -0.1
baz=235
L16K Owhat River 78.79 22 P P 11 20 35.1 -0.4
baz=231
N17K Nushagak Hills 78.94 24 P P 11 20 36.0 -0.3
baz=233
P18K Big Mountain, 79.07 25 P P 11 20 36.7 -0.4
baz=235
F14K Arctic Creek 79.10 17 P P 11 20 37.0 -0.1
baz=224
M17K Holitna River 79.37 23 P P 11 20 39.1 +0.5
baz=233
G15K Niukluk 79.44 18 P P 11 20 39.4 +0.4
baz=226
Q19K Cape Douglas, 79.49 26 P P 11 20 39.3 -0.1
baz=237
L17K Donlin 79.50 22 P P 11 20 39.4 +0.1
baz=232
K17K Iditarod 79.85 21 P P 11 20 42.1 +0.9
baz=232
O19K Port Alsworth 79.91 25 P P 11 20 41.4 -0.1
baz=236
J17K VABM Dome 80.00 21 P P 11 20 42.0 0.0
baz=231
M18K Stony River 80.05 23 P P 11 20 42.2 -0.1
baz=234
P19K Oil Pt 80.06 25 P P 11 20 41.9 -0.6
baz=237
L18K Granite Mounta 80.15 22 P P 11 20 43.9 +1.0
baz=233
N19K Bonanza Creek 80.19 24 P P 11 20 43.7 +0.5
baz=236
MKAR Makanchi Array 80.60 320 P P 11 20 42.4 -3.2
comp=Z,0.4nm,0.4s,baz=106,slow=7.7,SNR=4.2
comp=Z,0.4nm,0.4s
H17K Granite Mounta 80.70 19 P P 11 20 45.9 +0.1
baz=230
L19K White Mountain 80.82 23 P P 11 20 46.5 0.0
baz=235
G17K Kiwalik Mounta 80.83 19 P P 11 20 46.6 +0.2
baz=229
J18K Innoko River 80.88 21 P P 11 20 46.9 +0.1
baz=233
M20K Styx River 81.33 24 IAmb IAmb 11 20 59.9
comp=Z,4nm,1.9s
M20K Styx River 81.33 24 P P 11 20 49.0 -0.3
baz=237
L20K Farewell, AK 81.37 23 P P 11 20 49.2 -0.2
baz=236
E17K Hotham Inlet 81.53 17 P P 11 20 51.1 +0.9
baz=228
CAPN Captain Cook N 81.54 25 P P 11 20 51.2 +0.9
baz=239
J19K Poorman 81.59 21 P P 11 20 50.6 +0.1
baz=234
D17K Noatak River 81.59 16 P P 11 20 50.3 -0.2
baz=227
GCSA Galena City Sc 81.60 20 P P 11 20 50.8 +0.3
baz=233
G18K Tagagawik 81.72 19 P P 11 20 50.9 -0.3
baz=231
K20K Telida 81.79 22 P P 11 20 51.8 +0.2
baz=236
ZALV Zalesovo Beam 81.84 327 P P 11 20 48.5 -3.6
comp=Z,1.5nm,0.5s,baz=125,slow=5.1,SNR=6.2
comp=Z,1.5nm,0.5s
SEW Seward 81.92 26 P P 11 20 52.3 -0.1
baz=240
H19K Roundabout Mou 82.22 20 P P 11 20 54.2 +0.5
baz=233
J20K Nowinta River 82.23 21 IAmb IAmb 11 20 55.0
comp=Z,14nm,1.1s
J20K Nowinta River 82.23 21 P P 11 20 54.5 +0.6
baz=235
RC01 Rabbit Creek A 82.30 25 P P 11 20 54.8 +0.5
baz=240
G19K Purcell Mounta 82.38 19 IAmb IAmb 11 20 56.3
comp=Z,16nm,1.4s
G19K Purcell Mounta 82.38 19 P P 11 20 55.1 +0.5
baz=232
I20K Naaghadeneel 82.46 21 P P 11 20 55.5 +0.5
baz=235
M22K Willow 82.47 24 P P 11 20 54.9 -0.2
baz=239
MAW Mawson 82.50 203 P P 11 20 55.6 +0.4
comp=Z,2.4nm,1.0s,baz=90,slow=7.1,SNR=3.1
comp=Z,2.4nm,1.0s
F19K Shaleruckik Mo 82.59 18 P P 11 20 55.4 -0.3
F19K IAmb IAmb 11 22 05.8
comp=Z,34nm,2.0s
F19K Shaleruckik Mo 82.59 18 P P 11 20 55.8 +0.1
baz=232
H20K Anotleneega Mo 82.72 20 P P 11 20 56.4 -0.1
baz=235
CHUM Lake Minchumin 82.73 22 P P 11 20 56.6 +0.1
baz=237
C18K Utukok River 82.76 16 P P 11 20 56.9 +0.2
baz=228
P23K Montague Islan 82.78 27 P P 11 20 57.0 +0.2
baz=242
PMR Palmer 82.80 25 P P 11 20 56.8 -0.1
baz=240
QSPA South Pole Qui 82.80 180 P P 11 20 55.5 -1.5
QSPA South Pole Qui 82.80 180 P P 11 20 56.9 -0.1
comp=Z,11nm,1.1s,baz=338,slow=1.4,SNR=6.8
comp=Z,11nm,1.1s
KNK Knik Glacier 82.99 25 P P 11 20 57.7 -0.3
baz=241
E19K Redstone River 83.14 18 IAmb IAmb 11 21 00.2
comp=Z,11nm,0.9s
E19K Redstone River 83.14 18 P P 11 20 59.0 +0.4
baz=232
SML Sawmill 83.24 25 P P 11 20 58.9 -0.3
SML Sawmill 83.24 25 P P 11 20 59.4 +0.2
baz=241
TRF Thorofare Moun 83.27 23 P P 11 20 58.9 -0.7
baz=239
BPAW Bear Paw Mtn. 83.35 22 P P 11 20 58.5 -1.2
baz=238
F20K Avaraart Lake 83.36 19 P P 11 20 59.6 -0.1
baz=234
IMAR Indian Mountai 83.39 20 P P 11 20 59.1 -0.7
C19K Lookout Ridge 83.50 16 P P 11 21 00.7 +0.3
baz=230
D19K Kuna River 83.52 17 P P 11 20 59.5 -1.1
baz=231
H21K Melozitna Rive 83.53 20 P P 11 21 00.8 +0.2
baz=236
WAT1 Susitna Watana 83.65 24 P P 11 21 00.6 -0.7
baz=241
SCM Sheep Creek Mo 83.67 25 P P 11 21 01.2 -0.3
baz=242
G21K Allakaket 83.77 20 P P 11 21 01.8 0.0
baz=236
RND Reindeer 83.81 23 IAmb IAmb 11 21 01.7
comp=Z,15nm,0.8s
A19K Wainwright 83.83 15 P P 11 21 03.1 +1.1
baz=228
WAT6 Susitna Watana 83.85 24 P P 11 21 01.8 -0.7
baz=242
MLY Manley 83.93 21 P 11 21 01.9 -0.8
MLY IAmb IAmb 11 21 03.0
comp=Z,14nm,1.0s
MLY Manley 83.93 21 P P 11 21 02.4 -0.3
baz=238
MCK McKinley 83.94 23 P P 11 21 02.1 -0.7
baz=240
E20K Nigu River 83.94 17 P P 11 21 03.3 +0.5
baz=233
D20K Etluk River 84.09 17 P P 11 21 04.0 +0.6
baz=233
KLU Klutina 84.11 26 P P 11 21 03.8 +0.1
baz=243
H22K Ishtalitna Cre 84.16 21 P P 11 21 03.8 -0.1
baz=238
F21K Alatna River 84.18 19 P P 11 21 03.7 -0.2
baz=236
DHY Denali Highway 84.24 24 IAmb IAmb 11 21 05.2
comp=Z,6nm,0.8s
DHY Denali Highway 84.24 24 P P 11 21 03.7 -0.7
baz=242
KURBB Kurchatov Arra 84.24 323 P P 11 21 02.0 -2.5
comp=Z,2.0nm,0.2s,baz=114,slow=4.2,SNR=6.9
comp=Z,2.0nm,0.2s
M24K Tolsona, Glenn 84.28 25 P P 11 21 04.7 +0.1
baz=243
NEA2 Nenana 84.32 22 IAmb IAmb 11 21 04.1
comp=Z,9.5nm,0.9s
NEA2 Nenana 84.32 22 P P 11 21 04.0 -0.7
baz=240
BMRM Bremner River 84.45 26 P P 11 21 04.6 -0.9
baz=244
I23K Minto, Yukon-K 84.49 22 IAmb IAmb 11 21 45.9
comp=Z,27nm,1.8s
I23K Minto, Yukon-K 84.49 22 P P 11 21 04.7 -0.8
baz=240
G22K Bettles 84.66 20 P P 11 21 06.5 +0.2
baz=238
E21K Killik River 84.72 18 IAmb IAmb 11 21 07.4
comp=Z,8.3nm,0.8s
E21K Killik River 84.72 18 P P 11 21 06.9 +0.2
baz=235,SNR=6.1
N25K Chitina, Valde 84.73 26 P P 11 21 06.7 -0.2
baz=244
B20K Meade River 84.73 16 P P 11 21 06.9 +0.3
baz=232
F22K John River 84.76 19 P P 11 21 07.0 +0.1
baz=237
H23K Yukon River 84.76 21 IAmb IAmb 11 21 07.6
comp=Z,9.7nm,1.0s
H23K Yukon River 84.76 21 P P 11 21 06.8 -0.1
baz=240
CCB Clear Creek Bu 84.82 22 IAmb IAmb 11 21 06.4
comp=Z,14nm,1.1s
HARP HAARP 84.84 25 P P 11 21 07.3 0.0
baz=244
C21K Knifeblade Rid 84.89 17 P P 11 21 07.3 -0.2
baz=234
COLA College 84.91 22 P P 11 21 06.1 -1.5
COLA IAmb IAmb 11 21 07.3
comp=Z,16nm,0.9s
COLA College 84.91 22 P P 11 21 06.8 -0.8
baz=241
PAX Paxson 84.96 24 P P 11 21 07.4 -0.7
baz=244
CRQE Cirque 85.03 27 P P 11 21 07.9 -0.6
baz=246
HDA Harding Lake 85.03 23 IAmb IAmb 11 22 22.2
comp=Z,18nm,1.6s
HDA Harding Lake 85.03 23 P P 11 21 07.2 -1.1
baz=242
G23K Bananza Creek 85.05 20 IAmb IAmb 11 21 09.7
comp=Z,14nm,1.1s
G23K Bananza Creek 85.05 20 P P 11 21 08.6 +0.2
baz=239,SNR=7.0
POKR Poker Plat Res 85.18 22 P P 11 21 08.3 -0.7
baz=242
B21K Ikpikpuk River 85.21 17 P P 11 21 09.2 +0.3
baz=234
K24K Donnelly Dome 85.21 24 IAmb IAmb 11 21 09.8
comp=Z,11nm,0.9s
K24K Donnelly Dome 85.21 24 P P 11 21 08.1 -1.2
baz=243
E22K Anaktuvuk Pass 85.22 19 IAmb IAmb 11 21 10.0
comp=Z,8.5nm,0.9s
E22K Anaktuvuk Pass 85.22 19 P P 11 21 09.1 -0.1
baz=237
IL31 85.22 22 IAmb IAmb 11 21 08.7
comp=Z,10nm,0.8s
ILAR Eielson Array 85.22 22 P P 11 21 07.6 -1.7
ILAR Eielson Array 85.22 22 P P 11 21 07.0 -2.2
comp=Z,7.1nm,0.8s,baz=253,slow=4.8,SNR=34
comp=Z,7.1nm,0.8s
COLD Coldfoot 85.26 20 P P 11 21 09.3 -0.1
baz=239
MCARA McCarthy VSAT 85.32 26 P P 11 21 10.3 +0.5
baz=246
D22K Ayikyak River 85.36 18 P P 11 21 10.6 +0.8
baz=236,SNR=5.0
H24K Noodor Dome 85.37 21 P P 11 21 10.2 +0.2
baz=241
J25K Salcha River, 85.73 23 IAmb IAmb 11 21 11.9
comp=Z,17nm,0.9s
J25K Salcha River, 85.73 23 P P 11 21 11.1 -0.7
baz=244,SNR=13
M26K Nabesna, AK 85.75 25 P P 11 21 11.8 -0.1
baz=246
BARN Barnard Glacie 85.80 27 IAmb IAmb 11 21 13.5
comp=Z,14nm,1.0s
L26K Log Cabin Wild 85.86 25 P P 11 21 13.1 +0.7
baz=245
E23K Chandalar 85.88 19 P P 11 21 13.1 +0.6
baz=239
CTG Chitna Glacier 85.90 27 P P 11 21 13.1 +0.3
baz=247
CTGM Chitina Glacie 85.91 27 IAmb IAmb 11 21 14.0
comp=Z,20nm,1.0s
G24K Hadweenzic Riv 85.92 21 IAmb IAmb 11 21 13.5
comp=Z,9.8nm,1.0s
G24K Hadweenzic Riv 85.92 21 P P 11 21 12.9 +0.2
baz=241,SNR=5.2
SCRK Sand Creek 86.00 24 P 11 21 12.3 -0.9
baz=245,SNR=5.8
SCRK Sand Creek 86.00 24 P P 11 21 13.0 -0.3
baz=245,SNR=5.8
D23K Nanushuk River 86.01 18 P P 11 21 14.1 +1.0
baz=238,SNR=12
PINM Pinnacle 86.08 28 P P 11 21 13.6 -0.1
baz=248
PRP Porcupine Dome 86.08 22 P P 11 21 13.5 -0.2
baz=243
F24K Squaw Lake 86.18 20 IAmb IAmb 11 21 15.2
comp=Z,10nm,0.8s
F24K Squaw Lake 86.18 20 P P 11 21 14.4 +0.5
baz=241,SNR=8.6
TOLK Toolik Lake Re 86.19 19 P P 11 21 14.2 +0.2
baz=239
M27K Edge Creek, AK 86.21 26 P P 11 21 14.8 +0.5
baz=247
E24K Your Creek 86.25 19 P P 11 21 14.5 +0.2
baz=240
H25L Birch Creek 86.31 21 P P 11 21 15.2 +0.6
baz=243
O28M Mount Upton 86.35 27 P P 11 21 15.7 +0.4
baz=248
J26L Joseph Creek 86.39 23 P P 11 21 15.1 0.0
baz=245,SNR=5.5
G25K Bearman Lake 86.44 21 P P 11 21 15.2 +0.1
baz=243
C23K Itkillik River 86.49 17 P P 11 21 15.7 +0.4
baz=238
L27K Beaver Creek, 86.51 25 IAmb IAmb 11 21 17.4
comp=Z,12nm,1.1s
L27K Beaver Creek, 86.51 25 P P 11 21 16.0 +0.4
baz=247
BCAR Beaver Creek A 86.53 25 P P 11 21 15.9 +0.1
D24K Happy Valley 86.68 18 IAmb IAmb 11 21 18.1
comp=Z,16nm,1.1s
D24K Happy Valley 86.68 18 P P 11 21 17.2 +0.9
baz=240
K27K Chicken 86.79 24 IAmb IAmb 11 21 18.6
comp=Z,18nm,0.9s
K27K Chicken 86.79 24 P P 11 21 17.7 +0.8
baz=246
I26K Coal Creek Min 86.88 23 P P 11 21 17.6 +0.2
baz=246
O29M Mount Kennedy 86.93 28 P P 11 21 18.3 +0.4
baz=250
F25K Christian Rive 86.97 20 P P 11 21 18.2 +0.3
baz=243
C24K Franklin Bluff 87.00 18 P P 11 21 17.8 0.0
baz=240
P29M Windy Craggy 87.10 29 P P 11 21 18.9 +0.3
baz=251
E25K Arctic Village 87.24 20 P P 11 21 19.7 +0.6
baz=243
YUK6 Outpost Mounta 87.25 28 P P 11 21 19.8 +0.3
baz=250
YUK4 Talbot Arm 87.26 27 P P 11 21 20.2 +0.7
baz=250
BMAR Burnt Mountain 87.27 20 P P 11 21 19.6 +0.3
G26K Porcupine Rive 87.34 21 P P 11 21 20.2 +0.7
baz=245,SNR=13
EGAK Eagle 87.45 24 P P 11 21 20.4 +0.2
baz=247,SNR=15
D25K Kavik River 87.53 18 P P 11 21 20.5 0.0
baz=250
F26K Sheenjek River 87.53 20 IAmb IAmb 11 21 22.0
comp=Z,8.6nm,1.1s
F26K Sheenjek River 87.53 20 P P 11 21 21.1 +0.5
baz=244
I27K Kandik River 87.59 23 P P 11 21 21.3 +0.4
baz=247,SNR=14
HYT Haines Junctio 87.61 28 P P 11 21 21.9 +0.8
baz=251,SNR=11
P30M Million Dollar 87.63 29 P P 11 21 21.9 +0.7
baz=251
PLBC Pleasant Camp 87.71 29 P P 11 21 22.4 +0.9
baz=252
M29M Somme Creek 87.72 26 P P 11 21 22.4 +0.8
baz=250,SNR=11
H27K Steamboat Moun 87.87 22 P P 11 21 22.7 +0.5
baz=247,SNR=12
DAWY Dawson 87.90 24 P P 11 21 22.4 +0.1
DAWY Dawson 87.90 24 P P 11 21 23.1 +0.8
baz=249,SNR=11
N30M Aishikik Lake 88.00 27 IAmb IAmb 11 21 24.4
comp=Z,12nm,1.2s
N30M Aishikik Lake 88.00 27 P P 11 21 23.6 +0.6
baz=251
G27K Doyon Strip 88.05 22 IAmb IAmb 11 21 24.3
comp=Z,12nm,1.2s
G27K Doyon Strip 88.05 22 P P 11 21 23.6 +0.6
baz=247,SNR=5.6
L29M L29M 88.09 26 P P 11 21 23.9 +0.6
baz=250,SNR=14
I28M Miner Creek 88.18 23 IAmb IAmb 11 21 24.4
comp=Z,11nm,0.9s
I28M Miner Creek 88.18 23 P P 11 21 23.4 -0.3
baz=248,SNR=8.0
SKAG Skagway 88.21 29 P P 11 21 24.3 +0.5
baz=253
O30N Mendenhall 88.25 28 IAmb IAmb 11 21 25.5
comp=Z,2nm,1.1s
O30N Mendenhall 88.25 28 P P 11 21 24.9 +0.7
baz=252,SNR=5.6
C26K Camden Bay 88.26 18 P P 11 21 25.1 +1.2
baz=244
M30M Minto, Yukon 88.50 26 IAmb IAmb 11 21 27.2
comp=Z,14nm,1.0s
M30M Minto, Yukon 88.50 26 P P 11 21 25.6 +0.4
baz=251,SNR=7.2
C27K Jago River 88.51 19 P P 11 21 25.3 +0.2
baz=245
J29N Klondike Camp 88.51 24 P P 11 21 25.8 +0.5
baz=250
K29M Barlow Dome 88.59 25 P P 11 21 26.6 +0.8
baz=251,SNR=19
N31M Braeburn, Yuko 88.61 27 P P 11 21 26.8 +1.0
baz=252,SNR=6.2
E27K Coleen River 88.62 20 P P 11 21 26.5 +0.8
baz=247,SNR=6.3
WHY Whitehorse 88.78 28 P P 11 21 27.0 +0.3
baz=253
I29M Ogilvie Camp, 88.79 23 IAmb IAmb 11 21 27.2
comp=Z,13nm,0.9s
I29M Ogilvie Camp, 88.79 23 P P 11 21 26.6 +0.1
baz=250,SNR=9.5
F28M Old Crow 89.00 21 IAmb IAmb 11 21 28.5
comp=Z,8.7nm,1.0s
F28M Old Crow 89.00 21 P P 11 21 27.6 +0.1
baz=248
D27M Malcolm River 89.24 19 P P 11 21 28.9 +0.2
baz=247
J30M Hart River 89.32 24 IAmb IAmb 11 21 30.5
comp=Z,9.7nm,0.9s
J30M Hart River 89.32 24 P P 11 21 29.9 +0.7
baz=252,SNR=7.7
G29M Pine Creek 89.43 22 P P 11 21 30.1 +0.6
baz=250
M31M Drury Creek, Y 89.45 27 IAmb IAmb 11 21 30.4
comp=Z,11nm,1.1s
M31M Drury Creek, Y 89.45 27 P P 11 21 30.2 +0.5
baz=254
E28M Babbage River 89.48 20 IAmb IAmb 11 21 30.9
comp=Z,16nm,1.4s
E28M Babbage River 89.48 20 P P 11 21 30.4 +0.7
baz=249
I30M Mount Dempster 89.51 24 IAmb IAmb 11 21 30.8
comp=Z,9.9nm,1.1s
I30M Mount Dempster 89.51 24 P P 11 21 29.9 -0.1
baz=252
P33M Teslin, Yukon 89.64 29 P P 11 21 30.2 -0.5
baz=255
EPYK Eagle Plains 89.74 23 IAmb IAmb 11 21 31.7
comp=Z,14nm,0.8s
EPYK Eagle Plains 89.74 23 P P 11 21 31.1 +0.2
baz=251,SNR=5.8
BVAR Borovoye Array 89.74 323 P P 11 21 28.1 -3.1
comp=Z,2.2nm,0.7s,baz=100,slow=6.5,SNR=7.9
comp=Z,2.2nm,0.7s
N32M Quiet Lake 89.76 28 P P 11 21 30.9 -0.4
baz=255
E29M Blow River 89.97 21 P P 11 21 32.5 +0.5
baz=250
G30M tAoh Zraii Nji 90.12 22 IAmb IAmb 11 21 34.2
comp=Z,12nm,1.1s
G30M tAoh Zraii Nji 90.12 22 P P 11 21 32.9 +0.2
baz=252
R33M Jennings River 90.35 30 P P 11 21 34.1 0.0
baz=256

F30M	**Barrier River**	**90.47**	**22**	P	**P**	11 21 34.2	**-0.1**
	baz=252							
H31M	**Peel River**	**90.49**	**23**	P	**P**	11 21 34.3	**-0.2**
	baz=254							
G31M	**Satah River**	**90.84**	**22**	IAmb	IAmb	11 21 36.4		
	comp=Z,11nm,0.8s							
G31M	**Satah River**	**90.84**	**22**	P	**P**	11 21 35.7	**-0.3**
	baz=254							
MMPY	**Sheldon Lake,**	**90.96**	**27**	P	**P**	11 21 36.0	**-0.8**
	baz=256							
F31M	**Tsiigehtchic**	**91.18**	**22**	P	**P**	11 21 37.1	**-0.5**
	baz=254							
INK	**Inuvik**	**91.49**	**21**	IAmb	IAmb	11 21 39.5		
	comp=Z,7.4nm,0.9s							
INK	**Inuvik**	**91.49**	**21**	P	**P**	11 21 38.5	**-0.5**
	baz=254							
WTLY	**Watson Lake, Y**	**91.58**	**30**	P	**P**	11 21 40.9	**+1.2**
	baz=258							
TGTN	**Hyland Airport**	**92.11**	**28**	P	**P**	11 21 43.0	**+0.9**
	baz=259							
TOAD	**Toad River Com**	**93.14**	**31**	P	**P**	11 21 47.9	**+0.9**
	baz=261							
NVAR	**Mina Array Bea**	**95.37**	**52**	P	**P**	11 21 58.2	**+0.3**
	comp=Z,1.3nm,0.8s,baz=258,slow=4.8,SNR=8.2							
	comp=Z,1.3nm,0.8s							
SNAA	**Sanae**	**99.37**	**188**	LR	LR	12 04 57.7		
	comp=Z,2µm,21.1s,baz=28,slow=34							
PDAR	**Pinedale Array**	**102.16**	**48**	P	**Pdif**	11 22 28.1	**-0.2**
	comp=Z,0.5nm,0.8s,baz=256,slow=4.1,SNR=3.2							
MD01	**Midelt array s**	**145.61**	**321**		**PKPdf**	11 28 10.9	**-1.2**
BOAV	**Boa Vista**	**148.78**	**97**		**PKPbc**	11 28 21.7	**+0.2**
BDFB	**Brasilia**	**150.87**	**141**	PKPbc	**PKPbc**	11 28 26.0	**-0.7**
	comp=Z,5.4nm,0.4s,baz=198,slow=3.2,SNR=7.6							

*AFAD **26** 11:08:59.1,40.84N×28.27E,h7km±2km,MW4.0*
*ISK **26** 11:08:59.1,40.86N×28.28E,h6km,ML3.0/35*
ISC 26 11:08:59.4±1.0,**40.86N**±0.02×**28.28E**±0.02,**h11**km±9km,
n56,σ0°**49**/**77**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELBA	**Catalca**	**0.32**	**22**	P	**Pg**	**11 09 05.8**	**0.0**
ELBA				S	**Sg**	**11 09 10.4**	**+0.3**
SLVT	**Silivri**	**0.38**	**352**	Pg	**Pg**	**11 09 07.3**	**+0.3**
SLVT				Sg	**Sb**	**11 09 13.2**	**-0.9**
CTKS	**Kestanelik-??a**	**0.42**	**25**	Pg	**Pg**	**11 09 07.6**	**-0.1**
CTKS				Sg	**Sg**	**11 09 13.6**	**+0.3**
BGKT	**Bogazkoy**	**0.50**	**49**	Pg	**Pg**	**11 09 09.2**	**0.0**
BGKT				Sg	**Sg**	**11 09 16.1**	**+0.3**
BAND	**Balkesir-Ban**	**0.52**	**195**	P	**Pg**	**11 09 09.6**	**0.0**
BAND				S	**Sg**	**11 09 16.4**	**0.0**
ARMT	**Armutlu**	**0.53**	**123**	Pg	**Pb**	**11 09 10.1**	**-0.7**
TKR	**Tekirdag**	**0.58**	**284**	Pg	**Pg**	**11 09 10.6**	**-0.1**
TKR				Sg	**Sb**	**11 09 19.8**	**0.0**
EDC	**Edincik**	**0.60**	**212**	Pg	**Pb**	**11 09 11.2**	**-0.7**
CTYL	**Yalikoy Yolu**	**0.62**	**1**	Pg	**Pg**	**11 09 11.4**	**-0.1**
CTYL				Sg	**Sg**	**11 09 19.8**	**+0.1**
ISK	**Istanbul-Kandi**	**0.63**	**70**	Pg	**Pg**	**11 09 11.8**	**+0.1**
MDNY	**Mudanya-Bursa**	**0.67**	**136**	Pg	**Pb**	**11 09 12.7**	**-0.4**
KLYT	**Kilyos**	**0.70**	**55**	Pg	**Pg**	**11 09 13.1**	**+0.1**
KURT	**Yalova, Merkez**	**0.76**	**110**	P	**Pg**	**11 09 13.8**	**-0.2**
KURT				S	**Sb**	**11 09 24.7**	**-0.3**
VIZE	**Kirklareli, Vi**	**0.79**	**336**	P	**Pg**	**11 09 14.4**	**-0.4**
VIZE				S	**Sg**	**11 09 25.1**	**-0.1**
SART	**Tekirdag**	**0.85**	**259**	P	**Pg**	**11 09 15.6**	**-0.2**
SART				S	**Sb**	**11 09 28.0**	**+0.3**
KRBG	**Karabiga-Canak**	**0.88**	**239**	Pg	**Pb**	**11 09 16.4**	**-0.2**
YLV	**Yalova**	**0.88**	**109**	Pg	**Pb**	**11 09 16.6**	**-0.2**
GONE	**Gonen-Balikesi**	**0.92**	**209**	Pg	**Pb**	**11 09 17.7**	**+0.2**
ORLT	**Orhaneli**	**0.94**	**149**	Pg	**Pb**	**11 09 17.8**	**+0.1**
PHSR	**Pinarhisar**	**0.96**	**324**	Pg	**Pg**	**11 09 17.7**	**-0.2**
ULDT	**Uludag**	**0.97**	**137**	P	**Pg**	**11 09 17.9**	**-0.2**
ULDT				S	**Sb**	**11 09 31.2**	**0.0**
HRT	**Hereke**	**1.06**	**91**	Pg	**Pg**	**11 09 19.4**	**-0.4**
SILT	**Sile**	**1.08**	**73**	Pg	**Pb**	**11 09 20.1**	**0.0**
SEMS	**Kocaeli-K¶rfe**	**1.11**	**89**	P	**Pg**	**11 09 20.3**	**-0.5**
SEMS				S	**Sb**	**11 09 35.1**	**0.0**
OSMT	**Osmaniye**	**1.11**	**103**	Pn	**Pb**	**11 09 20.9**	**+0.2**
ADVT	**Abdulvahap**	**1.19**	**110**	Pn	**Pg**	**11 09 21.6**	**-0.7**
ARMN	**Kirklareli, Me**	**1.19**	**328**	P	**Pg**	**11 09 21.4**	**-1.0**
ARMN				S	**Sg**	**11 09 37.5**	**-0.4**
KESN	**Edirne-Kesan**	**1.21**	**269**	P	**Pg**	**11 09 22.1**	**-0.7**
KESN				S	**Sb**	**11 09 38.7**	**+0.3**
YENI	**Yenice-Canakka**	**1.21**	**221**	Pn	**Pg**	**11 09 22.2**	**-0.5**
BALY	**Balya**	**1.22**	**204**	P	**Pg**	**11 09 22.3**	**-0.6**
BALY				S	**Sn**	**11 09 39.2**	**+0.1**
LPK	**Lapseki**	**1.25**	**248**	Pn	**Pn**	**11 09 22.9**	**0.0**
CANM	**Can-anakkale**	**1.26**	**228**	Pn	**Pn**	**11 09 22.7**	**-0.3**
DURS	**Dursunbey**	**1.26**	**173**	P	**Pb**	**11 09 23.2**	**-0.1**
DURS				S	**Sn**	**11 09 40.2**	**+0.1**
UKOP	**Uzunkopru-Edir**	**1.27**	**283**	Pn	**Pg**	**11 09 23.7**	**-0.2**
DST	**Dursunbey**	**1.28**	**168**	Pn	**Pg**	**11 09 24.4**	**+0.4**
KIRK	**Kırklareli**	**1.28**	**317**	P	**Pn**	**11 09 22.6**	**-0.7**
KIRK				S	**Sb**	**11 09 40.4**	**+0.3**
HISA	**Bilecik-Osmane**	**1.31**	**107**	P	**Pn**	**11 09 23.8**	**+0.1**
HISA				S	**Sn**	**11 09 41.7**	**+0.4**
ERIK	**Erikli-Kesan**	**1.35**	**263**	Pn	**Pn**	**11 09 24.0**	**-0.2**
BILE	**Bilecik/Merkez**	**1.40**	**119**	P	**Pn**	**11 09 25.0**	**0.0**
BILE				S	**Sg**	**11 09 44.8**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.45**	**252**	Pn	**Pn**	**11 09 25.3**	**-0.2**
KAND	**Kocaeli-Kandir**	**1.47**	**80**	P	**Pn**	**11 09 26.5**	**-0.3**
KAND				S	**Sg**	**11 09 46.1**	**-0.7**
EDRB	**Edirne**	**1.52**	**311**	Pn	**Pn**	**11 09 27.1**	**+0.5**
YAYO	**Edremit-Balk**	**1.55**	**217**	Pn	**Pb**	**11 09 28.3**	**+0.2**
SAUV	**Serdivan-Sakar**	**1.56**	**94**	Pn	**Pb**	**11 09 28.1**	**-0.2**
COMU	**Canakkale**	**1.57**	**242**	Pn	**Pb**	**11 09 28.1**	**-0.4**
KAYN	**Sakarya, Kayna**	**1.57**	**85**	P	**Pb**	**11 09 27.9**	**-0.5**
KAYN				S	**Sb**	**11 09 48.4**	**+0.1**
GPA	**Golpazari**	**1.65**	**109**	Pn	**Pb**	**11 09 29.5**	**-0.4**
TVSB	**Tavsanli**	**1.67**	**147**	Pn	**Pb**	**11 09 29.7**	**-0.6**
ALN	**Alexandroupoli**	**1.69**	**272**	Pn	**Pn**	**11 09 29.7**	**+0.8**
GULT	**Gulveren**	**1.75**	**103**	Pn	**Pn**	**11 09 30.8**	**+0.9**
SOMA	**Soma-Manisa**	**1.79**	**199**	Pn	**Pb**	**11 09 31.4**	**-0.8**
EZN	**Ezine**	**1.81**	**236**	Pn	**Pn**	**11 09 31.6**	**+1.0**
GADA	**Gvkgeada**	**1.93**	**251**	Pn	**Pn**	**11 09 33.3**	**+1.1**
BOZC	**Bozcaada**	**1.98**	**240**	Pn	**Pn**	**11 09 33.8**	**+0.9**
RDO	**Rodhopi**	**2.09**	**279**	Pn	**Pn**	**11 09 35.6**	**+1.2**
KDZ	**Kurdzhali**	**2.35**	**290**	Pn	**Pn**	**11 09 39.1**	**+1.2**

*AFAD **26** 11:11:34.5,40.86N×28.24E,h7km±2km,ML3.3*
*ISK **26** 11:11:34.5,40.86N×28.29E,h9km,ML3.6/14*
ISC 26 11:11:34.6±1.0,**40.86N**±0.02×**28.26E**±0.03,**h12**km±10km,
n29,σ0°**42**/**39**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELBA	**Catalca**	**0.32**	**24**	P	**Pg**	**11 11 41.4**	**+0.2**
ELBA				S	**Sg**	**11 11 45.7**	**+0.2**
SLVT	**Silivri**	**0.37**	**354**	Pg	**Pb**	**11 11 42.8**	**-0.4**
CTKS	**Kestanelik-??a**	**0.42**	**26**	Pg	**Pg**	**11 11 43.0**	**0.0**
CTKS				Sg	**Sg**	**11 11 49.0**	**+0.3**
BGKT	**Bogazkoy**	**0.51**	**50**	Pg	**Pg**	**11 11 44.8**	**+0.2**
BGKT				Sg	**Sg**	**11 11 51.8**	**+0.5**
BAND	**Balkesir-Ban**	**0.52**	**194**	P	**Pg**	**11 11 44.8**	**+0.1**
BAND				S	**Sg**	**11 11 50.6**	**-1.0**
ARMT	**Armutlu**	**0.54**	**122**	Pg	**Pb**	**11 11 45.7**	**-0.4**
MRMT	**Marmara Adasi**	**0.56**	**243**	Pg	**Pb**	**11 11 46.4**	**-0.1**
TKR	**Tekirdag**	**0.56**	**284**	Pg	**Pb**	**11 11 46.4**	**0.0**
EDC	**Edincik**	**0.59**	**211**	Pg	**Pb**	**11 11 46.6**	**-0.3**
CTYL	**Yalikoy Yolu**	**0.62**	**2**	Pg	**Pg**	**11 11 46.9**	**+0.2**
CTYL				Sg	**Sb**	**11 11 55.9**	**-0.1**
ISK	**Istanbul-Kandi**	**0.64**	**71**	Pg	**Pg**	**11 11 47.1**	**0.0**
KAVV	**Kandilli-Istan**	**0.64**	**71**	Pg	**Pg**	**11 11 45.9**	**-1.2**
MDNY	**Mudanya-Bursa**	**0.68**	**135**	Pg	**Pg**	**11 11 47.8**	**-0.1**
KLYT	**Kilyos**	**0.71**	**56**	Pg	**Pb**	**11 11 48.7**	**-0.3**
KURT	**Yalova, Merkez**	**0.77**	**110**	P	**Pb**	**11 11 50.3**	**+0.3**
KURT				S	**Sb**	**11 12 00.3**	**0.0**
KURT				*i* IAML		11 12 03.0	
	comp=N,1µm,0.6s						
KURT				*i* IAML		11 12 03.0	
	comp=E,931nm,0.3s						
VIZE	**Kirklareli, Vi**	**0.79**	**336**	P	**Pg**	**11 11 49.5**	**-0.4**
VIZE				S	**Sg**	**11 12 00.3**	**+0.1**
VIZE				*i* IAML		11 12 03.0	
	comp=N,1µm,0.2s						
VIZE				*i* IAML		11 12 03.0	
	comp=E,1µm,0.3s						
KRBG	**Karabiga-Canak**	**0.87**	**238**	Pg	**Pb**	**11 11 51.9**	**+0.3**
YLV	**Yalova**	**0.90**	**109**	Pg	**Pg**	**11 11 51.8**	**-0.2**
SUSR	**Susurluk-Balik**	**0.90**	**189**	Pg	**Pg**	**11 11 52.1**	**0.0**
GONE	**Gonen-Balikesi**	**0.92**	**209**	Pg	**Pb**	**11 11 52.8**	**+0.3**
ORLT	**Orhaneli**	**0.94**	**149**	Pg	**Pb**	**11 11 52.9**	**-0.1**
PHSR	**Pinarhisar**	**0.95**	**325**	Pg	**Pb**	**11 11 53.4**	**+0.4**
ULDT	**Uludag**	**0.98**	**137**	P	**Pb**	**11 11 53.7**	**+0.1**
ULDT				S	**Sb**	**11 12 07.8**	**+1.2**
HRT	**Hereke**	**1.07**	**91**	Pg	**Pb**	**11 11 55.1**	**0.0**
SILT	**Sile**	**1.09**	**74**	Pg	**Pb**	**11 11 55.4**	**0.0**
SEMS	**Kocaeli-K¶rfe**	**1.12**	**89**	P	**Pg**	**11 11 55.8**	**-0.5**
SEMS				S	**Sn**	**11 12 11.4**	**-0.1**
SEMS				*i* IAML		11 12 12.0	
	comp=E,519nm,0.9s						
OSMT	**Osmaniye**	**1.12**	**103**	Pn	**Pb**	**11 11 56.1**	**+0.1**
ARMN	**Kirklareli, Me**	**1.18**	**328**	P	**Pb**	**11 11 56.9**	**-0.1**
ARMN				S	**Sg**	**11 12 12.5**	**-0.4**
EDRB	**Edirne**	**1.51**	**311**	Pn	**Pb**	**11 12 02.4**	**-0.2**

*IDC **26** 11:18:42.5±2.3,37.71S×127.76E,h0km,mb3.6/2,*
mbtmp3.6/3,ML3.1/1,Error ellipse: s-maj=175.0km
s-min=30.0km az=66.0
*DJA **26** 11:18:43.1±0.8,4.7S±8.5×12.8E±.°,h10km,M3.2/6,MLv3.2/6*
ISC 26 11:18:43.6±0.9,**3.6S**±0.1×**128.40E**±0.05,**h10**km,**n7,**
σ0°**60**/**8**,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.24**	**238**	P	**Pg**	**11 18 48.2**	**-0.4**
AAI				S	**Sg**	**11 18 52.2**	**+0.3**
MSAI	**Masohi**	**0.57**	**68**	P	**Pb**	**11 18 55.5**	**-0.1**
MSAI				S	**Sb**	**11 19 04.0**	**+0.3**
NLAI	**Namlea**	**1.34**	**284**	P	**Pb**	**11 19 08.7**	**0.0**
SANI	**Sanana**	**2.84**	**302**	P	**Pn**	**11 19 29.7**	**+0.8**
WRA	**Warramunga Arr**	**17.29**	**161**	P	**P**	**11 22 47.1**	**+0.4**
	0.1nm,0.3s,baz=341,slow=12,SNR=5.2						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**20.69**	**166**	P	Pn	11 23 24.1	-2.2
	2.5nm,0.6s,baz=344,slow=11,SNR=7.8						
	2.5nm,0.6s						
MKAR	**Makanchi Array**	**64.49**	**327**	P	**P**	**11 29 19.7**	**-0.9**
	0.3nm,0.5s,baz=126,slow=7.4,SNR=1.5						
	0.3nm,0.5s						

*IDC **26** 11:25:32.9±2.4,3.01S×130.18E,h0km,mb4.2/3,*
mbtmp4.0/5,ML3.6/2,Error ellipse: s-maj=145.5km
s-min=24.7km az=74.0
*DJA **26** 11:25:37.9±0.4,4.3S±5.1×12.8E±.°,h10km,M3.7/8,MLv3.7/8*
ISC 26 11:25:38.0±0.8,**3.68S**±0.07×**128.41E**±0.04,**h10**km,**n12,**
σ1°**55**/**14**,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.22**	**269**	P	**Pg**	**11 25 42.7**	**+0.2**
AAI				S	**Sg**	**11 25 45.9**	**+0.3**
MSAI	**Masohi**	**0.61**	**57**	P	**Pg**	**11 25 50.3**	**+0.3**
MSAI				S	**Sg**	**11 25 58.8**	**+0.8**
NLAI	**Namlea**	**1.38**	**289**	P	**Pb**	**11 26 03.5**	**-0.4**
BNDI	**Bandanaira**	**1.71**	**119**	P	**Pn**	**11 26 07.4**	**-0.5**
SANI	**Sanana**	**2.91**	**304**	P	**Pn**	**11 26 24.8**	**+0.3**
FAKI	**Fak Fak**	**3.91**	**79**	P	**Pn**	**11 26 38.8**	**+0.7**
SWI	**Sorong**	**3.99**	**46**	P	**Pn**	**11 26 38.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**14.58**	**191**	Pn	**P**	**11 29 14.1**	**+3.0**
	0.1nm,0.3s,baz=21,slow=14,SNR=3.7						
	1.9nm,0.9s						
WRA	**Warramunga Arr**	**17.16**	**161**	P	**Pn**	**11 29 34.6**	**-3.6**
	0.3nm,0.5s,baz=350,slow=12,SNR=20						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**20.56**	**166**	P	**P**	**11 30 17.6**	**+0.4**
	6.8nm,0.7s,baz=348,slow=11,SNR=105						
	6.8nm,0.7s						
MKAR	**Makanchi Array**	**64.60**	**327**	P	**P**	**11 36 15.2**	**-0.5**
	0.4nm,0.4s,baz=124,slow=7.3,SNR=1.4						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**68.87**	**329**	P	**P**	**11 36 41.5**	**-1.3**
	1.6nm,0.2s,baz=126,slow=5.8,SNR=2.6						
	1.6nm,0.2s						

*SOF **26** 11:26:35.5,40.88N±0.02×28.32E±0.01,h16km±3km,*
MD4.4/7
*MOS **26** 11:26:35.6±1.5,40.91N×28.27E,h13km,mb4.3/2,Error*
ellipse: s-maj=7.7km s-min=5.8km az=83.9
*IDC **26** 11:26:35.1±1.0,40.84N×28.18E,h0km,mb3.7/6,*
mbtmp3.7/11,ML3.5/5,Error ellipse: s-maj=16.4km
s-min=10.1km az=43.0
*ISK **26** 11:26:36.2,40.88N×28.29E,h15km,ML4.4/30*
*AFAD **26** 11:26:36.8,40.84N×28.27E,h5km,MW4.1*
*NEIC **26** 11:26:37.6±1.6,40.86N±0.05×28.18E±0.06,h10km±1km,*
mb4.4/8,Error ellipse: s-maj=9.7km s-min=7.5km
az=206.0
*THE **26** 11:26:37.6,41°N±4°×2°8E±.°,h14km,M3.9/10,MLh3.9/10*
*CFUSG **26** 11:26:39.9,41.07N×28.63E,h5km,mb3.5/4,MD3.4/5,*
Western Turkey Magtype MSH 3.8 from 6 stations
ISC 26 11:26:36.8±0.9,**40.85N**±0.01×**28.27E**±0.01,**h11**km±6km,
n221,σ1°**31**/**278**,**mb4.1**/12,**23C-21D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELBA	**Catalca**	**0.32**	**22**	P	**Pg**	**11 26 42.9**	**-0.4**
ELBA				S	**Sg**	**11 26 47.1**	**-0.5**
SLVT	**Silivri**	**0.38**	**353**	Pg	**Pg**	**11 26 44.5**	**+0.1**
SLVT				Sg	**Sg**	**11 26 49.7**	**+0.2**
CTKS	**Kestanelik-??a**	**0.43**	**25**	Pg	**Pg**	**11 26 44.5**	**-0.7**
CTKS				Sg	**Sg**	**11 26 50.4**	**-0.5**
BGKT	**Bogazkoy**	**0.51**	**49**	Pg	**Pg**	**11 26 45.9**	**-0.8**
BGKT				Sg	**Sg**	**11 26 53.3**	**0.0**
BAND	**Balkesir-Ban**	**0.51**	**195**	P	**Pg**	**11 26 46.3**	**-0.4**
BAND				S	**Sg**	**11 26 53.8**	**+0.4**
BAND	**Balkesir-Ban**	**0.51**	**195**	⇓P	**Pg**	**11 26 46.6**	**-0.1**
BAND				⇑S	**Sg**	**11 26 53.6**	**+0.2**
ARMT	**Armutlu**	**0.53**	**122**	Pg	**Pg**	**11 26 47.3**	**+0.2**
ARMT				Sg	**Sb**	**11 26 55.1**	**-0.7**
MRMT	**Marmara Adasi**	**0.57**	**245**	Pg	**Pg**	**11 26 48.3**	**+0.4**
TKR	**Tekirdag**	**0.57**	**285**	Pg	**Pg**	**11 26 48.0**	**0.0**
EDC	**Edincik**	**0.59**	**212**	Pg	**Pb**	**11 26 48.9**	**-0.2**
EDC	**Edincik**	**0.59**	**212**	P	**Pb**	**11 26 48.9**	**-0.2**
CTYL	**Yalikoy Yolu**	**0.63**	**1**	Pg	**Pg**	**11 26 48.5**	**-0.5**
CTYL				Sg	**Sg**	**11 26 56.9**	**-0.3**
CTYL	**Yalikoy Yolu**	**0.63**	**1**	⇓P	**Pb**	**11 26 49.7**	**-0.1**
CTYL				⇑S	**Sb**	**11 26 58.1**	**-0.4**
ISK	**Istanbul-Kandi**	**0.64**	**70**	Pg	**Pg**	**11 26 48.6**	**-0.6**
ISK				Sg	**Sg**	**11 26 57.2**	**-0.3**
ISK	**Istanbul-Kandi**	**0.64**	**70**	P	**Pg**	**11 26 48.5**	**-0.6**
KAVV	**Kandilli-Istan**	**0.64**	**70**	Pg	**Pg**	**11 26 47.3**	**-1.8**
MDNY	**Mudanya-Bursa**	**0.67**	**136**	Pg	**Pg**	**11 26 49.7**	**0.0**
KLYT	**Kilyos**	**0.71**	**55**	Pg	**Pg**	**11 26 50.1**	**-0.4**
KLYT				Sg	**Sg**	**11 26 59.9**	**+0.1**
KLYT	**Kilyos**	**0.71**	**55**	⇑P	**Pg**	**11 26 50.1**	**-0.4**
KLYT				⇓S	**Sb**	**11 27 00.7**	**-0.2**
KURT	**Yalova, Merkez**	**0.76**	**110**	P	**Pg**	**11 26 50.9**	**-0.5**
KURT				P	**Pg**	**11 26 50.9**	**-0.5**
KURT				S	**Sg**	**11 27 01.2**	**-0.1**
VIZE	**Kirklareli, Vi**	**0.80**	**336**	P	**Pg**	**11 26 51.3**	**-0.9**
VIZE				S	**Sg**	**11 27 02.6**	**-0.1**
SART	**Tekirdag**	**0.84**	**259**	P	**Pg**	**11 26 51.7**	**-1.4**
SART				S	**Sb**	**11 27 05.0**	**+0.1**
KRBG	**Karabiga-Canak**	**0.87**	**239**	Pg	**Pg**	**11 26 53.6**	**+0.1**
YLV	**Yalova**	**0.88**	**108**	Pg	**Pg**	**11 26 53.5**	**-0.3**
GONE	**Gonen-Balikesi**	**0.92**	**209**	Pg	**Pg**	**11 26 54.9**	**+0.2**
ORLT	**Orhaneli**	**0.93**	**149**	Pg	**Pg**	**11 26 54.6**	**-0.2**
PHSR	**Pinarhisar**	**0.96**	**324**	Pg	**Pg**	**11 26 54.9**	**-0.5**
PHSR	**Pinarhisar**	**0.96**	**324**	⇓P	**Pb**	**11 26 55.6**	**0.0**
ULDT	**Uludag**	**0.96**	**137**	P	**Pg**	**11 26 54.7**	**-0.7**
ULDT				S	**Sn**	**11 27 09.8**	**-0.5**
BLKS	**Balkesir-Sus**	**1.00**	**193**	P	**Pg**	**11 26 55.6**	**-0.4**
BLKS				P	**Pg**	**11 26 55.6**	**-0.4**
BLKS				S	**Sg**	**11 27 08.7**	**-0.3**
BLKS				S	**Sb**	**11 27 09.3**	**0.0**
HRT	**Hereke**	**1.06**	**91**	Pg	**Pg**	**11 26 56.6**	**-0.6**
SILT	**Sile**	**1.08**	**73**	Pg	**Pb**	**11 26 56.8**	**-0.7**
SILT	**Sile**	**1.08**	**73**	⇓P	**Pb**	**11 26 57.0**	**-0.5**
OSMT	**Osmaniye**	**1.11**	**102**	Pn	**Pb**	**11 26 57.8**	**-0.3**
OSMT				Sn	**Sg**	**11 27 12.7**	**0.0**
SEMS	**Kocaeli-K¶rfe**	**1.11**	**88**	P	**Pb**	**11 26 57.0**	**-1.1**
SEMS				S	**Sb**	**11 27 12.6**	**0.0**
BKES	**Balkesir-Mer**	**1.14**	**193**	P	**Pb**	**11 26 57.9**	**-0.7**
BKES				S	**Sn**	**11 27 14.1**	**-0.3**
ADVT	**Abdulvahap**	**1.19**	**110**	Pn	**Pb**	**11 26 58.8**	**-0.6**
ARMN	**Kirklareli, Me**	**1.20**	**328**	P	**Pb**	**11 26 58.5**	**-1.1**
ARMN				S	**Sb**	**11 27 14.8**	**-0.2**
YENI	**Yenice-Canakka**	**1.20**	**221**	Pn	**Pn**	**11 26 59.4**	**-0.2**
KESN	**Edirne-Kesan**	**1.21**	**269**	P	**Pb**	**11 26 58.5**	**-1.4**
KESN				S	**Sg**	**11 27 16.1**	**+0.3**
BALY	**Balya**	**1.21**	**204**	P	**Pn**	**11 26 59.3**	**-0.5**
BALY				S	**Sn**	**11 27 16.6**	**+0.4**
LPK	**Lapseki**	**1.25**	**248**	Pn	**Pn**	**11 26 59.1**	**-1.1**
CANM	**Can-anakkale**	**1.25**	**228**	Pn	**Pn**	**11 26 59.9**	**-0.3**
CANM				Sn	**Sn**	**11 27 17.4**	**+0.3**
DURS	**Dursunbey**	**1.25**	**173**	P	**Pn**	**11 26 59.4**	**-1.0**
DURS				S	**Sb**	**11 27 16.6**	**-0.2**
DST	**Dursunbey**	**1.27**	**168**	Pn	**Pn**	**11 27 00.4**	**-0.2**
UKOP	**Uzunkopru-Edir**	**1.27**	**283**	Pn	**Pn**	**11 27 00.2**	**-0.3**
KIRK	**Kırklareli**	**1.28**	**317**	P	**Pn**	**11 26 59.6**	**-1.2**
KIRK				S	**Sn**	**11 27 17.9**	**-0.1**
HISA	**Bilecik-Osmane**	**1.31**	**106**	P	**Pn**	**11 26 59.8**	**-1.3**
ERIK	**Erikli-Kesan**	**1.35**	**263**	Pn	**Pn**	**11 27 01.2**	**-0.3**
BILE	**Bilecik/Merkez**	**1.40**	**119**	P	**Pn**	**11 27 01.5**	**-0.9**
BILE				S	**Sb**	**11 27 21.0**	**0.0**
GELI	**Tayfur-Gelibol**	**1.44**	**252**	Pn	**Pn**	**11 27 02.3**	**-0.5**
GELI				Sn	**Sn**	**11 27 21.7**	**0.0**
KAND	**Kocaeli-Kandir**	**1.48**	**80**	P	**Pn**	**11 27 02.4**	**-0.9**
KAND				S	**Sn**	**11 27 22.5**	**-0.1**
DOMA	**Ktahya-Doman**	**1.52**	**134**	P	**Pn**	**11 27 03.1**	**-1.0**
DOMA				S	**Sn**	**11 27 24.0**	**+0.1**
EDRB	**Edirne**	**1.52**	**311**	Pn	**Pn**	**11 27 03.3**	**-0.7**
STEP	**BALIKESIR_Sava**	**1.53**	**196**	P	**Pn**	**11 27 04.0**	**-0.1**
STEP				S	**Sg**	**11 27 25.7**	**-0.3**
COMU	**Canakkale**	**1.56**	**242**	Pn	**Pn**	**11 27 04.2**	**-0.3**
SAUV	**Serdivan-Sakar**	**1.56**	**93**	Pn	**Pn**	**11 27 03.9**	**-0.7**
KAYN	**Sakarya, Kayna**	**1.57**	**85**	P	**Pn**	**11 27 03.9**	**-0.8**
KAYN				S	**Sn**	**11 27 24.5**	**-0.5**
GEYV	**SAKARYA_Geyve**	**1.58**	**103**	P	**Pn**	**11 27 03.6**	**-1.2**
CAVK	**Edirne/Enez-Ca**	**1.60**	**265**	P	**Pn**	**11 27 04.0**	**-1.1**
CAVK	**Edirne/Enez-Ca**	**1.60**	**265**	⇓P	**Pn**	**11 27 04.9**	**-0.2**
BUHA	**Balikesir, Bur**	**1.63**	**215**	P	**Pn**	**11 27 04.7**	**-0.7**
BUHA				S	**Sg**	**11 27 28.9**	**-0.2**
CNKL	**anakkale-Mer**	**1.64**	**242**	P	**Pn**	**11 27 04.3**	**-1.2**
ENZZ	**Sultanice-Enez**	**1.64**	**262**	Pn	**Pn**	**11 27 05.5**	**0.0**
EMET	**Ktahya-Emet**	**1.68**	**151**	P	**Pn**	**11 27 05.6**	**-0.6**
ALN	**Alexandroupoli**	**1.69**	**272**	Pn	**Pn**	**11 27 05.6**	**-0.7**
ALN	**Alexandroupoli**	**1.69**	**272**	Pn	**Pn**	**11 27 05.2**	**-1.0**
ALN	**Alexandroupoli**	**1.69**	**272**	P	**Pn**	**11 27 05.8**	**-0.5**
ALN	**Alexandroupoli**	**1.69**	**272**	P	**Pn**	**11 27 05.2**	**-1.0**
BAYC	**CANAKKALE_Bayr**	**1.72**	**231**	P	**Pn**	**11 27 05.9**	**-0.9**
BAYC				S	**Sb**	**11 27 29.5**	**-0.6**
ECEA	**Canakkale, Ece**	**1.79**	**244**	P	**Pn**	**11 27 06.6**	**-1.0**
EZN	**Ezine**	**1.80**	**236**	P	**Pn**	**11 27 07.4**	**-0.4**
EZN				S	**Sn**	**

	comp=Z,25nm,0.3s								
TARU					*e*S		**Sn**	11 28 59.3	-2.4
TARU					*i* S		**Sn**	11 29 00.3	-1.4
TARU					Sm			11 29 04.3	
	comp=N,86nm,0.3s								
TARU					Sm			11 29 04.3	
	comp=E,48nm,0.4s								
DOPR	**Dopca**		**5.53**	**339**	⇓P		**Pn**	**11 28 00.4**	**+1.3**
OZUR			**5.55**	**342**	⇑P		**Pn**	**11 28 01.2**	**+1.8**
BOVS	**Bovan**		**5.61**	**302**	⇓P		**Pn**	**11 28 00.6**	**+0.5**
ONER	**Baraj Valea Uz**		**5.65**	**347**	⇓P		**Pn**	**11 28 02.0**	**+1.2**
LOT	**Lotru**		**5.66**	**326**	⇑P		**Pn**	**11 28 00.8**	**-0.1**
YAL	**Yalta**		**5.66**	**48**	*e*P		**Pn**	**11 28 00.5**	**-0.3**
YAL					*e*S		**Sn**	**11 29 03.7**	**-2.1**
YAL	**Yalta**		**5.66**	**48**	*e*P		**Pn**	**11 28 00.5**	**-0.3**
YAL					Pm			11 28 06.5	
	comp=Z,16nm,0.3s								
YAL					*e*S		**Sn**	**11 29 03.7**	**-2.1**
YAL					Sm			11 29 08.6	
	comp=N,24nm,0.3s								
YAL					Sm			11 29 08.6	
	comp=E,47nm,0.4s								
TESR	**Tescani**		**5.78**	**349**	⇓P		**Pn**	**11 28 02.9**	**+0.3**
DNZ2	**Donuzlav2**		**5.79**	**37**	*ex*		x	11 28 06.3	
DNZ2					*e*S		**Sn**	**11 29 06.1**	**-2.9**
DNZ2					Sm			11 29 13.5	
	comp=N,50nm,0.3s								
DNZ2					Sm			11 29 13.5	
	comp=E,66nm,0.4s								
SIM	**Simferopol'**		**5.93**	**44**	*e*P		**Pn**	**11 28 04.1**	**-0.5**
SIM					*e*S		**Sn**	**11 29 08.0**	**-4.6**
SIM					pmax		pmax		
	comp=Z,24nm,0.6s								
SIM					smax		smax		
	comp=E,124nm,1.0s								
SIM					smax		smax		
	comp=N,66nm,0.6s								
SIM	**Simferopol'**		**5.93**	**44**	*e*S		**Sn**	**11 29 08.9**	**-3.7**
SIM					Sm			11 29 15.4	
	comp=N,79nm,0.4s								
SIM					Sm			11 29 15.4	
	comp=E,51nm,0.3s								
GZR	**Gura Zlata**		**6.07**	**320**	⇓P		**Pn**	**11 28 06.5**	**0.0**
GZR	**Gura Zlata**		**6.07**	**320**	P		**Pn**	**11 28 07.3**	**+0.8**
MILM	**Milestii Mici**		**6.08**	**4**	⇑*i*P		**Pn**	**11 28 10.0**	**+3.4**
	comp=E,110nm,0.5s								
MILM					*e*S		**Sn**	**11 29 21.0**	**+4.8**
MILM					LgM			11 30 14.0	
	comp=E,2µm,13.0s								
MILM	**Milestii Mici**		**6.08**	**4**	*c i*P		**Pn**	**11 28 10.0**	**+3.4**
MILM					*e*S		**Sn**	**11 29 21.0**	**+4.8**
MILM					pmax		pmax		
	comp=Z,110nm,0.5s								
ITM	**Ithomi**		**6.15**	**235**	Pn		**Pn**	**11 28 08.3**	**+0.7**
IDI	**Anoyia**		**6.16**	**207**	Pn		**Pn**	**11 28 06.7**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=23,slow=15,SNR=0.8								
IDI					Sn		**Sn**	**11 29 12.3**	**-5.9**
	comp=Z,0.2nm,0.3s,baz=45,slow=20,SNR=1.5								
BNN	**Bunyan**		**6.16**	**106**	Pn		**Pn**	**11 28 11.0**	**+3.2**
MDVR	**Moldovita**		**6.22**	**311**	⇑P		**Pn**	**11 28 08.2**	**-0.4**
SUDU	**Sudak**		**6.38**	**49**	*e*P		**Pn**	**11 28 11.0**	**+0.3**
SUDU					*i* S		**Sn**	**11 29 21.7**	**-1.9**
SUDU	**Sudak**		**6.38**	**49**	*e*P		**Pn**	**11 28 11.0**	**+0.3**
SUDU					Pm			11 28 17.3	
	comp=Z,40nm,0.4s								
SUDU					*i* S		**Sn**	**11 29 21.7**	**-1.9**
SUDU					Sm			11 29 29.2	
	comp=N,150nm,0.5s								
SUDU					Sm			11 29 29.2	
	comp=E,40nm,0.5s								
SURR	**Surduc**		**6.64**	**320**	⇓P		**Pn**	**11 28 14.9**	**+0.6**
MARR	**Marisel-Cluj**		**6.92**	**329**	⇓P		**Pn**	**11 28 19.0**	**+0.8**
BURAR	**Bucovina Array**		**7.11**	**343**	Pn		**Pn**	**11 28 20.9**	**+0.1**
BURAR	**Bucovina Array**		**7.11**	**343**	⇑P		**Pn**	**11 28 22.1**	**+1.2**
BUR08	**Bucovina Ar. S**		**7.14**	**343**	Pn		**Pn**	**11 28 21.7**	**+0.4**
CUC	**Castrocucco**		**9.54**	**269**	Pn		**Pn**	**11 28 54.3**	**+0.2**
MMAI	**Mount Meron Ar**		**9.68**	**142**	Pn		**Pn**	**11 28 56.6**	**+0.6**
	comp=E,1.4nm,0.3s,baz=341,slow=12,SNR=6.9								
	comp=E,4.3nm,0.7s								
KIEV	**Kiev**		**9.87**	**3**	Pn		**Pn**	**11 28 58.2**	**-0.4**
KIEV	**Kiev**		**9.87**	**3**	P		**Pn**	**11 28 58.2**	**-0.4**
AKASG	**Malin Array Be**		**9.88**	**4**	Pn		**Pn**	**11 28 56.5**	**-2.1**
AKASG	**Malin Array Be**		**9.88**	**4**	Pn		**Pn**	**11 28 57.4**	**-1.2**
	comp=E,2.7nm,0.3s,baz=182,slow=12,SNR=10								
AKASG					Sn		**Sn**	**11 30 44.6**	**-4.8**
	comp=E,2.0nm,0.3s,baz=144,slow=11,SNR=2.7								
	comp=E,3.0nm,0.6s								
AKBB	**Malin Array Si**		**9.88**	**4**	Pn		**Pn**	**11 28 58.0**	**-0.6**
AKBB	**Malin Array Si**		**9.88**	**4**	P		**Pn**	**11 28 58.1**	**-0.6**
KBZ	**Khabaz**		**11.21**	**70**	Sn		**Sn**	**11 31 24.8**	**+2.6**
	comp=E,0.2nm,0.3s,baz=296,slow=22,SNR=1.2								
NRCA	**Norcia**		**11.48**	**285**	Pn		**Pn**	**11 29 21.4**	**+0.6**
GERES	**GERESS Array B**		**13.05**	**313**	Pn		**Pn**	**11 29 39.9**	**-2.3**
	baz=135,slow=13,SNR=4.5								
	comp=E,0.3nm,0.2s								
RAYN	**Ar Rayn**		**22.54**	**135**	P		**P**	**11 31 37.3**	**+0.5**
RAYN	**Ar Rayn**		**22.54**	**135**	P		**P**	**11 31 37.3**	**+0.5**
RAYN					pmax		pmax		
	comp=Z,4.0nm,0.8s								
NOA	**NORSAR Array B**		**22.76**	**338**	P		**P**	**11 31 39.5**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=146,slow=11,SNR=5.3								
	comp=Z,1.2nm,0.8s								
AKTO	**Aktyubinsk**		**22.76**	**55**	P		**P**	**11 31 39.5**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=253,slow=12,SNR=3.9								
	comp=Z,1.3nm,0.5s								
AB31	**Akbulak array**		**23.76**	**59**	P		**P**	**11 31 51.6**	**+2.5**
ABKAR	**Akbulak array**		**23.76**	**59**	P		**P**	**11 31 50.9**	**+1.8**
ESDC	**Sonseca Array**		**24.56**	**278**	P		**P**	**11 31 56.3**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=77,slow=9.1,SNR=12								
	comp=Z,1.6nm,0.7s								
PAB	**San Pablo**		**24.88**	**278**	P		**P**	**11 31 59.8**	**+0.2**
PAB					IAmb		IAmb	11 32 05.3	
	comp=Z,12nm,1.4s								
PAB	**San Pablo**		**24.88**	**278**	P		**P**	**11 31 59.8**	**+0.2**
PAB					pmax		pmax		
	comp=Z,12nm,1.4s								
EKA	**Eskdalemuir Ar**		**25.23**	**316**	P		**P**	**11 32 02.3**	**-0.2**
	comp=Z,7.0nm,1.1s,baz=108,slow=9.2,SNR=3.8								
	comp=Z,7.0nm,1.1s								
MKAR	**Makanchi Array**		**38.77**	**63**			**P**	**11 34 02.6**	**+1.4**
MKAR	**Makanchi Array**		**38.77**	**63**	P		**P**	**11 34 01.6**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=280,slow=7.0,SNR=12								
	comp=Z,0.4nm,0.5s								
MKAR	**Makanchi Array**		**38.77**	**63**	P		**P**	**11 34 02.6**	**+1.4**
ZALV	**Zalesovo Beam**		**39.40**	**51**	P		**P**	**11 34 06.2**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=279,slow=10,SNR=1.8								
	comp=Z,0.5nm,0.5s								
HHC	**Hu-ho-hao-te**		**60.55**	**60**	*e*P		**P**	**11 36 48.0**	**+0.8**
HHC					pmax		pmax		
	comp=Z,14nm,0.8s								
HHC					pmax		pmax		
	comp=Z,690nm,6.2s								
PZH	**PanZhiHua**		**61.15**	**79**	P		**P**	**11 36 52.8**	**+1.3**
E29M	**Blow River**		**70.59**	**355**	P		**P**	**11 37 51.9**	**+0.4**
E21K	**Killik River**		**71.02**	**1**	P		**P**	**11 37 55.3**	**+1.1**
E21K					IAmb		IAmb	11 38 06.6	
	comp=Z,3.8nm,1.1s								
F24K	**Squaw Lake**		**71.92**	**358**	P		**P**	**11 38 01.3**	**+1.6**
E19K	**Redstone River**		**71.94**	**2**	P		**P**	**11 38 01.2**	**+1.5**
E19K					IAmb		IAmb	11 38 05.8	
	comp=Z,4.3nm,1.0s								
I30M	**Mount Dempster**		**73.59**	**353**	P		**P**	**11 38 10.1**	**+0.4**
I30M					IAmb		IAmb	11 38 15.1	
	comp=Z,2.8nm,0.8s								
BCAR	**Beaver Creek A**		**76.13**	**355**	P		**P**	**11 38 25.7**	**+1.3**

*IDC **26** 11:33:13.5±1.2,3°.50S×128°.62E, h0km, mb4.1/4, mbtmp4.1/7, ML3.6/3, Error ellipse: s-maj=48.1km s-min=21.9km az=72.0*
*DJA **26** 11:33:15.5±0.3,4°.S±2°×12°.8E±°, h10km, M4.4/12, mB5.6/2, mb4.6/5, MLv4.2/12, Mw(mB)5.0/2*
*NEIC **26** 11:33:16.6±2.4,3°.57S±0°.08×128°.46E±0°.05, h10km±2km, mb4.0/7, Error ellipse: s-maj=14.0km s-min=7.7km az=3.0*

ISC 26 11:33:15.6±0.6,**3°.59S**±0°.06×**128°.40E**±0°.04,**h10**km,**n32,**
σ1s**52**/38,**mb3.9**/3,**Seram**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AAI	**Ambon**	**0.22**	**245**	P		**Pg**	**11 33 19.4**	**-0.8**
AAI				S		**Sg**	**11 33 23.3**	**-0.1**
MSAI	**Masohi**	**0.58**	**65**	P		**Pg**	**11 33 26.3**	**-0.6**
MSAI				S		**Sg**	**11 33 34.7**	**+0.1**
NLAI	**Namlea**	**1.34**	**285**	P		**Pn**	**11 33 37.6**	**-2.8**
BNDI	**Bandanaira**	**1.76**	**122**	P		**Pb**	**11 33 47.6**	**-0.5**
SANI	**Sanana**	**2.85**	**302**	P		**Pn**	**11 33 59.9**	**-1.3**
SANI				S		**Sn**	**11 34 33.7**	**-2.0**
FAKI	**Fak Fak**	**3.90**	**80**			**Pn**	**11 34 16.3**	**+0.7**
FAKI	**Fak Fak**	**3.90**	**80**	P		**Pn**	**11 34 17.0**	**+1.4**
SWI	**Sorong**	**3.94**	**47**	P		**Pn**	**11 34 16.8**	**+0.6**
SWI				S		**Sn**	**11 35 04.3**	**+1.8**
TNTI	**Ternate**	**4.46**	**347**			**Pn**	**11 34 23.6**	**+0.4**
TNTI	**Ternate**	**4.46**	**347**	P		**Pn**	**11 34 24.1**	**+0.8**
SAUI	**Saumlaki**	**5.23**	**147**	Pn		**Pn**	**11 34 36.4**	**+2.5**
KMSI	**Cibinong**	**6.05**	**313**	P		**Pn**	**11 34 43.5**	**-1.7**
RKPI	**Ransiki, Papua**	**6.13**	**70**	P		**Pn**	**11 34 47.7**	**+1.4**
LUWI	**Luwuk**	**6.17**	**294**	Pn		**Pn**	**11 34 48.2**	**+1.4**
KAPI	**Kappang**	**8.74**	**260**	Pn		**Pn**	**11 35 25.7**	**+3.6**
KAPI	**Kappang**	**8.74**	**260**	Pn		**Pn**	**11 35 25.5**	**+3.4**
	1.0nm,0.3s,baz=86,slow=8.4,SNR=5.2							
KAPI					Sn		**Sn**	**11 37 03.3**	**+2.5**
	0.5nm,0.3s,baz=80,slow=10,SNR=1.2							
	9.2nm,0.7s							
TOLI2	**Tolitoli**	**8.93**	**301**			**Pn**	**11 35 26.7**	**+2.0**
FITZ	**Fitzroy Crossi**	**14.67**	**190**	Pn		**Pn**	**11 36 43.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**14.67**	**190**	Pn		**Pn**	**11 36 42.9**	**-0.5**
	0.1nm,0.3s,baz=8.1,slow=14,SNR=4.2							
	3.9nm,1.0s							
WB0	**Warramunga Arr**	**17.11**	**160**	Pn		**Pn**	**11 37 14.4**	**-0.6**
WB0				IAmb		IAmb	11 37 44.5	
	comp=Z,10nm,0.8s							
WRAB	**Tennant Creek**	**17.25**	**161**	Pn		**Pn**	**11 37 15.6**	**-1.2**
WRAB				IAmb		IAmb	11 37 33.0	
	comp=Z,14nm,1.4s							
WRA	**Warramunga Arr**	**17.25**	**161**	P		**P**	**11 37 18.2**	**-0.1**
WRA	**Warramunga Arr**	**17.25**	**161**	P		**Pn**	**11 37 14.7**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=340,slow=12,SNR=20							
	comp=Z,1.6nm,0.6s							
WR8	**Warramunga Arr**	**17.32**	**160**	P		**Pn**	**11 37 18.4**	**+0.7**
WR8				IAmb		IAmb	11 37 33.7	
	comp=Z,4.9nm,0.8s							
COEN	**Coen**	**17.85**	**126**	P		**Pn**	**11 37 24.3**	**0.0**
COEN				IAmb		IAmb	11 37 48.2	
	comp=Z,22nm,1.1s							
AS31	**Alice Springs**	**20.65**	**166**			**P**	**11 37 56.5**	**+0.8**
AS31				IAmb		IAmb	11 37 59.7	
	comp=Z,9.8nm,0.7s							
ASAR	**Alice Springs**	**20.65**	**166**			**P**	**11 37 56.5**	**+0.9**
ASAR	**Alice Springs**	**20.65**	**166**	P		**P**	**11 37 55.7**	**0.0**
	comp=Z,24nm,0.7s,baz=348,slow=9.7,SNR=129							
ASAR				PcP		**PcP**	**11 42 06.0**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=356,slow=2.4,SNR=6.0							
	comp=Z,24nm,0.7s							
BBOO	**Buckleboo**	**29.94**	**167**	P		**P**	**11 39 22.9**	**-1.1**
SONM	**Songino Array**	**54.73**	**342**	P		**P**	**11 42 45.7**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=147,slow=8.0,SNR=1.7							
	comp=Z,0.3nm,0.4s							
MKAR	**Makanchi Array**	**64.52**	**327**	P		**P**	**11 43 51.4**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=122,slow=7.1,SNR=3.9							
	comp=Z,0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**68.79**	**329**	P		**P**	**11 44 19.6**	**-0.3**
	comp=Z,2.0nm,0.2s,baz=131,slow=6.3,SNR=4.2							
	comp=Z,2.0nm,0.2s							

*NEIC **26** 11:36:01.7±1.1, 18°.98N±0°.09×145°.5E±0°.3, h229km±11km, mb4.0/11, Error ellipse: s-maj=47.0km s-min=13.0km az=93.0*
*IDC **26** 11:36:01.2±2.1, 18°.96N×145°.66E, h230km±20km, mb3.3/9, mbtmp4.0/12, Error ellipse: s-maj=25.3km s-min=12.9km az=87.0*

ISC 26 11:35:59.6±0.7,**19°.02N**±0°.07×**145°.6E**±0°.2,**h214**km,**n25,**
σ0s**94**/27,**mb3.7**/13,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**5.45**	**188**	P		**Pn**	**11 37 21.5**	**+1.4**
	41nm,0.9s,baz=28,slow=21,SNR=1.4							
GUMO				S		**S**	**11 38 24.2**	**+0.6**
	30nm,0.4s,baz=14,slow=23,SNR=4.9							
JOW	**Kunigami**	**17.74**	**299**	P		**Pn**	**11 39 54.2**	**+0.4**
	19nm,1.0s,baz=100,slow=6.1,SNR=2.1							
JGF	**Kuroka**	**18.05**	**338**	P		**P**	**11 39 55.8**	**+0.8**
JGF				IAmb		IAmb	11 40 28.1	
	comp=Z,14nm,1.2s							
MJAR	**Matsushiro Arr**	**18.63**	**341**	P		**Pn**	**11 40 04.2**	**0.0**
	comp=Z,1.8nm,0.8s,baz=153,slow=11,SNR=2.9							
JMM	**Marumori**	**19.24**	**348**	P		**P**	**11 40 09.1**	**+1.4**
JMM				IAmb		IAmb	11 40 24.7	
	comp=Z,17nm,1.2s							
KNRA	**Kununurra**	**38.26**	**207**	P		**P**	**11 42 59.0**	**-0.3**
CTAO	**Charters Tower**	**38.87**	**179**	P		**P**	**11 43 03.6**	**-0.9**
WB0	**Warramunga Arr**	**40.08**	**197**	P		**P**	**11 43 13.3**	**-1.1**
WB0				IAmb		IAmb	11 43 15.3	
	comp=Z,4.3nm,1.1s							
WR8	**Warramunga Arr**	**40.23**	**196**	P		**P**	**11 43 15.3**	**-0.4**
WR8				IAmb		IAmb	11 43 16.4	
	comp=Z,6.4nm,1.1s							
WRAB	**Tennant Creek**	**40.25**	**197**	P		**P**	**11 43 14.8**	**-1.1**
WRAB				IAmb		IAmb	11 43 18.3	
	comp=Z,8.7nm,1.4s							
WRA	**Warramunga Arr**	**40.27**	**197**	P		**P**	**11 43 14.5**	**-1.4**
WRA	**Warramunga Arr**	**40.27**	**197**	P		**P**	**11 43 16.1**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=18,slow=8.9,SNR=19							
WRA				PcP		**PcP**	**11 45 14.3**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=16,slow=3.2,SNR=2.6							
	comp=Z,2.7nm,0.7s							
FITZ	**Fitzroy Crossi**	**41.77**	**209**	P		**P**	**11 43 27.9**	**-0.4**
FITZ				IAmb		IAmb	11 43 30.1	
	comp=Z,0.8nm,0.7s							
FITZ	**Fitzroy Crossi**	**41.77**	**209**	P		**P**	**11 43 28.1**	**-0.2**
	comp=Z,3.8nm,0.6s,baz=27,slow=8.7,SNR=17							
	comp=Z,3.8nm,0.6s							
AS31	**Alice Springs**	**43.93**	**196**	P		**P**	**11 43 45.0**	**-0.5**
ASAR	**Alice Springs**	**43.94**	**196**	P		**P**	**11 43 44.9**	**-0.7**
ASAR	**Alice Springs**	**43.94**	**196**	P		**P**	**11 43 45.3**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=17,slow=7.8,SNR=25							
	comp=Z,1.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**44.09**	**277**	P		**P**	**11 43 48.0**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=65,slow=6.6,SNR=4.6							
	comp=Z,0.5nm,0.7s							
MKAR	**Makanchi Array**	**58.17**	**314**	P		**P**	**11 45 31.1**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=95,slow=11,SNR=2.2							
	comp=Z,0.3nm,0.5s							
D20K	**Etivluk River**	**60.94**	**21**	P		**P**	**11 45 50.8**	**+1.1**
D20K				IAmb		IAmb	11 46 35.1	
	comp=Z,3.7nm,1.0s							
ILAR	**Eielson Array**	**63.40**	**26**	P		**P**	**11 46 05.6**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=240,slow=7.1,SNR=1.9							
	comp=Z,0.3nm,0.7s							
BVAR	**Borovoye Array**	**66.17**	**320**	P		**P**	**11 46 22.9**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=84,slow=6.9,SNR=3.7							
	comp=Z,0.9nm,0.5s							
ABKAR	**Akbulak array**	**73.04**	**317**	P		**P**	**11 47 05.0**	**-1.1**
NVAR	**Mina Array Bea**	**83.02**	**52**	P		**P**	**11 48 02.5**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=265,slow=6.2,SNR=6.7							
	comp=Z,0.7nm,0.7s							
FINES	**FINESS Array B**	**86.55**	**335**	P		**P**	**11 48 16.9**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=64,slow=4.4,SNR=4.1							
	comp=Z,0.5nm,0.4s							

*NEIC **26** 11:42:15.3±2.3, 19°.1N±0°.1×67°.24W±0°.05, h19km±16km, ML2.1/14, Md2.8/9(RSPR), Error ellipse: s-maj=18.1km s-min=2.0km az=160.0*
*SDD **26** 11:42:15.4±1.6, 19°.12N×67°.02W, h23km±44km, MD3.1, ML2.1, MW2.7*
*RSPR **26** 11:42:16.5, 19°.14N×67°.26W, h38km±14km, MD2.8/9*

ISC 26 11:42:14.3±1.7,**19°.07N**±0°.07×**67°.15W**±0°.03,**h10**km±10km,
n49,σ1s**11**/59,**11C-13D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.60**	**176**			**Pn**	**11 42 28.2**	**-0.7**
AGPR						**Sb**	**11 42 37.0**	**+1.5**
AGPR	**Aguadilla, PR**	**0.60**	**176**	⇓*e*P		**Pn**	**11 42 28.2**	**-0.7**
AGPR	**Aguadilla, PR**	**0.60**	**176**	*e*S		**Sb**	**11 42 37.0**	**+1.5**
AGPR	**Aguadilla, PR**	**0.60**	**176**	⇑*e*Pg		**Pb**	**11 42 26.6**	**-0.4**
AGPR				⇑*e*Sg		**Sb**	**11 42 36.7**	**+1.2**
AGPR				IAML			11 42 37.0	
	comp=N,155nm,0.2s							
IDE	**Isla Desecheo**	**0.75**	**204**			**Pn**	**11 42 30.3**	**-0.7**
IDE						**Sb**	**11 42 41.0**	**+1.3**
IDE	**Isla Desecheo**	**0.75**	**204**	⇓*e*P		**Pn**	**11 42 30.3**	**-0.7**
IDE	**Isla Desecheo**	**0.75**	**204**	*e*S		**Sb**	**11 42 41.0**	**+1.3**
AOPR	**Arecibo Observ**	**0.81**	**152**			**Pb**	**11 42 30.9**	**+0.4**
AOPR	**Arecibo Observ**	**0.81**	**152**	⇓*i*P		**Pb**	**11 42 30.9**	**+0.4**
EMPR	**Esperanza - Ma**	**0.84**	**135**			**Pn**	**11 42 33.2**	**+1.1**
EMPR						**Sn**	**11 42 46.2**	**+1.6**
EMPR	**Esperanza - Ma**	**0.84**	**135**	⇓*e*P		**Pn**	**11 42 33.2**	**+1.1**
EMPR	**Esperanza - Ma**	**0.84**	**135**	*e*S		**Sn**	**11 42 46.2**	**+1.6**
LSP	**Las Mesas**	**0.89**	**176**			**Pn**	**11 42 32.5**	**-0.5**
LSP						**Sb**	**11 42 45.4**	**+1.4**
LSP	**Las Mesas**	**0.89**	**176**	⇓*e*P		**Pn**	**11 42 32.5**	**-0.5**
LSP	**Las Mesas**	**0.89**	**176**	*e*S		**Sb**	**11 42 45.4**	**+1.4**
UUPR	**Utuado, UPR, P**	**0.91**	**153**			**Pn**	**11 42 33.4**	**+0.2**
UUPR						**Sg**	**11 42 43.7**	**0.0**
UUPR	**Utuado, UPR, P**	**0.91**	**153**	⇓*e*P		**Pn**	**11 42 33.4**	**+0.2**
UUPR	**Utuado, UPR, P**	**0.91**	**153**	*e*S		**Sg**	**11 42 43.7**	**0.0**
ECPR	**Experimental S**	**1.06**	**135**	⇓*e*P		**Pn**	**11 42 34.8**	**-0.4**
ECPR	**Experimental S**	**1.06**	**135**	*e*S		**Sg**	**11 42 46.2**	**-2.3**
CRPR	**Cabo Rojo, PR**	**1.06**	**178**			**Pn**	**11 42 35.0**	**-0.2**
CRPR						**Sg**	**11 42 49.0**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.06**	**178**	IAML			11 42 51.5	
	comp=E,43nm,0.2s							
CRPR	**Cabo Rojo, PR**	**1.06**	**178**	⇓*e*P		**Pn**	**11 42 35.0**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.06**	**178**	*e*S		**Sg**	**11 42 49.0**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.06**	**178**	⇑*e*Pg		**Pg**	**11 42 34.6**	**-0.1**
CRPR				⇑*e*Sg		**Sg**	**11 42 48.8**	**+0.3**
CRPR				IAML			11 42 54.7	
	comp=N,35nm,0.2s							
MLPR	**Magueyes Islan**	**1.10**	**175**	⇓*e*P		**Pg**	**11 42 35.4**	**-0.1**
MLPR	**Magueyes Islan**	**1.10**	**175**	*e*S		**Sg**	**11 42 50.3**	**+0.5**
MLPR	**Magueyes Islan**	**1.10**	**175**	⇑*e*Pg		**Pg**	**11 42 34.2**	**-1.3**
MLPR				⇑*e*Sg		**Sg**	**11 42 49.2**	**-0.6**
MLPR				IAML			11 43 07.2	
	comp=N,7.7nm,1.0s							
CELP	**Cerrillos**	**1.13**	**151**			**Pb**	**11 42 35.9**	**-0.1**
CELP						**Sb**	**11 42 51.3**	**+0.5**
CELP	**Cerrillos**	**1.13**	**151**	IAML			11 42 52.0	
	comp=E,35nm,0.2s							
CELP				IAML			11 42 54.6	
	comp=N,42nm,0.2s							
CELP	**Cerrillos**	**1.13**	**151**	⇑*e*P		**Pb**	**11 42 35.9**	**-0.1**
CELP	**Cerrillos**	**1.13**	**151**	*e*S		**Sb**	**11 42 51.3**	**+0.5**
CELP	**Cerrillos**	**1.13**	**151**	⇓*e*Pg		**Pb**	**11 42 35.9**	**-0.1**
CELP				⇓*e*Sg		**Sg**	**11 42 49.5**	**-1.2**
CELP				IAML			11 42 58.9	
	comp=N,38nm,0.2s							
OBIP	**Obispado Ponce**	**1.15**	**153**			**Pn**	**11 42 36.8**	**+0.4**
OBIP						**Sg**	**11 42 51.6**	**+0.3**
OBIP	**Obispado Ponce**	**1.15**	**153**	IAML			11 42 52.3	
	comp=N,40nm,0.1s							
OBIP				IAML			11 42 55.4	
	comp=E,43nm,0.3s							
OBIP	**Obispado Ponce**	**1.15**	**153**	⇓*e*P		**Pn**	**11 42 36.8**	**+0.4**
OBIP	**Obispado Ponce**	**1.15**	**153**	*e*S		**Sg**	**11 42 51.6**	**+0.3**
GCPR	**Guaynabo City**	**1.27**	**127**			**Pg**	**11 42 38.5**	**-0.1**
GCPR						**Sg**	**11 42 54.8**	**-0.3**
GCPR	**Guaynabo City**	**1.27**	**127**	⇓*e*P		**Pg**	**11 42 38.5**	**-0.1**
GCPR	**Guaynabo City**	**1.27**	**127**	*e*S		**Sg**	**11 42 54.8**	**-0.3**
SJG	**San Juan**	**1.35**	**135**			**Pg**	**11 42 41.2**	**+1.0**
SJG	**San Juan**	**1.35**	**135**	IAML			11 43 04.8	
	comp=E,34nm,0.4s							
SJG	**San Juan**	**1.35**	**135**	⇑*

VIKU	**Vikbolandet**	**0.95**	**240**	P		**Pg**		**11**	**52**	**59.8**	**-0.2**
VIKU				S		**Sg**		**11**	**53**	**12.1**	**-0.1**
VIKU	**Vikbolandet**	**0.95**	**240**	P		**Pg**		**11**	**52**	**59.8**	**-0.2**
VIKU				S		**Sg**		**11**	**53**	**12.1**	**-0.1**
ESKU	**Eskilstuna**	**0.99**	**285**	P		**Pg**		**11**	**53**	**00.2**	**-0.7**
ESKU	**Eskilstuna**	**0.99**	**285**	P		**Pg**		**11**	**53**	**00.2**	**-0.7**
FIBU	**Brunna**	**1.03**	**334**	P		**Pg**		**11**	**53**	**01.2**	**-0.3**
FIBU	**Brunna**	**1.03**	**334**	P		**Pg**		**11**	**53**	**01.2**	**-0.3**
BACU	**Backbrunna** baz=150	**1.05**	**326**	P		**Pg**		**11**	**53**	**01.5**	**-0.5**
BACU	**Backbrunna** baz=150	**1.05**	**326**	P		**Pg**		**11**	**53**	**01.5**	**-0.5**
FLYU	**Flymyra**	**1.16**	**351**	P		**Pg**		**11**	**53**	**03.8**	**-0.3**
FLYU	**Flymyra**	**1.16**	**351**	P		**Pg**		**11**	**53**	**03.8**	**-0.3**
GOTU	**Gotland**	**1.31**	**173**	P		**Pg**		**11**	**53**	**06.7**	**-0.4**
GOTU	**Gotland**	**1.31**	**173**	P		**Pg**		**11**	**53**	**06.7**	**-0.4**
GRAU	**Graesoe**	**1.36**	**6**	P		**Pg**		**11**	**53**	**07.6**	**-0.3**
GRAU	**Graesoe**	**1.36**	**6**	P		**Pg**		**11**	**53**	**07.6**	**-0.3**
OSTU	**Oestervaala**	**1.37**	**336**	P		**Pg**		**11**	**53**	**07.5**	**-0.7**
OSTU	**Oestervaala**	**1.37**	**336**	P		**Pg**		**11**	**53**	**07.5**	**-0.7**
FORU	**Forsmark**	**1.41**	**358**	P		**Pn**		**11**	**53**	**08.3**	**-0.4**
FORU	**Forsmark**	**1.41**	**358**	P		**Pn**		**11**	**53**	**08.3**	**-0.4**
AAL	**Aland**	**1.49**	**36**	P		**Pn**		**11**	**53**	**10.0**	**+0.1**
AAL	**Aland**	**1.49**	**36**	*eP*		**Pn**		**11**	**53**	**09.7**	**-0.1**
AAL	**Aland**	**1.49**	**36**	P		**Pn**		**11**	**53**	**10.0**	**+0.1**
AAL	**Aland**	**1.49**	**36**	*eP*		**Pn**		**11**	**53**	**09.9**	**+0.1**
AAL				*eS*		**Sg**		**11**	**53**	**29.3**	**-0.3**
AAL	comp=Z,6.7nm,0.1s			MSG				11	53	31.6	
VSTU	**Vaestervik**	**1.61**	**215**	P		**Pn**		**11**	**53**	**11.9**	**+0.4**
VSTU	**Vaestervik**	**1.61**	**215**	P		**Pn**		**11**	**53**	**11.9**	**+0.4**
LNKU	**Linkoeping**	**1.63**	**243**	P		**Pn**		**11**	**53**	**12.1**	**+0.2**
LNKU	**Linkoeping**	**1.63**	**243**	P		**Pn**		**11**	**53**	**12.1**	**+0.2**
NRAU	**Nora**	**1.75**	**291**	P		**Pb**		**11**	**53**	**14.2**	**-0.7**
NRAU	**Nora**	**1.75**	**291**	P		**Pb**		**11**	**53**	**14.2**	**-0.7**
ASKU	**Askersund**	**1.78**	**269**	P		**Pn**		**11**	**53**	**14.3**	**+0.5**
ASKU	**Askersund**	**1.78**	**269**	P		**Pn**		**11**	**53**	**14.3**	**+0.5**
SLIT	**Slitere, Latvi**	**2.53**	**121**	*eP*		**Pn**		**11**	**53**	**24.6**	**+0.6**
HFS	**Hagfors** comp=Z,0.3nm,0.3s,baz=110,slow=18,SNR=16	**2.59**	**298**	Pn		**Pn**		**11**	**53**	**26.5**	**+1.5**
HFS				Lg		Lg		11	53	59.0	
	comp=Z,1.5nm,0.3s,baz=113,slow=28,SNR=16 comp=Z,0.5nm,0.3s										
TVF	**Tvarminne**	**2.69**	**69**	*ePB*		**Pb**		**11**	**53**	**29.1**	**-1.7**
TVF	comp=Z,1.9nm,0.1s			MSG				11	54	08.5	
RAF	**Rauma**	**2.70**	**39**	*eP*		**Pn**		**11**	**53**	**27.2**	**+0.8**
RAF	**Rauma**	**2.70**	**39**	*eP*		**Pn**		**11**	**53**	**28.1**	**+1.7**
RAF	comp=Z,2.2nm,0.1s			MSG				11	54	08.2	
NOA	**NORSAR Array B** baz=106,slow=19,SNR=3.9	**4.09**	**303**	Pn		**Pn**		**11**	**53**	**46.3**	**+0.6**
NOA	baz=130,slow=25,SNR=4.5 comp=Z,0.1nm,0.2s			Lg		Lg		11	54	49.2	
FIA0	**FINESS Array S**	**4.61**	**54**	*eS*		**Sn**		**11**	**54**	**48.3**	**+1.4**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=246,slow=12,SNR=2.1	**4.61**	**54**	Pn		**Pn**		**11**	**53**	**55.0**	**+2.3**
FINES	comp=Z,0.5nm,0.3s,baz=243,slow=22,SNR=9.4			Sn		**Sn**		**11**	**54**	**48.4**	**+1.4**
FINES	comp=Z,0.6nm,0.3s,baz=243,slow=25,SNR=8.0 comp=Z,1.1nm,0.7s			Lg		Lg		11	55	06.8	
ARCES	**ARCESS Array B** comp=Z,0.4nm,0.5s,baz=197,slow=15,SNR=1.0	**11.04**	**13**	Pn		**Pn**		**11**	**55**	**18.9**	**-1.9**

*IDC **26** 12:14:09.3±2.0, 3°.63N×127°.07E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=109.0km s-min=26.3km az=70.0*
*DJA **26** 12:14:15.8±0.7, 4°.N±9°×12°.7E±°, h17km±12km, M3.8/6, MLv3.8/6*
ISC 26 12:14:15.5±1.6, **3°.6N**±0°.2×**127°.1E**±0°.1, **h48**km, **n6**, σ0°**78**/7, **mb3.6**/4, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**1.56**	**272**	P		**Pn**	**12 14 40.2**	**-0.7**
SGSI				S		**Sn**	**12 15 00.5**	**+0.5**
KMSI	**Cibinong**	**4.35**	**226**	P		**Pn**	**12 15 18.8**	**-0.3**
FITZ	**Fitzroy Crossi** 2.7nm,0.9s,baz=14,slow=9.1,SNR=5.7 2.7nm,0.9s	**21.64**	**184**	P		**P**	**12 19 02.4**	**+0.5**
WRA	**Warramunga Arr** 1.1nm,0.7s,baz=342,slow=10,SNR=16 1.1nm,0.7s	**24.48**	**163**	P		**P**	**12 19 30.7**	**+0.4**
ASAR	**Alice Springs** 0.3nm,1.0s,baz=344,slow=9.6,SNR=4.3 0.3nm,1.0s	**27.93**	**167**	P		**P**	**12 20 00.4**	**-1.1**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=109,slow=8.6,SNR=4.1 0.3nm,0.5s	**57.84**	**325**	P		**P**	**12 24 02.7**	**+0.3**

*ISK **26** 12:14:51.0, 39°.49N×25°.83E, h7km, ML3.6/24*
*ATH **26** 12:14:51.7, 39°.46N×25°.84E, h17km±1km, ML3.2/22, Manual Solution by G.Panopoulou First location: 2019/09/26 12:16:07, This location: 2019/09/26 12:33:56 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*THE **26** 12:14:51.8, 39°.5N±0°.8×2°.6E±°, h9km±2km, M3.2/21, MLh3.2/21*
*BEO **26** 12:14:53.6±0.8, 39°.64N×25°.84E, h0km, ML3.3/5*
ISC 26 12:14:51.6±0.8, **39°.47N**±0°.02×**25°.83E**±0°.02, **h15**km±6km, **n127**, σ0°**91**/162, **5C-4D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GPNR	**Gulpinar-Canak**	**0.24**	**93**	Pg		**Pg**	**12 14 56.3**	**-0.6**
GPNR				Sg		**Sg**	**12 15 00.1**	**-0.3**
SIGR	**SIGRI**	**0.26**	**175**	Pg		**Pg**	**12 14 57.1**	**0.0**
SIGR				Sg		**Sg**	**12 15 01.5**	**+0.5**
SIGR	**SIGRI**	**0.26**	**175**	P		**Pg**	**12 14 57.2**	**0.0**
SIGR				S		**Sg**	**12 15 01.1**	**+0.2**
SIGR	**SIGRI**	**0.26**	**175**	P		**Pg**	**12 14 57.2**	**0.0**
SIGR				S		**Sg**	**12 15 01.2**	**+0.2**
BOZC	**Bozcaada**	**0.41**	**25**	Pg		**Pg**	**12 14 59.2**	**-0.7**
BOZC				Sg		**Sg**	**12 15 05.1**	**-0.4**
PRK	**Paraskevi**	**0.41**	**123**	P		**Pg**	**12 14 59.9**	**+0.1**
PRK				S		**Sg**	**12 15 05.7**	**+0.2**
PRK	**Paraskevi**	**0.41**	**123**	P		**Pg**	**12 14 60.0**	**+0.1**
PRK				S		**Sg**	**12 15 05.8**	**+0.3**
EZNE	**Ezine-Canakkal**	**0.51**	**55**	Pg		**Pg**	**12 15 01.1**	**-0.5**
EZNE				Sg		**Sg**	**12 15 08.3**	**-0.1**
EZN	**Ezine**	**0.52**	**47**	Pg		**Pg**	**12 15 01.4**	**-0.6**
EZN				Sg		**Sg**	**12 15 08.9**	**-0.1**
EZN	**Ezine**	**0.52**	**47**	P		**Pg**	**12 15 01.4**	**-0.6**
EZN				S		**Sg**	**12 15 08.7**	**-0.3**
EZN	**Ezine**	**0.52**	**47**	⇑P		**Pg**	**12 15 01.4**	**-0.6**
EFSA	**Agios Efstrati**	**0.65**	**276**	P		**Pb**	**12 15 04.9**	**+0.1**
EFSA				S		**Sb**	**12 15 14.4**	**+0.7**
LIA	**Limnos Island**	**0.66**	**311**	P		**Pb**	**12 15 04.7**	**-0.1**
LIA				S		**Sb**	**12 15 13.8**	**+0.1**
LIA	**Limnos Island**	**0.66**	**311**	P		**Pb**	**12 15 04.7**	**-0.1**
LIA				S		**Sb**	**12 15 13.5**	**-0.2**
LMN1	**MIRINA LIMNOU**	**0.72**	**305**	P		**Pb**	**12 15 06.0**	**+0.2**
LMN1				S		**Sb**	**12 15 16.1**	**+0.6**
GADA	**Gvkgeada**	**0.72**	**4**	Pg		**Pg**	**12 15 05.3**	**-0.4**
GADA	**Gvkgeada**	**0.72**	**4**	P		**Pg**	**12 15 05.1**	**-0.7**
GADA				S		**Sg**	**12 15 15.1**	**-0.1**
DKL	**Dikili**	**0.93**	**115**	Pg		**Pg**	**12 15 09.4**	**-0.2**
EAG2	**Marmaro, Chios**	**0.95**	**167**	P		**Pb**	**12 15 10.0**	**+0.2**
EAG2				S		**Sb**	**12 15 21.8**	**-0.4**
YAYO	**Edremit-Balk**	**0.97**	**81**	Pg		**Pg**	**12 15 10.0**	**-0.5**
SMTH	**Samothraki Isl**	**1.02**	**347**	P		**Pg**	**12 15 10.9**	**-0.5**
SMTH				S		**Sb**	**12 15 25.1**	**+0.6**
SMTH	**Samothraki Isl**	**1.02**	**347**	P		**Pg**	**12 15 10.9**	**-0.5**
SMTH				S		**Sg**	**12 15 24.5**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.05**	**28**	Pg		**Pg**	**12 15 10.9**	**-1.1**
CANM	**Can-anakkale**	**1.09**	**60**	Pg		**Pb**	**12 15 12.1**	**-0.1**
CHOS	**Chios island**	**1.10**	**171**	Pn		**Pn**	**12 15 12.5**	**-0.1**
CHOS	**Chios island**	**1.10**	**171**	P		**Pb**	**12 15 12.4**	**0.0**
CHOS				S		**Sn**	**12 15 27.8**	**+0.3**
CHOS	**Chios island**	**1.10**	**171**	P		**Pn**	**12 15 12.5**	**-0.1**
CHOS				S		**Sb**	**12 15 26.6**	**+0.1**
LPK	**Lapseki**	**1.15**	**38**	Pn		**Pb**	**12 15 12.6**	**-0.7**
SKY	**Skiros Island**	**1.16**	**240**	P		**Pb**	**12 15 12.9**	**-0.5**
SKY	**Skiros Island**	**1.16**	**240**	P		**Pb**	**12 15 12.8**	**-0.5**
SKY				S		**Sn**	**12 15 28.5**	**-0.4**
ENZZ	**Sultanice-Enez**	**1.16**	**12**	Pn		**Pb**	**12 15 13.2**	**-0.2**

YENI	**Yenice-Canakka**	**1.19**	**66**	Pn		**Pn**		**12**	**15**	**13.8**	**0.0**
CESE	**eme**	**1.20**	**162**	Pn		**Pg**		**12**	**15**	**14.7**	**0.0**
CAVK	**Edirne/Enez-Ca**	**1.25**	**12**	⇑P		**Pn**		**12**	**15**	**14.9**	**+0.4**
URLA	**Izmir**	**1.26**	**151**	Pn		**Pn**		**12**	**15**	**14.6**	**-0.2**
ERIK	**Erikli-Kesan**	**1.31**	**24**	Pn		**Pn**		**12**	**15**	**15.3**	**-0.1**
SOMA	**Soma-Manisa**	**1.36**	**103**	Pn		**Pn**		**12**	**15**	**16.9**	**+0.7**
ALEX	**Alexandroupoli**	**1.39**	**2**	P		**Pn**		**12**	**15**	**16.8**	**+0.3**
ALEX				S		**Sn**		**12**	**15**	**33.9**	**-0.6**
THAS	**Thassos island**	**1.42**	**324**	P		**Pn**		**12**	**15**	**16.9**	**-0.1**
THAS				S		**Sn**		**12**	**15**	**34.8**	**-0.5**
THAS	**Thassos island**	**1.42**	**324**	P		**Pn**		**12**	**15**	**16.7**	**-0.2**
THAS				S		**Sn**		**12**	**15**	**35.0**	**-0.4**
ALN	**Alexandroupoli**	**1.44**	**7**	Pn		**Pn**		**12**	**15**	**17.8**	**+0.6**
ALN	**Alexandroupoli**	**1.44**	**7**	P		**Pn**		**12**	**15**	**17.4**	**+0.2**
ALN				S		**Sn**		**12**	**15**	**36.8**	**+1.0**
ALN	**Alexandroupoli**	**1.44**	**7**	P		**Pn**		**12**	**15**	**17.3**	**+0.2**
ALN				S		**Sn**		**12**	**15**	**36.0**	**+0.2**
BLCB	**Balcova**	**1.44**	**138**	Pn		**Pg**		**12**	**15**	**18.7**	**-0.6**
BLCB	**Balcova**	**1.44**	**138**	P		**Pn**		**12**	**15**	**17.3**	**+0.1**
KRBG	**Karabiga-Canak**	**1.46**	**50**	Pn		**Pn**		**12**	**15**	**18.3**	**+0.8**
AOS	**Alonnisos**	**1.54**	**259**	P		**Pb**		**12**	**15**	**19.1**	**-0.8**
GONE	**Gonen-Balikesi**	**1.54**	**68**	Pn		**Pn**		**12**	**15**	**19.5**	**+0.8**
KYMI	**Kymi, Euboea I**	**1.58**	**239**	P		**Pn**		**12**	**15**	**18.8**	**-0.5**
KYMI	**Kymi, Euboea I**	**1.58**	**239**	P		**Pn**		**12**	**15**	**18.7**	**-0.5**
KYMI				S		**Sb**		**12**	**15**	**39.6**	**-0.9**
THS1	**Thassos, Thass**	**1.59**	**323**	P		**Pn**		**12**	**15**	**18.5**	**-0.8**
THS1				S		**Sn**		**12**	**15**	**38.8**	**-0.7**
GMLD	**Gumuldur**	**1.63**	**148**	Pn		**Pn**		**12**	**15**	**20.5**	**+0.7**
XANC	**Avdira**	**1.65**	**336**	P		**Pn**		**12**	**15**	**20.1**	**0.0**
AKS	**Akhisar**	**1.65**	**110**	Pn		**Pn**		**12**	**15**	**20.5**	**+0.3**
OUR	**Ouranopolis**	**1.66**	**302**	Pn		**Pn**		**12**	**15**	**20.9**	**+0.6**
OUR	**Ouranopolis**	**1.66**	**302**	P		**Pn**		**12**	**15**	**20.7**	**+0.4**
OUR	**Ouranopolis**	**1.66**	**302**	P		**Pn**		**12**	**15**	**20.6**	**+0.3**
RDO	**Rodhopi**	**1.69**	**353**	Pn		**Pn**		**12**	**15**	**21.5**	**+0.9**
RDO	**Rodhopi**	**1.69**	**353**	P		**Pn**		**12**	**15**	**21.2**	**+0.5**
RDO	**Rodhopi**	**1.69**	**353**	P		**Pn**		**12**	**15**	**21.1**	**+0.5**
RDO				S		**Sn**		**12**	**15**	**41.1**	**-0.9**
PAIG	**Paliouri**	**1.72**	**286**	P		**Pn**		**12**	**15**	**21.3**	**+0.2**
KARY	**Karystos**	**1.80**	**218**	P		**Pn**		**12**	**15**	**21.6**	**-0.5**
KARY	**Karystos**	**1.80**	**218**	P		**Pn**		**12**	**15**	**21.7**	**-0.5**
KARY				S		**Sn**		**12**	**15**	**43.9**	**-0.9**
KAVA	**Kavala**	**1.83**	**327**	P		**Pn**		**12**	**15**	**22.7**	**+0.2**
KAVA	**Kavala**	**1.83**	**327**	P		**Pn**		**12**	**15**	**22.7**	**+0.2**
KAVA				S		**Sn**		**12**	**15**	**44.3**	**-1.1**
KVLA	**Kavala**	**1.83**	**323**	P		**Pn**		**12**	**15**	**22.7**	**+0.1**
TNSA	**Tinos**	**2.00**	**195**	P		**Pn**		**12**	**15**	**24.5**	**-0.4**
NEO	**Neokhori**	**2.02**	**266**	P		**Pn**		**12**	**15**	**25.3**	**0.0**
NEO	**Neokhori**	**2.02**	**266**	P		**Pn**		**12**	**15**	**24.9**	**-0.4**
DION	**Dionisos Attik**	**2.03**	**227**	P		**Pn**		**12**	**15**	**25.1**	**-0.3**
DION	**Dionisos Attik**	**2.03**	**227**	P		**Pn**		**12**	**15**	**24.3**	**-1.7**
PLG	**Polygyros**	**2.04**	**297**	P		**Pn**		**12**	**15**	**26.3**	**+0.7**
PTL	**Penteli**	**2.09**	**228**	P		**Pn**		**12**	**15**	**25.9**	**-0.3**
KDZ	**Kurdzhali**	**2.19**	**350**	P		**Pn**		**12**	**15**	**28.0**	**+0.4**
ATHU	**Athens Univers**	**2.19**	**227**	P		**Pn**		**12**	**15**	**28.3**	**+0.7**
ATHU	**Athens Univers**	**2.19**	**227**	P		**Pn**		**12**	**15**	**28.3**	**+0.7**
STFN	**Stefani**	**2.20**	**235**	P		**Pn**		**12**	**15**	**27.4**	**-0.4**
TRGA	**Dikaia**	**2.26**	**9**	P		**Pn**		**12**	**15**	**29.2**	**+0.7**
VLY	**Voula,Athens**	**2.27**	**225**	P		**Pn**		**12**	**15**	**28.5**	**-0.2**
ATAL	**Atalanti**	**2.32**	**251**	P		**Pn**		**12**	**15**	**29.1**	**-0.2**
SOH	**Sokhos**	**2.33**	**306**	P		**Pn**		**12**	**15**	**30.1**	**+0.6**
VIL2	**Platees**	**2.36**	**239**	P		**Pn**		**12**	**15**	**29.7**	**-0.2**
SRS	**Serrai**	**2.37**	**315**	*ePn*		**Pn**		**12**	**15**	**30.4**	**+0.3**
SRS				*eSn*		**Sn**		**12**	**16**	**00.7**	**+1.8**
SRS	**Serrai**	**2.37**	**315**	P		**Pn**		**12**	**15**	**30.5**	**+0.4**
HORT	**Hortiatis**	**2.38**	**299**	P		**Pn**		**12**	**15**	**30.9**	**+0.7**
LIT	**Litokhoron**	**2.65**	**285**	P		**Pn**		**12**	**15**	**34.2**	**+0.4**
LTK	**Loutraki**	**2.66**	**238**	P		**Pn**		**12**	**15**	**34.0**	**-0.1**
MET5	**Makryloggos,Me**	**2.67**	**227**	P		**Pn**		**12**	**15**	**34.5**	**+0.3**
LOUT	**Loutraki**	**2.68**	**237**	P		**Pn**		**12**	**15**	**34.7**	**+0.5**
MET2	**Kameni Chora,**	**2.70**	**227**	P		**Pn**		**12**	**15**	**33.7**	**-0.8**
TYRN	**Tyrnavos**	**2.79**	**276**	P		**Pn**		**12**	**15**	**36.5**	**+0.7**
PLD	**Plovdiv**	**2.80**	**343**	*ePn*		**Pn**		**12**	**15**	**37.9**	**+2.0**
KNT	**Kendrikon**	**2.81**	**308**	P		**Pn**		**12**	**15**	**36.9**	**+0.9**
MAKR	**Makrakomi, Fth**	**2.91**	**262**	P		**Pn**		**12**	**15**	**37.8**	**+0.4**
THL	**Klokotos Trika**	**2.95**	**273**	P		**Pn**		**12**	**15**	**38.4**	**+0.4**
JMB	**Yambol**	**3.06**	**10**	P		**Pn**		**12**	**15**	**40.6**	**+1.0**
GUR	**Goura**	**3.13**	**242**	P		**Pn**		**12**	**15**	**40.7**	**+0.2**
KKB	**Krupnik**	**3.13**	**320**	P		**Pn**		**12**	**15**	**41.9**	**+1.3**
ANX	**Ano Chora**	**3.17**	**255**	P		**Pn**		**12**	**15**	**41.7**	**+0.6**
EVR	**Evrytania**	**3.17**	**261**	P		**Pn**		**12**	**15**	**41.5**	**+0.4**
KLV	**Kalavryta, Ach**	**3.21**	**245**	P		**Pn**		**12**	**15**	**41.7**	**+0.1**
ELND	**Elena**	**3.46**	**1**	⇓P		**Pn**		**12**	**15**	**46.5**	**+1.6**
VLI	**Veliai**	**3.57**	**221**	P		**Pn**		**12**	**15**	**45.8**	**-0.7**
VTS	**Vitosha**	**3.71**	**329**	P		**Pn**		**12**	**15**	**49.7**	**+1.2**
VTS	**Vitosha**	**3.71**	**329**	*ePn*		**Pn**		**12**	**15**	**50.0**	**+1.5**
VTS				*eSn*		**Sn**		**12**	**16**	**31.8**	**-0.2**
BOSS	**Bosilegrad**	**3.94**	**321**	*ePn*		**Pn**		**12**	**15**	**53.7**	**+2.0**
BOSS				*eSn*		**Sn**		**12**	**16**	**40.5**	**+2.8**
KARP	**Karpathos**	**4.06**	**164**	P		**Pn**		**12**	**15**	**53.3**	**0.0**
MPEP	**Malo Peshtene**	**4.19**	**339**	P		**Pn**		**12**	**15**	**56.6**	**+1.6**
IGT	**Igoumenitsa**	**4.25**	**273**	*ePn*		**Pn**		**12**	**15**	**59.6**	**+3.7**
ZAPS	**Zavoj**	**4.50**	**329**	*ePn*		**Pn**		**12**	**16**	**01.3**	**+2.0**
BARS	**Barje**	**4.51**	**319**	*ePn*		**Pn**		**12**	**16**	**00.7**	**+1.2**
BLKB	**Belogradchik**	**4.78**	**331**	*ePn*		**Pn**		**12**	**16**	**04.9**	**+1.8**
ZAGS	**Zajecar**	**5.11**	**329**	*ePn*		**Pn**		**12**	**16**	**09.1**	**+1.5**
SELS	**Selova**	**5.16**	**318**	*ePn*		**Pn**		**12**	**16**	**09.2**	**+0.9**
BOVS	**Bovan**	**5.18**	**325**	⇓P		**Pn**		**12**	**16**	**10.1**	**+1.5**
BOVS	**Bovan**	**5.18**	**325**	*ePn*		**Pn**		**12**	**16**	**09.9**	**+1.2**
KUBS	**Kucevo**	**5.83**	**329**	*ePn*		**Pn**		**12**	**16**	**17.9**	**+0.4**
IVAS	**Ivanjica**	**5.91**	**316**	*ePn*		**Pn**		**12**	**16**	**19.9**	**+1.1**
MLR	**Muntele Rosu**	**6.02**	**1**	⇓P		**Pn**		**12**	**16**	**21.8**	**+1.5**
MLR	**Muntele Rosu**	**6.02**	**1**	*ePn*		**Pn**		**12**	**16**	**21.7**	**+1.5**
MDVR	**Moldovita**	**6.12**	**331**	⇑P		**Pn**		**12**	**16**	**22.7**	**+1.1**
MDVR	**Moldovita**	**6.12**	**331**	*ePn*		**Pn**		**12**	**16**	**22.8**	**+1.1**
GZR	**Gura Zlata**	**6.33**	**340**	⇑P		**Pn**		**12**	**16**	**25.1**	**+0.6**
GZR	**Gura Zlata**	**6.33**	**340**	*ePn*		**Pn**		**12**	**16**	**25.1**	**+0.6**
GZR				*eSn*		**Sn**		**12**	**17**	**32.4**	**-4.3**
COVR	**Voineasa-Covas**	**6.38**	**2**	⇑P		**Pn**		**12**	**16**	**25.8**	**+0.6**
VRSS	**Vrsac**	**6.56**	**331**	*ePn*		**Pn**		**12**	**16**	**28.3**	**+0.7**
DRGR		**7.66**	**344**	⇓P		**Pn**		**12**	**16**	**46.4**	**+3.6**

*AFAD **26** 12:17:09.1, 40°.85N×28°.22E, h7km±2km, ML3.7*
*ISK **26** 12:17:09.3, 40°.87N×28°.27E, h9km, ML3.9/33*
*CFUSG **26** 12:17:12.8, 41°.00N×28°.57E, h5km, mb3.4/3, MD3.4/3, Sea of Marmara Magtype MSH 3.5 from 6 stations*
ISC 26 12:17:09.7±1.0, **40°.87N**±0°.02×**28°.27E**±0°.02, **h13**km±8km, **n65**, σ0°**78**/78, **7C-7D, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ELBA	**Catalca**	**0.30**	**24**	P		**Pg**	**12 17 15.8**	**-0.2**
ELBA				S		**Sb**	**12 17 20.7**	**-1.2**
ELBA	comp=N,7μm,0.4s			*i* IAML			12 17 21.0	
ELBA	comp=E,7μm,0.9s			*i* IAML			12 17 24.0	
SLVT	**Silivri**	**0.36**	**353**	Pg		**Pb**	**12 17 17.3**	**-0.7**
CTKS	**Kestanelik-??a**	**0.41**	**26**	Pg		**Pg**	**12 17 17.4**	**-0.5**
CTKS				Sg		**Sg**	**12 17 23.7**	**+0.3**
BGKT	**Bogazkoy**	**0.49**	**51**	Pg		**Pg**	**12 17 19.4**	**0.0**
BARI	**Balkesir-Ban**	**0.53**	**194**	⇓P		**Pg**	**12 17 19.7**	**-0.5**
ARMT	**Armutlu**	**0.55**	**124**	Pg		**Pg**	**12 17 20.4**	**0.0**
TKR	**Tekirdag**	**0.57**	**282**	Pg		**Pb**	**12 17 21.1**	**-0.4**
MRMT	**Marmara Adasi**	**0.58**	**243**	Pg		**Pb**	**12 17 21.4**	**-0.3**
CTYL	**Yalikoy Yolu**	**0.60**	**2**	Pg		**Pb**	**12 17 21.6**	**-0.5**
CTYL	**Yalikoy Yolu**	**0.60**	**2**	⇑P		**Pb**	**12 17 22.4**	**+0.3**
EDC	**Edincik**	**0.61**	**211**	Pg		**Pg**	**12 17 21.3**	**-0.3**
ISK	**Istanbul-Kandi**	**0.63**	**72**	Pg		**Pg**	**12 17 21.5**	**-0.5**
KAVV	**Kandilli-Istan**	**0.63**	**72**	Pg		**Pg**	**12 17 20.7**	**-1.3**
MDNY	**Mudanya-Bursa**	**0.69**	**137**	Pg		**Pb**	**12 17 23.4**	**-0.1**
KLYT	**Kilyos**	**0.70**	**57**	Pg		**Pb**	**12 17 23.5**	**-0.3**
KLYT	**Kilyos**	**0.70**	**57**	⇑P		**Pb**	**12 17 23.4**	**-0.3**
KRBG	**Karabiga-Canak**	**0.88**	**237**	Pg		**Pg**	**12 17 26.4**	**-0.3**
YLV	**Yalova**	**0.89**	**109**	Pg		**Pb**	**12 17 26.8**	**-0.3**
GONE	**Gonen-Balikesi**	**0.93**	**209**	Pg		**Pb**	**12 17 27.7**	**-0.1**
PHSR	**Pinarhisar**	**0.94**	**324**	Pg		**Pb**	**12 17 28.1**	**+0.1**
PHSR	**Pinarhisar**	**0.94**	**324**	⇓P		**Pb**	**12 17 28.0**	**+0.1**
ORLT	**Orhaneli**	**0.95**	**150**	Pg		**Pb**	**12 17 28.2**	**+0.1**
BLKS	**Balkesir-Sus**	**1.02**	**193**	P		**Pg**	**12 17 28.2**	**-1.1**
BLKS				P		**Pg**	**12 17 28.2**	**-1.1**
BLKS				S		**Sb**	**12 17 43.6**	**+1.1**
BLKS	comp=E,2μm,0.7s			*i* IAML			12 17 45.0	
BLKS	comp=E,2μm,0.7s			*i* IAML			12 17 45.0	
BLKS	comp=N,2μm,0.9s			*i* IAML			12 17 47.0	
BLKS	comp=N,2μm,0.9s			*i* IAML			12 17 47.0	

HRT	**Hereke**	**1.06**	**92**	Pg		**Pb**		**12**	**17**	**30.2**	**+0.2**
SILT	**Sile**	**1.08**	**74**	Pg		**Pb**		**12**	**17**	**30.3**	**+0.1**
SILT	**Sile**	**1.08**	**74**	⇑P		**Pb**		**12**	**17**	**30.2**	**0.0**
OSMT	**Osmaniye**	**1.12**	**103**	Pn		**Pb**		**12**	**17**	**31.0**	**0.0**
BKES	**Balkesir-Mer**	**1.17**	**193**	P		**Pg**		**12**	**17**	**31.1**	**-1.0**
BKES				S		**Sn**		**12**	**17**	**47.8**	**+0.4**
BKES	comp=N,1μm,0.3s			*i* IAML				12	17	50.0	
ADVT	**Abdulvahap**	**1.20**	**111**	Pn		**Pn**		**12**	**17**	**32.4**	**+0.2**
YENI	**Yenice-Canakka**	**1.22**	**220**	Pn		**Pb**		**12**	**17**	**32.6**	**0.0**
BALY	**Balya**	**1.23**	**204**	P		**Pb**		**12**	**17**	**31.6**	**-1.3**
BALY				S		**Sb**		**12**	**17**	**49.3**	**+0.7**
BALY	comp=N,938nm,0.6s			*i* IAML				12	17	50.0	
BALY	comp=E,931nm,0.6s			*i* IAML				12	17	53.0	
LPK	**Lapseki**	**1.25**	**247**

AOPR	**Arecibo Observ**	**0.88**	**151**			**Pb**	**12 24 17.4**	**-0.1**
AOPR				IAML			12 24 41.2	
	comp=N,120nm,0.5s							
AOPR	**Arecibo Observ**	**0.88**	**151**	*e*Pg		**Pb**	**12 24 17.6**	**0.0**
AOPR				*e*Sg		**Sn**	**12 24 31.0**	**+1.2**
AOPR				IAML			12 24 41.5	
	comp=N,111nm,0.3s							
AOPR	**Arecibo Observ**	**0.88**	**151**	*e*Pg		**Pb**	**12 24 17.3**	**-0.2**
AOPR				IAML			12 24 41.5	
	comp=N,111nm,0.3s							
EMPR	**Esperanza - Ma**	**0.90**	**135**			**Pb**	**12 24 18.5**	**+0.6**
EMPR						**Sb**	**12 24 29.0**	**-0.5**
EMPR	**Esperanza - Ma**	**0.90**	**135**	⇑*e*P		**Pb**	**12 24 18.5**	**+0.6**
EMPR	**Esperanza - Ma**	**0.90**	**135**	*e*S		**Sb**	**12 24 29.0**	**-0.5**
LSP	**Las Mesas**	**0.95**	**174**			**Pb**	**12 24 18.7**	**-0.1**
LSP						**Sb**	**12 24 28.6**	**-2.3**
LSP	**Las Mesas**	**0.95**	**174**	⇑*e*P		**Pb**	**12 24 18.7**	**-0.1**
LSP	**Las Mesas**	**0.95**	**174**	*e*S		**Sb**	**12 24 28.6**	**-2.3**
UUPR	**Utuado, UPR, P**	**0.98**	**152**			**Pn**	**12 24 19.7**	**+0.6**
UUPR						**Sb**	**12 24 29.5**	**-2.2**
UUPR	**Utuado, UPR, P**	**0.98**	**152**	⇑*e*P		**Pn**	**12 24 19.7**	**+0.6**
UUPR	**Utuado, UPR, P**	**0.98**	**152**	*e*S		**Sb**	**12 24 29.5**	**-2.2**
CRPR	**Cabo Rojo, PR**	**1.11**	**176**			**Pn**	**12 24 20.9**	**-0.1**
CRPR						**Sn**	**12 24 36.7**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.11**	**176**	IAML			12 24 43.0	
	comp=N,59nm,0.5s							
CRPR				IAML			12 24 47.1	
	comp=E,52nm,0.6s							
CRPR	**Cabo Rojo, PR**	**1.11**	**176**	⇑*e*P		**Pn**	**12 24 20.9**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.11**	**176**	*e*S		**Sn**	**12 24 36.7**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.11**	**176**	⇑*e*Pg		**Pn**	**12 24 20.9**	**-0.1**
CRPR				IAML			12 24 40.0	
	comp=N,64nm,0.7s							
CRPR				IAML			12 24 41.6	
	comp=E,60nm,0.2s							
ECPR	**Experimental S**	**1.12**	**135**	⇑*e*P		**Pn**	**12 24 21.6**	**+0.4**
ECPR	**Experimental S**	**1.12**	**135**	*e*S		**Sn**	**12 24 33.3**	**-2.6**
MLPR	**Magueyes Islan**	**1.16**	**173**	⇑*e*P		**Pn**	**12 24 21.6**	**0.0**
MLPR	**Magueyes Islan**	**1.16**	**173**	*e*S		**Sn**	**12 24 34.7**	**-2.0**
MLPR	**Magueyes Islan**	**1.16**	**173**	⇑*e*Pg		**Pn**	**12 24 21.6**	**0.0**
MLPR				IAML			12 24 40.6	
	comp=N,15nm,0.6s							
MLPR	**Magueyes Islan**	**1.16**	**173**	⇑*e*Pg		**Pn**	**12 24 21.4**	**-0.2**
MLPR				IAML			12 24 40.6	
	comp=N,15nm,0.6s							
MLPR				IAML			12 24 42.4	
	comp=E,16nm,0.6s							
MLPR				IAML			12 24 46.6	
	comp=Z,12nm,0.8s							
CELP	**Cerrillos**	**1.20**	**151**			**Pn**	**12 24 22.6**	**+0.4**
CELP						**Sn**	**12 24 36.7**	**-1.0**
CELP	**Cerrillos**	**1.20**	**151**	⇑*e*P		**Pn**	**12 24 22.6**	**+0.4**
CELP	**Cerrillos**	**1.20**	**151**	*e*S		**Sn**	**12 24 36.7**	**-1.0**
CELP	**Cerrillos**	**1.20**	**151**	⇑*e*Pg		**Pn**	**12 24 22.4**	**+0.2**
CELP				⇑*e*Sg		**Sb**	**12 24 39.5**	**+1.6**
CELP				IAML			12 24 41.3	
	comp=N,83nm,0.3s							
CELP				IAML			12 24 42.0	
	comp=E,54nm,0.6s							
CELP	**Cerrillos**	**1.20**	**151**	⇑*e*Pg		**Pn**	**12 24 22.4**	**+0.2**
CELP				⇑*e*Sg		**Sb**	**12 24 39.5**	**+1.6**
CELP				IAML			12 24 41.3	
	comp=N,83nm,0.3s							
CELP				IAML			12 24 47.4	
	comp=E,42nm,0.2s							
GCPR	**Guaynabo City**	**1.33**	**127**	Pn		**Pb**	**12 24 25.9**	**+0.7**
PDPR	**Patillas Dam,**	**1.56**	**134**	Pn		**Pn**	**12 24 28.8**	**+1.6**
PDPR				IAML			12 24 51.0	
	comp=E,24nm,0.3s							
PDPR				IAML			12 24 52.8	
	comp=N,27nm,0.4s							
PDPR	**Patillas Dam,**	**1.56**	**134**	⇑*e*P		**Pn**	**12 24 28.4**	**+1.2**
PDPR	**Patillas Dam,**	**1.56**	**134**	*e*S		**Sn**	**12 24 43.5**	**-3.2**
MIDR	**Miches**	**1.76**	**266**	*e*Pg		**Pn**	**12 24 29.5**	**-0.4**
MIDR				IAML			12 25 00.3	
	comp=N,15nm,0.3s							
MIDR				IAML			12 25 00.5	
	comp=N,15nm,0.4s							
MIDR	**Miches**	**1.76**	**266**	*e*Pg		**Pn**	**12 24 30.5**	**+0.6**
MIDR				IAML			12 25 00.3	
	comp=N,15nm,0.3s							

*IDC **26** 12:26:07.6±1.5,40.°57N×28.°15E, h0km, mb3.2/3, mbtmp3.2/5, ML3.9/2, Error ellipse: s-maj=21.7km s-min=11.2km az=40.0*
*SOF **26** 12:26:09.9,40.°8N±0.°1×28.°2E±0.°1, h18km±21km, MD4.2/4*
*AFAD **26** 12:26:10.9,40.°85N×28.°26E, h7km±2km, MW3.7*
*ISK **26** 12:26:10.9,40.°87N×28.°27E, h11km, ML3.8/39*
*THE **26** 12:26:12.7,41.°N±3.°×2.°8E±.°, h17km, M3.4/14, MLh3.4/14*
*CFUSG **26** 12:26:13.2,40.°92N×28.°61E, h5km, mb3.3/3, MD3.4/4, Sea of Marmara Magtype MSH 3.4 from 6 stations*
ISC 26 12:26:10.9±0.9,**40.°83N**±0.°02×**28.°27E**±0.°02,**h13**km±7km, **n119**, σ0**80**/150,**18C-15D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELBA	**Catalca**	**0.34**	**21**	P	**Pg**	**12 26 17.8**	**-0.1**
ELBA				S	**Sg**	**12 26 22.1**	**-0.4**
AVCI	**Avcilar-stanb**	**0.38**	**64**	Pg	**Pg**	**12 26 18.8**	**+0.2**
SLVT	**Silivri**	**0.40**	**353**	Pg	**Pg**	**12 26 19.0**	**0.0**
SLVT				Sg	**Sg**	**12 26 23.8**	**-0.6**
CTKS	**Kestanelik-??a**	**0.44**	**24**	Pg	**Pg**	**12 26 19.9**	**+0.2**
CTKS				Sg	**Sg**	**12 26 25.2**	**-0.4**
BAND	**Balkesir-Ban**	**0.49**	**195**	P	**Pb**	**12 26 21.3**	**-0.1**
BAND				S	**Sg**	**12 26 28.0**	**+0.7**
BAND	**Balkesir-Ban**	**0.49**	**195**	⇓P	**Pb**	**12 26 21.4**	**-0.1**
BGKT	**Bogazkoy**	**0.51**	**47**	Pg	**Pg**	**12 26 21.0**	**-0.1**
BGKT				Sg	**Sg**	**12 26 28.2**	**+0.3**
ARMT	**Armutlu**	**0.52**	**121**	Pg	**Pb**	**12 26 22.1**	**+0.2**
MRMT	**Marmara Adasi**	**0.56**	**246**	Pg	**Pb**	**12 26 23.2**	**+0.5**
EDC	**Edincik**	**0.58**	**213**	Pg	**Pb**	**12 26 22.9**	**0.0**
TKR	**Tekirdag**	**0.58**	**286**	Pg	**Pg**	**12 26 22.3**	**0.0**
TKR				Sg	**Sb**	**12 26 31.3**	**+0.3**
ISK	**Istanbul-Kandi**	**0.64**	**68**	Pg	**Pg**	**12 26 23.3**	**-0.1**
KAVV	**Kandilli-Istan**	**0.64**	**69**	Pg	**Pg**	**12 26 22.0**	**-1.4**
CTYL	**Yalikoy Yolu**	**0.64**	**1**	Pg	**Pb**	**12 26 23.1**	**-0.4**
CTYL	**Yalikoy Yolu**	**0.64**	**1**	⇑P	**Pb**	**12 26 24.3**	**+0.4**
MDNY	**Mudanya-Bursa**	**0.66**	**135**	Pg	**Pb**	**12 26 24.6**	**+0.4**
KLYT	**Kilyos**	**0.72**	**54**	Pg	**Pg**	**12 26 24.9**	**0.0**
KLYT	**Kilyos**	**0.72**	**54**	⇑P	**Pg**	**12 26 24.9**	**0.0**
KURT	**Yalova, Merkez**	**0.75**	**109**	P	**Pg**	**12 26 25.9**	**+0.3**
KURT				S	**Sb**	**12 26 36.3**	**+0.3**
VIZE	**Kirklareli, Vi**	**0.81**	**337**	P	**Pg**	**12 26 26.4**	**-0.3**
VIZE				S	**Sb**	**12 26 37.5**	**-0.3**
SART	**Tekirdag**	**0.84**	**260**	P	**Pg**	**12 26 27.1**	**-0.1**
SART				S	**Sb**	**12 26 39.2**	**+0.6**
KRBG	**Karabiga-Canak**	**0.86**	**240**	Pg	**Pb**	**12 26 27.9**	**+0.2**
YLV	**Yalova**	**0.88**	**107**	Pg	**Pb**	**12 26 28.7**	**+0.7**
SUSR	**Susurluk-Balik**	**0.88**	**189**	Pg	**Pb**	**12 26 28.5**	**+0.4**
GONE	**Gonen-Balikesi**	**0.90**	**210**	Pg	**Pn**	**12 26 29.6**	**+0.3**
ORLT	**Orhaneli**	**0.92**	**149**	Pg	**Pn**	**12 26 29.5**	**-0.1**
ULDT	**Uludag**	**0.95**	**136**	P	**Pb**	**12 26 29.7**	**+0.3**
ULDT				S	**Sn**	**12 26 43.4**	**-0.3**
PHSR	**Pinarhisar**	**0.98**	**325**	Pg	**Pg**	**12 26 29.7**	**-0.1**
PHSR	**Pinarhisar**	**0.98**	**325**	⇓P	**Pg**	**12 26 29.7**	**-0.1**
HRT	**Hereke**	**1.06**	**90**	Pg	**Pb**	**12 26 31.1**	**0.0**
SILT	**Sile**	**1.09**	**72**	Pg	**Pb**	**12 26 31.5**	**0.0**
SILT	**Sile**	**1.09**	**72**	⇑P	**Pb**	**12 26 31.6**	**0.0**
SILT				⇑S	**Sn**	**12 26 46.8**	**+0.1**
OSMT	**Osmaniye**	**1.11**	**102**	Pn	**Pg**	**12 26 32.6**	**+0.3**
SEMS	**Kocaeli-K¶rfe**	**1.11**	**88**	P	**Pb**	**12 26 32.2**	**+0.2**
SEMS				S	**Sg**	**12 26 47.1**	**+0.2**
ADVT	**Abdulvahap**	**1.19**	**109**	Pn	**Pn**	**12 26 33.4**	**+0.2**
YENI	**Yenice-Canakka**	**1.19**	**222**	Pn	**Pg**	**12 26 33.9**	**0.0**
ARMN	**Kirklareli, Me**	**1.21**	**329**	P	**Pn**	**12 26 33.3**	**-0.2**
ARMN				S	**Sb**	**12 26 48.7**	**-0.5**
LPK	**Lapseki**	**1.24**	**249**	Pn	**Pg**	**12 26 34.6**	**-0.2**
CANM	**Can-anakkale**	**1.24**	**229**	Pn	**Pb**	**12 26 34.4**	**+0.2**
DST	**Dursunbey**	**1.26**	**168**	Pn	**Pg**	**12 26 35.9**	**+0.8**
UKOP	**Uzunkopru-Edir**	**1.28**	**284**	Pn	**Pb**	**12 26 34.9**	**+0.1**
KIRK	**Kirklareli**	**1.30**	**317**	P	**Pn**	**12 26 34.6**	**-0.1**
KIRK				S	**Sn**	**12 26 52.2**	**+0.3**
ERIK	**Erikli-Kesan**	**1.35**	**264**	Pn	**Pb**	**12 26 35.7**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.44**	**253**	Pn	**Pb**	**12 26 37.2**	**-0.3**
YAYO	**Edremit-Balk**	**1.53**	**217**	Pn	**Pb**	**12 26 39.1**	**0.0**
EDRB	**Edirne**	**1.53**	**312**	Pn	**Pn**	**12 26 37.9**	**0.0**
SAUV	**Serdivan-Sakar**	**1.56**	**93**	Pn	**Pb**	**12 26 39.5**	**-0.2**
CAVK	**Edirne/Enez-Ca**	**1.60**	**266**	⇓P	**Pn**	**12 26 39.7**	**+0.7**
GPA	**Golpazari**	**1.65**	**109**	Pn	**Pb**	**12 26 40.6**	**-0.5**
TVSB	**Tavsanli**	**1.66**	**146**	Pn	**Pb**	**12 26 40.9**	**-0.4**
ALN	**Alexandroupoli**	**1.69**	**273**	Pn	**Pb**	**12 26 41.1**	**-0.7**
ALN	**Alexandroupoli**	**1.69**	**273**	P	**Pn**	**12 26 40.3**	**+0.2**
ALN				S	**Sn**	**12 27 02.2**	**+0.7**
GULT	**Gulveren**	**1.75**	**102**	Pn	**Pb**	**12 26 43.4**	**+0.4**
SOMA	**Soma-Manisa**	**1.77**	**199**	Pn	**Pb**	**12 26 42.8**	**-0.4**
EZN	**Ezine**	**1.80**	**237**	Pn	**Pb**	**12 26 43.4**	**-0.2**
EZN	**Ezine**	**1.80**	**237**	P	**Pn**	**12 26 42.2**	**+0.7**
EZN				S	**Sb**	**12 27 05.4**	**-0.6**
EZN	**Ezine**	**1.80**	**237**	⇓P	**Pn**	**12 26 42.1**	**+0.5**
EZNE	**Ezine-Canakkal**	**1.81**	**234**	Pn	**Pb**	**12 26 43.4**	**-0.5**
GADA	**Gvkgeada**	**1.92**	**251**	Pn	**Pn**	**12 26 44.3**	**+1.1**
GADA	**Gvkgeada**	**1.92**	**251**	P	**Pn**	**12 26 44.1**	**+0.8**
GADA				S	**Sn**	**12 27 07.3**	**+0.1**
SAHE	**Sakarya_HENDEK**	**1.96**	**89**	⇓P	**Pb**	**12 26 45.4**	**-1.1**
SAHE				⇑S	**Sb**	**12 27 11.3**	**+0.6**
BOZC	**Bozcaada**	**1.96**	**240**	Pn	**Pn**	**12 26 45.1**	**+1.2**
RDO	**Rodhopi**	**2.09**	**279**	Pn	**Pn**	**12 26 46.3**	**+0.6**
RDO	**Rodhopi**	**2.09**	**279**	P	**Pn**	**12 26 46.2**	**+0.6**
RDO				S	**Sn**	**12 27 12.3**	**+0.8**
JMB	**Yambol**	**2.11**	**322**	P	**Pn**	**12 26 46.3**	**+0.4**
SMTH	**Samothraki Isl**	**2.12**	**261**	P	**Pn**	**12 26 46.1**	**+0.1**
PRK	**Paraskevi**	**2.21**	**225**	P	**Pn**	**12 26 47.9**	**+0.7**
PRK				S	**Sn**	**12 27 14.9**	**+0.6**
KDZ	**Kurdzhali**	**2.35**	**291**	P	**Pn**	**12 26 49.1**	**-0.1**
KDZ	**Kurdzhali**	**2.35**	**291**	Pn	**Pn**	**12 26 49.3**	**+0.1**
KDZ	**Kurdzhali**	**2.35**	**291**	P	**Pn**	**12 26 49.0**	**-0.1**
KDZ				S	**Sn**	**12 27 17.5**	**-0.3**
ROIA	**ROIAK**	**2.35**	**344**	P	**Pn**	**12 26 50.2**	**+0.9**
DIM	**Dimitrovgrad**	**2.36**	**302**	P	**Pn**	**12 26 49.9**	**+0.6**
DIM	**Dimitrovgrad**	**2.36**	**302**	P	**Pn**	**12 26 49.8**	**+0.6**
LIA	**Limnos Island**	**2.54**	**249**	P	**Pn**	**12 26 52.0**	**+0.3**
KALB	**Balgarevo**	**2.57**	**2**	⇑P	**Pn**	**12 26 54.0**	**+1.8**
BLCB	**Balcova**	**2.62**	**202**	S	**Sn**	**12 27 25.3**	**+0.7**
THAS	**Thassos island**	**2.71**	**266**	P	**Pn**	**12 26 54.2**	**+0.1**
THAS				S	**Sn**	**12 27 26.2**	**-0.5**
ELND	**Elena**	**2.75**	**320**	⇓P	**Pn**	**12 26 55.5**	**+0.7**
LOZB	**Loznitsa**	**2.83**	**334**	⇓P	**Pn**	**12 26 56.1**	**+0.4**
KAVA	**Kavala**	**2.85**	**275**	P	**Pn**	**12 26 56.2**	**+0.2**
SZH	**Strazhitsa**	**2.97**	**326**	P	**Pn**	**12 26 58.4**	**+0.6**
SZH				S	**Sn**	**12 27 31.7**	**-1.5**
CHOS	**Chios island**	**2.98**	**216**	P	**Pn**	**12 26 58.2**	**+0.2**
CHOS				S	**Sn**	**12 27 33.7**	**+0.1**
OUR	**Ouranopolis**	**3.31**	**263**	P	**Pn**	**12 27 02.3**	**0.0**
MMB	**Musomishta**	**3.49**	**283**	P	**Pn**	**12 27 06.3**	**+1.5**
SRS	**Serrai**	**3.55**	**276**	P	**Pn**	**12 27 06.0**	**+0.3**
TIRR	**Tirgusor**	**3.62**	**2**	⇓P	**Pn**	**12 27 07.2**	**+0.6**
TIRR				⇓S	**Sn**	**12 27 49.9**	**+0.7**
CIDE	**Kastamonu/Cide**	**3.67**	**72**	⇑P	**Pn**	**12 27 08.6**	**+1.3**
PLVB	**Pleven**	**3.73**	**314**	⇓P	**Pn**	**12 27 09.4**	**+1.3**
HARR	**Harsova**	**3.86**	**356**	⇓P	**Pn**	**12 27 11.5**	**+1.5**
HORT	**Hortiatis**	**3.94**	**268**	P	**Pn**	**12 27 11.2**	**+0.1**
PLNA	**Plana**	**3.98**	**296**	P	**Pn**	**12 27 13.4**	**+1.6**
KKB	**Krupnik**	**4.00**	**286**	P	**Pn**	**12 27 13.1**	**+1.2**
TPGR	**Topolog**	**4.02**	**1**	⇑P	**Pn**	**12 27 14.0**	**+1.8**
TPGR				⇑S	**Sn**	**12 28 00.3**	**+1.2**
VTS	**Vitosha**	**4.17**	**297**	P	**Pn**	**12 27 15.4**	**+1.1**
BRTR	**Keskin Array B**	**4.25**	**103**	Pn	**Pn**	**12 27 15.2**	**-0.2**
	0.6nm,0.4s,baz=270,slow=9.7,SNR=4.7						
BRTR				Pg	**Pg**	**12 27 30.5**	**-1.9**
	0.6nm,0.3s,baz=277,slow=14,SNR=22						
BRTR				Sn	**Sn**	**12 28 05.6**	**+0.6**
	0.3nm,0.3s,baz=312,slow=16,SNR=1.3						
BRTR				Lg	Lg	12 28 24.9	
	0.2nm,0.3s,baz=267,slow=22,SNR=4.6						
CFR	**Carcaliu**	**4.34**	**359**	⇑P	**Pn**	**12 27 17.4**	**+0.9**
TLCR		**4.37**	**5**	⇓P	**Pn**	**12 27 18.4**	**+1.5**
ISR	**Istrita**	**4.47**	**344**	⇑P	**Pn**	**12 27 20.0**	**+1.6**
MLR	**Muntele Rosu**	**4.96**	**341**	Pn	**Pn**	**12 27 27.1**	**+2.0**
	2.7nm,0.3s,baz=48,slow=3.0,SNR=35						
MLR				Lg	Lg	12 28 50.4	
	3.0nm,0.3s,baz=114,slow=20,SNR=5.8						
MLR	**Muntele Rosu**	**4.96**	**341**	⇑P	**Pn**	**12 27 27.4**	**+2.3**
VRI	**Vrincioaia**	**5.15**	**348**	⇑P	**Pn**	**12 27 29.4**	**+1.7**
VOIR		**5.17**	**334**	⇑P	**Pn**	**12 27 29.2**	**+1.2**
COVR	**Voineasa-Covas**	**5.23**	**344**	⇑P	**Pn**	**12 27 30.3**	**+1.5**
SEV	**Sevastopol'**	**5.44**	**45**	*e*P	**Pn**	**12 27 32.0**	**+0.4**
SEV				Pm		12 27 36.3	
	comp=Z,11nm,0.3s						
SEV				*ex*	x	12 28 31.5	
SEV				*i* S	**Sn**	**12 28 33.3**	**-0.6**
SEV				Sm		12 28 37.1	
	comp=N,9.0nm,0.5s						
SEV				Sm		12 28 37.1	
	comp=E,18nm,0.4s						
TARU	**Tarkhankut**	**5.51**	**33**	*e*P	**Pn**	**12 27 33.3**	**+0.8**
TARU				Pm		12 27 33.7	
	comp=Z,26nm,0.4s						
TARU				*ex*	x	12 28 34.0	
TARU				*e*S	**Sn**	**12 28 35.3**	**-0.4**
TARU				Sm		12 28 38.1	
	comp=N,26nm,0.3s						
TARU				Sm		12 28 38.1	
	comp=E,12nm,0.4s						
ONER	**Baraj Valea Uz**	**5.67**	**347**	⇑P	**Pn**	**12 27 35.8**	**+1.1**
YAL	**Yalta**	**5.67**	**48**	*ex*	x	12 27 37.9	
YAL				*e*S	**Sn**	**12 28 37.7**	**-1.9**
YAL				Sm		12 28 40.8	
	comp=N,14nm,0.4s						
YAL				Sm		12 28 40.8	
	comp=E,17nm,0.4s						
DNZ2	**Donuzlav2**	**5.80**	**37**	*e*S	**Sn**	**12 28 44.0**	**+1.1**
DNZ2				Sm		12 28 52.2	
	comp=N,35nm,0.4s						
DNZ2				Sm		12 28 52.2	
	comp=E,18nm,0.4s						
HERR	**Herculane**	**5.91**	**315**	⇑P	**Pn**	**12 27 37.7**	**-0.3**
SIM	**Simferopol'**	**5.94**	**44**	*e*P	**Pn**	**12 27 38.7**	**+0.1**
SIM				Pm		12 27 39.8	
	comp=Z,16nm,0.3s						
SIM				*ex*	x	12 28 42.8	
SIM				*e*S	**Sn**	**12 28 45.1**	**-1.4**
SIM				Sm		12 28 52.2	
	comp=N,59nm,1.0s,comp=E,66nm,1.0s						
GZR	**Gura Zlata**	**6.08**	**320**	⇓P	**Pn**	**12 27 40.5**	**0.0**
MDVR	**Moldovita**	**6.23**	**311**	⇓P	**Pn**	**12 27 43.0**	**+0.4**
SUDU	**Sudak**	**6.39**	**48**	*ex*	x	12 27 48.3	
SUDU				*e*S	x	12 28 54.5	
SUDU				*i* S	**Sn**	**12 28 57.9**	**+0.4**
SUDU				Sm		12 29 09.0	
	comp=N,53nm,0.6s						
SUDU				Sm		12 29 09.0	
	comp=E,13nm,0.4s						
MARR	**Marisel-Cluj**	**6.93**	**329**	⇑P	**Pn**	**12 27 53.3**	**+1.1**
BURAR	**Bucovina Array**	**7.12**	**343**	⇓P	**Pn**	**12 27 56.6**	**+1.7**
AKASG	**Malin Array Be**	**9.89**	**4**	Pn	**Pn**	**12 28 33.2**	**+0.5**
	comp=E,1.6nm,0.3s,baz=184,slow=14,SNR=7.5						
AKASG				Sn	**Sn**	**12 30 25.9**	**+2.4**
	comp=E,1.3nm,0.3s,baz=174,slow=27,SNR=4.2						
	comp=E,0.9nm,0.4s						
FINES	**FINESS Array B**	**20.68**	**357**	P	Pn	12 30 52.0	-0.6
	comp=E,1.6nm,0.7s,baz=174,slow=15,SNR=2.6						
	comp=E,1.6nm,0.7s						
ESDC	**Sonseca Array**	**24.56**	**278**	P	**P**	**12 31 28.8**	**-1.6**
	comp=E,0.3nm,0.7s,baz=68,slow=9.6,SNR=7.9						
	comp=E,0.3nm,0.7s						
MKAR	**Makanchi Array**	**38.78**	**63**	P	**P**	**12 33 35.1**	**0.0**
	comp=E,0.3nm,0.7s,baz=265,slow=6.8,SNR=5.0						
	comp=E,0.3nm,0.7s						

*SDD **26** 12:26:24.9±0.9, 19.°26N×67.°25W, h18km±40km, MD3.2, ML1.8, MW2.7*
*RSPR **26** 12:26:27.6, 19.°02N×67.°48W, h73km±5km, MD2.6/7*
ISC 26 12:26:27.1±1.9,**19.°1N**±0.°1×**67.°36W**±0.°05,**h27**km,**n20**, σ0**97**/22,**7C**,**Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.69**	**160**	⇑*e*P	**Pn**	**12 26 41.8**	**+0.8**
AGPR	**Aguadilla, PR**	**0.69**	**160**	*e*S	**Sn**	**12 26 52.0**	**+1.2**
AGPR	**Aguadilla, PR**	**0.69**	**160**	*e*Sg	**Sb**	**12 26 50.3**	**+0.6**
AGPR				IAML		12 27 00.7	
	comp=N,42nm,0.6s						
IDE	**Isla Desecheo**	**0.73**	**188**	⇑*e*P	**Pb**	**12 26 40.9**	**-0.3**
IDE	**Isla Desecheo**	**0.73**	**188**	*e*S	**Sn**	**12 26 52.4**	**+0.5**
AOPR	**Arecibo Observ**	**0.96**	**143**	*e*Pg	**Pn**	**12 26 43.0**	**-1.8**
AOPR				IAML		12 27 06.1	
	comp=N,47nm,0.9s						
EMPR	**Esperanza - Ma**	**1.01**	**129**	⇑*e*P	**Pb**	**12 26 46.5**	**+0.5**
EMPR	**Esperanza - Ma**	**1.01**	**129**	*e*S	**Sb**	**12 27 01.2**	**+2.3**
CRPR	**Cabo Rojo, PR**	**1.13**	**168**	⇑*e*P	**Pn**	**12 26 47.0**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.13**	**168**	*e*S	**Sn**	**12 27 01.9**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.13**	**168**	*e*Pg	**Pn**	**12 26 46.6**	**-0.5**
CRPR				*e*Sg	**Sb**	**12 27 02.5**	**+0.3**
CRPR				IAML		12 27 05.5	
	comp=E,11nm,0.5s						
CRPR				IAML		12 27 06.2	
	comp=N,26nm,1.9s						
MLPR	**Magueyes Islan**	**1.18**	**165**	⇑*e*P	**Pn**	**12 26 46.7**	**-1.1**
MLPR	**Magueyes Islan**	**1.18**	**165**	*e*S	**Sn**	**12 27 01.5**	**-1.4**
ECPR	**Experimental S**	**1.23**	**130**	⇑*e*P	**Pb**	**12 26 49.1**	**-0.7**
ECPR	**Experimental S**	**1.23**	**130**	*e*S	**Sn**	**12 27 04.7**	**+0.4**
CELP	**Cerrillos**	**1.27**	**144**	⇑*e*P	**Pn**	**12 26 48.5**	**-0.7**
CELP	**Cerrillos**	**1.27**	**144**	*e*S	**Sn**	**12 27 05.3**	**0.0**
CELP	**Cerrillos**	**1.27**	**144**	*e*Pg	**Pn**	**12 26 48.4**	**-0.7**
CELP				*e*Sg	**Sn**	**12 27 05.3**	**0.0**
CELP				IAML		12 27 10.6	
	comp=N,12nm,0.3s						
CELP				IAML		12 27 11.6	
	comp=E,10nm,1.7s						
OBIP	**Obispado Ponce**	**1.28**	**146**	*e*S	**Sb**	**12 27 06.6**	**-0.1**
MIDR	**Miches**	**1.60**	**266**	*e*Sg	**Sb**	**12 27 16.8**	**+1.0**
MIDR				IAML		12 27 43.2	
	comp=N,18nm,2.0s						

*IDC **26** 12:33:10.8±1.1,39.°37N×26.°01E, h0km, mb3.5/6, mbtmp3.5/10, ML3.7/3, Error ellipse: s-maj=16.3km s-min=15.6km az=178.0*
*ISK **26** 12:33:11.7,39.°48N×25.°82E, h9km, ML3.9/34*
*AFAD **26** 12:33:11.3,39.°46N×25.°81E, h8km±1km, MW3.8*
*THE **26** 12:33:12.5,39.°5N±1.0×2.°6E±.°, h10km±1km, M3.2/26, MLh3.2/26*
*ATH **26** 12:33:12.5,39.°48N×25.°87E, h15km±1km, ML3.3/30, Manual Solution by A.Andreou First location: 2019/09/26 12:34:26, This location: 2019/09/26 13:41:19 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*BEO **26** 12:33:15.5±0.8,39.°69N×25.°76E, h0km, ML3.6/4*
ISC 26 12:33:12.5±0.8,**39.°48N**±0.°02×**25.°84E**±0.°02,**h13**km±6km, **n198**, σ0**92**/238,**mb3.4**/5,**15C-16D**,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GPNR	**Gulpinar-Canak**	**0.23**	**95**	Pg	**Pg**	**12 33 17.9**	**+0.4**
KOCA	**Canakkale, Ayv**	**0.23**	**84**	P	**Pg**	**12 33 16.9**	**-0.7**
KOCA				S	**Sg**	**12 33 20.6**	**-0.4**
SIGR	**SIGRI**	**0.27**	**177**	Pg	**Pg**	**12 33 17.8**	**-0.4**
SIGR				Sg	**Sg**	**12 33 22.6**	**+0.7**
SIGR	**SIGRI**	**0.27**	**177**	P	**Pg**	**12 33 17.7**	**-0.4**
SIGR				S	**Sg**	**12 33 22.3**	**+0.1**
SIGR	**SIGRI**	**0.27**	**177**	P	**Pg**	**12 33 17.7**	**-0.4**
SIGR				S	**Sg**	**12 33 22.4**	**+0.5**
BOZC	**Bozcaada**	**0.40**	**25**	Pg	**Pg**	**12 33 19.9**	**-0.7**
BO

NEO	Neokhori	2.03 266	P		Pn	12 33 46.1	-0.4	
NEO	Neokhori	2.03 266	P		Pn	12 33 45.9	-0.6	
DION	Dionisos Attik	2.04 227	P		Pn	12 33 45.6	-0.9	
DION	Dionisos Attik	2.04 227	P		Pn	12 33 45.7	-0.9	
PLG	Polygyros	2.04 297	P		Pn	12 33 47.2	+0.6	
PTL	Penteli	2.10 228	P		Pn	12 33 47.8	+0.4	
ODEM	Odemis-Izmir	2.12 124	Pn		Pn	12 33 47.4	-0.3	
DST	Dursunbey	2.15 86	Pn		Pn	12 33 48.6	+0.4	
KDZ	Kurdzhali	2.18 350	Pn		Pn	12 33 48.7	+0.2	
KDZ	Kurdzhali	2.18 350	P		Pn	12 33 48.7	+0.2	
ATHU	Athens Univers	2.20 227	P		Pn	12 33 49.0	+0.2	
STFN	Stefani	2.21 235	P		Pn	12 33 49.0	0.0	
VLY	Voula,Athens	2.28 225	P		Pn	12 33 49.0	-0.8	
VLY	Voula,Athens	2.28 225	P		Pn	12 33 49.0	-0.8	
MAGU	Magoula	2.29 233	P		Pn	12 33 50.8	+0.9	
ATAL	Atalanti	2.33 251	P		Pn	12 33 50.0	-0.4	
ATAL	Atalanti	2.33 251	P		Pn	12 33 50.0	-0.4	
SOH	Sokhos	2.33 306	P		Pn	12 33 51.0	+0.4	
SOH	Sokhos	2.33 306	P		Pn	12 33 50.9	+0.4	
LKR	Lokris	2.36 250	P		Pn	12 33 51.7	+0.9	
VILL	Villia	2.37 237	P		Pn	12 33 50.3	-0.8	
VIL2	Platees	2.37 239	P		Pn	12 33 50.3	-0.8	
SRS	Serrai	2.37 314	P		Pn	12 33 51.2	+0.1	
SRS	Serrai	2.37 314	*e*Pn		Pn	12 33 51.1	+0.1	
SRS	Serrai	2.37 314	P		Pn	12 33 51.2	+0.1	
HORT	Hortiatis	2.38 299	P		Pn	12 33 51.8	+0.5	
HORT	Hortiatis	2.38 299	P		Pn	12 33 52.1	+0.8	
APE	Apeiranthos	2.42 186	P		Pn	12 33 52.7	+1.0	
ORLT	Orhaneli	2.42 75	Pn		Pn	12 33 52.2	+0.3	
EDRB	Edirne	2.47 16	Pn		Pn	12 33 53.1	+0.7	
THE	Thessaloniki	2.49 299	P		Pn	12 33 54.0	+1.3	
PHSR	Pinarhisar	2.51 30	⇑P		Pn	12 33 54.4	+1.5	
MDNY	Mudanya-Bursa	2.51 68	Pn		Pn	12 33 54.3	+1.4	
SLVT	Silivri	2.52 45	Pn		Pn	12 33 53.7	+0.6	
AXAR	Agios Charalam	2.57 255	P		Pn	12 33 55.0	+1.2	
DIM	Dimitrovgrad	2.57 356	P		Pn	12 33 54.4	+0.5	
MMB	Musomishta	2.61 323	P		Pn	12 33 55.1	+0.7	
LIT	Litokhoron	2.65 285	P		Pn	12 33 55.4	+0.4	
LIT	Litokhoron	2.65 285	P		Pn	12 33 55.3	+0.4	
MET4	Agioi Theodoro	2.66 227	P		Pn	12 33 55.2	+0.2	
LTK	Loutraki	2.67 238	P		Pn	12 33 54.6	-0.6	
LTK	Loutraki	2.67 238	P		Pn	12 33 54.8	-0.5	
BODT	Bodrum	2.68 154	P		Pn	12 33 55.8	+0.5	
MET5	Makryloggos,Me	2.69 227	P		Pn	12 33 56.1	+0.7	
LOUT	Loutraki	2.69 237	P		Pn	12 33 54.7	-0.7	
MET2	Kameni Chora,	2.71 227	P		Pn	12 33 55.7	0.0	
CTYL	Yalikoy Yolu	2.73 42	⇓P		Pn	12 33 57.3	+1.3	
PLD	Plovdiv	2.79 343	P		Pn	12 33 57.7	+0.8	
PLD	Plovdiv	2.79 343	*e*Pn		Pn	12 33 57.6	+0.8	
TYRN	Tyrnavos	2.79 276	P		Pn	12 33 57.5	+0.5	
TYRN	Tyrnavos	2.79 276	P		Pn	12 33 57.4	+0.5	
KNT	Kendrikon	2.81 308	P		Pn	12 33 57.8	+0.7	
MAKR	Makrakomi, Fth	2.91 262	P		Pn	12 33 59.5	+0.9	
THL	Klokotos Trika	2.96 273	P		Pn	12 33 59.9	+0.7	
THL	Klokotos Trika	2.96 273	P		Pn	12 33 59.5	+0.4	
MHLO	Agia Marina, M	3.00 203	P		Pn	12 33 59.2	-0.6	
KLYT	Kilyos	3.02 53	⇑P		Pn	12 34 00.9	+0.8	
NISR	Nisiros	3.04 160	P		Pn	12 34 00.3	+0.1	
SAP3	Santorini-Thir	3.06 187	P		Pn	12 34 00.9	+0.4	
VAY	Valandovo	3.10 307	*i* Pn		Pg	12 34 13.2	+1.2	
VAY			*i* Sn		Sg	12 34 52.0	-0.1	
THERA	Ancient Thera,	3.12 185	P		Pn	12 33 59.9	-1.4	
GUR	Goura	3.14 242	P		Pn	12 34 01.4	-0.3	
ANX	Ano Chora	3.17 255	P		Pn	12 34 02.6	+0.4	
KLV	Kalavryta, Ach	3.22 245	P		Pn	12 34 02.6	-0.2	
ELND	Elena	3.45 0	⇓P		Pn	12 34 06.3	+0.4	
TETR	Tetrakomo, Epi	3.54 265	P		Pn	12 34 08.3	+1.2	
VLI	Veliai	3.58 221	P		Pn	12 34 07.2	+0.5	
VTS	Vitosha	3.70 329	*e*Pn		Pn	12 34 10.6	+1.1	
VTS			*e*Sn		Sn	12 34 52.1	-1.0	
ARG	Arkhangelos	3.73 150	P		Pn	12 34 10.0	+0.3	
LOZB	Loznitsa	3.93 8	⇓P		Pn	12 34 13.0	+0.4	
BOSS	Bosilegrad	3.94 321	*e*Pn		Pn	12 34 14.3	+1.6	
BOSS			*e*Sn		Sn	12 34 59.5	+0.7	
PLVB	Pleven	4.01 347	⇓P		Pn	12 34 13.7	+0.1	
KARP	Karpathos	4.06 165	P		Pn	12 34 13.9	-0.5	
RAZG	Razgrad	4.12 7	⇑P		Pn	12 34 15.7	+0.7	
IDI	Anoyia	4.25 191	Pn		Pn	12 34 17.5	+0.5	
	2.3nm,0.3s,baz=67,slow=7.8,SNR=8.8							
IDI			Sn		Sn	12 35 04.8	-1.7	
	2.2nm,0.3s,baz=203,slow=3.5,SNR=3.2							
IDI	Anoyia	4.25 191	P		Pn	12 34 17.1	+0.2	
IGT	Igoumenitsa	4.26 272	*e*Pn		Pn	12 34 19.8	+2.8	
ZKR	Zakros	4.37 176	P		Pn	12 34 18.3	-0.2	
ZAPS	Zavoj	4.49 329	*e*Pn		Pn	12 34 22.0	+1.7	
BARS	Barje	4.51 319	*e*Pn		Pn	12 34 21.8	+1.3	
BLKB	Belogradchik	4.77 331	*e*Pn		Pn	12 34 25.3	+1.2	
ZAGS	Zajecar	5.10 329	*e*Pn		Pn	12 34 29.4	+0.8	
ZAGS			*e*Sn		Sn	12 35 25.9	-1.5	
BOVS	Bovan	5.18 325	⇓P		Pn	12 34 30.8	+1.1	
BOVS	Bovan	5.18 325	*e*Pn		Pn	12 34 30.9	+1.2	
TIRR	Tirgusor	5.33 20	⇓P		Pn	12 34 32.2	+0.4	
HARR	Harsova	5.44 16	⇓P		Pn	12 34 34.0	+0.9	
TPGR	Topolog	5.71 19	⇓P		Pn	12 34 37.5	+0.6	
DRME	Dracevica, Mon	5.72 300	*e*Pn		Pn	12 34 41.2	+4.0	
IVAS	Ivanjica	5.91 316	*e*Pn		Pn	12 34 40.8	+1.0	
CFR	Carcaliu	5.95 16	⇑P		Pn	12 34 40.8	+0.6	
HERR	Herculane	5.97 336	⇑P		Pn	12 34 40.3	-0.2	
VOIR		5.98 355	⇑P		Pn	12 34 41.4	+0.6	
MLR	Muntele Rosu	6.01 1	Pn		Pn	12 34 43.6	+2.4	
	1.3nm,0.3s,baz=179,slow=4.9,SNR=10							
MLR			Lg		Lg	12 36 26.3		
	0.4nm,0.3s,baz=147,slow=14,SNR=3.6							
	4.4nm,0.4s							
MLR	Muntele Rosu	6.01 1	⇑P		Pn	12 34 43.3	+2.1	
MLR	Muntele Rosu	6.01 1	*e*Pn		Pn	12 34 43.6	+2.4	
BRTR	Keskin Array B	6.03 85	Pn		Pn	12 34 41.1	-0.4	
	0.8nm,0.3s,baz=254,slow=12,SNR=25							
BRTR			Sn		Sn	12 35 48.4	-2.0	
	0.1nm,0.3s,baz=268,slow=32,SNR=1.3							
BRTR			Lg		Lg	12 36 18.2		
	baz=262,slow=21							
	1.3nm,0.3s							
MDVR	Moldovita	6.12 331	⇑P		Pn	12 34 43.5	+0.8	
MDVR	Moldovita	6.12 331	*e*Pn		Pn	12 34 43.4	+0.8	
TNR	Turnu Rosu	6.28 350	⇑P		Pn	12 34 46.2	+1.4	
GZR	Gura Zlata	6.33 340	⇓P		Pn	12 34 45.7	+0.2	
GZR	Gura Zlata	6.33 340	*e*Pn		Pn	12 34 45.7	+0.2	
GZR			*e*Sn		Sn	12 35 53.7	-4.0	
VRI	Vrincioaia	6.42 6	⇑P		Pn	12 34 48.6	+1.9	
DOPR	Dopca	6.50 357	⇓P		Pn	12 34 49.1	+1.4	
VRSS	Vrsac	6.56 331	*e*Pn		Pn	12 34 48.9	+0.3	
OZUR		6.62 360	⇓P		Pn	12 34 50.8	+1.4	
SURR	Surduc	6.84 338	⇓P		Pn	12 34 53.2	+0.7	
ONER	Baraj Valea Uz	6.87 3	⇑P		Pn	12 34 55.0	+2.1	
BZS	Buzias	6.88 334	⇓P		Pn	12 34 53.5	+0.5	
BZS	Buzias	6.88 334	*e*Pn		Pn	12 34 53.4	+0.4	
TESR	Tescani	7.06 5	⇑P		Pn	12 34 56.9	+1.5	
MARR	Marisel-Cluj	7.46 345	⇓P		Pn	12 35 01.5	+0.4	
DRGR		7.66 344	⇓P		Pn	12 35 05.2	+1.4	
BURAR	Bucovina Array	8.15 357	⇑P		Pn	12 35 12.1	+1.6	
MMAI	Mount Meron Ar	10.06 127	Pn		Pn	12 35 34.4	-2.3	
	1.1nm,0.3s,baz=311,slow=9.4,SNR=1.8							
	1.1nm,0.3s							
ESDC	Sonseca Array	22.93 280	P		P	12 38 18.1	+1.8	
	0.7nm,1.0s,baz=81,slow=8.7,SNR=3.2							
	0.7nm,1.0s							
EKA	Eskdalemuir Ar	24.98 319	P		P	12 38 35.6	+0.1	
	1.0nm,0.5s,baz=106,slow=8.8,SNR=4.4							
	1.0nm,0.5s							
TORD	Torodi Ar. Bea	33.79 226	P		P	12 39 54.7	+0.5	
	0.3nm,0.6s,baz=31,slow=8.0,SNR=1.7							
	0.3nm,0.6s							
KURBB	Kurchatov Arra	38.10 55	P		P	12 40 31.1	+0.3	
	0.2nm,0.3s,baz=281,slow=8.4,SNR=2.5							
	0.2nm,0.3s							
MKAR	Makanchi Array	41.06 61	P		P	12 40 55.7	+0.1	
	0.3nm,0.6s,baz=281,slow=7.3,SNR=3.8							
	0.3nm,0.6s							
ZALV	Zalesovo Beam	41.71 50	P		P	12 41 00.6	-0.1	
	0.9nm,0.6s,baz=285,slow=7.5,SNR=4.1							
	0.9nm,0.6s							

IDC 26 12:39:15.8±2.5,3°.18S×129°.52E, *h*0km, mb3.4/2, mbtmp3.5/3, ML3.0/1, MS3.9/2, Error ellipse: s-maj=158.3km s-min=22.5km az=70.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time			Res
				Op			h	m	s	ISC
WRA	Warramunga Arr	17.32 165		P		P	12 43 19.9			-0.8
	0.1nm,0.3s,baz=339,slow=12,SNR=4.5									
WRA				S		Sn	12 46 33.7			+1.1
	0.2nm,0.8s,baz=349,slow=26,SNR=1.3									
	1.0nm,0.9s									
ASAR	Alice Springs	20.81 169		P		P	12 43 58.6			-0.3
	2.1nm,0.7s,baz=346,slow=10,SNR=22									
	2.1nm,0.7s									
LZDM	Lanzhou Array	45.81 330		LR		LR	13 08 00.1			
	comp=Z,56nm,20.2s,baz=70,slow=38									
RAO	Raoul Island	56.14 123		LR		LR	13 10 54.5			
	comp=Z,253nm,21.1s,baz=6.0,slow=34									
MKAR	Makanchi Array	64.79 326		P		P	12 49 56.4			0.0
	0.1nm,0.4s,baz=140,slow=5.6,SNR=2.1									
	0.1nm,0.4s									

*SJA **26** 12:57:54.2±0.7, 21°.85S×68°.76W, h111km±4km, ML3.2, MW3.5*
*GUC **26** 12:57:56.0±0.7, 21°.82S×68°.76W, h104km±4km, ML3.2*
ISC 26 12:57:56.4±1.4, 21°.83S±0°.03×68°.77W±0°.05, h100km±10km, n32, σ0.64/48, 4C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time			Res
				Op			h	m	s	ISC
PB09	IPOC Station P	0.44 274		⇑*i*P		Pn	12 58 11.8			-0.2
PB09				*e*S		Sn	12 58 23.6			-0.1
PB09				IAML			12 58 27.2			
	comp=E,1μm,0.4s									
PB09	IPOC Station P	0.44 274		*i* P		Pn	12 58 11.8			-0.2
PB09				*i* S		Sn	12 58 24.5			+0.8
PB09				IAML			12 58 25.5			
	comp=Z,2μm,0.8s									
PB03	IPOC Station P	0.94 256		⇑*i*P		Pn	12 58 16.1			-0.3
PB03				*e*S		Sn	12 58 31.7			+0.3
PB03	IPOC Station P	0.94 256		*i* P		Pn	12 58 15.9			-0.5
PB03				*i* S		Sn	12 58 31.6			+0.3
PB03				IAML			12 58 32.5			
	comp=Z,2μm,0.2s									
PB01	IPOC Station P	1.03 319		⇑*e*P		Pn	12 58 16.6			-0.7
PB01				*e*S		Sn	12 58 32.7			-0.2
PB01				IAML			12 58 35.6			
	comp=E,727nm,0.2s									
PB01	IPOC Station P	1.03 319		*i* P		Pn	12 58 16.6			-0.7
PB01				*i* S		Sn	12 58 33.8			+0.9
PB01				IAML			12 58 35.4			
	comp=Z,455nm,0.3s									
PB06	IPOC Station P	1.15 220		⇑*e*P		Pn	12 58 18.3			-0.3
PB06				*e*S		Sn	12 58 35.8			+0.4
PB06	IPOC Station P	1.15 220		*i* P		Pn	12 58 17.7			-0.9
PB06				*i* S		Sn	12 58 35.9			+0.4
PB06				IAML			12 58 37.2			
	comp=Z,938nm,0.2s									
PB02	IPOC Station P	1.16 295		*e*P		Pn	12 58 18.2			-0.6
PB02				IAML			12 58 37.5			
	comp=N,532nm,0.2s									
PB02	IPOC Station P	1.16 295		*i* P		Pn	12 58 18.2			-0.6
PB02				*i* S		Sn	12 58 36.5			+0.9
PB02				IAML			12 58 39.4			
	comp=Z,530nm,0.2s									
AF01	San Pedro de A	1.25 154		*e*P		Pn	12 58 19.5			-0.4
AF01	San Pedro de A	1.25 154		*i* P		Pn	12 58 19.1			-0.8
AF01				IAML			12 59 02.2			
	comp=Z,521nm,0.9s									
PB08	IPOC Station P	1.71 348		⇓*e*P		Pn	12 58 26.3			+0.5
PB08				*e*S		Sn	12 58 48.9			+1.0
PB08				IAML			12 58 50.5			
	comp=N,266nm,0.3s									
PB08	IPOC Station P	1.71 348		*i* P		Pn	12 58 25.6			-0.1
PB08				IAML			12 58 51.0			
	comp=Z,158nm,0.3s									
TA01	Diego Aracena	1.82 313		*e*P		Pn	12 58 25.9			-0.8
TA01				*e*S		Sn	12 58 49.4			-0.3
TA01	Diego Aracena	1.82 313		*i* P		Pn	12 58 26.1			-0.5
TA01				*i* S		Sn	12 58 50.1			+0.4
TA01				IAML			12 58 57.5			
	comp=Z,265nm,0.7s									
TA02	Huaiquique	2.00 320		*i* P		Pn	12 58 28.5			-0.5
TA02				*i* S		Sn	12 58 54.5			+0.6
TA02				IAML			12 58 56.9			
	comp=Z,228nm,0.1s									
GO01	Chusmiza	2.18 349		*e*P		Pn	12 58 31.8			0.0
GO01				*e*S		Sn	12 58 58.8			-0.1
GO01				IAML			12 59 03.1			
	comp=E,197nm,0.2s									
GO01	Chusmiza	2.18 349		*i* P		Pn	12 58 31.3			-0.5
GO01				*i* S		Sn	12 58 59.1			+0.3
GO01				IAML			12 59 03.4			
	comp=Z,142nm,0.5s									
PB11	IPOC Station P	2.22 338		*e*P		Pn	12 58 31.2			-0.7
PB11				IAML			12 59 06.2			
	comp=E,273nm,0.3s									
PB11	IPOC Station P	2.22 338		*i* P		Pn	12 58 30.8			-1.1
PB11				*i* S		Sn	12 58 59.6			+0.5
PB11				IAML			12 59 00.9			
	comp=Z,168nm,0.3s									
PB10	IPOC Station P	2.35 224		*e*P		Pn	12 58 34.0			+0.5
PB10				IAML			12 59 11.0			
	comp=N,158nm,0.3s									
PB10	IPOC Station P	2.35 224		*i* P		Pn	12 58 32.8			-0.8
PB10				IAML			12 59 08.4			
	comp=Z,94nm,0.3s									
YJA	Yavi	3.04 97		*i* P		Pn	12 58 43.0			-0.1
YJA				IAML			12 59 45.5			
	comp=Z,1.4nm,1.3s									
PB14	IPOC Station P	3.17 208		*e*P		Pn	12 58 46.0			+1.3
PB14	IPOC Station P	3.17 208		*i* P		Pn	12 58 44.3			-0.4
PB14				IAML			12 59 32.3			
	comp=Z,181nm,0.4s									
HJA	Humahuaca	3.40 115		*i* P		Pn	12 58 47.4			-0.4
HJA				IAML			12 59 38.9			
	comp=Z,2.7nm,0.5s									
GO02	Mina Guanaco	3.41 193		*e*P		Pn	12 58 48.8			+1.0
GO02	Mina Guanaco	3.41 193		*i* P		Pn	12 58 46.9			-0.9
GO02				IAML			12 59 53.4			
	comp=Z,180nm,0.3s									
PB16	IPOC Station P	3.54 349		⇓*i*P		Pn	12 58 49.9			-0.1
PB16				IAML			12 59 59.9			
	comp=Z,31nm,0.7s									
AZAP	Zapla	4.16 126		*i* P		Pn	12 58 57.7			-0.3
AZAP				IAML			13 00 24.1			
	comp=Z,10nm,2.7s									
AC02	Maricunga	5.00 184		*i* P		Pn	12 59 08.4			-1.1
AC02				IAML			13 00 36.8			
	comp=Z,27nm,0.5s									

*AFAD **26** 12:58:59.9, 40°.87N×28°.19E, h7km±2km, ML3.5*
*SOF **26** 12:58:59.9, 40°.83N±0°.05×28°.21E±0°.02, h16km±4km, MD3.5/2*
*ISK **26** 12:58:59.9, 40°.88N×28°.22E, h5km, ML3.7/39*
*CFUSG **26** 12:59:03.0, 40°.99N×28°.57E, h5km, mb3.0/3, MD3.4/3, Sea of Marmara Magtype MSH 3.2 from 5 stations*
ISC 26 12:59:00.3±0.9, 40°.87N±0°.02×28°.23E±0°.02, h16km±7km, n84, σ1.9/103/102, 10C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time			Res
				Op			h	m	s	ISC
ELBA	Catalca	0.32 29		P		Pg	12 59 06.9			-0.2
ELBA				S		Sg	12 59 11.3			-0.4
ELBA				*i* IAML			12 59 15.0			
	comp=N,2μm,0.4s									
ELBA				*i* IAML			12 59 15.0			
	comp=E,5μm,0.5s									
SLVT	Silivri	0.36 358		Pg		Pb	12 59 08.1			-0.3
SLVT				Sg		Sb	12 59 13.1			-0.8
CTKS	Kestanelik-??a	0.42 30		Pg		Pg	12 59 08.9			0.0
CTKS				Sg		Sg	12 59 14.3			-0.5
BGKT	Bogazkoy	0.52 53		Pg		Pg	12 59 10.8			+0.1
BGKT				Sg		Sg	12 59 17.7			+0.1
BAND	Balkesir-Ban	0.52 191		P		Pg	12 59 10.6			0.0
BAND				S		Sg	12 59 17.0			-0.6
BAND	Balkesir-Ban	0.52 191		⇓P		Pg	12 59 10.7			0.0
TKR	Tekirdag	0.54 283		Pg		Pg	12 59 10.9			-0.1
TKR				Sg		Sb	12 59 19.0			+0.1
MRMT	Marmara Adasi	0.55 241		Pg		Pg	12 59 11.0			-0.2
ARMT	Armutlu	0.57 122		Pg		Pg	12 59 11.7			+0.1
EDC	Edincik	0.59 208		Pg		Pg	12 59 11.9			-0.1
CTYL	Yalikoy Yolu	0.61 4		Pg		Pg	12 59 11.8			-0.6
CTYL				Sg		Sg	12 59 19.8			-0.7
CTYL	Yalikoy Yolu	0.61 4		⇑P		Pb	12 59 13.1			+0.5
ISK	Istanbul-Kandi	0.66 72		Pg		Pg	12 59 12.9			-0.4
MDNY	Mudanya-Bursa	0.71 135		Pg		Pg	12 59 14.4			+0.3
KLYT	Kilyos	0.73 58		Pg		Pg	12 59 14.3			-0.2
VIZE	Kirklareli, Vi	0.77 338		P		Pg	12 59 14.8			-0.6
VIZE				S		Sb	12 59 25.2			-0.4
VIZE				*i* IAML			12 59 27.0			
	comp=E,2μm,0.6s									
VIZE				*i* IAML			12 59 28.0			
	comp=N,2μm,0.3s									
KURT	Yalova, Merkez	0.80 110		P		Pb	12 59 15.8			0.0
KURT				S		Sb	12 59 26.5			+0.2
KURT				*i* IAML			12 59 29.0			
	comp=N,2μm,0.5s									
KURT				*i* IAML			12 59 29.0			
	comp=E,2μm,0.3s									
SART	Tekirdag	0.81 258		P		Pb	12 59 15.5			-0.7
SART				S		Sb	12 59 26.8			-0.2
KRBG	Karabiga-Canak	0.85 236		Pg		Pb	12 59 16.6			-0.1
SUSR	Susurluk-Balik	0.91 187		Pg		Pb	12 59 18.0			+0.2
GONE	Gonen-Balikesi	0.92 207		Pg		Pn	12 59 18.7			+0.1
YLV	Yalova	0.92 109		Pg		Pg	12 59 18.4			+0.2
PHSR	Pinarhisar	0.93 325		Pg		Pb	12 59 17.5			-0.5
PHSR	Pinarhisar	0.93 325		⇓P		Pb	12 59 17.6			-0.5
ORLT	Orhaneli	0.97 148		Pg		Pg	12 59 19.2			+0.1
ULDT	Uludag	1.00 136		P		Pb	12 59 19.5			+0.1
ULDT				S		Sn	12 59 34.2			+0.3
ULDT				*i* IAML			12 59 36.0			
	comp=N,1μm,0.4s									
ULDT				*i* IAML			12 59 36.0			
	comp=E,1μm,0.7s									
HRT	Hereke	1.09 92		Pn		Pb	12 59 21.0			+0.1
SILT	Sile	1.11 75		Pn		Pn	12 59 21.3			+0.1
SILT	Sile	1.11 75		⇑P		Pb	12 59 21.2			0.0
SILT				⇑S		Sg	12 59 36.6			+0.3
SEMS	Kocaeli-K¶rfe	1.15 89		P		Pn	12 59 21.7			0.0
SEMS				*i* IAML			12 59 38.0			
	comp=N,611nm,0.6s									
SEMS				*i* IAML			12 59 40.0			
	comp=E,1μm,0.5s									
OSMT	Osmaniye	1.15 103		Pn		Pb	12 59 22.3			+0.4
KESN	Edirne-Kesan	1.17 268		P		Pn	12 59 22.1			-0.3
KESN				S		Sb	12 59 37.8			+0.2
KESN				*i* IAML			12 59 40.0			
	comp=E,2μm,0.5s									
KESN				*i* IAML			12 59 41.0			
	comp=N,1μm,0.3s									
YENI	Yenice-Canakka	1.20 219		Pn		Pb	12 59 23.1			+0.5
LPK	Lapseki	1.22 247		Pn		Pb	12 59 23.3			+0.2
ADVT	Abdulvahap	1.23 110		Pn		Pb	12 59 23.6			+0.4
UKOP	Uzunkopru-Edir	1.23 283		Pn		Pg	12 59 23.9			-0.3
CANM	Can-anakkale	1.24 227		Pn		Pb	12 59 23.8			+0.4
DST	Dursunbey	1.30 166		Pn		Pg	12 59 25.4			0.0
ERIK	Erikli-Kesan	1.32 262		Pn		Pb	12 59 24.6			-0.1
HISA	Bilecik-Osmane	1.35 107		P		Pb	12 59 25.7			+0.4
HISA				*i* IAML			12 59 46.0			
	comp=N,1μm,1.1s									
HISA				*i* IAML			12 59 46.0			
	comp=E,1μm,0.4s									
GELI	Tayfur-Gelibol	1.41 251		Pn		Pn	12 59 25.7			+0.3
BILE	Bilecik/Merkez	1.44 119		P		Pb	12 59 27.3			+0.4
BILE				*i* IAML			12 59 50.0			
	comp=N,513nm,0.3s									
BILE				*i* IAML			12 59 52.0			
	comp=E,335nm,0.6s									
EDRB	Edirne	1.48 312		Pn		Pb	12 59 26.6			+0.2
KAND	Kocaeli-Kandir	1.50 81		P		Pb	12 59 27.4			-0.5
YAYO	Edremit-Balk	1.54 216		Pn		Pb	12 59 28.9			+0.5
CAVK	Edirne/Enez-Ca	1.57 264		⇑P		Pb	12 59 29.3			+0.2
SAUV	Serdivan-Sakar	1.60 94		Pn		Pb	12 59 29.8			+0.3
ALN	Alexandroupoli	1.65 272		Pn		Pb	12 59 29.8			-0.6
GPA	Golpazari	1.69 109		Pn		Pb	12 59 30.6			-0.5
TVSB	Tavsanli	1.70 146		Pn		Pb	12 59 31.1			-0.2
EZN	Ezine	1.79 235		Pn		Pb	12 59 32.3			-0.4
EZN	Ezine	1.79 235		⇓P		Pb	12 59 32.8			+0.1

	43µm,SNR=30										
CTAD					S		Sn	13 02 58.6	-0.8		
CJUL	**El Julan, El H**	**1.69**	**101**		P		Pb	13 02 38.9	-0.6		
CJUL					⇑*i*VmB_VC			13 02 41.4			
	41µm,SNR=76										
CJUL					S		Sn	13 02 58.0	-1.8		
CTAN	**El Hierro**	**1.71**	**100**		P		Pb	13 02 39.2	-0.5		
CTAN					⇑*i*VmB_VC			13 02 40.3			
	32µm,SNR=26										
CTAN					S		Sn	13 02 58.5	-1.5		
CCUM	**Cumbre, El Hie**	**1.73**	**101**		P		Pn	13 02 39.1	+0.7		
CCUM					⇑*i*VmB_VC			13 02 42.5			
	12µm,SNR=21										
CCUM					S		Sn	13 02 59.6	-1.1		
CTAC	**Tacoron (Front**	**1.75**	**103**		P		Pb	13 02 39.8	-0.8		
CTAC					⇑*i*VmB_VC			13 02 41.1			
	24µm,SNR=35										
CTAC					S		Sn	13 02 59.4	-1.7		
CNAO	**La Restinga, E**	**1.79**	**103**		P		Pb	13 02 40.8	-0.4		
CNAO					⇑*i*VmB_VC			13 02 43.4			
	26µm,SNR=23										
CNAO					S		Sn	13 03 00.6	-1.4		
CTIG	**El Hierro**	**1.82**	**99**		P		Pb	13 02 40.5	-1.1		
CTIG					S		Sn	13 03 01.6	-1.1		
CGOR	**Puntagorda, La**	**1.86**	**67**		P		Pb	13 02 42.8	+0.4		
CGOR					⇑*i*VmB_VC			13 02 46.0			
	68µm,SNR=69										
CGOR					S		Sb	13 03 05.9	+0.2		
TBT	**Taburiente**	**1.89**	**71**		P		Pb	13 02 43.0	+0.1		
TBT					⇑*i*VmB_VC			13 02 43.4			
	36µm,SNR=135										
TBT					S		Sn	13 03 05.7	+1.2		
CJED	**Jedey, El Paso**	**1.90**	**74**		P		Pb	13 02 43.6	+0.4		
CJED					⇑*i*VmB_VC			13 02 47.1			
	57µm,SNR=42										
CJED					S		Sn	13 03 04.9	0.0		
CTEN	**Fuencaliente,**	**1.91**	**77**		P		Pb	13 02 43.2	0.0		
CTEN					⇑*i*VmB_VC			13 02 43.7			
	58µm,SNR=22										
CTEN					S		Sn	13 03 06.3	+1.3		
CENR	**El Paso, La Pa**	**1.93**	**73**		P		Pb	13 02 44.0	+0.3		
CENR					⇑*i*VmB_VC			13 02 44.2			
	89µm,SNR=84										
CENR					S		Sn	13 03 06.2	+0.4		
CMIR	**El Paso, La Pa**	**1.94**	**71**		P		Pb	13 02 43.6	-0.2		
CMIR					⇑*i*VmB_VC			13 02 44.2			
	93µm,SNR=273										
CMIR					S		Sn	13 03 06.5	+0.6		
CROM	**Garafia, La Pa**	**1.94**	**69**		P		Pb	13 02 44.0	0.0		
CROM					⇑*i*VmB_VC			13 02 44.2			
	153µm,SNR=224										
CROM					S		Sn	13 03 06.2	0.0		
CVIE	**Villa de Mazo,**	**1.94**	**74**		P		Pb	13 02 44.2	+0.3		
CVIE					S		Sn	13 03 05.9	-0.2		
EHIG	**Higuera**	**1.95**	**75**		P		Pb	13 02 44.0	+0.1		
EHIG					⇑*i*VmB_VC			13 02 47.4			
	18µm,SNR=14										
EHIG					S		Sn	13 03 06.6	+0.5		
CBRE	**Brena Baja,La**	**1.98**	**73**		P		Pb	13 02 44.5	0.0		
CBRE					⇑*i*VmB_VC			13 02 48.5			
	73µm,SNR=63										
CBRE					S		Sn	13 03 07.0	+0.2		
CPUN	**Puntallana, La**	**2.04**	**71**		P		Pb	13 02 45.2	-0.2		
CPUN					⇑*i*VmB_VC			13 02 45.7			
	183µm,SNR=266										
CPUN					S		Sn	13 03 08.9	+0.5		
EGOM	**La Gomera**	**2.42**	**87**		P		Pn	13 02 49.6	+1.6		
EGOM					⇑*i*VmB_VC			13 02 51.3			
	2µm,SNR=168										
EGOM					S		Sn	13 03 17.0	-0.6		
CBOL	**Buenavista del**	**2.76**	**84**		P		Pn	13 02 54.4	+1.6		
CBOL					⇑*i*VmB_VC			13 02 57.8			
	9µm,SNR=53										
CBOL					S		Sn	13 03 24.6	-1.7		
CADE	**Adeje, Tenerif**	**2.83**	**88**		P		Pn	13 02 56.3	+2.6		
CADE					⇑*i*VmB_VC			13 02 58.1			
	32µm,SNR=71										
CADE					S		Sn	13 03 26.3	-1.7		
CDOS	**Garachico, Isl**	**2.84**	**85**		P		Pn	13 02 56.0	+2.1		
CDOS					⇑*i*VmB_VC			13 02 58.9			
	56µm,SNR=49										
CDOS					S		Sn	13 03 27.8	-0.5		
GUIA	**Guia de Isora,**	**2.85**	**86**		P		Pn	13 02 56.6	+2.5		
GUIA					⇑*i*VmB_VC			13 03 01.4			
	27µm,SNR=45										
GUIA					S		Sn	13 03 26.9	-1.8		
CLAJ	**Vilaflor (Tene**	**2.89**	**88**		P		Pn	13 02 56.3	+1.8		
CLAJ					⇑*i*VmB_VC			13 02 58.9			
	41µm,SNR=71										
CLAJ					S		Sn	13 03 28.2	-1.3		
CCHO	**La Orotava (Te**	**2.90**	**86**		P		Pn	13 02 56.6	+1.9		
CCHO					⇑*i*VmB_VC			13 02 59.6			
	23µm,SNR=74										
CCHO					S		Sn	13 03 28.8	-0.9		
CPVI	**La Orotava (Te**	**2.91**	**86**		P		Pn	13 02 57.3	+2.3		
CPVI					S		Sn	13 03 28.3	-1.9		
CNOR	**Icod de los Vi**	**2.91**	**85**		P		Pn	13 02 57.1	+2.2		
CNOR					S		Sn	13 03 29.2	-0.8		
CVIL	**Vilaflor**	**2.92**	**88**		P		Pn	13 02 56.9	+1.9		
CVIL					⇑*i*VmB_VC			13 02 59.2			
	27µm,SNR=41										
CVIL					S		Sn	13 03 28.5	-1.7		
CTFS	**San Miguel de**	**2.93**	**89**		P		Pn	13 02 57.0	+2.0		
CTFS					⇑*i*VmB_VC			13 02 59.2			
	44µm,SNR=89										
CTFS					S		Sn	13 03 28.7	-1.5		
CCAN	**Las Canadas**	**2.95**	**86**		P		Pn	13 02 57.2	+1.7		
CCAN					⇑*i*VmB_VC			13 02 59.8			
	10µm,SNR=29										
CCAN					S		Sn	13 03 29.3	-1.9		
CRAJ	**Montana Rajada**	**2.96**	**86**		P		Pn	13 02 58.1	+2.4		
CRAJ					⇑*i*VmB_VC			13 03 00.4			
	29µm,SNR=9.3										
CRAJ					S		Sn	13 03 29.7	-1.8		
CFOR	**Fortaleza, Los**	**2.97**	**85**		P		Pn	13 02 58.0	+2.2		
CFOR					⇑*i*VmB_VC			13 03 02.1			
	23µm,SNR=59										
CFOR					S		Sn	13 03 30.1	-1.5		
CREA	**Los Realejos,**	**2.98**	**84**		P		Pn	13 02 57.9	+2.1		
CREA					⇑*i*VmB_VC			13 03 01.5			
	28µm,SNR=30										
CREA					S		Sn	13 03 30.6	-1.1		
CDIE	**La Orotava (Te**	**3.00**	**85**		P		Pn	13 02 57.9	+1.8		
CDIE					S		Sn	13 03 31.2	-1.1		
CGRA	**Granadilla de**	**3.02**	**89**		P		Pn	13 02 58.7	+2.6		
CGRA					⇑*i*VmB_VC			13 03 01.9			
	32µm,SNR=25										
CGRA					S		Sn	13 03 30.8	-1.7		
MACI	**Morro de la Ar**	**3.04**	**86**		P		Pn	13 02 58.4	+1.8		
MACI					⇑*i*VmB_VC			13 03 01.4			
	20µm,SNR=30										
MACI					S		Sn	13 03 31.6	-1.7		
MACI	**Morro de la Ar**	**3.04**	**86**				Pn	13 02 59.0	+2.4		
CGUI	**Guimar, Teneri**	**3.10**	**85**		P		Pn	13 02 59.6	+2.2		
CGUI					⇑*i*VmB_VC			13 03 02.6			
	62µm,SNR=96										
CGUI					S		Sn	13 03 32.5	-2.1		
EBAJ	**Bajamar**	**3.21**	**81**		P		Pn	13 03 00.8	+2.0		
EBAJ					⇑*i*VmB_VC			13 03 04.1			
	11µm,SNR=17										
EBAJ					S		Sn	13 03 36.0	-1.2		
GGC	**Guia, Gran Can**	**3.81**	**88**		P		Pn	13 03 10.0	+2.9		
GGC					⇑*i*VmB_VC			13 03 10.5			
	16µm,SNR=16										
GGC					S		Sn	13 03 49.3	-2.7		
CLUM	**San Bartolome**	**3.81**	**93**		P		Pn	13 03 08.9	+1.8		
CLUM					⇑*i*VmB_VC			13 03 13.2			
	21µm,SNR=37										
CLUM					S		Sn	13 03 49.3	-2.7		
EOSO	**Osorio**	**3.88**	**89**		P		Pn	13 03 10.9	+2.7		
EOSO	**Osorio**	**3.88**	**89**		P		Pn	13 03 10.5	+2.4		
EOSO					⇑*i*VmB_VC			13 03 11.5			
	9µm,SNR=32										
EOSO					S		Sn	13 03 50.2	-3.6		
CFTV	**Fuerteventura**	**5.18**	**85**		P		Pn	13 03 28.3	+2.3		
CFTV					⇑*i*VmB_VC			13 03 30.1			
	14µm,SNR=28										
CFTV					S		Sn	13 04 21.1	-4.9		
FUL	**Funchal**	**5.26**	**29**	*e*P			Pn	13 03 29.4	+2.4		
FUL					*e*S		Sn	13 04 24.1	-3.6		
FUL					*i* IAML			13 04 29.8			
FUL					*i* IAML			13 04 31.4			
FUL					*i* IAML			13 04 32.9			

PMOZ	**Porto Moniz, M**	**5.29**	**26**		P		Pn	13 03 28.3	+0.8		
PMOZ					S		Sn	13 04 24.9	-3.7		
PMOZ	**Porto Moniz, M**	**5.29**	**26**				Pn	13 03 28.0	+0.5		
PMOZ	**Porto Moniz, M**	**5.29**	**26**	*e*P			Pn	13 03 29.1	+1.6		
PMOZ					*e*S		Sn	13 04 23.7	-5.0		
PMOZ					*i* IAML			13 04 31.5			
PMOZ					*i* IAML			13 04 31.5			
PMOZ					*i* IAML			13 04 33.6			
PMOZ	**Porto Moniz, M**	**5.29**	**26**		P		Pn	13 03 30.0	+2.5		
PMAR	**Madeira**	**5.32**	**29**	*e*P			Pn	13 03 30.2	+2.3		
PMAR					*e*S		Sn	13 04 24.3	-5.1		
PMAR					*i* IAML			13 04 35.9			
PMAR					*i* IAML			13 04 37.1			
PMAR					*i* IAML			13 04 40.7			
PMAR	**Madeira**	**5.32**	**29**		P		Pn	13 03 30.6	+2.6		
PMAR	**Madeira**	**5.32**	**29**		S		Sn	13 04 25.5	-3.9		
CFUE	**Fuerteventura**	**5.33**	**82**		P		Pn	13 03 30.1	+2.1		
CFUE					⇑*i*VmB_VC			13 03 33.5			
	8µm,SNR=41										
CFUE					S		Sn	13 04 27.2	-2.2		
CBLAA	**Tinajo**	**5.58**	**79**		P		Pn	13 03 33.1	+1.8		
CBLAA					S		Sn	13 04 32.0	-3.5		
EFAM	**Famara**	**5.74**	**78**		P		Pn	13 03 35.7	+2.1		
EFAM					⇑*i*VmB_VC			13 03 36.7			
	5µm,SNR=7.6										
EFAM					S		Sn	13 04 35.8	-3.7		
PMPS	**Porto Santo**	**5.86**	**31**	*e*P			Pn	13 03 38.0	+2.8		
PMPS					*i* IAML			13 04 46.6			
PMPST	**Porto Santo, M**	**5.88**	**31**	*e*P			Pn	13 03 37.3	+1.8		
PMPST					*e*S		Sn	13 04 38.7	-4.2		
PMPST					*i* IAML			13 04 45.4			
PMPST					*i* IAML			13 04 46.9			
PMPST					*i* IAML			13 04 48.4			
TANT	**Tantan**	**7.69**	**86**		P		Pn	13 04 05.2	+4.7		
TANT	**Tantan**	**7.69**	**86**		S		Sn	13 05 28.2	+0.5		
CGR	**Cap Guir**	**9.14**	**71**		P		Pn	13 04 23.4	+3.1		
CGR	**Cap Guir**	**9.14**	**71**		S		Sn	13 05 60.0	-3.4		
PSMN	**Pico do Norte,**	**9.89**	**335**	*e*P			Pn	13 04 30.3	-0.2		
PSMN					*i* IAmb		IAmb	13 04 30.7			
	707nm,0.5s										
PSMN					*e*S		Sn	13 06 11.1	-11		
TTIG	**Tnine Tigouga,**	**10.34**	**73**		P		Pn	13 04 39.9	+3.1		
TTIG	**Tnine Tigouga,**	**10.34**	**73**		S		Sn	13 06 30.5	-2.5		
BART	**Pico Bartolome**	**10.62**	**337**	*e*P			Pn	13 04 41.3	+0.8		
BART					*i* IAmb		IAmb	13 04 41.9			
	1µm,0.3s										
BART					*e*S		Sn	13 06 28.4	-11		
BART					*e*S			13 06 29.8			
PGRON	**Lagoa das Cont**	**10.68**	**336**	*e*P			Pn	13 04 42.2	+0.7		
PGRON					*i* IAmb		IAmb	13 04 42.8			
	828nm,0.2s										
PGRON					*e*S		Sn	13 06 32.2	-8.9		
CMLA	**Cha da Macela**	**10.73**	**336**				Pn	13 04 41.6	-0.4		
CMLA	**Cha da Macela**	**10.73**	**336**	*e*P			Pn	13 04 42.4	+0.3		
CMLA					*i* IAmb		IAmb	13 04 43.1			
	667nm,0.2s										
CMLA					*e*S		Sn	13 06 33.3	-9.0		
PCALD	**Caldeiras da R**	**10.75**	**336**	*e*P			Pn	13 04 42.9	+0.6		
PCALD					*e*S		Sn	13 06 32.9	-10		
PCALD					*e*S			13 06 33.4			
PSET	**Sete Cidades**	**10.86**	**335**	*e*P			Pn	13 04 44.1	+0.3		
PSET					*i* IAmb		IAmb	13 04 51.2			
	356nm,0.3s										
PSET					*e*S		Sn	13 06 36.9	-8.5		
OUK	**Oukaimeden**	**10.96**	**71**		P		Pn	13 04 48.4	+2.8		
OUK	**Oukaimeden**	**10.96**	**71**		S		Sn	13 06 44.7	-3.8		
SRHM	**Skhour des Reh**	**11.30**	**64**		P		Pn	13 04 50.4	+0.5		
SRHM	**Skhour des Reh**	**11.30**	**64**		S		Sn	13 06 47.5	-8.8		
TIO	**Tiouine**	**11.41**	**73**		P		Pn	13 04 54.5	+3.0		
TIO					S		Sn	13 06 57.0	-2.2		
OUZM	**OUZ**	**11.83**	**73**		P		Pn	13 04 58.3	+1.0		
OUZM	**OUZ**	**11.83**	**73**		S		Sn	13 07 02.1	-7.3		
PSCM	**Serra do Cume**	**12.16**	**332**	*e*P			Pn	13 05 02.1	+0.4		
PSCM					*i* IAmb		IAmb	13 05 04.4			
	568nm,0.3s										
PSCM					*e*S		Sn	13 07 06.5	-11		
ADH	**Angra Heroismo**	**12.17**	**332**	*e*P			Pn	13 05 02.1	+0.4		
ADH					*i* IAmb		IAmb	13 05 05.8			
	164nm,0.5s										
PAGU	**Agualva, Azore**	**12.25**	**332**	*e*P			Pn	13 05 03.3	+0.5		
PAGU					*i* IAmb		IAmb	13 05 04.2			
	342nm,0.3s										
PAGU					*e*S		Sn	13 07 07.1	-12		
PAGU					*e*S			13 07 10.0			
PAGU					*e*S			13 07 10.4			
TISM	**Timmit**	**12.27**	**70**		P		Pn	13 05 06.1	+3.0		
TISM	**Timmit**	**12.27**	**70**		S		Sn	13 07 16.6	-3.3		
PSBA	**Serra de Santa**	**12.31**	**332**	*e*P			Pn	13 05 04.7	+1.1		
PID	**Ribeirinha**	**12.39**	**329**	*e*P			Pn	13 05 05.5	+0.8		
PID					*i* IAmb		IAmb	13 05 06.0			
	155nm,0.4s										
PID					*e*S		Sn	13 07 11.1	-12		
PPNO	**Prainha do Nor**	**12.48**	**328**	*e*P			Pn	13 05 06.5	+0.5		
PPNO					*i* IAmb		IAmb	13 05 12.2			
	117nm,0.8s										
PPNO					*e*S		Sn	13 07 12.8	-12		
PMAN	**Manadas**	**12.53**	**329**	*e*P			Pn	13 05 07.1	+0.5		
PMAN					*i* IAmb		IAmb	13 05 08.1			
	371nm,0.3s										
PMAN					*e*S		Sn	13 07 13.1	-13		
PMAN					*e*S			13 07 13.2			
PCAN	**Candelaria**	**12.57**	**328**	*e*P			Pn	13 05 08.0	+0.8		
PCAN					*i* IAmb		IAmb	13 05 11.0			
	168nm,0.6s										
PCAN					*e*S		Sn	13 07 14.0	-13		
PICO	**Pico**	**12.57**	**328**	*e*P			Pn	13 05 07.9	+0.6		
PICO					*i* IAmb		IAmb	13 05 08.6			
	275nm,0.9s										
PICO					*e*S		Sn	13 07 17.6	-10		
ZHG	**ZHG**	**12.63**	**62**		P		Pn	13 05 08.5	+0.4		
ZHG	**ZHG**	**12.63**	**62**		S		Sn	13 07 21.3	-7.6		
ROSA	**Rosais**	**12.67**	**329**	*e*P			Pn	13 05 09.0	+0.5		
ROSA					*i* IAmb		IAmb	13 05 10.9			
	314nm,0.7s										
ROSA					*e*S		Sn	13 07 19.0	-11		
RTC	**Rabat Centre**	**12.67**	**59**		P		Pn	13 05 12.8	+4.1		
ZGR	**Zagora**	**12.70**	**77**		P		Pn	13 05 12.1	+3.0		
ZGR	**Zagora**	**12.70**	**77**		S		Sn	13 07 28.2	-2.3		
CALA	**Caldeira**	**12.77**	**327**	*e*P			Pn	13 05 10.3	+0.3		
CALA					*i* IAmb		IAmb	13 05 12.3			
	359nm,0.3s										
CALA					*e*S		Sn	13 07 22.3	-10		
PGRA	**Graciosa**	**12.80**	**331**	*e*P			Pn	13 05 24.4	+14		
PGRA					*i* IAmb		IAmb	13 05 25.2			
	710nm,0.3s										
PCED	**Cedros**	**12.81**	**327**	*e*P			Pn	13 05 10.6	+0.2		
PCED					*i* IAmb		IAmb	13 05 12.8			
	163nm,0.3s										
PCED					*e*S		Sn	13 07 22.3	-11		
TZRR	**Tazzarine**	**12.82**	**74**		P		Pn	13 05 14.1	+3.3		
TZRR	**Tazzarine**	**12.82**	**74**		S		Sn	13 07 30.6	-3.0		
SRBC	**Serra Branca**	**12.84**	**330**	*e*P			Pn	13 05 10.8	0.0		
SRBC					*i* IAmb		IAmb	13 05 12.9			
	628nm,0.3s										
PFVI	**Vila Bisbo**	**13.01**	**43**		P		Pn	13 05 13.4	+0.3		
PFVI					S		Sn	13 07 29.9	-8.1		
PFVI	**Vila Bisbo**	**13.01**	**43**				Pn	13 05 14.6	+1.5		
PFVI	**Vila Bisbo**	**13.01**	**43**	*e*P			Pn	13 05 14.6	+1.5		
PFVI					*i* IAmb		IAmb	13 05 19.8			
	144nm,1.6s										
PFVI					*e*S		Sn	13 07 30.4	-7.6		
PFVI	**Vila Bisbo**	**13.01**	**43**		P		Pn	13 05 15.0	+1.8		
PFVI	**Vila Bisbo**	**13.01**	**43**		S		Sn	13 07 32.5	-5.4		
MORF	**Marmelete**	**13.22**	**43**	*e*P			Pn	13 05 17.5	+1.3		
MORF	**Marmelete**	**13.22**	**43**				Pn	13 05 17.8	+1.6		
MORF	**Marmelete**	**13.22**	**43**	*e*P			Pn	13 05 17.7	+1.6		
MORF					*i* IAmb		IAmb	13 05 22.2			
	80nm,1.1s										
MORF					*e*S		Sn	13 07 36.9	-6.4		
PTEO	**Sao Teotonio**	**13.34**	**42**	*e*P			Pn	13 05 19.5	+1.8		
PTEO					*i* IAmb		IAmb	13 05 38.2			
	103nm,1.3s										
PTEO					*e*S		Sn	13 07 40.2	-5.8		
PBDV	**Barranco-do-Ve**	**13.63**	**45**		P		Pn	13 05 22.3	+0.7		
PBDV					S		Sn	13 07 46.2	-6.9		
PBDV	**Barranco-do-Ve**	**13.63**	**45**	*e*P			Pn	13 05 23.7	+2.0		
PBDV					*i* IAmb		IAmb	13 05 27.1			
	180nm,0.9s										
PBDV					*e*S		Sn	13 07 47.8	-5.4		
PCVE	**Castro Verde**	**13.81**	**43**		P		Pn	13 05 25.9	+1.8		
PCVE					S		Sn	13 07 50.6	-6.9		
PCVE	**Castro Verde**	**13.81**	**43**	*e*P			Pn	13 05 26.6	+2.6		

PCVE					*i* IAmb		IAmb	13 05 29.8			
	180nm,0.9s										
PCVE					*e*S		Sn	13 07 50.3	-7.2		
MESJ	**Messejana**	**13.83**	**42**	*e*P			Pn	13 05 26.0	+1.5		
MESJ					IAmb		IAmb	13 05 29.0			
	comp=Z,40nm,0.7s										
MESJ	**Messejana**	**13.83**	**42**				Pn	13 05 27.1	+2.7		
MESJ	**Messejana**	**13.83**	**42**	*e*P			Pn	13 05 27.4	+3.0		
MESJ					*i* IAmb		IAmb	13 05 30.2			
	comp=Z,185nm,0.6s										
MESJ					*e*S		Sn	13 07 48.2	-10		
PVAQ	**Vaqueiros**	**13.86**	**45**				Pn	13 05 26.5	+1.7		
PVAQ	**Vaqueiros**	**13.86**	**45**	*e*P			Pn	13 05 26.8	+2.0		
PVAQ					*i* IAmb		IAmb	13 05 30.1			
	comp=Z,261nm,0.9s										
PVAQ					*e*S		Sn	13 07 52.6	-6.2		
MD01	**Midelt array s**	**13.94**	**66**				Pn	13 05 29.2	+3.1		
MD31	**MD31**	**13.94**	**66**				Pn	13 05 29.1	+3.1		
MD31	**MD31**	**13.94**	**66**	P			Pn	13 05 28.7	+2.7		
MD31	**MD31**	**13.94**	**66**	S			Sn	13 07 56.8	-4.1		
PMAFR	**Mafra**	**14.02**	**37**	P			Pn	13 05 30.3	+3.4		
PMAFR					S		Sn	13 07 52.4	-10		
PMAFR	**Mafra**	**14.02**	**37**	*e*P			Pn	13 05 30.1	+3.2		
PMAFR					*i* IAmb		IAmb	13 05 39.9			
	comp=Z,118nm,2.2s										
PMAFR					*e*S		Sn	13 07 52.1	-11		
PARRA	**Arraiolos**	**14.04**	**38**	*e*P			P	13 05 36.4	+1.1		
PARRA					*i* IAmb		IAmb	13 05 41.0			
	comp=Z,54nm,0.4s										
PARRA					*e*S		Sn	13 08 04.6	+1.3		
MDT	**Midelt**	**14.05**	**67**	Pn			Pn	13 05 30.9	+3.4		
	comp=Z,2.0nm,0.3s,baz=288,slow=11,SNR=7.7										
MDT					Sn		Sn	13 08 00.2	-3.4		
	comp=Z,0.2nm,0.3s,baz=217,slow=20,SNR=1.2										
MDT					LR		LR	13 10 28.4			
	comp=Z,135nm,18.3s,baz=320,slow=35 comp=Z,3.6nm,0.3s										
MDT	**Midelt**	**14.05**	**67**	P			Pn	13 05 30.7	+3.2		
MDT	**Midelt**	**14.05**	**67**	S			Sn	13 07 59.4	-4.2		
ARF	**Arif**	**14.07**	**72**	P			Pn	13 05 31.0	+3.2		
ARF	**Arif**	**14.07**	**72**	S			Sn	13 08 00.7	-3.3		
EGRO	**El Granado**	**14.09**	**45**	P			Pn	13 05 29.5	+1.6		
EGRO					S		Sn	13 07 55.6	-8.7		
PBEJ	**Beja**	**14.17**	**42**	P			Pn	13 05 31.7	+2.7		
PBEJ					*i* IAmb		IAmb	13 05 36.4			
	comp=Z,85nm,0.6s										
CNIL	**Conil**	**14.36**	**51**	P			P	13 05 35.7	-3.1		
EVO	**Evora**	**14.42**	**41**	P			Pn	13 05 35.1	+2.6		
EVO					S		Sn	13 08 07.4	-5.0		
EVO	**Evora**	**14.42**	**41**	*e*P			Pn	13 05 34.5	+2.1		
EVO					*i* IAmb		IAmb	13 05 37.9			
	comp=Z,85nm,1.6s										
EVO					*e*S		Sn	13 08 04.4	-8.0		
SMIR	**Smir Dam**	**14.50**	**55**	P			Pn	13 05 35.5	+1.9		
SMIR	**Smir Dam**	**14.50**	**55**	S			Sn	13 08 08.3	-6.2		
ECEU	**Ceuta**	**14.61**	**54**	P			P	13 05 38.6	-3.0		
CEU	**Ceuta**	**14.61**	**54**	P			P	13 05 39.8	-1.7		
PMTG	**Montargil**	**14.67**	**39**	*e*P			Pn	13 05 37.0	+1.1		
PMTG					*e*S		Sn	13 08 08.2	-10		
**PS

EMUR	**La Murta**	**18.44**	**53**	P	**Pn**	**13 06 29.8**	**+5.7**
CART	**Cartagena**	**18.50**	**54**	P	**Pn**	**13 06 28.7**	**+3.9**
ETOB	**Tobarra**	**18.60**	**51**	P	**Pn**	**13 06 31.2**	**+5.2**
ETOB				S	**Sn**	**13 09 47.1**	**-7.0**
TORD	**Torodi Ar. Bea**	**25.06**	**122**	P	**P**	**13 07 31.5**	**-1.5**
	comp=Z,1.3nm,1.0s,baz=316,slow=9.3,SNR=5.5						
	comp=Z,1.3nm,1.0s						
DBIC	**Dimbokro**	**25.65**	**143**		**P**	**13 07 37.7**	**-0.6**
DBIC				IAmb	IAmb	13 07 59.0	
	comp=Z,24nm,0.8s						
DBIC	**Dimbokro**	**25.65**	**143**	P	**P**	**13 07 38.0**	**-0.3**
	comp=Z,11nm,0.6s,baz=351,slow=8.6,SNR=8.6						
DBIC				LR	LR	13 17 31.4	
	comp=Z,232nm,18.3s,baz=12,slow=36						
	comp=Z,11nm,0.6s						
KEST	**Kesra**	**25.95**	**65**		**P**	**13 07 43.7**	**+2.6**
KEST	**Kesra**	**25.95**	**65**	P	**P**	**13 07 43.4**	**+2.4**
	comp=Z,13nm,1.0s,baz=279,slow=5.1,SNR=10.0						
	comp=Z,13nm,1.0s						
CLL	**Collm**	**33.91**	**38**	*i* P	**P**	**13 08 54.3**	**+3.0**
BORG	**Borgarnes**	**36.69**	**359**	LR	LR	13 19 34.2	
	comp=Z,136nm,18.1s,baz=261,slow=28						
NOA	**NORSAR Array B**	**39.01**	**24**	P	**P**	**13 09 37.2**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=227,slow=7.9,SNR=1.8						
NOA				LR	LR	13 25 29.5	
	comp=Z,31nm,18.4s,baz=195,slow=36						
	comp=Z,0.2nm,0.3s						
SCHQ	**Schefferville**	**43.01**	**322**	P	**P**	**13 10 06.8**	**-0.9**
	comp=Z,104nm,0.8s,baz=107,slow=7.8,SNR=7.1						
AKASG	**Malin Array Be**	**43.22**	**45**	P	**P**	**13 10 13.4**	**+3.9**
	comp=Z,0.3nm,0.4s,baz=253,slow=8.5,SNR=1.1						
	comp=Z,0.3nm,0.4s						
SJG	**San Juan**	**43.42**	**267**	LR	LR	13 23 50.5	
	comp=Z,89nm,21.8s,baz=272,slow=30						
LBNH	**Lisbon**	**44.22**	**306**		**P**	**13 10 16.2**	**-1.4**
LBNH				IAmb	IAmb	13 10 17.9	
	comp=Z,9.6nm,0.7s						
FINES	**FINESS Array B**	**45.14**	**29**	P	**P**	**13 10 25.5**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=243,slow=6.1,SNR=4.2						
FINES				LR	LR	13 28 08.2	
	comp=Z,78nm,20.8s,baz=254,slow=34						
	comp=Z,1.2nm,0.8s						
BRTR	**Keskin Array B**	**45.37**	**61**	P	**P**	**13 10 29.7**	**+2.6**
	comp=Z,0.2nm,0.4s,baz=254,slow=10,SNR=1.9						
	comp=Z,0.2nm,0.4s						
SSPA	**Standing Stone**	**48.65**	**301**	P	**P**	**13 10 51.5**	**-1.0**
SSPA				IAmb	IAmb	13 10 52.4	
	comp=Z,9.6nm,0.9s						
ARCES	**ARCESS Array B**	**48.98**	**19**	P	**P**	**13 10 56.4**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=258,slow=7.4,SNR=4.1						
	comp=Z,1.7nm,0.7s						
Q54A	**Coxs Mills**	**51.06**	**299**	IAmb	IAmb	13 11 10.6	
	comp=Z,19nm,1.3s						
SPITS	**Spitsbergen Ar**	**52.77**	**9**	P	**P**	**13 11 25.0**	**+1.9**
	comp=Z,2.7nm,0.8s,baz=224,slow=10,SNR=4.0						
	comp=Z,2.7nm,0.8s						
Q51A	**Peebles**	**53.00**	**299**		**P**	**13 11 24.6**	**-0.8**
Q51A				IAmb	IAmb	13 11 24.9	
	comp=Z,12nm,0.7s						
S51A	**Beattyville**	**53.41**	**298**	IAmb	IAmb	13 11 28.9	
	comp=Z,13nm,0.9s						
BELG	**Belogornoye**	**54.79**	**44**	LR	LR	13 35 07.2	
	comp=Z,446nm,21.2s,baz=95,slow=36						
T47A	**Sharon Grove**	**56.28**	**297**	P	**P**	**13 11 48.4**	**-0.8**
T47A				IAmb	IAmb	13 11 50.0	
	comp=Z,7.4nm,0.6s						
PLAL	**Pickwick Lake**	**57.48**	**295**	P	**P**	**13 11 56.5**	**-1.2**
PLAL				IAmb	IAmb	13 11 57.5	
	comp=Z,9.8nm,1.1s						
ULM	**Lac du Bonnet**	**60.20**	**314**	LR	LR	13 34 29.1	
	comp=Z,120nm,20.5s,baz=175,slow=32						
MGMO	**Mountain Grove**	**60.27**	**299**	IAmb	IAmb	13 12 16.0	
	comp=Z,5.9nm,0.9s						
HHAR	**Hobbs**	**61.79**	**298**	IAmb	IAmb	13 12 25.4	
	comp=Z,5.2nm,0.8s						
T35A	**Sooner Cattle**	**63.60**	**300**		**P**	**13 12 37.0**	**-2.5**
LPAZ	**La Paz**	**64.19**	**233**	P	**P**	**13 12 41.1**	**-3.2**
	comp=Z,0.6nm,0.5s,baz=63,slow=6.8,SNR=1.9						
	comp=Z,0.6nm,0.5s						
YKA	**Yellowknife Ar**	**67.58**	**330**	P	**P**	**13 13 04.3**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=73,slow=7.0,SNR=6.5						
	comp=Z,2.0nm,0.7s						
LAO	**LASA Array**	**67.72**	**312**	P	**P**	**13 13 05.6**	**-0.5**
K22A	**Casper**	**69.21**	**308**	IAmb	IAmb	13 13 16.0	
	comp=Z,12nm,1.1s						
DRIO	**Del Rio**	**69.28**	**293**	IAmb	IAmb	13 13 14.4	
	comp=Z,5.8nm,0.9s						
SDCO	**Great Sand Dun**	**70.14**	**303**	IAmb	IAmb	13 13 21.8	
	comp=Z,11nm,1.7s						
SAND	**Sanderson**	**70.31**	**294**	IAmb	IAmb	13 13 21.0	
	comp=Z,7.9nm,0.8s						
BOSA	**Boshof**	**71.08**	**139**	LR	LR	13 42 20.9	
	comp=Z,237nm,19.4s,baz=192,slow=34						
S22A	**4UR Ranch, Cre**	**71.12**	**303**	IAmb	IAmb	13 13 28.3	
	comp=Z,10.0nm,1.5s						
PD31	**Pinedale Array**	**71.26**	**309**	IAmb	IAmb	13 13 27.8	
	comp=Z,8.9nm,1.2s						
PDAR	**Pinedale Array**	**71.26**	**309**	P	**P**	**13 13 27.0**	**-1.2**
PDAR	**Pinedale Array**	**71.26**	**309**	P	**P**	**13 13 26.6**	**-1.6**
	comp=Z,4.1nm,0.9s,baz=72,slow=6.8,SNR=22						
PDAR				LR	LR	13 42 32.2	
	comp=Z,32nm,19.0s,baz=216,slow=34						
	comp=Z,4.1nm,0.9s						
BW06	**Boulder Array**	**71.27**	**309**	IAmb	IAmb	13 13 27.8	
	comp=Z,10.0nm,1.2s						
TXAR	**Lajitas Array**	**71.78**	**294**	P	**P**	**13 13 30.1**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=90,slow=6.7,SNR=28						
	comp=Z,2.3nm,0.8s						
PV21	**Cone Mtn., Par**	**72.40**	**305**	IAmb	IAmb	13 13 35.2	
	comp=Z,8.6nm,1.2s						
MVCO	**Mesa Verde**	**72.56**	**303**	IAmb	IAmb	13 13 37.6	
	comp=Z,16nm,1.6s						
Y22A	**Socorro**	**72.64**	**300**	IAmb	IAmb	13 13 37.3	
	comp=Z,7.7nm,0.8s						
G31M	**Satah River**	**73.33**	**338**	IAmb	IAmb	13 13 41.1	
	comp=Z,9.6nm,0.8s						
KURBB	**Kurchatov Arra**	**73.86**	**41**	P	**P**	**13 13 44.8**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=300,slow=6.1,SNR=5.1						
	comp=Z,0.5nm,0.6s						
I29M	**Ogilvie Camp,**	**75.57**	**338**	P	**P**	**13 13 53.5**	**+0.6**
I29M				IAmb	IAmb	13 13 54.7	
	comp=Z,10nm,0.9s						
ZALV	**Zalesovo Beam**	**75.85**	**36**	P	**P**	**13 13 55.0**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=344,slow=4.7,SNR=1.7						
	comp=Z,0.3nm,0.3s						
G26K	**Porcupine Rive**	**76.31**	**340**		**P**	**13 13 58.5**	**+1.4**
G26K				IAmb	IAmb	13 13 59.7	
	comp=Z,11nm,1.1s						
F25K	**Christian Rive**	**76.42**	**341**	IAmb	IAmb	13 14 01.1	
	comp=Z,7.5nm,0.9s						
F24K	**Squaw Lake**	**77.10**	**342**	IAmb	IAmb	13 14 04.7	
	comp=Z,7.7nm,0.9s						
E23K	**Chandalar**	**77.18**	**343**	IAmb	IAmb	13 14 04.7	
	comp=Z,18nm,1.5s						
N30M	**Aishikik Lake**	**77.46**	**334**	IAmb	IAmb	13 14 05.7	
	comp=Z,7.3nm,0.7s						
MKAR	**Makanchi Array**	**77.79**	**43**	P	**P**	**13 14 07.4**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=300,slow=4.3,SNR=3.2						
	comp=Z,0.2nm,0.4s						
PRP	**Porcupine Dome**	**77.80**	**340**	IAmb	IAmb	13 14 08.3	
	comp=Z,9.8nm,0.9s						
H24K	**Noodor Dome**	**78.28**	**341**	IAmb	IAmb	13 14 10.1	
	comp=Z,12nm,1.4s						
SCRK	**Sand Creek**	**78.34**	**338**	IAmb	IAmb	13 16 44.2	
	comp=Z,9.8nm,1.3s						
ILAR	**Eielson Array**	**78.73**	**340**	P	**P**	**13 14 11.5**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=27,slow=4.5,SNR=22						
	comp=Z,2.5nm,0.8s						
CCB	**Clear Creek Bu**	**79.10**	**340**	IAmb	IAmb	13 14 14.5	
	comp=Z,8.9nm,1.0s						
NVAR	**Mina Array Bea**	**79.11**	**308**	P	**P**	**13 14 12.2**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=71,slow=7.5,SNR=2.9						
	comp=Z,0.3nm,0.7s						
I21K	**Tanana**	**79.94**	**341**	IAmb	IAmb	13 14 19.6	
	comp=Z,11nm,1.1s						
WMQ	**Urumqi**	**82.58**	**44**	*e*P	**P**	**13 14 34.3**	**+2.6**
PLCA	**Paso Flores**	**83.00**	**216**	P	**P**	**13 14 31.0**	**-2.8**
	comp=Z,0.5nm,0.4s,baz=36,slow=14,SNR=4.8						
	comp=Z,0.5nm,0.4s						
HHC	**Hu-ho-hao-te**	**98.00**	**35**	*e*P	**P**	**13 15 44.0**	**-1.1**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,60nm,3.6s						
PZH	**PanZhiHua**	**102.01**	**51**	P	**Pdif**	**13 16 03.8**	**+0.5**

*BJI **26** 13:04:16.8,27.84N×84.12E,h18km, mB4.4/2, mb4.3/16, Ms3.7/3,Ms7 3.6/3*

*IDC **26** 13:04:20.5±0.9,28.15N×84.46E,h0km,mb4.0/14, mbtmp4.0/16,ML4.4/2,MS3.6/2,Error ellipse: s-maj=23.6km s-min=17.4km az=53.0*

*NEIC **26** 13:04:21.6±1.6,28.1N±0.1×84.4E±0.1,h10km±1km, mb4.4/28,Error ellipse: s-maj=23.7km s-min=12.9km az=213.0*

*DMN **26** 13:04:21.6±0.0,28.19N×84.62E,h2km,Ml4.7/7,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*NDI **26** 13:04:28.5±2.0,28.24N×84.48E,h10km,ML4.1,MW4.0, mb4.4(NEIC)*

ISC 26 13:04:20.5±1.2,28.20N±0.04×84.52E±0.02,h3km±9km, n80,σ1$57/95,mb4.3/25,Nepal

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**0.23**	**152**	Pg	**Pg**		**13 04 25.3**	**+0.4**
	baz=174,slow=0.0							
GKN				Sg	**Sg**		**13 04 27.9**	**0.0**
	91μm,0.4s,baz=174,slow=0.0							
DANN	**Dangsing**	**0.68**	**282**	Pg	**Pb**		**13 04 36.1**	**+0.8**
	baz=282,slow=0.0							
DANN				Sg	**Sb**		**13 04 45.6**	**+0.4**
	4μm,0.4s,baz=282,slow=0.0							
DMN	**Daman**	**0.79**	**139**	Pg	**Pg**		**13 04 35.5**	**-0.2**
	baz=143,slow=0.0							
DMN				Sg	**Sg**		**13 04 44.6**	**-1.3**
	4μm,0.7s,baz=143,slow=0.0							
KKN	**Kakani**	**0.79**	**121**	Pg	**Pg**		**13 04 35.5**	**-0.2**
	baz=124,slow=0.0							
KKN				Sg	**Sg**		**13 04 45.1**	**-0.8**
	baz=124,slow=0.0							
KOLN	**Koldanda**	**0.92**	**242**	Pg	**Pn**		**13 04 40.7**	**+0.2**
	baz=245,slow=0.0							
KOLN				Sg	**Sn**		**13 04 53.8**	**-0.6**
	6μm,0.3s,baz=245,slow=0.0							
PKIN	**Phulchoki**	**1.00**	**129**	Pg	**Pg**		**13 04 39.4**	**-0.2**
	baz=131,slow=0.0							
PKIN				Sg	**Sg**		**13 04 51.7**	**-0.9**
	1μm,0.2s,baz=131,slow=0.0							
PKI	**Pulchoki**	**1.01**	**128**	Pg	**Pg**		**13 04 39.2**	**-0.7**
	baz=131,slow=0.0							
PKI				Sg	**Sg**		**13 04 51.9**	**-1.1**
	1μm,0.3s,baz=131,slow=0.0							
GUN	**Gumba**	**1.24**	**103**	Pg	**Pb**		**13 04 43.6**	**-1.1**
	baz=104,slow=0.0							
GUN				Sg	**Sb**		**13 04 59.3**	**-1.9**
	2μm,0.4s,baz=104,slow=0.0							
PYUN	**Piuthan**	**1.35**	**266**	Pg	**Pg**		**13 04 48.8**	**+2.3**
	baz=267,slow=0.0							
PYUN				Sg	**Sg**		**13 05 07.7**	**+3.7**
	12μm,0.4s,baz=267,slow=0.0							
RAMN	**Ramite**	**2.23**	**124**	Pn	**Pn**		**13 04 59.4**	**+0.8**
	baz=124,slow=0.0							
RAMN	**Ramite**	**2.23**	**124**	Pg	**Pb**		**13 05 02.3**	**+0.7**
	baz=124,slow=0.0							
RAMN				Sg	**Sb**		**13 05 29.4**	**-0.3**
	2μm,0.4s,baz=124,slow=0.0							
HRYA	**Harraiya (Bast**	**2.29**	**233**	*e*P	**Pg**		**13 05 04.3**	**-0.1**
HRYA				*e*S	**Sg**		**13 05 34.6**	**+0.7**
HRYA				IAML			13 05 36.9	
	comp=N,8μm,0.2s							
HRYA				IAML			13 05 37.0	
	comp=E,6μm,0.3s							
ODAN	**Odare**	**2.88**	**117**	Pn	**Pn**		**13 05 08.8**	**+1.3**
	baz=118,slow=0.0							
ODAN	**Odare**	**2.88**	**117**	Pg	**Pb**		**13 05 13.3**	**+0.6**
	baz=118,slow=0.0							
ODAN				Sg	**Sb**		**13 05 48.8**	**+0.4**
	comp=E,501nm,0.5s,baz=118,slow=0.0							
GAYA	**Gaya**	**3.45**	**169**	*e*P	**Pb**		**13 05 23.4**	**+1.2**
GAYA				*e*S	**Sb**		**13 06 03.4**	**-1.1**
GAYA				IAML			13 06 09.2	
	comp=N,1μm,0.3s							
GAYA				IAML			13 06 10.9	
	comp=E,1μm,0.3s							
LGTI	**Lohaghat**	**3.95**	**289**	*e*P	**Pb**		**13 05 29.9**	**-0.8**
LGTI				*e*S	**Sb**		**13 06 15.8**	**-3.1**
LGTI				IAML			13 06 32.7	
	comp=E,188nm,0.3s							
LGTI				IAML			13 06 36.3	
	comp=N,335nm,0.4s							
PTH	**Pithoragarh**	**4.00**	**291**	*e*P	**Pb**		**13 05 29.2**	**-2.6**
PTH				*e*S	**Sb**		**13 06 15.2**	**-5.5**
PTH				IAML			13 06 29.0	
	comp=N,261nm,0.2s							
JOSI	**Joshimath**	**4.92**	**300**	*e*P		Pb	13 05 41.8	-5.7
JOSI				*e*S		**Sn**	**13 06 36.0**	**+2.8**
JOSI				IAML			13 06 37.4	
	comp=E,241nm,0.5s							
JOSI				IAML			13 06 39.8	
	comp=N,266nm,0.3s							
LSA	**Lhasa**	**6.00**	**74**	Pn	**Pn**		**13 05 51.7**	**+1.1**
LSA	**Lhasa**	**6.00**	**74**	Pn	**Pn**		**13 05 54.0**	**+3.4**
SHL	**Shillong**	**7.08**	**110**	Pn	**Pn**		**13 06 04.0**	**-1.3**
NIL	**Nilore**	**11.09**	**302**	Pn	**Pn**		**13 06 59.5**	**-0.5**
HYB	**Hyderabad**	**12.06**	**208**	*e*P	**Pn**		**13 07 10.8**	**-2.6**
KSH	**Kashi**	**13.32**	**330**	P	**Pn**		**13 07 28.5**	**-2.1**
KSH				pP	P		13 07 31.0	-10
KSH				S	**Sn**		**13 09 52.5**	**-6.8**
KSH				pmax	pmax			
	comp=N,17nm,0.6s							
TARG	**Taragay, Kyrgy**	**14.56**	**340**	Pn	**Pn**		**13 07 47.9**	**0.0**
KBL	**Kabul**	**14.64**	**299**	Pn	**Pn**		**13 07 48.0**	**-0.8**
PRZ	**Przheval'sk**	**15.09**	**342**	Pn	**Pn**		**13 07 56.9**	**+2.1**
PZH	**PanZhiHua**	**15.40**	**92**	P	**Pn**		**13 08 00.3**	**+1.4**
WMQ	**Urumqi**	**15.79**	**8**	*e*P	**P**		**13 08 07.5**	**-0.4**
GAR	**Garm**	**15.98**	**316**	Pn	**Pn**		**13 08 06.1**	**-0.2**
ARSB	**Arslanbob**	**16.14**	**327**	Pn	**Pn**		**13 08 06.5**	**-1.9**
CHTO	**Chiang Mai**	**16.19**	**122**	P	**P**		**13 08 11.3**	**-1.0**
CM31	**Chiang Mai Arr**	**16.41**	**123**	Pn	**Pn**		**13 08 12.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**16.41**	**123**	Pn	**P**		**13 08 13.3**	**-1.5**
	comp=N,0.6nm,0.3s,baz=306,slow=11,SNR=13							
	comp=N,2.1nm,0.8s							
CHGR	**Chuyangaron**	**16.50**	**313**	Pn	**Pn**		**13 08 12.0**	**-1.1**
CHGR				IAmb	IAmb		13 08 25.3	
	comp=Z,29nm,0.7s							
AAK	**Ala-Archa**	**16.54**	**333**	Pn	**Pn**		**13 08 13.6**	**0.0**
SIMJ	**Simiganj**	**16.60**	**313**	Pn	**Pn**		**13 08 14.2**	**-0.2**
SIMJ				IAmb	IAmb		13 08 19.3	
	comp=Z,15nm,0.7s							
MKAR	**Makanchi Array**	**18.64**	**355**	P	**Pn**		**13 08 39.7**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=172,slow=11,SNR=29							
MKAR				LR	LR		13 17 05.2	
	comp=Z,95nm,20.4s,baz=322,slow=41							
	comp=Z,2.0nm,0.4s							
KK31	**Karatay Array**	**18.68**	**326**	P	**P**		**13 08 38.5**	**-1.3**
KKAR	**Karatay Array**	**18.68**	**326**	P	**P**		**13 08 37.9**	**-1.9**
PALK	**Pallekele**	**21.13**	**191**	P	**P**		**13 09 07.4**	**+0.8**
	comp=Z,3.1nm,0.7s,baz=12,slow=14,SNR=4.7							
	comp=Z,3.1nm,0.7s							
KURBB	**Kurchatov Arra**	**22.85**	**350**	P	**P**		**13 09 25.2**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=179,slow=9.2,SNR=25							
	comp=Z,1.9nm,0.9s							
KURK	**Kurchatov**	**22.92**	**350**	P	**P**		**13 09 25.8**	**+0.3**
KURK				IAmb	IAmb		13 09 29.0	
	comp=Z,8.4nm,1.0s							
HHC	**Hu-ho-hao-te**	**25.49**	**53**	*e*P	**P**		**13 09 51.0**	**+0.9**
ZAA0	**Zalesovo Array**	**25.72**	**0**	P	**P**		**13 09 51.7**	**-0.2**
ZAA0				IAmb	IAmb		13 09 56.6	
	comp=Z,4.2nm,0.8s							
ZALV	**Zalesovo Beam**	**25.72**	**0**	P	**P**		**13 09 52.3**	**+0.4**
ZALV	**Zalesovo Beam**	**25.72**	**0**	P	**P**		**13 09 52.9**	**+1.0**
	comp=Z,4.3nm,0.5s,baz=184,slow=9.6,SNR=22							
	comp=Z,4.3nm,0.5s							
SONM	**Songino Array**	**25.94**	**35**	P	**P**		**13 09 55.8**	**+1.6**
	comp=Z,1.5nm,0.4s,baz=229,slow=9.7,SNR=8.1							
	comp=Z,1.5nm,0.4s							
AB31	**Akbulak array**	**28.23**	**325**	P	**P**		**13 10 15.3**	**+0.8**
ABKAR	**Akbulak array**	**28.23**	**325**	P	**P**		**13 10 15.2**	**+0.7**
KSRS	**Korea Array**	**37.35**	**64**	P	**P**		**13 11 36.9**	**+2.6**
	comp=Z,0.4nm,0.5s,baz=256,slow=8.2,SNR=2.0							
	comp=Z,0.4nm,0.5s							
EIL	**Elat**	**43.14**	**284**	LR	LR		13 34 09.4	
	comp=Z,107nm,18.0s,baz=162,slow=42							
BRTR	**Keskin Array B**	**43.22**	**299**	P	**P**		**13 12 24.9**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=114,slow=6.0,SNR=3.5							
	comp=Z,0.6nm,0.6s							
AKASG	**Malin Array Be**	**46.97**	**314**	P	**P**		**13 12 52.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=82,slow=7.0,SNR=5.7							
	comp=Z,0.2nm,0.3s							
MLR	**Muntele Rosu**	**48.86**	**307**	P	**P**		**13 13 08.3**	**+0.8**
	comp=Z,5.6nm,0.7s,baz=101,slow=5.2,SNR=5.9							
	comp=Z,5.6nm,0.7s							
BURAR	**Bucovina Array**	**49.38**	**310**	P	**P**		**13 13 11.4**	**0.0**
BURAR				IAmb	IAmb		13 13 13.4	
	comp=Z,2.2nm,1.0s							
FIA1	**FINESS Array S**	**50.63**	**328**	P	**P**		**13 13 21.5**	**+0.9**
FINES	**FINESS Array B**	**50.63**	**328**	P	**P**		**13 13 20.9**	**+0.3**
FINES	**FINESS Array B**	**50.63**	**328**	P	**P**		**13 13 21.3**	**+0.7**
	comp=Z,3.2nm,0.6s,baz=106,slow=8.1,SNR=14							
	comp=Z,3.2nm,0.6s							
ARCES	**ARCESS Array B**	**53.13**	**338**	P	**P**		**13 13 39.6**	**+0.5**
ARCES	**ARCESS Array B**	**53.13**	**338**	P	**P**		**13 13 39.9**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=96,slow=7.1,SNR=8.6							
	comp=Z,2.5nm,0.7s							
HFS	**Hagfors**	**56.49**	**325**	P	**P**		**13 14 03.5**	**-0.1**
	comp=Z,3.8nm,0.5s,baz=101,slow=4.7,SNR=10							
	comp=Z,3.8nm,0.5s							
NB2	**NORSAR Subarra**	**57.72**	**327**	P	**P**		**13 14 11.6**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=89,slow=7.4							
NOA	**NORSAR Array B**	**57.72**	**327**	P	**P**		**13 14 12.0**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=90,slow=7.0,SNR=4.2							
	comp=Z,0.9nm,0.8s							
ASAR	**Alice Springs**	**70.18**	**132**	P	**P**		**13 15 34.0**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=314,slow=6.4,SNR=6.0							
	comp=Z,1.1nm,0.7s							
C19K	**Lookout Ridge**	**72.51**	**20**	P	**P**		**13 15 49.3**	**+1.0**
D19K	**Kuna River**	**73.30**	**20**	P	**P**		**13 15 54.0**	**+1.0**
E19K	**Redstone River**	**74.17**	**21**	P	**P**		**13 15 59.3**	**+1.2**
E19K				IAmb	IAmb		13 15 59.6	
	comp=Z,3.2nm,0.8s							
E21K	**Killik River**	**74.55**	**19**	P	**P**		**13 16 01.4**	**+1.0**
F20K	**Avaraart Lake**	**74.89**	**21**	P	**P**		**13 16 03.3**	**+1.1**
F20K				IAmb	IAmb		13 16 09.7	
	comp=Z,3.7nm,1.1s							
D23K	**Nanushuk River**	**75.13**	**18**	P	**P**		**13 16 04.8**	**+1.2**
F21K	**Alatna River**	**75.47**	**20**	P	**P**		**13 16 06.9**	**+1.2**
F21K				IAmb	IAmb		13 16 08.1	
	comp=Z,2.8nm,0.8s							
G21K	**Allakaket**	**75.91**	**21**	P	**P**		**13 16 09.1**	**+0.9**
G21K				IAmb	IAmb		13 16 18.0	
	comp=Z,5.8nm,1.4s							
IMAR	**Indian Mountai**	**76.17**	**21**	P	**P**		**13 16 09.5**	**-0.1**
C27K	**Jago River**	**76.44**	**16**	P	**P**		**13 16 12.5**	**+1.4**
K20K	**Telida**	**77.74**	**23**	P	**P**		**13 16 19.8**	**+1.3**
K20K				IAmb	IAmb		13 16 21.5	
	comp=Z,5.7nm,1.2s							
E29M	**Blow River**	**78.74**	**15**	P	**P**		**13 16 25.1**	**+1.1**
E29M				IAmb	IAmb		13 16 26.0	
	comp=Z,5.0nm,0.8s							
ILAR	**Eielson Array**	**79.12**	**20**	P	**P**		**13 16 26.6**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=310,slow=4.4,SNR=7.1							
	comp=Z,0.7nm,0.7s							
G29M	**Pine Creek**	**79.89**	**16**	P	**P**		**13 16 31.6**	**+1.3**
G29M				IAmb	IAmb		13 17 02.2	
	comp=Z,9.0nm,1.4s							
H29M	**Whitestone**	**80.36**	**16**	P	**P**		**13 16 33.8**	**+1.0**
H29M				IAmb	IAmb		13 16 40.0	
	comp=Z,9.0nm,1.4s							

IDC 26 13:05:46.5±1.9,6.99S×150.52E,h0km,mb3.8/4, mbtmp3.9/5,ML1.6/1,Error ellipse: s-maj=99.2km s-min=23.6km az=133.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.10**	**234**	Pn	Pn		13 06 52.3	+1.8
	3.0nm,0.3s,baz=90,slow=7.1,SNR=7.7							
PMG				Sn	Sn		13 07 40.2	+1.0
	6.3nm,0.3s,baz=136,slow=17,SNR=10							
	22nm,0.6s							
WRA	**Warramunga Arr**	**20.30**	**229**	P	P		13 10 23.8	-0.5
	1.3nm,0.5s,baz=54,slow=11,SNR=18							
	1.3nm,0.5s							
ASAR	**Alice Springs**	**23.02**	**222**	P	P		13 10 52.9	-0.5
	0.7nm,0.4s,baz=56,slow=9.1,SNR=23							
	0.7nm,0.4s							
FITZ	**Fitzroy Crossi**	**26.64**	**243**	P	P		13 11 26.8	-0.4
	1.6nm,0.6s,baz=67,slow=8.1,SNR=6.4							
	1.6nm,0.6s							
ILAR	**Eielson Array**	**85.03**	**22**	P	P		13 18 24.1	+0.4
	1.0nm,0.8s,baz=257,slow=6.0,SNR=8.3							
	1.0nm,0.8s							

*NEIC **26** 13:06:52.3±2.5,29.2S

RAR					Sn	Sn	13 13 19.6	-26	
	0.7nm,0.3s,baz=204,slow=13,SNR=1.7								
RAR					LR	LR	13 16 45.5		
	comp=Z,337nm,19.3s,baz=262,slow=36								
GVZ	**Greta Valley S**		**16.50**	**210**		**P**	**13 10 45.2**	**-1.5**	
GVZ					IAmb	IAmb	13 10 46.8		
	comp=Z,180nm,1.7s								
DZM	**Mont Dzumac**		**17.55**	**290**	*e*P	Pn	13 10 30.0	-27	
	comp=Z,196nm,28.4s								
DZM					eLR	LR	13 14 32.5		
	comp=Z,1μm,28.9s								
DZM	**Mont Dzumac**		**17.55**	**290**	P	**P**	**13 10 59.7**	**+1.2**	
	comp=Z,6.4nm,0.7s,baz=112,slow=15,SNR=6.1								
RPZ	**Rata Peaks**		**17.99**	**212**	P	**P**	**13 11 07.7**	**+4.6**	
	comp=Z,1.5nm,0.3s,baz=24,slow=7.9,SNR=2.3								
RPZ					S	Sn	13 14 08.9	-14	
	comp=Z,9.2nm,0.8s,baz=57,slow=17,SNR=1.4								
	comp=Z,7.8nm,0.4s								
TBI	**Tubuai**		**24.22**	**82**	*e*S	S	13 16 03.7	-24	
	comp=Z,3μm,32.8s								
TBI					eLR	LR	13 17 29.0		
	comp=Z,1μm,27.5s								
TBI					eLR	LR	13 17 42.9		
	comp=Z,3μm,30.5s								
PPT2	**Papeete2**		**26.54**	**70**	*e*S	S	13 16 35.3	-30	
	comp=Z,499nm,25.0s								
PPT2					eLR	LR	13 18 42.4		
	comp=Z,368nm,34.2s								
PPT2					eLR	LR	13 18 54.9		
	comp=Z,604nm,32.2s								
PPT	**Papeete**		**26.55**	**70**	LR	LR	13 21 38.7		
	comp=Z,182nm,18.0s,baz=250,slow=33								
HNR	**Honiara**		**30.08**	**306**	LR	LR	13 24 08.3		
	comp=Z,133nm,18.4s,baz=190,slow=35								
STKA	**Stephens Creek**		**36.71**	**255**	P	**P**	**13 13 57.6**	**-2.3**	
STKA	**Stephens Creek**		**36.71**	**255**	P	**P**	**13 13 59.9**	**0.0**	
	comp=Z,1.8nm,0.6s,baz=104,slow=11,SNR=6.1								
STKA					LR	LR	13 28 13.2		
	comp=Z,352nm,18.4s,baz=80,slow=35								
	comp=Z,1.8nm,0.6s								
TAOE	**Nuku Hiva Isla**		**38.98**	**66**	eLR	LR	13 24 22.3		
	comp=Z,255nm,30.0s								
PMG	**Port Moresby**		**39.92**	**292**	LR	LR	13 26 57.9		
	comp=Z,129nm,19.6s,baz=150,slow=31								
BBOO	**Buckleboo**		**41.23**	**252**	P	**P**	**13 14 37.7**	**-0.1**	
BBOO					IAmb	IAmb	13 14 52.4		
	comp=Z,67nm,1.9s								
AS31	**Alice Springs**		**45.18**	**265**	P	**P**	**13 15 06.0**	**-3.9**	
ASAR	**Alice Springs**		**45.18**	**265**	P	**P**	**13 15 06.1**	**-3.7**	
ASAR	**Alice Springs**		**45.18**	**265**	P	**P**	**13 15 08.9**	**-0.9**	
	comp=Z,3.2nm,0.8s,baz=97,slow=6.6,SNR=33								
ASAR					LR	LR	13 32 22.0		
	comp=Z,184nm,20.5s,baz=126,slow=34								
	comp=Z,3.2nm,0.8s								
WR8	**Warramunga Arr**		**45.92**	**270**		**P**	**13 15 10.9**	**-4.8**	
WRAB	**Tennant Creek**		**46.05**	**270**	P	**P**	**13 15 13.0**	**-3.8**	
WRA	**Warramunga Arr**		**46.06**	**270**	P	**P**	**13 15 15.3**	**-1.5**	
WRA	**Warramunga Arr**		**46.06**	**270**	P	**P**	**13 15 15.3**	**-1.5**	
	comp=Z,4.8nm,0.7s,baz=108,slow=7.9,SNR=46								
WRA					LR	LR	13 32 17.4		
	comp=Z,168nm,19.9s,baz=147,slow=33								
	comp=Z,4.8nm,0.7s								
WB0	**Warramunga Arr**		**46.08**	**270**	P	**P**	**13 15 14.3**	**-2.6**	
WB0					IAmb	IAmb	13 15 18.0		
	comp=Z,7.3nm,0.8s								
FORT	**Forrest**		**48.30**	**253**	P	**P**	**13 15 32.0**	**-2.1**	
FORT					IAmb	IAmb	13 15 35.5		
	comp=Z,6.7nm,0.8s								
JAY	**Jayapura**		**49.14**	**294**	LR	LR	13 33 21.8		
	comp=Z,134nm,20.9s,baz=123,slow=33								
KNRA	**Kununurra**		**52.62**	**272**	P	**P**	**13 16 05.7**	**-1.3**	
FITZ	**Fitzroy Crossi**		**54.37**	**268**	P	**P**	**13 16 18.6**	**-1.2**	
FITZ	**Fitzroy Crossi**		**54.37**	**268**	P	**P**	**13 16 18.6**	**-1.2**	
	comp=Z,4.8nm,0.7s,baz=168,slow=4.8,SNR=11								
FITZ					LR	LR	13 39 24.6		
	comp=Z,219nm,18.2s,baz=145,slow=36								
	comp=Z,4.8nm,0.7s								
GUMO	**Guam**		**57.04**	**313**	LR	LR	13 41 14.2		
	comp=Z,34nm,18.4s,baz=157,slow=36								
RPN	**Rapa Nui**		**57.85**	**105**	LR	LR	13 37 04.6		
	comp=Z,79nm,19.3s,baz=257,slow=31								
MBWA	**Marble Bar**		**58.35**	**262**	P	**P**	**13 16 49.7**	**+1.5**	
MBWA					IAmb	IAmb	13 17 26.5		
	comp=Z,14nm,1.2s								
BATI	**Baumata**		**59.48**	**275**	LR	LR	13 43 27.9		
	comp=Z,270nm,18.2s,baz=142,slow=37								
QSPA	**South Pole Qui**		**60.97**	**180**	P	**P**	**13 17 05.2**	**-0.6**	
QSPA					IAmb	IAmb	13 17 14.3		
	comp=Z,10nm,1.0s								
QSPA	**South Pole Qui**		**60.97**	**180**	P	P	13 17 13.2	+7.5	
	comp=Z,6.6nm,0.9s,baz=35,slow=1.5,SNR=24								
	comp=Z,6.6nm,0.9s								
KAPI	**Kappang**		**65.37**	**278**	LR	LR	13 44 09.6		
	comp=Z,33nm,21.9s,baz=144,slow=34								
DAV	**Davao City (W)**		**66.93**	**293**	LR	LR	13 44 33.8		
	comp=Z,56nm,20.0s,baz=176,slow=34								
PMSA	**Palmer Station**		**72.58**	**155**	P	**P**	**13 18 18.1**	**-1.4**	
MAW	**Mawson**		**74.17**	**200**	P	P	13 18 34.0	+5.1	
	comp=Z,6.9nm,0.8s,baz=127,slow=7.9,SNR=15								
	comp=Z,6.9nm,0.8s								
TGY	**Tagaytay City**		**74.72**	**296**	LR	LR	13 47 22.7		
	comp=Z,27nm,21.7s,baz=28,slow=33								
LEM	**Lembang**		**75.08**	**270**	LR	LR	13 54 08.0		
	comp=Z,92nm,18.1s,baz=140,slow=38								
TROLL	**Troll, Antarti**		**79.12**	**179**	⇑P	**P**	**13 19 00.7**	**+3.6**	
	comp=Z,225nm,0.8s								
SNAA	**Sanae**		**79.34**	**178**	⇑P	**P**	**13 19 02.2**	**+4.0**	
	comp=Z,61nm,1.0s								
SNAA	**Sanae**		**79.34**	**178**	P	**P**	**13 19 01.9**	**+3.8**	
	comp=Z,3.9nm,1.1s,baz=191,slow=4.6,SNR=6.6								
	comp=Z,3.9nm,1.1s								
VNA3	**Neumayer Olymp**		**79.41**	**175**	⇑P	**P**	**13 19 02.6**	**+4.1**	
	comp=Z,6.2nm,0.7s								
VNA1	**Neumayer--Stat**		**80.09**	**176**	⇑P	P	13 19 06.2	+4.2	
	comp=Z,8.3nm,1.2s								
LPIG	**La Paz**		**82.19**	**57**	LR	LR	13 50 49.2		
	comp=Z,51nm,18.2s,baz=214,slow=32								
ASAJ	**Asahikawa**		**82.27**	**331**	LR	LR	13 54 18.2		
	comp=Z,75nm,18.5s,baz=157,slow=35								
KSRS	**Korea Array**		**84.70**	**318**	P	**P**	**13 19 27.1**	**+0.6**	
	comp=Z,1.2nm,0.9s,baz=123,slow=4.6,SNR=5.7								
	comp=Z,1.2nm,0.9s								
MPMC	**Manual Prospec**		**84.87**	**44**	P	**P**	**13 19 27.2**	**-0.6**	
MPMC					IAmb	IAmb	13 21 08.9		
	comp=Z,7.4nm,1.2s								
PETK	**Petropavlovsk-**		**85.11**	**344**	P	**P**	**13 19 28.2**	**-0.1**	
	comp=Z,13nm,1.0s,baz=115,slow=9.9,SNR=4.7								
	comp=Z,13nm,1.0s								
QSM	**Queen of Sheba**		**85.19**	**44**	P	**P**	**13 19 30.4**	**+1.3**	
QSM					IAmb	IAmb	13 19 32.6		
	comp=Z,11nm,1.3s								
MT09	**Talagante**		**85.25**	**126**	P	**P**	**13 19 28.9**	**-1.0**	
WAKR	**Walker**		**85.37**	**41**		**P**	**13 19 29.6**	**-0.6**	
WAKR					IAmb	IAmb	13 19 33.0		
	comp=Z,17nm,1.3s								
NVAR	**Mina Array Bea**		**85.98**	**42**	P	**P**	**13 19 31.8**	**-1.4**	
NVAR	**Mina Array Bea**		**85.98**	**42**	P	**P**	**13 19 34.8**	**+1.6**	
	comp=Z,3.2nm,0.9s,baz=222,slow=8.5,SNR=20								
	comp=Z,3.2nm,0.9s								
NJ2	**Nanjing**		**86.96**	**309**	*e*P	**P**	**13 19 39.3**	**+1.4**	
NJ2					pmax	pmax			
	comp=Z,8.0nm,0.5s								
USRK	**Ussuriysk Ar.**		**87.23**	**325**	P	**P**	**13 19 38.9**	**-0.1**	
	comp=Z,3.4nm,0.7s,baz=107,slow=4.8,SNR=5.8								
	comp=Z,3.4nm,0.7s								
RPSI	**Rantau Prapat**		**87.24**	**275**	P	**P**	**13 19 39.7**	**-0.1**	
PSI	**Prapat**		**87.30**	**275**	P	**P**	**13 19 39.7**	**-0.5**	
	comp=Z,2.5nm,0.3s,baz=101,slow=9.9,SNR=6.3								
PSI					LR	LR	13 59 38.9		
	comp=Z,80nm,18.3s,baz=157,slow=36								
	comp=Z,2.5nm,0.3s								
X16A	**Lo Mia Camp, P**		**87.63**	**48**		**P**	**13 19 39.5**	**-1.8**	
X16A					IAmb	IAmb	13 19 45.0		
	comp=Z,6.4nm,1.1s								
TXAR	**Lajitas Array**		**90.04**	**56**		**P**	**13 19 52.4**	**-0.3**	
TXAR	**Lajitas Array**		**90.04**	**56**	P	**P**	**13 19 54.5**	**+1.7**	
	comp=Z,2.4nm,1.0s,baz=208,slow=7.1,SNR=18								
	comp=Z,2.4nm,1.0s								
CN2	**Changchun**		**90.36**	**322**	*e*P	**P**	**13 19 54.5**	**+0.8**	
CN2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
TIA	**Tai'an**		**90.59**	**312**	P	**P**	**13 19 56.0**	**+1.0**	
TIA					pmax	pmax			
	comp=Z,10.0nm,1.3s								
PLID	**Pearl Lake**		**91.69**	**38**		**P**	**13 19 59.2**	**-1.0**	
PLID					IAmb	IAmb	13 20 02.2		
	comp=Z,8.1nm,1.1s								
ATAH	**Atahualpa**		**92.92**	**100**	LR	LR	13 53 35.9		
	comp=Z,62nm,21.2s,baz=203,slow=30								
PDAR	**Pinedale Array**		**93.86**	**42**	P	**P**	**13 20 11.2**	**+0.9**	
	comp=Z,0.5nm,0.8s,baz=282,slow=2.8,SNR=3.8								
	comp=Z,0.5nm,0.8s								
CMAR	**Chiang Mai Arr**		**94.88**	**288**	P	**P**	**13 20 16.5**	**+1.2**	
	comp=Z,0.5nm,0.3s,baz=121,slow=4.3,SNR=1.8								
	comp=Z,0.5nm,0.3s								
JTS	**Las Juntas de**		**95.59**	**81**	LR	LR	13 55 31.0		
	comp=Z,72nm,18.5s,baz=316,slow=30								
ILAR	**Eielson Array**		**96.27**	**12**	P	**P**	**13 20 19.4**	**-1.1**	
	comp=Z,0.5nm,0.7s,baz=198,slow=4.7,SNR=4.2								
	comp=Z,0.5nm,0.7s								
PZH	**PanZhiHua**		**96.50**	**297**	P	**P**	**13 20 23.3**	**+0.7**	
HHC	**Hu-ho-hao-te**		**96.81**	**313**	*e*P	**P**	**13 20 24.0**	**+0.4**	
HHC					pmax	pmax			
	comp=Z,11nm,0.7s								
HHC					pmax	pmax			
	comp=Z,59nm,4.3s								
LPAZ	**La Paz**		**96.82**	**113**	LR	LR	13 54 26.9		
	comp=Z,34nm,19.8s,baz=181,slow=29								
CPUP	**Villa Florida**		**99.18**	**127**	LR	LR	14 04 07.0		
	comp=Z,15nm,18.3s,baz=36,slow=34								
MKAR	**Makanchi Array**		**118.48**	**310**	PKP	**PKPdf**	**13 25 39.5**	**-0.7**	
	comp=Z,0.8nm,0.8s,baz=65,slow=3.2,SNR=7.1								
KURBB	**Kurchatov Arra**		**121.65**	**314**	PKP	**PKPdf**	**13 25 46.1**	**-0.1**	
	comp=Z,1.3nm,1.0s,baz=99,slow=2.2,SNR=11								
KURBB					PP	**PP**	**13 27 19.5**	**+0.3**	
	comp=Z,0.5nm,0.9s,baz=72,slow=4.6,SNR=4.3								
BVAR	**Borovoye Array**		**126.88**	**316**	PKP	**PKiKP**	**13 25 56.5**	**-0.1**	
	comp=Z,0.6nm,0.6s,baz=54,slow=2.6,SNR=5.9								
FIA1	**FINESS Array S**		**144.60**	**342**	PKPdf	PKPbc	13 26 27.5	+0.1	
FINES	**FINESS Array B**		**144.60**	**342**	PKPdf	PKPbc	13 26 27.6	+0.3	
FINES	**FINESS Array B**		**144.60**	**342**	PKP	**PKPab**	**13 26 27.2**	**0.0**	
	comp=Z,5.4nm,0.6s,baz=66,slow=2.8,SNR=34								
KBZ	**Khabaz**		**146.02**	**306**	PKPbc	**PKPab**	**13 26 32.8**	**-0.2**	
	comp=Z,3.3nm,0.9s,baz=353,slow=1.3,SNR=7.4								
NOA	**NORSAR Array B**		**147.76**	**354**	PKPbc	**PKPbc**	**13 26 37.6**	**+0.7**	
	comp=Z,3.0nm,0.9s,baz=12,slow=2.7,SNR=7.4								
HFS	**Hagfors**		**148.36**	**351**	PKPbc	**PKPbc**	**13 26 38.3**	**-0.2**	
	comp=Z,7.4nm,0.8s,baz=86,slow=4.6,SNR=9.0								
AKASG	**Malin Array Be**		**151.44**	**326**	PKPbc	**PKPbc**	**13 26 46.1**	**-0.1**	
	comp=Z,2.8nm,0.4s,baz=45,slow=2.9,SNR=17								
MMAI	**Mount Meron Ar**		**153.12**	**286**	PKPbc	**PKiKP**	**13 26 52.9**	**+1.9**	
	comp=Z,2.3nm,0.5s,baz=72,slow=11,SNR=5.1								
BRTR	**Keskin Array B**		**153.69**	**301**	PKPbc	**PKiKP**	**13 26 52.9**	**+0.8**	
	comp=Z,0.3nm,0.3s,baz=157,slow=3.5,SNR=4.2								
CLL	**Collm**		**156.91**	**346**	*i* PKPab	**PKPab**	**13 27 17.8**	**+0.1**	
GERES	**GERESS Array B**		**159.04**	**342**	PKPab	**PKPab**	**13 27 26.2**	**-1.0**	
	comp=Z,0.3nm,0.3s,baz=325,slow=2.1,SNR=3.6								
TORD	**Torodi Ar. Bea**		**163.91**	**171**	PKPab	**PKPab**	**13 27 52.7**	**+3.6**	
	comp=Z,3.0nm,0.8s,baz=181,slow=3.1,SNR=13								

*TIR **26** 13:16:58.4, 41°.42N×19°.64E, h37km±4km, Ml2.9/2*
ISC 26 13:16:57.8±1.4, **41°.43N**±0°.07×**19°.64E**±0°.04, **h9**km±9km, **n8, σ1°13/15, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TIR	**Tirane**	**0.19**	**116**	P		**Pg**	**13 17 00.6**	**-1.1**
TIR				Sg		**Sg**	**13 17 06.0**	**+1.6**
TIR				AML		AML	13 17 07.1	
	2.7nm,0.3s							
TIR	**Tirane**	**0.19**	**116**	P		**Pg**	**13 17 00.6**	**-1.1**
TIR				Sg		**Sg**	**13 17 06.3**	**+1.9**
TIR				AML		AML	13 17 07.1	
	2.7nm,0.3s							
OHR	**Ohrid**	**0.93**	**110**	*i* Pg		**Pb**	**13 17 15.4**	**-0.8**
OHR				*i* Sg		**Sn**	**13 17 31.5**	**+0.9**
VLO	**Vlora**	**0.97**	**186**	Pg		**Pg**	**13 17 15.8**	**-0.6**
VLO				S		**Sb**	**13 17 30.2**	**+0.6**
VLO				AML		AML	13 17 31.6	
	2.7nm,0.3s							
KBN	**Korca**	**1.19**	**132**	Pg		**Pg**	**13 17 19.8**	**-0.8**
KBN				S		**Sn**	**13 17 36.8**	**-0.2**
SKO	**Skopje**	**1.45**	**68**	*i* Pn		**Pg**	**13 17 25.3**	**-0.4**
IGT	**Igoumenitsa**	**1.97**	**164**	Pn		**Pn**	**13 17 31.3**	**0.0**
IGT				Sn		**Sn**	**13 17 56.0**	**-0.1**
NOCI	**Noci**	**2.05**	**253**	Pn		**Pb**	**13 17 34.3**	**-0.8**
NOCI				Sn		**Sn**	**13 17 59.4**	**+1.3**

*PRE **26** 13:18:20.8±0.7, 22°.65S×24°.91E, h5km, Ml3.2*
*IDC **26** 13:18:23.0±1.5, 22°.73S×24°.59E, h0km, mb3.7/2,*
mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=42.5km
s-min=21.4km az=80.0
*BGSI **26** 13:18:26.9±1.9, 22°.69S×25°.13E, h12km±9km, ML3.4*
ISC 26 13:18:23.6±1.3, **22°.76S**±0°.04×**25°.00E**±0°.04, **h13**km±10km, **n36, σ2°04/62, Botswana**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KHWEE	**KHWEE**	**0.92**	**27**	*i* P		**Pg**	**13 18 41.3**	**0.0**
KHWEE				*i* S		**Sg**	**13 18 51.4**	**-1.9**
KHWEE				IAML			13 18 52.7	
	comp=E,8μm,0.2s							
LPHEP	**Lephephe**	**0.99**	**127**	*i* P		**Pb**	**13 18 44.9**	**+2.1**
LPHEP				*i* S		**Sg**	**13 18 54.3**	**-1.6**
LPHEP				IAML			13 19 02.9	
	comp=N,225nm,0.3s							
SKOMA	**Sekoma**	**2.00**	**209**	*i* P		**Pb**	**13 19 00.9**	**+1.0**
SKOMA				*i* S		**Sn**	**13 19 25.2**	**+3.1**
SKOMA				IAML			13 19 38.4	
	comp=N,244nm,0.5s							
MREMI	**Moremi**	**2.27**	**86**	*i* P		**Pn**	**13 19 01.5**	**+0.6**
MREMI				IAML			13 19 33.5	
	comp=N,764nm,0.3s							
LBTB	**Lobatse**	**2.31**	**166**	*e*P		**Pn**	**13 19 02.4**	**+0.9**
LBTB				*e*S		**Sn**	**13 19 31.9**	**+2.1**
LBTB				IAML			13 19 45.3	
	comp=Z,93nm,0.6s							
SOOWA	**Sowa**	**2.47**	**28**	*i* P		**Pn**	**13 19 04.7**	**+1.1**
SOOWA				*i* S		**Sn**	**13 19 31.0**	**-2.8**
SOOWA				IAML			13 19 39.9	
	comp=N,628nm,0.3s							
KGCAE	**Kacgae**	**2.57**	**267**	*i* P		**Pb**	**13 19 09.5**	**-0.2**
KGCAE				IAML			13 19 56.5	
	comp=E,405nm,0.3s							
PHDHD	**Phuduhudu**	**2.59**	**350**	*i* P		**Pn**	**13 19 05.8**	**+0.5**
PHDHD				*i* S		**Sn**	**13 19 35.2**	**-1.6**
PHDHD				IAML			13 19 50.6	
	comp=N,537nm,0.5s							
BROLN	**Tlhalogang**	**2.73**	**53**	*i* P		**Pn**	**13 19 07.1**	**-0.2**
BROLN				*i* S		**Sn**	**13 19 36.5**	**-3.8**
BROLN				IAML			13 19 50.1	
	comp=N,359nm,0.5s							
LEPH	**Lephalale, Lim**	**2.80**	**113**	*e*P		**Pn**	**13 19 08.9**	**+0.7**
LEPH				*e*S		**Sn**	**13 19 44.0**	**+2.2**
LEPH				IAML			13 19 56.9	
	comp=Z,347nm,0.4s							
MAKGR	**Makgori**	**3.04**	**183**	*i* P		**Pn**	**13 19 14.8**	**+3.2**
MAKGR				IAML			13 20 07.6	
	comp=N,334nm,0.3s							
PHPEN	**Phepeng**	**3.33**	**215**	*i* P		**Pn**	**13 19 19.0**	**+3.5**
PHPEN				*i* S		**Sn**	**13 19 57.6**	**+2.5**
LKGWB	**Lokgwabe**	**3.72**	**248**	IAML			13 20 15.9	
	comp=N,416nm,0.4s							
GRTLG	**Ghanzi**	**3.77**	**291**	*i* P		**Pn**	**13 19 23.9**	**+2.2**
GRTLG				IAML			13 20 26.8	
	comp=N,259nm,0.2s							
HRAO	**HartRAO**	**3.96**	**142**	*e*P		**Pn**	**13 19 24.9**	**+0.7**
HRAO				*e*S		**Sn**	**13 20 12.2**	**+1.5**
HRAO				IAML			13 20 31.8	
	comp=Z,62nm,0.5s							
MATP	**Matopo**	**4.01**	**55**	Pn		Pn	13 19 30.0	+5.2
	comp=Z,1.9nm,0.3s,baz=236,slow=12,SNR=41							
MATP				Sn		**Sn**	**13 20 12.0**	**+0.2**
	comp=Z,24nm,0.3s,baz=144,slow=20,SNR=13							
	comp=Z,4.8nm,0.2s							
GMARE	**Gumare**	**4.27**	**321**	*i* P		**Pn**	**13 19 29.7**	**+1.2**
GMARE				IAML			13 20 46.0	
	comp=N,143nm,0.3s							
SWZ	**Schweizer**	**4.41**	**176**	*e*P		**Pn**	**13 19 30.4**	**0.0**
SWZ				*e*S		**Sn**	**13 20 21.8**	**0.0**
SWZ				IAML			13 20 49.3	
	comp=Z,56nm,0.3s							
MUSN	**Musina, Limpop**	**4.52**	**85**	*e*P		**Pn**	**13 19 31.3**	**-0.6**
MUSN				*e*S		**Sn**	**13 20 24.0**	**-0.4**
MUSN				IAML			13 20 51.7	
	comp=Z,79nm,0.4s							
PRYS	**Parys**	**4.67**	**153**	*e*P		**Pn**	**13 19 35.9**	**+1.9**
PRYS				*e*S		**Sn**	**13 20 28.9**	**+0.8**
PRYS				IAML			13 20 55.4	
	comp=Z,66nm,0.5s							
PILG	**Pilgrimsrest,**	**5.66**	**114**	*e*P		**Pn**	**13 19 47.4**	**-0.2**
PILG				*e*S		**Sn**	**13 20 52.6**	**0.0**
PILG				IAML			13 21 25.3	
	comp=Z,43nm,0.4s							
BOSA	**Boshof**	**5.83**	**178**	Pn		**Pn**	**13 19 53.4**	**+3.5**
	comp=Z,2.0nm,0.3s,baz=359,slow=12,SNR=37							
BOSA				Sn		**Sn**	**13 20 55.0**	**-1.7**
	comp=Z,3.3nm,0.3s,baz=180,slow=2.4,SNR=9.1							
BOSA				Lg		Lg	13 21 28.1	
	comp=Z,7.8nm,0.3s,baz=101,slow=18,SNR=6.3							
	comp=Z,4.4nm,0.3s							
BOSA	**Boshof**	**5.83**	**178**	*e*P		**Pn**	**13 19 50.8**	**+0.9**
BOSA				*e*S		**Sn**	**13 20 56.6**	**-0.1**
BOSA				IAML			13 21 39.3	
	comp=Z,32nm,0.6s							
MOPA	**Mopani**	**5.94**	**98**	*e*P		**Pn**	**13 19 51.7**	**+0.3**
MOPA				*e*S		**Sn**	**13 20 57.7**	**-1.6**
MOPA				IAML			13 21 27.1	
	comp=Z,101nm,0.5s							
UPI	**Upington**	**6.52**	**210**	*e*P		**Pn**	**13 19 59.6**	**+0.3**
UPI				*e*S		**Sn**	**13 21 11.5**	**-2.1**
UPI				IAML			13 21 58.1	
	comp=Z,19nm,0.5s							
KEIM	**Keimoes**	**6.94**	**211**	*e*P		**Pn**	**13 20 05.2**	**+0.1**
KEIM				*e*S		**Sn**	**13 21 21.6**	**-2.4**
KEIM				IAML			13 21 26.4	
	comp=Z,14nm,0.4s							
ALKP	**Alkanpan, Nort**	**7.56**	**198**	*e*P		**Pn**	**13 20 14.2**	**+0.5**
ALKP				*e*S		**Sn**	**13 21 36.5**	**-2.9**
ALKP				IAML			13 22 27.2	
	comp=Z,26nm,0.4s							
BFON	**Badsfontein, M**	**9.07**	**187**	*e*P		**Pn**	**13 20 35.6**	**+1.2**
BFON				*e*S		**Sn**	**13 22 12.8**	**-3.8**
BFON				IAML			13 22 33.6	
	comp=Z,9.5nm,0.3s							
BRAK	**Brakfontein**	**9.17**	**191**	*e*P		**Pn**	**13 20 36.3**	**+0.6**
BRAK				*e*S		**Sn**	**13 22 15.7**	**-3.3**
BRAK				IAML			13 23 17.4	
	comp=Z,29nm,0.8s							
GRAF	**Camdeboo Natio**	**9.49**	**183**	*e*P		**Pn**	**13 20 41.2**	**+1.1**
GRAF				*e*S		**Sn**	**13 22 23.6**	**-3.1**
GRAF				IAML			13 23 30.9	
	comp=Z,21nm,0.6s							
FRAZ	**Fraserburg**	**9.67**	**198**	*e*P		**Pn**	**13 20 43.2**	**+0.6**
FRAZ				*e*S		**Sn**	**13 22 27.0**	**-4.2**
FRAZ				IAML			13 23 32.5	
	comp=Z,12nm,0.7s							
ROOI	**Rooidraai Farm**	**9.78**	**187**	*e*P		**Pn**	**13 20 45.3**	**+1.3**
ROOI				*e*S		**Sn**	**13 22 30.6**	**-3.2**
ROOI				IAML			13 22 49.8	
	comp=Z,3.9nm,0.5s							
GRAN	**Grantham**	**9.83**	**194**	*e*P		**Pn**	**13 20 45.6**	**+1.0**
GRAN				*e*S		**Sn**	**13 22 30.6**	**-4.3**
GRAN				IAML			13 23 43.2	
	comp=Z,16nm,0.5s							
SUR	**Sutherland**	**10.27**	**200**	*e*P		**Pn**	**13 20 51.6**	**+0.7**
SUR				*e*S		**Sn**	**13 22 42.0**	**-4.1**
SUR				IAML			13 24 01.1	
	comp=Z,11nm,0.5s							
TORD	**Torodi Ar. Bea**	**42.37**	**325**	P		**P**	**13 26 17.3**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=147,slow=8.6,SNR=7.5							
	comp=Z,0.3nm,0.3s							
ESDC	**Sonseca Array**	**67.75**	**336**	P		**P**	**13 29 20.9**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=158,slow=6.9,SNR=4.8							
	comp=Z,0.7nm,0.7s							

*AFAD **26** 13:25:44.6, 40°.87N×28°.28E, h7km±3km, ML2.3*
*ISK **26** 13:25:44.4, 40°.89N×28°.26E, h10km, ML2.6/16*
ISC 26 13:25:44.6±0.9, **40°.87N**±0°.02×**28°.26E**±0°.02, **h12**km±9km, **n35, σ0°57/54, Turkey**

| Code | Station Name | Δ° | AZ° | Phase | ID | ISC | Time | Res |
|---

SEMS				*i* IAML			13 26 24.0	
	comp=N,64nm,0.3s							
ADVT	**Abdulvahap**	**1.21 111**		Pn		**Pg**	**13 26 07.8**	**-0.1**
KIRK	**Kırklareli**	**1.26 317**		P		**Pn**	**13 26 07.8**	**-0.3**
KIRK				S		**Sb**	**13 26 24.5**	**0.0**
KIRK				*i* IAML			13 26 26.0	
	comp=E,27nm,0.3s							
KIRK	**Kırklareli**	**1.26 317**		P		**Pn**	**13 26 07.0**	**-1.1**
KIRK				S		**Sb**	**13 26 24.9**	**+0.4**
KIRK				*i* IAML			13 26 25.0	
	comp=E,14nm,0.6s							
KIRK				*i* IAML			13 26 26.0	
	comp=N,22nm,0.3s							
HISA	**Bilecik-Osmane**	**1.33 107**		P		**Pn**	**13 26 09.4**	**+0.4**
HISA				S		**Sg**	**13 26 27.0**	**-0.5**
HISA				*i* IAML			13 26 29.0	
	comp=N,89nm,0.5s							
HISA				*i* IAML			13 26 29.0	
	comp=E,61nm,0.3s							
HISA	**Bilecik-Osmane**	**1.33 107**		P		**Pn**	**13 26 08.7**	**-0.3**
HISA				*i* IAML			13 26 27.0	
	comp=E,40nm,0.4s							
SAUV	**Serdivan-Sakar**	**1.58**	**94**	Pn		**Pn**	**13 26 13.0**	**+0.7**

IPEC ***26*** *13:47:49.5±0.2,51°.59N×16°.10E,h1km,ML3.2/6,Error ellipse: s-maj=2.9km s-min=1.4km az=74.0*
IDC ***26*** *13:47:49.3±0.8,51°.61N×15°.84E,h0km,mbtmp3.4/5, ML2.8/4,Error ellipse: s-maj=12.9km s-min=7.3km az=99.0*
BGR ***26*** *13:47:50.1±0.3,51°.56N×16°.01E,h1km,ML3.3/37,Error ellipse: s-maj=2.2km s-min=1.1km az=13.0*
PRU ***26*** *13:47:51.4,51°.54N×15°.96E,h0km*
VIE ***26*** *13:47:52.1±0.7,51°.42N×15°.78E,h0km,mb2.8/17, ml3.0/16,Error ellipse: s-maj=4.7km s-min=4.4km az=166.0 84 km NE of Liberec Suspected Mining induced.*
DNK ***26*** *13:47:52.4±1.9,51°.91N×15°.83E,h0km±66km,ML2.5*
UPP ***26*** *13:47:54.7±3.4,51°.98N×15°.66E,h0km,ML3.1,Presumed earthquake*

ISC 26 13:47:46.9±0.6,51°.69N±0°.03×16°.05E±0°.02,h0km,n106, σ1s45/204,1C-3D,Poland

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
KSP	**Ksiaz**	**0.86**	**170**	*i* Pg		**Pb**	**13 48 04.3**	**-0.3**
KSP				*e*Sg		**Sg**	**13 48 14.8**	**+0.4**
KSP	**Ksiaz**	**0.86**	**170**	*e*Pg		**Pb**	**13 48 04.4**	**-0.3**
KSP				*e*Sg		**Sg**	**13 48 14.4**	**-0.1**
CHVC	**Chvalec**	**1.10**	**180**	*e*PG		**Pb**	**13 48 08.9**	**+0.1**
CHVC				*e*SG		**Sg**	**13 48 22.6**	**+0.4**
	256nm,0.4s							
OSTC	**Ostas**	**1.14**	**175**	*e*PG		**Pb**	**13 48 09.7**	**+0.3**
OSTC				*e*SG		**Sg**	**13 48 24.0**	**+0.6**
	179nm,0.4s							
UPC	**Upice**	**1.18**	**181**	*e*PG		**Pb**	**13 48 10.2**	**0.0**
UPC				*e*SG		**Sg**	**13 48 24.9**	**+0.1**
	330nm,0.5s							
DPC	**Dobruska-Polom**	**1.35**	**173**	*e*PG		**Pg**	**13 48 13.1**	**+0.3**
DPC				*e*SG		**Sg**	**13 48 29.7**	**-0.5**
	205nm,0.7s							
DPC	**Dobruska-Polom**	**1.35**	**173**	*e*Pg		**Pg**	**13 48 13.0**	**+0.2**
DPC				*e*Sg		**Sg**	**13 48 29.6**	**-0.6**
PVCC	**Panska Ves**	**1.49**	**219**	*e*PG		**Pg**	**13 48 15.6**	**+0.1**
PVCC				*e*SG		**Sg**	**13 48 34.0**	**-0.8**
	589nm,0.4s							
PVCC	**Panska Ves**	**1.49**	**219**	*e*Pg		**Pb**	**13 48 16.1**	**+0.6**
PVCC				*e*Sg		**Sg**	**13 48 33.9**	**-0.8**
PIVO	**Bartosovice**	**1.53**	**168**	*e*Pg		**Pb**	**13 48 16.2**	**0.0**
	baz=349							
PIVO				*e*Sg		**Sg**	**13 48 34.3**	**-1.9**
	270nm,0.4s,baz=349							
BRG	**Berggiesshubel**	**1.56**	**239**	*e*Pg		**Pg**	**13 48 17.1**	**+0.4**
BRG				*e*Sg		**Sn**	**13 48 35.9**	**-0.7**
BRG	**Berggiesshubel**	**1.56**	**239**	Pn		**Pn**	**13 48 15.8**	**0.0**
BRG				Pg		**Pg**	**13 48 17.4**	**+0.7**
BRG				Sg		**Sg**	**13 48 37.7**	**+0.9**
BRG				Amp			13 48 40.5	
	comp=Z,274nm,0.5s							
KRLC	**Kraliky**	**1.68**	**164**	*e*PG		**Pn**	**13 48 18.2**	**+0.6**
KRLC				*e*SG		**Sb**	**13 48 40.7**	**+0.3**
	comp=Z,270nm,0.5s							
RICC	**Richard**	**1.68**	**228**	*e*PG		**Pn**	**13 48 18.3**	**+0.7**
RICC				*e*SG		**Sn**	**13 48 40.0**	**+0.2**
	comp=Z,247nm,0.3s							
FBE	**Freiberg**	**1.86**	**247**	*e*Pn		**Pb**	**13 48 22.0**	**+0.3**
FBE				*e*Sg		**Sg**	**13 48 46.5**	**-0.1**
RYBC	**Ceska Rybna**	**1.88**	**180**	*e*Pn		**Pn**	**13 48 21.1**	**+0.8**
	baz=0.7							
RYBC				*e*Sg		**Sn**	**13 48 45.3**	**+0.6**
	comp=Z,184nm,0.4s,baz=0.7							
PRA	**Prague**	**1.92**	**213**	*e*PG		**Pn**	**13 48 21.4**	**+0.6**
PRA				*e*SG		**Sb**	**13 48 47.4**	**+0.3**
	comp=Z,179nm,0.7s							
CLL	**Collm**	**1.94**	**260**	*e*Pn		**Pn**	**13 48 21.7**	**+0.5**
CLL				*e*Sg		**Sg**	**13 48 50.6**	**+1.3**
CLL	**Collm**	**1.94**	**260**	*i* Pn		**Pn**	**13 48 21.5**	**+0.3**
	comp=Z,55nm,0.5s							
CLL				*i* Pg		**Pg**	**13 48 24.1**	**-0.1**
CLL				*i* x		x	13 48 28.5	
CLL				*e*Sg		**Sg**	**13 48 51.0**	**+1.7**
	comp=Z,95nm,0.5s							
PRU	**Pruhonice**	**1.95**	**210**	*e*PN		**Pn**	**13 48 21.7**	**+0.4**
PRU				*e*PG		**Pb**	**13 48 23.7**	**+0.4**
PRU				*e*SG		**Sb**	**13 48 48.2**	**0.0**
	comp=Z,88nm,0.5s							
PRU	**Pruhonice**	**1.95**	**210**	*e*Pn		**Pn**	**13 48 21.7**	**+0.4**
PRU				*e*Pg		**Pb**	**13 48 23.9**	**+0.6**
PRU				*e*Sg		**Sb**	**13 48 48.4**	**+0.2**
MORC	**Moravsky Berou**	**2.13**	**153**	*e*Pn		**Pn**	**13 48 24.7**	**+0.9**
	baz=334							
MORC				*e*Sg		**Sb**	**13 48 52.9**	**-0.6**
	comp=Z,122nm,0.6s,baz=334							
MORC	**Moravsky Berou**	**2.13**	**153**	||P		**Pn**	**13 48 24.6**	**+0.7**
MORC	**Moravsky Berou**	**2.13**	**153**	*e*Pn		**Pn**	**13 48 24.5**	**+0.6**
MORC				*e*Sg		**Sb**	**13 48 54.1**	**+0.6**
OKC	**Ostrava-Krasne**	**2.28**	**143**	*e*PG		**Pg**	**13 48 30.8**	**+0.2**
OKC				*e*SG		**Sg**	**13 48 59.8**	**-0.3**
	comp=Z,158nm,0.5s							
OKC	**Ostrava-Krasne**	**2.28**	**143**	*e*Pn		**Pn**	**13 48 26.6**	**+0.8**
OKC				*e*Pg		**Pg**	**13 48 30.9**	**+0.3**
OKC				*e*Sg		**Sb**	**13 48 58.9**	**+1.3**
VRAC	**Vranov**	**2.41**	**172**	Pn		**Pn**	**13 48 28.9**	**+1.3**
	comp=Z,4.7nm,0.3s,baz=347,slow=16,SNR=37							
VRAC				Sn		**Sn**	**13 48 58.7**	**+1.0**
	comp=Z,7.5nm,0.3s,baz=10.0,slow=6.4,SNR=5.1 comp=Z,12nm,0.3s							
VRAC	**Vranov**	**2.41**	**172**	*e*Pn		**Pn**	**13 48 28.3**	**+0.7**
	baz=352							
VRAC				*e*Sg		**Sb**	**13 49 01.6**	**+0.3**
	comp=Z,95nm,0.7s,baz=352							
VRAC	**Vranov**	**2.41**	**172**	*e*PN		**Pn**	**13 48 28.4**	**+0.9**
VRAC				*e*SG		**Sb**	**13 49 01.7**	**+0.4**
VRAC	**Vranov**	**2.41**	**172**	||P		**Pn**	**13 48 28.5**	**+0.9**
VRAC	**Vranov**	**2.41**	**172**	*e*Pn		**Pn**	**13 48 28.4**	**+0.9**
TREC	**Trest**	**2.42**	**189**	*e*PN		**Pn**	**13 48 28.4**	**+0.6**
TREC				*e*PG		**Pb**	**13 48 32.2**	**+0.8**
TREC				*e*SG		**Sb**	**13 49 02.9**	**+1.2**
	comp=Z,98nm,0.5s							
TREC	**Trest**	**2.42**	**189**	*e*Pn		**Pn**	**13 48 28.6**	**+0.8**
SCHF	**Schoenfels**	**2.51**	**248**	*e*Pn		**Pn**	**13 48 29.8**	**+0.8**
SCHF				*e*Sg		**Sg**	**13 49 08.1**	**+0.6**
HKWD	**Heukewalde**	**2.53**	**252**	*e*Pn		**Pn**	**13 48 30.1**	**+0.9**
HKWD				*e*Pg		**Pg**	**13 48 35.9**	**+0.6**
HKWD				*e*Sg		**Sg**	**13 49 08.8**	**+0.7**
ZEITZ	**Schloss Moritz**	**2.54**	**257**	*e*Sg		**Sg**	**13 49 09.1**	**+0.6**
ZVC	**Zvikov**	**2.54**	**209**	*e*PG		**Pb**	**13 48 34.7**	**+1.3**
ZVC				*e*SG		**Sb**	**13 49 06.7**	**+1.5**
	comp=Z,72nm,0.4s							
TANN	**Tannenbergstha**	**2.60**	**242**	*e*Pn		**Pn**	**13 48 31.1**	**+0.8**
TANN				*e*Pg		**Pg**	**13 48 38.0**	**+1.2**
TANN				*e*Sg		**Sg**	**13 49 09.4**	**-1.0**
GRZ1	**Mausoleum Wald**	**2.61**	**249**	*e*Pn		**Pn**	**13 48 31.1**	**+0.8**
GRZ1				*e*Pg		**Pg**	**13 48 37.5**	**+0.7**
GRZ1				*e*Sg		**Sg**	**13 49 11.7**	**+1.0**
MULD	**Muldenberg**	**2.63**	**242**	*e*Pn		**Pn**	**13 48 31.5**	**+0.8**
MULD				*e*Pg		**Pg**	**13 48 38.5**	**+1.1**
MULD				*e*Sg		**Sg**	**13 49 10.2**	**-1.2**
KRUC	**Moravsky**	**2.64**	**175**	*e*Pn		**Pn**	**13 48 31.6**	**+0.9**
	baz=356							
KRUC				*e*Sg		**Sb**	**13 49 09.0**	**+1.1**
	comp=Z,133nm,0.9s,baz=356							
KRUC	**Moravsky**	**2.64**	**175**	*e*Pn		**Pn**	**13 48 31.6**	**+0.9**
KRUC				*e*Pg		**Pg**	**13 48 36.5**	**-1.0**
KRUC				*e*Sg		**Sb**	**13 49 09.6**	**+1.7**
WERD	**Werda**	**2.67**	**244**	*e*Pn		**Pn**	**13 48 31.9**	**+0.7**
WERD				*e*Pg		**Pg**	**13 48 39.3**	**+1.2**
WERD				*e*Sg		**Sg**	**13 49 12.5**	**-0.1**
GUNZ	**Gunzen**	**2.70**	**242**	*e*Pn		**Pn**	**13 48 32.4**	**+0.9**
GUNZ				*e*Pg		**Pg**	**13 48 39.8**	**+1.2**
GUNZ				*e*Sg		**Sg**	**13 49 12.3**	**-1.2**
WERN	**Wernitzgruen**	**2.71**	**240**	*e*Pn		**Pn**	**13 48 32.7**	**+1.0**
WERN				*e*Pg		**Pg**	**13 48 40.3**	**+1.5**
WERN				*e*Sg		**Sg**	**13 49 13.7**	**-0.4**
NEUB	**Neuenburg**	**2.72**	**262**	*e*Pn		**Pn**	**13 48 33.1**	**+1.3**
NEUB				*e*Pg		**Pg**	**13 48 40.0**	**+1.0**
NEUB				*e*Sg		**Sg**	**13 49 15.7**	**+1.5**
PLN	**Plauen**	**2.73**	**245**	*e*Pn		**Pn**	**13 48 32.8**	**+0.7**
PLN				*e*Pg		**Pg**	**13 48 40.0**	**+0.7**
PLN				*e*Sg		**Sg**	**13 49 14.7**	**0.0**
ROHR	**Rohrbach**	**2.77**	**240**	*e*Pn		**Pn**	**13 48 33.3**	**+0.7**
ROHR				*e*Pg		**Pg**	**13 48 39.9**	**-0.2**
ROHR				*e*Sg		**Sg**	**13 49 15.4**	**-0.6**
OJC	**Ojcow**	**2.79**	**120**	*e*Pn		**Pn**	**13 48 32.9**	**+0.1**
OJC				*e*Pg		**Pg**	**13 48 41.5**	**+1.2**
OJC				*e*Sg		**Sg**	**13 49 17.6**	**+1.2**
OJC				*e*Sg		**Sb**	**13 49 17.7**	**+5.5**
OJC	**Ojcow**	**2.79**	**120**	*e*Pn		**Pn**	**13 48 33.6**	**+0.8**
OJC				*e*Pg		**Pg**	**13 48 41.6**	**+1.3**
OJC				*e*Sg		**Sg**	**13 49 17.7**	**+1.2**
TRIB	**Obertriebel**	**2.81**	**243**	*e*Pn		**Pn**	**13 48 33.7**	**+0.6**
TRIB				*e*Sg		**Sg**	**13 49 16.6**	**-0.6**
TAUT	**Tautenburg**	**2.81**	**257**	*e*Pn		**Pn**	**13 48 34.1**	**+1.0**
TAUT				*e*Pg		**Pg**	**13 48 41.5**	**+0.7**
TAUT				*e*Sg		**Sg**	**13 49 17.4**	**+0.1**
MOX	**Moxa**	**2.98**	**251**	*e*Pn		**Pn**	**13 48 36.1**	**+0.7**
KHC	**Kasperske Hory**	**3.01**	**213**	*e*PN		**Pn**	**13 48 36.3**	**+0.4**
KHC				*e*PG		**Pb**	**13 48 42.6**	**+1.2**
KHC				*e*SN		**Sn**	**13 49 11.7**	**-0.9**
KHC				*e*SG		**Sg**	**13 49 21.7**	**-1.8**
	comp=Z,54nm,0.4s							
JAVC	**Velka Javorina**	**3.02**	**159**	*e*Pn		**Pn**	**13 48 37.0**	**+1.1**
	baz=340							
JAVC	**Velka Javorina**	**3.02**	**159**	*e*PN		**Pn**	**13 48 37.1**	**+1.1**
JAVC	**Velka Javorina**	**3.02**	**159**	*e*Pn		**Pn**	**13 48 37.8**	**+1.8**
MANZ	**Manzenberg**	**3.02**	**237**	*e*Pn		**Pn**	**13 48 36.7**	**+0.7**
CKRC	**Cesky Krumlov**	**3.08**	**202**	*e*PN		**Pn**	**13 48 38.1**	**+1.2**
CKRC				*e*PG		**Pb**	**13 48 44.4**	**+1.8**
CKRC				*e*SG		**Sb**	**13 49 22.3**	**+1.6**
	comp=Z,80nm,0.5s							
CKRC	**Cesky Krumlov**	**3.08**	**202**	*e*Pn		**Pn**	**13 48 38.0**	**+1.2**
ROTZ	**Rotzenmuhle**	**3.11**	**233**	*e*Pn		**Pn**	**13 48 38.1**	**+0.9**
GEC2	**GERESS Array S**	**3.22**	**209**	*e*Pn		**Pn**	**13 48 39.9**	**+1.1**
GERES	**GERESS Array B**	**3.22**	**209**	Pn		**Pn**	**13 48 39.5**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=31,slow=14,SNR=37							
GERES				Lg		Lg	13 49 25.6	
	comp=Z,1.2nm,0.3s,baz=27,slow=32,SNR=5.9 comp=Z,5.5nm,0.4s							
WET	**Wettzell**	**3.25**	**220**	*e*Pn		**Pn**	**13 48 39.9**	**+0.7**
POSS	**Possen**	**3.26**	**266**	*e*Pn		**Pn**	**13 48 40.6**	**+1.3**
CHRS	**Christianenhau**	**3.26**	**271**	*e*Pn		**Pn**	**13 48 41.1**	**+1.8**
CLZ	**Clausthal**	**3.53**	**275**	*e*Pn		**Pn**	**13 48 45.1**	**+2.0**
NIE	**Niedzica**	**3.53**	**128**	*e*Pg		**Pg**	**13 48 55.1**	**+0.5**
NIE				*e*Sg		**Sg**	**13 49 40.4**	**0.0**
NIE	**Niedzica**	**3.53**	**128**	*e*Pg		**Pg**	**13 48 55.3**	**+0.6**
CONA	**Conrad Observa**	**3.76**	**182**	*i* Pn		**Pn**	**13 48 47.6**	**+1.3**
	comp=Z,3.4nm,0.3s,SNR=9.7							
CONA				*i* Pg		**Pg**	**13 48 58.9**	**-0.1**
	comp=Z,16nm,0.3s							
CONA				*i* Sn		**Sn**	**13 49 31.5**	**+0.2**
	comp=Z,18nm,0.5s							
CONA				*e*Sg		**Sg**	**13 49 45.4**	**-2.4**
	comp=Z,56nm,0.5s							
RONA	**Rosalia, Austr**	**3.99**	**178**	*i* Pn		**Pn**	**13 48 50.7**	**+1.3**
	comp=Z,1.2nm,0.2s							
RONA				*e*Sg		**Sg**	**13 49 53.4**	**-1.7**
	comp=Z,40nm,0.4s							
MOA	**Molln**	**4.01**	**197**	*i* Pn		**Pn**	**13 48 50.6**	**+1.0**
	comp=Z,10nm,0.3s,SNR=20							
MOA				*e*Sg		**Sg**	**13 49 54.1**	**-1.6**
	comp=Z,23nm,0.3s							
BIOA	**Bad Ischl, Aus**	**4.29**	**202**	*i* Pn		**Pn**	**13 48 54.4**	**+0.9**
	comp=Z,6.5nm,0.2s							
BIOA				*e*Pg		**Pg**	**13 49 09.7**	**+0.5**
	comp=Z,22nm,0.4s							
BIOA				*e*Sg		**Sg**	**13 50 04.6**	**-0.2**
	comp=Z,32nm,0.4s							
ARSA	**Arzberg**	**4.45**	**185**	*e*Pn		**Pn**	**13 48 58.6**	**+2.9**
	comp=Z,1.0nm,0.2s							
ARSA				*e*Sg		**Sg**	**13 50 07.8**	**-2.1**
	comp=Z,42nm,0.7s							
LESA	**Schwarzleotal**	**4.80**	**209**	*i* Pn		**Pn**	**13 49 01.3**	**+0.8**
	comp=Z,1.5nm,0.3s							
LESA				*e*Sg		**Sg**	**13 50 17.7**	**-3.3**
	comp=Z,15nm,0.3s							
KBA	**Koelnbreinsper**	**4.94**	**202**	*i* Pn		**Pn**	**13 49 03.8**	**+1.3**
	comp=Z,11nm,0.4s,SNR=13							
KBA				*e*Sg		**Sg**	**13 50 25.4**	**-0.1**
	comp=Z,28nm,0.8s							
DEL	**Delary**	**4.96**	**346**	*i* P		**Pn**	**13 49 04.0**	**+1.4**
DEL				*e*S		**Sn**	**13 49 59.1**	**-1.5**
SOKA	**Soboth**	**5.06**	**188**	*i* Pn		**Pn**	**13 49 05.3**	**+1.3**
	comp=Z,0.8nm,0.3s							
SOKA				*i* Pg		**Pg**	**13 49 23.7**	**-0.1**
	comp=Z,2.0nm,0.3s							
SOKA				*e*Sg		**Sg**	**13 50 29.1**	**-0.2**
	comp=Z,12nm,0.6s							
WATA	**Walderalm**	**5.24**	**216**	*e*Pn		**Pn**	**13 49 08.4**	**+1.8**
	comp=Z,2.7nm,0.3s,SNR=4.8							
WATA				Sg		**Sg**	**13 50 36.9**	**+1.7**
	comp=Z,21nm,0.5s							
OBKA	**Obir**	**5.28**	**191**	*e*Sg		**Sg**	**13 50 37.8**	**+1.5**
	comp=Z,30nm,0.7s							
WTTA	**Wattenberg**	**5.28**	**215**	*e*Pn		**Pn**	**13 49 09.2**	**+2.0**
	comp=Z,1.8nm,0.2s							
WTTA				*e*Sg		**Sg**	**13 50 36.3**	**-0.1**
	comp=Z,15nm,0.6s							
VXJU	**Vaexsjoe**	**5.29**	**353**	P		**Pn**	**13 49 09.5**	**+2.4**
VXJU				S		**Sn**	**13 50 06.7**	**-1.9**
VXJU	**Vaexsjoe**	**5.29**	**353**	P		**Pn**	**13 49 09.5**	**+2.4**
VXJU				S		**Sn**	**13 50 06.7**	**-1.9**
MYKA	**Terra Mystica**	**5.30**	**198**	*e*Sg		**Sg**	**13 50 37.4**	**+0.2**
	comp=Z,6.7nm,0.4s							
MOTA	**Moosalm**	**5.41**	**218**	*e*Pn		**Pn**	**13 49 10.0**	**+1.0**
	comp=Z,1.3nm,0.2s							
MOTA				Sg		**Sg**	**13 50 42.8**	**+2.2**
	comp=Z,15nm,0.4s							
RETA	**Reutte**	**5.43**	**221**	*i* Pn		**Pn**	**13 49 09.7**	**+0.5**
	comp=Z,1.2nm,0.2s							
RETA				*e*Sg		**Sg**	**13 50 41.7**	**+0.4**
	comp=Z,16nm,0.5s							
ABTA	**Abfaltersbach**	**5.46**	**207**	*e*Pn		**Pn**	**13 49 11.7**	**+2.1**
	comp=Z,1.8nm,0.2s							
OSKU	**Oskarshamn**	**5.52**	**0**	P		**Pn**	**13 49 12.9**	**+2.6**
OSKU	**Oskarshamn**	**5.52**	**0**	P		**Pn**	**13 49 12.9**	**+2.6**
BYXU	**Byxelkrok**	**5.64**	**5**	P		**Pn**	**13 49 14.8**	**+2.8**
BYXU	**Byxelkrok**	**5.64**	**5**	P		**Pn**	**13 49 14.8**	**+2.8**
FABU	**Falkenberg**	**5.67**	**341**	*e*P		**Pn**	**13 49 14.1**	**+1.7**
FABU				*e*S		**Sn**	**13 50 13.7**	**-4.4**
FETA	**Feichten**	**5.82**	**219**	*i* Pn		**Pn**	**13 49 16.1**	**+1.5**
	comp=Z,1.6nm,0.4s							
FETA				Sg		**Sg**	**13 50 54.9**	**+1.1**
	comp=Z,5.8nm,0.5s							
EKSU	**Eksjoe**	**5.92**	**356**	P		**Pn**	**13 49 18.1**	**+2.4**
EKSU	**Eksjoe**	**5.92**	**356**	P		**Pn**	**13 49 18.1**	**+2.4**
VSTU	**Vaestervik**	**5.99**	**2**	P		**Pn**	**13 49 19.8**	**+3.0**
VSTU	**Vaestervik**	**5.99**	**2**	P		**Pn**	**13 49 19.8**	**+3.0**
ONAU	**Onsala**	**6.21**	**339**	*e*P		**Pn**	**13 49 23.1**	**+3.4**
BORU	**Boraas**	**6.26**	**344**	*e*P		**Pn**	**13 49 23.4**	**+3.0**
BZS	**Buzias**	**7.10**	**147**	||P		**Pn**	**13 49 35.2**	**+3.1**
BURAR	**Bucovina Array**	**7.21**	**121**	||P		**Pn**	**13 49 36.3**	**+2.7**
AKASG	**Malin Array Be**	**8.34**	**92**	Pn		**Pn**	**13 49 49.7**	**+0.8**
	comp=Z,0.3nm,0.2s,baz=281,slow=12,SNR=5.5							
AKASG				Sn		**Sn**	**13 51 20.6**	**-3.1**
	comp=Z,1.1nm,0.3s,baz=277,slow=23,SNR=3.2							
HFS	**Hagfors**	**8.57**	**352**	Pn		**Pn**	**13 49 52.7**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=169,slow=13,SNR=8.3							
HFS				Sn		**Sn**	**13 51 26.3**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=167,slow=21,SNR=2.4 comp=Z,0.6nm,0.3s							
FINES	**FINESS Array B**	**11.22**	**25**	Pn		**Pn**	**13 50 28.9**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=216,slow=12,SNR=13							
FINES				Sn		**Sn**	**13 52 28.9**	**-5.4**
	comp=Z,0.5nm,0.3s,baz=217,slow=22,SNR=5.0 comp=Z,0.8nm,0.3s							
EKA	**Eskdalemuir Ar**	**12.00**	**295**	Pn		**Pn**	**13 50 35.5**	**-3.6**
	baz=102,slow=13							
ARCES	**ARCESS Array B**	**18.46**	**11**	P		**Pn**	**13 52 02.6**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=191,slow=13,SNR=4.1							

NEIC ***26*** *13:47:58.5±3.0,19°.33N±0°.04×67°.36W±0°.05,h10km±1km, ML2.3/8,Md3.1/9(RSPR),Error ellipse: s-maj=8.1km s-min=6.1km az=307.0*
SDD ***26*** *13:48:03.3±0.9,19°.23N×67°.16W,h20km±76km,MD3.4, ML2.2,MW2.8*
RSPR ***26*** *13:48:04.9,19°.21N×67°.34W,h28km±23km,MD3.0/9*

ISC 26 13:48:02.1±1.8,19°.20N±0°.09×67°.28W±0°.05,h19km±3km, n34,σ0s49/39,9C-1D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
AGPR	**Aguadilla, PR**	**0.74**	**168**			**Pn**	**13 48 17.0**	**-0.5**
AGPR						**Sg**	**13 48 27.5**	**+0.8**
AGPR	**Aguadilla, PR**	**0.74**	**168**	||eP	**Pn**	**13 48 17.0**	**-0.5**
AGPR	**Aguadilla, PR**	**0.74**	**168**	*e*S		**Sg**	**13 48 27.5**	**+0.8**
AGPR	**Aguadilla, PR**	**0.74**	**168**	*e*Pg		**Pn**	**13 48 16.9**	**-0.6**
AGPR				*e*Sg		**Sg**	**13 48 26.9**	**+0.3**
AGPR				IAML			13 48 31.3	
	comp=N,99nm,0.7s							
AGPR				IAML			13 48 33.2	
	comp=E,126nm,0.7s							
IDE	**Isla Desecheo**	**0.83**	**193**			**Pn**	**13 48 19.0**	**+0.3**
IDE						**Sn**	**13 48 30.4**	**0.0**
IDE	**Isla Desecheo**	**0.83**	**193**	||eP	**Pn**	**13 48 19.0**	**+0.3**
IDE	**Isla Desecheo**	**0.83**	**193**	*e*S		**Sn**	**13 48 30.4**	**0.0**
AOPR	**Arecibo Observ**	**0.98**	**150**	Pn		**Pg**	**13 48 20.4**	**-0.9**
AOPR	**Arecibo Observ**	**0.98**	**150**	*e*Pg		**Pg**	**13 48 20.6**	**-0.6**
AOPR				IAML			13 48 40.8	
	comp=N,116nm,0.2s							
EMPR	**Esperanza - Ma**	**1.01**	**135**	Pn		**Pg**	**13 48 22.3**	**+0.6**
EMPR	**Esperanza - Ma**	**1.01**	**135**			**Sg**	**13 48 35.5**	**+0.5**
EMPR	**Esperanza - Ma**	**1.01**	**135**	||eP	**Pg**	**13 48 22.3**	**+0.6**
EMPR	**Esperanza - Ma**	**1.01**	**135**	*e*S		**Sg**	**13 48 35.5**	**+0.5**
LSP	**Las Mesas**	**1.03**	**170**			**Pg**	**13 48 21.7**	**-0.6**
LSP						**Sb**	**13 48 34.7**	**+0.1**
LSP	**Las Mesas**	**1.03**	**170**	||eP	**Pg**	**13 48 21.7**	**-0.6**
LSP	**Las Mesas**	**1.03**	**170**	*e*S		**Sb**	**13 48 34.7**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.20**	**172**			**Pb**	**13 48 23.9**	**-0.2**
CRPR						**Sn**	**13 48 39.2**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.20**	**172**	IAML			13 48 40.9	
	comp=E,42nm,0.5s							
CRPR	**Cabo Rojo, PR**	**1.20**	**172**	||eP	**Pb**	**13 48 23.9**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.20**	**172**	*e*S		**Sn**	**13 48 39.2**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.20**	**172**	*e*Pg		**Pb**	**13 48 23.9**	**-0.2**
CRPR				*e*Sg		**Sb**	**13 48 40.2**	**+1.0**
CRPR				IAML			13 48 40.8	
	comp=E,48nm,0.2s							
CRPR				IAML			13 48 42.6	
	comp=N,29nm,0.3s							
ECPR	**Experimental S**	**1.23**	**135**	||eP	**Pg**	**13 48 25.8**	**-0.2**
MLPR	**Magueyes Islan**	**1.24**	**170**	||eP	**Pb**	**13 48 24.6**	**-0.3**
MLPR	**Magueyes Islan**	**1.24**	**170**	*e*S		**Sb**	**13 48 41.2**	**+0.7**
CELP	**Cer

SHLS	**Shalkode**	**3.08**	**301**	*e*P	**Pb**	**15 16 58.1**	**-2.0**
	7.2nm,0.3s						
SHLS				*e*S	**Sb**	**15 17 37.8**	**+0.1**
	79nm,0.5s						
PDGK	**Podgornoye**	**3.15**	**304**	⇓Pn	**Pn**	**15 16 54.3**	**-0.6**
	2.3nm,0.7s						
PDGK				⇑Pg	**Pb**	**15 17 01.7**	**+0.4**
	7.0nm,0.7s						
PDGK				⇑Lg	Lg	15 17 48.6	
	58nm,0.8s						
UZB	**Uzynbulak**	**3.36**	**299**	Pg	**Pb**	**15 17 06.5**	**+1.6**
	3.8nm,0.2s						
UZB				Lg	Lg	15 17 52.6	
	28nm,0.7s						
UZB	**Uzynbulak**	**3.36**	**299**	*e*P	**Pb**	**15 17 06.5**	**+1.6**
	3.8nm,0.2s						
UZB				*e*S	**Sg**	**15 17 52.6**	**-0.5**
	28nm,0.7s						
KPKS	**Kokpek**	**3.73**	**301**	Pg	**Pg**	**15 17 15.0**	**-1.5**
	0.3nm,0.2s						
KPKS				Lg	Lg	15 18 06.9	
	29nm,0.5s						
SATY	**Saty**	**3.74**	**294**	Pg	**Pg**	**15 17 14.7**	**-2.1**
	3.9nm,0.4s						
SATY				Lg	Lg	15 18 06.8	
	25nm,0.5s						
KNOS	**Konyrlen**	**3.96**	**315**	Pg	**Pb**	**15 17 15.8**	**+0.8**
	4.7nm,0.7s						
KNOS				Lg	Lg	15 18 08.2	
	3.5nm,0.2s						
ARXS	**Arharly**	**4.64**	**306**	Pg	**Pb**	**15 17 30.2**	**+3.6**
	1.2nm,0.4s						
ARXS				Lg	Lg	15 18 33.6	
	15nm,0.6s						
ARXS	**Arharly**	**4.64**	**306**	*e*P	**Pb**	**15 17 30.2**	**+3.6**
ARXS				*e*S	**Sg**	**15 18 33.6**	**-0.4**
KOTS	**Kotyrbulak**	**4.69**	**292**	Pg	**Pg**	**15 17 32.0**	**-3.0**
	3.5nm,0.4s						
KOTS				Lg	Lg	15 18 36.7	
	27nm,0.6s						
KOTS	**Kotyrbulak**	**4.69**	**292**	*e*P	**Pg**	**15 17 32.0**	**-3.0**
	3.5nm,0.4s						
KOTS				*e*S	**Sg**	**15 18 36.8**	**+1.1**
	27nm,0.6s						
MDOK	**Medeo**	**4.71**	**291**	Pg	**Pb**	**15 17 29.4**	**+1.5**
	1.9nm,0.3s						
MDOK				Lg	Lg	15 18 31.9	
	4.7nm,0.4s						
TNSS	**Tian-Shan**	**4.75**	**290**	Pg	**Pb**	**15 17 31.4**	**+2.7**
	0.1nm,0.0s						
TNSS				Lg	Lg	15 18 35.5	
	1.9nm,0.6s						
TNSS	**Tian-Shan**	**4.75**	**290**	*e*P	**Pb**	**15 17 31.4**	**+2.7**
	0.1nm,0.0s						
TNSS				*e*S	**Sg**	**15 18 35.5**	**-2.1**
	1.9nm,0.6s						
KTBS	**Karatobe**	**5.15**	**296**	Pg	**Pb**	**15 17 38.5**	**+3.2**
	2.3nm,1.0s						
KTBS				Lg	Lg	15 18 47.1	
	19nm,0.6s						
MK31	**Makanchi Array**	**5.22**	**354**	⇓Pg	**Pb**	**15 17 39.5**	**+3.0**
	3.5nm,0.8s,baz=172,slow=15,SNR=8.9						
MK31				⇓Lg	Lg	15 18 57.2	
	5.9nm,0.8s,baz=191,slow=13,SNR=3.0						
MAKZ	**Makanchi**	**5.26**	**352**	⇓Pg	**Pb**	**15 17 40.1**	**+2.9**
	2.0nm,1.1s						
MAKZ				⇑Lg	Lg	15 18 57.2	
	9.6nm,1.1s						
KST	**Kastek**	**5.45**	**288**	Pg	**Pg**	**15 17 48.4**	**-1.1**
	5.0nm,0.6s						
KST				Lg	Lg	15 19 04.6	
	18nm,0.8s						
KST	**Kastek**	**5.45**	**288**	*e*P	**Pg**	**15 17 48.4**	**-1.1**
	5.0nm,0.6s						
KST				*e*S	**Sg**	**15 19 04.6**	**+4.6**
	18nm,0.8s						
ZSN	**Zaisan**	**5.99**	**12**	Pg	**Pg**	**15 17 57.0**	**-2.8**
	2.4nm,0.3s						
ZSN				Lg	Lg	15 19 18.8	
	16nm,0.6s						
ZSN	**Zaisan**	**5.99**	**12**	*e*P	**Pg**	**15 17 57.0**	**-2.8**
	2.4nm,0.3s						
ZSN				*e*S	**Sg**	**15 19 18.8**	**+1.5**
	16nm,0.6s						

*CATAC **26** 15:36:01.7±0.3,7°N±2″×7°5W±°, h1km,M4.6/6,MLv4.6/6, Error ellipse: s-maj=5.9km s-min=4.0km az=108.4, confirmed*
*RSNC **26** 15:36:02.6±0.0,7°N±1″×7°5W±°, h4km±2km,M4.0,ML3.8*
*IDC **26** 15:36:06.2±1.4,6°51N×74°51W,h0km,mb3.8/2, mbtmp4.1/4,ML3.8/2,MS3.1/3,Error ellipse: s-maj=32.2km s-min=17.9km az=114.0*
ISC 26 15:36:01.8±0.6,6°66N±0″02×74°95W±0″02,h10km,n54, σ1s76/79,MS3.0/3,1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTBC	**PUERTO BERRIO,**	**0.50**	**103**	P	**Pb**	**15 36 11.5**	**-1.3**
PTBC				S	**Sb**	**15 36 18.3**	**-1.9**
HELC	**Santa Helena**	**0.74**	**231**	P	**Pg**	**15 36 15.5**	**-0.7**
HELC				S	**Sg**	**15 36 25.5**	**-0.4**
HELC	**Santa Helena**	**0.74**	**231**	P	**Pg**	**15 36 15.4**	**-0.8**
HELC				S	**Sg**	**15 36 25.2**	**-0.7**
MEDEC	**Medelln, Ant**	**0.74**	**239**	P	**Pg**	**15 36 15.2**	**-1.0**
MEDEC				S	**Sg**	**15 36 25.0**	**-0.9**
ZARC	**Zaragoza, Cauc**	**0.83**	**6**	P	**Pg**	**15 36 17.1**	**-0.9**
ZARC				S	**Sg**	**15 36 28.0**	**-0.9**
NORC	**Norcasia**	**1.09**	**176**	P	**Pb**	**15 36 21.0**	**-1.8**
NORC				S	**Sg**	**15 36 34.7**	**-2.3**
UREC	**San Jos de Ur**	**1.23**	**332**	P	**Pn**	**15 36 23.1**	**-2.1**
UREC				S	**Sb**	**15 36 38.5**	**-2.7**
BRJC	**Barrancabermej**	**1.24**	**75**	P	**Pg**	**15 36 24.4**	**-1.2**
BRJC				S	**Sn**	**15 36 40.9**	**-1.1**
DBBC	**Dabeiba**	**1.30**	**286**	P	**Pn**	**15 36 25.1**	**-1.1**
DBBC				S	**Sb**	**15 36 41.5**	**-1.8**
CBOC	**Ciudad Bolivar**	**1.32**	**233**	P	**Pn**	**15 36 25.1**	**-1.4**
CBOC				S	**Sb**	**15 36 43.1**	**-0.8**
SPBC	**San Pablo de B**	**1.32**	**139**	P	**Pn**	**15 36 25.7**	**-0.8**
SPBC				S	**Sn**	**15 36 43.6**	**-0.7**
GUY2C	**Guyana, Caldas**	**1.48**	**196**	P	**Pn**	**15 36 27.9**	**-1.1**
GUY2C				S	**Sn**	**15 36 46.1**	**-2.6**
NIZA	**Niza - Manizal**	**1.67**	**198**	P	**Pn**	**15 36 31.2**	**-0.3**
NIZA				S	**Sn**	**15 36 51.6**	**-1.5**
BARC	**Barichara**	**1.76**	**92**	P	**Pb**	**15 36 32.7**	**-1.6**
BARC				S	**Sn**	**15 36 54.3**	**-0.8**
ROSC	**El Rosal**	**1.91**	**161**	Pg	**Pb**	**15 36 36.3**	**-0.8**
	104nm,0.3s,baz=300,slow=7.1,SNR=58						
ROSC				Sn	**Sb**	**15 37 01.1**	**0.0**
	772nm,0.3s,baz=16,slow=19,SNR=15						
ROSC	**El Rosal**	**1.91**	**161**	P	**Pb**	**15 36 36.0**	**-1.0**
ROSC				S	**Sb**	**15 37 00.7**	**-0.4**
RUSC	**La Rusia**	**2.00**	**112**	P	**Pn**	**15 36 36.3**	**+0.1**
RUSC				S	**Sb**	**15 37 02.0**	**-1.9**
RUSC	**La Rusia**	**2.00**	**112**	P	**Pn**	**15 36 36.3**	**+0.1**
RUSC				S	**Sn**	**15 37 01.4**	**-0.2**
APAC	**Apartado, Choc**	**2.04**	**307**	P	**Pb**	**15 36 37.7**	**-1.3**
APAC				S	**Sg**	**15 37 07.4**	**0.0**
OCAC	**Ocana**	**2.25**	**46**	P	**Pn**	**15 36 39.6**	**+0.2**
OCAC				S	**Sb**	**15 37 08.9**	**-1.9**
CVER	**Cruz Verde, Cu**	**2.29**	**158**	P	**Pb**	**15 36 42.2**	**-1.4**
CVER				S	**Sb**	**15 37 13.2**	**+1.0**
PAMC	**Pamplona, Colo**	**2.33**	**73**	P	**Pn**	**15 36 41.4**	**+0.7**
PAMC				S	**Sn**	**15 37 09.5**	**-0.2**
ORTC	**Ortega, Tolima**	**2.75**	**186**	P	**Pn**	**15 36 47.9**	**+1.9**
ORTC				S	**Sn**	**15 37 21.4**	**+2.1**
PTAC	**Punta Ardita,**	**2.88**	**280**	P	**Pn**	**15 36 49.1**	**+1.3**
PRAC	**Prado**	**2.92**	**179**	P	**Pb**	**15 36 51.3**	**-2.8**
PRAC	**Prado**	**2.92**	**179**	P	**Pn**	**15 36 49.6**	**+1.1**
PRAC				S	**Sn**	**15 37 26.6**	**-3.4**
YOTC	**Yotoco, Valle**	**3.00**	**208**	P	**Pn**	**15 36 51.0**	**+1.4**
SJCC	**San Jacinto, C**	**3.23**	**356**	P	**Pn**	**15 36 54.1**	**+1.4**
SJCC				S	**Sn**	**15 37 32.2**	**+1.0**
SJCC	**San Jacinto, C**	**3.23**	**356**	P	**Pn**	**15 36 53.2**	**+0.5**
SJCC				S	**Sn**	**15 37 30.9**	**-0.3**
ARGC	**Ariguani, Magd**	**3.25**	**12**	P	**Pb**	**15 36 57.1**	**-2.7**
ARGC				S	**Sb**	**15 37 39.8**	**+0.3**
URMC	**La Uribe, Meta**	**3.44**	**170**	P	**Pb**	**15 36 59.0**	**-3.9**
URMC				S	**Sn**	**15 37 39.6**	**+3.2**
PTGC	**Puerto Gaitan,**	**3.72**	**131**	P	**Pn**	**15 36 59.5**	**+0.1**
BETC	**Betania**	**3.98**	**187**	P	**Pn**	**15 37 06.5**	**+3.5**
BETC				S	**Sb**	**15 37 55.6**	**-4.8**
POPC	**Popayan, Colom**	**4.44**	**203**	P	**Pn**	**15 37 11.4**	**+1.9**
CRJC	**Cerrejon, Guaj**	**4.79**	**25**	P	**Pn**	**15 37 15.6**	**+1.4**
SDV	**Santo Domingo**	**4.81**	**62**	Pn	**Pn**	**15 37 16.0**	**+1.3**
	23nm,0.3s,baz=265,slow=3.3,SNR=15						
SDV				Sn	**Sn**	**15 38 12.7**	**+2.0**
	20nm,0.3s,baz=17,slow=14,SNR=3.4						
	43nm,0.3s						
SDV	**Santo Domingo**	**4.81**	**62**	P	**Pn**	**15 37 16.2**	**+1.6**
FLOC	**Florencia**	**5.09**	**188**	P	Pn	15 37 22.8	+4.5
BBAC	**Balboa, Cauca**	**5.14**	**207**	P	**Pn**	**15 37 22.0**	**+2.8**
URIC	**Uribia, Colomb**	**5.80**	**30**	P	**Pn**	**15 37 28.0**	**0.0**
PCRV	**Puerto La Cruz**	**10.78**	**70**	Pn	**Pn**	**15 38 36.3**	**-0.1**
	1.6nm,0.3s,baz=249,slow=6.5,SNR=7.2						
PCRV				Sn	**Sn**	**15 40 35.6**	**-1.7**
	1.4nm,0.3s,baz=184,slow=22,SNR=4.2						
	10nm,0.6s						
MTDJ	**Mount Denham**	**11.77**	**348**	*e*P	**Pn**	**15 38 51.0**	**+1.0**
GTBY	**Guantanamo Bay**	**13.19**	**359**	*e*P	**Pn**	**15 39 11.8**	**+2.5**
RCC	**Rio Carpintero**	**13.28**	**357**	⇓*e*P	**Pn**	**15 39 11.4**	**+0.9**
QMBU	**Quimbuelo**	**13.46**	**1**	*e*P	**Pn**	**15 39 14.4**	**+1.3**
YAR	**Yar**	**13.70**	**354**	*e*P	**Pn**	**15 39 17.2**	**+0.9**
CMIG	**Matias Romero**	**22.07**	**300**	LR	LR	15 50 47.5	
	comp=Z,39nm,20.4s,baz=157,slow=39						
MDP	**Montagnes des**	**22.24**	**93**	LR	LR	15 50 36.5	
	comp=Z,53nm,19.0s,baz=87,slow=40						
LPAZ	**La Paz**	**23.77**	**164**	P	**P**	**15 41 14.9**	**-0.6**
	0.6nm,0.5s,baz=350,slow=6.1,SNR=2.4						
LPIG	**La Paz**	**38.09**	**301**	LR	LR	16 00 13.8	
	comp=Z,32nm,18.5s,baz=275,slow=38						
PLCA	**Paso Flores**	**47.33**	**175**	P	P	15 44 40.4	+4.4
	2.3nm,0.9s,baz=354,slow=7.8,SNR=3.4						
	2.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**75.55**	**78**	P	P	15 47 51.8	+4.4
	0.3nm,0.6s,baz=267,slow=7.1,SNR=1.8						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**147.53**	**236**	PKPbc	**PKiKP**	**15 55 54.0**	**+4.5**
	0.7nm,0.7s,baz=107,slow=3.1,SNR=1.2						
WRA	**Warramunga Arr**	**148.66**	**242**	PKPbc	**PKPab**	**15 55 56.1**	**+2.2**
	0.5nm,0.5s,baz=107,slow=2.1,SNR=6.7						

*SOF **26** 15:39:20.1,40°80N±0°01×28°23E±0°01,h17km±1km, MD3.3/10*
*CFUSG **26** 15:39:20.6,40°78N×28°46E,h10km,mb2.8/2,MD3.2/3, Sea of Marmara Magtype MSH 3.1 from 5 stations*
*AFAD **26** 15:39:21.2,40°84N×28°23E,h7km±3km,ML3.0*
*ISK **26** 15:39:21.1,40°85N×28°25E,h15km,ML3.5/28*
*THE **26** 15:39:25.0,41°N±4″×2°8E±°, h11km,M2.9/11,MLh2.9/11*
ISC 26 15:39:21.2±1.0,40°81N±0°02×28°24E±0°02,h14km±8km, n84,σ0s91/108,6C-7D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELBA	**Catalca**	**0.36**	**23**	P	**Pg**	**15 39 28.4**	**-0.2**
ELBA				S	**Sg**	**15 39 33.1**	**-0.4**
ELBA				*i* IAML		15 39 36.0	
	comp=N,1μm,0.4s						
ELBA				*i* IAML		15 39 36.0	
	comp=E,1μm,0.5s						
SLVT	**Silvri**	**0.42**	**357**	Pg	**Pg**	**15 39 29.6**	**+0.1**
SLVT				Sg	**Sg**	**15 39 35.4**	**+0.2**
CTKS	**Kestanelik-??a**	**0.47**	**25**	Pg	**Pg**	**15 39 30.3**	**-0.2**
BAND	**Balkesir-Ban**	**0.47**	**193**	P	**Pb**	**15 39 31.2**	**0.0**
BAND				S	**Sb**	**15 39 38.0**	**-0.1**
BAND				*i* IAML		15 39 39.0	
	comp=E,787nm,0.2s						
BAND				*i* IAML		15 39 40.0	
	comp=N,547nm,0.2s						
ARMT	**Armutlu**	**0.53**	**118**	Pg	**Pb**	**15 39 32.6**	**+0.3**
MRMT	**Marmara Adasi**	**0.53**	**247**	Pg	**Pb**	**15 39 32.5**	**+0.1**
BGKT	**Bogazkoy**	**0.54**	**47**	Pg	**Pg**	**15 39 31.7**	**-0.2**
BGKT				Sg	**Sg**	**15 39 39.2**	**+0.1**
EDC	**Edincik**	**0.55**	**212**	Pg	**Pb**	**15 39 32.7**	**+0.1**
TKR	**Tekirdag**	**0.56**	**289**	Pg	**Pb**	**15 39 32.6**	**-0.3**
TKR				Sg	**Sb**	**15 39 40.9**	**+0.1**
MDNY	**Mudanya-Bursa**	**0.66**	**132**	Pg	**Pb**	**15 39 35.0**	**+0.5**
CTYL	**Yalikoy Yolu**	**0.66**	**3**	Pg	**Pg**	**15 39 34.1**	**0.0**
ISK	**Istanbul-Kandi**	**0.67**	**68**	Pg	**Pg**	**15 39 33.9**	**-0.3**
KAVV	**Kandilli-Istan**	**0.67**	**68**	Pg	**Pg**	**15 39 32.7**	**-1.5**
KLYT	**Kilyos**	**0.75**	**54**	Pg	**Pg**	**15 39 35.6**	**-0.1**
KURT	**Yalova, Merkez**	**0.77**	**107**	P	**Pb**	**15 39 36.5**	**+0.2**
KURT				S	**Sb**	**15 39 47.4**	**+0.8**
KURT				*i* IAML		15 39 48.0	
	comp=E,601nm,0.3s						
KURT				*i* IAML		15 39 50.0	
	comp=N,546nm,0.3s						
SART	**Tekirdag**	**0.82**	**262**	P	**Pb**	**15 39 37.1**	**-0.1**
SART				*i* IAML		15 39 49.0	
	comp=N,467nm,0.4s						
SART				*i* IAML		15 39 49.0	
	comp=E,338nm,0.3s						
SART				S	**Sb**	**15 39 49.2**	**+1.1**
VIZE	**Kirklareli, Vi**	**0.82**	**338**	P	**Pg**	**15 39 36.7**	**-0.4**
VIZE				S	**Sg**	**15 39 47.2**	**-0.8**
VIZE				*i* IAML		15 39 50.0	
	comp=N,2μm,0.2s						
VIZE				*i* IAML		15 39 50.0	
	comp=E,2μm,0.2s						
KRBG	**Karabiga-Canak**	**0.83**	**240**	Pg	**Pb**	**15 39 37.7**	**+0.3**
GONE	**Gonen-Balikesi**	**0.88**	**209**	Pg	**Pn**	**15 39 38.8**	**-0.3**
YLV	**Yalova**	**0.89**	**106**	Pg	**Pg**	**15 39 38.6**	**+0.1**
ORLT	**Orhaneli**	**0.92**	**147**	Pg	**Pb**	**15 39 39.4**	**+0.5**
ULDT	**Uludag**	**0.96**	**134**	P	**Pn**	**15 39 40.2**	**-0.2**
ULDT				S	**Sn**	**15 39 55.0**	**+1.1**
ULDT				*i* IAML		15 39 56.0	
	comp=N,909nm,0.7s						
ULDT				*i* IAML		15 39 56.0	
	comp=E,800nm,0.9s						
PHSR	**Pinarhisar**	**0.98**	**327**	Pg	**Pg**	**15 39 39.8**	**-0.3**
HRT	**Hereke**	**1.08**	**89**	Pn	**Pb**	**15 39 41.8**	**+0.1**
HRT				Sn	**Sn**	**15 39 56.9**	**0.0**
SILT	**Sile**	**1.11**	**72**	Pn	**Pb**	**15 39 42.3**	**+0.1**
SILT				Sn	**Sg**	**15 39 57.4**	**+0.2**
OSMT	**Osmaniye**	**1.13**	**100**	Pn	**Pb**	**15 39 42.7**	**+0.2**
SEMS	**Kocaeli-K¶rfe**	**1.14**	**87**	P	**Pb**	**15 39 42.8**	**+0.1**
SEMS				S	**Sn**	**15 39 58.6**	**+0.4**
SEMS				*i* IAML		15 39 59.0	
	comp=N,734nm,0.6s						
SEMS				*i* IAML		15 39 59.0	
	comp=E,1μm,0.8s						
YENI	**Yenice-Canakka**	**1.16**	**221**	Pn	**Pg**	**15 39 43.4**	**-0.2**
ADVT	**Abdulvahap**	**1.20**	**108**	Pn	**Pg**	**15 39 44.1**	**-0.2**
CANM	**Can-anakkale**	**1.21**	**229**	Pn	**Pg**	**15 39 44.2**	**-0.3**
LPK	**Lapseki**	**1.21**	**249**	Pn	**Pg**	**15 39 44.1**	**-0.4**
ARMN	**Kirklareli, Me**	**1.22**	**330**	P	**Pn**	**15 39 43.6**	**-0.2**
ARMN				S	**Sb**	**15 40 00.1**	**+0.5**
ARMN				*i* IAML		15 40 01.0	
	comp=N,364nm,0.3s						
ARMN				*i* IAML		15 40 01.0	
	comp=E,424nm,0.2s						
DST	**Dursunbey**	**1.24**	**166**	Pn	**Pg**	**15 39 45.1**	**0.0**
UKOP	**Uzunkopru-Edir**	**1.26**	**285**	Pn	**Pn**	**15 39 44.5**	**+0.1**
ERIK	**Erikli-Kesan**	**1.32**	**264**	Pn	**Pn**	**15 39 45.3**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.41**	**253**	Pn	**Pn**	**15 39 46.8**	**+0.3**
COMU	**Canakkale**	**1.53**	**243**	Pn	**Pn**	**15 39 48.6**	**+0.5**
EDRB	**Edirne**	**1.53**	**313**	Pn	**Pn**	**15 39 47.7**	**-0.4**
EDRB				Sn	**Sn**	**15 40 08.0**	**+0.1**
CAVK	**Edirne/Enez-Ca**	**1.58**	**266**	⇓P	**Pb**	**15 39 50.4**	**+0.2**
SAUV	**Serdivan-Sakar**	**1.58**	**92**	Pn	**Pn**	**15 39 49.2**	**+0.3**
ALN	**Alexandroupoli**	**1.67**	**274**	Pn	**Pn**	**15 39 50.1**	**+0.1**
ALN	**Alexandroupoli**	**1.67**	**274**	P	**Pn**	**15 39 49.7**	**-0.3**
ALN				S	**Sn**	**15 40 08.7**	**-2.5**
EZN	**Ezine**	**1.77**	**237**	P	**Pn**	**15 39 51.6**	**+0.2**
EZN				S	**Sn**	**15 40 12.3**	**-1.3**
EZN	**Ezine**	**1.77**	**237**	⇓P	**Pn**	**15 39 51.8**	**+0.5**
GADA	**Gvkgeada**	**1.89**	**252**	P	**Pn**	**15 39 53.8**	**+0.7**
SAHE	**Sakarya_HENDEK**	**1.98**	**88**	⇑P	**Pn**	**15 39 55.7**	**+1.3**
RDO	**Rodhopi**	**2.08**	**280**	P	**Pn**	**15 39 55.7**	**+0.1**
SMTH	**Samothraki Isl**	**2.09**	**261**	P	**Pn**	**15 39 55.5**	**-0.4**
JMB	**Yambol**	**2.11**	**323**	*i* P	**Pn**	**15 39 56.2**	**+0.1**
JMB	**Yambol**	**2.11**	**323**	S	**Sn**	**15 40 21.7**	**-0.5**
PRK	**Paraskevi**	**2.18**	**225**	P	**Pn**	**15 39 57.8**	**+0.7**
PRK				S	**Sn**	**15 40 23.2**	**-0.6**
KDZ	**Kurdzhali**	**2.34**	**291**	*e*P	**Pb**	**15 40 02.7**	**-0.4**
KDZ				S	**Sb**	**15 40 33.3**	**+1.5**
DIM	**Dimitrovgrad**	**2.35**	**302**	*i* P	**Pn**	**15 39 59.6**	**+0.2**
DIM	**Dimitrovgrad**	**2.35**	**302**	P	**Pn**	**15 39 59.3**	**-0.2**
ROIA	**ROIAK**	**2.37**	**344**	*e*P	**Pn**	**15 40 00.1**	**+0.4**
PRD	**Provadia**	**2.43**	**345**	*i* P	**Pn**	**15 40 00.7**	**+0.3**
SIGR	**SIGRI**	**2.43**	**230**	P	**Pn**	**15 40 00.4**	**-0.1**
SIGR				S	**Sn**	**15 40 28.7**	**-1.4**
LIA	**Limnos Island**	**2.51**	**250**	P	**Pn**	**15 40 01.3**	**-0.3**
LIA				S	**Sn**	**15 40 29.8**	**-2.2**
NEF	**NEVSHA**	**2.55**	**344**	*i* P	**Pn**	**15 40 02.5**	**+0.3**
THAS	**Thassos island**	**2.69**	**267**	P	**Pn**	**15 40 03.4**	**-0.6**
ELND	**Elena**	**2.76**	**321**	⇑P	**Pn**	**15 40 06.3**	**+1.3**
RZN	**Rozhen**	**2.78**	**290**	*i* P	**Pn**	**15 40 05.7**	**+0.1**
RZN				S	**Sb**	**15 40 46.4**	**+1.5**
RZN	**Rozhen**	**2.78**	**290**	P	**Pn**	**15 40 05.7**	**+0.1**
KAVA	**Kavala**	**2.83**	**275**	P	**Pn**	**15 40 06.0**	**0.0**
SZH	**Strazhitsa**	**2.98**	**326**	*i* P	**Pn**	**15 40 08.5**	**+0.5**
MMB	**Musomishta**	**3.47**	**284**	*e*P	**Pg**	**15 40 29.2**	**+1.6**
SRS	**Serrai**	**3.53**	**276**	P	**Pn**	**15 40 15.8**	**+0.1**
KKB	**Krupnik**	**3.98**	**287**	*e*P	**Pb**	**15 40 30.9**	**-0.3**
VTS	**Vitosha**	**4.16**	**297**	*e*P	**Pn**	**15 40 25.7**	**+1.3**
MPEP	**Malo Peshtene**	**4.21**	**309**	*i* P	**Pn**	**15 40 25.5**	**+0.6**
CFR	**Carcaliu**	**4.36**	**359**	⇓P	**Pn**	**15 40 29.4**	**+2.4**
MLR	**Muntele Rosu**	**4.97**	**341**	⇓P	**Pn**	**15 40 37.7**	**+2.2**
VRI	**Vrincioaia**	**5.17**	**348**	⇓P	**Pn**	**15 40 39.5**	**+1.3**
VOIR		**5.18**	**334**	⇑P	**Pn**	**15 40 39.5**	**+1.1**
ARR	**Arges**	**5.26**	**331**	⇑P	**Pn**	**15 40 40.2**	**+0.7**
SEV	**Sevastopol'**	**5.47**	**45**	*e*P	**Pn**	**15 40 39.8**	**-2.4**
SEV				Pm		15 40 46.9	
	comp=Z,2.0nm,0.3s						
SEV				*i* S	**Sn**	**15 41 41.5**	**-3.4**
SEV				Sm		15 41 42.7	
	comp=N,3.0nm,0.4s						
SEV				Sm		15 41 42.7	
	comp=E,6.0nm,0.3s						
TARU	**Tarkhankut**	**5.54**	**33**	*e*P	**Pn**	**15 40 41.4**	**-1.8**
TARU				Pm		15 40 45.6	
	comp=Z,4.0nm,0.2s						
TARU				*e*S	**Sn**	**15 41 45.9**	**-0.7**
TARU				Sm		15 41 48.8	
	comp=N,21nm,0.4s						
TARU				Sm		15 41 48.8	
	comp=E,11nm,0.3s						
DOPR	**Dopca**	**5.55**	**339**	⇓P	**Pn**	**15 40 45.7**	**+2.2**
ONER	**Baraj Valea Uz**	**5.68**	**347**	⇓P	**Pn**	**15 40 45.9**	**+0.7**
YAL	**Yalta**	**5.70**	**48**	*e*S	**Sn**	**15 41 49.4**	**-1.2**
YAL				Sm		15 41 51.0	
	comp=N,5.0nm,0.3s,comp=E,11nm,0.3s						
DNZ2	**Donuzlav2**	**5.83**	**37**	*ex*	x	15 41 52.0	
DNZ2				*e*S	**Sn**	**15 41 53.8**	**-0.1**
DNZ2				Sm		15 42 00.7	
	comp=N,7.0nm,0.4s						
DNZ2				Sm		15 42 00.7	
	comp=E,11nm,0.4s						
MDVR	**Moldovita**	**6.23**	**312**	⇑P	**Pn**	**15 40 53.5**	**+0.7**
SUDU	**Sudak**	**6.42**	**48**	*e*P	**Pn**	**15 40 54.6**	**-0.7**
SUDU				Pm		15 40 55.9	
	comp=Z,8.0nm,0.4s						
SUDU				Sm		15 41 15.3	
	comp=E,4.0nm,0.3s						
SUDU				*e*S	**Sn**	**15 42 07.7**	**-0.7**
SUDU				Sm		15 42 15.3	
	comp=N,16nm,0.5s						
BURAR	**Bucovina Array**	**7.14**	**343**	⇑P	**Pn**	**15 41 06.9**	**+1.6**

*IDC **26** 15:44:02.3±2.4,31°51N×129°93E,h167km±19km,mb3.0/2, mbtmp3.4/4,MS3.2/2,Error ellipse: s-maj=118.0km s-min=14.0km az=114.0*
*JMA **26** 15:44:03.5±0.1,31°4N±0°4×130°5E±0°7,h156km±1km, MV2.7/38,SATSUMA PENINSULA REGION*
ISC 26 15:44:02.8±1.2,31°37N±0°06×130°35E±0°10,h159km±8km, n15,σ0s89/22,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.16**	**33**	P	**Pn**	**15 44 24.6**	**+0.5**
JSU				S	**Sn**	**15 44 40.6**	**+0.1**
JTSR	**Tashiro 2**	**0.53**	**113**	*i* P	**Pn**	**15 44 25.5**	**+0.2**
JTSR				S	**Sn**	**15 44 41.6**	**-0.9**
JSJ	**Shimokoshiki**	**0.62**	**299**	*i* P	**Pn**	**15 44 26.2**	**+0.4**
JSJ				S	**Sn**	**15 44 43.9**	**+0.4**
JTZ	**Takazaki**	**0.82**	**50**	*i* P	**Pn**	**15 44 27.1**	**0.0**
JTZ				S	**Sn**	**15 44 44.3**	**-1.4**
JTN	**Tanegashima 3**	**0.90**	**143**	P	**Pn**	**15 44 28.1**	**+0.4**
JTN				S	**Sn**	**15 44 46.2**	**-0.4**
JMTN	**Minamitane**	**1.08**	**154**	P	**Pn**	**15 44 29.8**	**+0.7**
JMTN				*e*S	**Sn**	**15 44 49.2**	**-0.1**
JYAK	**Yakushimahirau**	**1.14**	**173**	*e*P	**Pn**

WHAR				IAmb_Lg		15 47 03.8	
	comp=Z,13nm,0.9s						
CROK	**Carrier**	**2.55**	**303**		**Pn**	15 46 24.7	0.0
GC02	**Grant County #**	**2.67**	**311**	Pn	**Pn**	15 46 26.2	-0.1
WMOK	**Wichita Mounta**	**2.85**	**263**		**Pn**	15 46 29.4	+0.5
ELIS	**Ellis County**	**3.45**	**287**	Pn	**Pn**	15 46 36.9	-0.2
LCAR	**Lake Charles**	**3.54**	**73**	Pn	**Pn**	15 46 37.4	-0.9
R40A	**Maddies Statio**	**4.01**	**37**	Pn	**Pn**	15 46 43.6	-1.1
R40A				IAmb_Lg		15 47 48.3	
	comp=Z,10.0nm,0.8s						
SMWD	**Samnorwood**	**4.02**	**271**		**Pn**	15 46 43.5	-1.4
SMWD				IAmb_Lg		15 47 56.0	
	comp=Z,8.0nm,0.8s						
KSU1	**Kansas State U**	**4.09**	**346**	Pn	**Pn**	15 46 46.1	+0.3
KSU1				IAmb_Lg		15 47 54.9	
	comp=Z,11nm,0.7s						
R32A	**Long Quarter,**	**4.25**	**322**	Pn	**Pn**	15 46 49.0	+0.9
PBMO	**Poplar Bluff**	**4.31**	**66**	Pn	**Pn**	15 46 48.5	-0.4
PBMO				IAmb_Lg		15 48 05.9	
	comp=Z,13nm,0.8s						
CCM	**Cathedral Cave**	**4.40**	**47**	Pn	**Pn**	15 46 48.9	-1.2
CCM	**Cathedral Cave**	**4.40**	**47**		**Pn**	15 46 49.2	-1.0
CCM				IAmb_Lg		15 48 14.1	
	comp=Z,15nm,1.1s						
P38A	**Dawn**	**4.71**	**17**		**Pn**	15 46 53.3	-1.1
PARMO	**Parma**	**4.79**	**70**		**Pn**	15 46 54.7	-0.8
FVM	**French Village**	**4.88**	**53**	Pn	**Pn**	15 46 55.0	-1.7
FVM				IAmb_Lg		15 48 25.6	
	comp=Z,7.2nm,0.8s						
BRDY	**Brady**	**4.91**	**220**	Pn	**Pn**	15 46 56.1	-1.0
CBKS	**Cedar Bluff**	**5.09**	**318**	Pn	**Pn**	15 46 59.2	-0.4
P40A	**Paris**	**5.12**	**30**	Pn	**Pn**	15 46 58.0	-1.9
P40A				IAmb_Lg		15 48 28.1	
	comp=Z,11nm,0.8s						
AMTX	**Amarillo**	**5.21**	**269**	Pn	**Pn**	15 47 01.4	+0.1
POST	**Post**	**5.51**	**250**	Pn	**Pn**	15 47 05.9	+0.5
MLDN	**Muldoon**	**5.53**	**196**	Pn	**Pn**	15 47 05.4	-0.2
S44A	**Carbondale**	**5.54**	**61**	IAmb_Lg		15 48 43.8	
	comp=Z,11nm,0.7s						
SIUC	**Southern Illin**	**5.57**	**61**	IAmb_Lg		15 48 40.4	
	comp=Z,10nm,0.8s						
N35A	**Tabor**	**5.73**	**358**	IAmb_Lg		15 48 48.4	
	comp=Z,14nm,0.8s						
T47A	**Sharon Grove**	**6.92**	**72**	IAmb_Lg		15 49 33.2	
	comp=Z,6.2nm,1.0s						

DSN ***26*** *15:49:28.9±1.3,27.˚54N×55.˚11E, h10km, ML3.0/6, Error ellipse: s-maj=31.4km s-min=7.9km az=46.0*
TEH ***26*** *15:49:31.3, 27.˚21N×54.˚87E, h15km± 16km*
OMAN ***26*** *15:49:34.5±0.6, 26.˚99N×54.˚73E, h15km, mb4.2/3, ml3.0/18, Error ellipse: s-maj=6.1km s-min=3.3km az=5.0*

ISC 26 15:49:31.3±0.8, 27.˚15N±0.˚04×54.˚82E±0.˚03, h10km, n54, σ0ş93/71, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.65**	**322**	**Pg**	**Pg**	**15 49 43.6**	**-0.4**
GENO	**Geno**	**1.23**	**78**	**Pg**	**Pg**	**15 49 54.0**	**-1.0**
LMD1	**Lamerd**	**1.49**	**278**	**Pg**	**Pb**	**15 49 59.9**	**+0.8**
IBND	**Bandar-abas**	**1.56**	**79**	**Pg**	**Pn**	**15 49 58.7**	**-0.4**
SHME	**Shamm**	**1.61**	**133**	P	**Pb**	**15 50 01.7**	**+0.5**
SHME				S	**Sg**	**15 50 22.9**	**-0.3**
SHME	**Shamm**	**1.61**	**133**	P	**Pn**	**15 49 58.5**	**-1.4**
SHME				S	**Sg**	**15 50 22.9**	**-0.3**
JHRM	**Jahrom**	**1.74**	**321**	Pg	**Pb**	**15 50 03.5**	**0.0**
UMQ	**Umm Al-Quwin**	**1.79**	**155**	P	**Pb**	**15 50 05.2**	**+1.0**
BANOM	**Banah**	**1.80**	**132**	P	**Pb**	**15 50 05.0**	**+0.5**
BANOM				S	**Sb**	**15 50 27.1**	**0.0**
BANOM	**Banah**	**1.80**	**132**	P	**Pn**	**15 50 02.4**	**-0.1**
BANOM				S	**Sb**	**15 50 27.0**	**-0.2**
MASF	**Masafi**	**2.14**	**146**	P	**Pb**	**15 50 09.3**	**-1.0**
MASF				S	**Sn**	**15 50 34.8**	**+0.9**
MSFE	**Esma-Masafi**	**2.15**	**146**	P	**Pn**	**15 50 08.5**	**+1.2**
MDH	**Madha**	**2.27**	**144**	P	**Pn**	**15 50 10.7**	**+1.7**
MDH	**Madha**	**2.27**	**144**	P	**Pn**	**15 50 09.5**	**+0.5**
NAZ	**Nazwa, Dubai**	**2.28**	**160**	P	**Pb**	**15 50 12.2**	**-0.5**
UOSS	**Minazif**	**2.52**	**150**	Pn	**Pn**	**15 50 13.8**	**+1.4**
UOSS	**Minazif**	**2.52**	**150**	P	**Pn**	**15 50 13.7**	**+1.2**
ASUD	**Al Ashush, Dub**	**2.56**	**170**	P	**Pn**	**15 50 14.2**	**+1.3**
ASUD				S	**Sn**	**15 50 44.2**	**+0.1**
AJN	**Ajban**	**2.58**	**177**	P	**Pn**	**15 50 14.6**	**+1.4**
AJN				S	**Sn**	**15 50 44.6**	**-0.1**
HATD	**Hatta, Dubai**	**2.60**	**153**	P	**Pn**	**15 50 15.1**	**+1.6**
HATD	**Hatta, Dubai**	**2.60**	**153**	P	**Pn**	**15 50 14.8**	**+1.3**
ASHO	**Ashiyiah** SNR=19	**2.70**	**155**	P	**Pn**	**15 50 16.0**	**+1.1**
ASHO	**Ashiyiah**	**2.70**	**155**	P	**Pn**	**15 50 15.7**	**+0.8**
JRN	**Qarnain Island**	**2.83**	**219**	P	**Pn**	**15 50 17.5**	**+1.0**
NGRK	**Negar Kerman**	**3.00**	**34**	Pn	**Pn**	**15 50 18.7**	**-0.6**
ALNE	**Al Ain**	**3.19**	**165**	P	**Pn**	**15 50 22.7**	**+1.1**
ALNE				S	**Sn**	**15 50 59.8**	**0.0**
KRBR	**Kerman**	**3.30**	**31**	Pn	**Pn**	**15 50 23.7**	**+0.4**
DSBU	**Dashti - Bushe**	**3.38**	**292**	Pn	**Pn**	**15 50 25.8**	**+1.6**
MZWR	**Madinat Zayed**	**3.48**	**194**	P	**Pn**	**15 50 26.2**	**+0.6**
MZWR				S	**Sn**	**15 51 06.2**	**-0.7**
KHGB	**Koh Gabri**	**3.53**	**24**	Pn	**Pn**	**15 50 26.9**	**+0.5**
CHMN	**Cheshme madani**	**3.61**	**41**	Pn	**Pn**	**15 50 28.0**	**+0.3**
SHMA	**Al-Shehemyia** SNR=5.1	**3.69**	**250**	P	**Pn**	**15 50 29.2**	**+0.8**
SHMA				S	**Sn**	**15 51 12.3**	**+0.3**
KBAM	**BAM**	**3.77**	**58**	Pn	**Pn**	**15 50 29.9**	**+0.3**
KRM1	**Kerman Provinc**	**3.97**	**32**	Pn	**Pn**	**15 50 33.1**	**+0.6**
TRNA	**Turayna** SNR=8.1	**4.04**	**234**	P	**Pn**	**15 50 34.0**	**+0.7**
TRNA				S	**Sn**	**15 51 20.3**	**-0.4**
ARQ	**Araqi** SNR=20	**4.10**	**158**	P	**Pn**	**15 50 35.0**	**+0.9**
ARQ				S	**Sn**	**15 51 22.5**	**+0.3**
IMEH	**Mehriz**	**4.23**	**358**	Pn	**Pn**	**15 50 36.6**	**+0.5**
MZR	**Muzera**	**4.31**	**197**	P	**Pn**	**15 50 36.8**	**-0.1**
MZR				S	**Sn**	**15 51 26.7**	**-0.6**
SMRA	**Abu-Samra**	**4.32**	**237**	P	**Pn**	**15 50 37.7**	**+0.5**
SMRA	SNR=6.4			S	**Sn**	**15 51 26.6**	**-1.0**
UMZA	**Um Al Zommool**	**4.43**	**176**	P	**Pn**	**15 50 39.1**	**+0.5**
UMZA				S	**Sn**	**15 51 30.0**	**-0.2**
IBAF	**Bafgh**	**4.47**	**8**	Pn	**Pn**	**15 50 39.3**	**-0.1**
KLNJ	**Kolanjah**	**4.77**	**324**	Pn	**Pn**	**15 50 45.0**	**+1.4**
SMDO	**Samad**	**5.02**	**144**	P	**Pn**	**15 50 48.2**	**+1.4**
SMDO	SNR=6.3			S	**Sn**	**15 51 46.0**	**+1.0**
WSAR	**Wadi Sarin**	**5.20**	**138**	P	**Pn**	**15 50 50.9**	**+1.6**
JMDO	**Jabal Madar**	**5.62**	**147**	P	**Pn**	**15 50 56.3**	**+1.3**
JMDO				S	**Sn**	**15 52 00.8**	**+1.2**
TPRV	**Parvadeh(Tabas**	**6.08**	**15**	Pn	**Pn**	**15 51 01.3**	**-0.1**
IKOO	**Kooshah**	**6.39**	**34**	Pn	**Pn**	**15 51 06.0**	**+0.2**
JLN	**Jalan Bani Buh**	**6.50**	**139**	P	**Pn**	**15 51 09.1**	**+2.0**
MHTO	**MHTO** SNR=7.2	**6.78**	**154**	P	**Pn**	**15 51 11.0**	**+0.1**
DQM	**DQM**	**7.61**	**160**	P	**Pn**	**15 51 21.4**	**-1.0**
DOK	**Doka**	**8.52**	**184**	P	**Pn**	**15 51 34.1**	**-0.7**
WHFO	**Wadi Hawf** SNR=12	**9.24**	**186**	P	**Pn**	**15 51 43.9**	**-0.9**
DMTO	**DMTO**	**9.39**	**179**	P	**Pn**	**15 51 45.9**	**-0.9**
ABTO	**Aybut**	**9.85**	**189**	P	**Pn**	**15 51 51.3**	**-1.9**

IDC ***26*** *15:50:20.4±1.3,3.˚79S×128.˚38E, h0km, mb4.0/6, mbtmp4.0/8, ML3.6/2, MS3.3/3, Error ellipse: s-maj=104.8km s-min=20.2km az=72.0*
NEIC ***26*** *15:50:22.3±2.1,3.˚75S±0.˚08×128.˚41E±0.˚07, h10km±1km, mb4.1/15, Error ellipse: s-maj=14.4km s-min=11.1km az=192.0*
DJA ***26*** *15:50:24.9±0.3,4˚S±3˚×12˚8E±˚, h10km, M4.3/13, mB5.1/2, mb4.6/4, MLv4.1/13, Mw(mB)4.4/2*

ISC 26 15:50:22.4±1.3, 3.˚78S±0.˚07×128.˚43E±0.˚06, h12km±9km, n46, σ1ş20/44, mb4.1/7, MS3.1/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.25**	**293**	P	**Pg**	**15 50 27.9**	**+0.2**
AAI				S	**Sg**	**15 50 30.9**	**-0.3**
MSAI	**Masohi**	**0.66**	**49**	P	**Pb**	**15 50 35.9**	**0.0**
NLAI	**Namlea**	**1.43**	**292**	P	**Pg**	**15 50 48.9**	**-1.0**
SANI	**Sanana**	**2.98**	**305**	P	**Pn**	**15 51 10.2**	**+0.6**
FAKI	**Fak Fak**	**3.91**	**77**	Pn	**Pn**	**15 51 22.5**	**+0.1**
FAKI				Sn	**Sn**	**15 52 08.7**	**+0.5**
FAKI	**Fak Fak**	**3.91**	**77**	P	**Pn**	15 51 27.3	+4.9
SWI	**Sorong**	**4.05**	**44**	P	**Pn**	**15 51 26.2**	**+1.9**
TNTI	**Ternate**	**4.65**	**347**		**Pn**	**15 51 32.5**	**0.0**
TNTI	**Ternate**	**4.65**	**347**	P	**Pn**	**15 51 32.9**	**+0.4**
RKPI	**Ransiki, Papua** 2µm78nm,0.8s	**6.17**	**69**	P	**Pn**	**15 51 55.9**	**+2.4**
LUWI	**Luwuk**	**6.27**	**296**		**Pn**	**15 51 54.7**	**-0.1**
APSI	**Ampana**	**7.35**	**293**	P	**Pn**	**15 52 13.6**	**+4.0**
TOLI2	**Tolitoli**	**9.06**	**302**		**Pn**	**15 52 33.3**	**+0.2**
KNRA	**Kununurra**	**11.82**	**178**	Pn	**Pn**	**15 53 11.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**14.49**	**191**	Pn	**Pn**	**15 53 47.4**	**-0.1**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=16,slow=13,SNR=5.5 2.6nm,0.8s	**14.49**	**191**	Pn	**Pn**	**15 53 46.8**	**-0.7**
WB0	**Warramunga Arr**	**16.92**	**160**		**Pn**	**15 54 20.3**	**+1.1**
WB0				IAmb	IAmb	15 54 28.0	
	comp=Z,9.8nm,0.8s						
WRAB	**Tennant Creek**	**17.06**	**161**	P	**Pn**	**15 54 22.4**	**+1.4**
WRAB				IAmb	IAmb	15 54 27.9	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr** comp=Z,0.3nm,0.3s,baz=343,slow=12,SNR=16	**17.06**	**161**	P	**Pn**	**15 54 19.9**	**-1.1**
WRA				PcP	**PcP**	**15 59 07.2**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=319,slow=1.8,SNR=2.5 comp=Z,1.4nm,0.8s						
WR8	**Warramunga Arr**	**17.13**	**160**		**Pn**	**15 54 23.0**	**+1.1**
SBUM	**Sibu**	**17.34**	**291**		**Pn**	**15 54 23.2**	**-1.3**
COEN	**Coen**	**17.72**	**126**	P	**Pn**	**15 54 27.1**	**-2.1**
COEN				IAmb	IAmb	15 55 06.0	
	comp=Z,27nm,1.3s						
PSA00	**Pilbara Seismi**	**19.55**	**205**	P	**Pn**	**15 54 52.3**	**+0.9**
PSA00	**Pilbara Seismi**	**19.55**	**205**	P	**Pn**	**15 54 52.7**	**+1.2**
PSA00				IAmb	IAmb	15 54 60.0	
	comp=Z,8.1nm,0.8s						
AS31	**Alice Springs**	**20.46**	**165**		**Pn**	15 55 02.8	+0.6
AS31				IAmb	IAmb	15 55 04.8	
	comp=Z,8.4nm,0.8s						
ASAR	**Alice Springs**	**20.46**	**166**		**Pn**	15 55 03.3	+1.0
ASAR	**Alice Springs** comp=Z,0.8nm,0.7s,baz=341,slow=12,SNR=11	**20.46**	**166**	P	P	15 54 50.5	-10
ASAR				PcP	**PcP**	**15 59 12.9**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=359,slow=1.7,SNR=13						
ASAR				LR	LR	16 03 28.3	
	comp=Z,91nm,20.7s,baz=266,slow=38						
BBOO	**Buckleboo**	**29.75**	**167**	P	**P**	**15 56 26.4**	**-2.4**
CMAR	**Chiang Mai Arr** comp=Z,28nm,18.1s,baz=175,slow=41	**36.50**	**308**	LR	LR	16 15 03.8	
PALK	**Pallekele** comp=Z,38nm,18.4s,baz=120,slow=41	**48.88**	**283**	LR	LR	16 23 46.0	
MKAR	**Makanchi Array**	**64.69**	**327**		**P**	**16 00 59.2**	**-1.2**
MKAR	**Makanchi Array** comp=Z,0.7nm,0.5s,baz=121,slow=7.5,SNR=9.7 comp=Z,0.7nm,0.5s	**64.69**	**327**	P	**P**	**16 01 00.7**	**+0.3**
MAKZ	**Makanchi**	**64.88**	**327**	P	**P**	**16 01 01.0**	**-0.6**
MAKZ				IAmb	IAmb	16 01 06.6	
	comp=Z,1.5nm,0.9s						
ZAA0	**Zalesovo Array**	**68.03**	**334**	P	**P**	**16 01 20.3**	**-1.3**
ZALV	**Zalesovo Beam**	**68.03**	**334**	P	**P**	**16 01 20.0**	**-1.5**
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.3s,baz=121,slow=5.6,SNR=4.9 comp=Z,0.3nm,0.3s	**68.03**	**334**	P	**P**	**16 01 20.6**	**-1.0**
KURBB	**Kurchatov Arra** comp=Z,1.7nm,0.2s,baz=129,slow=5.8,SNR=6.7 comp=Z,1.7nm,0.2s	**68.97**	**329**	P	**P**	**16 01 27.1**	**-0.4**
BVAR	**Bovoye Array** comp=Z,0.5nm,0.6s,baz=128,slow=2.4,SNR=3.7 comp=Z,0.5nm,0.6s	**74.53**	**328**	P	**P**	**16 02 00.9**	**0.0**
VNDA	**Vanda**	**75.81**	**173**	P	**P**	**16 02 08.2**	**+0.3**
VNDA				IAmb	IAmb	16 02 22.6	
	comp=Z,2.9nm,1.5s						
VNDA	**Vanda** comp=Z,0.5nm,0.6s,baz=299,slow=6.9,SNR=5.2 comp=Z,0.5nm,0.6s	**75.81**	**173**	P	**P**	**16 02 07.7**	**-0.2**
ABKAR	**Akbulak array**	**79.03**	**322**	P	**P**	**16 02 25.6**	**-0.8**
QSPA	**South Pole Qui**	**86.17**	**180**	P	**P**	**16 03 03.6**	**+0.1**
QSPA	**South Pole Qui** comp=Z,1.8nm,0.8s,baz=253,slow=1.5,SNR=9.3 comp=Z,1.8nm,0.8s	**86.17**	**180**	P	**P**	**16 03 03.4**	**-0.1**
C19K	**Lookout Ridge**	**87.16**	**20**		**P**	**16 03 08.8**	**+0.6**
D19K	**Kuna River**	**87.49**	**21**	P	**P**	**16 03 08.8**	**-0.9**
PLTB	**Pedras Altas**	**144.60**	**177**	PKPdf	**PKPab**	**16 09 58.5**	**+0.3**

AUST 26 15:55:07.2±0.7, 18˚S±5˚×12˚0E±˚, h10km, mb4.4/1, ML2.2/3, Error ellipse: s-maj=11.5km s-min=5.7km az=144.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	**Eighty Mile Be**	**1.50**	**126**	P	Pb	15 55 34.7	-0.5
CAAN				S	Sb	15 55 54.2	-0.2
AUBRM	**Broome Senior**	**1.95**	**78**	P	Pn	15 55 40.4	+0.1
AUBRM				S	Sn	15 56 04.5	-0.2
MBWA	**Marble Bar**	**2.81**	**190**	P	Pn	15 55 52.6	+0.4
MBWA				S	Sn	15 56 25.4	-0.8
PSAC1	**Pilbara Seismi**	**3.17**	**187**	P	Pn	15 55 58.7	+1.5
PSAC1				S	Sn	15 56 36.1	+1.0
FITZ	**Fitzroy Crossi**	**5.15**	**88**	P	Pn	15 56 21.7	-2.7
GIRL	**Giralia** comp=Z,45nm,1.6s,comp=Z,0.1nm	**7.05**	**232**	P	Pn	15 56 49.8	-0.6

IDC ***26*** *15:58:19.9±1.4,3.˚49S×128.˚41E, h0km, mb3.9/4, mbtmp3.9/6, ML3.7/2, MS3.1/3, Error ellipse: s-maj=109.2km s-min=21.6km az=71.0*
NEIC ***26*** *15:58:20.4±2.5,3.˚54S±0.˚08×128.˚33E±0.˚05, h10km±1km, mb4.1/7, Error ellipse: s-maj=13.6km s-min=8.1km az=163.0*
DJA ***26*** *15:58:23.0±0.3,3˚S±2˚×12˚8E±˚, h10km, M4.6/12, mB4.9/1, mb5.0/3, MLv4.3/12, Mw(mB)4.2/1*

ISC 26 15:58:21.5±1.2, 3.˚49S±0.˚05×128.˚32E±0.˚04, h19km±9km, n35, σ1ş76/33, mb4.0/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.24**	**213**	P	**Pb**	**15 58 28.3**	**+1.3**
AAI				S	**Sb**	**15 58 32.6**	**+2.1**
MSAI	**Masohi**	**0.62**	**77**	P	**Pg**	**15 58 34.1**	**+0.2**
MSAI				S	**Sg**	**15 58 42.4**	**+0.2**
NLAI	**Namlea**	**1.25**	**281**	P	**Pg**	**15 58 45.4**	**-0.3**
BNDI	**Bandanaira**	**1.88**	**123**	P	**Pn**	**15 58 54.3**	**+1.6**
SANI	**Sanana**	**2.73**	**301**	P	**Pb**	**15 59 07.9**	**-1.9**
SWI	**Sorong**	**3.92**	**48**	P	**Pn**	**15 59 24.3**	**+3.5**
FAKI	**Fak Fak**	**3.96**	**82**		**Pn**	**15 59 21.7**	**+0.4**
FAKI				Sn	**Sn**	**16 00 04.8**	**-2.4**
FAKI	**Fak Fak**	**3.96**	**82**	P	**Pn**	**15 59 23.8**	**+2.5**
TNTI	**Ternate**	**4.34**	**347**		**Pn**	**15 59 26.0**	**-0.4**
KMPI	**Kaimana, Papua** 200nm,0.9s	**5.37**	**92**	P	**Pn**	**15 59 43.2**	**+2.5**
LUWI	**Luwuk**	**6.05**	**294**	Pn	**Pn**	**15 59 50.6**	**+0.6**
RKPI	**Ransiki, Papua** 983nm113nm,0.6s	**6.17**	**72**	P	**Pn**	**15 59 54.0**	**+2.4**
TOLI2	**Tolitoli**	**8.81**	**301**		**Pn**	**16 00 28.7**	**+0.7**
DAV	**Davao City (W)** comp=Z,46nm,19.9s,baz=43,slow=36	**10.84**	**345**	LR	LR	16 04 50.3	
KNRA	**Kununurra**	**12.12**	**178**	Pn	**Pn**	**16 01 12.0**	**-1.3**
JAY	**Jayapura** comp=Z,129nm,20.4s,baz=227,slow=46	**12.40**	**86**	LR	LR	16 07 50.7	
FITZ	**Fitzroy Crossi**	**14.76**	**190**	Pn	**Pn**	**16 01 48.0**	**-1.3**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=26,slow=13,SNR=4.0 1.6nm,0.8s	**14.76**	**190**	Pn	**Pn**	**16 01 48.5**	**-0.9**
JAGI	**Jajag, Banyuwa**	**14.94**	**250**	Pn	**Pn**	**16 01 51.8**	**+0.1**
WB0	**Warramunga Arr**	**17.23**	**160**		**Pn**	**16 02 19.1**	**-2.2**
WB0				IAmb	IAmb	16 02 33.4	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr** comp=Z,0.4nm,0.3s,baz=344,slow=12,SNR=23 comp=Z,1.4nm,1.0s	**17.38**	**161**	P	**Pn**	**16 02 21.9**	**-1.2**
WR8	**Warramunga Arr**	**17.44**	**160**		**Pn**	**16 02 21.5**	**-2.5**
COEN	**Coen**	**17.98**	**126**		**Pn**	**16 02 28.5**	**-2.1**
COEN				IAmb	IAmb	16 02 40.1	
	comp=Z,13nm,0.9s						
PSA00	**Pilbara Seismi**	**19.78**	**204**	P	**P**	**16 02 50.2**	**-0.5**
PSA00				IAmb	IAmb	16 02 54.2	
	comp=Z,18nm,1.4s						
AS31	**Alice Springs**	**20.77**	**165**		**Pn**	16 03 03.0	-1.1
AS31				IAmb	IAmb	16 03 15.2	
	comp=Z,4.7nm,0.8s						
ASAR	**Alice Springs**	**20.77**	**165**		**Pn**	16 03 03.0	-1.1
ASAR	**Alice Springs** comp=Z,13nm,0.8s,baz=347,slow=10,SNR=125	**20.77**	**165**	P	Pn	16 03 03.8	-0.3
ASAR				PcP	**PcP**	**16 07 12.4**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=16,slow=1.5,SNR=4.1 comp=Z,13nm,0.8s						
LEM	**Lembang** comp=Z,70nm,18.6s,baz=98,slow=37	**20.89**	**260**	LR	LR	16 11 17.3	
CTAO	**Charters Tower**	**24.04**	**135**	P	**P**	**16 03 33.8**	**-1.9**
MKAR	**Makanchi Array**	**64.39**	**327**	P	**P**	**16 08 57.4**	**+1.1**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.5s,baz=127,slow=8.1,SNR=8.4 comp=Z,0.5nm,0.5s	**64.39**	**327**	P	**P**	**16 08 58.6**	**+2.3**
MAKZ	**Makanchi**	**64.57**	**327**	P	**P**	**16 08 57.7**	**+0.2**
MAKZ				IAmb	IAmb	16 09 16.2	
	comp=Z,2.8nm,1.3s						
KURBB	**Kurchatov Arra** comp=Z,0.8nm,0.7s,baz=129,slow=5.6,SNR=9.0 comp=Z,0.8nm,0.7s	**68.66**	**329**	P	**P**	**16 09 25.0**	**+1.5**
BVAR	**Borovoye Array** comp=Z,0.3nm,0.4s,baz=122,slow=5.2,SNR=1.7 comp=Z,0.3nm,0.4s	**74.22**	**328**	P	**P**	**16 09 58.8**	**+1.8**
ABKAR	**Akbulak array**	**78.74**	**322**	P	**P**	**16 10 22.7**	**0.0**

HEL 26 16:02:26.2±0.4, 69˚.37N×30˚.73E, h0km, ML1.3, Explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**1.26**	**225**	PG	Pg	16 02 49.0	-1.2
RAJF				SB	Sg	16 03 05.1	-1.4
KEV	**Kevo** baz=102	**1.36**	**288**	PG	Pg	16 02 50.6	-1.7
KEV				SG	Sg	16 03 08.6	-1.2
VRF	**Varrio** comp=Z,1.4nm,0.2s	**1.69**	**195**	MSG		16 03 16.5	
VRF				SG	Sn	16 03 18.8	-0.4
ARA0	**ARCESS Array S**	**1.85**	**277**	PG	Pn	16 02 59.5	+0.3
ARA0				SG	Sn	16 03 22.8	-0.4
KTK1	**Kautokeino**	**2.70**	**266**	PG	Pb	16 03 14.1	-1.2
KTK1				SG	Sb	16 03 47.7	-1.2
KTK1	**Kautokeino**	**2.70**	**266**	PN	Sb	16 03 47.7	-1.2
HEF	**Hetta**	**2.74**	**253**	PG	Pb	16 03 14.8	-1.2
HEF				MSG		16 03 46.8	
	comp=Z,0.7nm,0.2s						
HEF				SB	Sb	16 03 47.7	-2.3
OLKF	**Oulanka, Finla**	**3.11**	**190**	SB	Sn	16 03 56.7	+2.5
OLKF				MSG		16 03 57.4	
	comp=Z,0.9nm,0.2s						
OLKF	**Oulanka, Finla**	**3.11**	**190**	SG	Sn	16 03 56.7	+2.5
LANU	**Lannavaara**	**3.45**	**251**	SG	Sb	16 04 12.8	+2.2
LANU	**Lannavaara**	**3.45**	**251**	SG	Sb	16 04 12.8	+2.2
KU1	**Kurvinen**	**3.85**	**187**	PB	Pn	16 03 30.6	+3.9
KU1	**Kurvinen**	**3.85**	**187**	PG	Pn	16 03 30.6	+3.9
TOF	**Tornio**	**4.11**	**219**	SG	Sb	16 04 30.5	+1.1
ERTU	**Ertsjaerv**	**4.28**	**233**	PB	Pb	16 03 40.2	-2.1

HEL 26 16:02:54.8±0.1, 65˚.75N×24˚.69E, h0km, ML1.1, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOF	**Tornio**	**0.36**	**335**	PG	Pg	16 03 00.7	-1.0
TOF				SG	Sg	16 03 04.2	-2.2
KALU	**Kalix**	**0.56**	**282**	PG	Pg	16 03 04.6	-0.9
KALU				SG	Sg	16 03 12.2	-0.5
OUL	**Oulu** baz=319	**0.84**	**143**	PB	Pg	16 03 10.4	-0.5
RANF	**Ranua**	**0.90**	**72**	PG	Pg	16 03 11.4	-0.7
RNF	**Rovaniemi**	**1.01**	**31**	PN	Pn	16 03 15.9	-0.4
RNF				SN	Sn	16 03 30.4	-0.7
OBF0	**Syolatti, Pyha** baz=11	**1.28**	**189**	PN	Pg	16 03 18.5	-0.7
OBF0				MSG		16 03 33.4	
	comp=Z,1.2nm,0.2s						
OBF0				SG	Sg	16 03 35.4	-0.3
ERTU	**Ertsjaerv** baz=129	**1.30**	**309**	PG	Pg	16 03 18.2	-1.4
ERTU				SG	Sg	16 03 35.0	-1.3
OUF	**Merijarvi**	**1.39**	**179**	PN	Pn	16 03 20.9	-0.5
OUF				MSG		16 03 36.8	
	comp=Z,1.6nm,0.2s						
OUF				SN	Sg	16 03 39.4	-0.1
PAJU	**Pajala**	**1.43**	**334**	PG	Pn	16 03 20.4	-1.5
PAJU				SB	Sg	16 03 38.8	-1.8
KU2	**Taivalkoski**	**1.46**	**90**	PN	Pn	16 03 22.2	-0.2
KU2				SG	Sg	16 03 40.3	-1.4
OBF8	**Ulkokalla**	**1.52**	**201**	PN	Pn	16 03 22.9	-0.3
OBF8				MSG		16 03 40.4	
	comp=Z,0.9nm,0.2s						
MSF	**Maaselka**	**1.80**	**83**	SN	Sg	16 03 52.2	-0.2
BURU	**Burvik**	**1.83**	**231**	SN	Sg	16 03 53.0	-0.4
OLKF	**Oulanka, Finla** comp=Z,0.9nm,0.2s	**2.00**	**71**	MSG		16 03 54.

FURC	**Furnace Creek,**	**0.64**	**35**		Pg	16 12 12.7	0.0		
FURC				IAML		16 12 26.0			
	comp=N,1μm,0.8s								
FURC	**Furnace Creek,**	**0.64**	**35**		Sg	16 12 21.6	+0.5		
GSC	**Goldstone, Bar**	**0.76**	**146**		Pg	16 12 14.7	-0.2		
GSC					Sg	16 12 24.7	-0.1		
GSC	**Goldstone, Bar**	**0.76**	**146**	IAML		16 12 28.4			
	comp=N,1μm,0.5s								
GSC				IAML		16 12 29.9			
	comp=E,834nm,0.6s								
WBSM	**Bird Springs**	**0.78**	**239**		Sg	16 12 25.4	+0.1		
WORM	**Onyx Ranch**	**0.79**	**252**		Pg	16 12 14.9	-0.5		
WORM					Sg	16 12 25.4	-0.2		
CWC	**Cottonwood Cre**	**0.79**	**309**		Pg	16 12 15.3	-0.2		
CWC	**Cottonwood Cre**	**0.79**	**309**		Sg	16 12 25.9	+0.1		
CWC				IAML		16 12 27.0			
	comp=N,402nm,0.2s								
CWC				IAML		16 12 27.9			
	comp=E,306nm,0.2s								
DTP	**Desert Tortois**	**0.80**	**213**		Pg	16 12 14.9	-0.6		
SHOC	**Shoshone, Teco**	**0.85**	**92**		Pg	16 12 16.5	-0.1		
SHOC	**Shoshone, Teco**	**0.85**	**92**		Sg	16 12 28.0	+0.4		
WHFM	**Hanning Flat**	**0.87**	**254**		Pg	16 12 16.6	-0.4		
WHFM					Sg	16 12 28.2	-0.1		
CCAC	**Calif City Air**	**0.97**	**216**		Pg	16 12 18.4	-0.5		
CCAC					Sg	16 12 31.6	+0.2		
ISA	**Isabella, Lake**	**0.98**	**254**		Pg	16 12 18.4	-0.6		
ISA				IAML		16 12 33.1			
	comp=N,312nm,0.3s								
ISA				IAML		16 12 36.4			
	comp=E,303nm,0.2s								
ISA	**Isabella, Lake**	**0.98**	**254**		Sg	16 12 31.6	-0.2		
AMDNV	**Amargosa**	**0.98**	**58**		Pg	16 12 18.7	-0.5		
AMDNV					Sg	16 12 32.0	0.0		
WCT	**Wildcat Mounta**	**1.02**	**33**		Pg	16 12 19.3	-0.6		
WCT				IAML		16 12 34.7			
	comp=E,308nm,0.5s								
WCT				IAML		16 12 36.1			
	comp=N,303nm,0.4s								
WASM	**Alta Sierra Ca**	**1.02**	**259**		Pg	16 12 19.5	-0.5		
WASM					Sg	16 12 33.3	+0.1		
SPG2	**Springville 2**	**1.20**	**283**		Pg	16 12 22.7	-0.6		
TPO	**Tropico Hills**	**1.29**	**215**		Pg	16 12 24.2	-0.9		
TPO					Sg	16 12 41.7	-0.1		
TPNV	**Topopah Spring**	**1.33**	**40**		Pg	16 12 24.8	-0.9		
TPNV				IAML		16 12 44.2			
	comp=N,299nm,0.5s								
TPNV				IAML		16 12 46.6			
	comp=N,293nm,0.5s								
TIN	**Tinemaha, Big**	**1.33**	**327**	Pg	Pg	16 12 25.5	-0.3		
TIN				IAML		16 12 47.7			
	comp=E,266nm,0.7s								
GMN	**Gold Mountain**	**1.36**	**2**		Pg	16 12 25.6	-0.8		
GMN				IAML		16 12 47.2			
	comp=N,152nm,0.4s								
VES	**Vestal, Richgr**	**1.44**	**267**		Pn	16 12 27.0	-0.2		
VES				IAML		16 12 49.9			
	comp=E,260nm,0.5s								
VES				IAML		16 12 52.8			
	comp=N,313nm,0.8s								
MTPC	**Mountain Pass**	**1.51**	**107**		Pn	16 12 27.8	-0.6		
MTPC					Sb	16 12 47.6	-1.0		
MTPC				IAML		16 12 51.4			
	comp=N,217nm,0.4s								
MTPC				IAML		16 12 51.6			
	comp=E,218nm,0.3s								
DSP	**Deep Springs**	**1.52**	**340**		Pn	16 12 27.9	-0.4		
DSP					Sn	16 12 48.6	0.0		
BFSC	**Mount Baldy Ra**	**1.72**	**189**		Pn	16 12 30.3	-1.0		
BFSC				IAML		16 12 55.6			
	comp=E,119nm,0.7s								
BFSC				IAML		16 12 56.1			
	comp=N,120nm,0.4s								
OSI	**Osito Audit: C**	**1.75**	**221**		Pn	16 12 31.9	+0.3		
OSI				IAML		16 12 58.6			
	comp=N,234nm,0.8s								
OSI				IAML		16 13 00.4			
	comp=E,216nm,0.8s								
MWC	**Mount Wilson**	**1.81**	**200**		Pn	16 12 31.6	-1.0		
MWC				IAML		16 12 59.6			
	comp=E,205nm,0.4s								
GTM	**Goat Mountain**	**1.82**	**154**		Pb	16 12 33.7	-0.6		
SHPR	**Sheep Range**	**1.84**	**71**		Pn	16 12 32.2	-0.7		
PASC	**Pasadena Art C**	**1.90**	**202**		Pn	16 12 33.3	-0.4		
PASC				IAML		16 13 02.6			
	comp=N,128nm,0.6s								
PASC				IAML		16 13 04.0			
	comp=E,109nm,0.5s								
V12A	**Nelson**	**2.02**	**95**		Pn	16 12 33.9	-1.4		
DANC	**Danby, Needles**	**2.05**	**129**		Pn	16 12 34.1	-1.6		
TPC	**Twentynine Pal**	**2.10**	**150**		Pn	16 12 35.3	-1.2		
S11A	**Rachel**	**2.12**	**36**		Pn	16 12 35.7	-1.1		
S11A				IAML		16 13 12.6			
	comp=E,180nm,0.9s								
S11A				IAML		16 13 12.6			
	comp=N,107nm,0.8s								
TPH	**Tonopah**	**2.13**	**2**		Pn	16 12 35.9	-1.2		
TPH				IAML		16 13 10.4			
	comp=E,95nm,1.0s								
TPH				IAML		16 13 13.1			
	comp=N,64nm,0.8s								
MDPB	**Devils Postpil**	**2.20**	**321**		Pn	16 12 37.0	-1.0		
MDPB				IAML		16 13 12.3			
	comp=N,64nm,1.0s								
ELS	**Elsinore Mount**	**2.29**	**182**		Pn	16 12 38.2	-0.8		
PRN	**Pahroc Range**	**2.34**	**51**		Pn	16 12 39.2	-0.6		
PRN				IAML		16 12 55.0			
	comp=N,83nm,0.5s								
PRN				IAML		16 13 26.0			
	comp=E,72nm,0.5s								
PMD	**Palm Desert**	**2.41**	**161**		Pn	16 12 39.4	-1.3		
PFO	**Pinyon Flats O**	**2.43**	**163**		Pn	16 12 39.8	-1.2		
DNR	**Dunn Ranch,Anz**	**2.43**	**166**		Pn	16 12 39.9	-1.2		
DNR				IAML		16 13 21.9			
	comp=E,122nm,0.3s								
DNR				IAML		16 13 25.5			
	comp=N,115nm,0.4s								
LHV	**Little Huntoon**	**2.50**	**338**		Pn	16 12 41.4	-0.3		
LHV				IAML		16 13 25.0			
	comp=E,44nm,0.9s								
NEE2	**Needles Airpor**	**2.50**	**117**		Pn	16 12 40.3	-1.6		
IRM	**Iron Mountain**	**2.52**	**134**		Pn	16 12 40.0	-2.2		
IRM				IAML		16 13 25.6			
	comp=E,46nm,1.0s								
NV11	**Mina Array Sit**	**2.58**	**345**		Pn	16 12 42.1	-0.9		
NVAR	**Mina Array Bea**	**2.61**	**343**		Pn	16 12 42.0	-1.5		
PKD	**Bear Valley Ra**	**2.61**	**271**		Pn	16 12 42.5	-1.0		
PKD				IAML		16 13 19.1			
	comp=N,33nm,3.5s								
PKD				IAML		16 13 43.3			
	comp=E,51nm,4.5s								
BC3	**Big Chuckawall**	**2.75**	**145**		Pn	16 12 43.1	-2.2		
BC3				IAML		16 13 31.0			
	comp=E,37nm,0.9s								
BC3				IAML		16 13 35.1			
	comp=N,41nm,0.4s								
BORC	**Borrego Spring**	**2.77**	**164**		Pn	16 12 43.8	-1.7		
BORC				IAML		16 13 28.4			
	comp=E,30nm,0.8s								
R11B	**Troy Canyon, C**	**2.78**	**29**		Pn	16 12 45.1	-0.7		
R11B				IAML		16 13 29.0			
	comp=E,38nm,0.6s								
PMPB	**Monarch Peak**	**2.83**	**277**		Pn	16 12 46.0	-0.6		
PMPB				IAML		16 13 20.2			
	comp=E,87nm,3.1s								
PMPB				IAML		16 13 37.8			
	comp=N,79nm,1.3s								
RYN	**Ryan**	**2.85**	**341**		Pn	16 12 45.8	-1.1		
W13A	**Hualapai Mount**	**2.92**	**106**		Pn	16 12 46.5	-1.4		
W13A				IAML		16 13 34.2			
	comp=N,31nm,0.5s								
W13A				IAML		16 13 35.1			
	comp=E,30nm,0.7s								
DPP	**Dos Picos Cty**	**2.95**	**174**		Pn	16 12 47.1	-1.0		
DPP				IAML		16 13 34.5			
	comp=E,38nm,0.4s								
WAKR	**Walker**	**3.07**	**327**		Pn	16 12 49.0	-0.8		
BBGB	**Big Mountain B**	**3.07**	**283**		Pn	16 12 49.3	-0.6		
BLYC	**Blythe**	**3.17**	**133**		Pn	16 12 49.2	-1.9		
BLYC				IAML		16 13 43.7			
	comp=E,26nm,0.4s								
BLYC				IAML		16 13 49.1			
	comp=N,43nm,0.7s								
CMB	**Columbia Colle**	**3.23**	**311**		Pn	16 12 50.5	-1.4		
CMB				IAML		16 13 43.7			
	comp=N,27nm,0.7s								
CMB				IAML		16 13 44.9			
	comp=E,20nm,0.7s								
BAR	**Barrett**	**3.29**	**170**		Pn	16 12 51.8	-1.0		
BAR				IAML		16 13 43.3			
	comp=E,26nm,0.3s								
BAR				IAML		16 13 44.7			
	comp=N,25nm,0.2s								
SAO	**San Andreas Ge**	**3.43**	**285**		Pn	16 12 54.0	-0.7		
GLA	**Glamis**	**3.54**	**144**	IAML		16 13 58.4			
	comp=N,26nm,1.3s								
GLA				IAML		16 14 08.9			
	comp=E,35nm,0.7s								
CBX	**Cerro Bola**	**3.66**	**171**	IAML		16 14 33.0			
	comp=N,42nm,4.0s								
SPR3	**Spring Creek 3**	**3.87**	**37**	IAML		16 14 03.9			
	comp=N,23nm,0.7s								
SPR3				IAML		16 14 06.0			
	comp=E,15nm,1.1s								
WUAZ	**Wupatki**	**4.86**	**93**		Pn	16 13 14.6	+0.2		
ELK	**Elko**	**5.07**	**18**	IAML		16 14 42.1			
	comp=E,7.6nm,0.7s								
TMUT	**Trail Mountain**	**5.90**	**54**		Pn	16 13 27.0	-1.8		

*IDC **26** 16:23:08.7±0.9, 16°.45S×174°.19W, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=33.3km s-min=23.7km az=125.0*
*NEIC **26** 16:23:18.1±0.7, 16°.4S±0°.2×174°.1W±0°.2, h72km±13km, mb4.4/16, Error ellipse: s-maj=38.7km s-min=14.9km az=217.0*

ISC 26 16:23:21.9±0.7, 16°.6S±0°.1×174°.1W±0°.1, h111km, n31, σ1s21/28, mb4.1/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.66**	**123**			**Pn**		**16 24 28.1**	**-2.1**
NIUE						Sn	Sn	16 25 14.7	-8.6
BKZ	**Black Stump Fm**	**23.96**	**198**	P		**P**		**16 28 24.0**	**-2.0**
BKZ						IAmb	IAmb	16 28 31.2	
	comp=Z,35nm,1.3s								
QRZ	**Quartz Range**	**26.79**	**203**	P		**P**		**16 28 52.4**	**+0.8**
GVZ	**Greta Valley S**	**28.50**	**200**	P		**P**		**16 29 08.0**	**+1.2**
LTZ	**Lake Taylor**	**28.60**	**201**	P		**P**		**16 29 08.7**	**+1.1**
H11S2	**WAKE ISLAND Hy**	**39.66**	**331**	T		T		17 12 12.6	
	baz=150,slow=74								
H11S3	**WAKE ISLAND Hy**	**39.67**	**331**	T		T		17 12 10.8	
	baz=150								
H11S1	**WAKE ISLAND Hy**	**39.67**	**331**	T		T		17 12 14.2	
	baz=150,slow=74								
STKA	**Stephens Creek**	**42.89**	**241**	P		**P**		**16 31 09.2**	**-0.4**
STKA	**Stephens Creek**	**42.89**	**241**	P		**P**		**16 31 08.4**	**-1.2**
	comp=Z,2.1nm,0.8s,baz=105,slow=12,SNR=4.0								
	comp=Z,2.1nm,0.8s								
INKA	**Innaminka**	**43.08**	**247**	P		**P**		**16 31 10.0**	**-1.2**
BBOO	**Buckleboo**	**47.66**	**241**	P		**P**		**16 31 46.6**	**-0.7**
WR8	**Warramunga Arr**	**48.80**	**258**	P		**P**		**16 31 55.5**	**-0.8**
WR8						IAmb	IAmb	16 32 15.2	
	comp=Z,8.1nm,1.5s								
WB0	**Warramunga Arr**	**48.92**	**258**	P		**P**		**16 31 56.0**	**-1.1**
WB0						IAmb	IAmb	16 32 14.5	
	comp=Z,4.7nm,1.1s								
WRA	**Warramunga Arr**	**48.95**	**258**	P		**P**		**16 31 56.4**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=94,slow=6.6,SNR=17								
	comp=Z,0.4nm,0.5s								
AS31	**Alice Springs**	**49.13**	**253**	P		**P**		**16 31 58.2**	**-0.5**
ASAR	**Alice Springs**	**49.13**	**253**	P		**P**		**16 31 57.8**	**-1.0**
ASAR	**Alice Springs**	**49.13**	**253**	P		**P**		**16 31 58.0**	**-0.8**
	comp=Z,5.2nm,0.7s,baz=87,slow=8.7,SNR=133								
	comp=Z,5.2nm,0.7s								
FORT	**Forrest**	**54.31**	**244**	P		**P**		**16 32 36.1**	**-0.9**
FORT						IAmb	IAmb	16 32 38.9	
	comp=Z,13nm,1.4s								
KNRA	**Kununurra**	**54.76**	**262**	P		**P**		**16 32 39.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**57.34**	**259**	P		**P**		**16 32 58.0**	**-0.9**
SBA	**Scott Base**	**62.02**	**185**	P		**P**		**16 33 31.5**	**+1.5**
SBA						IAmb	IAmb	16 33 37.7	
	comp=Z,2.1nm,1.2s								
VNDA	**Vanda**	**62.14**	**186**	P		**P**		**16 33 32.1**	**+1.3**
VNDA						IAmb	IAmb	16 33 35.7	
	comp=Z,2.6nm,1.3s								
VNDA	**Vanda**	**62.14**	**186**	P		**P**		**16 33 31.4**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=18,slow=6.1,SNR=6.9								
	comp=Z,1.1nm,0.8s								
QSPA	**South Pole Qui**	**73.47**	**180**	P		**P**		**16 34 43.9**	**+1.8**
QSPA						IAmb	IAmb	16 34 44.9	
	comp=Z,2.7nm,0.7s								
QSPA	**South Pole Qui**	**73.47**	**180**	P		**P**		**16 34 44.4**	**+2.2**
	comp=Z,2.6nm,0.6s,baz=13,slow=2.5,SNR=28								
	comp=Z,2.6nm,0.6s								
PDAR	**Pinedale Array**	**83.58**	**42**	P		**P**		**16 35 38.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=191,slow=2.3,SNR=4.1								
	comp=Z,0.3nm,0.5s								
ILAR	**Eielson Array**	**83.73**	**11**	P		**P**		**16 35 39.3**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=230,slow=5.7,SNR=7.3								
	comp=Z,0.4nm,0.6s								
BRTR	**Keskin Array B**	**146.65**	**319**			**PKPdf**		**16 42 49.8**	**+0.3**
BRTR	**Keskin Array B**	**146.65**	**319**	PKPbc		**PKPab**		**16 42 52.1**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=105,slow=2.2,SNR=12								
GERES	**GERESS Array B**	**147.21**	**351**	PKPbc		**PKPbc**		**16 42 51.9**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=328,slow=4.7,SNR=5.5								

*IDC **26** 16:30:05.9±1.0, 24°.57N×124°.35E, h0km, mb3.6/6, mbtmp3.6/7, ML2.8/1, Error ellipse: s-maj=31.4km s-min=19.2km az=64.0*
*JMA **26** 16:30:13.3±0.1, 24°.6N±0°.9×124°.5E±0°.4, h56km, MV3.3/13, NEAR ISHIGAKIJIMA ISLAND*

ISC 26 16:30:13.0±0.9, 24°.53N±0°.08×124°.54E±0°.04, h57km±6km, n31, σ1s00/43, mb3.6/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.19**	**53**	*i* P		**Pn**		**16 30 22.1**	**+0.1**
JTJ				S		**Sn**		**16 30 28.6**	**+0.1**
JISG	**Ishigakijimahi**	**0.21**	**285**	P		**Pn**		**16 30 22.1**	**-0.1**
JISG				S		**Sn**		**16 30 28.7**	**-0.2**
JIJ	**Ishigaki jima**	**0.40**	**245**	*i* P		**Pn**		**16 30 23.7**	**0.0**
JIJ				S		**Sn**		**16 30 31.4**	**0.0**
JKRS	**Kuro-shima**	**0.56**	**239**	*i* P		**Pn**		**16 30 26.1**	**+0.7**
JKRS				S		**Sn**		**16 30 34.8**	**+0.3**
JIRB	**Irabujima**	**0.65**	**63**	*i* P		**Pn**		**16 30 26.4**	**0.0**
JIRB				S		**Sn**		**16 30 36.2**	**0.0**
JMJ	**Miyako jima 2**	**0.74**	**67**	P		**Pn**		**16 30 28.3**	**+0.7**
JMJ	**Miyako jima 2**	**0.74**	**67**	P		**Sn**		**16 30 39.9**	**+1.6**
JMJ2	**Miyako jima3**	**0.75**	**74**	*i* P		**Pn**		**16 30 28.3**	**+0.6**
JMJ2				*e*S		**Sn**		**16 30 39.5**	**+1.1**
JIKM	**Ikemajima**	**0.76**	**59**	*i* P		**Pn**		**16 30 27.9**	**+0.2**
JIKM				S		**Sn**		**16 30 38.7**	**+0.2**
IRIF	**Iriomote-Funau**	**0.76**	**255**	*i* P		**Pn**		**16 30 28.1**	**+0.3**
HATJ	**Hateruma jima**	**0.82**	**235**	P		**Pn**		**16 30 29.1**	**+0.6**
HATJ				*e*S		**Sn**		**16 30 41.3**	**+1.4**
JOGS	**Gusukube**	**0.82**	**74**	*i* P		**Pn**		**16 30 29.3**	**+0.7**
JOGS				*e*S		**Sn**		**16 30 41.2**	**+1.1**
YOJ	**Yonaguni jima**	**1.39**	**268**	P		**Pn**		**16 30 36.5**	**+0.4**
YOJ	**Yonaguni jima**	**1.39**	**268**	P		**Pn**		**16 30 36.6**	**+0.4**
YOJ				S		**Sn**		**16 30 53.3**	**-0.2**
JYNG	**Yonagunijimaku**	**1.45**	**267**	P		**Pn**		**16 30 37.5**	**+0.5**
JYNG				S		**Sn**		**16 30 55.2**	**+0.2**
NACB	**Ninganchiao**	**2.71**	**263**	P		**Pn**		**16 30 54.4**	**+0.3**
TATO	**Taipei**	**2.81**	**280**	P		**Pn**		**16 30 58.1**	**+2.7**
YHNB	**Yeheng**	**2.88**	**273**	P		**Pn**		**16 30 58.6**	**+2.1**
YULB	**Yu-li**	**3.17**	**250**	P		**Pn**		**16 30 59.4**	**-1.1**
SSLB	**Suanglung**	**3.36**	**258**	P		**Pn**		**16 31 03.5**	**+0.5**
TWGBT	**Beinan**	**3.60**	**242**	P		**Pn**		**16 31 04.9**	**-1.4**
TPUB	**Ta-pu**	**3.78**	**252**	P		**Pn**		**16 31 09.9**	**+1.1**
TPUB	**Ta-pu**	**3.78**	**252**	S		**Sn**		**16 31 52.6**	**+0.5**
JOW	**Kunigami**	**4.08**	**55**	Pn		**Pn**		**16 31 11.8**	**-1.0**
	1.2nm,0.3s,baz=105,slow=24,SNR=13								
JOW						Sn	**Sn**	**16 32 01.5**	**+2.2**
	0.7nm,0.3s,baz=270,slow=28,SNR=1.2								
	12nm,0.6s								
JOW	**Kunigami**	**4.08**	**55**	P		**Pn**		**16 31 11.8**	**-1.0**
MKAR	**Makanchi Array**	**40.25**	**314**	P		**P**		**16 37 44.1**	**-0.1**
	0.9nm,0.6s,baz=100,slow=8.9,SNR=11								
	0.9nm,0.6s								
ZALV	**Zalesovo Beam**	**41.66**	**325**	P		**P**		**16 37 54.6**	**-1.0**
	0.5nm,0.4s,baz=128,slow=9.3,SNR=2.6								
	0.5nm,0.4s								
KURBB	**Kurchatov Arra**	**43.84**	**319**	P		**P**		**16 38 12.7**	**-0.7**
	0.2nm,0.3s,baz=108,slow=9.6,SNR=4.7								
	0.2nm,0.3s								
WRA	**Warramunga Arr**	**45.22**	**167**	P		**P**		**16 38 25.4**	**+0.7**
	0.7nm,0.5s,baz=348,slow=8.7,SNR=10								
	0.7nm,0.5s								
ASAR	**Alice Springs**	**48.76**	**169**	P		**P**		**16 38 53.5**	**+1.2**
	0.4nm,0.6s,baz=352,slow=8.9,SNR=17								
	0.4nm,0.6s								
AKASG	**Malin Array Be**	**74.63**	**319**	P		**P**		**16 41 44.5**	**-1.6**
	0.3nm,0.4s,baz=66,slow=6.5,SNR=2.3								
	0.3nm,0.4s								

*MOS **26** 16:36:14.6±1.0, 40°.73S×72°.16W, h104km, mb5.8/17, Error ellipse: s-maj=13.4km s-min=6.9km az=88.9*
*SJA **26** 16:36:16.7±1.0, 40°.84S×72°.11W, h146km±5km, ML5.7, MW5.9*
*GUC **26** 16:36:17.5±0.6, 40°.83S×72°.29W, h140km±2km, ML6.0*
*NEIC **26** 16:36:18, 40°.80S×72°.02W, h130km, Moment Tensor Solution. Duration: 5s6 Moment tensor: Scale 10^18^Nm; Mrr0.57; Mθθ-0.63; Mϕϕ0.06; Mrθ0.42; Mθϕ1.21; Mϕr0.57; Fault plane solution: M0 1.53000×10^18^ NP1:ϕs88.35000°, δ64.62000°, λ27.81000°. NP2:ϕs345.61000°, δ65.07000°, λ151.79000°. Principal axes: T 1.5135, Plg37.0000°, Azm307.0000°; N 0.0351, Plg53.0000°, Azm127.0000°; P -1.5486, Plg0.0000°, Azm37.0000°;*
*NEIC **26** 16:36:18.2, 40°.80S×72°.12W, h130km*
*IDC **26** 16:36:18.8±0.4, 40°.76S×71°.81W, h134km±3km, mb5.3/32, mbtmp5.7/34, MS5.0/27, Error ellipse: s-maj=9.0km s-min=6.2km az=87.0*
*IPGP **26** 16:36:18.0, 40°.80S×72°.15W, h130km, Mw6.1, Fault plane solution: NP1:ϕs86.00000°, δ56.00000°, λ26.00000°. NP2:ϕs341.00000°, δ69.00000°, λ143.00000°.*
*OSUNB **26** 16:36:18.3±0.3, 40°.68S×72°.05W, h141km±2km, mb5.7/50, Error ellipse: s-maj=2.9km s-min=2.1km az=0.0*
*NEIC **26** 16:36:18, 40°.80S×72°.15W, h130km*
*NEIC **26** 16:36:18.2±1.6, 40°.82S±0°.04×72°.00W±0°.06, h129km±1km, mb5.8/642, Mwb6.0/56, Mww6.1/29, Mww6.0(GUC), Error ellipse: s-maj=7.5km s-min=6.3km az=100.0, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr0.66; Mθθ-0.54; Mϕϕ-0.12; Mrθ0.26; Mθϕ0.83; Mϕr0.70; Fault plane solution: M0 1.27000×10^18^ NP1: ϕs342.22000°, δ64.62000°, λ136.36000°. NP2: ϕs94.46000°, δ51.43000°, λ33.25000°. Principal axes: T 1.3198, Plg48.0000°, Azm302.0000°; N -0.1009, Plg41.0000°, Azm138.0000°; P -1.2189, Plg8.0000°, Azm41.0000°;*
*VAO **26** 16:36:20.3±0.6, 40°.64S×71°.70W, h138km±5km, mb5.7*
*RSNC **26** 16:36:22.1±1.3, 42°.5S±13°×7°.2W±1°.5, h267km±11km, M5.5, mB5.7, mb5.3, Mw(mB)5.3, MwMwp5.7, Mwp5.8*
*GCMT **26** 16:36:22.2±0.1, 40°.90S×72°.06W, h139km, MW6.1/164, Moment Tensor Solution. s162,c361; s164,c588; Duration: 2s6 Moment tensor: Scale 10^18^Nm; Mrr0.81±.01; Mθθ-0.56±.01; Mϕϕ-0.25±.01; Mrθ0.39±.01; Mθϕ1.22±.01; Mϕr0.62±.01; Best double couple: M0 1.59100×10^18^ NP1:ϕs96.00000°, δ58.00000°, λ33.00000°. NP2:ϕs347.00000°, δ62.00000°, λ143.00000°. Principal axes: T 1.5410, Plg45.0000°, Azm309.0000°; N 0.1010, Plg45.0000°, Azm135.0000°; P -1.6410, Plg3.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 26 16:36:18.0±0.2, 40.73S±0.02×72.03W±0.03, h130km±1km, h130km:pP-P,n1473,σ1s55/1480, mb5.8/361, 85C-33D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LL03	**Petrohue**	**0.49**	**215**	Pn		**Pn**		**16 36 36.5**	**-0.4**
LL03				Sn		**Sn**		**16 36 50.6**	**-0.8**
LL03	**Petrohue**	**0.49**	**215**	⇑*i*P		**Pn**		**16 36 36.6**	**-0.4**
LL03				*i* S		**Sn**		**16 36 51.4**	**0.0**
LL03				IAML				16 36 53.8	
	comp=E,278μm,0.7s								
LL03	**Petrohue**	**0.49**	**215**	*e*P		**Pn**		**16 36 36.8**	**-0.2**
LL03				*e*S		**Sn**		**16 36 52.6**	**+1.2**
LL03				IAML				16 37 03.7	
	comp=Z,119μm,0.8s								
LR05	**Currie**	**0.50**	**2**			**Pn**		**16 36 38.1**	**+1.0**
LR05				Sn		**Sn**		**16 36 53.4**	**+2.0**
LR05	**Currie**	**0.50**	**2**	⇑*i*P		**Pn**		**16 36 38.2**	**+1.2**
LR05				*i* S		**Sn**		**16 36 53.6**	**+2.2**
LR05				IAML				16 36 56.9	
	comp=E,128μm,0.6s								
LR05	**Currie**	**0.50**	**2**	*e*P		**Pn**		**16 36 38.6**	**+1.5**
LR05				*e*S		**Sn**		**16 36 55.0**	**+3.5**
LR03	**Panguipulli**	**1.12**	**348**	Pn		**Pn**		**16 36 43.1**	**+1.0**
LR03				Sn		**Sn**		**16 37 02.7**	**+2.4**
LR03	**Panguipulli**	**1.12**	**348**	*e*P		**Pn**		**16 36 43.1**	**+1.0**
LR03				*i* S		**Sn**		**16 37 02.8**	**+2.4**
LR03				IAML				16 37 15.6	
	comp=E,918μm,0.4s								
LR03	**Panguipulli**	**1.12**	**348**	*e*P		**Pn**		**16 36 43.9**	**+1.8**
LR03				*e*S		**Sn**		**16 37 03.5**	**+3.2**
LR03				IAML				16 37 06.8	
	comp=Z,79μm,0.3s								
PLCA	**Paso Flores**	**1.12**	**91**			**Pn**		**16 36 43.3**	**+1.2**
PLCA				Sn		**Sn**		**16 37 01.9**	**+1.4**
PLCA	**Pa

COYC	Coyhaique	4.84	180	⇑P		Pn	16 37 27.1	-1.7		
GO05	Hualane	5.71	1	⇓P		Pn	16 37 39.9	-0.8		
BO02	Sierra Bellavi	6.01	10			Pn	16 37 44.7	0.0		
BO02					Sn	Sn	16 38 53.2	+0.8		
BO01	Tunca	6.37	7			Pn	16 37 48.5	-1.0		
BO01					Sn	Sn	16 38 59.4	-1.7		
AY03	Cochrane	6.53	183			Pn	16 37 51.0	-0.5		
BO04	La Punta	6.83	10			Pn	16 37 54.7	-1.0		
BO04					Sn	Sn	16 39 10.8	-1.3		
MT01	Popeta	6.88	5			Pn	16 37 54.9	-1.5		
MT09	Talagante	6.99	7			Pn	16 37 56.1	-1.9		
LMEL	Las Melosas	7.03	13			Pn	16 37 57.9	-0.6		
MT13	San Alfonso	7.11	12			Pn	16 37 58.7	-0.9		
MT03	Universidad Ad	7.33	10			Pn	16 38 00.6	-1.9		
MT16	CCHEN	7.39	10			Pn	16 38 01.2	-2.1		
MT02	Curacav	7.49	6			Pn	16 38 02.4	-2.2		
PEL	Peldehue	7.65	9	P		Pn	16 38 04.6	-2.2		
PEL				S		Sn	16 39 30.5	-1.5		
VA01	Torpederas	7.70	2			Pn	16 38 05.4	-2.0		
TRQA	Tornquist	8.23	74			Pn	16 38 15.8	+1.3		
TRQA	Tornquist	8.23	74	P		Pn	16 38 15.8	+1.3		
TRQA	Tornquist	8.23	74	P		Pn	16 38 16.2	+1.7		
TRQA				S		Sn	16 39 49.7	+3.9		
H03S1	Juan Fernandez	8.79	319	P		Pn	16 38 25.7	+4.0		
	SNR=5151									
H03S2	Juan Fernandez	8.80	319	P		Pn	16 38 25.8	+3.8		
H03S3	Juan Fernandez	8.80	319	P		Pn	16 38 26.0	+4.0		
VA04	Juan Fernndez	8.91	320			Pn	16 38 25.2	+1.5		
H03N3	Juan Fernandez	9.11	321	P		Pn	16 38 29.8	+3.6		
H03N1	Juan Fernandez	9.12	321	P		Pn	16 38 29.7	+3.5		
H03N2	Juan Fernandez	9.13	321	P		Pn	16 38 30.1	+3.8		
	SNR=6353									
CO02	Combarbal	9.54	5	⇑P		Pn	16 38 29.1	-3.2		
ZON	Zonda	9.56	18	P		Pn	16 38 30.1	-2.4		
ZON	Zonda	9.56	18	⇑P		Pn	16 38 29.4	-3.1		
CFA	Coronel Fontan	9.61	20	P		Pn	16 38 31.0	-2.1		
	comp=N,258nm,0.3s,baz=197,slow=12,SNR=370									
CFA				S		Sn	16 40 16.4	-3.0		
	comp=N,311nm,0.4s,baz=115,slow=22,SNR=12									
CFA				LR		LR	16 42 36.6			
	comp=N,6µm,19.9s,baz=207,slow=39									
CO03	El Pedregal	9.93	7			Pn	16 38 34.5	-3.0		
GO09	Cerro Castillo	10.54	181			Pn	16 38 45.0	-0.4		
GO04	Tololo Observa	10.58	6			Pn	16 38 43.4	-2.9		
MG05	Puerto Natales	10.95	182			Pn	16 38 49.8	-1.0		
LCO	Las Campanas	11.74	6			Pn	16 38 58.3	-3.5		
LCO	Las Campanas	11.74	6	P		Pn	16 38 58.3	-3.5		
MG04	Isla Riesco	12.13	179			Pn	16 39 06.3	-0.1		
MG02	Cerro Sombrero	12.20	172			Pn	16 39 07.8	+0.5		
MG02	Cerro Sombrero	12.20	172	⇑P		Pn	16 39 08.2	+0.9		
GO10	Punta Arenas	12.45	177			Pn	16 39 10.1	-0.4		
GO10	Punta Arenas	12.45	177	⇓P		Pn	16 39 11.0	+0.5		
MG03	Isla Dawson	13.16	176	Pn		Pn	16 39 19.0	-0.7		
GO03	Cobiapo	13.19	7	⇓P		Pn	16 39 17.0	-3.4		
USHA	Ushuaia	14.31	172	P		Pn	16 39 35.4	+1.0		
	comp=N,956nm,0.9s,baz=356,slow=12,SNR=50									
MG01	Puerto William	14.51	170			Pn	16 39 35.2	-1.7		
EFI	East Falkland	14.58	143	Pn		Pn	16 39 36.7	-1.0		
EFI	East Falkland	14.58	143	*ce*P		Pn	16 39 38.3	+0.5		
EFI				pmax		pmax				
	comp=Z,272nm,1.3s									
EFI	East Falkland	14.58	143	⇑P		P	16 39 39.7	-0.9		
PSAL	Palomas, Salto	15.12	55	*e*P		Pn	16 39 44.1	-0.8		
GO02	Mina Guanaco	15.66	8	P		Pn	16 39 49.8	-2.1		
GO02	Mina Guanaco	15.66	8	⇓P		Pn	16 39 49.1	-2.8		
PB14	IPOC Station P	16.12	5	S		S	16 42 58.7	-0.6		
PB14				P		Pn	16 39 54.8	-2.7		
PB10	IPOC Station P	17.21	5	P		P	16 40 09.8	-0.3		
PLTB	Pedras Altas	17.32	65	P		P	16 40 09.3	-2.0		
PLTB	Pedras Altas	17.32	65	P		P	16 40 09.5	-1.7		
PLTB				S		S	16 43 21.0	-4.0		
PLTB	Pedras Altas	17.32	65	*e*P		P	16 40 10.1	-1.2		
PB06	IPOC Station P	18.09	7	P		P	16 40 20.0	+0.2		
CPSB	Cacapava Do Su	18.27	61	P		P	16 40 19.5	-2.0		
CPSB				S		S	16 43 40.5	-3.3		
CPSB	Cacapava Do Su	18.27	61	*e*P		P	16 40 20.0	-1.6		
CPUP	Villa Florida	18.84	45	P		P	16 40 25.2	-2.6		
CPUP	Villa Florida	18.84	45	P		P	16 40 25.9	-1.9		
	comp=Z,39nm,0.7s,baz=82,slow=11,SNR=124									
CPUP	Villa Florida	18.84	45	⇑P		P	16 40 25.0	-2.8		
CPUP	Villa Florida	18.84	45	P		P	16 40 24.8	-3.0		
CPUP				S		S	16 43 54.1	-1.2		
PB09	IPOC Station P	19.02	8	Pn		Pn	16 40 32.4	+0.2		
PB01	IPOC Station P	19.75	7	P		P	16 40 38.1	+0.3		
TA01	Diego Aracena	20.16	5	P		P	16 40 42.4	+0.2		
HMBC	Humberstone	20.47	6	P		P	16 40 45.9	+0.2		
SJPY	San Joaquin	20.57	45	*e*P		P	16 40 44.3	-2.2		
PB08	IPOC Station P	20.67	8	S		S	16 44 33.2	+1.3		
PB08				P		P	16 40 48.4	+0.4		
CNLB	Canela	20.70	63	P		P	16 40 44.9	-3.0		
CNLB				S		S	16 44 26.5	-5.4		
CNLB	Canela	20.70	63	*e*P		P	16 40 45.3	-2.6		
PB11	IPOC Station P	21.00	6	P		P	16 40 51.5	+0.2		
ITAB	Concordia	21.23	57	P		P	16 40 50.6	-3.0		
ITAB	Concordia	21.23	57	P		P	16 40 51.6	-2.1		
ITAB				S		Sn	16 45 00.2	+1.7		
ITAB	Concordia	21.23	57	*e*P		P	16 40 51.4	-2.2		
MURT	Porto Murtinho	22.61	37	*e*P		P	16 41 06.1	-1.7		
AMBA	Amambai (Brazi	22.84	44	*e*P		P	16 41 08.1	-1.9		
PTGB	Pitanga	23.09	52	P		P	16 41 09.5	-3.0		
PTGB				S		S	16 45 02.1	-12		
PTGB	Pitanga	23.09	52	*e*P		P	16 41 09.3	-3.2		
MAJ01	Sao Joao Batis	23.17	62	P		P	16 41 11.2	-1.9		
MAJ01				S		S	16 45 11.9	-2.8		
MAJ01	Sao Joao Batis	23.17	62	*e*P		P	16 41 11.2	-1.9		
PB18	Visviri	23.17	6	IAmb		IAmb	16 41 36.6			
	comp=Z,640nm,1.2s									
BDQN	Bodoquena, MS	24.05	37	*e*P		P	16 41 19.7	-1.5		
TRCB	Terra Rica	24.23	48	P		P	16 41 21.1	-1.8		
TRCB	Terra Rica	24.23	48	P		P	16 41 20.8	-2.0		
TRCB				S		S	16 45 25.3	-6.7		
TRCB	Terra Rica	24.23	48	*e*P		P	16 41 21.2	-1.7		
ESPZ	Base Esperanza	24.38	164	P		P	16 41 23.6	-0.1		
ESPZ				pP		pP	16 41 51.3	+0.2		
AQDB	Aquidauana	24.52	39	P		P	16 41 24.9	-0.5		
AQDB	Aquidauana	24.52	39	P		P	16 41 23.8	-1.6		
AQDB				S		S	16 45 34.0	-2.6		
PMSA	Palmer Station	24.52	172	P		P	16 41 23.0	-1.9		
PMSA	Palmer Station	24.52	172	*e*P		P	16 41 25.5	+0.5		
TIJ01	Guaruva-PR	24.57	58	P		P	16 41 20.0	-5.9		
TIJ01				S		S	16 45 32.4	-5.1		
LPAZ	La Paz	24.59	9	IAmb		IAmb	16 41 32.9			
	comp=Z,328nm,0.9s									
LPAZ	La Paz	24.59	9	P		P	16 41 27.8	+1.1		
	comp=Z,241nm,0.8s,baz=171,slow=5.9,SNR=225									
LPAZ				ScP		ScP	16 48 28.5	+0.6		
	comp=Z,37nm,1.2s,baz=309,slow=0.9,SNR=6.7									
	comp=Z,241nm,0.8s									
LPAZ	La Paz	24.59	9	⇓P		P	16 41 27.8	+1.1		
LPAZ	La Paz	24.59	9	P		P	16 41 26.9	+0.1		
LPAZ				S		S	16 45 34.8	-4.0		
LPAZ	La Paz	24.59	9	*e*P		P	16 41 28.0	+1.2		
FRTB	Fartura	25.64	54	P		P	16 41 34.0	-1.6		
FRTB				S		S	16 45 54.2	-0.1		
PET01	Itanhaem-SP	26.41	59	S		S	16 46 00.8	-5.7		
PET01	Itanhaem-SP	26.41	59	*e*P		P	16 41 42.0	-0.5		
SPB	Sao Paulo	26.80	58	*e*P		P	16 41 46.5	+0.5		
HOPE	Hope Point	27.24	132	P		P	16 41 48.9	-0.6		
HOPE	Hope Point	27.24	132	P		P	16 41 48.9	-0.6		
HOPE				pmax		pmax				
	comp=Z,901nm,1.5s									
PP1B	Ponte de Pedra	27.39	38	*e*P		P	16 41 51.5	+0.3		
C2SB	Chapadao do Su	27.39	43	P		P	16 41 50.3	-0.9		
C2SB				S		S	16 46 23.6	+1.7		
C2SB	Chapadao do Su	27.39	43	*e*P		P	16 41 51.9	+0.7		
VABB	Valinhos	27.52	58	P		P	16 41 51.9	-0.6		
VABB				S		S	16 46 28.4	+4.3		
VAO	Valinhos	27.52	58	P		P	16 41 50.4	-2.1		
VAO	Valinhos	27.52	58	*e*P		P	16 41 52.8	+0.3		
PTLB	Pontes e Lacer	27.57	28	P		P	16 41 52.6	-0.3		
PTLB				IAmb		IAmb	16 41 54.3			
	comp=Z,176nm,0.7s									
PTLB	Pontes e Lacer	27.57	28	P		P	16 41 52.6	-0.3		
PTLB				S		S	16 46 23.5	-1.3		
PTLB	Pontes e Lacer	27.57	28	*e*P		P	16 41 53.2	+0.3		
RCLB	Rio Claro- Sao	27.58	56	P		P	16 41 51.5	-1.6		
RCLB				S		S	16 46 26.5	+1.5		
RCLB	Rio Claro- Sao	27.58	56	*e*P		P	16 41 52.4	-0.6		
SMAI	San Martin Ant	27.59	176	P		P	16 41 51.6	-0.9		
ITRB	Iturama	27.97	48	P		P	16 41 54.9	-1.5		
ITRB				S		S	16 46 39.7	+8.7		
ITRB	Iturama	27.97	48	*e*P		P	16 41 55.5	-0.9		
BB19B	Bebedouro	27.98	53	P		P	16 41 54.0	-2.6		
BB19B				S		S	16 46 32.2	+1.0		
BB19B	Bebedouro	27.98	53	*e*P		P	16 41 54.8	-1.8		
PARB	Paraibuna	28.16	60	P		P	16 41 58.3	+0.1		
SALV	Santo Antonio	28.52	35	P		P	16 42 00.7	-0.6		
SALV				S		S	16 46 44.5	+4.9		
SALV	Santo Antonio	28.52	35	*e*P		P	16 42 00.9	-0.3		
NNA	Nana	28.94	350	P		P	16 42 04.9	-0.2		
NNA						PcP	16 45 11.8	+0.9		
NNA	Nana	28.94	350	PcP		PcP	16 45 12.3	+1.4		
	comp=Z,26nm,0.9s,baz=148,slow=1.5,SNR=3.9									
NNA				ScP		ScP	16 48 41.7	+1.5		
	comp=Z,6.7nm,0.5s,baz=229,slow=2.4,SNR=5.9									
NNA				LR		LR	16 52 24.4			
	comp=Z,2µm,19.1s,baz=171,slow=33									
NNA	Nana	28.94	350	P		P	16 42 04.9	-0.2		
NNA							16 45 11.8			
NNA				pmax		pmax				
	comp=Z,58nm,0.8s									
NNA	Nana	28.94	350	⇑P		P	16 42 06.0	+0.9		
VILB	Vilhena	29.56	24	P		P	16 42 10.0	-0.6		
VILB				IAmb		IAmb	16 42 14.8			
	comp=Z,164nm,0.8s									
VILB	Vilhena	29.56	24	P		P	16 42 09.9	-0.6		
VILB				S		S	16 46 53.8	-2.2		
VILB	Vilhena	29.56	24	*e*P		P	16 42 10.1	-0.4		
ITU3	Corumbazu	29.99	48	P		P	16 42 12.7	-1.7		
ITU3				S		S	16 47 01.5	-1.3		
VAS01	Vassouras-RJ	30.34	61	*e*P		P	16 42 16.8	-0.6		
BSCB	Bom Sucesso	30.37	58	P		P	16 42 15.8	-2.0		
BSCB	Bom Sucesso	30.37	58	*e*P		P	16 42 17.3	-0.5		
ARAG	Araguaiana, MT	30.50	41	*e*P		P	16 42 18.1	-0.7		
IPMB	Ipameri, GO	30.56	49	P		P	16 42 17.5	-1.9		
IPMB				S		S	16 47 08.2	-3.6		
IPMB	Ipameri, GO	30.56	49	*e*P		P	16 42 17.6	-1.9		
SFA1	Serra Facao	30.86	50	P		P	16 42 20.9	-1.2		
PMNB	Patos De Minas	31.17	52	⇑P		P	16 42 23.4	-1.4		
PMNB	Patos De Minas	31.17	52	*e*P		P	16 42 23.8	-1.0		
DUB01	Friburgo-RJ	31.19	62	P		P	16 42 24.7	-0.2		
DUB01				S		S	16 47 24.3	+2.7		
DUB01	Friburgo-RJ	31.19	62	*e*P		P	16 42 24.8	-0.2		
LABB	Ljbrea	31.79	12	P		P	16 42 30.6	+0.5		
LABB				S		S	16 47 29.8	-1.0		
CAM01	Campos-RJ	31.85	63	P		P	16 42 30.7	+0.1		
CAM01	Campos-RJ	31.85	63	*e*P		P	16 42 30.7	+0.1		
PDRB	Porto dos Gac	31.99	29	P		P	16 42 31.5	-0.4		
PDRB				S		S	16 47 31.9	-2.0		
PDRB	Porto dos Gac	31.99	29	*e*P		P	16 42 31.7	-0.2		
BDFB	Brasilia	32.55	47	P		P	16 42 35.4	-1.5		
BDFB	Brasilia	32.55	47	P		P	16 42 35.5	-1.4		
	comp=Z,342nm,0.7s,baz=215,slow=6.8,SNR=143									
BDFB				LR		LR	16 57 14.3			
	comp=Z,3µm,18.3s,baz=238,slow=39									
	comp=Z,342nm,0.7s									
BDFB	Brasilia	32.55	47	P		P	16 42 35.4	-1.5		
BDFB				pmax		pmax				
	comp=Z,401nm,0.8s									
CZSB	Cruzeiro do Su	32.87	359	P		P	16 42 40.0	+0.4		
CLDB	Colider	33.02	30	P		P	16 42 39.8	-1.0		
CLDB				S		S	16 47 47.3	-2.6		
CLDB	Colider	33.02	30	*e*P		P	16 42 40.4	-0.5		
DIAM	Diamantina, MG	33.05	56	P		P	16 42 39.9	-1.5		
DIAM				S		S	16 47 48.4	-2.3		
DIAM	Diamantina, MG	33.05	56	*e*P		P	16 42 40.2	-1.2		
ALF01	Guarapari-ES	33.31	62	P		P	16 42 42.7	-0.6		
ALF01	Guarapari-ES	33.31	62	*e*P		P	16 42 42.8	-0.6		
ATAH	Atahualpa	33.93	349	P		P	16 42 52.0	+2.8		
	comp=Z,95nm,1.0s,baz=78,slow=5.5,SNR=12									
ATAH				PcP		PcP	16 45 26.7	+1.9		
	comp=Z,27nm,0.7s,baz=161,slow=6.6,SNR=7.3									
ATAH				ScP		ScP	16 48 59.6	+2.2		
	comp=Z,4.3nm,0.8s,baz=155,slow=5.5,SNR=4.6									
	comp=Z,95nm,1.0s									
SNDB	Serra Nova Dou	33.96	38	P		P	16 42 47.9	-1.2		
SNDB				S		S	16 47 56.4	-8.1		
SNDB	Serra Nova Dou	33.96	38	*e*P		P	16 42 48.2	-0.9		
MC01	Montes Claros	34.09	54	P		P	16 42 48.1	-2.2		
SJMB	Sao Joao De Ma	34.35	59	P		P	16 42 50.6	-1.9		
SJMB				S		S	16 48 10.7	+0.2		
SJMB	Sao Joao De Ma	34.35	59	*e*P		P	16 42 51.4	-1.0		
RIB01	Linhares ES	34.44	61	P		P	16 42 52.9	-0.3		
RIB01	Linhares ES	34.44	61	*e*P		P	16 42 53.7	+0.6		
JANB	Januaria	35.14	51	P		P	16 42 58.0	-1.3		
JANB	Januaria	35.14	51	*e*P		P	16 42 59.2	-0.1		
TBTG	Tabatinga, AM	36.43	4	P		P	16 43 10.6	+0.3		
TBTG	Tabatinga, AM	36.43	4	P		P	16 43 11.1	+0.9		
TBTG				S		S	16 48 40.1	-2.2		
NPGB	Novo Progresso	36.70	28	P		P	16 43 11.7	-0.9		
NPGB	Novo Progresso	36.70	28	*e*P		P	16 43 11.9	-0.6		
GUA01	Guaratinga, BA	36.79	59	P		P	16 43 11.5	-1.8		
GUA01				S		S	16 48 45.8	-2.0		
GUA01	Guaratinga, BA	36.79	59	*e*P		P	16 43 11.8	-1.5		
MCRA	Macar, Loja	36.90	347	P		P	16 43 14.9	+0.7		
	comp=Z,6µm,comp=Z,2µm,comp=Z,82nm,1.1s									
SDBA	SAO DESIDERIO	36.92	48	P		P	16 43 13.3	-1.1		
SDBA				S		S	16 48 43.9	-5.9		
SDBA	SAO DESIDERIO	36.92	48	*e*P		P	16 43 13.5	-0.9		
TEFE	Tefe	37.65	12	P		P	16 43 20.2	-0.3		
TEFE				S		S	16 48 55.3	-5.5		
TEFE	Tefe	37.65	12	*e*P		P	16 43 20.4	-0.1		
CMC01	Camacan, BA	37.88	58	P		P	16 43 21.5	-0.9		
CMC01	Camacan, BA	37.88	58	*e*P		P	16 43 21.6	-0.9		
SMTB	Santa Maria do	38.45	41	P		P	16 43 26.3	-1.0		
SMTB				S		S	16 49 09.5	-3.4		
SMTB	Santa Maria do	38.45	41	*e*P		P	16 43 26.8	-0.5		
COHC	Cochancay	38.65	348	P		P	16 43 29.2	+0.4		
COHC				IAmb		IAmb	16 43 34.1			
	comp=Z,159nm,1.2s									
COHC	Cochancay	38.65	348	P		P	16 43 30.7	+1.9		
	comp=Z,6µm,comp=Z,6µm,comp=Z,426nm,1.0s									
MACA	Manacapuru-AM	38.78	18	P		P	16 43 29.4	-0.6		
MACA	Manacapuru-AM	38.78	18	P		P	16 43 29.6	-0.4		
MACA				S		S	16 49 15.6	-2.1		
MACA	Manacapuru-AM	38.78	18	*e*P		P	16 43 29.7	-0.3		
ITTB	Itaituba	39.06	26	P		P	16 43 31.7	-0.7		
ITTB				S		S	16 49 19.6	-2.5		
ITTB	Itaituba	39.06	26	*e*P		P	16 43 31.8	-0.5		
PRPB	Parauapebas	39.74	36	P		P	16 43 37.3	-0.7		
PRPB				S		S	16 49 29.3	-3.0		
PRPB	Parauapebas	39.74	36	*e*P		P	16 43 37.4	-0.6		
PPLP	Puerto Lpez	39.80	346	P		P	16 43 39.5	+1.0		
	comp=Z,5µmcomp=Z,2µmcomp=Z,139nm,1.6s									
PIAT	Ana Tenorio	39.95	350	P		P	16 43 42.8	+2.7		
	comp=Z,7µmcomp=Z,3µmcomp=Z,185nm,1.0s									
BELA	Belgrano 2	40.28	169	P		P	16 43 41.7	0.0		
BELA				pP		pP	16 44 09.2	-1.8		
BELA				IAmb		IAmb	16 44 14.4			
	comp=Z,193nm,1.5s									
SGC2	Sao Gabriel da	40.65	8	P		P	16 43 43.7	-1.7		
SGC2				S		S	16 49 43.1	-2.6		
SGC2	Sao Gabriel da	40.65	8	P		P	16 43 44.6	-0.8		
	comp=Z,5µmcomp=Z,74nm,0.8s									
PTLC	Puerto Leguiza	40.79	356	P		P	16 43 45.5	-1.1		
	comp=Z,6µmcomp=Z,5µmcomp=Z,264nm,1.0s									
CUSE	Cuicocha Este	41.25	350	P		P	16 43 53.0	+2.1		
	comp=Z,5µmcomp=Z,186nm,1.1s									
PAC1	Pacto, Paraso	41.27	350	P		P	16 43 52.1	+1.4		
	comp=Z,3µmcomp=Z,178nm,1.0s									
BONI	La Bonita	41.30	352	P		P	16 43 52.1	+1.1		
	comp=Z,5µmcomp=Z,2µmcomp=Z,43nm,1.4s									
BMO2	UHE Belo Monte	41.37	31	P		P	16 43 51.1	-0.3		
TUC4	UHE Tucurui	41.58	35	P		P	16 43 52.6	-0.4		
BMO1	UHE Belo Monte	41.64	31	P		P	16 43 52.9	-0.6		
MAL2	Monte Alegre,	41.79	27	P		P	16 43 54.1	-0.6		
MAL2	Monte Alegre,	41.79	27	P		P	16 43 54.2	-0.5		
FLOC	Florencia	42.24	355	P		P	16 43 58.9	+0.5		
FLOC	Florencia	42.24	355	P		P	16 43 59.8	+1.3		
	comp=Z,5µmcomp=Z,2µmcomp=Z,83nm,1.3s									
CRUC	La Cruz	42.34	353	P		P	16 44 02.7	+3.1		
MACC	Macarena, Meta	42.70	357	P		P	16 44 03.2	+1.0		
	comp=Z,6µmcomp=Z,108nm,1.6s									
BBAC	Balboa, Cauca	42.82	352	P		P	16 44 04.1	+0.8		
	comp=Z,6µmcomp=Z,2µmcomp=Z,99nm,1.2s									
PAYG	Puerto Ayora	43.18	333	P		P	16 44 06.1	+0.1		
PAYG	Puerto Ayora	43.18	333	P		P	16 44 06.5	+0.5		
	comp=Z,4µmcomp=Z,62nm,1.2s									
VNA3	Neumayer Olymp	43.19	155	⇑P		P	16 44 05.6	+0.1		
	comp=Z,52nm,0.6s									
POPC	Popayan, Colom	43.27	353	P		P	16 44 08.1	+1.1		
	comp=Z,5µmcomp=Z,2µmcomp=Z,83nm,1.4s									
VNA1	Neumayer--Stat	43.55	154	⇑P		P	16 44 08.8	+0.5		
	comp=Z,60nm,0.8s									
VNA2	Neumayer--Watz	43.87	155	⇑P		P	16 44 11.2	+0.2		
	comp=Z,49nm,0.5s,baz=277,slow=8.6									
TMAB	Tom-Au,PA,Br	43.89	36	P		P	16 44 11.9	+0.2		
TMAB	Tom-Au,PA,Br	43.89	36	*e*P		P	16 44 12.3	+0.7		
BOAV	Boa Vista	44.19	17	P		P	16 44 13.8	-0.3		
BOAV				IAmb		IAmb	16 44 15.8			
	comp=Z,386nm,1.5s									
BOAV	Boa Vista	44.19	17	P		P	16 44 13.6	-0.5		
BOAV				S		S	16 50 35.5	-2.1		
BOAV	Boa Vista	44.19	17	*e*P		P	16 44 14.0	-0.1		
BOAV	Boa Vista	44.19	17	P		P	16 44 13.4	-0.7		
	comp=Z,5µmcomp=Z,2µmcomp=Z,178nm,0.9s									
PRAC	Prado	44.31	356	P		P	16 44 16.4	+1.4		
	comp=Z,3µmcomp=Z,114nm,1.9s									
ORTC	Ortega, Tolima	44.52	355	P		P	16 44 17.7	+1.0		
	comp=Z,6µmcomp=Z,3µmcomp=Z,126nm,1.6s									
YOTC	Yotoco, Valle	44.67	354	P		P	16 44 17.5	-0.5		
	comp=Z,1µmcomp=Z,82nm,0.8s									
ROSC	El Rosal	45.40	357	P		P	16 44 26.2	+2.2		
	comp=Z,39nm,0.7s,baz=195,slow=4.4,SNR=14									
ROSC				S		S	16 50 58.7	+3.0		
	comp=Z,7.6nm,0.4s,baz=93,slow=20,SNR=1.8									
	comp=Z,39nm,0.7s									
ROSC	El Rosal	45.40	357	P		P	16 44 25.1	+1.0		
	comp=Z,6µmcomp=Z,3µmcomp=Z,67nm,0.9s									
SNAA	Sanae	45.41	155	⇑P		P	16 44 22.8	-0.4		
	comp=Z,1µm,0.6s									
SNAA	Sanae	45.41	155	P		P	16 44 22.7	-0.5		
SNAA				pP		pP	16 44 51.3	-1.7		
SNAA	Sanae	45.41	155	P		P	16 44 23.2	0.0		
	comp=Z,58nm,0.8s,baz=268,slow=5.7,SNR=144									
SNAA				ScP		ScP	16 49 41.6	+1.0		
	comp=Z,14nm,0.9s,baz=262,slow=3.7,SNR=7.7									
SNAA				S		S	16 50 51.6	-2.7		
	comp=Z,14nm,1.0s,baz=25,slow=23,SNR=10.0									
SNAA				LR		LR	17 00 58.0			
	comp=Z,798nm,21.6s,baz=276,slow=33									
	comp=Z,58nm,0.8s									
SNAA	San

SBA pmax pmax
comp=Z,266nm,1.9s
MTO3 Montecristo 57.16 340 P **P** **16 45 51.5 +0.1**
MTO3 IAmb IAmb 16 45 55.4
comp=Z,106nm,1.1s
ESQI Esquipulas 57.31 340 IAmb IAmb 16 45 56.7
comp=Z,155nm,1.0s
VNDA Vanda 57.52 192 P **P** **16 45 53.9 +0.8**
VNDA Vanda 57.52 192 P **P** **16 45 54.4 +1.3**
comp=Z,34nm,1.2s,baz=139,slow=5.8,SNR=46
VNDA PKPPKP **P'P'df** **17 15 35.6 -4.6**
comp=Z,2.5nm,1.1s,baz=315,slow=5.1,SNR=6.6
comp=Z,34nm,1.2s
VNDA Vanda 57.52 192 P **P** **16 45 53.9 +0.8**
VNDA pmax pmax
comp=Z,60nm,1.3s
VNDA Vanda 57.52 192 P **P** **16 45 54.8 +1.8**
GDSD La Dsirade Is 57.66 12 IAmb IAmb 16 45 55.9
comp=Z,97nm,1.1s
H05N1 Guadeloupe/Mar 57.66 12 P **P** **16 45 55.8 +1.0**
SNR=7.7
CRPR Cabo Rojo, PR 58.62 5 IAmb IAmb 16 46 03.9
comp=Z,70nm,0.8s
STH Stony Hill 58.67 355 *e*P P 16 46 18.0 +16
SJG San Juan 58.80 7 P **P** **16 46 01.9 -0.7**
SJG IAmb IAmb 16 46 03.1
comp=Z,76nm,1.0s
SJG San Juan 58.80 7 P **P** **16 46 02.1 -0.5**
comp=Z,40nm,0.8s,baz=173,slow=2.0,SNR=14
comp=Z,40nm,0.8s
SJG San Juan 58.80 7 P **P** **16 46 01.9 -0.7**
SJG pmax pmax
comp=Z,76nm,1.0s
SJG San Juan 58.80 7 P **P** **16 45 59.2 -3.4**
comp=Z,1µmcomp=Z,725nmcomp=Z,39nm,1.5s
MTDJ Mount Denham 58.88 354 IAmb IAmb 16 46 06.4
comp=Z,136nm,1.1s
AOPR Arecibo Observ 58.98 6 IAmb IAmb 16 46 05.0
comp=Z,138nm,1.4s
SYO Syowa Base 59.64 157 *e*P **P** **16 46 06.4 -1.4**
SYO Syowa Base 59.64 157 *i*pP pP 16 46 38.2 -0.9
SYO Syowa Base 59.64 157 *i*PcP **PcP** **16 46 53.0 -0.5**
CCIG Comitan 59.72 338 IAmb IAmb 16 46 13.1
comp=Z,115nm,0.9s
SC01 Santiago de Io 59.86 1 IAmb IAmb 16 46 12.2
comp=Z,118nm,1.0s
GTBY Guantanamo Bay 60.41 357 *e*P **P** **16 46 14.7 +1.1**
RCC Rio Carpintero 60.51 356 *e*P **P** **16 46 15.2 +1.0**
MARVS Santiago de Cu 60.53 356 *e*P **P** **16 46 14.9 +0.5**
ASCN Ascension 60.55 74 P **P** **16 46 15.0 +0.2**
LMGC Las Mercedes 60.66 355 *e*P **P** **16 46 15.9 +0.7**
QMBU Quimbuelo 60.67 357 *e*P **P** **16 46 15.4 0.0**
YAR Yar 60.92 355 *e*P **P** **16 46 18.7 +1.6**
PINC Pinares de May 61.00 356 *e*P **P** **16 46 18.5 +0.9**
NMDO Nuevo Mundo 61.04 357 IAmb IAmb 16 47 08.5
comp=Z,32nm,1.1s
NMDO Nuevo Mundo 61.04 357 *e*P **P** **16 46 17.1 -0.7**
CMIG Matias Romero 61.32 335 P **P** **16 46 20.3 +0.4**
comp=Z,24nm,0.8s,baz=133,slow=4.2,SNR=17
CMIG LR LR 17 07 42.9
comp=Z,566nm,21.3s,baz=165,slow=31
comp=Z,24nm,0.8s
HLGC Holguin 61.42 356 *e*P **P** **16 46 22.3 +1.9**
GRTK Grand Turk 61.93 1 *e*P **P** **16 46 25.4 +1.6**
TEIG Tepich 62.50 343 P **P** **16 46 27.5 -0.2**
TEIG Tepich 62.50 343 P **P** **16 46 28.5 +0.8**
baz=314,slow=24,SNR=19
TEIG Tepich 62.50 343 P **P** **16 46 26.5 -1.1**
TEIG Tepich 62.50 343 P **P** **16 46 27.9 +0.2**
TEIG pP **pP** **16 46 59.7 +0.6**
TEIG sP **sP** **16 47 13.0 -0.3**
MGV Manicaragua 62.95 352 *e*P **P** **16 46 31.8 +1.2**
TLIG Tlapa 63.02 331 IAmb IAmb 16 46 35.2
comp=Z,184nm,1.7s
CAIB Caibarien 63.28 352 *e*P **P** **16 46 32.8 +0.1**
CCD Concordia, Ant 64.00 184 P **P** **16 46 37.5 +0.1**
CCD sP **sP** **16 47 22.5 -0.8**
SOR Soroa 64.02 349 *e*P **P** **16 46 38.3 +0.7**
CAMR Camarioca 64.06 350 IAmb IAmb 16 46 39.9
comp=Z,399nm,0.8s
CAMR Camarioca 64.06 350 *e*P **P** **16 46 39.0 +1.2**
TBI Tubuai 65.91 259 *e*P **P** **16 46 51.3 +1.2**
comp=Z,267nm,1.2s
TBI *e*pP **pP** **16 47 22.5 +0.9**
comp=Z,322nm,1.3s
TBI *e*S **S** **16 55 27.6 +0.5**
comp=Z,4µm,30.5s
TBI *e*SS **SS** **16 59 48.5 +4.4**
comp=Z,2µm,29.5s
TBI *e*LQ LQ 17 03 51.6
comp=Z,20µm,29.8s
TBI *e*LR LR 17 06 24.4
comp=Z,22µm,35.0s
TBI *e*LR LR 17 06 27.6
comp=Z,4µm,32.0s
MAW Mawson 66.75 163 P **P** **16 46 54.1 -0.5**
comp=Z,16nm,1.3s
MAW Mawson 66.75 163 P **P** **16 46 54.6 0.0**
comp=Z,30nm,0.7s,baz=221,slow=7.7,SNR=49
MAW PKPPKP 17 15 18.9
comp=Z,7.0nm,1.0s,baz=315,slow=6.3,SNR=6.6
MAW LR LR 17 16 25.0
comp=Z,1µm,18.1s,baz=222,slow=36
comp=Z,30nm,0.7s
TAOE Nuku Hiva Isla 67.71 278 P **P** **16 47 02.2 +0.5**
TAOE IAmb IAmb 16 47 03.9
comp=Z,105nm,1.0s
DWPF Disney Wildern 69.05 351 P **P** **16 47 08.9 -0.5**
TVO Taravao 69.06 264 *e*P **P** **16 47 12.7 +2.7**
comp=Z,84nm,1.2s
TIAR Tiarei 69.26 264 *e*P **P** **16 47 13.0 +1.8**
comp=Z,498nm,1.1s
TIAR *e*pP **pP** **16 47 43.1 0.0**
comp=Z,193nm,0.9s
PAE Paea 69.38 264 *e*P **P** **16 47 13.8 +1.9**
comp=Z,45nm,1.2s
VAH Vaihoa 69.38 267 *e*P **P** **16 47 12.9 +1.0**
comp=Z,29nm,0.9s
VAH *e*pP **pP** **16 47 45.6 +1.9**
comp=Z,23nm,0.9s
PPTF Pamatai, Papee 69.41 264 P **P** **16 47 11.3 -0.8**
PPTF IAmb IAmb 16 47 16.6
comp=Z,214nm,1.1s
PPT2 Papeete2 69.42 264 *e*P **P** **16 47 14.3 +2.1**
comp=Z,161nm,1.1s
PPT2 *e*pP **pP** **16 47 45.4 +1.3**
comp=Z,167nm,1.2s
PPT2 *e*S **S** **16 56 12.5 +3.3**
comp=Z,2µm,25.2s
PPT2 *e*SS **SS** **17 00 37.6 -1.1**
comp=Z,655nm,26.2s
PPT2 *e*LQ LQ 17 04 24.4
comp=Z,4µm,29.2s
PPT2 *e*LR LR 17 08 12.1
comp=Z,5µm,36.5s
PPT2 *e*LR LR 17 08 21.2
comp=Z,2µm,37.0s
PPT Papeete 69.43 264 P **P** **16 47 13.7 +1.5**
comp=Z,138nm,1.0s,baz=255,slow=15,SNR=8.6
PPT LR LR 17 09 47.6
comp=Z,1µm,19.6s,baz=124,slow=29
comp=Z,138nm,1.0s
DRV Dumont d'Urvil 70.15 193 P **P** **16 47 15.7 -0.1**
DRV pP **pP** **16 47 48.0 +0.1**
DRV sP **sP** **16 48 01.6 -0.4**
656A Willston 70.42 350 IAmb IAmb 16 47 20.9
comp=Z,146nm,0.9s
553A Crawfordville 71.49 349 IAmb IAmb 16 47 26.6
comp=Z,208nm,0.9s
SUR Sutherland 71.67 117 P **P** **16 47 25.2 -0.7**
SUR pP **pP** **16 47 58.8 +0.5**
456A Hilliard 71.70 351 IAmb IAmb 16 47 27.6
comp=Z,153nm,0.7s
HBVL Hebbronville 71.85 335 IAmb IAmb 16 47 31.3
comp=Z,154nm,0.9s
KVTX Kingsville 72.05 336 IAmb IAmb 16 47 33.0
comp=Z,207nm,0.8s
SLBS Sierra La Lagu 73.14 324 P **P** **16 47 35.3 +0.9**
SLBS Sierra La Lagu 73.14 324 P **P** **16 47 36.7 +2.3**
CASY Casey 73.30 181 P **P** **16 47 35.0 +0.3**
CASY IAmb IAmb 16 47 37.7
comp=Z,124nm,1.0s
LPIG La Paz 73.67 324 P **P** **16 47 38.7 +1.4**
comp=Z,121nm,0.8s,baz=138,slow=1.2,SNR=16
LPIG LR LR 17 14 38.6
comp=Z,588nm,18.7s,baz=156,slow=31
comp=Z,121nm,0.8s
HKT Hockley 73.70 339 P **P** **16 47 37.9 +0.5**
HKT IAmb IAmb 16 47 41.7
comp=Z,222nm,1.6s
HKT Hockley 73.70 339 *c i*P **P** **16 47 38.2 +0.9**
HKT pmax pmax
comp=Z,159nm,1.6s
HPIG 74.22 329 IAmb IAmb 16 47 45.4
comp=Z,128nm,1.0s
HNVL Huntsville, TX 74.37 339 IAmb IAmb 16 47 45.8
comp=Z,216nm,1.1s
Y60A Bolivia 74.59 355 IAmb IAmb 16 47 45.1
comp=Z,194nm,0.9s
Y58A Scranton 74.60 353 IAmb IAmb 16 47 44.7
comp=Z,110nm,0.9s
LRAL Lakeview Retre 74.69 347 IAmb IAmb 16 47 45.5
comp=Z,143nm,0.7s
Y57A Sumter 74.78 353 IAmb IAmb 16 47 46.6
comp=Z,228nm,1.4s
GRHM Grahamstown, E 74.82 121 P **P** **16 47 44.2 +0.1**
GRHM **pP** **16 48 15.2 -1.5**
RAR Rarotonga 74.83 255 P **P** **16 47 44.0 -0.3**
RAR IAmb IAmb 16 47 46.8
comp=Z,364nm,1.8s
RAR Rarotonga 74.83 255 P **P** **16 47 44.5 +0.2**
comp=Z,45nm,0.8s,baz=217,slow=6.7,SNR=11
RAR LR LR 17 12 53.0
comp=Z,1µm,19.7s,baz=157,slow=29
comp=Z,45nm,0.8s
RAR Rarotonga 74.83 255 P **P** **16 47 44.0 -0.3**
RAR pmax pmax
comp=Z,365nm,1.8s
435B Jarrell 74.99 337 IAmb IAmb 16 47 49.2
comp=Z,160nm,1.1s
WIN Windhoek 75.01 107 P **P** **16 47 44.9 -0.7**
WIN pP **pP** **16 48 16.4 -1.9**
WIN IAmb IAmb 16 48 20.4
comp=Z,180nm,1.3s
Y52A Lilburn 75.05 350 IAmb IAmb 16 47 48.6
comp=Z,136nm,1.0s
TXAR Lajitas Array 75.63 332 P **P** **16 47 49.5 +0.8**
TXAR Lajitas Array 75.63 332 P **P** **16 47 50.0 +1.3**
comp=Z,83nm,0.7s,baz=153,slow=7.9,SNR=336
TXAR PKPPKP 17 15 04.9
comp=Z,0.4nm,0.8s,baz=287,slow=4.2,SNR=3.5
TXAR LR LR 17 15 42.3
comp=Z,843nm,21.5s,baz=140,slow=31
comp=Z,83nm,0.7s
TXAR Lajitas Array 75.63 332 P **P** **16 47 49.5 +0.8**
TX31 Lajitas Ar. Si 75.63 332 IAmb IAmb 16 47 53.2
comp=Z,158nm,0.9s
PAULI Pauline 75.72 352 IAmb IAmb 16 47 52.3
comp=Z,184nm,1.1s
W59A Clinton 75.76 355 IAmb IAmb 16 47 52.9
comp=Z,201nm,1.1s
BRDY Brady 75.88 336 IAmb IAmb 16 47 53.6
comp=Z,144nm,1.0s
KMSC Kings Mountain 75.99 352 IAmb IAmb 16 47 53.6
comp=Z,125nm,0.9s
BG3 Lake Jocassee 76.02 351 IAmb IAmb 16 47 54.1
comp=Z,144nm,0.9s
Z41A Richland Creek 76.08 342 IAmb IAmb 16 47 54.2
comp=Z,216nm,1.1s
X48A Hartselle 76.08 347 IAmb IAmb 16 47 54.8
comp=Z,176nm,0.9s
WHTX Lake Whitney, 76.08 338 IAmb IAmb 16 47 54.8
comp=Z,214nm,1.0s
OZNA Ozona 76.21 335 IAmb IAmb 16 47 55.8
comp=Z,258nm,1.0s
TREL Terrell 76.40 339 IAmb IAmb 16 47 56.9
comp=Z,208nm,0.9s
FW13 Cleburne 76.42 338 IAmb IAmb 16 47 55.3
comp=Z,140nm,1.0s
W50A Signal Mountai 76.54 349 IAmb IAmb 16 47 57.1
comp=Z,162nm,0.9s
WLAR White Oak Lake 76.56 342 IAmb IAmb 16 47 57.8
comp=Z,273nm,1.1s
ALPN Alpine 76.57 332 IAmb IAmb 16 47 58.4
comp=Z,109nm,0.7s
OXF Oxford 76.57 345 IAmb IAmb 16 47 56.7
comp=Z,172nm,0.9s
SWET Sewanee 76.65 348 IAmb IAmb 16 47 57.7
comp=Z,192nm,0.9s
V53A Saluda 76.67 351 IAmb IAmb 16 47 57.5
comp=Z,131nm,1.0s
CPCT Cooper Cave 76.68 350 IAmb IAmb 16 47 57.5
comp=Z,125nm,0.9s
V55A Taylorsville 76.68 352 IAmb IAmb 16 47 57.7
comp=Z,159nm,1.0s
PLAL Pickwick Lake 76.78 347 IAmb IAmb 16 47 58.1
comp=Z,120nm,1.0s
TKL Tuckaleechee C 76.78 350 P **P** **16 47 55.1 +0.2**
comp=Z,56nm,0.8s,baz=171,slow=7.4,SNR=56
comp=Z,56nm,0.8s
KOOLE Kule 76.98 109 *i*P **P** **16 47 56.3 -0.5**
KOOLE Kule 76.98 109 P **P** **16 47 56.2 -0.5**
KOOLE pP **pP** **16 48 29.0 -0.6**
BOSA Boshof 77.00 116 P **P** **16 47 56.4 -0.3**
comp=Z,72nm,0.8s,baz=229,slow=4.3,SNR=102
BOSA pP **pP** **16 48 29.8 +0.4**
comp=Z,157nm,1.0s,baz=232,slow=6.1,SNR=13
BOSA S **S** **16 57 32.9 -1.9**
comp=Z,7.2nm,1.2s,baz=339,slow=20,SNR=2.7
comp=Z,72nm,0.8s
BOSA Boshof 77.00 116 P **P** **16 47 56.7 0.0**
BOSA Boshof 77.00 116 P **P** **16 47 56.3 -0.4**
BOSA pP **pP** **16 48 29.5 +0.1**
LKGWB Lokgwabe 77.01 111 *i*P **P** **16 47 58.2 +1.3**
FW06 Azle 77.03 338 IAmb IAmb 16 48 00.1
comp=Z,334nm,1.4s
U56A King 77.09 353 IAmb IAmb 16 48 00.2
comp=Z,165nm,1.1s
PLPT Palo Pinto 77.10 338 IAmb IAmb 16 48 00.5
comp=Z,235nm,1.1s
SGCY Sterling City 77.13 335 IAmb IAmb 16 47 59.3
comp=Z,125nm,0.8s
V48A Smith Brothers 77.31 348 IAmb IAmb 16 48 01.1
comp=Z,189nm,0.8s
SRIG Santa Rosalia 77.31 324 IAmb IAmb 16 48 03.3
comp=Z,99nm,0.8s
PHPEN Phepeng 77.32 113 *i*P **P** **16 47 58.2 -0.3**
ABTX Abilene, Hawle 77.32 336 IAmb IAmb 16 48 01.7
comp=Z,252nm,1.0s
U54A Nelsons Funny 77.40 352 IAmb IAmb 16 48 01.6
comp=Z,176nm,1.0s
DBIC Dimbokro 77.42 70 P **P** **16 47 58.8 -0.2**
DBIC pP **pP** **16 48 29.9 -1.9**
DBIC IAmb IAmb 16 48 34.1
comp=Z,281nm,1.2s
DBIC Dimbokro 77.42 70 P **P** **16 47 59.2 +0.2**
comp=Z,79nm,0.7s,baz=235,slow=5.8,SNR=45
DBIC pP **pP** **16 48 32.1 +0.3**
comp=Z,101nm,1.0s,baz=236,slow=6.5,SNR=6.7
DBIC S **S** **16 57 37.5 -1.7**
comp=Z,39nm,1.2s,baz=49,slow=17,SNR=17
comp=Z,79nm,0.7s
DBIC Dimbokro 77.42 70 P **P** **16 47 59.1 +0.1**
DBIC S **S** **16 57 38.6 -0.6**
VHRN Van Horn 77.42 331 IAmb IAmb 16 48 02.5
comp=Z,185nm,1.5s
SYZ Scrubby Hill 77.45 218 P **P** **16 48 00.3 +1.6**
TSUM Tsumeb 77.45 104 P **P** **16 47 59.1 -0.3**
TSUM pP **pP** **16 48 30.2 -2.0**
TSUM IAmb IAmb 16 48 34.3
comp=Z,186nm,1.4s
T59A Double "B" Far 77.50 355 IAmb IAmb 16 48 02.6
comp=Z,117nm,1.0s
PECS Pecos 77.55 332 IAmb IAmb 16 48 03.9
comp=Z,131nm,0.7s
TZTN Tazewell 77.63 351 IAmb IAmb 16 48 02.7
comp=Z,175nm,1.0s
TUZ Tuapeka 77.64 219 P **P** **16 48 00.9 +1.1**
MQZ McQueen's Vall 77.77 222 P **P** **16 48 00.8 +0.3**
MQZ IAmb IAmb 16 49 50.8
comp=Z,240nm,1.7s
MQZ McQueen's Vall 77.77 222 P **P** **16 48 01.5 +0.9**
APZ The Paps 77.77 217 P **P** **16 48 01.5 +0.9**
ODZ Otahua Downs 77.81 220 P **P** **16 48 01.5 +0.7**
ODZ Otahua Downs 77.81 220 P **P** **16 48 01.7 +0.9**
HBAR Harrisburg 77.82 345 IAmb IAmb 16 48 04.0
comp=Z,240nm,1.1s
WVT Waverly 77.85 347 P **P** **16 48 00.2 -0.6**
WVT IAmb IAmb 16 48 03.9
comp=Z,181nm,1.1s
WVT Waverly 77.85 347 P **P** **16 48 00.2 -0.6**
WVT pmax pmax
comp=Z,181nm,1.1s
WVT Waverly 77.85 347 P **P** **16 48 01.1 +0.2**
WVT pP **pP** **16 48 34.1 +0.6**
WVT sP **sP** **16 48 47.6 +0.3**
LOOK Love County 77.89 339 IAmb IAmb 16 48 04.8
comp=Z,253nm,1.1s
U49A Red Boiling Sp 77.90 349 IAmb IAmb 16 48 04.2
comp=Z,372nm,1.7s
WHAR Wooly Hollow 77.91 343 IAmb IAmb 16 48 04.8
comp=Z,166nm,1.1s
PAWZ Paruwai Farm 77.94 225 P **P** **16 48 02.6 +0.9**
BFZ Birch Farm 77.98 226 P **P** **16 48 03.0 +1.2**
WTFS Witchita Falls 78.04 338 IAmb IAmb 16 48 05.7
comp=Z,194nm,0.9s
MTW Mount Morrison 78.06 225 P **P** **16 48 03.4 +1.1**
TMZ Timaru 78.11 221 P **P** **16 48 03.0 +0.5**
SN07 Snyder 07 78.14 336 IAmb IAmb 16 48 04.9
comp=Z,127nm,0.7s
KHZ Kahutara 78.22 224 P **P** **16 48 04.1 +1.0**
HOWZ Holdsworth Sta 78.23 226 P **P** **16 48 03.8 +0.6**
MRZ Mangatainoka R 78.36 226 IAmb IAmb 16 48 07.6
comp=Z,187nm,1.2s
MRZ Mangatainoka R 78.36 226 P **P** **16 48 05.1 +1.2**
SNZO South Karori 78.38 225 P **P** **16 48 06.6 +2.6**
MNTX Cornudas Mount 78.39 331 IAmb IAmb 16 48 07.3
comp=Z,138nm,0.9s
LCAR Lake Charles 78.42 344 IAmb IAmb 16 48 06.0
comp=Z,163nm,0.8s
MAKGR Makgori 78.46 114 *i*P **P** **16 48 04.4 -0.4**
MAKGR Makgori 78.46 114 IAmb IAmb 16 48 39.1
comp=Z,273nm,1.2s
WHZ Wether Hill Ro 78.48 218 P **P** **16 48 05.2 +0.7**
WHZ Wether Hill Ro 78.48 218 P **P** **16 48 05.6 +1.1**
R58B Mineral 78.50 355 IAmb IAmb 16 48 08.4
comp=Z,198nm,1.4s
KGCAE Kacgae 78.51 110 *i*P **P** **16 48 04.7 -0.5**
KGCAE Kacgae 78.51 110 P **P** **16 48 04.7 -0.5**
KGCAE pP **pP** **16 48 36.8 -1.3**
LBZ Lake Benmore 78.51 220 P **P** **16 48 05.6 +0.8**
BSWZ Blackbirch Sta 78.54 224 P **P** **16 48 05.1 +0.2**
BSWZ Blackbirch Sta 78.54 224 P **P** **16 48 06.7 +1.8**
PNHZ Pukenui 78.54 227 P **P** **16 48 06.9 +1.9**
RPZ Rata Peaks 78.57 221 P **P** **16 48 05.6 +0.6**
RPZ Rata Peaks 78.57 221 P **P** **16 48 04.7 -0.4**
comp=Z,50nm,1.0s,baz=189,slow=2.2,SNR=7.5
RPZ LR LR 17 15 40.5
comp=Z,2µm,18.5s,baz=132,slow=30
comp=Z,50nm,1.0s
RPZ Rata Peaks 78.57 221 P **P** **16 48 06.1 +1.1**
T47A Sharon Grove 78.57 348 IAmb IAmb 16 48 07.6
comp=Z,199nm,0.9s
LTZ Lake Taylor 78.62 223 P **P** **16 48 05.6 +0.3**
LTZ Lake Taylor 78.62 223 P **P** **16 48 06.3 +1.0**
X34A Smith Ranch, M 78.64 339 IAmb IAmb 16 48 09.8
comp=Z,210nm,0.9s
SKOMA Sekoma 78.68 112 *i*P **P** **16 48 05.5 -0.5**
DKNS Dickens 78.68 336 IAmb IAmb 16 48 09.3
comp=Z,122nm,0.7s
TCW Tory Channel 78.68 225 P **P** **16 48 05.6 0.0**
TCW Tory Channel 78.68 225 P **P** **16 48 07.0 +1.4**
S51A Beattyville 78.71 351 IAmb IAmb 16 48 08.9
comp=Z,144nm,0.7s
GRTLG Ghanzi 78.74 108 *i*P **P** **16 48 06.1 -0.4**
MLZ Mavora Lakes 78.79 219 P **P** **16 48 05.9 -0.4**
MLZ IAmb IAmb 16 48 09.2
comp=Z,256nm,1.8s
MLZ Mavora Lakes 78.79 219 P **P** **16 48 07.0 +0.8**
EPT El Paso 78.87 331 IAmb IAmb 16 48 10.1
comp=Z,194nm,0.9s
BKZ Black Stump Fm 78.90 227 P **P** **16 48 08.1 +1.1**
BKZ Black Stump Fm 78.90 227 P **P** **16 48 09.3 +2.3**
PBMO Poplar Bluff 78.96 345 IAmb IAmb 16 48 08.9
comp=Z,152nm,0.8s
R55A Marlinton 78.98 354 IAmb IAmb 16 48 09.8
comp=Z,115nm,0.8s
THZ Tophouse 79.02 224 P **P** **16 48 08.7 +1.1**
WMOK Wichita Mounta 79.04 338 IAmb IAmb 16 48 11.0
comp=Z,147nm,1.1s
INZ Inchbonnie 79.09 222 P **P** **16 48 09.3 +1.5**
HAZ Te Kaha 79.14 229 P **P** **16 48 11.1 +3.0**
FNO Franklin 79.14 339 IAmb IAmb 16 48 11.5
comp=Z,186nm,0.9s
NNZ Nelson 79.16 224 P **P** **16 48 10.7 +2.5**
DCZ Deep Cove 79.17 218 P **P** **16 48 07.7 -0.5**
DCZ IAmb IAmb 16 49 53.8
comp=Z,284nm,2.0s
URZ Urewera 79.17 229 P **P** **16 48 09.3 +1.0**
comp=Z,48nm,1.0s,baz=125,slow=3.4,SNR=9.3
URZ LR LR 17 15 10.2
comp=Z,2µm,22.0s,baz=138,slow=29
comp=Z,48nm,1.0s
URZ Urewera 79.17 229 P **P** **16 48 09.7 +1.4**
WVZ Waitaha Valley 79.19 222 P **P** **16 48 10.4 +2.0**
CGM3 Cape Girardeau 79.32 346 IAmb IAmb 16 48 11.9
comp=Z,119nm,0.9s
FOZ Fox Glacier 79.32 221 P **P** **16 48 09.2 +0.1**
FOZ Fox Glacier 79.32 221 P **P** **16 48 09.8 +0.7**
TUL3 Leonard 79.33 341 IAmb IAmb 16 48 13.0
comp=Z,191nm,0.9s
MSZ Milford Sound 79.40 219 P **P** **16 48 10.3 +0.9**
JCZ Jackson Bay 79.43 220 P **P** **16 48 11.7 +1.9**
LBTB Lobatse 79.53 114 P **P** **16 48 09.8 -0.8**
LBTB pP **pP** **16 48 42.1 -1.4**
LBTB Lobatse 79.53 114 LR LR 17 18 20.4
comp=Z,484nm,20.9s,baz=224,slow=32
LBTB Lobatse 79.53 114 P **P** **16 48 09.6 -1.1**
MSTX Muleshoe 79.56 334 IAmb IAmb 16 48 13.1
comp=Z,205nm,0.9s
R49A Shelbyville 79.56 350 IAmb IAmb 16 48 13.1
comp=Z,122nm,0.8s
DSZ Denniston Nort 79.61 223 P **P** **16 48 11.6 +0.8**
S44A Carbondale 79.63 346 IAmb IAmb 16 48 12.3
comp=Z,138nm,1.0s
SIUC Southern Illin 79.64 346 IAmb IAmb 16 48 12.4
comp=Z,139nm,1.0s
WCI Wyandotte Cave 79.66 349 P **P** **16 48 09.9 -0.8**
WCI Wyandotte Cave 79.66 349 P **P** **16 48 09.9 -0.8**
WCI pmax pmax
comp=Z,73nm,0.7s
OK029 Liberty Lake 79.66 339 IAmb IAmb 16 48 14.4
comp=Z,243nm,1.0s
Q56A Snyder Ridge, 79.66 354 IAmb IAmb 16 48 14.7
comp=Z,293nm,1.8s
OK052 Battle Ridge R 79.67 340 IAmb IAmb 16 48 14.5
comp=Z,242nm,1.0s
MGMO Mountain Grove 79.70 344 IAmb IAmb 16 48 14.5
comp=Z,194nm,1.1s
SMWD Samnorwood 79.81 337 IAmb IAmb 16 48 14.4
comp=Z,192nm,1.0s
QUOK Quay 79.82 340 IAmb IAmb 16 48 15.3
comp=Z,217nm,1.0s
Q52A Bidwell 79.86 352 IAmb IAmb 16 48 13.9
comp=Z,187nm,0.8s
QRZ Quartz Range 79.89 224 P **P** **16 48 12.0 -0.2**
QRZ IAmb IAmb 16 48 14.8
comp=Z,171nm,0.9s
QRZ Quartz Range 79.89 224 P **P** **16 48 12.6 +0.4**
VRZ Vera Road 79.89 227 P **P** **16 48 14.1 +1.8**
KDWAN Kaudwane 79.92 112 P **P** **16 48 11.8 -1.0**
KDWAN pP **pP** **16 48 44.8 -1.1**
P57A Homestead Farm 80.02 355 IAmb IAmb 16 48 16.7
comp=Z,175nm,1.4s
AMTX Amarillo 80.04 336 IAmb IAmb 16 48 17.1
comp=Z,219nm,0.9s
Q51A Peebles 80.05 351 IAmb IAmb 16 48 14.8
comp=Z,194nm,0.8s
OK048 Pawnee Station 80.11 340 IAmb IAmb 16 48 15.7
comp=Z,138nm,0.8s
FVM French Village 80.13 345 IAmb IAmb 16 48 16.6
comp=Z,296nm,1.2s
OK051 E0350 and S346 80.17 340 IAmb IAmb 16 48 17.3
comp=Z,286nm,1.2s
HIZ Hauiti 80.27 227 P **P** **16 48 15.1 +0.8**
P53A Whipple 80.30 353 IAmb IAmb 16 48 17.5
comp=Z,184nm,1.2s
WUPA West Chester U 80.35 357 IAmb IAmb 16 48 18.6
comp=Z,405nm,1.8s
CCM Cathedral Cave 80.36 345 P **P** **16 48 14.7 +0.2**
CCM Cathedral Cave 80.36 345 P **P** **16 48 14.7 +0.2**
CCM pmax pmax
comp=Z,337nm,0.7s
CCM Cathedral Cave 80.36 345 P **P** **16 48 15.0 +0.5**
OLIL Olney 80.44 347 IAmb IAmb 16 48 17.5
comp=Z,123nm,0.9s
TOZ Tahuroa Road 80.45 228 P **P** **16 48 15.4 +0.1**
ELIS Ellis County 80.46 338 IAmb IAmb 16 48 19.5

comp=Z,175nm,0.9s
CROK Carrier 80.47 339 IAmb IAmb 16 48 18.9
comp=Z,149nm,0.8s
T35A Sooner Cattle 80.47 340 IAmb IAmb 16 48 17.8
comp=Z,106nm,0.9s
BLO Bloomington 80.62 349 IAmb IAmb 16 48 18.6
comp=Z,166nm,0.9s
OK038 West end E0370 80.66 338 IAmb IAmb 16 48 18.9
comp=Z,203nm,0.9s
P48A Milroy 80.74 350 IAmb IAmb 16 48 19.0
comp=Z,253nm,1.0s
Q44A Meyer Farm, Va 80.76 347 IAmb IAmb 16 48 18.1
comp=Z,172nm,0.9s
LPHEP Lephephe 80.77 113 *i* P **P** **16 48 16.1 -1.3**
R40A Maddies Statio 80.80 344 IAmb IAmb 16 48 19.4
comp=Z,195nm,1.0s
O52A Adamsville 80.96 352 IAmb IAmb 16 48 20.8
comp=Z,139nm,0.8s
Y22A Socorro 80.98 331 IAmb IAmb 16 48 23.1
comp=Z,127nm,1.1s
TUC Tucson 81.02 328 P **P** **16 48 18.9 +0.6**
TUC Tucson 81.02 328 P **P** **16 48 18.9 +0.6**
TUC pmax pmax
comp=Z,78nm,0.9s
Y22D IRIS PASSCAL I 81.09 331 P **P** **16 48 21.3 +2.6**
baz=154
P46A Rosedale 81.16 348 IAmb IAmb 16 48 21.2
comp=Z,146nm,0.9s
SSPA Standing Stone 81.16 355 P **P** **16 48 19.1 +0.4**
SSPA Standing Stone 81.16 355 P **P** **16 48 19.7 +1.0**
ACSO Alum Creek Sta 81.20 352 IAmb IAmb 16 48 22.1
comp=Z,211nm,0.9s
O49A Covington 81.32 350 IAmb IAmb 16 48 21.1
comp=Z,118nm,0.9s
O48B Farmland 81.49 350 IAmb IAmb 16 48 21.7
comp=Z,136nm,0.7s
ANMO Albuquerque 81.70 332 P **P** **16 48 22.6 +0.7**
ANMO IAmb IAmb 16 48 25.6
comp=Z,165nm,0.8s
ANMO Albuquerque 81.70 332 P **P** **16 48 23.7 +1.7**
comp=Z,181nm,0.8s,baz=244,slow=6.6,SNR=224
ANMO LR LR 17 19 38.9
comp=Z,1µm,21.3s,baz=244,slow=32
comp=Z,181nm,0.8s
ANMO Albuquerque 81.70 332 *i* P **P** **16 48 22.8 +0.9**
ANMO pmax pmax
comp=Z,175nm,0.9s
ANMO Albuquerque 81.70 332 P **P** **16 48 23.9 +2.0**
N51A Ashland 81.81 352 IAmb IAmb 16 48 23.9
comp=Z,148nm,0.7s
PHDHD Phuduhudu 81.87 110 IAmb IAmb 16 48 57.9
comp=Z,166nm,1.4s
SFIN Lafayette 81.89 348 IAmb IAmb 16 48 24.8
comp=Z,186nm,1.6s
N49A Columbus Grove 82.02 351 IAmb IAmb 16 48 26.1
comp=Z,184nm,0.8s
KSCT Kent School, K 82.09 359 IAmb IAmb 16 48 27.3
comp=Z,152nm,1.0s
PAOC Oil Creek Stat 82.16 354 IAmb IAmb 16 48 27.1
comp=Z,201nm,1.8s
RAO Raoul Island 82.29 238 LR LR 17 16 05.4
comp=Z,850nm,21.4s,baz=182,slow=29
M52A Chesterland 82.33 353 IAmb IAmb 16 48 26.8
comp=Z,108nm,0.9s
M50A Fremont 82.36 352 IAmb IAmb 16 48 27.9
comp=Z,219nm,1.4s
VTX Valle De La Tr 82.39 323 IAmb IAmb 16 48 30.9
comp=Z,273nm,1.4s
MREMI Moremi 82.39 113 *i* P **P** **16 48 25.9 0.0**
L59A Walton 82.59 358 IAmb IAmb 16 48 30.0
comp=Z,318nm,1.6s
BINY Binghamton 82.63 357 IAmb IAmb 16 48 30.1
comp=Z,311nm,1.6s
X18A Snowflake 82.64 329 IAmb IAmb 16 48 32.1
comp=Z,368nm,1.7s
SOOWA Sowa 82.83 111 *i* P **P** **16 48 28.3 +0.1**
N41A Harden Midland 82.85 346 IAmb IAmb 16 48 29.1
comp=Z,156nm,0.9s
HRV Adam Dziewonsk 82.86 0 P **P** **16 48 28.4 +0.9**
HRV Adam Dziewonsk 82.86 0 P **P** **16 48 28.4 +0.9**
HRV pmax pmax
comp=Z,120nm,1.4s
ESJX Sierra Juarez 82.98 324 IAmb IAmb 16 48 34.1
comp=Z,145nm,1.2s
K62A Royalston 83.02 360 IAmb IAmb 16 48 32.7
comp=Z,100nm,0.9s
TRY Troy 83.09 359 IAmb IAmb 16 48 32.9
comp=Z,101nm,1.0s
X16A Lo Mia Camp, P 83.13 328 IAmb IAmb 16 48 34.5
comp=Z,230nm,1.4s
K57A Scipio Center 83.18 357 IAmb IAmb 16 48 31.3
comp=Z,78nm,0.8s
BROLN Tlhalogang 83.27 112 *i* P **P** **16 48 30.2 -0.2**
OUZ Omahuta 83.31 229 P **P** **16 48 31.3 +1.0**
GLA Glamis 83.37 325 IAmb IAmb 16 48 35.8
comp=Z,130nm,1.1s
L46A Eue Claire 83.37 349 IAmb IAmb 16 48 32.6
comp=Z,319nm,1.6s
CBX Cerro Bola 83.56 323 IAmb IAmb 16 48 36.9
comp=Z,82nm,0.9s
MEDO Medina 83.72 355 IAmb IAmb 16 48 34.1
comp=Z,94nm,0.9s
ACCN Adirondack Com 83.75 359 IAmb IAmb 16 48 35.8
comp=Z,120nm,1.3s
L44A Lake County Fo 83.77 348 IAmb IAmb 16 48 35.1
comp=Z,183nm,1.2s
BLYC Blythe 83.83 326 IAmb IAmb 16 48 38.1
comp=Z,189nm,1.1s
J57A Williamstown 83.84 357 IAmb IAmb 16 48 36.0
comp=Z,258nm,1.3s
KSANE Kasane 83.87 108 *i* P **P** **16 48 34.2 +0.7**
KSANE Kasane 83.87 108 P **P** **16 48 32.9 -0.6**
KSANE **pP** **16 49 06.4 -0.4**
KSANE IAmb IAmb 16 49 08.8
comp=Z,254nm,1.5s
BAR Barrett 83.88 323 IAmb IAmb 16 48 38.1
comp=Z,135nm,1.1s
L42A Oliver, Polo 83.89 347 IAmb IAmb 16 48 34.4
comp=Z,104nm,0.7s
WUAZ Wupatki 84.06 329 IAmb IAmb 16 48 39.3
comp=Z,179nm,1.1s
I62A Tamworth 84.23 1 IAmb IAmb 16 48 38.6
comp=Z,253nm,1.7s
L40A Anamosa 84.23 346 IAmb IAmb 16 48 38.0
comp=Z,142nm,0.9s
CPE Camp Elliot 84.25 323 IAmb IAmb 16 48 40.0
comp=Z,196nm,1.6s
DPP Dos Picos Cty 84.26 323 IAmb IAmb 16 48 40.2
comp=Z,158nm,1.6s
NCB Newcomb 84.34 358 IAmb IAmb 16 48 37.6
comp=Z,194nm,1.9s
S22A 4UR Ranch, Cre 84.35 333 IAmb IAmb 16 48 40.4
comp=Z,119nm,1.0s
K43A Burlington 84.35 348 IAmb IAmb 16 48 38.2
comp=Z,150nm,1.0s
J47A Sunmer 84.38 351 IAmb IAmb 16 48 38.0
comp=Z,74nm,0.8s
PECO Prince Edward 84.40 356 IAmb IAmb 16 48 38.9
comp=Z,84nm,0.8s
IRM Iron Mountain 84.45 325 IAmb IAmb 16 48 41.1
comp=Z,111nm,1.2s
MVCO Mesa Verde 84.46 332 IAmb IAmb 16 48 40.8
comp=Z,145nm,1.1s
SCIA State Center 84.47 344 IAmb IAmb 16 48 39.2
comp=Z,209nm,1.1s
MATP Matopo 84.53 112 LR LR 17 21 21.5
comp=Z,654nm,21.4s,baz=234,slow=32
PMD Palm Desert 84.56 324 IAmb IAmb 16 48 41.9
comp=Z,128nm,1.0s
PFO Pinyon Flats O 84.56 324 P **P** **16 48 37.3 +0.8**
PFO IAmb IAmb 16 48 42.1
comp=Z,126nm,0.9s
PFO Pinyon Flats O 84.56 324 P **P** **16 48 38.4 +1.9**
comp=Z,100nm,0.9s,baz=141,slow=3.8,SNR=94
PFO LR LR 17 19 58.3
comp=Z,440nm,18.5s,baz=143,slow=31
comp=Z,100nm,0.9s
PFO Pinyon Flats O 84.56 324 *i* P **P** **16 48 38.5 +1.9**
PFO pmax pmax
comp=Z,296nm,1.0s
PFO Pinyon Flats O 84.56 324 P **P** **16 48 39.1 +2.6**
PFO pP **pP** **16 49 12.9 +3.2**
LBNH Lisbon 84.59 0 IAmb IAmb 16 48 40.3
comp=Z,274nm,1.6s
JFWS Jewell Farm 84.88 347 IAmb IAmb 16 48 41.0
comp=Z,179nm,0.9s
WVL Waterville 84.94 2 IAmb IAmb 16 48 42.0
comp=Z,140nm,1.4s
DANC Danby, Needles 84.96 325 IAmb IAmb 16 48 43.9
comp=Z,194nm,1.1s
ELS Elsinore Mount 85.03 323 IAmb IAmb 16 48 44.0
comp=Z,104nm,1.1s
EMMW East Machias 85.16 3 P **P** **16 48 39.8 +0.8**
EMMW IAmb IAmb 16 48 43.3
comp=Z,96nm,1.0s
HAL Halifax 85.33 6 IAmb IAmb 16 48 43.0
comp=Z,103nm,0.8s
SADO Sadowa 85.36 355 P **P** **16 48 40.1 0.0**
comp=Z,384nm,0.8s,baz=186,slow=4.9,SNR=22
PV13 Radium Mtn., P 85.42 332 IAmb IAmb 16 48 45.3
comp=Z,129nm,1.0s
PV05 Paradox Valley 85.45 331 IAmb IAmb 16 48 45.4
comp=Z,100nm,0.8s
PV17 East Wray Mesa 85.58 332 IAmb IAmb 16 48 46.0
comp=Z,155nm,0.8s
I42A Draeger Farm, 85.60 348 IAmb IAmb 16 48 43.7
comp=Z,161nm,1.4s
PV07 Paradox Valley 85.61 332 IAmb IAmb 16 48 46.4
comp=Z,217nm,1.8s
PV19 Morning Glory 85.61 332 IAmb IAmb 16 48 46.2
comp=Z,113nm,0.8s
BFSC Mount Baldy Ra 85.63 324 IAmb IAmb 16 48 46.8
comp=Z,149nm,1.0s
PV20 West Nyswonger 85.64 332 IAmb IAmb 16 48 46.2
comp=Z,124nm,1.0s
G65A Princeton 85.64 3 IAmb IAmb 16 48 44.7
comp=Z,162nm,1.7s
PV04 Paradox Valley 85.66 332 IAmb IAmb 16 48 46.6
comp=Z,105nm,1.0s
V12A Nelson 85.66 326 IAmb IAmb 16 48 45.6
comp=Z,71nm,0.8s
PV14 Lion Creek, Pa 85.68 332 IAmb IAmb 16 48 46.6
comp=Z,100nm,0.9s
OGNE Ogallala 85.75 338 IAmb IAmb 16 48 46.6
comp=Z,132nm,0.8s
PV23 Carpenter Ridg 85.75 332 IAmb IAmb 16 48 45.8
comp=Z,89nm,0.9s
MWC Mount Wilson 85.80 323 IAmb IAmb 16 48 47.9
comp=Z,135nm,1.1s
PASC Pasadena Art C 85.81 323 IAmb IAmb 16 48 47.9
comp=Z,163nm,1.2s
PV21 Cone Mtn., Par 85.83 332 IAmb IAmb 16 48 47.4
comp=Z,74nm,0.9s
MNTQ Montreal, Queb 85.86 359 IAmb IAmb 16 48 45.8
comp=Z,209nm,1.8s
BUKO Buck Lake 86.05 355 IAmb IAmb 16 48 46.9
comp=Z,252nm,1.8s
LCMT Little Creek M 86.10 328 IAmb IAmb 16 48 50.0
comp=Z,275nm,1.9s
GSC Goldstone, Bar 86.14 325 IAmb IAmb 16 48 49.6
comp=Z,114nm,1.1s
EOSO Osorio 86.18 48 P **P** **16 48 47.2 +2.5**
GBN Guysborough 86.27 7 P **P** **16 48 45.4 +0.8**
GBN IAmb IAmb 16 48 48.5
comp=Z,197nm,1.4s
SHOC Shoshone, Teco 86.41 325 IAmb IAmb 16 48 50.3
comp=Z,125nm,1.6s
TPO Tropico Hills 86.42 324 IAmb IAmb 16 48 50.6
comp=Z,107nm,1.2s
OSI Osito Audit: C 86.42 323 IAmb IAmb 16 48 50.8
comp=Z,92nm,0.8s
EDA Edea 86.53 82 P **P** **16 48 45.8 -0.9**
EDA **pP** **16 49 20.4 +0.2**
EDA IAmb IAmb 16 49 23.1
comp=Z,130nm,1.4s
TORD Torodi Ar. Bea 86.53 70 P **P** **16 48 46.3 -0.2**
comp=Z,16nm,0.7s,baz=251,slow=4.0,SNR=60
TORD pP **pP** **16 49 19.2 -0.9**
comp=Z,38nm,1.0s,baz=240,slow=3.5,SNR=11
TORD S **SKSac** **16 59 01.7 +0.5**
comp=Z,0.9nm,0.7s,baz=249,slow=3.6,SNR=4.6
TORD PKKP **PKKPbc** **17 06 40.2 -0.5**
comp=Z,1.2nm,0.5s,baz=42,slow=2.2,SNR=4.6
TORD PKPPKP **P'P'df** **17 14 47.9 -1.4**
comp=Z,0.2nm,0.4s,baz=45,slow=4.8,SNR=4.2
comp=Z,16nm,0.7s
SZCU Shurtz Canyon 86.54 328 IAmb IAmb 16 48 51.7
comp=Z,146nm,1.0s
CCCA Chr Cany lake 86.57 324 IAmb IAmb 16 48 54.1
comp=Z,185nm,1.1s
TRQ Mont Tremblant 86.60 358 IAmb IAmb 16 48 48.2
comp=Z,96nm,0.8s
WSHM Spangler Hills 86.69 324 IAmb IAmb 16 48 50.8
comp=Z,71nm,0.9s
QSM Queen of Sheba 86.73 325 IAmb IAmb 16 48 51.8
comp=Z,95nm,1.1s
SRU San Rafael Swe 86.88 331 IAmb IAmb 16 48 52.2
comp=Z,125nm,0.9s
O20A White River Ci 86.98 333 IAmb IAmb 16 48 51.5
comp=Z,55nm,1.0s
HAYD Hayden 86.99 334 IAmb IAmb 16 48 53.3
comp=Z,280nm,2.0s
FURC Furnace Creek, 87.15 325 IAmb IAmb 16 48 53.2
comp=Z,69nm,0.9s
G40A Rib Lake 87.15 347 IAmb IAmb 16 48 52.4
comp=Z,123nm,1.1s
TPNV Topopah Spring 87.29 326 IAmb IAmb 16 48 56.5
comp=Z,87nm,1.2s
TMUT Trail Mountain 87.30 331 IAmb IAmb 16 48 53.6
comp=Z,112nm,0.9s
F42A Maple Grove Fa 87.31 349 IAmb IAmb 16 48 53.3
comp=Z,77nm,0.8s
E46A Sault Ste Mari 87.41 352 IAmb IAmb 16 48 51.9
comp=Z,89nm,0.8s
D62A Allapoint, All 87.47 2 IAmb IAmb 16 48 53.5
comp=Z,77nm,0.9s
CWC Cottonwood Cre 87.66 324 IAmb IAmb 16 48 56.9
comp=Z,157nm,1.7s
S11A Rachel 87.67 327 IAmb IAmb 16 48 57.1
comp=Z,178nm,1.5s
BATG Bathurst New B 87.79 4 IAmb IAmb 16 48 55.3
comp=Z,65nm,0.9s
XMAS Kiritimati 87.84 275 P **P** **16 48 52.8 -0.2**
XMAS IAmb IAmb 16 48 56.2
comp=Z,83nm,0.8s
LMQ La Malbaie 87.91 1 IAmb IAmb 16 48 55.4
comp=Z,77nm,0.8s
MPU Maple Canyon 88.09 331 IAmb IAmb 16 48 58.2
comp=Z,167nm,1.2s
R11B Troy Canyon, C 88.20 327 IAmb IAmb 16 48 59.4
comp=Z,156nm,1.5s
LDAQ Lac Daran 88.32 1 IAmb IAmb 16 48 57.3
comp=Z,92nm,1.2s
DSP Deep Springs 88.39 325 IAmb IAmb 16 49 00.1
comp=Z,108nm,1.4s
JLU Jordanelle 88.53 331 IAmb IAmb 16 49 00.1
comp=Z,146nm,1.5s
VLDQ Val d'Or 88.59 356 IAmb IAmb 16 48 59.1
comp=Z,71nm,0.9s
TPH Tonopah 88.65 326 IAmb IAmb 16 49 01.3
comp=Z,101nm,1.1s
K22A Casper 88.67 335 IAmb IAmb 16 49 00.3
comp=Z,102nm,1.2s
E38A The Farm, Brul 88.68 347 IAmb IAmb 16 48 59.2
comp=Z,83nm,0.7s
DUG Dugway, Tooele 88.69 330 IAmb IAmb 16 49 01.0
comp=Z,159nm,1.3s
PMPB Monarch Peak 88.70 323 P **P** **16 48 58.8 +2.3**
F33A 5 Mile Ranch, 88.88 343 IAmb IAmb 16 48 58.8
comp=Z,51nm,0.7s
PMOZ Porto Moniz, M 88.98 44 *e*SKS S 16 59 24.7 -10
RSSD Black Hills 89.25 338 P **P** **16 48 59.4 +0.3**
RSSD Black Hills 89.25 338 P **P** **16 48 59.4 +0.3**
RSSD pmax pmax
comp=Z,44nm,0.8s
RSSD Black Hills 89.25 338 P **P** **16 48 59.1 +0.1**
RSSD pP **pP** **16 49 33.7 +1.2**
LHV Little Huntoon 89.35 325 IAmb IAmb 16 49 04.8
comp=Z,105nm,1.4s
NVAR Mina Array Bea 89.42 325 P **P** **16 49 01.5 +1.5**
comp=Z,27nm,1.0s,baz=156,slow=5.6,SNR=69
NVAR PP **PP** **16 52 35.6 +2.2**
comp=Z,4.5nm,1.1s,baz=159,slow=7.4,SNR=4.1
NVAR PKKP **PKKPbc** **17 06 36.2 +1.0**
comp=Z,4.1nm,0.9s,baz=304,slow=2.2,SNR=12
NVAR PKPPKP **P'P'df** **17 14 45.6 +3.5**
comp=Z,0.4nm,0.3s,baz=351,slow=6.1,SNR=6.8
NVAR LR LR 17 21 55.8
comp=Z,391nm,18.4s,baz=132,slow=31
comp=Z,27nm,1.0s
SAO San Andreas Ge 89.45 322 IAmb IAmb 16 49 11.2
comp=Z,94nm,1.4s
TAU Tasmania Unive 89.47 208 P **P** **16 48 59.3 -0.9**
TAU IAmb IAmb 16 49 03.1
comp=Z,200nm,1.6s
TAU Tasmania Unive 89.47 208 P **P** **16 48 59.3 -0.9**
TAU pmax pmax
comp=Z,201nm,1.7s
RYN Ryan 89.67 325 IAmb IAmb 16 49 06.0
comp=Z,75nm,1.2s
BW06 Boulder Array 89.77 333 IAmb IAmb 16 49 05.2
comp=Z,84nm,0.9s
PD31 Pinedale Array 89.77 333 IAmb IAmb 16 49 05.2
comp=Z,83nm,0.9s
PDAR Pinedale Array 89.77 333 P **P** **16 49 01.6 0.0**
PDAR Pinedale Array 89.77 333 P **P** **16 49 01.8 +0.2**
comp=Z,45nm,0.7s,baz=142,slow=5.6,SNR=165
PDAR PKKP **PKKPbc** **17 06 34.8 +0.1**
comp=Z,1.1nm,0.5s,baz=113,slow=2.5,SNR=10
PDAR PKPPKP **P'P'df** **17 14 44.1 +3.2**
comp=Z,0.4nm,0.8s,baz=324,slow=3.3,SNR=3.6
PDAR LR LR 17 24 49.5
comp=Z,735nm,20.6s,baz=144,slow=32
comp=Z,45nm,0.7s
MOO Moorlands 89.93 208 P **P** **16 49 02.8 +0.4**
comp=Z,121nm,1.3s
WAKR Walker 89.97 325 IAmb IAmb 16 49 08.0
comp=Z,108nm,1.4s
ICQ Pointe Anglais 89.97 3 IAmb IAmb 16 49 04.7
comp=Z,110nm,1.6s
ELK Elko 90.10 329 P **P** **16 49 04.0 +0.8**
comp=Z,29nm,1.0s,baz=117,slow=5.0,SNR=52
ELK pP **pP** **16 49 38.2 +1.6**
comp=Z,10nm,1.0s,baz=130,slow=6.8,SNR=2.3
ELK LR LR 17 24 50.8
comp=Z,698nm,20.2s,baz=141,slow=32
comp=Z,29nm,1.0s
SNOW Snow King Moun 90.79 333 IAmb IAmb 16 49 10.7
comp=Z,68nm,0.8s
LOHW Long Hollow 90.87 333 IAmb IAmb 16 49 10.4
comp=Z,53nm,0.8s
PAHR Pah Rah Range 90.94 325 IAmb IAmb 16 49 11.8
comp=Z,89nm,1.7s
AGMN Agassiz Nation 91.13 344 IAmb IAmb 16 49 10.4
comp=Z,33nm,0.7s
ORV Oroville 91.75 324 IAmb IAmb 16 49 15.5
comp=Z,64nm,1.3s
RLMT Red Lodge 91.76 335 IAmb IAmb 16 49 14.4
comp=Z,87nm,1.1s
HLID Hailey 92.20 331 IAmb IAmb 16 49 17.3
comp=Z,54nm,0.9s
LAO LASA Array 92.22 337 IAmb IAmb 16 49 14.4
comp=Z,44nm,0.8s
O03E Paynes Creek 92.48 324 IAmb IAmb 16 49 17.8
comp=Z,47nm,1.1s
HATC Hat Creek Radi 92.76 325 IAmb IAmb 16 49 19.6
comp=Z,51nm,1.1s
BOZ Bozeman (W) 92.97 333 IAmb IAmb 16 49 19.9
comp=Z,27nm,0.8s
ULM Lac du Bonnet 92.99 345 P **P** **16 49 16.1 +0.2**
comp=Z,46nm,1.1s,baz=161,slow=4.6,SNR=14
comp=Z,46nm,1.1s
DLMT Dillon 93.09 333 IAmb IAmb 16 49 21.9
comp=Z,90nm,1.1s
TIO Tiouine 93.10 51 P **P** **16 49 19.0 +1.8**
N02D Trinity Center 93.44 324 IAmb IAmb 16 49 22.5
comp=Z,139nm,2.0s
J08A Circle Bar Ran 93.60 328 IAmb IAmb 16 49 23.6
comp=Z,49nm,1.0s
YBH Yreka Blue Hor 94.05 325 P **P** **16 49 21.9 +0.7**
comp=Z,0.5nm,0.7s,baz=53,slow=4.3,SNR=11
K05A Summer Lake 94.07 326 IAmb IAmb 16 49 26.1
comp=Z,54nm,1.1s
L04D Klamath Falls 94.27 325 IAmb IAmb 16 49 26.0
comp=Z,49nm,1.3s
J05D Fort Rock, OR 94.67 326 IAmb IAmb 16 49 28.4
comp=Z,38nm,1.1s
TOO Toolangi 94.83 209 P **P** **16 49 25.4 +0.2**
comp=Z,7.4nm,1.6s
TOO Toolangi 94.83 209 P **P** **16 49 24.9 -0.2**
TOO Toolangi 94.83 209 P **P** **16 49 24.9 -0.2**
TOO pmax pmax
comp=Z,5.0nm,0.9s
MSO Missoula 94.83 333 IAmb IAmb 16 49 28.9
comp=Z,67nm,1.4s
PINE Pine Mountain 94.97 327 IAmb IAmb 16 49 28.7
comp=Z,32nm,0.8s
J04A Umpqua Nationa 95.01 326 IAmb IAmb 16 49 29.8
comp=Z,36nm,1.1s
SCHQ Schefferville 95.30 3 P **P** **16 49 25.6 -0.8**
comp=Z,100nm,0.9s,baz=86,slow=4.3,SNR=5.6
comp=Z,100nm,0.9s
G08A Pilot Rock 95.40 329 IAmb IAmb 16 49 31.5
comp=Z,52nm,1.6s
CAN Canberra 95.43 213 P **P** **16 49 27.8 -0.1**
CAN IAmb IAmb 16 51 43.9
comp=Z,110nm,2.0s
CAN Canberra 95.43 213 P **P** **16 49 27.8 -0.1**
CAN pmax pmax
comp=Z,110nm,2.0s
MD31 MD31 95.97 51 P **P** **16 49 29.0 -1.2**
MD31 **pP** **16 50 03.3 -0.7**
MD01 Midelt array s 95.97 51 P **P** **16 49 29.0 -1.3**
MD01 **pP** **16 50 03.1 -1.0**
G06A Carlson Farm, 96.02 328 IAmb IAmb 16 49 34.5
comp=Z,78nm,1.9s
MDT Midelt 96.02 51 LR LR 17 31 53.6
comp=Z,1µm,21.5s,baz=236,slow=35
E08A Dider Farm, El 96.43 329 IAmb IAmb 16 49 35.6
comp=Z,76nm,1.8s
HAWA Hanford 96.53 329 IAmb IAmb 16 49 38.4
comp=Z,47nm,1.6s
YNG Young 96.56 213 P **P** **16 49 32.8 -0.3**
comp=Z,10nm,1.3s
NEW Newport 97.19 332 IAmb IAmb 16 49 38.3
comp=Z,30nm,1.4s
NEW Newport 97.19 332 P Pdif 16 49 35.3 0.0
comp=Z,7.6nm,0.9s,baz=116,slow=5.5,SNR=11
NEW LR LR 17 30 12.3
comp=Z,358nm,20.7s,baz=129,slow=33
comp=Z,7.6nm,0.9s
DZM Mont Dzumac 97.22 233 *e*P **P** **16 49 33.7 -2.6**
comp=Z,283nm,28.2s
DZM Mont Dzumac 97.22 233 *e*PP **PP** **16 53 32.9 -0.8**
comp=Z,431nm,27.9s
PBDV Barranco-de-Ve 97.28 46 P Pdif 16 49 37.7 +1.6
PCVE Castro Verde 97.51 46 P Pdif 16 49 37.4 +0.4
PVAQ Vaqueiros 97.52 46 *e*P Pdif 16 49 40.1 +3.1
PVAQ *i* IAmb IAmb 16 49 48.9
comp=Z,25nm,1.6s
PVAQ *e*SKS **SKSac** **17 00 05.2 +3.4**
EGRO El Granado 97.74 46 P Pdif 16 49 38.7 +0.7
CEU Ceuta 97.76 49 P Pdif 16 49 40.6 +2.5
ESPR Espera 98.17 48 P Pdif 16 49 40.6 +0.7
EMIN Mina Concepcio 98.36 47 P Pdif 16 49 41.4 +0.7
OPO Ambohidratompo 98.40 123 LR LR 17 31 02.3
comp=Z,143nm,18.3s,baz=358,slow=33
PESTR Estremoz 98.64 45 P Pdif 16 49 43.2 +1.2
PMRV Marv??o 99.15 45 *e*P **Pdif** **16 49 45.2 +0.9**
PMRV *e*SKS **SKSac** **17 00 14.6 +4.5**
MBAR Mbarara 99.28 99 LR LR 17 30 14.4
comp=Z,1µm,21.4s,baz=226,slow=33
MBAR Mbarara 99.28 99 *i* P **Pdif** **16 49 46.2 +0.5**
MBAR pmax pmax
comp=Z,7.0nm,1.3s
MTE Manteigas 99.77 44 *e*SKS **SKSac** **17 00 13.2 0.0**
CMSA Cobar Meteorol 100.07 212 P **Pdif** **16 49 47.8 -1.0**
comp=Z,8.3nm,1.8s
PGAV Gavieira, Arco 100.51 43 *e*SKS **SKSac** **17 00 18.5 +1.7**
MVO Moncorvo 100.59 44 *e*SKS **SKSac** **17 00 16.7 -0.5**
ESDC Sonseca Array 101.20 47 **Pdif** **16 49 53.3 -0.1**
ESDC Sonseca Array 101.20 47 P **Pdif** **16 49 53.5 +0.1**
comp=Z,2.6nm,1.1s,baz=234,slow=4.3,SNR=9.5
ESDC pP pP 16 50 27.6 +0.3
comp=Z,3.7nm,1.0s,baz=236,slow=4.3,SNR=6.8
ESDC PP **PP** **16 54 05.2 +0.7**
comp=Z,2.3nm,1.1s,baz=233,slow=7.3,SNR=4.4
YKA Yellowknife Ar 108.41 341 Pdiff **Pdif** **16 50 24.5 -0.3**
comp=Z,1.1nm,0.7s,baz=145,slow=4.0,SNR=5.2
YKA PP **PP** **16 54 52.6 -4.7**
comp=Z,3.9nm,1.1s,baz=142,slow=8.1,SNR=4.6
T35M Bob Quinn 108.95 331 P **PKiKP** **16 54 32.7 +1.6**
baz=137
WRAK Wrangell Islan 109.35 329 P **PKiKP** **16 54 33.6 +1.7**
baz=136
DLBC Dease Lake 109.94 332 P **PKiKP** **16 54 34.7 +1.7**
baz=137
S34M Telegraph Cree 109.96 331 P **PKiKP** **16 54 34.2 +1.2**
baz=136
R33M Jennings River 110.97 332 P **PKiKP** **16 54 36.0 +0.9**
baz=136
Q32M Nakina River 111.13 331 P **PKiKP** **16 54 36.4 +0.9**

	baz=135									
R32K	**Eaglecrest**	**111.49**	**330**		P		**PKiKP**	**16 54 36.7**	**+0.8**
	baz=134									
ASAR	**Alice Springs**	**111.54**	**206**		Pdiff		**Pdif**	**16 50 40.5**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=168,slow=4.1,SNR=7.3									
ASAR					PKiKP		**PKiKP**	**16 54 36.1**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=129,slow=1.4,SNR=33									
ASAR					PKKPbc		**PKKPbc**	**17 05 31.0**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=343,slow=2.9,SNR=25									
S31K	**Pelican**	**111.94**	**329**		P		**PKiKP**	**16 54 37.4**	**+0.8**
	baz=133									
P32M	**Atlin**	**112.10**	**331**		P		**PKiKP**	**16 54 37.5**	**+0.5**
	baz=134									
EKA	**Eskdalemuir Ar**	**112.14**	**35**		PKiKP		**PKiKP**	**16 54 37.0**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=238,slow=1.1,SNR=4.3									
EKA					PKKPbc		**PKKPab**	**17 05 33.9**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=29,slow=3.8,SNR=4.5									
P33M	**Teslin, Yukon**	**112.21**	**332**		P		**PKiKP**	**16 54 37.9**	**+0.6**
	baz=134									
N32M	**Quiet Lake**	**112.96**	**333**		P		**PKiKP**	**16 54 39.6**	**+1.0**
	baz=134									
PLBC	**Pleasant Camp**	**113.00**	**330**		P		**PKiKP**	**16 54 40.0**	**+1.3**
	baz=132									
WHY	**Whitehorse**	**113.26**	**332**		P		**PKiKP**	**16 54 40.4**	**+1.1**
	baz=133									
MMPY	**Sheldon Lake,**	**113.37**	**334**		P		**PKiKP**	**16 54 40.4**	**+1.0**
	baz=135									
MEM	**Membach**	**113.62**	**43**	*d*	PKiKP		**PKiKP**	**16 54 41.3**	**+1.2**
P29M	**Windy Craggy**	**113.64**	**330**		P		**PKiKP**	**16 54 40.9**	**+0.9**
	baz=131									
P30M	**Million Dollar**	**113.67**	**330**		P		**PKiKP**	**16 54 41.0**	**+0.9**
	baz=131									
O30N	**Mendenhall**	**113.78**	**331**		P		**PKiKP**	**16 54 41.0**	**+0.7**
	baz=132									
DAVA	**Damuels**	**113.79**	**47**	*i*	PKP		**PKiKP**	**16 54 41.9**	**+1.1**
	comp=Z,4.1nm,0.5s									
DAVA					*e*PKKP		**PKKPab**	**17 05 32.7**	**+4.2**
	comp=Z,13nm,1.2s									
FETA	**Feichten**	**114.11**	**48**	*i*	PKiKP		**PKiKP**	**16 54 42.6**	**+1.1**
	comp=Z,3.2nm,0.7s									
FETA					*e*PKKP		**PKKPab**	**17 05 31.1**	**+4.0**
	comp=Z,4.1nm,1.1s									
M31M	**Drury Creek, Y**	**114.13**	**333**		P		**PKiKP**	**16 54 41.5**	**+0.7**
	baz=133									
N31M	**Braeburn, Yuko**	**114.14**	**332**		P		**PKiKP**	**16 54 42.0**	**+1.1**
	baz=132									
MATE	**Matera**	**114.14**	**56**	⇓	P		**PKiKP**	**16 54 41.6**	**+0.1**
PNL	**Peninsula**	**114.31**	**329**		P		**PKiKP**	**16 54 42.2**	**+0.9**
	baz=130									
HYT	**Haines Junctio**	**114.33**	**331**		P		**PKiKP**	**16 54 42.5**	**+1.1**
	baz=131									
O29M	**Mount Kennedy**	**114.40**	**330**		P		**PKiKP**	**16 54 42.7**	**+1.2**
	baz=130									
MOTA	**Moosalm**	**114.51**	**48**	*i*	PKP		**PKiKP**	**16 54 42.4**	**+0.2**
	comp=Z,2.2nm,0.4s									
MOTA					*e*PKKP		**PKKPab**	**17 05 29.0**	**+3.7**
	comp=Z,5.0nm,1.0s									
N30M	**Aishikik Lake**	**114.60**	**331**		P		**PKiKP**	**16 54 43.2**	**+1.4**
	baz=131									
YUK6	**Outpost Mounta**	**114.73**	**331**		P		**PKiKP**	**16 54 43.3**	**+1.0**
	baz=130									
WTTA	**Wattenberg**	**114.76**	**48**	*e*	PKP		**PKiKP**	**16 54 43.4**	**+0.7**
	comp=Z,1.0nm,0.3s									
WTTA					*e*PKKP		**PKKPab**	**17 05 27.6**	**+3.3**
	comp=Z,8.6nm,1.2s									
WRA	**Warramunga Arr**	**114.84**	**207**		PKP		**PKiKP**	**16 54 42.8**	**-0.9**
	comp=Z,5.5nm,0.6s,baz=167,slow=1.6,SNR=50									
WRA					PKKPbc		**PKKPbc**	**17 05 21.7**	**+2.2**
	comp=Z,1.6nm,0.7s,baz=343,slow=3.3,SNR=14									
WRAB	**Tennant Creek**	**114.85**	**207**	*i*	PKiKP		**PKiKP**	**16 54 41.9**	**-1.8**
PINM	**Pinnacle**	**114.91**	**329**		P		**PKiKP**	**16 54 43.8**	**+1.3**
	baz=129									
ABTA	**Abfaltersbach**	**114.98**	**49**	*i*	PKP		**PKiKP**	**16 54 43.7**	**+0.6**
	comp=Z,2.7nm,0.6s									
ABTA					*e*PKKP		**PKKPab**	**17 05 27.1**	**+3.8**
	comp=Z,9.2nm,1.4s									
YUK4	**Talbot Arm**	**115.09**	**331**		P		**PKiKP**	**16 54 44.2**	**+1.2**
	baz=130									
M30M	**Minto, Yukon**	**115.22**	**332**		P		**PKiKP**	**16 54 44.3**	**+1.3**
	baz=131									
O28M	**Mount Upton**	**115.31**	**330**		P		**PKiKP**	**16 54 44.7**	**+1.2**
	baz=129									
SUMG	**Summit**	**115.41**	**11**	*i*	P		**PKiKP**	**16 54 43.9**	**+0.4**
LESA	**Schwarzleotal**	**115.44**	**48**	*e*	PKP		**PKiKP**	**16 54 44.4**	**+0.5**
	comp=Z,4.1nm,0.5s									
LESA					*e*PKKP		**PKKPbc**	**17 05 19.0**	**+0.9**
	comp=Z,6.0nm,1.2s									
MYKA	**Terra Mystica**	**115.56**	**50**	*e*	PKP		**PKiKP**	**16 54 45.0**	**+0.8**
	comp=Z,1.4nm,0.3s									
MESA	**MESA**	**115.63**	**329**		P		**PKiKP**	**16 54 44.5**	**+0.5**
	baz=128									
KBA	**Koelnbreinsper**	**115.64**	**49**	*e*	PKP		**PKiKP**	**16 54 45.2**	**+0.8**
	comp=Z,1.3nm,0.5s									
M29M	**Somme Creek**	**115.73**	**332**		P		**PKiKP**	**16 54 44.9**	**+0.9**
	baz=130									
OBKA	**Obir**	**116.03**	**50**	*i*	PKP		**PKiKP**	**16 54 45.6**	**+0.6**
	comp=Z,6.3nm,0.8s									
L29M	**L29M**	**116.03**	**332**		P		**PKiKP**	**16 54 45.4**	**+0.9**
	baz=130									
BIOA	**Bad Ischl, Aus**	**116.13**	**49**	*i*	PKP		**PKiKP**	**16 54 45.6**	**+0.4**
	comp=Z,1.4nm,0.3s									
C36M	**Paulatuk**	**116.22**	**342**		P		**PKiKP**	**16 54 45.7**	**+1.1**
	baz=138									
K29M	**Barlow Dome**	**116.29**	**333**		P		**PKiKP**	**16 54 45.8**	**+0.7**
	baz=130									
J30M	**Hart River**	**116.36**	**334**		P		**PKiKP**	**16 54 45.8**	**+0.6**
	baz=130									
SOKA	**Soboth**	**116.40**	**50**	*i*	PKiKP		**PKiKP**	**16 54 47.0**	**+1.2**
	comp=Z,0.8nm,0.4s									
KAIM	**Kayak Island**	**116.47**	**328**		P		**PKiKP**	**16 54 46.3**	**+0.9**
	baz=126									
H31M	**Peel River**	**116.53**	**336**		P		**PKiKP**	**16 54 46.3**	**+1.0**
	baz=131,SNR=5.4									
BLY	**Banja Luka**	**116.66**	**53**	⇑	P		**PKiKP**	**16 54 47.0**	**+0.8**
GEC2	**GERESS Array S**	**116.78**	**48**				**PKPdf**	**16 54 45.5**	**-1.0**
GEC2					pPKPdf		pPKPdf	16 55 19.3	-2.3
GERES	**GERESS Array B**	**116.78**	**48**		PKP		**PKPdf**	**16 54 45.9**	**-0.6**
	comp=Z,6.5nm,0.8s,baz=247,slow=2.8,SNR=40									
GERES					pPKP		pPKPdf	16 55 21.9	+0.3
	comp=Z,3.5nm,0.8s,baz=258,slow=4.0,SNR=4.9									
GERES					PKPbc		**PKKPab**	**17 05 14.8**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=355,slow=2.8,SNR=5.8									
I30M	**Mount Dempster**	**116.80**	**335**		P		**PKiKP**	**16 54 46.7**	**+0.7**
	baz=130									
KHC	**Kasperske Hory**	**116.87**	**47**	*e*	PKPDF		**PKiKP**	**16 54 46.6**	**+0.1**
KHC				*ex*		x		17 05 37.0	
KHC				*e*SS		SS		17 12 05.5	+10
KHC	**Kasperske Hory**	**116.87**	**47**	*c*	PKiKP		**PKiKP**	**16 54 47.8**	**+1.3**
KHC					pmax		pmax		
	comp=Z,6.0nm,1.3s									
J29N	**Klondike Camp**	**116.91**	**334**		P		**PKiKP**	**16 54 47.3**	**+1.1**
	baz=129									
M27K	**Edge Creek, AK**	**116.93**	**331**		P		**PKiKP**	**16 54 47.1**	**+0.7**
	baz=127									
ARSA	**Arzberg**	**116.98**	**50**	*i*	PKP		**PKiKP**	**16 54 47.5**	**+0.7**
	comp=Z,2.6nm,0.5s									
ARSA					*e*PKKP		**PKKPab**	**17 05 15.8**	**+1.4**
	comp=Z,3.7nm,1.0s									
PSAB3	**Pilbara Seismi**	**117.02**	**192**		P		**PKPdf**	**16 54 46.7**	**-1.1**
PSAB3					P		**PKiKP**	**16 54 47.7**	**-0.1**
PSA00	**Pilbara Seismi**	**117.04**	**192**		P		**PKPdf**	**16 54 46.6**	**-1.3**
PSA00					P		**PKiKP**	**16 54 47.4**	**-0.4**
DAWY	**Dawson**	**117.08**	**333**		P		**PKiKP**	**16 54 46.9**	**+0.4**
	baz=128									
PSAC1	**Pilbara Seismi**	**117.08**	**192**		P		**PKPdf**	**16 54 46.0**	**-2.0**
PSAC1					P		**PKiKP**	**16 54 47.2**	**-0.7**
CKRC	**Cesky Krumlov**	**117.11**	**48**	*e*	PKPDF		**PKiKP**	**16 54 47.8**	**+0.8**
CKRC				*e*SP		SP		17 05 40.4	+11
CKRC				*e*SS		**SS**		**17 12 06.9**	**+8.5**
CKRC	**Cesky Krumlov**	**117.11**	**48**	*e*	PKiKP		**PKiKP**	**16 54 47.8**	**+0.8**
CKRC				*e*				17 05 40.4	
CKRC				*e*SS		SS		17 12 06.9	+8.5
BMRM	**Bremner River**	**117.16**	**328**		P		**PKiKP**	**16 54 47.3**	**+0.5**
	baz=126									
G31M	**Satah River**	**117.25**	**337**		P		**PKiKP**	**16 54 47.5**	**+0.9**
	baz=131									
L27K	**Beaver Creek,**	**117.33**	**331**		P		**PKiKP**	**16 54 47.8**	**+0.8**
	baz=127									
ZVC	**Zvikov**	**117.37**	**47**	*e*	PKPDF		**PKiKP**	**16 54 48.0**	**+0.5**
ZVC				*e*SP		SP		17 05 36.9	+5.6
ZVC				*e*SS		SS		17 12 19.0	+17
M26K	**Nabesna, AK**	**117.37**	**330**		P		**PKiKP**	**16 54 48.1**	**+1.0**
	baz=126									
EYAK	**Cordova Ski Ar**	**117.37**	**328**		P		**PKiKP**	**16 54 47.8**	**+0.7**
	baz=125									
F31M	**Tsiigehtchic**	**117.43**	**337**		P		**PKiKP**	**16 54 48.5**	**+1.5**
	baz=131									
MBWA	**Marble Bar**	**117.46**	**192**		P		**PKPdf**	**16 54 46.0**	**-2.7**
MBWA					P		**PKiKP**	**16 54 47.4**	**-1.3**
MBWA	**Marble Bar**	**117.46**	**192**				**PKPdf**	**16 54 46.8**	**-1.8**
I29M	**Ogilvie Camp,**	**117.51**	**334**		P		**PKiKP**	**16 54 48.9**	**+1.6**
	baz=128									
N25K	**Chitina, Valde**	**117.52**	**329**		P		**PKiKP**	**16 54 49.0**	**+1.5**
	baz=125									
CONA	**Conrad Observa**	**117.53**	**49**	*e*	PKP		**PKiKP**	**16 54 48.4**	**+0.5**
	comp=Z,2.7nm,0.5s									
CONA					*e*PKKP		**PKKPab**	**17 05 13.0**	**+1.0**
	comp=Z,7.2nm,1.5s									
EPYK	**Eagle Plains**	**117.64**	**336**		P		**PKiKP**	**16 54 48.7**	**+1.2**
	baz=129									
RONA	**Rosalia, Austr**	**117.67**	**50**	*e*	PKP		**PKiKP**	**16 54 48.7**	**+0.6**
	comp=Z,2.6nm,0.7s									
CLL	**Collm**	**117.69**	**45**				**PKPdf**	**16 54 46.6**	**-1.4**
CLL	**Collm**	**117.69**	**45**	*i*	PKiKP		**PKiKP**	**16 54 48.5**	**+0.5**
CLL				*i*				16 55 23.2	
CLL					pmax		pmax		
	comp=Z,18nm,1.2s									
CLL	**Collm**	**117.69**	**45**	*i*	PKPdf		**PKiKP**	**16 54 48.5**	**+0.5**
	comp=Z,18nm,1.2s									
CLL				*i*	pPKPdf		**pPKPdf**	**16 55 23.2**	**0.0**
CLL				*e*	PP		**PP**	**16 56 00.0**	**-3.5**
CLL				*e*	PPP		PPP	16 58 30.0	
CLL				*e*	SKKSac		SKKSac	17 02 50.0	-0.1
CLL				*i*	PKKPbc		**PKKPab**	**17 05 11.0**	**0.0**
CLL				*e*	SP		**SP**	**17 05 32.0**	**-2.1**
CLL				*ex*		x		17 08 30.0	
CLL				*e*	SSS		SSS	17 16 31.0	
CLL				*ex*		x		17 18 26.0	
P23K	**Montague Islan**	**117.74**	**327**		P		**PKiKP**	**16 54 49.3**	**+1.5**
	baz=124									
PRA	**Prague**	**117.83**	**47**	*e*	SP		SP	17 05 41.4	+6.0
PRA				*e*	SS		SS	17 12 20.1	+13
PRU	**Pruhonice**	**117.85**	**47**	*e*	PKPDF		**PKiKP**	**16 54 48.5**	**+0.1**
PRU				*e*	SP		SP	17 05 38.4	+2.8
PRU				*e*	SS		**SS**	**17 12 14.0**	**+6.2**
PRU	**Pruhonice**	**117.85**	**47**	*e*	PKiKP		**PKiKP**	**16 54 48.5**	**+0.1**
PRU				*e*	SS		SS	17 12 14.0	+6.2
L26K	**Log Cabin Wild**	**117.87**	**331**		P		**PKiKP**	**16 54 48.8**	**+0.7**
	baz=126									
G30M	**tAoh Zraii Nji**	**117.87**	**336**		P		**PKiKP**	**16 54 48.8**	**+0.8**
	baz=129									
RICC	**Richard**	**117.89**	**46**	*e*	PKPDF		**PKPdf**	**16 54 41.3**	**-7.1**
INK	**Inuvik**	**117.94**	**338**		P		**PKiKP**	**16 54 49.2**	**+1.2**
	baz=131									
BRG	**Berggiesshubel**	**117.97**	**46**	*e*	PKP		**PKiKP**	**16 54 49.4**	**+0.9**
BRG					Amp			16 54 51.3	
	comp=Z,9.6nm,1.2s									
BRG					pPKP		**pPKPdf**	**16 55 24.3**	**+0.6**
BRG					Amp			16 55 26.7	
	comp=Z,9.9nm,1.3s									
BRG	**Berggiesshubel**	**117.97**	**46**		SP		SP	17 05 41.0	+4.3
BRG	**Berggiesshubel**	**117.97**	**46**		SS		SS	17 12 17.0	+7.6
KLU	**Klutina**	**117.98**	**329**		P		**PKiKP**	**16 54 48.9**	**+0.6**
	baz=124									
K27K	**Chicken**	**118.00**	**332**		P		**PKiKP**	**16 54 49.6**	**+1.3**
	baz=126									
TREC	**Trest**	**118.02**	**48**	*e*	PKPDF		**PKiKP**	**16 54 49.6**	**+0.8**
TREC				*ex*		x		17 05 43.8	
TREC	**Trest**	**118.02**	**48**	*e*	PKiKP		**PKiKP**	**16 54 49.6**	**+0.8**
TREC				*e*				17 05 43.8	
H29M	**Whitestone**	**118.07**	**335**		P		**PKiKP**	**16 54 49.7**	**+1.4**
	baz=128									
I28M	**Miner Creek**	**118.11**	**334**		P		**PKiKP**	**16 54 49.6**	**+1.0**
	baz=127									
GLI	**Glacier Island**	**118.11**	**328**		P		**PKiKP**	**16 54 50.0**	**+1.4**
	baz=124									
EGAK	**Eagle**	**118.12**	**333**		P		**PKiKP**	**16 54 49.9**	**+1.5**
	baz=126									
KMY	**Karmoy**	**118.12**	**35**		IVmB_BB			16 51 18.9	
	comp=Z,2μm,2.6s									
KMY				*e*	PKPdf		**PKiKP**	**16 54 49.4**	**+0.8**
KMY				*e*				17 05 32.7	
KMY				*e*	SS		SS	17 12 11.8	+1.0
PVCC	**Panska Ves**	**118.14**	**46**	*e*	PKPDF		**PKiKP**	**16 54 49.3**	**+0.4**
PVCC				*ex*		x		17 05 49.2	
PVCC				*e*	SS		SS	17 12 22.9	+11
PVCC	**Panska Ves**	**118.14**	**46**	*e*	PKiKP		**PKiKP**	**16 54 49.3**	**+0.4**
PVCC				*e*				17 05 49.2	
F30M	**Barrier River**	**118.14**	**337**		P		**PKiKP**	**16 54 50.2**	**+1.8**
	baz=130									
HARP	**HAARP**	**118.19**	**330**		P		**PKiKP**	**16 54 50.4**	**+1.7**
	baz=125									
G29M	**Pine Creek**	**118.38**	**336**		P		**PKiKP**	**16 54 50.6**	**+1.6**
	baz=128									
KRUC	**Moravsky**	**118.42**	**48**	*e*	PKP		**PKPdf**	**16 54 49.4**	**-0.1**
KRUC				*e*	PKKP		**PKKPab**	**17 05 08.0**	**0.0**
M24K	**Tolsona, Glenn**	**118.42**	**329**		P		**PKiKP**	**16 54 50.5**	**+1.3**
	baz=124									
A36M	**Sachs Harbour**	**118.44**	**344**		P		**PKiKP**	**16 54 50.9**	**+2.1**
	baz=136									
SNART	**Snartemo**	**118.52**	**36**		IVmB_BB			16 51 08.4	
	comp=Z,3μm,2.6s									
SNART				*e*	PKPdf		**PKiKP**	**16 54 50.3**	**+0.9**
MODS	**Modra-Piesok**	**118.58**	**49**	*e*	PKiKP		**PKiKP**	**16 54 50.3**	**+0.4**
PWL	**Port Wells**	**118.60**	**327**		P		**PKiKP**	**16 54 51.1**	**+1.6**
	baz=123									
NEEM	**North Greenlan**	**118.62**	**5**	*i*	P		**PKiKP**	**16 54 50.3**	**+0.8**
PAX	**Paxson**	**118.64**	**330**		P		**PKiKP**	**16 54 51.2**	**+1.6**
	baz=124									
SCRK	**Sand Creek**	**118.65**	**331**		P		**PKiKP**	**16 54 51.3**	**+1.6**
	baz=125									
VRAC	**Vranov**	**118.65**	**48**	*e*	PKP		**PKPdf**	**16 54 49.7**	**-0.2**
VRAC				*e*	PKKP		**PKKPab**	**17 05 08.9**	**+1.9**
VRAC	**Vranov**	**118.65**	**48**	⇑	P		**PKiKP**	**16 54 50.9**	**+0.9**
VRAC	**Vranov**	**118.65**	**48**	⇑	PKiKP		**PKiKP**	**16 54 50.9**	**+0.9**
SEW	**Seward**	**118.66**	**326**		P		**PKiKP**	**16 54 50.8**	**+1.2**
	baz=122									
SCM	**Sheep Creek Mo**	**118.73**	**328**		P		**PKiKP**	**16 54 51.4**	**+1.6**
	baz=123									
BLS5	**Blasjo**	**118.76**	**35**		IVmB_BB			16 50 35.7	
	comp=Z,2μm,2.8s									
BLS5				*e*	PKPdf		**PKiKP**	**16 54 51.1**	**+1.2**
BLS5				*e*	pPKPdf		pPKPdf	16 55 25.9	+0.9
BLS5				*e*				17 05 37.5	
I27K	**Kandik River**	**118.76**	**334**		P		**PKiKP**	**16 54 51.4**	**+1.6**
	baz=126									
ASK	**Askoy**	**118.78**	**33**	*e*	PKPdf		**PKiKP**	**16 54 51.1**	**+1.3**
ASK					IVmB_BB			16 55 09.1	
	comp=Z,2μm,3.7s									
ASK				*e*				17 05 37.5	
ASK				*e*	SS		SS	17 12 15.6	-3.7
BER	**Bergen**	**118.79**	**34**		IVmB_BB			16 50 21.9	
	comp=Z,2μm,3.5s									
BER				*e*	PKPdf		**PKiKP**	**16 54 51.1**	**+1.2**
BER				*e*				17 05 41.4	
J26L	**Joseph Creek**	**118.80**	**332**		P		**PKiKP**	**16 54 51.6**	**+1.6**
	baz=125									
KDAK	**Kodiak Island**	**118.82**	**323**		P		**PKiKP**	**16 54 51.4**	**+1.5**
	baz=121									
RIDG	**Independent Ri**	**118.83**	**331**		P		**PKiKP**	**16 54 51.3**	**+1.3**
	baz=124									
OHAK	**Old Harbor**	**118.86**	**322**		P		**PKiKP**	**16 54 51.4**	**+1.3**
	baz=121									
M23K	**Glacier View**	**118.86**	**328**		P		**PKiKP**	**16 54 51.1**	**+1.1**
	baz=123									
SUE	**Sulen**	**118.91**	**33**		IVmB_BB			16 50 08.3	
	comp=Z,1μm,3.4s									
SUE				*e*	PKPdf		**PKiKP**	**16 54 51.1**	**+1.0**
SUE				*e*				17 05 40.4	
UPC	**Upice**	**118.93**	**47**	*e*	PKPDF		**PKiKP**	**16 54 51.6**	**+1.1**
UPC				*e*	SP		SP	17 05 46.6	+1.3
UPC				*e*	SS		**SKKSdf**	**17 12 30.8**	**-5.7**
UPC	**Upice**	**118.93**	**47**	*e*	PKiKP		**PKiKP**	**16 54 51.6**	**+1.1**
UPC				*e*				17 05 46.6	
UPC				*e*	SS		SS	17 12 30.8	+9.1
KNK	**Knik Glacier**	**118.95**	**328**		P		**PKiKP**	**16 54 51.1**	**+0.9**
	baz=123									
O22K	**Cooper Landing**	**118.98**	**326**		P		**PKiKP**	**16 54 51.6**	**+1.4**
	baz=122									
CHVC	**Chvalec**	**118.99**	**47**	*e*	PKPDF		**PKiKP**	**16 54 51.7**	**+1.1**
CHVC				*e*	SP		SP	17 05 48.2	+2.3
CHVC				*e*	SS		**SKKSdf**	**17 12 41.5**	**+5.1**
CHVC	**Chvalec**	**118.99**	**47**	*e*	PKiKP		**PKiKP**	**16 54 51.7**	**+1.1**
CHVC				*e*				17 05 48.2	
CHVC				*e*	SS		SS	17 12 41.5	+19
DPC	**Dobruska-Polom**	**119.02**	**47**	*e*	PKPDF		**PKiKP**	**16 54 52.1**	**+1.4**
DPC				*ex*		x		17 02 20.0	
DPC				*e*	SP		SP	17 05 48.6	+2.4
DPC				*e*	SS		**SS**	**17 12 22.4**	**-0.6**
DPC	**Dobruska-Polom**	**119.02**	**47**	*e*	PKiKP		**PKiKP**	**16 54 52.1**	**+1.4**
DPC				*e*				17 05 48.6	
DPC					*e*SS		SS	17 12 22.4	-0.6
BRSE	**Bradley Lake S**	**119.02**	**325**		P		**PKiKP**	**16 54 51.6**	**+1.2**
	baz=122									
JAVC	**Velka Javorina**	**119.04**	**49**	*e*	PKP		**PKiKP**	**16 54 52.1**	**+1.3**
JAVC				*e*	PKKP		**PKKPab**	**17 05 06.4**	**+1.0**
OSTC	**Ostas**	**119.06**	**47**	*e*	PKPDF		**PKiKP**	**16 54 51.4**	**+0.7**
OSTC				*ex*		x		17 05 48.0	
OSTC				*e*SS		SS		17 12 37.6	+14
OSTC	**Ostas**	**119.06**	**47**	*e*	PKiKP		**PKiKP**	**16 54 51.4**	**+0.7**
OSTC				*e*				17 05 48.0	
OSTC				*e*SS		SS		17 12 37.6	+14
HOMB	**Homborsund**	**119.06**	**37**		IVmB_BB			16 50 27.3	
	comp=Z,2μm,2.9s									
HOMB				*e*	PKPdf		**PKiKP**	**16 54 51.5**	**+1.1**
HOMB				*e*				17 05 41.4	
HOMB				*e*SS		SS		17 12 24.4	+1.4
ODD1	**Odda**	**119.09**	**34**	*e*	PKPdf		**PKiKP**	**16 54 51.5**	**+1.0**
ODD1				*e*				17 05 42.4	
ODD1					IVMs_BB		IVMs_BB	17 22 55.5	
	comp=Z,2μm,4.5s									
H27K	**Steamboat Moun**	**119.10**	**334**		P		**PKiKP**	**16 54 51.6**	**+1.2**
	baz=126									
SML	**Sawmill**	**119.11**	**328**		P		**PKiKP**	**16 54 51.6**	**+1.0**
	baz=122									
I26K	**Coal Creek Min**	**119.12**	**333**		P		**PKiKP**	**16 54 51.4**	**+1.0**
	baz=125									
KRLC	**Kraliky**	**119.14**	**48**	*e*	PKPDF		**PKiKP**	**16 54 51.5**	**+0.6**
KRLC				*e*	SP		SP	17 05 49.1	+1.8
KRLC				*e*	SS		**SKKSdf**	**17 12 34.2**	**-1.9**
KRLC	**Kraliky**	**119.14**	**48**	*e*	PKiKP		**PKiKP**	**16 54 51.5**	**+0.6**
KRLC				*e*				17 05 49.1	
KRLC				*e*SS		SS		17 12 34.2	+10
Q20K	**Shuyak Island**	**119.16**	**324**		P		**PKiKP**	**16 54 51.6**	**+1.0**
	baz=121									
FITZ	**Fitzroy Crossi**	**119.21**	**199**				**PKPdf**	**16 54 50.3**	**-1.7**
K24K	**Donnelly Dome**	**119.21**	**331**		P		**PKiKP**	**16 54 51.8**	**+1.1**
	baz=124									
E29M	**Blow River**	**119.25**	**337**		P		**PKiKP**	**16 54 51.8**	**+1.2**
	baz=128									
WAT6	**Susitna Watana**	**119.30**	**329**		P		**PKiKP**	**16 54 52.0**	**+1.0**
	baz=123									
RC01	**Rabbit Creek A**	**119.31**	**327**		P		**PKiKP**	**16 54 51.6**	**+0.7**
	baz=122									
PMR	**Palmer**	**119.32**	**328**		P		**PKiKP**	**16 54 51.8**	**+1.0**
	baz=122									
HOM	**Homer**	**119.37**	**325**		P		**PKiKP**	**16 54 51.9**	**+0.9**
	baz=121									
F28M	**Old Crow**	**119.38**	**336**		P		**PKiKP**	**16 54 51.9**	**+1.0**
	baz=126									
DHY	**Denali Highway**	**119.42**	**330**		P		**PKiKP**	**16 54 51.8**	**+0.6**
	baz=123									
MORC	**Moravsky Berou**	**119.42**	**48**				**PKPdf**	**16 54 51.1**	**-0.3**
MORC	**Moravsky Berou**	**119.42**	**48**	*e*	PKP		**PKPdf**	**16 54 51.1**	**-0.3**
MORC				*e*	PKKP		**PKKPbc**	**17 05 05.6**	**+1.7**
MORC	**Moravsky Berou**	**119.42**	**48**	⇑	P		**PKiKP**	**16 54 51.8**	**+0.3**
MORC	**Moravsky Ber

	baz=122									
O18K	**Koktuh Hills**	121.03	324		P		PKiKP	16 54 55.3	+1.0	
	baz=118									
R16K	**Pilot Point**	121.05	321		P		PKiKP	16 54 55.3	+1.0	
	baz=118									
H24K	**Noodor Dome**	121.06	332		P		PKiKP	16 54 55.4	+1.2	
	baz=121									
M20K	**Styx River**	121.11	327		P		PKiKP	16 54 55.1	+0.6	
	baz=119									
Q16K	**King Salmon**	121.14	323		P		PKiKP	16 54 55.8	+1.4	
	baz=118									
N19K	**Bonanza Creek**	121.17	325		P		PKiKP	16 54 55.9	+1.3	
	baz=118									
DOMB	**Dombas**	121.19	33	*e*	PKPdf		PKiKP	16 54 55.1	+0.5	
ELND	**Elena**	121.19	58	⇑	P		PKPdf	16 54 54.7	-0.3	
F25K	**Christian Rive**	121.21	335		P		PKiKP	16 54 56.3	+1.8	
	baz=122									
PPLA	**Purkeypile**	121.22	328		P		PKiKP	16 54 56.1	+1.4	
	baz=119									
MARR	**Marisel-Cluj**	121.22	53	⇑	P		PKiKP	16 54 55.3	+0.1	
I23K	**Minto, Yukon-K**	121.24	331		P		PKiKP	16 54 56.0	+1.5	
	baz=120									
P17K	**Kvichak River**	121.28	323		P		PKiKP	16 54 55.6	+0.9	
	baz=118									
BPAW	**Bear Paw Mtn.**	121.33	330		P		PKiKP	16 54 55.8	+1.0	
	baz=119									
G24K	**Hadweenzic Riv**	121.36	333		P		PKiKP	16 54 56.2	+1.4	
	baz=121									
S14K	**Fog Glacier**	121.42	319		P		PKiKP	16 54 55.8	+0.5	
	baz=117									
BAND	**Balkesir-Ban**	121.43	62	⇑	P		PKiKP	16 54 56.9	+1.2	
SDPT	**Sand Point**	121.45	318		P		PKiKP	16 54 55.7	+0.5	
	baz=117									
TNR	**Turnu Rosu**	121.45	55	⇑	P		PKiKP	16 54 56.2	+0.6	
E25K	**Arctic Village**	121.46	335		P		PKiKP	16 54 56.3	+1.3	
	baz=122									
NC204	**NORSAR Array S**	121.54	34				PKPdf	16 54 55.0	-0.2	
ARR	**Arges**	121.55	55	⇑	P		PKPdf	16 54 55.7	0.0	
NB2	**NORSAR Subarra**	121.62	35		PKPdf		PKPdf	16 54 55.2	-0.1	
	comp=Z,16nm,0.9s,baz=242,slow=2.0									
NB2	**NORSAR Subarra**	121.62	35		PKPdf		PKPdf	16 54 55.2	-0.1	
	comp=Z,16nm,0.9s,baz=242,slow=2.0									
NB2					PKKP		PKKPab	17 04 54.2	+0.7	
	comp=Z,1.6nm,0.6s,baz=68,slow=5.1									
NC602	**NORSAR Array S**	121.62	35	*e*	PKPdf		PKiKP	16 54 55.4	0.0	
NOA	**NORSAR Array B**	121.62	35		PKP		PKiKP	16 54 55.4	-0.1	
	comp=Z,6.4nm,0.6s,baz=246,slow=2.2,SNR=26									
NOA					PKKPbc		PKKPbc	17 04 55.5	-0.4	
	comp=Z,5.0nm,0.8s,baz=66,slow=4.5,SNR=7.9									
HOLU	**Holmets**	121.63	51		PKP		PKPdf	16 54 55.4	-0.2	
H23K	**Yukon River**	121.64	332		P		PKiKP	16 54 56.5	+1.1	
	baz=120									
M19K	**Big River Lodg**	121.65	327		P		PKiKP	16 54 56.8	+1.4	
	baz=118									
BERU	**Beregovo**	121.66	52		PKP		PKiKP	16 54 55.9	+0.1	
NB201	**NORSAR Array S**	121.66	35				PKPdf	16 54 55.2	-0.2	
C27K	**Jago River**	121.68	337		P		PKiKP	16 54 57.1	+1.8	
	baz=122									
MLY	**Manley**	121.69	331		P		PKiKP	16 54 56.7	+1.2	
	baz=119									
L20K	**Farewell, AK**	121.71	327		P		PKiKP	16 54 56.8	+1.2	
	baz=118									
N18K	**Kilae Creek**	121.72	325		P		PKiKP	16 54 56.7	+1.1	
	baz=118									
CHUM	**Lake Minchumin**	121.74	329		P		PKiKP	16 54 56.3	+0.8	
	baz=118									
KOLS	**Kolonicke sedl**	121.75	51	*e*	PKIKP		PKiKP	16 54 56.4	+0.3	
MUKU	**Mukachevo**	121.78	51		PKP		PKiKP	16 54 56.0	-0.1	
VOIR		121.84	55	⇓	P		PKPdf	16 54 56.2	-0.1	
VOIR		121.84	55	⇓	PKIKP		PKPdf	16 54 56.2	-0.1	
VOIR		121.84	55		PKP		PKPdf	16 54 56.2	-0.1	
O17K	**Koliganek Bris**	121.84	324		P		PKiKP	16 54 56.2	+0.3	
	baz=117									
LOZB	**Loznitsa**	121.86	58	⇑	P		PKPdf	16 54 51.4	-4.9	
DAG	**Danmarks Havn**	121.88	13	*i*	P		PKPdf	16 54 54.9	-0.5	
F24K	**Squaw Lake**	121.91	334		P		PKiKP	16 54 56.5	+0.6	
	baz=120									
P16K	**Nushagak River**	121.92	323		P		PKiKP	16 54 57.0	+1.0	
	baz=117									
BRIU	**Brid**	121.92	52		PKP		PKPdf	16 54 55.8	-0.4	
L19K	**White Mountain**	121.97	327		P		PKiKP	16 54 56.6	+0.5	
	baz=118									
M18K	**Stony River**	122.06	326		P		PKiKP	16 54 56.8	+0.6	
	baz=117									
ARCR	**ARCALIA**	122.16	53	⇑	P		PKiKP	16 54 57.3	+0.4	
C26K	**Camden Bay**	122.19	337		P		PKiKP	16 54 57.8	+1.5	
	baz=121									
K20K	**Telida**	122.19	328		P		PKiKP	16 54 57.2	+0.7	
	baz=117									
O16K	**Kokwok River B**	122.21	323		P		PKiKP	16 54 57.3	+0.7	
	baz=116									
N17K	**Nushagak Hills**	122.22	324		P		PKiKP	16 54 57.4	+0.9	
	baz=117									
G23K	**Bananza Creek**	122.25	333		P		PKiKP	16 54 57.5	+0.9	
	baz=119,SNR=14									
DOPR	**Dopca**	122.29	55	⇑	P		PKiKP	16 54 57.2	-0.1	
MEZ	**Mezhgor'ye**	122.30	52		PKP		PKPdf	16 54 56.9	-0.1	
HFS	**Hagfors**	122.30	36		PKP		PKPdf	16 54 55.7	-0.9	
	comp=Z,15nm,0.5s,baz=186,slow=3.0,SNR=52									
HFS					pPKP		pPKPdf	16 55 31.0	-0.7	
	comp=Z,7.2nm,0.7s,baz=188,slow=4.5,SNR=3.1									
HFS					PKKPbc		PKKPbc	17 04 52.4	-0.9	
	comp=Z,3.0nm,0.4s,baz=90,slow=4.4,SNR=26									
KWP	**Kalwaria Pacla**	122.32	50		PKP		PKPdf	16 54 56.8	-0.2	
D25K	**Kavik River**	122.33	336		P		PKiKP	16 54 56.9	+0.3	
	baz=120									
H22K	**Ishtalitna Cre**	122.34	331		P		PKiKP	16 54 57.4	+0.6	
	baz=118,SNR=19									
E24K	**Your Creek**	122.38	334		P		PKiKP	16 54 58.0	+1.2	
	baz=119									
S12K	**Black Hills**	122.42	318		P		PKiKP	16 54 57.5	+0.4	
	baz=116									
CSS	**Mathiatis**	122.42	70		PKP		PKPdf	16 54 57.5	-0.2	
MLR	**Muntele Rosu**	122.42	56	⇑	P		PKiKP	16 54 58.0	+0.3	
MLR	**Muntele Rosu**	122.42	56	⇑	PKIKP		PKiKP	16 54 58.0	+0.3	
MLR	**Muntele Rosu**	122.42	56		PKP		PKPdf	16 54 57.0	-0.5	
RAKU	**Rahkiv**	122.47	52		PKP		PKPdf	16 54 57.2	-0.1	
COLD	**Coldfoot**	122.55	333		P		PKiKP	16 54 57.6	+0.5	
	baz=118,SNR=15									
J20K	**Nowinta River**	122.59	329		P		PKiKP	16 54 57.6	+0.4	
	baz=117									
NEHR	**Nehoiu**	122.62	56	⇑	P		PKiKP	16 54 58.2	+0.3	
M17K	**Holitna River**	122.72	325		P		PKiKP	16 54 58.2	+0.6	
	baz=116									
E23K	**Chandalar**	122.75	334		P		PKiKP	16 54 59.0	+1.4	
	baz=118									
FALS	**False Pass**	122.75	317		P		PKiKP	16 54 58.6	+0.9	
	baz=116									
H21K	**Melozitna Rive**	122.75	331		P		PKiKP	16 54 58.5	+1.0	
	baz=117,SNR=24									
L18K	**Granite Mounta**	122.76	326		P		PKiKP	16 54 58.8	+1.2	
	baz=116									
O15K	**Ungalikthiuk R**	122.83	322		P		PKiKP	16 54 57.9	+0.1	
	baz=116									
G22K	**Bettles**	122.86	333		P		PKiKP	16 54 58.9	+1.3	
	baz=117									
N16K	**Nishlik Lake**	122.91	324		P		PKiKP	16 54 59.1	+1.1	
	baz=116									
BURAR	**Bucovina Array**	122.92	53	⇑	P		PKiKP	16 54 59.0	+0.5	
BURAR	**Bucovina Array**	122.92	53	⇑	PKIKP		PKiKP	16 54 59.0	+0.5	
BUR08	**Bucovina Ar. S**	122.93	53				PKPdf	16 54 57.3	-1.1	
BISRR	**Bisoca**	122.93	56	⇑	P		PKiKP	16 54 59.0	+0.5	
BISRR	**Bisoca**	122.93	56		PKP		PKPdf	16 54 58.1	-0.3	
MMAI	**Mount Meron Ar**	122.94	73		PKP		PKPdf	16 54 58.6	-0.2	
	comp=Z,4.9nm,0.5s,baz=232,slow=1.0,SNR=14									
MMAI					pPKP		pPKPdf	16 55 34.2	+0.2	
	comp=Z,5.5nm,0.8s,baz=282,slow=4.2,SNR=2.9									
MMAI					PKKPbc		PKKPbc	17 04 50.2	+0.1	
	comp=Z,1.7nm,0.5s,baz=80,slow=0.9,SNR=4.1									
STNU	**Starunia**	122.97	52		PKP		PKPdf	16 54 58.0	-0.2	
I20K	**Naaghedeneel**	123.00	330		P		PKiKP	16 54 59.6	+1.7	
	baz=116									
TOLK	**Toolik Lake Re**	123.01	335		P		PKiKP	16 54 58.9	+0.9	
	baz=118									
D24K	**Happy Valley**	123.01	335		P		PKiKP	16 54 59.0	+1.1	
	baz=118									
PLOR	**Plostina**	123.03	55	⇑	P		PKiKP	16 54 59.3	+0.6	
PLOR	**Plostina**	123.03	55	⇑	PKIKP		PKiKP	16 54 59.3	+0.6	
PLOR5	**Plostina Array**	123.03	56		PKP		PKPdf	16 54 58.2	-0.3	
ONER	**Baraj Valea Uz**	123.08	55	⇑	P		PKiKP	16 54 59.5	+0.7	
VRI	**Vrincioaia**	123.08	56	⇑	P		PKPdf	16 54 58.0	-0.5	
VRI	**Vrincioaia**	123.08	56	⇑	PKIKP		PKPdf	16 54 58.0	-0.5	
VRI	**Vrincioaia**	123.08	56		PKP		PKPdf	16 54 58.1	-0.5	
J19K	**Poorman**	123.09	328		P		PKiKP	16 54 59.4	+1.1	
	baz=116									
KSV	**Kosov**	123.14	52		PKP		PKPdf	16 54 58.3	-0.3	
M16K	**Timber Creek**	123.22	324		P		PKiKP	16 54 59.5	+0.9	
	baz=115									
C24K	**Franklin Bluff**	123.24	336		P		PKiKP	16 54 59.3	+1.0	
	baz=118									
J18K	**Innoko River**	123.31	328		P		PKiKP	16 54 59.8	+1.1	
	baz=115,SNR=14									
TESR	**Tescani**	123.32	55	⇑	P		PKPdf	16 54 58.8	-0.2	
TESR	**Tescani**	123.32	55		PKP		PKPdf	16 54 58.9	-0.1	
F22K	**John River**	123.36	333		P		PKiKP	16 54 60.0	+1.3	
	baz=116									
N15K	**Kwethluk River**	123.37	323		P		PKiKP	16 54 60.0	+1.1	
	baz=115									
G21K	**Allakaket**	123.39	332		P		PKiKP	16 54 59.8	+1.1	
	baz=116,SNR=31									
L17K	**Donlin**	123.40	326		P		PKiKP	16 55 00.2	+1.3	
	baz=115									
H20K	**Anotleneega Mo**	123.46	330		P		PKiKP	16 54 60.0	+1.1	
	baz=116,SNR=17									
NSS	**Namsos**	123.49	31	*e*	PKPdf		PKiKP	16 54 59.6	+0.7	
D23K	**Nanushuk River**	123.52	335		P		PKiKP	16 55 00.6	+1.7	
	baz=117									
E22K	**Anaktuvuk Pass**	123.52	334		P		PKiKP	16 55 00.5	+1.5	
	baz=116									
TIRR	**Tirgusor**	123.53	58		PKP		PKPdf	16 54 59.4	0.0	
O14K	**Tigyukauivet M**	123.53	322		P		PKiKP	16 55 00.3	+1.1	
	baz=114									
K17K	**Iditarod**	123.65	326		P		PKiKP	16 55 00.7	+1.4	
	baz=114									
CFR	**Carcaliu**	123.67	57	⇑	P		PKPdf	16 54 59.2	-0.4	
CFR	**Carcaliu**	123.67	57	⇑	PKIKP		PKPdf	16 54 59.2	-0.4	
F21K	**Alatna River**	123.69	332		P		PKiKP	16 55 00.5	+1.1	
	baz=116									
L16K	**Owhat River**	123.73	325		P		PKiKP	16 55 01.0	+1.5	
	baz=114									
M15K	**Kasigluk River**	123.86	324		P		PKiKP	16 55 01.0	+1.2	
	baz=114									
C23K	**Itkillik River**	123.88	336		P		PKiKP	16 55 00.9	+1.3	
	baz=116									
GCSA	**Alegria City Sc**	123.91	329		P		PKiKP	16 55 00.9	+1.1	
	baz=114									
UNV	**Unalaska Valle**	123.97	315		PKPdf		PKPdf	16 54 59.2	-0.7	
UNV	**Unalaska Valle**	123.97	315		P		PKiKP	16 55 01.4	+1.2	
	baz=114									
N14K	**Kuskokwak Cree**	124.00	323		P		PKiKP	16 55 01.0	+1.0	
	baz=114									
H19K	**Roundabout Mou**	124.06	330		P		PKiKP	16 55 01.3	+1.3	
	baz=114									
KMPD	**K-Podol'skiy**	124.08	52		PKP		PKPdf	16 54 59.8	-0.5	
TLCR		124.10	57	⇓	P		PKiKP	16 55 00.7	-0.1	
TLCR		124.10	57	⇓	PKIKP		PKiKP	16 55 00.7	-0.1	
D22K	**Ayikyak River**	124.13	334		P		PKiKP	16 55 01.6	+1.4	
	baz=115									
J17K	**VABM Dome**	124.25	327		P		PKiKP	16 55 01.8	+1.2	
	baz=114									
E21K	**Killik River**	124.38	334		P		PKiKP	16 55 01.5	+0.8	
	baz=114									
ANTO	**Ankara**	124.38	64		PKP		PKPdf	16 55 01.0	-0.3	
ANTO	**Ankara**	124.38	64		PKP		PKPdf	16 54 59.8	-1.6	
F20K	**Avaraart Lake**	124.42	332		P		PKiKP	16 55 01.5	+0.8	
	baz=114									
SUW	**Suwalki**	124.44	45	*e*	PKP		PKPdf	16 54 59.7	-1.2	
SUW	**Suwalki**	124.44	45				PKPdf	16 54 59.1	-1.7	
SUW	**Suwalki**	124.44	45		PKIKP		PKPdf	16 54 59.1	-1.7	
M14K	**Bethel**	124.45	323		P		PKiKP	16 55 01.9	+1.0	
	baz=113									
G19K	**Purcell Mounta**	124.55	331		P		PKiKP	16 55 02.0	+1.0	
	baz=113									
LEIR	**Leirfjorden**	124.58	30	*e*	PKPdf		PKiKP	16 55 01.0	0.0	
L15K	**Ungalak Mounta**	124.60	325		P		PKiKP	16 55 02.2	+0.9	
	baz=113									
STOK	**Stockvaagen**	124.63	29	*e*	PKPdf		PKiKP	16 55 01.3	+0.1	
H18K	**Honhosa River**	124.65	329		P		PKiKP	16 55 02.3	+1.0	
	baz=113									
KIRS	**Kirsehir-Merke**	124.82	66	⇑	P		PKiKP	16 55 03.3	+0.7	
J16K	**Anvik River**	124.84	327		P		PKiKP	16 55 02.4	+0.7	
	baz=112									
RNPP5	**Staryi Chortor**	124.84	49		PKP		PKPdf	16 55 01.4	-0.3	
MILM	**Milestii Mici**	124.84	55	*e*	PKP		PKPdf	16 55 01.0	-0.8	
	comp=Z,170nm,1.5s									
MILM	**Milestii Mici**	124.84	55	*e*	PKIKP		PKPdf	16 55 01.0	-0.8	
MILM					pmax		pmax			
	comp=Z,170nm,1.5s									
K15K	**Wolf Creek Mou**	124.86	325		P		PKiKP	16 55 02.2	+0.5	
	baz=112									
RNPP8	**Varash**	124.86	49		PKP		PKPdf	16 55 01.4	-0.3	
BR105	**Keskin Array S**	124.88	65		PKP		PKPdf	16 55 02.1	-0.3	
BR106	**Keskin Array S**	124.88	65		PKP		PKPdf	16 55 02.1	-0.3	
BR104	**Keskin Array S**	124.89	65		PKP		PKPdf	16 55 01.9	-0.5	
BR131	**Keskin Array S**	124.89	65	*i*	PKIKP		PKPdf	16 55 01.9	-0.5	
BRTR	**Keskin Array B**	124.89	65				PKPdf	16 55 01.6	-0.8	
BRTR	**Keskin Array B**	124.89	65		PKP		PKPdf	16 55 02.2	-0.2	
	comp=Z,12nm,0.8s,baz=197,slow=3.2,SNR=52									
BRTR					pPKP		pPKPdf	16 55 37.6	0.0	
	comp=Z,5.7nm,1.0s,baz=202,slow=4.9,SNR=2.8									
BRTR					PKKPbc		PKKPbc	17 04 44.9	+2.1	
	comp=Z,1.2nm,0.9s,baz=0.0,slow=0.1,SNR=4.4									
NIKH	**Nikolski High**	124.91	313		P		PKiKP	16 55 02.4	+0.2	
	baz=113									
RNPP9	**Sopachiv**	124.91	49		PKP		PKiKP	16 55 02.0	-0.2	
C21K	**Knifeblade Rid**	124.93	334		P		PKiKP	16 55 02.8	+1.0	
	baz=113									
M13K	**Dall Lake**	124.96	323		P		PKiKP	16 55 02.9	+0.9	
	baz=112									
B22K	**Teshekpuk Lake**	124.97	336		P		PKiKP	16 55 02.7	+1.0	
	baz=114									
L14K	**Kuka Creek**	125.00	324		P		PKiKP	16 55 02.3	+0.2	
	baz=112									
G18K	**Tagagawik**	125.05	330		P		PKiKP	16 55 03.3	+1.2	
	baz=112									
SORM	**Soroca**	125.06	54	⇑	P		PKiKP	16 55 02.4	-0.2	
SORM	**Soroca**	125.06	54	⇑	PKIKP		PKiKP	16 55 02.4	-0.2	
E20K	**Nigu River**	125.06	333		P		PKiKP	16 55 03.3	+1.2	
	baz=113									
B21K	**Ikpikpuk River**	125.06	335		P		PKiKP	16 55 03.1	+1.2	
	baz=113									
F19K	**Shaleruckik Mo**	125.07	331		P		PKiKP	16 55 03.7	+1.6	
	baz=112									
I17K	**Unalakleet**	125.10	327		P		PKiKP	16 55 03.4	+1.2	
	baz=112									
E19K	**Redstone River**	125.11	332		P		PKiKP	16 55 03.2	+1.0	
	baz=112									
H17K	**Granite Mounta**	125.18	329		P		PKiKP	16 55 03.9	+1.5	
	baz=112									
D20K	**Etivluk River**	125.37	334		P		PKiKP	16 55 04.3	+1.6	
	baz=112									
NOR	**Nord**	125.41	9	*i*	P		PKiKP	16 55 02.6	+0.2	
LUBAR	**Lubar, Ukraine**	125.41	51		PKP		PKPdf	16 55 02.6	-0.3	
RAYN	**Ar Rayn**	125.48	88	*i*	PKiKP		PKiKP	16 55 04.4	+0.2	
	SNR=15									
RAYN	**Ar Rayn**	125.48	88	⇑	PKIKP		PKiKP	16 55 04.5	+0.2	
G17K	**Kiwalik Mounta**	125.67	329		P		PKiKP	16 55 04.8	+1.5	
	baz=111									
F18K	**Selawik**	125.68	331		P		PKiKP	16 55 04.7	+1.5	
	baz=111									
A22K	**Sinclair Lake**	125.70	336		P		PKiKP	16 55 04.9	+1.7	
	baz=112									
MI28	**Mi28,Pidlybu**	125.76	50		PKP		PKPdf	16 55 03.4	-0.1	
D19K	**Kuna River**	125.81	333		P		PKiKP	16 55 05.1	+1.5	
	baz=111									
J14K	**Nanvaranak Lak**	125.90	325		P		PKiKP	16 55 04.8	+1.0	
	baz=110									
H16K	**Elim**	126.00	328		P		PKiKP	16 55 05.5	+1.6	
	baz=110									
B20K	**Meade River**	126.03	335		P		PKiKP	16 55 04.8	+1.0	
	baz=111									
K13K	**Kusilvak Mount**	126.10	324		P		PKiKP	16 55 05.4	+1.1	
	baz=110									
BZK	**Bozkurt**	126.12	63	⇓	P		PKiKP	16 55 04.8	-0.1	
F17K	**Baldwin Pennin**	126.23	330		P		PKiKP	16 55 05.2	+0.8	
	baz=110									
M11K	**Mekoryuk**	126.27	322		P		PKiKP	16 55 05.2	+0.6	
	baz=110									
G16K	**Koyuk River**	126.31	329		P		PKiKP	16 55 05.9	+1.4	
	baz=110									
A21K	**Barrow**	126.32	337		P		PKiKP	16 55 05.9	+1.6	
	baz=110									
E18K	**Tukpahlearik C**	126.32	331		P		PKiKP	16 55 05.9	+1.4	
	baz=110									
AK13	**Malin Array Si**	126.45	51		PKP		PKPdf	16 55 04.3	-0.5	
AK20	**Malin Array Si**	126.47	51		PKP		PKPdf	16 55 04.2	-0.6	
AK17	**Malin Array Si**	126.48	51		PKP		PKPdf	16 55 04.5	-0.4	
C19K	**Lookout Ridge**	126.52	334		P		PKiKP	16 55 06.3	+1.3	
	baz=109									
AK06	**Malin Array Si**	126.52	51		PKP		PKPdf	16 55 04.3	-0.6	
KIEV	**Kiev**	126.57	51				PKPdf	16 55 03.5	-1.5	
KIEV					pPKPdf		pPKPdf	16 55 39.2	-1.0	
KIEV	**Kiev**	126.57	51	⇓	P		PKPdf	16 55 04.6	-0.4	
KIEV	**Kiev**	126.57	51	*i*	PKPdf		PKPdf	16 55 04.4	-0.6	
	SNR=14									
KIEV	**Kiev**	126.57	51	⇓	PKIKP		PKPdf	16 55 04.6	-0.4	
KIEV	**Kiev**	126.57	51		PKP		PKPdf	16 55 04.7	-0.3	
AKASG	**Malin Array Be**	126.58	51		PKP		PKPdf	16 55 04.5	-0.5	
	comp=Z,2.3nm,0.3s,baz=271,slow=2.6,SNR=28									
AKASG					pPKP		pPKPdf	16 55 39.5	-0.7	
	comp=Z,3.3nm,0.7s,baz=262,slow=2.8,SNR=2.7									
AKASG					PP		PP	16 57 02.6	-1.0	
	comp=Z,0.7nm,0.5s,baz=247,slow=7.1,SNR=4.4									
AKBB	**Malin Array Si**	126.58	51	*ce*	PKIKP		PKPdf	16 55 04.8	-0.3	
AKBB	**Malin Array Si**	126.58	51		PKP		PKPdf	16 55 04.3	-0.8	
AK03	**Malin Array Si**	126.59	51		PKP		PKPdf	16 55 04.0	-1.1	
P08K	**Saint George I**	126.62	317		P		PKiKP	16 55 06.3	+0.9	
	baz=110									
E17K	**Hotham Inlet**	126.66	331		P		PKiKP	16 55 06.6	+1.4	
	baz=109									
NACGM	**Naroch**	126.72	45	*e*	PKP		PKiKP	16 55 06.2	+0.5	
G15K	**Niukluk**	126.85	328		P		PKiKP	16 55 07.0	+1.3	
	baz=108,SNR=6.2									
C18K	**Utukok River**	126.93	333		P		PKiKP	16 55 07.2	+1.4	
	baz=108									
SPIA	**Saint Paul Isl**	127.18	317		P		PKiKP	16 55 07.7	+1.2	
	baz=110									
MNK	**Minsk**	127.18	46	*i*	PKP		PKiKP	16 55 06.9	+0.3	
	comp=N,10.0nm,0.8s									
MNK				*i*	PKP		PKiKP	16 55 06.9	+0.3	
	comp=Z,56nm,1.0s,baz=250									
MNK				*i*	PKP		PKiKP	16 55 06.9	+0.3	
	comp=E,5.0nm,0.6s									
MNK				*i*	pPKP		pPKPdf	16 55 41.8	+0.5	
MNK				*i*	PP		PP	16 57 06.5	-1.0	
MNK				*i*	PPP		PPP	16 59 51.2		
MNK				*i*	SKS		SKSdf	17 02 00.1	-5.2	
MNK				*i*	SKKS		SKKSdf	17 12 19.4	-1.3	
MNK				*i*	SS		SS	17 13 46.9	-19	
MNK				*i*	SSS		SSS	17 18 52.9		
MNK				*i*	LR		LR	17 48 33.3		
MNK	**Minsk**	127.18	46	*i*	PKIKP		PKiKP	16 55 06.9	+0.3	
MNK				*i*				16 55 41.7		
MNK				*i*				16 57 06.4		
MNK				*i*	PPP		PPP	16 59 51.2		
MNK				*i*				17 02 00.1		
MNK				*i*	SSS		SSS	17 18 52.9		
MNK					pmax		pmax			
	comp=N,10.0nm,0.8s									
MNK					pmax		pmax			
	comp=Z,56nm,1.0s									
MNK					pmax		pmax			
	comp=E,5.0nm,0.6s									
BATI	**Baumata**	127.28	200		PKP		PKiKP	16 55 09.2	+1.0	
BATI	

APA *i* 16 55 55.6
APA *e* 16 57 51.8
APA MLR MLR
comp=Z,1μm,28.0s
SHA1 Shidzhatmaz 132.68 64 *i* PKIKP **PKiKP 16 55 17.8 -0.6**
VSR Storozhevoye 132.70 53 *e*PKIKP **PKPdf 16 55 15.3 -1.4**
VSR pmax pmax
comp=Z,40nm,1.5s
VORD Divnogorie 132.71 53 *e*PKIKP **PKPdf 16 55 15.3 -1.4**
VORD pmax pmax
comp=Z,30nm,1.5s
KIV Kislovodsk 132.77 63 *i* PKPdf **PKPdf 16 55 17.0 -0.2**
SNR=9.2
KIV Kislovodsk 132.77 63 *i* PKIKP **PKPdf 16 55 17.7 +0.5**
KIV *e* 16 57 42.9
KIV *e* 17 02 15.9
KIV *e*PS PS 17 08 01.4 -1.0
KIV *e*SS SS 17 15 14.1 -1.2
KIV *e*SSS SSS 17 20 13.9
KIV pmax pmax
comp=Z,37nm,1.1s
KIV Kislovodsk 132.77 63 PKP **PKPdf 16 55 16.5 -0.7**
KIV Kislovodsk 132.77 63 PKP **PKPdf 16 55 16.6 -0.6**
BKSI Bulukumba 132.83 197 PKP **PKiKP 16 55 19.7 +0.4**
BKSI PKP **PKPdf 16 55 20.8 +2.6**
GNI Garni 132.83 69 PKiKP **PKiKP 16 55 18.6 -0.1**
GNI Garni 132.83 69*ce*PKIKP **PKPdf 16 55 17.8 +0.3**
GNI pmax pmax
comp=Z,65nm,1.7s
KBZ Khabaz 132.84 64 PKP **PKiKP 16 55 18.2 -0.1**
comp=Z,8.2nm,0.8s,baz=251,slow=4.7,SNR=16
KBZ Khabaz 132.84 64*ce*PKIKP **PKPdf 16 55 17.2 +0.1**
MOS Moscow 132.89 47 *e*PKIKP **PKiKP 16 55 17.7 -0.3**
MOS *e* 16 55 50.7
MOS pmax pmax
comp=Z,66nm,1.2s
LPSR Galich'ya Gora 132.91 51 *e*PKIKP **PKPdf 16 55 16.1 -0.9**
LPSR pmax pmax
comp=Z,30nm,0.8s
LVZ Lovozero 133.17 30 PKPdf 16 55 17.2 +0.1
LVZ Lovozero 133.17 30*ce*PKIKP **PKiKP 16 55 19.3 +0.9**
LVZ pmax pmax
comp=Z,77nm,1.7s
GOF Gofitskoye 133.38 62*ce*PKIKP **PKiKP 16 55 20.4 +1.0**
SWI Sorong 133.49 213 PKP **PKiKP 16 55 20.6 -0.1**
SWI PKP **PKPdf 16 55 21.2 +1.8**
ALNE Al Ain 133.56 94 *i* PKIKP **PKiKP 16 55 20.7 +0.2**
SNR=6.0
BNSI Bone 133.73 197 PKP **PKiKP 16 55 20.5 -0.6**
BNSI PKP **PKPdf 16 55 23.1 +3.3**
FAQ Al Faqa, Dubai 133.82 94 *i* PKPdf **PKPdf 16 55 20.0 +0.4**
SNR=7.5
SPSI Sidrap Palu 134.22 197 PKP **PKPdf 16 55 19.9 -0.9**
SPSI PKP **PKiKP 16 55 23.6 +1.5**
VRH Novokhopyorsk 134.25 54 *e*PKIKP **PKPdf 16 55 16.8 -2.8**
VRH pmax pmax
comp=Z,20nm,0.9s
KLMR Klimovskoe 134.70 40 *e*PKIKP **PKPdf 16 55 16.5 -3.6**
KLMR *e* 16 55 53.9
KLMR pmax pmax
comp=Z,104nm,1.2s
MDSI Maura Dua 134.87 175 PKP **PKPdf 16 55 22.5 +0.5**
SHME Shamm 134.94 92 PKPdf **PKPdf 16 55 21.7 0.0**
AKT Akhty 135.43 68 *e*PKIKP **PKPdf 16 55 22.5 +0.2**
AKT *e* 16 55 56.9
AKT *e* 16 57 59.8
AKT *e* 17 08 28.4
AKT pmax pmax
comp=Z,20nm,0.7s
LHSI Lahat 135.47 174 PKP **PKiKP 16 55 26.0 +1.3**
MAK Makhachkala 135.76 66 *e*P **Pdif 16 52 27.0 +0.1**
MAK *e* 16 55 21.0
MAK *e* 16 55 56.6
MAK *e* 17 02 21.5
MAK *e*SSS SSS 17 20 59.0
MAK pmax pmax
comp=Z,226nm,1.3s
KMSI Cibinong 137.47 204 PKP **PKiKP 16 55 34.5 +5.8**
PDSI Padang 137.99 169 PKP **PKPdf 16 55 25.0 -2.8**
BELG Belogornoye 138.08 53 *i* PKIKP **PKPdf 16 55 26.7 +0.1**
PPI Padang Panjang 138.43 169 PKP **PKPdf 16 55 29.4 +0.8**
PALK Pallekele 138.75 136 ⇑PKIKP **PKPdf 16 55 30.0 +0.8**
PALK Pallekele 138.75 136 PKP **PKPdf 16 55 25.7 -3.5**
BILL Bilibino 138.80 331*ce*PKIKP **PKPdf 16 55 27.6 +0.1**
BILL pmax pmax
comp=Z,52nm,1.0s
DSRI Dabo 138.87 175 PKP **PKiKP 16 55 32.4 +0.8**
TOLI2 Tolitoli 138.88 200 PKPpre 16 55 19.4
MNSI Mandailing Nat 139.53 167 PKP **PKPdf 16 55 24.8 -5.8**
KIRV Kirov 139.59 44 *i* PKIKP **PKPdf 16 55 29.6 +0.4**
GSI Gunungsitoli 139.64 164 PKPpre 16 55 19.5
GSI Gunungsitoli 139.64 164 PKP **PKPdf 16 55 29.2 -1.6**
SBSI Sibolga 140.14 166 PKP **PKPdf 16 55 32.7 +1.0**
SBUM Sibu 141.70 187 PKPpre 16 55 27.2
KCSI Kotacane, Aceh 141.83 163 PKP **PKPdf 16 55 30.8 -4.0**
TSI Tuntungan 141.98 165 PKP **PKiKP 16 55 36.5 -1.4**
MLSI Meulaboh, Aceh 142.23 161 PKP **PKPdf 16 55 35.8 +0.4**
LHMI Lhok Sumawe 143.29 161 PKP **PKPdf 16 55 36.6 -0.7**
HRA Herat 143.53 85 PKPbc 16 55 35.2 +0.1
HRA pPKPdf 16 56 08.2 -4.4
PET Petropavlovsk 143.99 307 *i* PKIKP PKPbc 16 55 35.8 +0.3
PET *e* 16 58 53.9
PET *e*SS SS 17 17 29.2 +2.5
PET pmax pmax
comp=Z,900nm,18.0s
PET MLR MLR
comp=Z,500nm,18.0s
ARTI Arti 144.51 47 PKPab 16 55 36.9 +0.1
ARTI Arti 144.51 47 *i* PKIKP **PKPab 16 55 36.4 -0.5**
PEA0B Petropavlovsk- 144.56 308 PKPbc 16 55 37.2 -0.1
PEA0B Petropavlovsk- 144.56 308*ce*PKIKP **PKPdf 16 55 38.3 0.0**
PETK Petropavlovsk- 144.56 308 PKP **PKPdf 16 55 37.8 -0.5**
comp=Z,125nm,0.7s,baz=76,slow=7.0,SNR=86
KKM Kota Kinabalu 144.68 194 PKPab 16 55 38.1 -0.7
AB31 Akbulak array 145.49 59 PKPdf 16 55 40.0 +0.1
SKR Severo-Kuril's 145.49 303*ce*PKP2 **PKPab 16 55 40.7 0.0**
HYB Hyderabad 145.62 124 *e*PKPab **PKPdf 16 55 41.2 0.0**
HYB *e*PKIKP **PKiKP 16 55 45.0 -0.3**
HYB *e*SKSdf **SKSdf 17 02 37.2 -1.2**
HYB *e*SKKSac **SKKSac 17 05 41.8 -1.2**
SEY Seymchan 145.72 325*ce*PKP2 **PKPab 16 55 41.5 +0.3**
SEY pmax pmax
comp=Z,449nm,1.3s
TIXI Tiksi 147.29 348 *i* PKIKP **PKPdf 16 55 41.6 -0.7**
MA2 Magadan 147.49 320 PKPdf 16 55 43.1 0.0
MA2 Magadan 147.49 320*ce*PKIKP **PKPdf 16 55 44.4 +1.4**
MA2 pmax pmax
comp=Z,414nm,1.3s
MA2 Magadan 147.49 320 PKP **PKPdf 16 55 43.8 +0.8**
KBL Kabul 148.75 89 PKPdf 16 55 44.4 -1.9
KBL Kabul 148.75 89 PKHKP PKPpre 16 55 44.4
SIMJ Simiganj 150.11 81 PKPdf 16 55 47.7 -0.4
BRLS Boroldaу 151.68 73 *e*PKP **PKPdf 16 55 50.1 -0.2**
BRLS *e*PKPab **PKPab 16 56 06.0 0.0**
BRLS *ep*PKP **pPKPdf 16 56 24.9 -0.7**
BRLS Boroldaу 151.68 73 *e*PKIKP **PKPdf 16 55 50.0 -0.2**
BRLS *e* 16 56 24.8
IUG Iuzhnay 151.68 74 *e*PKP **PKPdf 16 55 50.4 0.0**
IUG *ep*PKP **pPKPdf 16 56 25.3 -0.4**
IUG Iuzhnay 151.68 74 *e*PKIKP **PKPdf 16 55 50.4 0.0**
IUG *e* 16 56 25.3
BVAR Borovoye Array 151.86 51 PKP **PKPdf 16 55 50.8 +0.6**
comp=Z,13nm,0.8s,baz=294,slow=1.5,SNR=47
KK31 Karatay Array 152.18 73 PKPdf 16 55 50.1 -0.9
KK31 Karatay Array 152.18 73 PKIKP **PKPdf 16 55 50.1 -0.9**
DZA Taraz 152.74 73 *e*PKP **PKPdf 16 55 52.2 +0.3**
DZA Taraz 152.74 73 *e*PKIKP **PKPdf 16 55 52.2 +0.3**
ERM Erimo 153.67 284 PKP **PKPdf 16 55 55.4 +2.2**
ARSB Arslanbob 153.70 77 PKPdf 16 55 53.0 -0.5
ARSB Arslanbob 153.70 77 PKIKP **PKPdf 16 55 53.0 -0.5**
BRZS Berezniki 153.75 57 *e*PKP **PKPdf 16 55 53.6 +0.6**
BRZS Berezniki 153.75 57 *e*PKIKP **PKPdf 16 55 53.6 +0.6**
TYV Tymovskoe 154.00 305 *e*PKP2 **PKPab 16 56 17.0 +1.5**
TYV pmax pmax
comp=Z,37nm,0.8s
TYV pmax pmax
comp=Z,400nm,4.3s
YSS Yuzhno-Sakhali 154.30 296 *i* PKIKP **PKPdf 16 55 52.6 -1.3**
YSS *e* 16 56 18.2
YSS *e* 16 56 34.5
YSS *e* 16 59 55.6
YSS *e* 17 02 51.9
YSS *e* 17 03 33.9
YSS *e*SS SS 17 19 25.0 +2.7
YSS *e* 17 20 09.5
ASAJ Asahikawa 154.33 289 PKP **PKPdf 16 55 56.0 +2.0**
comp=Z,7.6nm,0.9s,baz=321,slow=6.5,SNR=6.1
ASAJ PKPbc **PKiKP 16 56 03.6 +1.1**
comp=Z,37nm,1.1s,baz=284,slow=3.7,SNR=15
ASAJ PKPab **PKPab 16 56 18.4 +1.2**
comp=Z,65nm,0.9s,baz=203,slow=5.9,SNR=11
BTLS Baital 154.89 69 *e*PKP **PKPdf 16 55 54.9 +0.1**
BTLS *e*PKPab **PKPab 16 56 20.2 +0.6**
BTLS *e*PP **PP 16 59 57.0 +0.5**
BTLS Baital 154.89 69 *e*PKIKP **PKPdf 16 55 54.9 +0.1**
BTLS *e* 16 59 56.9
YAK Yakutsk 154.97 336 *e*PKIKP **PKPdf 16 55 54.0 -0.3**
YAK *e* 16 59 56.1
YAK pmax pmax
comp=Z,96nm,1.1s
YAK pmax pmax
comp=N,22nm,1.5s
YAK pmax pmax
comp=E,19nm,1.4s
YAK pmax pmax
comp=Z,540nm,4.3s
YAK pmax pmax
comp=N,270nm,4.7s
YAK pmax pmax
comp=E,187nm,4.6s
AAK Ala-Archа 155.02 75 *i* PKPdf **PKPdf 16 55 57.1 +1.8**
SNR=6.4
AAK Ala-Archа 155.02 75 PKP **PKPdf 16 55 52.8 -2.5**
SGDS Sogindy 155.20 73 *e*PKP **PKPdf 16 55 55.5 +0.1**
KSH Kashi 155.57 82 PKP **PKPdf 16 55 56.0 -0.1**
KSH SKKS
KSH LR LR
comp=E,560nm,22.0s
KSH LR LR
comp=E,300nm,21.3s
KSH LR LR
comp=E,460nm,23.4s
MJAR Matsushiro Arr 156.07 270 PKP **PKPdf 16 55 56.5 -0.2**
comp=E,13nm,1.1s,baz=188,slow=1.6,SNR=21
MJAR PKPab **PKPab 16 56 25.1 +0.2**
comp=E,29nm,0.8s,baz=145,slow=3.9,SNR=17
MAJO Matsushiro 156.07 270 PKPdf 16 55 54.3 -2.4
MAJO PKPab **PKPab 16 56 23.4 -1.5**
MAJO Matsushiro 156.07 270 PKIKP **PKPdf 16 55 54.3 -2.4**
MAJO 16 56 23.4
MAJO Matsushiro 156.07 270 PKP **PKPdf 16 55 53.5 -3.1**
CMAR Chiang Mai Arr 156.48 158 PKP **PKPdf 16 55 57.8 0.0**
comp=E,18nm,1.0s,baz=239,slow=2.6,SNR=80
CMAR PKPab **PKPab 16 56 26.6 -0.3**
comp=E,19nm,1.0s,baz=220,slow=4.6,SNR=9.7
CMAR PP **PP 17 00 05.5 +1.3**
comp=E,1.2nm,0.6s,baz=221,slow=1.2,SNR=5.0
INU Inuyama 156.56 266 PKPab 16 56 27.6 +0.7
CHTO Chiang Mai 156.82 158 PKP **PKPdf 16 55 56.5 -1.6**
AAA Alma-Ata 156.84 74 *e*PKP **PKPdf 16 55 57.7 +0.1**
AAA Alma-Ata 156.84 74 *e*PKIKP **PKPdf 16 55 57.6 +0.1**
TNSS Tian-Shan 156.85 74 *e*PKP **PKPdf 16 55 57.8 -0.2**
TNSS *e*PKPab **PKPab 16 56 28.8 +0.2**
TNSS Tian-Shan 156.85 74 *e*PKIKP **PKPdf 16 55 57.8 -0.2**
KDJ Kajisay 156.93 76 PKPab 16 56 29.6 +0.9
MDOK Medeo 156.94 74 *e*PKP **PKPdf 16 55 57.8 0.0**
MDOK *e*PKPab **PKPab 16 56 29.2 +0.6**
MDOK Medeo 156.94 74 *e*PKIKP **PKPdf 16 55 57.7 0.0**
KURBB Kurchatov Arra 157.31 54 PKP **PKPdf 16 55 58.2 +0.4**
comp=E,38nm,1.1s,baz=286,slow=1.8,SNR=93
KURBB PKPab **PKPab 16 56 29.2 -0.5**
comp=E,12nm,0.7s,baz=285,slow=4.2,SNR=4.7
KURBB PP **PP 17 00 10.5 +0.9**
comp=E,2.8nm,0.8s,baz=272,slow=6.2,SNR=4.8
KURK Kurchatov 157.35 54 PKPdf 16 55 57.2 -0.6
KURK Kurchatov 157.35 54 PKIKP **PKPdf 16 55 58.2 +0.4**
KURK 16 56 29.3
ARXS Arharly 157.56 71 *e*PKIKP **PKPdf 16 55 56.2 -2.2**
GRNR Gornyy 157.88 307 ⇑*i*PKIKP **PKPdf 16 55 58.5 0.0**
GRNR pmax pmax
comp=Z,8.0nm,1.2s
GRNR MLR MLR
comp=E,290nm,11.0s
SATY Saty 157.92 74 *e*PKP **PKPdf 16 55 59.2 +0.2**
SATY Saty 157.92 74 *e*PKIKP **PKPdf 16 55 59.1 +0.2**
TDK Taldyqorghan 157.98 69 *e*PKP **PKPdf 16 55 59.0 +0.1**
TDK Taldyqorghan 157.98 69 *e*PKIKP **PKPdf 16 55 58.9 +0.1**
JOW Kunigami 158.23 237 PKPab **PKPab 16 56 33.5 -0.8**
comp=E,26nm,1.0s,baz=255,slow=5.4,SNR=4.1
QIZ Qiongzhong 158.31 185 PKP **PKPdf 16 55 59.5 -0.5**
QIZ pPKP **pPKPdf 16 56 35.0 -0.3**
QIZ PP **PP 17 00 15.5 +1.5**
QIZ SS SS 17 20 06.5 +3.5
QIZ LR LR
comp=E,290nm,16.4s
QIZ LR LR
comp=E,250nm,13.7s
QIZ LR LR
comp=E,540nm,26.6s
UZB Uzynbulak 158.38 74 *e*PKP **PKPdf 16 55 59.6 0.0**
UZB Uzynbulak 158.38 74 *e*PKIKP **PKPdf 16 55 59.6 0.0**
TEY Ternei 158.64 291*de*PKIKP **PKPdf 16 55 56.3 -3.2**
TEY *e* 17 00 15.7
SHLS Shalkode 158.70 74 *e*PKP **PKPdf 16 56 00.5 +0.6**
SHLS Shalkode 158.70 74 *e*PKIKP **PKPdf 16 56 00.5 +0.6**
ZAA0 Zalesovo Array 159.61 42 PKPdf 16 55 59.6 -0.8
ZALV Zalesovo Beam 159.61 42 PKPdf 16 55 58.9 -1.5
ZALV Zalesovo Beam 159.61 42 PKP **PKPdf 16 55 60.0 -0.4**
comp=E,13nm,0.8s,baz=266,slow=2.4,SNR=54
ZALV PKPab **PKPab 16 56 38.4 -1.2**
comp=E,20nm,1.0s,baz=298,slow=3.2,SNR=7.2
SHL Shillong 159.80 134 PKPdf 16 56 00.4 -1.4
SHL **pPKPdf 16 56 39.1 +2.0**
SHL Shillong 159.80 134 PKIKP **PKPdf 16 56 00.4 -1.4**
SHL 16 56 39.1
JNU Nakatsue 160.21 255 PKPab **PKPab 16 56 43.0 +0.1**
comp=E,21nm,0.8s,baz=81,slow=5.5,SNR=9.3
MKAR Makanchi Array 160.54 63 PKP **PKPdf 16 56 01.8 +0.1**
comp=E,14nm,1.1s,baz=286,slow=1.8,SNR=51
MKAR PKPab **PKPab 16 56 43.0 -1.0**
comp=E,12nm,0.7s,baz=274,slow=2.6,SNR=16
MKAR PP **PP 17 00 26.7 -0.7**
comp=E,6.5nm,1.1s,baz=276,slow=5.5,SNR=4.0
ZEA Zeya 161.62 322 *i* PKIKP **PKPdf 16 56 00.8 -1.8**
ZEA *e* 17 00 33.9
ZEA *e* 17 13 58.9
ZEA pmax pmax
comp=Z,20nm,1.8s
ZEA pmax pmax
comp=E,200nm,7.1s
ZEA pmax pmax
comp=N,200nm,12.4s
ZEA pmax pmax
comp=Z,600nm,7.9s
QZH Quanzhou 161.93 213 PKP **PKPdf 16 56 05.0 +1.2**
QZH PP **PP 17 00 33.0 -0.9**
QZH LR LR
comp=Z,1μm,15.5s
QZH LR LR
comp=Z,1μm,12.4s
QZH LR LR
comp=Z,1μm,24.1s
USRK Ussuriysk Ar. 161.96 289 PKP **PKPdf 16 56 03.0 -0.3**
comp=Z,1.8nm,0.8s,baz=174,slow=3.8,SNR=9.9
USRK PKPab **PKPab 16 56 50.6 +0.4**
comp=Z,13nm,0.7s,baz=101,slow=4.8,SNR=18
USRK PP **PP 17 00 37.0 +1.9**
comp=Z,1.2nm,0.8s,baz=65,slow=5.0,SNR=5.3
ZSN Zaisan 162.13 60 *e*PKP **PKPdf 16 56 03.9 +0.4**
ZSN Zaisan 162.13 60 *e*PKIKP **PKPdf 16 56 03.8 +0.4**
LSA Lhasa 162.43 124 PKPdf 16 56 03.8 -1.0
LSA **PKPab 16 56 51.0 -2.2**
LSA Lhasa 162.43 124 PKP PKPdf 16 55 51.8 -13
LSA PP pPKPab 16 57 18.0 -9.0
LSA LR LR
comp=N,320nm,15.9s
LSA LR LR
comp=E,300nm,14.5s
LSA LR LR
comp=Z,270nm,25.6s
LSA Lhasa 162.43 124 PKPdf **PKPdf 16 56 06.0 +1.2**
LSA Lhasa 162.43 124 PKIKP **PKPdf 16 56 03.8 -1.0**
LSA 16 56 51.0
BOD Bodaibo 162.46 349 *e*PKIKP **PKPdf 16 56 00.7 -2.6**
BOD pmax pmax
comp=Z,23nm,1.3s
TNCH TengChong 162.46 150 PKP **PKPdf 16 56 04.5 -0.1**
TNCH pPKP pPKPdf 16 56 38.8 -1.3
TNCH PKPab **PKPab 16 56 53.0 0.0**
TNCH PP **PP 17 00 38.5 +1.5**
TNCH SKKS 17 07 13.3
TNCH SS **SS 17 20 51.5 +3.9**
TNCH AMB AMB
comp=Z,210nm,5.7s
TNCH LR LR
comp=Z,220nm,20.1s
TNCH LR LR
comp=Z,190nm,16.3s
TNCH LR LR
comp=Z,590nm,24.3s
HEH HeiHe 163.41 312 PKP **PKPdf 16 56 04.0 -0.5**
HEH PKPab **PKPab 16 56 57.0 +0.6**
HEH AMB AMB
comp=Z,1μm,6.3s
MDJ Mudanjiang 163.64 291 PKPab 16 56 58.7 +1.1
MDJ Mudanjiang 163.64 291 PKP **PKPdf 16 56 02.8 -2.1**
MDJ PP **PP 17 00 44.0 +0.1**
MDJ AMB AMB
comp=Z,1μm,6.9s
KMI Kunming 163.83 163 ⇑PKP **PKPdf 16 56 05.8 -0.2**
KMI pPKP pPKPdf 16 56 40.5 -0.9
KSRS Korea Array 164.17 265 PKP **PKPdf 16 56 05.8 +0.2**
comp=Z,8.3nm,1.1s,baz=187,slow=1.0,SNR=23
KSRS PKPab **PKPab 16 57 00.9 +0.9**
comp=Z,10nm,0.9s,baz=114,slow=4.3,SNR=16
KSAR Wonju Array Be 164.19 264 PKPab 16 57 01.3 +1.1
KSAR Wonju Array Be 164.19 264 PKP2 **PKPab 16 57 01.3 +1.1**
GULI GuiLin 164.47 188 ⇓PKP **PKPdf 16 56 07.0 +0.7**
WMQ Urumqi 164.68 72 PKP **PKPdf 16 56 03.5 -2.5**
WMQ PP **PP 17 00 50.5 +1.0**
WMQ AMB AMB
comp=Z,780nm,5.7s
WMQ LR LR
comp=Z,270nm,22.3s
PZH PanZhiHua 164.90 158 PKP **PKPdf 16 56 08.0 +1.2**
PZH pPKP **pPKPdf 16 56 41.0 -1.2**
PZH PKPab **PKPab 16 57 03.5 0.0**
PZH PP **PP 17 00 49.8 +0.3**
PZH SKKS 17 07 23.0
PZH SS **SS 17 21 16.5 +4.2**
PZH AMB AMB
comp=Z,230nm,5.9s
BNX BinXian 164.99 296 ⇓PKP **PKPdf 16 56 04.0 -2.0**
BNX pPKP **pPKPdf 16 56 39.0 -2.4**
BNX PP **PP 17 00 50.3 -0.6**
BNX SS SS 17 21 18.0 +3.2
BNX AMB AMB
comp=Z,1μm,6.5s
BNX LR LR
comp=Z,260nm,16.3s
BNX LR LR
comp=Z,290nm,15.7s
BNX LR LR
comp=Z,740nm,19.1s
SSE Sheshan 165.62 232 PKP **PKPdf 16 56 06.0 -1.0**
SSE PP **PP 17 00 52.0 -1.8**
SSE SS SS 17 21 20.3 -0.4
SSE AMB AMB
comp=Z,240nm,6.6s
SSE LR LR
comp=Z,450nm,13.8s
SSE LR LR
comp=Z,340nm,14.0s
GYA Guiyang 165.72 175 ⇓PKP **PKPdf 16 56 08.3 +0.8**
GYA PKPab **PKPab 16 57 08.3 +1.2**
GYA PP **PP 17 00 51.5 -2.1**
GYA SS SS 17 21 21.0 +0.7
CN2 Changchun 166.69 289 PKP **PKPdf 16 56 06.5 -1.0**
CN2 PKPab **PKPab 16 57 07.5 -3.6**
CN2 AMB AMB
comp=Z,900nm,7.5s
CN2 LR LR
comp=Z,800nm,14.0s
CN2 LR LR
comp=Z,500nm,14.0s
CN2 LR LR
comp=Z,400nm,14.6s
CNSH ChangSha 166.83 200 PKP **PKPdf 16 56 09.3 +1.2**
CNSH PP **PP 17 00 58.5 -0.8**
CNSH SKKS 17 07 36.0
CNSH SS **SS 17 21 33.8 +2.3**
CNSH LR LR
comp=Z,2μm,18.3s
CNSH LR LR
comp=Z,1μm,12.6s
CNSH LR LR
comp=Z,1μm,15.7s
NJ2 Nanjing 167.68 229 *i* PKP **PKPdf 16 56 07.8 -0.8**
NJ2 PKPab **PKPab 16 57 15.3 -0.3**
NJ2 PP **PP 17 01 04.5 +0.2**
NJ2 AMB AMB
comp=Z,410nm,11.2s
NJ2 LR LR
comp=Z,1μm,14.5s
NJ2 LR LR
comp=Z,640nm,15.0s
NJ2 LR LR
comp=Z,810nm,16.9s
MOY Mondy 168.05 21 *e*PKIKP **PKPdf 16 56 08.3 -0.1**
MOY *e* 16 56 42.6
MOY pmax pmax
comp=Z,118nm,3.1s
CIT Chita 168.07 343 *e*PKIKP **PKPdf 16 56 06.8 -1.5**
CIT *e* 16 56 42.2
CIT pmax pmax
comp=Z,126nm,3.6s
SNY Shenyang 168.20 280 ⇑PKP **PKPdf 16 56 04.8 -3.8**
SNY SKKS 17 07 41.0
SNY AMB AMB
comp=Z,740nm,8.6s
SNY LR LR
comp=Z,260nm,23.7s
SNY LR LR
comp=Z,410nm,19.6s
SNY LR LR
comp=Z,500nm,20.4s
IRK Irkutsk 168.21 11 *e*PKIKP **PKPdf 16 56 07.2 -1.1**
IRK *e* 16 57 15.1
IRK pmax pmax
comp=Z,94nm,2.3s
WHN Wuhan 168.59 209 ⇑PKP **PKPdf 16 56 09.3 +0.1**
WHN pPKP **pPKPdf 16 56 44.0 -0.7**
WHN PKPab **PKPab 16 57 20.8 +1.2**
WHN PP **PP 17 01 05.5 -2.9**
WHN SKKS 17 07 43.0
WHN SS **SS 17 21 49.8 +0.3**
WHN LR LR
comp=Z,960nm,19.3s
GOMU GeErMu 168.74 109 PKP **PKPdf 16 56 10.0 +0.3**
GOMU pPKP pPKPdf 16 56 45.5 +0.4
GOMU PP **PP 17 01 11.8 +1.1**
GOMU SKKS 17 07 45.3
GOMU AMB AMB
comp=Z,340nm,6.4s
GOMU LR LR
comp=Z,290nm,22.0s
GOMU LR LR
comp=Z,130nm,18.5s
GOMU LR LR
comp=Z,370nm,20.5s
DL2 Dalian 169.33 265 PKP **PKPdf 16 56 06.0 -3.4**
DL2 pPKP **pPKPdf 16 56 42.3 -2.4**
DL2 PP **PP 17 01 10.5 -2.9**
DL2 AMB AMB
comp=Z,730nm,8.6s
DL2 LR LR
comp=Z,880nm,14.2s
DL2 LR LR
comp=Z,770nm,15.4s
DL2 LR LR
comp=Z,1μm,15.3s
ENH Enshi 169.49 187 PKPdf 16 56 07.8 -2.1
ENH **PKPab 16 57 20.5 -3.0**
CD2 Chengdu 169.62 159 PKP **PKPdf 16 56 10.3 +0.3**
CD2 pPKP pPKPdf 16 56 45.0 -0.4
CD2 PP **PP 17 01 13.0 -0.6**
CD2 SKKS 17 07 45.8
CD2 SS **SS 17 22 02.0 +2.4**
CD2 AMB AMB
comp=Z,340nm,5.0s

CD2					LR	LR				
	comp=Z,1μm,27.0s									
CD2					LR	LR				
	comp=Z,990nm,30.4s									
CD2					LR	LR				
	comp=Z,800nm,24.5s									
ZAK	**Zakamensk**	**169.81**	**17**	*e*PKIKP	**PKPdf**		**16 56 09.1**	**-0.4**		
ZAK				pmax	pmax					
	comp=Z,27nm,1.9s									
TIA	**Tai'an**	**171.52**	**241**	PKP	**PKPdf**		**16 56 10.8**	**0.0**		
TIA				pPKP	**pPKPdf**		**16 56 46.0**	**-0.2**		
TIA				PP	**PP**		**17 01 22.5**	**-1.5**		
TIA				SKKS			17 07 58.5			
TIA				AMB	AMB					
	comp=Z,1μm,8.4s									
TIA				LR	LR					
	comp=Z,260nm,19.6s									
TIA				LR	LR					
	comp=Z,310nm,22.0s									
TIA				LR	LR					
	comp=Z,370nm,22.4s									
SONM	**Songino Array**	**172.81**	**8**		**PKPab**		**16 57 39.5**	**+1.5**		
SONM	**Songino Array**	**172.81**	**8**	PKP	**PKPdf**		**16 56 11.1**	**0.0**		
	comp=Z,22nm,1.2s,baz=210,slow=0.9,SNR=58									
SONM				PKPab	**PKPab**		**16 57 38.6**	**+0.6**		
	comp=Z,11nm,0.9s,baz=330,slow=4.0,SNR=12									
SONM				PP	**PP**		**17 01 30.0**	**+0.6**		
	comp=Z,5.9nm,1.0s,baz=6.6,slow=3.4,SNR=10									
ULN	**Ulaanbaatar**	**172.84**	**5**		**PKPab**		**16 57 39.8**	**+1.6**		
ULN	**Ulaanbaatar**	**172.84**	**5**	PKP2	**PKPab**		**16 57 39.8**	**+1.6**		
LYN	**LuoYang**	**172.87**	**211**	⇑PKP	**PKPdf**		**16 56 11.3**	**-0.1**		
LYN				PKPab	**PKPab**		**16 57 39.0**	**+0.5**		
LYN				PP	**PP**		**17 01 26.5**	**-3.3**		
LYN				AMB	AMB					
	comp=Z,600nm,5.3s									
XLT	**XiLinHaoTe**	**173.21**	**300**	*e*PKP	**PKPdf**		**16 56 12.5**	**+1.1**		
XLT				PKPab	**PKPab**		**16 57 41.8**	**+1.7**		
XLT				PP	**PP**		**17 01 32.0**	**-0.4**		
XLT				SKKS			17 08 08.5			
XAN	**Xi'an**	**173.28**	**187**	⇑PKP	**PKPdf**		**16 56 12.5**	**+0.8**		
XAN				pPKP	pPKPdf		16 56 47.5	+0.4		
XAN				PKPab	**PKPab**		**16 57 41.5**	**+1.2**		
XAN				PP	**PP**		**17 01 32.5**	**+1.0**		
XAN				SKKS			17 08 08.3			
XAN				SS	**SS**		**17 22 39.0**	**+4.0**		
XAN				AMB	AMB					
	comp=Z,1μm,8.6s									
GTA	**Gaotai**	**173.61**	**99**	*e*PKP	**PKPdf**		**16 56 11.5**	**-0.2**		
GTA				pPKP	pPKPdf		16 56 47.3	+0.1		
GTA				PKPab	**PKPab**		**16 57 43.0**	**+0.9**		
GTA				PP	**PP**		**17 01 37.0**	**+2.3**		
GTA				SKKS			17 08 08.0			
GTA				AMB	AMB					
	comp=Z,2μm,6.5s									
GTA				LR	LR					
	comp=Z,420nm,23.3s									
GTA				LR	LR					
	comp=Z,260nm,23.6s									
GTA				LR	LR					
	comp=Z,750nm,23.3s									
BJI	**Beijing**	**173.70**	**266**	PKP	**PKPdf**		**16 56 12.0**	**+0.5**		
BJI				PP	**PP**		**17 01 34.0**	**-1.0**		
BJI				SKKS			17 08 06.3			
BJI				AMB	AMB					
	comp=Z,290nm,5.5s									
BJI				LR	LR					
	comp=Z,530nm,16.0s									
BJI				LR	LR					
	comp=Z,270nm,16.8s									
BJI				LR	LR					
	comp=Z,540nm,17.5s									
BJT	**Baijiatuan**	**173.70**	**266**		**PKPab**		**16 57 42.7**	**+0.4**		
BJT	**Baijiatuan**	**173.70**	**266**	PKP2	**PKPab**		**16 57 42.7**	**+0.4**		
HNS	**HongShan**	**173.79**	**240**	⇑PKP	**PKPdf**		**16 56 11.5**	**-0.1**		
HNS				pPKP	**pPKPdf**		**16 56 45.8**	**-1.2**		
HNS				PKPab	**PKPab**		**16 57 44.0**	**+1.4**		
HNS				PP	**PP**		**17 01 34.5**	**-0.5**		
HNS				AMB	AMB					
	comp=Z,920nm,7.3s									
HNS				LR	LR					
	comp=Z,330nm,18.1s									
HNS				LR	LR					
	comp=Z,220nm,17.4s									
HNS				LR	LR					
	comp=Z,450nm,18.0s									
LZDM	**Lanzhou Array**	**174.17**	**143**	PKP	**PKPdf**		**16 56 13.3**	**+1.0**		
	comp=Z,3.7nm,0.4s,baz=224,slow=6.2,SNR=4.8									
LZDM				PKPab	**PKPab**		**16 57 45.0**	**+0.3**		
	comp=Z,2.5nm,0.3s,baz=150,slow=4.0,SNR=1.7									
LZH	**Lanzhou**	**174.34**	**144**	*e*PKP	**PKPdf**		**16 56 13.0**	**+0.9**		
LZH				PKPab	**PKPab**		**16 57 45.8**	**+0.5**		
LZH				PP	**PP**		**17 01 41.0**	**+3.6**		
LZH				SKKS			17 08 10.5			
LZH				AMB	AMB					
	comp=Z,340nm,5.8s									
LZH				LR	LR					
	comp=Z,320nm,21.0s									
LZH				LR	LR					
	comp=Z,340nm,21.4s									
LZH				LR	LR					
	comp=Z,660nm,21.7s									
TIY	**Taiyuan**	**175.41**	**230**	PKP	**PKPdf**		**16 56 12.3**	**0.0**		
TIY				PKPab	**PKPab**		**16 57 50.5**	**+0.6**		
TIY				PP	**PP**		**17 01 42.8**	**+0.1**		
TIY				AMB	AMB					
	comp=Z,550nm,5.8s									
HHC	**Hu-ho-hao-te**	**177.27**	**274**	⇓*i*PKP	**PKPdf**		**16 56 14.5**	**+1.9**		
HHC				pPKP	pPKPdf		16 56 46.0	-2.0		
HHC				SKKS			17 08 25.5			
BTO	**Baotou**	**178.43**	**266**	*e*PKP	**PKPdf**		**16 56 13.5**	**+0.7**		
BTO				PP	**PP**		**17 01 57.8**	**+0.1**		
BTO				SS	SS		17 23 26.0	-1.1		
BTO				LR	LR					
	comp=Z,1μm,24.5s									
BTO				LR	LR					
	comp=Z,720nm,22.9s									
BTO				LR	LR					
	comp=Z,1μm,24.5s									

NEIC ***26*** *16:46:53.0±2.1,30.˚43S×0.˚09×177.˚5W±0.˚3,h28km±7km, mb4.6/17, Error ellipse: s-maj=32.9km s-min=10.8km az=75.0*

IDC ***26*** *16:47:02.0±0.8,29.˚44S×178.˚19W,h73km±12km,mb4.1/4, mbtmp4.4/4, Error ellipse: s-maj=32.4km s-min=26.6km az=3.0*

ISC 26 16:46:54.0±0.8,30.˚56S±0.˚05×177.˚7W±0.˚1,h35km,n55, σ1999/43,mb4.5/14,4C,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.30**	**353**	P	**Pn**	**16 47 13.8**	**-1.9**
GLKZ				S	**Sn**	**16 47 27.8**	**-4.0**
RAO	**Raoul Island**	**1.31**	**353**		**Pn**	**16 47 14.5**	**-1.3**
RAO				Sn	**Sn**	**16 47 28.1**	**-3.9**
RAO	**Raoul Island**	**1.31**	**353**	P	**Pn**	**16 47 14.7**	**-1.1**
	1μm,0.2s,baz=44,slow=18,SNR=19						
RAO				S	**Sn**	**16 47 31.4**	**-0.6**
	4μm,0.3s,baz=42,slow=19,SNR=15						
RIZ	**Raoul Island**	**1.32**	**353**	P	**Pn**	**16 47 14.2**	**-1.8**
RIZ				S	**Sn**	**16 47 28.6**	**-3.6**
MXZ	**Matakaoa Point**	**7.72**	**204**	Pn	**Pn**	**16 48 43.3**	**-0.5**
MXZ				Sn	**Sn**	**16 50 08.3**	**-1.7**
MXZ	**Matakaoa Point**	**7.72**	**204**	P	Pn	16 48 37.2	-6.6
MXZ				S	**Sn**	**16 50 08.6**	**-1.4**
WMGZ	**Waiomatatini S**	**7.91**	**203**	S	**Sn**	**16 50 12.4**	**-2.3**
PKGZ	**Pakihiroa**	**8.07**	**204**	S	**Sn**	**16 50 18.5**	**-0.2**
HAZ	**Te Kaha**	**8.08**	**206**	P	**Pn**	**16 48 46.1**	**-2.7**
TWGZ	**Tauwhareparae**	**8.38**	**204**	P	Pn	16 48 46.8	-6.2
TWGZ				S	**Sn**	**16 50 24.2**	**-2.1**
URZ	**Urewera**	**8.78**	**208**	P	**Pn**	**16 48 55.9**	**-2.5**
URZ				S	**Sn**	**16 50 34.7**	**-1.3**
BKZ	**Black Stump Fm**	**9.80**	**207**	P	Pn	16 49 04.7	-7.8
BKZ				S	**Sn**	**16 50 58.0**	**-3.3**
BFZ	**Birch Farm**	**11.22**	**204**	Pn	Pn	16 49 25.9	-5.9
MRZ	**Mangatainoka R**	**11.45**	**206**	Pn	Pn	16 49 30.1	-4.9
TUWZ	**Tuamarina**	**12.76**	**209**	Pn	**Pn**	**16 49 50.7**	**-2.1**
KHZ	**Kahutara**	**13.74**	**208**	Pn	**Pn**	**16 50 02.1**	**-4.2**
CTAO	**Charters Tower**	**34.04**	**279**	P	**P**	**16 53 35.0**	**0.0**
STKA	**Stephens Creek**	**34.66**	**257**	P	**P**	**16 53 41.4**	**+1.2**
STKA	**Stephens Creek**	**34.66**	**257**	P	**P**	**16 53 43.1**	**+2.9**
	4.2nm,0.4s,baz=111,slow=14,SNR=19						
	4.2nm,0.4s						

INKA	**Innaminka**	**36.22**	**264**	P	**P**		**16 53 56.0**	**+2.3**		
INKA				IAmb	IAmb		16 55 15.5			
	comp=Z,9.7nm,1.5s									
PMG	**Port Moresby**	**38.87**	**295**	P	**P**		**16 54 18.0**	**+1.8**		
BBOO	**Buckleboo**	**39.14**	**254**	P	**P**		**16 54 19.6**	**+1.3**		
BBOO				IAmb	IAmb		16 54 46.0			
	comp=Z,27nm,1.4s									
COEN	**Coen**	**39.53**	**286**	P	**P**		**16 54 22.9**	**+1.2**		
AS31	**Alice Springs**	**43.32**	**267**	P	**P**		**16 54 52.0**	**-0.8**		
ASAR	**Alice Springs**	**43.32**	**267**	P	**P**		**16 54 54.1**	**+1.3**		
	comp=Z,0.9nm,0.3s,baz=107,slow=7.5,SNR=25									
	comp=Z,0.9nm,0.3s									
WB2	**Warramunga Arr**	**44.31**	**272**	P	**P**		**16 55 02.1**	**+1.3**		
WB2				IAmb	IAmb		16 55 35.7			
	comp=Z,12nm,1.2s									
WRA	**Warramunga Arr**	**44.32**	**272**	P	**P**		**16 55 02.1**	**+1.2**		
	comp=Z,1.7nm,0.3s,baz=110,slow=8.1,SNR=37									
	comp=Z,1.7nm,0.3s									
WB0	**Warramunga Arr**	**44.35**	**272**	P	**P**		**16 55 01.7**	**+0.6**		
WB0				IAmb	IAmb		16 55 15.6			
	comp=Z,9.0nm,1.1s									
FORT	**Forrest**	**46.22**	**255**	P	**P**		**16 55 16.5**	**+0.8**		
FORT				IAmb	IAmb		16 56 24.1			
	comp=Z,11nm,0.9s									
VNDA	**Vanda**	**47.96**	**186**	P	**P**		**16 55 28.9**	**+0.2**		
VNDA				IAmb	IAmb		16 56 56.3			
	comp=Z,4.6nm,1.4s									
KNRA	**Kununurra**	**50.94**	**274**	P	**P**		**16 55 53.2**	**+1.0**		
KNRA				IAmb	IAmb		16 57 38.9			
	comp=Z,15nm,1.1s									
FITZ	**Fitzroy Crossi**	**52.58**	**270**	P	**P**		**16 56 05.9**	**+1.4**		
CASY	**Casey**	**55.10**	**208**	P	**P**		**16 56 22.7**	**+0.5**		
QSPA	**South Pole Qui**	**59.55**	**180**	P	**P**		**16 56 56.5**	**+2.7**		
QSPA				IAmb	IAmb		16 57 09.0			
	comp=Z,14nm,1.4s									
QSPA	**South Pole Qui**	**59.55**	**180**	P	P		16 57 05.5	+12		
	comp=Z,4.1nm,0.7s,baz=65,slow=6.3,SNR=16									
	comp=Z,4.1nm,0.7s									
BELA	**Belgrano 2**	**69.60**	**172**	P	**P**		**16 57 59.8**	**+0.8**		
BELA				IAmb	IAmb		17 00 20.3			
	comp=Z,4.0nm,1.2s									
TROLL	**Troll, Antarti**	**77.72**	**180**	⇑P	P		16 58 55.1	+8.2		
	comp=Z,90nm,0.9s									
SNAA	**Sanae**	**77.99**	**178**	⇑P	P		16 58 57.4	+9.0		
	comp=Z,11nm,0.3s									
SNAA	**Sanae**	**77.99**	**178**	P	**P**		**16 58 46.9**	**-1.4**		
VNA3	**Neumayer Olymp**	**78.13**	**176**	⇑P	P		16 58 58.2	+9.2		
	comp=Z,3.4nm,0.8s									
VNA2	**Neumayer--Watz**	**78.57**	**177**	⇑P	P		16 59 01.2	+10		
	comp=Z,2.2nm,0.5s,baz=181,slow=5.6									
H03S2	**Juan Fernandez**	**80.19**	**123**	T	T		18 28 13.7			
	baz=238,slow=74,SNR=12									
H03S1	**Juan Fernandez**	**80.20**	**123**	T	T		18 28 25.5			
	baz=238,slow=74,SNR=12									
H03S3	**Juan Fernandez**	**80.21**	**123**	T	T		18 28 17.9			
	baz=238,slow=74,SNR=12									
H03N3	**Juan Fernandez**	**80.39**	**123**	T	T		18 28 34.9			
	baz=232,slow=75,SNR=5.9									
H03N2	**Juan Fernandez**	**80.39**	**123**	T	T		18 28 21.9			
	baz=232,slow=75,SNR=5.1									
H03N1	**Juan Fernandez**	**80.40**	**123**	T	T		18 28 22.3			
	baz=232,slow=75,SNR=8.2									
H10S2	**ASCENSION HYDR**	**37.49**	**155**	T	T		19 40 35.6			
	baz=16,slow=74,SNR=4.5									
H10S3	**ASCENSION HYDR**	**37.49**	**155**	T	T		19 40 33.7			
	baz=204,slow=74,SNR=6.1									
H10N3	**ASCENSION HYDR**	**38.57**	**154**	T	T		19 41 58.9			
	baz=203,slow=75,SNR=6.4									
H10N1	**ASCENSION HYDR**	**38.58**	**154**	T	T		19 42 08.7			
	baz=203,slow=75,SNR=6.8									
H10N2	**ASCENSION HYDR**	**38.59**	**154**	T	T		19 42 08.2			
	baz=203,slow=75,SNR=6.1									
FINES	**FINESS Array B**	**145.37**	**340**	PKP	**PKPdf**		**17 06 27.4**	**0.0**		
	comp=Z,4.6nm,0.4s,baz=50,slow=4.1,SNR=50									
HFS	**Hagfors**	**149.44**	**349**	PKPbc	**PKPbc**		**17 06 38.6**	**-0.1**		
	comp=Z,1.2nm,0.5s,baz=46,slow=4.2,SNR=7.6									
AKASG	**Malin Array Be**	**151.56**	**323**	PKPbc	**PKiKP**		**17 06 44.4**	**-0.1**		
	comp=Z,1.5nm,0.4s,baz=51,slow=2.7,SNR=9.9									

NEIC ***26*** *17:14:54.7±1.1, 19.˚15N±0.˚03×155.˚52W±0.˚02, h42km±5km, Error ellipse: s-maj=4.8km s-min=2.6km az=192.0*

HVO 26 17:14:56.3±1.1,19.˚15N±0.˚02×155.˚50W±0.˚03,h40km±1km, Md2.6/3,ML2.6/32(NEIC),Error ellipse: s-maj=4.5km s-min=2.4km az=132.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.13**	**46**		Pn	17 15 03.1	-0.1
KHU	**Kahuku**	**0.15**	**312**		Sn	17 15 07.6	-1.0
AIN	**Ainahou**	**0.23**	**9**		Pn	17 15 02.9	-1.3
AIN	**Ainahou**	**0.23**	**9**		Sn	17 15 08.7	-0.9
HLP	**Hilina Pali**	**0.23**	**50**	Pn	Pn	17 15 02.5	-1.5
HLP				IAML		17 15 09.5	
	comp=N,554nm,0.8s						
HLP				IAML		17 15 18.0	
	comp=E,622nm,0.8s						
UWE	**Uwekahuna**	**0.34**	**35**		Pn	17 15 03.6	-1.6
UWE	**Uwekahuna**	**0.34**	**35**		Sn	17 15 10.0	-1.3
BYL	**Byron's Ledge**	**0.35**	**40**	Pn	Pn	17 15 03.4	-1.9
BYL				IAML		17 15 14.6	
	comp=N,444nm,0.8s						
PUH	**Pauahi**	**0.35**	**49**		Pn	17 15 03.8	-1.5
PUH				IAML		17 15 10.4	
	comp=E,384nm,0.6s						
PUH				IAML		17 15 16.4	
	comp=N,389nm,0.7s						
MWH	**Mokuaweoweo**	**0.35**	**344**	Pn	Pn	17 15 03.3	-2.4
MWH					Sn	17 15 09.6	-2.7
MWH				IAML		17 15 11.5	
	comp=E,415nm,0.9s						
MLH	**Mauna Loa**	**0.36**	**17**	Pn	Pn	17 15 03.8	-1.8
MLH					Sn	17 15 11.4	-0.7
MLH				IAML		17 15 16.8	
	comp=N,410nm,0.8s						
RSD	**Rainshed**	**0.38**	**33**	Pn	Pn	17 15 03.0	-2.6
KNHH	**Kane Nui o Ham**	**0.39**	**53**		Pn	17 15 04.7	-1.0
STCH	**Steam Cracks**	**0.42**	**56**	IAML		17 15 12.0	
	comp=N,347nm,1.0s						
HMH	**Humu'ula Sheep**	**0.46**	**2**		Pn	17 15 05.2	-1.5
HMH	**Humu'ula Sheep**	**0.46**	**2**	IAML		17 15 13.4	
	comp=N,373nm,0.7s						
HMH				IAML		17 15 13.5	
	comp=E,550nm,0.6s						
JOKA	**Jonika Flow**	**0.55**	**58**	IAML		17 15 14.6	
	comp=N,337nm,0.8s						
POHA	**Pohakuloa**	**0.61**	**357**	Pn	Pn	17 15 06.7	-2.1
POHA				IAML		17 15 25.6	
	comp=N,212nm,0.5s						
HUH	**Hualalai**	**0.62**	**329**	Pn	Pn	17 15 08.4	-0.6
HUH				IAML		17 15 27.1	
	comp=E,256nm,1.1s						
HPAH	**Hawaii Prepara**	**0.90**	**348**	Pn	Pn	17 15 10.8	-1.8
HPAH				IAML		17 15 33.2	
	comp=E,172nm,4.2s						

IDC ***26*** *17:17:09.6±0.6,37.˚84N×88.˚90E,h0km,mb4.1/17, mbtmp4.4/24, ML4.4/7, MS4.2/4, Error ellipse: s-maj=18.0km s-min=10.3km az=37.0*

MOS ***26*** *17:17:10.6±1.2,37.˚84N×88.˚59E,h16km,mb4.8/24, Error ellipse: s-maj=7.0km s-min=3.6km az=129.6*

BJI ***26*** *17:17:11.0,37.˚90N×88.˚70E,h10km, mB4.8/13, mb4.6/51, ML5.1/11, Ms4.5/36, Ms7 4.3/34*

NEIC ***26*** *17:17:12.6±2.2,37.˚86N±0.˚07×88.˚69E±0.˚09,h14km±4km, mb4.9/62, Error ellipse: s-maj=10.0km s-min=9.5km az=62.0*

NNC ***26*** *17:17:16.3±2.4,38.˚21N×88.˚63E,h21km±15km,mb5.1, mpv5.6, Error ellipse: s-maj=18.5km s-min=11.6km az=67.0*

ISC 26 17:17:13.1±0.5,37.˚88N±0.˚04×88.˚67E±0.˚03,h19km±1km, h20km:pP-P,n311,σ2.˚16/335,mb4.7/75,MS4.4/7,29C-27D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOMU	**GeErMu**	**5.20**	**107**	Pn	**Pn**	**17 18 29.3**	**-0.8**
GOMU				Sn	**Sn**	**17 19 32.5**	**+2.8**
WMQ	**Urumqi**	**5.99**	**353**	Pn	**Pn**	**17 18 43.0**	**+2.3**
WMQ				Sn	**Sn**	**17 19 51.5**	**+2.8**
WMQ				smax	smax		
	comp=N,4μm,1.8s						
WMQ				smax	smax		
	comp=E,6μm,1.8s						

LSA	**Lhasa**	**8.41**	**165**			**Pn**	**17 19 14.6**	**+0.2**		
LSA	**Lhasa**	**8.41**	**165**	P		**Pn**	**17 19 16.3**	**+1.9**		
LSA				S		**Sn**	**17 20 49.8**	**+0.8**		
LSA				pmax	pmax					
	comp=Z,19nm,0.8s									
LSA				LR	LR					
	comp=N,1μm,11.4s									
LSA	**Lhasa**	**8.41**	**165**	P		**Pn**	**17 19 14.6**	**+0.2**		
SHLS	**Shalkode**	**8.77**	**310**	*e*Pn		**Pn**	**17 19 14.6**	**-2.6**		
SHLS				*e*Pg			17 19 44.5			
SHLS	**Shalkode**	**8.77**	**310**	*e*P		**Pn**	**17 19 16.3**	**-2.6**		
PDGK	**Podgornoye**	**8.85**	**311**	⇓Pn		**Pn**	**17 19 19.7**	**-0.3**		
	188nm,0.8s									
PDGK				⇓Sn		**Sn**	**17 20 58.4**	**-0.9**		
	346nm,0.7s									
PDGK				⇓Lg	Lg		17 21 51.1			
	556nm,1.1s									
PDGK	**Podgornoye**	**8.85**	**311**	P		**Pn**	**17 19 19.7**	**-0.3**		
PDGK				SN		**Sn**	**17 20 58.4**	**-0.9**		
GTA	**Gaotai**	**8.86**	**77**	P		**Pn**	**17 19 19.5**	**-0.6**		
GTA				S		**Sn**	**17 20 56.5**	**-2.9**		
GTA				smax	smax					
	comp=N,240nm,1.0s									
GTA				smax	smax					
	comp=E,290nm,0.9s									
GTA				LR	LR					
	comp=E,2μm,9.5s									
GTA				LR	LR					
	comp=Z,2μm,11.3s									
UZB	**Uzynbulak**	**9.04**	**309**	*e*Pn		**Pn**	**17 19 22.9**	**+0.3**		
UZB				*e*Pg			17 19 54.2			
UZB	**Uzynbulak**	**9.04**	**309**	*e*P		**Pn**	**17 19 22.9**	**+0.3**		
PRZ	**Przheval'sk**	**9.10**	**304**			**Pn**	**17 19 24.6**	**+1.0**		
PRZ	**Przheval'sk**	**9.10**	**304**	P		**Pn**	**17 19 24.6**	**+1.0**		
TARG	**Taragay, Kyrgy**	**9.20**	**298**	Pn		**Pn**	**17 19 25.7**	**+0.6**		
TARG	**Taragay, Kyrgy**	**9.20**	**298**	P		**Pn**	**17 19 25.7**	**+0.6**		
SATY	**Saty**	**9.38**	**307**	*e*Pn		**Pn**	**17 19 28.1**	**+0.8**		
SATY				*e*Pg			17 20 00.5			
SATY				*e*Sn		**Sn**	**17 21 10.2**	**-2.0**		
SATY	**Saty**	**9.38**	**307**	*e*P		**Pn**	**17 19 28.0**	**+0.8**		
SATY				*e*			17 21 10.1			
KDJ	**Kajisay**	**9.78**	**299**			**Pn**	**17 19 34.0**	**+1.2**		
KDJ	**Kajisay**	**9.78**	**299**	P		**Pn**	**17 19 34.0**	**+1.2**		
ZSN	**Zaisan**	**9.97**	**345**	*e*Pn		**Pn**	**17 19 35.4**	**+0.2**		
ZSN				*e*Pg			17 20 11.3			
ZSN				*e*Sn		**Sn**	**17 21 24.8**	**-1.7**		
ZSN	**Zaisan**	**9.97**	**345**	*e*P		**Pn**	**17 19 35.4**	**+0.2**		
ZSN				*e*			17 21 24.7			
KSH	**Kashi**	**10.06**	**283**	P		**Pn**	**17 19 40.5**	**+3.9**		
MK31	**Makanchi Array**	**10.08**	**334**	Pn		**Pn**	**17 19 36.4**	**-0.4**		
	52nm,0.7s,baz=149,slow=15,SNR=408									
MK31				⇓Sn		**Sn**	**17 21 24.3**	**-5.0**		
	50nm,0.8s,baz=148,slow=26,SNR=4.8									
MK31				⇓Lg	Lg		17 22 27.1			
	103nm,0.8s,baz=138,slow=15,SNR=4.4									
MK31	**Makanchi Array**	**10.08**	**334**	P		**Pn**	**17 19 36.4**	**-0.4**		
MK31				SN		**Sn**	**17 21 24.3**	**-5.0**		
MKAR	**Makanchi Array**	**10.08**	**334**			**Pn**	**17 19 35.8**	**-1.0**		
MKAR	**Makanchi Array**	**10.08**	**334**	Pn		**Pn**	**17 19 36.5**	**-0.3**		
	9.1nm,0.3s,baz=150,slow=14,SNR=256									
MKAR				Sn		**Sn**	**17 21 26.6**	**-2.7**		
	4.8nm,0.3s,baz=133,slow=27,SNR=4.3									
MKAR				Lg	Lg		17 22 33.2			
	2.3nm,0.3s,baz=141,slow=24,SNR=4.8									
	41nm,0.6s									
MAKZ	**Makanchi**	**10.20**	**333**			**Pn**	**17 19 37.7**	**-0.8**		
MAKZ	**Makanchi**	**10.20**	**333**	⇑Pn		**Pn**	**17 19 37.8**	**-0.6**		
	88nm,1.2s									
MAKZ				⇑Sn		**Sn**	**17 21 29.1**	**-3.2**		
	88nm,0.9s									
MAKZ				⇓Lg	Lg		17 22 30.5			
MAKZ	**Makanchi**	**10.20**	**333**	P		**Pn**	**17 19 37.8**	**-0.6**		
MAKZ				SN		**Sn**	**17 21 29.8**	**-2.5**		
MDOK	**Medeo**	**10.30**	**304**	*e*Pn		**Pn**	**17 19 40.5**	**+0.5**		
MDOK				*e*Pg			17 20 17.4			
MDOK	**Medeo**	**10.30**	**304**	*e*P		**Pn**	**17 19 40.4**	**+0.5**		
TNSS	**Tian-Shan**	**10.31**	**304**	*e*Pn		**Pn**	**17 19 39.8**	**-0.5**		
TNSS				*e*Pg			17 20 17.5			
TNSS	**Tian-Shan**	**10.31**	**304**	*e*P		**Pn**	**17 19 39.7**	**-0.5**		
ARXS	**Arharly**	**10.34**	**311**	*e*P		**Pn**	**17 19 39.3**	**-1.1**		
KNDC	**Almaty**	**10.38**	**305**	⇑Pn		**Pn**	**17 19 41.4**	**+0.5**		
	1μm,0.9s									
KNDC				⇑Lg	Lg		17 22 39.6			
	410nm,1.0s									
KNDC	**Almaty**	**10.38**	**305**	P		**Pn**	**17 19 41.4**	**+0.5**		
AAA	**Alma-Ata**	**10.41**	**304**	*e*Pn		**Pn**	**17 19 41.2**	**-0.1**		
AAA				*e*Pg			17 20 19.3			
AAA	**Alma-Ata**	**10.41**	**304**	*e*P		**Pn**	**17 19 41.1**	**-0.1**		
ULHL	**Ulahol**	**10.47**	**298**	P		**Pn**	**17 19 43.5**	**+1.1**		
	SNR=61									
TDK	**Taldyqorghan**	**10.48**	**316**	*e*

LZH LR LR
comp=E,2µm,13.7s
EKS2 Erkin-Say 12.33 297 P **Pn** **17 20 09.7 +2.0**
SNR=22
JMU Jammu 12.37 250 *e*S **Sn** **17 22 24.6 -0.6**
JMU IAML 17 24 31.2
comp=E,67nm,2.5s
JMU IAML 17 24 46.9
comp=N,92nm,2.2s
SHL Shillong 12.57 167 **Pn** **17 20 09.7 -1.4**
SHL Shillong 12.57 167 P **Pn** **17 20 09.7 -1.4**
ARSB Arslanbob 12.58 291 **Pn** **17 20 11.1 0.0**
ARSB Arslanbob 12.58 291 P **Pn** **17 20 11.1 0.0**
BTLS Baital 13.09 308 *e*Pn **Pn** **17 20 16.7 -1.1**
BTLS Baital 13.09 308 *e*P **Pn** **17 20 16.7 -1.1**
NIL Nilore 13.21 256 **Pn** **17 20 18.5 -1.1**
NIL Nilore 13.21 256 P **Pn** **17 20 18.5 -1.1**
TRKS Terek-Say 13.98 291 P **Pn** **17 20 30.5 +0.3**
GAR Garm 14.43 280 **Pn** **17 20 33.5 -2.8**
KURBB Kurchatov Arra 14.65 334 Pn **Pn** **17 20 36.3 -2.9**
comp=N,0.6nm,0.3s,baz=144,slow=12,SNR=160
KURBB Sn **Sn** **17 23 12.7 -8.1**
baz=146,slow=20
KURBB Lg Lg 17 24 57.0
comp=N,0.1nm,0.3s,baz=92,slow=22,SNR=1.6
comp=N,26nm,0.8s
KURK Kurchatov 14.70 334 **Pn** **17 20 36.5 -3.3**
KURK Kurchatov 14.70 334 ⇓P **Pn** **17 20 36.1 -3.7**
comp=N,16nm,0.8s
KURK Kurchatov 14.70 334 P **Pn** **17 20 36.3 -3.5**
KK31 Karatay Array 14.76 296 **Pn** **17 20 39.5 -1.2**
KK31 Karatay Array 14.76 296 Pn **Pn** **17 20 40.0 -0.7**
comp=N,5.9nm,0.9s,baz=105,slow=13,SNR=61
KK31 Karatay Array 14.76 296 P **Pn** **17 20 39.5 -1.2**
KKAR Karatay Array 14.76 296 **Pn** **17 20 39.6 -1.2**
KKAR Karatay Array 14.76 296 P **Pn** **17 20 39.6 -1.2**
IUG luzhnay 14.90 292 *e*Pn **Pn** **17 20 42.8 +0.1**
IUG luzhnay 14.90 292 *e*P **Pn** **17 20 42.8 +0.1**
BRLS Boroldaу 15.22 296 *e*Pn **Pn** **17 20 46.0 -0.9**
BRLS Boroldaу 15.22 296 *e*P **Pn** **17 20 46.0 -0.9**
TNCH TengChong 15.31 144 P **Pn** **17 20 47.5 -0.8**
TNCH sP P 17 20 54.5 +1.5
TNCH S **Sn** **17 23 37.0 -0.4**
TNCH pmax pmax
comp=N,21nm,1.1s
TNCH pmax pmax
comp=N,110nm,4.5s
TNCH LR LR
comp=N,670nm,7.2s
TNCH LR LR
comp=N,760nm,10.0s
CHGR Chuyangaron 15.35 279 **Pn** **17 20 44.5 -4.1**
CHGR Chuyangaron 15.35 279 P **Pn** **17 20 44.5 -4.1**
CHGR pmax pmax
comp=Z,93nm,0.8s
SIMJ Simiganj 15.46 279 **Pn** **17 20 46.2 -4.0**
SIMJ IAmb IAmb 17 20 56.4
comp=Z,56nm,0.9s
PZH PanZhiHua 15.83 132 P **Pn** **17 20 56.5 +1.5**
KBL Kabul 16.18 264 **Pn** **17 20 55.9 -3.7**
KBL Kabul 16.18 264 P **Pn** **17 20 55.9 -3.7**
KBL pmax pmax
comp=Z,21nm,0.7s
ZAK Zakamensk 16.28 35 *e*P **Pn** **17 21 00.0 -0.7**
ZAK pmax pmax
comp=Z,33nm,1.3s
ZAA0 Zalesovo Array 16.29 352 **Pn** **17 20 57.0 -3.6**
ZAA0 IAmb IAmb 17 21 09.0
comp=Z,106nm,1.1s
ZAA0 Zalesovo Array 16.29 352 ⇑P **Pn** **17 20 57.5 -3.1**
comp=Z,14nm,0.9s
ZALV Zalesovo Beam 16.29 352 **Pn** **17 20 57.3 -3.3**
ZALV Zalesovo Beam 16.29 352 Pn **Pn** **17 20 59.8 -0.8**
comp=Z,1.3nm,0.3s,baz=169,slow=14,SNR=58
ZALV Sn **Sn** **17 23 52.6 -8.2**
comp=Z,0.6nm,0.3s,baz=168,slow=24,SNR=4.5
comp=Z,19nm,0.7s
MOY Mondy 16.30 28 *e*P **Pn** **17 21 01.9 +1.0**
MOY pmax pmax
comp=Z,58nm,2.4s
SONM Songino Array 16.34 47 **Pn** **17 21 00.2 -1.2**
SONM Songino Array 16.34 47 Pn **Pn** **17 20 59.5 -1.8**
comp=Z,2.5nm,0.3s,baz=235,slow=14,SNR=37
SONM Sn **Sn** **17 23 59.1 -3.0**
comp=Z,0.3nm,0.3s,baz=247,slow=26,SNR=2.3
SONM Lg Lg 17 25 45.4
comp=Z,0.4nm,0.3s,baz=230,slow=32,SNR=5.5
SONM LR LR 17 27 25.0
comp=Z,830nm,21.1s,baz=82,slow=38
comp=Z,6.9nm,0.5s
ULN Ulaanbaatar 16.73 48 **Pn** **17 21 05.8 -0.6**
ULN Ulaanbaatar 16.73 48 *ce*P **Pn** **17 21 06.5 0.0**
ULN pmax pmax
comp=Z,32nm,1.7s
BTO Baotou 16.76 74 *e*P **Pn** **17 21 04.3 -2.5**
BTO pP **P** **17 21 07.5 -1.5**
BTO sP **pP** **17 21 11.3 -4.3**
BTO PP **sP** **17 21 18.3 -0.5**
BTO S **Sn** **17 24 05.5 -7.0**
BTO sS **S** **17 24 17.5 -5.7**
BTO SS **SnSn** **17 24 32.5 +7.0**
BTO pmax pmax
comp=Z,23nm,0.8s
BTO pmax pmax
comp=Z,460nm,9.1s
BTO LR LR
comp=Z,5µm,18.2s
BTO LR LR
comp=Z,4µm,20.8s
BTO LR LR
comp=Z,2µm,23.1s
XAN Xi'an 16.84 97 P **Pn** **17 21 06.5 -1.2**
XAN S **Sn** **17 24 14.0 -0.3**
XAN pmax pmax
comp=Z,24nm,1.0s
XAN LR LR
comp=Z,4µm,15.8s
XAN LR LR
comp=Z,3µm,17.2s
XAN LR LR
comp=Z,930nm,12.4s
KMI Kunming 17.45 133 P **P** **17 21 18.5 +1.7**
KMI S **S** **17 24 35.0 -2.7**
KMI pmax pmax
comp=Z,16nm,0.6s
KMI LR LR
comp=Z,1µm,13.1s
KMI LR LR
comp=Z,890nm,21.6s
HHC Hu-ho-hao-te 17.95 73 *e*P **P** **17 21 22.8 +0.8**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,140nm,3.6s
IRK Irkutsk 18.05 32 *e*P **P** **17 21 23.0 0.0**
IRK pmax pmax
comp=Z,81nm,0.9s
ENH Enshi 18.82 108 **P** **17 21 29.7 -1.9**
ENH Enshi 18.82 108 P **Pn** **17 21 32.2 0.0**
GYA Guiyang 18.98 122 ⇑P **Pn** **17 21 33.8 -0.5**
GYA pmax pmax
comp=Z,69nm,1.0s
LYN LuoYang 19.48 93 P **Pn** **17 21 41.5 +1.4**
LYN pmax pmax
comp=Z,50nm,0.7s
LYN LR LR
comp=Z,2µm,16.3s
LYN LR LR
comp=Z,2µm,18.0s
BVA0 Borovoye Array 19.76 326 ⇑P **Pn** **17 21 42.6 -0.7**
comp=Z,65nm,0.9s,baz=125,slow=11,SNR=14
BVA0 Borovoye Array 19.76 326 P **Pn** **17 21 42.6 -0.7**
BVAR Borovoye Array 19.76 326 P **Pn** **17 21 43.2 -0.1**
comp=Z,0.3nm,0.3s,baz=132,slow=12,SNR=118
comp=Z,56nm,0.7s
BORK Borovoye 19.80 326 *ce*P **P** **17 21 42.5 +0.3**
BORK pmax pmax
comp=Z,152nm,1.7s
BRVK Borovoye 19.83 326 ⇓P **Pn** **17 21 43.0 -1.1**
comp=Z,61nm,1.4s
HNS HongShan 20.61 83 ⇑P **P** **17 21 51.5 +0.4**
HNS pmax pmax
comp=Z,18nm,1.1s
HNS LR LR
comp=Z,800nm,14.7s

HNS LR LR
comp=Z,2µm,14.1s
HNS LR LR
comp=Z,2µm,14.7s
CHTO Chiang Mai 21.01 152 **P** **17 21 55.1 -0.4**
CHTO Chiang Mai 21.01 152 P **P** **17 21 56.3 +0.8**
CHTO Chiang Mai 21.01 152 P **P** **17 21 55.1 -0.4**
CHTO pmax pmax
comp=Z,10.0nm,1.0s
SLVN Son La 21.10 137 **P** **17 21 55.3 -1.2**
SLVN Son La 21.10 137 P **P** **17 21 56.1 -0.5**
CMAR Chiang Mai Arr 21.33 152 P **P** **17 21 56.8 -2.2**
CMAR Chiang Mai Arr 21.33 152 P **P** **17 21 56.5 -2.5**
comp=Z,3.1nm,0.8s,baz=327,slow=9.8,SNR=22
comp=Z,3.1nm,0.8s
CMAR Chiang Mai Arr 21.33 152 P **P** **17 21 56.8 -2.2**
BJT Baijiatuan 21.47 76 **P** **17 22 00.7 +0.4**
BJT Baijiatuan 21.47 76 P **P** **17 22 01.7 +1.4**
BJT Baijiatuan 21.47 76 P **P** **17 22 00.7 +0.4**
BJT pmax pmax
comp=Z,21nm,0.8s
BJI Beijing 21.47 76 P **P** **17 22 00.5 +0.2**
BJI pP **pP** **17 22 05.0 -2.0**
BJI sP **sP** **17 22 07.3 -2.7**
BJI S **S** **17 25 54.0 -3.6**
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI LR LR
comp=Z,410nm,13.3s
BJI LR LR
comp=Z,410nm,17.2s
BJI LR LR
comp=Z,540nm,17.5s
XLT XiLinHaoTe 21.53 65 *e*P **P** **17 22 01.5 +0.5**
XLT pmax pmax
comp=Z,27nm,1.0s
WHN Wuhan 22.42 101 P **P** **17 22 11.3 +0.7**
WHN pmax pmax
comp=Z,86nm,1.0s
CIT Chita 22.44 43 *e*P **P** **17 22 14.4 +3.7**
CIT *e* 17 22 37.8
CIT *e* 17 25 59.6
CIT *e* 17 26 51.0
CIT *e* 17 33 22.8
CIT pmax pmax
comp=Z,86nm,2.8s
TIA Tai'an 22.74 85 P **P** **17 22 14.0 0.0**
TIA sP **pP** **17 22 18.0 -2.7**
TIA pmax pmax
comp=Z,9.0nm,0.9s
AB31 Akbulak array 23.57 308 **P** **17 22 22.0 -0.3**
AB31 IAmb IAmb 17 22 30.2
comp=Z,38nm,0.9s
AB31 Akbulak array 23.57 308 ⇑P **P** **17 22 22.9 +0.6**
comp=Z,29nm,0.8s,baz=104,slow=11,SNR=181
ABKAR Akbulak array 23.57 308 **P** **17 22 22.2 -0.1**
HIA Hailar 25.05 53 P **P** **17 22 35.9 -0.1**
HIA Hailar 25.05 53 P **P** **17 22 41.0 +5.0**
HIA Hailar 25.05 53 P **P** **17 22 35.9 -0.1**
HIA pmax pmax
comp=Z,10.0nm,0.8s
AKTO Aktyubinsk 25.12 310 ⇑P **P** **17 22 37.4 +0.8**
comp=Z,18nm,0.9s
NJ2 Nanjing 25.35 94 *e*P **P** **17 22 39.5 +0.7**
NJ2 pmax pmax
comp=Z,11nm,0.6s
SNY Shenyang 26.98 71 ⇑P **P** **17 22 57.3 +3.9**
SNY pmax pmax
comp=Z,12nm,0.9s
ARTI Arti 27.36 322 **P** **17 22 56.7 0.0**
ARTI IAmb IAmb 17 23 17.8
comp=Z,43nm,1.2s
ARTI Arti 27.36 322 *d i*P **P** **17 22 58.3 +1.6**
ARTI 17 23 42.5
ARTI 17 26 17.0
ARTI S **S** **17 27 40.9 +5.4**
ARTI SS **SnSn** **17 28 52.1 +7.4**
ARTI pmax pmax
comp=Z,23nm,1.5s
CN2 Changchun 28.29 66 *e*P **P** **17 23 08.0 +2.9**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
BNX BinXian 29.69 62 ⇓P **P** **17 23 18.0 +0.4**
BNX pmax pmax
comp=Z,10.0nm,0.9s
KS19 Wonju Array Si 30.87 78 P **P** **17 23 28.4 +0.3**
KS19 IAmb IAmb 17 23 32.7
comp=Z,12nm,1.1s
KSAR Wonju Array Be 30.90 79 P **P** **17 23 27.4 -0.9**
KSAR Wonju Array Be 30.90 79 P **P** **17 23 27.4 -0.9**
KSRS Korea Array 30.92 78 P **P** **17 23 25.1 -3.5**
comp=Z,1.6nm,0.8s,baz=276,slow=8.9,SNR=11
comp=Z,1.6nm,0.8s
MDJ Mudanjiang 31.25 64 **P** **17 23 31.5 +0.2**
MDJ IAmb IAmb 17 23 37.3
comp=Z,12nm,0.8s
MDJ Mudanjiang 31.25 64 P **P** **17 23 31.8 +0.4**
MDJ pmax pmax
comp=Z,6.0nm,0.6s
AKT Akhty 31.50 290 *e*P **P** **17 23 33.6 -0.2**
AKT *e* 17 24 36.8
AKT *e* 17 26 26.3
AKT pmax pmax
comp=Z,20nm,2.0s
MAK Makhachkala 31.52 292 *c i*P P 17 23 28.4 -5.3
MAK *e* 17 24 30.5
MAK *e*S **S** **17 28 34.9 -6.1**
MAK MLR MLR
comp=Z,602nm,14.0s
BELG Belogornoye 31.91 310 *i* P **P** **17 23 37.3 +0.2**
BELG pmax pmax
comp=Z,5.0nm,0.9s
MSHR Mys Shultsa 32.53 68 *ce*P **P** **17 23 44.9 +2.3**
MSHR pmax pmax
comp=Z,11nm,1.3s
KIRV Kirov 32.67 322 *ce*P **P** **17 23 44.9 +1.2**
KBZ Khabaz 34.79 294 P **P** **17 24 03.0 +0.7**
comp=Z,1.9nm,0.7s,baz=59,slow=12,SNR=5.2
comp=Z,1.9nm,0.7s
KBZ Khabaz 34.79 294 *i* P **P** **17 24 02.6 +0.4**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
YAK Yakutsk 34.85 33 **P** **17 24 04.7 +2.2**
YAK IAmb IAmb 17 24 10.3
comp=Z,13nm,0.7s
YAK Yakutsk 34.85 33 *e*P **P** **17 24 05.8 +3.2**
YAK *e**PP **sP** **17 24 16.6 +3.8**
YAK *e* 17 25 18.2
YAK *e*PPP PPP 17 25 35.5
YAK *e* 17 26 39.7
YAK *e*S **S** **17 29 38.6 +6.3**
YAK *e**SS **sS** **17 29 48.6 +4.0**
YAK *e*SS **SS** **17 31 55.1 -8.3**
YAK *e* 17 34 25.7
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,189nm,3.7s
YAK pmax pmax
comp=N,157nm,3.8s
YAK pmax pmax
comp=E,114nm,4.8s
YAK smax smax
comp=E,176nm,5.5s
YAK smax smax
comp=N,192nm,4.0s
YAK MLR MLR
comp=Z,259nm,19.0s
YAK MLR MLR
comp=E,197nm,19.0s
YAK MLR MLR
comp=N,187nm,23.0s
KIV Kislovodsk 34.91 295 *e*P **P** **17 24 03.8 +0.3**
KIV pmax pmax
comp=Z,5.0nm,1.1s
SHA1 Shidzhatmaz 34.96 294 *i* P **P** **17 24 04.0 -0.1**
VRH Novokhopyorsk 35.40 307 *e*P **P** **17 24 05.6 -1.9**
VRH pmax pmax
comp=Z,10.0nm,1.1s
VSR Storozhevoye 37.01 307 *e*P **P** **17 24 20.7 -0.5**
VSR pmax pmax

comp=Z,6.0nm,1.0s
LPSR Galich'ya Gora 37.21 310 *e*P **P** **17 24 22.4 -0.5**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 38.14 323 *e*P **P** **17 24 28.1 -2.6**
KLMR *e* 17 25 55.2
KLMR pmax pmax
comp=Z,33nm,1.2s
MOS Moscow 38.22 315 *e*P **P** **17 24 29.3 -2.1**
MOS pmax pmax
comp=Z,43nm,0.8s
OBN Obninsk 38.77 314⇑ *e*P **P** **17 24 36.6 +0.6**
OBN *e**SP **pP** **17 24 39.4 -3.8**
OBN 17 26 05.0
OBN *e*S **S** **17 30 33.2 +1.1**
OBN SS **SnSn** **17 33 15.0 -6.4**
OBN *e*SSS SSS 17 33 47.1
OBN pmax pmax
comp=Z,22nm,1.3s
OBN MLR MLR
comp=Z,329nm,18.0s
RAYN Ar Rayn 39.43 261 **P** **17 24 42.0 0.0**
RAYN Ar Rayn 39.43 261 P **P** **17 24 42.0 0.0**
RAYN pmax pmax
comp=Z,7.0nm,0.9s
TIXI Tiksi 39.52 19 **P** **17 24 43.5 +1.3**
TIXI IAmb IAmb 17 24 46.4
comp=Z,11nm,0.7s
TIXI Tiksi 39.52 19 *ce*P **P** **17 24 43.7 +1.6**
TIXI pmax pmax
comp=Z,10.0nm,0.8s
KRJI Kerinci 41.49 160 P **P** **17 25 01.3 +2.2**
BR131 Keskin Array S 42.35 290 **P** **17 25 04.5 -1.6**
BR131 Keskin Array S 42.35 290 P **P** **17 25 04.5 -1.6**
BR131 pmax pmax
comp=Z,7.0nm,0.7s
BRTR Keskin Array B 42.35 290 **P** **17 25 06.0 -0.1**
BRTR Keskin Array B 42.35 290 P **P** **17 25 06.8 +0.7**
comp=Z,3.5nm,0.6s,baz=100,slow=7.3,SNR=12
comp=Z,3.5nm,0.6s
APA Apatity 42.47 332⇓ *e*P **P** **17 25 08.1 +1.7**
APA MLR MLR
comp=Z,570nm,3.9s
MMAI Mount Meron Ar 43.18 280 P **P** **17 25 14.7 +2.0**
comp=Z,0.6nm,0.4s,baz=64,slow=9.8,SNR=2.1
comp=Z,0.6nm,0.4s
AKASG Malin Array Be 43.31 307 P **P** **17 25 13.2 -0.2**
comp=Z,1.0nm,0.6s,baz=71,slow=7.4,SNR=5.6
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 43.31 307 **P** **17 25 12.3 -1.2**
AKBB Malin Array Si 43.31 307 *ce*P **P** **17 25 12.7 -0.7**
AKBB pmax pmax
comp=Z,11nm,1.2s
KIEV Kiev 43.32 307 **P** **17 25 11.5 -2.0**
KIEV Kiev 43.32 307 ⇑P **P** **17 25 14.3 +0.8**
KIEV Kiev 43.32 307 P **P** **17 25 11.5 -2.0**
KIEV pmax pmax
comp=Z,7.0nm,0.9s
SORM Soroca 44.24 303 ⇓P **P** **17 25 21.0 +0.1**
SORM Soroca 44.24 303 ⇓P **P** **17 25 21.0 +0.1**
NACGM Naroch 44.40 313 *e*P **P** **17 25 23.8 +1.6**
VADS Vadso 44.55 335 *e*P **P** **17 25 26.7 +3.6**
FINES FINESS Array B 44.66 323 P **P** **17 25 25.1 +0.9**
comp=Z,2.8nm,0.5s,baz=90,slow=8.9,SNR=18
FINES PP **PcP** **17 27 06.7 +0.2**
comp=Z,6.8nm,1.0s,baz=102,slow=13,SNR=4.9
FINES LR LR 17 46 28.0
comp=Z,545nm,20.3s,baz=263,slow=39
comp=Z,2.8nm,0.5s
SEY Seymchan 45.25 35 *i* P **P** **17 25 29.1 +0.3**
SEY pmax pmax
comp=Z,23nm,2.3s
TESR Tescani 45.69 302 ⇑P **P** **17 25 32.4 -0.2**
ARA0 ARCESS Array S 45.73 334 *e*P **P** **17 25 33.6 +1.0**
ARCES ARCESS Array B 45.73 334 P **P** **17 25 32.2 -0.4**
ARCES ARCESS Array B 45.73 334 P **P** **17 25 33.0 +0.4**
comp=Z,4.9nm,0.7s,baz=89,slow=6.9,SNR=18
comp=Z,4.9nm,0.7s
ARCES ARCESS Array B 45.73 334 P **P** **17 25 32.2 -0.4**
ARCES pmax pmax
comp=Z,50nm,1.6s
VRI Vrincioaia 45.77 301 ⇑P **P** **17 25 32.5 -0.8**
VRI Vrincioaia 45.77 301 ⇑P **P** **17 25 32.5 -0.8**
PLOR Plostina 45.83 301 ⇓P **P** **17 25 33.5 -0.2**
PLOR Plostina 45.83 301 ⇓P **P** **17 25 33.5 -0.2**
ONER Baraj Valea Uz 45.90 301 ⇓P **P** **17 25 34.4 +0.2**
ELL Elmali 46.06 288 IAmb IAmb 17 25 57.8
comp=Z,13nm,0.8s
TURR Turia 46.22 301 ⇓P **P** **17 25 37.2 +0.4**
MLR Muntele Rosu 46.40 300 ⇑P **P** **17 25 38.9 +0.6**
MLR Muntele Rosu 46.40 300 ⇑P **P** **17 25 38.9 +0.6**
BURAR Bucovina Array 46.41 303 ⇓P **P** **17 25 39.7 +1.3**
BURAR Bucovina Array 46.41 303 ⇓P **P** **17 25 39.7 +1.3**
BUR08 Bucovina Ar. S 46.41 303 IAmb IAmb 17 25 44.6
comp=Z,13nm,1.4s
KTK1 Kautokeino 46.46 333 *e*P **P** **17 25 40.5 +2.2**
HAMF Hammerfest 46.53 335 *e*P **P** **17 25 42.8 +4.0**
VOIR 47.02 300 ⇓P **P** **17 25 44.2 +1.0**
VOIR 47.02 300 ⇓P **P** **17 25 44.2 +1.0**
ARCR ARCALIA 47.10 303 ⇓P P 17 25 52.8 +9.2
ARR Arges 47.32 300 ⇓P **P** **17 25 46.8 +1.3**
JETT Jeltan, Norway 47.52 334 *e*P **P** **17 25 50.2 +3.7**
KWP Kalwaria Pacla 47.62 306 *e*P **P** **17 25 48.7 +1.1**
LEM Lembang 47.85 154 LR LR 17 49 24.9
comp=Z,407nm,19.9s,baz=193,slow=40
LOT Lotru 47.89 301 ⇑P **P** **17 25 50.8 +0.9**
MARR Marisel-Cluj 48.02 303 ⇑P **P** **17 25 52.2 +1.3**
TRO Tromso 48.04 334 *e*P **P** **17 25 55.0 +4.4**
SURR Surduc 48.92 302 ⇓P **P** **17 25 59.5 +1.8**
SIRR Siria 49.10 302 ⇓P **P** **17 26 00.6 +1.5**
NIE Niedzica 49.19 307 *e*P **P** **17 26 00.7 +0.9**
OJC Ojcow 49.32 308 *e*P **P** **17 26 02.1 +1.4**
OJC Ojcow 49.32 308 P **P** **17 26 02.0 +1.3**
OJC pmax pmax
comp=Z,13nm,0.8s
STEI Steigen 49.36 331 *e*P **P** **17 26 01.4 +0.8**
FAUS Fauske 49.36 331 *e*P **P** **17 26 01.1 +0.4**
MDVR Moldovita 49.47 300 ⇑P **P** **17 26 03.7 +1.6**
MOR8 Moi Rana 49.76 329 *e*P **P** **17 26 05.1 +1.3**
LANS Liptovska Anna 49.79 307 *e*P **P** **17 26 07.0 +2.7**
LANS pmax pmax
comp=Z,3.0nm,1.8s
BOVS Bovan 49.81 299 ⇓P **P** **17 26 05.8 +1.2**
RAUS Rausandaksla 49.90 330 *e*P **P** **17 26 04.5 -0.3**
LOF Lofoten 49.99 332 *e*P **P** **17 26 05.7 +0.2**
VAGH Vaagaholmen 50.18 330 *e*P **P** **17 26 07.8 +0.8**
KONS Konsvik 50.26 330 *e*P **P** **17 26 10.4 +2.8**
LEIR Leirfjorden 50.30 329 *e*P **P** **17 26 11.9 +4.0**
KBS Kingsbay 50.58 346 *e*P P 17 26 16.5 +6.6
HFS Hagfors 50.80 321 P **P** **17 26 12.7 +0.9**
comp=Z,3.4nm,0.5s,baz=90,slow=8.9,SNR=22
comp=Z,3.4nm,0.5s
MORC Moravsky Berou 50.84 308 *e*P **P** **17 26 13.0 +0.7**
BILL Bilibino 50.92 28 *i* P **P** **17 26 14.7 +2.1**
BILL pmax pmax
comp=Z,14nm,1.2s
JAVC Velka Javorina 51.00 307 *e*P **P** **17 26 16.4 +2.8**
KSP Ksiaz 51.34 309 *e*P **P** **17 26 16.8 +0.8**
DPC Dobruska-Polom 51.45 309 *e*P **P** **17 26 18.3 +1.4**
DPC Dobruska-Polom 51.45 309 *e*P **P** **17 26 18.3 +1.4**
CHVC Chvalec 51.55 309 *e*P **P** **17 26 19.2 +1.6**
CHVC Chvalec 51.55 309 *e*P **P** **17 26 19.2 +1.6**
VRAC Vranov 51.56 307 *e*P **P** **17 26 18.3 +0.6**
NC405 NORSAR Array S 51.59 323 P **P** **17 26 18.1 +0.3**
NC405 IAmb IAmb 17 26 29.4
comp=Z,24nm,1.2s
UPC Upice 51.60 309 *e*P **P** **17 26 19.8 +1.9**
UPC Upice 51.60 309 *e*P **P** **17 26 19.8 +1.9**
NC602 NORSAR Array S 51.75 322 P **P** **17 26 18.9 0.0**
KRUC Moravsky 51.76 307 *e*P **P** **17 26 19.3 +0.2**
NB201 NORSAR Array S 51.81 323 **P** **17 26 18.3 -1.1**
NB2 NORSAR Subarra 51.85 323 P **P** **17 26 19.5 -0.2**
comp=Z,4.1nm,0.5s,baz=80,slow=7.4
NB2 NORSAR Subarra 51.85 323 P **P** **17 26 19.5 -0.2**
comp=Z,4.1nm,0.5s,baz=80,slow=7.4
NOA NORSAR Array B 51.85 323 P **P** **17 26 19.6 0.0**
comp=Z,4.1nm,0.5s,baz=79,slow=7.3,SNR=15
comp=Z,4.1nm,0.5s
NC204 NORSAR Array S 52.02 323 **P** **17 26 20.5 -0.5**
NC204 IAmb IAmb 17 26 26.4
comp=Z,16nm,0.9s
PRU Pruhonice 52.65 309 *e*P **P** **17 26 26.9 +1.1**
PRU Pruhonice 52.65 309 *e*P **P** **17 26 26.9 +1.1**
BRG Berggiesshubel 52.76 310 *e*P **P** **17 26 30.7 +4.1**

BRG					Amp			17 26 35.6	
	comp=Z,3.5nm,0.8s								
CLL	**Collm**	**53.21**	**311**	*e*P		**P**		**17 26 30.0**	**+0.2**
CLL					pmax	pmax			
	comp=Z,36nm,2.0s								
CLL	**Collm**	**53.21**	**311**	*e*P		**P**		**17 26 30.0**	**+0.2**
	comp=Z,36nm,2.0s								
GERES	**GERESS Array B**	**53.52**	**307**	P		**P**		**17 26 32.3**	**0.0**
	comp=Z,0.6nm,0.7s,baz=37,slow=7.2,SNR=5.8								
	comp=Z,0.6nm,0.7s								
EKA	**Eskdalemuir Ar**	**60.83**	**319**	P		**P**		**17 27 25.3**	**+1.5**
	comp=Z,3.2nm,0.7s,baz=66,slow=7.8,SNR=5.0								
	comp=Z,3.2nm,0.7s								
D19K	**Kuna River**	**63.05**	**22**			**P**		**17 27 39.4**	**+0.9**
F21K	**Alatna River**	**65.22**	**22**			**P**		**17 27 54.2**	**+1.5**
H19K	**Roundabout Mou**	**65.35**	**25**			**P**		**17 27 54.9**	**+1.4**
H19K					IAmb	IAmb		17 28 10.3	
	comp=Z,11nm,1.0s								
MBAR	**Mbarara**	**65.56**	**249**			**P**		**17 27 55.6**	**-0.3**
MBAR					IAmb	IAmb		17 28 00.1	
	comp=Z,5.2nm,0.8s								
MBAR	**Mbarara**	**65.56**	**249**	P		**P**		**17 27 55.6**	**-0.3**
MBAR					pmax	pmax			
	comp=Z,5.0nm,0.9s								
FITZ	**Fitzroy Crossi**	**65.64**	**141**	P		**P**		**17 27 55.7**	**-0.2**
J17K	**VABM Dome**	**65.73**	**27**	P		**P**		**17 27 57.6**	**+1.5**
COLD	**Coldfoot**	**66.18**	**21**	IAmb		IAmb		17 28 09.6	
	comp=Z,6.0nm,0.8s								
J19K	**Poorman**	**66.58**	**26**	IAmb		IAmb		17 28 07.4	
	comp=Z,14nm,1.4s								
J20K	**Nowinta River**	**66.97**	**25**	IAmb		IAmb		17 28 14.8	
	comp=Z,8.6nm,0.8s								
MLY	**Manley**	**67.50**	**23**	IAmb		IAmb		17 28 13.0	
	comp=Z,9.8nm,1.3s								
K20K	**Telida**	**67.52**	**26**	P		**P**		**17 28 09.3**	**+1.7**
BMAR	**Burnt Mountain**	**67.59**	**20**	P		**P**		**17 28 08.2**	**+0.2**
PPLA	**Purkeypile**	**68.47**	**25**			**P**		**17 28 14.5**	**+0.8**
COLA	**College**	**68.50**	**23**	*i* P		**P**		**17 28 16.2**	**+2.6**
COLA					pmax	pmax			
	comp=Z,15nm,1.5s								
E29M	**Blow River**	**68.51**	**17**	P		**P**		**17 28 14.6**	**+0.9**
E29M					IAmb	IAmb		17 30 02.4	
	comp=Z,19nm,1.6s								
ESDC	**Sonseca Array**	**68.85**	**304**	P		**P**		**17 28 16.1**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=53,slow=6.2,SNR=6.9								
	comp=Z,1.0nm,0.7s								
IL31		**68.87**	**22**	IAmb		IAmb		17 28 25.2	
	comp=Z,4.9nm,0.8s								
ILAR	**Eielson Array**	**68.87**	**22**	P		**P**		**17 28 15.3**	**-0.6**
ILAR	**Eielson Array**	**68.87**	**22**	P		**P**		**17 28 15.7**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=312,slow=4.9,SNR=9.4								
	comp=Z,1.9nm,0.9s								
SKT	**Skwentna**	**69.32**	**26**	P		**P**		**17 28 19.5**	**+0.7**
SKT					IAmb	IAmb		17 28 29.3	
	comp=Z,11nm,1.0s								
J26L	**Joseph Creek**	**70.04**	**21**	IAmb		IAmb		17 28 33.3	
	comp=Z,4.9nm,0.8s								
RIDG	**Independent Ri**	**70.23**	**22**	IAmb		IAmb		17 28 33.7	
	comp=Z,8.5nm,0.8s								
SCRK	**Sand Creek**	**70.31**	**22**	IAmb		IAmb		17 28 35.0	
	comp=Z,4.8nm,0.8s								
G31M	**Satah River**	**70.52**	**17**			**P**		**17 28 26.3**	**+0.3**
G31M					IAmb	IAmb		17 28 33.4	
	comp=Z,10nm,0.8s								
I30M	**Mount Dempster**	**71.41**	**18**	IAmb		IAmb		17 28 41.8	
	comp=Z,5.7nm,0.9s								
L27K	**Beaver Creek,**	**71.64**	**22**	IAmb		IAmb		17 28 41.3	
	comp=Z,8.2nm,1.1s								
BCAR	**Beaver Creek A**	**71.65**	**22**	P		**P**		**17 28 34.4**	**+1.3**
WB0	**Warramunga Arr**	**71.66**	**135**			**P**		**17 28 34.2**	**+0.7**
WB0					IAmb	IAmb		17 28 46.5	
	comp=Z,7.5nm,1.1s								
WRAB	**Tennant Creek**	**71.76**	**135**	*i* P		**P**		**17 28 36.7**	**+2.5**
WRAB					pmax	pmax			
	comp=Z,12nm,1.8s								
WRA	**Warramunga Arr**	**71.77**	**135**	P		**P**		**17 28 33.0**	**-1.2**
	comp=Z,2.2nm,0.7s,baz=330,slow=6.2,SNR=23								
	comp=Z,2.2nm,0.7s								
WRA	**Warramunga Arr**	**71.77**	**135**	P		**P**		**17 28 33.0**	**-1.2**
WR8	**Warramunga Arr**	**71.87**	**135**	P		**P**		**17 28 36.0**	**+1.2**
WR8					IAmb	IAmb		17 30 15.7	
	comp=Z,24nm,1.8s								
ASAR	**Alice Springs**	**74.52**	**138**	P		**P**		**17 28 49.5**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=325,slow=5.9,SNR=25								
	comp=Z,1.5nm,0.8s								
YKA	**Yellowknife Ar**	**78.23**	**11**	P		**P**		**17 29 10.7**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=341,slow=5.9,SNR=3.6								
	comp=Z,1.8nm,0.9s								
AQDB	**Aquidauana**	**144.65**	**289**	PKPdf		PKPbc		17 36 47.8	+0.3
CPUP	**Villa Florida**	**149.14**	**282**	PKPdf		**PKPdf**		**17 36 56.3**	**+0.2**
CPUP	**Villa Florida**	**149.14**	**282**	PKPbc		**PKiKP**		**17 37 01.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=301,slow=2.8,SNR=4.8								
CPUP	**Villa Florida**	**149.14**	**282**	PKIKP		**PKPdf**		**17 36 56.3**	**+0.2**
LPAZ	**La Paz**	**150.33**	**310**	PKPbc		**PKPbc**		**17 37 04.0**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=45,slow=2.9,SNR=5.3								

*NDI **26** 18:30:40.6±1.9,23.°61N×94.°43E,h16km±17km,ML3.5, MW3.4*
*IDC **26** 18:30:41.4±4.2,23.°59N×95.°05E,h118km±36km,mb3.5/4, mbtmp3.7/5,Error ellipse: s-maj=167.2km s-min=19.7km az=60.0*
ISC 26 18:30:37.6±0.8,**23.°42N**±0.°07×**94.°46E**±0.°06,**h100**km,**n22,** σ2§**18**/38,**mb4.0**/4,**Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IMP	**Imphal**	**1.48**	**342**	*e*P		**Pn**	**18 31 04.5**	**+0.9**
IMP				*e*S		**Sn**	**18 31 22.6**	**-0.8**
IMP				IAML			18 31 25.9	
	comp=N,408nm,0.3s							
IMP				IAML			18 31 26.6	
	comp=E,132nm,0.5s							
AZL	**Aizawl**	**1.66**	**281**	*e*P		**Pn**	**18 31 08.4**	**+2.5**
AZL				*e*S		**Sn**	**18 31 30.1**	**+2.7**
AZL				IAML			18 31 32.4	
	comp=N,267nm,0.3s							
KOHI	**KOHIMA**	**2.31**	**352**	*e*P		**Pn**	**18 31 16.1**	**+1.8**
KOHI				*e*S		**Sn**	**18 31 42.7**	**+0.3**
KOHI				IAML			18 31 46.3	
	comp=N,242nm,0.4s							
SHL	**Shillong**	**3.17**	**313**	*e*P		**Pn**	**18 31 28.1**	**+2.3**
SHL				*e*S		**Sn**	**18 32 00.9**	**-2.1**
SHL				IAML			18 32 03.0	
	comp=E,433nm,0.2s							
SHL				IAML			18 32 03.9	
	comp=N,782nm,0.1s							
TEZP	**TEZPUR**	**3.52**	**335**	*e*P		**Pn**	**18 31 31.7**	**+1.4**
TEZP				*e*S		**Sn**	**18 32 08.5**	**-2.5**
TEZP				IAML			18 32 09.8	
	comp=E,1μm,0.2s							
TEZP				IAML			18 32 11.8	
	comp=N,802nm,0.1s							
GUWA	**GUWAHATI**	**3.73**	**318**	*e*P		**Pn**	**18 31 35.3**	**+2.2**
GUWA				*e*S		**Sn**	**18 32 16.0**	**-0.2**
GUWA				IAML			18 32 16.7	
	comp=E,101nm,0.1s							
GUWA				IAML			18 32 16.7	
	comp=N,94nm,0.1s							
CMAR	**Chiang Mai Arr**	**6.48**	**139**	P		**Pn**	**18 32 11.6**	**+1.2**
	comp=N,0.5nm,0.3s,baz=321,slow=14,SNR=2.4							
CMAR				S		**Sn**	**18 33 19.3**	**-3.6**
	comp=N,0.4nm,0.3s,baz=326,slow=14,SNR=1.6							
ODAN	**Odare**	**7.26**	**300**	Pn		**Pn**	**18 32 22.9**	**+1.6**
	baz=308,slow=0.0							
ODAN				Sn		**Sn**	**18 33 39.9**	**-2.4**
	comp=N,73nm,0.4s,baz=308,slow=0.0							
RAMN	**Ramite**	**7.94**	**298**	Pn		**Pn**	**18 32 32.4**	**+1.9**
	baz=305,slow=0.0							
RAMN				Sn		**Sn**	**18 33 56.5**	**-2.3**
	comp=N,21nm,0.4s,baz=305,slow=0.0							
GUN	**Gumba**	**8.94**	**302**	Pn		**Pn**	**18 32 45.7**	**+1.6**
	baz=308,slow=0.0							
GUN				Sn		**Sn**	**18 34 22.1**	**-1.1**
	comp=N,46nm,0.7s,baz=308,slow=0.0							
PKI	**Pulchoki**	**9.16**	**299**	Pn		**Pn**	**18 32 48.9**	**+1.7**
	baz=305,slow=0.0							
PKI				Sn		**Sn**	**18 34 26.5**	**-2.1**
	comp=N,12nm,0.4s,baz=305,slow=0.0							
PKIN	**Phulchoki**	**9.17**	**299**	Pn		**Pn**	**18 32 48.1**	**+0.8**
	baz=305,slow=0.0							
PKIN				Sn		**Sn**	**18 34 26.6**	**-2.3**
	comp=N,18nm,0.4s,baz=305,slow=0.0							
KKN	**Kakani**	**9.36**	**300**	Pn		**Pn**	**18 32 50.8**	**+1.1**
	baz=306,slow=0.0							
KKN				Sn		**Sn**	**18 34 31.2**	**-2.1**
	comp=N,9.4nm,0.2s,baz=306,slow=0.0							
DMN	**Daman**	**9.42**	**298**	Sn		**Sn**	**18 34 31.8**	**-3.1**
	baz=304,slow=0.0							
GKN	**Gorkha**	**9.96**	**299**	Pn		**Pn**	**18 32 58.9**	**+1.0**
	baz=305,slow=0.0							
GKN				Sn		**Sn**	**18 34 43.9**	**-4.0**
	comp=N,12nm,0.3s,baz=305,slow=0.0							
KOLN	**Koldanda**	**10.71**	**296**	Pn		**Pn**	**18 33 08.5**	**+0.3**
	baz=301,slow=0.0							
DANN	**Dangsing**	**10.81**	**299**	Pn		**Pn**	**18 33 09.9**	**+0.3**
	baz=304,slow=0.0							
DANN				Sn		**Sn**	**18 35 05.2**	**-3.5**
	comp=N,15nm,0.5s,baz=304,slow=0.0							
PYUN	**Piuthan**	**11.34**	**297**	Pn		**Pn**	**18 33 16.1**	**-0.5**
	baz=302,slow=0.0							
PYUN				Sn		**Sn**	**18 35 16.4**	**-5.0**
	comp=N,30nm,0.8s,baz=302,slow=0.0							
MKAR	**Makanchi Array**	**25.29**	**340**	P		**P**	**18 35 57.1**	**+2.5**
	comp=N,0.5nm,0.5s,baz=144,slow=11,SNR=9.4							
	comp=N,0.5nm,0.5s							
FITZ	**Fitzroy Crossi**	**51.29**	**141**	P		**P**	**18 39 31.8**	**+0.2**
	comp=N,2.2nm,0.9s,baz=344,slow=7.4,SNR=2.6							
	comp=N,2.2nm,0.9s							
WRA	**Warramunga Arr**	**58.05**	**135**	P		**P**	**18 40 20.5**	**0.0**
	comp=N,1.9nm,1.1s,baz=321,slow=7.5,SNR=17							
	comp=N,1.9nm,1.1s							
ASAR	**Alice Springs**	**60.49**	**138**	P		**P**	**18 40 37.8**	**+0.5**
	comp=N,0.7nm,0.4s,baz=319,slow=7.1,SNR=15							
	comp=N,0.7nm,0.4s							

*TIR **26** 18:41:45.5,41.°41N×19.°43E,h20km±2km,Md2.9/2,Ml2.0/3 BEO **26** 18:41:49.3±1.3,41.°33N×19.°90E,h0km,ML1.6/3*
ISC 26 18:41:46.6±1.5,**41.°29N**±0.°04×**19.°51E**±0.°06,**h3**km±13km, **n8,** σ1§**12**/14,**Albania**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TIR	**Tirane**	**0.28**	**78**	Pg		**Pg**	**18 41 51.5**	**-0.5**
TIR				Sg		**Sg**	**18 41 56.1**	**+0.6**
TIR				AML		AML	18 41 56.4	
	0.4nm,0.3s							
DRME	**Dracevica, Mon**	**0.93**	**345**	*e*Pg		**Pn**	**18 42 06.6**	**+0.1**
PDG	**Podgorica**	**1.15**	**351**	*e*Pg		**Pn**	**18 42 11.2**	**+1.6**
PDG				*e*Sg		**Sn**	**18 42 27.2**	**+1.3**
KBN	**Korca**	**1.18**	**124**	Sn		**Sn**	**18 42 26.7**	**+0.1**
KBN				AML		AML	18 42 34.1	
	0.1nm,0.4s							
IGT	**Igoumenitsa**	**1.87**	**160**	Pn		**Pb**	**18 42 21.2**	**-0.1**
IGT				Sn		**Sg**	**18 42 48.1**	**+1.5**
IGT				AML		AML	18 42 53.6	
	0.1nm,1.2s							
IGT				AMd			18 43 33.4	
NOCI	**Noci**	**1.91**	**256**	Pn		**Pn**	**18 42 19.8**	**-0.3**
NOCI				Sn		**Sb**	**18 42 45.4**	**-1.0**
NOCI				AMd			18 43 32.9	
SJES	**Sjenica**	**2.00**	**10**	*e*Pg		**Pb**	**18 42 23.5**	**-0.1**
SJES				*e*Sg		**Sg**	**18 42 51.4**	**+0.6**
SELS	**Selova**	**2.27**	**31**	*e*Pg		**Pb**	**18 42 27.7**	**-0.5**
SELS				*e*Sg		**Sb**	**18 42 54.7**	**-2.0**

AUST 26 18:51:45.6±0.8,**18.°S**±7.°×**12.°0E**±.°,**h10**km,**mb3.7**/3, **ML2.2**/2,**Error ellipse: s-maj=17.0km s-min=8.5km az=141.0,Western Australia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAAN	**Eighty Mile Be**	**1.53**	**122**	P		Pn	18 52 12.4	-0.6
CAAN				S		Sn	18 52 32.3	-0.6
AUBRM	**Broome Senior**	**2.04**	**76**	P		Pn	18 52 19.1	-1.0
AUBRM				S		Sn	18 52 43.4	-2.3
MBWA	**Marble Bar**	**2.72**	**188**	P		Pn	18 52 29.9	+0.5
MBWA				S		Sn	18 53 02.4	-0.1
PSAC1	**Pilbara Seismi**	**3.08**	**186**	P		Pn	18 52 34.6	+0.1
PSAC1				S		Sn	18 53 09.7	-1.6
PSA00	**Pilbara Seismi**	**3.12**	**185**	P		Pn	18 52 34.6	-0.3
PSA00				S		Sn	18 53 10.5	-1.7
FITZ	**Fitzroy Crossi**	**5.23**	**87**	P		Pn	18 53 00.0	-3.9
GIRL	**Giralia**	**6.93**	**232**	P		Pn	18 53 27.5	+0.2
	comp=Z,48nm,1.6s,comp=Z,0.1nm							
MEEK	**Meekatharra**	**8.27**	**190**	P		Pn	18 53 45.6	-0.1
	comp=Z,0.1nmcomp=Z,10nm,2.0s							
WRKA	**Warakurna**	**10.01**	**132**	P		Pn	18 54 11.2	+1.5
	comp=Z,3.1nm,2.9s,comp=Z,0.0nm							

*JMA **26** 18:57:14.9±0.2,25.°N±2.°×122.°3E±0.°5,h193km±2km, MV2.1/8,TAIWAN REGION*
*TAP **26** 18:57:14.5,25.°48N×122.°08E,h203km±1km,ML2.6,C*
ISC 26 18:57:12.8±3.0,**25.°3N**±0.°1×**122.°23E**±0.°06,**h209**km±17km, **n37,** σ0§**78/57,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCYT	**Pengchaiyu**	**0.32**	**333**	*e*P		**Pn**	**18 57 40.9**	**+0.5**
TWB1	**Santiao Chiao**	**0.40**	**214**	*e*P		**Pn**	**18 57 41.0**	**+0.3**
TIPB	**Shuangxi**	**0.52**	**225**	P		**Pn**	**18 57 41.8**	**+0.6**
TWE	**Neicheng**	**0.80**	**220**	*e*P		**Pn**	**18 57 43.5**	**+1.1**
TWC	**Suao**	**0.81**	**206**	*e*P		**Pn**	**18 57 43.1**	**+0.7**
FUSB	**Fushanzhiwuyua**	**0.82**	**225**	*e*P		**Pn**	**18 57 43.1**	**+0.5**
FUSB				*e*S		**S**	**18 58 05.3**	**-0.3**
NDS	**Dongshan**	**0.85**	**214**	*e*P		**Pn**	**18 57 43.9**	**+1.2**
NWLT	**Wulai**	**0.87**	**230**	*e*P		**Pn**	**18 57 43.0**	**+0.1**
NWLT				*e*S		**S**	**18 58 05.6**	**-0.4**
EOS2	**EOS2**	**0.92**	**180**	*i* P		**Pn**	**18 57 44.2**	**+1.3**
EOS2				*i* S		**S**	**18 58 06.2**	**0.0**
ENTT	**Nioudou**	**0.93**	**221**	*e*P		**Pn**	**18 57 44.0**	**+0.8**
ENTT				*e*S		**S**	**18 58 06.7**	**+0.1**
ENA	**Nanau**	**1.01**	**206**	*e*P		**Pn**	**18 57 43.7**	**+0.1**
ENA				*e*S		**S**	**18 58 06.8**	**-0.7**
YHNB	**Yeheng**	**1.03**	**229**	*e*P		**Pn**	**18 57 44.0**	**+0.1**
YHNB				*e*S		**S**	**18 58 06.7**	**-1.1**
LATG	**Datong**	**1.03**	**219**	*e*P		**Pn**	**18 57 44.7**	**+0.8**
LATG				*e*S		**S**	**18 58 07.5**	**-0.4**
NSK	**Sanguang**	**1.03**	**230**	*e*P		**Pn**	**18 57 44.2**	**+0.3**
NSK				*e*S		**S**	**18 58 06.6**	**-1.3**
EOS3	**EOS3**	**1.05**	**176**	*i* P		**Pn**	**18 57 45.0**	**+1.3**
EOS3				*i* S		**S**	**18 58 08.2**	**+0.5**
NNS	**Nan Shan**	**1.19**	**221**	*e*P		**Pn**	**18 57 45.9**	**+0.9**
NNSB	**Datong**	**1.19**	**221**	*e*P		**Pn**	**18 57 45.6**	**+0.6**
NNSB				*e*S		**S**	**18 58 09.2**	**-0.7**
EOS4	**EOS4**	**1.22**	**176**	*e*P		**Pn**	**18 57 45.6**	**+1.0**
EOS4				*i* S		**S**	**18 58 09.0**	**-0.4**
NFF	**Wufeng Townshi**	**1.23**	**235**	*e*P		**Pn**	**18 57 45.3**	**0.0**
NFF				*e*S		**S**	**18 58 09.0**	**-1.3**
NACB	**Ninganchiao**	**1.30**	**207**	P		**Pn**	**18 57 46.3**	**+0.5**
NACB				S		**S**	**18 58 10.4**	**-0.8**
LIOB	**Emei**	**1.30**	**238**	*e*P		**Pn**	**18 57 46.4**	**+0.6**
ETLH	**Xiulin Townshi**	**1.32**	**211**	*e*P		**Pn**	**18 57 46.4**	**+0.3**
ETLH				*e*S		**S**	**18 58 10.7**	**-0.9**
NSTT	**Nanjuang**	**1.32**	**238**	*e*P		**Pn**	**18 57 46.3**	**+0.4**
TWT	**Tachien**	**1.45**	**222**	*e*P		**Pn**	**18 57 48.6**	**+1.4**
TDCB	**Techi**	**1.46**	**222**	*e*P		**Pn**	**18 57 48.3**	**+1.1**
WHF	**Hehuan Shan**	**1.48**	**217**	*e*P		**Pn**	**18 57 48.5**	**+0.8**
WHP	**Taichung City**	**1.58**	**228**	*e*P		**Pn**	**18 57 48.7**	**+0.5**
OWD	**Renai**	**1.68**	**215**	*e*P		**Pn**	**18 57 49.1**	**-0.1**
OWD				*e*S		**S**	**18 58 16.4**	**-0.8**
WUSB	**Renai**	**1.69**	**217**	*e*P		**Pn**	**18 57 50.0**	**+0.9**
WUSB				*e*S		**S**	**18 58 17.4**	**+0.3**
IRIF	**Iriomote-Funau**	**1.69**	**126**	*e*S		**S**	**18 58 16.0**	**-0.8**
WARBT	**Fenglin Townsh**	**1.79**	**206**	*e*P		**Pn**	**18 57 49.2**	**-0.8**
SSLB	**Suanglung**	**1.94**	**217**	*e*P		**Pn**	**18 57 52.0**	**+0.5**
SSLB				*e*S		**S**	**18 58 21.0**	**-0.2**
JKRS	**Kuro-shima**	**1.95**	**124**	*e*P		**Pn**	**18 57 52.0**	**+0.5**
JKRS				*e*S		**S**	**18 58 20.7**	**-0.6**
JIJ	**Ishigaki jima**	**1.99**	**119**	*e*P		**Pn**	**18 57 52.1**	**+0.2**
JIJ				*e*S		**S**	**18 58 20.3**	**-1.7**
JISG	**Ishigakijimahi**	**2.03**	**111**	*e*P		**Pn**	**18 57 52.7**	**+0.4**
JISG				*e*S		**S**	**18 58 21.9**	**-0.8**
ALS	**Alishan**	**2.24**	**216**	*e*P		**Pn**	**18 57 55.2**	**+0.4**
JTJ	**Tarama**	**2.35**	**107**	*e*P		**Pn**	**18 57 56.6**	**+1.0**

*IDC **26** 19:00:38.7±0.6,13.°42S×111.°27W,h0km,mb4.3/17, mbtmp4.3/17,MS4.9/49,Error ellipse: s-maj=20.4km s-min=14.7km az=67.0*
*NEIC **26** 19:00:41.3,13.°40S×111.°43W,h20km*
*NEIC **26** 19:00:41.3,13.°80S×111.°32W,h20km,Moment Tensor Solution. Duration: 3§0 Moment tensor: Scale 10^17^Nm; Mrr=0.40; Mθθ=0.98; Mϕϕ=-0.58; Mrθ=-0.40; Mθϕ=1.90; Mϕr=0.25; Fault plane solution: Mo=2.13000×10^17^ NP1: ϕs=192.01000°,δ76.09000°,λ-171.82000°. NP2: ϕs=100.03000°,δ82.06000°,λ-14.05000°. Principal axes: T 2.2646, Plg4.0000°, Azm147.0000°; N -0.2930, Plg74.0000°, Azm251.0000°; P -1.9716, Plg16.0000°, Azm55.0000°;*
*NEIC **26** 19:00:41.4±2.6,13.°4S±0.°1×111.°4W±0.°1,h10km±1km, mb5.0/257,Ms_20 5.1/618,Mwb5.5/19,Mww5.5/23 Error ellipse: s-maj=22.3km s-min=20.2km az=250.0,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.22; Mθθ=0.76; Mϕϕ=-0.98; Mrθ=0.04; Mθϕ=1.79; Mϕr=-0.27; Fault plane solution: Mo=2.02000×10^17^ NP1:ϕs=12.99000°, δ88.34000°,λ-172.88000°. NP2:ϕs=282.78000°, δ82.88000°,λ-1.67000°. Principal axes: T 1.8888, Plg4.0000°, Azm148.0000°; N 0.2366, Plg83.0000°, Azm26.0000°; P -2.1254, Plg6.0000°, Azm238.0000°;*
*NEIC **26** 19:00:41.7,13.°44S×111.°28W,h10km*
*GCMT **26** 19:00:45.3±0.1,13.°50S±0.°01×111.°28W±0.°01,h16km, MW5.5/158,Moment Tensor Solution. s117,c197; s158,c328; Duration: 1§4 Moment tensor: Scale 10^17^ Nm; Mrr=0.30±.03; Mθθ=0.97±.03; Mϕϕ=-0.67±.03; Mrθ=0.44±.07; Mθϕ=2.02±.02; Mϕr=0.42±.07; Best double couple: Mo=2.27800×10^17^ NP1:ϕs=192.00000°,δ76.00000°, λ-170.00000°. NP2:ϕs=100.00000°,δ80.00000°, λ-14.00000°. Principal axes: T 2.3380, Plg3.0000°, Azm147.0000°; N -0.1190, Plg73.0000°, Azm246.0000°; P -2.2180, Plg17.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 19:00:39.0±0.3,**13.°54S**±0.°08×**111.°59W**±0.°06,**h11**km, **n535,** σ1§**87**/131,**mb4.9**/136,**MS5.1**/344,**5C-1D,Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RPN	**Rapa Nui**	**13.68**	**171**	LR		LR	19 07 50.5	
	comp=Z,10μm,18.2s,baz=356,slow=31							
RKT	**Rikitea**	**24.12**	**243**	*e*P		**P**	**19 05 51.3**	**-3.8**
	2μm,41.2s							
RKT				*e*S		**S**	**19 10 07.3**	**-5.6**
	5μm,34.2s							
RKT				*e*LR		LR	19 11 53.6	
	22μm,27.8s							
TAOE	**Nuku Hiva Isla**	**28.39**	**276**	*e*LR		LR	19 13 20.3	
	1μm,23.3s							
TAOE	**Nuku Hiva Isla**	**28.39**	**276**	P		**P**	**19 06 35.7**	**+1.8**
ATAH	**Atahuaipa**	**33.24**	**82**	P		**P**	**19 07 17.2**	**+0.1**
	15nm,1.1s,baz=264,slow=8.1,SNR=6.7							
ATAH				LR		LR	19 17 37.8	
	comp=Z,3μm,18.1s,baz=258,slow=31							
	15nm,1.1s							
TLIG	**Tlapa**	**33.47**	**23**	P		**P**	**19 07 15.8**	**-2.8**
TLIG				IAmb		IAmb	19 07 22.8	
	comp=Z,23nm,1.3s							
COHC	**Cochancay**	**33.80**	**74**	P		**P**	**19 07 19.8**	**-1.7**
NNA	**Nana**	**33.91**	**91**	LR		LR	19 17 21.7	
	comp=Z,1μm,19.2s,baz=257,slow=30							
CMIG	**Matias Romero**	**34.62**	**29**	P		**P**	**19 07 28.5**	**0.0**
	comp=Z,2.3nm,0.7s,baz=198,slow=8.6,SNR=3.5							
CMIG				LR		LR	19 18 36.2	
	comp=Z,3μm,19.0s,baz=216,slow=31							
	comp=Z,2.3nm,0.7s							
MTO3	**Montecristo**	**35.43**	**39**	P		**P**	**19 07 34.7**	**-1.0**
MTO3				IAmb		IAmb	19 07 55.6	
	comp=Z,38nm,1.6s							
JTS	**Las Juntas de**	**35.49**	**49**	IAMs_20		IAMs_20	19 18 02.5	
	comp=Z,2μm,18.0s							
JTS	**Las Juntas de**	**35.49**	**49**	LR		LR	19 18 12.8	
	comp=Z,3μm,21.1s,baz=234,slow=30							
H03N2	**Juan Fernandez**	**35.68**	**129**	T		T	19 45 04.9	
	baz=300,slow=76,SNR=732							
H03N3	**Juan Fernandez**	**35.69**	**129**	T		T	19 45 05.9	
	baz=300,slow=76,SNR=774							
H03N1	**Juan Fernandez**	**35.70**	**129**	T		T	19 45 06.2	
	baz=300,slow=76,SNR=884							
HDC	**Heredia**	**35.93**	**51**	IAMs_20		IAMs_20	19 18 17.1	
	comp=Z,3μm,18.0s							
ACON	**Acoyapa**	**36.45**	**47**	P		**P**	**19 07 44.1**	**-0.1**
PPT	**Papeete**	**36.77**	**259**	LR		LR	19 18 53.6	
	comp=Z,1μm,18.6s,baz=84,slow=30							
PPT2	**Papeete2**	**36.77**	**259**	*e*S		**S**	**19 13 26.5**	**-4.9**
	comp=Z,319nm,28.8s							
PPT2				*e*SS		**SS**	**19 16 15.5**	**+3.3**
	comp=Z,5μm,30.2s							
PPT2				*e*L

VA03 San Esteban 41.98 124 IAMs_20 IAMs_20 19 21 11.0
comp=Z,3µm,19.0s
PEL Peldehue 41.98 125 IAMs_20 IAMs_20 19 20 43.5
comp=Z,3µm,22.0s
LPAZ La Paz 42.03 99 P **P** **19 08 31.3 -0.4**
LPAZ La Paz 42.03 99 P **P** **19 08 31.6 -0.1**
LPAZ LR LR 19 22 28.5
comp=Z,4.6nm,0.8s,baz=306,slow=7.5,SNR=12
comp=Z,700nm,19.7s,baz=260,slow=31
comp=Z,4.6nm,0.8s
LPAZ La Paz 42.03 99 *eP* **P** **19 08 31.4 -0.3**
AF01 San Pedro de A 42.14 109 IAMs_20 IAMs_20 19 21 00.3
comp=Z,2µm,18.0s
MT16 CCHEN 42.20 125 IAMs_20 IAMs_20 19 20 50.0
comp=Z,4µm,21.0s
MT03 Universidad Ad 42.23 125 IAMs_20 IAMs_20 19 21 09.8
comp=Z,3µm,19.0s
BO04 La Punta 42.31 126 IAMs_20 IAMs_20 19 21 12.9
comp=Z,3µm,20.0s
BO02 Sierra Bellavi 42.44 127 IAmb IAmb 19 08 39.4
comp=Z,49nm,1.9s
BO02 IAMs_20 IAMs_20 19 21 28.4
comp=Z,3µm,19.0s
MT13 San Alfonso 42.49 125 P **P** **19 08 34.2 -0.5**
LMEL Las Melosas 42.58 126 IAMs_20 IAMs_20 19 21 32.1
comp=Z,4µm,19.0s
MT08 Bocatoma Ro 42.61 125 P **P** **19 08 36.5 +0.7**
BI02 San Fabin de 42.73 130 IAMs_20 IAMs_20 19 21 30.3
comp=Z,3µm,20.0s
RUSC La Rusia 42.83 66 **P** **19 08 38.0 0.0**
RUSC IAmb IAmb 19 08 56.0
comp=Z,50nm,1.4s
833A Chaparral WMA, 43.26 16 **P** **19 08 42.6 +1.9**
833A IAmb IAmb 19 08 44.8
comp=Z,25nm,1.0s
TX31 Lajitas Ar. Si 43.31 10 **P** **19 08 43.3 +2.1**
TXAR Lajitas Array 43.31 10 P **P** **19 08 42.9 +1.7**
TXAR Lajitas Array 43.31 10 P **P** **19 08 42.6 +1.4**
comp=Z,13nm,1.3s,baz=194,slow=9.8,SNR=28
TXAR LR LR 19 23 28.2
comp=Z,1µm,18.7s,baz=193,slow=32
comp=Z,13nm,1.3s
CFA Coronel Fontan 43.55 122 P **P** **19 08 42.8 -0.4**
comp=Z,3.5nm,0.9s,baz=278,slow=7.6,SNR=7.7
CFA LR LR 19 22 06.0
comp=Z,2µm,21.1s,baz=290,slow=30
comp=Z,3.5nm,0.9s
LL03 Petrohue 43.79 136 IAMs_20 IAMs_20 19 22 11.5
comp=Z,3µm,20.0s
DRIO Del Rio 44.01 14 **P** **19 08 48.0 +1.2**
SAND Sanderson 44.20 12 **P** **19 08 50.5 +2.2**
SAND IAmb IAmb 19 08 52.5
comp=Z,28nm,1.3s
ALPN Alpine 44.33 10 **P** **19 08 51.0 +1.6**
ALPN IAmb IAmb 19 08 53.5
comp=Z,20nm,1.1s
VHRN Van Horn 44.53 8 **P** **19 08 51.8 +0.7**
VHRN IAmb IAmb 19 08 55.2
comp=Z,20nm,1.1s
PLCA Paso Flores 44.87 135 P **P** **19 08 54.2 +0.5**
comp=Z,2.4nm,0.8s,baz=283,slow=13,SNR=4.4
PLCA LR LR 19 22 59.5
comp=Z,5µm,18.7s,baz=272,slow=30
comp=Z,2.4nm,0.8s
PLCA Paso Flores 44.87 135 *eP* **P** **19 08 56.5 +2.8**
JCT Junction City 45.21 14 IAmb IAmb 19 08 59.9
comp=Z,32nm,1.2s
JCT IAMs_20 IAMs_20 19 24 52.9
comp=Z,2µm,18.0s
OZNA Ozona 45.34 13 **P** **19 08 58.9 +1.5**
OZNA IAmb IAmb 19 09 01.7
comp=Z,24nm,1.2s
MNTX Cornudas Mount 45.38 7 IAmb IAmb 19 09 01.6
comp=Z,29nm,1.2s
MNHN Monahans 45.42 11 **P** **19 08 59.4 +1.4**
MNHN IAmb IAmb 19 09 01.8
comp=Z,30nm,1.3s
TUC Tucson 45.60 1 IAMs_20 IAMs_20 19 23 50.2
comp=Z,3µm,20.0s
121A Cookes Peak, D 45.96 4 IAmb IAmb 19 09 06.7
comp=Z,19nm,1.0s
BRDY Brady 46.18 15 IAmb IAmb 19 09 31.3
comp=Z,11nm,0.9s
BAR Barrett 46.22 354 IAMs_20 IAMs_20 19 23 14.3
comp=Z,2µm,19.0s
SDV Santo Domingo 46.36 64 **P** **19 09 05.1 -0.9**
SDV Santo Domingo 46.36 64 P **P** **19 09 05.5 -0.5**
comp=Z,14nm,0.4s,baz=244,slow=5.3,SNR=13
SDV LR LR 19 26 37.2
comp=Z,867nm,18.2s,baz=239,slow=34
comp=Z,14nm,0.4s
GLA Glamis 46.43 356 IAMs_20 IAMs_20 19 23 40.9
comp=Z,2µm,21.0s
CPE Camp Elliot 46.47 354 IAMs_20 IAMs_20 19 23 38.1
comp=Z,2µm,19.0s
RAR Rarotonga 46.47 254 LR LR 19 23 39.2
comp=Z,2µm,19.4s,baz=94,slow=30
BC3 Big Chuckawall 47.08 356 IAMs_20 IAMs_20 19 24 07.0
comp=Z,2µm,20.0s
PFO Pinyon Flats O 47.12 354 IAMs_20 IAMs_20 19 23 53.1
comp=Z,2µm,18.0s
PFO Pinyon Flats O 47.12 354 LR LR 19 24 05.2
comp=Z,2µm,21.1s,baz=170,slow=30
WHTX Lake Whitney, 47.26 16 IAMs_20 IAMs_20 19 26 14.8
comp=Z,2µm,18.0s
POST Post 47.34 12 IAmb IAmb 19 09 16.2
comp=Z,17nm,1.0s
TEFE Tefe 47.41 82 *eP* **P** **19 09 12.6 -1.3**
BELC Belle Mtn. Jos 47.46 355 IAMs_20 IAMs_20 19 24 07.2
comp=Z,2µm,19.0s
IRM Iron Mountain 47.55 356 IAMs_20 IAMs_20 19 24 22.5
comp=Z,2µm,20.0s
X18A Snowflake 47.83 2 IAmb IAmb 19 09 22.1
comp=Z,21nm,1.3s
PASC Pasadena Art C 47.86 353 IAMs_20 IAMs_20 19 24 00.0
comp=Z,3µm,21.0s
BFSC Mount Baldy Ra 47.87 353 IAMs_20 IAMs_20 19 24 20.1
comp=Z,2µm,20.0s
545A Edgard 47.87 25 IAMs_20 IAMs_20 19 27 50.4
comp=Z,2µm,20.0s
APMT Aspermont 47.87 13 IAmb IAmb 19 09 28.2
comp=Z,13nm,0.9s
MWC Mount Wilson 47.90 353 IAMs_20 IAMs_20 19 24 01.0
comp=Z,2µm,21.0s
DANC Danby, Needles 48.05 356 IAMs_20 IAMs_20 19 24 27.6
comp=Z,2µm,20.0s
NEE2 Needles Airpor 48.13 357 IAMs_20 IAMs_20 19 25 01.7
comp=Z,2µm,19.0s
OSI Osito Audit: C 48.37 352 IAMs_20 IAMs_20 19 24 13.5
comp=Z,3µm,22.0s
W13A Hualapai Mount 48.42 357 P **P** **19 09 23.1 +1.4**
W18A Petrified Fore 48.42 2 P **P** **19 09 22.9 +1.2**
W18A IAmb IAmb 19 09 25.7
comp=Z,12nm,1.0s
ANMO Albuquerque 48.47 6 **P** **19 09 22.9 +1.0**
ANMO Albuquerque 48.47 6 IAMs_20 IAMs_20 19 26 23.7
comp=Z,2µm,18.0s
ANMO Albuquerque 48.47 6 LR LR 19 26 26.8
comp=Z,3µm,18.4s,baz=282,slow=32
Z35A Perchaven, San 48.58 16 IAMs_20 IAMs_20 19 27 02.8
comp=Z,2µm,18.0s
BAUV El Baul 48.66 65 **P** **19 09 20.8 -2.8**
WUAZ Wupatki 48.79 0 IAMs_20 IAMs_20 19 25 26.8
comp=Z,2µm,21.0s
SIV San Ignacio 48.81 99 P **P** **19 09 22.6 -2.3**
comp=Z,1.4nm,0.6s,baz=265,slow=12,SNR=7.7
SIV LR LR 19 26 39.9
comp=Z,732nm,20.6s,baz=278,slow=32
comp=Z,1.4nm,0.6s
GSC Goldstone, Bar 48.83 354 IAmb IAmb 19 09 47.4
comp=Z,13nm,1.2s
AMTX Amarillo 49.07 11 P **P** **19 09 27.5 +1.0**
AMTX IAmb IAmb 19 09 38.3
comp=Z,8.1nm,0.8s
LRMC Laurel Mtn Rad 49.09 353 IAMs_20 IAMs_20 19 25 25.6
comp=Z,2µm,19.0s
Z38A Mt. Pleasant 49.16 18 IAMs_20 IAMs_20 19 28 14.2
comp=Z,2µm,18.0s
WSHM Spangler Hills 49.19 354 IAMs_20 IAMs_20 19 25 54.1
comp=Z,1µm,18.0s
ISA Isabella, Lake 49.37 353 IAMs_20 IAMs_20 19 25 15.9
comp=Z,2µm,19.0s
SHOC Shoshone, Teco 49.37 355 IAMs_20 IAMs_20 19 25 14.8
comp=Z,2µm,20.0s
SMWD Samnorwood 49.56 12 IAmb IAmb 19 09 33.2
comp=Z,23nm,1.3s
VES Vestal, Richgr 49.62 352 IAMs_20 IAMs_20 19 24 52.7
comp=Z,2µm,22.0s

MPMC Manual Prospec 49.65 354 IAMs_20 IAMs_20 19 25 55.1
comp=Z,1µm,19.0s
PKD Bear Valley Ra 49.94 351 IAMs_20 IAMs_20 19 25 16.0
comp=Z,3µm,20.0s
VILB Vilhena 49.95 96 *eP* **P** **19 09 32.9 -0.6**
FURC Furnace Creek, 49.99 354 IAMs_20 IAMs_20 19 25 43.1
comp=Z,2µm,21.0s
CWC Cottonwood Cre 50.09 353 IAMs_20 IAMs_20 19 25 42.9
comp=Z,2µm,20.0s
KNB Kanab 50.30 359 IAmb IAmb 19 09 48.3
comp=Z,21nm,1.4s
TPNV Topopah Spring 50.41 355 IAMs_20 IAMs_20 19 26 00.3
comp=Z,2µm,20.0s
MVCO Mesa Verde 50.56 3 IAmb IAmb 19 09 55.7
comp=Z,25nm,1.4s
MVCO IAMs_20 IAMs_20 19 26 55.2
comp=Z,1µm,18.0s
TIN Tinemaha, Big 50.71 353 IAMs_20 IAMs_20 19 26 02.4
comp=Z,2µm,20.0s
PTLB Pontes e Lacer 50.72 99 IAmb IAmb 19 09 40.3
PTLB Pontes e Lacer 50.72 99 *eP* **P** **19 09 38.6 -0.7**
PRN Pahroc Range 50.78 356 IAmb IAmb 19 10 17.8
comp=Z,28nm,1.6s
MIAR Mount Ida 50.79 19 IAmb IAmb 19 09 42.3
comp=Z,26nm,1.2s
MIAR IAMs_20 IAMs_20 19 29 27.3
comp=Z,1µm,18.0s
T25A Trinidad 50.86 7 IAmb IAmb 19 09 44.2
comp=Z,14nm,1.1s
FORD Fort Ord Natur 50.88 349 IAMs_20 IAMs_20 19 26 05.8
comp=Z,2µm,20.0s
X40A Basin Creek Fa 50.98 20 IAmb IAmb 19 10 00.8
comp=Z,24nm,1.6s
656A Willston 51.06 33 IAMs_20 IAMs_20 19 28 00.4
comp=Z,2µm,22.0s
S22A 4UR Ranch, Cre 51.21 5 IAMs_20 IAMs_20 19 27 46.5
comp=Z,1µm,18.0s
HMU Henry Mountain 51.21 1 IAmb IAmb 19 10 10.0
comp=Z,15nm,1.3s
MACA Manacapuru-AM 51.31 83 *eP* **P** **19 09 42.0 -1.8**
SDCO Great Sand Dun 51.34 6 IAmb IAmb 19 09 48.0
comp=Z,19nm,1.0s
SDCO IAMs_20 IAMs_20 19 28 02.6
comp=Z,2µm,19.0s
PV05 Paradox Valley 51.40 3 IAmb IAmb 19 09 48.9
comp=Z,26nm,1.4s
TUL3 Leonard 51.40 16 IAmb IAmb 19 09 46.5
comp=Z,18nm,1.1s
PV01 Paradox Valley 51.48 3 IAmb IAmb 19 09 49.1
comp=Z,21nm,1.4s
MHC Mount Hamilton 51.49 350 IAMs_20 IAMs_20 19 25 40.0
comp=Z,3µm,21.0s
PV02 Paradox Valley 51.55 3 IAmb IAmb 19 09 50.1
comp=Z,18nm,0.9s
PV18 Skein Mesa, Pa 51.58 3 IAmb IAmb 19 09 50.1
comp=Z,11nm,0.9s
OK048 Pawnee Station 51.58 15 IAmb IAmb 19 09 48.0
comp=Z,29nm,1.1s
TPH Tonopah 51.62 354 IAmb IAmb 19 09 58.1
comp=Z,43nm,1.8s
Z47A Carrollton 51.62 25 IAmb IAmb 19 09 48.0
comp=Z,21nm,0.9s
PV12 Saucer Basin, 51.65 3 IAmb IAmb 19 09 49.7
comp=Z,15nm,1.0s
JRSC Jasper Ridge 51.66 349 IAMs_20 IAMs_20 19 25 42.5
comp=Z,3µm,20.0s
PV20 West Nyswonger 51.67 3 IAmb IAmb 19 10 07.8
comp=Z,16nm,1.0s
PV10 Paradox Valley 51.70 3 IAmb IAmb 19 10 55.4
comp=Z,14nm,0.8s
PV04 Paradox Valley 51.72 3 IAmb IAmb 19 09 50.2
comp=Z,11nm,0.8s
R11B Troy Canyon, C 51.75 356 **P** **19 09 48.5 +1.6**
KAN14 Manchester OK 51.84 14 IAmb IAmb 19 09 50.1
comp=Z,17nm,1.1s
PV21 Cone Mtn., Par 51.89 3 IAmb IAmb 19 09 59.6
comp=Z,18nm,1.2s
WHAR Wooly Hollow 51.90 20 IAmb IAmb 19 09 51.5
comp=Z,24nm,1.3s
LHV Little Huntoon 51.93 353 IAmb IAmb 19 10 14.7
comp=Z,14nm,1.1s
LRAL Lakeview Retre 51.93 26 IAmb IAmb 19 09 50.2
comp=Z,15nm,1.1s
NVAR Mina Array Bea 52.08 353 P **P** **19 09 50.6 +1.3**
NVAR Mina Array Bea 52.08 353 P **P** **19 09 50.2 +0.8**
comp=Z,1.7nm,0.8s,baz=180,slow=12,SNR=7.9
NVAR LR LR 19 26 50.1
comp=Z,2µm,21.8s,baz=168,slow=30
comp=Z,1.7nm,0.8s
FARB Farallon Islan 52.08 349 IAMs_20 IAMs_20 19 26 09.9
comp=Z,2µm,19.0s
TIGA Tiffon 52.18 31 IAMs_20 IAMs_20 19 29 36.2
comp=Z,2µm,20.0s
PCRV Puerto La Cruz 52.21 66 LR LR 19 29 15.3
comp=Z,2µm,20.5s,slow=33
CPUP Villa Florida 52.23 113 P **P** **19 09 48.6 -1.9**
comp=Z,0.9nm,0.8s,baz=147,slow=8.4,SNR=5.6
CPUP LR LR 19 27 32.6
comp=Z,462nm,21.7s,baz=134,slow=31
comp=Z,0.9nm,0.8s
U38A Grevette 52.30 18 IAmb IAmb 19 09 52.9
comp=Z,11nm,0.9s
U38A IAMs_20 IAMs_20 19 29 44.2
comp=Z,1µm,19.0s
SPR3 Spring Creek 3 52.33 357 IAmb IAmb 19 10 02.8
comp=Z,24nm,1.6s
456A Hilliard 52.40 32 IAMs_20 IAMs_20 19 28 53.0
comp=Z,2µm,22.0s
WELL Weller Preserv 52.41 351 IAMs_20 IAMs_20 19 26 44.6
comp=Z,3µm,20.0s
152A Waverly Hall 52.65 29 IAmb IAmb 19 10 23.1
comp=Z,47nm,1.9s
BDQN Bodoquena, MS 52.70 105 *eP* **P** **19 09 53.5 -0.6**
P17A Butcher Ranch, 52.75 1 IAmb IAmb 19 09 57.9
comp=Z,11nm,0.9s
P18A Preston Nutter 52.91 1 IAmb IAmb 19 10 07.0
comp=Z,28nm,1.5s
LCAR Lake Charles 52.99 21 IAmb IAmb 19 09 59.2
comp=Z,23nm,1.4s
BOAV Boa Vista 53.06 77 *eP* **P** **19 09 53.1 -3.7**
USHA Ushuaia 53.11 150 LR LR 19 27 28.5
comp=Z,5µm,18.6s,baz=306,slow=30
MNRC McLaughlin Min 53.12 349 IAMs_20 IAMs_20 19 26 47.4
comp=Z,2µm,20.0s
PLAL Pickwick Lake 53.17 24 IAmb IAmb 19 09 58.2
comp=Z,10nm,0.8s
SJPY San Joaquin 53.28 111 *eP* **P** **19 09 59.6 +1.2**
SUTB Sutter Butte 53.35 350 IAMs_20 IAMs_20 19 26 39.3
comp=Z,2µm,22.0s
154A Montrose 53.37 30 IAMs_20 IAMs_20 19 30 41.8
comp=Z,1µm,19.0s
PDRB Porto dos Gac 53.48 95 *eP* **P** **19 09 58.2 -1.7**
O20A White River Ci 53.49 3 IAMs_20 IAMs_20 19 29 22.0
comp=Z,2µm,18.0s
ORV Oroville 53.62 350 IAMs_20 IAMs_20 19 26 59.5
comp=Z,2µm,21.0s
GOGA Godfrey 53.85 29 IAmb IAmb 19 10 04.3
comp=Z,11nm,1.1s
257A Skidaway Islan 53.91 32 IAMs_20 IAMs_20 19 29 48.9
comp=Z,2µm,20.0s
HAYD Hayden 53.94 4 IAmb IAmb 19 10 08.3
comp=Z,13nm,1.0s
Y52A Lilburn 53.94 28 IAmb IAmb 19 10 05.0
comp=Z,11nm,0.8s
ELK Elko 54.12 357 IAMs_20 IAMs_20 19 28 31.2
comp=Z,2µm,20.0s
ELK Elko 54.12 357 LR LR 19 29 11.1
comp=Z,2µm,18.4s,baz=178,slow=32
KSU1 Kansas State U 54.21 14 IAMs_20 IAMs_20 19 30 25.7
comp=Z,1µm,19.0s
SWET Sewanee 54.25 26 IAmb IAmb 19 10 06.6
comp=Z,21nm,1.1s
WVT Waverly 54.27 24 P **P** **19 10 05.0 -0.3**
AMBA Amambai (Brazi 54.29 109 *eP* **P** **19 10 05.5 -0.2**
O03E Paynes Creek 54.40 350 IAMs_20 IAMs_20 19 27 42.9
comp=Z,2µm,20.0s
CLDB Colider 54.50 94 *eP* **P** **19 10 05.5 -1.9**
PP1B Ponte de Pedra 54.61 102 *eP* **P** **19 10 08.2 0.0**
R40A Maddies Statio 54.65 19 IAmb IAmb 19 10 10.2
comp=Z,16nm,1.2s
R40A IAMs_20 IAMs_20 19 31 20.3
comp=Z,1µm,18.0s
SJG San Juan 54.75 56 LR LR 19 28 50.9
comp=Z,1µm,21.9s,baz=243,slow=31
CCM Cathedral Cave 54.76 20 **P** **19 10 09.0 +0.2**
CCM IAmb IAmb 19 10 10.9
comp=Z,16nm,1.2s

CCM Cathedral Cave 54.76 20 IAMs_20 IAMs_20 19 31 23.2
comp=Z,1µm,19.0s
HATC Hat Creek Radi 54.85 351 IAMs_20 IAMs_20 19 27 39.2
comp=Z,3µm,21.0s
HWUT Hardware Ranch 54.87 0 IAmb IAmb 19 10 32.3
comp=Z,19nm,1.6s
HWUT IAMs_20 IAMs_20 19 29 03.8
comp=Z,2µm,22.0s
W52A Murphy 55.03 28 IAmb IAmb 19 10 13.2
comp=Z,28nm,1.3s
CPCT Cooper Cave 55.06 27 IAmb IAmb 19 10 13.1
comp=Z,23nm,1.4s
NHSC New Hope 55.24 32 IAMs_20 IAMs_20 19 30 51.2
comp=Z,1µm,20.0s
BG3 Lake Jocassee 55.40 29 IAmb IAmb 19 10 16.0
comp=Z,15nm,1.0s
U49A Red Boiling Sp 55.42 25 IAmb IAmb 19 11 51.5
comp=Z,21nm,1.1s
P38A Dawn 55.51 17 IAmb IAmb 19 10 16.4
comp=Z,19nm,1.2s
TKL Tuckaleechee C 55.57 27 IAmb IAmb 19 10 48.0
comp=Z,18nm,1.4s
TKL Tuckaleechee C 55.57 27 LR LR 19 33 15.3
comp=Z,468nm,18.7s,baz=210,slow=35
NPGB Novo Progresso 55.60 89 *eP* **P** **19 10 13.5 -1.9**
ITTB Itaituba 55.81 86 *eP* **P** **19 10 15.4 -1.4**
Y57A Sumter 55.85 31 IAMs_20 IAMs_20 19 31 12.3
comp=Z,2µm,21.0s
P40A Paris 55.85 18 IAmb IAmb 19 10 18.6
comp=Z,11nm,1.0s
P40A IAMs_20 IAMs_20 19 31 55.2
comp=Z,1µm,19.0s
PLTB Pedras Altas 55.87 119 *eP* **P** **19 10 16.7 -0.4**
CPSB Cacapava Do Su 55.90 118 *eP* **P** **19 10 18.0 +0.7**
YBH Yreka Blue Hor 55.95 350 LR LR 19 28 33.8
comp=Z,228nm,22.0s,baz=168,slow=30
V53A Saluda 56.01 28 IAmb IAmb 19 10 20.6
comp=Z,26nm,1.3s
AHID Auburn Hatcher 56.03 0 IAMs_20 IAMs_20 19 30 02.9
comp=Z,2µm,20.0s
BW06 Boulder Array 56.06 2 IAMs_20 IAMs_20 19 31 10.1
comp=Z,2µm,18.0s
PDAR Pinedale Array 56.06 2 P **P** **19 10 17.9 -0.4**
PDAR Pinedale Array 56.06 2 P **P** **19 10 17.5 -0.9**
comp=Z,2.7nm,0.8s,baz=155,slow=5.3,SNR=21
PDAR LR LR 19 30 26.9
comp=Z,1µm,19.8s,baz=178,slow=32
comp=Z,2.7nm,0.8s
WVOR Wild Horse Val 56.07 354 IAmb IAmb 19 10 30.7
comp=Z,24nm,1.6s
WVOR IAMs_20 IAMs_20 19 29 36.3
comp=Z,2µm,19.0s
N35A Tabor 56.11 15 IAMs_20 IAMs_20 19 31 54.3
comp=Z,2µm,18.0s
Y58A Scranton 56.13 32 IAMs_20 IAMs_20 19 31 17.8
comp=Z,1µm,20.0s
KSXB Camp Six Broad 56.25 349 IAMs_20 IAMs_20 19 28 56.1
comp=Z,2µm,19.0s
Q44A Meyer Farm, Va 56.28 21 IAmb IAmb 19 10 23.0
comp=Z,24nm,1.2s
KMSC Kings Mountain 56.28 30 IAMs_20 IAMs_20 19 32 10.9
comp=Z,2µm,20.0s
TZTN Tazewell 56.40 27 IAmb IAmb 19 10 22.2
comp=Z,16nm,1.1s
N38A Joes South For 56.67 17 IAMs_20 IAMs_20 19 32 07.1
comp=Z,1µm,19.0s
SNOW Snow King Moun 56.73 1 IAMs_20 IAMs_20 19 30 15.9
comp=Z,2µm,22.0s
TPAW Teton Pass 56.76 1 IAmb IAmb 19 10 34.3
comp=Z,21nm,1.6s
TPAW IAMs_20 IAMs_20 19 30 26.6
comp=Z,2µm,21.0s
P43A Skaggs, Pawnee 56.76 20 IAMs_20 IAMs_20 19 32 37.2
comp=Z,1µm,19.0s
X58A Rowland 56.80 32 IAMs_20 IAMs_20 19 31 38.7
comp=Z,1µm,21.0s
MFID Camas Ranch 56.81 356 IAMs_20 IAMs_20 19 29 56.5
comp=Z,1µm,20.0s
LOHW Long Hollow 56.88 1 IAMs_20 IAMs_20 19 30 42.9
comp=Z,2µm,20.0s
HLID Hailey 56.88 358 IAMs_20 IAMs_20 19 30 50.3
comp=Z,2µm,18.0s
ITAB Concordia 56.91 114 *eP* **P** **19 10 24.0 -0.5**
V55A Taylorsville 56.91 29 IAmb IAmb 19 10 26.3
comp=Z,19nm,1.1s
V55A IAMs_20 IAMs_20 19 32 50.6
comp=Z,1µm,20.0s
W57A Gilead 56.95 31 IAMs_20 IAMs_20 19 31 57.5
comp=Z,2µm,21.0s
PTGB Pitanga 56.95 111 *eP* **P** **19 10 24.9 -0.1**
L34A Svendsen Farm, 56.98 13 IAMs_20 IAMs_20 19 32 07.5
comp=Z,1µm,18.0s
R50A Paris 57.53 25 IAmb IAmb 19 10 30.5
comp=Z,21nm,1.2s
HDIL Hopedale 57.66 20 IAMs_20 IAMs_20 19 33 02.0
comp=Z,1µm,19.0s
U56A King 57.71 30 IAMs_20 IAMs_20 19 33 03.6
comp=Z,1µm,21.0s
ARAG Araguaiana, MT 57.72 100 *eP* **P** **19 10 30.1 -0.3**
RSSD Black Hills 57.80 6 **P** **19 10 31.4 +0.8**
LKWY Lake 57.84 1 IAMs_20 IAMs_20 19 32 04.2
comp=Z,2µm,19.0s
V58A Windy Hill, Pi 57.89 31 IAMs_20 IAMs_20 19 32 35.5
comp=Z,2µm,21.0s
BBGH Gun Hill 57.97 65 IAMs_20 IAMs_20 19 32 53.3
comp=Z,2µm,21.0s
YHL Hebgen Lake 58.12 0 IAmb IAmb 19 10 36.6
comp=Z,11nm,1.1s
SFIN Lafayette 58.27 22 IAMs_20 IAMs_20 19 33 52.9
comp=Z,1µm,18.0s
BMO Blue Mountains 58.35 355 IAMs_20 IAMs_20 19 30 34.3
comp=Z,1µm,21.0s
BLA Blacksburg 58.38 29 IAMs_20 IAMs_20 19 33 28.6
comp=Z,1µm,19.0s
SNDB Serra Nova Dou 58.70 96 *eP* **P** **19 10 36.5 -0.8**
T57A Hurt 58.77 30 IAMs_20 IAMs_20 19 33 24.8
comp=Z,2µm,20.0s
COR Corvallis 58.82 350 IAMs_20 IAMs_20 19 30 03.1
comp=Z,2µm,22.0s
M44A Midewin, Midew 58.83 21 IAMs_20 IAMs_20 19 33 58.8
comp=Z,1µm,18.0s
L42A Oliver, Polo 58.85 19 IAMs_20 IAMs_20 19 33 58.4
comp=Z,1µm,18.0s
N47A Urbana 59.22 23 IAMs_20 IAMs_20 19 34 45.2
comp=Z,1µm,18.0s
HQIL Hanson Quary C 59.26 20 IAMs_20 IAMs_20 19 34 12.2
comp=Z,1µm,18.0s
R55A Marlinton 59.39 29 IAMs_20 IAMs_20 19 34 13.2
comp=Z,1µm,19.0s
S57A Dark Hollow, R 59.52 30 IAMs_20 IAMs_20 19 33 38.7
comp=Z,1µm,20.0s
L44A Lake County Fo 59.58 20 IAMs_20 IAMs_20 19 34 10.6
comp=Z,1µm,20.0s
T59A Double "B" Far 59.59 31 IAMs_20 IAMs_20 19 33 24.6
comp=Z,2µm,21.0s
I37A Lemond, Waseca 59.63 15 IAMs_20 IAMs_20 19 33 38.5
comp=Z,2µm,19.0s
P53A Whipple 59.79 27 IAMs_20 IAMs_20 19 35 25.1
comp=Z,1µm,20.0s
L46A Eue Claire 59.99 22 IAMs_20 IAMs_20 19 34 41.5
comp=Z,1µm,18.0s
O52A Adamsville 60.12 26 IAMs_20 IAMs_20 19 35 59.6
comp=Z,1µm,18.0s
MSO Missoula 60.13 358 IAMs_20 IAMs_20 19 32 19.1
comp=Z,1µm,21.0s
LAO LASA Array 60.15 4 IAmb IAmb 19 10 49.8
comp=Z,14nm,0.8s
LAO IAMs_20 IAMs_20 19 33 22.0
comp=Z,1µm,19.0s
R58B Mineral 60.20 30 IAMs_20 IAMs_20 19 34 15.7
comp=Z,1µm,20.0s
Q56A Snyder Ridge, 60.43 29 IAMs_20 IAMs_20 19 34 43.8
comp=Z,1µm,20.0s
PMSA Palmer Station 60.55 159 LR LR 19 29 59.2
comp=Z,1µm,20.6s,baz=302,slow=29
CBN Corbin Frederi 60.64 31 IAMs_20 IAMs_20 19 34 08.3
comp=Z,1µm,20.0s
SPMN Marine on St. 60.92 15 IAMs_20 IAMs_20 19 34 37.5
comp=Z,1µm,18.0s
S61A Accomac 61.10 32 IAMs_20 IAMs_20 19 34 09.4
comp=Z,1µm,22.0s
EGMT Eagleton 61.31 1 IAMs_20 IAMs_20 19 33 15.0
comp=Z,2µm,20.0s
P57A Homestead Farm 61.33 29 IAMs_20 IAMs_20 19 34 56.7
comp=Z,1µm,20.0s
BDFB Brasilia 61.36 101 P **P** **19 10 54.0 -1.7**
comp=Z,2.6nm,0.4s,baz=221,slow=11,SNR=4.4
BDFB LR LR 19 34 34.0

comp=Z,344nm,19.1s,baz=277,slow=33
comp=Z,2.6nm,0.4s
MDP Montagnes des 61.37 76 LR LR 19 34 02.3
comp=Z,1µm,18.8s,baz=260,slow=33
J47A Sunmer 61.59 22 IAMs_20 IAMs_20 19 35 41.9
comp=Z,1µm,18.0s
NLWA Neilton Lookou 61.64 351 IAMs_20 IAMs_20 19 32 08.7
comp=Z,2µm,20.0s
G40A Rib Lake 61.66 17 **P** **19 10 58.5 +1.5**
VAO Valinhos 61.67 109 *eP* **P** **19 10 57.9 +0.3**
NEW Newport 61.73 356 IAMs_20 IAMs_20 19 32 38.6
comp=Z,1µm,22.0s
NEW Newport 61.73 356 LR LR 19 33 12.3
comp=Z,1µm,20.8s,baz=170,slow=32
R61A Willards 61.76 32 IAMs_20 IAMs_20 19 34 51.9
comp=Z,1µm,21.0s
DGMT Dagmar 62.08 6 **P** **19 11 00.6 +0.8**
SSPA Standing Stone 62.30 28 IAMs_20 IAMs_20 19 35 20.4
comp=Z,1µm,21.0s
MVL Millersville 62.53 30 IAmb IAmb 19 11 05.8
comp=Z,14nm,1.2s
SMTB Santa Maria do 62.81 93 *eP* **P** **19 11 06.5 +1.2**
I49A Point Hope 62.94 23 IAMs_20 IAMs_20 19 36 48.4
comp=Z,1µm,18.0s
RAO Raoul Island 62.98 244 LR LR 19 34 27.7
comp=Z,433nm,18.2s,baz=102,slow=32
N58A Sunbury 63.01 29 IAMs_20 IAMs_20 19 35 15.1
comp=Z,1µm,21.0s
P61A Hammonton 63.06 31 IAMs_20 IAMs_20 19 35 40.2
comp=Z,1µm,20.0s
AGMN Agassiz Nation 63.13 12 **P** **19 11 08.3 +1.6**
AGMN IAmb IAmb 19 11 09.6
comp=Z,15nm,1.2s
AGMN IAMs_20 IAMs_20 19 35 39.4
comp=Z,1µm,18.0s
M57A Sunshine Farm, 63.21 29 IAMs_20 IAMs_20 19 35 47.4
comp=Z,2µm,22.0s
L56A Greenwood 63.64 28 IAMs_20 IAMs_20 19 36 26.9
comp=Z,1µm,20.0s
BINY Binghamton 64.42 29 IAMs_20 IAMs_20 19 36 34.3
comp=Z,1µm,21.0s
PAL Palisades 64.50 31 IAMs_20 IAMs_20 19 35 50.5
comp=Z,1µm,22.0s
K57A Scipio Center 64.59 28 IAMs_20 IAMs_20 19 37 12.8
comp=Z,1µm,20.0s
SDBA SAO DESIDERIO 64.80 97 *eP* **P** **19 11 18.4 -0.2**
JANB Januaria 64.97 100 *eP* **P** **19 11 19.1 -0.6**
ULM Lac du Bonnet 65.00 11 LR LR 19 36 48.3
comp=Z,696nm,18.7s,baz=189,slow=34
J57A Williamstown 65.35 28 IAMs_20 IAMs_20 19 37 18.2
comp=Z,1µm,21.0s
M63A Gales Ferry 65.74 32 IAMs_20 IAMs_20 19 36 39.2
comp=Z,1µm,22.0s
TRY Troy 65.92 30 IAMs_20 IAMs_20 19 37 01.1
comp=Z,1µm,20.0s
J59A Pesco 66.08 29 IAmb IAmb 19 11 28.2
comp=Z,14nm,1.1s
M65A Busby, Falmout 66.58 32 IAMs_20 IAMs_20 19 37 47.4
comp=Z,1µm,21.0s
NCB Newcomb 66.60 29 IAmb IAmb 19 11 32.4
comp=Z,17nm,1.2s
L64A Middleborough 66.75 32 IAMs_20 IAMs_20 19 38 01.9
comp=Z,1µm,21.0s
J61A Chester 66.92 30 IAMs_20 IAMs_20 19 37 59.6
comp=Z,967nm,20.0s
BBB Bella Bella 67.00 349 LR LR 19 33 39.2
comp=Z,712nm,21.1s,baz=171,slow=30
URZ Urewera 67.11 234 LR LR 19 35 19.9
comp=Z,1µm,19.3s,baz=107,slow=31
SJMB Sao Joao De Ma 67.46 105 *eP* **P** **19 11 34.3 -1.2**
MSVF Nonsavu 67.55 256 IAMs_20 IAMs_20 19 33 25.9
comp=Z,1µm,21.0s
BKZ Black Stump Fm 67.60 233 IAMs_20 IAMs_20 19 33 23.1
comp=Z,2µm,21.0s
LBNH Lisbon 67.89 30 IAMs_20 IAMs_20 19 38 51.2
comp=Z,1µm,18.0s
BHW Baring Head 68.86 231 IAMs_20 IAMs_20 19 35 07.7
comp=Z,1µm,20.0s
G62A West of Eustis 69.28 30 IAMs_20 IAMs_20 19 41 19.1
comp=Z,905nm,19.0s
EMMW East Machias 70.45 32 IAMs_20 IAMs_20 19 39 37.9
comp=Z,1µm,21.0s
G65A Princeton 70.74 31 IAMs_20 IAMs_20 19 39 37.6
comp=Z,1µm,21.0s
RPZ Rata Peaks 71.67 228 LR LR 19 36 32.3
comp=Z,2µm,21.3s,baz=88,slow=30
S34M Telegraph Cree 73.00 349 IAMs_20 IAMs_20 19 40 45.0
comp=Z,842nm,18.0s
NBAN Anadia - AL 73.62 96 *eP* **P** **19 12 11.6 -1.6**
BELA Belgrano 2 74.11 168 P **P** **19 12 17.7 +2.8**
BELA IAmb IAmb 19 12 27.8
comp=Z,10nm,1.1s
Q32M Nakina River 74.19 349 IAMs_20 IAMs_20 19 39 01.6
comp=Z,1µm,19.0s
YKA Yellowknife Ar 75.83 359 P **P** **19 12 25.8 +0.9**
comp=Z,3.2nm,0.9s,baz=183,slow=4.6,SNR=7.3
YKA LR LR 19 42 54.8
comp=Z,2µm,18.4s,baz=178,slow=34
comp=Z,3.2nm,0.9s
VNDA Vanda 76.12 193 P **P** **19 12 30.3 +3.8**
comp=Z,0.6nm,0.8s,baz=91,slow=3.1,SNR=4.1
VNDA LR LR 19 39 17.4
comp=Z,251nm,19.0s,baz=89,slow=30
comp=Z,0.6nm,0.8s
QSPA South Pole Qui 76.56 180 P **P** **19 12 33.0 +3.7**
QSPA South Pole Qui 76.56 180 IAMs_20 IAMs_20 19 41 30.3
comp=Z,931nm,19.0s
QSPA South Pole Qui 76.56 180 P **P** **19 12 32.8 +3.4**
comp=Z,8.8nm,1.0s,baz=109,slow=2.0,SNR=27
QSPA LR LR 19 41 50.0
comp=Z,842nm,18.1s,baz=106,slow=32
comp=Z,8.8nm,1.0s
BCPM Bancas Point 76.65 346 IAMs_20 IAMs_20 19 37 36.1
comp=Z,1µm,21.0s
O29M Mount Kennedy 76.72 347 IAMs_20 IAMs_20 19 37 53.7
comp=Z,1µm,21.0s
PCA Pinnacle 76.93 346 IAMs_20 IAMs_20 19 38 33.3
comp=Z,1µm,20.0s
MESA MESA 77.42 345 IAMs_20 IAMs_20 19 39 11.3
comp=Z,1µm,20.0s
TABL Table Mountain 77.44 345 IAMs_20 IAMs_20 19 38 28.0
comp=Z,1µm,22.0s
O28M Mount Upton 77.51 346 IAMs_20 IAMs_20 19 39 04.6
comp=Z,831nm,20.0s
YAH Yahtse 77.52 345 IAMs_20 IAMs_20 19 39 25.1
comp=Z,1µm,20.0s
SNH Sunshine Point 77.64 345 IAMs_20 IAMs_20 19 38 25.4
comp=Z,1µm,22.0s
DZM Mont Dzumac 77.70 250 *eS* **S** **19 22 23.3 -5.9**
DZM comp=Z,203nm,28.4s *eSS* **SS** **19 27 23.4 -5.7**
DZM comp=Z,138nm,24.4s *eLQ* LQ 19 33 15.2
DZM comp=Z,528nm,30.4s *eLR* LR 19 36 31.4
comp=Z,1µm,27.4s
LOGN Logan Glacier 77.75 346 IAMs_20 IAMs_20 19 38 60.0
comp=Z,1µm,20.0s
SUCK Suckling Hills 77.80 344 IAMs_20 IAMs_20 19 40 17.5
comp=Z,957nm,20.0s
GRNC Granite Creek 77.85 345 IAMs_20 IAMs_20 19 39 36.7
comp=Z,866nm,20.0s
WAX Waxell Ridge 77.88 345 IAMs_20 IAMs_20 19 38 06.6
comp=Z,848nm,19.0s
ISLE Juniper Island 77.88 345 IAMs_20 IAMs_20 19 40 56.6
comp=Z,1µm,19.0s
CTGM Chitina Glacie 77.95 346 IAMs_20 IAMs_20 19 38 45.4
comp=Z,1µm,22.0s
BERG Berg Lake 78.05 344 IAMs_20 IAMs_20 19 39 10.2
comp=Z,1µm,21.0s
BARN Barnard Glacie 78.11 346 IAMs_20 IAMs_20 19 39 00.6
comp=Z,920nm,21.0s
TGL Tana Glacier 78.14 345 IAMs_20 IAMs_20 19 38 17.3
comp=Z,934nm,21.0s
HMT Hamilton 78.15 344 IAMs_20 IAMs_20 19 38 26.8
comp=Z,1µm,20.0s
SANVU Saraoutou 78.17 257 IAMs_20 IAMs_20 19 38 52.7
comp=Z,879nm,22.0s
RAGM Ragged Mountai 78.30 344 IAMs_20 IAMs_20 19 40 24.9
comp=Z,1µm,19.0s
M30M Minto, Yukon 78.39 348 IAmb IAmb 19 12 43.3
comp=Z,24nm,1.8s
M29M Somme Creek 78.61 348 P **P** **19 12 42.8 +2.1**
KDAK Kodiak Island 78.65 339 LR LR 19 38 53.2
comp=Z,2µm,21.9s,baz=132,slow=29
MCARA McCarthy VSAT 78.72 345 IAMs_20 IAMs_20 19 41 24.9
comp=Z,706nm,19.0s
BMRM Bremner River 78.78 344 IAMs_20 IAMs_20 19 38 47.3
comp=Z,1µm,22.0s
L29M L29M 79.14 348 IAmb IAmb 19 12 55.9
comp=Z,38nm,1.9s
DIV Divide 79.22 344 IAMs_20 IAMs_20 19 38 59.2
comp=Z,1µm,22.0s
M27K Edge Creek, AK 79.29 346 IAMs_20 IAMs_20 19 40 48.8
comp=Z,1µm,20.0s
N25K Chitina, Valde 79.31 345 IAMs_20 IAMs_20 19 39 47.5
comp=Z,698nm,20.0s
KLU Klutina 79.56 344 IAMs_20 IAMs_20 19 39 54.3
comp=Z,896nm,20.0s
M26K Nabesna, AK 79.59 346 IAMs_20 IAMs_20 19 42 11.8
comp=Z,742nm,18.0s
K29M Barlow Dome 79.69 349 IAmb IAmb 19 12 51.7
comp=Z,23nm,1.4s
L27K Beaver Creek, 79.89 347 IAmb IAmb 19 12 56.1
comp=Z,15nm,1.4s
L27K IAMs_20 IAMs_20 19 40 23.6
comp=Z,1µm,21.0s
M24K Tolsona, Glenn 80.14 344 IAMs_20 IAMs_20 19 40 31.5
comp=Z,945nm,21.0s
L26K Log Cabin Wild 80.21 346 IAMs_20 IAMs_20 19 41 15.2
comp=Z,804nm,18.0s
SCM Sheep Creek Mo 80.23 344 IAMs_20 IAMs_20 19 39 40.8
comp=Z,1µm,22.0s
P19K Oil Pt 80.30 340 IAMs_20 IAMs_20 19 40 55.0
comp=Z,1µm,20.0s
SML Sawmill 80.48 343 IAMs_20 IAMs_20 19 41 04.6
comp=Z,1µm,20.0s
PAX Paxson 80.68 345 IAmb IAmb 19 13 41.0
comp=Z,42nm,2.0s
K27K Chicken 80.79 347 IAmb IAmb 19 12 57.4
comp=Z,22nm,1.4s
K27K IAMs_20 IAMs_20 19 41 41.3
comp=Z,978nm,19.0s
DOT Dot Lake 80.91 346 IAMs_20 IAMs_20 19 42 05.7
comp=Z,921nm,19.0s
H31M Peel River 80.93 351 IAMs_20 IAMs_20 19 42 26.0
comp=Z,844nm,20.0s
VNA3 Neumayer Olymp 81.07 161 ⇑P **P** **19 12 55.0 +1.0**
comp=Z,7.0nm,0.9s
O18K Koktuh Hills 81.11 339 IAMs_20 IAMs_20 19 41 00.8
comp=Z,1µm,20.0s
SCRK Sand Creek 81.18 346 IAmb IAmb 19 12 58.6
comp=Z,17nm,1.5s
SCRK IAMs_20 IAMs_20 19 41 00.6
comp=Z,1µm,22.0s
RIDG Independent Ri 81.18 346 IAMs_20 IAMs_20 19 43 19.7
comp=Z,895nm,18.0s
I29M Ogilvie Camp, 81.20 349 IAmb IAmb 19 13 13.9
comp=Z,20nm,1.7s
DHY Denali Highway 81.26 344 IAMs_20 IAMs_20 19 40 48.0
comp=Z,1µm,22.0s
K24K Donelly Dome 81.46 345 IAMs_20 IAMs_20 19 43 30.1
comp=Z,944nm,19.0s
J26L Joseph Creek 81.53 347 IAMs_20 IAMs_20 19 41 14.9
comp=Z,1µm,21.0s
EPYK Eagle Plains 81.84 350 IAmb IAmb 19 13 01.2
comp=Z,18nm,1.0s
VNA2 Neumayer--Watz 81.87 161 ⇑P P 19 13 05.9 +7.7
comp=Z,2.2nm,0.7s,baz=254,slow=5.5
RND Reindeer 81.92 344 IAMs_20 IAMs_20 19 41 07.5
comp=Z,1µm,20.0s
O16K Kokwok River B 81.94 338 IAMs_20 IAMs_20 19 40 55.8
comp=Z,1µm,21.0s
N18K Kilae Creek 81.95 340 IAMs_20 IAMs_20 19 41 26.9
comp=Z,1µm,21.0s
G31M Satah River 81.96 351 IAMs_20 IAMs_20 19 43 02.1
comp=Z,939nm,19.0s
J25K Salcha River, 82.04 346 IAmb IAmb 19 13 15.2
comp=Z,27nm,1.9s
J25K IAMs_20 IAMs_20 19 40 45.4
comp=Z,760nm,21.0s
I26K Coal Creek Min 82.13 347 IAMs_20 IAMs_20 19 41 16.7
comp=Z,1µm,22.0s
MCK McKinley 82.20 344 IAmb IAmb 19 13 03.8
comp=Z,18nm,1.1s
MCK IAMs_20 IAMs_20 19 41 27.0
comp=Z,1µm,20.0s
HDA Harding Lake 82.25 345 IAMs_20 IAMs_20 19 42 15.1
comp=Z,642nm,20.0s
G30M tAoh Zraii Nji 82.31 350 IAMs_20 IAMs_20 19 44 06.6
comp=Z,1µm,18.0s
F31M Tsiigehtchic 82.36 352 IAMs_20 IAMs_20 19 43 26.8
comp=Z,1µm,20.0s
ILAR Eielson Array 82.53 346 P **P** **19 13 02.0 +0.5**
comp=Z,2.3nm,1.1s,baz=177,slow=6.0,SNR=8.4
ILAR LR LR 19 42 38.1
comp=Z,421nm,19.2s,baz=120,slow=30
comp=Z,2.3nm,1.1s
WRH Wood River Hil 82.58 345 IAMs_20 IAMs_20 19 42 22.0
comp=Z,739nm,20.0s
H27K Steamboat Moun 82.59 348 IAmb IAmb 19 13 06.6
comp=Z,12nm,1.4s
CCB Clear Creek Bu 82.66 345 IAmb IAmb 19 13 06.0
comp=Z,13nm,1.2s
CCB IAMs_20 IAMs_20 19 42 35.8
comp=Z,694nm,19.0s
BWN Browne 82.70 344 IAMs_20 IAMs_20 19 41 41.9
comp=Z,1µm,20.0s
F30M Barrier River 82.83 351 IAMs_20 IAMs_20 19 43 05.0
comp=Z,1µm,22.0s
PRP Porcupine Dome 82.83 346 IAmb IAmb 19 13 06.9
comp=Z,8.4nm,1.0s
PRP IAMs_20 IAMs_20 19 43 27.4
comp=Z,772nm,20.0s
NEA2 Nenana 82.93 345 IAMs_20 IAMs_20 19 42 30.2
comp=Z,737nm,20.0s
POKR Poker Plat Res 82.95 346 IAMs_20 IAMs_20 19 44 33.6
comp=Z,782nm,18.0s
M17K Holitna River 82.99 340 IAMs_20 IAMs_20 19 41 51.4
comp=Z,1µm,20.0s
SNAA Sanae 83.00 162 ⇑P **P** **19 13 04.4 +0.2**
comp=Z,29nm,0.8s
SNAA Sanae 83.00 162 IAMs_20 IAMs_20 19 42 46.9
comp=Z,972nm,20.0s
SNAA Sanae 83.00 162 P **P** **19 13 04.2 +0.1**
comp=Z,3.1nm,1.2s,baz=219,slow=9.4,SNR=6.4
SNAA LR LR 19 45 19.9
comp=Z,884nm,18.2s,baz=258,slow=32
comp=Z,3.1nm,1.2s
BPAW Bear Paw Mtn. 83.05 344 IAMs_20 IAMs_20 19 41 30.4
comp=Z,1µm,20.0s
INK Inuvik 83.14 352 IAmb IAmb 19 13 09.5
comp=Z,12nm,1.1s
INK Inuvik 83.14 352 LR LR 19 45 41.8
comp=Z,1µm,18.1s,baz=151,slow=32
C36M Paulatuk 83.15 356 IAMs_20 IAMs_20 19 45 08.0
comp=Z,812nm,20.0s
M16K Timber Creek 83.25 339 IAMs_20 IAMs_20 19 41 37.4
comp=Z,1µm,21.0s
K20K Telida 83.36 342 IAmb IAmb 19 13 08.6
comp=Z,13nm,0.9s
I23K Minto, Yukon-K 83.45 345 IAMs_20 IAMs_20 19 42 29.0
comp=Z,658nm,19.0s
F28M Old Crow 83.50 349 IAMs_20 IAMs_20 19 42 43.8
comp=Z,1µm,22.0s
H24K Noodor Dome 83.65 346 IAmb IAmb 19 13 10.7
comp=Z,6.2nm,0.9s
H24K IAMs_20 IAMs_20 19 44 24.0
comp=Z,835nm,18.0s
FYU Fort Yukon 83.65 347 IAMs_20 IAMs_20 19 45 04.0
comp=Z,892nm,18.0s
G26K Porcupine Rive 83.67 348 IAmb IAmb 19 14 48.9
comp=Z,20nm,1.7s
G26K IAMs_20 IAMs_20 19 43 56.5
comp=Z,904nm,20.0s
MLY Manley 83.72 344 IAMs_20 IAMs_20 19 42 34.0
comp=Z,1µm,20.0s
FRB Frobisher Bay 83.82 18 LR LR 19 48 26.7
comp=Z,1µm,18.7s,baz=226,slow=34
L16K Owhat River 83.91 339 IAMs_20 IAMs_20 19 42 27.7
comp=Z,1µm,21.0s
H23K Yukon River 84.04 345 IAmb IAmb 19 13 12.6
comp=Z,7.5nm,1.0s
H23K IAMs_20 IAMs_20 19 44 20.5
comp=Z,664nm,20.0s
BMAR Burnt Mountain 84.25 348 P **P** **19 13 12.2 +1.8**
G24K Hadweenzic Riv 84.26 346 IAMs_20 IAMs_20 19 42 05.2
comp=Z,716nm,21.0s
E27K Coleen River 84.32 349 IAmb IAmb 19 13 15.5
comp=Z,11nm,1.1s
E27K IAMs_20 IAMs_20 19 43 47.4
comp=Z,1µm,20.0s
E28M Babbage River 84.33 350 IAMs_20 IAMs_20 19 44 12.6
comp=Z,1µm,19.0s
F26K Sheenjek River 84.39 348 IAmb IAmb 19 13 15.3
comp=Z,10.0nm,1.0s
F26K IAMs_20 IAMs_20 19 42 42.2
comp=Z,1µm,22.0s
TROLL Troll, Antarti 84.39 163 ⇑P **P** **19 13 12.7 +1.4**
comp=Z,117nm,1.1s
F25K Christian Rive 84.61 348 IAMs_20 IAMs_20 19 43 36.1
comp=Z,1µm,20.0s
H21K Melozitna Rive 84.75 344 IAMs_20 IAMs_20 19 43 06.4
comp=Z,1µm,21.0s
G23K Bananza Creek 84.87 346 IAmb IAmb 19 13 17.4
comp=Z,7.7nm,1.1s
G23K IAMs_20 IAMs_20 19 45 52.3
comp=Z,756nm,18.0s
K15K Wolf Creek Mou 85.02 339 IAMs_20 IAMs_20 19 42 12.1
comp=Z,1µm,22.0s
F24K Squaw Lake 85.03 347 IAmb IAmb 19 13 18.6
comp=Z,12nm,0.9s
F24K IAMs_20 IAMs_20 19 43 26.4
comp=Z,742nm,20.0s
E25K Arctic Village 85.03 348 IAmb IAmb 19 13 18.6
comp=Z,12nm,1.0s
E25K IAMs_20 IAMs_20 19 43 33.4
comp=Z,996nm,20.0s
D27M Malcolm River 85.14 350 IAMs_20 IAMs_20 19 44 37.0
comp=Z,1µm,20.0s
COLD Coldfoot 85.33 346 IAMs_20 IAMs_20 19 46 16.4
comp=Z,761nm,18.0s
J16K Anvik River 85.37 340 IAMs_20 IAMs_20 19 44 59.2
comp=Z,1µm,18.0s
M11K Mekoryuk 85.54 336 IAMs_20 IAMs_20 19 43 00.2
comp=Z,1µm,21.0s
G21K Allakaket 85.59 344 IAMs_20 IAMs_20 19 43 33.6
comp=Z,992nm,21.0s
E24K Your Creek 85.62 347 IAMs_20 IAMs_20 19 44 42.9
comp=Z,802nm,20.0s
H19K Roundabout Mou 85.66 343 IAMs_20 IAMs_20 19 43 58.6
comp=Z,1µm,20.0s
E23K Chandalar 85.86 347 IAMs_20 IAMs_20 19 45 58.2
comp=Z,878nm,18.0s
J14K Nanvaranak Lak 86.03 339 IAMs_20 IAMs_20 19 44 05.8
comp=Z,1µm,20.0s
F21K Alatna River 86.13 345 IAmb IAmb 19 13 24.1
comp=Z,7.8nm,1.0s
F21K IAMs_20 IAMs_20 19 44 02.6
comp=Z,828nm,20.0s
D25K Kavik River 86.20 348 IAMs_20 IAMs_20 19 44 33.3
comp=Z,1µm,21.0s
G19K Purcell Mounta 86.29 343 IAMs_20 IAMs_20 19 44 47.2
comp=Z,987nm,19.0s
TOLK Toolik Lake Re 86.31 347 IAMs_20 IAMs_20 19 45 59.3
comp=Z,966nm,19.0s
HNR Honiara 86.35 261 LR LR 19 43 44.0
comp=Z,216nm,21.5s,baz=176,slow=30
E22K Anaktuvuk Pass 86.42 346 IAMs_20 IAMs_20 19 44 31.3
comp=Z,717nm,20.0s
G18K Tagagawik 86.56 342 IAmb IAmb 19 13 27.7
comp=Z,14nm,1.2s
D24K Happy Valley 86.57 347 IAMs_20 IAMs_20 19 45 27.9
comp=Z,697nm,20.0s
H11S2 WAKE ISLAND Hy 86.57 290 T T 20 49 13.4
baz=106,slow=75,SNR=458
F20K Avaraart Lake 86.58 344 IAmb IAmb 19 13 32.1
comp=Z,15nm,1.4s
F20K IAMs_20 IAMs_20 19 44 03.6
comp=Z,1µm,21.0s
H11S1 WAKE ISLAND Hy 86.58 290 T T 20 49 19.3
baz=106,slow=75,SNR=304
H11S3 WAKE ISLAND Hy 86.59 290 T T 20 49 19.8
baz=106,slow=75,SNR=299
H11N3 WAKE ISLAND Hy 86.71 291 T T 20 49 26.7
baz=106,slow=75,SNR=39
H11N1 WAKE ISLAND Hy 86.73 291 T T 20 49 41.1
baz=106,slow=75,SNR=36
H11N2 WAKE ISLAND Hy 86.73 291 T T 20 49 27.6
baz=106,slow=75,SNR=46
D23K Nanushuk River 86.82 347 IAMs_20 IAMs_20 19 52 49.6
comp=Z,904nm,18.0s
F19K Shaleruckik Mo 86.98 343 IAMs_20 IAMs_20 19 44 02.3
comp=Z,894nm,20.0s
C24K Franklin Bluff 87.00 348 IAMs_20 IAMs_20 19 44 56.4
comp=Z,777nm,21.0s
E21K Killik River 87.17 346 IAMs_20 IAMs_20 19 44 11.2
comp=Z,708nm,22.0s
D22K Ayikyak River 87.20 346 IAMs_20 IAMs_20 19 46 04.9
comp=Z,735nm,21.0s
C23K Itkillik River 87.49 347 IAMs_20 IAMs_20 19 45 10.4
comp=Z,806nm,20.0s
ANM Nome 87.81 340 IAMs_20 IAMs_20 19 47 11.7
comp=Z,984nm,19.0s
D20K Etivluk River 88.03 345 IAMs_20 IAMs_20 19 45 25.9
comp=Z,961nm,20.0s
E18K Tukpahlearik C 88.19 343 IAMs_20 IAMs_20 19 44 40.2
comp=Z,1µm,21.0s
B21K Ikpikpuk River 88.22 346 IAMs_20 IAMs_20 19 46 46.7
comp=Z,733nm,20.0s
D19K Kuna River 88.26 344 IAMs_20 IAMs_20 19 45 30.9
comp=Z,1µm,20.0s
B22K Teshekpuk Lake 88.49 347 IAMs_20 IAMs_20 19 49 52.9
comp=Z,732nm,18.0s
RES Resolute Bay 88.67 4 LR LR 19 50 39.9
comp=Z,2µm,18.6s,baz=205,slow=34
B20K Meade River 89.10 346 IAMs_20 IAMs_20 19 54 30.2
comp=Z,744nm,18.0s
C18K Utukok River 89.18 344 IAMs_20 IAMs_20 19 45 37.5
comp=Z,872nm,20.0s
TNA Tin City 89.27 340 IAMs_20 IAMs_20 19 45 50.4
comp=Z,945nm,21.0s
SHEM Shemya Is, Ala 91.42 324 LR LR 19 45 47.5
comp=Z,1µm,21.8s,baz=124,slow=30
SFJD Kangerlussuaq 91.63 20 LR LR 19 52 50.7
comp=Z,507nm,20.8s,baz=238,slow=34
SYO Syowa Base 95.16 170 ‖*eP* **P** **19 14 03.0 +0.8**
SYO Syowa Base 95.16 170 ‖*epP* pP 19 14 07.4 +2.6
STKA Stephens Creek 96.72 235 LR LR 19 49 36.8
comp=Z,620nm,21.6s,baz=83,slow=30
PMG Port Moresby 98.60 258 LR LR 19 55 04.4
comp=Z,274nm,18.7s,baz=134,slow=33
SFS San Fernando 110.22 56 IAMs_20 IAMs_20 19 59 13.9
comp=Z,435nm,22.0s
YSS Yuzhno-Sakhali 110.45 315 IAMs_20 IAMs_20 19 54 16.5
comp=Z,853nm,22.0s
TIXI Tiksi 111.88 343 IAMs_20 IAMs_20 20 02 43.5
comp=Z,641nm,19.0s
MAJO Matsushiro 114.11 304 IAMs_20 IAMs_20 20 00 42.6
comp=Z,418nm,20.0s
INU Inuyama 115.09 303 IAMs_20 IAMs_20 19 56 22.5
comp=Z,676nm,22.0s
MDJ Mudanjiang 119.85 314 IAMs_20 IAMs_20 20 01 14.6
comp=Z,599nm,22.0s
CLL Collm 121.85 37 *ePS* PS 19 31 01.0 +0.3
CLL *ePPS* PPS 19 32 21.0
CLL *eSS* SS 19 37 42.0 -1.8
CLL LmV 20 16 00.0
comp=Z,200nm,19.9s
PABE Paberze 125.90 29 IAMs_20 IAMs_20 20 14 34.2
comp=Z,486nm,21.0s
NACB Ninganchiao 128.83 290 IAMs_20 IAMs_20 20 04 48.8
comp=Z,476nm,22.0s
NJ2 Nanjing 130.45 301 *ePKP* **PKiKP** **19 19 53.5 +2.3**
KIEV Kiev 131.21 32 IAMs_20 IAMs_20 20 20 37.9
comp=Z,323nm,19.0s
MLR Muntele Rosu 132.07 40 IAMs_20 IAMs_20 20 21 53.9
comp=Z,308nm,19.0s
HHC Hu-ho-hao-te 133.62 314 *ePKP* **PKPdf** **19 19 54.5 -1.7**
ZALV Zalesovo Beam 137.66 346 PKP **PKiKP** **19 20 04.4 -0.7**
comp=Z,0.3nm,0.4s,baz=323,slow=0.7,SNR=2.0
ISP Isparta 138.58 47 IAMs_20 IAMs_20 20 26 33.4
comp=Z,260nm,19.0s
ENH Enshi 138.68 301 IAMs_20 IAMs_20 20 18 31.5
comp=Z,282nm,20.0s
ANTO Ankara 139.20 43 IAMs_20 IAMs_20 20 25 38.0
comp=Z,302nm,21.0s
BRTR Keskin Array B 139.84 43 PKhKP PKPpre 19 19 58.0
comp=Z,0.7nm,0.7s,baz=298,slow=2.7,SNR=4.0
BRTR PKP **PKPdf** **19 20 08.0 +0.2**
comp=Z,2.8nm,1.0s,baz=292,slow=0.8,SNR=9.4
BVAR Borovoye Array 140.58 358 PKhKP PKPpre 19 20 02.3
comp=Z,1.0nm,0.8s,baz=206,slow=37,SNR=2.0
BVAR PKP **PKPdf** **19 20 09.6 +1.0**
comp=Z,1.9nm,0.8s,baz=211,slow=1.7,SNR=7.0
CSS Mathiatis 141.85 50 IAMs_20 IAMs_20 20 25 10.7
comp=Z,261nm,20.0s
KURBB Kurchatov Arra 142.11 350 PKhKP PKPpre 19 20 06.6
comp=Z,0.4nm,0.2s,baz=215,slow=29,SNR=2.4
KURBB PKP **PKPdf** **19 20 12.6 +1.2**
comp=Z,1.5nm,0.2s,baz=21,slow=3.2,SNR=6.0
KIV Kislovodsk 142.53 31 IAMs_20 IAMs_20 20 25 39.2
comp=Z,338nm,21.0s
KBZ Khabaz 142.80 31 PKhKP PKPpre 19 20 10.1
comp=Z,2.9nm,1.0s,baz=342,slow=1.3,SNR=5.5

AB31	**Akbulak array**	**143.71**	**9**			**PKPdf**	**19 20 13.6**	**-0.6**
ABKAR	**Akbulak array**	**143.71**	**9**			PKPbc	19 20 11.9	+0.2
MMAI	**Mount Meron Ar**	**144.24**	**52**	PKP		**PKPdf**	**19 20 15.7**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=323,slow=3.6,SNR=4.1							
MKAR	**Makanchi Array**	**144.86**	**343**			**PKPab**	**19 20 14.9**	**-0.5**
MKAR	**Makanchi Array**	**144.86**	**343**	PKP		PKPbc	19 20 15.8	+0.3
	comp=Z,12nm,1.1s,baz=48,slow=4.2,SNR=29							
MAKZ	**Makanchi**	**144.94**	**344**			**PKPab**	**19 20 15.3**	**-0.3**
SLVN	**Son La**	**145.32**	**288**	IAMs_20	IAMs_20		20 35 55.0	
	comp=Z,351nm,19.0s							
WMQ	**Urumqi**	**145.59**	**335**	*e*PKPbc		**PKPab**	**19 20 18.5**	**+0.3**
WMQ				LR	LR			
	comp=Z,520nm,19.9s							
WMQ				LR	LR			
	comp=Z,580nm,22.7s							
WMQ				LR	LR			
	comp=Z,1μm,24.1s							
MARD	**Mardin**	**145.83**	**41**			**PKPbc**	**19 20 18.9**	**-0.1**
LODK	**Lodwar**	**145.85**	**104**	IAMs_20	IAMs_20		20 20 30.1	
	comp=Z,449nm,21.0s							
PZH	**PanZhiHua**	**146.25**	**298**	PKPbc	**PKPab**		**19 20 21.3**	**0.0**
GNI	**Garni**	**146.32**	**34**			**PKPbc**	**19 20 20.8**	**+0.3**
GNI	**Garni**	**146.32**	**34**	IAMs_20	IAMs_20		20 32 35.7	
	comp=Z,263nm,19.0s							
IPM	**Ipoh**	**146.59**	**257**	IAMs_20	IAMs_20		20 22 40.0	
	comp=Z,415nm,20.0s							
KULM	**Kulim**	**147.19**	**259**	IAMs_20	IAMs_20		20 20 02.8	
	comp=Z,367nm,21.0s							
RPSI	**Rantau Prapat**	**147.98**	**253**			**PKiKP**	**19 20 27.8**	**+0.3**
RPSI	**Rantau Prapat**	**147.98**	**253**			**PKiKP**	**19 20 26.9**	**-0.6**
PSI	**Prapat**	**148.01**	**253**	PKPbc		**PKiKP**	**19 20 27.8**	**+0.1**
	comp=Z,6.6nm,0.7s,baz=154,slow=1.4,SNR=4.7							
CMAR	**Chiang Mai Arr**	**150.27**	**284**	PKPbc		**PKiKP**	**19 20 33.5**	**+1.4**
	comp=Z,4.9nm,0.8s,baz=56,slow=1.0,SNR=8.2							
KKAR	**Karatay Array**	**150.49**	**357**			**PKPbc**	**19 20 28.8**	**-2.3**
LSA	**Lhasa**	**153.52**	**311**	IAMs_20	IAMs_20		20 30 09.0	
	comp=Z,318nm,21.0s							
SIMJ	**Simiganj**	**154.98**	**359**			**PKPab**	**19 20 58.2**	**+1.5**
RAYN	**Ar Rayn**	**156.15**	**62**	IAMs_20	IAMs_20		20 35 17.7	
	comp=Z,302nm,19.0s							

*IDC **26** 19:03:08.0±1.1,6˚.17S×103˚.46E, h0km, mb4.1/14, mbtmp4.1/15, ML4.3/1, MS3.3/2, Error ellipse: s-maj=38.5km s-min=11.7km az=47.0*

*DJA **26** 19:03:12.2±0.4, 6˚.5±4˚×10˚.3E±˚, h10km, M4.5/26, mB5.2/2, mb4.5/12, MLv4.5/26, Mw(mB)4.5/2*

*NEIC **26** 19:03:14.3±2.2, 6˚.06S±0˚.05×103˚.61E±0˚.08, h35km±2km, mb4.6/20, Error ellipse: s-maj=16.1km s-min=4.6km az=238.0*

ISC 26 19:03:13.4±0.6,**6˚.24S**±0˚.09×**103˚.53E**±0˚.07,**h38km**,**n96,** σ1**§58**/86,**mb4.4**/24,**1D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**1.20**	**54**	P	**Pn**	**19 03 33.5**	**-0.1**
LWLI	**Liwa**	**1.33**	**24**	P	**Pn**	**19 03 35.9**	**+0.4**
MDSI	**Maura Dua**	**1.86**	**20**	P	**Pn**	**19 03 43.7**	**+1.0**
KLI	**Kotabumi**	**1.91**	**44**	P	**Pn**	**19 03 44.4**	**+1.1**
BLSI	**Bandar Lampung**	**1.92**	**63**	P	**Pn**	**19 03 44.5**	**+1.0**
MNAI	**Manna**	**1.95**	**343**		**Pn**	**19 03 44.6**	**+0.6**
MNAI	**Manna**	**1.95**	**343**	P	**Pn**	**19 03 44.0**	**0.0**
MNAI	**Manna**	**1.95**	**343**	P	**Pn**	**19 03 45.4**	**+1.4**
CGJI	**Cibinong**	**2.18**	**100**	P	**Pn**	**19 03 48.0**	**+0.8**
LHSI	**Lahat**	**2.40**	**360**	P	**Pn**	**19 03 52.8**	**+2.7**
SBJI	**Serang**	**2.59**	**87**	P	**Pn**	**19 03 56.3**	**+3.5**
KSI	**Kapahiang**	**2.74**	**340**	P	**Pn**	**19 03 57.1**	**+2.3**
SKJI	**Sukabumi**	**3.10**	**104**	P	**Pn**	**19 04 02.7**	**+2.9**
DBJI	**Dramaga**	**3.22**	**96**	P	**Pn**	**19 04 04.4**	**+3.0**
MASI	**Maura Aman, Be**	**3.34**	**337**	P	**Pn**	**19 04 03.7**	**+0.6**
PMBI	**Palembang**	**3.52**	**21**	Pn	**Pn**	**19 04 04.3**	**-1.2**
CNJI	**Cibinong**	**3.73**	**107**	P	**Pn**	**19 04 09.0**	**+0.5**
LEM	**Lembang**	**4.11**	**98**	Pn	**Pn**	**19 04 14.6**	**+0.8**
	18nm,0.3s,baz=335,slow=19,SNR=12						
LEM				Sn	**Sn**	**19 04 57.9**	**-2.8**
	6.7nm,0.3s,baz=51,slow=15,SNR=3.8						
LEM				LR	LR	19 06 13.9	
	comp=Z,445nm,19.3s,baz=134,slow=44						
	47nm,0.4s						
LEM	**Lembang**	**4.11**	**98**	P	**Pn**	**19 04 16.7**	**+2.9**
BBJI	**Bungbulang**	**4.27**	**107**	P	**Pn**	**19 04 16.6**	**+0.7**
KRJI	**Kerinci**	**4.61**	**333**	P	**Pn**	**19 04 21.3**	**+0.7**
XMI	**Christmas Isla**	**4.70**	**153**	P	**Pn**	**19 04 19.2**	**-2.6**
PPBI	**Pangkal Pinang**	**4.82**	**33**	P	**Pn**	**19 04 23.9**	**+0.5**
PPSI	**Pulau Pagai**	**4.92**	**314**	P	**Pn**	**19 04 25.4**	**+0.6**
TPI	**Tanjungpandan**	**5.38**	**50**	P	**Pn**	**19 04 32.7**	**+1.6**
	16nm,0.5s						
KPJI	**Karang Pucung**	**5.47**	**102**	P	**Pn**	**19 04 35.4**	**+3.0**
	0.2nm40nm,0.6s						
DSRI	**Dabo**	**5.82**	**10**	P	**Pn**	**19 04 38.3**	**+1.1**
PDSI	**Padang**	**6.11**	**330**	P	**Pn**	**19 04 41.1**	**-0.2**
	0.3nm22nm,0.7s						
PPI	**Padang Panjang**	**6.54**	**331**	P	**Pn**	**19 04 48.8**	**+1.7**
SISI	**Saibi**	**6.59**	**318**	P	**Pn**	**19 04 48.2**	**+0.4**
	0.4nm57nm,0.9s						
UGM	**Wanagama**	**7.14**	**104**		**Pn**	**19 04 57.4**	**+2.0**
UGM	**Wanagama**	**7.14**	**104**	P	**Pn**	**19 04 57.5**	**+2.2**
UGM	**Wanagama**	**7.14**	**104**	P	**Pn**	**19 04 57.3**	**+2.0**
	0.4nm114nm,1.8s						
WOJI	**Wonogiri, Jawa**	**7.51**	**103**	P	**Pn**	**19 05 01.8**	**+1.4**
	0.2nm46nm,1.2s						
PCJI	**Pacitan**	**7.83**	**105**	P	**Pn**	**19 05 06.3**	**+1.5**
	80nm,1.2s						
GSI	**Gunungsitoli**	**9.56**	**321**	Pn	**Pn**	**19 05 27.3**	**-1.3**
GSI	**Gunungsitoli**	**9.56**	**321**	P	**Pn**	**19 05 27.4**	**-1.2**
GSI	**Gunungsitoli**	**9.56**	**321**	P	**Pn**	**19 05 28.3**	**-0.3**
JAGI	**Jajag, Banyuwa**	**10.77**	**103**		**Pn**	**19 05 44.5**	**-0.6**
JAGI	**Jajag, Banyuwa**	**10.77**	**103**	P	**Pn**	**19 05 47.5**	**+2.4**
KAPI	**Kappang**	**16.19**	**87**	LR	LR	19 13 54.3	
	comp=Z,90nm,19.0s,baz=352,slow=40						
MMRI	**Maumere**	**18.70**	**98**	P	**P**	**19 07 26.7**	**-2.0**
TOLI2	**Tolitoli**	**18.71**	**68**		**P**	**19 07 29.0**	**+0.2**
BATI	**Baumata**	**20.31**	**103**	P	**P**	**19 07 47.0**	**+0.6**
	64nm,0.5s,baz=301,slow=1.8,SNR=17						
BATI				S	**S**	**19 11 30.5**	**-1.7**
	18nm,0.5s,baz=298,slow=15,SNR=4.3						
SOEI	**Soe**	**20.83**	**101**		**P**	**19 07 51.0**	**-1.1**
FITZ	**Fitzroy Crossi**	**24.58**	**121**		**P**	**19 08 31.3**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.58**	**121**	P	**P**	**19 08 31.9**	**+1.8**
	8.1nm,0.9s,baz=276,slow=6.4,SNR=11						
FITZ				S	**S**	**19 12 54.0**	**+5.2**
	0.9nm,0.9s,baz=135,slow=10.0,SNR=1.3						
	8.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**24.96**	**350**	P	**P**	**19 08 31.3**	**-2.1**
	1.7nm,0.7s,baz=182,slow=8.6,SNR=17						
	1.7nm,0.7s						
CHTO	**Chiang Mai**	**25.30**	**350**	P	**P**	**19 08 36.2**	**-0.4**
KNRA	**Kununurra**	**26.46**	**113**	P	**P**	**19 08 46.8**	**-0.3**
KNRA				IAmb	IAmb	19 08 55.4	
	comp=Z,13nm,0.6s						
H01W3	**Cape Leeuwin H**	**30.14**	**162**	T	T	19 41 34.0	
	baz=340,slow=76						
H01W2	**Cape Leeuwin H**	**30.15**	**162**	T	T	19 41 00.9	
	baz=340,slow=76						
H01W1	**Cape Leeuwin H**	**30.15**	**162**	T	T	19 41 06.5	
	baz=340,slow=76						
H08S2	**Diego Garcia H**	**30.83**	**266**	T	T	19 41 35.4	
	baz=89,slow=75,SNR=19						
H08S3	**Diego Garcia H**	**30.84**	**266**	T	T	19 41 36.1	
	baz=89,slow=75,SNR=16						
H08S1	**Diego Garcia H**	**30.85**	**266**	T	T	19 41 38.1	
	baz=89,slow=75,SNR=5.3						
WB0	**Warramunga Arr**	**32.86**	**117**	P	**P**	**19 09 44.3**	**+0.4**
WB0				IAmb	IAmb	19 09 59.9	
	comp=Z,9.6nm,1.4s						
WRA	**Warramunga Arr**	**32.87**	**117**	P	**P**	**19 09 43.2**	**-0.8**
WRA	**Warramunga Arr**	**32.87**	**117**	P	**P**	**19 09 43.7**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=290,slow=10,SNR=8.2						
	comp=Z,1.1nm,0.6s						
WR8	**Warramunga Arr**	**33.02**	**117**	P	**P**	**19 09 45.8**	**+0.5**
WR8				IAmb	IAmb	19 09 57.5	
	comp=Z,11nm,1.3s						
ASAR	**Alice Springs**	**33.95**	**124**	P	**P**	**19 09 55.3**	**+1.9**
ASAR	**Alice Springs**	**33.95**	**124**	P	**P**	**19 09 53.8**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=300,slow=7.8,SNR=6.1						
	comp=Z,0.4nm,0.6s						
COEN	**Coen**	**39.73**	**104**	P	**P**	**19 10 41.6**	**-1.1**
COEN				IAmb	IAmb	19 11 02.2	
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**43.73**	**131**	P	**P**	**19 11 16.6**	**+1.5**
STKA	**Stephens Creek**	**43.73**	**131**	P	**P**	**19 11 16.1**	**+1.0**
	comp=Z,3.2nm,1.0s,baz=331,slow=7.5,SNR=4.9						
	comp=Z,3.2nm,1.0s						
MANU	**Manus Island**	**43.91**	**86**	P	**P**	**19 11 14.2**	**-2.7**

KSRS	**Korea Array**	**49.07**	**26**	P		**P**	**19 11 56.4**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=218,slow=7.2,SNR=9.9							
	comp=Z,2.3nm,0.9s							
KSH	**Kashi**	**52.17**	**333**	P		**P**	**19 12 24.0**	**+3.6**
KDJ	**Kajisay**	**53.81**	**336**	P		**P**	**19 12 30.7**	**-1.9**
KDJ				IAmb		IAmb	19 12 42.5	
	comp=Z,5.2nm,0.9s							
SONM	**Songino Array**	**53.90**	**2**	P		**P**	**19 12 32.5**	**-0.6**
SONM				IAmb		IAmb	19 12 34.4	
	comp=Z,3.0nm,0.9s							
SONM	**Songino Array**	**53.90**	**2**	P		**P**	**19 12 33.3**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=184,slow=9.5,SNR=14							
	comp=Z,2.2nm,0.7s							
BNX	**BinXian**	**55.98**	**20**	⇓P		**P**	**19 12 47.8**	**-0.1**
BNX				pmax		pmax		
	comp=Z,11nm,0.9s							
MKAR	**Makanchi Array**	**56.07**	**343**			**P**	**19 12 48.1**	**-0.6**
MKAR	**Makanchi Array**	**56.07**	**343**	P		**P**	**19 12 48.8**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=154,slow=8.1,SNR=24							
	comp=Z,1.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**56.39**	**24**	P		**P**	**19 12 50.4**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=200,slow=5.3,SNR=12							
	comp=Z,2.7nm,0.5s							
KKAR	**Karatay Array**	**57.52**	**332**	P		**P**	**19 12 59.6**	**+0.6**
H04N2	**CROZET ISLANDS**	**59.62**	**219**	T		T	20 17 48.8	
	baz=64,slow=75							
H04N1	**CROZET ISLANDS**	**59.64**	**219**	T		T	20 17 46.1	
	baz=64,slow=75							
H04N3	**CROZET ISLANDS**	**59.64**	**219**	T		T	20 17 43.8	
	baz=64,slow=75							
H04S1	**CROZET ISLANDS**	**59.85**	**218**	T		T	20 18 02.5	
	baz=64,slow=75							
H04S3	**CROZET ISLANDS**	**59.86**	**218**	T		T	20 18 00.4	
	baz=64,slow=75							
H04S2	**CROZET ISLANDS**	**59.87**	**218**	T		T	20 18 00.9	
	baz=64,slow=75							
HEH	**HeiHe**	**59.95**	**17**	*e*P		**P**	**19 13 15.0**	**-0.7**
HEH				pmax		pmax		
	comp=Z,5.0nm,0.9s							
KURBB	**Kurchatov Arra**	**60.62**	**342**	P		**P**	**19 13 19.6**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=161,slow=6.3,SNR=5.4							
	comp=Z,0.8nm,0.5s							
ZAA0	**Zalesovo Array**	**62.00**	**348**			**P**	**19 13 29.1**	**-0.5**
ZAA0				IAmb		IAmb	19 13 45.8	
	comp=Z,6.8nm,1.0s							
ZALV	**Zalesovo Beam**	**62.00**	**348**			**P**	**19 13 28.5**	**-1.0**
ZALV	**Zalesovo Beam**	**62.00**	**348**	P		**P**	**19 13 29.4**	**-0.2**
	comp=Z,3.1nm,0.4s,baz=151,slow=5.4,SNR=19							
	comp=Z,3.1nm,0.4s							
RAYN	**Ar Rayn**	**63.87**	**300**	P		**P**	**19 13 43.4**	**+0.7**
BVAR	**Borovoye Array**	**65.37**	**339**	P		**P**	**19 13 51.4**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=140,slow=9.4,SNR=6.4							
	comp=Z,1.0nm,0.3s							
AB31	**Akbulak array**	**67.03**	**331**			**P**	**19 14 01.9**	**-0.6**
AB31				IAmb		IAmb	19 14 20.6	
	comp=Z,2.3nm,0.7s							
ABKAR	**Akbulak array**	**67.03**	**331**	P		**P**	**19 14 02.2**	**-0.3**
ARTI	**Arti**	**72.53**	**336**			**P**	**19 14 35.8**	**-0.4**
BRTR	**Keskin Array B**	**78.76**	**312**	P		**P**	**19 15 11.8**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=138,slow=7.8,SNR=6.0							
	comp=Z,1.1nm,0.8s							
BUR08	**Bucovina Ar. S**	**86.76**	**318**			**P**	**19 15 55.9**	**+2.1**
BUR08				IAmb		IAmb	19 15 56.9	
	comp=Z,2.7nm,0.8s							
FINES	**FINESS Array B**	**89.48**	**332**	P		**P**	**19 16 07.4**	**+1.2**
	comp=Z,1.7nm,0.9s,baz=115,slow=13,SNR=3.5							
	comp=Z,1.7nm,0.9s							
TXAR	**Lajitas Array**	**145.56**	**45**	PKPbc		**PKPab**	**19 22 49.1**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=299,slow=2.6,SNR=8.2							

*BJI **26** 19:07:38.6, 10˚.02S×160˚.14E, h29km, mB4.9/7, mb4.9/38, Ms5.0/13, Ms7 4.7/11*

*IDC **26** 19:07:38.3±0.6, 9˚.74S×159˚.65E, h0km, mb4.6/20, mbtmp4.6/20, MS4.1/7, Error ellipse: s-maj=22.0km s-min=13.6km az=104.0*

*MOS **26** 19:07:39.7±0.9, 9˚.71S×159˚.55E, h19km, mb5.1/18, Error ellipse: s-maj=11.4km s-min=8.8km az=59.5*

*NEIC **26** 19:07:40.8±2.7, 9˚.88S±0˚.05×159˚.63E±0˚.07, h10km±1km, mb5.1/102, Error ellipse: s-maj=12.4km s-min=7.6km az=123.0*

ISC 26 19:07:41.7±0.3,**9˚.82S**±0˚.05×**159˚.75E**±0˚.06,**h22km**,**n373,** σ1**§17**/322,**mb5.0**/106,**MS4.5**/12,**5C-2D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.43**	**27**	Pg	**Pb**	**19 07 51.6**	**+0.9**
HNR	**Honiara**	**0.43**	**27**	Pg	**Pn**	**19 07 52.0**	**-0.7**
	2μm,0.3s,baz=210,slow=3.2,SNR=444						
HNR				Lg	Lg	19 08 05.8	
	5μm,0.3s,baz=45,slow=14,SNR=8.3						
HNR	**Honiara**	**0.43**	**27**	P	**Pb**	**19 07 51.6**	**+0.9**
SANVU	**Saraoutou**	**9.18**	**128**		**Pn**	**19 09 53.7**	**+0.8**
RABL	**Rabaul**	**9.37**	**306**	Pn	**Pn**	**19 09 55.5**	**-0.1**
PMG	**Port Moresby**	**12.42**	**271**	Pn	**Pn**	**19 10 37.5**	**+0.2**
	0.8nm,0.3s,baz=40,slow=4.1,SNR=4.2						
PMG				LR	LR	19 15 13.1	
	comp=Z,1μm,19.0s,baz=110,slow=37						
PMG	**Port Moresby**	**12.42**	**271**	*i* P	**Pn**	**19 10 37.1**	**-0.2**
DZM	**Mont Dzumac**	**13.77**	**153**	*e*P	**Pn**	**19 10 56.1**	**+0.2**
	67nm,1.2s						
DZM				*e*LR	LR	19 13 59.2	
	917nm,23.9s						
DZM	**Mont Dzumac**	**13.77**	**153**	Sn	**Sn**	**19 13 22.3**	**-6.1**
	0.2nm,0.3s,baz=151,slow=19,SNR=1.9						
DZM				LR	LR	19 15 49.6	
	comp=Z,1μm,18.9s,baz=342,slow=35						
CTAO	**Charters Tower**	**16.54**	**230**	Pn	**Pn**	**19 11 29.4**	**-3.1**
CTAO	**Charters Tower**	**16.54**	**230**	P	**Pn**	**19 11 29.4**	**-3.1**
CTAO				pmax	pmax		
	comp=Z,38nm,1.9s						
EIDS	**Eidsvold**	**17.52**	**207**		**Pn**	**19 11 42.8**	**-1.9**
JAY	**Jayapura**	**20.26**	**290**	P	**P**	**19 12 16.0**	**0.0**
	comp=Z,144nm,1.0s,baz=142,slow=7.3,SNR=17						
	comp=Z,144nm,1.0s						
JAY	**Jayapura**	**20.26**	**290**	P	Pn	19 12 18.6	+0.6
	comp=Z,1μmcomp=Z,157nm,1.1s						
JAY	**Jayapura**	**20.26**	**290**	P	**P**	**19 12 16.0**	**0.0**
GENI	**Genyem**	**20.73**	**289**	P	Pn	19 12 23.3	-0.2
	comp=Z,79nm,0.9s						
ARMA	**Armidale**	**21.85**	**199**		**P**	**19 12 34.8**	**+1.8**
SMPI	**Sarmi**	**22.31**	**289**	P	**P**	**19 12 38.8**	**+0.8**
	comp=Z,81nm,0.9s						
BAKI	**Biak**	**25.02**	**289**	P	**P**	**19 13 06.4**	**+2.0**
	comp=Z,81nm,1.1s						
INKA	**Innaminka**	**25.26**	**223**		**P**	**19 13 07.2**	**+0.8**
INKA				IAmb	IAmb	19 13 08.0	
	comp=Z,19nm,0.7s						
WR8	**Warramunga Arr**	**26.36**	**245**		**P**	**19 13 16.7**	**+0.2**
WB0	**Warramunga Arr**	**26.40**	**245**	P	**P**	**19 13 16.9**	**0.0**
WB0				IAmb	IAmb	19 13 42.2	
	comp=Z,33nm,1.2s						
WRAB	**Tennant Creek**	**26.49**	**245**	P	**P**	**19 13 17.6**	**-0.1**
WRAB	**Tennant Creek**	**26.49**	**245**	P	**P**	**19 13 17.6**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,23nm,1.1s						
WRA	**Warramunga Arr**	**26.50**	**245**	P	**P**	**19 13 15.8**	**-2.0**
WRA	**Warramunga Arr**	**26.50**	**245**	P	**P**	**19 13 17.3**	**-0.5**
	comp=Z,5.5nm,0.7s,baz=71,slow=9.9,SNR=18						
WRA				PcP	**PcP**	**19 16 41.3**	**-1.3**
	comp=Z,2.1nm,0.8s,baz=68,slow=2.3,SNR=5.8						
	comp=Z,5.5nm,0.7s						
WRA	**Warramunga Arr**	**26.50**	**245**	*i* P	**P**	**19 13 17.7**	**-0.1**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
RKPI	**Ransiki, Papua**	**26.73**	**286**	P	**P**	**19 13 22.1**	**+2.2**
	comp=Z,42nm,1.1s						
CAN	**Canberra**	**27.21**	**199**	P	**P**	**19 13 21.7**	**-2.4**
CAN				IAmb	IAmb	19 13 48.7	
	comp=Z,56nm,1.5s						
CAN	**Canberra**	**27.21**	**199**	P	**P**	**19 13 21.7**	**-2.4**
CAN				pmax	pmax		
	comp=Z,56nm,1.5s						
GUMO	**Guam**	**27.55**	**327**	LR	LR	19 23 39.5	
	comp=Z,116nm,20.9s,baz=148,slow=35						
STKA	**Stephens Creek**	**27.65**	**215**		**P**	**19 13 28.3**	**+0.3**
STKA				IAmb	IAmb	19 13 45.4	
	comp=Z,35nm,0.7s						
STKA	**Stephens Creek**	**27.65**	**215**	P	**P**	**19 13 27.6**	**-0.4**
	comp=Z,7.0nm,0.6s,baz=50,slow=14,SNR=10						
STKA				LR	LR	19 24 39.6	
	comp=Z,227nm,18.2s,baz=27,slow=37						
	comp=Z,7.0nm,0.6s						
STKA	**Stephens Creek**	**27.65**	**215**	P	**P**	**19 13 28.3**	**+0.3**

STKA				pmax	pmax			
	comp=Z,35nm,0.7s							
AS31	**Alice Springs**	**28.25**	**238**			**P**	**19 13 32.3**	**-1.2**
ASAR	**Alice Springs**	**28.25**	**238**	P		**P**	**19 13 31.7**	**-1.8**
ASAR				PcP		**PcP**	**19 16 45.5**	**-1.3**
ASAR	**Alice Springs**	**28.25**	**238**	P		**P**	**19 13 32.4**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=61,slow=9.9,SNR=24							
ASAR				PcP		**PcP**	**19 16 46.8**	**0.0**
	comp=Z,3.3nm,0.7s,baz=59,slow=3.0,SNR=12							
ASAR				ScP		**ScP**	**19 20 27.4**	**+0.6**
	comp=Z,1.3nm,1.0s,baz=60,slow=3.1,SNR=4.5							
	comp=Z,1.9nm,0.6s							
TOO	**Toolangi**	**30.48**	**203**	P		**P**	**19 13 54.4**	**+1.3**
TOO	**Toolangi**	**30.48**	**203**	P		**P**	**19 13 54.4**	**+1.3**
TOO				pmax	pmax			
	comp=Z,15nm,1.6s							
KNRA	**Kununurra**	**30.75**	**256**	P		**P**	**19 13 55.9**	**+0.2**
KNRA				IAmb	IAmb	19 14 17.7		
	comp=Z,14nm,0.8s							
BBOO	**Buckleboo**	**31.64**	**220**			**P**	**19 14 03.2**	**-0.2**
BBOO				IAmb	IAmb	19 14 03.9		
	comp=Z,22nm,0.7s							
BKZ	**Black Stump Fm**	**32.83**	**156**	P		**P**	**19 14 14.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**34.06**	**252**	P		**P**	**19 14 24.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**34.06**	**252**	P		**P**	**19 14 24.0**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=65,slow=8.9,SNR=7.0							
	comp=Z,3.5nm,0.7s							
LTZ	**Lake Taylor**	**34.62**	**164**	P		**P**	**19 14 30.5**	**+1.3**
TAU	**Tasmania Unive**	**34.71**	**196**	P		**P**	**19 14 31.2**	**+1.2**
TAU	**Tasmania Unive**	**34.71**	**196**	P		**P**	**19 14 31.2**	**+1.2**
TAU				pmax	pmax			
	comp=Z,56nm,1.2s							
KMSI	**Cibinong**	**37.06**	**284**	P		**P**	**19 14 51.8**	**+1.2**
EDFI	**Ende, Flores**	**37.56**	**268**	P		**P**	**19 14 56.7**	**+1.8**
	comp=Z,11nm,0.8s							
TOLI2	**Tolitoli**	**40.28**	**283**			**P**	**19 15 16.1**	**-1.6**
PCI	**Palu**	**40.66**	**280**	P		**P**	**19 15 21.8**	**+1.0**
	comp=Z,43nm,1.1s							
PLAI	**Plampang**	**41.41**	**268**	P		**P**	**19 15 28.5**	**+1.6**
	comp=Z,26nm,1.0s							
JAGI	**Jajag, Banyuwa**	**45.01**	**268**	P		**P**	**19 15 57.0**	**+0.9**
	comp=Z,30nm,0.7s							
NWAO	**Narrogin (SRO)**	**45.36**	**233**	LR	LR	19 35 37.1		
	comp=Z,241nm,18.6s,baz=70,slow=37							
PCJI	**Pacitan**	**47.97**	**268**	P		**P**	**19 16 21.3**	**+2.0**
	comp=Z,40nm,1.2s							
PPT2	**Papeete2**	**49.72**	**105**	*e*LR	LR	19 30 39.5		
	comp=Z,276nm,23.0s							
PPT2				*e*LR	LR	19 30 42.3		
	comp=Z,208nm,23.2s							
TBI	**Tubuai**	**50.26**	**112**	*e*LR	LR	19 31 03.0		
	comp=Z,822nm,25.8s							
MJAR	**Matsushiro Arr**	**50.37**	**337**	P		**P**	**19 16 36.1**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=170,slow=7.3,SNR=6.0							
	comp=Z,1.6nm,0.7s							
MAJO	**Matsushiro**	**50.37**	**337**	*i* P		**P**	**19 16 34.3**	**-3.0**
MAJO				pmax	pmax			
	comp=Z,4.0nm,0.8s							
HMH	**Humu'ula Sheep**	**52.91**	**56**	P		**P**	**19 16 56.2**	**-0.7**
KSRS	**Korea Array**	**55.68**	**329**	P		**P**	**19 17 16.4**	**0.0**
	comp=Z,3.6nm,1.0s,baz=144,slow=7.4,SNR=11							
	comp=Z,3.6nm,1.0s							
KSAR	**Wonju Array Be**	**55.69**	**329**	P		**P**	**19 17 16.5**	**0.0**
KSAR	**Wonju Array Be**	**55.69**	**329**	P		**P**	**19 17 16.5**	**0.0**
NJ2	**Nanjing**	**57.10**	**319**	*e*P		**P**	**19 17 28.5**	**+1.9**
NJ2				pm

comp=E,17nm,1.3s
LZH LR LR
comp=E,180nm,15.1s
LZH LR LR
comp=E,180nm,14.4s
LZH LR LR
comp=E,250nm,14.8s
S12K Black Hills 72.62 22 P **P** 19 19 07.4 +0.1
baz=220
SEY Seymchan 72.75 356 *e*P **P** 19 19 05.3 -2.6
SEY pmax pmax
comp=Z,39nm,1.5s
SDPT Sand Point 72.93 22 P **P** 19 19 09.1 0.0
baz=221
CIT Chita 73.24 332 *e*P P 19 19 18.8 +7.7
CIT *e* 19 19 34.4
CIT pmax pmax
comp=Z,27nm,1.5s
ULN Ulaanbaatar 73.92 326 *i* P **P** 19 19 14.5 -0.9
ULN pmax pmax
comp=Z,14nm,1.1s
S14K Fog Glacier 73.98 22 P **P** 19 19 15.8 +0.4
baz=222
GTA Gaotai 74.01 316 *e*P **P** 19 19 16.8 +0.7
GTA pP pwP 19 19 24.8 -0.1
GTA pmax pmax
comp=Z,7.0nm,0.8s
SONM Songino Array 74.27 326 P **P** 19 19 17.8 +0.5
SONM Songino Array 74.27 326 P **P** 19 19 17.5 +0.1
comp=Z,3.1nm,0.6s,baz=142,slow=5.9,SNR=18
comp=Z,3.1nm,0.6s
SONM Songino Array 74.27 326 P **P** 19 19 17.8 +0.5
SONM pmax pmax
comp=Z,9.0nm,0.8s
CHGN Chignik 74.42 23 P **P** 19 19 18.7 +0.9
baz=223
YAK Yakutsk 75.36 346 **P** 19 19 23.4 +0.2
YAK Yakutsk 75.36 346 *e*P **P** 19 19 22.9 -0.3
YAK *e**PP **pP** 19 19 29.1 -0.5
YAK *e* 19 19 35.3
YAK *e* 19 22 07.5
YAK *e*S **S** 19 29 00.4 -1.0
YAK *e*SS **SS** 19 33 51.4 -0.7
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,105nm,4.7s
YAK pmax pmax
comp=N,125nm,3.5s
YAK pmax pmax
comp=E,112nm,4.1s
YAK smax smax
comp=E,164nm,3.7s
YAK smax smax
comp=N,152nm,3.0s
YAK MLR MLR
comp=N,552nm,26.0s
O14K Tigyukauivet M 75.63 19 P **P** 19 19 25.4 +0.6
baz=220
M13K Dall Lake 75.88 18 P **P** 19 19 27.1 +1.0
baz=218
N14K Kuskokwak Cree 76.01 19 P **P** 19 19 28.2 +1.3
baz=219
O15K Ungalikthiuk R 76.05 20 P **P** 19 19 27.8 +0.6
baz=221
R17L Mt. Peulik Vol 76.16 23 P **P** 19 19 28.2 +0.3
baz=225
GOMU GeErMu 76.22 311 P **P** 19 19 30.0 +0.8
GOMU pmax pmax
comp=N,3.0nm,1.3s
GOMU pmax pmax
comp=N,150nm,4.1s
M14K Bethel 76.57 18 P **P** 19 19 30.9 +0.9
baz=219
P16K Nushagak River 76.58 21 P **P** 19 19 30.7 +0.6
baz=223
N15K Kwethluk River 76.71 19 P **P** 19 19 31.6 +0.7
baz=221
K13K Kusilvak Mount 76.72 16 P **P** 19 19 31.6 +0.7
baz=216
Q17K Contact Creek 76.79 22 P **P** 19 19 31.5 0.0
baz=225
L14K Kuka Creek 76.81 18 P **P** 19 19 32.1 +0.7
baz=218
M15K Kasigluk River 76.92 19 P **P** 19 19 32.4 +0.4
baz=220
O16K Kokwok River B 76.95 21 P **P** 19 19 33.2 +0.9
baz=223
OHAK Old Harbor 77.08 24 P **P** 19 19 33.8 +0.8
baz=228
P17K Kvichak River 77.25 21 P **P** 19 19 33.9 0.0
baz=224
N16K Nishlik Lake 77.38 20 P **P** 19 19 35.7 +0.9
baz=222
ZAK Zakamensk 77.39 327 *e*P P 19 19 40.0 +4.9
ZAK pmax pmax
comp=Z,9.0nm,1.5s
Q18K Katmai Hardscr 77.39 22 P **P** 19 19 34.9 0.0
baz=226
O17K Koliganek Bris 77.43 21 P **P** 19 19 35.1 +0.2
baz=224
L15K Ungalak Mounta 77.44 18 P **P** 19 19 35.2 +0.3
baz=219
J14K Nanvaranak Lak 77.68 16 P **P** 19 19 37.4 +1.1
baz=217
M16K Timber Creek 77.73 19 IAmb IAmb 19 19 40.9
comp=Z,19nm,1.2s
M16K Timber Creek 77.73 19 P **P** 19 19 37.1 +0.5
baz=222
KDAK Kodiak Island 77.73 24 P **P** 19 19 37.1 +0.4
comp=Z,11nm,0.9s,baz=266,slow=4.9,SNR=5.5
comp=Z,11nm,0.9s
KDAK Kodiak Island 77.73 24 P **P** 19 19 37.5 +0.9
baz=228
BILL Bilibino 77.80 3 *i* P **P** 19 19 36.3 -0.6
BILL pmax pmax
comp=Z,25nm,1.1s
P18K Big Mountain, 77.83 22 P **P** 19 19 37.7 +0.4
baz=226
K15K Wolf Creek Mou 77.90 17 IAmb IAmb 19 19 39.1
comp=Z,14nm,0.8s
K15K Wolf Creek Mou 77.90 17 P **P** 19 19 38.5 +0.9
baz=219
N17K Nushagak Hills 77.95 20 P **P** 19 19 38.7 +0.9
baz=224
L16K Owhat River 78.08 19 P **P** 19 19 39.5 +1.0
baz=221
Q19K Cape Douglas, 78.10 23 P **P** 19 19 39.3 +0.5
baz=227
O18K Koktuli Hills 78.16 21 P **P** 19 19 39.7 +0.6
baz=225
Q20K Shuyak Island 78.36 23 P **P** 19 19 41.0 +0.8
baz=228
M17K Holitna River 78.50 19 P **P** 19 19 42.0 +1.1
baz=223
N18K Kilae Creek 78.50 21 P **P** 19 19 42.2 +1.2
baz=225
ANM Nome 78.68 15 P **P** 19 19 43.6 +1.8
baz=215
P19K Oil Pt 78.75 22 P **P** 19 19 43.2 +0.8
baz=227
L17K Donlin 78.77 19 P **P** 19 19 43.1 +0.7
baz=222
J16K Anvik River 78.94 17 P **P** 19 19 44.4 +1.1
baz=220
N19K Bonanza Creek 79.09 21 P **P** 19 19 44.8 +0.5
baz=226
M18K Stony River 79.11 20 P **P** 19 19 45.1 +0.9
baz=225
K17K Iditarod 79.20 18 IAmb IAmb 19 20 22.9
comp=Z,19nm,1.2s
K17K Iditarod 79.20 18 P **P** 19 19 45.6 +0.9
baz=222
O20K Slope Mountain 79.26 22 P **P** 19 19 46.2 +1.0
baz=228
L18K Granite Mounta 79.34 19 IAmb IAmb 19 19 47.9
comp=Z,21nm,0.9s
L18K Granite Mounta 79.34 19 P **P** 19 19 46.5 +1.0
baz=224
I17K Unalakleet 79.38 17 P **P** 19 19 47.0 +1.4
baz=220
J17K VABM Dome 79.47 18 IAmb IAmb 19 19 48.2
comp=Z,19nm,0.7s
J17K VABM Dome 79.47 18 P **P** 19 19 47.4 +1.3
baz=221,SNR=6.6
BRLK Bradley Lake 79.71 23 IAmb IAmb 19 19 49.1
comp=Z,20nm,0.7s
BRSE Bradley Lake S 79.75 23 P **P** 19 19 48.8 +1.0
baz=230
M19K Big River Lodg 79.88 20 P **P** 19 19 49.4 +1.0
M19K Big River Lodg 79.88 20 P **P** 19 19 49.9 +1.4
baz=226
L19K White Mountain 79.92 20 IAmb IAmb 19 19 51.0
comp=Z,21nm,0.8s
L19K White Mountain 79.92 20 P **P** 19 19 49.8 +1.2
baz=225
G16K Koyuk River 80.11 15 P **P** 19 19 50.4 +0.9
baz=218
QSPA South Pole Qui 80.17 180 **P** 19 19 52.6 +2.3
QSPA South Pole Qui 80.17 180 P **P** 19 19 52.4 +2.2
comp=Z,4.3nm,0.7s,baz=14,slow=1.0,SNR=49
comp=Z,4.3nm,0.7s
J18K Innoko River 80.24 18 P **P** 19 19 50.8 +0.5
baz=224
CAPN Captain Cook N 80.27 22 P **P** 19 19 51.7 +1.2
baz=229
M20K Styx River 80.30 21 P **P** 19 19 51.3 +0.5
baz=227
H17K Granite Mounta 80.41 16 P **P** 19 19 51.9 +0.7
baz=220
L20K Farewell, AK 80.46 20 P **P** 19 19 52.5 +0.9
baz=226
SEW Seward 80.48 23 P **P** 19 19 52.8 +1.1
baz=231
G17K Kiwalik Mounta 80.64 16 P **P** 19 19 53.2 +0.8
baz=220
SUA Susitna One 80.87 22 IAmb IAmb 19 19 54.8
comp=Z,16nm,0.6s
SUA Susitna One 80.87 22 P **P** 19 19 54.3 +0.4
baz=229
SKT Skwentna 80.93 21 P **P** 19 19 52.9 -1.2
baz=229
J19K Poorman 80.96 18 IAmb IAmb 19 19 56.4
comp=Z,36nm,1.9s
J19K Poorman 80.96 18 P **P** 19 19 54.9 +0.7
baz=224
RC01 Rabbit Creek A 81.00 22 P **P** 19 19 54.8 +0.4
baz=230
K20K Telida 81.00 19 P **P** 19 19 55.4 +0.9
baz=226
F17K Baldwin Pennin 81.22 15 P **P** 19 19 55.9 +0.5
baz=219
M22K Willow 81.29 22 P **P** 19 19 56.7 +0.8
baz=230
PPLA Purkeypile 81.31 20 P **P** 19 19 56.4 +0.2
baz=228
PWL Port Wells 81.39 23 P **P** 19 19 56.9 +0.3
baz=232
G18K Tagagawik 81.48 16 P **P** 19 19 57.4 +0.5
baz=221
PMR Palmer 81.55 22 P **P** 19 19 58.1 +0.7
baz=231
J20K Nowinta River 81.55 19 IAmb IAmb 19 19 59.2
comp=Z,11nm,0.9s
J20K Nowinta River 81.55 19 P **P** 19 19 58.1 +0.8
baz=226,SNR=6.3
E17K Hotham Inlet 81.58 14 P **P** 19 19 58.2 +0.8
baz=218
KNK Knik Glacier 81.69 22 P **P** 19 19 58.7 +0.6
baz=232
GHO Glory Hole Cre 81.74 22 IAmb IAmb 19 20 00.1
comp=Z,19nm,0.8s
F18K Selawik 81.75 15 P **P** 19 19 58.8 +0.5
baz=220
D17K Noatak River 81.77 13 P **P** 19 19 59.2 +0.9
baz=217
H19K Roundabout Mou 81.82 17 IAmb IAmb 19 19 59.9
comp=Z,8.3nm,0.8s
H19K Roundabout Mou 81.82 17 P **P** 19 19 59.4 +0.7
baz=224,SNR=5.9
GLI Glacier Island 81.88 23 P **P** 19 19 59.6 +0.5
baz=233
I20K Naaghedeneel 81.88 18 P **P** 19 19 59.9 +0.9
baz=226
CHUM Lake Minchumin 81.94 19 P **P** 19 19 59.6 +0.2
baz=228,SNR=5.2
SML Sawmill 81.98 22 IAmb IAmb 19 20 01.2
comp=Z,22nm,1.1s
SML Sawmill 81.98 22 P **P** 19 19 59.9 +0.2
baz=232
G19K Purcell Mounta 82.09 16 IAmb IAmb 19 20 01.8
comp=Z,10nm,0.8s
G19K Purcell Mounta 82.09 16 P **P** 19 20 00.7 +0.6
baz=223,SNR=5.6
RDOG Red Dog Mine 82.10 13 P **P** 19 20 00.7 +0.5
baz=217
E18K Tukpahlearik C 82.14 14 P **P** 19 20 00.8 +0.4
baz=219
M23K Glacier View 82.20 22 P **P** 19 20 01.2 +0.4
baz=232
H20K Anotleneega Mo 82.25 17 P **P** 19 20 01.5 +0.5
baz=225,SNR=5.5
TRF Thorofare Moun 82.33 20 IAmb IAmb 19 20 03.5
comp=Z,8nm,0.8s
TRF Thorofare Moun 82.33 20 P **P** 19 20 01.5 -0.2
baz=230,SNR=10
SCM Sheep Creek Mo 82.37 22 P **P** 19 20 02.3 +0.5
baz=232
C17K DeLong Mountai 82.38 13 P **P** 19 20 02.2 +0.6
baz=217
F19K Shaleruckik Mo 82.42 16 IAmb IAmb 19 20 03.1
comp=Z,9.4nm,0.9s
F19K Shaleruckik Mo 82.42 16 P **P** 19 20 02.0 +0.2
baz=222
BPAW Bear Paw Mtn. 82.52 20 IAmb IAmb 19 20 02.6
comp=Z,9.4nm,1.0s
BPAW Bear Paw Mtn. 82.52 20 P **P** 19 20 02.7 +0.3
baz=229,SNR=6.5
WAT1 Susitna Watana 82.54 21 P **P** 19 20 02.5 -0.1
baz=231
WAT6 Susitna Watana 82.68 22 P **P** 19 20 03.6 +0.1
baz=232
KLU Klutina 82.70 23 P **P** 19 20 03.6 +0.1
baz=234
RND Reindeer 82.80 21 P **P** 19 20 04.0 0.0
RND Reindeer 82.80 21 P **P** 19 20 04.0 0.0
RND pmax pmax
comp=Z,17nm,0.8s
BMRM Bremner River 82.92 24 P **P** 19 20 05.0 +0.4
baz=235
IMAR Indian Mountai 82.93 17 P **P** 19 20 05.1 +0.6
C18K Utukok River 82.96 13 P **P** 19 20 04.9 +0.2
baz=219
M24K Tolsona, Glenn 82.97 23 P **P** 19 20 06.0 +1.1
baz=234,SNR=5.7
MCK McKinley 82.97 20 P **P** 19 20 04.4 -0.4
baz=231,SNR=26
H21K Melozitna Rive 82.99 18 P **P** 19 20 05.3 +0.5
baz=227
DHY Denali Highway 83.11 21 IAmb IAmb 19 20 12.3
comp=Z,8.7nm,0.8s
DHY Denali Highway 83.11 21 P **P** 19 20 05.9 +0.2
baz=232
F20K Avaraart Lake 83.13 16 P **P** 19 20 06.1 +0.6
baz=224
MLY Manley 83.21 19 IAmb IAmb 19 20 07.2
comp=Z,13nm,0.7s
MLY Manley 83.21 19 P **P** 19 20 06.5 +0.4
baz=229,SNR=15
N25K Chitina, Valde 83.28 23 P **P** 19 20 07.0 +0.5
baz=235
G21K Allakaket 83.37 17 IAmb IAmb 19 20 08.2
comp=Z,8.3nm,0.7s
G21K Allakaket 83.37 17 P **P** 19 20 07.4 +0.6
baz=226
NEA2 Nenana 83.47 20 P **P** 19 20 06.9 -0.4
baz=231,SNR=14
HARP HAARP 83.53 23 P **P** 19 20 08.1 +0.4
baz=234
D19K Kuna River 83.57 14 IAmb IAmb 19 20 09.2
comp=Z,11nm,0.8s
H22K Ishtalitna Cre 83.58 18 P **P** 19 20 08.6 +0.7
baz=228,SNR=6.4
MAW Mawson 83.61 203 P **P** 19 20 08.3 +0.3
comp=Z,8.7nm,0.9s,baz=92,slow=6.7,SNR=17
comp=Z,8.7nm,0.9s
C19K Lookout Ridge 83.68 14 P **P** 19 20 09.3 +0.9
baz=220
WRH Wood River Hil 83.73 20 IAmb IAmb 19 20 09.0
comp=Z,13nm,0.8s
I23K Minto, Yukon-K 83.73 19 P **P** 19 20 07.8 -0.9
I23K Minto, Yukon-K 83.73 19 P **P** 19 20 08.4 -0.2
baz=230
PAX Paxson 83.75 22 P **P** 19 20 09.2 +0.3
baz=234
MCARA McCarthy VSAT 83.78 24 P **P** 19 20 09.5 +0.5
baz=236
F21K Alatna River 83.87 17 P **P** 19 20 09.6 +0.3
baz=226
CCB Clear Creek Bu 83.93 20 IAmb IAmb 19 20 09.9
comp=Z,11nm,0.6s
COLA College 84.06 20 P **P** 19 20 10.1 -0.2
COLA College 84.06 20 P **P** 19 20 10.1 -0.2
COLA pmax pmax
comp=Z,25nm,0.7s
COLA College 84.06 20 P **P** 19 20 09.8 -0.5
baz=232
HDA Harding Lake 84.08 20 P **P** 19 20 10.4 -0.1
baz=233,SNR=12
WMQ Urumqi 84.09 316 *e*P **P** 19 20 12.8 +1.7
D20K Etivluk River 84.11 15 P **P** 19 20 10.9 +0.3
baz=223
H23K Yukon River 84.11 19 IAmb IAmb 19 20 12.1
comp=Z,14nm,0.8s
H23K Yukon River 84.11 19 P **P** 19 20 10.9 +0.3
baz=230
K24K Donnelly Dome 84.13 21 P **P** 19 20 11.0 +0.2
baz=234,SNR=6.0
G22K Bettles 84.23 17 P **P** 19 20 11.7 +0.5
baz=228
CTG Chitna Glacier 84.24 25 P **P** 19 20 11.8 +0.2
baz=238
CTGM Chitina Glacie 84.25 25 IAmb IAmb 19 20 13.9
comp=Z,15nm,0.8s
PINM Pinnacle 84.25 26 P **P** 19 20 11.8 +0.4
baz=239
IL31 84.32 20 IAmb IAmb 19 20 12.1
comp=Z,9.8nm,0.6s
ILAR Eielson Array 84.32 20 P **P** 19 20 11.2 -0.5
ILAR Eielson Array 84.32 20 P **P** 19 20 10.9 -0.8
comp=Z,7.1nm,0.5s,baz=247,slow=5.2,SNR=100
comp=Z,7.1nm,0.5s
ILAR Eielson Array 84.32 20 P **P** 19 20 11.2 -0.5
POKR Poker Plat Res 84.35 20 P **P** 19 20 12.2 +0.4
baz=232
M26K Nabesna, AK 84.36 23 IAmb IAmb 19 20 13.5
comp=Z,7.2nm,0.8s
M26K Nabesna, AK 84.36 23 P **P** 19 20 12.5 +0.5
baz=236,SNR=5.8
RIDG Independent Ri 84.42 22 IAmb IAmb 19 20 13.2
comp=Z,7.4nm,0.7s
RIDG Independent Ri 84.42 22 P **P** 19 20 12.8 +0.5
baz=235
F22K John River 84.44 17 P **P** 19 20 12.8 +0.6
baz=227
G23K Bananza Creek 84.54 18 IAmb IAmb 19 20 14.4
comp=Z,7.9nm,0.8s
G23K Bananza Creek 84.54 18 P **P** 19 20 13.5 +0.7
baz=230,SNR=6.6
L26K Log Cabin Wild 84.57 23 P **P** 19 20 14.0 +1.0
baz=236
E21K Killik River 84.59 16 P **P** 19 20 13.7 +0.7
baz=226
O28M Mount Upton 84.62 25 IAmb IAmb 19 20 15.7
comp=Z,8.6nm,0.7s
O28M Mount Upton 84.62 25 P **P** 19 20 14.4 +0.7
baz=239
HYB Hyderabad 84.63 289 *e*P **P** 19 20 14.2 -0.1
H24K Noodor Dome 84.65 19 P **P** 19 20 13.6 +0.2
baz=232
J25K Salcha River, 84.75 21 P **P** 19 20 14.2 +0.3
baz=234,SNR=13
M27K Edge Creek, AK 84.77 24 IAmb IAmb 19 20 16.2
comp=Z,11nm,0.8s
M27K Edge Creek, AK 84.77 24 P **P** 19 20 14.9 +0.7
baz=237
COLD Coldfoot 84.82 17 P **P** 19 20 15.0 +0.8
baz=229
SCRK Sand Creek 84.87 22 IAmb IAmb 19 20 16.0
comp=Z,8.2nm,0.7s
SCRK Sand Creek 84.87 22 P **P** 19 20 15.2 +0.6
baz=235,SNR=8.2
C21K Knifeblade Rid 84.89 15 P **P** 19 20 15.6 +1.2
baz=225
B20K Meade River 84.93 14 P **P** 19 20 15.8 +1.3
baz=222
E22K Anaktuvuk Pass 84.96 16 P **P** 19 20 16.1 +1.2
baz=228
O29M Mount Kennedy 85.07 26 P **P** 19 20 16.7 +0.9
baz=240
P29M Windy Craggy 85.11 27 P **P** 19 20 16.8 +1.0
baz=241
L27K Beaver Creek, 85.17 23 P **P** 19 20 16.7 +0.7
baz=237,SNR=6.2
PRP Porcupine Dome 85.23 20 P **P** 19 20 17.5 +1.0
baz=234
D22K Ayikyak River 85.23 16 P **P** 19 20 17.3 +1.0
baz=227
B21K Ikpikpuk River 85.26 15 P **P** 19 20 17.2 +1.0
baz=225
G24K Hadweenzic Riv 85.31 19 IAmb IAmb 19 20 18.3
comp=Z,8.7nm,0.8s
G24K Hadweenzic Riv 85.31 19 P **P** 19 20 17.4 +0.7
baz=232,SNR=5.9
J26L Joseph Creek 85.32 21 IAmb IAmb 19 20 19.0
comp=Z,6.1nm,0.7s
J26L Joseph Creek 85.32 21 P **P** 19 20 17.4 +0.6
baz=236,SNR=7.5
YUK6 Outpost Mounta 85.48 26 P **P** 19 20 18.5 +0.7
baz=241
E23K Chandalar 85.53 17 P **P** 19 20 18.5 +0.7
baz=230
YUK4 Talbot Arm 85.56 25 P **P** 19 20 19.4 +1.2
baz=240
K27K Chicken 85.60 22 P **P** 19 20 19.5 +1.4
baz=237
PLBC Pleasant Camp 85.65 27 P **P** 19 20 19.6 +1.2
baz=243
F24K Squaw Lake 85.70 18 P **P** 19 20 19.7 +1.1
baz=232
G25K Bearman Lake 85.79 19 P **P** 19 20 19.9 +1.0
baz=233
HYT Haines Junctio 85.79 26 P **P** 19 20 20.4 +1.1
baz=242
D23K Nanushuk River 85.83 16 P **P** 19 20 20.6 +1.4
baz=229
I26K Coal Creek Min 85.92 21 P **P** 19 20 20.7 +1.0
baz=236
TOLK Toolik Lake Re 85.92 17 P **P** 19 20 20.9 +1.2
baz=230
M29M Somme Creek 86.18 24 P **P** 19 20 22.1 +0.9
baz=240
WRAK Wrangell Islan 86.27 31 P **P** 19 20 22.7 +1.2
baz=246
N30M Aishikik Lake 86.27 25 P **P** 19 20 22.4 +0.8
baz=242
EGAK Eagle 86.34 22 IAmb IAmb 19 20 23.6
comp=Z,8.4nm,0.9s
EGAK Eagle 86.34 22 P **P** 19 20 23.1 +1.3
baz=238
O30N Mendenhall 86.38 26 P **P** 19 20 23.3 +1.2
baz=243
C23K Itkillik River 86.42 15 P **P** 19 20 23.5 +1.4
baz=229
F25K Christian Rive 86.43 18 P **P** 19 20 23.2 +1.0
baz=234
D24K Happy Valley 86.46 16 P **P** 19 20 23.5 +1.2
baz=230
I27K Kandik River 86.62 21 P **P** 19 20 24.5 +1.2
baz=237,SNR=6.5
DAWY Dawson 86.63 23 P **P** 19 20 24.2 +0.9
baz=240
G26K Porcupine Rive 86.64 19 IAmb IAmb 19 20 25.5
comp=Z,9.1nm,0.8s
G26K Porcupine Rive 86.64 19 P **P** 19 20 24.4 +1.2
baz=235
L29M L29M 86.64 24 IAmb IAmb 19 20 25.0
comp=Z,6.6nm,0.8s
L29M L29M 86.64 24 P **P** 19 20 24.5 +1.1
baz=241
E25K Arctic Village 86.77 18 P **P** 19 20 24.9 +1.1
baz=234
N31M Braeburn, Yuko 86.84 26 P **P** 19 20 25.5 +1.1
baz=243
C24K Franklin Bluff 86.86 16 P **P** 19 20 25.5 +1.3
baz=231
P32M Atlin 86.92 28 P **P** 19 20 25.8 +1.0
baz=245
M30M Minto, Yukon 86.92 25 P **P** 19 20 25.7 +1.0
baz=242

F26K	**Sheenjek River**	**86.95**	**19**	P	**P**	**19 20 25.9**	**+1.2**		
	baz=235								
H27K	**Steamboat Moun**	**86.99**	**20**	P	**P**	**19 20 25.9**	**+0.9**		
	baz=238								
I28M	**Miner Creek**	**87.14**	**21**	P	**P**	**19 20 26.5**	**+0.8**		
	baz=239								
K29M	**Barlow Dome**	**87.24**	**23**	IAmb	IAmb	19 20 28.4			
	comp=Z,11nm,1.1s								
K29M	**Barlow Dome**	**87.24**	**23**	P	**P**	**19 20 27.1**	**+0.8**		
	baz=241,SNR=6.3								
D25K	**Kavik River**	**87.25**	**17**	P	**P**	**19 20 26.7**	**+0.6**		
	baz=233								
G27K	**Doyon Strip**	**87.26**	**20**	P	**P**	**19 20 27.5**	**+1.2**		
	baz=237								
I29M	**Ogilvie Camp,**	**87.68**	**22**	IAmb	IAmb	19 20 29.9			
	comp=Z,5.8nm,0.8s								
I29M	**Ogilvie Camp,**	**87.68**	**22**	P	**P**	**19 20 29.4**	**+1.0**		
	baz=240								
M31M	**Drury Creek, Y**	**87.75**	**25**	P	**P**	**19 20 29.7**	**+1.0**		
	baz=244								
E27K	**Coleen River**	**88.03**	**19**	P	**P**	**19 20 31.3**	**+1.4**		
	baz=237								
J30M	**Hart River**	**88.04**	**23**	P	**P**	**19 20 31.2**	**+1.0**		
	baz=242								
H29M	**Whitestone**	**88.08**	**21**	P	**P**	**19 20 31.1**	**+0.9**		
	baz=240								
R33M	**Jennings River**	**88.12**	**29**	P	**P**	**19 20 31.1**	**+0.5**		
	baz=247								
C27K	**Jago River**	**88.19**	**17**	P	**P**	**19 20 32.1**	**+1.4**		
	baz=235								
F28M	**Old Crow**	**88.28**	**19**	P	**P**	**19 20 32.1**	**+1.0**		
	baz=239								
I30M	**Mount Dempster**	**88.33**	**22**	IAmb	IAmb	19 20 33.1			
	comp=Z,7.6nm,0.8s								
I30M	**Mount Dempster**	**88.33**	**22**	P	**P**	**19 20 32.5**	**+0.9**		
	baz=242								
G29M	**Pine Creek**	**88.55**	**20**	P	**P**	**19 20 33.9**	**+1.5**		
	baz=241								
EPYK	**Eagle Plains**	**88.74**	**21**	IAmb	IAmb	19 20 35.8			
	comp=Z,8.0nm,0.7s								
EPYK	**Eagle Plains**	**88.74**	**21**	P	**P**	**19 20 34.8**	**+1.5**		
	baz=242								
D27M	**Malcolm River**	**88.79**	**18**	P	**P**	**19 20 34.8**	**+1.3**		
	baz=238								
ZALV	**Zalesovo Beam**	**89.15**	**325**	*i* P	**P**	**19 20 37.2**	**+1.8**		
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.6s								
G30M	**tAoh Zraii Nji**	**89.20**	**21**	P	**P**	**19 20 36.7**	**+1.2**		
	baz=242								
MMPY	**Sheldon Lake,**	**89.25**	**26**	P	**P**	**19 20 36.8**	**+1.0**		
	baz=247								
CLC	**China Lake**	**89.79**	**54**	P	**P**	**19 20 39.0**	**0.0**		
CLC	**China Lake**	**89.79**	**54**	P	**P**	**19 20 39.0**	**0.0**		
CLC				pmax	pmax				
	comp=Z,5.0nm,1.0s								
G31M	**Satah River**	**89.86**	**21**	P	**P**	**19 20 40.0**	**+1.5**		
	baz=244								
PFO	**Pinyon Flats O**	**90.26**	**56**	LR	LR	19 55 20.5			
	comp=Z,143nm,18.0s,baz=268,slow=32								
SYO	**Syowa Base**	**91.16**	**198**	⇓*es*P	sP	19 20 50.4	-2.8		
KURK	**Kurchatov**	**91.96**	**321**	P	**P**	**19 20 47.3**	**-1.3**		
KURBB	**Kurchatov Arra**	**91.99**	**321**	P	**P**	**19 20 47.2**	**-1.5**		
	comp=Z,1.1nm,0.7s,baz=107,slow=2.9,SNR=6.7								
	comp=Z,1.1nm,0.7s								
BELA	**Belgrano 2**	**92.08**	**177**	IAmb	IAmb	19 20 49.9			
	comp=Z,14nm,1.3s								
PLID	**Pearl Lake**	**92.85**	**45**		**P**	**19 20 53.4**	**+0.2**		
LPIG	**La Paz**	**93.90**	**66**	LR	LR	19 54 23.1			
	comp=Z,78nm,19.1s,baz=316,slow=30								
BPMT	**Black Pine Rid**	**94.84**	**44**	P	**P**	**19 21 05.2**	**+2.8**		
YKA	**Yellowknife Ar**	**96.62**	**28**	P	**P**	**19 21 09.2**	**-0.6**		
	comp=Z,1.2nm,0.7s,baz=263,slow=4.5,SNR=4.3								
	comp=Z,1.2nm,0.7s								
YKA	**Yellowknife Ar**	**96.62**	**28**	*i* P	**P**	**19 21 10.1**	**+0.4**		
YKA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
TROLL	**Troll, Antarti**	**96.97**	**187**	⇑P	**P**	**19 21 11.8**	**+0.4**		
	comp=Z,59nm,0.6s								
PDAR	**Pinedale Array**	**97.09**	**48**	P	**P**	**19 21 12.9**	**+0.2**		
	comp=Z,0.6nm,0.7s,baz=108,slow=1.9,SNR=6.8								
	comp=Z,0.6nm,0.7s								
BVAR	**Borovoye Array**	**97.38**	**322**	P	**P**	**19 21 11.8**	**-1.6**		
	comp=Z,2.6nm,0.7s,baz=70,slow=4.7,SNR=7.3								
	comp=Z,2.6nm,0.7s								
SNAA	**Sanae**	**97.86**	**185**	⇑P	**P**	**19 21 14.1**	**-1.3**		
	comp=Z,30nm,0.7s								
SNAA	**Sanae**	**97.86**	**185**	P	**P**	**19 21 14.9**	**-0.5**		
	comp=Z,1.0nm,0.6s,baz=174,slow=6.2,SNR=16								
	comp=Z,1.0nm,0.6s								
VNA3	**Neumayer Olymp**	**98.80**	**183**	⇑P	**P**	**19 21 18.5**	**-1.1**		
	comp=Z,1.7nm,0.6s								
VNA2	**Neumayer--Watz**	**98.97**	**184**	⇑P	**Pdif**	**19 21 20.0**	**-0.2**		
	comp=Z,3.8nm,0.6s,baz=176,slow=4.8								
SOC	**Sochi**	**118.35**	**314**	*i* PKIKP	**PKPdf**	**19 26 22.1**	**-5.6**		
SOC				*e*PPP	PPP	19 30 11.7			
SOC				*e*SS	SS	19 43 52.7	-6.4		
NOA	**NORSAR Array B**	**123.86**	**342**	PKP	**PKPdf**	**19 26 36.7**	**-1.1**		
	comp=Z,0.7nm,0.8s,baz=28,slow=3.5,SNR=3.3								
GERES	**GERESS Array B**	**131.85**	**330**	PKP	**PKPdf**	**19 26 53.5**	**0.0**		
	comp=Z,0.4nm,0.5s,baz=25,slow=2.7,SNR=3.0								
ESDC	**Sonseca Array**	**146.91**	**337**	PKPbc	**PKPdf**	**19 27 22.0**	**+1.0**		
	comp=Z,0.6nm,0.7s,baz=30,slow=3.9,SNR=4.1								
TORD	**Torodi Ar. Bea**	**158.24**	**281**	PKPab	**PKPab**	**19 28 10.2**	**-2.1**		
	comp=Z,1.3nm,1.0s,baz=42,slow=3.4,SNR=3.7								

IDC ***26*** *19:15:31.2±0.5, 10.81N×91.52E, h0km, mb4.3/22, mbtmp4.2/25, ML4.0/2, MS3.8/13, Error ellipse: s-maj=16.7km s-min=12.4km az=67.0*

BJI ***26*** *19:15:32.7, 10.78N×91.60E, h18km, mB4.8/16, mb4.7/48, Ms4.3/32, Ms7 4.0/32*

MOS ***26*** *19:15:32.6±1.1, 10.86N×91.70E, h18km, mb4.8/33, Error ellipse: s-maj=8.2km s-min=5.8km az=102.6*

NEIC ***26*** *19:15:33.2±1.9, 10.84N±0.08×91.66E±0.09, h10km±1km, mb4.7/44, Error ellipse: s-maj=14.7km s-min=13.1km az=269.0*

DJA ***26*** *19:15:36.6±0.3, 11.7N±3.7×9.2E±.7, h10km, M5.1/12, mb4.8/12, mB5.6/7, MLv5.3/1, Mw(mB)5.1/7, MwMwp6.6/2, Mwp6.5/2*

NDI ***26*** *19:15:45.2±1.6, 11.07N×91.72E, h10km, ML4.5, MW4.6, mb4.7(NEIC)*

ISC 26 19:15:34.3±0.5, 10.79N±0.03×91.60E±0.04, h19km±1km, h20km:pP-P, n178, σ1s71/186, mb4.6/76, MS4.0/23, 11C-4D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.42**	**52**			**Pn**	**19 15 58.3**	**-0.7**
PBA	**Port Blair**	**1.42**	**52**	*e*P		Pg	19 16 07.5	+5.8
PBA				*e*S		**Sg**	**19 16 22.2**	**+2.0**
PBA				IAML			19 16 23.9	
	comp=N,6μm,0.8s							
DGPR	**DIGLIPUR**	**2.71**	**29**	*e*P		**Pg**	**19 16 25.7**	**-0.7**
DGPR				*e*S		**Sb**	**19 16 54.8**	**-0.3**
DGPR				IAML			19 17 42.7	
	comp=E,6μm,4.6s							
DGPR				IAML			19 17 49.8	
	comp=N,6μm,4.0s							
CMBY	**CAMPBELL BAY**	**4.40**	**148**	*e*P		**Pb**	**19 16 53.0**	**+2.0**
CMBY				*e*S		**Sb**	**19 17 41.5**	**-2.3**
LHMI	**Lhok Sumawe**	**7.65**	**136**	Pn		Pn	19 17 20.3	-4.5
KCSI	**Kotacane, Aceh**	**9.46**	**139**	P		Pn	19 17 57.8	+8.0
	comp=N,15nm,0.9s							
CM31	**Chiang Mai Arr**	**10.42**	**42**			**Pn**	**19 18 01.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**10.42**	**42**			**Pn**	**19 18 04.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**10.42**	**42**	Pn		**Pn**	**19 18 03.4**	**+0.5**
	comp=N,0.4nm,0.3s,baz=238,slow=15,SNR=58							
CMAR				Sn		**Sn**	**19 19 59.9**	**+0.7**
	baz=244,slow=13							
	comp=N,4.8nm,0.7s							
KULM	**Kulim**	**10.49**	**121**	Pn		**Pn**	**19 18 02.7**	**-1.1**
CHTO	**Chiang Mai**	**10.68**	**41**			**Pn**	**19 18 05.2**	**-1.2**
CHTO	**Chiang Mai**	**10.68**	**41**	P		**Pn**	**19 18 05.2**	**-1.2**
PSI	**Prapat**	**10.76**	**137**	Pn		**Pn**	**19 18 09.8**	**+2.1**
	comp=N,2.2nm,0.3s,baz=340,slow=15,SNR=0.8							
PSI				LR		LR	19 22 52.8	
	comp=N,493nm,20.9s,baz=304,slow=40							
RPSI	**Rantau Prapat**	**10.84**	**137**			**Pn**	**19 18 09.8**	**+1.2**
RPSI	**Rantau Prapat**	**10.84**	**137**	Pn		**Pn**	**19 18 05.2**	**-3.4**
GSI	**Gunungsitoli**	**11.13**	**147**	Pn		**Pn**	**19 18 08.7**	**-4.0**
IPM	**Ipoh**	**11.25**	**123**			**Pn**	**19 18 11.1**	**-3.1**
PALK	**Pallekele**	**11.31**	**253**			**Pn**	**19 18 17.4**	**+2.2**
PALK	**Pallekele**	**11.31**	**253**	Pn		**Pn**	**19 18 14.2**	**-0.9**
	comp=N,0.8nm,0.3s,baz=68,slow=14,SNR=8.4							
PALK				Sn		**Sn**	**19 20 13.0**	**-8.2**
	comp=N,12nm,0.3s,baz=131,slow=8.3,SNR=10							
PALK				LR		LR	19 22 10.1	
	comp=N,774nm,20.4s,baz=69,slow=36							
	comp=N,1.4nm,0.3s							
PALK	**Pallekele**	**11.31**	**253**	*i* P		Pn	19 18 20.1	+4.9
SALM	**Salem**	**13.17**	**275**	*e*P		**P**	**19 18 52.5**	**+2.1**
SALM				*e*S		**Sn**	**19 21 10.2**	**+3.5**
BOK	**Bokaro**	**14.04**	**338**	*e*P		**P**	**19 19 01.4**	**+1.3**
BOK				*e*S		**Sn**	**19 21 22.4**	**-5.2**
BOK				IAML			19 21 28.9	
	comp=E,88nm,0.3s							
PDSI	**Padang**	**14.59**	**142**	P		**P**	**19 19 08.2**	**+2.0**
	comp=E,31nm,0.8s							
SHL	**Shillong**	**14.70**	**1**			Pn	19 18 55.1	-6.5
SHL						**Sn**	**19 21 37.8**	**-6.3**
TNCH	**TengChong**	**15.61**	**24**	P		**Pn**	**19 19 14.5**	**+0.8**
TNCH				PP		**pwP**	**19 19 27.0**	**+0.9**
TNCH				S		**Sn**	**19 22 08.8**	**+2.5**
TNCH				pmax	pmax			
	comp=E,19nm,1.1s							
TNCH				pmax	pmax			
	comp=E,170nm,4.6s							
TNCH				LR	LR			
	comp=E,330nm,12.2s							
TNCH				LR	LR			
	comp=E,650nm,15.0s							
TNCH				LR	LR			
	comp=E,560nm,12.1s							
SLVN	**Son La**	**15.79**	**47**			**Pn**	**19 19 14.6**	**-1.3**
PPSI	**Pulau Pagai**	**15.85**	**148**	P		**P**	**19 19 24.3**	**+4.1**
KRJI	**Kerinci**	**16.12**	**142**	P		**P**	**19 19 27.1**	**+3.7**
MASI	**Maura Aman, Be**	**17.42**	**142**	P		**P**	**19 19 42.9**	**+5.1**
	comp=E,79nm,1.0s							
KMI	**Kunming**	**17.75**	**35**	Pn		**P**	**19 19 42.5**	**+1.0**
PZH	**PanZhiHua**	**18.33**	**30**	P		**Pn**	**19 19 49.0**	**+1.2**
PZH				S		**Sn**	**19 23 12.5**	**+0.3**
PZH				pmax	pmax			
	comp=E,190nm,4.9s							
PZH				LR	LR			
	comp=E,360nm,12.2s							
PZH				LR	LR			
	comp=E,300nm,11.2s							
PZH				LR	LR			
	comp=E,220nm,11.2s							
HMDM	**Hanimaadhoo**	**18.63**	**259**	P		**P**	**19 19 50.7**	**-0.3**
HMDM				IAmb	IAmb		19 20 07.3	
	comp=Z,138nm,1.5s							
QIZ	**Qiongzhong**	**19.43**	**63**	P		**P**	**19 20 00.5**	**+0.7**
QIZ				S		**Sn**	**19 23 38.5**	**-0.1**
QIZ				pmax	pmax			
	comp=Z,230nm,6.1s							
QIZ				LR	LR			
	comp=Z,300nm,7.6s							
QIZ				LR	LR			
	comp=Z,200nm,7.6s							
QIZ				LR	LR			
	comp=Z,330nm,10.3s							
KSM	**Kuching**	**20.76**	**115**	P		**P**	**19 20 13.6**	**-0.7**
GYA	**Guiyang**	**21.10**	**40**	⇓P		**P**	**19 20 19.8**	**+1.8**
GYA				pmax	pmax			
	comp=Z,32nm,0.8s							
SBUM	**Sibu**	**22.08**	**111**	P		**P**	**19 20 26.5**	**-2.0**
CD2	**Chengdu**	**22.98**	**28**	P		**P**	**19 20 38.3**	**+0.3**
CD2				pmax	pmax			
	comp=Z,30nm,0.6s							
KKM	**Kota Kinabalu**	**24.79**	**99**	P		**P**	**19 20 52.8**	**-2.7**
KKM				IAmb	IAmb		19 21 11.3	
	comp=Z,36nm,1.2s							
ENH	**Enshi**	**25.55**	**38**			**P**	**19 21 00.0**	**-2.1**
DGAR	**Diego Garcia**	**26.27**	**227**	P		**P**	**19 21 11.4**	**+2.7**
DGAR				pmax	pmax			
	comp=Z,204nm,1.4s							
H08S3	**Diego Garcia H**	**26.39**	**227**	T		T	19 48 50.7	
	baz=46,slow=75,SNR=238							
H08S2	**Diego Garcia H**	**26.40**	**227**	T		T	19 48 42.7	
	baz=46,slow=75,SNR=182							
H08S1	**Diego Carcia H**	**26.41**	**227**	T		T	19 48 42.2	
	baz=46,slow=75,SNR=231							
LZDM	**Lanzhou Array**	**27.35**	**22**	P		**P**	**19 21 19.5**	**+0.8**
	comp=Z,1.8nm,0.3s,baz=224,slow=8.1,SNR=1.5							
	comp=Z,1.8nm,0.3s							
LZH	**Lanzhou**	**27.52**	**22**	*e*P		**P**	**19 21 22.5**	**+2.5**
LZH				sP		pwP	19 21 28.5	-0.1
LZH				pmax	pmax			
	comp=Z,27nm,1.3s							
LZH				LR	LR			
	comp=Z,310nm,11.7s							
LZH				LR	LR			
	comp=Z,250nm,12.4s							
LZH				LR	LR			
	comp=Z,340nm,12.4s							
XAN	**Xi'an**	**28.05**	**32**	P		**P**	**19 21 24.8**	**+0.1**
XAN				pmax	pmax			
	comp=Z,15nm,0.9s							
XAN				LR	LR			
	comp=Z,300nm,10.1s							
XAN				LR	LR			
	comp=Z,370nm,15.0s							
XAN				LR	LR			
	comp=Z,350nm,15.8s							
NIL	**Nilore**	**28.30**	**326**	P		**P**	**19 21 28.3**	**+1.5**
NIL				pmax	pmax			
	comp=Z,18nm,0.9s							
GTA	**Gaotai**	**29.43**	**13**	*e*P		**P**	**19 21 37.8**	**+0.9**
GTA				sP		pwP	19 21 46.3	+0.9
GTA				PcP		**PcP**	**19 24 44.3**	**+1.7**
GTA				pmax	pmax			
	comp=Z,19nm,1.0s							
GTA				LR	LR			
	comp=Z,220nm,14.2s							
GTA				LR	LR			
	comp=Z,220nm,16.0s							
GTA				LR	LR			
	comp=Z,230nm,13.1s							
LYN	**LuoYang**	**30.37**	**36**	P		**P**	**19 21 46.5**	**+1.3**
LYN				pmax	pmax			
	comp=Z,22nm,0.8s							
LYN				LR	LR			
	comp=Z,530nm,14.4s							
LYN				LR	LR			
	comp=Z,460nm,13.6s							
LYN				LR	LR			
	comp=Z,870nm,17.4s							
TOLI2	**Tolitoli**	**30.54**	**106**	P		**P**	**19 21 44.5**	**-2.4**
TOLI2				IAmb	IAmb		19 21 56.1	
	comp=Z,6.9nm,0.9s							
TWG	**Pinlang**	**30.58**	**63**	P		**P**	**19 21 44.1**	**-3.1**
SSLB	**Suanglung**	**30.79**	**61**	P		**P**	**19 21 47.2**	**-1.9**
YULB	**Yu-li**	**30.95**	**62**	P		**P**	**19 21 48.5**	**-2.0**
KBL	**Kabul**	**31.35**	**323**	P		**P**	**19 21 51.1**	**-2.9**
KBL	**Kabul**	**31.35**	**323**	P		**P**	**19 21 51.2**	**-2.9**
KBL				pmax	pmax			
	comp=Z,5.0nm,1.0s							
TATO	**Taipei**	**31.66**	**60**	P		**P**	**19 21 53.6**	**-3.0**
KSH	**Kashi**	**31.81**	**337**	P		**P**	**19 21 57.5**	**-0.5**
KSH				sP		pwP	19 22 07.0	-0.2
KSH				pmax	pmax			
	comp=Z,8.0nm,0.8s							
KSH				LR	LR			
	comp=Z,320nm,22.0s							
KSH				LR	LR			
	comp=Z,380nm,16.5s							
KSH				LR	LR			
	comp=Z,160nm,12.4s							
KAPI	**Kappang**	**32.12**	**118**	*i* P		**P**	**19 22 02.7**	**+1.9**
KAPI				pmax	pmax			
	comp=Z,9.0nm,0.3s							
NJ2	**Nanjing**	**32.87**	**46**	⇓P		**P**	**19 22 09.3**	**+2.1**
NJ2				pmax	pmax			
	comp=Z,19nm,0.7s							
WMQ	**Urumqi**	**33.09**	**355**	*e*P		**P**	**19 22 11.3**	**+2.3**
WMQ				LR	LR			
	comp=Z,190nm,20.9s							
WMQ				LR	LR			
	comp=Z,300nm,18.7s							
WMQ				LR	LR			
	comp=Z,120nm,18.7s							
LUWI	**Luwuk**	**33.15**	**109**			**P**	**19 22 09.1**	**-0.8**
HNS	**HongShan**	**33.68**	**34**	⇑P		**P**	**19 22 15.8**	**+1.6**
HNS				pmax	pmax			
	comp=Z,16nm,0.9s							
KDJ	**Kajisay**	**33.68**	**340**	P		**P**	**19 22 14.8**	**+0.4**
KDJ				pmax	pmax			
	comp=Z,11nm,1.3s							
OHH	**Osh**	**33.97**	**334**	P		**P**	**19 22 16.5**	**-0.3**
OHH				pmax	pmax			
	comp=Z,7.0nm,0.9s							
CHGR	**Chuyangaron**	**34.24**	**328**	P		**P**	**19 22 17.9**	**-1.3**
CHGR	**Chuyangaron**	**34.24**	**328**	P		**P**	**19 22 17.9**	**-1.3**
CHGR				pmax	pmax			
	comp=Z,19nm,0.8s							
TIA	**Tai'an**	**34.27**	**38**	P		**P**	**19 22 20.8**	**+1.5**
TIA				pmax	pmax			
	comp=Z,9.0nm,0.8s							
SIMJ	**Simiganj**	**34.32**	**328**			**P**	**19 22 18.9**	**-1.0**
SIMJ				IAmb	IAmb		19 22 30.1	
	comp=Z,8.9nm,0.9s							
HHC	**Hu-ho-hao-te**	**34.74**	**27**	*e*P		**P**	**19 22 24.5**	**+1.0**
HHC				pmax	pmax			
	comp=Z,11nm,0.5s							
HHC				pmax	pmax			
	comp=Z,63nm,4.2s							
HHC				LR	LR			
	comp=Z,180nm,12.6s							
HHC				LR	LR			
	comp=Z,200nm,13.5s							
HHC				LR	LR			
	comp=Z,230nm,17.7s							
AAK	**Ala-Archa**	**35.07**	**338**			**P**	**19 22 26.4**	**0.0**
AAK				IAmb	IAmb		19 22 38.5	
	comp=Z,16nm,1.4s							
AAK	**Ala-Archa**	**35.07**	**338**	LR	LR		19 40 00.3	
	comp=Z,151nm,20.2s,baz=153,slow=42							
AAK	**Ala-Archa**	**35.07**	**338**	*ce*P		**P**	**19 22 27.6**	**+1.2**
AAK				pmax	pmax			
	comp=Z,13nm,1.4s							
FRU1	**Bishkek**	**35.17**	**338**	P		**P**	**19 22 25.2**	**-1.9**
FRU1				IAmb	IAmb		19 22 43.0	
	comp=Z,12nm,1.1s							
FRU1	**Bishkek**	**35.17**	**338**	P		**P**	**19 22 25.2**	**-1.9**
FRU1				pmax	pmax			
	comp=Z,12nm,1.1s							
TRKS	**Terek-Say**	**35.51**	**333**	P		**P**	**19 22 30.7**	**+0.5**
TRKS				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BJT	**Baijiatuau**	**36.36**	**33**	P		**P**	**19 22 37.1**	**-0.1**
BJT				pmax	pmax			
	comp=Z,8.0nm,0.8s							
BJI	**Beijing**	**36.38**	**33**	P		**P**	**19 22 39.0**	**+1.6**
BJI				pP		**sP**	**19 22 43.8**	**-0.5**
BJI				sP		**pwP**	**19 22 46.0**	**-0.2**
BJI				S		**S**	**19 28 19.0**	**+1.2**
BJI				pmax	pmax			
	comp=Z,3.0nm,0.9s							
BJI				LR	LR			
	comp=Z,130nm,18.9s							
BJI				LR	LR			
	comp=Z,140nm,23.9s							
BJI				LR	LR			
	comp=Z,160nm,20.7s							
MK31	**Makanchi Array**	**36.75**	**349**	*ce*P		**P**	**19 22 40.7**	**+0.2**
MKAR	**Makanchi Array**	**36.75**	**349**	P		**P**	**19 22 40.0**	**-0.5**
MKAR	**Makanchi Array**	**36.75**	**349**	P		**P**	**19 22 40.6**	**0.0**
	comp=Z,6.3nm,0.6s,baz=170,slow=7.9,SNR=20							
MKAR				PcP		**PcP**	**19 25 01.9**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=172,slow=3.9,SNR=2.3							
	comp=Z,6.3nm,0.6s							
MAKZ	**Makanchi**	**36.82**	**349**	P		**P**	**19 22 41.1**	**-0.1**
MAKZ	**Makanchi**	**36.82**	**349**	P		**P**	**19 22 41.1**	**-0.1**
MAKZ				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KK31	**Karatay Array**	**37.06**	**334**			**P**	**19 22 42.7**	**-0.5**
KK31	**Karatay Array**	**37.06**	**334**	P		**P**	**19 22 42.7**	**-0.5**
KK31				pmax	pmax			
	comp=Z,7.0nm,0.9s							
KKAR	**Karatay Array**	**37.06**	**334**	P		**P**	**19 22 43.1**	**-0.1**
KKAR	**Karatay Array**	**37.06**	**334**	P		**P**	**19 22 43.1**	**-0.1**
JOW	**Kunigami**	**38.03**	**60**	LR	LR		19 40 12.6	
	comp=Z,118nm,20.6s,baz=178,slow=39							
SONM	**Songino Array**	**38.97**	**16**	P		**P**	**19 22 59.6**	**+0.2**
SONM				IAmb	IAmb		19 23 09.2	
	comp=Z,16nm,1.0s							
SONM	**Songino Array**	**38.97**	**16**	P		**P**	**19 23 00.0**	**+0.6**
	comp=Z,10nm,0.8s,baz=201,slow=9.6,SNR=34							
SONM				PcP		**PcP**	**19 25 09.7**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=183,slow=2.9,SNR=2.7							
	comp=Z,10nm,0.8s							
SONM	**Songino Array**	**38.97**	**16**	P		**P**	**19 22 59.7**	**+0.2**
SONM				pmax	pmax			
	comp=Z,16nm,1.0s							
ULN	**Ulaanbaatar**	**39.18**	**16**			**P**	**19 22 59.3**	**-1.9**
ULN	**Ulaanbaatar**	**39.18**	**16**	*ce*P		**P**	**19 23 02.1**	**+0.9**
ULN				pmax	pmax			
	comp=Z,6.0nm,0.7s							
ZAK	**Zakamensk**	**40.64**	**11**	*e*P		**P**	**19 23 13.4**	**+0.2**
ZAK				pmax	pmax			
	comp=Z,7.0nm,1.4s							
TJN	**Taejon**	**41.13**	**46**	P		**P**	**19 23 18.0**	**+0.7**
TJN	**Taejon**	**41.13**	**46**	P		**P**	**19 23 18.0**	**+0.7**
TJN				pmax	pmax			
	comp=Z,77nm,0.9s							
KURBB	**Kurchatov Arra**	**41.15**	**347**	P		**P**	**19 23 17.5**	**+0.2**
	comp=Z,4.6nm,0.9s,baz=166,slow=7.6,SNR=21							
KURBB				PcP		**PcP**	**19 25 15.6**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=152,slow=3.0,SNR=5.6							
KURBB				LR	LR		19 43 08.6	
	comp=Z,174nm,20.8s,baz=175,slow=40							
	comp=Z,4.6nm,0.9s							
KURK	**Kurchatov**	**41.22**	**347**	P		**P**	**19 23 17.5**	**-0.3**
KURK				IAmb	IAmb		19 23 20.1	
	comp=Z,12nm,1.1s							
KURK	**Kurchatov**	**41.22**	**347**	*ce*P		**P**	**19 23 19.5**	**+1.6**
KURK				pmax	pmax			
	comp=Z,15nm,1.7s							
KSAR	**Wonju Array Be**	**42.02**	**45**	P		**P**	**19 23 23.9**	**-0.7**
KSAR	**Wonju Array Be**	**42.02**	**45**	P		**P**	**19 23 23.9**	**-0.7**
KS19	**Wonju Array Si**	**42.03**	**45**	P		**P**	**19 23 23.4**	**-1.3**
KS19				IAmb	IAmb		19 23 26.8	
	comp=Z,16nm,0.9s							
KSRS	**Korea Array**	**42.05**	**45**	P		**P**	**19 23 24.1**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=247,slow=9.4,SNR=6.2							
	comp=Z,1.8nm,0.8s							
**PSA

GNI	**Garni**	**50.62 314**	LR	LR	19 50 19.5		
	comp=Z,59nm,18.9s,baz=102,slow=41						
GNI	**Garni**	**50.62 314**	*ce*P	**P**	**19 24 35.0**	**+2.5**	
GNI			pmax	pmax			
	comp=Z,14nm,1.5s						
WB0	**Warramunga Arr**	**51.94 126**	IAmb	IAmb	19 24 44.7		
	comp=Z,14nm,1.2s						
WRA	**Warramunga Arr**	**51.99 126**	P	**P**	**19 24 42.5**	**-0.3**	
	comp=Z,3.9nm,0.7s,baz=307,slow=8.3,SNR=40						
WRA			PcP	**PcP**	**19 25 55.5**	**+0.4**	
	comp=Z,1.9nm,0.8s,baz=309,slow=3.8,SNR=5.0						
	comp=Z,3.9nm,0.7s						
WRAB	**Tennant Creek**	**51.99 126**	P	**P**	**19 24 41.6**	**-1.2**	
WRAB			IAmb	IAmb	19 24 56.8		
	comp=Z,5.2nm,0.7s						
WRAB	**Tennant Creek**	**51.99 126**	P	**P**	**19 24 41.6**	**-1.2**	
WRAB			pmax	pmax			
	comp=Z,5.0nm,0.7s						
WR8	**Warramunga Arr**	**52.12 126**	IAmb	IAmb	19 24 46.2		
	comp=Z,10nm,1.0s						
FURI	**Furi**	**52.13 273**	LR	LR	19 45 44.6		
	comp=Z,218nm,18.1s,baz=89,slow=35						
ARTI	**Arti**	**52.29 337**	P	**P**	**19 24 44.4**	**0.0**	
ARTI			IAmb	IAmb	19 24 46.3		
	comp=Z,9.4nm,0.9s						
ARTI	**Arti**	**52.29 337**	LR	LR	19 48 49.2		
	comp=Z,134nm,18.8s,baz=163,slow=38						
ARTI	**Arti**	**52.29 337**	*d* iP	**P**	**19 24 44.5**	**0.0**	
ARTI					19 25 49.0		
ARTI					19 26 39.5		
ARTI			S	**S**	**19 32 10.5**	**+1.9**	
ARTI			SS	**SS**	**19 35 44.4**	**-1.9**	
ARTI			pmax	pmax			
	comp=Z,9.0nm,0.9s						
KBZ	**Khabaz**	**53.26 317**	*ce*P	**P**	**19 24 54.5**	**+2.7**	
KBZ			pmax	pmax			
	comp=Z,4.0nm,1.1s						
SHA1	**Shidzhatmaz**	**53.42 317**	*i* P	**P**	**19 24 54.7**	**+1.3**	
KIV	**Kislovodsk**	**53.49 317**	P	**P**	**19 24 53.4**	**-0.3**	
KIV			IAmb	IAmb	19 24 56.3		
	comp=Z,11nm,0.8s						
KIV	**Kislovodsk**	**53.49 317**	*e*P	**P**	**19 24 52.4**	**-1.3**	
KIV			pmax	pmax			
	comp=Z,12nm,1.1s						
KIV			MLR	MLR			
	comp=Z,61nm,17.0s						
ASAR	**Alice Springs**	**53.70 130**	P	**P**	**19 24 55.3**	**-0.1**	
ASAR	**Alice Springs**	**53.70 130**	P	**P**	**19 24 55.7**	**+0.3**	
	comp=Z,14nm,0.7s,baz=310,slow=7.2,SNR=86						
ASAR			PcP	**PcP**	**19 26 02.2**	**+0.6**	
	comp=Z,1.3nm,0.7s,baz=316,slow=4.2,SNR=4.4						
	comp=Z,14nm,0.7s						
AS31	**Alice Springs**	**53.70 130**	P	**P**	**19 24 55.0**	**-0.3**	
AS31			IAmb	IAmb	19 24 58.2		
	comp=Z,4.9nm,0.8s						
ASF	**Jabal al Asfar**	**54.55 302**	LR	LR	19 51 40.7		
	comp=Z,82nm,18.7s,baz=101,slow=40						
EIL	**Elat**	**55.83 299**	LR	LR	19 49 46.3		
	comp=Z,84nm,21.7s,baz=348,slow=37						
MMAI	**Mount Meron Ar**	**55.94 303**	LR	LR	19 53 01.0		
	comp=Z,116nm,18.7s,baz=98,slow=40						
YSS	**Yuzhno-Sakhali**	**56.11 40**	*e*P	**P**	**19 25 13.0**	**+0.6**	
YSS			*e*		19 26 11.4		
YSS			*e*		19 27 18.7		
YSS			*e*S	**S**	**19 33 01.0**	**+0.5**	
YSS			pmax	pmax			
	comp=Z,10.0nm,1.0s						
YSS			pmax	pmax			
	comp=Z,200nm,5.8s						
YSS			MLR	MLR			
	comp=Z,700nm,17.0s						
YSS			MLR	MLR			
	comp=E,1.0nm,19.0s						
KIRV	**Kirov**	**57.33 335**	*ce*P	**P**	**19 25 22.7**	**+1.8**	
YAK	**Yakutsk**	**58.09 20**	P	**P**	**19 25 25.6**	**-0.6**	
YAK	**Yakutsk**	**58.09 20**	*e*P	**P**	**19 25 26.6**	**+0.4**	
YAK			*e**PP	**pP**	**19 25 31.1**	**-0.4**	
YAK			*e*		19 27 35.1		
YAK			*e*PPP	PPP	19 28 52.2		
YAK			*e*S	**S**	**19 33 27.4**	**+1.3**	
YAK			*e**SS	**sS**	**19 33 34.5**	**+0.2**	
YAK			*e*SS	**SS**	**19 37 15.0**	**-2.5**	
YAK			pmax	pmax			
	comp=Z,16nm,0.9s						
YAK			pmax	pmax			
	comp=N,6.0nm,1.4s						
YAK			pmax	pmax			
	comp=E,2.0nm,1.2s						
YAK			pmax	pmax			
	comp=Z,191nm,3.8s						
YAK			pmax	pmax			
	comp=E,117nm,3.8s						
YAK			pmax	pmax			
	comp=N,120nm,3.6s						
YAK			smax	smax			
	comp=N,117nm,4.0s						
YAK			smax	smax			
	comp=E,113nm,3.9s						
BRTR	**Keskin Array B**	**58.64 310**	P	**P**	**19 25 29.2**	**-1.5**	
BRTR	**Keskin Array B**	**58.64 310**	P	**P**	**19 25 28.9**	**-1.8**	
	comp=E,1.6nm,0.9s,baz=99,slow=7.6,SNR=6.9						
	comp=E,1.6nm,0.9s						
BRTR	**Keskin Array B**	**58.64 310**	*i* P	**P**	**19 25 31.0**	**+0.3**	
BRTR			pmax	pmax			
	comp=Z,2.0nm,0.9s						
ELL	**Elmali**	**60.99 306**	P	**P**	**19 25 47.3**	**+0.5**	
ELL			IAmb	IAmb	19 25 55.7		
	comp=Z,9.4nm,1.0s						
ELL	**Elmali**	**60.99 306**	P	**P**	**19 25 47.3**	**+0.5**	
ELL			pmax	pmax			
	comp=Z,9.0nm,1.0s						
INKA	**Innaminka**	**61.08 130**	P	**P**	**19 25 48.7**	**+1.3**	
OBN	**Obninsk**	**61.59 328**	*i* P	**P**	**19 25 51.5**	**+1.1**	
OBN			*PP	**pP**	**19 25 54.0**	**-1.5**	
OBN			*i* *SP	**pwP**	**19 25 59.2**	**-0.6**	
OBN			*e*S	**S**	**19 34 13.7**	**+2.3**	
OBN			pmax	pmax			
	comp=Z,20nm,1.6s						
OBN			MLR	MLR			
	comp=Z,87nm,17.0s						
KLMR	**Klimovskoe**	**62.76 334**	*e*P	P	19 25 53.4	-4.7	
KLMR			pmax	pmax			
	comp=Z,16nm,1.6s						
STKA	**Stephens Creek**	**63.92 133**	P	**P**	**19 26 05.5**	**-0.9**	
	comp=Z,2.0nm,0.5s,baz=330,slow=8.8,SNR=6.9						
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**64.33 321**	P	**P**	**19 26 06.3**	**-2.4**	
	comp=Z,0.1nm,0.3s,baz=91,slow=4.6,SNR=4.1						
	comp=Z,0.1nm,0.3s						
AKASG	**Malin Array Be**	**64.33 321**	*i* P	**P**	**19 26 08.6**	**-0.1**	
AKASG			pmax	pmax			
	comp=Z,1.0nm,0.6s						
TIXI	**Tiksi**	**64.91 12**	P	**P**	**19 26 10.0**	**-2.1**	
TIXI	**Tiksi**	**64.91 12**	*ce*P	**P**	**19 26 11.9**	**-0.2**	
TIXI			pmax	pmax			
	comp=Z,7.0nm,1.0s						
RDO	**Rodhopi**	**64.98 310**	P	**P**	**19 26 11.2**	**-2.0**	
RDO			IAmb	IAmb	19 26 16.2		
	comp=Z,7.8nm,1.3s						
MLR	**Muntele Rosu**	**65.35 315**	P	**P**	**19 26 14.2**	**-1.5**	
MLR			IAmb	IAmb	19 26 27.6		
	comp=Z,8.8nm,1.0s						
MLR	**Muntele Rosu**	**65.35 315**	P	**P**	**19 26 14.2**	**-1.5**	
MLR			pmax	pmax			
	comp=Z,9.0nm,1.0s						
H04N2	**CROZET ISLANDS**	**66.98 209**	T	T	20 39 30.8		
	baz=44,slow=75,SNR=143						
H04N1	**CROZET ISLANDS**	**66.99 209**	T	T	20 39 35.9		
	baz=44,slow=75,SNR=150						
H04N3	**CROZET ISLANDS**	**67.00 209**	T	T	20 39 35.1		
	baz=44,slow=75,SNR=121						
FINES	**FINESS Array B**	**68.98 332**	P	**P**	**19 26 37.6**	**-0.6**	
	comp=Z,3.8nm,0.7s,baz=102,slow=8.0,SNR=15						
	comp=Z,3.8nm,0.7s						
FINES	**FINESS Array B**	**68.98 332**	*i* P	**P**	**19 26 38.2**	**0.0**	
FINES			pmax	pmax			
	comp=Z,4.0nm,0.7s						
ARCES	**ARCESS Array B**	**71.69 340**	P	**P**	**19 26 54.2**	**-0.5**	
	comp=Z,1.4nm,0.8s,baz=87,slow=4.0,SNR=3.9						
	comp=Z,1.4nm,0.8s						
GERES	**GERESS Array B**	**74.00 318**	P	**P**	**19 27 08.9**	**0.0**	
	comp=Z,1.1nm,0.9s,baz=92,slow=4.0,SNR=5.4						
	comp=Z,1.1nm,0.9s						
HFS	**Hagfors**	**74.69 330**	P	**P**	**19 27 11.8**	**-0.8**	
	comp=Z,1.3nm,0.6s,baz=81,slow=9.1,SNR=2.5						
	comp=Z,1.3nm,0.6s						

BOSA	**Boshof**	**75.05 236**	P	**P**	**19 27 16.1**	**+0.7**	
	comp=Z,2.3nm,0.8s,baz=73,slow=7.2,SNR=4.8						
	comp=Z,2.3nm,0.8s						
NB2	**NORSAR Subarra**	**75.98 330**	P	**P**	**19 27 20.2**	**+0.2**	
	comp=Z,2.5nm,0.9s,baz=95,slow=5.3						
NOA	**NORSAR Array B**	**75.98 330**	P	**P**	**19 27 19.0**	**-1.0**	
	comp=Z,0.9nm,0.7s,baz=95,slow=5.4,SNR=4.3						
	comp=Z,0.9nm,0.7s						
SPITS	**Spitsbergen Ar**	**76.49 348**	P	**P**	**19 27 22.4**	**-0.2**	
	comp=Z,3.8nm,0.7s,baz=188,slow=1.7,SNR=4.5						
	comp=Z,3.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**87.50 283**	P	**P**	**19 28 21.4**	**-0.2**	
	comp=Z,1.0nm,0.8s,baz=67,slow=4.6,SNR=4.4						
	comp=Z,1.0nm,0.8s						
G19K	**Purcell Mounta**	**88.59 22**	P	**P**	**19 28 26.7**	**+0.9**	
G19K			IAmb	IAmb	19 28 28.6		
	comp=Z,6.3nm,0.9s						
ILAR	**Eielson Array**	**92.99 21**	P	**P**	**19 28 46.6**	**+0.4**	
	comp=Z,0.6nm,0.7s,baz=301,slow=3.9,SNR=5.7						
	comp=Z,0.6nm,0.7s						
URZ	**Urewera**	**93.10 128**	LR	LR	20 16 58.7		
	comp=Z,52nm,18.7s,baz=324,slow=40						
PDAR	**Pinedale Array**	**123.30 19**	PKP	**PKPdf**	**19 34 30.5**	**-0.2**	
	comp=Z,0.4nm,0.7s,baz=87,slow=3.1,SNR=3.9						
PLCA	**Paso Flores**	**146.26 205**	PKPbc	**PKPab**	**19 35 15.3**	**+0.5**	
	comp=Z,4.1nm,0.8s,baz=159,slow=3.0,SNR=12						
CFA	**Coronel Fontan**	**152.12 219**	PKPbc	**PKiKP**	**19 35 29.4**	**-0.1**	
	comp=Z,2.5nm,0.8s,baz=290,slow=1.6,SNR=6.3						
CFA			PKPab	**PKPab**	**19 35 38.1**	**-0.6**	
	comp=Z,2.0nm,0.4s,baz=66,slow=0.8,SNR=8.5						

*IDC **26** 19:22:04.1±5.0, 19°.26N×145°.38E, h0km, mb3.8/8, mbtmp3.8/8, MS4.3/2, Error ellipse: s-maj=128.4km s-min=45.0km az=2.0*

ISC 26 19:22:27.2±5.9, 20°.N±1°×145°.2E±0°.3, h150km, n10, σ0s54/8, mb3.7/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.83**	**322**	P		**P**		**19 27 17.5**	**+0.2**
	1.3nm,0.6s,baz=147,slow=9.1,SNR=7.3								
	1.3nm,0.6s								
BATI	**Baumata**	**36.92**	**217**	LR		LR		19 43 08.1	
	comp=Z,200nm,18.1s,baz=258,slow=35								
SONM	**Songino Array**	**41.68**	**321**	P		**P**		**19 30 00.8**	**-0.3**
	0.3nm,0.4s,baz=123,slow=5.2,SNR=3.1								
	0.3nm,0.4s								
ZALV	**Zalesovo Beam**	**56.53**	**322**	P		**P**		**19 31 53.6**	**-0.1**
	0.7nm,0.6s,baz=98,slow=11,SNR=3.7								
	0.7nm,0.6s								
MKAR	**Makanchi Array**	**57.08**	**313**	P		**P**		**19 31 58.2**	**+0.4**
	0.3nm,0.5s,baz=91,slow=7.8,SNR=4.2								
	0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**59.89**	**317**	P		**P**		**19 32 17.8**	**+0.7**
	0.5nm,0.5s,baz=92,slow=7.6,SNR=9.0								
	0.5nm,0.5s								
ILAR	**Eielson Array**	**62.50**	**27**	P		**P**		**19 32 34.7**	**+0.2**
	0.4nm,0.4s,baz=257,slow=6.2,SNR=4.9								
	0.4nm,0.4s								
BVAR	**Borovoye Array**	**65.02**	**320**	P		**P**		**19 32 51.7**	**+0.5**
	1.1nm,0.5s,baz=83,slow=7.0,SNR=3.5								
	1.1nm,0.5s								
OBN	**Obninsk**	**83.76**	**327**	LR		LR		20 16 41.9	
	comp=Z,281nm,18.4s,baz=236,slow=39								
FINES	**FINESS Array B**	**85.32**	**335**	P		**P**		**19 34 46.5**	**-0.6**
	0.8nm,0.5s,baz=57,slow=3.6,SNR=13								
	0.8nm,0.5s								

IDC 26 19:26:02.6±9.6, 5°.16S×129°.80E, h235km±99km, mb2.9/2, mbtmp3.7/6, Error ellipse: s-maj=97.5km s-min=26.4km az=50.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.88**	**230**	P		P	Pn	19 27 53.6	-0.8
	2.8nm,0.3s,baz=90,slow=20,SNR=1.2								
BATI				S		S		19 29 18.2	-6.0
	4.8nm,0.4s,baz=258,slow=19,SNR=1.1								
FITZ	**Fitzroy Crossi**	**13.49**	**197**	P		P	Pn	19 29 04.7	-0.3
	0.6nm,0.3s,baz=18,slow=7.3,SNR=7.7								
FITZ				S		S		19 31 22.7	-12
	1.8nm,0.8s,baz=330,slow=22,SNR=6.6								
WRA	**Warramunga Arr**	**15.34**	**164**	P		P		19 29 26.9	-0.3
	0.8nm,0.5s,baz=345,slow=12,SNR=25								
ASAR	**Alice Springs**	**18.82**	**168**	P		P		19 30 05.4	+0.3
	2.0nm,0.5s,baz=352,slow=13,SNR=36								
MKAR	**Makanchi Array**	**66.59**	**326**	P		P		19 36 27.9	+0.2
	0.2nm,0.5s,baz=124,slow=7.7,SNR=2.7								
	0.2nm,0.5s								
KURBB	**Kurchatov Arra**	**70.85**	**328**	P		P		19 36 53.7	-0.1
	0.3nm,0.4s,baz=108,slow=5.9,SNR=2.2								
	0.3nm,0.4s								

*IDC **26** 19:31:57.5±1.2, 10°.79N×91°.54E, h0km, mb3.8/6, mbtmp3.7/8, ML3.7/2, MS4.5/2, Error ellipse: s-maj=35.4km s-min=19.1km az=64.0*

*NEIC **26** 19:32:00.2±2.7, 10°.9N±0°.1×91°.7E±0°.1, h10km±1km, mb4.2/10, Error ellipse: s-maj=18.9km s-min=18.3km az=159.0*

*NDI **26** 19:32:22.4±0.3, 10°.92N×91°.74E, h10km, ML3.9, MW4.0, mb4.2(NEIC)*

ISC 26 19:31:58.5±0.8, 10°.8N±0°.1×91°.6E±0°.1, h10km, n32, σ0s98/24, mb3.8/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.40**	**52**			**Pn**	**Pn**	**19 32 24.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**10.41**	**42**	Pn		**Pn**	**Pn**	**19 34 25.9**	**-2.0**
CMAR	**Chiang Mai Arr**	**10.41**	**42**	Pn		**Pn**	**Pn**	**19 34 29.3**	**+1.4**
	0.2nm,0.3s,baz=239,slow=15,SNR=7.7								
	0.5nm,0.5s								
PALK	**Pallekele**	**11.33**	**253**	Pn		**Pn**	**Pn**	**19 34 41.0**	**+0.5**
	0.5nm,0.3s,baz=47,slow=13,SNR=0.9								
PALK				Sn		Sn	Sn	19 36 35.7	-12
	1.5nm,0.3s,baz=163,slow=10,SNR=5.1								
	3.3nm,0.7s								
SLVN	**Son La**	**15.78**	**47**	Pn		**Pn**	**Pn**	**19 35 41.8**	**+0.7**
ENH	**Enshi**	**25.54**	**38**	P		**P**	**P**	**19 37 27.7**	**+0.1**
ENH						IAmb	IAmb	19 37 34.9	
	comp=Z,10nm,0.7s								
H08S3	**Diego Garcia H**	**26.41**	**227**	T		T	T	20 05 11.6	
	baz=46,slow=75								
H08S2	**Diego Garcia H**	**26.41**	**227**	T		T	T	20 05 08.2	
	baz=46,slow=75,SNR=18								
H08S1	**Diego Carcia H**	**26.43**	**227**	T		T	T	20 05 07.5	
	baz=46,slow=75,SNR=19								
MKAR	**Makanchi Array**	**36.74**	**349**	P		**P**	**P**	**19 39 06.2**	**+0.1**
MKAR	**Makanchi Array**	**36.74**	**349**	P		**P**	**P**	**19 39 06.5**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=171,slow=7.9,SNR=8.8								
	comp=Z,0.8nm,0.6s								
MAKZ	**Makanchi**	**36.81**	**349**	P		**P**	**P**	**19 39 07.5**	**+0.9**
SONM	**Songino Array**	**38.96**	**16**	P		**P**	**P**	**19 39 25.6**	**+0.7**
SONM						IAmb	IAmb	19 39 34.1	
	comp=Z,2.3nm,1.0s								
SONM	**Songino Array**	**38.96**	**16**	P		**P**	**P**	**19 39 26.0**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=197,slow=9.0,SNR=7.4								
	comp=Z,1.2nm,0.6s								
KURBB	**Kurchatov Arra**	**41.15**	**347**	P		**P**		**19 39 43.1**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=163,slow=7.9,SNR=2.9								
	comp=Z,0.5nm,0.8s								
ZALV	**Zalesovo Beam**	**43.38**	**354**	P		**P**	**P**	**19 40 01.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**44.19**	**130**	P		**P**	**P**	**19 40 08.1**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=314,slow=18,SNR=3.0								
	comp=Z,1.1nm,0.7s								
JGF	**Kuroka**	**48.20**	**52**	P		**P**	**P**	**19 40 38.9**	**-0.5**
NWAO	**Narrogin (SRO)**	**49.88**	**152**	LR		LR	LR	19 58 22.3	
	comp=Z,480nm,20.8s,baz=91,slow=32								
WB0	**Warramunga Arr**	**51.93**	**126**	P		**P**	**P**	**19 41 08.6**	**+0.7**
WB0						IAmb	IAmb	19 41 45.0	
	comp=Z,7.2nm,1.3s								
WRA	**Warramunga Arr**	**51.98**	**126**	P		**P**	**P**	**19 41 09.1**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=308,slow=8.4,SNR=13								
	comp=Z,0.4nm,0.6s								
WR8	**Warramunga Arr**	**52.12**	**126**	P		**P**	**P**	**19 41 09.5**	**+0.2**
WR8						IAmb	IAmb	19 41 14.0	
	comp=Z,7.1nm,1.3s								
AS31	**Alice Springs**	**53.69**	**130**	P		**P**	**P**	**19 41 19.1**	**-1.8**
AS31						IAmb	IAmb	19 41 29.1	
	comp=Z,0.7nm,0.8s								
ASAR	**Alice Springs**	**53.69**	**130**	P		**P**	**P**	**19 41 20.8**	**-0.2**
ASAR	**Alice Springs**	**53.69**	**130**	P		**P**	**P**	**19 41 22.1**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=304,slow=6.9,SNR=21								
	comp=Z,2.0nm,0.7s								
YAK	**Yakutsk**	**58.08**	**20**	P		**P**	**P**	**19 41 50.1**	**-1.6**
BR131	**Keskin Array S**	**58.65**	**310**	P		**P**	**P**	**19 41 55.7**	**-0.6**
BR131						IAmb	IAmb	19 41 57.9	
	comp=Z,2.6nm,0.9s								
H04N2	**CROZET ISLANDS**	**67.00**	**209**	T		T	T	20 56 00.6	
	baz=44,slow=75,SNR=14								
H04N1	**CROZET ISLANDS**	**67.00**	**209**	T		T	T	20 55 59.8	
	baz=44,slow=75,SNR=18								
H04N3	**CROZET ISLANDS**	**67.01**	**209**	T		T	T	20 55 55.2	
	baz=44,slow=75,SNR=11								
MATP	**Matopo**	**69.38**	**243**	LR		LR	LR	20 12 13.3	
	comp=Z,296nm,18.1s,baz=227,slow=35								
LL03	**Petrohue**	**146.65**	**202**	PKPdf		**PKPdf**		**19 51 38.3**	**-1.0**

*IDC **26** 19:37:32.4±1.7, 22°.72S×66°.07W, h240km±20km, mb3.6/1, mbtmp3.8/6, Error ellipse: s-maj=31.0km s-min=16.5km az=100.0*

ISC 26 19:37:32.5±0.9, 22°.73S±0°.07×66°.20W±0°.07, h251km, n14, σ1s30/20, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.84**	**49**	*e*P		**Pn**		**19 38 08.9**	**+1.4**
YJA				*e*S		**S**		**19 38 34.8**	**-0.1**
PB09	**IPOC Station P**	**2.97**	**288**	*e*P		**Pn**		**19 38 26.7**	**+1.8**
PB09				*e*S		**S**		**19 39 06.7**	**+0.3**
PB09				IAML				19 39 10.9	
	comp=N,109nm,0.3s								
PB06	**IPOC Station P**	**3.11**	**270**	*e*P		**Pn**		**19 38 27.9**	**+1.4**
PB06				*e*S		**S**		**19 39 08.4**	**-0.8**
PB06				IAML				19 39 09.9	
	comp=N,168nm,0.2s								
PB02	**IPOC Station P**	**3.71**	**292**	*e*P		**Pn**		**19 38 33.7**	**+0.6**
GO02	**Mina Guanaco**	**3.93**	**231**	*e*P		**Pn**		**19 38 37.1**	**+1.2**
GO02				*e*S		**S**		**19 39 25.5**	**-0.7**
PB10	**IPOC Station P**	**4.08**	**258**	*e*P		**Pn**		**19 38 37.8**	**+0.4**
PB10				*e*S		**S**		**19 39 25.8**	**-3.0**
GO01	**Chusmiza**	**4.14**	**317**	*e*P		**Pn**		**19 38 40.1**	**+1.6**
LPAZ	**La Paz**	**6.67**	**344**	P		**Pn**		**19 39 10.4**	**+0.7**
	comp=N,2.0nm,0.5s,baz=176,slow=11,SNR=6.9								
LPAZ				S		**S**		**19 40 26.4**	**-1.1**
	comp=N,0.7nm,0.4s,baz=321,slow=7.2,SNR=3.8								
SIV	**San Ignacio**	**8.27**	**37**	P		**Pn**		**19 39 28.3**	**-1.1**
	comp=N,3.6nm,0.5s,baz=210,slow=7.7,SNR=19								
CFA	**Coronel Fontan**	**9.02**	**191**	P		**Pn**		**19 39 38.0**	**-0.7**
	comp=N,0.6nm,0.3s,baz=9.0,slow=12,SNR=9.6								
CFA				S		S		19 41 12.1	-8.7
	comp=N,1.7nm,0.2s,baz=166,slow=21,SNR=9.3								
PLCA	**Paso Flores**	**18.32**	**191**	P		**P**		**19 41 29.5**	**+1.0**
	comp=N,1.4nm,0.7s,baz=22,slow=11,SNR=3.4								
BDFB	**Brasilia**	**18.56**	**71**	P		**P**		**19 41 30.5**	**-0.9**
	comp=N,3.2nm,0.4s,baz=240,slow=7.8,SNR=4.4								
TORD	**Torodi Ar. Bea**	**75.43**	**69**	P		**P**		**19 48 48.9**	**-0.5**
	comp=N,0.8nm,0.4s,baz=256,slow=5.7,SNR=15								
	comp=N,0.8nm,0.4s								
MKAR	**Makanchi Array**	**145.08**	**39**	PKPbc		**PKPab**		**19 56 41.4**	**+1.1**
	comp=N,1.5nm,0.7s,baz=312,slow=3.4,SNR=15								

IDC 26 19:52:06.7±1.7, 3°.24S×128°.95E, h0km, mb3.9/2, mbtmp4.0/4, ML3.6/2, MS3.8/2, Error ellipse: s-maj=98.5km s-min=26.5km az=72.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.11**	**192**	P		Pn	Pn	19 55 42.8	+1.1
	0.3nm,0.3s,baz=27,slow=9.0,SNR=12								
	1.9nm,0.6s								
WRA	**Warramunga Arr**	**17.41**	**163**	P		Pn		19 56 10.9	-0.4
	0.2nm,0.3s,baz=341,slow=12,SNR=16								
	3.4nm,0.9s								
TGY	**Tagaytay City**	**18.98**	**335**	LR		LR		20 05 24.9	
	comp=Z,216nm,20.3s,baz=88,slow=42								
ASAR	**Alice Springs**	**20.86**	**167**	P		P		19 56 49.9	-0.6
	10nm,0.7s,baz=349,slow=11,SNR=96								
ASAR				PcP		PcP		20 00 59.1	-0.3
	0.2nm,0.4s,baz=348,slow=1.8,SNR=5.5								
	10nm,0.7s								
MKAR	**Makanchi Array**	**64.53**	**326**	P		P		20 02 45.8	+0.2
	0.2nm,0.5s,baz=122,slow=7.5,SNR=5.0								
	0.2nm,0.5s								
MMAI	**Mount Meron Ar**	**94.72**	**303**	LR		LR		20 56 39.4	
	comp=Z,63nm,18.6s,baz=112,slow=41								

*IDC **26** 19:53:28.0±3.5, 32°.68S×178°.73W, h0km, mb3.8/3, mbtmp3.8/3, MS4.1/1, Error ellipse: s-maj=180.1km s-min=50.6km az=166.0*

*WEL **26** 19:53:32.7±1.1, 34°.S±11°×17°.8W±1°.6, h12km, M4.3/7, mB5.0/2, ML4.6/12, MLv4.3/7, Mw(mB)4.3/2, Error ellipse: s-maj=24.3km s-min=7.8km az=120.3, confirmed*

*NEIC **26** 19:53:36.3±1.1, 33°.8S±0°.2×179°.2W±0°.2, h35km±2km, mb4.2/5, Error ellipse: s-maj=39.0km s-min=3.9km az=140.0*

ISC 26 19:53:29.2±1.6, 33°.7S±0°.1×178°.0W±0°.2, h35km, n35, σ1s59/45, mb4.0/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.86**	**217**	Pn		**Pn**	**Pn**	**19 54 38.5**	**-1.3**
**MX

*CATAC **26** 20:01:51.6±0.3,9˚N±2˚×8˚4W±˚, h16km±2km, M3.9/12, MLv3.9/12, Error ellipse: s-maj=6.0km s-min=3.2km az=33.0, confirmed*
*UPA **26** 20:01:52.7±2.0, 9˚21N×83˚72W, h16km±7km, MW3.9*
*UCR **26** 20:01:52.3±1.1, 9˚30N×83˚75W, h30km±1km, MW4.1*
ISC 26 20:01:52.5±0.9, 9˚29N±0˚03×83˚76W±0˚02, h29km±6km, n118, σ0§92/150, 4C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHAL	**Ojochal**	**0.22**	**150**	S	**Sb**	**20 02 03.7**	**+0.6**
OCHAL	**Ojochal**	**0.22**	**150**	P	**Pb**	**20 01 58.8**	**-0.1**
EDPE	**Pejibaye, P**	**0.22**	**125**	*eP*	**Pb**	**20 01 58.9**	**0.0**
EDPE				*eS*	**Sb**	**20 02 04.0**	**+0.7**
SAJE	**San Jernim**	**0.25**	**76**	*eP*	**Pb**	**20 01 58.9**	**-0.5**
SAJE				*eS*	**Sb**	**20 02 03.9**	**-0.3**
BUS1	**Rivas**	**0.27**	**2**	*eP*	**Pb**	**20 01 59.4**	**-0.5**
BUS1				*eS*	**Sb**	**20 02 05.0**	**+0.1**
LLNJ	**Naranjito**	**0.39**	**299**	*eP*	**Pb**	**20 02 00.7**	**-0.4**
LLNJ				*eS*	**Sb**	**20 02 07.5**	**+0.5**
PIEC	**Cerro El Cedra**	**0.39**	**329**	*eP*	**Pb**	**20 02 01.0**	**-0.4**
QUEP	**Quepos**	**0.43**	**290**	*eP*	**Pb**	**20 02 00.8**	**-1.0**
QUEP				*eS*	**Sb**	**20 02 07.8**	**-0.3**
QUEP	**Quepos**	**0.43**	**290**	P	**Pb**	**20 02 00.9**	**-0.9**
SVQ2	**Quepos**	**0.43**	**290**	*eP*	**Pb**	**20 02 00.5**	**-1.2**
SVQ2				*eS*	**Sb**	**20 02 07.7**	**-0.4**
PANP	**Palmar Norte**	**0.44**	**138**	*eP*	**Pb**	**20 02 01.8**	**-0.1**
RAZU	**San Marcos de**	**0.46**	**325**	*eP*	**Pb**	**20 02 02.1**	**-0.2**
PITB	**Pirrs, San**	**0.46**	**325**	*eP*	**Pb**	**20 02 02.0**	**-0.3**
DRK0	**Durika**	**0.51**	**93**	⇑*iP*	**Pb**	**20 02 02.5**	**-0.6**
DRK0				*i* S	**Sb**	**20 02 10.0**	**-0.4**
DRK0	**Durika**	**0.51**	**93**	*eP*	**Pb**	**20 02 02.4**	**-0.6**
DRK0				*eS*	**Sb**	**20 02 10.0**	**-0.4**
DRK0	**Durika**	**0.51**	**93**	S	**Sb**	**20 02 10.0**	**-0.4**
DRK0	**Durika**	**0.51**	**93**	P	**Pb**	**20 02 02.5**	**-0.6**
PICV	**PH. Pirrs**	**0.55**	**308**	*eP*	**Pb**	**20 02 03.2**	**-0.5**
PICV				*eS*	**Sb**	**20 02 11.7**	**+0.2**
REPA	**Paraso**	**0.55**	**348**	*eP*	**Pb**	**20 02 03.1**	**-0.7**
REPA				*eS*	**Sb**	**20 02 11.4**	**-0.1**
PAR1A	**Puntarenas Pro**	**0.58**	**302**	*eP*	**Pb**	**20 02 03.9**	**-0.3**
PAR1A				*eS*	**Sb**	**20 02 13.3**	**+1.1**
VINA	**Juan Vinas**	**0.61**	**1**	*eP*	**Pb**	**20 02 04.0**	**-0.8**
TURIB	**Turrialba**	**0.62**	**6**	*eP*	**Pb**	**20 02 04.1**	**-0.9**
TURIB				*eS*	**Sb**	**20 02 13.0**	**-0.5**
PCAYA	**Pacayas**	**0.63**	**355**	*eP*	**Pb**	**20 02 04.6**	**-0.6**
PCAYA				*eS*	**Sb**	**20 02 13.5**	**0.0**
EDP2	**Potrero Grande**	**0.63**	**115**	*eP*	**Pb**	**20 02 04.7**	**-0.4**
EDP2				*eS*	**Sb**	**20 02 14.4**	**+0.8**
ACOS	**Acosta**	**0.65**	**322**	*eP*	**Pn**	**20 02 04.3**	**-1.5**
TRIO	**Tres Rios**	**0.66**	**339**	*eP*	**Pn**	**20 02 04.5**	**-1.5**
TRIO				*eS*	**Sb**	**20 02 14.0**	**-0.6**
VERB	**Verbena**	**0.66**	**5**	*eP*	**Pn**	**20 02 04.9**	**-1.0**
AMPA	**Desamparados**	**0.68**	**334**	*eP*	**Pn**	**20 02 05.3**	**-1.0**
VICA	**Volcano Irazu**	**0.70**	**353**	*eP*	**Pn**	**20 02 05.6**	**-1.2**
ECI	**Escuela Centro**	**0.71**	**336**	*eP*	**Pn**	**20 02 04.9**	**-1.8**
ECI				*eS*	**Sb**	**20 02 15.9**	**-0.1**
CVTQ	**Turrialba Volc**	**0.71**	**359**	*eP*	**Pn**	**20 02 06.0**	**-0.9**
CVTV	**Tajo**	**0.71**	**1**	*eP*	**Pn**	**20 02 06.1**	**-0.8**
ABRB	**Las Abras (San**	**0.72**	**3**	*eP*	**Pn**	**20 02 06.2**	**-0.7**
ABRB				*eS*	**Sb**	**20 02 16.8**	**+0.5**
CORON	**Coronado**	**0.72**	**340**	*eP*	**Pn**	**20 02 06.2**	**-0.8**
CORON				*eS*	**Sb**	**20 02 17.2**	**+0.8**
VTR0	**Volcan Turrial**	**0.73**	**360**	*eP*	**Pn**	**20 02 06.3**	**-0.9**
CVTR	**Volcan Turrial**	**0.73**	**360**	*eP*	**Pn**	**20 02 06.2**	**-1.0**
RESJ	**San Isidro (Tu**	**0.75**	**9**	*eP*	**Pn**	**20 02 06.6**	**-0.6**
CVIMO	**Finca Echandi**	**0.76**	**346**	*eP*	**Pn**	**20 02 06.5**	**-0.9**
CVIMO				*eS*	**Sb**	**20 02 17.3**	**-0.1**
DOMI	**Santo Domingo**	**0.77**	**335**	*eP*	**Pn**	**20 02 06.7**	**-0.8**
DOMI				*eS*	**Sn**	**20 02 17.7**	**-0.4**
SANTA	**Santa Ana**	**0.77**	**327**	*eP*	**Pn**	**20 02 06.2**	**-1.3**
SANTA				*eS*	**Sn**	**20 02 16.6**	**-1.5**
PURI	**Puriscal**	**0.78**	**316**	*eP*	**Pn**	**20 02 06.8**	**-0.8**
HDC	**Heredia**	**0.79**	**334**	*eP*	**Pn**	**20 02 07.0**	**-0.8**
HEME	**Heredia, Merce**	**0.80**	**332**	*eP*	**Pn**	**20 02 07.8**	**-0.1**
BELE	**Belen**	**0.81**	**328**	*eP*	**Pn**	**20 02 07.0**	**-1.0**
BELE				*eS*	**Sn**	**20 02 17.8**	**-1.3**
LCOCO	**El Coco**	**0.82**	**14**	*eP*	**Pn**	**20 02 07.5**	**-0.5**
LCOCO				*eS*	**Sn**	**20 02 19.4**	**+0.2**
RVLA	**Villa Bonita**	**0.83**	**11**	*eP*	**Pn**	**20 02 07.9**	**-0.4**
IRES	**Siquirres**	**0.84**	**17**	*eP*	**Pn**	**20 02 07.9**	**-0.5**
LAES	**El Progreso Va**	**0.84**	**56**	*eP*	**Pn**	**20 02 08.0**	**-0.3**
LAES				*eS*	**Sn**	**20 02 20.4**	**+0.6**
VERH	**Veragua Rainfo**	**0.85**	**41**	*eP*	**Pn**	**20 02 08.0**	**-0.5**
UELA	**Alajuela**	**0.85**	**328**	*eP*	**Pn**	**20 02 08.5**	**-0.2**
EDAD	**Golfito**	**0.86**	**137**	*eP*	**Pn**	**20 02 07.1**	**-1.6**
CEUA	**Cerro Uatsi, L**	**0.87**	**67**	*eP*	**Pn**	**20 02 09.5**	**+0.6**
VITO	**San Vito**	**0.91**	**121**	*eP*	**Pn**	**20 02 09.0**	**-0.3**
BITO	**Garabito Jaco**	**0.92**	**291**	*eP*	**Pn**	**20 02 09.7**	**+0.4**
ATEO	**Atenas**	**0.92**	**318**	*eP*	**Pn**	**20 02 08.7**	**-0.8**
PIRO	**Carate, Puerto**	**0.97**	**155**	*eP*	**Pn**	**20 02 10.0**	**-0.1**
ALCO	**Alturas Coton,**	**0.97**	**110**	*eP*	**Pn**	**20 02 09.2**	**-1.1**
BRIBI	**Bribri**	**0.98**	**70**	*eP*	**Pn**	**20 02 10.9**	**+0.6**
VPS8	**V Poas**	**1.01**	**332**	*eP*	**Pn**	**20 02 10.8**	**-0.2**
PALD	**Palmares**	**1.01**	**319**	*eP*	**Pn**	**20 02 10.1**	**-0.8**
RAMO	**San Ramon**	**1.06**	**319**	*eP*	**Pn**	**20 02 11.0**	**-0.5**
SCLRA	**Santa Clara, W**	**1.06**	**115**	*eP*	**Pn**	**20 02 10.8**	**-0.7**
CARI	**Cariari**	**1.07**	**1**	*eP*	**Pn**	**20 02 11.6**	**+0.1**
CARI				*iP*	**Pn**	**20 02 11.6**	**+0.1**
CDITO	**Canoas**	**1.12**	**129**	P	**Pn**	**20 02 11.4**	**-1.2**
ARTO	**Ro Cuarto**	**1.14**	**337**	*eP*	**Pn**	**20 02 12.7**	**+0.1**
BRU2	**Volcan**	**1.16**	**115**	⇑*iP*	**Pn**	**20 02 12.2**	**-0.7**
BRU2				*i* S	**Sn**	**20 02 23.7**	**-4.1**
BRU2	**Volcan**	**1.16**	**115**	*eP*	**Pn**	**20 02 12.1**	**-0.7**
BRU2	**Volcan**	**1.16**	**115**	P	**Pn**	**20 02 12.2**	**-0.7**
RGM0	**Gandoca**	**1.17**	**75**	*eP*	**Pn**	**20 02 14.1**	**+1.2**
RGM0				*i* S	**Sn**	**20 02 29.3**	**+1.3**
RGM0	**Gandoca**	**1.17**	**75**	*eP*	**Sb**	**20 02 13.9**	**+1.0**
RGM0	**Gandoca**	**1.17**	**75**	S	**Sb**	**20 02 31.5**	**+2.5**
RGM0	**Gandoca**	**1.17**	**75**	P	**Pn**	**20 02 14.1**	**+1.2**
TBS2		**1.19**	**114**	*eP*	**Pn**	**20 02 13.0**	**-0.3**
BC3P	**Paso Ancho**	**1.23**	**112**	*iP*	**Pn**	**20 02 13.1**	**-0.7**
BC3P				*i* S	**Sn**	**20 02 28.2**	**-1.3**
TRT2	**Tortugero**	**1.26**	**1**	*eP*	**Pn**	**20 02 14.1**	**-0.1**
TRT2	**Tortugero**	**1.26**	**1**	S	**Sn**	**20 02 31.7**	**+1.5**
TRT2	**Tortugero**	**1.26**	**1**	P	**Pn**	**20 02 13.9**	**-0.2**
CNI2	**El Empalme, Bo**	**1.28**	**84**	⇓*eP*	**Pn**	**20 02 14.2**	**-0.1**
CNI2				*i* S	**Sn**	**20 02 29.8**	**-0.7**
LESP3	**La Esperanza,**	**1.29**	**132**	*eP*	**Pn**	**20 02 15.5**	**+0.9**
CBL1	**Cabuya**	**1.35**	**283**	*eP*	**Pn**	**20 02 14.8**	**-0.6**
PTAR3	**Potrerillos Ar**	**1.38**	**115**	⇑*eP*	**Pn**	**20 02 15.6**	**-0.3**
BQTLY	**Boquete Panama**	**1.38**	**112**	*eP*	**Pn**	**20 02 15.2**	**-0.8**
BQSF3	**Alto Boquete,**	**1.41**	**112**	⇓*iP*	**Pn**	**20 02 16.3**	**0.0**
BQSF3				*i* S	**Sn**	**20 02 33.8**	**-0.3**
LMNES	**Limones**	**1.47**	**143**	*eP*	**Pn**	**20 02 18.0**	**+0.9**
VACR	**Volcan Arenal**	**1.49**	**323**	*eP*	**Pn**	**20 02 18.1**	**+0.8**
ARE1	**Arenal 1**	**1.50**	**321**	*eP*	**Pn**	**20 02 18.3**	**+0.8**
VARE2	**V. Arenal**	**1.50**	**321**	*eP*	**Pn**	**20 02 18.3**	**+0.7**
CEDE	**Laguna Cedeo**	**1.52**	**322**	*eP*	**Pn**	**20 02 18.6**	**+0.9**
PSOM3	**Paja de Sombre**	**1.54**	**113**	*iP*	**Pn**	**20 02 17.4**	**-0.6**
PSOM3				*i* S	**Sn**	**20 02 36.5**	**-0.5**
DVD	**David**	**1.54**	**123**	*eP*	**Pn**	**20 02 17.6**	**-0.4**
JTS	**Las Juntas de**	**1.54**	**310**	*eP*	**Pn**	**20 02 18.5**	**+0.4**
JTS				*i* S	**Sn**	**20 02 40.5**	**+3.3**
JTS	**Las Juntas de**	**1.54**	**310**	*eP*	**Pn**	**20 02 18.4**	**+0.4**
JTS	**Las Juntas de**	**1.54**	**310**	P	**Pn**	**20 02 18.3**	**+0.2**
JTS				S	**Sn**	**20 02 38.3**	**+1.1**
COVE	**Coope Vega, Sa**	**1.56**	**336**	P	**Pn**	**20 02 18.6**	**+0.4**
LOCO3	**Loma Colorada,**	**1.58**	**123**	*eP*	**Pn**	**20 02 18.4**	**-0.2**
LOMA3	**Las Lomas, Chi**	**1.59**	**122**	*eP*	**Pn**	**20 02 20.8**	**+2.1**
PBNVO	**Pueblo Nuevo,**	**1.59**	**104**	*eP*	**Pn**	**20 02 18.1**	**-0.7**
PEDE3	**Pedregal, Chir**	**1.59**	**124**	*eP*	**Pn**	**20 02 18.9**	**+0.2**
GUAL3	**Gualaca, Chiri**	**1.62**	**117**	*eP*	**Pn**	**20 02 19.0**	**-0.1**
CHGR2	**Aguacate**	**1.63**	**102**	*eP*	Pn	20 02 17.2	-2.0
RBALA	**Bur**	**1.64**	**104**	*eP*	**Pn**	**20 02 18.7**	**-0.6**
QUEB	**Quebradon, Cot**	**1.74**	**320**	*eP*	**Pn**	**20 02 21.7**	**+0.9**
INVE	**Universidad In**	**1.75**	**313**	*eP*	**Pn**	**20 02 21.3**	**+0.4**
TENO	**El Achiote**	**1.85**	**320**	*eP*	**Pn**	**20 02 23.2**	**+0.9**
MOTZ	**Rio Naranjo**	**1.90**	**317**	*eP*	**Pn**	**20 02 22.8**	**-0.2**
CUI	**Cuipilapa**	**1.94**	**315**	*eP*	**Pn**	**20 02 24.7**	**+1.1**
JUD3	**Juan Diaz 3**	**1.96**	**297**	*eP*	**Pn**	**20 02 23.9**	**0.0**
KKNTU	**Kakint°**	**1.98**	**103**	*eP*	Pn	20 02 21.6	-2.4
VMAR	**Armenia, Volca**	**2.02**	**319**	*eP*	**Pn**	**20 02 26.2**	**+1.6**
MESS	**Mesas**	**2.02**	**316**	*eP*	**Pn**	**20 02 25.9**	**+1.2**
MESA3	**La Mesa, Verag**	**2.78**	**114**	*eP*	**Pn**	**20 02 35.3**	**+0.2**
GMAL	**Guarumal, Vera**	**2.92**	**121**	⇑*eP*	**Pn**	**20 02 37.3**	**+0.3**
ACON	**Acoyapa**	**3.01**	**333**	P	**Pn**	**20 02 38.1**	**-0.1**
ACON				S	**Sn**	**20 03 14.5**	**+1.2**
AZU	**Azuero**	**3.75**	**113**	*eP*	**Pn**	**20 02 50.2**	**+1.8**
ZANG	**Zanguenga, Cho**	**3.85**	**95**	*eP*	**Pn**	**20 02 50.6**	**+0.8**
BCIP	**Isla Barro Col**	**3.87**	**91**	⇓*iP*	**Pn**	**20 02 51.0**	**+1.0**
FRIJ	**El Hiral**	**3.98**	**91**	⇓*iP*	**Pn**	**20 02 52.4**	**+0.8**
GAMB1	**Gamboa**	**4.00**	**92**	*eP*	**Pn**	**20 02 51.4**	**-0.5**

*SOF **26** 20:02:39.4, 40˚80N±0˚02×28˚29E±0˚01, h17km±2km, MD3.5/13*
*AFAD **26** 20:02:40.6, 40˚85N×28˚28E, h7km±1km, MW3.5*
*ISK **26** 20:02:40.4, 40˚86N×28˚30E, h10km, ML3.7/67*
*IDC **26** 20:02:40.4±1.3, 40˚96N×28˚40E, h0km, mb3.4/5, mbtmp3.3/8, ML3.9/3, Error ellipse: s-maj=21.3km s-min=9.5km az=44.0*
*NEIC **26** 20:02:41.0±2.0, 40˚85N±0˚05×28˚17E±0˚07, h10km±1km, mb4.5/1, Error ellipse: s-maj=9.3km s-min=8.0km az=214.0*
*CFUSG **26** 20:02:45.9, 41˚00N×28˚64E, h14km, mb3.3/7, MD3.4/6, Western Turkey Magtype MSH 3.3 from 7 stations*
ISC 26 20:02:41.0±0.9, 40˚86N±0˚02×28˚29E±0˚02, h15km±6km, n194, σ1§17/216, mb3.4/4, 37C-21D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELBA	**Catalca**	**0.30**	**20**	P	**Pg**	**20 02 47.1**	**-0.3**
ELBA				S	**Sg**	**20 02 51.5**	**-0.3**
ELBA				*i* IAML		20 02 54.0	
	comp=N,3μm,0.7s						
ELBA				*i* IAML		20 02 54.0	
	comp=E,2μm,0.3s						
SLVT	**Silivri**	**0.37**	**350**	Pg	**Pg**	**20 02 48.6**	**0.0**
SLVT				Sg	**Sg**	**20 02 53.9**	**+0.1**
CTKS	**Kestanelik-??a**	**0.41**	**23**	Pg	**Pg**	**20 02 48.7**	**-0.5**
BGKT	**Bogazkoy**	**0.48**	**49**	Pg	**Pg**	**20 02 49.5**	**-1.1**
BGKT				Sg	**Sg**	**20 02 57.2**	**+0.1**
BAND	**Balkesir-Ban**	**0.53**	**196**	P	**Pg**	**20 02 51.1**	**-0.3**
BAND				S	**Sg**	**20 02 58.7**	**+0.2**
BAND				*i* IAML		20 02 59.0	
	comp=E,1μm,0.3s						
BAND				*i* IAML		20 03 00.0	
	comp=N,1μm,0.2s						
BAND	**Balkesir-Ban**	**0.53**	**196**	⇓P	**Pg**	**20 02 51.1**	**-0.3**
TKR	**Tekirdag**	**0.59**	**283**	Pg	**Pg**	**20 02 52.7**	**+0.1**
TKR				Sg	**Sb**	**20 03 01.6**	**+0.5**
CTYL	**Yalikoy Yolu**	**0.61**	**360**	Pg	**Pg**	**20 02 53.2**	**+0.2**
CTYL	**Yalikoy Yolu**	**0.61**	**360**	⇑P	**Pb**	**20 02 53.7**	**+0.3**
ISK	**Istanbul-Kandi**	**0.61**	**70**	Pg	**Pg**	**20 02 52.5**	**-0.6**
ISK				Sg	**Sb**	**20 03 01.7**	**-0.2**
KAVV	**Kandilli-Istan**	**0.61**	**71**	Pg	**Pg**	**20 02 51.1**	**-2.0**
MDNY	**Mudanya-Bursa**	**0.67**	**137**	Pg	**Pg**	**20 02 53.6**	**-0.4**
KLYT	**Kilyos**	**0.69**	**55**	Pg	**Pg**	**20 02 54.2**	**-0.2**
KLYT	**Kilyos**	**0.69**	**55**	⇑P	**Pg**	**20 02 54.3**	**-0.2**
KURT	**Yalova, Merkez**	**0.75**	**111**	P	**Pg**	**20 02 55.4**	**-0.1**
KURT				S	**Sb**	**20 03 05.8**	**+0.1**
KURT				*i* IAML		20 03 09.0	
	comp=N,4μm,0.6s						
KURT				*i* IAML		20 03 09.0	
	comp=E,2μm,0.4s						
VIZE	**Kirklareli, Vi**	**0.79**	**335**	P	**Pg**	**20 02 55.8**	**-0.6**
VIZE				S	**Sg**	**20 03 07.2**	**+0.3**
VIZE				*i* IAML		20 03 09.0	
	comp=N,2μm,0.3s						
VIZE				*i* IAML		20 03 09.0	
	comp=E,3μm,0.3s						
SART	**Tekirdag**	**0.86**	**259**	P	**Pg**	**20 02 57.1**	**-0.6**
SART				S	**Sb**	**20 03 09.9**	**+0.8**
SART				*i* IAML		20 03 10.0	
	comp=E,1μm,0.6s						
SART				*i* IAML		20 03 11.0	
	comp=N,1μm,0.4s						
YLV	**Yalova**	**0.87**	**109**	Pg	**Pg**	**20 02 57.4**	**-0.5**
KRBG	**Karabiga-Canak**	**0.89**	**239**	Pg	**Pg**	**20 02 57.7**	**-0.5**
SUSR	**Susurluk-Balik**	**0.91**	**190**	Pg	**Pg**	**20 02 58.1**	**-0.6**
ORLT	**Orhaneli**	**0.94**	**150**	Pg	**Pg**	**20 02 58.9**	**-0.2**
GONE	**Gonen-Balikesi**	**0.94**	**210**	Pg	**Pg**	**20 02 59.1**	**0.0**
PHSR	**Pinarhisar**	**0.96**	**323**	Pg	**Pg**	**20 02 59.6**	**0.0**
PHSR	**Pinarhisar**	**0.96**	**323**	⇓P	**Pg**	**20 02 58.9**	**-0.7**
ULDT	**Uludag**	**0.96**	**138**	P	**Pg**	**20 02 59.4**	**-0.3**
ULDT				S	**Sn**	**20 03 13.4**	**-0.3**
ULDT				*i* IAML		20 03 15.0	
	comp=N,802nm,0.6s						
ULDT				*i* IAML		20 03 15.0	
	comp=E,843nm,0.5s						
IZI	**Iznik**	**1.04**	**120**	Pg	**Pn**	**20 03 01.2**	**+0.1**
HRT	**Hereke**	**1.04**	**92**	Pg	**Pg**	**20 03 00.6**	**-0.6**
SILT	**Sile**	**1.06**	**74**	Pg	**Pb**	**20 03 01.1**	**0.0**
SILT	**Sile**	**1.06**	**74**	⇑P	**Pb**	**20 03 00.8**	**-0.3**
SEMS	**Kocaeli-K¶rfe**	**1.10**	**89**	P	**Pb**	**20 03 01.4**	**-0.3**
SEMS				S	**Sn**	**20 03 17.0**	**+0.3**
SEMS				*i* IAML		20 03 18.0	
	comp=E,3μm,0.4s						
SEMS				*i* IAML		20 03 19.0	
	comp=N,2μm,0.2s						
OSMT	**Osmaniye**	**1.10**	**103**	Pn	**Pn**	**20 03 02.2**	**+0.3**
ADVT	**Abdulvahap**	**1.18**	**111**	Pn	**Pn**	**20 03 03.4**	**-0.3**
ARMN	**Kirklareli, Me**	**1.19**	**327**	P	**Pn**	**20 03 02.8**	**-0.3**
ARMN				S	**Sb**	**20 03 19.1**	**+0.5**
ARMN				*i* IAML		20 03 21.0	
	comp=N,732nm,0.3s						
ARMN				*i* IAML		20 03 23.0	
	comp=E,599nm,0.3s						
YENI	**Yenice-Canakka**	**1.22**	**221**	Pn	**Pn**	**20 03 03.7**	**+0.2**
LPK	**Lapseki**	**1.27**	**248**	Pn	**Pn**	**20 03 04.5**	**+0.4**
CANM	**Can-anakkale**	**1.27**	**228**	Pn	**Pn**	**20 03 04.5**	**+0.3**
DST	**Dursunbey**	**1.28**	**169**	Pn	**Pg**	**20 03 05.4**	**-0.3**
UKOP	**Uzunkopru-Edir**	**1.28**	**283**	Pn	**Pn**	**20 03 05.4**	**+0.6**
ERIK	**Erikli-Kesan**	**1.36**	**263**	Pn	**Pn**	**20 03 05.5**	**0.0**
GELI	**Tayfur-Gelibol**	**1.46**	**252**	Pn	**Pn**	**20 03 07.1**	**+0.3**
EDRB	**Edirne**	**1.53**	**311**	Pn	**Pn**	**20 03 07.8**	**+0.1**
SAUV	**Serdivan-Sakar**	**1.55**	**94**	Pn	**Pn**	**20 03 08.8**	**+0.8**
YAYO	**Edremit-Balk**	**1.56**	**217**	Pn	**Pn**	**20 03 08.5**	**+0.4**
COMU	**Canakkale**	**1.58**	**242**	Pn	**Pn**	**20 03 09.2**	**+0.7**
CAVK	**Edirne/Enez-Ca**	**1.62**	**265**	⇑P	**Pn**	**20 03 08.9**	**-0.1**
GPA	**Golpazari**	**1.64**	**110**	Pn	**Pn**	**20 03 10.0**	**+0.7**
ENZZ	**Sultanice-Enez**	**1.66**	**262**	Pn	**Pn**	**20 03 10.3**	**+0.9**
TVSB	**Tavsanli**	**1.67**	**147**	Pn	**Pn**	**20 03 10.5**	**+0.7**
ALN	**Alexandroupoli**	**1.70**	**272**		**Pn**	**20 03 09.2**	**-1.0**
GULT	**Gulveren**	**1.74**	**104**	Pn	**Pn**	**20 03 11.6**	**+0.8**
SOMA	**Soma-Manisa**	**1.80**	**199**	Pn	**Pn**	**20 03 11.7**	**+0.2**
EZN	**Ezine**	**1.82**	**236**	Pn	**Pn**	**20 03 13.0**	**+1.2**
EZN	**Ezine**	**1.82**	**236**	⇑P	**Pn**	**20 03 11.9**	**+0.2**
SMAA	**Simav-Kutahya**	**1.84**	**163**	Pn	**Pn**	**20 03 12.8**	**+0.8**
EZNE	**Ezine-Canakkal**	**1.84**	**234**	Pn	**Pn**	**20 03 12.8**	**+0.8**
SAHE	**Sakarya_HENDEK**	**1.94**	**89**	⇑P	**Pn**	**20 03 14.6**	**+1.2**
GADA	**Gvkgeada**	**1.94**	**251**	Pn	**Pn**	**20 03 14.4**	**+1.0**
GORD	**Gordes-Manisa**	**1.95**	**183**	Pn	**Pn**	**20 03 14.6**	**+1.0**
SHAP	**Saphane-Kutahy**	**1.97**	**158**	Pn	**Pn**	**20 03 14.1**	**+0.2**
GEDZ	**Gediz**	**2.01**	**154**	Pn	**Pn**	**20 03 15.1**	**+0.7**
AKS	**Akhisar**	**2.01**	**191**	Pn	**Pn**	**20 03 14.8**	**+0.4**
DKL	**Dikili**	**2.08**	**211**	Pn	**Pn**	**20 03 15.6**	**+0.3**
JMB	**Yambol**	**2.10**	**322**	*iP*	**Pn**	**20 03 15.8**	**+0.3**
JMB	**Yambol**	**2.10**	**322**	Pn	**Pn**	**20 03 16.4**	**+0.9**
RDO	**Rodhopi**	**2.10**	**279**	Pn	**Pn**	**20 03 16.4**	**+0.8**
RDO	**Rodhopi**	**2.10**	**279**		**Pn**	**20 03 15.5**	**-0.1**
GPNR	**Gulpinar-Canak**	**2.17**	**230**	Pn	**Pn**	**20 03 17.9**	**+1.4**
GOMA	**Golmarmara-Man**	**2.17**	**188**	Pn	**Pn**	**20 03 16.9**	**+0.3**
MDUB	**Mudurnu**	**2.24**	**99**	Pn	**Pn**	**20 03 18.9**	**+1.2**
MDUB	**Mudurnu**	**2.24**	**99**		**Pb**	**20 03 20.4**	**-0.8**
ROIA	**ROIAK**	**2.33**	**343**	*eP*	**Pn**	**20 03 19.8**	**+1.0**
KDZ	**Kurdzhali**	**2.35**	**290**	*iP*	**Pn**	**20 03 18.8**	**-0.3**
KDZ	**Kurdzhali**	**2.35**	**290**	Pn	**Pn**	**20 03 19.3**	**+0.2**
DIM	**Dimitrovgrad**	**2.36**	**301**	*iP*	**Pn**	**20 03 19.5**	**+0.4**
KULA	**Kula-Manisa**	**2.36**	**173**	Pn	**Pn**	**20 03 19.6**	**+0.3**
ESKT	**Eskisehir**	**2.37**	**124**	Pn	**Pn**	**20 03 20.3**	**+0.8**
MANT	**Manisa**	**2.38**	**175**		**Pn**	**20 03 19.7**	**+0.1**
PRD	**Provadia**	**2.39**	**344**	*iP*	**Pb**	**20 03 24.9**	**+1.2**
NEF	**NEVSHA**	**2.52**	**343**	*iP*	**Pn**	**20 03 21.8**	**+0.5**
KALB	**Balgarevo**	**2.54**	**2**	⇓P	**Pn**	**20 03 23.2**	**+1.5**
ODEM	**Odemis-Izmir**	**2.59**	**184**	Pn	**Pn**	**20 03 23.0**	**+0.6**
CIFT	**Cifteler, Eski**	**2.60**	**124**	Pn	**Pn**	**20 03 23.8**	**+1.3**
YUVA	**Yuva-Kibriscik**	**2.63**	**99**	Pn	**Pn**	**20 03 24.1**	**+1.2**
BLCB	**Balcova**	**2.66**	**202**	Pn	**Pn**	**20 03 24.3**	**+1.1**
KHL	**Karahalli**	**2.71**	**159**	Pn	**Pn**	**20 03 25.1**	**+1.1**
ELND	**Elena**	**2.74**	**320**	⇑P	**Pn**	**20 03 24.8**	**+0.4**
PSN	**Preselentsi**	**2.78**	**358**	*eP*	**Pn**	**20 03 25.7**	**+0.8**
PSN	**Preselentsi**	**2.78**	**358**	Pn	**Pn**	**20 03 25.2**	**+0.3**
RZN	**Rozhen**	**2.81**	**288**	*iP*	**Pn**	**20 03 25.6**	**+0.1**
LOZB	**Loznitsa**	**2.81**	**334**	⇓P	**Pn**	**20 03 25.7**	**+0.4**
NAZL	**Nazilli-Aydin**	**2.89**	**180**	Pn	**Pn**	**20 03 26.4**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**2.93**	**186**	Pn	**Pn**	**20 03 26.9**	**-0.2**
PLD	**Plovdiv**	**2.96**	**297**	*eP*	**Pn**	**20 03 27.7**	**+0.3**
PLD	**Plovdiv**	**2.96**	**297**	Pn	**Pn**	**20 03 29.2**	**+1.8**
MANR	**Mangalia**	**2.96**	**4**	⇓P	**Pn**	**20 03 29.4**	**+2.0**
GMLD	**Gumuldur**	**2.98**	**201**	Pn	**Pn**	**20 03 29.1**	**+1.5**
BLVD	**Bolvadin-AFYON**	**2.99**	**133**	Pn	**Pn**	**20 03 29.4**	**+1.5**
RAZG	**Razgrad**	**3.01**	**334**	⇓P	**Pn**	**20 03 28.6**	**+0.5**
POLA	**Polatl-ANKAR**	**3.18**	**110**	Pn	**Pn**	**20 03 31.9**	**+1.3**
BASM	**Basmaki-Afyon**	**3.24**	**155**	Pn	**Pn**	**20 03 32.5**	**+1.2**
PVL	**Pavlikeni**	**3.24**	**315**	*iP*	**Pn**	**20 03 32.2**	**+0.9**
GCAM	**G?zelcaml?**	**3.26**	**195**	Pn	**Pn**	**20 03 32.8**	**+1.2**
ICOR	**Ion Corvin**	**3.27**	**354**	⇑P	**Pn**	**20 03 32.7**	**+1.0**
APMY	**Acipayam-Deniz**	**3.48**	**167**	Pn	**Pn**	**20 03 34.5**	**-0.1**
KURC	**Kurucasile-Bar**	**3.49**	**72**	Pn	**Pn**	**20 03 36.3**	**+1.6**
ISP	**Isparta**	**3.49**	**150**		**Pn**	**20 03 35.3**	**+0.4**
MMB	**Musomishta**	**3.50**	**283**	*eP*	**Pb**	**20 03 41

comp=Z,0.1nm,0.5s
ESDC Sonseca Array 24.57 278 P P 20 08 01.1 +0.8
comp=Z,0.7nm,0.7s,baz=77,slow=8.8,SNR=6.4
comp=Z,0.7nm,0.7s
MKAR Makanchi Array 38.75 63 P P 20 10 06.1 +1.5
comp=Z,0.6nm,0.6s,baz=266,slow=8.3,SNR=5.8
comp=Z,0.6nm,0.6s
ZALV Zalesovo Beam 39.38 51 P P 20 10 09.5 -0.2
comp=Z,0.3nm,0.4s,baz=270,slow=10,SNR=1.9
comp=Z,0.3nm,0.4s
MSVF Nonsavu 145.26 57 PKPbc 20 22 15.8 -2.3

*SNET **26** 20:07:09.1±11.0, 12.°86N×88.°98W, h35km, ML3.3*
*CATAC **26** 20:07:27.0±0.8, 13.°N±5.°×8.°9W±.°, h31km±8km, M3.3/9, MLv3.3/9, Error ellipse: s-maj=10.4km s-min=5.4km az=14.5, confirmed*
ISC 26 20:07:26.9±2.4, 12.°8N±0.°1×88.°99W±0.°06, h55km, n27, σ0°32/30, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.74**	**334**	*eP*		**Pn**		**20 07 41.4**	**0.0**
LALI				*eS*		**Sn**		**20 07 51.2**	**-0.7**
LALI	**Alcalda de L**	**0.74**	**334**	P		**Pn**		**20 07 41.3**	**0.0**
TECO	**Alcaldia de Te**	**0.74**	**16**	S		**Sn**		**20 07 52.3**	**+0.2**
TECO	**Alcaldia de Te**	**0.74**	**16**	P		**Pn**		**20 07 41.1**	**-0.3**
LFRS	**El Faro**	**0.80**	**355**	*eP*		**Pn**		**20 07 41.8**	**-0.5**
UESV	**Universidad de**	**0.84**	**14**	P		**Pn**		**20 07 42.4**	**-0.2**
UESV	**Universidad de**	**0.84**	**14**	S		**Sn**		**20 07 54.1**	**-0.1**
PAVA	**Las Pavas**	**0.89**	**3**	P		**Pn**		**20 07 43.2**	**-0.3**
PAVA	**Las Pavas**	**0.89**	**3**	S		**Sn**		**20 07 55.8**	**+0.2**
PQSS	**Presa 15 de Se**	**0.90**	**27**	P		**Pn**		**20 07 43.5**	**0.0**
PQSS	**Presa 15 de Se**	**0.90**	**27**	S		**Sn**		**20 07 56.1**	**+0.4**
LCY	**Lacayo**	**0.91**	**48**	*eP*		**Pn**		**20 07 43.0**	**-0.6**
SCLA	**Alcaldia de Sa**	**0.91**	**16**	P		**Pn**		**20 07 43.8**	**+0.1**
SCLA	**Alcaldia de Sa**	**0.91**	**16**	S		**Sn**		**20 07 56.2**	**+0.2**
PACA	**Pacayal**	**0.92**	**45**	P		**Pn**		**20 07 43.9**	**+0.1**
PACA	**Pacayal**	**0.92**	**45**	S		**Sn**		**20 07 56.7**	**+0.5**
PMON	**Piamonte**	**0.94**	**340**	P		**Pn**		**20 07 44.0**	**-0.1**
PMON	**Piamonte**	**0.94**	**340**	S		**Sn**		**20 07 56.7**	**-0.1**
BOQS	**Boqueron**	**0.95**	**343**	*eP*		**Pn**		**20 07 44.4**	**0.0**
BLLM	**Bellamira**	**0.96**	**50**	*eP*		**Pn**		**20 07 44.0**	**-0.3**
LCND	**La Caada**	**1.18**	**65**	*eP*		**Pn**		**20 07 47.2**	**+0.1**
LCND				*eS*		**Sn**		**20 08 02.0**	**-0.2**
LCND	**La Caada**	**1.18**	**65**	P		**Pn**		**20 07 47.0**	**-0.1**
CEVE	**Cerro Verde**	**1.18**	**328**	*eS*		**Sn**		**20 08 03.3**	**+0.7**
CNCH	**Conchagua**	**1.21**	**68**	*eP*		**Pn**		**20 07 47.5**	**-0.3**
CNCH				*eS*		**Sn**		**20 08 03.6**	**+0.3**
CNCH	**Conchagua**	**1.21**	**68**	P		**Pn**		**20 07 47.7**	**0.0**
NUBE	**Las Nubes**	**1.32**	**325**	P		**Pn**		**20 07 49.4**	**+0.1**
NUBE	**Las Nubes**	**1.32**	**325**	S		**Sn**		**20 08 06.0**	**+0.1**

AFAD 26 20:17:30.5, 41.°17N×28.°40E, h46km±24km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ELBA	**Catalca**	**0.03**	**131**	P		Pn		20 17 32.2	-5.5
ELBA				*i*	IAML			20 17 46.0	
	comp=N,22nm,0.1s								
ELBA				S		Sn		20 17 46.5	+3.8
ELBA				*i*	IAML			20 17 47.0	
	comp=E,27nm,0.1s								
VIZE	**Kirklareli, Vi**	**0.59**	**314**	P		Pn		20 17 37.2	-5.5
VIZE				*i*	IAML			20 17 59.0	
	comp=E,49nm,1.7s								

*AFAD **26** 20:17:35.3, 40.°87N×28.°19E, h7km±7km, ML1.1*
ISK 26 20:17:35.2, 40.°88N×28.°25E, h11km, ML1.6/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLVT	**Silivri**	**0.35**	**355**	Pg		Pg		20 17 41.9	-0.4
SLVT				Sg		Sb		20 17 48.5	-0.7
CTKS	**Kestanelik-??a**	**0.41**	**28**	Pg		Pg		20 17 43.8	+0.6
CTKS				Sg		Sg		20 17 49.6	+0.9
BGKT	**Bogazkoy**	**0.50**	**52**	Pg		Pg		20 17 45.4	+0.5
BGKT				Sg		Sb		20 17 52.8	-0.5
BAND	**Balkesir-Ban**	**0.53**	**193**	P		Pb		20 17 47.4	+0.8
BAND				S		Sg		20 17 52.6	-0.1
BAND				*i*	IAML			20 17 55.0	
	comp=N,7.5nm,0.3s								
BAND				*i*	IAML			20 17 57.0	
	comp=E,4.2nm,0.2s								
ARMT	**Armutlu**	**0.56**	**124**	Pg		Pg		20 17 46.4	+0.3
ARMT				Sg		Sb		20 17 54.9	-0.1
CTYL	**Yalikoy Yolu**	**0.60**	**3**	Pg		Pb		20 17 47.4	-0.3
EDC	**Edincik**	**0.61**	**209**	Pg		Pg		20 17 47.3	+0.3
ISK	**Istanbul-Kandi**	**0.64**	**73**	Pg		Pg		20 17 47.9	+0.3
MDNY	**Mudanya-Bursa**	**0.70**	**136**	Pg		Pb		20 17 49.3	-0.1
KLYT	**Kilyos**	**0.70**	**58**	Pg		Pb		20 17 49.4	-0.1
VIZE	**Kirklareli, Vi**	**0.77**	**336**	P		Pg		20 17 50.1	+0.1
VIZE				S		Sg		20 17 59.9	-0.1
VIZE				*i*	IAML			20 18 03.0	
	comp=N,9.1nm,0.2s								
VIZE				*i*	IAML			20 18 03.0	
	comp=E,15nm,0.2s								
KURT	**Yalova, Merkez**	**0.78**	**111**	P		Pb		20 17 51.4	+0.6
KURT				S		Sn		20 18 02.8	-1.2
KURT				*i*	IAML			20 18 03.0	
	comp=E,34nm,0.8s								
KURT				*i*	IAML			20 18 05.0	
	comp=N,12nm,0.5s								
KURT	**Yalova, Merkez**	**0.78**	**111**	P		Pn		20 17 51.6	-0.6
KURT				S		Sb		20 18 02.7	+1.2
KURT				*i*	IAML			20 18 03.0	
	comp=N,9.1nm,0.7s								
KURT				*i*	IAML			20 18 03.0	
	comp=E,30nm,0.9s								
KRBG	**Karabiga-Canak**	**0.87**	**237**	Pg		Pb		20 17 52.2	-0.2
YLV	**Yalova**	**0.91**	**110**	Pg		Pb		20 17 53.2	+0.2
SUSR	**Susurluk-Balik**	**0.92**	**188**	Pg		Pb		20 17 53.3	+0.1
GONE	**Gonen-Balikesi**	**0.94**	**208**	Pg		Pn		20 17 53.9	-0.4
HRT	**Hereke**	**1.07**	**92**	Pn		Pn		20 17 56.1	-0.2
SILT	**Sile**	**1.09**	**75**	Pn		Pn		20 17 56.4	0.0
UKOP	**Uzunkopru-Edir**	**1.25**	**282**	Pn		Pg		20 17 59.1	+0.1
EDRB	**Edirne**	**1.49**	**311**	Pn		Pn		20 18 02.3	+0.3

*IDC **26** 20:19:38.8±1.5, 3.°53S×128.°36E, h0km, mb4.1/3, mbtmp4.1/5, ML3.4/2, Error ellipse: s-maj=109.1km s-min=22.9km az=71.0*
*DJA **26** 20:19:41.1±0.4, 4.°S±4.°×12.°8E±.°, h10km, M3.4/7, MLv3.4/7*
ISC 26 20:19:41.1±0.8, 3.°62S±0.°10×128.°39E±0.°05, h10km, n11, σ1§20/13, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.21**	**250**	P		**Pg**		**20 19 46.0**	**+0.6**
AAI				S		**Sg**		**20 19 49.5**	**+1.1**
MSAI	**Masohi**	**0.60**	**64**	P		**Pg**		**20 19 52.5**	**-0.3**
MSAI				S		**Sg**		**20 20 01.1**	**+0.4**
NLAI	**Namlea**	**1.34**	**286**	P		**Pn**		**20 20 05.4**	**-0.5**
SANI	**Sanana**	**2.86**	**303**	P		**Pn**		**20 20 28.0**	**+1.2**
SWI	**Sorong**	**3.96**	**46**	P		**Pn**		**20 20 44.0**	**+2.0**
FITZ	**Fitzroy Crossi**	**14.64**	**190**	Pn		**Pn**		**20 23 08.4**	**-0.1**
	0.1nm,0.3s,baz=7.6,slow=15,SNR=3.8								
	2.0nm,0.8s								
WRA	**Warramunga Arr**	**17.23**	**161**	P		**Pn**		**20 23 40.8**	**-1.3**
	0.2nm,0.3s,baz=342,slow=12,SNR=19								
	2.4nm,0.8s								
ASAR	**Alice Springs**	**20.64**	**166**	P		**P**		**20 24 21.9**	**+0.9**
	12nm,0.8s,baz=348,slow=11,SNR=96								
ASAR				PcP		**PcP**		**20 28 30.8**	**-0.8**
	0.3nm,0.8s,baz=0.0,slow=1.9,SNR=2.6								
	12nm,0.8s								
LWLI	**Liwa**	**24.30**	**266**	P		P		20 24 50.4	-8.8
MKAR	**Makanchi Array**	**64.53**	**327**	P		**P**		**20 30 17.7**	**-0.7**
	0.3nm,0.5s,baz=122,slow=8.1,SNR=7.2								
	0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**68.81**	**329**	P		**P**		**20 30 43.7**	**-1.8**
	1.3nm,0.2s,baz=131,slow=5.9,SNR=4.7								
	1.3nm,0.2s								

*NAO **26** 20:20:12.0, 37.°86N×21.°50E, h33km, MB3.5*
*IDC **26** 20:20:17.3±0.7, 40.°79N×28.°30E, h0km, mb3.7/15, mbtmp3.8/27, ML3.4/12, MS3.3/2, Error ellipse: s-maj=11.7km s-min=7.6km az=31.0*
*MOS **26** 20:20:17.8±1.2, 40.°87N×28.°28E, h17km, mb4.4/6, Error ellipse: s-maj=7.1km s-min=4.3km az=80.0*

2019 SEP

26d 20h

*AFAD **26** 20:20:18.9, 40.°87N×28.°25E, h7km±3km, MW3.9*
*ISK **26** 20:20:18.5, 40.°87N×28.°23E, h10km, ML4.2/74*
*NEIC **26** 20:20:18.6±1.1, 40.°82N±0.°05×28.°20E±0.°06, h10km±2km, mb4.3/3, Error ellipse: s-maj=8.5km s-min=8.1km az=205.0*
*SOF **26** 20:20:18.3, 40.°85N±0.°02×28.°25E±0.°03, h18km±2km, MD4.1/15*
*CFUSG **26** 20:20:23.3, 41.°08N×28.°51E, h10km, mb3.7/7, MD3.8/6, Western Turkey Magtype MSH 3.8 from 7 stations*
ISC 26 20:20:18.9±0.9, 40.°86N±0.°02×28.°25E±0.°02, h12km±6km, n267, σ1§31/302, mb3.9/20, 21C-16D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ELBA	**Catalca**	**0.32**	**25**	P		**Pg**		**20 20 25.4**	**0.0**
ELBA				*i*	IAML			20 20 30.0	
	comp=N,9µm,0.4s								
ELBA				*i*	IAML			20 20 30.0	
	comp=E,1µm,0.7s								
ELBA				S		**Sg**		**20 20 30.0**	**+0.3**
SLVT	**Silivri**	**0.37**	**355**	Pg		**Pg**		**20 20 26.4**	**0.0**
SLVT				Sg		**Sg**		**20 20 32.1**	**+0.8**
CTKS	**Kestanelik-??a**	**0.42**	**27**	Pg		**Pg**		**20 20 27.3**	**0.0**
CTKS				Sg		**Sg**		**20 20 33.6**	**+0.7**
BGKT	**Bogazkoy**	**0.51**	**51**	Pg		**Pg**		**20 20 28.9**	**0.0**
BGKT				Sg		**Sg**		**20 20 36.6**	**+1.0**
BAND	**Balkesir-Ban**	**0.52**	**193**	P		**Pg**		**20 20 29.0**	**-0.1**
BAND				S		**Sg**		**20 20 36.3**	**+0.3**
BAND				*i*	IAML			20 20 38.0	
	comp=N,3µm,0.5s								
BAND				*i*	IAML			20 20 38.0	
	comp=E,3µm,0.3s								
TKR	**Tekirdag**	**0.56**	**284**	Pg		**Pg**		**20 20 29.6**	**-0.2**
TKR				Sg		**Sg**		**20 20 37.5**	**+0.3**
CTYL	**Yalikoy Yolu**	**0.61**	**3**	Pg		**Pg**		**20 20 30.7**	**-0.2**
CTYL				Sg		**Sg**		**20 20 39.7**	**+0.7**
ISK	**Istanbul-Kandi**	**0.64**	**71**	Pg		**Pg**		**20 20 31.6**	**+0.1**
KAVV	**Kandilli-Istan**	**0.64**	**71**	Pg		**Pg**		**20 20 31.4**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.69**	**135**	Pg		**Pb**		**20 20 32.7**	**-0.2**
MDNY				Sg		**Sb**		**20 20 42.7**	**+0.4**
KLYT	**Kilyos**	**0.71**	**56**	Pg		**Pg**		**20 20 32.9**	**+0.1**
KLYT				Sg		**Sb**		**20 20 43.5**	**+0.4**
KURT	**Yalova, Merkez**	**0.78**	**110**	P		**Pg**		**20 20 34.3**	**+0.3**
KURT				S		**Sb**		**20 20 45.0**	**+0.2**
KURT				*i*	IAML			20 20 46.0	
	comp=E,7µm,0.6s								
KURT				*i*	IAML			20 20 48.0	
	comp=N,1µm,0.6s								
VIZE	**Kirklareli, Vi**	**0.78**	**337**	P		**Pg**		**20 20 33.6**	**-0.5**
VIZE				*i*	IAML			20 20 47.0	
	comp=N,10µm,0.3s								
VIZE				*i*	IAML			20 20 47.0	
	comp=E,6µm,0.3s								
KRBG	**Karabiga-Canak**	**0.86**	**238**	Pg		**Pg**		**20 20 35.2**	**-0.4**
KRBG				Sg		**Sb**		**20 20 47.6**	**+0.2**
YLV	**Yalova**	**0.90**	**109**	Pg		**Pb**		**20 20 32.0**	**+0.4**
SUSR	**Susurluk-Balik**	**0.91**	**188**	Pg		**Pg**		**20 20 36.2**	**-0.2**
GONE	**Gonen-Balikesi**	**0.92**	**208**	Pg		**Pg**		**20 20 36.7**	**0.0**
GONE				Sg		**Sn**		**20 20 50.4**	**-0.5**
PHSR	**Pinarhisar**	**0.95**	**325**	Pg		**Pg**		**20 20 37.3**	**+0.1**
ORLT	**Orhaneli**	**0.95**	**149**	Pg		**Pb**		**20 20 37.5**	**+0.1**
ULDT	**Uludag**	**0.98**	**137**	P		**Pg**		**20 20 38.0**	**0.0**
ULDT				S		**Sn**		**20 20 52.1**	**-0.7**
ULDT				*i*	IAML			20 20 54.0	
	comp=N,1µm,0.7s								
ULDT				*i*	IAML			20 20 54.0	
	comp=E,8µm,0.6s								
IZI	**Iznik**	**1.07**	**119**	Pn		**Pg**		**20 20 39.7**	**+0.2**
HRT	**Hereke**	**1.07**	**92**	Pn		**Pg**		**20 20 39.9**	**+0.3**
SILT	**Sile**	**1.09**	**74**	Pn		**Pn**		**20 20 40.6**	**+0.5**
SEMS	**Kocaeli-K¶rfe**	**1.13**	**89**	P		**Pb**		**20 20 40.1**	**-0.3**
SEMS				S		**Sn**		**20 20 56.1**	**0.0**
SEMS				*i*	IAML			20 20 57.0	
	comp=N,6µm,0.3s								
SEMS				*i*	IAML			20 20 57.0	
	comp=E,6µm,0.6s								
OSMT	**Osmaniye**	**1.13**	**103**	Pn		**Pn**		**20 20 40.8**	**+0.1**
ARMN	**Kirklareli, Me**	**1.18**	**329**	P		**Pb**		**20 20 40.7**	**-0.6**
ARMN				S		**Sg**		**20 20 56.9**	**-0.1**
ARMN				*i*	IAML			20 20 58.0	
	comp=E,1µm,0.2s								
ARMN				*i*	IAML			20 20 59.0	
	comp=N,2µm,0.4s								
YENI	**Yenice-Canakka**	**1.20**	**220**	Pn		**Pb**		**20 20 41.7**	**0.0**
ADVT	**Abdulvahap**	**1.21**	**110**	Pn		**Pg**		**20 20 42.3**	**+0.1**
LPK	**Lapseki**	**1.24**	**247**	Pn		**Pn**		**20 20 42.1**	**0.0**
CANM	**Can-anakkale**	**1.25**	**228**	Pn		**Pb**		**20 20 42.6**	**+0.2**
UKOP	**Uzunkopru-Edir**	**1.25**	**283**	Pn		**Pn**		**20 20 42.1**	**-0.2**
KIRK	**Kırklareli**	**1.27**	**317**	P		**Pn**		**20 20 42.2**	**-0.3**
KIRK				*i*	IAML			20 20 59.0	
	comp=N,2µm,1.4s								
KIRK				S		**Sb**		**20 20 59.1**	**0.0**
KIRK				*i*	IAML			20 21 01.0	
	comp=E,2µm,0.4s								
DST	**Dursunbey**	**1.29**	**167**	Pn		**Pb**		**20 20 43.2**	**+0.1**
HISA	**Bilecik-Osmane**	**1.33**	**107**	P		**Pb**		**20 20 44.2**	**+0.3**
HISA				S		**Sg**		**20 21 02.4**	**+0.6**
HISA				*i*	IAML			20 21 04.0	
	comp=N,2µm,0.5s								
HISA				*i*	IAML			20 21 05.0	
	comp=E,10µm,0.5s								
ERIK	**Erikli-Kesan**	**1.33**	**262**	Pn		**Pb**		**20 20 43.9**	**0.0**
GELI	**Tayfur-Gelibol**	**1.43**	**252**	Pn		**Pn**		**20 20 44.3**	**-0.4**
EDRB	**Edirne**	**1.50**	**311**	Pn		**Pn**		**20 20 45.7**	**-0.1**
YAYO	**Edremit-Balk**	**1.54**	**216**	Pn		**Pn**		**20 20 46.7**	**+0.5**
COMU	**Canakkale**	**1.56**	**241**	Pn		**Pn**		**20 20 46.9**	**+0.4**
SAUV	**Serdivan-Sakar**	**1.58**	**94**	Pn		**Pn**		**20 20 47.2**	**+0.4**
ENZZ	**Sultanice-Enez**	**1.62**	**262**	Pn		**Pn**		**20 20 47.4**	**0.0**
GPA	**Golpazari**	**1.67**	**109**	Pn		**Pn**		**20 20 48.7**	**-0.7**
ALN	**Alexandroupoli**	**1.67**	**272**			**Pn**		**20 20 47.1**	**-1.0**
ALN	**Alexandroupoli**	**1.67**	**272**	P		**Pn**		**20 20 47.1**	**-1.0**
TVSB	**Tavsanli**	**1.69**	**146**	Pn		**Pn**		**20 20 48.7**	**+0.3**
GULT	**Gulveren**	**1.77**	**103**	Pn		**Pn**		**20 20 50.2**	**+0.7**
SOMA	**Soma-Manisa**	**1.79**	**198**	Pn		**Pn**		**20 20 50.2**	**+0.5**
EZN	**Ezine**	**1.80**	**236**	Pn		**Pn**		**20 20 50.2**	**+0.4**
EZNE	**Ezine-Canakkal**	**1.82**	**233**	Pn		**Pn**		**20 20 50.7**	**+0.7**
SMAA	**Simav-Kutahya**	**1.84**	**162**	Pn		**Pn**		**20 20 51.2**	**+0.7**
GADA	**Gvkgeada**	**1.92**	**250**	Pn		**Pn**		**20 20 52.2**	**+0.8**
GORD	**Gordes-Manisa**	**1.95**	**182**	Pn		**Pn**		**20 20 52.6**	**+0.6**
SHAP	**Saphane-Kutahy**	**1.98**	**158**	Pn		**Pn**		**20 20 53.2**	**+0.8**
AKS	**Akhisar**	**2.01**	**190**	Pn		**Pn**		**20 20 53.2**	**+0.5**
GEDZ	**Gediz**	**2.02**	**153**	Pn		**Pn**		**20 20 53.8**	**+0.9**
DKL	**Dikili**	**2.06**	**211**	Pn		**Pn**		**20 20 53.7**	**+0.2**
RDO	**Rodhopi**	**2.07**	**279**	Pn		**Pn**		**20 20 53.8**	**+0.2**
RDO	**Rodhopi**	**2.07**	**279**	Pn		**Pn**		**20 20 53.1**	**-0.5**
JMB	**Yambol**	**2.08**	**322**	*i*	P	**Pn**		**20 20 53.8**	**+0.1**
JMB	**Yambol**	**2.08**	**322**	Pn		**Pn**		**20 20 53.5**	**-0.2**
GPNR	**Gulpinar-Canak**	**2.15**	**230**	Pn		**Pn**		**20 20 54.9**	**+0.3**
GOMA	**Golmarmara-Man**	**2.17**	**187**	Pn		**Pn**		**20 20 55.9**	**+1.1**
MDUB	**Mudurnu**	**2.27**	**99**	Pn		**Pn**		**20 20 57.3**	**+0.9**
MDUB	**Mudurnu**	**2.27**	**99**	Pn		**Pn**		**20 20 56.9**	**+0.4**
ROIA	**ROIAK**	**2.33**	**344**	*eP*		**Pn**		**20 20 57.5**	**+0.4**
KDZ	**Kurdzhali**	**2.33**	**290**	*eP*		**Pn**		**20 20 56.8**	**-0.3**
KDZ	**Kurdzhali**	**2.33**	**290**	Pn		**Pn**		**20 20 57.6**	**+0.5**
DIM	**Dimitrovgrad**	**2.33**	**301**	*i*	P	**Pn**		**20 20 57.4**	**+0.2**
KULA	**Kula-Manisa**	**2.36**	**172**	Pn		**Pn**		**20 20 58.1**	**+0.4**
MANT	**Manisa**	**2.38**	**174**	Pn		**Pn**		**20 20 57.6**	**-0.4**
PRD	**Provadia**	**2.38**	**345**	*eP*		**Pn**		**20 20 57.9**	**+0.1**
ESKT	**Eskisehir**	**2.40**	**123**	Pn		**Pn**		**20 20 58.9**	**+0.7**
NEF	**NEVSHA**	**2.51**	**343**	*i*	P	**Pn**		**20 20 59.8**	**+0.2**
ODEM	**Odemis-Izmir**	**2.58**	**183**	Pn		**Pn**		**20 21 01.5**	**+0.8**
CIFT	**Cifteler, Eski**	**2.62**	**124**	Pn		**Pn**		**20 21 02.5**	**+1.3**
BLCB	**Balcova**	**2.64**	**201**	Pn		**Pn**		**20 21 02.4**	**+1.0**
YUVA	**Yuva-Kibriscik**	**2.66**	**99**	Pn		**Pn**		**20 21 02.5**	**+0.8**
KHL	**Karahalli**	**2.72**	**158**	Pn		**Pn**		**20 21 03.9**	**+1.4**
ELND	**Elena**	**2.72**	**320**	⇑	P	**Pn**		**20 21 02.8**	**+0.2**
RZN	**Rozhen**	**2.78**	**289**	*i*	P	**Pn**		**20 21 03.7**	**+0.3**
PSN	**Preselentsi**	**2.78**	**358**	*i*	P	**Pn**		**20 21 03.9**	**+0.7**
PSN	**Preselentsi**	**2.78**	**358**	Pn		**Pn**		**20 21 03.8**	**+0.6**
LOZB	**Loznitsa**	**2.79**	**334**	⇑	P	**Pn**		**20 21 04.1**	**+0.6**
NAZL	**Nazilli-Aydin**	**2.89**	**179**	Pn		**Pn**		**20 21 05.4**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**2.92**	**186**	Pn		**Pn**		**20 21 05.4**	**0.0**
PLD	**Plovdiv**	**2.93**	**297**	*eP*		**Pn**		**20 21 05.8**	**+0.4**
PLD	**Plovdiv**	**2.93**	**297**	Pn		**Pn**		**20 21 05.7**	**+0.4**
SZH	**Strazhitsa**	**2.94**	**326**	*eP*		**Pn**		**20 21 05.9**	**+0.4**
CESE	**eme**	**2.94**	**211**	Pn		**Pn**		**20 21 06.4**	**+0.9**
MANR	**Mangalia**	**2.96**	**5**	⇓	P	**Pn**		**20 21 07.5**	**+1.6**
GMLD	**Gumuldur**	**2.97**	**201**	Pn		**Pn**		**20 21 07.7**	**+1.9**
BLVD	**Bolvadin-AFYON**	**3.01**	**132**	Pn		**Pn**		**20 21 08.2**	**+1.6**
POLA	**Polatl-ANKAR**	**3.21**	**110**	Pn		**Pn**		**20 21 10.3**	**+1.0**
PVL	**Pavlikeni**	**3.22**	**316**	*i*	P	**Pn**		**20 21 10.2**	**+0.8**
GCAM	**G?zelcaml?**	**3.25**	**194**	Pn		**Pn**		**20 21 10.9**	**+1.1**
CICN	**Ciocanesti**	**3.46**	**345**	⇑	P	**Pn**		**20 21 13.3**	**+0.8**
MMB	**Musomishta**	**3.47**	**283**	*eP*		**Pn**		**20 21 13.8**	**+1.0**
PGB	**Panagyurishte**	**3.47**	**300**	*i*	P	**Pn**		**20 21 13.6**	**+0.7**
APMY	**Acipayam-Deniz**	**3.48**	**166**	Pn		**Pn**		**20 21 14.2**	**+1.2**
ISP	**Isparta**	**3.51**	**149**	Pn		**Pn**		**20 21 14.2**	**+0.8**
ISP	**Isparta**	**3.51**	**149**	Pn		**Pn**		**20 21 12.8**	**-0.6**
ISP	**Isparta**	**3.51**	**149**	P		**Pn**		**20 21 12.8**	**-0.6**
KURC	**Kurucasile-Bar**	**3.52**	**72**	Pn		**Pn**		**20 21 14.8**	**+1.3**
MLSB	**Milas**	**3.58**	**186**	Pn		**Pn**		**20 21 14.9**	**+0.6**
TIRR	**Tirgusor**	**3.60**	**2**	Pn		**Pn**		**20 21 15.5**	**+1.0**
TIRR	**Tirgusor**	**3.60**	**2**	Pn		**Pn**		**20 21 14.3**	**-0.2**
TIRR	**Tirgusor**	**3.60**	**2**	P		**Pn**		**20 21 14.3**	**-0.2**
ANTO	**Ankara**	**3.61**	**104**			**Pn**		**20 21 15.3**	**+0.5**
ANTO	**Ankara**	**3.61**	**104**	Pn		**Pn**		**20 21 14.2**	**-0.6**
ANTO	**Ankara**	**3.61**	**104**	⇑	P	**Pn**		**20 21 15.5**	**+0.7**
ANTO	**Ankara**	**3.61**	**104**	P		**Pn**		**20 21 14.2**	**-0.6**
CIDE	**Kastamonu/Cide**	**3.68**	**72**	⇓	P	**Pn**		**20 21 17.2**	**+1.6**
TLBR	**Topalu**	**3.69**	**358**	⇑	P	**Pn**		**20 21 16.1**	**+0.4**
LEHL	**Lehliu**	**3.76**	**344**	⇓	P	**Pn**		**20 21 15.7**	**-1.1**
BODT	**Bodrum**	**3.86**	**191**	Pn		**Pn**		**20 21 19.2**	**+1.0**
PLNA	**Plana**	**3.96**	**296**	*i*	P	**Pn**		**20 21 21.3**	**+1.7**
CAME	**Cameli-Denizli**	**4.00**	**168**	Pn		**Pn**		**20 21 21.5**	**+1.3**
DALY	**Dalyan (Mula)**	**4.05**	**175**	Pn		**Pn**		**20 21 21.9**	**+1.2**
ILGA	**Ilgaz**	**4.14**	**86**	Pn		**Pn**		**20 21 23.5**	**+1.2**
LADK	**Ladik-KONYA**	**4.14**	**129**	Pn		**Pn**		**20 21 23.8**	**+1.6**
VTS	**Vitosha**	**4.14**	**297**	*i*	P	**Pn**		**20 21 23.1**	**+0.9**
MPEP	**Malo Peshtene**	**4.18**	**308**	*i*	P	**Pn**		**20 21 23.1**	**+0.5**
BR131	**Keskin Array S**	**4.27**	**104**	Pn		**Pn**		**20 21 24.0**	**0.0**
BR131	**Keskin Array S**	**4.27**	**104**	P		**Pn**		**20 21 24.0**	**0.0**
BRTR	**Keskin Array B**	**4.27**	**104**	Pn		**Pn**		**20 21 23.9**	**0.0**
	1.2nm,0.3s,baz=178,slow=16,SNR=26								
BRTR				Sn		**Sn**		**20 22 12.2**	**-1.6**
	2.4nm,0.3s,baz=274,slow=17,SNR=7.1								
BRTR				Lg		Lg		20 22 29.9	
	1.0nm,0.3s,baz=280,slow=25,SNR=2.6								
	2.4nm,0.4s								
ELL	**Elmali**	**4.30**	**162**	Pn		**Pn**		**20 21 24.0**	**-0.4**
ELL	**Elmali**	**4.30**	**162**	P		**Pn**		**20 21 24.0**	**-0.4**
CFR	**Carcaliu**	**4.32**	**359**	⇑	P	**Pn**		**20 21 25.6**	**+1.1**
CFR	**Carcaliu**	**4.32**	**359**	P		**Pn**		**20 21 25.5**	**+1.1**
**

FEO	**Feodosiya**	**6.69**	**49**	*e*P		**Pn**	**20 21 57.8**	**+0.9**
FEO				Pm			20 22 05.8	
	comp=Z,31nm,0.3s							
FEO				*e*S		**Sn**	**20 23 12.1**	**-0.9**
FEO				Sm			20 23 17.0	
	comp=N,49nm,0.5s							
FEO				Sm			20 23 17.0	
	comp=E,8.0nm,0.3s							
ARCR	**ARCALIA**	**6.83**	**337**	⇑P		**Pn**	**20 21 59.0**	**+0.1**
BURAR	**Bucovina Array**	**7.09**	**343**	P		**Pn**	**20 22 03.2**	**+0.5**
BURAR	**Bucovina Array**	**7.09**	**343**	⇑P		**Pn**	**20 22 04.3**	**+1.6**
CSS	**Mathiatis**	**7.12**	**144**	Pn		**Pn**	**20 22 01.4**	**-1.6**
BUR08	**Bucovina Ar. S**	**7.13**	**343**	Pn		**Pn**	**20 22 03.6**	**+0.5**
ANN	**Anapa**	**7.81**	**57**	*e*P		**Pn**	**20 22 10.3**	**-2.1**
ANN				*e*S		**Sn**	**20 23 37.7**	**-3.0**
ANN				pmax	pmax			
	comp=Z,41nm,1.0s							
ANN				MLR	MLR			
	comp=Z,239nm,15.0s							
MMAI	**Mount Meron Ar**	**9.70**	**142**	Pn		**Pn**	**20 22 35.7**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=306,slow=14,SNR=6.3							
MMAI				Sn		**Sn**	**20 24 23.7**	**-3.5**
	comp=Z,0.4nm,0.3s,baz=349,slow=22,SNR=1.3							
	comp=Z,4.9nm,0.9s							
KIEV	**Kiev**	**9.86**	**4**	P		**Pn**	**20 22 40.1**	**-0.3**
KIEV	**Kiev**	**9.86**	**4**	P		**Pn**	**20 22 40.1**	**-0.3**
AKASG	**Malin Array Be**	**9.87**	**4**	Pn		**Pn**	**20 22 39.8**	**-0.7**
	comp=Z,1.7nm,0.3s,baz=179,slow=12,SNR=7.3							
AKASG				Sn		**Sn**	**20 24 27.6**	**-3.5**
	comp=Z,1.0nm,0.3s,baz=193,slow=24,SNR=4.2							
	comp=Z,1.4nm,0.5s							
AKBB	**Malin Array Si**	**9.87**	**4**	Pn		**Pn**	**20 22 40.0**	**-0.6**
AKBB	**Malin Array Si**	**9.87**	**4**	*i* P		**Pn**	**20 22 40.3**	**-0.2**
PAOL	**Paolisi**	**10.36**	**275**	Pn		**Pn**	**20 22 46.4**	**-1.0**
RONA	**Rosalia, Austr**	**10.96**	**313**	*e*Pn		Pn	20 23 01.1	+5.6
	comp=Z,3.4nm,1.2s							
SHA1	**Shidzhatmaz**	**11.05**	**70**	*i* P		**Pn**	**20 22 59.1**	**+2.1**
ASF	**Jabal al Asfar**	**11.11**	**139**	Pn		**Pn**	**20 22 55.8**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=333,slow=14,SNR=1.3							
ASF				Sn		**Sn**	**20 24 55.5**	**-6.4**
	comp=Z,0.9nm,0.3s,baz=130,slow=6.6,SNR=7.1							
	comp=Z,0.8nm,0.4s							
KIV	**Kislovodsk**	**11.11**	**69**	*e*P		**Pn**	**20 22 56.7**	**-1.0**
KIV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KVAR	**Kislovodsk Arr**	**11.12**	**69**	Pn		**Pn**	**20 23 00.4**	**+2.6**
	baz=287,slow=14							
KVAR				Sn		**Sn**	**20 25 00.5**	**-1.6**
	baz=173,slow=17							
	comp=Z,2.9nm,0.9s							
SOKA	**Soboth**	**11.18**	**306**	*e*Pn		**Pn**	**20 23 03.3**	**+4.6**
	comp=Z,1.9nm,0.5s							
KBZ	**Khabaz**	**11.22**	**70**	Pn		**Pn**	**20 23 02.0**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=274,slow=14,SNR=1.5							
	comp=Z,0.6nm,0.6s							
KBZ	**Khabaz**	**11.22**	**70**	P		**Pn**	**20 23 02.0**	**+2.9**
OBKA	**Obir**	**11.41**	**304**	*e*Pn		**Pn**	**20 23 05.8**	**+4.1**
	comp=Z,1.9nm,0.5s							
GOF	**Gofitskoye**	**11.62**	**64**	*ce*P		**Pn**	**20 23 00.4**	**-4.2**
EIL	**Elat**	**12.43**	**152**	Pn		**Pn**	**20 23 14.1**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=337,slow=13,SNR=1.6							
	comp=Z,1.9nm,0.7s							
BIOA	**Bad Ischl, Aus**	**12.49**	**308**	Pn		Pn	20 23 15.6	-0.9
	comp=Z,1.0nm,0.4s							
STAL	**STALIGIAL**	**12.49**	**301**	Pn		Pn	20 23 11.8	-4.8
GNI	**Garni**	**12.57**	**88**	Pn		**Pn**	**20 23 16.6**	**-1.1**
GNI	**Garni**	**12.57**	**88**	Pn		**Pn**	**20 23 17.9**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=179,slow=14,SNR=1.8							
	comp=Z,1.1nm,0.3s							
VORD	**Divnogorie**	**12.68**	**33**	*e*P		**Pn**	**20 23 17.2**	**-1.8**
VORD				pmax	pmax			
	comp=Z,9.0nm,1.0s							
ABTA	**Abfaltersbach**	**12.79**	**303**	Pn		**Pn**	**20 23 24.3**	**+3.6**
	comp=Z,0.5nm,0.3s							
VSR	**Storozhevoye**	**12.82**	**32**	*e*P		**Pn**	**20 23 17.8**	**-3.1**
VSR				pmax	pmax			
	comp=Z,8.0nm,0.8s							
LESA	**Schwarzleotal**	**12.96**	**306**	*e*P		Pn	20 23 28.1	+5.2
	comp=Z,3.9nm,1.3s							
GERES	**GERESS Array B**	**13.03**	**313**	Pn		**Pn**	**20 23 24.7**	**+0.7**
	baz=156,slow=11,SNR=2.7							
	comp=Z,0.3nm,0.6s							
WATA	**Walderalm**	**13.61**	**304**	Pn		**P**	**20 23 38.6**	**-2.3**
	comp=Z,13nm,2.1s							
FETA	**Feichten**	**14.04**	**302**	Pn		**P**	**20 23 43.2**	**-2.4**
	comp=Z,0.6nm,0.4s							
NACGM	**Naroch**	**14.09**	**357**	*e*P		**Pn**	**20 23 34.3**	**-3.8**
	comp=Z,7.0nm,0.8s,baz=176							
RETA	**Reute**	**14.18**	**304**	Pn		**P**	**20 23 48.6**	**+1.5**
	comp=Z,2.7nm,0.5s							
CLL	**Collm**	**14.84**	**320**	*e*P		**Pn**	**20 23 49.0**	**+0.5**
CLL				*es*P		**P**	**20 23 53.0**	**-1.3**
CLL				*e*PP			20 23 59.0	
OBN	**Obninsk**	**15.29**	**18**⇑	*e*P		**Pn**	**20 23 52.6**	**-1.9**
OBN				S		**Sn**	**20 26 46.0**	**+2.4**
OBN				pmax	pmax			
	comp=Z,22nm,1.5s							
KEST	**Kesra**	**15.70**	**257**	Pn		**Pn**	**20 23 59.1**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=52,slow=10,SNR=1.5							
	comp=Z,1.7nm,0.8s							
MOS	**Moscow**	**16.12**	**19**	*e*P		**Pn**	**20 24 01.2**	**-4.0**
MOS				pmax	pmax			
	comp=Z,46nm,0.9s							
BELG	**Belogornoye**	**17.55**	**42**	P		**P**	**20 24 23.9**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=63,slow=12,SNR=4.6							
	comp=Z,14nm,0.9s							
BELG	**Belogornoye**	**17.55**	**42**	*i* P		**Pn**	**20 24 21.6**	**-1.6**
BELG				pmax	pmax			
	comp=Z,5.0nm,1.0s							
VSU	**Vasula**	**17.65**	**357**	*i* P		**P**	**20 24 25.2**	**-0.1**
VSU				pmax	pmax			
	comp=Z,17nm,1.0s							
FINES	**FINESS Array B**	**20.65**	**357**			Pn	20 25 00.5	0.0
FINES	**FINESS Array B**	**20.65**	**357**	P		Pn	20 24 59.9	-0.7
	comp=Z,1.5nm,0.6s,baz=153,slow=11,SNR=11							
	comp=Z,1.5nm,0.6s							
FINES	**FINESS Array B**	**20.65**	**357**	P		Pn	20 25 00.5	-0.1
FIA1	**FINESS Array S**	**20.66**	**357**			Pn	20 25 01.6	+1.0
FIA1				IAmb		IAmb	20 25 31.4	
	comp=Z,16nm,1.1s							
KLMR	**Klimovskoe**	**21.18**	**15**	*e*P		**P**	**20 25 01.9**	**-2.1**
KLMR				pmax	pmax			
	comp=Z,22nm,1.5s							
HFS	**Hagfors**	**21.31**	**340**	P		**P**	**20 25 05.5**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=158,slow=12,SNR=4.5							
HFS				LR		LR	20 34 02.6	
	comp=Z,117nm,18.1s,baz=126,slow=39							
	comp=Z,1.5nm,0.7s							
NB2	**NORSAR Subarra**	**22.74**	**338**	P		**P**	**20 25 23.5**	**+2.8**
	comp=Z,1.2nm,0.7s,baz=160,slow=10							
NOA	**NORSAR Array B**	**22.74**	**338**	P		**P**	**20 25 20.1**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=147,slow=11,SNR=7.4							
NOA				LR		LR	20 34 46.8	
	comp=Z,57nm,21.8s,baz=260,slow=38							
	comp=Z,1.2nm,0.8s							
AKTO	**Aktyubinsk**	**22.77**	**55**	P		**P**	**20 25 20.4**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=263,slow=10,SNR=3.8							
	comp=Z,1.7nm,0.8s							
AB31	**Akbulak array**	**23.77**	**59**	P		**P**	**20 25 31.2**	**0.0**
AB31				IAmb		IAmb	20 26 03.5	
	comp=Z,4.8nm,1.2s							
ABKAR	**Akbulak array**	**23.77**	**59**	P		**P**	**20 25 29.9**	**-1.3**
ESDC	**Sonseca Array**	**24.54**	**278**	P		**P**	**20 25 37.7**	**-0.8**
	comp=Z,0.9nm,1.0s,baz=65,slow=8.8,SNR=8.5							
	comp=Z,0.9nm,1.0s							
ARTI	**Arti**	**24.98**	**41**	P		**P**	**20 25 42.2**	**-0.1**
ARTI				IAmb		IAmb	20 25 44.5	
	comp=Z,29nm,1.5s							
ARTI	**Arti**	**24.98**	**41**	P		**P**	**20 25 42.2**	**-0.1**
	comp=Z,11nm,1.1s,baz=238,slow=6.3,SNR=9.7							
	comp=Z,11nm,1.1s							
ARTI	**Arti**	**24.98**	**41**	*c i* P		**P**	**20 25 42.8**	**+0.6**
ARTI							20 26 13.0	
ARTI							20 29 15.6	
ARTI				S		**S**	**20 30 07.9**	**+2.3**
ARTI				SS		**SnSn**	**20 30 53.9**	**0.0**
ARTI				pmax	pmax			
	comp=Z,17nm,1.3s							
EKA	**Eskdalemuir Ar**	**25.22**	**316**	P		**P**	**20 25 44.9**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=104,slow=9.1,SNR=3.8							
	comp=Z,0.8nm,0.5s							
ARCES	**ARCESS Array B**	**28.77**	**358**	P		**P**	**20 26 16.2**	**0.0**
	comp=Z,5.8nm,1.1s,baz=169,slow=8.7,SNR=9.5							
	comp=Z,5.8nm,1.1s							
ARCES	**ARCESS Array B**	**28.77**	**358**	*e*P		**P**	**20 26 19.5**	**+3.3**
ARCES				pmax	pmax			
	comp=Z,4.0nm,0.9s							

KKAR	**Karatay Array**	**31.25**	**72**	P		**P**	**20 26 39.7**	**+1.2**
KKAR	**Karatay Array**	**31.25**	**72**	P		**P**	**20 26 39.7**	**+1.2**
AAK	**Ala-Archa**	**34.22**	**71**	*i* P		**P**	**20 27 06.4**	**+1.8**
AAK				pmax	pmax			
	comp=Z,5.0nm,2.0s							
KURBB	**Kurchatov Arra**	**35.79**	**57**	P		**P**	**20 27 18.7**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=277,slow=9.0,SNR=7.4							
	comp=Z,0.8nm,0.8s							
KURK	**Kurchatov**	**35.84**	**57**	P		**P**	**20 27 18.7**	**+0.4**
TORD	**Torodi Ar. Bea**	**36.08**	**228**	P		**P**	**20 27 22.3**	**+1.7**
	comp=Z,0.9nm,1.0s,baz=42,slow=9.1,SNR=4.2							
	comp=Z,0.9nm,1.0s							
MK31	**Makanchi Array**	**38.78**	**63**	*i* P		**P**	**20 27 44.0**	**+0.7**
MKAR	**Makanchi Array**	**38.78**	**63**	P		**P**	**20 27 44.1**	**+0.8**
MKAR	**Makanchi Array**	**38.78**	**63**	P		**P**	**20 27 44.6**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=281,slow=6.9,SNR=18							
	comp=Z,2.2nm,0.8s							
ZALV	**Zalesovo Beam**	**39.41**	**51**	P		**P**	**20 27 48.1**	**-0.3**
ZALV	**Zalesovo Beam**	**39.41**	**51**	P		**P**	**20 27 49.1**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=267,slow=12,SNR=5.2							
	comp=Z,0.6nm,0.5s							
GTA	**Gaotai**	**53.28**	**66**	*e*P		**P**	**20 29 38.3**	**+0.6**
GTA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
SONM	**Songino Array**	**54.09**	**55**	P		**P**	**20 29 43.5**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=276,slow=5.8,SNR=4.7							
	comp=Z,0.8nm,0.8s							
SONM	**Songino Array**	**54.09**	**55**	*e*P		**P**	**20 29 45.4**	**+1.9**
YAK	**Yakutsk**	**59.74**	**32**	*ce*P		**P**	**20 30 24.1**	**+0.9**
YAK				pmax	pmax			
	comp=Z,6.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**60.55**	**60**	*e*P		**P**	**20 30 29.0**	**-0.3**
HHC				pmax	pmax			
	comp=Z,21nm,0.6s							
HHC				pmax	pmax			
	comp=Z,54nm,3.7s							
PZH	**PanZhiHua**	**61.16**	**79**	P		**P**	**20 30 34.5**	**+0.9**
HEH	**HeiHe**	**65.03**	**44**	*e*P		**P**	**20 30 59.5**	**+0.7**
HEH				pmax	pmax			
	comp=Z,7.0nm,0.9s							
KSRS	**Korea Array**	**72.95**	**55**	P		**P**	**20 31 48.2**	**0.0**
	comp=Z,1.3nm,0.8s,baz=316,slow=5.2,SNR=4.4							
	comp=Z,1.3nm,0.8s							
ILAR	**Eielson Array**	**74.64**	**358**	P		**P**	**20 31 58.8**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=3.7,slow=5.0,SNR=2.2							
	comp=Z,0.3nm,0.7s							

SJA ***26*** *20:31:26.7±4.1,29.82S×71.58W,h26km,ML5.6,MW5.5*
VAO ***26*** *20:31:26.4±0.4,29.82S×71.27W,h10km,mb5.7*
GUC ***26*** *20:31:29.9±0.9,29.88S×71.31W,h46km±2km,ML5.5*
MOS ***26*** *20:31:29.7±1.1,29.88S×71.27W,h45km,mb5.8/38, MS4.9/5, Error ellipse: s-maj=10.8km s-min=6.3km az=96.2*
NEIC ***26*** *20:31:30.4,29.86S×71.35W,h40km*
NEIC ***26*** *20:31:30.4,29.86S×71.24W,h40km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^17Nm; Mrr1.69; Mθθ0.11; Mϕϕ-1.80; Mrθ-0.08; Mθr-0.11; Mϕr-0.51; Fault plane solution: M0 1.83000×10^17 NP1:s 1.58000°, d 36.80000°, l 87.15000°. NP2:s 185.13000°, d 53.25000°, l 92.13000°. Principal axes: T 1.7657, Plg82.0000°, Azm105.0000°; N 0.1201, Plg2.0000°, Azm4.0000°; P -1.8859, Plg8.0000°, Azm274.0000°;*
CATAC ***26*** *20:31:30.7±0.8,30.S±.7°W±1.5°,h49km±7km, M5.8/7, mb5.5/7,mB5.8/7,MLv6.3/4,Mw(mB)5.3/7 Error ellipse: s-maj=32.9km s-min=6.6km az=92.1,confirmed*
NEIC ***26*** *20:31:30.3±1.5,29.86S±0.03×71.35W±0.08,h35km±5km, mb5.7/642, Mww5.4/42, Mww5.4(GUC), Error ellipse: s-maj=9.8km s-min=4.2km az=91.0*
IDC ***26*** *20:31:31.3±0.6,29.85S×71.19W,h48km±5km,mb5.3/23, mbtmp5.4/28,MS4.8/49,Error ellipse: s-maj=13.2km s-min=9.3km az=85.0*
GCMT ***26*** *20:31:33.4±0.1,29.83S±0.01×71.57W±0.01,h47km, MW5.5/133, Moment Tensor Solution. s129,c215; s133,c229; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr1.69±.03; Mθθ0.19±.02; Mϕϕ-1.88±.02; Mrθ0.04±.02; Mθϕ-0.31±.02; Mϕr-0.60±.03; Best double couple: M0 1.90600×10^17 NP1:s 13.00000°, d 36.00000°, l 98.00000°. NP2:s 184.00000°, d 54.00000°, l 85.00000°. Principal axes: T 1.7930, Plg80.0000°, Azm71.0000°; N 0.2240, Plg4.0000°, Azm187.0000°; P -2.0200, Plg9.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
RSNC ***26*** *20:32:20.7±4.6,28.S±.39°×.7°W±1.°7,h510km±.39km, M4.8, mB5.3,mb5.1,mBc6.2,Mw(mB)4.8*
ISC 26 20:31:29.7±0.3**,29.86S**±0.02×**71.43W**±0.03**,h42**km±2km**,**
h42km**:pP-P,n1003,**σ**1.59/789,mb5.7/352,MS4.8/52,**
54C-31D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.17**	**110**				**Pn**	**20 31 36.8**	**-0.2**
CO05							**Sn**	**20 31 42.3**	**+0.2**
CO05	**La Serena**	**0.17**	**110**	⇓	*i*P		**Pn**	**20 31 37.5**	**+0.5**
CO05					*i* S		**Sn**	**20 31 42.8**	**+0.6**
GO04	**Tololo Observa**	**0.63**	**120**				**Pn**	**20 31 42.4**	**-0.1**
GO04							**Sn**	**20 31 51.0**	**-0.6**
GO04	**Tololo Observa**	**0.63**	**120**	⇓	*i*P		**Pn**	**20 31 42.6**	**+0.2**
GO04					*e*S		**Sn**	**20 31 51.1**	**-0.4**
GO04	**Tololo Observa**	**0.63**	**120**	*i*	P		**Pn**	**20 31 42.6**	**+0.2**
GO04					*i* S		**Sn**	**20 31 50.9**	**-0.6**
GO04					IAML			20 31 54.7	
	comp=Z,316μm,0.5s								
CO06	**Fray Jorge**	**0.83**	**192**				**Pn**	**20 31 45.9**	**+0.9**
CO06	**Fray Jorge**	**0.83**	**192**	⇑	*i*P		**Pn**	**20 31 45.5**	**+0.5**
CO06					*i* S		**Sn**	**20 31 57.2**	**+1.0**
CO06					IAML			20 32 01.5	
	comp=E,112μm,0.6s								
LCO	**Las Campanas**	**1.05**	**37**				**Pn**	**20 31 48.3**	**0.0**
LCO	**Las Campanas**	**1.05**	**37**	P			**Pn**	**20 31 48.3**	**0.0**
LCO	**Las Campanas**	**1.05**	**37**	⇓	*i*P		**Pn**	**20 31 48.7**	**+0.4**
LCO					*i* S		**Sn**	**20 32 02.3**	**+0.3**
LCO	**Las Campanas**	**1.05**	**37**	*i*	P		**Pn**	**20 31 48.7**	**+0.4**
LCO					*e*S		**Sn**	**20 32 01.6**	**-0.3**
LCO					IAML			20 32 02.9	
	comp=Z,275μm,0.4s								
LCO	**Las Campanas**	**1.05**	**37**	P			**Pn**	**20 31 48.0**	**-0.3**
LCO				S			**Sn**	**20 32 02.2**	**+0.3**
CO03	**El Pedregal**	**1.17**	**147**				**Pn**	**20 31 49.9**	**+0.2**
CO03	**El Pedregal**	**1.17**	**147**	⇓	*i*P		**Pn**	**20 31 50.1**	**+0.5**
CO03					*i* S		**Sn**	**20 32 04.6**	**+0.1**
CO03					IAML			20 32 05.3	
	comp=E,312μm,0.4s								
CO03	**El Pedregal**	**1.17**	**147**	*i*	P		**Pn**	**20 31 50.1**	**+0.5**
CO03					*i* S		**Sn**	**20 32 04.5**	**+0.1**
CO03					IAML			20 32 05.7	
	comp=Z,154μm,0.5s								
CO03	**El Pedregal**	**1.17**	**147**	P			**Pn**	**20 31 50.2**	**+0.5**
CO03				S			**Sn**	**20 32 04.6**	**+0.1**
CO02	**Combarbal**	**1.39**	**165**				**Pn**	**20 31 53.3**	**+0.5**
CO02	**Combarbal**	**1.39**	**165**	⇓	*i*P		**Pn**	**20 31 53.4**	**+0.7**
CO02					*i* S		**Sn**	**20 32 10.7**	**+0.7**
CO02	**Combarbal**	**1.39**	**165**	*i*	P		**Pn**	**20 31 53.5**	**+0.7**
CO02					*e*S		**Sn**	**20 32 10.9**	**+0.9**
AC04	**Llanos de Chal**	**1.68**	**11**				**Pn**	**20 31 57.6**	**+1.1**
AC04	**Llanos de Chal**	**1.68**	**11**	*e*P			**Pn**	**20 31 57.7**	**+1.1**
AC04					*e*S		**Sn**	**20 32 18.5**	**+1.6**
AC04					IAML			20 32 24.3	
	comp=N,134μm,0.4s								
AC04	**Llanos de Chal**	**1.68**	**11**	*e*P			**Pn**	**20 31 57.8**	**+1.2**
AC04					*e*S		**Sn**	**20 32 19.6**	**+2.7**
AC04					IAML			20 32 24.1	
	comp=Z,60μm,0.4s								
AROD	**Rodeo**	**1.72**	**101**	*i*	P		**Pn**	**20 32 00.0**	**+2.5**
ACDV	**Cuesta del Vie**	**2.03**	**99**	*e*P			**Pn**	**20 32 04.4**	**+2.9**
ACDV					*i* S		**Sn**	**20 32 30.2**	**+4.6**
ACDV					IAML			20 32 43.0	
	comp=Z,21μm,0.6s								
ACCO	**Cerro Coronel**	**2.17**	**110**	*i*	P		**Pn**	**20 32 06.8**	**+3.2**
CO04	**Los Peladeros**	**2.21**	**170**	⇓	*i*P		**Pn**	**20 32 05.5**	**+1.3**
CO04					*i* S		**Sn**	**20 32 31.8**	**+1.4**
DOCA	**Reserva Natura**	**2.30**	**119**	*i*	P		**Pn**	**20 32 08.9**	**+3.5**
DOCA					*i* S		Sn	20 32 21.1	-12
GO03	**Copiapo**	**2.49**	**25**				**Pn**	**20 32 08.6**	**+0.9**
GO03	**Copiapo**	**2.49**	**25**	⇓	*i*P		**Pn**	**20 32 08.2**	**+0.4**
GO03					IAML			20 32 48.4	
	comp=N,61μm,0.7s								
GO03	**Copiapo**	**2.49**	**25**	*e*P			**Pn**	**20 32 08.2**	**+0.4**
GO03					IAML			20 32 57.1	
	comp=Z,24μm,0.6s								
AGUA	**GUANDACOL**	**2.58**	**82**	*e*P			Pn	20 32 13.2	+4.2
AGUA				*i* Pg				20 32 27.8	
AGUA				*e*S			Sn	20 32 51.2	+12
AGUA				IAML				20 32 55.6	
	comp=Z,34μm,0.8s								
RTLS	**Leoncito**	**2.67**	**137**	*e*P			**Pn**	**20 32 13.8**	**+3.4**
VA06	**Catapilco**	**2.70**	**178**				**Pn**	**20 32 12.1**	**+1.6**
VA06	**Catapilco**	**2.70**	**178**	⇓	*e*P		**Pn**	**20 32 12.0**	**+1.4**
ZON	**Zonda**	**2.90**	**126**				**Pn**	**20 32 16.1**	**+2.6**
ZON	**Zonda**	**2.90**	**126**	P			**Pn**	**20 32 16.1**	**+2.6**
ZON	**Zonda**	**2.90**	**126**	*e*P			**Pn**	**20 32 16.4**	**+3.0**
ZON				*e*S			Sn	20 32 58.6	+11
ZON				IAML				20 33 10.2	
	comp=Z,32μm,1.1s								
AUSP	**Uspallata**	**2.94**	**144**	*i* P			**Pn**	**20 32 17.7**	**+3.6**
RTLL	**Cerro Villicun**	**2.94**	**121**	*e*P			**Pn**	**20 32 16.5**	**+2.6**
RTLL				IAML				20 33 10.3	
	comp=Z,46μm,1.7s								
SJA	**San Juan**	**2.98**	**125**	*e*P			**Pn**	**20 32 17.4**	**+3.0**
SJA				IAML				20 33 10.5	
	comp=Z,13μm,0.5s								
VA03	**San Esteban**	**2.99**	**166**				**Pn**	**20 32 16.2**	**+1.5**
VA03	**San Esteban**	**2.99**	**166**	⇓	*e*P		**Pn**	**20 32 16.2**	**+1.5**
VCA	**Vinchina**	**3.03**	**69**	⇓	*e*P		Pn	20 32 19.6	+4.4
VCA	**Vinchina**	**3.03**	**69**	*e*P			Pn	20 32 19.9	+4.6
VCA				*e*S			Sn	20 33 00.2	+10
VCA				IAML				20 33 05.0	
	comp=Z,33μm,1.6s								
ROC1	**El Roble**	**3.13**	**174**	*e*P			**Pn**	**20 32 18.1**	**+1.4**
VA01	**Torpederas**	**3.16**	**183**				**Pn**	**20 32 17.4**	**+0.5**
CFA	**Coronel Fontan**	**3.25**	**123**	P			**Pn**	**20 32 20.1**	**+1.9**
	comp=Z,2μm,0.3s,baz=311,slow=13,SNR=606								
CFA				S			**Sn**	**20 33 00.8**	**+5.0**
	comp=Z,9μm,0.3s,baz=89,slow=13,SNR=10								
CFA				LR			LR	20 33 46.8	
	comp=Z,10μm,18.2s,baz=304,slow=44								
CFA	**Coronel Fontan**	**3.25**	**123**	*e*P			**Pn**	**20 32 20.9**	**+2.7**
PEL	**Peldehue**	**3.34**	**169**				**Pn**	**20 32 20.8**	**+1.4**
PEL	**Peldehue**	**3.34**	**169**	P			**Pn**	**20 32 20.6**	**+1.2**
PEL				S			**Sn**	**20 33 00.0**	**+2.2**
PEL	**Peldehue**	**3.34**	**169**	*e*P			**Pn**	**20 32 21.1**	**+1.7**
PEL				IAML				20 33 19.9	
	comp=Z,34μm,1.2s								
PEL	**Peldehue**	**3.34**	**169**	P			**Pn**	**20 32 21.1**	**+1.7**
MT02	**Curacav**	**3.40**	**176**				**Pn**	**20 32 21.1**	**+0.9**
ASAL	**Salagasta**	**3.52**	**141**	*i* P			**Pn**	**20 32 25.3**	**+3.4**
AVFE	**Valle Fertil**	**3.53**	**104**	*e*P			**Pn**	**20 32 24.5**	**+2.4**
AVFE				*e*S			Sn	20 33 12.1	+10
AVFE				IAML				20 33 15.7	
	comp=Z,19μm,0.9s								
MT05	**Renca**	**3.57**	**171**				**Pn**	**20 32 24.1**	**+1.4**
MT05	**Renca**	**3.57**	**171**	*e*P			**Pn**	**20 32 24.2**	**+1.6**
MT05				IAML				20 33 29.3	
	comp=Z,28μm,1.6s								
AC02	**Maricunga**	**3.63**	**34**				**Pn**	**20 32 25.4**	**+1.6**
AC02	**Maricunga**	**3.63**	**34**	*e*P			**Pn**	**20 32 25.8**	**+2.0**
AC02				*i* P				20 32 26.0	
AC02				IAML				20 33 26.9	
	comp=Z,11μm,0.4s								
MT16	**CCHEN**	**3.64**	**168**				**Pn**	**20 32 25.4**	**+1.8**
ARCO	**CERRO ARCO**	**3.66**	**145**	*e*P			**Pn**	**20 32 27.5**	**+3.6**
ARCO				*e*Pg				20 32 46.1	
ARCO				*e*S			Sn	20 33 16.8	+11
ARCO				IAML				20 33 22.6	
	comp=Z,23μm,0.8s								
MT04	**Ro Olivares**	**3.70**	**163**	*e*P			**Pn**	**20 32 27.8**	**+3.2**
MT04				IAML				20 33 29.3	
	comp=Z,16μm,0.7s						

comp=Z,3µm,21.8s,baz=172,slow=32
NNA Nana 18.48 343 *ce* P **Pn** **20 35 45.9 +3.2**
NNA pmax pmax
comp=Z,116nm,1.1s
LDASE Londrina, Braz 19.25 75 *eP* **P** **20 35 49.9 -0.7**
PP1B Ponte de Pedra 19.42 55 *eP* **P** **20 35 52.1 -0.4**
VILB Vilhena 19.78 34 P **P** **20 35 56.3 -0.1**
VILB IAmb IAmb 20 36 04.6
comp=Z,393nm,0.8s
MAJ01 Sao Joao Batis 19.83 88 *eP* **Pn** **20 35 56.6 -2.1**
C2SB Chapadao do Su 20.19 61 *eP* Pn 20 36 01.6 -1.4
GO09 Cerro Castillo 21.40 182 IAmb IAmb 20 36 32.0
comp=Z,572nm,1.1s
MG05 Puerto Natales 21.81 182 IAmb IAmb 20 36 22.2
comp=Z,280nm,0.8s
CZSB Cruzeiro do Su 22.05 357 P **P** **20 36 21.6 +0.7**
CZSB Cruzeiro do Su 22.05 357 *eP* **P** **20 36 22.2 +1.3**
PET01 Itanhaem-SP 22.19 81 *eP* **P** **20 36 21.3 -1.1**
SPB Sao Paulo 22.30 79 P **P** **20 36 22.6 -1.0**
SPB Sao Paulo 22.30 79 *eP* **P** **20 36 22.8 -0.8**
BB19B Bebedouro 22.42 72 *eP* **P** **20 36 23.4 -1.5**
RCLB Rio Claro- Sao 22.67 77 *eP* **P** **20 36 26.2 -1.4**
VAO Valinhos 22.92 78 P **P** **20 36 28.4 -1.8**
VAO Valinhos 22.92 78 *eP* **P** **20 36 28.8 -1.4**
MG02 Cerro Sombrero 22.96 177 P **P** **20 36 30.7 +0.4**
MG04 Isla Riesco 22.98 180 IAmb IAmb 20 36 49.5
comp=Z,431nm,1.0s
GO10 Punta Arenas 23.28 179 P **P** **20 36 34.0 +0.5**
ATAH Atahualpa 23.54 342 P **P** **20 36 39.2 +2.6**
comp=Z,13nm,0.8s,baz=168,slow=7.7,SNR=12
ATAH LR LR 20 44 03.1
comp=Z,2µm,21.7s,baz=205,slow=32
comp=Z,13nm,0.8s
CLDB Colider 23.85 41 *eP* **P** **20 36 37.5 -1.7**
PARB Paraibuna 23.94 80 *eP* **P** **20 36 38.8 -1.3**
EFI East Falkland 23.95 159 P **P** **20 36 39.0 -0.7**
EFI IAmb IAmb 20 36 59.0
comp=Z,199nm,0.9s
EFI East Falkland 23.95 159 P **P** **20 36 39.1 -0.7**
EFI pmax pmax
comp=Z,199nm,0.9s
MG03 Isla Dawson 23.98 179 P **P** **20 36 40.5 +0.5**
IPMB Ipameri, GO 24.24 66 *eP* **P** **20 36 41.1 -1.7**
PMNB Patos De Minas 25.37 69 *eP* **P** **20 36 52.6 -0.5**
BSCB Bom Sucesso 25.59 76 *eP* **P** **20 36 54.5 -0.6**
BDFB Brasilia 25.74 62 P **P** **20 36 56.0 -0.6**
BDFB Brasilia 25.74 62 P **P** **20 36 56.2 -0.3**
comp=Z,142nm,0.7s,baz=235,slow=8.8,SNR=213
BDFB LR LR 20 48 13.5
comp=Z,5µm,18.6s,baz=235,slow=39
comp=Z,142nm,0.7s
BDFB Brasilia 25.74 62 P **P** **20 36 56.0 -0.6**
BDFB pmax pmax
comp=Z,1µm,1.8s
SNDB Serra Nova Dou 25.81 51 *eP* **P** **20 36 56.7 -0.4**
VAS01 Vassouras-RJ 26.20 80 *eP* **P** **20 37 00.7 +0.2**
TEFE Tefe 26.98 15 *eP* **P** **20 37 07.8 +0.2**
DUB01 Friburgo-RJ 27.19 80 *eP* **P** **20 37 09.6 0.0**
NPGB Novo Progresso 27.27 37 *eP* **P** **20 37 09.4 -0.8**
DIAM Diamantina, MG 27.76 72 *eP* **P** **20 37 15.0 +0.2**
CAM01 Campos-RJ 27.90 80 *eP* **P** **20 37 15.5 -0.3**
COHC Cochancay 28.24 343 P **P** **20 37 21.0 +2.2**
comp=Z,579nmcomp=Z,33nm,1.1s
MACA Manacapuru-AM 28.44 23 P **P** **20 37 20.4 -0.2**
MACA IAmb IAmb 20 37 39.4
comp=Z,122nm,0.8s
JANB Januaria 28.97 65 *eP* **P** **20 37 25.2 -0.2**
ALF01 Guarapari-ES 29.18 79 *eP* **P** **20 37 26.3 -0.9**
ITTB Itaituba 29.38 33 *eP* **P** **20 37 28.2 -0.8**
SJMB Sao Joao De Ma 29.63 75 *eP* **P** **20 37 31.1 -0.1**
SGC2 Sao Gabriel da 29.84 9 P **P** **20 37 31.9 -1.2**
comp=Z,35nm,1.0s
RIB01 Linhares ES 30.02 77 *eP* **P** **20 37 34.2 -0.4**
PTLC Puerto Leguiza 30.03 353 P **P** **20 37 33.2 -1.6**
comp=Z,2µmcomp=Z,196nm,0.9s
SDBA SAO DESIDERIO 30.11 60 *eP* **P** **20 37 35.3 -0.2**
SMTB Santa Maria do 30.57 52 *eP* **P** **20 37 39.2 -0.3**
PRPB Parauapebas 31.14 45 *eP* **P** **20 37 43.8 -0.8**
FLOC Florencia 31.52 352 P **P** **20 37 48.4 +0.4**
FLOC Florencia 31.52 352 P **P** **20 37 50.3 +2.4**
FLOC Florencia 31.52 352 P **P** **20 37 49.9 +2.0**
comp=Z,1µmcomp=Z,71nm,1.3s
GUA01 Guaratinga, BA 31.80 73 *eP* **P** **20 37 50.3 -0.2**
MACC Macarena, Meta 31.91 355 P **P** **20 37 52.4 +1.1**
comp=Z,54nm,1.1s
MAL2 Monte Alegre, 32.17 34 P **P** **20 37 52.8 -0.8**
BBAC Balboa, Cauca 32.19 349 P **P** **20 37 55.9 +1.9**
comp=Z,1µmcomp=Z,118nm,1.4s
POPC Popayan, Colom 32.60 350 P **P** **20 37 59.5 +1.8**
comp=Z,739nmcomp=Z,61nm,1.4s
CMC01 Camacan, BA 32.67 71 *eP* **P** **20 37 57.8 -0.2**
URMC La Uribe, Meta 33.04 355 P **P** **20 38 03.5 +2.2**
comp=Z,4µmcomp=Z,457nm,1.0s
RPN Rapa Nui 33.33 265 LR LR 20 48 24.2
comp=Z,1µm,18.4s,baz=120,slow=30
PRAC Prado 33.55 354 P **P** **20 38 08.1 +2.5**
PRAC Prado 33.55 354 P **P** **20 38 08.0 +2.3**
comp=Z,3µmcomp=Z,172nm,1.0s
BOAV Boa Vista 33.73 20 P **P** **20 38 07.2 0.0**
ORTC Ortega, Tolima 33.77 353 P **P** **20 38 10.1 +2.5**
comp=Z,3µmcomp=Z,305nm,1.1s
YOTC Yotoco, Valle 33.98 351 P **P** **20 38 10.5 +1.0**
comp=Z,582nmcomp=Z,36nm,0.8s
CVER Cruz Verde, Cu 34.28 355 P **P** **20 38 14.8 +2.3**
comp=Z,2µmcomp=Z,125nm,1.2s
ROSC El Rosal 34.61 355 P **P** **20 38 17.7 +2.4**
comp=Z,81nm,0.9s,baz=150,slow=5.5,SNR=23
ROSC LR LR 20 53 49.7
comp=Z,1µm,19.5s,baz=188,slow=39
comp=Z,81nm,0.9s
ROSC El Rosal 34.61 355 P **P** **20 38 18.1 +2.8**
comp=Z,1µmcomp=Z,124nm,1.0s
HOPE Hope Point 35.03 144 P **P** **20 38 18.6 +0.6**
HOPE IAmb IAmb 20 38 20.3
comp=Z,159nm,1.1s
HOPE Hope Point 35.03 144 P **P** **20 38 18.7 +0.6**
HOPE pmax pmax
comp=Z,159nm,1.2s
GUY2C Guyana, Caldas 35.09 353 P **P** **20 38 21.4 +1.9**
comp=Z,894nmcomp=Z,87nm,1.0s
PMSA Palmer Station 35.24 175 P **P** **20 38 20.5 +0.8**
PMSA Palmer Station 35.24 175 LR LR 20 52 39.2
comp=Z,2µm,20.1s,baz=342,slow=36
PMSA Palmer Station 35.24 175 *eP* **P** **20 38 21.5 +1.8**
NORC Norcasia 35.37 354 P **P** **20 38 22.3 +0.8**
comp=Z,922nmcomp=Z,77nm,1.0s
SPBC San Pablo de B 35.40 355 P **P** **20 38 22.0 +0.3**
comp=Z,53nm,1.8s
RUSC La Rusia 35.58 357 P **P** **20 38 25.2 +1.4**
RUSC La Rusia 35.58 357 P **P** **20 38 25.7 +1.9**
RUSC La Rusia 35.58 357 P **P** **20 38 25.2 +1.4**
comp=Z,4µmcomp=Z,360nm,1.1s
HELC Santa Helena 36.06 353 P **P** **20 38 29.2 +1.5**
HELC Santa Helena 36.06 353 P **P** **20 38 28.7 +1.0**
comp=Z,1µmcomp=Z,127nm,1.0s
PTBC PUERTO BERRIO, 36.30 355 P **P** **20 38 29.1 -0.3**
comp=Z,538nmcomp=Z,60nm,0.8s
BRJC Barrancabermej 36.69 356 P **P** **20 38 31.5 -1.1**
comp=Z,2µmcomp=Z,199nm,0.9s
DBBC Dabeiba 36.95 352 P **P** **20 38 37.6 +2.6**
PAMC Pamplona, Colo 37.00 358 P **P** **20 38 35.9 0.0**
ZARC Zaragoza, Cauc 37.28 354 P **P** **20 38 38.1 +0.4**
comp=Z,2µmcomp=Z,215nm,1.1s
UREC San Jos de Ur 37.60 353 P **P** **20 38 41.1 +0.7**
comp=Z,40nm,0.9s
APAC Apartado, Choc 37.87 352 P **P** **20 38 45.8 +3.2**
comp=Z,2µmcomp=Z,180nm,1.0s
NBAN Anadia - AL 38.47 66 *eP* **P** **20 38 46.9 -0.9**
SDV Santo Domingo 38.53 1 P **P** **20 38 48.0 -0.3**
SDV Santo Domingo 38.53 1 LR LR 20 56 19.6
comp=Z,1µm,19.6s,baz=189,slow=39
SDV Santo Domingo 38.53 1 *eP* **P** **20 38 48.3 -0.1**
SDV Santo Domingo 38.53 1 P **P** **20 38 48.1 -0.3**
comp=Z,951nmcomp=Z,94nm,1.0s
MDP Montagnes des 39.15 31 P **P** **20 38 53.3 -0.2**
comp=Z,174nm,0.9s,baz=203,slow=8.8,SNR=93
MDP pP **pP** **20 39 04.6 -0.6**
comp=Z,94nm,1.1s,baz=209,slow=8.0,SNR=7.3
MDP LR LR 20 57 06.8
comp=Z,1µm,18.2s,baz=200,slow=39
comp=Z,174nm,0.9s
MPGF Montagnes des 39.16 31 P **P** **20 38 53.4 -0.2**
MPGF pP **pP** **20 39 04.9 -0.3**
ARGC Ariguani, Magd 39.58 356 P **P** **20 38 57.5 +0.5**
comp=Z,2µmcomp=Z,133nm,0.9s

BCIP Isla Barro Col 39.63 347 P **P** **20 38 59.3 +1.9**
comp=Z,76nm,1.2s
SJCC San Jacinto, C 39.69 354 P **P** **20 38 59.1 +1.1**
SJCC San Jacinto, C 39.69 354 P **P** **20 38 58.7 +0.7**
comp=Z,1µmcomp=Z,142nm,1.1s
PCRV Puerto La Cruz 40.34 10 P **P** **20 39 03.6 +0.3**
comp=Z,70nm,1.0s,baz=193,slow=1.5,SNR=22
PCRV LR LR 20 59 29.7
comp=Z,1µm,18.3s,slow=42
comp=Z,70nm,1.0s
CRJC Cerrejon, Guaj 40.66 358 P **P** **20 39 02.8 -3.3**
comp=Z,1µmcomp=Z,33nm,1.2s
RCBR Riachuelo 41.12 62 P **P** **20 39 09.9 0.0**
RCBR IAmb IAmb 20 39 11.4
comp=Z,114nm,1.0s
RCBR Riachuelo 41.12 62 LR LR 20 57 23.3
comp=Z,1µm,18.4s,baz=194,slow=38
RCBR Riachuelo 41.12 62 P **P** **20 39 09.9 0.0**
RCBR pmax pmax
comp=Z,114nm,1.0s
RCBR Riachuelo 41.12 62 *eP* **P** **20 39 11.0 +1.1**
RCBR Riachuelo 41.12 62 P **P** **20 39 09.5 -0.4**
URI Uribia 41.32 359 P **P** **20 39 09.0 -2.4**
URIC Uribia, Colomb 41.32 359 P **P** **20 39 08.4 -3.0**
comp=Z,617nmcomp=Z,50nm,1.1s
JTS Las Juntas de 41.99 340 P **P** **20 39 19.0 +2.1**
comp=Z,13nm,0.9s,baz=166,slow=8.3,SNR=6.7
JTS LR LR 20 53 19.0
comp=Z,526nm,20.5s,baz=165,slow=31
comp=Z,13nm,0.9s
JTS Las Juntas de 41.99 340 *i* P **P** **20 39 19.4 +2.5**
JTS pmax pmax
comp=Z,30nm,1.0s
UPAL Upala 42.58 340 P P 20 39 31.9 +10
SAIC Isla e San And 43.30 345 P **P** **20 39 29.6 +2.1**
comp=Z,2µmcomp=Z,86nm,1.3s
ESPN Las Esperanzas 43.61 342 P **P** **20 39 31.4 +1.4**
ACON Acoyapa 43.64 340 P **P** **20 39 30.3 +0.1**
PRVC Isla de Provid 44.04 346 P **P** **20 39 33.7 +0.3**
PRVC Isla de Provid 44.04 346 P **P** **20 39 35.5 +2.1**
FDF Fort de France 45.43 14 IAmb IAmb 20 39 49.0
comp=Z,121nm,0.8s
FDF Fort de France 45.43 14 P **P** **20 39 43.1 -1.4**
FDF pP **pP** **20 39 54.3 -2.0**
SVN Savane Anatole 45.53 14 IAmb IAmb 20 39 51.6
comp=Z,119nm,0.7s
GDHS Morne Mazeau, 46.80 13 IAmb IAmb 20 41 30.4
comp=Z,70nm,0.9s
SJG San Juan 47.96 7 P **P** **20 40 03.1 -1.1**
SJG IAmb IAmb 20 40 04.7
comp=Z,144nm,1.1s
SJG San Juan 47.96 7 P **P** **20 40 03.4 -0.8**
comp=Z,92nm,1.0s,baz=178,slow=3.8,SNR=18
SJG LR LR 21 02 14.2
comp=Z,518nm,20.1s,baz=201,slow=38
comp=Z,92nm,1.0s
SJG San Juan 47.96 7 P **P** **20 40 03.1 -1.1**
SJG pmax pmax
comp=Z,144nm,1.1s
SDD Santo Domingo 48.06 2 P **P** **20 40 05.0 0.0**
MTDJ Mont Denham 48.17 352 P **P** **20 40 06.8 +0.8**
SDDR Presa de Saban 48.56 0 P **P** **20 40 08.2 -0.7**
NMDO Nuevo Mundo 50.24 356 IAmb IAmb 20 41 41.9
comp=Z,63nm,1.5s
BELA Belgrano 2 50.86 171 P **P** **20 40 26.6 +0.8**
BELA IAmb IAmb 20 40 27.9
comp=Z,184nm,1.3s
CMIG Matias Romero 51.87 331 LR LR 20 57 45.2
comp=Z,721nm,21.7s,baz=172,slow=30
TEIG Tepich 52.37 340 P **P** **20 40 38.7 +1.1**
TEIG IAmb IAmb 20 40 39.4
comp=Z,106nm,0.8s
TEIG Tepich 52.37 340 P **P** **20 40 38.8 +1.1**
TEIG pP **pP** **20 40 49.9 +0.6**
VNA3 Neumayer Olymp 53.01 159 ⇑P **P** **20 40 42.4 +0.5**
comp=Z,100nm,0.7s
VNA1 Neumayer--Stat 53.29 158 ⇑P **P** **20 40 44.8 +0.9**
comp=Z,121nm,0.9s
SOR Soroa 53.52 347 IAmb IAmb 20 40 47.9
comp=Z,84nm,1.0s
VNA2 Neumayer--Watz 53.64 158 ⇑P **P** **20 40 47.0 +0.5**
comp=Z,234nm,0.8s,baz=286,slow=7.6
SNAA Sanae 55.23 159 ⇑P **P** **20 40 58.5 +0.4**
comp=Z,3µm,0.8s
SNAA Sanae 55.23 159 P **P** **20 40 58.5 +0.4**
SNAA Sanae 55.23 159 P **P** **20 40 58.5 +0.4**
comp=Z,190nm,0.9s,baz=282,slow=6.4,SNR=440
SNAA LR LR 21 04 30.9
comp=Z,687nm,20.1s,baz=294,slow=36
comp=Z,190nm,0.9s
SNAA Sanae 55.23 159 *ce* P **P** **20 40 58.3 +0.2**
SNAA pmax pmax
comp=Z,270nm,1.0s
RKT Rikitea 56.66 261 *e* S **S** **20 48 58.4 0.0**
RKT *e*LR LR 20 57 38.3
comp=Z,4µm,26.2s
TROLL Troll, Antarti 56.95 159 ⇑P **P** **20 41 10.8 +0.4**
comp=Z,6µm,0.9s
ASCN Ascension 57.61 80 P **P** **20 41 16.1 +0.3**
DWPF Disney Wildern 58.43 350 P **P** **20 41 21.2 +0.1**
656A Willston 59.84 349 IAmb IAmb 20 41 32.1
comp=Z,67nm,0.7s
QSPA South Pole Qui 60.37 180 P **P** **20 41 36.9 +2.6**
QSPA IAmb IAmb 20 41 55.3
comp=Z,75nm,0.8s
QSPA South Pole Qui 60.37 180 P **P** **20 41 36.9 +2.6**
comp=Z,67nm,0.9s,baz=153,slow=6.4,SNR=231
QSPA LR LR 21 07 50.3
comp=Z,495nm,21.1s,baz=182,slow=36
QSPA PKP2bc 21 11 05.6
comp=Z,3.2nm,0.9s,baz=227,slow=2.5,SNR=7.1
comp=Z,67nm,0.9s
QSPA South Pole Qui 60.37 180 P **P** **20 41 37.5 +3.2**
QSPA pP **pP** **20 41 49.6 +3.2**
QSPA PcP **PcP** **20 42 22.5 +3.6**
451A Vernon 61.66 346 IAmb IAmb 20 41 44.6
comp=Z,87nm,1.0s
HBVL Hebbronville 62.32 333 IAmb IAmb 20 41 51.4
comp=Z,90nm,1.2s
250A Grady 63.09 346 IAmb IAmb 20 42 32.5
comp=Z,64nm,1.1s
152A Waverly Hall 63.45 347 IAmb IAmb 20 43 10.8
comp=Z,37nm,0.5s
HKT Hockley 63.86 336 *i* P **P** **20 41 59.6 +1.8**
HKT pmax pmax
comp=Z,58nm,1.4s
Y58A Scranton 63.90 352 IAmb IAmb 20 42 16.5
comp=Z,116nm,1.0s
EF04 Eagle Ford 04 63.90 334 IAmb IAmb 20 42 01.1
comp=Z,131nm,1.2s
SACV Santiago Islan 64.11 53 P **P** **20 42 00.3 +0.4**
SACV IAmb IAmb 20 42 03.0
comp=Z,84nm,1.0s
LRAL Lakeview Retre 64.27 346 P **P** **20 42 00.6 +0.1**
146A Union 64.36 344 IAmb IAmb 20 42 03.1
comp=Z,86nm,1.1s
HNVL Huntsville, TX 64.47 337 IAmb IAmb 20 42 04.7
comp=Z,58nm,0.8s
Z47A Carrollton 64.67 345 IAmb IAmb 20 42 04.4
comp=Z,73nm,0.9s
SLBS Sierra La Lagu 64.83 321 P **P** **20 42 06.9 +2.4**
SLBS Sierra La Lagu 64.83 321 P **P** **20 42 07.0 +2.4**
SLBS PcP **PcP** **20 42 40.0 +2.4**
PAULI Pauline 65.08 351 IAmb IAmb 20 42 24.1
comp=Z,60nm,1.1s
NATX Nacogdoches 65.13 338 IAmb IAmb 20 42 08.8
comp=Z,73nm,0.8s
W57A Gilead 65.17 352 P **P** **20 42 06.8 +0.5**
W57A IAmb IAmb 20 42 24.6
comp=Z,67nm,1.1s
X51A Calhoun 65.32 348 IAmb IAmb 20 42 09.2
comp=Z,115nm,1.0s
KMSC Kings Mountain 65.32 351 IAmb IAmb 20 42 25.7
comp=Z,61nm,1.1s
LPIG La Paz 65.37 321 LR LR 21 05 55.1
comp=Z,221nm,18.2s,baz=150,slow=32
BG3 Lake Jocassee 65.41 350 IAmb IAmb 20 42 10.0
comp=Z,108nm,1.5s
X48A Hartselle 65.64 346 IAmb IAmb 20 42 11.2
comp=Z,117nm,1.1s
W52A Murphy 65.67 349 IAmb IAmb 20 42 28.1
comp=Z,54nm,1.0s
V58A Windy Hill, Pi 65.70 353 IAmb IAmb 20 42 28.0
comp=Z,64nm,1.1s
Z41A Richland Creek 65.96 340 IAmb IAmb 20 42 12.9
comp=Z,68nm,0.9s

V55A Taylorsville 66.01 351 IAmb IAmb 20 42 30.2
comp=Z,83nm,1.1s
V53A Saluda 66.06 350 IAmb IAmb 20 42 13.9
comp=Z,114nm,1.5s
CPCT Cooper Cave 66.12 348 IAmb IAmb 20 42 14.4
comp=Z,115nm,1.3s
SWET Sewanee 66.16 347 IAmb IAmb 20 42 14.6
comp=Z,144nm,1.3s
TKL Tuckaleechee C 66.20 349 IAmb IAmb 20 42 14.5
comp=Z,122nm,1.4s
BRDY Brady 66.22 334 IAmb IAmb 20 42 15.8
comp=Z,76nm,1.0s
WHTX Lake Whitney, 66.29 336 IAmb IAmb 20 42 16.3
comp=Z,147nm,1.3s
PLAL Pickwick Lake 66.38 345 IAmb IAmb 20 42 15.6
comp=Z,87nm,1.2s
U56A King 66.39 352 IAmb IAmb 20 42 32.9
comp=Z,67nm,1.1s
TXAR Lajitas Array 66.41 329 P **P** **20 42 15.8 +1.2**
TXAR Lajitas Array 66.41 329 P **P** **20 42 16.5 +1.9**
comp=Z,22nm,0.8s,baz=148,slow=8.8,SNR=137
TXAR pP **pP** **20 42 30.1 +3.4**
comp=Z,9.0nm,0.8s,baz=160,slow=9.1,SNR=5.5
TXAR LR LR 21 06 39.5
comp=Z,446nm,20.7s,baz=124,slow=32
TXAR PKP2bc 21 10 50.2
comp=Z,2.5nm,0.9s,baz=318,slow=1.7,SNR=12
comp=Z,22nm,0.8s
FW13 Cleburne 66.61 336 IAmb IAmb 20 42 17.6
comp=Z,53nm,0.8s
Z38A Mt. Pleasant 66.62 339 IAmb IAmb 20 42 47.5
comp=Z,46nm,0.6s
OZNA Ozona 66.72 332 IAmb IAmb 20 42 19.3
comp=Z,111nm,1.1s
U54A Nelsons Funny 66.75 351 IAmb IAmb 20 42 18.2
comp=Z,122nm,1.2s
T57A Hurt 66.91 353 IAmb IAmb 20 42 19.6
comp=Z,77nm,1.4s
TZTN Tazewell 67.03 349 IAmb IAmb 20 42 19.9
comp=Z,123nm,1.5s
TAOE Nuku Hiva Isla 67.21 273 *eP* **P** **20 42 18.4 -1.7**
comp=Z,171nm,26.1s
TAOE *e*S S 20 51 03.2 -9.0
comp=Z,418nm,30.6s
TAOE *e*SS **SS** **20 55 34.8 +2.6**
comp=Z,204nm,25.2s
TAOE *e*LR LR 21 02 32.9
comp=Z,936nm,28.2s
SBA Scott Base 67.23 191 P **P** **20 42 20.6 +1.6**
SBA Scott Base 67.23 191 P **P** **20 42 20.6 +1.6**
SBA pmax pmax
comp=Z,36nm,1.1s
PLPT Palo Pinto 67.34 336 IAmb IAmb 20 42 22.4
comp=Z,71nm,0.7s
U49A Red Boiling Sp 67.38 348 IAmb IAmb 20 42 22.2
comp=Z,129nm,1.6s
WVT Waverly 67.43 346 P **P** **20 42 20.9 +0.1**
WVT IAmb IAmb 20 42 22.4
comp=Z,114nm,1.1s
WVT Waverly 67.43 346 P **P** **20 42 20.9 +0.1**
WVT pmax pmax
comp=Z,114nm,1.2s
WVT Waverly 67.43 346 P **P** **20 42 21.3 +0.5**
WVT pP **pP** **20 42 32.7 -0.3**
SGCY Sterling City 67.60 333 IAmb IAmb 20 42 24.5
comp=Z,68nm,1.0s
S57A Dark Hollow, R 67.63 354 IAmb IAmb 20 42 24.4
comp=Z,116nm,1.3s
T50A Nancy 67.71 348 IAmb IAmb 20 42 40.6
comp=Z,70nm,1.4s
MNHN Monahans 67.76 331 IAmb IAmb 20 42 25.8
comp=Z,73nm,0.9s
CBN Corbin Frederi 67.94 355 IAmb IAmb 20 42 26.5
comp=Z,51nm,0.8s
S54A Dingess, Beckl 67.94 352 IAmb IAmb 20 42 42.2
comp=Z,56nm,1.0s
LOOK Love County 68.01 337 IAmb IAmb 20 42 27.1
comp=Z,83nm,1.1s
S51A Beattyville 68.11 350 IAmb IAmb 20 42 38.3
comp=Z,58nm,1.0s
LCAR Lake Charles 68.15 343 IAmb IAmb 20 42 27.2
comp=Z,95nm,1.0s
VHRN Van Horn 68.24 329 IAmb IAmb 20 42 29.0
comp=Z,88nm,1.6s
WTFS Witchita Falls 68.25 336 IAmb IAmb 20 42 28.4
comp=Z,100nm,1.0s
VNDA Vanda 68.25 191 P **P** **20 42 26.8 +1.2**
VNDA Vanda 68.25 191 P **P** **20 42 27.3 +1.8**
comp=Z,14nm,1.0s,baz=135,slow=5.1,SNR=57
VNDA LR LR 21 09 45.9
comp=Z,172nm,21.2s,baz=141,slow=34
VNDA PKP2bc 21 10 39.6
comp=Z,7.0nm,1.1s,baz=288,slow=4.8,SNR=8.1
comp=Z,14nm,1.0s
VNDA Vanda 68.25 191 P **P** **20 42 26.8 +1.2**
VNDA pmax pmax
comp=Z,30nm,1.2s
R55A Marlinton 68.27 353 IAmb IAmb 20 42 28.8
comp=Z,120nm,1.3s
APMT Aspermont 68.46 334 IAmb IAmb 20 42 30.0
comp=Z,104nm,0.9s
SN07 Snyder 07 68.55 334 IAmb IAmb 20 42 30.3
comp=Z,59nm,0.9s
X34A Smith Ranch, M 68.79 337 IAmb IAmb 20 42 31.9
comp=Z,131nm,1.1s
R50A Paris 68.85 349 IAmb IAmb 20 44 36.2
comp=Z,37nm,0.5s
TBI Tubuai 68.85 255 *e*S **S** **20 51 31.4 0.0**
comp=Z,2µm,29.8s
TBI *e*SS **SS** **20 55 50.1 -6.8**
comp=Z,1µm,40.0s
TBI *e*LQ LQ 21 00 32.7
comp=Z,2µm,33.0s
TBI *e*LR LR 21 03 21.1
comp=Z,1µm,28.5s
TBI *e*LR LR 21 03 26.3
comp=Z,5µm,27.0s
Q56A Snyder Ridge, 68.93 354 IAmb IAmb 20 42 33.0
comp=Z,85nm,1.2s
CGM3 Cape Girardeau 68.95 344 IAmb IAmb 20 42 31.7
comp=Z,47nm,0.8s
DKNS Dickens 69.07 334 IAmb IAmb 20 42 33.4
comp=Z,47nm,0.8s
HHAR Hobbs 69.11 341 IAmb IAmb 20 42 33.5
comp=Z,87nm,1.1s
WCI Wyandotte Cave 69.14 348 P **P** **20 42 31.2 -0.3**
WCI IAmb IAmb 20 42 49.4
comp=Z,79nm,1.2s
WCI Wyandotte Cave 69.14 348 P **P** **20 42 31.2 -0.3**
WCI pmax pmax
comp=Z,79nm,1.3s
WCI Wyandotte Cave 69.14 348 P **P** **20 42 31.1 -0.4**
Q52A Bidwell 69.21 351 IAmb IAmb 20 42 33.5
comp=Z,98nm,1.1s
FNO Franklin 69.24 337 IAmb IAmb 20 42 34.4
comp=Z,63nm,1.1s
TUL3 Leonard 69.32 339 IAmb IAmb 20 42 34.5
comp=Z,113nm,1.0s
RLO Rose Lookout 69.32 340 IAmb IAmb 20 42 34.8
comp=Z,95nm,1.3s
Q51A Peebles 69.42 350 IAmb IAmb 20 42 34.9
comp=Z,85nm,1.1s
DEOK Depew 69.48 338 IAmb IAmb 20 42 35.6
comp=Z,71nm,1.0s
SYO Syowa Base 69.53 159 ⇑ *i* P **P** **20 42 33.5 0.0**
SYO Syowa Base 69.53 159 ⇑ *i* sP sP 20 42 46.2 -4.5
WUPA West Chester U 69.54 357 IAmb IAmb 20 42 36.8
comp=Z,71nm,1.0s
MCWV Mont Chateau 69.60 353 IAmb IAmb 20 42 36.6
comp=Z,104nm,1.2s
P53A Whipple 69.61 352 IAmb IAmb 20 42 36.3
comp=Z,107nm,1.2s
MVL Millersville 69.65 356 IAmb IAmb 20 42 37.5
comp=Z,99nm,1.1s
OK052 Battle Ridge R 69.72 338 IAmb IAmb 20 42 37.1
comp=Z,141nm,1.2s
OK029 Liberty Lake 69.75 338 IAmb IAmb 20 42 37.3
comp=Z,102nm,1.0s
EPT El Paso 69.76 329 IAmb IAmb 20 42 38.2
comp=Z,60nm,1.1s
P51A Williamsport 69.83 350 IAmb IAmb 20 42 37.1
comp=Z,94nm,1.3s
QUOK Quay 69.85 338 IAmb IAmb 20 42 38.1
comp=Z,82nm,1.1s
P52A Corning 69.85 351 IAmb IAmb 20 42 37.4
comp=Z,151nm,1.2s
CCM Cathedral Cave 70.06 343 P **P** **20 42 37.7 +0.6**
CCM Cathedral Cave 70.06 343 P **P** **20 42 37.7 +0.6**

CCM pmax pmax
comp=Z,180nm,1.3s
OK048 Pawnee Station 70.15 338 IAmb IAmb 20 42 40.0
comp=Z,126nm,1.2s
O52A Adamsville 70.29 352 IAmb IAmb 20 42 40.1
comp=Z,109nm,1.3s
O53A New Philadelph 70.34 352 IAmb IAmb 20 42 57.3
comp=Z,110nm,1.4s
SSPA Standing Stone 70.39 355 P **P** **20 42 40.1 +1.0**
SSPA IAmb IAmb 20 42 41.7
comp=Z,92nm,1.1s
SSPA Standing Stone 70.39 355 P **P** **20 42 40.2 +1.1**
SSPA pP **pP** **20 42 52.5 +1.1**
AMTX Amarillo 70.43 334 IAmb IAmb 20 42 42.3
comp=Z,108nm,1.1s
T35A Sooner Cattle 70.47 339 IAmb IAmb 20 42 42.1
comp=Z,105nm,1.2s
N58A Sunbury 70.51 356 IAmb IAmb 20 42 42.6
comp=Z,101nm,1.1s
CROK Carrier 70.57 338 IAmb IAmb 20 42 42.5
comp=Z,75nm,0.9s
ELIS Ellis County 70.66 336 IAmb IAmb 20 42 43.8
comp=Z,84nm,1.1s
WSPT Westport, CT 70.69 358 IAmb IAmb 20 42 43.6
comp=Z,109nm,1.0s
319A Douglas 70.73 326 IAmb IAmb 20 42 45.1
comp=Z,62nm,0.9s
OK038 West end E0370 70.80 337 IAmb IAmb 20 42 44.1
comp=Z,86nm,0.9s
PAMR Moraine State 70.90 353 IAmb IAmb 20 42 44.4
comp=Z,56nm,0.9s
M63A Gales Ferry 70.91 360 IAmb IAmb 20 42 45.1
comp=Z,97nm,1.4s
O48B Farmland 70.92 349 IAmb IAmb 20 42 43.0
comp=Z,55nm,0.7s
121A Cookes Peak, D 70.98 328 IAmb IAmb 20 42 46.9
comp=Z,89nm,1.0s
NOKA Waynoka 71.00 337 IAmb IAmb 20 42 45.4
comp=Z,72nm,1.0s
M57A Sunshine Farm, 71.03 355 IAmb IAmb 20 42 45.8
comp=Z,83nm,1.2s
KAN01 Argonia South 71.08 338 IAmb IAmb 20 42 46.0
comp=Z,138nm,1.1s
N51A Ashland 71.15 351 IAmb IAmb 20 42 45.3
comp=Z,96nm,1.2s
P43A Skaggs, Pawnee 71.17 345 IAmb IAmb 20 42 45.5
comp=Z,146nm,1.2s
KSPA Keystone Colle 71.17 357 IAmb IAmb 20 42 46.5
comp=Z,65nm,1.2s
SFIN Lafayette 71.38 347 IAmb IAmb 20 42 46.1
comp=Z,74nm,1.2s
PPT2 Papeete2 71.40 260 *e*P **P** **20 42 43.0 -3.0**
comp=Z,145nm,26.0s
PPT2 Papeete2 71.40 260 *e*PP **PP** **20 45 24.3 -0.3**
comp=Z,79nm,25.2s
PPT2 *e*S **S** **20 51 58.8 -2.7**
comp=Z,730nm,30.5s
PPT2 *e*SS **SS** **20 56 35.1 -1.4**
comp=Z,185nm,25.2s
PPT2 *e*LQ LQ 21 01 28.1
comp=Z,511nm,26.0s
PPT2 *e*LR LR 21 04 29.8
comp=Z,2µm,23.8s
PPT2 *e*LR LR 21 04 36.2
comp=Z,1µm,24.5s
PPT Papeete 71.41 260 LR LR 21 06 00.9
comp=Z,766nm,20.4s,baz=158,slow=29
PAOC Oil Creek Stat 71.43 353 IAmb IAmb 20 42 47.3
comp=Z,90nm,1.2s
L64A Middleborough 71.44 0 P **P** **20 42 46.6 +1.2**
L64A IAmb IAmb 20 42 47.5
comp=Z,59nm,1.0s
M52A Chesterland 71.63 352 IAmb IAmb 20 42 48.4
comp=Z,117nm,1.1s
BINY Binghamton 71.82 356 IAmb IAmb 20 42 50.4
comp=Z,80nm,1.1s
WES Weston 71.89 0 P **P** **20 42 47.8 -0.2**
WES Weston 71.89 0 P **P** **20 42 47.8 -0.2**
WES pmax pmax
comp=Z,43nm,1.0s
L61B Northampton 71.96 359 IAmb IAmb 20 42 51.2
comp=Z,115nm,0.9s
HDIL Hopedale 71.99 346 IAmb IAmb 20 42 49.8
comp=Z,53nm,0.7s
HRV Adam Dziewonsk 72.01 360 P **P** **20 42 50.0 +1.2**
HRV IAmb IAmb 20 42 51.7
comp=Z,68nm,0.9s
HRV Adam Dziewonsk 72.01 360 P **P** **20 42 50.0 +1.2**
HRV pmax pmax
comp=Z,68nm,1.0s
ERPA Erie 72.05 353 IAmb IAmb 20 42 51.0
comp=Z,106nm,1.4s
P38A Dawn 72.12 342 IAmb IAmb 20 42 51.5
comp=Z,92nm,1.1s
K62A Royalston 72.17 359 IAmb IAmb 20 42 52.9
comp=Z,100nm,1.3s
TUC Tucson 72.22 326 P **P** **20 42 51.7 +1.2**
TUC Tucson 72.22 326 P **P** **20 42 51.7 +1.2**
TUC pmax pmax
comp=Z,45nm,1.4s
K57A Scipio Center 72.38 356 IAmb IAmb 20 42 53.1
comp=Z,67nm,1.0s
ANMO Albuquerque 72.43 330 LR LR 21 10 28.6
comp=Z,932nm,20.6s,baz=256,slow=32
ANMO Albuquerque 72.43 330 *e*P **P** **20 42 53.9 +2.1**
ANMO pmax pmax
comp=Z,61nm,1.4s
ANMO Albuquerque 72.43 330 P **P** **20 42 54.1 +2.3**
ANMO pP **pP** **20 43 06.6 +2.6**
N41A Harden Midland 72.48 345 IAmb IAmb 20 42 53.3
comp=Z,93nm,0.9s
M44A Midewin, Midew 72.54 347 IAmb IAmb 20 42 53.4
comp=Z,101nm,1.1s
R32A Long Quarter, 72.55 338 IAmb IAmb 20 42 54.8
comp=Z,66nm,0.9s
J61A Chester 72.85 359 IAmb IAmb 20 42 57.0
comp=Z,67nm,1.0s
HQIL Hanson Quary C 72.90 347 IAmb IAmb 20 44 22.5
comp=Z,119nm,0.9s
ACCN Adirondack Com 72.91 358 IAmb IAmb 20 42 57.0
comp=Z,106nm,1.3s
MEDO Medina 72.95 355 IAmb IAmb 20 42 56.5
comp=Z,87nm,1.1s
214A Organ Pipe Nat 72.95 324 IAmb IAmb 20 42 58.5
comp=Z,91nm,1.0s
J59A Piesco 73.02 358 IAmb IAmb 20 42 57.3
comp=Z,68nm,1.0s
J57A Williamstown 73.03 357 IAmb IAmb 20 42 57.0
comp=Z,92nm,1.0s
HNH Hanover 73.21 359 IAmb IAmb 20 42 59.1
comp=Z,74nm,1.0s
L44A Lake County Fo 73.27 347 IAmb IAmb 20 44 33.9
comp=Z,100nm,1.1s
I62A Tamworth 73.37 0 P **P** **20 42 58.3 +1.4**
DBIC Dimbokro 73.39 72 P **P** **20 42 58.0 +0.3**
comp=Z,163nm,0.8s,baz=252,slow=6.0,SNR=130
DBIC LR LR 21 13 24.9
comp=Z,1µm,19.6s,baz=248,slow=34
comp=Z,163nm,0.8s
DBIC Dimbokro 73.39 72 P **P** **20 42 58.0 +0.3**
L42A Oliver, Polo 73.46 346 IAmb IAmb 20 42 59.2
comp=Z,95nm,1.3s
I63A Otisfield 73.55 1 IAmb IAmb 20 43 01.4
comp=Z,93nm,1.0s
J47A Sumner 73.77 350 IAmb IAmb 20 43 00.0
comp=Z,69nm,0.9s
K43A Burlington 73.86 347 IAmb IAmb 20 43 01.5
comp=Z,81nm,1.1s
W18A Petrified Fore 74.03 328 IAmb IAmb 20 43 04.8
comp=Z,136nm,1.2s
VTX Valle De La Tr 74.07 322 IAmb IAmb 20 43 05.2
comp=Z,113nm,1.5s
I49A Point Hope 74.18 351 IAmb IAmb 20 43 02.5
comp=Z,97nm,0.9s
SCIA State Center 74.19 343 IAmb IAmb 20 43 04.0
comp=Z,70nm,0.8s
DELO Deloro Mine 74.23 355 IAmb IAmb 20 43 04.1
comp=Z,129nm,1.6s
X16A Lo Mia Camp, P 74.26 326 IAmb IAmb 20 43 06.2
comp=Z,92nm,1.1s
EMMW East Machias 74.30 3 IAmb IAmb 20 43 05.2
comp=Z,87nm,1.1s
FRNY Flat Rock 74.36 358 IAmb IAmb 20 43 05.1
comp=Z,70nm,0.9s
JFWS Jewell Farm 74.45 346 IAmb IAmb 20 43 05.3
comp=Z,121nm,1.2s
HAL Halifax 74.48 6 IAmb IAmb 20 43 06.3
comp=Z,112nm,1.0s

SADO Sadowa 74.60 354 IAmb IAmb 20 43 05.9
comp=Z,118nm,1.1s
SADO Sadowa 74.60 354 P **P** **20 43 04.8 +0.7**
comp=Z,787nm,1.0s,baz=178,slow=5.3,SNR=20
SADO LR LR 21 17 43.8
comp=Z,2µm,20.9s,baz=264,slow=37
G62A West of Eustis 74.72 1 IAmb IAmb 20 43 07.8
comp=Z,105nm,1.0s
GGN Saint George 74.73 3 IAmb IAmb 20 43 07.8
comp=Z,70nm,1.0s
G65A Princeton 74.78 3 IAmb IAmb 20 43 08.1
comp=Z,74nm,1.2s
PKME Peaks-Kenny Pk 74.79 2 IAmb IAmb 20 43 08.0
comp=Z,96nm,1.3s
CCD Concordia, Ant 74.86 184 P **P** **20 43 06.4 +0.6**
I42A Draeger Farm, 75.12 347 IAmb IAmb 20 43 09.0
comp=Z,75nm,1.1s
WUAZ Wupatki 75.12 327 IAmb IAmb 20 43 11.3
comp=Z,97nm,1.0s
MVCO Mesa Verde 75.22 330 IAmb IAmb 20 43 11.5
comp=Z,105nm,0.9s
BUKO Buck Lake 75.29 354 IAmb IAmb 20 43 10.3
comp=Z,156nm,1.2s
F64A Sherman 75.42 2 IAmb IAmb 20 43 11.7
comp=Z,111nm,1.3s
GBN Guysborough 75.45 7 IAmb IAmb 20 43 11.7
comp=Z,72nm,1.0s
H43A Windswept, Lux 75.46 348 IAmb IAmb 20 43 10.8
comp=Z,118nm,1.1s
LMN Caledonia Moun 75.59 5 P **P** **20 43 11.3 +1.5**
TRQ Mont Tremblant 75.78 358 IAmb IAmb 20 43 12.8
comp=Z,116nm,1.1s
OGNE Ogallala 75.94 337 IAmb IAmb 20 43 14.9
comp=Z,59nm,0.8s
PV01 Paradox Valley 76.03 331 IAmb IAmb 20 43 16.4
comp=Z,115nm,1.3s
PFO Pinyon Flats O 76.15 323 P **P** **20 43 15.9 +2.5**
PFO Pinyon Flats O 76.15 323 LR LR 21 10 53.4
comp=Z,403nm,18.1s,baz=150,slow=31
PFO Pinyon Flats O 76.15 323 *i* P **P** **20 43 15.9 +2.5**
PFO pmax pmax
comp=Z,86nm,1.1s
PV13 Radium Mtn., P 76.16 330 IAmb IAmb 20 43 16.7
comp=Z,106nm,0.8s
PV15 Paradox Valley 76.16 331 IAmb IAmb 20 43 17.3
comp=Z,98nm,1.2s
PV05 Paradox Valley 76.21 330 IAmb IAmb 20 43 16.9
comp=Z,92nm,0.8s
I37A Lemond, Waseca 76.22 344 IAmb IAmb 20 43 14.8
comp=Z,90nm,0.8s
ISCO Idaho Springs 76.24 334 IAmb IAmb 20 43 17.3
comp=Z,60nm,0.9s
ISCO Idaho Springs 76.24 334 P **P** **20 43 16.2 +2.2**
ISCO pmax pmax
comp=Z,85nm,1.0s
PV03 Paradox Valley 76.25 330 IAmb IAmb 20 43 17.1
comp=Z,57nm,0.9s
PV12 Saucer Basin, 76.28 331 IAmb IAmb 20 43 17.5
comp=Z,119nm,0.9s
PV17 East Wray Mesa 76.32 330 IAmb IAmb 20 43 17.4
comp=Z,69nm,0.7s
PV19 Morning Glory 76.35 330 IAmb IAmb 20 43 17.7
comp=Z,87nm,0.9s
PV20 West Nyswonger 76.37 330 IAmb IAmb 20 43 17.8
comp=Z,89nm,1.0s
PV04 Padox Valley 76.39 331 IAmb IAmb 20 43 18.1
comp=Z,72nm,1.1s
SUR Sutherland 76.39 120 P **P** **20 43 16.1 +0.9**
SUR IAmb IAmb 20 43 17.8
comp=Z,113nm,0.9s
PV14 Lion Creek, Pa 76.42 330 IAmb IAmb 20 43 18.1
comp=Z,69nm,0.9s
PV22 Blue Mesa, Par 76.46 331 IAmb IAmb 20 43 18.4
comp=Z,50nm,0.9s
PV23 Carpenter Ridg 76.48 330 IAmb IAmb 20 43 18.6
comp=Z,97nm,0.9s
D62A Allapoint, All 76.61 2 P **P** **20 43 17.0 +1.5**
ELS Elsinore Mount 76.69 322 IAmb IAmb 20 43 20.0
comp=Z,89nm,1.1s
HMU Henry Mountain 76.81 329 IAmb IAmb 20 43 34.4
comp=Z,84nm,1.1s
MAW Mawson 76.99 164 P **P** **20 43 17.9 +0.3**
comp=Z,18nm,1.2s
MAW Mawson 76.99 164 P **P** **20 43 18.2 +0.6**
comp=Z,64nm,0.9s,baz=212,slow=7.0,SNR=70
MAW LR LR 21 20 07.8
comp=Z,770nm,18.6s,baz=234,slow=38
comp=Z,64nm,0.9s
KNB Kanab 77.02 327 IAmb IAmb 20 43 22.3
comp=Z,147nm,1.3s
LMQ La Malbaie 77.06 1 IAmb IAmb 20 43 20.5
comp=Z,101nm,1.2s
SPMN Marine on St. 77.22 345 IAmb IAmb 20 43 20.5
comp=Z,71nm,1.1s
BFSC Mount Baldy Ra 77.27 322 IAmb IAmb 20 43 23.2
comp=Z,84nm,1.2s
LDAQ Lac Daran 77.46 0 IAmb IAmb 20 43 22.8
comp=Z,137nm,1.2s
MWC Mount Wilson 77.47 322 IAmb IAmb 20 43 24.5
comp=Z,76nm,1.2s
PASC Pasadena Art C 77.50 322 IAmb IAmb 20 43 24.5
comp=Z,72nm,1.1s
SRU San Rafael Mtn 77.68 330 IAmb IAmb 20 43 24.9
comp=Z,70nm,0.8s
CCUT Cedar City 77.70 327 IAmb IAmb 20 43 26.3
comp=Z,72nm,1.0s
VLDQ Val d'Or 77.80 356 IAmb IAmb 20 43 24.4
comp=Z,123nm,1.0s
Q16A Castle Valley 77.81 329 IAmb IAmb 20 43 26.2
comp=Z,82nm,1.0s
P18A Preston Nutter 77.99 330 IAmb IAmb 20 43 27.3
comp=Z,117nm,0.9s
MACI Morro de la Ar 78.04 48 P **P** **20 43 25.0 +0.8**
TPO Tropico Hills 78.06 322 IAmb IAmb 20 43 27.2
comp=Z,91nm,1.3s
P17A Butcher Ranch, 78.08 330 IAmb IAmb 20 43 27.3
comp=Z,114nm,1.1s
CCCA Chr Cany lake 78.10 323 IAmb IAmb 20 43 28.0
comp=Z,84nm,1.0s
OSI Osito Audit: C 78.12 322 IAmb IAmb 20 43 27.8
comp=Z,75nm,0.9s
TMUT Trail Mountain 78.14 330 IAmb IAmb 20 43 28.1
comp=Z,99nm,1.4s
RAR Rarotonga 78.37 252 P **P** **20 43 27.2 +1.1**
comp=Z,15nm,0.8s,baz=101,slow=5.2,SNR=3.7
RAR LR LR 21 10 12.5
comp=Z,572nm,18.2s,baz=114,slow=30
comp=Z,15nm,0.8s
RDMU Red Mountain 78.49 331 IAmb IAmb 20 43 29.4
comp=Z,112nm,0.8s
FURC Furnace Creek, 78.57 324 IAmb IAmb 20 43 30.3
comp=Z,60nm,0.9s
TPNV Topopah Spring 78.63 325 IAmb IAmb 20 43 31.1
comp=Z,79nm,1.2s
ISA Isabella, Lake 78.78 323 IAmb IAmb 20 43 31.7
comp=Z,66nm,0.9s
MPU Maple Canyon 78.91 330 IAmb IAmb 20 43 31.9
comp=Z,69nm,1.0s
BSUT Blindstream Ca 78.97 331 IAmb IAmb 20 43 32.7
comp=Z,100nm,1.0s
JLU Jordanelle 79.32 330 IAmb IAmb 20 43 34.0
comp=Z,53nm,0.7s
SPR3 Spring Creek 3 79.32 327 IAmb IAmb 20 43 34.4
comp=Z,95nm,1.4s
RSSD Black Hills 79.43 337 P **P** **20 43 32.7 +1.1**
RSSD IAmb IAmb 20 43 34.3
comp=Z,89nm,1.1s
RSSD Black Hills 79.43 337 P **P** **20 43 32.7 +1.1**
RSSD pmax pmax
comp=Z,89nm,1.1s
DUG Dugway, Tooele 79.58 329 IAmb IAmb 20 43 35.7
comp=Z,124nm,1.4s
DUG Dugway, Tooele 79.58 329 P **P** **20 43 34.6 +2.2**
DUG pmax pmax
comp=Z,72nm,1.3s
TCUT Toone Canyon 79.72 330 IAmb IAmb 20 43 37.0
comp=Z,50nm,0.8s
DRLN Deer Lake 79.73 9 IAmb IAmb 20 43 35.0
comp=Z,151nm,1.0s
TBO Thunder Bay 79.79 348 IAmb IAmb 20 43 34.9
comp=Z,92nm,0.9s
TSUM Tsumeb 79.86 106 P **P** **20 43 35.1 +0.7**
TSUM Tsumeb 79.86 106 LR LR 21 16 11.2
comp=Z,952nm,18.4s,baz=239,slow=34
TSUM Tsumeb 79.86 106 P **P** **20 43 35.3 +0.9**
TPH Tonopah 79.99 325 IAmb IAmb 20 43 38.1
comp=Z,80nm,1.2s
PKD Bear Valley Ra 80.10 321 IAmb IAmb 20 43 38.6
comp=Z,71nm,0.9s
GRHM Grahamstown, E 80.11 123 P **P** **20 43 36.0 +0.5**
HWUT Hardware Ranch 80.19 331 IAmb IAmb 20 43 38.3
comp=Z,94nm,0.8s
KOOLE Kule 80.23 111 *i* P **P** **20 43 36.6 +0.2**
KOOLE Kule 80.23 111 P **P** **20 43 36.8 +0.4**
PDAR Pinedale Array 80.32 333 P **P** **20 43 37.3 +0.8**
PDAR Pinedale Array 80.32 333 P **P** **20 43 37.5 +1.1**
comp=Z,13nm,0.6s,baz=137,slow=7.0,SNR=110
PDAR PKKPbc **PKKPbc** **21 02 18.2 -2.4**
comp=Z,1.0nm,0.6s,baz=225,slow=0.2,SNR=9.2
PDAR PKPPKP **P'P'df** **21 10 22.4 +3.8**
comp=Z,0.2nm,0.5s,baz=225,slow=0.4,SNR=4.7
PDAR LR LR 21 16 18.0
comp=Z,329nm,20.0s,baz=141,slow=33
comp=Z,13nm,0.6s
PMPB Monarch Peak 80.44 322 IAmb IAmb 20 43 41.1
comp=Z,65nm,1.0s
HULI Fort Hunter Li 80.53 321 IAmb IAmb 20 43 41.5
comp=Z,121nm,0.9s
E28A Huff 80.55 340 IAmb IAmb 20 43 39.9
comp=Z,128nm,0.9s
PMOZ Porto Moniz, M 80.77 44 *e*LR LR 21 13 49.2
PMOZ *i* IAMs_20 IAMs_20 21 20 04.4
comp=Z,652nm,18.0s
NVAR Mina Array Bea 80.81 324 P **P** **20 43 40.6 +1.5**
NVAR Mina Array Bea 80.81 324 P **P** **20 43 41.1 +2.0**
comp=Z,19nm,0.8s,baz=154,slow=6.4,SNR=102
NVAR pP **sP** **20 43 55.4 -0.7**
comp=Z,7.5nm,0.8s,baz=150,slow=4.2,SNR=6.7
NVAR PKKPbc **PKKPbc** **21 02 17.4 -1.7**
comp=Z,1.9nm,0.8s,baz=300,slow=1.4,SNR=6.7
NVAR PKPPKP **P'P'df** **21 10 21.6 +3.2**
comp=Z,1.6nm,1.0s,baz=252,slow=2.9,SNR=4.0
NVAR LR LR 21 13 16.1
comp=Z,364nm,21.4s,baz=122,slow=31
comp=Z,19nm,0.8s
AGMN Agassiz Nation 80.83 344 IAmb IAmb 20 43 40.6
comp=Z,69nm,0.8s
LEGD La Grand CA 80.84 323 IAmb IAmb 20 43 42.4
comp=Z,148nm,1.2s
BBGB Big Mountain B 80.84 322 IAmb IAmb 20 43 44.9
comp=Z,90nm,0.8s
DRV Dumont d'Urvil 80.85 192 P **P** **20 43 39.0 +0.3**
DRV pP **pP** **20 43 50.0 -1.3**
PMAR Madeira 80.88 44 *e*P **P** **20 43 40.7 +1.2**
PMAR *i* IAmb IAmb 20 43 42.2
comp=Z,135nm,1.0s
ELK Elko 81.13 328 LR LR 21 15 57.9
comp=Z,545nm,19.9s,baz=129,slow=33
PHPEN Phepeng 81.19 114 *i* P **P** **20 43 41.4 -0.1**
WAKR Walker 81.44 324 IAmb IAmb 20 43 46.4
comp=Z,93nm,1.3s
BOSA Boshof 81.54 118 IAmb IAmb 20 43 44.6
comp=Z,109nm,1.1s
BOSA Boshof 81.54 118 P **P** **20 43 43.5 +0.2**
comp=Z,74nm,0.8s,baz=247,slow=4.2,SNR=117
BOSA LR LR 21 16 11.6
comp=Z,552nm,19.8s,baz=277,slow=33
comp=Z,74nm,0.8s
MHC Mount Hamilton 81.73 322 IAmb IAmb 20 43 47.6
comp=Z,69nm,1.1s
GRTLG Ghanzi 81.83 110 IAmb IAmb 20 43 46.6
comp=Z,72nm,0.8s
KGCAE Kacgae 81.92 112 *i* P **P** **20 43 45.3 -0.1**
KGCAE Kacgae 81.92 112 IAmb IAmb 20 43 47.2
comp=Z,192nm,1.6s
WELL Weller Preserv 82.06 323 IAmb IAmb 20 43 48.8
comp=Z,66nm,0.8s
RLMT Red Lodge 82.19 334 IAmb IAmb 20 43 48.5
comp=Z,40nm,0.7s
TORD Torodi Ar. Bea 82.31 70 P **P** **20 43 47.7 +0.4**
comp=Z,105nm,0.9s,baz=276,slow=4.6,SNR=157
TORD pP **pP** **20 44 01.2 +1.1**
comp=Z,19nm,0.6s,baz=267,slow=3.9,SNR=3.6
TORD PKKPbc **PKKPbc** **21 02 16.1 +2.2**
comp=Z,0.9nm,1.0s,baz=0.8,slow=4.0,SNR=3.9
TORD LR LR 21 18 58.7
comp=Z,851nm,19.3s,baz=216,slow=35
comp=Z,105nm,0.9s
PAHR Pah Rah Range 82.32 325 IAmb IAmb 20 43 50.5
comp=Z,104nm,1.1s
LAO LASA Array 82.43 337 IAmb IAmb 20 43 49.7
comp=Z,121nm,1.0s
YMR Madison River 82.47 333 IAmb IAmb 20 43 51.0
comp=Z,84nm,0.9s
SKOMA Sekoma 82.50 114 *i* P **P** **20 43 48.4 0.0**
MAKGR Makgori 82.56 115 *i* P **P** **20 43 48.2 -0.5**
ULM Lac du Bonnet 82.65 344 P **P** **20 43 48.7 +0.5**
comp=Z,95nm,1.0s,baz=155,slow=4.9,SNR=47
comp=Z,95nm,1.0s
YHL Hebgen Lake 82.71 333 IAmb IAmb 20 43 52.5
comp=Z,160nm,1.9s
BEKR Beckworth 82.94 324 IAmb IAmb 20 43 53.4
comp=Z,64nm,1.0s
HLID Hailey 83.00 330 IAmb IAmb 20 43 53.7
comp=Z,79nm,1.2s
SUTB Sutter Butte 83.20 323 IAmb IAmb 20 43 54.1
comp=Z,169nm,1.6s
MNRC McLaughlin Min 83.29 322 IAmb IAmb 20 43 55.4
comp=Z,54nm,1.1s
ORV Oroville 83.29 323 IAmb IAmb 20 43 55.3
comp=Z,108nm,1.1s
GMARE Gumare 83.56 109 IAmb IAmb 20 43 55.3
comp=Z,51nm,0.8s
LBTB Lobatse 83.57 115 LR LR 21 15 53.7
comp=Z,930nm,21.7s,baz=233,slow=32
LBTB Lobatse 83.57 115 P **P** **20 43 54.3 +0.3**
O03E Paynes Creek 83.99 324 IAmb IAmb 20 43 57.5
comp=Z,74nm,1.1s
CASY Casey 84.16 181 P **P** **20 43 56.7 +0.8**
CASY IAmb IAmb 20 43 58.1
comp=Z,51nm,1.0s
SCHQ Schefferville 84.44 3 P **P** **20 43 57.9 +0.6**
comp=Z,796nm,1.0s,baz=171,slow=4.3,SNR=27
SCHQ LR LR 21 22 19.1
comp=Z,2µm,20.5s,baz=188,slow=36
EDA Edea 84.58 83 IAmb IAmb 20 44 02.6
comp=Z,104nm,1.2s
LPHEP Lephephe 84.60 114 *i* P **P** **20 43 59.4 +0.2**
M03C McCloud 84.88 324 IAmb IAmb 20 44 02.4
comp=Z,76nm,1.2s
PLID Pearl Lake 84.91 330 IAmb IAmb 20 44 02.3
comp=Z,48nm,0.8s
KHWEE KHWEE 84.98 112 *i* P **P** **20 44 01.5 +0.4**
PHDHD Phuduhudu 85.11 110 *i* P **P** **20 44 01.9 +0.1**
KMPM Mount Pierce 85.29 322 IAmb IAmb 20 44 05.7
comp=Z,72nm,1.0s
KHMM Horse Mountain 85.42 323 IAmb IAmb 20 44 06.3
comp=Z,116nm,1.5s
YBH Yreka Blue Hor 85.52 324 LR LR 21 16 08.6
comp=Z,24nm,20.8s,baz=132,slow=31
L04D Klamath Falls 85.67 325 IAmb IAmb 20 44 06.3
comp=Z,57nm,1.1s
J05D Fort Rock, OR 85.93 326 IAmb IAmb 20 44 08.3
comp=Z,72nm,1.1s
KSXB Camp Six Broad 86.18 324 IAmb IAmb 20 44 14.7
comp=Z,57nm,1.1s
L02F Cave Junction 86.24 324 IAmb IAmb 20 44 09.8
comp=Z,89nm,1.3s
MREMI Moremi 86.26 114 *i* P **P** **20 44 07.8 +0.3**
MREMI Moremi 86.26 114 IAmb IAmb 20 44 08.9
comp=Z,53nm,0.8s
SOOWA Sowa 86.29 111 *i* P **P** **20 44 07.8 +0.1**
BBOR Butler Butte 86.35 325 IAmb IAmb 20 44 09.3
comp=Z,39nm,1.1s
KHZ Kahutara 86.52 222 P **P** **20 44 09.8 +1.6**
KHZ IAmb IAmb 20 44 10.9
comp=Z,41nm,0.8s
WIFE Three Sisters- 86.79 326 IAmb IAmb 20 44 12.6
comp=Z,72nm,1.0s
KSANE Kasane 86.82 109 *i* P **P** **20 44 10.9 +0.6**
KSANE Kasane 86.82 109 IAmb IAmb 20 44 11.6
comp=Z,43nm,0.9s
OXZ Oxford 86.82 221 IAmb IAmb 20 44 12.8
comp=Z,76nm,1.2s
URZ Urewera 86.83 227 LR LR 21 13 36.0
comp=Z,441nm,21.3s,baz=136,slow=29
BROLN Tlhalogang 86.92 112 *i* P **P** **20 44 10.6 -0.2**
LTZ Lake Taylor 87.03 221 P **P** **20 44 12.6 +1.8**
POGA Pongola 87.09 120 P **P** **20 44 11.3 -0.1**
POGA IAmb IAmb 20 44 13.0
comp=Z,71nm,1.4s
G06A Carlson Farm, 87.11 328 IAmb IAmb 20 44 14.2
comp=Z,70nm,1.2s
RPZ Rata Peaks 87.13 220 P **P** **20 44 13.0 +1.8**
RPZ Rata Peaks 87.13 220 P **P** **20 44 13.2 +2.0**

comp=Z,67nm,0.9s,baz=208,slow=2.8,SNR=11
RPZ LR LR 21 15 58.0
comp=Z,299nm,19.9s,baz=134,slow=31
comp=Z,67nm,0.9s
KEBM Edson Butte 87.17 324 IAmb IAmb 20 44 14.5
comp=Z,85nm,1.1s
H04A Detroit Lake 87.43 326 IAmb IAmb 20 44 14.6
comp=Z,61nm,0.9s
HAWA Hanford 87.48 329 IAmb IAmb 20 44 15.3
comp=Z,58nm,1.1s
H04D Lebanon 87.58 326 IAmb IAmb 20 44 32.4
comp=Z,46nm,1.0s
NEW Newport 87.89 331 LR LR 21 20 55.1
comp=Z,541nm,18.2s,baz=143,slow=34
MXC Moxie City 87.96 329 IAmb IAmb 20 44 17.8
comp=Z,40nm,1.1s
C09A Chrisman Ranch 88.01 331 IAmb IAmb 20 44 17.3
comp=Z,103nm,1.4s
MATP Matopo 88.20 112 LR LR 21 20 48.2
comp=Z,596nm,19.1s,baz=234,slow=34
FFC Flin Flon 88.25 343 P **P** **20 44 16.1 +0.1**
FFC IAmb IAmb 20 44 17.6
comp=Z,41nm,1.2s
FFC Flin Flon 88.25 343 P **P** **20 44 16.1 +0.1**
FFC pmax pmax
comp=Z,41nm,1.2s
FFC Flin Flon 88.25 343 P **P** **20 44 16.3 +0.3**
FFC pP **pP** **20 44 28.7 0.0**
RAO Raoul Island 88.55 237 LR LR 21 14 24.8
comp=Z,226nm,20.1s,baz=287,slow=29
LTY Liberty 88.64 329 IAmb IAmb 20 44 20.4
comp=Z,69nm,1.4s
MD31 MD31 88.74 51 IAmb IAmb 20 44 22.0
comp=Z,35nm,1.1s
LON Longmire 88.78 328 IAmb IAmb 20 44 20.8
comp=Z,26nm,0.9s
MDT Midelt 88.81 51 LR LR 21 21 30.5
comp=Z,443nm,21.7s,baz=232,slow=34
MORF Marmelete 88.97 45 *e*P **P** **20 44 20.9 +1.0**
MORF IAmb IAmb 20 44 21.7
comp=Z,24nm,0.9s
MORF Marmelete 88.97 45 IAmb IAmb 20 44 22.0
comp=Z,36nm,1.1s
MORF Marmelete 88.97 45 *e*P **P** **20 44 20.9 +1.0**
MORF *i* IAmb IAmb 20 44 37.7
comp=Z,55nm,1.4s
MORF Marmelete 88.97 45 *e*P **P** **20 44 20.9 +1.0**
PTEO Sao Teotonio 89.08 45 *e*P **P** **20 44 21.7 +1.4**
PTEO *i* IAmb IAmb 20 44 22.4
comp=Z,126nm,0.8s
PBDV Barranco-do-Ve 89.38 46 *e*P **P** **20 44 23.0 +1.2**
PBDV *i* IAmb IAmb 20 44 24.4
comp=Z,97nm,1.1s
PCVE Castro Verde 89.56 45 *e*P **P** **20 44 23.6 +1.0**
PCVE *i* IAmb IAmb 20 44 31.6
comp=Z,22nm,1.6s
MESJ Messejana 89.57 45 *e*P **P** **20 44 23.6 +1.0**
MESJ IAmb IAmb 20 44 24.0
comp=Z,28nm,0.9s
MESJ Messejana 89.57 45 IAmb IAmb 20 44 24.8
comp=Z,45nm,1.2s
MESJ Messejana 89.57 45 *e*P **P** **20 44 23.9 +1.3**
MESJ *i* IAmb IAmb 20 44 36.1
comp=Z,38nm,1.7s
MESJ Messejana 89.57 45 *e*P **P** **20 44 23.6 +1.0**
PVAQ Vaqueiros 89.61 46 IAmb IAmb 20 44 24.5
comp=Z,36nm,0.9s
PVAQ Vaqueiros 89.61 46 *e*P **P** **20 44 24.0 +1.2**
PVAQ *i* IAmb IAmb 20 44 25.4
comp=Z,36nm,1.3s
PVAQ *e*LR LR 21 17 00.4
PVAQ *i* IAMs_20 IAMs_20 21 24 38.5
comp=Z,643nm,18.0s
PMAFR Mafra 89.64 44 *e*P **P** **20 44 24.3 +1.3**
PMAFR *i* IAmb IAmb 20 44 29.9
comp=Z,72nm,1.2s
PARRA Arraiolos 89.69 44 *e*P **P** **20 44 26.9 +3.7**
PARRA *i* IAmb IAmb 20 44 27.7
comp=Z,34nm,1.1s
PBEJ Beja 89.91 45 *e*P **P** **20 44 25.0 +0.8**
PBEJ *i* IAmb IAmb 20 44 26.0
comp=Z,41nm,1.0s
PSBE So Bento 90.29 43 *e*P **P** **20 44 27.2 +1.3**
PSBE *i* IAmb IAmb 20 44 44.6
comp=Z,73nm,1.5s
PMTG Montargil 90.35 44 *e*P **P** **20 44 26.8 +0.6**
PMTG *i* IAmb IAmb 20 44 28.3
comp=Z,72nm,1.2s
PBAR Barrancos 90.51 45 *e*P **P** **20 44 27.6 +0.6**
PBAR *i* IAmb IAmb 20 44 29.1
comp=Z,28nm,1.5s
TAM Tamanrasset 90.56 64 P **P** **20 44 28.7 +0.9**
TAM pmax pmax
comp=Z,37nm,1.1s
PESTR Estremoz 90.61 44 IAmb IAmb 20 44 29.4
comp=Z,38nm,1.1s
PESTR Estremoz 90.61 44 *e*P **P** **20 44 28.2 +0.7**
PESTR *i* IAmb IAmb 20 44 29.6
comp=Z,30nm,1.1s
PSARD Sardoal 90.72 44 *e*P **P** **20 44 27.9 0.0**
PSARD *i* IAmb IAmb 20 44 30.2
comp=Z,30nm,1.7s
PCAS Casmilo, Conde 90.80 43 *e*P **P** **20 44 29.1 +0.7**
PCAS *i* IAmb IAmb 20 44 30.3
comp=Z,34nm,1.9s
PGC Sidney 90.93 328 IAmb IAmb 20 44 31.2
comp=Z,31nm,1.0s
COI Coimbra 90.95 43 IAmb IAmb 20 44 32.3
comp=Z,36nm,0.9s
PMRV Marv??o 91.08 44 *e*P **P** **20 44 29.8 +0.2**
PMRV *i* IAmb IAmb 20 44 31.1
comp=Z,26nm,1.0s
PMRV *e*LR LR 21 17 16.6
PMRV *i* IAMs_20 IAMs_20 21 26 45.1
comp=Z,490nm,18.0s
PCBR Castelo Branco 91.28 44 *e*P **P** **20 44 30.9 +0.4**
PCBR *i* IAmb IAmb 20 44 50.8
comp=Z,22nm,1.8s
PVIS Viseu 91.58 43 *e*P **P** **20 44 32.7 +0.7**
MTE Manteigas 91.59 43 *e*P **P** **20 44 32.5 +0.5**
MTE *i* IAmb IAmb 20 44 33.7
comp=Z,37nm,1.1s
MTE *e*LR LR 21 17 51.0
MTE *i* IAMs_20 IAMs_20 21 24 14.8
comp=Z,994nm,20.0s
PVRL Vila Real 92.04 43 *e*P **P** **20 44 34.4 +0.3**
PVRL *i* IAmb IAmb 20 44 40.4
comp=Z,50nm,1.7s
POLO Lamas de Olo 92.05 42 *e*P **P** **20 44 34.5 +0.3**
POLO *i* IAmb IAmb 20 44 36.0
comp=Z,27nm,1.8s
PGAV Gavieira, Arco 92.15 42 *e*LR LR 21 17 10.2
PGAV *i* IAMs_20 IAMs_20 21 26 00.6
comp=Z,515nm,18.0s
MVO Moncorvo 92.37 43 *e*P **P** **20 44 36.3 +0.6**
MVO *i* IAmb IAmb 20 44 39.2
comp=Z,32nm,1.5s
MVO *e*LR LR 21 17 51.1
MVO *i* IAMs_20 IAMs_20 21 24 18.1
comp=Z,677nm,20.0s
PAB San Pablo 93.01 45 P **P** **20 44 38.8 +0.1**
PAB IAmb IAmb 20 44 40.4
comp=Z,26nm,1.0s
PAB San Pablo 93.01 45 P **P** **20 44 38.8 +0.1**
PAB pmax pmax
comp=Z,26nm,1.0s
FRB Frobisher Bay 93.31 1 LR LR 21 29 12.1
comp=Z,225nm,19.5s,baz=169,slow=37
ESDC Sonseca Array 93.33 46 P **P** **20 44 40.2 +0.1**
ESDC Sonseca Array 93.33 46 P **P** **20 44 40.6 +0.5**
comp=Z,11nm,0.9s,baz=250,slow=4.1,SNR=51
ESDC LR LR 21 26 57.5
comp=Z,615nm,18.1s,baz=216,slow=36
comp=Z,11nm,0.9s
BBB Bella Bella 95.54 329 LR LR 21 23 10.3
comp=Z,166nm,21.1s,baz=158,slow=32
SFJD Kangerlussuaq 97.83 8 LR LR 21 30 50.5
comp=Z,129nm,19.7s,baz=190,slow=36
CEST Esterri de Car 98.23 45 IAmb IAmb 20 45 06.8
comp=Z,47nm,1.2s
YKAW1 Yellowknife Wh 98.27 341 IAmb IAmb 20 45 03.3
comp=Z,28nm,1.3s
YKA Yellowknife Ar 98.31 341 P Pdif 20 45 02.5 +0.3
comp=Z,8.5nm,0.9s,baz=138,slow=4.5,SNR=15
YKA LR LR 21 31 14.4
comp=Z,164nm,19.1s,baz=121,slow=36
comp=Z,8.5nm,0.9s
KEST Kesra 100.06 55 P **Pdif** **20 45 09.3 -1.4**
comp=Z,5.0nm,0.9s,baz=271,slow=4.8,SNR=3.8
KEST LR LR 21 33 04.1
comp=Z,843nm,18.9s,baz=242,slow=37
comp=Z,5.0nm,0.9s
KEST Kesra 100.06 55 P **Pdif** **20 45 12.0 +1.3**
SSB Saint Sauveur 101.66 44 P **Pdif** **20 45 18.6 +1.0**
DZM Mont Dzumac 104.09 234 *e*SS SS 21 04 24.4 -7.8
comp=Z,273nm,26.4s
DZM Mont Dzumac 104.09 234 *e*LR LR 21 19 35.6
comp=Z,1µm,23.8s
SUMG Summit 104.64 10 P **Pdif** **20 45 31.1 +0.5**
ECH Echery 104.67 43 P **Pdif** **20 45 31.0 +0.1**
TUE Stuetta 105.17 45 **Pdif** **20 45 33.8 +0.4**
DAVA Damuels 105.87 44 *e*Pdiff **Pdif** **20 45 37.5 +1.1**
comp=Z,13nm,1.0s
FETA Feichten 106.27 45 *e*Pdiff **Pdif** **20 45 39.3 +1.1**
comp=Z,9.7nm,1.0s,SNR=8.0
FETA Feichten 106.27 45 *e*PKiKP **PKiKP** **20 49 50.5 +1.1**
comp=Z,5.9nm,1.1s
RETA Reutte 106.50 44 *e*Pdiff **Pdif** **20 45 40.2 +1.2**
comp=Z,12nm,1.2s
MOTA Moosalm 106.64 45 *e*Pdiff **Pdif** **20 45 40.8 +1.0**
comp=Z,14nm,1.2s
SQTA Sankt Quirin 106.65 45 *e*Pdiff **Pdif** **20 45 40.9 +1.1**
comp=Z,17nm,1.0s,SNR=7.9
WATA Walderalm 106.93 45 *e*Pdiff **Pdif** **20 45 42.1 +1.0**
comp=Z,10nm,1.2s
WTTA Wattenberg 106.93 45 *e*Pdiff **Pdif** **20 45 42.4 +1.2**
comp=Z,14nm,1.1s,SNR=6.2
WTTA Wattenberg 106.93 45 *e*PKiKP **PKiKP** **20 49 53.3 +2.6**
comp=Z,3.8nm,1.1s
ABTA Abfaltersbach 107.25 46 Pdiff **Pdif** **20 45 43.6 +1.1**
comp=Z,5.5nm,1.0s,SNR=4.1
ABTA Abfaltersbach 107.25 46 *e*PKiKP **PKiKP** **20 49 52.0 +0.8**
comp=Z,5.8nm,1.2s
LESA Schwarzleotal 107.64 45 *e*Pdiff **Pdif** **20 45 45.0 +0.8**
comp=Z,6.7nm,1.1s
KBA Koelnbreinsper 107.91 46 *e*Pdiff **Pdif** **20 45 46.1 +0.6**
comp=Z,1.6nm,0.8s
BIOA Bad Ischl, Aus 108.34 45 *e*Pdiff **Pdif** **20 45 48.7 +1.5**
comp=Z,3.9nm,1.0s
OBKA Obir 108.43 47 Pdiff **Pdif** **20 45 49.2 +1.5**
comp=Z,8.7nm,1.8s
MOA Molln 108.80 45 *e*Pdiff **Pdif** **20 45 50.2 +0.9**
comp=Z,5.2nm,0.9s
SOKA Soboth 108.80 47 *e*PKiKP **PKiKP** **20 49 56.5 +2.4**
comp=Z,3.9nm,1.1s
GERES GERESS Array B 108.85 44 Pdiff **Pdif** **20 45 48.5 -1.0**
comp=Z,0.9nm,0.8s,baz=288,slow=6.8,SNR=5.7
GERES PKiKP **PKiKP** **20 49 54.4 +0.3**
comp=Z,3.2nm,1.0s,baz=262,slow=3.9,SNR=11
GERES PKKPbc **PKKPbc** **21 01 02.2 -1.1**
comp=Z,0.4nm,0.7s,baz=320,slow=4.0,SNR=4.2
KHC Kasperske Hory 108.89 44 *e*PP **PP** **20 50 18.6 -3.6**
KHC AMS AMS 21 30 10.0
comp=Z,800nm,33.0s
CKRC Cesky Krumlov 109.21 44 AMS AMS 21 30 10.0
comp=Z,700nm,23.8s
ZVC Zvikov 109.39 44 *e*PP **PP** **20 50 22.1 -3.6**
ZVC AMS AMS 21 37 20.0
comp=Z,400nm,19.9s
CLL Collm 109.43 41 *e*PKiKP **PKiKP** **20 49 55.0 0.0**
comp=Z,6.0nm,1.2s
CLL *e*PP **PP** **20 50 21.0 -5.0**
comp=Z,8.0nm,1.1s
CLL *ex* x 20 59 06.0
CLL *e*PS **PS** **21 00 02.0 +8.4**
CLL *ex* x 21 01 30.0
PRU Pruhonice 109.81 43 *e*PP **PP** **20 50 24.9 -3.9**
PRU AMS AMS 21 32 20.0
comp=Z,400nm,22.7s
CONA Conrad Observa 109.81 46 *e*PKiKP **PKiKP** **20 49 56.5 +0.5**
comp=Z,0.5nm,0.3s
TREC Trest 110.11 44 AMS AMS 21 30 50.0
comp=Z,500nm,19.8s
KRUC Moravsky 110.57 45 *e*PKIKP **PKiKP** **20 49 58.3 +1.0**
KRUC *e* 20 50 29.9
ILAR Eielson Array 110.74 334 Pdiff **Pdif** **20 45 57.7 +0.3**
comp=Z,1.2nm,0.8s,baz=147,slow=2.8,SNR=8.6
ILAR PKiKP **PKiKP** **20 50 00.9 +3.8**
comp=Z,2.2nm,1.3s,baz=111,slow=3.2,SNR=4.1
ILAR PKKPbc **PKKPbc** **21 00 54.9 -2.7**
comp=Z,1.0nm,0.8s,baz=308,slow=3.9,SNR=5.4
VRAC Vranov 110.78 44 *e*PKIKP **PKiKP** **20 49 58.1 +0.4**
VRAC *e* 20 50 31.5
UPC Upice 110.88 43 AMS AMS 21 30 30.0
comp=Z,300nm,20.2s
CHVC Chvalec 110.94 43 *e*PP **PKiKP** **20 49 57.6 -0.3**
DPC Dobruska-Polom 111.01 43 *e*PP **PKiKP** **20 49 59.1 +1.0**
DPC AMS AMS 21 30 40.0
comp=Z,300nm,22.0s
OSTC Ostas 111.02 43 *e*PP **PKiKP** **20 49 58.6 +0.5**
OSTC Ostas 111.02 43 *e*PKIKP **PKiKP** **20 49 58.6 +0.5**
STKA Stephens Creek 111.06 210 PKiKP **PKiKP** **20 49 58.9 0.0**
comp=Z,2.5nm,0.8s,baz=52,slow=6.9,SNR=4.2
STKA PKKPbc **PKKPbc** **21 00 54.1 -1.4**
comp=Z,2.0nm,0.9s,baz=231,slow=0.4,SNR=2.8
KRLC Kraliky 111.18 44 *e*PP **PKiKP** **20 49 59.1 +0.7**
KRLC AMS AMS 21 31 10.0
comp=Z,400nm,25.0s
JAVC Velka Javorina 111.28 45 *e*PKIKP **PKiKP** **20 50 00.1 +1.4**
MORC Moravsky Berou 111.53 44 *e*PKIKP **PKiKP** **20 49 59.9 +0.8**
OKC Ostrava-Krasne 111.92 44 AMS AMS 21 31 40.0
comp=Z,400nm,25.9s
BOVS Bovan 112.03 51 ⇓P **PKiKP** **20 49 59.9 -0.3**
BZS Buzias 112.66 49 ⇑P **PKiKP** **20 50 00.5 -0.8**
BZS Buzias 112.66 49 ⇑PKIKP **PKiKP** **20 50 00.5 -0.8**
SIRR Siria 112.91 49 ⇑P **PKiKP** **20 50 02.1 +0.3**
HERR Herculane 112.94 50 ⇓P **PKiKP** **20 50 01.8 -0.1**
SURR Surduc 113.04 49 ⇑P **PKiKP** **20 50 02.6 +0.5**
HFS Hagfors 113.07 33 PP PP **20 50 48.5 -3.4**
comp=Z,7.6nm,1.1s,baz=222,slow=8.0,SNR=5.4
HFS PKKPbc **PKKPbc** **21 00 49.3 -0.4**
comp=Z,3.2nm,0.8s,baz=306,slow=1.3,SNR=4.4
GZR Gura Zlata 113.35 50 ⇓P **PKiKP** **20 50 02.6 -0.2**
GZR Gura Zlata 113.35 50 ⇓PKIKP **PKiKP** **20 50 02.6 -0.2**
DRGR 113.76 48 ⇑P **PKiKP** **20 50 03.4 -0.1**
DRGR 113.76 48 ⇑PKIKP **PKiKP** **20 50 03.4 -0.1**
MARR Marisel-Cluj 113.99 49 ⇓P **PKiKP** **20 50 03.9 0.0**
HUMR Humele 114.55 51 ⇑P **PKiKP** **20 50 05.0 0.0**
ARR Arges 114.58 50 ⇑P **PKiKP** **20 50 05.5 +0.4**
KWP Kalwaria Pacla 114.65 46 *e*PKP **PKiKP** **20 50 05.9 +0.9**
ELND Elena 114.66 53 ⇓P PKPdf 20 50 04.2 -1.1
LOZB Loznitsa 115.30 53 ⇓P **PKiKP** **20 50 06.1 -0.4**
MLR Muntele Rosu 115.50 51 ⇑P **PKPdf** **20 50 05.5 -1.4**
MLR Muntele Rosu 115.50 51 ⇑PKIKP **PKPdf** **20 50 05.5 -1.4**
BURAR Bucovina Array 115.64 48 ⇑P **PKiKP** **20 50 06.9 -0.2**
BURAR Bucovina Array 115.64 48 ⇑PKIKP **PKiKP** **20 50 06.9 -0.2**
ONER Baraj Valea Uz 116.05 50 ⇓P **PKiKP** **20 50 08.0 +0.2**
PLOR Plostina 116.08 50 ⇓P **PKPdf** **20 50 06.6 -1.3**
PLOR Plostina 116.08 50 ⇓PKIKP **PKPdf** **20 50 06.6 -1.3**
VRI Vrincioaia 116.13 50 ⇓P **PKiKP** **20 50 07.7 -0.3**
VRI Vrincioaia 116.13 50 ⇓PKIKP **PKiKP** **20 50 07.7 -0.3**
SUW Suwalki 116.17 41 *e*PKP **PKiKP** **20 50 08.1 +0.4**
HARR Harsova 116.61 52 ⇑P **PKiKP** **20 50 08.8 -0.1**
HARR Harsova 116.61 52 ⇑PKIKP **PKiKP** **20 50 08.8 -0.1**
GHRR 116.64 50 ⇑P **PKPdf** **20 50 07.8 -1.1**
TIRR Tirgusor 116.88 52 ⇑P **PKiKP** **20 50 09.5 +0.1**
TIRR Tirgusor 116.88 52 ⇑PKIKP **PKiKP** **20 50 09.5 +0.1**
CFR Carcaliu 116.89 51 ⇑P **PKiKP** **20 50 09.7 +0.3**
CFR Carcaliu 116.89 51 ⇑PKIKP **PKiKP** **20 50 09.7 +0.3**
VLDR Vladesti 117.03 51 ⇓P **PKiKP** **20 50 09.9 +0.2**
VASR Vaslui 117.06 50 ⇑P **PKiKP** **20 50 10.0 +0.3**
TLCR 117.35 52 ⇑P **PKiKP** **20 50 11.0 +0.7**
TLCR 117.35 52 ⇑PKIKP **PKiKP** **20 50 11.0 +0.7**
MILM Milestii Mici 117.81 50 ⇓P **PKPdf** **20 50 10.4 -0.7**
MILM Milestii Mici 117.81 50 ⇓PKIKP **PKPdf** **20 50 10.4 -0.7**
SORM Soroca 117.81 48 ⇓P **PKPdf** **20 50 09.6 -1.5**
SORM Soroca 117.81 48 ⇓PKIKP **PKPdf** **20 50 09.6 -1.5**
SPITS Spitsbergen Ar 118.54 14 PKP **PKiKP** **20 50 11.9 +0.1**
comp=Z,0.4nm,0.3s,baz=202,slow=24,SNR=7.4
SPITS PKKPbc **PKKPab** **21 00 29.2 0.0**
comp=Z,8.2nm,0.8s,baz=138,slow=8.9,SNR=5.4
MMAI Mount Meron Ar 118.68 66 PKP **PKiKP** **20 50 13.8 +0.4**
comp=Z,3.9nm,0.6s,baz=270,slow=0.8,SNR=10.0
ANTO Ankara 118.72 58 ⇑P **PKiKP** **20 50 13.6 +0.3**
ANTO Ankara 118.72 58 ⇑PKIKP **PKiKP** **20 50 13.6 +0.3**
KIEV Kiev 118.96 46 ⇓P **PKPdf** **20 50 11.7 -1.5**
KIEV Kiev 118.96 46 *i* PKPdf **PKPdf** **20 50 12.7 -0.6**
SNR=14
KIEV Kiev 118.96 46 ⇓PKIKP **PKPdf** **20 50 11.7 -1.5**
MNK Minsk 118.97 41 *i* PKIKP **PKiKP** **20 50 13.2 0.0**
MNK *i* 20 51 33.3
MNK *i* PPP PPP 20 54 05.3
MNK *i* SSS SSS 21 12 19.7
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK pmax pmax
comp=Z,20nm,0.8s
MNK MLR MLR
comp=Z,266nm,18.0s
MNK MLR MLR
comp=N,250nm,20.0s
MNK MLR MLR
comp=E,196nm,22.0s
AKASG Malin Array Be 118.97 46 PKP **PKPdf** **20 50 12.6 -0.6**
comp=E,10nm,0.9s,baz=275,slow=2.3,SNR=25
AKASG PP **PP** **20 51 28.6 -4.9**
comp=E,6.2nm,1.0s,baz=255,slow=7.8,SNR=5.3
AKBB Malin Array Si 118.97 46*c* PKIKP **PKiKP** **20 50 12.9 -0.4**
VSU Vasula 119.09 37*c* PKIKP **PKiKP** **20 50 12.9 -0.4**
VSU pmax pmax
comp=Z,30nm,1.0s
FINES FINESS Array B 119.27 33 PKP **PKiKP** **20 50 13.6 0.0**
comp=Z,3.9nm,0.9s,baz=48,slow=2.8,SNR=7.5
FINES PP **PP** **20 51 33.2 -1.9**
comp=Z,7.6nm,1.1s,baz=225,slow=5.1,SNR=6.6
FINES PKKPbc **PKKPbc** **21 00 27.3 -0.5**
comp=Z,2.7nm,0.8s,baz=79,slow=4.1,SNR=8.7
BR131 Keskin Array S 119.31 59 P **PKiKP** **20 50 14.6 0.0**
SNR=6.2
BRTR Keskin Array B 119.31 59 PKP **PKiKP** **20 50 14.6 0.0**
comp=Z,7.0nm,0.8s,baz=187,slow=2.6,SNR=34
BRTR PP **PP** **20 51 33.4 -2.9**
comp=Z,3.3nm,1.0s,baz=228,slow=4.8,SNR=4.6
BRTR PKKPbc **PKKPab** **21 00 28.4 +0.6**
comp=Z,1.0nm,0.8s,baz=99,slow=4.2,SNR=5.1
ARCES ARCESS Array B 120.04 24 PKP **PKPdf** **20 50 14.3 -0.5**
comp=Z,3.0nm,1.0s,baz=184,slow=3.5,SNR=4.6
ARCES PKKPbc **PKKPbc** **21 00 24.4 -0.7**
comp=Z,4.6nm,0.6s,baz=81,slow=4.3,SNR=36
SIM Simferopol' 120.94 53 *i* PKIKP **PKiKP** **20 50 17.0 -0.4**
SIM pmax pmax
comp=Z,34nm,0.8s
MTSU Mount Surprise 121.15 220 P **PKiKP** **20 50 19.7 +1.0**
ASAR Alice Springs 121.48 207 PKP **PKPdf** **20 50 18.4 -0.7**
comp=Z,17nm,0.9s,baz=150,slow=2.1,SNR=99
ASAR PKKPbc **PKKPbc** **21 00 19.9 +0.8**
comp=Z,4.1nm,0.9s,baz=333,slow=2.9,SNR=20
ASAR SKKPbc SKKPbc 21 03 59.5 -2.3
comp=Z,2.7nm,1.0s,baz=339,slow=4.2,SNR=5.4
QIS Mount Isa 121.64 215 P **PKiKP** **20 50 19.8 +0.2**
WRKA Warakurna 122.23 201 P **PKPdf** **20 50 20.4 -0.2**
APA Apatity 122.87 26 *i* PKIKP **PKPdf** **20 50 19.4 -0.9**
APA *e* 20 52 03.8
APA MLR MLR
comp=Z,600nm,4.2s
MEEK Meekatharra 123.01 191 P **PKPdf** **20 50 17.8 -4.2**
ANN Anapa 123.21 54 *i* PKIKP **PKiKP** **20 50 21.5 -0.3**
ANN pmax pmax
comp=Z,46nm,0.8s
LVZ Lovozero 123.34 26 ⇑PKIKP **PKiKP** **20 50 21.3 -0.2**
RAYN Ar Rayn 123.90 80 P **PKiKP** **20 50 24.2 +0.3**
RAYN Ar Rayn 123.90 80 *i* PKiKP **PKiKP** **20 50 24.5 +0.6**
SNR=17
RAYN Ar Rayn 123.90 80 ⇑PKIKP **PKPdf** **20 50 23.1 -0.6**
OBN Obninsk 124.03 41 ⇓*i* PKIKP **PKiKP** **20 50 23.2 +0.1**
OBN 20 50 38.0
OBN pmax pmax
comp=Z,57nm,1.3s
OBN MLR MLR
comp=Z,352nm,20.0s
SOC Sochi 124.61 55 *e*PKIKP **PKiKP** **20 50 24.6 -0.1**
SOC *e* 20 52 15.0
SOC *e* 20 57 24.6
SOC *e*PS **PS** **21 02 13.8 +2.0**
SOC *e*SS SS 21 08 58.2 -4.8
SOC *e*SSS SSS 21 13 43.0
SOC pmax pmax
comp=Z,33nm,0.8s
SOC MLR MLR
comp=Z,195nm,19.0s
WRA Warramunga Arr 124.61 210 PKP **PKPdf** **20 50 25.0 -0.2**
comp=Z,32nm,0.8s,baz=159,slow=1.6,SNR=113
WRA PKKPbc **PKKPab** **21 00 07.7 -1.4**
comp=Z,3.5nm,0.9s,baz=341,slow=4.3,SNR=16
WRAB Tennant Creek 124.62 210 *i* PKIKP **PKPdf** **20 50 24.2 -1.0**
MOS Moscow 124.67 41 *i* PKIKP **PKPdf** **20 50 22.6 -1.4**
MOS pmax pmax
comp=Z,42nm,0.9s
MOS MLR MLR
comp=Z,500nm,21.0s
LPSR Galich'ya Gora 125.23 44 *e*PKIKP **PKPdf** **20 50 23.1 -2.1**
LPSR pmax pmax
comp=Z,40nm,1.0s
VSR Storozhevoye 125.26 46 *e*PKIKP **PKPdf** **20 50 22.9 -2.4**
VSR pmax pmax
comp=Z,20nm,1.0s
VORD Divnogorie 125.32 46 *e*PKIKP **PKPdf** **20 50 23.5 -1.9**
VORD pmax pmax
comp=Z,20nm,1.0s
VORR Voronezh 125.33 46 *e*PKIKP **PKPdf** **20 50 24.4 -1.0**
VORR pmax pmax
comp=Z,40nm,1.0s
KLMR Klimovskoe 125.73 34 *e*PKIKP **PKPdf** **20 50 24.8 -1.1**
KLMR pmax pmax
comp=Z,75nm,1.1s
PMG Port Moresby 126.13 230 *i* PKIKP **PKPdf** **20 50 27.6 -0.6**
H11N3 WAKE ISLAND Hyl 126.56 273 T T 23 09 55.2
baz=116
H11N1 WAKE ISLAND Hyl 126.58 273 T T 23 10 05.2
baz=116,slow=74
H11N2 WAKE ISLAND Hyl 126.58 273 T T 23 09 55.2
baz=116,slow=74
SHA1 Shidzhatmaz 126.74 56 *i* PKIKP **PKPdf** **20 50 28.4 -0.3**
KIV Kislovodsk 126.79 55 P **PKiKP** **20 50 29.5 +0.3**
KIV Kislovodsk 126.79 55 ⇓P **PKiKP** **20 50 28.5 -0.7**
KIV Kislovodsk 126.79 55 *i* PKPdf **PKiKP** **20 50 28.9 -0.3**
SNR=12
KIV Kislovodsk 126.79 55 *i* PKIKP **PKiKP** **20 50 28.5 -0.7**
KIV pmax pmax
comp=Z,32nm,1.0s
KBZ Khabaz 126.91 56 PKP **PKiKP** **20 50 29.9 +0.7**
comp=Z,20nm,0.9s,baz=267,slow=1.4,SNR=27
KBZ Khabaz 126.91 56*c* *i* PKIKP **PKiKP** **20 50 29.4 +0.2**
GOF Gofitskoye 127.19 54*ce* PKIKP **PKiKP** **20 50 30.3 +0.5**
NCK Nalchik 127.38 56 *i* PKIKP **PKiKP** **20 50 30.1 -0.1**
PSAB3 Pilbara Seismi 127.71 193 P **PKPdf** **20 50 30.9 -0.2**
GNI Garni 127.72 60 P **PKiKP** **20 50 31.5 +0.3**
GNI Garni 127.72 60*c* *i* PKIKP **PKiKP** **20 50 31.5 +0.3**
GNI pmax pmax
comp=Z,24nm,1.7s
PSAC2 Pilbara Seismi 127.73 193 P **PKiKP** **20 50 31.4 -0.3**
PSA00 Pilbara Seismi 127.73 193 P **PKiKP** **20 50 31.2 -0.5**
PSAC1 Pilbara Seismi 127.77 193 P **PKPdf** **20 50 31.1 -0.1**
NAX Nakhchivan 128.12 62 PKIKP **PKiKP** **20 50 33.1 +1.2**
MBWA Marble Bar 128.15 193 P **PKiKP** **20 50 32.2 -0.3**
ABTO Aybut 128.28 91 P **PKiKP** **20 50 33.2 +0.3**
SMRA Abu-Samra 128.88 81 P **PKiKP** **20 50 33.4 -0.3**
WHFO Wadi Hawf 128.92 90 P **PKPdf** **20 50 32.4 -1.0**
GANJ Ganja 128.99 60 PKIKP **PKiKP** **20 50 34.8 +1.2**
RBK Rabkut 129.12 91 P **PKiKP** **20 50 34.0 -0.5**
TRNA Turayna 129.21 81 P **PKiKP** **20 50 34.4 0.0**
BILL Bilibino 129.31 336*c* PKIKP **PKiKP** **20 50 34.5 +1.2**
BILL pmax pmax
comp=Z,25nm,2.5s
SLWR Sila 129.40 82 P **PKiKP** **20 50 34.7 -0.1**
DOK Doka 129.51 90 P **PKiKP** **20 50 34.7 -0.5**
FITZ Fitzroy Crossi 129.56 201 P **PKiKP** **20 50 35.1 -0.3**
FITZ Fitzroy Crossi 129.56 201 PKP **PKiKP** **20 50 34.9 -0.5**
comp=Z,2.4nm,0.8s,baz=183,slow=3.5,SNR=51
MNGR Mingechevir, A 129.58 60 PKIKP **PKiKP** **20 50 35.9 +1.2**
SEKA Sheki 129.72 59 PKIKP **PKiKP** **20 50 36.7 +1.6**
DMTO DMTO 129.86 91 P **PKiKP** **20 50 35.6 -0.3**
AKT Akhty 130.16 59 *i* PKIKP **PKiKP** **20 50 36.5 +0.5**
AKT *e* 20 52 47.3
AKT *e*PS **PS** **21 03 00.1 -0.5**
AKT pmax pmax
comp=Z,30nm,1.0s
BELG Belogornoye 130.54 45 PKP **PKiKP** **20 50 36.0 -0.1**
comp=Z,34nm,0.9s,baz=81,slow=1.0,SNR=14
BELG Belogornoye 130.54 45 *i* PKIKP **PKiKP** **20 50 35.8 -0.4**
SHAO Shalim 130.57 91 P **PKiKP** **20 50 37.2 -0.2**
SHAO Shalim 130.57 91 *i* PKPdf **PKiKP** **20 50 36.8 -0.6**
SNR=6.3
LKRN Lenkeran, Azer 130.57 63 PKIKP **PKiKP** **20 50 37.8 +1.1**
MZR Muzera 130.58 84 P **PKiKP** **20 50 37.6 +0.3**
SNR=10.0

MZR **Muzera** 130.58 84 *i* PKPdf **PKiKP** 20 50 37.0 -0.3
SNR=19
KNRA **Kununurra** 130.72 206 P **PKPdf** 20 50 34.3 -2.6
KIRV **Kirov** 130.94 37 PKP **PKiKP** 20 50 36.0 -0.8
comp=Z,10nm,0.6s,baz=120,slow=1.3,SNR=10
KIRV **Kirov** 130.94 37 *c i* PKIKP **PKiKP** 20 50 37.5 +0.7
UMZA **Um Al Zommool** 131.94 85 P **PKiKP** 20 50 39.7 -0.3
ASUD **Al Ashush, Dub** 132.72 83 P **PKiKP** 20 50 41.0 -0.5
ASUD **Al Ashush, Dub** 132.72 83 *i* PKiKP **PKiKP** 20 50 42.0 +0.5
SNR=7.5
ALNE **Al Ain** 132.90 84 P **PKiKP** 20 50 41.3 -0.6
SNR=9.1
ALNE **Al Ain** 132.90 84 *i* PKPdf **PKiKP** 20 50 41.3 -0.6
SNR=15
FAQ **Al Faqa, Dubai** 132.98 83 PKPdf **PKiKP** 20 50 41.1 -0.9
DQM **DQM** 132.99 90 P **PKiKP** 20 50 43.0 +0.8
SNR=7.0
NAZ **Nazwa, Dubai** 133.12 83 P **PKPdf** 20 50 38.2 -2.9
NAZ **Nazwa, Dubai** 133.12 83 PKPdf **PKiKP** 20 50 41.3 -1.0
ARQ **Araqi** 133.32 85 P **PKPdf** 20 50 41.5 -0.1
ASHO **Ashiyiah** 133.36 83 P **PKPdf** 20 50 40.2 -1.5
HATD **Hatta, Dubai** 133.47 83 P **PKPdf** 20 50 39.8 -2.0
HATD **Hatta, Dubai** 133.47 83 PKPdf **PKPdf** 20 50 41.6 -0.3
UOSS **Minazif** 133.57 83 P **PKPdf** 20 50 39.6 -2.4
UOSS **Minazif** 133.57 83 PKPdf **PKPdf** 20 50 41.4 -0.6
SOHO **SOHO** 133.60 84 P **PKPdf** 20 50 41.6 -0.4
SOHO **SOHO** 133.60 84 *i* PKPdf **PKPdf** 20 50 41.8 -0.2
SNR=6.2
MHTO **MHTO** 133.75 89 P **PKiKP** 20 50 44.0 +0.3
SNR=8.1
SHME **Shamm** 133.85 81 P **PKPdf** 20 50 40.8 -1.7
SHME **Shamm** 133.85 81 *i* PKPdf **PKiKP** 20 50 42.7 -1.0
SNR=6.4
BANOM **Banah** 133.95 82 P **PKPdf** 20 50 41.9 -0.8
BANOM **Banah** 133.95 82 PKPdf **PKPdf** 20 50 42.7 0.0
HOQ **Hoqain** 134.09 85 P **PKPdf** 20 50 39.7 -3.4
JMDO **Jabal Madar** 134.37 87 P **PKPdf** 20 50 42.4 -1.2
SMDO **Samad** 134.56 86 P **PKiKP** 20 50 45.0 -0.4
SNR=8.1
WSAR **Wadi Sarin** 135.12 86 P **PKiKP** 20 50 45.6 -0.8
SNR=5.8
JLN **Jalan Bani Buh** 135.43 88 P **PKiKP** 20 50 46.1 -1.0
SNR=8.0
ARTI **Arti** 136.14 38 **PKiKP** 20 50 46.6 -0.8
ARTI **Arti** 136.14 38 PKhKP PKPpre 20 50 41.1
comp=Z,2.2nm,0.6s,baz=292,slow=3.7,SNR=4.5
ARTI PKP **PKiKP** 20 50 46.4 -1.0
comp=Z,20nm,0.9s,baz=272,slow=1.5,SNR=24
ARTI **Arti** 136.14 38 *c i* PKIKP **PKiKP** 20 50 47.2 -0.2
ARTI pmax pmax
comp=Z,25nm,0.8s
SEY **Seymchan** 136.66 333 *c i* PKIKP **PKiKP** 20 50 48.5 +0.2
SEY pmax pmax
comp=Z,34nm,1.7s
TIXI **Tiksi** 136.71 351 *c i* PKIKP **PKiKP** 20 50 47.8 -0.4
TIXI pmax pmax
comp=Z,12nm,1.0s
AKTO **Aktyubinsk** 137.20 47 PKhKP PKPpre 20 50 40.0
comp=Z,16nm,1.0s,baz=5.5,slow=0.3,SNR=4.9
AKTO PKP **PKPdf** 20 50 47.9 -0.1
comp=Z,8.6nm,1.0s,baz=344,slow=2.5,SNR=6.9
AKTO PP **PP** 20 53 31.6 -1.6
comp=Z,4.2nm,0.9s,baz=296,slow=7.8,SNR=6.1
PETK **Petropavlovsk-** 137.56 318 PKP **PKiKP** 20 50 49.6 -0.9
comp=Z,12nm,0.8s,baz=237,slow=7.7,SNR=5.2
BATI **Baumata** 137.60 202 PKhKP PKPpre 20 50 42.1
comp=Z,19nm,0.5s,baz=81,slow=1.6,SNR=7.4
BATI PKP **PKiKP** 20 50 50.7 -1.1
comp=Z,47nm,0.9s,baz=27,slow=4.4,SNR=4.6
SOEI **Soe** 137.82 203 PKPpre 20 50 42.5
SOEI **Soe** 137.82 203 PKP **PKPdf** 20 50 45.9 -4.5
AB31 **Akbulak array** 138.62 48 PKPpre 20 50 40.9
ABKAR **Akbulak array** 138.62 48 PKPpre 20 50 40.5
WBSI **Waikabubak, Su** 139.37 197 PKP **PKPdf** 20 50 48.9 -4.2
MMRI **Maumere** 139.53 201 PKPpre 20 50 48.0
EDFI **Ende, Flores** 139.59 200 PKP PKPdf 20 50 45.1 -8.5
PLAI **Plampang** 140.53 194 PKP PKPdf 20 50 47.4 -7.8
HRA **Herat** 140.76 71 PKPpre 20 50 47.0
TWSI **Taliwang, Sumb** 140.80 193 PKP **PKPdf** 20 50 49.5 -6.2
JAGI **Jajag, Banyuwa** 141.52 189 PKP **PKPdf** 20 52.0 -5.0
PCJI **Pacitan** 142.08 184 PKP **PKPdf** 20 50 53.3 -4.7
WOJI **Wonogiri, Jawa** 142.45 184 PKP **PKPdf** 20 50 54.1 -4.5
NLAI **Namlea** 142.62 212 PKP **PKPdf** 20 50 54.9 -4.0
BKSI **Bulukumba** 143.31 199 PKP PKPab 20 50 56.1 +0.1
LEM **Lembang** 143.51 178 PKP PKPbc 20 50 58.9 +0.9
comp=Z,95nm,0.7s,baz=110,slow=2.7,SNR=13
LEM **Lembang** 143.51 178 PKP PKPbc 20 50 58.1 +0.1
CGJI **Cibinong** 143.63 175 PKP PKPab 20 50 56.6 -0.7
KAPI **Kappang** 143.71 199 PKP PKPbc 20 50 59.3 +0.9
comp=Z,100nm,0.7s,baz=186,slow=1.7,SNR=29
KAPI **Kappang** 143.71 199 P **PKPdf** 20 50 59.4 -1.4
KAPI **Kappang** 143.71 199 *i* PKIKP PKPbc 20 50 58.7 +0.3
BORK **Borovoye** 143.78 39 *i* PKIKP PKPbc 20 50 57.6 +0.1
BVAR **Borovoye Array** 143.82 39 PKP **PKPdf** 20 50 58.6 -1.2
comp=Z,27nm,0.8s,baz=311,slow=3.4,SNR=87
SANI **Sanana** 144.17 211 PKP **PKPab** 20 50 58.8 -0.6
BNSI **Bone** 144.19 200 PKP **PKPab** 20 50 59.0 -0.4
KASI **Kota Agung** 144.60 173 PKP **PKPab** 20 51 00.0 -0.9
SPSI **Sidrap Palu** 144.70 200 PKP PKPbc 20 51 01.3 -0.1
YAK **Yakutsk** 144.97 343 PKPbc **PKPdf** 20 51 01.6 +0.1
comp=Z,389nm,0.8s,baz=17,slow=0.9,SNR=167
YAK **Yakutsk** 144.97 343 *c i* PKIKP **PKPdf** 20 51 01.3 -0.2
YAK *e* 20 51 13.7
YAK *e* 20 54 20.3
YAK pmax pmax
comp=Z,496nm,0.9s
YAK pmax pmax
comp=N,72nm,1.3s
YAK pmax pmax
comp=E,38nm,1.1s
YAK pmax pmax
comp=Z,192nm,4.1s
YAK pmax pmax
comp=N,203nm,3.8s
YAK pmax pmax
comp=E,103nm,3.5s
LWLI **Liwa** 145.05 172 PKP **PKPab** 20 51 02.3 -0.4
PALK **Pallekele** 145.50 125 P **PKPab** 20 51 04.4 +0.1
PALK **Pallekele** 145.50 125 ⇑PKIKP **PKPab** 20 51 04.5 +0.2
MDSI **Maura Dua** 145.59 172 PKP **PKPdf** 20 51 03.2 -0.9
TNTI **Ternate** 145.99 215 PKP **PKPdf** 20 51 04.6 -0.2
LHSI **Lahat** 146.16 171 PKP **PKPdf** 20 51 04.8 -0.3
KSI **Kapahiang** 146.19 169 PKP **PKPdf** 20 51 05.0 -0.2
KAD **Karad** 146.23 104 *e* P **PKPdf** 20 51 01.9 -3.2
BBKI **Banjar Baru** 146.33 191 PKP **PKPbc** 20 51 05.9 -0.7
KBL **Kabul** 146.38 72 P **PKPbc** 20 51 06.1 -0.3
LUWI **Luwuk** 146.42 206 **PKPdf** 20 51 05.4 -0.1
LUWI **Luwuk** 146.42 206 PKP **PKPbc** 20 51 06.2 -0.6
SALM **Salem** 146.47 116 *e* P **PKPdf** 20 51 02.3 -3.2
SALM IAmb IAmb 20 51 09.5
comp=Z,100nm,0.7s
POO **Poona** 146.50 102 *e* P **PKPdf** 20 51 02.3 -3.2
POO IAmb IAmb 20 51 09.8
comp=Z,108nm,0.9s
PPSI **Pulau Pagai** 146.54 164 PKP **PKPbc** 20 51 06.8 -0.4
MASI **Maura Aman, Be** 146.63 168 PKP **PKPbc** 20 51 06.4 -1.1
JASL **Jaisalmer** 146.83 86 *e* P **PKPdf** 20 51 02.7 -3.1
JASL IAmb IAmb 20 51 09.0
comp=Z,240nm,0.7s
APSI **Ampana** 146.96 205 PKP **PKPbc** 20 51 08.3 -0.1
TYV **Tymovskoe** 147.05 319 *e* PKP2 **PKPbc** 20 51 08.3 +0.8
TYV pmax pmax
comp=Z,30nm,0.8s
TYV pmax pmax
comp=Z,200nm,4.0s
KMSI **Cibinong** 147.39 210 PKP **PKPbc** 20 51 10.0 +0.4
KRJI **Kerinci** 147.51 167 PKP **PKPdf** 20 51 08.0 +0.5
TPI **Tanjungpandan** 147.56 178 PKP **PKPbc** 20 51 08.6 -1.5
PCI **Palu** 147.57 201 PKP **PKPbc** 20 51 09.4 -0.7
SISI **Saibi** 147.69 162 PKP **PKPbc** 20 51 10.2 -0.2
BKB **Balikpapan** 148.05 196 PKP **PKiKP** 20 51 12.5 -0.7
MRSI **Marisa** 148.13 206 PKP **PKPdf** 20 51 09.7 +1.3
PDSI **Padang** 148.44 164 PKP **PKPdf** 20 51 09.6 +0.7
YSS **Yuzhno-Sakhali** 148.56 312 *i* PKIKP **PKPbc** 20 51 11.2 -0.5
YSS *e* 21 13 53.9
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=Z,500nm,3.8s
YSS MLR MLR
comp=Z,300nm,17.0s
PBSI **Pulau Batu** 148.68 160 PKP **PKiKP** 20 51 13.6 -0.9
PPI **Padang Panjang** 148.86 164 PKP **PKPdf** 20 51 09.6 0.0
EKS2 **Erkin-Say** 149.39 56 P **PKiKP** 20 51 15.7 +0.4
SNR=9.7
KURBB **Kurchatov Arra** 149.41 39 PKP **PKPdf** 20 51 10.2 +0.9
comp=Z,57nm,0.8s,baz=298,slow=3.1,SNR=41
KURBB PKPbc **PKiKP** 20 51 14.5 -0.4
comp=Z,45nm,0.7s,baz=304,slow=3.1,SNR=81
KURK **Kurchatov** 149.41 39 P **PKPdf** 20 51 10.3 +1.0
KURK **Kurchatov** 149.41 39 PKHKP PKPpre 20 51 10.2
KURK 20 51 14.5
ASAJ **Asahikawa** 149.56 307 PKPbc **PKiKP** 20 51 15.1 -0.3
comp=Z,23nm,0.9s,baz=224,slow=6.7,SNR=14
USP **Ospenovka** 149.76 54 P **PKPdf** 20 51 08.1 -2.1
SNR=12
AAK **Ala-Archa** 149.91 56 P **PKiKP** 20 51 17.2 +0.8
SNR=6.9
AAK **Ala-Archa** 149.91 56 PKP **PKPdf** 20 51 11.3 +0.7
comp=Z,30nm,1.1s,baz=218,slow=3.1,SNR=14
AAK PKPbc **PKiKP** 20 51 16.0 -0.4
comp=Z,199nm,0.8s,baz=201,slow=1.9,SNR=283
AAK **Ala-Archa** 149.91 56 *i* PKPdf **PKPdf** 20 51 11.5 +0.9
SNR=155
HYB **Hyderabad** 149.94 108 *e* PKPdf **PKPdf** 20 51 11.5 +0.4
HYB *e* PKPbc **PKiKP** 20 51 16.6 -0.4
HYB *e* PKPbc **PKiKP** 20 51 16.6 -0.4
HYB *e* PKiKP **PKPbc** 20 51 17.6 +1.6
HYB *e* SKPdf **SKPdf** 20 54 42.7 +1.2
HYB *e* PKSdf **PKSdf** 20 54 46.1 -0.2
CHMS **Chumysh** 150.00 55 P **PKiKP** 20 51 17.0 +0.6
SNR=46
UCH **Uchtor** 150.02 56 P **PKiKP** 20 51 17.9 +0.9
SNR=30
AKL **Akola** 150.12 100 *e* P **PKPdf** 20 51 08.1 -3.3
AKL IAmb IAmb 20 51 17.9
comp=Z,302nm,1.3s
KBK **Karagaybulak** 150.23 55 P **PKiKP** 20 51 17.9 +0.8
SNR=34
ZALV **Zalesovo Beam** 150.40 29 PKP **PKPdf** 20 51 11.2 +0.5
comp=Z,11nm,0.9s,baz=280,slow=2.7,SNR=44
ZALV PKPbc **PKiKP** 20 51 16.9 +0.1
comp=Z,250nm,0.7s,baz=306,slow=3.3,SNR=306
GRNR **Gornyy** 150.50 323 ⇑*i* PKIKP **PKiKP** 20 51 17.6 +0.5
GRNR pmax pmax
comp=Z,30nm,1.1s
TKM2 **Tokmak 2** 150.62 55 P **PKiKP** 20 51 18.4 +0.5
SNR=43
JMU **Jammu** 151.15 76 *e* P **PKPdf** 20 51 09.4 -3.1
JMU IAmb IAmb 20 51 20.0
comp=Z,192nm,0.8s
SRNI **Srinagar** 151.16 73 *e* P **PKPdf** 20 51 11.2 -1.4
SRNI IAmb IAmb 20 51 39.3
comp=Z,406nm,1.2s
ULHL **Ulahol** 151.26 56 P **PKiKP** 20 51 20.5 +1.2
SNR=56
BHPL **Bhopal** 151.43 96 *e* P **PKPdf** 20 51 09.9 -3.4
BHPL IAmb IAmb 20 51 20.5
comp=Z,117nm,0.7s
KSH **Kashi** 151.65 61 PKPbc **PKPdf** 20 51 14.0 +0.7
KSH sPKP 20 51 27.3
KSH PP **PP** 20 54 59.0 -1.2
KSH LR LR
comp=Z,170nm,14.9s
KSH LR LR
comp=Z,320nm,15.7s
KSH LR LR
comp=Z,240nm,17.8s
BOD **Bodaibo** 151.79 354 *e* PKIKP **PKPdf** 20 51 12.4 -0.4
BOD pmax pmax
comp=Z,132nm,1.1s
KUDL **Kundal** 151.93 85 *e* P **PKPdf** 20 51 10.8 -3.1
KUDL IAmb IAmb 20 51 21.7
comp=Z,250nm,0.8s
TLWR **Talawar** 151.99 77 *e* P **PKPdf** 20 51 09.8 -4.1
TLWR IAmb IAmb 20 51 22.0
comp=Z,224nm,0.6s
JHJR **Jhajjar** 152.15 85 *e* P **PKPdf** 20 51 12.4 -1.8
TSSA **Tissa** 152.21 75 *e* P **PKPdf** 20 51 11.4 -3.1
TSSA IAmb IAmb 20 51 22.3
comp=Z,119nm,1.0s
BHK **Bhakra** 152.34 79 *e* P **PKPdf** 20 51 13.3 -1.2
BHK IAmb IAmb 20 51 33.5
comp=Z,298nm,0.8s
ZEA **Zeya** 152.54 336 *i* PKIKP **PKPdf** 20 51 14.2 +0.2
ZEA pmax pmax
comp=Z,20nm,1.2s
AYAN **Aya Nagar** 152.55 85 *e* P **PKPdf** 20 51 11.9 -2.9
AYAN IAmb IAmb 20 51 23.0
comp=Z,214nm,1.0s
GNR **GANAUR** 152.57 84 *e* P **PKPdf** 20 51 11.6 -3.3
GNR IAmb IAmb 20 51 24.3
comp=Z,427nm,0.5s
JMIU **JAMIA UNIVERSI** 152.71 85 *e* P **PKPdf** 20 51 12.4 -2.7
SMLA **Simla** 152.95 79 *e* P **PKPdf** 20 51 12.3 -3.0
SMLA IAmb IAmb 20 51 35.2
comp=Z,239nm,0.7s
MK31 **Makanchi Array** 153.52 43 *c i* PKIKP **PKiKP** 20 51 24.3 +0.8
MKAR **Makanchi Array** 153.52 43 PKP **PKPdf** 20 51 15.8 +0.1
comp=Z,7.4nm,0.9s,baz=318,slow=1.6,SNR=39
MKAR PKPbc **PKiKP** 20 51 23.8 +0.3
comp=Z,39nm,1.0s,baz=348,slow=0.2,SNR=55
MKAR PKPab **PKPab** 20 51 36.3 +0.3
comp=Z,44nm,0.9s,baz=289,slow=3.7,SNR=20
DDI **Dehra Dun** 153.63 81 *e* P **PKPdf** 20 51 12.6 -3.9
DDI IAmb IAmb 20 51 39.6
comp=Z,684nm,1.3s
KLP **Kalpa** 153.91 79 *e* P **PKPdf** 20 51 13.7 -3.4
KLP IAmb IAmb 20 51 39.8
comp=Z,290nm,1.4s
MJAR **Matsushiro Arr** 154.38 293 PKPab **PKPab** 20 51 41.3 +1.4
comp=Z,16nm,0.8s,baz=123,slow=2.4,SNR=14
BLSP **Bilaspur** 155.06 102 *e* P **PKPdf** 20 51 15.3 -3.3
BLSP IAmb IAmb 20 51 28.6
comp=Z,61nm,0.7s
HEH **HeiHe** 155.17 330 PKP **PKPdf** 20 51 17.3 -0.5
PTH **Pithoragarh** 155.39 84 *e* P **PKPdf** 20 51 15.7 -3.4
PTH IAmb IAmb 20 51 45.5
comp=Z,49nm,0.5s
LGTI **Lohaghat** 155.40 84 *e* P **PKPdf** 20 51 16.3 -2.5
LGTI IAmb IAmb 20 51 29.1
comp=Z,57nm,1.2s
BRCI **Bahraich** 156.24 89 *e* P **PKPdf** 20 51 17.1 -2.9
BRCI IAmb IAmb 20 51 30.9
comp=Z,2μm,0.5s
JHSG **JHARSUGUDA** 156.30 104 *e* P **PKPdf** 20 51 17.1 -3.2
JHSG IAmb IAmb 20 51 22.0
comp=Z,275nm,1.5s
USRK **Ussuriysk Ar.** 156.56 314 PKP **PKPdf** 20 51 19.5 -0.4
comp=Z,1.8nm,0.8s,baz=36,slow=3.5,SNR=8.6
USRK PKPab **PKPab** 20 51 49.3 +0.3
comp=Z,6.6nm,0.9s,baz=46,slow=0.6,SNR=7.0
MOY **Mondy** 157.49 12 *e* PKIKP **PKPdf** 20 51 22.3 +1.3
MOY pmax pmax
comp=Z,50nm,2.6s
CIT **Chita** 157.55 352 *e* PKP2 **PKPab** 20 51 51.4 -1.6
CIT pmax pmax
comp=Z,107nm,1.5s
MDJ **Mudanjiang** 157.80 317 PKP **PKPdf** 20 51 21.8 +0.3
WMQ **Urumqi** 158.32 44 *e* PKP **PKPdf** 20 51 22.0 -0.2
WMQ PKPab **PKPab** 20 51 58.8 +2.1
WMQ LR LR
comp=Z,230nm,20.3s
WMQ LR LR
comp=Z,270nm,20.3s
WMQ LR LR
comp=Z,300nm,23.5s
BNX **BinXian** 158.34 322 PKP **PKPdf** 20 51 21.5 -0.6
GAYA **Gaya** 158.68 98 *e* P **PKPdf** 20 51 19.9 -3.2
GAYA IAmb IAmb 20 51 24.3
comp=Z,31nm,0.9s
BOK **Bokaro** 158.89 101 *e* P **PKPdf** 20 51 19.5 -4.0
ZAK **Zakamensk** 159.12 10 *e* PKIKP **PKPdf** 20 51 23.6 +0.6
ZAK pmax pmax
comp=Z,15nm,1.7s
SONM **Songino Array** 161.97 5 PKP **PKPdf** 20 51 27.0 +0.7
comp=Z,3.9nm,1.0s,baz=274,slow=0.6,SNR=19
SONM PKPab **PKPab** 20 52 13.9 +1.5
comp=Z,21nm,0.9s,baz=334,slow=4.2,SNR=26
SONM PP **PP** 20 55 57.1 +1.5
comp=Z,13nm,1.1s,baz=339,slow=4.5,SNR=14
KSRS **Korea Array** 162.22 300 PKP **PKPdf** 20 51 27.1 +0.5
comp=Z,5.1nm,0.9s,baz=130,slow=0.8,SNR=15
KSRS PKPab **PKPab** 20 52 14.4 +0.6
comp=Z,2.8nm,0.9s,baz=79,slow=3.5,SNR=5.5
CMAR **Chiang Mai Arr** 165.66 140 PKP **PKPdf** 20 51 30.9 +0.6
comp=Z,8.6nm,1.0s,baz=261,slow=2.0,SNR=42
CMAR PKPab **PKPab** 20 52 28.7 -0.5
comp=Z,14nm,0.9s,baz=233,slow=5.3,SNR=21
KOHI **KOHIMA** 166.55 104 *e* P **PKPdf** 20 51 29.0 -2.1
KOHI IAmb IAmb 20 51 33.3
comp=Z,44nm,1.1s
GOMU **GeErMu** 166.84 58 PKP **PKPdf** 20 51 32.3 +1.0
GOMU sPKP 20 51 45.5
GOMU PP **PP** 20 56 24.0 +1.1
GOMU SKKS 21 03 11.5
GOMU SS **SS** 21 17 06.0 +1.8
GOMU AMB AMB
comp=Z,260nm,5.7s
GOMU LR LR
comp=Z,150nm,21.6s
GOMU LR LR
comp=Z,130nm,20.6s
GOMU LR LR
comp=Z,340nm,20.3s
GTA **Gaotai** 168.06 35 PKP **PKPdf** 20 51 32.5 +0.8
GTA sPKP 20 51 45.8
GTA PKPab **PKPab** 20 52 40.3 +0.8
GTA PP **PP** 20 56 26.5 -1.5
GTA LR LR
comp=Z,190nm,20.7s
GTA LR LR
comp=Z,250nm,22.2s
GTA LR LR
comp=Z,760nm,22.5s
BJI **Beijing** 168.09 331 PKP **PKPdf** 20 51 31.8 +0.3
BJI PP **PP** 20 56 32.0 +4.2
BJI AMB AMB
comp=Z,42nm,8.4s
HHC **Hu-ho-hao-te** 168.77 348 *e* PKP **PKPdf** 20 51 32.8 +0.7
QIZ **Qiongzhong** 169.16 186 PKP **PKPdf** 20 51 32.0 -0.9
QIZ PP **PP** 20 56 33.5 +0.7
QIZ SS SS 21 17 27.3 +3.3
QIZ AMB AMB
comp=Z,280nm,8.0s
QIZ LR LR
comp=Z,220nm,18.0s
QIZ LR LR
comp=Z,190nm,16.7s
QIZ LR LR
comp=Z,290nm,20.6s
BTO **Baotou** 169.21 354 *e* PKP **PKPdf** 20 51 33.0 +0.6
BTO PP **PP** 20 56 35.0 +1.8
BTO SS SS 21 17 24.5 -0.3
BTO AMB AMB
comp=Z,300nm,8.7s
BTO LR LR
comp=Z,690nm,20.0s
BTO LR LR
comp=Z,440nm,23.7s
BTO LR LR
comp=Z,990nm,20.4s
TNCH **TengChong** 169.86 116 PKP **PKPdf** 20 51 33.8 +0.4
TNCH pPKP pPKPdf 20 51 43.5 -3.2
TNCH PKPab **PKPab** 20 52 47.5 -0.6
TNCH PP **PP** 20 56 39.0 +0.8
TNCH SS SS 21 17 32.5 -1.9
TNCH AMB AMB
comp=Z,200nm,4.6s
TNCH LR LR
comp=Z,220nm,20.5s
TNCH LR LR
comp=Z,170nm,19.9s
TNCH LR LR
comp=Z,570nm,24.6s
TIA **Tai'an** 170.43 314 PKP **PKPdf** 20 51 33.5 +0.4
TIA pPKP **pPKPdf** 20 51 46.8 +0.5
NJ2 **Nanjing** 170.91 287 *e* PKP **PKPdf** 20 51 34.5 +1.0
HNS **HongShan** 170.91 327 ⇑PKP **PKPdf** 20 51 34.3 +1.0
HNS PKPab **PKPab** 20 52 53.0 +1.0
HNS PP **PP** 20 56 42.8 +0.7
HNS SS SS 21 17 41.0 -1.4
HNS AMB AMB
comp=Z,250nm,8.4s
HNS LR LR
comp=Z,300nm,17.7s
HNS LR LR
comp=Z,95nm,16.6s
HNS LR LR
comp=Z,390nm,19.6s
TIY **Taiyuan** 171.53 339 PKP **PKPdf** 20 51 35.8 +2.1
TIY LR LR
comp=Z,190nm,15.0s
TIY LR LR
comp=Z,170nm,14.3s
TIY LR LR
comp=Z,310nm,17.7s
LZH **Lanzhou** 172.63 31 *e* PKP **PKPdf** 20 51 35.0 +0.6
LZH sPKP 20 51 50.8
LZH LR LR
comp=Z,240nm,20.6s
LZH LR LR
comp=Z,220nm,19.2s
LZH LR LR
comp=Z,550nm,20.3s
LZDM **Lanzhou Array** 172.67 33 PKPab **PKPab** 20 53 00.8 +0.6
comp=Z,2.4nm,0.4s,baz=302,slow=6.7,SNR=3.6
KMI **Kunming** 173.00 131 PKP **PKPdf** 20 51 35.8 +0.8
KMI pPKP pPKPdf 20 51 47.8 -0.3
PZH **PanZhiHua** 173.11 117 PKP **PKPdf** 20 51 34.8 0.0
PZH PKPab **PKPab** 20 53 03.0 +0.6
PZH PP **PP** 20 56 58.8 +4.6
PZH SS SS 21 18 08.3 +2.2
PZH AMB AMB
comp=Z,210nm,7.3s
PZH LR LR
comp=Z,210nm,21.2s
PZH LR LR
comp=Z,150nm,20.6s
PZH LR LR
comp=Z,300nm,23.0s
LYN **LuoYang** 174.27 326 PKP **PKPdf** 20 51 35.5 +0.7
LYN PKPab **PKPab** 20 53 07.5 +0.5
LYN PP **PP** 20 57 00.3 +1.5
LYN AMB AMB
comp=Z,550nm,7.9s
LYN LR LR
comp=Z,510nm,18.6s
LYN LR LR
comp=Z,260nm,16.4s
LYN LR LR
comp=Z,520nm,19.0s
WHN **Wuhan** 174.95 279 PKP **PKPdf** 20 51 35.5 +0.3
CD2 **Chengdu** 175.71 75 *e* PKP **PKPdf** 20 51 35.5 0.0
CD2 PP **PP** 20 57 05.5 -1.5
CD2 AMB AMB
comp=Z,460nm,7.5s
CD2 LR LR
comp=Z,460nm,22.0s
CD2 LR LR
comp=Z,460nm,16.7s
XAN **Xi'an** 175.82 356 PKP **PKPdf** 20 51 36.3 +0.9
XAN pPKP pPKPdf 20 51 49.0 +0.5
XAN PKPab **PKPab** 20 53 14.5 +0.7
XAN SS SS 21 18 26.5 -2.6
XAN LR LR
comp=Z,240nm,22.0s
XAN LR LR
comp=Z,300nm,24.8s
XAN LR LR
comp=Z,440nm,21.3s
CNSH **ChangSha** 175.83 247 PKP **PKPdf** 20 51 36.3 +0.8
GYA **Guiyang** 176.22 153 ⇑PKP **PKPdf** 20 51 36.0 +0.2

*IDC **26** 20:32:26.4±3.1, 30°.70S×177°.66W, h0km, mb3.6/3, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=69.2km s-min=28.2km az=112.0*
ISC 26 20:32:30.3±2.7, 30.7S±0°.1×177°.6W±0°.4, h33km, n6, σ1§51/8, mb3.5/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
RAO	**Raoul Island**	**1.48**	**350**	Pn	**Pn**	**20 32 54.6**	**-0.1**
	97nm,0.3s,baz=187,slow=17,SNR=2.1						
RAO				Sn	**Sn**	**20 33 11.3**	**-1.6**
	563nm,0.3s,baz=25,slow=23,SNR=13						
URZ	**Urewera**	**8.69**	**209**	Pn	**Pn**	**20 34 33.5**	**-0.1**
	0.5nm,0.3s,baz=39,slow=13,SNR=0.9						
URZ				Sn	**Sn**	**20 36 08.3**	**-2.1**
	0.7nm,0.3s,baz=302,slow=21,SNR=7.4						
	3.2nm,0.6s						
STKA	**Stephens Creek**	**34.73**	**257**	P	**P**	**20 39 19.3**	**+2.0**
	1.1nm,0.6s,baz=117,slow=11,SNR=3.8						
	1.1nm,0.6s						

ASAR	**Alice Springs**	**43.42**	**267**	P		**P**	**20 40 30.8**	**+0.6**
	0.4nm,0.7s,baz=106,slow=7.6,SNR=6.9							
	0.4nm,0.7s							
WRA	**Warramunga Arr**	**44.44**	**272**	P		**P**	**20 40 37.9**	**-0.5**
	0.2nm,0.3s,baz=111,slow=8.0,SNR=14							
	0.2nm,0.3s							
FINES	**FINESS Array B**	**145.56**	**340**	PKPbc		**PKPab**	**20 52 04.8**	**0.0**
	1.2nm,0.5s,baz=35,slow=4.2,SNR=6.8							

*GII **26** 20:42:46.6±0.0,0.0,26°.965N±0°.003×33°.866E±0°.001, h1km,Mws3.5,confirmed*
*HLW **26** 20:42:59.0,27°.63N×34°.31E,h16km±1km,Md3.1,Ml3.2*
*SGS **26** 20:43:01.3,27°.80N×34°.43E,h10km,Ml2.4*

ISC 26 20:42:58.1±0.8,27°.63N±0°.03×34°.31E±0°.03,h12km,n62, σ1§08/66,7D,Red Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TR1	**Tor 1**	**0.49**	**320**	⇑P			**Pb**	**20 43 08.8**	**+0.1**
HHRG	**Al Ghardaqah**	**0.77**	**238**	⇓P			**Pn**	**20 43 14.6**	**-0.2**
HHRG				S			**Sn**	**20 43 25.1**	**-1.2**
NSFG	**Safaga**	**0.92**	**201**	⇓P			**Pb**	**20 43 16.1**	**+0.1**
NSFG				S			**Sb**	**20 43 28.0**	**-0.2**
HKAT	**Jabal Katrina**	**0.93**	**343**	⇓P			**Pg**	**20 43 16.5**	**+0.4**
HKAT				S			**Sg**	**20 43 28.7**	**+0.4**
KRABS	**KRABS**	**0.96**	**60**	S			**Sg**	**20 43 27.1**	**-2.1**
KRABS	**KRABS**	**0.96**	**60**	P			**Pg**	**20 43 16.1**	**-0.5**
AYUS	**`Aynunah**	**1.02**	**57**	P			**Pb**	**20 43 17.0**	**-0.7**
BDAS	**Al Bad`**	**1.06**	**41**	P			**Pb**	**20 43 17.1**	**-1.3**
MWLHS	**Almuwaylih**	**1.08**	**83**	P			**Pb**	**20 43 18.1**	**-0.6**
GRB	**Gharib**	**1.49**	**296**	⇓P			**Pn**	**20 43 23.8**	**-0.9**
WTBKS	**WTBKS**	**1.49**	**72**	S			**Sn**	**20 43 42.8**	**-1.5**
WTBKS				P			**Pn**	**20 43 24.7**	**-0.1**
HAQS	**Haql**	**1.52**	**21**	P			**Pg**	**20 43 28.3**	**+1.1**
JLOS		**1.52**	**43**	S			**Sn**	**20 43 42.6**	**-2.4**
JLOS		**1.52**	**43**	P			**Pn**	**20 43 24.4**	**-0.8**
HBST	**Basata**	**1.63**	**13**	⇓P			**Pn**	**20 43 26.1**	**-0.5**
JMOS	**Jabal al Moall**	**1.69**	**25**	P			**Pn**	**20 43 26.7**	**-0.7**
HQLS		**1.79**	**22**	P			**Pn**	**20 43 28.2**	**-0.7**
TBKS	**Tabuk**	**2.06**	**73**	P			**Pn**	**20 43 33.5**	**+0.9**
EIL	**Elat**	**2.11**	**15**	P			**Pn**	**20 43 33.8**	**+0.6**
EIL	**Elat**	**2.11**	**15**	S			**Sg**	**20 44 08.2**	**+2.3**
URD06	**Shuwaq**	**2.19**	**94**	P			**Pn**	**20 43 35.3**	**+0.8**
MBRI	**Mt Berech**	**2.22**	**14**	P			**Pn**	**20 43 35.0**	**+0.1**
MBRI	**Mt Berech**	**2.22**	**14**	S			**Sg**	**20 44 11.2**	**+1.6**
NADB	**Abo Dabab**	**2.29**	**176**	⇓P			**Pn**	**20 43 35.5**	**-0.1**
URD12	**Shuwaq**	**2.44**	**86**	P			**Pn**	**20 43 39.0**	**+1.1**
ASUT		**2.45**	**265**	⇑P			**Pn**	**20 43 38.3**	**+0.5**
BIDS	**Bi'r al Bayda'**	**2.48**	**107**	P			**Pn**	**20 43 39.0**	**+0.7**
HRFI	**Mount Harif**	**2.48**	**15**	P			**Pn**	**20 43 39.0**	**+0.6**
HRFI	**Mount Harif**	**2.48**	**15**	S			**Sg**	**20 44 18.2**	**+0.3**
KRMI	**Paran Flat**	**2.51**	**8**	P			**Pn**	**20 43 39.0**	**+0.3**
KRMI	**Paran Flat**	**2.51**	**8**	S			**Sg**	**20 44 17.7**	**-1.0**
URD10	**Hayder**	**2.53**	**77**	P			**Pn**	**20 43 39.8**	**+0.8**
EWJHS	**Al Wajh**	**2.56**	**124**	P			**Pn**	**20 43 39.3**	**0.0**
URD04	**Abu Rakah**	**2.68**	**101**	P			**Pn**	**20 43 42.2**	**+1.0**
PRNI	**Paran**	**2.78**	**13**	P			**Pn**	**20 43 42.7**	**+0.2**
PRNI	**Paran**	**2.78**	**13**	S			**Sg**	**20 44 26.1**	**-1.4**
URD15	**Abu Rakah**	**2.82**	**97**	P			**Pn**	**20 43 44.4**	**+1.2**
NBNS	**Bani Suef**	**2.84**	**291**	P			**Pn**	**20 43 43.8**	**+0.6**
URD03	**Al Ula**	**2.96**	**108**	P			**Pn**	**20 43 46.5**	**+1.5**
NEDF	**New Edfo**	**2.99**	**204**	P			**Pn**	**20 43 44.8**	**-0.5**
TAMRE	**El Minia**	**3.01**	**272**	⇑P			**Pn**	**20 43 45.7**	**+0.1**
ZFRI	**Zfri**	**3.01**	**14**	P			**Pn**	**20 43 46.0**	**+0.4**
ZFRI	**Zfri**	**3.01**	**14**	S			**Sb**	**20 44 31.9**	**+3.4**
URD01	**URD01**	**3.06**	**102**	P			**Pn**	**20 43 48.5**	**+2.1**
QLABS	**Al Qalibar**	**3.22**	**85**	P			**Pn**	**20 43 50.0**	**+1.5**
KZIT	**Kziot**	**3.27**	**1**	P			**Pn**	**20 43 48.0**	**-1.1**
KZIT	**Kziot**	**3.27**	**1**	S			**Sb**	**20 44 36.8**	**+1.0**
OLAS	**OLAS**	**3.27**	**114**	P			**Pn**	**20 43 50.0**	**+0.8**
HAGS	**Hagol**	**3.29**	**169**	⇑P			**Pn**	**20 43 50.0**	**+0.5**
URD02	**Al Ula**	**3.32**	**107**	P			**Pn**	**20 43 51.7**	**+1.7**
BRNS	**Bernies**	**3.76**	**183**	P			**Pn**	**20 43 56.4**	**+0.5**
MSBI	**Mazada**	**3.78**	**14**	P			**Pn**	**20 43 56.7**	**+0.5**
YTIR	**Yattir**	**3.79**	**11**	P			**Pn**	**20 43 56.7**	**+0.4**
GHAJ	**Ghor Haditha**	**3.82**	**16**	P			**Pn**	**20 43 57.4**	**+0.7**
RYAN	**Fayoum**	**3.83**	**293**	⇓P			**Pn**	**20 43 57.6**	**+0.7**
NMAN	**Kulet Umm Tihe**	**3.86**	**197**	P			**Pn**	**20 43 57.6**	**+0.3**
DSI	**Dead Sea**	**4.04**	**13**	P			**Pn**	**20 43 59.7**	**0.0**
DSI	**Dead Sea**	**4.04**	**13**	S			**Sb**	**20 44 57.4**	**-0.5**
STAIM	**STAIM**	**4.05**	**95**	P			**Pn**	**20 44 01.8**	**+2.0**
NAHD	**NAHD**	**4.05**	**200**	P			**Pn**	**20 44 00.4**	**+0.5**
NTAIM	**NTAIM**	**4.08**	**81**	P			**Pn**	**20 44 01.4**	**+1.1**
MMLI	**Mount Malkishu**	**4.89**	**11**	P			**Pn**	**20 44 11.7**	**+0.3**

PRU 26 20:47:38.3,50°.22N×19°.00E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.67**	**235**	*e*SG			**Sg**	**20 48 00.0**	**+0.2**
	4.8nm,0.4s								
MORC	**Moravsky Berou**	**1.04**	**245**	*e*PG			**Pg**	**20 47 57.3**	**-0.9**
MORC				*e*SG			**Sg**	**20 48 11.3**	**-0.4**
KRLC	**Kraliky**	**1.43**	**265**	*e*PG			**Pn**	**20 48 04.6**	**-1.0**
KRLC				*e*SG			**Sg**	**20 48 23.9**	**-0.4**
	3.4nm,0.3s								
DPC	**Dobruska-Polom**	**1.72**	**275**	*e*PG			**Pn**	**20 48 08.8**	**-0.8**
DPC				*e*SG			**Sn**	**20 48 32.1**	**-0.2**
	4.7nm,0.7s								
VRAC	**Vranov**	**1.81**	**241**	*e*PN			**Pn**	**20 48 10.5**	**-0.2**
VRAC				*e*SG			**Sn**	**20 48 34.8**	**+0.5**
CHVC	**Chvalec**	**1.92**	**282**	*e*SG			**Sg**	**20 48 39.6**	**-0.4**
UPC	**Upice**	**1.94**	**280**	*e*SG			**Sg**	**20 48 40.0**	**-0.4**
	1.9nm,0.3s								
KHC	**Kasperske Hory**	**3.69**	**255**	*e*SG			**Sg**	**20 49 35.4**	**-1.3**

AFAD 26 20:47:59.9,40°.87N×28°.07E,h7km±3km,ML1.2,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BAND	**Balkesir-Ban**	**0.51**	**177**	P			**Pg**	**20 48 07.4**	**-2.4**
BAND				S			**Sg**	**20 48 15.3**	**-1.2**
VIZE	**Kirklareli, Vi**	**0.73**	**346**	P			**Pg**	**20 48 13.4**	**-0.6**
VIZE				S			**Sb**	**20 48 24.9**	**-0.2**
VIZE				*i* IAML				**20 48 32.0**	
	comp=N,8.9nm,1.2s								
VIZE				*i* IAML				**20 48 43.0**	
	comp=E,78nm,1.2s								

*NNC **26** 20:49:11.5±0.7,42°.60N×79°.59E,h0km,mb3.0,mpv2.8,*
Error ellipse: s-maj=4.5km s-min=2.5km az=135.0
*SOME **26** 20:49:11.0,42°.55N×79°.53E,h15km*
*KRNET **26** 20:49:11.4±0.1,42°.37N×79°.56E,h15km,mb2.5*

ISC 26 20:49:10.9±1.9,42°.54N±0°.06×79°.57E±0°.06,h11km±11km, n29,σ0§78/49,7C-5D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.62**	**353**	P			**Pg**	**20 49 23.5**	**+0.5**
	27nm,0.1s								
SHLS				S			**Sb**	**20 49 32.8**	**+0.2**
	190nm,0.2s								
SHLS	**Shalkode**	**0.62**	**353**	*e*P			**Pg**	**20 49 23.5**	**+0.5**
	27nm,0.1s								
SHLS				*e*S			**Sb**	**20 49 32.8**	**+0.2**
	190nm,0.2s								
UZB	**Uzynbulak**	**0.73**	**327**	P			**Pg**	**20 49 24.9**	**-0.1**
	3.6nm,0.1s								
UZB				S			**Sg**	**20 49 35.1**	**+0.5**
	24nm,0.2s								
UZB	**Uzynbulak**	**0.73**	**327**	*e*P			**Pg**	**20 49 24.9**	**-0.1**
	3.6nm,0.1s								
UZB				*e*S			**Sg**	**20 49 35.1**	**+0.5**
	24nm,0.2s								
PDGK	**Podgornoye**	**0.79**	**356**	⇓P			**Pg**	**20 49 25.3**	**-0.8**
	1.2nm,0.2s								
PDGK				⇑S			**Sg**	**20 49 35.8**	**-0.7**
	7.0nm,0.3s								
PRZ	**Przheval'sk**	**0.87**	**267**	⇓*e*P			**Pg**	**20 49 28.0**	**+0.4**
PRZ				⇓*e*S			**Sb**	**20 49 40.2**	**+0.5**
SATY	**Saty**	**1.00**	**302**	P			**Pb**	**20 49 30.3**	**0.0**
	1.0nm,0.1s								
SATY				S			**Sn**	**20 49 44.3**	**-0.8**
	35nm,0.1s								
KPKS	**Kokpek**	**1.13**	**325**	P			**Pb**	**20 49 32.0**	**-0.4**
	0.2nm,0.2s								
KPKS				S			**Sg**	**20 49 47.4**	**0.0**
	14nm,0.2s								
KURS	**Kuram**	**1.40**	**313**	P			**Pg**	**20 49 37.6**	**-0.1**
	1.3nm,0.2s								
KURS				S			**Sg**	**20 49 56.7**	**+0.9**
	2.7nm,0.2s								
TARG	**Taragay, Kyrgy**	**1.54**	**239**	⇓*e*P			**Pn**	**20 49 38.9**	**+0.3**
TARG				⇓*e*S			**Sn**	**20 49 58.8**	**0.0**
KDJ	**Kajisay**	**1.82**	**258**	⇑*e*P			**Pb**	**20 49 44.3**	**+0.1**
KDJ				⇑*e*S			**Sb**	**20 50 08.4**	**+1.4**
KNOS	**Konyrlen**	**1.84**	**351**	P			**Pb**	**20 49 44.7**	**+0.1**
	4.3nm,0.1s								
KNOS				S			**Sg**	**20 50 09.1**	**-0.9**
	6.4nm,0.2s								
KOTS	**Kotyrbulak**	**1.93**	**292**	Pg			**Pg**	**20 49 47.6**	**-0.4**
	1.8nm,0.2s								
KOTS				Lg			Lg	20 50 13.9	
	23nm,0.4s								
KOTS	**Kotyrbulak**	**1.93**	**292**	*e*P			**Pg**	**20 49 47.6**	**-0.4**
	1.8nm,0.2s								
KOTS				*e*S			**Sg**	**20 50 13.9**	**+0.8**
	23nm,0.4s								
MDOK	**Medeo**	**1.96**	**289**	Pg			**Pb**	**20 49 47.7**	**+1.2**
	1.2nm,0.2s								
MDOK				Lg			Lg	20 50 14.2	
	4.7nm,0.4s								
TNSS	**Tian-Shan**	**1.99**	**285**	Pg			**Pb**	**20 49 47.7**	**+0.3**
	1.0nm,0.2s								
TNSS				Lg			Lg	20 50 14.0	
	1.5nm,0.2s								
TNSS	**Tian-Shan**	**1.99**	**285**	*e*P			**Pb**	**20 49 47.6**	**+0.3**
	1.0nm,0.2s								
TNSS				*e*S			**Sg**	**20 50 14.0**	**-0.9**
	1.5nm,0.2s								
ARXS	**Arharly**	**2.10**	**323**	Pg			**Pb**	**20 49 49.4**	**+0.5**
	1.3nm,0.2s								
ARXS				Lg			Lg	20 50 17.1	
	11nm,0.5s								
ARXS	**Arharly**	**2.10**	**323**	*e*P			**Pb**	**20 49 49.4**	**+0.5**
ARXS				*e*S			**Sg**	**20 50 17.1**	**-1.2**
CHKK	**Chushkaly**	**2.30**	**306**	Pg			**Pb**	**20 49 53.0**	**+0.7**
	0.7nm,0.1s								
CHKK				Lg			Lg	20 50 23.3	
	11nm,0.2s								
CHKK	**Chushkaly**	**2.30**	**306**	*e*P			**Pb**	**20 49 53.0**	**+0.7**
	0.7nm,0.1s								
CHKK				*e*S			**Sg**	**20 50 23.3**	**-1.5**
	11nm,0.2s								
MTBS	**Maitube**	**2.38**	**285**	Pg			**Pb**	**20 49 54.7**	**+0.9**
	1.6nm,0.2s								
MTBS				Lg			Lg	20 50 26.1	
	9.2nm,0.3s								
MTBS	**Maitube**	**2.38**	**285**	*e*P			**Pb**	**20 49 54.7**	**+0.9**
	1.6nm,0.2s								
MTBS				*e*S			**Sg**	**20 50 26.1**	**-1.3**
	9.2nm,0.3s								
KTBS	**Karatobe**	**2.42**	**300**	Pg			**Pb**	**20 49 55.0**	**+0.6**
	0.9nm,0.2s								
KTBS				Lg			Lg	20 50 26.6	
	12nm,0.2s								
ULHL	**Ulahol**	**2.48**	**264**	⇑P			**Pb**	**20 49 54.7**	**-0.9**
ULHL				⇑*e*S			**Sb**	**20 50 26.4**	**+0.2**
BOOM	**Boomskoye usch**	**2.68**	**270**	⇑*e*P			**Pb**	**20 49 57.8**	**-1.2**
BOOM				⇑*e*S			**Sb**	**20 50 31.5**	**-0.4**
KST	**Kastek**	**2.70**	**282**	Pg			**Pb**	**20 50 00.5**	**+1.3**
	2.3nm,0.2s								
KST				Lg			Lg	20 50 36.1	
	7.8nm,0.6s								
KST	**Kastek**	**2.70**	**282**	*e*P			**Pb**	**20 50 00.5**	**+1.3**
	2.3nm,0.2s								
KST				*e*S			**Sg**	**20 50 36.1**	**-1.5**
	7.8nm,0.6s								
KAPS	**Kapalarasan**	**2.75**	**357**	Pg			**Pb**	**20 50 00.5**	**+0.5**
	1.3nm,0.1s								
KAPS				Lg			Lg	20 50 36.1	
	13nm,0.1s								

IDC 26 20:51:11.8±2.4,3°.71S×127°.87E,h0km,mb3.7/2, mbtmp3.6/3,ML3.4/1,Error ellipse: s-maj=196.1km s-min=29.0km az=67.0,Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.33**	**159**	P			**Pn**	**20 55 13.4**	**-1.9**
	0.1nm,0.3s,baz=340,slow=12,SNR=5.1								
	0.6nm,0.8s								
ASAR	**Alice Springs**	**20.68**	**164**	P			**P**	**20 55 54.5**	**+0.8**
	7.4nm,0.8s,baz=347,slow=11,SNR=31								
	7.4nm,0.8s								
MKAR	**Makanchi Array**	**64.33**	**327**	P			**P**	**21 01 49.3**	**0.0**
	0.2nm,0.4s,baz=128,slow=5.8,SNR=3.8								
	0.2nm,0.4s								

*TAP **26** 20:55:51.7,24°.93N×122°.23E,h119km,ML3.5,B*
*JMA **26** 20:55:51.5±0.2,25°.N±1°.×122°.2E±0°.5,h121km±2km, MV2.3/11,TAIWAN REGION*

ISC 26 20:55:52.4±1.5,24°.91N±0°.04×122°.21E±0°.03,h116km±8km, n113,σ0§74/196,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.22**	**296**	*i* P			**Pn**	**20 56 08.5**	**-0.1**
TWB1				*i* S			**Sn**	**20 56 20.6**	**-0.1**
EGS		**0.26**	**256**	P			**Pn**	**20 56 07.5**	**-1.1**
TIPB	**Shuangxi**	**0.35**	**280**	P			**Pn**	**20 56 09.1**	**0.0**
TIPB				S			**Sn**	**20 56 21.8**	**+0.1**
SXI1	**Grass Mountain**	**0.35**	**301**	P			**Pn**	**20 56 08.8**	**-0.4**
SXI1				*e*S			**Sn**	**20 56 22.0**	**+0.2**
NWF	**Wu-fen Shan**	**0.42**	**293**	*i* P			**Pn**	**20 56 09.2**	**-0.3**
NWF				*i* S			**Sn**	**20 56 21.7**	**-0.7**
WFSB	**Wu-fen Shan**	**0.42**	**293**	P			**Pn**	**20 56 09.0**	**-0.4**
WFSB				S			**Sn**	**20 56 22.3**	**0.0**
ILA	**Ilan**	**0.44**	**251**	*e*P			**Pn**	**20 56 09.3**	**+0.4**
ILA				*e*S			**Sn**	**20 56 22.3**	**-0.1**
TWC	**Suao**	**0.44**	**228**	P			**Pn**	**20 56 09.3**	**-0.3**
TWC				S			**Sn**	**20 56 21.9**	**-0.5**
TNOU	**National Taiwa**	**0.46**	**301**	P			**Pn**	**20 56 09.5**	**-0.1**
TNOU				S			**Sn**	**20 56 23.6**	**+1.0**
ESAO	**Su ao**	**0.47**	**225**	*e*P			**Pn**	**20 56 09.8**	**+0.1**
ESAO				*e*S			**Sn**	**20 56 21.8**	**-0.9**
EOS2	**EOS2**	**0.49**	**177**	*i* P			**Pn**	**20 56 10.2**	**+0.5**
NDS	**Dongshan**	**0.53**	**238**	P			**Pn**	**20 56 10.0**	**0.0**
NDS				S			**Sn**	**20 56 24.7**	**+1.3**
TWE	**Neicheng**	**0.53**	**249**	*i* P			**Pn**	**20 56 09.6**	**-0.4**
TWE				S			**Sn**	**20 56 23.0**	**-0.3**
FUSB	**Fushanzhiwuyua**	**0.58**	**255**	P			**Pn**	**20 56 10.2**	**-0.3**
FUSB				S			**Sn**	**20 56 23.3**	**-0.9**
NHY	**Taipei**	**0.59**	**283**	P			**Pn**	**20 56 10.0**	**-0.5**
NHY				*e*S			**Sn**	**20 56 23.5**	**-0.7**
EWUT	**Wuta**	**0.60**	**220**	*i* P			**Pn**	**20 56 10.8**	**+0.2**
NHDH	**Xindian Distri**	**0.62**	**275**	P			**Pn**	**20 56 10.4**	**-0.3**
NHDH				*e*S			**Sn**	**20 56 25.2**	**+0.7**
YM01	**YM01**	**0.62**	**292**	P			**Pn**	**20 56 10.4**	**-0.4**
YM01				S			**Sn**	**20 56 24.6**	**-0.1**
EOS3	**EOS3**	**0.63**	**171**	P			**Pn**	**20 56 11.2**	**+0.6**
EOS3				S			**Sn**	**20 56 25.7**	**+1.4**
ENTT	**Nioudou**	**0.64**	**245**	*i* P			**Pn**	**20 56 10.6**	**-0.3**
ENTT				*i* S			**Sn**	**20 56 24.6**	**-0.3**
TAP	**Taipei**	**0.65**	**282**	P			**Pn**	**20 56 11.3**	**+0.4**
TAP				S			**Sn**	**20 56 24.5**	**-0.4**
ZUZH	**Zhuzihu**	**0.65**	**293**	*i* P			**Pn**	**20 56 10.0**	**-1.0**
ZUZH				*e*S			**Sn**	**20 56 26.0**	**+0.9**
NWLT	**Wulai**	**0.65**	**259**	*i* P			**Pn**	**20 56 10.6**	**-0.4**
NWLT				S			**Sn**	**20 56 23.7**	**-1.3**
TWY	**Chenhua**	**0.66**	**304**	*i* P			**Pn**	**20 56 10.7**	**-0.4**
TWY				*i* S			**Sn**	**20 56 25.4**	**+0.4**
ANP	**Anpu**	**0.68**	**294**	*e*P			**Pn**	**20 56 10.9**	**-0.3**
ANP				*e*S			**Sn**	**20 56 25.9**	**+0.3**
EAHA	**Aohua**	**0.72**	**216**	*e*P			**Pn**	**20 56 11.8**	**+0.3**
EAHA				*e*S			**Sn**	**20 56 26.8**	**+1.0**
LATG	**Datong**	**0.72**	**239**	*i* P			**Pn**	**20 56 12.3**	**+0.6**
LATG				*i* S			**Sn**	**20 56 27.2**	**+1.1**
PCYT	**Pengchaiyu**	**0.73**	**350**	*e*P			**Pn**	**20 56 11.4**	**-0.1**
TWS1	**Kuangyinshan**	**0.74**	**285**	*i* P			**Pn**	**20 56 11.2**	**-0.5**
TWS1				*i* S			**Sn**	**20 56 26.8**	**+0.6**
EOS4	**EOS4**	**0.79**	**173**	*e*P			**Pn**	**20 56 12.0**	**+0.3**
EOS4				*e*S			**Sn**	**20 56 26.9**	**+0.6**
YHNB	**Yeheng**	**0.79**	**253**	P			**Pn**	**20 56 11.6**	**-0.6**
YHNB				S			**Sn**	**20 56 26.9**	**-0.3**
NSK	**Sanguang**	**0.81**	**253**	*i* P			**Pn**	**20 56 12.5**	**+0.2**
NSK				*i* S			**Sn**	**20 56 26.3**	**-1.0**
JYNG	**Yonagunijimaku**	**0.81**	**124**	P			**Pn**	**20 56 12.2**	**-0.1**
JYNG				*e*S			**Sn**	**20 56 27.7**	**+0.5**
YOJ	**Yonaguni jima**	**0.86**	**121**	P			**Pn**	**20 56 12.2**	**-0.5**
YOJ				S			**Sn**	**20 56 28.4**	**+0.5**
NNSB	**Datong**	**0.89**	**238**	*i* P			**Pn**	**20 56 13.6**	**+0.4**
NNSB				*e*S			**Sn**	**20 56 29.2**	**+0.4**
NNS	**Nan Shan**	**0.89**	**239**	P			**Pn**	**20 56 14.1**	**+0.9**
NNS				S			**Sn**	**20 56 29.1**	**+0.3**
ETL	**Fush Village**	**0.92**	**216**	*e*P			**Pn**	**20 56 13.3**	**0.0**
ETL				*e*S			**Sn**	**20 56 28.8**	**-0.3**
NACB	**Ninganchiao**	**0.92**	**217**	*i* P			**Pn**	**20 56 13.1**	**-0.2**
NACB				*i* S			**Sn**	**20 56 28.7**	**-0.4**
NCUH	**Zhongli**	**0.93**	**274**	*e*P			**Pn**	**20 56 12.7**	**-0.7**
NCUH				*e*S			**Sn**	**20 56 29.6**	**+0.4**
KSHI	**Guanxi Townshi**	**0.95**	**262**	P			**Pn**	**20 56 13.9**	**+0.4**
KSHI				*e*S			**Sn**	**20 56 30.4**	**+0.8**
ETLH	**Xiulin Townshi**	**0.96**	**224**	*i* P			**Pn**	**20 56 13.9**	**0.0**
ETLH				*i* S			**Sn**	**20 56 28.8**	**-1.2**
TWD	**Chiawan**	**1.00**	**214**	P			**Pn**	**20 56 14.2**	**+0.2**
TWD				S			**Sn**	**20 56 29.8**	**-0.6**
NFF	**Wufeng Townshi**	**1.03**	**255**	*e*P			**Pn**	**20 56 13.7**	**-0.7**
NFF				S			**Sn**	**20 56 29.6**	**-1.5**
HWA	**Hwalien**	**1.08**	**211**	*e*P			**Pn**	**20 56 16.1**	**+1.2**
HWA				*e*S			**Sn**	**20 56 33.0**	**+1.2**
FUSS	**Fushou**	**1.10**	**233**	*e*P			**Pn**	**20 56 16.4**	**+1.1**
FUSS				*i* S			**Sn**	**20 56 33.0**	**+0.3**
LIOB	**Emei**	**1.11**	**257**	P			**Pn**	**20 56 15.4**	**+0.1**
LIOB				*i* S			**Sn**	**20 56 32.6**	**0.0**
SBCB	**Hsinchu**	**1.12**	**264**	*e*P			**Pn**	**20 56 15.7**	**+0.5**
SBCB				S			**Sn**	**20 56 33.3**	**+0.7**
HSN	**Hsinchu**	**1.13**	**265**	*e*S			**Sn**	**20 56 32.0**	**-0.8**
NSTT	**Nanjuang**	**1.13**	**256**	*e*P			**Pn**	**20 56 15.4**	**0.0**
NSTT				*i* S			**Sn**	**20 56 32.3**	**-0.5**
LXIB	**Xiulin Townshi**	**1.14**	**219**	*e*P			**Pn**	**20 56 15.3**	**-0.4**
LXIB				S			**Sn**	**20 56 33.3**	**0.0**
ETM	**Tongmen**	**1.14**	**215**	*e*P			**Pn**	**20 56 15.1**	**-0.5**
ETM				*e*S			**Sn**	**20 56 32.5**	**-0.7**
TWT	**Tachien**	**1.14**	**235**	P			**Pn**	**20 56 16.6**	**+0.9**
TWT				S			**Sn**	**20 56 34.1**	**+0.6**
WHF	**Hehuan Shan**	**1.15**	**229**	*e*P			**Pn**	**20 56 16.6**	**+0.5**
WHF				*e*S			**Sn**	**20 56 34.0**	**0.0**
TDCB	**Techi**	**1.16**	**236**	*e*P			**Pn**	**20 56 16.7**	**+0.8**
TDCB				*i* S			**Sn**	**20 56 34.2**	**+0.6**
TEYL	**Yanliau Villag**	**1.18**	**208**	*e*P			**Pn**	**20 56 16.0**	**+0.1**
TEYL				S			**Sn**	**20 56 33.4**	**-0.3**
SHUL	**Shoufeng**	**1.26**	**208**	*e*P			**Pn**	**20 56 17.4**	**+0.5**
SHUL				*e*S			**Sn**	**20 56 34.0**	**-1.4**
ESL	**Shilin**	**1.30**	**213**	*i* P			**Pn**	**20 56 16.4**	**-0.9**
ESL				*i* S			**Sn**	**20 56 34.9**	**-1.2**
WHP	**Taichung City**	**1.31**	**242**	*e*P			**Pn**	**20 56 17.9**	**+0.4**
WHP				*i* S			**Sn**	**20 56 36.4**	**-0.1**
OWD	**Renai**	**1.34**	**225**	*e*P			**Pn**	**20 56 17.5**	**-0.4**
OWD				S			**Sn**	**20 56 36.2**	**-0.9**
NMLH	**Miaoli**	**1.34**	**254**	*e*S			**Sn**	**20 56 37.2**	**+0.3**
TEGC	**Jichi Village**	**1.34**	**207**	*e*S			**Sn**	**20 56 37.6**	**+0.6**
WUSB	**Renai**	**1.35**	**228**	P			**Pn**	**20 56 17.6**	**-0.3**
WUSB				S			**Sn**	**20 56 38.2**	**+0.9**
WARBT	**Fenglin Townsh**	**1.40**	**212**	*e*P			**Pn**	**20 56 17.8**	**-0.7**
WARBT				S			**Sn**	**20 56 36.6**	**-1.6**
NSY	**Sanyi**	**1.41**	**250

MDNY	**Mudanya-Bursa**	**0.70**	**136**	Pg	Pb	21 01 09.7	+0.2
KLYT	**Kilyos**	**0.71**	**57**	Pg	Pg	21 01 09.5	0.0
VIZE	**Kirklareli, Vi**	**0.77**	**337**	P	Pb	21 01 10.7	-0.1
VIZE				S	Sb	21 01 21.3	+0.2
VIZE				*i* IAML		21 01 24.0	
	comp=N,47nm,0.2s						
VIZE				*i* IAML		21 01 41.0	
	comp=E,29nm,1.3s						
VIZE	**Kirklareli, Vi**	**0.77**	**337**	P	Pg	21 01 10.6	0.0
VIZE				S	Sb	21 01 21.0	-0.1
VIZE				*i* IAML		21 01 24.0	
	comp=N,47nm,0.2s						
VIZE				*i* IAML		21 01 24.0	
	comp=E,37nm,0.2s						
KRBG	**Karabiga-Canak**	**0.86**	**237**	Pg	Pg	21 01 12.4	+0.1
YLV	**Yalova**	**0.91**	**109**	Pg	Pg	21 01 13.4	+0.2
SUSR	**Susurluk-Balik**	**0.91**	**188**	Pg	Pn	21 01 13.9	-0.1
HRT	**Hereke**	**1.08**	**92**	Pn	Pg	21 01 16.7	+0.2
SILT	**Sile**	**1.09**	**75**	Pn	Pg	21 01 16.9	+0.2
SEMS	**Kocaeli-K¶rfe**	**1.13**	**89**	P	Pg	21 01 17.6	+0.1
SEMS				S	Sn	21 01 33.9	+1.6
SEMS				*i* IAML		21 01 35.0	
	comp=E,10nm,0.5s						
SEMS				*i* IAML		21 01 53.0	
	comp=N,12nm,1.5s						
ARMN	**Kirklareli, Me**	**1.17**	**329**	P	Pb	21 01 17.7	+0.2
ARMN				S	Sg	21 01 33.3	0.0
ARMN				*i* IAML		21 01 37.0	
	comp=N,10nm,1.1s						
ARMN				*i* IAML		21 02 01.0	
	comp=E,9.8nm,1.3s						
KIRK	**Kırklareli**	**1.26**	**317**	P	Pg	21 01 19.5	-0.3
KIRK				S	Sg	21 01 36.2	0.0
KIRK				*i* IAML		21 01 37.0	
	comp=E,5.4nm,0.2s						
EDRB	**Edirne**	**1.49**	**311**	Pn	Pn	21 01 22.1	+0.2

*DJA **26** 21:25:38.0±0.7, 6°S±7°×10°4E±°, h10km, M3.7/8, MLv3.7/8*
*IDC **26** 21:25:43.2±3.5, 4°.40S×104°.58E, h0km, mb3.6/6,*
mbtmp3.6/6, Error ellipse: s-maj=198.9km s-min=19.9km
az=53.0
ISC 26 21:25:36.4±1.9, **6°.3S**±0°.1×**103°.6E**±0°.1, **h10**km, **n20,**
σ1§54/10, mb3.6/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.21**	**50**	P		**Pb**	**21 25 59.6**	**+0.2**
LWLI	**Liwa**	**1.37**	**21**	P		**Pn**	**21 26 02.1**	**+0.3**
MDSI	**Maura Dua**	**1.91**	**19**	P		**Pn**	**21 26 09.2**	**+0.1**
MNAI	**Manna**	**2.03**	**342**	P		**Pn**	**21 26 11.9**	**+1.2**
CGJI	**Cibinong**	**2.13**	**98**	P		**Pn**	**21 26 13.5**	**+1.4**
LHSI	**Lahat**	**2.47**	**359**	P		**Pn**	**21 26 19.0**	**+2.3**
KSI	**Kapahiang**	**2.81**	**340**	P		**Pn**	**21 26 23.2**	**+1.6**
MASI	**Maura Aman, Be**	**3.41**	**337**	P		**Pn**	**21 26 30.7**	**+0.9**
WRA	**Warramunga Arr**	**32.80**	**117**	P		P	21 32 17.7	+7.4
	0.3nm,0.8s,baz=290,slow=10.0,SNR=5.7 0.3nm,0.8s							
ASAR	**Alice Springs**	**33.88**	**124**	P		P	21 32 30.2	+10
	0.5nm,0.4s,baz=300,slow=7.8,SNR=12 0.5nm,0.4s							
STKA	**Stephens Creek**	**43.65**	**131**	P		P	21 33 55.5	+14
	2.0nm,0.9s,baz=315,slow=5.7,SNR=3.2 2.0nm,0.9s							
MKAR	**Makanchi Array**	**56.15**	**343**	P		P	21 35 12.6	-3.7
	0.2nm,0.5s,baz=151,slow=9.2,SNR=5.0 0.2nm,0.5s							
H04N2	**CROZET ISLANDS**	**59.60**	**219**	T		T	22 40 15.0	
	baz=64,slow=75							
H04N1	**CROZET ISLANDS**	**59.61**	**219**	T		T	22 40 08.4	
	baz=64,slow=75							
H04N3	**CROZET ISLANDS**	**59.62**	**219**	T		T	22 40 09.4	
	baz=64,slow=75							
H04S1	**CROZET ISLANDS**	**59.82**	**219**	T		T	22 40 26.0	
	baz=63							
H04S3	**CROZET ISLANDS**	**59.84**	**219**	T		T	22 40 20.1	
	baz=63,slow=74							
H04S2	**CROZET ISLANDS**	**59.84**	**219**	T		T	22 40 23.5	
	baz=63,slow=74							
KURBB	**Kurchatov Arra**	**60.69**	**342**	P		**P**	**21 35 46.3**	**-1.6**
	0.2nm,0.7s,baz=162,slow=5.0,SNR=4.7 0.2nm,0.7s							
ZALV	**Zalesovo Beam**	**62.07**	**348**	P		**P**	**21 35 55.7**	**-1.5**
	0.5nm,0.3s,baz=145,slow=6.4,SNR=3.4 0.5nm,0.3s							

*IDC **26** 21:53:16.3±0.9, 30°.34N×130°.97E, h0km, mb3.8/10,*
mbtmp3.7/14, ML3.1/4, Error ellipse: s-maj=34.8km
s-min=15.1km az=78.0
*NIED **26** 21:53:19.9, 30°.35N×131°.27E, h28km, MW4.0, Moment*
Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm;
M_{rr}0.25; $M_{\theta\theta}$0.09; $M_{\phi\phi}$ -0.34; $M_{r\theta}$0.86; $M_{\theta\phi}$-0.12; $M_{r\phi}$0.84;
Fault plane solution: $M_0$1.25000×10¹⁵ NP1:
ϕ_s165.00000°, δ11.00000°, λ31.00000°. NP2:ϕ_s45.00000°,
δ84.00000°, λ100.00000°.
*JMA **26** 21:53:19.9±0.1, 30°.3N±0°.4×131°.3E±0°.6, h28km, MD3.9/32,*
MV3.7/32, NEAR TANEGASHIMA ISLAND
ISC 26 21:53:20.4±1.3, **30°.32N**±0°.05×**131°.16E**±0°.07, **h31**km±7km,
n30, σ1§08/33, mb3.9/10, **4D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.24**	**290**	⇓*i* P		**Pb**	**21 53 27.4**	**+0.2**
JMTN				⇓S		**Sn**	**21 53 33.0**	**+0.5**
JMTN	**Minamitane**	**0.24**	**290**	A		A	21 53 27.4	
	comp=N,8.0nm,2.1s,comp=E,22nm,0.8s							
JTN	**Tanegashima 3**	**0.37**	**335**	⇓*i* P		**Pb**	**21 53 28.4**	**-0.6**
JTN				⇓S		**Sb**	**21 53 34.6**	**-0.2**
JTN	**Tanegashima 3**	**0.37**	**335**	A		A	21 53 28.4	
	comp=N,30nm,0.5s,comp=E,20nm,0.5s							
JYAK	**Yakushimahirau**	**0.57**	**262**	P		**Pn**	**21 53 32.7**	**+0.4**
JYAK				S		**Sn**	**21 53 42.0**	**+1.3**
JKC	**Kuchinoerabu**	**0.85**	**280**	P		**Pb**	**21 53 36.9**	**+0.3**
JKC				S		**Sb**	**21 53 49.4**	**+1.7**
JTSR	**Tashiro 2**	**0.87**	**346**	*i* P		**Pn**	**21 53 36.1**	**-0.4**
JTSR				S		**Sn**	**21 53 47.6**	**-0.6**
JTSR	**Tashiro 2**	**0.87**	**346**	A		A	21 53 36.1	
	comp=N,6.0nm,1.2s,comp=E,8.0nm,1.0s							
JNAR	**Kushima--Naru**	**1.21**	**4**	P		**Pn**	**21 53 41.4**	**+0.2**
JNAR				*e*S		**Sn**	**21 53 57.0**	**+0.6**
JNN	**Nakanoshima**	**1.21**	**247**	A		A	21 53 42.8	
	comp=N,3.0nm,2.0s,comp=E,5.0nm,2.5s							
JSU	**Suzuyama**	**1.33**	**333**	*i* P		**Pn**	**21 53 43.0**	**+0.2**
JSU				S		**Sb**	**21 54 00.3**	**-1.2**
JNKG	**Nichinankitago**	**1.35**	**8**	P		**Pn**	**21 53 43.4**	**+0.3**
JNKG				*e*S		**Sn**	**21 54 01.0**	**+1.0**
JTZ	**Takazaki**	**1.58**	**358**	P		**Pn**	**21 53 46.8**	**+0.5**
JNU	**Nakatsue**	**2.81**	**355**	Pn		**Pn**	**21 54 04.0**	**+0.8**
	comp=E,3.9nm,0.3s,baz=204,slow=12,SNR=24							
JNU				Sn		**Sn**	**21 54 34.2**	**-1.7**
	comp=E,6.9nm,0.3s,baz=312,slow=21,SNR=6.0 comp=E,38nm,0.8s							
JOW	**Kunigami**	**4.30**	**217**	Pn		**Pn**	**21 54 23.3**	**-0.4**
	comp=E,2.4nm,0.3s,baz=105,slow=22,SNR=7.6							
JOW				Sn		**Sn**	**21 55 09.0**	**-3.8**
	comp=E,1.9nm,0.3s,baz=358,slow=16,SNR=1.9 comp=E,9.2nm,0.7s							
KSRS	**Korea Array**	**7.61**	**340**	Pn		**Pn**	**21 55 08.8**	**-0.3**
	comp=E,0.4nm,0.3s,baz=161,slow=14,SNR=4.9 comp=E,0.8nm,0.5s							
MJAR	**Matsushiro Arr**	**8.55**	**42**	Pn		**Pn**	**21 55 23.2**	**+1.1**
	comp=E,0.1nm,0.3s,baz=188,slow=12,SNR=8.3 comp=E,2.0nm,0.6s							
SONM	**Songino Array**	**25.82**	**320**	P		**P**	**21 58 48.7**	**-0.2**
	comp=E,0.4nm,0.5s,baz=134,slow=6.2,SNR=3.3 comp=E,0.4nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**33.93**	**100**	T		T	22 35 55.9	
	baz=296,slow=75,SNR=74							
H11N1	**WAKE ISLAND Hy**	**33.93**	**100**	T		T	22 35 58.2	
	baz=296,slow=75,SNR=46							
H11N3	**WAKE ISLAND Hy**	**33.94**	**100**	T		T	22 35 57.0	
	baz=296,slow=75,SNR=59							
MKAR	**Makanchi Array**	**40.91**	**308**	P		**P**	**22 00 59.7**	**-0.1**
	comp=E,0.4nm,0.8s,baz=97,slow=9.2,SNR=2.5 comp=E,0.4nm,0.8s							
BVAR	**Borovoye Array**	**49.06**	**316**	P		**P**	**22 02 04.1**	**-0.3**
	comp=E,0.8nm,0.5s,baz=82,slow=12,SNR=5.3 comp=E,0.8nm,0.5s							
WRA	**Warramunga Arr**	**50.06**	**176**	P		**P**	**22 02 13.0**	**+0.7**
	comp=E,1.1nm,0.9s,baz=354,slow=8.4,SNR=6.9 comp=E,1.1nm,0.9s							
ASAR	**Alice Springs**	**53.74**	**177**	P		**P**	**22 02 40.9**	**+1.1**
	comp=E,0.9nm,0.8s,baz=11,slow=12,SNR=14 comp=E,0.9nm,0.8s							

STKA	**Stephens Creek**	**62.64**	**170**	P		**P**	**22 03 43.0**	**+1.3**
	comp=E,2.7nm,0.8s,baz=110,slow=1.3,SNR=3.7 comp=E,2.7nm,0.8s							
FINES	**FINESS Array B**	**70.59**	**331**	P		**P**	**22 04 31.9**	**-0.3**
	comp=E,0.6nm,0.4s,baz=71,slow=5.4,SNR=16 comp=E,0.6nm,0.4s							
AKASG	**Malin Array Be**	**74.11**	**320**	P		**P**	**22 04 53.0**	**-0.4**
	comp=E,0.3nm,0.3s,baz=61,slow=6.0,SNR=2.3 comp=E,0.3nm,0.3s							
HFS	**Hagfors**	**76.40**	**333**	P		**P**	**22 05 05.8**	**-0.6**
	comp=E,1.0nm,0.8s,baz=45,slow=8.6,SNR=1.4 comp=E,1.0nm,0.8s							
BRTR	**Keskin Array B**	**76.56**	**308**	P		**P**	**22 05 07.3**	**-0.7**
	comp=E,1.1nm,0.9s,baz=117,slow=1.9,SNR=3.9 comp=E,1.1nm,0.9s							

*HEL **26** 22:13:44.4±0.3, 67°.17N×20°.57E, h0km, ML1.5, Explosion*
UPP 26 22:13:44.7±0.4, **67°.19N**×**20°.67E, h1**km±2km, **ML1.9,**
Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**211**	P		Pg	22 13 46.3	+0.2
	baz=16							
DUNU				S		Sg	22 13 47.5	+0.4
MASU	**Masugnsbyn**	**0.58**	**62**	P		Pg	22 13 55.8	-0.1
MASU				S		Sg	22 14 03.9	+0.5
RATU	**Laukkuluspa**	**0.76**	**328**	P		Pg	22 13 58.9	-0.5
KUA	**Kurravaara**	**0.78**	**351**	P		Pg	22 13 59.2	-0.4
KUA	**Kurravaara**	**0.78**	**351**	P		Pg	22 13 59.6	-0.1
SALU	**Saltoluokta**	**0.86**	**284**	P		Pg	22 14 00.7	-0.5
ERTU	**Ertsjaerv**	**0.87**	**136**	P		Pg	22 14 00.6	-0.8
ERTU	**Ertsjaerv**	**0.87**	**136**	PG		Pg	22 14 00.3	-1.1
ERTU				SB		Sg	22 14 13.4	+0.7
NIKU	**Nikkaluokta**	**0.93**	**318**	P		Pg	22 14 01.8	-0.6
PAJU	**Pajala**	**0.97**	**99**	P		Pg	22 14 02.5	-0.8
PAJU	**Pajala**	**0.97**	**99**	PG		Pg	22 14 02.6	-0.6
PAJU				SB		Sg	22 14 16.3	+0.5
LANU	**Lannavaara**	**1.00**	**30**	P		Pg	22 14 03.2	-0.7
LANU	**Lannavaara**	**1.00**	**30**	PG		Pg	22 14 03.2	-0.7
LANU				SN		Sn	22 14 23.3	+2.6
HARU	**Harads**	**1.03**	**173**	P		Pg	22 14 03.5	-0.9
KOVU	**Salmi**	**1.06**	**350**	P		Pg	22 14 04.3	-0.7
HEF	**Hetta**	**1.67**	**41**	*e*P		Pn	22 14 14.2	-0.9
HEF	**Hetta**	**1.67**	**41**	PG		Pn	22 14 14.8	-0.3
	baz=221							
HEF				MSG			22 14 35.5	
	comp=E,2.8nm,0.2s							
HEF				SG		Sn	22 14 36.3	-0.9
KALU	**Kalix**	**1.71**	**140**	P		Pn	22 14 15.9	+0.3
KALU	**Kalix**	**1.71**	**140**	PG		Pn	22 14 15.7	+0.1
	baz=320							
KALU				SN		Sg	22 14 40.4	+0.8
SJUU	**Sjulsmark**	**1.73**	**167**	P		Pn	22 14 15.8	-0.1
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P		Pb	22 14 18.2	-0.7
KIF	**Kilpisjarvi**	**1.83**	**1**	PG		Pb	22 14 18.2	-0.7
	baz=178							
KIF				MSG			22 14 40.4	
	comp=E,3.3nm,0.2s							
TOF	**Tornio**	**1.83**	**126**	PG		Pn	22 14 17.8	+0.6
	baz=305							
TOF				MSG			22 14 39.9	
	comp=E,1.8nm,0.2s							
TOF				SG		Sg	22 14 43.0	-0.4
KTK1	**Kautokeino**	**2.07**	**27**	PG		Pb	22 14 22.2	-0.9
KTK1				SG		Sb	22 14 49.7	+0.4
RNF	**Rovaniemi**	**2.19**	**103**	PG		Pb	22 14 23.6	-1.4
RNF				SG		Sb	22 14 52.9	+0.3
TRO	**Tromso**	**2.54**	**346**	SG		Sb	22 15 03.8	+1.1
BURU	**Burvik**	**2.63**	**173**	PB		Pn	22 14 29.0	+0.8
RANF	**Ranua**	**2.71**	**113**	PG		Pb	22 14 32.6	-1.4
	baz=301							
RANF				SG		Sb	22 15 08.1	+0.5
ARA0	**ARCESS Array S**	**2.96**	**35**	SB		Sb	22 15 12.4	-2.5
UMAU	**Umeaa**	**3.32**	**180**	SN		Sn	22 15 17.8	+0.1
HUSU	**Husum**	**3.91**	**190**	PN		Pn	22 14 46.6	+0.8

UPP 26 22:13:45.2±0.0, **67°.19N**×**20°.64E, h0**km, **ML1.6,**
Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**200**	P		Pg	22 13 46.9	+0.3
	baz=11							
DUNU				S		Sg	22 13 48.3	+0.7
MASU	**Masugnsbyn**	**0.59**	**63**	P		Pg	22 13 56.5	0.0
MASU				S		Sg	22 14 04.5	+0.4
RATU	**Laukkuluspa**	**0.75**	**328**	P		Pg	22 13 59.4	-0.2
RATU				S		Sg	22 14 09.3	0.0
KUA	**Kurravaara**	**0.77**	**352**	S		Sg	22 14 10.4	+0.4
SALU	**Saltoluokta**	**0.85**	**284**	P		Pg	22 14 01.3	-0.1
ERTU	**Ertsjaerv**	**0.89**	**136**	P		Pg	22 14 01.8	-0.3
PAJU	**Pajala**	**0.98**	**99**	P		Pg	22 14 03.4	-0.6
LANU	**Lannavaara**	**1.00**	**31**	P		Pg	22 14 03.8	-0.7

*SJA **26** 22:18:09.3±0.8, 24°.08S×66°.77W, h234km±5km, ML3.9, MW3.9*
*NEIC **26** 22:18:11.0±1.5, 24°.07S±0°.07×67°.0W±0°.2, h241km±15km,*
mb4.1/3, Error ellipse: s-maj=21.2km s-min=10.2km
az=89.0
ISC 26 22:18:10.7±0.9, **24°.05S**±0°.04×**66°.85W**±0°.04, **h222**km±8km,
n60, σ1§24/96, 3C, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SALTA		**0.50**	**110**	*e*P		**Pn**	**22 18 40.9**	**-0.1**
SALTA				*e*S		**S**	**22 19 04.2**	**-0.3**
SLA	**San Lorenzo**	**1.40**	**119**	*e*P		**Pn**	**22 18 45.9**	**+0.2**
SLA				*e*S		**S**	**22 19 11.4**	**-1.6**
HJA	**Humahuaca**	**1.56**	**58**	*e*P		**Pn**	**22 18 47.6**	**+0.2**
HJA				*e*S		**S**	**22 19 15.6**	**-0.3**
AF01	**San Pedro de A**	**1.64**	**312**	Pn		**Pn**	**22 18 49.3**	**+1.4**
AF01	**San Pedro de A**	**1.64**	**312**	*e*P		**Pn**	**22 18 50.2**	**+2.3**
AZAP	**Zapla**	**1.64**	**96**	*e*P		**Pn**	**22 18 47.5**	**-0.3**
AZAP				*e*S		**S**	**22 19 13.9**	**-2.7**
FSA	**Cafayete**	**2.20**	**159**	*e*P		**Pn**	**22 18 52.9**	**-0.2**
FSA				*e*S		S	22 19 18.1	-8.0
YJA	**Yavi**	**2.23**	**34**	*e*P		**Pn**	**22 18 54.7**	**+0.9**
YJA	**Yavi**	**2.23**	**34**	*e*P		**Pn**	**22 18 54.4**	**+0.6**
YJA				*e*S		**S**	**22 19 26.5**	**-0.7**
GO02	**Mina Guanaco**	**2.73**	**245**			**Pn**	**22 18 59.3**	**+0.6**
GO02				Sn		**S**	**22 19 35.7**	**-0.5**
GO02	**Mina Guanaco**	**2.73**	**245**	⇑*e*P		**Pn**	**22 18 59.5**	**+0.7**
GO02				*e*S		**S**	**22 19 35.5**	**-0.7**
GO02				IAML			22 19 38.3	
	comp=N,551nm,0.1s							
GO02	**Mina Guanaco**	**2.73**	**245**	*e*P		**Pn**	**22 18 59.4**	**+0.6**
GO02				*e*S		**S**	**22 19 36.7**	**+0.5**
GO02				IAML			22 19 37.7	
	comp=Z,397nm,0.3s							
PB06	**IPOC Station P**	**2.84**	**298**			**Pn**	**22 19 00.7**	**+0.9**
PB06				Sn		**S**	**22 19 37.1**	**-1.1**
PB06	**IPOC Station P**	**2.84**	**298**	⇑*e*P		**Pn**	**22 19 00.9**	**+1.0**
PB06				*e*S		**S**	**22 19 37.0**	**-1.1**
PB06				IAML			22 19 38.5	
	comp=E,396nm,0.1s							
PB06	**IPOC Station P**	**2.84**	**298**	*e*P		**Pn**	**22 19 00.8**	**+0.9**
PB06				*e*S		**S**	**22 19 38.0**	**-0.1**
PB06				IAML			22 19 39.0	
	comp=Z,266nm,0.3s							
PB09	**IPOC Station P**	**3.15**	**315**			**Pn**	**22 19 03.9**	**+0.5**
PB09				Sn		**S**	**22 19 44.8**	**+0.2**
PB09	**IPOC Station P**	**3.15**	**315**	*e*P		**Pn**	**22 19 04.7**	**+1.3**
PB09				*e*S		**S**	**22 19 44.2**	**-0.3**
PB09				IAML			22 19 46.7	
	comp=N,220nm,0.3s							
PB09	**IPOC Station P**	**3.15**	**315**	*e*P		**Pn**	**22 19 04.6**	**+1.3**
PB09				*e*S		**S**	**22 19 44.8**	**+0.2**
PB09				IAML			22 19 46.7	
	comp=Z,171nm,0.3s							
PB14	**IPOC Station P**	**3.29**	**259**			**Pn**	**22 19 05.2**	**0.0**
PB14				Sn		**S**	**22 19 47.2**	**-0.5**
PB14	**IPOC Station P**	**3.29**	**259**	*e*P		**Pn**	**22 19 05.5**	**+0.3**
PB14	**IPOC Station P**	**3.29**	**259**	*e*P		**Pn**	**22 19 05.5**	**+0.3**
PB14				*e*S		**S**	**22 19 46.9**	**-0.8**
PB14				IAML			22 19 47.7	
	comp=Z,141nm,0.2s							
PB03	**IPOC Station P**	**3.33**	**306**	Pn		**Pn**	**22 19 06.2**	**+0.6**
PB03				Sn		**S**	**22 19 47.1**	**-1.3**
PB10	**IPOC Station P**	**3.44**	**278**			**Pn**	**22 19 07.0**	**+0.4**
PB10				Sn		**S**	**22 19 49.5**	**-0.8**
PB10	**IPOC Station P**	**3.44**	**278**	⇑*e*P		**Pn**	**22 19 07.2**	**+0.7**
PB10				*e*S		**S**	**22 19 48.9**	**-1.3**
PB10	**IPOC Station P**	**3.44**	**278**	*e*P		**Pn**	**22 19 07.3**	**+0.7**
PB10				*e*S		**S**	**22 19 49.6**	**-0.7**
PB10				IAML			22 19 51.0	
	comp=Z,164nm,0.5s							
AC02	**Maricunga**	**3.46**	**216**			**Pn**	**22 19 08.0**	**+0.8**
AC02	**Maricunga**	**3.46**	**216**	*e*P		**Pn**	**22 19 08.6**	**+1.3**
AC02				*e*S		**S**	**22 19 56.5**	**+4.9**
PB01	**IPOC Station P**	**3.86**	**320**			**Pn**	**22 19 12.0**	**+0.2**
PB01				Sn		**S**	**22 19 58.4**	**-1.3**
PB01	**IPOC Station P**	**3.86**	**320**	*e*P		**Pn**	**22 19 12.3**	**+0.5**
PB01	**IPOC Station P**	**3.86**	**320**	*e*P		**Pn**	**22 19 12.4**	**+0.6**
PB01				*e*S		**S**	**22 19 59.0**	**-0.7**
PB01				IAML			22 19 59.5	
	comp=Z,106nm,0.2s							
PB02	**IPOC Station P**	**3.91**	**313**			**Pn**	**22 19 12.1**	**-0.2**
PB02				Sn		**S**	**22 19 58.7**	**-2.1**
PB02	**IPOC Station P**	**3.91**	**313**	*e*P		**Pn**	**22 19 12.9**	**+0.5**
PB02	**IPOC Station P**	**3.91**	**313**	*e*P		**Pn**	**22 19 12.8**	**+0.5**
PB02				*e*S		**S**	**22 19 58.9**	**-1.9**
PB02				IAML			22 20 01.8	
	comp=Z,306nm,0.2s							
AC01	**Pan de Azucar**	**3.99**	**238**			**Pn**	**22 19 12.8**	**-0.4**
AC01				Sn		**S**	**22 19 59.4**	**-2.8**
AC01	**Pan de Azucar**	**3.99**	**238**	*e*P		**Pn**	**22 19 12.6**	**-0.5**
AC01	**Pan de Azucar**	**3.99**	**238**	*e*P		**Pn**	**22 19 12.7**	**-0.5**
AC01				*e*S		**S**	**22 19 59.6**	**-2.7**
AC01				IAML			22 20 00.3	
	comp=Z,78nm,0.3s							
PATCX	**Punta Patache**	**4.43**	**316**			**Pn**	**22 19 18.5**	**-0.3**
PATCX				Sn		**S**	**22 20 11.0**	**-1.3**
PB08	**IPOC Station P**	**4.44**	**331**			**Pn**	**22 19 20.2**	**+1.1**
PB08				Sn		**S**	**22 20 12.8**	**-0.1**
PB08	**IPOC Station P**	**4.44**	**331**	*e*P		**Pn**	**22 19 20.6**	**+1.5**
PB08				*e*S		**S**	**22 20 12.6**	**-0.3**
PB08				IAML			22 20 17.2	
	comp=Z,50nm,0.3s							
TA01	**Diego Aracena**	**4.64**	**318**			**Pn**	**22 19 20.7**	**-0.5**
TA01	**Diego Aracena**	**4.64**	**318**	*e*P		**Pn**	**22 19 21.6**	**+0.4**
TA01	**Diego Aracena**	**4.64**	**318**	*e*P		**Pn**	**22 19 21.2**	**0.0**
TA01				IAML			22 20 20.1	
	comp=Z,35nm,0.2s							
GO03	**Copiapo**	**4.66**	**220**			**Pn**	**22 19 20.9**	**-0.5**
GO03	**Copiapo**	**4.66**	**220**	*e*P		**Pn**	**22 19 21.2**	**-0.3**
GO03				*e*S		**S**	**22 20 15.2**	**-2.2**
GO03				IAML			22 20 17.6	
	comp=Z,49nm,0.5s							
HMBC	**Humberstone**	**4.69**	**323**			**Pn**	**22 19 21.9**	**-0.1**
HMBC				Sn		**S**	**22 20 15.6**	**-2.6**
HMBC	**Humberstone**	**4.69**	**323**	*e*P		**Pn**	**22 19 21.5**	**-0.5**
HMBC				*e*S		**S**	**22 20 15.6**	**-2.6**
HMBC				IAML			22 20 18.5	
	comp=Z,106nm,0.2s							
GO01	**Chusmiza**	**4.87**	**333**			**Pn**	**22 19 24.8**	**+0.2**
GO01				Sn		**S**	**22 20 21.5**	**-1.3**
GO01	**Chusmiza**	**4.87**	**333**	*e*P		**Pn**	**22 19 27.2**	**+2.6**
GO01				*e*S		**S**	**22 20 23.3**	**+0.4**
GO01				IAML			22 20 28.4	
	comp=Z,42nm,0.3s							
PB11	**IPOC Station P**	**5.00**	**328**			**Pn**	**22 19 25.7**	**-0.2**
PB11	**IPOC Station P**	**5.00**	**328**	*e*P		**Pn**	**22 19 25.8**	**-0.2**
PB11				*e*S		**S**	**22 20 23.1**	**-2.2**
PB11				IAML			22 20 26.1	
	comp=Z,71nm,0.3s							
AC04	**Llanos de Chal**	**5.61**	**222**	Pn		**Pn**	**22 19 32.2**	**-1.2**
LCO	**Las Campanas**	**6.03**	**214**	Pn		**Pn**	**22 19 37.4**	**-1.5**
PB16	**IPOC Station P**	**6.20**	**336**			**Pn**	**22 19 41.3**	**-0.2**
GO04	**Tololo Observa**	**7.04**	**209**	Pn		**Pn**	**22 19 50.3**	**-1.5**
CO03	**El Pedregal**	**7.57**	**206**	Pn		**Pn**	**22 19 57.7**	**-0.8**
LPAZ	**La Paz**	**7.82**	**351**	Pn		**Pn**	**22 20 01.8**	**-0.4**
TRCB	**Terra Rica**	**13.11**	**87**			**P**	**22 21 13.6**	**+2.2**
NNA	**Nana**	**15.29**	**320**	Pn		**Pn**	**22 21 36.0**	**+0.3**
NNA				IAmb		IAmb	22 21 50.3	
	comp=Z,7.1nm,0.9s							
BDFB	**Brasilia**	**19.58**	**68**	P		**P**	**22 22 22.7**	**+0.4**
BDFB				IAmb		IAmb	22 22 24.8	
	comp=Z,5.9nm,1.0s							
MAL2	**Monte Alegre,**	**25.10**	**31**	P		**P**	**22 23 14.3**	**-1.1**
MAL2				IAmb		IAmb	22 23 23.3	
	comp=Z,7.9nm,0.8s						

LOBH				IAML		22 44 21.2	
	comp=Z,263nm,0.2s						
PODR	**Polo**	**0.27**	**67**	⇑*e*Pg	**Pb**	**22 44 08.3**	**-0.7**
PODR				⇑*e*Sg	**Sb**	**22 44 13.6**	**+0.3**
PODR				IAML		22 44 14.6	
	comp=N,225nm,0.5s						
LODU1	**El Espartillar**	**0.30**	**12**	*i* P	**Pb**	**22 44 08.1**	**-1.2**
LODU1				*e*S	**Sb**	**22 44 14.0**	**+0.1**
LODU1				IAML		22 44 18.0	
	comp=Z,533nm,0.3s						
LOVI	**El Cajuil, Ovi**	**0.31**	**148**	*i* P	**Pb**	**22 44 09.5**	**+0.2**
LOVI				*e*S	**Sn**	**22 44 15.9**	**-1.4**
LOVI				IAML		22 44 20.1	
	comp=Z,276nm,0.8s						
NEDR	**Neiba UASD**	**0.44**	**15**	⇑*e*Pg	**Pb**	**22 44 10.9**	**-0.5**
NEDR				⇑*e*Sg	**Sb**	**22 44 18.9**	**+1.2**
NEDR				IAML		22 44 19.1	
	comp=N,276nm,0.3s						
JIDR	**Jimani**	**0.52**	**325**	⇑*e*Pg	**Pb**	**22 44 12.3**	**-0.6**
JIDR				⇑*e*Sg	**Sn**	**22 44 21.2**	**-1.5**
JIDR				IAML		22 44 21.2	
	comp=N,90nm,0.4s						
LONE3	**El Aguacate, B**	**0.55**	**8**	*i* P	**Pb**	**22 44 12.4**	**-1.1**
LONE3				*e*S	**Sb**	**22 44 21.1**	**+0.1**
LONE3				IAML		22 44 24.3	
	comp=Z,54nm,0.3s						
REDR	**Restauracion**	**1.11**	**7**	⇑*e*Pg	**Pb**	**22 44 24.2**	**+1.3**
REDR				⇑*e*Sg	**Sb**	**22 44 40.5**	**+3.6**
REDR				IAML		22 44 42.1	
	comp=N,30nm,0.2s						
BANI	**BANI**	**1.17**	**73**	*e*Pg	**Pn**	**22 44 23.6**	**+0.1**
BANI				*e*Sg	**Sb**	**22 44 40.7**	**+1.9**
BANI				IAML		22 44 41.8	
	comp=N,32nm,0.3s						
HATOM	**Hato Mayor del**	**2.17**	**70**	⇑*e*Pg	**Pb**	**22 44 40.4**	**-0.7**
HATOM				⇑*e*Sg	**Sb**	**22 45 08.5**	**+0.9**
HATOM				IAML		22 45 40.8	
	comp=N,13nm,1.6s						

IDC ***26*** *22:52:20.4±2.1,3.˚72S×127.˚99E, h0km, mb4.0/2, mbtmp4.1/3, ML3.7/1, Error ellipse: s-maj=173.4km s-min=27.3km az=67.0*

DJA ***26*** *22:52:21.0±0.6, 4.˚3S×127.˚8E±.˚, h10km, M3.6/6, MLv3.6/6*

ISC 26 22:52:21.7±1.2,3˚.6S±0˚.1×128˚.38E±0˚.06,h12km±10km,n8,σ0$60/9,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.21**	**240**	P	**Pg**	**22 52 26.4**	**+0.1**
MSAI	**Masohi**	**0.60**	**67**	P	**Pg**	**22 52 32.8**	**-0.5**
MSAI				S	**Sg**	**22 52 41.3**	**+0.1**
NLAI	**Namlea**	**1.32**	**285**	P	**Pn**	**22 52 45.2**	**-0.8**
SANI	**Sanana**	**2.83**	**302**	P	**Pn**	**22 53 07.4**	**+0.6**
SWI	**Sorong**	**3.94**	**47**	P	**Pn**	**22 53 22.8**	**+0.7**
WRA	**Warramunga Arr**	**17.27**	**161**	P	**Pn**	**22 56 22.9**	**-0.1**
	0.3nm,0.3s,baz=341,slow=12,SNR=13 3.9nm,0.9s						
ASAR	**Alice Springs**	**20.67**	**166**	P	**P**	**22 57 01.9**	**+0.1**
	14nm,0.8s,baz=346,slow=10,SNR=74 14nm,0.8s						
MKAR	**Makanchi Array**	**64.50**	**327**	P	**P**	**23 02 58.4**	**0.0**
	0.3nm,0.5s,baz=111,slow=7.9,SNR=6.8 0.3nm,0.5s						

IDC ***26*** *23:01:31.1±8.5, 17.˚93S×178.˚25W, h619km±107km, mb3.3/6, mbtmp4.3/7, Error ellipse: s-maj=39.9km s-min=36.9km az=75.0*

ISC 26 23:01:28.8±1.3,17˚.9S±0˚.3×178˚.2W±0˚.2,h590km,n7,σ0$57/7,mb3.8/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.05**	**251**	P	**P**	**23 04 38.9**	**+1.0**
	2.3nm,0.4s,baz=48,slow=12,SNR=5.9						
STKA	**Stephens Creek**	**38.84**	**241**	P	**P**	**23 08 04.7**	**0.0**
	3.3nm,0.5s,baz=99,slow=10,SNR=8.9 3.3nm,0.5s						
WRA	**Warramunga Arr**	**44.86**	**259**	P	**P**	**23 08 51.8**	**-0.3**
	2.9nm,0.5s,baz=96,slow=7.2,SNR=66 2.9nm,0.5s						
ASAR	**Alice Springs**	**45.02**	**254**	P	**P**	**23 08 53.0**	**-0.3**
	6.9nm,0.4s,baz=89,slow=8.5,SNR=85 6.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**53.26**	**260**	P	**P**	**23 09 53.5**	**-0.3**
	0.7nm,0.3s,baz=95,slow=7.1,SNR=9.1 0.7nm,0.3s						
QSPA	**South Pole Qui**	**72.16**	**180**	P	**P**	**23 11 54.4**	**-0.1**
	0.6nm,0.6s,baz=135,slow=0.1,SNR=8.9 0.6nm,0.6s						
TXAR	**Lajitas Array**	**85.79**	**58**	P	**P**	**23 13 07.3**	**+0.2**
	0.7nm,0.7s,baz=220,slow=5.6,SNR=8.2 0.7nm,0.7s						

SOF ***26*** *23:03:09.7, 39˚.63N±0˚.03×27˚.64E±0˚.02, h10km±2km, MD3.3/11*

ISK ***26*** *23:03:11.2, 39˚.66N×27˚.65E, h11km, ML3.5/57*

AFAD ***26*** *23:03:11.4, 39˚.66N×27˚.67E, h16km±1km, MW3.5*

CFUSG ***26*** *23:03:18.2, 40˚.12N×27˚.99E, h10km, mb3.0/5, MD3.4/5, Western Turkey Magtype MSH 2.8 from 6 stations*

ISC 26 23:03:11.2±1.0,39˚.66N±0˚.02×27˚.68E±0˚.02,h20km±2km,n101,σ1$18/117,10C-6D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.09**	**332**	P	**Pb**	**23 03 14.9**	**-0.3**
BALY				S	**Sb**	**23 03 17.3**	**-0.7**
BALY				*i* IAML		23 03 18.0	
	comp=N,1μm,0.4s						
BALY				*i* IAML		23 03 19.0	
	comp=E,4μm,0.4s						
BKES	**Balkesir-Mer**	**0.21**	**69**	P	**Pb**	**23 03 16.8**	**-0.1**
BKES				S	**Sb**	**23 03 20.4**	**-0.4**
BKES				*i* IAML		23 03 21.0	
	comp=N,8μm,0.2s						
BKES				*i* IAML		23 03 21.0	
	comp=E,1μm,0.2s						
STEP	**BALIKESIR_Sava**	**0.28**	**173**	P	**Pb**	**23 03 18.0**	**+0.3**
STEP				S	**Sb**	**23 03 22.3**	**+0.2**
STEP				*i* IAML		23 03 23.0	
	comp=E,6μm,0.4s						
STEP				*i* IAML		23 03 27.0	
	comp=N,7μm,0.9s						
BLKS	**Balkesir-Sus**	**0.31**	**46**	P	**Pb**	**23 03 18.3**	**+0.2**
BLKS				S	**Sb**	**23 03 23.0**	**+0.2**
BLKS				*i* IAML		23 03 24.0	
	comp=N,1μm,0.6s						
BLKS				*i* IAML		23 03 25.0	
	comp=E,2μm,0.3s						
GONE	**Gonen-Balikesi**	**0.39**	**1**	Pg	**Pb**	**23 03 19.5**	**+0.2**
GONE				Sg	**Sb**	**23 03 25.6**	**+0.8**
YENI	**Yenice-Canakka**	**0.43**	**310**	Pg	**Pb**	**23 03 20.2**	**+0.1**
YENI				Sg	**Sb**	**23 03 25.8**	**-0.4**
SUSR	**Susurluk-Balik**	**0.44**	**46**	Pg	**Pb**	**23 03 20.5**	**+0.3**
SUSR				Sg	**Sb**	**23 03 26.8**	**+0.5**
YAYO	**Edremit-Balk**	**0.47**	**264**	Pg	**Pb**	**23 03 20.5**	**-0.2**
YAYO				Sg	**Sb**	**23 03 27.3**	**+0.1**
SOMA	**Soma-Manisa**	**0.51**	**192**	Pg	**Pb**	**23 03 21.8**	**+0.3**
SOMA				Sg	**Sb**	**23 03 29.1**	**+0.6**
CANM	**Can-anakkale**	**0.59**	**307**	Pg	**Pb**	**23 03 23.1**	**+0.1**
DURS	**Dursunbey**	**0.62**	**95**	P	**Pb**	**23 03 23.8**	**+0.3**
DURS				S	**Sb**	**23 03 32.4**	**+0.6**
DURS				*i* IAML		23 03 33.0	
	comp=E,3μm,0.2s						
DURS				*i* IAML		23 03 34.0	
	comp=N,3μm,0.5s						
EDC	**Edincik**	**0.70**	**12**	Pg	**Pb**	**23 03 25.2**	**+0.4**
DST	**Dursunbey**	**0.73**	**94**	Pg	**Pb**	**23 03 25.7**	**+0.4**
BAND	**Balkesir-Ban**	**0.77**	**25**	P	**Pb**	**23 03 26.3**	**+0.4**
BAND				S	**Sb**	**23 03 37.0**	**+1.1**
BAND				*i* IAML		23 03 41.0	
	comp=N,2μm,0.2s						
BAND				*i* IAML		23 03 41.0	
	comp=E,2μm,0.2s						
BAND	**Balkesir-Ban**	**0.77**	**25**	⇑P	**Pb**	**23 03 26.3**	**+0.4**
AKS	**Akhisar**	**0.79**	**172**	Pg	**Pb**	**23 03 26.8**	**+0.6**
KRBG	**Karabiga-Canak**	**0.79**	**339**	Pg	**Pb**	**23 03 26.9**	**+0.7**
DKL	**Dikili**	**0.84**	**226**	Pg	**Pn**	**23 03 27.7**	**-0.1**
GORD	**Gordes-Manisa**	**0.84**	**152**	Pg	**Pn**	**23 03 28.8**	**+0.8**
GOMA	**Golmarmara-Man**	**0.97**	**169**	Pg	**Pn**	**23 03 30.5**	**+0.9**
LPK	**Lapseki**	**1.00**	**316**	Pg	**Pn**	**23 03 30.4**	**+0.3**
EZNE	**Ezine-Canakkal**	**1.01**	**276**	Pg	**Pn**	**23 03 31.3**	**+1.0**
ORLT	**Orhaneli**	**1.02**	**67**	Pg	**Pn**	**23 03 31.6**	**+1.3**
COMU	**Canakkale**	**1.02**	**296**	Pg	**Pn**	**23 03 30.9**	**+0.5**
EZN	**Ezine**	**1.05**	**280**	Pg	**Pn**	**23 03 31.7**	**+0.9**
EZN	**Ezine**	**1.05**	**280**	⇑P	**Pn**	**23 03 31.7**	**+0.9**
SMAA	**Simav-Kutahya**	**1.16**	**118**	Pn	**Pb**	**23 03 33.4**	**+0.9**
MDNY	**Mudanya-Bursa**	**1.17**	**52**	Pn	**Pb**	**23 03 33.4**	**+0.7**
GELI	**Tayfur-Gelibol**	**1.18**	**309**	Pn	**Pb**	**23 03 33.7**	**+0.8**
GPNR	**Gulpinar-Canak**	**1.21**	**261**	Pn	**Pb**	**23 03 34.6**	**+1.2**
BOZC	**Bozcaada**	**1.26**	**279**	Pn	**Pb**	**23 03 34.5**	**+0.2**
ARMT	**Armutlu**	**1.28**	**45**	Pn	**Pb**	**23 03 34.9**	**+0.2**
TKR	**Tekirdag**	**1.33**	**355**	Pn	**Pb**	**23 03 36.2**	**+0.7**
ERIK	**Erikli-Kesan**	**1.35**	**319**	Pn	**Pb**	**23 03 36.0**	**+0.3**
SHAP	**Saphane-Kutahy**	**1.36**	**117**	Pn	**Pb**	**23 03 37.1**	**+1.1**
BLCB	**Balcova**	**1.36**	**201**	Pn	**Pb**	**23 03 36.8**	**+0.8**
KULA	**Kula-Manisa**	**1.38**	**146**	Pn	**Pb**	**23 03 36.7**	**+0.4**
TVSB	**Tavsanli**	**1.40**	**98**	Pn	**Pb**	**23 03 37.4**	**+0.8**
ODEM	**Odemis-Izmir**	**1.42**	**167**	Pn	**Pb**	**23 03 37.3**	**+0.4**
GADA	**Gvkgeada**	**1.47**	**292**	Pn	**Pb**	**23 03 37.7**	**-0.1**
GEDZ	**Gediz**	**1.48**	**114**	Pn	**Pb**	**23 03 38.7**	**+0.7**
SIGR	**SIGRI**	**1.48**	**253**	Pn	**Pb**	**23 03 37.7**	**-0.3**
ENZZ	**Sultanice-Enez**	**1.51**	**309**	Pn	**Pb**	**23 03 38.6**	**+0.1**
URLA	**Izmir**	**1.55**	**213**	Pn	**Pb**	**23 03 39.1**	**0.0**
CAVK	**Edirne/Enez-Ca**	**1.55**	**312**	⇑P	**Pb**	**23 03 39.3**	**+0.2**
YLV	**Yalova**	**1.59**	**55**	Pn	**Pb**	**23 03 39.6**	**-0.3**
SLVT	**Silivri**	**1.62**	**14**	Pn	**Pb**	**23 03 40.5**	**+0.1**
UKOP	**Uzunkopru-Edir**	**1.67**	**332**	Pn	**Pb**	**23 03 40.9**	**-0.3**
GMLD	**Gumuldur**	**1.69**	**201**	Pn	**Pb**	**23 03 41.2**	**-0.3**
CTKS	**Kestanelik-??a**	**1.70**	**22**	Pn	**Pb**	**23 03 41.6**	**-0.1**
CESE	**eme**	**1.71**	**219**	Pn	**Pb**	**23 03 41.4**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.72**	**174**	Pn	**Pb**	**23 03 41.9**	**-0.2**
BGKT	**Bogazkoy**	**1.74**	**28**	Pn	**Pb**	**23 03 42.0**	**-0.4**
ALN	**Alexandroupoli**	**1.76**	**315**	Pn	**Pb**	**23 03 42.2**	**-0.5**
KAVV	**Kandilli-Istan**	**1.76**	**37**	Pn	**Pb**	**23 03 42.6**	**-0.1**
ISK	**Istanbul-Kandi**	**1.76**	**37**	Pn	**Pb**	**23 03 42.5**	**-0.2**
NAZL	**Nazilli-Aydin**	**1.76**	**164**	Pn	**Pb**	**23 03 42.4**	**-0.4**
ADVT	**Abdulvahap**	**1.76**	**63**	Pn	**Pb**	**23 03 42.7**	**-0.1**
CHOS	**Chios island**	**1.79**	**225**	Pn	**Pb**	**23 03 42.6**	**-0.7**
OSMT	**Osmaniye**	**1.82**	**58**	Pn	**Pb**	**23 03 43.6**	**-0.2**
CTYL	**Yalikoy Yolu**	**1.87**	**14**	Pn	**Pb**	**23 03 43.9**	**-0.8**
CTYL	**Yalikoy Yolu**	**1.87**	**14**	⇓P	**Pb**	**23 03 44.2**	**-0.5**
KLYT	**Kilyos**	**1.90**	**33**	Pn	**Pb**	**23 03 44.7**	**-0.5**
KLYT	**Kilyos**	**1.90**	**33**	⇓P	**Pb**	**23 03 43.6**	**+1.1**
HRT	**Hereke**	**1.92**	**52**	Pn	**Pb**	**23 03 44.8**	**-0.7**
PHSR	**Pinarhisar**	**1.97**	**357**	Pn	**Pb**	**23 03 45.6**	**-0.8**
SILT	**Sile**	**2.12**	**45**	Pn	**Pb**	**23 03 47.7**	**-1.2**
SILT	**Sile**	**2.12**	**45**	⇓P	**Pb**	**23 03 46.6**	**+1.1**
GPA	**Golpazari**	**2.12**	**72**	Pn	**Pb**	**23 03 47.6**	**-1.3**
RDO	**Rodhopi**	**2.21**	**313**	Pn	**Pn**	**23 03 48.3**	**+1.6**
EDRB	**Edirne**	**2.30**	**342**	Pn	**Pn**	**23 03 49.8**	**+1.9**
SAUV	**Serdivan-Sakar**	**2.30**	**61**	Pn	**Pb**	**23 03 50.5**	**-1.5**
GULT	**Gulveren**	**2.31**	**70**	Pn	**Pb**	**23 03 50.7**	**-1.5**
KDZ	**Kurdzhali**	**2.65**	**319**	*i* P	**Pn**	**23 04 54.0**	**+1.2**
DIM	**Dimitrovgrad**	**2.87**	**327**	*e*P	**Pn**	**23 03 57.5**	**+1.8**
JMB	**Yambol**	**2.96**	**343**	*e*P	**Pn**	**23 03 58.6**	**+1.6**
RZN	**Rozhen**	**3.02**	**313**	*i* P	**Pn**	**23 03 59.7**	**+1.7**
PLD	**Plovdiv**	**3.33**	**319**	*i* P	**Pn**	**23 04 03.6**	**+1.5**
MMB	**Musomishta**	**3.53**	**304**	*i* P	**Pn**	**23 04 06.8**	**+1.9**
NEF	**NEVSHA**	**3.62**	**355**	*e*P	**Pn**	**23 04 08.1**	**+2.1**
SZH	**Strazhitsa**	**3.82**	**341**	*e*P	**Pn**	**23 04 10.7**	**+1.8**
KKB	**Krupnik**	**4.08**	**304**	*i* P	**Pn**	**23 04 14.6**	**+2.1**
PLNA	**Plana**	**4.27**	**313**	*i* P	**Pn**	**23 04 16.1**	**+1.0**
VTS	**Vitosha**	**4.47**	**313**	*i* P	**Pn**	**23 04 19.9**	**+2.0**
MPEP	**Malo Peshtene**	**4.73**	**323**	*i* P	**Pn**	**23 04 23.1**	**+1.8**
MLR	**Muntele Rosu**	**5.97**	**348**	⇓P	**Pn**	**23 04 40.9**	**+2.4**
BOVS	**Bovan**	**5.98**	**314**	⇑P	**Pn**	**23 04 40.6**	**+2.0**
VLDR	**Vladesti**	**6.19**	**3**	⇑P	**Pn**	**23 04 43.3**	**+2.0**
PLOR	**Krostina**	**6.24**	**353**	⇓P	**Pn**	**23 04 43.9**	**+1.9**
VRI	**Vrincioaia**	**6.24**	**354**	⇑P	**Pn**	**23 04 44.0**	**+1.9**
TURR	**Turia**	**6.51**	**350**	⇑P	**Pn**	**23 04 47.6**	**+1.8**
OZUR		**6.58**	**348**	⇑P	**Pn**	**23 04 49.2**	**+2.4**
SEV	**Sevastopol'**	**6.61**	**40**	*e*P	**Pn**	**23 04 48.3**	**+1.2**
SEV				Pm		23 04 48.5	
	comp=Z,6.0nm,0.3s						
SEV				*i* S	**Sn**	**23 05 58.7**	**-3.1**
SEV				Sm		23 05 59.6	
	comp=N,2.0nm,0.3s						
SEV				Sm		23 05 59.6	
	comp=E,7.0nm,0.4s						
TARU	**Tarkhankut**	**6.75**	**31**	*e*P	**Pn**	**23 04 49.7**	**+0.7**
TARU				Pm		23 04 50.0	
	comp=Z,9.0nm,0.4s						
TARU				*e*S	**Sn**	**23 06 02.6**	**-2.5**
TARU				Sm		23 06 09.0	
	comp=N,6.0nm,0.4s						
TARU				Sm		23 06 09.0	
	comp=E,2.0nm,0.4s						
MDVR	**Moldovita**	**6.77**	**321**	⇑P	**Pn**	**23 04 50.5**	**+1.2**
YAL	**Yalta**	**6.82**	**43**	*e*P	**Pn**	**23 04 51.1**	**+1.1**
YAL				Pm		23 04 52.0	
	comp=Z,5.0nm,0.4s						
YAL				*e*S	**Sn**	**23 06 04.3**	**-2.6**
YAL				Sm		23 06 06.2	
	comp=N,2.0nm,0.3s						
YAL				Sm		23 06 06.2	
	comp=E,4.0nm,0.3s						
TESR	**Tescani**	**6.89**	**354**	⇓P	**Pn**	**23 04 53.0**	**+2.0**
DNZ2	**Donuzlav2**	**7.03**	**34**	*e*P	**Pn**	**23 04 54.0**	**+1.2**
DNZ2				Pm		23 04 55.9	
	comp=Z,6.0nm,0.4s						
DNZ2				*e*S	**Sn**	**23 06 09.7**	**-2.3**
DNZ2				Sm		23 06 15.5	
	comp=N,5.0nm,0.3s,comp=E,3.0nm,0.3s						
SIM	**Simferopol'**	**7.12**	**40**	*e*S	**Sn**	**23 06 12.4**	**-2.0**
SIM				Sm		23 06 15.4	
	comp=N,7.0nm,0.4s						
SIM				Sm		23 06 15.4	
	comp=E,2.0nm,0.3s						
BZS	**Buzias**	**7.44**	**325**	⇑P	**Pn**	**23 04 59.7**	**+1.2**
SUDU	**Sudak**	**7.54**	**44**	*e*P	**Pn**	**23 05 02.3**	**+2.5**
SUDU				Pm		23 04 09.1	
	comp=Z,3.0nm,0.3s						
SUDU				*e*S	**Sn**	**23 06 23.0**	**-1.6**
SUDU				Sm		23 06 29.3	
	comp=N,1.0nm,0.4s						
SUDU				Sm		23 06 29.3	
	comp=E,6.0nm,0.5s						

HEL ***26*** *23:22:26.7±0.3, 67.˚86N×19.˚99E, h0km, ML1.9, Suspected explosion*

IDC ***26*** *23:22:28.3±1.1, 67.˚85N×20.˚63E, h0km, mbtmp2.9/4, ML2.1/4, Error ellipse: s-maj=17.6km s-min=6.8km az=119.0*

UPP ***26*** *23:22:28.3±0.1, 67.˚88N×20.˚18E, h0km, ML1.9, Suspected explosion*

ISC 26 23:22:27.7±0.7,67˚.84N±0˚.02×20˚.27E±0˚.02,h0km,n50,σ1$31/83,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**13**	P	**Pg**	**23 22 30.0**	**0.0**
KUA				S	**Sg**	**23 22 31.8**	**+0.1**
KUA	**Kurravaara**	**0.12**	**13**	P	**Pg**	**23 22 30.4**	**+0.4**
	baz=231						
KUA				S	**Sg**	**23 22 32.1**	**+0.5**
RATU	**Laukkuluspa**	**0.26**	**268**	P	**Pg**	**23 22 32.2**	**-0.4**
RATU				S	**Sg**	**23 22 35.6**	**-0.3**
RATU	**Laukkuluspa**	**0.26**	**268**	P	**Pg**	**23 22 32.9**	**+0.2**
RATU				S	**Sg**	**23 22 36.1**	**+0.2**
KOVU	**Salmi**	**0.39**	**354**	P	**Pg**	**23 22 34.8**	**-0.4**
KOVU				S	**Sg**	**23 22 39.9**	**-0.4**
KOVU	**Salmi**	**0.39**	**354**	P	**Pg**	**23 22 35.1**	**-0.1**
KOVU				S	**Sg**	**23 22 39.9**	**-0.4**
NIKU	**Nikkaluokta**	**0.47**	**274**	P	**Pg**	**23 22 36.0**	**-0.6**
NIKU				S	**Sg**	**23 22 42.3**	**-0.4**
NIKU	**Nikkaluokta**	**0.47**	**274**	P	**Pg**	**23 22 36.6**	**0.0**
NIKU				S	**Sg**	**23 22 42.7**	**0.0**
LANU	**Lannavaara**	**0.69**	**71**	P	**Pg**	**23 22 40.8**	**-0.1**
LANU				S	**Sg**	**23 22 50.3**	**+0.6**
LANU	**Lannavaara**	**0.69**	**71**	P	**Pb**	**23 22 41.9**	**-0.7**
LANU	**Lannavaara**	**0.69**	**71**	PG	**Pg**	**23 22 40.6**	**-0.3**
LANU				SG	**Sg**	**23 22 50.1**	**+0.3**
DUNU	**Dundret**	**0.73**	**171**	P	**Pg**	**23 22 41.3**	**-0.3**
MASU	**Masugnsbyn**	**0.76**	**119**	P	**Pg**	**23 22 42.3**	**0.0**
MASU				S	**Sg**	**23 22 53.1**	**+0.9**
MASU	**Masugnsbyn**	**0.76**	**119**	P	**Pb**	**23 22 43.4**	**-0.5**
SALU	**Saltoluokta**	**0.81**	**237**	P	**Pg**	**23 22 42.6**	**-0.7**
SALU	**Saltoluokta**	**0.81**	**237**	P	**Pg**	**23 22 43.5**	**+0.2**
KIF	**Kilpisjarvi**	**1.19**	**9**	*e*P	**Pg**	**23 22 49.7**	**-0.8**
KIF	**Kilpisjarvi**	**1.19**	**9**	PN	**Pg**	**23 22 50.1**	**-0.4**
KIF				MSG		23 23 04.0	
	comp=Z,15nm,0.2s						
KIF				SB	**Sg**	**23 23 06.0**	**+0.1**
PAJU	**Pajala**	**1.37**	**125**	P	**Pg**	**23 22 53.0**	**-0.9**
PAJU				S	**Sg**	**23 23 11.9**	**+0.2**
PAJU	**Pajala**	**1.37**	**125**	PG	**Pg**	**23 22 52.8**	**-1.1**
	baz=304						
PAJU				SG	**Sg**	**23 23 11.8**	**+0.2**
HEF	**Hetta**	**1.40**	**64**	*e*P	**Pn**	**23 22 52.9**	**-1.6**
HEF	**Hetta**	**1.40**	**64**	PG	**Pn**	**23 22 53.3**	**-1.2**
	baz=247						
HEF				MSG		23 23 11.3	
	comp=Z,7.3nm,0.2s						
HEF				SG	**Sg**	**23 23 12.3**	**-0.2**
ERTU	**Ertsjaerv**	**1.49**	**149**	P	**Pn**	**23 22 55.1**	**-0.7**
ERTU	**Ertsjaerv**	**1.49**	**149**	PG	**Pn**	**23 22 54.9**	**-0.8**
ERTU				SN	**Sn**	**23 23 16.5**	**+0.6**
KTK1	**Kautokeino**	**1.61**	**42**	PN	**Pn**	**23 22 57.1**	**-0.3**
KTK1				SN	**Sg**	**23 23 21.4**	**+1.9**
HARU	**Harads**	**1.70**	**170**	P	**Pn**	**23 22 58.7**	**+0.1**
KALU	**Kalix**	**2.33**	**147**	PG	**Pn**	**23 23 08.3**	**+1.0**
KALU				SG	**Sb**	**23 23 39.0**	**-0.8**
TOF	**Tornio**	**2.38**	**136**	PB	**Pn**	**23 23 09.3**	**+1.4**
TOF				MSG		23 23 39.8	
	comp=Z,4.3nm,0.2s						
TOF				SG	**Sb**	**23 23 42.2**	**+1.0**
RNF	**Rovaniemi**	**2.55**	**116**	PB	**Pn**	**23 23 12.0**	**+1.7**
RNF				SB	**Sb**	**23 23 46.8**	**+0.5**
ARA0	**ARCESS Array S**	**2.56**	**46**	PB	**Pn**	**23 23 11.6**	**+1.1**
ARA0				SB	**Sb**	**23 23 45.1**	**-1.4**
ARCES	**ARCESS Array B**	**2.56**	**46**	Pn	**Pn**	**23 23 10.9**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=226,slow=15,SNR=17						
ARCES				Lg	Lg	23 23 44.5	
	comp=Z,1.1nm,0.3s,baz=226,slow=24,SNR=13 comp=Z,1.0nm,0.3s						
RAJF	**Raja-Jooseppi**	**3.08**	**74**	PN	**Pn**	**23 23 17.8**	**+0.3**
RAJF				SB	**Sb**	**23 24 01.0**	**-0.3**
KEV	**Kevo**	**3.12**	**49**	PB	**Pn**	**23 23 19.1**	**+1.1**
KEV				SB	**Sn**	**23 23 57.4**	**+1.5**
RANF	**Ranua**	**3.15**	**122**	PB	**Pn**	**23 23 20.0**	**+1.5**
RANF				SG	**Sb**	**23 24 05.6**	**+2.2**
BURU	**Burvik**	**3.30**	**172**	PB	**Pn**	**23 23 22.0**	**+1.5**
BURU				SB	**Sn**	**23 24 03.1**	**+2.7**
VRF	**Varrio**	**3.55**	**87**	PB	**Pn**	**23 23 26.7**	**+2.7**
VRF				SB	**Sb**	**23 24 14.9**	**0.0**
OUL	**Oulu**	**3.57**	**138**	PB	**Pb**	**23 23 28.1**	**-3.5**
OUL				SG	**Sb**	**23 24 16.9**	**+1.5**
OBF4	**Vikkela, Lumij**	**3.61**	**145**	PB	**Pn**	**23 23 28.3**	**+3.5**
OBF8	**Ulkokalla**	**3.75**	**158**	SN	**Sn**	**23 24 09.9**	**-1.6**
KU2	**Taivalkoski**	**3.81**	**120**	PN	**Pn**	**23 23 28.8**	**+1.2**
OLKF	**Oulanka, Finla**	**3.88**	**109**	PN	**Pn**	**23 23 29.6**	**+1.0**
OLKF				SG	**Sb**	**23 24 27.3**	**+2.8**
OUF	**Merijarvi**	**3.93**	**150**	PB	**Pn**	**23 23 32.6**	**+3.4**
MSF	**Maaselka**	**3.96**	**115**	PN	**Pn**	**23 23 31.2**	**+1.5**
MSF				SG	**Sg**	**23 24 32.3**	**-2.6**
UMAU	**Umeaa**	**3.97**	**177**	PG	**Pb**	**23 23 39.5**	**+1.0**
KU6	**Riekki**	**4.20**	**111**	PN	**Pn**	**23 23 34.0**	**+1.0**
	baz=301						
KU6				SG	**Sg**	**23 24 41.0**	**-1.5**
KU1	**Kurvinen**	**4.34**	**117**	PN	**Pn**	**23 23 36.3**	**+1.4**
HUSU	**Husum**	**4.54**	**186**	PG	**Pb**	**23 23 48.8**	**+0.7**
	baz=4.0						
FINES	**FINESS Array B**	**6.88**	**156**	Pn	**Pn**	**23 24 11.0**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=348,slow=16,SNR=4.0						
FINES				Pg	**Pb**	**23 24 26.6**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=349,slow=19,SNR=4.9						
FINES				Sn	**Sn**	**23 25 27.2**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=342,slow=18,SNR=4.0						
FINES				Lg	Lg	23 26 01.0	
	comp=Z,0.3nm,0.3s,baz=337,slow=29,SNR=6.0 comp=Z,0.4nm,0.5s						
NOA	**NORSAR Array B**	**7.86**	**214**	Pn	**Pn**	**23 24 23.0**	**-0.1**
	baz=24,slow=11,SNR=5.0						
NOA				Lg	Lg	23 26

MMPY			S	Sn	23 33 35.4	+0.4
	baz=119					
DLBC	Dease Lake	3.37 224	Pn	Pn	23 33 00.4	+1.1
	145nm,0.4s,baz=20,slow=11,SNR=37					
DLBC			Pg	Pg	23 33 10.6	-0.5
	191nm,0.3s,baz=49,slow=15,SNR=40					
DLBC			Sn	Sn	23 33 40.7	+1.4
	133nm,0.3s,baz=89,slow=22,SNR=5.9					
DLBC			Lg	Lg	23 33 51.8	
	331nm,0.3s,baz=136,slow=27,SNR=9.2					
DLBC			LR	LR	23 34 31.6	
	comp=Z,2µm,19.1s,baz=56,slow=43					
DLBC	Dease Lake	3.37 224	P	Pn	23 33 00.2	+1.0
	baz=40,SNR=19					
DLBC			S	Sn	23 33 41.3	+2.1
	baz=40					
P33M	Teslin, Yukon	3.66 262		Pn	23 33 03.8	+0.7
P33M	Teslin, Yukon	3.66 262	Pn	Pn	23 33 04.0	+0.8
P33M			Pg	Pb	23 33 13.4	+2.1
P33M			Sn	Sn	23 33 46.3	0.0
P33M	Teslin, Yukon	3.66 262	P	Pn	23 33 04.0	+0.8
	baz=75,SNR=160					
P33M			S	Sn	23 33 46.9	+0.6
	baz=75					
N32M	Quiet Lake	3.67 277		Pn	23 33 04.9	+1.6
N32M	Quiet Lake	3.67 277	Pg	Pb	23 33 14.2	+2.7
N32M			Sn	Sn	23 33 46.4	-0.2
N32M	Quiet Lake	3.67 277	P	Pn	23 33 04.4	+1.1
	baz=90					
N32M			Sb	Sb	23 33 59.7	+3.8
	baz=90					
NBC5	NorthernBC 5	3.72 155	Pn	Pn	23 33 05.3	+1.3
NBC5			Pg	Pb	23 33 14.3	+2.0
NBC5			Sn	Sn	23 33 47.6	-0.2
Q32M	Nakina River	3.91 243		Pn	23 33 07.6	+0.9
Q32M	Nakina River	3.91 243	Pn	Pn	23 33 07.7	+0.9
Q32M			Pg	Pb	23 33 17.6	+2.0
Q32M	Nakina River	3.91 243	P	Pn	23 33 07.5	+0.7
	baz=57,SNR=73					
Q32M			Sb	Sb	23 34 07.4	+4.4
	baz=57					
S34M	Telegraph Cree	4.15 226		Pn	23 33 10.2	+0.4
S34M	Telegraph Cree	4.15 226	Pn	Pn	23 33 11.2	+1.3
S34M	Telegraph Cree	4.15 226	P	Pn	23 33 11.0	+1.1
	baz=41,SNR=22					
S34M			Sb	Sb	23 34 15.0	+5.3
	baz=41					
P32M	Atlin	4.28 255		Pn	23 33 12.2	+0.5
P32M	Atlin	4.28 255	Pn	Pn	23 33 12.9	+1.2
P32M			Sg	Sb	23 34 18.9	+5.4
P32M	Atlin	4.28 255	P	Pn	23 33 12.7	+1.0
	baz=68,SNR=30					
P32M			Sb	Sb	23 34 18.1	+4.6
	baz=68					
M31M	Drury Creek, Y	4.42 291		Pn	23 33 14.0	+0.5
M31M	Drury Creek, Y	4.42 291	Pn	Pn	23 33 14.2	+0.6
M31M	Drury Creek, Y	4.42 291	P	Pn	23 33 14.2	+0.6
	baz=103,SNR=6.5					
M31M			Sb	Sb	23 34 21.5	+4.1
	baz=103					
WHY	Whitehorse	4.58 271		Pn	23 33 16.6	+0.7
WHY	Whitehorse	4.58 271	Pn	Pn	23 33 16.6	+0.7
WHY			Pg	Pb	23 33 30.3	+3.3
WHY			Sn	Sn	23 34 08.7	-0.4
WHY			Sg	Sg	23 34 29.8	-3.7
WHY	Whitehorse	4.58 271	P	Pn	23 33 16.7	+0.7
	baz=82,SNR=7.2					
T35M	Bob Quinn	4.64 214		Pn	23 33 17.6	+1.0
T35M	Bob Quinn	4.64 214	Pn	Pn	23 33 17.5	+0.8
T35M			Sg	Sg	23 34 32.7	-2.8
T35M	Bob Quinn	4.64 214	P	Pn	23 33 18.3	+1.7
	baz=30					
NBC8	Simpson Ranch	4.66 158	Pn	Pn	23 33 17.6	+0.8
NBC8			Pg	Pb	23 33 31.2	+2.9
NBC8			Sg	Sg	23 34 32.0	-4.0
N31M	Braeburn, Yuko	4.98 281		Pn	23 33 22.0	+0.8
N31M	Braeburn, Yuko	4.98 281	Pn	Pn	23 33 21.9	+0.6
N31M			Sn	Sn	23 34 17.2	-1.6
N31M	Braeburn, Yuko	4.98 281	P	Pn	23 33 22.1	+0.8
	baz=92,SNR=12					
N31M			S	Sn	23 34 19.7	+0.9
	baz=92					
SKAG	Skagway	5.10 258		Pn	23 33 22.3	-0.5
SKAG	Skagway	5.10 258	P	Pn	23 33 23.6	+0.8
	baz=69					
O30N	Mendenhall	5.16 273		Pn	23 33 24.2	+0.5
O30N	Mendenhall	5.16 273	Pn	Pn	23 33 24.6	+0.8
O30N			Sn	Sn	23 34 21.8	-1.4
O30N			Sg	Sg	23 34 47.8	-4.2
O30N	Mendenhall	5.16 273	P	Pn	23 33 24.7	+1.0
	baz=84					
BMTB	Bullhead Mount	5.21 158	Sg	Sg	23 34 50.3	-3.4
BESE	Bessie Mountai	5.26 248		Pn	23 33 26.1	+1.0
BESE	Bessie Mountai	5.26 248	Pn	Pn	23 33 26.0	+0.9
BESE			Pg	Pb	23 33 42.4	+3.9
BESE			Sn	Sn	23 34 24.8	-0.9
R32K	Eaglecrest	5.27 244		Pn	23 33 25.9	+0.6
YKA	Yellowknife Ar	5.44 68		Pn	23 33 27.3	-0.2
YKA	Yellowknife Ar	5.44 68	Pn	Pn	23 33 28.2	+0.7
	5.4nm,0.3s,baz=279,slow=7.8,SNR=76					
YKA			Sn	Sn	23 34 28.0	-2.1
	10nm,0.3s,baz=17,slow=21,SNR=7.7					
YKA			Lg	Lg	23 34 55.0	
	9.2nm,0.3s,baz=258,slow=26,SNR=6.0					
YKA			LR	LR	23 35 04.0	
	comp=Z,17nm,21.1s,baz=198,slow=32					
	6.7nm,0.5s					
YKAW3	Yellowknife Wh	5.45 68		Pn	23 33 28.1	+0.5
YKAW3	Yellowknife Wh	5.45 68	Pn	Pn	23 33 28.6	+0.9
YKAW3			Sn	Sn	23 34 27.4	-3.0
YKAW1	Yellowknife Wh	5.49 69		Pn	23 33 29.0	+0.7
YKAW1	Yellowknife Wh	5.49 69	Pn	Pn	23 33 29.2	+0.9
YKAW1			Sn	Sn	23 34 28.5	-2.8
M30M	Minto, Yukon	5.59 292		Pn	23 33 29.7	+0.1
M30M	Minto, Yukon	5.59 292	Pn	Pn	23 33 29.9	+0.2
M30M			Pg	Pb	23 33 48.5	+4.3
M30M			Sn	Sn	23 34 31.9	-2.0
M30M			Sg	Sg	23 35 00.9	-5.0
M30M	Minto, Yukon	5.59 292	P	Pn	23 33 29.9	+0.2
	baz=102,SNR=62					
M30M			S	Sn	23 34 33.4	-0.5
	baz=102					
PLBC	Pleasant Camp	5.59 260	Pn	Pn	23 33 30.7	+1.0
PLBC			Sn	Sn	23 34 32.0	-1.8
PLBC	Pleasant Camp	5.59 260	P	Pn	23 33 30.4	+0.8
	baz=70,SNR=15					
PLBC			S	Sn	23 34 34.0	+0.2
	baz=70					
N30M	Aishikik Lake	5.61 281		Pn	23 33 30.4	+0.5
N30M	Aishikik Lake	5.61 281	Pn	Pn	23 33 30.9	+1.0
N30M			Sn	Sn	23 34 32.1	-2.1
N30M			Sg	Sg	23 35 01.3	-5.1
N30M	Aishikik Lake	5.61 281	P	Pn	23 33 30.7	+0.7
	baz=90,SNR=83					
N30M			S	Sn	23 34 34.4	+0.1
	baz=90					
P30M	Million Dollar	5.69 267	Pn	Pn	23 33 32.1	+1.1
P30M			Sn	Sn	23 34 35.2	-1.1
P30M	Million Dollar	5.69 267	P	Pn	23 33 32.0	+0.9
	baz=77,SNR=22					
WRAK	Wrangell Islan	5.74 221	Pn	Pn	23 33 32.7	+1.1
WRAK	Wrangell Islan	5.74 221	Pn	Pn	23 33 33.0	+1.4
WRAK			Sg	Sg	23 35 05.7	-5.0
WRAK	Wrangell Islan	5.74 221	P	Pn	23 33 32.9	+1.3
	baz=35					
HYT	Haines Junctio	5.84 274		Pn	23 33 33.8	+0.6
HYT	Haines Junctio	5.84 274	Pn	Pn	23 33 34.5	+1.3
HYT			Sg	Sg	23 35 08.9	-5.0
HYT	Haines Junctio	5.84 274	P	Pn	23 33 34.4	+1.2
	baz=84,SNR=24					
J30M	Hart River	6.16 311		Pn	23 33 38.3	+0.8
J30M	Hart River	6.16 311	Pn	Pn	23 33 38.5	+1.0
J30M	Hart River	6.16 311	P	Pn	23 33 38.7	+1.2
	baz=122					
YUK7	Dusty Glacier	6.19 272	Pn	Pn	23 33 38.6	+0.6
YUK7			Sg	Sg	23 35 20.5	-4.6
P29M	Windy Craggy	6.20 263	Pn	Pn	23 33 39.2	+1.2
P29M	Windy Craggy	6.20 263	Pn	Pn	23 33 39.0	+1.0
S31K	Pelican	6.20 246	Pn	Pn	23 33 38.4	+0.4
S31K	Pelican	6.20 246	Sg	Sg	23 35 19.7	-5.8
WTMTA	White Mountain	6.21 145	Sn	Sn	23 34 46.5	-2.6
U33K	Whale Pass	6.24 223	Pn	Pn	23 33 38.5	0.0
U33K	Whale Pass	6.24 223	Sg	Sg	23 35 21.1	-5.7
YUK6	Outpost Mounta	6.25 276	Sg	Sg	23 35 21.7	-5.2
K29M	Barlow Dome	6.29 303		Pn	23 33 39.4	+0.1
K29M	Barlow Dome	6.29 303	Pn	Pn	23 33 39.9	+0.6
K29M			Pg	Pb	23 34 01.1	+5.0
K29M			Sn	Sn	23 34 48.0	-3.1
K29M	Barlow Dome	6.29 303	P	Pn	23 33 40.1	+0.8
	baz=112					
H31M	Peel River	6.29 325	Pn	Pn	23 33 40.0	+0.8
H31M	Peel River	6.29 325	Pn	Pn	23 33 39.4	+0.1
H31M	Peel River	6.29 325	P	Pn	23 33 39.3	+0.1
	baz=137					
L29M	L29M	6.31 296		Pn	23 33 39.8	+0.2
L29M	L29M	6.31 296	Pn	Pn	23 33 40.4	+0.8
L29M			Sn	Sn	23 34 48.2	-3.4
L29M	L29M	6.31 296	P	Pn	23 33 40.1	+0.5
	baz=105,SNR=13					
M29M	Somme Creek	6.33 290		Pn	23 33 40.2	+0.3
M29M	Somme Creek	6.33 290	Pn	Pn	23 33 39.8	0.0
M29M			Sn	Sn	23 34 49.6	-2.6
M29M	Somme Creek	6.33 290	P	Pn	23 33 39.6	-0.2
	baz=98,SNR=48					
YUK4	Talbot Arm	6.36 280	Pn	Pn	23 33 40.3	-0.1
YUK4			Sn	Sn	23 34 49.4	-3.6
YUK4	Talbot Arm	6.36 280	P	Pn	23 33 40.1	-0.2
	baz=89,SNR=17					
SIT	Sitka	6.37 237	Pn	Pn	23 33 41.5	+1.3
O29M	Mount Kennedy	6.44 270	Pn	Pn	23 33 42.2	+0.8
O29M	Mount Kennedy	6.44 270	Pn	Pn	23 33 42.2	+0.8
O29M			Sn	Sn	23 34 52.3	-2.6
V35K	Ketchikan	6.46 212	Pn	Pn	23 33 43.4	+1.8
V35K	Ketchikan	6.46 212	Pn	Pn	23 33 43.0	+1.5
FSJB	Fort St James	6.52 174	Pn	Pn	23 33 44.0	+1.6
I30M	Mount Dempster	6.54 316		Pn	23 33 44.3	+1.5
I30M	Mount Dempster	6.54 316	Pn	Pn	23 33 44.2	+1.5
I30M			Sn	Sn	23 34 53.8	-3.4
I30M	Mount Dempster	6.54 316	P	Pn	23 33 43.2	+0.5
	baz=126					
I30M			S	Sn	23 34 58.9	+1.7
	baz=126					
BRWY	Burwash Landin	6.54 280	Sg	Sg	23 35 34.9	-1.5
CRAG	Craig	6.77 220	Pn	Pn	23 33 47.8	+1.9
J29N	Klondike Camp	6.82 307		Pn	23 33 48.4	+1.9
YUK8	Steele Glacier	6.90 279	Pn	Pn	23 33 48.9	+1.1
YUK8			Sn	Sn	23 35 03.4	-2.9
YUK8			Sg	Sg	23 35 42.4	-5.4
YUK8	Steele Glacier	6.90 279	P	Pn	23 33 48.0	+0.1
	baz=87,SNR=17					
BDMTA	Bald Mountain	7.07 147	Sn	Sn	23 35 07.4	-2.9
G31M	Satah River	7.14 331		Pn	23 33 50.8	+0.1
G31M	Satah River	7.14 331	Pn	Pn	23 33 50.9	+0.1
G31M	Satah River	7.14 331	P	Pn	23 33 50.6	-0.2
	baz=143,SNR=30					
DAWY	Dawson	7.14 302		Pn	23 33 51.8	+0.9
DAWY	Dawson	7.14 302	P	Pn	23 33 51.2	+0.4
DAWY			Sn	Sn	23 35 07.4	-4.6
O28M	Mount Upton	7.16 275	Pn	Pn	23 33 52.3	+1.0
O28M	Mount Upton	7.16 275	Pn	Pn	23 33 52.2	+0.8
O28M	Mount Upton	7.16 275	P	Pn	23 33 52.9	+1.6
	baz=82					
STPRA	Salt Prairie L	7.35 132	Pn	Pn	23 33 55.1	+1.3
STPRA			Sn	Sn	23 35 12.8	-4.3
EPYK	Eagle Plains	7.38 323	Pn	Pn	23 33 55.5	+1.4
F31M	Tsiigehtchic	7.45 335		Pn	23 33 55.2	+0.2
LOGN	Logan Glacier	7.54 276	Pn	Pn	23 33 58.2	+1.7
LOGN	Logan Glacier	7.54 276	Sn	Sn	23 35 17.9	-4.2
TABL	Table Mountain	7.67 273	Pn	Pn	23 33 57.2	-1.2
G30M	tAoh Zraii Nji	7.67 327	Pn	Pn	23 33 58.8	+0.7
G30M	tAoh Zraii Nji	7.67 327	Pn	Pn	23 33 58.9	+0.7
G30M	tAoh Zraii Nji	7.67 327	P	Pn	23 33 58.7	+0.5
	baz=137,SNR=24					
CTGM	Chitina Glacie	7.69 277	Pn	Pn	23 34 00.2	+1.7
CTG	Chitna Glacier	7.69 277	P	Pn	23 33 59.6	+1.1
	baz=83,SNR=15					
H29M	Whitestone	7.79 318	Pn	Pn	23 34 01.3	+1.4
H29M	Whitestone	7.79 318	Pn	Pn	23 34 01.3	+1.4
BARN	Barnard Glacie	7.83 278	Pn	Pn	23 34 03.3	+2.7
M27K	Edge Creek, AK	7.91 288		Pn	23 34 03.3	+1.8
M27K	Edge Creek, AK	7.91 288	Pn	Pn	23 34 02.7	+1.2
M27K	Edge Creek, AK	7.91 288	P	Pn	23 34 02.1	+0.6
	baz=93,SNR=54					
GRNC	Granite Creek	7.92 276	Pn	Pn	23 34 03.8	+2.0
I28M	Miner Creek	7.92 311	Pn	Pn	23 34 03.6	+2.0
I28M	Miner Creek	7.92 311	Pn	Pn	23 34 02.9	+1.3
L27K	Beaver Creek,	7.95 293	Pn	Pn	23 34 02.9	+0.8
L27K	Beaver Creek,	7.95 293	Pn	Pn	23 34 02.2	+0.1
F30M	Barrier River	8.04 331		Pn	23 34 02.8	-0.4
F30M	Barrier River	8.04 331	Sn	Sn	23 35 30.1	-4.0
F30M	Barrier River	8.04 331	P	Pn	23 34 03.2	0.0
	baz=142					
EGAK	Eagle	8.11 305	Pn	Pn	23 34 05.2	+1.1
MESA	MESA	8.12 272	Sn	Sn	23 35 31.3	-4.9
G29M	Pine Creek	8.13 323	Pn	Pn	23 34 05.4	+1.0
G29M	Pine Creek	8.13 323	Pn	Pn	23 34 05.6	+1.2
G29M	Pine Creek	8.13 323	P	Pn	23 34 05.5	+1.2
	baz=132,SNR=11					
INK	Inuvik	8.16 339	Pn	Pn	23 34 04.7	-0.1
	1.6nm,0.3s,baz=148,slow=13,SNR=19					
INK			Sn	Sn	23 35 33.5	-3.3
	1.6nm,0.3s,baz=190,slow=21,SNR=3.9					
	4.6nm,0.3s					
INK	Inuvik	8.16 339	Pn	Pn	23 34 04.3	-0.5
INK			Sn	Sn	23 35 32.4	-4.4
INK	Inuvik	8.16 339	P	Pn	23 34 04.0	-0.7
	baz=151,SNR=22					
BALM	Baldy	8.17 278	Sn	Sn	23 35 32.0	-5.3
ISLE	Juniper Island	8.23 275	Pn	Pn	23 34 06.9	+1.0
K27K	Chicken	8.26 299	Pn	Pn	23 34 07.8	+1.7
KUKN	Kugluktuk,NWT	8.26 29	Pn	Pn	23 34 06.5	+0.2
KUKN			Sn	Sn	23 35 34.5	-5.0
M26K	Nabesna, AK	8.43 288		Pn	23 34 09.1	+0.5
M26K	Nabesna, AK	8.43 288	Pn	Pn	23 34 09.8	+1.2
M26K	Nabesna, AK	8.43 288	P	Pn	23 34 09.6	+1.0
	baz=92,SNR=7.6					
TGL	Tana Glacier	8.44 276	Pn	Pn	23 34 09.3	+0.5
MCARA	McCarthy VSAT	8.46 281	Pn	Pn	23 34 11.1	+2.1
C36M	Paulatuk	8.48 4	Pn	Pn	23 34 09.4	+0.2
C36M	Paulatuk	8.48 4	Pn	Pn	23 34 08.8	-0.4
C36M	Paulatuk	8.48 4	P	Pn	23 34 09.6	+0.4
	baz=185					
WAX	Waxell Ridge	8.50 274	Pn	Pn	23 34 11.2	+1.6
CRQM	Cirque	8.59 277	Pn	Pn	23 34 11.8	+0.9
I27K	Kandik River	8.62 310	Pn	Pn	23 34 10.8	-0.4
I27K			Sn	Sn	23 35 44.3	-3.9
VRDI	Verde Repeater	8.68 280		Pn	23 34 14.5	+2.4
GLB	Gilahina Butte	8.83 281	Pn	Pn	23 34 17.3	+3.2
BBB	Bella Bella	8.87 190	Pn	Pn	23 34 14.5	-0.1
	0.2nm,0.3s,baz=21,slow=8.6,SNR=2.0					
BBB			Lg	Lg	23 36 43.8	
	0.4nm,0.3s,baz=235,slow=15,SNR=1.1					
	16nm,1.1s					
H27K	Steamboat Moun	8.87 314	Pn	Pn	23 34 17.1	+2.5
J26L	Joseph Creek	9.01 301		Pn	23 34 17.8	+1.3
DOT	Dot Lake	9.04 296	Pn	Pn	23 34 17.6	+0.7
SCRK	Sand Creek	9.06 298		Pn	23 34 18.8	+1.5
E29M	Blow River	9.15 330	Pn	Pn	23 34 18.5	+0.1
E29M	Blow River	9.15 330	P	Pn	23 34 18.9	+0.5
	baz=139					
N25K	Chitina, Valde	9.20 283	Pn	Pn	23 34 20.6	+1.5
G27K	Doyon Strip	9.22 317	Pn	Pn	23 34 20.6	+1.2
BMRM	Bremner River	9.27 279	Pn	Pn	23 34 21.2	+1.1
RIDG	Independent Ri	9.40 296		Pn	23 34 22.3	+0.4
E28M	Babbage River	9.72 328	Pn	Pn	23 34 26.2	0.0
E28M	Babbage River	9.72 328	P	Pn	23 34 27.4	+1.2
	baz=136					
J25K	Salcha River,	9.79 301		Pn	23 34 28.6	+1.4
J25K	Salcha River,	9.79 301	Pn	Pn	23 34 28.3	+1.1
J25K	Salcha River,	9.79 301	P	Pn	23 34 28.4	+1.2
	baz=103					
E27K	Coleen River	10.00 324	Pn	Pn	23 34 30.6	+0.5
G26K	Porcupine Rive	10.01 315	Pn	Pn	23 34 31.5	+1.4
IL31		10.46 301		Pn	23 34 36.9	+0.6
ILAR	Eielson Array	10.46 301	Pn	Pn	23 34 38.1	+1.8
ILAR	Eielson Array	10.46 301	Pn	Pn	23 34 38.3	+2.0
	0.4nm,0.3s,baz=112,slow=12,SNR=19					
ILAR			Lg	Lg	23 37 33.6	
	0.2nm,0.3s,baz=104,slow=29,SNR=7.8					
	1.3nm,0.6s					
F26K	Sheenjek River	10.51 318	Pn	Pn	23 34 38.2	+1.3
BMAR	Burnt Mountain	10.52 316	Pn	Pn	23 34 38.1	+1.0
CCB	Clear Creek Bu	10.82 300		Pn	23 34 42.0	+0.7
F25K	Christian Rive	10.96 316	Pn	Pn	23 34 43.7	+0.6
A36M	Sachs Harbour	11.12 0	Pn	Pn	23 34 44.6	-0.6
H24K	Noodor Dome	11.12 306	Pn	Pn	23 34 47.3	+1.9
E25K	Arctic Village	11.19 319	Pn	Pn	23 34 46.5	+0.2
MCK	McKinley	11.21 295	Pn	Pn	23 34 48.6	+2.1
NEA2	Nenana	11.36 299	Pn	Pn	23 34 50.3	+1.8
C27K	Jago River	11.52 327	Pn	Pn	23 34 50.7	0.0
I23K	Minto, Yukon-K	11.57 302	Pn	Pn	23 34 50.9	-0.5
F24K	Squaw Lake	11.70 314	Pn	Pn	23 34 53.9	+0.6
TRF	Thorofare Moun	11.80 293	Pn	Pn	23 34 56.4	+1.7
E23K	Chandalar	12.52 315	Pn	Pn	23 35 06.0	+1.6
PPLA	Purkeypile	12.67 291	Pn	Pn	23 35 08.6	+1.9
TOLK	Toolik Lake Re	12.74 317	Pn	Pn	23 35 07.9	+0.3
IMAR	Indian Mountai	13.51 304	Pn	Pn	23 35 19.4	+1.5
J20K	Nowinta River	13.52 296	Pn	Pn	23 35 19.7	+1.6
NEW	Newport	13.57 155	LR	LR	23 41 08.0	
	comp=Z,30nm,21.7s,baz=274,slow=40					
FFC	Flin Flon	13.96 106	Pn	Pn	23 35 21.8	-2.2
H19K	Roundabout Mou	14.56 302	P	P	23 35 36.9	-2.0
J18K	Innoko River	14.68 294	P	P	23 35 41.8	+1.6
JTMT	Jette	14.71 149	Pn	Pn	23 35 33.9	-0.7
L18K	Granite Mounta	14.81 289	Pn	Pn	23 35 38.3	+2.6
G19K	Purcell Mounta	14.88 304	Pn	Pn	23 35 37.3	+0.7
D20K	Etivluk River	15.18 314	P	P	23 35 48.8	+3.1
D20K			IAmb	IAmb	23 36 14.3	
	comp=Z,15nm,1.4s					
F19K	Shaleruckik Mo	15.23 307	Pn	Pn	23 35 43.1	+1.8
F19K			IAmb	IAmb	23 35 58.8	
	comp=Z,12nm,1.5s					
M17K	Holitna River	15.31 286	P	P	23 35 49.2	+2.0
M17K			IAmb	IAmb	23 36 12.4	
	comp=Z,17nm,1.4s					
H18K	Honhosa River	15.35 300	Pn	Pn	23 35 43.8	+0.9
H18K			IAmb	IAmb	23 36 03.7	
	comp=Z,18nm,1.4s					
YPT	Yellepit	15.39 162	P	P	23 35 47.0	-1.2
YPT			IAmb	IAmb	23 36 02.7	
	comp=Z,6.7nm,0.9s					
SII	Sitkinak Islan	15.42 266	Pn	Pn	23 35 44.7	+0.8
K17K	Iditarod	15.48 291	P	P	23 35 50.7	+1.6
K17K			IAmb	IAmb	23 35 55.7	
	comp=Z,22nm,1.2s					
H17K	Granite Mounta	16.01 299	Pn	Pn	23 35 51.2	-0.2
C19K	Lookout Ridge	16.32 314	Pn	Pn	23 35 56.6	+1.2
K15K	Wolf Creek Mou	17.03 290	P	P	23 36 08.8	+2.6
K15K			IAmb	IAmb	23 36 14.5	
	comp=Z,30nm,1.4s					
O15K	Ungalikthiuk R	17.09 279	P	P	23 36 08.0	+1.1
O15K			IAmb	IAmb	23 36 28.3	
	comp=Z,26nm,1.4s					
DGMT	Dagmar	17.44 126	Pn	Pn	23 36 08.9	-0.7
DGMT			IAmb	IAmb	23 36 15.2	
	comp=Z,14nm,0.8s					
CHGN	Chignik	17.61 269	P	P	23 36 15.1	+2.5
RES	Resolute Bay	17.66 27		Pn	23 36 12.5	+0.4
YHL	Hebgen Lake	18.21 146		Pn	23 36 18.7	-0.8
ULM	Lac du Bonnet	19.70 109	P	Pn	23 36 37.0	-0.1
	comp=Z,0.4nm,0.3s,baz=304,slow=11,SNR=5.2					
	comp=Z,6.5nm,0.8s					
PDAR	Pinedale Array	20.59 145	P	P	23 36 46.5	+0.8
	comp=Z,0.5nm,0.5s,baz=348,slow=7.9,SNR=6.5					
	comp=Z,0.5nm,0.5s					
NVAR	Mina Array Bea	22.97 165	P	P	23 37 13.3	+2.2
	comp=Z,0.8nm,0.7s,baz=344,slow=8.0,SNR=4.6					
	comp=Z,0.8nm,0.7s					
PV02	Paradox Valley	25.07 147	P	P	23 37 26.6	-4.4
TXAR	Lajitas Array	34.81 145	P	P	23 38 60.0	+2.7
	comp=Z,0.1nm,0.6s,baz=358,slow=10,SNR=2.7					
	comp=Z,0.1nm,0.6s					
KURBB	Kurchatov Arra	67.13 344	P	P	23 43 00.9	+1.1
	comp=Z,0.3nm,0.4s,baz=11,slow=6.0,SNR=4.4					
	comp=Z,0.3nm,0.4s					
HHC	Hu-ho-hao-te	68.45 317	eP	P	23 43 07.8	-0.6
HHC			pmax	pmax		
	comp=Z,9.0nm,0.5s					
HHC			pmax	pmax		
	comp=Z,130nm,4.5s					
MKAR	Makanchi Array	70.29 340	P	P	23 43 20.9	+1.3
	comp=Z,0.2nm,0.6s,baz=11,slow=8.1,SNR=1.7					
	comp=Z,0.2nm,0.6s					
WMQ	Urumqi	72.16 335	eP	P	23 43 33.8	+2.8
WMQ			pmax	pmax		
	comp=Z,17nm,0.7s					
KSH	Kashi	78.38 343	P	P	23 44 07.8	+0.9
PZH	PanZhiHua	84.81 319	P	P	23 44 39.8	-1.3

IDC 26 23:48:20.7±3.4, 6.47S×146.17E, h111km±37km, mb3.5/5, mbtmp3.8/7, Error ellipse: s-maj=44.6km s-min=29.8km az=80.0

ISC 26 23:48:21.9±1.4, 6.5S±0.2×146.1E±0.3, h122km, n7, σ0 92/8, mb3.7/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.05	161	P		Pn 23 49 09.0	+0.2
	20nm,0.3s,baz=322,slow=12,SNR=6.8						
PMG				S		Sn 23 49 44.4	-0.6
	109nm,0.5s,baz=148,slow=20,SNR=19						
WRA	Warramunga Arr	17.59	220	P		P 23 52 17.8	-1.0
	0.5nm,0.4s,baz=39,slow=12,SNR=7.6						
ASAR	Alice Springs	20.72	213	P		P 23 52 53.2	+0.5
	0.7nm,0.4s,baz=41,slow=8.9,SNR=8.8						
	0.7nm,0.4s						
CMAR	Chiang Mai Arr	52.74	299	P		P 23 57 25.1	+0.5
	1.6nm,0.6s,baz=112,slow=7.6,SNR=6.5						
	1.6nm,0.6s						
MKAR	Makanchi Array	77.35	321	P		P 00 00 03.2	-0.1
	0.3nm,0.4s,baz=100,slow=7.2,SNR=4.9						
	0.3nm,0.4s						
ZALV	Zalesov

15nm,0.7s
PDAR Pinedale Array 82.74 43 P P 00 16 06.3 0.0
0.8nm,0.7s,baz=234,slow=3.8,SNR=6.5
0.8nm,0.7s

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*IDC **27** 00:04:22.0±1.0, 34.78N×46.19E, h0km, mb3.8/15, mbtmp3.8/21, ML3.7/6, MS2.9/7, Error ellipse: s-maj=23.3km s-min=11.6km az=161.0*
*ISN **27** 00:04:23.8±0.4, 34.64N×46.32E, h10km±3km, ML4.0*
*TEH **27** 00:04:23.6, 34.63N×46.32E, h8km±10km*
*THR **27** 00:04:24.0±0.0, 34.63N×46.33E, h10km±5km, ML4.0*
*OMAN **27** 00:04:30.9±0.7, 33.96N×46.68E, h15km, mb4.2/27, Error ellipse: s-maj=11.0km s-min=5.4km az=50.0*

ISC 27 00:04:23.5±0.8, 34.57N±0.02×46.36E±0.02, h19km±2km, n142, σ2926/151, mb3.8/21, MS2.9/5, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.14**	**9**	Pg	**Pb**	**00 04 26.3**	**+0.2**
IGHG	**Ghaleghazi**	**0.29**	**144**	Pg	**Pb**	**00 04 31.6**	**+1.4**
GLG1	**Gilan-e-Gharb**	**0.58**	**220**	Pg	**Pg**	**00 04 35.7**	**+0.4**
KCHF	**Cheshme Sefid,**	**0.63**	**117**	Pg	**Pg**	**00 04 37.0**	**+0.8**
KGS1	**Ghasr-e-Shirin**	**0.64**	**265**	Pg	**Pb**	**00 04 35.9**	**-0.2**
SNGE	**Sanandaj**	**0.97**	**57**	*e*Pg	**Pb**	**00 04 41.4**	**-0.5**
SNGE				IAML		00 04 56.5	
	comp=Z,3μm,1.0s						
SNQR	**Sonqor, Kerman**	**1.08**	**74**	Pg	**Pg**	**00 04 44.6**	**-0.1**
IBZA	**Bozab**	**1.24**	**94**	Pg	**Pg**	**00 04 48.5**	**+0.9**
IBDR	**Badra**	**1.50**	**194**	*e*Pn	**Pg**	**00 04 53.5**	**+1.1**
IBDR				*e*Sn	**Sg**	**00 05 15.0**	**+3.1**
IBDR				AML	AML	00 05 19.2	
	comp=E,7μm,0.5s						
IBDR				AML	AML	00 05 20.4	
	comp=N,3μm,0.6s						
SRSL	**SARDASHT**	**1.81**	**336**	*e*Pn	**Pn**	**00 04 54.9**	**+1.0**
SRSL				*e*Sg	**Sb**	**00 05 19.3**	**+0.7**
SRSL				IAML		00 05 23.5	
	comp=Z,3μm,1.0s						
IKRK	**Kirkuk**	**1.86**	**297**	*e*Pn	**Pb**	**00 04 56.5**	**-0.4**
IKRK				*e*Sn	**Sb**	**00 05 20.5**	**+0.8**
IKRK				AML	AML	00 05 24.5	
	comp=N,2μm,0.6s						
IKRK				AML	AML	00 05 24.8	
	comp=E,3μm,0.3s						
BHD	**Baghdad**	**2.09**	**232**	*e*Pn	**Pb**	**00 05 01.0**	**+0.1**
BHD				*e*Sn	**Sb**	**00 05 28.0**	**+1.5**
BHD				AML	AML	00 05 44.6	
	comp=E,1μm,0.8s						
BDRS	**Dareh Seyedi**	**2.17**	**106**	Pn	**Pb**	**00 05 03.1**	**+0.6**
HGHA	**Hamedan- Ghaye**	**2.25**	**65**	Pn	**Pb**	**00 05 03.5**	**-0.2**
MAHB	**Mahabad**	**2.26**	**347**	Pn	**Pb**	**00 05 02.3**	**-1.6**
HAGD	**Aghdareh**	**2.31**	**83**	Pn	**Pb**	**00 05 04.0**	**-0.6**
ZNJK	**Zanjan**	**2.83**	**41**	Pn	**Pn**	**00 05 10.7**	**+2.7**
ZNJK	**Zanjan**	**2.83**	**41**	*e*PnA		00 05 11.3	
ZNJK				IAML		00 05 17.2	
	comp=Z,280nm,1.0s						
IHSH	**Hashtrud**	**2.83**	**15**	Pn	**Pn**	**00 05 10.6**	**+2.5**
RAFI	**Al-Rafai**	**2.84**	**184**	*e*Pn	**Pb**	**00 05 12.0**	**-1.7**
RAFI				*e*Sn	**Sb**	**00 05 47.3**	**-0.8**
RAFI				AML	AML	00 06 03.7	
	comp=N,296nm,0.8s						
RAFI				AML	AML	00 06 12.8	
	comp=E,349nm,0.7s						
QABG	**Abgarm-Qazvin**	**2.88**	**66**	Pn	**Pb**	**00 05 12.1**	**-2.3**
ASAO	**Ashtian**	**3.02**	**89**	*i* P	**Pb**	**00 05 16.4**	**-0.6**
ASAO				IAML		00 06 20.0	
	comp=Z,800nm,1.0s						
KHMZ	**Khomeyn**	**3.10**	**104**	*e*Pn	**Pb**	**00 05 16.8**	**-1.4**
KHMZ				IAML		00 06 13.6	
	comp=Z,700nm,1.0s						
GTMR	**Gotvand**	**3.11**	**131**	*e*Pn	**Pb**	**00 05 16.1**	**-2.1**
GTMR				IAML		00 05 26.5	
	comp=Z,720nm,1.0s						
IAZR	**Azarshahr**	**3.12**	**354**	Pn	**Pn**	**00 05 14.2**	**+2.1**
MSL	**Mosul**	**3.22**	**306**	*e*Pn	**Pn**	**00 05 15.0**	**+1.8**
MSL				*e*Sn	**Sn**	**00 05 52.5**	**+1.5**
JIR1	**Jirandeh**	**3.52**	**52**	Pn	**Pn**	**00 05 20.4**	**+2.9**
IGZV	**Ghazvin**	**3.63**	**59**	Pn	**Pn**	**00 05 23.3**	**+3.3**
GIDE	**GILAN DEYLAMAN**	**3.72**	**50**	Pn	**Pn**	**00 05 23.6**	**+3.4**
AHWZ	**Ahwaz**	**3.75**	**149**	Pn	**Pn**	**00 05 25.1**	**+4.7**
ISHB	**Shabestar**	**3.76**	**351**	Pn	**Pn**	**00 05 22.5**	**+1.7**
IHRS	**Heris**	**3.79**	**8**	Pn	**Pn**	**00 05 23.6**	**+2.5**
IQOM	**Qom**	**3.89**	**85**	Pn	**Pn**	**00 05 25.9**	**+3.4**
CHTH	**Charan**	**4.12**	**70**	*e*Pn	**Pn**	**00 05 28.9**	**+3.1**
CHTH				IAML		00 06 46.5	
	comp=Z,170nm,1.0s						
IPIR	**Pirpir**	**4.22**	**115**	Pn	**Pn**	**00 05 30.6**	**+3.4**
QAMS	**Qamsar**	**4.26**	**100**	Pn	**Pn**	**00 05 31.6**	**+4.0**
JHBN	**Jahan bin**	**4.29**	**122**	Pn	**Pn**	**00 05 31.4**	**+3.3**
GAS1	**Astara - Iran**	**4.30**	**27**	Pn	**Pn**	**00 05 31.0**	**+3.0**
GRMI	**Germi**	**4.41**	**16**	Pn	**Pn**	**00 05 32.1**	**+2.5**
GRMI	**Germi**	**4.41**	**16**	*e*Pn	**Pn**	**00 05 32.4**	**+2.8**
GRMI				IAML		00 05 50.3	
	comp=Z,77nm,1.0s						
IVRN	**Varamin**	**4.44**	**83**	Pn	**Pn**	**00 05 33.7**	**+3.7**
ZNGN	**Zangian**	**4.48**	**122**	Pn	**Pn**	**00 05 34.7**	**+3.9**
IKLH	**Kolahrood**	**4.51**	**105**	Pn	**Pn**	**00 05 35.0**	**+3.9**
IDMV	**Damavand**	**4.76**	**76**	Pn	**Pn**	**00 05 37.9**	**+3.4**
KRSH	**Karshahi**	**4.82**	**95**	Pn	**Pn**	**00 05 38.8**	**+3.5**
ISFB	**Sefidab**	**4.86**	**91**	Pn	**Pn**	**00 05 39.1**	**+3.3**
ABEH	**Behbahan**	**5.14**	**139**	Pn	**Pn**	**00 05 43.6**	**+4.1**
IZEF	**Zefreh**	**5.25**	**107**	Pn	**Pn**	**00 05 45.2**	**+4.0**
IFIR	**Firoozkooh**	**5.35**	**77**	Pn	**Pn**	**00 05 46.3**	**+3.6**
ILAS	**Lasjerd**	**5.48**	**80**	Pn	**Pn**	**00 05 47.9**	**+3.5**
KBD	**Kabd**	**5.49**	**168**	P	**Pn**	**00 05 43.6**	**-0.8**
KLNJ	**Kolanjah**	**5.66**	**127**	Pn	**Pn**	**00 05 50.2**	**+3.2**
NASN	**Na'in**	**5.66**	**106**	*e*Pn	Pn	00 05 52.3	+5.4
NASN				IAML		00 07 52.3	
	comp=Z,59nm,1.0s						
GNI	**Garni**	**5.72**	**347**	Pn	Pn	00 05 51.9	+4.3
	comp=Z,0.5nm,0.3s,baz=203,slow=24,SNR=1.5						
GNI				Lg	Lg	00 07 20.3	
	comp=Z,0.2nm,0.3s,baz=67,slow=21,SNR=4.0						
GNI				LR	LR	00 07 54.3	
	comp=Z,28nm,21.3s,baz=183,slow=39						
GNI	**Garni**	**5.72**	**347**	P	**Pb**	**00 06 03.7**	**+0.8**
GNI	**Garni**	**5.72**	**347**	Pg	**Pg**	**00 06 09.6**	**-3.4**
IRAM	**Ramesheh**	**5.75**	**117**	Pn	**Pn**	**00 05 51.2**	**+3.1**
ANAR	**Anarak**	**6.28**	**101**	Pn	**Pn**	**00 05 59.5**	**+4.1**
ICHK	**Chekchek**	**7.12**	**107**	Pn	**Pn**	**00 06 10.5**	**+3.6**
DSBU	**Dashti - Bushe**	**7.47**	**145**	Pn	**Pn**	**00 06 14.9**	**+3.4**
ASF	**Jabal al Asfar**	**8.27**	**256**	Pn	**Pn**	**00 06 24.1**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=78,slow=5.4,SNR=14						
ASF				Sn	**Sn**	**00 07 53.5**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=84,slow=2.1,SNR=3.4						
ASF				Lg	Lg	00 08 42.1	
	comp=Z,1.6nm,0.3s,baz=260,slow=20,SNR=4.6						
ASF				LR	LR	00 10 25.7	
	comp=Z,33nm,21.4s,baz=97,slow=44						
	comp=Z,1.7nm,0.3s						
TPRV	**Parvadeh(Tabas**	**8.73**	**97**	Pn	**Pn**	**00 06 32.9**	**+4.0**
TAPT	**Tabas- Tapeh t**	**8.90**	**85**	Pn	**Pn**	**00 06 34.9**	**+3.7**
TKDS	**Koohdasht(Taba**	**8.98**	**93**	Pn	**Pn**	**00 06 36.0**	**+3.7**
MMAI	**Mount Meron Ar**	**9.25**	**263**	Pn	**Pn**	**00 06 36.8**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=76,slow=17,SNR=14						
MMAI				Sn	**Sn**	**00 08 18.9**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=56,slow=17,SNR=1.6						
MMAI				Lg	Lg	00 09 11.0	
	comp=Z,1.2nm,0.3s,baz=95,slow=35,SNR=2.2						
	comp=Z,0.7nm,0.3s						
KRBR	**Kerman**	**9.92**	**115**	*e*Pn	**Pn**	**00 06 49.2**	**+3.8**
SMRA	**Abu-Samra**	**10.53**	**157**	P	**Pn**	**00 06 53.0**	**-0.4**
SMRA				S	**Sn**	**00 08 45.9**	**-5.0**
EIL	**Elat**	**10.83**	**246**	Pn	**Pn**	**00 06 58.3**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=64,slow=19,SNR=1.7						
EIL				Lg	Lg	00 10 03.8	
	comp=Z,0.4nm,0.3s,baz=51,slow=10,SNR=2.5						
	comp=Z,1.8nm,0.6s						
RAYN	**Ar Rayn**	**11.03**	**184**	P	**Pn**	**00 07 00.6**	**+0.2**
RAYN	**Ar Rayn**	**11.03**	**184**	*i* Pn	**Pn**	**00 07 00.6**	**+0.2**
	SNR=11						
BRTR	**Keskin Array B**	**11.38**	**301**	Pn	**Pn**	**00 07 06.5**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=125,slow=13,SNR=22						
	comp=Z,3.6nm,0.9s						
SHME	**Shamm**	**11.97**	**133**	P	**Pn**	**00 07 13.3**	**+0.1**
SHME	**Shamm**	**11.97**	**133**	Pn	**Pn**	**00 07 13.7**	**+0.5**
BANOM	**Banah**	**12.16**	**132**	P	**Pn**	**00 07 16.2**	**+0.4**
BANOM				S	Sn	00 09 24.9	-6.1
BANOM	**Banah**	**12.16**	**132**	*i* Pn	**Pn**	**00 07 16.1**	**+0.2**
	SNR=5.6						
AJN	**Ajban**	**12.47**	**141**	P	**Pn**	**00 07 21.0**	**+0.9**
MASF	**Masafi**	**12.49**	**135**	P	**Pn**	**00 07 20.9**	**+0.6**
	SNR=8.4						
MASF				S	Sn	00 09 32.8	-6.2
MSFE	**Esma-Masafi**	**12.50**	**135**	*i* Pn	**Pn**	**00 07 20.6**	**+0.2**
	SNR=8.3						
NAZ	**Nazwa, Dubai**	**12.50**	**137**	P	**Pn**	**00 07 21.7**	**+1.3**
	SNR=29						
NAZ				S	**Sn**	**00 09 34.4**	**-4.7**
NAZ	**Nazwa, Dubai**	**12.50**	**137**	*i* Pn	**Pn**	**00 07 21.3**	**+0.9**
	SNR=29						
ASUD	**Al Ashush, Dub**	**12.60**	**139**	P	**Pn**	**00 07 22.9**	**+1.1**
ASUD				S	**Sn**	**00 09 37.4**	**-4.3**
ASUD	**Al Ashush, Dub**	**12.60**	**139**	Pn	**Pn**	**00 07 23.2**	**+1.4**
MDH	**Madha**	**12.62**	**134**	P	**Pn**	**00 07 22.9**	**+0.8**
MDH				S	Sn	00 09 34.9	-7.4
MDH	**Madha**	**12.62**	**134**	Pn	**Pn**	**00 07 22.9**	**+0.8**
FAQ	**Al Faqa, Dubai**	**12.65**	**138**	P	**Pn**	**00 07 23.6**	**+1.1**
FAQ				P	**Pn**	**00 07 23.6**	**+1.1**
FAQ	**Al Faqa, Dubai**	**12.65**	**138**	Pn	**Pn**	**00 07 23.8**	**+1.3**
UOSS	**Minazif**	**12.84**	**136**	P	**Pn**	**00 07 25.6**	**+0.5**
UOSS				S	Sn	00 09 40.4	-7.1
UOSS	**Minazif**	**12.84**	**136**	Pn	**Pn**	**00 07 25.4**	**+0.3**
HATD	**Hatta, Dubai**	**12.89**	**136**	P	**Pn**	**00 07 26.7**	**+0.9**
	SNR=8.9						
HATD	**Hatta, Dubai**	**12.89**	**136**	*i* Pn	**Pn**	**00 07 26.8**	**+0.9**
	SNR=8.9						
ASHO	**Ashiyiah**	**12.96**	**137**	P	**Pn**	**00 07 27.2**	**+0.4**
	SNR=28						
ASHO				S	Sn	00 09 44.9	-5.6
ASHO	**Ashiyiah**	**12.96**	**137**	*i* Pn	**Pn**	**00 07 27.1**	**+0.4**
	SNR=39						
MZR	**Muzera**	**13.10**	**150**	P	**Pn**	**00 07 29.2**	**+0.6**
MZR	**Muzera**	**13.10**	**150**	*i* Pn	**Pn**	**00 07 29.2**	**+0.6**
	SNR=17						
ALNE	**Al Ain**	**13.29**	**140**	P	**Pn**	**00 07 31.8**	**+0.5**
	SNR=17						
ALNE				S	Sn	00 09 52.4	-6.1
ALNE	**Al Ain**	**13.29**	**140**	*i* Pn	**Pn**	**00 07 31.8**	**+0.5**
	SNR=17						
SOHO	**SOHO**	**13.66**	**137**	P	**Pn**	**00 07 36.0**	**-0.2**
SOHO				S	Sn	00 09 59.8	-7.7
SOHO	**SOHO**	**13.66**	**137**	*i* Pn	**Pn**	**00 07 36.0**	**-0.2**
	SNR=9.0						
ARQ	**Araqi**	**14.28**	**139**	P	**Pn**	**00 07 45.0**	**+0.1**
	SNR=29						
ARQ				S	**Sn**	**00 10 18.2**	**-4.6**
HOQ	**Hoqain**	**14.53**	**136**	P	**Pn**	**00 07 49.1**	**+0.9**
HOQ				S	Sn	00 10 22.9	-5.9
SMDO	**Samad**	**15.36**	**135**	P	**Pn**	**00 07 58.5**	**-0.9**
SMDO				S	**Sn**	**00 10 42.3**	**-6.9**
WSAR	**Wadi Sarin**	**15.57**	**133**	Pn	**Pn**	**00 08 01.0**	**-1.1**
	baz=344,slow=24,SNR=16						
WSAR				Sn	Sn	00 10 43.6	-10
	baz=116,slow=24,SNR=4.1						
WSAR	**Wadi Sarin**	**15.57**	**133**	P	**Pn**	**00 08 01.2**	**-0.9**
	SNR=5.6						
JMDO	**Jabal Madar**	**15.93**	**137**	P	**Pn**	**00 08 05.7**	**-1.0**
JLN	**Jalan Bani Buh**	**16.86**	**134**	P	**Pn**	**00 08 18.3**	**-0.3**
MHTO	**MHTO**	**16.96**	**140**	P	**Pn**	**00 08 18.9**	**-1.0**
	SNR=12						
DOK	**Doka**	**17.32**	**155**	P	**Pn**	**00 08 22.7**	**-1.7**
	SNR=7.5						
DQM	**DQM**	**17.62**	**143**	P	**Pn**	**00 08 27.9**	**-0.2**
BELG	**Belogornoye**	**17.84**	**3**	P	**Pn**	**00 08 27.9**	**-2.7**
	comp=Z,0.6nm,0.3s,baz=146,slow=11,SNR=4.2						
	comp=Z,4.5nm,0.8s						
WHFO	**Wadi Hawf**	**17.85**	**156**	P	**Pn**	**00 08 29.5**	**-1.4**
WHFO				S	**Sn**	**00 11 43.8**	**-5.7**
AKTO	**Aktyubinsk**	**18.00**	**25**	P	**Pn**	**00 08 31.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=211,slow=5.0,SNR=4.4						
	comp=Z,0.9nm,0.5s						
ABTO	**Aybut**	**18.23**	**158**	P	**Pn**	**00 08 34.5**	**-1.2**
RBK	**Rabkut**	**18.38**	**156**	P	**P**	**00 08 36.7**	**-0.8**
RBK				S	**Sn**	**00 11 57.2**	**-5.2**
SHAO	**Shalim**	**18.43**	**151**	P	**P**	**00 08 37.9**	**-0.1**
DMTO	**DMTO**	**18.45**	**153**	P	**P**	**00 08 37.7**	**-0.5**
DMTO				S	Sn	00 11 56.5	-7.5
AKASG	**Malin Array Be**	**20.39**	**327**	P	**P**	**00 08 57.0**	**-2.0**
	comp=Z,0.5nm,0.4s,baz=140,slow=9.3,SNR=4.1						
AKASG				LR	LR	00 18 21.8	
	comp=Z,52nm,18.3s,baz=59,slow=42						
	comp=Z,0.5nm,0.4s						
BVAR	**Borovoye Array**	**25.12**	**35**	P	**P**	**00 09 48.9**	**+1.7**
	comp=Z,1.3nm,0.5s,baz=244,slow=9.2,SNR=4.3						
	comp=Z,1.3nm,0.5s						
RONA	**Rosalia, Austr**	**25.99**	**309**	*i* P	**P**	**00 09 56.6**	**+1.5**
	comp=Z,1.1nm,0.4s						
VRAC	**Vranov**	**26.38**	**313**	LR	LR	00 22 58.9	
	comp=Z,25nm,18.1s,baz=186,slow=43						
SOKA	**Soboth**	**26.50**	**307**	*i* P	**P**	**00 10 01.7**	**+2.0**
	comp=Z,1.1nm,0.6s						
FURI	**Furi**	**26.50**	**197**	LR	LR	00 19 57.6	
	comp=Z,43nm,18.2s,baz=214,slow=35						
GERES	**GERESS Array B**	**28.00**	**311**	P	**P**	**00 10 11.9**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=73,slow=14,SNR=1.9						
	comp=Z,0.2nm,0.5s						
ABTA	**Ifafabach**	**28.19**	**306**	*e*P	**P**	**00 10 16.0**	**+1.0**
	comp=Z,0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**28.32**	**46**	P	**P**	**00 10 17.2**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=251,slow=9.0,SNR=5.2						
	comp=Z,0.6nm,0.5s						
WATA	**Walderalm**	**28.95**	**307**	*e*P	**P**	**00 10 22.2**	**+0.4**
	comp=Z,1.1nm,0.2s						
SQTA	**Sankt Quirin**	**29.17**	**306**	*e*P	**P**	**00 10 23.7**	**0.0**
	comp=Z,1.2nm,0.3s						
FETA	**Feichten**	**29.45**	**306**	*e*P	**P**	**00 10 26.6**	**+0.3**
	comp=Z,0.4nm,0.3s						
MKAR	**Makanchi Array**	**29.60**	**55**	P	**P**	**00 10 29.4**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=243,slow=5.3,SNR=4.4						
	comp=Z,0.5nm,0.6s						
FINES	**FINESS Array B**	**29.86**	**340**	P	**P**	**00 10 29.0**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=156,slow=9.8,SNR=7.3						
	comp=Z,0.4nm,0.4s						
DAVA	**Damuels**	**30.07**	**306**	*e*P	**P**	**00 10 31.3**	**-0.4**
	comp=Z,1.5nm,0.3s						
ZALV	**Zalesovo Beam**	**33.12**	**42**	P	**P**	**00 10 59.8**	**+1.5**
	comp=Z,0.6nm,0.4s,baz=253,slow=7.5,SNR=4.4						
	comp=Z,0.6nm,0.4s						
HFS	**Hagfors**	**33.21**	**330**	P	**P**	**00 10 57.8**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=138,slow=10.0,SNR=8.5						
	comp=Z,0.7nm,0.3s						
NOA	**NORSAR Array B**	**34.74**	**331**	LR	LR	00 26 47.7	
	comp=Z,11nm,19.0s,baz=260,slow=39						
ARCES	**ARCESS Array B**	**36.88**	**348**	P	**P**	**00 11 28.2**	**-2.3**
	comp=Z,1.8nm,0.9s,baz=143,slow=7.1,SNR=4.1						
	comp=Z,1.8nm,0.9s						
EKA	**Eskdalemuir Ar**	**39.68**	**317**	P	**P**	**00 11 53.4**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=102,slow=9.4,SNR=4.1						
	comp=Z,0.4nm,0.3s						
ESDC	**Sonseca Array**	**40.02**	**293**	P	**P**	**00 11 56.9**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=58,slow=8.4,SNR=8.2						
	comp=Z,1.3nm,0.9s						
SPITS	**Spitsbergen Ar**	**45.57**	**352**	P	**P**	**00 12 41.5**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=138,slow=11,SNR=5.5						
	comp=Z,4.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**45.62**	**253**	P	**P**	**00 12 44.7**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=52,slow=7.9,SNR=2.6						
CMAR	**Chiang Mai Arr**	**49.18**	**95**	P	**P**	**00 13 12.0**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=298,slow=8.1,SNR=1.9						
	comp=Z,0.9nm,0.3s						
DBIC	**Dimbokro**	**54.65**	**252**	P	**P**	**00 13 51.1**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=43,slow=5.6,SNR=1.0						
	comp=Z,1.8nm,0.8s						
KSRS	**Korea Array**	**64.00**	**61**	P	**P**	**00 14 56.6**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=294,slow=8.4,SNR=1.3						
	comp=Z,0.6nm,0.5s						
MJAR	**Matsushiro Arr**	**71.74**	**58**	LR	LR	00 47 51.2	
	comp=Z,72nm,19.0s,baz=218,slow=36						

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*IDC **27** 00:33:27.7±2.6, 30.36N×130.67E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=166.4km s-min=23.4km az=70.0*
*JMA **27** 00:33:32.0±0.2, 30.4N±0.6×131.2E±0.9, h26km, MV3.3/33, NEAR TANEGASHIMA ISLAND*

ISC 27 00:33:31.9±1.2, 30.36N±0.07×131.23E±0.10, h28km, n15, σ0965/16, mb3.8/5, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMTN	**Minamitane**	**0.29**	**278**	*i* P	**Pb**	**00 33 38.9**	**-0.2**
JTN	**Tanegashima 3**	**0.37**	**324**	*i* P	**Pb**	**00 33 39.8**	**-0.4**
JYAK	**Yakushimahirau**	**0.64**	**259**	*i* P	**Pb**	**00 33 44.2**	**-0.2**
JYAK				*e*S	**Sb**	**00 33 53.6**	**+0.5**
JTSR	**Tashiro 2**	**0.85**	**342**	*i* P	**Pb**	**00 33 47.6**	**-0.5**
JKC	**Kuchinoerabu**	**0.90**	**277**	P	**Pb**	**00 33 48.6**	**-0.3**
JNAR	**Kushima--Naru**	**1.17**	**2**	P	**Pn**	**00 33 52.9**	**+0.5**
JNN	**Nakanoshima**	**1.28**	**247**	P	**Pn**	**00 33 54.5**	**+0.6**
JNKG	**Nichinankitago**	**1.31**	**5**	P	**Pn**	**00 33 54.9**	**+0.7**
JNKG				S	**Sn**	**00 34 12.1**	**+1.3**
JSU	**Suzuyama**	**1.33**	**330**	P	**Pn**	**00 33 54.5**	**0.0**
JTZ	**Takazaki**	**1.54**	**355**	P	**Pn**	**00 33 58.1**	**+0.5**
BVAR	**Borovoye Array**	**49.07**	**316**	P	P	00 42 11.8	-4.7
	0.3nm,0.3s,baz=98,slow=8.9,SNR=5.0						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**50.10**	**176**	P	**P**	**00 42 24.1**	**-0.5**
	0.5nm,0.8s,baz=357,slow=8.8,SNR=2.9						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**53.77**	**177**	P	**P**	**00 42 52.5**	**+0.5**
	0.8nm,0.8s,baz=10,slow=11,SNR=9.0						
	0.8nm,0.8s						
FINES	**FINESS Array B**	**70.58**	**331**	P	**P**	**00 44 43.1**	**-1.1**
	1.0nm,0.4s,baz=62,slow=5.5,SNR=23						
	1.0nm,0.4s						
BRTR	**Keskin Array B**	**76.59**	**308**	P	**P**	**00 45 19.9**	**-0.1**
	0.5nm,0.8s,baz=48,slow=6.4,SNR=3.5						
	0.5nm,0.8s						

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*JMA **27** 00:41:02.9±0.2, 30.3N±0.6×131.3E±0.9, h27km±1km, MD3.8/33, MV3.8/33, E OFF TANEGASHIMA ISLAND*
*NIED **27** 00:41:02.9, 30.34N×131.31E, h27km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr0.52; Mθθ-0.37; Mϕϕ-0.14; Mrθ1.06; Mθϕ-0.39; Mϕr0.54; Fault plane solution: M0 1.33000×10^15 NP1: ϕs219.00000°, δ14.00000°, λ67.00000°. NP2: ϕs63.00000°, δ77.00000°, λ96.00000°.*
*IDC **27** 00:41:04.7±2.9, 30.37N×131.05E, h36km±24km, mb3.8/14, mbtmp3.9/18, ML3.2/4, MS3.3/13 Error ellipse: s-maj=30.4km s-min=14.1km az=84.0*
*NEIC **27** 00:41:06.0±1.0, 30.53N±0.07×131.1E±0.1, h39km±8km, mb4.5/18, Error ellipse: s-maj=13.3km s-min=9.3km az=108.0*

ISC 27 00:41:02.7±1.4, 30.27N±0.04×131.25E±0.05, h26km±10km, n86, σ1926/79, mb4.3/23, MS3.4/13, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMTN	**Minamitane**	**0.33**	**294**	*i* P	**Pn**	**00 41 10.7**	**-1.2**
JMTN				S	**Sn**	**00 41 16.6**	**-1.1**
JMTN	**Minamitane**	**0.33**	**294**	A	A	00 41 10.7	
	comp=N,13nm,0.8s,comp=E,12nm,2.1s						
JTN	**Tanegashima 3**	**0.45**	**329**	*i* P	**Pb**	**00 41 11.6**	**-0.6**
JTN	**Tanegashima 3**	**0.45**	**329**	A	A	00 41 11.6	
	comp=N,20nm,1.1s,comp=E,13nm,1.6s						
JYAK	**Yakushimahirau**	**0.64**	**268**	*i* P	**Pn**	**00 41 16.1**	**0.0**
JYAK				S	**Sn**	**00 41 25.4**	**0.0**
JKC	**Kuchinoerabu**	**0.93**	**282**	*i* P	**Pn**	**00 41 20.4**	**+0.4**
JKC				*e*S	**Sb**	**00 41 33.0**	**+1.0**
JTSR	**Tashiro 2**	**0.94**	**343**	*i* P	**Pn**	**00 41 19.3**	**-1.0**
JTSR	**Tashiro 2**	**0.94**	**343**	A	A	00 41 19.3	
	comp=N,7.0nm,1.1s,comp=E,7.0nm,1.4s						
JNAR	**Kushima--Naru**	**1.26**	**1**	*i* P	**Pn**	**00 41 24.4**	**-0.2**
JNAR				S	**Sn**	**00 41 40.6**	**-0.1**
JNN	**Nakanoshima**	**1.26**	**251**	P	**Pn**	**00 41 26.1**	**+1.4**
JNKG	**Nichinankitago**	**1.40**	**5**	*i* P	**Pn**	**00 41 26.4**	**-0.1**
JNKG				S	**Sn**	**00 41 44.2**	**+0.1**
JSU	**Suzuyama**	**1.41**	**331**	*i* P	**Pn**	**00 41 26.2**	**-0.5**
JTZ	**Takazaki**	**1.64**	**355**	*i* P	**Pn**	**00 41 29.7**	**-0.1**
JNU	**Nakatsue**	**2.86**	**354**		**Pn**	**00 41 45.2**	**-1.6**
JNU	**Nakatsue**	**2.

comp=Z,76nm,19.8s,baz=164,slow=38
KSH Kashi 45.65 297 P P 00 49 25.0 +3.7
KSH pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 49.14 316 P **P** **00 49 47.4 -0.8**
comp=Z,0.7nm,0.3s,baz=87,slow=9.1,SNR=13
comp=Z,0.7nm,0.3s
KKAR Karatay Array 49.37 303 P **P** **00 49 49.9 -0.1**
WB0 Warramunga Arr 49.84 176 P **P** **00 49 55.2 +1.5**
WB0 IAmb IAmb 00 50 00.4
comp=Z,2.8nm,0.9s
WRAB Tennant Creek 50.00 176 P **P** **00 49 57.9 +3.0**
WRA Warramunga Arr 50.01 176 P **P** **00 49 56.3 +1.3**
comp=Z,1.0nm,0.5s,baz=355,slow=8.4,SNR=8.0
comp=Z,1.0nm,0.5s
GAR Garm 50.07 297 P **P** **00 49 54.8 -0.8**
GAR IAmb IAmb 00 49 58.4
comp=Z,7.2nm,0.9s
CHGR Chuyangaron 51.02 297 **P** **00 50 01.9 -0.8**
SIMJ Simiganj 51.13 297 **P** **00 50 02.4 -1.2**
SIMJ IAmb IAmb 00 50 04.7
comp=Z,4.7nm,1.1s
ASAR Alice Springs 53.69 177 P **P** **00 50 24.4 +1.9**
comp=Z,1.0nm,0.6s,baz=11,slow=11,SNR=17
comp=Z,1.0nm,0.6s
J19K Poorman 55.89 31 P **P** **00 50 37.5 -0.5**
AB31 Akbulak array 55.90 311 P **P** **00 50 37.2 -1.0**
ABKAR Akbulak array 55.90 311 P **P** **00 50 37.6 -0.7**
ARTI Arti 56.04 320 LR **P** **00 50 38.1 -1.0**
ARTI Arti 56.04 320 LR LR 01 17 04.0
comp=Z,62nm,18.5s,baz=122,slow=39
P18K Big Mountain, 56.19 36 P **P** **00 50 41.6 +1.4**
P18K IAmb IAmb 00 50 52.3
comp=Z,4.6nm,0.9s
B21K Ikpikpuk River 56.46 24 P **P** **00 50 40.0 -1.8**
D22K Ayikyak River 57.12 25 P **P** **00 50 46.9 +0.2**
D22K IAmb IAmb 00 51 02.7
comp=Z,3.3nm,1.1s
HRA Herat 57.43 294 P **P** **00 50 49.0 -0.6**
HRA IAmb IAmb 00 50 51.4
comp=Z,2.5nm,0.8s
PPLA Purkeypile 57.46 32 P **P** **00 50 48.3 -1.0**
PPLA IAmb IAmb 00 50 49.1
comp=Z,6.9nm,1.1s
SUA Susitna One 58.25 34 P **P** **00 50 56.5 +1.7**
SUA IAmb IAmb 00 51 09.5
comp=Z,2.5nm,0.8s
D24K Happy Valley 58.51 24 P **P** **00 50 57.5 +1.2**
SPITS Spitsbergen Ar 65.44 348 P **P** **00 51 42.7 -0.1**
comp=Z,2.7nm,0.7s,baz=60,slow=8.8,SNR=8.5
comp=Z,2.7nm,0.7s
ARCES ARCESS Array B 67.24 338 P **P** **00 51 53.2 -1.2**
comp=Z,5.2nm,1.1s,baz=60,slow=4.7,SNR=3.7
comp=Z,5.2nm,1.1s
KBZ Khabaz 68.68 309 P **P** **00 52 03.9 0.0**
comp=Z,2.4nm,0.9s,baz=66,slow=4.4,SNR=5.7
comp=Z,2.4nm,0.9s
FINES FINESS Array B 70.67 331 P **P** **00 52 15.0 -0.8**
comp=Z,2.3nm,0.4s,baz=64,slow=5.6,SNR=59
comp=Z,2.3nm,0.4s
AKASG Malin Array Be 74.19 320 P **P** **00 52 36.1 -0.9**
comp=Z,0.6nm,0.4s,baz=60,slow=6.3,SNR=4.0
AKASG LR LR 01 28 34.7
comp=Z,36nm,19.4s,baz=50,slow=38
comp=Z,0.6nm,0.4s
HFS Hagfors 76.47 333 P **P** **00 52 49.0 -1.0**
comp=Z,1.1nm,0.6s,baz=84,slow=6.1,SNR=6.4
comp=Z,1.1nm,0.6s
BRTR Keskin Array B 76.65 308 P **P** **00 52 50.2 -1.3**
comp=Z,1.2nm,0.9s,baz=32,slow=6.0,SNR=7.4
comp=Z,1.2nm,0.9s
NOA NORSAR Array B 76.86 334 P **P** **00 52 51.1 -1.1**
comp=Z,0.3nm,0.4s,baz=51,slow=5.7,SNR=1.9
NOA LR LR 01 27 44.1
comp=Z,13nm,20.0s,baz=285,slow=36
comp=Z,0.3nm,0.4s
ULM Lac du Bonnet 89.62 28 LR LR 01 35 49.3
comp=Z,35nm,20.4s,baz=191,slow=37

AFAD ***27*** *00:43:20.7, 40.87N×28.25E, h7km±5km, ML1.7*
ISK 27 00:43:20.6, 40.84N×28.29E, h5km, ML2.0/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AVCI	**Avcilar-stanb**	**0.36**	**64**	Pg	Pg	00 43 28.5	+0.9
AVCI				Sg	Sb	00 43 34.1	-1.4
SLVT	**Silivri**	**0.40**	**351**	Pg	Pg	00 43 29.0	+0.7
SLVT				Sg	Sg	00 43 34.9	+1.4
BGKT	**Bogazkoy**	**0.50**	**47**	Pg	Pg	00 43 30.9	+0.6
BGKT				Sg	Sg	00 43 37.9	+1.1
ARMT	**Armutlu**	**0.51**	**122**	Pg	Pg	00 43 31.1	+0.7
EDC	**Edincik**	**0.59**	**214**	Pg	Pg	00 43 32.1	+0.2
TKR	**Tekirdag**	**0.59**	**285**	Pg	Pg	00 43 32.6	+0.6
KAVV	**Kandilli-Istan**	**0.62**	**69**	Pg	Pg	00 43 32.3	-0.3
ISK	**Istanbul-Kandi**	**0.63**	**68**	Pg	Pg	00 43 33.0	+0.4
CTYL	**Yalikoy Yolu**	**0.64**	**360**	Pg	Pg	00 43 32.7	-0.2
MDNY	**Mudanya-Bursa**	**0.65**	**136**	Pg	Pg	00 43 33.4	+0.3
KLYT	**Kilyos**	**0.70**	**54**	Pg	Pg	00 43 34.7	+0.6
VIZE	**Kirklareli, Vi**	**0.81**	**336**	P	Pg	00 43 34.7	-1.6
VIZE				*i* IAML		00 43 45.0	
	comp=E,31nm,1.1s						
VIZE				S	Sg	00 43 47.2	+0.4
YLV	**Yalova**	**0.87**	**108**	Pg	Pb	00 43 37.7	-0.5
KRBG	**Karabiga-Canak**	**0.88**	**240**	Pg	Pb	00 43 37.9	-0.4
SUSR	**Susurluk-Balik**	**0.89**	**190**	Pg	Pb	00 43 38.4	-0.1
GONE	**Gonen-Balikesi**	**0.92**	**210**	Pg	Pb	00 43 38.6	-0.3
HRT	**Hereke**	**1.05**	**90**	Pg	Pb	00 43 41.2	0.0
SILT	**Sile**	**1.07**	**72**	Pg	Pb	00 43 41.6	0.0
UKOP	**Uzunkopru-Edir**	**1.29**	**284**	Pn	Pb	00 43 45.8	+0.5
HISA	**Bilecik-Osmane**	**1.29**	**106**	P	Pb	00 43 46.5	+1.0
HISA				S	Sn	00 44 04.3	+1.1
HISA				*i* IAML		00 44 06.0	
	comp=N,17nm,0.4s						
HISA				*i* IAML		00 44 07.0	
	comp=E,14nm,0.4s						
EDRB	**Edirne**	**1.54**	**311**	Pn	Pb	00 43 49.3	-0.3

IDC ***27*** *00:48:04.5±1.2, 13°.24S×111°.82W, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=121.5km s-min=27.3km az=93.0*
GCMT ***27*** *00:48:08.0±0.4, 13°.58S±0°.02×111°.24W±0°.03, h15km±1km, MW4.9/80, Moment Tensor Solution. s18,c22; s80,c106; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.91±.14; Mθθ=0.16±.10; Mϕϕ=0.74±.12; Mrθ=0.56±.36; Mϕθ=2.12±.10; Mrϕ=-0.78±.38; Best double couple: M=2.46200×10^16 NP1:ϕs=261.00000°,δ64.00000°,λ=-23.00000°. NP2: ϕs=2.00000°,δ70.00000°,λ=-152.00000°. Principal axes: T 2.6080, Plg4.0000°, Azm130.0000°; N -0.2920, Plg56.0000°, Azm35.0000°; P -2.3170, Plg34.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 27 00:48:06.2±1.3, 13°.2S±0°.2×111°.9W±0°.9, h10km, n15, σ0s29/6, mb3.4/4, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N2	**Juan Fernandez**	**36.15**	**129**	T	T	01 34 06.1	
	baz=297						
H03N3	**Juan Fernandez**	**36.16**	**129**	T	T	01 34 08.1	
	baz=297						
H03N1	**Juan Fernandez**	**36.16**	**129**	T	T	01 34 07.0	
	baz=297						
TXAR	**Lajitas Array**	**43.05**	**11**	P	**P**	**00 56 06.7**	**+0.2**
	0.1nm,0.6s,baz=190,slow=7.9,SNR=2.2						
	0.1nm,0.6s						
NVAR	**Mina Array Bea**	**51.72**	**354**	P	**P**	**00 57 14.1**	**+0.1**
	0.1nm,0.3s,baz=172,slow=6.4,SNR=1.8						
	0.1nm,0.3s						
PDAR	**Pinedale Array**	**55.75**	**2**	P	**P**	**00 57 43.3**	**-0.2**
	0.3nm,0.5s,baz=159,slow=7.7,SNR=5.0						
	0.3nm,0.5s						
QSPA	**South Pole Qui**	**76.88**	**180**	P	**P**	**00 59 58.6**	**0.0**
	2.0nm,0.9s,baz=123,slow=1.1,SNR=8.0						
	2.0nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**86.14**	**290**	T	T	02 36 49.6	
	baz=106,slow=75,SNR=36						
H11S1	**WAKE ISLAND Hy**	**86.15**	**290**	T	T	02 36 52.0	
	baz=106,slow=75,SNR=36						
H11S3	**WAKE ISLAND Hy**	**86.16**	**290**	T	T	02 36 53.6	
	baz=106,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**86.28**	**291**	T	T	02 37 01.9	
	baz=107,slow=75,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**86.29**	**291**	T	T	02 36 58.9	
	baz=107,slow=75,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**86.29**	**291**	T	T	02 37 04.0	
	baz=107,slow=75,SNR=6.6						
MKAR	**Makanchi Array**	**144.46**	**343**	PKP	**PKPab**	**01 07 40.9**	**-0.4**
	3.9nm,1.2s,baz=356,slow=4.3,SNR=4.4						
CMAR	**Chiang Mai Arr**	**149.86**	**284**	PKPbc	**PKPbc**	**01 07 57.9**	**+0.2**
	1.9nm,0.8s,baz=84,slow=3.1,SNR=9.9						

JMA ***27*** *00:51:20.3±0.2, 30°.4N±0°.5×131°.3E±0°.7, h28km, MD3.8/34, MV3.9/34, NEAR TANEGASHIMA ISLAND*
NIED ***27*** *00:51:20.3, 30°.36N×131°.27E, h28km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=4.63; Mθθ=-2.65; Mϕϕ=-1.98; Mrθ=6.57; Mϕθ=-2.55; Mϕr=5.57; Fault plane solution: M=9.84000×10^14 NP1: ϕs=228.00000°,δ14.00000°,λ=88.00000°. NP2:ϕs=50.00000°, δ=76.00000°,λ=90.00000°.*
IDC ***27*** *00:51:22.7±1.5, 30°.44N×131°.23E, h49km±15km, mb3.8/15, mbtmp4.0/20, ML3.4/5, MS3.2/2 Error ellipse: s-maj=26.0km s-min=11.1km az=77.0*
ISC 27 00:51:20.8±1.4, 30°.38N±0°.05×131°.17E±0°.06, h31km±9km, n40, σ0s88/37, mb4.0/15, 5D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMTN	**Minamitane**	**0.23**	**275**	⇓*i* P	**Pn**	**00 51 27.7**	**-0.5**
JMTN				⇓*e* S	**Sn**	**00 51 33.1**	**+0.3**
JMTN	**Minamitane**	**0.23**	**275**	A	A	00 51 27.7	
	comp=N,13nm,0.6s,comp=E,14nm,0.7s						
JTN	**Tanegashima 3**	**0.32**	**329**	⇓*i* P	**Pb**	**00 51 28.6**	**0.0**
JTN	**Tanegashima 3**	**0.32**	**329**	A	A	00 51 28.6	
	comp=N,20nm,1.0s,comp=E,15nm,0.5s						
JYAK	**Yakushimahirau**	**0.59**	**256**	⇓*i* P	**Pn**	**00 51 33.1**	**+0.1**
JYAK				⇓*e* S	**Sn**	**00 51 42.2**	**+0.6**
JTSR	**Tashiro 2**	**0.81**	**345**	*i* P	**Pn**	**00 51 36.3**	**+0.2**
JTSR	**Tashiro 2**	**0.81**	**345**	A	A	00 51 36.3	
	comp=N,6.0nm,1.8s,comp=E,7.0nm,1.3s						
JKC	**Kuchinoerabu**	**0.85**	**276**	P	**Pn**	**00 51 37.4**	**+0.9**
JKC				S	**Sn**	**00 51 49.8**	**+1.9**
JNAR	**Kushima--Naru**	**1.15**	**4**	P	**Pb**	**00 51 41.5**	**-0.6**
JNN	**Nakanoshima**	**1.25**	**245**	P	**Pb**	**00 51 43.1**	**-0.6**
JSU	**Suzuyama**	**1.28**	**331**	*i* P	**Pn**	**00 51 43.2**	**+0.7**
JSU				*e* S	**Sb**	**00 52 00.4**	**0.0**
JSU	**Suzuyama**	**1.28**	**331**	A	A	00 51 43.2	
	comp=N,3.0nm,0.6s,comp=E,3.0nm,1.3s						
JNKG	**Nichinankitago**	**1.29**	**8**	P	**Pb**	**00 51 43.5**	**-1.0**
JNKG	**Nichinankitago**	**1.29**	**8**	A	A	00 51 43.5	
	comp=N,3.0nm,1.6s,comp=E,3.0nm,1.0s						
JTZ	**Takazaki**	**1.52**	**357**	*i* P	**Pb**	**00 51 46.8**	**-1.5**
JNU	**Nakatsue**	**2.75**	**355**	P	**Pn**	**00 52 03.9**	**+1.2**
	comp=E,9.8nm,0.3s,baz=205,slow=10,SNR=34						
JNU				S	**Sn**	**00 52 35.7**	**+0.8**
	comp=E,38nm,0.3s,baz=333,slow=14,SNR=9.1						
	comp=E,46nm,0.6s						
JOW	**Kunigami**	**4.36**	**216**	P	**Pn**	**00 52 27.4**	**+2.6**
	comp=E,3.9nm,0.3s,baz=94,slow=21,SNR=8.7						
JOW				S	**Sn**	**00 53 13.7**	**-0.8**
	comp=E,16nm,0.5s,baz=56,slow=28,SNR=3.7						
	comp=E,6.1nm,0.3s						
KSRS	**Korea Array**	**7.55**	**340**	P	**Pn**	**00 53 07.9**	**-0.8**
	comp=E,0.6nm,0.3s,baz=176,slow=14,SNR=5.5						
	comp=E,0.9nm,0.4s						
JHJ	**Hachijo jima 2**	**7.83**	**67**	P	**Pn**	**00 53 13.1**	**+0.6**
	comp=E,9.2nm,0.3s,baz=258,slow=14,SNR=2.2						
	comp=E,278nm,1.0s						
MJAR	**Matsushiro Arr**	**8.50**	**42**	P	**Pn**	**00 53 23.1**	**+1.3**
	comp=E,0.2nm,0.3s,baz=227,slow=12,SNR=3.1						
	comp=E,1.0nm,0.3s						
SONM	**Songino Array**	**25.78**	**320**	P	**P**	**00 56 49.3**	**+0.4**
	comp=E,0.8nm,0.4s,baz=137,slow=10,SNR=2.7						
SONM				LR	LR	01 07 43.7	
	comp=E,67nm,18.4s,baz=89,slow=38						
	comp=E,0.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.54**	**255**	LR	LR	01 10 04.9	
	comp=E,25nm,18.6s,baz=75,slow=36						
H11N2	**WAKE ISLAND Hy**	**33.93**	**100**	T	T	01 33 57.1	
	baz=296,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy**	**33.93**	**100**	T	T	01 33 57.8	
	baz=296,slow=75,SNR=45						
H11N3	**WAKE ISLAND Hy**	**33.94**	**100**	T	T	01 33 57.9	
	baz=296,slow=75,SNR=74						
ZALV	**Zalesovo Beam**	**40.67**	**319**	P	**P**	**00 58 58.6**	**+0.6**
	comp=E,1.0nm,0.3s,baz=101,slow=7.5,SNR=6.0						
	comp=E,1.0nm,0.3s						
MKAR	**Makanchi Array**	**40.88**	**308**	P	**P**	**00 59 00.2**	**+0.3**
	comp=E,0.4nm,0.6s,baz=106,slow=8.9,SNR=3.8						
	comp=E,0.4nm,0.6s						
BVAR	**Borovoye Array**	**49.02**	**316**	P	**P**	**01 00 04.2**	**-0.3**
	comp=E,1.1nm,0.3s,baz=86,slow=8.8,SNR=18						
	comp=E,1.1nm,0.3s						
WRA	**Warramunga Arr**	**50.12**	**176**	P	**P**	**01 00 13.4**	**+0.2**
	comp=E,1.6nm,0.8s,baz=353,slow=8.4,SNR=11						
	comp=E,1.6nm,0.8s						
ASAR	**Alice Springs**	**53.80**	**177**	P	**P**	**01 00 41.0**	**+0.5**
	comp=E,1.0nm,0.6s,baz=9.3,slow=12,SNR=17						
	comp=E,1.0nm,0.6s						
STKA	**Stephens Creek**	**62.70**	**170**	P	**P**	**01 01 42.6**	**0.0**
	comp=E,2.1nm,0.5s,baz=334,slow=9.2,SNR=6.0						
	comp=E,2.1nm,0.5s						
SPITS	**Spitsbergen Ar**	**65.31**	**348**	P	**P**	**01 01 59.4**	**+0.1**
	comp=E,1.5nm,0.4s,baz=76,slow=8.1,SNR=10						
	comp=E,1.5nm,0.4s						
ARCES	**ARCESS Array B**	**67.11**	**338**	P	**P**	**01 02 10.2**	**-0.7**
	comp=E,0.8nm,0.6s,baz=71,slow=5.3,SNR=4.8						
	comp=E,0.8nm,0.6s						
KBZ	**Khabaz**	**68.56**	**309**	P	**P**	**01 02 20.9**	**+0.5**
	comp=E,1.6nm,0.7s,baz=63,slow=1.3,SNR=4.9						
	comp=E,1.6nm,0.7s						
FINES	**FINESS Array B**	**70.54**	**331**	P	**P**	**01 02 32.0**	**-0.3**
	comp=E,2.7nm,0.4s,baz=64,slow=5.6,SNR=72						
	comp=E,2.7nm,0.4s						
AKASG	**Malin Array Be**	**74.06**	**320**	P	**P**	**01 02 52.8**	**-0.8**
	comp=E,0.9nm,0.5s,baz=59,slow=6.4,SNR=4.1						
	comp=E,0.9nm,0.5s						
HFS	**Hagfors**	**76.35**	**333**	P	**P**	**01 03 06.0**	**-0.6**
	comp=E,1.0nm,0.6s,baz=78,slow=7.7,SNR=7.6						
	comp=E,1.0nm,0.6s						
BRTR	**Keskin Array B**	**76.53**	**308**	P	**P**	**01 03 07.8**	**-0.4**
	comp=E,1.0nm,0.8s,baz=126,slow=3.2,SNR=7.2						
	comp=E,1.0nm,0.8s						
NB2	**NORSAR Subarra**	**76.73**	**334**	P	**P**	**01 03 08.1**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=50,slow=5.9						
NOA	**NORSAR Array B**	**76.73**	**334**	P	**P**	**01 03 08.1**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=51,slow=5.7,SNR=2.8						
	comp=Z,0.4nm,0.5s						

IDC ***27*** *00:53:12.8±1.0, 13°.29S×111°.38W, h0km, mb3.8/5, mbtmp3.8/5, MS4.2/18, Error ellipse: s-maj=43.6km s-min=25.5km az=83.0*
NEIC ***27*** *00:53:15.0±1.3, 13°.5S±0°.1×111°.8W±0°.2, h10km±1km, mb4.5/38, Error ellipse: s-maj=29.3km s-min=18.9km az=257.0*
ISC 27 00:53:14.7±0.8, 13°.44S±0°.09×111°.7W±0°.2, h11km, n68, σ0s93/43, mb4.5/20, MS4.4/17, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**13.79**	**171**	Pn	**Pn**	**00 56 29.0**	**-1.2**
RPN	**Rapa Nui**	**13.79**	**171**	LR	LR	01 00 11.6	
	comp=Z,716nm,20.1s,baz=352,slow=30						
NNA	**Nana**	**33.97**	**92**	LR	LR	01 10 03.8	
	comp=Z,303nm,18.4s,baz=254,slow=30						
MTO3	**Montecristo**	**35.38**	**39**	P	**P**	**01 00 11.7**	**+0.8**
JTS	**Las Juntas de**	**35.47**	**50**	P	**P**	**01 00 11.9**	**+0.4**
H03N2	**Juan Fernandez**	**35.80**	**129**	T	T	01 37 41.6	
	baz=300,slow=76,SNR=26						
H03N3	**Juan Fernandez**	**35.81**	**129**	T	T	01 37 42.8	
	baz=300,slow=76,SNR=34						
H03N1	**Juan Fernandez**	**35.81**	**129**	T	T	01 37 36.9	
	baz=300,slow=76,SNR=26						
FLOC	**Florencia**	**38.69**	**70**	P	**P**	**01 00 38.9**	**-0.1**
FLOC				IAmb	IAmb	01 00 47.0	
	comp=Z,17nm,1.4s						
PB10	**IPOC Station P**	**40.12**	**111**	P	**P**	**01 00 51.8**	**+1.0**
PB10				IAmb	IAmb	01 00 59.2	
	comp=Z,17nm,1.0s						
PRVC	**Isla de Provid**	**40.13**	**50**	P	**P**	**01 00 51.8**	**+0.9**
TA01	**Diego Aracena**	**40.20**	**106**	P	**P**	**01 00 51.5**	**0.0**
TA01				IAmb	IAmb	01 01 30.1	
	comp=Z,13nm,1.1s						
CO06	**Fray Jorge**	**40.60**	**122**	P	**P**	**01 00 55.1**	**+0.4**
CO06				IAmb	IAmb	01 01 07.2	
	comp=Z,23nm,1.4s						
PB01	**IPOC Station P**	**40.88**	**107**	P	**P**	**01 00 57.1**	**-0.1**
LCO	**Las Campanas**	**40.97**	**119**	P	**P**	**01 00 58.0**	**-0.1**
AC02	**Maricunga**	**41.89**	**115**	P	**P**	**01 01 05.9**	**-0.1**
AC02				IAmb	IAmb	01 01 17.7	
	comp=Z,11nm,1.4s						
LPAZ	**La Paz**	**42.10**	**99**	P	**P**	**01 01 07.6**	**-0.3**
LPAZ	**La Paz**	**42.10**	**99**	P	**P**	**01 01 05.8**	**-2.2**
	comp=Z,0.9nm,0.4s,baz=258,slow=8.7,SNR=4.7						
LPAZ				LR	LR	01 14 24.2	
	comp=Z,597nm,20.0s,baz=258,slow=30						
	comp=Z,0.9nm,0.4s						
BO04	**La Punta**	**42.42**	**126**	P	**P**	**01 01 12.0**	**+2.3**
LMEL	**Las Melosas**	**42.70**	**126**	P	**P**	**01 01 12.6**	**+0.5**
RUSC	**La Rusia**	**42.84**	**66**	P	**P**	**01 01 12.6**	**-1.2**
RUSC				IAmb	IAmb	01 01 23.0	
	comp=Z,11nm,1.2s						
833A	**Chaparral WMA,**	**43.18**	**16**	P	**P**	**01 01 15.1**	**-0.5**
TX31	**Lajitas Ar. Si**	**43.21**	**10**	P	**P**	**01 01 15.8**	**-0.2**
TXAR	**Lajitas Array**	**43.21**	**10**	P	**P**	**01 01 16.2**	**+0.2**
TXAR	**Lajitas Array**	**43.21**	**10**	P	**P**	**01 01 14.6**	**-1.5**
	comp=Z,1.3nm,1.1s,baz=205,slow=4.6,SNR=6.4						
	comp=Z,1.3nm,1.1s						
ZON	**Zonda**	**43.28**	**122**	P	**P**	**01 01 16.5**	**-0.2**
LL05	**Los Muermos**	**43.32**	**137**	P	**P**	**01 01 17.9**	**+1.2**
SAND	**Sanderson**	**44.11**	**12**	P	**P**	**01 01 23.4**	**+0.2**
SAND				IAmb	IAmb	01 01 25.7	
	comp=Z,8.8nm,1.5s						
VHRN	**Van Horn**	**44.43**	**8**	P	**P**	**01 01 25.9**	**-0.1**
VHRN				IAmb	IAmb	01 01 31.3	
	comp=Z,4.5nm,1.1s						
LL01	**San Ignacio de**	**44.49**	**138**	P	**P**	**01 01 26.5**	**+0.4**
LL01				IAmb	IAmb	01 01 43.0	
	comp=Z,10nm,1.3s						
VTX	**Valle De La Tr**	**44.75**	**355**	P	**P**	**01 01 28.3**	**0.0**
VTX				IAmb	IAmb	01 01 30.1	
	comp=Z,5.1nm,0.8s						
PIX	**Pinacate**	**44.77**	**358**	P	**P**	**01 01 28.9**	**+0.4**
PIX				IAmb	IAmb	01 01 39.1	
	comp=Z,12nm,1.2s						
PLCA	**Paso Flores**	**44.99**	**135**	LR	LR	01 15 31.0	
	comp=Z,707nm,18.7s,baz=260,slow=30						
JCT	**Junction City**	**45.13**	**14**	P	**P**	**01 01 30.6**	**-0.7**
OZNA	**Ozona**	**45.25**	**13**	P	**P**	**01 01 32.7**	**+0.4**
OZNA				IAmb	IAmb	01 01 34.5	
	comp=Z,9.1nm,1.4s						
MNTX	**Cornudas Mount**	**45.28**	**8**	P	**P**	**01 01 32.2**	**-0.3**
MNTX				IAmb	IAmb	01 01 35.7	
	comp=Z,5.4nm,1.1s						
MNHN	**Monahans**	**45.33**	**11**	P	**P**	**01 01 32.2**	**-0.8**
PFO	**Pinyon Flats O**	**47.01**	**355**	LR	LR	01 16 48.1	
	comp=Z,94nm,18.2s,baz=182,slow=30						
MSTX	**Muleshoe**	**47.89**	**10**	P	**P**	**01 01 52.9**	**-0.2**
DKNS	**Dickens**	**47.94**	**12**	P	**P**	**01 01 52.8**	**-0.6**
DKNS				IAmb	IAmb	01 01 57.5	
	comp=Z,4.3nm,1.0s						
SIV	**San Ignacio**	**48.89**	**100**	LR	LR	01 18 44.0	
	comp=Z,412nm,20.9s,baz=280,slow=32						
MIAR	**Mount Ida**	**50.72**	**19**	P	**P**	**01 02 15.9**	**+1.4**
MIAR				IAmb	IAmb	01 02 19.4	
	comp=Z,8.6nm,1.4s						
NVAR	**Mina Array Bea**	**51.97**	**353**	P	**P**	**01 02 23.6**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=171,slow=10,SNR=4.5						
NVAR				LR	LR	01 20 09.9	
	comp=Z,160nm,18.8s,baz=158,slow=31						
	comp=Z,0.2nm,0.4s						
CPUP	**Villa Florida**	**52.33**	**113**	LR	LR	01 20 13.6	
	comp=Z,107nm,19.7s,baz=134,slow=31						
ELK	**Elko**	**54.01**	**357**	LR	LR	01 23 31.7	
	comp=Z,121nm,18.2s,baz=183,slow=34						
PDAR	**Pinedale Array**	**55.96**	**2**	P	**P**	**01 02 51.5**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=193,slow=5.0,SNR=4.9						
	comp=Z,0.6nm,0.8s						
PMSA	**Palmer Station**	**60.68**	**159**	LR	LR	01 21 54.2	
	comp=Z,293nm,21.5s,baz=293,slow=28						
BBB	**Bella Bella**	**66.89**	**349**	LR	LR	01 28 57.1	
	comp=Z,108nm,19.7s,baz=170,slow=32						
RCBR	**Riachuelo**	**74.84**	**92**	LR	LR	01 35 21.5	
	comp=Z,98nm,18.1s,baz=250,slow=34						
YKA	**Yellowknife Ar**	**75.72**	**359**	LR	LR	01 36 33.2	
	comp=Z,167nm,18.0s,baz=186,slow=34						
BCPM	**Bancas Point**	**76.53**	**346**	P	**P**	**01 05 06.4**	**+1.8**
QSPA	**South Pole Qui**	**76.67**	**180**	P	**P**	**01 05 05.9**	**+0.3**
QSPA				IAmb	IAmb	01 05 10.9	
	comp=Z,7.2nm,1.1s						
QSPA	**South Pole Qui**	**76.67**	**180**	P	**P**	**01 05 06.7**	**+1.1**
	comp=Z,4.2nm,1.0s,baz=107,slow=1.9,SNR=7.9						
	comp=Z,4.2nm,1.0s						
KDAK	**Kodiak Island**	**78.53**	**339**	LR	LR	01 33 11.3	
	comp=Z,207nm,21.1s,baz=138,slow=31						
KTH	**Kantishna Hill**	**82.48**	**343**	P	**P**	**01 05 36.9**	**-0.1**
INK	**Inuvik**	**83.03**	**352**	LR	LR	01 38 32.3	
	comp=Z,120nm,20.5s,baz=184,slow=33						
SNAA	**Sanae**	**83.12**	**162**	LR	LR	01 38 25.9	
	comp=Z,147nm,18.4s,baz=254,slow=33						
FYU	**Fort Yukon**	**83.54**	**347**	P	**P**	**01 05 42.6**	**+0.3**
H11S2	**WAKE ISLAND Hy**	**86.48**	**290**	T	T	02 42 00.2	
	baz=106,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**86.49**	**290**	T	T	02 41 54.9	
	baz=106,slow=75,SNR=21						
H11S3	**WAKE ISLAND Hy**	**86.50**	**290**	T	T	02 42 05.5	
	baz=106,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**86.62**	**291**	T	T	02 42 12.1	
	baz=108,slow=74,SNR=7.1						
H11N2	**WAKE ISLAND H

VA03	**San Esteban**	**41.66**	**124**	P	**P**	**01 03 50.2**	**+0.2**
VA03				IAmb	IAmb	01 04 15.3	
	comp=Z,8.9nm,0.9s						
PEL	**Peldehue**	**41.67**	**125**	P	**P**	**01 03 49.5**	**-0.5**
PEL				IAmb	IAmb	01 03 59.2	
	comp=Z,12nm,1.0s						
MT05	**Renca**	**41.71**	**125**	P	**P**	**01 03 51.5**	**+1.2**
BO01	**Tunca**	**41.77**	**127**		**P**	**01 03 49.9**	**-0.8**
BO01				IAmb	IAmb	01 03 56.1	
	comp=Z,27nm,1.4s						
BO02	**Sierra Bellavi**	**42.14**	**127**		**P**	**01 03 54.1**	**+0.3**
BO02				IAmb	IAmb	01 03 58.9	
	comp=Z,22nm,1.4s						
MT13	**San Alfonso**	**42.18**	**126**	P	**P**	**01 03 53.8**	**-0.4**
LMEL	**Las Melosas**	**42.27**	**126**	P	**P**	**01 03 54.6**	**-0.5**
LMEL				IAmb	IAmb	01 04 04.7	
	comp=Z,16nm,1.2s						
MT08	**Bocatoma Ro**	**42.30**	**125**	P	**P**	**01 03 54.4**	**-1.0**
MT08				IAmb	IAmb	01 04 13.1	
	comp=Z,12nm,1.2s						
RUSC	**La Rusia**	**42.36**	**65**	P	**P**	**01 03 56.4**	**0.0**
RUSC				IAmb	IAmb	01 03 58.9	
	comp=Z,15nm,1.4s						
BI02	**San Fabin de**	**42.44**	**130**	P	**P**	**01 03 56.0**	**-0.4**
ZON	**Zonda**	**42.84**	**122**		**P**	**01 03 59.9**	**+0.3**
ZON				IAmb	IAmb	01 04 04.3	
	comp=Z,13nm,1.3s						
833A	**Chaparral WMA,**	**43.03**	**15**	P	**P**	**01 04 02.1**	**+1.1**
TXAR	**Lajitas Array**	**43.12**	**10**	P	**P**	**01 04 01.4**	**-0.3**
TXAR	**Lajitas Array**	**43.12**	**10**	P	**P**	**01 03 59.0**	**-2.7**
	comp=Z,0.4nm,0.9s,baz=231,slow=5.3,SNR=4.7						
	comp=Z,0.4nm,0.9s						
VHRN	**Van Horn**	**44.35**	**8**		**P**	**01 04 11.4**	**-0.4**
319A	**Douglas**	**44.58**	**2**	P	**P**	**01 04 12.9**	**-0.6**
319A				IAmb	IAmb	01 04 28.0	
	comp=Z,8.8nm,1.2s						
PLCA	**Paso Flores**	**44.62**	**135**	P	**P**	**01 04 14.1**	**+0.3**
PLCA	**Paso Flores**	**44.62**	**135**	P	**P**	**01 04 11.1**	**-2.8**
	comp=Z,1.6nm,0.9s,baz=284,slow=11,SNR=4.4						
	comp=Z,1.6nm,0.9s						
JCT	**Junction City**	**44.99**	**14**	P	**P**	**01 04 16.7**	**0.0**
MNTX	**Cornudas Mount**	**45.20**	**7**		**P**	**01 04 18.0**	**-0.4**
MNTX				IAmb	IAmb	01 04 31.6	
	comp=Z,7.9nm,1.2s						
MNHN	**Monahans**	**45.23**	**10**		**P**	**01 04 18.8**	**+0.1**
SOR	**Soroa**	**45.32**	**38**	P	**P**	**01 04 19.9**	**+0.5**
DUN6	**Lazy B Ranch**	**45.76**	**2**	P	**P**	**01 04 22.5**	**-0.4**
121A	**Cookes Peak, D**	**45.81**	**4**	P	**P**	**01 04 23.3**	**0.0**
121A				IAmb	IAmb	01 04 37.8	
	comp=Z,6.0nm,0.9s						
SDV	**Santo Domingo**	**45.90**	**63**	P	**P**	**01 04 24.1**	**-0.3**
SDV				IAmb	IAmb	01 04 33.4	
	comp=Z,14nm,1.2s						
SDV	**Santo Domingo**	**45.90**	**63**	LR	LR	01 19 36.3	
	comp=Z,215nm,20.6s,baz=240,slow=31						
BRDY	**Brady**	**45.95**	**14**	P	**P**	**01 04 24.0**	**-0.3**
113A	**Mohawk Valley,**	**46.01**	**357**	P	**P**	**01 04 24.9**	**+0.3**
TJX	**Tijuana**	**46.03**	**353**	P	**P**	**01 04 24.2**	**-0.6**
HTMS	**Hat Mesa**	**46.20**	**9**	P	**P**	**01 04 26.6**	**+0.2**
CPE	**Camp Elliot**	**46.41**	**353**	P	**P**	**01 04 28.9**	**+1.0**
DPP	**Dos Picos Cty**	**46.50**	**353**	P	**P**	**01 04 29.6**	**+1.0**
DPP				IAmb	IAmb	01 04 32.7	
	comp=Z,6.5nm,1.2s						
RAR	**Rarotonga**	**46.95**	**253**	LR	LR	01 18 32.3	
	comp=Z,303nm,21.5s,baz=96,slow=29						
POST	**Post**	**47.13**	**11**	P	**P**	**01 04 33.3**	**-0.4**
POST				IAmb	IAmb	01 04 48.6	
	comp=Z,3.8nm,0.9s						
Y14A	**Wickenburg**	**47.14**	**358**	P	**P**	**01 04 34.0**	**+0.3**
Y22A	**Socorro**	**47.27**	**5**	P	**P**	**01 04 34.8**	**0.0**
Y22A				IAmb	IAmb	01 04 49.2	
	comp=Z,13nm,1.2s						
SN07	**Snyder 07**	**47.28**	**12**	P	**P**	**01 04 33.0**	**-1.7**
SN07				IAmb	IAmb	01 04 46.5	
	comp=Z,6.7nm,1.2s						
LENM	**Lemitar**	**47.49**	**5**	P	**P**	**01 04 36.2**	**-0.3**
PLPT	**Palo Pinto**	**47.58**	**15**	P	**P**	**01 04 36.5**	**-0.5**
PLPT				IAmb	IAmb	01 04 49.1	
	comp=Z,7.3nm,1.1s						
X16A	**Lo Mia Camp, P**	**47.58**	**360**	P	**P**	**01 04 37.2**	**-0.1**
X18A	**Snowflake**	**47.70**	**1**	P	**P**	**01 04 38.4**	**+0.2**
X18A				IAmb	IAmb	01 04 52.8	
	comp=Z,8.2nm,1.2s						
MSTX	**Muleshoe**	**47.80**	**9**	P	**P**	**01 04 38.0**	**-0.8**
MSTX				IAmb	IAmb	01 05 09.0	
	comp=Z,5.7nm,1.1s						
DKNS	**Dickens**	**47.83**	**11**	P	**P**	**01 04 37.8**	**-1.2**
DKNS				IAmb	IAmb	01 04 52.6	
	comp=Z,9.5nm,1.5s						
BAUV	**El Baul**	**48.19**	**65**	P	**P**	**01 04 42.3**	**+0.2**
ANMO	**Albuquerque**	**48.31**	**5**	P	**P**	**01 04 42.0**	**-0.8**
W13A	**Hualapai Mount**	**48.33**	**357**	P	**P**	**01 04 42.5**	**-0.6**
W13A				IAmb	IAmb	01 04 57.6	
	comp=Z,6.4nm,1.2s						
WUAZ	**Wupatki**	**48.68**	**360**	P	**P**	**01 04 45.6**	**0.0**
WSHM	**Spangler Hills**	**49.13**	**353**	P	**P**	**01 04 47.8**	**-1.2**
VILB	**Vilhena**	**49.50**	**96**		**P**	**01 04 52.0**	**-0.3**
SHPR	**Sheep Range**	**49.81**	**356**	P	**P**	**01 04 54.8**	**+0.5**
PTLB	**Pontes e Lacer**	**50.28**	**99**		**P**	**01 04 58.4**	**+0.3**
PTLB				IAmb	IAmb	01 05 06.3	
	comp=Z,6.1nm,1.0s						
TPNV	**Topopah Spring**	**50.34**	**355**	P	**P**	**01 04 58.7**	**+0.3**
MVCO	**Mesa Verde**	**50.43**	**3**	P	**P**	**01 04 58.1**	**-1.0**
MG02	**Cerro Sombrero**	**51.44**	**149**	P	**P**	**01 05 07.7**	**+1.4**
PV10	**Paradox Valley**	**51.57**	**2**	P	**P**	**01 05 07.4**	**-0.2**
PCRV	**Puerto La Cruz**	**51.74**	**65**	LR	LR	01 24 08.0	
	comp=Z,340nm,21.6s,slow=33						
NVAR	**Mina Array Bea**	**52.02**	**353**	P	**P**	**01 05 11.6**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=179,slow=10,SNR=5.1						
	comp=Z,0.4nm,0.7s						
SJG	**San Juan**	**54.30**	**56**	LR	LR	01 24 16.1	
	comp=Z,171nm,21.6s,baz=258,slow=31						
TKL	**Tuckaleechee C**	**55.25**	**27**	LR	LR	01 28 20.0	
	comp=Z,103nm,18.6s,baz=196,slow=35						
PDAR	**Pinedale Array**	**55.94**	**1**	P	**P**	**01 05 37.9**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=184,slow=6.0,SNR=5.8						
	comp=Z,0.5nm,0.6s						
BDFB	**Brasilia**	**60.92**	**101**	P	**P**	**01 06 13.7**	**-1.2**
	comp=Z,2.5nm,0.8s,baz=262,slow=1.8,SNR=3.5						
	comp=Z,2.5nm,0.8s						
URZ	**Urewera**	**67.55**	**234**	LR	LR	01 31 01.5	
	comp=Z,267nm,19.4s,baz=120,slow=31						
RPZ	**Rata Peaks**	**72.08**	**228**	LR	LR	01 32 04.3	
	comp=Z,497nm,19.0s,baz=140,slow=30						
VNDA	**Vanda**	**76.34**	**193**	P	**P**	**01 07 50.5**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=158,slow=2.1,SNR=3.5						
VNDA				LR	LR	01 34 04.4	
	comp=Z,69nm,20.1s,baz=88,slow=30						
	comp=Z,0.6nm,0.9s						
QSPA	**South Pole Qui**	**76.68**	**180**	P	**P**	**01 07 53.6**	**+1.5**
QSPA				IAmb	IAmb	01 07 55.8	
	comp=Z,9.2nm,1.2s						
QSPA	**South Pole Qui**	**76.68**	**180**	P	**P**	**01 07 52.9**	**+0.7**
	comp=Z,4.4nm,1.0s,baz=96,slow=2.9,SNR=7.3						
	comp=Z,4.4nm,1.0s						
KTH	**Kantishna Hill**	**82.63**	**343**	P	**P**	**01 08 24.9**	**+0.6**
CCB	**Clear Creek Bu**	**82.67**	**345**	P	**P**	**01 08 25.5**	**+1.2**
CCB				IAmb	IAmb	01 08 34.0	
	comp=Z,8.1nm,1.4s						
NEA2	**Nenana**	**82.95**	**344**	P	**P**	**01 08 27.6**	**+1.8**
FRB	**Frobisher Bay**	**83.57**	**18**	LR	LR	01 42 16.2	
	comp=Z,147nm,21.5s,baz=219,slow=33						
N14K	**Kuskokwak Cree**	**83.58**	**337**	P	**P**	**01 08 30.1**	**+1.0**
FYU	**Fort Yukon**	**83.65**	**347**	P	**P**	**01 08 28.3**	**-1.0**
MLY	**Manley**	**83.73**	**344**	P	**P**	**01 08 31.1**	**+1.2**
MLY				IAmb	IAmb	01 08 38.8	
	comp=Z,7.6nm,1.4s						
G24K	**Hadweenzic Riv**	**84.26**	**346**	P	**P**	**01 08 34.0**	**+1.4**
E25K	**Arctic Village**	**85.02**	**348**	P	**P**	**01 08 37.4**	**+1.0**
F24K	**Squaw Lake**	**85.03**	**347**	P	**P**	**01 08 37.5**	**+1.1**
F24K				IAmb	IAmb	01 09 00.9	
	comp=Z,8.4nm,1.3s						
G21K	**Allakaket**	**85.61**	**344**	P	**P**	**01 08 39.3**	**0.0**
G21K				IAmb	IAmb	01 09 08.5	
	comp=Z,11nm,1.5s						
H11S2	**WAKE ISLAND Hy**	**86.97**	**290**	T	T	02 44 51.1	
	baz=106,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**86.98**	**290**	T	T	02 44 51.3	
	baz=106,slow=75,SNR=25						
H11S3	**WAKE ISLAND Hy**	**86.99**	**290**	T	T	02 44 52.3	
	baz=106,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**87.10**	**291**	T	T	02 44 58.6	
	baz=103						
H11N1	**WAKE ISLAND Hy**	**87.12**	**291**	T	T	02 44 59.7	
	baz=103						
H11N2	**WAKE ISLAND Hy**	**87.12**	**291**	T	T	02 44 58.6	
	baz=103						
BVAR	**Borovoye Array**	**140.48**	**359**	PKP	**PKPdf**	**01 15 31.1**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=315,slow=0.2,SNR=4.0						
KURBB	**Kurchatov Arra**	**142.08**	**350**	PKP	**PKPdf**	**01 15 32.2**	**-1.3**
	comp=Z,0.6nm,0.9s,baz=25,slow=2.1,SNR=4.6						
MKAR	**Makanchi Array**	**144.88**	**344**	PKP	**PKPab**	**01 15 35.3**	**-2.3**
	comp=Z,0.8nm,0.7s,baz=29,slow=3.3,SNR=4.6						
CMAR	**Chiang Mai Arr**	**150.69**	**284**	PKPbc	**PKPbc**	**01 15 52.4**	**-2.0**
	comp=Z,1.5nm,0.3s,baz=49,slow=2.5,SNR=4.6						

*IDC **27** 01:07:59.2±1.8, 53.°69N×157.°73W, h0km, mb3.8/4, mbtmp3.7/7, ML3.6/3, Error ellipse: s-maj=35.4km s-min=32.2km az=115.0*

*NEIC **27** 01:07:59.2±1.6, 53.°62N±0.°09×157.°46W±0.°06, h10km±2km, ML3.5/22, ML3.4(AEIC), Error ellipse: s-maj=15.8km s-min=4.6km az=162.0*

*AEIC **27** 01:08:02.4±1.1, 53.°50N±0.°09×157.°5W±0.°1, h8km±8km, Error ellipse: s-maj=13.6km s-min=8.3km az=164.0*

ISC 27 01:07:59.6±1.1, 53.°65N±0.°09×157.°52W±0.°05, h10km, n78, σ1§47/77, mb4.0/4, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNBA	**Chernabura Isl**	**1.69**	**315**		**Sn**	**01 08 49.7**	**-1.0**
CNBA	**Chernabura Isl**	**1.69**	**315**		**Pn**	**01 08 28.3**	**-0.8**
CNBA				IAML		01 08 50.5	
	comp=N,893nm,0.4s						
CNBA				IAML		01 08 50.9	
	comp=E,736nm,0.3s						
SDPT	**Sand Point**	**2.42**	**316**		**Pn**	**01 08 39.2**	**0.0**
SDPT					**Sn**	**01 09 06.7**	**-2.2**
SDPT	**Sand Point**	**2.42**	**316**	IAML		01 09 13.1	
	comp=E,196nm,0.5s						
SDPT				IAML		01 09 13.8	
	comp=N,228nm,0.5s						
CHIR	**Chirikof Islan**	**2.44**	**26**		**Pn**	**01 08 39.1**	**-0.3**
CHIR					**Sn**	**01 09 07.1**	**-2.1**
CHIR	**Chirikof Islan**	**2.44**	**26**	IAML		01 09 07.9	
	comp=E,220nm,0.4s						
VNSG	**Veniaminof 6**	**2.64**	**341**		**Pn**	**01 08 42.6**	**+0.4**
CHGN	**Chignik**	**2.71**	**349**		**Pn**	**01 08 43.0**	**-0.1**
CHGN					**Sn**	**01 09 14.8**	**-1.0**
CHGN					Sb	01 09 15.3	-5.9
CHGN	**Chignik**	**2.71**	**349**	IAML		01 09 16.1	
	comp=N,209nm,0.2s						
VNHG	**Veniaminof 1**	**2.75**	**340**		**Pn**	**01 08 44.2**	**+0.5**
VNWF	**Veniaminof 8**	**2.77**	**336**		**Pn**	**01 08 44.5**	**+0.4**
VNWF					**Sn**	**01 09 15.9**	**-1.7**
VNNF	**Veniaminof 3**	**2.84**	**339**		**Pn**	**01 08 45.5**	**+0.6**
VNFG	**Fog Glacier, M**	**2.89**	**337**		**Sn**	**01 09 20.4**	**-0.1**
VNFG	**Fog Glacier, M**	**2.89**	**337**		**Pn**	**01 08 44.9**	**-0.9**
DOL	**Dolgoi Island**	**2.95**	**302**		**Pn**	**01 08 46.1**	**-0.4**
DOL					**Sn**	**01 09 18.7**	**-3.2**
PVV	**Pavlof Volcano**	**3.03**	**306**		**Pn**	**01 08 47.5**	**0.0**
PS1A	**Pavlof South-1**	**3.03**	**308**		**Pn**	**01 08 47.7**	**+0.1**
PS1A					**Sn**	**01 09 22.7**	**-1.3**
PS4A	**Pavlof South-4**	**3.05**	**306**		**Pn**	**01 08 47.7**	**-0.1**
PS4A					**Sn**	**01 09 22.6**	**-1.6**
HAG	**Hague Volcano**	**3.06**	**305**		**Pn**	**01 08 47.8**	**-0.2**
DT1	**Dutton Round H**	**3.15**	**300**		**Pn**	**01 08 47.8**	**-1.3**
DT1					**Sn**	**01 09 23.3**	**-3.3**
PN7A	**Pavlof North-7**	**3.16**	**306**		**Pn**	**01 08 50.0**	**+0.5**
AZAC	**Aniakchak**	**3.28**	**353**		**Pn**	**01 08 51.6**	**+0.6**
ANNE	**Aniakchak Nort**	**3.29**	**355**		**Pn**	**01 08 51.6**	**+0.5**
S12K	**Black Hills**	**3.34**	**310**		**Sn**	**01 09 29.9**	**-1.8**
S12K	**Black Hills**	**3.34**	**310**		**Pn**	**01 08 52.1**	**+0.2**
SII	**Sitkinak Islan**	**3.49**	**32**		**Sn**	**01 09 32.3**	**-2.9**
SII	**Sitkinak Islan**	**3.49**	**32**	Pn	**Pn**	**01 08 53.7**	**-0.2**
SII				IAML		01 09 36.3	
	comp=N,121nm,0.6s						
SII				IAML		01 09 41.0	
	comp=E,108nm,0.7s						
SSLS	**Shishaldin Sou**	**3.95**	**288**		**Pn**	**01 08 59.9**	**-0.4**
SSLN	**Shishaldin Nor**	**3.98**	**290**		**Pn**	**01 09 00.6**	**+0.1**
PLK4	**Peulik 4**	**4.05**	**9**		**Pn**	**01 09 02.6**	**+1.0**
PLK4				IAML		01 09 56.9	
	comp=E,74nm,0.7s						
PLK4				IAML		01 09 57.4	
	comp=N,64nm,0.7s						
PLBL	**Peulik Blue Cr**	**4.08**	**5**		**Pn**	**01 09 02.8**	**+0.8**
PLK2	**Peulik 2**	**4.18**	**9**		**Pn**	**01 09 04.5**	**+1.2**
OHAK	**Old Harbor**	**4.32**	**32**	Pn	**Pn**	**01 09 04.8**	**-0.3**
CNTC	**Contact Creek**	**4.72**	**11**		**Pn**	**01 09 11.1**	**+0.3**
ACHA	**Angle Creek He**	**4.74**	**14**		**Pn**	**01 09 11.6**	**+0.6**
KABU	**Katmai Buttres**	**4.80**	**14**		**Pn**	**01 09 13.6**	**+1.6**
KAKN	**Katmai Knife C**	**4.86**	**16**		**Pn**	**01 09 14.0**	**+1.3**
AKSA	**Akutan Strait**	**4.86**	**279**		**Pn**	**01 09 11.7**	**-1.0**
KDAK	**Kodiak Island**	**4.99**	**32**	Pn	**Pn**	**01 09 14.0**	**-0.5**
KDAK	**Kodiak Island**	**4.99**	**32**		**Sn**	**01 10 07.2**	**-5.1**
KDAK	**Kodiak Island**	**4.99**	**32**	Pn	**Pn**	**01 09 14.0**	**-0.5**
	comp=N,1.6nm,0.3s,baz=214,slow=3.4,SNR=28						
KDAK				Sn	**Sn**	**01 10 07.5**	**-4.7**
	comp=N,1.6nm,0.3s,baz=53,slow=15,SNR=11						
	comp=N,6.7nm,0.6s						
AKBBA	**Akutan Broad B**	**5.00**	**279**		**Pn**	**01 09 14.3**	**-0.3**
ZRO	**Akutan Zero**	**5.03**	**278**		**Pn**	**01 09 14.3**	**-0.6**
AKMO	**Akutan Morgan**	**5.04**	**278**		**Pn**	**01 09 14.5**	**-0.7**
AKMO					**Sn**	**01 10 08.9**	**-4.6**
KAHG	**Katmai Hook Gl**	**5.13**	**18**		**Pn**	**01 09 17.4**	**+0.9**
KAHC	**Katmai Hardscr**	**5.20**	**15**		**Pn**	**01 09 18.0**	**+0.5**
UNV	**Unalaska Valle**	**5.34**	**276**	Pn	Pn	01 09 17.5	-1.7
UNV				IAML		01 10 21.5	
	comp=N,24nm,0.5s						
UNV				IAML		01 10 22.9	
	comp=E,20nm,0.5s						
MNAT	**Makushin Natee**	**5.44**	**276**		**Pn**	**01 09 19.5**	**-1.2**
MREP	**Makushin Rep't**	**5.48**	**275**		**Pn**	**01 09 20.1**	**-1.2**
MGOD	**Makushin Gods**	**5.56**	**275**		**Pn**	**01 09 21.3**	**-0.9**
Q19K	**Cape Douglas,**	**5.71**	**21**	Pn	**Pn**	**01 09 24.9**	**+0.5**
SYI	**Shuyak Island**	**5.74**	**28**	Pn	**Pn**	**01 09 24.7**	**0.0**
P18K	**Big Mountain,**	**5.89**	**11**	Pn	**Pn**	**01 09 27.0**	**+0.1**
O16K	**Kokwok River B**	**5.97**	**357**	Pn	**Pn**	**01 09 28.1**	**+0.2**
O14K	**Tigyukauivet M**	**5.99**	**341**	Pn	**Pn**	**01 09 28.5**	**+0.4**
N17K	**Nushagak Hills**	**6.90**	**1**	Pn	**Pn**	**01 09 41.0**	**+0.4**
N18K	**Kilae Creek**	**7.11**	**6**	Pn	**Pn**	**01 09 43.6**	**+0.1**
N19K	**Bonanza Creek**	**7.37**	**12**		**Pn**	**01 09 48.5**	**+1.3**
M16K	**Timber Creek**	**7.43**	**355**	Pn	**Pn**	**01 09 48.5**	**+0.5**
L19K	**White Mountain**	**8.67**	**8**		**Pn**	**01 10 06.3**	**+1.3**
PWL	**Port Wells**	**8.77**	**31**		**Pn**	**01 10 06.1**	**-0.2**
KLU	**Klutina**	**10.02**	**34**		**Pn**	**01 10 24.2**	**+0.8**
GLB	**Gilahina Butte**	**10.71**	**38**		**Pn**	**01 10 34.5**	**+1.6**
ISLE	**Juniper Island**	**10.78**	**44**	Pn	**Pn**	**01 10 33.3**	**-0.6**
GRNC	**Granite Creek**	**11.09**	**44**		**Pn**	**01 10 36.8**	**-1.4**
RIDG	**Independent Ri**	**12.04**	**28**		**Pn**	**01 10 50.5**	**-0.7**
ILAR	**Eielson Array**	**12.39**	**22**	Pn	Pn	01 10 53.0	-2.7
	comp=E,0.3nm,0.3s,baz=220,slow=14,SNR=8.9						
ILAR				Sn	Sn	01 13 03.6	-10
	comp=E,0.1nm,0.3s,baz=322,slow=36,SNR=0.8						
	comp=E,0.6nm,0.7s						
INK	**Inuvik**	**18.54**	**28**	P	**P**	**01 12 16.9**	**+1.0**
	comp=E,0.3nm,0.3s,baz=233,slow=12,SNR=4.3						
	comp=E,1.0nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**43.47**	**233**	T	T	02 03 58.5	
	baz=28,slow=76,SNR=9.2						
H11N3	**WAKE ISLAND Hy**	**43.48**	**233**	T	T	02 03 59.2	
	baz=28,slow=76,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**43.49**	**233**	T	T	02 03 57.9	
	baz=28,slow=76,SNR=9.1						
H11S1	**WAKE ISLAND Hy**	**44.62**	**232**	T	T	02 05 32.3	
	baz=28,slow=75,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**44.63**	**232**	T	T	02 05 32.9	
	baz=28,slow=75,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**44.63**	**232**	T	T	02 05 34.9	
	baz=28,slow=75,SNR=4.1						
TXAR	**Lajitas Array**	**45.71**	**100**	P	**P**	**01 16 23.0**	**+2.2**
	comp=E,0.2nm,0.6s,baz=307,slow=7.1,SNR=3.6						
	comp=E,0.2nm,0.6s						
FINES	**FINESS Array B**	**65.22**	**358**	P	**P**	**01 18 40.7**	**+0.2**
	comp=E,0.8nm,0.8s,baz=8.6,slow=6.6,SNR=3.8						
	comp=E,0.8nm,0.8s						
BVAR	**Borovoye Array**	**66.47**	**331**	P	**P**	**01 18 50.0**	**+1.3**
	comp=E,1.5nm,0.6s,baz=38,slow=7.5,SNR=8.8						
	comp=E,1.5nm,0.6s						
AKASG	**Malin Array Be**	**75.87**	**356**	P	**P**	**01 19 45.7**	**0.0**
	comp=E,0.8nm,0.6s,baz=7.6,slow=5.4,SNR=3.1						
	comp=E,0.8nm,0.6s						

*IDC **27** 01:35:34.5±1.0, 13.°24S×111.°12W, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=37.7km s-min=24.5km az=70.0*

ISC 27 01:35:36.2±1.1, 13.°3S±0.°2×111.°1W±0.°3, h10km, n17, σ1§10/8, mb3.5/6, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N2	**Juan Fernandez**	**35.50**	**130**	T	T	02 19 58.4	
	baz=300,slow=76,SNR=38						
H03N3	**Juan Fernandez**	**35.51**	**130**	T	T	02 19 59.3	
	baz=300,slow=76,SNR=43						
H03N1	**Juan Fernandez**	**35.52**	**130**	T	T	02 19 59.7	
	baz=300,slow=76,SNR=48						
LPAZ	**La Paz**	**41.60**	**100**	P	**P**	**01 43 25.8**	**+0.3**
	0.7nm,0.6s,baz=302,slow=4.0,SNR=5.1						
	0.7nm,0.6s						
TXAR	**Lajitas Array**	**42.93**	**10**	P	**P**	**01 43 37.0**	**+1.5**
	1.2nm,1.2s,baz=170,slow=8.4,SNR=4.8						
	1.2nm,1.2s						
NVAR	**Mina Array Bea**	**51.84**	**353**	P	**P**	**01 44 45.0**	**+0.1**
	0.4nm,0.8s,baz=184,slow=5.9,SNR=4.9						
	0.4nm,0.8s						
PDAR	**Pinedale Array**	**55.75**	**1**	P	**P**	**01 45 12.1**	**-1.3**
	0.2nm,0.4s,baz=145,slow=5.4,SNR=5.2						
	0.2nm,0.4s						
BDFB	**Brasilia**	**60.94**	**101**	P	**P**	**01 45 49.5**	**-0.7**
	3.3nm,0.9s,baz=199,slow=7.9,SNR=4.6						
	3.3nm,0.9s						
QSPA	**South Pole Qui**	**76.86**	**180**	P	**P**	**01 47 29.1**	**+0.7**
	1.7nm,0.8s,baz=129,slow=1.3,SNR=6.9						
	1.7nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**86.92**	**290**	T	T	03 24 23.2	
	baz=106,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**86.93**	**290**	T	T	03 24 18.9	
	baz=106,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**86.94**	**290**	T	T	03 24 23.5	
	baz=106,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**87.05**	**291**	T	T	03 24 36.9	
	baz=107						
H11N1	**WAKE ISLAND Hy**	**87.07**	**291**	T	T	03 24 35.6	
	baz=107						
H11N2	**WAKE ISLAND Hy**	**87.07**	**291**	T	T	03 24 38.3	
	baz=107						
MKAR	**Makanchi Array**	**144.71**	**344**	PKP	**PKPab**	**01 55 11.2**	**-0.9**
	1.2nm,1.0s,baz=15,slow=5.0,SNR=5.0						
CMAR	**Chiang Mai Arr**	**150.67**	**284**	PKPbc	**PKPbc**	**01 55 29.0**	**-0.5**
	1.4nm,0.3s,baz=126,slow=0.9,SNR=7.4						

*IDC **27** 01:40:27.8±1.2, 13.°39S×111.°50W, h0km, mb3.7/4, mbtmp3.7/4, MS4.0/39, Error ellipse: s-maj=48.7km s-min=31.1km az=72.0*

*GCMT **27** 01:40:35.0±0.3, 13.°51S±0.°01×111.°27W±0.°02, h22km±1km, MW4.9/113, Moment Tensor Solution. s28,c33; s113,c154; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.72±.14; $M_{\theta\theta}$1.86±.12; $M_{\phi\phi}$-1.15±.13; $M_{r\theta}$0.15±.16; $M_{\theta\phi}$2.46±.09; $M_{r\phi}$0.02±.17; Best double couple: M_o2.88700×10^{16} NP1:ϕ_s16.00000°, δ87.00000°, λ180.00000°. NP2:ϕ_s106.00000°, δ90.00000°, λ3.00000°. Principal axes: T 3.2430, Plg2.0000°, Azm331.0000°; N -0.7210, Plg87.0000°, Azm108.0000°; P -2.5310, Plg2.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 27 01:40:29.7±1.1, 13.°3S±0.°2×111.°5W±0.°3, h11km, n50, σ1§20/6, mb3.6/4, MS4.1/38, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**13.86**	**172**	LR	LR	01 47 28.7	
	comp=Z,1µm,21.0s,baz=358,slow=30						
ATAH	**Atahualpa**	**33.09**	**83**	LR	LR	01 57 24.6	
	comp=Z,323nm,18.1s,baz=257,slow=31						
CMIG	**Matias Romero**	**34.38**	**29**	LR	LR	01 58 14.3	
	comp=Z,343nm,20.7s,baz=177

H11N2	**WAKE ISLAND Hy**	**86.77**	**291**	T	T	03 29 19.9	
	baz=107,slow=74,SNR=6.0						
RES	**Resolute Bay**	**88.46**	**4**	LR	LR	02 30 28.9	
	comp=Z,199nm,18.2s,baz=215,slow=34						
SHEM	**Shemya Is, Ala**	**91.33**	**324**	LR	LR	02 25 37.6	
	comp=Z,123nm,21.6s,baz=144,slow=30						
STKA	**Stephens Creek**	**96.94**	**235**	LR	LR	02 31 08.9	
	comp=Z,109nm,19.3s,baz=194,slow=31						
MKAR	**Makanchi Array**	**144.71**	**344**	PKP	**PKPab**	**02 00 04.2**	**-1.3**
	0.6nm,0.8s,baz=14,slow=0.6,SNR=4.2						
CMAR	**Chiang Mai Arr**	**150.34**	**284**	PKPbc	**PKPbc**	**02 00 21.2**	**-0.9**
	0.9nm,0.3s,baz=90,slow=2.6,SNR=4.3						

NOU ***27*** *01:59:51.2, 40˚.33S×174˚.24E, h74km, MLv3.3/13, Cook Strait, New Zealand*
WEL ***27*** *01:59:52.1±0.6, 40˚S±2˚×17˚4E±˚, h69km±8km, M3.2/27, ML3.5/27, MLv3.2/27, Error ellipse: s-maj=3.9km s-min=3.2km az=98.3, confirmed*

ISC 27 01:59:50.0±1.4**, 40˚.33S**±0˚.03×**174˚.23E**±0˚.03**, h98**km±10km**, n92**, σ0**95**/103**, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.52**	**206**	P	**Pn**	**02 00 06.0**	**+0.2**
DUWZ				S	**Sn**	**02 00 17.4**	**-0.1**
KIW	**Kapiti Island**	**0.74**	**136**	P	**Pn**	**02 00 07.9**	**+0.2**
KIW				S	**Sn**	**02 00 19.8**	**-1.0**
WAZ	**Wanganui**	**0.82**	**46**	P	**Pn**	**02 00 09.1**	**+0.7**
WAZ				S	**Sn**	**02 00 22.5**	**+0.3**
OHWZ	**Ohakea**	**0.84**	**82**	P	**Pn**	**02 00 09.4**	**+0.8**
OHWZ				S	**Sn**	**02 00 23.3**	**+0.8**
OGWZ	**Otaki Gorge**	**0.87**	**124**	P	**Pn**	**02 00 09.5**	**+0.6**
OGWZ				S	**Sn**	**02 00 22.2**	**-0.7**
TCW	**Tory Channel**	**0.88**	**177**	P	**Pn**	**02 00 09.6**	**+0.6**
TCW				S	**Sn**	**02 00 22.6**	**-0.6**
CAW	**Cannon Point**	**1.00**	**141**	P	**Pn**	**02 00 11.2**	**+0.9**
CAW				S	**Sn**	**02 00 25.1**	**-0.4**
SNZO	**South Karori**	**1.04**	**160**	P	**Pn**	**02 00 11.0**	**+0.3**
SNZO	**South Karori**	**1.04**	**160**	P	**Pn**	**02 00 26.1**	**-0.1**
KHEZ	**Kahui Hut**	**1.05**	**351**	P	**Pn**	**02 00 11.0**	**+0.1**
KHEZ	**Kahui Hut**	**1.05**	**351**	P	**Sn**	**02 00 25.9**	**-0.7**
KHEZ	**Kahui Hut**	**1.05**	**351**	P	**Pn**	**02 00 11.2**	**+0.2**
NEZ	**North Egmont**	**1.07**	**355**	P	**Pn**	**02 00 11.9**	**+0.8**
MRZ	**Mangatainoka R**	**1.08**	**108**	P	**Pn**	**02 00 11.4**	**+0.3**
MRZ				S	**Sn**	**02 00 25.7**	**-1.4**
NNZ	**Nelson**	**1.09**	**216**	P	**Pn**	**02 00 12.1**	**+0.8**
NNZ				S	**Sn**	**02 00 27.6**	**+0.4**
NBEZ	**Newall Road No**	**1.10**	**345**	P	**Pn**	**02 00 11.8**	**+0.4**
NBEZ				S	**Sn**	**02 00 27.3**	**-0.1**
TUWZ	**Tuamarina**	**1.12**	**191**	P	**Pn**	**02 00 13.0**	**+1.5**
HOWZ	**Holdsworth Sta**	**1.13**	**120**	P	**Pn**	**02 00 12.4**	**+0.6**
HOWZ				S	**Sn**	**02 00 26.9**	**-1.2**
PKE	**Pukeiti**	**1.15**	**351**	P	**Pn**	**02 00 12.6**	**+0.6**
PKE				S	**Sn**	**02 00 27.5**	**-1.1**
BHW	**Baring Head**	**1.18**	**156**	P	**Pn**	**02 00 12.9**	**+0.7**
BHW				S	**Sn**	**02 00 27.9**	**-1.1**
POWZ	**Post Office Ro**	**1.18**	**93**	P	**Pn**	**02 00 13.5**	**+1.2**
TKNZ	**Takaka Hill**	**1.19**	**234**	P	**Pn**	**02 00 12.9**	**+0.5**
MTW	**Mount Morrison**	**1.27**	**131**	P	**Pn**	**02 00 14.3**	**+0.9**
MTW				S	**Sn**	**02 00 29.8**	**-1.2**
VRZ	**Vera Road**	**1.27**	**19**	P	**Pn**	**02 00 13.8**	**+0.4**
MSWZ	**Moikau Station**	**1.33**	**145**	P	**Pn**	**02 00 15.0**	**+0.9**
TIWZ	**Tintock**	**1.34**	**110**	P	**Pn**	**02 00 15.2**	**+1.0**
MTVZ	**Mangateitei**	**1.35**	**46**	P	**Pn**	**02 00 15.3**	**+1.0**
PRWZ	**Pori Road**	**1.35**	**100**	P	**Pn**	**02 00 14.9**	**+0.6**
PKVZ	**Pokaka**	**1.35**	**40**	P	**Pn**	**02 00 15.0**	**+0.6**
TSZ	**Takapari Road**	**1.36**	**79**	P	**Pn**	**02 00 14.4**	**-0.1**
QRZ	**Quartz Range**	**1.38**	**249**	P	**Pn**	**02 00 14.4**	**-0.3**
QRZ	**Quartz Range**	**1.38**	**249**	P	**Sn**	**02 00 32.4**	**-0.9**
QRZ	**Quartz Range**	**1.38**	**249**	P	**Pn**	**02 00 14.6**	**0.0**
PAWZ	**Paruwai Farm**	**1.39**	**139**	P	**Pn**	**02 00 15.5**	**+0.7**
BSWZ	**Blackbirch Sta**	**1.41**	**191**	P	**Pn**	**02 00 16.7**	**+1.7**
TRVZ	**Turoa**	**1.45**	**45**	P	**Pn**	**02 00 15.2**	**+0.4**
WNVZ	**Wahianoa**	**1.46**	**47**	P	**Pn**	**02 00 16.7**	**+0.9**
PLWZ	**Palliser**	**1.46**	**148**	P	**Pn**	**02 00 16.4**	**+0.7**
MAVZ	**Matarangi**	**1.48**	**45**	P	**Pn**	**02 00 16.9**	**+0.7**
TMWZ	**Te Maipa**	**1.48**	**122**	P	**Pn**	**02 00 16.5**	**+0.5**
WHVZ	**Whangaehu Hut**	**1.48**	**45**	P	**Pn**	**02 00 16.7**	**+0.5**
DVHZ	**Dannevirke**	**1.48**	**89**	P	**Pn**	**02 00 15.4**	**-0.6**
FWVZ	**Far West T-bar**	**1.48**	**44**	P	**Pn**	**02 00 16.6**	**+0.4**
MOVZ	**Moawhango**	**1.50**	**52**	P	**Pn**	**02 00 16.4**	**+0.2**
COVZ	**Chateau Observ**	**1.52**	**42**	P	**Pn**	**02 00 16.9**	**+0.4**
TUVZ	**Tukino**	**1.53**	**46**	P	**Pn**	**02 00 17.3**	**+0.6**
MRNZ	**Matariki Terra**	**1.54**	**226**	P	**Pn**	**02 00 17.5**	**+0.8**
NGZ	**Ngauruhoe**	**1.57**	**43**	P	**Pn**	**02 00 18.1**	**+0.9**
TWVZ	**Taurewa**	**1.57**	**37**	P	**Pn**	**02 00 17.7**	**+0.5**
PNHZ	**Pukenui**	**1.57**	**75**	P	**Pn**	**02 00 16.9**	**-0.2**
BFZ	**Birch Farm**	**1.58**	**103**	P	**Pn**	**02 00 17.2**	**+0.1**
BFZ	**Birch Farm**	**1.58**	**103**	P	**Sn**	**02 00 35.7**	**-2.0**
BFZ	**Birch Farm**	**1.58**	**103**	P	**Pn**	**02 00 17.4**	**+0.2**
SNVZ	**South Ngauruho**	**1.58**	**44**	P	**Pn**	**02 00 18.0**	**+0.6**
WTVZ	**West Tongariro**	**1.61**	**41**	P	**Pn**	**02 00 18.1**	**+0.5**
NNVZ	**North Ngauruho**	**1.61**	**42**	P	**Pn**	**02 00 18.8**	**+1.1**
KRVZ	**Karewarewa**	**1.65**	**42**	P	**Pn**	**02 00 19.4**	**+1.2**
ETVZ	**East Tongariro**	**1.66**	**44**	P	**Pn**	**02 00 18.8**	**+0.6**
NTVZ	**North Tongarir**	**1.67**	**43**	P	**Pn**	**02 00 20.5**	**+2.1**
TMVZ	**Te Maari**	**1.67**	**44**	P	**Pn**	**02 00 18.9**	**+0.5**
WPHZ	**Waipukurau**	**1.72**	**82**	P	**Pn**	**02 00 18.8**	**-0.1**
THZ	**Tophouse**	**1.74**	**215**	P	**Pn**	**02 00 20.4**	**+1.1**
KRHZ	**Kereru**	**1.79**	**68**	P	**Pn**	**02 00 19.7**	**-0.1**
PRHZ	**Porangahau**	**1.84**	**89**	P	**Pn**	**02 00 20.4**	**-0.1**
HIZ	**Hauiti**	**1.88**	**15**	P	**Pn**	**02 00 21.0**	**+0.1**
HIZ	**Hauiti**	**1.88**	**15**	S	**Sn**	**02 00 43.9**	**-0.6**
HIZ	**Hauiti**	**1.88**	**15**	P	**Pn**	**02 00 21.1**	**+0.1**
RATZ	**Rangitukua**	**1.89**	**40**	P	**Pn**	**02 00 22.6**	**+1.5**
KWHZ	**Kaweka Forest**	**1.92**	**62**	P	**Pn**	**02 00 24.9**	**+3.4**
WATZ	**Wairara**	**2.00**	**36**	P	**Pn**	**02 00 23.6**	**+1.1**
MCHZ	**McNeill Hill**	**2.10**	**66**	P	Pn	02 00 37.7	+5.9
BKZ	**Black Stump Fm**	**2.10**	**57**	P	**Pn**	**02 00 25.9**	**+2.0**
BKZ	**Black Stump Fm**	**2.10**	**57**	S	**Sn**	**02 00 49.3**	**-0.4**
BKZ	**Black Stump Fm**	**2.10**	**57**	P	**Pn**	**02 00 23.7**	**-0.1**
KAHZ	**Kahuranaki**	**2.10**	**76**	P	**Pn**	**02 00 23.7**	**-0.2**
KHZ	**Kahutara**	**2.15**	**194**	P	**Pn**	**02 00 25.1**	**+0.8**
KHZ	**Kahutara**	**2.15**	**194**	P	**Pn**	**02 00 25.4**	**+1.1**
TLZ	**Tolley Road**	**2.25**	**27**	P	**Pn**	**02 00 25.8**	**+0.1**
DSZ	**Denniston Nort**	**2.31**	**232**	P	**Pn**	**02 00 27.2**	**+0.6**
NMHZ	**Naumai**	**2.34**	**59**	P	Pn	02 00 32.6	+5.6
MTHZ	**Maungataniwha**	**2.50**	**55**	P	**Pn**	**02 00 33.2**	**+4.1**
RAHZ	**Arahi**	**2.62**	**58**	P	Pn	02 00 36.9	+6.2
GVZ	**Greta Valley S**	**2.78**	**198**	P	**Pn**	**02 00 33.2**	**+0.5**
TOZ	**Tahuroa Road**	**2.78**	**21**	P	**Pn**	**02 00 32.9**	**+0.2**
MWZ	**Matawai**	**3.25**	**53**	P	**Pn**	**02 00 39.4**	**+0.3**
AWAZ	**Awhitu Peninsu**	**3.28**	**6**	P	**Pn**	**02 00 39.9**	**+0.4**
MKAZ	**Moumakai**	**3.31**	**13**	P	**Pn**	**02 00 40.1**	**+0.3**
WTAZ	**Waiatarua**	**3.41**	**5**	P	**Pn**	**02 00 41.9**	**+0.8**
ETAZ	**East Tamaki Re**	**3.42**	**9**	P	**Pn**	**02 00 41.8**	**+0.5**
OKCZ	**Okains Bay**	**3.50**	**194**	P	**Pn**	**02 00 41.9**	**-0.5**
MBAZ	**Motutapu North**	**3.60**	**9**	P	**Pn**	**02 00 44.3**	**+0.6**
KUZ	**Kuaotunu**	**3.77**	**19**	P	**Pn**	**02 00 45.8**	**-0.2**

AEIC ***27*** *02:00:00.3±2.0, 52˚.16N±0˚.08×170˚.63W±0˚.08, h26km±6km, ML3.5, mb4.0/19(NEIC), ML3.9/18(NEIC), Error ellipse: s-maj=13.1km s-min=4.3km az=149.0*
NEIC ***27*** *02:00:03.5±1.5, 52˚.5N±0˚.2×170˚.8W±0˚.1, h39km±12km, Error ellipse: s-maj=33.5km s-min=4.9km az=163.0*
IDC ***27*** *02:00:03.6±4.0, 52˚.59N×170˚.85W, h46km±37km, mb3.6/12, mbtmp3.8/15, ML3.3/3, Error ellipse: s-maj=27.7km s-min=15.5km az=8.0*

ISC 27 02:00:01.3±1.8**, 52˚.2N**±0˚.1×**170˚.64W**±0˚.05**, h32**km±11km**, n87**, σ1**35**/86**, mb4.0**/16**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**0.74**	**38**		**Pb**	**02 00 15.1**	**-0.6**
CLES				Sn	**Sb**	**02 00 25.3**	**-0.2**
CLCO	**Concord Point,**	**0.78**	**46**		**Pb**	**02 00 15.6**	**-0.9**
CLCO					**Sb**	**02 00 26.8**	**0.0**
NIKH	**Nikolski High**	**1.31**	**55**		**Pn**	**02 00 22.5**	**-0.9**
NIKH				Sn	**Sn**	**02 00 39.5**	**-0.2**
NIKH				IAML		02 00 42.3	
	comp=E,2μm,0.5s						
OKSP	**Okmok Steeple**	**1.75**	**54**		**Pn**	**02 00 29.3**	**-0.2**
OKCE	**Okmok Cone E**	**1.92**	**51**		**Pn**	**02 00 31.9**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**1.95**	**53**		**Pn**	**02 00 32.8**	**+0.7**
OKNC	**Okmok New Cone**	**1.95**	**50**		**Pn**	**02 00 33.4**	**+1.3**
OKNC					**Sn**	**02 00 57.0**	**+1.5**
KOSE	**Korovin Southe**	**2.10**	**274**		**Pn**	**02 00 35.1**	**+1.0**
KOSE					**Sn**	**02 00 59.8**	**+0.7**
KOFP	**Korovin Flat P**	**2.12**	**272**		**Pn**	**02 00 34.8**	**+0.3**
KOFP					**Sn**	**02 01 01.6**	**+1.8**
KONE	**Korovin Northe**	**2.14**	**275**		**Pn**	**02 00 35.5**	**+0.7**
KOKV	**Korovin Volcan**	**2.17**	**275**		**Pn**	**02 00 34.9**	**-0.2**
ATKA	**Atka Island**	**2.19**	**270**		**Pn**	**02 00 35.0**	**-0.3**
KOKL	**Mount Kliuchef**	**2.19**	**274**		**Pn**	**02 00 36.0**	**+0.6**
KOWE	**Korovin West**	**2.22**	**275**		**Pn**	**02 00 36.2**	**+0.3**
MAPS	**Pakushin South**	**2.73**	**53**		**Pn**	**02 00 43.4**	**+0.6**
MGOD	**Makushin Gods**	**2.76**	**54**		**Pn**	**02 00 44.0**	**+0.7**
MREP	**Makushin Rep't**	**2.83**	**55**		**Pn**	**02 00 45.1**	**+0.8**
MSW	**Makushin Switc**	**2.87**	**53**		**Pn**	**02 00 46.1**	**+1.3**
MNAT	**Makushin Natee**	**2.90**	**54**		**Pn**	**02 00 46.1**	**+0.9**
UNV	**Unalaska Valle**	**2.97**	**56**		**Pn**	**02 00 47.0**	**+0.9**
UNV				IAML		02 01 37.1	
	comp=N,196nm,0.8s						
GSTR	**Great Sitkin T**	**3.34**	**270**		**Pn**	**02 00 51.8**	**+0.6**
GSTR				IAML		02 01 50.8	
	comp=E,426nm,1.0s						
AKRB	**Akutan Reef Bi**	**3.34**	**54**		**Pn**	**02 00 53.2**	**+2.0**
GSMY	**Great Sitkin M**	**3.34**	**269**		**Pn**	**02 00 51.0**	**-0.3**
AKMO	**Akutan Morgan**	**3.35**	**55**		**Pn**	**02 00 53.0**	**+1.7**
LVA	**Lava Point**	**3.37**	**53**		**Pn**	**02 00 53.5**	**+1.8**
LVA				IAML		02 01 42.6	
	comp=N,357nm,0.7s						
LVA				IAML		02 01 45.2	
	comp=E,336nm,0.7s						
GSTD	**Great Sitkin T**	**3.39**	**269**		**Pn**	**02 00 52.1**	**0.0**
AKGG	**Akutan Green G**	**3.41**	**53**		**Pn**	**02 00 53.6**	**+1.4**
AKUT	**Akutan**	**3.49**	**55**		**Pn**	**02 00 55.0**	**+1.7**
AKUT				IAML		02 01 48.0	
	comp=N,117nm,1.0s						
ETKA	**Kagalaska Isla**	**3.58**	**266**		**Pn**	**02 00 54.0**	**-0.5**
ADAG	**Mount Adagdak**	**3.68**	**268**		**Pn**	**02 00 56.2**	**+0.3**
ADK	**Adak**	**3.75**	**267**		**Pn**	**02 00 56.8**	**0.0**
ADK				IAML		02 01 44.3	
	comp=N,134nm,1.0s						
ADK				IAML		02 01 55.4	
	comp=N,138nm,1.2s						
KIWB	**Kanaga Island**	**4.04**	**267**		**Pn**	**02 01 01.6**	**+0.8**
KIWB				IAML		02 01 57.4	
	comp=N,162nm,0.7s						
KIWB				IAML		02 01 59.3	
	comp=E,207nm,0.7s						
AMKA	**Amchitka**	**6.30**	**266**	Pn	**Pn**	**02 01 34.4**	**+2.6**
SDPT	**Sand Point**	**6.78**	**59**	Pn	**Pn**	**02 01 40.3**	**+1.9**
CNBA	**Chernabura Isl**	**7.08**	**64**	Pn	**Pn**	**02 01 43.3**	**+0.8**
CHGN	**Chignik**	**8.23**	**56**	Pn	**Pn**	**02 01 59.7**	**+1.4**
O15K	**Ungalikthiuk R**	**9.24**	**37**	Pn	**Pn**	**02 02 15.0**	**+2.9**
CHIR	**Chirikof Islan**	**9.54**	**62**	Pn	**Pn**	**02 02 16.2**	**+0.1**
O16K	**Kokwok River B**	**10.18**	**39**		**Pn**	**02 02 27.9**	**+3.0**
N17K	**Nushagak Hills**	**11.14**	**37**		**Pn**	**02 02 41.1**	**+3.0**
OHAK	**Old Harbor**	**11.19**	**57**	Pn	**Pn**	**02 02 37.4**	**-1.4**
KDAK	**Kodiak Island**	**11.74**	**55**	Pn	**Pn**	**02 02 45.3**	**-1.0**
KDAK	**Kodiak Island**	**11.74**	**55**	P	**Pn**	**02 02 45.2**	**-1.1**
	comp=E,0.8nm,0.3s,baz=214,slow=5.1,SNR=14						
KDAK				S	Sn	02 04 45.9	-10
	comp=E,9.0nm,1.1s,baz=359,slow=23,SNR=1.7						
	comp=E,2.0nm,0.3s						
N19K	**Bonanza Creek**	**12.35**	**40**		**Pn**	**02 02 57.6**	**+2.9**
M19K	**Big River Lodg**	**13.07**	**36**		**Pn**	**02 03 07.4**	**+3.0**
CNPM	**China Poot**	**13.07**	**48**	Pn	**Pn**	**02 03 04.8**	**+0.3**
BPAW	**Bear Paw Mtn.**	**15.68**	**33**	P	**P**	**02 03 43.7**	**+0.4**
BPAW				IAmb	IAmb	02 04 19.6	
	comp=Z,11nm,1.4s						
SCM	**Sheep Creek Mo**	**15.82**	**44**	Pn	**Pn**	**02 03 41.8**	**+0.4**
SCM				IAmb	IAmb	02 03 56.3	
	comp=Z,14nm,1.0s						
KLU	**Klutina**	**16.28**	**46**	Pn	**Pn**	**02 03 46.0**	**-1.3**
KLU				IAmb	IAmb	02 03 56.6	
	comp=Z,16nm,1.5s						
HMT	**Hamilton**	**16.64**	**51**	Pn	**Pn**	**02 03 50.4**	**-1.4**
ILAR	**Eielson Array**	**17.50**	**35**	P	**Pn**	**02 04 01.4**	**-1.1**
	baz=228,slow=12,SNR=1.6						
	comp=Z,3nm,0.6s						
J25K	**Salcha River,**	**17.96**	**37**		**Pn**	**02 04 07.1**	**-1.1**
M27K	**Edge Creek, AK**	**18.38**	**45**		**Pn**	**02 04 13.7**	**+0.2**
M27K				IAmb	IAmb	02 04 55.0	
	comp=Z,7.4nm,1.2s						
J26L	**Joseph Creek**	**18.58**	**38**		**P**	**02 04 14.4**	**-1.0**
PETK	**Petropavlovsk-**	**19.14**	**285**	P	**P**	**02 04 21.9**	**+0.4**
	comp=E,2.0nm,0.3s,baz=76,slow=11,SNR=1.8						
	comp=E,2.0nm,0.6s						
EGAK	**Eagle**	**19.63**	**39**	P	**P**	**02 04 27.0**	**+0.3**
EGAK				IAmb	IAmb	02 05 05.3	
	comp=Z,5.6nm,1.1s						
HYT	**Haines Junctio**	**19.99**	**52**		Pn	02 04 33.2	+0.4
HYT				IAmb	IAmb	02 04 37.9	
	comp=Z,8.5nm,0.7s						
I28M	**Miner Creek**	**20.39**	**38**	P	**P**	**02 04 34.7**	**-0.4**
H29M	**Whitestone**	**21.30**	**37**	P	**P**	**02 04 44.9**	**0.0**
H29M				IAmb	IAmb	02 04 57.6	
	comp=Z,8.8nm,1.1s						
I30M	**Mount Dempster**	**21.67**	**40**	P	**P**	**02 04 48.3**	**-0.7**
I30M				IAmb	IAmb	02 05 13.3	
	comp=Z,9.5nm,1.4s						
G29M	**Pine Creek**	**21.73**	**35**	P	**P**	**02 04 50.0**	**+0.5**
G29M				IAmb	IAmb	02 05 06.4	
	comp=Z,9.6nm,0.9s						
H11S1	**WAKE ISLAND Hy**	**38.07**	**216**	T	T	02 47 46.8	
	baz=22,slow=76,SNR=146						
H11S2	**WAKE ISLAND Hy**	**38.08**	**216**	T	T	02 47 49.2	
	baz=22,slow=76,SNR=135						
H11S3	**WAKE ISLAND Hy**	**38.08**	**216**	T	T	02 47 45.5	
	baz=22,slow=76,SNR=118						
NVAR	**Mina Array Bea**	**38.45**	**90**	P	**P**	**02 07 22.2**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=299,slow=6.9,SNR=6.9						
	comp=Z,0.8nm,0.8s						
MJAR	**Matsushiro Arr**	**38.91**	**267**	P	**P**	**02 07 24.1**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=44,slow=8.9,SNR=1.4						
	comp=Z,0.8nm,0.3s						
PD31	**Pinedale Array**	**41.20**	**78**	P	**P**	**02 07 44.9**	**+2.0**
PD31				IAmb	IAmb	02 07 46.0	
	comp=Z,1.4nm,0.8s						
PDAR	**Pinedale Array**	**41.20**	**78**	P	**P**	**02 07 44.5**	**+1.5**
PDAR	**Pinedale Array**	**41.20**	**78**	P	**P**	**02 07 44.7**	**+1.8**
	comp=Z,0.9nm,0.6s,baz=304,slow=4.6,SNR=12						
	comp=Z,0.9nm,0.6s						
PV18	**Skein Mesa, Pa**	**44.32**	**83**	P	**P**	**02 08 10.1**	**+1.8**
PV18				IAmb	IAmb	02 08 10.6	
	comp=Z,4.7nm,0.7s						
PV13	**Radium Mtn., P**	**44.43**	**83**	P	**P**	**02 08 10.8**	**+1.6**
TXAR	**Lajitas Array**	**53.53**	**88**	P	**P**	**02 09 20.3**	**+1.4**
	comp=Z,2.3nm,0.7s,baz=295,slow=5.1,SNR=36						
TXAR				PcP	**PcP**	**02 10 26.2**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=277,slow=1.7,SNR=3.7						
	comp=Z,2.3nm,0.7s						
KURBB	**Kurchatov Arra**	**62.05**	**318**	P	**P**	**02 10 15.3**	**-3.0**
	comp=Z,0.3nm,0.6s,baz=57,slow=4.9,SNR=2.9						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**63.32**	**313**	P	**P**	**02 10 24.3**	**-2.5**
	comp=Z,0.3nm,0.6s,baz=33,slow=5.5,SNR=1.9						
	comp=Z,1.1nm,0.5s						
BVAR	**Borovoye Array**	**63.35**	**324**	P	**P**	**02 10 25.8**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=52,slow=7.7,SNR=6.7						
	comp=Z,1.2nm,0.5s						
FINES	**FINESS Array B**	**65.88**	**351**	P	**P**	**02 10 41.9**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=351,slow=1.8,SNR=1.4						
	comp=Z,0.6nm,0.7s						
NOA	**NORSAR Array B**	**67.06**	**359**	P	**P**	**02 10 48.8**	**-2.0**
	comp=Z,0.3nm,0.7s,baz=12,slow=8.5,SNR=0.9						
	comp=Z,0.3nm,0.7s						
HFS	**Hagfors**	**67.92**	**358**	P	**P**	**02 10 54.7**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=29,slow=3.6,SNR=9.0						
	comp=Z,0.7nm,0.4s						
ABKAR	**Akbulak array**	**70.12**	**327**	P	**P**	**02 11 09.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**75.88**	**282**	P	**P**	**02 11 44.6**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=32,slow=6.5,SNR=4.9						
	comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	**89.72**	**229**	P	**P**	**02 12 56.0**	**0.0**
	comp=Z,0.9nm,0.7s,baz=48,slow=3.6,SNR=8.3						
	comp=Z,0.9nm,0.7s						
H03N2	**Juan Fernandez**	**116.61**	**111**	T	T	04 26 05.9	
	baz=317,slow=77,SNR=12						
H03N1	**Juan Fernandez**	**116.62**	**111**	T	T	04 26 07.2	
	baz=317,slow=77,SNR=13						
H03N3	**Juan Fernandez**	**116.62**	**111**	T	T	04 26 09.7	
	baz=317,slow=77,SNR=13						
QSPA	**South Pole Qui**	**142.00**	**180**	PKhKP	PKPpre	02 19 24.7	
	comp=Z,1.1nm,0.9s,baz=307,slow=2.3,SNR=2.4						
MAW	**Mawson**	**150.29**	**218**	PKPbc	**PKiKP**	**02 19 47.6**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=180,slow=1.0,SNR=1.7						
BOSA	**Boshof**	**153.59**	**327**	PKPbc	**PKPbc**	**02 19 56.4**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=11,slow=5.2,SNR=1.7						

IDC ***27*** *02:13:05.8±1.8, 3˚.30S×128˚.85E, h0km, mb3.6/3, mbtmp3.7/5, ML3.2/2, MS3.5/4, Error ellipse: s-maj=107.5km s-min=24.1km az=72.0*
DJA ***27*** *02:13:07.4±0.8, 4˚S±9˚×12˚8E±˚, h10km, M3.5/6, MLv3.5/6*

ISC 27 02:13:07.6±1.0**, 3˚.7S**±0˚.1×**128˚.37E**±0˚.06**, h10**km**, n13, σ0**66**/9, MS3.8**/3**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.18**	**262**	P	**Pg**	**02 13 11.8**	**+0.3**
MSAI	**Masohi**	**0.64**	**61**	P	**Pg**	**02 13 20.0**	**0.0**
MSAI				S	**Sg**	**02 13 28.8**	**+0.4**
NLAI	**Namlea**	**1.34**	**288**	P	**Pn**	**02 13 31.3**	**-1.1**
SANI	**Sanana**	**2.87**	**304**	P	**Pn**	**02 13 54.2**	**+0.7**
KAPI	**Kappang**	**8.70**	**261**	LR	LR	02 19 45.2	
	comp=Z,100nm,19.3s,baz=91,slow=43						
FITZ	**Fitzroy Crossi**	**14.60**	**190**	Pn	**P**	**02 16 40.9**	**+0.1**
	0.1nm,0.3s,baz=13,slow=14,SNR=1.7						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**17.20**	**161**	P	**P**	**02 17 10.1**	**+0.4**
	0.1nm,0.3s,baz=341,slow=12,SNR=10						
	1.6nm,0.8s						
ASAR	**Alice Springs**	**20.59**	**165**	P	Pn	02 17 48.5	-0.8
	4.6nm,0.6s,baz=346,slow=11,SNR=40						
	4.6nm,0.6s						
MJAR	**Matsushiro Arr**	**41.04**	**12**	LR	LR	02 36 28.7	
	comp=Z,44nm,21.3s,baz=67,slow=35						
MKAR	**Makanchi Array**	**64.56**	**327**	P	**P**	**02 23 45.2**	**+0.1**
	0.2nm,0.6s,baz=115,slow=7.0,SNR=2.7						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**67.89**	**334**	LR	LR	02 57 48.0	
	comp=Z,82nm,19.1s,baz=28,slow=40						
KURBB	**Kurchatov Arra**	**68.83**	**329**	P	**P**	**02 24 11.5**	**-0.7**
	0.4nm,0.6s,baz=133,slow=5.5,SNR=4.4						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**74.39**	**328**	LR	LR	02 57 54.3	
	comp=Z,54nm,21.8s,baz=5.2,slow=36						

MOS ***27*** *02:18:39.5±1.0, 25˚.80S×177˚.44W, h95km, mb5.2/5, Error ellipse: s-maj=12.3km s-min=10.0km az=133.2*
NEIC ***27*** *02:18:40.8±1.8, 25˚.67S±0˚.03×177˚.3W±0˚.1, h90km±6km, mb5.2/33, Error ellipse: s-maj=18.5km s-min=2.5km az=100.0*
IDC ***27*** *02:18:42.6±0.6, 25˚.80S×177˚.43W, h114km±5km, mb4.2/18, mbtmp4.6/20, MS3.2/6, Error ellipse: s-maj=13.0km s-min=9.7km az=89.0*

ISC 27 02:18:41.7±0.5**, 25˚.79S**±0˚.06×**177˚.27W**±0˚.06**, h109**km±4km**, h109**km**:pP-P, n205, σ1**9**

QSPA	**South Pole Qui**	**64.30**	**180**	P	**P**	**02 29 07.7**	**+2.3**
QSPA				IAmb	IAmb	02 29 40.1	
	comp=Z,28nm,1.1s						
QSPA	**South Pole Qui**	**64.30**	**180**	P	**P**	**02 29 07.7**	**+2.3**
	comp=Z,2.9nm,0.7s,baz=24,slow=1.6,SNR=18						
QSPA				PcP	**PcP**	**02 29 37.8**	**-1.4**
	comp=Z,18nm,1.0s,baz=33,slow=2.5,SNR=14						
	comp=Z,2.9nm,0.7s						
QSPA	**South Pole Qui**	**64.30**	**180**	P	**P**	**02 29 07.4**	**+2.0**
TOLI2	**Tolitoli**	**65.45**	**284**	P	**P**	**02 29 12.2**	**-1.2**
JAGI	**Jajag, Banyuwa**	**67.11**	**272**	P	**P**	**02 29 22.4**	**-1.7**
LEM	**Lembang**	**73.67**	**270**	P	**P**	**02 30 03.5**	**-0.8**
	comp=Z,38nm,0.6s,baz=196,slow=18,SNR=5.6						
MJA0	**Matsu Arr-Jizo**	**74.84**	**324**	*e*P	**P**	**02 30 13.0**	**+2.6**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MJAR	**Matsushiro Arr**	**74.86**	**324**	P	**P**	**02 30 10.5**	**+0.1**
MJAR	**Matsushiro Arr**	**74.86**	**324**	P	**P**	**02 30 09.8**	**-0.6**
	comp=Z,6.3nm,0.9s,baz=161,slow=5.8,SNR=10						
	comp=Z,6.3nm,0.9s						
MJAR	**Matsushiro Arr**	**74.86**	**324**	P	**P**	**02 30 10.5**	**+0.1**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MAW	**Mawson**	**76.84**	**200**	P	**P**	**02 30 21.4**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=116,slow=9.6,SNR=4.5						
MAW				pP	**pwP**	**02 30 50.4**	**-0.6**
	comp=Z,5.1nm,0.9s,baz=129,slow=5.1,SNR=4.9						
	comp=Z,1.3nm,0.5s						
ADK	**Adak**	**77.34**	**0**	P	**P**	**02 30 24.7**	**+0.7**
ADK	**Adak**	**77.34**	**0**	P	**P**	**02 30 24.7**	**+0.7**
ADK				pmax	pmax		
	comp=Z,158nm,1.5s						
SKR	**Severo-Kuril's**	**79.70**	**343**	*e*P	P	02 30 48.9	+12
SKR				*e*		02 33 38.9	
SKR				*e*S	S	02 41 11.5	+41
YSS	**Yuzhno-Sakhali**	**80.91**	**334**	*e*P	**P**	**02 30 45.1**	**+1.5**
YSS				pmax	pmax		
	comp=Z,30nm,0.5s						
KSRS	**Korea Array**	**81.29**	**319**	P	**P**	**02 30 45.9**	**0.0**
	comp=Z,1.5nm,0.5s,baz=161,slow=6.1,SNR=7.1						
	comp=Z,1.5nm,0.5s						
KSRS	**Korea Array**	**81.29**	**319**	*e*P	**P**	**02 30 47.8**	**+2.0**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PETK	**Petropavlovsk-**	**81.53**	**345**	P	**P**	**02 30 46.9**	**+0.1**
	comp=Z,11nm,0.6s,baz=118,slow=6.2,SNR=12						
	comp=Z,11nm,0.6s						
TROLL	**Troll, Antarti**	**82.46**	**180**	⇑P	**P**	**02 30 51.7**	**-0.1**
	comp=Z,132nm,0.3s						
TROLL				⇓pP	**pwP**	**02 31 23.4**	**+2.1**
	comp=Z,744nm,0.9s						
H03S2	**Juan Fernandez**	**82.47**	**124**	T	T	04 01 46.0	
	baz=242,slow=74,SNR=6.5						
H03S1	**Juan Fernandez**	**82.49**	**124**	T	T	04 01 47.2	
	baz=242,slow=74,SNR=7.2						
H03S3	**Juan Fernandez**	**82.49**	**124**	T	T	04 01 46.9	
	baz=242,slow=74,SNR=8.6						
SNAA	**Sanae**	**82.72**	**178**	⇑P	**P**	**02 30 51.9**	**-1.2**
	comp=Z,46nm,0.9s						
SNAA				⇑pP	**pwP**	**02 31 24.3**	**+1.4**
	comp=Z,158nm,1.1s						
SNAA	**Sanae**	**82.72**	**178**	P	**P**	**02 30 51.6**	**-1.4**
	comp=Z,2.1nm,0.9s,baz=224,slow=10,SNR=19						
SNAA				pP	**pwP**	**02 31 22.1**	**-0.8**
	comp=Z,8.0nm,1.0s,baz=179,slow=4.8,SNR=9.4						
	comp=Z,2.1nm,0.9s						
SNAA	**Sanae**	**82.72**	**178**	*i* P	**P**	**02 30 52.4**	**-0.7**
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VNA3	**Neumayer Olymp**	**82.84**	**176**	⇑P	**P**	**02 30 52.9**	**-0.7**
	comp=Z,1.6nm,0.4s						
VNA3				⇑pP	**pwP**	**02 31 23.9**	**+0.7**
	comp=Z,9.1nm,0.8s						
VNA2	**Neumayer--Watz**	**83.29**	**177**	⇑P	**P**	**02 30 55.6**	**-0.2**
	comp=Z,4.6nm,0.7s,baz=176,slow=3.4						
VNA2				⇑pP	**pwP**	**02 31 24.6**	**-0.8**
	comp=Z,12nm,0.8s,baz=174,slow=15						
VNA1	**Neumayer--Stat**	**83.51**	**176**	⇑P	**P**	**02 30 56.9**	**-0.1**
	comp=Z,4.2nm,0.9s						
VNA1				⇑pP	**pwP**	**02 31 27.0**	**+0.4**
	comp=Z,16nm,1.0s						
USRK	**Ussuriysk Ar.**	**83.70**	**326**	P	**P**	**02 30 59.6**	**+1.4**
	comp=Z,3.6nm,0.6s,baz=113,slow=2.9,SNR=10						
	comp=Z,3.6nm,0.6s						
NJ2	**Nanjing**	**83.77**	**310**	*e*P	**P**	**02 31 01.3**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NVAR	**Mina Array Bea**	**84.42**	**43**	P	**P**	**02 31 04.3**	**+2.0**
	comp=Z,1.1nm,0.8s,baz=223,slow=8.6,SNR=10						
NVAR				pP	**pP**	**02 31 32.6**	**+2.4**
	comp=Z,0.5nm,0.7s,baz=260,slow=5.2,SNR=1.9						
	comp=Z,1.1nm,0.8s						
PLK4	**Peulik 4**	**84.94**	**11**	IAmb	IAmb	02 31 06.4	
	comp=Z,21nm,0.8s						
PSI	**Prapat**	**85.63**	**275**	P	**P**	**02 31 07.4**	**-1.5**
PSI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WHN	**Wuhan**	**86.11**	**306**	P	P	02 31 17.3	+6.7
GSI	**Gunungsitoli**	**86.20**	**273**	P	**P**	**02 31 11.7**	**+0.2**
N15K	**Kwethluk River**	**86.80**	**9**	IAmb	IAmb	02 31 24.1	
	comp=Z,20nm,0.8s						
BNX	**BinXian**	**87.12**	**325**	⇑P	**P**	**02 31 15.5**	**+0.3**
BNX				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ILSW	**Iliamna Southw**	**87.73**	**12**	P	**P**	**02 31 18.5**	**+0.6**
ILSW				IAmb	IAmb	02 31 21.1	
	comp=Z,23nm,1.0s						
M19K	**Big River Lodg**	**89.31**	**11**	IAmb	IAmb	02 32 08.1	
	comp=Z,34nm,1.8s						
TXAR	**Lajitas Array**	**89.35**	**57**	P	**P**	**02 31 28.8**	**+2.5**
	comp=Z,0.5nm,0.9s,baz=234,slow=3.7,SNR=3.5						
	comp=Z,0.5nm,0.9s						
L19K	**White Mountain**	**89.50**	**10**	IAmb	IAmb	02 31 36.9	
	comp=Z,11nm,0.8s						
SUA	**Susitna One**	**89.56**	**12**	P	**P**	**02 31 27.2**	**+0.7**
SUA				IAmb	IAmb	02 31 36.9	
	comp=Z,15nm,0.7s						
HNS	**HongShan**	**89.60**	**312**	⇑P	**P**	**02 31 28.5**	**+1.4**
HNS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BJI	**Beijing**	**90.11**	**315**	P	**P**	**02 31 30.5**	**+1.1**
BJI				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BMRM	**Bremner River**	**90.43**	**15**	IAmb	IAmb	02 31 32.6	
	comp=Z,17nm,1.0s						
SCM	**Sheep Creek Mo**	**90.59**	**14**	IAmb	IAmb	02 31 42.8	
	comp=Z,18nm,0.8s						
TRF	**Thorofare Moun**	**91.46**	**12**	IAmb	IAmb	02 31 45.7	
	comp=Z,13nm,0.8s						
XAN	**Xi'an**	**91.86**	**307**	P	**P**	**02 31 40.8**	**+3.0**
XAN				pmax	pmax		
	comp=Z,12nm,0.9s						
M27K	**Edge Creek, AK**	**92.29**	**16**	IAmb	IAmb	02 31 57.0	
	comp=Z,20nm,1.7s						
PDAR	**Pinedale Array**	**92.35**	**43**	P	**P**	**02 31 40.9**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=235,slow=4.5,SNR=4.7						
	comp=Z,0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**92.50**	**289**		**P**	**02 31 42.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**92.50**	**289**	P	**P**	**02 31 42.0**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=116,slow=4.6,SNR=18						
	comp=Z,2.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**92.50**	**289**	*e*P	**P**	**02 31 42.5**	**+1.5**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZEA	**Zeya**	**92.56**	**331**	*e*P	**P**	**02 31 41.1**	**+0.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
DLBC	**Dease Lake**	**92.64**	**23**	LR	LR	03 07 09.2	
	comp=Z,288nm,19.8s,baz=72,slow=31						
CHTO	**Chiang Mai**	**92.65**	**289**		**P**	**02 31 42.3**	**+0.6**
CHTO				IAmb	IAmb	02 31 46.0	
	comp=Z,6.1nm,0.8s						
CHTO	**Chiang Mai**	**92.65**	**289**	P	**P**	**02 31 42.3**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HDA	**Harding Lake**	**92.97**	**13**	IAmb	IAmb	02 35 16.9	
	comp=Z,25nm,1.8s						
CCB	**Clear Creek Bu**	**93.02**	**12**	IAmb	IAmb	02 31 52.4	
	comp=Z,20nm,1.8s						
COLA	**College**	**93.21**	**12**	*i* P	**P**	**02 31 43.2**	**0.0**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ILAR	**Eielson Array**	**93.31**	**13**	P	**P**	**02 31 43.6**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=213,slow=4.9,SNR=9.2						
	comp=Z,1.1nm,0.8s						
J25K	**Salcha River,**	**93.47**	**13**	IAmb	IAmb	02 31 53.0	
	comp=Z,20nm,1.9s						

HHC	**Hu-ho-hao-te**	**93.51**	**314**	*e*P	**P**	**02 31 47.0**	**+1.7**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,81nm,5.4s						
J26L	**Joseph Creek**	**93.75**	**14**	IAmb	IAmb	02 31 48.1	
	comp=Z,6.0nm,0.7s						
PZH	**PanZhiHua**	**93.76**	**298**	P	**P**	**02 31 47.8**	**+1.0**
BTO	**Baotou**	**94.39**	**313**	*e*P	**P**	**02 31 52.5**	**+3.1**
BTO				pmax	pmax		
	comp=Z,22nm,0.5s						
BTO				pmax	pmax		
	comp=Z,260nm,4.7s						
BTO				LR	LR		
	comp=Z,260nm,6.3s						
BTO				LR	LR		
	comp=Z,160nm,5.6s						
LZH	**Lanzhou**	**96.49**	**307**	*e*P	**P**	**02 31 57.5**	**-1.6**
LZH				pmax	pmax		
	comp=Z,26nm,1.1s						
WMQ	**Urumqi**	**110.85**	**310**	*e*PKP	**PKiKP**	**02 36 57.0**	**-5.0**
WMQ				LR	LR		
	comp=Z,83nm,23.9s						
ZALV	**Zalesovo Beam**	**114.99**	**320**	PKP	PKPdf	02 37 07.5	-1.9
	comp=Z,0.6nm,0.5s,baz=151,slow=1.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**114.99**	**320**	*e*PKIKP	PKPdf	02 37 09.0	-0.4
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**115.26**	**312**	PKP	**PKPdf**	**02 37 09.2**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=95,slow=1.3,SNR=6.8						
KURK	**Kurchatov**	**118.28**	**316**	PKiKP	**PKPdf**	**02 37 14.8**	**-1.1**
KURBB	**Kurchatov Arra**	**118.32**	**315**	PKP	**PKPdf**	**02 37 14.8**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=96,slow=1.8,SNR=9.6						
KSH	**Kashi**	**118.38**	**303**	PKP		02 47 15.5	
KBL	**Kabul**	**122.90**	**296**		**PKiKP**	**02 37 25.8**	**0.0**
KBL	**Kabul**	**122.90**	**296**	PKiKP	**PKiKP**	**02 37 25.8**	**0.0**
KK31	**Karatay Array**	**122.98**	**306**		**PKPdf**	**02 37 24.2**	**-1.0**
KK31	**Karatay Array**	**122.98**	**306**	PKiKP	**PKPdf**	**02 37 24.2**	**-1.0**
KKAR	**Karatay Array**	**122.98**	**306**		**PKPdf**	**02 37 24.4**	**-0.8**
KKAR	**Karatay Array**	**122.98**	**306**	PKiKP	**PKPdf**	**02 37 24.4**	**-0.8**
BVAR	**Borovoye Array**	**123.50**	**318**	PKP	**PKPdf**	**02 37 25.2**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=85,slow=3.3,SNR=12						
ARTI	**Arti**	**129.98**	**323**	PKiKP	**PKPdf**	**02 37 37.9**	**-0.2**
ARCES	**ARCESS Array B**	**134.22**	**349**	PKP	**PKPdf**	**02 37 45.5**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=51,slow=1.9,SNR=11						
FINES	**FINESS Array B**	**141.01**	**342**	PKhKP	PKPpre	02 37 51.5	
	comp=Z,1.0nm,0.5s,baz=48,slow=2.8,SNR=14						
OBN	**Obninsk**	**141.66**	**329**	*e*PKIKP	**PKPdf**	**02 37 58.5**	**-1.3**
OBN				*e*		02 38 28.2	
OBN				*e*PPP	PPP	02 44 14.1	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NB2	**NORSAR Subarra**	**144.29**	**353**	PKP	**PKPab**	**02 38 02.4**	**-0.2**
	comp=Z,12nm,0.7s,baz=12,slow=3.4						
NB2	**NORSAR Subarra**	**144.29**	**353**	PKP		02 47 54.3	
	comp=Z,0.5nm,0.6s,baz=9.7,slow=2.9						
NOA	**NORSAR Array B**	**144.29**	**353**	PKP	**PKPab**	**02 38 02.6**	**0.0**
	comp=Z,13nm,0.8s,baz=13,slow=2.3,SNR=43						
HFS	**Hagfors**	**144.85**	**350**	PKP	**PKPab**	**02 38 04.4**	**-0.2**
	comp=Z,25nm,0.7s,baz=66,slow=3.7,SNR=66						
MNK	**Minsk**	**145.84**	**334**	*e*PKP2	**PKPdf**	**02 38 07.0**	**-0.2**
NACGM	**Naroch**	**145.97**	**335**	*i*PKP	**PKPbc**	**02 38 08.7**	**+0.4**
	comp=Z,33nm,0.8s,baz=41						
STRU	**Stroemstad**	**146.25**	**352**	*i* P	**PKPbc**	**02 38 09.1**	**+0.1**
TJOU	**Tjoern**	**147.17**	**351**	*i* P	**PKPbc**	**02 38 11.3**	**-0.3**
HOMB	**Homborsund**	**147.29**	**354**	*i* P	**PKPdf**	**02 38 10.7**	**+1.3**
BORU	**Boraas**	**147.38**	**350**	*i* P	**PKPbc**	**02 38 11.8**	**-0.5**
ONAU	**Onsala**	**147.74**	**351**	*i* P	**PKPbc**	**02 38 12.8**	**-0.4**
AKASG	**Malin Array Be**	**147.89**	**328**		**PKPdf**	**02 38 11.3**	**+0.6**
AKASG	**Malin Array Be**	**147.89**	**328**	PKPbc	**PKPbc**	**02 38 13.1**	**-0.7**
	comp=Z,5.9nm,0.5s,baz=44,slow=4.4,SNR=19						
AKBB	**Malin Array Si**	**147.89**	**328**	PKP	**PKPbc**	**02 38 12.8**	**-1.1**
KIEV	**Kiev**	**147.90**	**328**		**PKPbc**	**02 38 13.1**	**-0.8**
KIEV	**Kiev**	**147.90**	**328**	PKP2	**PKPbc**	**02 38 13.1**	**-0.8**
KIEV	**Kiev**	**147.90**	**328**	PKP	**PKPbc**	**02 38 12.7**	**-1.2**
AK04	**Malin Array Si**	**147.91**	**328**	PKP	**PKPbc**	**02 38 13.4**	**-0.5**
AK02	**Malin Array Si**	**147.93**	**328**	PKP	**PKPbc**	**02 38 13.0**	**-1.0**
AK21	**Malin Array Si**	**147.93**	**328**	PKP	**PKPbc**	**02 38 13.0**	**-1.0**
AK16	**Malin Array Si**	**147.97**	**328**	PKP	**PKPbc**	**02 38 13.2**	**-0.9**
SUW	**Suwalki**	**147.98**	**337**	*e*PKPbc	**PKPbc**	**02 38 13.8**	**-0.2**
SUW				*e*PKPab	**PKPab**	**02 38 17.1**	**+0.2**
FABU	**Falkenberg**	**148.00**	**350**	*i* P	**PKPbc**	**02 38 13.6**	**-0.4**
DEL	**Delary**	**148.31**	**348**	*i* P	**PKPbc**	**02 38 14.3**	**-0.4**
SIM	**Simferopol'**	**148.34**	**315**	*e*PKP2	**PKPbc**	**02 38 15.7**	**+0.5**
SIM				pmax	pmax		
	comp=Z,13nm,0.7s						
BJUU	**Bjuv**	**148.83**	**349**	*i* P	**PKPbc**	**02 38 16.6**	**+0.5**
MUD	**Monsted U'grnd**	**149.01**	**353**	*i* P	**PKPbc**	**02 38 16.3**	**-0.2**
RNPP5	**Staryi Chortor**	**149.06**	**331**	PKP	**PKPdf**	**02 38 13.2**	**+0.6**
LUBAR	**Lubar, Ukraine**	**149.11**	**328**	PKP	**PKPbc**	**02 38 15.5**	**-1.5**
EKA	**Eskdalemuir Ar**	**150.17**	**7**	PKPbc	**PKPbc**	**02 38 18.1**	**-1.4**
	comp=Z,3.3nm,0.9s,baz=0.0,slow=1.7,SNR=3.0						
EKA				PKPab	**PKPab**	**02 38 26.0**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=338,slow=3.0,SNR=6.6						
ILGA	**Ilgaz**	**150.18**	**308**		**PKPbc**	**02 38 20.4**	**+0.2**
GKP	**Gorka Klasztor**	**150.48**	**342**	*e*PKPbc	**PKPbc**	**02 38 20.5**	**+0.3**
BRTR	**Keskin Array B**	**150.69**	**306**		**PKPbc**	**02 38 20.6**	**-0.8**
BRTR	**Keskin Array B**	**150.69**	**306**	PKPbc	**PKPbc**	**02 38 20.9**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=135,slow=3.5,SNR=20						
BRTR				PKPab	**PKPab**	**02 38 28.5**	**-0.2**
	comp=Z,6.2nm,0.6s,baz=95,slow=3.8,SNR=17						
MMAI	**Mount Meron Ar**	**150.72**	**292**	PKPbc	**PKiKP**	**02 38 22.4**	**+0.2**
	comp=Z,5.4nm,0.5s,baz=73,slow=3.7,SNR=24						
ANTO	**Ankara**	**151.26**	**307**		**PKPbc**	**02 38 22.6**	**0.0**
ANTO	**Ankara**	**151.26**	**307**	PKiKP	**PKPbc**	**02 38 22.6**	**0.0**
KWP	**Kalwaria Pacla**	**151.60**	**332**	*e*PKPbc	**PKPbc**	**02 38 22.8**	**-0.2**
KWP				*e*PKPab	**PKPab**	**02 38 32.3**	**+0.3**
BURAR	**Bucovina Array**	**151.91**	**327**		**PKiKP**	**02 38 24.6**	**+0.4**
OJC	**Ojcow**	**152.28**	**336**	*e*PKPbc	**PKPbc**	**02 38 24.5**	**0.0**
OJC				*e*PKPab	**PKPab**	**02 38 35.3**	**+0.5**
KOLS	**Kolonicke sedl**	**152.32**	**332**	*e*PKiKP	**PKiKP**	**02 38 26.2**	**+1.3**
KSP	**Ksiaz**	**152.91**	**341**	*e*PKPbc	**PKiKP**	**02 38 26.4**	**+0.4**
OSTC	**Ostas**	**153.18**	**341⇑**	*e*PKP	**PKiKP**	**02 38 27.2**	**+0.5**
OSTC	**Ostas**	**153.18**	**341**	*e*PKiKP	**PKiKP**	**02 38 27.2**	**+0.5**
STEB	**Steborice**	**153.23**	**338⇑**	*e*PKP	**PKiKP**	**02 38 27.5**	**+0.8**
DPC	**Dobruska-Polom**	**153.34**	**340⇑**	*e*PKP	**PKiKP**	**02 38 27.3**	**+0.3**
DPC				*e*PKPAB	**PKPab**	**02 38 40.3**	**+1.1**
DPC	**Dobruska-Polom**	**153.34**	**340**	*e*PKiKP	**PKiKP**	**02 38 27.3**	**+0.3**
CLL	**Collm**	**153.34**	**346**	*i* PKIKP	**PKPdf**	**02 38 18.6**	**-0.6**
CLL				*i*		02 38 39.4	
CLL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CLL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CLL	**Collm**	**153.34**	**346**	*i* PKPdf	**PKPdf**	**02 38 18.6**	**-0.6**
	comp=Z,3.0nm,0.8s						
CLL				*i* PKPbc	**PKPbc**	**02 38 26.6**	**-0.2**
	comp=Z,6.0nm,0.9s						
CLL				*i* x	x	02 38 28.7	
CLL				*i* PKPab	**PKPab**	**02 38 39.4**	**+0.3**
	comp=Z,7.0nm,0.8s						
CLL				*ep*PKPab	**sPKPbc**	**02 39 03.0**	**-4.0**
KRLC	**Kraliky**	**153.43**	**340⇑**	*e*PKP	**PKiKP**	**02 38 27.6**	**+0.4**
KRLC				*e*PKPAB	**PKPab**	**02 38 40.7**	**+1.0**
KRLC	**Kraliky**	**153.43**	**340**	*e*PKiKP	**PKiKP**	**02 38 27.6**	**+0.4**
MORC	**Moravsky Berou**	**153.44**	**338**	*e*PKP	**PKPab**	**02 38 40.1**	**+0.4**
BRG	**Berggiesshubel**	**153.52**	**344**	*e*PKP	**PKiKP**	**02 38 27.8**	**+0.5**
BRG				Amp		02 38 28.1	
	comp=Z,3.6nm,0.8s						
BRG	**Berggiesshubel**	**153.52**	**344**	P	**PKiKP**	**02 38 30.1**	**+2.8**
BRG				Amp		02 38 30.7	
	comp=Z,2.9nm,0.7s						
BRG	**Berggiesshubel**	**153.52**	**344**	P	**PKPab**	**02 38 40.5**	**+0.5**
BRG				Amp		02 38 41.1	
	comp=Z,3.2nm,0.6s						
VRAC	**Vranov**	**154.16**	**339**	*e*PKP	**PKPab**	**02 38 43.4**	**+0.7**
JAVC	**Velka Javorina**	**154.18**	**337**	*e*PKP	**PKPab**	**02 38 44.4**	**+1.5**
KRUC	**Moravsky**	**154.44**	**339**	*e*PKP	**PKPab**	**02 38 44.3**	**+0.4**
MODS	**Modra-Piesok**	**154.73**	**337**	*e*PKiKP	**PKiKP**	**02 38 32.2**	**+2.3**
ZVC	**Zvikov**	**154.77**	**342**	*e*PKPAB	**PKPab**	**02 38 45.8**	**+0.5**
KHC	**Kasperske Hory**	**155.21**	**343**	*e*PKPAB	**PKPab**	**02 38 47.4**	**+0.1**
KHC	**Kasperske Hory**	**155.21**	**343**	*e*PKP2	**PKPab**	**02 38 47.4**	**+0.1**
GERES	**GERESS Array B**	**155.44**	**342**	PKPab	**PKPab**	**02 38 48.0**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=45,slow=7.7,SNR=4.8						
CONA	**Conrad Observa**	**155.60**	**338**	*ep*PKP	pPKPdf	02 38 50.2	-1.7
	comp=Z,6.0nm,1.2s						
RONA	**Rosalia, Austr**	**155.65**	**337**	*ep*PKP	pPKPdf	02 38 50.5	-1.4
	comp=Z,6.7nm,0.9s						
MOA	**Molln**	**156.18**	**341**	*e*PKP	**PKPab**	**02 38 52.4**	**+1.0**
	comp=Z,6.5nm,1.3s						
BIOA	**Bad Ischl, Aus**	**156.51**	**341**	*e*PKP	**PKPab**	**02 38 53.8**	**+1.0**
	comp=Z,3.3nm,0.7s						
LESA	**Schwarzleotal**	**157.02**	**343**	*e*PKP	**PKPab**	**02 38 56.0**	**+0.8**
	comp=Z,5.5nm,1.1s						

WATA	**Walderalm**	**157.38**	**344**	*e*PKP	**PKPab**	**02 38 56.4**	**-0.4**
	comp=Z,6.1nm,1.0s						
WTTA	**Wattenberg**	**157.44**	**344**	*e*PKP	**PKPab**	**02 38 58.0**	**+0.9**
	comp=Z,3.8nm,0.6s						
MOTA	**Moosalm**	**157.49**	**345**	*e*PKP	**PKPab**	**02 38 57.8**	**+0.6**
	comp=Z,3.5nm,0.7s						
SQTA	**Sankt Quirin**	**157.58**	**345**	*e*PKP	**PKPab**	**02 38 58.2**	**+0.6**
	comp=Z,5.3nm,1.0s						
ESDC	**Sonseca Array**	**165.06**	**20**	PKPab	**PKPab**	**02 39 31.7**	**+1.3**
	comp=Z,2.0nm,1.2s,baz=358,slow=5.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**167.38**	**175**	PKP	**PKPdf**	**02 38 34.9**	**-0.7**
	comp=Z,88nm,0.8s,baz=172,slow=1.0,SNR=4.2						
TORD				PKPab	**PKPab**	**02 39 41.5**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=184,slow=3.9,SNR=2.3						
TORD				pPKPab	**pPKPab**	**02 40 10.7**	**+1.7**
	comp=Z,1.0nm,0.9s,baz=172,slow=3.7,SNR=4.0						

IDC ***27*** *02:20:14.7±1.5,39.80N×20.70E,h0km,mb3.7/5, mbtmp3.6/6,ML2.6/1,MS2.9/1,Error ellipse: s-maj=29.9km s-min=26.4km az=97.0*
SOF ***27*** *02:20:16.9,39.74N±0.03×20.68E±0.03,h5km±5km, MD3.4/6*
TIR ***27*** *02:20:17.9,39.78N×20.82E,h10km±2km,Ml3.1/8*
THE ***27*** *02:20:18.8,40.1°×2.1°E±°,h14km±1km,M3.0/17, MLh3.0/17*
ATH ***27*** *02:20:18.3,39.83N×20.63E,h7km±1km,ML3.1/10, Manual Solution by A.Moschou First location: 2019/09/27 02:21:19, This location: 2019/09/27 02:40:02 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*

ISC 27 02:20:18.4±0.8, 39.78N±0.02×20.68E±0.02, h18km±4km, n86,σ1823/115, mb3.6/4, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.18**	**134**	P	**Pb**	**02 20 23.3**	**+0.7**
JAN				S	**Sg**	**02 20 26.6**	**+0.3**
JAN	**Janina**	**0.18**	**134**	P	**Pb**	**02 20 23.3**	**+0.7**
JAN				S	**Sg**	**02 20 26.6**	**+0.3**
IGT	**Igoumenitsa**	**0.37**	**227**	Pg	**Pg**	**02 20 26.2**	**+0.1**
IGT				Sg	**Sb**	**02 20 33.0**	**+1.1**
IGT				AML	AML	02 20 34.3	
	12nm,0.2s						
IGT	**Igoumenitsa**	**0.37**	**227**	P	**Pg**	**02 20 26.4**	**+0.3**
IGT				S	**Sb**	**02 20 32.9**	**+1.1**
IGT	**Igoumenitsa**	**0.37**	**227**	P	**Pg**	**02 20 25.8**	**-0.3**
IGT				S	**Sg**	**02 20 30.8**	**-0.5**
MSVA	**Metsovo**	**0.39**	**92**	P	**Pg**	**02 20 26.9**	**+0.4**
MSVA				S	**Sb**	**02 20 32.9**	**+0.4**
PRMD	**Pramanda**	**0.41**	**128**	P	**Pg**	**02 20 27.0**	**+0.1**
PRMD				S	**Sb**	**02 20 33.8**	**+0.7**
PENT	**Pentalofos**	**0.54**	**40**	P	**Pg**	**02 20 29.2**	**-0.1**
PENT	**Pentalofos**	**0.54**	**40**	P	**Pg**	**02 20 29.1**	**-0.3**
PENT				S	**Sg**	**02 20 37.3**	**+0.6**
LFKM	**Lefkim

		0.4nm,0.2s						
ABTA	**Abfaltersbach**	**9.16**	**322**	*i* Pn		**Pn**	02 22 30.4	**+0.8**
	0.6nm,0.2s							
ABTA				*e*Sn		**Sn**	02 24 08.1	**-4.1**
	0.3nm,0.2s							
MOA	**Molln**	**9.30**	**332**	*i* Pn		**Pn**	02 22 32.8	**+1.3**
	0.9nm,0.3s							
BIOA	**Bad Ischl, Aus**	**9.40**	**330**	*i* Pn		**Pn**	02 22 33.9	**+1.0**
	0.8nm,0.3s							
LESA	**Schwarzleotal**	**9.59**	**325**	*e*Pn		**Pn**	02 22 35.8	**+0.3**
	1.0nm,0.4s							
VRAC	**Vranov**	**9.96**	**344**	LR		LR	02 26 39.5	
	comp=Z,60nm,19.4s,baz=297,slow=39							
BRTR	**Keskin Array B**	**9.98**	**86**	Pn		**Pn**	02 22 41.0	**0.0**
	0.1nm,0.3s,baz=260,slow=14,SNR=2.1							
	0.3nm,0.6s							
WATA	**Walderalm**	**10.03**	**322**	*i* Pn		**Pn**	02 22 42.0	**+0.5**
	0.9nm,0.3s							
SQTA	**Sankt Quirin**	**10.12**	**320**	*i* Pn		**Pn**	02 22 43.2	**+0.4**
	1.8nm,0.5s							
HFS	**Hagfors**	**20.84**	**350**	P		**P**	02 24 57.7	**-1.2**
	3.3nm,0.9s,baz=156,slow=11,SNR=6.7							
	3.3nm,0.9s							
FINES	**FINESS Array B**	**21.94**	**7**	P		**P**	02 25 09.3	**-1.3**
	1.1nm,0.5s,baz=170,slow=12,SNR=15							
	1.1nm,0.5s							
NOA	**NORSAR Array B**	**22.08**	**348**	P		**P**	02 25 11.5	**-0.6**
	0.8nm,0.8s,baz=162,slow=11,SNR=4.1							
	0.8nm,0.8s							
ARCES	**ARCESS Array B**	**29.93**	**3**	P		**P**	02 26 23.0	**-1.9**
	4.1nm,1.1s,baz=185,slow=8.9,SNR=5.2							
	4.1nm,1.1s							
TORD	**Torodi Ar. Bea**	**31.37**	**218**	P		**P**	02 26 37.4	**-0.7**
	0.4nm,1.0s,baz=30,slow=11,SNR=1.4							
MKAR	**Makanchi Array**	**44.37**	**60**	P		**P**	02 28 26.9	**-0.7**
	0.6nm,0.5s,baz=277,slow=6.8,SNR=6.3							
	0.6nm,0.5s							

NNC 27 02:26:23.1±8.5, 36.79N×70.16E, h0km, mb3.6, mpv3.2, 1C-3D, Error ellipse: s-maj=85.7km s-min=47.7km az=156.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.31**	**2**	⇓P	Pn	02 27 58.6	+1.3
	1.2nm,0.4s,baz=177,slow=13,SNR=22						
KK31				⇓S	Sn	02 29 10.6	+0.5
	3.9nm,0.6s,baz=185,slow=21,SNR=3.9						
AAK	**Ala-Archa**	**6.72**	**28**	⇑P	Pn	02 28 02.6	-0.6
	1.0nm,0.6s						
AAK				⇓S	Sn	02 29 21.7	+1.2
	2.0nm,0.6s						
AB31	**Akbulak array**	**14.51**	**332**	P	Pn	02 29 48.1	-1.4
	0.4nm,0.3s,baz=158,slow=11,SNR=19						

IDC ***27*** *02:29:39.6±1.7, 21.85S×179.46W, h597km±17km, mb3.6/16, mbtmp4.5/17, Error ellipse: s-maj=15.7km s-min=11.7km az=82.0*

NEIC ***27*** *02:29:39.7±1.9, 21.9S±0.1×179.4W±0.1, h598km±7km, mb4.6/32, Error ellipse: s-maj=20.7km s-min=18.1km az=123.0*

ISC 27 02:29:39.4±0.4, 22.01S±0.07×179.46W±0.08, h600km, n154, σ1s16/154, mb4.5/40, 25C-12D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.86**	**331**	P	**P**	**02 31 12.1**	**+0.7**
DZM	**Mont Dzumac**	**13.07**	**267**	P	**P**	**02 32 29.1**	**0.0**
DZM	**Mont Dzumac**	**13.07**	**267**	P	**P**	**02 32 28.5**	**-0.6**
	14nm,0.6s,baz=77,slow=19,SNR=14						
URZ	**Urewera**	**16.46**	**190**	P	**P**	**02 32 59.7**	**-1.0**
	6.1nm,0.3s,baz=271,slow=3.0,SNR=14						
URZ				S	**S**	**02 35 38.1**	**-6.6**
	7.6nm,0.5s,baz=211,slow=23,SNR=8.2						
URZ	**Urewera**	**16.46**	**190**	P	**P**	**02 32 59.9**	**-0.8**
HNR	**Honiara**	**23.40**	**299**		**P**	**02 34 05.1**	**+1.4**
HNR	**Honiara**	**23.40**	**299**	P	**P**	**02 34 04.9**	**+1.2**
	77nm,0.3s,baz=113,slow=4.6,SNR=4.7						
EIDS	**Eidsvold**	**27.16**	**257**		**P**	**02 34 37.4**	**+0.8**
ARMA	**Armidale**	**27.20**	**246**		**P**	**02 34 39.1**	**+2.0**
CAN	**Canberra**	**30.55**	**237**		**P**	**02 35 07.1**	**+1.3**
CAN				IAmb	IAmb	02 35 08.0	
	comp=Z,18nm,1.0s						
CTAO	**Charters Tower**	**32.02**	**267**		**P**	**02 35 19.1**	**+0.6**
CTAO				IAmb	IAmb	02 35 19.8	
	comp=Z,14nm,0.6s						
PMG	**Port Moresby**	**34.40**	**286**	P	**P**	**02 35 38.7**	**+0.1**
	comp=Z,20nm,0.7s,baz=50,slow=11,SNR=4.2						
	comp=Z,20nm,0.7s						
STKA	**Stephens Creek**	**35.92**	**246**		**P**	**02 35 51.9**	**+1.0**
STKA	**Stephens Creek**	**35.92**	**246**	P	**P**	**02 35 52.0**	**+1.0**
	comp=Z,14nm,0.5s,baz=96,slow=11,SNR=40						
	comp=Z,14nm,0.5s						
INKA	**Innaminka**	**36.44**	**253**		**P**	**02 35 56.9**	**+1.7**
INKA				IAmb	IAmb	02 35 57.6	
	comp=Z,6.8nm,0.6s						
BBOO	**Buckleboo**	**40.66**	**245**		**P**	**02 36 29.5**	**+0.3**
BBOO				IAmb	IAmb	02 36 30.2	
	comp=Z,26nm,0.8s						
AS31	**Alice Springs**	**42.86**	**258**		**P**	**02 36 46.9**	**+0.3**
AS31				IAmb	IAmb	02 36 47.5	
	comp=Z,7.8nm,0.7s						
ASAR	**Alice Springs**	**42.86**	**258**	P	**P**	**02 36 46.9**	**+0.2**
	comp=Z,32nm,0.8s,baz=100,slow=8.1,SNR=276						
ASAR				PcP	**PcP**	**02 38 23.6**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=113,slow=3.5,SNR=6.5						
ASAR				ScP	**ScP**	**02 41 20.1**	**+1.8**
	comp=Z,1.0nm,0.6s,baz=88,slow=3.5,SNR=5.4						
ASAR				S	**S**	**02 42 27.4**	**-1.8**
	comp=Z,2.7nm,1.0s,baz=96,slow=14,SNR=11						
	comp=Z,32nm,0.8s						
WR8	**Warramunga Arr**	**42.91**	**264**		**P**	**02 36 46.5**	**-0.5**
WR8				IAmb	IAmb	02 36 47.4	
	comp=Z,41nm,1.4s						
WRA	**Warramunga Arr**	**43.06**	**264**		**P**	**02 36 48.1**	**-0.1**
WRA	**Warramunga Arr**	**43.06**	**264**	P	**P**	**02 36 47.6**	**-0.6**
	comp=Z,22nm,0.8s,baz=99,slow=6.8,SNR=85						
WRA				PcP	**PcP**	**02 38 24.2**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=98,slow=3.6,SNR=2.0						
WRA				ScP	**ScP**	**02 41 21.0**	**+1.9**
	comp=Z,2.6nm,0.9s,baz=96,slow=4.4,SNR=9.1						
WRA				S	**S**	**02 42 28.4**	**-3.5**
	comp=Z,0.7nm,0.7s,baz=95,slow=13,SNR=5.6						
	comp=Z,22nm,0.8s						
FORT	**Forrest**	**47.46**	**248**	P	**P**	**02 37 21.4**	**0.0**
FORT				IAmb	IAmb	02 37 22.1	
	comp=Z,13nm,0.7s						
KNRA	**Kununurra**	**49.22**	**268**		**P**	**02 37 34.5**	**-0.2**
PSA00	**Pilbara Seismi**	**56.01**	**258**	P	**P**	**02 38 22.6**	**-0.4**
PSA00	**Pilbara Seismi**	**56.01**	**258**	P	**P**	**02 38 22.7**	**-0.2**
PSA00				IAmb	IAmb	02 38 23.4	
	comp=Z,21nm,0.9s						
MBWA	**Marble Bar**	**56.21**	**259**	P	**P**	**02 38 24.0**	**-0.3**
MBWA				IAmb	IAmb	02 38 24.7	
	comp=Z,25nm,0.7s						
VNDA	**Vanda**	**56.29**	**185**	P	**P**	**02 38 26.4**	**+2.5**
VNDA	**Vanda**	**56.29**	**185**	P	**P**	**02 38 25.9**	**+2.1**
	comp=Z,0.7nm,0.4s,baz=5.5,slow=6.7,SNR=20						
	comp=Z,0.7nm,0.4s						
NWAO	**Narrogin (SRO)**	**56.48**	**244**	P	**P**	**02 38 26.2**	**+0.3**
NWAO				IAmb	IAmb	02 39 09.7	
	comp=Z,41nm,1.4s						
MORW	**Morawa**	**58.00**	**249**	P	**P**	**02 38 36.5**	**+0.1**
MORW				IAmb	IAmb	02 38 37.0	
	comp=Z,15nm,1.0s						
GIRL	**Giralia**	**60.85**	**256**	P	**P**	**02 38 56.5**	**+1.2**
GIRL				IAmb	IAmb	02 39 21.8	
	comp=Z,56nm,1.4s						
CASY	**Casey**	**62.02**	**205**	P	**P**	**02 39 02.8**	**+0.7**
JAGI	**Jajag, Banyuwa**	**65.02**	**271**	P	**P**	**02 39 20.8**	**-1.4**
JAGI				IAmb	IAmb	02 39 21.8	
	comp=Z,31nm,0.9s						
QSPA	**South Pole Qui**	**68.06**	**180**	P	**P**	**02 39 43.6**	**+3.5**
QSPA	**South Pole Qui**	**68.06**	**180**	P	**P**	**02 39 43.2**	**+3.1**
	comp=Z,4.2nm,0.7s,baz=222,slow=1.2,SNR=37						
	comp=Z,4.2nm,0.7s						
UGM	**Wanagama**	**68.58**	**270**	P	**P**	**02 39 44.0**	**-0.1**
MJAR	**Matsuhiro Arr**	**70.64**	**325**	P	**P**	**02 39 55.1**	**-0.6**
	comp=Z,2.7nm,0.6s,baz=152,slow=6.2,SNR=8.5						
	comp=Z,2.7nm,0.6s						
TPUB	**Ta-pu**	**73.67**	**304**	P	**P**	**02 40 12.6**	**-0.9**
KSRS	**Korea Array**	**77.13**	**320**	P	**P**	**02 40 33.0**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=135,slow=6.4,SNR=5.5						
	comp=Z,1.2nm,0.7s						
PEA0B	**Petropavlovsk-**	**77.39**	**346**	P	**P**	**02 40 33.5**	**+0.1**
PEA0B				IAmb	IAmb	02 40 45.6	
	comp=Z,35nm,1.2s						
PETK	**Petropavlovsk-**	**77.39**	**346**	P	**P**	**02 40 33.2**	**-0.2**
PETK	**Petropavlovsk-**	**77.39**	**346**	P	**P**	**02 40 33.4**	**0.0**
	comp=Z,6.2nm,0.7s,baz=111,slow=6.2,SNR=9.1						
	comp=Z,6.2nm,0.7s						
BELA	**Belgrano 2**	**78.24**	**173**	P	**P**	**02 40 37.9**	**+0.2**
USRK	**Ussuriysk Ar.**	**79.46**	**327**	P	**P**	**02 40 45.1**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=174,slow=1.7,SNR=6.8						
	comp=Z,2.9nm,0.7s						
MAW	**Mawson**	**79.69**	**200**	P	**P**	**02 40 46.4**	**+1.0**
	comp=Z,2.1nm,0.6s,baz=137,slow=6.8,SNR=8.3						
	comp=Z,2.1nm,0.6s						
NJ2	**Nanjing**	**79.81**	**311**	*e*P	**P**	**02 40 47.8**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
BNX	**BinXian**	**82.88**	**326**	⇑P	**P**	**02 41 02.5**	**+0.4**
BNX				pmax	pmax		
	comp=Z,11nm,0.8s						
NVAR	**Mina Array Bea**	**83.05**	**44**	P	**P**	**02 41 03.6**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=228,slow=7.0,SNR=6.3						
NVAR				pP	**pwP**	**02 43 11.9**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=260,slow=4.1,SNR=2.9						
	comp=Z,0.9nm,0.9s						
PAHR	**Pah Rah Range**	**83.11**	**42**	P	**P**	**02 41 02.5**	**-1.0**
N15K	**Kwethluk River**	**83.40**	**10**	P	**P**	**02 41 05.3**	**+1.0**
N15K				IAmb	IAmb	02 41 21.0	
	comp=Z,33nm,1.4s						
BJI	**Beijing**	**86.02**	**316**	P	**P**	**02 41 18.3**	**+0.9**
BJI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SNAA	**Sanae**	**86.54**	**179**	⇑P	**P**	**02 41 18.7**	**-0.8**
	comp=Z,18nm,0.5s						
SNAA	**Sanae**	**86.54**	**179**	P	**P**	**02 41 19.0**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=202,slow=12,SNR=16						
	comp=Z,0.5nm,0.4s						
VNA3	**Neumayer Olypp**	**86.72**	**177**	⇑P	**P**	**02 41 20.1**	**-0.2**
	comp=Z,4.1nm,0.7s						
VNA2	**Neumayer--Watz**	**87.15**	**177**	⇑P	**P**	**02 41 22.3**	**0.0**
	comp=Z,2.3nm,0.6s,baz=182,slow=4.5						
XAN	**Xi'an**	**87.97**	**308**	P	**P**	**02 41 28.0**	**+1.1**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TXAR	**Lajitas Array**	**89.01**	**58**	P	**P**	**02 41 32.9**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=210,slow=6.4,SNR=9.8						
TXAR				pP	**pwP**	**02 43 42.6**	**-0.3**
	comp=Z,0.2nm,0.9s,baz=249,slow=5.1,SNR=2.5						
	comp=Z,1.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**89.34**	**290**	P	**P**	**02 41 35.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**89.34**	**290**	P	**P**	**02 41 35.1**	**+1.6**
	comp=Z,7.6nm,0.9s,baz=129,slow=3.1,SNR=30						
	comp=Z,7.6nm,0.9s						
HHC	**Hu-ho-hao-te**	**89.44**	**315**	*e*P	**P**	**02 41 34.0**	**+0.4**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,43nm,4.6s						
CHTO	**Chiang Mai**	**89.48**	**290**	P	**P**	**02 41 35.6**	**+1.4**
CHTO				IAmb	IAmb	02 41 36.5	
	comp=Z,10nm,0.8s						
ILAR	**Eielson Array**	**90.09**	**13**	P	**P**	**02 41 35.4**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=209,slow=5.2,SNR=1.4						
	comp=Z,0.2nm,0.5s						
PZH	**PanZhiHua**	**90.22**	**298**	P	**P**	**02 41 37.8**	**+0.2**
WMQ	**Urumqi**	**106.88**	**311**	Pdif	**Pdif**	**02 42 52.0**	**+0.1**
WMQ				LR	LR		
	comp=Z,100nm,24.0s						
ZALV	**Zalesovo Beam**	**110.81**	**321**	PKiKP	**PKiKP**	**02 47 03.5**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=126,slow=2.0,SNR=3.7						
MKAR	**Makanchi Array**	**111.24**	**313**	PKiKP	**PKiKP**	**02 47 04.6**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=112,slow=0.9,SNR=5.6						
KURBB	**Kurchatov Arra**	**114.22**	**317**	PKiKP	PKPdf	02 47 10.0	-1.4
	comp=Z,0.6nm,0.5s,baz=104,slow=2.0,SNR=5.8						
BVAR	**Borovoye Array**	**119.34**	**319**	PKP	**PKPdf**	**02 47 20.4**	**-0.8**
	comp=Z,2.5nm,0.4s,baz=177,slow=0.6,SNR=12						
SPITS	**Spitsbergen Ar**	**123.28**	**356**	PKP	**PKPdf**	**02 47 27.6**	**-0.6**
	comp=Z,6.8nm,1.1s,baz=203,slow=3.4,SNR=6.6						
ARCES	**ARCESS Array B**	**130.14**	**349**	PKP	**PKPdf**	**02 47 40.8**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=33,slow=1.8,SNR=14						
FINES	**FINESS Array B**	**136.81**	**342**	PKhKP	PKPpre	02 47 44.8	
	comp=Z,1.3nm,0.8s,baz=35,slow=5.1,SNR=4.7						
FINES				PKP	**PKPdf**	**02 47 52.2**	**-1.9**
	comp=Z,2.8nm,0.9s,baz=46,slow=5.5,SNR=3.7						
FINES				SKPbc	**SKPbc**	**02 50 31.3**	**0.0**
	comp=Z,0.7nm,0.7s,baz=46,slow=5.5,SNR=3.7						
HFS	**Hagfors**	**140.79**	**350**	PKhKP	PKPpre	02 47 54.7	
	comp=Z,1.9nm,0.4s,baz=65,slow=2.6,SNR=3.7						
STRU	**Stroemstad**	**142.24**	**351**	*i* P	**PKPdf**	**02 48 00.1**	**-3.8**
TJOU	**Tjoern**	**143.13**	**350**	*i* P	PKPab	02 48 02.6	-1.0
BORU	**Boraas**	**143.32**	**349**	*i* P	PKPab	02 48 03.1	-1.2
AKASG	**Malin Array Be**	**143.64**	**329**		PKPbc	02 48 04.5	-1.3
AKASG	**Malin Array Be**	**143.64**	**329**	PKP	PKPbc	02 48 04.7	-1.1
	comp=Z,4.3nm,0.4s,baz=43,slow=4.3,SNR=43						
AKBB	**Malin Array Si**	**143.64**	**329**		PKPbc	02 48 04.6	-1.2
KIEV	**Kiev**	**143.65**	**329**		PKPbc	02 48 04.6	-1.2
KIEV	**Kiev**	**143.65**	**329**	⇓P	PKPbc	02 48 04.9	-1.0
ONAU	**Onsala**	**143.69**	**350**	*i* P	PKPbc	02 48 04.7	-1.0
SUW	**Suwalki**	**143.74**	**337**	*e*PKP	PKPbc	02 48 05.5	-0.5
FABU	**Falkenberg**	**143.93**	**349**	*i* P	PKPbc	02 48 05.1	-1.4
DEL	**Delary**	**144.20**	**347**	*i* P	PKPbc	02 48 06.0	-1.4
MI28	**Mi28,Pidlybu**	**144.21**	**330**	PKP	PKPbc	02 48 06.7	-0.9
RNPP9	**Sopachiv**	**144.66**	**332**	PKP	**PKPdf**	**02 48 08.1**	**-0.4**
RNPP8	**Varash**	**144.73**	**332**	PKP	PKPbc	02 48 08.5	-0.6
BJUU	**Bjuv**	**144.74**	**348**	*i* P	PKPbc	02 48 08.5	-0.5
RNPP1	**Kostyukhnivka**	**144.76**	**332**	PKP	PKPbc	02 48 08.9	-0.3
RNPP5	**Staryi Chortor**	**144.79**	**332**	PKP	**PKPdf**	**02 48 08.2**	**-0.5**
LUBAR	**Lubar, Ukraine**	**144.86**	**329**	PKP	**PKPdf**	**02 48 08.2**	**-0.7**
MUD	**Monsted U'grnd**	**145.01**	**352**	*i* P	**PKPdf**	**02 48 06.2**	**-2.7**
SORM	**Soroca**	**145.74**	**326**	⇓P	**PKPbc**	**02 48 11.3**	**-0.9**
SSRD	**Sdr. Stenderup**	**145.89**	**351**	*i* P	**PKPdf**	**02 48 07.1**	**-3.3**
GKP	**Gorka Klasztor**	**146.28**	**342**	*e*PKPbc	**PKPbc**	**02 48 13.4**	**-0.1**
KMPD	**K-Podol'skiy**	**146.41**	**328**	PKP	**PKPdf**	**02 48 12.3**	**+0.8**
EKA	**Eskdalemuir Ar**	**146.61**	**4**	PKPbc	**PKPdf**	**02 48 12.4**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=351,slow=2.6,SNR=5.6						
BRTR	**Keskin Array B**	**146.80**	**310**	PKPbc	**PKPbc**	**02 48 15.0**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=131,slow=4.3,SNR=23						
KIRS	**Kirsehir-Merke**	**146.82**	**309**	⇑P	**PKPbc**	**02 48 15.5**	**0.0**
TLCR		**147.29**	**322**	⇓P	**PKPbc**	**02 48 16.0**	**-0.5**
MMAI	**Mount Meron Ar**	**147.33**	**297**	PKPbc	**PKiKP**	**02 48 17.6**	**-1.1**
	comp=Z,4.0nm,0.4s,baz=75,slow=4.4,SNR=21						
KWP	**Kalwaria Pacla**	**147.34**	**333**	*e*PKPbc	**PKPbc**	**02 48 16.4**	**-0.1**
ANTO	**Ankara**	**147.34**	**310**		**PKPbc**	**02 48 16.8**	**-0.1**
BURAR	**Bucovina Array**	**147.66**	**328**		**PKPbc**	**02 48 17.8**	**+0.3**
BURAR	**Bucovina Array**	**147.66**	**328**	⇑P	**PKiKP**	**02 48 17.9**	**-1.1**
ONER	**Baraj Valea Uz**	**147.92**	**325**	⇓P	**PKiKP**	**02 48 18.5**	**-0.9**
OJC	**Ojcow**	**148.03**	**336**	*e*PKPbc	**PKPbc**	**02 48 18.1**	**-0.1**
VRI	**Vrincioaia**	**148.04**	**324**	⇑P	**PKPbc**	**02 48 17.9**	**-0.5**
SHAB	**Shabla**	**148.35**	**319**	⇓P	PKPdf	02 48 06.8	-8.0
NIE	**Niedzica**	**148.49**	**335**	*e*PKPbc	**PKiKP**	**02 48 20.0**	**-0.5**
CSS	**Mathiatis**	**148.57**	**301**		**PKPbc**	**02 48 19.3**	**-0.8**
DOPR	**Dopca**	**148.69**	**326**	⇓P	**PKiKP**	**02 48 21.1**	**+0.1**
KSP	**Ksiaz**	**148.69**	**341**	*e*PKPbc	**PKiKP**	**02 48 20.2**	**-0.6**
OSTC	**Ostas**	**148.97**	**340**	⇑*e*PKP	**PKiKP**	**02 48 21.0**	**-0.4**
CHVC	**Chvalec**	**148.99**	**341**	⇑*e*PKP	**PKiKP**	**02 48 21.0**	**-0.5**
STEB	**Steborice**	**149.00**	**338**	⇑*e*PKP	**PKiKP**	**02 48 20.7**	**-0.8**
UPC	**Upice**	**149.07**	**341**	⇑*e*PKP	**PKiKP**	**02 48 21.1**	**-0.5**
DPC	**Dobruska-Polom**	**149.12**	**340**	⇑*e*PKP	**PKiKP**	**02 48 21.4**	**-0.4**
CLL	**Collm**	**149.19**	**345**	*i* PKPbc	**PKiKP**	**02 48 21.1**	**-0.7**
	comp=Z,15nm,0.9s						
CLL				*i* PKPab	**PKPab**	**02 48 27.7**	**-0.3**
	comp=Z,9.0nm,0.9s						
CLL				*ep*PKPbc	**pPKPab**	**02 50 39.0**	**-0.4**
KRLC	**Kraliky**	**149.21**	**339**	⇑*e*PKP	**PKiKP**	**02 48 21.5**	**-0.5**
MORC	**Moravsky Berou**	**149.21**	**338**	*e*PKP	**PKPbc**	**02 48 20.8**	**-0.4**
MORC	**Moravsky Berou**	**149.21**	**338**	⇓P	**PKPbc**	**02 48 20.7**	**-0.4**
VOIR		**149.22**	**325**	⇑P	**PKPbc**	**02 48 21.0**	**-0.4**
MARR	**Marisel-Cluj**	**149.34**	**329**	⇓P	**PKPbc**	**02 48 21.4**	**-0.3**
BRG	**Berggiesshubel**	**149.34**	**343**	*i* PKP	**PKiKP**	**02 48 21.6**	**-0.6**
BRG				Amp		02 48 22.4	
	comp=Z,9.1nm,0.8s						
BRG	**Berggiesshubel**	**149.34**	**343**	P	**PKPab**	**02 48 28.5**	**-0.1**
BRG				Amp		02 48 29.3	
	comp=Z,3.8nm,0.7s						
DRGR		**149.45**	**329**	⇓P	**PKPbc**	**02 48 20.9**	**-1.0**
MAUC	**Maruska**	**149.46**	**338**	⇑*e*PKP	**PKiKP**	**02 48 22.4**	**-0.1**
PVCC	**Panska Ves**	**149.48**	**342**	⇑*e*PKP	**PKiKP**	**02 48 22.2**	**-0.3**
LOT	**Lotru**	**149.88**	**326**	⇓P	**PKiKP**	**02 48 23.3**	**-0.3**
VRAC	**Vranov**	**149.93**	**339**	*e*PKP	**PKPbc**	**02 48 22.7**	**-0.2**
PRA	**Prague**	**149.93**	**342**	⇑*e*PKP	**PKiKP**	**02 48 23.2**	**-0.2**
JAVC	**Velka Javorina**	**149.94**	**337**	*e*PKP	**PKiKP**	**02 48 23.7**	**+0.2**
PRU	**Pruhonice**	**149.97**	**342**	⇑*e*PKP	**PKiKP**	**02 48 23.0**	**-0.5**
KRUC	**Moravsky**	**150.21**	**339**	*e*PKP	**PKiKP**	**02 48 23.4**	**-0.6**
TREC	**Trest**	**150.30**	**340**	⇑*e*PKP	**PKiKP**	**02 48 23.6**	**-0.6**
SIRR	**Siria**	**150.33**	**330**	⇓P	**PKiKP**	**02 48 24.1**	**-0.3**
GZR	**Gura Zlata**	**150.42**	**327**	⇑P	**PKPbc**	**02 48 23.6**	**-0.6**
SURR	**Surduc**	**150.48**	**328**	⇑P	**PKPbc**	**02 48 23.7**	**-0.5**
ZVC	**Zvikov**	**150.57**	**342**	⇑*e*PKP	**PKiKP**	**02 48 24.5**	**-0.2**
ZVC				*e*PKPAB	**PKPab**	**02 48 33.9**	**+0.1**
ELL	**Elmali**	**150.64**	**307**		**PKiKP**	**02 48 24.9**	**-0.5**
BZS	**Buzias**	**150.83**	**329**	⇑P	**PKPbc**	**02 48 24.0**	**-1.0**
HERR	**Herculane**	**150.96**	**327**	⇓P	**PKPbc**	**02 48 25.0**	**-0.4**
KHC	**Kasperske Hory**	**151.02**	**342**	⇑*e*PKP	**PKiKP**	**02 48 25.4**	**-0.3**
KHC				*e*PKPAB	**PKPab**	**02 48 35.7**	**-0.1**
GERES	**GERESS Array B**	**151.24**	**342**	PKPbc	**PKPbc**	**02 48 25.7**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=316,slow=3.7,SNR=10						
GERES				PKPab	**PKPab**	**02 48 36.4**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=70,slow=8.9,SNR=3.9						
CONA	**Conrad Observa**	**151.37**	**338**	*i* PKiKP	**PKiKP**	**02 48 26.3**	**-0.2**
	comp=Z,2.2nm,0.5s						
CONA				*e*PKP	**PKPab**	**02 48 38.1**	**+0.7**
	comp=Z,2.1nm,0.6s						
MDVR	**Moldovita**	**151.38**	**328**	⇑P	**PKPbc**	**02 48 25.8**	**-0.6**
RONA	**Rosalia, Austr**	**151.41**	**337**	*i* PKiKP	**PKiKP**	**02 48 26.3**	**-0.3**
	comp=Z,4.2nm,0.5s						
MOA	**Molln**	**151.96**	**340**	*e*PKP	**PKPbc**	**02 48 27.2**	**-0.3**
	comp=Z,1.6nm,0.7s						
LESA	**Schwarzleotal**	**152.82**	**342**	*i* PKiKP	**PKiKP**	**02 48 29.4**	**-0.2**
	comp=Z,1.3nm,0.5s						
WTTA	**Wattenberg**	**153.26**	**343**	*i* PKiKP	**PKPbc**	**02 48 30.2**	**-0.4**
	comp=Z,1.6nm,0.4s						
WTTA				*e*PKP	**PKPab**	**02 48 45.9**	**+0.3**
	comp=Z,2.3nm,0.4s						
ABTA	**Abfaltersbach**	**153.48**	**341**	*i* PKP	**PKPbc**	**02 48 29.9**	**-1.0**
	comp=Z,1.4nm,0.5s						
ABTA				*e*PKP	**PKPab**	**02 48 46.1**	**-0.3**
	comp=Z,2.3nm,0.6s						
KEST	**Kesra**	**164.32**	**333**	PKP	**PKPdf**	**02 48 36.1**	**+0.6**
	comp=Z,4.3nm,0.9s,baz=31,slow=5.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**171.12**	**187**	PKPab	**PKPab**	**02 50 02.9**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=141,slow=2.6,SNR=3.0						

WEL 27 02:32:19.9±1.0, 40.5S±10.×17.5E±., h142km±16km, M2.3/6, ML2.5/6, MLv2.3/6, Error ellipse: s-maj=14.8km s-min=6.5km az=152.0, confirmed, North Island

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

NEIC ***27*** *02:45:12.0±2.7,29˚.71S×0˚.08×177˚.4W±0˚.2, h35km±1km, mb4.6/13, Error ellipse: s-maj=25.5km s-min=8.3km az=62.0*

IDC ***27*** *02:45:11.2±3.1,29˚.67S×177˚.43W, h37km±23km, mb3.9/10, mbtmp4.2/11, ML4.3/1, MS3.6/8, Error ellipse: s-maj=24.6km s-min=16.1km az=84.0*

ISC 27 02:45:12.5±0.6, 29.70S±0.07×177.6W±0.1, h52km, n57, σ1s57/50, mb4.4/18, MS3.8/6, 3C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.53**	**328**	Pn		**Pn**		**02 45 23.2**	**-1.0**
	2µm,0.3s,baz=19,slow=12,SNR=140								
RAO				Sn		**Sn**		**02 45 31.9**	**-0.7**
	3µm,0.3s,baz=106,slow=24,SNR=18								
URZ	**Urewera**	**9.60**	**206**	Pn		**Pn**		**02 47 24.2**	**-3.7**
	0.7nm,0.3s,baz=261,slow=3.5,SNR=8.5								
URZ				Sn		**Sn**		**02 49 12.4**	**-1.8**
	3.3nm,0.3s,baz=242,slow=18,SNR=10								
DZM	**Mont Dzumac**	**16.23**	**294**	*eP*		**P**		**02 48 58.4**	**-1.1**
	72nm,28.2s								
DZM				*eLR*		LR		02 53 03.7	
	366nm,24.6s								
DZM	**Mont Dzumac**	**16.23**	**294**	Pn		**Pn**		**02 48 55.4**	**-1.8**
	0.1nm,0.3s,baz=344,slow=18,SNR=1.2								
DZM				LR		LR		02 54 03.9	
	comp=Z,216nm,18.5s,baz=192,slow=33								
RPZ	**Rata Peaks**	**16.66**	**210**	Pn		**P**		**02 49 02.3**	**-1.7**
RPZ	**Rata Peaks**	**16.66**	**210**	Pn		**P**		**02 49 02.2**	**-1.9**
	1.1nm,0.3s,baz=207,slow=0.7,SNR=5.5								
RPZ				Sn		Sn		02 51 49.2	-17
	0.5nm,0.3s,baz=193,slow=23,SNR=1.9								
	7.6nm,0.5s								
ODZ	**Otahua Downs**	**17.91**	**208**	P		**Pn**		**02 49 18.4**	**+0.6**
ODZ				IAmb		IAmb		02 49 46.4	
	comp=Z,62nm,1.5s								
RAR	**Rarotonga**	**18.17**	**66**	LR		LR		02 54 22.7	
	comp=Z,160nm,19.7s,baz=258,slow=31								
ARMA	**Armidale**	**26.60**	**261**	P		**P**		**02 50 50.8**	**+4.6**
ARMA				IAmb		IAmb		02 51 05.7	
	comp=Z,14nm,1.3s								
EIDS	**Eidsvold**	**28.06**	**271**	P		**P**		**02 51 02.3**	**+3.2**
EIDS				IAmb		IAmb		02 51 03.2	
	comp=Z,11nm,0.9s								
PPT	**Papeete**	**28.29**	**71**	LR		LR		02 59 14.4	
	comp=Z,58nm,19.7s,baz=184,slow=30								
CTAO	**Charters Tower**	**34.04**	**278**	P		P		02 51 55.3	+3.5
CTAO				IAmb		IAmb		02 51 55.6	
	comp=Z,8.7nm,0.7s								
STKA	**Stephens Creek**	**34.98**	**256**			**P**		**02 52 02.3**	**+2.5**
STKA	**Stephens Creek**	**34.98**	**256**	P		**P**		**02 52 02.6**	**+2.8**
	comp=Z,9.9nm,0.9s,baz=87,slow=8.0,SNR=10								
	comp=Z,9.9nm,0.9s								
BBOO	**Buckleboo**	**39.49**	**253**	P		**P**		**02 52 39.7**	**+1.6**
BBOO				IAmb		IAmb		02 52 42.4	
	comp=Z,10.0nm,1.0s								
ASAR	**Alice Springs**	**43.50**	**266**	P		**P**		**02 53 11.8**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=102,slow=8.0,SNR=29								
ASAR				LR		LR		03 10 38.7	
	comp=Z,149nm,18.9s,baz=140,slow=35								
	comp=Z,2.6nm,0.7s								
WR8	**Warramunga Arr**	**44.28**	**271**			**P**		**02 53 17.4**	**+0.1**
WR8				IAmb		IAmb		02 53 19.4	
	comp=Z,9.8nm,0.9s								
WRA	**Warramunga Arr**	**44.42**	**271**			**P**		**02 53 18.9**	**+0.4**
WRA	**Warramunga Arr**	**44.42**	**271**	P		**P**		**02 53 18.9**	**+0.4**
	comp=Z,7.9nm,0.8s,baz=110,slow=7.6,SNR=32								
WRA				LR		LR		03 10 45.6	
	comp=Z,106nm,18.1s,baz=129,slow=34								
	comp=Z,7.9nm,0.8s								
VNDA	**Vanda**	**48.82**	**186**	P		**P**		**02 53 52.0**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=4.7,slow=7.4,SNR=6.3								
	comp=Z,0.3nm,0.7s								
FITZ	**Fitzroy Crossi**	**52.71**	**269**	P		**P**		**02 54 23.2**	**+1.1**
CASY	**Casey**	**55.92**	**208**	P		**P**		**02 54 45.0**	**+0.3**
GUMO	**Guam**	**56.23**	**315**	LR		LR		03 15 51.4	
	comp=Z,26nm,21.5s,baz=135,slow=33								
QSPA	**South Pole Qui**	**60.41**	**180**	P		P		02 55 19.3	+3.0
QSPA	**South Pole Qui**	**60.41**	**180**	P		**P**		**02 55 16.9**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=285,slow=1.2,SNR=7.1								
	comp=Z,1.7nm,0.9s								
BELA	**Belgrano 2**	**70.43**	**172**	P		**P**		**02 56 22.0**	**+1.2**
BELA				IAmb		IAmb		02 56 37.2	
	comp=Z,4.6nm,1.1s								
MAW	**Mawson**	**73.08**	**200**	P		**P**		**02 56 38.4**	**+1.6**
	comp=Z,2.6nm,0.6s,baz=108,slow=9.6,SNR=8.0								
	comp=Z,2.6nm,0.6s								
MJAR	**Matsushiro Arr**	**77.87**	**325**	P		**P**		**02 57 05.5**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=162,slow=6.0,SNR=2.2								
	comp=Z,0.9nm,0.3s								
SNAA	**Sanae**	**78.84**	**178**	⇑P		**P**		**02 57 10.6**	**+1.1**
	comp=Z,34nm,0.6s								
SNAA	**Sanae**	**78.84**	**178**	P		**P**		**02 57 10.7**	**+1.1**
SNAA	**Sanae**	**78.84**	**178**	P		**P**		**02 57 10.5**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=154,slow=4.5,SNR=7.5								
	comp=Z,1.5nm,0.8s								
VNA3	**Neumayer Olymp**	**78.98**	**176**	⇑P		**P**		**02 57 11.2**	**+0.9**
	comp=Z,7.5nm,0.6s								
VNA2	**Neumayer~Wats**	**79.42**	**177**	⇑P		**P**		**02 57 14.0**	**+1.3**
	comp=Z,4.7nm,0.6s,baz=168,slow=4.6								
H03S2	**Juan Fernandez**	**80.56**	**123**	T		T		04 26 47.3	
	baz=239,slow=74,SNR=15								
H03S1	**Juan Fernandez**	**80.57**	**123**	T		T		04 26 46.2	
	baz=239,slow=74,SNR=12								
H03S3	**Juan Fernandez**	**80.58**	**123**	T		T		04 26 48.8	
	baz=239,slow=74,SNR=14								
NVAR	**Mina Array Bea**	**87.49**	**43**	P		**P**		**02 57 55.2**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=226,slow=7.5,SNR=5.7								
NVAR				LR		LR		03 35 19.7	
	comp=Z,39nm,18.2s,baz=114,slow=34								
	comp=Z,1.0nm,0.9s								
ELK	**Elko**	**90.79**	**42**	LR		LR		03 35 45.2	
	comp=Z,27nm,18.4s,baz=195,slow=34								
TXAR	**Lajitas Array**	**91.72**	**57**	P		**P**		**02 58 14.1**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=193,slow=3.2,SNR=3.5								
	comp=Z,0.4nm,0.9s								
MKAR	**Makanchi Array**	**117.59**	**310**	PKP		**PKiKP**		**03 03 51.8**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=96,slow=1.3,SNR=4.5								
KURBB	**Kurchatov Arra**	**120.85**	**314**	PKP		**PKiKP**		**03 03 58.0**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=106,slow=1.8,SNR=19								
KKAR	**Karatay Array**	**124.97**	**304**			**PKiKP**		**03 04 07.4**	**+0.3**
BVAR	**Borovoye Array**	**126.14**	**316**	PKP		**PKiKP**		**03 04 09.1**	**0.0**
	comp=Z,4.8nm,0.9s,baz=90,slow=3.0,SNR=16								
KMBO	**Kilima Mbogo**	**134.77**	**234**	PKP		**PKiKP**		**03 04 27.4**	**-0.5**
	comp=Z,33nm,0.5s,baz=209,slow=15,SNR=3.6								
FIA1	**FINESS Array S**	**144.60**	**341**			**PKPdf**		**03 04 41.5**	**-1.0**
FINES	**FINESS Array B**	**144.61**	**341**	PKP		**PKPdf**		**03 04 41.5**	**-1.1**
	comp=Z,8.8nm,0.5s,baz=61,slow=3.2,SNR=95								
KBZ	**Khabaz**	**145.00**	**305**	PKPbc		**PKiKP**		**03 04 45.5**	**-2.1**
	comp=Z,1.4nm,0.7s,baz=22,slow=3.9,SNR=4.2								
NC303	**NORSAR Array S**	**147.91**	**352**			**PKPab**		**03 04 51.8**	**-2.0**
NOA	**NORSAR Array B**	**148.11**	**352**	PKPbc		**PKPab**		**03 04 51.9**	**-2.9**
	comp=Z,4.2nm,0.8s,baz=16,slow=4.4,SNR=10								
HFS	**Hagfors**	**148.63**	**349**	PKPbc		**PKiKP**		**03 04 53.1**	**-1.4**
	comp=Z,6.5nm,0.8s,baz=116,slow=3.4,SNR=10								
PABE	**Paberze**	**149.97**	**335**			**PKiKP**		**03 04 57.4**	**0.0**
AKASG	**Malin Array Be**	**150.95**	**324**			**PKiKP**		**03 04 59.6**	**-0.1**
AKASG	**Malin Array Be**	**150.95**	**324**	PKPbc		**PKiKP**		**03 04 59.3**	**-0.3**
	comp=Z,5.6nm,0.5s,baz=49,slow=2.9,SNR=40								
KIEV	**Kiev**	**150.96**	**324**			**PKiKP**		**03 04 59.3**	**-0.3**
BNN	**Bunyan**	**151.03**	**297**			**PKiKP**		**03 05 00.7**	**+0.3**
MMAI	**Mount Meron Ar**	**151.69**	**285**	PKPbc		**PKiKP**		**03 05 03.2**	**+1.4**
	comp=Z,4.8nm,0.6s,baz=69,slow=4.6,SNR=15								
BRTR	**Keskin Array B**	**152.56**	**300**	PKPbc		**PKiKP**		**03 05 03.5**	**0.0**
	comp=Z,1.4nm,0.8s,baz=143,slow=3.8,SNR=9.6								

IDC ***27*** *03:09:34.2±0.8, 16˚.14S×174˚.35W, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=42.0km s-min=21.5km az=142.0*

NEIC ***27*** *03:09:48.2±2.3, 16˚.4S±0˚.1×174˚.4W±0˚.1, h113km±8km, mb4.5/16, Error ellipse: s-maj=18.3km s-min=15.7km az=204.0*

ISC 27 03:09:46.8±0.7, 16˚.4S±0˚.1×174˚.34W±0˚.10, h100km, n26, σ1s21/26, mb4.2/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.00**	**123**			**Pn**		**03 11 01.9**	**+2.3**
NIUE				Sn		**Sn**		**03 11 53.6**	**-2.6**
MSVF	**Nonsavu**	**7.40**	**258**	Pn		Pn		03 11 45.0	+13
DZM	**Mont Dzumac**	**19.00**	**250**	P		**P**		**03 14 01.9**	**+1.0**
LTZ	**Lake Taylor**	**28.71**	**201**	P		**P**		**03 15 32.4**	**-2.2**
WR8	**Warramunga Arr**	**48.59**	**258**	P		**P**		**03 18 19.9**	**-0.8**
WR8				IAmb		IAmb		03 18 47.3	
	comp=Z,8.5nm,1.5s								
WB0	**Warramunga Arr**	**48.71**	**258**	P		**P**		**03 18 20.5**	**-1.1**
WB0				IAmb		IAmb		03 18 58.4	
	comp=Z,7.7nm,1.4s								
WRA	**Warramunga Arr**	**48.74**	**258**	P		**P**		**03 18 21.2**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=95,slow=8.4,SNR=8.1								
	comp=Z,0.4nm,0.4s								
ASAR	**Alice Springs**	**48.95**	**253**	P		**P**		**03 18 23.4**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=86,slow=8.5,SNR=18								
	comp=Z,1.5nm,0.6s								
QSPA	**South Pole Qui**	**73.68**	**180**	P		**P**		**03 21 11.4**	**+1.8**
QSPA	**South Pole Qui**	**73.68**	**180**	P		**P**		**03 21 11.1**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=45,slow=0.8,SNR=7.6								
	comp=Z,1.2nm,0.7s								
YBH	**Yreka Blue Hor**	**74.91**	**37**	P		**P**		**03 21 17.4**	**+0.4**
PLK4	**Peulik 4**	**75.22**	**10**	P		**P**		**03 21 17.8**	**-0.6**
PLK4				IAmb		IAmb		03 21 40.5	
	comp=Z,18nm,1.4s								
NVAR	**Mina Array Bea**	**75.65**	**42**	P		**P**		**03 21 21.5**	**0.0**
	comp=Z,1.0nm,0.9s,baz=233,slow=9.1,SNR=6.3								
	comp=Z,1.0nm,0.9s								
P18K	**Big Mountain,**	**77.08**	**10**	P		**P**		**03 21 28.4**	**-0.4**
ILSW	**Iliamna Southw**	**78.00**	**11**	P		**P**		**03 21 33.6**	**-0.4**
N19K	**Bonanza Creek**	**78.55**	**10**	P		**P**		**03 21 35.8**	**-1.2**
N19K				IAmb		IAmb		03 22 16.1	
	comp=Z,14nm,1.4s								
SUA	**Susitna One**	**79.82**	**11**	P		**P**		**03 21 43.6**	**-0.3**
SUA				IAmb		IAmb		03 21 44.4	
	comp=Z,4.7nm,0.8s								
VHRN	**Van Horn**	**81.45**	**55**	P		**P**		**03 21 52.6**	**-0.8**
TXAR	**Lajitas Array**	**81.90**	**56**	P		**P**		**03 21 55.5**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=285,slow=5.0,SNR=4.2								
	comp=Z,0.2nm,0.8s								
BPMT	**Black Pine Rid**	**83.07**	**37**	P		**P**		**03 22 00.8**	**-0.8**
CCB	**Clear Creek Bu**	**83.28**	**11**	P		**P**		**03 22 01.3**	**-0.6**
CCB				IAmb		IAmb		03 22 01.7	
	comp=Z,6.7nm,1.2s								
ILAR	**Eielson Array**	**83.56**	**11**	P		**P**		**03 22 02.6**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=224,slow=5.6,SNR=26								
	comp=Z,0.8nm,0.5s								
PDAR	**Pinedale Array**	**83.59**	**42**	P		**P**		**03 22 03.5**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=208,slow=2.7,SNR=18								
	comp=Z,1.6nm,0.6s								
YHL	**Hebgen Lake**	**83.60**	**40**	P		**P**		**03 22 04.9**	**+0.4**
YHL				IAmb		IAmb		03 22 05.6	
	comp=Z,4.7nm,0.8s								
BRTR	**Keskin Array B**	**146.31**	**319**	PKPbc		**PKPdf**		**03 29 16.2**	**+1.1**
	comp=Z,1.6nm,0.9s,baz=135,slow=2.7,SNR=8.3								
GERES	**GERESS Array B**	**146.94**	**350**	PKPbc		**PKPdf**		**03 29 17.1**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=330,slow=5.1,SNR=4.0								

SDD ***27*** *03:10:58.9±2.0, 19˚.14N×67˚.20W, h18km±48km, MD3.5, ML2.0, MW2.7*

RSPR ***27*** *03:10:59.0, 19˚.21N×67˚.27W, h25km±20km, MD2.5/11*

ISC 27 03:10:55.3±1.7, 19˚.22N±0˚.07×67˚.21W±0˚.04, h15km±10km, n30, σ0s62/36, 6C-13D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.76**	**173**	⇑*eP*		**Pn**		**03 11 11.1**	**-0.2**
AGPR	**Aguadilla, PR**	**0.76**	**173**	*eS*		**Sb**		**03 11 20.6**	**+0.4**
AGPR	**Aguadilla, PR**	**0.76**	**173**	*ePg*		**Pn**		**03 11 11.2**	**-0.2**
AGPR				⇓*eSg*		**Sb**		**03 11 20.9**	**+0.7**
AGPR					IAML			03 11 21.3	
	comp=N,83nm,0.3s								
IDE	**Isla Desecheo**	**0.87**	**197**	⇑*eP*		**Pn**		**03 11 12.8**	**-0.1**
IDE	**Isla Desecheo**	**0.87**	**197**	*eS*		**Sg**		**03 11 24.3**	**+0.7**
AOPR	**Arecibo Observ**	**0.97**	**154**	⇓*eP*		**Pn**		**03 11 14.8**	**+0.5**
AOPR	**Arecibo Observ**	**0.97**	**154**	*eS*		**Sg**		**03 11 26.9**	**+0.1**
AOPR	**Arecibo Observ**	**0.97**	**154**	⇓*ePg*		**Pn**		**03 11 16.8**	**+2.4**
AOPR				⇓*eSg*		**Sb**		**03 11 26.2**	**-0.2**
AOPR					IAML			03 11 32.3	
	comp=N,46nm,0.2s								
LSP	**Las Mesas**	**1.05**	**174**	⇓*eP*		**Pg**		**03 11 15.6**	**0.0**
LSP	**Las Mesas**	**1.05**	**174**	*eS*		**Sg**		**03 11 29.1**	**-0.1**
ECPR	**Experimental S**	**1.20**	**138**	⇑*eP*		**Pg**		**03 11 19.4**	**+0.9**
ECPR	**Experimental S**	**1.20**	**138**	*eS*		**Sn**		**03 11 33.3**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.21**	**176**	⇑*eP*		**Pn**		**03 11 17.7**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.21**	**176**	*eS*		**Sb**		**03 11 33.1**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.21**	**176**	*ePg*		**Pn**		**03 11 17.7**	**+0.1**
CRPR				⇓*eSg*		**Sb**		**03 11 33.5**	**+0.1**
CRPR					IAML			03 12 18.4	
	comp=N,31nm,1.8s								
MLPR	**Magueyes Islan**	**1.25**	**173**	⇓*eP*		**Pb**		**03 11 18.6**	**0.0**
MLPR	**Magueyes Islan**	**1.25**	**173**	*eS*		**Sb**		**03 11 34.1**	**-0.5**
MLPR	**Magueyes Islan**	**1.25**	**173**	⇓*ePg*		**Pb**		**03 11 18.6**	**0.0**
MLPR				⇓*eSg*		**Sb**		**03 11 34.0**	**-0.5**
MLPR					IAML			03 11 45.8	
	comp=N,8.0nm,2.6s								
CELP	**Cerrillos**	**1.29**	**152**	⇓*eP*		**Pg**		**03 11 19.4**	**-0.7**
CELP	**Cerrillos**	**1.29**	**152**	*eS*		**Sn**		**03 11 35.4**	**-0.2**
CELP	**Cerrillos**	**1.29**	**152**	*ePg*		**Pg**		**03 11 19.8**	**-0.3**
CELP				⇑*eSg*		**Sn**		**03 11 35.5**	**-0.2**
CELP					IAML			03 11 36.2	
	comp=N,30nm,0.2s								
OBIP	**Obispado Ponce**	**1.30**	**154**	⇓*eP*		**Pb**		**03 11 19.6**	**+0.1**
OBIP	**Obispado Ponce**	**1.30**	**154**	*eS*		**Sb**		**03 11 35.7**	**-0.3**
GCPR	**Guaynabo City**	**1.40**	**130**	⇓*eP*		**Pg**		**03 11 21.6**	**-0.6**
GCPR	**Guaynabo City**	**1.40**	**130**	*eS*		**Sb**		**03 11 38.2**	**-0.2**
HIDR	**Higuey Centro**	**1.56**	**247**	⇓*ePg*		**Pb**		**03 11 24.8**	**+1.0**
HIDR				⇓*eSg*				03 12 29.3	
					IAML				
	comp=N,55nm,0.1s								
PDPR	**Patillas Dam,**	**1.64**	**137**	⇓*eP*		**Pb**		**03 11 24.9**	**-0.3**
PDPR	**Patillas Dam,**	**1.64**	**137**	*eS*		**Sb**		**03 11 45.1**	**-0.7**
MIDR	**Miches**	**1.76**	**263**	*ePg*		**Pg**		**03 11 28.9**	**-0.1**
MIDR					IAML			03 12 32.3	
	comp=N,16nm,2.9s								
HATOM	**Hato Mayor del**	**2.10**	**259**	*ePg*		**Pg**		**03 11 35.1**	**-0.5**
HATOM				*eSg*		**Sg**		**03 12 02.1**	**-0.9**
HATOM					IAML			03 12 17.9	
	comp=N,11nm,1.2s								

IDC ***27*** *03:17:58.7±0.5, 8˚.22S×74˚.21W, h151km±4km, mb4.1/16, mbtmp4.6/21, MS4.9/1, Error ellipse: s-maj=13.7km s-min=8.5km az=61.0*

NEIC ***27*** *03:17:58.9±1.4, 8˚.23S±0˚.07×74˚.27W±0˚.08, h141km±6km, mb4.8/236, Error ellipse: s-maj=11.8km s-min=10.0km az=60.0*

VAO ***27*** *03:17:59.2±0.5, 8˚.25S×74˚.26W, h157km±3km, mbR4.7*

ISC 27 03:17:58.1±0.4, 8˚.25S±0˚.04×74˚.29W±0˚.05, h147km±3km, h148km: pP-P, n298, σ1s15/226, mb4.7/137, 5C-2D, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.21**	**285**	P		**Pn**		**03 19 02.0**	**+0.5**
	327nm,0.4s,baz=42,slow=3.2,SNR=555								
ATAH				S		**Sn**		**03 19 47.9**	**-2.8**
	956nm,0.6s,baz=320,slow=14,SNR=7.9								
NNA	**Nana**	**4.48**	**214**			**Pn**		**03 19 05.3**	**+0.6**
NNA	**Nana**	**4.48**	**214**	P		**Pn**		**03 19 05.7**	**+1.0**
	80nm,0.3s,baz=54,slow=2.9,SNR=41								
NNA				S		**Sn**		**03 19 53.3**	**-3.2**
	593nm,0.3s,baz=46,slow=14,SNR=5.0								
MCRA	**Macar, Loja**	**6.82**	**304**	P		**Pn**		**03 19 32.4**	**-3.5**
COHC	**Cochancay**	**7.58**	**319**	P		**Pn**		**03 19 47.3**	**+1.4**
PIAT	**Ana Tenorio**	**8.22**	**331**	P		**Pn**		**03 19 53.7**	**-1.2**
	825nm32nm,0.6s								
PTLC	**Puerto Leguiza**	**8.38**	**357**	P		Pn		03 19 51.7	-5.0
	1µm71nm,0.9s								
BONI	**La Bonita**	**9.23**	**339**	P		**Pn**		**03 20 07.5**	**-0.7**
	2µm41nm,0.9s								
FLOC	**Florencia**	**9.86**	**352**			**Pn**		**03 20 16.1**	**-0.3**
LPAZ	**La Paz**	**10.00**	**144**	P		**Pn**		**03 20 19.1**	**+0.2**
	8.8nm,0.6s,baz=326,slow=8.0,SNR=41								
LPAZ	**La Paz**	**10.00**	**144**	*eP*		**Pn**		**03 20 19.0**	**+0.2**
MACC	**Macarena, Meta**	**10.34**	**2**	P		**Pn**		**03 20 22.5**	**-0.2**
	1µm42nm,0.8s								
PB18	**Visviri**	**10.40**	**154**			**Pn**		**03 20 26.4**	**+2.4**
BBAC	**Balboa, Cauca**	**10.62**	**344**	P		**Pn**		**03 20 28.1**	**+1.4**
	873nm112nm,0.8s								
TEFE	**Tefe**	**10.70**	**64**	*eP*		**Pn**		**03 20 27.8**	**+0.3**
SGC2	**Sao Gabriel da**	**10.86**	**43**	P		**Pn**		**03 20 28.4**	**-1.2**
	575nm27nm,0.4s								
POPC	**Popayan, Colom**	**10.98**	**347**	P		**Pn**		**03 20 33.0**	**+1.6**
	19nm,1.1s								
PB16	**IPOC Station P**	**11.05**	**156**			**Pn**		**03 20 34.5**	**+1.8**
ORTC	**Ortega, Tolima**	**12.12**	**355**	P		**Pn**		**03 20 48.8**	**+2.7**
	552nm51nm,0.9s								
PB11	**IPOC Station P**	**12.29**	**159**			**Pn**		**03 20 48.8**	**+0.3**
GO01	**Chusmiza**	**12.38**	**157**			**Pn**		**03 20 51.8**	**+1.9**
HMBC	**Humberstone**	**12.70**	**161**			**Pn**		**03 20 53.0**	**-0.6**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**12.82**	**158**			**Pn**		**03 20 56.3**	**+0.7**
TA01	**Diego Aracena**	**12.87**	**162**			**Pn**		**03 20 56.8**	**+1.0**
PATCX	**Punta Patache**	**13.12**	**163**	P		**P**		**03 21 03.8**	**+0.1**
PB01	**IPOC Station P**	**13.54**	**160**	P		**P**		**03 21 08.1**	**-0.4**
PB02	**IPOC Station P**	**13.67**	**162**			**Pn**		**03 21 07.7**	**+1.7**
RUSC	**La Rusia**	**14.10**	**5**	P		**P**		**03 21 14.6**	**-0.5**
PB09	**IPOC Station P**	**14.32**	**161**			**Pn**		**03 21 15.0**	**+0.7**
MACA	**Manacapuru-AM**	**14.45**	**70**			**Pn**		**03 21 15.2**	**-0.7**
MACA	**Manacapuru-AM**	**14.45**	**70**	*eP*		**Pn**		**03 21 14.8**	**-1.1**
VILB	**Vilhena**	**14.62**	**110**			**Pn**		**03 21 17.8**	**-0.2**
VILB	**Vilhena**	**14.62**	**110**	*eP*		**Pn**		**03 21 18.8**	**+0.7**
SIV	**San Ignacio**	**15.04**	**122**	P		**Pn**		**03 21 22.5**	**-0.8**
	7.0nm,0.4s,baz=293,slow=9.7,SNR=51								
SIV				S		**Sn**		**03 24 05.4**	**-4.9**
	8.1nm,0.4s,baz=194,slow=17,SNR=5.1								
DBBC	**Dabeiba**	**15.29**	**353**	P		**P**		**03 21 29.9**	**+2.0**
PAMC	**Pamplona, Colo**	**15.57**	**6**	P		**P**		**03 21 34.4**	**+3.0**
PTLB	**Pontes e Lacer**	**16.46**	**117**			**P**		**03 21 41.2**	**+0.5**
PTLB	**Pontes e Lacer**	**16.46**	**117**	*eP*		**Pn**		**03 21 40.6**	**-0.1**
BOAV	**Boa Vista**	**17.33**	**53**			**Pn**		**03 21 52.1**	**+0.9**
BOAV	**Boa Vista**	**17.33**	**53**	*eP*		**Pn**		**03 21 51.9**	**+0.6**
BOAV	**Boa Vista**	**17.33**	**53**	P		**Pn**		**03 21 52.3**	**+1.0**
SDV	**Santo Domingo**	**17.41**	**12**	P		**Pn**		**03 21 52.6**	**+0.2**
	7.7nm,0.3s,baz=204,slow=11,SNR=4.3								
PDRB	**Porto dos Gac**	**17.62**	**102**	*eP*		**P**		**03 21 54.0**	**+0.5**
BAUV	**El Baul**	**18.18**	**20**	P		**P**		**03 22 00.4**	**+0.7**
CLDB	**Colider**	**18.43**	**100**	*eP*		**P**		**03 22 02.6**	**+0.2**
NPGB	**Novo Progresso**	**18.80**	**88**	*eP*		**P**		**03 22 07.1**	**+0.6**
ITTB	**Itaituba**	**18.84**	**79**	*eP*		**P**		**03 22 08.0**	**+1.0**
BRU2	**Volcan**	**18.89**	**334**	P		**Pn**		**03 22 09.0**	**-0.8**
SMRC	**Santa Marta, M**	**19.29**	**0**	P		**P**		**03 22 11.2**	**-0.4**
SALV	**Santo Antonio**	**19.70**	**114**	*eP*		**P**		**03 22 16.9**	**+0.7**
AC04	**Llanos de Chal**	**20.08**	**172**	P		**P**		**03 22 20.9**	**+0.8**
PCRV	**Puerto La Cruz**	**20.68**	**28**	P		**P**		**03 22 27.4**	**+0.8**
	3.9nm,0.4s,baz=4.7,slow=3.7,SNR=8.5								
	3.9nm,0.4s								
LCO	**Las Campanas**	**20.93**	**

comp=Z,13nm,0.7s
PECS Pecos 48.51 326 IAmb IAmb 03 26 28.3
comp=Z,24nm,1.4s
CCM Cathedral Cave 48.71 342 P **P** **03 26 26.7 -0.9**
VHRN Van Horn 48.71 324 IAmb IAmb 03 26 29.7
comp=Z,21nm,0.8s
OK052 Battle Ridge R 48.84 336 IAmb IAmb 03 26 29.9
comp=Z,28nm,1.1s
MNTX Cornudas Mount 49.61 325 IAmb IAmb 03 26 36.1
comp=Z,17nm,1.3s
MSTX Muleshoe 49.93 329 IAmb IAmb 03 26 38.4
comp=Z,16nm,0.9s
NOKA Waynoka 50.28 334 IAmb IAmb 03 26 41.2
comp=Z,26nm,1.0s
P38A Dawn 50.86 341 IAmb IAmb 03 26 58.7
comp=Z,19nm,1.3s
N41A Harden Midland 51.05 344 IAmb IAmb 03 26 45.0
comp=Z,16nm,0.9s
KSU1 Kansas State U 51.47 338 IAmb IAmb 03 26 49.0
comp=Z,14nm,1.1s
121A Cookes Peak, D 51.61 324 IAmb IAmb 03 26 52.3
comp=Z,13nm,0.8s
R32A Long Quarter, 51.71 336 IAmb IAmb 03 26 51.7
comp=Z,28nm,1.3s
ANMO Albuquerque 52.62 327 P **P** **03 26 58.2 +0.9**
ANMO IAmb IAmb 03 26 59.1
comp=Z,12nm,1.1s
ANMO Albuquerque 52.62 327 P **P** **03 26 58.2 +0.9**
ANMO pP **pP** **03 27 30.7 -0.7**
T25A Trinidad 53.24 330 IAmb IAmb 03 27 03.9
comp=Z,18nm,1.0s
TUC Tucson 53.27 321 P **P** **03 27 02.6 +0.7**
TUC IAmb IAmb 03 27 03.7
comp=Z,8.3nm,0.8s
TUC Tucson 53.27 321 P **P** **03 27 02.4 +0.5**
SDCO Great Sand Dun 54.25 330 IAmb IAmb 03 27 11.2
comp=Z,15nm,1.1s
X18A Snowflake 54.30 324 IAmb IAmb 03 27 11.6
comp=Z,12nm,0.9s
X16A Lo Mia Camp, P 55.11 323 IAmb IAmb 03 27 17.5
comp=Z,9.2nm,0.8s
113A Mohawk Valley, 55.46 319 IAmb IAmb 03 27 19.4
comp=Z,17nm,1.7s
ECSD EROS Data Cent 55.56 340 IAmb IAmb 03 29 01.1
comp=Z,16nm,1.6s
Y14A Wickenburg 55.74 321 IAmb IAmb 03 27 21.6
comp=Z,20nm,1.7s
ISCO Idaho Springs 55.91 331 IAmb IAmb 03 27 22.9
comp=Z,19nm,1.6s
PV01 Paradox Valley 56.13 328 IAmb IAmb 03 27 24.6
comp=Z,14nm,1.0s
PV03 Paradox Valley 56.37 328 IAmb IAmb 03 27 26.0
comp=Z,11nm,1.1s
PV05 Paradox Valley 56.37 327 IAmb IAmb 03 27 25.8
comp=Z,16nm,1.0s
PV18 Skein Mesa, Pa 56.39 328 IAmb IAmb 03 27 26.2
comp=Z,15nm,0.9s
PV07 Paradox Valley 56.40 328 IAmb IAmb 03 27 26.4
comp=Z,14nm,1.4s
PV16 Nyswonger Mesa 56.44 328 IAmb IAmb 03 27 27.3
comp=Z,18nm,1.3s
PV20 West Nyswonger 56.49 328 IAmb IAmb 03 27 27.5
comp=Z,20nm,1.3s
PV22 Blue Mesa, Par 56.54 328 IAmb IAmb 03 27 27.1
comp=Z,7.8nm,0.9s
BLYC Blythe 56.58 320 IAmb IAmb 03 27 27.8
comp=Z,11nm,0.9s
W13A Hualapai Mount 57.06 321 IAmb IAmb 03 27 31.6
comp=Z,9.5nm,0.9s
BC3 Big Chuckawall 57.12 319 IAmb IAmb 03 27 31.6
comp=Z,14nm,1.0s
IRM Iron Mountain 57.24 320 P **P** **03 27 31.7 +1.4**
O20A White River Ci 57.46 329 IAmb IAmb 03 27 33.7
comp=Z,14nm,1.1s
BORC Borrego Spring 57.51 318 P **P** **03 27 33.2 +1.1**
BORC IAmb IAmb 03 27 35.0
comp=Z,26nm,1.6s
BELC Belle Mtn. Jos 57.69 319 IAmb IAmb 03 27 35.8
comp=Z,14nm,1.1s
KNB Kanab 57.70 324 IAmb IAmb 03 27 36.1
comp=Z,15nm,1.1s
PMD Palm Desert 57.71 319 IAmb IAmb 03 27 35.7
comp=Z,12nm,1.3s
PFO Pinyon Flats O 57.74 319 P **P** **03 27 35.4 +1.5**
PFO IAmb IAmb 03 27 35.5
comp=Z,10nm,1.1s
PFO Pinyon Flats O 57.74 319 P **P** **03 27 35.0 +1.1**
SRU San Rafael Swe 57.89 327 IAmb IAmb 03 27 36.5
comp=Z,11nm,1.1s
V12A Nelson 58.06 321 IAmb IAmb 03 27 38.0
comp=Z,9.8nm,1.1s
Q16A Castle Valley 58.10 327 IAmb IAmb 03 27 39.3
comp=Z,14nm,1.4s
P17A Butcher Ranch, 58.26 327 IAmb IAmb 03 27 39.2
comp=Z,14nm,1.1s
TMUT Trail Mountain 58.39 327 IAmb IAmb 03 27 40.1
comp=Z,22nm,1.7s
RDMU Red Mountain 58.45 329 IAmb IAmb 03 27 40.3
comp=Z,12nm,0.7s
RSSD Black Hills 58.66 335 P **P** **03 27 41.3 +1.1**
RSSD IAmb IAmb 03 27 42.7
comp=Z,6.3nm,0.8s
RSSD Black Hills 58.66 335 P **P** **03 27 40.9 +0.7**
RSSD pP **pP** **03 28 14.3 -0.7**
GSC Goldstone, Bar 59.02 320 IAmb IAmb 03 27 44.8
comp=Z,9.7nm,1.1s
BSUT Blindstream Ca 59.05 328 IAmb IAmb 03 27 45.5
comp=Z,8.5nm,0.9s
JLU Jordanelle 59.45 328 IAmb IAmb 03 27 47.7
comp=Z,11nm,1.0s
QSM Queen of Sheba 59.47 320 IAmb IAmb 03 27 47.5
comp=Z,10nm,1.2s
WSHM Spangler Hills 59.64 320 IAmb IAmb 03 27 48.9
comp=Z,11nm,1.0s
TPNV Topopah Spring 59.71 322 IAmb IAmb 03 27 50.3
comp=Z,11nm,0.9s
WCT Wildcat Mounta 59.84 321 IAmb IAmb 03 27 50.7
comp=Z,11nm,1.0s
BW06 Boulder Array 60.09 331 IAmb IAmb 03 27 51.1
comp=Z,12nm,1.4s
PD31 Pinedale Array 60.09 331 IAmb IAmb 03 27 51.1
comp=Z,12nm,1.4s
PDAR Pinedale Array 60.09 331 P **P** **03 27 50.0 0.0**
PDAR Pinedale Array 60.09 331 P **P** **03 27 49.9 -0.2**
comp=Z,3.9nm,1.0s,baz=145,slow=8.5,SNR=24
PDAR pP **pP** **03 28 25.7 +0.7**
comp=Z,1.0nm,0.7s,baz=131,slow=7.1,SNR=2.9
comp=Z,3.9nm,1.0s
EPLO Experimental L 60.13 346 P **P** **03 27 49.4 -0.5**
EPLO IAmb IAmb 03 28 27.5
comp=Z,23nm,1.4s
HWUT Hardware Ranch 60.24 328 P **P** **03 27 51.4 +0.3**
ISA Isabella, Lake 60.31 319 P **P** **03 27 52.4 +0.9**
CWC Cottonwood Cre 60.53 320 P **P** **03 27 53.5 +0.4**
GMN Gold Mountain 60.56 321 IAmb IAmb 03 27 55.4
comp=Z,18nm,1.0s
TPH Tonopah 61.03 322 IAmb IAmb 03 27 58.5
comp=Z,8.6nm,1.0s
DSP Deep Springs 61.04 321 IAmb IAmb 03 27 58.7
comp=Z,9.1nm,1.0s
SNOW Snow King Moun 61.19 330 IAmb IAmb 03 28 00.3
comp=Z,7.1nm,0.7s
ULM Lac du Bonnet 61.21 344 P **P** **03 27 56.8 -0.4**
comp=Z,6.4nm,0.9s,baz=138,slow=7.7,SNR=4.5
ULM pP **pP** **03 28 32.7 +0.5**
comp=Z,11nm,0.9s,baz=162,slow=6.1,SNR=5.8
comp=Z,6.4nm,0.9s
MDPB Devils Postpil 61.90 321 IAmb IAmb 03 28 04.3
comp=Z,8.6nm,0.9s
NVAR Mina Array Bea 61.91 322 P **P** **03 28 03.2 +0.8**
NVAR Mina Array Bea 61.91 322 P **P** **03 28 03.6 +1.2**
comp=Z,3.0nm,0.8s,baz=144,slow=6.8,SNR=22
NVAR pP **pP** **03 28 38.3 +0.8**
comp=Z,1.3nm,0.7s,baz=137,slow=7.2,SNR=4.0
comp=Z,3.0nm,0.8s
YNE Yellowstone No 61.99 332 IAmb IAmb 03 28 04.4
comp=Z,12nm,0.8s
YNR Norris Junctio 62.09 331 IAmb IAmb 03 28 05.7
comp=Z,8.3nm,1.0s
BOZ Bozeman (W) 63.19 332 IAmb IAmb 03 28 12.3
comp=Z,8.1nm,0.8s
PAHR Pah Rah Range 63.36 322 IAmb IAmb 03 28 14.2
comp=Z,14nm,1.1s
WELL Weller Preserv 63.42 320 IAmb IAmb 03 28 14.3
comp=Z,11nm,1.2s
ORV Oroville 64.57 321 IAmb IAmb 03 28 22.0
comp=Z,18nm,1.1s
J08A Circle Bar Ran 65.15 326 IAmb IAmb 03 28 44.3
comp=Z,16nm,1.8s
MSO Missoula 65.19 331 IAmb IAmb 03 28 25.6
comp=Z,15nm,0.9s
K05A Summer Lake 66.12 324 IAmb IAmb 03 28 32.2
comp=Z,17nm,1.0s
J05D Fort Rock, OR 66.67 324 IAmb IAmb 03 28 35.1
comp=Z,11nm,1.1s
G08A Pilot Rock 66.67 327 IAmb IAmb 03 29 16.2
comp=Z,19nm,1.9s
PINE Pine Mountain 66.81 325 IAmb IAmb 03 28 37.8
comp=Z,13nm,0.9s
I05D Terrebonne, OR 67.38 325 IAmb IAmb 03 28 39.7
comp=Z,20nm,1.2s
K02D Willamette Mer 67.74 323 IAmb IAmb 03 28 41.8
comp=Z,15nm,1.0s
DBIC Dimbokro 70.80 80 P **P** **03 28 58.8 -0.4**
DBIC Dimbokro 70.80 80 P **P** **03 28 58.2 -1.0**
comp=Z,23nm,0.7s,baz=284,slow=5.0,SNR=32
comp=Z,23nm,0.7s
DBIC Dimbokro 70.80 80 P **P** **03 28 58.7 -0.5**
VNA3 Neumayer Olymp 74.21 162 ⇑P **P** **03 29 18.5 +0.1**
comp=Z,3.2nm,0.6s
VNA1 Neumayer--Stat 74.43 162 ⇑P **P** **03 29 20.3 +0.7**
comp=Z,12nm,1.0s
VNA2 Neumayer--Watz 74.79 162 ⇑P **P** **03 29 22.3 +0.6**
comp=Z,7.8nm,0.6s,baz=289,slow=5.6
MORF Marmelete 76.14 48 *e*P **P** **03 29 31.4 +1.3**
SNAA Sanae 76.42 162 ⇑P **P** **03 29 31.7 +0.6**
comp=Z,136nm,0.5s
SNAA Sanae 76.42 162 P **P** **03 29 31.5 +0.4**
SNAA Sanae 76.42 162 P **P** **03 29 31.7 +0.6**
comp=Z,5.7nm,0.5s,baz=279,slow=6.8,SNR=35
comp=Z,5.7nm,0.5s
PARRA Arraiolos 76.43 47 *e*P **P** **03 29 36.2 +4.6**
PCVE Castro Verde 76.72 48 *e*P **P** **03 29 34.5 +1.2**
PSBE So Bento 76.87 46 *e*P **P** **03 29 34.7 +0.6**
PBEJ Beja 76.99 48 *e*P **P** **03 29 35.9 +1.1**
EVO Evora 77.07 47 *e*P **P** **03 29 35.8 +0.6**
PMTG Montargil 77.11 47 *e*P **P** **03 29 35.9 +0.5**
PCAS Casmilo, Conde 77.28 46 *e*P **P** **03 29 36.9 +0.5**
PSARD Sardoal 77.35 46 *e*P **P** **03 29 37.1 +0.3**
COI Coimbra 77.40 46 *e*P **P** **03 29 37.6 +0.6**
PESTR Estremoz 77.50 47 *e*P **P** **03 29 38.4 +0.8**
PTO Porto 77.62 45 *e*P **P** **03 29 38.5 +0.3**
MD31 MD31 77.63 54 P **P** **03 29 39.5 +0.9**
PBAR Barrancos 77.65 48 *e*P **P** **03 29 39.1 +0.6**
PMRV Marv??o 77.84 47 *e*P **P** **03 29 37.2 -2.3**
PCBR Castelo Branco 77.93 46 *e*P **P** **03 29 40.1 +0.2**
PVIS Viseu 77.96 45 *e*P **P** **03 29 40.3 +0.1**
MTE Manteigas 78.09 46 *e*P **P** **03 29 40.8 -0.1**
TROLL Troll, Antarti 78.14 162 ⇑P **P** **03 29 41.7 +1.0**
comp=Z,425nm,0.8s
PCAB Cabril 78.24 44 *e*P **P** **03 29 41.2 -0.5**
POLO Lamas de Olo 78.28 45 *e*P **P** **03 29 42.0 +0.1**
PVRL Vila Real 78.30 45 *e*P **P** **03 29 40.4 -1.6**
TORD Torodi Ar. Bea 78.39 75 P **P** **03 29 42.1 -0.9**
comp=Z,15nm,0.6s,baz=274,slow=4.8,SNR=65
MVO Moncorvo 78.73 45 *e*P **P** **03 29 44.7 +0.3**
PBRG Braganca 79.17 45 *e*P **P** **03 29 46.9 +0.1**
PAB San Pablo 80.09 48 P **P** **03 29 52.5 +0.7**
PAB IAmb IAmb 03 29 53.3
comp=Z,10nm,0.8s
ESDC Sonseca Array 80.42 47 **P** **03 29 54.1 +0.6**
ESDC Sonseca Array 80.42 47 P **P** **03 29 54.0 +0.5**
comp=Z,6.6nm,0.9s,baz=259,slow=6.3,SNR=32
comp=Z,6.6nm,0.9s
QSPA South Pole Qui 81.86 180 P **P** **03 30 03.7 +2.9**
QSPA South Pole Qui 81.86 180 P **P** **03 30 02.3 +1.5**
comp=Z,4.8nm,0.6s,baz=175,slow=0.5,SNR=15
comp=Z,4.8nm,0.6s
QSPA South Pole Qui 81.86 180 P **P** **03 30 04.1 +3.3**
TAM Tamanrasset 83.88 66 P **P** **03 30 12.2 +0.2**
TAM Tamanrasset 83.88 66 P **P** **03 30 12.9 +0.8**
SUMG Summit 83.93 10 P **P** **03 30 12.0 +0.4**
SUMG IAmb IAmb 03 30 51.9
comp=Z,13nm,1.0s
L29M L29M 85.90 336 IAmb IAmb 03 30 22.7
comp=Z,36nm,1.9s
K27K Chicken 87.89 336 IAmb IAmb 03 30 32.7
comp=Z,8.5nm,1.0s
SCRK Sand Creek 88.65 336 IAmb IAmb 03 30 36.1
comp=Z,8.8nm,1.3s
J26L Joseph Creek 88.67 336 IAmb IAmb 03 30 35.8
comp=Z,5.0nm,0.8s
TSUM Tsumeb 89.08 109 P **P** **03 30 37.9 +0.4**
TSUM IAmb IAmb 03 30 38.5
comp=Z,9.1nm,0.9s
TSUM Tsumeb 89.08 109 P **P** **03 30 37.7 +0.2**
J25K Salcha River, 89.44 336 IAmb IAmb 03 30 39.2
comp=Z,5.0nm,0.7s
BGES Gesves 89.58 39 *d*P **P** **03 30 38.6 -0.4**
comp=Z,6.3nm,0.8s
KEST Kesra 89.64 54 P **P** **03 30 39.2 -0.5**
comp=Z,5.6nm,0.8s,baz=288,slow=4.8,SNR=5.2
comp=Z,5.6nm,0.8s
WLF Walferdange 90.09 40 *d*P **P** **03 30 41.7 +0.3**
ILAR Eielson Array 90.11 336 P **P** **03 30 41.0 -0.1**
comp=Z,0.9nm,0.9s,baz=155,slow=3.2,SNR=9.9
ILAR pP **pP** **03 31 19.4 +0.8**
comp=Z,1.3nm,0.9s,baz=120,slow=3.0,SNR=5.7
comp=Z,0.9nm,0.9s
FETA Feichten 92.59 43 *e*P **P** **03 30 53.3 +0.1**
comp=Z,7.4nm,1.6s
MOTA Moosalm 92.89 43 *e*P **P** **03 30 54.4 -0.1**
comp=Z,4.0nm,0.8s
SQTA Sankt Quirin 92.95 43 *e*P **P** **03 30 54.8 +0.1**
comp=Z,4.0nm,0.9s
WATA Walderalm 93.21 43 *e*P **P** **03 30 56.3 +0.3**
comp=Z,8.2nm,1.3s
WTTA Wattenberg 93.24 43 *e*P **P** **03 30 56.3 +0.1**
comp=Z,12nm,1.5s
ABTA Abfaltersbach 93.76 43 *e*P **P** **03 30 58.5 0.0**
comp=Z,11nm,1.4s
LESA Schwarzleotal 93.96 43 *e*P **P** **03 30 59.4 0.0**
comp=Z,4.8nm,1.3s
KBA Koelnbreinsper 94.37 43 *e*P **P** **03 31 01.2 -0.2**
comp=Z,4.7nm,1.0s
CLL Collm 94.68 39 *e*P **P** **03 31 03.0 +0.5**
comp=Z,3.0nm,0.7s
MOA Molln 95.08 43 *e*P **P** **03 31 04.4 0.0**
comp=Z,5.4nm,1.1s
OBKA Obir 95.12 44 *e*P **P** **03 31 04.5 -0.3**
comp=Z,2.9nm,0.9s
SOKA Soboth 95.47 44 *e*P **P** **03 31 06.1 -0.2**
comp=Z,2.7nm,1.3s
ARSA Arzberg 95.87 43 *e*P **P** **03 31 08.0 0.0**
comp=Z,5.6nm,1.0s
CONA Conrad Observa 96.16 43 *e*P **P** **03 31 09.6 +0.2**
comp=Z,4.5nm,1.2s
RONA Rosalia, Austr 96.43 43 *e*P **P** **03 31 10.6 0.0**
comp=Z,2.1nm,0.8s
BVAR Borovoye Array 126.97 26 PKP **PKiKP** **03 36 45.0 0.0**
comp=Z,0.4nm,0.4s,baz=235,slow=5.2,SNR=3.6
ZALV Zalesovo Beam 131.42 16 PKP **PKiKP** **03 36 53.5 -0.4**
comp=Z,0.6nm,0.3s,baz=316,slow=4.1,SNR=4.6
ZALV pPKP **pPKPdf** **03 37 32.2 +0.1**
comp=Z,4.1nm,0.9s,baz=298,slow=3.2,SNR=4.8
KURBB Kurchatov Arra 132.13 23 PKP **PKiKP** **03 36 55.1 -0.4**
comp=Z,0.4nm,0.3s,baz=282,slow=2.7,SNR=1.1
KURBB SKPbc **SKPbc** **03 40 06.2 -1.0**
comp=Z,1.1nm,1.0s,baz=315,slow=3.7,SNR=4.6
MKAR Makanchi Array 136.69 23 PKP **PKPdf** **03 37 02.1 -1.0**
comp=Z,0.4nm,0.5s,baz=0.0,slow=2.2,SNR=2.3
MKAR pPKP **pPKPdf** **03 37 43.8 +1.4**
comp=Z,1.2nm,0.8s,baz=294,slow=1.2,SNR=3.0
MKAR SKPbc **SKPbc** **03 40 19.5 -2.7**
comp=Z,1.0nm,1.0s,baz=304,slow=2.8,SNR=3.6
USRK Ussuriysk Ar. 137.51 332 SKPbc **SKPbc** **03 40 22.4 -2.2**
comp=Z,4.5nm,0.8s,baz=35,slow=5.2,SNR=7.2
ASAR Alice Springs 137.98 220 PKP **PKPdf** **03 37 05.8 -0.4**
comp=Z,1.0nm,0.6s,baz=134,slow=2.7,SNR=2.4
ASAR SKPbc **SKPbc** **03 40 24.8 -2.0**
comp=Z,0.7nm,0.8s,baz=96,slow=3.6,SNR=3.0
MJAR Matsushiro Arr 139.18 319 SKPbc **SKPbc** **03 40 27.9 -1.7**
comp=Z,6.8nm,0.9s,baz=7.2,slow=0.4,SNR=18
WRA Warramunga Arr 140.26 225 PKP **PKPdf** **03 37 10.7 +0.2**
comp=Z,1.5nm,0.5s,baz=130,slow=2.1,SNR=4.9
WRA SKPbc **SKPbc** **03 40 31.5 -1.6**
comp=Z,0.8nm,0.8s,baz=140,slow=2.9,SNR=4.1
WMQ Urumqi 141.23 21 *e*PKP **PKPdf** **03 37 11.8 +0.2**
WMQ LR LR
comp=Z,170nm,20.3s
KSRS Korea Array 144.64 329 PKP PKPbc 03 37 17.0 +0.3
comp=Z,1.7nm,0.7s,baz=69,slow=3.8,SNR=6.6
KSRS SKPbc **SKPbc** **03 40 42.5 -0.8**
comp=Z,0.5nm,0.3s,baz=29,slow=2.8,SNR=1.9
GTA Gaotai 148.53 9 *e*PKPbc **PKPbc** **03 37 28.0 -0.1**
GTA pPKP pPKPab 03 38 10.3 +0.4
PZH PanZhiHua 161.46 11 PKP **PKPdf** **03 37 40.3 -1.9**
PZH PKP **pPKPdf** **03 38 18.3 -3.4**

*IDC **27** 03:18:59.0±0.6, 55.13°S×27.84°W, h0km, mb4.4/8, mbtmp4.4/9, ML4.4/1, MS4.2/22, Error ellipse: s-maj=21.9km s-min=17.3km az=64.0*
*NEIC **27** 03:19:01.3±1.2, 55.3°S±0.1°×28.0°W±0.2, h10km±1km, mb5.0/26, Error ellipse: s-maj=25.1km s-min=21.5km az=29.0*
*GCMT **27** 03:19:06.3±0.4, 55.07°S±0.03°×27.73°W±0.06, h14km±1km, MW4.8/67, Moment Tensor Solution. s19,c20; s67,c80; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 1.76±.19; Mθθ -1.25±.12; Mφφ -0.51±.10; Mre -0.98±.27; Mθφ 0.95±.07; Mφr 1.02±.27; Best double couple: M₀2.31700×10¹⁶ NP1:φs312.00000°, δ27.00000°, λ76.00000°. NP2: φs116.00000°, δ64.00000°, λ97.00000°. Principal axes: T 2.2610, Plg70.0000°, Azm236.0000°; N 0.1060, Plg6.0000°, Azm129.0000°; P -2.3730, Plg19.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 03:19:00.9±0.5, 55.24S±0.09×27.9W±0.1, h10km, n75, σ1§10/51, mb4.9/18, MS4.3/23, 5C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.71**	**158**	⇑P	**Pn**	**03 23 08.7**	**+1.5**
	comp=Z,12nm,0.8s						
VNA3	**Neumayer Olymp**	**17.90**	**161**	⇑P	**Pn**	**03 23 09.4**	**-0.2**
	comp=Z,7.5nm,0.7s						
VNA2	**Neumayer--Watz**	**18.11**	**158**	⇑P	**Pn**	**03 23 11.0**	**-1.1**
	comp=Z,6.0nm,0.6s,baz=314,slow=12						
SNAA	**Sanae**	**19.66**	**156**	⇑P	**P**	**03 23 29.4**	**-0.1**
	comp=Z,136nm,0.5s						
SNAA	**Sanae**	**19.66**	**156**		**P**	**03 23 29.1**	**-0.4**
SNAA	**Sanae**	**19.66**	**156**	P	**P**	**03 23 29.1**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=297,slow=12,SNR=77						
SNAA				LR	LR	03 29 43.1	
	comp=Z,231nm,21.5s,baz=317,slow=33						
	comp=Z,4.3nm,0.5s						
PMSA	**Palmer Station**	**20.12**	**227**	P	**P**	**03 23 35.5**	**+1.0**
	comp=Z,34nm,0.9s,baz=65,slow=7.2,SNR=6.3						
PMSA				LR	LR	03 29 59.2	
	comp=Z,417nm,18.4s,baz=60,slow=33						
	comp=Z,34nm,0.9s						
TROLL	**Troll, Antarti**	**21.16**	**154**	⇑P	**P**	**03 23 45.1**	**-0.8**
	comp=Z,502nm,0.8s						
SMAI	**San Martin Ant**	**22.12**	**219**		**P**	**03 23 52.0**	**-3.9**
BELA	**Belgrano 2**	**22.86**	**184**		**P**	**03 24 03.4**	**-0.4**
MG02	**Cerro Sombrero**	**24.13**	**259**	P	**P**	**03 24 16.4**	**-0.1**
PLCA	**Paso Flores**	**31.44**	**280**	LR	LR	03 38 40.1	
	comp=Z,209nm,19.4s,baz=128,slow=38						
SYO	**Syowa Base**	**32.48**	**142**	*e*PP	PP	03 26 39.1	-5.0
QSPA	**South Pole Qui**	**35.01**	**180**	P	**P**	**03 25 55.4**	**+2.2**
QSPA				IAmb	IAmb	03 25 56.9	
	comp=Z,36nm,1.5s						
QSPA	**South Pole Qui**	**35.01**	**180**	P	**P**	**03 25 54.7**	**+1.5**
	comp=Z,5.5nm,0.7s,baz=198,slow=1.0,SNR=26						
QSPA				LR	LR	03 41 07.1	
	comp=Z,513nm,18.1s,baz=190,slow=38						
	comp=Z,5.5nm,0.7s						
CPUP	**Villa Florida**	**35.95**	**311**	P	**P**	**03 26 02.1**	**+0.6**
CPUP	**Villa Florida**	**35.95**	**311**	P	**P**	**03 26 00.2**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=8.9,slow=9.6,SNR=5.7						
CPUP				LR	LR	03 41 19.9	
	comp=Z,97nm,18.2s,baz=15,slow=37						
	comp=Z,2.3nm,0.8s						
MT09	**Talagante**	**36.65**	**288**	P	**P**	**03 26 07.5**	**-0.1**
MT09				IAmb	IAmb	03 26 08.3	
	comp=Z,17nm,0.9s						
MT01	**Popeta**	**36.73**	**287**		**P**	**03 26 07.3**	**-0.7**
MT01				IAmb	IAmb	03 26 09.2	
	comp=Z,52nm,1.6s						
CFA	**Coronel Fontan**	**36.85**	**293**	P	**P**	**03 26 07.3**	**-1.8**
	comp=Z,1.5nm,0.5s,baz=152,slow=10.0,SNR=3.1						
	comp=Z,1.5nm,0.5s						
MT02	**Curacav**	**37.13**	**288**	P	**P**	**03 26 11.5**	**+0.1**
MT02				IAmb	IAmb	03 26 29.8	
	comp=Z,24nm,1.2s						
VA03	**San Esteban**	**37.19**	**289**	P	**P**	**03 26 12.8**	**+0.8**
VA03				IAmb	IAmb	03 26 25.7	
	comp=Z,21nm,0.8s						
VA06	**Catapilco**	**37.74**	**289**		**P**	**03 26 17.0**	**+0.3**
MAW	**Mawson**	**41.06**	**144**	P	**P**	**03 26 42.9**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=232,slow=12,SNR=5.6						
MAW				LR	LR	03 43 40.0	
	comp=Z,246nm,18.9s,baz=260,slow=36						
	comp=Z,1.1nm,0.3s						
AC02	**Maricunga**	**41.13**	**297**		**P**	**03 26 46.9**	**+1.4**
BDFB	**Brasilia**	**42.45**	**331**	LR	LR	03 44 02.5	
	comp=Z,593nm,18.8s,baz=155,slow=36						
GO02	**Mina Guanaco**	**42.74**	**297**		**P**	**03 26 59.0**	**+0.5**
PB01	**IPOC Station P**	**46.13**	**301**	P	**P**	**03 27 25.1**	**-0.2**
PB01				IAmb	IAmb	03 27 38.4	
	comp=Z,16nm,0.9s						
BOSA	**Boshof**	**46.20**	**77**		**P**	**03 27 25.5**	**-0.3**
BOSA				IAmb	IAmb	03 27 25.9	
	comp=Z,9.9nm,0.7s						
BOSA	**Boshof**	**46.20**	**77**	P	**P**	**03 27 24.5**	**-1.4**
	comp=Z,9.0nm,0.7s,baz=214,slow=7.7,SNR=24						
BOSA				LR	LR	03 43 40.0	
	comp=Z,518nm,18.4s,baz=206,slow=32						
	comp=Z,9.0nm,0.7s						
GO01	**Chusmiza**	**47.15**	**302**	P	**P**	**03 27 34.4**	**+0.6**
GO01				IAmb	IAmb	03 27 46.9	
	comp=Z,12nm,0.8s						
PB11	**IPOC Station P**	**47.30**	**301**		**P**	**03 27 34.8**	**+0.2**
VNDA	**Vanda**	**47.36**	**183**		**P**	**03 27 35.1**	**+0.8**
VNDA				IAmb	IAmb	03 27 47.6	
	comp=Z,8.3nm,0.8s						
VNDA	**Vanda**	**47.36**	**183**	P	**P**	**03 27 34.6**	**+0.3**
	comp=Z,5.5nm,0.9s,baz=184,slow=7.0,SNR=26						
	comp=Z,5.5nm,0.9s						
LKGWB	**Lokgwabe**	**47.53**	**70**		**P**	**03 27 38.4**	**+2.1**
LBTB	**Lobatse**	**49.19**	**75**		**P**	**03 27 48.5**	**-0.7**
LBTB				IAmb	IAmb	03 27 49.3	
	comp=Z,17nm,1.0s						
LBTB	**Lobatse**	**49.19**	**75**	LR	LR	03 46 00.1	
	comp=Z,273nm,18.6s,baz=208,slow=33						
LPAZ	**La Paz**	**49.56**	**305**	P	**P**	**03 27 52.8**	**+0.2**
	comp=Z,6.7nm,0.8s,baz=218,slow=5.0,SNR=2.8						
LPAZ				LR	LR	03 52 39.4	
	comp=Z,157nm,18.1s,baz=159,slow=41						
	comp=Z,6.7nm,0.8s						
TSUM	**Tsumeb**	**49.67**	**62**	LR	LR	03 45 42.1	
	comp=Z,301nm,18.3s,baz=149,slow=32						
GRTLG	**Ghanzi**	**49.76**	**67**	IAmb	IAmb	03 27 53.5	
	comp=Z,24nm,1.4s						
KDWAN	**Kaudwane**	**49.98**	**72**	IAmb	IAmb	03 27 55.3	
	comp=Z,13nm,1.0s						
KHWEE	**KHWEE**	**51.56**	**72**	IAmb	IAmb	03 28 07.2	
	comp=Z,21nm,1.1s						
PHDHD	**Phuduhudu**	**52.49**	**70**	IAmb	IAmb	03 28 13.6	
	comp=Z,46nm,1.6s						
MATP	**Matopo**	**54.46**	**74**	LR	LR	03 49 07.3	
	comp=Z,265nm,18.7s,baz=214,slow=33						
DBIC	**Dimbokro**	**64.61**	**26**	LR	LR	03 51 35.8	
	comp=Z,174nm,18.7s,baz=187,slow=30						
ROSC	**El Rosal**	**71.03**	**310**	LR	LR	04 04 17.9	
	comp=Z,302nm,19.1s,baz=245,slow=38						
PCRV	**Puerto La Cruz**	**72.05**	**322**	LR	LR	04 04 03.0	
	comp=Z,284nm,19.3s,slow=38						
TORD	**Torodi Ar. Bea**	**72.56**	**30**	P	**P**	**03 30 27.3**	**-0.6**
	comp=Z,5.3nm,0.8s,baz=204,slow=3.2,SNR=5.4						
FURI	**Furi**	**84.34**	**66**	LR	LR	04 07 03.3	
	comp=Z,111nm,18.2s,baz=195,slow=34						
TBI	**Tubuai**	**87.25**	**232**	*e*LR	LR	03 59 20.2	
	comp=Z,459nm,29.5s						
ATD	**Arta Tunnel**	**88.75**	**68**	LR	LR	04 10 47.1	
	comp=Z,11nm,18.0s,baz=172,slow=35						
MDT	**Midelt**	**89.96**	**19**	LR	LR	04 08 36.9	
	comp=Z,211nm,18.1s,baz=236,slow=33						
CMIG	**Matias Romero**	**91.43**	**298**	LR	LR	04 12 33.7	
	comp=Z,84nm,18.5s,baz=130,slow=35						
PPT2	**Papeete2**	**92.31**	**234**	*e*SS	SS	03 49 19.9	-4.1
	comp=Z,64nm,26.5s						
PPT2	**Papeete2**	**92.31**	**234**	*e*LR	LR	04 01 39.9	
	comp=Z,102nm,34.8s						
PPT2				*e*LR	LR	04 01 50.5	
	comp=Z,79nm,25.5s						
PPT	**Papeete**	**92.33**	**234**	LR	LR	04 08 35.3	

comp=Z,59nm,18.3s,baz=148,slow=32
STKA Stephens Creek 92.77 171 LR LR 04 14 01.8
comp=Z,247nm,18.1s,baz=207,slow=36
KEST Kesra 96.08 30 LR LR 04 12 13.2
comp=Z,238nm,18.5s,baz=9.2,slow=33
ASAR Alice Springs 99.89 163 LR LR 04 17 50.2
comp=Z,126nm,18.7s,baz=152,slow=35
FINES FINESS Array B 123.86 28 PKP **PKPdf 03 37 56.4 -1.1**
comp=Z,0.9nm,0.8s,baz=248,slow=1.5,SNR=4.4
CMAR Chiang Mai Arr 125.75 111 PKP **PKPdf 03 38 02.0 -0.6**
comp=Z,1.1nm,0.3s,baz=208,slow=3.2,SNR=5.6
ARCES ARCESS Array B 130.35 22 PKP **PKPdf 03 38 09.0 -0.7**
comp=Z,1.0nm,0.7s,baz=0.0,slow=2.4,SNR=4.0
BVAR Borovoye Array 134.70 57 PKP **PKPdf 03 38 17.8 -0.7**
comp=Z,1.6nm,0.7s,baz=279,slow=2.9,SNR=5.4
WMQ Urumqi 138.16 78 *e*PKP **PKPdf 03 38 24.0 -1.2**
WMQ sPKP 03 38 40.0
WMQ LR LR
comp=Z,160nm,19.9s
XAN Xi'an 143.50 107 *e*PKP **PKiKP 03 38 39.5 +1.0**
LYN LuoYang 145.80 111 PKPbc **PKPdf 03 38 40.8 +1.7**
LYN pPKP sPKPab 03 38 43.0 +1.1
LYN sPKP 03 38 45.0
E29M Blow River 146.49 321 **PKPdf 03 38 40.0 +0.9**
NJ2 Nanjing 147.13 121 *e*P **PKPdf 03 38 42.0 +0.6**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
HNS HongShan 149.13 110 ⇓PKPbc **PKPbc 03 38 50.0 +1.3**
ILAR Eielson Array 149.25 313 **PKPbc 03 38 48.3 +0.2**
ILAR Eielson Array 149.25 313 PKPbc **PKPbc 03 38 48.0 -0.1**
comp=Z,9.6nm,0.8s,baz=121,slow=1.7,SNR=80
CCB Clear Creek Bu 149.62 312 **PKPbc 03 38 48.9 -0.2**
SONM Songino Array 151.10 86 PKPbc **PKPbc 03 38 53.7 +0.4**
comp=Z,6.1nm,0.8s,baz=215,slow=2.5,SNR=10
N19K Bonanza Creek 151.84 303 **PKPbc 03 38 54.1 -0.4**
IMAR Indian Mountai 152.26 315 **PKPbc 03 38 56.0 +0.7**

*IDC **27** 03:25:33.7±2.5, 7°.47S×127°.72E, h155km±22km, mb3.9/12, mbtmp4.4/14, Error ellipse: s-maj=30.3km s-min=11.1km az=71.0*
*NEIC **27** 03:25:34.4±2.4, 7°.61S±0°.09×127°.56E±0°.03, h148km±8km, mb4.4/18, Error ellipse: s-maj=13.6km s-min=5.0km az=179.0*
*DJA **27** 03:26:04.2±0.5, 8°S±5°×12°5E±°, h104km±10km, M4.5/13, mB5.4/4, mb4.7/6, MLv4.4/13, Mw(mB)4.9/4*
ISC 27 03:25:34.7±0.4, 7°.66S±0°.05×127°.60E±0°.06, h162km, n64, σ1§51/63, mb4.3/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.68**	**95**	Pn	**Pn**	**03 26 32.1**	**+0.9**
SOEI	**Soe**	**3.90**	**237**		**Pn**	**03 26 35.0**	**+0.9**
SOEI	**Soe**	**3.90**	**237**	P	**Pn**	**03 26 34.9**	**+0.8**
MSAI	**Masohi**	**4.49**	**17**	P	**Sn**	**03 27 31.5**	**-2.4**
0.4nm3µm77nm,0.7s							
BATI	**Baumata**	**4.64**	**237**	P	**Pn**	**03 26 44.5**	**+0.8**
179nm,0.5s,baz=158,slow=2.4,SNR=16							
BATI				S	**Sn**	**03 27 35.8**	**-1.7**
112nm,0.4s,baz=56,slow=20,SNR=19							
BATI	**Baumata**	**4.64**	**237**	P	**Pn**	**03 26 44.2**	**+0.5**
MMRI	**Maumere**	**5.39**	**259**	P	**Pn**	**03 26 52.7**	**-0.9**
KDI	**Kendari**	**6.17**	**306**	P	Pn	03 27 20.0	+16
BASI	**Baing, Sumba**	**7.39**	**249**	P	**Pn**	**03 27 19.1**	**-0.9**
0.7nm168nm,1.3s							
WSI	**Waingapu**	**7.49**	**254**	P	**Pn**	**03 27 20.4**	**-0.9**
KNRA	**Kununurra**	**8.05**	**172**		**Pn**	**03 27 27.5**	**-1.3**
LUWI	**Luwuk**	**8.14**	**324**	P	Pn	03 27 53.8	+24
PLAI	**Plampang**	**9.79**	**263**	P	**Pn**	**03 27 50.2**	**-1.7**
0.1nm18nm,0.8s							
FITZ	**Fitzroy Crossi**	**10.55**	**190**		**Pn**	**03 27 59.0**	**-2.8**
FITZ	**Fitzroy Crossi**	**10.55**	**190**	P	**Pn**	**03 27 58.7**	**-3.1**
22nm,0.4s,baz=23,slow=11,SNR=131							
FITZ				S	Sn	03 29 48.4	-10
57nm,0.7s,baz=265,slow=23,SNR=15							
TOLI2	**Tolitoli**	**11.05**	**322**		**Pn**	**03 28 11.5**	**+3.0**
WRA	**Warramunga Arr**	**13.85**	**153**		**Pn**	**03 28 41.5**	**-2.9**
WRA	**Warramunga Arr**	**13.85**	**153**	P	**Pn**	**03 28 41.0**	**-3.3**
32nm,0.8s,baz=317,slow=14,SNR=152							
WRA				S	Sn	03 31 05.8	-12
44nm,0.9s,baz=333,slow=22,SNR=12							
WR8	**Warramunga Arr**	**13.94**	**152**		**Pn**	**03 28 42.4**	**-3.0**
PSA00	**Pilbara Seismi**	**15.73**	**208**	P	**P**	**03 29 07.8**	**-0.4**
PSA00	**Pilbara Seismi**	**15.73**	**208**		**P**	**03 29 07.8**	**-0.4**
PSA00				IAmb	IAmb	03 29 08.4	
comp=Z,8.1nm,0.7s							
COEN	**Coen**	**16.53**	**114**		**P**	**03 29 17.2**	**+0.1**
COEN				IAmb	IAmb	03 29 20.7	
comp=Z,48nm,1.2s							
AS31	**Alice Springs**	**17.03**	**160**		**Pn**	**03 29 24.1**	**+0.7**
ASAR	**Alice Springs**	**17.03**	**160**	P	**Pn**	**03 29 23.1**	**-0.3**
ASAR	**Alice Springs**	**17.03**	**160**	P	**Pn**	**03 29 23.4**	**-0.1**
comp=Z,48nm,0.5s,baz=339,slow=11,SNR=313							
ASAR				S	S	03 32 20.7	-11
comp=Z,6.0nm,0.7s,baz=346,slow=25,SNR=8.0							
ASAR				ScP	**ScP**	**03 37 17.9**	**-1.3**
comp=Z,2.0nm,0.5s,baz=345,slow=1.2,SNR=4.2							
SBUM	**Sibu**	**18.34**	**303**	P	**Pn**	**03 29 38.9**	**0.0**
SBUM				IAmb	IAmb	03 29 40.3	
comp=Z,24nm,1.0s							
PMG	**Port Moresby**	**19.42**	**97**	P	**Pn**	**03 29 51.1**	**-0.6**
comp=Z,35nm,0.8s,baz=269,slow=5.6,SNR=5.9							
FORT	**Forrest**	**23.01**	**179**	P	**P**	**03 30 26.1**	**+0.6**
FORT				IAmb	IAmb	03 31 00.5	
comp=Z,9.7nm,1.0s							
INKA	**Innaminka**	**23.54**	**150**	P	**P**	**03 30 31.6**	**+1.3**
INKA				IAmb	IAmb	03 30 34.3	
comp=Z,8.7nm,0.7s							
MORW	**Morawa**	**23.92**	**206**	P	**P**	**03 30 35.0**	**+1.2**
MORW				IAmb	IAmb	03 30 43.7	
comp=Z,10.0nm,1.1s							
BBOO	**Buckleboo**	**26.23**	**164**	P	**P**	**03 30 55.7**	**+1.0**
STKA	**Stephens Creek**	**27.40**	**153**	P	**P**	**03 31 05.9**	**+0.7**
STKA	**Stephens Creek**	**27.40**	**153**	P	**P**	**03 31 05.5**	**+0.3**
comp=Z,3.2nm,0.5s,baz=333,slow=8.3,SNR=14							
comp=Z,3.2nm,0.5s							
KULM	**Kulim**	**29.80**	**295**	P	**P**	**03 31 26.4**	**-0.3**
KULM				IAmb	IAmb	03 31 26.6	
comp=Z,10nm,0.8s							
RPSI	**Rantau Prapat**	**30.40**	**289**		**P**	**03 31 30.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**38.38**	**313**	P	**P**	**03 32 40.2**	**-0.2**
comp=Z,1.5nm,0.3s,baz=128,slow=8.5,SNR=9.6							
CMAR				PcP	**PcP**	**03 34 50.7**	**-0.1**
comp=Z,0.8nm,0.3s,baz=128,slow=3.5,SNR=4.1							
comp=Z,1.5nm,0.3s							
PZH	**PanZhiHua**	**42.22**	**324**	P	**P**	**03 33 14.8**	**+2.7**
HHC	**Hu-ho-hao-te**	**50.48**	**344**	*e*P	**P**	**03 34 20.0**	**+3.8**
HHC				pmax	pmax		
comp=Z,16nm,0.6s							
HHC				pmax	pmax		
comp=Z,54nm,4.8s							
USRK	**Ussuriysk Ar.**	**51.77**	**4**	P	**P**	**03 34 24.3**	**-1.3**
comp=Z,2.1nm,0.7s,baz=187,slow=6.4,SNR=4.8							
comp=Z,2.1nm,0.7s							
TUWZ	**Tuamarina**	**53.00**	**137**	P	**P**	**03 34 36.4**	**+1.6**
GTA	**Gaotai**	**53.44**	**333**	*e*P	**P**	**03 34 38.8**	**+0.6**
GTA				pmax	pmax		
comp=Z,10.0nm,0.8s							
GTA				LR	LR		
comp=N,77nm,15.3s							
GTA				LR	LR		
comp=E,88nm,16.0s							
GTA				LR	LR		
comp=Z,130nm,14.5s							
ULN	**Ulaanbaatar**	**58.19**	**344**	P	**P**	**03 35 11.6**	**-0.3**
ULN				IAmb	IAmb	03 35 13.5	
comp=Z,7.4nm,1.1s							
SONM	**Songino Array**	**58.35**	**343**	P	**P**	**03 35 11.8**	**-1.2**
SONM	**Songino Array**	**58.35**	**343**	P	**P**	**03 35 12.1**	**-0.9**
comp=Z,1.9nm,0.8s,baz=160,slow=7.6,SNR=8.4							
comp=Z,1.9nm,0.8s							
WMQ	**Urumqi**	**62.67**	**328**	*e*P	**P**	**03 35 44.5**	**+2.2**
WMQ				pmax	pmax		
comp=Z,35nm,0.7s							
PETK	**Petropavlovsk-**	**65.71**	**19**	P	**P**	**03 35 59.6**	**-2.1**
comp=Z,5.6nm,0.8s,baz=225,slow=8.0,SNR=2.8							
comp=Z,5.6nm,0.8s							
MKAR	**Makanchi Array**	**67.50**	**328**	P	**P**	**03 36 12.3**	**-1.0**
MKAR	**Makanchi Array**	**67.50**	**328**	P	**P**	**03 36 12.5**	**-0.7**
comp=Z,4.3nm,0.8s,baz=130,slow=8.0,SNR=38							
comp=Z,4.3nm,0.8s							
BOOM	**Boomskoye usch**	**68.55**	**321**	IAmb	IAmb	03 36 20.6	
comp=Z,3.0nm,0.6s							
ZAA0	**Zalesovo Array**	**71.14**	**335**	IAmb	IAmb	03 37 04.1	
comp=Z,4.1nm,0.9s							
ZALV	**Zalesovo Beam**	**71.14**	**335**	P	**P**	**03 36 33.9**	**-1.6**
comp=Z,1.9nm,0.5s,baz=134,slow=4.2,SNR=12							
comp=Z,1.9nm,0.5s							
KURBB	**Kurchatov Arra**	**71.84**	**330**	P	**P**	**03 36 38.5**	**-1.3**
comp=Z,4.9nm,0.7s,baz=135,slow=5.1,SNR=22							
comp=Z,4.9nm,0.7s							
KURK	**Kurchatov**	**71.86**	**330**	P	**P**	**03 36 39.0**	**-0.8**
KURK				IAmb	IAmb	03 36 40.1	
comp=Z,6.6nm,0.6s							
VNDA	**Vanda**	**72.09**	**173**	P	**P**	**03 36 41.5**	**+0.7**
VNDA	**Vanda**	**72.09**	**173**	P	**P**	**03 36 41.3**	**+0.4**
comp=Z,0.9nm,0.4s,baz=314,slow=9.1,SNR=21							
comp=Z,0.9nm,0.4s							
BVAR	**Borovoye Array**	**77.36**	**329**	P	**P**	**03 37 10.6**	**-0.9**
comp=Z,0.8nm,0.5s,baz=116,slow=5.4,SNR=5.7							
comp=Z,0.8nm,0.5s							
QSPA	**South Pole Qui**	**82.32**	**180**	P	**P**	**03 37 40.2**	**+2.0**
comp=Z,1.3nm,0.6s,baz=322,slow=0.8,SNR=12							
comp=Z,1.3nm,0.6s							
SNAA	**Sanae**	**94.46**	**194**	P	**P**	**03 38 36.9**	**+0.7**
comp=Z,0.5nm,0.6s,baz=146,slow=3.6,SNR=1.9							
comp=Z,0.5nm,0.6s							
PDAR	**Pinedale Array**	**119.04**	**45**	PKP	**PKPdf**	**03 44 03.6**	**-1.2**
comp=Z,0.5nm,0.5s,baz=278,slow=4.0,SNR=6.0							
ESDC	**Sonseca Array**	**126.28**	**314**	PKP	**PKPdf**	**03 44 17.4**	**-1.2**
comp=Z,0.2nm,0.5s,baz=62,slow=2.4,SNR=4.8							
TORD	**Torodi Ar. Bea**	**126.59**	**281**	PKP	**PKPdf**	**03 44 19.6**	**-0.1**
comp=Z,2.5nm,1.0s,baz=70,slow=3.7,SNR=9.0							
TXAR	**Lajitas Array**	**127.31**	**59**	PKP	**PKPdf**	**03 44 20.5**	**-0.4**
comp=Z,0.3nm,0.7s,baz=326,slow=1.8,SNR=3.8							
CPUP	**Villa Florida**	**145.88**	**172**	PKPbc	**PKPbc**	**03 44 55.9**	**+0.1**
comp=Z,0.6nm,0.7s,baz=184,slow=0.8,SNR=4.9							
SIV	**San Ignacio**	**154.98**	**160**	PKPab	**PKPab**	**03 45 34.4**	**+0.3**
comp=Z,0.8nm,0.8s,baz=250,slow=8.2,SNR=3.9							

*IDC **27** 03:32:24.0±0.7, 42°.17N×144°.54E, h0km, mb4.0/24, mbtmp4.0/27, ML3.1/3, MS3.3/13, Error ellipse: s-maj=18.6km s-min=16.2km az=138.0*
*BJI **27** 03:32:26.0, 41°.93N×144°.55E, h37km, mB4.5/6, mb4.5/23, Ms3.7/6, Ms7 3.7/8*
*MOS **27** 03:32:27.6±0.9, 41°.98N×144°.56E, h42km, mb4.6/16, Error ellipse: s-maj=9.6km s-min=6.2km az=94.4*
*SKHL **27** 03:32:28.1±0.4, 42°.00N×144°.60E, h52km±5km, mb4.9/3*
*NIED **27** 03:32:28.3, 42°.06N×144°.55E, h37km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.13; Mθθ-0.33; Mφφ-0.80; Mrθ0.23; Mθφ-0.78; Mrφ0.84; Fault plane solution: M₀1.54000×10¹⁵ NP1: φs233.00000°, δs31.00000°, λs116.00000°. NP2: φs23.00000°, δs63.00000°, λs75.00000°.*
*JMA **27** 03:32:28.3±0.1, 42°.1N±0°.2×144°.6E±0°.5, h37km±1km, MD4.1/31, MV4.2/31, SE OFF TOKACHI*
*NEIC **27** 03:32:29.1±2.1, 42°.01N±0°.08×144°.5E±0°.1, h37km±9km, mb4.6/20, Error ellipse: s-maj=14.8km s-min=11.2km az=119.0*
ISC 27 03:32:29.1±0.6, 42°.03N±0°.05×144°.55E±0°.04, h38km±1km, n157, σ1§06/155, mb4.3/57, MS3.6/14, 8C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTHR	**Tokachihiroo**	**0.96**	**286**	*i* P	**Pn**	**03 32 45.6**	**-0.4**
JTHR				*e*S	**Sn**	**03 32 58.8**	**+0.3**
JTHR	**Tokachihiroo**	**0.96**	**286**	A	A	03 32 45.6	
comp=N,10.0nm,1.8s,comp=E,13nm,0.8s							
JAK	**Akkeshi**	**0.97**	**7**	P	**Pn**	**03 32 45.5**	**-0.6**
JAK				*e*S	**Sn**	**03 32 58.9**	**+0.3**
JAK	**Akkeshi**	**0.97**	**7**	A	A	03 32 45.5	
comp=N,9.0nm,0.7s,comp=E,13nm,0.7s							
AKK	**Akkeshi**	**1.01**	**12**	*e*P	**Pn**	**03 32 46.1**	**-0.5**
JOB	**Onbets**	**1.02**	**329**	P	**Pn**	**03 32 46.5**	**-0.2**
JOB	**Onbets**	**1.02**	**329**	A	A	03 32 46.5	
comp=N,20nm,2.5s,comp=E,13nm,0.6s							
ERM	**Erimo**	**1.03**	**270**		**Pn**	**03 32 47.2**	**+0.2**
ERM	**Erimo**	**1.03**	**270**	P	**Pn**	**03 32 47.2**	**+0.2**
JEM	**Erimo**	**1.03**	**270**	*e*P	**Pn**	**03 32 46.7**	**-0.3**
JEM				*e*S	**Sn**	**03 33 01.2**	**+1.0**
JEM	**Erimo**	**1.03**	**270**	A	A	03 32 46.7	
comp=N,9.0nm,1.8s,comp=E,6.0nm,3.6s							
JCH	**Churui**	**1.05**	**304**	P	**Pn**	**03 32 46.8**	**-0.4**
JCH				*e*S	**Sn**	**03 33 00.5**	**-0.1**
JCH	**Churui**	**1.05**	**304**	A	A	03 32 46.8	
comp=N,8.0nm,1.5s,comp=E,6.0nm,1.7s							
JKHN	**Kushirohamanak**	**1.14**	**23**	P	**Pn**	**03 32 48.4**	**-0.1**
JKHN				*e*S	**Sn**	**03 33 03.3**	**+0.4**
JKHN	**Kushirohamanak**	**1.14**	**23**	A	A	03 32 48.4	
comp=N,10.0nm,1.5s,comp=E,9.0nm,1.2s							
JNBK	**Urakawa-nobuka**	**1.36**	**281**	*e*P	**Pn**	**03 32 50.5**	**-0.9**
JNBK	**Urakawa-nobuka**	**1.36**	**281**	A	A	03 32 50.5	
comp=N,9.0nm,1.2s,comp=E,9.0nm,0.7s							
JAR	**Ashorobuto**	**1.39**	**336**	P	**Pn**	**03 32 51.0**	**-0.9**
JAR				*e*S	**Sn**	**03 33 08.4**	**-0.5**
JAR	**Ashorobuto**	**1.39**	**336**	A	A	03 32 51.0	
comp=N,5.0nm,1.6s,comp=E,4.0nm,1.1s							
NMR	**Nemuro--Hokkai**	**1.60**	**33**	*i* P	**Pn**	**03 32 53.9**	**-0.8**
NMR				*i* S	**Sn**	**03 33 12.8**	**-1.2**
NMR	**Nemuro--Hokkai**	**1.60**	**33**	*i* P	**Pn**	**03 32 53.9**	**-0.8**
NMR				*i* S	**Sn**	**03 33 12.8**	**-1.2**
JNSB	**Nemuroshibetsu**	**1.77**	**11**	A	A	03 32 57.1	
comp=N,7.0nm,1.3s,comp=E,6.0nm,1.9s							
GLVR	**Golovnino**	**1.85**	**22**	*e*P	**Pn**	**03 32 57.7**	**-0.5**
GLVR				*i* S	**Sn**	**03 33 20.5**	**+0.2**
GLVR				pmax	pmax		
comp=N,91nm,0.2s							
GLVR				pmax	pmax		
comp=Z,214nm,0.2s							
GLVR				smax	smax		
comp=N,2µm,0.3s							
GLVR				smax	smax		
comp=E,2µm,0.3s							
GLVR	**Golovnino**	**1.85**	**22**	*e*P	**Pn**	**03 32 57.7**	**-0.5**
GLVR				AMB	AMB	03 33 00.0	
comp=E,210nm,0.2s							
GLVR				*i* S	**Sn**	**03 33 20.5**	**+0.2**
GLVR				A	A	03 33 24.8	
comp=E,2µm,0.3s							
GLVR				A	A	03 33 24.8	
comp=E,2µm,0.3s							
RUSJ	**Misakicho**	**2.13**	**14**	*e*P	**Pn**	**03 33 02.3**	**+0.2**
RUSJ				*i* S	**Sn**	**03 33 30.9**	**+3.6**
YUK	**Yuzh-Kuril'sk**	**2.22**	**25**	*e*P	**Pn**	**03 33 03.5**	**+0.2**
YUK				*i* S	**Sn**	**03 33 29.4**	**-0.1**
YUK				pmax	pmax		
comp=Z,235nm,0.3s							
YUK				pmax	pmax		
comp=N,70nm,0.2s							
YUK				pmax	pmax		
comp=E,115nm,0.3s							
YUK				smax	smax		
comp=E,1µm,0.5s							
YUK				smax	smax		
comp=N,668nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.22**	**25**	*e*P	**Pn**	**03 33 03.5**	**+0.2**
YUK				AMB	AMB	03 33 09.2	
comp=N,240nm,0.3s							
YUK				*i* S	**Sn**	**03 33 29.4**	**-0.1**
YUK				A	A	03 33 35.2	
comp=N,670nm,0.4s							
YUK				A	A	03 33 35.2	
comp=N,1µm,0.4s							
SHO	**Shikotan**	**2.49**	**42**	*e*P	Pn	03 33 12.0	+5.0
SHO				AMB	AMB	03 33 13.8	
comp=N,30nm,0.3s							
SHO				*e*S	**Sn**	**03 33 39.3**	**+3.3**
SHO				A	A	03 33 40.9	
comp=N,310nm,0.3s							
SHO				A	A	03 33 40.9	
comp=N,420nm,0.3s							
JKA	**Kamikawa-asahi**	**2.52**	**326**		**Pn**	**03 33 07.9**	**+0.4**
JKA	**Kamikawa-asahi**	**2.52**	**326**	*e*P	**Pn**	**03 33 07.9**	**+0.4**
ASAJ	**Asahikawa**	**2.52**	**326**	Pn	**Pn**	**03 33 07.5**	**0.0**
comp=N,6.5nm,0.3s,baz=162,slow=15,SNR=40							
ASAJ				Sn	**Sn**	**03 33 38.9**	**+1.9**
comp=N,20nm,0.3s,baz=229,slow=33,SNR=4.2							
ASAJ				LR	LR	03 34 27.5	
comp=N,526nm,20.2s,baz=192,slow=51							
ASAJ	**Asahikawa**	**2.52**	**326**	P	**Pn**	**03 33 07.9**	**+0.4**
JTM	**Tenmabayashi**	**2.90**	**246**		**Pn**	**03 33 12.4**	**-0.2**
KUR	**Kuril'sk**	**4.01**	**36**	*e*P	**Pn**	**03 33 28.6**	**+0.8**
KUR				*e*S	**Sn**	**03 34 13.2**	**-0.3**
KUR				pmax	pmax		
comp=Z,80nm,0.4s							
KUR				smax	smax		
comp=N,162nm,0.3s							
KUR				smax	smax		
comp=E,88nm,0.2s							
KUR	**Kuril'sk**	**4.01**	**36**	*e*P	**Pn**	**03 33 28.9**	**+1.1**
KUR				AMB	AMB	03 33 41.0	
comp=E,80nm,0.4s							
KUR				*e*S	**Sn**	**03 34 13.2**	**-0.3**
KUR				A	A	03 34 20.3	
comp=E,160nm,0.2s							
KUR				A	A	03 34 20.3	
comp=E,90nm,0.2s							
JMM	**Marumori**	**5.06**	**216**		**Pn**	**03 33 40.3**	**-2.0**
YSS	**Yuzhno-Sakhali**	**5.08**	**346**	*e*P	**Pn**	**03 33 44.0**	**+1.4**
YSS				*e*S	**Sn**	**03 34 41.5**	**+1.5**
YSS				pmax	pmax		
comp=Z,20nm,0.7s							
YSS				smax	smax		
comp=N,20nm,1.1s							
YSS				smax	smax		
comp=E,30nm,0.8s							
YSS				MLR	MLR		
comp=Z,300nm,15.0s							
YSS				MLR	MLR		
comp=E,200nm,15.0s							
YSS	**Yuzhno-Sakhali**	**5.08**	**346**	*e*P	**Pn**	**03 33 44.0**	**+1.4**
YSS				*e*S	**Sn**	**03 34 41.5**	**+1.5**
TEY	**Ternei**	**6.51**	**300**	*e*P	Pn	03 34 07.2	+5.1
TEY	**Ternei**	**6.51**	**300**	*e*P	Pn	03 34 07.2	+5.1
MJB9	**Matsu-Tunnel**	**7.36**	**224**	Pn	**Pn**	**03 34 14.6**	**+0.7**
MAJO	**Matsushiro**	**7.36**	**224**	Pn	**Pn**	**03 34 13.4**	**-0.5**
MAJO	**Matsushiro**	**7.36**	**224**	P	**Pn**	**03 34 13.4**	**-0.5**
MJAR	**Matsushiro Arr**	**7.36**	**224**	Pn	**Pn**	**03 34 13.6**	**-0.4**
comp=E,0.1nm,0.3s,baz=32,slow=13,SNR=13							
MJAR				LR	LR	03 36 39.1	
comp=E,30nm,21.4s,baz=60,slow=34							
comp=E,2.9nm,0.5s							
USRK	**Ussuriysk Ar.**	**9.44**	**287**	Pn	**Pn**	**03 34 40.0**	**-2.3**
comp=E,0.2nm,0.3s,baz=98,slow=14,SNR=2.7							
comp=E,3.0nm,0.7s							
BNX	**BinXian**	**12.91**	**292**	⇓P	**Pn**	**03 35 29.8**	**0.0**
BNX				pmax	pmax		
comp=E,7.0nm,1.0s							
KSRS	**Korea Array**	**13.58**	**256**	Pn	**Pn**	**03 35 38.6**	**-0.3**
comp=E,0.1nm,0.3s,baz=62,slow=13,SNR=4.6							
comp=E,1.3nm,0.8s							
JNU	**Nakatsue**	**14.01**	**235**	LR	LR	03 42 00.7	
comp=E,79nm,18.5s,baz=49,slow=41							
ZEA	**Zeya**	**16.43**	**321**	*e*P	**Pn**	**03 36 17.6**	**+1.1**
ZEA				pmax	pmax		
comp=Z,10.0nm,0.9s							
ZEA				MLR	MLR		
comp=Z,100nm,12.0s							
ZEA	**Zeya**	**16.43**	**321**	*e*P	**Pn**	**03 36 17.6**	**+1.1**
MA2	**Magadan**	**17.98**	**10**	LR	LR	03 43 54.7	
comp=Z,42nm,20.7s,baz=184,slow=39							
XLT	**XiLinHaoTe**	**20.87**	**285**	*e*P	Pn	03 37 11.8	+1.3
XLT				sP	sP	03 37 27.5	+4.9
XLT				pmax	pmax		
comp=Z,13nm,0.8s							
XLT				pmax	pmax		
comp=Z,85nm,4.0s							
SEY	**Seymchan**	**21.44**	**10**	P	**P**	**03 37 10.8**	**-2.8**
comp=Z,3.0nm,0.7s,baz=202,slow=19,SNR=3.0							
comp=Z,3.0nm,0.7s							
BJI	**Beijing**	**21.45**	**274**	P	**P**	**03 37 12.0**	**-1.9**
BJI				pmax	pmax		
comp=Z,2.0nm,0.4s							
BJI				LR	LR		
comp=Z,46nm,14.3s							
BJI				LR	LR		
comp=Z,46nm,16.0s							
BJI				LR	LR		
comp=Z,66nm,17.7s							
YAK	**Yakutsk**	**21.91**	**341**	LR	LR	03 46 19.6	
comp=Z,43nm,21.9s,baz=96,slow=38							
YAK	**Yakutsk**	**21.91**	**341**	*e*P	**P**	**03 37 15.0**	**-3.6**
YAK				*e**PP	**sP**	**03 37 31.1**	**-2.2**
YAK				*e*S	S	03 41 06.3	-12
YAK				pmax	pmax		
comp=Z,26nm,1.0s							
YAK				pmax	pmax		
comp=N,8.0nm,1.4s							
YAK				pmax	pmax		
comp=E,5.0nm,1.1s							
YAK				smax	smax		
comp=E,142nm,6.8s							
YAK				smax	smax		
comp=N,107nm,6.4s							
NJ2	**Nanjing**	**22.72**	**252**	*e*P	**P**	**03 37 26.0**	**-1.6**
NJ2				pmax	pmax		
comp=N,7.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**24.67**	**278**	*e*P	**P**	**03 37 46.0**	**-0.3**
HHC				pmax	pmax		
comp=N,10.0nm,0.6s							
HHC				pmax	pmax		
comp=N,36nm,5.9s							
HHC				LR	LR		
comp=N,58nm,10.6s							
HHC				LR	LR		
comp=N,110nm,10.8s							
HHC				LR	LR		
comp=N,97nm,11.0s							
BTO	**Baotou**	**25.87**	**279**	*e*P	**P**	**03 37 57.5**	**+0.3**
BTO				sP	**sP**	**03 38 15.0**	**+2.7**
BTO				S	**S**	**03 42 26.5**	**+2.0**
BTO				pmax	pmax		
comp=N,21nm,0.5s							
BTO				pmax	pmax		
comp=N,120nm,5.8s							
BTO				LR	LR		
comp=N,150nm,6.9s							
BTO				LR	LR		
comp=N,260nm,6.6s							
BTO				LR	LR		
comp=N,220nm,12.2s							
ULN	**Ulaanbaatar**	**26.98**	**295**	*ce*P	**P**	**03 38 08.8**	**+1.6**
ULN				pmax	pmax		
comp=Z,3.0nm,1.2s							
ULN	**Ulaanbaatar**	**26.98**	**295**	*e*P	**P**	**03 38 08.8**	**+1.6**
SONM	**Songino Array**	**27.42**	**295**		**P**	**03 38 11.

MKAR	Makanchi Array	43.70	298	P		P	03 40 29.6	-0.5	
MKAR	Makanchi Array	43.70	298	P		P	03 40 30.3	+0.1	
	comp=Z,0.6nm,0.5s,baz=76,slow=12,SNR=9.4								
	comp=Z,0.6nm,0.5s								
ILAR	Eielson Array	44.00	35	P		P	03 40 32.7	+0.4	
	comp=Z,1.2nm,1.0s,baz=247,slow=6.5,SNR=4.2								
	comp=Z,1.2nm,1.0s								
KURK	Kurchatov	44.92	305	*ce*P		P	03 40 39.5	-0.3	
KURK				pmax		pmax			
	comp=Z,5.0nm,0.7s								
KURK	Kurchatov	44.92	305	*e*P		P	03 40 39.5	-0.3	
F26K	Sheenjek River	44.95	31	P		P	03 40 41.2	+1.3	
F26K				IAmb		IAmb	03 40 45.4		
	comp=Z,8.6nm,1.4s								
KURBB	Kurchatov Arra	45.00	305	P		P	03 40 40.4	0.0	
	comp=Z,3.8nm,0.8s,baz=74,slow=9.0,SNR=13								
	comp=Z,3.8nm,0.8s								
CMAR	Chiang Mai Arr	45.20	253	P		P	03 40 43.5	+1.0	
	comp=Z,1.2nm,0.3s,baz=44,slow=6.9,SNR=8.1								
	comp=Z,1.2nm,0.3s								
L27K	Beaver Creek,	46.41	37			P	03 40 53.4	+1.9	
L27K				IAmb		IAmb	03 40 54.4		
	comp=Z,5.2nm,0.9s								
G30M	tAoh Zraii Nji	48.08	31	P		P	03 41 05.8	+1.3	
G30M				IAmb		IAmb	03 41 21.1		
	comp=Z,7.7nm,1.1s								
HYT	Haines Junctio	48.88	40			P	03 41 12.7	+1.9	
HYT				IAmb		IAmb	03 41 14.3		
	comp=Z,10nm,0.9s								
BVAR	Borovoye Array	49.12	310	P		P	03 41 12.7	+0.1	
	comp=Z,2.7nm,0.4s,baz=79,slow=8.0,SNR=14								
BVAR				LR		LR	04 01 25.2		
	comp=Z,16nm,18.6s,baz=70,slow=36								
	comp=Z,2.7nm,0.4s								
BORK	Borovoye	49.15	310	*ce*P		P	03 41 12.6	-0.2	
BORK				pmax		pmax			
	comp=Z,3.0nm,0.8s								
BOOM	Boomskoye usch	49.46	295	P		P	03 41 15.8	+0.3	
BOOM				IAmb		IAmb	03 41 16.8		
	comp=Z,3.7nm,0.8s								
BOOM	Boomskoye usch	49.46	295	P		P	03 41 15.9	+0.3	
BOOM				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ARSB	Arslanbob	51.96	295	P		P	03 41 34.8	+0.4	
ARSB				IAmb		IAmb	03 41 36.2		
	comp=Z,17nm,1.4s								
ARSB	Arslanbob	51.96	295	P		P	03 41 34.8	+0.4	
ARSB				pmax		pmax			
	comp=Z,17nm,1.4s								
ARTI	Arti	54.40	317	P		P	03 41 50.8	-1.0	
ARTI	Arti	54.40	317	LR		LR	04 07 11.2		
	comp=Z,49nm,20.0s,baz=70,slow=38								
ARTI	Arti	54.40	317	*c i*P		P	03 41 51.3	-0.6	
ARTI							03 42 52.5		
ARTI				S		S	03 49 27.7	+0.4	
ARTI				SS		SS	03 53 10.6	+1.3	
ARTI				pmax		pmax			
	comp=Z,5.0nm,0.6s								
SIMJ	Simiganj	55.90	294			P	03 42 02.4	-0.7	
SIMJ				IAmb		IAmb	03 42 04.1		
	comp=Z,4.7nm,0.8s								
SPITS	Spitsbergen Ar	56.10	349	P		P	03 42 03.2	-0.6	
	comp=Z,7.3nm,0.9s,baz=46,slow=4.2,SNR=5.1								
	comp=Z,7.3nm,0.9s								
AB31	Akbulak array	56.64	309	P		P	03 42 08.1	0.0	
ABKAR	Akbulak array	56.64	309	P		P	03 42 08.1	0.0	
KIRV	Kirov	57.77	322	*ce*P		P	03 42 15.5	-0.3	
KEV	Kevo	59.64	339	P		P	03 42 28.3	-0.4	
KEV	Kevo	59.64	339	P		P	03 42 28.3	-0.4	
KEV				pmax		pmax			
	comp=Z,29nm,1.3s								
ARCES	ARCESS Array B	60.18	339	P		P	03 42 32.4	-0.1	
ARCES	ARCESS Array B	60.18	339	P		P	03 42 31.9	-0.6	
	comp=Z,0.9nm,0.6s,baz=36,slow=6.6,SNR=8.8								
	comp=Z,0.9nm,0.6s								
ARCES	ARCESS Array B	60.18	339	P		P	03 42 32.4	-0.1	
WRA	Warramunga Arr	62.38	191	P		P	03 42 49.3	+1.4	
	comp=Z,0.2nm,0.5s,baz=8.8,slow=6.4,SNR=2.1								
	comp=Z,0.2nm,0.5s								
FIA1	FINESS Array S	65.52	332	P		P	03 43 07.2	-0.8	
FINES	FINESS Array B	65.52	332	P		P	03 43 07.6	-0.5	
	comp=Z,3.5nm,0.6s,baz=44,slow=7.2,SNR=24								
	comp=Z,3.5nm,0.6s								
OBN	Obninsk	65.55	323	*e*P		P	03 43 08.5	+0.2	
OBN				*e*			03 43 41.1		
OBN				*e*			03 45 31.3		
OBN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
OBN	Obninsk	65.55	323	*e*P		P	03 43 08.5	+0.2	
SUMG	Summit	65.67	1	P		P	03 43 09.4	0.0	
SUMG	Summit	65.67	1	P		P	03 43 09.4	0.0	
SUMG				pmax		pmax			
	comp=Z,15nm,1.3s								
PALK	Pallekele	65.81	257	LR		LR	04 14 46.6		
	comp=Z,84nm,18.0s,baz=208,slow=39								
ASAR	Alice Springs	66.10	191	P		P	03 43 13.6	+1.4	
	comp=Z,0.2nm,0.6s,baz=9.6,slow=6.7,SNR=1.5								
	comp=Z,0.2nm,0.6s								
KIV	Kislovodsk	69.46	311	*e*P		P	03 43 33.2	-0.2	
KIV				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KIV				MLR		MLR			
	comp=Z,56nm,17.0s								
KIV	Kislovodsk	69.46	311	*e*P		P	03 43 33.2	-0.2	
KBZ	Khabaz	69.48	311	P		P	03 43 32.5	-0.9	
	comp=Z,1.9nm,0.8s,baz=82,slow=7.1,SNR=5.0								
	comp=Z,1.9nm,0.8s								
KBZ	Khabaz	69.48	311	*ce*P		P	03 43 33.8	+0.4	
KBZ				pmax		pmax			
	comp=Z,2.0nm,1.0s								
KBZ	Khabaz	69.48	311	*e*P		P	03 43 33.8	+0.4	
BOZ	Bozeman (W)	69.51	47	P		P	03 43 35.0	+1.2	
BOZ	Bozeman (W)	69.51	47	P		P	03 43 35.0	+1.2	
BOZ				pmax		pmax			
	comp=Z,2.0nm,0.9s								
NVAR	Mina Array Bea	70.12	56	P		P	03 43 38.7	+1.0	
	comp=Z,0.1nm,0.4s,baz=307,slow=5.8,SNR=2.5								
	comp=Z,0.1nm,0.4s								
NC405	NORSAR Array S	70.29	338	P		P	03 43 37.7	-0.4	
NB2	NORSAR Subarra	70.49	338	P		P	03 43 39.1	-0.3	
	comp=Z,0.5nm,0.5s,baz=34,slow=6.5								
NOA	NORSAR Array B	70.49	338	P		P	03 43 38.9	-0.5	
	comp=Z,1.3nm,0.7s,baz=37,slow=6.1,SNR=7.4								
	comp=Z,1.3nm,0.7s								
HFS	Hagfors	70.51	336	P		P	03 43 39.4	0.0	
	comp=Z,2.1nm,0.6s,baz=61,slow=7.1,SNR=16								
	comp=Z,2.1nm,0.6s								
AKASG	Malin Array Be	71.81	323	P		P	03 43 47.1	-0.4	
	comp=Z,1.3nm,0.6s,baz=42,slow=7.1,SNR=8.3								
	comp=Z,1.3nm,0.6s								
AKASG	Malin Array Be	71.81	323	*i* P		P	03 43 47.0	-0.4	
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.8s								
PDAR	Pinedale Array	72.48	48	P		P	03 43 51.8	-0.2	
	comp=Z,0.3nm,0.5s,baz=357,slow=2.8,SNR=3.9								
	comp=Z,0.3nm,0.5s								
BURAR	Bucovina Array	75.86	323	P		P	03 44 12.1	+0.7	
BURAR	Bucovina Array	75.86	323	P		P	03 44 12.1	+0.7	
BURAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
PV01	Paradox Valley	76.14	51	P		P	03 44 09.4	-3.9	
MLR	Muntele Rosu	77.10	321	LR		LR	04 21 37.8		
	comp=Z,85nm,18.0s,baz=180,slow=38								
BRTR	Keskin Array B	77.31	312	P		P	03 44 20.3	+0.5	
	comp=Z,0.5nm,0.7s,baz=202,slow=36,SNR=2.7								
	comp=Z,0.5nm,0.7s								
CLL	Collm	77.93	331	*i* P		P	03 44 22.2	-0.6	
CLL				pmax		pmax			
	comp=Z,5.0nm,0.9s								
CLL	Collm	77.93	331	*i* P		P	03 44 22.2	-0.6	
	comp=Z,5.0nm,0.9s								
VRAC	Vranov	78.20	328	LR		LR	04 21 27.2		
	comp=Z,131nm,19.1s,baz=249,slow=38								
EKA	Eskdalemuir Ar	79.19	342	P		P	03 44 29.6	0.0	
	comp=Z,0.6nm,0.5s,baz=19,slow=5.7,SNR=5.9								
	comp=Z,0.6nm,0.5s								
GERES	GERESS Array B	79.69	329	P		P	03 44 33.0	+0.3	
	comp=Z,0.8nm,0.6s,baz=40,slow=6.9,SNR=5.9								
	comp=Z,0.8nm,0.6s								
GERES	GERESS Array B	79.69	329	P		P	03 44 33.0	+0.3	
SOKA	Soboth	80.94	327	*e*P		P	03 44 40.0	+0.6	
	comp=Z,2.4nm,0.6s								
MMAI	Mount Meron Ar	81.00	307	P		P	03 44 40.8	+0.9	
	comp=Z,1.4nm,0.6s,baz=26,slow=7.0,SNR=3.7								
	comp=Z,1.4nm,0.6s								
LESA	Schwarzleotal	81.25	329	*e*P		P	03 44 41.2	+0.2	
	comp=Z,1.4nm,0.4s								
OBKA	Obir	81.28	328	*e*P		P	03 44 41.8	+0.6	
	comp=Z,0.9nm,0.4s								
KBA	Koelnbreinsper	81.28	329	*e*P		P	03 44 42.0	+0.7	
	comp=Z,2.5nm,0.7s								
MOTA	Moosalm	81.91	330	*e*P		P	03 44 45.2	+0.6	
	comp=Z,4.5nm,0.9s								
MOTA	Moosalm	81.91	330	*e*PP		PP	03 44 45.2	-2.1	
	comp=Z,4.5nm,0.9s								
FETA	Feichten	82.32	330	*e*P		P	03 44 47.0	+0.2	
	comp=Z,1.3nm,0.6s								
FUORN	Ofenpass-Fuorn	82.83	330	P		P	03 44 50.2	+0.6	
FUORN				IAmb		IAmb	03 44 51.1		
	comp=Z,6.4nm,1.0s								
TXAR	Lajitas Array	85.20	54	P		P	03 45 02.5	+0.7	
	comp=Z,0.3nm,0.7s,baz=327,slow=4.3,SNR=5.5								
	comp=Z,0.3nm,0.7s								
SNAA	Sanae	146.24	198	PKPbc		PKPbc	03 52 04.2	0.0	
	comp=Z,0.5nm,0.7s,baz=144,slow=5.3,SNR=1.6								

RSNC ***27*** *03:45:27.9≈0.8,3˚S±7˚×7˚7W±˚, h0km, M4.3, mB5.0, mb4.8, ML4.0, Mw(mB)4.3*
IGQ ***27*** *03:45:32.2≈0.4,3˚S±2˚×7˚8W±˚, h4km±2km, MLv4.4/12*
ISC 27 03:45:28.3±1.5**, 2.70S**±0.03×**77.58W**±0.04**, h5**km±13km**,**
n93, σ1**s25**/101**, 5C-5D, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op		h	m	s	ISC
TAIS	**Taisha**	**0.33**	**14**	⇓P		**Pb**	**03**	**45 37.8**	**+1.0**
TAIS				S		**Sb**	**03**	**45 42.7**	**+0.3**
BOSC	**San Juan Bosco**	**1.02**	**244**	S		**Sn**	**03**	**46 03.7**	**-0.6**
BOSC				⇑P		**Pn**	**03**	**45 50.2**	**+0.7**
PKYU	**Pakayacu**	**1.05**	**359**	⇓P		**Pn**	**03**	**45 49.5**	**-0.3**
AZOG	**Ecuador-Azogue**	**1.27**	**268**	P		**Pb**	**03**	**45 53.4**	**+0.4**
PUYO	**Puyo, Santa Ro**	**1.28**	**340**	S		**Sb**	**03**	**46 09.1**	**-0.8**
PUYO				⇓P		**Pn**	**03**	**45 52.9**	**-0.2**
APUY	**Puyo**	**1.30**	**341**	S		**Sb**	**03**	**46 09.1**	**-1.4**
APUY				P		**Pn**	**03**	**45 52.9**	**-0.4**
ACUE	**Ecuador-Cuenca**	**1.40**	**261**	P		**Pg**	**03**	**45 57.0**	**+1.8**
BPAT	**Tungurahua Vol**	**1.47**	**324**	P		**Pn**	**03**	**45 55.5**	**-0.4**
ARIO	**Riobamba**	**1.53**	**313**	P		**Pb**	**03**	**45 57.5**	**0.0**
BBIL	**Ulba Tungurahu**	**1.54**	**324**	S		**Sn**	**03**	**46 15.1**	**-2.4**
BBIL				P		**Pn**	**03**	**45 56.7**	**-0.1**
BIL2	**Estacion Bilba**	**1.55**	**323**	P		**Pn**	**03**	**45 57.0**	**+0.1**
JUI6	**Juive**	**1.55**	**325**	P		**Pn**	**03**	**45 56.6**	**-0.3**
COHC	**Cochancay**	**1.69**	**278**	S		**Sb**	**03**	**46 22.1**	**+0.5**
COHC				P		**Pg**	**03**	**46 00.7**	**-0.1**
ARDO	**Archidona, Ten**	**1.71**	**352**	S		**Sn**	**03**	**46 20.5**	**-0.8**
ARDO				⇑P		**Pn**	**03**	**45 59.4**	**+0.4**
CHSH	**Refugio Sur-Vo**	**1.76**	**313**	⇓P		**Pb**	**03**	**46 00.8**	**-0.7**
PIS1	**Pisayambo**	**1.82**	**334**	S		**Sn**	**03**	**46 24.9**	**+0.3**
PIS1				P		**Pb**	**03**	**46 01.9**	**-0.6**
PIAT	**Ana Tenorio**	**1.83**	**338**	P		**Pn**	**03**	**46 01.5**	**+0.7**
PIAT	**Ana Tenorio**	**1.83**	**338**	P		**Pn**	**03**	**46 01.6**	**+0.7**
PU07	**PU07**	**1.90**	**281**	⇓P		**Pg**	**03**	**46 04.1**	**-0.7**
AZAM	**Ecuador-Zamora**	**1.93**	**225**	P		**Pg**	**03**	**46 06.5**	**+1.1**
ASLC	**Ecuador-Salced**	**1.94**	**328**	P		**Pb**	**03**	**46 04.4**	**0.0**
PCRA	**Pucara 2**	**1.99**	**255**	P		**Pg**	**03**	**46 06.8**	**+0.3**
MILO	**Milagro-Astudi**	**2.02**	**282**	P		**Pg**	**03**	**46 07.0**	**-0.1**
VCES	**Cotopaxi**	**2.06**	**337**	⇑P		**Pb**	**03**	**46 05.5**	**-1.1**
ALJ1	**Ecuador-Loja-U**	**2.06**	**232**	P		**Pg**	**03**	**46 09.2**	**+1.3**
TAMB	**Tambo**	**2.15**	**338**	P		**Pb**	**03**	**46 07.4**	**-0.7**
BMOR	**Cotopaxi Volca**	**2.15**	**336**	P		**Pb**	**03**	**46 07.7**	**-0.4**
BTAM	**Cotopaxi Volca**	**2.17**	**338**	P		**Pb**	**03**	**46 07.8**	**-0.8**
SRAM	**San Ramn-Vol**	**2.18**	**333**	P		**Pb**	**03**	**46 08.3**	**-0.2**
BREF	**Cotopaxi Volca**	**2.20**	**337**	P		**Pb**	**03**	**46 08.2**	**-0.8**
BVC2	**Cotopaxi Volca**	**2.20**	**338**	⇑P		**Pb**	**03**	**46 07.8**	**-1.2**
VC1	**Cotopaxi 1**	**2.21**	**338**	P		**Pb**	**03**	**46 08.3**	**-0.8**
CAMI	**Rancho Maria**	**2.22**	**335**	⇑P		**Pb**	**03**	**46 08.7**	**-0.5**
SUCR	**Mariscal Sucre**	**2.25**	**336**	P		**Pb**	**03**	**46 09.2**	**-0.5**
ANTM	**Antisana-La Mi**	**2.25**	**343**	P		**Pb**	**03**	**46 09.0**	**-0.8**
ANTS	**Antisana-Sarah**	**2.27**	**345**	P		**Pb**	**03**	**46 09.1**	**-1.1**
ILLI	**Illinizas Sur**	**2.29**	**330**	P		**Pb**	**03**	**46 09.9**	**-0.5**
ANTG	**Antisana-Guama**	**2.29**	**343**	P		**Pb**	**03**	**46 09.1**	**-1.4**
PITA	**Cotopaxi Volc**	**2.29**	**338**	P		**Pb**	**03**	**46 09.8**	**-0.7**
ANTI	**Antisana**	**2.31**	**345**	P		**Pn**	**03**	**46 09.0**	**+1.3**
TOMA	**Boca Toma-Volc**	**2.35**	**339**	P		**Pb**	**03**	**46 10.5**	**-1.0**
GONZ	**Gonzanam**	**2.37**	**230**	P		**Pg**	**03**	**46 14.4**	**+0.6**
APS4	**Papallacta**	**2.38**	**347**	P		**Pb**	**03**	**46 11.6**	**-0.3**
AV05	**Acelerografo,**	**2.49**	**357**	P		**Pb**	**03**	**46 13.7**	**+0.1**
REVS	**Reventador Sur**	**2.58**	**359**	P		**Pb**	**03**	**46 14.8**	**-0.5**
ISPG	**Isla Puna-Puer**	**2.60**	**264**	P		**Pg**	**03**	**46 17.2**	**-1.0**
REVN	**San Rafael**	**2.61**	**359**	P		**Pb**	**03**	**46 15.2**	**-0.7**
ARNL	**Arenillas**	**2.62**	**251**	P		**Pb**	**03**	**46 15.5**	**-0.4**
ZUMB	**Zumba**	**2.66**	**216**	P		**Pg**	**03**	**46 16.5**	**-2.8**
GGPT	**Toaza - Volcan**	**2.67**	**337**	P		**Pb**	**03**	**46 14.8**	**-2.2**
JUA2	**San Juan 2**	**2.68**	**337**	P		**Pb**	**03**	**46 16.8**	**-0.3**
GGPC	**Guagua Pichinc**	**2.71**	**338**	P		**Pb**	**03**	**46 16.9**	**-0.8**
TERV	**Terraza Guagua**	**2.71**	**338**	P		**Pb**	**03**	**46 17.1**	**-0.7**
PINO	**Pino**	**2.73**	**338**	P		**Pb**	**03**	**46 16.1**	**-2.0**
CAYR	**Refugio Cayamb**	**2.73**	**351**	P		**Pn**	**03**	**46 15.4**	**+1.9**
YANA	**Yana**	**2.75**	**339**	P		**Pb**	**03**	**46 17.8**	**-0.6**
MORR	**Playas El Morr**	**2.76**	**271**	P		**Pb**	**03**	**46 17.7**	**-0.5**
ANGU	**Angureal**	**2.77**	**351**	P		**Pn**	**03**	**46 16.1**	**+2.1**
CASC	**Dorado de Casc**	**2.83**	**5**	P		**Pb**	**03**	**46 19.7**	**+0.2**
PULU	**Pululahua**	**2.86**	**341**	P		**Pb**	**03**	**46 20.4**	**+0.2**
MCRA	**Macar, Loja**	**2.89**	**235**	P		**Pb**	**03**	**46 19.0**	**-1.6**
MCRA	**Macar, Loja**	**2.89**	**235**	P		**Pb**	**03**	**46 18.9**	**-1.6**
IMBA	**Imbabura, San**	**3.02**	**348**	P		**Pg**	**03**	**46 25.1**	**-1.2**
CUIC	**Cuicocha-Domo**	**3.09**	**345**	P		**Pb**	**03**	**46 23.8**	**-0.3**
CUSE	**Cuicocha Este**	**3.10**	**345**	P		**Pb**	**03**	**46 24.2**	**-0.1**
CUSE	**Cuicocha Este**	**3.10**	**345**	P		**Pb**	**03**	**46 23.6**	**-0.7**
BONI	**La Bonita**	**3.13**	**1**	P		**Pb**	**03**	**46 25.4**	**+0.6**
BONI	**La Bonita**	**3.13**	**1**	P		**Pn**	**03**	**46 19.2**	**+0.5**
PAC1	**Pacto, Paraso**	**3.19**	**338**	P		**Pb**	**03**	**46 25.6**	**-0.1**
PAC1	**Pacto, Paraso**	**3.19**	**338**	P		**Pb**	**03**	**46 24.5**	**-1.1**
URCU	**Urcuqui**	**3.19**	**348**	P		**Pb**	**03**	**46 26.6**	**+0.8**
BV15	**Puerto Quito-O**	**3.28**	**330**	P		**Pb**	**03**	**46 27.1**	**-0.1**
PPLP	**Puerto Lpez**	**3.40**	**290**	P		**Pn**	**03**	**46 23.2**	**+1.1**
TULM	**Tulcn-Chalpat**	**3.40**	**356**	P		**Pb**	**03**	**46 31.1**	**+1.6**
TULM	**Tulcn-Chalpat**	**3.40**	**356**	P		**Pb**	**03**	**46 31.1**	**+1.6**
ATUL	**Tulcn**	**3.46**	**358**	P		**Pg**	**03**	**46 33.1**	**-1.5**
CHL1	**Volcn Chiles**	**3.49**	**354**	P		**Pg**	**03**	**46 34.0**	**-1.3**
CHL2	**Volcn Chiles**	**3.50**	**354**	P		**Pg**	**03**	**46 34.7**	**-0.8**
LITE1	**Lita**	**3.56**	**347**	P		**Pb**	**03**	**46 33.2**	**+1.3**
CHMA	**Chilma**	**3.58**	**352**	P		**Pb**	**03**	**46 33.9**	**+1.6**
CMBC	**Cumbal**	**3.63**	**356**	P		**Pb**	**03**	**46 34.0**	**+0.7**
CMBC	**Cumbal**	**3.63**	**356**	P		**Pb**	**03**	**46 33.3**	**0.0**
ISPT	**Isla de la Pla**	**3.78**	**292**	P		**Pn**	**03**	**46 31.0**	**+3.7**
GCUF	**Volcan Galeras**	**3.91**	**3**	P		**Pb**	**03**	**46 39.8**	**+1.7**
PTLC	**Puerto Leguiza**	**3.98**	**44**	P		**Pn**	**03**	**46 28.7**	**-1.5**
PTLC	**Puerto Leguiza**	**3.98**	**44**	P		**Pn**	**03**	**46 28.9**	**-1.3**
CRUC	**La Cruz**	**4.29**	**8**	P		**Pb**	**03**	**46 46.8**	**+2.3**
FLOC	**Florencia**	**4.67**	**24**	P		**Pn**	**03**	**46 39.8**	**+0.1**
FLOC	**Florencia**	**4.67**	**24**	P		**Pn**	**03**	**46 39.8**	**+0.1**
BBAC	**Balboa, Cauca**	**4.70**	**4**	P		**Pn**	**03**	**46 42.9**	**+2.6**
	723nm40nm,0.7s								
POPC	**Popayan, Colom**	**5.29**	**10**	P		**Pn**	**03**	**46 51.9**	**+3.6**
	445nm45nm,0.9s								
MACC	**Macarena, Meta**	**6.09**	**38**	P		**Pn**	**03**	**47 00.4**	**+1.2**
	1μm87nm,0.7s								
ORTC	**Ortega, Tolima**	**6.97**	**20**	P		**Pn**	**03**	**47 15.3**	**+4.0**

IDC ***27*** *03:51:34.1≈0.4, 18˚89N×67˚24W, h0km, mb4.2/22, mbtmp4.2/24, ML4.1/2, MS3.8/27, Error ellipse: s-maj=13.2km s-min=10.1km az=67.0*
SDD ***27*** *03:51:35.5±2.7, 19˚22N×67˚12W, h15km±27km, MD3.5, ML4.2, MW4.6*
NEIC ***27*** *03:51:37.3±2.2, 19˚05N±0˚03×67˚13W±0˚02, h10km±1km, mb4.6/158, ML4.6/29, Mww4.6/13, ML4.7/14(RSPR), Error ellipse: s-maj=5.6km s-min=3.3km az=2.0*
RSPR ***27*** *03:51:38.5, 19˚09N×67˚20W, h8km±31km, MD4.2/14*
NEIC ***27*** *03:51:38.5, 19˚39N×66˚99W, h12km, Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10[15]Nm; Mrr=6.93; Mθθ=0.30; Mϕϕ=7.22; Mrθ=2.03; Mθϕ=1.13; Mϕr=-4.43; Fault plane solution: M08.67000×10[15] NP1: ϕs=204.89000°, δ32.39000°, λ=-60.41000°. NP2: ϕs=350.97000°, δ62.24000°, λ=-107.39000°. Principal axes: T 8.5313, Plg16.0000°, Azm94.0000°; N 0.2713, Plg15.0000°, Azm359.0000°; P -8.8026, Plg68.0000°, Azm227.0000°;*
OSPL ***27*** *03:51:38.8±1.9, 19˚06N×67˚16W, h9km±12km, ML4.6*
NEIC ***27*** *03:51:38.5, 19˚09N×67˚20W, h12km*
ISC 27 03:51:38.5±0.3**, 19˚03N**±0˚03×**67˚20W**±0˚03**, h29**km**, n283,**
σ1s70/238**, mb4.5**/91**, MS3.8**/27**, 27C-13D, Mona Passage**

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

AGPR	**Aguadilla, PR**	**0.57**	**171**			**Pb**	**03**	**51 49.7**	**-0.3**
AGPR						**Sn**	**03**	**51 59.3**	**+0.3**
AGPR	**Aguadilla, PR**	**0.57**	**171**	⇑*e*P		**Pb**	**03**	**51 49.7**	**-0.3**
AGPR	**Aguadilla, PR**	**0.57**	**171**	*e*S		**Sn**	**03**	**51 59.3**	**+0.3**
AGPR	**Aguadilla, PR**	**0.57**	**171**	⇓*e*Pg		**Pb**	**03**	**51 49.5**	**-0.5**
AGPR				⇓*e*Sg		**Sn**	**03**	**51 59.3**	**+0.3**
AGPR				IAML			03	51 59.8	
	comp=N,20μm,0.3s								
AGPR	**Aguadilla, PR**	**0.57**	**171**	*i* P		**Pb**	**03**	**51 49.4**	**-0.7**
AGPR				*e*S		**Sb**	**03**	**51 58.4**	**+0.5**
IDE	**Isla Desecheo**	**0.69**	**202**			**Pb**	**03**	**51 51.6**	**-0.5**
IDE	**Isla Desecheo**	**0.69**	**202**	⇑*e*P		**Pb**	**03**	**51 51.6**	**-0.5**
AOPR	**Arecibo Observ**	**0.80**	**148**			**Pb**	**03**	**51 52.9**	**-1.0**
AOPR				IAML			03	52 13.6	
	comp=N,28μm,0.4s								
AOPR	**Arecibo Observ**	**0.80**	**148**			**Sn**	**03**	**52 05.0**	**+0.1**
AOPR	**Arecibo Observ**	**0.80**	**148**	⇑*e*P		**Pb**	**03**	**51 53.0**	**-1.0**
AOPR	**Arecibo Observ**	**0.80**	**148**	*e*S		**Sn**	**03**	**52 05.0**	**+0.1**
AOPR	**Arecibo Observ**	**0.80**	**148**	⇓*e*Pg		**Pb**	**03**	**51 53.4**	**-0.6**
AOPR				*e*Sg		**Sn**	**03**	**52 04.8**	**-0.1**
AOPR				IAML			03	52 11.4	
	comp=N,23μm,0.5s								
PRSN	**Puerto Rico Se**	**0.81**	**176**			**Pn**	**03**	**51 53.1**	**-1.0**
PRSN	**Puerto Rico Se**	**0.81**	**176**			**Sn**	**03**	**52 05.5**	**+0.4**
PRSN	**Puerto Rico Se**	**0.81**	**176**	⇑*e*P		**Pn**	**03**	**51 53.3**	**-0.8**
PRSN	**Puerto Rico Se**	**0.81**	**176**	*e*S		**Sn**	**03**	**52 05.5**	**+0.4**
PRSN	**Puerto Rico Se**	**0.81**	**176**	*e*Pg		**Pn**	**03**	**51 53.5**	**-0.5**
PRSN				⇓*e*Sg		**Sn**	**03**	**52 06.8**	**+1.7**
PRSN				IAML			03	52 12.2	
	comp=N,31μm,0.3s								
EMPR	**Esperanza - Ma**	**0.84**	**131**			**Pn**	**03**	**51 53.8**	**-0.7**
EMPR	**Esperanza - Ma**	**0.84**	**131**	⇑*e*P		**Pn**	**03**	**51 53.8**	**-0.7**
LSP	**Las Mesas**	**0.86**	**173**			**Pn**	**03**	**51 53.9**	**-0.8**
LSP	**Las Mesas**	**0.86**	**173**	⇑*e*P		**Pn**	**03**	**51 53.9**	**-0.8**
UUPR	**Utuado, UPR, P**	**0.90**	**149**			**Pn**	**03**	**51 54.3**	**-0.9**
UUPR	**Utuado, UPR, P**	**0.90**	**149**			**Sb**	**03**	**52 06.4**	**-0.8**
UUPR	**Utuado, UPR, P**	**0.90**	**149**	⇑*e*P		**Pn**	**03**	**51 54.4**	**-0.8**
UUPR	**Utuado, UPR, P**	**0.90**	**149**	*e*S		**Sb**	**03**	**52 06.4**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.02**	**175**			**Pn**	**03**	**51 56.2**	**-0.7**
CRPR				IAML			03	52 17.1	
	comp=N,12μm,0.7s								

GRTK eS Sn 03 53 27.6 -7.0
PAPH Port-au-Prince 4.86 265 eP Pn 03 52 51.8 +2.1
ANWB Willy Bob 5.32 104 Pn 03 52 56.1 0.0
ANWB IAML IAml 03 54 16.4
comp=E,373nm,1.6s
ANWB IAML 03 54 34.4
comp=E,319nm,1.2s
GDHS Morne Mazeau, 5.87 117 Pn 03 53 04.0 +0.4
H05N1 Guadeloupe/Mar 6.45 114 Pn Pn 03 53 12.6 +0.9
H05N1 Sn Sn 03 54 27.4 +3.1
MASC Masc 6.72 281 eP Pn 03 53 12.6 -2.7
FDF Fort de France 7.20 126 Pn 03 53 22.3 +0.4
QMBU Quimbuelo 7.27 280 eP Pn 03 53 18.8 -4.0
BIM Bigot 7.39 126 Pn 03 53 25.1 +0.5
NMDO Nuevo Mundo 7.48 283 Pn 03 53 21.5 -4.3
NMDO Nuevo Mundo 7.48 283 eP Pn 03 53 21.5 -4.3
GTBY Guantanamo Bay 7.51 278 eP Pn 03 53 22.9 -3.3
MPOM Morne Pois Mar 7.60 126 Pn 03 53 28.5 +1.2
H05S1 Guadeloupe/Mar 7.63 126 Pn Pn 03 53 25.7 -2.0
H05S1 Sn Sn 03 54 51.6 -1.7
RCC Rio Carpintero 8.07 278 eP Pn 03 53 31.5 -2.3
PINC Pinares de May 8.22 282 eP Pn 03 53 31.4 -4.4
PINC eS Sn 03 54 52.6 -15
MARVS Santiago de Cu 8.26 278 eP Pn 03 53 32.1 -4.3
HLGC Holguin 8.53 284 eP Pn 03 53 37.6 -2.6
YAR Yar 8.73 280 eP Pn 03 53 39.1 -3.7
CHIV Chivirico 8.74 278 eP Pn 03 53 39.9 -3.1
PCRV Puerto La Cruz 9.15 164 Pn Pn 03 53 49.3 +0.6
comp=E,10nm,0.3s,baz=123,slow=1.5,SNR=44
PCRV Sn Sn 03 55 28.4 -2.3
comp=E,6.7nm,0.3s,baz=27,slow=23,SNR=3.9
LMGC Las Mercedes 9.30 278 eP Pn 03 53 48.0 -2.7
SDV Santo Domingo 10.62 199 Pn Pn 03 54 11.4 +2.4
comp=E,5.1nm,0.3s,baz=23,slow=9.3,SNR=5.8
SDV Sn Sn 03 56 01.1 -6.0
comp=E,2.4nm,0.3s,baz=9.7,slow=19,SNR=3.5
SDV Santo Domingo 10.62 199 eP Pn 03 54 15.1 +6.1
MGV Manicaragua 12.35 287 eP Pn 03 54 25.4 -7.1
RUSC La Rusia 14.26 204 Pn 03 54 59.2 +0.1
ROSC El Rosal 15.72 207 Pn 03 55 20.2 +1.8
ROSC El Rosal 15.72 207 Pn Pn 03 55 20.5 +2.0
comp=E,1.6nm,0.3s,baz=343,slow=12,SNR=12
ROSC Sn Sn 03 58 06.8 -5.3
comp=E,0.8nm,0.3s,baz=32,slow=23,SNR=1.4
DWPF Disney Wildern 15.86 307 Pn 03 55 17.9 -1.8
DWPF IAmb IAmb 03 55 40.1
comp=Z,39nm,0.7s
656A Willston 17.35 309 Pn 03 55 36.6 -1.9
656A IAmb IAmb 03 56 05.9
comp=Z,40nm,0.7s
NHSC New Hope 18.20 323 P P 03 55 51.7 +2.6
FLOC Florencia 19.22 207 Pn 03 56 02.3 +0.7
JTS Las Juntas de 19.23 246 P P 03 55 59.5 -1.1
comp=Z,0.3nm,0.3s,baz=327,slow=5.1,SNR=4.0
comp=Z,3.6nm,0.7s
BIRD Birdtown, Kers 19.51 326 Pn 03 56 08.8 +3.9
BIRD IAmb IAmb 03 56 10.9
comp=Z,32nm,0.9s
W57A Gilead 19.65 327 Pn 03 56 06.3 -0.2
154A Montrose 19.66 317 P Pn 03 56 06.2 -0.5
154A IAmb IAmb 03 56 29.2
comp=Z,40nm,0.8s
JSC Jenkinsville 19.68 323 IAmb IAmb 03 56 31.2
comp=Z,34nm,1.2s
V58A Windy Hill, Pi 19.73 330 IAmb IAmb 03 56 16.1
comp=Z,58nm,1.5s
MDP Montagnes des 19.84 132 P P 03 56 07.0 -0.1
comp=Z,1.1nm,0.3s,baz=313,slow=12,SNR=15
MDP LR LR 04 04 00.1
comp=Z,169nm,21.5s,baz=336,slow=38
comp=Z,5.8nm,0.5s
T59A Double "B" Far 20.05 335 P 03 56 09.6 +0.3
352A Blakely 20.23 311 P Pn 03 56 15.6 +2.2
352A IAmb IAmb 03 56 17.4
comp=Z,20nm,0.7s
KMSC Kings Mountain 20.35 325 IAmb IAmb 03 56 46.2
comp=Z,26nm,1.1s
PAULI Pauline 20.38 323 IAmb IAmb 03 56 22.6
comp=Z,14nm,0.6s
GOGA Godfrey 20.40 318 P Pn 03 56 17.9 +2.4
R58B Mineral 21.04 336 P P 03 56 19.8 -0.2
R58B IAmb IAmb 03 56 41.0
comp=Z,19nm,0.9s
Y52A Lilburn 21.07 318 P P 03 56 21.6 +1.1
BG3 Lake Jocassee 21.15 322 P P 03 56 22.6 +1.3
BG3 IAmb IAmb 03 56 32.6
comp=Z,20nm,0.6s
S57A Dark Hollow, R 21.30 334 P 03 56 23.0 +0.2
S57A IAmb IAmb 03 56 26.9
comp=Z,23nm,1.0s
BLA Blacksburg 21.50 330 IAmb IAmb 03 57 05.6
comp=Z,41nm,1.0s
V53A Saluda 21.56 323 IAmb IAmb 03 57 00.1
comp=Z,22nm,0.9s
U54A Nelsons Funny 21.65 327 IAmb IAmb 03 56 59.3
comp=Z,21nm,0.7s
PETF Flores 21.66 268 P P 03 56 27.4 +0.5
PETF IAmb IAmb 03 56 28.5
comp=Z,26nm,0.8s
TKL Tuckaleechee C 22.10 322 P P 03 56 32.2 +0.6
comp=Z,3.1nm,0.8s,baz=165,slow=13,SNR=4.4
TKL S S 04 00 24.4 -9.2
comp=Z,3.9nm,0.6s,baz=199,slow=12,SNR=2.8
TKL LR LR 04 04 36.9
comp=Z,135nm,21.3s,baz=144,slow=35
comp=Z,3.1nm,0.8s
CPCT Cooper Cave 22.40 320 IAmb IAmb 03 57 00.5
comp=Z,14nm,0.6s
P57A Homestead Farm 22.42 338 IAmb IAmb 03 57 12.8
comp=Z,34nm,1.4s
TEFE Tefe 22.54 173 eP P 03 56 38.2 +1.9
TZTN Tazewell 22.60 324 IAmb IAmb 03 56 55.1
comp=Z,19nm,0.9s
T50A Nancy 23.67 323 IAmb IAmb 03 57 18.8
comp=Z,12nm,0.9s
U49A Red Boiling Sp 23.87 321 IAmb IAmb 03 57 19.3
comp=Z,12nm,0.8s
R50A Paris 24.29 326 IAmb IAmb 03 57 15.7
comp=Z,14nm,0.7s
PLAL Pickwick Lake 24.38 315 IAmb IAmb 03 56 55.7
comp=Z,12nm,0.8s
MAL2 Monte Alegre, 24.53 147 P P 03 56 55.7 -0.1
WVT Waverly 24.90 317 P P 03 56 58.8 -0.2
ACSO Alum Creek Sta 25.11 331 IAmb IAmb 03 57 29.5
comp=Z,12nm,0.8s
ITTB Itaituba 25.85 153 eP P 03 57 07.5 -0.3
CGM3 Cape Girardeau 26.78 317 IAmb IAmb 03 57 16.9
comp=Z,9.4nm,0.7s
LCAR Lake Charles 27.07 314 IAmb IAmb 03 57 21.1
comp=Z,14nm,1.4s
WHAR Wooly Hollow 27.46 311 IAmb IAmb 03 57 23.5
comp=Z,13nm,0.9s
X40A Basin Creek Fa 27.47 309 IAmb IAmb 03 57 23.1
comp=Z,7.0nm,0.7s
SADO Sadowa 27.53 341 LR LR 04 08 18.4
comp=Z,3µm,20.2s,baz=120,slow=36
CCM Cathedral Cave 28.24 317 P P 03 57 28.7 -0.4
CCM IAmb IAmb 03 57 30.0
comp=Z,7.7nm,0.8s
ATAH Atahualpa 28.25 204 LR LR 04 10 11.1
comp=Z,174nm,20.1s,baz=19,slow=40
NPGB Novo Progresso 28.42 155 eP P 03 57 30.2 -0.6
U38A Gravette 29.51 312 IAmb IAmb 03 57 44.1
comp=Z,14nm,1.4s
P40A Paris 29.61 319 IAmb IAmb 03 57 41.9
comp=Z,10nm,0.9s
TUL3 Leonard 30.27 310 IAmb IAmb 03 57 51.4
comp=Z,7.4nm,0.9s
HNDO Hondo 30.96 296 IAmb IAmb 03 58 04.9
comp=Z,5.7nm,0.9s
CLDB Colider 31.77 158 eP P 03 58 00.4 -0.1
PDRB Porto dos Gac 32.15 160 eP P 03 58 04.0 +0.1
NNA Nana 32.26 198 P P 03 58 05.0 +0.2
NNA Nana 32.26 198 P P 03 58 04.6 -0.1
comp=Z,14nm,0.7s,baz=2.8,slow=12,SNR=6.9
comp=Z,14nm,0.7s
VILB Vilhena 32.52 167 P P 03 58 06.5 -0.6
VILB Vilhena 32.52 167 eP P 03 58 07.1 0.0
SMWD Samnorwood 33.30 305 IAmb IAmb 03 58 33.0
comp=Z,6.1nm,0.6s
POST Post 33.67 301 IAmb IAmb 03 58 32.8
comp=Z,10nm,0.9s
SMTB Santa Maria do 33.80 143 eP P 03 58 17.6 -0.7
MNHN Monahans 34.28 298 IAmb IAmb 03 59 01.4
comp=Z,6.2nm,0.9s

SNDB Serra Nova Dou 34.57 152 eP P 03 58 24.2 -0.7
TX31 Lajitas Ar. Si 34.68 294 P 03 58 26.5 +0.5
TXAR Lajitas Array 34.68 294 P 03 58 26.9 +0.9
TXAR Lajitas Array 34.68 294 P P 03 58 26.6 +0.6
comp=Z,3.0nm,0.7s,baz=113,slow=9.4,SNR=44
TXAR PcP PcP 04 01 01.0 +1.3
comp=Z,1.1nm,0.8s,baz=122,slow=4.8,SNR=4.0
TXAR ScP ScP 04 04 46.1 +3.0
comp=Z,4.0nm,0.7s,baz=121,slow=6.3,SNR=42
TXAR LR LR 04 18 32.4
comp=Z,42nm,18.5s,baz=108,slow=47
comp=Z,3.0nm,0.7s
ALPN Alpine 34.83 296 IAmb IAmb 03 58 51.5
comp=Z,9.9nm,0.9s
ECSD EROS Data Cent 34.85 321 IAmb IAmb 03 58 28.1
comp=Z,7.5nm,0.6s
MSTX Muleshoe 34.94 302 IAmb IAmb 03 58 59.0
comp=Z,18nm,1.4s
LPAZ La Paz 35.11 182 P P 03 58 28.7 -1.6
comp=Z,2.4nm,0.6s,baz=29,slow=5.7,SNR=8.5
comp=Z,2.4nm,0.6s
LPAZ La Paz 35.11 182 eP P 03 58 29.3 -0.9
PTLB Pontes e Lacer 35.17 166 eP P 03 58 29.6 -0.4
PECS Pecos 35.21 298 IAmb IAmb 03 58 54.0
comp=Z,14nm,1.3s
SIV San Ignacio 35.32 170 P P 03 58 30.3 -1.1
comp=Z,14nm,0.7s,baz=3.1,slow=8.9,SNR=20
SIV LR LR 04 12 59.3
comp=Z,138nm,18.7s,baz=7.5,slow=36
comp=Z,14nm,0.7s
SCHQ Schefferville 35.74 0 P P 03 58 35.3 +0.7
comp=Z,28nm,0.6s,baz=195,slow=8.0,SNR=5.7
SCHQ LR LR 04 13 55.1
comp=Z,772nm,18.0s,baz=190,slow=37
VHRN Van Horn 36.05 296 IAmb IAmb 03 59 06.5
comp=Z,8.3nm,0.9s
SALV Santo Antonio 36.52 161 eP P 03 58 40.9 -0.7
PB16 IPOC Station P 37.20 184 IAmb IAmb 03 58 59.0
comp=Z,8.4nm,0.6s
ARAG Araguaiana, MT 37.70 155 eP P 03 58 51.2 -0.4
SDBA SAO DESIDERIO 38.20 143 eP P 03 58 54.9 -1.1
PP1B Ponte de Pedra 38.37 161 eP P 03 58 58.4 +1.2
GO01 Chusmiza 38.51 183 IAmb IAmb 03 58 57.4
comp=Z,14nm,0.8s
PB11 IPOC Station P 38.63 184 P 03 58 57.2 -2.4
PB08 IPOC Station P 38.98 183 IAmb IAmb 03 59 16.8
comp=Z,12nm,0.7s
BDFB Brasilia 39.29 150 P 03 59 04.8 -0.4
BDFB IAmb IAmb 03 59 05.3
comp=Z,8.3nm,0.8s
BDFB Brasilia 39.29 150 P P 03 59 04.2 -0.9
comp=Z,8.8nm,0.8s,baz=310,slow=11,SNR=13
BDFB PcP PcP 04 01 13.1 -0.6
comp=Z,1.9nm,0.7s,baz=270,slow=3.0,SNR=3.1
BDFB LR LR 04 15 53.7
comp=Z,170nm,19.5s,baz=323,slow=37
comp=Z,8.8nm,0.8s
DUN6 Lazy B Ranch 39.79 298 IAmb IAmb 03 59 34.3
comp=Z,26nm,1.3s
LPIG La Paz 40.29 285 LR LR 04 17 50.1
comp=Z,94nm,21.0s,baz=94,slow=39
PB09 IPOC Station P 40.63 183 P 03 59 14.2 -2.0
PB09 IAmb IAmb 03 59 28.8
comp=Z,8.9nm,0.8s
JANB Januaria 40.69 145 eP P 03 59 15.4 -1.4
AQDB Aquidauana 40.85 163 P 03 59 17.4 -0.5
AQDB Aquidauana 40.85 163 eP P 03 59 17.3 -0.6
PV18 Skein Mesa, Pa 40.90 307 P P 03 59 19.8 +1.3
PV18 IAmb IAmb 03 59 52.3
comp=Z,12nm,1.0s
PB03 IPOC Station P 40.91 184 IAmb IAmb 03 59 17.2
comp=Z,8.4nm,0.9s
PV10 Paradox Valley 41.03 307 IAmb IAmb 03 59 49.2
comp=Z,12nm,1.2s
PMNB Patos De Minas 42.54 150 eP P 03 59 30.5 -1.4
PDAR Pinedale Array 42.77 313 P P 03 59 35.5 +1.7
PDAR Pinedale Array 42.77 313 P P 03 59 34.0 +0.3
comp=Z,0.7nm,0.7s,baz=113,slow=6.3,SNR=7.8
comp=Z,0.7nm,0.7s
AMBA Amambai (Brazi 43.38 164 eP P 03 59 37.2 -1.3
DIAM Diamantina, MG 43.71 147 eP P 03 59 40.3 -1.1
CMC01 Camacan, BA 43.71 140 eP P 03 59 41.5 +0.1
BB19B Bebedouro 43.85 154 eP P 03 59 41.4 -1.0
GUA01 Guaratinga, BA 44.48 141 eP P 03 59 47.4 -0.1
YHL Hebgen Lake 44.60 315 IAmb IAmb 04 00 18.4
comp=Z,6.4nm,1.0s
FRB Frobisher Bay 44.69 359 LR LR 04 19 17.2
comp=Z,117nm,18.3s,baz=174,slow=37
V12A Nelson 45.01 302 IAmb IAmb 03 59 54.4
comp=Z,6.8nm,0.9s
IRM Iron Mountain 45.04 300 IAmb IAmb 03 59 54.9
comp=Z,11nm,1.2s
SJPY San Joaquin 45.08 166 eP P 03 59 52.7 +0.6
BOZ Bozeman (W) 45.16 316 IAmb IAmb 04 00 14.7
comp=Z,5.9nm,1.1s
SJMB Sao Joao De Ma 45.37 144 eP P 03 59 54.7 +0.2
FRTB Fartura 45.50 157 eP P 03 59 55.8 +0.3
AC02 Maricunga 45.63 182 P P 03 59 56.1 -0.9
AC02 IAmb IAmb 04 00 21.7
comp=Z,5.2nm,1.1s
BORC Borrego Spring 46.00 298 IAmb IAmb 04 00 12.8
comp=Z,7.9nm,1.2s
PFO Pinyon Flats O 46.06 299 LR LR 04 22 22.1
comp=Z,63nm,20.6s,baz=92,slow=40
CPUP Villa Florida 46.10 168 P P 03 59 57.7 -2.4
CPUP IAmb IAmb 04 00 01.6
comp=Z,5.4nm,0.8s
CPUP Villa Florida 46.10 168 P P 03 59 57.5 -2.7
comp=Z,4.6nm,0.7s,baz=209,slow=7.8,SNR=19
CPUP PcP PcP 04 01 35.9 -0.2
comp=Z,0.8nm,0.7s,baz=228,slow=5.5,SNR=3.7
CPUP LR LR 04 20 26.1
comp=Z,18nm,18.8s,baz=205,slow=38
comp=Z,4.6nm,0.7s
ELK Elko 46.26 309 LR LR 04 20 05.8
comp=Z,84nm,21.5s,baz=122,slow=37
RIB01 Linhares ES 46.30 144 eP P 04 00 01.9 0.0
TPNV Topopah Spring 46.31 303 IAmb IAmb 04 00 15.0
comp=Z,5.4nm,0.9s
GSC Goldstone, Bar 46.53 301 IAmb IAmb 04 00 06.9
comp=Z,3.8nm,0.9s
GWY Greenwater Val 46.53 302 IAmb IAmb 04 00 06.4
comp=Z,4.3nm,0.8s
WCT Wildcat Mounta 46.59 303 IAmb IAmb 04 00 07.0
comp=Z,4.9nm,0.8s
WSHM Spangler Hills 47.12 301 IAmb IAmb 04 00 07.7
comp=Z,4.5nm,0.8s
MPMC Manual Prospec 47.18 302 IAmb IAmb 04 00 11.4
comp=Z,3.3nm,0.8s
DSP Deep Springs 47.73 303 IAmb IAmb 04 00 38.9
comp=Z,4.1nm,1.1s
PLID Pearl Lake 47.91 314 IAmb IAmb 04 00 15.4
comp=Z,8.5nm,1.5s
NV11 Mina Array Sit 48.03 305 IAmb IAmb 04 00 17.6
comp=Z,6.0nm,0.8s
NVAR Mina Array Bea 48.15 305 P P 04 00 17.1 +0.7
NVAR Mina Array Bea 48.15 305 P P 04 00 17.6 +1.2
comp=Z,2.9nm,0.8s,baz=105,slow=6.7,SNR=18
NVAR ScP ScP 04 05 39.8 +3.4
comp=Z,0.4nm,0.7s,baz=106,slow=3.1,SNR=2.7
comp=Z,2.9nm,0.8s
LHV Little Huntoon 48.28 305 IAmb IAmb 04 00 19.9
comp=Z,5.6nm,1.1s
MDPB Devils Postpil 48.64 304 IAmb IAmb 04 00 23.2
comp=Z,3.6nm,0.8s
NEW Newport 49.60 318 IAmb IAmb 04 00 28.2
comp=Z,7.3nm,0.7s
NEW Newport 49.60 318 LR LR 04 21 55.9
comp=Z,116nm,20.9s,baz=111,slow=37
CO03 El Pedregal 49.70 184 IAmb IAmb 04 00 27.4
comp=Z,8.9nm,0.8s
ZON Zonda 50.31 182 IAmb IAmb 04 00 36.1
comp=Z,4.1nm,0.8s
CFA Coronel Fontan 50.36 181 P P 04 00 31.0 -2.0
comp=Z,2.1nm,0.7s,baz=353,slow=8.9,SNR=9.5
comp=Z,2.1nm,0.7s
YKA Yellowknife A 54.24 335 P P 04 01 01.3 -0.1
YKA LR LR 04 24 19.4
comp=Z,159nm,20.2s,baz=124,slow=36
comp=Z,1.3nm,0.9s
MD01 Midelt array s 57.09 63 P P 04 01 25.0 +2.4
MD31 MD31 57.09 63 P P 04 01 24.8 +2.3
MD31 IAmb IAmb 04 01 39.1
comp=Z,4.9nm,1.0s
MDT Midelt 57.22 63 LR LR 04 23 26.9
comp=Z,74nm,19.2s,baz=268,slow=33

RES Resolute Bay 57.65 352 LR LR 04 25 18.3
comp=Z,60nm,21.4s,baz=34,slow=35
ESDC Sonseca Array 57.67 55 P P 04 01 28.0 +1.5
ESDC IAmb IAmb 04 01 40.8
comp=Z,6.6nm,1.1s
ESDC Sonseca Array 57.67 55 P P 04 01 27.7 +1.2
comp=Z,6.0nm,0.8s,baz=273,slow=7.1,SNR=50
ESDC LR LR 04 21 29.0
comp=Z,69nm,21.2s,baz=250,slow=31
comp=Z,6.0nm,0.8s
ESBB Sonseca Array 57.67 55 P P 04 01 28.3 +1.8
ESBB IAmb IAmb 04 01 29.1
comp=Z,8.2nm,0.8s
PLCA Paso Flores 59.54 183 P P 04 01 37.5 -1.8
comp=Z,2.2nm,0.8s,baz=337,slow=9.5,SNR=6.5
PLCA LR LR 04 30 55.6
comp=Z,59nm,18.0s,baz=126,slow=40
comp=Z,2.2nm,0.8s
EKA Eskdalemuir Ar 59.83 36 P P 04 01 41.9 +0.7
comp=Z,1.6nm,0.6s,baz=292,slow=5.3,SNR=8.6
comp=Z,1.6nm,0.6s
DBIC Dimbokro 61.74 93 P P 04 01 55.3 +0.5
comp=Z,5.3nm,0.7s,baz=334,slow=5.9,SNR=6.1
DBIC LR LR 04 24 55.1
comp=Z,74nm,20.7s,baz=336,slow=32
comp=Z,5.3nm,0.7s
INK Inuvik 63.76 338 LR LR 04 29 51.7
comp=Z,96nm,20.6s,baz=60,slow=36
TORD Torodi Ar. Bea 66.11 84 P P 04 02 23.6 0.0
comp=Z,2.1nm,0.7s,baz=311,slow=7.3,SNR=12
TORD LR LR 04 28 51.3
comp=Z,94nm,21.2s,baz=333,slow=34
SCRK Sand Creek 67.28 332 P P 04 02 32.0 +1.6
TAM Tamanrasset 67.41 73 P P 04 02 34.2 +2.2
FUORN Ofenpass-Fuorn 67.89 47 P P 04 02 36.6 +1.9
PAX Paxson 67.90 331 P P 04 02 31.5 -2.7
PAX IAmb IAmb 04 03 05.9
comp=Z,4.9nm,1.0s
NB2 NORSAR Subarra 67.94 31 P P 04 02 35.6 +1.1
comp=Z,1.2nm,0.7s,baz=268,slow=6.2
NOA NORSAR Array B 67.94 31 P P 04 02 35.8 +1.3
comp=Z,1.0nm,0.7s,baz=270,slow=6.3,SNR=5.3
comp=Z,1.0nm,0.7s
RETA Reutte 68.16 46 eP P 04 02 37.6 +1.4
comp=Z,1.1nm,0.5s
FETA Feichten 68.18 46 eP P 04 02 37.8 +1.4
comp=Z,2.4nm,0.8s
KEST Kesra 68.44 58 P P 04 02 38.8 +0.6
comp=Z,3.0nm,0.7s,baz=282,slow=9.3,SNR=4.5
comp=Z,3.0nm,0.7s
SQTA Sankt Quirin 68.49 46 eP P 04 02 39.6 +1.3
comp=Z,3.2nm,0.8s
ILAR Eielson Array 68.56 333 P P 04 02 38.5 +0.2
comp=Z,1.1nm,0.8s,baz=122,slow=4.6,SNR=5.5
ILAR LR LR 04 33 17.4
comp=Z,223nm,20.1s,baz=84,slow=36
comp=Z,1.1nm,0.8s
GERES GERESS Array B 69.99 44 P P 04 02 49.4 +1.9
comp=Z,0.2nm,0.6s,baz=273,slow=8.7,SNR=1.6
comp=Z,0.2nm,0.6s
SPITS Spitsbergen Ar 70.18 13 LR LR 04 31 23.6
comp=Z,47nm,19.7s,baz=263,slow=34
CONA Conrad Observa 71.54 45 eP P 04 02 58.9 +1.9
comp=Z,2.5nm,0.9s
VAE Valguarnera 72.17 56 LR LR 04 34 33.8
comp=Z,76nm,18.4s,baz=304,slow=36
ARCES ARCESS Array B 73.28 22 P P 04 03 07.8 +0.9
comp=Z,2.3nm,0.7s,baz=296,slow=3.9,SNR=15
comp=Z,2.3nm,0.7s
FINES FINESS Array B 75.03 30 P P 04 03 18.2 +1.1
comp=Z,1.8nm,0.8s,baz=255,slow=5.1,SNR=5.5
comp=Z,1.8nm,0.8s
MLR Muntele Rosu 78.82 46 P P 04 03 41.5 +2.4
MLR IAmb IAmb 04 04 01.4
comp=Z,6.9nm,0.9s
AKASG Malin Array Be 79.47 40 LR LR 04 35 31.3
comp=Z,74nm,21.1s,baz=256,slow=33
BRTR Keskin Array B 86.04 49 P P 04 04 17.7 +0.9
comp=Z,0.6nm,0.9s,baz=267,slow=4.7,SNR=3.7
comp=Z,0.6nm,0.9s
PPT Papeete 88.71 251 LR LR 04 37 29.0
comp=Z,35nm,18.2s,baz=102,slow=31
TSUM Tsumeb 91.42 110 LR LR 04 36 38.8
comp=Z,46nm,21.6s,baz=118,slow=30
MAW Mawson 122.19 160 PKP PKPdf 04 10 29.6 -0.3
comp=Z,1.0nm,0.7s,baz=315,slow=1.1,SNR=4.0
STKA Stephens Creek 151.12 238 PKPbc PKPbc 04 11 29.2 -0.2
comp=Z,5.0nm,0.9s,baz=102,slow=6.5,SNR=6.9
WRA Warramunga Arr 159.67 264 PKP PKPdf 04 11 35.6 +0.3
comp=Z,1.5nm,0.9s,baz=92,slow=1.0,SNR=7.5
ASAR Alice Springs 159.81 253 PKP PKPdf 04 11 35.4 -0.1
comp=Z,0.8nm,0.8s,baz=150,slow=1.6,SNR=6.9
ASAR PKPab PKPab 04 12 14.4 -0.2
comp=Z,1.4nm,0.8s,baz=96,slow=3.7,SNR=6.4

SNET ***27*** *04:04:36.1±1.1, 13°.13N×89°.57W, h48km, ML3.0*
CATAC 27 04:04:36.5±0.6, 13°N±4°×90°W±°, h31km±5km, M3.0/14, MLv3.0/14, Error ellipse: s-maj=8.8km s-min=5.1km az=12.8, confirmed, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMON	**Piamonte**	**0.60**	**25**	S	Sn	04 04 59.0	+1.2
PMON	**Piamonte**	**0.60**	**25**	P	Pn	04 04 50.0	+0.9
LOMA	**Loma Larga**	**0.62**	**40**	eP	Pn	04 04 49.4	+0.1
LOMA				eS	Sn	04 04 59.5	+1.2
LOMA	**Loma Larga**	**0.62**	**40**	P	Pn	04 04 49.4	+0.1
BOQS	**Boqueron**	**0.64**	**27**	eP	Pn	04 04 50.1	+0.5
BOQS				eS	Sn	04 05 00.3	+1.4
UEES	**Universidad Ev**	**0.64**	**31**	P	Pn	04 04 49.9	+0.4
UEES	**Universidad Ev**	**0.64**	**31**	S	Sn	04 04 59.8	+1.1
UTEC	**Universidad Te**	**0.65**	**35**	P	Pn	04 04 50.1	+0.4
UTEC	**Universidad Te**	**0.65**	**35**	S	Sn	04 04 59.9	+1.0
CEVE	**Cerro Verde**	**0.66**	**356**	eP	Pn	04 04 50.5	+0.5
CEVE	**Cerro Verde**	**0.66**	**356**	P	Pn	04 04 50.2	+0.2
SBLS	**San Blas**	**0.67**	**356**	eP	Pn	04 04 50.5	+0.3
SBLS				eS	Sn	04 05 01.7	+2.0
IGN	**Direccin Gen**	**0.67**	**36**	P	Pn	04 04 50.6	+0.6
IGN	**Direccin Gen**	**0.67**	**36**	S	Sn	04 05 00.8	+1.2
LFRS	**El Faro**	**0.68**	**48**	eP	Pn	04 04 50.5	+0.3
LFRS				eS	Sn	04 04 60.0	+0.3
UDBS	**Universidad Do**	**0.68**	**37**	P	Pn	04 04 50.5	+0.3
UDBS	**Universidad Do**	**0.68**	**37**	S	Sn	04 05 01.0	+1.2
NUBE	**Las Nubes**	**0.76**	**345**	eP	Pb	04 04 51.4	0.0
NUBE				eS	Sn	04 05 02.7	+0.9
NUBE	**Las Nubes**	**0.76**	**345**	P	Pb	04 04 51.3	-0.1
FAME	**Alcaldia de Sa**	**0.80**	**328**	P	Pb	04 04 51.9	-0.1
UNIC	**Universidad Ca**	**0.81**	**2**	P	Pb	04 04 52.4	+0.1
UNIC	**Universidad Ca**	**0.81**	**2**	S	Sn	04 05 03.7	+0.7
PAVA	**Las Pavas**	**0.83**	**49**	eP	Pb	04 04 52.6	0.0
PAVA				eS	Sn	04 05 04.9	+1.5
PAVA	**Las Pavas**	**0.83**	**49**	P	Pb	04 04 52.5	0.0
TECO	**Alcaldia de Te**	**0.86**	**64**	eP	Pn	04 04 51.9	-0.6
TECO				eS	Sn	04 05 04.0	-0.1
TECO	**Alcaldia de Te**	**0.86**	**64**	P	Pn	04 04 52.1	-0.5
TECO	**Alcaldia de Te**	**0.86**	**64**	S	Sn	04 05 04.0	0.0
UESV	**Universidad de**	**0.90**	**59**	P	Pn	04 04 52.9	-0.3
UESV	**Universidad de**	**0.90**	**59**	S	Sb	04 05 05.6	+0.1
SCLA	**Alcaldia de Sa**	**0.98**	**57**	P	Pn	04 04 54.3	0.0
LLGN	**La Laguna**	**1.17**	**32**	P	Pn	04 04 56.7	-0.1
LLGN	**La Laguna**	**1.17**	**32**	S	Sb	04 05 12.7	-0.4
PACA	**Pacayal**	**1.26**	**76**	eP	Pn	04 04 58.8	+0.6
PACA				eS	Sb	04 05 15.0	-0.7
PACA	**Pacayal**	**1.26**	**76**	P	Pn	04 04 58.6	+0.5
LCND	**La Caada**	**1.65**	**85**	P	Pn	04 05 03.4	0.0
CNCH	**Conchagua**	**1.70**	**86**	P	Pn	04 05 04.0	-0.3
CNCH	**Conchagua**	**1.70**	**86**	S	Sn	04 05 25.1	+0.1

IDC ***27*** *04:31:21.3±1.2, 1°.49N×126°.41E, h0km, mb4.1/7, mbtmp4.0/8, ML3.7/1, MS3.1/3, Error ellipse: s-maj=119.6km s-min=16.5km az=68.0*
DJA ***27*** *04:31:27.4±0.3, 1°N±3°×12°6E±°, h10km, M4.2/13, mB4.9/3, mb4.5/6, MLv4.1/13, Mw(mB)4.2/3*
NEIC ***27*** *04:31:29.7±2.0, 1°.4N±0°.1×126°.31E±0°.07, h51km±10km, mb4.4/10, Error ellipse: s-maj=19.0km s-min=8.8km az=199.0*
ISC 27 04:31:28.2±0.7, 1°.49N±0°.08×126°.49E±0°.09, h47km, n34, σ1°32/31, mb4.2/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.13**	**129**		**Pn**	**04 31 49.0**	**+1.4**
TNTI	**Ternate**	**1.13**	**129**	P	**Pn**	**04 31 48.6**	**+1.0**

SGSI	**Sangihe**	**2.38**	**336**	P	**Pn**	**04 32 06.9**	**+2.1**
KMSI	**Cibinong**	**2.67**	**250**	P	**Pn**	**04 32 08.6**	**-0.1**
SANI	**Sanana**	**3.55**	**188**	P	**Pn**	**04 32 21.2**	**+0.4**
LUWI	**Luwuk**	**4.49**	**236**	P	**Pn**	**04 32 36.4**	**+2.7**
MRSI	**Marisa**	**4.66**	**258**	P	**Pn**	**04 32 37.0**	**+1.0**
APSI	**Ampana**	**5.39**	**244**	P	**Pn**	**04 32 47.9**	**+1.8**
	0.4nm2µm56nm,1.3s						
TOLI2	**Tolitoli**	**5.72**	**266**		**Pn**	**04 32 49.4**	**-1.2**
SPSI	**Sidrap Palu**	**8.63**	**231**	P	**Pn**	**04 33 31.1**	**+0.6**
MYLDM	**Lahad Datu**	**8.78**	**295**		**Pn**	**04 33 34.0**	**+1.4**
BKSI	**Bulukumba**	**9.28**	**223**	P	**Pn**	**04 33 41.5**	**+2.0**
JAY	**Jayapura**	**14.76**	**106**	LR	LR	04 40 07.7	
	comp=Z,94nm,19.6s,baz=352,slow=36						
FITZ	**Fitzroy Crossi**	**19.48**	**182**	P	**P**	**04 35 50.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**19.48**	**182**	P	**P**	**04 35 49.4**	**-1.9**
	0.2nm,0.3s,baz=9.7,slow=8.1,SNR=9.9						
	0.9nm,0.6s						
WB0	**Warramunga Arr**	**22.50**	**160**	P	**P**	**04 36 23.8**	**-0.1**
WB0				IAmb	IAmb	04 36 25.6	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**22.65**	**161**	P	**P**	**04 36 24.1**	**-1.5**
	comp=Z,4.0nm,0.7s,baz=337,slow=11,SNR=40						
	comp=Z,4.0nm,0.7s						
WR8	**Warramunga Arr**	**22.71**	**160**	P	**P**	**04 36 25.4**	**-0.8**
WR8				IAmb	IAmb	04 36 55.6	
	comp=Z,12nm,1.4s						
PSA00	**Pilbara Seismi**	**23.82**	**195**	P	**P**	**04 36 35.8**	**-1.2**
PSA00				IAmb	IAmb	04 36 37.3	
	comp=Z,4.7nm,0.7s						
ASAR	**Alice Springs**	**26.02**	**164**	P	**P**	**04 36 57.2**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=343,slow=7.0,SNR=10						
	comp=Z,0.8nm,0.3s						
CMAR	**Chiang Mai Arr**	**31.85**	**304**	LR	LR	04 52 25.7	
	comp=Z,26nm,18.1s,baz=215,slow=40						
JHJ	**Hachijo jima 2**	**33.85**	**20**	LR	LR	04 52 52.4	
	comp=Z,34nm,19.6s,baz=286,slow=38						
BBOO	**Buckleboo**	**35.29**	**166**	P	**P**	**04 38 18.5**	**-0.2**
NWAO	**Narrogin (SRO)**	**35.33**	**194**	P	**P**	**04 38 18.7**	**-0.4**
NWAO				IAmb	IAmb	04 38 47.5	
	comp=Z,29nm,1.4s						
STKA	**Stephens Creek**	**36.14**	**158**	P	**P**	**04 38 26.6**	**+0.5**
STKA	**Stephens Creek**	**36.14**	**158**	P	**P**	**04 38 26.2**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=342,slow=6.5,SNR=5.7						
	comp=Z,1.2nm,0.3s						
MKAR	**Makanchi Array**	**59.26**	**326**	P	**P**	**04 41 24.6**	**-0.4**
MKAR	**Makanchi Array**	**59.26**	**326**	P	**P**	**04 41 24.7**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=126,slow=8.5,SNR=11						
	comp=Z,0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**63.49**	**328**	P	**P**	**04 41 53.3**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=128,slow=6.2,SNR=20						
	comp=Z,2.4nm,0.7s						
KURK	**Kurchatov**	**63.50**	**328**	P	**P**	**04 41 53.2**	**-0.3**
KURK				IAmb	IAmb	04 41 54.5	
	comp=Z,3.6nm,0.8s						
AB31	**Akbulak array**	**73.73**	**321**	P	**P**	**04 42 56.7**	**-0.6**
VNDA	**Vanda**	**81.25**	**173**	P	**P**	**04 43 38.0**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=346,slow=4.2,SNR=2.4						
	comp=Z,0.5nm,0.6s						
H19K	**Roundabout Mou**	**83.30**	**24**	P	**P**	**04 43 52.7**	**+3.0**
H19K				IAmb	IAmb	04 44 30.4	
	comp=Z,9.0nm,1.3s						
ARCES	**ARCESS Array B**	**92.46**	**340**	P	**P**	**04 44 32.3**	**-1.5**
	comp=Z,3.3nm,1.1s,baz=54,slow=6.2,SNR=3.9						
	comp=Z,3.3nm,1.1s						

*IDC **27** 04:32:37.6±0.6, 8.°91S×74.°91W, h0km, mb3.9/9, mbtmp4.0/12, ML3.8/3, MS3.1/3, Error ellipse: s-maj=16.2km s-min=12.8km az=60.0*
*VAO **27** 04:32:42.1±4.9, 9.°04S×75.°07W, h28km±30km, mb4.4*
*NEIC **27** 04:32:43.5±1.3, 8.°91S±0.°07×74.°93W±0.°08, h35km±2km, mb4.6/42, Error ellipse: s-maj=14.9km s-min=10.4km az=237.0*

ISC 27 04:32:42.8±0.4, 8.°86S±0.°05×74.°85W±0.°06, h35km, n103, σ1.9s49/83, mb4.5/29, 2C, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.67**	**212**		**Pn**	**04 33 36.2**	**-0.9**
NNA	**Nana**	**3.67**	**212**	Pn	**Pn**	**04 33 36.4**	**-0.7**
NNA	9.6nm,0.3s,baz=33,slow=17,SNR=7.1			Sn	**Sn**	**04 34 19.3**	**+0.1**
NNA	15nm,0.3s,baz=44,slow=20,SNR=3.9			Lg	Lg	04 34 29.6	
	89nm,0.3s,baz=100,slow=21,SNR=9.2						
	14nm,0.3s						
NNA	**Nana**	**3.67**	**212**	P	**Pn**	**04 33 36.9**	**-0.2**
ATAH	**Atahualpa**	**3.91**	**296**	Pn	**Pn**	**04 33 40.4**	**-0.3**
	1.7nm,0.3s,baz=60,slow=4.3,SNR=16						
ATAH				Sn	**Sn**	**04 34 27.2**	**+1.7**
	12nm,0.3s,baz=109,slow=20,SNR=3.8						
ATAH				Lg	Lg	04 34 39.5	
	20nm,0.3s,baz=264,slow=20,SNR=8.7						
	13nm,0.4s						
MCRA	**Macar, Loja**	**6.75**	**311**	P	**Pn**	**04 34 15.8**	**-3.7**
	1µm32nm,0.4s						
COHC	**Cochancay**	**7.72**	**325**	P	**Pn**	**04 34 31.5**	**-1.2**
	855nm35nm,0.5s						
PTLC	**Puerto Leguiza**	**8.97**	**0**	P	**Pn**	**04 34 45.9**	**-4.1**
	681nm39nm,0.8s						
PPLP	**Puerto Lpez**	**9.36**	**321**	P	**Pn**	**04 34 54.5**	**-0.8**
	37nm,0.4s						
CUSE	**Cuicocha Este**	**9.77**	**339**	P	**Pn**	**04 35 02.1**	**+0.8**
	27nm,0.5s						
LPAZ	**La Paz**	**9.87**	**139**		**Pn**	**04 35 04.9**	**+2.0**
LPAZ	**La Paz**	**9.87**	**139**	Pn	Pn	04 35 05.1	+2.3
	0.1nm,0.3s,baz=344,slow=8.3,SNR=4.0						
LPAZ				Lg	Lg	04 37 47.5	
	1.2nm,0.3s,baz=174,slow=12,SNR=5.4						
LPAZ				LR	LR	04 39 03.0	
	comp=Z,53nm,19.3s,baz=314,slow=39						
LPAZ	**La Paz**	**9.87**	**139**	P	**Pn**	**04 35 04.2**	**+1.4**
	2.3nm,0.6s						
PAC1	**Pacto, Paraso**	**9.88**	**336**	P	Pn	04 35 05.4	+2.8
	735nm32nm,0.6s						
GCUF	**Volcan Galeras**	**10.33**	**346**	P	**Pn**	**04 35 08.4**	**-0.6**
	33nm,0.6s						
FLOC	**Florencia**	**10.41**	**356**		**Pn**	**04 35 10.0**	**+0.3**
FLOC	**Florencia**	**10.41**	**356**	P	**Pn**	**04 35 09.3**	**-0.4**
	22nm,0.7s						
CRUC	**La Cruz**	**10.57**	**348**	P	**Pn**	**04 35 13.1**	**+0.9**
PB16	**IPOC Station P**	**10.75**	**152**	Pn	Pn	04 35 16.7	+1.9
MACC	**Macarena, Meta**	**10.98**	**5**	P	**Pn**	**04 35 17.2**	**-0.3**
	23nm,0.6s						
BBAC	**Balboa, Cauca**	**11.07**	**347**	P	**Pn**	**04 35 19.7**	**+0.8**
	301nm28nm,1.0s						
TEFE	**Tefe**	**11.46**	**63**	*eP*	Pn	04 35 28.4	+4.3
POPC	**Popayan, Colom**	**11.47**	**351**	P	**Pn**	**04 35 24.7**	**+0.3**
	12nm,0.8s						
SGC2	**Sao Gabriel da**	**11.68**	**43**	P	**Pn**	**04 35 28.3**	**+1.2**
	13nm,0.5s						
URMC	**La Uribe, Meta**	**12.04**	**2**	P	**Pn**	**04 35 32.0**	**-0.1**
	24nm,0.7s						
PRAC	**Prado**	**12.49**	**360**	P	**Pn**	**04 35 39.4**	**+1.2**
	20nm,0.6s						
ORTC	**Ortega, Tolima**	**12.69**	**358**	P	**Pn**	**04 35 41.2**	**+0.2**
	31nm,0.7s						
YOTC	**Yotoco, Valle**	**12.85**	**353**	P	**Pn**	**04 35 45.0**	**+1.8**
	6.9nm,0.7s						
ROSC	**El Rosal**	**13.62**	**2**	Pn	P	04 35 57.3	-5.2
	0.9nm,0.3s,baz=102,slow=20,SNR=1.8						
PB09	**IPOC Station P**	**13.95**	**158**	P	**P**	**04 36 06.3**	**+0.5**
GUY2C	**Guyana, Caldas**	**14.00**	**358**	P	**Pn**	**04 36 01.0**	**+1.8**
	7.7nm,0.5s						
SPBC	**San Pablo de B**	**14.44**	**3**	P	**Pn**	**04 36 05.1**	**+0.2**
	5.0nm,0.8s						
CBOC	**Ciudad Bolivar**	**14.68**	**355**	P	**P**	**04 36 14.4**	**+0.5**
	11nm,0.9s						
RUSC	**La Rusia**	**14.76**	**7**		**Pn**	**04 36 10.5**	**+0.9**
RUSC	**La Rusia**	**14.76**	**7**	P	**Pn**	**04 36 09.9**	**+0.3**
	16nm,0.7s						
VILB	**Vilhena**	**14.95**	**107**		**P**	**04 36 14.1**	**-2.7**
VILB				IAmb	IAmb	04 36 24.9	
	comp=Z,15nm,0.8s						
VILB	**Vilhena**	**14.95**	**107**	*eP*	**P**	**04 36 15.1**	**-1.7**
MACA	**Manacapuru-AM**	**15.18**	**69**		**P**	**04 36 19.1**	**-0.2**
MACA				IAmb	IAmb	04 36 29.3	
	comp=Z,41nm,0.6s						
MACA	**Manacapuru-AM**	**15.18**	**69**	*eP*	**P**	**04 36 18.2**	**-1.2**
SIV	**San Ignacio**	**15.20**	**119**	Pn	**Pn**	**04 36 14.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=292,slow=12,SNR=54						
SIV				Sn	**Sn**	**04 38 59.8**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=45,slow=20,SNR=2.1						
SIV				Lg	Lg	04 40 41.5	
	comp=Z,0.1nm,0.3s,baz=215,slow=20,SNR=5.7						
SIV				LR	LR	04 41 35.9	
	comp=Z,52nm,21.4s,baz=308,slow=35						
	comp=Z,6.7nm,0.5s						
PTBC	**PUERTO BERRIO,**	**15.31**	**1**	P	**P**	**04 36 17.1**	**-3.7**
	comp=Z,50nmcomp=Z,4.8nm,0.9s						
DBBC	**Dabeiba**	**15.83**	**355**	P	**P**	**04 36 29.2**	**+2.5**
ZARC	**Zaragoza, Cauc**	**16.25**	**360**	P	**P**	**04 36 29.0**	**-2.2**
	comp=Z,8µmcomp=Z,7.0nm,0.8s						
PTLB	**Pontes e Lacer**	**16.69**	**115**		**P**	**04 36 35.6**	**-0.5**
PTLB	**Pontes e Lacer**	**16.69**	**115**	*eP*	**P**	**04 36 34.8**	**-1.3**
PDRB	**Porto dos Gac**	**18.04**	**100**	*eP*	**P**	**04 36 52.1**	**+1.0**
SDV	**Santo Domingo**	**18.13**	**14**	Lg	Lg	04 42 24.4	
	comp=Z,1.6nm,0.3s,baz=277,slow=16,SNR=3.1						
BOAV	**Boa Vista**	**18.14**	**53**		**Pn**	**04 36 54.1**	**+2.0**
BOAV	**Boa Vista**	**18.14**	**53**	*eP*	**Pn**	**04 36 55.4**	**+3.3**
BOAV	**Boa Vista**	**18.14**	**53**	P	**Pn**	**04 36 55.0**	**+2.9**
	comp=Z,5.6nm,1.3s						
SJCC	**San Jacinto, C**	**18.64**	**359**	P	**Pn**	**04 36 58.9**	**+0.7**
	comp=Z,17nm,1.0s						
AC02	**Maricunga**	**18.68**	**164**	P	**Pn**	**04 36 59.3**	**+0.2**
CLDB	**Colider**	**18.88**	**98**	*eP*	**Pn**	**04 37 02.7**	**+1.5**
BAUV	**El Baul**	**18.95**	**21**	P	**Pn**	**04 37 02.0**	**+0.1**
NPGB	**Novo Progresso**	**19.39**	**86**	*eP*	**Pn**	**04 37 08.3**	**+1.0**
ITTB	**Itaituba**	**19.50**	**78**	*eP*	**Pn**	**04 37 09.5**	**+0.9**
CRJC	**Cerrejon, Guaj**	**19.85**	**6**	P	**Pn**	**04 37 10.5**	**-2.2**
SALV	**Santo Antonio**	**19.97**	**112**	*eP*	Pn	04 37 15.8	+1.7
CO03	**El Pedregal**	**22.21**	**170**	P	**P**	**04 37 36.0**	**-0.3**
CFA	**Coronel Fontan**	**23.45**	**166**	P	**P**	**04 37 48.8**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=339,slow=10,SNR=5.9						
	comp=Z,1.0nm,0.7s						
SJPY	**San Joaquin**	**24.01**	**134**	*eP*	**P**	**04 37 54.6**	**+0.1**
CPUP	**Villa Florida**	**24.05**	**138**	P	**P**	**04 37 53.5**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=183,slow=7.4,SNR=3.2						
	comp=Z,0.4nm,0.5s						
PDPR	**Patillas Dam,**	**28.10**	**18**	P	**P**	**04 38 31.8**	**+0.4**
PDPR				IAmb	IAmb	04 38 40.0	
	comp=Z,18nm,0.9s						
PLTB	**Pedras Altas**	**30.15**	**142**	*eP*	**P**	**04 38 49.6**	**0.0**
PLCA	**Paso Flores**	**31.97**	**174**	P	**P**	**04 39 04.6**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=346,slow=10,SNR=5.6						
	comp=Z,1.6nm,0.8s						
HNDO	**Hondo**	**44.84**	**329**	IAmb	IAmb	04 41 00.9	
	comp=Z,11nm,0.8s						
DRIO	**Del Rio**	**45.44**	**328**	IAmb	IAmb	04 40 59.8	
	comp=Z,4.4nm,0.8s						
T50A	**Nancy**	**46.59**	**349**	IAmb	IAmb	04 41 34.0	
	comp=Z,4.3nm,1.1s						
TXAR	**Lajitas Array**	**47.04**	**325**	P	**P**	**04 41 11.4**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=149,slow=8.8,SNR=18						
TXAR				PcP	**PcP**	**04 42 43.4**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=132,slow=4.5,SNR=3.9						
	comp=Z,1.1nm,0.7s						
MNHN	**Monahans**	**48.09**	**327**	IAmb	IAmb	04 41 20.6	
	comp=Z,3.7nm,0.8s						
HHAR	**Hobbs**	**48.36**	**339**	IAmb	IAmb	04 41 21.9	
	comp=Z,5.5nm,0.7s						
ANMO	**Albuquerque**	**52.83**	**327**	P	**P**	**04 41 55.2**	**0.0**
T25A	**Trinidad**	**53.49**	**331**	IAmb	IAmb	04 42 02.1	
	comp=Z,5.6nm,1.0s						
SDCO	**Great Sand Dun**	**54.51**	**330**	IAmb	IAmb	04 42 09.0	
	comp=Z,3.1nm,0.7s						
IRM	**Iron Mountain**	**57.35**	**320**	IAmb	IAmb	04 42 29.3	
	comp=Z,4.4nm,1.0s						
KNB	**Kanab**	**57.87**	**324**	IAmb	IAmb	04 42 32.9	
	comp=Z,3.3nm,0.9s						
LCMT	**Little Creek M**	**58.11**	**324**	IAmb	IAmb	04 42 34.9	
	comp=Z,4.8nm,1.2s						
TCUT	**Toone Canyon**	**60.03**	**329**	IAmb	IAmb	04 42 47.7	
	comp=Z,5.1nm,0.6s						
PDAR	**Pinedale Array**	**60.35**	**331**	P	**P**	**04 42 48.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=145,slow=16,SNR=4.8						
	comp=Z,0.2nm,0.3s						
R11B	**Troy Canyon, C**	**60.38**	**324**	P	**P**	**04 42 49.6**	**+0.8**
R11B				IAmb	IAmb	04 42 51.1	
	comp=Z,3.9nm,1.4s						
HWUT	**Hardware Ranch**	**60.47**	**329**	P	**P**	**04 42 49.5**	**+0.1**
HWUT				IAmb	IAmb	04 42 50.2	
	comp=Z,2.9nm,0.7s						
ULM	**Lac du Bonnet**	**61.65**	**345**	LR	LR	05 11 22.2	
	comp=Z,40nm,18.1s,baz=324,slow=38						
YNE	**Yellowstone No**	**62.27**	**333**	IAmb	IAmb	04 43 07.6	
	comp=Z,2.5nm,0.7s						
YHL	**Hebgen Lake**	**62.70**	**332**	P	**P**	**04 43 06.1**	**+1.6**
YHL				IAmb	IAmb	04 43 06.7	
	comp=Z,5.6nm,0.6s						
DBIC	**Dimbokro**	**71.45**	**80**	P	**P**	**04 44 00.6**	**+0.3**
	comp=Z,5.3nm,0.7s,baz=275,slow=7.1,SNR=6.9						
	comp=Z,5.3nm,0.7s						
SNAA	**Sanae**	**76.01**	**162**	⇑P	**P**	**04 44 26.2**	**0.0**
	comp=Z,46nm,0.7s						
SNAA	**Sanae**	**76.01**	**162**	P	**P**	**04 44 26.3**	**+0.1**
SNAA				IAmb	IAmb	04 44 27.1	
	comp=Z,5.0nm,1.1s						
SNAA	**Sanae**	**76.01**	**162**	P	**P**	**04 44 26.1**	**0.0**
	comp=Z,1.6nm,0.6s,baz=282,slow=7.0,SNR=18						
	comp=Z,1.6nm,0.6s						
YKA	**Yellowknife Ar**	**77.46**	**342**	P	P	04 44 38.8	+4.6
	comp=Z,1.0nm,0.9s,baz=138,slow=5.5,SNR=4.0						
TROLL	**Troll, Antarti**	**77.73**	**162**	⇑P	**P**	**04 44 36.2**	**+0.4**
	comp=Z,236nm,1.1s						
TORD	**Torodi Ar. Bea**	**79.08**	**75**	P	**P**	**04 44 44.7**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=278,slow=5.3,SNR=6.6						
QSPA	**South Pole Qui**	**81.25**	**180**	P	**P**	**04 44 56.6**	**+1.5**
	comp=Z,2.6nm,0.8s,baz=139,slow=1.9,SNR=16						
	comp=Z,2.6nm,0.8s						
DOT	**Dot Lake**	**88.88**	**335**	IAmb	IAmb	04 45 39.4	
	comp=Z,3.3nm,0.8s						
SCRK	**Sand Creek**	**88.97**	**336**	IAmb	IAmb	04 45 39.7	
	comp=Z,3.7nm,0.8s						
J25K	**Salcha River,**	**89.77**	**336**	IAmb	IAmb	04 45 43.8	
	comp=Z,4.1nm,0.7s						
ILAR	**Eielson Array**	**90.44**	**336**	P	**P**	**04 45 40.3**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=130,slow=3.9,SNR=6.8						
	comp=Z,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**132.16**	**16**	PKP	**PKiKP**	**04 51 54.1**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=270,slow=3.0,SNR=6.1						
KURBB	**Kurchatov Arra**	**132.90**	**23**	PKP	**PKiKP**	**04 51 55.7**	**+0.2**
	comp=Z,0.7nm,0.2s,baz=298,slow=2.1,SNR=4.3						
ASAR	**Alice Springs**	**137.16**	**220**	PKP	**PKiKP**	**04 52 02.5**	**-2.6**
	comp=Z,0.5nm,0.7s,baz=120,slow=2.0,SNR=5.6						
MKAR	**Makanchi Array**	**137.47**	**23**	PKP	**PKiKP**	**04 52 03.0**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=225,slow=1.5,SNR=3.6						
WRA	**Warramunga Arr**	**139.44**	**225**	PKP	**PKiKP**	**04 52 07.2**	**-2.6**
	comp=Z,1.0nm,0.5s,baz=130,slow=1.8,SNR=13						
KSRS	**Kogan Array**	**144.87**	**328**	PKP	**PKPdf**	**04 52 14.8**	**-1.8**
	comp=Z,0.9nm,0.6s,baz=29,slow=1.9,SNR=5.5						
FITZ	**Fitzroy Crossi**	**146.43**	**217**	PKPbc	**PKiKP**	**04 52 20.7**	**-3.4**
	comp=Z,3.0nm,0.6s,baz=194,slow=2.1,SNR=15						
CMAR	**Chiang Mai Arr**	**168.72**	**32**	PKPab	**PKPab**	**04 53 58.3**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=340,slow=3.4,SNR=1.5						

*SLM **27** 04:42:20.1±0.6, 36.°77N±0.°01×89.°25W±0.°01, h17km±3km, Error ellipse: s-maj=2.0km s-min=1.2km az=207.0*

NEIC 27 04:42:20.4±0.7, 36.°77N±0.°01×89.°25W±0.°02, h13km±6km, mb_Lg2.6/33, ML3.0/30, Md3.0/50(SLM), Error ellipse: s-maj=3.0km s-min=1.9km az=116.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPRM	**East Prairie**	**0.10**	**238**		Pg	04 42 23.3	-0.1
EPRM					Sg	04 42 25.9	+0.3
CHRM	**Charleston**	**0.12**	**312**		Pg	04 42 23.8	+0.1
HENM	**Henderson Moun**	**0.18**	**253**		Pg	04 42 24.4	-0.2
HENM					Sg	04 42 27.8	+0.3
DWDM	**Dogwood**	**0.20**	**277**		Pg	04 42 24.6	-0.2
DWDM					Sg	04 42 28.1	+0.4
SJMO	**Saint John's B**	**0.23**	**232**		Pg	04 42 24.9	-0.4
SJMO					Sg	04 42 28.7	+0.1
HICK	**Hickman**	**0.23**	**175**		Pg	04 42 25.0	-0.4
KEWM	**Kewanee**	**0.28**	**255**		Pg	04 42 25.8	-0.4
KEWM					Sg	04 42 30.4	+0.1
MATM	**Matthews**	**0.28**	**271**		Sg	04 42 25.9	-0.4
MATM					Sg	04 42 30.4	+0.1
FMKY	**Fulgham**	**0.30**	**111**		Sg	04 42 26.2	-0.3
NMMO	**New Madrid**	**0.30**	**233**		Pg	04 42 26.1	-0.5
NMMO					Sg	04 42 30.9	+0.1
WALK	**Watson Lake**	**0.33**	**225**		Pg	04 42 26.6	-0.4
WALK					Sg	04 42 31.5	-0.1
CATM	**Catron**	**0.35**	**244**		Pg	04 42 27.0	-0.5
CATM					Sg	04 42 32.3	-0.1
FLPT	**Flippin**	**0.36**	**189**		Pg	04 42 27.2	-0.5
FLPT					Sg	04 42 32.8	+0.1
COKM	**Charter Oak**	**0.39**	**261**		Pg	04 42 27.5	-0.6
COKM					Sg	04 42 33.3	-0.1
MARMO	**Marston**	**0.41**	**234**		Pg	04 42 28.0	-0.6
MARMO					Sg	04 42 34.1	-0.1
PARMO	**Parma**	**0.42**	**255**		Pg	04 42 28.0	-0.7
PARMO				Sg	Sg	04 42 34.1	-0.2
PARMO				IAML		04 42 34.2	
	comp=E,2µm,0.2s						
PARMO				IAML		04 42 34.2	
	comp=N,2µm,0.2s						
PENMO	**Penman**	**0.44**	**223**		Pg	04 42 28.5	-0.7
PENMO					Sg	04 42 34.7	-0.3
PPLM	**Point Pleasant**	**0.45**	**216**		Pg	04 42 28.8	-0.6
PPLM					Sg	04 42 35.3	-0.1
WYMT	**Wynnburg**	**0.47**	**205**		Pg	04 42 29.0	-0.6
WYBT					Sg	04 42 35.8	0.0
GUAMO	**Guam**	**0.48**	**284**		Pg	04 42 29.3	-0.6
GUAMO					Sg	04 42 36.3	-0.2
POBM	**Portage Bay**	**0.49**	**222**		Pg	04 42 29.3	-0.7
POBM					Sg	04 42 36.4	-0.2
PGVM	**Portageville**	**0.49**	**231**		Pg	04 42 29.4	-0.7
PGVM					Sg	04 42 36.4	-0.3
GLAT	**Glass**	**0.50**	**183**		Pg	04 42 29.6	-0.7
GLAT				Sg	Sg	04 42 36.9	-0.1
GLAT				IAML		04 42 39.7	
	comp=N,988nm,0.3s						
PVMO	**Portageville**	**0.51**	**225**		Pg	04 42 29.6	-0.7
PVMO				Sg	Sg	04 42 36.7	-0.4
UTMT	**University of**	**0.53**	**144**		Pg	04 42 30.1	-0.7
T45A	**Paducah**	**0.55**	**63**		Pg	04 42 30.4	-0.7
T45A				Sg	Sg	04 42 38.4	0.0
T45A				IAML		04 42 38.9	
	comp=N,1µm,0.5s						
T45A				IAML		04 42 42.2	
	comp=N,693nm,0.3s						
CGM3	**Cape Girardeau**	**0.62**	**328**		Pg	04 42 31.6	-0.8
CGM3				IAML		04 42 40.8	
	comp=N,1µm,0.1s						
LNXT	**Lenox**	**0.70**	**196**		Pg	04 42 33.2	-0.7
PEBM	**Pemiscott Bayo**	**0.82**	**217**		Pg	04 42 35.2	-1.1
PEBM				IAML		04 42 51.6	
	comp=N,548nm,0.6s						
PEBM				IAML		04 42 53.2	
	comp=E,699nm,0.8s						
HALT	**Halls**	**0.86**	**185**		Pg	04 42 35.9	-1.2
HALT				IAML		04 42 51.1	
	comp=E,474nm,0.2s						
HALT				IAML		04 42 51.8	
	comp=N,347nm,0.2s						
S44A	**Carbondale**	**0.92**	**360**		Pb	04 42 36.8	-1.4
S44A				IAML		04 42 49.4	
	comp=N,340nm,0.3s						
SIUC	**Southern Illin**	**0.94**	**2**		Pb	04 42 37.6	-1.0
SIUC				IAML		04 42 55.1	
	comp=N,466nm,0.1s						
SIUC				IAML		04 42 56.6	
	comp=E,401nm,0.1s						
PBMO	**Poplar Bluff**	**0.94**	**271**		Pb	04 42 36.9	-1.7
PBMO				IAML		04 42 50.5	
	comp=N,629nm,0.2s						
PBMO				IAML		04 42 54.5	
	comp=E,485nm,0.2s						
GNAR	**Gosnell**	**1.01**	**218**		Pb	04 42 38.7	-1.1
GNAR				IAML		04 42 55.6	
	comp=E,628nm,0.6s						
WVT	**Waverly**	**1.31**	**119**		Pn	04 42 43.3	-1.1
FVM	**French Village**	**1.53**	**323**		Pn	04 42 47.0	-0.3
HBAR	**Harrisburg**	**1.66**	**224**	Pn	Pn	04 42 48.4	-0.8
LCAR	**Lake Charles**	**1.69**	**246**		Pn	04 42 49.3	-0.2
LCAR				IAmb_Lg		04 43 17.6	
	comp=Z,30nm,0.8s						
T47A	**Sharon Grove**	**1.73**	**82**		Pn	04 42 50.4	+0.2
PLAL	**Pickwick Lake**	**2.02**	**151**		Pn	04 42 52.9	-1.2
PWLA	**Pickwick Lake**	**2.03**	**151**		Pn	04 42 53.1	-1.1
CCM	**Cathedral Cave**	**2.04**	**310**		Pn	04 42 54.7	+0.3
OLIL	**Olney**	**2.16**	**25**		Pn	04 42 57.3	+1.2
V48A	**Smith Brothers**	**2.22**	**117**		Pn	04 42 57.4	+0.6
V48A				IAmb_

KST	**Kastek**	**0.66**	**104**	*eP*		**Pg**	04 44 04.1	+0.9
KST				*eS*		**Sg**	04 44 13.1	+1.4
AAK	**Ala-Archa**	**0.72**	**218**	⇓P		**Pg**	04 44 04.7	+0.3
	43nm,0.2s,SNR=50							
AAK				⇑S		**Sg**	04 44 14.1	+0.4
	86nm,0.2s							
AAK	**Ala-Archa**	**0.72**	**218**	⇑P		**Pg**	04 44 04.5	+0.1
	94nm,0.3s							
AAK				⇓S		**Sg**	04 44 14.0	+0.4
	611nm,0.7s							
AAK	**Ala-Archa**	**0.72**	**218**	⇑*eP*		**Pg**	04 44 04.5	+0.1
AAK				⇑*eS*		**Sg**	04 44 14.2	+0.4
BOOM	**Boomskoye usch**	**0.95**	**139**	⇑*eP*		**Pg**	04 44 08.5	-0.3
BOOM				⇑*eS*		**Sg**	04 44 21.2	+0.2
MTBS	**Maitube**	**0.98**	**94**	P		**Pg**	04 44 09.7	+0.3
MTBS				S		**Sg**	04 44 22.7	+0.7
	60nm,0.3s							
MTBS	**Maitube**	**0.98**	**94**	*eP*		**Pg**	04 44 09.7	+0.3
MTBS				*eS*		**Sg**	04 44 22.8	+0.7
UCH	**Uchtor**	**1.07**	**204**	⇓P		**Pg**	04 44 11.0	-0.1
	29nm,0.2s,SNR=20							
EKS2	**Erkin-Say**	**1.11**	**241**	⇓P		**Pg**	04 44 11.9	0.0
	19nm,0.1s,SNR=109							
EKS2				⇑S		**Sg**	04 44 26.6	+0.4
	40nm,0.1s							
EKS2	**Erkin-Say**	**1.11**	**241**	⇑*eP*		**Pg**	04 44 11.6	-0.3
EKS2				⇑*eS*		**Sg**	04 44 26.4	+0.1
KUU	**Kurty**	**1.14**	**52**	P		**Pg**	04 44 12.4	0.0
	4.5nm,0.1s							
KUU				S		**Sg**	04 44 27.5	+0.4
	312nm,0.4s							
KUU	**Kurty**	**1.14**	**52**	*eP*		**Pg**	04 44 12.4	0.0
KUU				*eS*		**Sg**	04 44 27.5	+0.4
KTBS	**Karatobe**	**1.26**	**66**	P		**Pg**	04 44 14.9	+0.1
	49nm,0.2s							
KTBS				S		**Sg**	04 44 31.7	+0.6
	97nm,0.3s							
KTBS	**Karatobe**	**1.26**	**66**	*eP*		**Pg**	04 44 14.9	+0.1
KTBS				*eS*		**Sg**	04 44 31.8	+0.6
ULHL	**Ulahol**	**1.28**	**138**	⇑P		**Pg**	04 44 14.8	-0.3
	16nm,0.1s,SNR=11							
ULHL				⇓S		**Sg**	04 44 31.5	-0.2
	79nm,0.2s							
ULHL	**Ulahol**	**1.28**	**138**	⇑*eP*		**Pg**	04 44 14.4	-0.7
ULHL				⇑*eS*		**Sg**	04 44 31.3	-0.3
TNSS	**Tian-Shan**	**1.37**	**96**	P		**Pg**	04 44 16.7	-0.1
	10nm,0.3s							
TNSS				S		**Sg**	04 44 35.0	+0.5
	21nm,0.3s							
TNSS	**Tian-Shan**	**1.37**	**96**	*eP*		**Pg**	04 44 16.7	-0.1
TNSS				*eS*		**Sg**	04 44 35.0	+0.5
MDOK	**Medeo**	**1.43**	**91**	Pg		**Pn**	04 44 17.7	-0.3
	23nm,0.5s							
MDOK				Lg		Lg	04 44 37.1	
	46nm,0.4s							
MDOK	**Medeo**	**1.43**	**91**	*eP*		**Pn**	04 44 17.7	-0.3
MDOK				*eS*		**Sg**	04 44 37.0	+0.5
MRKS	**Merke**	**1.45**	**252**	P		**Pn**	04 44 17.5	-0.7
	12nm,0.3s							
MRKS				S		**Sg**	04 44 36.4	-0.8
	69nm,0.3s							
MRKS	**Merke**	**1.45**	**252**	*eP*		**Pn**	04 44 17.5	-0.7
MRKS				*eS*		**Sg**	04 44 36.3	-0.8
KOTS	**Kotyrbulak**	**1.47**	**88**	P		**Pn**	04 44 19.1	+0.5
	40nm,0.2s							
KOTS				S		**Sn**	04 44 39.2	+0.5
	117nm,0.2s							
KOTS	**Kotyrbulak**	**1.47**	**88**	*eP*		**Pn**	04 44 19.1	+0.5
KOTS				*eS*		**Sn**	04 44 39.2	+0.5
CHKK	**Chushkaly**	**1.52**	**64**	P		**Pn**	04 44 19.5	+0.4
	18nm,0.3s							
CHKK				S		**Sg**	04 44 39.8	+0.3
	324nm,0.6s							
CHKK	**Chushkaly**	**1.52**	**64**	*eP*		**Pn**	04 44 19.5	+0.4
CHKK				*eS*		**Sg**	04 44 39.8	+0.3
KDJ	**Kajisay**	**1.88**	**124**	⇑*eP*		**Pn**	04 44 24.9	+0.8
KDJ				⇑*eS*		**Sn**	04 44 49.3	+0.7
JNKS	**Jany-Kuch**	**2.18**	**169**	⇑*eP*		**Pn**	04 44 29.0	+0.5
JNKS				⇑*eS*		**Sn**	04 44 56.5	+0.2
KURS	**Kuram**	**2.26**	**82**	Pg		**Pb**	04 44 31.6	-0.7
	8.0nm,0.6s							
KURS				Lg		Lg	04 45 00.8	
	37nm,0.3s							
SATY	**Saty**	**2.43**	**92**	Pg		**Pb**	04 44 34.6	-0.6
	12nm,0.5s							
SATY				Lg		Lg	04 45 06.1	
	97nm,0.2s							
ARSB	**Arslanbob**	**2.45**	**221**	⇑*eP*		**Pn**	04 44 32.7	+0.7
ARSB				⇑*eS*		**Sn**	04 45 02.8	+0.1
TARG	**Taragay, Kyrgy**	**2.49**	**125**	⇓*eP*		**Pn**	04 44 33.3	+0.5
TARG				⇓*eS*		**Sn**	04 45 04.0	0.0
SALK	**Salom-Alik**	**2.51**	**203**	⇑*eP*		**Pn**	04 44 33.4	+0.6
SALK				⇑*eS*		**Sn**	04 45 04.2	+0.1
PRZ	**Przheval'sk**	**2.54**	**105**	⇑*eP*		**Pn**	04 44 33.8	+0.6
PRZ				⇑*eS*		**Sn**	04 45 04.9	0.0
KNOS	**Konyrlen**	**3.17**	**67**	Pg		**Pb**	04 44 48.2	+0.2
	7.2nm,0.6s							
KNOS				Lg		Lg	04 45 28.8	
	16nm,0.8s							
PDGK	**Podgornoye**	**3.21**	**86**	⇑Pg		**Pg**	04 44 51.4	-0.8
	7.1nm,0.4s							
PDGK				⇑Lg		Lg	04 45 29.8	
	18nm,0.6s							
KK31	**Karatay Array**	**3.36**	**270**	⇓Pg		**Pg**	04 44 53.5	-1.4
	1.5nm,0.3s,baz=88,slow=17,SNR=23							
KK31				⇑Lg		Lg	04 45 34.5	
	9.6nm,0.4s,baz=88,slow=30,SNR=13							
TRKS	**Terek-Say**	**3.38**	**242**	⇑*eP*		**Pn**	04 44 45.8	+1.1
TRKS				⇑*eS*		**Sn**	04 45 25.4	-0.2
SFK	**Sufi-Kurgan**	**3.41**	**201**	⇑*eP*		**Pn**	04 44 45.9	+0.7
SFK				⇑*eS*		**Sn**	04 45 25.8	-0.6
MK31	**Makanchi Array**	**6.24**	**52**	⇑Pn		**Pn**	04 45 24.1	+0.2
	0.8nm,0.5s,baz=232,slow=13,SNR=4.8							
MK31				⇓Sn		**Sn**	04 46 34.6	-1.3
	0.8nm,0.5s,baz=230,slow=24,SNR=4.0							
MK31				Lg		Lg	04 47 09.2	
	1.1nm,0.5s,baz=225,slow=30,SNR=6.5							
KURBB	**Kurchatov Arra**	**7.78**	**16**	⇑Lg		Lg	04 47 57.7	
	14nm,0.8s							

IDC 27 04:56:46.0±8.5, 21°.33S×148°.00E, h0km, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=96.1km s-min=64.2km az=174.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.86**	**274**	Pn	Pn	04 59 48.6	-1.7
	baz=98,slow=13,SNR=1.6						
WRA				Lg	Lg	05 03 34.7	
	0.1nm,0.3s,baz=110,slow=30,SNR=2.4						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**13.23**	**257**	Pn	Pn	04 59 57.1	+1.8
	baz=91,slow=14,SNR=1.4						
ASAR				Lg	Lg	05 03 46.0	
	baz=83,slow=27						
	0.1nm,0.3s						
I22FR	**PORTLAGUERRE I**	**17.53**	**96**	I	I	06 40 00.0	
	baz=268,slow=327,SNR=1.6						

*NEIC **27** 04:59:00.5±1.4, 19°.32N±0°.03×67°.34W±0°.04, h10km±1km, ML2.2/11, Md2.9/13(RSPR), Error ellipse: s-maj=6.1km s-min=5.1km az=274.0*
*OSPL **27** 04:59:04.0±1.2, 19°.23N×67°.26W, h9km±18km, ML2.0*
*RSPR **27** 04:59:05.9, 19°.26N×67°.23W, h37km±23km, MD2.9/13*
*SDD **27** 04:59:05.7±1.1, 19°.14N×67°.23W, h31km±30km, MD3.5, ML2.1, MW2.6*

ISC 27 04:59:01.1±1.5, 19°.27N±0°.06×67°.24W±0°.03, h10km±10km, n71, σ0°.63/87, 12C-15D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.81**	**172**		**Pn**	04 59 18.1	-0.5
AGPR					**Sb**	04 59 29.1	+0.8
AGPR	**Aguadilla, PR**	**0.81**	**172**	⇑*eP*	**Pn**	04 59 18.1	-0.5
AGPR	**Aguadilla, PR**	**0.81**	**172**	*eS*	**Sb**	04 59 29.1	+0.8
AGPR	**Aguadilla, PR**	**0.81**	**172**	*e*Pg	**Pn**	04 59 18.1	-0.5
AGPR				⇑*e*Sg	**Sg**	04 59 27.6	+0.3
AGPR				IAML		04 59 30.1	
	comp=N,98nm,0.3s						
AGPR	**Aguadilla, PR**	**0.81**	**172**	*i* P	**Pb**	04 59 17.8	+0.5
AGPR				IAML		04 59 29.1	
	comp=Z,62nm,0.3s						
IDE	**Isla Desecheo**	**0.91**	**194**		**Pn**	04 59 19.8	-0.2
IDE					**Sb**	04 59 32.0	+0.7
IDE	**Isla Desecheo**	**0.91**	**194**	⇓*i* P	**Pn**	04 59 19.8	-0.2
IDE	**Isla Desecheo**	**0.91**	**194**	*eS*	**Sb**	04 59 32.0	+0.7
AOPR	**Arecibo Observ**	**1.03**	**154**		**Pn**	04 59 21.6	-0.1
AOPR					**Sn**	04 59 36.0	-0.2
AOPR	**Arecibo Observ**	**1.03**	**154**	⇑*eP*	**Pn**	04 59 21.6	-0.1
AOPR	**Arecibo Observ**	**1.03**	**154**	*eS*	**Sn**	04 59 36.0	-0.2
AOPR	**Arecibo Observ**	**1.03**	**154**	*e*Pg	**Pn**	04 59 21.9	+0.3
AOPR				⇑*e*Sg	**Sg**	04 59 33.4	-0.9
AOPR				IAML		04 59 43.1	
	comp=N,76nm,0.2s						
EMPR	**Esperanza - Ma**	**1.04**	**140**		**Pn**	04 59 23.1	+1.4
EMPR	**Esperanza - Ma**	**1.04**	**140**		**Sn**	04 59 37.2	+0.9
EMPR	**Esperanza - Ma**	**1.04**	**140**		**Pn**	04 59 23.4	+1.7
EMPR	**Esperanza - Ma**	**1.04**	**140**	⇑*eP*	**Pn**	04 59 23.1	+1.4
EMPR	**Esperanza - Ma**	**1.04**	**140**	*eS*	**Sn**	04 59 37.2	+0.9
PRSN	**Puerto Rico Se**	**1.05**	**175**		**Pb**	04 59 21.6	+0.1
PRSN					**Sn**	04 59 37.3	+0.6
PRSN	**Puerto Rico Se**	**1.05**	**175**	⇑*eP*	**Pb**	04 59 21.6	+0.1
PRSN	**Puerto Rico Se**	**1.05**	**175**	*eS*	**Sn**	04 59 37.3	+0.6
PRSN	**Puerto Rico Se**	**1.05**	**175**	⇓*e*Pg	**Pn**	04 59 21.8	-0.1
PRSN				⇓*e*Sg	**Sb**	04 59 35.4	+0.1
PRSN				IAML		04 59 41.5	
	comp=N,160nm,0.3s						
LSP	**Las Mesas**	**1.10**	**173**		**Pn**	04 59 22.6	0.0
LSP					**Sn**	04 59 38.5	+0.6
LSP	**Las Mesas**	**1.10**	**173**	⇓*i* P	**Pn**	04 59 22.6	0.0
LSP	**Las Mesas**	**1.10**	**173**	*eS*	**Sn**	04 59 38.5	+0.6
UUPR	**Utuado, UPR, P**	**1.13**	**154**		**Pn**	04 59 23.2	+0.2
UUPR	**Utuado, UPR, P**	**1.13**	**154**		**Sg**	04 59 37.6	+0.2
UUPR	**Utuado, UPR, P**	**1.13**	**154**		**Pn**	04 59 23.5	+0.5
UUPR	**Utuado, UPR, P**	**1.13**	**154**	⇓*e*P	**Pn**	04 59 23.2	+0.2
UUPR	**Utuado, UPR, P**	**1.13**	**154**	*eS*	**Sg**	04 59 37.6	+0.2
ECPR	**Experimental S**	**1.26**	**139**	⇓*e*P	**Pg**	04 59 25.5	+0.2
ECPR	**Experimental S**	**1.26**	**139**	*eS*	**Sb**	04 59 41.3	0.0
CRPR	**Cabo Rojo, PR**	**1.27**	**175**		**Pb**	04 59 25.0	-0.1
CRPR					**Sn**	04 59 41.7	-0.2
CRPR	**Cabo Rojo, PR**	**1.27**	**175**	IAML		04 59 44.1	
	comp=E,46nm,0.3s						
CRPR				IAML		04 59 47.5	
	comp=N,48nm,1.2s						
CRPR	**Cabo Rojo, PR**	**1.27**	**175**	⇓*e*P	**Pb**	04 59 25.0	-0.1
CRPR	**Cabo Rojo, PR**	**1.27**	**175**	*eS*	**Sn**	04 59 41.7	-0.2
CRPR	**Cabo Rojo, PR**	**1.27**	**175**	*i* P	**Pn**	04 59 24.8	0.0
CRPR				*eS*	**Sb**	04 59 41.7	+0.2
CRPR				IAML		04 59 42.6	
	comp=Z,33nm,0.3s						
MLPR	**Magueyes Islan**	**1.31**	**172**	⇑*i* P	**Pn**	04 59 25.6	+0.1
MLPR	**Magueyes Islan**	**1.31**	**172**	*eS*	**Sn**	04 59 43.1	0.0
MLPR	**Magueyes Islan**	**1.31**	**172**	*e*Pg	**Pn**	04 59 25.5	+0.1
MLPR				*e*Sg	**Sb**	04 59 40.5	-2.2
MLPR				IAML		04 59 44.6	
	comp=N,10nm,0.8s						
GBPR	**Guanica, Bosqu**	**1.33**	**165**		**Pg**	04 59 27.0	+0.2
GBPR	**Guanica, Bosqu**	**1.33**	**165**	⇓*e*P	**Pg**	04 59 27.0	+0.2
CELP	**Cerrillos**	**1.34**	**152**		**Pg**	04 59 26.8	-0.2
CELP					**Sn**	04 59 43.9	0.0
CELP	**Cerrillos**	**1.34**	**152**	IAML		04 59 45.3	
	comp=E,39nm,0.3s						
CELP				IAML		04 59 45.4	
	comp=N,41nm,0.3s						
CELP	**Cerrillos**	**1.34**	**152**	⇑*i* P	**Pg**	04 59 26.8	-0.2
CELP	**Cerrillos**	**1.34**	**152**	*eS*	**Sn**	04 59 43.9	0.0
CELP	**Cerrillos**	**1.34**	**152**	⇓*e*Pg	**Pg**	04 59 27.0	0.0
CELP				⇓*e*Sg	**Sb**	04 59 41.3	-2.5
CELP				IAML		04 59 45.4	
	comp=N,43nm,0.2s						
OBIP	**Obispado Ponce**	**1.36**	**154**		**Pb**	04 59 26.9	+0.2
OBIP					**Sn**	04 59 44.5	+0.1
OBIP	**Obispado Ponce**	**1.36**	**154**	IAML		04 59 48.3	
	comp=E,37nm,0.4s						
OBIP	**Obispado Ponce**	**1.36**	**154**	⇑*eP*	**Pb**	04 59 26.9	+0.2
OBIP	**Obispado Ponce**	**1.36**	**154**	*eS*	**Sn**	04 59 44.5	+0.1
GCPR	**Guaynabo City**	**1.45**	**131**		**Pb**	04 59 27.8	-0.4
GCPR					**Sn**	04 59 46.5	-0.1
GCPR	**Guaynabo City**	**1.45**	**131**	⇓*eP*	**Pb**	04 59 27.8	-0.4
GCPR	**Guaynabo City**	**1.45**	**131**	*eS*	**Sn**	04 59 46.5	-0.1
SJG	**San Juan**	**1.55**	**138**		**Pb**	04 59 30.0	+0.1
SJG	**San Juan**	**1.55**	**138**	IAML		04 59 53.6	
	comp=E,22nm,0.5s						
SJG				IAML		04 59 57.4	
	comp=E,22nm,0.2s						
SJG	**San Juan**	**1.55**	**138**	⇓*eP*	**Pb**	04 59 30.0	+0.1
SJG	**San Juan**	**1.55**	**138**	*eS*	**Sb**	04 59 49.7	+0.2
SJG	**San Juan**	**1.55**	**138**	⇓*e*Pg	**Pb**	04 59 30.2	+0.3
SJG				⇑*e*Sg	**Sn**	04 59 48.3	-0.6
SJG	**San Juan**	**1.55**	**138**	*i* P	**Pg**	04 59 30.4	-0.4
SJG				*eS*	**Sn**	04 59 48.4	-0.5
SJG				IAML		04 59 57.3	
	comp=Z,10nm,0.2s						
HIDR	**Higuey Centro**	**1.56**	**244**	*e*Pg	**Pb**	04 59 30.3	+0.2
HIDR				⇓*e*Sg	**Sb**	04 59 49.8	0.0
HIDR				IAML		04 59 53.3	
	comp=N,31nm,0.1s						
IGPR	**InterUniversit**	**1.69**	**140**		**Pb**	04 59 32.3	+0.1
IGPR					**Sn**	04 59 51.2	-1.1
IGPR	**InterUniversit**	**1.69**	**140**	⇓*eP*	**Pb**	04 59 32.3	+0.1
IGPR	**InterUniversit**	**1.69**	**140**	*eS*	**Sn**	04 59 51.2	-1.1
PDPR	**Patillas Dam,**	**1.70**	**137**	⇑*eP*	**Pb**	04 59 32.4	-0.1
PDPR	**Patillas Dam,**	**1.70**	**137**	*eS*	**Sn**	04 59 51.1	-1.5
HUMP	**Col San Antoni**	**1.73**	**130**	Pn	**Pn**	04 59 31.9	+0.7
MIDR	**Miches**	**1.74**	**261**	⇑*eP*	**Pb**	04 59 33.3	+0.1
MIDR	**Miches**	**1.74**	**261**	*eS*	**Sg**	04 59 56.6	-0.5
MIDR	**Miches**	**1.74**	**261**	⇓*e*Pg	**Pg**	04 59 34.8	+0.3
MIDR				IAML		05 00 04.1	
	comp=N,20nm,2.3s						
DR12	**Loma Pena Alta**	**2.09**	**257**		**Pb**	04 59 38.6	-0.6
HATOM	**Hato Mayor del**	**2.09**	**257**	*e*Pg	**Pb**	04 59 38.9	-0.2
HATOM				⇑*e*Sg	**Sb**	05 00 05.0	-0.1
HATOM				IAML		05 00 39.8	
	comp=N,14nm,1.2s						

IDC 27 05:04:51.7±2.4, 3°.52S×127°.83E, h0km, mb3.5/2, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=195.9km s-min=29.3km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.52**	**159**	P	Pn	05 08 57.7	+0.1
	0.1nm,0.3s,baz=341,slow=13,SNR=2.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**20.88**	**164**	P	P	05 09 35.6	0.0
	0.8nm,0.4s,baz=344,slow=10,SNR=7.9						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**64.15**	**327**	P	P	05 15 28.1	0.0
	0.5nm,0.7s,baz=136,slow=7.9,SNR=3.8						
	0.5nm,0.7s						

*HLW **27** 05:22:22.0, 35°.20N×27°.98E, h4km±9km, Ml3.7*
*ISK **27** 05:22:21.7, 35°.26N×27°.87E, h72km, ML3.4/16*
*ATH **27** 05:22:22.5, 35°.22N×27°.98E, h20km±5km, ML3.2/11, Manual Solution by N.Liadopoulou First location: 2019/09/27 05:23:48, This location: 2019/09/27 05:32:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*IDC **27** 05:22:22.7±1.5, 35°.37N×27°.96E, h40km±19km, mb3.7/4, mbtmp3.6/10, ML3.2/5, MS2.9/2, Error ellipse: s-maj=16.8km s-min=9.4km az=172.0*
*AFAD **27** 05:22:22.0, 35°.59N×27°.85E, h8km±2km, ML3.3*
*NIC **27** 05:22:23.1, 35°.19N×27°.97E, h34km±26km, Ml3.3/10*
*THE **27** 05:22:24.8, 35°.N±4°.×27°.8E±°, h42km±12km, M3.1/10, MLh3.1/10*

ISC 27 05:22:21.9±1.2, 35°.28N±0°.03×27°.96E±0°.02, h31km±10km, n87, σ1°.59/116, mb3.8/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.70**	**293**	Pg	**Pn**	05 22 37.0	+1.3
KARP				Sg	**Sn**	05 22 47.4	+1.8
KARP	**Karpathos**	**0.70**	**293**	P	**Pn**	05 22 37.1	+1.3
KARP				S	**Sn**	05 22 46.7	+1.0
KARP	**Karpathos**	**0.70**	**293**	P	**Pn**	05 22 37.1	+1.3
KARP				S	**Sn**	05 22 47.4	+1.8
KARP				AML	AML	05 22 49.1	
	11nm,0.6s						
KARP				AML	AML	05 22 49.7	
	8.3nm,0.5s						
KARP	**Karpathos**	**0.70**	**293**	P	**Pn**	05 22 37.0	+1.3
KARP				S	**Sn**	05 22 47.4	+1.8
ARG	**Arkhangelos**	**0.95**	**8**	Pg	**Pb**	05 22 40.9	+1.2
ARG				Sg	**Sn**	05 22 54.7	+3.2
ARG	**Arkhangelos**	**0.95**	**8**	P	**Pb**	05 22 41.0	+1.3
ARG				S	**Sn**	05 22 53.3	+1.7
ARG	**Arkhangelos**	**0.95**	**8**	P	**Pb**	05 22 41.2	+1.5
ARG				S	**Sn**	05 22 54.8	+3.2
ARG				AML	AML	05 22 59.3	
	2.0nm,0.4s						
ARG				AML	AML	05 22 59.8	
	3.2nm,0.7s						
ARG	**Arkhangelos**	**0.95**	**8**	P	**Pb**	05 22 41.1	+1.3
ARG				S	**Sn**	05 22 53.6	+2.1
ZKR	**Zakros**	**1.44**	**264**	P	**Pb**	05 22 47.9	0.0
ZKR	**Zakros**	**1.44**	**264**	P	**Pn**	05 22 47.2	+1.4
ZKR				S	**Sn**	05 23 05.1	+1.5
ZKR				AML	AML	05 23 13.6	
	0.4nm,0.4s						
ZKR				AML	AML	05 23 16.1	
	0.8nm,0.4s						
ZKR	**Zakros**	**1.44**	**264**	P	**Pn**	05 22 47.5	+1.8
YAZI	**Mula-Dat§a-**	**1.46**	**344**	P	**Pn**	05 22 47.0	+0.9
DAT	**Datca**	**1.48**	**348**	Pn	**Pn**	05 22 47.5	+0.9
DAT	**Datca**	**1.48**	**348**	P	**Pn**	05 22 47.4	+0.9
DAT				S	**Sn**	05 23 06.4	+1.5
NISR	**Nisiros**	**1.49**	**333**	P	**Pn**	05 22 47.9	+1.3
NISR	**Nisiros**	**1.49**	**333**	P	**Pb**	05 22 49.7	+0.8
KSL	**Kastellorizon**	**1.58**	**56**	P	**Pb**	05 22 50.0	-0.5
KSL				S	**Sb**	05 23 09.7	-0.5
KSL	**Kastellorizon**	**1.58**	**56**	P	**Pb**	05 22 50.1	-0.4
KSL				S	**Sb**	05 23 10.2	+0.1
KSL				AML	AML	05 23 15.4	
	0.3nm,0.4s						
KSL				AML	AML	05 23 15.7	
	0.2nm,0.4s						
KSL	**Kastellorizon**	**1.58**	**56**	P	**Pb**	05 22 49.9	-0.6
KSL				S	**Sb**	05 23 09.6	-0.5
FETY	**Fethiye**	**1.63**	**34**	P	Pn	05 22 42.1	-6.5
DALY	**Dalyan (Mula)**	**1.64**	**20**	Pn	**Pb**	05 22 50.2	-1.2
AKAS	**Kas**	**1.65**	**54**	Pn	**Pb**	05 22 50.6	-1.0
AKAS				Sn	**Sb**	05 23 11.9	-0.1
AKAS	**Kas**	**1.65**	**54**	P	**Pb**	05 22 51.0	-0.6
AKAS				S	**Sb**	05 23 11.6	-0.4
AKAS				*i* IAML		05 23 13.0	
	comp=N,451nm,0.4s						
AKAS				*i* IAML		05 23 14.0	
	comp=E,257nm,0.3s						
DEMR	**Demre-Antalya**	**1.85**	**58**	Pn	**Pn**	05 22 52.9	+1.4
BODT	**Bodrum**	**1.86**	**344**	Pn	**Pn**	05 22 52.7	+1.1
BODT	**Bodrum**	**1.86**	**344**	P	**Pn**	05 22 52.8	+1.1
BODT				S	**Sn**	05 23 14.4	+0.3
NPS	**Neapolis**	**1.92**	**270**	P	**Pn**	05 22 55.2	-1.0
NPS	**Neapolis**	**1.92**	**270**	P	**Pb**	05 22 55.0	+2.6
CAME	**Cameli-Denizli**	**1.99**	**33**	Pn	**Pn**	05 22 55.2	+1.7
MULA	**Mugla, Merkez-**	**2.00**	**8**	P	**Pb**	05 22 56.7	-0.9
MLSB	**Milas**	**2.02**	**356**	Pn	**Pn**	05 22 55.5	+1.6
KNIK	**Mula-Seydike**	**2.04**	**39**	P	**Pb**	05 22 56.6	-1.7
KNIK				S	**Sb**	05 23 22.4	-0.9
ELL	**Elmali**	**2.16**	**47**	Pn	**Pn**	05 22 57.7	+1.9
DNZT	**Denizli-Tavas-**	**2.17**	**23**	P	**Pn**	05 22 58.3	+2.2
DNZT				S	**Sb**	05 23 24.9	-2.3
DDIM	**Aydin, Didim**	**2.25**	**345**	P	**Pn**	05 22 57.8	+0.9
THERA	**Ancient Thera,**	**2.29**	**299**	P	**Pn**	05 22 59.2	+1.6
THERA	**Ancient Thera,**	**2.29**	**299**	P	**Pn**	05 22 58.9	+1.3
TAVA	**DENIZLI_Tavas**	**2.32**	**19**	P	**Pn**	05 22 60.0	+2.0
TAVA				S	**Sn**	05 23 27.8	+2.3
TAVA				*i* IAML		05 23 28.0	
	comp=N,118nm,0.3s						
GOLH	**Golhisar**	**2.35**	**33**	P	**Pb**	05 23 01.7	-1.8
GOLH				S	**Sb**	05 23 30.7	-1.4
AYDN	**Tasoluk**	**2.38**	**359**	P	**Pn**	05 23 00.1	+1.2
APMY	**Acipayam-Deniz**	**2.44**	**26**	Pn	**Pn**	05 23 01.8	+2.1
DNIZ	**Denizli-Tavas-**	**2.50**	**20**	P	**Pn**	05 23 02.5	+2.0
DNIZ				S	**Sn**	05 23 32.0	+1.9
DNIZ				*i* IAML		05 23 34.0	
	comp=N,313nm,0.2s						
DNIZ				*i* IAML		05 23 35.0	
	comp=E,454nm,0.3s						
IDI	**Anoyia**	**2.51**	**271**	P	**Pn**	05 23 02.5	+1.9
IDI	**Anoyia**	**2.51**	**271**	P	**Pn**	05 23 02.7	+2.1

GNI	**Garni**	**14.14**	**65**	LR	LR	05 31 01.1		
	comp=Z,33nm,19.9s,baz=34,slow=37							
AKASG	**Malin Array Be**	**15.44**	**3**	P	**Pn**	**05 25 54.6**	**-2.8**	
	0.3nm,0.3s,baz=201,slow=12,SNR=2.2							
	0.2nm,0.3s							
GERES	**GERESS Array B**	**17.16**	**327**	P	**Pn**	**05 26 19.6**	**+0.3**	
	baz=119,slow=14,SNR=4.6							
	0.6nm,0.7s							
FINES	**FINESS Array B**	**26.21**	**358**	P	**P**	**05 27 52.7**	**-0.9**	
	0.8nm,0.4s,baz=157,slow=10,SNR=6.1							
	0.8nm,0.4s							
HFS	**Hagfors**	**26.54**	**344**	P	**P**	**05 27 54.9**	**-1.7**	
	0.6nm,0.4s,baz=159,slow=13,SNR=4.8							
	0.6nm,0.4s							
TORD	**Torodi Ar. Bea**	**32.36**	**234**	P	**P**	**05 28 49.3**	**+0.6**	
	0.7nm,0.5s,baz=33,slow=10,SNR=5.8							
ARCES	**ARCESS Array B**	**34.34**	**358**	P	**P**	**05 29 04.4**	**-1.0**	
	1.2nm,0.7s,baz=178,slow=9.6,SNR=5.8							
	1.2nm,0.7s							
DBIC	**Dimbokro**	**41.46**	**234**	P	**P**	**05 30 05.9**	**-0.2**	
	4.1nm,0.9s,baz=64,slow=7.2,SNR=3.0							
	4.1nm,0.9s							

IDC 27 05:33:50.4±2.3, 6°15S×129°69E, h0km, mb3.4/1, mbtmp3.8/4, ML4.2/3, Error ellipse: s-maj=83.5km s-min=29.6km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.52**	**198**	Pn	Pn	05 36 52.1	+2.2
	1.0nm,0.3s,baz=31,slow=14,SNR=20						
FITZ				Sn	Sn	05 39 01.7	-8.5
	0.7nm,0.3s,baz=264,slow=19,SNR=4.2						
	2.0nm,0.3s						
WRA	**Warramunga Arr**	**14.44**	**162**	Pn	Pn	05 37 14.1	-2.2
	1.1nm,0.3s,baz=338,slow=13,SNR=23						
WRA				Sn	Sn	05 39 40.5	-17
	1.0nm,0.3s,baz=354,slow=23,SNR=11						
	1.5nm,0.4s						
ASAR	**Alice Springs**	**17.88**	**167**	P	Pn	05 37 60.0	-0.9
	0.6nm,0.3s,baz=353,slow=10.0,SNR=23						
ASAR				S	Sn	05 41 07.8	-13
	0.9nm,0.7s,baz=358,slow=28,SNR=5.4						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**67.35**	**327**	P	P	05 44 47.6	+0.2
	0.2nm,0.5s,baz=121,slow=7.3,SNR=2.8						
	0.2nm,0.5s						

IDC 27 05:45:42.0±1.1, 51°74N×156°13E, h204km±8km, mb3.0/7, mbtmp3.7/9, Error ellipse: s-maj=28.1km s-min=13.1km az=146.0

ISC 27 05:45:41.7±0.9, 51°7N±0°2×156°1E±0°2, h200km, n13, σ0°71/11, mb3.1/7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**1.67**	**34**	P	**Pn**	**05 46 17.0**	**0.0**
	36nm,0.9s,baz=145,slow=9.8,SNR=50						
PETK				S	**Sn**	**05 46 45.8**	**+1.2**
	10nm,0.8s,baz=137,slow=20,SNR=5.3						
ASAJ	**Asahikawa**	**11.84**	**235**	P	**Pn**	**05 48 24.8**	**+0.3**
	10nm,0.6s,baz=26,slow=13,SNR=6.2						
MJAR	**Matsushiro Arr**	**19.82**	**227**	P	**P**	**05 49 56.9**	**-0.2**
	1.3nm,0.3s,baz=19,slow=12,SNR=6.6						
ILAR	**Eielson Array**	**31.48**	**43**	P	**P**	**05 51 43.0**	**-1.2**
	0.2nm,0.6s,baz=264,slow=6.8,SNR=2.8						
	0.2nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**34.19**	**162**	T	T	06 27 10.1	
	baz=347,slow=76,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**34.20**	**162**	T	T	06 27 08.5	
	baz=347,slow=76,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**34.21**	**162**	T	T	06 27 10.9	
	baz=347,slow=76,SNR=5.3						
KURBB	**Kurchatov Arra**	**46.47**	**301**	P	**P**	**05 53 48.4**	**0.0**
	0.8nm,0.4s,baz=61,slow=7.4,SNR=4.1						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**46.54**	**295**	P	**P**	**05 53 49.4**	**+0.4**
	0.3nm,0.4s,baz=46,slow=6.2,SNR=3.4						
	0.3nm,0.4s						
NVAR	**Mina Array Bea**	**58.49**	**67**	P	**P**	**05 55 17.5**	**+0.5**
	0.2nm,0.6s,baz=324,slow=9.1,SNR=2.5						
	0.2nm,0.6s						
PDAR	**Pinedale Array**	**60.30**	**58**	P	**P**	**05 55 29.5**	**+0.2**
	0.2nm,0.5s,baz=350,slow=4.5,SNR=3.9						
	0.2nm,0.5s						
EKA	**Eskdalemuir Ar**	**71.92**	**348**	P	**P**	**05 56 42.0**	**-0.6**
	0.6nm,0.4s,baz=17,slow=5.9,SNR=5.2						
	0.6nm,0.4s						
TXAR	**Lajitas Array**	**73.41**	**64**	P	**P**	**05 56 52.1**	**+0.2**
	0.2nm,0.5s,baz=294,slow=4.4,SNR=4.8						
	0.2nm,0.5s						

IDC 27 06:00:18.8±10.0, 32°01N×66°63E, h0km, mb3.7/4, mbtmp3.7/5, ML3.0/1, MS3.5/3, Error ellipse: s-maj=180.0km s-min=60.7km az=170.0, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**19.03**	**35**	P	P	06 04 42.1	-0.3
	baz=210,slow=7.7,SNR=3.3						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**20.58**	**22**	P	Pn	06 05 00.9	-0.4
	0.5nm,0.2s,baz=211,slow=12,SNR=2.5						
	0.5nm,0.2s						
BVAR	**Borovoye Array**	**21.18**	**6**	P	P	06 05 04.7	-0.9
	3.4nm,0.8s,baz=186,slow=10,SNR=10						
	3.4nm,0.8s						
ARTI	**Arti**	**25.04**	**349**	LR	LR	06 17 03.7	
	comp=Z,31nm,18.1s,baz=11,slow=40						
ZALV	**Zalesovo Beam**	**25.50**	**25**	P	P	06 05 48.3	-0.4
	1.7nm,0.6s,baz=224,slow=10,SNR=6.6						
	1.7nm,0.6s						
IDI	**Anoyia**	**34.72**	**287**	LR	LR	06 25 18.2	
	comp=Z,86nm,21.3s,baz=122,slow=43						
ARCES	**ARCESS Array B**	**44.03**	**341**	P	P	06 08 28.0	+0.1
	1.2nm,0.8s,baz=138,slow=7.6,SNR=4.4						
	1.2nm,0.8s						
NWAO	**Narrogin (SRO)**	**80.33**	**139**	LR	LR	06 46 56.6	
	comp=Z,54nm,18.2s,baz=54,slow=35						

UCR 27 06:42:54.8±0.9, 8°74N×84°19W, h0km±3km, MW4.0
UPA 27 06:42:57.0±0.9, 8°89N×84°08W, h1km±7km, ML3.4
CATAC 27 06:42:57.7±0.7, 9°N±4°×8°4W±°, h5km±3km, M3.5/11, MLv3.5/11, Error ellipse: s-maj=11.6km s-min=4.3km az=49.7, confirmed

ISC 27 06:42:56.7±1.4, 8°80N±0°04×84°11W±0°04, h9km±10km, n84, σ0°87/100, 2C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCHAL	**Ojochal**	**0.54**	**57**	P	**Pb**	**06 43 08.1**	**-0.4**
OCHAL	**Ojochal**	**0.54**	**57**	S	**Sb**	**06 43 16.2**	**-0.1**
QUEP	**Quepos**	**0.63**	**355**	*eP*	**Pb**	**06 43 09.4**	**-0.4**
QUEP				*eS*	**Sb**	**06 43 19.9**	**+1.1**
QUEP	**Quepos**	**0.63**	**355**	P	**Pb**	**06 43 09.9**	**0.0**
SVQ2	**Quepos**	**0.63**	**355**	*eP*	**Pb**	**06 43 09.6**	**-0.3**
SVQ2				*eS*	**Sb**	**06 43 19.4**	**+0.6**
EDPE	**Pejibaye, P**	**0.64**	**56**	*eP*	**Pg**	**06 43 08.4**	**-0.6**
PANP	**Palmar Norte**	**0.66**	**76**	*eP*	**Pb**	**06 43 10.2**	**-0.2**
PANP				*eS*	**Sn**	**06 43 21.2**	**-1.6**
LLNJ	**Naranjito**	**0.67**	**1**	*eP*	**Pg**	**06 43 09.5**	**-0.1**
LLNJ				*eS*	**Sb**	**06 43 21.3**	**+1.3**
SAJE	**San Jernim**	**0.80**	**48**	*eP*	**Pg**	**06 43 11.9**	**-0.2**
PAR1A	**Puntarenas Pro**	**0.80**	**350**	*eP*	**Pb**	**06 43 12.9**	**0.0**
JIME	**Puerto Jimenez**	**0.82**	**109**	*eP*	**Pg**	**06 43 11.8**	**-0.7**
PICV	**PH. Pirrs**	**0.82**	**354**	*eP*	**Pg**	**06 43 12.8**	**+0.2**
BUS1	**Rivas**	**0.83**	**25**	*eP*	**Pg**	**06 43 11.8**	**-0.9**
PIEC	**Cerro El Cedra**	**0.83**	**10**	*eP*	**Pg**	**06 43 12.6**	**-0.1**
BURE	**Buenos Aires**	**0.84**	**64**	*eP*	**Pb**	**06 43 13.3**	**-0.3**
RAZU	**San Marcos de**	**0.85**	**6**	*eP*	**Pg**	**06 43 13.0**	**-0.2**
PITB	**Pirrs, San**	**0.86**	**6**	*eP*	**Pg**	**06 43 13.1**	**-0.2**
PIRO	**Carate, Puerto**	**0.86**	**117**	*ieP*	**Pn**	**06 43 14.6**	**-0.5**
PIRO				*eS*	**Sn**	**06 43 29.5**	**+1.8**
PIRO	**Carate, Puerto**	**0.86**	**117**	*eP*	**Pb**	**06 43 14.1**	**+0.2**
PIRO				*eS*	**Sn**	**06 43 27.7**	**0.0**
PIRO	**Carate, Puerto**	**0.86**	**117**	P	**Pn**	**06 43 14.6**	**-0.5**
PIRO	**Carate, Puerto**	**0.86**	**117**	S	**Sn**	**06 43 26.6**	**-1.2**
LCR2	**La Lucha 2**	**0.94**	**6**	*eP*	**Pg**	**06 43 15.0**	**+0.2**
LCR2				*eS*	**Sb**	**06 43 28.8**	**+0.8**
EDP2	**Potrero Grande**	**0.94**	**77**	*eP*	**Pn**	**06 43 15.7**	**-0.5**
DRK0	**Durika**	**0.97**	**62**	*ieP*	**Pb**	**06 43 15.6**	**-0.2**
DRK0				*eS*	**Sn**	**06 43 29.9**	**-0.8**
DRK0	**Durika**	**0.97**	**62**	*eP*	**Pg**	**06 43 15.3**	**0.0**
DRK0	**Durika**	**0.97**	**62**	P	**Pb**	**06 43 15.6**	**-0.2**
DRK0	**Durika**	**0.97**	**62**	S	**Sn**	**06 43 30.3**	**-0.4**
ACOS	**Acosta**	**0.99**	**357**	*eP*	**Pg**	**06 43 15.4**	**-0.4**
REPA	**Paraso**	**1.04**	**13**	*eP*	**Pg**	**06 43 16.3**	**-0.5**
TAGO	**Cartago**	**1.07**	**10**	*eP*	**Pg**	**06 43 14.2**	**-3.1**
TAGO				*eS*	**Sg**	**06 43 30.8**	**-0.5**
AMPA	**Desamparados**	**1.09**	**2**	*eP*	**Pg**	**06 43 17.0**	**-0.6**
SANTA	**Santa Ana**	**1.12**	**356**	*eP*	**Pb**	**06 43 17.0**	**-1.5**
ECI	**Escuela Centro**	**1.13**	**3**	*eP*	**Pb**	**06 43 17.0**	**-1.5**
SJS3	**Mercedes San J**	**1.13**	**3**	*eP*	**Pb**	**06 43 18.0**	**-0.5**
VINA	**Juan Vinas**	**1.14**	**18**	*eP*	**Pb**	**06 43 17.8**	**-0.9**
PCAYA	**Pacayas**	**1.15**	**15**	*eP*	**Pb**	**06 43 18.4**	**-0.5**
NELY	**Ciudad Neily**	**1.16**	**97**	*eP*	**Pb**	**06 43 17.9**	**-1.0**
CORON	**Coronado**	**1.17**	**5**	*eP*	**Pb**	**06 43 18.0**	**-1.2**
BELE	**Belen**	**1.17**	**356**	*eP*	**Pb**	**06 43 17.3**	**-1.9**
BELE				*eS*	**Sn**	**06 43 35.0**	**-0.5**
DOMI	**Santo Domingo**	**1.17**	**1**	*eP*	**Pb**	**06 43 18.9**	**-0.4**
TURIB	**Turrialba**	**1.17**	**21**	*eP*	**Pb**	**06 43 18.0**	**-1.3**
TURIB				*eS*	**Sn**	**06 43 35.6**	**0.0**
OROT	**Orotina**	**1.18**	**339**	*eP*	**Pb**	**06 43 17.6**	**-1.6**
HEME	**Heredia, Merce**	**1.19**	**359**	*eP*	**Pn**	**06 43 19.5**	**-0.2**
HDC	**Heredia**	**1.19**	**360**	*eP*	**Pb**	**06 43 18.0**	**-1.6**
ATEO	**Atenas**	**1.20**	**347**	*eP*	**Pb**	**06 43 18.0**	**-1.7**
ATEO				*eS*	**Sn**	**06 43 35.8**	**-0.5**
VICA	**Volcano Irazu**	**1.20**	**12**	*eP*	**Pb**	**06 43 19.1**	**-0.9**
VERB	**Verbena**	**1.21**	**20**	*eP*	**Pb**	**06 43 19.6**	**-0.2**
CVIMO	**Finca Echandi**	**1.22**	**8**	*eP*	**Pn**	**06 43 19.2**	**-1.1**
RSRNO	**Rio Sereno**	**1.23**	**89**	*eP*	**Pg**	**06 43 20.4**	**0.0**
CVTQ	**Turrialba Volc**	**1.24**	**16**	*eP*	**Pn**	**06 43 20.1**	**-0.6**
CDITO	**Canoas**	**1.24**	**100**	P	**Pb**	**06 43 20.2**	**-0.2**
CDITO	**Canoas**	**1.24**	**100**	S	**Sn**	**06 43 37.7**	**+0.5**
CVTV	**Tajo**	**1.25**	**16**	*eP*	**Pn**	**06 43 20.4**	**-0.3**
TCS1	**Tacares**	**1.25**	**351**	P	**Pn**	**06 43 20.1**	**-0.4**
VTR0	**Volcan Turrial**	**1.25**	**16**	*eP*	**Pn**	**06 43 20.4**	**-0.4**
ABRB	**Las Abras (San**	**1.26**	**18**	*eP*	**Pb**	**06 43 20.6**	**-0.2**
ABRB				*eS*	**Sn**	**06 43 39.0**	**+1.0**
CVTR	**Volcan Turrial**	**1.26**	**16**	*eP*	**Pn**	**06 43 20.2**	**-0.7**
ALCO	**Alturas Coton,**	**1.27**	**83**	*eP*	**Pn**	**06 43 20.1**	**-0.7**
LPPC	**Paso Canoas**	**1.28**	**102**	*eP*	**Pn**	**06 43 19.4**	**-1.5**
RESJ	**San Isidro (Tu**	**1.30**	**21**	*eP*	**Pb**	**06 43 21.2**	**-0.3**
DMCAL	**E. de Neily**	**1.31**	**96**	*eP*	**Pn**	**06 43 20.8**	**-0.4**
VPS8	**V Poas**	**1.37**	**354**	*eP*	**Pn**	**06 43 22.1**	**-0.3**
LCOCO	**El Coco**	**1.38**	**23**	*eP*	**Pn**	**06 43 22.0**	**-0.3**
LCOCO				*eS*	**Sg**	**06 43 42.8**	**+1.6**
RVLA	**Villa Bonita**	**1.40**	**22**	*eP*	**Pn**	**06 43 22.1**	**-0.3**
BRU2	**Volcan**	**1.40**	**90**	*i*P	**Pb**	**06 43 22.9**	**-0.2**
BRU2				AMP		06 43 23.4	
	comp=Z,630nm,0.3s						
BRU2				*eS*	**Sg**	**06 43 42.5**	**+0.7**
BRU2	**Volcan**	**1.40**	**90**	*eP*	**Pn**	**06 43 22.4**	**-0.3**
BRU2	**Volcan**	**1.40**	**90**	P	**Pb**	**06 43 23.1**	**0.0**
CEUA	**Cerro Uatsi, L**	**1.41**	**55**	*eP*	**Pg**	**06 43 23.9**	**+0.1**
LAES	**El Progreso Va**	**1.42**	**48**	*eP*	**Pb**	**06 43 22.9**	**-0.4**
LAES				*eS*	**Sg**	**06 43 43.8**	**+1.6**
VERH	**Veragua Rainfo**	**1.44**	**39**	*eP*	**Pb**	**06 43 23.2**	**-0.5**
BRIBI	**Bribri**	**1.51**	**57**	*eP*	**Pb**	**06 43 25.0**	**+0.1**
ARTO	**Ro Cuarto**	**1.53**	**356**	*eP*	**Pn**	**06 43 24.6**	**+0.2**
JEFFS	**S de V. Baru**	**1.56**	**95**	*eP*	**Pb**	**06 43 25.3**	**-0.6**
BANCO	**falda S V. Bar**	**1.56**	**93**	*eP*	**Pn**	**06 43 25.1**	**+0.2**
CARI	**Cariari**	**1.59**	**13**	*eP*	**Pb**	**06 43 25.8**	**-0.6**
SOCE	**Pocosol**	**1.65**	**342**	P	**Pb**	**06 43 27.4**	**+0.1**
SOCE	**Pocosol**	**1.65**	**342**	S	**Sg**	**06 43 50.0**	**+0.2**
JTS	**Las Juntas de**	**1.70**	**331**	*eP*	**Pb**	**06 43 27.5**	**-0.7**
CEDE	**Laguna Cedeo**	**1.77**	**341**	*eP*	**Pn**	**06 43 27.7**	**0.0**
TRT2	**Tortugero**	**1.78**	**12**	*eP*	**Pn**	**06 43 27.5**	**-0.2**
TRT2	**Tortugero**	**1.78**	**12**	P	**Pn**	**06 43 28.4**	**+0.7**
PBNVO	**Pueblo Nuevo,**	**1.90**	**87**	*eP*	**Pn**	**06 43 29.0**	**-0.3**
COVE	**Coope Vega, Sa**	**1.93**	**351**	P	**Pb**	**06 43 31.8**	**-0.3**
ACON	**Acoyapa**	**3.32**	**342**	P	**Pn**	**06 43 51.8**	**+2.9**

IDC 27 06:53:17.0±5.6, 20°84S×170°18E, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=224.6km s-min=84.6km az=158.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.56**	**265**	P	P	06 59 59.0	0.0
	0.4nm,0.4s,baz=98,slow=8.0,SNR=15						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**33.64**	**258**	P	P	06 59 59.5	-0.1
	0.5nm,0.4s,baz=87,slow=8.6,SNR=11						
	0.5nm,0.4s						
AKASG	**Malin Array Be**	**137.30**	**324**	PKP	PKPdf	07 12 41.9	-0.4
	0.4nm,0.3s,baz=74,slow=0.2,SNR=2.7						

NNC 27 06:56:21.6±1.4, 51°84N×74°35E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=12.1km s-min=6.6km az=171.0, Suspected Mining explosion.
IDC 27 06:56:23.1±1.0, 51°98N×74°28E, h0km, mbtmp3.0/2, ML2.2/2, Error ellipse: s-maj=32.8km s-min=7.7km az=28.0

ISC 27 06:56:22.8±1.4, 52°02N±0°08×74°40E±0°06, h0km, n16, σ1°84/16, 7C-1D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRZS	**Berezniki**	**2.31**	**209**	Pg	**Pn**	**06 57 01.1**	**-1.1**
	1.7nm,0.6s						
BRZS				Lg	Lg	06 57 30.3	
	44nm,0.8s						
BVA0	**Borovoye Array**	**2.65**	**294**	⇑Pg	**Pb**	**06 57 10.4**	**-0.6**
	4.1nm,0.5s,baz=126,slow=15,SNR=4.1						
BVA0				⇑Lg	Lg	06 57 44.4	
	12nm,0.5s,baz=114,slow=25,SNR=5.1						
BVAR	**Borovoye Array**	**2.65**	**294**	Pg	**Pb**	**06 57 09.9**	**-1.1**
	0.5nm,0.3s,baz=108,slow=18,SNR=24						
BVAR				Lg	Lg	06 57 44.2	
	1.7nm,0.3s,baz=114,slow=28,SNR=35						
KURBB	**Kurchatov Arra**	**2.95**	**117**	⇓Pg	**Pb**	**06 57 16.0**	**-0.2**
	4.7nm,0.4s						
KURBB				⇑Lg	Lg	06 57 53.6	
	42nm,0.6s						
KURBB	**Kurchatov Arra**	**2.95**	**117**	Pn	**Pn**	**06 57 11.3**	**+0.4**
	0.3nm,0.3s,baz=299,slow=14,SNR=6.4						
KURBB				Pg	**Pb**	**06 57 15.7**	**-0.4**
	0.4nm,0.3s,baz=297,slow=18,SNR=5.6						
KURBB				Lg	Lg	06 57 54.1	
	0.6nm,0.3s,baz=294,slow=30,SNR=16						
	1.7nm,0.4s						
KURK	**Kurchatov**	**2.95**	**115**	⇑Pg	**Pb**	**06 57 16.4**	**+0.1**
	0.7nm,0.4s						
KURK				⇑Lg	Lg	06 57 53.6	
	13nm,0.7s						
SEM	**Semipalatinsk**	**4.02**	**111**	Pg	**Pb**	**06 57 32.4**	**-2.1**
	5.0nm,0.5s						
SEM				Lg	Lg	06 58 23.7	
	7.8nm,0.4s						
I46RU	**ZALESOVO INFRA**	**6.58**	**69**	I	I	07 33 35.0	
	0.1nm,1.9s,baz=257,slow=331,SNR=13						
ZALV	**Zalesovo Beam**	**6.58**	**69**	P	**Pn**	**06 58 03.3**	**+2.6**
	0.2nm,0.3s,baz=262,slow=13,SNR=7.0						
	2.2nm,0.6s						
BTLS	**Baital**	**6.99**	**182**	Pg	**Pb**	**06 58 25.2**	**+0.1**
BTLS				Lg	Lg	06 59 54.2	
MK31	**Makanchi Array**	**7.34**	**132**	⇑Sn	**Sn**	**06 59 33.2**	**-2.0**
	0.8nm,0.5s						
MK31				⇑Lg	Lg	07 00 09.0	
	3.7nm,0.7s,baz=320,slow=26,SNR=5.3						
MKAR	**Makanchi Array**	**7.34**	**132**	Pg	**Pb**	**06 58 28.8**	**-2.2**
	0.1nm,0.3s,baz=320,slow=17,SNR=4.0						
MKAR				Sn	**Sn**	**06 59 34.7**	**-0.4**
	0.3nm,0.3s,baz=319,slow=23,SNR=6.3						
MKAR				Lg	Lg	07 00 09.3	
	0.3nm,0.3s,baz=317,slow=28,SNR=7.6						
ARXS	**Arharly**	**8.14**	**162**	Pg	**Pb**	**06 58 47.1**	**+2.4**
ARXS				Lg	Lg	07 00 31.4	
KRBS	**Karabastau**	**8.38**	**174**	Pg	**Pb**	**06 58 50.2**	**+1.5**
	0.9nm,0.6s						
KRBS				Lg	Lg	07 00 38.0	
	2.0nm,0.7s						
KTBS	**Karatobe**	**8.46**	**169**	Pg	**Pb**	**06 58 53.5**	**+3.5**
	0.7nm,0.7s						
KTBS				Lg	Lg	07 00 42.4	
	2.5nm,0.8s						
KST	**Kastek**	**9.05**	**173**	Pg	Pn	06 59 05.1	+30
	1.2nm,0.6s						
KST				Lg	Lg	07 01 03.8	

UCR 27 07:04:14.2±0.9, 8°74N×84°17W, h0km±3km, MW4.2

CATAC 27 07:04:16.3±0.6, 9°N±3°×8°4W±°, h3km±2km, M3.8/12, MLv3.8/12, Error ellipse: s-maj=9.9km s-min=3.0km az=47.4, confirmed
UPA 27 07:04:18.1±2.2, 8°83N×84°08W, h10km, MW4.0

ISC 27 07:04:15.0±1.3, 8°75N±0°04×84°17W±0°04, h13km±9km, n112, σ0°83/132, 2C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCHAL	**Ojochal**	**0.62**	**56**	P	**Pg**	**07 04 27.4**	**+0.2**
OCHAL	**Ojochal**	**0.62**	**56**	S	**Sg**	**07 04 35.6**	**+0.2**
QUEP	**Quepos**	**0.68**	**1**	*eP*	**Pg**	**07 04 28.2**	**0.0**
QUEP				*eS*	**Sb**	**07 04 39.0**	**+1.2**
QUEP	**Quepos**	**0.68**	**1**	P	**Pb**	**07 04 29.2**	**+0.5**
SVQ2	**Quepos**	**0.68**	**0**	*eS*	**Sb**	**07 04 39.0**	**+1.2**
EDPE	**Pejibaye, P**	**0.72**	**56**	*eP*	**Pg**	**07 04 28.5**	**-0.5**
LLNJ	**Naranjito**	**0.72**	**5**	*eP*	**Pb**	**07 04 29.4**	**0.0**
LLNJ				*eS*	**Sb**	**07 04 40.3**	**+1.1**
PANP	**Palmar Norte**	**0.73**	**74**	*eP*	**Pb**	**07 04 29.3**	**-0.2**
PANP				*eS*	**Sb**	**07 04 40.6**	**+1.1**
PAR1A	**Puntarenas Pro**	**0.84**	**354**	*eP*	**Pn**	**07 04 32.1**	**-0.4**
PICV	**PH. Pirrs**	**0.87**	**358**	*eP*	**Pn**	**07 04 32.3**	**-0.6**
SAJE	**San Jernim**	**0.88**	**48**	*eP*	**Pb**	**07 04 31.2**	**-1.0**
PIEC	**Cerro El Cedra**	**0.89**	**14**	*eP*	**Pb**	**07 04 32.1**	**-0.4**
PIRO	**Carate, Puerto**	**0.89**	**113**	*ieP*	**Pn**	**07 04 33.6**	**+0.4**
PIRO				*eS*	**Sn**	**07 04 46.6**	**+0.5**
PIRO	**Carate, Puerto**	**0.89**	**113**	*eP*	**Pn**	**07 04 33.1**	**-0.1**
PIRO	**Carate, Puerto**	**0.89**	**113**	P	**Pn**	**07 04 33.8**	**+0.5**
PIRO	**Carate, Puerto**	**0.89**	**113**	S	**Sn**	**07 04 45.2**	**-0.8**
BUS1	**Rivas**	**0.90**	**28**	*eP*	**Pg**	**07 04 31.5**	**-1.0**
RAZU	**San Marcos de**	**0.91**	**9**	*eP*	**Pb**	**07 04 32.7**	**-0.1**
PITB	**Pirrs, San**	**0.92**	**9**	*eP*	**Pb**	**07 04 32.6**	**-0.2**
BURE	**Buenos Aires**	**0.92**	**63**	*eP*	**Pb**	**07 04 32.2**	**-0.7**
LCR2	**La Lucha 2**	**1.00**	**9**	*eP*	**Pb**	**07 04 34.2**	**-0.1**
LCR2				*eS*	**Sg**	**07 04 48.1**	**+0.8**
LCR2	**La Lucha 2**	**1.00**	**9**	P	**Pn**	**07 04 35.1**	**+0.2**
EDAD	**Golfito**	**1.00**	**96**	*eP*	**Pb**	**07 04 33.1**	**-1.1**
FITO	**Golfito**	**1.01**	**97**	*eP*	**Pb**	**07 04 33.3**	**-1.1**
EDP2	**Potrero Grande**	**1.02**	**75**	*eP*	**Pb**	**07 04 34.3**	**-0.2**
ACOS	**Acosta**	**1.04**	**0**	*eP*	**Pb**	**07 04 32.4**	**-2.5**
DRK0	**Durika**	**1.04**	**61**	*eP*	**Pb**	**07 04 34.8**	**-0.2**
DRK0				*eS*	**Sb**	**07 04 49.0**	**+0.2**
DRK0	**Durika**	**1.04**	**61**	*eP*	**Pb**	**07 04 34.0**	**-1.0**
DRK0	**Durika**	**1.04**	**61**	P	**Pb**	**07 04 34.9**	**-0.2**
DRK0	**Durika**	**1.04**	**61**	S	**Sn**	**07 04 49.8**	**-0.2**
PURI	**Puriscal**	**1.10**	**353**	*eP*	**Pb**	**07 04 35.8**	**-0.1**
REPA	**Paraso**	**1.11**	**16**	*eP*	**Pb**	**07 04 35.4**	**-0.8**
TAGO	**Cartago**	**1.13**	**12**	*eP*	**Pn**	**07 04 34.7**	**-2.0**
TAGO				*eS*	**Sb**	**07 04 50.4**	**-0.9**
AMPA	**Desamparados**	**1.14**	**5**	*eP*	**Pn**	**07 04 36.2**	**-0.6**
AMPA				*eS*	**Sn**	**07 04 52.4**	**0.0**
SANTA	**Santa Ana**	**1.17**	**359**	*eP*	**Pn**	**07 04 36.6**	**-0.6**
CENT	**San Jose**	**1.18**	**4**	*eP*	**Pg**	**07 04 37.5**	**-0.2**
ECI	**Escuela Centro**	**1.18**	**6**	*eP*	**Pn**	**07 04 36.6**	**-0.8**
VINA	**Juan Vinas**	**1.21**	**20**	*eP*	**Pn**	**07 04 37.1**	**-0.6**
PCAYA	**Pacayas**	**1.21**	**17**	*eP*	**Pn**	**07 04 37.3**	**-0.5**
PCAYA				*eS*	**Sg**	**07 04 54.8**	**+0.6**
NELY	**Ciudad Neily**	**1.22**	**95**	*eP*	**Pb**	**07 04 37.6**	**-0.2**
CORON	**Coronado**	**1.22**	**8**	*eP*	**Pn**	**07 04 37.4**	**-0.6**
DOMI	**Santo Domingo**	**1.23**	**4**	*eP*	**Pn**	**07 04 36.7**	**-1.

3.3nm,0.6s,baz=94,slow=8.4,SNR=69
3.3nm,0.6s
TXAR Lajitas Array 90.49 58 P **P 07 18 01.2 +0.9**
0.3nm,0.7s,baz=252,slow=4.5,SNR=5.4
0.3nm,0.7s
ARCES ARCESS Array B 131.66 348 PKP **PKPdf 07 24 06.7 +1.2**
2.7nm,1.1s,baz=73,slow=1.6,SNR=4.2
HFS Hagfors 142.32 349 PKP **PKPdf 07 24 23.3 -2.0**
1.2nm,0.3s,baz=62,slow=3.4,SNR=16
AKASG Malin Array Be 144.71 327 PKP **PKPdf 07 24 28.4 -1.3**
0.4nm,0.3s,baz=52,slow=4.3,SNR=2.4

*SDD **27** 07:06:38.5±1.8, 19°.18N×67°.01W, h21km±65km, MD3.4, ML2.2, MW2.9*
*NEIC **27** 07:06:38.3±0.8, 19°.126N±0°.007×67°.08W±0°.03, h10km±1km, ML2.2/13, Md3.0/17(RSPR), Error ellipse: s-maj=5.3km s-min=2.8km az=259.0*
*OSPL **27** 07:06:40.0±0.3, 19°.10N×67°.28W, h19km±2km, ML2.1*
*RSPR **27** 07:06:41.6, 19°.01N×67°.15W, h5km±1km, MD3.0/17*
ISC 27 07:06:38.2±1.5, 19°.09N±0°.06×67°.10W±0°.03, h7km±10km, n65, σ0°.40/77, 17C-11D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.62**	**181**		**Pb**	**07 06 51.8**	**+0.5**
AGPR					**Sb**	**07 07 00.6**	**+0.5**
AGPR	**Aguadilla, PR**	**0.62**	**181**	*i*P	**Pb**	**07 06 51.8**	**+0.5**
AGPR				*e*S	**Sb**	**07 07 00.2**	**+0.1**
AGPR				IAML		07 07 02.5	
	comp=Z,103nm,0.3s						
IDE	**Isla Desecheo**	**0.78**	**207**		**Pb**	**07 06 54.1**	**0.0**
IDE					**Sb**	**07 07 04.9**	**0.0**
IDE	**Isla Desecheo**	**0.78**	**207**	*e*P	**Pb**	**07 06 54.1**	**0.0**
IDE	**Isla Desecheo**	**0.78**	**207**	*e*S	**Sb**	**07 07 04.9**	**0.0**
AOPR	**Arecibo Observ**	**0.81**	**156**		**Pb**	**07 06 54.5**	**-0.1**
AOPR	**Arecibo Observ**	**0.81**	**156**		**Sb**	**07 07 06.1**	**+0.5**
AOPR	**Arecibo Observ**	**0.81**	**156**	*e*P	**Pb**	**07 06 55.0**	**+0.5**
AOPR	**Arecibo Observ**	**0.81**	**156**	*e*S	**Sb**	**07 07 06.1**	**+0.5**
EMPR	**Esperanza - Ma**	**0.81**	**138**		**Sn**	**07 07 07.8**	**-0.5**
EMPR	**Esperanza - Ma**	**0.81**	**138**	Pg	**Pg**	**07 06 54.0**	**+0.1**
EMPR	**Esperanza - Ma**	**0.81**	**138**	*e*P	**Pn**	**07 06 56.4**	**+0.4**
EMPR	**Esperanza - Ma**	**0.81**	**138**	*e*S	**Sn**	**07 07 07.8**	**-0.5**
PRSN	**Puerto Rico Se**	**0.87**	**183**		**Sb**	**07 07 07.6**	**+0.3**
PRSN	**Puerto Rico Se**	**0.87**	**183**	Pg	**Pg**	**07 06 54.9**	**0.0**
PRSN	**Puerto Rico Se**	**0.87**	**183**	*e*S	**Sb**	**07 07 07.6**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.90**	**157**		**Sb**	**07 07 08.4**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.90**	**157**	Pg	**Pb**	**07 06 56.4**	**+0.2**
UUPR	**Utuado, UPR, P**	**0.90**	**157**	*e*P	**Pb**	**07 06 56.6**	**+0.4**
UUPR	**Utuado, UPR, P**	**0.90**	**157**	*e*S	**Sb**	**07 07 08.4**	**-0.1**
LSP	**Las Mesas**	**0.91**	**179**		**Pb**	**07 06 56.3**	**0.0**
LSP					**Sb**	**07 07 08.9**	**+0.3**
LSP	**Las Mesas**	**0.91**	**179**	*e*P	**Pb**	**07 06 56.3**	**0.0**
LSP	**Las Mesas**	**0.91**	**179**	*e*S	**Sb**	**07 07 08.9**	**+0.3**
ECPR	**Experimental S**	**1.03**	**138**	*e*P	**Pn**	**07 06 58.9**	**-0.2**
ECPR	**Experimental S**	**1.03**	**138**	*e*S	**Sb**	**07 07 12.7**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.07**	**181**		**Pg**	**07 06 58.9**	**0.0**
CRPR					**Sg**	**07 07 12.8**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.07**	**181**	IAML		07 07 15.0	
	comp=N,40nm,0.2s						
CRPR				IAML		07 07 15.6	
	comp=E,40nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.07**	**181**	*e*P	**Pg**	**07 06 58.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.07**	**181**	*e*S	**Sg**	**07 07 12.8**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.07**	**181**	*e*Pg	**Pg**	**07 06 58.9**	**0.0**
CRPR				⇑*e*Sg	**Sg**	**07 07 13.0**	**+0.2**
CRPR				IAML		07 07 15.6	
	comp=N,45nm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.07**	**181**	*i*P	**Pg**	**07 06 58.7**	**-0.1**
CRPR				*e*S	**Sg**	**07 07 12.8**	**-0.1**
CRPR				IAML		07 07 16.0	
	comp=Z,45nm,0.2s						
MLPR	**Magueyes Islan**	**1.11**	**177**	*e*P	**Pg**	**07 06 59.4**	**-0.2**
MLPR	**Magueyes Islan**	**1.11**	**177**	*e*S	**Sg**	**07 07 13.2**	**-0.9**
CELP	**Cerrillos**	**1.12**	**154**		**Pb**	**07 06 59.9**	**-0.1**
CELP					**Sb**	**07 07 14.7**	**0.0**
CELP	**Cerrillos**	**1.12**	**154**	IAML		07 07 16.0	
	comp=E,49nm,0.2s						
CELP				IAML		07 07 19.5	
	comp=N,58nm,0.3s						
CELP	**Cerrillos**	**1.12**	**154**	*e*P	**Pb**	**07 06 59.9**	**-0.1**
CELP	**Cerrillos**	**1.12**	**154**	*e*S	**Sb**	**07 07 14.7**	**0.0**
CELP	**Cerrillos**	**1.12**	**154**	⇑*e*Pg	**Pb**	**07 06 59.8**	**-0.1**
CELP				⇑*e*Sg	**Sg**	**07 07 13.5**	**-0.8**
CELP				IAML		07 07 18.7	
	comp=N,49nm,0.1s						
OBIP	**Obispado Ponce**	**1.14**	**156**		**Pb**	**07 07 00.1**	**-0.1**
OBIP					**Sb**	**07 07 15.3**	**+0.1**
OBIP	**Obispado Ponce**	**1.14**	**156**	IAML		07 07 16.4	
	comp=N,39nm,0.2s						
OBIP				IAML		07 07 16.7	
	comp=E,42nm,0.2s						
OBIP	**Obispado Ponce**	**1.14**	**156**	*e*P	**Pb**	**07 07 00.1**	**-0.1**
OBIP	**Obispado Ponce**	**1.14**	**156**	*e*S	**Sb**	**07 07 15.3**	**+0.1**
GCPR	**Guaynabo City**	**1.23**	**129**		**Pg**	**07 07 02.1**	**+0.2**
GCPR					**Sg**	**07 07 17.6**	**-0.4**
GCPR	**Guaynabo City**	**1.23**	**129**	⇑*e*P	**Pg**	**07 07 02.1**	**+0.2**
GCPR	**Guaynabo City**	**1.23**	**129**	*e*S	**Sg**	**07 07 17.6**	**-0.4**
SJG	**San Juan**	**1.32**	**137**		**Pg**	**07 07 04.2**	**+0.6**
SJG	**San Juan**	**1.32**	**137**	IAML		07 07 27.9	
	comp=E,45nm,0.3s						
SJG				IAML		07 07 27.9	
	comp=E,39nm,0.3s						
SJG	**San Juan**	**1.32**	**137**	⇑*e*P	**Pg**	**07 07 04.2**	**+0.6**
SJG	**San Juan**	**1.32**	**137**	*e*S	**Sn**	**07 07 21.9**	**+1.0**
SJG	**San Juan**	**1.32**	**137**	*i*P	**Pg**	**07 07 03.8**	**+0.2**
SJG				IAML		07 07 27.5	
	comp=Z,16nm,1.8s						
IGPR	**InterUniversit**	**1.46**	**140**		**Pg**	**07 07 05.8**	**-0.4**
IGPR					**Sn**	**07 07 23.6**	**-0.7**
IGPR	**InterUniversit**	**1.46**	**140**	*e*P	**Pg**	**07 07 05.8**	**-0.4**
IGPR	**InterUniversit**	**1.46**	**140**	*e*S	**Sn**	**07 07 23.6**	**-0.7**
PDPR	**Patillas Dam,**	**1.48**	**136**	Pn	**Pn**	**07 07 04.9**	**-0.2**
PDPR	**Patillas Dam,**	**1.48**	**136**	*e*P	**Pb**	**07 07 05.9**	**0.0**
PDPR	**Patillas Dam,**	**1.48**	**136**	*e*S	**Sg**	**07 07 25.6**	**0.0**
HIDR	**Higuey Centro**	**1.61**	**252**	⇑*e*Pg	**Pn**	**07 07 06.6**	**-0.4**
HIDR				⇑*e*Sg	**Sg**	**07 07 30.2**	**+0.2**
HIDR				IAML		07 07 38.5	
	comp=N,36nm,0.2s						
MIDR	**Miches**	**1.85**	**267**	*e*P	**Pn**	**07 07 10.2**	**-0.1**
MIDR	**Miches**	**1.85**	**267**	*e*S	**Sn**	**07 07 32.8**	**-1.1**
MIDR	**Miches**	**1.85**	**267**	⇑*e*Pg	**Pn**	**07 07 10.6**	**+0.3**
MIDR				⇑*e*Sg	**Sn**	**07 07 34.5**	**+0.6**
MIDR				IAML		07 07 40.9	
	comp=N,12nm,0.6s						
DR12	**Loma Pena Alta**	**2.18**	**263**	Pn	**Pn**	**07 07 15.3**	**+0.4**
HATOM	**Hato Mayor del**	**2.18**	**263**	*e*	**Pn**	**07 07 15.5**	**+0.6**
HATOM				⇑*e*Sg	**Sb**	**07 07 44.7**	**-0.6**
HATOM				IAML		07 07 48.6	
	comp=N,13nm,0.7s						

WEL 27 07:08:19.8±0.9, 35°.S±11°.×17°.9E±1°.4, h212km±15km, M3.7/17, mB4.9/1, ML3.9/18, MLv3.7/17, Mw(mB)4.2/1, Error ellipse: s-maj=18.6km s-min=13.7km az=115.1, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.42**	**190**	P	Pn	07 09 03.5	+0.1
MXZ				S	S	07 09 37.9	+0.5
WMGZ	**Waiomatatini S**	**2.66**	**187**	P	Pn	07 09 06.7	+0.6
WMGZ				S	S	07 09 42.6	+0.5
HAZ	**Te Kaha**	**2.71**	**198**	P	Pn	07 09 07.0	+0.3
PKGZ	**Pakihiroa**	**2.75**	**193**	P	Pn	07 09 07.8	+0.7
PUZ	**Puketiti**	**2.92**	**189**	P	Pn	07 09 09.3	+0.1
PUZ				S	S	07 09 46.9	-0.7
RUGZ	**Raukumara Rang**	**2.93**	**198**	P	Pn	07 09 09.7	+0.4
RUGZ				S	S	07 09 48.1	+0.1
GRZ	**Great Barrier**	**2.96**	**248**	P	Pn	07 09 09.1	-0.4
TWGZ	**Tauwhareparae**	**3.07**	**193**	P	Pn	07 09 10.5	-0.4
TWGZ				S	S	07 09 52.2	+1.5
MWZ	**Matawai**	**3.32**	**198**	P	Pn	07 09 14.4	+0.6
MWZ				S	S	07 09 56.0	+0.1
CNGZ	**Carnagh Statio**	**3.34**	**189**	P	Pn	07 09 14.6	+0.6
TKGZ	**Te Karaka**	**3.35**	**194**	P	Pn	07 09 14.4	+0.3
TKGZ				S	S	07 09 57.1	+0.7
URZ	**Urewera**	**3.37**	**204**	P	Pn	07 09 14.9	+0.5
URZ				S	S	07 09 56.7	-0.2
RAGZ	**Rawiri**	**3.50**	**199**	P	Pn	07 09 16.6	+0.6
RAGZ				S	S	07 10 00.9	+1.0
RIGZ	**Rimuhau**	**3.62**	**194**	P	Pn	07 09 17.4	0.0
RIGZ				S	S	07 10 02.9	+0.5
MUGZ	**Murupara**	**3.69**	**206**	P	Pn	07 09 18.4	+0.2
MUGZ				S	S	07 10 04.8	+1.0
TOZ	**Tahuroa Road**	**3.71**	**226**	P	Pn	07 09 23.1	+4.7
RTZ	**Ruatahuna**	**3.74**	**203**	P	Pn	07 09 18.8	0.0
SNGZ	**Shannon Statio**	**3.79**	**198**	P	Pn	07 09 19.7	+0.3
SNGZ				S	S	07 10 08.0	+1.9
PRGZ	**Paritu Road**	**3.81**	**191**	P	Pn	07 09 19.6	-0.1
KNZ	**Kokohu**	**3.95**	**193**	P	Pn	07 09 19.9	-1.4
RAHZ	**Arahi**	**3.99**	**200**	P	Pn	07 09 22.1	+0.3
RAHZ				S	S	07 10 11.8	+1.5
MTHZ	**Maungataniwha**	**4.00**	**203**	P	Pn	07 09 21.9	-0.2
MTHZ				S	S	07 10 12.1	+1.4
MHGZ	**Mahia Peninsul**	**4.04**	**190**	P	Pn	07 09 22.5	+0.1
MRHZ	**Matea Rd**	**4.13**	**207**	P	Pn	07 09 23.7	+0.1
NMHZ	**Naumai**	**4.24**	**202**	P	Pn	07 09 25.8	+0.8
NMHZ				S	S	07 10 18.2	+2.2
ARHZ	**Aropaoanui**	**4.33**	**199**	P	Pn	07 09 25.9	-0.1
BKZ	**Black Stump Fm**	**4.40**	**205**	P	Pn	07 09 27.2	+0.3
MCHZ	**McNeill Hill**	**4.59**	**201**	P	Pn	07 09 29.2	-0.1
KRHZ	**Kereru**	**4.87**	**203**	P	Pn	07 09 31.8	-1.0
PWZ	**Pawanui**	**5.09**	**197**	P	Pn	07 09 34.3	-1.2
PNHZ	**Pukenui**	**5.17**	**203**	P	Pn	07 09 35.1	-1.5

*ISN **27** 07:11:18.1±0.4, 36°.51N×45°.44E, h8km±1km, ML3.4*
*TEH **27** 07:11:18.4, 36°.48N×45°.51E, h12km±66km*
ISC 27 07:11:18.7±0.9, 36°.53N±0°.04×45°.48E±0°.04, h10km, n15, σ1°.9/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAHB	**Mahabad**	**0.30**	**38**	Pg	**Pg**	**07 11 25.3**	**+0.4**
MAHB				Sg	**Sb**	**07 11 30.8**	**-0.6**
NGD1	**Naghade .Az. G**	**0.42**	**353**	Sg	**Sb**	**07 11 35.3**	**+0.4**
IAZR	**Azarshahr**	**1.22**	**19**	Pg	**Pn**	**07 11 41.7**	**-0.4**
IKRK	**Kirkuk**	**1.45**	**220**	*e*Pg	**Pb**	**07 11 45.0**	**-0.8**
IKRK				*e*Sg	**Sg**	**07 12 05.0**	**-0.4**
IKRK				AML	AML	07 12 06.1	
	comp=N,352nm,0.6s						
IKRK				AML	AML	07 12 06.8	
	comp=E,277nm,0.5s						
IHSH	**Hashtrud**	**1.63**	**61**	Pg	**Pb**	**07 11 48.6**	**-0.4**
ISHB	**Shabestar**	**1.76**	**4**	Pg	**Pn**	**07 11 50.0**	**+0.6**
MSL	**Mosul**	**1.91**	**267**	*e*Pn	**Pn**	**07 11 52.0**	**+0.7**
MSL				*e*Sn	**Sb**	**07 12 17.0**	**-0.5**
KGS1	**Ghasr-e-Shirin**	**2.02**	**177**	Pn	**Pb**	**07 11 53.7**	**-1.7**
IGHG	**Ghaleghazi**	**2.37**	**158**	Pn	**Pb**	**07 11 58.7**	**-2.9**
GLG1	**Gilan-e-Gharb**	**2.43**	**171**	Pn	**Pn**	**07 11 59.4**	**+0.9**
ZNJK	**Zanjan**	**2.59**	**86**	Pn	**Pn**	**07 12 01.4**	**+0.5**
BHD	**Baghdad**	**3.37**	**196**	*e*Pn	**Pn**	**07 12 12.5**	**+1.1**
BHD				*e*Sn	**Sn**	**07 12 52.0**	**+0.6**
QABG	**Abgarm-Qazvin**	**3.42**	**103**	Pn	**Pn**	**07 12 13.5**	**+1.1**
IBDR	**Badra**	**3.43**	**174**	*e*Pn	**Pn**	**07 12 13.5**	**+1.3**
IBDR				*e*Sn	**Sn**	**07 12 54.0**	**+1.2**
RAFI	**Al-Rafai**	**4.82**	**174**	*e*Pn	**Pn**	**07 12 33.0**	**+1.7**
RAFI				*e*Sn	**Sn**	**07 13 27.5**	**+0.3**
RAFI				AML	AML	07 13 33.0	
	comp=N,123nm,0.4s						
RAFI				AML	AML	07 13 49.9	
	comp=E,126nm,0.7s						

*IDC **27** 07:27:34.6±1.4, 49°.73N×81°.67E, h0km, mbtmp2.1/1, ML1.5/1, Error ellipse: s-maj=17.7km s-min=9.0km az=60.0*
*NNC **27** 07:27:37.6±7.2, 48°.49N×78°.78E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=130.6km s-min=24.4km az=65.0, Suspected Mining explosion.*
ISC 27 07:27:33.7±1.1, 49°.83N±0°.07×81°.79E±0°.08, h10km, n7, σ0°.98/9, 2C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**2.22**	**295**	⇓Pn	**Pb**	**07 28 14.1**	**+0.2**
	1.5nm,0.6s						
KURK				⇓Sn	**Sg**	**07 28 44.1**	**-0.9**
	3.0nm,0.5s						
KURBB	**Kurchatov Arra**	**2.24**	**292**	⇑Pn	**Pb**	**07 28 14.3**	**+0.1**
	2.9nm,0.4s						
KURBB				⇓Sn	**Sg**	**07 28 44.6**	**-1.0**
	19nm,0.7s						
KURBB	**Kurchatov Arra**	**2.24**	**292**	Pg	**Pb**	**07 28 14.1**	**-0.1**
	0.1nm,0.3s,baz=110,slow=19,SNR=5.3						
KURBB				Lg	Lg	07 28 45.0	
	0.4nm,0.3s,baz=109,slow=30,SNR=18						
MK31	**Makanchi Array**	**3.06**	**174**	⇑Pn	**Pb**	**07 28 27.2**	**-0.9**
	0.1nm,0.2s,baz=305,slow=13,SNR=12						
MK31				⇓Lg	Lg	07 29 06.3	
	1.7nm,0.5s,baz=356,slow=28,SNR=8.1						
MKAR	**Makanchi Array**	**3.06**	**174**	Pn	**Pn**	**07 28 23.6**	**+1.6**
	0.1nm,0.3s,baz=351,slow=12,SNR=4.3						
MKAR				Pg	**Pb**	**07 28 27.4**	**-0.7**
	0.3nm,0.3s,baz=352,slow=14,SNR=10						
MKAR				Lg	Lg	07 29 06.4	
	0.7nm,0.3s,baz=356,slow=26,SNR=12						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**4.53**	**23**	Pg	**Pg**	**07 29 00.0**	**-0.3**
	baz=237,slow=9.6						
ZALV				Lg	Lg	07 30 04.4	
	0.2nm,0.3s,baz=192,slow=25,SNR=4.0						
I46RU	**ZALESOVO INFRA**	**4.53**	**23**	I	I	07 54 40.0	
	baz=205,slow=320,SNR=5.0						

*GUC **27** 07:29:35.8±0.8, 21°.11S×69°.07W, h99km±4km, ML4.6*
*NEIC **27** 07:29:35.8±1.3, 21°.16S±0°.04×69°.00W±0°.07, h99km±6km, mb4.7/28, Mwr4.4/30, Mwr4.6(GUC), Error ellipse: s-maj=9.9km s-min=6.4km az=84.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=3.62; $M_{\theta\theta}$=1.13; $M_{\phi\phi}$=4.75; $M_{r\theta}$=1.57; $M_{r\phi}$=0.40; $M_{\theta\phi}$=-3.31; Fault plane solution: M_o=5.66000×10^{15} NP1:ϕ_s=207.56000°, δ=30.70000°, λ=-50.01000°. NP2:ϕ_s=343.27000°, δ=66.98000°, λ=-110.88000°. Principal axes: T 5.9061, Plg19.0000°, Azm89.0000°; N -0.5181, Plg19.0000°, Azm352.0000°; P -5.3880, Plg62.0000°, Azm221.0000°;*
*NEIC **27** 07:29:35.9, 21°.17S×69°.02W, h101km*
*SJA **27** 07:29:36.0±0.7, 21°.12S×69°.05W, h96km±8km, ML4.4, MW4.3*
*VAO **27** 07:29:36.2±0.7, 21°.05S×68°.80W, h103km±5km, mb4.9*
*IDC **27** 07:29:37.1±0.6, 20°.94S×68°.85W, h105km±4km, mb4.0/13, mbtmp4.4/15, MS3.1/2, Error ellipse: s-maj=17.4km s-min=11.7km az=71.0*
ISC 27 07:29:35.5±0.5, 21°.14S±0°.03×68°.99W±0°.05, h101km±4km, n158, σ1°.53/173, mb4.5/27, 15C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.47**	**282**		**Pn**	**07 29 50.9**	**-0.4**
PB01	**IPOC Station P**	**0.47**	**282**	⇑*e*P	**Pn**	**07 29 51.0**	**-0.4**
PB01				*e*S	**Sn**	**07 30 02.6**	**-0.6**
PB01				IAML		07 30 04.0	
	comp=E,31µm,0.3s						
PB01	**IPOC Station P**	**0.47**	**282**	*e*P	**Pn**	**07 29 50.3**	**-1.1**
PB01				IAML		07 30 03.2	
	comp=Z,19µm,0.9s						
PB09	**IPOC Station P**	**0.69**	**199**		**Pn**	**07 29 53.5**	**+0.2**
PB09	**IPOC Station P**	**0.69**	**199**	⇑*e*P	**Pn**	**07 29 53.6**	**+0.4**
PB09				*e*S	**Sn**	**07 30 07.5**	**+1.0**
PB09	**IPOC Station P**	**0.69**	**199**	*e*P	**Pn**	**07 29 53.1**	**-0.1**
PB09				IAML		07 30 10.4	
	comp=Z,8µm,0.7s						
PB02	**IPOC Station P**	**0.86**	**258**		**Pn**	**07 29 54.0**	**-0.7**
PB02	**IPOC Station P**	**0.86**	**258**	⇑*e*P	**Pn**	**07 29 54.7**	**0.0**
PB02				*e*S	**Sn**	**07 30 09.2**	**0.0**
PB02				IAML		07 30 10.2	
	comp=E,31µm,0.4s						
PB02	**IPOC Station P**	**0.86**	**258**	*e*P	**Pn**	**07 29 54.0**	**-0.7**
PB02				IAML		07 30 10.7	
	comp=Z,24µm,0.3s						
PX03	**IPOC Station P**	**0.94**	**321**	⇑*e*P	**Pn**	**07 29 54.6**	**-1.0**
PX03				*e*S	**Sn**	**07 30 09.9**	**-0.7**
PB08	**IPOC Station P**	**1.00**	**351**		**Pn**	**07 29 57.0**	**+0.5**
PB08	**IPOC Station P**	**1.00**	**351**	⇑*e*P	**Pn**	**07 29 56.8**	**+0.2**
PB08				*e*S	**Sn**	**07 30 12.5**	**+0.2**
PB08				IAML		07 30 14.4	
	comp=E,25µm,0.4s						
PB08	**IPOC Station P**	**1.00**	**351**	*e*P	**Pn**	**07 29 56.1**	**-0.5**
PB08				IAML		07 30 13.7	
	comp=Z,16µm,0.5s						
PATCX	**Punta Patache**	**1.13**	**286**		**Pn**	**07 29 57.1**	**-0.4**
PB03	**IPOC Station P**	**1.15**	**218**		**Pn**	**07 29 57.6**	**-0.2**
PB03	**IPOC Station P**	**1.15**	**218**	⇑*e*P	**Pn**	**07 29 58.0**	**+0.1**
PB03				*e*S	**Sn**	**07 30 14.8**	**+0.1**
PB03	**IPOC Station P**	**1.15**	**218**	*e*P	**Pn**	**07 29 57.5**	**-0.4**
PB03				IAML		07 30 17.9	
	comp=Z,4µm,0.2s						
TA01	**Diego Aracena**	**1.25**	**297**		**Pn**	**07 29 58.4**	**-0.4**
TA01	**Diego Aracena**	**1.25**	**297**	⇑*e*P	**Pn**	**07 29 58.6**	**-0.2**
TA01				*e*S	**Sn**	**07 30 15.8**	**-0.6**
TA01				IAML		07 30 18.5	
	comp=N,13µm,0.4s						
TA01	**Diego Aracena**	**1.25**	**297**	*e*P	**Pn**	**07 29 58.6**	**-0.2**
TA01				IAML		07 30 18.9	
	comp=Z,5µm,0.5s						
TA02	**Huaiquique**	**1.37**	**309**	*e*P	**Pn**	**07 29 59.9**	**-0.4**
TA02				*e*S	**Sn**	**07 30 18.4**	**-0.6**
TA02				IAML		07 30 22.8	
GO01	**Chusmiza**	**1.48**	**353**		**Pn**	**07 30 02.5**	**+0.4**
GO01	**Chusmiza**	**1.48**	**353**	*e*P	**Pn**	**07 30 02.5**	**+0.4**
GO01				*e*S	**Sn**	**07 30 22.9**	**+0.8**
GO01				IAML		07 30 24.2	
	comp=E,14µm,0.3s						
GO01	**Chusmiza**	**1.48**	**353**	*e*P	**Pn**	**07 30 02.4**	**+0.4**
GO01				*e*S	**Sn**	**07 30 23.2**	**+1.1**
GO01				IAML		07 30 24.9	
	comp=Z,5µm,0.3s						
PB11	**IPOC Station P**	**1.51**	**336**		**Pn**	**07 30 01.7**	**-0.4**
PB11	**IPOC Station P**	**1.51**	**336**	⇑*e*P	**Pn**	**07 30 02.0**	**-0.1**
PB11				*e*S	**Sn**	**07 30 21.9**	**-0.3**
PB11				IAML		07 30 23.9	
	comp=E,13µm,0.3s						
PB11	**IPOC Station P**	**1.51**	**336**	*e*P	**Pn**	**07 30 01.3**	**-0.8**
PB11				IAML		07 30 24.2	
	comp=Z,5µm,0.4s						
PB06	**IPOC Station P**	**1.65**	**199**		**Pn**	**07 30 03.9**	**0.0**
PB06	**IPOC Station P**	**1.65**	**199**	⇑*e*P	**Pn**	**07 30 04.2**	**+0.3**
PB06				*e*S	**Sn**	**07 30 26.2**	**+0.8**
PB06	**IPOC Station P**	**1.65**	**199**	*e*P	**Pn**	**07 30 04.2**	**+0.3**
PB06				*e*S	**Sn**	**07 30 26.6**	**+1.2**
PB06				IAML		07 30 30.1	
	comp=Z,2µm,0.7s						
AF01	**San Pedro de A**	**1.96**	**157**		**Pn**	**07 30 09.1**	**+1.2**
AF01	**San Pedro de A**	**1.96**	**157**	*e*P	**Pn**	**07 30 09.8**	**+1.9**
AF01				*e*S	**Sn**	**07 30 36.3**	**+3.8**
AF01				IAML		07 31 12.2	
	comp=N,5µm,1.0s						
AF01	**San Pedro de A**	**1.96**	**157**	*e*P	**Pn**	**07 30 05.5**	**-2.4**
AF01				*e*S	Sn	07 30 11.0	-22
AF01				IAML		07 30 49.1	
	comp=Z,1µm,1.4s						
PB10	**IPOC Station P**	**2.77**	**211**		**Pn**	**07 30 18.1**	**-0.2**
PB10	**IPOC Station P**	**2.77**	**211**	*e*P	**Pn**	**07 30 17.9**	**-0.4**
PB10				*e*S	**Sn**	**07 30 42.8**	**-8.3**
PB16	**IPOC Station P**	**2.83**	**350**		**Pn**	**07 30 20.8**	**+1.1**
PB16	**IPOC Station P**	**2.83**	**350**	*e*P	**Pn**	**07 30 20.8**	**+1.1**
PB16				*e*S	**Sn**	**07 30 55.9**	**+2.4**
PB16				IAML		07 31 02.4	
	comp=E,1µm,0.6s						
PB16	**IPOC Station P**	**2.83**	**350**	*e*P	**Pn**	**07 30 20.0**	**+0.3**
PB16				IAML		07 30 58.8	
	comp=Z,836nm,0.6s						
YJA	**Yavi**	**3.40**	**108**	⇑*e*P	**Pn**	**07 30 29.5**	**+2.5**
YJA	**Yavi**	**3.40**	**108**	*e*P	**Pn**	**07 30 24.1**	**-3.0**
PB14	**IPOC Station P**	**3.71**	**200**	Pn	**Pn**	**07 30 29.6**	**-1.5**
HJA	**Humahuaca**	**3.91**	**122**	*e*P	**Pn**	**07 30 37.0**	**+3.2**
GO02	**Mina Guanaco**	**4.04**	**188**		**Pn**	**07 30 35.2**	**-0.4**
SLA	**San Lorenzo**	**4.80**	**139**	*e*P	**Pn**	**07 30 42.9**	**-2.8**
SLA				*e*S	Sn	07 31 22.6	-18
LPAZ	**La Paz**	**4.89**	**10**		**Pn**	**07 30 48.8**	**+1.3**
LPAZ	**La Paz**	**4.89**	**10**	P	**Pn**	**07 30 49.3**	**+1.9**
	comp=Z,29nm,0.5s,baz=182,slow=7.7,SNR=120						
LPAZ				S	Sn	07 31 31.2	-12
	comp=Z,74nm,0.7s,baz=157,slow=3.2,SNR=7.3						
LPAZ				LR	LR	07 32 30.2	
	comp=Z,115nm,19.9s,baz=190,slow=37						
LPAZ	**La Paz**	**4.89**	**10**	*e*P	**Pn**	**07 30 48.9**	**+1.5**
AC01	**Pan de Azucar**	**5.20**	**196**		**Pn**	**07 30 48.9**	**-2.0**

BOAV	**Boa Vista**	**24.82**	**21**	*e*P		**P**	**07 34 48.1**	**-0.3**
SJMB	**Sao Joao De Ma**	**26.25**	**90**	*e*P		**P**	**07 35 00.3**	**-1.1**
RIB01	**Linhares ES**	**26.88**	**91**	*e*P		**P**	**07 35 06.1**	**-1.0**
RUSC	**La Rusia**	**27.16**	**351**			**P**	**07 35 10.1**	**0.0**
RUSC					IAmb	IAmb	07 35 13.0	
	comp=Z,14nm,0.6s							
TMAB	**Tom-Au,PA,Br**	**27.61**	**50**	*e*P		**P**	**07 35 14.0**	**+0.3**
GUA01	**Guaratinga, BA**	**27.97**	**86**	*e*P		**P**	**07 35 16.5**	**-0.3**
BAUV	**El Baul**	**29.91**	**2**	P		**P**	**07 35 32.9**	**-1.1**
BAUV					IAmb	IAmb	07 35 36.0	
	comp=Z,7.9nm,0.7s							
MDP	**Montagnes des**	**30.62**	**33**	LR		LR	07 47 55.5	
	comp=Z,82nm,20.1s,baz=174,slow=36							
MG02	**Cerro Sombrero**	**31.59**	**180**	P		**P**	**07 35 49.3**	**+0.9**
NBAN	**Anadia - AL**	**33.47**	**75**	*e*P		**P**	**07 36 04.5**	**-0.8**
RCBR	**Riachuelo**	**35.49**	**69**	P		**P**	**07 36 22.7**	**0.0**
CELP	**Cerrillos**	**39.05**	**4**	P		**P**	**07 36 51.9**	**-0.8**
CELP					IAmb	IAmb	07 37 29.0	
	comp=Z,18nm,0.8s							
TEIG	**Tepich**	**45.23**	**334**	P		**P**	**07 37 42.7**	**-0.2**
SOR	**Soroa**	**45.75**	**342**	P		**P**	**07 37 47.1**	**+0.2**
833A	**Chaparral WMA,**	**57.27**	**328**	P		**P**	**07 39 13.6**	**+0.8**
TKL	**Tuckaleechee C**	**58.20**	**346**	P		**P**	**07 39 18.8**	**-0.3**
	comp=Z,7.1nm,0.8s,baz=153,slow=8.3,SNR=9.5							
	comp=Z,7.1nm,0.8s							
SWET	**Sewanee**	**58.31**	**344**	P		**P**	**07 39 19.2**	**-0.7**
DRIO	**Del Rio**	**58.79**	**328**	P		**P**	**07 39 23.4**	**+0.1**
DRIO					IAmb	IAmb	07 39 24.8	
	comp=Z,3.5nm,0.9s							
S54A	**Dingess, Beckl**	**59.76**	**349**	P		**P**	**07 39 29.9**	**0.0**
OZNA	**Ozona**	**60.26**	**328**	P		**P**	**07 39 33.4**	**-0.1**
OZNA					IAmb	IAmb	07 39 33.9	
	comp=Z,4.7nm,0.6s							
TXAR	**Lajitas Array**	**60.29**	**325**	P		**P**	**07 39 34.3**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=159,slow=8.7,SNR=20							
TXAR					sP	**sP**	**07 40 10.5**	**0.0**
	comp=Z,0.7nm,0.9s,baz=139,slow=8.2,SNR=2.6							
	comp=Z,0.9nm,0.6s							
VNA3	**Neumayer Olymp**	**60.44**	**161**	⇑P		**P**	**07 39 34.9**	**+0.7**
	comp=Z,4.2nm,0.7s							
VNA1	**Neumayer--Stat**	**60.65**	**161**	⇑P		**P**	**07 39 36.8**	**+1.3**
	comp=Z,4.0nm,1.0s							
VNA2	**Neumayer--Watz**	**61.02**	**161**	⇑P		**P**	**07 39 39.2**	**+1.2**
	comp=Z,4.1nm,0.8s,baz=279,slow=7.4							
APMT	**Aspermont**	**61.77**	**331**					
APMT					IAmb	IAmb	07 39 44.6	
	comp=Z,6.4nm,0.9s							
SNAA	**Sanae**	**62.64**	**161**	⇑P		**P**	**07 39 50.0**	**+1.0**
	comp=Z,88nm,0.7s							
SNAA	**Sanae**	**62.64**	**161**	P		**P**	**07 39 49.4**	**+0.4**
SNAA					IAmb	IAmb	07 39 50.8	
	comp=Z,3.8nm,0.7s							
SNAA	**Sanae**	**62.64**	**161**	P		**P**	**07 39 50.1**	**+1.0**
	comp=Z,3.3nm,0.7s,baz=280,slow=6.6,SNR=9.6							
	comp=Z,3.3nm,0.7s							
P40A	**Paris**	**64.09**	**340**			**P**	**07 39 58.2**	**-0.6**
P40A					IAmb	IAmb	07 39 59.0	
	comp=Z,8.4nm,0.7s							
TROLL	**Troll, Antarti**	**64.36**	**161**	⇑P		**P**	**07 40 01.0**	**+0.6**
	comp=Z,166nm,0.5s							
ANMO	**Albuquerque**	**66.16**	**327**			**P**	**07 40 13.3**	**+0.8**
SDCO	**Great Sand Dun**	**67.90**	**329**			**P**	**07 40 24.8**	**+1.1**
SDCO					IAmb	IAmb	07 40 25.6	
	comp=Z,11nm,1.4s							
DBIC	**Dimbokro**	**68.71**	**74**	P		**P**	**07 40 27.8**	**-1.0**
DBIC					IAmb	IAmb	07 40 57.4	
	comp=Z,17nm,1.3s							
DBIC	**Dimbokro**	**68.71**	**74**	P		**P**	**07 40 28.1**	**-0.7**
	comp=Z,3.8nm,0.6s,baz=262,slow=6.7,SNR=4.6							
	comp=Z,3.8nm,0.6s							
QSPA	**South Pole Qui**	**69.05**	**180**	P		**P**	**07 40 34.0**	**+3.7**
	comp=Z,3.3nm,0.5s,baz=280,slow=0.5,SNR=52							
QSPA					pP	**pP**	**07 40 59.7**	**+2.8**
	comp=Z,1.2nm,0.5s,baz=153,slow=1.2,SNR=2.8							
	comp=Z,3.3nm,0.5s							
PFO	**Pinyon Flats O**	**70.79**	**319**	P		**P**	**07 40 40.7**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=90,slow=7.1,SNR=3.1							
	comp=Z,2.1nm,0.8s							
PDAR	**Pinedale Array**	**73.76**	**330**	P		**P**	**07 40 59.6**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=128,slow=7.5,SNR=10							
PDAR					pP	**pP**	**07 41 26.6**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=192,slow=4.9,SNR=2.2							
	comp=Z,0.7nm,0.6s							
ULM	**Lac du Bonnet**	**74.95**	**343**	P		**P**	**07 41 05.2**	**-0.2**
	comp=Z,4.0nm,0.5s,baz=150,slow=7.8,SNR=8.5							
	comp=Z,4.0nm,0.5s							
ELK	**Elko**	**75.08**	**325**	P		**P**	**07 41 08.2**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=133,slow=7.6,SNR=5.3							
	comp=Z,1.1nm,0.8s							
NVAR	**Mina Array Bea**	**75.16**	**322**	P		**P**	**07 41 09.0**	**+1.8**
	comp=Z,1.4nm,0.8s,baz=160,slow=7.1,SNR=11							
	comp=Z,1.4nm,0.8s							
VNDA	**Vanda**	**77.19**	**190**	P		**P**	**07 41 20.7**	**+2.9**
	comp=Z,1.1nm,0.8s,baz=155,slow=4.2,SNR=7.4							
	comp=Z,1.1nm,0.8s							
TORD	**Torodi Ar. Bea**	**77.31**	**70**	P		**P**	**07 41 20.7**	**+1.1**
	comp=Z,4.0nm,0.4s,baz=269,slow=5.0,SNR=23							
YBH	**Yreka Blue Hor**	**79.88**	**322**	P		**P**	**07 41 32.9**	**-0.3**
	comp=Z,0.1nm,0.9s,baz=124,slow=3.6,SNR=2.0							
MAW	**Mawson**	**84.70**	**163**	P		**P**	**07 41 59.2**	**+1.4**
	comp=Z,2.6nm,0.7s,baz=215,slow=5.7,SNR=7.7							
	comp=Z,2.6nm,0.7s							
ESDC	**Sonseca Array**	**85.63**	**45**	pP		pP	07 42 30.9	+0.1
	comp=Z,0.9nm,0.9s,baz=275,slow=5.0,SNR=3.2							
YKA	**Yellowknife Ar**	**90.82**	**341**	pP		pP	07 42 55.1	+0.7
	comp=Z,3.6nm,0.8s,baz=123,slow=4.9,SNR=5.9							
ASAR	**Alice Springs**	**130.19**	**208**	PKP		**PKiKP**	**07 48 34.9**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=144,slow=2.3,SNR=9.5							
WRA	**Warramunga Arr**	**133.22**	**211**	PKhKP		PKPpre	07 48 38.7	
	comp=Z,0.8nm,0.6s,baz=157,slow=1.7,SNR=11							
WRA				PKP		**PKiKP**	**07 48 40.8**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=146,slow=1.8,SNR=6.0							
WRA				pPKP		pPKPdf	07 49 09.3	+0.3
	comp=Z,0.3nm,0.5s,baz=142,slow=1.8,SNR=1.6							
ZALV	**Zalesovo Beam**	**141.66**	**25**	PKP		**PKPdf**	**07 48 55.7**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=297,slow=3.2,SNR=5.3							
ZALV				pPKP		**pPKPdf**	**07 49 25.3**	**+1.6**
	comp=Z,1.4nm,0.5s,baz=255,slow=3.3,SNR=4.0							
MKAR	**Makanchi Array**	**145.39**	**36**	PKPbc		**PKPab**	**07 49 02.4**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=326,slow=3.3,SNR=26							
MKAR				pPKPbc		**pPKPdf**	**07 49 30.2**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=327,slow=4.7,SNR=5.2							
MJAR	**Matsushiro Arr**	**151.79**	**309**	PKPbc		**PKiKP**	**07 49 18.7**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=138,slow=0.9,SNR=6.9							

*IDC **27** 07:33:30.9±1.1, 13.°67S×111.°48W, h0km, mb4.0/5, mbtmp4.0/5, MS3.9/27, Error ellipse: s-maj=34.8km s-min=28.3km az=66.0*

*GCMT **27** 07:33:34.0±0.3, 13.°53S±0.°02×111.°52W±0.°02, h15km±1km, MW4.7/92, Moment Tensor Solution. s11,c12; s92,c123; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr~0.53±.08; Mθθ 0.80±.08; Mϕϕ ~0.27±.08; Mrθ 0.10±.23; Mϕθ 1.55±.06; Mϕr~0.08±.21; Best double couple: M0 1.64900×10^16^ NP1:ϕs 10.00000°, δ84.00000°, λ-175.00000°. NP2: ϕs 279.00000°, δ85.00000°, λ-6.00000°. Principal axes: T 1.9030, Plg1.0000°, Azm325.0000°; N -0.5090, Plg82.0000°, Azm59.0000°; P -1.3950, Plg8.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 27 07:33:32.6±1.1, 13.°7S±0.°2×111.°4W±0.°2, h10km, n36, σ2s30/7, mb3.8/5, MS4.0/26, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**13.54**	**172**	LR	LR	07 40 40.9	
	comp=Z,873nm,18.1s,baz=355,slow=32						
ATAH	**Atahualpa**	**33.11**	**82**	P	**P**	**07 40 09.4**	**-0.2**
	1.7nm,0.7s,baz=282,slow=14,SNR=1.7						
ATAH				LR	LR	07 50 32.5	
	comp=Z,209nm,18.0s,baz=260,slow=31						
	1.7nm,0.7s						
CMIG	**Matias Romero**	**34.65**	**29**	LR	LR	07 51 28.4	
	comp=Z,219nm,19.5s,baz=212,slow=31						
H03N2	**Juan Fernandez**	**35.48**	**129**	T	T	08 17 58.0	
	baz=300,slow=76,SNR=98						
H03N3	**Juan Fernandez**	**35.50**	**129**	T	T	08 18 03.5	
	baz=300,slow=76,SNR=87						
H03N1	**Juan Fernandez**	**35.50**	**129**	T	T	08 17 59.2	
	baz=300,slow=76,SNR=103						
PPT	**Papeete**	**36.90**	**259**	LR	LR	07 51 35.3	
	comp=Z,48nm,19.2s,baz=101,slow=29						
LPIG	**La Paz**	**37.55**	**2**	LR	LR	07 52 19.7	
	comp=Z,295nm,18.5s,baz=185,slow=30						
ROSC	**El Rosal**	**41.16**	**66**	LR	LR	07 54 14.7	
	comp=Z,115nm,21.7s,baz=238,slow=30						
LPAZ	**La Paz**	**41.85**	**99**	P	**P**	**07 41 23.4**	**-0.6**
	1.2nm,0.7s,baz=277,slow=7.9,SNR=6.8						
LPAZ				LR	LR	07 54 47.6	
	comp=Z,151nm,19.7s,baz=260,slow=30						
	1.2nm,0.7s						
TXAR	**Lajitas Array**	**43.40**	**10**	P	**P**	**07 41 37.1**	**+1.4**
	2.1nm,1.2s,baz=177,slow=7.3,SNR=7.3						
TXAR				LR	LR	07 56 17.9	
	comp=Z,78nm,20.2s,baz=184,slow=32						
	2.1nm,1.2s						
PLCA	**Paso Flores**	**44.67**	**135**	LR	LR	07 56 01.7	
	comp=Z,424nm,18.0s,baz=254,slow=30						
SDV	**Santo Domingo**	**46.28**	**63**	LR	LR	07 59 31.5	
	comp=Z,113nm,18.6s,baz=250,slow=34						
RAR	**Rarotonga**	**46.59**	**254**	LR	LR	07 55 42.1	
	comp=Z,180nm,21.3s,baz=81,slow=29						
PFO	**Pinyon Flats O**	**47.26**	**354**	LR	LR	07 56 53.4	
	comp=Z,174nm,20.9s,baz=166,slow=30						
ANMO	**Albuquerque**	**48.57**	**5**	LR	LR	07 59 15.4	
	comp=Z,249nm,18.3s,baz=286,slow=32						
CPUP	**Villa Florida**	**52.04**	**113**	LR	LR	08 00 26.5	
	comp=Z,52nm,21.2s,baz=120,slow=31						
PCRV	**Puerto La Cruz**	**52.12**	**65**	LR	LR	08 01 59.3	
	comp=Z,164nm,21.0s,slow=33						
NVAR	**Mina Array Bea**	**52.22**	**353**	P	**P**	**07 42 44.9**	**+0.8**
	0.6nm,0.7s,baz=174,slow=8.3,SNR=2.7						
NVAR				LR	LR	07 59 38.0	
	comp=Z,171nm,21.6s,baz=140,slow=30						
	0.6nm,0.7s						
ELK	**Elko**	**54.25**	**356**	LR	LR	08 01 20.0	
	comp=Z,137nm,20.6s,baz=232,slow=31						
SJG	**San Juan**	**54.69**	**56**	LR	LR	08 01 54.5	
	comp=Z,60nm,20.6s,baz=250,slow=31						
YBH	**Yreka Blue Hor**	**56.09**	**350**	LR	LR	08 01 50.9	
	comp=Z,16nm,18.9s,baz=226,slow=30						
PDAR	**Pinedale Array**	**56.18**	**2**	LR	LR	08 03 05.3	
	comp=Z,96nm,19.6s,baz=174,slow=32						
PMSA	**Palmer Station**	**60.38**	**159**	LR	LR	08 03 29.3	
	comp=Z,284nm,21.1s,baz=237,slow=30						
MDP	**Montagnes des**	**61.25**	**76**	LR	LR	08 06 56.1	
	comp=Z,76nm,18.4s,baz=282,slow=33						
NEW	**Newport**	**61.86**	**356**	LR	LR	08 06 29.0	
	comp=Z,93nm,18.1s,baz=206,slow=32						
URZ	**Urewera**	**67.17**	**234**	LR	LR	08 05 53.8	
	comp=Z,145nm,21.7s,baz=152,slow=29						
QSPA	**South Pole Qui**	**76.44**	**180**	P	**P**	**07 45 24.3**	**+1.9**
	4.1nm,1.1s,baz=155,slow=2.3,SNR=5.3						
	4.1nm,1.1s						
SNAA	**Sanae**	**82.84**	**162**	LR	LR	08 14 51.9	
	comp=Z,64nm,22.0s,baz=260,slow=30						
H11S2	**WAKE ISLAND Hy**	**86.76**	**290**	T	T	09 21 57.4	
	baz=106,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hy**	**86.78**	**290**	T	T	09 21 58.8	
	baz=106,slow=75,SNR=37						
H11S3	**WAKE ISLAND Hy**	**86.78**	**290**	T	T	09 22 02.2	
	baz=106,slow=75,SNR=30						
STKA	**Stephens Creek**	**96.78**	**235**	LR	LR	08 26 29.0	
	comp=Z,74nm,19.3s,baz=204,slow=33						
MAW	**Mawson**	**98.85**	**177**	LR	LR	08 27 34.0	
	comp=Z,87nm,20.4s,baz=195,slow=33						
MKAR	**Makanchi Array**	**145.02**	**343**	PKPbc	**PKPbc**	**07 53 06.7**	**-3.0**
	1.1nm,0.7s,baz=25,slow=3.2,SNR=7.4						
CMAR	**Chiang Mai Arr**	**150.45**	**283**	PKPbc	**PKPbc**	**07 53 23.2**	**-2.3**
	1.9nm,0.7s,baz=45,slow=1.6,SNR=6.3						

*NEIC **27** 07:33:58.3±1.4, 54.°7S±0.°1×26.°7W±0.°2, h10km±1km, mb4.3/15, Error ellipse: s-maj=21.5km s-min=17.2km az=124.0*

*IDC **27** 07:33:59.0±1.2, 54.°99S×27.°17W, h0km, mb3.8/3, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=41.2km s-min=29.7km az=56.0*

ISC 27 07:33:58.0±0.7, 54.°7S±0.°1×26.°6W±0.°1, h10km, n23, σ0s79/22, mb4.2/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**19.02**	**266**	P	**P**	**07 38 19.8**	**+0.1**
EFI				IAmb	IAmb	07 38 22.9	
	comp=Z,34nm,1.1s						
SNAA	**Sanae**	**19.83**	**158**	P	**Pn**	**07 38 29.7**	**-0.5**
SNAA	**Sanae**	**19.83**	**158**	P	**Pn**	**07 38 29.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=297,slow=13,SNR=18						
	comp=Z,0.8nm,0.5s						
PMSA	**Palmer Station**	**21.05**	**227**	P	**P**	**07 38 42.6**	**+0.8**
SMAI	**San Martin Ant**	**23.02**	**219**	P	**P**	**07 39 02.9**	**+0.2**
SMAI				IAmb	IAmb	07 39 08.7	
	comp=Z,6.3nm,1.1s						
QSPA	**South Pole Qui**	**35.53**	**180**	P	**P**	**07 40 54.7**	**-0.2**
QSPA				IAmb	IAmb	07 41 08.0	
	comp=Z,3.4nm,0.9s						
MT02	**Curacav**	**37.73**	**286**	P	**P**	**07 41 13.2**	**-0.4**
MT02				IAmb	IAmb	07 41 28.2	
	comp=Z,6.8nm,1.1s						
CO02	**Combarbal**	**39.20**	**288**	P	**P**	**07 41 26.1**	**-0.1**
CO02				IAmb	IAmb	07 41 45.6	
	comp=Z,4.8nm,0.8s						
AC02	**Maricunga**	**41.62**	**295**	P	**P**	**07 41 46.2**	**-0.5**
BOSA	**Boshof**	**45.31**	**76**	P	P	07 42 21.2	+5.2
	comp=Z,3.1nm,0.9s,baz=214,slow=3.6,SNR=3.9						
	comp=Z,3.1nm,0.9s						
GO01	**Chusmiza**	**47.56**	**300**	P	**P**	**07 42 33.0**	**-1.2**
GO01				IAmb	IAmb	07 42 46.9	
	comp=Z,2.7nm,1.0s						
ASCN	**Ascension**	**47.68**	**16**	P	**P**	**07 42 34.4**	**-0.1**
VNDA	**Vanda**	**47.92**	**182**	P	**P**	**07 42 35.8**	**+0.1**
VNDA	**Vanda**	**47.92**	**182**	P	**P**	**07 42 35.7**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=186,slow=15,SNR=3.8						
	comp=Z,0.7nm,0.7s						
GRTLG	**Ghanzi**	**48.83**	**67**	P	**P**	**07 42 44.3**	**+0.7**
GRTLG				IAmb	IAmb	07 42 45.3	
	comp=Z,6.3nm,0.8s						
KDWAN	**Kaudwane**	**49.07**	**72**	P	**P**	**07 42 45.1**	**-0.3**
KDWAN				IAmb	IAmb	07 43 06.6	
	comp=Z,8.1nm,1.1s						
LPAZ	**La Paz**	**49.91**	**304**	P	**P**	**07 42 51.7**	**-0.7**
LPAZ				IAmb	IAmb	07 43 05.0	
	comp=Z,1.8nm,0.8s						
LPAZ	**La Paz**	**49.91**	**304**	P	**P**	**07 42 53.1**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=179,slow=7.7,SNR=1.8						
	comp=Z,0.7nm,0.8s						
N30M	**Aishikik Lake**	**144.30**	**310**	PKPdf	**PKPdf**	**07 53 32.1**	**-0.7**
H31M	**Peel River**	**144.59**	**317**	PKPdf	**PKPdf**	**07 53 33.1**	**-0.1**
G31M	**Satah River**	**144.89**	**319**		**PKPdf**	**07 53 34.6**	**+1.0**
D27M	**Malcolm River**	**147.82**	**322**	PKPdf	**PKPdf**	**07 53 37.1**	**-1.5**
ILAR	**Eielson Array**	**149.47**	**313**	PKPbc	**PKiKP**	**07 53 48.8**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=118,slow=2.8,SNR=7.8						

*SJA **27** 07:48:38.4±0.8, 30.°10S×72.°31W, h13km±5km, ML3.3, MW3.5*

*GUC **27** 07:48:41.2±0.8, 30.°07S×72.°12W, h40km±3km, ML3.4*

ISC 27 07:48:39.6±2.1, 30.°05S±0.°04×72.°19W±0.°09, h12km±10km, n22, σ1s69/35, 3C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.79**	**143**	*e*P	**Pg**	**07 48 55.1**	**+0.2**
CO06				*e*S	**Sg**	**07 49 05.0**	**-0.2**
CO06				IAML		07 49 07.3	
	comp=E,1μm,0.3s						
CO05	**La Serena**	**0.84**	**82**	*e*P	**Pg**	**07 48 55.7**	**-0.1**
CO05				*e*S	**Sg**	**07 49 06.5**	**-0.1**
CO05				IAML		07 49 07.9	
	comp=E,2μm,0.1s						
GO04	**Tololo Observa**	**1.21**	**96**	*e*P	**Pn**	**07 49 01.7**	**-0.9**
GO04				*e*S	**Sb**	**07 49 17.4**	**-1.0**
GO04				IAML		07 49 22.3	
	comp=N,3μm,0.4s						
CO03	**El Pedregal**	**1.52**	**122**	*e*P	**Pn**	**07 49 06.5**	**-0.2**
CO03				*e*S	**Sn**	**07 49 25.1**	**-1.4**
CO03				IAML		07 49 28.7	
	comp=E,1μm,0.3s						
CO03	**El Pedregal**	**1.52**	**122**	*i* P	**Pn**	**07 49 06.5**	**-0.2**
CO03				IAML		07 49 28.1	
	comp=Z,283nm,0.6s						
CO02	**Combarbal**	**1.54**	**139**	*e*P	**Pb**	**07 49 07.8**	**-0.5**
CO02				*e*S	**Sn**	**07 49 26.4**	**-0.8**
CO02				IAML		07 49 30.5	
	comp=E,2μm,0.2s						
CO02	**Combarbal**	**1.54**	**139**	*i* P	**Pn**	**07 49 07.5**	**+0.4**
CO02				*i* S	**Sg**	**07 49 30.3**	**+0.9**
CO02				IAML		07 49 33.4	
	comp=Z,392nm,0.5s						
LCO	**Las Campanas**	**1.66**	**52**	*e*P	**Pn**	**07 49 09.0**	**+0.2**
LCO				*e*S	**Sn**	**07 49 29.9**	**-0.3**
AC04	**Llanos de Chal**	**2.08**	**28**	*e*P	**Pn**	**07 49 14.2**	**-0.1**
CO04	**Los Peladeros**	**2.25**	**153**	*e*P	**Pn**	**07 49 18.4**	**+1.4**
CO04				*e*S	**Sn**	**07 49 44.5**	**-0.3**
CO04				IAML		07 49 53.9	
	comp=E,191nm,0.4s						
AROD	**Rodeo**	**2.36**	**94**	*i* P	**Pb**	**07 49 21.1**	**-1.2**
AROD				*i* S	**Sb**	**07 49 53.0**	**+1.6**
VA06	**Catapilco**	**2.62**	**163**	*e*P	**Pn**	**07 49 22.3**	**+0.5**
VA06				IAML		07 50 05.5	
	comp=E,153nm,0.5s						
ACDV	**Cuesta del Vie**	**2.66**	**93**	*i* P	**Pb**	**07 49 25.5**	**-1.9**
ACDV				*i* S	**Sb**	**07 50 00.2**	**+0.1**
ACDV				IAML		07 50 05.2	
	comp=Z,64nm,0.4s						
ACCO	**Cerro Coronel**	**2.76**	**102**	*i* P	**Pb**	**07 49 27.0**	**-2.0**
ACCO				*i* S	**Sb**	**07 50 03.1**	**+0.2**
GO03	**Copiapo**	**2.99**	**36**	*e*P	**Pn**	**07 49 27.8**	**+0.9**
GO03				IAML		07 50 23.1	
	comp=E,50nm,0.5s						
RTLS	**Leoncito**	**3.04**	**126**	*i* P	**Pn**	**07 49 30.8**	**+2.9**
RTLS				*i* S	**Sb**	**07 50 08.6**	**-2.4**
RTLS				IAML		07 50 25.7	
	comp=Z,150nm,0.6s						
VA03	**San Esteban**	**3.05**	**153**	*e*P	**Pn**	**07 49 29.6**	**+1.8**
VA03				*e*S	**Sn**	**07 50 04.0**	**-0.3**
VA03				IAML		07 50 21.9	
	comp=N,162nm,0.3s						
AGUA	**GUANDACOL**	**3.27**	**81**	*i* P	**Pn**	**07 49 34.3**	**+3.5**
AGUA				IAML		07 50 31.1	
	comp=Z,76nm,0.7s						
VCA	**Vinchina**	**3.71**	**70**	*i* P	**Pn**	**07 49 40.4**	**+3.5**
VCA				IAML		07 50 46.1	
	comp=Z,40nm,0.5s						
AAGR	**Agrelo**	**4.17**	**137**	*i* P	**Pn**	**07 49 45.9**	**+2.6**
AAGR				IAML		07 51 03.2	
	comp=Z,26nm,1.0s						
ACLC	**CERRO LA CRUZ**	**4.60**	**84**	*i* P	**Pn**	**07 49 51.1**	**+1.9**
ACLC				IAML		07 51 08.3	
	comp=Z,14nm,0.4s						
AANI	**Anillaco**	**4.75**	**76**	*i* P	**Pn**	**07 49 55.0**	**+3.9**
AANI				IAML		07 51 13.8	
	comp=Z,138nm,0.8s						

*IDC **27** 08:01:38.1±0.9, 53.°76N×166.°00W, h0km, mb4.0/19, mbtmp4.0/20, ML3.6/1, MS3.6/34, Error ellipse: s-maj=24.9km s-min=14.0km az=175.0*

*MOS **27** 08:01:42.5±1.1, 53.°59N×165.°85W, h49km, mb4.6/19, Error ellipse: s-maj=12.5km s-min=8.2km az=89.3*

*NEIC **27** 08:01:43.5±2.0, 53.°42N±0.°05×165.°92W±0.°07, h44km±7km, mb4.1/16, ML4.5/20, ML4.1(AEIC), Error ellipse: s-maj=8.0km s-min=4.5km az=148.0*

*AEIC **27** 08:01:43.3±1.7, 53.°44N±0.°04×165.°91W±0.°06, h25km±5km, Error ellipse: s-maj=7.5km s-min=3.5km az=146.0*

ISC 27 08:01:43.2±1.1, 53.°43N±0.°07×165.°84W±0.°04, h42km±9km, n185, σ1s27/162, mb4.3/38, MS3.6/34, 11C-5D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MREP	**Makushin Rep't**	**0.66**	**306**		**Pn**	**08 01 55.9**	**-0.4**
ZRO	**Akutan Zero**	**0.67**	**353**		**Pn**	**08 01 56.1**	**-0.3**
ZRO					**Sn**	**08 02 05.9**	**+0.2**
AKMO	**Akutan Morgan**	**0.67**	**352**		**Pn**	**08 01 56.0**	**-0.3**
AKMO					**Sn**	**08 02 06.0**	**+0.2**
AKBBA	**Akutan Broad B**	**0.67**	**356**		**Pn**	**08 01 55.9**	**-0.5**
AKBBA					**Sn**	**08 02 06.5**	**+0.7**
MNAT	**Makushin Natee**	**0.68**	**313**		**Pn**	**08 01 55.9**	**-0.5**
AHB	**Akutan Harbor**	**0.69**	**1**		**Pn**	**08 01 56.3**	**-0.3**
AHB					**Sn**	**08 02 07.2**	**+1.0**
AKV	**Akutan Volcano**	**0.70**	**354**		**Pn**	**08 01 56.6**	**-0.2**
AKV					**Sn**	**08 02 07.3**	**+0.7**
AKUT	**Akutan**	**0.71**	**3**		**Pn**	**08 01 56.3**	**-0.6**
AKUT				Sn	**Sn**	**08 02 06.6**	**0.0**
AKSA	**Akutan Strait**	**0.71**	**7**		**Pn**	**08 01 56.1**	**-0.9**
AKSA					**Sn**	**08 02 07.4**	**+0.7**
MGOD	**Makushin Gods**	**0.71**	**301**		**Pn**	**08 01 56.5**	**-0.4**
AKRB	**Akutan Reef Bi**	**0.72**	**349**		**Pn**	**08 01 56.7**	**-0.2**
AKRB					**Sn**	**08 02 07.5**	**+0.6**
AKLV	**Ak

J18K	**Innoko River**	**11.13**	**22**	Pn		**Pn**	**08 04 20.6**	**+1.0**
SUA	**Susitna One**	**11.42**	**39**	Pn		**Pn**	**08 04 23.5**	**-0.1**
SHEM	**Shemya Is, Ala**	**12.08**	**275**	LR		LR	08 08 57.6	
	comp=E,140nm,18.8s,baz=8.0,slow=37							
SCM	**Sheep Creek Mo**	**12.97**	**42**			**Pn**	**08 04 42.8**	**-1.9**
SCM	**Sheep Creek Mo**	**12.97**	**42**	P		**Pn**	**08 04 42.8**	**-1.9**
EYAK	**Cordova Ski Ar**	**13.03**	**49**	Pn		**Pn**	**08 04 43.3**	**-2.2**
RND	**Reindeer**	**13.34**	**35**	Pn		**Pn**	**08 04 49.4**	**-0.4**
RND	**Reindeer**	**13.34**	**35**	P		**Pn**	**08 04 49.4**	**-0.4**
KLU	**Klutina**	**13.38**	**45**			**Pn**	**08 04 48.2**	**-2.1**
M24K	**Tolsona, Glenn**	**13.57**	**42**			**Pn**	**08 04 51.2**	**-1.8**
HMT	**Hamilton**	**13.63**	**51**			**Pn**	**08 04 51.6**	**-2.1**
SMRM	**Bremner River**	**13.72**	**48**	Pn		**Pn**	**08 04 53.4**	**-1.6**
N25K	**Chitina, Valde**	**13.99**	**46**			**Pn**	**08 04 57.0**	**-1.7**
VRDI	**Verde Repeater**	**14.34**	**48**			**Pn**	**08 05 01.0**	**-2.4**
I23K	**Minto, Yukon-K**	**14.39**	**29**	Pn		**Pn**	**08 05 03.9**	**-0.1**
ILAR	**Eielson Array**	**14.89**	**33**	Pn		**Pn**	**08 05 10.8**	**+0.2**
	comp=E,0.1nm,0.3s,baz=211,slow=9.4,SNR=2.3							
RIDG	**Independent Ri**	**14.97**	**38**	Pn		**Pn**	**08 05 11.4**	**-0.3**
RIDG				IAmb		IAmb	08 05 53.2	
	comp=Z,23nm,1.5s							
M26K	**Nabesna, AK**	**15.02**	**44**			**Pn**	**08 05 11.0**	**-1.5**
O28M	**Mount Upton**	**15.68**	**52**			**Pn**	**08 05 19.8**	**-1.3**
O28M				IAmb		IAmb	08 05 40.1	
	comp=Z,7.2nm,0.7s							
M29M	**Somme Creek**	**16.98**	**47**	P		**Pn**	**08 05 38.0**	**+0.5**
M29M				IAmb		IAmb	08 06 02.6	
	comp=Z,9.3nm,0.8s							
K29M	**Barlow Dome**	**17.89**	**43**	P		**Pn**	**08 05 48.7**	**0.0**
J30M	**Hart River**	**18.65**	**42**	P		**P**	**08 05 56.0**	**-1.3**
CRAG	**Craig**	**19.04**	**71**	P		**Pn**	**08 06 03.5**	**+0.9**
C27K	**Jago River**	**19.16**	**24**	P		**P**	**08 06 02.6**	**-0.2**
C27K				IAmb		IAmb	08 06 16.6	
	comp=Z,20nm,1.2s							
BILL	**Bilibino**	**19.73**	**329**⇓	*eP*		**P**	**08 06 08.9**	**0.0**
BILL				pmax		pmax		
	comp=Z,10.0nm,1.5s							
G30M	**tAoh Zraii Nji**	**19.74**	**35**	P		**P**	**08 06 07.6**	**-1.5**
G30M				IAmb		IAmb	08 06 43.5	
	comp=Z,6.3nm,0.8s							
E29M	**Blow River**	**19.95**	**31**	P		**P**	**08 06 10.2**	**-1.1**
MMPY	**Sheldon Lake,**	**20.25**	**49**	P		**P**	**08 06 15.2**	**+0.5**
MMPY				IAmb		IAmb	08 06 38.2	
	comp=Z,10nm,0.8s							
DLBC	**Dease Lake**	**20.51**	**61**	LR		LR	08 13 15.2	
	comp=Z,1μm,21.9s,baz=207,slow=34							
INK	**Inuvik**	**21.29**	**33**	P		**P**	**08 06 23.2**	**-2.5**
	comp=Z,1.6nm,0.4s,baz=251,slow=9.6,SNR=11							
	comp=Z,1.6nm,0.4s							
PEA0B	**Petropavlovsk-**	**21.66**	**284**	P		**P**	**08 06 29.9**	**0.0**
PEA0B	**Petropavlovsk-**	**21.66**	**284**	P		**P**	**08 06 29.9**	**0.0**
PEA0B				pmax		pmax		
	comp=Z,71nm,1.5s							
PETK	**Petropavlovsk-**	**21.66**	**284**	P		**P**	**08 06 29.8**	**0.0**
PETK	**Petropavlovsk-**	**21.66**	**284**	P		**P**	**08 06 29.3**	**-0.6**
	comp=Z,6.7nm,1.0s,baz=86,slow=12,SNR=5.6							
PETK				LR		LR	08 14 24.5	
	comp=Z,104nm,21.3s,baz=88,slow=36							
	comp=Z,6.7nm,1.0s							
PETK	**Petropavlovsk-**	**21.66**	**284**	P		**P**	**08 06 29.8**	**0.0**
BBB	**Bella Bella**	**22.67**	**78**	LR		LR	08 14 10.0	
	comp=Z,44nm,18.8s,baz=262,slow=33							
SEY	**Seymchan**	**23.57**	**310**	LR		LR	08 16 41.9	
	comp=Z,83nm,20.0s,baz=136,slow=39							
SEY	**Seymchan**	**23.57**	**310**⇓	*eP*		**P**	**08 06 48.1**	**-1.4**
SEY				pmax		pmax		
	comp=Z,14nm,1.9s							
MA2	**Magadan**	**24.36**	**302**⇓	*eP*		**P**	**08 06 56.7**	**-0.2**
MA2				pmax		pmax		
	comp=Z,28nm,1.8s							
YKAW3	**Yellowknife Wh**	**27.92**	**50**	P		**P**	**08 07 29.9**	**+1.0**
YKAW3				IAmb		IAmb	08 07 50.4	
	comp=Z,11nm,1.1s							
YKA	**Yellowknife Ar**	**27.93**	**51**	P		**P**	**08 07 29.5**	**+0.5**
YKA	**Yellowknife Ar**	**27.93**	**51**	P		**P**	**08 07 29.3**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=292,slow=15,SNR=6.5							
	comp=Z,0.9nm,0.7s							
YKA	**Yellowknife Ar**	**27.93**	**51**	*i* P		**P**	**08 07 30.2**	**+1.2**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.9s							
NEW	**Newport**	**30.70**	**80**	LR		LR	08 17 56.1	
	comp=Z,65nm,20.4s,baz=298,slow=32							
YSS	**Yuzhno-Sakhali**	**32.92**	**280**⇑	*eP*		**P**	**08 08 12.1**	**-1.1**
YSS				pmax		pmax		
	comp=Z,23nm,2.1s							
TIXI	**Tiksi**	**32.95**	**328**	LR		LR	08 23 29.1	
	comp=Z,116nm,19.3s,baz=30,slow=40							
TIXI	**Tiksi**	**32.95**	**328**⇑	*eP*		**P**	**08 08 14.7**	**+1.5**
TIXI				pmax		pmax		
	comp=Z,13nm,1.1s							
NVAR	**Mina Array Bea**	**35.59**	**95**	P		**P**	**08 08 38.9**	**+2.2**
	comp=Z,0.3nm,0.5s,baz=303,slow=7.9,SNR=5.7							
NVAR				LR		LR	08 21 00.1	
	comp=Z,63nm,21.2s,baz=276,slow=32							
	comp=Z,0.3nm,0.5s							
ELK	**Elko**	**35.96**	**90**	LR		LR	08 21 16.5	
	comp=Z,86nm,19.6s,baz=306,slow=33							
PDAR	**Pinedale Array**	**38.13**	**83**	P		**P**	**08 08 59.8**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=288,slow=11,SNR=2.3							
PDAR				LR		LR	08 22 45.5	
	comp=Z,29nm,19.6s,baz=271,slow=33							
	comp=Z,0.1nm,0.3s							
ZEA	**Zeya**	**38.38**	**298**	*eP*		P	08 08 53.1	-6.8
ZEA				pmax		pmax		
	comp=Z,10.0nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**39.65**	**223**	T		T	08 51 22.8	
	baz=25,slow=76,SNR=600							
H11N3	**WAKE ISLAND Hy**	**39.65**	**223**	T		T	08 51 23.3	
	baz=25,slow=76,SNR=1140							
H11N1	**WAKE ISLAND Hy**	**39.66**	**223**	T		T	08 51 24.2	
	baz=25,slow=76,SNR=554							
PFO	**Pinyon Flats O**	**39.96**	**99**	LR		LR	08 22 31.8	
	comp=Z,115nm,18.7s,baz=316,slow=31							
H11S1	**WAKE ISLAND Hy**	**40.83**	**222**	T		T	08 52 53.1	
	baz=25,slow=76,SNR=762							
H11S2	**WAKE ISLAND Hy**	**40.84**	**222**	T		T	08 52 52.6	
	baz=25,slow=76,SNR=943							
H11S3	**WAKE ISLAND Hy**	**40.84**	**222**	T		T	08 52 55.4	
	baz=25,slow=76,SNR=614							
ULM	**Lac du Bonnet**	**41.77**	**65**	LR		LR	08 28 31.5	
	comp=Z,53nm,18.3s,baz=277,slow=39							
MJAR	**Matsushiro Arr**	**41.86**	**269**	LR		LR	08 23 52.8	
	comp=Z,63nm,22.0s,baz=63,slow=32							
MAJO	**Matsushiro**	**41.86**	**269**⇑	*iP*		**P**	**08 09 29.2**	**+0.2**
MAJO				pmax		pmax		
	comp=Z,8.0nm,1.2s							
MSHR	**Mys Shultsa**	**42.20**	**282**⇑	*eP*		**P**	**08 09 31.3**	**-0.4**
MSHR				pmax		pmax		
	comp=Z,8.0nm,1.3s							
JHJ	**Hachijo jima 2**	**43.26**	**264**	LR		LR	08 24 54.4	
	comp=Z,61nm,21.8s,baz=311,slow=32							
ANMO	**Albuquerque**	**44.99**	**90**	LR		LR	08 27 11.4	
	comp=Z,44nm,19.2s,baz=32,slow=34							
ANMO	**Albuquerque**	**44.99**	**90**⇑	*eP*		**P**	**08 09 54.8**	**+0.3**
ANMO				pmax		pmax		
	comp=Z,5.0nm,1.9s							
FRB	**Frobisher Bay**	**46.86**	**37**	LR		LR	08 30 47.2	
	comp=Z,100nm,19.7s,baz=304,slow=38							
KSRS	**Korea Array**	**47.38**	**278**	P		**P**	**08 10 13.2**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=47,slow=8.0,SNR=7.9							
	comp=Z,1.9nm,0.7s							
JNU	**Nakatsue**	**48.58**	**272**	LR		LR	08 28 53.9	
	comp=Z,35nm,21.9s,baz=57,slow=34							
TXAR	**Lajitas Array**	**50.63**	**93**	P		**P**	**08 10 39.0**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=303,slow=4.8,SNR=6.9							
TXAR				LR		LR	08 31 23.3	
	comp=Z,21nm,18.0s,baz=322,slow=35							
	comp=Z,0.3nm,0.5s							
TXAR	**Lajitas Array**	**50.63**	**93**	P		**P**	**08 10 39.0**	**+1.0**
SCHQ	**Schefferville**	**53.18**	**46**	LR		LR	08 32 30.0	
	comp=Z,844nm,21.0s,baz=302,slow=35							
SADO	**Sadowa**	**54.07**	**61**	LR		LR	08 33 00.2	
	comp=Z,360nm,18.7s,baz=301,slow=35							
HHC	**Hu-ho-hao-te**	**54.51**	**292**	*eP*		**P**	**08 11 07.3**	**+0.7**
HHC				pmax		pmax		
	comp=Z,3.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,83nm,4.9s							
ARCES	**ARCESS Array B**	**57.07**	**355**	P		**P**	**08 11 23.1**	**-1.3**
	comp=Z,1.3nm,0.9s,baz=5.7,slow=8.1,SNR=7.2							
	comp=Z,1.3nm,0.9s							
TKL	**Tuckaleechee C**	**57.84**	**72**	LR		LR	08 34 00.4	
	comp=Z,34nm,20.5s,baz=326,slow=34							
ZALV	**Zalesovo Beam**	**58.05**	**319**	P		**P**	**08 11 30.7**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=41,slow=6.6,SNR=2.4							
ZALV				LR		LR	08 37 37.7	
	comp=Z,81nm,20.1s,baz=36,slow=37							
	comp=Z,1.7nm,0.4s							
SSLB	**Suanglung**	**61.33**	**272**	P		**P**	**08 11 54.1**	**-0.4**
GTA	**Gaotai**	**61.87**	**299**	*eP*		**P**	**08 11 57.5**	**-0.6**
GTA				pmax		pmax		
	comp=Z,4.0nm,0.7s							
KURK	**Kurchatov**	**62.97**	**320**	*ceP*		**P**	**08 12 04.8**	**-0.3**
KURK				pmax		pmax		
	comp=Z,10.0nm,0.8s							
KURBB	**Kurchatov Arra**	**63.08**	**320**	LR		LR	08 41 19.3	
	comp=Z,109nm,20.2s,baz=165,slow=38							
BVAR	**Borovoye Array**	**64.05**	**326**	P		**P**	**08 12 12.6**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=32,slow=6.8,SNR=1.9							
	comp=Z,0.8nm,0.4s							
MK31	**Makanchi Array**	**64.59**	**315**	P		**P**	**08 12 14.9**	**-0.9**
MK31				IAmb		IAmb	08 12 22.2	
	comp=Z,1.6nm,0.9s							
MK31	**Makanchi Array**	**64.59**	**315**	P		**P**	**08 12 15.0**	**-0.9**
MK31				pmax		pmax		
	comp=Z,2.0nm,0.9s							
MKAR	**Makanchi Array**	**64.59**	**315**	P		**P**	**08 12 14.9**	**-1.0**
MKAR	**Makanchi Array**	**64.59**	**315**	P		**P**	**08 12 14.6**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=44,slow=5.7,SNR=10							
MKAR				LR		LR	08 41 36.6	
	comp=Z,84nm,20.9s,baz=357,slow=37							
	comp=Z,0.9nm,0.6s							
ARTI	**Arti**	**64.70**	**335**	LR		LR	08 44 01.5	
	comp=Z,35nm,18.0s,baz=242,slow=40							
ARTI	**Arti**	**64.70**	**335**	*cP*		**P**		
ARTI							08 12 46.7	
ARTI							08 14 34.8	
ARTI				S		**S**	**08 20 54.6**	**+1.5**
ARTI				SS		**SS**	**08 25 03.6**	**+0.2**
ARTI				pmax		pmax		
	comp=Z,7.0nm,1.7s							
KIRV	**Kirov**	**64.75**	**340**⇑	*eP*		**P**	**08 12 18.8**	**+2.2**
FIA1	**FINESS Array S**	**65.08**	**354**	P		**P**	**08 12 17.5**	**-1.3**
FINES	**FINESS Array B**	**65.08**	**354**	P		**P**	**08 12 17.1**	**-1.7**
FINES	**FINESS Array B**	**65.08**	**354**	P		**P**	**08 12 17.3**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=8.4,slow=6.3,SNR=15							
FINES				LR		LR	08 43 48.2	
	comp=Z,55nm,18.6s,baz=18,slow=39							
	comp=Z,0.9nm,0.3s							
NB2	**NORSAR Subarra**	**65.86**	**2**	P		**P**	**08 12 22.6**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=358,slow=6.9							
NOA	**NORSAR Array B**	**65.86**	**2**	P		**P**	**08 12 22.5**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=0.6,slow=6.3,SNR=4.6							
	comp=Z,1.4nm,0.7s							
HFS	**Hagfors**	**66.79**	**0**	P		**P**	**08 12 28.4**	**-1.4**
	comp=Z,3.2nm,0.4s,baz=25,slow=3.9,SNR=22							
	comp=Z,3.2nm,0.4s							
OBN	**Obninsk**	**70.25**	**347**	*eP*		**P**	**08 12 52.0**	**+0.6**
OBN				*e*			08 13 12.0	
OBN				*e*			08 15 25.2	
OBN				*e*	PPP	PPP	08 17 08.9	
OBN				pmax		pmax		
	comp=Z,4.0nm,0.9s							
PZH	**PanZhiHua**	**70.55**	**288**	P		**P**	**08 12 54.8**	**+0.9**
EKA	**Eskdalemuir Ar**	**70.67**	**10**	P		**P**	**08 12 53.1**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=358,slow=5.7,SNR=4.5							
	comp=Z,1.4nm,0.6s							
BELG	**Belogornoye**	**70.90**	**339**⇑	*eP*		**P**	**08 12 55.2**	**-0.2**
BELG				pmax		pmax		
	comp=Z,2.0nm,0.6s							
AAK	**Ala-Archa**	**71.20**	**317**	LR		LR	08 45 17.8	
	comp=Z,86nm,21.4s,baz=22,slow=37							
AAK	**Ala-Archa**	**71.20**	**317**⇓	*eP*		**P**	**08 12 57.0**	**-0.7**
AAK				pmax		pmax		
	comp=Z,4.0nm,0.6s							
JAY	**Jayapura**	**71.27**	**238**	LR		LR	08 41 11.7	
	comp=Z,40nm,20.9s,baz=341,slow=33							
KSH	**Kashi**	**73.19**	**315**	P		**P**	**08 13 12.5**	**+2.9**
KSH				pP		pP	08 13 19.5	-2.5
KSH				pmax		pmax		
	comp=Z,6.0nm,0.7s							
AKASG	**Malin Array Be**	**75.47**	**350**	P		**P**	**08 13 20.4**	**-2.0**
	comp=Z,0.7nm,0.4s,baz=15,slow=6.2,SNR=5.6							
	comp=Z,0.7nm,0.4s							
AKASG	**Malin Array Be**	**75.47**	**350**	*i* P		**P**	**08 13 20.7**	**-1.7**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
AKBB	**Malin Array Si**	**75.47**	**350**⇑	*eP*		**P**	**08 13 21.0**	**-1.4**
AKBB				pmax		pmax		
	comp=Z,14nm,1.6s							
KOLS	**Kolonicke sedl**	**77.78**	**355**	*eP*		P	08 13 44.5	+9.0
KHC	**Kasperske Hory**	**77.81**	**0**⇓	*eP*		**P**	**08 13 35.8**	**0.0**
CMAR	**Chiang Mai Arr**	**78.43**	**285**	P		**P**	**08 13 39.3**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=17,slow=5.6,SNR=15							
CMAR				LR		LR	08 49 35.5	
	comp=Z,17nm,21.7s,baz=50,slow=37							
	comp=Z,2.9nm,0.8s							
CMAR	**Chiang Mai Arr**	**78.43**	**285**	*i* P		**P**	**08 13 39.7**	**+0.1**
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.5s							
KBZ	**Khabaz**	**80.12**	**339**	LR		LR	08 52 11.0	
	comp=Z,55nm,20.6s,baz=348,slow=38							
MLR	**Muntele Rosu**	**80.94**	**352**	LR		LR	08 53 20.0	
	comp=Z,28nm,18.1s,baz=7.0,slow=38							
SJG	**San Juan**	**81.27**	**72**	LR		LR	08 50 01.0	
	comp=Z,16nm,20.2s,baz=280,slow=36							
GNI	**Garni**	**83.12**	**337**	LR		LR	08 56 09.8	
	comp=Z,38nm,19.2s,baz=105,slow=40							
BR131	**Keskin Array S**	**85.70**	**345**⇑	*eP*		**P**	**08 14 16.5**	**-1.1**
BRTR	**Keskin Array B**	**85.70**	**345**	P		**P**	**08 14 17.1**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=225,slow=0.2,SNR=4.0							
	comp=Z,0.7nm,0.4s							
WRA	**Warramunga Arr**	**89.35**	**234**	P		**P**	**08 14 35.3**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=25,slow=5.3,SNR=2.0							
	comp=Z,0.2nm,0.7s							
MMAI	**Mount Meron Ar**	**91.96**	**342**	LR		LR	09 01 33.2	
	comp=Z,8.9nm,20.1s,baz=7.0,slow=39							
MDP	**Montagnes des**	**99.44**	**68**	LR		LR	08 59 02.5	
	comp=Z,29nm,21.3s,baz=125,slow=35							
H03N2	**Juan Fernandez**	**114.36**	**114**	T		T	10 25 11.6	
	baz=322,slow=77,SNR=157							
H03N1	**Juan Fernandez**	**114.37**	**114**	T		T	10 25 14.5	
	baz=322,slow=77,SNR=159							
H03N3	**Juan Fernandez**	**114.38**	**114**	T		T	10 25 11.6	
	baz=322,slow=77,SNR=176							
QSPA	**South Pole Qui**	**143.20**	**180**	PKP		**PKiKP**	**08 21 14.4**	**-0.1**
	comp=Z,2.0nm,1.1s,baz=239,slow=0.8,SNR=9.1							

IDC ***27*** *08:21:52.8±1.7,5.°58N×126.°57E,h0km,mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=160.6km s-min=23.2km az=66.0*

DJA ***27*** *08:21:59.5±0.6,6.°N±3.°×12.°7E±.°,h140km±7km,M4.2/7, mB5.3/1,mb4.4/2,MLv4.2/7,Mw(mB)4.7/1*

ISC 27 08:22:02.6±1.3,5.°6N±0.°1×126.°8E±0.°2,h84km,n6,σ1§37/8, mb3.6/4,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.24**	**213**	P	**Pn**	**08 22 36.7**	**-1.1**
SGSI				S	**Sn**	**08 23 06.7**	**+1.9**
LUWI	**Luwuk**	**7.69**	**211**	P	**Pn**	**08 23 50.2**	**-1.6**
WRA	**Warramunga Arr**	**26.44**	**164**	P	**P**	**08 27 32.9**	**+1.1**
	2.7nm,1.0s,baz=343,slow=10,SNR=19						
	2.7nm,1.0s						
ASAR	**Alice Springs**	**29.89**	**167**	P	**P**	**08 28 02.2**	**-0.3**
	0.2nm,0.7s,baz=344,slow=8.3,SNR=2.0						
ASAR				PcP	**PcP**	**08 31 04.2**	**+0.4**
	0.2nm,0.4s,baz=359,slow=2.8,SNR=4.1						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**56.07**	**325**	P	**P**	**08 31 33.1**	**+0.1**
	0.2nm,0.4s,baz=132,slow=8.0,SNR=2.8						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**60.21**	**327**	P	**P**	**08 32 02.1**	**+0.4**
	0.3nm,0.3s,baz=128,slow=5.2,SNR=4.4						
	0.3nm,0.3s						

SSNC ***27*** *08:45:28.7±1.3, 18.°27N×76.°85W,h12km±9km,MD2.7, ML3.1*

JSN ***27*** *08:45:29.7±0.3, 18.°20N×76.°77W,h16km±2km,MD2.3*

ISC 27 08:45:24.9±1.3,18.°37N±0.°05×76.°62W±0.°07,h9km±14km, n7,σ0§67/13,1C,Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.35**	**212**	*eP*	**Pb**	**08 45 33.2**	**-0.1**
STH				*eS*	**Sg**	**08 45 35.6**	**-0.8**
STH				IAML		08 45 36.4	
	comp=N,63μm,0.1s						
STH				IAML		08 45 36.5	
	comp=E,47μm,0.1s						
STH	**Stony Hill**	**0.35**	**212**⇑	*iP*	**Pb**	**08 45 33.2**	**-0.1**
MTDJ	**Mount Denham**	**0.88**	**261**	*i* P	**Pg**	**08 45 43.0**	**+1.0**
MTDJ				*i* S	**Sg**	**08 45 52.6**	**-0.9**
LMGC	**Las Mercedes**	**1.72**	**348**	*eP*	**Pb**	**08 45 56.5**	**-0.2**
LMGC				*eS*	**Sn**	**08 46 17.3**	**+0.1**
LMGC				IAML		08 46 19.8	
	comp=N,9.3nm,0.1s						
LMGC				IAML		08 46 20.0	
	comp=E,11nm,0.1s						
RCC	**Rio Carpintero**	**1.83**	**28**	*eP*	**Pg**	**08 46 00.8**	**+0.8**
RCC				*eS*	**Sg**	**08 46 23.3**	**-0.5**
YAR	**Yar**	**2.00**	**7**	*eP*	**Pg**	**08 46 02.8**	**-0.5**
YAR				*eS*	**Sb**	**08 46 26.4**	**-0.2**
YAR				*eSg*	**Sg**	**08 46 29.9**	**+0.6**
PINC	**Pinares de May**	**2.24**	**20**	*eS*	**Sb**	**08 46 33.7**	**+0.2**

SLM ***27*** *08:47:45.9±0.7,36.°556N±0.°007×89.°65W±0.°01,h8km±2km, Error ellipse: s-maj=1.3km s-min=0.9km az=115.0*

NEIC 27 08:47:46.4±0.7,36.°557N±0.°007×89.°65W±0.°01,h8km±2km, mb_Lg3.3/127,ML3.6/30,Md3.3/71(SLM),Error ellipse: s-maj=1.8km s-min=1.0km az=90.0,New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARMO	**Marston**	**0.03**	**205**		Pg	08 47 47.7	-0.2
MARMO					Sg	08 47 49.2	+0.3
CATM	**Catron**	**0.06**	**5**		Pg	08 47 48.1	-0.1
CATM					Sg	08 47 49.9	+0.4
NMMO	**New Madrid**	**0.09**	**69**		Pg	08 47 48.4	-0.2
NMMO					Sg	08 47 50.5	+0.3
WALK	**Watson Lake**	**0.09**	**101**		Pg	08 47 48.3	-0.3
WALK					Sg	08 47 50.4	+0.2
PENMO	**Penman**	**0.11**	**169**		Pg	08 47 48.6	-0.3
PENMO					Sg	08 47 50.8	+0.2
PGVM	**Portageville**	**0.11**	**212**		Pg	08 47 48.8	-0.2
PGVM					Sg	08 47 51.1	+0.4
PARMO	**Parma**	**0.13**	**323**		Pg	08 47 49.2	-0.2
PARMO				Sg	Sg	08 47 51.8	+0.5
PARMO				IAML		08 47 52.0	
	comp=E,26μm,0.2s						
PARMO				IAML		08 47 52.4	
	comp=N,19μm,0.3s						
PVMO	**Portageville**	**0.15**	**195**		Pg	08 47 49.2	-0.3
PVMO				Sg	Sg	08 47 51.9	+0.3
PVMO				IAML		08 47 54.5	
	comp=N,19μm,0.3s						
POBM	**Portage Bay**	**0.15**	**183**		Pg	08 47 49.3	-0.3
POBM					Sg	08 47 52.0	+0.3
KEWM	**Kewanee**	**0.15**	**19**		Pg	08 47 49.4	-0.2
KEWM					Sg	08 47 52.2	+0.5
SJMO	**Saint John's B**	**0.16**	**63**		Pg	08 47 49.6	-0.2
SJMO					Sg	08 47 52.5	+0.4
PPLM	**Point Pleasant**	**0.16**	**160**		Pg	08 47 49.5	-0.3
PPLM					Sg	08 47 52.3	+0.2
COKM	**Charter Oak**	**0.16**	**339**		Pg	08 47 49.8	0.0
COKM					Sg	08 47 52.8	+0.6
TOPM	**Tallapoosa**	**0.19**	**261**		Pg	08 47 50.1	-0.2
HENM	**Henderson Moun**	**0.22**	**43**		Pg	08 47 50.5	-0.3
HENM					Sg	08 47 54.0	+0.2
MATM	**Matthews**	**0.22**	**10**		Pg	08 47 50.7	-0.2
MATM					Sg	08 47 54.4	+0.5
WADM	**Wardell**	**0.22**	**211**		Pg	08 47 50.7	-0.2
WADM					Sg	08 47 54.4	+0.5
MLDM	**Malden**	**0.23**	**288**		Pg	08 47 50.8	-0.1
WYBT	**Wynnburg**	**0.24**	**149**		Pg	08 47 51.0	-0.3
WYBT					Sg	08 47 55.1	+0.6
DWDM	**Dogwood**	**0.27**	**28**		Pg	08 47 51.5	-0.3
DWDM					Sg	08 47 55.8	+0.3
EPRM	**East Prairie**	**0.29**	**56**		Pg	08 47 51.7	-0.4
EPRM					Sg	08 47 56.1	+0.2
FLPT	**Flippin**	**0.31**	**119**		Pg	08 47 52.1	-0.4
BRNM	**Bernie**	**0.32**	**301**		Pg	08 47 52.6	-0.2
BETM	**Bethany**	**0.33**	**280**		Pg	08 47 52.7	-0.3
HICK	**Hickman**	**0.34**	**93**		Pg	08 47 52.6	-0.5
HICK				Sg	Sg	08 47 57.3	-0.4
HICK				IAML		08 47 58.0	
	comp=N,8μm,0.4s						
GUAMO	**Guam**	**0.36**	**336**		Pg	08 47 53.3	-0.3
CHRM	**Charleston**	**0.38**	**38**		Pg	08 47 53.2	-0.6
BRGM	**Braggadocio**	**0.39**	**205**		Pg	08 47 53.6	-0.4
MIST	**Miston**	**0.40**

WCI	Wyandotte Cave	3.15	57		Pb	08 48 41.2	-1.5	
SWET	Sewanee	3.31	113		Pn	08 48 38.9	+0.3	
X40A	Basin Creek Fa	3.31	232		Pn	08 48 37.1	-1.5	
X40A				IAmb_Lg		08 49 29.3		
	comp=Z,78nm,1.0s							
HHAR	Hobbs	3.47	267		Pn	08 48 40.8	+0.1	
P40A	Paris	3.52	328		Pn	08 48 41.2	-0.2	
P40A				IAmb_Lg		08 49 40.2		
	comp=Z,58nm,0.7s							
Z47A	Carrollton	3.59	158		Pn	08 48 41.9	-0.6	
Z47A				IAmb_Lg		08 49 40.9		
	comp=Z,66nm,0.8s							
BLO	Bloomington	3.60	43	IAmb_Lg		08 49 47.6		
	comp=Z,60nm,0.7s							
P46A	Rosedale	3.62	32		Pn	08 48 42.0	-0.8	
P46A				IAmb_Lg		08 49 47.4		
	comp=Z,88nm,0.9s							
MIAR	Mount Ida	3.78	239		Pn	08 48 44.6	-0.3	
W50A	Signal Mountai	3.78	110	IAmb_Lg		08 49 44.9		
	comp=Z,80nm,0.8s							
Y49A	Blount Mountai	3.78	134		Pn	08 48 44.2	-0.8	
Y49A				IAmb_Lg		08 49 46.9		
	comp=Z,52nm,0.7s							
U38A	Gravette	3.81	270		Pn	08 48 45.4	-0.1	
U38A				IAmb_Lg		08 49 47.9		
	comp=Z,68nm,0.8s							
T50A	Nancy	3.89	82		Pn	08 48 47.0	+0.4	
146A	Union	3.94	173	IAmb_Lg		08 49 55.3		
	comp=Z,49nm,0.8s							
R49A	Shelbyville	3.97	63		Pn	08 48 46.9	-0.7	
R49A				IAmb_Lg		08 49 55.1		
	comp=Z,50nm,1.0s							
WLAR	White Oak Lake	4.03	226		Pn	08 48 48.1	-0.3	
143A	Socs Landing,	4.11	201	IAmb_Lg		08 50 00.8		
	comp=Z,49nm,0.9s							
LRAL	Lakeview Retre	4.14	147		Pn	08 48 48.6	-1.4	
LRAL				IAmb_Lg		08 49 56.8		
	comp=Z,77nm,0.8s							
CMGA	Chestnut Mount	4.23	116		Pn	08 48 51.5	+0.3	
N41A	Harden Midland	4.25	348		Pn	08 48 51.2	-0.3	
CPCT	Cooper Cave	4.30	103	IAmb_Lg		08 50 03.3		
	comp=Z,53nm,0.7s							
SFIN	Lafayette	4.31	27		Pn	08 48 51.5	-0.8	
SFIN				IAmb_Lg		08 50 03.5		
	comp=Z,54nm,0.8s							
P38A	Dawn	4.33	316		Pn	08 48 51.8	-0.7	
P38A				IAmb_Lg		08 50 05.2		
	comp=Z,55nm,0.7s							
GMG	Grassy Mountai	4.39	111		Pn	08 48 53.9	+0.3	
P48A	Milroy	4.42	48		Pn	08 48 52.1	-1.8	
R50A	Paris	4.58	66		Pn	08 48 55.0	-0.9	
CPRT	Copper Ridge	4.68	93		Pn	08 48 57.9	+0.3	
TKL	Tuckaleechee C	4.84	99	IAmb_Lg		08 50 22.8		
	comp=Z,48nm,0.8s							
W52A	Murphy	4.88	106		Pn	08 48 59.2	-0.9	
TZTN	Tazewell	4.92	88		Pn	08 49 00.7	0.0	
M44A	Midewin, Midew	4.99	14	IAmb_Lg		08 50 27.4		
	comp=Z,58nm,1.0s							
TUL3	Leonard	5.00	264		Pn	08 49 00.9	-0.9	
Y52A	Lilburn	5.31	119	IAmb_Lg		08 50 30.3		
	comp=Z,41nm,0.8s							
N47A	Urbana	5.31	34	IAmb_Lg		08 50 39.1		
	comp=Z,36nm,0.8s							
250A	Grady	5.36	147	IAmb_Lg		08 50 32.1		
	comp=Z,50nm,0.7s							
O49A	Covington	5.53	47	IAmb_Lg		08 50 47.8		
	comp=Z,33nm,0.8s							
Q51A	Peebles	5.57	62	IAmb_Lg		08 50 45.7		
	comp=Z,52nm,0.8s							
DEOK	Depew	5.58	265	IAmb_Lg		08 50 57.8		
	comp=Z,46nm,0.8s							
V53A	Saluda	5.61	97	IAmb_Lg		08 50 43.5		
	comp=Z,50nm,0.9s							
BG3	Lake Jocassee	5.68	104	IAmb_Lg		08 50 46.7		
	comp=Z,37nm,0.9s							
L44A	Lake County Fo	5.77	13	IAmb_Lg		08 50 51.8		
	comp=Z,41nm,0.8s							
OK052	Battle Ridge R	5.80	267	IAmb_Lg		08 51 03.6		
	comp=Z,47nm,0.8s							
OK048	Pawnee Station	5.88	271	IAmb_Lg		08 51 00.8		
	comp=Z,51nm,0.8s							
GOGA	Godfrey	5.97	120	IAmb_Lg		08 51 07.8		
	comp=Z,29nm,1.1s							
SCIA	State Center	6.01	334	IAmb_Lg		08 51 06.4		
	comp=Z,36nm,0.7s							
L46A	Eue Claire	6.04	25	IAmb_Lg		08 50 58.3		
	comp=Z,50nm,0.7s							
KSU1	Kansas State U	6.06	297	IAmb_Lg		08 51 07.7		
	comp=Z,50nm,0.7s							
N49A	Columbus Grove	6.11	43	IAmb_Lg		08 51 02.0		
	comp=Z,44nm,1.1s							
K43A	Burlington	6.22	9	IAmb_Lg		08 51 09.2		
	comp=Z,35nm,0.8s							
Q52A	Bidwell	6.33	65	IAmb_Lg		08 51 15.8		
	comp=Z,29nm,0.8s							
JFWS	Jewell Farm	6.37	356	IAmb_Lg		08 51 04.4		
	comp=Z,34nm,0.8s							
ACSO	Alum Creek Sta	6.40	53	IAmb_Lg		08 51 05.0		
	comp=Z,32nm,0.8s							
352A	Blakely	6.41	141	IAmb_Lg		08 51 11.8		
	comp=Z,34nm,0.8s							
OKCSW	OKLAHOMA CITY	6.42	262	IAmb_Lg		08 51 19.0		
	comp=Z,47nm,0.7s							
HODGE	Hodges	6.47	109	IAmb_Lg		08 51 13.9		
	comp=Z,38nm,1.3s							
PAULI	Pauline	6.61	103	IAmb_Lg		08 51 17.9		
	comp=Z,32nm,0.8s							
154A	Montrose	6.68	124	IAmb_Lg		08 51 31.6		
	comp=Z,33nm,0.7s							
S54A	Dingess, Becki	6.78	77	IAmb_Lg		08 51 19.9		
	comp=Z,38nm,0.7s							
V55A	Taylorsville	6.86	93	IAmb_Lg		08 51 31.4		
	comp=Z,26nm,1.0s							
KMSC	Kings Mountain	6.90	99	IAmb_Lg		08 51 29.6		
	comp=Z,25nm,0.8s							
O52A	Adamsville	7.10	58	IAmb_Lg		08 51 38.1		
	comp=Z,37nm,0.9s							
P53A	Whipple	7.15	63	IAmb_Lg		08 51 29.1		
	comp=Z,26nm,0.8s							
N51A	Ashland	7.16	50	IAmb_Lg		08 51 34.8		
	comp=Z,30nm,1.0s							
I42A	Draeger Farm,	7.35	4	IAmb_Lg		08 51 42.6		
	comp=Z,23nm,0.8s							
Q54A	Coxs Mills	7.39	68	IAmb_Lg		08 51 54.5		
	comp=Z,29nm,0.9s							
NOKA	Waynoka	7.46	273	IAmb_Lg		08 51 54.5		
	comp=Z,28nm,0.8s							
U56A	King	7.47	89	IAmb_Lg		08 51 48.5		
	comp=Z,31nm,0.9s							
GLMI	Grayling	9.10	23	IAmb_Lg		08 52 49.4		
	comp=Z,28nm,0.7s							

IDC 27 08:47:55.5±1.7, 6°35′S×152°09′E, h0km, mb3.8/4, mbtmp3.9/5, ML1.8/1, Error ellipse: s-maj=98.6km s-min=24.7km az=136.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.75	238	Pn	Pn	08 49 23.3	+1.1
	1.6nm,0.3s,baz=60,slow=8.1,SNR=1.8						
PMG				Sn	Sn	08 50 29.1	+0.2
	1.5nm,0.3s,baz=330,slow=20,SNR=1.5						
WRA	Warramunga Arr	21.90	230	P	P	08 52 50.2	-0.3
	8.0nm,0.5s						
WRA				PcP	PcP	08 56 50.6	+0.4
	1.6nm,0.8s,baz=57,slow=10.0,SNR=13						
ASAR	Alice Springs	24.54	224	P	P	08 53 17.7	+0.5
	0.3nm,0.7s,baz=60,slow=2.1,SNR=5.1						
FITZ	Fitzroy Crossi	28.31	243	P	P	08 53 50.4	-0.8
	3.3nm,0.8s,baz=59,slow=8.9,SNR=38						
ILAR	Eielson Array	83.85	22	P	P	09 00 26.4	-0.4
	2.2nm,0.5s,baz=85,slow=9.0,SNR=12						
	2.2nm,0.5s						
	0.4nm,0.7s,baz=226,slow=5.0,SNR=5.0						
	0.4nm,0.7s						

IDC 27 09:09:23.3±1.4, 3°60S×128°24E, h0km, mb4.2/4, mbtmp4.1/6, ML3.4/2, MS3.1/5, Error ellipse: s-maj=105.5km s-min=15.1km az=71.0
NEIC 27 09:09:23.6±0.9, 3°74S×0°06×128°14E±0°08, h10km±1km, mb4.1/14, Error ellipse: s-maj=14.5km s-min=7.1km az=122.0

DJA 27 09:09:25.8±0.4, 4°S×5°×12°8E±°, h10km, M4.0/7, MLv4.0/7
ISC 27 09:09:25.1±0.6, 3°76S±0°08×128°22E±0°06, h21km±5km, n38, σ1§22/34, mb4.2/6, MS2.8/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	0.08	338	P	Pb	09 09 29.4	+0.4
MSAI	Masohi	0.81	60	P	Pb	09 09 40.3	-0.3
NLAI	Namlea	1.23	295	P	Pb	09 09 48.7	+1.0
BNDI	Bandanaira	1.84	114	P	Pn	09 09 54.4	-1.1
SANI	Sanana	2.80	307	P	Pn	09 10 10.0	+1.2
SWI	Sorong	4.18	47	P	Pn	09 10 29.1	+1.4
TNTI	Ternate	4.58	349	Pn	Pn	09 10 31.0	-2.2
LUWI	Luwuk	6.08	296	Pn	Pn	09 10 52.8	-1.0
SOEI	Soe	7.14	213	Pn	Pn	09 11 07.7	-0.8
BATI	Baumata	7.84	215	LR	LR	09 14 12.6	
	comp=Z,194nm,21.8s,baz=166,slow=36						
KAPI	Kappang	8.54	261	Pn	Pn	09 11 25.6	-2.0
TOLI2	Tolitoli	8.87	303	Pn	Pn	09 11 30.7	-1.5
KNRA	Kununurra	11.86	177	Pn	Pn	09 12 12.6	-0.5
MYLDM	Lahad Datu	13.16	312	Pn	Pn	09 12 28.7	-2.2
FITZ	Fitzroy Crossi	14.47	190	Pn	Pn	09 12 47.7	-1.2
FITZ	Fitzroy Crossi	14.47	190	Pn	Pn	09 12 50.4	+1.5
	0.1nm,0.3s,baz=14,slow=17,SNR=2.2						
	1.4nm,0.8s						
WB0	Warramunga Arr	17.01	160		Pn	09 13 22.1	+0.1
WB0				IAmb	IAmb	09 13 30.0	
	comp=Z,17nm,1.1s						
WRAB	Tennant Creek	17.15	160		Pn	09 13 23.8	+0.1
WRAB				IAmb	IAmb	09 13 31.6	
	comp=Z,14nm,1.1s						
WRA	Warramunga Arr	17.16	160		Pn	09 13 23.5	-0.3
WRA	Warramunga Arr	17.16	160	P	Pn	09 13 24.8	+1.0
	comp=Z,0.2nm,0.3s,baz=343,slow=12,SNR=16						
WRA				LR	LR	09 19 33.1	
	comp=Z,99nm,20.2s,baz=331,slow=35						
	comp=Z,2.7nm,1.0s						
WR8	Warramunga Arr	17.22	160		Pn	09 13 25.5	+0.9
WR8				IAmb	IAmb	09 13 32.5	
	comp=Z,12nm,1.1s						
COEN	Coen	17.90	125		Pn	09 13 32.9	-0.1
COEN				IAmb	IAmb	09 14 00.4	
	comp=Z,15nm,1.0s						
AS31	Alice Springs	20.54	165		Pn	09 14 04.1	-0.5
AS31				IAmb	IAmb	09 14 08.8	
	comp=Z,7.9nm,1.1s						
ASAR	Alice Springs	20.54	165	P	Pn	09 14 07.1	+2.4
	comp=Z,13nm,0.8s,baz=346,slow=11,SNR=109						
ASAR				S	Sn	09 17 58.6	+2.7
	comp=Z,1.4nm,1.1s,baz=348,slow=21,SNR=5.9						
ASAR				PcP	PcP	09 18 15.2	+1.7
	comp=Z,0.5nm,0.7s,baz=347,slow=1.7,SNR=8.6						
ASAR				LR	LR	09 22 00.4	
	comp=Z,84nm,18.6s,baz=342,slow=37						
	comp=Z,13nm,0.8s						
GUMO	Guam	23.87	43	LR	LR	09 23 38.8	
	comp=Z,35nm,21.8s,baz=240,slow=36						
CMAR	Chiang Mai Arr	36.32	308	LR	LR	09 31 45.4	
	comp=Z,19nm,22.0s,baz=185,slow=37						
BJT	Baijiatuau	44.95	347	P	P	09 17 39.4	+0.8
BJT				IAmb	IAmb	09 17 46.7	
	comp=Z,4.3nm,1.0s						
MK31	Makanchi Array	64.56	327	P	P	09 19 59.3	-1.5
MKAR	Makanchi Array	64.56	327	P	P	09 19 59.8	-1.1
MKAR	Makanchi Array	64.56	327	P	P	09 20 01.6	+0.8
	comp=Z,0.6nm,0.5s,baz=113,slow=8.2,SNR=7.1						
	comp=Z,0.6nm,0.5s						
MAKZ	Makanchi	64.74	327	P	P	09 20 01.6	-0.4
MAKZ				IAmb	IAmb	09 20 21.8	
	comp=Z,1.5nm,1.1s						
ZAA0	Zalesovo Array	67.91	334	P	P	09 20 21.7	-0.4
ZALV	Zalesovo Beam	67.91	334	P	P	09 20 21.6	-0.5
KURBB	Kurchatov Arra	68.84	329	P	P	09 20 28.6	+0.6
	comp=Z,4.0nm,0.2s,baz=139,slow=5.8,SNR=2.1						
	comp=Z,4.0nm,0.2s						
VNDA	Vanda	75.86	173	P	P	09 21 09.7	+0.2
VNDA	Vanda	75.86	173	P	P	09 21 11.6	+2.1
	comp=Z,0.4nm,0.8s,baz=315,slow=5.7,SNR=2.5						
	comp=Z,0.4nm,0.8s						
QSPA	South Pole Qui	86.20	180	P	P	09 22 03.5	-1.4
QSPA				IAmb	IAmb	09 22 09.8	
	comp=Z,2.6nm,1.1s						
BELA	Belgrano 2	97.93	184	P	P	09 22 58.8	-0.3

IDC 27 09:16:03.5±2.3, 54°43N×161°43W, h0km, mb4.1/12, mbtmp4.0/15, ML3.3/3, MS3.0/5, Error ellipse: s-maj=61.4km s-min=17.6km az=150.0
NEIC 27 09:16:04.4±1.8, 54°32N±0°04×161°16W±0°04, h10km±1km, mb3.9/31, ML3.9/18, ML3.7(AEIC), Error ellipse: s-maj=6.4km s-min=4.2km az=192.0
AEIC 27 09:16:07.4±2.1, 54°42N±0°04×161°22W±0°09, h6km±4km, Error ellipse: s-maj=7.5km s-min=5.8km az=113.0
ISC 27 09:16:03.1±1.7, 54°29N±0°06×161°08W±0°04, h§km±§km, n201, σ1§00/202, mb4.2/12, MS3.1/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	Dolgoi Island	0.97	332		Pn	09 16 23.3	-0.3
DOL					Sg	09 16 34.0	-0.2
CNBA	Chernabura Isl	1.02	58	Pn	Pn	09 16 26.6	+2.4
CNBA					Sn	09 16 38.9	-0.1
DT1	Dutton Round H	1.07	320		Pb	09 16 24.6	+0.3
DT1					Sg	09 16 37.3	-0.3
SDPT	Sand Point	1.11	18	Pn	Pn	09 16 27.0	+1.5
SDPT				Sn	Sn	09 16 41.3	-0.1
SDPT				IAML		09 16 42.2	
	comp=N,3μm,0.8s						
SDPT				IAML		09 16 43.1	
	comp=E,3μm,0.5s						
HAG	Hague Volcano	1.13	335		Pn	09 16 26.1	+0.2
PS4A	Pavlof South-4	1.15	337		Pn	09 16 26.5	+0.4
PS4A					Sg	09 16 40.2	+0.3
PS1A	Pavlof South-1	1.19	342		Pn	09 16 27.3	+0.6
PS1A					Sb	09 16 42.4	+0.2
PN7A	Pavlof North-7	1.26	335		Pn	09 16 28.7	+1.0
FALS	False Pass	1.47	293	Pn	Pg	09 16 31.4	0.0
S12K	Black Hills	1.52	339	Pn	Pg	09 16 32.6	+0.3
S12K				Sn	Sn	09 16 51.8	+0.3
ISNN	Isanotski Nort	1.66	290		Pg	09 16 34.9	0.0
SSLS	Shishaldin Sou	1.75	285		Pg	09 16 36.5	-0.2
SSLN	Shishaldin Nor	1.78	288		Pg	09 16 37.4	+0.3
SSLN					Pb	09 16 37.7	+1.4
SSLN					Sg	09 16 59.7	-0.4
VNFG	Fog Glacier, M	2.18	23		Pg	09 16 44.5	-0.4
CHGN	Chignik	2.52	36	Pn	Pb	09 16 47.9	-1.1
CHGN				IAML		09 17 26.1	
	comp=E,500nm,0.8s						
CHGN				IAML		09 17 31.3	
	comp=N,339nm,0.9s						
AKSA	Akutan Strait	2.72	269		Pb	09 16 50.4	-1.9
AKUT	Akutan	2.76	269		Sn	09 17 21.8	-0.1
AKBBA	Akutan Broad B	2.86	268		Pb	09 16 52.4	-2.3
AKGG	Akutan Green G	2.88	270		Pn	09 16 52.2	+2.3
ZRO	Akutan Zero	2.88	268		Pn	09 16 52.2	+2.3
LVA	Lava Point	2.91	269	Pn	Pn	09 16 49.5	-0.8
LVA				IAML		09 17 39.6	
	comp=E,280nm,0.9s						
LVA				IAML		09 17 46.1	
	comp=N,670nm,0.7s						
PLK4	Peulik 4	4.27	36	Pn	Pn	09 17 09.0	0.0
PLK4				IAML		09 18 18.4	
	comp=E,153nm,0.8s						
PLK4				IAML		09 18 20.9	
	comp=N,141nm,0.9s						
O15K	Ungalikthiuk R	4.95	8	Pn	Pn	09 17 20.4	+2.3
O14K	Tigyukauivet M	4.97	359	Pn	Pn	09 17 19.6	+1.1
O14K				IAML		09 18 58.5	
	comp=E,57nm,0.8s						
O14K				IAML		09 19 07.0	
	comp=N,59nm,1.1s						
ACHA	Angle Creek He	5.07	37		Pn	09 17 22.2	+2.2
OHAK	Old Harbor	5.29	53	Pn	Pn	09 17 25.5	+2.6
KAHC	Katmai Hardscr	5.51	35		Pn	09 17 29.1	+3.1
O16K	Kokwok River B	5.56	16	Pn	Pn	09 17 28.6	+2.0
N14K	Kuskokwak Cree	5.66	357		Pn	09 17 29.6	+1.7
KDAK	Kodiak Island	5.91	50	Pn	Pn	09 17 31.6	+0.3
KDAK	Kodiak Island	5.91	50	Pn	Pn	09 17 33.9	+2.5
	comp=N,0.3nm,0.3s,baz=23,slow=0.8,SNR=17						
KDAK				Sn	Sn	09 18 38.9	-0.5
	baz=156,slow=20						
KDAK				LR	LR	09 20 14.0	
	comp=N,89nm,21.1s,baz=205,slow=42						
	comp=N,4.7nm,0.7s						

N15K	Kwethluk River	5.92	5	Pn	Pn	09 17 33.7	+2.1	
P18K	Big Mountain,	6.03	30	Pn	Pn	09 17 31.7	-1.5	
Q19K	Cape Douglas,	6.20	38	Pn	Pn	09 17 35.8	+0.4	
M13K	Dall Lake	6.26	350	Pn	Pn	09 17 36.0	-0.1	
SYI	Shuyak Island	6.47	45	Pn	Pn	09 17 40.6	+1.4	
M14K	Bethel	6.49	356	Pn	Pn	09 17 41.2	+1.8	
N17K	Nushagak Hills	6.59	17	Pn	Pn	09 17 42.1	+1.3	
M11K	Mekoryuk	6.71	338	Pn	Pn	09 17 42.0	-0.3	
M16K	Timber Creek	6.84	9	Pn	Pn	09 17 45.4	+1.2	
P19K	Oil Pt	6.87	35	Pn	Pn	09 17 44.8	+0.1	
O19K	Port Alsworth	6.96	29	Pn	Pn	09 17 46.5	+0.7	
N18K	Kilae Creek	6.99	21	Pn	Pn	09 17 46.5	+0.2	
L14K	Kuka Creek	7.12	354	Pn	Pn	09 17 49.6	+1.6	
ILSW	Iliamna Southw	7.15	34	Pn	Pn	09 17 48.9	+0.4	
M17K	Holitna River	7.39	14		Pn	09 17 52.3	+0.6	
N19K	Bonanza Creek	7.43	26		Pn	09 17 52.5	+0.1	
L16K	Owhat River	7.49	6	Pn	Pn	09 17 52.9	-0.1	
CNPM	China Poot	7.51	42	Pn	Pn	09 17 52.9	-0.5	
RED	Redoubt Volcan	7.60	33	Pn	Pn	09 17 54.4	-0.4	
BRLK	Bradley Lake	7.80	41	Pn	Pn	09 17 56.8	-0.6	
K13K	Kusilvak Mount	7.89	348		Pn	09 17 59.4	+0.8	
K15K	Wolf Creek Mou	8.03	358	Pn	Pn	09 18 00.3	-0.1	
L18K	Granite Mounta	8.28	14	Pn	Pn	09 18 03.8	-0.1	
SPU	Mount Spurr	8.42	31	Pn	Pn	09 18 05.7	-0.2	
SLKM	Skilak Lake	8.55	39	Pn	Pn	09 18 08.0	+0.3	
L19K	White Mountain	8.56	20	Pn	Pn	09 18 06.7	-1.1	
SEW	Seward	8.58	43	Pn	Pn	09 18 07.9	-0.1	
M20K	Styx River	8.69	26	Pn	Pn	09 18 09.8	+0.2	
STLK	Strandline Lak	8.73	30	Pn	Pn	09 18 10.4	+0.2	
J16K	Anvik River	9.02	1	Pn	Pn	09 18 14.6	+0.5	
SUA	Susitna One	9.04	33	Pn	Pn	09 18 15.7	+1.1	
RC01	Rabbit Creek A	9.12	37	Pn	Pn	09 18 14.7	-0.7	
J17K	VABM Dome	9.19	6	Pn	Pn	09 18 15.6	-0.8	
SKT	Skwentna	9.20	29	Pn	Pn	09 18 17.1	+0.5	
M22K	Willow	9.46	33	Pn	Pn	09 18 20.0	-0.1	
J18K	Innoko River	9.47	12	Pn	Pn	09 18 19.9	-0.3	
PWL	Port Wells	9.48	41	Pn	Pn	09 18 21.9	+1.4	
I17K	Unalakleet	9.62	1	Pn	Pn	09 18 22.0	-0.3	
PMR	Palmer	9.68	36	Pn	Pn	09 18 23.5	+0.5	
PPLA	Purkeypile	9.78	25	Pn	Pn	09 18 25.3	+0.6	
KNK	Knik Glacier	9.79	38	Pn	Pn	09 18 26.3	+1.6	
GHO	Glory Hole Cre	9.87	36	Pn	Pn	09 18 26.5	+0.7	
CUT	Chulitna	9.91	31	Pn	Pn	09 18 28.1	+2.0	
HIN	Hinchinbrook I	9.96	46	Pn	Pn	09 18 29.1	+2.1	
KIWB	Kanaga Island	9.98	262	Pn	Pn	09 18 28.6	+1.4	
GLI	Glacier Island	9.98	43	Pn	Pn	09 18 29.1	+1.8	
SML	Sawmill	10.10	37	Pn	Pn	09 18 28.7	-0.2	
J19K	Poorman	10.12	14	Pn	Pn	09 18 30.1	+0.9	
FID	Port Fidalgo	10.16	45	Pn	Pn	09 18 29.9	+0.2	
SCM	Sheep Creek Mo	10.48	38	Pn	Pn	09 18 34.3	+0.2	
J20K	Nowinta River	10.52	17		Pn	09 18 35.8	+1.2	
KTH	Kantishna Hill	10.65	25	Pn	Pn	09 18 36.7	+0.3	
KAIM	Kayak Island	10.66	51	Pn	Pn	09 18 37.5	+1.0	
TRF	Thorofare Moun	10.73	27	Pn	Pn	09 18 38.1	+0.5	
RAGM	Ragged Mountai	10.74	49	Pn	Pn	09 18 38.5	+0.8	
KLU	Klutina	10.80	42		Pn	09 18 39.8	+1.3	
HMT	Hamilton	10.91	50	Pn	Pn	09 18 41.3	+1.4	
BMRM	Bremner River	11.05	46	Pn	Pn	09 18 42.9	+0.9	
M24K	Tolsona, Glenn	11.07	39	Pn	Pn	09 18 43.1	+0.9	
RND	Reindeer	11.09	30	Pn	Pn	09 18 42.1	-0.4	
BPAW	Bear Paw Mtn.	11.09	24	Pn	Pn	09 18 42.5	0.0	
G16K	Koyuk River	11.15	357	Pn	Pn	09 18 42.1	-1.1	
BERG	Berg Lake	11.18	50	Pn	Pn	09 18 44.1	+0.5	
DHY	Denali Highway	11.30	33	Pn	Pn	09 18 45.8	+0.4	
N25K	Chitina, Valde	11.39	43	Pn	Pn	09 18 46.3	-0.3	
SNH	Sunshine Point	11.49	52	Pn	Pn	09 18 49.0	+1.2	
H19K	Roundabout Mou	11.50	10	Pn	Pn	09 18 47.9	-0.1	
CRQM	Cirque	11.59	49	Pn	Pn	09 18 50.2	+0.8	
GLB	Gilahina Butte	11.63	45		Pn	09 18 51.1	+1.3	
VRDI	Verde Repeater	11.67	46	Pn	Pn	09 18 52.3	+1.8	
PAX	Paxson	11.87	37	Pn	Pn	09 18 52.5	-0.7	
MCARA	McCarthy VSAT	11.93	46	Pn	Pn	09 18 54.4	+0.6	
H21K	Melozitna Rive	12.11	17	Pn	Pn	09 18 55.8	-0.5	
WRH	Wood River Hil	12.13	28	Pn	Pn	09 18 56.0	-0.6	
GRNC	Granite Creek	12.20	50	Pn	Pn	09 18 55.9	-1.9	
AMKA	Amchitka	12.21	264	Pn	Pn	09 18 58.7	+0.9	
IMAR	Indian Mountai	12.27	14	Pn	Pn	09 18 56.4	-2.1	
K24K	Donnelly Dome	12.33	33		Pn	09 18 59.7	+0.4	
CCB	Clear Creek Bu	12.35	28	Pn	Pn	09 18 57.5	-2.0	
I23K	Minto, Yukon-K	12.36	24	Pn	Pn	09 18 59.5	-0.2	
TABL	Table Mountain	12.37	52	Pn	Pn	09 18 59.1	-1.0	
BARN	Barnard Glacie	12.37	49	Pn	Pn	09 18 59.7	-0.4	
HDA	Harding Lake	12.41	30	Pn	Pn	09 18 59.9	-0.5	
M26K	Nabesna, AK	12.46	42	Pn	Pn	09 19 01.0	-0.2	
MENT	Mentasta	12.48	39	Pn	Pn	09 19 01.8	+0.4	
RIDG	Independent Ri	12.59	35	Pn	Pn	09 19 03.6	+0.7	
L26K

D25K				IAmb	IAmb	09 20 33.8		
	comp=Z,14nm,1.4s							
G29M	**Pine Creek**	**16.82**	**32**	Pn	**Pn**	**09 19 59.9**	**+0.6**	
EPYK	**Eagle Plains**	**16.93**	**35**	Pn	**Pn**	**09 20 01.2**	**+0.5**	
EPYK				IAmb	IAmb	09 20 29.5		
	comp=Z,13nm,1.4s							
G30M	**tAoh Zrail Nji**	**17.43**	**33**	Pn	**Pn**	**09 20 06.5**	**-0.5**	
G30M				IAmb	IAmb	09 20 44.3		
	comp=Z,12nm,1.3s							
H31M	**Peel River**	**17.46**	**38**		**Pn**	**09 20 08.0**	**+0.6**	
H31M				IAmb	IAmb	09 20 46.7		
	comp=Z,12nm,1.2s							
MMPY	**Sheldon Lake,**	**17.54**	**50**		**P**	**09 20 09.8**	**+0.2**	
G31M	**Satah River**	**18.05**	**35**		**Pn**	**09 20 13.9**	**-0.6**	
G31M				IAmb	IAmb	09 20 39.7		
	comp=Z,14nm,1.4s							
INK	**Inuvik**	**19.04**	**32**	P	**P**	**09 20 25.7**	**-0.1**	
INK	**Inuvik**	**19.04**	**32**	Pn	**P**	**09 20 25.6**	**-0.2**	
	comp=Z,0.2nm,0.3s,baz=344,slow=15,SNR=7.7							
	comp=Z,2.2nm,0.8s							
PEA0B	**Petropavlovsk-**	**24.19**	**284**	P	**P**	**09 21 20.8**	**+0.3**	
PETK	**Petropavlovsk-**	**24.19**	**284**	P	**P**	**09 21 20.9**	**+0.4**	
PETK	**Petropavlovsk-**	**24.19**	**284**	P	**P**	**09 21 20.4**	**-0.1**	
	comp=Z,4.2nm,0.6s,baz=79,slow=13,SNR=16							
	comp=Z,4.2nm,0.6s							
MA2	**Magadan**	**26.31**	**301**	LR	LR	09 33 01.0		
	comp=Z,25nm,18.1s,baz=94,slow=39							
TIXI	**Tiksi**	**33.72**	**328**	P	**P**	**09 22 45.3**	**+0.3**	
TIXI	**Tiksi**	**33.72**	**328**	LR	LR	09 37 59.2		
	comp=Z,35nm,18.9s,baz=272,slow=39							
YAK	**Yakutsk**	**35.67**	**311**	LR	LR	09 37 52.5		
	comp=Z,36nm,18.4s,baz=62,slow=37							
H11N2	**WAKE ISLAND Hy**	**42.26**	**228**	T	T	10 08 42.4		
	baz=27,slow=76,SNR=46							
H11N3	**WAKE ISLAND Hy**	**42.27**	**228**	T	T	10 08 44.7		
	baz=27,slow=76,SNR=43							
H11N1	**WAKE ISLAND Hy**	**42.28**	**228**	T	T	10 08 40.7		
	baz=27,slow=76,SNR=27							
H11S1	**WAKE ISLAND Hy**	**43.43**	**227**	T	T	10 10 21.4		
	baz=26,slow=74,SNR=14							
H11S2	**WAKE ISLAND Hy**	**43.44**	**227**	T	T	10 10 19.0		
	baz=26							
H11S3	**WAKE ISLAND Hy**	**43.45**	**227**	T	T	10 10 20.7		
	baz=26,slow=74,SNR=10							
KSRS	**Korea Array**	**50.02**	**281**	P	**P**	**09 24 58.5**	**0.0**	
	comp=Z,1.6nm,0.8s,baz=46,slow=7.0,SNR=8.5							
	comp=Z,1.6nm,0.8s							
FINES	**FINESS Array B**	**64.47**	**356**	P	**P**	**09 26 39.2**	**-1.0**	
	comp=Z,2.0nm,0.8s,baz=22,slow=6.2,SNR=7.6							
	comp=Z,2.0nm,0.8s							
BVAR	**Borovoye Array**	**64.85**	**329**	P	**P**	**09 26 42.4**	**-0.5**	
	comp=Z,3.5nm,0.6s,baz=42,slow=6.8,SNR=12							
	comp=Z,3.5nm,0.6s							
NOA	**NORSAR Array B**	**64.85**	**4**	P	**P**	**09 26 42.5**	**-0.4**	
	comp=Z,0.9nm,0.8s,baz=356,slow=6.4,SNR=3.2							
	comp=Z,0.9nm,0.8s							
HFS	**Hagfors**	**65.85**	**3**	P	**P**	**09 26 48.8**	**-0.4**	
	comp=Z,1.5nm,0.5s,baz=29,slow=3.4,SNR=11							
	comp=Z,1.5nm,0.5s							
MKAR	**Makanchi Array**	**65.91**	**318**	P	**P**	**09 26 50.4**	**+0.4**	
EKA	**Eskdalemuir Ar**	**69.24**	**13**	P	**P**	**09 27 11.5**	**+0.8**	
	comp=Z,1.7nm,0.6s,baz=326,slow=4.3,SNR=4.3							
	comp=Z,1.7nm,0.6s							
AKTO	**Aktyubinsk**	**70.62**	**335**	P	**P**	**09 27 18.7**	**-0.6**	
	comp=Z,1.1nm,0.4s,baz=45,slow=2.9,SNR=4.7							
	comp=Z,1.1nm,0.4s							
AB31	**Akbulak array**	**71.20**	**333**	P	**P**	**09 27 22.3**	**-0.6**	
ABKAR	**Akbulak array**	**71.20**	**333**	P	**P**	**09 27 22.1**	**-0.8**	
KKAR	**Karatay Array**	**73.45**	**323**	P	**P**	**09 27 35.7**	**-0.7**	
AKASG	**Malin Array Be**	**75.02**	**353**	P	**P**	**09 27 44.4**	**-1.1**	
	comp=Z,1.0nm,0.4s,baz=13,slow=6.3,SNR=5.9							
	comp=Z,1.0nm,0.4s							
GERES	**GERESS Array B**	**77.14**	**4**	P	**P**	**09 27 58.5**	**+0.8**	
	comp=Z,0.3nm,0.5s,baz=34,slow=3.7,SNR=3.7							
	comp=Z,0.3nm,0.5s							
CMAR	**Chiang Mai Arr**	**80.88**	**289**	P	**P**	**09 28 18.8**	**+0.2**	
	comp=Z,0.9nm,0.4s,baz=16,slow=4.9,SNR=5.8							
	comp=Z,0.9nm,0.4s							
BRTR	**Keskin Array B**	**85.50**	**349**	P	**P**	**09 28 41.7**	**-0.6**	
	comp=Z,1.0nm,0.9s,baz=4.3,slow=5.8,SNR=4.1							
	comp=Z,1.0nm,0.9s							
QSPA	**South Pole Qui**	**144.07**	**180**	PKP	**PKPdf**	**09 35 39.2**	**+0.7**	
	comp=Z,0.5nm,0.5s,baz=259,slow=1.6,SNR=5.3							

IDC 27 09:17:30.1±1.1, 12°.97S×111°.42W, h0km, mb3.8/3, mbtmp3.8/3, MS3.9/5, Error ellipse: s-maj=43.8km s-min=33.3km az=61.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**14.22**	**172**	LR	LR	09 24 31.1	
	comp=Z,574nm,20.9s,baz=350,slow=30						
H03N2	**Juan Fernandez**	**35.91**	**130**	T	T	10 02 00.9	
	baz=300,slow=76,SNR=13						
H03N3	**Juan Fernandez**	**35.93**	**130**	T	T	10 02 01.6	
	baz=300,slow=76,SNR=12						
H03N1	**Juan Fernandez**	**35.93**	**130**	T	T	10 02 04.4	
	baz=300,slow=76,SNR=16						
LPIG	**La Paz**	**36.86**	**2**	LR	LR	09 36 10.6	
	comp=Z,236nm,18.8s,baz=187,slow=30						
LPAZ	**La Paz**	**41.95**	**100**	P	P	09 25 23.9	0.0
	1.7nm,0.7s,baz=258,slow=7.9,SNR=9.9						
	1.7nm,0.7s						
PFO	**Pinyon Flats O**	**46.57**	**354**	LR	LR	09 40 54.8	
	comp=Z,93nm,21.8s,baz=195,slow=30						
NVAR	**Mina Array Bea**	**51.53**	**353**	P	P	09 26 37.9	-0.1
	0.5nm,0.8s,baz=184,slow=13,SNR=4.7						
	0.5nm,0.8s						
ELK	**Elko**	**53.56**	**356**	LR	LR	09 45 20.8	
	comp=Z,111nm,18.3s,baz=276,slow=31						
ULM	**Lac du Bonnet**	**64.41**	**11**	LR	LR	09 52 40.2	
	comp=Z,49nm,19.6s,baz=169,slow=33						
QSPA	**South Pole Qui**	**77.13**	**180**	P	P	09 29 25.4	0.0
	0.9nm,0.7s,baz=123,slow=3.2,SNR=7.7						
	0.9nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**86.54**	**290**	T	T	11 06 05.0	
	baz=106,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**86.55**	**290**	T	T	11 06 03.7	
	baz=106,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**86.56**	**290**	T	T	11 06 07.8	
	baz=106,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**86.67**	**291**	T	T	11 06 12.3	
	baz=107,slow=75,SNR=5.0						
H11N1	**WAKE ISLAND Hy**	**86.68**	**291**	T	T	11 06 13.3	
	baz=107,slow=75,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**86.68**	**291**	T	T	11 06 11.1	
	baz=107,slow=75,SNR=6.6						
MKAR	**Makanchi Array**	**144.37**	**344**	PKP	PKPab	09 37 06.2	-0.2
	0.5nm,0.6s,baz=35,slow=1.9,SNR=5.2						
CMAR	**Chiang Mai Arr**	**150.30**	**285**	PKPbc	PKPbc	09 37 24.6	+0.3
	0.8nm,0.4s,baz=113,slow=1.7,SNR=5.4						

*IDC **27** 09:21:47.2±1.0, 13°.37S×111°.41W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=41.9km s-min=31.3km az=68.0*

ISC 27 09:21:48.9±1.0, 13°.4S±0°.2×111°.4W±0°.3, h11km, n15, σ1ş22/6, mb3.9/4, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N2	**Juan Fernandez**	**35.64**	**130**	T	T	10 06 17.8	
	baz=300,slow=74,SNR=10						
H03N3	**Juan Fernandez**	**35.65**	**130**	T	T	10 06 21.7	
	baz=300,slow=74,SNR=11						
H03N1	**Juan Fernandez**	**35.65**	**130**	T	T	10 06 19.9	
	baz=300,SNR=50						
LPAZ	**La Paz**	**41.87**	**100**	P	**P**	**09 29 40.4**	**+0.2**
	1.8nm,0.6s,baz=275,slow=5.1,SNR=10						
	1.8nm,0.6s						
NVAR	**Mina Array Bea**	**51.95**	**353**	P	**P**	**09 30 58.7**	**+0.5**
	0.3nm,0.6s,baz=178,slow=9.3,SNR=3.9						
	0.3nm,0.6s						
QSPA	**South Pole Qui**	**76.71**	**180**	P	**P**	**09 33 41.3**	**+1.3**
	4.8nm,1.0s,baz=127,slow=2.2,SNR=13						
	4.8nm,1.0s						
SNAA	**Sanae**	**83.09**	**162**	P	**P**	**09 34 13.2**	**-1.2**
	0.7nm,0.8s,baz=266,slow=5.7,SNR=2.1						
	0.7nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**86.69**	**290**	T	T	11 10 14.8	
	baz=106,slow=75,SNR=8.4						
H11S1	**WAKE ISLAND Hy**	**86.70**	**290**	T	T	11 10 19.4	
	baz=106,slow=75,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**86.71**	**290**	T	T	11 10 17.8	
	baz=106,slow=75,SNR=7.9						
H11N3	**WAKE ISLAND Hy**	**86.83**	**291**	T	T	11 10 27.4	
	baz=107						
H11N2	**WAKE ISLAND Hy**	**86.84**	**291**	T	T	11 10 28.6	
	baz=107						
H11N1	**WAKE ISLAND Hy**	**86.84**	**291**	T	T	11 10 25.1	
	baz=107						
MKAR	**Makanchi Array**	**144.77**	**344**	PKP	**PKPab**	**09 41 23.9**	**-1.0**
	1.0nm,0.8s,baz=20,slow=4.0,SNR=7.3						
CMAR	**Chiang Mai Arr**	**150.41**	**284**	PKPbc	**PKPbc**	**09 41 41.4**	**-0.1**
	1.1nm,0.6s,baz=43,slow=1.6,SNR=7.2						

*IDC **27** 09:29:49.6±0.9, 13°.50S×111°.36W, h0km, mb3.8/7, mbtmp3.8/7, MS3.8/33, Error ellipse: s-maj=35.0km s-min=21.9km az=74.0*
*NEIC **27** 09:29:50.8±0.7, 13°.5S±0°.1×111°.5W±0°.2, h10km±1km, mb4.3/22, Error ellipse: s-maj=30.1km s-min=9.6km az=236.0*
*GCMT **27** 09:29:52.8±0.5, 13°.53S±0°.02×111°.47W±0°.03, h15km±2km, MW4.8/77, Moment Tensor Solution. s6,c6; s77,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.25±.09; $M_{\theta\theta}$0.94±.09; $M_{\phi\phi}$-0.69±.08; $M_{r\theta}$0.82±.32; $M_{\phi\theta}$1.12±.07; $M_{\phi r}$-0.77±.29; Best double couple: $M_0$1.77300×10^{16} NP1:ϕ=23.00000°,δ56.00000°,λ-166.00000°. NP2: ϕ=285.00000°,δ78.00000°,λ-35.00000°. Principal axes: T 1.6080, Plg14.0000°, Azm338.0000°; N 0.3310, Plg54.0000°, Azm89.0000°; P -1.9390, Plg33.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 09:29:50.9±0.8, 13°.5S±0°.1×111°.4W±0°.2, h11km, n67, σ0ş79/32, mb4.3/16, MS3.9/32, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**13.74**	**172**	LR	LR	09 36 51.6	
	comp=Z,588nm,20.8s,baz=355,slow=31						
ATAH	**Atahualpa**	**33.00**	**82**	LR	LR	09 46 41.2	
	comp=Z,224nm,18.5s,baz=260,slow=31						
COHC	**Cochancay**	**33.55**	**74**	P	**P**	**09 36 31.5**	**+0.4**
CMIG	**Matias Romero**	**34.43**	**29**	LR	LR	09 47 36.5	
	comp=Z,212nm,21.3s,baz=214,slow=31						
JTS	**Las Juntas de**	**35.25**	**49**	LR	LR	09 47 01.7	
	comp=Z,147nm,21.1s,baz=191,slow=29						
H03N2	**Juan Fernandez**	**35.56**	**130**	T	T	10 14 23.3	
	baz=300,slow=76,SNR=50						
H03N3	**Juan Fernandez**	**35.57**	**130**	T	T	10 14 26.4	
	baz=300,slow=76,SNR=39						
H03N1	**Juan Fernandez**	**35.58**	**130**	T	T	10 14 24.9	
	baz=300,slow=76,SNR=48						
PPT	**Papeete**	**37.02**	**259**	LR	LR	09 46 54.7	
	comp=Z,58nm,18.1s,baz=98,slow=28						
LPIG	**La Paz**	**37.33**	**2**	LR	LR	09 48 29.1	
	comp=Z,210nm,20.0s,baz=183,slow=30						
FLOC	**Florencia**	**38.42**	**70**	P	**P**	**09 37 13.3**	**+0.4**
FLOC				IAmb	IAmb	09 37 26.9	
	comp=Z,8.2nm,1.1s						
PB16	**IPOC Station P**	**40.47**	**103**	P	**P**	**09 37 31.1**	**+0.4**
CO05	**La Serena**	**40.48**	**120**	P	**P**	**09 37 29.9**	**0.0**
PB01	**IPOC Station P**	**40.59**	**107**	P	**P**	**09 37 31.8**	**+0.7**
ROSC	**El Rosal**	**41.01**	**66**	LR	LR	09 49 41.3	
	comp=Z,62nm,18.4s,baz=262,slow=29						
CO03	**El Pedregal**	**41.18**	**122**	P	**P**	**09 37 35.6**	**-0.2**
CO03				IAmb	IAmb	09 37 36.3	
	comp=Z,4.6nm,0.8s						
VA06	**Catapilco**	**41.18**	**124**	P	**P**	**09 37 36.3**	**+0.6**
MT02	**Curacav**	**41.52**	**125**	P	**P**	**09 37 37.6**	**-0.8**
MT02				IAmb	IAmb	09 38 01.5	
	comp=Z,8.8nm,1.1s						
AC02	**Maricunga**	**41.62**	**115**	P	**P**	**09 37 40.2**	**+0.2**
LPAZ	**La Paz**	**41.81**	**99**		**P**	**09 37 42.2**	**+0.5**
LPAZ				IAmb	IAmb	09 37 43.4	
	comp=Z,3.6nm,0.7s						
LPAZ	**La Paz**	**41.81**	**99**	P	**P**	**09 37 42.5**	**+0.7**
	comp=Z,3.8nm,0.7s,baz=274,slow=3.6,SNR=21						
LPAZ				LR	LR	09 51 60.0	
	comp=Z,65nm,18.5s,baz=270,slow=32						
	comp=Z,3.8nm,0.7s						
LMEL	**Las Melosas**	**42.45**	**126**	P	**P**	**09 37 46.6**	**+0.4**
LMEL				IAmb	IAmb	09 37 47.9	
	comp=Z,8.5nm,1.1s						
MT08	**Bocatoma Ro**	**42.47**	**125**	P	**P**	**09 37 45.8**	**-0.7**
MT08				IAmb	IAmb	09 37 49.6	
	comp=Z,5.3nm,0.8s						
TXAR	**Lajitas Array**	**43.17**	**10**	P	**P**	**09 37 51.1**	**-0.9**
TXAR	**Lajitas Array**	**43.17**	**10**	P	**P**	**09 37 53.9**	**+2.0**
	comp=Z,0.4nm,0.9s,baz=160,slow=7.7,SNR=4.1						
TXAR				LR	LR	09 52 45.5	
	comp=Z,52nm,18.0s,baz=188,slow=32						
	comp=Z,0.4nm,0.9s						
VHRN	**Van Horn**	**44.40**	**8**	P	**P**	**09 38 01.6**	**-0.3**
PLCA	**Paso Flores**	**44.77**	**135**	LR	LR	09 51 40.6	
	comp=Z,345nm,19.9s,baz=265,slow=29						
JCT	**Junction City**	**45.07**	**14**	P	**P**	**09 38 06.9**	**-0.2**
JCT				IAmb	IAmb	09 38 09.8	
	comp=Z,4.3nm,0.8s						
MNHN	**Monahans**	**45.29**	**10**	P	**P**	**09 38 08.7**	**-0.1**
MNHN				IAmb	IAmb	09 38 10.3	
	comp=Z,2.5nm,0.7s						
BRDY	**Brady**	**46.03**	**15**		**P**	**09 38 14.6**	**-0.1**
BRDY				IAmb	IAmb	09 38 15.9	
	comp=Z,2.9nm,0.8s						
SDV	**Santo Domingo**	**46.11**	**63**	LR	LR	09 53 33.1	
	comp=Z,95nm,18.1s,baz=52,slow=31						
PFO	**Pinyon Flats O**	**47.05**	**354**	LR	LR	09 53 13.6	
	comp=Z,78nm,21.6s,baz=212,slow=30						
ANMO	**Albuquerque**	**48.35**	**5**	LR	LR	09 55 25.9	
	comp=Z,120nm,20.1s,baz=287,slow=32						
VILB	**Vilhena**	**49.73**	**96**		**P**	**09 38 43.2**	**-0.5**
PTLB	**Pontes e Lacer**	**50.50**	**99**		**P**	**09 38 48.9**	**-0.6**
PTLB				IAmb	IAmb	09 38 50.4	
	comp=Z,5.0nm,1.0s						
PCRV	**Puerto La Cruz**	**51.96**	**65**	LR	LR	09 58 05.0	
	comp=Z,156nm,21.9s,slow=33						
NVAR	**Mina Array Bea**	**52.01**	**353**	P	**P**	**09 39 02.0**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=181,slow=11,SNR=5.4						
NVAR				LR	LR	09 56 06.7	
	comp=Z,119nm,19.0s,baz=146,slow=30						
	comp=Z,0.5nm,0.7s						
CPUP	**Villa Florida**	**52.05**	**113**	P	**P**	**09 39 00.7**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=131,slow=2.6,SNR=3.1						
CPUP				LR	LR	09 56 42.8	
	comp=Z,28nm,20.4s,baz=124,slow=31						
	comp=Z,0.4nm,0.6s						
ELK	**Elko**	**54.04**	**356**	LR	LR	09 57 38.7	
	comp=Z,104nm,20.2s,baz=174,slow=31						
TKL	**Tuckaleechee C**	**55.38**	**27**	LR	LR	10 02 34.8	
	comp=Z,45nm,18.1s,baz=213,slow=36						
YBH	**Yreka Blue Hor**	**55.90**	**350**	LR	LR	09 57 41.4	
	comp=Z,12nm,20.3s,baz=186,slow=30						
PDAR	**Pinedale Array**	**55.96**	**2**	P	**P**	**09 39 28.8**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=204,slow=3.3,SNR=2.4						
PDAR				LR	LR	09 59 24.0	
	comp=Z,54nm,19.1s,baz=179,slow=32						
	comp=Z,0.2nm,0.7s						
MDP	**Montagnes des**	**61.12**	**76**	LR	LR	10 03 14.8	
	comp=Z,114nm,18.4s,baz=257,slow=33						
NEW	**Newport**	**61.65**	**356**	LR	LR	10 02 08.5	
	comp=Z,65nm,20.4s,baz=192,slow=31						
ULM	**Lac du Bonnet**	**64.86**	**11**	LR	LR	10 05 07.0	
	comp=Z,49nm,18.2s,baz=178,slow=33						
BBB	**Bella Bella**	**66.95**	**349**	LR	LR	10 02 25.3	
	comp=Z,64nm,20.5s,baz=170,slow=29						
DLBC	**Dease Lake**	**73.25**	**350**	LR	LR	10 08 24.4	
	comp=Z,433nm,18.6s,baz=156,slow=32						
YKA	**Yellowknife Ar**	**75.74**	**358**	LR	LR	10 12 01.9	
	comp=Z,102nm,18.1s,baz=163,slow=33						
QSPA	**South Pole Qui**	**76.66**	**180**	P	**P**	**09 41 42.2**	**+0.5**
QSPA	**South Pole Qui**	**76.66**	**180**	P	**P**	**09 41 43.2**	**+1.5**
	comp=Z,6.5nm,0.9s,baz=100,slow=2.8,SNR=15						
QSPA				LR	LR	10 11 28.0	
	comp=Z,73nm,18.2s,baz=102,slow=33						
	comp=Z,6.5nm,0.9s						
KDAK	**Kodiak Island**	**78.65**	**339**	LR	LR	10 08 50.0	
	comp=Z,79nm,18.5s,baz=166,slow=30						
ILAR	**Eielson Array**	**82.50**	**345**	LR	LR	10 12 04.1	
	comp=Z,29nm,20.8s,baz=279,slow=31						
KTH	**Kantishna Hill**	**82.58**	**343**	P	**P**	**09 42 13.5**	**-0.2**
SNAA	**Sanae**	**83.02**	**162**	P	**P**	**09 42 15.5**	**-0.6**
SNAA				IAmb	IAmb	09 42 16.0	
	comp=Z,1.8nm,1.0s						
SNAA	**Sanae**	**83.02**	**162**	P	**P**	**09 42 15.0**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=255,slow=5.3,SNR=5.2						
SNAA				LR	LR	10 13 15.2	
	comp=Z,68nm,18.5s,baz=293,slow=31						
	comp=Z,0.9nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**86.76**	**290**	T	T	11 18 28.7	
	baz=106,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**86.77**	**290**	T	T	11 18 26.2	
	baz=106,slow=75,SNR=19						
H11S3	**WAKE ISLAND Hy**	**86.78**	**290**	T	T	11 18 26.0	
	baz=106,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**86.89**	**291**	T	T	11 18 33.9	
	baz=106,slow=74,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**86.91**	**291**	T	T	11 18 31.6	
	baz=106,slow=74,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**86.91**	**291**	T	T	11 18 31.0	
	baz=106						
RES	**Resolute Bay**	**88.56**	**4**	LR	LR	10 19 28.5	
	comp=Z,75nm,19.2s,baz=14,slow=34						
STKA	**Stephens Creek**	**96.97**	**235**	LR	LR	10 21 47.5	
	comp=Z,80nm,18.1s,baz=199,slow=32						
MAW	**Mawson**	**99.06**	**178**	LR	LR	10 23 13.4	
	comp=Z,49nm,19.0s,baz=220,slow=32						
WRA	**Warramunga Arr**	**107.37**	**244**	Pdiff	**Pdif**	**09 44 10.8**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=104,slow=3.9,SNR=7.0						
MKAR	**Makanchi Array**	**144.84**	**344**	PKP	**PKPab**	**09 49 26.0**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=35,slow=4.4,SNR=8.0						
CMAR	**Chiang Mai Arr**	**150.47**	**284**	PKPbc	**PKiKP**	**09 49 44.0**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=72,slow=3.1,SNR=7.7						

IDC 27 09:33:44.2±2.0, 0°.24S×125°.50E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=186.8km s-min=27.6km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.41**	**157**	P	P	09 38 33.0	-0.9
	0.6nm,0.8s,baz=335,slow=11,SNR=6.9						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**24.68**	**161**	P	P	09 39 07.7	+0.7
	0.2nm,0.5s,baz=344,slow=8.3,SNR=5.2						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**60.15**	**327**	P	P	09 43 53.6	-0.1
	0.3nm,0.5s,baz=128,slow=9.3,SNR=4.2						
	0.3nm,0.5s						

*ASRS **27** 09:45:59.0±0.7, 54°.67N×83°.69E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 27 09:46:00.5±1.6, 54°.61N×83°.77E, h0km, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=14.8km s-min=9.7km az=8.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**137**	I	I	09 51 30.0	
	0.1nm,0.9s,baz=319,slow=329,SNR=2.5						
ZALV	**Zalesovo Beam**	**0.90**	**137**	Pg	Pg	09 46 16.9	-0.9
	2.5nm,0.3s,baz=314,slow=14,SNR=13						
ZALV				Lg	Lg	09 46 31.1	
	11nm,0.3s,baz=315,slow=29,SNR=50						
KURBB	**Kurchatov Arra**	**5.11**	**221**	Pn	Pn	09 47 19.0	+0.8
	0.1nm,0.3s,baz=39,slow=13,SNR=1.4						
KURBB				Lg	Lg	09 48 41.8	
	0.1nm,0.3s,baz=43,slow=30,SNR=5.4						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**7.88**	**187**	Pn	Pn	09 47 56.5	+0.3
	0.1nm,0.3s,baz=10,slow=12,SNR=2.4						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**8.08**	**264**	Pn	Pn	09 47 57.9	-1.1
	0.1nm,0.3s,baz=68,slow=13,SNR=5.2						
	1.1nm,0.4s						

IDC 27 09:56:53.6±2.1, 2°.21S×134°.05E, h0km, mb3.9/3, mbtmp3.9/5, ML3.7/2, Error ellipse: s-maj=89.7km s-min=23.1km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.62**	**179**	P	Pn	10 01 01.2	+0.4
	0.2nm,0.3s,baz=359,slow=12,SNR=20						
	1.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**17.81**	**207**	P	Pn	10 01 01.5	-1.6
	0.3nm,0.3s,baz=38,slow=11,SNR=7.3						
	1.8nm,0.5s						
ASAR	**Alice Springs**	**21.33**	**180**	P	P	10 01 42.9	+0.5
	4.5nm,0.8s,baz=3.9,slow=12,SNR=42						
	4.5nm,0.8s						
MKAR	**Makanchi Array**	**66.60**	**324**	P	P	10 07 47.0	+1.1
	0.5nm,0.3s,baz=114,slow=7.7,SNR=8.3						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**70.68**	**326**	P	P	10 08 10.0	-1.3
	0.3nm,0.4s,baz=124,slow=5.7,SNR=5.1						
	0.3nm,0.4s						

CATAC 27 09:57:51.0±0.5, 13°.N±3°.×8°.8W±°, h27km, M2.9/11, MLv2.9/11, Error ellipse: s-maj=7.3km s-min=3.2km az=31.9, confirmed, Off coast of central America

| Code | Station Name | Δ° | AZ° | Phase ID | | Time | Res |
|

SAOF S **Sg** 10 13 60.0 -0.4
SAOF AML AML
comp=E,3665µm,0.4s
SAOF AML AML
comp=N,3950µm,0.4s
SAOF AML AML
comp=E,2710µm,0.1s
SAOF AML AML
comp=N,2770µm,0.1s
SAOF AML AML
comp=E,2710µm,0.1s
MGRO Montegrosso 0.41 5 P **Pg** 10 13 56.0 +0.6
MGRO S **Sg** 10 14 01.1 -0.2
MGRO Montegrosso 0.41 5⇓*i*P **Pg** 10 13 56.0 +0.6
MGRO S **Sg** 10 14 01.0 -0.2
TURF col de Turini 0.43 322 P **Pb** 10 13 56.9 +0.8
TURF S **Sg** 10 14 02.5 +0.6
EILF Villa Eilenroc 0.47 260 P **Pb** 10 13 58.3 +1.8
EILF S **Sb** 10 14 04.8 +1.7
RORO Rocca Rossa 0.53 25 P **Pb** 10 13 58.0 +0.5
RORO S **Sb** 10 14 04.2 -0.6
RORO Rocca Rossa 0.53 25⇑*i*P **Pb** 10 13 58.1 +0.5
RORO S **Sb** 10 14 04.2 -0.6
RORO AML AML
comp=E,8525µm,0.2s
RORO AML AML
comp=N,4350µm,0.4s
RORO AML AML
comp=E,8528µm,0.2s
RORO AML AML
comp=N,3857µm,0.1s
RORO AML AML
comp=E,8528µm,0.2s
GBOS Grotte di Boss 0.61 5 P **Pb** 10 13 59.4 +0.4
GBOS S **Sb** 10 14 06.7 -0.5
GBOS Grotte di Boss 0.61 5⇓*i*P **Pb** 10 13 59.4 +0.4
GBOS S **Sb** 10 14 06.7 -0.5
GBOS AML AML
comp=E,4105µm,0.2s
GBOS AML AML
comp=N,1745µm,0.4s
GBOS AML AML
comp=E,4105µm,0.2s
GBOS AML AML
comp=N,1570µm,0.2s
GBOS AML AML
comp=E,4105µm,0.2s
GBOS AML AML
comp=N,1570µm,0.2s
ENR Entracque 0.64 338 P **Pb** 10 14 00.1 +0.5
ENR S **Sb** 10 14 07.8 -0.4
ENR Entracque 0.64 338⇓*i*P **Pb** 10 14 00.1 +0.5
ENR S **Sb** 10 14 07.8 -0.4
ENR AML AML
comp=E,4695µm,0.4s
ENR AML AML
comp=N,4855µm,0.7s
ENR AML AML
comp=N,3813µm,0.2s
ENR AML AML
comp=E,3630µm,0.1s
CANO Canova, Maglio 0.67 31 P **Pb** 10 14 00.6 +0.6
CANO S **Sb** 10 14 08.4 -0.5
CANO Canova, Maglio 0.67 31⇓P **Pb** 10 14 00.6 +0.6
CANO S **Sb** 10 14 08.4 -0.5
CANO AML AML
comp=E,3975µm,1.5s
CANO AML AML
comp=N,6060µm,1.3s
CANO AML AML
comp=E,2927µm,0.3s
CANO AML AML
comp=N,5515µm,0.2s
CANO AML AML
comp=N,5515µm,0.2s
STV Sant Anna di V 0.69 333 P **Pb** 10 14 00.8 +0.5
STV S **Sb** 10 14 09.0 -0.5
STV Sant Anna di V 0.69 333⇓*i*P **Pb** 10 14 00.8 +0.5
STV S **Sb** 10 14 09.0 -0.5
STV AML AML
comp=E,2700µm,0.9s
STV AML AML
comp=N,1925µm,0.4s
STV AML AML
comp=E,2327µm,0.2s
STV AML AML
comp=N,1800µm,0.2s
ISO Isola 0.75 317 P **Pg** 10 14 02.4 +0.8
ISO S **Sb** 10 14 11.4 0.0
QLNO Quiliano 0.81 31 P **Pb** 10 14 02.9 +0.5
QLNO S **Sb** 10 14 12.7 -0.4
QLNO Quiliano 0.81 31⇑P **Pb** 10 14 02.9 +0.5
QLNO S **Sb** 10 14 12.6 -0.4
QLNO AML AML
comp=E,1066µm,1.4s
QLNO AML AML
comp=N,1600µm,0.3s
QLNO AML AML
comp=N,1598µm,0.3s
QLNO AML AML
comp=E,992µm,0.3s
QLNO AML AML
comp=N,1598µm,0.3s
LMR La Mourre 0.96 252 *e*Pg **Pb** 10 14 05.2 +0.3
LMR *e*Sg **Sb** 10 14 17.1 -0.1
comp=N,116nm,0.2s
PZZ Stroppo 0.99 332 P **Pb** 10 14 05.7 +0.2
PZZ S **Sb** 10 14 17.7 -0.6
PZZ Stroppo 0.99 332 P **Pb** 10 14 05.8 +0.2
PZZ S **Sb** 10 14 17.8 -0.6
PZZ AML AML
comp=N,3655µm,1.4s
PZZ AML AML
comp=E,2830µm,0.4s
PZZ AML AML
comp=E,2827µm,0.4s
PZZ AML AML
comp=N,3254µm,0.3s
PZZ AML AML
comp=N,3254µm,0.3s
PZZ AML AML
comp=E,2827µm,0.4s
PCP Piancastagn 1.07 32 P **Pb** 10 14 06.3 -0.5
PCP S **Sb** 10 14 20.1 -0.4
PCP AML AML
comp=E,1100µm,0.1s
PCP AML AML
comp=N,748µm,0.3s
PCP AML AML
comp=E,1101µm,0.1s
PCP AML AML
comp=N,748µm,0.3s
PCP AML AML
comp=N,748µm,0.3s
SURF Saint Ours 1.09 321 P **Pn** 10 14 08.1 +0.7
SURF S **Sb** 10 14 21.4 +0.2
RNCA Ronca, Sant'Ol 1.20 45 P **Pn** 10 14 08.5 -0.2
RNCA AML AML
comp=E,158µm,1.0s
RNCA AML AML
comp=N,160µm,1.6s
RNCA AML AML
comp=E,142µm,0.2s
OGAG Argentiere 1.20 313 P **Pg** 10 14 14.2 +4.0
BHB Bricherasio 1.26 344 P **Pn** 10 14 08.6 -0.9
BHB S **Sb** 10 14 23.1 -2.8
BHB AML AML
comp=N,766µm,0.8s
BHB AML AML
comp=E,687µm,0.7s
BHB AML AML
comp=E,561µm,0.4s
BHB AML AML
comp=N,673µm,0.3s
BHB AML AML
comp=E,561µm,0.4s
ROTM Rocchetta Tana 1.29 19 P **Pb** 10 14 11.3 +0.8
ROTM AML AML
comp=E,2425µm,0.9s
ROTM AML AML
comp=N,3130µm,1.0s
MBDF Montbardon 1.31 327 *e*Pn **Pn** 10 14 11.1 +0.8
MBDF *e*Sg **Sn** 10 14 27.5 +0.2
comp=N,1µm,0.5s
PGF Pioggiola 1.41 140 *e*Pn **Pn** 10 14 11.6 -0.1
PGF *e*Sg **Sn** 10 14 28.5 -1.4
comp=N,48nm,0.2s
PGF Pioggiola 1.41 140 AML AML
comp=E,301µm,0.3s
PGF AML AML
comp=N,307µm,0.1s
PGF AML AML
comp=N,307µm,0.1s
PGF AML AML
comp=E,204µm,0.1s
MSSA Maissana 1.44 61 P **Pn** 10 14 11.6 -0.4
MSSA Maissana 1.44 61 P **Pn** 10 14 11.8 -0.3
MSSA AML AML
comp=E,100µm,0.9s
MSSA AML AML
comp=N,108µm,0.7s
MSSA AML AML
comp=N,104µm,0.2s
MONC Moncucco Torin 1.45 5 P **Pb** 10 14 13.6 +0.3
MONC Moncucco Torin 1.45 5 P **Pb** 10 14 13.5 +0.3
MONC AML AML
comp=E,1115µm,0.8s
MONC AML AML
comp=N,1495µm,0.3s
RRL Rocca Remolon 1.47 332 P **Pn** 10 14 13.2 +0.6
RRL Rocca Remolon 1.47 332 P **Pn** 10 14 13.1 +0.6
RRL S **Sn** 10 14 31.3 -0.1
RRL AML AML
comp=E,537µm,1.6s
RRL AML AML
comp=N,366µm,1.0s
RRL AML AML
comp=E,499µm,0.5s
RRL AML AML
comp=N,351µm,0.5s
GORR Gorreto 1.47 48 P **Pn** 10 14 12.0 -0.4
GORR Gorreto 1.47 48 P **Pn** 10 14 12.0 -0.4
RSP Reno Superiore 1.56 347 P **Pn** 10 14 13.1 -0.6
RSP Reno Superiore 1.56 347 P **Pn** 10 14 13.1 -0.6
RSP AML AML
comp=E,242µm,0.5s
RSP AML AML
comp=N,216µm,1.4s
RSP AML AML
comp=N,186µm,0.3s
RSP AML AML
comp=E,230µm,0.2s
RSP AML AML
comp=N,186µm,0.4s
RSP AML AML
comp=N,186µm,0.3s
RSP AML AML
comp=N,186µm,0.4s
RSP AML AML
comp=E,241µm,0.2s
PLMA Palmaria, Port 1.57 74 P **Pn** 10 14 14.2 +0.5
PLMA AML AML
comp=N,131µm,0.3s
PLMA AML AML
comp=E,94µm,0.1s
BNI Bardonecchia 1.62 332 P **Pn** 10 14 15.8 +1.2
SMRF Simiane la Rot 1.62 283 *e*Pn **Pn** 10 14 15.6 +1.1
SMRF *e*Sg **Sb** 10 14 38.3 +2.0
comp=E,175nm,0.3s
A317A Capraia (LI) 1.63 110 P **Pn** 10 14 14.9 +0.4
AJAC Base Areonaval 1.86 156⇑*i*P **Pn** 10 14 18.7 +1.0
AJAC S **Sn** 10 14 40.7 +0.1
AJAC AML AML
comp=E,312µm,0.2s
AJAC AML AML
comp=N,226µm,0.3s
AJAC AML AML
comp=N,226µm,0.3s
AJAC AML AML
comp=E,312µm,0.2s
ORIF Oris-en-Rattie 1.86 314 *e*Pn **Pn** 10 14 19.6 +1.7
ORIF Oris-en-Rattie 1.86 314 *e*Pg **Pb** 10 14 21.9 +1.5
ORIF *e*Sg **Sg** 10 14 46.1 -0.9
comp=E,206nm,0.5s
ORIF Oris-en-Rattie 1.86 314 AML AML
comp=N,224µm,1.5s
ORIF AML AML
comp=E,294µm,0.4s
GRAM Graiana 1.87 62 P **Pn** 10 14 18.7 +0.7
GRAM S **Sn** 10 14 39.9 -1.2
GRAM AML AML
comp=E,207µm,1.0s
GRAM AML AML
comp=N,165µm,0.2s
GRAM AML AML
comp=E,203µm,0.3s
TRAV Traversella 1.88 360 P **Pn** 10 14 17.7 -0.5
TRAV S **Sn** 10 14 38.7 -2.7
TRAV AML AML
comp=E,180µm,0.3s
TRAV AML AML
comp=N,146µm,1.5s
SMPL Sampolo 1.90 143⇓*i*P **Pn** 10 14 19.3 +1.0
SMPL S **Sn** 10 14 41.5 -0.4
SMPL AML AML
comp=E,45µm,1.0s
SMPL AML AML
comp=N,60µm,0.5s
SMPL AML AML
comp=E,42µm,0.3s
VLC Villacollemand 1.97 74 P **Pn** 10 14 19.7 +0.4
VLC AML AML
comp=E,47µm,1.6s
VLC AML AML
comp=N,47µm,1.0s
VLC AML AML
comp=N,39µm,0.3s
VLC AML AML
comp=E,42µm,0.1s
CIRO Champorcher 1.97 356⇑*i*P **Pn** 10 14 19.0 -0.6
CIRO S **Sn** 10 14 40.8 -3.2
CIRO AML AML
comp=E,121µm,1.3s
CIRO AML AML
comp=N,76µm,0.6s
MAIM Mastiano 2.00 81 P **Pn** 10 14 20.0 +0.4
LPG La Plagne 2.00 339 *e*Pg **Pb** 10 14 23.9 +1.1
LPG *e*Sg **Sb** 10 14 47.9 +0.4
comp=N,134nm,0.6s
CARD Cardoso 2.01 78 P **Pn** 10 14 20.8 +1.0
CARD AML AML
comp=E,168µm,1.2s
CARD AML AML
comp=N,170µm,0.1s
CARD AML AML
comp=N,170µm,0.1s
CARD AML AML
comp=E,160µm,0.2s
LPL La Plagne 2.02 339 *e*Pn **Pn** 10 14 22.3 +2.1
LPL La Plagne 2.02 339 *e*Pg **Pb** 10 14 24.4 +1.2
LPL *e*Sn **Sn** 10 14 46.1 +1.0
comp=E,71nm,0.5s
SATI Passo dei Sala 2.24 2 P **Pn** 10 14 23.3 -0.1
SATI AML AML
comp=E,61µm,0.4s
SATI AML AML
comp=N,47µm,0.6s
CASP Castiglione de 2.42 109 P **Pn** 10 14 25.8 +0.3
CASP S **Sn** 10 14 52.3 -2.3
CASP AML AML
comp=E,70µm,0.3s
CASP AML AML
comp=N,78µm,0.3s
CASP AML AML
comp=N,75µm,0.3s
CASP AML AML
comp=E,54µm,0.1s
VIVF Saint-Julien-I 2.53 300 *e*Pn **Pn** 10 14 27.2 +0.1
VIVF *e*Sn **Sn** 10 14 55.7 -1.8
comp=E,27nm,0.3s
AGLI Aglientu 2.71 157 P **Pn** 10 14 31.0 +1.5
AGLI S **Sn** 10 15 01.6 -0.2
AGLI AML AML
comp=N,26µm,0.2s
LASF Ste Croix 2.86 280 *e*Pn **Pn** 10 14 31.1 -0.4
LASF *e*Sn **Sn** 10 15 05.7 +0.2
LASF *e*Sg **Sg** 10 15 16.8 -1.9
comp=N,19nm,0.4s
FUSIO Fusio 2.89 12 P **Pn** 10 14 31.7 -0.4
FUSIO AML AML
comp=E,28µm,0.8s
FUSIO AML AML
comp=N,27µm,0.7s
TUE Stuetta 3.05 21 P **Pn** 10 14 35.8 +1.4
TUE AML AML
comp=E,50µm,0.8s
TUE AML AML
comp=N,49µm,1.6s
RONC Roncone 3.11 40 P **Pn** 10 14 36.5 +1.4
RONC AML AML
comp=E,91µm,0.2s
RONC AML AML
comp=N,102µm,0.6s
RONC AML AML
comp=E,91µm,0.2s
CABF La Chapelle 3.21 339 *e*Pn **Pn** 10 14 38.0 +1.6
CABF La Chapelle 3.21 339 *e*Pg **Pb** 10 14 46.4 +3.1
CABF *e*Sn **Sn** 10 15 13.7 -0.4
comp=E,13nm,0.5s
LUSI Trento, Gardas 3.25 43 P **Pn** 10 14 38.0 +1.1
LUSI AML AML
comp=E,37µm,1.5s
LUSI AML AML
comp=N,70µm,1.0s
LUSI AML AML
comp=N,67µm,0.2s
DAVA Damuels 3.95 21 *i* Pn **Pn** 10 14 49.6 +3.0
comp=N,2.8nm,0.4s
FETA Feichten 3.98 31 *i* Pn **Pn** 10 14 50.9 +3.8
comp=N,1.7nm,0.3s
FETA *i* Sn **Sn** 10 15 37.1 +3.7
comp=N,1.1nm,0.2s
MTLF Montolieu 4.04 268 *e*Pn **Pn** 10 14 48.5 +0.7
MTLF *e*Sn **Sn** 10 15 33.1 -1.6
comp=N,15nm,0.5s
SMF Signal de Mont 4.09 319 *e*Pn **Pn** 10 14 49.8 +1.3
SMF *e*Sn **Sn** 10 15 36.4 +0.5
HINF Hinteralfeld 4.23 352 *e*Pn **Pn** 10 14 51.3 +0.9
HINF *e*Sn **Sn** 10 15 37.8 -1.6
comp=N,11nm,0.3s
CAF Calviac 4.29 290 *e*Pn **Pn** 10 14 51.9 +0.7
CAF *e*Sn **Sn** 10 15 39.1 -1.7
CAF *e*Sg **Sg** 10 16 02.4 -2.2
comp=N,6.5nm,0.3s
SQTA Sankt Quirin 4.33 33 *i* Pn **Pn** 10 14 54.8 +2.9
comp=N,1.2nm,0.2s
MOTA Moosalm 4.39 31 *e*Pn **Pn** 10 14 56.4 +3.7
comp=N,1.0nm,0.2s
MOTA *e*Sn **Sn** 10 15 45.9 +2.4
comp=N,2.6nm,0.3s
AVF Avril sur Loir 4.43 317 *e*Sn **Sn** 10 15 43.1 -1.2
AVF *e*Sg **Sg** 10 16 05.8 -3.4
comp=N,7.4nm,0.4s
HAU Haudompre 4.48 348 *e*Pn **Pn** 10 14 54.7 +0.8
HAU *e*Sn **Sn** 10 15 43.3 -2.2
comp=N,29nm,0.3s
WTTA Wattenberg 4.54 36 *i* Pn **Pn** 10 14 58.0 +3.2
comp=N,0.8nm,0.1s
BGF Bois d'Agland 4.55 312 *e*Pn **Pn** 10 14 55.8 +1.1
BGF *e*Sg **Sg** 10 16 10.2 -2.5
comp=N,37nm,0.5s
SSF Saint Saulge 4.55 320 *e*Pn **Pn** 10 14 55.1 +0.3
SSF *e*Sn **Sn** 10 15 46.2 -1.0
comp=N,10nm,0.4s
LOR Lormes 4.56 324 *e*Pn **Pn** 10 14 54.8 0.0
LOR *e*Sn **Sn** 10 15 46.5 -0.8
comp=N,5.3nm,0.2s
WATA Walderalm 4.57 35 *i* Pn **Pn** 10 14 57.9 +2.7
comp=N,1.4nm,0.2s
ABTA Abfaltersbach 4.58 46 *i* Pn **Pn** 10 14 58.3 +3.1
comp=N,0.3nm,0.1s
RJF Les Rejaudoux 4.77 293 *e*P **Pn** 10 15 02.3 +4.5
RJF *e*Sn **Sn** 10 15 49.2 -3.4
RJF *e*Sg **Sg** 10 16 19.4 -0.6
comp=N,5.2nm,0.3s
CDF Champ du Feu 4.79 356 *e*Pn **Pn** 10 14 58.1 0.0
CDF *e*Sn **Sn** 10 15 51.6 -1.6
comp=N,7.9nm,0.3s
SFTF Sexfontaines 4.95 338 *e*Pn **Pn** 10 15 01.9 +1.6
SFTF *e*Sn **Sn** 10 15 55.1 -1.9
comp=N,15nm,0.3s
PAGF Fort de Pagny 5.12 345 *e*Pn **Pn** 10 15 04.1 +1.5
PAGF *e*Sn **Sn** 10 16 00.4 -0.8
comp=N,14nm,0.5s
LFF La Frestale 5.21 287 *e*Pg **Pg** 10 15 24.4 -2.1
LFF *e*Sg **Sg** 10 16 31.6 -2.3
comp=N,9.2nm,0.4s
MEZF Maizieres J'vi 5.22 340 *e*Sn **Sn** 10 16 02.3 -1.3
comp=N,8.8nm,0.4s
SAVF Savonnieres en 5.31 341 *e*Sn **Sn** 10 16 04.6 -1.2
comp=N,6.3nm,0.3s
EPF Esparros 5.45 266 *e*Pn **Pn** 10 15 09.2 +2.1
EPF Esparros 5.45 266 *e*Pg **Pg** 10 15 28.3 -2.8
EPF *e*Sg **Sg** 10 16 38.7 -2.9
comp=N,3.7nm,0.3s

*IDC **27** 10:16:07.7±4.5, 17°.88S×178°.05W, h613km±52km, mb3.2/9, mbtmp4.1/9, Error ellipse: s-maj=31.8km s-min=18.6km az=145.0*

ISC 27 10:16:05.9±0.8, 17°.8S±0°.2×178°.1W±0°.2, h590km, n13, σ0.84/15, mb3.8/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.91**	**259**	P	P	**P**	**10 23 29.9**	**+0.3**
	0.9nm,0.3s,baz=96,slow=7.6,SNR=76							
WRA				PcP		**PcP**	**10 24 57.3**	**-0.9**
	0.3nm,0.3s,baz=90,slow=3.8,SNR=7.3							
	0.9nm,0.3s							
ASAR	**Alice Springs**	**45.07**	**254**	P		**P**	**10 23 31.1**	**+0.4**
	2.3nm,0.5s,baz=90,slow=7.6,SNR=53							
ASAR				PcP		**PcP**	**10 24 57.8**	**-1.0**
	0.8nm,0.4s,baz=103,slow=4.0,SNR=12							
	2.3nm,0.5s							
QSPA	**South Pole Qui**	**72.23**	**180**	P		**P**	**10 26 32.2**	**+0.2**
	0.4nm,0.7s,baz=42,slow=3.9,SNR=1.5							
	0.4nm,0.7s							
PETK	**Petropavlovsk-**	**73.66**	**345**	P		**P**	**10 26 40.7**	**+0.6**
	3.0nm,0.8s,baz=117,slow=7.6,SNR=6.4							
	3.0nm,0.8s							
NVAR	**Mina Array Bea**	**79.18**	**44**	P		**P**	**10 27 10.4**	**-0.6**
	0.7nm,0.7s,baz=224,slow=8.4,SNR=9.3							
	0.7nm,0.7s							
TXAR	**Lajitas Array**	**85.72**	**58**	P		**P**	**10 27 45.2**	**+1.2**
	1.6nm,0.8s,baz=215,slow=6.0,SNR=19							
	1.6nm,0.8s							
ILAR	**Eielson Array**	**85.74**	**13**	P		**P**	**10 27 42.5**	**-0.5**
	0.6nm,0.4s,baz=220,slow=5.0,SNR=12							
	0.6nm,0.4s							
PDAR	**Pinedale Array**	**87.11**	**43**	P		**P**	**10 27 50.7**	**+0.4**
	0.7nm,0.6s,baz=227,slow=3.9,SNR=7.7							
	0.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**89.10**	**290**	P		**P**	**10 28 00.7**	**+0.8**
	0.5nm,0.3s,baz=106,slow=6.6,SNR=1.4							
	0.5nm,0.3s							
ARCES	**ARCESS Array B**	**126.28**	**350**	PKP		**PKPdf**	**10 34 00.1**	**-1.6**
	1.7nm,0.8s,baz=64,slow=2.8,SNR=7.0							
BRTR	**Keskin Array B**	**144.91**	**315**	PKPbc		**PKPdf**	**10 34 37.1**	**0.0**
	1.0nm,0.5s,baz=105,slow=4.1,SNR=3.9							
MMAI	**Mount Meron Ar**	**146.32**	**303**	PKPbc		**PKPbc**	**10 34 41.6**	**-0.4**
	1.3nm,0.4s,baz=60,slow=4.9,SNR=4.8							
GERES	**GERESS Array B**	**147.59**	**345**	PKPbc		**PKPbc**	**10 34 44.0**	**-0.8**
	1.0nm,0.5s,baz=20,slow=4.3,SNR=6.5							

*IDC **27** 10:18:39.9±0.8, 34°.08N×142°.00E, h0km, mb3.6/9, mbtmp3.6/15, ML3.3/6, MS3.6/1, Error ellipse: s-maj=19.8km s-min=17.5km az=80.0*

*JMA **27** 10:18:44.0±0.6, 34°N±1°×14°2E±°, h33km±4km, MV3.4/34, FAR SE OFF BOSO PEN*

ISC 27 10:18:42.9±0.9, 34°.07N±0°.06×141°.85E±0°.07, h21km, n31, σ1.9/11/30, mb3.5/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BSO1	**Boso 1**	**0.93**	**309**	P	P	**Pn**	**10 19 00.1**	**-0.2**
BSO3	**Boso 3**	**1.33**	**304**	P	P	**Pb**	**10 19 06.3**	**-0.6**
BSO4	**Boso 4**	**1.55**	**307**	P	P	**Pb**	**10 19 10.1**	**-0.8**
JKUC	**kamogawauchiur**	**1.75**	**309**	P	P	**Pn**	**10 19 12.3**	**+0.4**
JMKN	**Mikurajimanish**	**1.89**	**265**	P	P	**Pn**	**10 19 13.1**	**-0.8**
JMKN					S	**Sn**	**10 19 35.3**	**-1.8**
JMYK	**Miyake Tsubota**	**1.91**	**270**	*e*P	P	**Pn**	**10 19 13.9**	**-0.3**
JMYK				*e*S		**Sn**	**10 19 36.5**	**-1.1**
JHJ2	**Mitsune**	**1.95**	**241**	P	P	**Pn**	**10 19 14.9**	**+0.2**
JHJ	**Hachijo jima 2**	**1.97**	**242**	Pn	P	**Pn**	**10 19 15.1**	**+0.1**
	46nm,0.3s,baz=230,slow=17,SNR=19							

JHJ				Sn		Sn	10 19 37.8	-1.3
	93nm,0.3s,baz=82,slow=21,SNR=7.7							
	227nm,0.6s							
JIM2	Oshima 3	2.10	289	P		Pn	10 19 15.7	-1.2
JIZS	Izushimoda	2.54	286	eP		Pn	10 19 23.3	+0.4
JOD2	Odawara 2	2.57	298	P		Pn	10 19 22.8	-0.5
MJAR	Matsushiro Arr	3.87	311	P		Pn	10 19 41.2	+0.1
	1.3nm,0.3s,baz=162,slow=14,SNR=52							
MJAR				Sn		Sn	10 20 29.1	+3.1
	0.8nm,0.3s,baz=156,slow=19,SNR=7.3							
	11nm,0.5s							
JNU	Nakatsue	9.20	267	Pn		Pn	10 20 55.3	+0.9
	0.2nm,0.3s,baz=172,slow=12,SNR=1.9							
	5.5nm,0.9s							
ASAJ	Asahikawa	10.05	3	Pn		Pn	10 21 05.6	-0.4
	0.6nm,0.3s,baz=252,slow=15,SNR=7.3							
ASAJ				Sn		Sn	10 22 56.1	-1.9
	0.3nm,0.3s,baz=269,slow=20,SNR=1.6							
	5.5nm,0.9s							
KSRS	Korea Array	11.81	291	Pn		Pn	10 21 32.3	+2.3
	0.1nm,0.3s,baz=106,slow=14,SNR=5.9							
	0.8nm,0.8s							
USRK	Ussuriysk Ar.	12.68	326	Pn		Pn	10 21 41.7	-0.2
	0.1nm,0.3s,baz=129,slow=14,SNR=4.4							
	1.2nm,0.9s							
H11N2	WAKE ISLAND Hy	26.42	116	T		T	10 52 18.4	
	baz=309							
H11N1	WAKE ISLAND Hy	26.42	116	T		T	10 52 16.1	
	baz=309							
H11N3	WAKE ISLAND Hy	26.43	116	T		T	10 52 25.4	
	baz=309							
H11S3	WAKE ISLAND Hy	27.03	119	T		T	10 53 05.4	
	baz=312							
H11S1	WAKE ISLAND Hy	27.04	119	T		T	10 53 04.8	
	baz=312							
H11S2	WAKE ISLAND Hy	27.05	119	T		T	10 53 16.3	
	baz=312							
ZALV	Zalesovo Beam	44.21	315	P		P	10 26 51.1	+0.9
	0.4nm,0.4s,baz=104,slow=5.0,SNR=3.8							
	0.4nm,0.4s							
MKAR	Makanchi Array	46.05	305	P		P	10 27 05.4	+0.4
	0.3nm,0.5s,baz=78,slow=8.7,SNR=2.8							
	0.3nm,0.5s							
KURBB	Kurchatov Arra	48.15	310	P		P	10 27 22.1	+0.9
	1.0nm,0.5s,baz=82,slow=7.5,SNR=9.0							
KURBB				LR		LR	10 49 33.3	
	comp=Z,64nm,18.8s,baz=178,slow=38							
	1.0nm,0.5s							
ILAR	Eielson Array	51.82	31	P		P	10 27 49.0	0.0
	0.4nm,0.7s,baz=241,slow=7.3,SNR=4.0							
	0.4nm,0.7s							
WRA	Warramunga Arr	54.18	189	P		P	10 28 07.5	+0.7
	0.5nm,0.4s,baz=2.1,slow=7.6,SNR=22							
	0.5nm,0.4s							
ASAR	Alice Springs	57.91	189	P		P	10 28 34.0	+0.5
	0.2nm,0.4s,baz=3.7,slow=6.8,SNR=8.1							
	0.2nm,0.4s							
FINES	FINESS Array B	71.61	333	P		P	10 30 03.3	+1.0
	0.8nm,0.8s,baz=46,slow=6.4,SNR=2.1							
	0.8nm,0.8s							
NVAR	Mina Array Bea	76.49	53	P		P	10 30 30.8	-0.8
	0.1nm,0.3s,baz=266,slow=4.0,SNR=3.6							
	0.1nm,0.3s							
PDAR	Pinedale Array	79.49	45	P		P	10 30 48.0	-0.2
	0.2nm,0.5s,baz=289,slow=4.5,SNR=1.7							
	0.2nm,0.5s							

*IDC **27** 10:22:45.3±0.7,3°.13N×31°.31W,h0km,mb4.1/14, mbtmp4.1/15,ML3.3/1,MS3.7/39,Error ellipse: s-maj=26.3km s-min=17.5km az=126.0*

*NEIC **27** 10:22:47.7±0.8,3°.3N±0°.1×31°.5W±0°.1,h10km±1km, mb4.6/13,Error ellipse: s-maj=22.9km s-min=17.5km az=153.0*

ISC 27 10:22:46.9±0.5,3°.2N±0°.1×31°.4W±0°.1,h12km,n70, σ0s66/34,mb4.4/17,MS3.8/38,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	Riachuelo	10.03	207	Pn	Pn	10 25 11.5	+0.6
RCBR	Riachuelo	10.03	207	Pn	Pn	10 25 10.7	-0.3
	0.3nm,0.3s,baz=17,slow=19,SNR=2.1						
RCBR				LR	LR	10 28 07.2	
	comp=Z,163nm,21.4s,baz=53,slow=32						
	3.6nm,0.9s						
H10N3	ASCENSION HYDR	20.10	123	T	T	10 48 14.7	
	baz=302,slow=75,SNR=136						
H10N2	ASCENSION HYDR	20.10	123	T	T	10 48 04.5	
	baz=302,slow=75,SNR=116						
H10N1	ASCENSION HYDR	20.12	123	T	T	10 48 05.6	
	baz=302,slow=75,SNR=105						
MDP	Montagnes des	21.28	276	LR	LR	10 33 51.9	
	comp=Z,177nm,21.6s,baz=75,slow=31						
BDFB	Brasilia	24.92	221	LR	LR	10 37 03.4	
	comp=Z,240nm,18.8s,baz=352,slow=34						
DBIC	Dimbokro	26.65	82	LR	LR	10 36 56.0	
	comp=Z,301nm,19.3s,baz=314,slow=32						
PCRV	Puerto La Cruz	33.72	284	LR	LR	10 43 05.7	
	comp=Z,111nm,19.8s,slow=36						
TORD	Torodi Ar. Bea	34.16	71	P	P	10 29 32.6	+0.3
TORD	Torodi Ar. Bea	34.16	71	P	P	10 29 31.9	-0.4
	1.7nm,0.9s,baz=263,slow=8.7,SNR=8.3						
TORD				LR	LR	10 42 01.1	
	comp=Z,214nm,19.6s,baz=311,slow=34						
	1.7nm,0.9s						
SIV	San Ignacio	35.00	236	LR	LR	10 43 27.1	
	comp=Z,330nm,20.1s,baz=103,slow=35						
SJG	San Juan	37.14	296	LR	LR	10 41 37.0	
	comp=Z,82nm,20.9s,baz=94,slow=30						
CPUP	Villa Florida	38.61	219	LR	LR	10 45 29.2	
	comp=Z,63nm,18.3s,baz=264,slow=35						
MD01	Midelt array s	38.64	37	P	P	10 30 09.6	-1.0
MD31	MD31	38.64	37	P	P	10 30 09.8	-0.7
MD31				IAmb	IAmb	10 30 20.6	
	comp=Z,11nm,1.4s						
MDT	Midelt	38.70	37	LR	LR	10 44 10.7	
	comp=Z,241nm,21.4s,baz=237,slow=33						
SDV	Santo Domingo	39.41	280	LR	LR	10 44 37.1	
	comp=Z,65nm,21.6s,baz=62,slow=33						
LPAZ	La Paz	41.15	241	P	P	10 30 32.9	+0.7
LPAZ	La Paz	41.15	241	P	P	10 30 32.4	+0.2
	comp=Z,1.5nm,0.9s,baz=68,slow=5.4,SNR=4.2						
LPAZ				LR	LR	10 47 09.6	
	comp=Z,248nm,20.6s,baz=62,slow=36						
	comp=Z,1.5nm,0.9s						
RUSC	La Rusia	41.64	275	P	P	10 30 35.5	-0.7
ROSC	El Rosal	42.85	274	P	P	10 30 45.4	-0.5
ROSC				IAmb	IAmb	10 31 04.4	
	comp=Z,7.5nm,0.5s						
ROSC	El Rosal	42.85	274	LR	LR	10 48 13.6	
	comp=Z,258nm,19.1s,baz=73,slow=36						
ESDC	Sonseca Array	44.01	31	P	P	10 30 54.6	+0.1
	comp=Z,1.0nm,0.8s,baz=222,slow=8.2,SNR=6.3						
ESDC				LR	LR	10 46 24.3	
	comp=Z,50nm,18.9s,baz=223,slow=32						
	comp=Z,1.0nm,0.8s						
NNA	Nana	47.63	251	LR	LR	10 50 41.2	
	comp=Z,81nm,19.3s,baz=110,slow=35						
ATAH	Atahualpa	48.02	258	LR	LR	10 51 58.4	
	comp=Z,116nm,18.7s,baz=75,slow=36						
KEST	Kesra	49.63	44	LR	LR	10 54 26.9	
	comp=Z,107nm,18.2s,baz=286,slow=38						
JTS	Las Juntas de	53.60	280	LR	LR	10 54 27.5	
	comp=Z,49nm,20.7s,baz=107,slow=35						
VAE	Valguarnera	54.03	45	LR	LR	10 54 23.0	
	comp=Z,138nm,20.1s,baz=138,slow=35						
PLCA	Paso Flores	56.47	215	LR	LR	10 57 11.1	
	comp=Z,118nm,18.4s,baz=46,slow=37						
TKL	Tuckaleechee C	58.11	311	LR	LR	10 52 00.9	
	comp=Z,76nm,22.0s,baz=125,slow=30						
SADO	Sadowa	58.87	322	LR	LR	10 52 50.7	
	comp=Z,308nm,21.2s,baz=109,slow=31						
SCHQ	Schefferville	58.95	337	LR	LR	10 56 01.7	
	comp=Z,174nm,18.1s,baz=198,slow=34						
IDI	Anoyia	60.97	51	P	P	10 33 00.7	+0.3
	comp=Z,4.7nm,0.7s,baz=243,slow=6.8,SNR=4.5						
	comp=Z,4.7nm,0.7s						
VRAC	Vranov	61.36	34	LR	LR	10 57 30.3	
	comp=Z,24nm,19.5s,baz=247,slow=34						
LSZ	Lusaka	61.74	109	LR	LR	10 54 45.6	
	comp=Z,86nm,20.9s,baz=290,slow=31						
LBTB	Lobatse	61.94	120	LR	LR	10 54 41.0	
	comp=Z,39nm,21.0s,baz=279,slow=31						
MBAR	Mbarara	62.21	92	LR	LR	10 56 15.1	
	comp=Z,91nm,19.9s,baz=212,slow=32						
BOSA	Boshof	62.85	124	P	P	10 33 12.4	-0.8
	comp=Z,3.4nm,0.8s,baz=343,slow=5.0,SNR=3.6						
BOSA				LR	LR	10 55 36.0	
	comp=Z,58nm,19.1s,baz=218,slow=31						
	comp=Z,3.4nm,0.8s						
MATP	Matopo	63.21	115	LR	LR	10 56 20.4	
	comp=Z,86nm,20.0s,baz=243,slow=32						
CMIG	Matias Romero	63.75	287	LR	LR	11 03 08.9	
	comp=Z,28nm,18.2s,baz=152,slow=38						
SFJD	Kangerlussuaq	65.08	352	LR	LR	10 56 50.8	
	comp=Z,52nm,18.5s,baz=73,slow=31						
MLR	Muntele Rosu	65.27	41	P	P	10 33 27.7	-1.1
MLR	Muntele Rosu	65.27	41	P	P	10 33 29.6	+0.8
	comp=Z,3.6nm,0.7s,baz=256,slow=12,SNR=4.4						
	comp=Z,3.6nm,0.7s						
NOA	NORSAR Array B	66.05	21	LR	LR	10 57 49.2	
	comp=Z,21nm,21.9s,baz=305,slow=32						
HFS	Hagfors	66.38	23	P	P	10 33 35.8	+0.3
	comp=Z,1.8nm,0.9s,baz=224,slow=8.1,SNR=2.2						
	comp=Z,1.8nm,0.9s						
BR131	Keskin Array S	68.88	49		P	10 33 52.4	+0.5
BR131				IAmb	IAmb	10 33 54.9	
	comp=Z,6.9nm,0.9s						
BRTR	Keskin Array B	68.88	49	P	P	10 33 51.7	-0.3
	comp=Z,2.8nm,0.8s,baz=264,slow=7.3,SNR=14						
	comp=Z,2.8nm,0.8s						
KIEV	Kiev	69.24	36	P	P	10 33 54.2	+0.5
AKASG	Malin Array Be	69.25	36	P	P	10 33 54.1	+0.3
AKASG				IAmb	IAmb	10 33 55.0	
	comp=Z,6.6nm,1.2s						
AKASG	Malin Array Be	69.25	36	P	P	10 33 54.1	+0.3
	comp=Z,1.2nm,0.5s,baz=249,slow=6.8,SNR=13						
	comp=Z,1.2nm,0.5s						
AKBB	Malin Array Si	69.25	36	P	P	10 33 54.2	+0.4
BRDY	Brady	69.26	302		P	10 33 53.3	-1.1
BRDY				IAmb	IAmb	10 33 56.7	
	comp=Z,3.3nm,0.9s						
FURI	Furi	69.83	82	LR	LR	11 03 41.6	
	comp=Z,50nm,18.2s,baz=347,slow=35						
SAND	Sanderson	71.74	300	P	P	10 34 09.4	-0.1
SAND				IAmb	IAmb	10 34 10.9	
	comp=Z,5.7nm,1.2s						
FINES	FINESS Array B	72.15	25	P	P	10 34 11.7	+0.5
	comp=Z,2.2nm,1.0s,baz=241,slow=6.3,SNR=2.6						
	comp=Z,2.2nm,1.0s						
TXAR	Lajitas Array	73.00	300	P	P	10 34 18.4	+1.3
	comp=Z,0.3nm,0.6s,baz=121,slow=5.9,SNR=5.5						
	comp=Z,0.3nm,0.6s						
ANMO	Albuquerque	75.95	305	LR	LR	11 05 29.7	
	comp=Z,55nm,19.8s,baz=178,slow=34						
KBZ	Khabaz	76.46	46	P	P	10 34 38.0	+1.2
	comp=Z,2.8nm,0.8s,baz=216,slow=2.5,SNR=4.9						
	comp=Z,2.8nm,0.8s						
SNAA	Sanae	77.00	171	P	P	10 34 39.8	+0.6
	comp=Z,1.4nm,0.9s,baz=328,slow=5.7,SNR=4.8						
	comp=Z,1.4nm,0.9s						
PDAR	Pinedale Array	79.16	313	LR	LR	11 04 47.3	
	comp=Z,24nm,21.8s,baz=145,slow=32						
RPN	Rapa Nui	80.75	242	LR	LR	11 06 25.4	
	comp=Z,48nm,20.9s,baz=94,slow=32						
ELK	Elko	83.27	310	LR	LR	11 07 19.8	
	comp=Z,53nm,21.5s,baz=130,slow=32						
PFO	Pinyon Flats O	84.14	303	LR	LR	11 09 05.4	
	comp=Z,32nm,19.7s,baz=212,slow=33						
NVAR	Mina Array Bea	85.62	308	LR	LR	11 08 43.5	
	comp=Z,39nm,21.6s,baz=152,slow=32						
ABKAR	Akbulak array	88.48	41		P	10 35 39.7	+0.3
ILAR	Eielson Array	97.72	337	P	P	10 36 21.1	-0.6
	comp=Z,0.7nm,0.8s,baz=61,slow=3.9,SNR=4.1						
	comp=Z,0.7nm,0.8s						
CMAR	Chiang Mai Arr	126.58	64	PKP	PKiKP	10 41 51.7	+0.1
	comp=Z,0.5nm,0.3s,baz=316,slow=2.5,SNR=4.1						
ASAR	Alice Springs	155.17	146	PKP	PKPdf	10 42 40.7	-0.4
	comp=Z,0.2nm,0.7s,baz=150,slow=3.9,SNR=3.2						
ASAR				PKPab	PKPab	10 43 05.1	-0.5
	comp=Z,0.4nm,1.0s,baz=123,slow=3.6,SNR=2.9						
WRA	Warramunga Arr	158.29	141	PKPab	PKPab	10 43 18.1	-1.0
	comp=Z,0.3nm,0.9s,baz=194,slow=1.7,SNR=4.5						

*UPP **27** 10:33:51.8±1.4,60°.68N×22°.16E,h0km,ML1.7,Presumed earthquake*

HEL 27 10:33:48.0±0.2,60°.82N×22°.90E,h0km,ML1.2, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAF	Rauma	0.59	291	eP	Pg	10 33 56.6	-2.7
RAF	Rauma	0.59	291	PG	Pg	10 33 58.9	-0.4
RAF				SG	Sg	10 34 06.2	-0.7
RAF				MSG		10 34 06.7	
	comp=Z,10nm,0.2s						
NUR	Nurmijarvi	0.92	109	PB	Pn	10 34 08.9	+0.8
NUR				MSG		10 34 16.3	
	comp=Z,1.5nm,0.2s						
MEF	Metsahovi	0.96	128	eP	Pb	10 34 08.0	+0.6
MEF	Metsahovi	0.96	128	PB	Pb	10 34 08.0	+0.6
MEF				MSG		10 34 17.3	
	comp=Z,1.6nm,0.2s						
TVF	Tvarminne	0.99	170	PG	Pg	10 34 05.8	-1.2
TVF				MSG		10 34 18.3	
	comp=Z,0.5nm,0.2s						
KPF	Kankaanpaa	1.09	339	PN	Pn	10 34 11.6	+1.0
KPF				MSG		10 34 21.4	
	comp=Z,1.3nm,0.2s						
KPF				SN	Sn	10 34 27.8	+1.5
HEL5	Espoo, Suvisaa	1.15	127	PN	Pn	10 34 11.7	+0.4
HEL5				MSG		10 34 23.0	
	comp=Z,2.7nm,0.2s						
AAL	Aland	1.57	247	P	Pn	10 34 13.7	-3.4
AAL				S	Sn	10 34 31.5	-6.7
AAL	Aland	1.57	247	eP	Pn	10 34 14.0	-3.1
AAL	Aland	1.57	247	SG	Sn	10 34 35.6	-2.6
FIA0	FINESS Array S	1.67	66	MSG		10 34 37.8	
	comp=Z,2.5nm,0.2s						
FIA0				SG	Sn	10 34 38.9	-1.6
KAF	Kangasniemi	2.09	50	MSG		10 34 49.9	
	comp=Z,1.8nm,0.2s						
GRAU	Graese	2.20	259	P	Pn	10 34 24.4	-1.4
NRTU	Norrtaelje	2.41	244	P	Pn	10 34 27.7	-1.0
SUF	Sumiainen	2.46	38	PG	Pb	10 34 33.8	+0.9
SUF				SN	Sn	10 34 59.7	-0.2
SUF				MSG		10 35 00.6	
	comp=Z,1.3nm,0.2s						
FLYU	Flymyra	2.58	257	P	Pn	10 34 30.4	-0.5
HEMU	Hemsoen	2.97	311	SB	Sb	10 35 15.8	-2.7
OBF8	Ulkokalla	3.54	4	SN	Sn	10 35 23.6	-3.0

HEL 27 10:33:58.0±0.4,61°.09N×28°.00E,h0km,ML1.3, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUF	Ruokolahti	0.57	53	PG	Pg	10 34 08.4	-0.5
	baz=242						
RUF				SG	Sg	10 34 16.1	-0.2
RUF				MSG		10 34 16.2	
	comp=Z,3.5nm,0.2s						
VJF	Virojoki	0.59	202	PG	Pg	10 34 09.0	-0.4
	baz=24						
VJF				MSG		10 34 16.9	
	comp=Z,3.7nm,0.2s						
VJF				SG	Sg	10 34 17.1	+0.1
FIA0	FINESS Array S	0.99	292	PB	Pb	10 34 18.1	0.0
	baz=113						
FIA0				MSG		10 34 28.6	
	comp=Z,3.0nm,0.2s						
FIA0				SN	Sn	10 34 32.8	-1.1
FIA0	FINESS Array S	0.99	292	PG	Pb	10 34 18.1	0.0
PVF	Pernaja	1.18	243	PG	Pg	10 34 19.2	-1.4
PVF				MSG		10 34 33.8	
	comp=Z,2.5nm,0.2s						
KAF	Kangasniemi	1.31	323	PN	Pn	10 34 24.3	+0.8
	baz=145						
KAF				MSG		10 34 37.4	
	comp=Z,2.6nm,0.2s						
KAF	Kangasniemi	1.31	323	PB	Pn	10 34 24.3	+0.8
JOF	Joensuu	2.41	39	eP	Pb	10 34 40.5	-1.7
JOF	Joensuu	2.41	39	PG	Pb	10 34 40.6	-1.6
	baz=215						
JOF				SG	Sb	10 35 11.1	-1.3
OUF	Merijarvi	3.62	337	SG	Sb	10 35 44.2	-2.9
OUF	Merijarvi	3.62	337	SB	Sb	10 35 44.2	-2.9

*SJA **27** 10:38:44.1±0.7,34°.16S×71°.90W,h31km±1km,ML3.6, MW3.8*

*GUC **27** 10:38:46.0±0.9,34°.16S×71°.85W,h43km±3km,ML3.9*

ISC 27 10:38:47.5±2.4,34°.18S±0°.03×71°.92W±0°.05,h36km±3km, n47,σ1896/82,6C-9D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BO03	Pichilemu	0.32	187	eP	Pn	10 38 55.0	-0.7
BO03				eS	Sn	10 39 01.2	-0.7
MT01	Popeta	0.63	61	eP	Pn	10 38 57.6	-2.4
MT01	Popeta	0.63	61	eP	Pn	10 38 57.3	-2.8
MT01				eS	Sn	10 39 06.1	-2.8
MT01				IAML		10 39 06.3	
	comp=Z,5μm,0.1s						
BO01	Tunca	0.72	108	eP	Pn	10 38 59.0	-2.2
BO01				eS	Sn	10 39 08.5	-2.4
BO01	Tunca	0.72	108	eP	Pn	10 38 59.0	-2.2
BO01				eS	Sn	10 39 09.4	-1.5
BO01				IAML		10 39 11.0	
	comp=Z,1μm,0.8s						
GO05	Hualane	0.83	181	eP	Pn	10 39 01.6	-1.1
GO05				eS	Sn	10 39 13.1	-0.7
GO05	Hualane	0.83	181	eP	Pn	10 39 00.9	-1.8
GO05				eS	Sn	10 39 13.5	-0.3
GO05				IAML		10 39 14.0	
	comp=Z,1μm,0.7s						
MT09	Talagante	0.87	63	eP	Pn	10 39 01.2	-2.1
MT09				eS	Sn	10 39 12.2	-2.7
MT09				IAML		10 39 14.9	
	comp=N,6μm,0.1s						
BO04	La Punta	1.10	81	eP	Pn	10 39 04.9	-1.5
BO04				eS	Sn	10 39 19.0	-1.4
BO02	Sierra Bellavi	1.12	124	eP	Pn	10 39 05.4	-1.3
BO02				eS	Sn	10 39 19.9	-1.0
BO02				IAML		10 39 22.8	
	comp=N,9μm,0.2s						
BO02	Sierra Bellavi	1.12	124	eP	Pn	10 39 05.4	-1.3
BO02				eS	Sn	10 39 21.6	+0.6
BO02				IAML		10 39 21.7	
	comp=Z,5μm,0.3s						
MT02	Curacav	1.12	35	eP	Pn	10 39 04.6	-2.1
MT02				eS	Sn	10 39 18.5	-2.4
MT02	Curacav	1.12	35	eP	Pn	10 39 04.5	-2.1
MT02				eS	Sn	10 39 17.3	-3.6
MT02				IAML		10 39 19.7	
	comp=Z,746nm,0.2s						
VA01	Torpederas	1.17	11	eP	Pn	10 39 06.2	-1.2
VA01				eS	Sn	10 39 21.1	-1.0
VA01	Torpederas	1.17	11	eP	Pn	10 39 06.1	-1.2
VA01				IAML		10 39 25.2	
	comp=Z,511nm,0.6s						
MT05	Renca	1.25	52	eP	Pn	10 39 07.4	-1.2
MT05				eS	Sn	10 39 23.1	-1.2
MT05				IAML		10 39 25.3	
	comp=N,8μm,0.5s						
MT05	Renca	1.25	52	eP	Pn	10 39 07.3	-1.2
MT05				IAML		10 39 26.0	
	comp=Z,1μm,0.3s						
MT15	Las Vizcachas	1.31	64	eP	Pn	10 39 08.2	-1.1
MT15				eS	Sn	10 39 24.8	-0.7
MT15				IAML		10 39 26.5	
	comp=N,6μm,0.2s						
MT03	Universidad Ad	1.35	60	eP	Pn	10 39 08.8	-1.1
MT03				eS	Sn	10 39 25.6	-1.2
MT03				IAML		10 39 28.4	
	comp=E,6μm,0.1s						
MT03	Universidad Ad	1.35	60	eP	Pn	10 39 08.8	-1.1
MT03				eS	Sn	10 39 25.9	-0.8
MT03				IAML		10 39 27.6	
	comp=Z,2μm,0.3s						
MT14	Cerro Cal¡n	1.39	56	eP	Pn	10 39 09.4	-0.9
MT14				eS	Sn	10 39 26.6	-0.9
MT14				IAML		10 39 28.1	
	comp=E,4μm,0.4s						
ROC1	El Roble	1.41	32	eP	Pn	10 39 09.6	-1.3
ROC1				eS	Sn	10 39 27.0	-1.5
ROCH	El Roble	1.42	32	eP	Pn	10 39 09.6	-1.3
ROCH				eS	Sn	10 39 28.6	0.0
MT13	San Alfonso	1.42	73	eP	Pn	10 39 09.9	-1.0
MT13				eS	Sn	10 39 27.7	-0.7
MT13				IAML		10 39 28.8	
	comp=E,5μm,0.2s						
MT13	San Alfonso	1.42	73	eP	Pn	10 39 08.8	-2.0
MT13				eS	Sn	10 39 27.9	-0.5
MT13				IAML		10 39 28.5	
	comp=Z,1μm,0.3s						
PEL	Peldehue	1.45	45	eP	Pn	10 39 10.3	-1.0
PEL				eS	Sn	10 39 28.4	-0.7
PEL				IAML		10 39 31.4	
	comp=E,2μm,0.6s						
PEL	Peldehue	1.45	45	eP	Pn	10 39 05.2	-6.0
PEL				IAML		10 39 31.6	
	comp=Z,1μm,0.6s						
LMEL	Las Melosas	1.46	77	eP	Pn	10 39 10.4	-1.1
LMEL				eS	Sn	10 39 28.9	-0.6
LMEL				IAML		10 39 31.9	
	comp=N,2μm,0.2s						
LMEL	Las Melosas	1.46	77	eP	Pn	10 39 09.8	-1.6
LMEL				eS	Sn	10 39 29.3	-0.1
LMEL				IAML		10 39 30.9	
	comp=Z,1μm,0.2s						
MT10	Hacienda Santa	1.46	52	eP	Pn	10 39 10.6	-0.9
MT10				eS	Sn	10 39 28.7	-0.7
MT10				IAML		10 39 30.7	
	comp=E,4μm,0.3s						
FCH	Farellones	1.60	58	eP	Pn	10 39 12.3	-1.1
FCH				IAML		10 39 34.3	
	comp=N,2μm,0.4s						
MT04	Ro Olivares	1.67	63	eP	Pn	10 39 13.7	-0.7
MT04				eS	Sn	10 39 34.6	0.0
MT04				IAML		10 39 38.6	
	comp=Z,451nm,0.3s						
VA06	Catapilco	1.69	18	eP	Pn	10 39 13.4	-1.1
VA06				eS	Sn	10 39 35.3	+0.3
VA06				IAML		10 39 44.9	
	comp=E,1μm,0.6s						
MT08	Bocatoma Ro	1.74	66	eP	Pn	10 39 15.0	-0.4
MT08				eS	Sn	10 39 37.4	+0.9
MT08				IAML		10 39 38.0	
	comp=Z,493nm,0.5s						
VA03	San Esteban	1.81	39	eP	Pn	10 39 14.9	-1.3
VA03				eS	Sn	10 39 39.5	+1.4
VA03				IAML		10 39 42.2	
	comp=Z,835nm,0.7s						
BI02	San Fabin de	2.54	168	eP	Pn	10 39 25.7	-0.5
BI02				IAML		10 40 06.2	
	comp=Z,111nm,0.5s						
EDS3	Malargue	2.61	128	eP	Pn	10 39 27.9	+

ML5.2/14,Ms4.7/59,Ms7.4.3/53
IDC ***27*** *10:58:30.3±0.5,37.83N×88.78E,h0km,mb4.3/22, mbtmp4.5/29,ML4.7/7,MS3.9/59,Error ellipse: s-maj=15.7km s-min=9.5km az=31.0*
MOS ***27*** *10:58:31.5±1.4,37.89N×88.54E,h17km,mb5.0/29, MS4.0/8,Error ellipse: s-maj=6.9km s-min=3.7km az=129.5*
GCMT ***27*** *10:58:34.3±0.2,38.00N±0.02×88.79E±0.02,h19km±1km, MW4.8/98,Moment Tensor Solution. s28,c30; s98,c130; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.48±.10; Mθθ=-0.71±.09; Mφφ=0.23±.08; Mrθ=0.63±.19; Mθφ=2.15±.07; Mφr=0.04±.16; Best double couple: M=2.29700×10^16 NP1:φ=353.00000°,δ=73.00000°,λ=175.00000°. NP2: φ=85.00000°,δ=85.00000°,λ=17.00000°. Principal axes: T 2.0800, Plg16.0000°, Azm310.0000°; N 0.4350, Plg72.0000°, Azm99.0000°; P -2.5140, Plg9.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 10:58:31.1±0.6,37.73N±0.04×88.76E±0.03,h16km±3km, h16km:pP-P,n461,σ2s30/443,mb4.8/130,MS4.0/73, 37C-16D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GOMU	**GeErMu**	**5.08**	**106**	Pn	**Pn**		**10 59 49.0**	**+2.0**
GOMU				Pg	**Pb**		**11 00 04.0**	**+4.1**
GOMU				Sn	**Sn**		**11 00 46.0**	**+0.5**
GOMU				Sg	**Sg**		**11 01 08.0**	**-6.3**
GOMU				smax	smax			
	comp=N,3μm,0.9s							
GOMU				smax	smax			
	comp=E,280nm,0.6s							
WMQ	**Urumqi**	**6.14**	**353**	Pn	**Pn**		**11 00 02.0**	**+0.7**
WMQ				Sn	**Sn**		**11 01 07.8**	**-3.4**
WMQ				smax	smax			
	comp=N,3μm,1.3s							
WMQ				smax	smax			
	comp=E,5μm,1.3s							
LSA	**Lhasa**	**8.25**	**165**	Pn	Pn		11 00 38.6	+8.0
LSA	**Lhasa**	**8.25**	**165**	P	Pn		11 00 37.0	+6.4
LSA				S	Sn		11 02 14.3	+11
LSA				pmax	pmax			
	comp=Z,21nm,0.7s							
LSA				LR	LR			
	comp=N,1μm,12.5s							
LSA				LR	LR			
	comp=E,4μm,14.9s							
LSA				LR	LR			
	comp=Z,2μm,9.7s							
LSA	**Lhasa**	**8.25**	**165**	P	Pn		11 00 38.6	+8.0
GTA	**Gaotai**	**8.82**	**76**	P	**Pn**		**11 00 39.5**	**+1.4**
GTA				S	**Sn**		**11 02 18.3**	**+1.1**
GTA				smax	smax			
	comp=N,290nm,0.7s							
GTA				smax	smax			
	comp=E,180nm,0.9s							
GTA				LR	LR			
	comp=N,5μm,9.8s							
GTA				LR	LR			
	comp=E,2μm,9.1s							
GTA				LR	LR			
	comp=Z,2μm,11.3s							
SHLS	**Shalkode**	**8.92**	**310**	*e*P	**Pn**		**11 00 36.3**	**-3.3**
SHLS	**Shalkode**	**8.92**	**310**	*e*P	**Pn**		**11 00 36.2**	**-3.3**
PDGK	**Podgornoye**	**9.01**	**311**	P	**Pn**		**11 00 40.2**	**-0.4**
UZB	**Uzynbulak**	**9.19**	**309**	⇑*i*P	**Pn**		**11 00 43.2**	**0.0**
UZB	**Uzynbulak**	**9.19**	**309**	*c i*P	**Pn**		**11 00 43.1**	**0.0**
PRZ	**Przheval'sk**	**9.25**	**304**		**Pn**		**11 00 45.2**	**+1.2**
PRZ	**Przheval'sk**	**9.25**	**304**	P	**Pn**		**11 00 45.2**	**+1.2**
TARG	**Taragay, Kyrgy**	**9.34**	**299**		**Pn**		**11 00 46.3**	**+0.8**
TARG	**Taragay, Kyrgy**	**9.34**	**299**	P	**Pn**		**11 00 46.3**	**+0.8**
SATY	**Saty**	**9.53**	**307**	*e*P	**Pn**		**11 00 47.9**	**+0.2**
SATY				*e*S	**Sn**		**11 02 33.9**	**-0.6**
SATY	**Saty**	**9.53**	**307**	*e*P	**Pn**		**11 00 47.9**	**+0.2**
SATY				*e*S	**Sn**		**11 02 33.9**	**-0.6**
KDJ	**Kajisay**	**9.92**	**300**	Pn	**Pn**		**11 00 54.0**	**+0.7**
KDJ	**Kajisay**	**9.92**	**300**	P	**Pn**		**11 00 54.0**	**+0.7**
ZSN	**Zaisan**	**10.13**	**345**	⇑*i*P	**Pn**		**11 00 55.7**	**-0.3**
ZSN				*e*S	**Sn**		**11 02 48.4**	**-0.8**
ZSN				*e*Lg	Lg		11 03 48.4	
ZSN	**Zaisan**	**10.13**	**345**	*c i*P	**Pn**		**11 00 55.6**	**-0.3**
ZSN				*e*S	**Sn**		**11 02 48.3**	**-0.8**
KSH	**Kashi**	**10.17**	**284**	P	**Pn**		**11 01 01.0**	**+4.4**
KSH				LR	LR			
	comp=N,3μm,14.1s							
KSH				LR	LR			
	comp=E,2μm,13.1s							
KSH				LR	LR			
	comp=Z,2μm,10.6s							
MK31	**Makanchi Array**	**10.25**	**334**	*c i*P	**Pn**		**11 00 56.4**	**-1.1**
MKAR	**Makanchi Array**	**10.25**	**334**	Pn	**Pn**		**11 00 56.5**	**-1.1**
	16nm,0.3s,baz=150,slow=15,SNR=297							
MKAR				Sn	**Sn**		**11 02 46.2**	**-5.8**
	9.5nm,0.3s,baz=169,slow=27,SNR=5.8							
MKAR				Lg	Lg		11 03 50.8	
	8.6nm,0.3s,baz=159,slow=27,SNR=3.7							
MKAR				LR	LR		11 05 29.3	
	comp=Z,437nm,18.8s,baz=155,slow=41 39nm,0.4s							
MAKZ	**Makanchi**	**10.37**	**333**		**Pn**		**11 00 57.6**	**-1.6**
MAKZ	**Makanchi**	**10.37**	**333**	P	**Pn**		**11 00 57.6**	**-1.6**
MDOK	**Medeo**	**10.45**	**305**	*e*P	**Pn**		**11 01 00.5**	**+0.1**
MDOK				*e*S	**Sn**		**11 02 56.6**	**-0.6**
MDK	**Medeo**	**10.45**	**305**	*e*P	**Pn**		**11 01 00.5**	**+0.1**
MDOK				*e*S	**Sn**		**11 02 56.5**	**-0.6**
JOSI	**Joshimath**	**10.45**	**230**	*e*P	**Pn**		**11 01 03.2**	**+2.7**
JOSI				IAmb	IAmb		11 01 05.7	
	comp=Z,70nm,0.9s							
JOSI				*e*S	**Sn**		**11 02 54.4**	**-3.1**
JOSI				IAML			11 04 45.4	
	comp=E,59nm,0.3s							
JOSI				IAML			11 04 45.6	
	comp=N,58nm,0.3s							
TNSS	**Tian-Shan**	**10.45**	**304**	*e*P	**Pn**		**11 01 00.7**	**-0.1**
TNSS	**Tian-Shan**	**10.45**	**304**	*e*P	**Pn**		**11 01 00.6**	**-0.1**
ARXS	**Arharly**	**10.50**	**312**	*e*P	**Pn**		**11 01 00.1**	**-0.9**
AAA	**Alma-Ata**	**10.55**	**305**	*e*P	**Pn**		**11 01 01.9**	**+0.2**
AAA	**Alma-Ata**	**10.55**	**305**	*e*P	**Pn**		**11 01 03.9**	**+2.1**
ULHL	**Ulahol**	**10.61**	**299**	P	**Pn**		**11 01 03.4**	**+0.6**
	SNR=166							
KLP	**Kalpa**	**10.63**	**238**	*e*P	**Pn**		**11 01 04.5**	**+1.3**
KLP				*e*S	**Sn**		**11 02 58.4**	**-3.7**
TDK	**Taldyqorghan**	**10.64**	**316**	*e*P	**Pn**		**11 01 02.9**	**0.0**
TDK	**Taldyqorghan**	**10.64**	**316**	*e*P	**Pn**		**11 01 02.9**	**0.0**
PTH	**Pithoragarh**	**10.82**	**224**	*e*P	**Pn**		**11 01 07.6**	**+2.0**
PTH				*e*S	**Sn**		**11 03 02.7**	**-3.9**
LGTI	**Lohaghat**	**10.88**	**223**	*e*P	**Pn**		**11 01 10.5**	**+4.2**
LGTI				*e*S	**Sn**		**11 03 07.8**	**0.0**
BOOM	**Boomskoye usch**	**10.91**	**300**		**Pn**		**11 01 06.6**	**-0.1**
BOOM	**Boomskoye usch**	**10.91**	**300**	P	**Pn**		**11 01 06.6**	**-0.1**
UTK	**UTTARKASHI**	**11.02**	**234**	*e*P	**Pn**		**11 01 10.7**	**+2.3**
UTK				*e*S	**Sn**		**11 03 08.0**	**-3.4**
UTK				IAML			11 03 13.8	
	comp=N,91nm,0.1s							
UTK				IAML			11 03 14.3	
	comp=E,128nm,0.1s							
TKM2	**Tokmak 2**	**11.31**	**301**	P	**Pn**		**11 01 12.4**	**+0.1**
	SNR=222							
KBK	**Karagaybulak**	**11.65**	**299**	P	**Pn**		**11 01 18.7**	**+1.7**
	SNR=29							
CHMS	**Chumysh**	**11.91**	**301**	P	**Pn**		**11 01 21.3**	**+0.9**
	SNR=8.4							
FRU1	**Bishkek**	**11.93**	**300**	Pn	**Pn**		**11 01 21.3**	**+0.7**
FRU1	**Bishkek**	**11.93**	**300**	P	**Pn**		**11 01 21.3**	**+0.7**
AAK	**Ala-Archa**	**11.96**	**299**	P	**Pn**		**11 01 22.1**	**+0.9**
	SNR=25							
AAK	**Ala-Archa**	**11.96**	**299**	Pn	**Pn**		**11 01 21.2**	**+0.1**
	comp=E,7.9nm,0.3s,baz=119,slow=10,SNR=43							
AAK				Sn	**Sn**		**11 03 33.9**	**-0.4**
	baz=180,slow=9.3							
AAK				Lg	Lg		11 04 47.9	
	comp=E,0.8nm,0.3s,baz=95,slow=16,SNR=2.0							
AAK				LR	LR		11 07 02.5	
	comp=E,528nm,21.8s,baz=118,slow=43 comp=E,17nm,0.4s							
LZDM	**Lanzhou Array**	**12.10**	**94**	Pn	**Pn**		**11 01 23.2**	**0.0**
	baz=273,slow=15							
LZDM				Sn	**Sn**		**11 03 41.7**	**+3.8**
	baz=277,slow=23							
LZDM				Lg	Lg		11 04 54.2	
	baz=155,slow=29							
LZDM				LR	LR		11 06 39.0	
	comp=E,387nm,19.2s,baz=60,slow=40 comp=E,14nm,0.3s							
HRYA	**Harraiya (Bast**	**12.12**	**208**	*e*P	**Pn**		**11 01 25.8**	**+2.6**
HRYA				IAmb	IAmb		11 01 44.6	
	comp=Z,1μm,0.3s							
HRYA				*e*S	**Sn**		**11 03 33.2**	**-4.9**
HRYA				IAML			11 03 43.5	
	comp=N,429nm,0.2s							
HRYA				IAML			11 03 46.0	
	comp=E,455nm,0.3s							
SGDS	**Sogindy**	**12.16**	**302**	*e*P	**Pn**		**11 01 23.6**	**-0.3**
USP	**Ospenovka**	**12.18**	**301**	P	**Pn**		**11 01 23.8**	**-0.2**
	SNR=16							
LZH	**Lanzhou**	**12.18**	**93**	*e*P	**Pn**		**11 01 24.0**	**-0.2**
LZH				pmax	pmax			
	comp=E,74nm,1.3s							
LZH				LR	LR			
	comp=E,6μm,11.7s							
LZH				LR	LR			
	comp=E,2μm,14.9s							
LZH				LR	LR			
	comp=E,1μm,13.7s							
SHL	**Shillong**	**12.41**	**167**	Pn	**Pn**		**11 01 28.8**	**+1.4**
SHL	**Shillong**	**12.41**	**167**	P	**Pn**		**11 01 28.8**	**+1.4**
EKS2	**Erkin-Say**	**12.47**	**298**	P	**Pn**		**11 01 29.0**	**+1.0**
	SNR=50							
OHH	**Osh**	**12.72**	**288**	P	**Pn**		**11 01 29.8**	**-1.6**
BTLS	**Baital**	**13.24**	**308**	⇑*i*P	**Pn**		**11 01 37.0**	**-1.4**
BTLS	**Baital**	**13.24**	**308**	*c i*P	**Pn**		**11 01 36.9**	**-1.4**
NIL	**Nilore**	**13.25**	**257**		**Pn**		**11 01 39.6**	**+1.0**
NIL	**Nilore**	**13.25**	**257**	P	**Pn**		**11 01 39.6**	**+1.0**
DRK	**Karamyk**	**13.39**	**283**		**Pn**		**11 01 40.7**	**0.0**
DRK	**Karamyk**	**13.39**	**283**	P	**Pn**		**11 01 40.7**	**0.0**
TRKS	**Terek-Say**	**14.10**	**291**	P	**Pn**		**11 01 50.3**	**-0.1**
CD2	**Chengdu**	**14.13**	**114**	P	**Pn**		**11 01 47.5**	**-3.2**
CD2				S	**Sn**		**11 04 24.5**	**-2.6**
CD2				sS	S		11 05 30.3	+42
CD2				pmax	pmax			
	comp=Z,130nm,4.6s							
CD2				LR	LR			
	comp=N,3μm,14.7s							
CD2				LR	LR			
	comp=E,2μm,14.7s							
CD2				LR	LR			
	comp=Z,2μm,10.4s							
KNGR	**Kungurtug, Tuv**	**14.31**	**23**	*ce*P	**Pn**		**11 01 54.1**	**+1.0**
KNGR				pmax	pmax			
	comp=Z,11nm,0.9s							
GAR	**Garm**	**14.53**	**281**		**Pn**		**11 01 54.9**	**-1.3**
KURBB	**Kurchatov Arra**	**14.81**	**334**	Pn	**Pn**		**11 01 56.1**	**-3.7**
	comp=Z,1.4nm,0.3s,baz=147,slow=12,SNR=273							
KURBB				Sn	Sn		11 04 32.5	-11
	comp=Z,0.2nm,0.3s,baz=133,slow=28,SNR=4.6							
KURBB				Lg	Lg		11 06 21.0	
	comp=Z,0.1nm,0.3s,baz=133,slow=33,SNR=5.7							
KURBB				LR	LR		11 07 38.5	
	comp=Z,417nm,19.0s,baz=216,slow=37 comp=Z,36nm,0.8s							
KURK	**Kurchatov**	**14.86**	**334**		**Pn**		**11 01 56.8**	**-3.7**
KURK	**Kurchatov**	**14.86**	**334**	P	**Pn**		**11 01 56.2**	**-4.3**
KK31	**Karatay Array**	**14.90**	**297**		**Pn**		**11 01 59.6**	**-1.5**
KK31	**Karatay Array**	**14.90**	**297**	*i* P	**Pn**		**11 02 00.2**	**-0.9**
KKAR	**Karatay Array**	**14.90**	**297**		**Pn**		**11 01 59.5**	**-1.6**
KKAR	**Karatay Array**	**14.90**	**297**	P	**Pn**		**11 01 59.5**	**-1.6**
IUG	**luzhnay**	**15.03**	**293**	*e*P	**Pn**		**11 02 03.5**	**+0.6**
IUG	**luzhnay**	**15.03**	**293**	*e*P	**Pn**		**11 02 03.5**	**+0.6**
TNCH	**TengChong**	**15.14**	**144**	*e*P	**Pn**		**11 02 04.3**	**-0.3**
TNCH				S	**Sn**		**11 04 53.5**	**+1.4**
TNCH				pmax	pmax			
	comp=Z,110nm,2.8s							
TNCH				LR	LR			
	comp=Z,810nm,7.2s							
TNCH				LR	LR			
	comp=Z,810nm,8.7s							
TNCH				LR	LR			
	comp=Z,680nm,9.5s							
BRDH	**Bariadhala**	**15.21**	**170**	LR	LR		11 08 08.2	
	comp=Z,325nm,18.0s,baz=358,slow=38							
BRLS	**Borolday**	**15.36**	**296**	*e*P	**Pn**		**11 02 08.1**	**+0.8**
BRLS	**Borolday**	**15.36**	**296**	*e*P	**Pn**		**11 02 08.0**	**+0.8**
CHGR	**Chuyangaron**	**15.45**	**279**	Pn	**Pn**		**11 02 05.2**	**-3.3**
CHGR				IAmb	IAmb		11 02 15.2	
	comp=Z,77nm,0.7s							
CHGR	**Chuyangaron**	**15.45**	**279**	P	**Pn**		**11 02 05.2**	**-3.3**
CHGR				pmax	pmax			
	comp=Z,77nm,0.7s							
SIMJ	**Simiganj**	**15.56**	**280**		**Pn**		**11 02 06.4**	**-3.7**
PZH	**PanZhiHua**	**15.67**	**132**	P	**Pn**		**11 02 11.5**	**0.0**
KBL	**Kabul**	**16.25**	**265**		**Pn**		**11 02 18.3**	**-0.6**
KBL	**Kabul**	**16.25**	**265**	P	**Pn**		**11 02 18.3**	**-0.6**
KBL				pmax	pmax			
	comp=Z,36nm,0.8s							
ZAK	**Zakamensk**	**16.36**	**35**	*e*P	**Pn**		**11 02 20.5**	**+0.4**
ZAK				pmax	pmax			
	comp=Z,54nm,1.4s							
SONM	**Songino Array**	**16.38**	**46**	Pn	**Pn**		**11 02 16.2**	**-4.3**
SONM	**Songino Array**	**16.38**	**46**	Pn	**Pn**		**11 02 20.9**	**+0.4**
	comp=Z,3.9nm,0.3s,baz=240,slow=14,SNR=25							
SONM				Sn	**Sn**		**11 05 18.0**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=240,slow=17,SNR=1.5							
SONM				Lg	Lg		11 07 05.5	
	comp=Z,0.6nm,0.3s,baz=227,slow=30,SNR=5.5							
SONM				LR	LR		11 08 45.9	
	comp=Z,637nm,19.9s,baz=240,slow=38 comp=Z,9.8nm,0.4s							
SONM	**Songino Array**	**16.38**	**46**	P	**Pn**		**11 02 16.2**	**-4.3**
SONM				pmax	pmax			
	comp=Z,10.0nm,0.9s							
MOY	**Mondy**	**16.39**	**28**	*e*P	**P**		**11 02 23.2**	**-0.1**
MOY				pmax	pmax			
	comp=Z,18nm,2.3s							
ZAA0	**Zalesovo Array**	**16.45**	**352**		**Pn**		**11 02 17.7**	**-3.4**
ZAA0				IAmb	IAmb		11 02 25.1	
	comp=Z,44nm,0.6s							
ZALV	**Zalesovo Beam**	**16.45**	**352**		**Pn**		**11 02 17.5**	**-3.7**
ZALV	**Zalesovo Beam**	**16.45**	**352**	Pn	**Pn**		**11 02 19.9**	**-1.3**
	comp=Z,3.2nm,0.3s,baz=175,slow=13,SNR=50							
ZALV				Sn	**Sn**		**11 05 18.5**	**-4.7**
	comp=Z,2.0nm,0.3s,baz=166,slow=27,SNR=5.4							
ZALV				Lg	Lg		11 07 07.7	
	baz=188,slow=20							
ZALV				LR	LR		11 08 51.0	
	comp=Z,696nm,19.0s,baz=172,slow=38 comp=Z,52nm,0.6s							
ZALV	**Zalesovo Beam**	**16.45**	**352**	*i* P	**Pn**		**11 02 20.0**	**-1.1**
ZALV				pmax	pmax			
	comp=Z,57nm,0.6s							
BTO	**Baotou**	**16.73**	**74**	*e*P	**Pn**		**11 02 24.3**	**-0.6**
BTO				PP	**sP**		**11 02 36.5**	**+1.1**
BTO				S	**Sn**		**11 05 32.5**	**+2.1**
BTO				pmax	pmax			
	comp=Z,17nm,0.5s							
BTO				LR	LR			
	comp=Z,3μm,11.6s							
BTO				LR	LR			
	comp=Z,2μm,13.4s							
BTO				LR	LR			
	comp=Z,2μm,14.9s							
XAN	**Xi'an**	**16.74**	**97**	P	**Pn**		**11 02 22.0**	**-3.1**
XAN				S	**Sn**		**11 05 26.5**	**-4.2**
XAN				pmax	pmax			
	comp=Z,31nm,0.9s							
XAN				LR	LR			
	comp=N,4μm,15.8s							
XAN				LR	LR			
	comp=E,2μm,15.8s							
XAN				LR	LR			
	comp=Z,1μm,9.8s							
ULN	**Ulaanbaatar**	**16.78**	**47**	Pn	**Pn**		**11 02 20.1**	**-5.4**
ULN	**Ulaanbaatar**	**16.78**	**47**	P	**Pn**		**11 02 20.1**	**-5.4**
ULN				pmax	pmax			
	comp=Z,15nm,1.1s							
BRZS	**Berezniki**	**16.83**	**322**	*e*P	**Pn**		**11 02 26.2**	**+0.2**
BRZS	**Berezniki**	**16.83**	**322**	*e*P	**Pn**		**11 02 26.1**	**+0.1**
KMI	**Kunming**	**17.30**	**133**	P	**Pn**		**11 02 32.8**	**+0.5**
KMI				S	**Sn**		**11 05 47.0**	**+2.4**
KMI				pmax	pmax			
	comp=Z,9.0nm,0.7s							
KMI				LR	LR			
	comp=Z,1μm,14.1s							
KMI				LR	LR			
	comp=Z,2μm,14.0s							
KMI				LR	LR			
	comp=Z,570nm,16.9s							
HHC	**Hu-ho-hao-te**	**17.91**	**73**	*e*P	**Pn**		**11 02 35.0**	**-4.7**
HHC				sP	P		11 02 43.0	+2.8
HHC				PP	**sP**		**11 02 49.3**	**+0.8**
HHC				S	Sn		11 05 47.3	-12
HHC				sS	S		11 05 54.5	-11
HHC				SS	**SnSn**		**11 06 08.8**	**-3.8**
HHC				pmax	pmax			
	comp=Z,6.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,140nm,6.6s							
HHC				LR	LR			
	comp=N,970nm,10.2s							
HHC				LR	LR			
	comp=E,390nm,10.1s							
HHC				LR	LR			
	comp=Z,610nm,10.9s							
IRK	**Irkutsk**	**18.13**	**32**	*e*P	**P**		**11 02 45.9**	**+3.4**
ENH	**Enshi**	**18.70**	**107**	P	**P**		**11 02 46.1**	**-2.8**
TIY	**Taiyuan**	**18.72**	**83**	P	**Pn**		**11 02 51.3**	**+1.8**
TIY				S	**Sn**		**11 06 19.0**	**+0.4**
TIY				pmax	pmax			
	comp=Z,28nm,0.7s							
TIY				LR	LR			
	comp=Z,530nm,12.8s							
TIY				LR	LR			
	comp=Z,2μm,14.7s							
TIY				LR	LR			
	comp=Z,2μm,14.4s							
GYA	**Guiyang**	**18.84**	**121**	⇓P	**Pn**		**11 02 52.0**	**+0.9**
GYA				pmax	pmax			
	comp=Z,72nm,1.0s							
GYA				LR	LR			
	comp=Z,760nm,17.7s							
GYA				LR	LR			
	comp=Z,640nm,16.1s							
GYA				LR	LR			
	comp=Z,610nm,17.1s							
LYN	**LuoYang**	**19.39**	**92**	⇓*i*P	**Pn**		**11 02 59.5**	**+1.9**
LYN				pP	pP		11 03 02.8	+0.7
LYN				sP	sP		11 03 08.3	+3.6
LYN				sS	S		11 06 38.5	+3.2
LYN				pmax	pmax			
	comp=Z,22nm,0.7s							
LYN				LR	LR			
	comp=Z,3μm,14.1s							
LYN				LR	LR			
	comp=Z,2μm,15.8s							
LYN				LR	LR			
	comp=Z,2μm,13.7s							
BVAR	**Borovoye Array**	**19.92**	**326**	P	**Pn**		**11 03 03.2**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=134,slow=12,SNR=114							
BVAR				LR	LR		11 11 08.9	
	comp=Z,431nm,19.0s,baz=130,slow=38 comp=Z,123nm,0.7s							
BORK	**Borovoye**	**19.97**	**326**	*c i*P	**Pn**		**11 03 03.6**	**-0.7**
BORK				pmax	pmax			
	comp=Z,267nm,1.7s							
HNS	**HongShan**	**20.55**	**83**	⇑P	Pn		11 03 11.5	+0.2
HNS				PP	**PnPn**		**11 03 34.3**	**+7.8**
HNS				S	**S**		**11 06 55.0**	**-3.3**
HNS				pmax	pmax			
	comp=Z,20nm,1.1s							
HNS				pmax	pmax			
	comp=Z,190nm,3.9s							
HNS				LR	LR			
	comp=Z,810nm,13.0s							
HNS				LR	LR			
	comp=Z,1μm,12.5s							
HNS				LR	LR			
	comp=Z,1μm,14.5s							
CHTO	**Chiang Mai**	**20.84**	**152**	P	**P**		**11 03 11.3**	**-1.0**
CHTO	**Chiang Mai**	**20.84**	**152**	P	**P**		**11 03 11.3**	**-1.0**
CHTO				pmax	pmax			
	comp=Z,12nm,1.2s							
SLVN	**Son La**	**20.94**	**137**	P	**P**		**11 03 11.0**	**-2.4**
CM31	**Chiang Mai Arr**	**21.17**	**152**	P	**P**		**11 03 15.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**21.17**	**152**	P	**P**		**11 03 15.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**21.17**	**152**	P	**P**		**11 03 18.9**	**+3.1**
	comp=Z,4.2nm,1.0s,baz=333,slow=10.0,SNR=16							
CMAR				LR	LR		11 12 20.4	
	comp=Z,136nm,20.8s,baz=320,slow=39 comp=Z,4.2nm,1.0s							
BJT	**Baijiatuan**	**21.43**	**75**	P	**P**		**11 03 13.8**	**-4.7**
BJT	**Baijiatuan**	**21.43**	**75**	P	**P**		**11 03 13.8**	**-4.7**
BJT				pmax	pmax			
	comp=Z,21nm,0.9s							
BJI	**Beijing**	**21.43**	**75**	P	**P**		**11 03 22.0**	**+3.5**
BJI				S	**S**		**11 07 14.0**	**-1.7**
BJI				pmax	pmax			
	comp=Z,7.0nm,0.9s							
BJI				LR	LR			
	comp=Z,450nm,12.8s							
BJI				LR	LR			
	comp=Z,360nm,14.2s							
BJI				LR	LR			
	comp=Z,420nm,16.8s							
XLT	**XiLinHaoTe**	**21.52**	**65**	*e*P	**P**		**11 03 21.5**	**+2.0**
XLT				pP	sP		11 03 27.5	-0.3
XLT				sP	pP		11 03 31.0	+5.8
XLT				PP	**PnPn**		**11 03 43.0**	**+3.2**
XLT				pmax	pmax			
	comp=Z,40nm,0.9s							
XLT				LR	LR			
	comp=Z,64nm,11.1s							
XLT				LR	LR			
	comp=Z,190nm,4.7s							
XLT				LR	LR			
	comp=Z,440nm,13.2s							
HRA	**Herat**	**21.67**	**269**	P	**P**		**11 03 23.3**	**+1.9**
CIT	**Chita**	**22.50**	**43**	*e*P	**P**		**11 03 34.5**	**+4.6**
CIT				*e*			11 03 38.1	
CIT				*e*			11 04 01.7	
CIT				*e*			11 04 07.8	
CIT				*e*			11 08 33.2	
TIA	**Tai'an**	**22.68**	**85**	P	**P**		**11 03 34.0**	**+2.1**
TIA				pmax	pmax			
	comp=Z,19nm,1.2s							
TIA				pmax	pmax			
	comp=Z,100nm,5.3s							
TIA				LR	LR			
	comp=Z,4μm,19.0s							
TIA				LR	LR			
	comp=Z,450nm,15.7s							
TIA				LR	LR			
	comp=Z,1μm,14.7s							
AB31	**Akbulak array**	**23.72**	**308**	P	**P**		**11 03 42.3**	**-0.1**
AB31				IAmb	IAmb		11 03 50.2	
	comp=Z,48nm,0.8s							
AB31	**Akbulak array**	**23.72**	**308**	*i* P	**P**		**11 03 42.9**	**+0.6**
ABKAR	**Akbulak array**	**23.72**	**308**	P	**P**		**11 03 43.0**	**+0.7**
NJ2	**Nanjing**	**25.26**	**94**	*e*P	**P**		**11 03 52.8**	**-3.8**
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.6s							
NJ2				LR	LR			
	comp=N,1μm,14.5s							
NJ2				LR	LR			
	comp=E,610nm,14.5s							
NJ2				LR	LR			
	comp=Z,740nm,17.3s							
DL2	**Dalian**	**25.74**	**77**	P	**P**		**11 04 05.8**	**+4.9**
DL2				pmax	pmax

SNY LR LR
comp=Z,280nm,11.8s
ARTI Arti 27.52 323 P **P** **11 04 15.7 -1.1**
ARTI Arti 27.52 323 LR LR 11 16 34.6
comp=Z,286nm,19.5s,baz=130,slow=40
ARTI Arti 27.52 323*c iP* **P** **11 04 17.5 +0.7**
ARTI 11 05 02.5
ARTI 11 07 33.8
ARTI S **S** **11 09 01.1 +4.1**
ARTI SS **SnSn** **11 10 12.3 +4.9**
ARTI pmax pmax
comp=Z,10.0nm,1.0s
CN2 Changchun 28.27 66 *eP* **P** **11 04 26.5 +2.9**
CN2 S **S** **11 09 08.0 -1.1**
CN2 pmax pmax
comp=Z,10.0nm,1.6s
CN2 LR LR
comp=Z,530nm,11.0s
CN2 LR LR
comp=Z,310nm,11.0s
CN2 LR LR
comp=Z,430nm,14.0s
BNX BinXian 29.69 62 ⇑P **P** **11 04 37.8 +1.6**
BNX pP **pP** **11 04 40.8 -1.6**
BNX S **S** **11 09 34.8 +3.4**
BNX sS **pS** **11 09 40.0 +1.8**
BNX pmax pmax
comp=Z,10.0nm,0.8s
BNX LR LR
comp=Z,930nm,13.6s
BNX LR LR
comp=Z,190nm,6.0s
BNX LR LR
comp=Z,320nm,14.1s
HEH HeiHe 30.15 53 *eP* **P** **11 04 44.5 +4.3**
HEH pmax pmax
comp=Z,7.0nm,1.2s
ZEA Zeya 30.81 46 *eP* P 11 04 51.0 +5.0
ZEA MLR MLR
comp=E,200nm,7.0s
ZEA MLR MLR
comp=N,200nm,8.0s
ZEA MLR MLR
comp=Z,200nm,13.0s
KS19 Wonju Array Si 30.82 78 P **P** **11 04 42.4 -3.9**
KS19 IAmb IAmb 11 05 00.6
comp=Z,38nm,1.9s
KSAR Wonju Array Be 30.85 78 P **P** **11 04 42.7 -3.9**
KSAR Wonju Array Be 30.85 78 P **P** **11 04 42.7 -3.9**
KSRS Korea Array 30.88 78 P **P** **11 04 47.8 +1.0**
comp=Z,2.4nm,0.9s,baz=282,slow=8.3,SNR=12
comp=Z,2.4nm,0.9s
PALK Pallekele 31.19 196 LR LR 11 17 24.2
comp=Z,169nm,20.9s,baz=15,slow=36
MDJ Mudanjiang 31.24 64 P P 11 04 55.0 +5.1
MDJ pmax pmax
comp=Z,15nm,0.9s
MDJ LR LR
comp=Z,500nm,10.0s
MDJ LR LR
comp=Z,310nm,15.1s
MDJ LR LR
comp=Z,450nm,10.3s
AKT Akhty 31.63 290 *eP* **P** **11 04 52.9 -0.6**
AKT *e* 11 05 56.0
AKT pmax pmax
comp=Z,7.0nm,0.8s
AKT MLR MLR
comp=Z,163nm,17.0s
MAK Makhachkala 31.64 293*c iP* P 11 04 45.6 -7.8
MAK *e* 11 05 50.5
MAK *e*S S 11 09 50.7 -11
MAK *e*SS **SnSn** **11 11 42.9 -5.1**
MAK pmax pmax
comp=Z,335nm,1.3s
MAK MLR MLR
comp=Z,579nm,15.0s
BELG Belogornoye 32.06 311⇑ *eP* **P** **11 04 59.2 +2.2**
BELG pmax pmax
comp=Z,7.0nm,0.7s
KIRV Kirov 32.84 322 LR LR 11 19 41.1
comp=Z,226nm,19.9s,baz=117,slow=39
KIRV Kirov 32.84 322*c iP* **P** **11 05 04.7 +1.0**
USRK Ussuriysk Ar. 32.98 65 P **P** **11 05 07.2 +2.0**
comp=Z,2.0nm,0.8s,baz=274,slow=11,SNR=5.4
comp=Z,2.0nm,0.8s
GNI Garni 34.07 288 LR LR 11 21 06.9
comp=Z,161nm,19.5s,baz=101,slow=40
JNU Nakatsue 34.41 85 LR LR 11 19 56.5
comp=Z,310nm,18.4s,baz=292,slow=37
JOW Kunigami 34.90 96 LR LR 11 20 16.0
comp=Z,307nm,18.7s,baz=297,slow=37
KBZ Khabaz 34.92 295 P **P** **11 05 23.8 +1.8**
comp=Z,1.8nm,0.6s,baz=115,slow=11,SNR=5.6
KBZ LR LR 11 22 02.7
comp=Z,201nm,18.7s,baz=82,slow=40
comp=Z,1.8nm,0.6s
KBZ Khabaz 34.92 295⇓ *eP* **P** **11 05 26.5 +4.5**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
YAK Yakutsk 34.93 33 LR LR 11 20 39.8
comp=Z,60nm,18.7s,baz=254,slow=38
YAK Yakutsk 34.93 33 *eP* P 11 05 27.5 +5.6
YAK *e**PP sP 11 05 36.9 +6.4
YAK *e* 11 06 39.9
YAK *e*PPP PPP 11 06 58.0
YAK *e* 11 07 58.7
YAK *e*S **S** **11 10 58.2 +5.7**
YAK *e*SSS SSS 11 13 37.7
YAK *e* 11 15 41.7
YAK pmax pmax
comp=Z,45nm,1.3s
YAK pmax pmax
comp=N,5.0nm,1.5s
YAK pmax pmax
comp=E,9.0nm,1.9s
YAK pmax pmax
comp=Z,234nm,5.6s
YAK pmax pmax
comp=N,70nm,3.2s
YAK pmax pmax
comp=E,89nm,4.4s
YAK smax smax
comp=E,154nm,6.8s
YAK smax smax
comp=N,70nm,5.6s
KIV Kislovodsk 35.05 295 *eP* **P** **11 05 22.5 -0.7**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,157nm,16.0s
SHA1 Shidzhatmaz 35.09 295⇑ *iP* **P** **11 05 26.6 +2.8**
NEUR Neytrino 35.11 294 *eP* **P** **11 05 28.6 +4.7**
NEUR pmax pmax
comp=Z,5.0nm,1.2s
PSI Prapat 35.99 163 LR LR 11 22 32.3
comp=Z,177nm,21.2s,baz=339,slow=40
SOC Sochi 37.23 295 *eP* **P** **11 05 41.9 +0.1**
SOC *e* 11 07 05.2
SOC *e*S **S** **11 11 28.7 +0.6**
SOC *e*SS **SnSn** **11 13 58.9 -4.5**
SOC *e*SSS SSS 11 14 21.2
SOC MLR MLR
comp=Z,166nm,16.0s
KLMR Klimovskoe 38.30 323 *eP* **P** **11 05 50.3 -0.3**
KLMR *e* 11 07 17.1
KLMR pmax pmax
comp=Z,73nm,1.4s
KLMR MLR MLR
comp=Z,213nm,10.0s
MOS Moscow 38.38 315 *eP* **P** **11 05 51.8 +0.4**
MOS pmax pmax
comp=Z,61nm,0.9s
OBN Obninsk 38.92 314 LR LR 11 23 11.1
comp=Z,364nm,19.2s,baz=30,slow=38
OBN Obninsk 38.92 314*d iP* **P** **11 05 58.4 +2.5**
OBN *e**PP **pP** **11 06 01.0 -1.1**
OBN *e* 11 07 25.8
OBN *e*PPP PPP 11 07 45.4
OBN *e* 11 08 09.9
OBN *e*S **S** **11 11 54.3 +0.8**
OBN *e*SSS SSS 11 15 00.7
OBN pmax pmax
comp=Z,20nm,0.5s
OBN MLR MLR
comp=Z,317nm,17.0s

MAJO Matsushiro 39.07 76⇓ *eP* **P** **11 06 01.7 +4.3**
MAJO pmax pmax
comp=Z,9.0nm,1.4s
MJAR Matsushiro Arr 39.07 76 P **P** **11 05 57.8 +0.4**
comp=Z,2.0nm,0.8s,baz=288,slow=9.5,SNR=4.7
MJAR LR LR 11 22 28.4
comp=Z,177nm,18.8s,baz=297,slow=37
comp=Z,2.0nm,0.8s
RAYN Ar Rayn 39.48 262 P **P** **11 06 02.8 +1.7**
RAYN Ar Rayn 39.48 262 P **P** **11 06 02.8 +1.7**
RAYN pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 39.64 19 P **P** **11 05 59.8 -1.9**
TIXI IAmb IAmb 11 06 06.7
comp=Z,19nm,1.0s
TIXI Tiksi 39.64 19 LR LR 11 22 48.5
comp=Z,312nm,20.6s,baz=240,slow=37
TIXI Tiksi 39.64 19 P **P** **11 05 59.8 -1.9**
TIXI pmax pmax
comp=Z,19nm,1.0s
JTM Tenmabayashi 40.12 69 P **P** **11 06 03.8 -2.3**
JTM IAmb IAmb 11 06 05.0
comp=Z,66nm,1.4s
YSS Yuzhno-Sakhali 40.25 59⇓ *eP* **P** **11 06 10.8 +3.7**
YSS pmax pmax
comp=Z,7.0nm,0.9s
ASAJ Asahikawa 40.56 63 LR LR 11 23 25.0
comp=Z,195nm,20.8s,baz=287,slow=37
ASAJ Asahikawa 40.56 63 P **P** **11 06 07.3 -2.4**
ASAJ pmax pmax
comp=Z,58nm,1.7s
JKA Kamikawa-asahi 40.56 63 P **P** **11 06 07.3 -2.4**
JKA IAmb IAmb 11 07 29.3
comp=Z,58nm,1.7s
ERM Erimo 41.38 66 P **P** **11 06 14.3 -2.2**
ERM IAmb IAmb 11 06 26.0
comp=Z,30nm,1.1s
ERM Erimo 41.38 66 P **P** **11 06 14.3 -2.2**
ERM pmax pmax
comp=Z,30nm,1.1s
JHJ Hachijo jima 2 41.41 80 LR LR 11 23 44.1
comp=Z,315nm,19.9s,baz=271,slow=37
ILGA Ilgaz 42.08 292 P **P** **11 06 20.0 -2.6**
ILGA IAmb IAmb 11 06 42.8
comp=Z,20nm,1.2s
MYLDM Lahad Datu 42.24 133 P **P** **11 06 21.9 -1.8**
MYLDM IAmb IAmb 11 06 43.4
comp=Z,20nm,0.8s
LVZ Lovozero 42.27 333 P **P** **11 06 20.8 -2.7**
LVZ IAmb IAmb 11 06 28.6
comp=Z,29nm,0.9s
LVZ Lovozero 42.27 333 P **P** **11 06 20.8 -2.7**
LVZ pmax pmax
comp=Z,29nm,0.9s
ASF Jabal al Asfar 42.43 279 LR LR 11 27 14.1
comp=Z,157nm,20.5s,baz=105,slow=41
BR131 Keskin Array S 42.48 290 P **P** **11 06 24.0 -1.7**
BR131 Keskin Array S 42.48 290 P **P** **11 06 24.0 -1.7**
BR131 pmax pmax
comp=Z,8.0nm,0.7s
BRTR Keskin Array B 42.48 290 P **P** **11 06 23.3 -2.4**
BRTR Keskin Array B 42.48 290 P **P** **11 06 26.8 +1.1**
comp=Z,1.4nm,0.6s,baz=114,slow=11,SNR=9.1
comp=Z,1.4nm,0.6s
BRTR Keskin Array B 42.48 290 *i* P **P** **11 06 29.2 +3.5**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 42.52 325 *eP* **P** **11 06 24.1 -1.4**
MMAI Mount Meron Ar 43.28 280 P **P** **11 06 33.8 +1.7**
comp=Z,0.6nm,0.4s,baz=69,slow=12,SNR=4.9
comp=Z,0.6nm,0.4s
AK09 Malin Array Si 43.43 307 P **P** **11 06 35.1 +2.1**
AKASG Malin Array Be 43.46 307 P **P** **11 06 32.7 -0.6**
AKASG Malin Array Be 43.46 307 P **P** **11 06 33.6 +0.3**
comp=Z,2.1nm,0.7s,baz=73,slow=7.2,SNR=8.5
AKASG PP **PP** **11 08 16.1 +1.9**
comp=Z,0.7nm,0.5s,baz=78,slow=10,SNR=5.3
AKASG LR LR 11 28 27.1
comp=Z,258nm,19.9s,baz=92,slow=41
comp=Z,2.1nm,0.7s
AKASG Malin Array Be 43.46 307 *i* P **P** **11 06 35.7 +2.4**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 43.46 307 P **P** **11 06 32.1 -1.1**
AKBB Malin Array Si 43.46 307⇓ *eP* **P** **11 06 34.1 +0.8**
AKBB pmax pmax
comp=Z,15nm,1.2s
KIEV Kiev 43.47 307 P **P** **11 06 32.0 -1.3**
KIEV Kiev 43.47 307⇑P **P** **11 06 37.3 +4.0**
KIEV Kiev 43.47 307 P **P** **11 06 32.0 -1.3**
KIEV pmax pmax
comp=Z,13nm,1.2s
AK02 Malin Array Si 43.48 307 P **P** **11 06 35.2 +1.8**
AK11 Malin Array Si 43.50 307 P **P** **11 06 34.4 +0.8**
AK14 Malin Array Si 43.54 307 P **P** **11 06 36.3 +2.4**
AK22 Malin Array Si 43.55 307 P **P** **11 06 35.3 +1.3**
AK21 Malin Array Si 43.56 307 P **P** **11 06 34.6 +0.5**
AK19 Malin Array Si 43.59 307 P **P** **11 06 34.7 +0.4**
MNK Minsk 43.94 313 *eP* **P** **11 06 37.1 0.0**
comp=E,16nm,0.8s
MNK *eP* **P** **11 06 37.1 0.0**
comp=N,17nm,0.8s
MNK *eP* **P** **11 06 37.1 0.0**
comp=Z,20nm,0.8s,baz=86
MNK *i* PP **PP** **11 08 19.7 +0.4**
MNK *i* PPP PPP 11 08 53.9
MNK *i* S **S** **11 13 08.2 +0.3**
MNK *i* SS **SS** **11 16 25.3 +1.0**
MNK *i* SSS SSS 11 17 03.6
MNK *i* LQ LQ 11 21 51.7
MNK *i* LR LR 11 24 54.3
MNK *i* LRM MLR 11 26 09.4
comp=N,273nm,18.2s
MNK *i* LRM MLR 11 26 15.2
comp=E,226nm,21.3s
MNK *i* LRM MLR 11 26 17.6
comp=Z,302nm,16.7s
MNK Minsk 43.94 313 *eP* **P** **11 06 37.1 0.0**
MNK *i* 11 08 19.7
MNK *i* PPP PPP 11 08 53.9
MNK *i* S **S** **11 13 08.2 +0.3**
MNK *i* SSS SSS 11 17 03.6
MNK pmax pmax
comp=E,16nm,0.8s
MNK pmax pmax
comp=N,17nm,0.8s
MNK pmax pmax
comp=Z,20nm,0.8s
MNK MLR MLR
comp=N,273nm,18.0s
MNK MLR MLR
comp=E,226nm,21.0s
MNK MLR MLR
comp=Z,302nm,17.0s
MSF Maaselka 43.97 329 P **P** **11 06 38.3 +1.1**
MSF pmax pmax
comp=Z,30nm,0.8s
MDUB Mudurnu 44.08 292 P **P** **11 06 37.3 -1.3**
MDUB IAmb IAmb 11 07 10.9
comp=Z,20nm,1.0s
SORM Soroca 44.38 304⇑P **P** **11 06 44.6 +3.9**
SORM Soroca 44.38 304⇑P **P** **11 06 44.6 +3.9**
MA2 Magadan 44.44 40 LR LR 11 26 15.2
comp=Z,182nm,20.7s,baz=270,slow=38
MA2 Magadan 44.44 40⇑ *eP* **P** **11 06 43.9 +2.8**
MA2 pmax pmax
comp=Z,53nm,2.2s
VSU Vasula 44.45 318 *eP* **P** **11 06 40.0 -1.1**
VSU Vasula 44.45 318⇓ *eP* **P** **11 06 43.0 +1.9**
VSU pmax pmax
comp=Z,23nm,0.7s
LUBAR Lubar, Ukraine 44.49 306 P **P** **11 06 42.4 +0.8**
NACGM Naroch 44.56 313 *eP* **P** **11 06 38.6 -3.4**
comp=Z,6.0nm,0.9s,baz=86
VADS Vadso 44.71 335 *eP* **P** **11 06 47.2 +4.1**
FIA1 FINESS Array S 44.83 323 P **P** **11 06 42.7 -1.3**
FINES FINESS Array B 44.83 323 P **P** **11 06 43.8 -0.3**
FINES FINESS Array B 44.83 323 P **P** **11 06 45.2 +1.2**
comp=Z,6.1nm,0.5s,baz=88,slow=8.0,SNR=26
FINES PP **PP** **11 08 27.8 -0.8**
comp=Z,5.2nm,0.9s,baz=114,slow=13,SNR=4.5
FINES LR LR 11 27 15.5
comp=Z,262nm,18.9s,baz=91,slow=38
comp=Z,6.1nm,0.5s
FINES FINESS Array B 44.83 323 *i* P **P** **11 06 45.5 +1.4**

FINES pmax pmax
comp=Z,6.0nm,0.5s
ARBE Arbavere 44.84 320 *eP* **P** **11 06 42.9 -1.2**
EIL Elat 44.97 276 LR LR 11 31 15.4
comp=Z,187nm,18.6s,baz=166,slow=44
CFR Carcaliu 45.10 300⇑P P 11 06 51.4 +4.9
CFR Carcaliu 45.10 300⇑P P 11 06 51.4 +4.9
DAV Davao City (W) 45.21 123 LR LR 11 28 22.1
comp=Z,269nm,18.7s,baz=342,slow=40
SEY Seymchan 45.33 35 LR LR 11 26 45.6
comp=Z,274nm,19.1s,baz=276,slow=38
SEY Seymchan 45.33 35⇓ *eP* **P** **11 06 52.1 +4.0**
SEY pmax pmax
comp=Z,8.0nm,0.8s
KEV Kevo 45.42 335 P **P** **11 06 48.0 -0.6**
KEV Kevo 45.42 335 P **P** **11 06 48.1 -0.6**
KEV pmax pmax
comp=Z,108nm,1.9s
KEF Keuruu 45.43 324 *eP* **P** **11 06 47.4 -1.5**
RNPP9 Sopachiv 45.45 309 P **P** **11 06 50.2 +1.0**
HORU Horodok 45.46 305 P **P** **11 06 50.5 +1.2**
RNPP8 Varash 45.49 308 P **P** **11 06 50.6 +1.1**
MEF Metsahovi 45.64 321 *eP* **P** **11 06 49.4 -1.1**
ARA0 ARCESS Array S 45.90 334 *eP* **P** **11 06 53.4 +0.9**
ARCES ARCESS Array B 45.90 334 P **P** **11 06 52.3 -0.2**
ARCES ARCESS Array B 45.90 334 P **P** **11 06 53.5 +1.0**
comp=Z,6.2nm,0.5s,baz=90,slow=7.3,SNR=34
ARCES LR LR 11 27 13.7
comp=Z,182nm,18.6s,baz=108,slow=38
comp=Z,6.2nm,0.5s
ARCES ARCESS Array B 45.90 334 P **P** **11 06 52.3 -0.2**
ARCES pmax pmax
comp=Z,84nm,2.0s
VRI Vrincioaia 45.92 301⇑P P 11 07 00.3 +7.3
VRI Vrincioaia 45.92 301⇑P P 11 07 00.3 +7.3
PLOR Plostina 45.97 301⇓P P 11 06 59.9 +6.4
PLOR Plostina 45.97 301⇓P P 11 06 59.9 +6.4
PABE Paberze 46.11 314 P **P** **11 06 53.7 -0.7**
PABE Paberze 46.11 314 *eP* **P** **11 06 53.0 -1.3**
MLR Muntele Rosu 46.54 300 P **P** **11 06 57.3 -0.7**
MLR IAmb IAmb 11 07 08.8
comp=Z,10nm,0.8s
MLR Muntele Rosu 46.54 300 LR LR 11 30 05.3
comp=Z,310nm,19.7s,baz=74,slow=41
MLR Muntele Rosu 46.54 300⇑P **P** **11 07 00.9 +2.9**
MLR Muntele Rosu 46.54 300 P **P** **11 06 57.3 -0.7**
MLR pmax pmax
comp=Z,10.0nm,0.8s
BURAR Bucovina Array 46.55 303 P **P** **11 06 57.5 -0.5**
BURAR Bucovina Array 46.55 303⇓P P 11 07 03.4 +5.3
BURAR Bucovina Array 46.55 303⇓P P 11 07 03.4 +5.3
BUR08 Bucovina Ar. S 46.56 303 P **P** **11 06 56.7 -1.4**
BUR08 IAmb IAmb 11 07 56.5
comp=Z,12nm,1.4s
AKAS Kas 46.59 287 P **P** **11 06 57.1 -1.4**
AKAS IAmb IAmb 11 07 20.2
comp=Z,13nm,0.9s
KTK1 Kautokeino 46.62 333 *eP* **P** **11 07 00.2 +1.9**
HAMF Hammerfest 46.70 335 *eP* **P** **11 07 00.4 +1.7**
RAF Rauma 46.91 322 *eP* **P** **11 06 59.2 -1.3**
LANU Lannavaara 46.98 332 *eP* **P** **11 06 59.4 -1.6**
VOIR 47.16 301⇑P **P** **11 07 04.5 +1.7**
VOIR 47.16 301⇑P **P** **11 07 04.5 +1.7**
TGMR Targu Mures 47.26 302⇑P P 11 06 58.3 -5.2
ARR Arges 47.46 301⇓P **P** **11 07 08.8 +3.6**
JETT Jettan, Norway 47.68 334 *eP* **P** **11 07 08.0 +1.5**
LEM Lembang 47.69 154 LR LR 11 29 50.2
comp=Z,131nm,21.2s,baz=226,slow=39
MARR Marisel-Cluj 48.16 303⇑P P 11 07 05.5 -5.1
ATD Arta Tunnel 48.57 250 LR LR 11 29 17.0
comp=Z,5.0nm,18.4s,baz=185,slow=38
GZR Gura Zlata 48.72 301⇑P **P** **11 07 18.7 +3.8**
GZR Gura Zlata 48.72 301⇑P **P** **11 07 18.7 +3.8**
PETK Petropavlovsk- 48.85 48 P **P** **11 07 17.0 +1.3**
comp=Z,3.1nm,0.8s,baz=289,slow=6.0,SNR=4.4
PETK LR LR 11 29 03.3
comp=Z,146nm,19.7s,baz=295,slow=38
comp=Z,3.1nm,0.8s
PETK Petropavlovsk- 48.85 48 P **P** **11 07 17.0 +1.3**
UPP Uppsala 49.05 321 *eP* **P** **11 07 15.9 -1.2**
SURR Surduc 49.06 302⇑P **P** **11 07 20.0 +2.5**
HERR Herculane 49.10 301⇑P P 11 07 12.0 -5.8
OJC Ojcow 49.47 308 P **P** **11 07 19.1 -1.4**
OJC Ojcow 49.47 308 P **P** **11 07 19.1 -1.4**
STEI Steigen 49.52 332 *eP* **P** **11 07 21.5 +1.0**
FAUS Fauske 49.52 331 *eP* **P** **11 07 21.7 +1.1**
MDVR Moldovita 49.61 301⇑P **P** **11 07 23.9 +2.2**
SPITS Spitsbergen Ar 49.78 345 P **P** **11 07 23.8 +1.3**
comp=Z,7.4nm,0.9s,baz=113,slow=8.4,SNR=4.3
comp=Z,7.4nm,0.9s
MOR8 Moi Rana 49.92 329 *eP* **P** **11 07 21.8 -1.9**
BOVS Bovan 49.95 299⇓P **P** **11 07 25.8 +1.6**
RAUS Rausandaksla 50.06 330 *eP* **P** **11 07 26.2 +1.4**
LOF Lofoten 50.15 332 *eP* **P** **11 07 25.1 -0.3**
VAGH Vaagaholmen 50.35 330 *eP* **P** **11 07 27.5 +0.6**
KONS Konsvik 50.43 330 *eP* **P** **11 07 31.2 +3.7**
LEIR Leirfjorden 50.46 329 *eP* **P** **11 07 31.8 +4.0**
IDI Idoyria 50.50 288 P **P** **11 07 28.7 +0.1**
STEB Steborice 50.81 308 *eP* P 11 07 36.5 +5.9
HFS Hagfors 50.97 321 P **P** **11 07 33.2 +1.6**
comp=Z,7.9nm,0.4s,baz=90,slow=8.9,SNR=28
HFS LR LR 11 30 31.2
comp=Z,179nm,19.0s,baz=82,slow=38
comp=Z,7.9nm,0.4s
MORC Moravsky Berou 50.99 308 P **P** **11 07 30.9 -1.2**
MORC Moravsky Berou 50.99 308 *eP* **P** **11 07 35.2 +3.1**
MORC Moravsky Berou 50.99 308⇑P P 11 07 39.0 +6.9
MORC Moravsky Berou 50.99 308 P **P** **11 07 30.9 -1.2**
MORC pmax pmax
comp=Z,7.0nm,1.0s
JAVC Velka Javorina 51.15 307 *eP* **P** **11 07 37.5 +4.2**
KAPI Kappang 51.37 139 LR LR 11 33 53.8
comp=Z,85nm,18.6s,baz=306,slow=41
KRLC Kraliky 51.39 308 *eP* P 11 07 40.2 +5.1
KRLC Kraliky 51.39 308 *eP* P 11 07 40.2 +5.1
MODS Modra-Piesok 51.54 306 *eP* **P** **11 07 37.9 +1.7**
DPC Dobruska-Polom 51.60 309 *eP* **P** **11 07 38.5 +1.8**
DPC Dobruska-Polom 51.60 309 *eP* **P** **11 07 38.5 +1.8**
DPC Dobruska-Polom 51.60 309 P **P** **11 07 38.4 +1.8**
comp=Z,11nm,0.8s
VRAC Vranov 51.71 307 LR LR 11 31 47.4
comp=Z,137nm,19.1s,baz=62,slow=39
NC405 NORSAR Array S 51.76 323 P **P** **11 07 37.4 -0.2**
NC405 IAmb IAmb 11 07 43.4
comp=Z,26nm,0.9s
NC303 NORSAR Array S 51.90 323 P **P** **11 07 38.4 -0.3**
NC303 IAmb IAmb 11 07 44.1
comp=Z,13nm,0.9s
NC602 NORSAR Array S 51.91 322 P **P** **11 07 38.0 -0.7**
NC602 IAmb IAmb 11 07 43.5
comp=Z,13nm,0.6s
NC602 NORSAR Array S 51.91 322 *eP* **P** **11 07 39.9 +1.2**
NB201 NORSAR Array S 51.97 323 P **P** **11 07 38.8 -0.5**
NB201 IAmb IAmb 11 09 17.2
comp=Z,29nm,1.3s
NB2 NORSAR Subarra 52.01 323 P **P** **11 07 39.9 +0.4**
comp=Z,6.0nm,0.5s,baz=80,slow=7.4
NB2 NORSAR Subarra 52.01 323 P **P** **11 07 39.9 +0.4**
comp=Z,6.0nm,0.5s,baz=80,slow=7.4
NOA NORSAR Array B 52.01 323 P **P** **11 07 40.4 +0.8**
comp=Z,5.4nm,0.4s,baz=80,slow=7.3,SNR=25
NOA LR LR 11 31 17.5
comp=Z,225nm,18.5s,baz=75,slow=38
comp=Z,5.4nm,0.4s
PDG Podgorica 52.04 298 P **P** **11 07 40.6 +0.6**
PDG IAmb IAmb 11 07 53.4
comp=Z,15nm,0.7s
NC204 NORSAR Array S 52.18 323 P **P** **11 07 40.2 -0.6**
NC204 IAmb IAmb 11 07 46.4
comp=Z,21nm,0.9s
NAO01 NORSAR Array S 52.21 323 P **P** **11 07 40.5 -0.4**
NAO01 IAmb IAmb 11 07 46.2
comp=Z,15nm,0.8s
NBO00 NORSAR Array S 52.22 323 P **P** **11 07 40.4 -0.7**
NBO00 IAmb IAmb 11 07 45.5
comp=Z,22nm,1.1s
PRU Pruhonice 52.80 309 *eP* P 11 07 50.9 +5.4
PRU Pruhonice 52.80 309 *eP* P 11 07 50.9 +5.4
DOMB Dombas 52.83 324 *eP* **P** **11 07 47.9 +2.3**
BRG Berggiesshubel 52.92 310 *eP* P 11 07 51.8 +5.5
BRG Amp 11 07 52.6
comp=Z,3.6nm,0.7s
BRG Berggiesshubel 52.92 310 P P 11 07 55.6 +9.3
BRG Amp 11 07 56.6

	comp=Z,4.4nm,0.6s							
KONO	**Kongsberg**	53.09	321	P		**P**	**11 07 46.4**	**-1.0**
KONO	**Kongsberg**	53.09	321	*eP*		**P**	**11 07 48.7**	**+1.3**
KONO	**Kongsberg**	53.09	321	P		**P**	**11 07 46.4**	**-1.0**
KONO				pmax	pmax			
	comp=Z,65nm,1.5s							
CKRC	**Cesky Krumlov**	53.29	307	*eP*		P	11 07 54.6	+5.4
CKRC	**Cesky Krumlov**	53.29	307	*eP*		P	11 07 54.6	+5.4
CLL	**Collm**	53.36	311	*eP*		**P**	**11 07 50.0**	**+0.4**
CLL	**Collm**	53.36	311	*eP*		**P**	**11 07 50.0**	**+0.4**
CLL				*i* x		x	11 08 07.0	
CLL				Lm		MLR	11 34 00.0	
	comp=Z,200nm,18.8s							
FURI	**Furi**	53.39	251	LR		LR	11 32 25.7	
	comp=Z,79nm,18.1s,baz=46,slow=38							
MOL	**Molde**	53.41	325	*eP*		**P**	**11 07 51.0**	**+1.3**
SKAR	**Skarslia**	53.48	323	*eP*		**P**	**11 07 53.1**	**+2.7**
KHC	**Kasperske Hory**	53.66	308⇑	*eP*		**P**	**11 07 52.5**	**+0.6**
KHC				pmax	pmax			
	comp=Z,5.0nm,1.1s							
GERES	**GERESS Array B**	53.67	308	P		**P**	**11 07 53.5**	**+1.4**
	comp=Z,1.9nm,0.6s,baz=70,slow=8.7,SNR=12							
GERES				LR		LR	11 32 47.1	
	comp=Z,182nm,18.1s,baz=66,slow=38							
	comp=Z,1.9nm,0.6s							
GUMO	**Guam**	55.09	100	LR		LR	11 31 31.1	
	comp=Z,60nm,20.1s,baz=314,slow=36							
CUC	**Castrocucco**	55.34	297	P		**P**	**11 08 03.4**	**-0.8**
CUC				IAmb	IAmb		11 08 16.4	
	comp=Z,12nm,0.8s							
NRCA	**Norcia**	56.13	301	P		**P**	**11 08 08.7**	**-1.2**
FUORN	**Ofenpass-Fuorn**	56.60	306	P		**P**	**11 08 13.5**	**+0.1**
TUE	**Stuetta**	57.25	306	P		**P**	**11 08 17.8**	**-0.1**
VAE	**Valguarnera**	57.36	295	LR		LR	11 37 03.9	
	comp=Z,108nm,19.0s,baz=124,slow=40							
SHEM	**Shemya Is, Ala**	58.47	45	LR		LR	11 34 31.4	
	comp=Z,41nm,19.9s,baz=292,slow=37							
LODK	**Lodwar**	59.47	249	P		**P**	**11 08 33.5**	**-0.2**
LODK				IAmb	IAmb		11 08 36.6	
	comp=Z,6.8nm,1.1s							
EKA	**Eskdalemuir Ar**	61.00	319	P		**P**	**11 08 45.2**	**+1.7**
	comp=Z,5.0nm,0.8s,baz=60,slow=7.1,SNR=7.5							
	comp=Z,5.0nm,0.8s							
KEST	**Kesra**	61.79	295	LR		LR	11 42 36.9	
	comp=Z,51nm,18.4s,baz=24,slow=43							
B20K	**Meade River**	62.55	21	P		**P**	**11 08 52.3**	**-1.5**
B21K	**Ikpikpuk River**	63.49	20	P		**P**	**11 08 57.1**	**-2.9**
CEST	**Esterri de Car**	64.13	305	P		**P**	**11 09 02.5**	**-2.3**
F19K	**Shaleruckik Mo**	64.23	24	P		**P**	**11 09 01.4**	**-3.5**
C23K	**Itkillik River**	64.44	19	P		**P**	**11 09 04.0**	**-2.2**
D22K	**Ayikyak River**	64.50	21	P		**P**	**11 09 04.9**	**-1.7**
G18K	**Tagagawik**	64.50	25	P		**P**	**11 09 04.8**	**-1.9**
H17K	**Granite Mounta**	64.63	26	P		**P**	**11 09 06.2**	**-1.3**
F20K	**Avaraart Lake**	64.75	23	P		**P**	**11 09 06.8**	**-1.5**
F20K				IAmb	IAmb		11 09 13.8	
	comp=Z,13nm,1.4s							
D23K	**Nanushuk River**	64.99	20	P		**P**	**11 09 09.0**	**-0.9**
KNRA	**Kununurra**	65.07	137	P		**P**	**11 09 09.6**	**-1.4**
E22K	**Anaktuvuk Pass**	65.22	21	P		**P**	**11 09 09.4**	**-2.0**
E22K				IAmb	IAmb		11 09 17.5	
	comp=Z,20nm,1.4s							
F21K	**Alatna River**	65.32	22	P		**P**	**11 09 09.7**	**-2.3**
F21K				IAmb	IAmb		11 09 18.0	
	comp=Z,25nm,1.6s							
H19K	**Roundabout Mou**	65.45	25	P		**P**	**11 09 11.6**	**-1.3**
H19K				IAmb	IAmb		11 09 28.0	
	comp=Z,10nm,1.0s							
FITZ	**Fitzroy Crossi**	65.47	141	P		**P**	**11 09 11.7**	**-1.9**
TOLK	**Toolik Lake Re**	65.51	20	P		**P**	**11 09 11.2**	**-2.1**
MBAR	**Mbarara**	65.58	249	P		**P**	**11 09 13.9**	**-0.7**
MBAR				IAmb	IAmb		11 09 21.2	
	comp=Z,7.8nm,0.8s							
MBAR	**Mbarara**	65.58	249	LR		LR	11 40 54.3	
	comp=Z,66nm,21.0s,baz=150,slow=39							
MBAR	**Mbarara**	65.58	249	P		**P**	**11 09 13.9**	**-0.7**
MBAR				pmax	pmax			
	comp=Z,8.0nm,0.9s							
J17K	**VABM Dome**	65.83	27	P		**P**	**11 09 12.5**	**-2.8**
PSA00	**Pilbara Seismi**	65.84	148	P		**P**	**11 09 14.7**	**-1.1**
D25K	**Kavik River**	65.88	19	P		**P**	**11 09 12.9**	**-2.8**
D25K				IAmb	IAmb		11 09 38.2	
	comp=Z,12nm,1.1s							
M13K	**Dall Lake**	65.91	31	P		**P**	**11 09 14.0**	**-1.9**
IMAR	**Indian Mountai**	66.03	23	P		**P**	**11 09 15.1**	**-1.5**
E24K	**Your Creek**	66.19	20	P		**P**	**11 09 15.2**	**-2.5**
E24K				IAmb	IAmb		11 09 34.0	
	comp=Z,6.2nm,0.8s							
COLD	**Coldfoot**	66.29	21	P		**P**	**11 09 15.5**	**-2.8**
COLD				IAmb	IAmb		11 09 27.7	
	comp=Z,9.8nm,0.8s							
C27K	**Jago River**	66.32	18	P		**P**	**11 09 16.3**	**-2.1**
C27K				IAmb	IAmb		11 09 27.5	
	comp=Z,12nm,0.8s							
H21K	**Melozitna Rive**	66.54	23	P		**P**	**11 09 18.5**	**-1.4**
J19K	**Poorman**	66.68	26	P		**P**	**11 09 19.4**	**-1.4**
J19K				IAmb	IAmb		11 09 32.4	
	comp=Z,12nm,1.0s							
G23K	**Bananza Creek**	66.69	22	P		**P**	**11 09 19.1**	**-1.8**
E25K	**Arctic Village**	66.94	19	P		**P**	**11 09 20.8**	**-1.7**
J20K	**Nowinta River**	67.07	25	P		**P**	**11 09 22.2**	**-1.1**
J20K				IAmb	IAmb		11 09 33.1	
	comp=Z,8.0nm,0.7s							
RES	**Resolute Bay**	67.84	1	LR		LR	11 41 38.5	
	comp=Z,63nm,18.5s,baz=22,slow=38							
CCB	**Clear Creek Bu**	68.78	23	P		**P**	**11 09 31.1**	**-3.0**
CCB				IAmb	IAmb		11 09 42.8	
	comp=Z,11nm,1.4s							
WRH	**Wood River Hil**	68.82	23	P		**P**	**11 09 32.6**	**-1.7**
G27K	**Doyon Strip**	68.94	19	P		**P**	**11 09 32.6**	**-2.4**
G27K				IAmb	IAmb		11 10 49.3	
	comp=Z,12nm,1.6s							
IL31		68.97	22	P		**P**	**11 09 32.3**	**-2.9**
IL31				IAmb	IAmb		11 09 45.5	
	comp=Z,5.3nm,0.8s							
ILAR	**Eielson Array**	68.97	22	P		**P**	**11 09 31.6**	**-3.7**
ILAR	**Eielson Array**	68.97	22	P		**P**	**11 09 36.5**	**+1.3**
	comp=Z,2.4nm,0.7s,baz=317,slow=4.3,SNR=14							
ILAR				LR		LR	11 41 30.9	
	comp=Z,126nm,21.6s,baz=298,slow=38							
	comp=Z,2.4nm,0.7s							
ESDC	**Sonseca Array**	69.00	304	P		**P**	**11 09 37.0**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=58,slow=6.0,SNR=7.2							
ESDC				LR		LR	11 46 20.3	
	comp=Z,114nm,18.9s,baz=62,slow=42							
	comp=Z,1.1nm,0.8s							
N19K	**Bonanza Creek**	69.13	28	P		**P**	**11 09 33.1**	**-3.3**
SKT	**Skwentna**	69.42	26	P		**P**	**11 09 36.6**	**-1.4**
SKT				IAmb	IAmb		11 09 44.2	
	comp=Z,17nm,1.1s							
POIN	**Pond Inlet**	69.48	356	P		**P**	**11 09 35.4**	**-2.8**
J25K	**Salcha River,**	69.54	22	P		**P**	**11 09 37.0**	**-1.9**
J25K				IAmb	IAmb		11 10 04.6	
	comp=Z,22nm,2.0s							
STLK	**Strandline Lak**	69.64	26	P		**P**	**11 09 36.5**	**-3.0**
STLK				IAmb	IAmb		11 09 48.4	
	comp=Z,16nm,1.3s							
INK	**Inuvik**	69.66	15	LR		LR	11 43 29.3	
	comp=Z,61nm,20.2s,baz=20,slow=39							
F30M	**Barrier River**	69.73	17	P		**P**	**11 09 37.0**	**-2.9**
F30M				IAmb	IAmb		11 11 03.5	
	comp=Z,11nm,1.1s							
G29M	**Pine Creek**	69.77	18	P		**P**	**11 09 37.8**	**-2.3**
K24K	**Donnelly Dome**	70.01	23	P		**P**	**11 09 39.3**	**-2.4**
K24K				IAmb	IAmb		11 09 58.2	
	comp=Z,18nm,1.1s							
DHY	**Denali Highway**	70.04	24	P		**P**	**11 09 38.6**	**-3.4**
SUA	**Susitna One**	70.04	26	P		**P**	**11 09 39.6**	**-2.5**
SUA				IAmb	IAmb		11 09 48.8	
	comp=Z,17nm,1.0s							
SDPT	**Sand Point**	70.14	35	P		**P**	**11 09 39.5**	**-3.1**
J26L	**Joseph Creek**	70.15	21	P		**P**	**11 09 39.7**	**-2.9**
J26L				IAmb	IAmb		11 09 59.1	
	comp=Z,7.4nm,0.9s							
H29M	**Whitestone**	70.23	18	P		**P**	**11 09 40.0**	**-3.0**
H29M				IAmb	IAmb		11 11 35.1	
	comp=Z,25nm,1.6s							
F31M	**Tsiigehtchic**	70.33	16	P		**P**	**11 09 41.0**	**-2.5**
F31M				IAmb	IAmb		11 11 42.2	
	comp=Z,16nm,1.2s							
RIDG	**Independent Ri**	70.34	22	P		**P**	**11 09 40.3**	**-3.5**
RIDG				IAmb	IAmb		11 09 53.9	
	comp=Z,12nm,0.8s							
SCRK	**Sand Creek**	70.42	22	P		**P**	**11 09 42.3**	**-2.1**
SCRK				IAmb	IAmb		11 09 49.4	
	comp=Z,7.0nm,1.1s							
I28M	**Miner Creek**	70.43	19	P		**P**	**11 09 42.4**	**-2.0**
EGAK	**Eagle**	70.62	20	P		**P**	**11 09 41.9**	**-3.4**
EGAK				IAmb	IAmb		11 09 56.2	
	comp=Z,5.4nm,0.8s							
SML	**Sawmill**	70.63	25	P		**P**	**11 09 42.7**	**-2.8**
SML				IAmb	IAmb		11 10 02.2	
	comp=Z,10nm,0.8s							
SML	**Sawmill**	70.63	25	P		**P**	**11 09 42.7**	**-2.8**
SML				pmax	pmax			
	comp=Z,10.0nm,0.8s							
G31M	**Satah River**	70.64	17	P		**P**	**11 09 43.0**	**-2.4**
SLKM	**Skilak Lake**	70.89	27	P		**P**	**11 09 44.8**	**-2.4**
SCM	**Sheep Creek Mo**	70.94	25	P		**P**	**11 09 44.0**	**-3.5**
SCM	**Sheep Creek Mo**	70.94	25	P		**P**	**11 09 44.0**	**-3.5**
SCM				pmax	pmax			
	comp=Z,86nm,1.9s							
SFJD	**Kangerlussuaq**	71.11	344	LR		LR	11 43 19.1	
	comp=Z,74nm,20.8s,baz=37,slow=38							
CNPM	**China Poot**	71.20	28	P		**P**	**11 09 46.4**	**-2.6**
CNPM				IAmb	IAmb		11 10 12.0	
	comp=Z,20nm,1.1s							
I30M	**Mount Dempster**	71.53	18	P		**P**	**11 09 48.2**	**-2.8**
I30M				IAmb	IAmb		11 09 59.3	
	comp=Z,6.6nm,0.7s							
H31M	**Peel River**	71.54	17	P		**P**	**11 09 48.1**	**-2.9**
H31M				IAmb	IAmb		11 09 59.5	
	comp=Z,20nm,1.4s							
WRAB	**Tennant Creek**	71.61	135⇑	*eP*		**P**	**11 09 55.6**	**+3.7**
WRAB				pmax	pmax			
	comp=Z,10.0nm,0.9s							
WRA	**Warramunga Arr**	71.61	135	P		**P**	**11 09 53.3**	**+1.4**
	comp=Z,4.8nm,0.9s,baz=331,slow=6.2,SNR=22							
WRA				LR		LR	11 47 14.9	
	comp=Z,38nm,18.7s,baz=357,slow=41							
	comp=Z,4.8nm,0.9s							
WB2	**Warramunga Arr**	71.61	135	P		**P**	**11 09 49.8**	**-2.2**
WB2				IAmb	IAmb		11 10 07.3	
	comp=Z,5.8nm,0.8s							
KLU	**Klutina**	71.65	24	P		**P**	**11 09 49.3**	**-2.5**
KLU				IAmb	IAmb		11 10 49.3	
	comp=Z,12nm,1.4s							
DAWY	**Dawson**	71.66	20	P		**P**	**11 09 49.8**	**-1.9**
WR8	**Warramunga Arr**	71.71	135	P		**P**	**11 09 50.9**	**-1.6**
WR8				IAmb	IAmb		11 09 58.3	
	comp=Z,7.3nm,1.1s							
L27K	**Beaver Creek,**	71.75	22	P		**P**	**11 09 49.3**	**-3.0**
L27K				IAmb	IAmb		11 09 59.6	
	comp=Z,5.8nm,0.9s							
PMG	**Port Moresby**	71.88	118	LR		LR	11 42 51.2	
	comp=Z,72nm,20.0s,baz=262,slow=37							
KDAK	**Kodiak Island**	71.89	30	P		**P**	**11 09 50.8**	**-2.3**
KDAK	**Kodiak Island**	71.89	30	LR		LR	11 44 09.2	
	comp=Z,191nm,20.1s,baz=327,slow=38							
KDAK	**Kodiak Island**	71.89	30	P		**P**	**11 09 50.8**	**-2.3**
KDAK				pmax	pmax			
	comp=Z,115nm,1.9s							
N25K	**Chitina, Valde**	72.00	24	IAmb	IAmb		11 10 00.1	
	comp=Z,9.4nm,1.1s							
J30M	**Hart River**	72.06	19	P		**P**	**11 09 51.6**	**-2.7**
J30M				IAmb	IAmb		11 12 28.6	
	comp=Z,14nm,1.8s							
M27K	**Edge Creek, AK**	72.27	22	P		**P**	**11 09 52.5**	**-3.1**
M27K				IAmb	IAmb		11 10 02.0	
	comp=Z,8.4nm,1.1s							
K29M	**Barlow Dome**	72.34	20	P		**P**	**11 09 53.5**	**-2.5**
L29M	**L29M**	72.76	20	P		**P**	**11 09 56.3**	**-2.0**
MDT	**Midelt**	73.18	299	LR		LR	11 49 24.5	
	comp=Z,42nm,18.0s,baz=74,slow=42							
M29M	**Somme Creek**	73.20	21	P		**P**	**11 09 57.9**	**-3.2**
M29M				IAmb	IAmb		11 11 36.6	
	comp=Z,22nm,1.9s							
AS31	**Alice Springs**	74.36	138	P		**P**	**11 10 05.0**	**-3.2**
ASAR	**Alice Springs**	74.36	138	P		**P**	**11 10 05.6**	**-2.6**
ASAR	**Alice Springs**	74.36	138	P		**P**	**11 10 10.4**	**+2.2**
	comp=Z,2.8nm,0.9s,baz=324,slow=5.5,SNR=18							
	comp=Z,2.8nm,0.9s							
ASAR	**Alice Springs**	74.36	138	P		**P**	**11 10 05.6**	**-2.6**
N30M	**Aishikik Lake**	74.38	21	P		**P**	**11 10 05.0**	**-2.9**
N30M				IAmb	IAmb		11 12 18.4	
	comp=Z,17nm,1.6s							
M31M	**Drury Creek, Y**	74.51	19	P		**P**	**11 10 05.7**	**-2.9**
M31M				IAmb	IAmb		11 10 13.5	
	comp=Z,30nm,1.9s							
HYT	**Haines Junctio**	74.78	22	P		**P**	**11 10 07.1**	**-3.2**
HYT				IAmb	IAmb		11 10 19.5	
	comp=Z,16nm,1.7s							
MMPY	**Sheldon Lake,**	74.95	18	P		**P**	**11 10 08.4**	**-2.8**
MMPY				IAmb	IAmb		11 11 47.5	
	comp=Z,34nm,2.0s							
O30N	**Mendenhall**	75.22	21	P		**P**	**11 10 09.9**	**-2.8**
O30N				IAmb	IAmb		11 11 57.9	
	comp=Z,25nm,1.8s							
P33M	**Teslin, Yukon**	76.60	20	P		**P**	**11 10 18.1**	**-2.5**
P33M				IAmb	IAmb		11 10 48.6	
	comp=Z,22nm,1.6s							
FRB	**Frobisher Bay**	77.27	350	LR		LR	11 46 58.8	
	comp=Z,125nm,20.1s,baz=40,slow=38							
LSZ	**Lusaka**	77.50	239	LR		LR	11 44 43.1	
	comp=Z,46nm,19.1s,baz=11,slow=36							
R33M	**Jennings River**	77.79	20	P		**P**	**11 10 23.9**	**-3.5**
R33M				IAmb	IAmb		11 11 05.7	
	comp=Z,30nm,2.0s							
YKA	**Yellowknife Ar**	78.36	11	P		**P**	**11 10 30.9**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=337,slow=6.3,SNR=7.6							
YKA				LR		LR	11 46 26.2	
	comp=Z,44nm,21.8s,baz=340,slow=37							
	comp=Z,1.4nm,0.8s							
YKAW1	**Yellowknife Wh**	78.39	11	P		**P**	**11 10 27.2**	**-3.3**
YKAW1				IAmb	IAmb		11 10 38.8	
	comp=Z,9.8nm,0.7s							
DLBC	**Dease Lake**	78.86	20	LR		LR	11 48 32.2	
	comp=Z,859nm,18.7s,baz=310,slow=38							
TORD	**Torodi Ar. Bea**	79.79	279	P		**P**	**11 10 38.0**	**-1.0**
TORD	**Torodi Ar. Bea**	79.79	279	P		**P**	**11 10 39.3**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=40,slow=5.7,SNR=9.9							
	comp=Z,2.5nm,0.8s							
MATP	**Matopo**	80.94	236	LR		LR	11 47 08.1	
	comp=Z,79nm,18.5s,baz=54,slow=36							
SCHQ	**Schefferville**	85.45	346	LR		LR	11 55 01.5	
	comp=Z,746nm,18.5s,baz=325,slow=40							
DBIC	**Dimbokro**	88.82	277	LR		LR	11 56 04.8	
	comp=Z,100nm,18.9s,baz=70,slow=39							
DZM	**Mont Dzumac**	94.06	115	*e*LR		LR	11 41 54.3	
	comp=Z,93nm,23.4s							
PPT2	**Papete2**	125.45	85	*e*LR		LR	11 56 17.7	
PPT2	comp=Z,80nm,34.2s							
				*e*LR		LR	11 56 28.9	
	comp=Z,99nm,33.5s							
TBI	**Tubuai**	128.60	91	*e*LR		LR	11 57 49.3	
	comp=Z,376nm,30.2s							
CPUP	**Villa Florida**	149.25	282	PKPbc		**PKiKP**	**11 18 20.9**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=19,slow=1.2,SNR=5.7							
LPAZ	**La Paz**	150.49	310	PKPbc		**PKiKP**	**11 18 26.3**	**+2.3**
	comp=Z,2.6nm,0.8s,baz=20,slow=4.3,SNR=8.6							

AFAD 27 11:04:50.9, 38.48N×28.44E, h6km±1km, ML1.4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANT	**Manisa**	**0.10**	**83**	P	Pg	11 04 53.4	+0.2
MANT				S	Sg	11 04 55.0	+0.3
MANT				*i* IAML		11 04 56.0	
	comp=N,380nm,0.2s						
MANT				*i* IAML		11 04 57.0	
	comp=E,435nm,0.7s						
KIRA	**zmir-Kiraz**	**0.28**	**186**	P	Pg	11 04 57.1	+0.6
KIRA				S	Sb	11 05 01.9	-1.6
USAK	**Uak-Merkez**	**0.51**	**63**	P	Pg	11 05 00.9	+0.2
USAK				*i* IAML		11 05 08.0	
	comp=N,57nm,1.4s						
USAK				*i* IAML		11 05 08.0	
	comp=E,16nm,1.5s						
USAK				S	Sb	11 05 09.2	-0.8

*IDC **27** 11:10:54.8±1.0, 38.90N×142.05E, h0km, mb4.0/12, mbtmp3.9/17, ML3.3/5, MS2.3/1, Error ellipse: s-maj=24.9km s-min=14.9km az=93.0*
*NEIC **27** 11:11:02.1±1.0, 38.86N±0.06×142.1E±0.1, h52km±8km, mb4.6/30, Error ellipse: s-maj=14.4km s-min=7.3km az=109.0*
*NIED **27** 11:11:02.4, 38.92N×141.93E, h51km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.90; Mθθ1.14; Mϕϕ-5.03; Mrθ1.71; Mθϕ-2.84; Mϕr5.19;*

Fault plane solution: M0 7.42000×10¹⁴ NP1: ϕs208.00000°, δ21.00000°, λ99.00000°. NP2: ϕs18.00000°, δ69.00000°, λ86.00000°.
*JMA **27** 11:11:02.4±0.1, 38.9N±0.3×141.9E±0.6, h51km, MD3.8/40, MV4.0/40, KINKAZAN REGION*
JMA Felt II J1 at KINKAZAN REGION .

ISC 27 11:11:02.0±1.0, 38.90N±0.04×141.95E±0.08, h49km±7km, n103, σ1‡25/100, mb4.4/28, 16D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.29**	**310**	⇓*i*P	**Pn**	**11 11 11.4**	**+0.5**
OFUJ				⇓S	**Sn**	**11 11 17.6**	**+0.4**
OFUJ	**Ofunato**	**0.29**	**310**	A	A	11 11 11.4	
	comp=N,6.0nm,0.5s,comp=E,30nm,0.9s						
JKMT	**Kesennumamotoy**	**0.38**	**257**	⇓P	**Pn**	**11 11 12.3**	**+0.5**
JKMT				⇓S	**Sn**	**11 11 19.0**	**+0.2**
JKMT	**Kesennumamotoy**	**0.38**	**257**	A	A	11 11 12.3	
	comp=N,6.0nm,1.7s,comp=E,11nm,0.6s						
JMK	**Ichinoseki**	**0.57**	**276**	⇓P	**Pn**	**11 11 14.4**	**+0.4**
JMK	**Ichinoseki**	**0.57**	**276**	A	A	11 11 14.4	
	comp=N,4.0nm,5.9s,comp=E,12nm,0.7s						
JIO	**Ouri**	**0.65**	**227**	⇓*i*P	**Pn**	**11 11 15.3**	**+0.4**
JIO				⇓S	**Sn**	**11 11 24.1**	**-0.1**
JOM	**Ohasama**	**0.77**	**319**	⇓*i*P	**Pn**	**11 11 16.9**	**+0.2**
JOM				⇓S	**Sn**	**11 11 27.2**	**-0.1**
JOM	**Ohasama**	**0.77**	**319**	A	A	11 11 16.9	
	comp=N,16nm,0.3s,comp=E,26nm,0.2s						
JOFO	**Osakifurukawao**	**0.86**	**251**	A	A	11 11 18.4	
	comp=N,15nm,0.5s,comp=E,15nm,0.5s						
JTH	**Tanohata**	**1.04**	**356**	*i* P	**Pn**	**11 11 20.2**	**0.0**
JTH				S	**Sn**	**11 11 34.0**	**+0.2**
JOU	**Okura**	**1.14**	**243**	⇓*i*P	**Pn**	**11 11 21.8**	**+0.3**
JOU				⇓S	**Sn**	**11 11 36.2**	**+0.1**
JOU	**Okura**	**1.14**	**243**	A	A	11 11 21.8	
	comp=N,3.0nm,1.5s,comp=E,3.0nm,2.1s						
JRG	**Rokugo**	**1.14**	**296**	⇓*i*P	**Pn**	**11 11 21.7**	**+0.1**
JRG				⇓S	**Sn**	**11 11 36.1**	**+0.1**
JRG	**Rokugo**	**1.14**	**296**	A	A	11 11 21.7	
	comp=N,3.0nm,0.7s,comp=E,5.0nm,0.5s						
JYK	**Kaneyama**	**1.24**	**272**	⇓*i*P	**Pn**	**11 11 23.3**	**+0.4**
JMM	**Marumori**	**1.37**	**222**		**Pn**	**11 11 25.1**	**+0.5**
JMM	**Marumori**	**1.37**	**222**	P	**Pn**	**11 11 25.2**	**+0.5**
JMM	**Marumori**	**1.37**	**222**	⇓*i*P	**Pn**	**11 11 24.6**	**-0.1**
JMM				⇓*e*S	**Sn**	**11 11 41.7**	**0.0**
JANG	**Nango**	**1.52**	**347**	P	**Pn**	**11 11 26.4**	**-0.2**
JTM	**Tenmabayashi**	**2.01**	**340**		**Pn**	**11 11 34.1**	**+0.8**
JTM	**Tenmabayashi**	**2.01**	**340**	P	**Pn**	**11 11 34.4**	**+1.0**
JTM	**Tenmabayashi**	**2.01**	**340**	S	**Sn**	**11 11 59.6**	**+2.3**
JSD	**Sado**	**3.02**	**255**	Pn	**Pn**	**11 11 47.7**	**+0.5**
JSD	**Sado**	**3.02**	**255**	P	**Pn**	**11 11 47.8**	**+0.5**
ERM	**Erimo**	**3.25**	**16**	Pn	**Pn**	**11 11 50.8**	**+0.4**
ERM	**Erimo**	**3.25**	**16**	P	**Pn**	**11 11 51.9**	**+1.5**
JEM	**Erimo**	**3.25**	**16**	P	**Pn**	**11 11 51.3**	**+0.9**
MJAR	**Matsushiro Arr**	**3.78**	**233**		**Pn**	**11 12 00.3**	**+2.5**
MJAR	**Matsushiro Arr**	**3.78**	**233**	Pn	**Pn**	**11 11 57.1**	**-0.7**
	comp=E,0.5nm,0.3s,baz=35,slow=12,SNR=40						
MJAR				Sn	**Sn**	**11 12 43.7**	**+2.6**
	comp=E,0.2nm,0.3s,baz=9.9,slow=12,SNR=4.1						
MJAR				LR	LR	11 13 50.7	
	comp=E,47nm,21.3s,baz=130,slow=46						
	comp=E,5.8nm,0.5s						
MAJO	**Matsushiro**	**3.79**	**233**		**Pn**	**11 12 00.1**	**+2.3**
MAJO	**Matsushiro**	**3.79**	**233**	P	**Pn**	**11 12 00.1**	**+2.3**
MJB9	**Matsu-Tunnel**	**3.79**	**233**		**Pn**	**11 12 00.1**	**+2.3**
JGF	**Kuroka**	**4.92**	**230**		**Pn**	**11 12 16.6**	**+3.2**
JGF	**Kuroka**	**4.92**	**230**	P	**Pn**	**11 12 16.1**	**+2.7**
JKA	**Kamikawa-asahi**	**5.24**	**5**	Pn	**Pn**	**11 12 17.4**	**-0.3**
ASAJ	**Asahikawa**	**5.24**	**5**	Pn	**Pn**	**11 12 14.9**	**-2.8**
	comp=E,1.3nm,0.3s,baz=206,slow=12,SNR=14						
ASAJ				Sn	**Sn**	**11 13 14.2**	**-2.6**
	comp=E,1.1nm,0.3s,baz=18,slow=30,SNR=1.6						
	comp=E,4.9nm,0.9s						
INU	**Inuyama**	**5.30**	**230**		**Pn**	**11 12 19.9**	**+1.3**
INU	**Inuyama**	**5.30**	**230**	P	**Pn**	**11 12 21.7**	**+3.2**
JHJ	**Hachijo jima 2**	**6.03**	**198**	Pn	**Pn**	**11 12 24.2**	**-4.3**
	comp=E,3.2nm,0.3s,baz=56,slow=20,SNR=0.9						
JHJ				Sn	**Sn**	**11 13 34.3**	**-1.8**
	comp=E,4.8nm,0.3s,baz=78,slow=21,SNR=1.5						
	comp=E,55nm,0.7s						
USRK	**Ussuriysk Ar.**	**9.15**	**309**	Pn	**Pn**	**11 13 09.1**

I30M					IAmb	IAmb	11 20 16.3	
	comp=Z,4.2nm,1.1s							
KKAR	**Karatay Array**	**52.58**	**299**		P	**P**	**11 20 11.1**	**+0.6**
F31M	**Tsiigehtchic**	**52.64**	**29**		P	**P**	**11 20 10.2**	**-0.4**
F31M					IAmb	IAmb	11 20 32.6	
	comp=Z,21nm,1.5s							
SMRI	**Semarang**	**54.26**	**220**		P	**P**	**11 20 22.2**	**-0.9**
ARTI	**Arti**	**55.37**	**318**		P	**P**	**11 20 30.8**	**+0.2**
KNRA	**Kununurra**	**55.67**	**195**		P	**P**	**11 20 32.3**	**-0.8**
KNRA					IAmb	IAmb	11 20 52.2	
	comp=Z,15nm,1.5s							
AB31	**Akbulak array**	**57.08**	**309**		P	**P**	**11 20 42.6**	**-0.3**
AB31					IAmb	IAmb	11 20 43.2	
	comp=Z,2.9nm,0.6s							
ABKAR	**Akbulak array**	**57.08**	**309**		P	**P**	**11 20 42.5**	**-0.4**
WB0	**Warramunga Arr**	**58.78**	**188**		P	**P**	**11 20 54.6**	**-0.5**
WB0					IAmb	IAmb	11 21 16.8	
	comp=Z,6.9nm,1.4s							
WR8	**Warramunga Arr**	**58.95**	**188**		P	**P**	**11 20 55.6**	**-0.7**
WR8					IAmb	IAmb	11 21 29.3	
	comp=Z,5.2nm,1.3s							
WRA	**Warramunga Arr**	**58.96**	**188**		P	**P**	**11 20 54.4**	**-2.0**
WRA	**Warramunga Arr**	**58.96**	**188**		P	**P**	**11 20 56.0**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=5.5,slow=6.8,SNR=11							
	comp=Z,0.6nm,0.5s							
ARCES	**ARCESS Array B**	**62.41**	**339**		P	**P**	**11 21 19.4**	**+0.1**
AS31	**Alice Springs**	**62.69**	**188**		P	**P**	**11 21 20.4**	**-1.2**
ASAR	**Alice Springs**	**62.69**	**188**		P	**P**	**11 21 20.1**	**-1.6**
ASAR	**Alice Springs**	**62.69**	**188**		P	**P**	**11 21 21.6**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=7.4,slow=5.4,SNR=4.8							
	comp=Z,0.3nm,0.8s							
FIA1	**FINESS Array S**	**67.37**	**332**		P	**P**	**11 21 52.2**	**+0.6**
FINES	**FINESS Array B**	**67.37**	**332**		P	**P**	**11 21 51.6**	**0.0**
FINES	**FINESS Array B**	**67.37**	**332**		P	**P**	**11 21 51.4**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=30,slow=8.8,SNR=7.5							
	comp=Z,1.2nm,0.6s							
KBZ	**Khabaz**	**70.02**	**310**		P	**P**	**11 22 08.8**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=158,slow=4.1,SNR=2.2							
	comp=Z,1.3nm,0.7s							
HFS	**Hagfors**	**72.57**	**336**		P	**P**	**11 22 23.6**	**0.0**
	comp=Z,0.9nm,0.5s,baz=39,slow=5.7,SNR=4.1							
	comp=Z,0.9nm,0.5s							
AKASG	**Malin Array Be**	**73.09**	**322**		P	**P**	**11 22 26.1**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=45,slow=6.3,SNR=5.5							
	comp=Z,0.9nm,0.5s							
BRTR	**Keskin Array B**	**77.94**	**312**		P	**P**	**11 22 55.4**	**+0.4**
BRTR	**Keskin Array B**	**77.94**	**312**		P	**P**	**11 22 55.1**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=349,slow=2.8,SNR=2.3							
	comp=Z,0.4nm,0.4s							

*ISK **27** 11:13:46.7,40.85N×28.27E,h10km,ML3.5/39*
*AFAD **27** 11:13:46.8,40.84N×28.25E,h7km±3km,MW3.3*
*CFUSG **27** 11:13:48.2,40.96N×28.28E,h5km,mb2.8/2,MD3.3/2,*
Sea of Marmara Magtype MSH 3.1 from 4 stations
ISC 27 11:13:47.3±1.0,40.85N±0.02×28.28E±0.02,h9km±8km,
n79,σ0.57/106,18C-11D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
ELBA	**Catalca**	**0.32**	**21**	P		**Pg**	**11**	**13**	**53.7**	**0.0**
ELBA				S		**Sg**	**11**	**13**	**58.1**	**+0.1**
AVCI	**Avcilar-stanb**	**0.37**	**66**	Pg		**Pg**	**11**	**13**	**54.4**	**-0.1**
AVCI				Sg		**Sg**	**11**	**13**	**54.9**	**+1.0**
SLVT	**Silivri**	**0.39**	**353**	Pg		**Pg**	**11**	**13**	**54.9**	**0.0**
SLVT				Sg		**Sg**	**11**	**14**	**00.7**	**+0.7**
CTKS	**Kestenelik-??a**	**0.43**	**24**	Pg		**Pg**	**11**	**13**	**55.6**	**0.0**
BGKT	**Bogazkoy**	**0.50**	**48**	Pg		**Pg**	**11**	**13**	**56.9**	**-0.1**
BAND	**Balkesir-Ban**	**0.51**	**195**	P		**Pg**	**11**	**13**	**57.3**	**+0.2**
BAND				S		**Sg**	**11**	**14**	**03.9**	**+0.2**
ARMT	**Armutlu**	**0.53**	**122**	Pg		**Pg**	**11**	**13**	**57.6**	**+0.1**
ARMT				Sg		**Sb**	**11**	**14**	**05.6**	**-0.8**
MRMT	**Marmara Adasi**	**0.57**	**245**	Pg		**Pg**	**11**	**13**	**57.8**	**-0.5**
TKR	**Tekirdag**	**0.58**	**285**	Pg		**Pg**	**11**	**13**	**58.6**	**+0.1**
TKR				Sg		**Sb**	**11**	**14**	**07.1**	**-0.8**
EDC	**Edincik**	**0.59**	**212**	Pg		**Pg**	**11**	**13**	**58.8**	**+0.2**
CTYL	**Yalikoy Yolu**	**0.63**	**1**	Pg		**Pg**	**11**	**13**	**59.1**	**-0.3**
ISK	**Istanbul-Kandi**	**0.63**	**69**	Pg		**Pg**	**11**	**13**	**59.3**	**-0.2**
KAVV	**Kandilli-Istan**	**0.63**	**70**	Pg		**Pg**	**11**	**13**	**57.9**	**-1.6**
MDNY	**Mudanya-Bursa**	**0.66**	**136**	Pg		**Pg**	**11**	**14**	**00.4**	**+0.3**
KLYT	**Kilyos**	**0.71**	**55**	Pg		**Pg**	**11**	**14**	**00.8**	**-0.1**
KLYT	**Kilyos**	**0.71**	**55**	⇑P		**Pg**	**11**	**14**	**00.9**	**0.0**
KLYT				⇓S		**Sg**	**11**	**14**	**10.7**	**+0.6**
KURT	**Yalova, Merkez**	**0.75**	**109**	P		**Pg**	**11**	**14**	**01.6**	**-0.1**
KURT				S		**Sb**	**11**	**14**	**12.5**	**-0.4**
VIZE	**Kirklareli, Vi**	**0.80**	**336**	P		**Pg**	**11**	**14**	**02.4**	**-0.3**
VIZE				S		**Sg**	**11**	**14**	**13.2**	**0.0**
SART	**Tekirdag**	**0.85**	**260**	P		**Pg**	**11**	**14**	**03.4**	**-0.2**
SART				S		**Sb**	**11**	**14**	**15.2**	**-0.5**
KRBG	**Karabiga-Canak**	**0.87**	**239**	Pg		**Pg**	**11**	**14**	**03.9**	**-0.1**
YLV	**Yalova**	**0.88**	**108**	Pg		**Pg**	**11**	**14**	**03.9**	**-0.3**
SUSR	**Susurluk-Balik**	**0.89**	**190**	Pg		**Pg**	**11**	**14**	**04.4**	**0.0**
GONE	**Gonen-Balikesi**	**0.92**	**210**	Pg		**Pg**	**11**	**14**	**04.9**	**0.0**
ORLT	**Orhaneli**	**0.93**	**149**	Pg		**Pg**	**11**	**14**	**05.2**	**+0.1**
ULDT	**Uludag**	**0.96**	**137**	P		**Pg**	**11**	**14**	**05.6**	**-0.2**
ULDT				S		**Sb**	**11**	**14**	**19.4**	**+0.3**
PHSR	**Pinarhisar**	**0.97**	**324**	Pg		**Pg**	**11**	**14**	**05.7**	**-0.2**
PHSR	**Pinarhisar**	**0.97**	**324**	⇑P		**Pg**	**11**	**14**	**06.5**	**+0.2**
PHSR				⇓S		**Sg**	**11**	**14**	**21.4**	**0.0**
BLKS	**Balkesir-Sus**	**1.00**	**194**	P		**Pg**	**11**	**14**	**05.9**	**-0.5**
BLKS				S		**Sg**	**11**	**14**	**19.4**	**0.0**
HRT	**Hereke**	**1.06**	**91**	Pg		**Pg**	**11**	**14**	**07.6**	**0.0**
SILT	**Sile**	**1.08**	**73**	Pg		**Pg**	**11**	**14**	**07.7**	**-0.3**
SILT	**Sile**	**1.08**	**73**	⇑P		**Pn**	**11**	**14**	**08.5**	**0.0**
SILT				⇑S		**Sb**	**11**	**14**	**22.6**	**+0.3**
OSMT	**Osmaniye**	**1.11**	**102**	Pn		**Pg**	**11**	**14**	**08.4**	**-0.2**
SEMS	**Kocaeli-K¶rfe**	**1.11**	**88**	P		**Pb**	**11**	**14**	**08.0**	**-0.6**
SEMS				S		**Sb**	**11**	**14**	**23.1**	**-0.1**
ADVT	**Abdulvahap**	**1.19**	**110**	Pn		**Pb**	**11**	**14**	**09.4**	**-0.5**
ARMN	**Kirklareli, Me**	**1.20**	**328**	P		**Pb**	**11**	**14**	**09.3**	**-0.9**
ARMN				S		**Sb**	**11**	**14**	**25.1**	**-0.8**
YENI	**Yenice-Canakka**	**1.20**	**221**	Pn		**Pb**	**11**	**14**	**09.9**	**-0.3**
LPK	**Lapseki**	**1.25**	**248**	Pn		**Pn**	**11**	**14**	**10.4**	**-0.5**
CANM	**Can-anakkale**	**1.25**	**229**	Pn		**Pn**	**11**	**14**	**10.7**	**-0.2**
DST	**Dursunbey**	**1.27**	**168**	Pn		**Pn**	**11**	**14**	**10.9**	**-0.3**
UKOP	**Uzunkopru-Edir**	**1.28**	**283**	Pn		**Pb**	**11**	**14**	**11.3**	**-0.2**
KIRK	**Kirklareli**	**1.29**	**317**	P		**Pb**	**11**	**14**	**10.6**	**-0.9**
KIRK				S		**Sb**	**11**	**14**	**27.5**	**-0.9**
HISA	**Bilecik-Osmane**	**1.31**	**106**	P		**Pn**	**11**	**14**	**11.8**	**0.0**
HISA				S		**Sg**	**11**	**14**	**29.4**	**0.0**
ERIK	**Erikli-Kesan**	**1.35**	**263**	Pn		**Pn**	**11**	**14**	**11.7**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.44**	**253**	Pn		**Pn**	**11**	**14**	**13.1**	**-0.5**
EDRB	**Edirne**	**1.53**	**311**	Pn		**Pn**	**11**	**14**	**14.3**	**-0.4**
YAYO	**Edremit-Balk**	**1.54**	**217**	Pn		**Pn**	**11**	**14**	**14.9**	**0.0**
SAUV	**Serdivan-Sakar**	**1.56**	**93**	Pn		**Pn**	**11**	**14**	**14.9**	**-0.3**
COMU	**Canakkale**	**1.56**	**242**	Pn		**Pn**	**11**	**14**	**15.0**	**-0.3**
CAVK	**Edirne/Enez-Ca**	**1.61**	**265**	⇑P		**Pb**	**11**	**14**	**17.4**	**+0.3**
CAVK				⇑S		**Sg**	**11**	**14**	**39.1**	**+0.2**
GPA	**Golpazari**	**1.65**	**109**	Pn		**Pn**	**11**	**14**	**16.4**	**0.0**
TVSB	**Tavsanli**	**1.66**	**147**	Pn		**Pn**	**11**	**14**	**16.5**	**-0.2**
ALN	**Alexandroupoli**	**1.69**	**272**	Pn		**Pn**	**11**	**14**	**16.6**	**-0.4**
GULT	**Gulveren**	**1.75**	**103**	Pn		**Pn**	**11**	**14**	**17.9**	**0.0**
EZN	**Ezine**	**1.81**	**236**	Pn		**Pn**	**11**	**14**	**18.5**	**0.0**
EZN	**Ezine**	**1.81**	**236**	⇑P		**Pg**	**11**	**14**	**21.6**	**-0.3**
EZN				⇑S		**Sg**	**11**	**14**	**45.5**	**+0.2**
EZNE	**Ezine-Canakkal**	**1.82**	**234**	Pn		**Pn**	**11**	**14**	**18.8**	**0.0**
GADA	**Gvkgeada**	**1.93**	**251**	Pn		**Pn**	**11**	**14**	**20.1**	**-0.1**
SAHE	**Sakarya_HENDEK**	**1.96**	**89**	⇑P		**Pb**	**11**	**14**	**22.2**	**-0.8**
SAHE				⇑S		**Sb**	**11**	**14**	**47.3**	**-0.3**
BOZC	**Bozcaada**	**1.97**	**240**	Pn		**Pn**	**11**	**14**	**20.9**	**0.0**
GPNR	**Gulpinar-Canak**	**2.15**	**230**	Pn		**Pn**	**11**	**14**	**23.1**	**-0.2**
SIGR	**SIGRI**	**2.47**	**229**	Pn		**Pn**	**11**	**14**	**28.0**	**+0.3**
KALB	**Balgarevo**	**2.56**	**2**	⇑S		**Sn**	**11**	**15**	**00.4**	**+0.2**
CIFT	**Cifteler, Eski**	**2.60**	**124**	Pn		**Sn**	**11**	**14**	**30.2**	**+0.6**
ELND	**Elena**	**2.75**	**320**	⇓S		**Sn**	**11**	**15**	**07.0**	**+2.1**
TIRR	**Tirgusor**	**3.61**	**2**	⇑P		**Pn**	**11**	**14**	**44.3**	**+0.9**
TIRR				⇑S		**Sn**	**11**	**15**	**25.0**	**-1.1**
CIDE	**Kastamonu/Cide**	**3.67**	**72**	⇓S		**Sn**	**11**	**15**	**28.6**	**+1.2**
TPGR	**Topolog**	**4.01**	**1**	⇑P		**Pn**	**11**	**14**	**49.0**	**+0.1**
TPGR				⇓S		**Sn**	**11**	**15**	**36.1**	**+0.1**
CFR	**Carcaliu**	**4.33**	**359**	⇑P		**Pn**	**11**	**14**	**53.0**	**-0.3**
CFR				⇑S		**Sn**	**11**	**15**	**44.7**	**+0.8**
MLR	**Muntele Rosu**	**4.95**	**341**	⇓P		**Pn**	**11**	**15**	**02.5**	**+0.7**
MLR				⇑S		**Sn**	**11**	**15**	**59.0**	**-0.2**
PLOR	**Plostina**	**5.14**	**347**	⇑P		**Pn**	**11**	**15**	**04.7**	**+0.2**
GHRR		**5.25**	**353**	⇑P		**Pn**	**11**	**15**	**06.9**	**+1.0**
SEV	**Sevastopol'**	**5.43**	**45**	*e*P		**Pn**	**11**	**15**	**08.2**	**-0.1**
SEV				Pm			11	15	09.1	
	comp=Z,3.0nm,0.4s									
SEV				*e*S		**Sn**	**11**	**16**	**09.9**	**-0.9**
SEV				Sm			11	16	11.0	
	comp=N,1.0nm,0.2s									
SEV				Sm			11	16	11.0	
	comp=E,8.0nm,0.3s									
TARU	**Tarkhankut**	**5.50**	**33**	*e*P		**Pn**	**11**	**15**	**09.0**	**-0.3**
TARU				Pm			11	15	09.6	
	comp=Z,7.0nm,0.4s									
TARU				*e*S		**Sn**	**11**	**16**	**12.6**	**0.0**
TARU				Sm			11	16	15.5	
	comp=N,14nm,0.3s									
TARU				Sm			11	16	15.5	
	comp=E,5.0nm,0.3s									
DOPR	**Dopca**	**5.53**	**339**	⇓P		**Pn**	**11**	**15**	**10.5**	**+0.6**
BOVS	**Bovan**	**5.62**	**302**	⇓P		**Pn**	**11**	**15**	**12.3**	**+1.4**
DNZ2	**Donuzlav2**	**5.79**	**37**	*e*S		**Sn**	**11**	**16**	**20.6**	**+0.8**
DNZ2				Sm			11	16	28.4	
	comp=N,14nm,0.4s									
DNZ2				Sm			11	16	28.4	
	comp=E,10.0nm,0.4s									
HERR	**Herculane**	**5.90**	**315**	⇓P		**Pn**	**11**	**15**	**16.0**	**+1.2**
MDVR	**Moldovita**	**6.22**	**311**	⇓P		**Pn**	**11**	**15**	**20.0**	**+0.7**
SUDU	**Sudak**	**6.38**	**48**	*ex*		x	11	15	25.2	
SUDU				*e*S		**Sn**	**11**	**16**	**35.8**	**+1.4**
SUDU				Sm			11	16	39.8	
	comp=N,9.0nm,0.3s									
SUDU				Sm			11	16	39.8	
	comp=E,14nm,0.4s									

*GII **27** 11:18:28.8±0.0,35.237N±0.003×31.885E±0.001,*
h1km,Mws2.7,confirmed
*AFAD **27** 11:18:34.8,35.32N×31.97E,h5km±1km,ML2.8*
*NIC **27** 11:18:35.0,35.27N×31.82E,h25km,Ml2.7/8*
*ISK **27** 11:18:36.6,35.39N×32.12E,h8km,ML2.7/26*
ISC 27 11:18:34.0±1.2,35.28N±0.03×31.93E±0.03,h9km±10km,
n70,σ2.01/87,4D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
AKMS	**Akamas**	**0.42**	**128**	⇓*i*P		**Pb**	**11**	**18**	**45.5**	**+1.8**
AKMS				S		**Sb**	**11**	**18**	**53.1**	**+3.0**
AKMS				AML		AML	11	18	55.1	
	7.2nm,0.3s									
AKMS				AML		AML	11	18	56.0	
	4.9nm,0.3s									
ALFC	**Alefka**	**0.56**	**102**	⇓*i*P		**Pb**	**11**	**18**	**47.7**	**+1.7**
ALFC				S		**Sn**	**11**	**18**	**58.4**	**+0.8**
ALFC				AML		AML	11	18	58.9	
	3.0nm,0.5s									
ALFC				AML		AML	11	18	59.1	
	1.8nm,0.3s									
NATA	**Nata**	**0.73**	**133**	⇓*e*P		**Pb**	**11**	**18**	**50.5**	**+1.7**
NATA				S		**Sn**	**11**	**19**	**02.6**	**+1.0**
NATA				AML		AML	11	19	06.5	
	5.3nm,0.3s									
NATA				AML		AML	11	19	10.4	
	2.8nm,0.4s									
TROD	**Troodos**	**0.84**	**113**	⇓*i*P		**Pb**	**11**	**18**	**51.9**	**+1.1**
TROD				S		**Sn**	**11**	**19**	**04.5**	**-0.2**
TROD				AML		AML	11	19	12.7	
	0.6nm,0.5s									
TROD				AML		AML	11	19	16.1	
	0.3nm,0.4s									
XYLS	**Xyliatos**	**0.96**	**106**	P		**Pb**	**11**	**18**	**53.4**	**+0.7**
XYLS				S		**Sn**	**11**	**19**	**08.0**	**+0.7**
XYLS				AML		AML	11	19	14.2	
	0.6nm,0.3s									
XYLS				AML		AML	11	19	17.8	
	0.7nm,0.5s									
APOL	**The Sanctuary**	**0.98**	**128**	P		**Pb**	**11**	**18**	**53.9**	**+0.8**
APOL				S		**Sb**	**11**	**19**	**08.2**	**+2.2**
APOL				AML		AML	11	19	18.8	
	0.5nm,0.4s									
APOL				AML		AML	11	19	21.4	
	0.5nm,0.4s									
GAZI	**Gazipasa**	**1.00**	**18**	Pg		**Pb**	**11**	**18**	**53.6**	**0.0**
GAZI				Sg		**Sg**	**11**	**19**	**05.7**	**-0.7**
GAZI	**Gazipasa**	**1.00**	**18**	P		**Pb**	**11**	**18**	**53.6**	**0.0**
GAZI				S		**Sb**	**11**	**19**	**06.9**	**+0.1**
GAZI				*i* IAML			11	19	10.0	
	comp=E,241nm,0.4s									
BOZY	**Bozyazi-Mersin**	**1.19**	**46**	Pg		**Pg**	**11**	**18**	**56.3**	**-0.5**
BOZY				Sg		**Sg**	**11**	**19**	**10.3**	**-1.9**
ASGA	**Asgata**	**1.19**	**114**	P		**Pg**	**11**	**18**	**57.3**	**+0.5**
ASGA				S		**Sn**	**11**	**19**	**14.7**	**+1.7**
ASGA				AML		AML	11	19	22.7	
	0.6nm,0.6s									
ASGA				AML		AML	11	19	25.1	
	0.5nm,0.3s									
CSS	**Mathiatis**	**1.19**	**105**	Pg		**Pb**	**11**	**18**	**57.5**	**+0.8**
CSS				Sg		**Sb**	**11**	**19**	**12.9**	**+0.7**
CSS	**Mathiatis**	**1.19**	**105**	P		**Pb**	**11**	**18**	**57.6**	**+0.8**
CSS				S		**Sn**	**11**	**19**	**14.6**	**+1.5**
CSS				AML		AML	11	19	25.7	
	0.3nm,0.5s									
CSS				AML		AML	11	19	27.0	
	0.2nm,0.7s									
CSS	**Mathiatis**	**1.19**	**105**	P		**Pg**	**11**	**18**	**52.6**	**-4.3**
CSS				S		**Sg**	**11**	**19**	**10.1**	**-2.2**
ALAN	**Alanya-ANTALYA**	**1.28**	**4**	Pn		**Pg**	**11**	**18**	**58.0**	**-0.5**
TEKE	**Tekeli-Mersin**	**1.29**	**48**	Pn		**Pg**	**11**	**18**	**57.9**	**-0.9**
TEKE				Sn		**Sg**	**11**	**19**	**13.6**	**-2.0**
YORU	**Yoruktepe-Mers**	**1.48**	**54**	Pn		**Pn**	**11**	**19**	**01.6**	**+0.7**
YORU				Sn		**Sb**	**11**	**19**	**19.8**	**-0.9**
BERE	**Bereket-Mersin**	**1.50**	**44**	Pn		**Pn**	**11**	**19**	**01.8**	**+0.7**
OREN	**Orenkoy-Mersin**	**1.55**	**53**	Pn		**Pn**	**11**	**19**	**02.7**	**+1.0**
AKK1	**Akkuyu-Mersin**	**1.57**	**56**	Pn		**Pn**	**11**	**19**	**02.9**	**+0.9**
ERMK	**Ermenek**	**1.58**	**30**	P		**Pb**	**11**	**19**	**03.9**	**+0.5**
ERMK				S		**Sg**	**11**	**19**	**25.2**	**+0.4**
ERMK				*i* IAML			11	19	29.0	
	comp=E,95nm,0.3s									
ERMK				*i* IAML			11	19	30.0	
	comp=N,112nm,0.3s									
GULN	**MERSIN_Gulnar**	**1.59**	**55**	P		**Pb**	**11**	**19**	**03.7**	**+0.1**
GULN				S		**Sn**	**11**	**19**	**23.2**	**+0.2**
TEPK	**Tepekoy-MERSIN**	**1.62**	**54**	Pn		**Pn**	**11**	**19**	**03.3**	**+0.6**
AKUM	**Antalya-Kumluc**	**1.66**	**309**	P		**Pn**	**11**	**19**	**05.1**	**+2.0**
AKUM				S		**Sg**	**11**	**19**	**29.8**	**+2.5**
YESI	**Yesilovacik-Me**	**1.67**	**56**	Pn		**Pn**	**11**	**19**	**04.2**	**+0.9**
TISA	**Tisan-Mersin**	**1.67**	**58**	Pn		**Pn**	**11**	**19**	**04.2**	**+0.8**
TEVE	**Tevekalti-Mers**	**1.69**	**46**	Pn		**Pn**	**11**	**19**	**04.4**	**+0.7**
KARG	**Kargicak-Mersi**	**1.72**	**57**	Pn		**Pn**	**11**	**19**	**04.8**	**+0.8**
HDMB	**Hadim**	**1.74**	**15**	Pn		**Pn**	**11**	**19**	**05.7**	**+1.1**
PARAL	**Paralimni**	**1.75**	**99**	P		**Pg**	**11**	**19**	**10.3**	**+2.6**
PARAL				S		**Sg**	**11**	**19**	**30.0**	**+7.6**
KEBE	**Keben-Mersin**	**1.86**	**51**	Pn		**Pn**	**11**	**19**	**06.9**	**+0.9**
SILI	**Silifke-Mersin**	**1.95**	**56**	Pn		**Pn**	**11**	**19**	**08.0**	**+0.8**
SLFK	**Silifke-Mersin**	**1.98**	**55**	Pn		**Pn**	**11**	**19**	**08.6**	**+1.0**
KKBE	**Karaman, Kazim**	**2.10**	**23**	P		**Pb**	**11**	**19**	**12.1**	**-0.2**
KKBE				S		**Sg**	**11**	**19**	**40.4**	**-1.1**
SEYD	**Seydisehir-KON**	**2.12**	**358**	Pn		**Pb**	**11**	**19**	**11.9**	**-0.8**
KORT	**Korkueli**	**2.14**	**324**	Pn		**Pb**	**11**	**19**	**13.6**	**+0.7**
KORT	**Korkueli**	**2.14**	**324**	P		**Pb**	**11**	**19**	**13.7**	**+0.7**
KORT				S		**Sg**	**11**	**19**	**43.6**	**+0.8**
KORT				*i* IAML			11	19	51.0	
	comp=E,94nm,0.6s									
KORT				*i* IAML			11	19	52.0	
	comp=N,58nm,0.6s									
KIZK	**Mersin**	**2.16**	**56**	Pn		**Pn**	**11**	**19**	**11.2**	**+1.1**
SEDI	**Konya, Seydise**	**2.17**	**356**	P		**Pb**	**11**	**19**	**13.8**	**+0.3**
SEDI				S		**Sg**	**11**	**19**	**43.3**	**-0.5**
SEDI				*i* IAML			11	19	47.0	
	comp=N,106nm,0.6s									
SEDI				*i* IAML			11	19	47.0	
	comp=E,108nm,0.5s									
KRMN	**Karaman**	**2.18**	**29**	Pn		**Pn**	**11**	**19**	**11.8**	**+1.4**
KERG	**Konya-Eregli**	**2.77**	**39**	P		**Pb**	**11**	**19**	**22.5**	**-1.3**
KERG				*i* IAML			11	19	57.0	
	comp=N,40nm,1.0s									
KERG				S		**Sb**	**11**	**19**	**57.7**	**-0.2**
KERG				*i* IAML			11	20	01.0	
	comp=E,39nm,0.6s									
ISP	**Isparta**	**2.78**	**336**	P		**Pn**	**11**	**19**	**15.6**	**-3.2**
ISP	**Isparta**	**2.78**	**336**	S		**Sn**	**11**	**19**	**50.2**	**-2.2**
DOGA	**KONYA_Doganhis**	**2.83**	**356**	P		**Pb**	**11**	**19**	**24.0**	**-0.7**
DOGA				S		**Sb**	**11**	**19**	**59.0**	**-0.5**
DOGA				*i* IAML			11	20	04.0	
	comp=E,31nm,0.4s									
BAGO	**Egridir - ISPA**	**2.86**	**342**	P		**Pb**	**11**	**19**	**23.5**	**-1.7**
BAGO				S		**Sn**	**11**	**19**	**57.8**	**+3.5**
LADK	**Ladik-KONYA**	**2.94**	**7**	Pn		**Pn**	**11**	**19**	**23.1**	**+2.2**
YVAC	**Isparta, Yalva**	**3.04**	**350**	P		**Pb**	**11**	**19**	**26.7**	**-1.5**
YVAC				S		**Sn**	**11**	**20**	**01.2**	**+2.4**
KDHN	**Kadinhani**	**3.24**	**3**	P		**Pn**	**11**	**19**	**27.5**	**+2.4**
KDHN				S		**Sn**	**11**	**20**	**06.0**	**+2.2**
CMRD	**Camardi-Nigde**	**3.43**	**45**	Pn		**Pn**	**11**	**19**	**29.1**	**+1.5**
HNTI	**Hanita**	**3.47**	**128**	P		Pn	11	19	23.7	-4.4
HNTI	**Hanita**	**3.47**	**128**	S		**Sn**	**11**	**20**	**06.9**	**-2.5**
MMA0B	**Mount Meron ar**	**3.66**	**127**	P		**Pn**	**11**	**19**	**27.2**	**-3.6**
MMA0B	**Mount Meron ar**	**3.66**	**127**	S		**Sn**	**11**	**20**	**11.0**	**-3.1**
OFRI	**`Ofer**	**3.67**	**135**	P		Pn	11	19	26.7	-4.2
OFRI	**`Ofer**	**3.67**	**135**	S		**Sn**	**11**	**20**	**11.0**	**-3.3**
GEM	**Giv'at Ha'Em**	**3.72**	**123**	P		Pn	11	19	27.3	-4.3
GEM	**Giv'at Ha'Em**	**3.72**	**123**	S		**Sn**	**11**	**20**	**12.7**	**-2.7**
NATI	**Neve Ativ**	**3.74**	**121**	P		Pn	11	19	28.1	-3.7
NATI	**Neve Ativ**	**3.74**	**121**	S		**Sn**	**11**	**20**	**13.5**	**-2.4**
KSHT	**Keshet**	**3.95**	**124**	P		Pn	11	19	30.5	-4.3
KSHT	**Keshet**	**3.95**	**124**	S		**Sn**	**11**	**20**	**18.1**	**-3.2**
SLTI	**Sal'it**	**3.99**	**139**	P		Pn	11	19	31.1	-4.1
SLTI	**Sal'it**	**3.99**	**139**	S		**Sn**	**11**	**20**	**18.5**	**-3.6**
MMLI	**Mount Malkishu**	**4.06**	**133**	P		Pn	11	19	32.3	-4.0
MMLI	**Mount Malkishu**	**4.06**	**133**	S		**Sn**	**11**	**20**	**21.0**	**-2.9**
HMDT	**Nahal Hemdat**	**4.25**	**134**	P		Pn	11	19	34.8	-4.1
HMDT	**Nahal Hemdat**	**4.25**	**134**	S		**Sn**	**11**	**20**	**25.2**	**-3.4**
AMAZ	**Amatzia**	**4.50**	**145**	P		Pn	11	19	38.5	-3.7
AMAZ	**Amatzia**	**4.50**	**145**	S		**Sn**	**11**	**20**	**31.0**	**-3.6**
DSI	**Dead Sea**	**4.69**	**141**	P		Pn	11	19	40.6	-4.3
DSI	**Dead Sea**	**4.

GO01 *i* S 11 22 58.3
SLA San Lorenzo 3.60 116 *i* P **Pn** **11 22 20.1 +2.3**
SLA IAML 11 23 10.7
comp=Z,14nm,0.7s
AC02 Maricunga 3.64 181 **Pn** **11 22 19.9 +1.2**
AC02 Maricunga 3.64 181 *e*P **Pn** **11 22 19.9 +1.2**
AC02 Maricunga 3.64 181 *i* P **Pn** **11 22 19.9 +1.2**
AC02 IAML 11 23 32.0
comp=Z,555nm,0.8s
AZAP Zapla 3.81 107 *i* P **Pn** **11 22 22.7 +1.9**
AZAP IAML 11 23 13.8
comp=Z,141nm,0.7s
FSA Cafayete 4.05 137 *i* P **Pn** **11 22 25.4 +1.5**
GO03 Copiapo 4.52 193 **Pn** **11 22 28.9 -1.3**
GO03 Copiapo 4.52 193 *i* P **Pn** **11 22 29.0 -1.1**
GO03 IAML 11 24 00.9
comp=Z,436nm,0.8s
PB16 IPOC Station P 4.84 355 **Pn** **11 22 35.0 0.0**
AC04 Llanos de Chal 5.32 200 **Pn** **11 22 37.8 -3.1**
AC04 Llanos de Chal 5.32 200 *i* P **Pn** **11 22 37.9 -3.1**
AC04 IAML 11 24 21.3
comp=Z,232nm,1.4s
PB18 Visviri 5.58 356 **Pn** **11 22 47.2 +2.2**
LCO Las Campanas 5.99 194 **Pn** **11 22 47.6 -2.6**
LPAZ La Paz 6.92 7 **Pn** **11 23 04.2 +1.0**
LPAZ La Paz 6.92 7 P **Pn** **11 23 02.4 -0.9**
comp=Z,29nm,0.3s,baz=181,slow=7.0,SNR=109
LPAZ S **Sn** **11 24 17.8 -2.9**
comp=Z,26nm,0.7s,baz=204,slow=15,SNR=1.3
LPAZ LR LR 11 26 46.0
comp=Z,85nm,18.8s,baz=188,slow=48
LPAZ La Paz 6.92 7 *e*P **Pn** **11 23 00.5 -2.8**
CO05 La Serena 6.99 196 Pn 11 22 59.9 -3.7
GO04 Tololo Observa 7.13 192 **Pn** **11 23 02.7 -3.1**
CO03 El Pedregal 7.76 190 **Pn** **11 23 11.2 -3.0**
CO06 Fray Jorge 7.80 197 Pn 11 23 09.8 -4.9
CO02 Combarbal 8.17 192 Pn 11 23 15.8 -3.9
ZON Zonda 8.34 178 **Pn** **11 23 20.6 -1.4**
CFA Coronel Fontan 8.42 175 P **Pn** **11 23 21.5 -1.6**
comp=Z,26nm,0.4s,baz=11,slow=13,SNR=122
CFA S **Sn** **11 24 50.0 -6.5**
comp=Z,4.9nm,0.3s,baz=94,slow=23,SNR=0.9
VA06 Catapilco 9.55 191 Pn 11 23 33.7 -4.7
VA03 San Esteban 9.63 188 **Pn** **11 23 36.2 -3.4**
MT08 Bocatoma Ro 10.26 184 **Pn** **11 23 46.0 -2.3**
SIV San Ignacio 10.38 48 P **Pn** **11 23 46.9 -3.0**
comp=Z,39nm,0.4s,baz=260,slow=9.2,SNR=121
SIV S Sn 11 25 34.2 -10
comp=Z,4.5nm,0.3s,baz=140,slow=21,SNR=1.7
MT13 San Alfonso 10.58 186 **Pn** **11 23 49.1 -3.4**
MT09 Talagante 10.69 189 Pn 11 23 48.5 -5.5
MURT Porto Murtinho 10.70 84 *e*P **Pn** **11 23 51.3 -2.8**
MT01 Popeta 10.81 190 Pn 11 23 49.8 -5.8
BO04 La Punta 10.85 187 Pn 11 23 51.4 -4.7
CPUP Villa Florida 11.11 109 **Pn** **11 23 59.4 -0.2**
CPUP Villa Florida 11.11 109 P **Pn** **11 23 56.5 -3.1**
comp=Z,1.8nm,0.8s,baz=145,slow=12,SNR=10
CPUP LR LR 11 28 46.0
comp=Z,31nm,19.7s,baz=165,slow=40
CPUP Villa Florida 11.11 109 *e*P **Pn** **11 23 59.6 0.0**
BO01 Tunca 11.31 189 Pn 11 23 56.1 -6.1
BO02 Sierra Bellavi 11.66 187 Pn 11 24 01.6 -5.4
BDQN Bodoquena, MS 11.76 79 *e*P **Pn** **11 24 07.5 -0.7**
SJPY San Joaquin 11.98 101 *e*P **Pn** **11 24 11.3 +0.1**
PTLB Pontes e Lacer 12.12 52 **Pn** **11 24 10.8 -2.3**
PTLB Pontes e Lacer 12.12 52 *e*P **Pn** **11 24 09.2 -3.9**
AQDB Aquidauana 12.70 80 **Pn** **11 24 20.1 -0.7**
AQDB Aquidauana 12.70 80 *e*P **Pn** **11 24 20.1 -0.7**
AMBA Amambai (Brazi 12.96 92 *e*P **Pn** **11 24 25.1 +0.9**
VILB Vilhena 13.21 41 **Pn** **11 24 26.4 -1.0**
VILB Vilhena 13.21 41 *e*P **Pn** **11 24 25.9 -1.5**
NNA Nana 13.37 325 P **Pn** **11 24 30.1 +0.5**
comp=Z,6.1nm,0.5s,baz=213,slow=13,SNR=1.5
BI02 San Fabin de 13.57 188 **Pn** **11 24 29.0 -3.1**
PP1B Ponte de Pedra 14.41 70 *e*P **Pn** **11 24 44.0 +1.0**
SALV Santo Antonio 14.53 62 *e*P **Pn** **11 24 42.0 -2.5**
TRCB Terra Rica 15.14 92 P **P** **11 24 55.9 +0.9**
TRCB Terra Rica 15.14 92 *e*P **Pn** **11 24 53.0 +0.7**
PTGB Pitanga 15.62 99 *e*P **P** **11 24 59.4 -0.9**
ITAB Concordia 15.85 108 Pn **Pn** **11 25 01.1 0.0**
ITAB IAmb IAmb 11 25 16.9
comp=Z,53nm,1.4s
TRQA Tornquist 16.02 159 Pn **Pn** **11 25 02.8 -0.4**
TRQA IAmb IAmb 11 25 38.7
comp=Z,44nm,0.8s
PDRB Porto dos Gac 16.45 48 *e*P **Pn** **11 25 06.4 -2.2**
LDASE Londrina, Braz 16.49 94 *e*P **Pn** **11 25 09.2 +0.1**
PLCA Paso Flores 17.54 184 **P** **11 25 21.0 -0.5**
PLCA Paso Flores 17.54 184 P **Pn** **11 25 23.4 +1.5**
comp=Z,4.8nm,0.9s,baz=12,slow=11,SNR=9.8
PLCA S **Sn** **11 28 38.8 +1.5**
comp=Z,1.3nm,0.9s,baz=3.8,slow=20,SNR=1.3
PLCA Paso Flores 17.54 184 *e*P **P** **11 25 21.6 +0.1**
CLDB Colider 17.61 48 *e*P **P** **11 25 21.0 -1.4**
ITRB Iturama 17.75 82 *e*P **P** **11 25 23.2 -0.6**
ARAG Araguaiana, MT 17.88 69 *e*P **P** **11 25 25.1 -0.2**
BB19B Bebedouro 19.14 88 *e*P **P** **11 25 38.7 -0.4**
LL01 San Ignacio de 19.34 188 P **Pn** **11 25 43.2 0.0**
LL01 IAmb IAmb 11 26 19.3
comp=Z,37nm,1.1s
SPB Sao Paulo 19.86 95 *e*P **P** **11 25 47.2 +0.4**
RCLB Rio Claro- Sao 19.87 92 *e*P **P** **11 25 46.8 -0.1**
PET01 Itanhaem-SP 19.98 98 *e*P **P** **11 25 48.1 0.0**
TEFE Tefe 20.02 13 *e*P **P** **11 25 49.0 +0.4**
IPMB Ipameri, GO 20.19 79 *e*P **P** **11 25 50.6 +0.1**
SNDB Serra Nova Dou 20.25 60 *e*P **P** **11 25 48.9 -2.2**
VAO Valinhos 20.33 94 P **P** **11 25 52.0 0.0**
VAO Valinhos 20.33 94 *e*P **P** **11 25 51.7 -0.3**
NPGB Novo Progresso 20.77 42 *e*P **P** **11 25 54.2 -2.5**
BDFB Brasilia 21.21 73 P **P** **11 26 01.4 -0.1**
BDFB IAmb IAmb 11 26 03.6
comp=Z,42nm,0.9s
BDFB Brasilia 21.21 73 P **P** **11 25 59.9 -1.6**
comp=Z,25nm,0.4s,baz=251,slow=12,SNR=48
comp=Z,25nm,0.4s
MACA Manacapuru-AM 21.49 23 P **P** **11 26 04.2 -0.2**
MACA Manacapuru-AM 21.49 23 *e*P **P** **11 26 03.3 -1.1**
PARB Paraibuna 21.54 95 *e*P **P** **11 26 04.8 -0.1**
PMNB Patos De Minas 21.63 82 *e*P **P** **11 26 05.6 -0.4**
BSCB Bom Sucesso 22.61 89 *e*P **P** **11 26 16.0 -0.2**
ITTB Itaituba 22.71 37 *e*P **P** **11 26 15.3 -1.9**
VAS01 Vassouras-RJ 23.64 93 *e*P **P** **11 26 27.1 +1.2**
DIAM Diamantina, MG 24.22 83 *e*P **P** **11 26 32.1 +0.8**
JANB Januaria 24.72 75 *e*P **P** **11 26 35.6 -0.1**
SMTB Santa Maria do 25.02 59 *e*P **P** **11 26 38.1 -0.4**
PRPB Parauapebas 25.10 51 *e*P **P** **11 26 38.5 -0.6**
SDBA SAO DESIDERIO 25.34 69 *e*P **P** **11 26 40.5 -0.9**
MAL2 Monte Alegre, 25.51 37 P **P** **11 26 42.6 -0.3**
BOAV Boa Vista 26.75 19 P **P** **11 26 54.9 +0.9**
BOAV IAmb IAmb 11 27 01.6
comp=Z,22nm,0.6s
BOAV Boa Vista 26.75 19 *e*P **P** **11 26 52.8 -1.2**
RIB01 Linhares ES 26.98 87 *e*P **P** **11 26 56.8 +0.8**
GUA01 Guaratinga, BA 28.25 82 *e*P **P** **11 27 08.7 +1.3**
ROSC El Rosal 28.32 349 LR LR 11 39 08.1
comp=Z,90nm,21.9s,baz=249,slow=38
CMC01 Camacan, BA 28.91 80 *e*P **P** **11 27 13.8 +0.5**
RUSC La Rusia 29.16 352 **P** **11 27 14.4 -1.6**
RUSC IAmb IAmb 11 27 33.2
comp=Z,14nm,0.6s
SDV Santo Domingo 31.91 357 LR LR 11 42 56.9
comp=Z,59nm,19.5s,baz=64,slow=41
BAUV El Baul 31.94 2 P **P** **11 27 39.0 -1.0**
MDP Montagnes des 32.37 32 LR LR 11 41 17.1
comp=Z,68nm,19.9s,baz=266,slow=37
NBAN Anadia - AL 34.10 72 *e*P **P** **11 27 58.1 -0.7**
RCBR Riachuelo 36.30 67 P **P** **11 28 18.3 +0.4**
RCBR Riachuelo 36.30 67 *e*P **P** **11 28 18.2 +0.4**
RPN Rapa Nui 36.55 255 LR LR 11 38 05.3
comp=Z,25nm,21.7s,baz=302,slow=27
VNA3 Neumayer Olymp 58.54 161 ⇑P **P** **11 31 10.7 +1.6**
comp=Z,19nm,0.7s
VNA1 Neumayer--Stat 58.76 160 ⇑P **P** **11 31 12.6 +2.0**
comp=Z,9.4nm,0.8s
VNA2 Neumayer--Watz 59.12 160 ⇑P **P** **11 31 14.6 +1.4**
comp=Z,14nm,0.6s,baz=289,slow=7.5
X51A Calhoun 59.36 345 P **P** **11 31 15.7 +0.5**
W52A Murphy 59.65 346 P **P** **11 31 17.0 -0.2**
V55A Taylorsville 59.83 349 P **P** **11 31 17.3 -1.1**
V55A IAmb IAmb 11 31 46.5
comp=Z,9.8nm,0.8s
V53A Saluda 59.96 347 P **P** **11 31 19.1 -0.2**
V53A IAmb IAmb 11 31 46.9
comp=Z,7.1nm,0.9s
Y45A Yeager Farm, C 59.99 340 P **P** **11 31 18.9 -0.6**
W50A Signal Mountai 60.07 345 P **P** **11 31 19.4 -0.7**
W50A IAmb IAmb 11 31 47.4
comp=Z,10nm,0.8s
CPCT Cooper Cave 60.12 345 P **P** **11 31 19.3 -1.1**
CPCT IAmb IAmb 11 31 47.8
comp=Z,10.0nm,0.9s
SWET Sewanee 60.24 344 P **P** **11 31 20.7 -0.6**
PLAL Pickwick Lake 60.59 342 P **P** **11 31 22.4 -1.2**
PLAL IAmb IAmb 11 31 50.3
comp=Z,6.7nm,0.9s
SNAA Sanae 60.74 161 ⇑P **P** **11 31 25.5 +1.2**
comp=Z,228nm,0.6s
SNAA Sanae 60.74 161 P **P** **11 31 23.6 -0.7**
SNAA Sanae 60.74 161 P **P** **11 31 25.8 +1.5**
comp=Z,9.6nm,0.6s,baz=280,slow=8.3,SNR=98
comp=Z,9.6nm,0.6s
S61A Accomac 60.86 354 P **P** **11 31 24.6 -0.7**
TZTN Tazewell 60.96 347 P **P** **11 31 25.8 -0.3**
TZTN IAmb IAmb 11 31 52.9
comp=Z,9.0nm,1.0s
V48A Smith Brothers 60.97 344 P **P** **11 31 25.5 -0.6**
V48A IAmb IAmb 11 31 52.9
comp=Z,9.2nm,0.7s
JCT Junction City 60.97 330 P **P** **11 31 25.3 -1.0**
JCT IAmb IAmb 11 32 05.2
comp=Z,8.0nm,0.7s
WLAR White Oak Lake 61.02 337 P **P** **11 31 26.2 -0.3**
BRDY Brady 61.29 331 P **P** **11 31 28.5 +0.1**
BRDY IAmb IAmb 11 32 06.6
comp=Z,2.9nm,0.7s
WVT Waverly 61.60 343 P **P** **11 31 29.7 -0.7**
SAND Sanderson 61.65 327 P **P** **11 31 30.5 -0.4**
SAND IAmb IAmb 11 32 10.4
comp=Z,4.3nm,0.8s
TXAR Lajitas Array 61.93 326 P **P** **11 31 34.2 +1.3**
TXAR Lajitas Array 61.93 326 P **P** **11 31 34.8 +1.9**
comp=Z,0.7nm,0.7s,baz=149,slow=7.8,SNR=10.0
comp=Z,0.7nm,0.7s
TX31 Lajitas Ar. Si 61.93 326 P **P** **11 31 34.0 +1.1**
MIAR Mount Ida 61.95 337 P **P** **11 31 33.9 +1.1**
MIAR IAmb IAmb 11 32 00.2
comp=Z,8.9nm,1.1s
WHAR Wooly Hollow 62.18 339 P **P** **11 31 34.6 +0.3**
WHAR IAmb IAmb 11 32 01.9
comp=Z,7.4nm,0.9s
T47A Sharon Grove 62.22 344 P **P** **11 31 33.8 -0.7**
TROLL Troll, Antarti 62.46 161 ⇑P **P** **11 31 37.0 +1.1**
comp=Z,530nm,0.6s
PBMO Poplar Bluff 62.96 341 P **P** **11 31 40.2 +0.8**
PBMO IAmb IAmb 11 32 06.7
comp=Z,10nm,0.7s
MNHN Monahans 63.10 328 P **P** **11 31 40.1 -0.4**
MNHN IAmb IAmb 11 32 19.6
comp=Z,5.3nm,0.7s
CGM3 Cape Girardeau 63.21 342 P **P** **11 31 41.5 +0.4**
CGM3 IAmb IAmb 11 32 08.0
comp=Z,5.4nm,0.6s
SN07 Snyder 07 63.66 330 P **P** **11 31 44.7 +0.5**
SN07 IAmb IAmb 11 32 12.5
comp=Z,6.5nm,0.6s
CCM Cathedral Cave 64.38 341 P **P** **11 31 49.1 +0.3**
CCM IAmb IAmb 11 32 16.2
comp=Z,10nm,0.7s
N53A Lisbon 64.60 350 P **P** **11 31 49.5 -0.6**
N53A IAmb IAmb 11 32 18.7
comp=Z,11nm,1.0s
M57A Sunshine Farm, 64.63 353 P **P** **11 31 51.5 +1.3**
M57A IAmb IAmb 11 32 18.3
comp=Z,19nm,1.4s
MNTX Cornudas Mount 64.70 326 P **P** **11 31 50.4 -0.6**
R40A Maddies Statio 64.92 340 P **P** **11 31 52.1 -0.1**
R40A IAmb IAmb 11 32 20.0
comp=Z,7.5nm,0.7s
P38A Dawn 66.53 340 P **P** **11 32 03.5 +0.9**
P38A IAmb IAmb 11 32 30.6
comp=Z,7.7nm,0.6s
319A Douglas 66.53 323 P **P** **11 32 04.4 +1.4**
319A IAmb IAmb 11 32 06.3
comp=Z,6.0nm,0.7s
QSPA South Pole Qui 67.02 180 P **P** **11 32 09.0 +3.4**
comp=Z,17nm,0.5s,baz=188,slow=0.5,SNR=205
comp=Z,17nm,0.5s
DELO Deloro Mine 67.82 353 P **P** **11 32 11.7 +1.1**
DELO IAmb IAmb 11 32 31.6
comp=Z,8.0nm,1.0s
ANMO Albuquerque 67.83 327 P **P** **11 32 11.1 -0.1**
ANMO Albuquerque 67.83 327 P **P** **11 32 11.1 -0.1**
ANMO Albuquerque 67.83 327 P **P** **11 32 11.1 -0.1**
TUC Tucson 68.08 323 **P** **11 32 11.3 -1.3**
TUC IAmb IAmb 11 32 16.3
comp=Z,8.5nm,1.2s
G62A West of Eustis 68.08 359 P **P** **11 32 11.4 -0.8**
MNTQ Montreal, Queb 68.48 357 P **P** **11 32 14.7 0.0**
JFWS Jewell Farm 68.61 343 P **P** **11 32 14.1 -1.4**
T25A Trinidad 68.62 330 P **P** **11 32 14.9 -1.2**
F64A Sherman 68.72 1 P **P** **11 32 15.4 -0.7**
BUKO Buck Lake 68.94 352 P **P** **11 32 17.8 +0.2**
BUKO IAmb IAmb 11 32 52.3
comp=Z,14nm,1.1s
214A Organ Pipe Nat 68.97 321 P **P** **11 32 17.7 -0.4**
214A IAmb IAmb 11 32 22.3
comp=Z,6.9nm,1.0s
I42A Draeger Farm, 69.19 345 P **P** **11 32 19.8 +0.6**
I42A IAmb IAmb 11 32 46.3
comp=Z,10nm,0.5s
DBIC Dimbokro 69.36 73 P **P** **11 32 20.6 -0.3**
DBIC IAmb IAmb 11 32 29.4
comp=Z,13nm,1.1s
DBIC Dimbokro 69.36 73 P **P** **11 32 21.4 +0.6**
comp=Z,5.8nm,0.9s,baz=263,slow=8.7,SNR=3.4
comp=Z,5.8nm,0.9s
SDCO Great Sand Dun 69.62 330 P **P** **11 32 22.3 0.0**
D62A Allapoint, All 69.93 0 P **P** **11 32 24.5 +0.9**
BATG Bathurst New B 70.18 2 P **P** **11 32 25.3 +0.2**
MVCO Mesa Verde 70.63 327 P **P** **11 32 29.3 +0.8**
WUAZ Wupatki 70.81 324 P **P** **11 32 29.2 -0.2**
WUAZ IAmb IAmb 11 32 34.1
comp=Z,6.9nm,0.9s
LDAQ Lac Daran 70.84 358 P **P** **11 32 28.9 -0.4**
ESJX Sierra Juarez 70.86 319 P **P** **11 32 29.2 -0.7**
PV01 Paradox Valley 71.39 328 P **P** **11 32 33.3 +0.3**
ELS Elsinore Mount 72.89 319 P **P** **11 32 41.3 -0.6**
LCMT Little Creek M 72.93 324 P **P** **11 32 41.1 -1.0**
SBA Scott Base 74.15 190 P **P** **11 32 49.4 +0.8**
SBA IAmb IAmb 11 32 53.6
comp=Z,7.1nm,1.1s
PRN Pahroc Range 74.19 323 P **P** **11 32 48.0 -1.5**
GWY Greenwater Val 74.23 322 **P** **11 32 49.6 -0.1**
VNDA Vanda 75.17 190 P **P** **11 32 53.3 -1.1**
VNDA Vanda 75.17 190 P **P** **11 32 57.2 +2.8**
comp=Z,2.0nm,0.9s,baz=145,slow=5.1,SNR=10.0
comp=Z,2.0nm,0.9s
CWC Cottonwood Cre 75.22 321 P **P** **11 32 53.6 -1.8**
GMN Gold Mountain 75.35 322 P **P** **11 32 55.0 -1.3**
PDAR Pinedale Array 75.49 330 P **P** **11 32 58.6 +1.7**
comp=Z,0.5nm,0.6s,baz=142,slow=6.7,SNR=7.3
comp=Z,0.5nm,0.6s
NVAR Mina Array Bea 76.73 322 P **P** **11 33 04.8 +0.7**
comp=Z,1.8nm,0.9s,baz=160,slow=7.0,SNR=14
comp=Z,1.8nm,0.9s
ULM Lac du Bonnet 76.87 343 P **P** **11 33 06.7 +2.4**
comp=Z,2.4nm,0.6s,baz=199,slow=22,SNR=1.4
comp=Z,2.4nm,0.6s
RLMT Red Lodge 77.22 332 IAmb IAmb 11 33 17.1
comp=Z,10nm,1.4s
SCHQ Schefferville 77.72 1 P **P** **11 33 08.8 -0.1**
comp=Z,14nm,0.8s,baz=145,slow=19,SNR=1.0
comp=Z,14nm,0.8s
TORD Torodi Ar. Bea 78.06 70 **P** **11 33 10.8 -0.9**
TORD IAmb IAmb 11 33 18.4
comp=Z,5.1nm,0.7s
TORD Torodi Ar. Bea 78.06 70 P **P** **11 33 10.8 -0.9**
comp=Z,5.9nm,0.8s,baz=259,slow=5.0,SNR=30
comp=Z,5.9nm,0.8s
TSUM Tsumeb 79.70 106 **P** **11 33 18.3 -2.6**
TSUM IAmb IAmb 11 33 23.5
comp=Z,8.7nm,1.0s
O03E Paynes Creek 79.98 322 P **P** **11 33 19.9 -1.8**
O03E IAmb IAmb 11 33 24.1
comp=Z,18nm,1.3s
J08A Circle Bar Ran 80.28 326 P **P** **11 33 22.6 -0.7**
DCMP DeCamp, Califo 80.32 320 P **P** **11 33 22.4 -1.1**
MAW Mawson 82.77 163 P **P** **11 33 37.3 +1.3**
comp=Z,6.7nm,0.5s,baz=208,slow=6.9,SNR=26
comp=Z,6.7nm,0.5s
BOSA Boshof 82.79 118 P **P** **11 33 37.2 +0.2**
comp=Z,5.2nm,0.7s,baz=258,slow=3.8,SNR=9.0
comp=Z,5.2nm,0.7s
C09A Chrisman Ranch 83.33 329 IAmb IAmb 11 33 42.1
comp=Z,8.3nm,0.6s
KSANE Kasane 86.89 108 P **P** **11 33 56.4 -1.3**
KSANE IAmb IAmb 11 34 00.7
comp=Z,8.2nm,0.7s
CASY Casey 90.82 180 P **P** **11 34 15.3 +0.1**
CASY IAmb IAmb 11 34 18.8
comp=Z,8.9nm,0.9s
YKA Yellowknife Ar 92.72 341 P **P** **11 34 24.9 +1.1**
comp=Z,2.9nm,0.8s,baz=146,slow=4.2,SNR=5.5
comp=Z,2.9nm,0.8s
YKAW3 Yellowknife Wh 92.77 341 P **P** **11 34 24.5 +0.4**
YKAW3 IAmb IAmb 11 34 41.3
comp=Z,26nm,1.5s
ASAR Alice Springs 128.36 207 PKP **PKiKP** **11 40 20.3 +0.6**
comp=Z,2.9nm,0.7s,baz=134,slow=1.9,SNR=37
WRA Warramunga Arr 131.43 210 PKP **PKiKP** **11 40 26.6 +0.6**
comp=Z,1.9nm,0.6s,baz=158,slow=1.7,SNR=43
PETK Petropavlovsk- 133.81 323 PKP **PKiKP** **11 40 29.4 -0.3**
comp=Z,3.9nm,0.8s,baz=48,slow=2.1,SNR=2.7
FITZ Fitzroy Crossi 136.53 201 PKP **PKPdf** **11 40 35.0 +0.5**
comp=Z,1.6nm,0.8s,baz=221,slow=5.5,SNR=5.4
BVAR Borovoye Array 137.25 35 PKP **PKPdf** **11 40 34.9 +0.1**
comp=Z,2.8nm,0.7s,baz=283,slow=8.4,SNR=11
KURBB Kurchatov Arra 142.81 34 PKP **PKPdf** **11 40 43.7 -1.2**
comp=Z,0.5nm,0.5s,baz=308,slow=2.4,SNR=5.5
ZALV Zalesovo Beam 143.53 26 PKP **PKPdf** **11 40 45.5 -0.6**
comp=Z,3.0nm,0.6s,baz=276,slow=3.1,SNR=7.7
MKAR Makanchi Array 147.06 37 PKPbc **PKPbc** **11 40 54.1 -0.5**
comp=Z,4.3nm,0.7s,baz=305,slow=1.3,SNR=21
MJAR Matsushiro Arr 152.97 306 PKPbc **PKiKP** **11 41 10.2 +0.6**
comp=Z,1.5nm,0.7s,baz=252,slow=1.2,SNR=5.0
MJAR PKPab **PKPab** **11 41 22.6 +1.6**
comp=Z,1.3nm,0.4s,baz=88,slow=1.7,SNR=4.5
KSRS Korea Array 159.62 318 PKP **PKPdf** **11 41 11.6 +1.0**
comp=Z,1.2nm,1.0s,baz=225,slow=1.0,SNR=5.4
KSRS PKPab **PKPab** **11 41 50.9 +1.5**
comp=Z,1.5nm,0.8s,baz=59,slow=4.7,SNR=6.7

DJA 27 11:28:27.5±0.3, 4°S±4°×12°8E±°, h10km, M4.2/11, mB5.4/2, mb4.5/2, MLv4.1/11, Mw(mB)4.8/2, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.17**	**232**	P	Pg	11 28 31.4	+0.2
MSAI	**Masohi**	**0.64**	**69**	P	Pg	11 28 38.3	-1.6
NLAI	**Namlea**	**1.27**	**285**	P	Pn	11 28 50.9	-0.5
BNDI	**Bandanaira**	**1.83**	**121**	P	Pn	11 28 57.6	-1.4
SANI	**Sanana**	**2.79**	**303**	P	Pn	11 29 12.2	0.0
SWI	**Sorong**	**3.98**	**47**	P	Pn	11 29 28.8	+0.2
RKPI	**Ransiki, Papua**	**6.19**	**71**	P	Pn	11 30 00.3	+1.2

KRNET ***27*** *11:33:45.6±0.1, 42.°35N×79.°64E, h17km, mb2.9*
SOME ***27*** *11:33:46.0, 42.°47N×79.°60E, h20km*
NNC ***27*** *11:33:46.3±0.8, 42.°57N×79.°55E, h0km, mb3.2, mpv3.0,*
Error ellipse: s-maj=5.2km s-min=2.9km az=150.0
ISC 27 11:33:45.7±1.8, 42.°53N±0.°05×79.°53E±0.°05, h6km±11km, n34, σ0.°97/57, 11C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode** 102nm,0.1s	**0.63**	**356**	P	**Pb**	**11 33 58.8**	**-0.3**
SHLS				S	**Sb**	**11 34 07.7**	**-0.5**
SHLS	**Shalkode** 99nm,0.1s 428nm,0.2s	**0.63**	**356**	*e*P	**Pb**	**11 33 58.8**	**-0.3**
SHLS				*e*S	**Sb**	**11 34 08.0**	**-0.2**
UZB	**Uzynbulak** 39nm,0.1s 427nm,0.1s	**0.72**	**329**	P	**Pb**	**11 33 60.0**	**-0.7**
UZB				S	**Sb**	**11 34 10.4**	**-0.5**
UZB	**Uzynbulak** 39nm,0.1s 54nm,0.2s	**0.72**	**329**	*e*P	**Pb**	**11 34 00.0**	**-0.7**
UZB				*e*S	**Sb**	**11 34 10.3**	**-0.5**
PDGK	**Podgornoye** 6.6nm,0.2s 52nm,0.1s	**0.80**	**358**	⇓P	**Pg**	**11 34 00.5**	**-0.5**
PDGK				⇓S	**Sb**	**11 34 11.6**	**-1.6**
PRZ	**Przheval'sk** 5.2nm,0.3s	**0.83**	**267**	⇑*e*P	**Pn**	**11 34 03.3**	**-0.8**
PRZ				⇑*e*S	**Sn**	**11 34 16.2**	**-0.6**
SATY	**Saty** 1.7nm,0.1s 48nm,0.2s	**0.98**	**303**	P	**Pn**	**11 34 05.6**	**-0.5**
SATY				S	**Sn**	**11 34 19.4**	**-0.9**
KPKS	**Kokpek** 0.3nm,0.4s 11nm,0.5s	**1.12**	**327**	P	**Pg**	**11 34 07.1**	**-0.1**
KPKS				S	**Sg**	**11 34 22.4**	**+0.7**
KURS	**Kuram** 6.3nm,0.3s 9.9nm,0.5s	**1.38**	**314**	P	**Pg**	**11 34 12.0**	**-0.1**
KURS				S	**Sg**	**11 34 30.8**	**+0.8**
TARG	**Taragay, Kyrgy**	**1.51**	**239**	⇑*i*P	**Pb**	**11 34 13.6**	**-0.7**
TARG				⇑*i*S	**Sb**	**11 34 34.1**	**+0.2**
KDJ	**Kajisay**	**1.79**	**258**	⇑*i*P	**Pb**	**11 34 19.4**	**+0.5**
KDJ				⇑*i*S	**Sg**	**11 34 43.9**	**+0.9**
KNOS	**Konyrlen** 5.3nm,0.2s 15nm,0.2s	**1.84**	**352**	P	**Pb**	**11 34 19.5**	**-0.4**
KNOS				S	**Sg**	**11 34 44.0**	**-1.0**
KOTS	**Kotyrbulak** 3.7nm,0.3s 31nm,0.7s	**1.91**	**292**	Pg	**Pg**	**11 34 22.4**	**+0.1**
KOTS				Lg	Lg	11 34 49.0	
KOTS	**Kotyrbulak** 3.7nm,0.3s 31nm,0.7s	**1.91**	**292**	*e*P	**Pg**	**11 34 22.4**	**+0.1**
KOTS				*e*S	**Sg**	**11 34 49.0**	**+2.0**
MDOK	**Medeo** 2.2nm,0.3s 7.1nm,0.7s	**1.93**	**290**	Pg	**Pb**	**11 34 22.0**	**+0.7**
MDOK				Lg	Lg	11 34 48.2	
TNSS	**Tian-Shan** 1.8nm,0.5s 2.6nm,0.5s	**1.96**	**286**	Pg	**Pb**	**11 34 22.4**	**+0.4**
TNSS				Lg	Lg	11 34 49.0	
TNSS	**Tian-Shan** 1.8nm,0.5s 2.6nm,0.5s	**1.96**	**286**	*e*P	**Pb**	**11 34 22.4**	**+0.4**
TNSS				*e*S	**Sg**	**11 34 49.0**	**+0.2**
KNDC	**Almaty** 15nm,0.3s 30nm,0.3s	**2.00**	**291**	⇓P	**Pb**	**11 34 23.3**	**+0.8**
KNDC				⇑S	**Sb**	**11 34 47.2**	**-0.5**
ARXS	**Arharly** 3.8nm,0.4s 9.0nm,0.3s	**2.09**	**324**	Pg	**Pb**	**11 34 23.8**	**-0.2**
ARXS				Lg	Lg	11 34 51.8	
ARXS	**Arharly**	**2.09**	**324**	*e*P	**Pb**	**11 34 23.9**	**0.0**
ARXS				*e*S	**Sg**	**11 34 51.8**	**-0.9**
CHKK	**Chushkaly** 12nm,0.4s 18nm,0.6s	**2.28**	**306**	Pg	**Pb**	**11 34 28.1**	**+0.9**
CHKK				Lg	Lg	11 34 58.3	
CHKK	**Chushkaly** 12nm,0.4s 18nm,0.6s	**2.28**	**306**	*e*P	**Pb**	**11 34 28.1**	**+0.9**
CHKK				*e*S	**Sg**	**11 34 58.3**	**-0.5**
MTBS	**Maitube** 5.4nm,0.5s 11nm,0.5s	**2.35**	**286**	Pg	**Pb**	**11 34 29.4**	**+0.8**
MTBS				Lg	Lg	11 35 00.7	
MTBS	**Maitube** 5.4nm,0.5s 11nm,0.5s	**2.35**	**286**	*e*P	**Pb**	**11 34 29.4**	**+0.8**
MTBS				*e*S	**Sg**	**11 35 00.8**	**-0.6**
KTBS	**Karatobe** 3.8nm,0.3s 25nm,0.7s	**2.39**	**301**	Pg	**Pb**	**11 34 30.1**	**+0.9**
KTBS				Lg	Lg	11 35 01.9	
BOOM	**Boomskoye usch**	**2.65**	**270**	⇓*e*P	**Pb**	**11 34 32.2**	**-1.4**
BOOM				⇓*i*S	**Sb**	**11 35 06.7**	**+0.2**
KST	**Kastek** 3.2nm,0.3s 7.6nm,0.5s	**2.67**	**282**	Pg	**Pb**	**11 34 34.3**	**+0.4**
KST				Lg	Lg	11 35 09.7	
KST	**Kastek**	**2.67**	**282**	*e*P	**Pb**	**11 34 35.2**	**+1.2**

	4.7nm,0.1s							
KST				*e*S		**Sg**	**11 35 10.5**	**-1.0**
	9.7nm,0.3s							
KUU	**Kurty**	**2.70 301**		Pg		**Pb**	**11 34 34.8**	**+0.5**
	1.8nm,0.1s							
KUU				Lg		Lg	11 35 10.2	
	16nm,0.2s							
KUU	**Kurty**	**2.70 301**		*e*P		**Pb**	**11 34 34.8**	**+0.5**
	4.1nm,0.1s							
KUU				*e*S		**Sb**	**11 35 10.2**	**+2.5**
	7.3nm,0.1s							
TKM2	**Tokmak 2**	**2.92 279**	⇑	*i*P		**Pb**	**11 34 35.9**	**-2.3**
TKM2			⇑	*i*S		**Sb**	**11 35 12.4**	**-1.9**
KRBS	**Karabastau**	**3.05 294**		Pg		**Pb**	**11 34 41.1**	**+0.7**
	1.1nm,0.4s							
KRBS				Lg		Lg	11 35 21.2	
	2.7nm,0.8s							
SGDS	**Sogindy**	**3.71 286**		Pg		**Pb**	**11 34 53.1**	**+1.5**
	0.9nm,0.5s							
SGDS				Lg		Lg	11 35 41.5	
	4.2nm,0.5s							
MK31	**Makanchi Array**	**4.70 24**	⇑	Pn		**Pn**	**11 34 58.9**	**+1.9**
	0.2nm,0.2s,baz=208,slow=15,SNR=5.8							
MK31			⇓	Sn		**Sn**	**11 35 53.1**	**+1.3**
	0.3nm,0.2s,baz=207,slow=21,SNR=5.2							
MK31			⇑	Lg		Lg	11 36 09.3	
	0.3nm,0.1s,baz=203,slow=28,SNR=3.5							

IDC 27 11:43:26.6±13.0**, 6°26S**×**129°66E, h95**km±140km**, mb3.4**/2**, mbtmp3.7**/5**, ML3.8**/3**, MS3.7**/1**, Error ellipse: s-maj=81.0km s-min=58.7km az=33.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.40 198**		P	Pn	11 46 18.6	-1.2
	0.1nm,0.3s,baz=19,slow=11,SNR=1.9						
FITZ				S	Sn	11 48 39.5	+3.3
	2.5nm,0.5s,baz=15,slow=15,SNR=6.3						
	1.6nm,0.8s						
WRA	**Warramunga Arr**	**14.34 162**		P	Pn	11 46 43.5	-1.7
	0.7nm,0.3s,baz=342,slow=13,SNR=18						
WRA				S	Sn	11 49 14.6	-8.7
	0.7nm,0.4s,baz=334,slow=22,SNR=9.0						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**17.78 167**		P	Pn	11 47 28.1	+0.1
	0.6nm,0.3s,baz=353,slow=8.7,SNR=62						
ASAR				S	Sn	11 50 39.8	-6.5
	0.6nm,0.7s,baz=359,slow=29,SNR=5.0						
	1.9nm,0.6s						
PSI	**Prapat**	**31.98 285**		LR	LR	12 04 35.8	
	comp=Z,126nm,18.5s,baz=189,slow=40						
MKAR	**Makanchi Array**	**67.42 327**		P	P	11 54 12.5	+0.4
	0.7nm,0.4s,baz=123,slow=7.5,SNR=9.9						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**71.70 329**		P	P	11 54 37.6	-0.6
	0.3nm,0.6s,baz=120,slow=5.5,SNR=3.2						
	0.3nm,0.6s						

*NEIC **27** 11:53:10.3±2.0, 19°.39N×0°.05×67°.28W×0°.06, h10km±1km, ML2.0/9, Md2.9/8(RSPR), Error ellipse: s-maj=9.7km s-min=7.9km az=283.0*

*SDD **27** 11:53:15.0±1.9, 19°.26N×67°.11W, h17km±112km, MD3.0, ML2.0, MW2.8*

*RSPR **27** 11:53:16.7, 19°.23N×67°.30W, h26km±24km, MD2.9/8*

ISC 27 11:53:15.6±1.8**, 19°18N**±0°.08×**67°20W**±0°.05**, h25**km±13**km, n33**, σ0°82/43**, 6C-5D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.71 173**			**Pb**	**11 53 29.4**	**-0.2**
AGPR					**Sb**	**11 53 39.6**	**+0.7**
AGPR	**Aguadilla, PR**	**0.71 173**	⇑	*i*P	**Pb**	**11 53 29.4**	**-0.2**
AGPR	**Aguadilla, PR**	**0.71 173**		*e*S	**Sb**	**11 53 39.6**	**+0.7**
AGPR	**Aguadilla, PR**	**0.71 173**		*e*Pg	**Pb**	**11 53 29.3**	**-0.2**
AGPR				*e*Sg	**Sb**	**11 53 39.6**	**+0.7**
AGPR				IAML		11 53 41.0	
	comp=N,80nm,0.1s						
IDE	**Isla Desecheo**	**0.83 198**			**Pn**	**11 53 30.9**	**-0.8**
IDE					**Sb**	**11 53 41.9**	**-0.3**
IDE	**Isla Desecheo**	**0.83 198**	⇑	*i*P	**Pn**	**11 53 30.9**	**-0.8**
IDE	**Isla Desecheo**	**0.83 198**		*e*S	**Sb**	**11 53 41.9**	**-0.3**
AOPR	**Arecibo Observ**	**0.93 153**			**Pn**	**11 53 32.6**	**-0.6**
AOPR	**Arecibo Observ**	**0.93 153**	‖	*e*P	**Pn**	**11 53 32.6**	**-0.6**
EMPR	**Esperanza - Ma**	**0.95 138**		Pn	**Pn**	**11 53 32.2**	**-1.1**
LSP	**Las Mesas**	**1.01 174**			**Pn**	**11 53 33.8**	**-0.4**
LSP					**Sb**	**11 53 47.3**	**0.0**
LSP	**Las Mesas**	**1.01 174**	‖	*e*P	**Pn**	**11 53 33.8**	**-0.4**
LSP	**Las Mesas**	**1.01 174**		*e*S	**Sb**	**11 53 47.3**	**0.0**
UUPR	**Utuado, UPR, P**	**1.03 154**		Pn	**Pb**	**11 53 34.7**	**-0.1**
ECPR	**Experimental S**	**1.17 137**		*e*S	**Sb**	**11 53 53.7**	**+1.7**
CRPR	**Cabo Rojo, PR**	**1.17 176**			**Pn**	**11 53 35.2**	**-1.2**
CRPR				IAML		11 53 54.5	
	comp=E,26nm,0.9s						
CRPR				IAML		11 54 04.8	
	comp=N,25nm,2.9s						
CRPR	**Cabo Rojo, PR**	**1.17 176**	‖	*e*P	**Pb**	**11 53 36.7**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.17 176**		*e*S	**Sn**	**11 53 52.5**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.17 176**	⇑	*e*Pg	**Pn**	**11 53 36.3**	**-0.2**
CRPR				*e*Sg	**Sb**	**11 53 53.3**	**+1.3**
CRPR				IAML		11 53 56.1	
	comp=N,23nm,0.8s						
MLPR	**Magueyes Islan**	**1.21 173**	⇑	*e*P	**Pn**	**11 53 36.8**	**-0.3**
MLPR	**Magueyes Islan**	**1.21 173**		*e*S	**Sn**	**11 53 53.3**	**+0.7**
MLPR	**Magueyes Islan**	**1.21 173**	⇑	*e*Pg	**Pn**	**11 53 36.6**	**-0.4**
MLPR			⇑	*e*Sg	**Sn**	**11 53 52.5**	**-0.1**
CELP	**Cerrillos**	**1.25 152**			**Pn**	**11 53 37.6**	**+0.1**
CELP				Sn	**Sn**	**11 53 54.2**	**+0.7**
CELP				IAML		11 53 54.4	
	comp=N,24nm,0.4s						
CELP	**Cerrillos**	**1.25 152**	‖	*i*P	**Pb**	**11 53 38.0**	**-0.6**
CELP	**Cerrillos**	**1.25 152**		*e*S	**Sn**	**11 53 54.0**	**+0.5**
CELP	**Cerrillos**	**1.25 152**	⇑	*e*Pg	**Pb**	**11 53 38.0**	**-0.6**
CELP				*e*Sg	**Sn**	**11 53 54.7**	**+1.2**
CELP				IAML		11 53 57.4	
	comp=N,20nm,0.3s						
OBIP	**Obispado Ponce**	**1.27 153**			**Pb**	**11 53 38.0**	**-0.9**
OBIP					**Sn**	**11 53 54.0**	**+0.1**
OBIP				IAML		11 54 00.9	
	comp=E,22nm,0.3s						
OBIP	**Obispado Ponce**	**1.27 153**	‖	*e*P	**Pb**	**11 53 38.2**	**-0.7**
OBIP	**Obispado Ponce**	**1.27 153**		*e*S	**Sn**	**11 53 54.0**	**+0.1**
GCPR	**Guaynabo City**	**1.37 129**		Pn	**Pn**	**11 53 38.5**	**-0.6**
GCPR				IAML		11 54 04.5	
	comp=N,15nm,1.9s						
MIDR	**Miches**	**1.76 264**	⇑	*e*P	**Pb**	**11 53 46.8**	**-0.4**
MIDR	**Miches**	**1.76 264**		*e*S	**Sb**	**11 54 09.5**	**+0.6**
HATOM	**Hato Mayor del**	**2.10 260**		*e*Pg	**Pb**	**11 53 52.1**	**-1.0**
HATOM				IAML		11 54 17.4	
	comp=N,12nm,1.0s						
HATOM				*e*Sg	**Sb**	**11 54 21.4**	**+2.7**

*IDC **27** 11:53:28.9±1.2, 35°.32N×0°.21W, h0km, mb3.5/3, mbtmp3.6/7, ML3.4/3, Error ellipse: s-maj=31.6km s-min=16.8km az=145.0*

*MDD **27** 11:53:30.9±0.5, 35°.30N×0°.03W, h24km±6km, Mb4.4/48, M_mb3.8/48, Error ellipse: s-maj=8.1km s-min=2.3km az=157.0*

*CNRM **27** 11:53:31.4, 35°.92N×0°.42W, h163km, ML3.3*

*CRAAG **27** 11:53:31.9, 35°.56N×0°.18W, Ml3.6, Algerie 05km N Sig*

ISC 27 11:53:32.0±1.1**, 35°57N**±0°.03×**0°18W**±0°.03**, h17**km±8**km, n118**, σ1°52/161**, 22C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ODJA	**Bouhanifia**	**0.24 173**		P	**Pg**	**11 53 37.4**	**-0.2**
USTO	**Oran**	**0.34 299**		P	**Pb**	**11 53 40.0**	**+0.4**
OJBR	**Djebel Berber**	**0.43 88**		P	**Pb**	**11 53 42.0**	**+0.8**
OTSS	**Djebel Tessala**	**0.57 240**		P	**Pb**	**11 53 44.8**	**+1.1**
OJGS	**Djebel Guires**	**0.76 95**		P	**Pb**	**11 53 48.3**	**+1.4**
OKGL	**Djebel Kef Gue**	**0.82 55**		P	Pg	11 53 43.0	-5.0
OSBL	**Sidi Abdelli**	**0.92 239**		P	**Pb**	**11 53 50.0**	**+0.4**
EKMS	**Oued Kramis**	**1.00 42**		P	**Pb**	**11 53 50.1**	**-0.8**
OLHC	**Oulhaca**	**1.06 253**		P	**Pn**	**11 53 52.7**	**+0.6**
EANR	**`Ain N'Sour**	**1.11 70**		P	**Pb**	**11 53 52.6**	**-0.2**
OBBL	**Beni Bahdel**	**1.38 232**		P	**Pn**	**11 53 56.8**	**+0.3**
TAF	**Taforalt**	**1.98 248**		P	**Pn**	**11 54 05.2**	**+0.5**
TAF	**Taforalt**	**1.98 248**		S	**Sg**	**11 54 35.7**	**0.0**
CART	**Cartagena**	**2.12 342**		P	**Sn**	**11 54 04.3**	**-2.3**
CART				S	**Sn**	**11 54 28.5**	**-4.0**
CART	**Cartagena**	**2.12 342**		P	**Pn**	**11 54 08.1**	**+1.5**
CART	**Cartagena**	**2.12 342**		S	**Sn**	**11 54 31.0**	**-1.5**
ENIJ	**Nijar**	**2.15 311**		P	**Pn**	**11 54 07.4**	**+0.3**
ENIJ				S	**Sn**	**11 54 31.9**	**-1.5**
ENIJ	**Nijar**	**2.15 311**		P	**Pn**	**11 54 07.6**	**+0.5**
ENIJ			⇑	*i*Vmb_VC		11 54 11.1	
	2µm,SNR=24						
ENIJ				S	**Sn**	**11 54 33.1**	**-0.3**
EMLI	**Melilla**	**2.27 264**		P	**Pn**	**11 54 07.0**	**-1.7**
EMEL	**Melilla**	**2.28 264**		P	**Pn**	**11 54 07.1**	**-1.7**
EMEL				S	**Sn**	**11 54 35.1**	**-1.4**
JBK	**JBK**	**2.31 239**		P	**Pn**	**11 54 13.0**	**-0.4**
JBK	**JBK**	**2.31 239**		S	**Sg**	**11 54 46.6**	**+0.2**
GOG	**Mont Gurugu**	**2.32 262**		P	**Pn**	**11 54 08.6**	**-0.9**
GOG	**Mont Gurugu**	**2.32 262**		S	**Sn**	**11 54 37.6**	**-0.1**
EALB	**Alboran**	**2.35 280**		P	**Pn**	**11 54 09.0**	**-0.7**
EALB				S	**Sn**	**11 54 37.8**	**-0.4**
EALB	**Alboran**	**2.35 280**		P	**Pn**	**11 54 09.4**	**-0.4**
EALB			⇑	*i*Vmb_VC		11 54 16.3	
	656nm,SNR=6.2						
EALB				S	**Sn**	**11 54 38.2**	**+0.1**
TLOR	**Lorca, Murcia**	**2.41 330**		P	**Pn**	**11 54 10.7**	**+0.1**
TLOR				S	**Sn**	**11 54 38.6**	**-1.1**
ELOR	**Lorca, Murcia**	**2.42 329**		S	**Sn**	**11 54 39.5**	**-0.5**
EMUR	**La Murta**	**2.42 340**		P	**Pn**	**11 54 08.7**	**-2.2**
EMUR				S	**Sn**	**11 54 37.4**	**-2.7**
EMUR	**La Murta**	**2.42 340**		P	**Pn**	**11 54 11.5**	**+0.7**
EMUR			⇑	*i*Vmb_VC		11 54 18.9	
	507nm,SNR=9.6						
EMUR				S	**Sn**	**11 54 41.6**	**+1.5**
ADJF	**Tadmit**	**3.02 116**		P	**Pn**	**11 54 19.8**	**+0.7**
ELGU	**Los Guajares,**	**3.07 296**		P	**Pn**	**11 54 18.2**	**-1.6**
ELGU				S	**Sn**	**11 54 55.7**	**-0.4**
ELGU	**Los Guajares,**	**3.07 296**		P	**Pn**	**11 54 19.8**	**0.0**
ELGU			⇑	*i*Vmb_VC		11 54 22.2	
	2µm,SNR=23						
ELGU				S	**Sn**	**11 54 56.9**	**+0.7**
PALE	**Palemas**	**3.09 265**		P	**Pn**	**11 54 19.1**	**-0.9**
PALE	**Palemas**	**3.09 265**		S	**Sn**	**11 54 56.2**	**-0.3**
EQUE	**Quentar**	**3.09 303**		P	**Pn**	**11 54 22.0**	**+1.9**
EQUE			⇑	*i*Vmb_VC		11 54 26.5	
	1µm,SNR=27						
EQUE				S	**Sn**	**11 54 58.0**	**+1.3**
EQTA	**Presa de Quent**	**3.10 303**		P	**Pn**	**11 54 21.5**	**+1.3**
EQTA				S	**Sn**	**11 54 58.4**	**+1.6**
EBEN2	**Beniarda presa**	**3.10 360**		P	**Pn**	**11 54 20.7**	**+0.6**
EBEN2			⇑	*i*Vmb_VC		11 54 27.7	
	484nm,SNR=2.9						
EBEN2				S	**Sn**	**11 54 57.9**	**+1.1**
AFON	**Font Roja**	**3.10 355**		P	**Pn**	**11 54 21.1**	**+0.9**
AFON				S	**Sn**	**11 54 58.1**	**+1.1**
AKLM	**AKL**	**3.20 252**		P	**Pn**	**11 54 22.0**	**+0.5**
AKLM	**AKL**	**3.20 252**		S	**Sn**	**11 55 00.7**	**+1.4**
EQES	**Quesada**	**3.22 315**		P	**Pn**	**11 54 24.8**	**+3.0**
EQES				S	**Sn**	**11 55 01.7**	**+1.9**
ETOB	**Tobarra**	**3.26 341**		P	**Pn**	**11 54 23.7**	**+1.4**
ETOB				S	**Sn**	**11 55 00.4**	**-0.4**
ETOB	**Tobarra**	**3.26 341**		P	**Pn**	**11 54 24.4**	**+2.0**
ETOB			⇑	*i*Vmb_VC		11 54 31.8	
	524nm,SNR=6.3						
ETOB				S	**Sn**	**11 55 02.1**	**+1.3**
E0803	**Jimena (Jaen)**	**3.48 312**		P	**Pn**	**11 54 28.1**	**+2.7**
E0803				S	**Sn**	**11 55 07.6**	**+1.4**
EGOR	**Sierra Gorda,**	**3.52 297**		P	**Pn**	**11 54 28.1**	**+2.0**
EGOR				S	**Sn**	**11 55 10.5**	**+3.1**
EGOR	**Sierra Gorda,**	**3.52 297**		P	**Pn**	**11 54 27.1**	**+1.1**
EGOR			⇑	*i*Vmb_VC		11 54 34.1	
	333nm,SNR=7.1						
EGOR				S	**Sn**	**11 55 07.8**	**+0.4**
FIGM	**Figuig**	**3.54 195**		P	**Pn**	**11 54 28.1**	**+1.8**
FIGM	**Figuig**	**3.54 195**		S	**Sb**	**11 54 18.4**	**+1.3**
E0802	**Ubeda,Jaen**	**3.55 315**		S	**Sn**	**11 55 08.9**	**+1.1**
EMAL	**Malaga-Limoner**	**3.64 290**		P	**Pn**	**11 54 27.0**	**-0.4**
ATAF	**Djebel Tarf**	**3.64 84**		P	**Pn**	**11 54 27.6**	**-0.1**
EIBI	**Ibiza**	**3.66 19**		P	**Pn**	**11 54 27.8**	**0.0**
EIBI				S	**Sn**	**11 55 09.3**	**-1.3**
EIBI	**Ibiza**	**3.66 19**		P	**Pn**	**11 54 29.1**	**+1.3**
EIBI				S	**Sn**	**11 55 11.0**	**+0.4**
EVIV	**Cofrentes, Val**	**3.77 349**		P	**Pn**	**11 54 31.6**	**+2.3**
EVIV			⇑	*i*Vmb_VC		11 54 41.0	
	270nm,SNR=3.6						
EVIV				S	**Sn**	**11 55 13.2**	**0.0**
ECHE	**Chera**	**4.06 351**		P	**Pn**	**11 54 33.4**	**0.0**
ECHE				S	**Sn**	**11 55 20.6**	**+0.1**
CEU	**Ceuta**	**4.23 276**		P	**Pn**	**11 54 38.1**	**+2.4**
SMIR	**Smir Dam**	**4.24 273**		P	**Pn**	**11 54 33.8**	**-1.9**
SMIR	**Smir Dam**	**4.24 273**		S	**Sn**	**11 55 22.1**	**-2.7**
PSIM	**Granatula de C**	**4.32 320**		P	**Pn**	**11 54 38.4**	**+1.5**
PSIM				S	**Sn**	**11 55 28.6**	**+1.7**
E1302	**La Puebla de C**	**4.37 292**		P	**Pn**	**11 54 39.6**	**+2.0**
E1302			⇑	*i*Vmb_VC		11 54 42.9	
	407nm,SNR=4.3						
E1302				S	**Sn**	**11 55 29.1**	**+0.9**
EADA	**Adamuz**	**4.37 308**		P	**Pn**	**11 54 41.2**	**+3.5**
EADA	**Adamuz**	**4.37 308**		P	**Pn**	**11 54 38.8**	**+1.2**
EADA				S	**Sn**	**11 55 28.6**	**+0.4**
ECOL	**Islas Columbre**	**4.38 9**		P	**Pn**	**11 54 37.7**	**0.0**
ECOL				S	**Sn**	**11 55 28.8**	**+0.6**
MDT	**Midelt**	**4.58 234**		Pn	**Pn**	**11 54 39.2**	**-1.3**
	0.6nm,0.3s,baz=33,slow=12,SNR=6.3						
MDT				Sn	**Sn**	**11 55 29.6**	**-3.9**
	1.1nm,0.3s,baz=69,slow=21,SNR=4.1						
MDT				Lg	Lg	11 55 49.3	
	1.2nm,0.3s,baz=219,slow=21,SNR=3.6						
	0.9nm,0.3s						
MDT	**Midelt**	**4.58 234**		P	**Pn**	**11 54 40.8**	**+0.3**
MDT	**Midelt**	**4.58 234**		S	**Sn**	**11 55 34.8**	**+1.4**
MD31	**MD31**	**4.65 236**		P	**Pn**	**11 54 41.6**	**+0.1**
MD31	**MD31**	**4.65 236**		S	**Sn**	**11 55 37.2**	**+2.1**
CZD	**Col de Zad**	**4.75 239**		P	**Pn**	**11 54 42.0**	**-1.1**
CZD	**Col de Zad**	**4.75 239**		S	**Sn**	**11 55 37.7**	**-0.2**
EMOS	**Mosqueruela**	**4.79 357**		P	**Pn**	**11 54 42.1**	**-1.5**
EMOS				S	**Sn**	**11 55 38.4**	**-0.4**
ETOS	**Mallorca**	**4.82 29**		P	**Pn**	**11 54 44.1**	**+0.3**
ETOS			⇑	*i*Vmb_VC		11 54 45.7	
	145nm,SNR=1.5						
ETOS				S	**Sn**	**11 55 36.9**	**-2.2**
ECAB	**El Cabril**	**4.89 302**		S	**Sn**	**11 55 40.5**	**-0.5**
ECAB				P	**Pn**	**11 54 44.2**	**-0.6**
ECAB	**El Cabril**	**4.89 302**		P	**Pn**	**11 54 45.5**	**+0.8**
ECAB			⇑	*i*Vmb_VC		11 54 49.7	
	160nm,SNR=2.8						
ECAB				S	**Sn**	**11 55 40.4**	**-0.5**
ESDC	**Sonseca Array**	**5.08 325**		Pn	**Pn**	**11 54 48.5**	**+1.1**
	1.2nm,0.3s,baz=139,slow=14,SNR=22						
ESDC				Sn	**Sn**	**11 55 46.9**	**+1.2**
	0.4nm,0.3s,baz=138,slow=17,SNR=4.0						
	1.8nm,0.3s						
PAB	**San Pablo**	**5.17 321**		P	**Pn**	**11 54 50.8**	**+2.2**
PAB			⇑	*i*Vmb_VC		11 54 51.7	
	205nm,SNR=4.2						
PAB				S	**Sn**	**11 55 47.1**	**-0.7**
ETOR	**Torete**	**5.45 345**		P	**Pn**	**11 54 54.2**	**+1.8**
ETOR				S	**Sn**	**11 55 55.7**	**+1.0**
EMIN	**Mina Concepcio**	**5.66 295**		P	**Pn**	**11 54 54.0**	**-1.3**
EMIN			⇑	*i*Vmb_VC		11 54 59.1	
	131nm,SNR=1.8						
EPOB	**Poblet**	**5.86 9**		P	**Pn**	**11 54 58.7**	**+0.6**
EPOB			⇑	*i*Vmb_VC		11 55 04.5	
	151nm,SNR=2.4						
EPOB				S	**Sn**	**11 56 01.4**	**-3.4**
GUD	**Guadarrama**	**5.96 329**		P	**Pn**	**11 55 00.9**	**+1.4**
GUD			⇑	*i*Vmb_VC		11 55 02.5	
	118nm,SNR=1.9						
GUD				S	**Sn**	**11 56 06.3**	**-1.0**
PBAR	**Barrancos**	**6.08 297**		P	**Pn**	**11 55 00.3**	**-0.8**
PBAR				S	**Sn**	**11 56 09.3**	**-0.9**
PBAR	**Barrancos**	**6.08 297**	*e*P		**Pn**	**11 55 01.9**	**+0.9**
EGRO	**El Granado**	**6.19 291**		P	**Pn**	**11 55 01.5**	**-1.1**
EGRO			⇑	*i*Vmb_VC		11 55 09.7	
	126nm,SNR=1.7						
EGRO				S	**Sn**	**11 56 11.0**	**-2.0**
EBAD	**Badajoz**	**6.31 302**		S	**Sn**	**11 56 13.0**	**-2.9**
EBAD				P	**Pn**	**11 55 05.0**	**+0.8**
EBAD	**Badajoz**	**6.31 302**		P	**Pn**	**11 55 04.4**	**+0.2**
EBAD			⇑	*i*Vmb_VC		11 55 08.4	
	172nm,SNR=1.9						
EBAD				S	**Sn**	**11 56 13.7**	**-2.3**
PVAQ	**Vaqueiros**	**6.34 289**	*e*P		**Pn**	**11 55 05.3**	**+0.6**
PBDV	**Barranco-do-Ve**	**6.47 287**	*e*P		**Pn**	**11 55 07.1**	**+0.7**
EPLA	**Plasencia**	**6.47 316**		P	**Pn**	**11 55 05.8**	**-0.7**
EPLA			⇑	*i*Vmb_VC		11 55 11.1	
	173nm,SNR=1.6						
EPLA				S	**Sn**	**11 56 17.9**	**-2.0**
PBEJ	**Beja**	**6.63 294**	*e*P		**Pn**	**11 55 09.6**	**+1.0**
PCVE	**Castro Verde**	**6.65 290**	*e*P		**Pn**	**11 55 09.9**	**+1.1**
PESTR	**Estremoz**	**6.76 301**		P	**Pn**	**11 55 09.6**	**-0.9**
PESTR	**Estremoz**	**6.76 301**	*e*P		**Pn**	**11 55 11.5**	**+1.1**
MESJ	**Messejana**	**6.84 292**	*e*P		**Pn**	**11 55 12.2**	**+0.7**
PMRV	**Marv??o**	**6.90 306**	*e*P		**Pn**	**11 55 14.1**	**+1.7**
MORF	**Marmelete**	**7.04 287**	*e*P		**Pn**	**11 55 14.5**	**+0.2**
ZGR	**Zagora**	**7.10 222**		P	**Pn**	**11 55 15.3**	**+0.1**
PTEO	**Sao Teotonio**	**7.15 289**	*e*P		**Pn**	**11 55 17.0**	**+1.2**
PCBR	**Castelo Branco**	**7.18 309**	*e*P		**Pn**	**11 55 17.7**	**+1.5**
OUZM	**OUZ**	**7.21 232**		P	**Pn**	**11 55 17.9**	**+1.2**
PMTG	**Montargil**	**7.30 301**	*e*P		**Pn**	**11 55 18.6**	**+0.8**
PSARD	**Sardoal**	**7.50 305**	*e*P		**Pn**	**11 55 20.0**	**+1.4**
EALK	**Alkurruntz**	**7.71 353**		P	**Pn**	**11 55 24.7**	**+1.2**
EALK			⇑	*i*Vmb_VC		11 55 32.5	
	175nm,SNR=1.1						
MVO	**Moncorvo**	**7.75 318**	*e*P		**Pn**	**11 55 26.5**	**+2.4**
KEST	**Kesra**	**7.76 86**	Pn		**Pn**	**11 55 24.4**	**+0.2**
	0.3nm,0.3s,baz=56,slow=5.6,SNR=4.0						
	2.0nm,0.5s						
PARRA	**Arraiolos**	**7.78 297**	*e*P		Pn	11 55 15.5	-8.8
PARRA			*e*S		Sn	11 56 35.1	-17
PSBE	**So Bento**	**7.89 302**	*e*P		**Pn**	**11 55 27.4**	**+1.5**
PVIS	**Viseu**	**7.96 313**	*e*P		**Pn**	**11 55 28.8**	**+2.0**
ELAN	**Lanestosa**	**8.05 343**		P	**Pn**	**11 55 31.1**	**+2.9**
ELAN			⇑	*i*Vmb_VC		11 55 33.3	
	284nm,SNR=1.6						
ELAN				S	**Sn**	**11 56 55.6**	**-3.3**
PBRG	**Braganca**	**8.06 323**	*e*P		**Pn**	**11 55 31.2**	**+2.8**
ECAL	**Calabor**	**8.16 323**		P	**Pn**	**11 55 30.6**	**+0.8**
ECAL			⇑	*i*Vmb_VC		11 55 40.3	
	282nm,SNR=2.0						
POLO	**Lamas de Olo**	**8.32 316**	*e*P		**Pn**	**11 55 34.4**	**+2.5**
EARI	**Arriondas**	**8.64 335**		P	**Pn**	**11 55 37.7**	**+1.5**
PGAV	**Gavieira, Arco**	**8.98 318**	*e*P		**Pn**	**11 55 44.1**	**+3.2**
VAE	**Valguarnera**	**11.90 77**	Pn		**Pn**	**11 56 21.7**	**+0.8**
	5.8nm,0.5s,baz=258,slow=19,SNR=3.3						
TORD	**Torodi Ar. Bea**	**22.39 175**		P	**P**	**11 58 25.4**	**-4.2**
	0.5nm,0.7s,baz=359,slow=11,SNR=3.5						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**56.77 48**		P	**P**	**12 03 14.9**	**+0.1**
	0.7nm,0.7s,baz=292,slow=7.9,SNR=5.5						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**60.39 52**		P	**P**	**12 03 41.5**	**+1.3**
	0.5nm,0.5s,baz=279,slow=5.0,SNR=5.9						
	0.5nm,0.5s						

*NOU **27** 11:58:27.6, 28°.67S×172°.33W, h0km, mb4.6/8, Kermadec Islands Region*

*IDC **27** 11:59:44.0±1.2, 31°.86S×178°.40W, h0km, mb4.7/2, mbtmp4.7/3, ML4.6/1, Error ellipse: s-maj=42.8km s-min=32.2km az=143.0*

*WEL **27** 11:59:48.2±0.5, 32°.5S±9°×17°.9W±2°.4, h150km, M4.3/18, mB4.8/12, ML5.1/18, MLv4.9/18, Mw(mB)4.0/12, Error ellipse: s-maj=33.5km s-min=3.0km az=110.7, confirmed*

*NEIC **27** 11:59:49.7±1.8, 32°.09S±0°.08×178°.35W±0°.06, h35km±2km, mb4.3/14, Error ellipse: s-maj=14.3km s-min=7.4km az=152.0*

ISC 27 11:59:47.8±0.8**, 32°13S**±0°.05×**177°9W**±0°.1**, h35**km**, n79, σ1°86/98, mb4.4/10, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.86 360**		P	**Pn**	**12 00 31.9**	**+1.0**
GLKZ				S	**Sn**	**12 01 00.3**	**-3.8**
RAO	**Raoul Island**	**2.87 360**		Pn	**Pn**	**12 00 32.5**	**+1.4**
RAO				Sn	**Sn**	**12 01 02.3**	**-2.1**
RAO	**Raoul Island**	**2.87 360**		Pn	**Pn**	**12 00 33.5**	**+2.5**
	60nm,0.3s,baz=102,slow=23,SNR=1.9						
RAO				Sn	**Sn**	**12 01 01.3**	**-3

ASAR	Alice Springs	43.11 269	P	P	12 07 42.0	-3.0	
ASAR	Alice Springs	43.11 269	P	P	12 07 43.0	-2.0	
	comp=Z,4.5nm,0.6s,baz=104,slow=7.4,SNR=98						
	comp=Z,4.5nm,0.6s						
WR8	Warramunga Arr	44.12 274		P	12 07 50.9	-2.1	
WR8			IAmb	IAmb	12 07 51.7		
	comp=Z,7.4nm,0.8s						
WRAB	Tennant Creek	44.25 274	P	P	12 07 52.1	-2.1	
WRA	Warramunga Arr	44.26 274		P	12 07 51.2	-2.9	
WRA	Warramunga Arr	44.26 274	P	P	12 07 52.1	-2.1	
	comp=Z,7.7nm,0.4s,baz=113,slow=8.0,SNR=218						
	comp=Z,7.7nm,0.4s						
WB0	Warramunga Arr	44.29 274		P	12 07 52.2	-2.2	
VNDA	Vanda	46.39 186	P	P	12 08 12.2	+1.9	
FITZ	Fitzroy Crossi	52.45 271	P	P	12 08 55.7	-1.6	
CASY	Casey	53.65 208	P	P	12 09 06.9	+1.4	
CASY			IAmb	IAmb	12 09 07.4		
	comp=Z,2.5nm,0.6s						
QSPA	South Pole Qui	57.98 180	P	P	12 09 38.3	+1.5	
QSPA			IAmb	IAmb	12 09 55.4		
	comp=Z,2.9nm,0.8s						
H03S2	Juan Fernandez	79.46 123	T	T	13 40 31.5		
	baz=237,slow=74,SNR=3.7						
H03S1	Juan Fernandez	79.47 123	T	T	13 40 32.8		
	baz=237,slow=74,SNR=3.5						
H03S3	Juan Fernandez	79.47 123	T	T	13 40 38.5		
	baz=237,slow=74,SNR=4.2						
H03N3	Juan Fernandez	79.66 123	T	T	13 40 45.3		
	baz=241,slow=72,SNR=9.5						
H03N2	Juan Fernandez	79.66 123	T	T	13 40 41.4		
	baz=241,slow=72,SNR=6.4						
H03N1	Juan Fernandez	79.67 123	T	T	13 40 43.5		
	baz=241,slow=72,SNR=11						
CNSH	ChangSha	88.97 304	P	PKiKP	12 17 41.3	+3.0	
KURBB	Kurchatov Arra	122.32 313	PKP	PKPdf	12 18 38.6	-0.1	
	comp=Z,0.5nm,0.4s,baz=124,slow=1.8,SNR=5.1						
BVAR	Borovoye Array	127.68 315	PKP	PKPdf	12 18 49.4	+0.5	
	comp=Z,0.7nm,0.4s,baz=76,slow=3.5,SNR=3.1						
FINES	FINESS Array B	146.79 339	PKPbc	PKPbc	12 19 25.5	+0.1	
	comp=Z,2.7nm,0.6s,baz=48,slow=4.8,SNR=22						
NB2	NORSAR Subarra	150.47 351	PKP	PKPbc	12 19 36.1	+1.1	
	comp=Z,0.5nm,0.4s,baz=16,slow=2.6						
NOA	NORSAR Array B	150.47 351	PKPbc	PKPbc	12 19 36.2	+1.2	
	comp=Z,0.9nm,0.5s,baz=15,slow=4.1,SNR=4.9						
HFS	Hagfors	150.95 348	PKPbc	PKPbc	12 19 36.8	+0.7	
	comp=Z,1.4nm,0.5s,baz=355,slow=3.6,SNR=10						
TORD	Torodi Ar. Bea	161.10 179	PKPab	PKPab	12 20 30.7	+2.6	
	comp=Z,0.7nm,0.6s,baz=188,slow=2.5,SNR=4.5						

*NOU **27** 12:04:57.1,30˙.40S×177˙.54W,h10km,ML6.2/176, Kermadec Islands, New Zealand*
*BGR **27** 12:04:58.5,30˙.80S×177˙.08W,h35km,Ms6.1*
*BJI **27** 12:05:00.9,30˙.07S×177˙.98W,h30km,mB6.2/61, mb5.9/73,Ms6.0/92,Ms7 5.9/91*
*NEIC **27** 12:05:02.4,30˙.18S×177˙.86W,h33km*
*NEIC **27** 12:05:02.5±1.7,30˙.17S±0˙.05×177˙.86W±0˙.10,h34km±1km, mb6.1/682,Ms_20 6.0/984,Mwb6.1/120,Mww6.1/45,Error ellipse: s-maj=14.2km s-min=8.2km az=94.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.93; Mθθ-0.57; Mφφ-0.36; Mrθ0.37; Mθφ1.19; Mφr0.81; Fault plane solution: M₀1.69000×10¹⁸ NP1: φs346.08000°,δ63.39000°,λ136.75000°. NP2: φs98.92000°,δ52.22000°,λ34.52000°. Principal axes: T 1.6977, Plg49.0000°, Azm307.0000°; N -0.0106, Plg41.0000°, Azm141.0000°; P -1.6871, Plg7.0000°, Azm45.0000°;*
*NEIC **27** 12:05:02.8,30˙.12S×177˙.86W,h36km*
*NEIC **27** 12:05:02.8,30˙.22S×177˙.52W,h36km,Moment Tensor Solution. Duration: 5ˢ9 Moment tensor: Scale 10¹⁸Nm; Mrr1.25; Mθθ-0.53; Mφφ-0.72; Mrθ0.45; Mθφ1.21; Mφr1.15; Fault plane solution: M₀2.04000×10¹⁸ NP1: φs107.57000°,δ44.93000°,λ37.65000°. NP2: φs348.92000°,δ64.45000°,λ128.30000°. Principal axes: T 2.1305, Plg54.0000°, Azm307.0000°; N -0.1863, Plg34.0000°, Azm150.0000°; P -1.9442, Plg11.0000°, Azm52.0000°;*
*IPGP **27** 12:05:02.0,30˙.13S×177˙.83W,h45km,Mw6.2,Fault plane solution: NP1:φs106.00000°,δ48.00000°,λ38.00000°. NP2:φs348.00000°,δ63.00000°,λ131.00000°.*
*MOS **27** 12:05:03.2±0.9,30˙.03S×178˙.05W,h49km,mb6.3/44, MS5.9/45,Error ellipse: s-maj=9.7km s-min=6.9km az=116.5*
*IDC **27** 12:05:04.2±1.0,30˙.04S×177˙.96W,h51km±8km,mb5.6/20, mbtmp5.9/21,MS5.8/54,Error ellipse: s-maj=10.7km s-min=9.3km az=105.0*
*GCMT **27** 12:05:06.5±0.0,30˙.23S×177˙.71W,h39km,MW6.2/173, Moment Tensor Solution. s173,c404; s165,c595; Duration: 3ˢ1 Moment tensor: Scale 10¹⁸Nm; Mrr1.50±.01; Mθθ-0.59±.01; Mφφ-0.91±.01; Mrθ0.54±.01; Mθφ1.60±.01; Mφr1.44±.01; Best double couple: M₀2.57300×10¹⁸ NP1:φs107.00000°,δ46.00000°, λ36.00000°. NP2:φs350.00000°,δ65.00000°,λ130.00000°. Principal axes: T 2.6430, Plg52.0000°, Azm307.0000°; N -0.1400, Plg35.0000°, Azm151.0000°; P -2.5040, Plg12.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 27 12:05:02.0±0.2,30˙24S±0˙03×177˙90W±0˙03,h36km±1km, h37km:pP-P,n2488,o1ˢ60/2150,mb6.1/481,MS6.0/590, 208C-100D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	0.97	359	P		Pn	12 05 18.2	-0.9
GLKZ				S		Sn	12 05 28.8	-2.9
RAO	Raoul Island	0.98	359			Pn	12 05 18.3	-1.0
RAO				Sn		Sn	12 05 30.5	-1.4
RAO	Raoul Island	0.98	359	P		Pn	12 05 19.3	+0.1
	83µm,0.2s,baz=190,slow=2.4,SNR=220							
RAO	Raoul Island	0.98	359	P		Pn	12 05 18.6	-0.7
RAO	Raoul Island	0.98	359	P		Pn	12 05 18.3	-1.0
RAO				S		Sn	12 05 30.5	-1.4
RIZ	Raoul Island	0.99	359	P		Pn	12 05 19.0	-0.4
RIZ				S		Sn	12 05 30.9	-1.2
MXZ	Matakaoa Point	7.95	202	Pn		Pn	12 06 53.4	-1.6
MXZ	Matakaoa Point	7.95	202	P		Pn	12 06 54.3	-0.7
MXZ	Matakaoa Point	7.95	202	P		Sn	12 08 23.5	-0.2
MXZ	Matakaoa Point	7.95	202	P		Pn	12 06 53.4	-1.6
MXZ				S		Sn	12 08 24.5	+0.8
GRZ	Great Barrier	8.17	221	P		Pn	12 07 01.3	+3.3
PKGZ	Pakihiroa	8.30	203	P		Pn	12 06 57.4	-2.4
PKGZ				S		Sn	12 08 35.8	+3.4
HAZ	Te Kaha	8.31	204	P		Pn	12 06 58.5	-1.4
HAZ				S		Sn	12 08 37.5	+5.1
WIZ	White Island	8.33	208	P		Pn	12 06 58.8	-1.4
KUZ	Kuaotunu	8.39	218	P		Sn	12 07 04.8	+3.8
KUZ	Kuaotunu	8.39	218	S		Sn	12 08 36.3	+1.8
KUZ	Kuaotunu	8.39	218	P		Pn	12 07 03.8	+2.8
PUZ	Puketiti	8.44	201	P		Pn	12 06 59.2	-2.5
PUZ				S		Sn	12 08 36.8	+1.2
RUGZ	Raukumara Rang	8.53	204	P		Pn	12 07 01.1	-2.0
RUGZ				S		Sn	12 08 38.9	+0.8
MYRZ	Mayor Island	8.55	213	P		Pn	12 07 06.9	+3.7
TWGZ	Tauwhareparae	8.62	202	P		Pn	12 07 02.0	-2.2
TWGZ				S		Sn	12 08 39.4	-0.8
WCZ	Waipu Caves	8.63	227	P		Pn	12 07 09.1	+4.8
WHRZ	Whale Island	8.70	208	P		Pn	12 07 04.9	-0.4
OUZ	Omahuta	8.71	233	P		Pn	12 07 10.2	+4.8
OUZ	Omahuta	8.71	233	P		Pn	12 07 13.6	+8.2
OUZ	Omahuta	8.71	233	P	↑	Pn	12 07 12.1	+6.7
CNGZ	Carnagh Statio	8.83	200	P		Pn	12 07 05.3	-1.7
OPRZ	Ohinepanea	8.87	210	P		Pn	12 07 08.6	+1.0
TKGZ	Te Karaka	8.90	202	P		Pn	12 07 05.3	-2.7
TGRZ	Tauranga	8.90	211	P		Pn	12 07 10.5	+2.5
MWZ	Matawai	8.91	204	P		Pn	12 07 05.1	-3.1
MARZ	Manawahe	8.94	209	P		Pn	12 07 08.1	-0.5
URZ	Urewera	9.00	206	P		Pn	12 07 06.5	-2.8
	44nm,0.3s,baz=269,slow=4.2,SNR=92							
URZ				S		Sn	12 08 50.1	+0.7
	924nm,0.5s,baz=253,slow=3.3,SNR=11							
URZ	Urewera	9.00	206	P		Pn	12 07 06.4	-2.9
EDRZ	Edgecumbe	9.01	208	P		Pn	12 07 08.1	-1.5
LIRZ	Lichensteins R	9.07	210	P		Pn	12 07 12.6	+2.2
RAGZ	Rawiri	9.10	204	P		Pn	12 07 07.8	-3.0
KMRZ	Kaimai	9.14	212	P		Pn	12 07 14.5	+3.1
KARZ	Kaharoa	9.15	210	P		Pn	12 07 12.7	+1.2
OMRZ	Omania	9.17	210	P		Pn	12 07 13.8	+2.0
RIGZ	Rimuhau	9.17	202	P		Pn	12 07 08.3	-3.5
TARZ	Mount Tarawera	9.22	209	P		Pn	12 07 14.2	+1.7
NGRZ	Ngongotaha	9.24	210	P		Pn	12 07 13.8	+1.0
TOZ	Tahuroa Road	9.26	214	P		Pn	12 07 16.2	+3.3
HLRZ	Highlands Stat	9.30	209	P		Pn	12 07 14.6	+1.1
UTU	Utuhina	9.30	210	P		Pn	12 07 14.9	+1.3
RRRZ	Republican Roa	9.30	208	P		Pn	12 07 13.4	-0.2
MUGZ	Murupara	9.32	207	P		Pn	12 07 11.2	-2.6
RTZ	Ruatahuna	9.36	205	P		Pn	12 07 11.7	-2.7
SNGZ	Shannon Statio	9.38	203	P		Pn	12 07 12.0	-2.6
HSRZ	Hossack Road	9.39	209	P		Pn	12 07 16.2	+1.4
HRRZ	Handcock Road	9.44	209	P		Pn	12 07 17.2	+1.7
KNZ	Kokohu	9.49	201	P		Pn	12 07 13.0	-3.1
PRRZ	Plateau Road	9.49	208	P		Pn	12 07 15.5	-0.6
MHGZ	Mahia Peninsul	9.54	200	P		Pn	12 07 12.7	-4.1
ALRZ	Allen Road	9.56	208	P		Pn	12 07 16.1	-1.1
RAHZ	Arahi	9.59	204	P		Pn	12 07 14.7	-2.8
WPRZ	Whakapapatarin	9.60	209	P		Pn	12 07 18.3	+0.6
MTHZ	Maungataniwha	9.62	205	P		Pn	12 07 15.4	-2.6
WHHZ	Waihua	9.68	203	P		Pn	12 07 16.5	-2.2
TLZ	Tolley Road	9.72	212	P		Pn	12 07 22.1	+2.8
KUTZ	Kaahu Road	9.72	211	P		Pn	12 07 20.7	+1.4
MRHZ	Matea Rd	9.77	207	P		Pn	12 07 16.6	-3.3
WHTZ	Whakaora	9.81	209	P		Pn	12 07 23.6	+3.0
NMHZ	Naumai	9.85	205	P		Pn	12 07 17.8	-3.3
ARHZ	Aropaoanui	9.93	204	P		Pn	12 07 18.7	-3.4
WATZ	Wairara	9.94	210	P		Pn	12 07 21.5	-0.9
BKZ	Black Stump Fm	10.03	206	P		Pn	12 07 20.1	-3.4
BKZ	Black Stump Fm	10.03	206	P		Pn	12 07 19.8	-3.7
RATZ	Rangitukua	10.06	209	P		Pn	12 07 24.2	+0.2
RITZ	Rihia Road	10.12	209	P		Pn	12 07 24.5	-0.2
HIZ	Hauiti	10.19	214	P		Pn	12 07 27.9	+2.2
HIZ	Hauiti	10.19	214	P		Pn	12 07 27.6	+1.9
MCHZ	McNeill Hill	10.20	204	P		Pn	12 07 22.5	-3.2
CKHZ	Cape Kidnapper	10.26	202	P		Pn	12 07 23.1	-3.5
KWHZ	Kaweka Forest	10.28	205	P		Pn	12 07 26.0	-0.9
NTVZ	North Tongarir	10.29	209	P		Pn	12 07 25.7	-1.5
TMVZ	Te Maari	10.30	209	P		Pn	12 07 25.6	-1.7
KRVZ	Karewarewa	10.31	209	P		Pn	12 07 28.5	+1.1
ETVZ	East Tongariro	10.31	209	P		Pn	12 07 26.2	-1.2
WTVZ	West Tongariro	10.35	209	P		Pn	12 07 27.9	0.0
NNVZ	North Ngauruho	10.35	209	P		Pn	12 07 26.5	-1.5
OTVZ	Oturere	10.35	209	P		Pn	12 07 29.2	+1.2
TWVZ	Taurewa	10.37	210	P		Pn	12 07 28.0	-0.3
SNVZ	South Ngauruho	10.38	209	P		Pn	12 07 26.7	-1.8
NGZ	Ngauruhoe	10.39	209	P		Pn	12 07 27.3	-1.3
COVZ	Chateau Observ	10.44	209	P		Pn	12 07 29.4	+0.3
TUVZ	Tukino	10.45	209	P		Pn	12 07 27.3	-2.0
KAHZ	Kahuranaki	10.45	203	P		Pn	12 07 24.6	-4.6
FWVZ	Far West T-bar	10.48	209	P		Pn	12 07 28.2	-1.7
MAVZ	Matarangi	10.48	209	P		Pn	12 07 28.8	-1.2
WHVZ	Whangaehu Hut	10.49	209	P		Pn	12 07 28.2	-1.8
KRHZ	Kereru	10.49	205	P		Pn	12 07 25.0	-4.8
TRVZ	Turoa	10.52	209	P		Pn	12 07 32.2	+1.8
WNVZ	Wahianoa	10.52	209	P		Pn	12 07 28.5	-1.8
MOVZ	Moawhango	10.52	208	P		Pn	12 07 27.3	-3.0
PKVZ	Pokaka	10.60	210	P		Pn	12 07 32.3	+1.0
MTVZ	Mangateitei	10.62	209	P		Pn	12 07 30.5	-1.2
PWZ	Pawanui	10.66	202	P		Pn	12 07 28.0	-4.2
PWZ				S		Sn	12 09 23.8	-6.4
PXZ	Pawanui	10.66	202	P		Pn	12 07 27.0	-5.1
PXZ				S		Sn	12 09 23.0	-7.2
VRZ	Vera Road	10.72	212	P		Pn	12 07 33.8	+0.9
PNHZ	Pukenui	10.79	205	P		Pn	12 07 28.6	-5.3
WPHZ	Waipukurau	10.84	204	P		Pn	12 07 30.4	-4.2
PRHZ	Porangahau	10.95	203	P		Pn	12 07 30.9	-5.2
TSZ	Takapari Road	11.01	205	P		Pn	12 07 31.7	-5.1
WAZ	Wanganui	11.14	210	P		Pn	12 07 36.6	-2.1
DVHZ	Dannevirke	11.14	204	P		Pn	12 07 33.7	-5.0
PKE	Pukeiti	11.14	215	P		Pn	12 07 43.5	+4.7
NEZ	North Egmont	11.15	214	P		Pn	12 07 40.9	+2.0
LREZ	Lake Rotokare	11.16	212	P		Pn	12 07 41.1	+2.2
PREZ	Palmer Road	11.18	214	P		Pn	12 07 43.9	+4.7
ANWZ	Angora Road	11.18	203	P		Pn	12 07 33.9	-5.3
KHEZ	Kahui Hut	11.21	214	P		Pn	12 07 43.7	+4.0
NBEZ	Newall Road No	11.26	215	P		Pn	12 07 46.0	+5.7
POWZ	Post Office Ro	11.37	205	P		Pn	12 07 38.1	-3.7
PRWZ	Pori Road	11.44	204	P		Pn	12 07 38.4	-4.4
BFZ	Birch Farm	11.46	203	P		Pn	12 07 38.4	-4.6
BFZ	Birch Farm	11.46	203	P		Pn	12 07 37.1	-5.9
TIWZ	Tintock	11.66	204	P		Pn	12 07 41.9	-4.0
MRZ	Mangatainoka R	11.67	205	P		Pn	12 07 39.6	-6.4
CPWZ	Castlepoint	11.68	203	P		Pn	12 07 43.7	-2.3
HOWZ	Holdsworth Sta	11.90	205	P		Pn	12 07 42.5	-6.7
TMWZ	Te Maipa	11.96	203	P		Pn	12 07 43.8	-6.0
OGWZ	Otaki Gorge	11.96	206	P		Pn	12 07 43.6	-6.3
LKBA	Tubou, Lakemba	11.98	356	P		Pn	12 07 53.7	+3.4
KIW	Kapiti Island	12.10	207	P		Pn	12 07 45.3	-6.5
MTW	Mount Morrison	12.14	204	P		Pn	12 07 45.2	-7.1
CAW	Cannon Point	12.25	206	P		Pn	12 07 46.5	-7.4
TRWZ	Traveller	12.28	203	P		Pn	12 07 48.8	-5.6
PAWZ	Paruwai Farm	12.36	204	P		Pn	12 07 48.5	-6.9
NFK	Norfolk Island	12.38	212	P		Pn	12 08 00.3	+4.7
	comp=Z,0.0nmcomp=Z,992nm,1.9s							
MSWZ	Moikau Station	12.45	205	P		Pn	12 07 50.4	-6.2
DUWZ	D'Urville Isla	12.46	210	P		Pn	12 07 52.0	-4.8
WEL	Wellington	12.52	206	P		Pn	12 07 52.6	-4.9
SNZO	South Karori	12.56	206	P		P	12 08 06.0	-3.2
SNZO				S		Sn	12 10 10.7	-6.0
BHW	Baring Head	12.59	206	P		Pn	12 07 53.4	-5.0
PLWZ	Palliser	12.59	204	P		Pn	12 07 51.6	-6.9
TCW	Tory Channel	12.65	208	P		Pn	12 07 51.7	-7.6
TUWZ	Tuamarina	12.97	208	P		Pn	12 07 57.9	-5.7
MSVF	Nonsavu	12.98	343	Pn		Pn	12 08 07.3	+3.2
MSVF	Nonsavu	12.98	343	P		Pn	12 08 07.1	+3.0
MSVF	Nonsavu	12.98	343	*c*	↑	P	12 08 06.0	+1.9
MSVF	Nonsavu	12.98	343	P	↑	Pn	12 08 06.8	+2.7
NNZ	Nelson	13.03	210	P		Pn	12 07 58.4	-6.2
TKNZ	Takaka Hill	13.07	212	P		Pn	12 08 01.4	-3.7
QRZ	Quartz Range	13.12	214	P		Pn	12 08 01.3	-4.4
QRZ	Quartz Range	13.12	214	S		Sn	12 10 29.5	-0.7
QRZ	Quartz Range	13.12	214	P		Pn	12 08 01.6	-4.1
BSWZ	Blackbirch Sta	13.24	208	P		Pn	12 08 00.9	-6.4
NIUE	Niue	13.26	35	P		Pn	12 08 00.9	-6.9
NIUE	Niue	13.26	35	P		Pn	12 08 00.8	-7.0
NIUE	Niue	13.26	35	P		Pn	12 08 00.9	-6.9
MRNZ	Matariki Terra	13.46	212	P		Pn	12 08 04.5	-5.9
CTZ	Chatham Island	13.51	176	P		Pn	12 08 09.5	-1.5
CTZ	Chatham Island	13.51	176	P		Pn	12 08 10.2	-0.9
TAVE	Taveuni	13.59	352	P		Pn	12 08 16.2	+3.9
THZ	Tophouse	13.69	210	P		Pn	12 08 06.5	-7.0
KHZ	Kahutara	13.96	207	P		Pn	12 08 16.1	-1.1
KHZ	Kahutara	13.96	207	P		Pn	12 08 09.6	-7.6
DGTI	Dogotuki	14.04	351	P		Pn	12 08 21.3	+2.8
GVZ	Greta Valley S	14.63	207	P		Pn	12 08 18.4	-7.9
LTZ	Lake Taylor	14.79	209	P		Pn	12 08 22.6	-5.8
INZ	Inchbonnie	15.10	212	P		Pn	12 08 26.7	-5.9
PINNC	Pines Island,	15.15	297	Pn		Pn	12 08 35.5	+2.1
PINNC	Pines Island,	15.15	297	P		P	12 08 37.9	-0.2
OXZ	Oxford	15.33	209	P		Pn	12 08 28.1	-7.5
MQZ	McQueen's Vall	15.40	207	P		Pn	12 08 27.1	-9.3
WVZ	Waitaha Valley	15.70	212	P		Pn	12 08 37.5	-2.9
OUENC	Ouen Island, N	15.73	296	P		P	12 08 46.8	+2.3
FUTU	Fugatoga	15.86	359	Pn		Pn	12 08 39.8	-2.8
FUTU	Fugatoga	15.86	359	P		P	12 08 44.5	-1.4
RPZ	Rata Peaks	16.06	210	P		Pn	12 08 40.3	-4.7
	comp=Z,47nm,0.5s,baz=40,slow=1.2,SNR=15							
RPZ				S		Sn	12 11 30.9	-11
	comp=Z,90nm,0.4s,baz=136,slow=24,SNR=9.9							
RPZ				LR		LR	12 15 55.9	
	comp=Z,51µm,18.8s,baz=46,slow=40							
RPZ	Rata Peaks	16.06	210	P		Pn	12 08 41.0	-4.1
ONTNC	Ouen Toro	16.09	296	Pn		Pn	12 08 46.0	+0.5
ONTNC	Ouen Toro	16.09	296	P		P	12 08 49.4	+0.9
ONTNC	Ouen Toro	16.09	296	P	↑	P	12 08 50.3	+1.9
DZM	Mont Dzumac	16.23	296	*eP*		P	12 08 49.3	-0.8
	comp=Z,1µm,0.7s							
DZM				*e*LR		LR	12 12 30.3	
	comp=Z,190µm,25.6s							
DZM	Mont Dzumac	16.23	296	Pn		Pn	12 08 47.1	-0.2
DZM	Mont Dzumac	16.23	296	P		P	12 08 51.3	+1.2
	comp=Z,250nm,0.8s,baz=97,slow=15,SNR=45							
DZM				LR		LR	12 13 48.3	
	comp=Z,100µm,20.4s,baz=130,slow=33							
DZM	Mont Dzumac	16.23	296	P		P	12 08 52.8	+2.7
DZM	Mont Dzumac	16.23	296	P	↑	P	12 08 52.0	+1.9
FOZ	Fox Glacier	16.48	213	P		Pn	12 08 46.1	-4.3
TMZ	Timaru	16.62	209	P		Pn	12 08 44.3	-7.9
LBZ	Lake Benmore	16.98	210	P		Pn	12 08 53.1	-3.5
ODZ	Otahua Downs	17.31	208	P		Pn	12 08 53.8	-6.9
JCZ	Jackson Bay	17.38	214	P		Pn	12 08 57.3	-4.4
JCZ	Jackson Bay	17.38	214	P		Pn	12 08 57.1	-4.6
RTV	Rentapao	17.57	312	P		P	12 09 07.6	+2.7
DVP	Devils Point	17.77	311	P		P	12 09 09.9	+2.8
WKZ	Wanaka	17.84	212	P		Pn	12 09 03.1	-4.2
HHSZ	Highcliff Hill	18.02	207	P		P	12 09 10.1	+0.3
EAZ	Earnscleugh	18.03	210	P		Pn	12 09 06.8	-2.8
MSZ	Milford Sound	18.24	214	P		P	12 09 11.0	-1.1
TUZ	Tuapeka	18.47	208	P		P	12 09 13.9	-0.6
RAR	Rarotonga	18.62	65	P		P	12 09 13.8	-2.7
RAR				IAmb		IAmb	12 09 22.5	
	comp=Z,2µm,1.6s							
RAR	Rarotonga	18.62	65	P		P	12 09 15.7	-0.8
	comp=Z,346nm,0.7s,baz=230,slow=9.0,SNR=45							
RAR				S		Sn	12 12 27.1	-17
	comp=Z,268nm,0.6s,baz=60,slow=20,SNR=10.0							
RAR				LR		LR	12 15 15.3	
	comp=Z,12µm,20.9s,baz=223,slow=33							
RAR	Rarotonga	18.62	65	P		P	12 09 14.8	-1.7
RAR	Rarotonga	18.62	65	P		P	12 09 14.6	-1.9
MLZ	Mavora Lakes	18.67	212	P		P	12 09 14.7	-2.2
KOUNC	Koumac, New Ca	18.74	297	P		Pn	12 09 23.6	+5.2
KOUNC	Koumac, New Ca	18.74	297	P	↑	Pn	12 09 21.6	+3.2
SYZ	Scrubby Hill	19.14	208	P		P	12 09 22.1	+0.2
SYZ	Scrubby Hill	19.14	208	P		Pn	12 09 23.2	+0.2
WHZ	Wether Hill Ro	19.14	211	P		P	12 09 20.9	-1.2
LHI	Lord Howe Isla	19.81	260	P		Pn	12 09 33.9	+2.7
	comp=Z,0.0nmcomp=Z,668nm,1.2s							
LHI	Lord Howe Isla	19.81	260	P		Pn	12 09 32.1	+1.0
LHI	Lord Howe Isla	19.81	260	P		Pn	12 09 35.2	+4.1
LHI	Lord Howe Isla	19.81	260	P	↑	Pn	12 09 34.6	+3.4
APZ	The Paps	19.85	210	P		P	12 09 34.1	+2.5
PYZ	Puysegur Point	19.93	213	IAMs_20		IAMs_20	12 18 01.3	
	comp=Z,51µm,18.0s							
SANVU	Saraoutou	20.09	314			Pn	12 09 34.3	-0.2
SANVU				IAmb		IAmb	12 09 43.9	
	comp=Z,2µm,1.6s							
SANVU	Saraoutou	20.09	314	P		Pn	12 09 35.3	+0.7
SANVU	Saraoutou	20.09	314	P	↑	P	12 09 32.5	-0.1
FUNA	Funafuti	21.77	352	P		P	12 09 50.2	-0.4
GC1S	Gold Coast 1 S	25.01	268	P		P	12 10 27.0	+4.4
TBI	Tubuai	26.25	82	*eP*		P	12 10 33.9	0.0
	comp=Z,829nm,1.3s							
TBI				*e*S		S	12 14 59.1	-4.9
	comp=Z,64µm,32.0s							
TBI				*e*LQ		LQ	12 15 55.0	
	comp=Z,304µm,27.5s							
TBI				*e*LR		LR	12 17 04.0	
	comp=Z,91µm,28.8s							
TBI				*e*LR		LR	12 17 10.4	
	comp=Z,411µm,26.8s							
ARMA	Armidale	26.26	262	P		P	12 10 37.8	+3.6
	comp=Z,0.0nmcomp=Z,346nm,1.0s							
ARMA	Armidale	26.26	262			P	12 10 37.6	+3.6
ARMA	Armidale	26.26	262	P		P	12 10 38.2	+4.1
ARMA	Armidale	26.26	262	P	↑	P	12 10 37.7	+3.6
RIV	Riverview	26.42	254	P		P	12 10 39.0	+3.7
	comp=Z,0.0nmcomp=Z,503nm,1.1s							
RIV	Riverview	26.42	254	P		P	12 10 39.2	+3.9
RIV	Riverview	26.42	254	P	↑	P	12 10 38.6	+3.4
MGCD	Mangrove Cre

TARA Tarawa 32.61 343 P P 12 11 29.8 -0.6
comp=Z,31µm,19.0s
TARA Tarawa 32.61 343 ⇓P P 12 11 29.2 -1.1
QLP Quilpie 33.40 267 P P 12 11 38.8 +1.6
comp=Z,0.0nmcomp=Z,1µm,1.4s
QLP Quilpie 33.40 267 P P 12 11 38.4 +1.2
QLP Quilpie 33.40 267 ⇑P P 12 11 38.5 +1.3
TV1H Townsville Har 33.74 281 P P 12 11 42.1 +1.9
CTAO Charters Tower 33.85 279 P P 12 11 43.3 +2.0
CTAO Charters Tower 33.85 279 IAMs_20 IAMs_20 12 23 01.5
comp=Z,41µm,21.0s
CTAO Charters Tower 33.85 279 P P 12 11 43.2 +2.0
CTAO Charters Tower 33.85 279 P P 12 11 43.3 +2.0
CTAO pmax pmax
comp=Z,746nm,0.9s
CTAO Charters Tower 33.85 279 ⇑P P 12 11 43.3 +2.0
CTAO Charters Tower 33.85 279 P P 12 11 43.4 +2.2
CTAO PcP PcP 12 14 18.9 -0.7
ARPS Mount Arapiles 34.01 248 P P 12 11 44.0 +1.6
comp=Z,0.0nmcomp=Z,101nm,1.2s
STKA Stephens Creek 34.60 257 P P 12 11 49.5 +2.0
comp=Z,0.0nmcomp=Z,3µm,1.0s
STKA Stephens Creek 34.60 257 P P 12 11 49.8 +2.2
STKA Stephens Creek 34.60 257 P P 12 11 49.8 +2.2
comp=Z,519nm,0.9s,baz=96,slow=9.7,SNR=472
STKA S S 12 17 12.8 -1.6
comp=Z,5.3nm,0.7s,baz=21,slow=23,SNR=1.5
STKA PKiKP PKiKP 12 21 43.5 -0.9
comp=Z,5.7nm,0.6s,baz=124,slow=1.2,SNR=13
STKA LR LR 12 25 15.3
comp=Z,29µm,18.4s,baz=91,slow=35
comp=Z,519nm,0.9s
STKA Stephens Creek 34.60 257 P P 12 11 49.4 +1.8
INKA Innaminka 36.12 263 P P 12 12 02.9 +2.3
MTSU Mount Surprise 36.35 281 P P 12 12 04.7 +2.0
comp=Z,345nm,0.7s
MTSU Mount Surprise 36.35 281 P P 12 12 04.5 +1.7
HTT Hallett 36.63 254 P P 12 12 06.6 +1.5
comp=Z,170nm,0.8s
HTT Hallett 36.63 254 P P 12 12 06.2 +1.1
HTT Hallett 36.63 254 ⇑P P 12 12 06.3 +1.3
GHSS Government Hou 36.73 251 P P 12 12 07.2 +1.4
PTPS Port Pirie 37.43 254 P P 12 12 13.7 +1.9
XMAS Kiritimati 37.58 35 P P 12 12 11.1 -2.0
XMAS Kiritimati 37.58 35 P P 12 12 13.0 -0.1
XMAS Kiritimati 37.58 35 ⇓P P 12 12 14.8 +1.7
WHYH Whyalla 37.80 254 P P 12 12 16.3 +1.4
RABL Rabaul 38.34 307 IAmb IAmb 12 12 30.6
comp=Z,182nm,0.7s
PMG Port Moresby 38.61 295 P 12 12 22.5 +0.5
PMG IAmb IAmb 12 12 28.2
comp=Z,523nm,1.6s
PMG PcP 12 14 34.4 +0.6
PMG Port Moresby 38.61 295 IAMs_20 IAMs_20 12 25 05.6
comp=Z,21µm,21.0s
PMG Port Moresby 38.61 295 LR LR 12 25 28.4
comp=Z,19µm,21.8s,baz=135,slow=32
PMG Port Moresby 38.61 295 P P 12 12 22.4 +0.5
PMG Port Moresby 38.61 295*c* *i*P P 12 12 22.0 +0.1
PMG pmax pmax
comp=Z,290nm,1.5s
PMG MLR MLR
comp=Z,11µm,16.0s
PMG Port Moresby 38.61 295 ⇑P P 12 12 22.3 +0.4
PMG Port Moresby 38.61 295 P P 12 12 22.3 +0.4
PMG PcP PcP 12 14 34.3 +0.4
RKT Rikitea 38.83 90 *e*P P 12 12 25.1 +1.4
comp=Z,160nm,1.0s
RKT *e*S S 12 18 20.3 +1.1
comp=Z,23µm,31.5s
RKT *e*SS SnSn 12 20 53.5 -17
RKT comp=Z,37µm,22.8s *e*LR LR 12 23 00.0
comp=Z,156µm,27.2s
BBOO Buckleboo 39.09 254 P P 12 12 26.0 +0.2
comp=Z,0.0nmcomp=Z,649nm,0.9s
BBOO Buckleboo 39.09 254 P 12 12 26.3 +0.5
BBOO IAmb IAmb 12 12 30.4
comp=Z,453nm,0.9s
BBOO IAMs_20 IAMs_20 12 27 57.7
comp=Z,24µm,18.0s
BBOO Buckleboo 39.09 254 P P 12 12 26.1 +0.2
COEN Coen 39.31 286 P P 12 12 29.0 +1.3
comp=Z,0.0nmcomp=Z,275nm,1.0s
COEN Coen 39.31 286 P 12 12 28.7 +1.0
COEN IAMs_20 IAMs_20 12 26 02.1
comp=Z,31µm,22.0s
COEN Coen 39.31 286 P P 12 12 29.3 +1.5
COEN Coen 39.31 286 ⇑P P 12 12 29.1 +1.3
QIS Mount Isa 39.38 274 P P 12 12 29.0 +0.6
comp=Z,0.0nmcomp=Z,223nm,1.6s
QIS Mount Isa 39.38 274 P P 12 12 28.8 +0.4
TAOE Nuku Hiva Isla 41.17 67 *e*P P 12 12 48.7 +5.4
comp=Z,854nm,24.8s
TAOE *e*S S 12 18 49.8 -4.7
comp=Z,9µm,27.7s
TAOE *e*SS SS 12 21 58.0 -0.2
comp=Z,15µm,24.3s
TAOE Nuku Hiva Isla 41.17 67 IAMs_20 IAMs_20 12 24 45.3
comp=Z,20µm,21.0s
AS31 Alice Springs 43.20 267 P 12 12 60.0 +0.2
ASAR Alice Springs 43.20 267 P 12 12 60.0 +0.2
ASAR Alice Springs 43.20 267 P P 12 12 59.8 0.0
comp=Z,120nm,0.7s,baz=103,slow=8.0,SNR=1068
ASAR PcP PcP 12 14 50.0 +1.3
comp=Z,50nm,0.9s,baz=116,slow=4.8,SNR=4.4
ASAR ScP ScP 12 18 36.7 -0.6
comp=Z,12nm,0.9s,baz=101,slow=3.5,SNR=4.1
ASAR PKiKP PKiKP 12 21 50.9 -1.1
comp=Z,4.1nm,0.6s,baz=92,slow=1.4,SNR=13
ASAR LR LR 12 30 48.5
comp=Z,39µm,18.2s,baz=107,slow=36
ASAR P4KPbc 12 50 57.1
comp=Z,0.6nm,0.8s,baz=109,slow=4.3,SNR=7.4
comp=Z,120nm,0.7s
MANU Manus Island 43.24 304 P P 12 12 59.8 -0.3
MANU Manus Island 43.24 304 ⇑P P 12 12 59.7 -0.3
PATS Pohnpei 43.36 324 P P 12 12 59.6 -1.2
comp=Z,0.0nmcomp=Z,272nm,1.3s
PATS Pohnpei 43.36 324 P P 12 12 59.7 -1.2
WR8 Warramunga Arr 44.03 272 P 12 13 06.6 +0.1
WB1 Warramunga Ar. 44.16 272 P P 12 13 07.5 +0.1
WRAB Tennant Creek 44.17 272 P P 12 13 07.6 +0.1
WRAB IAmb IAmb 12 13 10.9
comp=Z,449nm,0.9s
WRAB Tennant Creek 44.17 272 P P 12 13 07.6 +0.1
WRAB pmax pmax
comp=Z,449nm,0.9s
WRAB MLR MLR
comp=Z,2µm,18.0s
WRA Warramunga Arr 44.17 272 P P 12 13 07.6 0.0
WRA Warramunga Arr 44.17 272 P P 12 13 07.2 -0.4
comp=Z,413nm,0.7s,baz=111,slow=7.8,SNR=644
WRA PcP PcP 12 14 51.8 -0.3
comp=Z,26nm,0.8s,baz=109,slow=11,SNR=2.3
WRA ScP ScP 12 18 40.0 -1.3
comp=Z,22nm,1.1s,baz=110,slow=4.3,SNR=5.4
WRA S S 12 19 27.1 -11
comp=Z,4.2nm,1.0s,baz=310,slow=41,SNR=1.4
WRA PKiKP PKiKP 12 21 51.7 -1.2
comp=Z,5.2nm,0.6s,baz=118,slow=0.3,SNR=16
WRA LR LR 12 30 57.0
comp=Z,19µm,18.1s,baz=110,slow=35
comp=Z,413nm,0.7s
WRA Warramunga Arr 44.17 272 P P 12 13 07.6 0.0
WRA pmax pmax
comp=Z,83nm,1.1s
WB0 Warramunga Arr 44.20 272 P 12 13 08.0 +0.3
DRV Dumont d'Urvil 44.32 202 P P 12 13 08.8 +0.8
DRV PcP PP 12 14 52.3 +0.7
MMPI Merauke 44.57 290 P P 12 13 10.4 -0.3
comp=Z,13µmcomp=Z,9µmcomp=Z,639nm,0.7s
FORT Forrest 46.17 255 P P 12 13 22.6 -0.7
comp=Z,0.0nmcomp=Z,279nm,0.7s
FORT Forrest 46.17 255 P 12 13 22.6 -0.7
FORT IAmb IAmb 12 13 24.2
comp=Z,186nm,0.7s
JOHN Johnston Islan 47.39 11 P P 12 13 33.0 +0.3
JOHN Johnston Islan 47.39 11 P P 12 13 32.8 0.0
WRKA Warakurna 47.58 263 P P 12 13 33.5 -1.0
comp=Z,0.0nmcomp=Z,119nm,1.4s
JAY Jayapura 47.90 297 LR LR 12 33 57.4
comp=Z,6µm,18.7s,baz=113,slow=36
JAY Jayapura 47.90 297 P P 12 13 36.7 -0.3
comp=Z,14µmcomp=Z,4µmcomp=Z,263nm,0.7s
SBA Scott Base 48.20 184 P 12 13 42.9 +4.5
SBA IAmb IAmb 12 14 02.3
comp=Z,254nm,0.9s
SBA Scott Base 48.20 184 P P 12 13 42.9 +4.5
SBA pmax pmax
comp=Z,254nm,1.0s
SBA MLR MLR
comp=Z,7µm,18.0s
SBA Scott Base 48.20 184 P P 12 13 43.2 +4.8
SBA PcP PcP 12 15 07.5 +2.3
VNDA Vanda 48.26 186 P P 12 13 42.3 +3.4
VNDA Vanda 48.26 186 P P 12 13 42.3 +3.4
comp=Z,23nm,0.7s,baz=2.6,slow=7.8,SNR=97
VNDA S S 12 20 39.4 +3.7
comp=Z,1.7nm,0.7s,baz=168,slow=5.4,SNR=0.8
VNDA LR LR 12 31 02.4
comp=Z,4µm,21.0s,baz=36,slow=32
comp=Z,23nm,0.7s
VNDA Vanda 48.26 186 P P 12 13 42.3 +3.4
VNDA PcP PcP 12 15 07.3 +1.9
GENI Genyem 48.26 297 P P 12 13 39.7 0.0
GENI Genyem 48.26 297 P P 12 13 39.5 -0.2
comp=Z,14µmcomp=Z,627nm,1.3s
GENI Genyem 48.26 297 ⇑P P 12 13 39.5 -0.2
SMPI Sarmi 49.77 296 P P 12 13 50.8 -0.5
comp=Z,14µmcomp=Z,4µmcomp=Z,316nm,1.4s
DRS Darwin Rock St 50.44 279 P P 12 13 55.8 -0.5
H11S2 WAKE ISLAND Hy 50.66 341 P P 12 13 57.9 +0.3
baz=212,slow=7.9,SNR=11
H11S3 WAKE ISLAND Hy 50.67 341 P P 12 13 58.7 +0.9
baz=212,slow=7.9,SNR=6.1
H11S1 WAKE ISLAND Hy 50.68 341 P P 12 13 58.0 +0.2
baz=212,slow=7.9,SNR=8.4
KNRA Kununurra 50.78 274 P P 12 13 58.8 -0.1
comp=Z,0.0nmcomp=Z,325nm,1.5s
KNRA Kununurra 50.78 274 P P 12 13 58.7 -0.2
KNRA IAMs_20 IAMs_20 12 34 04.5
comp=Z,22µm,21.0s
KMBL Kambalda 51.15 252 P P 12 14 00.3 -1.3
comp=Z,0.0nmcomp=Z,86nm,1.4s
WAKE Wake Island 51.43 341 P P 12 14 03.2 -0.4
WAKE Wake Island 51.43 341 P P 12 14 03.7 +0.1
WAKE Wake Island 51.43 341 ⇓P P 12 14 03.7 +0.1
H11N3 WAKE ISLAND Hy 51.77 342 P P 12 14 05.9 0.0
baz=188,slow=11,SNR=30
H11N1 WAKE ISLAND Hy 51.78 342 P P 12 14 05.9 0.0
baz=188,slow=11,SNR=27
SRPI Serui, Papua 51.78 294 P P 12 14 06.1 -0.4
comp=Z,9µmcomp=Z,6µmcomp=Z,552nm,0.8s
H11N2 WAKE ISLAND Hy 51.79 342 P P 12 14 06.1 0.0
baz=188,slow=11,SNR=26
BAKI Biak 52.30 295 P P 12 14 11.5 +1.2
comp=Z,14µmcomp=Z,9µmcomp=Z,657nm,1.1s
SAUI Saumlaki 52.35 284 P P 12 14 10.8 +0.2
SAUI IAMs_20 IAMs_20 12 34 36.8
comp=Z,20µm,20.0s
SAUI Saumlaki 52.35 284 P P 12 14 11.9 +1.2
SAUI Saumlaki 52.35 284 P P 12 14 11.3 +0.6
comp=Z,622nm,1.3s
FITZ Fitzroy Crossi 52.44 270 P P 12 14 11.2 -0.2
FITZ Fitzroy Crossi 52.44 270 LR LR 12 37 15.0
comp=Z,19µm,18.3s,baz=112,slow=37
KMPI Kaimana, Papua 52.75 290 P P 12 14 13.7 +0.1
CCD Concordia, Ant 53.13 196 P P 12 14 17.4 +1.3
RKPI Ransiki, Papua 53.64 293 P P 12 14 20.0 -0.2
POHA Pohakuloa 54.17 26 P P 12 14 24.9 +0.8
POHA Pohakuloa 54.17 26 P P 12 14 24.5 +0.4
POHA Pohakuloa 54.17 26 ⇑P P 12 14 24.7 +0.6
RKGY Rocky Gully 54.29 247 P P 12 14 23.8 -1.0
comp=Z,0.0nmcomp=Z,195nm,1.0s
NWAO Narrogin (SRO) 54.53 249 P P 12 14 25.1 -1.4
NWAO Narrogin (SRO) 54.53 249 IAMs_20 IAMs_20 12 33 43.5
comp=Z,11µm,21.0s
NWAO Narrogin (SRO) 54.53 249 LR LR 12 34 06.4
comp=Z,10µm,21.4s,baz=98,slow=32
NWAO Narrogin (SRO) 54.53 249 P P 12 14 25.3 -1.3
NWAO P P 12 14 25.3 -1.3
NWAO S S 12 22 01.7 -1.7
NWAO S S 12 22 01.7 -1.7
NWAO Narrogin (SRO) 54.53 249 P P 12 14 24.8 -1.7
KIP Kipapa 54.81 23 P P 12 14 29.3 +0.9
KIP Kipapa 54.81 23 P P 12 14 28.6 +0.1
KIP Kipapa 54.81 23*c* *i*P P 12 14 28.8 +0.3
KIP pmax pmax
comp=Z,759nm,1.7s
KIP Kipapa 54.81 23 P P 12 14 29.2 +0.8
MEEK Meekatharra 55.30 257 P P 12 14 30.5 -1.7
comp=Z,0.0nmcomp=Z,177nm,1.6s
MEEK Meekatharra 55.30 257 P P 12 14 30.6 -1.6
CASY Casey 55.32 208 P P 12 14 31.7 +0.1
CASY Casey 55.32 208 IAMs_20 IAMs_20 12 37 19.8
comp=Z,10µm,18.0s
CASY Casey 55.32 208 ⇑P P 12 14 31.5 -0.2
BNDI Bandanaira 55.38 287 P P 12 14 32.2 -0.6
BNDI Bandanaira 55.38 287 P P 12 14 32.4 -0.4
comp=Z,14µmcomp=Z,793nm,1.3s
BNDI Bandanaira 55.38 287 ⇑P P 12 14 32.0 -0.9
BLDU Ballidu 55.62 252 P P 12 14 32.9 -1.6
comp=Z,0.0nmcomp=Z,136nm,2.1s
BLDU Ballidu 55.62 252 P P 12 14 33.0 -1.4
MUN Mundaring 55.63 250 P P 12 14 33.2 -1.3
comp=Z,0.0nmcomp=Z,142nm,1.3s
MUN Mundaring 55.63 250 P P 12 14 33.3 -1.2
MTKN Mount Kenneth 56.00 250 P P 12 14 38.8 +1.7
comp=Z,644nm,0.9s
MTKN Mount Kenneth 56.00 250 P P 12 14 38.7 +1.7
PSAC2 Pilbara Seismi 56.02 263 P P 12 14 36.0 -1.4
comp=Z,124nm,1.5s
PSA00 Pilbara Seismi 56.07 263 P P 12 14 36.1 -1.5
comp=Z,165nm,1.3s
PSA00 Pilbara Seismi 56.07 263 P P 12 14 36.2 -1.5
PSA00 IAmb IAmb 12 14 40.6
comp=Z,132nm,0.9s
PSA00 Pilbara Seismi 56.07 263 P P 12 14 36.0 -1.7
MBWA Marble Bar 56.33 264 P P 12 14 38.0 -1.5
comp=Z,0.0nmcomp=Z,203nm,1.2s
MBWA Marble Bar 56.33 264 P P 12 14 38.2 -1.4
MBWA IAmb IAmb 12 14 40.1
comp=Z,185nm,0.9s
MBWA Marble Bar 56.33 264 P P 12 14 38.4 -1.2
MBWA P P 12 14 38.4 -1.2
MBWA S S 12 22 25.7 -1.8
MBWA S S 12 22 25.7 -1.8
MBWA Marble Bar 56.33 264 P P 12 14 38.2 -1.4
MBWA Marble Bar 56.33 264 ⇑P P 12 14 38.2 -1.4
MBWA Marble Bar 56.33 264 P P 12 14 38.1 -1.4
MBWA S S 12 22 25.4 -2.2
MBWA Marble Bar 56.33 264 P P 12 14 38.2 -1.4
SWI Sorong 56.36 291 P P 12 14 39.7 -0.1
GUMO Guam 56.42 315 P P 12 14 39.0 -1.2
GUMO Guam 56.42 315 LR LR 12 36 00.4
comp=Z,6µm,21.9s,baz=128,slow=33
GUMO Guam 56.42 315 P P 12 14 38.9 -1.3
GUMO Guam 56.42 315 P P 12 14 39.0 -1.2
GUMO pmax pmax
comp=Z,3µm,1.8s
GUMO Guam 56.42 315 ⇑P P 12 14 38.8 -1.4
H01W1 Cape Leeuwin H 56.46 246 P P 12 14 39.9 -0.2
baz=320,slow=74,SNR=3.2
H01W2 Cape Leeuwin H 56.48 246 P P 12 14 40.3 +0.1
baz=184,slow=74,SNR=5.8
H01W3 Cape Leeuwin H 56.48 246 P P 12 14 39.4 -0.8
SNR=6.1
MORW Morawa 56.66 253 P P 12 14 40.5 -1.3
comp=Z,0.0nmcomp=Z,145nm,2.1s
MORW Morawa 56.66 253 P P 12 14 40.6 -1.2
MORW IAMs_20 IAMs_20 12 39 25.8
comp=Z,15µm,18.0s
MORW Morawa 56.66 253 P P 12 14 40.7 -1.2
MORW Morawa 56.66 253 ⇑P P 12 14 40.5 -1.3
MSAI Masohi 56.84 287 P P 12 14 40.1 -3.2
comp=Z,13µmcomp=Z,7µmcomp=Z,390nm,0.7s
AAI Ambon 57.26 287 P P 12 14 45.4 -0.8
comp=Z,13µmcomp=Z,180nm,0.7s
SOEI Soe 57.41 278 P P 12 14 46.9 -0.6
SOEI Soe 57.41 278 P P 12 14 48.2 +0.8
SOEI Soe 57.41 278 P P 12 14 48.6 +1.1
SOEI Soe 57.41 278 P P 12 14 48.1 +0.6
comp=Z,5µmcomp=Z,489nm,1.0s
SOEI Soe 57.41 278 ⇑P P 12 14 48.3 +0.8
BATI Baumata 57.71 277 LR LR 12 39 54.1
comp=Z,48µm,19.4s,baz=148,slow=36
BATI Baumata 57.71 277 P P 12 14 50.1 +0.6
comp=Z,12µmcomp=Z,4µmcomp=Z,199nm,0.8s
MIDW Midway 58.13 1 P P 12 14 51.4 -0.6
MIDW IAmb IAmb 12 14 54.6
comp=Z,150nm,0.8s
MIDW IAMs_20 IAMs_20 12 34 31.4
comp=Z,18µm,22.0s
NLAI Namlea 58.42 286 P P 12 14 53.9 -0.5
comp=Z,5µmcomp=Z,384nm,1.2s
VA02 Isla de Pascua 59.30 105 IAMs_20 IAMs_20 12 33 25.1
comp=Z,10µm,21.0s
RPN Rapa Nui 59.40 105 P P 12 15 00.1 -0.9
RPN Rapa Nui 59.40 105 IAMs_20 IAMs_20 12 33 47.6
comp=Z,11µm,21.0s
RPN Rapa Nui 59.40 105 LR LR 12 33 50.1
comp=Z,10µm,21.7s,baz=245,slow=29
RPN Rapa Nui 59.40 105 P P 12 15 00.2 -0.9
RPN pmax pmax
comp=Z,366nm,1.2s
MMRI Maumere 59.71 278 P P 12 15 03.3 0.0
MMRI IAMs_20 IAMs_20 12 42 49.1
comp=Z,11µm,18.0s
MMRI Maumere 59.71 278 P P 12 15 03.6 +0.3
MMRI Maumere 59.71 278 P P 12 15 03.1 -0.2
comp=Z,13µmcomp=Z,482nm,1.1s
QSPA South Pole Qui 59.87 180 P P 12 15 08.4 +4.6
QSPA South Pole Qui 59.87 180 IAMs_20 IAMs_20 12 35 47.6
comp=Z,10µm,22.0s
QSPA South Pole Qui 59.87 180 P P 12 15 07.5 +3.6
comp=Z,201nm,0.9s,baz=28,slow=1.2,SNR=737
QSPA S S 12 23 15.5 +2.6
comp=Z,9.3nm,0.9s,baz=286,slow=7.3,SNR=4.6
QSPA LR LR 12 36 20.7
comp=Z,11µm,21.7s,baz=40,slow=31
QSPA PKPPKP P'P'df 12 44 31.4 -4.5
comp=Z,33nm,1.1s,baz=222,slow=1.2,SNR=9.5
comp=Z,201nm,0.9s
QSPA South Pole Qui 59.87 180 ⇑P P 12 15 08.9 +5.0
QSPA South Pole Qui 59.87 180 P P 12 15 09.0 +5.2
SANI Sanana 60.00 287 P P 12 15 01.9 -3.4
SANI Sanana 60.00 287 P P 12 15 04.3 -1.0
SANI Sanana 60.00 287 P P 12 15 04.5 -0.8
comp=Z,10µmcomp=Z,6µmcomp=Z,487nm,1.1s
SANI Sanana 60.00 287 ⇑P P 12 15 03.9 -1.4
EDFI Ende, Flores 60.12 278 P P 12 15 05.3 -1.0
comp=Z,12µmcomp=Z,3µmcomp=Z,195nm,0.7s
BASI Baing, Sumba 60.36 275 P P 12 15 07.9 +0.1
comp=Z,13µmcomp=Z,5µmcomp=Z,416nm,0.7s
GIRL Giralia 60.46 260 P P 12 15 08.8 +0.4
comp=Z,0.0nmcomp=Z,242nm,0.8s
GIRL Giralia 60.46 260 P P 12 15 08.5 +0.1
GIRL IAmb IAmb 12 15 09.9
comp=Z,185nm,0.8s
GIRL IAMs_20 IAMs_20 12 40 53.4
comp=Z,10µm,19.0s
TNTI Ternate 60.47 290 P P 12 15 07.6 -0.9
TNTI IAmb IAmb 12 15 15.4
comp=Z,166nm,0.8s
TNTI Ternate 60.47 290 P P 12 15 08.3 -0.2
TNTI Ternate 60.47 290 P P 12 15 07.9 -0.6
comp=Z,4µmcomp=Z,226nm,0.8s
TNTI Ternate 60.47 290 ⇑P P 12 15 07.3 -1.2
WSI Waingapu 60.87 276 P P 12 15 11.1 -0.2
WBSI Waikabubak, Su 61.66 275 P P 12 15 16.0 -0.7
comp=Z,12µmcomp=Z,3µmcomp=Z,236nm,1.2s
BSSI Bau Bau, Buton 62.45 279 P P 12 15 21.3 -0.7
KMSI Cibinong 63.12 288 P P 12 15 25.6 -0.8
comp=Z,12µmcomp=Z,5µmcomp=Z,510nm,0.8s
BKSI Bulukumba 63.19 280 P P 12 15 26.0 -0.8
comp=Z,11µmcomp=Z,3µmcomp=Z,178nm,0.6s
LUWI Luwuk 63.23 286 P P 12 15 24.1 -2.9
LUWI Luwuk 63.23 286 P P 12 15 26.9 -0.2
LUWI Luwuk 63.23 286 P P 12 15 27.4 +0.3
LUWI Luwuk 63.23 286 P P 12 15 27.1 0.0
comp=Z,13µmcomp=Z,5µmcomp=Z,471nm,1.2s
LUWI Luwuk 63.23 286 ⇑P P 12 15 26.4 -0.7
PLAI Plampang 63.45 275 P P 12 15 28.1 -0.5
PLAI Plampang 63.45 275 P P 12 15 28.1 -0.5
comp=Z,13µmcomp=Z,4µmcomp=Z,428nm,0.9s
SGSI Sangihe 63.65 292 P P 12 15 28.8 -1.1
comp=Z,12µmcomp=Z,7µmcomp=Z,553nm,0.7s
KAPI Kappang 63.66 280 P P 12 15 29.8 -0.2
KAPI IAmb IAmb 12 15 34.0
comp=Z,268nm,1.5s
KAPI Kappang 63.66 280 IAMs_20 IAMs_20 12 43 50.8
comp=Z,8µm,18.0s
KAPI Kappang 63.66 280 LR LR 12 44 10.3
comp=Z,9µm,18.3s,baz=121,slow=37
KAPI Kappang 63.66 280 P P 12 15 29.4 -0.5
KAPI P P 12 15 29.4 -0.5
KAPI S S 12 24 00.9 -1.1
KAPI S S 12 24 00.9 -1.1
KAPI Kappang 63.66 280 P P 12 15 30.5 +0.5
KAPI Kappang 63.66 280*c* *i*P P 12 15 29.8 -0.2
KAPI pmax pmax
comp=Z,224nm,1.6s
KAPI MLR MLR
comp=Z,8µm,18.0s
KAPI Kappang 63.66 280 ⇓P P 12 15 28.4 -1.6
KAPI Kappang 63.66 280 P P 12 15 29.4 -0.5
KAPI S S 12 24 02.3 +0.3
BNSI Bone 63.68 281 P P 12 15 29.5 -0.6
SPSI Sidrap Palu 64.19 281 P P 12 15 32.2 -1.3
comp=Z,9µmcomp=Z,166nm,1.1s
APSI Ampana 64.23 285 P P 12 15 33.8 +0.1
comp=Z,4µmcomp=Z,260nm,1.1s
TWSI Taliwang, Sumb 64.26 275 P P 12 15 33.2 -0.7
comp=Z,11µmcomp=Z,4µmcomp=Z,207nm,1.0s
MRSI Marisa 64.75 286 P P 12 15 34.9 -2.2
comp=Z,11µmcomp=Z,186nm,0.6s
DAV Davao City (W) 65.63 295 P P 12 15 42.6 -0.2
DAV Davao City (W) 65.63 295 LR LR 12 43 29.5
comp=Z,1µm,21.0s,baz=134,slow=35
DAV Davao City (W) 65.63 295 P P 12 15 43.8 +1.0
DAV Davao City (W) 65.63 295 P P 12 15 41.0 -1.8
DNP Denpasar 65.73 274 P P 12 15 43.8 +0.3
comp=Z,277nm,1.0s
PCI Palu 65.76 284 P P 12 15 44.2 +0.5
comp=Z,9µmcomp=Z,752nm,1.1s
SRBI Singaraja 66.02 275 P P 12 15 44.6 -0.7
comp=Z,10µmcomp=Z,5µmcomp=Z,228nm,0.8s
TOLI2 Tolitoli 66.07 286 P P 12 15 43.7 -1.9
TOLI2 IAmb IAmb 12 15 48.1
comp=Z,88nm,0.7s
TOLI2 Tolitoli 66.07 286 P P 12 15 44.3 -1.3
JAGI Jajag, Banyuwa 66.75 274 P P 12 15 48.5 -1.6
JAGI IAmb IAmb 12 15 51.6
comp=Z,253nm,0.9s
JAGI IAMs_20 IAMs_20 12 44 39.7
comp=Z,10µm,20.0s
JAGI Jajag, Banyuwa 66.75 274 P P 12 15 49.0 -1.0
JAGI Jajag, Banyuwa 66.75 274 P P 12 15 48.8 -1.2
comp=Z,10µmcomp=Z,4µmcomp=Z,308nm,0.8s
JAGI Jajag, Banyuwa 66.75 274 ⇑P P 12 15 48.5 -1.6
ABJI Asem Bagus 67.00 274 P P 12 15 51.7 +0.1
comp=Z,10µmcomp=Z,3µmcomp=Z,214nm,0.8s
BLJI Banyuglugur 67.58 274 P P 12 15 54.7 -0.6
comp=Z,9µmcomp=Z,5µmcomp=Z,378nm,0.8s
KMMI Kalianget 67.60 275 P P 12 15 56.0 +0.6
comp=Z,10µmcomp=Z,5µmcomp=Z,363nm,1.1s
BKB Balikpapan 68.05 282 P P 12 15 57.8 -0.4
BKB IAMs_20 IAMs_20 12 44 29.9
comp=Z,11µm,21.0s
BKB Balikpapan 68.05 282 P P 12 15 59.3 +1.1
comp=Z,12µmcomp=Z,4µmcomp=Z,222nm,1.2s
SMKI Samarinda 68.22 283 P P 12 16 00.5 +1.2
comp=Z,12µmcomp=Z,360nm,0.8s
BBKI Banjar Baru 68.65 279 P P 12 16 01.8 -0.2
comp=Z,10µmcomp=Z,417nm,1.2s
GRJI Cesik 68.95 274 P P 12 16 04.2 +0.3
comp=Z,10µmcomp=Z,7µmcomp=Z,406nm,0.7s
PCJI Pacitan 69.45 272 P P 12 16 06.9 -0.1
SMAI San Martin Ant 69.55 158 P P 12 16 08.7 +2.0
SMAI IAmb IAmb 12 16 29.1
comp=Z,226nm,1.0s
NGJI Ngawi 69.61 273 P P 12 16 08.7 +0.8
comp=Z,11µmcomp=Z,4µmcomp=Z,282nm,0.9s
WOJI Wonogiri, Jawa 69.84 273 P P 12 16 09.1 -0.3
comp=Z,8µmcomp=Z,584nm,1.0s
BELA Belgrano 2 69.93 172 P P 12 16 09.8 +0.8
BELA IAmb IAmb 12 16 11.2
comp=Z,509nm,1.6s
UGM Wanagama 70.15 272 P P 12 16 11.2 -0.1
UGM IAmb IAmb 12 16 13.1
comp=Z,202nm,0.8s
UGM IAMs_20 IAMs_20 12 47 07.0
comp=Z,10µm,21.0s
UGM Wanagama 70.15 272 P P 12 16 11.2 -0.1
UGM Wanagama 70.15 272 P P 12 16 10.2 -1.2
comp=Z,270nm,0.8s

MYLDM **Lahad Datu** **70.22 289** P **P** **12 16 12.5 +0.8**
MYLDM IAmb IAmb 12 16 17.0
comp=Z,499nm,1.6s
MYLDM **Lahad Datu** **70.22 289** P **P** **12 16 12.7 +1.0**
MYLDM **Lahad Datu** **70.22 289** ⇑P **P** **12 16 12.3 +0.6**
SMRI **Semarang** **70.64 273** P **P** **12 16 14.2 -0.1**
SMRI **Semarang** **70.64 273** P **P** **12 16 13.9 -0.4**
SMRI **Semarang** **70.64 273** P **P** **12 16 15.2 +0.9**
comp=Z,10µmcomp=Z,8µmcomp=Z,312nm,0.9s
KPJI **Karang Pucung** **71.81 272** P **P** **12 16 20.6 -0.8**
comp=Z,9µmcomp=Z,3µmcomp=Z,197nm,0.7s
PMSA **Palmer Station** **72.38 156** P **P** **12 16 25.0 +1.2**
PMSA IAmb IAmb 12 16 44.2
comp=Z,212nm,1.3s
PMSA **Palmer Station** **72.38 156** LR LR 12 41 15.9
comp=Z,6µm,21.4s,baz=238,slow=30
PMSA **Palmer Station** **72.38 156** ⇓P **P** **12 16 25.9 +2.0**
PMSA **Palmer Station** **72.38 156** *e*P **P** **12 16 25.8 +2.0**
MAW **Mawson** **72.49 201** P **P** **12 16 25.2 +0.7**
comp=Z,27nm,1.1s
MAW **Mawson** **72.49 201** P **P** **12 16 25.6 +1.1**
comp=Z,96nm,0.7s,baz=123,slow=7.4,SNR=119
MAW S **S** **12 25 42.8 -2.9**
comp=Z,0.5nm,0.3s,baz=341,slow=17,SNR=1.5
MAW LR LR 12 47 02.1
comp=Z,20µm,20.4s,baz=116,slow=35
comp=Z,96nm,0.7s
KKM **Kota Kinabalu** **72.59 288** P **P** **12 16 25.5 -0.6**
KKM **Kota Kinabalu** **72.59 288** P **P** **12 16 25.8 -0.3**
KKM **Kota Kinabalu** **72.59 288** ⇑P **P** **12 16 25.4 -0.7**
JCJI **Jatiwangi** **72.80 272** P **P** **12 16 26.2 -1.0**
comp=Z,11µmcomp=Z,515nm,0.8s
BBJI **Bungbulang** **72.86 271** P **P** **12 16 26.4 -1.3**
XMI **Christmas Isla** **73.12 268** P **P** **12 16 28.9 -0.3**
XMI **Christmas Isla** **73.12 268** ⇓P **P** **12 16 29.1 -0.2**
LEM **Lembang** **73.19 272** LR LR 12 50 59.8
comp=Z,6µm,18.1s,baz=106,slow=38
LEM **Lembang** **73.19 272** P **P** **12 16 29.4 -0.4**
comp=Z,7µmcomp=Z,6µmcomp=Z,451nm,0.9s
CNJI **Cibinong** **73.38 271** P **P** **12 16 29.4 -1.3**
comp=Z,2µmcomp=Z,268nm,0.9s
TGY **Tagaytay City** **73.52 298** LR LR 12 47 12.7
comp=Z,2µm,20.6s,baz=138,slow=34
SBUM **Sibu** **73.97 283** P **P** **12 16 34.1 -0.1**
SBUM IAmb IAmb 12 16 37.1
comp=Z,206nm,1.0s
SBUM **Sibu** **73.97 283** P **P** **12 16 33.7 -0.4**
SBUM **Sibu** **73.97 283** ⇑P **P** **12 16 33.8 -0.3**
SKJI **Sukabumi** **74.03 271** P **P** **12 16 33.3 -1.2**
comp=Z,8µmcomp=Z,6µmcomp=Z,730nm,1.0s
DBJI **Dramaga** **74.08 272** P **P** **12 16 33.8 -1.0**
comp=Z,9µmcomp=Z,9µmcomp=Z,639nm,0.8s
TNG **Tangerang** **74.36 272** P **P** **12 16 36.0 -0.4**
JHJ2 **Mitsune** **74.64 324** P **P** **12 16 37.5 0.0**
JHJ2 **Mitsune** **74.64 324** P **P** **12 16 37.2 -0.3**
JHJ2 **Mitsune** **74.64 324** ⇑P **P** **12 16 37.3 -0.3**
JHJ **Hachijo jima 2** **74.66 324** P **P** **12 16 36.3 -1.3**
comp=Z,228nm,0.6s,baz=161,slow=19,SNR=8.7
JHJ LR LR 12 46 52.7
comp=Z,2µm,18.8s,baz=148,slow=34
comp=Z,228nm,0.6s
SBJI **Serang** **74.83 272** P **P** **12 16 38.2 -1.0**
comp=Z,7µmcomp=Z,412nm,1.2s
CGJI **Cibinong** **74.96 271** P **P** **12 16 38.5 -1.4**
comp=Z,5µmcomp=Z,447nm,1.1s
KSM **Kuching** **75.07 281** P **P** **12 16 40.0 -0.6**
KSM IAmb IAmb 12 16 41.1
comp=Z,185nm,0.8s
KSM **Kuching** **75.07 281** P **P** **12 16 39.9 -0.6**
KSM **Kuching** **75.07 281** ⇑P **P** **12 16 39.9 -0.7**
TPI **Tanjungpandan** **75.18 276** P **P** **12 16 40.3 -0.9**
MG04 **Isla Riesco** **75.47 143** P **P** **12 16 42.7 +0.5**
MG04 IAmb IAmb 12 17 03.5
comp=Z,241nm,1.0s
MG03 **Isla Dawson** **75.53 144** P **P** **12 16 43.9 +1.4**
MG03 IAmb IAmb 12 17 02.7
comp=Z,135nm,0.9s
MG05 **Puerto Natales** **75.58 142** P **P** **12 16 43.9 +1.0**
MG05 IAmb IAmb 12 17 03.8
comp=Z,143nm,0.9s
GO09 **Cerro Castillo** **75.88 141** IAmb IAmb 12 17 05.9
comp=Z,285nm,1.4s
BLSI **Bandar Lampung** **75.96 272** P **P** **12 16 44.0 -1.7**
comp=Z,3µmcomp=Z,143nm,0.4s
USHA **Ushuaia** **76.01 146** LR LR 12 42 31.7
comp=Z,4µm,21.6s,baz=231,slow=30
MG01 **Puerto William** **76.34 146** P **P** **12 16 48.3 +1.1**
MG01 IAmb IAmb 12 17 07.6
comp=Z,302nm,1.2s
KASI **Kota Agung** **76.53 271** P **P** **12 16 47.1 -1.8**
comp=Z,3µmcomp=Z,224nm,0.9s
KLI **Kotabumi** **76.55 272** P **P** **12 16 47.5 -1.5**
JOW **Kunigami** **76.61 312** P **P** **12 16 48.7 -0.3**
JOW IAmb IAmb 12 16 54.2
comp=Z,160nm,0.8s
JOW **Kunigami** **76.61 312** LR LR 12 46 12.1
comp=Z,4µm,21.6s,baz=129,slow=32
JOW **Kunigami** **76.61 312** P **P** **12 16 48.7 -0.3**
JOW **Kunigami** **76.61 312** ⇑P **P** **12 16 47.3 -1.7**
JOW **Kunigami** **76.61 312** P **P** **12 16 48.6 -0.5**
JSG **Sagara** **76.70 324** P **P** **12 16 49.1 -0.2**
JSG **Sagara** **76.70 324** P **P** **12 16 49.5 +0.2**
JSG **Sagara** **76.70 324** ⇓P **P** **12 16 49.5 +0.2**
JSG **Sagara** **76.70 324** P **P** **12 16 49.1 -0.2**
JOD2 **Odawara 2** **76.71 325** P **P** **12 16 47.8 -1.6**
MG02 **Cerro Sombrero** **76.72 144** P **P** **12 16 50.4 +1.1**
MG02 **Cerro Sombrero** **76.72 144** ⇑P **P** **12 16 51.1 +1.8**
PPBI **Pangkal Pinang** **76.79 275** P **P** **12 16 50.6 +0.2**
JAM **Amami Oshima** **76.88 314** P **P** **12 16 50.0 -0.4**
JYT **Yasato** **76.94 326** P **P** **12 16 50.3 -0.3**
LWLI **Liwa** **77.16 272** P **P** **12 16 51.1 -1.5**
JMJ **Miyako jima 2** **77.21 309** P **P** **12 16 53.6 +1.2**
SYO **Syowa Base** **77.29 193** ⇑*i*P **P** **12 16 53.2 +1.0**
SYO **Syowa Base** **77.29 193** ⇓*i*PcP **PcP** **12 17 03.4 +0.7**
SYO **Syowa Base** **77.29 193** ⇓*i*sP sP 12 17 06.2 -0.1
MDSI **Maura Dua** **77.32 272** P **P** **12 16 51.7 -1.6**
comp=Z,9µmcomp=Z,6µmcomp=Z,586nm,1.0s
JRY **Ryogami san** **77.40 325** P **P** **12 16 52.4 -0.9**
PMBI **Palembang** **77.58 274** P **P** **12 16 54.2 -0.6**
PMBI IAmb IAmb 12 56 06.8
comp=Z,9µm,19.0s
PMBI **Palembang** **77.58 274** P **P** **12 16 55.0 +0.2**
comp=Z,234nm,0.5s
AY03 **Cochrane** **77.81 138** P **P** **12 16 57.6 +2.1**
AY03 IAmb IAmb 12 17 00.2
comp=Z,135nm,1.1s
INU **Inuyama** **77.82 324** P **P** **12 16 54.8 -0.8**
INU IAmb IAmb 12 16 59.2
comp=Z,176nm,1.0s
INU **Inuyama** **77.82 324** P **P** **12 16 54.7 -0.8**
INU **Inuyama** **77.82 324** ⇑P **P** **12 16 54.7 -0.9**
JGF **Kuroka** **77.84 324** P **P** **12 16 55.0 -0.8**
JGF IAmb IAmb 12 16 59.0
comp=Z,191nm,0.7s
JGF **Kuroka** **77.84 324** P **P** **12 16 54.9 -0.8**
JGF **Kuroka** **77.84 324** ⇑P **P** **12 16 54.5 -1.3**
JGF **Kuroka** **77.84 324** P **P** **12 16 54.6 -1.1**
JMM **Marumori** **77.98 328** P **P** **12 16 56.4 0.0**
JMM IAmb IAmb 12 17 00.4
comp=Z,151nm,1.1s
JMM IAMs_20 IAMs_20 12 50 10.9
comp=Z,8µm,20.0s
JMM **Marumori** **77.98 328** P **P** **12 16 56.4 0.0**
JMM **Marumori** **77.98 328** ⇑P **P** **12 16 55.9 -0.5**
TROLL **Troll, Antarti** **78.03 180** ⇑P **P** **12 16 58.0 +1.5**
comp=Z,15µm,0.8s
TROLL ⇓S **S** **12 26 46.7 -0.8**
MJAR **Matsushiro Arr** **78.16 325** P **P** **12 16 56.6 -0.9**
MJAR IAmb IAmb 12 16 58.6
comp=Z,272nm,1.4s
MJAR **Matsushiro Arr** **78.16 325** P **P** **12 16 56.2 -1.3**
comp=Z,87nm,1.0s,baz=161,slow=5.5,SNR=78
MJAR S **S** **12 26 47.6 -1.7**
comp=Z,0.5nm,0.6s,baz=275,slow=2.2,SNR=1.5
MJAR LR LR 12 50 53.6
comp=Z,1µm,18.5s,baz=138,slow=35
comp=Z,87nm,1.0s
MAJO **Matsushiro** **78.16 325** P **P** **12 16 56.6 -0.9**
MAJO IAmb IAmb 12 16 58.6
comp=Z,370nm,1.6s
MAJO **Matsushiro** **78.16 325** P **P** **12 16 56.1 -1.4**
MAJO **Matsushiro** **78.16 325** P **P** **12 16 56.6 -0.9**
MAJO pmax pmax
comp=Z,370nm,1.6s
MAJO **Matsushiro** **78.16 325** ⇑P **P** **12 16 56.4 -1.1**
MAJO **Matsushiro** **78.16 325** P **P** **12 16 56.3 -1.1**
MAJO S **SKSac** **12 27 01.9 -7.0**
MAJO **Matsushiro** **78.16 325** P **P** **12 16 56.5 -0.9**
MAT **Matsushiro** **78.16 325** P **P** **12 16 56.6 -0.9**
MJB9 **Matsu-Tunnel** **78.16 325** P **P** **12 16 57.4 -0.1**
MJB9 IAmb IAmb 12 16 59.6
comp=Z,378nm,1.6s
LHSI **Lahat** **78.21 272** P **P** **12 16 56.4 -1.9**
comp=Z,8µmcomp=Z,5µmcomp=Z,269nm,1.0s
JMN **Monobe** **78.25 321** P **P** **12 16 58.3 +0.2**
JMN IAmb IAmb 12 17 05.0
comp=Z,220nm,1.6s
JMN **Monobe** **78.25 321** P **P** **12 16 58.2 +0.2**
JMN **Monobe** **78.25 321** ⇑P **P** **12 16 57.7 -0.4**
SNAA **Sanae** **78.31 178** ⇑P **P** **12 16 59.2 +1.2**
comp=Z,3µm,1.1s
SNAA ⇓S **S** **12 26 49.6 -0.8**
SNAA **Sanae** **78.31 178** P **P** **12 16 59.2 +1.2**
SNAA IAmb IAmb 12 17 02.0
comp=Z,159nm,1.0s
SNAA IAMs_20 IAMs_20 12 46 38.8
comp=Z,9µm,22.0s
SNAA **Sanae** **78.31 178** P **P** **12 16 59.2 +1.2**
comp=Z,139nm,1.0s,baz=199,slow=5.3,SNR=191
SNAA S **S** **12 26 51.8 +1.4**
comp=Z,5.2nm,1.0s,baz=320,slow=14,SNR=4.0
SNAA PKKPbc **PKKPbc** **12 35 56.7 +0.2**
comp=Z,2.5nm,0.6s,baz=203,slow=1.2,SNR=12
SNAA LR LR 12 47 45.6
comp=Z,6µm,21.7s,baz=196,slow=33
comp=Z,139nm,1.0s
SNAA **Sanae** **78.31 178** ⇑P **P** **12 16 59.1 +1.2**
JGN **Niukaw** **78.35 324** P **P** **12 16 57.5 -1.2**
MNAI **Manna** **78.44 272** P **P** **12 16 59.7 +0.1**
MNAI IAMs_20 IAMs_20 12 50 21.6
comp=Z,8µm,22.0s
VNA3 **Neumayer Olymp** **78.46 176** ⇑P **P** **12 16 59.6 +0.9**
comp=Z,223nm,0.6s
VNA3 ⇑S **S** **12 26 51.3 -0.5**
YOJ **Yonaguni jima** **78.53 307** P **P** **12 16 59.5 -0.3**
YOJ **Yonaguni jima** **78.53 307** P **P** **12 16 59.8 0.0**
YOJ **Yonaguni jima** **78.53 307** P **P** **12 16 59.5 -0.3**
YOJ pmax pmax
comp=Z,340nm,0.9s
YOJ MLR MLR
comp=Z,3µm,20.0s
YOJ **Yonaguni jima** **78.53 307** ⇑P **P** **12 16 58.3 -1.5**
JSU **Suzuyama** **78.57 317** P **P** **12 16 59.2 -0.7**
JWT **Wachi** **78.61 323** P **P** **12 16 59.3 -0.7**
TWGBT **Beinan** **78.83 305** P **P** **12 16 59.1 -2.4**
VNA2 **Neumayer--Watz** **78.89 177** ⇑P **P** **12 17 02.4 +1.2**
comp=Z,269nm,0.7s,baz=176,slow=5.3
VNA2 ⇑S **S** **12 26 56.3 -0.2**
comp=N,704nm,3.4s,baz=351,slow=17
DSRI **Dabo** **78.98 276** P **P** **12 17 01.8 -0.7**
comp=N,9µmcomp=N,3µmcomp=N,164nm,1.3s
COYC **Coyhaique** **78.99 136** ⇑P **P** **12 17 04.5 +2.3**
JAD **Aida** **79.01 322** P **P** **12 17 01.3 -0.9**
NVL **N'lazarevskaya** **79.04 183** *e*P P 12 16 47.2 -15
NVL *e* 12 27 07.0
NVL pmax pmax
comp=Z,12nm,0.8s
YULB **Yu-li** **79.04 305** P **P** **12 17 00.7 -1.9**
JOM **Ohasama** **79.06 329** P **P** **12 17 01.9 -0.4**
JYA **Atsumi** **79.07 327** P **P** **12 17 02.1 -0.3**
KSI **Kapahiang** **79.10 272** P **P** **12 17 01.8 -1.5**
comp=Z,10µmcomp=Z,369nm,0.6s
VNA1 **Neumayer--Stat** **79.12 177** ⇑P **P** **12 17 03.7 +1.4**
comp=Z,289nm,1.1s
JSD **Sado** **79.31 326** P **P** **12 17 03.9 +0.2**
JSD **Sado** **79.31 326** ⇑P **P** **12 17 03.0 -0.8**
JSD **Sado** **79.31 326** P **P** **12 17 03.1 -0.6**
GO07 **Milladeo Hill,** **79.32 134** IAmb IAmb 12 17 08.9
comp=Z,346nm,1.4s
NACB **Ninganchiao** **79.33 306** IAmb IAmb 12 17 05.8
comp=Z,355nm,1.6s
NACB **Ninganchiao** **79.33 306** P **P** **12 17 03.0 -1.2**
TPUB **Ta-pu** **79.46 305** IAmb IAmb 12 17 05.9
comp=Z,172nm,0.8s
TPUB **Ta-pu** **79.46 305** P **P** **12 17 03.2 -1.7**
JNU **Nakatsue** **79.49 318** IAmb IAmb 12 17 08.7
comp=Z,325nm,1.4s
JNU **Nakatsue** **79.49 318** LR LR 12 48 21.5
comp=Z,2µm,21.2s,baz=109,slow=33
JNU **Nakatsue** **79.49 318** P **P** **12 17 04.2 -0.7**
JNU **Nakatsue** **79.49 318** ⇑P **P** **12 17 03.9 -1.1**
JNU **Nakatsue** **79.49 318** P **P** **12 17 04.0 -1.0**
SSLB **Suanglung** **79.53 305** IAmb IAmb 12 17 07.2
comp=Z,131nm,0.8s
SSLB **Suanglung** **79.53 305** P **P** **12 17 03.1 -2.2**
JHS **Saijyo** **79.62 321** P **P** **12 17 05.1 -0.4**
MASI **Maura Aman, Be** **79.66 272** P **P** **12 17 05.0 -1.3**
TPRI **Tanjung Pinang** **79.73 277** P **P** **12 17 06.3 -0.3**
comp=Z,9µmcomp=Z,4µmcomp=Z,264nm,1.1s
YHNB **Yeheng** **79.80 306** P **P** **12 17 07.5 +0.7**
TATO **Taipei** **79.92 307** P **P** **12 17 06.8 -0.5**
TATO IAmb IAmb 12 17 10.1
comp=Z,201nm,0.9s
TATO **Taipei** **79.92 307** P **P** **12 17 06.6 -0.8**
TATO **Taipei** **79.92 307** P **P** **12 17 06.1 -1.2**
COCO **West Island** **79.92 262** P **P** **12 17 07.9 +0.3**
JTM **Tenmabayashi** **80.23 330** P **P** **12 17 08.7 0.0**
JTM IAMs_20 IAMs_20 12 52 47.4
comp=Z,6µm,20.0s
JTM **Tenmabayashi** **80.23 330** P **P** **12 17 08.6 0.0**
JTM **Tenmabayashi** **80.23 330** ⇑P **P** **12 17 08.6 -0.1**
JTM **Tenmabayashi** **80.23 330** P **P** **12 17 08.3 -0.3**
LL05 **Los Muermos** **80.33 132** IAMs_20 IAMs_20 12 43 51.9
comp=Z,9µm,21.0s
ERM **Erimo** **80.36 332** P **P** **12 17 10.2 +1.0**
ERM **Erimo** **80.36 332** P **P** **12 17 10.3 +1.0**
ERM **Erimo** **80.36 332** P **P** **12 17 10.3 +1.0**
ERM pmax pmax
comp=Z,716nm,1.9s
ERM **Erimo** **80.36 332** ⇑P **P** **12 17 10.0 +0.7**
ERM **Erimo** **80.36 332** P **P** **12 17 09.9 +0.7**
ERM S **S** **12 27 13.7 +1.3**
JEM **Erimo** **80.36 332** P **P** **12 17 09.9 +0.6**
JFU **Fukue jima 2** **80.40 317** P **P** **12 17 09.2 -0.6**
LL02 **Futaleuf** **80.41 135** IAmb IAmb 12 17 13.0
comp=Z,265nm,1.4s
LL02 **Futaleuf** **80.41 135** ⇑P **P** **12 17 11.8 +1.9**
H03S2 **Juan Fernandez** **80.48 124** T T 13 46 24.7
baz=238,slow=74,SNR=618
LL01 **San Ignacio de** **80.49 134** IAMs_20 IAMs_20 12 43 37.0
comp=Z,9µm,21.0s
LL01 **San Ignacio de** **80.49 134** ⇓P **P** **12 17 12.5 +2.2**
H03S1 **Juan Fernandez** **80.50 124** T T 13 46 25.8
baz=238,slow=74,SNR=482
H03S3 **Juan Fernandez** **80.50 124** T T 13 46 19.4
baz=238,slow=74,SNR=622
BTDF **Bukit Timah Da** **80.60 277** P **P** **12 17 10.9 -0.5**
VA04 **Juan Fernndez** **80.65 123** IAmb IAmb 12 17 16.4
comp=Z,325nm,1.4s
VA04 IAMs_20 IAMs_20 12 43 39.5
comp=Z,8µm,21.0s
H03N3 **Juan Fernandez** **80.67 123** T T 13 46 38.3
baz=242,slow=72,SNR=97
H03N2 **Juan Fernandez** **80.68 123** T T 13 46 37.5
baz=242,slow=72,SNR=80
H03N1 **Juan Fernandez** **80.69 123** T T 13 46 30.6
baz=242,slow=72,SNR=228
MYKOM **Kota Tinggi** **80.75 278** IAmb IAmb 12 17 12.9
comp=Z,168nm,0.9s
MYKOM **Kota Tinggi** **80.75 278** P **P** **12 17 11.5 -0.6**
MYKOM **Kota Tinggi** **80.75 278** ⇑P **P** **12 17 11.5 -0.6**
KRJI **Kerinci** **80.86 273** P **P** **12 17 11.6 -1.2**
YUK **Yuzh-Kuril'sk** **81.00 334** *e*P **P** **12 17 11.9 -0.8**
YUK *i* 12 20 15.8
YUK *i* S **S** **12 27 14.8 -4.2**
YUK *i* SS **SS** **12 32 32.6 -2.2**
YUK pmax pmax
comp=Z,456nm,1.6s
YUK pmax pmax
comp=Z,380nm,1.2s
YUK pmax pmax
comp=N,151nm,0.9s
YUK pmax pmax
comp=E,229nm,1.3s
LL03 **Petrohue** **81.16 133** IAmb IAmb 12 17 16.6
comp=Z,158nm,1.1s
LL03 IAMs_20 IAMs_20 12 44 05.7
comp=Z,10µm,22.0s
KUR **Kuril'sk** **81.31 336** *e*P **P** **12 17 13.6 -0.7**
KUR *e* 12 20 20.2
KUR *e*S **S** **12 27 22.3 +0.1**
KUR *e*SS **SS** **12 32 35.0 -4.4**
KUR pmax pmax
comp=Z,3µm,8.3s
KUR pmax pmax
comp=E,186nm,1.1s
KUR pmax pmax
comp=Z,379nm,1.1s
KUR pmax pmax
comp=N,104nm,1.5s
KUR MLR MLR
comp=N,4µm,18.0s
KUR MLR MLR
comp=Z,6µm,18.0s
KUR MLR MLR
comp=E,2µm,17.0s
KIWB **Kanaga Island** **81.74 0** IAMs_20 IAMs_20 12 46 16.9
comp=Z,10µm,22.0s
JEW **Eniwo** **81.75 331** P **P** **12 17 16.7 0.0**
ADK **Adak** **81.78 1** P **P** **12 17 16.8 +0.2**
ADK **Adak** **81.78 1** P **P** **12 17 16.7 +0.1**
ADK **Adak** **81.78 1** P **P** **12 17 16.8 +0.2**
ADK pmax pmax
comp=Z,670nm,1.0s
ADK **Adak** **81.78 1** ⇑P **P** **12 17 16.5 -0.1**
ADK **Adak** **81.78 1** P **P** **12 17 16.5 -0.1**
PPSI **Pulau Pagai** **81.78 272** P **P** **12 17 18.4 +0.8**
comp=Z,8µmcomp=Z,675nm,1.1s
LR05 **Currie** **81.90 132** P **P** **12 17 17.8 -0.1**
LR05 IAmb IAmb 12 17 39.4
comp=Z,302nm,1.5s
QZH **Quanzhou** **81.93 305** ⇑*i*P **P** **12 17 17.0 -1.1**
QZH PP **PP** **12 20 27.3 +1.1**
QZH pmax pmax
comp=Z,250nm,1.2s
QZH pmax pmax
comp=Z,940nm,3.8s
QZH LR LR
comp=Z,1µm,14.4s
QZH LR LR
comp=Z,1µm,19.1s
QZH LR LR
comp=Z,3µm,24.6s
JMP **Maruseppu** **81.94 333** P **P** **12 17 18.7 +1.0**
GSTR **Great Sitkin T** **82.00 1** IAMs_20 IAMs_20 12 46 55.7
comp=Z,8µm,22.0s
LR03 **Panguipulli** **82.00 131** IAmb IAmb 12 17 22.3
comp=Z,271nm,1.3s
LR03 IAMs_20 IAMs_20 12 47 24.2
comp=Z,5µm,18.0s
ATKA **Atka Island** **82.15 2** P **P** **12 17 18.5 0.0**
DLV **Lat** **82.19 289** P **P** **12 17 20.5 +0.6**
DLV **Lat** **82.19 289** ⇑P **P** **12 17 20.2 +0.3**
JSH **Shimam** **82.19 330** P **P** **12 17 18.8 -0.2**
AIS **Amsterdam Isla** **82.31 231** P **P** **12 17 20.1 +0.1**
PDSI **Padang** **82.31 273** P **P** **12 17 17.6 -2.8**
comp=Z,8µmcomp=Z,7µmcomp=Z,294nm,0.7s
JKA **Kamikawa-asahi** **82.33 332** IAmb IAmb 12 17 28.3
comp=Z,273nm,1.2s
ASAJ **Asahikawa** **82.34 332** LR LR 12 50 12.8
comp=Z,10µm,20.4s,baz=176,slow=33
ASAJ **Asahikawa** **82.34 332** P **P** **12 17 20.8 +1.0**
BKNI **Bangkinang** **82.43 275** P **P** **12 17 17.1 -4.0**
BKNI **Bangkinang** **82.43 275** P **P** **12 17 20.1 -1.0**
BKNI **Bangkinang** **82.43 275** P **P** **12 17 20.0 -1.0**
BKNI **Bangkinang** **82.43 275** P **P** **12 17 20.1 -1.0**
comp=Z,8µmcomp=Z,4µmcomp=Z,377nm,0.8s
PLCA **Paso Flores** **82.56 133** IAmb IAmb 12 17 42.4
comp=Z,170nm,1.1s
PLCA **Paso Flores** **82.56 133** P **P** **12 17 23.3 +1.9**
comp=Z,100nm,1.0s,baz=234,slow=5.4,SNR=73
PLCA PKKPbc **PKKPbc** **12 35 47.0 +0.8**
comp=Z,6.9nm,1.0s,baz=65,slow=4.4,SNR=7.1
PLCA PKPPKP **P'P'df** **12 43 52.8 -3.1**
comp=Z,1.9nm,0.7s,baz=24,slow=2.5,SNR=4.6
PLCA LR LR 12 45 35.9
comp=Z,7µm,21.4s,baz=242,slow=29
comp=Z,100nm,1.0s
PLCA **Paso Flores** **82.56 133** ⇑P **P** **12 17 23.3 +1.9**
PLCA **Paso Flores** **82.56 133** P **P** **12 17 23.2 +1.9**
PLCA **Paso Flores** **82.56 133** *e*P **P** **12 17 23.6 +2.2**
PPI **Padang Panjang** **82.59 274** P **P** **12 17 19.4 -2.5**
comp=Z,8µmcomp=Z,88nm,0.7s
GO06 **Curarrehue** **82.60 132** ⇑P **P** **12 17 23.3 +1.6**
EFI **East Falkland** **82.88 147** P **P** **12 17 23.0 +0.3**
EFI **East Falkland** **82.88 147** *c i*P **P** **12 17 23.7 +1.0**
EFI pmax pmax
comp=Z,175nm,1.0s
EFI MLR MLR
comp=Z,822nm,8.0s
EFI **East Falkland** **82.88 147** ⇑P **P** **12 17 23.8 +1.0**
SHEM **Shemya Is, Ala** **82.91 355** LR LR 12 50 47.3
comp=Z,9µm,19.4s,baz=176,slow=33
SMY **Shemya** **82.91 355** P **P** **12 17 22.8 +0.3**
SMY **Shemya** **82.91 355** P **P** **12 17 24.4 +1.9**
BI05 **Punta Hualpn** **83.00 128** IAMs_20 IAMs_20 12 44 55.4
comp=Z,7µm,22.0s
NIKH **Nikolski High** **83.23 5** P **P** **12 17 24.1 0.0**
NIKH **Nikolski High** **83.23 5** P **P** **12 17 24.2 0.0**
NIKH **Nikolski High** **83.23 5** P **P** **12 17 24.4 +0.2**
baz=188
SISI **Saibi** **83.29 272** P **P** **12 17 25.5 0.0**
comp=Z,4µmcomp=Z,174nm,0.8s
HKC **Hong Kong Obse** **83.56 300** ⇑P **P** **12 17 27.0 +0.4**
HKPS **Hong Kong Po S** **83.57 300** IAmb IAmb 12 17 28.7
comp=Z,227nm,1.3s
HKPS **Hong Kong Po S** **83.57 300** P **P** **12 17 27.8 +1.1**
SKR **Severo-Kuril's** **83.78 344** *e*P **P** **12 17 27.7 +0.7**
SKR *e*S **SKSac** **12 27 44.9 -1.8**
SKR pmax pmax
comp=Z,2µm,8.1s
SKR MLR MLR
comp=Z,4µm,16.0s
TJN **Taejon** **83.84 318** P **P** **12 17 28.0 +0.3**
TJN **Taejon** **83.84 318** *c i*P **P** **12 17 27.1 -0.6**
MNSI **Mandailing Nat** **83.93 274** P **P** **12 17 26.4 -2.3**
comp=Z,7µmcomp=Z,2µmcomp=Z,203nm,0.7s
SSE **Sheshan** **84.06 311** P **P** **12 17 30.3 +1.3**
SSE S **S** **12 27 53.3 +2.4**
SSE pmax pmax
comp=Z,51nm,0.8s
SSE pmax pmax
comp=Z,450nm,6.7s
SSE LR LR
comp=Z,1µm,23.5s
SSE LR LR
comp=Z,2µm,23.0s
KSRS **Korea Array** **84.28 320** P **P** **12 17 29.9 +0.1**
comp=Z,32nm,0.7s,baz=141,slow=5.6,SNR=131
comp=Z,32nm,0.7s
KSRS **Korea Array** **84.28 320** P **P** **12 17 30.0 +0.1**
KSAR **Wonju Array Be** **84.29 320** P **P** **12 17 30.1 +0.2**
KSAR **Wonju Array Be** **84.29 320** P **P** **12 17 30.2 +0.2**
BI02 **San Fabin de** **84.33 129** IAMs_20 IAMs_20 12 45 45.7
comp=Z,8µm,22.0s
KS19 **Wonju Array Si** **84.34 320** P **P** **12 17 30.2 -0.1**
KS19 IAmb IAmb 12 17 33.9
comp=Z,152nm,1.6s
LPIG **La Paz** **84.38 58** LR LR 12 45 45.7
comp=Z,10µm,22.0s,baz=211,slow=29
SLBS **Sierra La Lagu** **84.40 59** P **P** **12 17 30.9 -0.1**
SLBS IAmb IAmb 12 17 51.6
comp=Z,292nm,1.4s
SLBS **Sierra La Lagu** **84.40 59** ⇑P **P** **12 17 32.8 +1.8**
IPM **Ipoh** **84.55 278** IAMs_20 IAMs_20 12 59 12.7
comp=Z,6µm,20.0s
IPM **Ipoh** **84.55 278** P **P** **12 17 31.1 -0.8**
IPM **Ipoh** **84.55 278** ⇑P **P** **12 17 30.8 -1.1**
GZH **Guangzhou** **84.64 300** P **P** **12 17 33.0 +0.9**
GZH pP **pP** **12 17 43.0 +0.5**
GZH S **SKSac** **12 27 53.8 +0.2**
GZH pmax pmax
comp=Z,330nm,0.9s
GZH pmax pmax
comp=Z,1µm,2.8s
GZH LR LR
comp=Z,1µm,22.4s
GZH LR LR
comp=Z,2µm,20.4s
GZH LR LR
comp=Z,4µm,28.1s
YSS **Yuzhno-Sakhali** **84.64 334** P **P** **12 17 32.1 +0.7**
YSS **Yuzhno-Sakhali** **84.64 334** P **P** **12 17 32.0 +0.5**
YSS **Yuzhno-Sakhali** **84.64 334** *oe*P **P** **12 17 32.4 +0.9**
YSS *e**SP **pwP** **12 17 44.8 -0.5**

YSS *e* 12 20 46.6
YSS *eS* **SKSac** **12 27 54.5 +2.1**
YSS *eSS* **SS** **12 33 32.5 +3.9**
YSS *eSSS* SSS 12 36 56.5
YSS pmax pmax
comp=N,400nm,3.6s
YSS pmax pmax
comp=Z,2µm,3.6s
YSS pmax pmax
comp=E,600nm,4.8s
YSS pmax pmax
comp=Z,280nm,1.1s
YSS smax smax
comp=N,2µm,13.8s
YSS smax smax
comp=E,600nm,8.1s
YSS Yuzhno-Sakhali **84.64 334** ⇑P P **12 17 32.2 +0.7**
YSS Yuzhno-Sakhali **84.64 334** P P **12 17 32.5 +0.9**
AKUT Akutan **84.68 7** P P **12 17 31.4 -0.1**
AKUT Akutan **84.68 7** ⇑P P **12 17 31.6 +0.1**
CCX Cicese **84.78 49** IAmb IAmb 12 17 53.0
comp=Z,374nm,1.7s
GO05 Hualane **84.80 128** ⇑P P **12 17 34.2 +1.3**
SRIG Santa Rosalia **84.92 54** IAmb IAmb 12 17 54.2
comp=Z,184nm,1.0s
SRIG IAMs_20 IAMs_20 12 51 52.0
comp=Z,5µm,18.0s
SRIG Santa Rosalia **84.92 54** ⇑P P **12 17 34.9 +1.5**
TJX Tijuana **84.94 48** IAmb IAmb 12 17 54.7
comp=Z,172nm,1.0s
QIZ Qiongzhong **85.00 295** P **12 17 34.3 +0.3**
QIZ IAmb IAmb 12 17 35.8
comp=Z,76nm,0.9s
QIZ Qiongzhong **85.00 295** P P **12 17 34.5 +0.5**
QIZ pP **pP** **12 17 44.5 0.0**
QIZ PP **PP** **12 20 52.0 +0.5**
QIZ S **S** **12 28 00.3 -0.5**
QIZ sS **sS** **12 28 19.5 +0.9**
QIZ SS **SS** **12 33 36.0 +1.1**
QIZ pmax pmax
comp=Z,91nm,0.7s
QIZ pmax pmax
comp=Z,1µm,5.8s
QIZ LR LR
comp=Z,1µm,21.6s
QIZ LR LR
comp=Z,1µm,23.5s
QIZ LR LR
comp=Z,6µm,33.8s
QIZ Qiongzhong **85.00 295** P **P** **12 17 34.7 +0.7**
INCN Inchon **85.03 319** P P **12 17 33.8 +0.1**
INCN IAmb IAmb 12 17 39.4
comp=Z,76nm,0.7s
INCN Inchon **85.03 319** P **P** **12 17 34.3 +0.6**
INCN S **SKSac** **12 27 53.1 -2.4**
INCN Inchon **85.03 319** P **P** **12 17 33.9 +0.1**
INCN Inchon **85.03 319** P **P** **12 17 33.8 +0.1**
INCN pmax pmax
comp=Z,76nm,0.7s
INCN MLR MLR
comp=Z,2µm,21.0s
VTX Valle De La Tr **85.05 49** IAmb IAmb 12 17 55.2
comp=Z,185nm,1.3s
VTX IAMs_20 IAMs_20 12 51 19.1
comp=Z,6µm,18.0s
CBX Cerro Bola **85.07 48** IAmb IAmb 12 18 04.9
comp=Z,143nm,1.1s
CBX IAMs_20 IAMs_20 12 48 33.6
comp=Z,6µm,22.0s
PKD Bear Valley Ra **85.07 43** IAmb IAmb 12 17 37.0
comp=Z,68nm,0.8s
JRSC Jasper Ridge **85.09 41** IAmb IAmb 12 17 54.3
comp=Z,379nm,1.8s
SAO San Andreas Ge **85.10 42** IAmb IAmb 12 17 54.3
comp=Z,244nm,1.8s
SAO San Andreas Ge **85.10 42** ⇑P **P** **12 17 35.5 +1.4**
PMPB Monarch Peak **85.10 43** IAmb IAmb 12 18 14.2
comp=Z,175nm,1.2s
CPE Camp Elliot **85.16 47** IAmb IAmb 12 17 54.7
comp=Z,148nm,1.4s
BBGB Big Mountain B **85.21 43** IAmb IAmb 12 17 50.7
comp=Z,157nm,1.1s
MCCM Marconi Confer **85.24 40** ⇓P **P** **12 17 36.5 +1.8**
OSI Osito Audit: C **85.28 45** IAmb IAmb 12 17 56.2
comp=Z,132nm,1.1s
OSI IAMs_20 IAMs_20 12 52 47.0
comp=Z,8µm,19.0s
KULM Kulim **85.28 279** P **P** **12 17 34.9 -0.7**
KULM Kulim **85.28 279** ⇑P **P** **12 17 34.6 -0.9**
BAR Barrett **85.30 48** IAmb IAmb 12 17 55.6
comp=Z,190nm,1.4s
BAR IAMs_20 IAMs_20 12 46 09.7
comp=Z,6µm,22.0s
PASC Pasadena Art C **85.32 46** IAmb IAmb 12 17 56.5
comp=Z,119nm,1.1s
PASC IAMs_20 IAMs_20 12 52 28.1
comp=Z,7µm,18.0s
ESJX Sierra Juarez **85.33 49** IAmb IAmb 12 17 57.1
comp=Z,159nm,1.2s
ESJX IAMs_20 IAMs_20 12 48 54.6
comp=Z,5µm,20.0s
DPP Dos Picos Cty **85.33 47** IAmb IAmb 12 17 55.5
comp=Z,234nm,1.5s
MHC Mount Hamilton **85.39 42** IAmb IAmb 12 17 38.8
comp=Z,109nm,1.1s
PET Petropavlovsk **85.40 346** P **P** **12 17 34.8 -0.2**
PET IAmb IAmb 12 17 38.3
comp=Z,139nm,0.9s
PET IAMs_20 IAMs_20 12 52 30.2
comp=Z,8µm,20.0s
PET Petropavlovsk **85.40 346** P **P** **12 17 34.9 -0.2**
PET Petropavlovsk **85.40 346** *e*P **P** **12 17 35.4 +0.3**
PET *e* 12 27 49.8
PET *eS* **S** **12 28 05.3 +2.2**
PET *eSS* **SS** **12 33 43.4 +3.9**
PET pmax pmax
comp=Z,156nm,0.6s
PET pmax pmax
comp=Z,1µm,14.0s
PET pmax pmax
comp=Z,1µm,15.8s
PET MLR MLR
comp=Z,3µm,19.0s
PET MLR MLR
comp=Z,3µm,16.0s
PET Petropavlovsk **85.40 346** ⇑P **P** **12 17 34.6 -0.5**
MWC Mount Wilson **85.43 46** IAmb IAmb 12 17 56.2
comp=Z,298nm,1.5s
MWC IAMs_20 IAMs_20 12 52 32.1
comp=Z,7µm,18.0s
SFX San Felipe **85.44 50** IAMs_20 IAMs_20 12 51 12.5
comp=Z,6µm,19.0s
ELS Elsinore Mount **85.45 47** IAmb IAmb 12 17 57.1
comp=Z,148nm,1.1s
ELS IAMs_20 IAMs_20 12 46 14.6
comp=Z,7µm,22.0s
RPSI Rantau Prapat **85.45 276** IAmb IAmb 12 17 36.2
comp=Z,259nm,1.3s
PSI Prapat **85.50 276** LR LR 12 56 28.1
comp=Z,11µm,21.3s,baz=123,slow=36
PSI Prapat **85.50 276** P **P** **12 17 34.7 -2.1**
PSI Prapat **85.50 276** P **P** **12 17 34.7 -2.1**
PSI pmax pmax
comp=Z,17nm,1.3s
TEY Ternei **85.60 330** ⇓*e*P **P** **12 17 36.3 0.0**
TEY pmax pmax
comp=Z,20nm,1.0s
TEY pmax pmax
comp=Z,200nm,3.4s
FALS False Pass **85.66 8** P **P** **12 17 36.2 -0.2**
FALS False Pass **85.66 8** P **P** **12 17 36.5 +0.1**
baz=192
PEA0B Petropavlovsk- **85.68 346** *c i*P **P** **12 17 36.5 -0.1**
PETK Petropavlovsk- **85.68 346** P **P** **12 17 36.6 0.0**
PETK Petropavlovsk- **85.68 346** P **P** **12 17 36.4 -0.1**
comp=Z,214nm,0.7s,baz=120,slow=6.0,SNR=127
PETK PKiKP **PKiKP** **12 22 46.6 +0.4**
comp=Z,5.7nm,0.6s,baz=97,slow=3.0,SNR=6.8
PETK LR LR 12 49 28.6
comp=Z,6µm,22.0s,baz=161,slow=31
comp=Z,214nm,0.7s
PETK Petropavlovsk- **85.68 346** P **P** **12 17 36.6 0.0**
BFSC Mount Baldy Ra **85.69 46** IAmb IAmb 12 17 58.1
comp=Z,222nm,1.4s
BFSC IAMs_20 IAMs_20 12 46 33.0
comp=Z,7µm,22.0s

BO02 Sierra Bellavi **85.70 128** IAmb IAmb 12 17 40.6
comp=Z,131nm,0.8s
BO02 Sierra Bellavi **85.70 128** ⇑P **P** **12 17 38.8 +1.3**
BO01 Tunca **85.72 127** IAmb IAmb 12 17 58.3
comp=Z,151nm,1.4s
BO01 IAMs_20 IAMs_20 12 49 44.4
comp=Z,6µm,19.0s
HOPS Hopland Field **85.73 40** IAmb IAmb 12 17 40.2
comp=Z,170nm,1.2s
GDXM Geysers **85.75 40** IAmb IAmb 12 17 59.8
comp=Z,117nm,1.1s
BORC Borrego Spring **85.84 48** IAmb IAmb 12 17 58.4
comp=Z,308nm,1.5s
BORC IAMs_20 IAMs_20 12 46 38.1
comp=Z,6µm,22.0s
VES Vestal, Richgr **85.87 44** P **P** **12 17 39.4 +1.4**
VES IAMs_20 IAMs_20 12 46 50.8
comp=Z,7µm,22.0s
DNR Dunn Ranch,Anz **85.90 47** IAMs_20 IAMs_20 12 46 50.6
comp=Z,7µm,22.0s
GSI Gunungsitoli **85.91 274** P **P** **12 17 38.9 +0.2**
GSI Gunungsitoli **85.91 274** P **P** **12 17 39.0 +0.2**
GSI Gunungsitoli **85.91 274** ⇑P **P** **12 17 38.7 -0.1**
DCMP DeCamp, Califo **85.92 39** IAmb IAmb 12 18 10.2
comp=Z,128nm,1.4s
HJU Haeju **85.93 319** P **P** **12 17 37.1 -1.1**
KCPM Cahto Peak **85.94 39** IAmb IAmb 12 17 59.4
comp=Z,132nm,1.0s
CPBX Cerro Prieto **86.02 49** IAmb IAmb 12 18 04.7
comp=Z,173nm,1.1s
PFO Pinyon Flats O **86.04 47** P **P** **12 17 40.4 +1.4**
PFO IAmb IAmb 12 17 59.5
comp=Z,232nm,1.6s
PFO Pinyon Flats O **86.04 47** IAMs_20 IAMs_20 12 46 54.3
comp=Z,7µm,22.0s
PFO Pinyon Flats O **86.04 47** S **SKSac** **12 28 00.2 -2.1**
comp=Z,1.7nm,0.7s,baz=1.7,slow=8.7,SNR=2.3
PFO LR LR 12 49 14.3
comp=Z,5µm,20.3s,baz=253,slow=31
PFO Pinyon Flats O **86.04 47** P **P** **12 17 40.4 +1.4**
PFO pmax pmax
comp=Z,232nm,1.6s
PFO Pinyon Flats O **86.04 47** P **P** **12 17 40.7 +1.7**
VA01 Torpederas **86.09 126** P **P** **12 17 40.7 +1.4**
VA01 IAMs_20 IAMs_20 12 46 30.4
comp=Z,8µm,22.0s
PMD Palm Desert **86.11 47** IAmb IAmb 12 18 00.5
comp=Z,100nm,1.1s
PMD IAMs_20 IAMs_20 12 46 45.2
comp=Z,7µm,22.0s
ISA Isabella, Lake **86.12 45** IAmb IAmb 12 17 42.5
comp=Z,205nm,1.2s
ISA IAMs_20 IAMs_20 12 53 24.5
comp=Z,8µm,18.0s
MT09 Talagante **86.13 127** IAmb IAmb 12 18 00.3
comp=Z,253nm,1.2s
MT09 IAMs_20 IAMs_20 12 50 41.2
comp=Z,5µm,18.0s
TSI Tuntungan **86.16 276** P **P** **12 17 38.8 -1.1**
CNBA Chernabura Isl **86.17 11** IAMs_20 IAMs_20 12 50 46.7
comp=Z,9µm,21.0s
KMPM Mount Pierce **86.17 38** IAMs_20 IAMs_20 12 52 49.1
comp=Z,8µm,19.0s
CHNA Chernabura Isl **86.18 10** P **P** **12 17 39.8 +0.9**
CHNA Chernabura Isl **86.18 10** P **P** **12 17 39.8 +0.9**
baz=196,SNR=50
CHNA S **S** **12 28 11.8 +1.1**
baz=196
NJ2 Nanjing **86.20 311** ⇑*i*P **P** **12 17 40.0 +0.3**
NJ2 SKS **SKSac** **12 28 00.5 -2.6**
NJ2 S **S** **12 28 13.5 +1.5**
NJ2 SS **SS** **12 33 46.8 -5.4**
NJ2 pmax pmax
comp=Z,89nm,0.9s
NJ2 pmax pmax
comp=Z,1µm,4.2s
NJ2 LR LR
comp=Z,3µm,23.4s
NJ2 LR LR
comp=Z,2µm,24.3s
NJ2 LR LR
comp=Z,5µm,23.4s
HHU Hamhung **86.25 321** P **P** **12 17 39.7 +0.1**
HHU S **SKSac** **12 28 00.1 -2.9**
HHU AmB
comp=Z,661nm,2.2s
HHU AMS AMS
comp=Z,3µm,17.7s
KMRM Mail Ridge **86.25 38** IAmb IAmb 12 18 01.7
comp=Z,225nm,1.1s
BO04 La Punta **86.27 127** P **P** **12 17 41.2 +0.9**
BO04 IAmb IAmb 12 18 06.0
comp=Z,110nm,1.2s
BO04 IAMs_20 IAMs_20 12 50 11.0
comp=Z,6µm,19.0s
MSHR Mys Shultsa **86.28 325** *c i*P **P** **12 17 39.9 +0.2**
MSHR pmax pmax
comp=Z,118nm,1.0s
MSHR MLR MLR
comp=Z,1µm,18.0s
MT02 Curacav **86.31 126** IAmb IAmb 12 18 01.5
comp=Z,246nm,1.4s
MT02 IAMs_20 IAMs_20 12 50 02.1
comp=Z,6µm,19.0s
VLA Vladivostok **86.32 326** *de*P **P** **12 17 40.1 +0.2**
VLA pmax pmax
comp=Z,366nm,2.8s
LRMC Laurel Mtn Rad **86.49 45** IAmb IAmb 12 18 02.2
comp=Z,199nm,1.2s
LRMC IAMs_20 IAMs_20 12 53 36.1
comp=Z,7µm,18.0s
JCC Jacoby Creek, **86.50 38** IAmb IAmb 12 17 45.1
comp=Z,194nm,1.6s
JCC IAMs_20 IAMs_20 12 46 45.0
comp=Z,8µm,22.0s
SDPT Sand Point **86.54 10** P **P** **12 17 41.1 +0.4**
SDPT Sand Point **86.54 10** P **P** **12 17 41.3 +0.6**
baz=195,SNR=49
ROC1 El Roble **86.55 126** *e*P **P** **12 17 43.1 +1.1**
BELC Belle Mtn. Jos **86.58 47** IAmb IAmb 12 18 03.1
comp=Z,208nm,1.2s
BELC IAMs_20 IAMs_20 12 47 22.6
comp=Z,6µm,22.0s
VA06 Catapilco **86.59 126** IAmb IAmb 12 18 02.5
comp=Z,190nm,1.3s
VA06 IAMs_20 IAMs_20 12 46 55.4
comp=Z,8µm,22.0s
SUTB Sutter Butte **86.61 40** IAmb IAmb 12 18 01.9
comp=Z,149nm,1.1s
SUTB IAMs_20 IAMs_20 12 47 32.1
comp=Z,7µm,22.0s
PYAG Pyongyang **86.61 320** P **P** **12 17 41.4 -0.1**
PYAG S **SKSac** **12 28 03.8 -1.5**
PYAG AmB
comp=Z,652nm,2.4s
MT03 Universidad Ad **86.61 127** IAmb IAmb 12 18 03.0
comp=Z,242nm,1.2s
MT03 IAMs_20 IAMs_20 12 51 14.2
comp=Z,5µm,18.0s
LMEL Las Melosas **86.63 127** IAmb IAmb 12 18 06.2
comp=Z,110nm,0.9s
LMEL IAMs_20 IAMs_20 12 53 16.4
comp=Z,6µm,18.0s
MT13 San Alfonso **86.63 127** IAmb IAmb 12 18 00.6
comp=Z,101nm,1.1s
MT13 IAMs_20 IAMs_20 12 50 22.6
comp=Z,6µm,19.0s
MT16 CCHEN **86.64 127** IAMs_20 IAMs_20 12 49 55.9
comp=Z,5µm,19.0s
S12K Black Hills **86.66 9** IAMs_20 IAMs_20 12 54 35.5
comp=Z,5µm,20.0s
S12K Black Hills **86.66 9** P **P** **12 17 42.1 +0.7**
baz=194,SNR=53
WSHM Spangler Hills **86.68 45** IAmb IAmb 12 17 45.5
comp=Z,132nm,1.0s
WSHM IAMs_20 IAMs_20 12 53 24.3
comp=Z,8µm,18.0s
PEL Peldehue **86.69 127** IAMs_20 IAMs_20 12 50 41.3
comp=Z,5µm,18.0s
PEL Peldehue **86.69 127** P **P** **12 17 44.0 +1.6**
PEL pmax pmax
comp=Z,243nm,1.1s
PEL Peldehue **86.69 127** *e*P **P** **12 17 43.6 +1.2**
PEL Peldehue **86.69 127** ⇑P **P** **12 17 43.9 +1.5**
PIX Pinacate **86.69 50** IAmb IAmb 12 18 02.3
comp=Z,271nm,1.5s
PIX IAMs_20 IAMs_20 12 52 11.8
comp=Z,5µm,18.0s
KHMM Horse Mountain **86.70 38** IAmb IAmb 12 18 04.3
comp=Z,141nm,1.2s
KHMM IAMs_20 IAMs_20 12 48 18.2
comp=Z,7µm,21.0s
BC3 Big Chuckawall **86.71 48** IAmb IAmb 12 18 04.0
comp=Z,214nm,1.3s
CCCA Chr Cany lake **86.71 45** IAMs_20 IAMs_20 12 53 16.1
comp=Z,7µm,18.0s
GLA Glamis **86.73 49** IAmb IAmb 12 18 04.0
comp=Z,254nm,1.2s
KRPM Rodgers **86.75 38** P **P** **12 17 44.0 +1.8**
KRPM IAmb IAmb 12 18 05.1
comp=Z,209nm,1.1s
KRPM IAMs_20 IAMs_20 12 52 22.5
comp=Z,6µm,19.0s
CLC China Lake **86.76 45** IAmb IAmb 12 17 45.9
comp=Z,158nm,1.0s
CLC IAMs_20 IAMs_20 12 53 36.3
comp=Z,8µm,18.0s
P08K Saint George I **86.79 5** IAMs_20 IAMs_20 12 52 57.8
comp=Z,5µm,20.0s
P08K Saint George I **86.79 5** P **P** **12 17 42.7 +0.8**
baz=187
KHBM Hayfork Bally **86.83 38** P **P** **12 17 43.3 +0.5**
KHBM IAMs_20 IAMs_20 12 53 30.5
comp=Z,4µm,18.0s
KCSI Kotacane, Aceh **86.86 276** P **P** **12 17 41.6 -1.8**
comp=Z,5µmcomp=Z,79nm,0.9s
CWC Cottonwood Cre **86.88 44** P **P** **12 17 43.7 +0.6**
GSC Goldstone, Bar **86.91 46** IAMs_20 IAMs_20 12 53 47.4
comp=Z,8µm,18.0s
MT08 Bocatoma Ro **86.98 127** IAmb IAmb 12 17 48.3
comp=Z,86nm,0.9s
MT08 IAMs_20 IAMs_20 12 53 27.4
comp=Z,6µm,18.0s
ORV Oroville **87.00 40** IAmb IAmb 12 18 03.3
comp=Z,122nm,1.4s
VA03 San Esteban **87.00 126** IAmb IAmb 12 18 23.4
comp=Z,89nm,1.1s
VA03 IAMs_20 IAMs_20 12 46 17.3
comp=Z,7µm,22.0s
KRMB Red Mountain **87.07 37** IAmb IAmb 12 18 04.4
comp=Z,208nm,1.5s
KRMB IAMs_20 IAMs_20 12 52 41.0
comp=Z,6µm,19.0s
USRK Ussuriysk Ar. **87.07 326** P **P** **12 17 43.9 +0.3**
comp=Z,53nm,0.7s,baz=130,slow=3.0,SNR=72
comp=Z,53nm,0.7s
TIN Tinemaha, Big **87.19 44** IAmb IAmb 12 17 47.4
comp=Z,208nm,1.3s
IRM Iron Mountain **87.22 48** IAMs_20 IAMs_20 12 47 19.7
comp=Z,6µm,22.0s
113A Mohawk Valley, **87.24 49** IAmb IAmb 12 18 05.5
comp=Z,236nm,1.5s
113A IAMs_20 IAMs_20 12 52 37.2
comp=Z,6µm,19.0s
QSM Queen of Sheba **87.31 45** IAmb IAmb 12 17 47.8
comp=Z,111nm,1.1s
KSXB Camp Six Broad **87.31 37** IAmb IAmb 12 18 10.1
comp=Z,118nm,1.2s
KSXB IAMs_20 IAMs_20 12 52 57.2
comp=Z,7µm,19.0s
SPIA Saint Paul Isl **87.31 4** IAMs_20 IAMs_20 12 52 11.7
comp=Z,6µm,20.0s
SPIA Saint Paul Isl **87.31 4** P **P** **12 17 45.6 +1.2**
SPIA Saint Paul Isl **87.31 4** P **P** **12 17 45.3 +0.9**
baz=187,SNR=5.7
BLYC Blythe **87.36 48** IAmb IAmb 12 18 07.0
comp=Z,125nm,1.2s
BLYC IAMs_20 IAMs_20 12 58 52.4
comp=Z,5µm,18.0s
214A Organ Pipe Nat **87.37 51** IAmb IAmb 12 18 06.3
comp=Z,184nm,1.5s
214A IAMs_20 IAMs_20 12 52 23.7
comp=Z,5µm,19.0s
DANC Danby, Needles **87.38 47** P **P** **12 17 47.7 +2.3**
DANC IAMs_20 IAMs_20 12 47 35.8
comp=Z,5µm,22.0s
CO06 Fray Jorge **87.39 124** IAMs_20 IAMs_20 12 47 09.8
comp=Z,8µm,22.0s
KBO Bosley Butte **87.40 37** IAMs_20 IAMs_20 12 52 58.6
comp=Z,7µm,19.0s
WAKR Walker **87.45 42** IAmb IAmb 12 18 10.7
comp=Z,188nm,1.3s
M02C Callahan **87.54 38** IAmb IAmb 12 18 21.1
comp=Z,241nm,1.6s
M02C IAMs_20 IAMs_20 12 47 42.3
comp=Z,8µm,22.0s
SNSI Sinabang, Aceh **87.54 274** P **P** **12 17 47.1 +0.4**
comp=Z,6µmcomp=Z,4µmcomp=Z,251nm,1.0s
CO02 Combarbal **87.55 125** *e*P **P** **12 17 47.4 +0.7**
CO02 Combarbal **87.55 125** ⇑P **P** **12 17 47.8 +1.2**
DSP Deep Springs **87.56 44** IAmb IAmb 12 18 06.5
comp=Z,174nm,1.5s
S14K Fog Glacier **87.59 10** P **P** **12 17 47.3 +1.3**
baz=196,SNR=21
SHOC Shoshone, Teco **87.63 46** IAMs_20 IAMs_20 12 54 10.3
comp=Z,5µm,18.0s
FURC Furnace Creek, **87.64 45** IAmb IAmb 12 18 06.6
comp=Z,91nm,1.2s
CHGN Chignik **87.78 11** P **P** **12 17 47.4 +0.7**
baz=197,SNR=53
CHGN S **S** **12 28 27.2 +1.1**
baz=197
MTPC Mountain Pass **87.81 46** IAmb IAmb 12 17 51.0
comp=Z,109nm,1.1s
MTPC IAMs_20 IAMs_20 12 47 37.2
comp=Z,7µm,22.0s
KEBM Edson Butte **87.81 36** IAmb IAmb 12 18 09.0
comp=Z,122nm,1.1s
KEBM IAMs_20 IAMs_20 12 47 35.6
comp=Z,6µm,22.0s
LHV Little Huntoon **87.83 43** IAmb IAmb 12 18 22.8
comp=Z,108nm,1.1s
M03C McCloud **87.85 39** IAmb IAmb 12 18 09.6
comp=Z,184nm,1.0s
BEKR Beckworth **87.85 41** IAmb IAmb 12 18 07.6
comp=Z,112nm,1.6s
YBH Yreka Blue Hor **87.85 38** S **SKSac** **12 28 11.9 -1.1**
comp=Z,0.1nm,0.8s,baz=200,slow=16,SNR=1.1
YBH LR LR 12 48 24.8
comp=Z,436nm,21.7s,baz=248,slow=30
HATC Hat Creek Radi **87.89 39** IAmb IAmb 12 18 09.4
comp=Z,130nm,1.0s
GMN Gold Mountain **87.94 44** IAmb IAmb 12 18 09.0
comp=Z,78nm,1.1s
CO03 El Pedregal **87.98 125** IAMs_20 IAMs_20 12 47 39.3
comp=Z,7µm,22.0s
CO03 El Pedregal **87.98 125** *e*P **P** **12 17 49.5 +0.8**
WCT Wildcat Mounta **87.99 45** IAmb IAmb 12 18 08.6
comp=Z,166nm,1.5s
AAGR Agrelo **88.00 127** *e*P **P** **12 17 50.4 +1.5**
NVAR Mina Array Bea **88.06 43** P **P** **12 17 49.9 +1.0**
comp=Z,42nm,0.7s,baz=222,slow=6.7,SNR=247
NVAR S **SKSac** **12 28 17.0 +2.3**
comp=Z,0.4nm,0.7s,baz=332,slow=5.9,SNR=2.2
NVAR PKKP **PKKPdf** **12 35 31.2 +1.2**
comp=Z,1.5nm,0.8s,baz=26,slow=4.0,SNR=5.4
NVAR PKPPKP **P'P'df** **12 43 38.0 -0.8**
comp=Z,2.1nm,0.7s,baz=80,slow=3.2,SNR=13
NVAR LR LR 12 53 47.8
comp=Z,11µm,18.0s,baz=236,slow=33
comp=Z,42nm,0.7s
ARCO CERRO ARCO **88.07 127** *e*P **P** **12 17 50.4 +1.1**
CO05 La Serena **88.10 124** IAMs_20 IAMs_20 12 47 29.5
comp=Z,9µm,22.0s
AUSP Uspallata **88.11 126** *e*P **P** **12 17 51.2 +1.6**
SURA Surathani **88.12 282** P **P** **12 17 49.8 +0.4**
GULI GuiLin **88.13 301** P **P** **12 17 48.5 -0.7**
GULI pmax pmax
comp=Z,27nm,0.7s
GULI LR LR
comp=Z,1µm,19.9s
GULI LR LR
comp=Z,1µm,23.5s
GULI LR LR
comp=Z,3µm,24.2s
GO04 Tololo Observa **88.27 124** IAMs_20 IAMs_20 12 47 47.1
comp=Z,7µm,22.0s
GO04 Tololo Observa **88.27 124** ⇑P **P** **12 17 51.0 +0.7**
ASAL Salagasta **88.28 127** *e*P **P** **12 17 50.8 +0.7**
WHN Wuhan **88.32 307** ⇑P **P** **12 17 50.0 +0.1**
WHN pP **pP** **12 18 01.3 +0.8**
WHN sP **sP** **12 18 05.0 +0.1**
WHN PP **PP** **12 21 21.5 +3.4**
WHN SKS **SKSac** **12 28 15.5 -0.5**

WHN S **S** **12 28 34.8 +2.3**
WHN sS **sS** **12 28 52.5 +2.4**
WHN pmax pmax
comp=Z,280nm,1.0s
WHN pmax pmax
comp=Z,3µm,3.5s
WHN LR LR
comp=Z,5µm,20.4s
WHN LR LR
comp=Z,16µm,28.0s
WHN LR LR
comp=Z,15µm,24.7s
TPNV Topopah Spring **88.32 45** IAMs_20 IAMs_20 12 48 08.7
comp=Z,9µm,22.0s
TPNV Topopah Spring **88.32 45** ⇑P **P** **12 17 51.6 +1.6**
MLSI Meulaboh, Aceh **88.41 276** P **P** **12 17 50.1 -0.7**
comp=Z,6µmcomp=Z,4µmcomp=Z,302nm,0.8s
L04D Klamath Falls **88.41 38** IAmb IAmb 12 18 10.8
comp=Z,120nm,1.1s
RTLS Leoncito **88.42 126** *e*P **P** **12 17 52.5 +1.4**
LHMI Lhok Sumawe **88.42 277** IAMs_20 IAMs_20 13 03 09.5
comp=Z,5µm,20.0s
LHMI Lhok Sumawe **88.42 277** P **P** **12 17 51.2 +0.3**
LHMI Lhok Sumawe **88.42 277** P **P** **12 17 50.6 -0.3**
comp=Z,6µmcomp=Z,4µmcomp=Z,231nm,1.6s
Y14A Wickenburg **88.47 49** IAmb IAmb 12 17 54.4
comp=Z,82nm,0.8s
Y14A IAMs_20 IAMs_20 12 53 33.7
comp=Z,6µm,18.0s
MDJ Mudanjiang **88.54 325** IAmb IAmb 12 17 57.8
comp=Z,224nm,1.3s
MDJ Mudanjiang **88.54 325** P **P** **12 17 50.8 +0.2**
MDJ pmax pmax
comp=Z,47nm,1.2s
MDJ LR LR
comp=Z,2µm,24.0s
MDJ LR LR
comp=Z,2µm,22.7s
MDJ LR LR
comp=Z,7µm,24.7s
MDJ Mudanjiang **88.54 325** P **P** **12 17 50.9 +0.3**
MDJ Mudanjiang **88.54 325** P **P** **12 17 51.1 +0.5**
W13A Hualapai Mount **88.62 48** IAmb IAmb 12 17 54.9
comp=Z,88nm,1.1s
DL2 Dalian **88.89 317** P **P** **12 17 52.5 +0.1**
DL2 SKS **SKSac** **12 28 15.0 -4.0**
DL2 S **S** **12 28 38.3 +0.8**
DL2 pmax pmax
comp=Z,100nm,0.8s
DL2 pmax pmax
comp=Z,720nm,4.4s
DL2 LR LR
comp=Z,3µm,26.5s
DL2 LR LR
comp=Z,4µm,25.3s
DL2 LR LR
comp=Z,9µm,26.1s
I03D Drain, OR **88.91 36** IAmb IAmb 12 17 57.0
comp=Z,72nm,0.9s
TUC Tucson **88.95 51** P **P** **12 17 55.4 +2.4**
TUC Tucson **88.95 51** P **P** **12 17 55.4 +2.4**
TUC pmax pmax
comp=Z,247nm,1.3s
TUC Tucson **88.95 51** ⇑P **P** **12 17 53.9 +0.9**
TUC Tucson **88.95 51** P **P** **12 17 55.4 +2.4**
K04D Chiloquin, OR **88.99 38** IAmb IAmb 12 18 08.2
comp=Z,94nm,0.9s
LCO Las Campanas **88.99 123** P **P** **12 17 54.2 +0.5**
LCO Las Campanas **88.99 123** P **P** **12 17 54.2 +0.5**
LCO Las Campanas **88.99 123** ⇑P **P** **12 17 54.8 +1.1**
ZON Zonda **88.99 126** IAmb IAmb 12 18 22.6
comp=Z,134nm,1.3s
ZON Zonda **88.99 126** P **P** **12 17 55.2 +1.8**
ZON pmax pmax
comp=Z,72nm,1.3s
ZON Zonda **88.99 126** *e*P **P** **12 17 55.0 +1.6**
S11A Rachel **89.08 45** IAmb IAmb 12 18 27.2
comp=Z,114nm,1.1s
R16K Pilot Point **89.13 11** P **P** **12 17 53.8 +0.8**
baz=197
R16K S **S** **12 28 40.8 +1.9**
baz=197
AC04 Llanos de Chal **89.17 122** IAmb IAmb 12 21 16.4
comp=Z,50nm,0.8s
AC04 IAMs_20 IAMs_20 12 48 07.0
comp=Z,6µm,22.0s
AROD Rodeo **89.22 125** *e*P **P** **12 17 55.8 +1.0**
J04A Umpqua Nationa **89.23 37** IAmb IAmb 12 18 15.9
comp=Z,170nm,1.0s
RTLL Cerro Villicun **89.26 126** *e*P **P** **12 17 56.1 +1.4**
CFA Coronel Fontan **89.27 127** LR LR 12 49 06.2
comp=Z,3µm,21.8s,baz=222,slow=30
ACCO Cerro Coronel **89.27 125** *e*P **P** **12 17 56.2 +1.2**
PRN Pahroc Range **89.35 45** IAmb IAmb 12 18 15.7
comp=Z,236nm,1.4s
PRN Pahroc Range **89.35 45** ⇑P **P** **12 17 56.9 +2.1**
R17L Mt. Peulik Vol **89.39 11** P **P** **12 17 55.3 +0.9**
baz=198,SNR=75
R17L S **S** **12 28 41.2 -0.3**
baz=198
PLK4 Peulik 4 **89.39 11** IAMs_20 IAMs_20 12 52 37.7
comp=Z,5µm,20.0s
319A Douglas **89.42 53** IAmb IAmb 12 18 18.1
comp=Z,210nm,1.2s
319A IAMs_20 IAMs_20 12 47 50.0
comp=Z,5µm,22.0s
HPIG **89.43 58** ⇑P **P** **12 17 56.7 +1.1**
BUCK Buck Mountain **89.45 36** IAmb IAmb 12 17 59.8
comp=Z,186nm,1.2s
ZAIG Zacatecas **89.46 63** IAMs_20 IAMs_20 12 48 32.8
comp=Z,8µm,21.0s
ACDV Cuesta del Vie **89.47 125** *e*P **P** **12 17 56.7 +0.8**
TRQA Tornquist **89.49 135** P **P** **12 17 56.3 +0.7**
TRQA IAmb IAmb 12 17 57.9
comp=Z,137nm,1.6s
TRQA IAMs_20 IAMs_20 12 49 08.1
comp=Z,6µm,21.0s
TRQA Tornquist **89.49 135** P **P** **12 17 56.3 +0.7**
TRQA pmax pmax
comp=Z,137nm,1.6s
TRQA Tornquist **89.49 135** P **P** **12 17 56.6 +1.1**
K05A Summer Lake **89.51 38** IAmb IAmb 12 18 17.3
comp=Z,179nm,1.2s
COR Corvallis **89.56 36** P **P** **12 17 57.5 +2.2**
COR IAmb IAmb 12 18 17.6
comp=Z,110nm,1.0s
COR Corvallis **89.56 36** P **P** **12 17 57.6 +2.2**
COR pmax pmax
comp=Z,110nm,1.0s
COR Corvallis **89.56 36** ⇓P **P** **12 17 57.6 +2.2**
OHAK Old Harbor **89.57 13** P **P** **12 17 55.8 +0.7**
OHAK Old Harbor **89.57 13** P **P** **12 17 56.0 +0.9**
baz=201,SNR=55
OHAK S **S** **12 28 45.3 +2.3**
baz=201
ACAN Cantantal **89.60 128** *e*P **P** **12 17 57.1 +0.8**
ACAN *e*P **PcP** **12 17 58.3 +0.8**
R18K Karluk **89.67 12** P **P** **12 17 56.2 +0.7**
baz=200
J05D Fort Rock, OR **89.72 38** IAmb IAmb 12 18 17.7
comp=Z,92nm,1.0s
SNY Shenyang **89.72 320** ⇑P **P** **12 17 56.0 -0.2**
SNY PP **PP** **12 21 27.0 -2.1**
SNY SKS **SKSac** **12 28 17.8 -6.0**
SNY pmax pmax
comp=Z,40nm,1.0s
SNY LR LR
comp=Z,1µm,22.0s
SNY LR LR
comp=Z,2µm,22.3s
SNY LR LR
comp=Z,4µm,23.5s
X16A Lo Mia Camp, P **89.78 49** IAmb IAmb 12 18 01.2
comp=Z,129nm,0.9s
X16A IAMs_20 IAMs_20 12 54 06.5
comp=Z,5µm,18.0s
TLIG Tlapa **89.86 70** IAmb IAmb 12 18 19.0
comp=Z,201nm,1.2s
TIA Tai'an **89.92 313** P **P** **12 17 57.8 +0.4**
TIA pmax pmax
comp=Z,210nm,0.9s
TIA pmax pmax
comp=Z,1µm,3.7s
TIA LR LR
comp=Z,1µm,27.5s
TIA LR LR
comp=Z,2µm,24.5s
TIA LR LR
comp=Z,6µm,26.5s
WIFE Three Sisters- **89.95 37** IAmb IAmb 12 18 00.7
comp=Z,106nm,1.0s
G03D McMinnville, O **90.02 35** IAmb IAmb 12 18 17.7
comp=Z,267nm,1.5s
CN2 Changchun **90.06 323** P **P** **12 17 57.5 -0.3**
CN2 sP pwP 12 18 12.0 +0.3
CN2 SKS **SKSac** **12 28 24.5 -1.2**
CN2 pmax pmax
comp=Z,180nm,0.9s
CN2 LR LR
comp=Z,2µm,24.0s
CN2 LR LR
comp=Z,2µm,24.0s
CN2 LR LR
comp=Z,2µm,21.0s
Q17K Contact Creek **90.07 11** P **P** **12 17 57.9 +0.3**
baz=199
ACHA Angle Creek He **90.12 12** IAmb IAmb 12 18 03.4
comp=Z,286nm,1.7s
GO03 Copiapo **90.13 122** IAMs_20 IAMs_20 12 48 58.3
comp=Z,6µm,22.0s
GRNR Gornyy **90.18 333** ⇑*i*P **P** **12 17 59.1 +0.9**
GRNR pmax pmax
comp=Z,90nm,1.0s
H04A Detroit Lake **90.20 36** IAmb IAmb 12 18 02.5
comp=Z,85nm,0.8s
O14K Tigyukauivet M **90.22 8** P **P** **12 17 58.9 +0.8**
baz=194,SNR=15
O14K S **S** **12 28 48.0 -1.0**
baz=194
PINE Pine Mountain **90.22 37** IAmb IAmb 12 18 19.7
comp=Z,196nm,1.1s
KDAK Kodiak Island **90.23 13** P **P** **12 17 58.8 +0.6**
KDAK Kodiak Island **90.23 13** IAMs_20 IAMs_20 12 53 47.9
comp=Z,7µm,20.0s
KDAK Kodiak Island **90.23 13** *c i*P **P** **12 17 59.1 +0.9**
KDAK pmax pmax
comp=Z,587nm,1.6s
KDAK MLR MLR
comp=Z,4µm,18.0s
KDAK Kodiak Island **90.23 13** ⇑P **P** **12 17 58.9 +0.7**
KDAK Kodiak Island **90.23 13** P **P** **12 17 59.2 +1.0**
baz=202
KDAK S **S** **12 28 48.4 -0.7**
baz=202
AGUA GUANDACOL **90.31 125** *e*P **P** **12 18 01.3 +1.6**
O15K Ungalikthiuk R **90.34 9** IAmb IAmb 12 18 47.3
comp=Z,156nm,1.1s
O15K IAMs_20 IAMs_20 12 53 50.7
comp=Z,6µm,21.0s
O15K Ungalikthiuk R **90.34 9** P **P** **12 17 59.1 +0.4**
baz=196,SNR=8.3
O15K S **S** **12 28 50.6 +0.5**
baz=196
Q16K King Salmon **90.34 11** P **P** **12 17 59.3 +0.7**
baz=198,SNR=51
Q16K S **S** **12 28 51.4 +1.4**
baz=198
AVFE Valle Fertil **90.36 126** *e*P **P** **12 18 00.9 +1.0**
F03A Seaside **90.39 35** IAmb IAmb 12 18 20.3
comp=Z,151nm,0.9s
I05D Terrebonne, OR **90.39 37** IAmb IAmb 12 18 20.6
comp=Z,152nm,1.1s
BNX BinXian **90.42 325** ⇑P **P** **12 17 58.8 -0.6**
BNX pP **pP** **12 18 08.8 -1.2**
BNX sP **pwP** **12 18 12.0 -1.3**
BNX PP **PP** **12 21 35.8 +1.2**
BNX S **S** **12 28 48.5 -3.0**
BNX pmax pmax
comp=Z,120nm,0.9s
BNX pmax pmax
comp=Z,630nm,5.7s
BNX LR LR
comp=Z,2µm,21.1s
BNX LR LR
comp=Z,4µm,19.6s
BNX LR LR
comp=Z,5µm,19.5s
P16K Nushagak River **90.47 10** IAMs_20 IAMs_20 12 53 32.0
comp=Z,6µm,21.0s
P16K Nushagak River **90.47 10** P **P** **12 17 59.3 +0.1**
baz=197,SNR=5.4
P16K S **S** **12 28 53.6 +2.5**
baz=197
KNB Kanab **90.49 47** IAmb IAmb 12 18 26.9
comp=Z,137nm,1.2s
WUAZ Wupatki **90.49 48** IAmb IAmb 12 18 04.2
comp=Z,135nm,1.1s
WUAZ Wupatki **90.49 48** ⇑P **P** **12 18 02.1 +1.9**
NKL Nikolayevsk **90.52 337** *e*P **P** **12 17 57.8 -1.9**
NKL *e*S **S** **12 28 53.5 +1.5**
NKL pmax pmax
comp=N,60nm,1.1s
NKL pmax pmax
comp=E,147nm,1.1s
NKL pmax pmax
comp=Z,817nm,1.1s
NKL smax smax
comp=E,628nm,5.6s
NKL smax smax
comp=N,443nm,3.2s
NKL MLR MLR
comp=E,12µm,16.0s
NKL MLR MLR
comp=N,3µm,20.0s
NKL MLR MLR
comp=Z,16µm,18.0s
WVOR Wild Horse Val **90.54 40** IAmb IAmb 12 18 20.1
comp=Z,177nm,1.4s
WVOR Wild Horse Val **90.54 40** ⇑P **P** **12 18 01.2 +1.0**
Q18K Katmai Hardscr **90.59 12** P **P** **12 18 00.4 +0.4**
baz=200,SNR=146
Q18K S **S** **12 28 51.3 -1.4**
baz=200
AC01 Pan de Azucar **90.67 121** IAMs_20 IAMs_20 12 52 01.8
comp=Z,5µm,19.0s
SZCU Shurtz Canyon **90.68 46** IAmb IAmb 12 18 21.8
comp=Z,127nm,1.5s
SPR3 Spring Creek 3 **90.80 44** IAmb IAmb 12 18 21.3
comp=Z,154nm,1.6s
M11K Mekoryuk **90.80 6** IAMs_20 IAMs_20 12 55 34.9
comp=Z,5µm,20.0s
M11K Mekoryuk **90.80 6** P **P** **12 18 02.5 +1.8**
baz=190,SNR=5.2
N14K Kuskokwak Cree **90.82 8** P **P** **12 18 02.2 +1.4**
baz=194,SNR=27
N14K S **S** **12 28 57.8 +3.4**
baz=194
X18A Snowflake **90.83 50** IAmb IAmb 12 18 05.3
comp=Z,126nm,1.2s
X18A IAMs_20 IAMs_20 12 54 39.4
comp=Z,4µm,18.0s
P17K Kvichak River **90.87 11** P **P** **12 18 01.4 +0.3**
baz=198,SNR=87
P17K S **S** **12 28 57.2 +2.3**
baz=198
HOOD Mount Hood Mea **90.91 36** IAmb IAmb 12 18 21.4
comp=Z,56nm,0.9s
SLVN Son La **90.92 294** IAmb IAmb 12 18 07.7
comp=Z,76nm,1.0s
SLVN Son La **90.92 294** P **P** **12 18 03.1 +0.7**
VCA Vinchina **90.94 124** *e*P **P** **12 18 04.2 +1.5**
O16K Kokwok River B **90.99 10** IAmb IAmb 12 18 06.7
comp=Z,87nm,0.8s
O16K IAMs_20 IAMs_20 12 53 47.9
comp=Z,6µm,22.0s
O16K Kokwok River B **90.99 10** P **P** **12 18 01.3 -0.4**
baz=197,SNR=19
O16K S **S** **12 28 56.5 +0.5**
baz=197
Q20K Shuyak Island **91.04 13** P **P** **12 18 02.8 +0.8**
baz=202,SNR=34
Q20K S **S** **12 28 58.8 +2.3**
baz=202
SYI Shuyak Island **91.04 13** IAMs_20 IAMs_20 12 54 06.3
comp=Z,5µm,20.0s
Q19K Cape Douglas, **91.10 12** P **P** **12 18 02.7 +0.4**
baz=201,SNR=52
Q19K S **S** **12 28 58.0 +0.9**
baz=201
M13K Dall Lake **91.11 7** P **P** **12 18 03.7 +1.5**
baz=192
121A Cookes Peak, D **91.12 53** IAmb IAmb 12 18 24.1
comp=Z,148nm,1.4s
121A IAMs_20 IAMs_20 12 49 06.1
comp=Z,5µm,22.0s
APLL PUNTA DE LOS L **91.16 126** *e*P **P** **12 18 04.7 +1.1**
J08A Circle Bar Ran **91.25 39** IAmb IAmb 12 18 25.6
comp=Z,103nm,1.1s
P18K Big Mountain, **91.26 11** IAMs_20 IAMs_20 12 54 48.9
comp=Z,6µm,21.0s
P18K Big Mountain, **91.26 11** P **P** **12 18 03.1 +0.1**
baz=199,SNR=48
P18K S **S** **12 28 59.6 +1.0**
baz=199
N15K Kwethluk River **91.26 9** IAMs_20 IAMs_20 12 54 31.1
comp=Z,7µm,21.0s
N15K Kwethluk River **91.26 9** P **P** **12 18 04.5 +1.5**
baz=195,SNR=57
N15K S **S** **12 29 00.7 +2.1**
baz=195
NLWA Neilton Lookou **91.28 33** IAmb IAmb 12 18 06.4
comp=Z,62nm,1.1s
NLWA IAMs_20 IAMs_20 12 50 13.1
comp=Z,7µm,22.0s
NLWA Neilton Lookou **91.28 33** ⇑P **P** **12 18 05.1 +1.7**
O17K Koliganek Bris **91.31 10** P **P** **12 18 03.1 -0.1**
baz=198,SNR=20
O17K S **S** **12 28 59.2 +0.3**
baz=198
W18A Petrified Fore **91.33 50** IAmb IAmb 12 18 08.0
comp=Z,118nm,1.2s
ELK Elko **91.37 42** S **SKSac** **12 28 31.1 -2.8**
comp=Z,0.2nm,0.3s,baz=140,slow=16,SNR=1.4
ELK LR LR 12 56 01.0
comp=Z,11µm,18.0s,baz=258,slow=34
ELK Elko **91.37 42** ⇑P **P** **12 18 05.2 +0.9**
AC02 Maricunga **91.37 122** IAmb IAmb 12 18 26.7
comp=Z,87nm,1.2s
AC02 Maricunga **91.37 122** *e*P **P** **12 18 06.3 +1.2**
G06A Carlson Farm, **91.37 36** IAmb IAmb 12 18 24.4
comp=Z,116nm,1.1s
ACLC CERRO LA CRUZ **91.44 125** *e*P **P** **12 18 05.9 +0.9**
GYA Guiyang **91.54 300** ⇑P **P** **12 18 05.5 +0.2**
GYA SKS **SKSac** **12 28 34.0 -1.4**
GYA S **S** **12 28 57.8 -5.0**
GYA pmax pmax
comp=Z,81nm,0.8s
GYA LR LR
comp=Z,3µm,29.2s
EPT El Paso **91.57 54** IAmb IAmb 12 18 25.6
comp=Z,140nm,1.4s
EPT IAMs_20 IAMs_20 12 58 17.1
comp=Z,4µm,18.0s
ENH Enshi **91.58 304** **P** **12 18 05.4 +0.1**
ENH Enshi **91.58 304** P **P** **12 18 05.2 -0.1**
M14K Bethel **91.59 8** P **P** **12 18 05.3 +0.8**
baz=194,SNR=14
M14K S **S** **12 29 03.7 +2.3**
baz=194
PB14 IPOC Station P **91.67 120** P P 12 18 13.0 +6.6
PB14 IPOC Station P **91.67 120** IAMs_20 IAMs_20 12 48 58.3
comp=Z,6µm,22.0s
M15K Kasigluk River **91.69 8** P **P** **12 18 06.0 +1.1**
baz=195,SNR=51
M15K S **S** **12 29 04.8 +2.5**
baz=195
O18K Koktuh Hills **91.70 11** IAMs_20 IAMs_20 12 54 51.6
comp=Z,5µm,21.0s
O18K Koktuh Hills **91.70 11** P **P** **12 18 05.3 +0.3**
baz=199,SNR=170
O18K S **S** **12 29 03.8 +1.3**
baz=199
N16K Nishlik Lake **91.74 9** P **P** **12 18 06.6 +1.4**
baz=196,SNR=61
N16K S **S** **12 29 04.7 +1.8**
baz=196
HG4B Hotspring **91.77 27** IAmb IAmb 12 18 08.6
comp=Z,79nm,0.9s
AANI Anillaco **91.81 125** *e*P **P** **12 18 06.8 +0.1**
P19K Oil Pt **91.85 12** IAMs_20 IAMs_20 12 54 44.8
comp=Z,8µm,21.0s
P19K Oil Pt **91.85 12** P **P** **12 18 06.2 +0.4**
baz=201,SNR=30
P19K S **S** **12 29 05.5 +1.6**
baz=201
LYN LuoYang **91.96 309** ⇑*i*P **P** **12 18 07.5 +0.6**
LYN pP pP 12 18 18.3 +0.9
LYN sP pwP 12 18 20.5 -0.3
LYN PP **PP** **12 21 47.0 -0.1**
LYN S **S** **12 29 03.3 -2.7**
LYN sS pS 12 29 21.0 +1.2
LYN SS **SS** **12 35 16.5 +0.6**
LYN pmax pmax
comp=Z,240nm,0.7s
LYN pmax pmax
comp=Z,1µm,5.8s
LYN LR LR
comp=Z,4µm,22.0s
LYN LR LR
comp=Z,2µm,23.4s
LYN LR LR
comp=Z,6µm,22.0s
GO02 Mina Guanaco **91.98 121** IAmb IAmb 12 18 28.7
comp=Z,97nm,1.2s
GO02 IAMs_20 IAMs_20 12 52 51.4
comp=Z,5µm,20.0s
GO02 Mina Guanaco **91.98 121** *e*P **P** **12 18 09.0 +1.2**
GO02 Mina Guanaco **91.98 121** ⇓P **P** **12 18 09.4 +1.7**
DIB Dawson Inlet, **92.00 25** IAmb IAmb 12 18 28.7
comp=Z,127nm,1.3s
H02S2 DAWSON INLET T **92.00 25** P **P** **12 18 07.4 +0.9**
SNR=8.8
N17K Nushagak Hills **92.02 10** P **P** **12 18 06.8 +0.3**
baz=198,SNR=10
L14K Kuka Creek **92.09 7** P **P** **12 18 07.6 +0.9**
baz=193,SNR=27
L14K S **S** **12 29 09.8 +4.0**
baz=193
CNPM China Poot **92.12 13** IAMs_20 IAMs_20 12 55 08.7
comp=Z,6µm,20.0s
HOM Homer **92.16 13** IAMs_20 IAMs_20 12 55 01.8
comp=Z,7µm,20.0s
HOM Homer **92.16 13** P **P** **12 18 08.2 +1.1**
baz=202,SNR=14
O19K Port Alsworth **92.17 12** IAMs_20 IAMs_20 12 55 06.1
comp=Z,6µm,21.0s
O19K Port Alsworth **92.17 12** P **P** **12 18 07.2 0.0**
baz=200,SNR=95
O19K S **S** **12 29 06.3 -0.3**
baz=200
HNS HongShan **92.18 313** ⇑P **P** **12 18 08.5 +0.7**
HNS SS SS 12 35 22.3 +3.4
HNS pmax pmax
comp=Z,89nm,1.0s
HNS pmax pmax
comp=Z,1µm,6.4s
HNS LR LR
comp=Z,1µm,18.4s
HNS LR LR
comp=Z,2µm,18.6s
HNS LR LR
comp=Z,4µm,18.8s
PB10 IPOC Station P **92.18 119** IAmb IAmb 12 18 28.8
comp=Z,69nm,1.3s
F07A Phinny Hill Vi **92.19 36** IAmb IAmb 12 18 11.8
comp=Z,227nm,1.9s
TX31 Lajitas Ar. Si **92.23 57** IAmb IAmb 12 18 28.7
comp=Z,82nm,1.2s
TXAR Lajitas Array **92.23 57** P **P** **12 18 09.6 +1.2**
comp=Z,28nm,1.1s,baz=212,slow=5.9,SNR=109
TXAR PKKPbc **PKKPbc** **12 35 24.3 +0.7**
comp=Z,1.2nm,0.6s,baz=45,slow=6.3,SNR=6.6
TXAR PKPPKP **P'P'df** **12 43 31.9 -0.6**
comp=Z,0.7nm,0.9s,baz=16,slow=5.0,SNR=4.5
TXAR LR LR 12 50 33.4
comp=Z,3µm,21.6s,baz=232,slow=30
comp=Z,28nm,1.1s
M16K Timber Creek **92.24 9** IAMs_20 IAMs_20 12 54 49.9
comp=Z,6µm,20.0s
M16K Timber Creek **92.24 9** P **P** **12 18 08.9 +1.5**
baz=196,SNR=39
M16K S **S** **12 29 10.5 +3.2**
baz=196
G08A Pilot Rock **92.28 37** IAmb IAmb 12 18 11.2
comp=Z,96nm,1.0s
MNTX Cornudas Mount **92.32 54** ⇑P **P** **12 18 09.6 +1.0**
N18K Kilae Creek **92.37 11** IAmb IAmb 12 18 12.3
comp=Z,74nm,0.9s
N18K Kilae Creek **92.37 11** P **P** **12 18 08.2 +0.1**
baz=199,SNR=22

N18K S **S** **12 29 11.0 +2.5**
baz=199
O20K **Slope Mountain** **92.37 12** P **P** **12 18 08.1 -0.1**
baz=202,SNR=15
O20K S **S** **12 29 08.8 +0.2**
baz=202
PGC **Sidney** **92.37 33** IAmb IAmb 12 18 12.6
comp=Z,150nm,1.8s
BRLK **Bradley Lake** **92.41 13** IAMs_20 IAMs_20 12 55 17.0
comp=Z,5μm,20.0s
BRSE **Bradley Lake S** **92.42 13** P **P** **12 18 09.1 +0.7**
baz=203,SNR=74
BRSE S **S** **12 29 10.6 +1.6**
baz=203
MXC **Moxie City** **92.47 36** IAmb IAmb 12 18 28.8
comp=Z,159nm,1.7s
K13K **Kusilvak Mount** **92.47 6** IAmb IAmb 12 18 11.4
comp=Z,144nm,1.1s
K13K **Kusilvak Mount** **92.47 6** P **P** **12 18 09.7 +1.2**
baz=191,SNR=10
K13K S **S** **12 29 12.5 +3.2**
baz=191
Y22A **Socorro** **92.49 52** IAmb IAmb 12 18 13.1
comp=Z,56nm,1.0s
Y22A IAMs_20 IAMs_20 12 49 59.4
comp=Z,5μm,22.0s
CBB **Campbell River** **92.50 31** IAmb IAmb 12 18 11.8
comp=Z,142nm,1.8s
L15K **Ungalak Mounta** **92.55 8** P **P** **12 18 09.4 +0.5**
baz=194,SNR=55
L15K S **S** **12 29 12.2 +2.2**
baz=194
Y22D **IRIS PASSCAL I** **92.60 52** P **P** **12 18 11.5 +1.5**
baz=235
CMIG **Matias Romero** **92.62 72** LR LR 12 49 43.0
comp=Z,3μm,21.4s,baz=244,slow=29
E07A **Sunnyside** **92.67 36** IAmb IAmb 12 18 12.5
comp=Z,73nm,1.1s
Q16A **Castle Valley** **92.68 46** IAmb IAmb 12 18 30.9
comp=Z,113nm,1.8s
N19K **Bonanza Creek** **92.72 11** IAMs_20 IAMs_20 12 55 44.8
comp=Z,6μm,21.0s
N19K **Bonanza Creek** **92.72 11** P **P** **12 18 09.5 -0.3**
baz=200,SNR=34
N19K S **S** **12 29 11.7 -0.1**
baz=200
HAWA **Hanford** **92.72 36** IAmb IAmb 12 18 16.4
comp=Z,244nm,1.9s
HAWA **Hanford** **92.72 36** ⇑P **P** **12 18 11.2 +1.1**
LTY **Liberty** **92.74 35** IAmb IAmb 12 18 15.3
comp=Z,161nm,1.9s
MFID **Camas Ranch** **92.74 40** IAmb IAmb 12 18 13.2
comp=Z,59nm,0.9s
MFID IAMs_20 IAMs_20 12 56 44.4
comp=Z,7μm,19.0s
M17K **Holitna River** **92.82 10** IAMs_20 IAMs_20 12 55 07.2
comp=Z,6μm,21.0s
M17K **Holitna River** **92.82 10** P **P** **12 18 11.5 +1.4**
baz=198,SNR=50
M17K S **S** **12 29 16.3 +3.8**
baz=198
ALPN **Alpine** **92.83 56** IAmb IAmb 12 18 32.7
comp=Z,81nm,1.1s
CYA **Choya** **92.83 125** *e*P **P** **12 18 11.8 +0.5**
CYA *e*P **PcP** **12 18 12.2 +0.3**
L16K **Owhat River** **92.83 9** IAMs_20 IAMs_20 12 55 18.6
comp=Z,5μm,21.0s
L16K **Owhat River** **92.83 9** P **P** **12 18 11.2 +1.1**
baz=196,SNR=38
L16K S **S** **12 29 15.4 +2.9**
baz=196
BJT **Baijiatuau** **92.86 315** **P** **12 18 10.9 0.0**
BJT IAmb IAmb 12 18 16.4
comp=Z,55nm,0.9s
BJT **Baijiatuau** **92.86 315** P **P** **12 18 10.9 0.0**
BJT **Baijiatuau** **92.86 315** P **P** **12 18 10.9 0.0**
BJT pmax pmax
comp=Z,55nm,0.9s
BMO **Blue Mountains** **92.87 38** IAmb IAmb 12 18 30.4
comp=Z,111nm,1.6s
BMO IAMs_20 IAMs_20 12 52 22.3
comp=Z,6μm,21.0s
BMO **Blue Mountains** **92.87 38** ⇑P **P** **12 18 10.7 -0.3**
BJI **Beijing** **92.87 315** P **P** **12 18 11.0 +0.1**
BJI PP **PP** **12 21 55.3 +1.3**
BJI SKS **SKSac** **12 28 40.5 -1.3**
BJI pmax pmax
comp=Z,24nm,0.9s
BJI pmax pmax
comp=Z,500nm,4.7s
BJI LR LR
comp=Z,1μm,20.9s
BJI LR LR
comp=Z,1μm,21.4s
BJI LR LR
comp=Z,4μm,22.9s
TMUT **Trail Mountain** **92.89 46** IAmb IAmb 12 18 14.9
comp=Z,42nm,0.7s
BBB **Bella Bella** **92.92 28** LR LR 12 51 50.0
comp=Z,3μm,21.4s,baz=235,slow=30
WAH2 **Wahluke Slope** **92.95 36** P **P** **12 18 11.8 +0.7**
SEW **Seward** **93.01 14** IAmb IAmb 12 18 13.2
comp=Z,156nm,1.2s
SEW IAMs_20 IAMs_20 12 55 20.4
comp=Z,7μm,21.0s
SEW **Seward** **93.01 14** P **P** **12 18 11.2 +0.2**
baz=204,SNR=20
SEW S **S** **12 29 15.9 +1.8**
baz=204
E08A **Dider Farm, El** **93.03 36** IAmb IAmb 12 18 15.6
comp=Z,177nm,2.0s
MPU **Maple Canyon** **93.06 45** IAmb IAmb 12 18 32.1
comp=Z,88nm,1.7s
M18K **Stony River** **93.15 10** P **P** **12 18 12.4 +0.7**
baz=199,SNR=34
M18K S **S** **12 29 18.1 +2.8**
baz=199
K15K **Wolf Creek Mou** **93.15 8** IAMs_20 IAMs_20 13 04 17.9
comp=Z,4μm,19.0s
K15K **Wolf Creek Mou** **93.15 8** P **P** **12 18 12.6 +1.0**
baz=194,SNR=45
MA2 **Magadan** **93.16 345** P **P** **12 18 10.8 -1.0**
MA2 IAmb IAmb 12 18 15.7
comp=Z,70nm,0.8s
MA2 IAMs_20 IAMs_20 12 54 47.2
comp=Z,8μm,22.0s
MA2 **Magadan** **93.16 345** LR LR 12 54 47.4
comp=Z,8μm,21.8s,baz=162,slow=32
MA2 **Magadan** **93.16 345** P **P** **12 18 10.9 -0.9**
MA2 **Magadan** **93.16 345** *de*P **P** **12 18 10.5 -1.3**
MA2 pmax pmax
comp=Z,65nm,0.7s
MA2 MLR MLR
comp=Z,3μm,18.0s
MA2 **Magadan** **93.16 345** ⇑P **P** **12 18 10.9 -0.9**
SRU **San Rafael Swe** **93.20 46** IAmb IAmb 12 18 32.6
comp=Z,160nm,1.6s
CAPN **Captain Cook N** **93.28 13** P **P** **12 18 13.5 +1.2**
baz=203
P17A **Butcher Ranch,** **93.28 46** IAmb IAmb 12 18 33.2
comp=Z,86nm,1.4s
O22K **Cooper Landing** **93.30 14** IAMs_20 IAMs_20 12 55 41.0
comp=Z,5μm,21.0s
O22K **Cooper Landing** **93.30 14** P **P** **12 18 12.8 +0.4**
baz=204,SNR=27
O22K S **S** **12 29 18.1 +1.5**
baz=204
P23K **Montague Islan** **93.35 15** IAMs_20 IAMs_20 12 55 24.9
comp=Z,7μm,20.0s
P23K **Montague Islan** **93.35 15** P **P** **12 18 13.2 +0.6**
baz=206
MVCO **Mesa Verde** **93.36 48** IAMs_20 IAMs_20 12 50 42.2
comp=Z,5μm,22.0s
MVCO **Mesa Verde** **93.36 48** ⇑P **P** **12 18 14.6 +1.0**
J14K **Nanvaranak Lak** **93.38 7** P **P** **12 18 13.3 +0.6**
baz=192
PB06 **IPOC Station P** **93.38 119** IAmb IAmb 12 18 34.6
comp=Z,85nm,1.1s
PB06 IAMs_20 IAMs_20 12 50 03.6
comp=Z,5μm,22.0s
NNA **Nana** **93.39 106** P **P** **12 18 14.2 +0.1**
NNA **Nana** **93.39 106** LR LR 12 50 31.6
comp=Z,4μm,21.4s,baz=242,slow=29
NNA **Nana** **93.39 106** *c i*P **P** **12 18 15.4 +1.3**
NNA pmax pmax
comp=Z,64nm,1.0s
NNA MLR MLR
comp=Z,4μm,17.0s
L17K **Donlin** **93.40 9** P **P** **12 18 13.9 +1.1**
baz=197,SNR=40
L17K S **S** **12 29 20.8 +3.3**
baz=197
ANMO **Albuquerque** **93.41 51** P **P** **12 18 14.1 +0.3**
ANMO **Albuquerque** **93.41 51** IAMs_20 IAMs_20 12 56 26.7
comp=Z,5μm,18.0s
ANMO **Albuquerque** **93.41 51** LR LR 12 56 38.3
comp=Z,5μm,18.1s,baz=340,slow=33
ANMO **Albuquerque** **93.41 51** *ce*P **P** **12 18 15.0 +1.2**
ANMO pmax pmax
comp=Z,45nm,1.2s
ANMO **Albuquerque** **93.41 51** ⇑P **P** **12 18 15.0 +1.2**
CM31 **Chiang Mai Arr** **93.43 289** P **P** **12 18 14.6 +0.6**
CM31 IAmb IAmb 12 18 19.1
comp=Z,48nm,0.8s
CM31 **Chiang Mai Arr** **93.43 289** P **P** **12 18 14.8 +0.8**
SNR=28
CM31 P **P** **12 18 14.8 +0.8**
SNR=28
CMAR **Chiang Mai Arr** **93.43 289** P **P** **12 18 14.5 +0.5**
CMAR **Chiang Mai Arr** **93.43 289** P **P** **12 18 14.7 +0.6**
comp=Z,32nm,0.7s,baz=144,slow=3.5,SNR=83
CMAR PP **PP** **12 21 54.4 -4.4**
comp=Z,12nm,1.1s,baz=137,slow=6.0,SNR=5.0
CMAR S **SKSac** **12 28 44.8 -1.2**
comp=Z,0.7nm,0.3s,baz=50,slow=36,SNR=1.5
CMAR PKKP **PKKPdf** **12 35 19.0 0.0**
comp=Z,4.3nm,0.6s,baz=291,slow=4.5,SNR=14
CMAR PKPPKP **P'P'df** **12 43 28.6 -3.0**
comp=Z,0.4nm,0.4s,baz=290,slow=2.5,SNR=6.3
CMAR LR LR 13 04 23.7
comp=Z,971nm,18.5s,baz=125,slow=38
comp=Z,32nm,0.7s
D08A **Wollman Farm,** **93.48 36** IAmb IAmb 12 18 18.8
comp=Z,45nm,0.7s
N20K **Mount Spurr** **93.48 12** P **P** **12 18 12.9 -0.4**
baz=202
SPCR **Spurr Chakacha** **93.48 12** P **P** **12 18 12.9 -0.5**
baz=202,SNR=35
SPCR S **S** **12 29 17.7 -0.8**
baz=202
PV05 **Paradox Valley** **93.49 47** IAMs_20 IAMs_20 12 51 36.8
comp=Z,6μm,22.0s
SPU **Mount Spurr** **93.50 12** IAmb IAmb 12 18 17.6
comp=Z,90nm,1.1s
E09A **Wood Farm, Sta** **93.52 37** IAmb IAmb 12 18 35.5
comp=Z,80nm,1.2s
CRAG **Craig** **93.56 24** P **P** **12 18 15.2 +1.6**
baz=218
CHTO **Chiang Mai** **93.61 290** P **P** **12 18 14.7 -0.1**
CHTO IAmb IAmb 12 18 19.7
comp=Z,158nm,1.6s
CHTO **Chiang Mai** **93.61 290** P **P** **12 18 15.7 +0.9**
CHTO **Chiang Mai** **93.61 290** P **P** **12 18 15.3 +0.4**
CHTO **Chiang Mai** **93.61 290** P **P** **12 18 14.7 -0.1**
CHTO pmax pmax
comp=Z,158nm,1.6s
CHTO MLR MLR
comp=Z,3μm,21.0s
CHTO **Chiang Mai** **93.61 290** ⇑P **P** **12 18 15.3 +0.4**
CHTO **Chiang Mai** **93.61 290** P **P** **12 18 15.1 +0.3**
CHTO S **S** **12 29 21.4 +0.1**
HEH **HeiHe** **93.62 328** *e*P **P** **12 18 13.5 -0.6**
HEH SKS **SKSac** **12 28 40.3 -5.2**
HEH S **ScS** **12 29 20.8 -0.6**
HEH pmax pmax
comp=Z,31nm,1.0s
HEH pmax pmax
comp=Z,790nm,11.2s
HEH LR LR
comp=Z,2μm,21.0s
HEH LR LR
comp=Z,3μm,21.6s
HEH LR LR
comp=Z,5μm,20.4s
PB03 **IPOC Station P** **93.62 118** IAmb IAmb 12 18 35.8
comp=Z,133nm,1.2s
HLID **Hailey** **93.63 41** IAMs_20 IAMs_20 13 00 21.9
comp=Z,7μm,18.0s
HLID **Hailey** **93.63 41** ⇑P **P** **12 18 15.5 +0.9**
PV17 **East Wray Mesa** **93.69 47** IAMs_20 IAMs_20 12 51 16.0
comp=Z,6μm,22.0s
PV19 **Morning Glory** **93.70 47** IAmb IAmb 12 18 17.3
comp=Z,71nm,1.2s
PV10 **Paradox Valley** **93.70 47** IAmb IAmb 12 18 40.5
comp=Z,74nm,1.1s
PV18 **Skein Mesa, Pa** **93.71 47** IAmb IAmb 12 18 37.8
comp=Z,82nm,1.4s
L18K **Granite Mounta** **93.71 10** IAmb IAmb 12 18 17.5
comp=Z,122nm,1.0s
L18K IAMs_20 IAMs_20 12 55 33.8
comp=Z,5μm,21.0s
L18K **Granite Mounta** **93.71 10** P **P** **12 18 15.2 +1.0**
baz=198,SNR=53
L18K S **S** **12 29 22.6 +2.3**
baz=198
PV13 **Radium Mtn., P** **93.71 48** IAMs_20 IAMs_20 12 51 39.4
comp=Z,6μm,21.0s
PLID **Pearl Lake** **93.72 39** IAmb IAmb 12 18 36.1
comp=Z,83nm,1.1s
PV20 **West Nyswonger** **93.73 47** IAmb IAmb 12 18 18.5
comp=Z,108nm,1.4s
PV16 **Nyswonger Mesa** **93.74 47** IAMs_20 IAMs_20 12 51 41.2
comp=Z,6μm,21.0s
PV03 **Paradox Valley** **93.75 47** IAMs_20 IAMs_20 12 51 40.5
comp=Z,6μm,22.0s
PV11 **David Mesa, Pa** **93.76 47** IAMs_20 IAMs_20 12 50 53.7
comp=Z,6μm,22.0s
PV23 **Carpenter Ridg** **93.76 47** IAmb IAmb 12 18 43.3
comp=Z,121nm,1.6s
M19K **Big River Lodg** **93.77 11** IAmb IAmb 12 18 16.4
comp=Z,58nm,0.8s
M19K **Big River Lodg** **93.77 11** P **P** **12 18 14.6 +0.1**
baz=200,SNR=36
PV04 **Paradox Valley** **93.80 47** IAmb IAmb 12 18 35.3
comp=Z,92nm,1.7s
PV04 IAMs_20 IAMs_20 12 51 53.6
comp=Z,6μm,22.0s
PV12 **Saucer Basin,** **93.82 47** IAmb IAmb 12 18 19.9
comp=Z,112nm,1.3s
GAMB **Gambell** **93.82 3** IAMs_20 IAMs_20 12 55 38.8
comp=Z,6μm,20.0s
GAMB **Gambell** **93.82 3** P **P** **12 18 15.9 +1.2**
baz=185,SNR=6.1
KMI **Kunming** **93.82 297** ⇑P **P** **12 18 16.5 +0.5**
KMI PP **PP** **12 22 04.5 +2.4**
KMI SKS **SKSac** **12 28 49.5 +1.2**
KMI SS **SS** **12 35 45.8 +2.5**
KMI pmax pmax
comp=Z,72nm,0.9s
KMI pmax pmax
comp=Z,1.0nm,2.6s
KMI LR LR
comp=Z,2μm,19.7s
KMI LR LR
comp=Z,1μm,20.7s
KMI LR LR
comp=Z,3μm,18.7s
TIY **Taiyuan** **93.82 312** *e*P **P** **12 18 15.8 +0.3**
TIY PP **PP** **12 22 03.3 +1.6**
TIY SKS **SKSac** **12 28 46.3 -1.1**
TIY sS **sS** **12 29 39.8 -0.5**
TIY pmax pmax
comp=Z,560nm,6.3s
TIY LR LR
comp=Z,2μm,23.4s
TIY LR LR
comp=Z,2μm,21.3s
TIY LR LR
comp=Z,3μm,22.7s
STLK **Strandline Lak** **93.83 12** IAmb IAmb 12 18 15.9
comp=Z,54nm,0.9s
RC01 **Rabbit Creek A** **93.85 13** P **P** **12 18 15.4 +0.5**
baz=204,SNR=24
RC01 S **S** **12 29 21.9 +0.4**
baz=204
PV01 **Paradox Valley** **93.86 48** IAMs_20 IAMs_20 12 51 10.3
comp=Z,7μm,22.0s
HIN **Hinchinbrook I** **93.91 15** IAmb IAmb 12 18 17.0
comp=Z,193nm,1.5s
PB02 **IPOC Station P** **93.92 117** IAmb IAmb 12 18 37.2
comp=Z,64nm,1.2s
PB02 IAMs_20 IAMs_20 12 50 34.8
comp=Z,6μm,22.0s
PWL **Port Wells** **93.93 14** IAMs_20 IAMs_20 12 56 06.7
comp=Z,6μm,20.0s
PWL **Port Wells** **93.93 14** P **P** **12 18 15.7 +0.3**
baz=205,SNR=37
PWL S **S** **12 29 22.9 +0.6**
baz=205
L19K **White Mountain** **93.95 11** P **P** **12 18 16.0 +0.6**
baz=200,SNR=62
L19K S **S** **12 29 24.6 +2.1**
baz=200
PV22 **Blue Mesa, Par** **93.95 47** IAMs_20 IAMs_20 12 51 13.8
comp=Z,6μm,22.0s
K17K **Iditarod** **93.96 9** IAmb IAmb 12 18 18.1
comp=Z,147nm,1.2s
K17K IAMs_20 IAMs_20 12 56 04.3
comp=Z,6μm,21.0s
K17K **Iditarod** **93.96 9** P **P** **12 18 16.2 +0.9**
baz=197,SNR=22
M20K **Styx River** **93.96 11** IAmb IAmb 12 18 18.0
comp=Z,65nm,1.1s
M20K IAMs_20 IAMs_20 12 55 21.4
comp=Z,6μm,21.0s
M20K **Styx River** **93.96 11** P **P** **12 18 15.0 -0.5**
baz=201
M20K S **S** **12 29 23.0 +0.4**
baz=201
KAIM **Kayak Island** **93.98 16** IAMs_20 IAMs_20 12 55 27.4
comp=Z,7μm,20.0s
KAIM **Kayak Island** **93.98 16** P **P** **12 18 16.7 +1.2**
baz=208
V35K **Ketchikan** **93.98 24** IAmb IAmb 12 18 18.5
comp=Z,73nm,1.3s
V35K **Ketchikan** **93.98 24** P **P** **12 18 17.0 +1.3**
baz=219
PV07 **Paradox Valley** **93.99 47** IAMs_20 IAMs_20 12 51 48.8
comp=Z,5μm,22.0s
PATCX **Punta Patache** **94.00 117** IAMs_20 IAMs_20 12 50 36.2
comp=Z,7μm,22.0s
SUA **Susitna One** **94.00 13** P **P** **12 18 16.0 +0.2**
baz=203,SNR=23
PV15 **Paradox Valley** **94.04 48** IAMs_20 IAMs_20 12 51 51.0
comp=Z,6μm,22.0s
HWUT **Hardware Ranch** **94.07 44** ⇑P **P** **12 18 17.2 +0.5**
U33K **Whale Pass** **94.07 23** IAmb IAmb 12 18 23.5
comp=Z,136nm,1.4s
U33K **Whale Pass** **94.07 23** P **P** **12 18 17.3 +1.3**
baz=218
FSA **Cafayete** **94.08 123** *e*P **P** **12 18 19.0 +1.7**
XAN **Xi'an** **94.08 307** ⇑P **P** **12 18 17.0 +0.3**
XAN sP sP 12 18 32.3 +0.6
XAN PP **PP** **12 22 01.3 -2.5**
XAN SKS **SKSac** **12 28 48.5 -0.4**
XAN S **ScS** **12 29 26.5 +0.3**
XAN pmax pmax
comp=Z,55nm,0.8s
XAN pmax pmax
comp=Z,1μm,5.6s
XAN LR LR
comp=Z,3μm,24.5s
XAN LR LR
comp=Z,2μm,22.7s
XAN LR LR
comp=Z,4μm,24.1s
SIT **Sitka** **94.10 22** P **P** **12 18 16.9 +0.8**
baz=216
TA01 **Diego Aracena** **94.12 117** IAmb IAmb 12 18 37.9
comp=Z,142nm,1.2s
TA01 IAMs_20 IAMs_20 12 50 39.2
comp=Z,6μm,22.0s
PB09 **IPOC Station P** **94.15 118** IAmb IAmb 12 18 38.9
comp=Z,89nm,1.1s
PB09 IAMs_20 IAMs_20 12 50 12.9
comp=Z,8μm,22.0s
GLI **Glacier Island** **94.21 15** IAMs_20 IAMs_20 12 55 53.2
comp=Z,5μm,20.0s
GLI **Glacier Island** **94.21 15** P **P** **12 18 16.8 +0.2**
baz=206,SNR=13
GLI S **S** **12 29 26.4 +1.7**
baz=206
EYAK **Cordova Ski Ar** **94.22 15** P **P** **12 18 17.1 +0.5**
EYAK **Cordova Ski Ar** **94.22 15** P **P** **12 18 16.9 +0.4**
baz=207,SNR=21
EYAK S **S** **12 29 28.9 +4.2**
baz=207
J16K **Anvik River** **94.22 8** IAMs_20 IAMs_20 13 02 49.2
comp=Z,4μm,19.0s
J16K **Anvik River** **94.22 8** P **P** **12 18 17.4 +0.8**
baz=195,SNR=27
FID **Port Fidalgo** **94.23 15** IAmb IAmb 12 18 18.2
comp=Z,169nm,1.3s
FID IAMs_20 IAMs_20 12 56 00.5
comp=Z,8μm,20.0s
SUCK **Suckling Hills** **94.26 16** IAMs_20 IAMs_20 12 55 56.5
comp=Z,7μm,20.0s
AF01 **San Pedro de A** **94.30 120** IAMs_20 IAMs_20 12 51 04.8
comp=Z,6μm,22.0s
RAGM **Ragged Mountai** **94.32 16** IAmb IAmb 12 18 19.2
comp=Z,99nm,1.2s
SKT **Skwentna** **94.33 12** IAmb IAmb 12 18 22.1
comp=Z,51nm,0.9s
SKT **Skwentna** **94.33 12** P **P** **12 18 15.8 -1.3**
baz=203,SNR=35
SKT S **S** **12 29 25.4 -0.4**
baz=203
HMT **Hamilton** **94.38 16** IAmb IAmb 12 18 23.0
comp=Z,55nm,0.8s
M22K **Willow** **94.39 13** IAMs_20 IAMs_20 12 56 14.8
comp=Z,7μm,20.0s
M22K **Willow** **94.39 13** P **P** **12 18 17.5 +0.2**
baz=204,SNR=38
M22K S **S** **12 29 29.4 +3.3**
baz=204
PB01 **IPOC Station P** **94.39 117** IAmb IAmb 12 18 39.2
comp=Z,67nm,1.2s
PB01 IAMs_20 IAMs_20 12 50 59.2
comp=Z,6μm,21.0s
L20K **Farewell, AK** **94.39 11** P **P** **12 18 17.3 -0.1**
baz=201,SNR=33
KNK **Knik Glacier** **94.41 14** IAmb IAmb 12 18 36.2
comp=Z,180nm,1.4s
KNK IAMs_20 IAMs_20 12 56 24.3
comp=Z,5μm,20.0s
KNK **Knik Glacier** **94.41 14** P **P** **12 18 18.0 +0.5**
baz=205,SNR=23
KNK S **S** **12 29 27.6 +1.2**
baz=205
BGLC **Bering Glacier** **94.42 17** P **P** **12 18 18.7 +1.2**
baz=210
PMR **Palmer** **94.43 13** P **P** **12 18 17.5 0.0**
PMR **Palmer** **94.43 13** P **P** **12 18 17.9 +0.3**
baz=205,SNR=46
PMR S **S** **12 29 29.3 +2.8**
baz=205
CCIG **Comitan** **94.49 74** IAMs_20 IAMs_20 12 50 16.4
comp=Z,6μm,22.0s
HMBC **Humberstone** **94.51 116** IAmb IAmb 12 18 40.1
comp=Z,71nm,1.1s
HMBC IAMs_20 IAMs_20 12 50 49.7
comp=Z,5μm,22.0s
J17K **VABM Dome** **94.51 8** P **P** **12 18 18.5 +0.6**
baz=196,SNR=23
S31K **Pelican** **94.55 21** IAMs_20 IAMs_20 12 55 08.3
comp=Z,6μm,20.0s
S31K **Pelican** **94.55 21** P **P** **12 18 19.7 +1.5**
baz=215
WRAK **Wrangell Islan** **94.58 23** ⇑P **P** **12 18 19.7 +1.4**
WRAK **Wrangell Islan** **94.58 23** P **P** **12 18 19.8 +1.5**
baz=218,SNR=5.7
WRAK S **S** **12 29 32.7 +4.7**
baz=218
SNH **Sunshine Point** **94.59 17** IAmb IAmb 12 18 20.9
comp=Z,109nm,1.0s
SNH IAMs_20 IAMs_20 12 55 47.5
comp=Z,6μm,20.0s
ATAH **Atahualpa** **94.59 101** LR LR 12 50 28.7
comp=Z,4μm,21.7s,baz=251,slow=29
DIV **Divide** **94.73 15** IAmb IAmb 12 18 20.7
comp=Z,123nm,1.3s
DIV IAMs_20 IAMs_20 12 56 37.2
comp=Z,7μm,20.0s
HBVL **Hebbronville** **94.74 62** IAmb IAmb 12 18 36.3
comp=Z,82nm,1.4s
I17K **Unalakleet** **94.79 8** IAmb IAmb 12 18 21.9
comp=Z,77nm,0.9s
I17K **Unalakleet** **94.79 8** P **P** **12 18 20.1 +1.0**
baz=195,SNR=6.5
SML **Sawmill** **94.79 14** IAmb IAmb 12 18 34.3
comp=Z,65nm,1.0s
SML IAMs_20 IAMs_20 12 56 36.4

	comp=Z,5µm,20.0s							
SML	**Sawmill**	**94.79**	**14**	P	**P**	**12 18 19.5**	**+0.2**	
	baz=205,SNR=11							
SML				S	**S**	**12 29 31.6**	**+1.7**	
	baz=205							
MESA	**MESA**	**94.81**	**17**	IAMs_20	IAMs_20	12 56 04.4		
	comp=Z,6µm,20.0s							
MESA	**MESA**	**94.81**	**17**	P	**P**	**12 18 20.7**	**+1.1**	
	baz=211,SNR=7.1							
MESA				S	**S**	**12 29 34.5**	**+4.1**	
	baz=211							
BMRM	**Bremner River**	**94.85**	**16**	IAmb	IAmb	12 18 21.4		
	comp=Z,89nm,1.0s							
BMRM				IAMs_20	IAMs_20	12 53 00.1		
	comp=Z,7µm,22.0s							
BMRM	**Bremner River**	**94.85**	**16**	P	**P**	**12 18 20.2**	**+0.6**	
	baz=208,SNR=27							
BMRM				S	**S**	**12 29 33.7**	**+3.3**	
	baz=208							
J18K	**Innoko River**	**94.89**	**9**	IAmb	IAmb	12 18 25.0		
	comp=Z,112nm,1.0s							
J18K				IAMs_20	IAMs_20	12 56 31.5		
	comp=Z,7µm,21.0s							
J18K	**Innoko River**	**94.89**	**9**	P	**P**	**12 18 20.2**	**+0.6**	
	baz=198							
M23K	**Glacier View**	**94.90**	**14**	P	**P**	**12 18 19.9**	**+0.2**	
	baz=206,SNR=20							
CUT	**Chulitna**	**94.96**	**13**	P	**P**	**12 18 20.1**	**+0.1**	
	baz=204,SNR=49							
CUT				S	**S**	**12 29 33.0**	**+1.9**	
	baz=204							
PB11	**IPOC Station P**	**94.98**	**116**	IAmb	IAmb	12 18 42.3		
	comp=Z,107nm,1.1s							
ANM	**Nome**	**95.00**	**5**	IAMs_20	IAMs_20	12 58 03.8		
	comp=Z,5µm,20.0s							
CRQM	**Cirque**	**95.02**	**16**	IAmb	IAmb	12 18 22.4		
	comp=Z,101nm,1.3s							
CRQM				IAMs_20	IAMs_20	12 56 32.1		
	comp=Z,7µm,20.0s							
KLU	**Klutina**	**95.02**	**15**	IAMs_20	IAMs_20	12 56 27.9		
	comp=Z,5µm,20.0s							
KLU	**Klutina**	**95.02**	**15**	P	**P**	**12 18 20.9**	**+0.5**	
	baz=207,SNR=20							
KLU				S	**S**	**12 29 34.5**	**+2.6**	
	baz=207							
SCM	**Sheep Creek Mo**	**95.02**	**14**	IAMs_20	IAMs_20	12 56 31.5		
	comp=Z,5µm,21.0s							
SCM	**Sheep Creek Mo**	**95.02**	**14**	P	**P**	**12 18 20.9**	**+0.5**	
	baz=206,SNR=30							
SCM				S	**S**	**12 29 33.9**	**+2.0**	
	baz=206							
YAH	**Yahtse**	**95.02**	**17**	IAmb	IAmb	12 21 23.1		
	comp=Z,118nm,0.9s							
YAH				IAMs_20	IAMs_20	12 56 31.9		
	comp=Z,6µm,20.0s							
CRQE	**Cirque**	**95.02**	**16**	P	**P**	**12 18 21.2**	**+0.7**	
	baz=210,SNR=15							
PNL	**Peninsula**	**95.05**	**18**	P	**P**	**12 18 20.3**	**-0.2**	
PNL	**Peninsula**	**95.05**	**18**	P	**P**	**12 18 21.3**	**+0.8**	
	baz=213,SNR=11							
PNL				S	**S**	**12 29 37.1**	**+5.0**	
	baz=213							
PPLA	**Purkeypile**	**95.07**	**12**	IAmb	IAmb	12 19 49.0		
	comp=Z,108nm,1.6s							
PPLA				IAMs_20	IAMs_20	12 56 58.7		
	comp=Z,8µm,21.0s							
PPLA	**Purkeypile**	**95.07**	**12**	P	**P**	**12 18 18.9**	**-1.8**	
	baz=202,SNR=9.7							
R31K	**City Hall, Gus**	**95.07**	**21**	P	**P**	**12 18 21.2**	**+0.7**	
	baz=216							
ISLE	**Juniper Island**	**95.08**	**17**	IAmb	IAmb	12 18 22.6		
	comp=Z,64nm,1.0s							
ISLE				IAMs_20	IAMs_20	12 56 34.1		
	comp=Z,7µm,20.0s							
TGL	**Tana Glacier**	**95.09**	**16**	IAmb	IAmb	12 18 25.8		
	comp=Z,73nm,1.1s							
TGL				IAMs_20	IAMs_20	12 56 23.8		
	comp=Z,7µm,20.0s							
PB08	**IPOC Station P**	**95.16**	**117**	PP	PP	12 22 20.5	+8.3	
PB08	**IPOC Station P**	**95.16**	**117**	IAMs_20	IAMs_20	12 51 22.6		
	comp=Z,6µm,22.0s							
PCA	**Pinnacle**	**95.18**	**18**	IAmb	IAmb	12 21 34.8		
	comp=Z,54nm,0.9s							
PCA				IAMs_20	IAMs_20	12 56 57.3		
	comp=Z,5µm,20.0s							
PINM	**Pinnacle**	**95.18**	**18**	P	**P**	**12 18 21.8**	**+0.7**	
	baz=212							
PINM				S	**S**	**12 29 37.4**	**+4.0**	
	baz=212							
K20K	**Telida**	**95.19**	**11**	IAmb	IAmb	12 18 23.1		
	comp=Z,92nm,1.1s							
K20K	**Telida**	**95.19**	**11**	P	**P**	**12 18 20.9**	**-0.1**	
	baz=200,SNR=38							
NEW	**Newport**	**95.19**	**36**	LR	LR	12 58 13.0		
	comp=Z,7µm,18.0s,baz=211,slow=34							
BCPM	**Bancas Point**	**95.23**	**18**	IAmb	IAmb	12 18 26.3		
	comp=Z,222nm,1.9s							
BCPM				IAMs_20	IAMs_20	12 57 18.5		
	comp=Z,6µm,20.0s							
TABL	**Table Mountain**	**95.24**	**17**	IAMs_20	IAMs_20	12 53 19.9		
	comp=Z,6µm,22.0s							
SLA	**San Lorenzo**	**95.25**	**122**	*e*P	**P**	**12 18 23.6**	**+1.0**	
XLT	**XiLinHaoTe**	**95.28**	**318**	*e*P	**P**	**12 18 21.3**	**-0.7**	
XLT				pP	pP	12 18 34.3	+1.7	
XLT				sP	sP	12 18 41.0	+4.3	
XLT				PP	**PP**	**12 22 15.5**	**+2.6**	
XLT				S	**S**	**12 29 28.5**	**-6.4**	
XLT				SS	**SS**	**12 36 03.5**	**+0.4**	
XLT				pmax	pmax			
	comp=Z,19nm,0.8s							
XLT				pmax	pmax			
	comp=Z,540nm,6.9s							
XLT				LR	LR			
	comp=Z,4µm,25.5s							
XLT				LR	LR			
	comp=Z,6µm,22.1s							
PZH	**PanZhiHua**	**95.31**	**297**	P	**P**	**12 18 23.5**	**+0.9**	
PZH				PP	**PP**	**12 22 14.5**	**+1.0**	
PZH				SKS	**SKSac**	**12 28 54.0**	**-2.0**	
PZH				pmax	pmax			
	comp=Z,540nm,7.5s							
PZH				LR	LR			
	comp=Z,1µm,22.0s							
PZH				LR	LR			
	comp=Z,2µm,20.0s							
PZH				LR	LR			
	comp=Z,2µm,22.2s							
R32K	**Eaglecrest**	**95.34**	**21**	IAMs_20	IAMs_20	12 55 15.2		
	comp=Z,6µm,20.0s							
VRDI	**Verde Repeater**	**95.35**	**16**	IAmb	IAmb	12 18 27.6		
	comp=Z,64nm,1.0s							
VRDI				IAMs_20	IAMs_20	12 56 52.7		
	comp=Z,5µm,20.0s							
H16K	**Elim**	**95.36**	**7**	P	**P**	**12 18 22.2**	**+0.4**	
	baz=194,SNR=6.3							
JIS	**Juneau Island**	**95.39**	**21**	P	**P**	**12 18 22.5**	**+0.5**	
MSTX	**Muleshoe**	**95.40**	**54**	IAmb	IAmb	12 18 43.8		
	comp=Z,60nm,1.2s							
N25K	**Chitina, Valde**	**95.42**	**15**	IAmb	IAmb	12 18 24.1		
	comp=Z,118nm,1.4s							
N25K				IAMs_20	IAMs_20	12 56 58.0		
	comp=Z,6µm,20.0s							
N25K	**Chitina, Valde**	**95.42**	**15**	P	**P**	**12 18 22.6**	**+0.3**	
	baz=208,SNR=27							
N25K				S	**S**	**12 29 37.5**	**+2.2**	
	baz=208							
GLB	**Gilahina Butte**	**95.45**	**16**	IAMs_20	IAMs_20	12 56 07.4		
	comp=Z,4µm,20.0s							
BESE	**Bessie Mountai**	**95.48**	**21**	IAMs_20	IAMs_20	12 55 46.3		
	comp=Z,5µm,20.0s							
P29M	**Windy Craggy**	**95.48**	**19**	IAmb	IAmb	12 18 30.7		
	comp=Z,161nm,1.7s							
P29M				IAMs_20	IAMs_20	12 57 06.9		
	comp=Z,7µm,20.0s							
P29M	**Windy Craggy**	**95.48**	**19**	P	**P**	**12 18 22.8**	**+0.3**	
	baz=214,SNR=11							
P29M				S	**S**	**12 29 42.5**	**+6.6**	
	baz=214							
M24K	**Tolsona, Glenn**	**95.51**	**14**	IAmb	IAmb	12 18 30.3		
	comp=Z,104nm,1.0s							
M24K	**Tolsona, Glenn**	**95.51**	**14**	P	**P**	**12 18 23.2**	**+0.6**	
	baz=207,SNR=20							
M24K				S	**S**	**12 29 39.5**	**+3.4**	
	baz=207							
G15K	**Niukluk**	**95.53**	**6**	P	**P**	**12 18 23.1**	**+0.5**	
	baz=192,SNR=7.1							
J19K	**Poorman**	**95.55**	**10**	IAmb	IAmb	12 18 24.6		
	comp=Z,59nm,1.1s							
J19K				IAMs_20	IAMs_20	12 56 52.5		
	comp=Z,6µm,21.0s							
J19K	**Poorman**	**95.55**	**10**	P	**P**	**12 18 23.0**	**+0.3**	
	baz=199							
J19K				S	**S**	**12 29 39.1**	**+2.9**	
	baz=199							
TPAW	**Teton Pass**	**95.57**	**42**	IAmb	IAmb	12 18 49.4		
	comp=Z,75nm,1.4s							
KVTX	**Kingsville**	**95.58**	**61**	IAMs_20	IAMs_20	12 58 42.7		
	comp=Z,6µm,18.0s							
MCARA	**McCarthy VSAT**	**95.59**	**16**	IAmb	IAmb	12 18 29.3		
	comp=Z,99nm,1.0s							
MCARA				IAMs_20	IAMs_20	12 57 00.0		
	comp=Z,5µm,21.0s							
MCARA	**McCarthy VSAT**	**95.59**	**16**	P	**P**	**12 18 23.4**	**+0.5**	
	baz=210,SNR=36							
MCARA				S	**S**	**12 29 40.8**	**+4.1**	
	baz=210							
LOGN	**Logan Glacier**	**95.61**	**17**	IAMs_20	IAMs_20	12 53 09.5		
	comp=Z,6µm,22.0s							
WAT6	**Susitna Watana**	**95.61**	**14**	P	**P**	**12 18 23.4**	**+0.2**	
	baz=206,SNR=62							
WAT6				S	**S**	**12 29 43.8**	**+6.6**	
	baz=206							
CTG	**Chitna Glacier**	**95.64**	**17**	P	**P**	**12 18 23.9**	**+0.6**	
	baz=211,SNR=16							
BARN	**Barnard Glacie**	**95.64**	**17**	IAmb	IAmb	12 18 29.1		
	comp=Z,64nm,1.0s							
CTGM	**Chitina Glacie**	**95.64**	**17**	IAMs_20	IAMs_20	12 53 22.4		
	comp=Z,6µm,22.0s							
SNOW	**Snow King Moun**	**95.67**	**42**	IAmb	IAmb	12 18 26.9		
	comp=Z,51nm,0.8s							
WAT1	**Susitna Watana**	**95.67**	**13**	P	**P**	**12 18 23.3**	**0.0**	
	baz=205							
PLBC	**Pleasant Camp**	**95.74**	**20**	P	**P**	**12 18 24.5**	**+0.9**	
	baz=215							
PLBC				S	**S**	**12 29 44.6**	**+6.6**	
	baz=215							
T35M	**Bob Quinn**	**95.75**	**24**	P	**P**	**12 18 25.2**	**+1.5**	
	baz=220							
DLMT	**Dillon**	**95.77**	**40**	IAmb	IAmb	12 18 49.6		
	comp=Z,63nm,1.2s							
O28M	**Mount Upton**	**95.77**	**18**	IAMs_20	IAMs_20	12 52 41.5		
	comp=Z,6µm,22.0s							
O28M	**Mount Upton**	**95.77**	**18**	P	**P**	**12 18 25.0**	**+0.9**	
	baz=212,SNR=16							
O28M				S	**S**	**12 29 43.2**	**+4.3**	
	baz=212							
TNA	**Tin City**	**95.80**	**4**	IAMs_20	IAMs_20	12 57 35.0		
	comp=Z,6µm,21.0s							
TNA	**Tin City**	**95.80**	**4**	P	**P**	**12 18 23.8**	**+0.1**	
	baz=189,SNR=6.9							
O29M	**Mount Kennedy**	**95.81**	**18**	IAMs_20	IAMs_20	12 57 36.5		
	comp=Z,6µm,20.0s							
O29M	**Mount Kennedy**	**95.81**	**18**	P	**P**	**12 18 24.8**	**+0.7**	
	baz=213,SNR=7.7							
O29M				S	**S**	**12 29 44.3**	**+5.4**	
	baz=213							
F14K	**Arctic Creek**	**95.82**	**5**	P	**P**	**12 18 24.4**	**+0.5**	
	baz=190,SNR=7.6							
SEY	**Seymchan**	**95.84**	**347**	LR	LR	12 57 23.7		
	comp=Z,6µm,21.0s,baz=154,slow=33							
SEY	**Seymchan**	**95.84**	**347**	⇑P	**P**	**12 18 23.5**	**-0.5**	
SEY				pmax	pmax			
	comp=Z,86nm,0.8s							
SEY				MLR	MLR			
	comp=Z,1µm,21.0s							
KTH	**Kantishna Hill**	**95.90**	**12**	IAmb	IAmb	12 18 25.9		
	comp=Z,128nm,1.2s							
PB16	**IPOC Station P**	**95.90**	**115**	IAMs_20	IAMs_20	12 51 01.3		
	comp=Z,6µm,22.0s							
H17K	**Granite Mounta**	**95.90**	**8**	IAmb	IAmb	12 18 28.6		
	comp=Z,55nm,1.0s							
H17K	**Granite Mounta**	**95.90**	**8**	P	**P**	**12 18 24.1**	**-0.1**	
	baz=196,SNR=9.2							
TRF	**Thorofare Moun**	**95.91**	**12**	IAmb	IAmb	12 18 34.6		
	comp=Z,122nm,1.0s							
TRF	**Thorofare Moun**	**95.91**	**12**	P	**P**	**12 18 24.2**	**-0.4**	
	baz=204,SNR=59							
TRF				S	**S**	**12 29 39.2**	**-0.6**	
	baz=204							
J20K	**Nowinta River**	**95.94**	**10**	IAmb	IAmb	12 18 30.1		
	comp=Z,68nm,0.9s							
J20K	**Nowinta River**	**95.94**	**10**	P	**P**	**12 18 24.8**	**+0.3**	
	baz=200,SNR=44							
PDAR	**Pinedale Array**	**95.96**	**43**	P	**P**	**12 18 25.6**	**+0.2**	
	comp=Z,6.4nm,0.7s,baz=205,slow=1.8,SNR=54							
PDAR				PP	**PP**	**12 22 18.0**	**-0.4**	
	comp=Z,2.1nm,1.0s,baz=202,slow=3.2,SNR=2.8							
PDAR				PKKPbc	**PKKPbc**	**12 35 12.2**	**-2.3**	
	comp=Z,4.6nm,0.6s,baz=84,slow=4.8,SNR=16							
PDAR				PKPPKP	**P'P'df**	**12 43 23.5**	**-0.7**	
	comp=Z,2.5nm,1.1s,baz=94,slow=4.5,SNR=9.4							
PDAR				LR	LR	12 54 01.9		
	comp=Z,6µm,21.8s,baz=224,slow=31							
	comp=Z,6.4nm,0.7s							
CHUM	**Lake Minchumin**	**95.96**	**11**	P	**P**	**12 18 23.6**	**-0.9**	
	baz=202,SNR=18							
HARP	**HAARP**	**95.99**	**15**	P	**P**	**12 18 25.3**	**+0.6**	
	baz=208,SNR=12							
SKAG	**Skagway**	**96.05**	**20**	P	**P**	**12 18 26.0**	**+1.0**	
SKAG	**Skagway**	**96.05**	**20**	⇓P	P	12 18 29.8	+4.8	
SKAG	**Skagway**	**96.05**	**20**	P	**P**	**12 18 26.6**	**+1.7**	
	baz=216							
SKAG				S	**S**	**12 29 47.6**	**+7.0**	
	baz=216							
CD2	**Chengdu**	**96.07**	**302**	P	**P**	**12 18 26.0**	**+0.1**	
CD2				sP	sP	12 18 41.8	+0.9	
CD2				PP	**PP**	**12 22 18.8**	**-0.5**	
CD2				SKS	**SKSac**	**12 28 58.8**	**-0.9**	
CD2				S	**ScS**	**12 29 43.5**	**+0.5**	
CD2				pmax	pmax			
	comp=Z,60nm,0.8s							
CD2				pmax	pmax			
	comp=Z,540nm,4.6s							
CD2				LR	LR			
	comp=Z,3µm,23.1s							
CD2				LR	LR			
	comp=Z,3µm,22.9s							
CD2				LR	LR			
	comp=Z,3µm,23.3s							
G16K	**Koyuk River**	**96.08**	**6**	IAmb	IAmb	12 18 29.5		
	comp=Z,146nm,1.4s							
G16K	**Koyuk River**	**96.08**	**6**	P	**P**	**12 18 25.3**	**+0.3**	
	baz=193							
GCSA	**Galena City Sc**	**96.09**	**9**	P	**P**	**12 18 25.7**	**+0.7**	
	baz=198,SNR=15							
P30M	**Million Dollar**	**96.11**	**19**	P	**P**	**12 18 26.0**	**+0.7**	
	baz=215							
DHY	**Denali Highway**	**96.13**	**13**	IAmb	IAmb	12 18 30.6		
	comp=Z,71nm,1.1s							
DHY	**Denali Highway**	**96.13**	**13**	P	**P**	**12 18 25.6**	**+0.1**	
	baz=206,SNR=44							
ZEA	**Zeya**	**96.15**	**331**	*e*P	**P**	**12 18 25.4**	**-0.2**	
ZEA				*e*		12 22 19.1		
ZEA				*e*		12 28 59.1		
ZEA				*e*PS	**PS**	**12 30 58.4**	**-7.7**	
ZEA				*e*SS	SS	12 36 14.4	-0.5	
ZEA				pmax	pmax			
	comp=N,10.0nm,1.0s							
ZEA				pmax	pmax			
	comp=Z,30nm,1.1s							
ZEA				pmax	pmax			
	comp=Z,300nm,8.4s							
ZEA				pmax	pmax			
	comp=E,200nm,16.4s							
ZEA				pmax	pmax			
	comp=Z,300nm,18.1s							
ZEA				smax	smax			
	comp=E,400nm,15.2s							
ZEA				smax	smax			
	comp=N,400nm,14.3s							
S34M	**Telegraph Cree**	**96.16**	**23**	IAMs_20	IAMs_20	12 56 10.9		
	comp=Z,4µm,20.0s							
S34M	**Telegraph Cree**	**96.16**	**23**	P	**P**	**12 18 26.6**	**+1.1**	
	baz=219							
HHC	**Hu-ho-hao-te**	**96.18**	**314**	*e*P	**P**	**12 18 27.0**	**+0.7**	
HHC				PP	**PP**	**12 22 25.0**	**+4.9**	
HHC				SKS	**SKSac**	**12 28 58.8**	**-1.2**	
HHC				S	**S**	**12 29 40.3**	**-2.7**	
HHC				sS	pS	12 29 54.0	-3.0	
HHC				SS	**SS**	**12 36 16.8**	**+0.6**	
HHC				pmax	pmax			
	comp=Z,25nm,1.0s							
HHC				pmax	pmax			
	comp=Z,400nm,6.8s							
HHC				LR	LR			
	comp=Z,2µm,20.2s							
HHC				LR	LR			
	comp=Z,2µm,20.0s							
HHC				LR	LR			
	comp=Z,6µm,20.8s							
F15K	**North Star Dit**	**96.18**	**5**	IAmb	IAmb	12 18 27.2		
	comp=Z,133nm,1.5s							
F15K				IAMs_20	IAMs_20	12 59 02.2		
	comp=Z,4µm,21.0s							
F15K	**North Star Dit**	**96.18**	**5**	P	**P**	**12 18 25.9**	**+0.4**	
	baz=191							
YHL	**Hebgen Lake**	**96.25**	**41**	IAmb	IAmb	12 18 47.7		
	comp=Z,92nm,1.3s							
YMR	**Madison River**	**96.27**	**41**	IAmb	IAmb	12 18 47.8		
	comp=Z,76nm,1.3s							
H18K	**Honhosa River**	**96.29**	**8**	IAMs_20	IAMs_20	12 58 12.0		
	comp=Z,6µm,22.0s							
H18K	**Honhosa River**	**96.29**	**8**	P	**P**	**12 18 26.0**	**0.0**	
	baz=197							
735A	**Kenedy**	**96.31**	**60**	IAMs_20	IAMs_20	13 00 04.1		
	comp=Z,5µm,18.0s							
YUK8	**Steele Glacier**	**96.32**	**17**	P	**P**	**12 18 26.9**	**+0.3**	
	baz=212,SNR=15							
YUK8				S	**S**	**12 29 48.5**	**+5.0**	
	baz=212							
PB18	**Visviri**	**96.34**	**114**	IAmb	IAmb	12 21 53.2		
	comp=Z,37nm,0.5s							
G17K	**Kiwalik Mounta**	**96.36**	**7**	P	**P**	**12 18 26.4**	**+0.1**	
	baz=195,SNR=7.9							
BPAW	**Bear Paw Mtn.**	**96.39**	**12**	IAMs_20	IAMs_20	12 58 01.6		
	comp=Z,5µm,21.0s							
BPAW	**Bear Paw Mtn.**	**96.39**	**12**	P	**P**	**12 18 25.1**	**-1.4**	
	baz=203,SNR=15							
YUK6	**Outpost Mounta**	**96.40**	**18**	P	**P**	**12 18 27.2**	**+0.2**	
	baz=214							
MCK	**McKinley**	**96.42**	**13**	IAmb	IAmb	12 18 34.0		
	comp=Z,107nm,1.0s							
MCK	**McKinley**	**96.42**	**13**	P	**P**	**12 18 26.4**	**-0.3**	
	baz=205,SNR=54							
MCK				S	**S**	**12 29 44.3**	**+0.4**	
	baz=205							
PAX	**Paxson**	**96.43**	**14**	IAmb	IAmb	12 18 31.5		
	comp=Z,67nm,1.3s							
PAX				IAMs_20	IAMs_20	12 57 15.8		
	comp=Z,6µm,20.0s							
PAX	**Paxson**	**96.43**	**14**	P	**P**	**12 18 26.7**	**-0.1**	
	baz=208,SNR=30							
PAX				S	**S**	**12 29 49.1**	**+5.0**	
	baz=208							
BOZ	**Bozeman (W)**	**96.45**	**40**	IAMs_20	IAMs_20	12 53 52.5		
	comp=Z,6µm,21.0s							
BOZ	**Bozeman (W)**	**96.45**	**40**	⇑P	**P**	**12 18 28.3**	**+0.9**	
I20K	**Naaghedeneel**	**96.48**	**10**	IAMs_20	IAMs_20	12 57 20.0		
	comp=Z,5µm,21.0s							
I20K	**Naaghedeneel**	**96.48**	**10**	P	**P**	**12 18 27.3**	**+0.5**	
	baz=200,SNR=17							
M26K	**Nabesna, AK**	**96.48**	**16**	IAmb	IAmb	12 18 34.4		
	comp=Z,57nm,0.9s							
M26K				IAMs_20	IAMs_20	12 54 16.2		
	comp=Z,6µm,22.0s							
M26K	**Nabesna, AK**	**96.48**	**16**	P	**P**	**12 18 27.7**	**+0.7**	
	baz=210,SNR=40							
M26K				S	**S**	**12 29 48.0**	**+3.5**	
	baz=210							
HYT	**Haines Junctio**	**96.54**	**19**	P	**P**	**12 18 28.0**	**+0.6**	
	baz=214,SNR=16							
HYT				S	**S**	**12 29 49.2**	**+4.0**	
	baz=214							
Q32M	**Nakina River**	**96.60**	**22**	IAMs_20	IAMs_20	12 56 04.6		
	comp=Z,6µm,20.0s							
Q32M	**Nakina River**	**96.60**	**22**	P	**P**	**12 18 29.0**	**+1.2**	
	baz=218							
Q32M				S	**S**	**12 29 48.5**	**+2.5**	
	baz=218							
HIA	**Hailar**	**96.64**	**324**	IAMs_20	IAMs_20	12 58 39.8		
	comp=Z,6µm,21.0s							
P32M	**Atlin**	**96.64**	**21**	IAMs_20	IAMs_20	12 56 32.6		
	comp=Z,4µm,19.0s							
P32M	**Atlin**	**96.64**	**21**	P	**P**	**12 18 28.4**	**+0.6**	
	baz=217							
P32M				S	**S**	**12 29 48.7**	**+2.7**	
	baz=217							
AMTX	**Amarillo**	**96.65**	**54**	IAMs_20	IAMs_20	12 52 45.6		
	comp=Z,5µm,22.0s							
YUK4	**Talbot Arm**	**96.66**	**18**	P	**P**	**12 18 29.3**	**+1.2**	
	baz=214,SNR=7.1							
YUK4				S	**S**	**12 29 51.5**	**+5.1**	
	baz=214							
ISCO	**Idaho Springs**	**96.70**	**48**	IAMs_20	IAMs_20	12 53 28.5		
	comp=Z,6µm,22.0s							
M27K	**Edge Creek, AK**	**96.71**	**16**	IAMs_20	IAMs_20	12 57 09.2		
	comp=Z,5µm,20.0s							
M27K	**Edge Creek, AK**	**96.71**	**16**	P	**P**	**12 18 29.2**	**+1.1**	
	baz=211,SNR=87							
M27K				S	**S**	**12 29 49.3**	**+2.7**	
	baz=211							
RTBA	**Rita Blanca**	**96.76**	**52**	IAmb	IAmb	12 18 48.1		
	comp=Z,65nm,1.5s							
MENT	**Mentasta**	**96.79**	**15**	IAmb	IAmb	12 18 33.8		
	comp=Z,49nm,1.0s							
MENT	**Mentasta**	**96.79**	**15**	P	**P**	**12 18 28.2**	**-0.1**	
O30N	**Mendenhall**	**96.89**	**19**	IAmb	IAmb	12 18 34.5		
	comp=Z,62nm,1.4s							
O30N				IAMs_20	IAMs_20	12 58 30.1		
	comp=Z,7µm,19.0s							
O30N	**Mendenhall**	**96.89**	**19**	P	**P**	**12 18 29.6**	**+0.7**	
	baz=216,SNR=18							
O30N				S	**S**	**12 29 52.3**	**+4.3**	
	baz=216							
H19K	**Roundabout Mou**	**96.89**	**9**	IAmb	IAmb	12 18 31.2		
	comp=Z,93nm,1.1s							
H19K				IAMs_20	IAMs_20	13 03 00.9		
	comp=Z,4µm,20.0s							
H19K	**Roundabout Mou**	**96.89**	**9**	P	**P**	**12 18 29.3**	**+0.7**	
	baz=198,SNR=29							
H19K				S	**S**	**12 29 49.9**	**+2.2**	
	baz=198							
ABTX	**Abilene, Hawle**	**96.91**	**56**	IAmb	IAmb	12 18 50.4		
	comp=Z,62nm,1.3s							
ABTX				IAMs_20	IAMs_20	13 00 31.6		
	comp=Z,6µm,18.0s							
DLBC	**Dease Lake**	**96.94**	**23**	PKKPbc	PKKPbc	12 35 08.4	-3.8	
	comp=Z,74nm,0.7s,baz=5.6,slow=3.5,SNR=12							
DLBC				LR	LR	12 54 51.2		
	comp=Z,34µm,21.8s,baz=210,slow=31							
DLBC	**Dease Lake**	**96.94**	**23**	S	**S**	**12 29 54.4**	**+5.8**	
	baz=220							
L26K	**Log Cabin Wild**	**96.95**	**15**	IAmb	IAmb	12 18 39.0		
	comp=Z,45nm,1.1s							
L26K				IAMs_20	IAMs_20	12 58 09.9		
	comp=Z,7µm,20.0s							
L26K	**Log Cabin Wild**	**96.95**	**15**	P	**P**	**12 18 29.6**	**+0.6**	
	baz=210,SNR=32							
L26K				S	**S**	**12 29 50.4**	**+2.0**	
	baz=210

TNCH				LR	LR				
	comp=Z,5µm,20.9s								
H20K	**Anotleneega Mo**	**97.08**	**9**	P	Pdif	12 18 30.3	+0.6		
	baz=200,SNR=24								
H20K				S	**S**	**12 29 52.9**	**+3.6**		
	baz=200								
K24K	**Donnelly Dome**	**97.11**	**14**	IAMs_20	IAMs_20	12 57 57.7			
	comp=Z,7µm,20.0s								
K24K	**Donnelly Dome**	**97.11**	**14**	P	Pdif	12 18 30.4	+0.5		
	baz=208,SNR=52								
K24K				S	**S**	**12 29 50.5**	**+0.7**		
	baz=208								
HERN	**Volcan Telica**	**97.15**	**80**	IAMs_20	IAMs_20	12 51 12.2			
	comp=Z,5µm,22.0s								
WHY	**Whitehorse**	**97.15**	**20**	P	Pdif	12 18 30.8	+0.5		
	baz=216								
WHY				S	**S**	**12 29 54.4**	**+4.0**		
	baz=216								
N30M	**Aishikik Lake**	**97.18**	**18**	IAMs_20	IAMs_20	12 58 40.7			
	comp=Z,5µm,20.0s								
N30M	**Aishikik Lake**	**97.18**	**18**	P	Pdif	12 18 30.4	+0.2		
	baz=215,SNR=5.6								
NEA2	**Nenana**	**97.18**	**12**	P	**P**	**12 18 29.3**	**-0.7**		
	baz=205,SNR=34								
F17K	**Baldwin Pennin**	**97.21**	**7**	IAmb	IAmb	12 18 35.3			
	comp=Z,57nm,0.9s								
F17K	**Baldwin Pennin**	**97.21**	**7**	P	Pdif	12 18 30.1	-0.1		
	baz=194								
I21K	**Tanana**	**97.22**	**11**	IAmb	IAmb	12 18 35.8			
	comp=Z,72nm,1.1s								
I21K	**Tanana**	**97.22**	**11**	P	Pdif	12 18 30.1	-0.1		
	baz=202								
RIDG	**Independent Ri**	**97.25**	**14**	IAmb	IAmb	12 18 35.6			
	comp=Z,60nm,1.0s								
RIDG				IAMs_20	IAMs_20	12 57 41.3			
	comp=Z,7µm,20.0s								
RIDG	**Independent Ri**	**97.25**	**14**	P	Pdif	12 18 30.3	-0.2		
	baz=208,SNR=37								
RIDG				S	**S**	**12 29 55.5**	**+4.6**		
	baz=208								
WRH	**Wood River Hil**	**97.25**	**13**	IAmb	IAmb	12 18 35.9			
	comp=Z,122nm,1.2s								
WRH				IAMs_20	IAMs_20	12 58 06.5			
	comp=Z,7µm,21.0s								
MLY	**Manley**	**97.29**	**11**	IAmb	IAmb	12 18 33.0			
	comp=Z,68nm,1.2s								
MLY				IAMs_20	IAMs_20	13 02 34.4			
	comp=Z,4µm,19.0s								
MLY	**Manley**	**97.29**	**11**	P	**P**	**12 18 29.9**	**-0.6**		
	baz=203,SNR=40								
L27K	**Beaver Creek,**	**97.33**	**16**	IAMs_20	IAMs_20	13 02 45.5			
	comp=Z,4µm,19.0s								
L27K	**Beaver Creek,**	**97.33**	**16**	P	Pdif	12 18 31.4	+0.5		
	baz=211,SNR=38								
L27K				S	**S**	**12 29 53.4**	**+1.7**		
	baz=211								
DOT	**Dot Lake**	**97.33**	**15**	IAmb	IAmb	12 18 36.1			
	comp=Z,50nm,0.9s								
DOT				IAMs_20	IAMs_20	12 57 43.6			
	comp=Z,6µm,21.0s								
R33M	**Jennings River**	**97.36**	**22**	IAMs_20	IAMs_20	12 56 39.7			
	comp=Z,5µm,20.0s								
R33M	**Jennings River**	**97.36**	**22**	P	Pdif	12 18 32.4	+1.1		
	baz=220								
R33M				S	**S**	**12 29 54.1**	**+1.8**		
	baz=220								
G19K	**Purcell Mounta**	**97.40**	**8**	IAmb	IAmb	12 18 33.8			
	comp=Z,70nm,1.0s								
G19K	**Purcell Mounta**	**97.40**	**8**	P	Pdif	12 18 31.0	-0.1		
	baz=198,SNR=27								
HDA	**Harding Lake**	**97.41**	**13**	P	Pdif	12 18 31.2	0.0		
	baz=207,SNR=60								
P33M	**Teslin, Yukon**	**97.42**	**21**	P	Pdif	12 18 31.4	0.0		
	baz=218								
P33M				S	**S**	**12 29 56.2**	**+3.6**		
	baz=218								
CCB	**Clear Creek Bu**	**97.46**	**13**	IAMs_20	IAMs_20	12 58 02.0			
	comp=Z,5µm,20.0s								
TGUH	**Tegucigalpa,Un**	**97.48**	**78**	IAMs_20	IAMs_20	12 51 57.9			
	comp=Z,8µm,22.0s								
RLMT	**Red Lodge**	**97.51**	**42**	⇓P	Pdif	12 18 33.5	+1.2		
F18K	**Selawik**	**97.53**	**7**	P	**P**	**12 18 31.3**	**-0.2**		
	baz=196,SNR=6.7								
H21K	**Melozitna Rive**	**97.54**	**10**	IAmb	IAmb	12 18 36.2			
	comp=Z,60nm,1.1s								
H21K				IAMs_20	IAMs_20	12 57 43.0			
	comp=Z,4µm,21.0s								
H21K	**Melozitna Rive**	**97.54**	**10**	P	Pdif	12 18 32.1	+0.4		
	baz=202,SNR=36								
N31M	**Braeburn, Yuko**	**97.56**	**19**	IAmb	IAmb	12 18 38.1			
	comp=Z,72nm,1.2s								
N31M				IAMs_20	IAMs_20	12 58 51.8			
	comp=Z,6µm,20.0s								
N31M	**Braeburn, Yuko**	**97.56**	**19**	P	Pdif	12 18 32.3	+0.4		
	baz=216,SNR=8.3								
N31M				S	**S**	**12 29 56.0**	**+2.2**		
	baz=216								
JTS	**Las Juntas de**	**97.63**	**83**	IAMs_20	IAMs_20	12 53 02.0			
	comp=Z,5µm,20.0s								
JTS	**Las Juntas de**	**97.63**	**83**	LR	LR	12 53 12.7			
	comp=Z,8µm,20.0s,baz=240,slow=30								
M29M	**Somme Creek**	**97.63**	**17**	IAmb	IAmb	12 18 37.4			
	comp=Z,107nm,1.8s								
M29M				IAMs_20	IAMs_20	12 58 17.6			
	comp=Z,6µm,21.0s								
M29M	**Somme Creek**	**97.63**	**17**	P	Pdif	12 18 32.9	+0.6		
	baz=214,SNR=20								
M29M				S	**S**	**12 29 57.2**	**+2.8**		
	baz=214								
I23K	**Minto, Yukon-K**	**97.64**	**12**	IAmb	IAmb	12 18 36.3			
	comp=Z,79nm,1.4s								
I23K	**Minto, Yukon-K**	**97.64**	**12**	P	**P**	**12 18 31.6**	**-0.5**		
	baz=205,SNR=20								
I23K				S	**S**	**12 29 53.8**	**-0.2**		
	baz=205								
SCRK	**Sand Creek**	**97.64**	**14**	IAMs_20	IAMs_20	12 58 02.7			
	comp=Z,5µm,20.0s								
SCRK	**Sand Creek**	**97.64**	**14**	P	Pdif	12 18 32.5	+0.2		
	baz=209,SNR=33								
SCRK				S	**S**	**12 29 58.2**	**+3.8**		
	baz=209								
COLA	**College**	**97.66**	**12**	P	**P**	**12 18 31.8**	**-0.4**		
COLA				IAmb	IAmb	12 18 38.9			
	comp=Z,63nm,0.7s								
COLA	**College**	**97.66**	**12**	P	**P**	**12 18 31.7**	**-0.4**		
COLA	**College**	**97.66**	**12**	P	**P**	**12 18 31.8**	**-0.4**		
COLA				pmax	pmax				
	comp=Z,63nm,0.7s								
COLA	**College**	**97.66**	**12**	⇑P	**P**	**12 18 31.7**	**-0.4**		
COLA	**College**	**97.66**	**12**	P	**P**	**12 18 31.7**	**-0.4**		
	baz=206								
COLA				S	**S**	**12 29 53.9**	**-0.3**		
	baz=206								
COLA	**College**	**97.66**	**12**	P	**P**	**12 18 31.5**	**-0.6**		
IMAR	**Indian Mountai**	**97.70**	**10**	P	Pdif	12 18 32.9	+0.5		
IL31		**97.75**	**13**	IAmb	IAmb	12 18 39.1			
	comp=Z,32nm,0.8s								
ILAR	**Eielson Array**	**97.75**	**13**	P	**P**	**12 18 32.2**	**-0.4**		
	comp=Z,14nm,0.7s,baz=222,slow=5.0,SNR=140								
ILAR				PP	**PP**	**12 22 26.4**	**-5.1**		
	comp=Z,2.8nm,0.7s,baz=223,slow=7.5,SNR=4.1								
ILAR				PKiKP	**PKiKP**	**12 23 04.5**	**-1.8**		
	comp=Z,5.1nm,0.7s,baz=274,slow=2.1,SNR=13								
ILAR				PKKPbc	**PKKPbc**	**12 35 07.8**	**-2.4**		
	comp=Z,5.0nm,0.8s,baz=336,slow=3.1,SNR=17								
ILAR				PKPPKP	**P'P'df**	**12 43 20.4**	**+2.2**		
	comp=Z,1.4nm,1.0s,baz=345,slow=4.5,SNR=6.6								
ILAR				LR	LR	12 56 03.6			
	comp=Z,1µm,21.7s,baz=200,slow=31								
	comp=Z,14nm,0.7s								
E17K	**Hotham Inlet**	**97.78**	**6**	P	Pdif	12 18 33.0	+0.3		
	baz=194,SNR=11								
E17K				S	**S**	**12 29 55.8**	**+0.5**		
	baz=194								
J25K	**Salcha River,**	**97.91**	**14**	IAmb	IAmb	12 18 34.7			
	comp=Z,140nm,1.6s								
J25K				IAMs_20	IAMs_20	13 03 56.9			
	comp=Z,4µm,20.0s								
J25K	**Salcha River,**	**97.91**	**14**	P	Pdif	12 18 33.5	+0.1		
	baz=208,SNR=44								
J25K				S	**S**	**12 29 58.2**	**+1.5**		
	baz=208								
POKR	**Poker Plat Res**	**97.96**	**13**	IAmb	IAmb	12 18 40.1			
	comp=Z,53nm,0.9s								
POKR				IAMs_20	IAMs_20	12 58 38.1			
	comp=Z,7µm,20.0s								
POKR	**Poker Plat Res**	**97.96**	**13**	P	**P**	**12 18 33.1**	**-0.4**		
	baz=206								
POKR				S	**S**	**12 29 58.1**	**+1.2**		
	baz=206								
F19K	**Shaleruckik Mo**	**97.97**	**8**	IAmb	IAmb	12 18 35.1			
	comp=Z,144nm,1.6s								
F19K	**Shaleruckik Mo**	**97.97**	**8**	P	Pdif	12 18 33.7	+0.1		
	baz=197,SNR=22								
H22K	**Ishtalitna Cre**	**97.98**	**11**	P	Pdif	12 18 34.1	+0.4		
	baz=203,SNR=31								
H22K				S	**S**	**12 29 56.6**	**-0.5**		
	baz=203								
N32M	**Quiet Lake**	**98.08**	**20**	IAMs_20	IAMs_20	12 58 50.5			
	comp=Z,5µm,19.0s								
N32M	**Quiet Lake**	**98.08**	**20**	P	Pdif	12 18 35.2	+0.9		
	baz=218								
K27K	**Chicken**	**98.10**	**15**	IAMs_20	IAMs_20	12 58 44.6			
	comp=Z,5µm,20.0s								
K27K	**Chicken**	**98.10**	**15**	P	Pdif	12 18 35.3	+1.0		
	baz=211								
LPAZ	**La Paz**	**98.13**	**114**	P	Pdif	12 18 38.2	+1.9		
	comp=Z,5.6nm,0.7s,baz=231,slow=2.2,SNR=18								
LPAZ				PKKPbc	**PKKPbc**	**12 35 06.5**	**-1.2**		
	comp=Z,1.8nm,0.6s,baz=18,slow=7.5,SNR=4.8								
LPAZ				LR	LR	12 54 00.1			
	comp=Z,2µm,21.9s,baz=224,slow=30								
	comp=Z,5.6nm,0.7s								
LPAZ	**La Paz**	**98.13**	**114**	P	Pdif	12 18 37.7	+1.4		
LPAZ				S	**S**	**12 30 09.8**	**+7.9**		
LPAZ	**La Paz**	**98.13**	**114**	eP	Pdif	12 18 37.9	+1.5		
M30M	**Minto, Yukon**	**98.18**	**18**	IAMs_20	IAMs_20	12 59 14.0			
	comp=Z,6µm,19.0s								
M30M	**Minto, Yukon**	**98.18**	**18**	Pdiff	Pdif	12 18 34.8	+0.1		
	baz=215								
M30M				S	**S**	**12 29 59.3**	**+0.4**		
	baz=215								
J26L	**Joseph Creek**	**98.19**	**14**	IAMs_20	IAMs_20	12 58 10.2			
	comp=Z,6µm,21.0s								
J26L	**Joseph Creek**	**98.19**	**14**	Pdiff	Pdif	12 18 35.9	+1.1		
	baz=210								
J26L				S	**S**	**12 29 58.8**	**-0.3**		
	baz=210								
HDC	**Heredia**	**98.21**	**83**	IAMs_20	IAMs_20	12 52 11.1			
	comp=Z,6µm,22.0s								
H23K	**Yukon River**	**98.22**	**11**	IAMs_20	IAMs_20	12 59 20.1			
	comp=Z,6µm,20.0s								
H23K	**Yukon River**	**98.22**	**11**	Pdiff	Pdif	12 18 36.3	+1.5		
	baz=204								
E18K	**Tukpahlearik C**	**98.23**	**7**	IAmb	IAmb	12 18 37.6			
	comp=Z,51nm,0.8s								
E18K	**Tukpahlearik C**	**98.23**	**7**	Pdiff	Pdif	12 18 35.1	+0.4		
	baz=195								
G21K	**Allakaket**	**98.23**	**10**	IAmb	IAmb	12 18 39.4			
	comp=Z,146nm,1.7s								
G21K				IAMs_20	IAMs_20	12 58 24.9			
	comp=Z,6µm,21.0s								
G21K	**Allakaket**	**98.23**	**10**	Pdiff	Pdif	12 18 35.0	+0.2		
	baz=201								
D17K	**Noatak River**	**98.27**	**6**	Pdiff	Pdif	12 18 35.4	+0.5		
	baz=193								
L29M	**L29M**	**98.27**	**17**	IAmb	IAmb	12 18 42.5			
	comp=Z,64nm,1.0s								
L29M				IAMs_20	IAMs_20	12 58 48.5			
	comp=Z,6µm,20.0s								
L29M	**L29M**	**98.27**	**17**	Pdiff	Pdif	12 18 35.7	+0.7		
	baz=214								
L29M				S	**S**	**12 30 04.5**	**+4.8**		
	baz=214								
HKT	**Hockley**	**98.35**	**60**	IAMs_20	IAMs_20	12 56 06.2			
	comp=Z,5µm,21.0s								
HKT	**Hockley**	**98.35**	**60**	⇑eP	Pdif	12 18 36.1	0.0		
HKT				pmax	pmax				
	comp=Z,8.0nm,1.1s								
HKT				MLR	MLR				
	comp=Z,4µm,17.0s								
F20K	**Avaraart Lake**	**98.43**	**9**	IAmb	IAmb	12 18 38.6			
	comp=Z,76nm,1.4s								
F20K				IAMs_20	IAMs_20	12 58 44.7			
	comp=Z,5µm,21.0s								
F20K	**Avaraart Lake**	**98.43**	**9**	Pdiff	Pdif	12 18 35.7	+0.1		
	baz=199								
H24K	**Noodor Dome**	**98.53**	**12**	Pdiff	Pdif	12 18 36.5	+0.4		
	baz=206								
M31M	**Drury Creek, Y**	**98.53**	**19**	IAMs_20	IAMs_20	12 59 22.9			
	comp=Z,6µm,19.0s								
M31M	**Drury Creek, Y**	**98.53**	**19**	Pdiff	Pdif	12 18 36.7	+0.4		
	baz=217								
M31M				S	**S**	**12 30 03.1**	**+1.2**		
	baz=217								
WMOK	**Wichita Mounta**	**98.61**	**55**	IAMs_20	IAMs_20	13 00 45.6			
	comp=Z,4µm,19.0s								
WTLY	**Watson Lake, Y**	**98.63**	**23**	Pdiff	Pdif	12 18 38.0	+1.2		
	baz=221								
RDOG	**Red Dog Mine**	**98.63**	**6**	IAmb	IAmb	12 18 39.6			
	comp=Z,42nm,0.9s								
RDOG				IAMs_20	IAMs_20	12 59 50.9			
	comp=Z,5µm,20.0s								
RDOG	**Red Dog Mine**	**98.63**	**6**	Pdiff	Pdif	12 18 37.1	+0.5		
	baz=193								
E19K	**Redstone River**	**98.64**	**8**	IAmb	IAmb	12 18 42.3			
	comp=Z,54nm,0.8s								
E19K				IAMs_20	IAMs_20	12 59 47.5			
	comp=Z,4µm,21.0s								
E19K	**Redstone River**	**98.64**	**8**	Pdiff	Pdif	12 18 37.1	+0.6		
	baz=198								
C16K	**Lisburne Hills**	**98.66**	**5**	Pdiff	Pdif	12 18 36.7	+0.1		
	baz=191								
PRP	**Porcupine Dome**	**98.68**	**13**	IAmb	IAmb	12 18 43.0			
	comp=Z,54nm,1.0s								
PRP	**Porcupine Dome**	**98.68**	**13**	Pdiff	Pdif	12 18 36.9	-0.1		
	baz=208								
PRP				S	**S**	**12 30 01.3**	**-2.0**		
	baz=208								
BILL	**Bilibino**	**98.69**	**354**	IAMs_20	IAMs_20	13 02 27.8			
	comp=Z,7µm,20.0s								
BILL	**Bilibino**	**98.69**	**354**	⇑iP	**P**	**12 18 36.5**	**-0.2**		
BILL				pmax	pmax				
	comp=Z,34nm,0.9s								
BILL				MLR	MLR				
	comp=Z,6µm,19.0s								
LZH	**Lanzhou**	**98.69**	**307**	eP	Pdif	12 18 38.0	+0.2		
LZH				sP	sP	12 18 54.0	+1.2		
LZH				PP	**PP**	**12 22 40.8**	**+1.3**		
LZH				SKS	**SKSac**	**12 29 11.3**	**-1.9**		
LZH				S	**S**	**12 29 58.8**	**-6.0**		
LZH				pmax	pmax				
	comp=Z,31nm,1.3s								
LZH				pmax	pmax				
	comp=Z,540nm,4.3s								
LZH				LR	LR				
	comp=Z,1µm,20.3s								
LZH				LR	LR				
	comp=Z,2µm,19.7s								
LZH				LR	LR				
	comp=Z,5µm,20.3s								
DAWY	**Dawson**	**98.76**	**16**	Pdiff	Pdif	12 18 37.9	+0.7		
	baz=213								
DAWY				S	**S**	**12 30 02.5**	**-1.3**		
	baz=213								
F21K	**Alatna River**	**98.90**	**9**	IAMs_20	IAMs_20	13 04 24.0			
	comp=Z,5µm,19.0s								
F21K	**Alatna River**	**98.90**	**9**	Pdiff	Pdif	12 18 38.0	+0.3		
	baz=201								
F21K				S	**S**	**12 30 04.5**	**-0.3**		
	baz=201								
G22K	**Bettles**	**98.91**	**10**	Pdiff	Pdif	12 18 38.1	+0.4		
	baz=203								
TOAD	**Toad River Com**	**98.93**	**25**	Pdiff	Pdif	12 18 38.4	+0.3		
	baz=224								
G23K	**Bananza Creek**	**98.95**	**11**	IAmb	IAmb	12 18 42.6			
	comp=Z,98nm,1.8s								
G23K	**Bananza Creek**	**98.95**	**11**	Pdiff	Pdif	12 18 38.5	+0.4		
	baz=204								
EGAK	**Eagle**	**98.95**	**15**	IAmb	IAmb	12 18 44.7			
	comp=Z,43nm,0.9s								
EGAK				IAMs_20	IAMs_20	12 59 21.5			
	comp=Z,5µm,21.0s								
EGAK	**Eagle**	**98.95**	**15**	⇓P	Pdif	12 18 38.7	+0.7		
EGAK	**Eagle**	**98.95**	**15**	Pdiff	Pdif	12 18 38.4	+0.4		
	baz=212								
I26K	**Coal Creek Min**	**98.98**	**14**	IAmb	IAmb	12 18 43.8			
	comp=Z,120nm,1.6s								
I26K				IAMs_20	IAMs_20	12 59 04.5			
	comp=Z,6µm,21.0s								
I26K	**Coal Creek Min**	**98.98**	**14**	Pdiff	Pdif	12 18 38.6	+0.5		
	baz=210								
C17K	**DeLong Mountai**	**99.02**	**5**	Pdiff	Pdif	12 18 38.7	+0.4		
	baz=193								
K29M	**Barlow Dome**	**99.03**	**17**	IAMs_20	IAMs_20	12 59 10.6			
	comp=Z,7µm,21.0s								
K29M	**Barlow Dome**	**99.03**	**17**	Pdiff	**Pdif**	**12 18 39.5**	**+0.9**		
	baz=214								
ESPN	**Las Esperanzas**	**99.11**	**81**	IAMs_20	IAMs_20	12 52 39.2			
	comp=Z,6µm,22.0s								
MAYO	**Mayo, Yukon**	**99.25**	**18**	Pdiff	**Pdif**	**12 18 40.1**	**+0.7**		
	baz=216								
H25L	**Birch Creek**	**99.29**	**13**	Pdiff	**Pdif**	**12 18 39.8**	**+0.4**		
	baz=208								
F22K	**John River**	**99.35**	**10**	Pdiff	**Pdif**	**12 18 40.6**	**+0.8**		
	baz=202								
C18K	**Utukok River**	**99.36**	**6**	IAMs_20	IAMs_20	13 01 15.3			
	comp=Z,6µm,20.0s								
C18K	**Utukok River**	**99.36**	**6**	Pdiff	**Pdif**	**12 18 40.1**	**+0.3**		
	baz=194								
J29N	**Klondike Camp**	**99.37**	**16**	IAMs_20	IAMs_20	12 55 21.4			
	comp=Z,4µm,22.0s								
J29N	**Klondike Camp**	**99.37**	**16**	Pdiff	**Pdif**	**12 18 40.8**	**+0.8**		
	baz=214								
G24K	**Hadweenzic Riv**	**99.38**	**12**	Pdiff	**Pdif**	**12 18 39.8**	**-0.1**		
	baz=206								
COLD	**Coldfoot**	**99.40**	**11**	IAMs_20	IAMs_20	13 02 33.1			
	comp=Z,5µm,20.0s								
COLD	**Coldfoot**	**99.40**	**11**	Pdiff	**Pdif**	**12 18 40.7**	**+0.7**		
	baz=204								
SIUN	**Universidad Ur**	**99.44**	**80**	IAMs_20	IAMs_20	12 52 22.8			
	comp=Z,3µm,22.0s								
OK038	**West end E0370**	**99.52**	**53**	IAMs_20	IAMs_20	13 02 10.6			
	comp=Z,5µm,18.0s								
D19K	**Kuna River**	**99.53**	**7**	IAmb	IAmb	12 18 44.0			
	comp=Z,39nm,0.8s								
D19K				IAMs_20	IAMs_20	13 00 08.0			
	comp=Z,5µm,21.0s								
D19K	**Kuna River**	**99.53**	**7**	Pdiff	**Pdif**	**12 18 40.8**	**+0.2**		
	baz=197								
I27K	**Kandik River**	**99.56**	**14**	Pdiff	**Pdif**	**12 18 41.1**	**+0.3**		
	baz=211								
OGNE	**Ogallala**	**99.62**	**48**	IAMs_20	IAMs_20	12 55 10.8			
	comp=Z,5µm,22.0s								
FYU	**Fort Yukon**	**99.67**	**13**	IAMs_20	IAMs_20	12 59 10.3			
	comp=Z,4µm,20.0s								
G25K	**Bearman Lake**	**99.68**	**12**	Pdiff	**Pdif**	**12 18 41.3**	**+0.1**		
	baz=208								
MMPY	**Sheldon Lake,**	**99.77**	**20**	Pdiff	**Pdif**	**12 18 42.5**	**+0.8**		
	baz=220								
I28M	**Miner Creek**	**99.80**	**15**	IAMs_20	IAMs_20	13 04 14.8			
	comp=Z,5µm,19.0s								
I28M	**Miner Creek**	**99.80**	**15**	Pdiff	**Pdif**	**12 18 42.3**	**+0.4**		
	baz=213								
TGTN	**Hyland Airport**	**99.86**	**22**	Pdiff	**Pdif**	**12 18 43.1**	**+0.9**		
	baz=222								
D20K	**Etivluk River**	**99.91**	**8**	IAmb	IAmb	12 18 47.0			
	comp=Z,33nm,0.8s								
D20K				IAMs_20	IAMs_20	13 00 18.1			
	comp=Z,4µm,21.0s								
D20K	**Etivluk River**	**99.91**	**8**	Pdiff	**Pdif**	**12 18 42.6**	**+0.4**		
	baz=198								
J30M	**Hart River**	**99.93**	**17**	IAMs_20	IAMs_20	12 59 50.5			
	comp=Z,6µm,20.0s								
J30M	**Hart River**	**99.93**	**17**	Pdiff	**Pdif**	**12 18 43.1**	**+0.6**		
	baz=216								
C19K	**Lookout Ridge**	**99.96**	**7**	IAMs_20	IAMs_20	13 04 19.5			
	comp=Z,4µm,20.0s								
C19K	**Lookout Ridge**	**99.96**	**7**	Pdiff	**Pdif**	**12 18 42.5**	**0.0**		
	baz=196								
E21K	**Killik River**	**99.98**	**9**	IAMs_20	IAMs_20	12 59 44.4			
	comp=Z,5µm,21.0s								
E21K	**Killik River**	**99.98**	**9**	Pdiff	**Pdif**	**12 18 42.6**	**+0.1**		
	baz=201								
E22K	**Anaktuvuk Pass**	**99.99**	**10**	IAmb	IAmb	12 18 46.6			
	comp=Z,95nm,1.4s								
E22K				IAMs_20	IAMs_20	12 59 53.8			
	comp=Z,5µm,21.0s								
E22K	**Anaktuvuk Pass**	**99.99**	**10**	Pdiff	**Pdif**	**12 18 43.0**	**+0.4**		
	baz=203								
B18K	**Kokolik River**	**100.01**	**6**	Pdiff	**Pdif**	**12 18 43.1**	**+0.5**		
	baz=194								
CPUP	**Villa Florida**	**100.02**	**128**	P	**Pdif**	**12 18 45.5**	**+1.6**		
	comp=Z,3.2nm,1.0s,baz=93,slow=3.8,SNR=12								
CPUP				PKKPbc	**PKKPbc**	**12 35 00.7**	**-1.1**		
	comp=Z,2.9nm,0.8s,baz=260,slow=1.8,SNR=15								
CPUP				PKPPKP	**P'P'df**	**12 43 16.2**	**-6.5**		
	comp=Z,1.7nm,0.8s,baz=244,slow=2.5,SNR=5.9								
CPUP	**Villa Florida**	**100.02**	**128**	P	**Pdif**	**12 18 43.4**	**-0.5**		
CBKS	**Cedar Bluff**	**100.03**	**51**	IAMs_20	IAMs_20	13 00 17.9			
	comp=Z,6µm,19.0s								
F24K	**Squaw Lake**	**100.04**	**11**	Pdiff	**Pdif**	**12 18 44.0**	**+1.2**		
	baz=206								
I29M	**Ogilvie Camp,**	**100.10**	**16**	IAMs_20	IAMs_20	12 59 56.8			
	comp=Z,6µm,21.0s								
I29M	**Ogilvie Camp,**	**100.10**	**16**	Pdiff	**Pdif**	**12 18 43.5**	**+0.3**		
	baz=214								
H27K	**Steamboat Moun**	**100.12**	**14**	IAMs_20	IAMs_20	12 59 52.2			
	comp=Z,5µm,20.0s								
H27K	**Steamboat Moun**	**100.12**	**14**	Pdiff	**Pdif**	**12 18 43.8**	**+0.6**		
	baz=211								
NATX	**Nacogdoches**	**100.12**	**59**	IAMs_20	IAMs_20	13 01 13.8			
	comp=Z,5µm,18.0s								
E23K	**Chandalar**	**100.25**	**10**	IAMs_20	IAMs_20	13 03 17.7			
	comp=Z,5µm,19.0s		

	comp=Z,33nm,1.8s								
YAK					pmax	pmax			
	comp=N,8.0nm,1.2s								
YAK					pmax	pmax			
	comp=E,6.0nm,1.2s								
YAK					pmax	pmax			
	comp=Z,208nm,2.9s								
YAK					pmax	pmax			
	comp=N,142nm,3.5s								
YAK					pmax	pmax			
	comp=E,79nm,3.1s								
YAK					smax	smax			
	comp=N,107nm,2.0s								
YAK					smax	smax			
	comp=E,65nm,3.2s								
YAK					MLR	MLR			
	comp=N,1µm,18.0s								
YAK					MLR	MLR			
	comp=E,1µm,27.0s								
T35A	**Sooner Cattle**	**101.30**	**54**	IAMs_20	IAMs_20	13 02 35.6			
	comp=Z,3µm,18.0s								
EPYK	**Eagle Plains**	**101.31**	**16**	Pdiff	**Pdif**	**12 18 48.9**	**+0.4**		
	baz=216								
TUL3	**Leonard**	**101.31**	**55**	IAMs_20	IAMs_20	12 56 10.1			
	comp=Z,5µm,22.0s								
D24K	**Happy Valley**	**101.37**	**10**	IAMs_20	IAMs_20	13 07 22.8			
	comp=Z,5µm,19.0s								
D24K	**Happy Valley**	**101.37**	**10**	Pdiff	**Pdif**	**12 18 49.5**	**+0.8**		
	baz=205								
FLOC	**Florencia**	**101.38**	**95**	IAMs_20	IAMs_20	12 54 41.7			
	comp=Z,7µm,22.0s								
H31M	**Peel River**	**101.42**	**17**	IAMs_20	IAMs_20	13 00 06.3			
	comp=Z,4µm,20.0s								
H31M	**Peel River**	**101.42**	**17**	Pdiff	**Pdif**	**12 18 49.0**	**0.0**		
	baz=217								
G29M	**Pine Creek**	**101.45**	**15**	IAMs_20	IAMs_20	13 00 11.0			
	comp=Z,6µm,21.0s								
G29M	**Pine Creek**	**101.45**	**15**	Pdiff	**Pdif**	**12 18 49.7**	**+0.6**		
	baz=214								
F28M	**Old Crow**	**101.64**	**14**	Pdiff	**Pdif**	**12 18 50.5**	**+0.6**		
	baz=213								
C23K	**Itkillik River**	**101.73**	**9**	IAMs_20	IAMs_20	13 01 01.8			
	comp=Z,6µm,21.0s								
C23K	**Itkillik River**	**101.73**	**9**	Pdiff	**Pdif**	**12 18 51.4**	**+1.2**		
	baz=204								
E27K	**Coleen River**	**101.78**	**13**	Pdiff	**Pdif**	**12 18 51.5**	**+0.9**		
	baz=212								
B22K	**Teshekpuk Lake**	**101.83**	**8**	IAMs_20	IAMs_20	13 04 47.3			
	comp=Z,4µm,20.0s								
B22K	**Teshekpuk Lake**	**101.83**	**8**	Pdiff	**Pdif**	**12 18 51.3**	**+0.7**		
	baz=201								
C24K	**Franklin Bluff**	**101.90**	**10**	IAMs_20	IAMs_20	13 06 13.4			
	comp=Z,6µm,19.0s								
C24K	**Franklin Bluff**	**101.90**	**10**	Pdiff	**Pdif**	**12 18 52.2**	**+1.2**		
	baz=206								
D25K	**Kavik River**	**101.91**	**11**	Pdiff	**Pdif**	**12 18 51.8**	**+0.6**		
	baz=208								
G30M	**tAoh Zraii Nji**	**101.92**	**16**	IAMs_20	IAMs_20	13 05 21.3			
	comp=Z,4µm,19.0s								
G30M	**tAoh Zraii Nji**	**101.92**	**16**	Pdiff	**Pdif**	**12 18 51.6**	**+0.4**		
	baz=216								
K30B	**Basset**	**102.06**	**48**	IAMs_20	IAMs_20	12 56 38.3			
	comp=Z,6µm,22.0s								
Z41A	**Richland Creek**	**102.22**	**59**	IAMs_20	IAMs_20	13 01 53.2			
	comp=Z,4µm,19.0s								
MIAR	**Mount Ida**	**102.25**	**57**	IAMs_20	IAMs_20	12 56 40.2			
	comp=Z,4µm,22.0s								
A22K	**Sinclair Lake**	**102.27**	**8**	Pdiff	**Pdif**	**12 18 54.0**	**+1.5**		
	baz=200								
KSU1	**Kansas State U**	**102.29**	**52**	IAMs_20	IAMs_20	13 05 52.0			
	comp=Z,4µm,19.0s								
G31M	**Satah River**	**102.33**	**16**		**Pdif**	**12 18 53.2**	**+0.3**		
G31M				IAMs_20	IAMs_20	13 01 14.8			
	comp=Z,6µm,21.0s								
G31M	**Satah River**	**102.33**	**16**	Pdiff	**Pdif**	**12 18 53.5**	**+0.6**		
	baz=218								
A21K	**Barrow**	**102.39**	**7**	Pdiff	**Pdif**	**12 18 53.7**	**+0.6**		
	baz=199								
F30M	**Barrier River**	**102.53**	**15**	IAMs_20	IAMs_20	13 00 44.4			
	comp=Z,5µm,22.0s								
F30M	**Barrier River**	**102.53**	**15**	Pdiff	**Pdif**	**12 18 54.4**	**+0.5**		
	baz=216								
E28M	**Babbage River**	**102.54**	**13**	IAMs_20	IAMs_20	13 01 37.3			
	comp=Z,6µm,20.0s								
E28M	**Babbage River**	**102.54**	**13**	Pdiff	**Pdif**	**12 18 54.8**	**+0.8**		
	baz=213								
U38A	**Gravette**	**102.56**	**55**	IAMs_20	IAMs_20	13 04 19.3			
	comp=Z,4µm,19.0s								
SHL	**Shillong**	**102.59**	**292**	P	**Pdif**	**12 18 57.2**	**+1.8**		
	SNR=7.3								
C27K	**Jago River**	**102.63**	**12**	IAMs_20	IAMs_20	13 01 27.6			
	comp=Z,6µm,20.0s								
C27K	**Jago River**	**102.63**	**12**	Pdiff	**Pdif**	**12 18 55.3**	**+1.1**		
	baz=210								
WRGLY	**Wrigley**	**102.64**	**22**	Pdiff	**Pdif**	**12 18 55.4**	**+1.0**		
	baz=226								
C26K	**Camden Bay**	**102.68**	**11**	Pdiff	**Pdif**	**12 18 55.5**	**+1.0**		
	baz=209								
E29M	**Blow River**	**102.70**	**14**	Pdiff	**Pdif**	**12 18 55.2**	**+0.6**		
	baz=215								
ULN	**Ulaanbaatar**	**102.71**	**318**	P	**Pdif**	**12 18 55.3**	**0.0**		
ULN				S	**SKSac**	**12 29 32.2**	**0.0**		
ULN	**Ulaanbaatar**	**102.71**	**318** *c*	*i*P	**Pdif**	**12 18 55.4**	**0.0**		
ULN				pmax	pmax				
	comp=Z,10.0nm,0.7s								
ULN				MLR	MLR				
	comp=Z,2µm,20.0s								
X40A	**Basin Creek Fa**	**102.77**	**58**	IAMs_20	IAMs_20	13 03 27.8			
	comp=Z,5µm,18.0s								
D27M	**Malcolm River**	**102.80**	**13**	Pdiff	**Pdif**	**12 18 56.2**	**+1.1**		
	baz=212								
HHAR	**Hobbs**	**102.81**	**55**	IAMs_20	IAMs_20	13 03 58.7			
	comp=Z,4µm,18.0s								
ITAB	**Concordia**	**102.85**	**132**	IAMs_20	IAMs_20	13 03 20.9			
	comp=Z,6µm,19.0s								
F31M	**Tsiigehtchic**	**102.87**	**16**	IAMs_20	IAMs_20	13 05 40.5			
	comp=Z,5µm,19.0s								
F31M	**Tsiigehtchic**	**102.87**	**16**	Pdiff	**Pdif**	**12 18 55.9**	**+0.6**		
	baz=218								
ROCAM	**Rodrigues Isla**	**102.91**	**238**	IAMs_20	IAMs_20	12 59 25.4			
	comp=Z,5µm,18.0s								
DGAR	**Diego Garcia**	**102.96**	**253**	IAMs_20	IAMs_20	13 04 42.1			
	comp=Z,5µm,20.0s								
143A	**Socs Landing,**	**103.00**	**60**	IAMs_20	IAMs_20	12 56 38.0			
	comp=Z,5µm,22.0s								
SONM	**Songino Array**	**103.08**	**318**	P	**Pdif**	**12 18 56.3**	**-0.6**		
	comp=Z,4.8nm,0.7s,baz=144,slow=4.4,SNR=8.4								
SONM				PP	PP	12 23 04.0	-8.4		
	comp=Z,5.0nm,1.0s,baz=138,slow=6.5,SNR=5.2								
SONM				PKKPbc	**PKKPbc**	**12 34 53.3**	**-0.9**		
	comp=Z,2.2nm,0.7s,baz=264,slow=1.5,SNR=6.1								
UALR	**University of**	**103.26**	**57**	IAMs_20	IAMs_20	13 02 51.8			
	comp=Z,5µm,18.0s								
D28M	**Stokes Point**	**103.31**	**13**	Pdiff	**Pdif**	**12 18 58.5**	**+1.2**		
	baz=214								
E28A	**Huff**	**103.33**	**44**	IAMs_20	IAMs_20	13 05 01.8			
	comp=Z,6µm,18.0s								
VBMS	**Vicksburg**	**103.44**	**61**	IAMs_20	IAMs_20	12 59 54.8			
	comp=Z,4µm,21.0s								
INK	**Inuvik**	**103.60**	**16**	Pdiff	**Pdif**	**12 18 59.2**	**+0.6**		
	baz=218								
N35A	**Tabor**	**103.78**	**51**	IAMs_20	IAMs_20	13 05 20.1			
	comp=Z,4µm,18.0s								
L34A	**Svendsen Farm,**	**103.81**	**49**	IAMs_20	IAMs_20	13 00 23.9			
	comp=Z,4µm,21.0s								
MALK	**Mahakanadarawa**	**104.13**	**272**	PP	**PKiKP**	**12 23 19.3**	**-0.1**		
MGMO	**Mountain Grove**	**104.40**	**55**	IAMs_20	IAMs_20	13 04 35.9			
	comp=Z,5µm,18.0s								
ECSD	**EROS Data Cent**	**104.49**	**48**	IAMs_20	IAMs_20	13 00 35.7			
	comp=Z,4µm,20.0s								
P38A	**Dawn**	**104.64**	**53**	IAMs_20	IAMs_20	12 57 45.0			
	comp=Z,4µm,22.0s								
HBAR	**Harrisburg**	**104.84**	**57**	IAMs_20	IAMs_20	12 57 24.7			
	comp=Z,5µm,22.0s								
Y45A	**Yeager Farm, C**	**104.91**	**59**	IAMs_20	IAMs_20	13 01 45.7			
	comp=Z,4µm,21.0s								
R40A	**Maddies Statio**	**104.92**	**54**	IAMs_20	IAMs_20	13 06 33.4			
	comp=Z,6µm,18.0s								
HDBT	**Hernando Brdge**	**105.10**	**58**	IAMs_20	IAMs_20	13 08 32.2			
	comp=Z,6µm,19.0s								
SOR	**Soroa**	**105.14**	**72**	IAMs_20	IAMs_20	12 58 57.5			
	comp=Z,4µm,20.0s								
GOMU	**GeErMu**	**105.16**	**303**	Pdif	**Pdif**	**12 19 07.5**	**+0.7**		
GOMU				SKS	**SKSac**	**12 29 48.0**	**+3.6**		
GOMU				AMB	AMB				
	comp=Z,410nm,6.5s								
GOMU				LR	LR				
	comp=Z,680nm,19.4s								
GOMU				LR	LR				
	comp=Z,1µm,19.4s								
GOMU				LR	LR				
	comp=Z,1µm,19.4s								
YKA	**Yellowknife Ar**	**105.26**	**25**	PKiKP	**PKiKP**	**12 23 19.8**	**-0.2**		
	comp=Z,4.1nm,0.6s,baz=272,slow=1.7,SNR=15								
YKA				PKKPbc	**PKKPbc**	**12 34 46.5**	**-1.4**		
	comp=Z,10.0nm,0.7s,baz=37,slow=3.6,SNR=16								
OXF	**Oxford**	**105.30**	**59**	IAMs_20	IAMs_20	13 05 11.9			
	comp=Z,6µm,19.0s								
N38A	**Joes South For**	**105.37**	**52**	IAMs_20	IAMs_20	13 03 35.3			
	comp=Z,5µm,19.0s								
GNAR	**Gosnell**	**105.49**	**57**	IAMs_20	IAMs_20	12 58 29.9			
	comp=Z,5µm,22.0s								
CCM	**Cathedral Cave**	**105.53**	**55**	IAMs_20	IAMs_20	13 06 26.8			
	comp=Z,5µm,18.0s								
PTLB	**Pontes e Lacer**	**105.60**	**119**	IAMs_20	IAMs_20	12 59 36.4			
	comp=Z,4µm,21.0s								
PEBM	**Pemiscott Bayo**	**105.67**	**57**	IAMs_20	IAMs_20	12 57 49.6			
	comp=Z,6µm,22.0s								
Z47A	**Carrollton**	**105.72**	**61**	IAMs_20	IAMs_20	13 05 14.2			
	comp=Z,4µm,19.0s								
RUSC	**La Rusia**	**105.74**	**92**	IAMs_20	IAMs_20	12 58 08.2			
	comp=Z,6µm,22.0s								
SCIA	**State Center**	**105.88**	**51**	IAMs_20	IAMs_20	12 59 31.7			
	comp=Z,4µm,22.0s								
LNXT	**Lenox**	**105.93**	**57**	IAMs_20	IAMs_20	12 57 57.6			
	comp=Z,5µm,22.0s								
FVM	**French Village**	**106.08**	**55**	IAMs_20	IAMs_20	13 05 12.3			
	comp=Z,5µm,18.0s								
ZAK	**Zakamensk**	**106.11**	**319**	*e*P	**Pdif**	**12 19 08.8**	**-1.5**		
ZAK				pmax	pmax				
	comp=Z,8.0nm,1.2s								
GLAT	**Glass**	**106.16**	**57**	IAMs_20	IAMs_20	12 58 26.4			
	comp=Z,5µm,22.0s								
LRAL	**Lakeview Retre**	**106.46**	**61**	IAMs_20	IAMs_20	13 00 08.9			
	comp=Z,4µm,22.0s								
UTMT	**University of**	**106.50**	**57**	IAMs_20	IAMs_20	13 04 49.6			
	comp=Z,5µm,19.0s								
SLM	**Saint Louis**	**106.50**	**55**	IAMs_20	IAMs_20	13 07 23.4			
	comp=Z,5µm,18.0s								
CAMR	**Camarioca**	**106.61**	**73**	IAMs_20	IAMs_20	12 58 19.1			
	comp=Z,7µm,22.0s								
FFC	**Flin Flon**	**106.62**	**36**	IAMs_20	IAMs_20	12 59 26.1			
	comp=Z,6µm,22.0s								
I37A	**Leonid, Waseca**	**106.69**	**49**	IAMs_20	IAMs_20	13 01 33.9			
	comp=Z,4µm,21.0s								
C36M	**Paulatuk**	**106.70**	**17**	IAMs_20	IAMs_20	13 04 26.6			
	comp=Z,5µm,20.0s								
C36M	**Paulatuk**	**106.70**	**17**	PKiKP	**PKiKP**	**12 23 23.3**	**+0.9**		
	baz=227								
WVT	**Waverly**	**107.16**	**58**	IAMs_20	IAMs_20	12 58 45.1			
	comp=Z,4µm,22.0s								
L40A	**Anamosa**	**107.29**	**51**	IAMs_20	IAMs_20	13 05 20.4			
	comp=Z,4µm,20.0s								
SMRC	**Santa Marta, M**	**107.29**	**87**	IAMs_20	IAMs_20	12 57 55.8			
	comp=Z,5µm,22.0s								
P43A	**Skaggs, Pawnee**	**107.43**	**54**	IAMs_20	IAMs_20	13 07 34.5			
	comp=Z,4µm,18.0s								
SPMN	**Marine on St.**	**107.59**	**48**	IAMs_20	IAMs_20	13 07 15.3			
	comp=Z,5µm,18.0s								
ULM	**Lac du Bonnet**	**107.89**	**42**	PKiKP	**PKiKP**	**12 23 24.0**	**-1.2**		
	comp=Z,3.6nm,0.5s,baz=213,slow=3.3,SNR=3.3								
ULM				PKKPbc	**PKKPbc**	**12 34 37.9**	**-1.5**		
	comp=Z,5.1nm,0.8s,baz=74,slow=9.6,SNR=2.9								
T47A	**Sharon Grove**	**108.05**	**57**	IAMs_20	IAMs_20	13 07 21.1			
	comp=Z,5µm,18.0s								
OLIL	**Olney**	**108.06**	**55**	IAMs_20	IAMs_20	13 00 33.1			
	comp=Z,5µm,21.0s								
061Z	**Ochoppi**	**108.20**	**70**	IAMs_20	IAMs_20	12 58 44.2			
	comp=Z,5µm,22.0s								
A36M	**Sachs Harbour**	**108.23**	**15**	IAMs_20	IAMs_20	13 08 03.2			
	comp=Z,3µm,20.0s								
A36M	**Sachs Harbour**	**108.23**	**15**	PKiKP	**PKiKP**	**12 23 26.0**	**+0.8**		
	baz=226								
CLTN	**Cedars of Leba**	**108.25**	**58**	IAMs_20	IAMs_20	13 06 39.4			
	comp=Z,3µm,18.0s								
JFWS	**Jewell Farm**	**108.30**	**51**	IAMs_20	IAMs_20	13 06 02.2			
	comp=Z,4µm,19.0s								
L42A	**Oliver, Polo**	**108.31**	**52**	IAMs_20	IAMs_20	13 05 43.7			
	comp=Z,5µm,19.0s								
SPB	**Sao Paulo**	**108.42**	**133**	IAMs_20	IAMs_20	13 01 09.5			
	comp=Z,6µm,22.0s								
I40A	**Norwalk**	**108.45**	**50**	IAMs_20	IAMs_20	13 05 16.2			
	comp=Z,4µm,19.0s								
U49A	**Red Boiling Sp**	**108.83**	**58**	IAMs_20	IAMs_20	13 03 31.8			
	comp=Z,4µm,22.0s								
M44A	**Midewin, Midew**	**109.17**	**53**	IAMs_20	IAMs_20	13 08 12.6			
	comp=Z,3µm,19.0s								
G40A	**Rib Lake**	**109.29**	**48**	IAMs_20	IAMs_20	13 00 51.1			
	comp=Z,5µm,22.0s								
GOGA	**Godfrey**	**109.31**	**62**	IAMs_20	IAMs_20	13 01 49.8			
	comp=Z,5µm,22.0s								
SDV	**Santo Domingo**	**109.32**	**91**	IAMs_20	IAMs_20	13 00 09.5			
	comp=Z,6µm,22.0s								
SFIN	**Lafayette**	**109.43**	**54**	IAMs_20	IAMs_20	13 11 07.4			
	comp=Z,4µm,18.0s								
K43A	**Burlington**	**109.50**	**51**	IAMs_20	IAMs_20	13 13 18.1			
	comp=Z,4µm,18.0s								
L44A	**Lake County Fo**	**109.58**	**52**	IAMs_20	IAMs_20	13 10 06.2			
	comp=Z,5µm,18.0s								
I42A	**Draeger Farm,**	**109.58**	**50**	IAMs_20	IAMs_20	13 03 02.1			
	comp=Z,4µm,20.0s								
W52A	**Murphy**	**109.63**	**60**	IAMs_20	IAMs_20	13 07 52.3			
	comp=Z,4µm,18.0s								
HMDM	**Hanimaadhoo**	**109.71**	**266**	IAMs_20	IAMs_20	13 07 07.4			
	comp=Z,6µm,20.0s								
TKL	**Tuckaleechee C**	**109.97**	**60**	PKiKP	**PKiKP**	**12 23 28.2**	**-1.4**		
	comp=Z,4.5nm,0.5s,baz=180,slow=6.5,SNR=12								
TKL				PKKPbc	**PKKPbc**	**12 34 30.9**	**-1.2**		
	comp=Z,4.3nm,0.8s,baz=136,slow=3.6,SNR=5.0								
R49A	**Shelbyville**	**109.98**	**57**	IAMs_20	IAMs_20	13 01 08.2			
	comp=Z,6µm,22.0s								
HYB	**Hyderabad**	**110.03**	**279**	*e*PKiKP	**PKiKP**	**12 23 30.3**	**0.0**		
HYB				*es*PKiKP	**sPKiKP**	**12 23 45.6**	**+0.5**		
HYB				*e*SKSac	**SKSac**	**12 30 05.2**	**-0.5**		
HYB				*e*SKKSac	**SKKSac**	**12 31 02.4**	**-2.0**		
HYB				IVMs_BB	IVMs_BB	13 13 14.4			
	comp=Z,1µm,19.9s								
FOMA	**Nahampoana Res**	**110.25**	**223**	IAMs_20	IAMs_20	13 01 03.1			
	comp=Z,6µm,20.0s								
BG3	**Lake Jocassee**	**110.34**	**61**	IAMs_20	IAMs_20	13 08 18.1			
	comp=Z,4µm,19.0s								
TZTN	**Tazewell**	**110.49**	**59**	IAMs_20	IAMs_20	13 08 08.8			
	comp=Z,5µm,18.0s								
N47A	**Urbana**	**110.61**	**54**	IAMs_20	IAMs_20	13 11 44.6			
	comp=Z,5µm,18.0s								
257A	**Skidaway Islan**	**110.62**	**64**	IAMs_20	IAMs_20	13 04 22.7			
	comp=Z,4µm,22.0s								
O48B	**Farmland**	**110.75**	**55**	IAMs_20	IAMs_20	13 08 07.4			
	comp=Z,5µm,18.0s								
F42A	**Maple Grove Fa**	**110.81**	**49**	IAMs_20	IAMs_20	13 02 20.6			
	comp=Z,6µm,22.0s								
NMDO	**Nuevo Mundo**	**110.87**	**78**	IAMs_20	IAMs_20	13 05 57.3			
	comp=Z,2µm,20.0s								
S51A	**Beattyville**	**110.88**	**58**	IAMs_20	IAMs_20	13 05 27.0			
	comp=Z,3µm,20.0s								
I45A	**Fountain**	**111.42**	**51**	IAMs_20	IAMs_20	13 02 31.9			
	comp=Z,4µm,22.0s								
KMSC	**Kings Mountain**	**111.61**	**61**	IAMs_20	IAMs_20	13 07 48.7			
	comp=Z,4µm,20.0s								
N49A	**Columbus Grove**	**111.69**	**54**	IAMs_20	IAMs_20	13 09 51.2			
	comp=Z,5µm,18.0s								
NHSC	**New Hope**	**111.72**	**64**	IAMs_20	IAMs_20	13 05 28.8			
	comp=Z,3µm,21.0s								
CSU	**Charleston Sou**	**111.75**	**64**	IAMs_20	IAMs_20	13 05 30.7			
	comp=Z,4µm,22.0s								
U54A	**Nelsons Funny**	**111.76**	**60**	IAMs_20	IAMs_20	13 08 17.6			
	comp=Z,5µm,19.0s								
P51A	**Williamsport**	**111.95**	**56**	IAMs_20	IAMs_20	13 02 10.4			
	comp=Z,4µm,22.0s								
J47A	**Sunmer**	**112.09**	**52**	IAMs_20	IAMs_20	13 04 42.6			
	comp=Z,3µm,20.0s								
Q52A	**Bidwell**	**112.34**	**57**	IAMs_20	IAMs_20	13 08 27.6			
	comp=Z,5µm,18.0s								
S54A	**Dingess, Beckl**	**112.61**	**58**	IAMs_20	IAMs_20	13 11 02.1			
	comp=Z,4µm,18.0s								
W57A	**Gilead**	**112.63**	**62**	IAMs_20	IAMs_20	13 10 17.8			
	comp=Z,3µm,18.0s								
M50A	**Fremont**	**112.66**	**54**	IAMs_20	IAMs_20	13 10 30.0			
	comp=Z,3µm,18.0s								
VOI	**Vohitsoka**	**112.67**	**225**	P	**PKiKP**	**12 23 36.0**	**+0.6**		
GLMI	**Grayling**	**112.79**	**50**	IAMs_20	IAMs_20	13 03 22.0			
	comp=Z,4µm,22.0s								
N51A	**Ashland**	**112.96**	**55**	IAMs_20	IAMs_20	13 02 39.0			
	comp=Z,6µm,22.0s								
BLA	**Blacksburg**	**113.06**	**59**	IAMs_20	IAMs_20	13 09 06.0			
	comp=Z,4µm,18.0s								
WMQ	**Urumqi**	**113.19**	**308**	PKP	**PKiKP**	**12 23 35.0**	**-0.6**		
WMQ				PP	**PP**	**12 24 26.0**	**-0.3**		
WMQ				AMB	AMB				
	comp=Z,320nm,5.3s								
WMQ				LR	LR				
	comp=Z,800nm,16.9s								
WMQ				LR	LR				
	comp=Z,2µm,22.5s								
WMQ				LR	LR				
	comp=Z,2µm,22.5s								
Q54A	**Coxs Mills**	**113.39**	**57**	IAMs_20	IAMs_20	13 09 37.5			
	comp=Z,5µm,18.0s								
K50A	**Casco**	**113.44**	**53**	IAMs_20	IAMs_20	13 02 59.3			
	comp=Z,4µm,22.0s								
E46A	**Sault Ste Mari**	**113.52**	**49**	IAMs_20	IAMs_20	13 05 24.3			
	comp=Z,5µm,20.0s								
V58A	**Windy Hill, Pi**	**113.53**	**61**	IAMs_20	IAMs_20	13 09 04.6			
	comp=Z,5µm,19.0s								
BDFB	**Brasilia**	**113.61**	**126**	PKiKP	**PKiKP**	**12 23 36.6**	**-0.7**		
	comp=Z,7.1nm,0.6s,baz=162,slow=2.7,SNR=7.3								
BDFB				PKKPbc	**PKKPbc**	**12 34 18.6**	**-1.3**		
	comp=Z,6.3nm,0.5s,baz=138,slow=2.3,SNR=5.1								
I49A	**Point Hope**	**113.69**	**52**	IAMs_20	IAMs_20	13 11 18.0			
	comp=Z,3µm,19.0s								
SC01	**Santiago de lo**	**114.01**	**81**	IAMs_20	IAMs_20	13 01 33.5			
	comp=Z,6µm,22.0s								
S57A	**Dark Hollow, R**	**114.35**	**59**	IAMs_20	IAMs_20	13 10 19.0			
	comp=Z,4µm,18.0s								
Q56A	**Snyder Ridge,**	**114.61**	**58**	IAMs_20	IAMs_20	13 09 49.9			
	comp=Z,3µm,18.0s								
OPO	**Ambohidratompo**	**114.89**	**228**	PKP	**PKiKP**	**12 23 39.7**	**-0.1**		
	comp=Z,17nm,0.6s,baz=160,slow=1.0,SNR=29								
R58B	**Mineral**	**115.22**	**59**	IAMs_20	IAMs_20	13 10 04.0			
	comp=Z,4µm,19.0s								
SUR	**Sutherland**	**115.24**	**197**		**PKPdf**	**12 23 41.0**	**+0.8**		
SUR	**Sutherland**	**115.24**	**197**	IAMs_20	IAMs_20	13 08 40.1			
	comp=Z,4µm,20.0s								
SUR	**Sutherland**	**115.24**	**197**	P	**PKPdf**	**12 23 41.1**	**+0.9**		
V61A	**Roper**	**115.46**	**62**	IAMs_20	IAMs_20	13 10 35.8			
	comp=Z,4µm,18.0s								
P57A	**Homestead Farm**	**115.62**	**58**		**PKiKP**	**12 23 40.3**	**+0.1**		
P57A				IAMs_20	IAMs_20	13 10 21.5			
	comp=Z,4µm,19.0s								
CBN	**Corbin Frederi**	**115.67**	**59**	IAMs_20	IAMs_20	13 12 59.1			
	comp=Z,5µm,18.0s								
SSPA	**Standing Stone**	**116.08**	**57**		**PKPdf**	**12 23 40.6**	**-0.5**		
ZSN	**Zaisan**	**116.23**	**311**	*e*PKP	**PKPdf**	**12 23 40.5**	**-0.8**		
ZSN				*e*PP	**PP**	**12 24 45.6**	**-2.0**		
ZSN	**Zaisan**	**116.23**	**311**	*e*PKiKP	**PKPdf**	**12 23 40.4**	**-0.8**		
ZSN				*e*		12 24 45.5			
SBV	**Sambava**	**116.70**	**234**	P	**PKiKP**	**12 23 45.3**	**+2.2**		
S61A	**Accomac**	**116.77**	**60**	IAMs_20	IAMs_20	13 11 31.3			
	comp=Z,5µm,19.0s								
MVL	**Millersville**	**117.00**	**58**	IAMs_20	IAMs_20	13 11 05.0			
	comp=Z,4µm,19.0s								
R61A	**Willards**	**117.23**	**60**	IAMs_20	IAMs_20	13 13 40.3			
	comp=Z,4µm,18.0s								
DELO	**Deloro Mine**	**117.43**	**52**	IAMs_20	IAMs_20	13 11 15.0			
	comp=Z,4µm,19.0s								
BOSA	**Boshof**	**117.44**	**203**	Pdiff	**Pdif**	**12 20 05.3**	**+3.9**		
	comp=Z,1.7nm,0.7s,baz=161,slow=5.2,SNR=3.5								
BOSA				PKP	**PKiKP**	**12 23 45.

GDSD	La Dsirade Is	121.00	88			PKPdf	12 23 50.6	-0.7		
H05N1	Guadeloupe/Mar	121.01	88	PKP		PKPdf	12 23 50.7	-0.6		
	SNR=5.4									
KURBB	Kurchatov Arra	121.04	314	PKP		PKPdf	12 23 49.2	-1.0		
	comp=Z,93nm,0.7s,baz=106,slow=1.8,SNR=310									
KURBB				PP		PP	12 25 17.4	-3.3		
	comp=Z,17nm,1.1s,baz=100,slow=5.9,SNR=6.5									
KURBB				PKKPbc		PKKPbc	12 33 54.0	+0.1		
	comp=Z,4.7nm,0.2s,baz=286,slow=4.7,SNR=8.7									
PHPEN	Phepeng	121.14	202	*i* P		PKiKP	12 23 52.0	+0.2		
LBNH	Lisbon	121.31	54	IAms_20	IAms_20		13 14 55.7			
	comp=Z,4μm,18.0s									
TKM2	Tokmak 2	121.37	304	P		PKPdf	12 23 50.7	-0.8		
	SNR=114									
I62A	Tamworth	121.64	55	IAms_20	IAms_20		13 13 59.5			
	comp=Z,4μm,18.0s									
SKOMA	Sekoma	121.67	203	*i* P		PKiKP	12 23 53.2	+0.4		
KBK	Karagaybulak	121.77	304	P		PKPdf	12 23 51.9	-0.3		
	SNR=18									
H62A	Milan	121.92	54	IAms_20	IAms_20		13 16 12.9			
	comp=Z,4μm,18.0s									
UCH	Uchtor	121.98	303	P		PKiKP	12 23 53.5	+0.3		
	SNR=27									
CHMS	Chumysh	121.99	304	P		PKPdf	12 23 52.0	-0.5		
	SNR=20									
LPHEP	Lephephe	122.02	206	*i* P		PKiKP	12 23 53.9	+0.4		
AAK	Ala-Archa	122.09	304	P		PKPdf	12 23 52.1	-0.7		
	SNR=37									
AAK	Ala-Archa	122.09	304			PKPdf	12 23 52.4	-0.4		
AAK	Ala-Archa	122.09	304	P		PKPdf	12 23 52.7	-0.2		
AAK	Ala-Archa	122.09	304	*i* PKPdf		PKPdf	12 23 51.6	-1.2		
	SNR=37									
AAK	Ala-Archa	122.09	304	*c i* PKIKP		PKPdf	12 23 52.2	-0.7		
AAK				pmax	pmax					
	comp=Z,80nm,1.0s									
AAK				MLR	MLR					
	comp=Z,3μm,24.0s									
AAK	Ala-Archa	122.09	304	PKP		PKPdf	12 23 52.5	-0.3		
MREMI	Moremi	122.12	208	*i* P		PKiKP	12 23 53.9	+0.2		
SGDS	Sogindy	122.18	305	*e* PKP		PKPdf	12 23 52.0	-0.9		
SGDS				*e* PP		PP	12 25 26.8	-1.9		
I63A	Otisfield	122.21	54	IAms_20	IAms_20		13 13 58.6			
	comp=Z,4μm,19.0s									
TMAB	Tom-Au,PA,Br	122.21	115	PKP		PKiKP	12 23 54.6	+0.6		
USP	Ospenovka	122.23	305	P		PKPdf	12 23 52.2	-0.7		
	SNR=82									
KDWAN	Kaudwane	122.45	205	*i* P		PKPdf	12 23 54.2	0.0		
G62A	West of Eustis	122.49	53	IAms_20	IAms_20		13 25 39.8			
	comp=Z,3μm,18.0s									
EKS2	Erkin-Say	122.61	304	P		PKPdf	12 23 53.3	-0.5		
	SNR=75									
BTLS	Baital	122.92	307	*e* PKP		PKPdf	12 23 53.4	-0.7		
BTLS				*e* PP		PP	12 25 31.8	-1.8		
BTLS	Baital	122.92	307	*e* PKIKP		PKPdf	12 23 53.4	-0.7		
BTLS				*e*			12 25 31.8			
PKME	Peaks-Kenny Pk	123.35	53	IAms_20	IAms_20		13 11 39.8			
	comp=Z,4μm,20.0s									
KHWEE	KHWEE	123.47	206	*i* P		PKPdf	12 23 56.2	+0.1		
BROLN	Tlhalogang	123.48	209	*i* P		PKPdf	12 23 56.1	-0.1		
MATP	Matopo	123.58	210	PKP		PKiKP	12 24 01.9	+5.3		
	comp=Z,92nm,0.6s,baz=171,slow=1.8,SNR=160									
BBSR	BB Station	123.75	69	IAms_20	IAms_20		13 06 34.8			
	comp=Z,4μm,22.0s									
KGCAE	Kacgae	123.79	202	*i* P		PKiKP	12 23 57.2	+0.2		
F64A	Sherman	124.11	53	IAms_20	IAms_20		13 10 31.9			
	comp=Z,5μm,22.0s									
KBL	Kabul	124.23	293			PKiKP	12 23 57.3	-0.2		
KBL	Kabul	124.23	293	P		PKiKP	12 23 57.5	-0.1		
	SNR=107									
KBL	Kabul	124.23	293	PKIKP		PKiKP	12 23 57.3	-0.2		
KOOLE	Kule	124.29	200	*i* P		PKiKP	12 23 58.6	+0.6		
SOOWA	Sowa	124.41	208	*i* P		PKiKP	12 23 58.6	+0.3		
DZA	Taraz	124.42	304	*e* PKP		PKPdf	12 23 56.3	-0.8		
DZA	Taraz	124.42	304	*e* PKIKP		PKPdf	12 23 56.3	-0.8		
BRZS	Berezniki	124.64	312	*e* PKP		PKPdf	12 23 56.2	-1.1		
BRZS	Berezniki	124.64	312	*e* PKIKP		PKPdf	12 23 56.1	-1.1		
KK31	Karatay Array	125.05	304	*i* PKIKP		PKPdf	12 23 57.4	-0.9		
CHGR	Chuyangaron	125.16	298			PKPdf	12 23 58.6	-0.2		
CHGR				IAms_20	IAms_20		13 23 17.5			
	comp=Z,5μm,20.0s									
CHGR	Chuyangaron	125.16	298	PKIKP		PKPdf	12 23 58.6	-0.2		
IUG	Iuzhnay	125.22	302	*e* PKP		PKPdf	12 23 57.7	-1.1		
IUG	Iuzhnay	125.22	302	*e* PKIKP		PKPdf	12 23 57.7	-1.1		
SIMJ	Simiganj	125.27	298			PKPdf	12 23 58.7	-0.4		
PHDHD	Phuduhudu	125.40	206	*i* P		PKiKP	12 24 00.7	+0.4		
GRTLG	Ghanzi	125.50	202	*i* P		PKiKP	12 24 00.8	+0.4		
BRLS	Boroldaу	125.53	304	*e* PKP		PKPdf	12 23 58.5	-0.7		
BRLS	Boroldaу	125.53	304	*e* PKIKP		PKPdf	12 23 58.5	-0.7		
CHM	Chimkent	125.57	303	*e* PKP		PKPdf	12 23 58.5	-0.8		
CHM				LR	LR		13 20 23.3			
	comp=Z,969nm,19.6s									
CHM	Chimkent	125.57	303	*e* PKIKP		PKPdf	12 23 58.5	-0.8		
CHM				MLR	MLR					
	comp=Z,969nm,20.0s									
NBAN	Anadia - AL	125.83	131	PKP		PKPdf	12 24 00.8	+0.1		
NBPS	Pedro II - PI	125.97	122	PKP		PKPdf	12 24 00.9	-0.2		
SCHQ	Schefferville	126.06	42	PKP		PKPdf	12 23 58.2	-1.7		
	comp=Z,598nm,1.0s,baz=281,slow=2.4,SNR=24									
BVA0	Borovoye Array	126.35	316	PKIKP		PKPdf	12 23 59.3	-1.1		
BVAR	Borovoye Array	126.35	316	PKhKP	PKPpre		12 23 48.1			
	comp=Z,2.2nm,0.6s,baz=64,slow=3.4,SNR=4.8									
BVAR				PKP		PKPdf	12 23 59.8	-0.6		
	comp=Z,165nm,0.8s,baz=92,slow=1.2,SNR=144									
BORK	Borovoye	126.39	316	*c i* PKIKP		PKPdf	12 23 59.9	-0.6		
BORK				MLR	MLR					
	comp=Z,3μm,19.0s									
KULLO	Kullorsuaq	126.94	17	*i* P		PKPdf	12 24 00.9	-0.1		
NEEM	North Greenlan	127.05	13	*i* P		PKPdf	12 24 01.4	-0.1		
SBBR	Sobral	127.27	122	PKP		PKPdf	12 24 03.6	+0.1		
KSANE	Kasane	127.32	208	*i* P		PKiKP	12 24 04.3	+0.2		
UPNV	Upernavik	127.88	19	*i* P		PKPdf	12 24 02.7	-0.1		
NOR	Nord	128.03	3	*i* P		PKPdf	12 24 03.0	+0.1		
LSZ	Lusaka	128.24	213			PKiKP	12 24 06.2	+0.2		
LSZ	Lusaka	128.24	213	PKP		PKiKP	12 24 06.1	+0.1		
	comp=Z,67nm,0.6s,baz=174,slow=2.3,SNR=66									
LSZ	Lusaka	128.24	213	PKIKP		PKiKP	12 24 06.2	+0.2		
JLN	Jalan Bani Buh	128.40	275	P		PKPdf	12 24 05.0	-0.3		
	SNR=25									
TSUM	Tsumeb	128.63	199			PKiKP	12 24 06.8	+0.1		
NBPV	Pedro Velho	128.88	129	PKP		PKiKP	12 24 07.4	+0.2		
RCBR	Riachuelo	128.90	128	PKP		PKiKP	12 24 07.3	0.0		
DQM	DQM	129.17	272	P		PKPdf	12 24 07.0	+0.2		
	SNR=12									
NUUG	Nuugaatsiaq	129.19	20	*i* P		PKiKP	12 24 05.7	-0.3		
MHTO	MHTO	129.21	273	P		PKPdf	12 24 06.4	-0.4		
	SNR=31									
NIAQ	Niaqornat	129.35	21	*i* P		PKiKP	12 24 06.3	0.0		
WSAR	Wadi Sarin	129.46	276	P		PKPdf	12 24 07.0	-0.3		
	SNR=10									
JMDO	Jabal Madar	129.60	275	P		PKPdf	12 24 07.4	-0.2		
	SNR=15									
SMDO	Samad	129.90	276	P		PKPdf	12 24 08.0	-0.3		
	SNR=19									
SAATT	Saattut	129.96	20	*i* P		PKPdf	12 24 06.8	0.0		
GDH	Godhavn	129.96	23	*i* P		PKPdf	12 24 06.8	0.0		
BIDO	Bidbid	129.99	276	P		PKPdf	12 24 08.5	+0.2		
	SNR=14									
SHAO	Shalim	130.06	269	PKPdf		PKPdf	12 24 07.7	-0.9		
SAQQ	Saqqaq	130.18	21	*i* P		PKPdf	12 24 07.3	+0.1		
BSY	Bisya	130.52	275	P		PKPdf	12 24 09.3	0.0		
	SNR=9.8									
DMTO	DMTO	130.52	268	P		PKPdf	12 24 09.5	+0.1		
HOQ	Hoqain	130.72	276	P		PKPdf	12 24 10.0	+0.3		
	SNR=12									
ILULI	Ilulissat	130.78	22	*i* P		PKiKP	12 24 08.9	-0.4		
KBS	Kingsbay	131.03	357			PKiKP	12 24 10.1	+0.5		
KBS				IAms_20	IAms_20		13 13 54.1			
	comp=Z,3μm,22.0s									
KBS	Kingsbay	131.03	357	*e* PKPdf		PKiKP	12 24 09.8	+0.2		
KBS				*e* PP		PP	12 26 24.7	-1.4		
KBS				IVMs_BB	IVMs_BB		13 13 28.8			
	comp=Z,912nm,11.9s									
KBS	Kingsbay	131.03	357	PKIKP		PKiKP	12 24 10.1	+0.5		
KBS	Kingsbay	131.03	357	*i* P		PKiKP	12 24 09.9	+0.2		
RBK	Rabkut	131.07	267	P		PKiKP	12 24 11.6	+0.1		
	SNR=7.9									
ARQ	Araqi	131.31	276	P		PKPdf	12 24 11.0	+0.1		
	SNR=15									
SPA0	Spitsbergen Ar	131.55	356	*e* PKPdf		PKPdf	12 24 09.9	+0.2		
SPA0				*e* PP		PP	12 26 27.0	-2.4		
SPA0				IVMs_BB	IVMs_BB		13 11 37.5			
	comp=Z,1μm,21.8s									
SPITS	Spitsbergen Ar	131.55	356	PKhKP	PKPpre		12 23 58.1			
	comp=Z,5.7nm,0.7s,baz=90,slow=4.2,SNR=5.8									
SPITS				PKP		PKPdf	12 24 09.0	-0.7		
	comp=Z,73nm,0.6s,baz=82,slow=1.9,SNR=27									
SPITS	Spitsbergen Ar	131.55	356	PKIKP		PKPdf	12 24 09.9	+0.2		
SOHO	SOHO	131.57	277	P		PKPdf	12 24 11.0	-0.2		
SOHO	SOHO	131.57	277	*i* PKPdf		PKPdf	12 24 10.0	-1.2		
	SNR=46									
DOK	Doka	131.60	269	P		PKPdf	12 24 11.7	+0.2		
	SNR=7.7									
WHFO	Wadi Hawf	131.62	268	P		PKPdf	12 24 11.4	-0.2		
ABTO	Aybut	131.79	267	P		PKPdf	12 24 12.0	+0.1		
	SNR=5.1									
SFJD	Kangerlussuaq	131.82	25			PKPdf	12 24 10.1	-0.3		
SFJD	Kangerlussuaq	131.82	25	PKIKP		PKPdf	12 24 10.1	-0.3		
SFJD				MLR	MLR					
	comp=Z,5μm,19.0s									
SFJD	Kangerlussuaq	131.82	25	PKP		PKPdf	12 24 10.1	-0.3		
SFJD	Kangerlussuaq	131.82	25	*i* P		PKPdf	12 24 10.0	-0.3		
UOSS	Minazif	132.12	277			PKPdf	12 24 12.4	+0.1		
UOSS	Minazif	132.12	277	*i* PKPdf		PKPdf	12 24 10.6	-1.7		
	SNR=9.3									
UOSS	Minazif	132.12	277	PKP		PKPdf	12 24 12.0	-0.3		
HATD	Hatta, Dubai	132.15	277	P		PKPdf	12 24 11.8	-0.6		
	SNR=22									
HATD	Hatta, Dubai	132.15	277	*i* PKPdf		PKPdf	12 24 11.2	-1.1		
	SNR=30									
MDH	Madha	132.16	278	P		PKPdf	12 24 11.9	-0.5		
	SNR=5.9									
MDH	Madha	132.16	278	*i* PKPdf		PKPdf	12 24 10.8	-1.5		
	SNR=6.8									
ASHO	Ashiyiah	132.16	277	P		PKPdf	12 24 11.9	-0.6		
	SNR=20									
ASHO	Ashiyiah	132.16	277	*i* PKPdf		PKPdf	12 24 11.3	-1.2		
	SNR=12									
ALNE	Al Ain	132.22	276	P		PKPdf	12 24 11.8	-0.7		
	SNR=31									
ALNE	Al Ain	132.22	276	*i* PKPdf		PKPdf	12 24 11.6	-0.9		
	SNR=40									
MSFE	Esma-Masafi	132.30	278	*i* PKPdf		PKPdf	12 24 10.9	-1.8		
	SNR=14									
MASF	Masafi	132.30	278	P		PKPdf	12 24 12.9	+0.3		
	SNR=18									
BANOM	Banah	132.35	279	P		PKiKP	12 24 13.5	-0.4		
DAG	Danmarks Havn	132.38	6	PKP		PKPdf	12 24 10.2	-1.1		
DAG	Danmarks Havn	132.38	6	*i* P		PKPdf	12 24 09.8	-1.5		
NUUK	Nuuk	132.39	29	*i* P		PKiKP	12 24 12.7	0.0		
HOPEN	Hopen	132.39	353	*e*		PKPdf	12 24 11.0	-0.2		
HOPEN				*e* PP		PP	12 26 33.2	-1.7		
SUMG	Summit	132.52	15	PKP		PKPdf	12 24 12.3	+0.1		
SUMG	Summit	132.52	15	IAms_20	IAms_20		13 16 13.5			
	comp=Z,3μm,22.0s									
SUMG	Summit	132.52	15	*i* P		PKiKP	12 24 13.6	+0.3		
SHME	Shamm	132.53	279	P		PKiKP	12 24 13.8	-0.3		
	SNR=5.7									
SHME	Shamm	132.53	279	*i* PKPdf		PKPdf	12 24 12.9	-0.2		
	SNR=5.3									
FAQ	Al Faqa, Dubai	132.58	277	P		PKiKP	12 24 14.0	-0.3		
	SNR=7.3									
FAQ	Al Faqa, Dubai	132.58	277	*i* PKPdf		PKPdf	12 24 12.1	-1.1		
	SNR=6.5									
NAZ	Nazwa, Dubai	132.60	277	P		PKPdf	12 24 13.3	+0.1		
	SNR=20									
NAZ	Nazwa, Dubai	132.60	277	*i* PKPdf		PKPdf	12 24 11.9	-1.3		
	SNR=11									
ASUD	Al Ashush, Dub	132.77	277	P		PKPdf	12 24 13.1	-0.4		
	SNR=11									
ASUD	Al Ashush, Dub	132.77	277	*i* PKPdf		PKPdf	12 24 12.6	-0.9		
	SNR=18									
KIBK	Kibwezi	132.82	233	PKP		PKPdf	12 24 13.3	-0.8		
KIBK	Kibwezi	132.82	233	IAms_20	IAms_20		13 20 23.3			
	comp=Z,3μm,20.0s									
AB31	Akbulak array	132.87	311	*i* PKHKP	PKPpre		12 23 57.4			
AJN	Ajban	133.04	276	P		PKiKP	12 24 14.9	-0.3		
	SNR=5.4									
ARTI	Arti	133.12	321		PKPpre		12 24 00.5			
ARTI	Arti	133.12	321	*c i* PKIKP		PKPdf	12 24 12.3	-0.9		
ARTI				MLR	MLR					
	comp=Z,5μm,21.0s									
DY2G	Dye2	133.61	24	*i* P		PKPdf	12 24 14.1	0.0		
MZR	Muzera	133.82	274	P		PKiKP	12 24 16.4	-0.5		
	SNR=28									
MZR	Muzera	133.82	274	*i* PKPdf		PKPdf	12 24 15.0	-0.6		
	SNR=21									
AKTO	Aktyubinsk	134.05	313	PKHKP	PKPpre		12 24 00.0			
DBG	Daneborg	134.43	8	*i* P		PKiKP	12 24 15.8	-0.8		
BJO1	Bjornoya	134.85	354	*e*		PKPdf	12 24 12.0	-4.0		
BJO1				*e* PP		PP	12 26 49.9	-0.6		
BJO1				IVMs_BB	IVMs_BB		13 19 09.8			
	comp=Z,2μm,23.8s									
IVI	Ivigtut	134.93	32	IAms_20	IAms_20		13 30 37.2			
	comp=Z,4μm,19.0s									
JRN	Qarnain Island	135.01	276	P		PKiKP	12 24 18.6	-0.6		
	SNR=9.4									
NRS	Narsarsuaq	136.19	31	*i* P		PKPdf	12 24 18.3	-0.5		
TRNA	Turayna	136.35	275	P		PKiKP	12 24 21.1	-0.8		
	SNR=5.7									
ISOG	Isortoq, Green	136.65	23	*i* P		PKiKP	12 24 20.2	-1.0		
SMRA	Abu-Samra	136.69	275	P		PKiKP	12 24 21.7	-0.9		
	SNR=12									
SHMA	Al-Shehemyia	136.91	277	P		PKiKP	12 24 22.1	-0.9		
	SNR=6.7									
ANGG	Ammassalik, Gr	137.07	23	*i* P		PKPdf	12 24 20.4	+0.2		
VADS	Vadso	137.22	347	*e* PKPdf		PKPdf	12 24 18.0	-2.4		
VADS				*e* PP		PP	12 27 04.7	-0.8		
VADS				*e* SS		SS	12 45 09.4	+0.7		
KIRV	Kirov	137.23	325	*c i* PKIKP		PKPdf	12 24 20.1	-0.6		
SOEG	Soedalen	137.26	18	*i* P		PKiKP	12 24 22.1	-0.4		
SAKB	Bahrain	137.31	277	P		PKiKP	12 24 25.1	+1.3		
SCO	Scoresbysund	137.52	12	IAms_20	IAms_20		13 23 45.5			
	comp=Z,4μm,20.0s									
SCO	Scoresbysund	137.52	12	*i* P		PKiKP	12 24 22.8	-0.1		
LVZ	Lovozero	137.72	342		PKPpre		12 24 15.0			
LVZ				IAms_20	IAms_20		13 21 37.9			
	comp=Z,4μm,22.0s									
LVZ	Lovozero	137.72	342	*d i* PKIKP		PKiKP	12 24 22.5	-1.0		
LVZ				MLR	MLR					
	comp=Z,3μm,21.0s									
HAMF	Hammerfest	137.79	349	*e* PP		PP	12 27 08.5	-0.5		
HAMF				IVMs_BB	IVMs_BB		13 13 16.8			
	comp=Z,1μm,28.4s									
ATD	Arta Tunnel	137.91	253	IAms_20	IAms_20		13 17 18.3			
	comp=Z,4μm,22.0s									
ATD	Arta Tunnel	137.91	253	P		PKiKP	12 24 25.1	-0.4		
KEV	Kevo	137.98	347		PKPpre		12 24 13.7			
KEV	Kevo	137.98	347	PKHKP	PKPpre		12 24 13.7			
KEV				MLR	MLR					
	comp=Z,5μm,22.0s									
APA	Apatity	138.28	343	*i* PKIKP		PKPdf	12 24 21.2	-1.3		
ARA0	ARCESS Array S	138.45	348	IVMs_BB	IVMs_BB		13 15 55.9			
	comp=Z,1μm,26.8s									
ARCES	ARCESS Array B	138.45	348		PKPpre		12 24 11.5			
ARCES	ARCESS Array B	138.45	348	PKhKP	PKPpre		12 24 11.8			
	comp=Z,12nm,0.5s,baz=37,slow=1.1,SNR=50									
ARCES				PKP		PKPdf	12 24 21.4	-1.3		
	comp=Z,43nm,0.6s,baz=39,slow=1.3,SNR=12									
ARCES				SKPbc		SKPbc	12 27 49.8	-4.6		
	comp=Z,11nm,0.8s,baz=0.0,slow=4.0,SNR=4.3									
LODK	Lodwar	138.77	236	IAms_20	IAms_20		13 18 12.6			
	comp=Z,3μm,21.0s									
LODK	Lodwar	138.77	236	P		PKiKP	12 24 26.8	-0.5		
	SNR=6.1									
MBAR	Mbarara	138.96	227	PKP		PKPdf	12 24 26.5	+0.9		
	comp=Z,19nm,0.8s,baz=74,slow=4.4,SNR=4.6									
BELG	Belogornoye	140.13	317	*de* PKIKP		PKPdf	12 24 25.3	-1.0		
BELG				MLR	MLR					
	comp=Z,499nm,20.0s									
KLMR	Klimovskoe	140.66	332	*e* PKIKP		PKPdf	12 24 23.1	-3.9		
KLMR				pmax	pmax					
	comp=Z,142nm,1.0s									
RAYN	Ar Rayn	140.89	271		PKPpre		12 24 21.6			
RAYN	Ar Rayn	140.89	271	IAms_20	IAms_20		13 29 40.1			
	comp=Z,3μm,20.0s									
RAYN	Ar Rayn	140.89	271	*i* PKPdf		PKPdf	12 24 28.2	-0.5		
	SNR=6.3									
RAYN	Ar Rayn	140.89	271	PKHKP	PKPpre		12 24 21.6			
AKT	Akhty	141.75	300	*e* PKHKP	PKPpre		12 24 23.9			
AKT				*e*			12 27 30.4			
AKT				*e* PPP	PPP		12 30 40.0			
AKT				*e* SS	SS		12 46 01.1	-3.4		
AKT				pmax	pmax					
	comp=Z,97nm,0.8s									
MAK	Makhachkala	141.84	302	*e* P		Pdif	12 21 48.2	-1.0		
MAK				*e*			12 24 30.5			
MAK				*e*			12 27 31.0			
MAK				pmax	pmax					
	comp=Z,463nm,1.1s									
VAGH	Vaagaholmen	142.86	353	IVMs_BB	IVMs_BB		13 19 32.8			
	comp=Z,2μm,23.4s									
RAUS	Rausandaksla	143.05	352	*e* PKPdf		PKPdf	12 24 31.8	+0.7		
RAUS				*e* SS	SS		12 46 19.1	+2.3		
GNI	Garni	144.07	298		PKPbc		12 24 31.9	-0.1		
GNI	Garni	144.07	298	IAms_20	IAms_20		13 33 46.8			
	comp=Z,3μm,22.0s									
GNI	Garni	144.07	298	P	PKPbc		12 24 32.6	+0.6		
GNI	Garni	144.07	298	PKPdf	PKPab		12 24 31.5	0.0		
GNI	Garni	144.07	298	*c i* PKIKP	PKPab		12 24 31.6	0.0		
MOS	Moscow	144.25	326	*e* PKHKP	PKPpre		12 24 29.7			
MOS				pmax	pmax					
	comp=Z,189nm,0.8s									
MOS				pmax	pmax					
	comp=N,73nm,0.8s									
MOS				pmax	pmax					
	comp=E,53nm,0.7s									
MOS				MLR	MLR					
	comp=Z,4μm,23.0s									
MOS				MLR	MLR					
	comp=N,3μm,22.0s									
NCK	Nalchik	144.62	304⇑	*e* PKIKP		PKPab	12 24 31.7	-1.6		
NCK				MLR	MLR					
	comp=Z,2μm,24.0s									
GOF	Gofitskoye	144.76	306	*c i* PKIKP		PKPab	12 24 33.6	-0.1		
PUL	Pulkovo	144.88	335	*ce* PKIKP		PKPab	12 24 33.0	-0.7		
FINES	FINESS Array B	145.02	340			PKPbc	12 24 33.5	-0.6		
FINES	FINESS Array B	145.02	340	PKP		PKPbc	12 24 33.2	-0.8		
	comp=Z,560nm,0.6s,baz=58,slow=2.8,SNR=2505									
FINES	FINESS Array B	145.02	340	PKIKP		PKPbc	12 24 33.5	-0.6		
LPSR	Galich'ya Gora	145.04	320	*e* PKHKP	PKPpre		12 24 31.3			
LPSR				pmax	pmax					
	comp=Z,300nm,0.9s									
OBN	Obninsk	145.09	325			PKPbc	12 24 33.8	-0.7		
OBN				IAms_20	IAms_20		13 33 07.7			
	comp=Z,4μm,21.0s									
OBN	Obninsk	145.09	325	⇑P		PKPbc	12 24 34.2	-0.3		
OBN	Obninsk	145.09	325	*c i* PKIKP		PKPbc	12 24 33.7	-0.8		
OBN				*e*			12 24 43.0			
OBN				*e*			12 27 53.8			
OBN				*e* PPP	PPP		12 31 06.7			
OBN				pmax	pmax					
	comp=Z,334nm,0.9s									
KBZ	Khabaz	145.09	304	PKP		PKPbc	12 24 34.4	-0.4		
	comp=Z,109nm,0.7s,baz=96,slow=2.3,SNR=107									
KBZ	Khabaz	145.09	304	*c i* PKIKP		PKPbc	12 24 33.4	-1.5		
KIV	Kislovodsk	145.21	305			PKPbc	12 24 35.0	-0.4		
KIV	Kislovodsk	145.21	305	P		PKPbc	12 24 35.1	-0.3		
KIV	Kislovodsk	145.21	305	⇑P		PKPbc	12 24 34.8	-0.6		
KIV	Kislovodsk	145.21	305	*i* PKPbc		PKPbc	12 24 34.6	-0.8		
	SNR=30									
KIV	Kislovodsk	145.21	305	*i*

AKASG **Malin Array Be** 151.22 323 **PKPdf** 12 24 44.2 -0.9
AKASG **Malin Array Be** 151.22 323 PKP **PKPdf** 12 24 43.8 -1.4
comp=Z,18nm,0.8s,baz=62,slow=1.4,SNR=19
AKASG PKPbc **PKPbc** 12 24 50.6 -0.5
comp=Z,28nm,0.9s,baz=47,slow=1.2,SNR=39
AKBB Malin Array Si 151.22 323 *c iPKIKP* **PKPdf** 12 24 43.7 -1.5
KIEV Kiev 151.23 323 **PKPdf** 12 24 43.8 -1.4
KIEV Kiev 151.23 323 ⇑P **PKPbc** 12 24 50.2 -0.9
KIEV Kiev 151.23 323 *i* PKPdf **PKPdf** 12 24 43.6 -1.5
SNR=27
KIEV Kiev 151.23 323 PKIKP **PKPdf** 12 24 43.8 -1.4
BHL Bhannes 151.40 286 *e*P **PKPdf** 12 24 45.2 -1.0
TJOU Tjoern 151.44 349 *i* P **PKPbc** 12 24 51.0 -0.3
MMAI Mount Meron Ar 151.57 284 PKP **PKPdf** 12 24 46.3 -0.1
comp=Z,50nm,0.6s,baz=60,slow=4.1,SNR=22
MMAI PKPbc **PKiKP** 12 24 53.5 +0.5
comp=Z,49nm,0.6s,baz=54,slow=2.2,SNR=6.3
BORU Boraas 151.62 348 *i* P **PKPbc** 12 24 51.5 -0.4
HOMB Homborsund 151.63 353 *e*PKPbc **PKiKP** 12 24 51.9 -0.3
HOMB Homborsund 151.63 353 *i* P **PKiKP** 12 24 52.0 -0.2
SNART Snartemo 151.69 354 *e*PKPbc **PKPbc** 12 24 51.6 -0.3
SNART Snartemo 151.69 354 *i* P **PKiKP** 12 24 52.3 -0.1
SUW Suwalki 151.77 333 *e*PKPdf **PKPdf** 12 24 45.1 -0.8
SUW *e*PKPbc **PKPbc** 12 24 52.2 -0.1
SUW *e*L L 13 21 53.4
comp=Z,5μm,35.5s
BZK Bozkurt 151.85 303 ⇑P **PKiKP** 12 24 53.0 -0.2
SACV Santiago Islan 151.92 117 IAMs_20 IAMs_20 13 34 36.1
comp=Z,3μm,21.0s
ONAU Onsala 152.00 349 *i* P **PKPbc** 12 24 52.2 -0.5
FABU Falkenberg 152.23 347 *i* P **PKPbc** 12 24 52.8 -0.4
ILGA Ilgaz 152.27 302 IAMs_20 IAMs_20 13 39 56.0
comp=Z,3μm,21.0s
KIRS Kirsehir-Merke 152.48 297 ⇑P **PKPbc** 12 24 53.7 -0.8
DEL Delary 152.50 346 *i* P **PKPbc** 12 24 53.7 -0.1
BR131 Keskin Array S 152.59 299 P **PKPdf** 12 24 47.0 -0.8
SNR=67
BRTR Keskin Array B 152.59 299 **PKPdf** 12 24 46.0 -1.8
BRTR Keskin Array B 152.59 299 PKP **PKPdf** 12 24 46.6 -1.2
comp=Z,14nm,1.0s,baz=142,slow=1.8,SNR=22
BRTR PKPbc **PKPbc** 12 24 54.1 -0.7
comp=Z,14nm,1.0s,baz=132,slow=1.8,SNR=33
CIDE Kastamonu/Cide 152.63 304 ⇓P **PKPbc** 12 24 54.2 -0.4
PURM Purcari 153.02 315 ⇓P **PKPbc** 12 24 55.0 -0.3
BJUU Bjuv 153.04 346 *i* P **PKPbc** 12 24 55.0 -0.1
ANTO Ankara 153.21 299 **PKPdf** 12 24 48.2 -0.4
ANTO Ankara 153.21 299 IAMs_20 IAMs_20 13 40 07.1
comp=Z,3μm,21.0s
ANTO Ankara 153.21 299 ⇓P **PKPdf** 12 24 48.1 -0.5
ANTO Ankara 153.21 299 PKIKP **PKPdf** 12 24 48.2 -0.4
ANTO Ankara 153.21 299 PKP **PKPdf** 12 24 48.1 -0.5
PCED Cedros 153.35 63 *e*PKP **PKiKP** 12 24 56.7 +0.2
CALA Caldeira 153.36 63 *e*PKP **PKiKP** 12 24 57.2 +0.6
KIS Kishinev 153.43 317 *e*PKP **PKPdf** 12 24 48.0 -0.6
comp=Z,210nm,6.0s
KIS *e*L L 13 22 01.0
KIS LRM MLR 13 31 00.0
comp=Z,1μm,24.5s
KIS Kishinev 153.43 317 *e*PKIKP **PKPdf** 12 24 48.0 -0.6
KIS pmax pmax
comp=Z,210nm,6.0s
INVG Invergeldie, C 153.47 8 *e*P **PKPab** 12 25 08.0 -0.3
MILM Milestii Mici 153.47 316 ⇑P **PKPbc** 12 24 54.8 -1.4
MILM Milestii Mici 153.47 316 *e*PKHKP PKPpre 12 24 47.8
MILM Milestii Mici 153.47 316 *i* PKIKP **PKPbc** 12 24 54.0 -2.3
MILM Milestii Mici 153.47 316 PKPM 12 24 55.0
comp=Z,310nm,0.9s
MILM Milestii Mici 153.47 316 *e*PKIKP **PKPdf** 12 24 47.8 -0.8
MILM pmax pmax
comp=Z,310nm,0.9s
COP Copenhagen 153.52 347 *i* P **PKiKP** 12 24 56.3 +0.1
PICO Pico 153.58 64 *e*PKP **PKiKP** 12 24 57.4 +0.4
ROSA Rosais 153.69 63 *e*PKP **PKiKP** 12 24 57.4 +0.3
PMAN Manadas 153.82 63 *e*PKP **PKPbc** 12 24 56.8 -0.5
PID Ribeirinha 153.83 64 *e*PKP **PKiKP** 12 24 58.2 +0.7
R9F13 Warsaw-Wawer 153.93 333 *e*PKPdf **PKPdf** 12 24 49.4 +0.3
R9F13 *e*PKiKP **PKiKP** 12 24 57.5 +0.3
R9F13 *e*SKSdf **SKSdf** 12 31 57.6 +4.7
GGERF Dalmarnock 154.02 8 *e*P **PKPab** 12 25 08.6 -2.0
DRBR Darabani 154.05 321 ⇑P **PKPbc** 12 24 56.9 -0.6
EDI Edinburgh 154.06 7 *e*P **PKPab** 12 25 10.3 -0.5
IASR Iasi 154.07 318 ⇑P **PKiKP** 12 24 59.1 +1.4
VASR Vaslui 154.22 317 ⇓P **PKiKP** 12 24 58.2 +0.2
TLCR 154.28 313 ⇑P **PKiKP** 12 24 58.4 +0.3
TLCR 154.28 313 ⇑PKIKP **PKiKP** 12 24 58.4 +0.3
BEL Belsk 154.37 333 *e*PKPdf **PKPdf** 12 24 49.5 -0.2
BEL *e*PKPbc **PKiKP** 12 24 58.4 +0.3
BEL *e*L L 13 34 09.4
comp=Z,7μm,23.0s
PSBA Serra de Santa 154.39 63 *e*PKP **PKPbc** 12 24 55.7 -2.9
RGN Rugen 154.40 345 IAMs_20 IAMs_20 13 35 32.7
comp=Z,4μm,22.0s
RGN Rugen 154.40 345 *e*PKPab **PKPab** 12 25 13.6 +1.3
baz=20,slow=4.3
SAHE Sakarya_HENDEK 154.42 302 ⇑P **PKPdf** 12 24 49.8 -0.4
JURR Jurilovca 154.42 312 ⇑P **PKPab** 12 25 13.3 +0.5
VLDR Vladesti 154.44 315 ⇓P **PKiKP** 12 24 59.0 +0.5
GKP Gorka Klasztor 154.47 339 *e*PKPdf **PKPdf** 12 24 49.7 -0.1
GKP *e*PKPbc **PKiKP** 12 24 58.4 +0.1
GKP *e*PKPab **PKPab** 12 25 12.6 0.0
ADH Angra Heroismo 154.48 63 *e*PKP **PKPdf** 12 24 54.2 +3.9
CLGH Cloghs, Cushen 154.48 11 *e*P **PKPab** 12 25 11.9 -0.7
PAGU Agualva, Azore 154.50 63 *e*PKP **PKPdf** 12 24 53.7 +3.3
BIR Birlad 154.51 316 ⇑P **PKiKP** 12 24 59.3 +0.7
BIR Birlad 154.51 316 ⇑PKIKP **PKiKP** 12 24 59.3 +0.7
GIUM Giurgiulesti 154.53 314 ⇑P **PKiKP** 12 24 60.0 +1.3
VARL Varlezi 154.55 315 ⇑P **PKiKP** 12 24 59.1 +0.4
SCTR Scanteiesti 154.57 315 ⇑P **PKiKP** 12 24 59.2 +0.5
TATR Tatarca 154.57 314 ⇓P **PKiKP** 12 25 00.5 +1.8
EKA Eskdalemuir Ar 154.64 7 PKP **PKPdf** 12 24 50.4 +0.4
comp=Z,3.5nm,0.6s,baz=338,slow=1.5,SNR=19
EKA PKPab **PKPab** 12 25 13.3 0.0
comp=Z,103nm,0.7s,baz=336,slow=2.8,SNR=28
ESK Eskdalemuir 154.65 7 **PKPbc** 12 24 57.9 -0.7
ESK Eskdalemuir 154.65 7 PKIKP **PKPbc** 12 24 57.9 -0.7
TPGR Topolog 154.68 312 ⇑P **PKiKP** 12 24 57.4 -1.7
NEGRR Negrea 154.71 314 ⇓P **PKiKP** 12 24 59.3 +0.3
CFR Carcaliu 154.71 313 ⇑P **PKiKP** 12 24 58.9 -0.1
CFR Carcaliu 154.71 313 ⇑PKIKP **PKiKP** 12 24 58.9 -0.1
GHRR 154.74 316 ⇓P **PKiKP** 12 24 59.8 +0.7
SCHL Schela 154.75 314 ⇓P **PKiKP** 12 25 00.3 +1.2
SCHLR Schela 154.77 314 ⇓P **PKiKP** 12 24 59.8 +0.7
IZVR Izvoarele 154.77 314 ⇑P **PKiKP** 12 24 60.0 +0.8
TUDR 154.81 315 ⇑P **PKiKP** 12 25 00.2 +1.0
TIRR Tirgusor 154.86 312 ⇓P **PKPdf** 12 24 49.5 -1.2
TIRR Tirgusor 154.86 312 ⇓PKIKP **PKPdf** 12 24 49.5 -1.2
EFOR EFORIE 154.87 311 ⇓P **PKPbc** 12 24 57.6 -1.8
COSR Cosmesti PH 154.90 315 ⇓P **PKiKP** 12 24 59.5 +0.1
TESR Tescani 154.96 317 ⇑P **PKPdf** 12 24 52.1 +1.4
MFTR Murfatlar 154.97 311 ⇓P **PKiKP** 12 25 00.1 +0.5
PANC Panciu 154.99 316 ⇓P **PKiKP** 12 24 59.9 +0.4
MANR Mangalia 155.01 310 ⇓P 12 24 59.3
TLBR Topalu 155.05 312 ⇑P PKPdf 12 25 00.5 +10
HARR Harsova 155.06 313 ⇓P PKPdf 12 24 59.4 +8.5
HARR Harsova 155.06 313 ⇓PKIKP PKPdf 12 24 59.4 +8.5
ODBI Odobesti 155.10 315 ⇑P PKPdf 12 25 00.6 +10
KWP Kalwaria Pacla 155.15 327 *e*PKPdf **PKPdf** 12 24 49.9 -1.0
KWP *e*PKPbc **pPKPdf** 12 24 59.8 -1.8
KWP *e*PKPab **PKPab** 12 25 15.5 -0.3
KWP *e*L L 13 32 59.1
comp=Z,7μm,23.6s
BURAR Bucovina Array 155.16 321 **PKPdf** 12 24 50.3 -0.8
BURAR Bucovina Array 155.16 321 ⇑P **PKPdf** 12 24 51.5 +0.4
BURAR Bucovina Array 155.16 321 ⇑PKIKP **PKPdf** 12 24 51.5 +0.4
ONER Baraj Valea Uz 155.20 317 ⇑P **PKPdf** 12 24 52.1 +0.9
SILT Sile 155.22 304 ⇑P PKPdf 12 25 00.9 +10
VRI Vrincioaia 155.25 316 ⇑P PKPdf 12 25 00.4 +9.2
VRI Vrincioaia 155.25 316 ⇑PKIKP PKPdf 12 25 00.4 +9.2
EDMD Edmundbyers 155.25 6 *e*P **PKPab** 12 25 15.4 -0.5
PLOR Plostina 155.30 316 ⇑P PKPdf 12 25 00.6 +9.3
PLOR Plostina 155.30 316 ⇑PKIKP PKPdf 12 25 00.6 +9.3
GRER 155.34 315 ⇑P **PKPab** 12 25 18.6 +1.9
KESW Keswick, Cumbr 155.38 7 *e*P **PKPab** 12 25 15.3 -1.2
AMRR Amara 155.48 313 ⇓P **PKPab** 12 25 14.6 -2.7
AMRR Amara 155.48 313 ⇓PKP2 **PKPab** 12 25 14.6 -2.7
TURR Turia 155.57 317 ⇓P **PKPab** 12 25 15.1 -2.7
DBIC Dimbokro 155.66 163 PKP **PKPdf** 12 24 53.3 +0.6
comp=Z,23nm,0.6s,baz=191,slow=1.7,SNR=46
DBIC PKPab **PKPab** 12 25 19.3 +0.6
comp=Z,21nm,0.6s,baz=191,slow=3.4,SNR=6.7
DBIC Dimbokro 155.66 163 PKP **PKPdf** 12 24 52.8 +0.1
OZUR 155.69 317 ⇑P PKPdf 12 25 01.2 +9.3

HLG Helgoland 155.71 352 *e*PKPab **PKPab** 12 25 19.5 +1.6
baz=20,slow=4.3
ISR Istrita 155.73 315 ⇓P **PKPdf** 12 24 54.5 +2.6
ISR Istrita 155.73 315 ⇓PKIKP **PKPdf** 12 24 54.5 +2.6
PSET Sete Cidades 155.80 64 *e*PKP **PKPdf** 12 24 53.7 +1.5
KOLS Kolonicke sedl 155.83 326 *e*PKIKP **PKPdf** 12 24 52.2 +0.3
KOLS *e* 12 25 02.5
MLR Muntele Rosu 155.91 316 ⇓P **PKPdf** 12 24 51.9 -0.3
MLR Muntele Rosu 155.91 316 ⇓PKIKP **PKPdf** 12 24 51.9 -0.3
CMLA Cha da Macela 155.96 64 *e*PKP **PKPdf** 12 24 53.5 +1.1
DOPR Dopca 155.99 317 ⇑P **PKPdf** 12 24 53.0 +0.8
OJC Ojcow 156.01 331 *e*PKPdf **PKPdf** 12 24 50.8 -1.2
OJC *e*PKPbc **pPKPdf** 12 25 01.5 -1.2
OJC *e*L L 13 28 01.9
comp=Z,4μm,27.8s
PGRON Lagoa das Cont 156.08 64 *e*PKP **PKPdf** 12 24 53.7 +1.1
CTYL Yalikoy Yolu 156.08 305 ⇑P **PKPab** 12 25 20.7 +0.7
HPK Haverah Park 156.14 5 *e*P **PKPab** 12 25 19.1 -0.7
PLAR PLOIESTI 156.15 315 ⇑P **PKPab** 12 25 20.8 +0.6
RUE Ruedersdorf 156.17 342 *e*PKPdf **PKPdf** 12 24 51.0 -1.2
baz=20,slow=1.3
RUE *e*PKPab **PKPab** 12 25 20.8 +0.9
baz=20,slow=4.3
TGMR Targu Mures 156.18 319 ⇑P **PKPab** 12 25 22.7 +2.4
BART Pico Bartolome 156.24 64 *e*PKP **PKPdf** 12 24 54.0 +1.1
GORT1 Trebel 156.29 346 *e*PKPdf **PKPdf** 12 24 50.9 -1.3
baz=20,slow=1.3
GORT1 *e*PKPab **PKPab** 12 25 20.6 +0.2
baz=20,slow=4.3
WME Myndd Eilian 156.39 10 *e*P **PKPab** 12 25 20.1 -0.8
NIE Niedzica 156.40 329 *e*PKPdf **PKPdf** 12 24 52.6 0.0
NIE *e*L L 13 38 11.3
comp=Z,4μm,21.0s
PSMN Pico do Norte, 156.44 66 *e*PKP **PKPdf** 12 24 54.0 +0.9
VOIR 156.48 317 ⇑P **PKPdf** 12 24 51.9 -1.0
VOIR 156.48 317 ⇑PKIKP **PKPdf** 12 24 51.9 -1.0
LOZB Loznitsa 156.51 311 ⇑P **PKPdf** 12 24 52.7 -0.2
PHSR Pinarhisar 156.57 306 ⇓P **PKPab** 12 25 22.2 +0.1
BAND Balkesir-Ban 156.57 303 ⇑P **PKPab** 12 25 22.1 -0.1
MTUR Matau 156.58 316 ⇑P **PKPdf** 12 24 59.3 +6.2
MTUR Matau 156.58 316 ⇑PKIKP **PKPdf** 12 24 59.3 +6.2
CJR Cluj-Napoca 156.58 321 ⇓P PKPdf 12 25 01.9 +8.9
CJR Cluj-Napoca 156.58 321 ⇓PKIKP PKPdf 12 25 01.9 +8.9
ARR Arges 156.76 317 ⇑P **PKPdf** 12 24 53.5 +0.2
TNR Turnu Rosu 156.82 318 ⇓P **PKPdf** 12 24 53.9 +0.6
TNR Turnu Rosu 156.82 318 ⇓PKIKP **PKPdf** 12 24 53.9 +0.6
KSP Ksiaz 156.84 337 *e*PKPdf **PKPdf** 12 24 52.3 -0.8
KSP *e*PKPbc **pPKPdf** 12 25 03.9 0.0
KSP *e*PKPab **PKPab** 12 25 23.0 +0.1
KSP *e*L L 13 37 25.7
comp=Z,6μm,21.3s
MARR Marisel-Cluj 156.87 321 ⇑P **PKPab** 12 25 22.7 -0.6
RETH Rethem/Aller, 156.89 349 *e*PKPdf **PKPdf** 12 24 51.6 -1.4
baz=20,slow=1.3
RETH *e*PKPab **PKPab** 12 25 22.5 -0.5
baz=20,slow=4.3
FLTG Flechtingen 156.92 346 *e*PKPdf **PKPdf** 12 24 52.5 -0.6
baz=20,slow=1.3
JMB Yambol 156.92 309 *i* P **PKPdf** 12 24 52.5 -1.0
STNC Stoke 156.95 7 *e*P **PKPab** 12 25 23.5 +0.2
LANS Liptovska Anna 156.96 330 *e*PKIKP **PKPdf** 12 24 54.2 +0.8
LANS *e* 12 25 07.2
SZH Strazhitsa 156.96 311 *i* P **PKPdf** 12 24 52.4 -1.1
OKC Ostrava-Krasne 156.98 333 AMS AMS 13 40 40.0
comp=Z,3μm,20.6s
HUMR Humele 156.99 315 ⇓P **PKPdf** 12 24 56.3 +2.7
KECS Kecovo 156.99 328 *e*PKP2 **PKPab** 12 25 23.7 0.0
DRGR 157.01 322 ⇑P **PKPdf** 12 24 53.3 -0.3
DRGR 157.01 322 ⇑PKIKP **PKPdf** 12 24 53.3 -0.3
LLW Llanuwchllyn 157.01 9 *e*P **PKPab** 12 25 20.8 -2.8
FOEL Foel Wylfa 157.04 8 *e*P **PKPab** 12 25 21.9 -1.7
STEB Steborice 157.05 333 *e*PKPDF **PKPdf** 12 24 53.8 +0.4
STEB *ex* x 12 25 06.5
OSTC Ostas 157.11 336 *e*PKPDF **PKPdf** 12 24 53.7 +0.2
OSTC *e*PKPAB **PKPab** 12 25 25.2 +1.1
OSTC AMS AMS 13 37 10.0
comp=Z,6μm,20.2s
OSTC Ostas 157.11 336 *e*PKIKP **PKPdf** 12 24 53.7 +0.2
OSTC MLR MLR
comp=Z,6μm,20.2s
CHVC Chvalec 157.14 337 *e*PKPDF **PKPdf** 12 24 53.7 +0.2
CHVC AMS AMS 13 37 30.0
comp=Z,7μm,20.0s
CHVC Chvalec 157.14 337 *e*PKIKP **PKPdf** 12 24 53.7 +0.2
CHVC MLR MLR
comp=Z,7μm,20.0s
ELND Elena 157.18 310 ⇓P **PKPdf** 12 24 52.9 -1.0
UPC Upice 157.22 337 *e*PKPDF **PKPdf** 12 24 53.7 +0.1
UPC *e*PKPAB **PKPab** 12 25 26.4 +1.8
UPC AMS AMS 13 37 40.0
comp=Z,7μm,20.9s
UPC Upice 157.22 337 *e*PKIKP **PKPdf** 12 24 53.7 +0.1
UPC MLR MLR
comp=Z,7μm,20.9s
LOT Lotru 157.22 318 ⇑P **PKPdf** 12 24 52.9 -1.0
ASSE Asse, Remlinge 157.23 346 *e*PKPdf **PKPdf** 12 24 52.6 -0.9
baz=20,slow=1.3
ASSE *e*PKPab **PKPab** 12 25 24.4 0.0
baz=20,slow=4.3
DPC Dobruska-Polom 157.24 336 *e*PKPDF **PKPdf** 12 24 53.6 -0.1
DPC *e*pPKP **pPKPdf** 12 25 06.3 +1.9
DPC *e*PP **PP** 12 29 01.3 -2.0
DPC AMS AMS 13 37 10.0
comp=Z,4μm,20.9s
DPC Dobruska-Polom 157.24 336 *e*PKIKP **PKPdf** 12 24 53.6 -0.1
DPC *e* 12 25 06.3
DPC *e* 12 29 01.3
DPC MLR MLR
comp=Z,4μm,20.9s
MORC Moravsky Berou 157.26 333 IAMs_20 IAMs_20 13 34 08.7
comp=Z,4μm,22.0s
MORC Moravsky Berou 157.26 333 *e*PKP **PKPdf** 12 24 52.9 -0.9
MORC *e* 12 25 24.2
MORC Moravsky Berou 157.26 333 ⇓P **PKPdf** 12 24 54.4 +0.6
MORC Moravsky Berou 157.26 333 ⇓PKIKP **PKPdf** 12 24 54.4 +0.6
KRLC Kraliky 157.31 335 *e*PKPDF **PKPdf** 12 24 54.3 +0.5
KRLC AMS AMS 13 35 00.0
comp=Z,4μm,22.1s
KRLC Kraliky 157.31 335 *e*PKIKP **PKPdf** 12 24 54.3 +0.5
KRLC MLR MLR
comp=Z,4μm,22.1s
BORR Bors 157.31 323 ⇑P **PKPdf** 12 24 57.1 +3.3
CWF Charnwood Fore 157.38 5 *e*P **PKPab** 12 25 24.6 -0.5
CLL Collm 157.44 342 *i* PKIKP **PKPdf** 12 24 52.9 -0.9
CLL *i* 12 25 04.8
CLL pmax pmax
comp=Z,65nm,1.6s
CLL MLR MLR
comp=Z,4μm,19.8s
CLL Collm 157.44 342 *e*PKPdf **PKPdf** 12 24 52.9 -0.9
baz=20,slow=1.3
CLL *e*PKPab **PKPab** 12 25 25.0 -0.4
baz=20,slow=4.3
HLM1 Long Mynd 157.44 8 *e*P **PKPab** 12 25 24.6 -0.9
ARG Arkhangelos 157.46 292 IAMs_20 IAMs_20 13 50 51.7
comp=Z,3μm,22.0s
DEV Deva 157.47 320 ⇓P PKPdf 12 25 04.0 +10
DEV Deva 157.47 320 ⇓PKIKP PKPdf 12 25 04.0 +10
MAUC Maruska 157.48 332 *e*PKPDF **PKPdf** 12 24 55.1 +1.1
IBBN Ibbenburen 157.56 351 *e*PKPdf **PKPdf** 12 24 53.5 -0.4
baz=20,slow=1.3
IBBN *e*PKPab **PKPab** 12 25 26.1 +0.1
baz=20,slow=4.3
CLZ Clausthal 157.56 346 *e*PKPdf **PKPdf** 12 24 53.5 -0.6
baz=20,slow=1.3
CLZ *e*PKPab **PKPab** 12 25 26.1 +0.1
baz=20,slow=4.3
BRG Berggiesshubel 157.56 340 *e*PKPdf **PKPdf** 12 24 53.5 -0.5
baz=20,slow=1.3
BRG *e*PKPab **PKPab** 12 25 26.2 +0.2
baz=20,slow=4.3
BRG Berggiesshubel 157.56 340 ⇓ *i* PKPf 12 24 53.5
BRG Amp 12 24 58.6
comp=Z,106nm,1.3s
VLAD Vladila 157.62 314 ⇓P **PKPdf** 12 24 60.0 +5.7
LPW Lampeter 157.67 10 *e*P **PKPab** 12 25 25.7 -0.8
PSZ Piszkesteto 157.67 327 ⇓P **PKPdf** 12 24 53.8 -0.6
PSZ Piszkesteto 157.67 327 ⇓PKIKP **PKPdf** 12 24 53.8 -0.6
PVCC Panska Ves 157.68 339 *e*PKPDF **PKPdf** 12 24 54.0 -0.2
PVCC *e*PKPAB **PKPab** 12 25 26.6 +0.1
PVCC AMS AMS 13 37 30.0
comp=Z,3μm,21.0s
PVCC Panska Ves 157.68 339 *e*PKIKP **PKPdf** 12 24 54.0 -0.2
PVCC MLR MLR
comp=Z,3μm,21.0s
PLVB Pleven 157.78 312 ⇓P **PKPab** 12 25 25.8 -1.5
GZR Gura Zlata 157.83 319 ⇓P **PKPdf** 12 24 53.5 -1.1
GZR Gura Zlata 157.83 319 ⇓PKIKP **PKPdf** 12 24 53.5 -1.1
NEUB Neuenburg 157.84 344 *e*PKPdf **PKPdf** 12 24 54.3 -0.1
baz=20,slow=1.3
NEUB *e*PKPab **PKPab** 12 25 27.1 -0.1
baz=20,slow=4.3
CAVK Edirne/Enez-Ca 157.86 305 ⇑P **PKPab** 12 25 27.1 -0.6
ALN Alexandroupoli 157.87 305 IAMs_20 IAMs_20 13 41 05.8
comp=Z,3μm,20.0s
SIRR Siria 157.91 322 ⇓P **PKPdf** 12 24 54.0 -0.7
GTTG Gottingen 157.93 347 *e*PKPdf **PKPdf** 12 24 54.8 +0.3
baz=20,slow=1.3
GTTG *e*PKPab **PKPab** 12 25 27.4 -0.2
baz=20,slow=4.3
JAVC Velka Javorina 157.94 332 *e*PKP **PKPdf** 12 24 54.6 0.0
SRE Strehaia 158.00 317 ⇓P **PKPab** 12 25 29.2 +1.0
SRE Strehaia 158.00 317 ⇓PKP2 **PKPab** 12 25 29.2 +1.0
VRAC Vranov 158.01 334 PP **PP** 12 29 10.3 +2.8
comp=Z,12nm,1.0s,baz=30,slow=5.1,SNR=5.1
VRAC Vranov 158.01 334 *e*PKP **PKPdf** 12 24 53.6 -1.1
VRAC *e* 12 25 27.8
VRAC Vranov 158.01 334 ⇑P **PKPdf** 12 24 55.2 +0.6
VRAC Vranov 158.01 334 ⇑PKIKP **PKPdf** 12 24 55.2 +0.6
EZN Ezine 158.03 302 ⇑P **PKPdf** 12 24 53.4 -1.6
EZN Ezine 158.03 302 ⇑PKIKP **PKPdf** 12 24 53.4 -1.6
KDZ Kurdzhali 158.08 308 *i* P **PKPdf** 12 24 53.4 -1.6
MONM Monmouth 158.12 8 *e*P **PKPab** 12 25 28.0 -0.3
PRA Prague 158.12 338 AMS AMS 13 37 50.0
comp=Z,4μm,21.7s
PRU Pruhonice 158.15 338 *e*PKPDF **PKPdf** 12 24 54.3 -0.5
PRU *e*PKPAB **PKPab** 12 25 30.0 +1.4
PRU *e*PP **PP** 12 29 04.3 -3.9
PRU AMS AMS 13 37 50.0
comp=Z,4μm,22.0s
PRU Pruhonice 158.15 338 *e*PKIKP **PKPdf** 12 24 54.3 -0.5
PRU *e* 12 29 04.3
PRU MLR MLR
comp=Z,4μm,22.0s
STRD Stroud 158.25 7 *e*P **PKPab** 12 25 28.3 -0.6
PLD Plovdiv 158.27 309 *i* P **PKPdf** 12 24 53.3 -1.9
KRUC Moravsky 158.28 334 *e*PKP **PKPdf** 12 24 54.0 -1.0
KRUC *e* 12 25 28.9
SMOL Smolenice 158.31 332 *e*PKP2 **PKPab** 12 25 30.0 +0.6
HERR Herculane 158.33 318 ⇓P **PKPdf** 12 24 54.2 -1.0
BZS Buzias 158.34 321 ⇓P **PKPdf** 12 24 54.2 -0.9
MPEP Malo Peshtene 158.36 313 *i* P **PKPdf** 12 24 54.6 -0.7
PUNG Punghina 158.37 316 ⇑P **PKPab** 12 25 31.0 +1.2
TANN Tannenbergstha 158.39 342 *e*PKPdf **PKPdf** 12 24 54.4 -0.7
baz=20,slow=1.3
TANN *e*PKPab **PKPab** 12 25 29.6 -0.1
baz=20,slow=4.3
MOX Moxa 158.40 343 *e*PKPdf **PKPdf** 12 24 54.6 -0.5
baz=20,slow=1.3
MOX *e*PKPab **PKPab** 12 25 29.6 -0.1
baz=20,slow=4.3
MOX *e*L L 13 37 54.3
comp=Z,3μm,20.7s
PLN Plauen 158.41 342 *e*PKPdf **PKPdf** 12 24 53.2 -1.9
baz=20,slow=1.3
PLN *e*PKPab **PKPab** 12 25 29.8 0.0
baz=20,slow=4.3
TREC Trest 158.42 336 AMS AMS 13 38 50.0
comp=Z,4μm,21.4s
RZN Rozhen 158.47 308 *i* P **PKPdf** 12 24 54.2 -1.5
SRO Srobarova 158.47 329 *e*PKP2 **PKPab** 12 25 30.2 +0.1
MODS Modra-Piesok 158.49 332 *e*PKIKP **PKPdf** 12 24 55.1 -0.2
KASTN Kahler Asten 158.53 349 *e*PKPdf **PKPdf** 12 24 54.3 -0.9
baz=20,slow=1.3
KASTN *e*PKPab **PKPab** 12 25 29.9 -0.3
baz=20,slow=4.3
UBBA Unterbreizbach 158.61 346 *e*PKPdf **PKPdf** 12 24 55.1 0.0
baz=20,slow=1.3
UBBA *e*PKPab **PKPab** 12 25 30.4 0.0
baz=20,slow=4.3
ZVC Zvikov 158.74 338 *e*PKPDF **PKPdf** 12 24 55.2 -0.3
ZVC AMS AMS 13 37 30.0
comp=Z,4μm,22.2s
WOL Wolverton 158.80 6 *e*P **PKPab** 12 25 31.1 -0.2
MANZ Manzenberg 158.88 342 *e*PKPdf **PKPdf** 12 24 54.7 -1.0
baz=20,slow=1.3
MANZ *e*PKPab **PKPab** 12 25 31.8 0.0
baz=20,slow=4.3
PLNA Plana 158.99 311 *i* P **PKPdf** 12 24 55.9 -0.3
VTS Vitosha 159.04 312 *i* P **PKPdf** 12 24 55.8 -0.5
ROTZ Rotzenmuhle 159.05 341 *e*PKPdf **PKPdf** 12 24 54.7 -1.2
baz=20,slow=1.3
ROTZ *e*PKPab **PKPab** 12 25 32.8 +0.3
baz=20,slow=4.3
MMB Musomishta 159.20 309 *i* P **PKPdf** 12 24 54.5 -1.9
KHC Kasperske Hory 159.21 338 *e*PKPDF **PKPdf** 12 24 55.5 -0.6
KHC *e*pPKP **pPKPdf** 12 25 08.8 +1.9
KHC *e*PKPAB **PKPab** 12 25 32.0 -1.3
KHC *e*PP **PP** 12 29 11.4 -2.6
KHC *ex* x 12 39 32.6
KHC AMS AMS 13 35 20.0
comp=Z,5μm,21.7s
KHC Kasperske Hory 159.21 338 *e*PKIKP **PKPdf** 12 24 55.5 -0.6
KHC *e* 12 25 08.8
KHC *e* 12 25 32.0
KHC *e* 12 29 11.4
KHC MLR MLR
comp=Z,5μm,21.7s
CKRC Cesky Krumlov 159.24 337 *e*PKPDF **PKPdf** 12 24 55.4 -0.8
CKRC *e*PKPAB **PKPab** 12 25 32.6 -0.8
CKRC *ex* x 12 39 33.6
CKRC AMS AMS 13 34 00.0
comp=Z,4μm,22.8s
CKRC Cesky Krumlov 159.24 337 *e*PKIKP **PKPdf** 12 24 55.4 -0.8
CKRC *e* 12 25 32.6
CKRC MLR MLR
comp=Z,4μm,22.8s
BEBN Eben Emael 159.29 354 *d*PKP **PKPab** 12 25 33.0 -0.5
GRA1 Grafenberg Arr 159.38 343 IAMs_20 IAMs_20 13 38 21.7
comp=Z,3μm,22.0s
GRF Grafenberg Arr 159.38 343 *e*PKPdf **PKPdf** 12 24 56.4 +0.2
baz=20,slow=1.3
GRF *e*PKPab **PKPab** 12 25 34.3 +0.3
baz=20,slow=4.3
GRF *e*L L 13 38 21.7
comp=Z,3μm,21.8s
GRFO Grafenberg 159.38 343 **PKPab** 12 25 33.8 -0.1
GRFO IAMs_20 IAMs_20 13 38 21.7
comp=Z,3μm,22.0s
GRFO Grafenberg 159.38 343 PKP2 **PKPab** 12 25 33.8 -0.1
UCC Uccle 159.39 356 **PKPdf** 12 24 55.6 -0.6
UCC **PKPab** 12 25 33.2 -0.7
UCC Uccle 159.39 356 *d*PKPdf **PKPdf** 12 24 55.5 -0.6
UCC *d*PKP **PKPab** 12 25 33.5 -0.4
UCC Uccle 159.39 356 PKIKP **PKPdf** 12 24 55.6 -0.6
UCC 12 25 33.2
CONA Conrad Observa 159.41 333 *e*PKP **PKPdf** 12 24 55.2 -1.2
comp=Z,20nm,1.3s,SNR=16
CONA *e*PKP **PKPab** 12 25 34.2 0.0
comp=Z,80nm,1.0s
CONA *i* PP **PP** 12 29 14.3 -1.0
comp=Z,3.8nm,0.7s
WET Wettzell 159.42 340 *e*PKPdf **PKPdf** 12 24 55.0 -1.4
baz=20,slow=1.3
WET *e*PKPab **PKPab** 12 25 34.5 +0.4
baz=20,slow=4.3
GEC2 GERESS Array S 159.42 338 **PKPdf** 12 24 55.3 -1.1
GEC2 PKPab **PKPab** 12 25 34.2 -0.1
GEC2 GERESS Array S 159.42 338 *e*PKPdf **PKPdf** 12 24 54.9 -1.6
baz=20,slow=1.3
GEC2 *e*PKPab **PKPab** 12 25 34.1 -0.1
baz=20,slow=4.3
GERES GERESS Array B 159.42 338 PKP **PKPdf** 12 24 55.8 -0.6
comp=Z,12nm,0.9s,baz=328,slow=1.3,SNR=34
GERES PKPab **PKPab** 12 25 32.5 -1.8
comp=Z,11nm,0.8s,baz=14,slow=3.7,SNR=4.3
RONA Rosalia, Austr 159.42 332 *e*PKP **PKPdf** 12 24 55.3 -1.1
comp=Z,5.4nm,0.8s,SNR=18
RONA *i* PKP **PKPab** 12 25 33.8 -0

TNS				*e*PKPab	**PKPab**	12 25 34.2	-0.2	
	baz=20,slow=4.3							
KKB	**Krupnik**	**159.48**	**310**	*i* P	**PKPdf**	12 24 55.3	-1.4	
BSTI	**Sart Tilman**	**159.51**	**354**	*d*PKPdf	**PKPdf**	12 24 56.4	0.0	
BSTI				*d*PKP	**PKPab**	12 25 34.2	-0.3	
BHOU	**Houvegnez**	**159.69**	**353**	*d*PKPdf	**PKPdf**	12 24 56.8	+0.2	
BHOU				*d*PKP	**PKPab**	12 25 35.2	-0.1	
BCLA	**Clavier**	**159.70**	**354**	*d*PKP	**PKPab**	12 25 34.7	-0.5	
BGES	**Gesves**	**159.75**	**354**	*d*PKPdf	**PKPdf**	12 24 56.4	-0.3	
BGES				*d*PKP	**PKPab**	12 25 34.9	-0.6	
BMRD	**Maredsous**	**159.86**	**355**	*d*PKPdf	**PKPdf**	12 24 56.2	-0.5	
BMRD				*d*PKP	**PKPab**	12 25 35.3	-0.7	
RCHB	**Rochefort**	**159.97**	**354**	*d*PKPdf	**PKPdf**	12 24 56.5	-0.4	
RCHB				*d*PKP	**PKPab**	12 25 35.4	-1.0	
DOU	**Dourbes**	**160.08**	**355**	*d*PKPdf	**PKPdf**	12 24 56.6	-0.4	
DOU				*d*PKP	**PKPab**	12 25 35.7	-1.2	
MOA	**Molln**	**160.08**	**335**	*e*PKP	**PKPdf**	12 24 55.4	-1.7	
	comp=Z,45nm,1.6s,SNR=13							
MOA				*i* PKP	**PKPab**	12 25 37.9	+0.9	
	comp=Z,120nm,1.4s							
ARSA	**Arzberg**	**160.09**	**332**	*e*PKP	**PKPdf**	12 24 56.0	-1.2	
	comp=Z,0.5nm,0.2s,SNR=12							
ARSA				*e*PKP	**PKPab**	12 25 37.6	+0.4	
	comp=Z,6.1nm,0.7s							
ARSA				*i* PP	**PP**	12 29 19.0	+0.1	
	comp=Z,1.1nm,0.8s							
VAY	**Valandovo**	**160.09**	**309**	*i* Pn	**PKPdf**	12 24 55.8	-1.5	
IDI	**Anoyia**	**160.19**	**291**	PKP	**PKPdf**	12 24 56.5	-1.3	
IDI	**Anoyia**	**160.19**	**291**	PKP	**PKPdf**	12 24 57.0	-0.7	
	comp=Z,49nm,0.9s,baz=150,slow=3.3,SNR=39							
IDI				PKPab	**PKPab**	12 25 37.0	-1.2	
	comp=Z,63nm,0.8s,baz=76,slow=6.6,SNR=5.2							
WLF	**Walferdange**	**160.35**	**352**	PKP	**PKPdf**	12 24 58.4	+1.1	
WLF	**Walferdange**	**160.35**	**352**	*d*PKPdf	**PKPdf**	12 24 57.8	+0.4	
WLF				*d*PKP	**PKPab**	12 25 38.2	+0.1	
WLF	**Walferdange**	**160.35**	**352**	*e*PKPdf	**PKPdf**	12 24 57.3	0.0	
	baz=20,slow=1.3							
WLF				*e*PKPab	**PKPab**	12 25 38.4	+0.3	
	baz=20,slow=4.3							
KOGS	**Kog**	**160.43**	**330**	*i* PKPdf	**PKPdf**	12 24 56.2	-1.3	
KOGS				*e*PKPab	**PKPab**	12 25 36.5	-2.1	
KOGS				*e*PP	**PP**	12 29 18.1	-2.6	
BIOA	**Bad Ischl, Aus**	**160.44**	**336**	*e*PKP	**PKPdf**	12 24 55.9	-1.7	
	comp=Z,32nm,1.2s,SNR=10							
BIOA				*i* PKP	**PKPab**	12 25 39.4	+0.8	
	comp=Z,134nm,1.7s,SNR=6.7							
BIOA				*e*PP	**PP**	12 29 20.2	-0.4	
	comp=Z,2.1nm,0.7s							
BIOA	**Bad Ischl, Aus**	**160.44**	**336**	*i* P	**PKPab**	12 25 39.4	+0.8	
	comp=Z,134nm,1.7s,SNR=6.7							
SKO	**Skopje**	**160.52**	**312**	*i* Pn	**PKPdf**	12 24 56.8	-1.0	
STU	**Stuttgart**	**160.71**	**346**	*e*PKPdf	**PKPdf**	12 24 57.8	0.0	
	baz=20,slow=1.3							
STU				*e*PKPab	**PKPab**	12 25 39.9	+0.2	
	baz=20,slow=4.3							
SOKA	**Soboth**	**160.75**	**332**	*i* PKP	**PKPdf**	12 24 56.6	-1.4	
	comp=Z,40nm,1.4s,SNR=33							
SOKA				*i* PKP	**PKPab**	12 25 39.0	-1.2	
	comp=Z,81nm,1.6s							
SOKA				*e*PP	**PP**	12 29 21.8	-0.7	
	comp=Z,10.0nm,1.1s							
FUR	**Furstenfeldbru**	**160.76**	**341**	*e*PKPdf	**PKPdf**	12 24 57.1	-0.8	
	baz=20,slow=1.3							
FUR				*e*PKPab	**PKPab**	12 25 40.3	+0.3	
	baz=20,slow=4.3							
MOSL	**Moslavina**	**160.83**	**327**	*e*P	**PKPdf**	12 24 56.6	-1.4	
RUDO	**Rudo**	**160.84**	**319**	*e*P	**PKPdf**	12 24 56.7	-1.4	
LESA	**Schwarzleotal**	**161.00**	**337**	*i* PKP	**PKPdf**	12 24 56.7	-1.5	
	comp=Z,47nm,0.9s,SNR=29							
LESA				*i* PKP	**PKPab**	12 25 41.2	0.0	
	comp=Z,231nm,1.9s							
LESA				*e*PP	**PP**	12 29 21.8	-1.9	
	comp=Z,7.4nm,1.0s							
KBA	**Koelnbreinsper**	**161.06**	**336**	*i* PKP	**PKPdf**	12 24 56.4	-2.1	
	comp=Z,26nm,1.1s,SNR=29							
KBA				*i* PKP	**PKPab**	12 25 41.4	-0.2	
	comp=Z,29nm,0.7s							
KBA				*e*PP	**PP**	12 29 23.6	-0.6	
	comp=Z,6.9nm,0.9s							
OBKA	**Obir**	**161.09**	**333**	*i* PKP	**PKPdf**	12 24 57.5	-0.9	
	comp=Z,21nm,1.5s,SNR=10							
OBKA				*i* PKP	**PKPab**	12 25 39.9	-1.7	
	comp=Z,23nm,0.8s							
OBKA				*e*PP	**PP**	12 29 21.5	-2.8	
	comp=Z,2.0nm,0.7s							
BLY	**Banja Luka**	**161.25**	**325**	*e*P	**PKPdf**	12 24 56.4	-2.1	
BLY	**Banja Luka**	**161.25**	**325**	||P	**PKPdf**	12 24 57.4	-1.1
BFO	**Black Forest**	**161.31**	**347**		**PKPdf**	12 24 57.8	-0.7	
BFO	**Black Forest**	**161.31**	**347**	PKIKP	**PKPdf**	12 24 57.8	-0.7	
BFO	**Black Forest**	**161.31**	**347**	*e*PKPdf	**PKPdf**	12 24 57.8	-0.7	
	baz=20,slow=1.3							
BFO				*e*PKPab	**PKPab**	12 25 42.1	-0.3	
	baz=20,slow=4.3							
MYKA	**Terra Mystica**	**161.34**	**334**	*i* PKP	**PKPdf**	12 24 57.6	-1.0	
	comp=Z,40nm,1.7s,SNR=13							
MYKA				*i* PKP	**PKPab**	12 25 41.9	-0.8	
	comp=Z,71nm,1.4s							
MYKA				*e*PP	**PP**	12 29 22.2	-3.4	
	comp=Z,3.2nm,1.2s							
OHR	**Ohrid**	**161.37**	**311**	*i* Pn	**PKPdf**	12 24 58.5	-0.3	
OZLJ	**Ozalj**	**161.42**	**329**	*e*P	**PKPdf**	12 24 57.3	-1.3	
WATA	**Walderalm**	**161.42**	**339**	*i* PKP	**PKPdf**	12 24 57.6	-1.2	
	comp=Z,58nm,1.6s,SNR=10							
WATA				*i* PKP	**PKPab**	12 25 43.2	+0.1	
	comp=Z,107nm,0.9s,SNR=7.8							
WATA				*e*PP	**PP**	12 29 23.1	-2.9	
	comp=Z,6.0nm,0.6s							
WATA	**Walderalm**	**161.42**	**339**	*i* P	**PKPab**	12 25 43.2	+0.1	
	comp=Z,107nm,0.9s,SNR=7.8							
WTTA	**Wattenberg**	**161.47**	**339**	*e*PKP	**PKPdf**	12 24 57.8	-1.1	
	comp=Z,95nm,1.4s,SNR=23							
WTTA				*i* PKP	**PKPab**	12 25 43.4	0.0	
	comp=Z,82nm,0.6s							
WTTA				*e*PP	**PP**	12 29 23.8	-2.5	
	comp=Z,7.0nm,1.2s							
LJU	**Ljubljana**	**161.47**	**332**	*i* PKPdf	**PKPdf**	12 24 57.6	-1.0	
LJU				*e*PP	**PP**	12 29 25.4	-0.9	
UBR	**Ueberruh**	**161.52**	**343**	*e*PKPdf	**PKPdf**	12 24 57.7	-1.1	
	baz=20,slow=1.3							
UBR				*e*PKPab	**PKPab**	12 25 43.9	+0.5	
	baz=20,slow=4.3							
RETA	**Reutte**	**161.52**	**341**	*e*PKP	**PKPdf**	12 24 57.8	-1.0	
	comp=Z,29nm,2.0s							
RETA				*i* PKP	**PKPab**	12 25 43.7	+0.2	
	comp=Z,140nm,0.8s,SNR=12							
RETA				*e*PP	**PP**	12 29 24.4	-2.0	
	comp=Z,3.6nm,0.8s							
RETA	**Reutte**	**161.52**	**341**	*i* P	**PKPab**	12 25 43.7	+0.2	
	comp=Z,140nm,0.8s,SNR=12							
MOTA	**Moosalm**	**161.56**	**340**	*e*PKP	**PKPdf**	12 24 57.8	-1.2	
	comp=Z,60nm,1.2s,SNR=19							
MOTA				*i* PKP	**PKPab**	12 25 43.9	+0.2	
	comp=Z,285nm,1.1s,SNR=9.7							
MOTA				*e*PP	**PP**	12 29 23.8	-2.9	
	comp=Z,8.4nm,1.2s							
MOTA	**Moosalm**	**161.56**	**340**	*i* P	**PKPab**	12 25 43.9	+0.2	
	comp=Z,285nm,1.1s,SNR=9.7							
KLINJ	**Klinje**	**161.57**	**319**	*e*P	**PKPdf**	12 24 56.6	-2.4	
BOJS	**Bojanci**	**161.60**	**330**	*i* PKPdf	**PKPdf**	12 24 57.5	-1.3	
PDG	**Podgorica**	**161.63**	**316**	||P	**PKPdf**	12 24 58.0	-1.0
SQTA	**Sankt Quirin**	**161.64**	**340**	*e*PKP	**PKPdf**	12 24 58.3	-0.7	
	comp=Z,54nm,1.3s,SNR=14							
SQTA				*i* PKP	**PKPab**	12 25 43.7	-0.3	
	comp=Z,68nm,0.9s							
SQTA				PP	**PP**	12 29 25.5	-1.6	
	comp=Z,1.8nm,0.5s							
ABTA	**Abfaltersbach**	**161.64**	**337**	*i* PKP	**PKPdf**	12 24 57.8	-1.1	
	comp=Z,53nm,1.4s,SNR=26							
ABTA				*i* PKP	**PKPab**	12 25 43.1	-0.9	
	comp=Z,77nm,1.4s							
ABTA				*e*PP	**PP**	12 29 25.7	-1.4	
	comp=Z,7.5nm,1.0s							
CEY	**Cerknica**	**161.76**	**331**	*i* PKPdf	**PKPdf**	12 24 57.9	-1.1	
CEY				*i*		12 25 13.5		
CEY				*i* PKPab	**PKPab**	12 25 42.9	-1.6	
CEY				*e*		12 44 29.4		
DAVA	**Damuels**	**161.94**	**343**	*e*PKP	**PKPdf**	12 24 58.5	-0.9	
	comp=Z,41nm,1.2s,SNR=7.6							
DAVA				*i* PKP	**PKPab**	12 25 45.5	+0.1	
	comp=Z,218nm,0.9s,SNR=12							
DAVA				*e*PP	**PP**	12 29 26.6	-2.2	
	comp=Z,2.1nm,0.8s							
DAVA	**Damuels**	**161.94**	**343**	*i* P	**PKPab**	12 25 45.5	+0.1	
	comp=Z,218nm,0.9s,SNR=12							
FETA	**Feichten**	**161.96**	**341**	*e*PKP	**PKPdf**	12 24 58.6	-0.8	
	comp=Z,40nm,1.0s,SNR=24							
FETA				*i* PKP	**PKPab**	12 25 45.0	-0.5	
	comp=Z,155nm,1.3s							
FETA				PP	**PP**	12 29 27.7	-1.1	
	comp=Z,1.8nm,0.7s							
KIJV	**Kijevo**	**162.18**	**324**	*e*P	**PKPdf**	12 24 57.5	-2.0	
STON	**Ston**	**162.26**	**320**	*e*P	**PKPdf**	12 24 57.6	-1.9	
BRJN	**Brijuni**	**162.72**	**331**	*e*P	**PKPdf**	12 24 56.4	-3.5	
TOA0	**Torodi Ar. Sit**	**162.99**	**179**	P	**PKPdf**	12 25 02.7	+1.5	
	SNR=5.7							
TORD	**Torodi Ar. Bea**	**162.99**	**179**		**PKPdf**	12 24 59.9	-1.2	
TORD	**Torodi Ar. Bea**	**162.99**	**179**	PKP	**PKPdf**	12 24 59.2	-1.9	
	comp=Z,38nm,1.1s,baz=108,slow=0.9,SNR=71							
TORD				PKPab	**PKPab**	12 25 50.6	+0.1	
	comp=Z,5.0nm,0.6s,baz=155,slow=3.3,SNR=6.3							
PMOZ	**Porto Moniz, M**	**163.35**	**76**	PKP	**PKPdf**	12 25 02.3	+1.2	
PMPST	**Porto Santo, M**	**164.05**	**75**	*e*PKPdf	**PKPdf**	12 25 03.3	+1.6	
PMPS	**Porto Santo**	**164.06**	**75**	*e*PKPdf	**PKPdf**	12 24 59.9	-1.7	
MATE	**Matera**	**164.22**	**315**	||P	**PKPdf**	12 25 01.6	+0.1
EOSO	**Osorio**	**164.43**	**94**	PKP	**PKPdf**	12 25 04.6	+2.4	
VLC	**Villacollemand**	**164.63**	**337**	PKP	**PKPdf**	12 25 02.3	+0.5	
AQU	**L'Aquila**	**164.88**	**326**	PKP	**PKPdf**	12 24 59.9	-2.2	
AQU	**L'Aquila**	**164.88**	**326**	*e*P	**PKPdf**	12 25 01.6	-0.5	
TIP	**Timpagrande**	**165.02**	**310**	⇑P	**PKPdf**	12 25 03.1	+0.8	
PGAV	**Gavieira, Arco**	**165.62**	**33**	*e*PKPdf	**PKPdf**	12 25 03.8	+1.0	
PGAV				*e*PKPab	**PKPab**	12 26 01.5	-0.2	
PCAB	**Cabril**	**165.94**	**33**	*e*PKPdf	**PKPdf**	12 25 04.2	+1.2	
PCAB				*e*PKPab	**PKPab**	12 26 03.0	0.0	
PTO	**Porto**	**166.09**	**36**	*e*PKPab	**PKPab**	12 26 03.7	+0.1	
POLO	**Lamas de Olo**	**166.31**	**33**	*e*PKPdf	**PKPdf**	12 25 04.3	+1.0	
POLO				*e*PKPab	**PKPab**	12 26 04.5	-0.2	
PVRL	**Vila Real**	**166.42**	**33**	*e*PKPdf	**PKPdf**	12 25 03.9	+0.5	
PVRL				*e*PKPab	**PKPab**	12 26 04.9	-0.3	
PBRG	**Braganca**	**166.43**	**29**	*e*PKPdf	**PKPdf**	12 25 03.5	0.0	
PBRG				*e*PKPab	**PKPab**	12 26 03.9	-1.3	
PVIS	**Viseu**	**166.76**	**35**	*e*PKPdf	**PKPdf**	12 25 04.2	+0.5	
PVIS				*e*PKPab	**PKPab**	12 26 05.7	-1.0	
MVO	**Moncorvo**	**166.83**	**32**	*e*PKPdf	**PKPdf**	12 25 05.1	+1.4	
MVO				*e*PKPab	**PKPab**	12 26 06.5	-0.5	
COI	**Coimbra**	**166.87**	**38**	*e*PKPdf	**PKPdf**	12 25 03.1	-0.6	
PCAS	**Casmilo, Conde**	**166.93**	**39**	*e*PKPdf	**PKPdf**	12 25 04.8	+1.0	
PCAS				*e*PKPab	**PKPab**	12 26 08.4	+1.0	
MTE	**Manteigas**	**167.18**	**35**	*e*PKPdf	**PKPdf**	12 25 04.8	+0.8	
MTE				*e*PKPab	**PKPab**	12 26 07.6	-0.9	
PMAFR	**Mafra**	**167.22**	**44**	PKP	**PKPdf**	12 25 04.9	+0.9	
PMAFR	**Mafra**	**167.22**	**44**	*e*PKPdf	**PKPdf**	12 25 05.2	+1.2	
PSARD	**Sardoal**	**167.44**	**39**	*e*PKPdf	**PKPdf**	12 25 04.7	+0.5	
PSARD				*e*PKPab	**PKPab**	12 26 08.8	-0.9	
LIS	**Lisbon**	**167.45**	**45**	*e*PKPdf	**PKPdf**	12 25 04.3	+0.1	
LIS				*e*SS	SS	12 50 42.9	+0.6	
LIS					IAMs_20	IAMs_20	13 37 19.0	
	comp=N,6µm,22.7s							
LIS	**Lisbon**	**167.45**	**45**	*e*PKIKP	**PKPdf**	12 25 04.3	+0.1	
LIS				*e*SS	SS	12 50 42.8	+0.5	
PARRA	**Arraiolos**	**167.46**	**44**	*e*PKPdf	**PKPdf**	12 25 05.4	+1.2	
PARRA				*e*PKPab	**PKPab**	12 26 11.5	+1.7	
VAE	**Valguarnera**	**167.48**	**308**	PKPab	**PKPab**	12 26 11.1	+1.0	
	comp=N,39nm,0.7s,baz=157,slow=13,SNR=4.6							
PCBR	**Castelo Branco**	**167.63**	**37**	*e*PKPdf	**PKPdf**	12 25 05.6	+1.3	
PCBR				*e*PKPab	**PKPab**	12 26 10.3	-0.2	
PMTG	**Montargil**	**167.77**	**41**	*e*PKPdf	**PKPdf**	12 25 05.3	+0.9	
PMTG				*e*PKPab	**PKPab**	12 26 10.3	-0.9	
EJON	**La Jonquera**	**167.80**	**357**	PKP	**PKPdf**	12 25 03.3	-1.1	
PMRV	**Marv??o**	**167.97**	**38**	*e*PKPdf	**PKPdf**	12 25 04.2	-0.3	
PMRV				*e*PKPab	**PKPab**	12 26 11.6	-0.4	
EVO	**Evora**	**168.25**	**43**	PKP	**PKPdf**	12 25 05.6	+0.8	
EVO	**Evora**	**168.25**	**43**	*e*PKPdf	**PKPdf**	12 25 05.8	+1.1	
EVO				*e*PKPab	**PKPab**	12 26 12.5	-0.8	
PESTR	**Estremoz**	**168.27**	**40**	PKP	**PKPdf**	12 25 03.9	-0.8	
PESTR	**Estremoz**	**168.27**	**40**	*e*PKPdf	**PKPdf**	12 25 05.8	+1.0	
PESTR				*e*PKPab	**PKPab**	12 26 12.5	-0.9	
PTEO	**Sao Teotonio**	**168.43**	**48**	*e*PKPdf	**PKPdf**	12 25 06.4	+1.5	
PTEO				*e*PKPab	**PKPab**	12 26 13.3	-0.9	
MESJ	**Messejana**	**168.57**	**46**	*e*PKPdf	**PKPdf**	12 25 05.1	+0.1	
MESJ				*e*PP	**PP**	12 30 04.0	+0.1	
MESJ				*e*SS	SS	12 50 54.0	+0.3	
MESJ					IAMs_20	IAMs_20	13 31 02.9	
	comp=Z,5µm,22.8s							
MESJ	**Messejana**	**168.57**	**46**	*e*PKPdf	**PKPdf**	12 25 06.7	+1.7	
MESJ				*e*PKPab	**PKPab**	12 26 13.9	-0.9	
MESJ	**Messejana**	**168.57**	**46**	*e*PKIKP	**PKPdf**	12 25 05.1	+0.1	
MESJ				*e*		12 30 04.0		
MESJ				*e*SS	SS	12 50 54.0	+0.4	
PFVI	**Vila Bisbo**	**168.60**	**50**	PKP	**PKPdf**	12 25 05.7	+0.7	
PFVI	**Vila Bisbo**	**168.60**	**50**	*e*PKPdf	**PKPdf**	12 25 06.0	+1.0	
MORF	**Marmelete**	**168.62**	**49**	*e*PKPdf	**PKPdf**	12 25 05.2	+0.1	
MORF				*e*PP	**PP**	12 30 04.2	-0.1	
MORF				*e*SS	SS	12 50 54.4	0.0	
MORF					IAMs_20	IAMs_20	13 40 36.4	
	comp=Z,5µm,20.5s							
MORF	**Marmelete**	**168.62**	**49**	*e*PKPdf	**PKPdf**	12 25 06.4	+1.3	
MORF	**Marmelete**	**168.62**	**49**	*e*PKIKP	**PKPdf**	12 25 05.2	+0.1	
MORF				*e*		12 30 04.2		
MORF				*e*SS	SS	12 50 54.4	0.0	
EBAD	**Badajoz**	**168.66**	**39**	PKP	**PKPdf**	12 25 05.1	+0.1	
PBEJ	**Beja**	**168.67**	**44**	*e*PKPdf	**PKPdf**	12 25 05.8	+0.8	
PBEJ				*e*PKPab	**PKPab**	12 26 14.2	-1.0	
PCVE	**Castro Verde**	**168.81**	**46**	PKP	**PKPdf**	12 25 05.2	+0.1	
PCVE	**Castro Verde**	**168.81**	**46**	*e*PKPdf	**PKPdf**	12 25 06.6	+1.4	
PCVE				*e*PKPab	**PKPab**	12 26 15.2	-0.6	
UCM	**Universidad Co**	**169.05**	**22**	PKP	**PKPdf**	12 25 05.9	+0.6	
PBAR	**Barrancos**	**169.06**	**41**	PKP	**PKPdf**	12 25 05.6	+0.3	
PBAR	**Barrancos**	**169.06**	**41**	*e*PKPdf	**PKPdf**	12 25 06.2	+0.9	
PBAR				*e*PKPab	**PKPab**	12 26 16.3	-0.6	
PBDV	**Barranco-do-Ve**	**169.12**	**47**	PKP	**PKPdf**	12 25 06.1	+0.6	
PBDV	**Barranco-do-Ve**	**169.12**	**47**	*e*PKPdf	**PKPdf**	12 25 06.9	+1.5	
PVAQ	**Vaqueiros**	**169.16**	**46**	*e*PKPdf	**PKPdf**	12 25 06.8	+1.4	
ESDC	**Sonseca Array**	**169.36**	**26**		**PKPdf**	12 25 06.4	+0.9	
ESDC	**Sonseca Array**	**169.36**	**26**	PKP	**PKPdf**	12 25 06.3	+0.8	
	comp=Z,39nm,1.1s,baz=344,slow=2.8,SNR=93							
ESDC				PKPab	**PKPab**	12 26 17.0	-1.1	
	comp=Z,18nm,1.0s,baz=322,slow=4.4,SNR=10							
ESDC				PP	**PP**	12 30 06.5	-0.8	
	comp=Z,30nm,1.2s,baz=343,slow=4.4,SNR=13							
KEST	**Kesra**	**171.81**	**314**		**PKPdf**	12 25 07.0	0.0	
KEST	**Kesra**	**171.81**	**314**	PKP	**PKPdf**	12 25 07.3	+0.3	
	comp=Z,42nm,1.0s,baz=354,slow=0.7,SNR=18							
KEST				PKPab	**PKPab**	12 26 29.2	-0.1	
	comp=Z,23nm,1.0s,baz=322,slow=2.2,SNR=5.4							
KEST	**Kesra**	**171.81**	**314**	P	**PKPdf**	12 25 07.3	+0.3	
	SNR=12							
SET	**Setif**	**173.44**	**336**	P	**PKPdf**	12 25 08.0	+0.3	

NEIC ***27*** *12:09:29.3±0.9, 19°.28N±0°.04×67°.31W±0°.01, h10km±2km, ML3.4/19, Md3.5/13(RSPR), Error ellipse: s-maj=7.0km s-min=3.0km az=0.0*
SDD ***27*** *12:09:31.1±2.0, 19°.31N×67°.13W, h17km±130km, MD3.7, ML3.4, MW3.6*
OSPL ***27*** *12:09:32.5±0.4, 19°.24N×67°.34W, h14km±3km, ML3.4*
RSPR ***27*** *12:09:35.2, 19°.22N×67°.27W, h32km±25km, MD3.5/13*

ISC 27 12:09:29.5±1.3, 19°.31N±0°.05×67°.25W±0°.03, h19km±3km, n73, σ0.92/91, 23C-12D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.85**	**171**		**Pn**	**12 09 46.9**	**+0.4**
AGPR					**Sg**	**12 09 57.7**	**+0.4**
AGPR	**Aguadilla, PR**	**0.85**	**171**	⇑*e*P	**Pn**	**12 09 46.9**	**+0.4**
AGPR	**Aguadilla, PR**	**0.85**	**171**	*e*S	**Sg**	**12 09 57.7**	**+0.4**
AGPR	**Aguadilla, PR**	**0.85**	**171**	||*e*Pg	**Pn**	**12 09 46.6**	**+0.1**
AGPR				⇑*e*Sg	**Sg**	**12 09 57.1**	**-0.2**
AGPR				IAML		12 09 57.7	
	comp=N,1µm,0.4s						
AGPR	**Aguadilla, PR**	**0.85**	**171**	*i* P	**Pn**	**12 09 46.6**	**+0.1**
AGPR				IAML		12 10 02.5	
	comp=Z,1µm,0.3s						
IDE	**Isla Desecheo**	**0.94**	**193**		**Pn**	**12 09 48.5**	**+0.7**
IDE					**Sn**	**12 10 00.6**	**-0.1**
IDE	**Isla Desecheo**	**0.94**	**193**	⇑*i*P	**Pn**	**12 09 48.5**	**+0.7**
IDE	**Isla Desecheo**	**0.94**	**193**	*e*S	**Sn**	**12 10 00.6**	**-0.1**
AOPR	**Arecibo Observ**	**1.07**	**154**		**Pg**	**12 09 49.8**	**-0.4**
AOPR				IAML		12 10 12.0	
	comp=N,1µm,0.3s						
AOPR	**Arecibo Observ**	**1.07**	**154**	⇑*e*P	**Pg**	**12 09 50.3**	**+0.1**
AOPR	**Arecibo Observ**	**1.07**	**154**	*e*S	**Sn**	**12 10 04.2**	**+0.2**
EMPR	**Esperanza - Ma**	**1.07**	**140**		**Pg**	**12 09 51.0**	**+0.7**
EMPR					**Sn**	**12 10 05.5**	**+1.5**
EMPR	**Esperanza - Ma**	**1.07**	**140**	⇑*e*P	**Pg**	**12 09 51.0**	**+0.7**
EMPR	**Esperanza - Ma**	**1.07**	**140**	*e*S	**Sn**	**12 10 05.5**	**+1.5**
PRSN	**Puerto Rico Se**	**1.09**	**175**		**Sb**	**12 10 04.2**	**+0.5**
PRSN	**Puerto Rico Se**	**1.09**	**175**	Pn	**Pg**	**12 09 50.3**	**-0.4**
PRSN	**Puerto Rico Se**	**1.09**	**175**	⇑*e*P	**Pg**	**12 09 50.6**	**-0.1**
PRSN	**Puerto Rico Se**	**1.09**	**175**	*e*S	**Sb**	**12 10 04.2**	**+0.5**
LSP	**Las Mesas**	**1.14**	**172**		**Pg**	**12 09 51.2**	**-0.4**
LSP					**Sg**	**12 10 06.5**	**0.0**
LSP	**Las Mesas**	**1.14**	**172**	||*e*P	**Pg**	**12 09 51.2**	**-0.4**
LSP	**Las Mesas**	**1.14**	**172**	*e*S	**Sg**	**12 10 06.5**	**0.0**
UUPR	**Utuado, UPR, P**	**1.17**	**154**		**Sg**	**12 10 07.0**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.17**	**154**	Pn	**Pb**	**12 09 51.4**	**+0.3**
UUPR	**Utuado, UPR, P**	**1.17**	**154**	⇑*e*P	**Pg**	**12 09 52.3**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.17**	**154**	*e*S	**Sg**	**12 10 07.0**	**-0.4**
ECPR	**Experimental S**	**1.30**	**139**	||*e*P	**Pg**	**12 09 54.3**	**-0.3**
ECPR	**Experimental S**	**1.30**	**139**	*e*S	**Sg**	**12 10 10.7**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.30**	**174**		**Pn**	**12 09 53.1**	**+0.3**
CRPR				Sn	**Sn**	**12 10 08.1**	**-1.6**
CRPR				IAML		12 10 12.9	
	comp=E,972nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.30**	**174**	⇑*e*P	**Pb**	**12 09 53.7**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.30**	**174**	*e*S	**Sn**	**12 10 09.6**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.30**	**174**	⇑*e*Pg	**Pb**	**12 09 53.7**	**+0.2**
CRPR				⇑*e*Sg	**Sb**	**12 10 10.1**	**+0.3**
CRPR				IAML		12 10 16.9	
	comp=N,1µm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.30**	**174**	*i* P	**Pb**	**12 09 53.6**	**+0.2**
CRPR				*e*S	**Sn**	**12 10 09.5**	**-0.2**
CRPR				IAML		12 10 14.3	
	comp=Z,883nm,0.5s						
MLPR	**Magueyes Islan**	**1.35**	**171**	||*i*P	**Pb**	**12 09 54.2**	**0.0**
MLPR	**Magueyes Islan**	**1.35**	**171**	*e*S	**Sn**	**12 10 10.8**	**+0.1**
MLPR	**Magueyes Islan**	**1.35**	**171**	||*e*Pg	**Pb**	**12 09 54.2**	**0.0**
MLPR

ARCZ	Arundel	1.21	186	P	Pn	12 17 39.5	0.0
WACZ	Wakanui South	1.25	164	P	Pn	12 17 39.8	-0.3
GVZ	Greta Valley S	1.25	101	P	Pn	12 17 40.0	-0.1
MQZ	McQueen's Vall	1.35	136	P	Pn	12 17 40.6	-0.8
FOZ	Fox Glacier	1.38	234	P	Pn	12 17 41.3	-0.4
THZ	Tophouse	1.51	50	P	Pn	12 17 43.5	-0.1
OKCZ	Okains Bay	1.59	129	P	Pn	12 17 44.3	-0.4
AKCZ	Akaroa Harbour	1.60	135	P	Pn	12 17 44.5	-0.4
KHZ	Kahutara	1.65	79	P	Pn	12 17 45.9	+0.4
KHZ	Kahutara	1.65	79	S	Sb	12 18 07.9	+0.3
KHZ	Kahutara	1.65	79	P	Pn	12 17 45.8	+0.4
TMZ	Timaru	1.66	189	P	Pn	12 17 45.8	+0.1
MRNZ	Matariki Terra	1.70	38	P	Pn	12 17 46.1	-0.1
LBZ	Lake Benmore	1.85	207	P	Pn	12 17 48.7	+0.4
TKNZ	Takaka Hill	2.08	36	P	Pn	12 17 51.1	-0.4
QRZ	Quartz Range	2.10	25	P	Pn	12 17 51.4	-0.4
QRZ	Quartz Range	2.10	25	P	Pn	12 17 51.4	-0.4
BSWZ	Blackbirch Sta	2.13	62	P	Pn	12 17 53.5	+1.3
NNZ	Nelson	2.14	45	P	Pn	12 17 52.6	+0.3
JCZ	Jackson Bay	2.30	234	P	Pn	12 17 53.9	-0.6
JCZ	Jackson Bay	2.30	234	S	Sn	12 18 21.1	-1.5
JCZ	Jackson Bay	2.30	234	P	Pn	12 17 54.2	-0.3
TUWZ	Tuamarina	2.33	57	P	Pn	12 17 56.7	+1.9
CMWZ	Cape Campbell	2.34	66	P	Pb	12 17 58.8	-0.2
ODZ	Otahua Downs	2.36	192	P	Pn	12 17 54.8	-0.5
ODZ	Otahua Downs	2.36	192	S	Sn	12 18 22.9	-1.1
ODZ	Otahua Downs	2.36	192	P	Pn	12 17 55.1	-0.2
TCW	Tory Channel	2.66	56	P	Pn	12 18 00.6	+1.2
WKZ	Wanaka	2.69	218	P	Pn	12 17 59.5	-0.3
DUWZ	D'Urville Isla	2.73	46	P	Pn	12 18 01.3	+1.0
SNZO	South Karori	2.88	61	P	Pn	12 18 03.0	+0.7
EAZ	Earnscleugh	2.90	210	P	Pn	12 18 01.7	-1.0
BHW	Baring Head	2.94	64	P	Pb	12 18 07.7	-1.4
PLWZ	Palliser	3.13	69	P	Pn	12 18 05.0	-0.9
MSZ	Milford Sound	3.15	231	P	Pn	12 18 06.9	+0.8
MSWZ	Moikau Station	3.19	67	P	Pn	12 18 05.7	-1.0
CAW	Cannon Point	3.21	61	P	Pn	12 18 06.2	-0.8
KIW	Kapiti Island	3.25	56	P	Pn	12 18 07.4	-0.2
OGWZ	Otaki Gorge	3.44	57	P	Pn	12 18 09.4	-0.7
TUZ	Tuapeka	3.44	200	P	Pn	12 18 10.0	-0.2
MTW	Mount Morrison	3.47	64	P	Pn	12 18 09.1	-1.5
MLZ	Mavora Lakes	3.51	221	P	Pn	12 18 10.9	-0.3
HOWZ	Holdsworth Sta	3.61	61	P	Pn	12 18 13.0	+0.4
MRZ	Mangatainoka R	3.78	58	P	Pn	12 18 13.6	-1.2
NMEZ	Namu Road	3.83	31	P	Pn	12 18 16.8	+1.3
NBEZ	Newall Road No	3.96	30	P	Pn	12 18 18.1	+0.9
KHEZ	Kahui Hut	3.99	31	P	Pn	12 18 18.6	+0.9
KHEZ	Kahui Hut	3.99	31	S	Sn	12 19 04.4	+0.2
KHEZ	Kahui Hut	3.99	31	P	Pn	12 18 18.7	+1.0
WHZ	Wether Hill Ro	3.99	217	P	Pn	12 18 17.0	-0.7
PREZ	Palmer Road	4.00	33	P	Pn	12 18 18.8	+0.9
NEZ	North Egmont	4.04	32	P	Pn	12 18 19.5	+1.0
WAZ	Wanganui	4.05	44	P	Pn	12 18 20.3	+1.8
PKE	Pukeiti	4.06	30	P	Pn	12 18 19.7	+0.9
PRWZ	Pori Road	4.09	59	P	Pn	12 18 18.1	-1.0
SYZ	Scrubby Hill	4.11	202	P	Pn	12 18 18.8	-0.5
SYZ	Scrubby Hill	4.11	202	S	Sn	12 19 06.0	-1.1
SYZ	Scrubby Hill	4.11	202	P	Pn	12 18 18.6	-0.7
DREZ	Durham Road	4.15	32	P	Pn	12 18 20.6	+0.8
BFZ	Birch Farm	4.20	62	P	Pn	12 18 22.7	+2.1
TSZ	Takapari Road	4.38	54	P	Pn	12 18 26.9	+3.8
VRZ	Vera Road	4.44	37	P	Pn	12 18 24.5	+0.6
PKVZ	Pokaka	4.58	43	P	Pn	12 18 29.4	+3.5
PNHZ	Pukenui	4.61	54	P	Pn	12 18 31.1	+4.8
WNVZ	Wahianoa	4.68	45	P	Pn	12 18 27.7	+0.3
MAVZ	Matarangi	4.71	44	P	Pb	12 18 34.1	-5.4
WHVZ	Whangaehu Hut	4.71	44	P	Pn	12 18 33.9	+6.1
FWVZ	Far West T-bar	4.71	44	P	Pn	12 18 31.8	+3.9
TUVZ	Tukino	4.75	45	P	Pn	12 18 29.0	+0.6
NGZ	Ngauruhoe	4.80	43	P	Pn	12 18 32.8	+3.9
WTVZ	West Tongariro	4.84	43	P	Pn	12 18 32.8	+3.3
NNVZ	North Ngauruho	4.84	43	P	Pn	12 18 31.2	+1.7
ETVZ	East Tongariro	4.88	44	P	Pn	12 18 32.5	+2.4
TMVZ	Te Maari	4.89	44	P	Pb	12 18 36.9	-5.7
HIZ	Hauiti	4.99	33	P	Pn	12 18 31.1	-0.3
HIZ	Hauiti	4.99	33	P	Pn	12 18 31.1	-0.3
TLZ	Tolley Road	5.44	37	P	Pn	12 18 37.7	+0.1
MKAZ	Moumakai	6.34	29	P	Pn	12 18 50.1	+0.1
RVAZ	Riverhead Bore	6.46	24	P	Pn	12 18 52.5	+0.9
OUZ	Omahuta	7.71	14	P	Pn	12 19 09.4	+0.6
OUZ	Omahuta	7.71	14	P	Pn	12 19 09.1	+0.4

IDC 27 12:25:28.2±5.2, 29°.77S×177°.73W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=298.0km s-min=75.5km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.38	266	P	P	12 33 32.6	0.0
	0.3nm,0.6s,baz=109,slow=8.1,SNR=4.3 0.3nm,0.6s						
WRA	Warramunga Arr	44.31	271	P	P	12 33 39.9	-0.3
	0.4nm,0.2s,baz=110,slow=8.1,SNR=26 0.4nm,0.2s						
FINES	FINESS Array B	144.63	340	PKP	PKPdf	12 45 05.5	-0.5
	0.9nm,0.7s,baz=95,slow=3.3,SNR=4.2						

IDC 27 12:28:26.9±2.9, 30°.44S×177°.66W, h0km, mb3.9/2, mbtmp3.9/3, ML3.4/1, Error ellipse: s-maj=70.7km s-min=36.5km az=114.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.92	208	Pn	Pn	12 30 36.8	-0.1
	0.4nm,0.3s,baz=338,slow=24,SNR=0.9						
URZ				Sn	Sn	12 32 18.6	+0.4
	1.2nm,0.3s,baz=197,slow=22,SNR=11 2.9nm,0.5s						
ASAR	Alice Springs	43.40	267	P	P	12 36 32.1	+0.6
	0.4nm,0.5s,baz=103,slow=8.1,SNR=2.3 0.4nm,0.5s						
WRA	Warramunga Arr	44.39	272	P	P	12 36 39.0	-0.5
	1.2nm,0.4s,baz=110,slow=8.1,SNR=32 1.2nm,0.4s						
H10N3	ASCENSION HYDR	138.65	154	T	T	15 23 42.7	
	baz=203,slow=75,SNR=6.1						
H10N1	ASCENSION HYDR	138.66	154	T	T	15 23 45.7	
	baz=203,slow=75,SNR=9.0						
H10N2	ASCENSION HYDR	138.67	154	T	T	15 23 46.6	
	baz=203,slow=75,SNR=6.6						
FINES	FINESS Array B	145.28	340	PKPbc	PKPbc	12 48 04.8	-0.9
	1.9nm,0.5s,baz=57,slow=3.6,SNR=11						

UPA 27 12:34:48.7±1.3, 8°.80N×84°.10W, h1km±9km, ML3.4
UCR 27 12:34:50.1±0.5, 8°.84N×84°.09W, h14km±6km, MW3.7

ISC 27 12:34:49.6±1.7, 8°.86N±0°.07×84°.08W±0°.06, h11km±11km, n42, σ0°.71/47, 1C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDPE	Pejibaye, P	0.58	59	eP	Pg	12 35 01.2	+0.2
LLNJ	Naranjito	0.61	358	eP	Pg	12 35 02.0	+0.5
SAJE	San Jernim	0.74	49	eP	Pg	12 35 03.9	-0.1
PAR1A	Puntarenas Pro	0.75	347	eP	Pg	12 35 04.3	+0.1
BUS1	Rivas	0.76	25	eP	Pg	12 35 04.2	-0.3
PIEC	Cerro El Cedra	0.77	9	eP	Pg	12 35 04.4	-0.1
PICV	PH. Pirrs	0.77	351	eP	Pg	12 35 04.4	-0.2
RAZU	San Marcos de	0.80	4	eP	Pg	12 35 05.1	-0.1
PIRO	Carate, Puerto	0.86	122	eP	Pb	12 35 06.4	-0.3
PIRO				eS	Sb	12 35 19.3	+1.1
EDP2	Potrero Grande	0.90	80	eP	Pg	12 35 06.5	-0.6
DRK0	Durika	0.92	64	eP	Pg	12 35 07.6	+0.3
DRK0				eS	Sn	12 35 22.3	+0.3
DRK0	Durika	0.92	64	eP	Pg	12 35 06.6	-0.7
ACOS	Acosta	0.94	355	eP	Pg	12 35 06.7	-1.1
REPA	Paraso	0.98	12	eP	Pg	12 35 08.0	-0.6
BELE	Belen	1.12	354	eP	Pg	12 35 10.2	-0.9
HEME	Heredia, Merce	1.13	357	eP	Pg	12 35 11.7	+0.3
VICA	Volcano Irazu	1.14	12	eP	Pg	12 35 11.0	-0.7
CVIMO	Finca Echandi	1.17	7	eP	Pg	12 35 11.4	-0.7
CVTQ	Turrialba Volc	1.18	15	eP	Pg	12 35 11.9	-0.5
CVTV	Tajo	1.18	16	eP	Pg	12 35 12.0	-0.4
VTR0	Volcan Turrial	1.19	15	eP	Pg	12 35 12.2	-0.5
ABRB	Las Abras (San	1.19	17	eP	Pg	12 35 12.1	-0.5
CVTR	Volcan Turrial	1.20	15	eP	Pg	12 35 12.0	-0.7
ALCO	Alturas Coton,	1.23	86	eP	Pb	12 35 11.9	-1.2
LCOCO	El Coco	1.32	23	eP	Pn	12 35 13.7	-0.4
VPS8	V Poas	1.32	353	eP	Pg	12 35 13.5	-0.9
CEUA	Cerro Uatsi, L	1.35	56	eP	Pg	12 35 16.0	+0.3
BRU2	Volcan	1.37	93	⇑P	Pn	12 35 14.9	-0.1
BRU2				AMP		12 35 15.1	
	comp=Z,637nm,0.3s						
BRU2				eS	Sg	12 35 34.6	+0.8
BRU2	Volcan	1.37	93	eP	Pn	12 35 14.6	-0.3
VERH	Veragua Rainfo	1.38	39	eP	Pn	12 35 15.1	+0.2
BC3P	Paso Ancho	1.45	92	eP	Pn	12 35 15.9	-0.1
BC3P				eS	Sg	12 35 37.3	+1.0
BANCO	falda S V. Bar	1.54	95	eP	Pn	12 35 17.2	0.0
JEFFS	S de V. Baru	1.54	97	eP	Pn	12 35 16.6	-0.6
RGM0	Gandoca	1.62	63	eP	Pn	12 35 19.4	+1.1
BQSF3	Alto Boquete,	1.63	94	eP	Pn	12 35 16.1	-2.3
DVD	David	1.66	105	eS	Sb	12 35 41.7	+0.4
JTS	Las Juntas de	1.67	329	eP	Pn	12 35 19.1	+0.2
TRT2	Tortugero	1.72	11	eP	Pn	12 35 19.5	-0.1
CEDE	Laguna Cedeo	1.73	339	eP	Pn	12 35 21.0	+1.2
PSOM3	Paja de Sombre	1.74	96	eP	Pn	12 35 20.0	0.0
RBALA	Bur	1.90	89	eP	Pn	12 35 21.9	-0.2
CHGR2	Aguacate	1.91	87	eP	Pn	12 35 21.1	-1.1
CHGR2				eS	Sn	12 35 46.7	+0.3

KRSC 27 12:35:09.0±1.5, 52°.94N×155°.73E, h544km±19km, MI4.1, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	0.86	90	eP	P	12 36 16.6	+2.4
KRMR	Karymshinskiy	1.46	93	eP	P	12 36 17.1	+1.3
KRMR				eS	S	12 37 11.0	+0.6
GRL	Gorelyy	1.48	104	eP	P	12 36 17.3	+1.1
GNL	Ganaly	1.53	59	eP	P	12 36 15.7	-0.5
MTVR	Mutnovka	1.56	106	eP	P	12 36 17.9	+1.4
PAU	Pauzhetka	1.62	155	eP	P	12 36 17.0	+0.5
RUS	Russkaya	1.77	106	eP	P	12 36 18.1	+1.1
RUS				eS	S	12 37 12.0	-0.5
PET	Petropavlovsk	1.77	86	eP	P	12 36 18.7	+1.7
PET				eS	S	12 37 12.6	0.0
KOK	Koryaka	1.79	77	eP	P	12 36 19.5	+2.3
KRX	Arik	1.81	75	eP	P	12 36 18.5	+1.2
DALK	Dalny	1.83	86	eP	P	12 36 18.9	+1.7
DALK				eS	S	12 37 12.2	-0.9
AVH	Avacha	1.84	79	eP	P	12 36 18.9	+1.5
SMAR	Somma	1.88	79	eP	P	12 36 20.2	+2.4
UGLR	Uglovaya	1.89	80	eP	P	12 36 19.7	+2.1
UGLR				eS	S	12 37 14.6	+0.8
SDLR	Sedlovina	1.93	79	eP	P	12 36 20.4	+2.5
NLC	Nalytchevo	2.19	82	eP	P	12 36 21.2	+2.4
NLC				eS	S	12 37 16.5	+0.5
SPN	Mys Shipunski	2.60	85	eP	P	12 36 23.0	+2.0
SPN				eS	S	12 37 18.6	-1.3
ESO	Esso	3.46	29	eP	P	12 36 26.6	+0.2
TUMD	Tumrok D	3.56	49	eP	P	12 36 29.8	+2.8
MKZ	Mys Kozlova	3.91	63	eP	P	12 36 32.1	+2.6
MKZ				eS	S	12 37 34.6	-0.9
KOZ	Kozyrevsk	3.95	36	eP	P	12 36 31.6	+1.8
KPT	Kopyto	4.01	39	eP	P	12 36 32.1	+1.8
KIRR	Kirishev	4.05	40	eP	P	12 36 32.3	+1.6
BZMR	Bezymyannaya	4.09	41	eP	P	12 36 33.4	+2.3
BZWR	Bezymyannyi-We	4.11	41	eP	P	12 36 33.2	+1.9
KBTR	Krutoberegovo	5.26	49	eP	P	12 36 42.1	+1.6
KBTR				eS	S	12 37 54.4	-1.1

IDC 27 12:35:46.9±3.0, 17°.93S×178°.49W, h588km±33km, mb3.5/11, mbtmp4.4/11, Error ellipse: s-maj=29.8km s-min=14.5km az=147.0
NEIC 27 12:35:48.2±1.7, 18°.0S±0°.1×178°.6W±0°.2, h586km±7km, mb4.2/21, Error ellipse: s-maj=23.4km s-min=11.9km az=61.0

ISC 27 12:35:45.9±0.5, 17°.8S±0°.1×178°.4W±0°.1, h579km, n73, σ0°.95/75, mb4.1/25, 4C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.36	271	P	P	12 37 08.1	+2.5
FUTU	Fugatoga	3.53	5	P	P	12 37 08.9	+2.2
PINNC	Pines Island,	14.08	248	P	P	12 38 47.5	+1.7
STKA	Stephens Creek	38.65	241	P	P	12 42 21.1	+0.2
	7.6nm,0.7s,baz=76,slow=8.9,SNR=17 7.6nm,0.7s						
INKA	Innaminka	38.75	248		P	12 42 22.5	+0.7
INKA				IAmb	IAmb	12 42 23.2	
	comp=Z,4.7nm,0.8s						
WR8	Warramunga Arr	44.47	259		P	12 43 06.1	-0.8
WR8				IAmb	IAmb	12 43 08.6	
	comp=Z,4.4nm,0.7s						
WB0	Warramunga Arr	44.59	260		P	12 43 07.3	-0.6
WB0				IAmb	IAmb	12 43 07.7	
	comp=Z,9.0nm,0.6s						
WRAB	Tennant Creek	44.62	259	P	P	12 43 07.1	-0.9
WRAB				IAmb	IAmb	12 43 07.9	
	comp=Z,7.5nm,0.7s						
WRA	Warramunga Arr	44.63	259	P	P	12 43 07.3	-0.8
WRA	Warramunga Arr	44.63	259	P	P	12 43 07.1	-1.0
	comp=Z,6.0nm,0.5s,baz=94,slow=7.3,SNR=133						
WRA				PcP	PcP	12 44 37.4	-0.8
	comp=Z,1.1nm,0.5s,baz=92,slow=3.9,SNR=6.6 comp=Z,6.0nm,0.5s						
AS31	Alice Springs	44.79	254		P	12 43 09.1	-0.3
ASAR	Alice Springs	44.79	254	P	P	12 43 09.3	-0.1
ASAR	Alice Springs	44.79	254	P	P	12 43 09.0	-0.4
	comp=Z,40nm,0.7s,baz=88,slow=8.5,SNR=582						
ASAR				PcP	PcP	12 44 38.1	-0.6
	comp=Z,2.9nm,0.7s,baz=106,slow=3.9,SNR=8.0						
ASAR				S	S	12 49 04.5	-0.9
	comp=Z,0.4nm,0.7s,baz=87,slow=14,SNR=4.4 comp=Z,40nm,0.7s						
FORT	Forrest	50.02	245	P	P	12 43 47.3	-1.0
FORT				IAmb	IAmb	12 43 47.5	
	comp=Z,7.4nm,0.8s						
KNRA	Kununurra	50.48	264	P	P	12 43 51.4	-0.4
KNRA				IAmb	IAmb	12 43 52.0	
	comp=Z,15nm,0.8s						
FITZ	Fitzroy Crossi	53.02	261	P	P	12 44 09.8	-0.3
PSA00	Pilbara Seismi	57.91	255	P	P	12 44 42.7	-1.2
PSA00	Pilbara Seismi	57.91	255	P	P	12 44 43.0	-0.9
PSA00				IAmb	IAmb	12 44 43.4	
	comp=Z,12nm,0.6s						
MBWA	Marble Bar	58.07	256	P	P	12 44 44.2	-0.8
MBWA				IAmb	IAmb	12 44 52.2	
	comp=Z,5.5nm,0.8s						
SBA	Scott Base	60.48	184	P	P	12 45 01.4	+1.4
MORW	Morawa	60.49	246	P	P	12 45 00.6	-0.4
MORW				IAmb	IAmb	12 45 23.5	
	comp=Z,7.4nm,1.1s						
GIRL	Giralia	62.90	253	P	P	12 45 17.3	+0.6
JAGI	Jajag, Banyuwa	66.02	269	P	P	12 45 35.5	-1.1
CASY	Casey	66.19	205	P	P	12 45 36.0	-0.6
CASY				IAmb	IAmb	12 45 36.5	
	comp=Z,8.5nm,1.1s						
MJAR	Matsushiro Arr	67.84	323	P	P	12 45 47.9	+0.6
MJAR	Matsushiro Arr	67.84	323	P	P	12 45 47.6	+0.3
	comp=Z,1.6nm,0.6s,baz=163,slow=5.6,SNR=6.9 comp=Z,1.6nm,0.6s						
UGM	Wanagama	69.63	268	P	P	12 45 58.6	0.0
QSPA	South Pole Qui	72.21	180	P	P	12 46 14.6	+1.8
QSPA				IAmb	IAmb	12 46 15.1	
	comp=Z,6.0nm,0.9s						
KSM	Kuching	72.66	277	P	P	12 46 16.8	+0.5
LEM	Lembang	72.70	268	P	P	12 46 16.2	-0.4
	comp=Z,21nm,0.7s,baz=59,slow=12,SNR=4.7 comp=Z,21nm,0.7s						
KSRS	Korea Array	74.64	318	P	P	12 46 28.1	+1.3
	comp=Z,0.5nm,0.6s,baz=130,slow=6.9,SNR=4.7 comp=Z,0.5nm,0.6s						
NVAR	Mina Array Bea	79.39	44	P	P	12 46 54.3	+1.3
	comp=Z,0.4nm,0.6s,baz=221,slow=7.9,SNR=3.9 comp=Z,0.4nm,0.6s						
MAW	Mawson	83.91	200	P	P	12 47 14.8	-0.4
	comp=Z,1.2nm,0.5s,baz=156,slow=5.7,SNR=6.1 comp=Z,1.2nm,0.5s						
ILAR	Eielson Array	85.83	13	P	P	12 47 23.6	-0.9
	comp=Z,0.3nm,0.5s,baz=227,slow=4.9,SNR=7.1 comp=Z,0.3nm,0.5s						
TXAR	Lajitas Array	85.98	58	P	P	12 47 27.0	+1.0
	comp=Z,0.9nm,0.8s,baz=226,slow=6.2,SNR=9.3 comp=Z,0.9nm,0.8s						
CMAR	Chiang Mai Arr	88.85	290	P	P	12 47 40.9	+1.2
	comp=Z,1.8nm,0.9s,baz=110,slow=3.4,SNR=10.0 comp=Z,1.8nm,0.9s						
TROLL	Troll, Antarti	90.37	180	⇑P	P	12 47 44.6	-1.2
	comp=Z,134nm,0.6s						
VNA3	Neumayer Olymp	90.81	176	⇑P	P	12 47 46.6	-1.1
	comp=Z,6.1nm,0.7s						
VNA2	Neumayer--Watz	91.24	177	⇑P	P	12 47 48.5	-1.2
	comp=Z,3.7nm,0.6s,baz=178,slow=3.5						
VNA1	Neumayer--Stat	91.47	177	⇑P	P	12 47 49.8	-1.0
	comp=Z,6.1nm,1.0s						
BVAR	Borovoye Array	116.78	321	PKP	PKPdf	12 53 23.8	-1.2
	comp=Z,1.6nm,0.4s,baz=81,slow=1.0,SNR=7.5						
ARCES	ARCESS Array B	126.25	350	PKP	PKPdf	12 53 41.5	-1.2
	comp=Z,2.4nm,0.7s,baz=0.0,slow=1.2,SNR=4.3						
FINES	FINESS Array B	133.12	344	PKP	PKiKP	12 53 56.3	-0.9
	comp=Z,1.1nm,0.9s,baz=48,slow=2.8,SNR=5.1						
HFS	Hagfors	136.87	351	PKhKP	PKPpre	12 53 52.8	
	comp=Z,1.6nm,0.9s,baz=124,slow=4.3,SNR=5.3						
BNN	Bunyan	143.60	312		PKPdf	12 54 15.5	-0.4
BUR08	Bucovina Ar. S	144.53	332		PKPab	12 54 18.4	+0.4
BURAR	Bucovina Array	144.55	332	PKPdf	PKPab	12 54 18.6	+0.5
BR131	Keskin Array S	144.72	315		PKPab	12 54 18.6	-0.6
BRTR	Keskin Array B	144.72	315		PKPab	12 54 18.5	-0.6
BRTR	Keskin Array B	144.72	315	PKP	PKPab	12 54 18.2	-0.8
	comp=Z,2.5nm,0.7s,baz=131,slow=3.4,SNR=11						
OSTC	Ostas	145.32	344	ePKP	PKPab	12 54 20.6	-0.3
CLL	Collm	145.40	347		PKPab	12 54 20.2	-0.9
STEB	Steborice	145.44	341	ePKP	PKPab	12 54 20.2	-1.1
DPC	Dobruska-Polom	145.48	343	ePKP	PKPab	12 54 20.7	-0.8
KRLC	Kraliky	145.60	343	ePKP	PKPab	12 54 20.8	-1.2
MMAI	Mount Meron Ar	146.09	303	PKPbc	PKPbc	12 54 22.7	+0.3
	comp=Z,3.3nm,0.5s,baz=59,slow=5.0,SNR=8.2						
KHC	Kasperske Hory	147.31	345	ePKP	PKiKP	12 54 25.6	-1.1
CKRC	Cesky Krumlov	147.41	344	ePKP	PKiKP	12 54 25.7	-1.2
GERES	GERESS Array B	147.54	345	PKPbc	PKPbc	12 54 26.0	+0.2
	comp=Z,2.5nm,0.6s,baz=56,slow=5.5,SNR=13						
CONA	Conrad Observa	147.80	342	ePKP	PKiKP	12 54 26.9	-0.9
	comp=Z,0.7nm,0.6s						
RONA	Rosalia, Austr	147.87	341	*i* PKP	PKiKP	12 54 27.3	-0.6
	comp=Z,1.5nm,0.6s						
MOA	Molln	148.32	344	*i* PKP	PKPbc	12 54 27.3	-0.4
	comp=Z,1.7nm,0.6s						
BIOA	Bad Ischl, Aus	148.63	344	*i* PKP	PKiKP	12 54 28.7	-0.8
	comp=Z,1.7nm,1.2s						
LESA	Schwarzleotal	149.12	345	*i* PKP	PKiKP	12 54 29.6	-0.9
	comp=Z,1.8nm,0.8s						
SOKA	Soboth	149.17	342	*i* PKP	PKPbc	12 54 29.7	-0.2
	comp=Z,2.0nm,0.8s						
KBA	Koelnbreinsper	149.27	344	*i* PKP	PKPbc	12 54 28.7	-1.5
	comp=Z,1.4nm,0.6s						
WATA	Walderalm	149.46	347	*i* PKP	PKiKP	12 54 30.5	-0.8
	comp=Z,2.1nm,0.5s						
WTTA	Wattenberg	149.51	346	*i* PKP	PKiKP	12 54 30.8	-0.8
	comp=Z,5.2nm,0.7s						
MOTA	Moosalm	149.55	347	*i* PKP	PKiKP	12 54 30.8	-0.7
	comp=Z,3.8nm,0.9s						
MYKA	Terra Mystica	149.61	343	*i* PKP	PKPbc	12 54 30.0	-0.8
	comp=Z,2.6nm,0.6s						
SQTA	Sankt Quirin	149.65	347	ePKP	PKiKP	12 54 31.2	-0.5
	comp=Z,4.7nm,0.7s						
ABTA	Abfaltersbach	149.79	345	*i* PKP	PKPbc	12 54 30.6	-0.7
	comp=Z,5.0nm,0.7s						
FETA	Feichten	149.94	347	*i* PKP	PKPbc	12 54 31.1	-0.6
	comp=Z,2.6nm,0.8s						

WEL 27 12:38:01.6±0.3, 41°.5S±2°.×17°.4E±°, h5km, M3.4/55, ML3.6/30, MLv3.4/55, Error ellipse: s-maj=3.0km s-min=2.4km az=137.5, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.29	113	P	Pg	12 38 07.4	0.0
NNZ	Nelson	0.55	195	P	Pg	12 38 12.3	+0.2
NNZ				S	Sb	12 38 20.7	-1.1
TKNZ	Takaka Hill	0.57	233	P	Pg	12 38 13.0	+0.3
TKNZ				S	Sb	12 38 21.7	-0.9
TSFS	Takaka Scotts	0.59	254	P	Pg	12 38 13.3	+0.4
HAVS	Havelock	0.61	164	P	Pg	12 38 13.0	-0.2
MOTS	Motueka DOC wo	0.61	224	P	Pg	12 38 13.6	+0.4
KHLK	Kaihoka Lakes	0.74	280	P	Pg	12 38 15.8	0.0
TCW	Tory Channel	0.75	134	P	Pg	12 38 15.2	-0.8
BTWS	Nelson Brightw	0.77	205	P	Pg	12 38 16.5	0.0
BWRS	Waikakaho Road	0.79	161	P	Pg	12 38 16.1	-0.7
TUWZ	Tuamarina	0.79	159	P	Pg	12 38 17.

PXZ	Pawanui	2.60	76	P		Pb	12 38 49.9	+1.1	
KAHZ	Kahuranaki	2.69	72	P		Pn	12 38 45.1	-0.4	
MCHZ	McNeill Hill	2.71	64	P		Pb	12 38 50.3	-0.2	
BKZ	Black Stump Fm	2.72	57	P		Pn	12 38 46.1	+0.1	
KUTZ	Kaahu Road	2.81	39	P		Pn	12 38 48.9	+1.8	
TLZ	Tolley Road	2.81	34	P		Pn	12 38 46.3	-0.9	
OXZ	Oxford	2.87	203	P		Pn	12 38 47.7	-0.3	
MRHZ	Matea Rd	2.88	51	P		Pn	12 38 48.4	+0.3	
NMHZ	Naumai	2.96	59	P		Pn	12 38 49.6	+0.3	
OKCZ	Okains Bay	3.06	187	P		Pn	12 38 51.1	+0.6	
MQZ	McQueen's Vall	3.09	192	P		Pn	12 38 50.1	-0.9	
MTHZ	Maungataniwha	3.12	55	P		Pn	12 38 50.8	-0.7	
WVZ	Waitaha Valley	3.18	221	P		Pn	12 38 52.4	+0.1	
TOZ	Tahuroa Road	3.31	28	P		Pn	12 38 53.1	-1.0	
URZ	Urewera	3.66	50	P		Pn	12 38 58.8	-0.1	
MKAZ	Moumakai	3.79	20	P		Pn	12 38 59.3	-1.4	
RIGZ	Rimuhau	3.79	60	P		Pn	12 38 58.9	-1.9	
MWZ	Matawai	3.86	54	P		Pn	12 39 02.2	+0.5	
FOZ	Fox Glacier	3.98	223	P		Pn	12 39 02.9	-0.4	
TMZ	Timaru	4.15	206	P		Pn	12 39 05.0	-0.6	
RUGZ	Raukumara Rang	4.19	51	P		Pn	12 39 06.2	-0.1	
JCZ	Jackson Bay	4.89	225	P		Pn	12 39 15.3	-0.7	
OUZ	Omahuta	5.46	0	P		Pn	12 39 23.0	-0.6	

*DJA **27** 12:45:11.8±1.1,5˚N±10˚×12˚6E±˚, h10km, M4.5/13, mB6.9/2, mb4.5/8, MLv4.5/13, Mw(mB)6.8/2*
*NEIC **27** 12:45:18.5±1.3,5.˚16N±0.˚07×126.˚15E±0.˚07, h99km±8km, mb4.1/21, Error ellipse: s-maj=12.3km s-min=8.1km az=51.0*
*IDC **27** 12:45:19.9±1.3,5.˚28N×126.˚17E, h116km±11km, mb3.6/11, mbtmp4.0/11, MS4.4/1, Error ellipse: s-maj=52.1km s-min=12.1km az=70.0*

ISC 27 12:45:17.9±0.6,5.˚14N±0.˚06×126.˚2E±0.˚1, h100km, n53, σ1§20/52, mb4.1/20, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	1.60	205	P	Pn	12 45 42.2	-3.2
DAV	Davao City (W)	2.01	342	Pn	Pn	12 45 49.9	-0.8
DAV	Davao City (W)	2.01	342	P	Pn	12 45 53.4	+2.8
	206nm,0.4s,baz=235,slow=24,SNR=2.0						
DAV				S	Sn	12 46 15.7	+0.1
	472nm,0.4s,baz=256,slow=19,SNR=6.9						
TNTI	Ternate	4.50	165	Pn	Pn	12 46 22.3	-1.5
TNTI	Ternate	4.50	165	P	Pn	12 46 21.4	-2.4
KMSI	Cibinong	5.05	206	P	Pn	12 46 30.7	-0.7
	0.7nm102nm,0.8s						
MRSI	Marisa	6.29	223	P	Pn	12 46 48.0	-0.2
	0.3nm77nm,0.7s						
TOLI2	Tolitoli	6.73	234		Pn	12 46 52.7	-1.5
LUWI	Luwuk	7.04	209	Pn	Pn	12 46 58.4	+0.1
APSI	Ampana	7.54	217	P	Pn	12 47 05.9	+0.7
	49nm,1.2s						
MYLDM	Lahad Datu	7.67	271		Pn	12 47 08.1	+1.1
SWI	Sorong	7.82	140	P	Pn	12 47 06.7	-2.3
NLAI	Namlea	8.38	174	P	Pn	12 47 15.5	-1.0
MSAI	Masohi	8.86	162	P	Pn	12 47 22.5	-0.7
KKM	Kota Kinabalu	9.98	276	Pn	Pn	12 47 36.9	-1.6
KNRA	Kununurra	20.84	173	P	Pn	12 49 52.6	-2.5
KNRA				IAmb	IAmb	12 49 54.6	
	comp=Z,9.4nm,0.7s						
FITZ	Fitzroy Crossi	23.10	181	P	P	12 50 15.1	-0.2
PMG	Port Moresby	25.40	125	LR	LR	13 00 42.9	
	comp=Z,902nm,20.3s,baz=250,slow=36						
WB0	Warramunga Arr	26.03	162	P	P	12 50 43.4	+1.4
WB0				IAmb	IAmb	12 50 56.9	
	comp=Z,5.2nm,0.7s						
WRAB	Tennant Creek	26.18	162	P	P	12 50 44.8	+1.6
WRAB				IAmb	IAmb	12 51 04.3	
	comp=Z,5.5nm,0.9s						
WRA	Warramunga Arr	26.18	162	P	P	12 50 44.2	+0.9
WRA	Warramunga Arr	26.18	162	P	P	12 50 45.3	+2.1
	comp=Z,1.0nm,0.5s,baz=340,slow=10,SNR=21						
	comp=Z,1.0nm,0.5s						
WR8	Warramunga Arr	26.24	162	P	P	12 50 45.0	+1.2
WR8				IAmb	IAmb	12 50 54.5	
	comp=Z,5.3nm,1.0s						
MBWA	Marble Bar	26.90	193	P	P	12 50 50.6	+0.9
MBWA				IAmb	IAmb	12 50 54.1	
	comp=Z,5.5nm,0.9s						
PSA00	Pilbara Seismi	27.27	193	P	P	12 50 53.3	+0.3
PSA00				IAmb	IAmb	12 50 58.7	
	comp=Z,5.2nm,1.1s						
ASAR	Alice Springs	29.60	166	P	P	12 51 15.1	+1.3
	comp=Z,0.5nm,0.4s,baz=353,slow=8.0,SNR=11						
	comp=Z,0.5nm,0.4s						
KSRS	Korea Array	32.20	3	P	P	12 51 36.2	-0.1
	comp=Z,0.6nm,0.6s,baz=187,slow=9.4,SNR=4.7						
	comp=Z,0.6nm,0.6s						
INKA	Innaminka	35.58	158	P	P	12 52 07.0	+1.2
INKA				IAmb	IAmb	12 52 16.1	
	comp=Z,1.4nm,1.0s						
FORT	Forrest	35.76	177	P	P	12 52 07.8	+0.5
BJT	Baijiatuau	35.88	347	P	P	12 52 07.8	-0.5
BJT				IAmb	IAmb	12 52 07.8	
	comp=Z,3.2nm,0.6s						
EIDS	Eidsvold	38.78	143	P	P	12 52 33.3	+0.3
BBOO	Buckleboo	38.89	167	P	P	12 52 34.5	+0.8
STKA	Stephens Creek	39.63	159	P	P	12 52 41.3	+1.4
	comp=Z,1.1nm,0.4s,baz=341,slow=8.0,SNR=4.2						
	comp=Z,1.1nm,0.4s						
MKAR	Makanchi Array	56.10	325	P	P	12 54 46.3	-0.6
MKAR	Makanchi Array	56.10	325	P	P	12 54 46.1	-0.7
	comp=Z,1.7nm,0.6s,baz=125,slow=8.2,SNR=15						
	comp=Z,1.7nm,0.6s						
MAKZ	Makanchi	56.29	325	P	P	12 54 47.5	-0.7
MAKZ				IAmb	IAmb	12 54 48.0	
	comp=Z,1.5nm,0.8s						
ZALV	Zalesovo Beam	59.10	333	P	P	12 55 07.9	+0.2
ZALV	Zalesovo Beam	59.10	333	P	P	12 55 06.5	-1.2
	comp=Z,0.8nm,0.5s,baz=110,slow=7.3,SNR=3.0						
	comp=Z,0.8nm,0.5s						
KURBB	Kurchatov Arra	60.27	327	P	P	12 55 15.0	-0.8
	comp=Z,1.4nm,0.6s,baz=124,slow=6.5,SNR=15						
	comp=Z,1.4nm,0.6s						
KURK	Kurchatov	60.27	327	P	P	12 55 15.1	-0.7
BVAR	Borovoye Array	65.86	327	P	P	12 55 52.3	-0.4
	comp=Z,0.6nm,0.5s,baz=110,slow=8.1,SNR=4.0						
	comp=Z,0.6nm,0.5s						
AB31	Akbulak array	70.73	321	P	P	12 56 23.1	-0.1
ABKAR	Akbulak array	70.73	321	P	P	12 56 22.8	-0.4
C23K	Itkillik River	82.85	20	P	P	12 57 31.5	+0.6
H23K	Yukon River	82.98	24	P	P	12 57 32.8	+1.1
H23K				IAmb	IAmb	12 57 47.6	
	comp=Z,3.9nm,1.2s						
I23K	Minto, Yukon-K	83.02	25	P	P	12 57 32.9	+1.0
CCB	Clear Creek Bu	83.66	26	P	P	12 57 36.3	+1.1
ILAR	Eielson Array	84.06	25	P	P	12 57 36.0	-1.2
	comp=Z,0.5nm,0.8s,baz=258,slow=5.9,SNR=4.5						
	comp=Z,0.5nm,0.8s						
BMAR	Burnt Mountain	84.98	23	P	P	12 57 42.8	+0.9
ARCES	ARCESS Array B	88.95	340	P	P	12 58 01.4	+0.5
ARCES				IAmb	IAmb	12 58 20.8	
	comp=Z,0.5nm,0.7s						
ARCES	ARCESS Array B	88.95	340	P	P	12 58 01.5	+0.5
	comp=Z,1.2nm,0.6s,baz=86,slow=6.2,SNR=9.1						
	comp=Z,1.2nm,0.6s						
FINES	FINESS Array B	90.35	332	P	P	12 58 07.1	-0.5
FINES	FINESS Array B	90.35	332	P	P	12 58 06.9	-0.7
	comp=Z,0.5nm,0.3s,baz=85,slow=5.7,SNR=7.1						
	comp=Z,0.5nm,0.3s						

*IDC **27** 12:48:42.2±3.3,48.˚66N×77.˚73E, h0km, mbtmp2.5/2, ML1.9/2, Error ellipse: s-maj=42.6km s-min=13.1km az=76.0*
*NNC **27** 12:48:43.5±2.2,48.˚62N×78.˚13E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=28.1km s-min=8.9km az=68.0, Suspected Mining explosion.*

ISC 27 12:48:39.9±3.7,48.˚65N±0.˚09×77.˚5E±0.˚3, h0km, n7, σ0§47/9, 1C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURBB	Kurchatov Arra	2.09	19	⇓Pn	Pb	12 49 18.3	-0.5
	7.5nm,0.8s						
KURBB				⇓Sn	Sb	12 49 45.7	+0.5
	22nm,0.8s						
KURBB	Kurchatov Arra	2.09	19	Pg	Pg	12 49 19.6	-0.4
	0.2nm,0.3s,baz=198,slow=16,SNR=28						
KURBB				Lg	Lg	12 49 45.0	
	0.2nm,0.3s,baz=200,slow=28,SNR=9.6						
KURK	Kurchatov	2.20	20	⇓Pn	Pb	12 49 20.6	0.0
	3.2nm,0.9s						
KURK				⇓Sn	Sb	12 49 48.5	+0.1
	3.2nm,0.8s						
MK31	Makanchi Array	3.75	118	⇑Pg	Pb	12 49 46.8	-0.3
	0.3nm,0.5s,baz=304,slow=11,SNR=4.5						
MK31				⇓Lg	Lg	12 50 29.1	
	2.7nm,0.7s,baz=309,slow=25,SNR=14						
MKAR	Makanchi Array	3.75	118	Pn	Pn	12 49 39.6	+0.4
	0.1nm,0.3s,baz=302,slow=14,SNR=5.4						
MKAR				Lg	Lg	12 50 30.3	
	0.4nm,0.3s,baz=308,slow=29,SNR=15						
	0.6nm,0.7s						
I46RU	ZALESOVO INFRA	7.03	38	I	I	13 29 20.0	
	baz=220,slow=324,SNR=3.3						
ZALV	Zalesovo Beam	7.03	38	Pn	Pn	12 50 24.6	+0.6
	0.2nm,0.3s,baz=216,slow=14,SNR=1.3						
ZALV				Sn	Sn	12 51 44.3	-0.2
	0.2nm,0.3s,baz=228,slow=22,SNR=6.0						
	0.3nm,0.3s						

*SDD **27** 13:04:04.7±2.5, 19.˚18N×67.˚07W, h15km±14km, MD3.5, ML3.3, MW3.5*
*NEIC **27** 13:04:04.8±2.1, 19.˚12N±0.˚04×67.˚13W±0.˚02, h10km±1km, ML3.1/15, Md2.6/17(RSPR), Error ellipse: s-maj=6.4km s-min=4.0km az=179.0*
*OSPL **27** 13:04:06.5±1.4, 19.˚08N×67.˚07W, h10km±16km, ML3.0*
*RSPR **27** 13:04:07.4, 19.˚05N×67.˚24W, h9km±3km, MD2.6/17*

ISC 27 13:04:07.7±1.2, 19.˚00N±0.˚05×67.˚19W±0.˚03, h29km, n66, σ1§04/80, 11C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	Aguadilla, PR	0.53	172		Pb	13 04 18.0	-0.6
AGPR					Sb	13 04 26.7	+0.7
AGPR	Aguadilla, PR	0.53	172	⇑eP	Pb	13 04 18.0	-0.6
AGPR	Aguadilla, PR	0.53	172	eS	Sb	13 04 26.7	+0.7
AGPR	Aguadilla, PR	0.53	172	ePg	Pb	13 04 17.8	-0.8
AGPR				eSg	Sb	13 04 26.8	+0.7
AGPR				IAML		13 04 29.8	
	comp=N,1μm,0.2s						
AGPR	Aguadilla, PR	0.53	172	*i* P	Pb	13 04 17.7	-0.9
AGPR				eS	Sb	13 04 26.3	+0.3
AGPR				IAML		13 04 33.0	
	comp=Z,678nm,0.2s						
IDE	Isla Desecheo	0.66	204		Pb	13 04 20.0	-0.7
IDE					Sb	13 04 30.7	+1.0
IDE	Isla Desecheo	0.66	204	⇑eP	Pb	13 04 20.0	-0.7
IDE	Isla Desecheo	0.66	204	eS	Sb	13 04 30.7	+1.0
AOPR	Arecibo Observ	0.77	147		Pn	13 04 21.1	-1.5
AOPR	Arecibo Observ	0.77	147	⇑eP	Pn	13 04 21.6	-1.0
AOPR	Arecibo Observ	0.77	147	eS	Sb	13 04 33.2	+0.5
PRSN	Puerto Rico Se	0.78	177		Pn	13 04 20.2	-2.5
PRSN					Sb	13 04 33.1	+0.2
PRSN	Puerto Rico Se	0.78	177	⇓eP	Pn	13 04 20.2	-2.5
PRSN	Puerto Rico Se	0.78	177	eS	Sb	13 04 33.1	+0.2
EMPR	Esperanza - Ma	0.81	129		Sn	13 04 36.3	+2.0
EMPR	Esperanza - Ma	0.81	129	Pg	Pn	13 04 21.5	-1.7
EMPR	Esperanza - Ma	0.81	129	⇑eP	Pn	13 04 22.6	-0.6
EMPR	Esperanza - Ma	0.81	129	eS	Sn	13 04 36.3	+2.0
LSP	Las Mesas	0.82	173		Pn	13 04 23.5	+0.1
LSP					Sn	13 04 35.5	+0.9
LSP	Las Mesas	0.82	173	⇑eP	Pn	13 04 23.5	+0.1
LSP	Las Mesas	0.82	173	eS	Sn	13 04 35.5	+0.9
UUPR	Utuado, UPR, P	0.86	149		Sn	13 04 34.9	-0.7
UUPR	Utuado, UPR, P	0.86	149	Pg	Pn	13 04 23.8	-0.1
UUPR	Utuado, UPR, P	0.86	149	⇓eP	Pn	13 04 23.8	-0.1
UUPR	Utuado, UPR, P	0.86	149	eS	Sn	13 04 34.9	-0.7
CRPR	Cabo Rojo, PR	0.99	175		Pn	13 04 24.9	-0.7
CRPR				Sg	Sn	13 04 39.5	+1.0
CRPR				IAML		13 04 39.9	
	comp=N,363nm,0.4s						
CRPR				IAML		13 04 43.3	
	comp=E,429nm,0.3s						
CRPR	Cabo Rojo, PR	0.99	175	⇑eP	Pn	13 04 25.5	-0.1
CRPR	Cabo Rojo, PR	0.99	175	eS	Sn	13 04 38.9	+0.3
CRPR	Cabo Rojo, PR	0.99	175	*i* P	Pn	13 04 24.7	-0.9
CRPR				eS	Sn	13 04 38.8	+0.3
CRPR				IAML		13 04 39.8	
	comp=Z,378nm,0.3s						
MLPR	Magueyes Islan	1.03	172	⇓eP	Pb	13 04 27.8	+0.8
MLPR	Magueyes Islan	1.03	172	eS	Sn	13 04 40.1	+0.5
ECPR	Experimental S	1.04	130	⇑eP	Pb	13 04 26.4	-0.6
ECPR	Experimental S	1.04	130	eS	Sb	13 04 40.5	+0.2
GBPR	Guanica, Bosqu	1.06	164		Pn	13 04 26.2	-0.4
GBPR	Guanica, Bosqu	1.06	164	⇓eP	Pn	13 04 26.2	-0.4
CELP	Cerrillos	1.08	147		Pn	13 04 25.9	-1.0
CELP					Sn	13 04 41.3	+0.2
CELP				IAML		13 04 42.4	
	comp=N,436nm,0.2s						
CELP				IAML		13 04 42.9	
	comp=E,388nm,0.6s						
CELP	Cerrillos	1.08	147	⇑eP	Pn	13 04 26.5	-0.5
CELP	Cerrillos	1.08	147	eS	Sn	13 04 41.4	+0.4
CELP	Cerrillos	1.08	147	ePg	Pn	13 04 25.7	-1.3
CELP				eSg	Sn	13 04 40.5	-0.6
CELP				IAML		13 04 43.3	
	comp=N,352nm,0.3s						
OBIP	Obispado Ponce	1.10	149		Pn	13 04 26.6	-0.6
OBIP					Sn	13 04 42.3	+0.9
OBIP	Obispado Ponce	1.10	149	IAML		13 04 42.6	
	comp=N,460nm,0.4s						
OBIP				IAML		13 04 43.7	
	comp=E,523nm,0.5s						
OBIP	Obispado Ponce	1.10	149	⇓eP	Pn	13 04 26.6	-0.6
OBIP	Obispado Ponce	1.10	149	eS	Sn	13 04 42.3	+0.9
GCPR	Guaynabo City	1.25	123		Pn	13 04 28.2	-1.1
GCPR	Guaynabo City	1.25	123	⇓eP	Pn	13 04 28.2	-1.1
GCPR	Guaynabo City	1.25	123	eS	Sb	13 04 49.4	+2.9
SJG	San Juan	1.32	131		Pn	13 04 28.8	-1.4
SJG				IAML		13 04 54.8	
	comp=E,320nm,0.4s						
SJG	San Juan	1.32	131	⇑eP	Pn	13 04 29.0	-1.2
SJG	San Juan	1.32	131	eS	Sb	13 04 48.0	-0.5
SJG	San Juan	1.32	131	*i* P	Pn	13 04 29.4	-0.8
SJG				eS	Sn	13 04 45.4	-1.5
SJG				IAML		13 04 56.0	
	comp=Z,167nm,0.6s						
IGPR	InterUniversit	1.45	135		Pn	13 04 32.0	0.0
IGPR					Sn	13 04 50.7	+0.6
IGPR	InterUniversit	1.45	135	⇓eP	Pn	13 04 32.0	0.0
IGPR	InterUniversit	1.45	135	eS	Sn	13 04 50.7	+0.6
PDPR	Patillas Dam,	1.48	131	IAML		13 04 57.0	
	comp=E,223nm,0.1s						
PDPR				IAML		13 04 57.7	
	comp=N,262nm,0.2s						
PDPR	Patillas Dam,	1.48	131	⇑eP	Pn	13 04 32.3	0.0
PDPR	Patillas Dam,	1.48	131	eS	Sn	13 04 51.1	+0.4
HIDR	Higuey Centro	1.50	255	⇑eP	Pn	13 04 32.4	-0.3
HIDR	Higuey Centro	1.50	255	eS	Sn	13 04 48.2	-3.1
HIDR	Higuey Centro	1.50	255	ePg	Pn	13 04 32.5	-0.1
HIDR				eSg	Sb	13 04 55.5	+1.9
HIDR				IAML		13 04 59.1	
	comp=N,528nm,0.2s						
MIDR	Miches	1.76	270	ePg	Pn	13 04 35.9	-0.3
MIDR				eSg	Sb	13 04 59.7	-1.2
MIDR				IAML		13 05 05.9	
	comp=N,207nm,0.7s						
DR12	Loma Pena Alta	2.08	265		Pn	13 04 41.1	+0.4
HATOM	Hato Mayor del	2.08	265	*i* P	Pn	13 04 41.1	+0.4
HATOM				*i* S	Sn	13 05 05.7	0.0
HATOM				IAML		13 05 18.3	
	comp=N,149nm,0.3s						
BANI	BANI	3.06	259	Pn	Pn	13 04 55.2	+0.9
SDDR	Presa de Saban	3.87	270		Pn	13 05 05.8	+0.4
SDDR	Presa de Saban	3.87	270	*i* P	Pn	13 05 06.9	+1.5
SDDR				IAML		13 06 12.9	
	comp=Z,64nm,0.6s						
LOPP1	Punta Rusia, P	3.88	283	*i* P	Pn	13 05 05.0	-0.4

*IDC **27** 13:15:16.2±1.2,29.˚39S×178.˚04W, h0km, mb4.2/4, mbtmp4.2/4, MS4.5/1, Error ellipse: s-maj=37.1km s-min=33.0km az=156.0*
*NEIC **27** 13:15:22.1±0.5,30.˚02S±0.˚06×178.˚1W±0.˚2, h35km±2km, mb4.3/11, Error ellipse: s-maj=33.0km s-min=9.3km az=100.0*

ISC 27 13:15:22.8±0.8,29.˚9S±0.˚1×178.˚3W±0.˚2, h35km, n29, σ1§47/23, mb4.2/11, 3C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.71	26		Pn	13 15 36.4	0.0
DZM	Mont Dzumac	15.78	296	LR	LR	13 22 53.2	
	comp=Z,2μm,20.5s,baz=53,slow=29						
CTAO	Charters Tower	33.48	279	P	P	13 21 59.1	+0.2
STKA	Stephens Creek	34.36	256	P	P	13 22 06.4	0.0
STKA	Stephens Creek	34.36	256	P	P	13 22 07.7	+1.2
	3.1nm,0.6s,baz=99,slow=12,SNR=6.5						
	3.1nm,0.6s						
BBOO	Buckleboo	38.87	254	P	P	13 22 44.0	-0.9
AS31	Alice Springs	42.89	267	P	P	13 23 18.1	-0.1
ASAR	Alice Springs	42.89	267	P	P	13 23 17.7	-0.5
ASAR	Alice Springs	42.89	267	P	P	13 23 18.4	+0.2
	0.9nm,0.7s,baz=105,slow=7.8,SNR=21						
ASAR				PcP	PcP	13 25 06.9	-1.8
	0.8nm,1.0s,baz=114,slow=4.0,SNR=2.8						
	0.9nm,0.7s						
WR8	Warramunga Arr	43.69	272	P	P	13 23 24.7	0.0
WR8				IAmb	IAmb	13 23 28.4	
	comp=Z,4.7nm,0.9s						
WB2	Warramunga Arr	43.83	272	P	P	13 23 25.7	0.0
WB2				IAmb	IAmb	13 23 29.9	
	comp=Z,8.1nm,1.0s						
WRAB	Tennant Creek	43.83	272	P	P	13 23 25.9	+0.1
WRAB				IAmb	IAmb	13 23 29.9	
	comp=Z,4.8nm,1.0s						
WRA	Warramunga Arr	43.84	272	P	P	13 23 25.6	-0.2
WRA	Warramunga Arr	43.84	272	P	P	13 23 26.2	+0.4
	comp=Z,1.9nm,0.3s,baz=110,slow=8.1,SNR=102						
	comp=Z,1.9nm,0.3s						
WB0	Warramunga Arr	43.86	272	P	P	13 23 26.2	+0.3
WB0				IAmb	IAmb	13 23 32.8	
	comp=Z,6.7nm,1.2s						
VNDA	Vanda	48.57	186	P	P	13 24 05.0	+2.7
	comp=Z,0.9nm,0.3s,baz=45,slow=4.0,SNR=12						
	comp=Z,0.9nm,0.3s						
CASY	Casey	55.47	208	P	P	13 24 50.8	-2.9
QSPA	South Pole Qui	60.22	180	P	P	13 25 26.9	-0.3
QSPA				IAmb	IAmb	13 25 36.7	
	comp=Z,2.9nm,0.8s						
TROLL	Troll, Antarti	78.38	180	⇑P	P	13 27 16.3	-3.1
	comp=Z,89nm,0.8s						
VNA3	Neumayer Olymp	78.83	176	⇑P	P	13 27 17.8	-3.9
	comp=Z,1.1nm,0.4s						
VNA2	Neumayer--Watz	79.26	177	⇑P	P	13 27 20.8	-3.3
	comp=Z,1.9nm,0.8s,baz=168,slow=4.5						
H03S2	Juan Fernandez	80.95	124	T	T	14 56 31.2	
	baz=238,slow=74,SNR=35						
H03S1	Juan Fernandez	80.96	124	T	T	14 56 40.9	
	baz=238,slow=74,SNR=28						
H03S3	Juan Fernandez	80.97	124	T	T	14 56 40.7	
	baz=238,slow=74,SNR=32						
FINES	FINESS Array B	144.59	340	PKP	PKPab	13 34 51.7	-1.8
	comp=Z,6.7nm,0.6s,baz=62,slow=3.3,SNR=37						
NOA	NORSAR Array B	148.22	351	PKPbc	PKPdf	13 35 02.3	+1.2
	comp=Z,1.2nm,0.7s,baz=16,slow=4.3,SNR=4.5						
HFS	Hagfors	148.70	348	PKPbc	PKPdf	13 35 03.1	+1.2
	comp=Z,1.0nm,0.7s,baz=26,slow=3.8,SNR=4.7						
AKASG	Malin Array Be	150.75	323	PKPbc	PKPdf	13 35 09.0	+3.6
	comp=Z,3.2nm,0.7s,baz=53,slow=2.8,SNR=9.7						
MMAI	Mount Meron Ar	151.17	285	PKPbc	PKPbc	13 35 11.7	-0.9
	comp=Z,0.7nm,0.4s,baz=59,slow=6.9,SNR=3.8						

*IDC **27** 13:25:07.0±1.1,35.˚35N×140.˚53E, h0km, mb3.6/6, mbtmp3.6/10, ML3.1/4, Error ellipse: s-maj=26.5km s-min=16.2km az=80.0*
*JMA **27** 13:25:11.4±0.1,35.˚5N±0.˚3×140.˚4E±0.˚6, h31km±1km, MV3.3/38, KUJUKURI COAST BOSO PEN*
JMA Felt II J1 at KUJUKURI COAST BOSO PEN .

ISC 27 13:25:11.3±1.1,35.˚44N±0.˚04×140.˚46E±0.˚06, h30km±8km, n26, σ0§72/26, mb3.6/6, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSMT	Sammumatsuo	0.20	358	⇓*i*P	Pn	13 25 17.6	-0.7
JSMT				⇓S	Sn	13 25 22.4	-0.1
KTR	Katsuura	0.32	202	P	Pb	13 25 19.1	+0.1
KTR				eS	Sb	13 25 24.3	+0.1
JKUC	kamogawauchiur	0.35	217	*i* P	Pb	13 25 19.5	0.0
BSO4	Boso 4	0.46	192	P	Pn	13 25 22.0	+0.2
BSO3	Boso 3	0.64	176	⇓*i*P	Pn	13 25 24.2	+0.1
BSO3				⇓X		13 25 35.0	
JYT	Yasato	0.81	345	⇓P	Pn	13 25 25.7	-1.0
JYT				⇓S	Sn	13 25 36.8	-0.8
BSO1	Boso 1	0.90	151	⇓P	Pn	13 25 27.2	-0.2
JIM2	Oshima 3	1.11	230	P	Pn	13 25 30.1	-0.7
JOD2	Odawara 2	1.13	261	P	Pn	13 25 31.2	+0.1
JOD2				S	Sb	13 25 46.1	-0.6
JAG	Ashikaga	1.27	320	P	Pn	13 25 32.5	-0.6
MJAR	Matsushiro Arr	2.13	302	Pn	Pn	13 25 46.0	+1.2
	0.8nm,0.3s,baz=96,slow=14,SNR=41						
MJAR				Sn	Sb	13 26 14.5	-0.7
	1.2nm,0.3s,baz=139,slow=13,SNR=4.6						
	17nm,0.6s						
JHJ	Hachijo jima 2	2.39	194	Pn	Pn	13 25 47.8	-0.6
	33nm,0.3

H10N2	**ASCENSION HYDR**	**38.89**	**154**	T	T	16 22 08.6	
	baz=203,slow=75,SNR=3.6						
FINES	**FINESS Array B**	**145.06**	**340**	PKPbc	PKPbc	13 46 26.7	-1.0
	0.8nm,0.5s,baz=60,slow=3.4,SNR=11						

*ISK **27** 13:35:47.4, 40.43N×26.11E, h12km, ML4.1/31*
*IDC **27** 13:35:48.0±2.7, 40.41N×26.21E, h0km, mb3.6/3, mbtmp3.6/5, ML3.8/3, Error ellipse: s-maj=42.2km s-min=13.8km az=46.0*
*AFAD **27** 13:35:47.1, 40.45N×26.15E, h7km±2km, MW3.9*
*SOF **27** 13:35:47.4, 40.38N±0.02×26.11E±0.02, h22km±3km, MD3.8/10*
*BEO **27** 13:35:48.6±0.6, 40.56N×26.32E, h11km±2km, ML4.2/7*
*THE **27** 13:35:48.4, 40.4N±0.7×26E±, h10km±1km, M3.6/14, MLh3.6/14*
*ATH **27** 13:35:48.2, 40.40N×26.05E, h14km±1km, ML3.6/20, Manual Solution by G.Panopoulou First location: 2019/09/27 13:37:12, This location: 2019/09/27 13:46:50 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*CFUSG **27** 13:35:50.0, 40.67N×26.44E, h5km, mb3.8/3, MD3.5/4, Western Turkey Magtype MSH 3.3 from 4 stations*

ISC 27 13:35:48.3±0.8, 40.42N±0.01×26.12E±0.01, h16km±5km, n216, σ1§20/275, mb3.4/3, 29C-30D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENZZ	**Sultanice-Enez**	**0.18**	**6**	Pg	**Pg**	**13 35 52.4**	**-0.3**
CAVK	**Edirne/Enez-Ca**	**0.27**	**9**	P	**Pg**	**13 35 53.7**	**-0.5**
CAVK				S	**Sg**	**13 35 58.0**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.28**	**95**	Pg	**Pg**	**13 35 53.9**	**-0.3**
GELI				Sg	**Sg**	**13 35 58.1**	**-0.1**
GADA	**Gvkgeada**	**0.29**	**215**	Pg	**Pg**	**13 35 53.6**	**-0.8**
GADA				Sg	**Sg**	**13 35 58.9**	**+0.4**
GADA	**Gvkgeada**	**0.29**	**215**	P	**Pg**	**13 35 54.0**	**-0.3**
GADA				S	**Sg**	**13 35 58.0**	**-0.5**
GOAD	**anakkale-G¶**	**0.31**	**211**	P	**Pg**	**13 35 54.5**	**-0.2**
GOAD				S	**Sg**	**13 35 59.8**	**+0.7**
ECEA	**Canakkale, Ece**	**0.38**	**173**	P	**Pg**	**13 35 55.4**	**-0.6**
ECEA				S	**Sg**	**13 36 01.8**	**+0.5**
ERIK	**Erikli-Kesan**	**0.39**	**51**	Pg	**Pg**	**13 35 55.8**	**-0.4**
ERIK				Sg	**Sg**	**13 36 01.4**	**-0.2**
CNKL	**anakkale-Mer**	**0.41**	**150**	P	**Pg**	**13 35 56.0**	**-0.7**
CNKL				P	**Pb**	**13 35 56.3**	**-0.9**
CNKL				S	**Sg**	**13 36 02.4**	**+0.1**
CNKL				S	**Sb**	**13 36 02.6**	**-0.7**
SMTH	**Samothraki Isl**	**0.45**	**276**	P	**Pg**	**13 35 56.5**	**-0.8**
SMTH	**Samothraki Isl**	**0.45**	**276**	P	**Pg**	**13 35 56.5**	**-0.8**
SMTH				S	**Sg**	**13 36 01.6**	**-1.8**
ALEX	**Alexandroupoli**	**0.46**	**339**	P	**Pg**	**13 35 57.4**	**0.0**
ALEX				S	**Sg**	**13 36 03.8**	**0.0**
ALN	**Alexandroupoli**	**0.47**	**354**	Pg	**Pg**	**13 35 57.3**	**-0.5**
ALN				Sg	**Sg**	**13 36 04.1**	**-0.1**
ALN	**Alexandroupoli**	**0.47**	**354**	P	**Pg**	**13 35 57.4**	**-0.3**
ALN				S	**Sg**	**13 36 04.5**	**+0.3**
ALN	**Alexandroupoli**	**0.47**	**354**	P	**Pg**	**13 35 57.8**	**0.0**
ALN				S	**Sg**	**13 36 04.6**	**+0.4**
LPK	**Lapseki**	**0.49**	**96**	Pg	**Pg**	**13 35 57.7**	**-0.4**
LPK				Sg	**Sb**	**13 36 05.0**	**-0.6**
BOZC	**Bozcaada**	**0.58**	**185**	Pg	**Pg**	**13 35 59.2**	**-0.6**
BOZC				Sg	**Sg**	**13 36 07.7**	**+0.2**
EZN	**Ezine**	**0.62**	**165**	Pg	**Pg**	**13 35 59.8**	**-0.6**
EZN	**Ezine**	**0.62**	**165**	P	**Pg**	**13 35 59.8**	**-0.6**
EZN				S	**Sb**	**13 36 09.0**	**-0.2**
EZNE	**Ezine-Canakkal**	**0.69**	**164**	Pg	**Pg**	**13 36 01.2**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**0.76**	**154**	P	**Pg**	**13 36 02.3**	**-0.7**
UKOP	**Uzunkopru-Edir**	**0.81**	**29**	Pg	**Pg**	**13 36 03.4**	**-0.5**
CANM	**Can-anakkale**	**0.83**	**120**	Pg	**Pg**	**13 36 03.7**	**-0.7**
RDO	**Rodhopi**	**0.84**	**329**	Pg	**Pg**	**13 36 03.8**	**-0.8**
RDO	**Rodhopi**	**0.84**	**329**	P	**Pg**	**13 36 03.9**	**-0.8**
RDO				S	**Sb**	**13 36 16.7**	**+1.0**
RDO	**Rodhopi**	**0.84**	**329**	P	**Pg**	**13 36 03.9**	**-0.8**
RDO				S	**Sg**	**13 36 15.2**	**-0.5**
LIA	**Limnos Island**	**0.89**	**234**	P	**Pg**	**13 36 04.8**	**-0.7**
LIA				S	**Sg**	**13 36 17.5**	**+0.4**
LIA	**Limnos Island**	**0.89**	**234**	P	**Pg**	**13 36 05.0**	**-0.5**
LIA				S	**Sg**	**13 36 15.1**	**-2.0**
KRBG	**Karabiga-Canak**	**0.90**	**92**	Pg	**Pg**	**13 36 04.9**	**-0.9**
KOCA	**Canakkale, Ayv**	**0.92**	**179**	P	**Pg**	**13 36 04.7**	**-1.4**
KOCA				S	**Sg**	**13 36 17.7**	**-0.5**
GPNR	**Gulpinar-Canak**	**0.97**	**179**	Pg	**Pg**	**13 36 06.1**	**-0.9**
LMN1	**MIRINA LIMNOU**	**0.98**	**236**	P	**Pg**	**13 36 06.9**	**-0.3**
LMN1				S	**Sg**	**13 36 18.8**	**-1.2**
YENI	**Yenice-Canakka**	**0.99**	**119**	Pg	**Pg**	**13 36 06.6**	**-0.8**
XANC	**Avdira**	**1.04**	**303**	P	**Pb**	**13 36 07.3**	**-0.6**
XANC				S	**Sg**	**13 36 21.6**	**-0.7**
THAS	**Thassos island**	**1.08**	**280**	P	**Pb**	**13 36 07.9**	**-0.6**
THAS	**Thassos island**	**1.08**	**280**	P	**Pb**	**13 36 07.8**	**-0.8**
THAS				S	**Sb**	**13 36 21.8**	**-0.7**
YAYO	**Edremit-Balk**	**1.09**	**138**	Pn	**Pg**	**13 36 08.9**	**-0.5**
BUHA	**Balikesir, Bur**	**1.18**	**141**	P	**Pb**	**13 36 09.5**	**-0.8**
PRK	**Paraskevi**	**1.18**	**174**	P	**Pb**	**13 36 10.3**	**0.0**
PRK	**Paraskevi**	**1.18**	**174**	P	**Pb**	**13 36 10.3**	**0.0**
PRK				S	**Sb**	**13 36 24.9**	**-0.5**
THS1	**Thassos, Thass**	**1.21**	**285**	P	**Pn**	**13 36 10.1**	**-0.5**
TKR	**Tekirdag**	**1.22**	**62**	Pn	**Pn**	**13 36 10.8**	**+0.1**
SIGR	**SIGRI**	**1.23**	**189**	Pn	**Pn**	**13 36 10.7**	**-0.1**
SIGR	**SIGRI**	**1.23**	**189**	P	**Pn**	**13 36 10.6**	**-0.1**
SIGR	**SIGRI**	**1.23**	**189**	P	**Pn**	**13 36 10.9**	**+0.1**
SIGR				S	**Sb**	**13 36 26.6**	**-0.1**
EFSA	**Agios Efstrati**	**1.24**	**225**	P	**Pn**	**13 36 11.1**	**+0.2**
EFSA				S	**Sb**	**13 36 26.3**	**-0.6**
GONE	**Gonen-Balikesi**	**1.26**	**107**	Pn	**Pb**	**13 36 11.5**	**-0.1**
TRGA	**Dikaia**	**1.29**	**6**	P	**Pb**	**13 36 12.5**	**+0.4**
TRGA				S	**Sg**	**13 36 29.7**	**-0.1**
EDC	**Edincik**	**1.34**	**93**	Pn	**Pn**	**13 36 12.3**	**0.0**
KDZ	**Kurdzhali**	**1.34**	**334**	*i* P	**Pn**	**13 36 12.7**	**+0.3**
KDZ	**Kurdzhali**	**1.34**	**334**	Pn	**Pn**	**13 36 12.6**	**+0.2**
KDZ	**Kurdzhali**	**1.34**	**334**	P	**Pn**	**13 36 12.6**	**+0.2**
KAVA	**Kavala**	**1.34**	**296**	P	**Pn**	**13 36 11.9**	**-0.5**
KAVA	**Kavala**	**1.34**	**296**	P	**Pn**	**13 36 12.2**	**-0.2**
KAVA				S	**Sb**	**13 36 28.4**	**-1.7**
KVLA	**Kavala**	**1.41**	**292**	P	**Pn**	**13 36 12.6**	**-0.7**
EDRB	**Edirne**	**1.50**	**18**	Pn	**Pn**	**13 36 14.2**	**-0.3**
BAND	**Balkesir-Ban**	**1.52**	**92**	P	**Pn**	**13 36 14.8**	**0.0**
BAND				S	**Sb**	**13 36 34.8**	**-0.2**
BAND	**Balkesir-Ban**	**1.52**	**92**	⇓P	**Pb**	**13 36 15.5**	**-0.5**
BAND				⇑S	**Sb**	**13 36 34.7**	**-0.3**
KIRK	**Kırklareli**	**1.55**	**28**	P	**Pn**	**13 36 14.0**	**-1.2**
KIRK				S	**Sn**	**13 36 35.5**	**+0.5**
BKES	**Balkesir-Mer**	**1.55**	**116**	P	**Pn**	**13 36 16.0**	**+0.7**
BKES				S	**Sg**	**13 36 37.7**	**-0.6**
SUSR	**Susurluk-Balik**	**1.58**	**106**	Pn	**Pn**	**13 36 15.8**	**+0.2**
PHSR	**Pinarhisar**	**1.61**	**41**	Pn	**Pn**	**13 36 16.3**	**+0.3**
PHSR	**Pinarhisar**	**1.61**	**41**	⇓P	**Pn**	**13 36 15.8**	**-0.2**
PHSR				⇑S	**Sg**	**13 36 39.0**	**-1.1**
STEP	**BALIKESIR_Sava**	**1.62**	**130**	P	**Pn**	**13 36 16.6**	**+0.5**
STEP				S	**Sg**	**13 36 40.5**	**+0.2**
OUR	**Ouranopolis**	**1.63**	**268**	Pn	**Pn**	**13 36 15.7**	**-0.7**
OUR	**Ouranopolis**	**1.63**	**268**	P	**Pn**	**13 36 15.5**	**-0.8**
OUR	**Ouranopolis**	**1.63**	**268**	P	**Pn**	**13 36 15.7**	**-0.7**
ZEDA	**zmir-Bergama**	**1.63**	**153**	P	**Pn**	**13 36 17.3**	**+0.9**
ZEDA				S	**Sb**	**13 36 38.4**	**0.0**
RZN	**Rozhen**	**1.64**	**321**	*i* P	**Pn**	**13 36 17.1**	**+0.5**
RZN	**Rozhen**	**1.64**	**321**	P	**Pn**	**13 36 17.1**	**+0.5**
DRA2	**DRAMA**	**1.66**	**297**	P	**Pn**	**13 36 17.0**	**+0.2**
DRA2				S	**Sn**	**13 36 37.4**	**-0.4**
DIM	**Dimitrovgrad**	**1.67**	**346**	*i* P	**Pb**	**13 36 19.6**	**+1.0**
KARB	**zmir-Karabur**	**1.77**	**172**	P	**Pn**	**13 36 18.3**	**0.0**
SLVT	**Silivri**	**1.78**	**62**	Pn	**Pn**	**13 36 18.5**	**+0.1**
EAG2	**Marmaro, Chios**	**1.88**	**180**	P	**Pn**	**13 36 20.1**	**+0.4**
EAG2				S	**Sn**	**13 36 42.8**	**-0.3**
PAIG	**Paliouri**	**1.93**	**256**	P	**Pn**	**13 36 19.2**	**-1.2**
CTYL	**Yalikoy Yolu**	**1.95**	**57**	Pn	**Pn**	**13 36 20.4**	**-0.3**
CTYL	**Yalikoy Yolu**	**1.95**	**57**	⇓P	**Pn**	**13 36 21.4**	**+0.7**
CTYL				⇓S	**Sb**	**13 36 47.2**	**-0.4**
SKY	**Skiros Island**	**1.96**	**219**	P	**Pn**	**13 36 20.1**	**-0.8**
SKY				S	**Sn**	**13 36 44.0**	**-1.2**
CTKS	**Kestanelik-??a**	**1.99**	**65**	Pn	**Pn**	**13 36 21.4**	**+0.2**
PLD	**Plovdiv**	**2.01**	**330**	*i* P	**Pn**	**13 36 22.1**	**+0.6**
PLD	**Plovdiv**	**2.01**	**330**	P	**Pn**	**13 36 21.9**	**+0.4**
PLD	**Plovdiv**	**2.01**	**330**	*e*Pn	**Pn**	**13 36 22.1**	**+0.6**
CHOS	**Chios island**	**2.04**	**181**	P	**Pn**	**13 36 22.1**	**+0.1**
CHOS	**Chios island**	**2.04**	**181**	P	**Pn**	**13 36 22.1**	**+0.1**
SRS	**Serrai**	**2.04**	**291**	P	**Pn**	**13 36 21.8**	**-0.2**
SRS	**Serrai**	**2.04**	**291**	*e*Pn	**Pn**	**13 36 21.8**	**-0.2**
SRS				*e*Sn	**Sg**	**13 36 53.7**	**-0.1**
SRS	**Serrai**	**2.04**	**291**	P	**Pn**	**13 36 21.7**	**-0.2**
SRS				S	**Sn**	**13 36 46.4**	**-0.7**
PLG	**Polygyros**	**2.04**	**269**	P	**Pn**	**13 36 21.5**	**-0.5**
PLG	**Polygyros**	**2.04**	**269**	P	**Pn**	**13 36 21.5**	**-0.5**
JMB	**Yambol**	**2.09**	**8**	*i* P	**Pn**	**13 36 23.5**	**+0.9**
DST	**Dursunbey**	**2.09**	**112**	Pn	**Pn**	**13 36 23.5**	**+0.8**
ARMT	**Armutlu**	**2.10**	**85**	Pn	**Pn**	**13 36 23.2**	**+0.4**
MMB	**Musomishta**	**2.11**	**303**	*i* P	**Pn**	**13 36 23.6**	**+0.6**
MDNY	**Mudanya-Bursa**	**2.12**	**91**	Pn	**Pn**	**13 36 23.5**	**+0.5**
SOH	**Sokhos**	**2.14**	**282**	P	**Pn**	**13 36 23.3**	**-0.1**
BGKT	**Bogazkoy**	**2.15**	**69**	Pn	**Pn**	**13 36 23.8**	**+0.3**
ORLT	**Orhaneli**	**2.16**	**99**	Pn	**Pn**	**13 36 24.1**	**+0.4**
ZEYE	**Izmir, Urla-Ze**	**2.20**	**172**	P	**Pn**	**13 36 24.3**	**+0.1**
HORT	**Hortiatis**	**2.31**	**275**	P	**Pn**	**13 36 25.3**	**-0.4**
ISK	**Istanbul-Kandi**	**2.33**	**73**	Pn	**Pn**	**13 36 26.2**	**+0.3**
KLYT	**Kilyos**	**2.37**	**69**	Pn	**Pn**	**13 36 26.6**	**+0.1**
KLYT	**Kilyos**	**2.37**	**69**	⇑P	**Pn**	**13 36 26.6**	**+0.1**
KYMI	**Kymi, Euboea I**	**2.37**	**222**	P	**Pn**	**13 36 25.9**	**-0.7**
THE	**Thessaloniki**	**2.41**	**276**	P	**Pn**	**13 36 26.7**	**-0.3**
YLV	**Yalova**	**2.49**	**86**	Pn	**Pn**	**13 36 28.7**	**+0.5**
NEO	**Neokhori**	**2.49**	**244**	P	**Pn**	**13 36 27.2**	**-1.0**
ELND	**Elena**	**2.51**	**356**	⇓P	**Pn**	**13 36 29.2**	**+0.8**
KNT	**Kendrikon**	**2.55**	**288**	P	**Pn**	**13 36 29.3**	**+0.3**
KKB	**Krupnik**	**2.66**	**303**	*i* P	**Pn**	**13 36 31.6**	**+1.0**
KARY	**Karystos**	**2.72**	**209**	P	**Pn**	**13 36 30.6**	**-0.8**
TVSB	**Tavsanli**	**2.75**	**110**	Pn	**Pn**	**13 36 32.7**	**+0.9**
SILT	**Sile**	**2.78**	**74**	⇓P	**Pn**	**13 36 32.9**	**+0.8**
LIT	**Litokhoron**	**2.79**	**265**	P	**Pn**	**13 36 31.1**	**-1.3**
VAY	**Valandovo**	**2.83**	**290**	*i* Pn	**Pb**	**13 36 38.4**	**0.0**
SZH	**Strazhitsa**	**2.84**	**358**	*i* P	**Pn**	**13 36 34.7**	**+1.7**
DION	**Dionisos Attik**	**2.89**	**217**	P	**Pn**	**13 36 33.1**	**-0.6**
PRD	**Provadia**	**2.90**	**19**	*i* P	**Pn**	**13 36 34.2**	**+0.4**
ATAL	**Atalanti**	**2.95**	**235**	P	**Pn**	**13 36 33.4**	**-1.1**
LOZB	**Loznitsa**	**2.96**	**7**	⇓P	**Pb**	**13 36 39.5**	**-1.2**
LOZB				⇓S	**Sg**	**13 37 24.4**	**+0.9**
NEF	**NEVSHA**	**2.97**	**17**	*i* P	**Pn**	**13 36 36.3**	**+1.6**
LKR	**Lokris**	**2.99**	**235**	P	**Pn**	**13 36 34.5**	**-0.5**
STFN	**Stefani**	**3.00**	**222**	P	**Pn**	**13 36 35.1**	**-0.1**
TYRN	**Tyrnavos**	**3.06**	**258**	P	**Pn**	**13 36 36.3**	**+0.3**
VTS	**Vitosha**	**3.08**	**316**	*e*Pn	**Pn**	**13 36 37.4**	**+1.0**
VTS				*e*Sn	**Sn**	**13 37 13.7**	**+0.7**
VIL2	**Platees**	**3.12**	**226**	P	**Pn**	**13 36 36.4**	**-0.5**
VLY	**Voula,Athens**	**3.14**	**216**	P	**Pn**	**13 36 35.8**	**-1.3**
AXAR	**Agios Charalam**	**3.14**	**239**	P	**Pn**	**13 36 37.0**	**-0.1**
RAZG	**Razgrad**	**3.15**	**5**	⇑P	**Pn**	**13 36 38.1**	**+0.8**
RAZG				⇓S	**Sg**	**13 37 27.2**	**-2.3**
PLVB	**Pleven**	**3.16**	**340**	⇓P	**Pg**	**13 36 50.8**	**+1.9**
PLVB				⇑S	**Sg**	**13 37 32.0**	**+2.2**
THL	**Klokotos Trika**	**3.27**	**256**	P	**Pn**	**13 36 38.0**	**-0.5**
MAKR	**Makrakomi, Fth**	**3.38**	**247**	P	**Pn**	**13 36 40.4**	**0.0**
LTK	**Loutraki**	**3.42**	**227**	P	**Pn**	**13 36 40.6**	**-0.4**
MPEP	**Malo Peshtene**	**3.42**	**330**	*i* P	**Pn**	**13 36 42.2**	**+1.2**
BOSS	**Bosilegrad**	**3.43**	**308**	*e*Pn	**Pn**	**13 36 42.7**	**+1.6**
BOSS				*e*Sn	**Sn**	**13 37 23.4**	**+2.0**
BOSS				*e*Lg	Lg	13 37 37.0	
BOSS				*e*Sg	**Sg**	**13 37 38.9**	**+0.6**
LOUT	**Loutraki**	**3.44**	**226**	P	**Pn**	**13 36 41.0**	**-0.3**
MET4	**Agioi Theodoro**	**3.51**	**218**	P	**Pn**	**13 36 41.4**	**-0.8**
MET5	**Makryloggos,Me**	**3.53**	**218**	P	**Pn**	**13 36 41.8**	**-0.6**
MET2	**Kameni Chora,**	**3.55**	**219**	P	**Pn**	**13 36 42.7**	**0.0**
VLAD	**Vladila**	**3.79**	**341**	⇓P	Pg	13 37 09.3	+8.4
CICN	**Ciocanesti**	**3.83**	**10**	⇑P	**Pb**	**13 36 54.0**	**-1.5**
SKO	**Skopje**	**3.85**	**295**	*i* Pn	**Pg**	**13 37 00.8**	**-1.2**
ZAPS	**Zavoj**	**3.86**	**319**	*e*Pn	**Pn**	**13 36 48.7**	**+1.7**
MANR	**Mangalia**	**3.86**	**28**	⇑P	**Pn**	**13 36 49.7**	**+2.8**
TETR	**Tetrakomo, Epi**	**3.88**	**255**	P	**Pn**	**13 36 41.1**	**-0.2**
ICOR	**Ion Corvin**	**3.90**	**18**	⇓P	**Pb**	**13 36 52.5**	**-4.1**
BARS	**Barje**	**4.01**	**308**	*e*Pn	**Pn**	**13 36 50.3**	**+1.2**
BARS				*e*Lg	Lg	13 37 54.8	
LEHL	**Lehliu**	**4.08**	**7**	⇑P	**Pg**	**13 37 03.4**	**-3.0**
OHR	**Ohrid**	**4.09**	**281**	*i* Pn	**Pb**	**13 37 02.0**	**+2.0**
MFTR	**Murfatlar**	**4.12**	**24**	⇓P	**Pg**	**13 37 08.8**	**+1.6**
AMRR	**Amara**	**4.28**	**12**	⇓P	**Pb**	**13 37 00.3**	**-2.8**
TLBR	**Topalu**	**4.36**	**18**	⇓P	**Pg**	**13 37 08.9**	**-2.8**
ZAGS	**Zajecar**	**4.45**	**321**	*e*Pn	**Pn**	**13 36 56.0**	**+0.9**
ZAGS				*e*Lg	Lg	13 38 09.1	
HARR	**Harsova**	**4.47**	**17**	⇓P	**Pg**	**13 37 13.0**	**-0.9**
PUNG	**Punghina**	**4.52**	**330**	⇑P	**Pn**	**13 37 00.6**	**+4.6**
IGT	**Igoumenitsa**	**4.53**	**261**	*e*Pn	**Pn**	**13 36 59.7**	**+3.5**
BOVS	**Bovan**	**4.59**	**316**	⇓P	**Pn**	**13 36 58.2**	**+1.2**
BOVS	**Bovan**	**4.59**	**316**	*e*Pn	**Pn**	**13 36 58.2**	**+1.2**
BOVS				*e*Sn	**Sn**	**13 37 49.7**	**-0.3**
BOVS				*e*Lg	Lg	13 38 13.9	
SELS	**Selova**	**4.66**	**308**	*e*Pn	**Pn**	**13 36 59.0**	**+1.0**
SELS				*e*Lg	Lg	13 38 17.2	
ISR	**Istrita**	**4.70**	**4**	⇑P	Pn	13 37 04.2	+5.6
TPGR	**Topolog**	**4.74**	**20**	⇓P	**Pb**	**13 37 07.7**	**-3.3**
SRE	**Strehaia**	**4.75**	**334**	⇓P	Pn	13 37 04.7	+5.5
BORS2	**Bor- Borsko je**	**4.76**	**322**	*e*Pn	**Pn**	**13 36 58.5**	**-0.9**
BORS2				*e*Sn	**Sn**	**13 37 52.4**	**-1.8**
CFR	**Carcaliu**	**4.98**	**17**	⇑P	**Pg**	**13 37 23.4**	**-0.1**
DJES	**Djerdap**	**5.00**	**329**	⇑P	**Pn**	**13 37 02.1**	**-0.5**
NEHR	**Nehoiu**	**5.00**	**1**	⇑P	**Pn**	**13 37 07.2**	**+4.5**
GOCS	**Kraljevo Serbi**	**5.01**	**310**	*e*Pn	**Pn**	**13 37 03.7**	**+0.8**
ARR	**Arges**	**5.06**	**348**	⇑P	**Pn**	**13 37 04.9**	**+1.4**
MLR	**Muntele Rosu**	**5.07**	**359**	Pn	**Pn**	**13 37 06.2**	**+2.6**
	2.9nm,0.3s,baz=199,slow=3.5,SNR=25						
MLR				Lg	Lg	13 38 30.9	
	3.4nm,0.3s,baz=65,slow=21,SNR=5.5						
MLR	**Muntele Rosu**	**5.07**	**359**	⇑P	**Pn**	**13 37 06.7**	**+3.0**
VOIR		**5.07**	**351**	⇓P	**Pn**	**13 37 04.5**	**+0.8**
ANTO	**Ankara**	**5.15**	**94**	⇑P	Pn	13 37 10.1	+5.3
KUBS	**Kucevo**	**5.17**	**322**	*e*Pn	**Pn**	**13 37 04.3**	**-0.6**
KUBS				*e*Sn	**Sn**	**13 38 01.6**	**-2.6**
GRUS	**Gruza**	**5.30**	**313**	*e*Pn	**Pn**	**13 37 07.4**	**+0.6**
GRUS				*e*Sn	**Sn**	**13 38 06.6**	**-0.9**
LOT	**Lotru**	**5.31**	**342**	⇑P	**Pn**	**13 37 07.2**	**+0.2**
ODBI	**Odobesti**	**5.38**	**7**	⇓P	Pn	13 37 14.6	+6.8
TNR	**Turnu Rosu**	**5.40**	**346**	⇓P	**Pn**	**13 37 09.2**	**+1.1**
COVR	**Voineasa-Covas**	**5.42**	**1**	⇓P	**Pn**	**13 37 10.4**	**+2.0**
MDVR	**Moldovita**	**5.43**	**325**	⇑P	**Pn**	**13 37 09.3**	**+0.7**
MDVR	**Moldovita**	**5.43**	**325**	*e*Pn	**Pn**	**13 37 09.1**	**+0.5**
MDVR				*e*Sn	**Sn**	**13 38 08.7**	**-2.1**
MDVR				*e*Lg	Lg	13 38 37.5	
MDVR				*e*Sg	**Sg**	**13 38 10.0**	**-3.3**
PLOR	**Plostina**	**5.44**	**4**	⇑P	**Pn**	**13 37 10.6**	**+1.9**
IVAS	**Ivanjica**	**5.45**	**307**	*e*Pn	**Pn**	**13 37 09.3**	**+0.5**
VRI	**Vrincioaia**	**5.46**	**5**	⇓P	**Pn**	**13 37 10.2**	**+1.3**
PANC	**Panciu**	**5.50**	**8**	⇓P	Pb	13 37 17.5	-6.3
GZR	**Gura Zlata**	**5.54**	**335**	⇑P	**Pn**	**13 37 10.7**	**+0.6**
GZR	**Gura Zlata**	**5.54**	**335**	*e*Pn	**Pn**	**13 37 10.7**	**+0.6**
GZR				*e*Sn	**Sn**	**13 38 11.1**	**-2.4**
DOPR	**Dopca**	**5.57**	**355**	⇓P	**Pn**	**13 37 12.3**	**+1.8**
VLDR	**Vladesti**	**5.61**	**14**	⇓P	**Pn**	**13 37 12.3**	**+1.4**
TURR	**Turia**	**5.63**	**359**	⇓P	**Pn**	**13 37 13.3**	**+2.0**
OZUR		**5.67**	**358**	⇑P	**Pn**	**13 37 14.1**	**+2.2**
TRUS	**Trudelj**	**5.68**	**314**	*e*Pn	**Pn**	**13 37 12.4**	**+0.4**
TRUS				*e*Sn	**Sn**	**13 38 15.8**	**-1.2**
TRUS				*e*Lg	Lg	13 38 46.9	
BRTR	**Keskin Array B**	**5.81**	**94**	Pn	**Pn**	**13 37 15.2**	**+1.2**
	2.0nm,0.3s,baz=265,slow=11,SNR=27						
BRTR				Sn	**Sn**	**13 38 19.7**	**-0.7**
	1.2nm,0.3s,baz=341,slow=18,SNR=6.3 5.3nm,0.5s						
DIVS	**Divibare**	**5.84**	**311**	*e*Pn	**Pn**	**13 37 14.7**	**+0.4**
DIVS				*e*Sn	**Sn**	**13 38 19.3**	**-1.6**
MDB	**Medias**	**5.85**	**348**	⇑P	**Pn**	**13 37 17.0**	**+2.6**
VRSS	**Vrsac**	**5.87**	**325**	*e*Pn	**Pn**	**13 37 15.1**	**+0.5**
VRSS				*e*Sn	**Sn**	**13 38 18.7**	**-2.9**
VRSS				*e*Lg	Lg	13 38 53.2	
ONER	**Baraj Valea Uz**	**5.91**	**2**	⇓P	**Pn**	**13 37 17.3**	**+2.2**
BBLS	**Lazi&#263i**	**6.06**	**307**	*e*Pn	**Pn**	**13 37 18.5**	**+1.3**
TESR	**Tescani**	**6.10**	**3**	⇑P	**Pn**	**13 37 19.5**	**+1.8**
BZS	**Buzias**	**6.15**	**329**	⇑P	**Pn**	**13 37 18.5**	**+0.1**
BZS	**Buzias**	**6.15**	**329**	*e*Pn	**Pn**	**13 37 18.5**	**+0.1**
BZS				*e*Sn	**Sn**	**13 38 28.7**	**+0.3**
BZS				*e*Sg	**Sg**	**13 39 03.2**	**-2.2**
KIRS	**Kirsehir-Merke**	**6.15**	**100**	⇑P	**Pn**	**13 37 21.3**	**+2.8**
TEKS	**Tekeris**	**6.38**	**312**	*e*Pn	**Pn**	**13 37 21.7**	**+0.1**
MARR	**Marisel-Cluj**	**6.62**	**342**	⇑P	**Pn**	**13 37 25.6**	**+0.7**
SIRR	**Siria**	**6.68**	**332**	⇑P	**Pn**	**13 37 26.1**	**+0.4**
SIRR	**Siria**	**6.68**	**332**	*e*Pn	**Pn**	**13 37 26.0**	**+0.3**
DRGR		**6.83**	**340**	⇑P	**Pn**	**13 37 28.0**	**+0.2**
TARU	**Tarkhankut**	**6.83**	**41**	*e*P	**Pn**	**13 37 27.1**	**-0.7**
TARU				Pm		13 37 27.9	
	comp=Z,22nm,0.4s						
TARU				*i* S	**Sn**	**13 38 43.4**	**-1.8**
TARU				Sm		13 38 45.5	
	comp=N,14nm,0.6s						
TARU				Sm		13 38 45.5	
	comp=E,11nm,0.5s						
SEV	**Sevastopol'**	**6.94**	**51**	*e*P	**Pn**	**13 37 28.6**	**-0.6**
SEV				Pm		13 37 31.7	
	comp=Z,20nm,0.3s						
SEV				*ex*	x	13 38 43.7	
SEV				*i* S	**Sn**	**13 38 45.3**	**-2.4**
SEV				Sm		13 38 49.4	
	comp=N,12nm,0.3s						
SEV				Sm		13 38 49.4	
	comp=E,7.0nm,0.4s						
BURAR	**Bucovina Array**	**7.22**	**355**	⇓P	**Pn**	**13 37 35.9**	**+2.8**
TIP	**Timpagrande**	**7.31**	**263**	⇑P	Pn	13 37 39.5	+5.0
SIM	**Simferopol'**	**7.43**	**50**	*e*P	**Pn**	**13 37 36.1**	**+0.1**
SIM				Pm		13 37 36.8	
	comp=Z,56nm,0.3s						
SIM				*i* S	**Sn**	**13 38 58.9**	**-1.0**
SIM				Sm		13 39 01.8	
	comp=N,16nm,1.0s,comp=E,42nm,1.0s						
SUDU	**Sudak**	**7.92**	**53**	*i* P	**Pn**	**13 37 43.0**	**+0.3**
SUDU				Pm		13 37 44.7	
	comp=Z,22nm,0.4s						
SUDU				*ex*	x	13 39 08.3	
SUDU				Sm		13 39 20.2	
	comp=N,59nm,0.7s						
SUDU				Sm		13 39 20.2	
	comp=E

DRIO	**Del Rio**	**35.69**	**325**		**P**	**13 51 39.6 +1.6**
SAND	**Sanderson**	**36.96**	**324**		**P**	**13 51 50.5 +1.6**
SAND				IAmb	IAmb	13 51 54.6
	comp=Z,4.5nm,1.0s					
TXAR	**Lajitas Array**	**37.45**	**322**	P	**P**	**13 51 54.4 +1.3**
TXAR	**Lajitas Array**	**37.45**	**322**	P	**P**	**13 51 55.7 +2.5**
	comp=Z,0.6nm,0.7s,baz=132,slow=7.2,SNR=7.1					
TXAR				PcP	**PcP**	**13 54 12.2 +0.4**
	comp=Z,0.3nm,0.6s,baz=148,slow=5.6,SNR=4.0					
	comp=Z,0.6nm,0.7s					
ALPN	**Alpine**	**38.17**	**323**	P	**P**	**13 52 00.5 +1.2**
ALPN				IAmb	IAmb	13 52 03.3
	comp=Z,4.2nm,0.9s					
CCM	**Cathedral Cave**	**39.00**	**343**	P	**P**	**13 52 06.8 +0.8**
CCM				IAmb	IAmb	13 52 08.0
	comp=Z,5.2nm,0.9s					
VHRN	**Van Horn**	**39.28**	**322**		**P**	**13 52 10.5 +1.9**
VHRN				IAmb	IAmb	13 52 13.3
	comp=Z,5.4nm,1.1s					
MNTX	**Cornudas Mount**	**40.16**	**323**		**P**	**13 52 17.4 +1.7**
121A	**Cookes Peak, D**	**42.21**	**321**		**P**	**13 52 34.6 +1.8**
121A				IAmb	IAmb	13 52 37.9
	comp=Z,5.7nm,1.0s					
CRNM	**Carthage**	**42.55**	**324**	P	**P**	**13 52 36.6 +1.0**
ANMO	**Albuquerque**	**43.09**	**325**		**P**	**13 52 41.3 +1.3**
ANMO				IAmb	IAmb	13 52 42.7
	comp=Z,5.9nm,1.0s					
T25A	**Trinidad**	**43.60**	**329**	IAmb	IAmb	13 52 48.7
	comp=Z,4.8nm,0.9s					
SDCO	**Great Sand Dun**	**44.62**	**329**	IAmb	IAmb	13 52 55.3
	comp=Z,3.8nm,0.9s					
PV13	**Radium Mtn., P**	**46.71**	**326**	IAmb	IAmb	13 53 11.7
	comp=Z,4.6nm,0.9s					
LCMT	**Little Creek M**	**48.53**	**322**	IAmb	IAmb	13 53 27.2
	comp=Z,4.6nm,1.3s					
RSSD	**Black Hills**	**48.93**	**335**		**P**	**13 53 27.1 +1.2**
PDAR	**Pinedale Array**	**50.43**	**330**	P	**P**	**13 53 38.0 +0.6**
	comp=Z,0.5nm,0.9s,baz=133,slow=10,SNR=4.2					
	comp=Z,0.5nm,0.9s					
SPR3	**Spring Creek 3**	**50.46**	**323**	P	**P**	**13 53 38.6 +0.8**
SPR3				IAmb	IAmb	13 53 39.9
	comp=Z,4.2nm,1.1s					
NV11	**Mina Array Sit**	**52.48**	**320**	IAmb	IAmb	13 53 57.5
	comp=Z,4.7nm,1.1s					
NVAR	**Mina Array Bea**	**52.58**	**320**	P	**P**	**13 53 54.3 +0.8**
NVAR	**Mina Array Bea**	**52.58**	**320**	P	**P**	**13 53 54.9 +1.4**
	comp=Z,1.3nm,0.7s,baz=128,slow=6.0,SNR=10					
NVAR				PcP	**PcP**	**13 55 05.1 +1.3**
	comp=Z,0.6nm,0.7s,baz=197,slow=4.0,SNR=2.7					
	comp=Z,1.3nm,0.7s					
MDPB	**Devils Postpil**	**52.62**	**319**	P	**P**	**13 53 54.9 +1.0**
BOZ	**Bozeman (W)**	**53.51**	**331**	IAmb	IAmb	13 54 03.8
	comp=Z,4.6nm,1.2s					
ILAR	**Eielson Array**	**80.37**	**336**	P	**P**	**13 56 52.0 +1.4**
	comp=Z,0.5nm,0.8s,baz=108,slow=4.5,SNR=4.2					
	comp=Z,0.5nm,0.8s					
MKAR	**Makanchi Array**	**129.51**	**17**	PKP	**PKiKP**	**14 03 49.3 -0.2**
	comp=Z,0.3nm,0.8s,baz=316,slow=4.0,SNR=3.6					
WRA	**Warramunga Arr**	**143.11**	**337**	PKP	**PKiKP**	**14 04 16.6 -1.3**
	comp=Z,0.4nm,0.9s,baz=117,slow=1.8,SNR=2.6					

*NEIC **27** 13:57:41.5±1.1, 15°.28S±0°.07×72°.13W±0°.06, h81km±7km, mb4.6/45, Error ellipse: s-maj=12.4km s-min=4.9km az=211.0*
*VAO **27** 13:57:41.9±0.5, 15°.35S×72°.15W, h98km, mb5.2*
*IDC **27** 13:57:42.2±2.0, 15°.22S×72°.02W, h86km±18km, mb4.3/9, mbtmp4.6/13, Error ellipse: s-maj=18.1km s-min=12.6km az=44.0*
*SJA **27** 13:57:45.6±1.7, 15°.40S×72°.07W, h98km, MW4.6(GFZ)*

ISC 27 13:57:43.3±0.4, 15°.27S±0°.05×72°.02W±0°.06, h100km, n140, σ1§19/124, mb4.7/20, 5D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**3.36**	**134**		**Pn**	**13 58 32.7**	**-1.6**
LPAZ	**La Paz**	**3.88**	**106**	Pn	**Pn**	**13 58 41.1**	**-0.3**
LPAZ	**La Paz**	**3.88**	**106**	P	**Pn**	**13 58 46.1**	**+4.7**
	144nm,0.4s,baz=281,slow=8,SNR=592						
LPAZ				S	**Sn**	**13 59 25.2**	**-1.1**
	23nm,0.4s,baz=316,slow=18,SNR=0.7						
LPAZ	**La Paz**	**3.88**	**106**	*eP*	**Pn**	**13 58 40.7**	**-0.7**
PB16	**IPOC Station P**	**3.89**	**142**		**Pn**	**13 58 40.3**	**-1.2**
PB11	**IPOC Station P**	**5.01**	**154**		**Pn**	**13 58 55.2**	**-1.0**
GO01	**Chusmiza**	**5.14**	**149**		**Pn**	**13 58 59.0**	**+0.6**
HMBC	**Humberstone**	**5.38**	**158**		**Pn**	**13 58 59.8**	**-1.5**
TA01	**Diego Aracena**	**5.55**	**162**		**Pn**	**13 59 01.8**	**-1.7**
PB08	**IPOC Station P**	**5.56**	**151**		**Pn**	**13 59 03.2**	**-0.8**
NNA	**Nana**	**5.71**	**304**		Pn	13 59 03.5	-2.3
NNA	**Nana**	**5.71**	**304**	P	**Pn**	**13 59 05.8**	**+0.1**
	196nm,0.4s,baz=135,slow=11,SNR=64						
NNA				S	**Sn**	**14 00 08.1**	**-2.0**
	153nm,0.3s,baz=30,slow=17,SNR=20						
PATCX	**Punta Patache**	**5.80**	**162**		**Pn**	**13 59 05.0**	**-2.0**
PB01	**IPOC Station P**	**6.23**	**158**		**Pn**	**13 59 10.7**	**-2.1**
PB02	**IPOC Station P**	**6.35**	**162**		**Pn**	**13 59 12.3**	**-2.2**
PB09	**IPOC Station P**	**7.01**	**158**		**Pn**	**13 59 22.5**	**-1.0**
PB03	**IPOC Station P**	**7.08**	**163**		**Pn**	**13 59 22.3**	**-2.2**
CZSB	**Cruzeiro do Su**	**7.52**	**355**		**Pn**	**13 59 28.8**	**-1.6**
CZSB	**Cruzeiro do Su**	**7.52**	**355**	*eP*	**Pn**	**13 59 28.7**	**-1.6**
PB06	**IPOC Station P**	**7.75**	**163**		Pn	13 59 31.0	-2.6
PB10	**IPOC Station P**	**8.32**	**171**		Pn	13 59 37.8	-3.3
PB14	**IPOC Station P**	**9.44**	**171**		Pn	13 59 53.1	-3.5
GO02	**Mina Guanaco**	**10.11**	**167**		Pn	14 00 03.1	-2.6
ATAH	**Atahualpa**	**10.21**	**322**	P	**Pn**	**14 00 11.0**	**+3.7**
	5.3nm,0.7s,baz=358,slow=2.7,SNR=3.8						
ATAH				S	**Sn**	**14 02 00.5**	**+0.2**
	21nm,0.8s,baz=274,slow=23,SNR=5.7						
SIV	**San Ignacio**	**10.57**	**95**	P	**Pn**	**14 00 11.2**	**-0.7**
	29nm,0.6s,baz=291,slow=9.4,SNR=48						
VILB	**Vilhena**	**11.69**	**80**		**Pn**	**14 00 26.0**	**-1.0**
VILB	**Vilhena**	**11.69**	**80**	*eP*	**Pn**	**14 00 26.0**	**-1.0**
AC02	**Maricunga**	**11.82**	**167**		**Pn**	**14 00 27.5**	**-1.6**
FSA	**Cafayete**	**12.18**	**153**	*eP*	**Pn**	**14 00 35.8**	**+2.3**
PTLB	**Pontes e Lacer**	**12.43**	**93**		**Pn**	**14 00 37.2**	**+0.6**
PTLB	**Pontes e Lacer**	**12.43**	**93**	*eP*	**Pn**	**14 00 37.5**	**+0.8**
LCO	**Las Campanas**	**13.73**	**175**		**Pn**	**14 00 52.4**	**-1.7**
TEFE	**Tefe**	**13.76**	**33**	*eP*	**Pn**	**14 00 55.5**	**+1.3**
VCA	**Vinchina**	**13.86**	**166**	*eP*	**Pn**	**14 00 56.2**	**+0.6**
AGUA	**GUANDACOL**	**14.52**	**168**	*eP*	**Pn**	**14 01 05.9**	**+1.9**
CO05	**La Serena**	**14.60**	**177**		**Pn**	**14 01 03.6**	**-1.3**
ACDV	**Cuesta del Vie**	**15.07**	**170**	*eP*	**Pn**	**14 01 13.1**	**+2.0**
PDRB	**Porto dos Gac**	**15.31**	**78**	*eP*	**Pn**	**14 01 11.9**	**-2.1**
CO06	**Fray Jorge**	**15.34**	**179**	IAmb	IAmb	14 01 17.8	
	comp=Z,27nm,0.8s						
BDQN	**Bodoquena, MS**	**15.42**	**112**	*eP*	**Pn**	**14 01 15.2**	**-0.2**
ACCO	**Cerro Coronel**	**15.49**	**170**	*eP*	**Pn**	**14 01 17.2**	**+0.7**
CO03	**El Pedregal**	**15.55**	**176**	IAmb	IAmb	14 01 20.5	
	comp=Z,54nm,0.8s						
SALV	**Santo Antonio**	**15.74**	**94**	*eP*	**Pn**	**14 01 19.6**	**+0.2**
AVFE	**Valle Fertil**	**15.88**	**166**	*eP*	**Pn**	**14 01 21.9**	**+0.7**
AQDB	**Aquidauana**	**16.37**	**111**		**Pn**	**14 01 26.9**	**-0.3**
AQDB	**Aquidauana**	**16.37**	**111**	*eP*	**Pn**	**14 01 26.9**	**-0.3**
CLDB	**Colider**	**16.39**	**76**	*eP*	**Pn**	**14 01 28.4**	**+0.9**
MACA	**Manacapuru-AM**	**16.41**	**44**		**Pn**	**14 01 27.7**	**0.0**
MACA	**Manacapuru-AM**	**16.41**	**44**	*eP*	**Pn**	**14 01 29.2**	**+1.4**
ZON	**Zonda**	**16.49**	**170**	IAmb	IAmb	14 01 33.3	
	comp=Z,37nm,1.4s						
PP1B	**Ponte de Pedra**	**16.60**	**100**	*eP*	**Pn**	**14 01 30.4**	**+0.3**
CFA	**Coronel Fontan**	**16.63**	**169**	P	**Pn**	**14 01 30.6**	**+0.2**
	comp=Z,14nm,0.7s,baz=351,slow=11,SNR=31						
RTLS	**Leoncito**	**16.65**	**172**	*eP*	**Pn**	**14 01 31.0**	**+0.2**
AUSP	**Uspallata**	**17.05**	**172**	*eP*	**Pn**	**14 01 36.3**	**+0.5**
FLOC	**Florencia**	**17.12**	**348**	P	**Pn**	**14 01 33.5**	**-3.0**
VA03	**San Esteban**	**17.47**	**176**	IAmb	IAmb	14 01 42.4	
	comp=Z,20nm,0.7s						
ASAL	**Salagasta**	**17.49**	**171**	*eP*	**P**	**14 01 41.7**	**+1.0**
CPUP	**Villa Florida**	**17.58**	**131**	P	**P**	**14 01 42.2**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=165,slow=9.8,SNR=5.7						
SJPY	**San Joaquin**	**17.79**	**125**	*eP*	**P**	**14 01 43.0**	**-1.0**
AMBA	**Amambai (Brazi**	**17.79**	**118**	*eP*	**P**	**14 01 43.5**	**-0.5**
MT08	**Bocatoma Ro**	**18.19**	**175**		**P**	**14 01 47.3**	**-1.2**
MT08				IAmb	IAmb	14 01 52.8	
	comp=Z,28nm,0.8s						
NPGB	**Novo Progresso**	**18.26**	**65**	*eP*	**P**	**14 01 49.8**	**+0.6**
MT09	**Talagante**	**18.45**	**177**	IAmb	IAmb	14 01 53.3	
	comp=Z,24nm,0.9s						
MT13	**San Alfonso**	**18.47**	**175**	IAmb	IAmb	14 01 54.0	
	comp=Z,24nm,0.6s						
MT01	**Popeta**	**18.53**	**178**	IAmb	IAmb	14 01 55.0	
	comp=Z,24nm,0.9s						
LMEL	**Las Melosas**	**18.57**	**175**	IAmb	IAmb	14 01 56.2	
	comp=Z,26nm,0.8s						
C2SB	**Chapadao do Su**	**18.67**	**103**	*eP*	**P**	**14 01 53.5**	**-0.1**
BO04	**La Punta**	**18.69**	**176**	IAmb	IAmb	14 01 58.4	
	comp=Z,30nm,1.3s						
ITTB	**Itaituba**	**19.34**	**58**	*eP*	**P**	**14 02 01.6**	**+0.7**
BO02	**Sierra Bellavi**	**19.48**	**177**	IAmb	IAmb	14 02 04.9	
	comp=Z,26nm,0.8s						
ARAG	**Araguaiana, MT**	**19.48**	**94**	*eP*	**P**	**14 02 02.4**	**0.0**
TRCB	**Terra Rica**	**19.78**	**115**		**P**	**14 02 05.5**	**-0.3**
TRCB	**Terra Rica**	**19.78**	**115**	*eP*	**P**	**14 02 05.4**	**-0.4**
SNDB	**Serra Nova Dou**	**20.40**	**83**	*eP*	**P**	**14 02 12.8**	**+0.3**
ML02	**Panimavida**	**20.42**	**179**	P	**P**	**14 02 12.6**	**+0.1**
PSAL	**Palomas, Salto**	**20.54**	**143**	*eP*	**P**	**14 02 12.8**	**-1.0**
BOAV	**Boa Vista**	**20.91**	**34**		**P**	**14 02 18.0**	**+0.1**
BOAV	**Boa Vista**	**20.91**	**34**	*eP*	**P**	**14 02 18.8**	**+0.9**
PTGB	**Pitanga**	**20.95**	**120**	*eP*	**P**	**14 02 18.2**	**-0.2**
ITRB	**Iturama**	**21.12**	**105**	*eP*	**P**	**14 02 20.2**	**+0.1**
LDASE	**Londrina, Braz**	**21.30**	**116**	*eP*	**P**	**14 02 21.6**	**-0.4**
ITAB	**Concordia**	**21.99**	**126**	P	**P**	**14 02 28.9**	**-0.5**
ITAB				IAmb	IAmb	14 02 35.2	
	comp=Z,48nm,1.3s						
ITAB	**Concordia**	**21.99**	**126**	*eP*	**P**	**14 02 28.9**	**-0.5**
CPSB	**Cacapava Do Su**	**22.76**	**135**	*eP*	**P**	**14 02 36.4**	**-0.9**
IPMB	**Ipameri, GO**	**22.97**	**100**	*eP*	**P**	**14 02 38.1**	**-1.4**
BB19B	**Bebedouro**	**23.04**	**108**	*eP*	**P**	**14 02 39.5**	**-0.7**
BDFB	**Brasilia**	**23.14**	**94**		**P**	**14 02 40.4**	**-0.8**
BDFB				IAmb	IAmb	14 02 41.6	
	comp=Z,12nm,0.6s						
BDFB	**Brasilia**	**23.14**	**94**	P	**P**	**14 02 41.2**	**0.0**
	comp=Z,9.0nm,0.5s,baz=268,slow=13,SNR=13						
	comp=Z,9.0nm,0.5s						
PLTB	**Pedras Altas**	**23.49**	**138**	P	**P**	**14 02 43.7**	**-0.5**
PLTB				IAmb	IAmb	14 02 51.2	
	comp=Z,14nm,0.4s						
PLTB	**Pedras Altas**	**23.49**	**138**	*eP*	**P**	**14 02 43.4**	**-0.9**
PRPB	**Parauapebas**	**23.59**	**70**	*eP*	**P**	**14 02 45.5**	**+0.2**
RCLB	**Rio Claro- Sao**	**24.22**	**111**	*eP*	**P**	**14 02 50.0**	**-0.9**
BAUV	**El Baul**	**24.37**	**10**		**P**	**14 02 52.0**	**-0.2**
MAJ01	**Sao Joao Batis**	**24.55**	**123**	*eP*	**P**	**14 02 53.2**	**-0.6**
SPB	**Sao Paulo**	**24.59**	**113**	*eP*	**P**	**14 02 53.9**	**-0.3**
PMNB	**Patos De Minas**	**24.68**	**101**	*eP*	**P**	**14 02 55.2**	**0.0**
SMTB	**Santa Maria do**	**24.71**	**78**	*eP*	**P**	**14 02 55.6**	**+0.2**
LR05	**Currie**	**24.87**	**180**		**P**	**14 02 56.3**	**-0.3**
PLCA	**Paso Flores**	**25.41**	**177**		**P**	**14 03 01.1**	**-0.5**
PLCA	**Paso Flores**	**25.41**	**177**	P	**P**	**14 03 01.1**	**-0.5**
	comp=Z,7.1nm,0.8s,baz=354,slow=14,SNR=11						
	comp=Z,7.1nm,0.8s						
PLCA	**Paso Flores**	**25.41**	**177**	*eP*	**P**	**14 03 00.1**	**-1.4**
BSCB	**Bom Sucesso**	**26.49**	**106**	*eP*	**P**	**14 03 11.2**	**-0.4**
JANB	**Januaria**	**26.74**	**93**	*eP*	**P**	**14 03 13.0**	**-0.8**
DIAM	**Diamantina, MG**	**27.29**	**100**	*eP*	**P**	**14 03 18.6**	**-0.3**
RIB01	**Linhares ES**	**30.44**	**102**	*eP*	**P**	**14 03 46.3**	**-0.3**
GUA01	**Guaratinga, BA**	**30.99**	**97**	*eP*	**P**	**14 03 51.1**	**-0.4**
CMC01	**Camacan, BA**	**31.33**	**95**	*eP*	**P**	**14 03 54.4**	**-0.1**
NBAN	**Anadia - AL**	**35.31**	**85**	*eP*	**P**	**14 04 29.0**	**-0.1**
MIAR	**Mount Ida**	**53.61**	**338**	P	**P**	**14 06 54.3**	**0.0**
MIAR				IAmb	IAmb	14 06 55.0	
	comp=Z,6.9nm,0.8s						
OK051	**E0350 and S346**	**56.58**	**336**	P	P	14 07 12.4	-3.2
SDCO	**Great Sand Dun**	**61.40**	**330**		**P**	**14 07 48.8**	**-0.5**
SDCO				IAmb	IAmb	14 07 50.6	
	comp=Z,4.3nm,0.7s						
PV02	**Paradox Valley**	**63.36**	**328**	P	**P**	**14 08 01.6**	**-0.8**
PV02				IAmb	IAmb	14 08 03.2	
	comp=Z,5.6nm,0.9s						
V12A	**Nelson**	**64.92**	**322**		**P**	**14 08 11.4**	**-1.0**
BELA	**Belgrano 2**	**65.30**	**172**		**P**	**14 08 14.5**	**+0.4**
BELA				IAmb	IAmb	14 08 15.1	
	comp=Z,5.8nm,0.6s						
VNA3	**Neumayer Olymp**	**66.89**	**162**	⇓P	**P**	**14 08 24.6**	**+0.2**
	comp=Z,12nm,0.9s						
VNA1	**Neumayer--Stat**	**67.11**	**161**	⇓P	**P**	**14 08 26.5**	**+0.8**
	comp=Z,15nm,0.9s						
PDAR	**Pinedale Array**	**67.26**	**331**	P	**P**	**14 08 27.1**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=112,slow=5.6,SNR=6.4						
	comp=Z,0.6nm,0.7s						
VNA2	**Neumayer--Watz**	**67.48**	**161**	⇓P	**P**	**14 08 28.3**	**+0.2**
	comp=Z,9.6nm,0.8s,baz=281,slow=7.2						
SNAA	**Sanae**	**69.10**	**162**	⇓P	**P**	**14 08 36.2**	**-2.1**
	comp=Z,257nm,0.6s						
SNAA	**Sanae**	**69.10**	**162**	P	**P**	**14 08 38.2**	**-0.1**
	comp=Z,12nm,0.7s,baz=266,slow=6.3,SNR=46						
	comp=Z,12nm,0.7s						
YNE	**Yellowknife No**	**69.19**	**332**	IAmb	IAmb	14 08 40.8	
	comp=Z,8.6nm,0.7s						
DBIC	**Dimbokro**	**70.00**	**77**	P	**P**	**14 08 46.2**	**+1.4**
DBIC				IAmb	IAmb	14 08 47.5	
	comp=Z,8.3nm,0.7s						
DBIC	**Dimbokro**	**70.00**	**77**	P	**P**	**14 08 46.7**	**+1.9**
	comp=Z,7.5nm,0.6s,baz=266,slow=7.5,SNR=13						
	comp=Z,7.5nm,0.6s						
PAHR	**Pah Rah Range**	**70.26**	**323**	IAmb	IAmb	14 08 48.1	
	comp=Z,4.4nm,0.8s						
TROLL	**Troll, Antarti**	**70.82**	**162**	⇓P	**P**	**14 08 49.0**	**+0.1**
	comp=Z,212nm,0.7s						
QSPA	**South Pole Qui**	**74.89**	**180**		**P**	**14 09 13.7**	**+0.6**
QSPA	**South Pole Qui**	**74.89**	**180**	P	**P**	**14 09 15.4**	**+2.4**
	comp=Z,9.5nm,0.5s,baz=326,slow=0.8,SNR=164						
	comp=Z,9.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**78.20**	**73**	P	**P**	**14 09 31.6**	**-0.8**
TORD				IAmb	IAmb	14 09 36.4	
	comp=Z,5.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**78.20**	**73**	P	**P**	**14 09 31.2**	**-1.2**
	comp=Z,5.3nm,0.5s,baz=254,slow=4.5,SNR=41						
	comp=Z,5.3nm,0.5s						
VNDA	**Vanda**	**82.44**	**190**	P	**P**	**14 09 54.0**	**-0.1**
VNDA	**Vanda**	**82.44**	**190**	P	**P**	**14 09 55.1**	**+1.1**
	comp=Z,3.2nm,0.7s,baz=125,slow=4.3,SNR=17						
	comp=Z,3.2nm,0.7s						
MAW	**Mawson**	**91.11**	**164**	P	**P**	**14 10 35.8**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=226,slow=8.4,SNR=6.0						
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**133.75**	**214**	PKP	**PKPdf**	**14 16 48.8**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=130,slow=1.9,SNR=12						
WRA	**Warramunga Arr**	**136.46**	**217**	PKP	**PKPdf**	**14 16 54.1**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=144,slow=1.9,SNR=15						
ZALV	**Zalesovo Beam**	**137.35**	**20**	PKP	**PKPdf**	**14 16 55.6**	**+0.7**
	comp=Z,2.3nm,0.6s,baz=284,slow=2.7,SNR=11						
KURBB	**Kurchatov Arra**	**137.48**	**28**	PKP	**PKPdf**	**14 16 56.5**	**+1.2**
	comp=Z,0.6nm,0.2s,baz=310,slow=2.8,SNR=6.2						
MKAR	**Makanchi Array**	**141.97**	**29**	PKhKP	PKPpre	14 16 58.8	
	comp=Z,0.5nm,0.7s,baz=332,slow=4.8,SNR=4.7						
MJAR	**Matsushiro Arr**	**145.76**	**314**	PKPbc	**PKPdf**	**14 17 10.1**	**-0.5**
	comp=Z,7.0nm,0.8s,baz=64,slow=1.9,SNR=18						
SONM	**Songino Array**	**147.50**	**2**	PKPbc	**PKPdf**	**14 17 16.3**	**+3.0**
	comp=Z,3.9nm,0.8s,baz=333,slow=1.6,SNR=14						
KSRS	**Korea Array**	**151.70**	**325**	PKPbc	**PKPbc**	**14 17 26.9**	**+0.5**
	comp=Z,4.8nm,0.8s,baz=16,slow=1.3,SNR=22						

*DJA **27** 13:59:02.2±0.4, 4°.S±3°.×12°.8E±°, h10km, M4.2/7, mB6.0/1, mb5.0/3, MLv3.8/7, Mw(mB)5.5/1*
*IDC **27** 13:59:06.8±1.9, 3°.82S×128°.11E, h0km, mb4.0/3, mbtmp3.9/4, ML3.2/1, Error ellipse: s-maj=182.2km s-min=25.5km az=67.0*

ISC 27 13:59:02.5±0.9, 3°.57S±0°.08×128°.43E±0°.05, h10km, n12, σ2§08/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.26**	**242**	P	**Pg**	**13 59 05.3**	**-2.6**
AAI				S	**Sg**	**13 59 13.6**	**+2.2**
MSAI	**Masohi**	**0.55**	**67**	P	**Pg**	**13 59 12.0**	**-1.2**
MSAI				S	**Sb**	**13 59 20.1**	**-2.0**
NLAI	**Namlea**	**1.36**	**284**	P	**Pb**	**13 59 28.4**	**+0.2**
BNDI	**Bandanaira**	**1.75**	**123**	S		14 01 19.5	
SANI	**Sanana**	**2.86**	**302**	P	**Pb**	**13 59 52.9**	**-0.9**
SWI	**Sorong**	**3.90**	**47**	P	**Pn**	**14 00 04.7**	**+2.1**
SAUI	**Saumlaki**	**5.24**	**147**	P	**Pn**	**14 00 21.4**	**+0.4**
	12μm380nm,1.1s						
KMPI	**Kaimana, Papua**	**5.27**	**91**	P	**Pn**	**14 00 20.5**	**-0.9**
	0.7nm224nm,0.8s						
WRA	**Warramunga Arr**	**17.27**	**161**	P	**P**	**14 03 08.2**	**+2.7**
	0.1nm,0.3s,baz=342,slow=12,SNR=4.7						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**20.67**	**166**	P	Pn	14 03 46.5	+1.4
	6.5nm,0.8s,baz=346,slow=11,SNR=20						
	6.5nm,0.8s						
MKAR	**Makanchi Array**	**64.51**	**327**	P	P	14 09 45.5	+5.8
	0.6nm,0.8s,baz=120,slow=7.2,SNR=5.3						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**68.78**	**328**	P	P	14 10 13.4	+6.6
	0.8nm,0.2s,baz=129,slow=5.9,SNR=5.1						
	0.8nm,0.2s						

*IDC **27** 14:01:58.5±0.4, 30°.08S×177°.81W, h0km, mb4.7/18, mbtmp4.7/20, ML4.0/2, MS4.4/19, Error ellipse: s-maj=16.6km s-min=15.6km az=111.0*
*NOU **27** 14:02:00.8, 30°.75S×176°.45W, h81km, mb4.9/39, Kermadec Islands Region*
*MOS **27** 14:02:02.9±1.0, 30°.10S×177°.97W, h33km, mb5.2/19, Error ellipse: s-maj=11.4km s-min=11.1km az=152.4*
*BJI **27** 14:02:05.5, 30°.68S×178°.10W, h57km, mB5.4/4, mb5.0/17, Ms5.2/4, Ms7 5.0/4*
*NEIC **27** 14:02:05.0±2.2, 30°.09S±0°.08×177°.9W±0°.1, h32km±4km, mb5.2/49, Error ellipse: s-maj=15.4km s-min=10.8km az=100.0*
*GCMT **27** 14:02:07.0±0.3, 30°.11S±0°.02×177°.53W±0°.03, h47km±1km, MW5.3/72, Moment Tensor Solution. s40,c46; s72,c91; Duration: 1§1 Moment tensor: Scale 10^17^Nm; M_{rr}1.05±.06; $M_{\theta\theta}$-0.38±.03; $M_{\phi\phi}$-0.66±.03; $M_{r\theta}$-0.12±.02; $M_{\theta\phi}$0.44±.02; $M_{\phi r}$0.42±.02; Best double couple: $M_0$1.10800×10^17^ NP1:ϕ_s137.00000°, δ34.00000°, λ79.00000°. NP2:ϕ_s331.00000°, δ56.00000°, λ98.00000°. Principal axes: T 1.1470, Plg77.0000°, Azm266.0000°; N -0.0750, Plg6.0000°, Azm147.0000°; P -1.0700, Plg11.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 14:02:04.2±0.3, 30°.21S±0°.04×177°.75W±0°.06, h35km, n387, σ1§93/365, mb5.1/77, MS4.5/19, 20C-12D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.96**	**351**	P	**Pn**	**14 02 20.5**	**-0.7**
GLKZ				S	**Sn**	**14 02 31.4**	**-2.2**
RAO	**Raoul Island**	**0.97**	**351**		**Pn**	**14 02 21.0**	**-0.4**
RAO	**Raoul Island**	**0.97**	**351**	P	**Pn**	**14 02 21.0**	**-0.4**
RIZ	**Raoul Island**	**0.98**	**351**	P	**Pn**	**14 02 20.0**	**-1.5**
RIZ				S	**Sn**	**14 02 33.2**	**-0.9**
MXZ	**Matakaoa Point**	**8.03**	**203**	Pn	**Pn**	**14 03 55.5**	**-2.8**
MXZ	**Matakaoa Point**	**8.03**	**203**	P	**Pn**	**14 03 55.8**	**-2.5**
MXZ	**Matakaoa Point**	**8.03**	**203**	P	Pn	14 03 53.4	-4.9
MXZ				S	**Sn**	**14 05 25.2**	**-2.6**
WMGZ	**Waiomatatini S**	**8.22**	**202**	P	**Pn**	**14 03 58.4**	**-2.6**
GRZ	**Great Barrier**	**8.28**	**222**	P	Pn	14 04 09.0	+7.2
PKGZ	**Pakihiroa**	**8.38**	**203**	P	**Pn**	**14 03 59.9**	**-3.3**
PKGZ				S	**Sn**	**14 05 36.6**	**0.0**
HAZ	**Te Kaha**	**8.38**	**205**	P	**Pn**	**14 04 00.7**	**-2.5**
KUZ	**Kuaotunu**	**8.49**	**218**	P	**Pn**	**14 04 06.5**	**+1.8**
KUZ	**Kuaotunu**	**8.49**	**218**	P	Pn	14 04 13.1	+6.6
PUZ	**Puketiti**	**8.51**	**202**	P	**Pn**	**14 04 01.6**	**-3.3**
PUZ				S	**Sn**	**14 05 38.6**	**-1.0**
RUGZ	**Raukumara Rang**	**8.61**	**205**	P	**Pn**	**14 04 03.5**	**-3.0**
TWGZ	**Tauwhareparae**	**8.69**	**203**	P	**Pn**	**14 04 04.4**	**-3.1**

3µm,27.0s
ARMA Armidale 26.40 262 P P 14 07 40.1 +2.5
comp=Z,33nm,1.8s
ARMA Armidale 26.40 262 P P 14 07 36.8 -0.8
ARMA Armidale 26.40 262 P P 14 07 40.1 +2.5
MGCD Mangrove Creek 26.61 255 P P 14 07 41.7 +2.4
comp=Z,87nm,0.8s
SYDH Sydney Hard Ro 26.90 254 P P 14 07 43.4 +1.4
EIDS Eidsvold 27.94 272 P P 14 07 52.4 +1.0
comp=Z,41nm,1.5s
EIDS Eidsvold 27.94 272 P P 14 07 50.5 -0.9
EIDS IAmb IAmb 14 07 53.8
comp=Z,26nm,0.8s
EIDS Eidsvold 27.94 272 P P 14 07 52.5 +1.1
CNB Canberra Magne 28.04 251 P P 14 07 53.9 +1.6
comp=Z,31nm,1.4s
CNB Canberra Magne 28.04 251 P P 14 07 54.4 +2.1
CAN Canberra 28.34 251 P P 14 07 56.3 +1.4
comp=Z,27nm,1.8s
CAN Canberra 28.34 251 P P 14 07 54.2 -0.7
CAN Canberra 28.34 251 P P 14 07 56.5 +1.6
CAN Canberra 28.34 251 P P 14 07 54.2 -0.7
CAN pmax pmax 14 11 02.0
comp=Z,31nm,1.1s
PPT2 Papeete2 28.57 70 *e*S S 14 12 33.3 -10
comp=Z,453nm,27.0s
PPT2 *e*LR LR 14 15 13.9
comp=Z,2µm,27.8s
PPT2 *e*LR LR 14 15 14.3
comp=Z,2µm,26.0s
PPT Papeete 28.59 70 LR LR 14 16 35.5
comp=Z,450nm,20.2s,baz=244,slow=31
YNG Young 28.84 253 P P 14 08 01.0 +1.7
comp=Z,111nm,1.0s
HNR Honiara 29.34 310 LR LR 14 17 55.2
comp=Z,361nm,20.0s,baz=173,slow=33
TOO Toolangi 31.23 246 P P 14 08 21.6 +1.0
comp=Z,18nm,1.1s
TOO Toolangi 31.23 246 P P 14 08 21.0 +0.5
TOO Toolangi 31.23 246 P P 14 08 21.0 +0.5
TOO pmax pmax 14 11 02.0
comp=Z,15nm,1.0s
CMSA Cobar Meteorol 31.31 258 P P 14 08 22.3 +1.1
comp=Z,40nm,1.2s
CMSA Cobar Meteorol 31.31 258 P P 14 08 22.4 +1.1
QLP Quilpie 33.53 267 P P 14 08 40.7 0.0
comp=Z,86nm,1.4s
QLP Quilpie 33.53 267 P P 14 08 41.7 +1.0
TV1H Townsville Har 33.87 280 P P 14 08 44.6 +0.9
CTAO Charters Tower 33.98 279 P P 14 08 44.5 -0.2
CTAO Charters Tower 33.98 279 P P 14 08 45.6 +0.9
CTAO Charters Tower 33.98 279 P P 14 08 44.5 -0.2
CTAO pmax pmax 14 11 02.0
comp=Z,164nm,1.5s
CTAO Charters Tower 33.98 279 P P 14 08 45.8 +1.1
ARPS Mount Arapiles 34.14 248 P P 14 08 46.7 +0.8
comp=Z,13nm,2.5s
STKA Stephens Creek 34.73 257 P P 14 08 51.8 +0.8
comp=Z,295nm,0.8s
STKA Stephens Creek 34.73 257 P P 14 08 50.7 -0.3
STKA Stephens Creek 34.73 257 P P 14 08 51.9 +0.8
comp=Z,44nm,0.7s,baz=92,slow=9.7,SNR=64
STKA LR LR 14 22 07.5
comp=Z,685nm,18.2s,baz=92,slow=35
comp=Z,44nm,0.7s
STKA Stephens Creek 34.73 257 P P 14 08 52.3 +1.3
STKA Stephens Creek 34.73 257 P P 14 08 50.7 -0.3
STKA pmax pmax 14 11 02.0
comp=Z,205nm,0.8s
INKA Innaminka 36.25 263 P P 14 09 05.3 +1.2
MTSU Mount Surprise 36.47 280 P P 14 09 06.8 +0.6
comp=Z,27nm,1.1s
HTT Hallett 36.76 253 P P 14 09 09.1 +0.5
comp=Z,19nm,0.8s
HTT Hallett 36.76 253 P P 14 09 09.0 +0.5
PMG Port Moresby 38.72 295 LR LR 14 22 28.0
comp=Z,574nm,21.3s,baz=142,slow=32
PMG Port Moresby 38.72 295‖ *e*P **P 14 09 24.9 -0.3**
PMG pmax pmax 14 11 02.0
comp=Z,30nm,1.0s
BBOO Buckleboo 39.23 254 P P 14 09 28.8 -0.5
comp=Z,50nm,0.8s
BBOO Buckleboo 39.23 254 P P 14 09 28.8 -0.5
BBOO IAmb IAmb 14 09 31.2
comp=Z,38nm,0.8s
BBOO Buckleboo 39.23 254 P P 14 09 29.0 -0.3
COEN Coen 39.43 286 P P 14 09 31.0 -0.1
comp=Z,18nm,1.6s
COEN Coen 39.43 286 P P 14 09 30.3 -0.8
COEN IAmb IAmb 14 09 47.8
comp=Z,51nm,1.6s
COEN Coen 39.43 286 P P 14 09 32.1 +1.0
QIS Mount Isa 39.51 274 P P 14 09 31.5 -0.3
comp=Z,16nm,1.0s
QIS Mount Isa 39.51 274 P P 14 09 31.5 -0.3
TAOE Nuku Hiva Isla 41.04 67 *e*LR LR 14 20 57.3
comp=Z,1µm,26.9s
AS31 Alice Springs 43.33 267 P P 14 10 02.1 -1.0
ASAR Alice Springs 43.33 267 P P 14 10 01.9 -1.2
comp=Z,7.8nm,0.7s,baz=105,slow=7.7,SNR=100
ASAR PcP **PcP 14 11 50.8 -0.8**
comp=Z,3.4nm,0.7s,baz=107,slow=4.3,SNR=3.5
ASAR ScP **ScP 14 15 43.1 +2.9**
comp=Z,1.0nm,0.9s,baz=106,slow=2.7,SNR=4.9
ASAR LR LR 14 27 31.6
comp=Z,930nm,18.7s,baz=129,slow=35
comp=Z,7.8nm,0.7s
WR0 Warramunga Arr 44.12 272 P P 14 10 08.1 -1.4
WR8 Warramunga Arr 44.16 272 IAmb IAmb 14 10 12.3
comp=Z,29nm,0.7s
WRAB Tennant Creek 44.30 272 P P 14 10 09.6 -1.3
WRAB Tennant Creek 44.30 272 *ce*P **P 14 10 09.6 -1.3**
WRAB pmax pmax 14 11 02.0
comp=Z,37nm,0.8s
WRA Warramunga Arr 44.30 272 P P 14 10 09.3 -1.7
WRA Warramunga Arr 44.30 272 P P 14 10 09.7 -1.3
comp=Z,38nm,0.7s,baz=110,slow=8.1,SNR=325
WRA PcP **PcP 14 11 53.6 -1.3**
comp=Z,1.5nm,0.7s,baz=109,slow=3.1,SNR=0.8
WRA ScP **ScP 14 15 46.8 +2.6**
comp=Z,0.9nm,1.0s,baz=120,slow=3.5,SNR=3.1
WRA LR LR 14 26 50.0
comp=Z,614nm,21.8s,baz=122,slow=34
comp=Z,38nm,0.7s
WRA Warramunga Arr 44.30 272 P P 14 10 09.3 -1.7
WRA pmax pmax 14 11 02.0
comp=Z,8.0nm,1.5s
DRV Dumont d'Urvil 44.39 203 P P 14 10 11.0 0.0
FORT Forrest 46.30 255 P P 14 10 24.6 -2.1
comp=Z,23nm,0.8s
FORT Forrest 46.30 255 P P 14 10 24.8 -1.8
FORT IAmb IAmb 14 10 27.1
comp=Z,15nm,0.8s
WRKA Warakurna 47.72 262 P P 14 10 35.6 -2.2
comp=Z,13nm,1.2s
JAY Jayapura 48.00 297 P P 14 10 38.2 -1.9
comp=Z,4.5nm,0.5s,baz=160,slow=16,SNR=1.4
JAY LR LR 14 29 23.1
comp=Z,163nm,18.5s,baz=129,slow=34
comp=Z,4.5nm,0.5s
SBA Scott Base 48.24 184 P P 14 10 44.5 +3.5
SBA IAmb IAmb 14 11 02.0
comp=Z,24nm,1.0s
SBA Scott Base 48.24 184 P P 14 10 44.6 +3.5
SBA pmax pmax 14 11 02.0
comp=Z,24nm,1.0s
SBA Scott Base 48.24 184 P P 14 10 45.1 +4.1
SBA x x 14 10 54.3
VNDA Vanda 48.30 186 P P 14 10 44.1 +2.5
VNDA Vanda 48.30 186 P P 14 10 43.7 +2.2
comp=Z,2.5nm,0.7s,baz=15,slow=5.7,SNR=9.8
comp=Z,2.5nm,0.7s
VNDA Vanda 48.30 186 P P 14 10 44.1 +2.5
VNDA pmax pmax 14 11 02.0
comp=Z,6.0nm,1.0s
KNRA Kununurra 50.91 274 P P 14 11 01.2 -1.0
comp=Z,11nm,0.9s
KNRA Kununurra 50.91 274 P P 14 11 01.2 -1.0
KNRA IAmb IAmb 14 12 17.6
comp=Z,18nm,1.1s
FITZ Fitzroy Crossi 52.57 270 P P 14 11 13.3 -1.3
comp=Z,5.5nm,1.5s
FITZ Fitzroy Crossi 52.57 270 P P 14 11 13.5 -1.2
FITZ Fitzroy Crossi 52.57 270 LR LR 14 32 32.7
comp=Z,420nm,19.3s,baz=156,slow=35
FITZ Fitzroy Crossi 52.57 270 P P 14 11 13.5 -1.2

CCD Concordia, Ant 53.19 196 P P 14 11 19.4 +0.5
CASY Casey 55.40 208 P P 14 11 34.1 -0.4
CASY Casey 55.40 208 P P 14 11 34.2 -0.4
CASY PcP **PcP 14 12 35.3 +0.7**
MEEK Meekatharra 55.43 257 P P 14 11 33.9 -1.6
comp=Z,18nm,0.9s
PSAB3 Pilbara Seismi 56.19 263 P P 14 11 38.4 -2.5
comp=Z,11nm,1.8s
MBWA Marble Bar 56.46 263 P P 14 11 40.6 -2.3
comp=Z,19nm,0.8s
MBWA Marble Bar 56.46 263 P P 14 11 40.3 -2.6
MBWA IAmb IAmb 14 11 42.5
comp=Z,14nm,0.8s
MBWA Marble Bar 56.46 263 P P 14 11 42.0 -0.8
SWI Sorong 56.47 291 P P 14 11 38.5 -4.5
MORW Morawa 56.79 253 P P 14 11 43.6 -1.5
SOEI Soe 57.54 278 IAmb IAmb 14 11 53.8
comp=Z,28nm,0.9s
BATI Baumata 57.84 277 LR LR 14 36 54.0
comp=Z,1µm,19.4s,baz=166,slow=36
RPN Rapa Nui 59.28 105 LR LR 14 32 32.7
comp=Z,100nm,21.8s,baz=62,slow=31
QSPA South Pole Qui 59.90 180 P P 14 12 10.4 +4.0
QSPA IAmb IAmb 14 12 17.3
comp=Z,30nm,0.8s
QSPA South Pole Qui 59.90 180 P **P 14 12 09.9 +3.5**
comp=Z,13nm,0.7s,baz=3.0,slow=0.8,SNR=43
QSPA South Pole Qui 59.90 180 P P 14 12 11.0 +4.6
QSPA x x 14 12 24.3
SANI Sanana 60.11 287 P P 14 12 08.8 +0.3
comp=Z,512nmcomp=Z,33nm,1.2s
EDFI Ende, Flores 60.25 277 P P 14 12 11.8 +2.3
PLAI Plampang 63.58 275 P P 14 12 31.0 -0.8
PCI Palu 65.88 284 P P 14 12 48.1 +1.3
comp=Z,53nm,1.1s
TOLI2 Tolitoli 66.19 286 P P 14 12 48.2 -0.5
SMAI San Martin Ant 69.52 158 P P 14 13 11.0 +2.2
SMAI IAmb IAmb 14 13 48.0
comp=Z,32nm,0.9s
BELA Belgrano 2 69.94 172 P 14 13 12.4 +1.0
BELA IAmb IAmb 14 13 13.4
comp=Z,14nm,0.8s
MYLDM Lahad Datu 70.34 288 P P 14 13 14.1 -0.6
MYLDM IAmb IAmb 14 13 40.3
comp=Z,17nm,1.1s
MAW Mawson 72.56 200 P P 14 13 27.1 -0.1
comp=Z,7.1nm,0.7s,baz=112,slow=7.1,SNR=19
comp=Z,7.1nm,0.7s
KKM Kota Kinabalu 72.70 288 P P 14 13 27.9 -1.2
KKM IAmb IAmb 14 13 29.1
comp=Z,28nm,0.8s
LEM Lembang 73.33 272 P P 14 13 31.0 -1.9
comp=Z,31nm,0.7s,baz=138,slow=4.5,SNR=5.8
LEM LR LR 14 44 16.4
comp=Z,503nm,21.5s,baz=286,slow=35
comp=Z,31nm,0.7s
LEM Lembang 73.33 272 P P 14 13 31.0 -1.9
TPI Tanjungpandan 75.31 275 P P 14 13 36.7 -7.6
SYO Syowa Base 77.34 193‖ *e*P **P 14 13 55.2 +0.3**
SYO Syowa Base 77.34 193‖ *e*PcP **PcP 14 14 07.2 +1.9**
INU Inuyama 77.88 324 P P 14 13 58.4 +0.1
JGF Kuroka 77.90 324 P P 14 13 57.0 -1.4
JGF IAmb IAmb 14 14 00.6
comp=Z,53nm,1.9s
TROLL Troll, Antarti 78.06 180 ⇑P **P 14 13 60.0 +0.9**
comp=Z,2µm,0.8s
MJAR Matsushiro Arr 78.21 325 P **P 14 13 58.6 -1.5**
comp=Z,3.9nm,0.9s,baz=158,slow=5.6,SNR=8.1
comp=Z,3.9nm,0.9s
MAJO Matsushiro 78.21 325 *de*P **P 14 13 59.9 -0.2**
MAJO pmax pmax 14 13 59.9
comp=Z,9.0nm,0.9s
SNAA Sanae 78.33 178 ⇑P **P 14 14 01.1 +0.6**
comp=Z,161nm,0.7s
SNAA Sanae 78.33 178 P **P 14 14 01.1 +0.6**
SNAA Sanae 78.33 178 P **P 14 14 00.9 +0.4**
comp=Z,8.7nm,0.9s,baz=167,slow=4.1,SNR=23
comp=Z,8.7nm,0.9s
SNAA Sanae 78.33 178 *ce*P **P 14 14 01.3 +0.8**
SNAA pmax pmax 14 13 59.9
comp=Z,15nm,1.0s
VNA3 Neumayer Olymp 78.47 176 ⇑P **P 14 14 01.5 +0.3**
comp=Z,29nm,0.8s
VNA2 Neumayer--Watz 78.91 177 ⇑P **P 14 14 04.2 +0.6**
comp=Z,17nm,0.7s,baz=169,slow=5.4
VNA1 Neumayer--Stat 79.14 176 ⇑P **P 14 14 05.3 +0.5**
comp=Z,27nm,0.9s
MASI Maura Aman, Be 79.79 272 P P 14 14 09.2 -0.2
H03S2 Juan Fernandez 80.39 123 T T 15 43 15.7
baz=238,slow=74,SNR=68
H03S1 Juan Fernandez 80.40 123 T T 15 43 16.8
baz=238,slow=74,SNR=69
H03S3 Juan Fernandez 80.41 123 T T 15 43 23.0
baz=238,slow=74,SNR=63
LL01 San Ignacio de 80.41 134 P P 14 14 12.9 +0.7
H03N3 Juan Fernandez 80.58 123 T T 15 43 34.4
baz=241,slow=72,SNR=10
H03N2 Juan Fernandez 80.58 123 T T 15 43 38.3
baz=241,slow=72,SNR=16
H03N1 Juan Fernandez 80.59 123 T T 15 43 36.6
baz=241,slow=72,SNR=17
DLV Lat 82.30 289 P 14 14 22.3 -0.6
ASAJ Asahikawa 82.38 332 LR LR 14 47 02.1
comp=Z,420nm,20.1s,baz=352,slow=33
PLCA Paso Flores 82.48 133 P P 14 14 23.6 +0.3
comp=Z,6.0nm,0.9s,baz=199,slow=3.4,SNR=8.6
comp=Z,6.0nm,0.9s
KSRS Korea Array 84.34 319 P P 14 14 32.4 -0.2
comp=Z,2.6nm,0.8s,baz=144,slow=5.3,SNR=15
comp=Z,2.6nm,0.8s
YSS Yuzhno-Sakhali 84.67 334‖ *e*P **P 14 14 31.5 -2.5**
YSS pmax pmax 14 13 59.9
comp=Z,17nm,1.2s
PSI Prapat 85.63 276 LR LR 14 54 14.1
comp=Z,218nm,19.8s,baz=162,slow=37
PETK Petropavlovsk- 85.69 345 P P 14 14 38.5 -0.4
comp=Z,8.7nm,0.8s,baz=133,slow=5.9,SNR=5.6
comp=Z,8.7nm,0.8s
PFO Pinyon Flats O 85.92 47‖ *e*P **P 14 14 41.0 +0.2**
PFO pmax pmax 14 13 59.9
comp=Z,31nm,1.6s
NJ2 Nanjing 86.29 310 *e*P **P 14 14 44.0 +1.6**
NJ2 pmax pmax 14 13 59.9
comp=Z,7.0nm,0.5s
WSHM Spangler Hills 86.57 45 IAmb IAmb 14 15 03.5
comp=Z,16nm,1.1s
CLC China Lake 86.65 45 IAmb IAmb 14 15 04.0
comp=Z,23nm,1.1s
USRK Ussuriysk Ar. 87.12 326 P P 14 14 46.3 +0.1
comp=Z,4.4nm,0.8s,baz=48,slow=2.8,SNR=8.2
comp=Z,4.4nm,0.8s
QSM Queen of Sheba 87.20 45 IAmb IAmb 14 15 07.1
comp=Z,15nm,1.2s
YBH Yreka Blue Hor 87.75 38 LR LR 14 46 05.1
comp=Z,39nm,20.6s,baz=85,slow=30
GMN Gold Mountain 87.83 44 IAmb IAmb 14 15 10.3
comp=Z,17nm,1.6s
CO03 El Pedregal 87.88 125 P P 14 14 51.9 +1.3
CO03 IAmb IAmb 14 15 09.6
comp=Z,16nm,1.1s
NVAR Mina Array Bea 87.96 43 P P 14 14 51.7 +1.0
NVAR Mina Array Bea 87.96 43 P P 14 14 50.5 -0.1
comp=Z,2.2nm,0.7s,baz=222,slow=8.2,SNR=13
NVAR LR LR 14 45 34.5
comp=Z,482nm,21.4s,baz=82,slow=30
comp=Z,2.2nm,0.7s
TYV Tymovskoe 87.97 336 *e*P **P 14 14 52.8 +2.7**
TYV pmax pmax 14 13 59.9
comp=Z,8.0nm,1.6s
TYV pmax pmax 14 13 59.9
comp=Z,200nm,3.5s
TPNV Topopah Spring 88.21 45 P P 14 14 53.7 +1.8
TPNV IAmb IAmb 14 15 11.6
comp=Z,9.8nm,1.1s
TPNV Topopah Spring 88.21 45 P P 14 14 53.7 +1.8
TPNV pmax pmax 14 13 59.9
comp=Z,10.0nm,1.2s
TPH Tonopah 88.36 43 IAmb IAmb 14 15 11.9
comp=Z,10nm,1.0s
TUC Tucson 88.83 51 P 14 14 56.9 +2.1
TUC Tucson 88.83 51 P P 14 14 56.9 +2.1
TUC pmax pmax 14 13 59.9
comp=Z,33nm,1.5s
PLK4 Peulik 4 89.34 11 P 14 14 57.2 +0.6
CN2 Changchun 90.12 323 P P 14 15 03.3 +2.9
CN2 sP pwP 14 15 22.0 +7.2

CN2 SKS **SKSac 14 25 28.8 +0.2**
CN2 pmax pmax 14 13 59.9
comp=Z,20nm,1.0s
CN2 LR LR 14 13 59.9
comp=Z,190nm,18.0s
CN2 LR LR 14 13 59.9
comp=Z,540nm,18.0s
CN2 LR LR 14 13 59.9
comp=Z,530nm,18.0s
BNX BinXian 90.48 325‖ P **P 14 15 04.8 +2.8**
BNX pmax pmax 14 13 59.9
comp=Z,9.0nm,0.7s
TXAR Lajitas Array 92.11 57 P P 14 15 10.3 +0.2
comp=Z,0.4nm,0.8s,baz=205,slow=5.5,SNR=5.9
comp=Z,0.4nm,0.8s
HNS HongShan 92.26 313‖ P **P 14 15 14.0 +3.5**
HNS pmax pmax 14 13 59.9
comp=Z,9.0nm,1.0s
BJI Beijing 92.94 315 P P 14 15 15.8 +2.2
BJI pmax pmax 14 13 59.9
comp=Z,2.0nm,1.0s
MA2 Magadan 93.17 345‖ *e*P **P 14 15 14.5 +0.3**
MA2 pmax pmax 14 13 59.9
comp=Z,25nm,1.1s
ANMO Albuquerque 93.30 51⇑ *e*P **P 14 15 16.8 +1.2**
CMAR Chiang Mai Arr 93.54 289 P 14 15 16.9 0.0
CMAR Chiang Mai Arr 93.54 289 P P 14 15 17.1 +0.3
comp=Z,1.5nm,0.6s,baz=141,slow=4.2,SNR=14
comp=Z,1.5nm,0.6s
XAN Xi'an 94.17 307 *e*P **P 14 15 20.5 +1.0**
NEW Newport 95.10 36 LR LR 14 49 05.5
comp=Z,331nm,21.8s,baz=92,slow=30
PZH PanZhiHua 95.41 297 P P 14 15 26.5 +1.0
PDAR Pinedale Array 95.85 43 P P 14 15 26.7 -0.6
comp=Z,0.3nm,0.6s,baz=151,slow=3.4,SNR=4.2
PDAR PKKPbc **PKKPbc 14 32 15.8 -1.4**
comp=Z,0.5nm,0.7s,baz=75,slow=6.3,SNR=5.4
comp=Z,0.3nm,0.6s
CD2 Chengdu 96.17 302 P P 14 15 28.8 +0.1
HHC Hu-ho-hao-te 96.26 314 *e*P **P 14 15 30.5 +1.5**
HHC pmax pmax 14 13 59.9
comp=Z,34nm,0.7s
BTO Baotou 97.09 313 *e*P **P 14 15 33.0 +0.3**
BTO S **S 14 26 51.3 -2.0**
BTO pmax pmax 14 13 59.9
comp=Z,27nm,0.6s
BTO pmax pmax 14 13 59.9
comp=Z,440nm,8.3s
BTO LR LR 14 13 59.9
comp=Z,440nm,16.4s
BTO LR LR 14 13 59.9
comp=Z,280nm,11.4s
BTO LR LR 14 13 59.9
comp=Z,440nm,19.0s
COLA College 97.61 12‖ *e*P **P 14 15 33.6 -0.7**
COLA pmax pmax 14 13 59.9
comp=Z,19nm,2.5s
ILAR Eielson Array 97.70 13 P P 14 15 33.9 -0.8
comp=Z,1.0nm,0.8s,baz=221,slow=5.7,SNR=8.4
comp=Z,1.0nm,0.8s
WMQ Urumqi 113.28 308 *e*PKP **PKiKP 14 20 38.3 +0.2**
BOSA Boshof 117.51 203 PKP **PKPdf 14 20 46.6 -0.3**
comp=Z,2.9nm,0.8s,baz=145,slow=4.3,SNR=4.8
MK31 Makanchi Array 117.82 310 *d i*PKIKP **PKPdf 14 20 45.1 -1.6**
MKAR Makanchi Array 117.82 310 PKPdf 14 20 44.8 -1.9
MKAR Makanchi Array 117.82 310 PKP **PKPdf 14 20 45.2 -1.5**
comp=Z,1.1nm,0.5s,baz=91,slow=1.1,SNR=13
MKAR PKKPbc **PKKPbc 14 31 07.8 -0.3**
comp=Z,0.4nm,0.4s,baz=264,slow=1.4,SNR=4.8
ZALV Zalesovo Beam 118.04 318 PKPdf 14 20 45.3 -1.5
ZALV Zalesovo Beam 118.04 318 PKP **PKPdf 14 20 44.8 -2.0**
comp=Z,1.8nm,0.7s,baz=147,slow=2.2,SNR=9.2
ZALV Zalesovo Beam 118.04 318 PKIKP **PKPdf 14 20 45.3 -1.5**
KSH Kashi 120.33 301 PKP PKPdf 14 20 53.0 +1.1
KURK Kurchatov 121.08 314 PKPdf 14 20 51.4 -1.3
KURK Kurchatov 121.08 314 *c i*PKIKP **PKPdf 14 20 51.7 -1.0**
KURK pmax pmax 14 13 59.9
comp=Z,15nm,1.3s
KURBB Kurchatov Arra 121.11 314 PKP **PKPdf 14 20 51.1 -1.7**
comp=Z,6.6nm,0.7s,baz=107,slow=1.9,SNR=50
AAK Ala-Archa 122.19 304‖ *i*PKIKP **PKPdf 14 20 56.0 +0.6**
KGCAE Kacgae 123.86 202 PKPdf 14 20 59.7 +0.4
KKAR Karatay Array 125.15 304 PKPdf 14 20 59.5 -1.3
KKAR Karatay Array 125.15 304 PKIKP **PKPdf 14 20 59.6 -1.3**
GRTLG Ghanzi 125.57 202 PKPdf 14 21 03.0 +0.5
BVAR Borovoye Array 126.42 316 PKP **PKPdf 14 21 02.1 -0.9**
comp=Z,8.7nm,0.7s,baz=85,slow=1.8,SNR=32
BORK Borovoye 126.47 316 *ce*PKIKP **PKPdf 14 21 01.6 -1.4**
SPITS Spitsbergen Ar 131.53 356 PKP **PKPdf 14 21 11.7 -0.3**
comp=Z,5.8nm,0.7s,baz=235,slow=6.8,SNR=2.2
AB31 Akbulak array 132.95 311 PKPdf 14 21 16.7 +1.3
ABKAR Akbulak array 132.95 311 PKPdf **PKPdf 14 21 16.6 +1.2**
ARTI Arti 133.19 321 PKPdf 14 21 16.1 +0.4
ARTI Arti 133.19 321 *i* PKIKP **PKPdf 14 21 15.7 0.0**
ARTI 14 23 40.4
KIRV Kirov 137.29 326 *c i*PKIKP **PKPdf 14 21 24.9 +1.7**
ARCES ARCESS Array B 138.45 348 PKhKP PKPpre 14 21 15.6
comp=Z,1.3nm,0.6s,baz=38,slow=2.8,SNR=11
ARCES PKP **PKPdf 14 21 25.0 -0.1**
comp=Z,2.7nm,0.6s,baz=46,slow=1.0,SNR=8.0
ARCES ARCESS Array B 138.45 348 PKIKP **PKPdf 14 21 25.0 -0.1**
H10N3 ASCENSION HYDR 138.88 154 T T 16 57 11.6
baz=203,slow=75,SNR=174
H10N1 ASCENSION HYDR 138.89 154 T T 16 57 08.1
baz=203,slow=75,SNR=200
H10N2 ASCENSION HYDR 138.90 154 T T 16 57 11.3
baz=203,slow=75,SNR=199
BELG Belogornoye 140.20 317 PKP **PKPdf 14 21 27.1 -1.6**
comp=Z,13nm,0.8s,baz=114,slow=3.9,SNR=6.8
BELG Belogornoye 140.20 317 *c i*PKIKP **PKPdf 14 21 27.3 -1.4**
KLMR Klimovskoe 140.70 332 *e*PKHKP PKPpre 14 21 22.4
KLMR pmax pmax 14 13 59.9
comp=Z,13nm,1.1s
AKT Akhty 141.85 300 *e*PKIKP **PKPdf 14 21 30.6 -1.7**
AKT *e* 14 21 43.0
AKT *e* 14 24 41.4
AKT *e*PPP PPP 14 27 50.5
AKT *e* 14 28 38.0
AKT pmax pmax 14 13 59.9
comp=Z,14nm,1.2s
VRH Novokhopyorsk 144.05 317 *e*PKIKP **PKPab 14 21 34.5 +1.3**
VRH pmax pmax 14 13 59.9
comp=Z,60nm,0.8s
GNI Garni 144.18 298⇑ *e*PKIKP **PKPab 14 21 35.3 +1.0**
NCK Nalchik 144.72 304⇑ *e*PKIKP **PKPab 14 21 35.7 -0.3**
FINES FINESS Array B 145.04 340 PKPbc 14 21 35.1 -1.4
FINES FINESS Array B 145.04 340 PKP **PKPbc 14 21 35.3 -1.2**
comp=Z,34nm,0.6s,baz=64,slow=4.4,SNR=145
LPSR Galich'ya Gora 145.11 320 *e*PKIKP **PKPbc 14 21 35.1 -1.9**
LPSR pmax pmax 14 13 59.9
comp=Z,20nm,0.8s
NSS Namsos 145.12 353 *e*P **PKPbc 14 21 35.8 -0.9**
OBN Obninsk 145.14 325 PKPbc **PKPbc 14 21 36.2 -0.8**
comp=Z,31nm,0.4s,baz=68,slow=5.0,SNR=6.9
OBN Obninsk 145.14 325 *de*PKIKP **PKPbc 14 21 35.9 -1.1**
OBN *e* 14 24 55.1
OBN *e*PPP PPP 14 28 08.3
OBN *e* 14 28 40.2
OBN *e*SS SS 14 43 42.6 -1.6
OBN *e*SSS SSS 14 49 15.0
OBN pmax pmax 14 13 59.9
comp=Z,18nm,0.8s
KBZ Khabaz 145.19 304 PKPbc **PKPbc 14 21 36.8 -0.8**
comp=Z,6.2nm,0.8s,baz=258,slow=1.2,SNR=16
KBZ Khabaz 145.19 304⇑ *e*PKIKP **PKPbc 14 21 36.1 -1.4**
KVAR Kislovodsk Arr 145.29 305 PKPbc **PKPbc 14 21 38.4 +0.3**
KIV Kislovodsk 145.30 305 *e*PKIKP **PKPbc 14 21 37.3 -0.8**
KIV pmax pmax 14 13 59.9
comp=Z,14nm,1.1s
VORR Voronezh 145.34 319 *e*PKP2 **PKPdf 14 21 36.2 -1.7**
VORR pmax pmax 14 13 59.9
comp=Z,20nm,0.8s
SHA1 Shidzhatmaz 145.35 304 *c i*PKIKP **PKPdf 14 21 36.9 -1.6**
NEUR Neytrino 145.40 303 *i* PKIKP **PKPdf 14 21 38.2 -0.3**
VSR Storozhevoye 145.54 318 *e*PKP2 **PKPdf 14 21 35.6 -2.7**
VSR pmax pmax 14 13 59.9
comp=Z,10.0nm,0.8s
VORD Divnogorie 145.57 318 *e*PKP2 **PKPdf 14 21 35.6 -2.7**
VORD pmax pmax 14 13 59.9
comp=Z,10.0nm,0.8s
ERBR Yeremizino-Bor 146.47 308 *e*PKIKP **PKPdf 14 21 39.2 -0.8**
ERBR *i* 14 21 44.5
ERBR *e* 14 21 55.3
ERBR *e* 14 25 08.7
ERBR pmax pmax 14 13 59.9

	comp=Z,47nm,1.0s						
LABN	**Labinsk**	**146.55**	**306**	*i* PKP2	**PKPbc**	14 21 43.6	**+1.8**
LABN				*e*		14 25 04.6	
LABN				pmax	pmax		
	comp=Z,56nm,0.7s						
VSU	**Vasula**	**147.14**	**336**	*e*PKIKP	**PKPdf**	14 21 40.4	**-0.3**
VSLR	**Vesyoloye**	**147.28**	**304**	*c i* PKP2	**PKPbc**	14 21 43.9	**0.0**
KOPT	**Kop Dagi**	**147.43**	**298**		**PKPbc**	14 21 46.2	**+1.4**
MOL	**Molde**	**147.45**	**355**	*e*P	**PKPdf**	14 21 42.4	**+1.3**
SOC	**Sochi**	**147.48**	**305**	*e*PKP2	**PKPdf**	14 21 43.0	**+1.2**
SOC				*e*		14 25 14.6	
SOC				*e*SSS	SSS	14 49 36.2	
SOC				pmax	pmax		
	comp=Z,13nm,0.7s						
DOMB	**Dombas**	**147.85**	**354**	*e*P	**PKPdf**	14 21 44.0	**+2.1**
AKN	**Aaknes**	**147.88**	**356**	*e*P	**PKPdf**	14 21 44.2	**+2.3**
NC303	**NORSAR Array S**	**148.40**	**352**		**PKPdf**	14 21 45.7	**+2.9**
NB2	**NORSAR Subarra**	**148.60**	**352**	PKP	**PKPdf**	14 21 45.6	**+2.4**
	comp=Z,24nm,1.0s,baz=14,slow=2.8						
NB2	**NORSAR Subarra**	**148.60**	**352**	PKP	**PKPdf**	14 21 45.6	**+2.4**
	comp=Z,24nm,1.0s,baz=14,slow=2.8						
NOA	**NORSAR Array B**	**148.60**	**352**	PKPbc	**PKPdf**	14 21 46.0	**+2.8**
	comp=Z,9.5nm,0.8s,baz=15,slow=4.4,SNR=40						
NOA	**NORSAR Array B**	**148.60**	**352**	PKP2	**PKPdf**	14 21 46.0	**+2.8**
ANN	**Anapa**	**148.79**	**308**	*i* PKP2	**PKPbc**	14 21 47.3	**-0.5**
NC602	**NORSAR Array S**	**148.85**	**351**	*e*P	**PKPdf**	14 21 46.4	**+2.9**
HFS	**Hagfors**	**149.10**	**349**	PKPbc	**PKPdf**	14 21 46.8	**+2.9**
	comp=Z,18nm,0.7s,baz=80,slow=1.7,SNR=32						
SUE	**Sulen**	**149.11**	**358**	*e*P	**PKPdf**	14 21 46.7	**+2.8**
SKAR	**Skarslia**	**149.26**	**354**	*e*P	**PKPdf**	14 21 47.3	**+3.0**
MNK	**Minsk**	**149.53**	**330**	*i* PKP2	**PKPbc**	14 21 49.3	**0.0**
MNK				*i*		14 25 20.6	
MNK				*i* PPP	PPP	14 28 40.6	
MNK				*i*		14 28 46.6	
MNK				*i* SS	SS	14 44 31.1	-2.4
MNK				*i* SSS	SSS	14 50 09.9	
MNK				pmax	pmax		
	comp=Z,37nm,0.8s						
MNK				pmax	pmax		
	comp=N,14nm,0.9s						
MNK				pmax	pmax		
	comp=E,22nm,1.0s						
MNK				MLR	MLR		
	comp=Z,113nm,20.0s						
MNK				MLR	MLR		
	comp=N,89nm,20.0s						
MNK				MLR	MLR		
	comp=E,90nm,20.0s						
ASK	**Askoy**	**149.66**	**357**	*e*P	**PKPbc**	14 21 48.8	**-0.7**
OSL	**Oslo**	**149.73**	**352**	*e*P	**PKPbc**	14 21 49.5	**-0.1**
BER	**Bergen**	**149.76**	**357**	*e*P	**PKPbc**	14 21 49.4	**-0.3**
KONO	**Kongsberg**	**150.15**	**352**	*e*P	**PKPbc**	14 21 50.2	**-0.5**
ODD1	**Odda**	**150.16**	**356**	*e*P	**PKPbc**	14 21 50.3	**-0.4**
GAZ	**Gaziantep**	**150.21**	**293**		**PKPbc**	14 21 53.2	**+1.6**
ASF	**Jabal al Asfar**	**150.37**	**283**	PKPbc	**PKPbc**	14 21 51.9	**-0.4**
	comp=E,8.3nm,0.8s,baz=17,slow=0.7,SNR=11						
STRU	**Stroemstad**	**150.54**	**351**	*i* P	**PKPbc**	14 21 52.0	**+0.4**
BLS5	**Blasjo**	**150.65**	**356**	*e*P	**PKPdf**	14 21 50.3	**+3.9**
KMY	**Karmoy**	**150.93**	**357**	*e*P	**PKPbc**	14 21 51.5	**-1.0**
SIM	**Simferopol'**	**150.99**	**309**	*e*PKIKP	**PKPbc**	14 21 52.7	**-0.5**
SIM				pmax	pmax		
	comp=Z,18nm,0.7s						
BNN	**Bunyan**	**151.14**	**296**		**PKPbc**	14 21 54.4	**+0.5**
AKASG	**Malin Array Be**	**151.28**	**323**	PKPbc	**PKPbc**	14 21 52.6	**-1.0**
	comp=Z,29nm,0.8s,baz=49,slow=2.9,SNR=51						
AKASG	**Malin Array B**	**151.28**	**323**	PKIKP	**PKPbc**	14 21 52.7	**-0.9**
AKBB	**Malin Array Si**	**151.28**	**323**	*c i* PKIKP	**PKPbc**	14 21 52.5	**-1.1**
TJOU	**Tjoern**	**151.44**	**350**	*i* P	**PKPbc**	14 21 53.9	**+0.2**
HOMB	**Homborsund**	**151.62**	**353**	*e*P	**PKPbc**	14 21 53.9	**-0.2**
HOMB	**Homborsund**	**151.62**	**353**	*i* P	**PKPbc**	14 21 54.1	**-0.1**
BORU	**Boraas**	**151.63**	**348**	*i* P	**PKPbc**	14 21 53.2	**-1.0**
SNART	**Snartemo**	**151.67**	**354**	*e*P	**PKPbc**	14 21 53.3	**-0.9**
SNART	**Snartemo**	**151.67**	**354**	*i* P	**PKPbc**	14 21 53.9	**-0.4**
MMAI	**Mount Meron Ar**	**151.69**	**284**	PKPbc	**PKPbc**	14 21 55.5	**+0.2**
	comp=Z,18nm,0.7s,baz=78,slow=6.1,SNR=13						
EIL	**Elat**	**151.71**	**277**	PKPbc	**PKPbc**	14 21 55.2	**-0.1**
	comp=Z,22nm,0.7s,baz=24,slow=1.9,SNR=16						
ONAU	**Onsala**	**152.00**	**349**	*i* P	**PKPbc**	14 21 53.9	**-1.1**
FABU	**Falkenberg**	**152.24**	**348**	*i* P	**PKPbc**	14 21 54.4	**-1.2**
DEL	**Delary**	**152.51**	**346**	*i* P	**PKPbc**	14 21 55.0	**-1.2**
BRTR	**Keskin Array B**	**152.70**	**299**	PKPbc	**PKPbc**	14 21 56.3	**-1.1**
	comp=Z,3.3nm,0.7s,baz=138,slow=4.3,SNR=14						
BJUU	**Bjuv**	**153.05**	**347**	*i* P	**PKPbc**	14 21 56.8	**-0.7**
CSS	**Mathiatis**	**153.45**	**288**		**PKPbc**	14 21 58.2	**-0.8**
EKA	**Eskdalemuir Ar**	**154.60**	**7**	PKPbc	**PKPbc**	14 21 59.8	**-1.0**
	comp=Z,0.8nm,0.5s,baz=310,slow=1.6,SNR=1.6						
EKA				PKPab	**sPKPbc**	14 22 14.4	**-0.1**
	comp=Z,4.1nm,0.7s,baz=349,slow=3.4,SNR=8.5						
DBIC	**Dimbokro**	**155.65**	**163**	PKPab	**PKPab**	14 22 21.5	**+0.5**
	comp=Z,4.9nm,0.7s,baz=188,slow=2.7,SNR=5.1						
DPC	**Dobruska-Polom**	**157.27**	**336**	*e*PKPAB	**PKPab**	14 22 27.7	**+0.5**
DPC	**Dobruska-Polom**	**157.27**	**336**	*e*PKP2	**PKPab**	14 22 27.7	**+0.5**
CLL	**Collm**	**157.46**	**342**	*i* PKIKP	PKPdf	14 22 07.6	**+11**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRG	**Berggiesshubel**	**157.58**	**340**	*e*PKP	**PKPab**	14 22 28.2	**-0.3**
BRG				Amp		14 22 29.5	
	comp=Z,6.6nm,0.9s						
VRAC	**Vranov**	**158.04**	**334**	PKPab	**PKPab**	14 22 29.5	**-1.1**
	comp=Z,2.6nm,0.6s,baz=55,slow=8.9,SNR=3.2						
KHC	**Kasperske Hory**	**159.24**	**339**	*e*PKPAB	**PKPab**	14 22 36.3	**+0.6**
KHC	**Kasperske Hory**	**159.24**	**339**	*e*PKP2	**PKPab**	14 22 36.3	**+0.6**
GERES	**GERESS Array B**	**159.45**	**338**	PKP	**PKPdf**	14 21 58.4	**-0.4**
	comp=Z,0.3nm,0.4s,baz=47,slow=4.5,SNR=2.0						
GERES				PKPab	**PKPab**	14 22 35.2	**-1.5**
	comp=Z,0.5nm,0.5s,baz=43,slow=4.5,SNR=3.9						
CONA	**Conrad Observa**	**159.45**	**333**	*i* PKP	**PKPab**	14 22 36.4	**-0.4**
	comp=Z,4.3nm,1.4s						
RONA	**Rosalia, Austr**	**159.46**	**332**	*i* PKP	**PKPab**	14 22 36.1	**-0.6**
	comp=Z,0.8nm,0.3s						
IDI	**Anoyia**	**160.31**	**291**	PKPab	**PKPab**	14 22 40.9	**-0.1**
	comp=Z,1.9nm,0.6s,baz=178,slow=3.3,SNR=4.3						
BIOA	**Bad Ischl, Aus**	**160.47**	**336**	*i* PKP	**PKPab**	14 22 42.1	**+0.9**
	comp=Z,2.5nm,0.6s						
SOKA	**Soboth**	**160.79**	**332**	*i* PKP	**PKPab**	14 22 42.5	**-0.2**
	comp=Z,0.1nm,0.2s						
LESA	**Schwarzleotal**	**161.02**	**338**	*i* PKP	**PKPab**	14 22 44.3	**+0.7**
	comp=Z,0.1nm,0.2s						
KBA	**Koelnbreinsper**	**161.09**	**336**	*i* PKP	**PKPab**	14 22 44.4	**+0.3**
	comp=Z,1.2nm,0.6s						
MYKA	**Terra Mystica**	**161.37**	**335**	*i* PKP	**PKPab**	14 22 45.2	**+0.1**
	comp=Z,1.5nm,0.5s						
WATA	**Walderalm**	**161.45**	**340**	*e*PKP	**PKPab**	14 22 45.5	**0.0**
	comp=Z,5.9nm,0.7s						
WTTA	**Wattenberg**	**161.49**	**340**	*i* PKP	**PKPab**	14 22 45.3	**-0.5**
	comp=Z,6.3nm,0.7s						
RETA	**Reutte**	**161.54**	**342**	*i* PKP	**PKPab**	14 22 45.4	**-0.5**
	comp=Z,2.4nm,0.5s						
MOTA	**Moosalm**	**161.58**	**341**	*i* PKP	**PKPab**	14 22 45.5	**-0.6**
	comp=Z,0.2nm,0.3s						
SQTA	**Sankt Quirin**	**161.66**	**340**	*i* PKP	**PKPab**	14 22 45.6	**-0.9**
	comp=Z,9.0nm,1.4s						
ABTA	**Abfaltersbach**	**161.67**	**337**	*e*PKP	**PKPab**	14 22 45.1	**-1.3**
	comp=Z,3.0nm,0.7s						
DAVA	**Damuels**	**161.96**	**343**	*i* PKP	**PKPab**	14 22 45.7	**-2.1**
	comp=Z,5.8nm,0.8s						
FETA	**Feichten**	**161.98**	**341**	*e*PKP	**PKPab**	14 22 46.5	**-1.4**
	comp=Z,4.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**163.01**	**178**		**PKPdf**	14 22 04.2	**+0.8**
TORD	**Torodi Ar. Bea**	**163.01**	**178**	PKP	**PKPdf**	14 22 03.1	**-0.4**
	comp=Z,1.3nm,0.8s,baz=222,slow=1.1,SNR=5.6						
TORD				PKPab	**PKPab**	14 22 51.6	**-1.3**
	comp=Z,7.9nm,0.7s,baz=167,slow=0.6,SNR=19						
ESDC	**Sonseca Array**	**169.28**	**27**		**PKPdf**	14 22 08.6	**+0.8**

*ISK **27** 14:22:59.1,40°.89N×28°.25E,h16km,ML1.9/12*
AFAD 27 14:22:58.9,40°.86N×28°.20E,h7km±3km,ML1.1,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELBA	**Catalca**	**0.34**	**31**	P	Pg	14 23 05.8	**+0.3**
ELBA				*i* IAML		14 23 14.0	
	comp=E,30nm,0.5s						
ELBA				*i* IAML		14 23 14.0	
	comp=N,17nm,0.2s						
ELBA	**Catalca**	**0.34**	**31**	P	Pg	14 23 06.0	**+0.5**
SLVT	**Silivri**	**0.37**	**1**	Pg	Pg	14 23 06.9	**+0.8**
SLVT				Sg	Sg	14 23 11.9	**+0.9**
CTKS	**Kestanelik-??a**	**0.44**	**32**	Pg	Pg	14 23 07.3	**-0.2**
CTKS				Sg	Sg	14 23 13.6	**+0.3**
BAND	**Balkesir-Ban**	**0.51**	**189**	P	Pg	14 23 09.2	**+0.5**
BAND				S	Sb	14 23 16.7	**-1.1**
BAND				*i* IAML		14 23 17.0	
	comp=E,9.5nm,0.3s						
BAND				*i* IAML		14 23 17.0	
	comp=N,8.0nm,0.2s						
BGKT	**Bogazkoy**	**0.54**	**53**	Pg	Pg	14 23 09.1	**-0.2**
BGKT				Sg	Sg	14 23 16.8	**+0.4**
ARMT	**Armutlu**	**0.58**	**120**	Pg	Pb	14 23 11.1	**-0.4**
ARMT				Sg	Sb	14 23 19.1	**-0.8**
CTYL	**Yalikoy Yolu**	**0.62**	**6**	Pg	Pg	14 23 10.9	**+0.1**
ISK	**Istanbul-Kandi**	**0.68**	**72**	Pg	Pg	14 23 11.9	**-0.2**
KAVV	**Kandilli-Istan**	**0.68**	**72**	Pg	Pg	14 23 11.8	**-0.3**
KLYT	**Kilyos**	**0.75**	**58**	Pg	Pg	14 23 12.9	**-0.4**
VIZE	**Kirklareli, Vi**	**0.77**	**340**	P	Pg	14 23 14.0	**+0.3**
VIZE				*i* IAML		14 23 20.0	
	comp=E,60nm,1.1s						
VIZE				S	Sg	14 23 24.0	**+0.4**
VIZE				*i* IAML		14 23 26.0	
	comp=N,52nm,0.2s						
VIZE	**Kirklareli, Vi**	**0.77**	**340**	P	Pg	14 23 13.9	**+0.2**
VIZE				S	Sg	14 23 24.0	**+0.3**
VIZE				*i* IAML		14 23 26.0	
	comp=E,37nm,0.2s						
VIZE				*i* IAML		14 23 26.0	
	comp=N,52nm,0.2s						
KURT	**Yalova, Merkez**	**0.81**	**109**	P	Pb	14 23 15.0	**-0.4**
KURT				*i* IAML		14 23 21.0	
	comp=N,11nm,0.9s						
KURT				S	Sg	14 23 25.8	**+0.6**
KURT				*i* IAML		14 23 28.0	
	comp=E,11nm,0.4s						
KURT	**Yalova, Merkez**	**0.81**	**109**	P	Pb	14 23 15.3	**-0.1**
KURT				S	Sg	14 23 24.7	**-0.4**
KURT				*i* IAML		14 23 28.0	
	comp=E,11nm,0.4s						
KURT				*i* IAML		14 23 28.0	
	comp=N,14nm,0.5s						
KRBG	**Karabiga-Canak**	**0.83**	**236**	Pg	Pb	14 23 15.6	**0.0**
SUSR	**Susurluk-Balik**	**0.90**	**186**	Pg	Pb	14 23 17.4	**+0.6**
YLV	**Yalova**	**0.94**	**108**	Pg	Pg	14 23 16.9	**0.0**
SILT	**Sile**	**1.13**	**75**	Pn	Pg	14 23 19.8	**-0.8**
SILT				Sn	Sg	14 23 35.2	**-0.1**

DJA 27 14:29:59.6±0.4,4°S±3°×12°8E±°,h10km,M3.6/8,mB5.1/1,mb4.1/4,MLv3.4/8,Mw(mB)4.5/1,MwMwp5.6/1,Mwp5.7/1,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.22**	**148**	P	Pg	14 30 06.1	**+2.0**
AAI				S	Sg	14 30 08.9	**+1.7**
MSAI	**Masohi**	**0.86**	**80**	P	Pg	14 30 15.7	**-0.5**
NLAI	**Namlea**	**1.01**	**285**	P	Pb	14 30 19.4	**+0.2**
BNDI	**Bandanaira**	**2.08**	**119**	P	Pn	14 30 29.1	**-5.5**
LBMI	**Labuha**	**2.90**	**348**	P	Pn	14 30 47.7	**+1.8**
SWI	**Sorong**	**4.12**	**51**	P	Pn	14 31 04.0	**+1.4**
KMSI	**Cibinong**	**5.76**	**315**	P	Pn	14 31 23.5	**-1.7**
	2µm43nm,1.3s						
RKPI	**Ransiki, Papua**	**6.40**	**72**	P	Pn	14 31 34.2	**+0.1**

*DJA **27** 14:44:50.4±0.4,4°S±4°×12°8E±°,h24km±3km,M3.4/6,MLv3.4/6*
*IDC **27** 14:44:52.6±1.9,3°.74S×128°.04E,h0km,mb3.7/3,mbtmp3.7/4,ML3.3/1,Error ellipse: s-maj=168.1km s-min=26.2km az=67.0*
ISC 27 14:44:49.0±1.0,3°.29S±0°.07×128°.18E±0°.05,h10km,n9,σ0s95/10,mb3.7/3,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.40**	**178**	P	**Pg**	**14 44 57.4**	**+0.5**
AAI				S	**Sg**	**14 45 00.8**	**-1.4**
MSAI	**Masohi**	**0.75**	**95**	P	**Pn**	**14 45 05.5**	**-0.1**
MSAI				S	**Sg**	**14 45 13.6**	**+0.4**
NLAI	**Namlea**	**1.08**	**272**	P	**Pn**	**14 45 11.5**	**+1.3**
NLAI				S	**Sn**	**14 45 24.7**	**-0.6**
SANI	**Sanana**	**2.51**	**299**	P	**Pb**	**14 45 33.0**	**-1.2**
SWI	**Sorong**	**3.91**	**52**	P	**Pn**	**14 45 49.4**	**+0.3**
WRA	**Warramunga Arr**	**17.61**	**161**	P	**Pn**	**14 48 55.0**	**+0.3**
	0.1nm,0.3s,baz=342,slow=12,SNR=6.8						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**21.00**	**165**	P	**P**	**14 49 33.5**	**+0.7**
	2.7nm,0.7s,baz=348,slow=12,SNR=44						
	2.7nm,0.7s						
MKAR	**Makanchi Array**	**64.15**	**327**	P	P	14 55 31.2	+7.4
	0.1nm,0.5s,baz=120,slow=8.5,SNR=2.1						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**68.42**	**329**	P	P	14 55 57.9	+7.0
	0.7nm,0.3s,baz=139,slow=6.0,SNR=1.6						
	0.7nm,0.3s						

*NEIC **27** 14:50:60.0±0.4,36°.475N±0°.008×98°.74W±0°.01,h8km±3km, Error ellipse: s-maj=1.4km s-min=1.1km az=68.0*
NEIC 27 14:50:59.8±0.9,36°.470N±0°.010×98°.74W±0°.01,h5km±1km, mb_Lg3.2/96,ML3.6/32,ML3.5/36,Error ellipse: s-maj=2.1km s-min=1.6km az=338.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.01**	**334**		Pg	14 51 01.8	**+1.0**
OK038					Sg	14 51 03.1	**+1.7**
NOKA	**Waynoka**	**0.23**	**316**		Pg	14 51 04.9	**+0.6**
NOKA					Sg	14 51 08.4	**+1.1**
CROK	**Carrier**	**0.61**	**87**		Pg	14 51 11.8	**+0.3**
CROK					Sg	14 51 20.4	**+0.9**
CROK				IAML		14 51 20.8	
	comp=N,4µm,0.4s						
CROK				IAML		14 51 24.8	
	comp=E,3µm,0.3s						
ELIS	**Ellis County**	**0.68**	**234**		Pg	14 51 13.2	**+0.3**
ELIS					Sg	14 51 22.6	**+0.9**
ELIS				IAML		14 51 23.6	
	comp=N,3µm,0.3s						
ELIS				IAML		14 51 23.9	
	comp=E,3µm,0.2s						
KAN14	**Manchester OK**	**0.79**	**52**		Pg	14 51 15.0	**+0.1**
KAN14				IAML		14 51 26.0	
	comp=E,2µm,0.3s						
GC02	**Grant County #**	**0.80**	**61**		Pg	14 51 15.3	**+0.1**
GC02					Sg	14 51 26.1	**+0.5**
CSTR	**Hydro, Custer**	**0.82**	**177**		Pg	14 51 15.8	**+0.2**
CSTR					Sb	14 51 27.3	**-0.7**
KAN01	**Argonia South**	**1.04**	**49**		Pg	14 51 19.6	**-0.2**
KAN01					Sg	14 51 33.3	**+0.1**
KAN01				IAML		14 51 33.8	
	comp=N,2µm,0.3s						
KAN01				IAML		14 51 34.7	
	comp=E,1µm,0.2s						
KAN13	**South Haven SW**	**1.15**	**61**		Pg	14 51 21.3	**-0.5**
KAN13					Sg	14 51 36.7	**0.0**
OK029	**Liberty Lake**	**1.24**	**123**		Pg	14 51 22.9	**-0.6**
OK029					Sb	14 51 39.8	**-0.1**
OK029				IAML		14 51 40.4	
	comp=E,1µm,0.2s						
DRZT	**Darrouzett**	**1.26**	**269**		Pg	14 51 23.4	**-0.5**
DRZT					Sb	14 51 40.6	**0.0**
BLOK	**Blackwell**	**1.26**	**76**		Pg	14 51 23.4	**-0.5**
BLOK					Sb	14 51 40.4	**-0.1**
OK004	**Okla Sci Mus**	**1.39**	**132**		Pn	14 51 25.6	**-0.3**
OK004					Sn	14 51 44.8	**+0.1**
OK048	**Pawnee Station**	**1.45**	**92**		Pn	14 51 26.5	**-0.2**
OKCFA	**Oklahoma City**	**1.48**	**135**		Pn	14 51 27.1	**-0.1**
OKCFA					Sb	14 51 47.1	**+0.2**
OKCSW	**OKLAHOMA CITY**	**1.50**	**135**		Pn	14 51 27.1	**-0.2**
OK051	**E0350 and S346**	**1.53**	**88**		Pn	14 51 28.0	**+0.1**
OK052	**Battle Ridge R**	**1.64**	**106**		Pn	14 51 29.1	**-0.1**
QUOK	**Quay**	**1.67**	**100**		Pn	14 51 29.7	**+0.1**
WMOK	**Wichita Mounta**	**1.73**	**181**		Pn	14 51 30.0	**-0.5**
SMWD	**Samnorwood**	**1.83**	**222**		Pn	14 51 32.5	**+0.6**
T35A	**Sooner Cattle**	**1.84**	**75**		Pn	14 51 32.5	**+0.4**
DEOK	**Depew**	**1.92**	**108**		Pn	14 51 33.5	**+0.4**
R32A	**Long Quarter,**	**1.95**	**1**		Pn	14 51 34.5	**+1.0**
R32A				IAmb_Lg		14 52 03.9	
	comp=Z,162nm,0.7s						
X34A	**Smith Ranch, M**	**2.01**	**158**		Pn	14 51 35.5	**+1.2**
X34A				IAmb_Lg		14 52 03.4	
	comp=Z,106nm,0.8s						
TUL3	**Leonard**	**2.45**	**102**	Pn	Pn	14 51 40.4	**-0.1**
TUL3				IAmb_Lg		14 52 16.4	
	comp=Z,66nm,0.8s						
WTFS	**Witchita Falls**	**2.71**	**175**	Pn	Pn	14 51 45.0	**+1.0**
LOOK	**Love County**	**2.78**	**152**	Pn	Pn	14 51 45.7	**+0.7**
LOOK				IAmb_Lg		14 52 30.3	
	comp=Z,119nm,0.7s						
AMTX	**Amarillo**	**2.87**	**237**		Pn	14 51 47.8	**+1.5**
KSU1	**Kansas State U**	**3.12**	**32**		Pn	14 51 50.0	**+0.4**
RTBA	**Rita Blanca**	**3.23**	**271**		Pn	14 51 51.9	**+0.6**
APMT	**Aspermont**	**3.34**	**200**		Pn	14 51 53.5	**+0.8**
U38A	**Gravette**	**3.51**	**89**	IAmb_Lg		14 52 59.2	
	comp=Z,99nm,0.9s						
FW06	**Azle**	**3.62**	**164**	Pn	Pn	14 51 56.2	**-0.4**
SN07	**Snyder 07**	**3.81**	**208**	IAmb_Lg		14 53 03.7	
	comp=Z,73nm,1.0s						
HHAR	**Hobbs**	**3.88**	**91**	IAmb_Lg		14 53 05.0	
	comp=Z,48nm,0.8s						
KSCO	**Kaye Shedlock'**	**3.99**	**311**	IAmb_Lg		14 53 16.7	
	comp=Z,76nm,0.7s						
POST	**Post**	**4.09**	**215**	IAmb_Lg		14 53 16.0	
	comp=Z,56nm,1.2s						
MSTX	**Muleshoe**	**4.14**	**234**	IAmb_Lg		14 53 17.7	
	comp=Z,64nm,0.8s						
TREL	**Terrell**	**4.32**	**149**	IAmb_Lg		14 53 22.2	
	comp=Z,78nm,0.8s						
Z38A	**Mt. Pleasant**	**4.45**	**135**	IAmb_Lg		14 53 23.4	
	comp=Z,65nm,0.8s						
T25A	**Trinidad**	**4.60**	**280**		Pn	14 52 11.0	**+0.8**
T25A				IAmb_Lg		14 53 24.6	
	comp=Z,35nm,0.8s						
MIAR	**Mount Ida**	**4.63**	**113**		Pn	14 52 10.7	**+0.3**
MIAR				IAmb_Lg		14 53 39.2	
	comp=Z,48nm,1.1s						
BGNE	**Belgrade**	**4.95**	**5**		Pn	14 52 14.6	**-0.2**
BGNE				IAmb_Lg		14 53 44.7	
	comp=Z,74nm,0.8s						
SGCY	**Sterling City**	**4.96**	**204**	IAmb_Lg		14 53 41.9	
	comp=Z,44nm,0.8s						
237A	**Washetta, Mont**	**5.07**	**151**	IAmb_Lg		14 53 49.2	
	comp=Z,43nm,0.8s						
OGNE	**Ogallala**	**5.16**	**331**	IAmb_Lg		14 53 55.0	
	comp=Z,53nm,0.8s						
BRDY	**Brady**	**5.17**	**182**	IAmb_Lg		14 53 49.1	
	comp=Z,28nm,1.0s						
P38A	**Dawn**	**5.18**	**51**	IAmb_Lg		14 53 51.7	
	comp=Z,43nm,0.9s						
X40A	**Basin Creek Fa**	**5.21**	**111**	IAmb_Lg		14 53 49.5	
	comp=Z,47nm,1.0s						
MGMO	**Mountain Grove**	**5.24**	**81**		Pn	14 52 18.8	**0.0**
WHAR	**Wooly Hollow**	**5.37**	**101**	IAmb_Lg		14 54 01.5	
	comp=Z,41nm,0.8s						
R40A	**Maddies Statio**	**5.46**	**69**		Pn	14 52 21.6	**-0.2**
R40A				IAmb_Lg		14 53 54.0	
	comp=Z,63nm,0.7s						
UALR	**University of**	**5.48**	**106**	IAmb_Lg		14 54 04.0	
	comp=Z,31nm,0.7s						
SDCO	**Great Sand Dun**	**5.55**	**285**		Pn	14 52 24.9	**+1.5**
Q24A	**Divide**	**5.66**	**298**	IAmb_Lg		14 54 06.9	
	comp=Z,27nm,0.9s						
435B	**Jarrell**	**5.75**	**170**	IAmb_Lg		14 54 18.6	
	comp=Z,62nm,1.0s						
NATX	**Nacogdoches**	**5.79**	**143**	IAmb_Lg		14 54 16.2	
	comp=Z,53nm,0.9s						
OZNA	**Ozona**	**5.88**	**200**	IAmb_Lg		14 54 18.3	
	comp=Z,45nm,1.0s						
JCT	**Junction City**	**6.04**	**189**	IAmb_Lg		14 54 14.6	
	comp=Z,31nm,0.7s						
LCAR	**Lake Charles**	**6.14**	**91**	IAmb_Lg		14 54 19.7	
	comp=Z,25nm,0.8s						
FVM	**French Village**	**6.80**	**75**	IAmb_Lg		14 54 39.1	
	comp=Z,46nm,0.8s						
SCIA	**State Center**	**6.92**	**37**	IAmb_Lg		14 54 46.3	
	comp=Z,60nm,0.8s						
SLM	**Saint Louis**	**7.09**	**70**	IAmb_Lg		14 54 51.1	
	comp=Z,41nm,0.8s						
Y22A	**Socorro**	**7.19**	**252**	IAmb_Lg		14 55 02.2	
	comp=Z,26nm,0.9s						
MNTX	**Cornudas Mount**	**7.28**	**231**	IAmb_Lg		14 54 59.8	
	comp=Z,24nm,0.9s						
CGM3	**Cape Girardeau**	**7.32**	**81**	IAmb_Lg		14 54 58.5	
	comp=Z,28nm,0.9s						
OXF	**Oxford**	**7.86**	**102**	IAmb_Lg		14 55 16.6	
	comp=Z,20nm,0.7s						
EPT	**El Paso**	**7.96**	**236**	IAmb_Lg		14 55 24.2	
	comp=Z,17nm

comp=Z,0.4nm,0.4s,baz=158,slow=4.2,SNR=2.7
comp=Z,0.4nm,0.4s
VNDA Vanda 71.54 178 P **P** **15 12 37.5 -0.4**
comp=Z,0.3nm,0.6s,baz=347,slow=6.8,SNR=1.7
comp=Z,0.3nm,0.6s
MKAR Makanchi Array 82.14 319 P **P** **15 13 37.7 -0.5**
comp=Z,0.4nm,0.9s,baz=94,slow=5.2,SNR=3.8
comp=Z,0.4nm,0.9s
ILAR Eielson Array 82.82 22 P **P** **15 13 44.0 +2.7**
comp=Z,0.2nm,0.5s,baz=260,slow=5.7,SNR=2.6
comp=Z,0.2nm,0.5s
ZALV Zalesovo Beam 82.93 326 P **P** **15 13 42.5 +0.5**
comp=Z,0.6nm,0.6s,baz=120,slow=6.0,SNR=2.6
comp=Z,0.6nm,0.6s
QSPA South Pole Qui 83.91 180 P **P** **15 13 47.0 -0.2**
QSPA IAmb IAmb 15 14 08.5
comp=Z,1.9nm,0.9s
QSPA South Pole Qui 83.91 180 P **P** **15 13 49.2 +2.1**
comp=Z,0.8nm,0.5s,baz=4.5,slow=4.7,SNR=15
comp=Z,0.8nm,0.5s
KURBB Kurchatov Arra 85.60 322 P **P** **15 13 56.7 +1.0**
comp=Z,0.2nm,0.5s,baz=95,slow=5.3,SNR=4.2
comp=Z,0.2nm,0.5s
BVAR Borovoye Array 91.03 323 P **P** **15 14 20.3 -1.3**
comp=Z,0.6nm,0.7s,baz=131,slow=4.0,SNR=2.1
comp=Z,0.6nm,0.7s
TORD Torodi Ar. Bea 151.94 287 PKPbc **PKiKP** **15 21 13.6 0.0**
comp=Z,1.3nm,0.4s,baz=82,slow=2.0,SNR=11

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*IPEC **27** 15:03:40.3±0.1,50.13N×19.16E,h1km,ML2.5/6, Error ellipse: s-maj=1.7km s-min=0.8km az=2.0*
*VIE **27** 15:03:40.4±0.3,50.16N×19.17E,h0km,mb2.3/2,ml2.8/3, Error ellipse: s-maj=6.1km s-min=1.8km az=161.0 12 km SSE of Sosnowice Suspected Mining induced.*
*PRU **27** 15:03:41.1,50.15N×19.14E,h0km*
ISC 27 15:03:40.5±0.9,50.11N±0.05×19.15E±0.03,h0km,n21,σ0s94/35,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
OJC	**Ojcow**	**0.43**	**75**	*e*Pg	**Pg**		**15 03 48.4**	**-0.4**
OJC				*e*Sg	**Sg**		**15 03 54.3**	**0.0**
OKC	**Ostrava-Krasne**	**0.70**	**248**	*e*SG	**Sg**		**15 04 03.8**	**+0.8**
	53nm,0.6s							
STEB	**Steborice**	**0.91**	**259**	*e*PG	**Pg**		**15 03 57.6**	**-0.2**
STEB				*e*SG	**Sg**		**15 04 10.2**	**+0.6**
NIE	**Niedzica**	**1.02**	**132**	*e*Pg	**Pg**		**15 03 59.8**	**-0.1**
NIE				*e*Sg	**Sb**		**15 04 15.5**	**+0.6**
MORC	**Moravsky Berou**	**1.09**	**253**	*e*Pg	**Pb**		**15 04 01.8**	**-0.5**
	baz=71							
MORC				*e*Sg	**Sg**		**15 04 14.8**	**-0.7**
	61nm,0.4s,baz=71							
MAUC	**Maruska**	**1.14**	**230**	*e*PG	**Pg**		**15 04 02.2**	**-0.1**
ANAC	**Anensky vrch**	**1.14**	**269**	*e*Pg	**Pb**		**15 04 02.4**	**-0.7**
	baz=86							
ANAC				*e*Sg	**Sg**		**15 04 16.2**	**-0.9**
	53nm,0.4s,baz=86							
LOSC	**Losov**	**1.25**	**248**	*e*Pg	**Pg**		**15 04 04.2**	**-0.2**
	baz=66							
LOSC				*e*Sg	**Sg**		**15 04 20.0**	**-0.6**
	78nm,0.6s,baz=66							
KRLC	**Kraliky**	**1.53**	**270**	*e*SG	**Sb**		**15 04 29.1**	**-0.5**
	26nm,0.4s							
JAVC	**Velka Javorina**	**1.58**	**218**	*e*Pn	**Pn**		**15 04 09.6**	**-0.2**
	baz=37							
DPC	**Dobruska-Polom**	**1.83**	**279**	*e*PG	**Pb**		**15 04 14.4**	**-0.5**
DPC				*e*SG	**Sb**		**15 04 37.7**	**-0.7**
	23nm,0.5s							
VRAC	**Vranov**	**1.84**	**245**	*e*Pn	**Pn**		**15 04 13.2**	**-0.1**
	baz=63							
VRAC				*e*Sg	**Sb**		**15 04 38.2**	**-0.4**
	28nm,0.7s,baz=63							
VRAC	**Vranov**	**1.84**	**245**	*e*PN	**Pn**		**15 04 13.3**	**-0.1**
VRAC				*e*SG	**Sb**		**15 04 38.3**	**-0.4**
OSTC	**Ostas**	**1.93**	**284**	*e*SG	**Sg**		**15 04 42.2**	**-0.4**
KSP	**Ksiaz**	**1.97**	**293**	*e*Pg	**Pg**		**15 04 17.7**	**-0.5**
KSP				*e*Sg	**Sg**		**15 04 44.4**	**+0.8**
KRUC	**Moravsky**	**2.08**	**241**	*e*Pn	**Pn**		**15 04 16.4**	**-0.2**
	baz=58							
KRUC				*e*Sg	**Sb**		**15 04 45.8**	**+0.4**
	17nm,0.6s,baz=58							
PVCC	**Panska Ves**	**2.97**	**280**	*e*SG	**Sg**		**15 05 15.0**	**-0.7**
	24nm,0.4s							
RONA	**Rosalia, Austr**	**3.06**	**219**	*i* Pn	**Pn**		**15 04 30.9**	**+0.7**
	0.8nm,0.2s							
RONA				*i* Sn	**Sn**		**15 05 09.5**	**+2.1**
	3.4nm,0.5s							
CONA	**Conrad Observa**	**3.08**	**226**	*e*Pn	**Pn**		**15 04 29.7**	**-0.7**
	0.9nm,0.6s							
CONA				*e*Sn	**Sn**		**15 05 08.8**	**+1.0**
	6.7nm,0.7s							
BRG	**Berggiesshubel**	**3.41**	**285**	Pg	**Pg**		**15 04 48.9**	**+3.0**
BRG				Sg	**Sg**		**15 05 29.1**	**-0.9**
BRG				Amp			15 05 33.4	
	comp=Z,5.6nm,0.5s							
KHC	**Kasperske Hory**	**3.75**	**257**	*e*SG	**Sg**		**15 05 38.8**	**-2.2**

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*NEIC **27** 15:05:29.1±0.4,56.38N±0.07×159.8W±0.1,h158km±1km, Error ellipse: s-maj=11.0km s-min=7.5km az=143.0*
AEIC 27 15:05:30.3±0.6,56.34N±0.07×159.8W±0.1,h155km±3km, ML3.0,ML2.9/36(NEIC),Error ellipse: s-maj=10.7km s-min=8.1km az=142.0,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
VNFG	**Fog Glacier, M**	**0.14**	**113**		Pn		15 05 50.5	-0.6
VNFG					Sn		15 06 06.7	-0.3
VNFG	**Fog Glacier, M**	**0.14**	**113**	IAML			15 06 12.7	
	comp=E,162nm,0.7s							
VNNF	**Veniaminof 3**	**0.27**	**102**		Pn		15 05 50.9	-0.6
VNHG	**Veniaminof 1**	**0.36**	**109**		Pn		15 05 51.1	-0.6
VNSG	**Veniaminof 6**	**0.44**	**119**		Pn		15 05 51.4	-0.6
CHGN	**Chignik**	**0.76**	**92**		Pn		15 05 52.8	-0.8
CHGN	**Chignik**	**0.76**	**92**	IAML			15 06 10.6	
	comp=E,125nm,0.3s							
CHGN				IAML			15 06 11.0	
	comp=N,152nm,0.5s							
ANPK	**Aniakchak Peak**	**1.04**	**61**		Pn		15 05 54.9	-1.0
SDPT	**Sand Point**	**1.07**	**202**		Pn		15 05 55.5	-0.6
SDPT					Sn		15 06 14.8	-0.9
SDPT	**Sand Point**	**1.07**	**202**	IAML			15 06 16.1	
	comp=N,131nm,0.5s							
ANNE	**Aniakchak Nort**	**1.11**	**58**		Pn		15 05 55.6	-0.9
S12K	**Black Hills**	**1.43**	**244**		Pn		15 05 58.4	-1.1
S12K					Sn		15 06 20.3	-1.5
S12K	**Black Hills**	**1.43**	**244**	IAML			15 06 21.4	
	comp=N,68nm,0.6s							
PS1A	**Pavlof South-1**	**1.44**	**231**		Pn		15 05 58.6	-0.9
PS1A					Sn		15 06 21.2	-0.8
CNBA	**Chernabura Isl**	**1.53**	**176**		Pn		15 05 59.5	-0.9
CNBA					Sn		15 06 21.9	-1.6
CNBA	**Chernabura Isl**	**1.53**	**176**	IAML			15 06 23.7	
	comp=N,121nm,0.1s							
CNBA				IAML			15 06 23.7	
	comp=E,128nm,0.5s							
PS4A	**Pavlof South-4**	**1.54**	**230**		Pn		15 05 59.8	-0.8
PS4A					Sn		15 06 22.7	-1.1
HAG	**Hague Volcano**	**1.58**	**230**		Pn		15 05 60.0	-1.0
DOL	**Dolgoi Island**	**1.68**	**225**		Pn		15 06 00.9	-1.2
DOL					Sn		15 06 24.9	-1.6
DT1	**Dutton Round H**	**1.88**	**230**		Pn		15 06 03.3	-1.0
PLK4	**Peulik 4**	**2.28**	**54**	Pn	Pn		15 06 08.6	-0.4
PLK4				IAML			15 06 40.0	
	comp=N,31nm,0.8s							
PLK4				IAML			15 06 40.8	
	comp=E,57nm,0.9s							
ISNN	**Isanotski Nort**	**2.73**	**238**		Pn		15 06 14.0	-0.4
O15K	**Ungalikthiuk R**	**2.84**	**360**	Pn	Pn		15 06 12.7	-3.1
P16K	**Nushagak River**	**2.87**	**19**	Pn	Pn		15 06 14.4	-1.6
P16K				IAML			15 06 42.8	
	comp=N,31nm,1.2s							
P16K				IAML			15 07 19.4	
	comp=E,41nm,1.1s							
O14K	**Tigyukauivet M**	**3.03**	**345**	Pn	Pn		15 06 14.8	-3.3
O14K				IAML			15 06 53.2	
	comp=N,20nm,1.1s							
O16K	**Kokwok River B**	**3.38**	**15**	Pn	Pn		15 06 20.2	-2.4
OHAK	**Old Harbor**	**3.68**	**73**	IAML			15 07 07.7	
	comp=E,19nm,0.5s							
OHAK				IAML			15 07 09.9	
	comp=N,24nm,0.5s							
Q19K	**Cape Douglas,**	**4.20**	**49**	Pn	Pn		15 06 32.5	-0.6
N17K	**Nushagak Hills**	**4.42**	**17**	Pn	Pn		15 06 34.1	-1.8
SYI	**Shuyak Island**	**4.59**	**57**	IAML			15 07 30.0	
	comp=E,9.4nm,1.1s							
SYI				IAML			15 07 37.0	
	comp=N,8.5nm,1.0s							
UNV	**Unalaska Valle**	**4.60**	**240**	Pn	Pn		15 06 37.1	-1.3
UNV				IAML			15 09 31.4	
	comp=N,11nm,1.1s							
M17K	**Holitna River**	**5.22**	**12**	Pn	Pn		15 06 44.3	-2.2
M17K				IAML			15 07 43.9	
	comp=N,8.7nm,1.1s							
SPU	**Mount Spurr**	**6.30**	**36**	Pn	Pn		15 07 00.5	-0.4
STLK	**Strandline Lak**	**6.61**	**35**		Pn		15 07 04.6	-0.4
HMT	**Hamilton**	**9.09**	**57**		Pn		15 07 36.2	-1.7
DHY	**Denali Highway**	**9.20**	**38**		Pn		15 07 35.5	-4.1
BERG	**Berg Lake**	**9.37**	**58**		Pn		15 07 40.1	-1.5
M26K	**Nabesna, AK**	**10.48**	**48**		Pn		15 07 54.3	-2.0
BARN	**Barnard Glacie**	**10.53**	**56**		Pn		15 07 55.7	-1.4

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*IDC **27** 15:11:28.6±0.3,35.89S×102.83W,h0km,mb5.0/26, mbtmp5.0/27,ML5.3/1,MS5.2/36,Error ellipse: s-maj=13.1km s-min=11.8km az=87.0*
*NEIC **27** 15:11:29.9±2.2,35.92S±0.09×102.8W±0.1,h10km±1km, mb5.6/427,Ms_20 5.3/651,Mwb5.8/45,Mww5.9/25,Error ellipse: s-maj=17.3km s-min=14.6km az=226.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.37; $M_{\theta\theta}$-2.30; $M_{\phi\phi}$1.92; $M_{r\theta}$0.15; $M_{r\phi}$-6.07; $M_{\theta r}$-0.51; Fault plane solution: $M_0$6.46000×10^{17} NP1: ϕ_s189.69000°,δ87.54000°,λ4.45000°. NP2:ϕ_s99.50000°, δ85.56000°,λ177.54000°. Principal axes: T 6.2811, Plg5.0000°, Azm255.0000°; N 0.3360, Plg85.0000°, Azm219.0000°; P -6.6171, Plg1.0000°, Azm325.0000°;*
*NEIC **27** 15:11:29.8,35.86S×102.87W,h26km*
*NEIC **27** 15:11:29.8,35.86S×102.74W,h26km,Moment Tensor Solution. Duration: 4s3 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.04; $M_{\theta\theta}$-0.21; $M_{\phi\phi}$0.26; $M_{r\theta}$0.08; $M_{\theta\phi}$-1.01; $M_{\phi r}$0.15; Fault plane solution: $M_0$1.05000×10^{18} NP1: ϕ_s276.81000°,δ81.03000°,λ-176.00000°. NP2: ϕ_s186.19000°,δ86.05000°,λ-8.99000°. Principal axes: T 1.0638, Plg4.0000°, Azm232.0000°; N -0.0206, Plg80.0000°, Azm343.0000°; P -1.0432, Plg9.0000°, Azm141.0000°;*
*NEIC **27** 15:11:29.9,35.86S×102.85W,h10km*
*MOS **27** 15:11:30.7±1.4,35.46S×102.79W,h10km,mb5.6/19, MS5.2/8,Error ellipse: s-maj=13.0km s-min=10.7km az=82.0*
*BJI **27** 15:11:30.0,35.90S×102.90W,h10km,mB5.4/16, Ms5.6/45,Ms7 5.5/46*
*GCMT **27** 15:11:31.9±0.1,35.96S×103.00W,h17km,MW5.9/167, Moment Tensor Solution. s164,c349; s167,c560; Duration: 2s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.94±.06; $M_{\theta\theta}$-1.57±.06; $M_{\phi\phi}$2.51±.06; $M_{r\theta}$0.52±.15; $M_{\theta\phi}$-8.67±.06; $M_{\phi r}$-2.25±.16; Best double couple: $M_0$9.17700×10^{17} NP1:ϕ_s96.00000°,δ77.00000°, λ178.00000°. NP2:ϕ_s187.00000°,δ88.00000°,λ13.00000°. Principal axes: T 9.7850, Plg11.0000°, Azm252.0000°; N -1.2110, Plg77.0000°, Azm197.0000°; P -8.5690, Plg8.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*RSNC **27** 15:11:36.6±4.0,36.3S±49.1×10.1W±5.4,h10km,M5.4, mB5.8,mb5.4,Mw(mB)5.4,MwMwp5.5,Mwp5.6*
ISC 27 15:11:29.7±0.2,35.89S±0.06×102.92W±0.05,h12km, n874,σ1s78/436,mb5.5/232,MS5.3/362,39C-35D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RPN	**Rapa Nui**	**10.31**	**326**		**Pn**		**15 13 59.7**	**+2.2**
RPN	**Rapa Nui**	**10.31**	**326**	Pn	**Pn**		**15 13 59.3**	**+1.9**
	24nm,0.3s,baz=158,slow=6.7,SNR=29							
RPN				LR	LR		15 16 28.0	
	comp=Z,7μm,21.6s,baz=99,slow=29 519nm,0.7s							
RPN	**Rapa Nui**	**10.31**	**326**	P	**Pn**		**15 13 59.7**	**+2.2**
VA02	**Isla de Pascua**	**10.33**	**326**		**Pn**		**15 14 00.3**	**+2.6**
H03N2	**Juan Fernandez**	**19.87**	**90**	T	T		15 37 16.0	
	baz=247,slow=72,SNR=166							
H03N3	**Juan Fernandez**	**19.87**	**90**	T	T		15 37 16.2	
	baz=247,slow=72,SNR=150							
H03N1	**Juan Fernandez**	**19.89**	**90**	T	T		15 37 15.5	
	baz=247,slow=72,SNR=124							
LL03	**Petrohue**	**24.37**	**112**	P	**P**		**15 16 47.6**	**0.0**
LL03				IAmb	IAmb		15 17 07.1	
	comp=Z,158nm,0.9s							
LL02	**Futaleuf**	**24.94**	**116**		**P**		**15 16 52.0**	**-0.8**
LL02				IAmb	IAmb		15 17 08.0	
	comp=Z,146nm,1.2s							
COYC	**Coyhaique**	**25.15**	**122**		**P**		**15 16 55.6**	**+0.9**
COYC				IAmb	IAmb		15 17 06.8	
	comp=Z,227nm,1.3s							
AY03	**Cochrane**	**25.21**	**126**	P	**P**		**15 16 55.5**	**+0.3**
AY03				IAmb	IAmb		15 17 05.8	
	comp=Z,266nm,1.8s							
BI02	**San Fabin de**	**25.47**	**101**	P	**P**		**15 16 58.0**	**+0.3**
ML02	**Panimavida**	**25.49**	**99**	IAmb	IAmb		15 17 14.4	
	comp=Z,234nm,1.4s							
PLCA	**Paso Flores**	**25.77**	**111**	P	**P**		**15 17 01.1**	**+0.6**
	comp=Z,21nm,1.0s,baz=272,slow=8.9,SNR=12							
PLCA				LR	LR		15 24 33.4	
	comp=Z,2μm,20.2s,baz=261,slow=30 comp=Z,21nm,1.0s							
PLCA	**Paso Flores**	**25.77**	**111**	*e*P	**P**		**15 17 00.3**	**-0.1**
MT01	**Popeta**	**26.00**	**95**	P	**P**		**15 17 06.2**	**+3.7**
BO01	**Tunca**	**26.02**	**96**		**P**		**15 17 04.3**	**+1.7**
BO02	**Sierra Bellavi**	**26.18**	**97**	P	**P**		**15 17 04.1**	**-0.1**
MT09	**Talagante**	**26.23**	**95**	P	**P**		**15 17 06.6**	**+1.8**
VA06	**Catapilco**	**26.30**	**92**		**P**		**15 17 04.5**	**-0.7**
VA06				IAmb	IAmb		15 17 23.1	
	comp=Z,158nm,1.6s							
BO04	**La Punta**	**26.49**	**95**	P	**P**		**15 17 07.5**	**+0.5**
BO04				IAmb	IAmb		15 17 29.2	
	comp=Z,115nm,1.1s							
CO06	**Fray Jorge**	**26.60**	**88**	P	**P**		**15 17 06.8**	**-1.2**
CO06				IAmb	IAmb		15 17 23.4	
	comp=Z,160nm,1.6s							
PEL	**Peldehue**	**26.64**	**94**	P	**P**		**15 17 11.7**	**+3.4**
PEL				pmax	pmax			
	comp=Z,35nm,1.3s							
MG05	**Puerto Natales**	**26.78**	**136**	P	**P**		**15 17 09.8**	**+0.4**
MG05				IAmb	IAmb		15 17 17.1	
	comp=Z,139nm,1.4s							
MT13	**San Alfonso**	**26.81**	**95**	P	**P**		**15 17 09.7**	**-0.2**
LMEL	**Las Melosas**	**26.85**	**95**	P	**P**		**15 17 10.9**	**+0.5**
LMEL				IAmb	IAmb		15 17 49.6	
	comp=Z,116nm,1.1s							
MG04	**Isla Riesco**	**27.79**	**137**	IAmb	IAmb		15 17 33.5	
	comp=Z,163nm,1.2s							
LCO	**Las Campanas**	**27.95**	**85**		**P**		**15 17 18.3**	**-2.1**
LCO	**Las Campanas**	**27.95**	**85**	P	**P**		**15 17 18.3**	**-2.1**
LCO				pmax	pmax			
	comp=Z,76nm,1.3s							
AC04	**Llanos de Chal**	**27.97**	**83**		**P**		**15 17 18.9**	**-1.4**
ACDV	**Cuesta del Vie**	**28.81**	**88**	*e*P	**P**		**15 17 29.4**	**+1.5**
CFA	**Coronel Fontan**	**29.06**	**92**	P	**P**		**15 17 29.9**	**-0.1**
	comp=Z,5.5nm,1.1s,baz=256,slow=9.0,SNR=7.0							
CFA				LR	LR		15 26 22.9	
	comp=Z,2μm,21.4s,baz=266,slow=31 comp=Z,5.5nm,1.1s							
MG02	**Cerro Sombrero**	**29.07**	**136**	IAMs_20	IAMs_20		15 26 33.5	
	comp=Z,5μm,18.0s							
AC01	**Pan de Azucar**	**29.24**	**80**	P	**P**		**15 17 29.3**	**-2.3**
AGUA	**GUANDACOL**	**29.56**	**87**	*e*P	**P**		**15 17 35.0**	**+0.4**
AVFE	**Valle Fertil**	**30.00**	**90**	*e*P	**P**		**15 17 38.1**	**-0.2**
VCA	**Vinchina**	**30.08**	**86**	*e*P	**P**		**15 17 40.3**	**+1.1**
AC02	**Maricunga**	**30.11**	**82**		**P**		**15 17 39.0**	**-0.8**
AC02				IAmb	IAmb		15 17 52.9	
	comp=Z,170nm,1.9s							
PB14	**IPOC Station P**	**30.11**	**77**		**P**		**15 17 38.2**	**-1.5**
PB14				IAmb	IAmb		15 17 51.3	
	comp=Z,148nm,1.7s							
USHA	**Ushuaia**	**30.31**	**140**	LR	LR		15 26 48.4	
	comp=Z,11μm,21.2s,baz=284,slow=30							
GO02	**Mina Guanaco**	**30.50**	**79**	P	**P**		**15 17 42.4**	**-0.7**
RKT	**Rikitea**	**30.52**	**286**	*e*S	**S**		**15 22 39.4**	**-4.9**
	comp=Z,4μm,27.8s							
RKT				*e*LQ	LQ		15 24 15.5	
	comp=Z,107μm,31.8s							
PB10	**IPOC Station P**	**30.55**	**75**	P	**P**		**15 17 44.1**	**+0.9**
PB10				IAmb	IAmb		15 17 55.7	
	comp=Z,264nm,2.0s							
ACLC	**CERRO LA CRUZ**	**30.84**	**88**	*e*P	**P**		**15 17 48.0**	**+2.1**
APLL	**PUNTA DE LOS L**	**30.84**	**90**	*e*P	**P**		**15 17 44.9**	**-0.9**
AANI	**Anillaco**	**31.08**	**87**	*e*P	**P**		**15 17 49.7**	**+1.7**
PB06	**IPOC Station P**	**31.75**	**75**	IAmb	IAmb		15 18 02.5	
	comp=Z,56nm,0.9s							
PB03	**IPOC Station P**	**31.96**	**74**	IAmb	IAmb		15 18 04.7	
	comp=Z,110nm,1.1s							
PB02	**IPOC Station P**	**32.24**	**72**	IAmb	IAmb		15 18 06.8	
	comp=Z,67nm,1.0s							
PB02				IAMs_20	IAMs_20		15 27 06.1	
	comp=Z,7μm,22.0s							
TA01	**Diego Aracena**	**32.45**	**71**	IAmb	IAmb		15 18 06.6	
	comp=Z,102nm,1.2s							
HMBC	**Humberstone**	**32.84**	**71**	IAMs_20	IAMs_20		15 27 21.0	
	comp=Z,5μm,22.0s							
FSA	**Cafayete**	**32.96**	**83**	*e*P	**P**		**15 18 04.2**	**-0.5**
PB11	**IPOC Station P**	**33.32**	**70**	IAmb	IAmb		15 18 11.6	
	comp=Z,97nm,1.1s							
PB11				IAMs_20	IAMs_20		15 27 34.7	
	comp=Z,6μm,22.0s							
NNA	**Nana**	**33.48**	**51**	LR	LR		15 28 18.1	
	comp=Z,10μm,19.3s,baz=230,slow=30							
NNA	**Nana**	**33.48**	**51**	*c i*P	**P**		**15 18 06.8**	**-2.2**
NNA				pmax	pmax			
	comp=Z,82nm,1.1s							
PB08	**IPOC Station P**	**33.48**	**71**	P	**P**		**15 18 09.0**	**-0.5**
PB08				IAmb	IAmb		15 18 18.7	
	comp=Z,86nm,1.2s							
GO01	**Chusmiza**	**33.72**	**70**	P	**P**		**15 18 10.8**	**-0.8**
PB16	**IPOC Station P**	**34.28**	**68**	IAmb	IAmb		15 18 28.9	
	comp=Z,141nm,1.8s							
PB16				IAMs_20	IAMs_20		15 28 04.2	
	comp=Z,6μm,22.0s							
EFI	**East Falkland**	**35.40**	**131**		**P**		**15 18 25.5**	**+0.3**
EFI				IAmb	IAmb		15 18 32.0	
	comp=Z,194nm,1.5s							
EFI	**East Falkland**	**35.40**	**131**	IAMs_20	IAMs_20		15 29 51.4	
	comp=Z,7μm,21.0s							
EFI	**East Falkland**	**35.40**	**131**	P	**P**		**15 18 25.5**	**+0.3**
EFI				pmax	pmax			
	comp=Z,194nm,1.5s							
ATAH	**Atahualpa**	**36.38**	**44**	LR	LR		15 29 46.4	
	comp=Z,5μm,21.0s,baz=236,slow=30							
LPAZ	**La Paz**	**36.57**	**67**	IAmb	IAmb		15 18 43.6	
	comp=Z,143nm,1.5s							
LPAZ	**La Paz**	**36.57**	**67**	P	**P**		**15 18 36.5**	**+0.2**
	comp=Z,48nm,1.1s,baz=230,slow=5.7,SNR=51							
LPAZ				LR	LR		15 30 59.3	
	comp=Z,1μm,19.1s,baz=241,slow=32 comp=Z,48nm,1.1s							
LPAZ	**La Paz**	**36.57**	**67**	*e*P	**P**		**15 18 32.2**	**-4.1**
PMSA	**Palmer Station**	**37.03**	**153**	LR	LR		15 29 35.1	
	comp=Z,8μm,21.8s,baz=306,slow=29							
PSAL	**Palomas, Salto**	**37.83**	**96**	*e*P	**P**		**15 18 46.1**	**-0.1**
MCRA	**Macar, Loja**	**37.84**	**39**	P	**P**		**15 18 45.0**	**-1.5**
	comp=Z,751nmcomp=Z,28nm,1.4s							
CZSB	**Cruzeiro do Su**	**39.34**	**52**	*e*P	**P**		**15 18 55.5**	**-3.6**
COHC	**Cochancay**	**39.83**	**39**	P	**P**		**15 19 02.1**	**-0.9**
COHC	**Cochancay**	**39.83**	**39**	P	**P**		**15 19 02.2**	**-0.9**
	comp=Z,1μmcomp=Z,83nm,1.3s							
CPUP	**Villa Florida**	**39.87**	**89**	P	**P**		**15 19 03.4**	**-0.1**
	comp=Z,3.8nm,1.1s,baz=192,slow=12,SNR=7.0							
CPUP				LR	LR		15 32 44.0	
	comp=Z,506nm,20.5s,baz=105,slow=32 comp=Z,3.8nm,1.1s							
CPUP	**Villa Florida**	**39.87**	**89**	*e*P	**P**		**15 19 02.3**	**-1.1**
PLTB	**Pedras Altas**	**40.83**	**99**		**P**		**15 19 06.8**	**-4.5**
PLTB	**Pedras Altas**	**40.83**	**99**	*e*P	**P**		**15 19 10.6**	**-0.7**
CPSB	**Cacapava Do Su**	**41.43**	**97**	*e*P	**P**		**15 19 15.9**	**-0.4**
SJPY	**San Joaquin**	**41.45**	**88**	*e*P	**P**		**15 19 15.5**	**-1.0**
PIAT	**Ana Tenorio**	**41.59**	**39**	P	**P**		**15 19 18.5**	**+0.4**
	comp=Z,1μmcomp=Z,62nm,1.2s							
TBI	**Tubuai**	**41.99**	**274**	*e*S	**S**		**15 25 37.6**	**-1.9**
	comp=Z,2μm,23.5s							
TBI				*e*SS	**SS**		**15 28 46.0**	**-0.4**
	comp=Z,103μm,33.8s							
TBI				*e*LR	LR		15 30 48.7	
	comp=Z,21μm,23.2s							
TBI				*e*LR	LR		15 30 50.2	
	comp=Z,5μm,22.2s							
CUSE	**Cuicocha Este**	**42.64**	**38**	P	**P**		**15 19 27.0**	**+0.3**
	comp=Z,60nm,1.1s							
BDQN	**Bodoquena, MS**	**43.11**	**82**	*e*P	**P**		**15 19 29.1**	**-0.9**
BONI	**La Bonita**	**43.20**	**39**	P	**P**		**15 19 31.0**	**-0.1**
	comp=Z,914nmcomp=Z,60nm,1.3s							
TAOE	**Nuku Hiva Isla**	**43.27**	**299**	*e*S	**S**		**15 25 53.0**	**-5.7**
	comp=Z,3μm,25.0s							
TAOE				*e*LQ	LQ		15 29 35.7	
	comp=Z,11μm,25.7s							
TAOE				*e*LR	LR		15 31 30.2	
	comp=Z,8μm,26.6s							
AMBA	**Amambai (Brazi**	**43.30**	**86**	*e*P	**P**		**15 19 31.2**	**-0.4**
ITAB	**Concordia**	**43.72**	**93**		**P**		**15 19 36.6**	**+1.8**
ITAB				IAmb	IAmb		15 19 55.1	
	comp=Z,146nm,1.4s							
ITAB	**Concordia**	**43.72**	**93**	*e*P	**P**		**15 19 36.6**	**+1.8**
CNLB	**Canela**	**43.92**	**97**	*e*P	**P**		**15 19 37.2**	**+0.6**
AQDB	**Aquidauana**	**43.94**	**83**		**P**		**15 19 35.4**	**-1.4**
AQDB	**Aquidauana**	**43.94**	**83**	*e*P	**P**		**15 19 35.9**

comp=Z,71nm,1.3s
JTS Las Juntas de 48.96 24 LR LR 15 35 46.2
comp=Z,4µm,21.1s,baz=194,slow=30
JTS Las Juntas de 48.96 24 P **P 15 20 15.7 -0.5**
JTS pmax pmax
comp=Z,71nm,1.3s
RGM0 Gandoca 49.13 27 IAMs_20 IAMs_20 15 35 55.9
comp=Z,4µm,19.0s
CLDB Colider 49.30 72 *e*P **P 15 20 17.3 -1.5**
BB19B Bebedouro 49.45 88 *e*P **P 15 20 20.4 +0.4**
DBBC Dabeiba 49.52 36 P **P 15 20 21.2 +0.7**
ARAG Araguaiana, MT 49.60 80 *e*P **P 15 20 20.3 -0.8**
VAO Valinhos 49.78 91 IAMs_20 IAMs_20 15 38 48.7
comp=Z,3µm,21.0s
VAO Valinhos 49.78 91 *e*P **P 15 20 23.4 +0.9**
PTBC PUERTO BERRIO, 49.97 38 P **P 15 20 23.7 -0.1**
comp=Z,268nmcomp=Z,32nm,1.0s
APAC Apartado, Choc 50.12 35 P **P 15 20 29.4 +4.4**
RUSC La Rusia 50.12 40 P **P 15 20 23.5 -2.0**
RUSC IAMs_20 IAMs_20 15 37 38.5
comp=Z,5µm,22.0s
ACON Acoyapa 50.47 23 IAMs_20 IAMs_20 15 36 43.5
comp=Z,4µm,21.0s
HERN Volcan Telica 50.58 20 IAMs_20 IAMs_20 15 36 26.4
comp=Z,3µm,19.0s
CRIN San Cristobal 50.60 20 IAMs_20 IAMs_20 15 36 25.2
comp=Z,3µm,18.0s
BELA Belgrano 2 50.66 165 **P 15 20 26.4 -1.9**
BELA IAMs_20 IAMs_20 15 38 13.7
comp=Z,3µm,20.0s
MACA Manacapuru-AM 50.78 60 P **P 15 20 27.9 -2.2**
MACA IAmb IAmb 15 20 40.1
comp=Z,60nm,0.9s
MACA Manacapuru-AM 50.78 60 *e*P **P 15 20 28.4 -1.6**
RTAL Retalhuleu 51.25 14 IAMs_20 IAMs_20 15 36 29.9
comp=Z,5µm,21.0s
IPMB Ipameri, GO 51.27 85 *e*P **P 15 20 33.6 -0.2**
RAR Rarotonga 51.38 270 P **P 15 20 36.8 +2.4**
comp=Z,18nm,0.7s,baz=151,slow=10,SNR=4.3
RAR LR LR 15 37 37.3
comp=Z,952nm,19.4s,baz=129,slow=30
comp=Z,18nm,0.7s
TGUH Tegucigalpa,Un 51.84 19 IAMs_20 IAMs_20 15 37 03.7
comp=Z,2µm,19.0s
NPGB Novo Progresso 52.05 68 *e*P **P 15 20 37.9 -1.7**
SNDB Serra Nova Dou 52.15 76 *e*P **P 15 20 39.3 -1.1**
SIUN Universidad Ur 52.24 23 IAMs_20 IAMs_20 15 38 05.4
comp=Z,3µm,19.0s
PMNB Patos De Minas 52.42 86 *e*P **P 15 20 42.4 0.0**
SJCC San Jacinto, C 52.52 35 P **P 15 20 43.2 +0.2**
comp=Z,3µmcomp=Z,100nm,1.2s
BSCB Bom Sucesso 52.53 90 *e*P **P 15 20 44.0 +0.8**
BDFB Brasilia 52.69 82 P **P 15 20 45.0 +0.6**
BDFB Brasilia 52.69 82 P **P 15 20 43.9 -0.5**
comp=Z,24nm,1.0s,baz=260,slow=5.2,SNR=10
BDFB LR LR 15 42 01.6
comp=Z,972nm,18.5s,baz=238,slow=35
comp=Z,24nm,1.0s
BDFB Brasilia 52.69 82 P **P 15 20 45.0 +0.6**
BDFB pmax pmax
comp=Z,49nm,1.4s
VAS01 Vassouras-RJ 52.98 92 *e*P **P 15 20 48.5 +2.0**
BILN Bilwi Airport 53.00 24 IAMs_20 IAMs_20 15 37 41.5
comp=Z,3µm,22.0s
PRVC Isla de Provid 53.07 27 IAMs_20 IAMs_20 15 38 21.4
comp=Z,2µm,18.0s
CMIG Matias Romero 53.24 10 P **P 15 20 50.5 +2.3**
comp=Z,6.7nm,0.9s,baz=197,slow=6.4,SNR=13
CMIG LR LR 15 37 49.6
comp=Z,3µm,19.0s,baz=182,slow=30
comp=Z,6.7nm,0.9s
TLIG Tlapa 53.32 5 IAmb IAmb 15 21 03.4
comp=Z,100nm,1.2s
ITTB Itaituba 53.53 65 *e*P **P 15 20 48.7 -1.7**
SDV Santo Domingo 53.93 41 **P 15 20 51.2 -2.4**
SDV IAMs_20 IAMs_20 15 39 37.4
comp=Z,3µm,21.0s
SDV Santo Domingo 53.93 41 LR LR 15 39 59.3
comp=Z,3µm,21.4s,baz=222,slow=32
SDV Santo Domingo 53.93 41 *e*P **P 15 20 52.6 -1.0**
SDV Santo Domingo 53.93 41 P **P 15 20 53.0 -0.6**
DUB01 Friburgo-RJ 53.95 93 *e*P **P 15 20 55.4 +1.8**
SMRC Santa Marta, M 54.08 36 IAMs_20 IAMs_20 15 40 28.4
comp=Z,4µm,21.0s
QSPA South Pole Qui 54.32 180 P **P 15 20 57.4 +1.6**
QSPA South Pole Qui 54.32 180 IAMs_20 IAMs_20 15 38 25.1
comp=Z,3µm,22.0s
QSPA South Pole Qui 54.32 180 P **P 15 20 57.9 +2.1**
comp=Z,34nm,0.9s,baz=126,slow=4.8,SNR=44
QSPA LR LR 15 38 57.1
comp=Z,2µm,21.5s,baz=114,slow=30
QSPA PKPPKP P'P'df 15 51 10.2 -8.0
comp=Z,3.0nm,1.0s,baz=242,slow=3.1,SNR=5.3
comp=Z,34nm,0.9s
CAM01 Campos-RJ 54.65 93 *e*P **P 15 21 01.2 +2.5**
DIAM Diamantina, MG 54.79 88 *e*P **P 15 21 01.4 +1.5**
BOAV Boa Vista 54.91 55 P P 15 20 55.0 -5.5
BOAV Boa Vista 54.91 55 *e*P P 15 20 55.0 -5.6
SBA Scott Base 55.29 195 P **P 15 21 01.8 -0.7**
SBA IAmb IAmb 15 21 21.1
comp=Z,64nm,1.2s
SBA Scott Base 55.29 195 IAMs_20 IAMs_20 15 38 53.9
comp=Z,3µm,20.0s
SBA Scott Base 55.29 195 P **P 15 21 01.8 -0.7**
SBA pmax pmax
comp=Z,64nm,1.3s
BAUV El Baul 55.39 43 P **P 15 21 00.2 -3.7**
BAUV IAmb IAmb 15 21 28.0
comp=Z,55nm,0.8s
JANB Januaria 55.99 84 *e*P **P 15 21 08.9 +0.5**
MAL2 Monte Alegre, 56.25 65 IAMs_20 IAMs_20 15 41 49.9
comp=Z,4µm,22.0s
VNDA Vanda 56.39 195 P **P 15 21 09.5 -0.8**
VNDA IAmb IAmb 15 21 33.7
comp=Z,56nm,1.4s
VNDA Vanda 56.39 195 P **P 15 21 11.4 +1.1**
comp=Z,4.6nm,1.0s,baz=99,slow=4.1,SNR=9.4
VNDA LR LR 15 39 48.6
comp=Z,3µm,21.5s,baz=97,slow=30
VNDA PKPPKP **P'P'df 15 51 07.9 -6.6**
comp=Z,1.0nm,1.0s,baz=226,slow=3.5,SNR=3.7
comp=Z,4.6nm,1.0s
VNDA Vanda 56.39 195 P **P 15 21 09.5 -0.8**
VNDA pmax pmax
comp=Z,56nm,1.4s
SJMB Sao Joao De Ma 56.60 90 *e*P **P 15 21 15.2 +2.5**
PRPB Parauapebas 56.83 72 *e*P **P 15 21 13.4 -1.0**
SMTB Santa Maria do 56.92 76 *e*P **P 15 21 14.9 -0.1**
RIB01 Linhares ES 56.93 91 *e*P **P 15 21 16.4 +1.4**
SDBA SAO DESIDERIO 56.99 81 *e*P **P 15 21 15.5 0.0**
VNA3 Neumayer Olymp 57.49 157 ⇑P **P 15 21 17.2 -1.1**
comp=Z,35nm,0.6s
TEIG Tepich 57.51 16 IAMs_20 IAMs_20 15 40 17.9
comp=Z,2µm,20.0s
VNA1 Neumayer--Stat 58.11 157 ⇑P **P 15 21 22.2 -0.3**
comp=Z,40nm,0.9s
VNA2 Neumayer--Watz 58.30 157 ⇑P **P 15 21 23.4 -0.5**
comp=Z,42nm,0.8s,baz=235,slow=8.1
PCRV Puerto La Cruz 58.33 46 LR LR 15 44 10.0
comp=Z,4µm,20.6s,slow=34
ZAIG Zacatecas 58.34 0 P **P 15 21 26.1 +1.0**
GUA01 Guaratinga, BA 58.82 88 *e*P **P 15 21 29.6 +1.3**
SNAA Sanae 59.42 159 ⇑P **P 15 21 30.8 -0.9**
comp=Z,338nm,1.0s
SNAA Sanae 59.42 159 P **P 15 21 29.9 -1.9**
SNAA IAmb IAmb 15 21 38.8
comp=Z,46nm,1.2s
SNAA IAMs_20 IAMs_20 15 42 21.3
comp=Z,3µm,21.0s
SNAA Sanae 59.42 159 P **P 15 21 30.7 -1.1**
comp=Z,12nm,1.0s,baz=254,slow=7.3,SNR=29
SNAA LR LR 15 42 32.0
comp=Z,3µm,21.3s,baz=256,slow=31
SNAA PKPPKP **P'P'df 15 51 03.3 -6.4**
comp=Z,4.0nm,1.2s,baz=175,slow=3.6,SNR=4.1
comp=Z,12nm,1.0s
SNAA Sanae 59.42 159 P **P 15 21 29.9 -1.9**
SNAA pmax pmax
comp=Z,46nm,1.2s
CMC01 Camacan, BA 59.71 87 *e*P **P 15 21 35.9 +1.5**
LPIG La Paz 60.08 352 P **P 15 21 36.8 +0.2**
comp=Z,40nm,0.7s,baz=107,slow=8.3,SNR=4.4
comp=Z,40nm,0.7s
TMAB Tom-Au,PA,Br 60.57 70 *e*P **P 15 21 41.9 +1.5**
TROLL Troll, Antarti 60.82 160 ⇑P **P 15 21 40.2 -1.2**
comp=Z,994nm,0.6s

GTBY Guantanamo Bay 61.45 30 IAMs_20 IAMs_20 15 42 15.8
comp=Z,2µm,21.0s
GRGR Grenville 61.64 47 IAMs_20 IAMs_20 15 45 57.7
comp=Z,3µm,21.0s
URZ Urewera 61.89 242 P **P 15 21 49.8 +0.8**
comp=Z,38nm,1.0s,baz=16,slow=4.1,SNR=7.1
URZ LR LR 15 41 52.7
comp=Z,5µm,21.9s,baz=110,slow=29
comp=Z,38nm,1.0s
NMDO Nuevo Mundo 62.06 30 IAMs_20 IAMs_20 15 42 34.3
comp=Z,4µm,21.0s
CAMR Camarioca 62.08 23 IAMs_20 IAMs_20 15 42 22.5
comp=Z,7µm,22.0s
MDP Montagnes des 62.27 60 LR LR 15 45 38.4
comp=Z,2µm,21.7s,baz=234,slow=33
KHZ Kahutara 62.62 236 IAMs_20 IAMs_20 15 41 38.7
comp=Z,3µm,22.0s
BSWZ Blackbirch Sta 62.69 237 P **P 15 21 54.2 -0.2**
GVZ Greta Valley S 62.73 235 IAMs_20 IAMs_20 15 42 38.5
comp=Z,3µm,20.0s
OXZ Oxford 63.24 235 IAMs_20 IAMs_20 15 42 55.0
comp=Z,3µm,20.0s
KVTX Kingsville 63.28 5 IAMs_20 IAMs_20 15 45 14.0
comp=Z,2µm,18.0s
ROSB Rosrio 63.29 73 *e*P **P 15 22 00.9 +2.2**
CRPR Cabo Rojo, PR 63.43 38 P **P 15 21 58.9 -0.5**
SRIG Santa Rosalia 63.49 351 P **P 15 21 58.9 -0.7**
SRIG IAMs_20 IAMs_20 15 43 05.9
comp=Z,2µm,20.0s
BBGH Gun Hill 63.69 48 IAMs_20 IAMs_20 15 53 43.0
comp=Z,3µm,19.0s
RPZ Rata Peaks 63.72 234 LR LR 15 42 52.9
comp=Z,5µm,21.0s,baz=91,slow=30
833A Chaparral WMA, 63.96 3 P **P 15 22 02.0 -0.7**
QRZ Quartz Range 63.99 237 P **P 15 21 59.9 -3.1**
PDPR Patillas Dam, 63.99 39 **P 15 21 59.8 -3.3**
FDF Fort de France 63.99 46 IAMs_20 IAMs_20 15 48 42.2
comp=Z,2µm,19.0s
SJG San Juan 64.01 39 P **P 15 22 00.7 -2.5**
SJG San Juan 64.01 39 LR LR 15 46 58.1
comp=Z,1µm,21.6s,baz=208,slow=33
SJG San Juan 64.01 39 P **P 15 22 00.7 -2.5**
SJG pmax pmax
comp=Z,85nm,1.2s
DSZ Denniston Nort 64.08 236 IAMs_20 IAMs_20 15 42 13.1
comp=Z,3µm,21.0s
HUMP Col San Antoni 64.19 40 P **P 15 22 00.9 -3.5**
061Z Ochoppi 64.85 22 IAMs_20 IAMs_20 15 43 52.9
comp=Z,2µm,21.0s
TXAR Lajitas Array 64.88 359 P **P 15 22 08.7 -0.2**
TXAR Lajitas Array 64.88 359 P **P 15 22 08.9 +0.1**
comp=Z,15nm,0.8s,baz=184,slow=8.5,SNR=43
TXAR LR LR 15 45 25.7
comp=Z,855nm,18.6s,baz=171,slow=31
TXAR PKP2ab 15 51 05.2
comp=Z,0.6nm,0.8s,baz=158,slow=1.3,SNR=4.8
comp=Z,15nm,0.8s
TXAR Lajitas Array 64.88 359 P **P 15 22 09.0 +0.1**
TX31 Lajitas Ar. Si 64.88 359 P **P 15 22 08.7 -0.2**
TX31 IAmb IAmb 15 22 23.3
comp=Z,40nm,1.0s
MAGL Barre de l'ile 64.89 45 IAMs_20 IAMs_20 15 49 43.7
comp=Z,2µm,18.0s
SABA Saba 65.14 42 IAMs_20 IAMs_20 15 46 52.4
comp=Z,3µm,22.0s
HNDO Hondo 65.16 3 P **P 15 22 10.9 +0.3**
SEUS St. Eustatius 65.18 42 IAMs_20 IAMs_20 15 47 05.5
comp=Z,2µm,21.0s
ABD La Joyeuse, An 65.19 44 IAMs_20 IAMs_20 15 46 34.7
comp=Z,2µm,21.0s
NBAN Anadia - AL 65.49 84 *e*P **P 15 22 14.5 +1.3**
SAND Sanderson 65.50 1 IAmb IAmb 15 22 23.6
comp=Z,85nm,1.6s
SMRT St. Maarten 65.58 42 IAMs_20 IAMs_20 15 47 06.2
comp=Z,2µm,21.0s
HKT Hockley 65.83 7⇑ *e*P **P 15 22 15.8 +1.0**
HKT pmax pmax
comp=Z,90nm,1.9s
VHRN Van Horn 66.36 358 IAmb IAmb 15 22 29.6
comp=Z,46nm,1.4s
OZNA Ozona 66.48 2 IAmb IAmb 15 22 30.5
comp=Z,82nm,1.4s
DWPF Disney Wildern 66.81 21 IAMs_20 IAMs_20 15 47 12.8
comp=Z,2µm,19.0s
PECS Pecos 66.92 359 IAmb IAmb 15 22 33.1
comp=Z,51nm,1.1s
BRDY Brady 66.93 4 IAmb IAmb 15 22 29.4
comp=Z,27nm,1.0s
PIX Pinacate 67.82 350 IAmb IAmb 15 22 47.0
comp=Z,32nm,1.0s
PIX IAMs_20 IAMs_20 15 45 17.9
comp=Z,1µm,19.0s
214A Organ Pipe Nat 68.13 351 IAmb IAmb 15 22 43.7
comp=Z,56nm,1.2s
121A Cookes Peak, D 68.22 356 IAmb IAmb 15 22 43.7
comp=Z,55nm,1.3s
TUC Tucson 68.25 353 **P 15 22 30.7 +0.4**
TUC IAmb IAmb 15 22 44.6
comp=Z,50nm,0.9s
TUC Tucson 68.25 353 P **P 15 22 30.7 +0.4**
TUC pmax pmax
comp=Z,50nm,1.0s
BRAL Brewton 68.35 15 IAMs_20 IAMs_20 15 47 18.8
comp=Z,3µm,22.0s
ESJX Sierra Juarez 68.64 348 IAmb IAmb 15 22 47.1
comp=Z,36nm,1.2s
YUH Yuha Desert 69.26 348 IAmb IAmb 15 22 50.9
comp=Z,32nm,1.0s
250A Grady 69.30 15 IAMs_20 IAMs_20 15 47 34.8
comp=Z,2µm,21.0s
TJX Tijuana 69.32 347 IAMs_20 IAMs_20 15 44 32.6
comp=Z,2µm,20.0s
BAR Barrett 69.42 348 IAmb IAmb 15 22 51.8
comp=Z,44nm,1.1s
GLA Glamis 69.49 349 IAmb IAmb 15 22 42.7
comp=Z,26nm,0.8s
Y22A Socorro 69.57 356 IAmb IAmb 15 22 52.8
comp=Z,28nm,0.9s
DPP Dos Picos Cty 69.78 347 IAmb IAmb 15 22 49.1
comp=Z,49nm,1.0s
BORC Borrego Spring 69.95 348 IAmb IAmb 15 22 55.1
comp=Z,50nm,1.2s
Y14A Wickenburg 70.11 351 IAmb IAmb 15 22 56.1
comp=Z,43nm,0.9s
Z47A Carrollton 70.12 13 IAMs_20 IAMs_20 15 49 45.1
comp=Z,2µm,21.0s
BLYC Blyhe 70.13 350 IAmb IAmb 15 22 53.9
comp=Z,49nm,1.1s
LRAL Lakeview Retre 70.17 14 IAmb IAmb 15 22 50.8
comp=Z,32nm,0.9s
LRAL IAMs_20 IAMs_20 15 48 05.5
comp=Z,3µm,22.0s
BC3 Big Chuckawall 70.17 349 IAmb IAmb 15 22 56.6
comp=Z,37nm,1.1s
DNR Dunn Ranch,Anz 70.28 348 IAmb IAmb 15 23 00.7
comp=Z,27nm,1.1s
PFO Pinyon Flats O 70.30 348 P **P 15 22 43.0 -0.1**
PFO Pinyon Flats O 70.30 348 P **P 15 22 44.0 +1.0**
comp=Z,7.9nm,0.8s,baz=164,slow=8.4,SNR=10
PFO LR LR 15 46 07.8
comp=Z,1µm,21.7s,baz=167,slow=30
comp=Z,7.9nm,0.8s
PFO Pinyon Flats O 70.30 348⇑ *e*P **P 15 22 44.0 +1.0**
PFO pmax pmax
comp=Z,44nm,1.0s
152A Waverly Hall 70.30 16 IAmb IAmb 15 22 51.5
comp=Z,46nm,0.9s
X16A Lo Mia Camp, P 70.40 353 IAmb IAmb 15 22 58.2
comp=Z,33nm,0.9s
ANMO Albuquerque 70.55 357 P **P 15 22 44.6 0.0**
ANMO IAmb IAmb 15 22 56.7
comp=Z,128nm,1.8s
ANMO Albuquerque 70.55 357 IAMs_20 IAMs_20 15 48 12.9
comp=Z,2µm,18.0s
ANMO Albuquerque 70.55 357 P **P 15 22 45.0 +0.3**
comp=Z,4.0nm,0.5s,baz=258,slow=9.1,SNR=11
comp=Z,4.0nm,0.5s
ANMO Albuquerque 70.55 357 P **P 15 22 44.7 0.0**
ANMO pmax pmax
comp=Z,128nm,1.8s
257A Skidaway Islan 70.56 20 IAMs_20 IAMs_20 15 49 21.3
comp=Z,2µm,19.0s
MIAR Mount Ida 70.62 8 IAmb IAmb 15 22 56.9
comp=Z,61nm,1.4s
X40A Basin Creek Fa 70.65 9 IAmb IAmb 15 22 55.3
comp=Z,102nm,2.0s
Y49A Blount Mountai 71.08 14 IAMs_20 IAMs_20 15 48 53.1

comp=Z,2µm,21.0s
MSVF Nonsavu 71.10 261 IAMs_20 IAMs_20 15 46 21.6
comp=Z,2µm,22.0s
MSVF Nonsavu 71.10 261 *de*P **P 15 22 50.6 +2.2**
MSVF pmax pmax
comp=Z,39nm,1.2s
BFSC Mount Baldy Ra 71.12 347 IAmb IAmb 15 22 60.0
comp=Z,54nm,1.3s
DANC Danby, Needles 71.13 349 IAmb IAmb 15 23 00.3
comp=Z,61nm,1.0s
DANC IAMs_20 IAMs_20 15 45 50.3
comp=Z,2µm,21.0s
OXF Oxford 71.17 12 IAMs_20 IAMs_20 15 53 18.8
comp=Z,1µm,19.0s
WUAZ Wupatki 71.48 353 P **P 15 22 50.9 +0.7**
WUAZ IAmb IAmb 15 23 09.6
comp=Z,42nm,1.1s
WUAZ IAMs_20 IAMs_20 15 48 15.6
comp=Z,2µm,18.0s
X48A Hartselle 71.53 14 IAmb IAmb 15 22 58.8
comp=Z,58nm,1.1s
X48A IAMs_20 IAMs_20 15 49 21.1
comp=Z,2µm,22.0s
OSI Osito Audit: C 71.68 346 IAmb IAmb 15 23 05.9
comp=Z,37nm,0.8s
CSU Charleston Sou 71.78 20 IAMs_20 IAMs_20 15 50 06.6
comp=Z,2µm,20.0s
SYO Syowa Base 71.80 167⇑ *ep*P **P 15 22 51.2 -0.4**
SYO Syowa Base 71.80 167⇑ *es*P sP 15 22 54.8 -0.5
TPO Tropico Hills 71.84 347 IAmb IAmb 15 23 25.1
comp=Z,90nm,1.4s
PLAL Pickwick Lake 71.86 13 IAMs_20 IAMs_20 15 49 38.1
comp=Z,2µm,22.0s
NHSC New Hope 71.87 20 IAMs_20 IAMs_20 15 50 18.8
comp=Z,2µm,20.0s
RTBA Rita Blanca 71.96 0 IAmb IAmb 15 23 06.8
comp=Z,48nm,1.1s
GSC Goldstone, Bar 72.00 348 IAmb IAmb 15 23 07.8
comp=Z,43nm,1.1s
X51A Calhoun 72.09 16 IAmb IAmb 15 23 02.2
comp=Z,72nm,1.2s
V12A Nelson 72.12 350 IAmb IAmb 15 23 05.9
comp=Z,94nm,1.8s
HHAR Hobbs 72.29 8 IAmb IAmb 15 23 06.2
comp=Z,48nm,1.2s
CCCA Chr Cany lake 72.32 348 IAmb IAmb 15 23 09.7
comp=Z,60nm,1.1s
LRMC Laurel Mtn Rad 72.33 347 IAmb IAmb 15 23 07.3
comp=Z,39nm,1.1s
LCAR Lake Charles 72.43 10 IAmb IAmb 15 23 04.0
comp=Z,82nm,1.6s
SWET Sewanee 72.50 15 IAmb IAmb 15 23 04.4
comp=Z,112nm,1.4s
SWET IAMs_20 IAMs_20 15 49 33.5
comp=Z,22nm,0.9s
SHOC Shoshone, Teco 72.50 349 IAmb IAmb 15 23 10.6
comp=Z,42nm,0.9s
W50A Signal Mountai 72.61 15 IAMs_20 IAMs_20 15 48 52.9
comp=Z,1µm,22.0s
ISA Isabella, Lake 72.65 347 IAMs_20 IAMs_20 15 47 49.7
comp=Z,1µm,19.0s
QSM Queen of Sheba 72.66 348 IAmb IAmb 15 23 09.1
comp=Z,49nm,1.1s
Y57A Sumter 72.67 19 IAMs_20 IAMs_20 15 50 36.9
comp=Z,2µm,20.0s
T25A Trinidad 72.68 359 IAMs_20 IAMs_20 15 49 32.1
comp=Z,1µm,20.0s
JSC Jenkinsville 72.68 19 IAmb IAmb 15 23 06.1
comp=Z,46nm,1.1s
JSC IAMs_20 IAMs_20 15 50 32.5
comp=Z,2µm,21.0s
Y58A Scranton 72.76 20 IAMs_20 IAMs_20 15 50 55.4
comp=Z,2µm,19.0s
V48A Smith Brothers 72.83 14 IAmb IAmb 15 23 06.1
comp=Z,54nm,0.8s
V48A IAMs_20 IAMs_20 15 49 59.7
comp=Z,2µm,22.0s
VES Vestal, Richgr 72.94 346 IAmb IAmb 15 23 07.7
comp=Z,94nm,1.2s
BG3 Lake Jocassee 72.94 17 IAmb IAmb 15 23 07.6
comp=Z,54nm,0.9s
WVT Waverly 73.02 13 P **P 15 22 59.0 -0.2**
WVT Waverly 73.02 13 IAMs_20 IAMs_20 15 50 21.8
comp=Z,2µm,22.0s
WVT Waverly 73.02 13 P **P 15 22 59.0 -0.2**
WVT pmax pmax
comp=Z,43nm,1.3s
PAULI Pauline 73.05 18 IAmb IAmb 15 23 08.2
comp=Z,63nm,1.1s
KNB Kanab 73.12 352 IAmb IAmb 15 23 14.4
comp=Z,52nm,1.2s
BIRD Birdtown, Kers 73.24 19 IAMs_20 IAMs_20 15 50 25.1
comp=Z,2µm,21.0s
SDCO Great Sand Dun 73.31 358 IAMs_20 IAMs_20 15 50 22.8
comp=Z,2µm,20.0s
MGMO Mountain Grove 73.35 9 IAmb IAmb 15 23 13.6
comp=Z,123nm,1.6s
TKL Tuckaleechee C 73.39 16 P **P 15 23 01.6 +0.2**
comp=Z,5.0nm,0.6s,baz=162,slow=5.6,SNR=7.6
TKL LR LR 15 52 25.0
comp=Z,680nm,18.9s,baz=196,slow=34
comp=Z,5.0nm,0.6s
X58A Rowland 73.46 20 IAMs_20 IAMs_20 15 52 33.0
comp=Z,2µm,18.0s
TPNV Topopah Spring 73.52 349 IAmb IAmb 15 23 17.3
comp=Z,46nm,1.1s
TPNV IAMs_20 IAMs_20 15 47 58.8
comp=Z,1µm,22.0s
V53A Saluda 73.62 17 IAmb IAmb 15 23 11.4
comp=Z,49nm,1.0s
CCUT Cedar City 73.71 351 IAmb IAmb 15 23 21.8
comp=Z,56nm,1.1s
SZCU Shurtz Canyon 73.72 352 IAmb IAmb 15 23 16.0
comp=Z,56nm,1.2s
PRN Pahroc Range 73.80 350 IAmb IAmb 15 23 18.9
comp=Z,46nm,1.1s
HMU Henry Mountain 73.82 354 IAmb IAmb 15 23 24.1
comp=Z,67nm,1.0s
PV01 Paradox Valley 73.84 355 IAmb IAmb 15 23 16.3
comp=Z,59nm,1.0s
W57A Gilead 73.84 19 IAMs_20 IAMs_20 15 51 20.1
comp=Z,2µm,20.0s
T47A Sharon Grove 73.98 13 IAmb IAmb 15 23 16.1
comp=Z,80nm,1.2s
T47A IAMs_20 IAMs_20 15 50 37.9
comp=Z,2µm,22.0s
PV17 East Wray Mesa 74.01 355 P **P 15 23 05.6 +0.3**
PV17 IAmb IAmb 15 23 17.0
comp=Z,44nm,1.1s
PV16 Nyswonger Mesa 74.04 355 IAmb IAmb 15 23 18.2
comp=Z,35nm,0.9s
PV15 Paradox Valley 74.04 355 IAmb IAmb 15 23 17.5
comp=Z,95nm,1.1s
PV19 Morning Glory 74.05 355 IAmb IAmb 15 23 17.2
comp=Z,86nm,1.1s
PV20 West Nyswonger 74.08 355 IAmb IAmb 15 23 35.9
comp=Z,59nm,0.9s
PV14 Lion Creek, Pa 74.11 355 IAmb IAmb 15 23 17.7
comp=Z,77nm,1.2s
PV10 Paradox Valley 74.12 355 IAmb IAmb 15 23 16.5
comp=Z,77nm,1.0s
PV04 Paradox Valley 74.12 355 IAmb IAmb 15 23 11.2
comp=Z,62nm,0.8s
S11A Rachel 74.13 349 P **P 15 23 06.9 +1.0**
S11A IAmb IAmb 15 23 19.8
comp=Z,100nm,1.2s
V55A Taylorsville 74.18 18 IAmb IAmb 15 23 18.3
comp=Z,76nm,1.7s
DSP Deep Springs 74.22 348 IAmb IAmb 15 23 23.9
comp=Z,62nm,1.2s
S44A Carbondale 74.31 11 IAmb IAmb 15 23 18.8
comp=Z,68nm,1.1s
CCM Cathedral Cave 74.37 10 P **P 15 23 06.7 -0.4**
CCM IAmb IAmb 15 23 19.4
comp=Z,102nm,1.3s
CCM Cathedral Cave 74.37 10 P **P 15 23 06.7 -0.4**
CCM pmax pmax
comp=Z,102nm,1.3s
FVM French Village 74.41 10 IAmb IAmb 15 23 18.9
comp=Z,55nm,1.1s
U54A Nelsons Funny 74.67 17 IAMs_20 IAMs_20 15 54 55.0
comp=Z,1µm,18.0s
TPH Tonopah 74.78 348 IAmb IAmb 15 23 22.1
comp=Z,61nm,1.0s
Q16A Castle Valley 74.83 353 IAmb IAmb 15 23 24.4
comp=Z,55nm,1.0s
USIN University of 74.83 12 IAMs_20 IAMs_20 15 50 43.9
comp=Z,2µm,21.0s

KSU1 **Kansas State U** 74.85 5 IAmb IAmb 15 23 21.7
comp=Z,130nm,1.6s
U56A **King** 74.87 19 IAMs_20 IAMs_20 15 51 56.2
comp=Z,2µm,20.0s
MHC **Mount Hamilton** 74.91 345 IAmb IAmb 15 23 19.9
comp=Z,60nm,1.1s
CASY **Casey** 74.95 193 P P 15 23 12.7 +2.5
CASY IAmb IAmb 15 23 17.5
comp=Z,105nm,1.6s
SRU **San Rafael Swe** 74.96 354 IAmb IAmb 15 23 24.7
comp=Z,49nm,0.8s
LHV **Little Huntoon** 75.17 347 IAmb IAmb 15 23 32.3
comp=Z,70nm,1.0s
TMUT **Trail Mountain** 75.21 353 IAmb IAmb 15 23 19.1
comp=Z,66nm,1.0s
NV11 **Mina Array Sit** 75.29 348 IAmb IAmb 15 23 24.9
comp=Z,48nm,1.0s
NVAR **Mina Array Bea** 75.31 348 P P 15 23 13.4 +0.6
NVAR **Mina Array Bea** 75.31 348 P P 15 23 13.6 +0.8
comp=Z,29nm,0.8s,baz=179,slow=6.8,SNR=66
NVAR LR LR 15 48 52.5
comp=Z,1µm,20.2s,baz=172,slow=30
comp=Z,29nm,0.8s
CMB **Columbia Colle** 75.32 346 IAMs_20 IAMs_20 15 48 26.3
comp=Z,2µm,20.0s
WCI **Wyandotte Cave** 75.34 13 IAmb IAmb 15 23 24.1
comp=Z,77nm,1.2s
WCI **Wyandotte Cave** 75.34 13 IAMs_20 IAMs_20 15 51 15.8
comp=Z,2µm,22.0s
P17A **Butcher Ranch,** 75.34 354 IAmb IAmb 15 23 19.3
comp=Z,38nm,1.0s
ISCO **Idaho Springs** 75.36 358 IAmb IAmb 15 23 25.5
comp=Z,60nm,1.4s
ISCO IAMs_20 IAMs_20 15 51 57.2
comp=Z,1µm,19.0s
OLIL **Olney** 75.51 12 IAMs_20 IAMs_20 15 51 18.3
comp=Z,1µm,22.0s
RYN **Ryan** 75.54 347 IAmb IAmb 15 23 26.4
comp=Z,45nm,1.1s
WELL **Weller Preserv** 75.77 346 IAmb IAmb 15 23 24.7
comp=Z,47nm,1.1s
WELL IAMs_20 IAMs_20 15 48 39.4
comp=Z,2µm,19.0s
O20A **White River Ci** 75.81 356 IAmb IAmb 15 23 27.7
comp=Z,42nm,1.0s
CVS **Carmenet Viney** 76.05 344 IAmb IAmb 15 23 27.6
comp=Z,41nm,0.9s
CVS IAMs_20 IAMs_20 15 48 33.8
comp=Z,2µm,19.0s
HAYD **Hayden** 76.14 357 IAmb IAmb 15 23 30.2
comp=Z,59nm,1.4s
BLO **Bloomington** 76.21 13 IAMs_20 IAMs_20 15 51 44.9
comp=Z,2µm,21.0s
MAW **Mawson** 76.26 174 P P 15 23 17.3 -0.4
comp=Z,5.9nm,0.9s
MAW **Mawson** 76.26 174 P P 15 23 17.8 +0.1
comp=Z,8.0nm,0.7s,baz=203,slow=7.0,SNR=19
MAW LR LR 15 54 50.0
comp=Z,2µm,19.7s,baz=192,slow=34
comp=Z,8.0nm,0.7s
RDMU **Red Mountain** 76.34 355 IAmb IAmb 15 23 30.4
comp=Z,82nm,1.3s
P46A **Rosedale** 76.52 12 IAmb IAmb 15 23 27.3
comp=Z,45nm,0.8s
P46A IAMs_20 IAMs_20 15 52 19.6
comp=Z,2µm,22.0s
JLU **Jordanelle** 76.53 353 IAmb IAmb 15 23 31.7
comp=Z,62nm,1.1s
MNRC **McLaughlin Min** 76.56 344 IAmb IAmb 15 23 29.2
comp=Z,40nm,0.9s
GDXM **Geysers** 76.57 344 IAmb IAmb 15 23 34.7
comp=Z,51nm,1.2s
P48A **Milroy** 76.70 14 IAMs_20 IAMs_20 15 51 57.8
comp=Z,2µm,21.0s
Q51A **Peebles** 76.71 16 IAmb IAmb 15 23 28.9
comp=Z,43nm,0.9s
PAHR **Pah Rah Range** 76.74 347 IAmb IAmb 15 23 37.5
comp=Z,43nm,1.2s
R55A **Marlinton** 76.76 18 IAMs_20 IAMs_20 15 53 16.4
comp=Z,1µm,20.0s
HOPS **Hopland Field** 76.81 344 IAMs_20 IAMs_20 15 49 07.8
comp=Z,2µm,21.0s
ORV **Oroville** 77.01 345 IAmb IAmb 15 23 34.4
ORV IAMs_20 IAMs_20 15 49 26.1
comp=Z,76nm,1.6s
comp=Z,2µm,21.0s
TCUT **Toone Canyon** 77.03 353 IAmb IAmb 15 23 34.2
comp=Z,45nm,1.0s
R58B **Mineral** 77.06 20 IAMs_20 IAMs_20 15 52 09.3
comp=Z,2µm,21.0s
BEKR **Beckworth** 77.08 346 IAmb IAmb 15 23 35.0
comp=Z,62nm,1.2s
ELK **Elko** 77.10 350 IAmb IAmb 15 23 34.8
comp=Z,62nm,1.6s
ELK **Elko** 77.10 350 P P 15 23 23.1 +0.1
comp=Z,8.1nm,0.9s,baz=173,slow=5.7,SNR=12
ELK LR LR 15 50 12.2
comp=Z,1µm,21.9s,baz=167,slow=30
comp=Z,8.1nm,0.9s
SFIN **Lafayette** 77.28 12 IAMs_20 IAMs_20 15 52 43.2
comp=Z,2µm,22.0s
HWUT **Hardware Ranch** 77.53 353 IAMs_20 IAMs_20 15 51 46.8
comp=Z,2µm,18.0s
KCPM **Cahto Peak** 77.58 344 IAmb IAmb 15 23 31.2
comp=Z,50nm,1.1s
Q56A **Snyder Ridge,** 77.72 19 IAmb IAmb 15 23 38.5
comp=Z,58nm,1.1s
Q56A IAMs_20 IAMs_20 15 53 40.7
comp=Z,2µm,22.0s
O03E **Paynes Creek** 77.78 345 IAmb IAmb 15 23 32.5
comp=Z,46nm,1.0s
DZM **Mont Dzumac** 77.90 252 *e*S S 15 33 14.0 -7.1
comp=Z,1µm,25.8s
DZM *e*SS SS 15 38 11.0 -10
comp=Z,955nm,27.5s
DZM *e*LQ LQ 15 44 07.8
comp=Z,3µm,31.1s
DZM *e*LR LR 15 47 23.1
comp=Z,8µm,23.1s
DZM **Mont Dzumac** 77.90 252 P P 15 23 28.9 +1.1
comp=Z,5.0nm,0.8s,baz=156,slow=16,SNR=1.8
DZM LR LR 15 49 47.7
comp=Z,4µm,21.8s,baz=146,slow=30
comp=Z,5.0nm,0.8s
N47A **Urbana** 78.02 13 IAMs_20 IAMs_20 15 52 59.8
comp=Z,2µm,21.0s
KMRM **Mail Ridge** 78.12 344 IAmb IAmb 15 23 34.2
comp=Z,65nm,0.9s
PDAR **Pinedale Array** 78.52 355 P P 15 23 30.1 -0.7
PDAR **Pinedale Array** 78.52 355 P P 15 23 30.6 -0.2
comp=Z,43nm,0.8s,baz=162,slow=6.2,SNR=75
PDAR PKKPbc PKKPbc 15 42 29.9 +0.9
comp=Z,0.4nm,0.7s,baz=72,slow=4.8,SNR=3.5
PDAR LR LR 15 54 22.5
comp=Z,561nm,18.3s,baz=159,slow=33
comp=Z,43nm,0.8s
N02D **Trinity Center** 78.62 345 IAmb IAmb 15 23 45.7
comp=Z,56nm,0.9s
AHID **Auburn Hatcher** 78.64 354 IAMs_20 IAMs_20 15 54 08.3
comp=Z,1µm,18.0s
SDMD **Soldier's Deli** 78.70 20 IAMs_20 IAMs_20 15 54 03.7
comp=Z,1µm,21.0s
KHMM **Horse Mountain** 78.75 344 IAmb IAmb 15 23 40.9
KHMM IAMs_20 IAMs_20 15 51 17.3
comp=Z,115nm,1.4s
comp=Z,2µm,20.0s
M03C **McCloud** 78.79 345 IAmb IAmb 15 23 49.2
comp=Z,67nm,1.0s
N53A **Lisbon** 78.98 17 IAmb IAmb 15 23 41.7
comp=Z,75nm,1.0s
L46A **Eue Claire** 79.01 13 IAMs_20 IAMs_20 15 53 44.0
comp=Z,2µm,22.0s
M02C **Callahan** 79.06 345 IAmb IAmb 15 23 45.6
comp=Z,68nm,1.1s
MOO **Moorlands** 79.17 225 P P 15 23 35.0 +0.6
comp=Z,68nm,2.5s
WVOR **Wild Horse Val** 79.27 348 IAmb IAmb 15 23 45.1
comp=Z,59nm,1.4s
JFWS **Jewell Farm** 79.28 9 IAmb IAmb 15 23 46.3
comp=Z,55nm,1.1s
PAMR **Moraine State** 79.28 17 IAMs_20 IAMs_20 15 54 40.1
comp=Z,2µm,21.0s
SNOW **Snow King Moun** 79.30 354 IAmb IAmb 15 23 46.7
comp=Z,37nm,0.9s
TPAW **Teton Pass** 79.35 354 IAmb IAmb 15 23 49.5
comp=Z,78nm,0.9s
ECSD **EROS Data Cent** 79.46 5 IAmb IAmb 15 23 47.7
comp=Z,52nm,0.8s
WUPA **West Chester U** 79.54 21 IAMs_20 IAMs_20 15 52 45.9
comp=Z,2µm,22.0s
SSPA **Standing Stone** 79.56 19 IAmb IAmb 15 23 47.7
comp=Z,126nm,1.4s
SSPA **Standing Stone** 79.56 19 IAMs_20 IAMs_20 15 53 38.4
comp=Z,2µm,21.0s
RSSD **Black Hills** 79.64 359 P P 15 23 37.0 +0.1
RSSD IAmb IAmb 15 23 48.9
comp=Z,96nm,1.3s
RSSD **Black Hills** 79.64 359 P P 15 23 37.0 +0.1
RSSD pmax pmax
comp=Z,96nm,1.3s
L04D **Klamath Falls** 79.73 345 IAmb IAmb 15 24 03.2
comp=Z,104nm,1.3s
HLID **Hailey** 79.77 352 IAmb IAmb 15 23 52.6
comp=Z,95nm,0.9s
L02F **Cave Junction** 79.91 345 IAmb IAmb 15 23 50.1
comp=Z,49nm,1.1s
K05A **Summer Lake** 79.95 347 IAMs_20 IAMs_20 15 51 18.9
comp=Z,2µm,22.0s
SUSD **Miller** 80.04 3 IAmb IAmb 15 23 50.3
comp=Z,144nm,1.6s
N58A **Sunbury** 80.06 20 IAmb IAmb 15 23 49.6
comp=Z,58nm,1.1s
J08A **Circle Bar Ran** 80.14 349 IAmb IAmb 15 23 46.5
comp=Z,52nm,1.0s
BBOR **Butler Butte** 80.45 345 IAMs_20 IAMs_20 15 51 46.3
comp=Z,1µm,19.0s
J47A **Sumner** 80.47 13 IAMs_20 IAMs_20 15 59 03.5
comp=Z,2µm,18.0s
K02D **Willamette Mer** 80.48 345 IAmb IAmb 15 23 56.5
comp=Z,73nm,1.2s
J04A **Umpqua Nationa** 80.68 346 IAmb IAmb 15 23 56.9
comp=Z,127nm,1.5s
YHL **Hebgen Lake** 80.72 354 IAmb IAmb 15 23 55.5
comp=Z,68nm,1.4s
RLMT **Red Lodge** 80.84 355 IAmb IAmb 15 23 55.3
comp=Z,47nm,1.1s
PINE **Pine Mountain** 80.99 347 IAmb IAmb 15 23 51.1
comp=Z,51nm,0.9s
PINE IAMs_20 IAMs_20 15 51 54.4
comp=Z,2µm,22.0s
KSPA **Keystone Colle** 81.00 20 IAmb IAmb 15 23 55.3
comp=Z,100nm,1.5s
L56A **Greenwood** 81.05 19 IAmb IAmb 15 23 52.0
comp=Z,46nm,1.0s
L56A IAMs_20 IAMs_20 15 54 13.8
comp=Z,2µm,22.0s
H43A **Windswept, Lux** 81.16 11 IAMs_20 IAMs_20 15 55 20.3
comp=Z,1µm,22.0s
WIFE **Three Sisters-** 81.41 346 IAmb IAmb 15 23 58.5
comp=Z,117nm,1.6s
BOZ **Bozeman (W)** 81.50 354 IAmb IAmb 15 23 58.8
comp=Z,68nm,1.4s
BOZ IAMs_20 IAMs_20 15 54 33.6
comp=Z,2µm,18.0s
MMNY **Mt. Morris Dam** 81.52 18 IAMs_20 IAMs_20 15 54 53.2
comp=Z,1µm,21.0s
BINY **Binghamton** 81.53 20 IAmb IAmb 15 23 54.0
comp=Z,106nm,1.7s
F33A **5 Mile Ranch,** 81.58 5 IAmb IAmb 15 23 58.4
comp=Z,68nm,1.2s
I05D **Terrebonne, OR** 81.59 347 IAmb IAmb 15 24 00.8
comp=Z,60nm,1.1s
G40A **Rifle Lake** 81.60 9 IAMs_20 IAMs_20 15 58 32.6
comp=Z,1µm,20.0s
MEDO **Medina** 81.78 18 IAMs_20 IAMs_20 15 54 07.3
comp=Z,978nm,18.0s
L59A **Walton** 81.79 21 IAMs_20 IAMs_20 15 54 29.4
comp=Z,2µm,22.0s
GLMI **Grayling** 82.04 13 IAMs_20 IAMs_20 15 58 55.0
comp=Z,1µm,21.0s
J55A **Hilton** 82.04 18 IAMs_20 IAMs_20 15 55 31.1
comp=Z,1µm,20.0s
H04A **Detroit Lake** 82.08 346 IAmb IAmb 15 24 07.5
comp=Z,44nm,1.3s
G08A **Pilot Rock** 82.10 349 IAmb IAmb 15 24 01.4
G08A IAMs_20 IAMs_20 15 52 54.8
comp=Z,1µm,21.0s
LAO **LASA Array** 82.26 358 IAMs_20 IAMs_20 15 55 18.8
comp=Z,1µm,21.0s
F42A **Maple Grove Fa** 82.36 10 IAMs_20 IAMs_20 15 55 57.8
comp=Z,1µm,22.0s
M65A **Busby, Falmout** 82.56 24 IAMs_20 IAMs_20 15 58 22.9
comp=Z,1µm,19.0s
HOOD **Mount Hood Mea** 82.60 347 IAmb IAmb 15 24 05.2
comp=Z,33nm,1.0s
L61B **Northampton** 82.72 22 IAMs_20 IAMs_20 15 56 14.1
comp=Z,2µm,21.0s
L64A **Middleborough** 82.83 24 IAMs_20 IAMs_20 15 55 38.1
comp=Z,2µm,22.0s
F07A **Phinny Hill Vi** 82.85 348 IAmb IAmb 15 24 06.2
F07A IAMs_20 IAMs_20 15 53 12.6
comp=Z,2µm,22.0s
J59A **Piesco** 83.11 20 IAMs_20 IAMs_20 15 55 20.5
comp=Z,2µm,22.0s
SADO **Sadowa** 83.13 17 LR LR 15 57 35.8
comp=Z,14µm,18.5s,baz=194,slow=33
DELO **Deloro Mine** 83.26 18 IAmb IAmb 15 24 06.5
comp=Z,59nm,1.0s
DELO IAMs_20 IAMs_20 15 55 02.4
comp=Z,2µm,22.0s
HAWA **Hanford** 83.27 349 IAMs_20 IAMs_20 15 53 48.6
comp=Z,2µm,20.0s
E07A **Sunnyside** 83.48 348 IAMs_20 IAMs_20 15 53 53.3
comp=Z,2µm,20.0s
MXC **Moxie City** 83.57 348 IAmb IAmb 15 24 12.9
comp=Z,103nm,1.9s
MXC IAMs_20 IAMs_20 15 53 33.7
comp=Z,1µm,22.0s
E46A **Sault Ste Mari** 83.58 13 IAMs_20 IAMs_20 15 57 42.9
comp=Z,1µm,21.0s
WAH2 **Wahluke Slope** 83.62 349 IAmb IAmb 15 24 09.8
comp=Z,72nm,1.4s
NCB **Newcomb** 83.66 20 IAmb IAmb 15 24 05.6
comp=Z,36nm,0.9s
NCB IAMs_20 IAMs_20 15 56 34.0
comp=Z,2µm,21.0s
BUKO **Buck Lake** 83.70 16 IAMs_20 IAMs_20 15 57 25.6
comp=Z,2µm,20.0s
EGMT **Eagleton** 83.77 355 IAMs_20 IAMs_20 15 56 07.8
comp=Z,1µm,19.0s
D08A **Wollman Farm,** 83.82 349 IAmb IAmb 15 24 13.0
comp=Z,58nm,1.3s
D08A IAMs_20 IAMs_20 15 54 09.2
comp=Z,1µm,21.0s
ARMA **Armidale** 83.85 237 P P 15 23 59.3 -0.3
ARMA IAmb IAmb 15 24 08.4
comp=Z,28nm,0.8s
LON **Longmire** 84.00 347 IAmb IAmb 15 24 16.1
comp=Z,47nm,1.3s
LONY **Lake Ozonia** 84.16 20 IAMs_20 IAMs_20 15 58 00.1
comp=Z,2µm,20.0s
LTY **Liberty** 84.29 348 IAmb IAmb 15 24 30.6
comp=Z,55nm,1.3s
WBO **Williamsburg** 84.32 19 IAmb IAmb 15 24 12.0
comp=Z,60nm,1.2s
GNW **Green Mountain** 84.98 347 IAmb IAmb 15 24 15.8
comp=Z,39nm,1.1s
B08A **Colville Reser** 85.15 349 IAmb IAmb 15 24 16.7
comp=Z,50nm,1.4s
B08A IAMs_20 IAMs_20 15 54 58.4
comp=Z,2µm,20.0s
EPLO **Experimental L** 85.58 6 IAmb IAmb 15 24 18.4
comp=Z,55nm,1.2s
TRQ **Mont Tremblant** 85.64 19 IAmb IAmb 15 24 18.3
comp=Z,67nm,1.1s
ULM **Lac du Bonnet** 86.00 5 P P 15 24 08.9 -0.5
comp=Z,16nm,0.9s,baz=178,slow=4.7,SNR=10
comp=Z,16nm,0.9s
ULM **Lac du Bonnet** 86.00 5‖*e*P P 15 24 08.5 -1.0
PKME **Peaks-Kenny Pk** 86.32 23 IAMs_20 IAMs_20 15 57 41.3
comp=Z,2µm,22.0s
VLDQ **Val d'Or** 86.67 17 IAmb IAmb 15 24 23.8
comp=Z,52nm,1.0s
E62A **Clayton Lake** 87.46 22 IAMs_20 IAMs_20 15 59 28.4
comp=Z,2µm,20.0s
D62A **Allapoint, All** 88.01 22 IAMs_20 IAMs_20 15 59 14.2
comp=Z,2µm,20.0s
STKA **Stephens Creek** 89.46 230 P P 15 24 26.6 -0.2
comp=Z,3.1nm,0.7s,baz=157,slow=7.7,SNR=3.3
STKA LR LR 15 58 17.1
comp=Z,4µm,19.1s,baz=144,slow=31
comp=Z,3.1nm,0.7s
STKA **Stephens Creek** 89.46 230‖*e*P P 15 24 27.0 +0.2
HNR **Honiara** 90.26 258 IAMs_20 IAMs_20 15 55 58.2
comp=Z,920nm,21.0s
HNR **Honiara** 90.26 258 P P 15 24 32.5 +1.7
comp=Z,27nm,0.4s,baz=147,slow=13,SNR=1.1
HNR LR LR 15 59 23.8
comp=Z,572nm,18.9s,baz=136,slow=32
comp=Z,27nm,0.4s
DLBC **Dease Lake** 96.67 346 LR LR 16 01 42.9
comp=Z,5µm,19.0s,baz=110,slow=31
BESE **Bessie Mountai** 97.83 344 IAMs_20 IAMs_20 16 00 14.1
comp=Z,1µm,20.0s
FORT **Forrest** 98.21 222 IAMs_20 IAMs_20 15 59 45.4
comp=Z,1µm,22.0s
YKA **Yellowknife Ar** 98.50 355 P Pdif 15 25 08.3 +1.0
comp=Z,1.7nm,0.8s,baz=161,slow=4.3,SNR=4.9
comp=Z,1.7nm,0.8s
BOSA **Boshof** 99.39 136 LR LR 16 02 24.3
comp=Z,887nm,21.2s,baz=224,slow=31
P29M **Windy Craggy** 99.44 343 IAMs_20 IAMs_20 16 00 26.8
comp=Z,918nm,22.0s
ASAR **Alice Springs** 100.05 231 PKKPbc PKKPbc 15 41 33.6 +0.8
comp=Z,0.5nm,0.7s,baz=342,slow=2.6,SNR=5.5
O30N **Mendenhall** 100.08 344 IAMs_20 IAMs_20 16 00 57.5
comp=Z,1µm,20.0s
O29M **Mount Kennedy** 100.23 343 IAMs_20 IAMs_20 16 00 03.8
comp=Z,839nm,21.0s
H11S2 **WAKE ISLAND Hyl** 100.90 285 T T 17 17 37.4
baz=127,slow=75,SNR=56
H11S1 **WAKE ISLAND Hyl** 100.91 285 T T 17 17 23.7
baz=127,slow=75,SNR=38
N30M **Aishikik Lake** 100.91 344 IAMs_20 IAMs_20 16 00 41.6
comp=Z,1µm,21.0s
H11S3 **WAKE ISLAND Hyl** 100.92 285 T T 17 17 32.8
baz=127,slow=75,SNR=37
TABL **Table Mountain** 100.99 342 IAMs_20 IAMs_20 16 00 26.0
comp=Z,844nm,20.0s
YAH **Yahtse** 101.08 341 IAMs_20 IAMs_20 16 00 27.0
comp=Z,912nm,20.0s
LOGN **Logan Glacier** 101.28 342 IAMs_20 IAMs_20 16 01 01.6
comp=Z,860nm,19.0s
SUCK **Suckling Hills** 101.37 340 IAMs_20 IAMs_20 16 00 39.9
comp=Z,1µm,21.0s
GRNC **Granite Creek** 101.39 342 IAMs_20 IAMs_20 16 00 38.5
comp=Z,808nm,20.0s
H01W1 **Cape Leeuwin H** 101.55 210 T T 17 19 06.4
baz=148,slow=76,SNR=1407
H01W2 **Cape Leeuwin H** 101.55 210 T T 17 19 10.1
baz=148,slow=76,SNR=868
H01W3 **Cape Leeuwin H** 101.56 210 T T 17 19 15.8
baz=148,slow=76,SNR=1068
BERG **Berg Lake** 101.62 341 IAMs_20 IAMs_20 16 00 47.4
comp=Z,1µm,22.0s
BARN **Barnard Glacie** 101.65 342 IAMs_20 IAMs_20 16 01 12.3
comp=Z,860nm,20.0s
HMT **Hamilton** 101.72 340 IAMs_20 IAMs_20 16 00 49.2
comp=Z,1µm,20.0s
M30M **Minto, Yukon** 101.84 345 IAMs_20 IAMs_20 16 02 07.1
comp=Z,1µm,22.0s
RAGM **Ragged Mountai** 101.88 340 IAMs_20 IAMs_20 16 00 53.6
comp=Z,1µm,22.0s
M29M **Somme Creek** 102.09 344 IAMs_20 IAMs_20 16 01 28.8
comp=Z,1µm,22.0s
BMRM **Bremner River** 102.34 341 IAMs_20 IAMs_20 16 00 57.7
comp=Z,1µm,22.0s
HIN **Hinchinbrook I** 102.39 339 IAMs_20 IAMs_20 16 01 33.1
comp=Z,1µm,20.0s
L29M **L29M** 102.60 344 IAMs_20 IAMs_20 16 02 28.3
comp=Z,1µm,20.0s
FID **Port Fidalgo** 102.68 340 IAMs_20 IAMs_20 16 01 15.0
comp=Z,1µm,22.0s
SYI **Shuyak Island** 102.78 336 IAMs_20 IAMs_20 16 02 07.6
comp=Z,1µm,22.0s
DIV **Divide** 102.79 340 IAMs_20 IAMs_20 16 01 21.7
comp=Z,1µm,22.0s
M27K **Edge Creek, AK** 102.82 342 IAMs_20 IAMs_20 16 01 41.1
comp=Z,714nm,20.0s
GLI **Glacier Island** 102.96 340 IAMs_20 IAMs_20 16 01 21.0
comp=Z,1µm,21.0s
K29M **Barlow Dome** 103.12 345 IAMs_20 IAMs_20 16 03 06.9
comp=Z,1µm,21.0s
M26K **Nabesna, AK** 103.13 342 IAMs_20 IAMs_20 16 04 29.4
comp=Z,715nm,20.0s
KLU **Klutina** 103.14 340 IAMs_20 IAMs_20 16 01 53.6
comp=Z,909nm,20.0s
L27K **Beaver Creek,** 103.41 343 IAMs_20 IAMs_20 16 02 30.6
comp=Z,833nm,21.0s
Q19K **Cape Douglas,** 103.44 336 IAMs_20 IAMs_20 16 03 26.1
comp=Z,1µm,18.0s
J30M **Hart River** 103.53 346 IAMs_20 IAMs_20 16 10 04.6
comp=Z,723nm,20.0s
KNK **Knik Glacier** 103.78 339 IAMs_20 IAMs_20 16 02 15.8
comp=Z,1µm,21.0s
SCM **Sheep Creek Mo** 103.80 340 IAMs_20 IAMs_20 16 02 03.3
comp=Z,1µm,21.0s
J29N **Klondike Camp** 103.80 345 IAMs_20 IAMs_20 16 02 53.0
comp=Z,910nm,20.0s
P19K **Oil Pt** 103.86 336 IAMs_20 IAMs_20 16 02 43.1
comp=Z,1µm,22.0s
SML **Sawmill** 104.06 340 IAMs_20 IAMs_20 16 02 09.5
comp=Z,1µm,20.0s
I30M **Mount Dempster** 104.11 346 IAMs_20 IAMs_20 16 10 29.1
comp=Z,854nm,20.0s
K27K **Chicken** 104.29 343 IAMs_20 IAMs_20 16 02 33.0
comp=Z,893nm,22.0s
P18K **Big Mountain,** 104.33 335 IAMs_20 IAMs_20 16 03 24.6
comp=Z,1µm,20.0s
DOT **Dot Lake** 104.44 342 IAMs_20 IAMs_20 16 02 42.2
comp=Z,934nm,22.0s
M22K **Willow** 104.53 339 IAMs_20 IAMs_20 16 01 54.7
comp=Z,1µm,21.0s
I29M **Ogilvie Camp,** 104.62 345 IAMs_20 IAMs_20 16 03 55.5
comp=Z,877nm,19.0s
O19K **Port Alsworth** 104.63 336 IAMs_20 IAMs_20 16 03 07.5
comp=Z,1µm,21.0s
O18K **Koktuh Hills** 104.67 336 IAMs_20 IAMs_20 16 04 21.5
comp=Z,957nm,19.0s
SCRK **Sand Creek** 104.70 343 IAMs_20 IAMs_20 16 02 50.2
comp=Z,818nm,22.0s
RIDG **Independent Ri** 104.72 342 IAMs_20 IAMs_20 16 02 59.3
comp=Z,769nm,20.0s
DHY **Denali Highway** 104.82 341 IAMs_20 IAMs_20 16 02 40.3
comp=Z,1µm,22.0s
I28M **Miner Creek** 105.03 345 IAMs_20 IAMs_20 16 04 15.5
comp=Z,890nm,20.0s
J26L **Joseph Creek** 105.04 343 IAMs_20 IAMs_20 16 02 42.8
comp=Z,753nm,21.0s
CUT **Chulitna** 105.09 339 IAMs_20 IAMs_20 16 03 08.4
comp=Z,1µm,20.0s
N19K **Bonanza Creek** 105.15 337 IAMs_20 IAMs_20 16 03 36.2
comp=Z,1µm,20.0s
EPYK **Eagle Plains** 105.20 347 IAMs_20 IAMs_20 16 05 04.7
comp=Z,787nm,20.0s
G31M **Satah River** 105.25 348 IAMs_20 IAMs_20 16 10 56.1
comp=Z,745nm,20.0s
H29M **Whitestone** 105.39 346 IAMs_20 IAMs_20 16 11 19.7
comp=Z,1µm,18.0s
O16K **Kokwok River B** 105.47 334 IAMs_20 IAMs_20 16 03 10.8
comp=Z,1µm,20.0s
RND **Reindeer** 105.49 340 IAMs_20 IAMs_20 16 03 16.9
comp=Z,1µm,21.0s
N18K **Kilae Creek** 105.51 336 IAMs_20 IAMs_20 16 04 02.8
comp=Z,1µm,20.0s
J25K **Salcha River,** 105.57 342 IAMs_20 IAMs_20 16 03 34.8
comp=Z,872nm,20.0s
I26K **Coal Creek Min** 105.62 344 IAMs_20 IAMs_20 16 03 43.1
comp=Z,666nm,19.0s
F31M **Tsiigehtchic** 105.63 348 IAMs_20 IAMs_20 16 05 32.0
comp=Z,756nm,21.0s
G30M **tAoh Zraii Nji** 105.65 347 IAMs_20 IAMs_20 16 04 52.6
comp=Z,762nm,22.0s
MCK **McKinley** 105.77 341 IAMs_20 IAMs_20 16 03 26.6
comp=Z,1µm,21.0s
N17K **Nushagak Hills** 105.83 335 IAMs_20 IAMs_20 16 02 51.3
comp=Z,1µm,20.0s
TRF **Thorofare Moun** 105.92 340 IAMs_20 IAMs_20 16 02 43.3
comp=Z,1µm,21.0s
G29M **Pine Creek** 105.92 346 IAMs_20 IAMs_20 16 04 40.0
comp=Z,847nm,20.0s
PPLA **Purkeypile** 106.03 339 IAMs_20 IAMs_20 16 03 37.4
comp=Z,1µm,21.0s
H27K **Steamboat Moun** 106.05 345 IAMs_20 IAMs_20 16 04 35.2
comp=Z,673nm,20.0s
ILAR **Eielson Array** 106.08 342 PP PP 15 30 04.7 -0.6
comp=Z,1.8nm,1.2s,baz=153,slow=7.1,SNR=6.2
ILAR PKKPbc PKKPbc 15 41 15.9 -0.6
comp=Z,0.5nm,0.7s,baz=322,slow=2.9,SNR=4.7
F30M **Barrier River** 106.13 348 IAMs_20 IAMs_20 16 12 33.4
comp=Z,826nm,18.0s
KTH **Kantishna Hill** 106.18 340 IAMs_20 IAMs_20 16 04 31.2
comp=Z,1µm,21.0s
CCB **Clear Creek Bu** 106.21 342 IAMs_20 IAMs_20 16 03 39.0

comp=Z,705nm,20.0s
BWN Browne 106.27 341 IAMs_20 IAMs_20 16 03 41.2
comp=Z,1µm,21.0s
PRP Porcupine Dome 106.35 343 IAMs_20 IAMs_20 16 04 02.5
comp=Z,702nm,20.0s
POKR Poker Plat Res 106.49 342 IAMs_20 IAMs_20 16 04 01.3
comp=Z,769nm,21.0s
NEA2 Nenana 106.49 341 IAMs_20 IAMs_20 16 03 46.4
comp=Z,643nm,19.0s
M17K Holitna River 106.55 336 IAMs_20 IAMs_20 16 03 16.4
comp=Z,1µm,21.0s
G27K Doyon Strip 106.57 345 IAMs_20 IAMs_20 16 05 04.0
comp=Z,907nm,20.0s
BPAW Bear Paw Mtn. 106.62 340 IAMs_20 IAMs_20 16 03 40.9
comp=Z,765nm,20.0s
F28M Old Crow 106.89 346 IAMs_20 IAMs_20 16 08 43.6
comp=Z,664nm,20.0s
K20K Telida 106.94 338 IAMs_20 IAMs_20 16 04 05.4
comp=Z,1µm,21.0s
N14K Kuskokwak Cree 106.99 333 IAMs_20 IAMs_20 16 03 54.1
comp=Z,1µm,21.0s
I23K Minto, Yukon-K 107.01 341 IAMs_20 IAMs_20 16 04 11.3
comp=Z,892nm,21.0s
G26K Porcupine Rive 107.14 344 IAMs_20 IAMs_20 16 13 39.2
comp=Z,738nm,19.0s
FYU Fort Yukon 107.15 344 IAMs_20 IAMs_20 16 03 48.5
comp=Z,916nm,22.0s
H24K Noodor Dome 107.18 342 IAMs_20 IAMs_20 16 04 34.5
comp=Z,856nm,22.0s
E29M Blow River 107.20 347 IAMs_20 IAMs_20 16 05 51.6
comp=Z,1µm,21.0s
MLY Manley 107.28 341 IAMs_20 IAMs_20 16 04 55.3
comp=Z,938nm,20.0s
L16K Owhat River 107.46 335 IAMs_20 IAMs_20 16 05 03.3
comp=Z,1µm,20.0s
J20K Nowinta River 107.58 339 IAMs_20 IAMs_20 16 04 27.2
comp=Z,1µm,21.0s
H23K Yukon River 107.59 342 IAMs_20 IAMs_20 16 04 21.7
comp=Z,877nm,20.0s
E28M Babbage River 107.69 347 IAMs_20 IAMs_20 16 07 24.5
comp=Z,735nm,21.0s
E27K Coleen River 107.73 346 IAMs_20 IAMs_20 16 06 13.6
comp=Z,773nm,21.0s
I21K Tanana 107.73 340 IAMs_20 IAMs_20 16 04 37.2
comp=Z,1µm,22.0s
G24K Hadweenzic Riv 107.78 343 IAMs_20 IAMs_20 16 15 20.2
comp=Z,660nm,20.0s
K17K Iditarod 107.78 337 IAMs_20 IAMs_20 16 05 26.9
comp=Z,1µm,20.0s
F26K Sheenjek River 107.84 345 IAMs_20 IAMs_20 16 13 01.7
comp=Z,862nm,20.0s
F25K Christian Rive 108.08 344 IAMs_20 IAMs_20 16 13 29.2
comp=Z,933nm,19.0s
I20K Naaghedeneel 108.14 339 IAMs_20 IAMs_20 16 05 15.0
comp=Z,1µm,20.0s
L14K Kuka Creek 108.32 334 IAMs_20 IAMs_20 16 04 58.4
comp=Z,1µm,20.0s
H21K Melozitna Rive 108.32 340 IAMs_20 IAMs_20 16 05 13.7
comp=Z,1µm,20.0s
G23K Bananza Creek 108.41 342 IAMs_20 IAMs_20 16 05 40.9
comp=Z,796nm,22.0s
E25K Arctic Village 108.50 344 IAMs_20 IAMs_20 16 05 23.1
comp=Z,793nm,21.0s
J17K VABM Dome 108.52 337 IAMs_20 IAMs_20 16 06 01.2
comp=Z,1µm,20.0s
F24K Squaw Lake 108.53 343 IAMs_20 IAMs_20 16 04 38.1
comp=Z,980nm,22.0s
K15K Wolf Creek Mou 108.56 335 IAMs_20 IAMs_20 16 06 07.6
comp=Z,1µm,20.0s
A36M Sachs Harbour 108.73 353 IAMs_20 IAMs_20 16 08 55.5
comp=Z,891nm,20.0s
COLD Coldfoot 108.86 342 IAMs_20 IAMs_20 16 05 13.1
comp=Z,962nm,22.0s
J16K Anvik River 108.93 336 IAMs_20 IAMs_20 16 06 13.3
comp=Z,873nm,21.0s
E24K Your Creek 109.12 344 IAMs_20 IAMs_20 16 14 05.5
comp=Z,947nm,18.0s
G21K Allakaket 109.16 341 IAMs_20 IAMs_20 16 06 04.8
comp=Z,882nm,21.0s
H19K Roundabout Mou 109.24 339 IAMs_20 IAMs_20 16 05 19.2
comp=Z,1µm,22.0s
C27K Jago River 109.36 346 IAMs_20 IAMs_20 16 07 05.6
comp=Z,1µm,21.0s
TORD Torodi Ar. Bea 109.36 88 PP **PP** **15 30 30.4 +0.2**
comp=Z,2.1nm,1.1s,baz=288,slow=3.7,SNR=5.0
E23K Chandalar 109.37 343 IAMs_20 IAMs_20 16 05 32.1
comp=Z,869nm,22.0s
I17K Unalakleet 109.38 337 IAMs_20 IAMs_20 16 07 32.3
comp=Z,1µm,19.0s
D25K Kavik River 109.65 345 IAMs_20 IAMs_20 16 06 02.5
comp=Z,943nm,22.0s
F21K Alatna River 109.68 341 IAMs_20 IAMs_20 16 06 03.6
comp=Z,764nm,20.0s
TOLK Toolik Lake Re 109.81 344 IAMs_20 IAMs_20 16 14 36.9
comp=Z,1µm,19.0s
F20K Avaraart Lake 110.15 341 IAMs_20 IAMs_20 16 06 23.0
comp=Z,1µm,22.0s
G18K Tagagawik 110.15 339 IAMs_20 IAMs_20 16 06 18.1
comp=Z,1µm,22.0s
F19K Shaleruckik Mo 110.56 340 IAMs_20 IAMs_20 16 06 12.8
comp=Z,771nm,20.0s
E21K Killik River 110.72 342 IAMs_20 IAMs_20 16 06 33.9
comp=Z,841nm,21.0s
D22K Ayikyak River 110.73 343 IAMs_20 IAMs_20 16 06 50.1
comp=Z,910nm,20.0s
E19K Redstone River 110.85 340 IAMs_20 IAMs_20 16 06 52.6
comp=Z,826nm,21.0s
D20K Etivluk River 111.58 342 IAMs_20 IAMs_20 16 06 44.2
comp=Z,1µm,22.0s
E18K Tukpahlearik C 111.76 339 IAMs_20 IAMs_20 16 06 38.8
comp=Z,1µm,22.0s
D19K Kuna River 111.82 341 IAMs_20 IAMs_20 16 07 49.1
comp=Z,941nm,20.0s
AVE Averroes 112.59 65 IAMs_20 IAMs_20 16 11 45.4
comp=Z,869nm,20.0s
TNA Tin City 112.83 336 IAMs_20 IAMs_20 16 09 12.6
comp=Z,918nm,20.0s
TAM Tamanrasset 117.51 81 IAMs_20 IAMs_20 16 18 31.6
comp=Z,746nm,20.0s
ESDC Sonseca Array 117.95 60 PKP **PKiKP** **15 30 17.9 +1.7**
comp=Z,1.2nm,0.7s,baz=269,slow=2.2,SNR=7.1
PET Petropavlovsk 122.48 315 IAMs_20 IAMs_20 16 11 16.8
comp=Z,1µm,22.0s
BILL Bilibino 123.03 333 IAMs_20 IAMs_20 16 14 50.6
comp=Z,853nm,20.0s
PETK Petropavlovsk- 123.06 315 PKP **PKiKP** **15 30 27.4 +1.6**
comp=Z,14nm,1.2s,baz=99,slow=5.9,SNR=4.9
LUWI Luwuk 123.82 239 IAMs_20 IAMs_20 16 22 59.9
comp=Z,743nm,19.0s
EKA Eskdalemuir Ar 123.89 43 PKP **PKiKP** **15 30 28.1 +0.9**
comp=Z,2.1nm,0.6s,baz=242,slow=2.8,SNR=7.2
KEST Kesra 126.13 69 IAMs_20 IAMs_20 16 22 06.2
comp=Z,1µm,22.0s
KEST Kesra 126.13 69 PKP **PKiKP** **15 30 33.2 +0.7**
comp=Z,5.3nm,1.0s,baz=269,slow=2.5,SNR=3.6
TOLI2 Tolitoli 126.74 240 IAMs_20 IAMs_20 16 21 42.3
comp=Z,734nm,20.0s
KIBK Kibwezi 127.34 128 IAMs_20 IAMs_20 16 19 42.7
comp=Z,824nm,19.0s
SEY Seymchan 127.83 326 PKP **PKiKP** **15 30 35.5 +0.6**
comp=Z,3.6nm,0.8s,baz=58,slow=4.9,SNR=4.4
SEY Seymchan 127.83 326 *i* PKiKP **PKiKP** **15 30 35.4 +0.6**
SEY pmax pmax
comp=Z,14nm,1.4s
MA2 Magadan 128.21 322 IAMs_20 IAMs_20 16 17 02.4
comp=Z,736nm,20.0s
MA2 Magadan 128.21 322⇑ *e*PKiKP **PKPdf** **15 30 35.6 +0.5**
TUE Stuetta 129.38 56 IAMs_20 IAMs_20 16 15 56.5
comp=Z,866nm,20.0s
LODK Lodwar 129.76 120 IAMs_20 IAMs_20 16 22 31.8
comp=Z,519nm,20.0s
DAVA Damuels 129.92 55 *e*PKiKP **PKiKP** **15 30 40.6 +0.8**
comp=Z,2.0nm,0.7s
OSSC Osservatorio P 129.96 60 IAMs_20 IAMs_20 16 19 00.2
comp=Z,622nm,21.0s
WDD Wied Dalam 130.11 71 IAMs_20 IAMs_20 16 26 48.7
comp=Z,835nm,20.0s
FETA Feichten 130.43 55 *e*PKiKP **PKiKP** **15 30 42.2 +1.4**
comp=Z,3.6nm,0.9s
RETA Reutte 130.55 55 *i* PKiKP **PKiKP** **15 30 41.9 +0.9**
comp=Z,0.3nm,0.4s
MOTA Moosalm 130.75 55 *e*PKiKP **PKiKP** **15 30 42.4 +0.9**
comp=Z,7.2nm,0.7s
SPITS Spitsbergen Ar 130.77 14 PKP **PKiKP** **15 30 41.3 +0.8**
comp=Z,12nm,0.9s,baz=300,slow=1.6,SNR=3.7
SQTA Sankt Quirin 130.79 55 *i* PKiKP **PKiKP** **15 30 41.9 +0.4**
comp=Z,5.4nm,1.2s
YSS Yuzhno-Sakhali 130.87 304 IAMs_20 IAMs_20 16 16 10.6
comp=Z,656nm,22.0s
YSS Yuzhno-Sakhali 130.87 304 *e*PKiKP **PKiKP** **15 30 41.4 -0.1**
YSS *e* 15 50 32.1
YSS MLR MLR
comp=Z,600nm,16.0s
WATA Walderalm 131.06 55 *e*PKiKP **PKiKP** **15 30 42.9 +0.8**
comp=Z,4.3nm,0.7s
WTTA Wattenberg 131.09 55 *i* pPKP pPKPdf 15 30 44.6 +0.5
comp=Z,3.8nm,0.7s
FDMO Fiordimonte 131.14 61 IAMs_20 IAMs_20 16 22 10.4
comp=Z,586nm,22.0s
GUMA Gualdo di Mace 131.32 61 IAMs_20 IAMs_20 16 24 53.3
comp=Z,717nm,22.0s
MJAR Matsushiro Arr 131.44 290 PKP **PKiKP** **15 30 43.5 +0.5**
comp=Z,2.0nm,0.9s,baz=108,slow=3.7,SNR=4.8
MAJO Matsushiro 131.44 290 *de*PKiKP **PKPdf** **15 30 40.3 -1.8**
ABTA Abfaltersbach 131.57 56 *i* pPKP pPKPdf 15 30 45.0 +0.2
comp=Z,2.7nm,0.8s
PAOL Paolisi 131.70 64 IAMs_20 IAMs_20 16 21 22.3
comp=Z,502nm,21.0s
LESA Schwarzleotal 131.81 55 *e*pPKP **PKiKP** **15 30 45.2 +1.7**
comp=Z,4.1nm,0.7s
CEL Celeste 131.91 68 IAMs_20 IAMs_20 16 24 17.2
comp=Z,770nm,22.0s
NB2 NORSAR Subarra 132.18 37 PKPdf **PKiKP** **15 30 44.6 +0.9**
comp=Z,29nm,1.7s,baz=270,slow=1.9
NB2 NORSAR Subarra 132.18 37 PKPdf **PKiKP** **15 30 44.6 +0.9**
comp=Z,29nm,1.7s,baz=270,slow=1.9
NOA NORSAR Array B 132.18 37 PKP **PKiKP** **15 30 44.6 +0.9**
comp=Z,4.3nm,1.0s,baz=281,slow=2.3,SNR=5.4
KBA Koelnbreinsper 132.19 56 *i* PKP **PKiKP** **15 30 44.2 -0.2**
comp=Z,1.5nm,0.7s
MYKA Terra Mystica 132.31 56 *i* pPKP pPKPdf 15 30 46.4 +0.2
comp=Z,1.6nm,0.7s
CUC Castrocucco 132.34 66 IAMs_20 IAMs_20 16 27 47.4
comp=Z,611nm,21.0s
MDSI Maura Dua 132.48 218 PKP **PKPdf** **15 30 43.1 -1.6**
MDSI PKP **pPKPdf** **15 30 46.9 -0.7**
BIOA Bad Ischl, Aus 132.50 55 *i* PKiKP **PKiKP** **15 30 46.4 +1.6**
comp=Z,3.7nm,1.2s
CLL Collm 132.62 50 IAMs_20 IAMs_20 16 20 21.9
comp=Z,693nm,20.0s
CLL Collm 132.62 50 *e*PKiKP **PKPdf** **15 30 44.0 +0.2**
CLL *i* 15 30 46.3
KHC Kasperske Hory 132.69 53 *e*PKP **PKiKP** **15 30 45.6 +0.4**
KHC *ex* x 15 51 01.2
KHC AMS AMS 16 25 10.0
comp=Z,700nm,21.4s
KHC Kasperske Hory 132.69 53 *e*PKiKP **PKiKP** **15 30 45.6 +0.4**
KHC MLR MLR
comp=Z,700nm,21.4s
GERES GERESS Array B 132.73 54 PKP **PKiKP** **15 30 45.5 +0.1**
comp=Z,2.7nm,0.8s,baz=338,slow=2.9,SNR=14
TIP Timpagrande 132.82 67 IAMs_20 IAMs_20 16 28 36.2
comp=Z,858nm,22.0s
OBKA Obir 132.90 57 *e*PKiKP **PKiKP** **15 30 46.9 +1.2**
comp=Z,2.9nm,0.9s
MOA Molln 132.94 55 *i* PKiKP **PKiKP** **15 30 46.4 +0.7**
comp=Z,1.6nm,0.8s
CKRC Cesky Krumlov 133.12 54 *e*PKP **PKiKP** **15 30 48.0 +2.0**
CKRC *ex* x 15 51 05.6
CKRC AMS AMS 16 24 10.0
comp=Z,600nm,19.3s
CKRC Cesky Krumlov 133.12 54 *e*PKiKP **PKiKP** **15 30 48.0 +2.0**
CKRC MLR MLR
comp=Z,600nm,19.3s
ZVC Zvikov 133.13 53 *e*PKP **PKiKP** **15 30 48.2 +2.2**
ZVC AMS AMS 16 24 40.0
comp=Z,700nm,21.4s
BRG Berggiesshubel 133.16 51 *e*PKP **PKiKP** **15 30 48.2 +2.2**
BRG Amp 15 30 53.2
comp=Z,7.6nm,0.9s
SOKA Soboth 133.26 57 *e*PKP **PKPdf** **15 30 45.4 +0.1**
comp=Z,1.6nm,0.9s
HFS Hagfors 133.42 38 PKP **PKiKP** **15 30 46.7 +0.5**
comp=Z,3.6nm,0.6s,baz=172,slow=1.0,SNR=11
KKM Kota Kinabalu 133.43 240 IAMs_20 IAMs_20 16 24 19.6
comp=Z,842nm,21.0s
SBUM Sibu 133.49 232 IAMs_20 IAMs_20 16 25 04.7
comp=Z,837nm,21.0s
PMBI Palembang 133.51 220 IAMs_20 IAMs_20 16 25 01.0
comp=Z,739nm,21.0s
ARSA Arzberg 133.69 56 *i* PKiKP **PKiKP** **15 30 47.4 +0.2**
comp=Z,4.8nm,0.8s
KSM Kuching 133.94 230 IAMs_20 IAMs_20 16 21 31.3
comp=Z,829nm,19.0s
CONA Conrad Observa 134.02 55 *i* PKP **PKPdf** **15 30 46.9 +0.3**
comp=Z,1.8nm,0.8s
RONA Rosalia, Austr 134.27 55 *i* PKP **PKPdf** **15 30 47.8 +0.7**
comp=Z,1.6nm,0.7s
BLY Banja Luka 134.40 60⇑P **PKiKP** **15 30 51.1 +2.4**
UPC Upice 134.43 51 AMS AMS 16 27 40.0
comp=Z,700nm,21.2s
KRUC Moravsky 134.52 54 *e*PKP **PKPdf** **15 30 46.5 -0.9**
OSTC Ostas 134.56 51 *e*PKP **PKiKP** **15 30 50.2 +1.3**
OSTC AMS AMS 16 27 50.0
comp=Z,700nm,22.9s
OSTC Ostas 134.56 51 *e*PKiKP **PKiKP** **15 30 50.2 +1.3**
OSTC MLR MLR
comp=Z,700nm,22.9s
DPC Dobruska-Polom 134.61 52 AMS AMS 16 29 40.0
comp=Z,600nm,17.0s
VRAC Vranov 134.67 53 *e*PKP **PKPdf** **15 30 46.9 -0.8**
MSEY Mahe Island 134.85 149 IAMs_20 IAMs_20 16 19 48.5
comp=Z,799nm,21.0s
KRLC Kraliky 134.88 52 AMS AMS 16 26 40.0
comp=Z,700nm,19.5s
MODS Modra-Piesok 135.01 55 *e*PKiKP **PKiKP** **15 30 52.0 +2.1**
KEK Kerkira 135.23 67 IAMs_20 IAMs_20 16 30 10.0
comp=Z,470nm,21.0s
JAVC Velka Javorina 135.33 54 *e*PKP **PKPdf** **15 30 48.3 -0.7**
MORC Moravsky Berou 135.34 53 *e*PKP **PKPdf** **15 30 48.5 -0.5**
MORC Moravsky Berou 135.34 53⇑P **PKiKP** **15 30 52.6 +2.1**
MORC Moravsky Berou 135.34 53⇑PKiKP **PKiKP** **15 30 52.6 +2.1**
TIXI Tiksi 135.46 339⇑ *i*PKiKP **PKiKP** **15 30 51.3 +1.3**
FURI Furi 135.93 118 IAMs_20 IAMs_20 16 24 55.3
comp=Z,478nm,20.0s
ARCES ARCESS Array B 136.37 24 PKP **PKiKP** **15 30 51.9 -0.1**
comp=Z,3.5nm,0.8s,baz=0.0,slow=1.2,SNR=6.0
LANS Liptovska Anna 136.53 54 *e*PKiKP **PKiKP** **15 30 55.8 +2.8**
DGAR Diego Garcia 136.71 173⇑ *i*PKiKP **PKiKP** **15 30 54.1 -0.3**
BOVS Bovan 137.42 62⇑P **PKiKP** **15 31 01.8 +6.9**
MDVR Moldovita 137.59 60⇑P **PKiKP** **15 31 03.0 +7.7**
BZS Buzias 137.63 59⇑P **PKiKP** **15 30 58.7 +3.4**
BZS Buzias 137.63 59⇑PKiKP **PKiKP** **15 30 58.7 +3.4**
USRK Ussuriysk Ar. 137.84 299 PKP **PKiKP** **15 30 55.3 -0.4**
comp=Z,3.0nm,0.8s,baz=84,slow=2.3,SNR=5.2
SURR Surduc 138.00 59⇑P **PKiKP** **15 30 57.7 +1.7**
HERR Herculane 138.10 60⇓P **PKiKP** **15 31 02.2 +6.0**
YAK Yakutsk 138.35 326 IAMs_20 IAMs_20 16 32 12.2
comp=Z,644nm,20.0s
YAK Yakutsk 138.35 326 *e*PKiKP **PKPdf** **15 30 52.8 -1.3**
YAK *e* 15 33 43.0
YAK pmax pmax
comp=Z,8.0nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.8s
YAK pmax pmax
comp=Z,76nm,3.1s
YAK pmax pmax
comp=N,52nm,2.9s
YAK pmax pmax
comp=E,94nm,5.6s
GZR Gura Zlata 138.42 60⇓P **PKiKP** **15 30 56.8 -0.2**
GZR Gura Zlata 138.42 60⇓PKiKP **PKiKP** **15 30 56.8 -0.2**
DRGR 138.51 57⇓P **PKiKP** **15 31 00.0 +2.9**
DRGR 138.51 57⇓PKiKP **PKiKP** **15 31 00.0 +2.9**
MARR Marisel-Cluj 138.78 58⇓P **PKiKP** **15 30 57.6 -0.1**
SUW Suwalki 138.90 47 IAMs_20 IAMs_20 16 29 49.5
comp=Z,588nm,20.0s
PABE Paberze 139.22 44 IAMs_20 IAMs_20 16 25 44.1
comp=Z,552nm,21.0s
FINES FINESS Array B 139.23 35 PKhKP PKPpre 15 30 50.7
comp=Z,1.1nm,0.6s,baz=229,slow=2.0,SNR=6.5
FINES PKP **PKPdf** **15 30 56.0 +0.3**
comp=Z,1.7nm,0.7s,baz=238,slow=1.8,SNR=6.6
KSRS Korea Array 139.60 288 PKhKP PKPpre 15 30 47.3
comp=Z,0.3nm,0.5s,baz=118,slow=3.0,SNR=1.8
KSRS PKP **PKPdf** **15 30 57.0 -0.1**
comp=Z,4.2nm,0.9s,baz=120,slow=1.6,SNR=14
MDJ Mudanjiang 139.60 299 IAMs_20 IAMs_20 16 19 57.0
comp=Z,794nm,22.0s
MDJ Mudanjiang 139.60 299 P **PKPdf** **15 30 54.3 -2.7**
MDJ pmax pmax
comp=Z,4.0nm,0.7s
MDJ Mudanjiang 139.60 299 PKP **PKPdf** **15 30 56.5 -0.5**
MDJ SS SS 15 52 15.3 +2.8
ARR Arges 139.72 60⇓P **PKPdf** **15 30 56.4 -0.8**
APA Apatity 139.85 24⇓ *i*PKiKP **PKPdf** **15 30 56.2 -0.5**
APA *i* SS SS 15 52 07.1 -6.6
VOIR 140.01 60⇓P **PKPdf** **15 30 58.8 +1.0**
VOIR 140.01 60⇓PKiKP **PKPdf** **15 30 58.8 +1.0**
LVZ Lovozero 140.09 23 *ce*PKiKP **PKPdf** **15 30 58.4 +1.2**
ALN Alexandroupoli 140.15 67 IAMs_20 IAMs_20 16 33 05.1
comp=Z,528nm,22.0s
EZN Ezine 140.17 69⇑P **PKPdf** **15 30 58.6 +0.5**
EZN Ezine 140.17 69⇑PKiKP **PKPdf** **15 30 58.6 +0.5**
VSU Vasula 140.25 39⇑ *e*PKiKP **PKPdf** **15 30 56.9 -0.8**
BURAR Bucovina Array 140.27 56 PKPdf **PKPdf** **15 30 53.3 -4.9**
BURAR Bucovina Array 140.27 56⇓P **PKPdf** **15 30 57.8 -0.4**
BURAR Bucovina Array 140.27 56⇓PKiKP **PKPdf** **15 30 57.8 -0.4**
DOPR Dopca 140.29 59⇑P **PKiKP** **15 31 07.3 +6.5**
MLR Muntele Rosu 140.65 60 IAMs_20 IAMs_20 16 36 23.8
comp=Z,481nm,20.0s
MLR Muntele Rosu 140.65 60⇑P **PKiKP** **15 31 00.8 -0.8**
MLR Muntele Rosu 140.65 60⇑PKiKP **PKiKP** **15 31 00.8 -0.8**
ATD Arta Tunnel 140.70 119 IAMs_20 IAMs_20 16 30 00.7
comp=Z,689nm,22.0s
COVR Voineasa-Covas 140.85 59⇑P **PKiKP** **15 31 02.3 +0.4**
ZEA Zeya 141.12 313 *e*PKiKP **PKPdf** **15 30 57.6 -1.8**
ZEA *e* 15 34 00.1
ZEA *e* 15 46 22.3
ZEA pmax pmax
comp=Z,10.0nm,1.5s
PLOR Plostina 141.16 59⇓P **PKiKP** **15 31 05.1 +2.6**
PLOR Plostina 141.16 59⇓PKiKP **PKiKP** **15 31 05.1 +2.6**
VRI Vrincioaia 141.22 59⇓P **PKiKP** **15 31 04.0 +1.4**
VRI Vrincioaia 141.22 59⇓PKiKP **PKiKP** **15 31 04.0 +1.4**
BNX BinXian 141.24 301 PKP **PKPdf** **15 31 00.5 +0.6**
HEH HeiHe 141.29 308 PKP **PKPdf** **15 30 56.5 -3.3**
HEH SS SS 15 52 37.3 +5.5
HEH LR LR
comp=Z,480nm,18.2s
HEH LR LR
comp=Z,290nm,18.0s
HEH LR LR
comp=Z,740nm,18.8s
PUL Pulkovo 141.71 37⇑ *e*PKiKP **PKPdf** **15 31 00.2 0.0**
CFR Carcaliu 142.17 60⇓P **PKiKP** **15 31 04.8 +0.3**
CFR Carcaliu 142.17 60⇓PKiKP **PKiKP** **15 31 04.8 +0.3**
ELL Elmali 142.28 74 IAMs_20 IAMs_20 16 33 17.1
comp=Z,469nm,21.0s
SORM Soroca 142.38 56⇓P **PKPdf** **15 31 03.3 +1.5**
SORM Soroca 142.38 56⇓PKiKP **PKPdf** **15 31 03.3 +1.5**
CN2 Changchun 142.49 297 PKP **PKiKP** **15 31 06.3 +1.1**
CN2 PP PP 15 34 18.3 +8.0
CN2 SKS **SKSdf** **15 38 10.5 -1.2**
CN2 SS **SS** **15 52 49.3 +3.1**
CN2 AMB AMB
comp=Z,120nm,6.0s
CN2 LR LR
comp=Z,290nm,19.0s
CN2 LR LR
comp=Z,250nm,19.0s
CN2 LR LR
comp=Z,340nm,21.0s
MILM Milestii Mici 142.70 58⇑P **PKiKP** **15 31 05.7 +0.2**
MILM Milestii Mici 142.70 58 *e*PKP **PKiKP** **15 31 05.0 -0.6**
comp=Z,120nm,1.6s
MILM *e*L L 16 19 46.0
MILM LRM MLR 16 27 03.0
comp=Z,600nm,21.5s
MILM Milestii Mici 142.70 58 *e*PKiKP **PKiKP** **15 31 05.0 -0.6**
MILM pmax pmax
comp=Z,120nm,1.6s
KIEV Kiev 142.83 51 IAMs_20 IAMs_20 16 29 16.1
comp=Z,738nm,20.0s
KIEV Kiev 142.83 51⇓P **PKiKP** **15 31 06.7 +1.0**
KIEV Kiev 142.83 51⇓PKiKP **PKiKP** **15 31 06.7 +1.0**
AKASG Malin Array Be 142.84 51 PKP **PKPdf** **15 31 02.4 -0.1**
comp=Z,17nm,0.9s,baz=279,slow=3.2,SNR=6.7
AKBB Malin Array Si 142.84 51⇓ *e*PKiKP **PKPdf** **15 31 02.5 -0.1**
DLV Lat 142.96 238 IAMs_20 IAMs_20 16 27 06.4
comp=Z,668nm,22.0s
LHMI Lhok Sumawe 144.43 216 PKP **PKPab** **15 30 59.9 -4.8**
LHMI PKP **PKPdf** **15 31 08.1 +1.6**
DL2 Dalian 144.75 289 PKP **PKPdf** **15 31 07.0 +0.7**
DL2 PP PP 15 34 33.5 +9.5
DL2 SS SS 15 53 17.8 +5.2
DL2 AMB AMB
comp=Z,190nm,5.4s
DL2 LR LR
comp=Z,470nm,27.2s
DL2 LR LR
comp=Z,660nm,29.6s
GHAJ Ghor Haditha 145.31 85 IAMs_20 IAMs_20 16 33 31.5
comp=Z,762nm,22.0s
NJ2 Nanjing 145.34 276 *e*PKPbc **PKPbc** **15 31 06.3 -1.1**
NJ2 LR LR
comp=Z,360nm,24.3s
NJ2 LR LR
comp=Z,330nm,24.3s
NJ2 LR LR
comp=Z,430nm,23.4s
KLMR Klimovskoe 145.49 32 *e*PKHKP PKPpre 15 31 02.9
KLMR pmax pmax
comp=Z,349nm,1.2s
MMAI Mount Meron Ar 145.69 82 PKPbc **PKPbc** **15 31 08.8 +0.2**
comp=Z,6.1nm,0.6s,baz=260,slow=2.5,SNR=9.7
BR131 Keskin Array S 145.71 70 PKPdf **PKPdf** **15 31 08.0 -0.2**
BR131 Keskin Array S 145.71 70 *d*/PKP2 **PKPdf** **15 31 07.6 -0.6**
BRTR Keskin Array B 145.71 70 **PKPdf** **15 31 08.0 -0.2**
BRTR Keskin Array B 145.71 70 PKPbc **PKPdf** **15 31 08.2 +0.1**
comp=Z,3.1nm,0.9s,baz=220,slow=3.2,SNR=17
HIA Hailar 146.32 307 IAMs_20 IAMs_20 16 30 22.1
comp=Z,723nm,20.0s
OBN Obninsk 146.34 42 IAMs_20 IAMs_20 16 30 32.2
comp=Z,507nm,21.0s
OBN Obninsk 146.34 42⇓P **PKiKP** **15 31 15.4 +2.6**
OBN Obninsk 146.34 42 *d*/PKiKP **PKPdf** **15 31 08.8 +0.3**
OBN *e* 15 31 11.9
OBN *e* 15 34 32.2
OBN *e*PPP PPP 15 37 48.1
OBN pmax pmax
comp=Z,43nm,1.5s
SIM Simferopol' 146.40 61 *e*PKP2 **PKiKP** **15 31 12.9 -0.4**
SIM pmax pmax
comp=Z,36nm,0.9s
QIZ Qiongzhong 146.63 249 PKPbc **PKPdf** **15 31 08.5 -1.6**
QIZ SS SS 15 53 34.5 +0.6
QIZ AMB AMB
comp=Z,240nm,10.2s
QIZ LR LR
comp=Z,200nm,17.7s
QIZ LR LR
comp=Z,330nm,17.2s
QIZ LR LR
comp=Z,610nm,19.6s
MOS Moscow 146.71 41 *e*PKiKP **PKPdf** **15 31 08.5 -0.6**
MOS pmax pmax
comp=Z,85nm,1.4s
BOD Bodaibo 147.19 324 *e*PKP2 **PKPbc** **15 31 12.3 +0.2**
BOD pmax pmax
comp=Z,150nm,1.3s
BNN Bunyan 147.29 72 **PKPbc** **15 31 12.8 -0.4**
TIA Tai'an 147.78 283 PKPbc **PKPdf** **15 31 12.5 +0.9**
TIA SS SS 15 53 48.3 +1.0
TIA AMB AMB
comp=Z,320nm,9.8s
TIA LR LR
comp=Z,320nm,20.6s
TIA LR LR
comp=Z,490nm,17.7s
TIA LR LR
comp=Z,840nm,21.6s
LPSR Galich'ya Gora 148.43 46 *e*PKiKP **PKPdf** **15 31 13.9 +1.9**
LPSR pmax pmax
comp=Z,70nm,0.9s
WHN Wuhan 148.50 271 PKPbc **PKPbc** **15 31 15.3 -1.2**
WHN PKPab **sPKPab** **15 31 24.0 +0.3**
WHN LR LR
comp=Z,2µm,25.8s
ANN Anapa 148.76 61 *e*PKHKP PKPpre 15 31 10.0
ANN *i* 15 31 15.5
ANN *e* 15 34 47.1
ANN *e*SS SS 15 53 53.8 -3.8
ANN *e*SSS SSS 15 59 30.6
ANN pmax pmax

	comp=Z,18nm,1.0s								
ANN					pmax	pmax			
	comp=Z,142nm,1.3s								
CNSH	**ChangSha**	**148.78**	**266**		PKPbc	**PKPdf**	**15 31 15.0**	**+1.6**	
VORR	**Voronezh**	**148.85**	**48**	*e*	PKP2	**PKiKP**	**15 31 18.7**	**+0.6**	
VORR					pmax	pmax			
	comp=Z,30nm,0.9s								
VSR	**Storozhevoye**	**148.94**	**49**	*e*	PKP2	**PKPbc**	**15 31 17.6**	**+0.6**	
VSR					pmax	pmax			
	comp=Z,20nm,0.9s								
BJI	**Beijing**	**149.07**	**290**		PKPbc	**PKPdf**	**15 31 15.0**	**+1.5**	
BJI					SS	SS	15 54 03.5	+2.0	
BJI					LR	LR			
	comp=Z,150nm,22.6s								
BJI					LR	LR			
	comp=Z,120nm,24.0s								
BJI					LR	LR			
	comp=Z,280nm,24.5s								
BJT	**Baijiatuau**	**149.08**	**290**			**PKPbc**	**15 31 16.1**	**-1.6**	
BJT	**Baijiatuau**	**149.08**	**290**		PKIKP	**PKPbc**	**15 31 16.1**	**-1.6**	
BJT					MLR	MLR			
	comp=Z,400nm,21.0s								
VORD	**Divnogorie**	**149.09**	**49**	*e*	PKIKP	**PKPbc**	**15 31 16.4**	**-0.9**	
VORD					pmax	pmax			
	comp=Z,10.0nm,0.8s								
XLT	**XiLinHaoTe**	**149.26**	**297**	*e*	PKPbc	**PKPdf**	**15 31 16.0**	**+2.2**	
XLT					SS	SS	15 54 01.0	-2.5	
XLT					LR	LR			
	comp=Z,310nm,20.4s								
XLT					LR	LR			
	comp=Z,510nm,28.5s								
CIT	**Chita**	**149.59**	**313**	*e*	PKIKP	**PKPbc**	**15 31 17.4**	**-1.2**	
CIT				*e*			15 34 55.2		
CIT					pmax	pmax			
	comp=Z,105nm,2.0s								
HNS	**HongShan**	**149.90**	**284**	⇓	PKPbc	**PKPbc**	**15 31 17.8**	**-2.0**	
HNS					LR	LR			
	comp=Z,390nm,20.2s								
HNS					LR	LR			
	comp=Z,520nm,20.6s								
HNS					LR	LR			
	comp=Z,650nm,22.7s								
RAYN	**Ar Rayn**	**150.06**	**106**			**PKPab**	**15 31 25.0**	**-1.6**	
RAYN	**Ar Rayn**	**150.06**	**106**		IAMs_20	IAMs_20	16 41 08.7		
	comp=Z,615nm,21.0s								
RAYN	**Ar Rayn**	**150.06**	**106**		PKIKP	**PKPab**	**15 31 25.0**	**-1.6**	
RAYN					MLR	MLR			
	comp=Z,600nm,21.0s								
SOC	**Sochi**	**150.45**	**63**	*e*	PKIKP	**PKPbc**	**15 31 18.4**	**-2.5**	
SOC				*e*	PPP	PPP	15 38 15.2		
SOC				*e*	SS	SS	15 54 15.2	-1.4	
SOC				*e*	SSS	SSS	15 59 49.7		
SOC					pmax	pmax			
	comp=Z,85nm,1.1s								
VRH	**Novokhopyorsk**	**150.49**	**48**	*e*	PKIKP	**PKiKP**	**15 31 22.8**	**+1.3**	
VRH					pmax	pmax			
	comp=Z,70nm,0.9s								
VSLR	**Vesyoloye**	**150.69**	**64**	⇑	*e*PKIKP	**PKPdf**	**15 31 16.7**	**+0.7**	
ERBR	**Yeremizino-Bor**	**150.83**	**59**	*e*	PKIKP	**PKPdf**	**15 31 13.3**	**-2.8**	
ERBR				*i*			15 31 21.0		
ERBR					pmax	pmax			
	comp=Z,12nm,0.7s								
ERBR					pmax	pmax			
	comp=Z,80nm,1.0s								
KIRV	**Kirov**	**150.91**	**30**	*de*	PKIKP	**PKPdf**	**15 31 17.8**	**+2.0**	
LABN	**Labinsk**	**151.11**	**61**	*i*	PKIKP	**PKPbc**	**15 31 21.2**	**-1.2**	
LABN				*e*			15 31 24.9		
LABN					pmax	pmax			
	comp=Z,22nm,0.7s								
LYN	**LuoYang**	**151.16**	**278**		PKPbc	**PKPbc**	**15 31 21.5**	**-1.4**	
LYN					LR	LR			
	comp=Z,370nm,24.2s								
LYN					LR	LR			
	comp=Z,570nm,24.7s								
LYN					LR	LR			
	comp=Z,410nm,24.3s								
PALK	**Pallekele**	**151.32**	**187**	⇓	PKIKP	**PKiKP**	**15 31 25.3**	**+0.9**	
KIV	**Kislovodsk**	**152.57**	**62**	⇑	P	**PKiKP**	**15 31 28.5**	**+2.4**	
KIV	**Kislovodsk**	**152.57**	**62**	*e*	PKIKP	**PKPdf**	**15 31 19.2**	**+0.3**	
KIV				*e*			15 35 08.8		
KIV				*e*	SS	SS	15 54 38.8	-1.5	
KIV					pmax	pmax			
	comp=Z,24nm,1.0s								
HHC	**Hu-ho-hao-te**	**152.63**	**291**	*e*	PKPbc	**PKPdf**	**15 31 15.0**	**-4.2**	
HHC					PP	**PP**	**15 35 09.8**	**-0.3**	
HHC					LR	LR			
	comp=Z,220nm,18.0s								
HHC					LR	LR			
	comp=Z,380nm,18.5s								
HHC					LR	LR			
	comp=Z,430nm,18.4s								
NEUR	**Neytrino**	**152.64**	**64**	*e*	PKIKP	**PKPdf**	**15 31 19.5**	**+0.3**	
GOF	**Gofitskoye**	**152.70**	**60**	*ce*	PKIKP	**PKPdf**	**15 31 22.1**	**+3.1**	
KBZ	**Khabaz**	**152.75**	**63**		PKP	**PKPdf**	**15 31 19.7**	**+0.6**	
	comp=Z,4.8nm,0.9s,baz=61,slow=2.7,SNR=3.9								
KBZ	**Khabaz**	**152.75**	**63**	⇑	*e*PKIKP	**PKPdf**	**15 31 19.0**	**0.0**	
NCK	**Nalchik**	**153.27**	**63**	⇑	*e*PKIKP	**PKPdf**	**15 31 20.1**	**+0.2**	
BELG	**Belogornoye**	**153.44**	**42**	*c*	*i* PKIKP	**PKPdf**	**15 31 22.2**	**+2.5**	
BTO	**Baotou**	**153.80**	**290**	*e*	PKPbc	**PKPdf**	**15 31 24.8**	**+3.9**	
BTO					PKPab	**sPKPab**	**15 31 48.3**	**+2.7**	
BTO					LR	LR			
	comp=Z,450nm,12.6s								
BTO					LR	LR			
	comp=Z,700nm,16.8s								
BTO					LR	LR			
	comp=Z,690nm,17.2s								
XAN	**Xi'an**	**153.90**	**275**		PKPbc	**PKPbc**	**15 31 25.8**	**-3.3**	
XAN					SS	SS	15 54 55.3	0.0	
XAN					LR	LR			
	comp=Z,410nm,24.7s								
XAN					LR	LR			
	comp=Z,390nm,24.7s								
XAN					LR	LR			
	comp=Z,670nm,24.2s								
CMAR	**Chiang Mai Arr**	**154.03**	**234**			**PKPdf**	**15 31 20.2**	**-1.5**	
CMAR	**Chiang Mai Arr**	**154.03**	**234**		PKP	**PKPdf**	**15 31 21.6**	**0.0**	
	comp=Z,7.8nm,1.2s,baz=247,slow=0.9,SNR=13								
GNI	**Garni**	**154.25**	**71**		IAMs_20	IAMs_20	16 54 36.6		
	comp=Z,378nm,21.0s								
GNI	**Garni**	**154.25**	**71**	⇑	*e*PKIKP	**PKPdf**	**15 31 24.8**	**+3.2**	
NAX	**Nakhchivan**	**154.80**	**73**		PKIKP	**PKPdf**	**15 31 21.7**	**-0.6**	
ULN	**Ulaanbaatar**	**154.85**	**308**			**PKPdf**	**15 31 22.9**	**+0.8**	
ULN	**Ulaanbaatar**	**154.85**	**308**		IAMs_20	IAMs_20	16 34 01.5		
	comp=Z,706nm,21.0s								
ULN	**Ulaanbaatar**	**154.85**	**308**		PKIKP	**PKPdf**	**15 31 22.9**	**+0.8**	
ULN					MLR	MLR			
	comp=Z,700nm,21.0s								
SONM	**Songino Array**	**155.28**	**308**		PKP	**PKPdf**	**15 31 23.0**	**+0.3**	
	comp=Z,3.2nm,0.9s,baz=232,slow=0.9,SNR=10								
SONM					PP	**PP**	**15 35 27.1**	**+2.5**	
	comp=Z,1.5nm,0.8s,baz=108,slow=4.8,SNR=3.6								
GANJ	**Ganja**	**155.46**	**70**		PKIKP	**PKPdf**	**15 31 22.6**	**-0.5**	
KMI	**Kunming**	**155.50**	**251**		PKP	PKPdf	15 31 32.3	+8.5	
KMI					PP	**PP**	**15 35 28.3**	**+1.9**	
ARTI	**Arti**	**155.90**	**26**		PKPdf	**PKPdf**	**15 31 23.0**	**-0.1**	
ARTI					IAMs_20	IAMs_20	16 45 15.4		
	comp=Z,642nm,20.0s								
ARTI	**Arti**	**155.90**	**26**	*i*	PKIKP	**PKPdf**	**15 31 25.3**	**+2.2**	
ARTI					PPP	PPP	15 38 35.3		
MNGR	**Mingechevir, A**	**156.03**	**69**		PKIKP	**PKPdf**	**15 31 23.4**	**-0.3**	
SEKA	**Sheki**	**156.10**	**68**		PKIKP	**PKPdf**	**15 31 23.6**	**-0.3**	
MAK	**Makhachkala**	**156.17**	**64**	*e*	PKIKP	**PKPdf**	**15 31 19.0**	**-4.8**	
MAK				*e*			15 38 22.7		
MAK				*e*	SS	SS	15 55 10.5	-8.7	
MAK					pmax	pmax			
	comp=Z,390nm,1.5s								
ZAK	**Zakamensk**	**156.18**	**316**	*e*	PKIKP	**PKPdf**	**15 31 28.9**	**+5.1**	
ZAK					pmax	pmax			
	comp=Z,29nm,1.9s								
SVE	**Sverdlovsk**	**156.30**	**23**	*e*	PKIKP	**PKPdf**	**15 31 25.8**	**+2.2**	
SVE					pmax	pmax			
	comp=Z,33nm,1.6s								
AKT	**Akhty**	**156.48**	**67**	*e*	PKIKP	**PKPdf**	**15 31 21.6**	**-2.9**	
AKT				*e*			15 35 29.9		
AKT					pmax	pmax			
	comp=Z,27nm,1.2s								
PZH	**PanZhiHua**	**156.97**	**253**		PKP	**PKPdf**	**15 31 25.5**	**-0.1**	
PZH					PP	**PP**	**15 35 39.0**	**+4.5**	
PZH					SS	SS	15 55 29.8	+1.3	
PZH					AMB	AMB			
	comp=Z,250nm,11.6s								
PZH					LR	LR			
	comp=Z,280nm,21.8s								
PZH					LR	LR			
	comp=Z,250nm,21.2s								
PZH					LR	LR			
	comp=Z,450nm,22.6s								
CD2	**Chengdu**	**157.22**	**265**		PKP	**PKPdf**	**15 31 24.5**	**-1.2**	
CD2					PP	**PP**	**15 35 35.0**	**-0.9**	
CD2					SKKS		15 42 23.0		
CD2					LR	LR			
	comp=Z,860nm,22.1s								
CD2					LR	LR			
	comp=Z,1μm,20.6s								
CD2					LR	LR			
	comp=Z,740nm,22.9s								
LKRN	**Lenkeran, Azer**	**157.35**	**74**		PKIKP	**PKPdf**	**15 31 25.1**	**-0.4**	
LZH	**Lanzhou**	**158.37**	**278**		PKP	PKPdf	15 31 36.5	+9.4	
LZH					pPKP	sPKPdf	15 31 46.0	+15	
LZDM	**Lanzhou Array**	**158.47**	**278**		PKPab	**PKPab**	**15 32 01.2**	**-1.0**	
	comp=Z,3.7nm,0.4s,baz=53,slow=6.1,SNR=4.2								
UOSS	**Minazif**	**158.99**	**116**		IAMs_20	IAMs_20	16 43 53.6		
	comp=Z,538nm,21.0s								
KNGR	**Kungurtug, Tuv**	**159.18**	**321**	⇓	*e*PKIKP	**PKPdf**	**15 31 29.9**	**+2.4**	
ZALV	**Zalesovo Beam**	**161.15**	**346**			**PKPdf**	**15 31 26.5**	**-3.0**	
ZALV	**Zalesovo Beam**	**161.15**	**346**		PKP	**PKPdf**	**15 31 29.7**	**+0.3**	
	comp=Z,2.3nm,0.8s,baz=117,slow=0.3,SNR=14								
ZALV					PKPab	**pPKPab**	**15 32 15.2**	**-0.4**	
	comp=Z,7.2nm,0.8s,baz=15,slow=2.6,SNR=4.8								
ZALV					PP	**PP**	**15 35 58.2**	**+2.6**	
	comp=Z,1.8nm,0.8s,baz=355,slow=7.4,SNR=3.5								
HYB	**Hyderabad**	**161.55**	**184**	*e*	PKPdf	**PKPdf**	**15 31 30.5**	**-0.6**	
HYB				*e*	PP	**PP**	**15 35 59.3**	**+1.6**	
HYB				*e*	SKSdf	**SKSdf**	**15 38 35.9**	**-0.2**	
GTA	**Gaotai**	**161.67**	**288**	*e*	PKP	**PKPdf**	**15 31 31.5**	**+0.8**	
GTA					PKPab	**PKPab**	**15 32 17.5**	**+1.6**	
GTA					SS	SS	15 56 20.3	+2.1	
GTA					LR	LR			
	comp=Z,320nm,20.4s								
GTA					LR	LR			
	comp=Z,590nm,19.3s								
GTA					LR	LR			
	comp=Z,790nm,20.0s								
ABKAR	**Akbulak array**	**161.68**	**38**		PKPdf	**PKPdf**	**15 31 29.2**	**-0.9**	
BORK	**Borovoye**	**162.20**	**13**	*de*	PKIKP	**PKPdf**	**15 31 31.9**	**+1.3**	
BVAR	**Borovoye Array**	**162.23**	**13**		PKP	**PKPdf**	**15 31 32.2**	**+1.6**	
	comp=Z,3.4nm,0.9s,baz=343,slow=1.5,SNR=12								
BVAR					PKPab	**PKPab**	**15 32 18.2**	**+0.6**	
	comp=Z,3.5nm,0.8s,baz=5.2,slow=1.6,SNR=3.9								
BVAR					PP	**PP**	**15 36 04.7**	**+3.3**	
	comp=Z,2.1nm,0.7s,baz=352,slow=2.1,SNR=3.6								
KURK	**Kurchatov**	**165.14**	**356**		PKIKP	**PKPdf**	**15 31 34.3**	**+1.0**	
KURK							15 32 32.1		
KURBB	**Kurchatov Arra**	**165.24**	**356**		PKP	**PKPdf**	**15 31 34.2**	**+0.8**	
	comp=Z,4.9nm,1.2s,baz=36,slow=0.6,SNR=12								
KURBB					PKPab	**PKPab**	**15 32 32.1**	**+1.3**	
	comp=Z,8.7nm,1.0s,baz=1.5,slow=4.6,SNR=8.5								
KURBB					PP	**PP**	**15 36 18.7**	**+1.6**	
	comp=Z,3.4nm,1.1s,baz=4.0,slow=4.2,SNR=5.3								
GOMU	**GeErMu**	**165.65**	**276**		PKP	**PKPdf**	**15 31 36.0**	**+1.2**	
GOMU					SS	SS	15 56 55.3	-4.7	
GOMU					AMB	AMB			
	comp=Z,100nm,5.9s								
GOMU					LR	LR			
	comp=Z,390nm,19.2s								
GOMU					LR	LR			
	comp=Z,150nm,19.8s								
GOMU					LR	LR			
	comp=Z,1μm,19.4s								
LSA	**Lhasa**	**166.66**	**246**		PKP	**PKPdf**	**15 31 36.3**	**+0.4**	
MKAR	**Makanchi Array**	**168.43**	**342**		PKP	**PKPdf**	**15 31 36.8**	**+0.7**	
	comp=Z,2.7nm,0.9s,baz=31,slow=0.7,SNR=7.4								
MKAR					PKPab	**PKPab**	**15 32 45.9**	**+0.7**	
	comp=Z,4.8nm,0.9s,baz=350,slow=4.1,SNR=6.7								
MKAR					PP	**PP**	**15 36 35.0**	**+1.2**	
	comp=Z,2.2nm,1.0s,baz=346,slow=3.0,SNR=4.4								
MAKZ	**Makanchi**	**168.49**	**343**	⇑	PKP2	**PKPab**	**15 32 44.9**	**-0.5**	
WMQ	**Urumqi**	**168.64**	**317**	*e*	PKP	**PKPdf**	**15 31 36.8**	**+0.5**	
WMQ					LR	LR			
	comp=Z,850nm,23.8s								
WMQ					LR	LR			
	comp=Z,550nm,20.9s								
WMQ					LR	LR			
	comp=Z,840nm,23.8s								
KKAR	**Karatay Array**	**171.19**	**33**			**PKPdf**	**15 31 39.0**	**+1.2**	
KKAR	**Karatay Array**	**171.19**	**33**		PKIKP	**PKPdf**	**15 31 39.0**	**+1.2**	
KSH	**Kashi**	**176.28**	**13**		PKP	**PKPdf**	**15 31 42.5**	**+2.6**	
KSH					PP	PP	15 37 20.5	+8.1	
KSH					AMB	AMB			
	comp=Z,240nm,8.4s								
KSH					LR	LR			
	comp=Z,600nm,20.6s								
KSH					LR	LR			
	comp=Z,530nm,18.4s								
KSH					LR	LR			
	comp=Z,860nm,21.8s								
KNRA					IAmb	IAmb	15 25 39.2		
	comp=Z,12nm,1.1s								
FITZ	**Fitzroy Crossi**	**58.27**	**260**		P	**P**	**15 25 39.2**	**-1.3**	
SBA	**Scott Base**	**59.92**	**185**		P	**P**	**15 25 50.9**	**-0.2**	
SBA					IAmb	IAmb	15 25 57.0		
	comp=Z,3.9nm,0.8s								
PSA00	**Pilbara Seismi**	**62.97**	**255**		P	**P**	**15 26 11.0**	**-1.6**	
MBWA	**Marble Bar**	**63.16**	**255**		P	**P**	**15 26 13.3**	**-0.5**	
MBWA					IAmb	IAmb	15 26 29.9		
	comp=Z,7.0nm,0.9s								
QSPA	**South Pole Qui**	**71.25**	**180**		P	**P**	**15 27 06.3**	**+1.7**	
QSPA					IAmb	IAmb	15 27 10.9		
	comp=Z,4.0nm,0.9s								
QSPA	**South Pole Qui**	**71.25**	**180**		P	P	15 27 09.7	+5.2	
	comp=Z,2.8nm,0.7s,baz=23,slow=0.7,SNR=7.5								
	comp=Z,2.8nm,0.7s								
MJAR	**Matsushiro Arr**	**72.01**	**320**		P	**P**	**15 27 12.7**	**+3.3**	
	comp=Z,1.0nm,0.6s,baz=160,slow=4.0,SNR=4.2								
	comp=Z,1.0nm,0.6s								
NVAR	**Mina Array Bea**	**76.39**	**41**		P	P	15 27 41.0	+5.8	
	comp=Z,0.9nm,0.7s,baz=238,slow=5.0,SNR=3.0								
	comp=Z,0.9nm,0.7s								
KSRS	**Korea Array**	**79.10**	**316**		P	P	15 27 55.9	+5.9	
	comp=Z,3.1nm,0.9s,baz=133,slow=5.9,SNR=18								
	comp=Z,3.1nm,0.9s								
BELA	**Belgrano 2**	**80.53**	**172**		P	**P**	**15 27 58.7**	**+1.5**	
BELA					IAmb	IAmb	15 28 00.7		
	comp=Z,6.0nm,0.9s								
TXAR	**Lajitas Array**	**81.92**	**55**		P	P	15 28 11.3	+5.8	
	comp=Z,1.0nm,0.8s,baz=208,slow=7.0,SNR=4.8								
	comp=Z,1.0nm,0.8s								
NJ2	**Nanjing**	**82.80**	**307**	*e*	P	**P**	**15 28 09.8**	**-0.1**	
NJ2					pmax	pmax			
	comp=Z,1μm,0.5s								
PDAR	**Pinedale Array**	**84.33**	**41**		P	P	15 28 22.8	+5.0	
	comp=Z,2.2nm,0.9s,baz=212,slow=3.4,SNR=4.3								
	comp=Z,2.2nm,0.9s								
ILAR	**Eielson Array**	**85.64**	**11**		P	P	15 28 28.1	+4.5	
	comp=Z,1.7nm,0.7s,baz=224,slow=5.1,SNR=20								
	comp=Z,1.7nm,0.7s								
L29M	**L29M**	**86.02**	**15**			**P**	**15 28 29.4**	**+3.9**	
HHC	**Hu-ho-hao-te**	**91.87**	**313**	*e*	P	**P**	**15 28 53.5**	**-0.4**	
HHC					pmax	pmax			
	comp=Z,10.0nm,0.6s								
HHC					pmax	pmax			
	comp=Z,48nm,5.2s								
CMAR	**Chiang Mai Arr**	**94.36**	**288**		P	P	15 29 10.7	+4.9	
	comp=Z,0.4nm,0.2s,baz=90,slow=2.5,SNR=8.2								
	comp=Z,0.4nm,0.2s								
PZH	**PanZhiHua**	**94.44**	**296**		P	**P**	**15 29 06.8**	**+0.7**	
KURBB	**Kurchatov Arra**	**116.22**	**318**		PKP	**PKiKP**	**15 34 32.5**	**+3.8**	
	comp=Z,0.3nm,0.4s,baz=24,slow=2.5,SNR=1.9								
BVAR	**Borovoye Array**	**121.00**	**321**		PKP	**PKiKP**	**15 34 41.6**	**+3.6**	
	comp=Z,2.2nm,0.7s,baz=72,slow=3.3,SNR=4.1								
AKASG	**Malin Array Be**	**143.75**	**336**		PKIKP	PKPpre	15 35 20.8		
	comp=Z,1.0nm,0.5s,baz=43,slow=3.9,SNR=5.9								
BRTR	**Keskin Array B**	**149.22**	**318**		PKPbc	**PKPab**	**15 35 38.6**	**-0.3**	
	comp=Z,2.8nm,0.8s,baz=61,slow=4.5,SNR=4.3								
MMAI	**Mount Meron Ar**	**151.19**	**305**		PKPab	**PKPab**	**15 35 52.7**	**+5.5**	
	comp=Z,4.3nm,0.7s,baz=64,slow=3.8,SNR=6.4								

*NEIC **27** 15:15:44.8±1.9, 18°.8S±0°.1×172°.61W±0°.09, h10km±1km, mb4.6/21, Error ellipse: s-maj=25.1km s-min=14.4km az=5.0*
*IDC **27** 15:15:48.3±0.8, 18°.88S×172°.91W, h0km, mb4.3/11, mbtmp4.3/12, ML3.6/1, Error ellipse: s-maj=28.1km s-min=19.4km az=136.0*
ISC 27 15:15:45.2±0.5, **18.82S**±0°.10×**172.64W**±0°.06, **h10**km, **n55, s28/40, mb4.5/23, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**2.58**	**96**		**Pn**	**15 16 26.1**	**-1.0**
NIUE					**Sn**	**15 16 53.9**	**-4.7**
MSVF	**Nonsavu**	**8.91**	**275**	Pn	**Pn**	**15 17 53.7**	**-0.5**
RAR	**Rarotonga**	**12.33**	**103**	Pn	**Pn**	**15 18 40.0**	**-0.9**
RAR	**Rarotonga**	**12.33**	**103**	Pn	**Pn**	**15 18 40.4**	**-0.5**
	2.2nm,0.3s,baz=322,slow=4.6,SNR=6.1						
FUNA	**Funafuti**	**12.94**	**321**	Pn	**Pn**	**15 18 45.8**	**-3.5**
PINNC	**Pines Island,**	**19.00**	**255**	P	P	15 19 59.3	-7.9
PINNC				IAmb	IAmb	15 20 02.6	
	comp=Z,38nm,1.1s						
DZM	**Mont Dzumac**	**19.86**	**257**	P	**P**	**15 20 14.4**	**-2.4**
DZM	**Mont Dzumac**	**19.86**	**257**	P	**Pn**	**15 20 18.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=82,slow=17,SNR=2.8						
	comp=Z,7.2nm,0.7s						
URZ	**Urewera**	**21.33**	**203**	P	**P**	**15 20 35.8**	**+3.4**
	comp=Z,11nm,0.6s,baz=316,slow=0.8,SNR=8.3						
	comp=Z,11nm,0.6s						
BKZ	**Black Stump Fm**	**22.36**	**203**	P	**P**	**15 20 44.6**	**+1.1**
TCW	**Tory Channel**	**24.97**	**204**	P	**P**	**15 21 08.9**	**0.0**
RPZ	**Rata Peaks**	**28.36**	**205**	P	P	15 21 48.7	+9.3
	comp=Z,4.8nm,0.5s,baz=50,slow=16,SNR=5.5						
WHZ	**Wether Hill Ro**	**31.42**	**206**	P	**P**	**15 22 06.5**	**-0.1**
CTAO	**Charters Tower**	**38.71**	**261**	P	**P**	**15 23 07.5**	**-2.3**
CTAO				IAmb	IAmb	15 23 23.5	
	comp=Z,7.9nm,0.9s						
TAU	**Tasmania Unive**	**41.38**	**226**	P	**P**	**15 23 31.4**	**-0.2**
H11S2	**WAKE ISLAND Hy**	**42.26**	**330**	T	T	16 09 46.5	
	baz=142,slow=76,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**42.27**	**330**	T	T	16 10 02.9	
	baz=142,slow=76,SNR=5.3						
H11S1	**WAKE ISLAND Hy**	**42.28**	**330**	T	T	16 10 04.9	
	baz=142,slow=76,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**43.23**	**331**	T	T	16 10 46.3	
	baz=143						
H11N1	**WAKE ISLAND Hy**	**43.24**	**331**	T	T	16 10 57.6	
	baz=143						
H11N2	**WAKE ISLAND Hy**	**43.25**	**331**	T	T	16 10 57.5	
	baz=143						
BBOO	**Buckleboo**	**47.81**	**243**	P	**P**	**15 24 21.7**	**-1.4**
BBOO				IAmb	IAmb	15 24 26.0	
	comp=Z,9.1nm,1.1s						
WR8	**Warramunga Arr**	**49.70**	**259**	P	**P**	**15 24 36.8**	**-1.1**
WR8				IAmb	IAmb	15 24 52.0	
	comp=Z,4.5nm,0.9s						
AS31	**Alice Springs**	**49.83**	**255**		**P**	**15 24 37.5**	**-1.3**
ASAR	**Alice Springs**	**49.83**	**255**		**P**	**15 24 36.0**	**-2.8**
ASAR	**Alice Springs**	**49.83**	**255**	P	**P**	**15 24 40.2**	**+1.4**
	comp=Z,13nm,0.8s,baz=86,slow=8.4,SNR=108						
	comp=Z,13nm,0.8s						
WB0	**Warramunga Arr**	**49.83**	**260**		**P**	**15 24 38.3**	**-0.5**
WRAB	**Tennant Creek**	**49.84**	**259**	P	**P**	**15 24 37.6**	**-1.4**
WRAB				IAmb	IAmb	15 24 42.1	
	comp=Z,7.6nm,0.8s						
WRA	**Warramunga Arr**	**49.85**	**259**		**P**	**15 24 37.7**	**-1.4**
WRA	**Warramunga Arr**	**49.85**	**259**	P	**P**	**15 24 40.0**	**+1.0**
	comp=Z,4.7nm,0.6s,baz=97,slow=8.5,SNR=63						
	comp=Z,4.7nm,0.6s						
FORT	**Forrest**	**54.59**	**245**	P	**P**	**15 25 10.2**	**-3.9**
FORT				IAmb	IAmb	15 25 19.1	
	comp=Z,9.5nm,0.8s						
KNRA	**Kununurra**	**55.84**	**264**	P	**P**	**15 25 21.4**	**-1.9**

*MDD **27** 15:20:56.1±1.1, 32°.48N×16°.52W, h35km, Mb4.8/17, M_mb4.3/18, Error ellipse: s-maj=10.0km s-min=7.9km az=114.0*
*INMG **27** 15:20:58.7±1.2, 32°.48N×16°.35W, h10km, ML2.4, Error ellipse: s-maj=4.8km s-min=1.8km az=84.0, #DIST_RANGE: LOCAL #IPMA_REGION: SE Desertas (Madeira)*
ISC 27 15:20:53.8±1.5, **32°.48N**±0°.05×**16°.42W**±0°.06, **h21**km±6km, **n24**, σ1s**73**/45, **19C, Madeira Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUL	**Funchal**	**0.47**	**301**	*e*	**Pn**	**15 21 06.6**	**+1.3**
FUL				*e*	**Sn**	**15 21 11.5**	**-1.4**
FUL				*i*	IAML	15 21 16.6	
FUL				*i*	IAML	15 21 16.9	
FUL				*i*	IAML	15 21 19.5	
PMAR	**Madeira**	**0.52**	**308**	*e*	**Pn**	**15 21 06.6**	**+0.3**
PMAR				*e*	**Sb**	**15 21 13.2**	**+1.5**
PMAR				*i*	IAML	15 21 17.0	
PMAR				*i*	IAML	15 21 18.4	
PMAR				*i*	IAML	15 21 23.7	
PMPS	**Porto Santo**	**0.66**	**6**	⇑	*e*P	**Pb**	**15 21 07.3**	**+0.7**
PMPS					*e*S	**Sb**	**15 21 13.4**	**-1.9**
PMPS					*i* IAML		15 21 18.8	
PMPST	**Porto Santo,

942nm,SNR=2.7
CMCL S **Sn** **15 23 00.3 -1.6**

*IDC **27** 15:21:46.6±7.5, 32°.27S×179°.81E, h296km±79km, mb3.7/3, mbtmp4.4/5, Error ellipse: s-maj=82.9km s-min=32.3km az=5.0*
*WEL **27** 15:21:57.1±1.0, 33°S±20°×18°.0E±2°.7, h364km±35km, M4.2/11, mB4.6/8, ML4.4/12, MLv4.7/11, Mw(mB)3.8/8, Error ellipse: s-maj=39.4km s-min=20.2km az=120.2, confirmed*
*NOU **27** 15:22:00.5, 33°.33S×179°.51E, h351km, mb4.1/12, South of Kermadec Islands*

ISC 27 15:21:56.6±1.6, 32°.82S±0°.10×179°.0E±0°.2, h350km, n38, σ1§49/51, mb3.6/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.76**	**186**	**P**	**Pn**	**15 23 13.4**	**-0.1**
MXZ	**Matakaoa Point**	**4.76**	**186**	**P**	**S**	**15 24 11.7**	**-3.9**
MXZ	**Matakaoa Point**	**4.76**	**186**	**P**	**Pn**	**15 23 13.3**	**-0.1**
MXZ				S	**S**	**15 24 17.3**	**+1.7**
WMGZ	**Waiomatatini S**	**5.00**	**185**	**P**	**Pn**	**15 23 15.5**	**-0.6**
WMGZ				S	**S**	**15 24 21.5**	**+1.1**
HAZ	**Te Kaha**	**5.02**	**191**	**P**	**Pn**	**15 23 16.3**	**+0.1**
HAZ				S	**S**	**15 24 20.5**	**-0.1**
OUZ	**Omahuta**	**5.07**	**240**	P	Pn	15 23 23.0	+6.2
PKGZ	**Pakihiroa**	**5.08**	**188**	**P**	**Pn**	**15 23 16.1**	**-0.9**
PKGZ				S	**S**	**15 24 23.7**	**+1.6**
RUGZ	**Raukumara Rang**	**5.24**	**191**	P	Pn	15 23 18.6	-0.2
RUGZ				S	**S**	**15 24 26.2**	**+0.8**
PUZ	**Puketiti**	**5.27**	**186**	**P**	**Pn**	**15 23 21.1**	**+2.0**
PUZ				S	**S**	**15 24 26.3**	**+0.5**
OPRZ	**Ohinepanea**	**5.39**	**201**	P	Pn	15 23 23.9	+3.6
TWGZ	**Tauwhareparae**	**5.40**	**188**	**P**	**Pn**	**15 23 20.9**	**+0.3**
TWGZ				S	**S**	**15 24 30.1**	**+1.5**
MWZ	**Matawai**	**5.62**	**192**	P	**Pn**	**15 23 22.2**	**-0.8**
MWZ				S	**S**	**15 24 33.4**	**+0.3**
URZ	**Urewera**	**5.63**	**195**	P	**Pn**	**15 23 21.5**	**-1.5**
	14nm,0.3s,baz=63,slow=2.3,SNR=75						
URZ				S	**S**	**15 24 34.4**	**+1.2**
	38nm,0.3s,baz=58,slow=19,SNR=14						
URZ	**Urewera**	**5.63**	**195**	P	**Pn**	**15 23 23.9**	**+0.8**
URZ	**Urewera**	**5.63**	**195**	S	**S**	**15 24 31.9**	**-1.3**
URZ	**Urewera**	**5.63**	**195**	P	**Pn**	**15 23 22.0**	**-1.0**
URZ				S	**S**	**15 24 32.8**	**-0.4**
TOZ	**Tahuroa Road**	**5.66**	**209**	P	Pn	15 23 29.5	+6.1
TKGZ	**Te Karaka**	**5.68**	**189**	P	**Pn**	**15 23 23.3**	**-0.3**
TKGZ				S	**S**	**15 24 34.1**	**0.0**
CNGZ	**Carnagh Statio**	**5.68**	**186**	P	**Pn**	**15 23 23.5**	**-0.2**
RAGZ	**Rawiri**	**5.80**	**192**	P	**Pn**	**15 23 25.5**	**+0.5**
RAGZ				S	**S**	**15 24 38.7**	**+1.8**
RIGZ	**Rimuhau**	**5.95**	**189**	P	**Pn**	**15 23 26.0**	**-0.7**
RIGZ				S	**S**	**15 24 41.5**	**+1.6**
RTZ	**Ruatahuna**	**6.00**	**195**	P	**Pn**	**15 23 29.5**	**+2.1**
RTZ				S	**S**	**15 24 41.0**	**0.0**
SNGZ	**Shannon Statio**	**6.09**	**192**	S	**S**	**15 24 43.6**	**+0.8**
PRGZ	**Paritu Road**	**6.15**	**188**	P	**Pn**	**15 23 28.9**	**-0.1**
PRGZ				S	**S**	**15 24 46.6**	**+2.6**
TLZ	**Tolley Road**	**6.17**	**206**	P	Pn	15 23 34.8	+5.6
BKZ	**Black Stump Fm**	**6.64**	**197**	P	**Pn**	**15 23 35.4**	**+0.7**
SNZO	**South Karori**	**9.13**	**201**	P	**Pn**	**15 24 03.3**	**-0.7**
SNZO	**South Karori**	**9.13**	**201**	S	**S**	**15 25 46.1**	**-2.1**
QRZ	**Quartz Range**	**9.51**	**211**	P	**P**	**15 24 09.5**	**-0.9**
KHZ	**Kahutara**	**10.50**	**203**	P	**Pn**	**15 24 19.1**	**-1.2**
RPZ	**Rata Peaks**	**12.52**	**207**	P	**Pn**	**15 24 44.4**	**+0.1**
	6.5nm,0.5s,baz=90,slow=8.2,SNR=1.0						
RPZ				S	**S**	**15 26 58.9**	**-3.4**
	8.9nm,0.5s,baz=127,slow=21,SNR=7.2						
JCZ	**Jackson Bay**	**13.77**	**212**	P	**Pn**	**15 25 00.4**	**+1.4**
ODZ	**Otahua Downs**	**13.81**	**206**	P	**Pn**	**15 25 00.4**	**+1.0**
STKA	**Stephens Creek**	**31.49**	**261**	P	**P**	**15 27 49.3**	**+2.3**
	1.4nm,0.6s,baz=72,slow=16,SNR=1.8						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**40.49**	**271**	P	**P**	**15 29 02.8**	**0.0**
	1.4nm,0.3s,baz=107,slow=8.0,SNR=33						
	1.4nm,0.3s						
WRA	**Warramunga Arr**	**41.71**	**277**	P	**P**	**15 29 12.1**	**-0.5**
	4.2nm,0.3s,baz=114,slow=8.0,SNR=86						
	4.2nm,0.3s						
FINES	**FINESS Array B**	**146.44**	**337**	PKPbc	**PKPdf**	**15 40 50.9**	**-3.2**
	1.0nm,0.5s,baz=35,slow=5.1,SNR=12						
HFS	**Hagfors**	**151.00**	**345**	PKPbc	**PKPdf**	**15 41 01.9**	**+0.4**
	1.1nm,0.6s,baz=38,slow=7.3,SNR=1.7						

*NEIC **27** 15:34:31.9±1.9, 35°.817N±0°.008×117°.619W±0°.008, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.6km az=289.0*

PAS 27 15:34:32.9±1.6, 35°.83N±0°.02×117°.66W±0°.02, h3km±4km, ML3.2/246, **ML2.9**/136(NEIC), **Error ellipse: s-maj=2.4km s-min=2.3km az=147.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.05**	**106**		Pg	15 34 34.0	-0.1
CLC					IAML	15 34 35.9	
	comp=E,19μm,0.4s						
TOW	**Tower One**	**0.09**	**256**		Pg	15 34 35.4	+0.7
TOW					Sg	15 34 37.6	+1.7
SRTC	**Snort**	**0.16**	**208**		Pg	15 34 36.5	+0.5
SRTC					Sg	15 34 39.7	+1.6
WVPM	**Volcano Peak E**	**0.17**	**313**		Pg	15 34 36.5	+0.1
WVPM					Sg	15 34 39.4	+0.6
GPO	**China Lake**	**0.18**	**181**		Pg	15 34 36.7	+0.3
GPO					Sg	15 34 39.8	+1.0
WNMM	**Nine Mile Cany**	**0.20**	**274**		Pg	15 34 37.0	+0.2
WNMM					Sg	15 34 40.1	+0.7
WCSM	**Coso Springs S**	**0.21**	**336**		Pg	15 34 37.2	+0.1
WCSM					Sg	15 34 40.3	+0.3
WRVM	**Rose V. Centra**	**0.26**	**314**		Pg	15 34 38.0	+0.1
WRVM					Sg	15 34 41.8	+0.4
MPMC	**Manual Prospec**	**0.27**	**31**	Pg	Pg	15 34 38.2	+0.1
MPMC				IAML		15 34 43.1	
	comp=N,2μm,0.3s						
WSHM	**Spangler Hills**	**0.27**	**149**		Pg	15 34 38.2	+0.1
WSHM					Sg	15 34 42.0	+0.4
WSHM	**Spangler Hills**	**0.27**	**149**	IAML		15 34 42.8	
	comp=N,5μm,0.3s						
WSHM				IAML		15 34 43.2	
	comp=N,3μm,0.2s						
MFS	**McCloud Flat S**	**0.33**	**331**		Pg	15 34 39.4	+0.1
MFS					Sg	15 34 44.1	+0.5
LRMC	**Laurel Mtn Rad**	**0.35**	**183**		Pg	15 34 39.8	+0.1
CCCA	**Chr Cany lake**	**0.39**	**142**		Sg	15 34 47.1	+1.6
WORM	**Onyx Ranch**	**0.49**	**254**		Pg	15 34 42.2	-0.2
WORM					Sg	15 34 48.9	+0.1
WHFM	**Hanning Flat**	**0.58**	**257**		Pg	15 34 43.9	-0.1
WHFM					Sg	15 34 51.5	0.0
DTP	**Desert Tortois**	**0.58**	**195**		Pg	15 34 43.9	-0.2
DTP					Sg	15 34 51.9	+0.3
QSM	**Queen of Sheba**	**0.66**	**78**		Pg	15 34 45.2	-0.3
QSM				IAML		15 34 59.5	
	comp=E,971nm,0.3s						
QSM				IAML		15 34 59.7	
	comp=N,841nm,0.5s						
ISA	**Isabella, Lake**	**0.68**	**256**		Pg	15 34 45.8	-0.3
ISA				IAML		15 34 56.9	
	comp=E,830nm,0.2s						
ISA	**Isabella, Lake**	**0.68**	**256**		Sg	15 34 54.9	0.0
CWC	**Cottonwood Cre**	**0.70**	**331**		Pg	15 34 46.2	-0.2
CWC					Sg	15 34 55.8	+0.4
CWC	**Cottonwood Cre**	**0.70**	**331**	IAML		15 34 58.1	
	comp=N,352nm,0.2s						
CGO	**Cerro Gordo**	**0.73**	**351**		Sg	15 34 57.6	+1.1
CCAC	**Calif City Air**	**0.74**	**203**		Pg	15 34 46.8	-0.2
WASM	**Alta Sierra Ca**	**0.74**	**263**		Pg	15 34 46.9	-0.2
GSC	**Goldstone, Bar**	**0.87**	**127**		Pg	15 34 49.2	-0.4
GWY	**Greenwater Val**	**0.88**	**66**		Pg	15 34 49.5	-0.3
GWY	**Greenwater Val**	**0.88**	**66**	IAML		15 35 04.9	
	comp=N,492nm,0.4s						
GWY				IAML		15 35 05.4	
	comp=E,655nm,0.4s						
FURC	**Furnace Creek,**	**0.91**	**45**		Pg	15 34 50.3	0.0
FURC					Sg	15 35 02.7	+0.7
FURC	**Furnace Creek,**	**0.91**	**45**	IAML		15 35 09.6	
	comp=N,608nm,0.7s						
HYS	**Haystack Butte**	**0.97**	**176**		Pg	15 34 50.9	-0.6
EDW2	**Edwards Air Fo**	**0.99**	**196**		Pg	15 34 51.1	-0.7
EDW2					Sg	15 35 03.8	-0.8
TEJ	**El Tejon**	**1.03**	**235**		Pg	15 34 51.6	-1.1
TPO	**Tropico Hills**	**1.06**	**206**		Pg	15 34 52.5	-0.7
TPO					IAML	15 35 10.0	
	comp=E,488nm,0.8s						
SHOC	**Shoshone, Teco**	**1.13**	**86**		Pg	15 34 53.6	-0.9
SHOC					Sg	15 35 09.5	+0.4
VES	**Vestal, Richgr**	**1.16**	**271**		Pg	15 34 54.5	-0.6
WCT	**Wildcat Mounta**	**1.27**	**41**		Pg	15 34 56.4	-1.0
GMN	**Gold Mountain**	**1.50**	**12**		Pn	15 35 00.1	-1.0
DSP	**Deep Springs**	**1.56**	**351**		Pn	15 35 01.0	-0.5
DSP					IAML	15 35 24.0	
	comp=E,100nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.59**	**180**		Pn	15 35 00.7	-1.4
BFSC					IAML	15 35 25.9	
	comp=N,159nm,0.3s						
BFSC					IAML	15 35 26.8	
	comp=E,151nm,0.5s						
TPNV	**Topopah Spring**	**1.59**	**45**		Pn	15 35 01.1	-1.1
TPNV					IAML	15 35 26.7	
	comp=E,143nm,0.7s						
TPNV					IAML	15 35 27.7	
	comp=E,158nm,0.8s						
MWC	**Mount Wilson**	**1.64**	**192**		Pn	15 35 01.9	-0.9
MTPC	**Mountain Pass**	**1.75**	**101**		Pn	15 35 02.6	-1.8
MTPC					IAML	15 35 29.2	
	comp=N,168nm,0.4s						
MTPC					IAML	15 35 29.4	
	comp=E,176nm,0.4s						
MDPB	**Devils Postpil**	**2.13**	**328**		IAML	15 35 40.6	
	comp=E,62nm,0.2s						
MDPB					IAML	15 35 43.1	
	comp=N,56nm,0.2s						
SHPR	**Sheep Range**	**2.13**	**71**		Pn	15 35 08.7	-0.9
ELS	**Elsinore Mount**	**2.19**	**175**		Pn	15 35 09.3	-0.9
ELS					IAML	15 35 45.6	
	comp=E,54nm,0.7s						
ELS					IAML	15 35 45.9	
	comp=N,61nm,0.6s						
TPH	**Tonopah**	**2.27**	**9**		Pg	15 35 15.6	-0.9
TPH					IAML	15 35 49.6	
	comp=E,45nm,0.9s						
BELC	**Belle Mtn. Jos**	**2.28**	**143**		Pn	15 35 09.9	-1.8
BELC					IAML	15 35 47.1	
	comp=N,75nm,0.5s						
BELC					IAML	15 35 48.4	
	comp=E,104nm,0.6s						
V12A	**Nelson**	**2.29**	**92**		Pn	15 35 10.4	-1.2
V12A					IAML	15 35 53.5	
	comp=N,63nm,0.9s						
V12A					IAML	15 35 55.6	
	comp=E,42nm,0.6s						
PKD	**Bear Valley Ra**	**2.34**	**274**		Pn	15 35 12.3	-0.1
PKD					IAML	15 36 02.1	
	comp=E,54nm,2.8s						
PKD					IAML	15 36 06.1	
	comp=N,51nm,2.6s						
PMD	**Palm Desert**	**2.42**	**154**		Pn	15 35 11.8	-1.6
PMD					IAML	15 35 51.3	
	comp=E,38nm,0.3s						
LEGD	**La Grand CA**	**2.44**	**305**		Pn	15 35 13.7	+0.1
LHV	**Little Huntoon**	**2.51**	**345**		Pn	15 35 14.5	-0.1
PRN	**Pahroc Range**	**2.62**	**52**		Pn	15 35 15.3	-1.0
PRN					IAML	15 36 03.5	
	comp=N,45nm,0.8s						
PRN					IAML	15 36 07.8	
	comp=E,64nm,0.8s						
NVAR	**Mina Array Bea**	**2.65**	**349**		Pg	15 35 22.8	-0.9
IRM	**Iron Mountain**	**2.65**	**128**		Pn	15 35 14.1	-2.6
IRM					IAML	15 35 58.0	
	comp=N,56nm,0.4s						
BORC	**Borrego Spring**	**2.75**	**158**		Pg	15 35 24.3	-1.4
BORC					IAML	15 36 01.1	
	comp=E,31nm,0.7s						
BC3	**Big Chuckawall**	**2.83**	**139**		Pn	15 35 16.9	-2.2
BC3					IAML	15 36 03.9	
	comp=E,37nm,0.6s						
RYN	**Ryan**	**2.88**	**346**		Pn	15 35 20.2	+0.3
DPP	**Dos Picos Cty**	**2.89**	**168**		Pn	15 35 18.0	-1.9
R11B	**Troy Canyon, C**	**3.01**	**33**		Pg	15 35 29.2	-1.5
R11B					IAML	15 36 10.1	
	comp=E,22nm,1.1s						
WAKR	**Walker**	**3.02**	**333**		Pb	15 35 28.7	+1.1
W13A	**Hualapai Mount**	**3.17**	**102**		Pn	15 35 22.2	-1.7
BAR	**Barrett**	**3.25**	**165**		Pn	15 35 23.8	-1.1
BAR					IAML	15 36 14.4	
	comp=E,26nm,0.3s						
BAR					IAML	15 36 16.3	
	comp=N,24nm,0.2s						
BLYC	**Blythe**	**3.31**	**128**		Pn	15 35 23.4	-2.2
BLYC					IAML	15 36 18.6	
	comp=N,30nm,0.5s						
BLYC					IAML	15 36 26.4	
	comp=E,32nm,0.8s						
ESJX	**Sierra Juarez**	**4.07**	**159**		IAML	15 36 41.2	
	comp=E,13nm,3.0s						
ESJX					IAML	15 36 41.6	
	comp=N,9.5nm,4.2s						
SZCU	**Shurtz Canyon**	**4.07**	**63**		IAML	15 36 25.5	
	comp=E,11nm,3.9s						
KNB	**Kanab**	**4.08**	**72**		IAML	15 36 51.6	
	comp=E,9.8nm,4.4s						
SPR3	**Spring Creek 3**	**4.13**	**39**		IAML	15 36 46.8	
	comp=N,10.0nm,0.6s						
SPR3					IAML	15 36 46.8	
	comp=E,12nm,0.7s						
Y14A	**Wickenburg**	**4.27**	**115**		IAML	15 37 06.8	
	comp=E,17nm,3.0s						
BEKR	**Beckwith**	**4.56**	**333**		IAML	15 37 10.2	
	comp=E,10nm,0.8s						
BEKR					IAML	15 37 25.2	
	comp=N,7.9nm,4.8s						
WUAZ	**Wupatki**	**5.13**	**92**		IAML	15 37 17.9	
	comp=N,12nm,1.1s						
ELK	**Elko**	**5.26**	**20**		IAML	15 37 20.6	
	comp=N,4.7nm,2.2s						

*IDC **27** 16:05:53.3±0.7, 62°.32S×158°.65W, h0km, mb4.0/9, mbtmp4.0/10, ML3.6/1, MS3.9/6, Error ellipse: s-maj=28.2km s-min=18.3km az=19.0*

ISC 27 16:05:54.8±0.8, 62°.4S±0°.2×158°.7W±0°.1, h10km, n28, σ0§55/17, mb4.2/9, MS3.8/5, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**19.67**	**204**	P	**Pn**	**16 10 24.6**	**-0.2**
	0.2nm,0.3s,baz=73,slow=17,SNR=25						
VNDA				LR	LR	16 16 00.2	
	comp=Z,322nm,18.1s,baz=66,slow=31						
	1.9nm,0.6s						
QSPA	**South Pole Qui**	**27.77**	**180**	P	**P**	**16 11 43.2**	**-0.3**
	4.6nm,1.0s,baz=61,slow=3.1,SNR=13						
QSPA				LR	LR	16 20 49.0	
	comp=Z,192nm,18.2s,baz=60,slow=32						
	4.6nm,1.0s						
URZ	**Urewera**	**28.31**	**317**	LR	LR	16 20 43.0	
	comp=Z,234nm,21.2s,baz=170,slow=31						
PPT	**Papeete**	**45.19**	**12**	LR	LR	16 27 54.2	
	comp=Z,132nm,21.6s,baz=148,slow=29						
SNAA	**Sanae**	**45.22**	**169**	LR	LR	16 31 41.0	
	comp=Z,191nm,19.2s,baz=210,slow=34						
MAW	**Mawson**	**46.91**	**200**	P	**P**	**16 14 25.1**	**+0.5**
	0.4nm,0.3s,baz=260,slow=9.9,SNR=2.1						
	0.4nm,0.3s						
STKA	**Stephens Creek**	**48.32**	**280**	P	**P**	**16 14 36.1**	**+0.1**
	2.6nm,0.9s,baz=147,slow=8.3,SNR=3.9						
	2.6nm,0.9s						
PLCA	**Paso Flores**	**54.09**	**110**	P	**P**	**16 15 19.9**	**+0.5**
	1.2nm,0.9s,baz=221,slow=12,SNR=3.3						
	1.2nm,0.9s						
H03S2	**Juan Fernandez**	**55.99**	**99**	T	T	17 16 17.6	
	baz=211,slow=74,SNR=390						
H03S1	**Juan Fernandez**	**56.00**	**99**	T	T	17 16 18.9	
	baz=211,slow=74,SNR=344						
H03S3	**Juan Fernandez**	**56.01**	**99**	T	T	17 16 18.3	
	baz=211,slow=74,SNR=490						
H03N3	**Juan Fernandez**	**56.31**	**99**	T	T	17 16 47.6	
	baz=215,slow=73,SNR=55						
H03N2	**Juan Fernandez**	**56.32**	**99**	T	T	17 16 35.9	
	baz=215,slow=73,SNR=103						
H03N1	**Juan Fernandez**	**56.33**	**99**	T	T	17 16 46.6	
	baz=215,slow=73,SNR=59						
ASAR	**Alice Springs**	**58.84**	**278**	P	**P**	**16 15 53.4**	**0.0**
	1.6nm,0.6s,baz=146,slow=6.5,SNR=23						
	1.6nm,0.6s						
HNR	**Honiara**	**60.70**	**312**	LR	LR	16 38 17.3	
	comp=Z,150nm,21.4s,baz=92,slow=32						
WRA	**Warramunga Arr**	**61.87**	**281**	P	**P**	**16 16 14.3**	**+0.3**
	1.6nm,0.9s,baz=155,slow=5.9,SNR=8.4						
	1.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**67.49**	**274**	P	**P**	**16 16 51.4**	**+0.7**
	1.3nm,0.9s,baz=164,slow=7.4,SNR=1.4						
	1.3nm,0.9s						
CPUP	**Villa Florida**	**72.08**	**112**	P	**P**	**16 17 18.2**	**-0.7**
	0.7nm,1.0s,baz=83,slow=7.2,SNR=5.0						
	0.7nm,1.0s						
LPAZ	**La Paz**	**75.98**	**98**	P	**P**	**16 17 43.0**	**+0.5**
	2.7nm,1.0s,baz=166,slow=4.0,SNR=6.8						
	2.7nm,1.0s						
ILAR	**Eielson Array**	**127.11**	**6**	PKP	**PKiKP**	**16 24 57.8**	**-0.1**
	0.5nm,0.6s,baz=202,slow=1.6,SNR=6.5						
TORD	**Torodi Ar. Bea**	**128.90**	**155**	PKP	**PKiKP**	**16 25 02.7**	**-0.3**
	0.5nm,0.8s,baz=222,slow=1.9,SNR=2.5						
MKAR	**Makanchi Array**	**142.96**	**274**	PKhKP	PKPpre	16 25 22.6	
	0.6nm,0.8s,baz=131,slow=4.0,SNR=5.1						
ZALV	**Zalesovo Beam**	**146.77**	**285**	PKPbc	**PKPbc**	**16 25 34.4**	**-1.1**
	0.6nm,0.6s,baz=156,slow=1.4,SNR=2.1						
KURBB	**Kurchatov Arra**	**147.43**	**276**	PKPbc	**PKPbc**	**16 25 37.2**	**-0.3**
	1.7nm,0.9s,baz=136,slow=2.3,SNR=11						
MMAI	**Mount Meron Ar**	**149.30**	**204**	PKPbc	**PKPbc**	**16 25 42.7**	**-0.3**
	0.2nm,0.3s,baz=186,slow=1.4,SNR=1.2						
ESDC	**Sonseca Array**	**152.63**	**134**	PKPbc	**PKiKP**	**16 25 51.3**	**+0.5**
	0.6nm,0.6s,baz=234,slow=0.6,SNR=2.9						
BVAR	**Borovoye Array**	**152.81**	**273**	PKPbc	**PKPbc**	**16 25 49.7**	**-0.8**
	0.7nm,0.6s,baz=108,slow=1.9,SNR=4.6						

JMA 27 16:10:53.8±0.2, 24°.3N±0°.5×123°.8E±0°.5, h15km±1km, MV0.8/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.11**	**316**	*i* P	Pg	16 10 57.1	-0.1
IRIF				*e*S	Sg	16 10 59.7	+0.3
JKRS	**Kuro-shima**	**0.18**	**96**	*i* P	Pg	16 10 58.2	0.0
JKRS				*e*S	Sb	16 11 01.7	-0.4
HATJ	**Hateruma jima**	**0.20**	**182**	*i* P	Pg	16 10 58.3	-0.2
HATJ				*e*S	Sg	16 11 01.9	+0.3
JIJ	**Ishigaki jima**	**0.32**	**71**	*i* P	Pg	16 11 00.2	-0.3
JIJ				*e*S	Sg	16 11 04.8	-0.2
JISG	**Ishigakijimahi**	**0.56**	**54**	*e*P	Pg	16 11 04.9	0.0
JISG				S	Sb	16 11 13.5	+0.4
JTJ	**Tarama**	**0.90**	**65**	*e*S	Sg	16 11 23.1	+0.2

TAP 27 16:11:28.3, 24°.88N×122°.26E, h11km±1km, ML1.9, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.28**	**298**	P	Pg	16 11 34.6	+0.6
TWB1				*i* S	Sg	16 11 38.7	+0.9
TIPB	**Shuangxi**	**0.41**	**283**	*e*S	Sb	16 11 44.0	+0.3
SXI1	**Grass Mountain**	**0.41**	**302**	P	Pb	16 11 38.2	+0.6
SXI1				S	Sb	16 11 43.3	-0.5
EOS2	**EOS2**	**0.46**	**183**	*e*P	Pb	16 11 38.2	-0.1
EOS2				*e*S	Sb	16 11 45.0	-0.1
TWC	**Suao**	**0.46**	**234**	P	Pg	16 11 37.3	0.0
ESAO	**Su ao**	**0.48**	**231**	*e*P	Pg	16 11 37.9	+0.1
ESAO				*e*S	Sg	16 11 44.0	-0.1
TWE	**Neicheng**	**0.56**	**254**	*e*P	Pb	16 11 40.1	0.0
TWE				*e*S	Sb	16 11 49.0	+0.9
FUSB	**Fushanzhiwuyua**	**0.62**	**259**	P	Pb	16 11 41.4	+0.2
FUSB				S	Sb	16 11 51.2	+1.2
ENTT	**Nioudou**	**0.67**	**249**	*e*P	Pb	16 11 41.9	-0.2
LATG	**Datong**	**0.75**	**243**	*e*P	Pb	16 11 43.3	-0.1
LATG				*e*S	Sg	16 11 53.1	+0.4
EOS4	**EOS4**	**0.76**	**176**	P	Pb	16 11 43.3	+0.1
EOS4				S	Sb	16 11 53.9	+0.5
PCYT	**Pengchaiyu**	**0.77**	**347**	P	Pn	16 11 44.5	-0.5
PCYT				*e*S	Sn	16 11 56.1	-0.4
YOJ	**Yonaguni jima**	**0.80**	**121**	*i* P	Pg	16 11 43.3	-0.5
YOJ				S	Sg	16 11 54.1	-0.1
YHNB	**Yeheng**	**0.83**	**256**	P	Pb	16 11 44.7	0.0
NNSB	**Datong**	**0.92**	**241**	P	Pb	16 11 46.7	+0.4
NNSB				*e*S	Sb	16 11 58.8	+0.4
NACB	**Ninganchiao**	**0.93**	**221**	P	Pg	16 11 45.8	-0.4
NACB				S	Sg	16 11 57.5	-0.8
ETLH	**Xiulin Townshi**	**0.97**	**227**	*e*P	Pb	16 11 47.4	+0.1
ETLH				*e*S	Sg	16 11 59.3	-0.5

*JMA **27** 16:13:23.9±0.1, 32°.5N±0°.2×132°.1E±0°.2, h31km, MV3.6/34, HYUGANADA REGION*
JMA Felt I J1 at HYUGANADA REGION .
*IDC **27** 16:13:23.5±5.3, 32°.35N×132°.11E, h54km±39km, mb2.8/1, mbtmp3.0/3, ML2.6/2, Error ellipse: s-maj=77.4km s-min=21.2km az=11.0*

ISC 27 16:13:23.3±1.2, 32°.52N±0°.05×132°.14E±0°.04, h33km±6km, n15, σ0§75/24, 13D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSKE	**Saikikamae**	**0.35**	**324**	⇓*i*P	**Pb**	**16 13 31.7**	**+0.1**
JSKE				⇓S	**Sb**	**16 13 37.1**	**-0.2**
JHHC	**Hyugahichiya**	**0.43**	**260**	⇓*i*P	**Pb**	**16 13 32.6**	**-0.2**
JKIT	**Kitakata**	**0.59**	**281**	⇓*i*P	**Pb**	**16 13 35.1**	**-0.2**
JKIT				⇓S	**Sb**	**16 13 43.5**	**-0.1**
JTSN	**Tsuno**	**0.60**	**244**	⇓*i*P	**Pb**	**16 13 35.4**	**-0.1**
JTSN				⇓S	**Sb**	**16 13 43.9**	**0.0**
JUS	**Usuki**	**0.64**	**329**	*i* P	**Pn**	**16 13 36.2**	**+0.2**
JUS				S	**Sb**	**16 13 44.9**	**+0.1**
JTO	**Tosashimizu**	**0.65**	**58**	⇓*i*P	**Pn**	**16 13 36.7**	**+0.5**
JTO				⇓S	**Sb**	**16

	comp=Z,156nm,20.4s,baz=228,slow=30							
ANMO	**Albuquerque**	**48.95**	**6**	LR	LR	16 40 34.0		
	comp=Z,226nm,18.0s,baz=292,slow=31							
PCRV	**Puerto La Cruz**	**52.47**	**65**	LR	LR	16 42 57.4		
	comp=Z,338nm,20.6s,slow=32							
NVAR	**Mina Array Bea**	**52.55**	**353**	P	**P**	**16 24 10.6**	**+0.8**	
	0.5nm,0.5s,baz=228,slow=5.5,SNR=3.7							
	0.5nm,0.5s							
ELK	**Elko**	**54.59**	**357**	LR	LR	16 43 19.1		
	comp=Z,188nm,19.0s,baz=192,slow=31							
SJG	**San Juan**	**55.07**	**56**	LR	LR	16 43 18.2		
	comp=Z,112nm,18.6s,baz=222,slow=31							
YBH	**Yreka Blue Hor**	**56.41**	**350**	LR	LR	16 43 07.4		
	comp=Z,17nm,18.7s,baz=192,slow=30							
PDAR	**Pinedale Array**	**56.54**	**2**	P	**P**	**16 24 39.8**	**+1.0**	
	0.5nm,0.8s,baz=207,slow=7.0,SNR=4.8							
PDAR				LR	LR	16 44 08.7		
	comp=Z,108nm,19.5s,baz=173,slow=31							
	0.5nm,0.8s							
PMSA	**Palmer Station**	**60.13**	**159**	LR	LR	16 44 02.8		
	comp=Z,452nm,21.4s,baz=260,slow=29							
MDP	**Montagnes des**	**61.55**	**76**	LR	LR	16 49 23.2		
	comp=Z,155nm,18.4s,baz=276,slow=34							
URZ	**Urewera**	**66.78**	**234**	LR	LR	16 49 24.7		
	comp=Z,189nm,18.7s,baz=236,slow=31							
SNAA	**Sanae**	**82.56**	**162**	P	**P**	**16 27 19.7**	**+0.9**	
	0.7nm,1.0s,baz=297,slow=9.0,SNR=1.9							
SNAA				LR	LR	16 57 32.7		
	comp=Z,103nm,19.3s,baz=70,slow=31							
	0.7nm,1.0s							
H11S2	**WAKE ISLAND Hy**	**86.67**	**290**	T	T	18 03 28.1		
	baz=106,slow=75,SNR=26							
H11S1	**WAKE ISLAND Hy**	**86.68**	**290**	T	T	18 03 31.1		
	baz=106,slow=75,SNR=26							
H11S3	**WAKE ISLAND Hy**	**86.69**	**290**	T	T	18 03 31.0		
	baz=106,slow=75,SNR=21							
H11N3	**WAKE ISLAND Hy**	**86.82**	**291**	T	T	18 03 40.2		
	baz=107,slow=75,SNR=6.2							
H11N2	**WAKE ISLAND Hy**	**86.84**	**291**	T	T	18 03 43.6		
	baz=107,slow=75,SNR=5.3							
H11N1	**WAKE ISLAND Hy**	**86.84**	**291**	T	T	18 03 43.7		
	baz=107,slow=75,SNR=4.9							
SHEM	**Shemya Is, Ala**	**91.77**	**324**	LR	LR	16 59 05.3		
	comp=Z,103nm,21.8s,baz=253,slow=29							
MKAR	**Makanchi Array**	**145.30**	**343**	PKPbc	**PKPbc**	**16 34 31.4**	**-2.4**	
	2.0nm,1.1s,baz=34,slow=3.1,SNR=6.8							
CMAR	**Chiang Mai Arr**	**150.31**	**283**	PKPbc	**PKiKP**	**16 34 48.9**	**-0.3**	
	1.2nm,0.3s,baz=78,slow=2.0,SNR=8.4							

IDC 27 16:16:53.8±2.5, 3°.69S×130°.76E, h0km, mb3.4/3, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=139.3km s-min=26.0km az=76.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.17**	**199**	Pn	Pn	16 20 28.3	-1.1
	0.1nm,0.3s,baz=11,slow=13,SNR=1.4						
FITZ				Sn	Sn	16 23 13.8	-4.5
	baz=151,slow=19,SNR=1.7						
	2.1nm,1.0s						
WRA	**Warramunga Ar**	**16.52**	**168**	Pn	Pn	16 20 45.2	-1.9
	0.1nm,0.3s,baz=352,slow=14,SNR=5.3						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**20.09**	**172**	P	Pn	16 21 30.2	-0.6
	0.6nm,0.3s,baz=350,slow=11,SNR=35						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**65.92**	**326**	P	P	16 27 42.0	+0.4
	0.2nm,0.6s,baz=111,slow=7.9,SNR=2.6						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**70.12**	**328**	P	P	16 28 07.6	-0.4
	0.3nm,0.6s,baz=122,slow=5.5,SNR=2.9						
	0.3nm,0.6s						

*MOS **27** 16:24:52.7±1.1, 43°.22N×146°.64E, h54km, mb4.5/14, Error ellipse: s-maj=10.5km s-min=7.6km az=110.4*
MOS Felt (II) at Yuzhno-Kuril'sk, Goryachiy Plyazh.
*SKHL **27** 16:24:53.3±0.6, 43°.30N×146°.70E, h53km±2km, mb5.5/4*
*IDC **27** 16:24:54.6±2.4, 43°.30N×146°.63E, h53km±21km, mb3.7/18, mbtmp3.9/24, ML3.3/6, Error ellipse: s-maj=18.4km s-min=15.6km az=130.0*
*JMA **27** 16:24:54.1±0.2, 43°.2N±0°.6×147°.7E±°, h48km±1km, MV4.3/39, OFF NEMURO PENINSULA*
JMA Felt I J1 at OFF NEMURO PENINSULA .

ISC 27 16:24:54.2±0.8, 43°.26N±0°.05×146°.59E±0°.05, h49km±6km, n80, σ1§33/100, mb4.2/25, 3C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.62**	**280**	*i* P	**Pn**	**16 25 06.7**	**-0.3**
NEM2				S	**Sn**	**16 25 15.5**	**-0.6**
SHO	**Shikotan**	**0.63**	**16**	*i* P	Pn	16 25 11.8	+4.7
SHO				AMB	AMB	16 25 11.9	
	4μm,0.2s						
SHO				*i* S	**Sn**	**16 25 20.6**	**+4.3**
SHO				A	A	16 25 20.8	
	4μm,0.4s						
SHO				A	A	16 25 20.8	
	7μm,0.4s						
NMR	**Nemuro--Hokkai**	**0.64**	**280**	⇓*i* PN	**Pn**	**16 25 06.7**	**-0.4**
NMR				*i* S	**Sn**	**16 25 15.5**	**-0.8**
NMR	**Nemuro--Hokkai**	**0.64**	**280**	*i* P	**Pn**	**16 25 06.7**	**-0.4**
NMR				*i* S	**Sn**	**16 25 16.0**	**-0.3**
GLVR	**Golovnino**	**0.91**	**302**	⇓*i* PN	**Pn**	**16 25 10.5**	**-0.2**
GLVR				*i* S	**Sn**	**16 25 22.8**	**0.0**
GLVR				pmax	pmax		
	comp=Z,805nm,0.3s						
GLVR				pmax	pmax		
	comp=N,153nm,0.2s						
GLVR				smax	smax		
	comp=N,14μm,0.4s						
GLVR				smax	smax		
	comp=E,10μm,0.4s						
GLVR	**Golovnino**	**0.91**	**302**	*i* P	**Pn**	**16 25 10.5**	**-0.2**
GLVR				AMB	AMB	16 25 10.7	
	comp=E,810nm,0.3s						
GLVR				*i* S	**Sn**	**16 25 22.8**	**0.0**
GLVR				A	A	16 25 23.6	
	comp=E,14μm,0.4s						
GLVR				A	A	16 25 23.6	
	comp=E,10μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.93**	**326**	*d* PN	**Pn**	**16 25 10.5**	**-0.5**
YUK				*i* S	**Sn**	**16 25 22.3**	**-1.0**
YUK				pmax	pmax		
	comp=Z,5μm,0.3s						
YUK				pmax	pmax		
	comp=N,1μm,0.2s						
YUK				pmax	pmax		
	comp=E,1μm,0.1s						
YUK				smax	smax		
	comp=N,11μm,0.4s						
YUK				smax	smax		
	comp=E,19μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.93**	**326**	*i* P	**Pn**	**16 25 10.5**	**-0.5**
YUK				AMB	AMB	16 25 11.1	
	comp=E,6μm,0.3s						
YUK				*i* S	**Sn**	**16 25 22.7**	**-0.6**
YUK				A	A	16 25 25.1	
	comp=E,21μm,0.4s						
YUK				A	A	16 25 25.1	
	comp=E,17μm,0.4s						
JKHN	**Kushirohamanak**	**1.06**	**261**	*i* P	**Pn**	**16 25 12.8**	**+0.2**
JKHN				*i* S	**Sn**	**16 25 26.8**	**+0.5**
JNSB	**Nemuroshibetsu**	**1.26**	**295**	*i* P	**Pn**	**16 25 15.4**	**0.0**
JNSB				*i* S	**Sn**	**16 25 31.1**	**-0.1**
JRA	**Rausu**	**1.26**	**303**	*i* P	**Pn**	**16 25 15.7**	**+0.3**
JRA				*i* S	**Sn**	**16 25 31.4**	**+0.2**
RUSJ	**Misakicho**	**1.28**	**311**	*e*PN	**Pn**	**16 25 16.1**	**+0.4**
RUSJ				*i* S	**Sn**	**16 25 32.9**	**+1.1**
AKK	**Akkeshi**	**1.30**	**260**	*i* P	**Pn**	**16 25 15.8**	**-0.2**
JNK	**Nakash**	**1.40**	**284**	*i* P	**Pn**	**16 25 17.1**	**-0.2**
JNK				S	**Sn**	**16 25 34.0**	**-0.7**
JAK	**Akkeshi**	**1.41**	**260**	*i* P	**Pn**	**16 25 17.3**	**-0.2**
JAK				*e*S	**Sn**	**16 25 35.0**	**+0.2**
JOB	**Onbets**	**2.05**	**261**	*e*P	**Pn**	**16 25 26.4**	**+0.3**
JOB				S	**Sn**	**16 25 51.1**	**+0.6**
JAR	**Ashorobuto**	**2.06**	**272**	*i* P	**Pn**	**16 25 26.8**	**+0.5**
JAR				S	**Sn**	**16 25 51.1**	**+0.3**
JTKR	**Abashiri--Toko**	**2.07**	**291**	*i* P	**Pn**	**16 25 27.6**	**+1.1**
JTKR				*e*S	**Sn**	**16 25 52.8**	**+1.8**
KUR	**Kuril'sk**	**2.17**	**25**	*e*PN	**Pn**	**16 25 27.6**	**-0.3**
KUR				*e*S	**Sn**	**16 25 52.8**	**-0.8**
KUR				pmax	pmax		
	comp=Z,186nm,0.4s						
KUR				pmax	pmax		
	comp=N,78nm,0.2s						
KUR				pmax	pmax		
	comp=E,121nm,0.2s						
KUR				smax	smax		
	comp=N,699nm,0.3s						
KUR				smax	smax		
	comp=E,439nm,0.6s						
KUR	**Kuril'sk**	**2.17**	**25**	*e*P	**Pn**	**16 25 27.6**	**-0.3**
KUR				AMB	AMB	16 25 30.0	
	comp=E,150nm,0.3s						
KUR				*i* S	**Sn**	**16 25 52.8**	**-0.8**
KUR				A	A	16 25 59.6	
	comp=E,700nm,0.4s						
KUR				A	A	16 25 59.6	
	comp=E,440nm,0.4s						
JCH	**Churui**	**2.45**	**256**	*e*P	**Pn**	**16 25 32.4**	**+0.6**
JMP	**Maruseppu**	**2.46**	**289**	P	**Pn**	**16 25 33.2**	**+1.4**
JKA	**Kamikawa-asahi**	**3.01**	**288**	*e*P	**Pn**	**16 25 41.5**	**+2.1**
ASAJ	**Asahikawa**	**3.02**	**288**	P	**Pn**	**16 25 41.5**	**+2.0**
	comp=E,15nm,0.3s,baz=121,slow=11,SNR=43						
ASAJ				S	**Sn**	**16 26 19.4**	**+5.1**
	comp=E,36nm,0.5s,baz=255,slow=7.5,SNR=4.2						
	comp=E,42nm,0.3s						
YSS	**Yuzhno-Sakhali**	**4.58**	**325**	*e*PN	**Pn**	**16 26 02.5**	**+1.6**
YSS				*e*S	**Sn**	**16 26 52.6**	**-0.2**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				smax	smax		
	comp=N,30nm,0.7s						
YSS				smax	smax		
	comp=E,40nm,0.5s						
YSS	**Yuzhno-Sakhali**	**4.58**	**325**	*e*P	**Pn**	**16 26 02.5**	**+1.6**
YSS				*e*S	**Sn**	**16 26 52.5**	**-0.2**
TYV	**Tymovskoe**	**8.06**	**342**	*e*PN	Pn	16 26 53.4	+4.8
TYV				*e*S	**Sn**	**16 28 22.6**	**+4.4**
TYV				pmax	pmax		
	comp=Z,100nm,2.2s						
TYV				pmax	pmax		
	comp=Z,7.0nm,1.2s						
TYV				smax	smax		
	comp=N,100nm,2.9s						
TYV				smax	smax		
	comp=E,100nm,2.9s						
TYV				smax	smax		
	comp=N,4.0nm,1.6s						
TYV				smax	smax		
	comp=E,7.0nm,1.6s						
TYV	**Tymovskoe**	**8.06**	**342**	*e*P	**Pn**	**16 26 50.7**	**+2.1**
TYV				*e*S	**Sn**	**16 28 17.1**	**-1.1**
MAJO	**Matsushiro**	**9.30**	**227**	⇑*e*PN	**Pn**	**16 27 08.9**	**+3.3**
MJAR	**Matsushiro Arr**	**9.30**	**227**	P	**Pn**	**16 27 05.0**	**-0.6**
	comp=E,0.1nm,0.3s,baz=41,slow=11,SNR=2.6						
	comp=E,0.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**10.61**	**280**	P	**Pn**	**16 27 24.2**	**+0.8**
	comp=E,0.1nm,0.3s,baz=90,slow=15,SNR=4.1						
	comp=E,1.0nm,0.6s						
NKL	**Nikolayevsk**	**10.64**	**340**	*e*P	**Pn**	**16 27 23.8**	**-0.1**
PETK	**Petropavlovsk-**	**12.31**	**33**	P	**Pn**	**16 27 46.3**	**-0.4**
	comp=E,0.3nm,0.3s,baz=203,slow=9.5,SNR=7.3						
	comp=E,2.8nm,0.9s						
KSRS	**Korea Array**	**15.35**	**254**	P	**Pn**	**16 28 29.3**	**+1.8**
	comp=E,0.1nm,0.3s,baz=62,slow=11,SNR=2.7						
	comp=E,0.6nm,0.7s						
ZEA	**Zeya**	**16.50**	**316**	*e*P	**Pn**	**16 28 39.3**	**-2.7**
SEY	**Seymchan**	**19.99**	**8**	P	**P**	**16 29 20.1**	**-2.2**
	comp=E,0.1nm,0.3s,baz=0.4,slow=22,SNR=2.4						
	comp=E,1.6nm,0.8s						
XLT	**XiLinHaoTe**	**22.05**	**282**	*e*P	**P**	**16 29 42.0**	**-2.7**
XLT				pP	pP	16 29 58.0	+1.7
XLT				sP	sP	16 30 05.5	+3.1
XLT				PP	**PnPn**	**16 30 11.0**	**+2.9**
ULN	**Ulaanbaatar**	**27.84**	**293**	⇓*i* P	**P**	**16 30 39.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ULN	**Ulaanbaatar**	**27.84**	**293**	*e*P	**P**	**16 30 39.3**	**+0.3**
SONM	**Songino Array**	**28.28**	**293**	P	**P**	**16 30 43.5**	**+0.6**
	comp=E,1.8nm,0.6s,baz=87,slow=8.5,SNR=8.9						
	comp=E,1.8nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.01**	**138**	T	T	17 01 33.3	
	baz=329,slow=75,SNR=934						
H11N1	**WAKE ISLAND Hy**	**29.02**	**138**	T	T	17 01 36.9	
	baz=329,slow=75,SNR=672						
H11N3	**WAKE ISLAND Hy**	**29.03**	**138**	T	T	17 01 37.4	
	baz=329,slow=75,SNR=672						
H11S1	**WAKE ISLAND Hy**	**29.96**	**139**	T	T	17 02 43.9	
	baz=330,slow=76,SNR=2209						
H11S3	**WAKE ISLAND Hy**	**29.96**	**139**	T	T	17 02 45.0	
	baz=330,slow=76,SNR=1310						
H11S2	**WAKE ISLAND Hy**	**29.98**	**139**	T	T	17 02 41.1	
	baz=330,slow=76,SNR=1114						
LZDM	**Lanzhou Array**	**33.55**	**272**	P	**P**	**16 31 30.4**	**+0.8**
	comp=Z,2.5nm,0.3s,baz=64,slow=9.8,SNR=1.3						
	comp=Z,5.5nm,0.3s						
KDAK	**Kodiak Island**	**39.88**	**47**	⇓*e*P	**P**	**16 32 24.3**	**+1.5**
KDAK				pmax	pmax		
	comp=Z,21nm,1.5s						
ZALV	**Zalesovo Beam**	**40.97**	**307**	PcP	**PcP**	**16 34 31.3**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=95,slow=3.2,SNR=1.7						
ILAR	**Eielson Array**	**42.12**	**36**	P	**P**	**16 32 41.2**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=277,slow=9.7,SNR=8.4						
	comp=Z,0.8nm,0.7s						
MK31	**Makanchi Array**	**44.45**	**298**	*c*e*e*P	**P**	**16 33 00.0**	**-0.2**
MKAR	**Makanchi Array**	**44.45**	**298**	P	**P**	**16 33 00.1**	**0.0**
	comp=Z,0.9nm,0.5s,baz=82,slow=8.8,SNR=16						
	comp=Z,0.9nm,0.5s						
KURK	**Kurchatov**	**45.46**	**304**	*d* P	**P**	**16 33 08.6**	**+0.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**45.46**	**304**	*e*P	**P**	**16 33 08.6**	**+0.5**
KURBB	**Kurchatov Arra**	**45.55**	**304**	P	**P**	**16 33 08.0**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=76,slow=9.4,SNR=16						
	comp=Z,1.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**46.99**	**254**	*i* P	**P**	**16 33 19.7**	**-0.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**49.49**	**310**	P	**P**	**16 33 39.7**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=79,slow=7.5,SNR=5.4						
	comp=Z,0.4nm,0.3s						
ARTI	**Arti**	**54.53**	**317**	*d* P	**P**	**16 34 15.8**	**-1.0**
ARTI						16 36 16.0	
ARTI				S	**S**	**16 41 49.8**	**-2.3**
ARTI				SS	**SS**	**16 45 32.6**	**-1.9**
ARTI				pmax	pmax		
	comp=Z,9.0nm,1.9s						
WRA	**Warramunga Arr**	**63.89**	**193**	P	**P**	**16 35 22.4**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=9.0,slow=6.6,SNR=6.2						
	comp=Z,1.1nm,0.8s						
FINES	**FINESS Array B**	**65.12**	**333**	P	**P**	**16 35 28.0**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=48,slow=8.0,SNR=6.0						
	comp=Z,2.2nm,0.6s						
FINES	**FINESS Array B**	**65.12**	**333**	*e*P	**P**	**16 35 29.0**	**-0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
OBN	**Obninsk**	**65.46**	**324**	*e*P	**P**	**16 35 32.5**	**+0.8**
OBN				*e**SP	**sP**	**16 35 50.1**	**-1.0**
OBN				*e*		16 37 58.8	
OBN				*e*PPP	PPP	16 39 31.7	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,296nm,21.0s						
OBN	**Obninsk**	**65.46**	**324**	*e*P	**P**	**16 35 32.5**	**+0.8**
ASAR	**Alice Springs**	**67.61**	**193**	P	**P**	**16 35 45.2**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=2.8,slow=5.1,SNR=7.6						
	comp=Z,0.5nm,0.7s						
NVAR	**Mina Array Bea**	**68.19**	**57**	P	**P**	**16 35 49.4**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=305,slow=5.7,SNR=2.2						
	comp=Z,0.2nm,0.5s						
KIV	**Kislovodsk**	**69.78**	**312**	*i* P	**P**	**16 36 00.4**	**+1.1**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KIV	**Kislovodsk**	**69.78**	**312**	*e*P	**P**	**16 36 00.4**	**+1.1**
KBZ	**Khabaz**	**69.81**	**311**	P	**P**	**16 35 59.5**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=41,slow=3.7,SNR=11						
	comp=Z,3.8nm,0.7s						
KBZ	**Khabaz**	**69.81**	**311**	*e*P	**P**	**16 36 00.6**	**+1.3**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBZ	**Khabaz**	**69.81**	**311**	*e*P	**P**	**16 36 00.6**	**+1.3**
NB2	**NORSAR Subarra**	**69.91**	**339**	P	**P**	**16 35 59.4**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.91**	**339**	P	**P**	**16 35 59.6**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=31,slow=6.6,SNR=6.6						
	comp=Z,0.9nm,0.6s						
HFS	**Hagfors**	**69.98**	**337**	P	**P**	**16 35 59.7**	**-0.4**
	comp=Z,2.9nm,0.5s,baz=40,slow=7.8,SNR=18						
	comp=Z,2.9nm,0.5s						
PDAR	**Pinedale Array**	**70.54**	**49**	P	**P**	**16 36 04.9**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=259,slow=4.1,SNR=1.2						
	comp=Z,0.2nm,0.5s						
GNI	**Garni**	**71.11**	**308**	⇑*e*P	**P**	**16 36 07.8**	**+0.2**
GNI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
AKASG	**Malin Array Be**	**71.73**	**324**	P	**P**	**16 36 10.8**	**0.0**
	comp=Z,1.4nm,0.4s,baz=41,slow=5.8,SNR=9.1						
	comp=Z,1.4nm,0.4s						
AKBB	**Malin Array Si**	**71.73**	**324**	⇓*e*P	**P**	**16 36 10.7**	**-0.1**
AKBB				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**77.58**	**313**	P	**P**	**16 36 45.8**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=40,slow=7.5,SNR=2.6						
	comp=Z,0.4nm,0.5s						
EKA	**Eskdalemuir Ar**	**78.47**	**343**	P	**P**	**16 36 49.5**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=25,slow=5.5,SNR=3.6						
	comp=Z,2.4nm,0.8s						
MMAI	**Mount Meron Ar**	**81.46**	**308**	P	**P**	**16 37 07.1**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=357,slow=5.8,SNR=2.3						
	comp=Z,0.9nm,0.5s						

*IDC **27** 16:25:10.5±6.2, 28°.58S×178°.61W, h209km±53km, mb3.4/5, mbtmp3.9/6, Error ellipse: s-maj=40.5km s-min=28.1km az=41.0*

ISC 27 16:25:10.0±1.1, 28°.7S±0°.1×178°.6W±0°.2, h200km, n12, σ1§67/14, mb3.5/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**10.16**	**199**	P	**Pn**	**16 27 32.0**	**+0.9**
	3.5nm,0.7s,baz=270,slow=5.1,SNR=12						
URZ				S	**Sn**	**16 29 22.0**	**-2.6**
	6.1nm,0.3s,baz=213,slow=8.4,SNR=12						
ASAR	**Alice Springs**	**42.67**	**265**	P	**P**	**16 32 47.4**	**0.0**
	0.5nm,0.5s,baz=96,slow=6.5,SNR=28						
ASAR				PcP	**PP**	**16 34 33.0**	**+2.4**
	0.2nm,0.5s,baz=104,slow=3.4,SNR=1.9						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**43.51**	**271**	P	**P**	**16 32 53.5**	**-0.5**
	1.1nm,0.7s,baz=109,slow=7.5,SNR=7.6						
WRA				PcP	**PcP**	**16 34 36.2**	**-2.1**
	0.3nm,0.5s,baz=112,slow=2.8,SNR=2.3						
	1.1nm,0.7s						
QSPA	**South Pole Qui**	**61.39**	**180**	P	**P**	**16 35 07.0**	**+2.3**
	1.0nm,1.0s,baz=101,slow=2.0,SNR=1.9						
	1.0nm,1.0s						
MJAR	**Matsushiro Arr**	**76.55**	**325**	P	**P**	**16 36 37.8**	**-0.4**
	1.7nm,0.7s,baz=154,slow=6.2,SNR=4.2						
	1.7nm,0.7s						
KSRS	**Korea Array**	**82.71**	**320**	P	**P**	**16 37 11.9**	**+0.7**
	1.2nm,0.9s,baz=149,slow=4.9,SNR=4.1						
	1.2nm,0.9s						
BVAR	**Borovoye Array**	**124.82**	**317**	PKP	**PKPdf**	**16 43 43.9**	**-1.6**
	0.5nm,0.5s,baz=112,slow=1.6,SNR=2.8						
FINES	**FINESS Array B**	**143.38**	**340**	PKhKP	PKPpre	16 44 15.6	
	0.8nm,0.4s,baz=36,slow=4.1,SNR=13						
NOA	**NORSAR Array B**	**147.01**	**351**	PKPbc	**PKPdf**	**16 44 26.4**	**+0.3**
	0.1nm,0.4s,baz=12,slow=2.4,SNR=1.6						
HFS	**Hagfors**	**147.49**	**349**	PKPbc	**PKPdf**	**16 44 27.6**	**+0.7**
	0.7nm,0.4s,baz=79,slow=3.2,SNR=6.6						
AKASG	**Malin Array Be**	**149.63**	**324**	PKPbc	**PKPbc**	**16 44 33.6**	**-1.9**
	0.6nm,0.3s,baz=52,slow=2.9,SNR=5.1						
MMAI	**Mount Meron Ar**	**150.55**	**287**	PKPbc	**PKPbc**	**16 44 37.9**	**-0.5**
	0.9nm,0.5s,baz=98,slow=6.0,SNR=2.5						

*HEL **27** 16:33:01.3±0.3, 61°.11N×29°.88E, h0km, ML1.6, Explosion*
*IDC **27** 16:33:05.0±2.8, 61°.09N×29°.51E, h0km, mbtmp3.3/2, ML2.1/2, Error ellipse: s-maj=26.3km s-min=15.2km az=163.0*

ISC 27 16:33:01.4±1.5, 61°.08N±0°.05×29°.88E±0°.07, h0km, n16, σ1§01/23, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUF	**Ruokolahti**	**0.56**	**308**	PG	**Pg**	**16 33 11.3**	**-0.9**
RUF				SG	**Sg**	**16 33 18.0**	**-1.5**
RUF				MSG		16 33 18.9	
	comp=Z,7.7nm,0.2s						
VJF	**Virojoki**	**1.26**	**245**	PG	**Pg**	**16 33 24.4**	**-1.2**
	baz=58						
VJF				MSG		16 33 39.9	
	comp=Z,11nm,0.2s						
VJF				SN	**Sn**	**16 33 44.5**	**+0.6**
FINES	**FINESS Array B**	**1.87**	**283**	Pg	**Pn**	**16 33 34.6**	**0.0**
	comp=Z,0.6nm,0.3s,baz=101,slow=19,SNR=32						
FINES				Lg	Lg	16 33 58.6	
	comp=Z,0.5nm,0.3s,baz=99,slow=26,SNR=4.1						
FINES				Rg	Rg	16 34 07.6	
	comp=Z,36nm,1.0s,baz=103,slow=30,SNR=19						
JOF	**Joensuu**	**1.96**	**20**	PG	**Pn**	**16 33 35.9**	**0.0**
	baz=202						
JOF				SG	**Sn**	**16 34 01.4**	**+0.2**
KAF	**Kangasniemi**	**2.00**	**303**	PG	**Pn**	**16 33 37.0**	**+0.6**
KAF				MSG		16 34 00.1	
	comp=Z,2.2nm,0.2s						
KAF				SG	**Sn**	**16 34 01.9**	**-0.1**
PVF	**Pernaja**	**2.04**	**256**	PG	**Pn**	**16 33 37.3**	**+0.3**
PVF				MSG		16 34 02.2	
	comp=Z,9.2nm,0.2s						
PVF				SG	**Sb**	**16 34 05.4**	**+0.2**
SUF	**Sumiainen**	**2.41**	**315**	PG	**Pn**	**16 33 43.7**	**+1.7**
	baz=130						
SUF				MSG		16 34 12.0	
	comp=Z,1.2nm,0.2s						
SUF				SG	**Sb**	**16 34 15.9**	**+0.1**
**

	baz=232,SNR=14						
H03N2	**Juan Fernandez**	**80.17**	**123**	T	T	18 20 30.8	
	baz=232,SNR=14						
H03N1	**Juan Fernandez**	**80.19**	**123**	T	T	18 20 36.0	
	baz=232,SNR=23						
KURBB	**Kurchatov Arra**	**121.49**	**314**	PKP	**PKiKP**	**16 57 45.7**	**+3.3**
	2.0nm,0.2s,baz=82,slow=2.7,SNR=4.7						
BVAR	**Borovoye Array**	**126.79**	**316**	PKP	**PKiKP**	**16 57 55.8**	**+3.0**
	0.3nm,0.5s,baz=38,slow=2.6,SNR=4.3						
H10N3	**ASCENSION HYDR**	**38.59**	**154**	T	T	19 34 09.2	
	baz=203,slow=75,SNR=16						
H10N1	**ASCENSION HYDR**	**38.60**	**154**	T	T	19 34 06.1	
	baz=203,slow=75,SNR=16						
H10N2	**ASCENSION HYDR**	**38.61**	**154**	T	T	19 34 04.7	
	baz=203,slow=75,SNR=14						
FINES	**FINESS Array B**	**145.30**	**340**	PKP	**PKiKP**	**16 58 29.5**	**-0.6**
	4.0nm,0.6s,baz=65,slow=3.3,SNR=30						
NOA	**NORSAR Array B**	**148.78**	**352**	PKPbc	**PKPab**	**16 58 40.4**	**+0.5**
	1.0nm,0.8s,baz=16,slow=4.4,SNR=3.7						
HFS	**Hagfors**	**149.30**	**349**	PKPbc	**PKPab**	**16 58 40.7**	**-1.2**
	0.7nm,0.4s,baz=55,slow=5.6,SNR=6.5						
AKASG	**Malin Array Be**	**151.62**	**323**	PKPbc	**PKPab**	**16 58 46.9**	**-4.9**
	1.7nm,0.6s,baz=53,slow=2.2,SNR=8.7						
MMAI	**Mount Meron Ar**	**152.11**	**284**	PKPbc	**PKPab**	**16 58 48.9**	**-5.7**
	0.5nm,0.5s,baz=93,slow=2.9,SNR=6.6						
BRTR	**Keskin Array B**	**153.11**	**299**	PKPbc	**PKiKP**	**16 58 51.4**	**+4.3**
	0.3nm,0.4s,baz=143,slow=4.7,SNR=1.9						

*UPP **27** 17:01:08.4±0.1, 67.06N×20.91E, h0km, ML2.1, Suspected explosion*
*HEL **27** 17:01:08.7±0.4, 67.06N×20.79E, h0km, ML2.1, Explosion*
*IDC **27** 17:01:10.8±0.8, 67.09N×21.69E, h0km, mbtmp2.7/4, ML2.0/4, Error ellipse: s-maj=15.6km s-min=6.4km az=111.0*

ISC 27 17:01:08.8±0.7, 67.09N±0.02×20.98E±0.02, h0km, n54, σ1s48/74, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.16**	**283**	P	**Pg**	**17 01 11.5**	**-0.4**
DUNU				S	**Sg**	**17 01 13.6**	**-0.4**
MASU	**Masugnsbyn**	**0.55**	**46**	P	**Pb**	**17 01 19.7**	**-1.5**
ERTU	**Ertsjaerv**	**0.72**	**137**	P	**Pg**	**17 01 21.9**	**-0.6**
ERTU				S	**Sg**	**17 01 31.4**	**-0.4**
ERTU	**Ertsjaerv**	**0.72**	**137**	PG	**Pg**	**17 01 21.7**	**-0.7**
ERTU				SB	**Sb**	**17 01 34.2**	**-0.2**
PAJU	**Pajala**	**0.84**	**93**	P	**Pg**	**17 01 24.3**	**-0.5**
PAJU				S	**Sg**	**17 01 36.3**	**+0.6**
PAJU	**Pajala**	**0.84**	**93**	PG	**Pg**	**17 01 24.1**	**-0.7**
PAJU				SB	**Sb**	**17 01 38.6**	**+0.6**
KUA	**Kurravaara**	**0.91**	**345**	P	**Pg**	**17 01 25.6**	**-0.5**
RATU	**Laukkuluspa**	**0.92**	**325**	P	**Pg**	**17 01 25.3**	**-1.0**
HARU	**Harads**	**0.93**	**180**	P	**Pg**	**17 01 25.4**	**-1.1**
HARU				S	**Sg**	**17 01 37.8**	**-0.6**
SALU	**Saltoluokta**	**1.01**	**288**	P	**Pg**	**17 01 26.9**	**-1.1**
LANU	**Lannavaara**	**1.04**	**22**	P	**Pg**	**17 01 28.0**	**-0.7**
LANU	**Lannavaara**	**1.04**	**22**	*eP*	**Pb**	**17 01 28.9**	**-0.8**
LANU	**Lannavaara**	**1.04**	**22**	PG	**Pg**	**17 01 27.8**	**-0.9**
LANU				SN	**Sn**	**17 01 46.6**	**+0.7**
NIKU	**Nikkaluokta**	**1.08**	**317**	P	**Pg**	**17 01 28.3**	**-1.2**
KOVU	**Salmi**	**1.19**	**345**	P	**Pg**	**17 01 30.6**	**-0.9**
KALU	**Kalix**	**1.56**	**141**	P	**Pn**	**17 01 37.1**	**-0.6**
KALU	**Kalix**	**1.56**	**141**	PG	**Pn**	**17 01 36.8**	**-0.9**
SJUU	**Sjulsmark**	**1.60**	**171**	P	**Pn**	**17 01 37.7**	**-0.6**
SJUU	**Sjulsmark**	**1.60**	**171**	*eP*	**Pn**	**17 01 38.5**	**+0.2**
HEF	**Hetta**	**1.68**	**36**	*eP*	**Pb**	**17 01 39.7**	**-0.7**
HEF	**Hetta**	**1.68**	**36**	PG	**Pn**	**17 01 38.7**	**-0.6**
	baz=223						
HEF				MSG		17 02 00.8	
	comp=Z,16nm,0.2s						
HEF				SN	**Sg**	**17 02 05.0**	**+2.5**
TOF	**Tornio**	**1.68**	**126**	PG	**Pn**	**17 01 39.0**	**-0.3**
TOF				MSG		17 02 00.3	
	comp=Z,12nm,0.2s						
TOF				SN	**Sg**	**17 02 04.2**	**+1.7**
KIF	**Kilpisjarvi**	**1.93**	**358**	*eP*	**Pg**	**17 01 44.4**	**-1.2**
KIF	**Kilpisjarvi**	**1.93**	**358**	PG	**Pb**	**17 01 44.0**	**-0.8**
KIF				MSG		17 02 08.1	
	comp=Z,32nm,0.2s						
KIF				SG	**Sg**	**17 02 12.5**	**+1.9**
RNF	**Rovaniemi**	**2.05**	**101**	PG	**Pn**	**17 01 45.1**	**+0.7**
KTK1	**Kautokeino**	**2.11**	**23**	PG	**Pb**	**17 01 47.4**	**-0.5**
KTK1				SG	**Sg**	**17 02 17.5**	**+0.9**
BURU	**Burvik**	**2.52**	**176**	PB	**Pn**	**17 01 51.6**	**+0.8**
RANF	**Ranua**	**2.56**	**112**	PB	**Pn**	**17 01 52.6**	**+1.1**
	baz=299						
TRO	**Tromso**	**2.67**	**344**	PG	**Pg**	**17 01 58.0**	**-1.9**
TRO				SG	**Sg**	**17 02 33.0**	**-1.4**
OUL	**Oulu**	**2.84**	**133**	PG	**Pb**	**17 01 59.0**	**-1.2**
OBF4	**Vikkela, Lumij**	**2.84**	**142**	PG	**Pb**	**17 01 58.9**	**-1.3**
	baz=328						
OBF4				MSG		17 02 32.9	
	comp=Z,4.2nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.92**	**151**	PG	**Pb**	**17 02 00.3**	**-1.4**
OBF0				MSG		17 02 35.0	
	comp=Z,5.1nm,0.2s						
OBF8	**Ulkokalla**	**2.95**	**159**	PB	**Pn**	**17 01 59.3**	**+2.6**
OBF8				MSG		17 02 35.5	
	comp=Z,4.0nm,0.2s						
ARA0	**ARCESS Array S**	**2.98**	**32**	PN	**Pn**	**17 01 57.9**	**+0.7**
	baz=214						
ARA0				SB	**Sb**	**17 02 39.8**	**+0.2**
ARCES	**ARCESS Array B**	**2.98**	**32**	Pn	**Pn**	**17 01 57.3**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=208,slow=14,SNR=24						
ARCES				Pg	**Pb**	**17 02 01.2**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=213,slow=13,SNR=4.5						
ARCES				Lg	Lg	17 02 40.5	
	comp=Z,0.6nm,0.3s,baz=209,slow=22,SNR=9.0 comp=Z,0.9nm,0.3s						
RAJF	**Raja-Jooseppi**	**3.12**	**60**	PB	**Pb**	**17 02 03.5**	**-1.4**
OUF	**Merijarvi**	**3.14**	**149**	PB	**Pn**	**17 02 02.0**	**+2.7**
UMAU	**Umeaa**	**3.22**	**182**	PN	**Pn**	**17 02 00.8**	**+0.3**
KU2	**Taivalkoski**	**3.23**	**112**	PB	**Pn**	**17 02 03.3**	**+2.7**
VRF	**Varrio**	**3.40**	**75**	PG	**Pb**	**17 02 09.5**	**-0.2**
VRF				SG	**Sg**	**17 02 56.8**	**-0.9**
OLKF	**Oulanka, Finla**	**3.43**	**99**	PB	**Pb**	**17 02 08.2**	**-2.2**
OLKF				SG	**Sb**	**17 02 53.9**	**+1.3**
MSF	**Maaselka**	**3.44**	**106**	PB	**Pn**	**17 02 06.6**	**+3.1**
MSF				SG	**Sg**	**17 02 56.8**	**-2.3**
KEV	**Kevo**	**3.49**	**37**	PN	**Pn**	**17 02 05.5**	**+1.4**
KU6	**Riekki**	**3.72**	**103**	PB	**Pb**	**17 02 11.3**	**-3.9**
KU1	**Kurvinen**	**3.72**	**113**	PN	**Pn**	**17 02 10.0**	**+1.8**
HUSU	**Husum**	**3.83**	**192**	PN	**Pn**	**17 02 09.9**	**+1.0**
HUSU				SB	**Sn**	**17 02 58.7**	**+4.2**
NIF	**Nilsia**	**4.69**	**139**	SN	**Sn**	**17 03 15.3**	**-0.4**
RMF	**Romuvaara**	**4.69**	**124**	PB	Pb	17 02 26.5	-5.3
KEF	**Keuruu**	**5.21**	**159**	*eP*	**Pn**	**17 02 27.8**	**-0.1**
JOF	**Joensuu**	**6.05**	**129**	*eP*	**Pn**	**17 02 40.2**	**+0.9**
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**17 02 40.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=342,slow=14,SNR=7.2						
FINES				Sn	**Sn**	**17 03 50.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=348,slow=23,SNR=6.6						
FINES				Lg	Lg	17 04 19.3	
	comp=Z,0.1nm,0.3s,baz=345,slow=27,SNR=1.6 comp=Z,0.2nm,0.3s						
RAF	**Rauma**	**6.10**	**176**	*eP*	**Pn**	**17 02 38.7**	**-1.3**
NOA	**NORSAR Array B**	**7.42**	**220**	Pn	**Pn**	**17 03 00.8**	**+2.6**
	baz=61,slow=12,SNR=4.7						
NOA				Sn	**Sn**	**17 04 25.4**	**+2.5**
	baz=282,slow=17,SNR=1.9 comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**7.69**	**208**	Pn	**Pn**	**17 03 04.5**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=28,slow=12,SNR=2.3						
HFS				Sn	**Sn**	**17 04 29.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=28,slow=25,SNR=1.5 comp=Z,0.7nm,0.5s						

*IDC **27** 17:12:08.1±1.0, 26.14S×71.55E, h0km, mb3.7/9, mbtmp3.7/9, MS4.1/2, Error ellipse: s-maj=40.6km s-min=21.2km az=96.0*

ISC 27 17:12:09.6±1.1, 26.15S±0.2×71.5E±0.3, h10km, n20, σ0s98/9, mb3.9/9, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**18.42**	**3**	T	T	17 35 25.9	
	baz=186,slow=76,SNR=16						
H08S2	**Diego Garcia H**	**18.42**	**3**	T	T	17 35 24.7	
	baz=186,slow=76,SNR=21						
H08S3	**Diego Garcia H**	**18.44**	**3**	T	T	17 35 25.0	
	baz=186,slow=76,SNR=28						
H04N2	**CROZET ISLANDS**	**25.42**	**213**	T	T	17 43 35.4	
	baz=44,slow=74,SNR=354						
H04N1	**CROZET ISLANDS**	**25.43**	**213**	T	T	17 43 37.8	
	baz=44,slow=74,SNR=404						
H04N3	**CROZET ISLANDS**	**25.44**	**213**	T	T	17 43 40.0	
	baz=44,slow=74,SNR=347						
H01W2	**Cape Leeuwin H**	**37.50**	**114**	T	T	17 59 42.3	
	baz=271,slow=75,SNR=21						
H01W3	**Cape Leeuwin H**	**37.51**	**114**	T	T	17 59 42.4	
	baz=271,slow=75,SNR=18						
H01W1	**Cape Leeuwin H**	**37.52**	**114**	T	T	17 59 43.4	
	baz=271,slow=75,SNR=20						
NWAO	**Narrogin (SRO)**	**40.10**	**111**	LR	LR	17 33 32.9	
	comp=Z,282nm,21.2s,baz=322,slow=32						
LBTB	**Lobatse**	**41.27**	**261**	LR	LR	17 33 35.8	
	comp=Z,188nm,19.1s,baz=40,slow=31						
CMAR	**Chiang Mai Arr**	**51.73**	**34**	P	**P**	**17 21 17.6**	**+0.2**
	1.2nm,0.8s,baz=214,slow=7.4,SNR=9.1 1.2nm,0.8s						
ASAR	**Alice Springs**	**56.16**	**102**	P	**P**	**17 21 48.5**	**-1.3**
	0.4nm,1.0s,baz=251,slow=7.4,SNR=4.2 0.4nm,1.0s						
WRA	**Warramunga Arr**	**57.66**	**98**	P	**P**	**17 22 00.6**	**0.0**
	0.3nm,0.9s,baz=251,slow=6.6,SNR=1.8 0.3nm,0.9s						
SNAA	**Sanae**	**60.50**	**200**	P	**P**	**17 22 18.4**	**-1.1**
	0.7nm,0.9s,baz=223,slow=4.5,SNR=2.8 0.7nm,0.9s						
QSPA	**South Pole Qui**	**63.99**	**180**	P	**P**	**17 22 43.3**	**+0.3**
	2.1nm,1.1s,baz=340,slow=0.9,SNR=3.9 2.1nm,1.1s						
VNDA	**Vanda**	**64.75**	**166**	P	**P**	**17 22 49.1**	**+1.4**
	0.5nm,0.6s,baz=261,slow=9.3,SNR=4.1 0.5nm,0.6s						
MKAR	**Makanchi Array**	**73.24**	**8**	P	**P**	**17 23 41.1**	**+0.4**
	0.8nm,0.8s,baz=193,slow=5.0,SNR=6.8 0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**76.68**	**5**	P	**P**	**17 23 59.9**	**-0.6**
	0.4nm,0.3s,baz=200,slow=5.7,SNR=1.7 0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**80.58**	**8**	P	**P**	**17 24 22.2**	**+0.3**
	0.4nm,0.6s,baz=179,slow=8.6,SNR=3.6 0.4nm,0.6s						

IDC 27 17:16:24.2±5.5, 21.62S×179.62W, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=310.7km s-min=76.4km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.80**	**258**	P	P	17 24 23.0	-1.0
	0.2nm,0.4s,baz=94,slow=6.9,SNR=7.2 0.2nm,0.4s						
WRA	**Warramunga Arr**	**42.96**	**264**	P	P	17 24 25.9	+0.6
	0.3nm,0.6s,baz=97,slow=8.1,SNR=12 0.3nm,0.6s						
HFS	**Hagfors**	**140.39**	**350**	PKP	PKPdf	17 35 53.8	-1.0
	0.5nm,0.4s,baz=56,slow=0.5,SNR=5.3						
AKASG	**Malin Array Be**	**143.23**	**329**	PKP	PKPdf	17 36 00.3	+0.1
	0.3nm,0.3s,baz=48,slow=1.8,SNR=2.7						

IDC 27 17:19:26.5±1.4, 10.43N×91.70E, h0km, mb3.6/4, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=42.7km s-min=24.1km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.31**	**255**	Pn	Pn	17 22 10.1	+0.5
	0.3nm,0.3s,baz=359,slow=11,SNR=2.1						
PALK				Sn	Sn	17 24 04.3	-13
	2.1nm,0.3s,baz=156,slow=11,SNR=13 1.4nm,0.3s						
H08S3	**Diego Garcia H**	**26.23**	**228**	T	T	17 52 27.4	
	baz=47,slow=76,SNR=131						
H08S2	**Diego Garcia H**	**26.23**	**228**	T	T	17 52 20.8	
	baz=47,slow=76,SNR=116						
H08S1	**Diego Carcia H**	**26.25**	**228**	T	T	17 52 21.4	
	baz=47,slow=76,SNR=92						
MKAR	**Makanchi Array**	**37.12**	**349**	P	P	17 26 38.6	-0.1
	0.7nm,0.7s,baz=166,slow=8.4,SNR=8.4 0.7nm,0.7s						
SONM	**Songino Array**	**39.29**	**16**	P	P	17 26 56.8	-0.3
	0.5nm,0.7s,baz=206,slow=9.6,SNR=2.5 0.5nm,0.7s						
WRA	**Warramunga Arr**	**51.69**	**126**	P	P	17 28 35.4	-0.4
	0.3nm,0.4s,baz=297,slow=9.0,SNR=7.8 0.3nm,0.4s						
ASAR	**Alice Springs**	**53.39**	**130**	P	P	17 28 48.5	+0.2
	1.0nm,0.8s,baz=307,slow=7.2,SNR=11 1.0nm,0.8s						
H04N2	**CROZET ISLANDS**	**66.72**	**209**	T	T	18 43 04.0	
	baz=43,slow=75,SNR=136						
H04N1	**CROZET ISLANDS**	**66.73**	**209**	T	T	18 43 01.3	
	baz=43,slow=75,SNR=161						
H04N3	**CROZET ISLANDS**	**66.74**	**209**	T	T	18 42 59.5	
	baz=43,slow=75,SNR=141						

*IDC **27** 17:21:29.7±0.9, 37.16N×23.88E, h0km, mb3.8/8, mbtmp3.7/15, ML3.2/5, Error ellipse: s-maj=21.4km s-min=13.6km az=50.0*
*ATH **27** 17:21:32.3, 37.16N×23.87E, h12km±1km, ML3.6/36, Manual Solution by G.Panopoulou First location: 2019/09/27 17:22:29, This location: 2019/09/27 17:38:37 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*AFAD **27** 17:21:32.6, 37.41N×23.99E, h13km±5km, MW3.8*
*THE **27** 17:21:34.3, 37°N±1°×2°4E±°, h21km±4km, M3.5/27, MLh3.5/27*
*NAO **27** 17:21:39.3, 39°12N×29°25E, h33km, MB3.5*

ISC 27 17:21:32.6±1.0, 37.18N±0.02×23.87E±0.02, h15km±7km, n134, σ0s97/170, mb3.8/8, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MET4	**Agioi Theodoro**	**0.58**	**319**	P	**Pg**	**17 21 44.0**	**0.0**
MET4				S	**Sg**	**17 21 51.4**	**-0.3**
MET6	**Megalochori,Me**	**0.58**	**315**	P	**Pg**	**17 21 43.9**	**-0.1**
MET6				S	**Sb**	**17 21 52.0**	**-0.4**
MET5	**Makryloggos,Me**	**0.60**	**317**	P	**Pb**	**17 21 44.4**	**-0.4**
MET5				S	**Sg**	**17 21 52.5**	**0.0**
MET2	**Kameni Chora,**	**0.61**	**315**	P	**Pg**	**17 21 44.4**	**-0.2**
MET2				S	**Sb**	**17 21 53.2**	**-0.1**
MHLO	**Agia Marina, M**	**0.65**	**139**	P	**Pb**	**17 21 46.8**	**+1.1**
MHLO				S	**Sn**	**17 21 56.9**	**-0.3**
MHLO	**Agia Marina, M**	**0.65**	**139**	P	**Pg**	**17 21 45.7**	**+0.4**
MHLO				S	**Sg**	**17 21 53.4**	**-0.5**
VLY	**Voula,Athens**	**0.67**	**355**	P	**Pn**	**17 21 46.9**	**-0.7**
VLY				S	**Sn**	**17 21 56.3**	**-1.5**
VLY	**Voula,Athens**	**0.67**	**355**	P	**Pb**	**17 21 45.9**	**-0.1**
VLY				S	**Sb**	**17 21 55.2**	**+0.2**
ATHU	**Athens Univers**	**0.78**	**355**	P	**Pn**	**17 21 48.4**	**-0.7**
ATHU				S	**Sn**	**17 21 59.3**	**-1.3**
ATHU	**Athens Univers**	**0.78**	**355**	P	**Pb**	**17 21 48.1**	**+0.1**
ATHU				S	**Sb**	**17 21 58.5**	**+0.1**
ATH	**Athens Observa**	**0.80**	**351**	P	**Pn**	**17 21 48.9**	**-0.4**
ATH				S	**Sn**	**17 21 59.7**	**-1.1**
ATH	**Athens Observa**	**0.80**	**351**	P	**Pn**	**17 21 48.8**	**-0.4**
ATH				S	**Sn**	**17 21 59.8**	**-1.0**
PTL	**Penteli**	**0.86**	**360**	P	**Pn**	**17 21 50.0**	**-0.2**
PTL				S	**Sn**	**17 22 01.4**	**-1.1**
PTL	**Penteli**	**0.86**	**360**	P	**Pb**	**17 21 49.1**	**-0.2**
PTL				S	**Sb**	**17 22 00.8**	**+0.2**
VLI	**Veliai**	**0.88**	**238**	P	**Pg**	**17 21 48.7**	**-1.0**
VLI				S	**Sg**	**17 22 01.5**	**+0.2**
VLI	**Veliai**	**0.88**	**238**	P	**Pg**	**17 21 48.7**	**-1.0**
VLI				S	**Sg**	**17 22 00.5**	**-0.9**
DION	**Dionisos Attik**	**0.89**	**3**	P	**Pn**	**17 21 50.0**	**-0.6**
DION				S	**Sn**	**17 22 02.5**	**-0.8**
DION	**Dionisos Attik**	**0.89**	**3**	P	**Pb**	**17 21 49.8**	**0.0**
DION				S	**Sn**	**17 22 02.6**	**-0.8**
MAGU	**Magoula**	**0.94**	**342**	P	**Pn**	**17 21 50.9**	**-0.3**
MAGU				S	**Sn**	**17 22 04.1**	**-0.3**
MAGU	**Magoula**	**0.94**	**342**	P	**Pn**	**17 21 51.3**	**+0.1**
MAGU				S	**Sn**	**17 22 03.8**	**-0.6**
KARY	**Karystos**	**0.96**	**28**	P	**Pn**	**17 21 51.0**	**-0.4**
KARY	**Karystos**	**0.96**	**28**	P	**Pn**	**17 21 51.4**	**-0.1**
KARY				S	**Sn**	**17 22 04.3**	**-0.5**
STFN	**Stefani**	**1.02**	**345**	P	**Pn**	**17 21 52.7**	**+0.3**
STFN	**Stefani**	**1.02**	**345**	P	**Pn**	**17 21 52.7**	**+0.3**
STFN				S	**Sn**	**17 22 06.7**	**+0.1**
LOUT	**Loutraki**	**1.07**	**319**	P	**Pn**	**17 21 53.3**	**+0.2**
LOUT				S	**Sn**	**17 22 08.0**	**+0.2**
VILL	**Villia**	**1.07**	**336**	P	**Pn**	**17 21 53.2**	**0.0**
LTK	**Loutraki**	**1.10**	**320**	P	**Pn**	**17 21 53.5**	**0.0**
LTK	**Loutraki**	**1.10**	**320**	P	**Pb**	**17 21 53.2**	**-0.2**
LTK				S	**Sn**	**17 22 08.6**	**+0.1**
KTHA	**Kythira Island**	**1.13**	**215**	P	**Pb**	**17 21 53.4**	**-0.4**
VIL2	**Platees**	**1.13**	**335**	P	**Pb**	**17 21 53.2**	**-0.7**
VIL2				S	**Sb**	**17 22 06.9**	**-1.5**
VLX	**Vlachokerasia**	**1.21**	**279**	P	**Pn**	**17 21 55.1**	**+0.1**
APE	**Apeiranthos**	**1.33**	**94**	P	**Pg**	**17 21 57.7**	**-0.6**
APE				S	**Sg**	**17 22 14.8**	**-0.8**
APE	**Apeiranthos**	**1.33**	**94**	P	**Pn**	**17 21 56.6**	**0.0**
ANKY	**Antikythira Is**	**1.39**	**199**	P	**Pn**	**17 21 56.9**	**-0.5**
ANKY	**Antikythira Is**	**1.39**	**199**	P	**Pn**	**17 21 56.8**	**-0.7**
ANKY				S	**Sn**	**17 22 14.8**	**-0.7**
SAP3	**Santorini-Thir**	**1.40**	**122**	P	**Pn**	**17 21 57.7**	**+0.2**
SAP3	**Santorini-Thir**	**1.40**	**122**	P	**Pn**	**17 21 58.2**	**+0.6**
GUR	**Goura**	**1.43**	**302**	P	**Pn**	**17 21 58.5**	**+0.4**
GUR	**Goura**	**1.43**	**302**	P	**Pn**	**17 21 58.3**	**+0.2**
GUR				S	**Sb**	**17 22 17.1**	**+0.1**
THR3	**Thira Island,**	**1.45**	**122**	P	**Pn**	**17 21 58.8**	**+0.6**
KYMI	**Kymi, Euboea I**	**1.46**	**7**	P	**Pn**	**17 21 58.6**	**+0.2**
KYMI	**Kymi, Euboea I**	**1.46**	**7**	P	**Pn**	**17 21 58.5**	**+0.2**
THERA	**Ancient Thera,**	**1.52**	**122**	P	**Pn**	**17 21 59.8**	**+0.6**
THERA	**Ancient Thera,**	**1.52**	**122**	P	**Pn**	**17 21 59.6**	**+0.4**
ITM	**Ithomi**	**1.56**	**270**	P	**Pn**	**17 22 00.3**	**+0.6**
ITM	**Ithomi**	**1.56**	**270**	P	**Pn**	**17 22 00.6**	**+0.8**
ITM				S	**Sn**	**17 22 20.2**	**+0.6**
KLV	**Kalavryta, Ach**	**1.61**	**303**	P	**Pn**	**17 22 00.8**	**+0.2**
KLV	**Kalavryta, Ach**	**1.61**	**303**	P	**Pn**	**17 22 01.0**	**+0.4**
KLV				S	**Sb**	**17 22 22.2**	**-0.1**
LKR	**Lokris**	**1.62**	**335**	P	**Pn**	**17 22 01.1**	**+0.6**
LKR	**Lokris**	**1.62**	**335**	P	**Pn**	**17 22 00.9**	**+0.4**
LKR				S	**Sb**	**17 22 22.7**	**+0.3**
ATAL	**Atalanti**	**1.65**	**336**	P	**Pn**	**17 22 01.3**	**+0.2**
ATAL	**Atalanti**	**1.65**	**336**	P	**Pn**	**17 22 01.2**	**+0.2**
CHAN	**Chania**	**1.67**	**175**	P	**Pn**	**17 22 01.1**	**-0.2**
PYL2	**Kinigos**	**1.74**	**261**	P	**Pn**	**17 22 03.3**	**+1.1**
SKY	**Skiros Island**	**1.77**	**17**	P	**Pn**	**17 22 02.8**	**+0.1**
SKY	**Skiros Island**	**1.77**	**17**	P	**Pn**	**17 22 02.8**	**+0.1**
KALE	**Kalithea**	**1.83**	**312**	P	**Pn**	**17 22 03.7**	**+0.2**
KALE	**Kalithea**	**1.83**	**312**	P	**Pn**	**17 22 03.8**	**+0.3**
AXAR	**Agios Charalam**	**1.85**	**329**	P	**Pn**	**17 22 04.4**	**+0.7**
AXAR	**Agios Charalam**	**1.85**	**329**	P	**Pn**	**17 22 04.4**	**+0.7**
PRNS	**Prines Rethymn**	**1.89**	**164**	P	**Pn**	**17 22 04.3**	**+0.1**
AOS	**Alonnisos**	**1.98**	**0**	P	**Pn**	**17 22 05.2**	**-0.4**
EFP	**Efpalio**	**1.99**	**309**	P	**Pn**	**17 22 06.3**	**+0.6**
EFP	**Efpalio**	**1.99**	**309**	P	**Pn**	**17 22 06.6**	**+0.9**
IDI	**Anoyia**	**2.06**	**156**	P	**Pn**	**17 22 06.5**	**-0.2**
IDI	**Anoyia**	**2.06**	**156**	Pn	**Pn**	**17 22 06.4**	**-0.4**
	7.4nm,0.3s,baz=300,slow=7.2,SNR=31						
IDI				Sn	**Sn**	**17 22 31.1**	**-1.1**
	28nm,0.3s,baz=324,slow=17,SNR=12						
IDI	**Anoyia**	**2.06**	**156**	P	**Pn**	**17 22 06.3**	**-0.4**
ANX	**Ano Chora**	**2.09**	**313**	P	**Pn**	**17 22 08.0**	**+0.8**
ANX	**Ano Chora**	**2.09**	**313**	P	**Pn**	**17 22 07.7**	**+0.6**
CHOS	**Chios island**	**2.10**	**55**	P	**Pn**	**17 22 07.6**	**+0.3**
CHOS	**Chios island**	**2.10**	**55**	P	**Pn**	**17 22 07.2**	**-0.1**
NEO	**Neokhori**	**2.18**	**347**	P	**Pn**	**17 22 08.8**	**+0.5**
NEO	**Neokhori**	**2.18**	**347**	P	**Pn**	**17 22 08.6**	**+0.3**
AGG	**Agios Georgios**	**2.20**	**327**	P	**Pn**	**17 22 09.5**	**+0.9**
AGG				S	**Sb**	**17 22 38.8**	**-0.4**
AGG	**Agios Georgios**	**2.20**	**327**	P	**Pn**	**17 22 09.3**	**+0.7**
AXS	**Araxos**	**2.22**	**298**	P	**Pn**	**17 22 10.4**	**+1.6**
MAKR	**Makrakomi, Fth**	**2.29**	**324**	P	**Pn**	**17 22 11.1**	**+1.4**
ZEYE	**Izmir, Urla-Ze**	**2.34**	**62**	P	**Pn**	**17 22 10.0**	**-0.4**
PVO	**Paravola**	**2.34**	**308**	P	**Pn**	**17 22 11.8**	**+1.3**
GVD	**Gavdhos**	**2.35**	**176**	P	**Pn**	**17 22 11.8**	**+1.2**
EVR	**Evrytania**	**2.38**	**317**	P	**Pn**	**17 22 12.0**	**+0.9**
NPS	**Neapolis**	**2.38**	**143**	P	**Pn**	**17 22 11.7**	**+0.7**
URLA	**Izmir**	**2.46**	**61**	P	**Pn**	**17 22 12.3**	**+0.2**
KARB	**zmir-Karabur**	**2.49**	**53**	P	**Pn**	**17 22 13.2**	**+0.6**
SIGR	**SIGRI**	**2.56**	**37**	P	**Pn**	**17 22 13.4**	**0.0**
GCAM	**G?zelcaml?**

ISC 27 17:24:34.8±1.1,49°7S±0°2×110°5E±0°3,h10km,n14,
σ0°54/7,mb3.8/6,MS3.7/4,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.08**	**12**	T	T	17 43 43.9	
	baz=188,slow=74,SNR=134						
H01W1	**Cape Leeuwin H**	**15.09**	**12**	T	T	17 43 44.5	
	baz=188,slow=74,SNR=179						
H01W3	**Cape Leeuwin H**	**15.09**	**12**	T	T	17 43 45.1	
	baz=188,slow=74,SNR=131						
MAW	**Mawson**	**29.48**	**215**	LR	LR	17 40 14.5	
	comp=Z,126nm,21.3s,baz=23,slow=32						
ASAR	**Alice Springs**	**31.84**	**44**	P	**P**	**17 30 59.9**	**+0.1**
	0.6nm,0.6s,baz=209,slow=8.0,SNR=12						
	0.6nm,0.6s						
VNDA	**Vanda**	**33.81**	**162**	P	**P**	**17 31 16.1**	**-0.3**
	0.2nm,0.5s,baz=290,slow=5.0,SNR=1.4						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**35.30**	**41**	P	**P**	**17 31 29.6**	**-0.3**
	1.1nm,0.7s,baz=210,slow=8.8,SNR=2.5						
	1.1nm,0.7s						
QSPA	**South Pole Qui**	**40.39**	**180**	P	**P**	**17 32 13.4**	**+0.8**
	1.1nm,0.7s,baz=302,slow=5.4,SNR=5.5						
	1.1nm,0.7s						
LEM	**Lembang**	**42.84**	**356**	LR	LR	17 48 01.0	
	comp=Z,78nm,19.5s,baz=210,slow=33						
SNAA	**Sanae**	**50.16**	**202**	P	**P**	**17 33 29.3**	**-0.6**
	1.1nm,0.9s,baz=334,slow=6.8,SNR=3.0						
	1.1nm,0.9s						
JAY	**Jayapura**	**53.62**	**39**	LR	LR	17 56 36.5	
	comp=Z,171nm,19.7s,baz=279,slow=36						
CMAR	**Chiang Mai Arr**	**68.66**	**348**	P	**P**	**17 35 38.3**	**+0.2**
	0.7nm,0.8s,baz=165,slow=5.0,SNR=5.1						
	0.7nm,0.8s						
GUMO	**Guam**	**69.95**	**36**	LR	LR	18 06 21.6	
	comp=Z,45nm,18.1s,baz=204,slow=36						
TXAR	**Lajitas Array**	**147.11**	**115**	PKPbc	**PKPbc**	**17 44 17.8**	**0.0**
	0.5nm,0.7s,baz=190,slow=5.4,SNR=7.3						

*IDC **27** 17:26:23.8±0.6,33°.29S×178°.60W,h0km,mb4.5/13,*
mbtmp4.5/14,ML4.7/1,MS4.2/9,Error ellipse:
s-maj=20.8km s-min=17.6km az=84.0
*WEL **27** 17:26:23.6±0.7,33°.S±4°×17°.8W±1°.1,h33km,mB5.3/25,*
ML5.3/30,MLv5.1/31,Mw(mB)4.7/25,Error ellipse:
s-maj=14.9km s-min=3.2km az=109.7,confirmed
*NEIC **27** 17:26:24.9±1.4,33°.45S±0°.08×178°.5W±0°.2,h10km±1km,*
mb4.8/27,Error ellipse: s-maj=22.3km s-min=12.1km
az=102.0
*MOS **27** 17:26:24.6±1.0,33°.54S×178°.73W,h10km,mb5.1/9,Error*
ellipse: s-maj=16.4km s-min=12.5km az=123.0
*NOU **27** 17:26:35.3,34°.14S×178°.55W,h130km,mb4.7/8,South of*
Kermadec Islands

ISC 27 17:26:24.5±2.3,33°.46S±0°.04×178°.38W±0°.07,
h11km±13km,n206,σ1§81/215,mb4.8/34,MS4.1/11,
15C-11D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.21**	**5**	P	**Pn**	**17 27 25.7**	**-2.9**
GLKZ				S	**Sn**	**17 28 12.7**	**-5.0**
RAO	**Raoul Island**	**4.21**	**5**	Pn	**Pn**	**17 27 25.7**	**-3.0**
RAO				Sn	**Sn**	**17 28 12.5**	**-5.5**
RAO	**Raoul Island**	**4.21**	**5**	P	**Pn**	**17 27 25.7**	**-3.0**
RIZ	**Raoul Island**	**4.22**	**5**	P	Pn	17 27 23.7	-5.0
RIZ				S	**Sn**	**17 28 14.4**	**-3.7**
MXZ	**Matakaoa Point**	**4.90**	**213**	Pn	**Pn**	**17 27 36.2**	**-2.0**
MXZ				Sn	**Sn**	**17 28 30.9**	**-4.0**
MXZ	**Matakaoa Point**	**4.90**	**213**	P	**Pn**	**17 27 36.4**	**-1.7**
MXZ				S	**Sn**	**17 28 35.1**	**+0.2**
WMGZ	**Waiomatatini S**	**5.07**	**210**	P	**Pn**	**17 27 40.2**	**-0.3**
WMGZ				S	**Sn**	**17 28 40.9**	**+1.9**
PKGZ	**Pakihiroa**	**5.26**	**212**	P	**Pn**	**17 27 41.6**	**-1.5**
PKGZ				S	**Sn**	**17 28 42.0**	**-1.6**
HAZ	**Te Kaha**	**5.30**	**215**	P	**Pn**	**17 27 42.9**	**-0.8**
HAZ				S	**Sn**	**17 28 46.5**	**+1.8**
PUZ	**Puketiti**	**5.35**	**210**	P	**Pn**	**17 27 42.4**	**-2.0**
PUZ				S	**Sn**	**17 28 44.8**	**-1.1**
RUGZ	**Raukumara Rang**	**5.52**	**214**	P	**Pn**	**17 27 45.8**	**-0.9**
RUGZ				S	**Sn**	**17 28 50.9**	**+0.6**
TWGZ	**Tauwhareparae**	**5.56**	**211**	P	**Pn**	**17 27 45.9**	**-1.3**
TWGZ				S	**Sn**	**17 28 50.6**	**-0.5**
CNGZ	**Carnagh Statio**	**5.72**	**208**	P	**Pn**	**17 27 48.3**	**-1.1**
GRZ	**Great Barrier**	**5.78**	**240**	P	**Pn**	**17 27 50.6**	**+0.4**
WHRZ	**Whale Island**	**5.79**	**219**	P	**Pn**	**17 27 51.8**	**+1.5**
WHRZ				S	**Sn**	**17 28 55.8**	**+1.7**
TKGZ	**Te Karaka**	**5.83**	**211**	P	**Pn**	**17 27 50.2**	**-0.7**
KUZ	**Kuaotunu**	**5.84**	**234**	P	**Pn**	**17 27 52.6**	**+1.6**
KUZ	**Kuaotunu**	**5.84**	**234**	P	**Pn**	**17 27 52.4**	**+1.4**
MWZ	**Matawai**	**5.89**	**213**	P	**Pn**	**17 27 49.7**	**-2.0**
MWZ				S	**Sn**	**17 28 57.4**	**-1.8**
OPRZ	**Ohinepanea**	**6.01**	**222**	P	**Pn**	**17 27 53.6**	**+0.3**
OPRZ				S	**Sn**	**17 29 01.5**	**-0.7**
URZ	**Urewera**	**6.03**	**216**	Pn	**Pn**	**17 27 52.8**	**-0.8**
	19nm,0.3s,baz=356,slow=1.9,SNR=115						
URZ				Sn	**Sn**	**17 28 58.3**	**-4.3**
	37nm,0.3s,baz=184,slow=20,SNR=8.1						
	93nm,0.5s						
URZ	**Urewera**	**6.03**	**216**	P	**Pn**	**17 27 53.8**	**+0.2**
URZ	**Urewera**	**6.03**	**216**	P	**Pn**	**17 27 51.8**	**-1.8**
URZ				S	**Sn**	**17 29 00.5**	**-2.0**
MARZ	**Manawahe**	**6.05**	**220**	P	**Pn**	**17 27 55.1**	**+1.2**
RAGZ	**Rawiri**	**6.07**	**213**	P	**Pn**	**17 27 51.9**	**-2.4**
RAGZ				S	**Sn**	**17 29 02.3**	**-1.5**
RIGZ	**Rimuhau**	**6.09**	**210**	P	**Pn**	**17 27 54.6**	**0.0**
TGRZ	**Tauranga**	**6.10**	**224**	P	**Pn**	**17 27 55.8**	**+1.3**
EDRZ	**Edgecumbe**	**6.10**	**219**	P	**Pn**	**17 27 56.7**	**+2.1**
PRGZ	**Paritu Road**	**6.23**	**208**	P	**Pn**	**17 27 54.1**	**-2.3**
PRGZ				S	**Sn**	**17 29 07.0**	**-0.6**
KARZ	**Kaharoa**	**6.31**	**222**	P	**Pn**	**17 27 58.5**	**+1.0**
SNGZ	**Shannon Statio**	**6.34**	**212**	P	**Pn**	**17 27 58.2**	**+0.3**
SNGZ				S	**Sn**	**17 29 08.9**	**-1.5**
MUGZ	**Murupara**	**6.37**	**217**	P	**Pn**	**17 27 56.8**	**-1.4**
RTZ	**Ruatahuna**	**6.37**	**215**		**Pn**	**17 27 56.2**	**-2.2**
RTZ				Sn	**Sn**	**17 29 06.9**	**-4.2**
RTZ	**Ruatahuna**	**6.37**	**215**	P	**Pn**	**17 27 57.9**	**-0.5**
KNZ	**Kokohu**	**6.40**	**209**	P	**Pn**	**17 27 55.6**	**-3.1**
MHGZ	**Mahia Peninsul**	**6.42**	**207**	P	**Pn**	**17 27 56.9**	**-2.2**
WCZ	**Waipu Caves**	**6.48**	**246**	P	**Pn**	**17 28 02.3**	**+2.4**
TOZ	**Tahuroa Road**	**6.56**	**228**		**Pn**	**17 27 59.8**	**-1.1**
TOZ	**Tahuroa Road**	**6.56**	**228**	P	**Pn**	**17 28 03.5**	**+2.7**
RAHZ	**Arahi**	**6.56**	**213**	P	**Pn**	**17 28 01.3**	**+0.3**
PRRZ	**Plateau Road**	**6.58**	**219**	P	**Pn**	**17 28 01.6**	**+0.4**
MTHZ	**Maungataniwha**	**6.62**	**214**	P	**Pn**	**17 28 00.0**	**-1.8**
WHHZ	**Waihua**	**6.63**	**211**	P	**Pn**	**17 28 02.0**	**+0.1**
ALRZ	**Allen Road**	**6.65**	**219**	P	**Pn**	**17 28 02.6**	**+0.5**
MRHZ	**Matea Rd**	**6.82**	**217**	P	**Pn**	**17 28 03.9**	**-0.6**
NMHZ	**Naumai**	**6.84**	**213**	P	**Pn**	**17 28 05.4**	**+0.6**
OUZ	**Omahuta**	**6.87**	**253**	P	**Pn**	**17 28 08.1**	**+2.9**
ARHZ	**Aropaoanui**	**6.89**	**211**	P	**Pn**	**17 28 04.4**	**-1.0**
TLZ	**Tolley Road**	**6.92**	**244**	P	**Pn**	**17 28 05.8**	**-0.2**
BKZ	**Black Stump Fm**	**7.04**	**215**		**Pn**	**17 28 04.9**	**-2.6**
BKZ	**Black Stump Fm**	**7.04**	**215**	P	**Pn**	**17 28 06.9**	**-0.6**
BKZ	**Black Stump Fm**	**7.04**	**215**	P	**Pn**	**17 28 05.6**	**-2.0**
MCHZ	**McNeill Hill**	**7.17**	**212**	P	**Pn**	**17 28 08.6**	**-0.7**
CKHZ	**Cape Kidnapper**	**7.18**	**209**	P	**Pn**	**17 28 06.2**	**-3.2**
RITZ	**Rihia Road**	**7.21**	**219**	P	**Pn**	**17 28 11.6**	**+1.7**
KAHZ	**Kahuranaki**	**7.38**	**210**	P	**Pn**	**17 28 08.3**	**-4.0**
TMVZ	**Te Maari**	**7.39**	**219**	P	**Pn**	**17 28 11.3**	**-1.2**
NTVZ	**North Tongarir**	**7.39**	**219**	P	**Pn**	**17 28 11.5**	**-1.0**
ETVZ	**East Tongariro**	**7.40**	**218**	P	**Pn**	**17 28 11.4**	**-1.2**
HIZ	**Hauiti**	**7.45**	**225**	Pn	Pn	17 28 08.2	-4.9
HIZ	**Hauiti**	**7.45**	**225**	P	**Pn**	**17 28 14.3**	**+1.2**
HIZ	**Hauiti**	**7.45**	**225**	P	**Pn**	**17 28 14.2**	**+1.1**
NNVZ	**North Ngauruho**	**7.45**	**219**	P	**Pn**	**17 28 13.1**	**-0.2**
KRHZ	**Kereru**	**7.48**	**213**	P	**Pn**	**17 28 12.0**	**-1.6**
NGZ	**Ngauruhoe**	**7.49**	**219**	P	**Pn**	**17 28 13.9**	**+0.1**
PXZ	**Pawanui**	**7.59**	**209**	P	**Pn**	**17 28 12.2**	**-2.8**
PNHZ	**Pukenui**	**7.77**	**213**	P	**Pn**	**17 28 15.6**	**-2.0**
VRZ	**Vera Road**	**7.91**	**222**	P	**Pn**	**17 28 20.3**	**+0.8**
TSZ	**Takapari Road**	**8.00**	**213**	P	**Pn**	**17 28 18.5**	**-2.2**
WAZ	**Wanganui**	**8.24**	**218**	P	**Pn**	**17 28 24.1**	**+0.1**
BFZ	**Birch Farm**	**8.39**	**209**	Pn	**Pn**	**17 28 22.5**	**-3.5**
BFZ	**Birch Farm**	**8.39**	**209**	P	**Pn**	**17 28 23.4**	**-2.6**
MRZ	**Mangatainoka R**	**8.65**	**212**		**Pn**	**17 28 25.7**	**-4.0**
MSWZ	**Moikau Station**	**9.42**	**211**		**Pn**	**17 28 35.3**	**-4.8**
PLWZ	**Palliser**	**9.54**	**210**		**Pn**	**17 28 37.6**	**-4.2**
TCW	**Tory Channel**	**9.69**	**215**		Pn	17 28 37.7	-6.2
BSWZ	**Blackbirch Sta**	**10.27**	**214**		Pn	17 28 46.3	-5.5
CTZ	**Chatham Island**	**10.35**	**173**		**Pn**	**17 28 49.2**	**-3.7**
MRNZ	**Matariki Terra**	**10.60**	**219**		Pn	17 28 50.3	-6.0
THZ	**Tophouse**	**10.79**	**217**		Pn	17 28 53.4	-5.5
KHZ	**Kahutara**	**10.98**	**213**		Pn	17 28 56.2	-5.3
KHZ	**Kahutara**	**10.98**	**213**	S	Sn	17 30 54.5	-10
KHZ	**Kahutara**	**10.98**	**213**	P	**Pn**	**17 28 59.8**	**-1.6**
RPZ	**Rata Peaks**	**13.14**	**216**	Pn	Pn	17 29 25.1	-6.0
	2.7nm,0.3s,baz=341,slow=5.6,SNR=2.2						
RPZ				Sn	Sn	17 31 41.8	-15
	0.5nm,0.3s,baz=179,slow=23,SNR=1.3						
MSVF	**Nonsavu**	**15.99**	**348**	Pn	**Pn**	**17 30 09.6**	**0.0**
MSVF				IAmb	IAmb	17 30 10.3	
	comp=Z,96nm,1.8s						
MSVF	**Nonsavu**	**15.99**	**348**	*e*P	**P**	**17 30 12.0**	**-1.1**
OUENC	**Ouen Island, N**	**17.05**	**306**	P	**P**	**17 30 29.5**	**+4.7**
ONTNC	**Ouen Toro**	**17.39**	**306**	P	**Pn**	**17 30 26.8**	**-0.4**
ONTNC				IAmb	IAmb	17 30 34.5	
	comp=Z,58nm,1.0s						
DZM	**Mont Dzumac**	**17.56**	**306**	*e*Pn	**P**	**17 30 33.6**	**+3.1**
	comp=Z,83nm,1.1s						
DZM				*e*LR	LR	17 34 15.7	
	comp=Z,689nm,21.9s						
DZM	**Mont Dzumac**	**17.56**	**306**		**Pn**	**17 30 29.0**	**-0.4**
DZM	**Mont Dzumac**	**17.56**	**306**	P	**P**	**17 30 34.0**	**+3.5**
	comp=Z,26nm,0.8s,baz=110,slow=14,SNR=11						
DZM				LR	LR	17 36 18.9	
	comp=Z,1μm,18.1s,baz=174,slow=34						
DZM	**Mont Dzumac**	**17.56**	**306**	P	**P**	**17 30 33.9**	**+3.5**
RAR	**Rarotonga**	**20.50**	**58**	LR	LR	17 38 35.7	
	comp=Z,390nm,18.6s,baz=259,slow=36						
TBI	**Tubuai**	**27.28**	**76**	*e*S	**S**	**17 36 55.7**	**+7.4**
	comp=Z,1μm,26.8s						
TBI				*e*LR	LR	17 38 56.8	
	comp=Z,1μm,23.0s						
EIDS	**Eidsvold**	**27.73**	**279**	P	**P**	**17 32 11.2**	**-1.9**
EIDS				IAmb	IAmb	17 32 29.8	
	comp=Z,51nm,1.8s						
PPT2	**Papeete2**	**30.28**	**66**	*e*S	**S**	**17 37 37.2**	**+1.4**
	comp=Z,331nm,25.5s						
PPT2				*e*LR	LR	17 40 04.9	
	comp=Z,313nm,21.2s						
PPT2				*e*LR	LR	17 40 08.0	
	comp=Z,288nm,22.8s						
PPT	**Papeete**	**30.30**	**66**	LR	LR	17 44 32.6	
	comp=Z,374nm,18.6s,baz=216,slow=36						
STKA	**Stephens Creek**	**33.59**	**261**	P	**P**	**17 33 04.3**	**-0.5**
STKA	**Stephens Creek**	**33.59**	**261**	P	**P**	**17 33 04.9**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=95,slow=13,SNR=4.9						
	comp=Z,3.3nm,0.7s						
STKA	**Stephens Creek**	**33.59**	**261**	P	**P**	**17 33 04.3**	**-0.5**
STKA				pmax	pmax		
	comp=Z,138nm,1.9s						
CTAO	**Charters Tower**	**34.10**	**284**		**P**	**17 33 08.8**	**-0.5**
CTAO	**Charters Tower**	**34.10**	**284**	P	**P**	**17 33 08.8**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,33nm,1.3s						
INKA	**Innaminka**	**35.48**	**268**		**P**	**17 33 20.3**	**-0.8**
PMG	**Port Moresby**	**39.72**	**299**	P	**P**	**17 33 56.1**	**-1.0**
PMG				IAmb	IAmb	17 34 39.8	
	comp=Z,20nm,1.0s						
PMG	**Port Moresby**	**39.72**	**299**	LR	LR	17 48 28.1	
	comp=Z,215nm,21.1s,baz=196,slow=34						
PMG	**Port Moresby**	**39.72**	**299**	P	**P**	**17 33 56.2**	**-1.0**
PMG				pmax	pmax		
	comp=Z,20nm,1.0s						
COEN	**Coen**	**39.90**	**290**	P	**P**	**17 33 58.1**	**-0.6**
COEN				IAmb	IAmb	17 34 03.6	
	comp=Z,24nm,1.1s						
RABL	**Rabaul**	**40.02**	**310**	P	**P**	**17 34 00.6**	**+0.9**
AS31	**Alice Springs**	**42.72**	**270**		**P**	**17 34 20.9**	**-1.0**
AS31				PcP	**PcP**	**17 36 12.2**	**-1.3**
ASAR	**Alice Springs**	**42.72**	**270**		**P**	**17 34 20.7**	**-1.2**
ASAR					**PcP**	**17 36 12.1**	**-1.5**
ASAR	**Alice Springs**	**42.72**	**270**	P	**P**	**17 34 21.3**	**-0.5**
	comp=Z,17nm,0.8s,baz=112,slow=7.6,SNR=92						
ASAR				PcP	**PcP**	**17 36 13.6**	**0.0**
	comp=Z,5.8nm,0.9s,baz=119,slow=4.0,SNR=8.4						
ASAR				S	**S**	**17 40 40.8**	**-4.7**
	comp=Z,0.8nm,1.0s,baz=118,slow=13,SNR=4.6						
ASAR				LR	LR	17 51 40.1	
	comp=Z,180nm,18.1s,baz=138,slow=36						
	comp=Z,17nm,0.8s						
WRAB	**Tennant Creek**	**43.98**	**276**	P	**P**	**17 34 30.7**	**-1.3**
WRAB				IAmb	IAmb	17 34 32.4	
	comp=Z,18nm,0.8s						
WRAB	**Tennant Creek**	**43.98**	**276**	*d*P	**P**	**17 34 31.7**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,21nm,0.8s						
WRA	**Warramunga Arr**	**43.98**	**276**		**P**	**17 34 30.9**	**-1.1**
WRA				PcP	**PcP**	**17 36 17.5**	**-0.3**
WRA	**Warramunga Arr**	**43.98**	**276**	P	**P**	**17 34 31.8**	**-0.3**
	comp=Z,22nm,0.8s,baz=117,slow=7.6,SNR=66						
WRA				PcP	**PcP**	**17 36 17.6**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=124,slow=3.4,SNR=5.4						
	comp=Z,22nm,0.8s						
WB0	**Warramunga Arr**	**44.02**	**276**		**P**	**17 34 31.3**	**-1.0**
WB0				PcP	**PcP**	**17 36 18.2**	**+0.2**
SBA	**Scott Base**	**44.97**	**184**	P	**P**	**17 34 39.7**	**+0.5**
SBA				IAmb	IAmb	17 35 05.8	
	comp=Z,17nm,1.6s						
SBA	**Scott Base**	**44.97**	**184**	P	**P**	**17 34 39.7**	**+0.5**
SBA				pmax	pmax		
	comp=Z,17nm,1.6s						
VNDA	**Vanda**	**45.03**	**186**	P	**P**	**17 34 40.5**	**+0.9**
VNDA	**Vanda**	**45.03**	**186**	P	**P**	**17 34 42.9**	**+3.3**
	comp=Z,0.6nm,0.7s,baz=352,slow=6.3,SNR=4.1						
	comp=Z,0.6nm,0.7s						
VNDA	**Vanda**	**45.03**	**186**	P	**P**	**17 34 40.5**	**+0.9**
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
JAY	**Jayapura**	**49.08**	**300**	P	**P**	**17 35 10.9**	**-1.1**
	comp=Z,16nm,0.9s,baz=360,slow=1.1,SNR=4.0						
	comp=Z,16nm,0.9s						
JAY	**Jayapura**	**49.08**	**300**	P	**P**	**17 35 11.0**	**-1.1**
KNRA	**Kununurra**	**50.69**	**277**	P	**P**	**17 35 23.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**52.10**	**272**	P	**P**	**17 35 33.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**52.10**	**272**	P	**P**	**17 35 34.0**	**-0.9**
	comp=Z,11nm,0.9s,baz=122,slow=5.8,SNR=13						
FITZ				LR	LR	17 58 12.1	
	comp=Z,407nm,18.2s,baz=136,slow=37						
	comp=Z,11nm,0.9s						
CASY	**Casey**	**52.30**	**209**		**P**	**17 35 35.5**	**-0.2**
CASY				IAmb	IAmb	17 35 38.0	
	comp=Z,20nm,0.9s						
QSPA	**South Pole Qui**	**56.66**	**180**	P	**P**	**17 36 09.8**	**+2.2**
QSPA	**South Pole Qui**	**56.66**	**180**	P	**P**	**17 36 11.8**	**+4.2**
	comp=Z,9.6nm,1.1s,baz=33,slow=1.7,SNR=23						
	comp=Z,9.6nm,1.1s						
KAPI	**Kappang**	**63.88**	**282**	*e*P	**P**	**17 36 58.3**	**+0.7**
KAPI				pmax	pmax		
	comp=Z,25nm,1.3s						
SMAI	**San Martin Ant**	**66.72**	**158**	P	**P**	**17 37 15.2**	**0.0**
SMAI				IAmb	IAmb	17 37 30.4	
	comp=Z,9.6nm,1.0s						
BELA	**Belgrano 2**	**66.80**	**172**	P	**P**	**17 37 15.4**	**-0.2**
BELA				IAmb	IAmb	17 37 29.9	
	comp=Z,5.4nm,1.0s						
MAW	**Mawson**	**69.34**	**201**	P	**P**	**17 37 33.0**	**+1.4**
	comp=Z,5.9nm,1.0s,baz=105,slow=6.0,SNR=9.3						
	comp=Z,5.9nm,1.0s						
PMSA	**Palmer Station**	**69.62**	**155**	LR	LR	18 03 47.4	
	comp=Z,263nm,18.4s,baz=226,slow=32						
TROLL	**Troll, Antarti**	**74.82**	**180**	*i*P	**P**	**17 38 05.2**	**+0.6**
	comp=Z,354nm,0.9s						
SNAA	**Sanae**	**75.11**	**179**	*i*P	**P**	**17 38 07.0**	**+0.8**
	comp=Z,56nm,0.7s						
SNAA	**Sanae**	**75.11**	**179**	P	**P**	**17 38 06.1**	**-0.1**
SNAA				IAmb	IAmb	17 38 41.1	
	comp=Z,7.8nm,1.0s						
SNAA	**Sanae**	**75.11**	**179**	P	**P**	**17 38 06.9**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=180,slow=14,SNR=14						
	comp=Z,2.6nm,0.8s						
SNAA	**Sanae**	**75.11**	**179**	*i*P	**P**	**17 38 06.7**	**+0.5**
SNAA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
VNA3	**Neumayer Olymp**	**75.28**	**176**	*i*P	**P**	**17 38 07.4**	**+0.3**
	comp=Z,12nm,0.6s						
VNA2	**Neumayer--Watz**	**75.71**	**177**	*i*P	**P**	**17 38 10.5**	**+0.9**
	comp=Z,21nm,0.8s,baz=178,slow=5.1						
NVL	**N'lazarevskaya**	**75.81**	**183**	*e*P	**P**	**17 38 07.5**	**-2.6**
NVL				*e*PPP	PPP	17 42 43.1	
NVL				*e*S	**S**	**17 47 49.8**	**-1.9**
NVL				*e*		17 48 21.4	
NVL				*e*SS	**SS**	**17 52 42.4**	**+0.1**
NVL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NVL				smax	smax		
	comp=N,488nm,23.8s						
NVL				MLR	MLR		
	comp=Z,132nm,20.0s						
VNA1	**Neumayer--Stat**	**75.94**	**177**	*i*P	**P**	**17 38 12.2**	**+1.4**
	comp=Z,7.1nm,0.8s						
KSRS	**Korea Array**	**86.47**	**320**	LR	LR	18 17 10.5	
	comp=Z,18μm,18.4s,baz=270,slow=35						
YSS	**Yuzhno-Sakhali**	**87.36**	**335**	*i*P	**P**	**17 39 12.6**	**+1.4**
YSS				pmax	pmax		
	comp=Z,15nm,1.0s						
PETK	**Petropavlovsk-**	**88.69**	**346**	P	**P**	**17 39 17.5**	**+0.1**
PETK	**Petropavlovsk-**	**88.69**	**346**	P	**P**	**17 39 18.4**	**+1.0**
	comp=Z,12nm,0.9s,baz=186,slow=6.0,SNR=6.2						
	comp=Z,12nm,0.9s						
LRMC	**Laurel Mtn Rad**	**89.04**	**45**	P	**P**	**17 39 21.1**	**+1.5**
LRMC				IAmb	IAmb	17 39 23.3	
	comp=Z,5.2nm,1.0s						
WSHM	**Spangler Hills**	**89.23**	**45**	P	**P**	**17 39 21.7**	**+1.2**
WSHM				IAmb	IAmb	17 39 40.6	
	comp=Z,7.1nm,1.3s						
CLC	**China Lake**	**89.32**	**45**	P	**P**	**17 39 22.0**	**+1.1**
CLC				IAmb	IAmb	17 39 45.3	
	comp=Z,10nm,1.4s						
CLC	**China Lake**	**89.32**	**45**	P	**P**	**17 39 22.0**	**+1.1**
CLC				pmax	pmax		
	comp=Z,10.0nm,1.4s						
IRM	**Iron Mountain**	**89.69**	**48**		**P**	**17 39 23.3**	**+0.7**
IRM				IAmb	IAmb	17 39 43.4	
	comp=Z,14nm,1.5s						
YBH	**Yreka Blue Hor**	**90.63**	**38**	LR	LR	18 14 22.9	
	comp=Z,8.7nm,19.0s,baz=227,slow=32						
NVAR	**Mina Array Bea**	**90.70**	**43**	P	**P**	**17 39 29.2**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=233,slow=6.5,SNR=5.1						
	comp=Z,0.8nm,0.8s						
TYV	**Tymovskoe**	**90.72**	**337**	*e*P	**P**	**17 39 23.1**	**-3.9**
TYV				pmax	pmax		
	comp=Z,100nm,4.3s						
TYV				pmax	pmax		
	comp=Z,6.0nm,1.5s						
CN2	**Changchun**	**92.38**	**323**	P	P	17 39 29.8	-5.1
CN2	**Changchun**	**92.38**	**323**	SS	SS	17 56 48.3	-1.6
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				pmax	pmax		
	comp=Z,140nm,3.5s						
CMAR	**Chiang Mai Arr**	**94.11**	**289**	P	**P**	**17 39 44.0**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=122,slow=4.4,SNR=4.5						
CMAR				PP	**PP**	**17 43 29.4**	**-0.8**
	comp=Z,1.1nm,1.1s,baz=137,slow=7.0,SNR=4.9						
	comp=Z,0.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**94.11**	**289**	*ce*P	**P**	**17 39 45.0**	**+1.6**
TXAR	**Lajitas Array**	**94.30**	**58**	P	**P**	**17 39 45.8**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=248,slow=5.2,SNR=5.7						
TXAR				LR	LR	18 16 57.9	
	comp=Z,108nm,18.1s,baz=262,slow=32						
	comp=Z,0.4nm,0.7s						
CPUP	**Villa Florida**	**98.33**	**129**	LR	LR	18 19 26.9	
	comp=Z,45nm,18.1s,baz=352,slow=32						
BILL	**Bilibino**	**101.85**	**354**	*e*P	**Pdif**	**17 40 19.6**	**+2.5**
BILL				pmax	pmax		
	comp=Z,14nm,1.5s						
MK31	**Makanchi Array**	**119.47**	**309**	*d*PKIKP	**PKPdf**	**17 45 13.6**	**-0.3**
MKAR	**Makanchi Array**	**119.47**	**309**	PKP	**PKPdf**	**17 45 13.7**	**-0.2**
	comp=Z,2.3nm,1.0s,baz=64,slow=2.8,SNR=10						
ZALV	**Zalesovo Beam**	**120.08**	**317**	PKP	**PKPdf**	**17 45 14.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=229,slow=1.4,SNR=3.9						
KURK	**Kurchatov Arra**	**122.90**	**312**	*i*PKIKP	**PKPdf**	**17 45 20.3**	**0.0**
KURBB	**Kurchatov Arra**	**122.94**	**312**	PKP	**PKPdf**	**17 45 20.1**	**-0.2**
	comp=Z,2.0nm,

AAI	**Ambon**	**0.14**	**236**	P	**Pg**	**17 26 30.5**	**-0.4**
AAI				S	**Sg**	**17 26 32.9**	**-0.5**
MSAI	**Masohi**	**0.67**	**67**	P	**Pb**	**17 26 41.1**	**+0.8**
MSAI				S	**Sb**	**17 26 50.5**	**+1.2**
NLAI	**Namlea**	**1.27**	**287**	P	**Pn**	**17 26 48.9**	**-1.2**
NLAI				S	**Sb**	**17 27 05.9**	**-0.7**
SANI	**Sanana**	**2.79**	**304**	P	**Pn**	**17 27 12.1**	**+1.0**
SANI				S	**Sn**	**17 27 44.4**	**0.0**
SWI	**Sorong**	**4.01**	**47**	P	**Pn**	**17 27 29.8**	**+1.9**
TNTI	**Ternate**	**4.45**	**348**	P	**Pn**	**17 27 37.6**	**+3.7**
KAPI	**Kappang**	**8.65**	**260**	Pn	**Pn**	**17 28 35.9**	**+4.2**
	2.7nm,0.3s,baz=52,slow=1.8,SNR=4.5 13nm,0.6s						
FITZ	**Fitzroy Crossi**	**14.64**	**190**	Pn	**Pn**	**17 29 55.1**	**+1.5**
	0.2nm,0.3s,baz=356,slow=9.2,SNR=3.9 1.7nm,0.8s						
WRA	**Warramunga Arr**	**17.27**	**161**	P	**Pn**	**17 30 26.0**	**-1.7**
	0.3nm,0.3s,baz=344,slow=14,SNR=10 2.4nm,0.8s						
ASAR	**Alice Springs**	**20.66**	**165**	P	Pn	17 31 08.3	-0.3
	16nm,0.7s,baz=348,slow=11,SNR=196 16nm,0.7s						
KSRS	**Korea Array**	**40.85**	**360**	P	**P**	**17 34 04.1**	**-4.1**
	0.2nm,0.3s,baz=175,slow=9.6,SNR=4.6 0.2nm,0.3s						
MKAR	**Makanchi Array**	**64.49**	**327**	P	**P**	**17 37 03.5**	**+0.4**
	0.5nm,0.7s,baz=116,slow=8.2,SNR=7.2 0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**67.82**	**334**	P	**P**	**17 37 24.1**	**-0.2**
	0.5nm,0.5s,baz=147,slow=3.4,SNR=2.4 0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**68.76**	**329**	P	**P**	**17 37 30.2**	**0.0**
	0.4nm,0.3s,baz=106,slow=5.2,SNR=7.3 0.4nm,0.3s						
BVAR	**Borovoye Array**	**74.32**	**328**	P	**P**	**17 38 03.4**	**-0.3**
	0.3nm,0.6s,baz=125,slow=4.0,SNR=2.0 0.3nm,0.6s						
QSPA	**South Pole Qui**	**86.35**	**180**	P	**P**	**17 39 08.4**	**+0.1**
	3.2nm,1.0s,baz=327,slow=8.7,SNR=3.0 3.2nm,1.0s						

*KEA **27** 17:32:53.3, 32°.29N × 129°.94E, h3km, ML4.1/4*
*IDC **27** 17:33:11.6±0.8, 32°.34N × 129°.86E, h0km, mb3.6/7, mbtmp3.6/10, ML3.3/3, MS3.2/6, Error ellipse: s-maj=19.6km s-min=11.2km az=132.0*
*NIED **27** 17:33:12.7, 32°.36N × 129°.82E, h14km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.25; $M_{\theta\theta}$1.43; $M_{\phi\phi}$-1.18; $M_{r\theta}$0.52; $M_{r\phi}$-0.36; $M_{\theta\phi}$0.25; Fault plane solution: $M_0$1.47000×10^{15} NP1: ϕ=143.00000°, δ67.00000°, λ-2.00000°. NP2:ϕ=234.00000°, δ88.00000°, λ-157.00000°.*
*JMA **27** 17:33:12.7±0.1, 32°.4N±0°.1 × 129°.8E±0°.3, h14km, MD4.0/40, MW4.1/40, W OFF AMAKUSA ISLAND*
JMA Felt III J1 at W OFF AMAKUSA ISLAND .

ISC 27 17:33:12.2±0.9, 32°.41N±0°.03 × 129°.73E±0°.03, h9km±6km, n41, σ2s54/33, mb3.7/7, 8D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NGSJ	**Nagasakinomoza**	**0.23**	**16**	*i* P		**Pb**		**17 33 18.4**	**+1.5**
NGSJ				eS		**Sb**		**17 33 22.0**	**+2.0**
NGSJ	**Nagasakinomoza**	**0.23**	**16**	A		A		17 33 18.4	
	comp=N,21nm,0.8s,comp=E,41nm,0.6s								
JHD	**Hondo**	**0.35**	**81**	*i* P		**Pb**		**17 33 18.7**	**-2.0**
JHD				↓S		**Sg**		**17 33 22.7**	**-1.2**
JHD	**Hondo**	**0.35**	**81**	A		A		17 33 18.7	
	comp=N,81nm,0.8s,comp=E,36nm,1.2s								
JSJ	**Shimokoshiki**	**0.73**	**181**	P		**Pg**		**17 33 24.8**	**-1.5**
JSJ				S		**Sg**		**17 33 34.5**	**-1.4**
JSJ	**Shimokoshiki**	**0.73**	**181**	A		A		17 33 24.8	
	comp=N,14nm,0.4s,comp=E,12nm,0.4s								
JZO	**Okuchi**	**0.79**	**110**	*i* P		**Pg**		**17 33 26.1**	**-1.3**
JZO				↓S		**Sg**		**17 33 35.2**	**-2.5**
JZO	**Okuchi**	**0.79**	**110**	A		A		17 33 26.1	
	comp=N,13nm,0.3s,comp=E,8.0nm,1.3s								
JFU	**Fukue jima 2**	**0.86**	**287**	*i* P		**Pn**		**17 33 31.1**	**+0.5**
JFU				↓*i* eS		**Sn**		**17 33 44.6**	**+1.4**
JFU	**Fukue jima 2**	**0.86**	**287**	A		A		17 33 31.1	
	comp=N,6.0nm,1.9s,comp=E,6.0nm,1.3s								
JTA	**Tamana**	**0.88**	**51**	*i* P		**Pb**		**17 33 28.6**	**-1.1**
JTA				S		**Sb**		**17 33 40.0**	**-1.5**
JTA	**Tamana**	**0.88**	**51**	A		A		17 33 28.6	
	comp=N,3.0nm,5.7s,comp=E,3.0nm,2.5s								
JIU3	**Izumi3**	**0.93**	**81**	↓*i* P		**Pg**		**17 33 28.3**	**-1.9**
JIU3				↓S		**Sg**		**17 33 39.8**	**-2.4**
JIU3	**Izumi3**	**0.93**	**81**	A		A		17 33 28.3	
	comp=N,7.0nm,0.3s,comp=E,6.0nm,0.3s								
JSU	**Suzuyama**	**1.09**	**145**	*i* P		**Pb**		**17 33 31.7**	**-1.7**
JSU				S		**Sb**		**17 33 44.8**	**-2.9**
JFI	**Itaya**	**1.16**	**29**	A		A		17 33 34.1	
	comp=N,5.0nm,0.8s,comp=E,6.0nm,1.3s								
JNU	**Nakatsue**	**1.20**	**54**	Pg		**Pg**		**17 33 34.4**	**-1.0**
	comp=E,538nm,0.3s,baz=261,slow=6.4,SNR=2890								
JNU				Lg		Lg		17 33 48.9	
	comp=E,1μm,0.3s,baz=335,slow=22,SNR=10								
JNU				LR		LR		17 33 56.4	
	comp=E,150nm,18.4s,baz=221,slow=39								
JNU	**Nakatsue**	**1.20**	**54**	A		A		17 33 34.2	
	comp=N,11nm,1.8s,comp=E,16nm,1.2s								
JTSN	**Tsuno**	**1.52**	**96**	A		A		17 33 38.3	
	comp=N,8.0nm,0.9s,comp=E,5.0nm,0.9s								
JNAR	**Kushima--Naru**	**1.58**	**123**	A		A		17 33 39.2	
	comp=N,5.0nm,5.6s,comp=E,5.0nm,3.7s								
JNKG	**Nichinankitago**	**1.59**	**118**	A		A		17 33 39.3	
	comp=N,5.0nm,1.2s,comp=E,5.0nm,4.4s								
JKI	**Kunimi**	**1.97**	**51**	A		A		17 33 45.9	
	comp=N,4.0nm,2.1s,comp=E,3.0nm,3.3s								
KSRS	**Korea Array**	**5.25**	**344**	Pn		**Pn**		**17 34 33.0**	**+2.2**
	comp=E,2.1nm,0.3s,baz=167,slow=15,SNR=36								
KSRS				Lg		Lg		17 35 57.2	
	comp=E,2.8nm,0.3s,baz=164,slow=28,SNR=6.0 comp=E,5.0nm,0.4s								
JOW	**Kunigami**	**5.70**	**193**	Pn		**Pn**		**17 34 38.3**	**+1.2**
	comp=E,2.2nm,0.3s,baz=11,slow=5.9,SNR=8.2								
JOW				LR		LR		17 36 54.1	
	comp=E,169nm,21.5s,baz=304,slow=39 comp=E,6.6nm,0.8s								
HJU	**Haeju**	**6.50**	**331**	Pg		**Pb**		**17 35 01.7**	**-3.8**
HJU				Sg		**Sg**		**17 36 37.2**	**-3.8**
HJU				AML		AML			
	comp=N,184nm,0.6s								
HJU				AML		AML			
	comp=E,190nm,0.6s								
HJU				AML		AML			
	comp=Z,93nm,0.6s								
WOSN	**Wonsan**	**6.99**	**345**	Sg		**Sg**		**17 36 52.9**	**-3.8**
PYAG	**Pyongyang**	**7.37**	**335**	Sg		**Sg**		**17 37 05.4**	**-3.3**
PYAG				AML		AML			
	comp=N,180nm,1.0s								
PYAG				AML		AML			
	comp=E,176nm,1.0s								
PYAG				AML		AML			
	comp=Z,88nm,1.0s								
PYS	**Pyongsong**	**7.51**	**336**	Sg		**Sg**		**17 37 07.3**	**-6.1**
PYS				AML		AML			
	comp=N,455nm,1.4s								
PYS				AML		AML			
	comp=E,416nm,1.4s								
PYS				AML		AML			
	comp=Z,233nm,1.4s								
HHU	**Hamhung**	**7.71**	**347**	Sg		**Sg**		**17 37 14.5**	**-5.1**
HHU				AML		AML			
	comp=N,73nm,1.0s								
HHU				AML		AML			
	comp=E,72nm,1.0s								
HHU				AML		AML			
	comp=Z,36nm,1.0s								
MJAR	**Matsushiro Arr**	**8.13**	**57**	Pn		**Pn**		**17 35 11.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=241,slow=13,SNR=9.5								
MJAR				Lg		Lg		17 37 30.3	
	baz=242,slow=27,SNR=4.1								
MJAR				LR		LR		17 38 21.3	
	comp=Z,143nm,19.1s,baz=234,slow=38 comp=Z,2.1nm,0.4s								
JHJ	**Hachijo jima 2**	**8.50**	**83**	LR		LR		17 38 35.6	
	comp=Z,109nm,18.6s,baz=323,slow=38								
ASAJ	**Asahikawa**	**15.43**	**37**	LR		LR		17 42 00.2	
	comp=Z,46nm,18.2s,baz=236,slow=34								
SONM	**Songino Array**	**23.44**	**318**	P		**P**		**17 38 24.4**	**+2.4**
	comp=Z,0.5nm,0.5s,baz=105,slow=9.1,SNR=3.2 comp=Z,0.5nm,0.5s								
MA2	**Magadan**	**30.58**	**21**	LR		LR		17 52 18.1	
	comp=Z,44nm,19.3s,baz=256,slow=38								
TIXI	**Tiksi**	**39.30**	**360**	LR		LR		17 58 17.9	
	comp=Z,60nm,18.3s,baz=218,slow=38								
BVAR	**Borovoye Array**	**46.71**	**314**	P		**P**		**17 41 43.2**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=101,slow=7.6,SNR=1.4 comp=Z,0.2nm,0.4s								
WRA	**Warramunga Arr**	**52.24**	**175**	P		**P**		**17 42 24.2**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=352,slow=8.0,SNR=6.6 comp=Z,0.8nm,0.7s								
ASAR	**Alice Springs**	**55.90**	**175**	P		**P**		**17 42 50.0**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=2.8,slow=11,SNR=13 comp=Z,1.0nm,0.8s								
ILAR	**Eielson Array**	**58.42**	**30**	P		**P**		**17 43 08.8**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=278,slow=7.1,SNR=4.5 comp=Z,0.4nm,0.9s								
FINES	**FINESS Array B**	**68.17**	**330**	P		**P**		**17 44 13.8**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=64,slow=9.4,SNR=7.2 comp=Z,0.5nm,0.6s								
AKASG	**Malin Array Be**	**71.72**	**319**	P		**P**		**17 44 35.7**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=53,slow=7.0,SNR=2.0 comp=Z,0.2nm,0.3s								

*IDC **27** 17:42:46.6±0.9, 26°.16S × 70°.77E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=37.7km s-min=19.9km az=95.0*

ISC 27 17:42:48.2±1.1, 26°.2S±0°.2 × 70°.8E±0°.3, h10km, n18, σ0s54/9, mb3.8/9, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.50**	**5**	T		T	T	18 06 03.9	
	baz=185								
H08S2	**Diego Garcia H**	**18.50**	**5**	T		T	T	18 06 16.8	
	baz=185								
H08S3	**Diego Garcia H**	**18.52**	**5**	T		T	T	18 06 17.9	
	baz=185								
H04N2	**CROZET ISLANDS**	**25.03**	**212**	T		T	T	18 14 16.9	
	baz=43								
H04N1	**CROZET ISLANDS**	**25.04**	**212**	T		T	T	18 14 18.5	
	baz=43								
H04N3	**CROZET ISLANDS**	**25.05**	**212**	T		T	T	18 14 16.6	
	baz=43								
H01W2	**Cape Leeuwin H**	**38.11**	**114**	T		T	T	18 30 22.0	
	baz=271,slow=75,SNR=44								
H01W3	**Cape Leeuwin H**	**38.11**	**114**	T		T	T	18 30 22.2	
	baz=271,slow=75,SNR=38								
H01W1	**Cape Leeuwin H**	**38.12**	**114**	T		T	T	18 30 27.3	
	baz=271,slow=75,SNR=9.8								
CMAR	**Chiang Mai Arr**	**52.13**	**35**	P		**P**		**17 51 59.3**	**+0.4**
	1.2nm,1.0s,baz=216,slow=7.4,SNR=5.3 1.2nm,1.0s								
ASAR	**Alice Springs**	**56.81**	**102**	P		**P**		**17 52 32.5**	**-0.6**
	0.6nm,0.9s,baz=250,slow=6.2,SNR=8.6 0.6nm,0.9s								
WRA	**Warramunga Arr**	**58.33**	**98**	P		**P**		**17 52 43.7**	**-0.2**
	0.7nm,0.9s,baz=253,slow=7.6,SNR=4.3 0.7nm,0.9s								
SNAA	**Sanae**	**60.23**	**200**	P		**P**		**17 52 55.7**	**-0.6**
	0.8nm,0.8s,baz=6.1,slow=22,SNR=3.0 0.8nm,0.8s								
QSPA	**South Pole Qui**	**63.96**	**180**	P		**P**		**17 53 21.8**	**+0.4**
	1.3nm,0.8s,baz=233,slow=1.8,SNR=5.5 1.3nm,0.8s								
VNDA	**Vanda**	**64.88**	**166**	P		**P**		**17 53 27.6**	**+0.5**
	2.1nm,0.8s,baz=277,slow=7.1,SNR=14 2.1nm,0.8s								
MKAR	**Makanchi Array**	**73.37**	**8**	P		**P**		**17 54 19.6**	**-0.4**
	0.9nm,0.8s,baz=189,slow=5.0,SNR=7.1 0.9nm,0.8s								
KURBB	**Kurchatov Arra**	**76.77**	**5**	P		**P**		**17 54 39.9**	**+0.4**
	0.9nm,1.0s,baz=201,slow=6.2,SNR=5.5 0.9nm,1.0s								
ZALV	**Zalesovo Beam**	**80.71**	**8**	P		**P**		**17 55 00.7**	**-0.4**
	0.7nm,0.7s,baz=138,slow=11,SNR=3.6 0.7nm,0.7s								

*IDC **27** 17:44:12.4±1.0, 26°.17S × 70°.89E, h0km, mb3.8/9, mbtmp3.8/9, MS4.1/1, Error ellipse: s-maj=38.2km s-min=20.6km az=94.0*

ISC 27 17:44:14.3±1.1, 26°.2S±0°.2 × 70°.9E±0°.3, h11km, n19, σ0s68/9, mb3.8/9, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.48**	**5**	T		T	T	18 07 29.9	
	baz=185,slow=76,SNR=7.0								
H08S2	**Diego Garcia H**	**18.49**	**5**	T		T	T	18 07 35.8	
	baz=185,slow=76,SNR=7.0								
H08S3	**Diego Garcia H**	**18.50**	**5**	T		T	T	18 07 36.8	
	baz=185,slow=76,SNR=9.3								
H04N2	**CROZET ISLANDS**	**25.10**	**212**	T		T	T	18 15 40.4	
	baz=44,slow=74,SNR=25								
H04N1	**CROZET ISLANDS**	**25.11**	**212**	T		T	T	18 15 43.4	
	baz=44,slow=74,SNR=260								
H04N3	**CROZET ISLANDS**	**25.12**	**212**	T		T	T	18 15 45.5	
	baz=44,slow=74,SNR=24								
H01W2	**Cape Leeuwin H**	**37.99**	**114**	T		T	T	18 31 50.2	
	baz=271,slow=75,SNR=21								
H01W3	**Cape Leeuwin H**	**37.99**	**114**	T		T	T	18 31 47.8	
	baz=271,slow=75,SNR=19								
H01W1	**Cape Leeuwin H**	**38.01**	**114**	T		T	T	18 31 48.6	
	baz=271,slow=75,SNR=23								
MAW	**Mawson**	**41.74**	**185**	LR		LR		18 06 53.0	
	comp=Z,246nm,19.9s,baz=96,slow=33								
CMAR	**Chiang Mai Arr**	**52.06**	**34**	P		**P**		**17 53 24.4**	**+0.1**
	0.6nm,0.7s,baz=225,slow=8.3,SNR=4.8 0.6nm,0.7s								
ASAR	**Alice Springs**	**56.68**	**102**	P		**P**		**17 53 58.0**	**-0.2**
	0.7nm,0.8s,baz=250,slow=6.5,SNR=8.0 0.7nm,0.8s								
WRA	**Warramunga Arr**	**58.20**	**98**	P		**P**		**17 54 09.1**	**+0.2**
	0.7nm,0.9s,baz=251,slow=7.0,SNR=4.1 0.7nm,0.9s								
SNAA	**Sanae**	**60.28**	**200**	P		**P**		**17 54 22.3**	**-0.3**
	0.6nm,0.8s,baz=93,slow=14,SNR=2.0 0.6nm,0.8s								
QSPA	**South Pole Qui**	**63.96**	**180**	P		**P**		**17 54 48.2**	**+0.8**
	1.5nm,0.9s,baz=294,slow=1.5,SNR=4.0 1.5nm,0.9s								
VNDA	**Vanda**	**64.85**	**166**	P		**P**		**17 54 52.3**	**-0.6**
	2.1nm,0.8s,baz=275,slow=7.6,SNR=9.2 2.1nm,0.8s								
MKAR	**Makanchi Array**	**73.35**	**8**	P		**P**		**17 55 44.8**	**-1.1**
	1.2nm,0.9s,baz=182,slow=5.8,SNR=6.0 1.2nm,0.9s								
KURBB	**Kurchatov Arra**	**76.75**	**5**	P		**P**		**17 56 05.9**	**+0.5**
	0.8nm,0.8s,baz=200,slow=6.5,SNR=5.2 0.8nm,0.8s								
ZALV	**Zalesovo Beam**	**80.69**	**8**	P		**P**		**17 56 27.4**	**+0.4**
	0.5nm,0.5s,baz=160,slow=4.6,SNR=3.7 0.5nm,0.5s								

*MOS **27** 17:48:24.7±1.4, 14°.69N × 52°.45E, h10km, mb5.1/60, MS4.0/10, Error ellipse: s-maj=6.8km s-min=3.6km az=96.4*
*IDC **27** 17:48:25.2±0.6, 14°.61N × 52°.30E, h0km, mb4.3/25, mbtmp4.3/25, ML3.7/1, MS4.0/46, Error ellipse: s-maj=15.3km s-min=13.4km az=30.0*
*OMAN **27** 17:48:28.0±0.6, 15°.00N × 52°.44E, h10km, mb4.2/29, ml4.2/6, ms4.0/11, Error ellipse: s-maj=11.7km s-min=3.8km az=135.0*
*NEIC **27** 17:48:27.4±1.8, 14°.91N±0°.09 × 52°.39E±0°.08, h10km±1km, mb4.9/113, Error ellipse: s-maj=16.1km s-min=10.5km az=147.0*
*BJI **27** 17:48:29.7, 14°.41N × 52°.17E, h54km, mb4.5/38, mB5.1/8, Ms4.3/14, Ms7 4.0/18*
*GCMT **27** 17:48:29.4±0.3, 14°.80N±0°.02 × 52°.30E±0°.03, h13km±1km, MW4.9/97, Moment Tensor Solution. s15,c16; s97,c146; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.59±.20; $M_{\theta\theta}$2.12±.13; $M_{\phi\phi}$0.47±.11; $M_{r\theta}$0.71±.26; $M_{r\phi}$-0.85±.07; $M_{\theta\phi}$-1.26±.38; Best double couple: $M_0$2.90700×10^{16} NP1:ϕ99.00000°, δ34.00000°, λ-115.00000°. NP2: ϕ309.00000°, δ59.00000°, λ-74.00000°. Principal axes: T 2.7440, Plg13.0000°, Azm27.0000°; N 0.3340, Plg14.0000°, Azm121.0000°; P -3.0710, Plg71.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DSN **27** 17:48:33.4±2.2, 15°.53N × 52°.33E, h10km, mb5.6/4, ML4.0/3, Ms3.9/9 Error ellipse: s-maj=29.5km s-min=10.9km az=161.0*

ISC 27 17:48:26.7±0.4, 14°.78N±0°.05 × 52°.37E±0°.05, h10km, n477, σ1s57/487, mb4.8/155, MS4.0/59, 32C-28D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**2.71**	**19**	P		P	**Pn**	**17 49 09.4**	**-1.0**
	SNR=17								
ABTO				S		S	**Sn**	**17 49 40.4**	**-2.9**
RBK	**Rabkut**	**3.23**	**33**	P		P	**Pn**	**17 49 17.6**	**0.0**
	SNR=150								
RBK				P		Pb		17 49 17.7	-6.5
	SNR=150								
RBK				S		S	**Sn**	**17 49 53.5**	**-2.7**
WHFO	**Wadi Hawf**	**3.40**	**23**	P		P	**Pn**	**17 49 19.3**	**-0.6**
	SNR=52								
WHFO				P		Pb		17 49 19.3	-7.8
	SNR=27								
DMTO	**DMTO**	**3.83**	**40**	P		P	**Pn**	**17 49 25.5**	**-0.2**
	SNR=166								
DOK	**Doka**	**4.17**	**24**	P		P	**Pn**	**17 49 30.4**	**-0.1**
	SNR=23								
DOK				S		S	**Sn**	**17 50 20.2**	**+0.9**
SHAO	**Shalim**	**4.49**	**44**	P		P	**Pn**	**17 49 35.0**	**+0.2**
	SNR=14								
SHAO				S		S	**Sn**	**17 50 24.0**	**-3.2**
SHAO	**Shalim**	**4.49**	**44**	*i* P		P	**Pn**	**17 49 33.6**	**-1.3**
	SNR=14								
DQM	**DQM**	**7.11**	**43**	P		P	**Pn**	**17 50 10.6**	**-0.3**
	SNR=7.5								
MHTO	**MHTO**	**8.15**	**40**	P		P	**Pn**	**17 50 24.7**	**-0.5**
	SNR=40								
MZR	**Muzera**	**8.24**	**7**	P		P	**Pn**	**17 50 25.0**	**-1.5**
	SNR=13								
MZR	**Muzera**	**8.24**	**7**	*i* P		P	**Pn**	**17 50 24.5**	**-2.0**
	SNR=7.4								
UMZA	**Um Al Zommool**	**8.32**	**18**	P		P	**Pn**	**17 50 26.5**	**-1.0**
MZWR	**Madinat Zayed**	**9.04**	**9**	P		P	**Pn**	**17 50 35.4**	**-2.1**
GHWR	**Ruwais**	**9.15**	**3**	P		P	**Pn**	**17 50 36.6**	**-2.2**
JMDO	**Jabal Madar**	**9.30**	**35**	P		P	**Pn**	**17 50 40.3**	**-0.6**
	SNR=30								
ARQ	**Araqi**	**9.37**	**24**	P		P	**Pn**	**17 50 39.8**	**-2.2**
	SNR=20								
ALNE	**Al Ain**	**9.76**	**19**	P		P	**Pn**	**17 50 45.2**	**-2.1**
	SNR=9.9								
ALNE				P		P	**Pn**	**17 50 45.2**	**-2.1**
	SNR=9.9								
ALNE	**Al Ain**	**9.76**	**19**	P		P	**Pn**	**17 50 44.8**	**-2.5**
ATD	**Arta Tunnel**	**9.82**	**252**				**Pn**	**17 50 49.6**	**+1.4**
ATD	**Arta Tunnel**	**9.82**	**252**	Pn		Pn	**Pn**	**17 50 46.6**	**-1.6**
	0.7nm,0.3s,baz=150,slow=18,SNR=18								
ATD				LR		LR	LR	17 53 48.7	
	comp=Z,57nm,20.9s,baz=50,slow=33								
ATD	**Arta Tunnel**	**9.82**	**252**	P		P	**Pn**	**17 50 52.1**	**+3.9**
SMDO	**Samad**	**9.83**	**32**	P		P	**Pn**	**17 50 45.8**	**-2.6**
	SNR=23								
JLN	**Jalan Bani Buh**	**9.91**	**41**	P		P	**Pn**	**17 50 48.5**	**-0.9**
	SNR=15								
HOQ	**Hoqain**	**9.92**	**27**	P		P	**Pn**	**17 50 49.4**	**-0.1**
	SNR=12								
HOQ				P		P	**Pn**	**17 50 49.4**	**-0.1**
	SNR=12								
SMRA	**Abu-Samra**	**10.02**	**352**	P		P	**Pn**	**17 50 49.8**	**-1.0**
AJN	**Ajban**	**10.04**	**14**	P		P	**Pn**	**17 50 50.4**	**-0.6**
AJN				P		P	**Pn**	**17 50 50.4**	**-0.6**
SOHO	**SOHO**	**10.10**	**22**	P		P	**Pn**	**17 50 48.1**	**-3.7**
SOHO				P		P	**Pn**	**17 50 48.1**	**-3.7**
SOHO	**SOHO**	**10.10**	**22**	P		P	**Pn**	**17 50 49.1**	**-2.7**
ASUD	**Al Ashush, Dub**	**10.18**	**15**	P		P	**Pn**	**17 50 51.7**	**-1.3**
ASUD				P		P	**Pn**	**17 50 51.7**	**-1.3**
BIDO	**Bidbid**	**10.25**	**31**	P		P	**Pn**	**17 50 52.5**	**-1.5**
	SNR=10								
WSAR	**Wadi Sarin**	**10.28**	**34**	Pn		Pn	**Pn**	**17 50 52.5**	**-1.9**
	0.1nm,0.3s,baz=245,slow=24,SNR=48								
WSAR				Sn		Sn	**Sn**	**17 52 44.2**	**-5.7**
	baz=257,slow=24,SNR=1.1								
WSAR	**Wadi Sarin**	**10.28**	**34**	P		P	**Pn**	**17 50 53.1**	**-1.4**
	SNR=14								
ASHO	**Ashiyiah**	**10.44**	**19**	P		P	**Pn**	**17 50 56.1**	**-0.6**
ASHO				P		P	**Pn**	**17 50 56.1**	**-0.6**
ASHO	**Ashiyiah**	**10.44**	**19**	P		P	**Pn**	**17 50 53.5**	**-3.2**
HATD	**Hatta, Dubai**	**10.60**	**19**	P		P	**Pn**	**17 50 58.1**	**-0.7**
HATD				P		P	**Pn**	**17 50 58.1**	**-0.7**
HATD	**Hatta, Dubai**	**10.60**	**19**	P		P	**Pn**	**17 50 57.6**	**-1.2**
NAZ	**Nazwa, Dubai**	**10.61**	**16**	P		P	**Pn**	**17 50 58.6**	**-0.4**
NAZ	**Nazwa, Dubai**	**10.61**	**16**	*i* P		P	**Pn**	**17 50 57.1**	**-1.9**
	SNR=7.5								
UOSS	**Minazif**	**10.73**	**19**				**Pn**	**17 50 58.2**	**-2.4**
UOSS	**Minazif**	**10.73**	**19**	P		P	**Pn**	**17 51 00.1**	**-0.6**
UOSS				P		P	**Pn**	**17 51 00.1**	**-0.6**
UOSS	**Minazif**	**10.73**	**19**	P		P	**Pn**	**17 50 58.2**	**-2.4**
RAYN	**Ar Rayn**	**10.85**	**324**				**Pn**	**17 50 58.2**	**-4.0**
RAYN	**Ar Rayn**	**10.85**	**324**	*i* P		P	**Pn**	**17 50 58.0**	**-4.2**
	SNR=12								
RAYN	**Ar Rayn**	**10.85**	**324**	P		P	**Pn**	**17 50 58.2**	**-4.0**
MDH	**Madha**	**11.09**	**19**	P		P	**Pn**	**17 51 05.2**	**-0.4**
MDH				P		P	**Pn**	**17 51 05.2**	**-0.4**
MDH	**Madha**	**11.09**	**19**	P		P	**Pn**	**17 51 03.9**	**-1.6**
SHMA	**Al-Shehemyia**	**11.10**	**353**	P		P	**Pn**	**17 51 03.3**	**-2.3**
MSFE	**Esma-Masafi**	**11.11**	**18**	*i* P		P	**Pn**	**17 51 03.6**	**-2.2**
	SNR=9.0								
MASF	**Masafi**	**11.12**	**18**	P		P	**Pn**	**17 51 04.6**	**-1.3**

MBAR Mbarara 26.30 236 LR LR 18 03 13.8
comp=Z,188nm,21.6s,baz=68,slow=34
MBAR Mbarara 26.30 236 P **P** **17 54 03.4 +0.4**
MBAR pmax pmax
comp=Z,13nm,1.4s
MNGR Mingechevir, A 26.30 351 P **P** **17 54 05.5 +3.0**
GANJ Ganja 26.30 350 P **P** **17 54 05.6 +3.0**
CSS Mathiatis 26.41 323 P **P** **17 54 02.7 -0.9**
NIL Nilore 26.65 42 **P** **17 54 05.4 -0.5**
NIL IAmb IAmb 17 54 12.9
comp=Z,18nm,0.9s
NIL Nilore 26.65 42 P **P** **17 54 05.4 -0.5**
NIL pmax pmax
comp=Z,18nm,0.9s
SEKA Sheki 26.71 351 P **P** **17 54 09.1 +2.8**
AKT Akhty 26.91 352 *e*P **P** **17 54 06.2 -1.9**
AKT *e*PPP PPP 17 54 57.1
AKT *e* 17 57 28.8
AKT *e*S **S** **17 58 44.1 -1.0**
AKT pmax pmax
comp=Z,47nm,1.3s
AKT MLR MLR
comp=Z,305nm,14.0s
ARPR Arapgir-MALATY 27.19 336 P **P** **17 54 10.1 -0.6**
ARPR IAmb IAmb 17 54 22.0
comp=Z,28nm,1.1s
KOPT Kop Dagi 27.21 340 P **P** **17 54 10.4 -0.7**
KOPT IAmb IAmb 17 54 17.2
comp=Z,31nm,1.1s
SIMJ Simiganj 27.95 29 P **P** **17 54 17.4 -0.2**
CHGR Chuyangaron 28.02 29 P **P** **17 54 17.4 -0.7**
CHGR Chuyangaron 28.02 29 P **P** **17 54 17.4 -0.7**
CHGR pmax pmax
comp=Z,88nm,1.0s
BNN Bunyan 28.05 332 P **P** **17 54 17.7 -0.8**
BNN IAmb IAmb 17 54 23.4
comp=Z,22nm,1.3s
MAK Makhachkala 28.39 352 *e*P **P** **17 54 19.3 -2.0**
MAK *e*S **S** **17 59 05.3 -2.9**
MAK MLR MLR
comp=Z,849nm,14.0s
PALK Pallekele 28.77 102 LR LR 18 03 09.6
comp=Z,226nm,20.7s,baz=254,slow=31
GAR Garm 28.84 30 P **P** **17 54 24.9 -0.6**
GAR IAmb IAmb 17 54 33.0
comp=Z,24nm,0.9s
KIRS Kirsehir-Merke 29.19 330 ⇑P **P** **17 54 30.6 +2.1**
AKAS Kas 29.50 321 P **P** **17 54 31.4 0.0**
AKAS IAmb IAmb 17 55 02.7
comp=Z,24nm,1.1s
NEUR Neytrino 29.57 346 *e*P **P** **17 54 34.4 +2.4**
NEUR pmax pmax
comp=Z,16nm,1.3s
NCK Nalchik 29.59 347⇓ *e*P **P** **17 54 33.9 +2.0**
NCK pmax pmax
comp=Z,13nm,0.5s
ELL Elmali 29.65 322 P **P** **17 54 32.5 -0.2**
ELL IAmb IAmb 17 54 43.1
comp=Z,38nm,1.2s
ELL Elmali 29.65 322 P **P** **17 54 32.5 -0.2**
ELL pmax pmax
comp=Z,38nm,1.2s
BR131 Keskin Array S 29.78 330 P **P** **17 54 34.1 +0.2**
BR131 Keskin Array S 29.78 330 P **P** **17 54 34.1 +0.2**
BR131 pmax pmax
comp=Z,11nm,1.2s
BRTR Keskin Array B 29.78 330 P **P** **17 54 33.8 -0.1**
BRTR Keskin Array B 29.78 330 P **P** **17 54 35.4 +1.5**
comp=Z,6.8nm,1.1s,baz=143,slow=8.9,SNR=18
comp=Z,6.8nm,1.1s
BRTR Keskin Array B 29.78 330 *i* P **P** **17 54 35.9 +2.0**
BRTR pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 29.96 346 P **P** **17 54 38.1 +2.9**
comp=Z,22nm,1.0s,baz=174,slow=6.3,SNR=33
KBZ LR LR 18 09 30.3
comp=Z,656nm,19.3s,baz=164,slow=42
KBZ Khabaz 29.96 346⇓ *e*P **P** **17 54 36.8 +1.6**
KBZ pmax pmax
comp=Z,27nm,1.0s
ISP Isparta 30.02 324*ce*P **P** **17 54 36.8 +0.8**
ISP pmax pmax
comp=Z,20nm,0.7s
SHA1 Shidzhatmaz 30.03 346⇑ *e*P **P** **17 54 37.5 +1.4**
KVAR Kislovodsk Arr 30.23 346 LR LR 18 09 43.7
comp=Z,488nm,19.2s,baz=70,slow=42
KIV Kislovodsk 30.23 346 P **P** **17 54 37.7 0.0**
KIV Kislovodsk 30.23 346 P **P** **17 54 40.4 +2.7**
KIV P **P** **17 54 40.4 +2.7**
KIV Kislovodsk 30.23 346 ⇓P **P** **17 54 40.3 +2.6**
KIV Kislovodsk 30.23 346 *i* P **P** **17 54 39.7 +2.0**
SNR=16
KIV Kislovodsk 30.23 346 *e*P **P** **17 54 39.6 +1.9**
KIV *e*S **S** **17 59 41.0 +3.7**
KIV pmax pmax
comp=Z,48nm,1.1s
KIV pmax pmax
comp=Z,21nm,3.3s
KIV MLR MLR
comp=Z,380nm,15.0s
ANTO Ankara 30.31 329 P **P** **17 54 38.5 0.0**
ANTO Ankara 30.31 329 P **P** **17 54 41.2 +2.7**
ANTO Ankara 30.31 329 ⇓P **P** **17 54 40.2 +1.8**
ANTO Ankara 30.31 329 P **P** **17 54 38.5 0.0**
ANTO pmax pmax
comp=Z,29nm,0.9s
VSLR Vesyoloye 30.47 342⇓ *e*P **P** **17 54 42.4 +2.6**
VSLR pmax pmax
comp=Z,12nm,0.8s
KARP Karpathos 30.63 317 P **P** **17 54 39.3 -2.0**
KARP IAmb IAmb 17 55 33.5
comp=Z,31nm,1.0s
SOC Sochi 30.68 342 *e*P **P** **17 54 42.1 +0.5**
SOC *e*PPP PPP 17 55 51.9
SOC *e*S **S** **17 59 47.6 +3.5**
SOC *e*SS **ScP** **18 01 22.9 +0.5**
SOC pmax pmax
comp=Z,8.0nm,0.7s
SOC MLR MLR
comp=Z,219nm,19.0s
ILGA Ilgaz 30.79 332 P **P** **17 54 40.4 -2.5**
ILGA IAmb IAmb 17 54 57.4
comp=Z,30nm,1.1s
IUG Iuzhnay 31.24 26 *e*P **P** **17 54 47.3 +0.6**
comp=Z,14nm,0.8s
IUG Iuzhnay 31.24 26 *e*P **P** **17 54 47.3 +0.6**
IUG pmax pmax
comp=Z,14nm,0.8s
LABN Labinsk 31.36 344 *e*P **P** **17 54 49.0 +1.4**
LABN *e*PPP PPP 17 55 58.9
LABN *e*S **S** **17 59 59.5 +4.7**
LABN *e*SSS SSS 18 01 50.2
LABN pmax pmax
comp=Z,30nm,0.8s
LABN MLR MLR
comp=Z,503nm,14.0s
MDUB Mudurnu 31.56 328 P **P** **17 54 48.8 -0.7**
MDUB IAmb IAmb 17 55 09.3
comp=Z,13nm,0.8s
MANT Manisa 31.61 323 P **P** **17 54 49.3 -0.8**
MANT IAmb IAmb 17 54 59.2
comp=Z,22nm,1.3s
BRLS Boroldav 31.90 25 *e*P **P** **17 54 50.5 -1.9**
comp=Z,9.8nm,0.9s
BRLS Boroldav 31.90 25 *e*P **P** **17 54 50.4 -1.9**
BRLS pmax pmax
comp=Z,10.0nm,0.9s
ARSB Arslanbob 31.93 30 P **P** **17 54 51.5 -1.3**
ARSB IAmb IAmb 17 55 01.2
comp=Z,19nm,1.4s
ARSB Arslanbob 31.93 30 P **P** **17 54 51.5 -1.3**
ARSB pmax pmax
comp=Z,19nm,1.4s
KK31 Karatay Array 32.23 25 P **P** **17 54 53.6 -1.7**
KK31 IAmb IAmb 17 55 00.6
comp=Z,17nm,1.2s
KK31 Karatay Array 32.23 25 P **P** **17 54 53.6 -1.7**
KK31 pmax pmax
comp=Z,17nm,1.3s
KKAR Karatay Array 32.23 25 P **P** **17 54 53.7 -1.6**
KKAR Karatay Array 32.23 25 P **P** **17 54 53.7 -1.6**
DZA Taraz 32.41 26 *e*P **P** **17 54 57.2 +0.4**
DZA Taraz 32.41 26 *e*P **P** **17 54 57.2 +0.4**
ERBR Yeremizino-Bor 32.42 344 *e*P **P** **17 54 57.5 +0.6**
ERBR pmax pmax
comp=Z,26nm,0.9s
ERBR MLR MLR
comp=Z,238nm,13.0s
ANN Anapa 32.49 340 *e*P **P** **17 54 56.4 -1.1**
ANN *e*S **S** **18 00 13.0 +0.6**
ANN *e*SS **SnSn** **18 02 12.0 +6.1**
ANN pmax pmax
comp=Z,27nm,0.9s
ANN MLR MLR
comp=Z,204nm,19.0s
BAND Balkesir-Ban 33.13 325 ⇑P **P** **17 55 04.6 +1.4**
AAK Ala-Archa 33.66 30 P **P** **17 55 05.1 -2.9**
AAK IAmb IAmb 17 55 26.1
comp=Z,9.0nm,1.1s
AAK Ala-Archa 33.66 30 LR LR 18 11 07.7
comp=Z,341nm,20.6s,baz=238,slow=40
AAK Ala-Archa 33.66 30*ce*P **P** **17 55 11.0 +3.0**
AAK pmax pmax
comp=Z,22nm,2.0s
EZN Ezine 33.80 323 ⇓P **P** **17 55 11.4 +2.4**
EZN Ezine 33.80 323 P **P** **17 55 11.3 +2.4**
SIM Simferopol' 33.81 336 *e*P **P** **17 55 10.9 +1.8**
SIM *e*S **S** **18 00 36.2 +3.2**
SIM pmax pmax
comp=Z,43nm,1.1s
SIM smax smax
comp=N,25nm,12.7s
BOOM Boomskoye usch 34.27 32 P **P** **17 55 12.0 -1.3**
BOOM IAmb IAmb 17 56 23.5
comp=Z,15nm,1.1s
BOOM Boomskoye usch 34.27 32 P **P** **17 55 12.0 -1.3**
BOOM pmax pmax
comp=Z,15nm,1.1s
SGDS Sogindy 34.34 29 *e*P **P** **17 55 14.1 +0.3**
ALN Alexandroupoli 34.65 324 P **P** **17 55 14.7 -1.7**
ALN Alexandroupoli 34.65 324 P **P** **17 55 14.7 -1.7**
ALN pmax pmax
comp=Z,6.0nm,1.1s
KDJ Kajisay 34.65 33 P **P** **17 55 15.1 -1.5**
KDJ Kajisay 34.65 33 P **P** **17 55 15.1 -1.5**
KDJ pmax pmax
comp=Z,21nm,0.6s
TARG Taragay, Kyrgy 34.71 34 P **P** **17 55 16.6 -0.8**
TARG Taragay, Kyrgy 34.71 34 P **P** **17 55 16.6 -0.8**
TARG pmax pmax
comp=Z,44nm,0.3s
AB31 Akbulak array 34.94 9 P **P** **17 55 18.7 0.0**
AB31 Akbulak array 34.94 9 *i* P **P** **17 55 20.1 +1.4**
ABKAR Akbulak array 34.94 9 P **P** **17 55 19.3 +0.6**
RDO Rodhopi 35.11 324 P **P** **17 55 21.2 +0.9**
RDO IAmb IAmb 17 55 30.7
comp=Z,21nm,1.0s
TNSS Tian-Shan 35.17 32 *e*P **P** **17 55 21.4 0.0**
TNSS Tian-Shan 35.17 32 *e*P **P** **17 55 21.4 0.0**
AAA Alma-Ata 35.28 32 *e*P **P** **17 55 22.3 +0.4**
comp=Z,8.1nm,0.6s
AAA Alma-Ata 35.28 32 *e*P **P** **17 55 22.3 +0.4**
AAA pmax pmax
comp=Z,8.0nm,0.6s
BTLS Baital 35.30 27 *e*P **P** **17 55 22.6 +0.7**
BTLS Baital 35.30 27 *e*P **P** **17 55 22.6 +0.7**
MDOK Medeo 35.32 32 *e*P **P** **17 55 22.7 +0.3**
MDOK Medeo 35.32 32 *e*P **P** **17 55 22.6 +0.3**
PRZ Przheval'sk 35.55 34 P **P** **17 55 24.5 +0.1**
PRZ Przheval'sk 35.55 34 P **P** **17 55 24.5 +0.1**
PRZ pmax pmax
comp=Z,29nm,0.7s
AKTO Aktyubinsk 35.85 6 P **P** **17 55 27.6 +1.0**
TIRR Tirgusor 35.90 330 ⇑P **P** **17 55 28.7 +1.5**
TIRR Tirgusor 35.90 330 P **P** **17 55 28.6 +1.5**
SATY Saty 35.95 33 *e*P **P** **17 55 28.0 +0.2**
SATY Saty 35.95 33 *e*P **P** **17 55 27.9 +0.2**
TPGR Topolog 36.20 331 ⇓P **P** **17 55 31.3 +1.7**
UZB Uzynbulak 36.34 34 *e*P **P** **17 55 31.4 +0.3**
UZB Uzynbulak 36.34 34 *e*P **P** **17 55 31.4 +0.3**
CFR Carcaliu 36.57 331 ⇑P **P** **17 55 33.8 +0.9**
CFR Carcaliu 36.57 331 P **P** **17 55 33.7 +0.9**
SHLS Shalkode 36.58 34 *e*P **P** **17 55 35.2 +2.1**
SHLS Shalkode 36.58 34 *e*P **P** **17 55 35.2 +2.1**
ISR Istrita 37.30 329 ⇓P **P** **17 55 41.3 +2.2**
ISR Istrita 37.30 329 P **P** **17 55 41.2 +2.2**
TDK Taldyqorghan 37.31 31 *e*P **P** **17 55 39.6 +0.4**
TDK Taldyqorghan 37.31 31 *e*P **P** **17 55 39.6 +0.4**
VRH Novokhopyorsk 37.33 349 *e*P **P** **17 55 38.1 -1.0**
VRH pmax pmax
comp=Z,50nm,1.0s
BISRR Bisoca 37.52 330 ⇓P **P** **17 55 43.1 +2.1**
GHRR 37.57 331 ⇓P **P** **17 55 42.8 +1.5**
VORD Divnogorie 37.61 346 *e*P **P** **17 55 39.5 -2.0**
VORD pmax pmax
comp=Z,30nm,1.0s
NEHR Nehoiu 37.64 330 ⇑P **P** **17 55 43.6 +1.6**
BELG Belogornoye 37.71 355*c i*P **P** **17 55 43.1 +0.8**
BELG pmax pmax
comp=Z,9.0nm,1.2s
VRI Vrincioaia 37.75 330 ⇑P **P** **17 55 44.3 +1.5**
VRI Vrincioaia 37.75 330 P **P** **17 55 44.3 +1.5**
PLOR Plostina 37.77 330 ⇓P **P** **17 55 44.6 +1.5**
PLOR Plostina 37.77 330 P **P** **17 55 44.6 +1.5**
MLR Muntele Rosu 37.86 329 P **P** **17 55 43.8 -0.1**
MLR IAmb IAmb 17 55 56.0
comp=Z,24nm,1.3s
MLR Muntele Rosu 37.86 329 LR LR 18 12 16.4
comp=Z,191nm,18.9s,baz=146,slow=38
MLR Muntele Rosu 37.86 329 ⇑P **P** **17 55 45.5 +1.5**
MLR Muntele Rosu 37.86 329 P **P** **17 55 45.4 +1.5**
VSR Storozhevoye 37.87 346 *e*P **P** **17 55 40.7 -3.0**
VSR pmax pmax
comp=Z,30nm,1.0s
BRDH Bariadhala 37.92 72 LR LR 18 11 55.2
comp=Z,196nm,18.1s,baz=286,slow=37
COVR Voiesasa-Covas 37.98 330 ⇓P **P** **17 55 46.7 +1.9**
MTUR Matau 38.11 328 ⇑P **P** **17 55 48.7 +2.6**
MTUR Matau 38.11 328 P **P** **17 55 48.6 +2.6**
TURR Turia 38.23 330 ⇓P **P** **17 55 49.3 +2.4**
TESR Tescani 38.26 331 ⇓P **P** **17 55 48.9 +1.7**
VOIR 38.27 329 ⇓P **P** **17 55 48.9 +1.5**
VOIR 38.27 329 P **P** **17 55 48.8 +1.5**
VORR Voronezh 38.28 347 *e*P **P** **17 55 46.0 -1.2**
VORR pmax pmax
comp=Z,20nm,1.1s
OZUR 38.37 330 ⇓P **P** **17 55 50.0 +1.9**
ARR Arges 38.43 328 ⇓P **P** **17 55 50.6 +1.9**
DOPR Dopca 38.47 329 ⇑P **P** **17 55 50.4 +1.5**
SHL Shillong 38.48 67 P **P** **17 55 49.3 -0.2**
SHL Shillong 38.48 67 P **P** **17 55 49.3 -0.2**
SHL pmax pmax
comp=Z,14nm,1.2s
SORM Soroca 38.73 334 ⇓P **P** **17 55 51.8 +0.7**
SORM Soroca 38.73 334 P **P** **17 55 51.7 +0.7**
BOVS Bovan 38.88 324 ⇑P **P** **17 55 53.3 +0.9**
LOT Lotru 38.93 328 ⇑P **P** **17 55 55.6 +2.6**
MDB Medias 39.09 329 ⇓P **P** **17 55 54.7 +0.5**
MDB Medias 39.09 329 P **P** **17 55 54.6 +0.5**
LPSR Galich'ya Gora 39.22 347 *e*P **P** **17 55 55.1 +0.1**
LPSR pmax pmax
comp=Z,40nm,1.0s
HERR Herculane 39.27 326 ⇓P **P** **17 55 56.3 +0.7**
GZR Gura Zlata 39.41 327 ⇑P **P** **17 55 58.4 +1.4**
GZR Gura Zlata 39.41 327 P **P** **17 55 58.3 +1.4**
MDVR Moldovita 39.59 325 ⇓P **P** **17 55 59.4 +1.1**
PDG Podgorica 39.62 321 P **P** **17 55 56.9 -1.7**
BURAR Bucovina Array 39.73 331 P **P** **17 55 59.1 -0.4**
BURAR Bucovina Array 39.73 331 ⇓P **P** **17 56 01.9 +2.3**
BURAR Bucovina Array 39.73 331 P **P** **17 56 01.9 +2.3**
BUR08 Bucovina Ar. S 39.76 331 P **P** **17 55 59.8 0.0**
SURR Surduc 39.99 327 ⇓P **P** **17 56 03.2 +1.5**
MARR Marisel-Cluj 40.09 329 ⇑P **P** **17 56 04.4 +1.8**
BZS Buzias 40.18 326 ⇑P **P** **17 56 04.2 +1.0**
BZS Buzias 40.18 326 P **P** **17 56 04.2 +1.0**
MAKZ Makanchi 40.36 32 P **P** **17 56 04.9 +0.2**
MAKZ Makanchi 40.36 32 P **P** **17 56 04.9 +0.2**
MAKZ pmax pmax
comp=Z,5.0nm,1.0s
DRGR 40.38 328 ⇑P **P** **17 56 06.3 +1.3**
DRGR 40.38 328 P **P** **17 56 06.2 +1.3**
AKASG Malin Array Be 40.42 337 P **P** **17 56 04.4 -0.7**
AKASG Malin Array Be 40.42 337 P **P** **17 56 06.2 +1.1**
comp=Z,9.9nm,0.9s,baz=146,slow=7.5,SNR=41
AKASG PP **PnPn** **17 57 40.4 -1.6**
comp=Z,0.6nm,0.6s,baz=141,slow=11,SNR=4.5
comp=Z,9.9nm,0.9s
AKASG Malin Array Be 40.42 337 *i* P **P** **17 56 06.5 +1.4**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 40.42 337 P **P** **17 56 04.8 -0.3**
AKBB IAmb IAmb 17 56 13.9
comp=Z,30nm,1.1s
AKBB Malin Array Si 40.42 337*ce*P **P** **17 56 06.1 +1.0**
AKBB pmax pmax
comp=Z,31nm,1.1s
KIEV Kiev 40.42 337 P **P** **17 56 05.2 +0.1**
KIEV IAmb IAmb 17 56 13.9
comp=Z,27nm,1.1s
KIEV Kiev 40.42 337 ⇓P **P** **17 56 06.2 +1.1**
KIEV Kiev 40.42 337 *i* P **P** **17 56 06.3 +1.1**
SNR=11
KIEV Kiev 40.42 337 P **P** **17 56 05.2 +0.1**
KIEV pmax pmax
comp=Z,27nm,1.1s
MK31 Makanchi Array 40.51 32*c i*P **P** **17 56 07.5 +1.5**
MKAR Makanchi Array 40.51 32 P **P** **17 56 05.8 -0.2**
MKAR Makanchi Array 40.51 32 P **P** **17 56 07.8 +1.8**
comp=Z,3.0nm,0.7s,baz=216,slow=8.5,SNR=23
MKAR PcP **PcP** **17 58 09.2 +0.7**
comp=Z,1.0nm,0.9s,baz=225,slow=1.8,SNR=2.0
MKAR LR LR 18 15 42.0
comp=Z,154nm,19.5s,baz=233,slow=40
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 40.51 32 P **P** **17 56 05.8 -0.2**
SIRR Siria 40.58 327 ⇓P **P** **17 56 08.6 +2.2**
BMR Baia Mare 40.59 330 ⇑P **P** **17 56 08.7 +2.0**
BMR Baia Mare 40.59 330 P **P** **17 56 08.6 +2.0**
BORK Borovoye 40.74 17*c i*P **P** **17 56 09.3 +1.6**
BORK pmax pmax
comp=Z,16nm,1.0s
BVA0 Borovoye Array 40.74 17 *i* P **P** **17 56 09.1 +1.4**
BVAR Borovoye Array 40.74 17 P **P** **17 56 09.4 +1.7**
comp=Z,9.3nm,0.6s,baz=207,slow=6.2,SNR=42
BVAR PcP **PcP** **17 58 08.8 -0.2**
comp=Z,0.9nm,0.6s,baz=161,slow=6.1,SNR=2.3
BVAR LR LR 18 15 56.8
comp=Z,307nm,19.7s,baz=208,slow=40
comp=Z,9.3nm,0.6s
ACER Acerenza 40.89 316 P **P** **17 56 09.9 +0.7**
ACER IAmb IAmb 17 56 19.2
comp=Z,21nm,1.2s
KURBB Kurchatov Arra 41.54 25 P **P** **17 56 16.0 +1.7**
comp=Z,3.2nm,0.8s,baz=227,slow=7.9,SNR=5.6
KURBB LR LR 18 16 33.2
comp=Z,143nm,18.4s,baz=170,slow=40
comp=Z,3.2nm,0.8s
KURK Kurchatov 41.65 25 P **P** **17 56 16.2 +1.0**
KURK Kurchatov 41.65 25 *i* P **P** **17 56 15.9 +0.7**
KURK pmax pmax
comp=Z,4.0nm,1.3s
WMQ Urumqi 41.74 39 *e*P **P** **17 56 17.8 +1.6**
WMQ LR LR
comp=Z,180nm,24.2s
ARTI Arti 41.78 5 P **P** **17 56 16.1 0.0**
ARTI IAmb IAmb 17 56 18.6
comp=Z,30nm,1.3s
ARTI Arti 41.78 5*c i*P **P** **17 56 17.6 +1.4**
ARTI pmax pmax
comp=Z,31nm,1.7s
KSANE Kasane 42.05 221 P **P** **17 56 19.3 +0.3**
KOLS Kolonicke sedl 42.06 330 *e*P **P** **17 56 21.7 +3.1**
KOLS pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 42.07 346 P **P** **17 56 19.2 +0.6**
OBN Obninsk 42.07 346 LR LR 18 17 11.1
comp=Z,186nm,18.4s,baz=82,slow=41
OBN Obninsk 42.07 346*c i*P **P** **17 56 20.0 +1.4**
OBN *i* *PP **pwP** **17 56 26.7 +2.4**
OBN *e* 17 57 58.9
OBN *e*PPP PPP 17 58 28.4
OBN pmax pmax
comp=Z,47nm,1.5s
OBN MLR MLR
comp=Z,296nm,17.0s
MATP Matopo 42.13 214 LR LR 18 13 35.2
comp=Z,244nm,19.6s,baz=32,slow=36
BLY Banja Luka 42.16 322 ⇑P **P** **17 56 21.6 +2.1**
MOS Moscow 42.42 348 *e*P **P** **17 56 21.2 -0.3**
MOS *e* 17 56 29.4
MOS pmax pmax
comp=Z,42nm,1.3s
SVE Sverdlovsk 42.44 7 *e*P **P** **17 56 23.5 +2.0**
SVE pmax pmax
comp=Z,16nm,1.4s
PSZ Piszkesteto 42.56 328 P **P** **17 56 22.1 -0.8**
PSZ Piszkesteto 42.56 328 ⇑P **P** **17 56 24.8 +2.0**
PSZ Piszkesteto 42.56 328 P **P** **17 56 22.1 -0.8**
PSZ pmax pmax
comp=Z,9.0nm,1.1s
BROLN Tlhalogang 43.31 215 *i* P **P** **17 56 27.9 -1.3**
GOMU GeErMu 43.41 53 P **P** **17 56 32.0 +1.8**
GOMU S **S** **18 03 00.0 +1.2**
GOMU pmax pmax
comp=Z,2.0nm,0.6s
GOMU LR LR
comp=Z,72nm,12.0s
GOMU LR LR
comp=Z,47nm,11.6s
GOMU LR LR
comp=Z,110nm,12.1s
LANS Liptovska Anna 43.57 329 *e*P **P** **17 56 32.8 +1.8**
LANS pmax pmax
comp=Z,3.0nm,1.1s
GUMA Gualdo di Mace 43.68 318 P **P** **17 56 30.4 -1.6**
GUMA IAmb IAmb 17 56 44.9
comp=Z,20nm,1.2s
KEST Kesra 43.72 307 **P** **17 56 31.0 -1.4**
KEST Kesra 43.72 307 P **P** **17 56 33.9 +1.5**
comp=Z,4.2nm,0.9s,baz=61,slow=6.8,SNR=3.1
KEST LR LR 18 16 08.8
comp=Z,68nm,19.3s,baz=263,slow=38
comp=Z,4.2nm,0.9s
KIRV Kirov 43.78 358*de*P **P** **17 56 34.0 +1.6**
FDMO Fiordimonte 43.83 318 P **P** **17 56 32.1 -1.1**
MNK Minsk 43.99 340 *i* P **P** **17 56 32.3 -1.9**
comp=E,20nm,0.9s
MNK *i* P **P** **17 56 32.3 -1.9**
comp=N,16nm,1.0s
MNK *i* P **P** **17 56 32.3 -1.9**
comp=Z,22nm,1.0s,baz=145
MNK *i* PP **PP** **17 58 14.4 -2.2**
MNK *i* PPP PPP 17 58 49.4
MNK *i* S **S** **18 03 05.6 -0.4**
MNK *i* SS **SS** **18 06 24.5 +1.6**
MNK *i* SSS SSS 18 07 04.7
MNK *i* LQ LQ 18 12 04.7
MNK *i* LR LR 18 15 29.1
MNK *i* LRM MLR 18 17 22.5
comp=E,137nm,17.8s
MNK *i* LRM MLR 18 18 25.5
comp=N,108nm,16.8s
MNK *i* LRM MLR 18 18 38.1
comp=Z,163nm,17.2s
MNK Minsk 43.99 340 *i* P **P** **17 56 32.3 -1.9**
MNK *i* 17 58 14.4
MNK *i* S **S** **18 03 05.6 -0.4**
MNK *i* SS **SS** **18 06 24.5 +1.6**
MNK *i* SSS SSS 18 07 04.6
MNK pmax pmax
comp=E,20nm,0.9s
MNK pmax pmax
comp=N,16nm,1.0s
MNK pmax pmax
comp=Z,22nm,1.0s
MNK MLR MLR
comp=E,137nm,18.0s
MNK MLR MLR
comp=N,108nm,17.0s
MNK MLR MLR
comp=Z,163nm,17.0s
OJC Ojcow 44.11 330 P **P** **17 56 34.5 -0.8**
OJC Ojcow 44.11 330 P **P** **17 56 34.5 -0.8**
MODS Modra-Piesok 44.22 327 *e*P **P** **17 56 37.6 +1.5**
MODS pmax pmax
comp=Z,22nm,1.2s
PHDHD Phuduhudu 44.24 219 P **P** **17 56 36.8 +0.1**
PHDHD IAmb IAmb 17 56 38.2
comp=Z,30nm,1.4s
JAVC Velka Javorina 44.31 327 *e*P **P** **17 56 40.7 +3.8**
RONA Rosalia, Austr 44.35 325 *i* pP pP 17 56 39.3 -0.3
comp=Z,7.3nm,1.2s
MREMI Moremi 44.43 214 *i* P **P** **17 56 38.0 -0.2**

MREMI	**Moremi**	**44.43**	**214**			**P**		**17 56 38.0**	**-0.2**
MREMI					IAmb	IAmb		17 56 45.8	
	comp=Z,24nm,0.9s								
SOKA	**Soboth**	**44.49**	**323**	*e*	P	**P**		**17 56 38.8**	**+0.4**
	comp=Z,2.5nm,0.9s								
ARSA	**Arzberg**	**44.52**	**324**		P	**P**		**17 56 38.4**	**-0.2**
ARSA	**Arzberg**	**44.52**	**324**	*i*	P	**P**		**17 56 39.9**	**+1.3**
	comp=Z,8.5nm,1.4s								
CHTO	**Chiang Mai**	**44.67**	**78**		P	**P**		**17 56 39.8**	**-0.4**
CHTO	**Chiang Mai**	**44.67**	**78**		P	**P**		**17 56 39.8**	**-0.4**
CHTO					pmax	pmax			
	comp=Z,10.0nm,1.7s								
OBKA	**Obir**	**44.67**	**323**	*i*	P	**P**		**17 56 40.7**	**+0.8**
	comp=Z,8.1nm,1.7s								
CMAR	**Chiang Mai Arr**	**44.69**	**79**		P	**P**		**17 56 39.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**44.69**	**79**		P	**P**		**17 56 41.3**	**+1.0**
	comp=Z,2.2nm,0.7s,baz=275,slow=8.8,SNR=18								
CMAR					PP	**PP**		**17 58 25.5**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=286,slow=2.9,SNR=2.1								
CMAR					LR	LR		18 15 30.5	
	comp=Z,72nm,19.2s,baz=260,slow=36								
	comp=Z,2.2nm,0.7s								
CMAR	**Chiang Mai Arr**	**44.69**	**79**		P	**P**		**17 56 39.7**	**-0.6**
NACGM	**Naroch**	**44.70**	**339**	*e*	P	P		17 56 46.8	+7.0
	comp=Z,18nm,0.9s,baz=144								
TRI	**Trieste**	**44.72**	**322**		P	**P**		**17 56 40.4**	**+0.3**
TRI	**Trieste**	**44.72**	**322**		P	**P**		**17 56 40.4**	**+0.3**
CONA	**Conrad Observa**	**44.72**	**325**	*e*	P	**P**		**17 56 41.2**	**+1.0**
	comp=Z,6.9nm,1.0s								
TAM	**Tamanrasset**	**44.91**	**288**			**P**		**17 56 42.0**	**-0.2**
TAM	**Tamanrasset**	**44.91**	**288**		P	**P**		**17 56 42.0**	**-0.2**
STEB	**Steborice**	**44.92**	**329**	*e*	P	**P**		**17 56 43.0**	**+1.3**
STEB				*ex*		x		17 56 49.7	
MORC	**Moravsky Berou**	**44.94**	**328**		P	**P**		**17 56 40.6**	**-1.3**
MORC					IAmb	IAmb		17 56 50.8	
	comp=Z,11nm,1.0s								
MORC	**Moravsky Berou**	**44.94**	**328**	*e*	P	**P**		**17 56 43.2**	**+1.3**
MORC	**Moravsky Berou**	**44.94**	**328**	⇑	P	**P**		**17 56 43.8**	**+1.9**
MORC	**Moravsky Berou**	**44.94**	**328**		P	**P**		**17 56 40.6**	**-1.3**
MORC					pmax	pmax			
	comp=Z,11nm,1.0s								
SABO	**M.te Sabotino**	**44.96**	**322**		P	**P**		**17 56 41.3**	**-0.8**
SABO					IAmb	IAmb		17 56 50.7	
	comp=Z,7.4nm,0.9s								
KHWEE	**KHWEE**	**45.05**	**216**			**P**		**17 56 42.7**	**-0.5**
KRUC	**Moravsky**	**45.10**	**327**	*e*	P	**P**		**17 56 44.3**	**+1.2**
VRAC	**Vranov**	**45.14**	**327**		LR	LR		18 16 55.3	
	comp=Z,106nm,18.5s,baz=117,slow=38								
VRAC	**Vranov**	**45.14**	**327**	*e*	P	**P**		**17 56 44.6**	**+1.1**
VRAC	**Vranov**	**45.14**	**327**	⇓	P	**P**		**17 56 45.0**	**+1.5**
VRAC	**Vranov**	**45.14**	**327**		P	**P**		**17 56 45.0**	**+1.5**
MYKA	**Terra Mystica**	**45.27**	**323**	*e*	pP	pP		17 56 46.8	-0.2
	comp=Z,4.9nm,0.8s								
SUW	**Suwalki**	**45.33**	**336**		P	**P**		**17 56 43.8**	**-1.0**
SUW	**Suwalki**	**45.33**	**336**		P	**P**		**17 56 43.8**	**-1.0**
KRLC	**Kraliky**	**45.51**	**328**	*e*	P	**P**		**17 56 46.9**	**+0.4**
KRLC				*ex*		x		17 56 54.5	
KRLC	**Kraliky**	**45.51**	**328**	*e*	P	**P**		**17 56 46.9**	**+0.4**
KRLC				*e*				17 56 54.5	
MOA	**Molln**	**45.56**	**324**	*i*	P	**P**		**17 56 47.2**	**+0.3**
	comp=Z,13nm,1.2s								
STAL	**STALIGIAL**	**45.63**	**322**		P	**P**		**17 56 46.2**	**-1.3**
STAL					IAmb	IAmb		17 56 56.6	
	comp=Z,9.5nm,1.0s								
KBA	**Koelnbreinsper**	**45.68**	**323**	*e*	P	**P**		**17 56 47.8**	**-0.2**
	comp=Z,1.2nm,0.5s								
ZCCA	**Zocca**	**45.79**	**319**		P	**P**		**17 56 46.9**	**-1.9**
ZCCA					IAmb	IAmb		17 57 28.4	
	comp=Z,33nm,1.4s								
BIOA	**Bad Ischl, Aus**	**45.84**	**324**	*i*	P	**P**		**17 56 49.8**	**+0.8**
	comp=Z,4.6nm,1.1s								
DPC	**Dobruska-Polom**	**45.91**	**328**	*e*	P	**P**		**17 56 51.6**	**+2.0**
DPC				*ex*		x		17 56 57.7	
DPC	**Dobruska-Polom**	**45.91**	**328**	*e*	P	**P**		**17 56 51.6**	**+2.0**
DPC				*e*				17 56 57.7	
LPHEP	**Lephephe**	**45.93**	**215**	*i*	P	**P**		**17 56 49.2**	**-0.9**
ABTA	**Abfaltersbach**	**46.00**	**322**	*i*	P	**P**		**17 56 51.8**	**+1.5**
	comp=Z,2.2nm,0.7s								
CKRC	**Cesky Krumlov**	**46.08**	**326**	*e*	P	**P**		**17 56 51.7**	**+0.8**
CKRC				*ex*		x		17 56 58.1	
CKRC	**Cesky Krumlov**	**46.08**	**326**	*e*	P	**P**		**17 56 51.7**	**+0.8**
CKRC				*e*				17 56 58.1	
PABE	**Paberze**	**46.16**	**338**		P	**P**		**17 56 50.2**	**-1.2**
CTI	**Castel Tesino**	**46.17**	**321**		P	**P**		**17 56 50.6**	**-1.2**
CTI					IAmb	IAmb		17 57 27.2	
	comp=Z,22nm,1.8s								
CTI	**Castel Tesino**	**46.17**	**321**		P	**P**		**17 56 50.6**	**-1.2**
CTI					pmax	pmax			
	comp=Z,22nm,1.8s								
CHVC	**Chvalec**	**46.20**	**328**	*e*	P	**P**		**17 56 53.6**	**+1.8**
CHVC				*ex*		x		17 56 59.2	
CHVC	**Chvalec**	**46.20**	**328**	*e*	P	**P**		**17 56 53.6**	**+1.8**
CHVC				*e*				17 56 59.2	
LESA	**Schwarzleotal**	**46.25**	**323**	*e*	P	**P**		**17 56 52.9**	**+0.5**
	comp=Z,3.7nm,1.0s								
GEC2	**GERESS Array S**	**46.43**	**325**		P	**P**		**17 56 52.9**	**-0.9**
GEC2					IAmb	IAmb		17 57 02.7	
	comp=Z,8.3nm,1.2s								
GERES	**GERESS Array B**	**46.43**	**325**		P	**P**		**17 56 54.6**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=138,slow=8.8,SNR=7.4								
	comp=Z,1.0nm,0.7s								
ZVC	**Zvikov**	**46.49**	**326**	*e*	P	**P**		**17 56 55.3**	**+1.2**
ZAA0	**Zalesovo Array**	**46.60**	**26**		P	**P**		**17 56 54.1**	**-0.8**
ZAA0					IAmb	IAmb		17 56 57.8	
	comp=Z,10nm,0.7s								
ZALV	**Zalesovo Beam**	**46.60**	**26**			**P**		**17 56 54.4**	**-0.5**
ZALV	**Zalesovo Beam**	**46.60**	**26**		P	**P**		**17 56 55.6**	**+0.8**
	comp=Z,11nm,0.6s,baz=236,slow=8.4,SNR=45								
ZALV					LR	LR		18 19 18.2	
	comp=Z,138nm,19.3s,baz=232,slow=40								
	comp=Z,11nm,0.6s								
ZALV	**Zalesovo Beam**	**46.60**	**26**	*i*	P	**P**		**17 56 55.7**	**+0.8**
ZALV					pmax	pmax			
	comp=Z,12nm,0.6s								
KDWAN	**Kaudwane**	**46.62**	**216**	*i*	P	**P**		**17 56 55.7**	**+0.2**
KHC	**Kasperske Hory**	**46.65**	**326**	*e*	P	P		17 56 50.6	-4.9
KHC				*ep*	P	pP		17 56 56.9	-0.9
KHC	**Kasperske Hory**	**46.65**	**326**	⇑ *e*	P	**P**		**17 56 55.9**	**+0.4**
KHC					pmax	pmax			
	comp=Z,7.0nm,1.6s								
WTTA	**Wattenberg**	**46.77**	**322**	*i*	P	**P**		**17 56 57.3**	**+0.7**
	comp=Z,6.7nm,1.1s								
WATA	**Walderalm**	**46.85**	**322**	*i*	P	**P**		**17 56 57.6**	**+0.5**
	comp=Z,6.3nm,0.7s								
KLMR	**Klimovskoe**	**46.94**	**351**	*e*	P	**P**		**17 56 58.4**	**+1.0**
KLMR					pmax	pmax			
	comp=Z,71nm,1.3s								
SQTA	**Sankt Quirin**	**47.01**	**322**	*i*	P	**P**		**17 56 59.1**	**+0.8**
	comp=Z,1.5nm,0.6s								
MOTA	**Moosalm**	**47.13**	**322**	*i*	P	**P**		**17 56 59.4**	**+0.1**
	comp=Z,4.6nm,0.8s								
GRTLG	**Ghanzi**	**47.17**	**221**	*i*	P	**P**		**17 57 00.8**	**+0.8**
GRTLG	**Ghanzi**	**47.17**	**221**			**P**		**17 57 00.2**	**+0.3**
GRTLG					IAmb	IAmb		17 57 08.9	
	comp=Z,20nm,1.1s								
FETA	**Feichten**	**47.20**	**322**	*e*	P	**P**		**17 56 59.9**	**0.0**
	comp=Z,2.1nm,0.7s								
FUORN	**Ofenpass-Fuorn**	**47.28**	**321**		P	**P**		**17 56 58.3**	**-2.4**
FUORN					IAmb	IAmb		17 57 17.4	
	comp=Z,15nm,1.6s								
PZH	**PanZhiHua**	**47.39**	**68**		P	**P**		**17 57 03.0**	**+1.3**
LBTB	**Lobatse**	**47.40**	**214**			**P**		**17 57 01.7**	**+0.1**
LBTB	**Lobatse**	**47.40**	**214**		LR	LR		18 16 35.2	
	comp=Z,180nm,19.2s,baz=46,slow=36								
LBTB	**Lobatse**	**47.40**	**214**		P	**P**		**17 57 01.7**	**+0.1**
LBTB					pmax	pmax			
	comp=Z,24nm,0.9s								
RETA	**Reutte**	**47.40**	**322**	*e*	P	**P**		**17 57 01.8**	**+0.4**
	comp=Z,4.9nm,1.2s								
BRG	**Berggiesshubel**	**47.45**	**328**	*e*	P	**P**		**17 57 03.2**	**+1.6**
BRG					Amp			17 57 04.7	
	comp=Z,4.3nm,1.0s								
BRG	**Berggiesshubel**	**47.45**	**328**		P	P		17 57 10.3	+8.7
BRG					Amp			17 57 12.1	
	comp=Z,4.8nm,0.9s								
KGCAE	**Kacgae**	**47.66**	**219**	*i*	P	**P**		**17 57 03.4**	**-0.2**
KGCAE	**Kacgae**	**47.66**	**219**			**P**		**17 57 03.6**	**-0.1**
TUE	**Stuetta**	**47.78**	**320**		P	**P**		**17 57 02.5**	**-2.0**
TUE					IAmb	IAmb		17 57 31.1	
	comp=Z,14nm,1.6s								
DAVA	**Damuels**	**47.83**	**322**	*i*	P	**P**		**17 57 05.4**	**+0.6**
	comp=Z,9.5nm,1.2s								
TSUM	**Tsumeb**	**48.09**	**226**		P	**P**		**17 57 06.4**	**-0.8**
TSUM	**Tsumeb**	**48.09**	**226**		LR	LR		18 17 23.8	
	comp=Z,420nm,18.9s,baz=46,slow=36								

GTA	**Gaotai**	**48.15**	**50**	*e*	P	**P**		**17 57 09.8**	**+2.4**
GTA					S	**S**		**18 04 10.0**	**+3.4**
GTA					pmax	pmax			
	comp=Z,3.0nm,1.3s								
GTA					LR	LR			
	comp=Z,97nm,14.2s								
GTA					LR	LR			
	comp=Z,120nm,16.4s								
GTA					LR	LR			
	comp=Z,120nm,14.9s								
CLL	**Collm**	**48.18**	**328**		P	**P**		**17 57 05.0**	**-2.2**
CLL					IAmb	IAmb		17 57 24.4	
	comp=Z,5.0nm,0.9s								
CLL	**Collm**	**48.18**	**328**		P	**P**		**17 57 05.0**	**-2.2**
CLL					pmax	pmax			
	comp=Z,5.0nm,0.9s								
CLL	**Collm**	**48.18**	**328**	*e*	Px	Px		17 57 06.0	
CLL				*e*	(SS)			18 08 00.0	
GRA1	**Grafenberg Arr**	**48.25**	**325**		P	**P**		**17 57 06.0**	**-1.8**
GRA1					IAmb	IAmb		17 57 16.4	
	comp=Z,14nm,1.0s								
GRF	**Grafenberg Arr**	**48.25**	**325**		P	**P**		**17 57 06.0**	**-1.8**
GRF					pmax	pmax			
	comp=Z,14nm,1.0s								
GRFO	**Grafenberg**	**48.25**	**325**		P	**P**		**17 57 06.3**	**-1.6**
GRFO					IAmb	IAmb		17 57 16.3	
	comp=Z,16nm,1.1s								
GRFO	**Grafenberg**	**48.25**	**325**		P	**P**		**17 57 06.3**	**-1.6**
GRFO					pmax	pmax			
	comp=Z,16nm,1.1s								
MAKGR	**Makgori**	**48.46**	**214**	*i*	P	**P**		**17 57 09.9**	**0.0**
MAKGR	**Makgori**	**48.46**	**214**		P	**P**		**17 57 09.4**	**-0.4**
MAKGR					IAmb	IAmb		17 57 10.8	
	comp=Z,23nm,1.2s								
IPM	**Ipoh**	**48.95**	**97**		P	**P**		**17 57 13.1**	**-0.7**
IPM					IAmb	IAmb		17 58 54.4	
	comp=Z,10nm,1.3s								
KOOLE	**Kule**	**49.00**	**221**	*i*	P	**P**		**17 57 14.7**	**+0.6**
KOOLE	**Kule**	**49.00**	**221**			**P**		**17 57 13.9**	**-0.2**
KOOLE					IAmb	IAmb		17 57 15.8	
	comp=Z,20nm,0.9s								
TORD	**Torodi Ar. Bea**	**49.12**	**275**		P	**P**		**17 57 13.6**	**-1.4**
TORD	**Torodi Ar. Bea**	**49.12**	**275**		P	**P**		**17 57 13.3**	**-1.8**
	comp=Z,1.4nm,0.8s,baz=77,slow=7.9,SNR=8.2								
TORD					PcP	**PcP**		**17 58 38.6**	**0.0**
	comp=Z,1.3nm,0.8s,baz=80,slow=3.5,SNR=4.0								
TORD					LR	LR		18 16 41.9	
	comp=Z,209nm,20.2s,baz=20,slow=35								
	comp=Z,1.4nm,0.8s								
LKGWB	**Lokgwabe**	**49.20**	**219**			**P**		**17 57 13.0**	**-2.6**
BFO	**Black Forest**	**49.24**	**322**			**P**		**17 57 14.1**	**-1.4**
BFO					IAmb	IAmb		17 57 23.9	
	comp=Z,11nm,1.0s								
BFO	**Black Forest**	**49.24**	**322**		P	**P**		**17 57 14.1**	**-1.4**
BFO					pmax	pmax			
	comp=Z,11nm,1.0s								
SLVN	**Son La**	**49.26**	**74**		P	**P**		**17 57 15.6**	**-0.5**
SLVN					IAmb	IAmb		17 57 55.8	
	comp=Z,16nm,1.7s								
CD2	**Chengdu**	**49.58**	**62**		P	**P**		**17 57 18.5**	**+0.1**
FIA1	**FINESS Array S**	**50.28**	**344**		P	**P**		**17 57 21.9**	**-1.1**
FINES	**FINESS Array B**	**50.28**	**344**		P	**P**		**17 57 22.7**	**-0.4**
FINES	**FINESS Array B**	**50.28**	**344**		P	**P**		**17 57 23.7**	**+0.6**
	comp=Z,7.1nm,0.7s,baz=141,slow=8.2,SNR=34								
FINES					PP	**PP**		**17 59 19.6**	**+1.1**
	comp=Z,2.4nm,0.9s,baz=153,slow=9.4,SNR=2.4								
FINES					LR	LR		18 22 30.7	
	comp=Z,204nm,19.1s,baz=144,slow=41								
	comp=Z,7.1nm,0.7s								
LZH	**Lanzhou**	**50.45**	**55**	*e*	P	**P**		**17 57 23.8**	**-1.3**
LZH					pmax	pmax			
	comp=Z,21nm,1.0s								
LZH					LR	LR			
	comp=Z,140nm,18.9s								
LZH					LR	LR			
	comp=Z,180nm,19.2s								
LZH					LR	LR			
	comp=Z,140nm,18.2s								
BOSA	**Boshof**	**50.49**	**211**		P	**P**		**17 57 25.1**	**-0.2**
BOSA					IAmb	IAmb		17 57 26.1	
	comp=Z,19nm,1.4s								
BOSA	**Boshof**	**50.49**	**211**		P	**P**		**17 57 24.2**	**-1.0**
	comp=Z,5.0nm,0.9s,baz=24,slow=7.6,SNR=6.0								
BOSA					LR	LR		18 18 57.8	
	comp=Z,144nm,19.0s,baz=52,slow=36								
	comp=Z,5.0nm,0.9s								
BOSA	**Boshof**	**50.49**	**211**		P	**P**		**17 57 25.1**	**-0.2**
BOSA					pmax	pmax			
	comp=Z,19nm,1.4s								
WIN	**Windhoek**	**50.71**	**224**			**P**		**17 57 26.6**	**-0.6**
WIN					IAmb	IAmb		17 57 36.1	
	comp=Z,14nm,1.1s								
WIN	**Windhoek**	**50.71**	**224**		P	**P**		**17 57 26.6**	**-0.6**
WIN					pmax	pmax			
	comp=Z,14nm,1.1s								
KNGR	**Kungurtug, Tuv**	**50.94**	**36**	⇑ *e*	P	**P**		**17 57 26.7**	**-1.8**
KNGR					pmax	pmax			
	comp=Z,18nm,1.1s								
MYKOM	**Kota Tinggi**	**52.41**	**99**		P	**P**		**17 57 38.9**	**-1.0**
MYKOM					IAmb	IAmb		17 59 20.3	
	comp=Z,16nm,1.3s								
HFS	**Hagfors**	**53.31**	**337**		P	**P**		**17 57 46.3**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=130,slow=8.0,SNR=20								
HFS					LR	LR		18 23 02.3	
	comp=Z,134nm,18.1s,baz=130,slow=39								
	comp=Z,2.1nm,0.5s								
MDT	**Midelt**	**54.50**	**300**		LR	LR		18 22 42.2	
	comp=Z,182nm,18.4s,baz=64,slow=38								
NC602	**NORSAR Array S**	**54.52**	**337**		P	**P**		**17 57 54.2**	**-0.4**
MD01	**Midelt array s**	**54.63**	**300**		P	**P**		**17 57 54.1**	**-2.1**
MD31	**MD31**	**54.63**	**300**		P	**P**		**17 57 53.2**	**-2.8**
NB2	**NORSAR Subarra**	**54.83**	**337**		P	**P**		**17 57 58.5**	**+1.5**
	comp=Z,12nm,1.7s,baz=124,slow=7.4								
NOA	**NORSAR Array B**	**54.83**	**337**		P	**P**		**17 57 57.9**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=123,slow=7.7,SNR=6.9								
NOA					LR	LR		18 24 42.2	
	comp=Z,97nm,18.0s,baz=125,slow=40								
	comp=Z,1.2nm,0.9s								
ESBB	**Sonseca Array**	**54.89**	**308**		P	**P**		**17 57 55.4**	**-2.4**
ESBB					IAmb	IAmb		17 58 05.8	
	comp=Z,19nm,1.4s								
ESDC	**Sonseca Array**	**54.89**	**308**			**P**		**17 57 56.0**	**-1.8**
ESDC					IAmb	IAmb		17 58 06.4	
	comp=Z,17nm,1.5s								
ESDC	**Sonseca Array**	**54.89**	**308**		P	**P**		**17 57 58.2**	**+0.4**
	comp=Z,3.4nm,1.0s,baz=85,slow=6.4,SNR=14								
	comp=Z,3.4nm,1.0s								
NC204	**NORSAR Array S**	**55.15**	**337**		P	**P**		**17 57 58.9**	**-0.4**
SONM	**Songino Array**	**55.23**	**42**		P	**P**		**17 58 00.0**	**-0.2**
SONM	**Songino Array**	**55.23**	**42**		P	**P**		**17 58 02.0**	**+1.8**
	comp=Z,4.6nm,1.0s,baz=248,slow=7.2,SNR=12								
SONM					LR	LR		18 24 49.6	
	comp=Z,152nm,21.5s,baz=244,slow=39								
	comp=Z,4.6nm,1.0s								
SONM	**Songino Array**	**55.23**	**42**		P	**P**		**17 58 00.0**	**-0.2**
SONM					pmax	pmax			
	comp=Z,6.0nm,1.2s								
ULN	**Ulaanbaatar**	**55.67**	**42**		P	**P**		**17 58 03.0**	**-0.4**
ULN	**Ulaanbaatar**	**55.67**	**42**	*c i*	P	**P**		**17 58 04.4**	**+1.0**
ULN					pmax	pmax			
	comp=Z,6.0nm,1.3s								
BTO	**Baotou**	**56.05**	**51**	*e*	P	**P**		**17 58 07.5**	**+1.3**
BTO					pmax	pmax			
	comp=Z,11nm,0.8s								
BTO					pmax	pmax			
	comp=Z,100nm,4.6s								
BTO					LR	LR			
	comp=Z,220nm,10.8s								
BTO					LR	LR			
	comp=Z,230nm,5.6s								
BTO					LR	LR			
	comp=Z,310nm,13.7s								
DBIC	**Dimbokro**	**56.67**	**268**		LR	LR		18 22 26.4	
	comp=Z,110nm,18.6s,baz=114,slow=36								
HHC	**Hu-ho-hao-te**	**57.25**	**51**	*e*	P	**P**		**17 58 16.3**	**+1.6**
HHC					S	**S**		**18 06 08.5**	**-2.3**
HHC					pmax	pmax			
	comp=Z,13nm,0.6s								
HHC					pmax	pmax			
	comp=Z,110nm,4.4s								
HHC					LR	LR			
	comp=Z,100nm,11.4s								
HHC					LR	LR			
	comp=Z,160nm,11.2s								
HHC					LR	LR			
	comp=Z,120nm,14.1s								

ARCES	**ARCESS Array B**	**57.26**	**349**		P	**P**		**17 58 14.4**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=139,slow=5.8,SNR=15								
	comp=Z,2.0nm,0.6s								
EKA	**Eskdalemuir Ar**	**58.61**	**327**		P	**P**		**17 58 23.8**	**0.0**
	comp=Z,1.1nm,0.6s,baz=111,slow=6.6,SNR=5.1								
	comp=Z,1.1nm,0.6s								
BJT	**Baijiatuau**	**60.63**	**52**		P	**P**		**17 58 37.0**	**-1.1**
BJT					IAmb	IAmb		17 58 42.1	
	comp=Z,3.0nm,0.5s								
BJT	**Baijiatuau**	**60.63**	**52**		P	**P**		**17 58 37.0**	**-1.1**
BJT					pmax	pmax			
	comp=Z,3.0nm,0.5s								
BJI	**Beijing**	**60.64**	**52**		P	**P**		**17 58 38.5**	**+0.4**
BJI					pmax	pmax			
	comp=Z,2.0nm,0.7s								
XLT	**XiLinHaoTe**	**60.99**	**48**	*e*	P	**P**		**17 58 40.0**	**-0.6**
XLT					PcP	**PcP**		**17 59 25.0**	**+1.1**
XLT					pmax	pmax			
	comp=Z,10.0nm,0.8s								
XLT					pmax	pmax			
	comp=Z,130nm,5.5s								
NJ2	**Nanjing**	**62.51**	**61**	*e*	P	**P**		**17 58 51.0**	**+0.1**
NJ2					pmax	pmax			
	comp=Z,9.0nm,0.5s								
SPITS	**Spitsbergen Ar**	**65.83**	**352**		LR	LR		18 32 07.2	
	comp=Z,104nm,18.8s,baz=131,slow=40								
TGY	**Tagaytay City**	**66.15**	**81**		LR	LR		18 29 36.4	
	comp=Z,56nm,18.2s,baz=264,slow=37								
HEH	**HeiHe**	**69.23**	**42**	*e*	P			**17 59 35.0**	**+1.2**
HEH					pmax	pmax			
	comp=Z,9.0nm,0.8s								
ZEA	**Zeya**	**69.28**	**38**	*e*	P	P		17 59 23.0	-11
KSAR	**Wonju Array Be**	**69.75**	**55**		P	**P**		**17 59 35.2**	**-2.1**
KSAR	**Wonju Array Be**	**69.75**	**55**		P	**P**		**17 59 35.2**	**-2.1**
KSRS	**Korea Array**	**69.78**	**55**		P	**P**		**17 59 37.8**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=260,slow=7.0,SNR=7.6								
	comp=Z,1.4nm,0.8s								
MDJ	**Mudanjiang**	**70.72**	**48**		P	**P**		**17 59 40.5**	**-2.6**
MDJ					IAmb	IAmb		17 59 49.4	
	comp=Z,6.9nm,1.2s								
JOW	**Kunigami**	**71.07**	**66**		P	**P**		**17 59 43.3**	**-2.4**
JOW	**Kunigami**	**71.07**	**66**		LR	LR		18 31 46.9	
	comp=Z,62nm,19.4s,baz=18,slow=36								
YAK	**Yakutsk**	**71.11**	**29**			**P**		**17 59 43.7**	**-1.5**
YAK	**Yakutsk**	**71.11**	**29**		LR	LR		18 34 10.4	
	comp=Z,102nm,18.9s,baz=267,slow=38								
YAK	**Yakutsk**	**71.11**	**29**	*e*	P	**P**		**17 59 45.6**	**+0.5**
YAK				*e*	*PP	**pwP**		**17 59 52.2**	**+1.0**
YAK				*e*				18 00 04.1	
YAK				*e*				18 02 21.8	
YAK				*e*	PPP	PPP		18 04 04.4	
YAK				*e*	S	**S**		**18 09 03.2**	**+1.6**
YAK				*e*				18 09 49.3	
YAK				*e*	SS	**SS**		**18 13 37.9**	**+3.3**
YAK					pmax	pmax			
	comp=Z,25nm,1.2s								
YAK					pmax	pmax			
	comp=N,2.0nm,1.0s								
YAK					pmax	pmax			
	comp=E,4.0nm,1.0s								
YAK					pmax	pmax			
	comp=Z,83nm,4.1s								
YAK					pmax	pmax			
	comp=N,70nm,4.3s								
YAK					pmax	pmax			
	comp=E,80nm,4.8s								
YAK					smax	smax			
	comp=N,128nm,5.5s								
YAK					smax	smax			
	comp=E,82nm,4.0s								
YAK					MLR	MLR			
	comp=Z,100nm,25.0s								
YAK					MLR	MLR			
	comp=N,38nm,22.0s								
TIXI	**Tiksi**	**71.82**	**19**		LR	LR		18 35 56.2	
	comp=N,144nm,19.9s,baz=308,slow=40								
TIXI	**Tiksi**	**71.82**	**19**	⇓ *e*	P	**P**		**17 59 47.8**	**-1.4**
TIXI					pmax	pmax			
	comp=Z,19nm,1.4s								
MJAR	**Matsushiro Ar**	**78.06**	**55**		P	**P**		**18 00 27.4**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=214,slow=5.6,SNR=2.2								
	comp=Z,1.0nm,0.7s								
FITZ	**Fitzroy Crossi**	**79.25**	**112**		P	**P**		**18 00 32.5**	**-0.3**
ASAJ	**Asahikawa**	**80.03**	**47

az=79.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.40**	**5**	T	T	18 11 46.7	
	baz=185,slow=76,SNR=11						
H08S2	**Diego Garcia H**	**18.40**	**5**	T	T	18 11 54.3	
	baz=185,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**18.42**	**5**	T	T	18 11 47.4	
	baz=185,slow=76,SNR=17						
H04N2	**CROZET ISLANDS**	**25.17**	**212**	T	T	18 20 21.8	
	baz=44,slow=74,SNR=111						
H04N1	**CROZET ISLANDS**	**25.18**	**212**	T	T	18 20 20.6	
	baz=44,slow=74,SNR=106						
H04N3	**CROZET ISLANDS**	**25.18**	**212**	T	T	18 20 16.0	
	baz=44,slow=74,SNR=114						
H01W2	**Cape Leeuwin H**	**38.04**	**114**	T	T	18 36 12.2	
	baz=271,slow=75,SNR=18						
H01W3	**Cape Leeuwin H**	**38.04**	**114**	T	T	18 36 12.4	
	baz=271,slow=75,SNR=16						
H01W1	**Cape Leeuwin H**	**38.05**	**114**	T	T	18 36 13.4	
	baz=271,slow=75,SNR=19						
ASAR	**Alice Springs**	**56.72**	**102**	P	P	17 58 25.4	-0.2
	0.3nm,0.6s,baz=252,slow=6.7,SNR=9.1						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**58.23**	**98**	P	P	17 58 36.5	+0.2
	0.3nm,0.7s,baz=251,slow=7.1,SNR=2.0						
	0.3nm,0.7s						
VNDA	**Vanda**	**64.94**	**166**	P	P	17 59 20.7	+0.1
	0.6nm,0.8s,baz=290,slow=4.8,SNR=4.4						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**73.27**	**8**	P	P	18 00 12.6	-0.1
	0.5nm,0.6s,baz=186,slow=6.5,SNR=3.4						
	0.5nm,0.6s						

*AFAD **27** 17:54:21.1, 41.20N×28.33E, h10km±6km, ML1.1*
ISK 27 17:54:15.2, 40.87N×28.29E, h18km, ML1.3/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELBA	**Catalca**	**0.30**	**21**	P	Pb	17 54 22.5	+0.6
ELBA				S	Sb	17 54 27.0	+0.6
SLVT	**Silivri**	**0.36**	**350**	Pg	Pb	17 54 23.3	+0.1
SLVT				Sg	Sb	17 54 29.6	+1.0
CTKS	**Kestanelik-??a**	**0.40**	**24**	Pg	Pb	17 54 23.9	+0.1
CTKS				Sg	Sb	17 54 29.9	+0.3
CTYL	**Yalikoy Yolu**	**0.60**	**360**	Pg	Pb	17 54 27.6	+0.4
CTYL				Sg	Sb	17 54 36.5	+1.2
VIZE	**Kirklareli, Vi**	**0.79**	**334**	P	Pn	17 54 32.1	+0.7
VIZE				S	Sb	17 54 39.1	-1.5
VIZE				*i* IAML		17 54 44.0	
	comp=N,5.5nm,0.2s						
YLV	**Yalova**	**0.88**	**110**	Pg	Pn	17 54 32.6	0.0
KRBG	**Karabiga-Canak**	**0.89**	**238**	Pg	Pn	17 54 32.9	+0.1
KRBG				Sg	Sn	17 54 45.9	+0.6
SUSR	**Susurluk-Balik**	**0.92**	**190**	Pg	Pn	17 54 33.4	+0.2
SUSR				Sg	Sn	17 54 46.9	+1.0
ARMN	**Kirklareli, Me**	**1.19**	**327**	P	Pg	17 54 54.2	+16
ARMN				S	Sg	17 55 14.2	+20
ARMN				*i* IAML		17 55 19.0	
	comp=E,9.9nm,1.3s						
ARMN				*i* IAML		17 55 24.0	
	comp=N,6.7nm,1.1s						
CANM	**Can-anakkale**	**1.28**	**228**	Pn	Pn	17 54 38.2	+0.1
CANM				Sn	Sb	17 54 55.3	+0.6

*DJA **27** 18:04:53.8±0.4, 8°S±4°×10°E±°, h10km, M4.3/16, mb4.3/6, MLv4.3/16*
*NEIC **27** 18:04:58.5±1.6, 7.3S±0.1°×105.85E±0.07, h58km±5km, mb4.5/27, Error ellipse: s-maj=17.1km s-min=7.5km az=206.0*
*IDC **27** 18:04:59.8±3.6, 7.36S×105.91E, h74km±28km, mb4.0/21, mbtmp4.3/22, Error ellipse: s-maj=31.1km s-min=12.8km az=55.0*
ISC 27 18:04:54.4±0.5, 7.52S±0.07×105.81E±0.05, h32km, n88, σ1§52/82, mb4.4/31, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.90**	**55**	P	**Pb**	**18 05 11.2**	**-0.4**
CGJI	**Cibinong**	**0.91**	**353**	P	**Pb**	**18 05 13.7**	**+2.0**
CNJI	**Cibinong**	**1.33**	**81**	P	**Pn**	**18 05 17.0**	**+0.3**
DBJI	**Dramaga**	**1.34**	**44**	P	**Pb**	**18 05 18.8**	**-0.2**
SBJI	**Serang**	**1.43**	**13**	P	**Pb**	**18 05 21.4**	**+0.9**
LEM	**Lembang**	**1.92**	**69**	P	**Pb**	**18 05 28.6**	**-0.4**
	322nm,0.5s,baz=349,slow=4.7,SNR=82						
LEM				S	**Sb**	**18 05 51.2**	**-1.5**
	274nm,0.4s,baz=182,slow=20,SNR=6.5						
KASI	**Kota Agung**	**2.38**	**327**	P	**Pb**	**18 05 34.8**	**-1.7**
KLJI	**Kotabumi**	**2.81**	**340**	P	**Pb**	**18 05 41.5**	**-2.4**
LWLI	**Liwa**	**3.04**	**325**	P	**Pb**	**18 05 44.2**	**-3.7**
KPJI	**Karang Pucung**	**3.10**	**87**	P	**Pn**	**18 05 44.2**	**+3.1**
MDSI	**Maura Dua**	**3.43**	**332**	P	**Pn**	**18 05 49.4**	**+3.8**
MNAI	**Manna**	**4.23**	**318**	Pn	**Pn**	**18 05 58.2**	**+1.5**
MNAI				Sn	Sn	**18 06 46.5**	**+1.3**
MNAI	**Manna**	**4.23**	**318**	P	**Pn**	**18 05 59.6**	**+2.9**
LHSI	**Lahat**	**4.32**	**328**	P	Pn	18 06 03.1	+5.2
UGM	**Wanagama**	**4.69**	**95**	Pn	**Pn**	**18 06 03.8**	**+0.8**
UGM					**Sn**	**18 06 52.6**	**-3.7**
WOJI	**Wonogiri, Jawa**	**5.08**	**94**	P	**Pn**	**18 06 10.3**	**+2.0**
MASI	**Maura Aman, Be**	**5.62**	**321**	P	**Pn**	**18 06 20.1**	**+4.3**
	58nm,1.6s						
DSRI	**Dabo**	**7.11**	**350**	P	**Pn**	**18 06 40.1**	**+3.9**
	0.1nm18nm,1.0s						
JAGI	**Jajag, Banyuwa**	**8.32**	**97**		**Pn**	**18 06 55.9**	**+3.0**
JAGI	**Jajag, Banyuwa**	**8.32**	**97**	P	**Pn**	**18 06 54.8**	**+2.0**
MYKOM	**Kota Tinggi**	**9.46**	**348**	Pn	Pn	18 07 14.2	+5.7
MMRI	**Maumere**	**16.30**	**95**	Pn	**Pn**	**18 08 39.6**	**-1.6**
MMRI				IAmb	IAmb	18 08 44.8	
	comp=Z,29nm,0.5s						
KKM	**Kota Kinabalu**	**17.01**	**38**	Pn	**Pn**	**18 08 47.9**	**-2.3**
KKM				IAmb	IAmb	18 09 11.4	
	comp=Z,26nm,1.2s						
GIRL	**Giralia**	**17.08**	**153**	Pn	**Pn**	**18 08 50.6**	**-0.3**
GIRL				IAmb	IAmb	18 08 56.9	
	comp=Z,69nm,1.2s						
BATI	**Baumata**	**17.84**	**100**	P	**P**	**18 09 01.6**	**+0.7**
	comp=Z,12nm,0.3s,baz=354,slow=3.7,SNR=5.7						
SOEI	**Soe**	**18.38**	**98**	P	**P**	**18 09 06.7**	**-0.2**
SOEI				IAmb	IAmb	18 09 17.2	
	comp=Z,41nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.98**	**120**	P	**P**	**18 09 47.1**	**+1.2**
FITZ	**Fitzroy Crossi**	**21.98**	**120**	P	**P**	**18 09 48.0**	**+2.1**
	comp=Z,2.5nm,0.7s,baz=283,slow=8.9,SNR=6.0						
	comp=Z,2.5nm,0.7s						
TNTI	**Ternate**	**23.03**	**70**	P	**P**	**18 09 57.2**	**+0.2**
TNTI				IAmb	IAmb	18 10 10.8	
	comp=Z,12nm,1.0s						
KNRA	**Kununurra**	**23.88**	**112**	P	**P**	**18 10 05.5**	**+0.2**
KNRA				IAmb	IAmb	18 10 46.5	
	comp=Z,21nm,1.3s						
CMAR	**Chiang Mai Arr**	**26.69**	**345**	P	**P**	**18 10 29.9**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=180,slow=8.3,SNR=7.4						
	comp=Z,0.6nm,0.3s						
H01W3	**Cape Leeuwin H**	**28.29**	**165**	T	T	18 40 32.0	
	baz=342,slow=74						
H01W1	**Cape Leeuwin H**	**28.30**	**165**	T	T	18 40 30.3	
	baz=342,slow=74						
H01W2	**Cape Leeuwin H**	**28.30**	**165**	T	T	18 40 33.2	
	baz=342						
WB0	**Warramunga Arr**	**30.27**	**117**	P	**P**	**18 11 03.3**	**+0.5**
WB0				IAmb	IAmb	18 11 15.4	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**30.28**	**117**	P	**P**	**18 11 03.7**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=289,slow=11,SNR=9.9						
	comp=Z,0.5nm,0.6s						
WR8	**Warramunga Arr**	**30.42**	**117**	P	**P**	**18 11 05.1**	**+1.0**
WR8				IAmb	IAmb	18 11 15.9	
	comp=Z,12nm,1.4s						
AS31	**Alice Springs**	**31.36**	**124**	P	**P**	**18 11 13.0**	**+0.6**
ASAR	**Alice Springs**	**31.36**	**124**	P	**P**	**18 11 13.6**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=300,slow=7.9,SNR=18						
ASAR				PcP	**PcP**	**18 14 07.0**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=309,slow=2.4,SNR=4.3						
	comp=Z,0.5nm,0.5s						
H08S2	**Diego Garcia H**	**33.02**	**268**	T	T	18 46 53.6	
	baz=92,slow=76,SNR=30						
H08S3	**Diego Garcia H**	**33.03**	**268**	T	T	18 47 03.6	
	baz=92,slow=76,SNR=55						
H08S1	**Diego Carcia H**	**33.04**	**268**	T	T	18 47 03.6	
	baz=92,slow=76,SNR=14						
STKA	**Stephens Creek**	**41.18**	**131**	P	**P**	**18 12 37.2**	**+1.0**
STKA	**Stephens Creek**	**41.18**	**131**	P	**P**	**18 12 37.1**	**+1.0**
	comp=Z,1.6nm,0.4s,baz=329,slow=9.2,SNR=5.9						
	comp=Z,1.6nm,0.4s						
CAN	**Canberra**	**48.24**	**131**	P	**P**	**18 13 34.8**	**+2.3**
KSRS	**Korea Array**	**49.29**	**23**	P	**P**	**18 13 40.2**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=213,slow=8.1,SNR=7.2						
	comp=Z,0.9nm,0.5s						
KSH	**Kashi**	**54.35**	**332**	P	**P**	**18 14 17.5**	**-0.7**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KBL	**Kabul**	**54.39**	**323**	P	**P**	**18 14 19.1**	**+0.4**
SONM	**Songino Array**	**55.12**	**0**	P	**P**	**18 14 23.0**	**-0.6**
SONM	**Songino Array**	**55.12**	**0**	P	**P**	**18 14 23.7**	**0.0**
	comp=Z,0.9nm,0.4s,baz=181,slow=8.9,SNR=9.6						
SONM				PcP	**PcP**	**18 15 25.1**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=171,slow=3.0,SNR=4.6						
	comp=Z,0.9nm,0.4s						
KDJ	**Kajisay**	**55.91**	**335**	P	**P**	**18 14 29.9**	**+0.4**
KDJ				IAmb	IAmb	18 14 33.4	
	comp=Z,4.1nm,1.0s						
ARSB	**Arslanbob**	**57.18**	**331**		**P**	**18 14 38.3**	**-0.2**
MKAR	**Makanchi Array**	**57.99**	**341**	P	**P**	**18 14 43.3**	**-0.6**
MKAR	**Makanchi Array**	**57.99**	**341**	P	**P**	**18 14 43.6**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=146,slow=7.8,SNR=32						
	comp=Z,1.7nm,0.5s						
MAKZ	**Makanchi**	**58.10**	**341**	P	**P**	**18 14 44.7**	**0.0**
KKAR	**Karatay Array**	**59.73**	**331**	P	**P**	**18 14 56.2**	**+0.1**
H04N2	**CROZET ISLANDS**	**60.10**	**220**	T	T	19 20 47.6	
	baz=68,slow=75,SNR=7.6						
H04N1	**CROZET ISLANDS**	**60.11**	**220**	T	T	19 20 48.1	
	baz=68,slow=75,SNR=7.6						
H04N3	**CROZET ISLANDS**	**60.12**	**220**	T	T	19 20 46.7	
	baz=68,slow=75,SNR=8.1						
KURBB	**Kurchatov Arra**	**62.55**	**341**	P	**P**	**18 15 15.0**	**0.0**
	comp=Z,2.4nm,0.6s,baz=153,slow=6.1,SNR=32						
	comp=Z,2.4nm,0.6s						
KURK	**Kurchatov**	**62.60**	**341**	P	**P**	**18 15 14.8**	**-0.5**
KURK				IAmb	IAmb	18 15 16.4	
	comp=Z,2.7nm,0.6s						
ZAA0	**Zalesovo Array**	**63.75**	**346**	P	**P**	**18 15 22.5**	**-0.5**
ZAA0				IAmb	IAmb	18 15 23.1	
	comp=Z,2.4nm,0.3s						
ZALV	**Zalesovo Beam**	**63.75**	**346**	P	**P**	**18 15 22.1**	**-0.8**
ZALV	**Zalesovo Beam**	**63.75**	**346**	P	**P**	**18 15 22.6**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=155,slow=5.8,SNR=20						
	comp=Z,2.7nm,0.3s						
BVAR	**Borovoye Array**	**67.39**	**338**	P	**P**	**18 15 47.0**	**+0.5**
	comp=Z,3.6nm,0.5s,baz=142,slow=8.6,SNR=22						
	comp=Z,3.6nm,0.5s						
AB31	**Akbulak array**	**69.26**	**330**		**P**	**18 15 58.4**	**+0.1**
AB31				IAmb	IAmb	18 16 17.2	
	comp=Z,3.9nm,0.8s						
ABKAR	**Akbulak array**	**69.26**	**330**		**P**	**18 15 58.4**	**+0.1**
BKZ	**Black Stump Fm**	**70.32**	**129**	P	**P**	**18 16 03.2**	**-2.0**
YAK	**Yakutsk**	**71.78**	**12**	P	**P**	**18 16 12.2**	**-1.1**
	comp=Z,8.3nm,0.5s,baz=146,slow=1.2,SNR=5.6						
	comp=Z,8.3nm,0.5s						
PETK	**Petropavlovsk-**	**74.62**	**29**	P	**P**	**18 16 28.9**	**-1.5**
PETK	**Petropavlovsk-**	**74.62**	**29**	P	**P**	**18 16 29.5**	**-0.9**
	comp=Z,3.8nm,1.1s,baz=157,slow=4.8,SNR=4.9						
	comp=Z,3.8nm,1.1s						
ARTI	**Arti**	**74.64**	**335**	P	**P**	**18 16 30.7**	**+0.4**
ARTI	**Arti**	**74.64**	**335**	P	**P**	**18 16 31.0**	**+0.6**
	comp=Z,5.6nm,0.5s,baz=141,slow=3.1,SNR=7.4						
	comp=Z,5.6nm,0.5s						
MA2	**Magadan**	**75.81**	**22**	P	**P**	**18 16 35.7**	**-1.4**
MA2	**Magadan**	**75.81**	**22**	P	**P**	**18 16 36.8**	**-0.2**
	comp=Z,8.0nm,0.9s,baz=22,slow=21,SNR=1.9						
	comp=Z,8.0nm,0.9s						
SEY	**Seymchan**	**78.69**	**20**	P	**P**	**18 16 52.2**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=209,slow=7.9,SNR=7.0						
	comp=Z,1.5nm,0.5s						
KIRV	**Kirov**	**79.83**	**334**	P	**P**	**18 16 59.6**	**+0.2**
	comp=Z,8.1nm,0.5s,baz=43,slow=2.4,SNR=4.3						
	comp=Z,8.1nm,0.5s						
TIXI	**Tiksi**	**80.47**	**7**	P	**P**	**18 17 01.0**	**-1.6**
TIXI				IAmb	IAmb	18 17 33.4	
	comp=Z,10.0nm,1.1s						
BRTR	**Keskin Array B**	**81.30**	**312**	P	**P**	**18 17 08.3**	**+0.3**
BRTR	**Keskin Array B**	**81.30**	**312**	P	**P**	**18 17 08.7**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=134,slow=6.0,SNR=9.6						
	comp=Z,1.3nm,0.6s						
AKASG	**Malin Array Be**	**87.37**	**322**	P	**P**	**18 17 38.9**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=87,slow=5.3,SNR=2.3						
	comp=Z,0.3nm,0.4s						
BURAR	**Bucovina Array**	**89.20**	**318**	P	**P**	**18 17 48.7**	**+1.5**
LIT	**Litokhoron**	**89.71**	**310**	P	**P**	**18 17 50.7**	**+1.1**
FINES	**FINESS Array B**	**91.67**	**332**	P	**P**	**18 17 59.3**	**+1.1**
FINES	**FINESS Array B**	**91.67**	**332**	P	**P**	**18 17 57.6**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=149,slow=1.1,SNR=3.5						
	comp=Z,0.5nm,0.7s						
ARCES	**ARCESS Array B**	**93.61**	**340**	P	**P**	**18 18 06.7**	**-0.4**
ARCES	**ARCESS Array B**	**93.61**	**340**	P	**P**	**18 18 05.8**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=116,slow=4.2,SNR=4.1						
	comp=Z,0.7nm,0.6s						
TXAR	**Lajitas Array**	**144.80**	**48**	PKP	**PKPdf**	**18 24 29.6**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=202,slow=1.3,SNR=4.3						

*IDC **27** 18:16:51.4±2.2, 4.83S×144.65E, h130km±19km, mb2.8/2, mbtmp3.3/5, Error ellipse: s-maj=39.6km s-min=12.2km az=51.0*
ISC 27 18:16:52.5±1.6, 4.9S±0.2×144.6E±0.2, h150km, n5, σ1§57/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.55**	**301**	P	**Pn**	**18 18 00.3**	**+0.3**
	6.3nm,0.8s,baz=126,slow=13,SNR=6.5						
JAY				S	**Sn**	**18 18 50.4**	**-2.2**
	6.9nm,0.7s,baz=130,slow=21,SNR=2.1						
PMG	**Port Moresby**	**5.16**	**151**	P	**Pn**	**18 18 08.0**	**-0.1**
	8.9nm,0.8s,baz=331,slow=13,SNR=1.3						
PMG				S	**Sn**	**18 19 05.4**	**-1.8**
	17nm,0.7s,baz=127,slow=23,SNR=6.0						
WRA	**Warramunga Arr**	**18.01**	**213**	P	**Pn**	**18 20 54.4**	**+0.8**
	0.8nm,1.1s,baz=30,slow=13,SNR=6.3						
ASAR	**Alice Springs**	**21.34**	**208**	P	**P**	**18 21 28.8**	**+0.8**
	0.4nm,0.6s,baz=32,slow=11,SNR=8.0						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**75.13**	**321**	P	**P**	**18 28 18.9**	**+0.7**
	0.3nm,0.6s,baz=124,slow=5.0,SNR=4.1						
	0.3nm,0.6s						

DJA 27 18:17:31.2±0.3, 4°S±3°×128°E±°, h13km±2km, M3.9/13, mb4.4/6, MLv3.7/13, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.17**	**236**	P	Pb	18 17 37.1	+0.8
AAI				S	Sb	18 17 40.2	+0.5
MSAI	**Masohi**	**0.64**	**68**	P	Pb	18 17 44.5	+0.3
MSAI				S	Sb	18 17 52.9	-0.1
NLAI	**Namlea**	**1.29**	**286**	P	Pn	18 17 53.3	-1.6
BNDI	**Bandanaira**	**1.81**	**121**	P	Pn	18 17 59.4	-2.8
SANI	**Sanana**	**2.80**	**303**	P	Pn	18 18 14.7	-1.1
SWI	**Sorong**	**3.98**	**47**	P	Pn	18 18 31.9	-0.1
TNTI	**Ternate**	**4.44**	**347**	P	Pn	18 18 38.4	+0.1
SAUI	**Saumlaki**	**5.26**	**146**	P	Pn	18 18 49.2	-0.4
KMSI	**Cibinong**	**6.01**	**313**	P	Pn	18 19 00.2	+0.3
	0.2nm52nm,1.1s						
BBSI	**Bau Bau**	**6.05**	**252**	P	Pn	18 19 00.0	-0.5
	0.1nm41nm,1.1s						
LUWI	**Luwuk**	**6.11**	**294**	P	Pn	18 19 01.9	+0.6

*IDC **27** 18:29:19.1±8.2, 51.35N×178.59W, h0km, mb3.4/3, mbtmp3.6/4, ML4.1/1, Error ellipse: s-maj=166.2km s-min=67.6km az=101.0*
*NEIC **27** 18:29:20.5±1.0, 51.33N±0.04×178.61W±0.03, h16km±4km, ML3.2(AEIC), Error ellipse: s-maj=5.8km s-min=2.3km az=184.0*
*AEIC **27** 18:29:21.3±2.7, 51.42N±0.03×178.62W±0.03, h9km±6km, Error ellipse: s-maj=5.1km s-min=2.7km az=196.0*
ISC 27 18:29:20.0±1.3, 51.35N±0.06×178.61W±0.03, h14km±8km, n44, σ0§73/48, mb3.7/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.24**	**328**		**Pb**	**18 29 25.8**	**-0.3**
GAKI					**Sg**	**18 29 29.2**	**+0.5**
GALAA	**Gareloi Lava P**	**0.42**	**346**		**Pb**	**18 29 29.6**	**+0.4**
GALAA					**Sb**	**18 29 35.7**	**+0.3**
GAEA	**Gareloi East**	**0.44**	**349**		**Pb**	**18 29 29.8**	**+0.3**
GAEA					**Sb**	**18 29 35.8**	**-0.1**
GASW	**Gareloi Southw**	**0.45**	**340**		**Pb**	**18 29 29.9**	**+0.1**
GASW					**Sb**	**18 29 36.2**	**-0.1**
GANE	**Gareloi Northe**	**0.48**	**348**		**Pb**	**18 29 30.3**	**+0.1**
GANE					**Sb**	**18 29 36.7**	**-0.4**
GANO	**Gareloi North**	**0.48**	**346**		**Pb**	**18 29 30.5**	**+0.2**
TAFL	**Tanaga Flats**	**0.60**	**47**		**Pn**	**18 29 32.8**	**-1.3**
TAFL					**Sb**	**18 29 40.7**	**+0.1**
TASE	**Tanaga Southea**	**0.60**	**36**		**Pn**	**18 29 32.8**	**-1.3**
TASE					**Sb**	**18 29 40.2**	**-0.4**
TANO	**Tanaga North**	**0.64**	**28**		**Pn**	**18 29 33.6**	**-1.1**
TANO					**Sb**	**18 29 42.0**	**+0.3**
TAFP	**Tanaga Falls P**	**0.67**	**35**		**Pg**	**18 29 33.7**	**+0.6**
TAFP					**Sb**	**18 29 42.9**	**+0.2**
TAPA	**Tanaga Point A**	**0.68**	**47**		**Pn**	**18 29 34.1**	**-1.1**
TAPA					Sn	**18 29 43.7**	**-1.9**
KIMD	**Kanaga Island**	**0.95**	**64**		**Pg**	**18 29 38.6**	**+0.2**
KIMD					**Sg**	**18 29 50.6**	**-0.2**
KIWB	**Kanaga Island**	**1.04**	**61**		**Pg**	**18 29 39.8**	**-0.2**
KIWB	**Kanaga Island**	**1.04**	**61**		**Sg**	**18 29 53.7**	**+0.1**
KIKV	**Kanaga Island**	**1.04**	**59**		**Pn**	**18 29 39.7**	**-0.4**
KIKV					**Sg**	**18 29 54.1**	**+0.4**
KICM	**Kanaga Island**	**1.05**	**57**		**Pg**	**18 29 40.3**	**+0.1**
KICM					**Sg**	**18 29 54.6**	**+0.7**
KINC	**Kanaga Island**	**1.09**	**57**		**Pg**	**18 29 40.8**	**-0.2**
CEPE	**Semis' Perret**	**1.25**	**300**		**Pg**	**18 29 43.5**	**-0.5**
CEAP	**Semis' Anvil P**	**1.30**	**301**		**Pg**	**18 29 44.6**	**-0.4**
AMKA	**Amchitka**	**1.31**	**272**		**Pn**	**18 29 43.1**	**-0.7**
ADK	**Adak**	**1.31**	**65**		**Pb**	**18 29 44.0**	**-0.3**
ADAG	**Mount Adagdak**	**1.40**	**63**		**Pg**	**18 29 46.3**	**-0.6**
ETKA	**Kagalaska Isla**	**1.47**	**69**		**Pb**	**18 29 46.9**	**-0.1**
GSSP	**Great Sitkin S**	**1.69**	**63**		**Sg**	**18 30 13.5**	**-0.7**
GSTD	**Great Sitkin T**	**1.69**	**64**		**Pb**	**18 29 50.4**	**-0.4**
GSMY	**Great Sitkin M**	**1.73**	**65**		**Pb**	**18 29 51.0**	**-0.5**
GSTR	**Great Sitkin T**	**1.75**	**64**	Pn	**Pb**	**18 29 51.7**	**-0.2**
LSPA	**Little Sitkin**	**1.86**	**290**		**Pb**	**18 29 53.0**	**-0.6**
ATKA	**Atka Island**	**2.87**	**71**		**Pn**	**18 30 05.0**	**-0.3**
NIKH	**Nikolski High**	**6.22**	**71**	Pn	**Pn**	**18 30 50.2**	**-1.0**
P08K	**Saint George I**	**7.49**	**42**	Pn	**Pn**	**18 31 07.8**	**-0.8**
KDAK	**Kodiak Island**	**16.34**	**57**	Pn	**Pn**	**18 33 07.6**	**-1.0**
	0.8nm,0.3s,baz=237,slow=3.6,SNR=13						
	1.5nm,0.5s						
ILAR	**Eielson Array**	**21.19**	**39**	P	**P**	**18 34 06.2**	**+1.5**
	0.2nm,0.4s,baz=256,slow=11,SNR=5.3						
	0.2nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**33.56**	**205**	T	T	19 11 36.0	
	baz=17,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**33.57**	**205**	T	T	19 11 33.9	
	baz=17,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**33.58**	**205**	T	T	19 11 34.9	
	baz=17,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**34.78**	**205**	T	T	19 13 04.7	
	baz=16,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**34.79**	**205**	T	T	19 13 07.2	
	baz=16,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**34.79**	**205**	T	T	19 13 04.6	
	baz=16,slow=76,SNR=13						
PDAR	**Pinedale Array**	**46.20**	**72**	P	**P**	**18 37 46.2**	**+1.8**
	0.7nm,0.6s,baz=292,slow=3.4,SNR=11						
	0.7nm,0.6s						
TXAR	**Lajitas Array**	**58.54**	**81**	P	**P**	**18 39 16.7**	**+0.8**
	0.4nm,0.6s,baz=323,slow=8.8,SNR=4.4						
	0.4nm,0.6s						
H03N2	**Juan Fernandez**	**121.02**	**106**	T	T	21 01 07.3	
	baz=319						
H03N1	**Juan Fernandez**	**121.04**	**106**	T	T	21 01 17.0	
	baz=319						
H03N3	**Juan Fernandez**	**121.04**	**106**	T	T	21 00 30.0	
	baz=319						

IDC 27 18:36:46.9±5.6, 50.26S×113.07E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=274.8km s-min=27.6km az=109.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.38**	**3**	T	T	18 55 51.3	
	baz=188,slow=73,SNR=48						
H01W1	**Cape Leeuwin H**	**15.38**	**3**	T	T	18 55 51.8	
	baz=188,slow=73,SNR=54						
H01W3	**Cape Leeuwin H**	**15.39**	**3**	T	T	18 55 58.3	
	baz=188,slow=73,SNR=56						
ASAR	**Alice Springs**	**31.12**	**39**	P	P	18 43 07.2	+0.1
	0.5nm,0.7s,baz=209,slow=7.4,SNR=4.6						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**34.65**	**37**	P	P	18 43 37.7	-0.2
	0.6nm,0.6s,baz=205,slow=9.4,SNR=3.7						

H08S1	**Diego Carcia H**	**18.82**	**6**	T		T	19 04 14.8		
	baz=186,slow=76,SNR=3.1								
H08S2	**Diego Garcia H**	**18.83**	**6**	T		T	19 04 15.9		
	baz=186,slow=76,SNR=3.2								
H08S3	**Diego Garcia H**	**18.84**	**6**	T		T	19 04 15.7		
	baz=186,slow=76,SNR=4.6								
H04N2	**CROZET ISLANDS**	**24.68**	**212**	T		T	19 12 29.1		
	baz=44,slow=74,SNR=20								
H04N1	**CROZET ISLANDS**	**24.69**	**212**	T		T	19 12 30.3		
	baz=44,slow=74,SNR=90								
H04N3	**CROZET ISLANDS**	**24.70**	**212**	T		T	19 12 26.3		
	baz=44,slow=74,SNR=97								
H01W2	**Cape Leeuwin H**	**38.14**	**113**	T		T	19 28 32.1		
	baz=271,slow=75,SNR=752								
H01W3	**Cape Leeuwin H**	**38.14**	**113**	T		T	19 28 33.7		
	baz=271,slow=75,SNR=796								
H01W1	**Cape Leeuwin H**	**38.15**	**113**	T		T	19 28 29.9		
	baz=271,slow=75,SNR=723								
ASAR	**Alice Springs**	**56.91**	**102**	P		P	18 50 43.8	+0.3	
	0.3nm,0.6s,baz=255,slow=7.4,SNR=4.2								
	0.3nm,0.6s								
WRA	**Warramunga Arr**	**58.45**	**98**	P		P	18 50 54.0	-0.4	
	0.3nm,0.6s,baz=249,slow=7.2,SNR=1.9								
	0.3nm,0.6s								
VNDA	**Vanda**	**64.62**	**166**	P		P	18 51 35.0	0.0	
	0.5nm,0.5s,baz=277,slow=13,SNR=8.0								
	0.5nm,0.5s								
MKAR	**Makanchi Array**	**73.70**	**8**	P		P	18 52 31.8	0.0	
	0.6nm,0.6s,baz=185,slow=5.4,SNR=7.0								
	0.6nm,0.6s								
KURBB	**Kurchatov Arra**	**77.09**	**5**	P		P	18 52 51.0	0.0	
	0.3nm,0.3s,baz=188,slow=6.0,SNR=4.7								
	0.3nm,0.3s								

*IDC **27** 18:41:17.4±1.2,33˚.29S×178˚.46W, h0km, mb3.9/5, mbtmp3.9/6, ML3.9/1, MS3.4/1, Error ellipse: s-maj=35.9km s-min=29.0km az=57.0*

*WEL **27** 18:41:19.7±0.9,33˚.5±7˚×17˚.8W±1˚.6, h33km, mB4.7/6, ML4.5/13, MLv4.4/8, Mw(mB)4.0/6, Error ellipse: s-maj=21.8km s-min=4.6km az=110.6, confirmed*

ISC 27 18:41:22.9±0.9, 33˚.47S±0.07˚×178˚.5W±0.1, h41km, n34, σ1§74/48, mb3.9/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.22**	**6**	P	**Pn**	**18 42 25.8**	**+1.1**
GLKZ				S	**Sn**	**18 43 07.8**	**-4.9**
MXZ	**Matakaoa Point**	**4.86**	**212**	P	**Pn**	**18 42 31.9**	**-1.6**
MXZ				S	**Sn**	**18 43 27.6**	**-0.9**
WMGZ	**Waiomatatini S**	**5.03**	**210**	P	**Pn**	**18 42 36.7**	**+0.9**
WMGZ				S	**Sn**	**18 43 34.5**	**+1.8**
PKGZ	**Pakihiroa**	**5.22**	**212**	P	**Pn**	**18 42 36.7**	**-1.6**
PKGZ				S	**Sn**	**18 43 37.7**	**+0.5**
HAZ	**Te Kaha**	**5.26**	**215**	P	**Pn**	**18 42 38.7**	**-0.3**
HAZ				S	**Sn**	**18 43 39.3**	**+1.0**
PUZ	**Puketiti**	**5.31**	**209**	P	**Pn**	**18 42 36.1**	**-3.6**
PUZ				S	**Sn**	**18 43 39.3**	**-0.4**
RUGZ	**Raukumara Rang**	**5.48**	**214**	P	**Pn**	**18 42 40.8**	**-1.3**
RUGZ				S	**Sn**	**18 43 43.6**	**-0.3**
TWGZ	**Tauwhareparae**	**5.52**	**211**	P	**Pn**	**18 42 42.8**	**+0.3**
TWGZ				S	**Sn**	**18 43 44.1**	**-0.6**
CNGZ	**Carnagh Statio**	**5.69**	**208**	P	**Pn**	**18 42 42.7**	**-2.1**
CNGZ				S	**Sn**	**18 43 47.7**	**-1.1**
TKGZ	**Te Karaka**	**5.79**	**210**	P	**Pn**	**18 42 46.5**	**+0.2**
TKGZ				S	**Sn**	**18 43 50.0**	**-1.4**
MWZ	**Matawai**	**5.85**	**213**	P	**Pn**	**18 42 45.5**	**-1.6**
MWZ				S	**Sn**	**18 43 51.7**	**-1.2**
URZ	**Urewera**	**5.98**	**216**	Pn	**Pn**	**18 42 47.4**	**-1.5**
	3.2nm,0.3s,baz=313,slow=3.0,SNR=12						
URZ				Sn	**Sn**	**18 43 54.5**	**-1.6**
	2.5nm,0.3s,baz=309,slow=22,SNR=7.5						
	11nm,0.4s						
URZ	**Urewera**	**5.98**	**216**	P	**Pn**	**18 42 46.8**	**-2.1**
URZ				S	**Sn**	**18 43 54.0**	**-2.2**
RIGZ	**Rimuhau**	**6.06**	**209**	P	**Pn**	**18 42 47.8**	**-2.1**
RIGZ				S	**Sn**	**18 43 55.7**	**-2.2**
SNGZ	**Shannon Statio**	**6.30**	**212**	P	**Pn**	**18 42 52.6**	**-0.7**
SNGZ				S	**Sn**	**18 44 03.7**	**-0.2**
MUGZ	**Murupara**	**6.32**	**216**	S	**Sn**	**18 44 02.3**	**-2.2**
MKAZ	**Moumakai**	**6.36**	**233**	P	**Pn**	**18 42 50.6**	**-3.4**
MHGZ	**Mahia Peninsul**	**6.39**	**206**	P	**Pn**	**18 42 51.6**	**-2.8**
MHGZ				S	**Sn**	**18 44 04.8**	**-1.2**
RAHZ	**Arahi**	**6.52**	**212**	S	**Sn**	**18 44 08.5**	**-0.9**
MTHZ	**Maungataniwha**	**6.58**	**214**	P	**Pn**	**18 42 55.4**	**-1.8**
MTHZ				S	**Sn**	**18 44 10.5**	**-0.4**
OUZ	**Omahuta**	**6.81**	**253**	P	**Pn**	**18 43 02.3**	**+2.1**
DZM	**Mont Dzumac**	**17.52**	**307**	LR	LR	18 50 21.6	
	comp=Z,113nm,19.1s,baz=220,slow=31						
ASAR	**Alice Springs**	**42.66**	**270**	P	**P**	**18 49 15.9**	**+0.2**
	1.7nm,0.7s,baz=111,slow=7.4,SNR=12						
ASAR				PcP	**PcP**	**18 51 07.5**	**+0.4**
	0.4nm,0.6s,baz=124,slow=3.7,SNR=2.8						
	1.7nm,0.7s						
WRA	**Warramunga Arr**	**43.92**	**276**	P	**P**	**18 49 25.9**	**0.0**
	2.4nm,0.8s,baz=119,slow=7.6,SNR=9.5						
	2.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.04**	**273**	P	**P**	**18 50 28.9**	**+0.2**
	3.3nm,0.9s,baz=97,slow=5.2,SNR=2.9						
	3.3nm,0.9s						
QSPA	**South Pole Qui**	**56.65**	**180**	P	**P**	**18 51 04.0**	**+2.4**
	0.6nm,0.8s,baz=355,slow=8.1,SNR=5.9						
	0.6nm,0.8s						
SNAA	**Sanae**	**75.10**	**179**	P	**P**	**18 53 01.8**	**+1.6**
	0.5nm,0.9s,baz=200,slow=9.2,SNR=1.4						
	0.5nm,0.9s						
H03S2	**Juan Fernandez**	**79.09**	**123**	T	T	20 21 16.4	
	baz=234						
H03S1	**Juan Fernandez**	**79.10**	**123**	T	T	20 21 10.8	
	baz=234						
H03S3	**Juan Fernandez**	**79.11**	**123**	T	T	20 21 11.7	
	baz=234						
FINES	**FINESS Array B**	**147.87**	**338**	PKPbc	**PKPbc**	**19 01 02.8**	**+0.1**
	1.0nm,0.5s,baz=46,slow=4.0,SNR=10						
NOA	**NORSAR Array B**	**151.71**	**350**	PKPbc	**PKPbc**	**19 01 10.8**	**-1.4**
	0.3nm,0.7s,baz=16,slow=3.2,SNR=1.7						
MMAI	**Mount Meron Ar**	**151.76**	**279**	PKPbc	**PKiKP**	**19 01 15.6**	**+2.0**
	1.8nm,0.8s,baz=50,slow=2.3,SNR=2.2						
BRTR	**Keskin Array B**	**153.59**	**293**	PKPbc	**PKiKP**	**19 01 17.2**	**-0.1**
	0.4nm,0.7s,baz=338,slow=1.6,SNR=3.7						

*JMA **27** 18:46:33.4±0.1,38˚.8N±0˚.2×141˚.6E±0˚.4, h70km, MV3.2/40, NORTHERN MIYAGI PREF*

JMA Felt I J1 at NORTHERN MIYAGI PREF .

*IDC **27** 18:46:36.1±1.6,39˚.58N×140˚.09E, h0km, mb3.6/5, mbtmp3.4/7, ML2.5/2, Error ellipse: s-maj=44.8km s-min=21.7km az=79.0*

ISC 27 18:46:32.4±1.2, 38˚.80N±0˚.04×141˚.74E±0˚.08, h73km±7km, n22, σ1§10/35, mb3.6/5, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.21**	**273**	*i* P	**Pn**	**18 46 43.7**	**+0.3**
JKMT				S	**Sn**	**18 46 51.1**	**-0.4**
OFUJ	**Ofunato**	**0.29**	**349**	*i* P	**Pn**	**18 46 44.5**	**+0.7**
OFUJ				S	**Sn**	**18 46 52.6**	**+0.4**
JMK	**Ichinoseki**	**0.43**	**291**	*i* P	**Pn**	**18 46 44.8**	**-0.1**
JMK				S	**Sn**	**18 46 53.2**	**-0.9**
JIO	**Ouri**	**0.46**	**222**	*i* P	**Pn**	**18 46 45.2**	**+0.1**
JIO				S	**Sn**	**18 46 53.7**	**-0.8**
JOM	**Ohasama**	**0.76**	**333**	⇓*i* P	**Pn**	**18 46 48.6**	**+0.4**
JOM				⇓S	**Sn**	**18 46 59.9**	**0.0**
JOU	**Okura**	**0.95**	**243**	*i* P	**Pn**	**18 46 50.2**	**-0.3**
JOU				S	**Sn**	**18 47 02.9**	**-1.0**
JRG	**Rokugo**	**1.05**	**305**	⇓*i* P	**Pn**	**18 46 51.7**	**0.0**
JRG				⇓S	**Sn**	**18 47 05.6**	**-0.4**
JYK	**Kaneyama**	**1.09**	**277**	⇓*i* P	**Pn**	**18 46 51.8**	**-0.3**
JYK				⇓*e*S	**Sn**	**18 47 06.1**	**-0.7**
JMM	**Marumori**	**1.19**	**219**	*i* P	**Pn**	**18 46 53.0**	**-0.5**
JMM				S	**Sn**	**18 47 07.5**	**-1.7**
JYS	**Shirataka**	**1.44**	**247**	*i* P	**Pn**	**18 46 56.6**	**0.0**
JYS				S	**Sn**	**18 47 14.1**	**-0.8**
JANG	**Nango**	**1.58**	**354**	P	**Pn**	**18 46 59.3**	**+0.8**
JANG				S	**Sn**	**18 47 18.5**	**+0.2**
JFK	**Kawauchi**	**1.58**	**206**	*i* P	**Pn**	**18 46 58.7**	**+0.1**
JFK				S	**Sn**	**18 47 17.6**	**-0.8**
JYA	**Atsumi**	**1.60**	**263**	P	**Pn**	**18 46 58.7**	**-0.1**
JYA				S	**Sn**	**18 47 18.0**	**-0.8**
JAH	**Hinai**	**1.63**	**329**	⇓*i* P	**Pn**	**18 47 00.1**	**+0.9**
JOTO	**OTAMA OYAMA**	**1.66**	**222**	*i* P	**Pn**	**18 47 00.2**	**+0.5**
JOTO				S	**Sn**	**18 47 20.4**	**+0.1**
MJAR	**Matsushiro Arr**	**3.60**	**232**	Pn	**Pn**	**18 47 27.9**	**+2.2**
	0.1nm,0.3s,baz=41,slow=11,SNR=6.5						
	0.5nm,0.3s						
ASAJ	**Asahikawa**	**5.35**	**7**	Pn	**Pn**	**18 47 49.9**	**+0.2**
	0.3nm,0.3s,baz=199,slow=13,SNR=5.4						
ASAJ				Sn	**Sn**	**18 48 45.4**	**-4.5**
	0.2nm,0.3s,baz=19,slow=34,SNR=2.4						
	7.2nm,0.9s						
ZALV	**Zalesovo Beam**	**40.94**	**311**	P	**P**	**18 54 08.2**	**+0.7**
	0.5nm,0.5s,baz=79,slow=7.6,SNR=2.9						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**43.42**	**301**	P	**P**	**18 54 28.3**	**+0.4**
	0.8nm,0.7s,baz=83,slow=10,SNR=7.5						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**45.14**	**307**	P	**P**	**18 54 41.8**	**+0.3**
	0.9nm,0.4s,baz=81,slow=8.3,SNR=7.9						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**58.84**	**188**	P	P	18 56 41.0	+18
	0.2nm,0.4s,baz=4.8,slow=7.3,SNR=5.2						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**62.57**	**188**	P	P	18 57 06.3	+18
	0.2nm,0.8s,baz=2.6,slow=6.0,SNR=1.6						
	0.2nm,0.8s						

IDC 27 18:54:51.8±1.4, 8˚.97S×109˚.88W, h0km, mb3.6/4, mbtmp3.6/4, MS3.5/10, Error ellipse: s-maj=137.8km s-min=29.1km az=92.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**32.87**	**359**	LR	LR	19 11 08.4	
	comp=Z,64nm,20.0s,baz=216,slow=30						
H03N2	**Juan Fernandez**	**37.49**	**135**	T	T	19 41 00.2	
	baz=308,slow=77,SNR=81						
H03N1	**Juan Fernandez**	**37.51**	**135**	T	T	19 41 00.4	
	baz=308,slow=77,SNR=108						
H03N3	**Juan Fernandez**	**37.51**	**135**	T	T	19 41 02.7	
	baz=308,slow=77,SNR=109						
TXAR	**Lajitas Array**	**38.55**	**9**	P	P	19 02 16.4	0.0
	0.1nm,0.3s,baz=181,slow=7.1,SNR=1.1						
	0.1nm,0.3s						
PPT	**Papeete**	**39.51**	**253**	LR	LR	19 12 26.4	
	comp=Z,35nm,20.2s,baz=192,slow=27						
PFO	**Pinyon Flats O**	**42.81**	**352**	LR	LR	19 17 09.2	
	comp=Z,58nm,19.4s,baz=214,slow=31						
PLCA	**Paso Flores**	**47.04**	**139**	LR	LR	19 17 13.0	
	comp=Z,123nm,18.5s,baz=258,slow=28						
NVAR	**Mina Array Bea**	**47.80**	**351**	P	P	19 03 31.0	-0.4
	0.6nm,0.7s,baz=181,slow=8.3,SNR=5.0						
NVAR				LR	LR	19 19 53.9	
	comp=Z,66nm,18.5s,baz=142,slow=31						
	0.6nm,0.7s						
ELK	**Elko**	**49.71**	**355**	LR	LR	19 20 26.2	
	comp=Z,68nm,19.0s,baz=210,slow=31						
PDAR	**Pinedale Array**	**51.49**	**0**	P	P	19 03 59.2	-0.1
	0.3nm,0.6s,baz=205,slow=6.3,SNR=4.1						
PDAR				LR	LR	19 22 22.1	
	comp=Z,35nm,19.2s,baz=186,slow=32						
	0.3nm,0.6s						
CPUP	**Villa Florida**	**52.59**	**116**	LR	LR	19 21 50.8	
	comp=Z,15nm,18.7s,baz=72,slow=31						
MDP	**Montagnes des**	**58.74**	**78**	LR	LR	19 27 53.6	
	comp=Z,53nm,18.6s,baz=96,slow=34						
KDAK	**Kodiak Island**	**75.04**	**338**	LR	LR	19 31 11.3	
	comp=Z,49nm,21.4s,baz=170,slow=29						
QSPA	**South Pole Qui**	**81.11**	**180**	P	P	19 07 08.9	-0.1
	1.6nm,0.9s,baz=92,slow=3.1,SNR=5.9						
	1.6nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**86.64**	**289**	T	T	20 44 17.3	
	baz=101,slow=75,SNR=258						
H11S1	**WAKE ISLAND Hy**	**86.65**	**289**	T	T	20 44 21.0	
	baz=101,slow=75,SNR=154						
H11S3	**WAKE ISLAND Hy**	**86.66**	**289**	T	T	20 44 21.7	
	baz=101,slow=75,SNR=236						
H11N3	**WAKE ISLAND Hy**	**86.67**	**290**	T	T	20 44 21.2	
	baz=101,slow=75,SNR=29						
H11N2	**WAKE ISLAND Hy**	**86.69**	**290**	T	T	20 44 25.0	
	baz=101,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**86.69**	**290**	T	T	20 44 24.1	
	baz=101,slow=75,SNR=17						
CMAR	**Chiang Mai Arr**	**150.50**	**292**	PKPbc	PKPbc	19 14 46.5	0.0
	0.3nm,0.3s,baz=67,slow=3.0,SNR=4.5						

*NEIC **27** 19:01:22.9±1.5, 19˚.371N±0˚.008×155˚.804W±0˚.006, h10km±1km, Error ellipse: s-maj=2.4km s-min=1.5km az=63.0*

HVO 27 19:01:22.9±1.8, 19˚.363N±0˚.010×155˚.83W±0˚.02, h12km±2km, ML2.7/39, ML2.8/42(NEIC), Error ellipse: s-maj=2.2km s-min=1.3km az=65.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPH	**Captain Cook**	**0.15**	**327**		Pg	19 01 26.5	+0.1
KHU	**Kahuku**	**0.24**	**119**		Pg	19 01 28.0	0.0
KHU					Sg	19 01 31.8	+0.3
ALEP	**Alea Permanent**	**0.25**	**45**		Pg	19 01 28.7	+0.3
ALEP					Sg	19 01 32.7	+0.7
MWH	**Mokuaweoweo**	**0.25**	**61**		Pg	19 01 28.4	-0.1
MWH					Sg	19 01 32.6	+0.4
MWH	**Mokuaweoweo**	**0.25**	**61**	IAML		19 01 33.0	
	comp=N,4μm,0.3s						
MWH				IAML		19 01 36.5	
	comp=E,3μm,0.5s						
HUH	**Hualalai**	**0.32**	**360**		Pg	19 01 30.1	+0.6
HUH				Sg	Sg	19 01 33.7	-0.2
HUH				IAML		19 01 37.2	
	comp=E,1μm,0.3s						
HUH				IAML		19 01 38.6	
	comp=N,1μm,0.2s						
KKH	**Kailua Kona**	**0.34**	**329**		Pg	19 01 29.6	-0.1
KKH	**Kailua Kona**	**0.34**	**329**		Sg	19 01 34.9	+0.5
AIN	**Ainahou**	**0.35**	**88**		Pg	19 01 29.8	-0.3
AIN	**Ainahou**	**0.35**	**88**		Sg	19 01 34.6	-0.3
AIN				IAML		19 01 35.2	
	comp=E,2μm,0.3s						
AIN				IAML		19 01 35.6	
	comp=N,2μm,0.1s						
HMH	**Humu'ula Sheep**	**0.41**	**54**		Pg	19 01 30.6	-0.4
HMH					Sg	19 01 36.6	0.0
HTC	**Hot Caves**	**0.43**	**107**		Pg	19 01 31.0	-0.4
MLH	**Mauna Loa**	**0.44**	**73**		Pg	19 01 31.2	-0.5
MLH	**Mauna Loa**	**0.44**	**73**		Sg	19 01 37.3	-0.3
MLH				IAML		19 01 44.9	
	comp=N,783nm,0.3s						
MLH				IAML		19 01 45.3	
	comp=E,736nm,0.4s						
POHA	**Pohakuloa**	**0.48**	**36**		Pg	19 01 31.8	-0.7
POHA	**Pohakuloa**	**0.48**	**36**	IAML		19 01 45.3	
	comp=E,519nm,0.5s						
POHA				IAML		19 01 46.1	
	comp=E,525nm,0.6s						
HLP	**Hilina Pali**	**0.50**	**98**		Pg	19 01 32.1	-0.6
HLP				IAML		19 01 47.8	
	comp=E,1μm,0.5s						
HLP				IAML		19 01 50.1	
	comp=N,689nm,0.4s						
HLP	**Hilina Pali**	**0.50**	**98**		Sg	19 01 38.9	-0.5
WRMHI	**West Rim**	**0.51**	**85**		Pg	19 01 31.8	-1.0
SDHHI	**Sand Hill**	**0.51**	**87**		Pg	19 01 31.9	-1.0
SDHHI					Sg	19 01 39.0	-0.7
UWE	**Uwekahuna**	**0.51**	**83**		Pg	19 01 32.0	-1.0
OBL	**Observatory Le**	**0.52**	**84**		Pg	19 01 32.0	-1.1
OBL					Sg	19 01 38.9	-1.2
UWB	**Uwekahuna Bluf**	**0.53**	**83**		Pg	19 01 32.0	-1.2
UWB					Sg	19 01 39.3	-1.0
RIM	**Rim**	**0.53**	**86**		Pg	19 01 32.1	-1.1
RIM					Sg	19 01 39.2	-1.1
RSD	**Rainshed**	**0.53**	**79**		Sg	19 01 40.1	-0.4
KKO	**Keanakako'i**	**0.54**	**86**		Pg	19 01 32.2	-1.2
KKO					Sg	19 01 39.6	-0.9
SBLHI	**Steaming Bluff**	**0.54**	**83**		Pg	19 01 32.0	-1.4
SBLHI					Sg	19 01 39.5	-1.1
BYL	**Byron's Ledge**	**0.54**	**85**		Pg	19 01 32.3	-1.2
BYL					Sg	19 01 40.0	-0.8
BYL	**Byron's Ledge**	**0.54**	**85**	IAML		19 01 46.0	
	comp=N,585nm,3.1s						
BYL				IAML		19 01 48.9	
	comp=E,908nm,0.7s						
HATHI	**Halema'uma'u T**	**0.54**	**84**		Pg	19 01 32.1	-1.4
HATHI					Sg	19 01 39.4	-1.4
HATHI	**Halema'uma'u T**	**0.54**	**84**	IAML		19 01 46.4	
	comp=N,598nm,0.4s						
HATHI				IAML		19 01 47.5	
	comp=E,798nm,0.8s						
PUH	**Pauahi**	**0.58**	**89**		Pg	19 01 32.7	-1.6
PUH					Sg	19 01 40.9	-1.1
PUH	**Pauahi**	**0.58**	**89**	IAML		19 01 42.4	
	comp=E,534nm,0.3s						
PUH				IAML		19 01 43.5	
	comp=N,587nm,0.3s						
KNHH	**Kane Nui o Ham**	**0.63**	**88**		Pg	19 01 33.5	-1.6
STCH	**Steam Cracks**	**0.67**	**88**		Pg	19 01 33.8	-2.1
STCH					Sg	19 01 42.6	-2.1
HPAH	**Hawaii Prepara**	**0.68**	**11**		Pg	19 01 34.3	-1.7
HPAH					Sg	19 01 43.0	-2.0
HPAH	**Hawaii Prepara**	**0.68**	**11**	IAML		19 01 57.7	
	comp=E,292nm,0.6s						
NPOC	**North of Pu'u**	**0.68**	**87**		Pg	19 01 34.0	-2.2
JCUZ	**Jacuzzi**	**0.69**	**88**		Pg	19 01 34.8	-1.5
JCUZ					Sg	19 01 43.5	-2.0
JOKA	**Jonika Flow**	**0.79**	**85**		Pg	19 01 35.5	-2.6
JOKA					Sg	19 01 45.8	-2.6
MHA	**Mahukona**	**0.82**	**355**	Pg	Pg	19 01 36.2	-2.6

*IDC **27** 19:03:25.2±1.3,2˚.80S×139˚.39E, h0km, mb3.3/3, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=29.1km s-min=14.3km az=159.0*

*DJA **27** 19:03:26.8±0.7,3˚.S±4˚×13˚.9E±˚, h15km±6km, M3.5/4, MLv3.5/4*

ISC 27 19:03:28.1±0.8, 2˚.64S±0.07˚×139˚.46E±0.04, h27km, n11, σ1§46/16, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.71**	**87**	P	**Pn**	**19 03 43.5**	**+1.0**
GENI				S	**Sn**	**19 03 52.5**	**0.0**
SMPI	**Sarmi**	**0.98**	**311**	P	**Pn**	**19 03 44.2**	**-2.0**
JAY	**Jayapura**	**1.25**	**85**	Pg	**Pb**	**19 03 50.8**	**-0.4**
	9.0nm,0.3s,baz=246,slow=12,SNR=58						
JAY				Lg	Lg	19 04 08.1	
	24nm,0.3s,baz=144,slow=22,SNR=8.2						
JAY	**Jayapura**	**1.25**	**85**	P	**Pb**	**19 03 51.0**	**-0.2**
JAY				S	**Sb**	**19 04 07.6**	**+0.7**
WAMI	**Wamena**	**1.45**	**211**	P	**Pb**	**19 03 55.9**	**+1.5**
WAMI				S	**Sb**	**19 04 11.9**	**-0.5**
SRPI	**Serui, Papua**	**3.30**	**283**	P	**Pn**	**19 04 17.9**	**-0.2**
SRPI				S	**Sn**	**19 04 56.2**	**-0.3**
BAKI	**Biak**	**3.64**	**293**	P	**Pn**	**19 04 25.0**	**+2.2**
BAKI				S	**Sn**	**19 05 05.9**	**+1.0**
WRA	**Warramunga Arr**	**17.91**	**196**	P	**Pn**	**19 07 32.4**	**-3.1**
	0.2nm,0.3s,baz=15,slow=13,SNR=13						
	0.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.48**	**220**	P	**P**	**19 08 03.6**	**-0.5**
	4.3nm,1.1s,baz=54,slow=14,SNR=1.6						
	4.3nm,1.1s						
ASAR	**Alice Springs**	**21.59**	**194**	P	**P**	**19 08 15.2**	**-0.8**
	0.3nm,0.5s,baz=22,slow=9.6,SNR=27						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**70.19**	**322**	P	**P**	**19 14 40.4**	**+1.8**
	0.2nm,0.5s,baz=131,slow=6.6,SNR=2.9						
	0.2nm,0.5s						

*JMA **27** 19:08:41.5±0.1,31˚.0N±0˚.3×131˚.7E±0˚.6, h44km±1km, MV3.2/40, SE OFF OSUMI PEN*

*IDC **27** 19:08:43.9±2.5,31˚.05N×131˚.15E, h56km±26km, mb3.4/3, mbtmp3.6/5, ML2.8/2, MS2.8/1, Error ellipse: s-maj=51.2km s-min=9.7km az=100.0*

ISC 27 19:08:42.1±1.5, 31˚.03N±0˚.05×131˚.6E±0˚.1, h44km±15km, n25, σ0§82/26, mb3.7/3, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.58**	**329**	*i* P	**Pn**	**19 08 53.6**	**-0.4**
JNAR				S	**Sn**	**19 09 02.8**	**+0.2**
JTSR	**Tashiro 2**	**0.61**	**283**	*i* P	**Pn**	**19 08 54.0**	**-0.5**
JTN	**Tanegashima 3**	**0.66**	**236**	*i* P	**Pn**	**19 08 55.1**	**0.0**
JNKG	**Nichinankitago**	**0.67**	**342**	*i* P	**Pn**	**19 08 54.7**	**-0.5**
JNKG				S	**Sn**	**19 09 04.8**	**+0.3**
JMTN	**Minamitane**	**0.88**	**225**	*i* P	**Pn**	**19 08 58.2**	**+0.1**
JTZ	**Takazaki**	**0.98**	**333**	*i* P	**Pn**	**19 08 59.3**	**-0.1**
JTZ				S	**Sn**	**19 09 12.8**	**+0.6**
JSU	**Suzuyama**	**1.10**	**296**	*i* P	**Pn**	**19 09 01.2**	**+0.1**
JTSN	**Tsuno**	**1.22**	**356**	P	**Pn**	**19 09 02.4**	**-0.3**
JTSN				S	**Sn**	**19 09 17.9**	**-0.1**
JYAK	**Yakushimahirau**	**1.24**	**231**	*i* P	**Pn**	**19 09 03.4**	**+0.5**
JYAK				*e*S	**Sn**	**19 09 19.6**	**+1.2**
JKC	**Kuchinoerabu**	**1.35**	**246**	*i* P	**Pn**	**19 09 04.6**	**+0.2**
JKC				*e*S	**Sn**	**19 09 21.7**	**+0.6**
JZO	**Okuchi**	**1.41**	**322**	*i* P	**Pn**	**19 09 05.4**	**+0.1**
JIU3	**Izumi3**	**1.66**	**336**	P	**Pn**	**19 09 08.9**	**+0.1**
JSJ	**Shimokoshiki**	**1.75**	**292**	*i* P	**Pn**	**19 09 09.2**	**-0.7**
JNU	**Nakatsue**	**2.18**	**343**	P	**Pn**	**19 09 16.2**	**+0.3**
	1.7nm,0.3s,baz=151,slow=3.4,SNR=32						
JNU				S	**Sn**	**19 09 41.7**	**0.0**
	31nm,0.4s,baz=181,slow=18,SNR=7.4						
	4.2nm,0.2s						
JOW

ATGJ	**Altiaghaj**	**0.64**	**125**	P		**Pn**	19 17 37.1	0.0
ATGJ				S		**Sn**	19 17 47.5	+1.3
SEKA	**Sheki**	**0.79**	**269**	P		**Pn**	19 17 38.8	-0.5
SEKA				S		**Sb**	19 17 53.0	+2.6
SEKA	**Sheki**	**0.79**	**269**	PG		**Pn**	19 17 38.8	-0.5
DRN	**Derbent**	**0.81**	**4**	*c*	*i* PG	**Pn**	19 17 39.0	-0.4
DRN					*e*S	**Sn**	19 17 51.1	+0.9
DRN					pmax	pmax		
	comp=Z,921nm,0.2s							
DRN					smax	smax		
	comp=Z,1.0nm,0.3s							
DRN	**Derbent**	**0.81**	**4**	*i*	Pg	**Pn**	19 17 39.1	-0.4
DRN					*e*Sg	**Sn**	19 17 51.1	+0.9
KDMR	**Kurdemir**	**0.85**	**183**	P		**Pn**	19 17 40.0	0.0
KDMR				S		**Sb**	19 17 54.3	+2.5
GBS	**Qobustan**	**0.87**	**142**	P		**Pn**	19 17 41.5	+1.1
GBS				S		**Sb**	19 17 55.5	+3.1
MNGR	**Mingechevir, A**	**0.99**	**243**	P		**Pn**	19 17 42.9	+1.0
MNGR				S		**Sb**	19 17 57.5	+1.6
MNGR	**Mingechevir, A**	**0.99**	**243**	PG		**Pn**	19 17 42.9	+1.0
ZRD	**Zardab**	**1.04**	**205**	P		**Pn**	19 17 43.0	+0.4
ZRD				S		**Sb**	19 17 59.1	+2.0
URKR	**Urkarakh**	**1.05**	**334**	*e*PG		**Pn**	19 17 43.1	+0.3
URKR				*e*S		**Sb**	19 17 58.6	+1.0
URKR				pmax	pmax			
	comp=Z,250nm,0.5s							
URKR	**Urkarakh**	**1.05**	**334**	*e*Pg		**Pn**	19 17 43.2	+0.3
URKR				*e*Sg		**Sn**	19 17 57.7	+1.2
KMKR	**Kumukh**	**1.25**	**317**	⇑	*i* PN	**Pn**	19 17 46.5	+0.8
KMKR				pmax	pmax			
	comp=Z,121nm,0.4s							
KMKR	**Kumukh**	**1.25**	**317**	*e*Pg		**Pn**	19 17 46.6	+0.8
KMKR				*e*Sg		**Sb**	19 18 04.4	+1.0
BRDA	**Brd**	**1.26**	**221**	P		**Pn**	19 17 45.1	-0.5
BRDA				S		**Sb**	19 18 04.0	+0.5
ZKTA	**Zakatala**	**1.29**	**289**	P		**Pn**	19 17 46.8	+0.7
ZKTA				S		**Sb**	19 18 06.4	+1.9
SGKR	**Sergokala**	**1.31**	**341**	*e*PG		**Pn**	19 17 47.1	+0.7
SGKR				*e*S		**Sb**	19 18 05.7	+0.7
SGKR				pmax	pmax			
	comp=Z,444nm,0.2s							
SGKR	**Sergokala**	**1.31**	**341**	*e*Pg		**Pn**	19 17 47.1	+0.7
SGKR				*e*Sg		**Sn**	19 18 05.0	+2.3
SAAT	**Saatly**	**1.37**	**174**	Pn		**Pn**	19 17 47.2	+0.1
SAAT				Sn		**Sn**	19 18 06.0	+1.9
ALIB	**&Aumlli-Bayram**	**1.39**	**155**	Pn		**Pn**	19 17 48.9	+1.4
ALIB				Sn		**Sb**	19 18 08.8	+1.6
GOBA	**Gobu**	**1.40**	**126**	Pn		**Pn**	19 17 49.4	+1.8
GOBA				Sg		**Sb**	19 18 09.7	+2.3
VSHL	**Vashlovani**	**1.40**	**271**	P		**Pn**	19 17 48.5	+1.0
VSHL				S		**Sb**	19 18 08.7	+1.3
VSHL	**Vashlovani**	**1.40**	**271**	*e*Pg		**Pn**	19 17 48.5	+1.0
VSHL				*e*Sg		**Sb**	19 18 08.7	+1.3
AGDM	**Agdam**	**1.41**	**218**	Pn		**Pn**	19 17 47.5	-0.3
AGDM				Sn		**Sn**	19 18 07.2	+1.9
NDR	**Nardaran**	**1.47**	**115**	Pn		**Pn**	19 17 49.8	+1.3
NDR				Sn		**Sn**	19 18 06.6	0.0
GANJ	**Ganja**	**1.57**	**249**	Sn		**Pn**	19 17 49.6	-0.4
GANJ				Sn		**Sn**	19 18 11.0	+1.9
GANJ	**Ganja**	**1.57**	**249**	PN		**Pn**	19 17 49.5	-0.4
BLQ	**Beylaqan**	**1.59**	**200**	Pn		**Pn**	19 17 49.6	-0.7
BLQ				Sn		**Sn**	19 18 10.5	+0.9
ARKR	**Arakani**	**1.67**	**326**	⇑	*i* PN	**Pn**	19 17 52.8	+1.5
ARKR				pmax	pmax			
	comp=Z,48nm,0.4s							
TLTR	**Tlyarata**	**1.67**	**302**	*e*PN		**Pn**	19 17 52.7	+1.2
TLTR	**Tlyarata**	**1.67**	**302**	*e*Pg		**Pn**	19 17 52.7	+1.2
TLTR				*e*Sg		**Sb**	19 18 15.7	+0.3
BUJR	**Buynaksk**	**1.81**	**332**	PN		**Pn**	19 17 54.2	+0.9
BUJR	**Buynaksk**	**1.81**	**332**	*e*Pg		**Pn**	19 17 54.3	+1.0
BUJR				*e*Sg		**Sn**	19 18 17.4	+2.3
MAK	**Makhachkala**	**1.82**	**343**	⇓	*i* PN	**Pn**	19 17 55.5	+2.1
MAK				pmax	pmax			
	comp=Z,120nm,0.3s							
UNCR	**Uncukul**	**1.84**	**324**	*e*PN		**Pn**	19 17 55.6	+1.9
UNCR				*e*S		**Sb**	19 18 20.6	+0.4
UNCR				pmax	pmax			
	comp=Z,44nm,0.3s							
UNCR	**Uncukul**	**1.84**	**324**	*e*Pg		**Pn**	19 17 55.6	+1.9
UNCR				*e*Pg		Pb	19 18 19.6	+22
QRD	**Qoradiz**	**1.90**	**202**	Pn		**Pn**	19 17 53.6	-0.8
QRD				Sn		**Sn**	19 18 17.1	-0.1
GDB	**GEDABAY**	**1.96**	**256**	Pn		**Pn**	19 17 54.6	-0.8
GDB				Sn		**Sn**	19 18 21.4	+2.6
GLBA	**Clilabad**	**1.98**	**177**	Pn		**Pn**	19 17 55.2	-0.4
GLBA				Sn		**Sn**	19 18 21.1	+1.8
BTLR	**Botlikh**	**2.09**	**314**	PN		**Pn**	19 17 59.1	+2.0
BTLR				S		**Sb**	19 18 27.0	-0.2
BTLR	**Botlikh**	**2.09**	**314**	*e*Pg		**Pn**	19 17 59.1	+2.0
BTLR				*e*Sg		**Sb**	19 18 26.3	-0.9
DGRG	**David-gareji**	**2.18**	**277**	P		**Pn**	19 17 58.9	+0.6
DGRG				S		**Sb**	19 18 29.1	-0.7
DGRG	**David-gareji**	**2.18**	**277**	*e*PN		**Pn**	19 17 58.9	+0.6
DGRG	**David-gareji**	**2.18**	**277**	*e*Pg		**Pn**	19 17 58.9	+0.6
DGRG				*e*Sg		**Sb**	19 18 29.1	-0.7
QZX	**Qazax, Azerbai**	**2.18**	**267**	Pn		**Pn**	19 17 58.4	0.0
QZX				Sn		**Sb**	19 18 29.7	-0.2
DLMR	**Dylym**	**2.20**	**327**	PN		**Pn**	19 18 00.0	+1.4
DLMR				S		**Sb**	19 18 29.8	-0.7
DLMR	**Dylym**	**2.20**	**327**	*e*Pg		**Pn**	19 18 00.0	+1.4
DLMR				*e*Sg		**Sn**	19 18 28.6	+3.9
YRD	**Yardimli**	**2.31**	**180**	Pn		**Pn**	19 17 59.1	-1.2
YRD				Sn		**Sn**	19 18 28.1	+0.5
LKRN	**Lenkeran, Azer**	**2.54**	**171**	Pn		**Pn**	19 18 03.6	+0.3
LKRN				Sn		**Sn**	19 18 35.5	+2.4
LKRN	**Lenkeran, Azer**	**2.54**	**171**	PN		**Pn**	19 18 03.6	+0.3
LRK	**Lerik**	**2.58**	**178**	Pn		**Pn**	19 18 02.9	-1.1
LRK				Sn		**Sn**	19 18 34.3	0.0
TBLG	**Delisi**	**2.69**	**282**	P		**Pn**	19 18 05.9	+0.6
TBLG				S		**Sn**	19 18 37.9	+1.2
TBLG	**Delisi**	**2.69**	**282**	*e*PN		**Pn**	19 18 05.9	+0.6
TBLG	**Delisi**	**2.69**	**282**	*e*Pn		**Pn**	19 18 05.9	+0.6
TBLG				*e*Sn		**Sn**	19 18 37.9	+1.2
GROC	**Groznyy**	**2.69**	**318**	PN		**Pn**	19 18 06.1	+0.8
GROC				S		**Sn**	19 18 40.9	+4.2
GROC	**Groznyy**	**2.69**	**318**	*e*Pn		**Pn**	19 18 06.2	+0.8
GROC				*e*Sn		**Sn**	19 18 41.0	+4.2
ASTR	**Astara**	**2.69**	**171**	Pn		**Pn**	19 18 06.3	+1.0
ASTR				Sn		**Sn**	19 18 38.1	+1.2
SHTL	**Shatili**	**2.72**	**303**	P		**Pn**	19 18 07.9	+2.1
SHTL				S		**Sb**	19 18 50.7	+5.3
SHTL	**Shatili**	**2.72**	**303**	*e*PN		**Pn**	19 18 07.9	+2.1
SHTL				*e*S		**Sb**	19 18 50.6	+5.3
SHTL	**Shatili**	**2.72**	**303**	*e*Pn		**Pn**	19 18 07.9	+2.1
SBZ	**Shahbuz**	**2.75**	**229**	Pn		**Pn**	19 18 07.8	+1.4
SBZ				Sn		**Sn**	19 18 42.6	+4.1
ORD	**Ordubad**	**2.87**	**218**	Pn		**Pn**	19 18 08.3	+0.3
ORD				Sn		**Sn**	19 18 42.3	+0.9
GNI	**Garni**	**2.88**	**249**	Pn		**Pn**	19 18 10.1	+2.1
	comp=Z,3.0nm,0.3s,baz=77,slow=5.7,SNR=9.3							
GNI				Sn		**Sb**	19 18 48.9	-1.0
	comp=Z,4.0nm,0.3s,baz=352,slow=22,SNR=4.7							
GNI				Lg		Lg	19 18 56.8	
	comp=Z,7.1nm,0.3s,baz=0.8,slow=21,SNR=6.2							
	comp=Z,5.8nm,0.4s							
GNI	**Garni**	**2.88**	**249**	⇑	*e*PN	**Pn**	19 18 10.7	+2.7
GNI				pmax	pmax			
	comp=Z,22nm,0.9s							
GNI	**Garni**	**2.88**	**249**	*e*Pn		**Pn**	19 18 10.6	+2.5
GNI				*e*Sn		**Sn**	19 18 44.0	+2.4
NAX	**Nakhchivan**	**2.94**	**227**	Pg		**Pb**	19 18 14.8	-1.4
NAX				Sg		**Sb**	19 18 58.7	+7.0
NAX	**Nakhchivan**	**2.94**	**227**	PN		**Pn**	19 18 10.2	+1.3
TRLG	**Trialeti**	**3.14**	**277**	P		**Pn**	19 18 10.9	-0.7
TRLG				S		**Sn**	19 18 48.3	+0.3
TRLG	**Trialeti**	**3.14**	**277**	*e*PN		**Pn**	19 18 10.9	-0.7
TRLG	**Trialeti**	**3.14**	**277**	*e*Pn		**Pn**	19 18 10.9	-0.7
TRLG				*e*Sn		**Sn**	19 18 48.3	+0.3
LACR	**Lac**	**3.35**	**300**	*e*Pn		**Pn**	19 18 16.1	+1.6
LACR				*e*Sn		**Sn**	19 18 55.7	+2.4
KORR	**Kora**	**3.62**	**302**	*e*Pn		**Pn**	19 18 21.1	+2.9
KORR				*e*Sn		**Sn**	19 19 02.0	+2.2
GARIG	**Gari**	**3.82**	**293**	P		**Pn**	19 18 23.3	+2.3
NEUR	**Neytrino**	**4.59**	**298**	*e*Pn		**Pn**	19 18 32.6	+1.0
NEUR				*e*Sn		**Sn**	19 19 26.0	+2.0
KBZ	**Khabaz**	**4.68**	**304**	Pn		**Pn**	19 18 35.6	+3.0
	comp=Z,0.1nm,0.3s,baz=304,slow=7.4,SNR=2.1							
KBZ				Sn		**Sn**	19 19 33.5	+7.6
	comp=Z,0.4nm,0.3s,baz=352,slow=13,SNR=3.6							
KBZ				Lg		Lg	19 19 52.5	
	comp=Z,0.6nm,0.3s,baz=244,slow=22,SNR=3.7							
	comp=Z,0.6nm,0.6s							
KBZ	**Khabaz**	**4.68**	**304**	*e*Pn		**Pn**	19 18 32.7	0.0
KBZ				*e*Sn		**Sn**	19 19 24.7	-1.1
SHA1	**Shidzhatmaz**	**4.84**	**303**	*e*Pn		**Pn**	19 18 35.3	+0.2
SHA1				*e*Sn		**Sn**	19 19 29.2	-0.8
KVAR	**Kislovodsk Arr**	**4.92**	**305**	Pn		**Pn**	19 18 39.1	+3.0
	baz=137,slow=19							
KVAR				Sn		**Sn**	19 19 27.9	-4.1
	baz=345,slow=7.5							
	comp=Z,4.5nm,0.9s							
BELG	**Belogornoye**	**11.18**	**358**	Pn		Pn	19 19 57.8	-4.0
	comp=Z,1.0nm,0.3s,baz=213,slow=17,SNR=2.1							
BELG				Sn		Sn	19 21 56.6	-8.8
	comp=Z,0.4nm,0.3s,baz=129,slow=17,SNR=1.4							
	comp=Z,3.8nm,0.4s							
AKTO	**Aktyubinsk**	**11.45**	**33**	Pn		Pn	19 19 58.8	-6.6
	comp=Z,0.3nm,0.3s,baz=222,slow=11,SNR=3.1							
AKTO				Sn		Sn	19 22 00.5	-12
	comp=Z,0.6nm,0.3s,baz=15,slow=20,SNR=8.5							
	comp=Z,0.7nm,0.3s							
OBN	**Obninsk**	**15.90**	**335**	*e*P		**Pn**	19 21 07.2	+1.8
OBN				pmax	pmax			
	comp=Z,4.0nm,0.7s							
OBN				MLR	MLR			
	comp=Z,56nm,5.0s							
ARTI	**Arti**	**16.55**	**20**	Pn		Pn	19 21 06.1	-7.6
	comp=Z,0.3nm,0.3s,baz=200,slow=12,SNR=3.5							
	comp=Z,1.0nm,0.4s							
BVAR	**Borovoye Array**	**19.05**	**44**	P		**P**	19 21 38.3	-5.3
	comp=Z,0.1nm,0.3s,baz=243,slow=11,SNR=2.0							
FINES	**FINESS Array B**	**24.30**	**334**	P		**P**	19 22 35.3	-3.2
	comp=Z,1.3nm,0.3s,baz=134,slow=10.0,SNR=26							
	comp=Z,1.3nm,0.3s							
HFS	**Hagfors**	**28.44**	**323**	P		**P**	19 23 12.5	-3.3
	comp=Z,1.1nm,0.9s,baz=118,slow=10,SNR=5.7							
	comp=Z,1.1nm,0.9s							
ARCES	**ARCESS Array B**	**30.77**	**345**	P		P	19 23 32.6	-3.7
	comp=Z,0.6nm,0.6s,baz=147,slow=8.6,SNR=5.0							
	comp=Z,0.6nm,0.6s							

SDD ***27*** *19:17:21.6±1.6, 19°.01N×67°.92W, h30km±11km, MD2.7, ML2.1, MW3.0*
RSPR ***27*** *19:17:26.5, 19°.08N×67°.26W, h49km±9km, MD3.0/9*

ISC 27 19:17:25.1±3.2, 19°.1N±0°.2×67°.27W±0°.08, h27km, n25, σ0.9 86/27, 10C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.64**	**167**	⇑	*e*P	**Pb**	**19 17 37.3**	**-0.5**
AGPR	**Aguadilla, PR**	**0.64**	**167**	*e*S		**Sb**	**19 17 46.6**	**+0.2**
AGPR	**Aguadilla, PR**	**0.64**	**167**	*e*Pg		**Pb**	**19 17 37.0**	**-0.7**
AGPR				IAML			19 17 46.6	
	comp=N,114nm,0.2s							
AGPR				IAML			19 17 48.4	
	comp=E,93nm,0.1s							
IDE	**Isla Desecheo**	**0.73**	**196**	⇑	*e*P	**Pb**	**19 17 39.5**	**+0.2**
IDE	**Isla Desecheo**	**0.73**	**196**	*e*S		**Sb**	**19 17 50.4**	**+1.5**
IDE	**Isla Desecheo**	**0.73**	**196**	*e*S		**Sn**	**19 17 50.9**	**+0.9**
AOPR	**Arecibo Observ**	**0.89**	**147**	⇑	*e*P	**Pn**	**19 17 40.9**	**-1.0**
AOPR	**Arecibo Observ**	**0.89**	**147**	*i*	P	**Pb**	**19 17 41.8**	**-0.2**
AOPR				IAML			19 18 03.7	
	comp=N,53nm,0.2s							
EMPR	**Esperanza - Ma**	**0.93**	**131**	⇑	*e*P	**Pb**	**19 17 43.5**	**+0.8**
EMPR	**Esperanza - Ma**	**0.93**	**131**	*e*S		**Sn**	**19 17 55.3**	**+0.5**
LSP	**Las Mesas**	**0.93**	**169**	⇑	*e*P	**Pn**	**19 17 41.9**	**-0.6**
LSP	**Las Mesas**	**0.93**	**169**	*e*S		**Sn**	**19 17 53.3**	**-1.6**
UUPR	**Utuado, UPR, P**	**0.98**	**148**	*e*S		**Sn**	**19 17 55.7**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.09**	**172**	⇑	*e*P	**Pn**	**19 17 44.2**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.09**	**172**	*e*S		**Sn**	**19 17 58.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.09**	**172**	⇓	*e*Pg	**Pn**	**19 17 44.1**	**-0.6**
CRPR				⇓	*e*Sg	**Sn**	**19 17 59.2**	**+0.3**
CRPR				IAML			19 18 02.1	
	comp=E,31nm,0.3s							
CRPR				IAML			19 18 05.4	
	comp=N,48nm,0.2s							
MLPR	**Magueyes Islan**	**1.14**	**169**	⇑	*e*P	**Pn**	**19 17 44.9**	**-0.4**
MLPR	**Magueyes Islan**	**1.14**	**169**	*e*S		**Sn**	**19 17 59.5**	**-0.5**
MLPR	**Magueyes Islan**	**1.14**	**169**	⇓	*e*Pg	**Pn**	**19 17 44.8**	**-0.5**
MLPR				IAML			19 17 59.7	
	comp=N,7.7nm,0.7s							
MLPR				*e*Sg		**Sn**	**19 17 59.9**	**-0.2**
MLPR				IAML			19 18 06.2	
	comp=E,10nm,0.5s							
PCDR	**Punta Cana, DR**	**1.20**	**241**	*i*	P	Pn	19 17 33.2	-13
CELP	**Cerrillos**	**1.21**	**147**	⇑	*e*P	**Pn**	**19 17 45.8**	**-0.5**
CELP	**Cerrillos**	**1.21**	**147**	*e*S		**Sn**	**19 18 00.7**	**-1.0**
CELP	**Cerrillos**	**1.21**	**147**	*i*	P	**Pn**	**19 17 46.3**	**+0.1**
CELP				IAML			19 18 02.1	
	comp=E,23nm,0.3s							
CELP				*i*	S	**Sb**	**19 18 04.7**	**+2.1**
CELP				IAML			19 18 08.8	
	comp=N,28nm,0.5s							
OBIP	**Obispado Ponce**	**1.22**	**149**	⇑	*e*P	**Pn**	**19 17 46.0**	**-0.4**
OBIP	**Obispado Ponce**	**1.22**	**149**	*e*S		**Sn**	**19 18 00.9**	**-1.1**

IDC ***27*** *19:21:11.5±1.7, 4°.35N×127°.01E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=111.8km s-min=21.0km az=70.0*
DJA ***27*** *19:21:16.6±1.0, 4°N±6°×12°7E±°, h21km±2km, M3.4/4, MLv3.4/4*

ISC 27 19:21:17.6±1.4, 4°.2N±0°.2×126°.7E±0°.1, h35km, n7, σ1.9 50/8, mb3.5/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**1.25**	**244**	P		**Pn**	**19 21 38.6**	**+0.1**
SGSI				S		**Sn**	**19 21 52.4**	**-1.7**
MRSI	**Marisa**	**6.01**	**232**	P		**Pn**	**19 22 46.3**	**+2.3**
MRSI				S			19 22 44.4	
FITZ	**Fitzroy Crossi**	**22.22**	**183**	P		**P**	**19 26 11.8**	**+0.5**
	2.6nm,0.9s,baz=5.7,slow=10,SNR=2.5							
	2.6nm,0.9s							
WRA	**Warramunga Arr**	**25.19**	**163**	P		**P**	**19 26 38.8**	**-1.2**
	0.7nm,0.6s,baz=343,slow=10,SNR=7.7							
	0.7nm,0.6s							
ASAR	**Alice Springs**	**28.62**	**166**	P		**P**	**19 27 09.9**	**-1.1**
	0.2nm,0.4s,baz=343,slow=7.8,SNR=5.9							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**57.09**	**325**	P		**P**	**19 31 01.0**	**+0.5**
	0.2nm,0.4s,baz=112,slow=8.9,SNR=3.8							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**61.27**	**327**	P		**P**	**19 31 29.0**	**-0.3**
	0.5nm,0.2s,baz=112,slow=5.9,SNR=5.5							
	0.5nm,0.2s							

NEIC ***27*** *19:28:30.3±1.2, 19°.23N±0°.04×67°.31W±0°.02, h10km±1km, ML2.5/13, Md2.8/18(RSPR), Error ellipse: s-maj=6.5km s-min=2.9km az=21.0*
SDD ***27*** *19:28:32.0±1.3, 19°.29N×67°.18W, h20km±92km, MD3.5, ML2.5, MW3.0*
OSPL ***27*** *19:28:34.0±0.3, 19°.05N×67°.56W, h11km±15km, ML2.3*
RSPR ***27*** *19:28:34.0, 19°.25N×67°.36W, h24km±38km, MD2.8/18*

ISC 27 19:28:30.2±1.4, 19°.25N±0°.06×67°.26W±0°.03, h9km±10km, n63, σ0.9 72/74, 5C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.79**	**169**			**Pn**	**19 28 47.1**	**-0.5**
AGPR						**Sb**	**19 28 57.0**	**0.0**
AGPR	**Aguadilla, PR**	**0.79**	**169**	⇑	*i* P	**Pn**	**19 28 47.1**	**-0.5**
AGPR	**Aguadilla, PR**	**0.79**	**169**	*e*S		**Sb**	**19 28 57.0**	**0.0**
AGPR	**Aguadilla, PR**	**0.79**	**169**	*e*Pg		**Pn**	**19 28 46.9**	**-0.7**
AGPR				*e*Sg		**Sb**	**19 28 56.6**	**-0.5**
AGPR				IAML			19 29 00.0	
	comp=N,200nm,0.2s							
AGPR				IAML			19 29 01.0	
	comp=E,155nm,0.2s							
AGPR	**Aguadilla, PR**	**0.79**	**169**	*i*	P	**Pn**	**19 28 46.9**	**-0.7**
AGPR				*e*S		**Sb**	**19 28 56.4**	**-0.7**
AGPR				IAML			19 28 58.8	
	comp=Z,133nm,0.3s							
IDE	**Isla Desecheo**	**0.88**	**193**			**Pn**	**19 28 48.3**	**-0.6**
IDE						**Sb**	**19 28 59.8**	**+0.2**
IDE	**Isla Desecheo**	**0.88**	**193**	⇓	*i* P	**Pn**	**19 28 48.3**	**-0.6**
IDE	**Isla Desecheo**	**0.88**	**193**	*e*S		**Sb**	**19 28 59.8**	**+0.2**
AOPR	**Arecibo Observ**	**1.02**	**152**			**Pb**	**19 28 50.1**	**0.0**
AOPR	**Arecibo Observ**	**1.02**	**152**	⇓	*i* P	**Pn**	**19 28 50.4**	**-0.3**
AOPR	**Arecibo Observ**	**1.02**	**152**	*e*Pg		**Pn**	**19 28 50.3**	**-0.5**
AOPR				IAML			19 29 08.2	
	comp=N,186nm,0.5s							
PRSN	**Puerto Rico Se**	**1.03**	**174**			**Pn**	**19 28 50.5**	**-0.5**

EMPR	**Esperanza - Ma**	**1.04**	**138**			**Sn**	**19 29 07.6**	**+2.0**
EMPR	**Esperanza - Ma**	**1.04**	**138**	Pn		**Pn**	**19 28 51.0**	**0.0**
EMPR	**Esperanza - Ma**	**1.04**	**138**	⇓	*e*P	**Pn**	**19 28 53.2**	**+2.2**
EMPR	**Esperanza - Ma**	**1.04**	**138**	*e*S		**Sn**	**19 29 07.6**	**+2.0**
LSP	**Las Mesas**	**1.08**	**171**			**Pn**	**19 28 51.4**	**-0.2**
LSP						**Sn**	**19 29 07.2**	**+0.4**
LSP	**Las Mesas**	**1.08**	**171**	⇑	*e*P	**Pn**	**19 28 51.4**	**-0.2**
LSP	**Las Mesas**	**1.08**	**171**	*e*S		**Sn**	**19 29 07.2**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.12**	**153**			**Sg**	**19 29 06.0**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.12**	**153**	Pn		**Pb**	**19 28 51.6**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.12**	**153**	⇓	*e*P	**Pn**	**19 28 52.2**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.12**	**153**	*e*S		**Sg**	**19 29 06.0**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.25**	**173**			**Pn**	**19 28 53.2**	**-0.6**
CRPR				IAML			19 29 11.0	
	comp=E,82nm,0.3s							
CRPR				IAML			19 29 20.3	
	comp=N,77nm,0.8s							
CRPR	**Cabo Rojo, PR**	**1.25**	**173**			**Sb**	**19 29 10.1**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.25**	**173**	⇓	*i* P	**Pg**	**19 28 54.6**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.25**	**173**	*e*S		**Sb**	**19 29 10.1**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.25**	**173**	*e*Pg		**Pn**	**19 28 53.4**	**-0.4**
CRPR				*e*Sg		**Sg**	**19 29 10.4**	**+0.1**
CRPR				IAML			19 29 10.9	
	comp=E,95nm,0.3s							
CRPR				IAML			19 29 14.5	
	comp=N,74nm,0.3s							
CRPR	**Cabo Rojo, PR**	**1.25**	**173**	*i*	P	**Pb**	**19 28 53.7**	**-0.3**
CRPR				IAML			19 29 10.8	
	comp=Z,71nm,0.3s							
ECPR	**Experimental S**	**1.26**	**137**	⇓	*i* P	**Pg**	**19 28 55.7**	**+1.3**
ECPR	**Experimental S**	**1.26**	**137**	*e*S		**Sn**	**19 29 11.3**	**+0.1**
MLPR	**Magueyes Islan**	**1.29**	**171**	⇑	*i* P	**Pb**	**19 28 54.5**	**-0.2**
MLPR	**Magueyes Islan**	**1.29**	**171**	*e*S		**Sb**	**19 29 10.8**	**-0.6**
GBPR	**Guanica, Bosqu**	**1.32**	**164**			**Pg**	**19 28 56.9**	**+1.3**
GBPR	**Guanica, Bosqu**	**1.32**	**164**	⇓	*e*P	**Pg**	**19 28 56.9**	**+1.3**
CELP	**Cerrillos**	**1.34**	**151**			**Pb**	**19 28 55.0**	**-0.5**
CELP						**Sb**	**19 29 12.2**	**-0.6**
CELP				IAML			19 29 15.0	
	comp=N,81nm,0.3s							
CELP				IAML			19 29 15.9	
	comp=E,66nm,0.3s							
CELP	**Cerrillos**	**1.34**	**151**	⇓	*i* P	**Pb**	**19 28 55.3**	**-0.2**
CELP	**Cerrillos**	**1.34**	**151**	*e*S		**Sb**	**19 29 12.7**	**-0.1**
CELP	**Cerrillos**	**1.34**	**151**	*e*Pg		**Pb**	**19 28 55.3**	**-0.2**
CELP				*e*Sg		**Sg**	**19 29 12.8**	**-0.5**
CELP				IAML			19 29 14.9	
	comp=N,81nm,0.3s							
CELP				IAML			19 29 15.9	
	comp=E,65nm,0.2s							
OBIP	**Obispado Ponce**	**1.35**	**152**			**Pb**	**19 28 55.5**	**-0.3**
OBIP	**Obispado Ponce**	**1.35**	**152**			**Sb**	**19 29 12.7**	**-0.5**
OBIP	**Obispado Ponce**

CMAR	**Chiang Mai Arr**	**150.41**	**285**	PKPbc	PKPbc	19 59	08.2	0.0
	0.5nm,0.7s,baz=72,slow=1.9,SNR=6.1							

IDC 27 19:40:34.5±2.1, 5°16S×152°57E, h0km, mb3.7/4, mbtmp3.7/5, ML1.7/1, MS2.8/1, Error ellipse: s-maj=116.8km s-min=27.4km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.83**	**232**	Pn	Pn	19 42 15.1	-0.8
	0.8nm,0.3s,baz=47,slow=22,SNR=2.0						
PMG				Sn	Sn	19 43 29.4	-5.1
	3.8nm,0.3s,baz=195,slow=15,SNR=7.4						
PMG				LR	LR	19 44 35.1	
	comp=Z,79nm,20.0s,baz=281,slow=35 12nm,1.0s						
WRA	**Warramunga Arr**	**23.04**	**229**	P	P	19 45 41.5	-0.1
	0.5nm,0.5s,baz=54,slow=10.0,SNR=13 0.5nm,0.5s						
ASAR	**Alice Springs**	**25.73**	**223**	P	P	19 46 07.5	+0.5
	0.7nm,0.7s,baz=61,slow=8.6,SNR=13 0.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**29.29**	**242**	P	P	19 46 38.4	-0.5
	2.4nm,0.9s,baz=52,slow=10,SNR=2.3 2.4nm,0.9s						
ILAR	**Eielson Array**	**82.57**	**22**	P	P	19 52 59.2	+0.1
	0.4nm,0.6s,baz=256,slow=5.6,SNR=4.2 0.4nm,0.6s						

NNC 27 19:43:06.9±0.8, 44°.78N×78°.15E, h0km, mb2.5, mpv2.5, Error ellipse: s-maj=5.5km s-min=2.8km az=177.0
SOME 27 19:43:07.5, 44°.77N×78°.17E, h10km
ISC 27 19:43:06.9±1.2, 44°80N±0°03×78°12E±0°03, h3km±10km, n28, σ0°90/49, 3C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDK	**Taldyqorghan**	**0.29**	**45**	*e*P	**Pg**	**19 43 12.1**	**-0.5**
	13nm,0.1s						
TDK				*e*S	**Sg**	**19 43 15.7**	**-0.7**
	140nm,0.1s						
ARXS	**Arharly**	**0.62**	**200**	P	**Pg**	**19 43 19.1**	**+0.3**
	3.7nm,0.2s						
ARXS				S	**Sg**	**19 43 27.7**	**+0.9**
	6.1nm,0.1s						
ARXS	**Arharly**	**0.62**	**200**	*e*P	**Pg**	**19 43 19.1**	**+0.3**
ARXS				*e*S	**Sg**	**19 43 27.7**	**+0.9**
KNOS	**Konyrlen**	**0.88**	**120**	P	**Pg**	**19 43 22.7**	**-1.1**
	1.4nm,0.3s						
KNOS				S	**Sg**	**19 43 33.8**	**-1.3**
	2.2nm,0.3s						
CHKK	**Chushkaly**	**1.24**	**221**	P	**Pg**	**19 43 30.2**	**-0.6**
	15nm,0.4s						
CHKK				S	**Sg**	**19 43 46.9**	**+0.1**
	7.6nm,0.3s						
CHKK	**Chushkaly**	**1.24**	**221**	*e*P	**Pg**	**19 43 30.2**	**-0.6**
	3.5nm,0.1s						
CHKK				*e*S	**Sg**	**19 43 46.9**	**+0.1**
	7.9nm,0.1s						
KURS	**Kuram**	**1.31**	**178**	P	**Pg**	**19 43 31.7**	**-0.3**
	1.1nm,0.4s						
KURS				S	**Sn**	**19 43 49.2**	**-0.9**
	1.6nm,0.4s						
KPKS	**Kokpek**	**1.39**	**163**	P	**Pn**	**19 43 32.8**	**-0.5**
	0.2nm,0.3s						
KPKS				S	**Sn**	**19 43 51.4**	**-0.9**
	4.6nm,0.4s						
KTBS	**Karatobe**	**1.50**	**224**	P	**Pn**	**19 43 34.8**	**+0.1**
	0.9nm,0.2s						
KTBS				S	**Sn**	**19 43 54.8**	**0.0**
	6.5nm,0.2s						
KUU	**Kurty**	**1.56**	**235**	P	**Pn**	**19 43 35.5**	**-0.1**
	6.3nm,0.1s						
KUU				S	**Sn**	**19 43 56.0**	**-0.3**
	35nm,0.3s						
KUU	**Kurty**	**1.56**	**235**	*e*P	**Pn**	**19 43 35.5**	**-0.1**
	6.3nm,0.1s						
KUU				*e*S	**Sn**	**19 43 56.0**	**-0.3**
	35nm,0.3s						
KOTS	**Kotyrbulak**	**1.72**	**205**	P	**Pb**	**19 43 39.0**	**-0.3**
	1.9nm,0.4s						
KOTS				S	**Sg**	**19 44 01.8**	**-0.5**
	6.1nm,0.3s						
KOTS	**Kotyrbulak**	**1.72**	**205**	*e*P	**Pb**	**19 43 39.0**	**-0.3**
	1.9nm,0.4s						
KOTS				*e*S	**Sg**	**19 44 01.8**	**-0.5**
	6.1nm,0.3s						
SATY	**Saty**	**1.75**	**173**	P	**Pb**	**19 43 39.2**	**-0.5**
	2.7nm,0.2s						
SATY				S	**Sg**	**19 44 02.5**	**-0.6**
	6.5nm,0.2s						
PDGK	**Podgornoye**	**1.77**	**145**	⇑P	**Pb**	**19 43 39.6**	**-0.5**
	0.2nm,0.2s						
PDGK				⇓S	**Sn**	**19 44 01.0**	**-0.6**
	5.0nm,0.4s						
UZB	**Uzynbulak**	**1.77**	**158**	P	**Pb**	**19 43 39.5**	**-0.6**
	3.3nm,0.3s						
UZB				S	**Sg**	**19 44 03.1**	**-0.8**
	3.7nm,0.4s						
UZB	**Uzynbulak**	**1.77**	**158**	*e*P	**Pb**	**19 43 39.5**	**-0.6**
	3.3nm,0.3s						
UZB				*e*S	**Sg**	**19 44 03.1**	**-0.8**
	3.7nm,0.4s						
MDOK	**Medeo**	**1.81**	**206**	Pg	**Pb**	**19 43 40.4**	**-0.3**
	0.5nm,0.3s						
MDOK				Lg	Lg	19 44 04.4	
	4.3nm,0.6s						
SHLS	**Shalkode**	**1.91**	**149**	Pg	**Pg**	**19 43 44.7**	**+1.2**
	1.5nm,0.3s						
SHLS				Lg	Lg	19 44 11.9	
	7.2nm,0.3s						
SHLS	**Shalkode**	**1.91**	**149**	*e*P	**Pg**	**19 43 44.7**	**+1.2**
	1.4nm,0.1s						
SHLS				*e*S	**Sg**	**19 44 11.9**	**+3.8**
	16nm,0.3s						
TNSS	**Tian-Shan**	**1.95**	**206**	Pg	**Pb**	**19 43 43.5**	**+0.2**
	0.4nm,0.2s						
TNSS				Lg	Lg	19 44 09.5	
	1.8nm,0.7s						
TNSS	**Tian-Shan**	**1.95**	**206**	*e*P	**Pb**	**19 43 43.5**	**+0.2**
	0.2nm,0.0s						
TNSS				*e*S	**Sg**	**19 44 09.5**	**-0.1**
	1.6nm,0.1s						
MTBS	**Maitube**	**2.06**	**217**	Pg	**Pb**	**19 43 45.2**	**+0.1**
	1.2nm,0.1s						
MTBS				Lg	Lg	19 44 12.4	
	6.2nm,0.4s						
MTBS	**Maitube**	**2.06**	**217**	*e*P	**Pb**	**19 43 45.2**	**+0.1**
	0.6nm,0.1s						
MTBS				*e*S	**Sg**	**19 44 12.4**	**-0.8**
	12nm,0.2s						
KRBS	**Karabastau**	**2.07**	**239**	Pg	**Pb**	**19 43 44.3**	**-0.9**
	1.1nm,0.3s						
KRBS				Lg	Lg	19 44 11.1	
	2.8nm,0.4s						
KST	**Kastek**	**2.34**	**222**	Pg	**Pb**	**19 43 50.0**	**+0.1**
	0.8nm,0.4s						
KST				Lg	Lg	19 44 20.8	
	3.6nm,0.6s						
KST	**Kastek**	**2.34**	**222**	*e*P	**Pb**	**19 43 50.0**	**+0.1**
	0.5nm,0.1s						
KST				*e*S	**Sb**	**19 44 20.8**	**+1.6**
	4.1nm,0.3s						
MK31	**Makanchi Array**	**3.54**	**54**	⇑Pg	**Pb**	**19 44 11.9**	**+1.7**
	0.1nm,0.3s,baz=229,slow=18,SNR=6.0			⇑Lg	Lg	19 44 54.7	
MK31	0.3nm,0.4s,baz=235,slow=30,SNR=4.3						

GCG 27 19:47:26.8±0.4, 14°.19N×91°.18W, h76km±9km, MD3.6, ML3.4, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.39**	**60**	*i* P	Pn	19 47 39.4	0.0
ESSG				*i* S	Sn	19 47 48.9	+0.2
ESSG				IAML		19 47 50.6	
	comp=E,587nm,0.2s						
FG8	**Yepocapa, Chim**	**0.61**	**83**	*i* P	Pn	19 47 39.4	-1.9
FG8				*i* S	Sn	19 47 49.3	-2.8
FG16	**Alotenango, Sa**	**0.66**	**83**	*i* P	Pn	19 47 40.2	-1.7
FG16				*i* S	Sn	19 47 51.4	-1.8
FG16				IAML		19 47 54.9	
	comp=N,5μm,0.4s						
SOKI	**Kika Raxquin**	**0.66**	**341**	*i* P	Pn	19 47 43.2	+0.9
SOKI				*i* S	Sn	19 47 55.8	+2.2
SOKI				IAML		19 47 59.7	
	comp=N,497nm,0.7s						
NUBE	**Las Nubes**	**1.39**	**102**	*i* P	Pn	19 47 51.3	+0.6
NUBE				*i* S	Sn	19 48 08.8	+0.1

AEIC 27 19:50:04.2±1.1, 53°.40N±0°.05×166°.68W±0°.07, h26km±5km, Error ellipse: s-maj=9.2km s-min=3.1km az=144.0
NEIC 27 19:50:05.1±1.0, 53°.5N±0°.1×166°.8W±0°.1, h36km±17km, ML2.8/10, ML2.6(AEIC), Error ellipse: s-maj=19.4km s-min=3.8km az=149.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGOD	**Makushin Gods**	**0.33**	**348**		Pn	19 50 13.6	+0.1
MGOD					Sn	19 50 20.4	+0.3
MREP	**Makushin Rep't**	**0.33**	**2**		Pn	19 50 13.7	+0.2
MAPS	**Pakushin South**	**0.35**	**342**		Pn	19 50 14.2	+0.6
UNV	**Unalaska Valle**	**0.40**	**22**		Pn	19 50 13.3	-0.8
UNV	**Unalaska Valle**	**0.40**	**22**		Sn	19 50 20.9	+0.1
MNAT	**Makushin Natee**	**0.41**	**6**		Pn	19 50 14.5	+0.1
MSW	**Makushin Switc**	**0.44**	**358**		Pn	19 50 15.2	+0.5
MSW					Sn	19 50 23.6	+1.9
OKFG	**Magazine Ridge**	**0.69**	**265**		Pn	19 50 17.9	-0.5
AKMO	**Akutan Morgan**	**0.76**	**36**		Pn	19 50 19.3	0.0
AKMO					Sn	19 50 30.0	+0.4
OKTU	**Okmok Mt. Tuli**	**0.77**	**264**		Pn	19 50 19.3	-0.2
ZRO	**Akutan Zero**	**0.77**	**37**		Pn	19 50 18.9	-0.6
ZRO					Sn	19 50 29.9	0.0
AKRB	**Akutan Reef Bi**	**0.77**	**32**		Pn	19 50 19.6	+0.1
AKRB					Sn	19 50 30.6	+0.7
AKBBA	**Akutan Broad B**	**0.79**	**38**		Pn	19 50 19.2	-0.6
AKV	**Akutan Volcano**	**0.81**	**36**		Pn	19 50 20.0	0.0
AKV					Sn	19 50 31.4	+0.6
LVA	**Lava Point**	**0.81**	**32**		Pn	19 50 19.7	-0.3
LVA				IAML		19 50 34.5	
	comp=E,329nm,0.2s						
LVA				IAML		19 50 34.7	
	comp=N,461nm,0.3s						
LVA	**Lava Point**	**0.81**	**32**		Sn	19 50 31.9	+1.1
OKNC	**Okmok New Cone**	**0.81**	**269**		Pn	19 50 20.3	+0.2
OKNC					Sn	19 50 32.4	+1.4
AKLV	**Akutan Long Va**	**0.84**	**34**		Pn	19 50 20.3	-0.1
OKCE	**Okmok Cone E**	**0.84**	**267**		Pn	19 50 20.7	+0.2
AHB	**Akutan Harbor**	**0.85**	**41**		Pn	19 50 19.5	-1.1
AKGG	**Akutan Green G**	**0.85**	**32**		Pn	19 50 20.8	+0.1
AKUT	**Akutan**	**0.88**	**41**	Pn	Pn	19 50 19.8	-1.1
AKUT				IAML		19 50 36.1	
	comp=E,182nm,0.1s						
AKUT				IAML		19 50 36.8	
	comp=N,197nm,0.4s						
OKWE	**Okmok W'ng Wal**	**0.88**	**270**		Pn	19 50 21.2	+0.2
AKSA	**Akutan Strait**	**0.91**	**43**		Pn	19 50 21.0	-0.4
OKSP	**Okmok Steeple**	**0.94**	**257**		Pn	19 50 21.1	-0.8
NIKH	**Nikolski High**	**1.36**	**249**		Pn	19 50 26.5	-0.9
NIKH	**Nikolski High**	**1.36**	**249**	IAML		19 50 43.7	
	comp=E,231nm,0.8s						
NIKH				IAML		19 50 53.4	
	comp=N,206nm,0.7s						
SSLN	**Shishaldin Nor**	**2.11**	**49**		Pn	19 50 38.2	+0.3
FALS	**False Pass**	**2.40**	**54**	Pn	Pn	19 50 39.5	-2.4
SDPT	**Sand Point**	**4.12**	**60**	Pn	Pn	19 51 05.3	-0.2

NEIC 27 20:06:49.3±1.0, 43°.72N±0°.05×105°.39W±0°.06, h0km±1km, ML3.4/82, Error ellipse: s-maj=8.5km s-min=6.9km az=155.0
IDC 27 20:06:49.0±2.8, 43°.56N×105°.34W, h0km, mb3.9/4, mbtmp3.9/6, ML3.5/2, Error ellipse: s-maj=82.8km s-min=9.2km az=152.0
ISC 27 20:06:49.9±0.8, 43°.74N±0°.05×105°33W±0°.05, h0km, n70, σ0°79/70, mb3.9/4, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**67**		**Pg**	**20 07 09.9**	**+0.7**
K22A	**Casper**	**1.40**	**219**		**Pg**	**20 07 16.9**	**+0.3**
K22A				IAML		20 07 42.6	
	378nm,0.3s						
K22A				IAML		20 07 44.0	
	448nm,0.3s						
LAO	**LASA Array**	**3.02**	**348**		**Pn**	**20 07 39.8**	**+0.8**
LAO				IAML		20 08 30.9	
	189nm,0.7s						
RLMT	**Red Lodge**	**3.14**	**297**		**Pn**	**20 07 40.9**	**0.0**
BW06	**Boulder Array**	**3.24**	**254**		**Pn**	**20 07 42.6**	**+0.4**
PD31	**Pinedale Array**	**3.24**	**254**		**Pn**	**20 07 41.6**	**-0.6**
PDAR	**Pinedale Array**	**3.24**	**254**		**Pn**	**20 07 43.6**	**+1.4**
PDAR	**Pinedale Array**	**3.24**	**254**	Pn	**Pn**	**20 07 44.0**	**+1.7**
PDAR	3.4nm,0.3s,baz=69,slow=16,SNR=75			Lg	Lg	20 08 28.6	
	7.5nm,0.3s,baz=66,slow=32,SNR=2.3 6.7nm,0.3s						
HAYD	**Hayden**	**3.52**	**205**		**Pn**	**20 07 46.9**	**+0.8**
HAYD				IAML		20 08 47.0	
	comp=N,39nm,0.7s						
HAYD				IAML		20 09 15.1	
	comp=E,40nm,1.0s						
YNE	**Yellowstone No**	**3.59**	**292**		**Pn**	**20 07 47.5**	**+0.5**
YNE				IAML		20 08 46.6	
	comp=N,47nm,1.1s						
YNE				IAML		20 08 48.5	
	comp=E,60nm,0.4s						
YMP	**Mirror Lake Pl**	**3.61**	**288**		**Pn**	**20 07 47.5**	**+0.1**
YMP				IAML		20 08 47.8	
	comp=E,106nm,0.7s						
YMP				IAML		20 08 52.0	
	comp=N,94nm,0.6s						
OGNE	**Ogallala**	**3.71**	**138**		**Pn**	**20 07 49.4**	**+0.9**
OGNE				IAML		20 09 09.8	
	comp=N,98nm,1.0s						
GCMT	**Greycliff**	**3.71**	**305**	Pn	**Pn**	**20 07 48.9**	**+0.3**
LKWY	**Lake**	**3.74**	**284**	Pn	**Pn**	**20 07 49.6**	**+0.5**
LKWY				IAML		20 09 02.3	
	comp=N,46nm,1.1s						
LOHW	**Long Hollow**	**3.83**	**270**		**Pn**	**20 07 51.1**	**+0.8**
H17A	**Grant Village**	**3.84**	**282**		**Pn**	**20 07 51.4**	**+1.0**
H17A				IAML		20 08 56.1	
	comp=N,32nm,0.8s						
ISCO	**Idaho Springs**	**3.94**	**183**		**Pn**	**20 07 53.1**	**+1.2**
SNOW	**Snow King Moun**	**3.95**	**268**		**Pn**	**20 07 52.8**	**+0.7**
SNOW				IAML		20 09 16.5	
	comp=N,38nm,0.9s						
SNOW				IAML		20 09 19.3	
	comp=N,42nm,1.1s						
YNR	**Norris Junctio**	**3.97**	**286**		**Pn**	**20 07 51.7**	**-0.5**
YPP	**Pitchstone Pla**	**3.99**	**280**		**Pn**	**20 07 53.1**	**+0.6**
YNM	**Yellowstone No**	**3.99**	**286**	Pn	**Pn**	**20 07 53.0**	**+0.5**
TPAW	**Teton Pass**	**4.09**	**268**		**Pn**	**20 07 54.5**	**+0.5**
TPAW				IAML		20 09 30.1	
	comp=N,34nm,1.2s						
YHH	**Holmes Hill**	**4.11**	**287**		**Pn**	**20 07 55.0**	**+0.9**
YMR	**Madison River**	**4.16**	**285**		**Pn**	**20 07 55.6**	**+0.7**
YMR				IAML		20 09 29.5	
	comp=E,58nm,1.1s						
YMR				IAML		20 09 29.6	
	comp=N,44nm,0.9s						
O20A	**White River Ci**	**4.21**	**212**		**Pn**	**20 07 55.4**	**-0.1**
O20A				IAML		20 09 08.5	
	comp=N,45nm,0.7s						
O20A				IAML		20 09 12.3	
	comp=N,43nm,0.9s						
K30B	**Basset**	**4.31**	**102**		**Pn**	**20 07 57.5**	**+0.7**
E28A	**Huff**	**4.33**	**48**		**Pn**	**20 07 58.4**	**+1.4**
YHB	**Horse Butte**	**4.34**	**286**	Pn	**Pn**	**20 07 57.5**	**+0.2**
YHL	**Hebgen Lake**	**4.35**	**287**		**Pn**	**20 07 58.4**	**+0.9**
YHL				IAML		20 09 18.7	
	comp=E,34nm,1.1s						
YHL				IAML		20 09 32.4	
	comp=N,33nm,1.1s						
RDMU	**Red Mountain**	**4.47**	**226**		**Pn**	**20 07 59.8**	**+0.7**
RDMU				IAML		20 09 14.1	
	comp=N,20nm,0.9s						
RDMU				IAML		20 09 19.3	
	comp=E,38nm,1.2s						
QLMT	**Earthquake Lak**	**4.52**	**286**		**Pn**	**20 08 00.3**	**+0.6**
SUSD	**Miller**	**4.64**	**79**		**Pn**	**20 08 02.8**	**+1.6**
DGMT	**Dagmar**	**4.80**	**9**		**Pn**	**20 08 05.3**	**+1.9**
BOZ	**Bozeman (W)**	**4.87**	**295**		**Pn**	**20 08 04.8**	**+0.3**
BOZ				IAML		20 09 24.5	
	comp=E,17nm,1.3s						
HWUT	**Hardware Ranch**	**5.07**	**247**		**Pn**	**20 08 08.2**	**+0.9**
HWUT				IAML		20 09 41.3	
	comp=E,27nm,0.7s						
HWUT				IAML		20 09 44.9	
	comp=E,22nm,1.2s						
KSCO	**Kaye Shedlock'**	**5.14**	**156**		**Pn**	**20 08 09.3**	**+1.1**
BSUT	**Blindstream Ca**	**5.15**	**233**		**Pn**	**20 08 09.2**	**+0.5**
BSUT				IAML		20 09 46.9	
	comp=E,16nm,3.6s						
BSUT				IAML		20 09 52.2	
	comp=N,13nm,1.5s						
TCUT	**Toone Canyon**	**5.21**	**242**		**Pn**	**20 08 11.2**	**+1.9**
DLMT	**Dillon**	**5.44**	**290**	Pn	**Pn**	**20 08 11.8**	**-0.6**
HRY	**Holter Researc**	**5.47**	**305**		**Pn**	**20 08 12.2**	**-0.5**
LRM	**Limekiln Ridge**	**5.48**	**295**		**Pn**	**20 08 13.7**	**+0.6**
MCMT	**McKenzie Canyo**	**5.51**	**284**		**Pn**	**20 08 13.3**	**-0.1**
P18A	**Preston Nutter**	**5.52**	**224**		**Pn**	**20 08 13.4**	**-0.1**
MDND	**Maddock**	**5.74**	**42**		**Pn**	**20 08 16.2**	**-0.1**
PV22	**Blue Mesa, Par**	**5.82**	**208**		**Pn**	**20 08 17.1**	**-0.6**
PV07	**Paradox Valley**	**5.86**	**206**		**Pn**	**20 08 17.4**	**-0.8**
PV21	**Cone Mtn., Par**	**5.86**	**209**	Pn	**Pn**	**20 08 18.5**	**+0.2**
LYMT	**Lyon Mountain**	**5.87**	**306**		**Pn**	**20 08 19.1**	**+0.7**
P17A	**Butcher Ranch,**	**5.88**	**225**	Pn	**Pn**	**20 08 19.0**	**+0.5**
PV15	**Paradox Valley**	**5.89**	**205**		**Pn**	**20 08 19.1**	**+0.4**
PV23	**Carpenter Ridg**	**5.97**	**209**		**Pn**	**20 08 19.7**	**-0.1**
SRU	**San Rafael Swe**	**6.05**	**222**		**Pn**	**20 08 20.7**	**-0.1**
PV20	**West Nyswonger**	**6.05**	**208**		**Pn**	**20 08 21.2**	**+0.4**
PV11	**David Mesa, Pa**	**6.06**	**207**		**Pn**	**20 08 20.6**	**-0.3**
PV16	**Nyswonger Mesa**	**6.06**	**208**		**Pn**	**20 08 20.6**	**-0.3**
PV03	**Paradox Valley**	**6.09**	**207**		**Pn**	**20 08 21.5**	**+0.1**
PV02	**Paradox Valley**	**6.10**	**206**		**Pn**	**20 08 19.9**	**-1.6**
PV01	**Paradox Valley**	**6.11**	**205**		**Pn**	**20 08 21.5**	**-0.2**
PV18	**Skein Mesa, Pa**	**6.12**	**207**		**Pn**	**20 08 22.1**	**+0.4**
PV13	**Radium Mtn., P**	**6.17**	**207**		**Pn**	**20 08 22.4**	**-0.1**
TMUT	**Trail Mountain**	**6.26**	**227**		**Pn**	**20 08 23.5**	**-0.3**
ECSD	**EROS Data Cent**	**6.31**	**87**		**Pn**	**20 08 23.7**	**-0.5**
PV05	**Paradox Valley**	**6.33**	**208**		**Pn**	**20 08 22.9**	**-1.8**
HMU	**Henry Mountain**	**7.10**	**217**		**Pn**	**20 08 35.8**	**+0.5**
CCUT	**Cedar City**	**8.69**	**227**		**Pn**	**20 08 57.2**	**+0.1**
ULM	**Lac du Bonnet**	**9.17**	**41**	Pn	**Pn**	**20 09 02.6**	**-0.7**
	comp=N,1.8nm,0.3s,baz=227,slow=11,SNR=11						
ULM				Lg	Lg	20 11 35.1	
	comp=N,0.3nm,0.3s,baz=123,slow=19,SNR=2.3 comp=N,3.6nm,0.3s						
ARCES	**ARCESS Array B**	**61.43**	**18**	P	**P**	**20 17 06.5**	**-1.0**
	comp=N,2.6nm,1.0s,baz=322,slow=5.7,SNR=1.9 comp=N,2.6nm,1.0s						
FINES	**FINESS Array B**	**68.05**	**23**	P	**P**	**20 17 50.6**	**0.0**
	comp=N,0.5nm,0.7s,baz=317,slow=13,SNR=1.4 comp=N,0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**82.30**	**354**	P	**P**	**20 19 12.6**	**-0.3**
	comp=N,0.4nm,0.5s,baz=12,slow=8.0,SNR=3.5 comp=N,0.4nm,0.5s						
MKAR	**Makanchi Array**	**89.60**	**355**	P	**P**	**20 19 49.7**	**+0.4**
	comp=N,0.4nm,0.6s,baz=10,slow=4.4,SNR=5.0 comp=N,0.4nm,0.6s						

NEIC 27 20:26:35.1±0.9, 37°.58N±0°.01×118°.87W±0°.02, h7km±1km, Error ellipse: s-maj=2.2km s-min=1.5km az=139.0
NCEDC 27 20:26:35.3±0.8, 37°.58N±0°.01×118°.86W±0°.02, h5km±2km, Md3.0/51, ML2.3/84(NEIC), Error ellipse: s-maj=2.2km s-min=1.5km az=141.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCVM	**Convict Lake**	**0.03**	**69**		Pg	20 26 36.8	+0.1
MLCM	**Laurel Creek C**	**0.05**	**309**		Pg	20 26 37.1	+0.2
MLAC	**Mammoth, Mammo**	**0.06**	**23**		Pg	20 26 37.2	+0.3
MGPM	**Gravel Pit**	**0.06**	**327**		Pg	20 26 37.3	+0.3
MDRNC	**Doe Ridge**	**0.06**	**21**		Pg	20 26 37.4	+0.4
MCBM	**Casa Benchmark**	**0.07**	**338**		Pg	20 26 37.5	+0.3
MCSM	**Casa Diablo Ho**	**0.08**	**336**		Pg	20 26 37.7	+0.3
MEMM	**East Mammoth H**	**0.11**	**325**		Pg	20 26 38.1	+0.4
MLHM	**Little Hot Cre**	**0.11**	**21**		Pg	20 26 38.2	+0.5
MMLB	**Mammoth Lakes**	**0.12**	**311**		Pg	20 26 38.4	+0.4
MMPM	**Mammoth Pass**	**0.13**	**283**		Pg	20 26 38.4	+0.2
MLIM	**Lincoln Peak**	**0.14**	**295**		Pg	20 26 38.7	+0.4
MLIM					Sg	20 26 41.0	+0.8
MDYM	**Dry Creek**	**0.14**	**304**		Pg	20 26 38.8	+0.4
MRDM	**Red Cones**	**0.16**	**277**		Pg	20 26 38.8	+0.2
MINS	**Minaret Summit**	**0.17**	**295**		Pg	20 26 39.1	+0.2
MINS					Sg	20 26 41.5	+0.3
MDPB	**Devils Postpil**	**0.18**	**287**		Pg	20 26 39.1	+0.2
MDPB	**Devils Postpil**	**0.18**	**287**		Sg	20 26 41.4	0.0
MDPB				IAML		20 26 42.0	
	comp=N,2μm,0.3s						
MDPB				IAML		20 26 42.1	
	comp=E,2μm,0.3s						
MDCM	**Deadman Creek**	**0.19**	**313**		Pg	20 26 39.4	+0.2
MRCM	**Red Rock Canyo**	**0.30**	**71**		Pg	20 26 41.4	+0.2
MTUM	**Tungsten Hills**	**0.33**	**133**		Pg	20 26 41.9	+0.2
MCDM	**Chidago Canyon**	**0.34**	**95**		Pg	20 26 42.3	+0.5
MFBM	**Five Bridges**	**0.38**	**113**		Pg	20 26 43.2	+0.5
KCC	**Kaiser Creek**	**0.44**	**235**		Pg	20 26 43.8	0.0
KCC					Sg	20 26 49.6	0.0
MMIM	**Miami Mountain**	**0.72**	**257**		Pg	20 26 48.9	-0.2
TIN	**Tinemaha, Big**	**0.73**	**136**		Pg	20 26 49.4	+0.1
TIN	**Tinemaha, Big**	**0.73**	**136**	IAML		20 27 00.5	
	comp=E,256nm,0.4s						
TIN				IAML		20 27 01.4	
	comp=N,218nm,0.2s						
LHV	**Little Huntoon**	**0.73**	**23**		Pg	20 26 49.5	+0.2
LHV					Sg	20 26 58.4	-0.4
LHV				IAML		20 27 01.0	
	comp=E,78nm,0.3s						
LHV				IAML		20 27 04.9	
	comp=N,100nm,0.4s						
DSP	**Deep Springs**	**0.74**	**106**		Pg	20 26 49.2	-0.3
FRI	**Friant**	**0.89**	**229**		Pg	20 26 51.9	-0.5
MHDM	**Hidden Dam**	**0.94**	**241**		Pg	20 26 53.0	-0.4
NVAR	**Mina Array Bea**	**0.96**	**27**		Pg	20 26 52.7	-1.0
MBUM	**Mount Bullion**	**0.96**	**269**		Pg	20 26 53.2	-0.6
NV11	**Mina Array Sit**	**1.02**	**33**		Pg	20 26 54.4	-0.4
BUCR	**Buckhorn Ranch**	**1.03**	**276**		Pg	20 26 54.2	-0.8
WAKR	**Walker**	**1.03**	**334

FURC				IAML		20 27 42.0	
	comp=N,24nm,0.3s						
WCT	**Wildcat Mounta**	**1.95**	**113**		Pn	20 27 09.1	-0.1
WCT				IAML		20 27 40.9	
	comp=N,25nm,0.5s						
WCT				IAML		20 27 40.9	
	comp=E,20nm,0.4s						
MTOS	**Mt Oso, Westle**	**1.96**	**269**		Pb	20 27 10.4	-1.1
CMPM	**Mikes Peak**	**1.96**	**264**		Pn	20 27 10.5	+1.1
BBGB	**Big Mountain B**	**2.01**	**241**		Pn	20 27 09.7	-0.3
CLC	**China Lake**	**2.03**	**150**		Pn	20 27 09.9	-0.3
PMPB	**Monarch Peak**	**2.06**	**229**		Pn	20 27 10.1	-0.6
SRTC	**Snort**	**2.09**	**154**		Pb	20 27 13.7	+0.1
CMMM	**Mount Mocho**	**2.10**	**267**		Pn	20 27 12.3	+1.2
PKD	**Bear Valley Ra**	**2.12**	**220**		Pn	20 27 10.4	-0.9
PKD				IAML		20 28 21.8	
	comp=N,29nm,4.9s						
PAHR	**Pah Rah Range**	**2.16**	**349**		Pn	20 27 11.4	-0.7
TPNV	**Topopah Spring**	**2.18**	**106**		Pn	20 27 11.7	-0.7
TPNV				IAML		20 27 50.5	
	comp=N,17nm,1.2s						
TPNV				IAML		20 27 51.4	
	comp=N,14nm,1.7s						
SAO	**San Andreas Ge**	**2.22**	**249**	Pn	Pn	20 27 11.4	-1.3
MHC	**Mount Hamilton**	**2.22**	**265**	Pn	Pn	20 27 09.9	-3.0
MHC				IAML		20 27 50.3	
	comp=N,24nm,2.4s						
MHC				IAML		20 28 34.2	
	comp=E,33nm,4.7s						
GWY	**Greenwater Val**	**2.24**	**128**		Pn	20 27 12.6	-0.7
GWY				IAML		20 27 54.2	
	comp=E,12nm,0.4s						
WSHM	**Spangler Hills**	**2.26**	**150**		Pn	20 27 11.9	-1.5
WSHM				IAML		20 28 20.8	
	comp=E,35nm,0.2s						
TEJ	**El Tejon**	**2.35**	**177**		Pb	20 27 17.5	-0.6
JPLM	**Pleasant Valle**	**2.44**	**257**		Pn	20 27 17.6	+1.8
BEKR	**Beckworth**	**2.57**	**333**		Pn	20 27 17.2	-0.6
BEKR				IAML		20 28 15.2	
	comp=E,7.5nm,2.2s						
R11B	**Troy Canyon, C**	**2.70**	**72**		Pn	20 27 17.8	-1.8
TPO	**Tropico Hills**	**2.74**	**169**		Pn	20 27 18.9	-1.2
TPO				IAML		20 28 03.3	
	comp=N,24nm,4.4s						
TPO				IAML		20 28 13.1	
	comp=E,19nm,1.4s						
ORV	**Oroville**	**2.86**	**314**		Pn	20 27 20.6	-1.0
ORV				IAML		20 28 06.0	
	comp=E,9.0nm,0.9s						
ORV				IAML		20 28 09.9	
	comp=N,12nm,0.1s						
MNRC	**McLaughlin Min**	**3.10**	**296**	Pn	Pn	20 27 23.6	-1.4
SHPR	**Sheep Range**	**3.15**	**109**	Pn	Pn	20 27 23.6	-2.2
SHPR				IAML		20 28 17.9	
	comp=N,3.8nm,4.9s						
SPR3	**Spring Creek 3**	**3.84**	**67**		Pn	20 27 32.7	-2.6
SPR3				IAML		20 29 16.8	
	comp=E,5.1nm,4.2s						
SPR3				IAML		20 29 43.0	
	comp=N,5.8nm,4.9s						

IDC 27 20:27:16.7±1.7, 7.47N×126.96E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=32.9km s-min=23.8km az=39.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.43**	**254**	Pn	Pn	20 27 43.5	-0.4
	39nm,0.3s,baz=65,slow=17,SNR=1.6						
DAV				Sn	Sn	20 28 05.3	+1.9
	49nm,0.3s,baz=122,slow=21,SNR=7.9						
FITZ	**Fitzroy Crossi**	**25.44**	**183**	P	P	20 32 44.7	-1.7
	0.9nm,0.5s,baz=4.3,slow=12,SNR=1.2						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**28.19**	**165**	P	P	20 33 11.1	-0.1
	0.4nm,0.9s,baz=348,slow=9.9,SNR=5.3						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**31.68**	**168**	P	P	20 33 43.8	+1.6
	0.1nm,0.3s,baz=347,slow=7.8,SNR=4.1						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**54.66**	**324**	P	P	20 36 47.5	-0.1
	0.5nm,0.8s,baz=117,slow=9.6,SNR=5.3						
	0.5nm,0.8s						

DJA 27 20:32:33.0±0.4, 4°S±5°×12°8E±°, h10km, M3.9/10, mb4.4/3, MLv3.6/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.18**	**258**	P	Pg	20 32 37.0	+0.2
AAI	**Ambon**	**0.18**	**258**	P	Pg	20 32 36.8	0.0
MSAI	**Masohi**	**0.63**	**62**	P	Pg	20 32 44.9	-0.4
MSAI	**Masohi**	**0.63**	**62**	P	Pg	20 32 45.0	-0.3
NLAI	**Namlea**	**1.33**	**288**	P	Pn	20 32 57.5	-0.2
NLAI	**Namlea**	**1.33**	**288**	P	Pn	20 32 57.8	+0.1
BNDI	**Bandanaira**	**1.76**	**120**	P	Pn	20 33 03.4	-0.2
SANI	**Sanana**	**2.86**	**304**	P	Pn	20 33 19.1	+0.4
SANI	**Sanana**	**2.86**	**304**	P	Pn	20 33 19.5	+0.8
SWI	**Sorong**	**4.00**	**46**	P	Pn	20 33 35.0	+0.6
SWI	**Sorong**	**4.00**	**46**	P	Pn	20 33 35.1	+0.7
APSI	**Ampana**	**7.25**	**292**	P	Pn	20 34 19.0	0.0
	0.1nm38nm,1.1s						
SGSI	**Sangihe**	**7.82**	**339**	P	Pn	20 34 26.6	-0.3

IDC 27 20:33:21.3±2.3, 3.74S×128.32E, h0km, mb3.7/2, mbtmp3.7/3, ML3.1/1, Error ellipse: s-maj=148.7km s-min=30.0km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.14**	**160**	P	Pn	20 37 22.6	+0.1
	0.1nm,0.3s,baz=339,slow=12,SNR=5.7						
	1.4nm,0.9s						
ASAR	**Alice Springs**	**20.53**	**165**	P	P	20 38 01.3	-0.2
	4.9nm,0.7s,baz=346,slow=10,SNR=22						
	4.9nm,0.7s						
MKAR	**Makanchi Array**	**64.60**	**327**	P	P	20 44 00.8	+0.1
	0.3nm,0.8s,baz=132,slow=4.3,SNR=2.6						
	0.3nm,0.8s						

IDC 27 20:40:54.1±0.7, 3.70S×128.62E, h0km, mb3.9/12, mbtmp3.9/15, ML3.7/3, MS3.3/2, Error ellipse: s-maj=32.6km s-min=14.5km az=75.0
NEIC 27 20:40:55.4±2.4, 3.75S±0.07×128.31E±0.09, h10km±1km, mb4.3/20, Error ellipse: s-maj=16.2km s-min=11.2km az=65.0
DJA 27 20:40:57.9±0.3, 4°S±4°×12°8E±°, h10km, M4.5/13, mB5.0/2, mb4.6/9, MLv4.4/13, Mw(mB)4.3/2
ISC 27 20:40:56.5±1.3, 3.72S±0.06×128.35E±0.04, h20km±6km, n64, σ1°58/58, mb4.1/16, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.16**	**283**	P	**Pg**	**20 41 00.6**	**-0.4**
MSAI	**Masohi**	**0.69**	**57**	P	**Pb**	**20 41 08.6**	**-1.3**
NLAI	**Namlea**	**1.33**	**291**	P	**Pb**	**20 41 20.8**	**-0.1**
BNDI	**Bandanaira**	**1.75**	**117**	P	**Pg**	**20 41 32.4**	**+2.3**
SANI	**Sanana**	**2.88**	**305**	P	**Pn**	**20 41 42.0**	**+0.7**
SANI				S	**Sn**	**20 42 17.0**	**+1.5**
SWI	**Sorong**	**4.07**	**46**	P	**Pn**	**20 41 59.2**	**+1.6**
TNTI	**Ternate**	**4.57**	**348**		**Pn**	**20 42 04.8**	**+0.2**
SAUI	**Saumlaki**	**5.15**	**145**	Pn	**Pn**	**20 42 12.7**	**+0.1**
KMPI	**Kaimana, Papua**	**5.35**	**90**	P	**Pn**	**20 42 16.5**	**+1.2**
LUWI	**Luwuk**	**6.17**	**295**		**Pn**	**20 42 27.0**	**+0.3**
LUWI	**Luwuk**	**6.17**	**295**	P	**Pn**	**20 42 29.7**	**+3.1**
	0.4nm928nm82nm,1.2s						
RKPI	**Ransiki, Papua**	**6.22**	**69**	P	**Pn**	**20 42 28.6**	**+1.3**
	1μm140nm,0.8s						
SOEI	**Soe**	**7.23**	**214**		**Pn**	**20 42 41.7**	**+0.3**
SOEI	**Soe**	**7.23**	**214**	P	**Pn**	**20 42 45.8**	**+4.5**
	0.2nm41nm,0.8s						
APSI	**Ampana**	**7.25**	**292**	P	Pn	20 42 48.1	+6.7
MRSI	**Marisa**	**7.64**	**303**	P	**Pn**	**20 42 48.7**	**+1.9**
	0.1nm33nm,0.8s						
BAKI	**Biak**	**8.15**	**72**	P	**Pn**	**20 42 55.8**	**+2.0**
KAPI	**Kappang**	**8.67**	**261**		**Pn**	**20 43 00.9**	**0.0**
KAPI	**Kappang**	**8.67**	**261**	Pn	Pn	20 43 06.7	+5.8
	1.7nm,0.3s,baz=95,slow=8.4,SNR=7.3						
	7.9nm,0.3s						
TOLI2	**Tolitoli**	**8.96**	**302**		**Pn**	**20 43 04.2**	**-0.6**
KNRA	**Kununurra**	**11.89**	**178**	Pn	**Pn**	**20 43 46.1**	**+1.1**
FITZ	**Fitzroy Crossi**	**14.53**	**190**	Pn	**Pn**	**20 44 20.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**14.53**	**190**	Pn	**Pn**	**20 44 21.5**	**+0.3**
	0.3nm,0.3s,baz=33,slow=7.1,SNR=6.3						
	3.6nm,0.8s						
KKM	**Kota Kinabalu**	**15.52**	**309**	Pn	**Pn**	**20 44 32.0**	**-2.5**
KKM				IAmb	IAmb	20 44 32.1	
	comp=Z,35nm,1.4s						
WB0	**Warramunga Arr**	**17.00**	**160**		**Pn**	**20 44 47.9**	**-5.4**
WB0				IAmb	IAmb	20 45 00.7	
	comp=Z,25nm,0.9s						
WRA	**Warramunga Arr**	**17.15**	**161**	P	**Pn**	**20 44 53.5**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=343,slow=11,SNR=17						
	comp=Z,6.8nm,1.0s						
WR8	**Warramunga Arr**	**17.22**	**160**		**Pn**	**20 44 54.7**	**-1.3**
WR8				IAmb	IAmb	20 45 01.5	
	comp=Z,27nm,1.2s						
COEN	**Coen**	**17.82**	**126**		**Pn**	**20 45 02.2**	**-1.3**
COEN				IAmb	IAmb	20 45 07.5	
	comp=Z,19nm,0.7s						
AS31	**Alice Springs**	**20.54**	**165**		Pn	20 45 36.0	-0.2
ASAR	**Alice Springs**	**20.54**	**165**		Pn	20 45 35.7	-0.6
ASAR	**Alice Springs**	**20.54**	**165**	P	Pn	20 45 35.5	-0.7
	comp=Z,55nm,0.8s,baz=347,slow=10,SNR=466						
RABL	**Rabaul**	**23.77**	**92**	P	**P**	**20 46 07.8**	**-0.2**
CTAO	**Charters Tower**	**23.86**	**134**	P	**P**	**20 46 08.7**	**-0.2**
CTAO				IAmb	IAmb	20 46 14.0	
	comp=Z,11nm,1.1s						
JOW	**Kunigami**	**30.37**	**360**	LR	LR	20 59 44.3	
	comp=Z,23nm,19.1s,baz=138,slow=37						
STKA	**Stephens Creek**	**30.65**	**158**	P	**P**	**20 47 09.6**	**-0.1**
STKA	**Stephens Creek**	**30.65**	**158**	P	**P**	**20 47 10.7**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=348,slow=11,SNR=3.9						
	comp=Z,2.3nm,0.8s						
EIDS	**Eidsvold**	**30.67**	**137**	P	**P**	**20 47 08.9**	**-1.0**
ARMA	**Armidale**	**34.48**	**143**	P	**P**	**20 47 44.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**36.40**	**308**	P	**P**	**20 48 02.1**	**+2.2**
	comp=Z,0.3nm,0.4s,baz=137,slow=7.5,SNR=5.7						
	comp=Z,0.3nm,0.4s						
KSRS	**Korea Array**	**40.97**	**359**	P	**P**	**20 48 39.9**	**+1.9**
	comp=Z,1.0nm,0.6s,baz=174,slow=9.2,SNR=6.5						
	comp=Z,1.0nm,0.6s						
MAJO	**Matsushiro**	**41.10**	**12**	P	**P**	**20 48 38.8**	**-0.4**
MJAR	**Matsushiro Arr**	**41.10**	**12**	P	**P**	**20 48 39.7**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=190,slow=9.3,SNR=5.4						
	comp=Z,1.1nm,0.6s						
MJB9	**Matsu-Tunnel**	**41.10**	**12**	P	**P**	**20 48 39.0**	**-0.1**
SONM	**Songino Array**	**54.83**	**342**	P	**P**	**20 50 27.1**	**+1.6**
	comp=Z,1.2nm,1.1s,baz=164,slow=6.0,SNR=5.7						
	comp=Z,1.2nm,1.1s						
MKAR	**Makanchi Array**	**64.60**	**327**	P	**P**	**20 51 32.1**	**-0.5**
MKAR	**Makanchi Array**	**64.60**	**327**	P	**P**	**20 51 33.9**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=114,slow=7.3,SNR=11						
	comp=Z,1.0nm,0.6s						
MAKZ	**Makanchi**	**64.78**	**327**	P	**P**	**20 51 33.6**	**-0.2**
MAKZ				IAmb	IAmb	20 52 05.1	
	comp=Z,2.1nm,1.1s						
KBL	**Kabul**	**67.41**	**310**	P	**P**	**20 51 49.6**	**-1.6**
KBL				IAmb	IAmb	20 52 10.6	
	comp=Z,2.1nm,1.2s						
ZAA0	**Zalesovo Array**	**67.93**	**334**	P	**P**	**20 51 53.1**	**-0.7**
ZALV	**Zalesovo Beam**	**67.93**	**334**	P	**P**	**20 51 53.7**	**-0.1**
ZALV	**Zalesovo Beam**	**67.93**	**334**	P	**P**	**20 51 54.4**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=147,slow=2.9,SNR=5.6						
	comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**68.87**	**329**	P	**P**	**20 52 01.4**	**+1.7**
	comp=Z,1.1nm,0.6s,baz=132,slow=5.6,SNR=13						
	comp=Z,1.1nm,0.6s						
KURK	**Kurchatov**	**68.88**	**329**		**P**	**20 51 59.9**	**+0.1**
SIMJ	**Simiganj**	**69.00**	**314**	P	**P**	**20 51 59.8**	**-1.3**
SIMJ				IAmb	IAmb	20 52 03.2	
	comp=Z,2.6nm,1.1s						
KKAR	**Karatay Array**	**69.81**	**319**	P	**P**	**20 52 03.8**	**-1.9**
BVAR	**Borovoye Array**	**74.43**	**328**	P	**P**	**20 52 34.3**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=140,slow=7.8,SNR=6.2						
	comp=Z,1.1nm,0.8s						
VNDA	**Vanda**	**75.88**	**173**	P	**P**	**20 52 40.1**	**-1.0**
VNDA	**Vanda**	**75.88**	**173**	P	**P**	**20 52 41.1**	**0.0**
	comp=Z,0.5nm,0.8s,baz=312,slow=5.1,SNR=3.8						
	comp=Z,0.5nm,0.8s						
AB31	**Akbulak array**	**78.93**	**322**		**P**	**20 52 57.7**	**-1.1**
ABKAR	**Akbulak array**	**78.93**	**322**	P	**P**	**20 52 57.1**	**-1.7**
QSPA	**South Pole Qui**	**86.23**	**180**	P	**P**	**20 53 36.0**	**-0.6**
QSPA				IAmb	IAmb	20 54 17.8	
	comp=Z,3.0nm,1.3s						
QSPA	**South Pole Qui**	**86.23**	**180**	P	**P**	**20 53 37.3**	**+0.6**
	comp=Z,1.0nm,1.0s,baz=343,slow=2.4,SNR=5.0						
	comp=Z,1.0nm,1.0s						
ILAR	**Eielson Array**	**91.10**	**25**	P	**P**	**20 53 58.1**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=243,slow=4.0,SNR=2.1						
	comp=Z,0.3nm,0.6s						
SNAA	**Sanae**	**98.44**	**194**	LR	LR	21 38 47.3	
	comp=Z,32nm,18.5s,baz=223,slow=35						

DJA 27 20:40:56.3±0.7, 4°S±7°×12°8E±°, h10km, M4.1/7, MLv4.1/7
IDC 27 20:41:51.2±0.8, 3.70S×128.42E, h0km, mb3.9/8, mbtmp4.0/10, ML4.1/2, MS3.5/3, Error ellipse: s-maj=36.5km s-min=17.1km az=77.0
NEIC 27 20:41:53.5±2.7, 3.74S±0.08×128.5E±0.1, h10km±1km, mb4.3/9, Error ellipse: s-maj=21.0km s-min=6.1km az=51.0
ISC 27 20:41:52.8±0.6, 3.78S±0.07×128.42E±0.05, h10km, n34, σ1°52/30, mb4.2/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.24**	**292**	S	**Pg**	**20 41 55.3**	**-2.5**
AAI	**Ambon**	**0.24**	**292**	S	**Pg**	**20 41 57.1**	**-0.7**
MSAI	**Masohi**	**0.67**	**50**	S	**Pg**	**20 42 06.4**	**+0.7**
NLAI	**Namlea**	**1.42**	**292**	S	**Pg**	**20 42 22.9**	**+2.8**
BNDI	**Bandanaira**	**1.66**	**117**	S	Sg	20 43 04.1	+18
TNTI	**Ternate**	**4.64**	**347**	Pn	**Pn**	**20 43 04.0**	**+1.0**
LUWI	**Luwuk**	**6.26**	**296**	Pn	**Pn**	**20 43 26.9**	**+1.5**
KAPI	**Kappang**	**8.73**	**262**	Pn	**Pn**	**20 44 00.8**	**+1.5**
	2.6nm,0.3s,baz=104,slow=8.7,SNR=4.5						
	9.4nm,0.4s						
TOLI2	**Tolitoli**	**9.05**	**302**	Pn	**Pn**	**20 44 05.3**	**+1.7**
KNRA	**Kununurra**	**11.83**	**178**		**Pn**	**20 44 42.4**	**+0.6**
FITZ	**Fitzroy Crossi**	**14.49**	**191**		**Pn**	**20 45 16.7**	**-1.4**
WRAB	**Tennant Creek**	**17.07**	**161**	P	**Pn**	**20 45 51.0**	**-0.8**
WRAB				IAmb	IAmb	20 45 59.0	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**17.07**	**161**	P	**Pn**	**20 45 53.3**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=342,slow=12,SNR=8.9						
WRA				LR	LR	20 52 28.5	
	comp=Z,195nm,18.5s,baz=348,slow=37						
	comp=Z,9.0nm,0.8s						
WR8	**Warramunga Arr**	**17.14**	**160**	P	**Pn**	**20 45 50.8**	**-1.9**
COEN	**Coen**	**17.73**	**126**	P	**Pn**	**20 45 59.4**	**-0.6**
COEN				IAmb	IAmb	20 46 04.3	
	comp=Z,19nm,0.8s						
PMG	**Port Moresby**	**19.43**	**108**	LR	LR	20 55 01.4	
	comp=Z,137nm,19.8s,baz=333,slow=41						
PSA00	**Pilbara Seismi**	**19.55**	**204**	P	**P**	**20 46 22.6**	**+1.7**
PSA00				IAmb	IAmb	20 47 07.3	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**20.47**	**165**	P	**P**	**20 46 32.5**	**+1.6**
ASAR	**Alice Springs**	**20.47**	**165**	P	Pn	20 46 33.1	+0.1
	comp=Z,49nm,0.7s,baz=347,slow=11,SNR=17						
STKA	**Stephens Creek**	**30.57**	**158**	P	**P**	**20 48 07.2**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=350,slow=11,SNR=3.1						
	comp=Z,2.7nm,0.8s						
JNU	**Nakatsue**	**36.77**	**3**	LR	LR	21 03 36.6	
	comp=Z,42nm,18.9s,baz=193,slow=36						
KSRS	**Korea Array**	**41.02**	**359**	P	**P**	**20 49 36.1**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=176,slow=10,SNR=5.1						
	comp=Z,1.0nm,0.7s						
MJAR	**Matsushiro Arr**	**41.14**	**12**	P	**P**	**20 49 36.2**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=198,slow=8.0,SNR=2.2						
	comp=Z,0.6nm,0.5s						
PETK	**Petropavlovsk-**	**61.80**	**20**	P	**P**	**20 52 11.9**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=229,slow=5.5,SNR=5.2						
	comp=Z,2.1nm,0.8s						
MKAR	**Makanchi Array**	**64.69**	**327**	P	**P**	**20 52 29.9**	**-1.2**
MKAR	**Makanchi Array**	**64.69**	**327**	P	**P**	**20 52 30.6**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=117,slow=8.7,SNR=8.9						
	comp=Z,1.5nm,0.9s						
MAKZ	**Makanchi**	**64.86**	**327**	P	**P**	**20 52 31.8**	**-0.5**
MAKZ				IAmb	IAmb	20 52 33.0	
	comp=Z,2.6nm,1.1s						
ZAA0	**Zalesovo Array**	**68.02**	**334**	P	**P**	**20 52 49.7**	**-2.6**
ZAA0				IAmb	IAmb	20 52 54.3	
	comp=Z,5.3nm,1.4s						
ZALV	**Zalesovo Beam**	**68.02**	**334**	P	**P**	**20 52 49.8**	**-2.5**
ZALV	**Zalesovo Beam**	**68.02**	**334**	P	**P**	**20 52 50.9**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=134,slow=6.4,SNR=3.7						
	comp=Z,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**68.96**	**329**	P	**P**	**20 52 57.9**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=130,slow=5.4,SNR=4.1						
	comp=Z,0.8nm,0.5s						
KURK	**Kurchatov**	**68.96**	**329**	P	**P**	**20 52 56.4**	**-1.9**
VNDA	**Vanda**	**75.82**	**173**	P	**P**	**20 53 37.4**	**-1.3**
VNDA	**Vanda**	**75.82**	**173**	P	**P**	**20 53 37.6**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=330,slow=3.6,SNR=3.9						
	comp=Z,0.6nm,0.8s						

IDC 27 21:07:46.9±2.2, 3.76S×128.31E, h0km, mb4.0/2, mbtmp4.0/4, ML3.5/2, MS2.9/2, Error ellipse: s-maj=116.9km s-min=27.6km az=71.0
DJA 27 21:07:48.5±0.3, 4°S±4°×12°8E±°, h10km, M4.0/10, mb4.2/6, MLv3.8/10
ISC 27 21:07:48.6±1.3, 3.71S±0.09×128.38E±0.05, h16km±10km, n16, σ1°02/15, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.18**	**276**	P	**Pg**	**21 07 53.4**	**+0.3**
MSAI	**Masohi**	**0.66**	**57**	P	**Pg**	**21 08 01.2**	**-0.4**
NLAI	**Namlea**	**1.36**	**290**	P	**Pg**	**21 08 13.6**	**-1.2**
SANI	**Sanana**	**2.90**	**305**	P	**Pn**	**21 08 34.7**	**+0.5**
SWI	**Sorong**	**4.04**	**46**	P	**Pn**	**21 08 49.8**	**0.0**
KMPI	**Kaimana, Papua**	**5.32**	**90**	P	**Pn**	**21 09 07.2**	**-0.3**
KDI	**Kendari**	**5.75**	**267**	P	**Pn**	**21 09 13.9**	**+0.5**
KMSI	**Cibinong**	**6.11**	**314**	P	**Pn**	**21 09 18.2**	**-0.2**
	0.4nm50nm,0.7s						
BAKI	**Biak**	**8.12**	**72**	P	**Pn**	**21 09 46.4**	**+0.4**
	22nm,1.0s						
BSSI	**Bau Bau, Buton**	**8.22**	**253**	P	**Pn**	**21 09 48.3**	**+0.9**
	51nm,1.6s						
EDFI	**Ende, Flores**	**8.32**	**233**	P	**Pn**	**21 09 49.5**	**+0.6**
	8.7nm,1.2s						
DAV	**Davao City (W)**	**11.06**	**345**	LR	LR	21 14 58.4	
	comp=Z,47nm,18.8s,baz=300,slow=39						
FITZ	**Fitzroy Crossi**	**14.55**	**190**	Pn	**Pn**	**21 11 12.5**	**-1.6**
	0.1nm,0.3s,baz=9.5,slow=12,SNR=1.5						
	1.9nm,1.0s						
WRA	**Warramunga Arr**	**17.15**	**161**	P	**Pn**	**21 11 46.1**	**-1.8**
	0.3nm,0.3s,baz=339,slow=13,SNR=12						
	3.0nm,0.8s						
ASAR	**Alice Springs**	**20.55**	**165**	P	**P**	**21 12 28.1**	**+1.3**
	18nm,0.7s,baz=348,slow=11,SNR=192						
ASAR				LR	LR	21 19 43.0	
	comp=Z,38nm,18.8s,baz=278,slow=35						
	18nm,0.7s						
MKAR	**Makanchi Array**	**64.60**	**327**	P	**P**	**21 18 26.2**	**+0.7**
	0.5nm,0.7s,baz=123,slow=8.8,SNR=3.9						
	0.5nm,0.7s						

GUC 27 21:09:29.7±0.8, 20.93S×68.79W, h121km±5km, ML3.3
SJA 27 21:09:29.1±2.8, 21.05S×68.73W, h90km, ML3.5, MW3.4
ISC 27 21:09:29.3±1.4, 20.97S±0.03×68.92W±0.06, h128km±10km, n30, σ0°98/57, 4C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.54**	**262**	*eP*	**Pn**	**21 09 48.2**	**-0.3**
PB01				*eS*	**Sn**	**21 10 02.5**	**-0.4**
PB01				IAML		21 10 03.3	
	comp=Z,940nm,0.2s						
PB08	**IPOC Station P**	**0.85**	**345**	*eP*	**Pn**	**21 09 50.5**	**-0.6**
PB08				*eS*	**Sn**	**21 10 06.5**	**-1.2**
PB08	**IPOC Station P**	**0.85**	**345**	*eP*	**Pn**	**21 09 50.6**	**-0.6**
PB08				*eS*	**Sn**	**21 10 06.8**	**-0.9**
PX03	**IPOC Station P**	**0.87**	**310**	*eP*	**Pn**	**21 09 50.3**	**-0.7**
PB09	**IPOC Station P**	**0.88**	**200**	*iP*	**Pn**	**21 09 51.2**	**+0.1**
PB09				*eS*	**Sn**	**21 10 08.7**	**+1.1**
PB09				IAML		21 10 10.1	
	comp=E,693nm,0.3s						
PB02	**IPOC Station P**	**0.98**	**249**	*iP*	**Pn**	**21 09 52.5**	**+0.6**
PB02				*eS*	**Sn**	**21 10 09.7**	**+0.7**
PB02	**IPOC Station P**	**0.98**	**249**	*eP*	**Pn**	**21 09 52.5**	**+0.6**
PB02				*eS*	**Sn**	**21 10 09.9**	**+0.8**
PB02				IAML		21 10 11.5	
	comp=Z,3μm,0.2s						
HMBC	**Humberstone**	**1.14**	**307**	*iP*	**Pn**	**21 09 53.4**	**-0.1**
HMBC				*eS*	**Sn**	**21 10 11.9**	**+0.1**
HMBC	**Humberstone**	**1.14**	**307**	*eP*	**Pn**	**21 09 53.4**	**-0.1**
HMBC				*eS*	**Sn**	**21 10 12.6**	**+0.7**
HMBC				IAML		21 10 14.4	
	comp=Z,1μm,0.3s						
TA01	**Diego Aracena**	**1.25**	**289**	*iP*	**Pn**	**21 09 54.6**	**+0.1**
TA01				*eS*	**Sn**	**21 10 14.1**	**+0.5**
TA01				IAML		21 10 16.4	
	comp=E,660nm,0.2s						
TA01	**Diego Aracena**	**1.25**	**289**	*eP*	**Pn**	**21 09

JOGS	**Gusukube**	**1.12**	**206**	P		**Pn**	21 15 27.7	**+0.1**
JOGS				*e*S		**Sn**	21 15 43.1	**+0.3**
JMJ2	**Miyako jima3**	**1.17**	**208**	P		**Pn**	21 15 28.3	**+0.1**
JMJ2				*e*S		**Sn**	21 15 44.5	**+0.6**
JIRB	**Irabujima**	**1.17**	**217**	*i* P		**Pn**	21 15 27.8	**-0.3**
JIRB				S		**Sn**	21 15 43.2	**-0.8**
JAGN	**Aguni-jima**	**1.43**	**55**	*i* P		**Pn**	21 15 31.6	**+0.1**
JAGN				*e*S		**Sn**	21 15 50.3	**+0.5**
JTJ	**Tarama**	**1.59**	**225**	P		**Pn**	21 15 33.4	**-0.1**
JTJ				*e*S		**Sn**	21 15 52.7	**-0.9**
JJT3	**Tamagusuku3**	**1.70**	**77**	P		**Pn**	21 15 35.0	**0.0**
JISG	**Ishigakijimahi**	**1.89**	**232**	*i* P		**Pn**	21 15 37.2	**-0.3**
JISG				S		**Sn**	21 15 59.9	**-0.7**
JNTH	**Nagotoyohara**	**2.02**	**68**	P		**Pn**	21 15 38.9	**-0.3**
JIJ	**Ishigaki jima**	**2.15**	**230**	*i* P		**Pn**	21 15 40.2	**-0.8**
JIH	**Iheya**	**2.21**	**55**	P		**Pn**	21 15 41.5	**-0.3**
JKRS	**Kuro-shima**	**2.32**	**229**	*e*P		**Pn**	21 15 42.8	**-0.5**
JOW	**Kunigami**	**2.35**	**63**	P		**Pn**	21 15 43.5	**-0.2**
IRIF	**Iriomote-Funau**	**2.46**	**235**	P		**Pn**	21 15 44.8	**-0.4**
JYRO	**Yoronjima**	**2.58**	**60**	*e*P		**Pn**	21 15 45.7	**-1.1**
JOKE	**Okinoerabujima**	**2.84**	**56**	*e*P		**Pn**	21 15 49.0	**-1.3**
NACB	**Ninganchiao**	**4.25**	**249**	P		**Pn**	21 16 09.1	**-0.4**
YHNB	**Yeheng**	**4.28**	**256**	P		Pn	21 16 13.5	+3.6
YULB	**Yu-li**	**4.84**	**242**	P		**Pn**	21 16 15.4	**-2.2**
SSLB	**Suanglung**	**4.94**	**247**	P		**Pn**	21 16 19.0	**0.0**
TPUB	**Ta-pu**	**5.42**	**244**	P		Pn	21 16 26.6	**+1.1**
MKAR	**Makanchi Array**	**40.32**	**313**	P		**P**	21 22 38.3	**+1.5**
	0.1nm,0.4s,baz=97,slow=11,SNR=2.1 0.1nm,0.4s							
ZALV	**Zalesovo Beam**	**41.38**	**324**	P		**P**	21 22 45.4	**0.0**
	0.3nm,0.4s,baz=109,slow=6.6,SNR=1.9 0.3nm,0.4s							
WRA	**Warramunga Arr**	**46.17**	**169**	P		**P**	21 23 23.7	**-0.4**
	0.6nm,0.6s,baz=352,slow=8.5,SNR=6.5 0.6nm,0.6s							
ASAR	**Alice Springs**	**49.75**	**170**	P		**P**	21 23 51.6	**-0.1**
	0.4nm,0.8s,baz=349,slow=9.1,SNR=5.5 0.4nm,0.8s							
FINES	**FINESS Array B**	**72.24**	**330**	P		**P**	21 26 23.7	**+0.2**
	0.9nm,0.8s,baz=64,slow=9.4,SNR=3.7 0.9nm,0.8s							

*ISN **27** 21:21:41.2±1.3,34°.29N×45°.60E,h7km±7km,ML3.1*
*TEH **27** 21:21:42.2,34°.29N×45°.65E,h8km±33km*
ISC 27 21:21:42.3±1.3**,34°.28N**±0°.03×**45°.61E**±0°.04**,h1**km±13km**,**n20,**σ0s71**/25**,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.23**	**356**	Pg		**Pg**	**21 21 46.8**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.30**	**123**	Pg		**Pg**	**21 21 48.3**	**+0.2**
IDHR	**Dehrash**	**0.77**	**57**	Pg		**Pg**	**21 21 56.2**	**-0.9**
IGHG	**Ghaleghazi**	**0.80**	**86**	Pg		**Pg**	**21 21 57.2**	**-0.4**
ILBA	**Ilam Banvizeh**	**0.82**	**142**	Pg		**Pg**	**21 21 57.9**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.19**	**90**	Pg		**Pg**	**21 22 04.3**	**-0.8**
IBDR	**Badra**	**1.19**	**167**	*e*Pg		**Pg**	**21 22 05.0**	**-0.2**
IBDR				*e*Sg		**Sg**	**21 22 21.0**	**+0.3**
IBDR				AML		AML	21 22 27.9	
	comp=N,364nm,0.5s							
IBDR				AML		AML	21 22 28.1	
	comp=E,386nm,0.6s							
BHD	**Baghdad**	**1.43**	**226**	*e*Pn		**Pb**	**21 22 09.0**	**-0.8**
BHD				*e*Sn		**Sg**	**21 22 30.0**	**+1.7**
IKRK	**Kirkuk**	**1.53**	**317**	*e*Pn		**Pn**	**21 22 10.0**	**-0.9**
IKRK				*e*Sn		**Sg**	**21 22 32.0**	**+0.5**
SNQR	**Sonqor, Kerman**	**1.77**	**70**	Pg		**Pn**	**21 22 14.6**	**+0.3**
IBZA	**Bozab**	**1.88**	**83**	Pn		**Pb**	**21 22 17.2**	**-0.3**
MAHB	**Mahabad**	**2.49**	**2**	Pn		**Pn**	**21 22 24.9**	**+0.8**
RAFI	**Al-Rafai**	**2.58**	**170**	*e*Pn		**Pn**	**21 22 25.0**	**-0.3**
RAFI				*e*Sn		**Sn**	**21 22 58.0**	**+0.7**
BDRS	**Dareh Seyedi**	**2.74**	**96**	Pn		**Pn**	**21 22 27.5**	**-0.2**
HGHA	**Hamedan- Ghaye**	**2.93**	**65**	Pn		**Pn**	**21 22 31.3**	**+1.0**
MSL	**Mosul**	**2.94**	**317**	*e*Pn		**Pn**	**21 22 30.0**	**-0.3**
MSL				*e*Sn		**Sn**	**21 23 06.0**	**-0.2**
HAGD	**Aghdareh**	**2.97**	**78**	Pn		**Pn**	**21 22 30.3**	**-0.5**
IAZR	**Azarshahr**	**3.41**	**5**	Pn		**Pn**	**21 22 37.5**	**+0.6**
ZNJK	**Zanjan**	**3.47**	**46**	Pn		**Pn**	**21 22 37.9**	**+0.2**
IHRS	**Heris**	**4.20**	**16**	Pn		**Pn**	**21 22 48.9**	**+1.1**

*NEIC **27** 21:52:37.1±2.6,19°.49N±0°.09×63°.97W±0°.05,h10km±2km,*
ML3.4/21,Md3.7/20(RSPR),Error ellipse: s-maj=16.4km
s-min=6.9km az=19.0
*RSPR **27** 21:52:38.7,19°.76N×63°.97W,h45km±19km,MD3.6/20*
ISC 27 21:52:34.2±2.2,**19°.6N**±0°.1×**63°.93W**±0°.05,**h4**km±13km,**n76,**
σ1s47/86,3C-14D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMRT	**St. Maarten**	**1.74**	**152**			**Pb**	**21 53 06.6**	**-0.1**
SMRT						**Sn**	**21 53 26.5**	**-1.4**
SMRT				IAML			21 53 38.9	
	comp=E,737nm,0.3s							
SMRT				IAML			21 53 39.8	
	comp=N,499nm,0.3s							
SMRT	**St. Maarten**	**1.74**	**152**	*e*P		**Pg**	**21 53 07.6**	**0.0**
SMRT	**St. Maarten**	**1.74**	**152**	*e*S		**Sn**	**21 53 28.0**	**+0.1**
SABA	**Saba**	**2.08**	**162**			**Pb**	**21 53 11.5**	**-0.9**
SABA						**Sb**	**21 53 37.6**	**-1.0**
SABA	**Saba**	**2.08**	**162**	*e*P		**Pg**	**21 53 14.7**	**+0.7**
SABA	**Saba**	**2.08**	**162**	*e*S		**Sb**	**21 53 39.1**	**+0.5**
HUMP	**Col San Antoni**	**2.33**	**232**			**Pn**	**21 53 14.0**	**+0.7**
GCPR	**Guaynabo City**	**2.41**	**238**			**Pn**	**21 53 14.3**	**-0.1**
GCPR						**Pb**	**21 53 14.6**	**-3.5**
GCPR	**Guaynabo City**	**2.41**	**238**	*e*P		**Pn**	**21 53 15.7**	**+1.3**
GCPR	**Guaynabo City**	**2.41**	**238**	*e*S		**Sn**	**21 53 44.7**	**+0.3**
SKI	**Saint Kitts**	**2.52**	**153**	*e*P		**Pn**	**21 53 17.8**	**+1.8**
PDPR	**Patillas Dam,**	**2.53**	**232**			**Pn**	**21 53 16.9**	**+0.8**
PDPR				IAML			21 53 54.8	
	comp=N,168nm,0.7s							
PDPR				IAML			21 54 05.8	
	comp=E,144nm,0.7s							
PDPR	**Patillas Dam,**	**2.53**	**232**	*e*P		**Pn**	**21 53 18.0**	**+1.9**
PDPR	**Patillas Dam,**	**2.53**	**232**	*e*S		**Sn**	**21 53 48.4**	**+1.0**
SJG	**San Juan**	**2.57**	**235**			**Pn**	**21 53 15.3**	**-1.4**
SJG				IAML			21 54 02.0	
	comp=E,150nm,0.7s							
SJG	**San Juan**	**2.57**	**235**	*e*P		**Pn**	**21 53 15.6**	**-1.0**
SJG	**San Juan**	**2.57**	**235**	*e*S		**Sn**	**21 53 47.4**	**-1.0**
SJG	**San Juan**	**2.57**	**235**	*e*P		**Pn**	**21 53 14.9**	**-1.7**
IGPR	**InterUniversit**	**2.63**	**232**			**Pn**	**21 53 18.7**	**+1.3**
IGPR						**Sn**	**21 53 51.3**	**+1.6**
IGPR	**InterUniversit**	**2.63**	**232**	*i* P		**Pn**	**21 53 18.7**	**+1.3**
IGPR	**InterUniversit**	**2.63**	**232**	*e*S		**Sn**	**21 53 51.3**	**+1.6**
ECPR	**Experimental S**	**2.63**	**241**	*i* P		**Pn**	**21 53 18.6**	**+1.1**
ECPR	**Experimental S**	**2.63**	**241**	*e*S		**Sn**	**21 53 51.3**	**+1.4**
EMPR	**Esperanza - Ma**	**2.70**	**246**	Pn		**Pn**	**21 53 19.3**	**+0.9**
EMPR	**Esperanza - Ma**	**2.70**	**246**			**Pn**	**21 53 19.5**	**+1.0**
EMPR						**Sn**	**21 53 51.0**	**-0.5**
EMPR	**Esperanza - Ma**	**2.70**	**246**	*i* P		**Pn**	**21 53 19.5**	**+1.0**
EMPR	**Esperanza - Ma**	**2.70**	**246**	*e*S		**Sn**	**21 53 51.0**	**-0.5**
ANWB	**Willy Bob**	**2.80**	**133**	Pn		**Pn**	**21 53 20.3**	**+0.6**
ANWB	**Willy Bob**	**2.80**	**133**	*e*P		**Pn**	**21 53 20.3**	**+0.6**
ANWB	**Willy Bob**	**2.80**	**133**	*e*		**Sn**	**21 53 51.9**	**-2.0**
CELP	**Cerrillos**	**2.93**	**239**			**Pn**	**21 53 22.4**	**+0.8**
CELP				IAML			21 54 04.4	
	comp=E,121nm,0.7s							
CELP				IAML			21 54 05.4	
	comp=N,122nm,0.9s							
CELP	**Cerrillos**	**2.93**	**239**	*i* P		**Pn**	**21 53 22.6**	**+0.9**
CELP	**Cerrillos**	**2.93**	**239**	*e*S		**Sn**	**21 53 56.1**	**-1.2**
AOPR	**Arecibo Observ**	**2.95**	**245**			**Pn**	**21 53 23.0**	**+1.2**
AOPR	**Arecibo Observ**	**2.95**	**245**	*i* P		**Pn**	**21 53 23.0**	**+1.2**
AOPR	**Arecibo Observ**	**2.95**	**245**	*e*P		**Pn**	**21 53 22.8**	**+0.9**
UUPR	**Utuado, UPR, P**	**2.96**	**244**			**Pn**	**21 53 23.2**	**+1.2**
UUPR						**Sn**	**21 53 57.3**	**-0.7**
UUPR	**Utuado, UPR, P**	**2.96**	**244**	*e*P		**Pn**	**21 53 23.2**	**+1.2**
UUPR	**Utuado, UPR, P**	**2.96**	**244**	*e*S		**Sn**	**21 53 57.3**	**-0.7**
OBIP	**Obispado Ponce**	**2.97**	**239**			**Pn**	**21 53 23.1**	**+1.0**
OBIP						**Sn**	**21 53 57.5**	**-0.7**
OBIP	**Obispado Ponce**	**2.97**	**239**	IAML			21 54 14.7	
	comp=N,125nm,0.9s							
OBIP				IAML			21 54 23.6	
	comp=E,131nm,0.8s							
OBIP	**Obispado Ponce**	**2.97**	**239**	*i* P		**Pn**	**21 53 23.1**	**+1.0**
OBIP	**Obispado Ponce**	**2.97**	**239**	*e*S		**Sn**	**21 53 57.5**	**-0.7**
AGPR	**Aguadilla, PR**	**3.22**	**250**			**Pn**	**21 53 26.5**	**+1.0**
AGPR						**Sn**	**21 54 02.2**	**-2.0**
AGPR	**Aguadilla, PR**	**3.22**	**250**	*i* P		**Pn**	**21 53 26.5**	**+1.0**
AGPR	**Aguadilla, PR**	**3.22**	**250**	*e*S		**Sn**	**21 54 02.2**	**-2.0**
GBPR	**Guanica, Bosqu**	**3.23**	**240**			**Pn**	**21 53 27.9**	**+2.2**
GBPR	**Guanica, Bosqu**	**3.23**	**240**	*e*P		**Pn**	**21 53 27.9**	**+2.2**
LSP	**Las Mesas**	**3.31**	**245**			**Pn**	**21 53 28.2**	**+1.4**
LSP						**Sn**	**21 54 06.8**	**+0.2**
LSP	**Las Mesas**	**3.31**	**245**	*i* P		**Pn**	**21 53 28.2**	**+1.4**
LSP	**Las Mesas**	**3.31**	**245**	*e*S		**Sn**	**21 54 06.8**	**+0.2**
MLPR	**Magueyes Islan**	**3.37**	**242**	*i* P		**Pn**	**21 53 28.8**	**+1.2**
MLPR	**Magueyes Islan**	**3.37**	**242**	*e*S		**Sn**	**21 54 08.3**	**+0.3**
CRPR	**Cabo Rojo, PR**	**3.41**	**243**			**Pn**	**21 53 29.7**	**+1.6**
CRPR						**Sn**	**21 54 12.7**	**+3.7**
CRPR	**Cabo Rojo, PR**	**3.41**	**243**	IAML			21 54 26.1	
	comp=E,91nm,1.0s							
CRPR				IAML			21 54 27.3	
	comp=N,102nm,0.8s							
CRPR	**Cabo Rojo, PR**	**3.41**	**243**	*i* P		**Pn**	**21 53 29.7**	**+1.6**
CRPR	**Cabo Rojo, PR**	**3.41**	**243**	*e*S		**Sn**	**21 54 12.7**	**+3.7**
IDE	**Isla Desecheo**	**3.57**	**251**			**Pn**	**21 53 31.6**	**+1.3**
IDE						**Sn**	**21 54 12.7**	**-0.2**
IDE	**Isla Desecheo**	**3.57**	**251**	*i* P		**Pn**	**21 53 31.6**	**+1.3**
IDE	**Isla Desecheo**	**3.57**	**251**	*e*S		**Sn**	**21 54 12.7**	**-0.2**
ABD	**La Joyeuse, An**	**3.88**	**143**	*e*P		**Pn**	**21 53 36.5**	**+1.9**
ABD	**La Joyeuse, An**	**3.88**	**143**	*e*S		**Sn**	**21 54 20.1**	**-0.5**
DHSZ	**Broadband at M**	**3.90**	**148**	*e*P		**Pn**	**21 53 35.0**	**+0.1**
ATGZ	**Broadband at L**	**4.07**	**149**	*e*P		**Pn**	**21 53 39.4**	**+2.2**
MMLZ	**Guadeloupe Bro**	**4.14**	**148**	*e*P		**Pn**	**21 53 37.1**	**-1.1**
CBE	**Ff, Capester**	**4.15**	**147**			**Pn**	**21 53 40.5**	**+2.1**
CBE						**Sn**	**21 54 25.8**	**-1.6**
CBE	**Ff, Capester**	**4.15**	**147**	*e*P		**Pn**	**21 53 40.5**	**+2.1**
CBE	**Ff, Capester**	**4.15**	**147**	*e*S		**Sn**	**21 54 25.8**	**-1.6**
TBG	**Guadaloupe-3**	**4.32**	**149**	*e*P		**Pn**	**21 53 41.9**	**+1.3**
DSLB	**Salisbury**	**4.78**	**150**	*e*P		**Pn**	**21 53 47.1**	**0.0**
MIDR	**Miches**	**4.88**	**264**	*e*P		**Pn**	**21 53 50.3**	**+2.0**
MIDR	**Miches**	**4.88**	**264**	*e*S		**Sn**	**21 54 43.7**	**-1.5**
SMDR	**Samana, DR**	**4.97**	**267**	*e*P		**Pn**	**21 53 51.1**	**+1.4**
SMDR	**Samana, DR**	**4.97**	**267**	*e*S		**Sn**	**21 54 47.0**	**-0.6**
SDDR	**Presa de Saban**	**6.98**	**266**			**Pn**	**21 54 19.8**	**+2.5**
SDDR	**Presa de Saban**	**6.98**	**266**	*e*		**Pn**	**21 54 19.6**	**+2.3**

*IDC **27** 21:59:17.9±3.4,22°.73S×24°.77E,h0km,mb3.5/2,*
mbtmp3.5/3,ML3.5/1,Error ellipse: s-maj=190.4km
s-min=21.7km az=79.0
*PRE **27** 21:59:18.3±0.9,22°.92S×25°.02E,h5km,ML2.9*
*BGSI **27** 21:59:21.8±1.9,22°.67S×25°.11E,h8km±12km,ML3.2*
ISC 27 21:59:18.0±1.2,**22°.83S**±0°.04×**25°.06E**±0°.05,**h13**km±9km,
n35,σ2s75/62,**Botswana**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDWAN	**Kaudwane**	**0.66**	**214**	*i* P		**Pn**	**21 59 36.9**	**+3.8**
KDWAN				*i* S		**Sn**	**21 59 48.2**	**+4.8**
KDWAN				IAML			21 59 49.1	
	comp=E,657nm,0.3s							
LPHEP	**Lephephe**	**0.91**	**126**	*i* P		**Pn**	**21 59 39.8**	**+3.3**
LPHEP				*i* S		**Sn**	**21 59 50.5**	**+1.0**
LPHEP				IAML			21 59 56.7	
	comp=N,173nm,0.2s							
KHWEE	**KHWEE**	**0.95**	**22**	*i* P		**Pg**	**21 59 36.2**	**-0.2**
KHWEE				*i* S		**Sg**	**21 59 46.3**	**-2.5**
KHWEE				IAML			21 59 47.7	
	comp=E,4μm,0.3s							
SKOMA	**Sekoma**	**1.97**	**211**	*i* P		**Pg**	**21 59 56.2**	**+0.4**
SKOMA				*i* S		**Sg**	**22 00 22.0**	**+0.6**
SKOMA				IAML			22 00 34.2	
	comp=N,148nm,0.3s							
MREMI	**Moremi**	**2.22**	**84**	*i* P		**Pn**	**21 59 56.7**	**+2.1**
MREMI				*i* S		**Sn**	**22 00 22.9**	**+0.9**
MREMI				IAML			22 00 28.8	
	comp=N,456nm,0.4s							
LBTB	**Lobatse**	**2.23**	**167**	*e*P		**Pn**	**21 59 56.4**	**+1.7**
LBTB				*e*S		**Sn**	**22 00 23.1**	**+1.0**
LBTB				IAML			22 00 40.3	
	comp=Z,65nm,0.6s							
SOOWA	**Sowa**	**2.50**	**26**	*i* P		**Pn**	**21 59 59.0**	**+0.6**
SOOWA				IAML			22 00 31.0	
	comp=N,382nm,0.4s							
LEPH	**Lephalale, Lim**	**2.71**	**113**	*e*P		**Pn**	**22 00 03.8**	**+2.4**
LEPH				*e*S		**Sn**	**22 00 37.1**	**+2.9**
LEPH				IAML			22 00 51.9	
	comp=Z,219nm,0.4s							
MAKGR	**Makgori**	**2.98**	**185**	*i* P		**Pb**	**22 00 09.9**	**-1.0**
MAKGR				*i* S		**Sn**	**22 00 44.6**	**+3.9**
MAKGR				IAML			22 01 02.6	
	comp=N,147nm,0.1s							
LKGWB	**Lokgwabe**	**3.75**	**249**	IAML			22 01 10.9	
	comp=N,235nm,0.5s							
GRTLG	**Ghanzi**	**3.85**	**292**	*i* P		**Pn**	**22 00 18.9**	**+1.8**
GRTLG				IAML			22 01 21.7	
	comp=N,150nm,0.2s							
HRAO	**HartRAO**	**3.87**	**142**	*e*P		**Pn**	**22 00 19.1**	**+1.8**
HRAO				*e*S		**Sn**	**22 01 02.5**	**-0.3**
HRAO				IAML			22 01 26.1	
	comp=Z,62nm,0.4s							
SWZ	**Schweizer**	**4.34**	**177**	*e*P		**Pn**	**22 00 25.5**	**+1.7**
SWZ				*e*S		**Sn**	**22 01 12.7**	**-1.6**
SWZ				IAML			22 01 46.3	
	comp=Z,25nm,0.6s							
MUSN	**Musina, Limpop**	**4.47**	**84**	*e*P		**Pn**	**22 00 27.6**	**+2.1**
MUSN				*e*S		**Sn**	**22 01 18.5**	**+1.1**
MUSN				IAML			22 01 43.9	
	comp=Z,42nm,0.6s							
KOOLE	**Kule**	**4.49**	**267**	*i* P		**Pn**	**22 00 27.9**	**+2.1**
KOOLE				IAML			22 01 50.0	
	comp=N,73nm,0.5s							
PRYS	**Parys**	**4.58**	**153**	*e*P		**Pn**	**22 00 29.1**	**+2.0**
PRYS				*e*S		**Sn**	**22 01 20.1**	**-0.2**
PRYS				IAML			22 01 50.3	
	comp=Z,41nm,0.5s							
KSANE	**Kasane**	**5.01**	**1**	*i* P		**Pn**	**22 00 32.7**	**-0.2**
KSANE				IAML			22 01 55.9	
	comp=N,128nm,0.3s							
PILG	**Pilgrimsrest,**	**5.58**	**113**	*e*P		**Pn**	**22 00 43.2**	**+2.3**
PILG				*e*S		**Sn**	**22 01 45.2**	**+0.3**
PILG				IAML			22 02 20.3	
	comp=Z,26nm,0.4s							
BOSA	**Boshof**	**5.76**	**178**	Pn		**Pn**	**22 00 47.8**	**+4.5**
	comp=Z,0.9nm,0.3s,baz=357,slow=12,SNR=30							
BOSA				Sn		**Sn**	**22 01 50.0**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=180,slow=22,SNR=8.2							
BOSA				Lg		Lg	22 02 23.0	
	comp=Z,3.3nm,0.3s,baz=79,slow=15,SNR=7.2 comp=Z,1.9nm,0.3s							
BOSA	**Boshof**	**5.76**	**178**	*e*P		**Pn**	**22 00 45.2**	**+2.0**
BOSA				*e*S		**Sn**	**22 01 46.6**	**-2.7**
BOSA				IAML			22 02 34.6	
	comp=Z,18nm,0.4s							
MOPA	**Mopani**	**5.87**	**98**	*e*P		**Pn**	**22 00 46.7**	**+2.0**
MOPA				*e*S		**Sn**	**22 01 51.5**	**-0.5**
MOPA				IAML			22 02 22.2	
	comp=Z,53nm,0.5s							
SNKL	**Senekal, Frees**	**5.95**	**156**	*e*P		**Pn**	**22 00 47.7**	**+1.8**
SNKL				*e*S		**Sn**	**22 01 51.9**	**-2.1**
SNKL				IAML			22 02 38.8	
	comp=Z,45nm,0.7s							
UPI	**Upington**	**6.49**	**211**	*e*P		**Pn**	**22 00 54.1**	**+0.8**
UPI				*e*S		**Sn**	**22 02 04.0**	**-3.2**
UPI				IAML			22 02 40.3	
	comp=Z,6.9nm,0.8s							
KEIM	**Keimoes**	**6.91**	**211**	*e*P		**Pn**	**22 01 00.3**	**+1.2**
KEIM				*e*S		**Sn**	**22 02 14.3**	**-3.4**
KEIM				IAML			22 02 21.3	
	comp=Z,7.7nm,0.3s							
ALKP	**Alkanpan, Nort**	**7.52**	**199**	*e*P		**Pn**	**22 01 08.5**	**+1.1**
ALKP				*e*S		**Sn**	**22 02 28.5**	**-4.1**
ALKP				IAML			22 03 22.2	
	comp=Z,13nm,0.4s							
BFON	**Badsfontein, M**	**9.02**	**187**	*e*P		**Pn**	**22 01 29.3**	**+1.3**
BFON				*e*S		**Sn**	**22 03 04.8**	**-4.6**
BFON				IAML			22 04 17.2	
	comp=Z,11nm,0.5s							
BRAK	**Brakfontein**	**9.12**	**192**	*e*P		**Pn**	**22 01 30.3**	**+0.9**
BRAK				*e*S		**Sn**	**22 03 06.9**	**-5.0**
BRAK				IAML			22 04 12.7	
	comp=Z,14nm,0.7s							
GRAF	**Camdeboo Natio**	**9.42**	**183**	*e*P		**Pn**	**22 01 35.3**	**+1.7**
GRAF				*e*S		**Sn**	**22 03 14.0**	**-5.4**
GRAF				IAML			22 03 21.6	
	comp=Z,3.0nm,0.3s							
FRAZ	**Fraserburg**	**9.62**	**199**	*e*P		**Pn**	**22 01 38.2**	**+1.8**
FRAZ				*e*S		**Sn**	**22 03 19.7**	**-4.7**
FRAZ				IAML			22 04 32.6	
	comp=Z,6.4nm,0.7s							
ROOI	**Rooidraai Farm**	**9.72**	**188**	*e*P		**Pn**	**22 01 39.1**	**+1.6**
ROOI				*e*S		**Sn**	**22 03 21.5**	**-5.2**
ROOI				IAML			22 03 30.7	
	comp=Z,2.4nm,0.2s							
GRAN	**Grantham**	**9.78**	**195**	*e*P		**Pn**	**22 01 39.9**	**+1.5**
GRAN				*e*S		**Sn**	**22 03 23.4**	**-4.6**
GRAN				IAML			22 03 41.3	
	comp=Z,3.0nm,0.7s							
SUR	**Sutherland**	**10.23**	**201**	*e*P		**Pn**	**22 01 45.8**	**+1.1**
SUR				*e*S		**Sn**	**22 03 34.2**	**-5.1**
SUR				IAML			22 04 56.2	
	comp=Z,6.2nm,0.5s							
GRHM	**Grahamstown, E**	**10.47**	**174**	*e*P		**Pn**	**22 01 49.3**	**+1.5**
GRHM				*e*S		**Sn**	**22 03 39.1**	**-5.9**
GRHM				IAML			22 03 48.4	
	comp=Z,2.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**42.46**	**325**	P		**P**	**22 07 12.8**	**0.0**
	comp=Z,0.4nm,0.8s,baz=148,slow=8.6,SNR=7.3 comp=Z,0.4nm,0.8s							
ESDC	**Sonseca Array**	**67.83**	**336**	P		**P**	**22 10 16.3**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=130,slow=4.9,SNR=4.1 comp=Z,0.6nm,0.9s							

HEL 27 22:03:38.6±0.4,**67°.17N**×**20°.54E,h0km,ML1.0,**
Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ERTU	**Ertsjaerv**	**0.90**	**133**	PG		**Pg**	**22 03 54.9**	**-0.8**
ERTU				SB		**Sg**	**22 04 06.7**	**-0.6**
PAJU	**Pajala**	**1.02**	**97**	PG		**Pg**	**22 03 56.8**	**-1.3**
PAJU				SG		**Sg**	**22 04 09.9**	**-1.3**
LANU	**Lannavaara**	**1.05**	**32**	PG		**Pg**	**22 03 57.4**	**-1.2**
HEF	**Hetta**	**1.72**	**42**	PG		Pn	**22 04 09.6**	**-0.2**
HEF				MSG			22 04 29.9	
	comp=Z,0.6nm,0.2s							
HEF				SN		Sb	22 04 33.0	-0.2
KALU	**Kalix**	**1.73**	**138**	SN		Sg	22 04 34.0	-0.1
KIF	**Kilpisjarvi**	**1.85**	**3**	PG		Pb	22 04 12.6	-0.6
KIF				MSG			22 04 34.8	
	comp=Z,1.0nm,0.2s							
KIF				SG		Sg	22 04 38.2	+0.2
TOF	**Tornio**	**1.86**	**124**	PG		Pn	22 04 12.0	+0.4
TOF				MSG			22 04 34.1	
	comp=Z,0.6nm,0.2s							
TOF				SG		Sb	22 04 37.0	-0.3
KTK1	**Kautokeino**	**2.11**	**27**	PB		Pn	22 04 14.5	-0.7
KTK1				SG		Sb	22 04 44.7	+0.3
RNF	**Rovaniemi**	**2.23**	**102**	SG		Sn	22 04 45.8	+0.8
BURU	**Burvik**	**2.62**	**172**	SN		Sn	22 04 51.1	-3.4
RANF	**Ranua**	**2.75**	**112**	SG		Sb	22 05 01.8	-1.0
MSF	**Maaselka**	**3.63**	**106**	PB		Pn	22 04 38.8	+2.9
HEMU	**Hemsoen**	**4.63**	**194**	PG		Pb	22 05 00.8	+0.2

UPP 27 22:04:31.4±0.1,**67°.16N**×**20°.67E,h0km,ML1.7,**
Suspected explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DUNU	**Dundret**	**0.06**	**226**	P		Pg	22 04 32.7	+0.3
	baz=40							
DUNU				S		Sg	22 04 33.6	+0.5
RATU	**Laukkuluspa**	**0.79**	**328**	P		Pg	22 04 46.1

I10CA	**LAC DU BONNET**	**9.47**	**35**	I		I		23 00 15.0
	baz=224,slow=315,SNR=11							
ULM	**Lac du Bonnet**	**9.57**	**35**	Pn		**Pn**		**22 09 52.6 +1.6**
	comp=E,0.8nm,0.3s,baz=228,slow=14,SNR=5.1							
ULM				Pg				22 10 29.1
	comp=E,0.2nm,0.3s,baz=36,slow=13,SNR=1.5							
ULM				Lg		Lg		22 12 29.4
	comp=E,0.3nm,0.3s,baz=294,slow=13,SNR=2.2							
	comp=E,1.2nm,0.4s							

SOME ***27*** *22:07:42.4, 39°.27N × 72°.77E, h10km*

NNC 27 22:07:45.3±8.3, 38°.87N × 72°.89E, h0km, mb3.6, mpv3.2, 1C-5D, Error ellipse: s-maj=80.4km s-min=38.2km az=148.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**3.88**	**4**	*e*P	Pn	22 08 47.6	+1.2
	31nm,0.3s						
MRKS				*e*S	Sn	22 09 34.1	+1.4
	53nm,0.3s						
AAK	**Ala-Archa**	**3.96**	**17**	⇑P	Pn	22 08 48.0	+0.6
	2.0nm,0.4s						
AAK				⇓S	Sn	22 09 35.1	+0.4
	1.8nm,0.4s						
KK31	**Karatay Array**	**4.60**	**338**	⇓P	Pn	22 08 57.6	+1.5
	1.6nm,0.2s,baz=151,slow=13,SNR=69						
KK31				⇓S	Sn	22 09 52.9	+2.7
	1.7nm,0.3s,baz=159,slow=23,SNR=5.9						
BRLS	**Borolday**	**4.76**	**332**	*e*P	Pn	22 08 57.7	-0.6
	22nm,0.2s						
BRLS				*e*S	Sn	22 09 51.6	-2.6
	4.1nm,0.1s						
AB31	**Akbulak array**	**13.93**	**322**	⇓P	Pn	22 11 00.5	-3.3
	0.4nm,0.3s,baz=128,slow=14,SNR=29						
AKTO	**Aktyubinsk**	**15.64**	**322**	⇓P	Pn	22 11 23.8	-3.1
	1.2nm,0.8s						

IDC ***27*** *22:23:45.2±3.3, 4°.08S × 127°.61E, h209km±33km, mb3.2/5, mbtmp3.8/7, Error ellipse: s-maj=51.5km s-min=10.7km az=75.0*

DJA ***27*** *22:23:47.0±0.8, 4°.S±8°.× 12°.8E±°, h191km±5km, M3.9/6, mb3.7/2, MLv3.9/6*

ISC 27 22:23:44.4±0.8, 4°.09S±0°.08 × 127°.85E±0°.09, h200km, n12, σ1§72/16, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.53**	**41**	P	**Pn**	**22 24 13.6**	**+1.9**
NLAI	**Namlea**	**1.12**	**319**	P	**Pn**	**22 24 17.2**	**+2.1**
NLAI				S	**Sn**	**22 24 39.4**	**+0.6**
MSAI	**Masohi**	**1.31**	**56**	P	**Pn**	**22 24 17.2**	**+0.7**
MSAI				S	**Sn**	**22 24 41.8**	**+0.4**
SANI	**Sanana**	**2.75**	**317**	P	**Pn**	**22 24 30.6**	**-0.5**
SWI	**Sorong**	**4.68**	**47**	P	**Pn**	**22 24 54.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**14.09**	**189**	P	**Pn**	**22 26 55.0**	**-0.5**
	1.4nm,0.4s,baz=25,slow=9.4,SNR=9.5						
WRA	**Warramunga Arr**	**16.98**	**159**	P	**P**	**22 27 30.0**	**+0.8**
	1.2nm,0.8s,baz=333,slow=12,SNR=7.8						
WRA				S	**S**	**22 30 31.6**	**-4.6**
	0.2nm,0.6s,baz=335,slow=17,SNR=1.6						
ASAR	**Alice Springs**	**20.32**	**164**	P	**P**	**22 28 06.9**	**+1.5**
	0.4nm,0.3s,baz=345,slow=12,SNR=7.6						
ASAR				S	**S**	**22 31 44.0**	**+1.8**
	0.7nm,0.7s,baz=348,slow=21,SNR=6.0						
	0.4nm,0.3s						
KSRS	**Korea Array**	**41.33**	**0**	P	**P**	**22 31 10.3**	**-0.2**
	1.1nm,0.5s,baz=177,slow=11,SNR=7.5						
	1.1nm,0.5s						
USRK	**Ussuriysk Ar.**	**48.21**	**4**	P	**P**	**22 32 04.8**	**0.0**
	1.4nm,0.6s,baz=200,slow=7.4,SNR=5.0						
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**64.63**	**327**	P	**P**	**22 33 59.9**	**-0.8**
	0.5nm,0.6s,baz=121,slow=8.5,SNR=6.5						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**68.92**	**329**	P	**P**	**22 34 26.6**	**-1.1**
	0.4nm,0.5s,baz=132,slow=5.5,SNR=6.9						
	0.4nm,0.5s						

NEIC ***27*** *22:27:50.3±1.3, 23°.5S±0°.1 × 179°.73W±0°.05, h564km±9km, mb4.5/30, Error ellipse: s-maj=17.7km s-min=5.7km az=190.0*

IDC ***27*** *22:27:52.3±2.3, 23°.41S × 179°.95W, h572km±25km, mb3.6/18, mbtmp4.5/18, Error ellipse: s-maj=15.5km s-min=12.0km az=63.0*

NOU ***27*** *22:28:52.8, 19°.28S × 179°.77E, h0km, MLv3.5/4, South of Fiji Islands*

ISC 27 22:27:49.6±0.4, 23°.59S±0°.05 × 179°.87W±0°.06, h550km, n144, σ1§46/155, mb4.5/38, 17C-5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**5.42**	**11**	P	**P**	**22 29 23.1**	**-0.1**
GLKZ	**Green Lake**	**5.92**	**163**	P	**P**	**22 29 28.1**	**+0.7**
GLKZ				S	**S**	**22 30 46.9**	**-0.4**
MSVF	**Nonsavu**	**6.14**	**341**		**P**	**22 29 29.5**	**-0.2**
MSVF	**Nonsavu**	**6.14**	**341**	P	**P**	**22 29 29.6**	**-0.2**
TAVE	**Taveuni**	**6.84**	**360**	P	**P**	**22 29 36.6**	**+0.3**
DGTI	**Dogotuki**	**7.26**	**357**	P	**P**	**22 29 40.0**	**-0.3**
FUTU	**Fugatoga**	**9.38**	**10**	P	**P**	**22 30 00.0**	**-1.3**
NIUE	**Niue**	**10.30**	**66**	P	**P**	**22 30 09.1**	**-1.6**
NIUE	**Niue**	**10.30**	**66**	S	**S**	**22 32 08.2**	**+1.6**
PINNC	**Pines Island,**	**11.71**	**272**	P	**P**	**22 30 27.4**	**+2.2**
OUZ	**Omahuta**	**12.91**	**205**	P	**P**	**22 30 40.1**	**+2.7**
KUZ	**Kuaotunu**	**13.65**	**195**	P	**P**	**22 30 46.9**	**+1.8**
MBAZ	**Motutapu North**	**13.89**	**198**	P	**P**	**22 30 47.6**	**+0.1**
MXZ	**Matakaoa Point**	**14.02**	**186**	P	**P**	**22 30 49.5**	**+0.7**
MKAZ	**Moumakai**	**14.13**	**196**	P	**P**	**22 30 51.6**	**+1.6**
WTAZ	**Waiatarua**	**14.13**	**199**	P	**P**	**22 30 53.4**	**+3.4**
AWAZ	**Awhitu Peninsu**	**14.24**	**198**	P	**P**	**22 30 53.0**	**+1.9**
WMGZ	**Waiomatatini S**	**14.26**	**186**	P	**P**	**22 30 52.8**	**+1.5**
HAZ	**Te Kaha**	**14.27**	**188**	P	**P**	**22 30 51.3**	**0.0**
HAZ				S	**S**	**22 33 16.0**	**-5.0**
PKGZ	**Pakihiroa**	**14.34**	**187**	P	**P**	**22 30 53.4**	**+1.2**
PKGZ				S	**S**	**22 33 22.3**	**-0.3**
RUGZ	**Raukumara Rang**	**14.48**	**188**	P	**P**	**22 30 53.8**	**0.0**
RUGZ				S	**S**	**22 33 22.7**	**-2.7**
PUZ	**Puketiti**	**14.53**	**186**	P	**P**	**22 30 55.0**	**+0.9**
PUZ				S	**S**	**22 33 25.3**	**-0.7**
TOZ	**Tahuroa Road**	**14.64**	**195**	P	**P**	**22 30 56.8**	**+1.6**
TWGZ	**Tauwhareparae**	**14.66**	**187**	P	**P**	**22 30 56.7**	**+1.3**
TWGZ				S	**S**	**22 33 24.2**	**-4.3**
URZ	**Urewera**	**14.85**	**189**	P	**P**	**22 30 55.3**	**-2.0**
	15nm,0.4s,baz=279,slow=2.6,SNR=20						
URZ				S	**S**	**22 33 31.8**	**-0.2**
	8.7nm,0.6s,baz=216,slow=22,SNR=6.6						
URZ	**Urewera**	**14.85**	**189**	P	**P**	**22 30 55.1**	**-2.2**
URZ				S	**S**	**22 33 28.7**	**-3.3**
MWZ	**Matawai**	**14.87**	**188**	P	**P**	**22 30 56.1**	**-1.4**
MWZ				S	**S**	**22 33 30.2**	**-2.2**
MUGZ	**Murupara**	**15.12**	**190**	P	**P**	**22 30 58.7**	**-1.4**
MUGZ				S	**S**	**22 33 34.0**	**-2.9**
RIGZ	**Rimuhau**	**15.21**	**187**	P	**P**	**22 31 00.6**	**-0.5**
TLZ	**Tolley Road**	**15.21**	**194**	P	**P**	**22 31 02.2**	**+1.1**
HIZ	**Hauiti**	**15.54**	**196**	P	**P**	**22 31 06.3**	**+1.8**
HIZ	**Hauiti**	**15.54**	**196**	P	**P**	**22 31 06.0**	**+1.5**
BKZ	**Black Stump Fm**	**15.84**	**190**	P	**P**	**22 31 05.7**	**-1.7**
BKZ				S	**S**	**22 33 42.4**	**-6.7**
VRZ	**Vera Road**	**16.15**	**195**	P	**P**	**22 31 11.9**	**+1.5**
THZ	**Tophouse**	**19.10**	**197**		**P**	**22 31 38.8**	**+1.4**
RPZ	**Rata Peaks**	**21.42**	**198**	P	**P**	**22 32 01.8**	**+3.5**
	35nm,0.5s,baz=334,slow=1.8,SNR=18						
	35nm,0.5s						
EIDS	**Eidsvold**	**26.48**	**260**	P	**P**	**22 32 45.3**	**+1.8**
CTAO	**Charters Tower**	**31.59**	**270**		**P**	**22 33 29.4**	**+1.5**
PMG	**Port Moresby**	**34.51**	**289**	P	**P**	**22 33 50.7**	**-1.8**
PMG	**Port Moresby**	**34.51**	**289**	P	**P**	**22 33 50.9**	**-1.6**
	21nm,0.6s,baz=101,slow=4.4,SNR=5.1						
	21nm,0.6s						
STKA	**Stephens Creek**	**34.95**	**248**	P	**P**	**22 33 56.6**	**+0.6**
	2.1nm,0.6s,baz=95,slow=11,SNR=6.1						
	2.1nm,0.6s						
COEN	**Coen**	**36.18**	**279**	P	**P**	**22 34 06.1**	**-0.4**
COEN				IAmb	IAmb	22 34 09.5	
	comp=Z,11nm,1.0s						
BBOO	**Buckleboo**	**39.68**	**247**	P	**P**	**22 34 35.3**	**+0.7**
AS31	**Alice Springs**	**42.20**	**260**	P	**P**	**22 34 55.5**	**+0.6**
ASAR	**Alice Springs**	**42.20**	**260**	P	**P**	**22 34 55.0**	**+0.1**
ASAR	**Alice Springs**	**42.20**	**260**	P	**P**	**22 34 55.7**	**+0.8**
	comp=Z,7.0nm,0.5s,baz=96,slow=8.0,SNR=46						
ASAR				PcP	**pwP**	**22 36 36.1**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=110,slow=4.6,SNR=4.1						
ASAR				S	**S**	**22 40 35.5**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=100,slow=14,SNR=6.8						
	comp=Z,7.0nm,0.5s						
WR8	**Warramunga Arr**	**42.40**	**266**	P	**P**	**22 34 56.3**	**-0.1**
WR8				IAmb	IAmb	22 34 56.9	
	comp=Z,9.1nm,0.6s						
WB0	**Warramunga Arr**	**42.54**	**266**	P	**P**	**22 34 57.6**	**0.0**
WRA	**Warramunga Arr**	**42.55**	**266**	P	**P**	**22 34 57.6**	**-0.1**
WRA	**Warramunga Arr**	**42.55**	**266**	P	**P**	**22 34 57.7**	**+0.1**
	comp=Z,13nm,0.6s,baz=103,slow=8.3,SNR=52						
WRA				PcP	**pwP**	**22 36 37.6**	**-2.7**
	comp=Z,1.1nm,0.8s,baz=100,slow=3.4,SNR=3.6						
WRA				S	**S**	**22 40 37.7**	**-3.1**
	comp=Z,1.2nm,0.9s,baz=98,slow=13,SNR=4.7						
	comp=Z,13nm,0.6s						
JAY	**Jayapura**	**43.50**	**293**	P	**P**	**22 35 05.3**	**+0.1**
	comp=Z,9.9nm,0.5s,baz=156,slow=6.4,SNR=11						
	comp=Z,9.9nm,0.5s						
FORT	**Forrest**	**46.53**	**249**	P	**P**	**22 35 28.2**	**+0.2**
FORT				IAmb	IAmb	22 35 29.5	
	comp=Z,11nm,0.7s						
KNRA	**Kununurra**	**48.81**	**269**	P	**P**	**22 35 45.6**	**+0.3**
KNRA				IAmb	IAmb	22 35 46.2	
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**50.97**	**265**	P	**P**	**22 36 02.1**	**+1.0**
	comp=Z,10nm,0.7s,baz=131,slow=4.1,SNR=6.7						
	comp=Z,10nm,0.7s						
VNDA	**Vanda**	**54.70**	**185**	P	**P**	**22 36 29.4**	**+2.7**
	comp=Z,0.4nm,0.5s,baz=7.5,slow=7.2,SNR=3.6						
VNDA				PcP	**PcP**	**22 37 21.7**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=28,slow=2.9,SNR=5.6						
	comp=Z,0.4nm,0.5s						
SOEI	**Soe**	**54.94**	**275**	P	**P**	**22 36 28.9**	**-0.7**
SOEI				IAmb	IAmb	22 36 41.1	
	comp=Z,27nm,0.8s						
BATI	**Baumata**	**55.32**	**274**	P	**P**	**22 36 33.3**	**+1.1**
	comp=Z,21nm,0.5s,baz=178,slow=4.4,SNR=4.2						
	comp=Z,21nm,0.5s						
PSA00	**Pilbara Seismi**	**55.34**	**259**	P	**P**	**22 36 31.6**	**-0.5**
NWAO	**Narrogin (SRO)**	**55.47**	**245**	P	**P**	**22 36 30.6**	**-2.3**
NWAO				IAmb	IAmb	22 36 35.7	
	comp=Z,15nm,1.1s						
MBWA	**Marble Bar**	**55.54**	**260**	P	**P**	**22 36 33.7**	**+0.1**
MBWA				IAmb	IAmb	22 36 34.5	
	comp=Z,21nm,1.1s						
MORW	**Morawa**	**57.09**	**250**	P	**P**	**22 36 44.6**	**+0.4**
GIRL	**Giralia**	**60.10**	**257**	P	**P**	**22 37 04.9**	**+0.4**
GIRL				IAmb	IAmb	22 37 07.1	
	comp=Z,34nm,1.1s						
TOLI2	**Tolitoli**	**62.61**	**284**	P	**P**	**22 37 20.0**	**-1.0**
TOLI2				IAmb	IAmb	22 37 22.8	
	comp=Z,9.5nm,0.7s						
JAGI	**Jajag, Banyuwa**	**64.68**	**272**	P	**P**	**22 37 32.9**	**-1.3**
JAGI				IAmb	IAmb	22 37 33.0	
	comp=Z,17nm,1.0s						
QSPA	**South Pole Qui**	**66.49**	**180**	P	**P**	**22 37 47.4**	**+2.6**
	comp=Z,0.9nm,0.6s,baz=357,slow=1.1,SNR=11						
	comp=Z,0.9nm,0.6s						
KKM	**Kota Kinabalu**	**68.93**	**287**	P	**P**	**22 38 00.1**	**-0.4**
KKM				IAmb	IAmb	22 38 01.5	
	comp=Z,10nm,1.0s						
JOW	**Kunigami**	**70.87**	**312**	P	**P**	**22 38 10.6**	**-1.0**
JOW				IAmb	IAmb	22 38 13.0	
	comp=Z,13nm,0.8s						
MJAR	**Matsushiro Arr**	**71.71**	**325**	P	**P**	**22 38 15.4**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=158,slow=6.0,SNR=6.6						
	comp=Z,1.6nm,0.6s						
NACB	**Ninganchiao**	**74.02**	**306**	P	**P**	**22 38 29.1**	**-0.7**
NACB				IAmb	IAmb	22 38 31.0	
	comp=Z,18nm,1.1s						
SSLB	**Suanglung**	**74.27**	**305**	P	**P**	**22 38 30.5**	**-0.8**
SSLB				IAmb	IAmb	22 38 30.9	
	comp=Z,16nm,1.0s						
KIWB	**Kanaga Island**	**75.15**	**2**	P	**P**	**22 38 34.2**	**-1.3**
KIWB				IAmb	IAmb	22 38 39.8	
	comp=Z,26nm,1.0s						
ADK	**Adak**	**75.20**	**2**	P	**P**	**22 38 34.6**	**-1.1**
MAW	**Mawson**	**78.08**	**200**	P	**P**	**22 38 52.8**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=136,slow=8.2,SNR=4.6						
	comp=Z,1.3nm,0.5s						
KSRS	**Korea Array**	**78.08**	**320**	P	**P**	**22 38 52.5**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=127,slow=5.1,SNR=6.9						
	comp=Z,1.1nm,0.5s						
KS19	**Woju Array Si**	**78.15**	**320**	P	**P**	**22 38 52.2**	**-0.1**
AKUT	**Akutan**	**78.35**	**8**	P	**P**	**22 38 53.0**	**+0.1**
PEA0B	**Petropavlovsk-**	**78.83**	**346**	P	**P**	**22 38 55.2**	**-0.3**
PEA0B				IAmb	IAmb	22 39 00.9	
	comp=Z,20nm,1.1s						
PETK	**Petropavlovsk-**	**78.83**	**346**	P	**P**	**22 38 55.1**	**-0.4**
	comp=Z,2.8nm,0.6s,baz=118,slow=6.0,SNR=8.7						
	comp=Z,2.8nm,0.6s						
NJ2	**Nanjing**	**80.55**	**311**	*e*P	**P**	**22 39 06.0**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**80.57**	**327**	P	**P**	**22 39 05.8**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=136,slow=2.5,SNR=6.4						
	comp=Z,2.5nm,0.7s						
TROLL	**Troll, Antarti**	**84.64**	**181**	⇓P	**P**	**22 39 25.5**	**+0.3**
	comp=Z,119nm,0.4s						
SNAA	**Sanae**	**84.97**	**179**	⇓P	**P**	**22 39 26.7**	**-0.1**
	comp=Z,16nm,0.4s						
SNAA	**Sanae**	**84.97**	**179**	P	**P**	**22 39 26.5**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=197,slow=14,SNR=5.5						
	comp=Z,0.8nm,0.6s						
L18K	**Granite Mounta**	**87.50**	**11**	P	**P**	**22 39 38.2**	**-0.3**
XAN	**Xi'an**	**88.64**	**308**	*e*P	**P**	**22 39 46.0**	**+1.4**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XLT	**XiLinHaoTe**	**89.12**	**319**	*e*P	**P**	**22 39 49.8**	**+3.1**
XLT				pP	pwP	22 41 55.0	+3.8
XLT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.53**	**290**	P	**P**	**22 39 50.6**	**+1.6**
	comp=Z,3.4nm,1.0s,baz=106,slow=4.7,SNR=16						
	comp=Z,3.4nm,1.0s						
Y22A	**Socorro**	**89.82**	**53**		pwP	22 41 54.6	+1.0
TXAR	**Lajitas Array**	**90.17**	**58**	P	**P**	**22 39 52.9**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=218,slow=7.3,SNR=4.6						
	comp=Z,0.3nm,0.6s						
HHC	**Hu-ho-hao-te**	**90.28**	**315**	*e*P	**P**	**22 39 54.5**	**+2.3**
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,47nm,4.5s						
PZH	**PanZhiHua**	**90.64**	**299**	P	**P**	**22 39 54.0**	**-0.2**
TOLK	**Toolik Lake Re**	**94.59**	**11**		pwP	22 42 16.7	+2.3
MKAR	**Makanchi Array**	**112.03**	**313**	PKiKP	**PKiKP**	**22 45 21.3**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=122,slow=1.5,SNR=7.5						
KURBB	**Kurchatov Arra**	**115.10**	**316**	PKP	**PKPdf**	**22 45 27.0**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=113,slow=1.4,SNR=7.8						
BVAR	**Borovoye Array**	**120.28**	**319**	PKP	**PKiKP**	**22 45 37.4**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=112,slow=1.8,SNR=9.6						
ARCES	**ARCESS Array B**	**131.61**	**348**	PKP	**PKPdf**	**22 45 57.9**	**-1.5**
	comp=Z,1.2nm,0.5s,baz=111,slow=2.7,SNR=12						
FINES	**FINESS Array B**	**138.19**	**342**	PKhKP	PKPpre	22 46 03.6	
	comp=Z,0.8nm,0.6s,baz=65,slow=2.6,SNR=7.5						
NB2	**NORSAR Subarra**	**141.79**	**351**	PKP	PKPpre	22 46 13.2	
	comp=Z,0.6nm,0.5s,baz=12,slow=3.2						
NOA	**NORSAR Array B**	**141.79**	**351**	PKhKP	PKPpre	22 46 13.5	
	comp=Z,1.2nm,0.7s,baz=15,slow=4.6,SNR=6.3						
HFS	**Hagfors**	**142.26**	**349**	PKhKP	PKPpre	22 46 14.8	
	comp=Z,5.9nm,0.3s,baz=64,slow=3.4,SNR=91						
AKASG	**Malin Array Be**	**144.77**	**328**	PKP	PKPbc	22 46 23.2	-1.1
	comp=Z,3.3nm,0.4s,baz=44,slow=4.1,SNR=30						
KIEV	**Kiev**	**144.78**	**328**	⇑P	PKPbc	22 46 23.0	-1.3
BRTR	**Keskin Array B**	**147.48**	**308**	PKPbc	**PKPbc**	**22 46 31.9**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=144,slow=4.8,SNR=11						
BRTR				PKPab	**PKPab**	**22 46 36.7**	**+0.3**
	comp=Z,2.7nm,0.6s,baz=106,slow=4.1,SNR=14						
MMAI	**Mount Meron Ar**	**147.68**	**295**	PKPbc	**PKiKP**	**22 46 34.0**	**-0.5**
	comp=Z,3.8nm,0.4s,baz=75,slow=6.3,SNR=45						
EKA	**Eskdalemuir Ar**	**148.20**	**4**	PKPbc	**PKPbc**	**22 46 32.7**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=341,slow=2.5,SNR=15						
CFR	**Carcaliu**	**148.67**	**320**	⇓P	**PKiKP**	**22 46 34.5**	**-1.5**
HARR	**Harsova**	**149.06**	**320**	⇑P	**PKiKP**	**22 46 36.2**	**-0.6**
OJC	**Ojcow**	**149.31**	**335**	*e*PKPbc	**PKiKP**	**22 46 36.0**	**-1.2**
TURR	**Turia**	**149.35**	**323**	⇑P	**PKPab**	**22 46 44.4**	**+0.7**
NIE	**Niedzica**	**149.74**	**333**	*e*PKPbc	**PKiKP**	**22 46 38.1**	**-0.1**
MLR	**Muntele Rosu**	**149.74**	**323**	⇑P	**PKiKP**	**22 46 37.8**	**-0.7**
DOPR	**Dopca**	**149.75**	**324**	⇑P	**PKiKP**	**22 46 38.1**	**-0.2**
KSP	**Ksiaz**	**150.04**	**339**	*e*PKPbc	**PKiKP**	**22 46 38.3**	**-0.4**
VOIR		**150.27**	**323**	⇓P	**PKiKP**	**22 46 39.5**	**0.0**
STEB	**Steborice**	**150.30**	**337**	*e*PKP	**PKiKP**	**22 46 38.8**	**-0.5**
STEB				*e*PKPAB	**PKPab**	**22 46 47.8**	**+0.3**
OSTC	**Ostas**	**150.31**	**339**	⇑*e*PKP	**PKiKP**	**22 46 39.1**	**-0.2**
UPC	**Upice**	**150.42**	**339**	⇑*e*PKP	**PKiKP**	**22 46 39.1**	**-0.4**
DPC	**Dobruska-Polom**	**150.45**	**339**	⇑*e*PKP	**PKiKP**	**22 46 39.5**	**-0.2**
MORC	**Moravsky Berou**	**150.51**	**337**	*e*PKP	**PKiKP**	**22 46 39.4**	**-0.4**
MORC	**Moravsky Berou**	**150.51**	**337**	⇓P	**PKiKP**	**22 46 38.9**	**-0.9**
KRLC	**Kraliky**	**150.53**	**338**	⇑*e*PKP	**PKiKP**	**22 46 39.6**	**-0.2**
ARR	**Arges**	**150.54**	**324**	⇑P	**PKiKP**	**22 46 39.9**	**-0.1**
CLL	**Collm**	**150.59**	**343**	*i* PKPbc	**PKiKP**	**22 46 39.2**	**-0.6**
	comp=Z,9.0nm,0.8s						
BRG	**Berggiesshubel**	**150.73**	**342**	*i* PKP	**PKiKP**	**22 46 39.9**	**-0.3**
BRG				Amp		22 46 40.5	
	comp=Z,5.8nm,0.6s						
BRG	**Berggiesshubel**	**150.73**	**342**	P	**PKPab**	**22 46 49.1**	**-0.1**
BRG				Amp		22 46 50.5	
	comp=Z,2.6nm,0.8s						
MAUC	**Maruska**	**150.75**	**336**	⇑*e*PKP	**PKiKP**	**22 46 40.4**	**+0.1**
PVCC	**Panska Ves**	**150.85**	**341**	⇑*e*PKP	**PKiKP**	**22 46 40.3**	**-0.1**
HUMR	**Humele**	**150.87**	**322**	⇑P	**PKiKP**	**22 46 39.7**	**-0.9**
VRAC	**Vranov**	**151.24**	**337**	*e*PKP	**PKiKP**	**22 46 40.8**	**-0.5**
VRAC	**Vranov**	**151.24**	**337**	⇑P	**PKPab**	**22 46 51.8**	**+0.3**
KRUC	**Moravsky**	**151.52**	**337**	*e*PKP	**PKiKP**	**22 46 41.3**	**-0.5**
KHC	**Kasperske Hory**	**152.39**	**341**	⇑*e*PKP	**PKiKP**	**22 46 43.5**	**-0.2**
KHC				*e*PKPAB	**PKPab**	**22 46 55.9**	**-0.5**
CKRC	**Cesky Krumlov**	**152.44**	**340**	⇑*e*PKP	**PKiKP**	**22 46 43.0**	**-0.8**
GERES	**GERESS Array B**	**152.60**	**340**	PKPbc	**PKiKP**	**22 46 43.0**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=68,slow=7.4,SNR=5.0						
CONA	**Conrad Observa**	**152.67**	**337**	*i* PKP	**PKPab**	**22 46 57.8**	**+0.1**
	comp=Z,2.1nm,0.7s						
RONA	**Rosalia, Austr**	**152.70**	**336**	*i* PKP	**PKPab**	**22 46 56.8**	**-0.9**
	comp=Z,4.2nm,0.8s						
OBKA	**Obir**	**154.35**	**337**	*i* PKP	**PKPab**	**22 47 04.5**	**-0.4**
	comp=Z,1.5nm,1.0s						
WATA	**Walderalm**	**154.59**	**342**	*i* PKP	**PKPab**	**22 47 05.3**	**-0.7**
	comp=Z,0.4nm,0.4s						
WTTA	**Wattenberg**	**154.64**	**342**	*e*PKP	**PKPab**	**22 47 05.7**	**-0.5**
	comp=Z,2.0nm,0.5s						
RETA	**Reutte**	**154.68**	**343**	*i* PKP	**PKPab**	**22 47 05.4**	**-0.9**
	comp=Z,1.7nm,0.6s						
MOTA	**Moosalm**	**154.72**	**342**	*i* PKP	**PKPab**	**22 47 05.6**	**-0.9**
	comp=Z,3.5nm,1.0s						
SQTA	**Sankt Quirin**	**154.80**	**342**	*e*PKP	**PKPab**	**22 47 05.8**	**-1.1**
	comp=Z,3.7nm,1.2s						
DAVA	**Damuels**	**155.09**	**344**	*e*PKP	**PKPab**	**22 47 07.2**	**-1.0**
	comp=Z,2.9nm,0.6s						
TORD	**Torodi Ar. Bea**	**169.51**	**188**	PKPab	**PKPab**	**22 48 11.3**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=215,slow=4.9,SNR=2.1						

IDC ***27*** *22:29:38.2±1.0, 8°.86S × 118°.57E, h0km, mb3.7/8, mbtmp3.8/12, ML3.9/4, MS3.3/2, Error ellipse: s-maj=41.7km s-min=15.9km az=61.0*

DJA ***27*** *22:29:40.8±0.3, 9°.S±4°.× 11°.9E±°, h10km, M4.4/5, MLv4.4/5*

ISC 27 22:29:40.3±0.7, 8°.83S±0°.05 × 118°.73E±0°.04, h10km, n35, σ1§25/33, mb3.9/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.95**	**270**	P	**Pg**	**22 29 57.4**	**-1.1**
WBSI	**Waikabubak, Su**	**1.04**	**141**	P	**Pg**	**22 29 58.3**	**-2.0**
WSI	**Waingapu**	**1.75**	**119**	P	**Pn**	**22 30 09.4**	**-1.4**
TWSI	**Taliwang, Sumb**	**1.83**	**273**	P	**Pn**	**22 30 11.6**	**-0.3**

PHPEN					IAmb	IAmb	22 47 01.9		
	comp=Z,16nm,1.4s								
BOSA	**Boshof**	**33.62**	**110**	LR	LR		22 58 28.4		
	comp=Z,72nm,19.3s,baz=230,slow=33								
LBTB	**Lobatse**	**33.84**	**103**	LR	LR		22 59 33.4		
	comp=Z,94nm,18.2s,baz=273,slow=34								
KHWEE	**KHWEE**	**33.89**	**98**	P	**P**		**22 46 47.2**	**-1.3**	
BDFB	**Brasilia**	**35.45**	**273**	P	**P**		**22 47 02.8**	**+0.6**	
BDFB	**Brasilia**	**35.45**	**273**	P	**P**		**22 46 59.5**	**-2.7**	
	comp=Z,2.8nm,0.6s,baz=114,slow=9.5,SNR=4.4								
BDFB				LR	LR		22 58 33.5		
	comp=Z,83nm,19.8s,baz=171,slow=32								
	comp=Z,2.8nm,0.6s								
TORD	**Torodi Ar. Bea**	**36.43**	**21**	P	**P**		**22 47 09.8**	**-0.4**	
TORD	**Torodi Ar. Bea**	**36.43**	**21**	P	**P**		**22 47 11.2**	**+1.0**	
	comp=Z,1.7nm,0.6s,baz=197,slow=7.7,SNR=12								
	comp=Z,1.7nm,0.6s								
MATP	**Matopo**	**36.90**	**96**	LR	LR		23 00 40.5		
	comp=Z,94nm,20.1s,baz=214,slow=33								
CPUP	**Villa Florida**	**42.47**	**254**	P	**P**		**22 47 59.7**	**-1.0**	
	comp=Z,0.3nm,0.6s,baz=63,slow=6.8,SNR=3.3								
CPUP				LR	LR		23 03 34.8		
	comp=Z,30nm,18.4s,baz=316,slow=33								
	comp=Z,0.3nm,0.6s								
MBAR	**Mbarara**	**45.64**	**69**	LR	LR		23 04 11.9		
	comp=Z,38nm,21.2s,baz=215,slow=32								
PTLB	**Pontes e Lacer**	**45.87**	**269**	P	**P**		**22 48 27.1**	**-1.0**	
EFI	**East Falkland**	**47.29**	**218**	P	**P**		**22 48 40.4**	**+1.6**	
SIV	**San Ignacio**	**47.54**	**267**	LR	LR		23 05 55.1		
	comp=Z,109nm,21.7s,baz=114,slow=33								
MDP	**Montagnes des**	**48.48**	**298**	LR	LR		23 07 52.7		
	comp=Z,35nm,18.8s,baz=158,slow=34								
SNAA	**Sanae**	**50.63**	**177**	P	**P**		**22 49 05.7**	**+1.5**	
SNAA				IAmb	IAmb		22 49 15.1		
	comp=Z,8.0nm,1.3s								
SNAA	**Sanae**	**50.63**	**177**	P	**P**		**22 49 04.2**	**0.0**	
	comp=Z,0.9nm,0.7s,baz=356,slow=4.2,SNR=3.2								
	comp=Z,0.9nm,0.7s								
LMEL	**Las Melosas**	**53.27**	**243**	P	**P**		**22 49 25.8**	**+1.2**	
LMEL				IAmb	IAmb		22 49 28.4		
	comp=Z,10nm,1.3s								
PLCA	**Paso Flores**	**53.55**	**234**	LR	LR		23 08 19.8		
	comp=Z,58nm,20.8s,baz=106,slow=32								
LPAZ	**La Paz**	**54.03**	**265**	LR	LR		23 12 07.7		
	comp=Z,105nm,18.1s,baz=88,slow=36								
FURI	**Furi**	**57.30**	**64**	LR	LR		23 14 06.7		
	comp=Z,84nm,18.1s,baz=205,slow=36								
KEST	**Kesra**	**59.90**	**19**	P	**P**		**22 50 12.2**	**+0.8**	
	comp=Z,2.4nm,0.7s,baz=265,slow=11,SNR=4.7								
KEST				LR	LR		23 14 22.0		
	comp=Z,48nm,19.0s,baz=303,slow=34								
	comp=Z,2.4nm,0.7s								
ESDC	**Sonseca Array**	**60.99**	**6**	P	**P**		**22 50 19.7**	**+0.9**	
	comp=Z,0.5nm,0.9s,baz=193,slow=5.9,SNR=2.6								
	comp=Z,0.5nm,0.9s								
ATAH	**Atahualpa**	**66.36**	**271**	LR	LR		23 18 02.6		
	comp=Z,126nm,19.3s,baz=119,slow=34								
EIL	**Elat**	**67.28**	**43**	LR	LR		23 18 58.2		
	comp=Z,38nm,20.4s,baz=170,slow=35								
COHC	**Cochancay**	**68.81**	**276**	P	**P**		**22 51 09.9**	**-0.3**	
QSPA	**South Pole Qui**	**68.92**	**180**	P	**P**		**22 51 11.0**	**+0.7**	
QSPA				IAmb	IAmb		22 51 17.5		
	comp=Z,9.2nm,1.2s								
QSPA	**South Pole Qui**	**68.92**	**180**	P	**P**		**22 51 07.8**	**-2.4**	
	comp=Z,0.7nm,0.9s,baz=217,slow=0.4,SNR=1.8								
	comp=Z,0.7nm,0.9s								
ASF	**Jabal al Asfar**	**70.21**	**42**	LR	LR		23 19 02.0		
	comp=Z,36nm,21.7s,baz=233,slow=33								
STAL	**STALIGIAL**	**70.58**	**17**	P	**P**		**22 51 21.1**	**+0.7**	
ALN	**Alexandroupoli**	**70.81**	**29**	P	**P**		**22 51 22.0**	**+0.1**	
ALN				IAmb	IAmb		22 51 22.3		
	comp=Z,5.3nm,1.3s								
MDUB	**Mudurnu**	**72.93**	**32**	P	**P**		**22 51 32.8**	**-2.1**	
UCC	**Uccle**	**73.03**	**10**	P	**P**		**22 51 35.5**	**+0.5**	
UCC				IAmb	IAmb		22 52 15.2		
	comp=Z,16nm,1.3s								
GERES	**GERESS Array B**	**73.22**	**17**	P	**P**		**22 51 37.3**	**+1.0**	
	comp=Z,0.4nm,0.6s,baz=186,slow=5.2,SNR=4.3								
	comp=Z,0.4nm,0.6s								
GRFO	**Grafenberg**	**73.37**	**15**	P	**P**		**22 51 37.0**	**0.0**	
GRFO				IAmb	IAmb		22 51 39.0		
	comp=Z,5.6nm,0.9s								
GRA1	**Grafenberg Arr**	**73.37**	**15**	P	**P**		**22 51 37.5**	**+0.4**	
GRA1				IAmb	IAmb		22 52 18.0		
	comp=Z,16nm,1.5s								
BNN	**Bunyan**	**74.20**	**36**	P	**P**		**22 51 41.6**	**-0.8**	
PSZ	**Piszkesteto**	**74.27**	**21**	P	**P**		**22 51 42.4**	**0.0**	
MLR	**Muntele Rosu**	**74.48**	**26**	P	**P**		**22 51 43.2**	**-0.6**	
MLR				IAmb	IAmb		22 52 04.7		
	comp=Z,6.2nm,1.2s								
ILGA	**Ilgaz**	**74.64**	**34**	P	**P**		**22 51 45.4**	**+0.4**	
ILGA				IAmb	IAmb		22 52 25.1		
	comp=Z,16nm,1.1s								
TIRR	**Tirgusor**	**74.70**	**28**	P	**P**		**22 51 45.5**	**+0.5**	
PIRO	**Carate, Puerto**	**76.80**	**285**	P	**P**		**22 51 58.1**	**+0.4**	
AKASG	**Malin Array Be**	**79.97**	**25**	P	**P**		**22 52 15.2**	**+0.9**	
	comp=Z,0.8nm,0.6s,baz=223,slow=6.2,SNR=5.1								
	comp=Z,0.8nm,0.6s								
MJAR	**Matsushiro Arr**	**149.25**	**54**	PKPbc		**PKiKP**	**22 59 55.5**	**-0.2**	
	comp=Z,0.7nm,0.2s,baz=264,slow=6.0,SNR=4.6								

*UCR **27** 23:20:34.0±0.7,8.3°30N×82.2°86W,h26km±3km,MW3.7*
*UPA **27** 23:20:35.4±0.8,8.4°40N×82.2°82W,h31km±3km,MW3.4*
ISC 27 23:20:35.3±1.0,**8.3°39N**±0.1°04×**82.2°84W**±0.1°03,**h32**km±6km,
n55,σ0°**77**/71,**9D**,**Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.05**	**68**	*eP*	**Pb**	**23 20 40.5**	**-0.1**
LESP3				*eS*	**Sb**	**23 20 44.4**	**0.0**
NELY	**Ciudad Neily**	**0.28**	**338**	*eP*	**Pb**	**23 20 42.2**	**-0.5**
DMCAL	**E. de Neily**	**0.28**	**9**	*eP*	**Pb**	**23 20 42.7**	**-0.1**
LMNES	**Limones**	**0.29**	**184**	*eP*	**Pb**	**23 20 42.6**	**-0.1**
BAGA3	**Bagala, Chiriq**	**0.32**	**75**	*iP*	**Pb**	**23 20 43.2**	**+0.1**
BAGA3				*eS*	**Sn**	**23 20 48.8**	**-0.4**
DVD	**David**	**0.39**	**83**	*iP*	**Pb**	**23 20 43.7**	**-0.4**
DVD				*eS*	**Sb**	**23 20 49.5**	**-0.6**
FITO	**Golfito**	**0.39**	**307**	*eP*	**Pb**	**23 20 42.7**	**-1.5**
JEFFS	**S de V. Baru**	**0.41**	**47**	*eP*	**Pb**	**23 20 44.4**	**-0.2**
PEDE3	**Pedregal, Chir**	**0.41**	**90**	*eP*	**Pb**	**23 20 43.9**	**-0.6**
PEDE3				*eS*	**Sb**	**23 20 50.9**	**+0.1**
LOCO3	**Loma Colorada,**	**0.42**	**87**	*iP*	**Pb**	**23 20 44.2**	**-0.3**
LOCO3				*eS*	**Sb**	**23 20 50.7**	**-0.2**
RSRNO	**Rio Sereno**	**0.43**	**357**	*eP*	**Pb**	**23 20 45.0**	**+0.2**
BRU2	**Volcan**	**0.43**	**20**	*iP*	**Pb**	**23 20 44.6**	**-0.3**
BRU2				*eS*	**Sn**	**23 20 52.6**	**+0.4**
BRU2	**Volcan**	**0.43**	**20**	*eP*	**Pb**	**23 20 44.5**	**-0.3**
TBS2		**0.44**	**24**	*eP*	**Pn**	**23 20 45.6**	**0.0**
LOMA3	**Las Lomas, Chi**	**0.44**	**84**	*eP*	**Pb**	**23 20 44.5**	**-0.4**
LOMA3				*eS*	**Sb**	**23 20 51.5**	**-0.1**
SCLRA	**Santa Clara, W**	**0.45**	**7**	*eP*	**Pb**	**23 20 45.1**	**0.0**
BANCO	**falda S V. Bar**	**0.45**	**43**	*eP*	**Pb**	**23 20 44.8**	**-0.3**
VITO	**San Vito**	**0.45**	**343**	*eP*	**Pb**	**23 20 45.0**	**-0.1**
VITO				*eS*	**Sn**	**23 20 53.4**	**+0.7**
PTAR3	**Potrerillos Ar**	**0.46**	**48**	*iP*	**Pb**	**23 20 44.9**	**-0.3**
BC3P	**Paso Ancho**	**0.48**	**28**	*iP*	**Pb**	**23 20 45.1**	**-0.5**
BC3P				*eS*	**Sn**	**23 20 53.6**	**0.0**
PIRO	**Carate, Puerto**	**0.49**	**272**	*eP*	**Pb**	**23 20 44.8**	**-0.9**
PIRO				*eS*	**Sn**	**23 20 53.5**	**-0.1**
CHIR3	**Chiriqui UPA,**	**0.50**	**89**	*iP*	**Pb**	**23 20 45.2**	**-0.6**
CHIR3				*eS*	**Sb**	**23 20 53.1**	**0.0**
JIME	**Puerto Jimenez**	**0.51**	**287**	*eP*	**Pb**	**23 20 44.8**	**-1.1**
BQTLY	**Boquete Panama**	**0.52**	**45**	*eP*	**Pb**	**23 20 45.6**	**-0.7**
BQSF3	**Alto Boquete,**	**0.53**	**48**	*iP*	**Pb**	**23 20 45.8**	**-0.7**
BQSF3				*eS*	**Sb**	**23 20 54.1**	**0.0**
WILLF	**Boquete**	**0.54**	**48**	*eP*	**Pb**	**23 20 45.7**	**-0.8**
ALCO	**Alturas Coton,**	**0.56**	**0**	*eP*	**Pb**	**23 20 46.1**	**-0.8**
DAP26	**falda E V. Bar**	**0.57**	**46**	*eP*	**Pb**	**23 20 46.1**	**-1.0**
PSOM3	**Paja de Sombre**	**0.59**	**60**	*iP*	**Pb**	**23 20 46.4**	**-0.9**
PSOM3				*eS*	**Sb**	**23 20 55.5**	**0.0**
PBNVO	**Pueblo Nuevo,**	**0.81**	**52**	*eP*	**Pn**	**23 20 49.5**	**-0.9**
RBALA	**Bur**	**0.83**	**54**	*eP*	**Pn**	**23 20 50.2**	**-0.6**
PANP	**Palmar Norte**	**0.84**	**313**	*eP*	**Pn**	**23 20 49.9**	**-0.9**
CHGR2	**Aguacate**	**0.88**	**51**	*iP*	**Pn**	**23 20 50.6**	**-0.8**
CHGR2				*eS*	**Sn**	**23 21 02.7**	**-0.4**
BURE	**Buenos Aires**	**0.93**	**328**	*eP*	**Pn**	**23 20 51.6**	**-0.5**
DRK0	**Durika**	**0.96**	**335**	*eP*	**Pn**	**23 20 52.0**	**-0.7**
DRK0				*eS*	**Sn**	**23 21 05.2**	**-0.2**
DRK0	**Durika**	**0.96**	**335**	*eP*	**Pn**	**23 20 51.8**	**-0.9**
KKNTU	**Kakinᵗᵍ**	**1.11**	**66**	*eP*	**Pn**	**23 20 53.8**	**-0.9**
SAJE	**San Jernim**	**1.16**	**325**	*eP*	**Pn**	**23 20 54.8**	**-0.6**
RGM0	**Gandoca**	**1.22**	**11**	*eP*	**Pn**	**23 20 55.4**	**-0.7**
RGM0	**Gandoca**	**1.22**	**11**	*eP*	**Pb**	**23 20 57.7**	**0.0**
CEUA	**Cerro Uatsi, L**	**1.23**	**355**	*eP*	**Pb**	**23 20 58.5**	**+0.5**
LAES	**El Progreso Va**	**1.38**	**351**	*eP*	**Pb**	**23 20 59.8**	**-0.7**
BUS1	**Rivas**	**1.47**	**322**	*eP*	**Pn**	**23 20 59.5**	**-0.4**
VERH	**Veragua Rainfo**	**1.57**	**347**	*eP*	**Pn**	**23 21 01.4**	**+0.4**
GMAL	**Guarumal, Vera**	**1.71**	**111**	*eP*	**Pn**	**23 21 02.9**	**+0.1**
VINA	**Juan Vinas**	**1.75**	**329**	*eP*	**Pn**	**23 21 04.6**	**+1.1**
CVTV	**Tajo**	**1.84**	**331**	*eP*	**Pn**	**23 21 05.8**	**+0.8**
VTR0	**Volcan Turrial**	**1.86**	**331**	*eP*	**Pn**	**23 21 05.5**	**+0.2**
CVTR	**Volcan Turrial**	**1.86**	**331**	*eP*	**Pn**	**23 21 05.9**	**+0.6**
VICA	**Volcano Irazu**	**1.87**	**328**	*eP*	**Pn**	**23 21 06.8**	**+1.3**
CACAO	**El Cacao, Vera**	**2.21**	**118**	*eP*	**Pn**	**23 21 10.0**	**+0.2**
ARE1	**Arenal 1**	**2.77**	**318**	*eP*	**Pn**	**23 21 20.3**	**+2.8**
JTS	**Las Juntas de**	**2.82**	**312**	*eP*	**Pn**	**23 21 18.8**	**+0.7**
JTS				*eS*	**Sn**	**23 21 51.5**	**+0.5**
JTS	**Las Juntas de**	**2.82**	**312**	*eP*	**Pn**	**23 21 18.9**	**+0.8**
GAMB1	**Gamboa**	**3.18**	**77**	*eP*	**Pn**	**23 21 25.8**	**+2.7**

*NEIC **27** 23:27:32.5,53°32N×165°84W,h10km*
*AEIC **27** 23:27:34.6±1.7,53°42N±0°04×165°90W±0°04,h19km±3km,*
Error ellipse: s-maj=6.4km s-min=2.3km az=156.0
*MOS **27** 23:27:34.6±0.9,53°60N×165°91W,h43km,mb5.0/53,*
MS4.3/5,Error ellipse: s-maj=7.8km s-min=5.2km az=89.3
*IDC **27** 23:27:35.8±2.1,53°65N×166°03W,h36km±15km,mb4.3/34,*
mbtmp4.5/36,ML3.8/2,MS4.2/81,Error ellipse:
s-maj=16.2km s-min=9.6km az=170.0
*NEIC **27** 23:27:36.1±1.7,53°47N±0°04×165°91W±0°06,h35km±1km,*
mb4.8/360,ML4.5/6,Mwr4.8/19,ML4.6(AEIC),Error ellipse:
s-maj=7.0km s-min=5.0km az=322.0,Moment Tensor
Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.61;
Mθθ-1.43; Mϕϕ-0.18; Mrθ 0.52; Mrϕ-0.96; Mθϕ 0.69; Fault
plane solution: M₀2.01000×10¹⁶ NP1:φs49.23000°,
δ58.23000°,λ75.40000°. NP2:φs255.55000°,δ34.64000°,
λ112.15000°. Principal axes: T 1.8618, Plg73.0000°,
Azm283.0000°; N 0.2632, Plg12.0000°, Azm57.0000°; P
-2.1250, Plg12.0000°, Azm150.0000°;
*GCMT **27** 23:27:37.1±0.2,53°33N±0°01×165°83W±0°02,h44km,*
MW5.1/119,Moment Tensor Solution. s92,c139;
s119,c193; Duration: 0 Moment tensor: Scale 10¹⁶Nm;
Mrr3.98±.13; Mθθ-2.90±.11; Mϕϕ-1.08±.10; Mrθ 1.17±.10;
Mθϕ-2.90±.07; Mrϕ2.49±.09; Best double couple:
M₀5.32600×10¹⁶ NP1:φs253.00000°,δ34.00000°,
λ121.00000°. NP2:φs37.00000°,δ61.00000°,λ71.00000°.
Principal axes: T 5.0000, Plg68.0000°, Azm270.0000°; N
0.6530, Plg17.0000°, Azm46.0000°; P -5.6520,
Plg14.0000°, Azm141.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
ISC 27 23:27:36.1±0.5,**53°54N**±0°04×**165°94W**±0°03,**h41**km±3km,
n1024,σ1°**18**/948,**mb4.8**/246,**MS4.2**/93,**26C-17D**,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.46**	**313**		**Pn**	**23 27 46.5**	**+0.3**
UNV					**Sn**	**23 27 55.4**	**+2.0**
UNV				IAML		23 27 56.4	
	comp=E,32μm,0.5s						
UNV				IAML		23 27 56.8	
	comp=N,33μm,0.5s						
UNV	**Unalaska Valle**	**0.46**	**313**	P	**Pn**	**23 27 46.3**	**+0.1**
	baz=142,SNR=940						
MREP	**Makushin Rep't**	**0.55**	**300**		**Pn**	**23 27 47.7**	**+0.1**
ZRO	**Akutan Zero**	**0.55**	**358**		**Pn**	**23 27 48.0**	**+0.5**
ZRO					**Sn**	**23 27 58.1**	**+2.4**
AKMO	**Akutan Morgan**	**0.56**	**356**		**Pn**	**23 27 47.9**	**+0.4**
AKMO					**Sn**	**23 27 58.2**	**+2.5**
AKBBA	**Akutan Broad B**	**0.56**	**0**		**Pn**	**23 27 48.0**	**+0.3**
AKBBA					**Sn**	**23 27 58.2**	**+2.4**
MNAT	**Makushin Natee**	**0.56**	**308**		**Pn**	**23 27 47.5**	**-0.1**
MNAT					**Sn**	**23 27 57.2**	**+1.3**
AHB	**Akutan Harbor**	**0.58**	**7**		**Pn**	**23 27 48.0**	**+0.1**
AHB					**Sn**	**23 27 59.1**	**+2.7**
AKV	**Akutan Volcano**	**0.59**	**359**		**Pn**	**23 27 48.7**	**+0.6**
AKV					**Sn**	**23 27 59.3**	**+2.6**
AKRB	**Akutan Reef Bi**	**0.60**	**353**		**Pn**	**23 27 48.7**	**+0.6**
AKRB					**Sn**	**23 27 58.8**	**+2.1**
AKUT	**Akutan**	**0.60**	**9**		**Pn**	**23 27 48.2**	**0.0**
AKUT				Sn	**Sn**	**23 27 59.2**	**+2.3**
AKUT				IAML		23 28 01.8	
	comp=E,17μm,0.3s						
MGOD	**Makushin Gods**	**0.61**	**295**		**Pn**	**23 27 48.4**	**0.0**
AKSA	**Akutan Strait**	**0.61**	**13**		**Pn**	**23 27 48.0**	**-0.4**
AKSA					**Sn**	**23 27 59.4**	**+2.2**
AKLV	**Akutan Long Va**	**0.62**	**359**		**Pn**	**23 27 48.7**	**+0.1**
LVA	**Lava Point**	**0.63**	**355**		**Pn**	**23 27 48.9**	**+0.4**
LVA				Sn	**Sn**	**23 27 59.2**	**+1.8**
LVA				IAML		23 28 08.6	
	comp=E,22μm,0.7s						
MSW	**Makushin Switc**	**0.63**	**307**		**Pn**	**23 27 48.9**	**+0.3**
MSW					**Sn**	**23 27 59.9**	**+2.4**
MAPS	**Pakushin South**	**0.66**	**295**		**Pn**	**23 27 48.9**	**0.0**
SSBA	**Shishaldin**	**1.63**	**40**		**Pn**	**23 28 03.9**	**+1.5**
ISNN	**Isanotski Nort**	**1.81**	**44**		**Pn**	**23 28 06.2**	**+1.4**
NIKH	**Nikolski High**	**1.84**	**253**		**Pn**	**23 28 04.4**	**-0.7**
NIKH				Sn	**Sn**	**23 28 20.8**	**+0.8**
NIKH	**Nikolski High**	**1.84**	**253**	P	**Pn**	**23 28 04.5**	**-0.7**
FALS	baz=76,SNR=108						
FALS	**False Pass**	**1.98**	**47**		**Pn**	**23 28 07.2**	**+0.1**
FALS				Sn	**Sn**	**23 28 32.2**	**+1.6**
FALS	**False Pass**	**1.98**	**47**	P	**Pn**	**23 28 07.6**	**+0.5**
	baz=225,SNR=36						
CLES	**Cleveland East**	**2.49**	**255**		**Pn**	**23 28 14.5**	**+0.6**
PS4A	**Pavlof South-4**	**2.99**	**51**		**Pn**	**23 28 22.6**	**+1.7**
S12K	**Black Hills**	**3.13**	**45**		**Pn**	**23 28 24.1**	**+1.2**
S12K	**Black Hills**	**3.13**	**45**	P	**Pn**	**23 28 24.0**	**+1.2**
	baz=225						
SDPT	**Sand Point**	**3.67**	**58**		**Pn**	**23 28 31.0**	**+0.8**
SDPT	**Sand Point**	**3.67**	**58**	P	**Pn**	**23 28 30.5**	**+0.3**
	baz=240,SNR=7.6						
P08K	**Saint George I**	**3.71**	**327**	Pn	**Pn**	**23 28 31.9**	**+1.3**
P08K	**Saint George I**	**3.71**	**327**	P	**Pn**	**23 28 33.2**	**+2.5**
	baz=145						
CNBA	**Chernabura Isl**	**3.94**	**68**	Pn	**Pn**	**23 28 33.2**	**-0.8**
CHNA	**Chernabura Isl**	**3.95**	**68**	P	**Pn**	**23 28 33.4**	**-0.6**
	baz=251						
SPIA	**Saint Paul Isl**	**4.40**	**328**		**Pn**	**23 28 41.5**	**+1.3**
SPIA	**Saint Paul Isl**	**4.40**	**328**	P	**Pn**	**23 28 42.3**	**+2.1**
	baz=145						
S14K	**Fog Glacier**	**4.60**	**51**	P	**Pn**	**23 28 43.4**	**+0.4**
	baz=234						
VNFG	**Fog Glacier, M**	**4.60**	**51**		**Pn**	**23 28 45.5**	**+2.5**
VNFG	**Fog Glacier, M**	**4.60**	**51**		**Pn**	**23 28 44.5**	**+1.4**
CHGN	**Chignik**	**5.15**	**54**		**Pn**	**23 28 51.4**	**+1.0**
CHGN	**Chignik**	**5.15**	**54**	P	**Pn**	**23 28 51.0**	**+0.6**
	baz=239						
ATKA	**Atka Island**	**5.18**	**258**		**Pn**	**23 28 50.9**	**0.0**
R16K	**Pilot Point**	**6.23**	**46**	P	**Pn**	**23 29 06.0**	**+0.7**
	baz=232						
O14K	**Tigyukauivet M**	**6.29**	**22**	P	**Pn**	**23 29 08.1**	**+2.0**
	baz=206						
GSTR	**Great Sitkin T**	**6.30**	**261**	Pn	**Pn**	**23 29 08.3**	**+1.8**
GSMY	**Great Sitkin M**	**6.32**	**260**		**Pn**	**23 29 07.6**	**+1.0**
O15K	**Ungalikthiuk R**	**6.59**	**29**		**Pn**	**23 29 11.3**	**+1.0**
O15K	**Ungalikthiuk R**	**6.59**	**29**	P	**Pn**	**23 29 11.8**	**+1.5**
	baz=213						
ADK	**Adak**	**6.74**	**260**		**Pn**	**23 29 13.7**	**+1.4**
ADK	**Adak**	**6.74**	**260**	P	**Pn**	**23 29 13.7**	**+1.4**
R17L	**Mt. Peulik Vol**	**6.80**	**49**	P	**Pn**	**23 29 13.6**	**+0.4**
	baz=236,SNR=7.0						
PLK4	**Peulik 4**	**6.80**	**49**	Pn	**Pn**	**23 29 13.1**	**-0.2**
N14K	**Kuskokwak Cree**	**6.81**	**18**	Pn	**Pn**	**23 29 12.6**	**-0.7**
N14K	**Kuskokwak Cree**	**6.81**	**18**	P	**Pn**	**23 29 14.9**	**+1.6**
	baz=201						
M11K	**Mekoryuk**	**6.87**	**359**		**Pn**	**23 29 14.8**	**+0.8**
M11K	**Mekoryuk**	**6.87**	**359**	P	**Pn**	**23 29 16.5**	**+2.4**
	baz=178,SNR=8.7						
KIWB	**Kanaga Island**	**7.02**	**261**		**Pn**	**23 29 16.0**	**-0.2**
M13K	**Dall Lake**	**7.04**	**11**	Pn	**Pn**	**23 29 19.2**	**+2.8**
M13K	**Dall Lake**	**7.04**	**11**	P	**Pn**	**23 29 18.3**	**+2.0**
	baz=192						
P16K	**Nushagak River**	**7.06**	**36**	Pn	**Pn**	**23 29 18.4**	**+1.7**
P16K	**Nushagak River**	**7.06**	**36**	P	**Pn**	**23 29 17.9**	**+1.2**
	baz=221						
Q17K	**Contact Creek**	**7.37**	**46**	P	**Pn**	**23 29 21.5**	**+0.4**
	baz=233						
N15K	**Kwethluk River**	**7.38**	**23**	Pn	**Pn**	**23 29 23.1**	**+2.1**
N15K	**Kwethluk River**	**7.38**	**23**	P	**Pn**	**23 29 22.3**	**+1.2**
	baz=208,SNR=7.4						
O16K	**Kokwok River B**	**7.45**	**32**	Pn	**Pn**	**23 29 24.1**	**+2.0**
O16K	**Kokwok River B**	**7.45**	**32**	P	**Pn**	**23 29 23.1**	**+1.0**
	baz=218,SNR=8.9						
M14K	**Bethel**	**7.55**	**15**	Pn	**Pn**	**23 29 26.2**	**+2.8**
M14K	**Bethel**	**7.55**	**15**	P	**Pn**	**23 29 25.4**	**+2.0**
	baz=198,SNR=9.7						
ACHA	**Angle Creek He**	**7.58**	**48**	Pn	**Pn**	**23 29 24.0**	**0.0**
R18K	**Karluk**	**7.66**	**54**	P	**Pn**	**23 29 25.3**	**+0.4**
	baz=242						
M15K	**Kasigluk River**	**7.72**	**20**	P	**Pn**	**23 29 27.6**	**+1.9**
	baz=203						
P17K	**Kvichak River**	**7.74**	**39**	P	**Pn**	**23 29 27.4**	**+1.4**
	baz=226,SNR=8.8						
O17K	**Koliganek Bris**	**7.92**	**34**	P	**Pn**	**23 29 30.1**	**+1.6**
	baz=221,SNR=18						
Q18K	**Katmai Hardscr**	**7.97**	**46**	P	**Pn**	**23 29 30.4**	**+1.2**
	baz=234,SNR=9.1						
N16K	**Nishlik Lake**	**7.97**	**26**	P	**Pn**	**23 29 31.2**	**+1.9**
	baz=212						
L14K	**Kuka Creek**	**8.02**	**11**		**Pn**	**23 29 31.7**	**+1.9**
L14K	**Kuka Creek**	**8.02**	**11**	P	**Pn**	**23 29 32.0**	**+2.2**
	baz=194						
KAHG	**Katmai Hook Gl**	**8.08**	**48**		**Pn**	**23 29 32.2**	**+1.4**
OHAK	**Old Harbor**	**8.09**	**58**		**Pn**	**23 29 30.5**	**-0.3**
OHAK	**Old Harbor**	**8.09**	**58**	P	**Pn**	**23 29 30.1**	**-0.8**
	baz=247						
P18K	**Big Mountain,**	**8.33**	**41**	Pn	**Pn**	**23 29 35.3**	**+1.1**
P18K	**Big Mountain,**	**8.33**	**41**	P	**Pn**	**23 29 34.5**	**+0.3**
	baz=229,SNR=7.1						
M16K	**Timber Creek**	**8.40**	**24**	Pn	**Pn**	**23 29 37.1**	**+2.1**
M16K	**Timber Creek**	**8.40**	**24**	P	**Pn**	**23 29 36.6**	**+1.6**
	baz=209						
K13K	**Kusilvak Mount**	**8.45**	**4**	Pn	**Pn**	**23 29 38.4**	**+2.7**
K13K	**Kusilvak Mount**	**8.45**	**4**	P	**Pn**	**23 29 37.8**	**+2.1**
	baz=185,SNR=6.1						
N17K	**Nushagak Hills**	**8.47**	**31**	Pn	**Pn**	**23 29 37.9**	**+1.8**
N17K	**Nushagak Hills**	**8.47**	**31**	P	**Pn**	**23 29 37.3**	**+1.3**
	baz=217						
L15K	**Ungalak Mounta**	**8.50**	**14**	P	**Pn**	**23 29 38.3**	**+1.8**
	baz=198,SNR=9.1						
O18K	**Koktuh Hills**	**8.65**	**39**	P	**Pn**	**23 29 40.1**	**+1.6**
	baz=227						
KDAK	**Kodiak Island**	**8.66**	**55**		**Pn**	**23 29 37.9**	**-0.7**
KDAK	**Kodiak Island**	**8.66**	**55**	Pn	**Pn**	**23 29 37.6**	**-1.0**
	comp=E,2.3nm,0.3s,baz=198,slow=7.1,SNR=22						
KDAK				Sn	**Sn**	**23 31 09.2**	**-5.6**
	comp=E,1.6nm,0.3s,baz=264,slow=20,SNR=1.3						
	comp=E,5.8nm,0.3s						
KDAK	**Kodiak Island**	**8.66**	**55**	P	**Pn**	**23 29 37.9**	**-0.7**
KDAK	**Kodiak Island**	**8.66**	**55**	P	**Pn**	**23 29 38.4**	**-0.2**
	baz=245						
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P23K	Montague Islan	12.02	50		Pn	23 30 23.5	-1.1		
P23K	Montague Islan baz=245	12.02	50	P	Pn	23 30 23.7	-0.9		
G16K	Koyuk River	12.03	7	Pn	Pn	23 30 26.4	+1.8		
G16K	Koyuk River baz=190	12.03	7	P	Pn	23 30 25.7	+1.1		
PMR	Palmer baz=235	12.07	41	P	Pn	23 30 25.2	0.0		
TNA	Tin City	12.10	356	Pn	Pn	23 30 28.2	+2.6		
TNA	Tin City baz=174	12.10	356	P	Pn	23 30 26.8	+1.2		
CUT	Chulitna	12.13	37		Pn	23 30 28.3	+2.2		
CUT	Chulitna baz=230	12.13	37	P	Pn	23 30 26.0	0.0		
GCSA	Galena City Sc baz=206	12.14	19	P	Pn	23 30 27.2	+1.0		
F15K	North Star Dit baz=184	12.22	3	P	Pn	23 30 29.0	+1.6		
KNK	Knik Glacier	12.24	43		Pn	23 30 27.4	-0.2		
KNK	Knik Glacier baz=237,SNR=6.0	12.24	43	P	Pn	23 30 27.6	0.0		
GHO	Glory Hole Cre	12.25	41		Pn	23 30 27.2	-0.6		
H18K	Honhosa River	12.26	15	Pn	Pn	23 30 30.2	+2.4		
H18K	Honhosa River baz=201	12.26	15	P	Pn	23 30 29.0	+1.2		
J20K	Nowinta River	12.26	25		Pn	23 30 29.4	+1.6		
J20K	Nowinta River baz=215,SNR=10.0	12.26	25	P	Pn	23 30 28.8	+1.0		
G17K	Kiwalik Mounta baz=195	12.29	10	P	Pn	23 30 29.0	+0.8		
SML	Sawmill	12.51	42		Pn	23 30 30.5	-0.7		
SML	Sawmill	12.51	42	P	Pn	23 30 30.5	-0.7		
SML	Sawmill baz=236	12.51	42	P	Pn	23 30 31.2	-0.1		
CHUM	Lake Minchumin baz=220	12.52	29	P	Pn	23 30 31.4	0.0		
GLI	Glacier Island	12.55	47		Pn	23 30 28.9	-2.9		
GLI	Glacier Island baz=242	12.55	47	P	Pn	23 30 31.3	-0.4		
HIN	Hinchinbrook I	12.60	49		Pn	23 30 30.6	-1.9		
I20K	Naaghedeneel baz=212	12.70	23	P	Pn	23 30 33.7	-0.1		
KTH	Kantishna Hill	12.70	32		Pn	23 30 35.2	+1.4		
M23K	Glacier View baz=237,SNR=16	12.74	42	P	Pn	23 30 33.2	-1.2		
FID	Port Fidalgo	12.76	48		Pn	23 30 31.6	-3.1		
TRF	Thorofare Moun	12.83	33		Pn	23 30 38.0	+2.3		
TRF	Thorofare Moun baz=226	12.83	33	P	Pn	23 30 36.6	+0.9		
G18K	Tagagawik	12.91	13		Pn	23 30 38.2	+1.5		
G18K	Tagagawik baz=200	12.91	13	P	Pn	23 30 37.5	+0.8		
SCM	Sheep Creek Mo	12.92	43		Pn	23 30 35.0	-1.9		
SCM	Sheep Creek Mo	12.92	43	P	Pn	23 30 35.1	-1.9		
SCM	Sheep Creek Mo baz=238,SNR=8.5	12.92	43	P	Pn	23 30 36.3	-0.6		
H19K	Roundabout Mou	12.93	18		Pn	23 30 39.5	+2.6		
H19K	Roundabout Mou baz=206	12.93	18	P	Pn	23 30 37.3	+0.4		
EYAK	Cordova Ski Ar	13.00	49		Pn	23 30 36.4	-1.6		
EYAK	Cordova Ski Ar baz=246	13.00	49	P	Pn	23 30 36.6	-1.4		
WAT1	Susitna Watana baz=232	13.02	38	P	Pn	23 30 38.2	0.0		
BPAW	Bear Paw Mtn.	13.07	30		Pn	23 30 40.9	+1.9		
BPAW	Bear Paw Mtn. baz=222	13.07	30	P	Pn	23 30 38.8	-0.1		
F17K	Baldwin Pennin baz=192	13.15	8	P	Pn	23 30 41.1	+1.2		
WAT6	Susitna Watana baz=234	13.17	39	P	Pn	23 30 40.3	-0.1		
H20K	Anotleneega Mo baz=210	13.21	20	P	Pn	23 30 41.1	+0.4		
DIV	Divide	13.24	47		Pn	23 30 39.0	-2.2		
RND	Reindeer	13.28	35		Pn	23 30 41.8	0.0		
RND	Reindeer	13.28	35	P	Pn	23 30 41.8	0.0		
KLU	Klutina	13.34	45		Pn	23 30 40.7	-1.9		
KLU	Klutina baz=242,SNR=48	13.34	45	P	Pn	23 30 41.1	-1.5		
KAIM	Kayak Island	13.39	53		Pn	23 30 43.0	-0.2		
KAIM	Kayak Island baz=250	13.39	53	P	Pn	23 30 43.0	-0.2		
RAGM	Ragged Mountai	13.43	51		Pn	23 30 42.5	-1.4		
F18K	Selawik baz=196	13.46	11	P	Pn	23 30 45.0	+0.9		
MCK	McKinley	13.46	34		Pn	23 30 44.2	-0.1		
MCK	McKinley	13.46	34	P	Pn	23 30 44.2	-0.1		
MCK	McKinley baz=228	13.46	34	P	Pn	23 30 44.1	-0.2		
M24K	Tolsona, Glenn	13.53	43		Pn	23 30 43.3	-1.9		
M24K	Tolsona, Glenn baz=239,SNR=10	13.53	43	P	Pn	23 30 44.3	-0.9		
BWN	Browne	13.59	32		Pn	23 30 47.1	+1.2		
DHY	Denali Highway	13.60	38		Pn	23 30 45.4	-0.9		
DHY	Denali Highway baz=233	13.60	38	P	Pn	23 30 45.8	-0.4		
HMT	Hamilton	13.61	51		Pn	23 30 44.4	-1.8		
BMRM	Bremner River	13.69	49		Pn	23 30 45.4	-1.9		
BMRM	Bremner River baz=246	13.69	49	P	Pn	23 30 46.2	-1.1		
E17K	Hotham Inlet baz=190	13.73	7	P	Pn	23 30 49.5	+1.6		
SUCK	Suckling Hills	13.74	53	Pn	Pn	23 30 47.3	-0.8		
H21K	Melozitna Rive	13.81	23		Pn	23 30 50.8	+1.9		
H21K	Melozitna Rive baz=214	13.81	23	P	Pn	23 30 49.2	+0.3		
MLY	Manley	13.84	28		Pn	23 30 51.4	+2.0		
MLY	Manley baz=220	13.84	28	P	Pn	23 30 49.7	+0.3		
IMAR	Indian Mountai	13.87	21		Pn	23 30 52.3	+2.5		
F19K	Shaleruckik Mo	13.92	14		Pn	23 30 52.7	+2.3		
F19K	Shaleruckik Mo baz=200	13.92	14	P	Pn	23 30 51.9	+1.4		
N25K	Chitina, Valde	13.95	46		Pn	23 30 49.6	-1.4		
N25K	Chitina, Valde baz=244,SNR=22	13.95	46	P	Pn	23 30 50.8	-0.2		
NEA2	Nenana	14.01	31		Pn	23 30 53.9	+2.2		
NEA2	Nenana baz=225,SNR=6.2	14.01	31	P	Pn	23 30 52.0	+0.3		
HARP	HAARP baz=240	14.09	43	P	Pn	23 30 52.4	-0.4		
SNH	Sunshine Point	14.22	53		Pn	23 30 53.0	-1.6		
GLB	Gilahina Butte	14.23	47		Pn	23 30 52.5	-2.2		
WRH	Wood River Hil	14.24	33		Pn	23 30 54.8	+0.1		
PAX	Paxson	14.26	40		Pn	23 30 54.8	-0.4		
PAX	Paxson	14.26	40	P	Pn	23 30 54.8	-0.4		
PAX	Paxson baz=237	14.26	40	P	Pn	23 30 55.5	+0.3		
CRQM	Cirque	14.27	51		Pn	23 30 54.1	-1.3		
CRQE	Cirque baz=249	14.29	51	P	Pn	23 30 54.6	-1.0		
I23K	Minto, Yukon-K	14.32	29		Pn	23 30 57.8	+1.9		
I23K	Minto, Yukon-K baz=223,SNR=11	14.32	29	P	Pn	23 30 57.2	+1.4		
H22K	Ishtalitna Cre baz=217,SNR=10	14.35	25	P	Pn	23 30 57.8	+1.6		
G21K	Allakaket	14.38	20	P	P	23 31 00.1	-2.8		
G21K	Allakaket baz=211	14.38	20	P	Pn	23 30 58.2	+1.6		
F20K	Avaraart Lake baz=205	14.43	16	P	Pn	23 30 59.0	+1.6		
CCB	Clear Creek Bu	14.45	32		Pn	23 30 59.8	+2.2		
MCARA	McCarthy VSAT	14.55	48		Pn	23 30 59.5	+0.4		
MCARA	McCarthy VSAT baz=247	14.55	48	P	Pn	23 30 58.4	-0.6		
HDA	Harding Lake	14.57	34		Pn	23 31 00.5	+1.2		
HDA	Harding Lake baz=230	14.57	34	P	Pn	23 30 59.8	+0.6		
COLA	College	14.58	32	Pn	Pn	23 31 01.6	+2.2		
COLA	College	14.58	32	P	Pn	23 31 01.6	+2.2		
ISLE	Juniper Island	14.59	52		Pn	23 30 57.9	-1.8		
K24K	Donnelly Dome	14.61	37		Pn	23 31 01.0	+1.2		
K24K	Donnelly Dome baz=234,SNR=7.3	14.61	37	P	Pn	23 30 59.9	+0.1		
MESA	MESA	14.65	53	Pn	Pn	23 31 00.2	-0.3		
MESA	MESA baz=253,SNR=5.9	14.65	53	P	Pn	23 30 59.5	-1.0		
H23K	Yukon River	14.77	27	Pn	Pn	23 31 03.9	+2.0		
H23K	Yukon River baz=221,SNR=18	14.77	27	P	Pn	23 31 03.6	+1.7		
C16K	Lisburne Hills	14.79	1	Pn	P	23 31 04.9	-2.4		
C16K	Lisburne Hills baz=181	14.79	1	P	Pn	23 31 04.0	+2.0		
YAH	Yahtse	14.80	53	Pn	Pn	23 31 01.5	-1.0		
IL31		14.82	33		Pn	23 31 03.4	+0.9		
ILAR	Eielson Array	14.82	33		Pn	23 31 04.1	+1.5		
ILAR	Eielson Array comp=E,0.2nm,0.3s,baz=229,slow=12,SNR=9.7	14.82	33	Pn	Pn	23 31 00.7	-1.9		
ILAR	comp=E,1µm,18.4s,baz=220,slow=40 comp=E,0.7nm,0.7s			LR	LR	23 37 28.9			
ILAR	Eielson Array	14.82	33	P	Pn	23 31 04.1	+1.5		
POKR	Poker Plat Res baz=227	14.88	32	P	Pn	23 31 03.6	+0.3		
RIDG	Independent Ri	14.91	38		Pn	23 31 04.6	+0.7		
RIDG	Independent Ri baz=236,SNR=10	14.91	38	P	Pn	23 31 04.2	+0.4		
MENT	Mentasta	14.93	42		Pn	23 31 05.4	+1.3		
M26K	Nabesna, AK	14.98	45	Pn	Pn	23 31 04.7	-0.1		
M26K	Nabesna, AK baz=244,SNR=20	14.98	45	P	Pn	23 31 04.6	-0.1		
F21K	Alatna River	14.99	19		Pn	23 31 05.9	+1.1		
F21K	Alatna River baz=210,SNR=8.9	14.99	19	P	Pn	23 31 06.2	+1.4		
C17K	DeLong Mountai baz=186	15.04	4	P	Pn	23 31 07.2	+1.7		
BARN	Barnard Glacie	15.05	50		Pn	23 31 05.7	-0.2		
TABL	Table Mountain	15.11	53		Pn	23 31 06.4	-0.2		
TABL	comp=Z,70nm,1.5s			IAmb	IAmb	23 31 14.1			
G22K	Bettles baz=214	15.15	22	P	Pn	23 31 08.6	+1.8		
DOT	Dot Lake	15.16	39		Pn	23 31 08.4	+1.4		
CTG	Chitna Glacier baz=251	15.17	51	P	Pn	23 31 07.0	-0.3		
CTGM	Chitina Glacie	15.18	51		Pn	23 31 06.7	-0.7		
J25K	Salcha River,	15.23	35	Pn	Pn	23 31 07.8	-0.2		
J25K	Salcha River, baz=232	15.23	35	P	Pn	23 31 08.9	+0.9		
H24K	Noodor Dome baz=224	15.25	29	P	Pn	23 31 08.9	+0.7		
LOGN	Logan Glacier	15.29	52		Pn	23 31 07.9	-1.0		
C18K	Utukok River baz=191	15.33	7	P	Pn	23 31 10.4	+1.2		
G23K	Bananza Creek	15.33	24		Pn	23 31 10.2	+0.9		
G23K	Bananza Creek baz=218,SNR=11	15.33	24	P	Pn	23 31 10.9	+1.6		
SCRK	Sand Creek	15.36	38		Pn	23 31 09.8	+0.1		
SCRK	Sand Creek baz=237,SNR=7.8	15.36	38	P	Pn	23 31 09.9	+0.1		
M27K	Edge Creek, AK	15.44	46		Pn	23 31 11.8	+1.0		
M27K	Edge Creek, AK baz=246	15.44	46	P	Pn	23 31 10.8	0.0		
PCA	Pinnacle	15.45	55		Pn	23 31 12.5	+1.6		
PCA	comp=Z,61nm,1.1s			IAmb	IAmb	23 31 18.8			
PINM	Pinnacle baz=256,SNR=8.9	15.45	55	P	Pn	23 31 11.2	+0.4		
F22K	John River baz=212	15.50	20	P	Pn	23 31 12.8	+1.3		
O28M	Mount Upton	15.65	52	Pn	Pn	23 31 13.7	0.0		
O28M	Mount Upton baz=253,SNR=22	15.65	52	P	Pn	23 31 13.3	-0.4		
COLD	Coldfoot	15.70	23		Pn	23 31 15.7	+1.7		
COLD	Coldfoot baz=216	15.70	23	P	Pn	23 31 15.0	+1.0		
BCPM	Bancas Point	15.72	55		Pn	23 31 14.6	+0.4		
PRP	Porcupine Dome	15.75	32		Pn	23 31 16.0	+1.3		
PRP	Porcupine Dome baz=230	15.75	32	P	Pn	23 31 15.2	+0.4		
L27K	Beaver Creek,	15.76	43		Pn	23 31 15.6	+0.8		
L27K	Beaver Creek, baz=243	15.76	43	P	Pn	23 31 14.9	+0.1		
PNL	Peninsula baz=258	15.78	57	P	Pn	23 31 13.9	-1.2		
J26L	Joseph Creek	15.81	37		Pn	23 31 16.6	+1.2		
J26L	Joseph Creek baz=253,SNR=11	15.81	37	P	Pn	23 31 16.6	+1.2		
D20K	Etivluk River	15.84	13		P	23 31 17.8	-1.4		
D20K	Etivluk River baz=200	15.84	13	P	P	23 31 17.7	-1.4		
C19K	Lookout Ridge baz=194	15.90	8	P	P	23 31 18.8	-0.9		
E21K	Killik River baz=206	15.98	16	P	P	23 31 19.9	-0.7		
G24K	Hadweenzic Riv	15.98	27		Pn	23 31 18.7	+1.0		
G24K	Hadweenzic Riv baz=225,SNR=7.2	15.98	27	P	Pn	23 31 18.9	+1.2		
B18K	Kokolik River baz=189	16.00	5	P	P	23 31 20.2	-0.5		
YUK8	Steele Glacier baz=252,SNR=14	16.00	51	P	Pn	23 31 19.4	+1.3		
E22K	Anaktuvuk Pass	16.11	19	P	P	23 31 24.2	+2.1		
E22K	Anaktuvuk Pass baz=211	16.11	19	P	P	23 31 20.9	-1.1		
K27K	Chicken baz=240	16.11	40	P	Pn	23 31 20.0	+0.7		
H25L	Birch Creek baz=227	16.15	30	P	P	23 31 21.5	-1.0		
O29M	Mount Kennedy	16.31	55		Pn	23 31 21.3	-0.7		
O29M	Mount Kennedy baz=257,SNR=10.0	16.31	55	P	Pn	23 31 21.5	-0.4		
I26K	Coal Creek Min baz=234	16.41	35	P	P	23 31 24.2	-1.1		
G25K	Bearman Lake baz=225	16.41	28	P	Pn	23 31 23.8	+0.8		
F24K	Squaw Lake	16.49	25		P	23 31 25.4	-0.9		
F24K	Squaw Lake baz=220	16.49	25	P	Pn	23 31 24.9	+0.8		
E23K	Chandalar	16.50	22		P	23 31 25.9	-0.6		
E23K	Chandalar baz=216	16.50	22	P	P	23 31 25.7	-0.8		
C21K	Knifeblade Rid baz=204	16.51	14	P	P	23 31 26.4	0.0		
FYU	Fort Yukon	16.53	30		Pn	23 31 25.5	+1.0		
YUK4	Talbot Arm baz=253,SNR=16	16.53	51	P	Pn	23 31 25.1	+0.3		
YUK6	Outpost Mounta baz=255,SNR=20	16.56	52	P	Pn	23 31 24.6	-0.6		
D22K	Ayikyak River	16.59	17	P	P	23 31 28.1	+0.7		
D22K	Ayikyak River baz=208	16.59	17	P	P	23 31 26.7	-0.7		
P29M	Windy Craggy	16.60	57		Pn	23 31 24.8	-0.7		
P29M	comp=Z,62nm,1.3s			IAmb	IAmb	23 31 32.0			
P29M	Windy Craggy baz=260,SNR=10	16.60	57	P	Pn	23 31 25.3	-0.2		
E24K	Your Creek baz=218	16.77	23	P	P	23 31 28.9	-0.5		
EGAK	Eagle	16.83	38	P	P	23 31 30.1	0.0		
EGAK	Eagle baz=239	16.83	38	P	Pn	23 31 28.8	+0.5		
A19K	Wainwright baz=190	16.87	6	P	P	23 31 31.2	+0.8		
HYT	Haines Junctio	16.94	53	P	P	23 31 32.4	+0.9		
HYT	Haines Junctio baz=257,SNR=29	16.94	53	P	Pn	23 31 29.3	-0.5		
M29M	Somme Creek	16.95	47		Pn	23 31 29.8	-0.1		
M29M	Somme Creek baz=250	16.95	47	P	Pn	23 31 30.2	+0.2		
B21K	Ikpikpuk River baz=203	16.96	14	P	P	23 31 32.9	+1.6		
TOLK	Toolik Lake Re	16.99	21		P	23 31 32.2	+0.4		
TOLK	Toolik Lake Re	16.99	21		P	23 31 33.3	+1.5		
TOLK	comp=Z,13nm,1.1s			IAmb	IAmb	23 31 37.7			
TOLK	Toolik Lake Re baz=215	16.99	21	P	P	23 31 31.9	+0.1		
B20K	Meade River baz=198	17.01	10	P	P	23 31 32.9	+1.1		
D23K	Nanushuk River	17.04	19		P	23 31 32.0	-0.2		
D23K	Nanushuk River baz=212	17.04	19	P	P	23 31 32.4	+0.2		
P30M	Million Dollar baz=260	17.07	56	P	Pn	23 31 31.6	+0.2		
I27K	Kandik River baz=236	17.11	36	P	Pn	23 31 32.3	+0.5		
F25K	Christian Rive	17.13	27		P	23 31 33.0	-0.3		
F25K	Christian Rive baz=224	17.13	27	P	P	23 31 32.8	-0.5		
DAWY	Dawson	17.18	42		Pn	23 31 33.2	+0.5		
DAWY	Dawson baz=244	17.18	42	P	P	23 31 33.9	0.0		
G26K	Porcupine Rive	17.21	30	P	P	23 31 34.8	+0.6		
G26K	Porcupine Rive baz=229	17.21	30	P	P	23 31 34.6	+0.4		
S31K	Pelican baz=267	17.22	63	P	Pn	23 31 32.3	-0.9		
PLBC	Pleasant Camp baz=262,SNR=12	17.27	58	P	Pn	23 31 33.1	-0.6		
N30M	Aishikik Lake	17.29	51	P	P	23 31 35.2	+0.1		
N30M	Aishikik Lake baz=255,SNR=18	17.29	51	P	Pn	23 31 34.1	0.0		
BMAR	Burnt Mountain	17.30	28		P	23 31 35.0	-0.3		
L29M	L29M	17.32	45	P	P	23 31 35.8	+0.3		
L29M	L29M baz=249,SNR=16	17.32	45	P	P	23 31 35.1	-0.4		
H27K	Steamboat Moun	17.49	34	P	P	23 31 37.6	+0.3		
H27K	Steamboat Moun baz=235,SNR=8.3	17.49	34	P	P	23 31 37.9	+0.6		
E25K	Arctic Village	17.53	26	P	P	23 31 39.6	+1.9		
E25K	Arctic Village baz=223	17.53	26	P	P	23 31 38.7	+1.0		
D24K	Happy Valley baz=215	17.57	20	P	P	23 31 39.4	+1.3		
F26K	Sheenjek River	17.61	28	P	P	23 31 40.2	+1.5		
F26K	Sheenjek River baz=227	17.61	28	P	P	23 31 39.2	+0.6		
O30N	Mendenhall	17.61	54	P	P	23 31 39.6	+0.9		
O30N	Mendenhall baz=259,SNR=12	17.61	54	P	Pn	23 31 38.2	+0.1		
I28M	Miner Creek	17.62	37	P	P	23 31 39.5	+0.7		
I28M	Miner Creek baz=239	17.62	37	P	P	23 31 39.1	+0.2		
SIT	Sitka	17.70	66		P	23 31 39.5	-0.1		
SIT	comp=Z,54nm,1.2s			IAmb	IAmb	23 31 45.8			
SIT	Sitka	17.70	66	P	P	23 31 39.5	-0.1		
SIT	comp=Z,55nm,1.2s			pmax	pmax				
SIT	Sitka baz=271	17.70	66	P	Pn	23 31 38.8	-0.3		
M30M	Minto, Yukon	17.73	48		P	23 31 40.7	+0.7		
M30M	Minto, Yukon baz=252,SNR=6.8	17.73	48	P	P	23 31 40.8	+0.9		
G27K	Doyon Strip	17.79	32	P	P	23 31 41.1	+0.5		
G27K	Doyon Strip baz=233	17.79	32	P	P	23 31 42.0	+1.4		
B22K	Teshekpuk Lake baz=205	17.79	14	P	P	23 31 41.8	+1.4		
C23K	Itkillik River	17.79	17		P	23 31 42.2	+1.6		
C23K	Itkillik River baz=211	17.79	17	P	P	23 31 41.9	+1.4		
SKAG	Skagway	17.79	58	P	P	23 31 40.8	+0.1		
SKAG	Skagway baz=264	17.79	58	P	P	23 31 41.3	+0.7		
J29N	Klondike Camp baz=245	17.81	41	P	P	23 31 41.4	+0.5		
K29M	Barlow Dome	17.84	44		Pn	23 31 38.7	-2.3		
K29M	Barlow Dome baz=248,SNR=16	17.84	44	P	P	23 31 41.8	+0.5		
N31M	Braeburn, Yuko	17.90	52	P	P	23 31 43.1	+1.2		
N31M	Braeburn, Yuko baz=257,SNR=9.6	17.90	52	P	Pn	23 31 41.8	+0.1		
BESE	Bessie Mountai	17.97	61		P	23 31 43.5	+0.8		
C24K	Franklin Bluff	18.06	19	P	P	23 31 45.1	+1.6		
C24K	Franklin Bluff baz=214	18.06	19	P	P	23 31 45.2	+1.7		
R32K	Eaglecrest	18.14	62	P	Pn	23 31 44.8	+0.3		
R32K	Eaglecrest baz=268	18.14	62	P	P	23 31 44.2	-0.2		
I29M	Ogilvie Camp,	18.17	39	P	P	23 31 44.1	-0.7		
I29M	Ogilvie Camp, baz=242	18.17	39	P	Pn	23 31 45.9	+1.0		
WHY	Whitehorse	18.18	55	P	Pn	23 31 46.1	+1.0		
WHY	Whitehorse baz=260,SNR=12	18.18	55	P	Pn	23 31 45.5	+0.5		
D25K	Kavik River baz=219	18.23	22	P	Pn	23 31 46.1	+0.5		
H29M	Whitestone	18.56	36	P	Pn	23 31 49.5	-0.1		
H29M	Whitestone baz=240	18.56	36	P	Pn	23 31 49.9	+0.3		
J30M	Hart River baz=247,SNR=6.2	18.60	42	P	Pn	23 31 50.1	-0.1		
P32M	Atlin	18.62	58	P	Pn	23 31 50.3	-0.1		
P32M	Atlin baz=265	18.62	58	P	P	23 31 49.6	-0.2		
E27K	Coleen River baz=230	18.66	29	P	Pn	23 31 51.4	+0.6		
M31M	Drury Creek, Y	18.71	50	P	P	23 31 51.0	+0.2		
M31M	comp=Z,48nm,1.1s			IAmb	IAmb	23 31 56.3			
M31M	Drury Creek, Y baz=256,SNR=34	18.71	50	P	Pn	23 31 51.6	+0.2		
F28M	Old Crow	18.82	31	P	Pn	23 31 53.0	+0.3		
F28M	Old Crow baz=234	18.82	31	P	Pn	23 31 53.2	+0.5		
I30M	Mount Dempster baz=245	18.84	40	P	Pn	23 31 53.5	+0.4		
U33K	Whale Pass baz=276	18.98	69	P	P	23 31 54.1	+0.4		
C26K	Camden Bay baz=221	19.02	22	P	Pn	23 31 56.5	+1.4		
G29M	Pine Creek	19.04	34	P	Pn	23 31 54.8	-0.5		
G29M	Pine Creek baz=239,SNR=5.7	19.04	34	P	Pn	23 31 56.1	+0.8		
CRAG	Craig baz=277	19.06	71	P	P	23 31 54.7	+0.2		
C27K	Jago River baz=223	19.09	24	P	Pn	23 31 56.4	+0.5		
N32M	Quiet Lake baz=261	19.12	53	P	Pn	23 31 56.3	-0.1		
P33M	Teslin, Yukon	19.13	56	P	Pn	23 31 56.1	-0.5		
P33M	comp=Z,33nm,0.9s			IAmb	IAmb	23 31 59.9			
P33M	Teslin, Yukon baz=264,SNR=26	19.13	56	P	Pn	23 31 56.3	-0.3		
EPYK	Eagle Plains comp=Z,34nm,1.1s	19.22	37	IAmb	IAmb	23 32 11.3			
EPYK	Eagle Plains baz=242	19.22	37	P	Pn	23 31 57.6	0.0		
Q32M	Nakina River	19.33	60	P	P	23 31 58.4	+0.6		
Q32M	comp=Z,67nm,1.4s			IAmb	IAmb	23 32 07.0			
Q32M	Nakina River baz=268	19.33	60	P	Pn	23 31 59.1	0.0		
WRAK	Wrangell Islan	19.38	68	P	P	23 31 58.6	+0.6		
WRAK	Wrangell Islan baz=275	19.38	68	P	P	23 31 58.0	0.0		
E28M	Babbage River	19.52	29	P	Pn	23 32 02.3	+1.3		
E28M	Babbage River baz=232	19.52	29	P	Pn	23 32 01.6	+0.5		
D27M	Malcolm River baz=229	19.52	27	P	Pn	23 32 01.2	+0.1		
BILL	Bilibino	19.60	328	P	Pn	23 32 01.4	-0.6		
BILL	comp=Z,36nm,1.2s			IAmb	IAmb	23 32 14.1			
G30M	tAoh Zraii Nji baz=241	19.69	35	P	P	23 32 01.1	-0.3		
H31M	Peel River comp=Z,47nm,1.2s	19.85	39	IAmb	IAmb	23 32 20.2			
H31M	Peel River baz=247	19.85	39	P	P	23 32 03.8	+0.6		
H02S2	DAWSON INLET T SNR=4.7	19.87	77	T	T	23 52 52.4			
E29M	Blow River	19.88	31		P	23 32 03.2	-0.2		
E29M	Blow River baz=235	19.88	31	P	Pn	23 32 05.9	+0.6		
V35K	Ketchikan	19.93	71	P	P	23 32 04.1	0.0		
V35K	comp=Z,67nm,1.2s			IAmb	IAmb	23 32 09.8			
V35K	Ketchikan baz=279	19.93	71	P	P	23 32 04.1	0.0		
S34M	Telegraph Cree	19.94	63	P	Pn	23 32 05.7	-0.4		
S34M	comp=Z,56nm,1.4s			IAmb	IAmb	23 32 11.7			
S34M	Telegraph Cree baz=272	19.94	63	P	P	23 32 04.1	-0.1		
R33M	Jennings River	20.01	59	P	Pn	23 32 06.5	-0.6		
R33M	comp=Z,32nm,1.1s			IAmb	IAmb	23 32 18.8			
R33M	Jennings River baz=268,SNR=15	20.01	59	P	P	23 32 05.2	+0.1		
F30M	Barrier River	20.14	34		P	23 32 06.5	+0.2		
F30M	Barrier River baz=240	20.14	34	P	P	23 32 06.8	+0.5		
MMPY	Sheldon Lake,	20.22	50		P	23 32 08.2	+1.0		
MMPY	comp=Z,43nm,0.9s			IAmb	IAmb	23 32 13.7			
MMPY	Sheldon Lake, baz=259,SNR=33	20.22	50	P	Pn	23 32 08.5	-0.9		
G31M	Satah River	20.34	37	P	Pn	23 32 10.7	0

T35M Bob Quinn 20.48 66 P P 23 32 10.2 +0.2
baz=275
DLBC Dease Lake 20.50 62 P P 23 32 11.5 +1.1
comp=Z,59nm,1.0s,baz=243,slow=16,SNR=8.9
DLBC LR LR 23 39 12.1
comp=Z,5µm,21.7s,baz=264,slow=34
comp=Z,59nm,1.0s
DLBC Dease Lake 20.50 62 P P 23 32 10.1 -0.2
baz=271,SNR=6.7
F31M Tsiigehtchic 20.76 35 P P 23 32 12.4 -0.6
baz=244
PET Petropavlovsk 21.05 283 *e*P P 23 32 17.3 +1.1
PET *e*S S 23 36 01.8 -6.2
PET pmax pmax
comp=Z,100nm,13.5s
PET MLR MLR
comp=Z,800nm,20.0s
INK Inuvik 21.23 33 P 23 32 17.6 -0.3
INK IAmb IAmb 23 32 39.1
comp=Z,22nm,0.9s
INK Inuvik 21.23 33 P P 23 32 16.1 -1.8
comp=Z,3.8nm,0.4s,baz=256,slow=11,SNR=15
INK LR LR 23 42 06.2
comp=Z,556nm,18.0s,baz=232,slow=41
comp=Z,3.8nm,0.4s
INK Inuvik 21.23 33 P P 23 32 17.6 -0.3
INK pmax pmax
comp=Z,22nm,1.0s
INK Inuvik 21.23 33 P P 23 32 18.1 +0.2
baz=242
TGTN Hyland Airport 21.47 53 P P 23 32 21.2 +0.5
baz=265,SNR=7.9
PETK Petropavlovsk- 21.58 284 P P 23 32 22.6 +0.7
PETK Petropavlovsk- 21.58 284 P P 23 32 20.9 -1.1
comp=Z,9.9nm,0.7s,baz=86,slow=12,SNR=12
PETK LR LR 23 40 11.2
comp=Z,797nm,21.5s,baz=91,slow=35
comp=Z,9.9nm,0.7s
PETK Petropavlovsk- 21.58 284 P P 23 32 22.6 +0.7
BBB Bella Bella 22.70 78 LR LR 23 39 26.2
comp=Z,363nm,20.2s,baz=304,slow=31
TOAD Toad River Com 22.98 60 P P 23 32 37.1 +0.3
baz=274
SEY Seymchan 23.45 310 LR LR 23 42 09.2
comp=Z,606nm,20.0s,baz=96,slow=37
SEY Seymchan 23.45 310 ⇓ *i*P P 23 32 41.2 -0.1
SEY pmax pmax
comp=Z,16nm,1.0s
KOTAN Kotaneelee Air 23.51 57 P P 23 32 42.5 +0.6
baz=272
WRGLY Wrigley 23.84 49 P P 23 32 46.4 +1.5
WRGLY Wrigley 23.84 49 P P 23 32 46.1 +1.2
baz=266,SNR=9.1
MA2 Magadan 24.25 302 LR LR 23 41 32.1
comp=Z,458nm,21.8s,baz=100,slow=35
MA2 Magadan 24.25 302 ⇑ *e*P P 23 32 49.5 +0.7
MA2 pmax pmax
comp=Z,26nm,1.3s
C36M Paulatuk 24.79 34 P P 23 32 54.4 +0.8
baz=252
A36M Sachs Harbour 25.40 28 P P 23 33 01.3 +2.2
baz=245
YKA Yellowknife Ar 27.90 51 P P 23 33 21.4 -0.3
comp=Z,1.9nm,0.8s,baz=301,slow=11,SNR=9.3
YKA LR LR 23 46 09.9
comp=Z,381nm,18.5s,baz=274,slow=40
comp=Z,1.9nm,0.8s
YKA Yellowknife Ar 27.90 51 *i* P P 23 33 23.0 +1.3
YKA pmax pmax
comp=Z,1.0nm,0.3s
B08A Colville Reser 29.39 81 P P 23 33 35.6 +0.5
B08A IAmb IAmb 23 34 00.1
comp=Z,15nm,1.3s
HOOD Mount Hood Mea 29.53 88 P P 23 33 36.5 -0.1
H04A Detroit Lake 29.56 89 P P 23 33 36.4 -0.3
H04A IAmb IAmb 23 33 58.8
comp=Z,21nm,1.0s
WIFE Three Sisters- 30.13 90 P P 23 33 41.1 -0.8
WIFE IAmb IAmb 23 34 06.4
comp=Z,18nm,1.0s
L02F Cave Junction 30.21 95 P P 23 33 41.9 -0.5
L02F IAmb IAmb 23 34 01.3
comp=Z,32nm,1.3s
BBOR Butler Butte 30.28 93 P P 23 33 43.0 -0.2
BBOR IAmb IAmb 23 34 01.6
comp=Z,24nm,1.1s
NEW Newport 30.73 80 P P 23 33 46.5 -0.5
NEW Newport 30.73 80 LR LR 23 44 31.5
comp=Z,354nm,19.6s,baz=297,slow=33
NEW Newport 30.73 80 P P 23 33 46.5 -0.5
NEW pmax pmax
comp=Z,8.0nm,1.0s
PINE Pine Mountain 30.80 90 P P 23 33 47.9 0.0
PINE IAmb IAmb 23 34 22.0
comp=Z,25nm,1.4s
KHMM Horse Mountain 30.87 97 P P 23 33 47.9 -0.5
L04D Klamath Falls 30.90 94 sP 23 34 06.6 +2.1
J05D Fort Rock, OR 30.91 91 P P 23 33 49.0 +0.1
J05D IAmb IAmb 23 34 05.3
comp=Z,17nm,0.9s
KMPM Mount Pierce 30.93 98 P P 23 33 49.3 +0.4
YBH Yreka Blue Hor 30.95 95 P P 23 33 49.1 0.0
YBH IAmb IAmb 23 34 05.2
comp=Z,15nm,1.1s
YBH Yreka Blue Hor 30.95 95 LR LR 23 43 20.9
comp=Z,71nm,21.5s,baz=294,slow=30
YBH Yreka Blue Hor 30.95 95 P P 23 33 49.1 0.0
YBH pmax pmax
comp=Z,15nm,1.1s
M02C Callahan 31.07 95 P P 23 33 50.0 -0.1
M02C IAmb IAmb 23 34 09.5
comp=Z,18nm,1.1s
G08A Pilot Rock 31.16 86 P 23 33 51.1 +0.3
KMRM Mail Ridge 31.30 98 P P 23 33 51.5 -0.6
KHBM Hayfork Bally 31.31 97 P P 23 33 52.9 +0.5
KHBM IAmb IAmb 23 33 55.2
comp=Z,10.0nm,1.1s
K05A Summer Lake 31.44 92 P P 23 33 54.4 +0.9
O02D Mt. Diablo Mer 31.87 97 P P 23 33 57.4 +0.3
O02D IAmb IAmb 23 34 00.2
comp=Z,22nm,1.1s
HATC Hat Creek Radi 32.26 95 P P 23 34 02.2 +1.7
BMO Blue Mountains 32.38 85 P P 23 34 01.8 +0.2
BMO Blue Mountains 32.38 85 P P 23 34 01.8 +0.2
BMO pmax pmax
comp=Z,5.0nm,1.2s
O03E Paynes Creek 32.38 96 P P 23 34 01.9 +0.3
J08A Circle Bar Ran 32.52 89 P P 23 34 03.3 +0.5
J08A IAmb IAmb 23 34 38.8
comp=Z,16nm,1.3s
JTMT Jette 32.65 79 P P 23 34 03.3 -0.7
TIXI Tiksi 32.82 328 LR LR 23 49 23.9
comp=Z,911nm,18.1s,baz=95,slow=40
WVOR Wild Horse Val 32.96 90 P P 23 34 07.0 +0.2
WVOR IAmb IAmb 23 34 31.1
comp=Z,19nm,1.0s
WVOR Wild Horse Val 32.96 90 P P 23 34 07.0 +0.2
WVOR pmax pmax
comp=Z,19nm,1.0s
ORV Oroville 33.03 97 P P 23 34 06.4 -0.8
ORV IAmb IAmb 23 34 22.5
comp=Z,16nm,1.5s
ORV Oroville 33.03 97 P P 23 34 06.4 -0.8
ORV pmax pmax
comp=Z,16nm,1.5s
MSO Missoula 33.32 80 P P 23 34 09.9 +0.1
MSO IAmb IAmb 23 34 11.9
comp=Z,38nm,1.9s
BEKR Beckworth 33.51 95 P P 23 34 12.1 +0.5
BEKR IAmb IAmb 23 34 31.1
comp=Z,9.9nm,1.0s
OVMT Ovando 33.75 79 P P 23 34 13.5 -0.1
BPMT Black Pine Rid 33.81 80 P P 23 34 14.2 -0.1
YAK Yakutsk 33.98 310 LR LR 23 49 00.5
comp=Z,585nm,19.8s,baz=82,slow=38
YAK Yakutsk 33.98 310 *e*P P 23 34 14.0 -1.2
YAK *e* 23 35 26.2
YAK *e* 23 36 52.9
YAK *e*S S 23 39 38.5 +1.4
YAK *e*SS SnSn 23 41 44.3 -1.3
YAK *e* 23 44 39.2
YAK pmax pmax
comp=Z,22nm,1.2s
YAK pmax pmax
comp=N,5.0nm,1.5s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=Z,80nm,3.7s
YAK pmax pmax
comp=N,30nm,2.8s
YAK pmax pmax
comp=E,61nm,3.3s
YAK smax smax
comp=N,32nm,2.1s
YAK smax smax
comp=E,23nm,2.2s
YAK MLR MLR
comp=Z,380nm,18.0s
YAK MLR MLR
comp=N,337nm,18.0s
YAK MLR MLR
comp=E,249nm,14.0s
MFID Camas Ranch 34.06 87 P P 23 34 16.2 -0.1
MFID IAmb IAmb 23 34 40.8
comp=Z,8.1nm,0.9s
PAHR Pah Rah Range 34.19 95 P P 23 34 17.0 -0.5
PAHR IAmb IAmb 23 34 32.8
comp=Z,20nm,1.0s
LYMT Lyon Mountain 34.21 79 P P 23 34 17.7 0.0
WELL Weller Preserv 34.22 98 P P 23 34 18.4 +0.8
WELL IAmb IAmb 23 34 33.1
comp=Z,11nm,1.2s
RES Resolute Bay 34.41 26 LR LR 23 50 06.4
comp=Z,336nm,20.2s,baz=316,slow=39
ASAJ Asahikawa 34.47 275 LR LR 23 47 17.2
comp=Z,363nm,21.6s,baz=48,slow=34
CMB Columbia Colle 34.68 98 P P 23 34 20.9 -0.7
CMB IAmb IAmb 23 34 37.1
comp=Z,8.7nm,1.0s
CMB Columbia Colle 34.68 98 P P 23 34 20.9 -0.7
CMB pmax pmax
comp=Z,9.0nm,1.0s
HLID Hailey 34.82 85 P 23 34 23.2 +0.2
WAKR Walker 34.93 96 P P 23 34 24.4 +0.5
MCMT McKenzie Canyo 35.03 82 P P 23 34 24.3 -0.6
MCMT pP 23 34 38.0 +2.2
BBGB Big Mountain B 35.27 100 P P 23 34 26.9 +0.1
BOZ Bozeman (W) 35.33 80 P P 23 34 26.9 -0.3
BOZ IAmb IAmb 23 34 30.2
comp=Z,24nm,1.8s
BOZ Bozeman (W) 35.33 80 P P 23 34 27.0 -0.3
BOZ pmax pmax
comp=Z,24nm,1.8s
RYN Ryan 35.40 95 P P 23 34 28.3 +0.3
RYN IAmb IAmb 23 34 43.2
comp=Z,15nm,0.9s
HULI Fort Hunter Li 35.54 101 P P 23 34 28.7 -0.4
NVAR Mina Array Bea 35.66 95 P P 23 34 30.6 +0.4
NVAR Mina Array Bea 35.66 95 P P 23 34 31.6 +1.4
comp=Z,4.6nm,0.8s,baz=298,slow=8.6,SNR=21
NVAR PcP PcP 23 36 58.9 +1.0
comp=Z,1.5nm,0.8s,baz=306,slow=3.5,SNR=3.2
NVAR ScP ScP 23 40 40.2 -0.1
comp=Z,0.4nm,0.6s,baz=299,slow=4.6,SNR=4.0
NVAR LR LR 23 46 02.6
comp=Z,565nm,21.6s,baz=287,slow=31
comp=Z,4.6nm,0.8s
PMPB Monarch Peak 35.66 101 P P 23 34 27.6 -2.5
MDPB Devils Postpil 35.72 97 P P 23 34 30.3 -0.5
MDPB IAmb IAmb 23 34 47.1
comp=Z,17nm,0.9s
NV11 Mina Array Sit 35.74 95 P P 23 34 30.7 -0.2
NV11 IAmb IAmb 23 34 46.2
comp=Z,9.0nm,0.9s
PKD Bear Valley Ra 36.00 101 IAmb IAmb 23 34 35.0
comp=Z,13nm,1.0s
YHL Hebgen Lake 36.01 81 P P 23 34 33.8 +0.6
YHL IAmb IAmb 23 35 01.5
comp=Z,15nm,1.3s
ELK Elko 36.01 90 P P 23 34 33.7 +0.4
ELK Elko 36.01 90 LR LR 23 46 52.6
comp=Z,689nm,20.9s,baz=314,slow=32
ELK Elko 36.01 90 P P 23 34 33.7 +0.4
ELK pmax pmax
comp=Z,6.0nm,0.9s
YHB Horse Butte 36.05 81 P P 23 34 33.8 +0.2
YHB IAmb IAmb 23 34 48.1
comp=Z,13nm,1.0s
YHH Holmes Hill 36.24 81 P P 23 34 35.1 -0.1
YMR Madison River 36.24 81 P P 23 34 36.5 +1.3
YMR IAmb IAmb 23 35 01.5
comp=Z,16nm,1.0s
YNR Norris Junctio 36.38 81 P P 23 34 36.7 +0.4
YNR IAmb IAmb 23 35 03.4
comp=Z,15nm,1.0s
TPH Tonopah 36.53 95 P P 23 34 37.7 0.0
TPH IAmb IAmb 23 34 52.8
comp=Z,12nm,1.0s
TPH Tonopah 36.53 95 P P 23 34 37.7 0.0
TPH pmax pmax
comp=Z,12nm,1.0s
DSP Deep Springs 36.55 96 P P 23 34 38.8 +1.3
DSP IAmb IAmb 23 34 53.6
comp=Z,16nm,1.0s
YNE Yellowstone No 36.61 80 P P 23 34 38.3 0.0
H17A Grant Village 36.62 81 P P 23 34 39.2 +0.7
H17A IAmb IAmb 23 34 53.2
comp=Z,10nm,1.1s
YMP Mirror Lake Pl 36.67 81 P P 23 34 38.2 -0.8
YMP IAmb IAmb 23 35 14.6
comp=Z,15nm,1.2s
TPAW Teton Pass 36.92 83 P P 23 34 40.8 -0.2
VES Vestal, Richgr 36.93 99 P P 23 34 41.1 +0.3
RLMT Red Lodge 36.98 80 P P 23 34 41.6 +0.2
RLMT IAmb IAmb 23 34 55.2
comp=Z,18nm,1.1s
GMN Gold Mountain 37.02 96 P P 23 34 42.0 +0.1
GMN IAmb IAmb 23 34 57.2
comp=Z,7.6nm,0.9s
LOHW Long Hollow 37.05 82 P P 23 34 42.0 -0.1
CWC Cottonwood Cre 37.11 98 P P 23 34 43.0 +0.4
CWC IAmb IAmb 23 34 58.1
comp=Z,14nm,1.2s
R11B Troy Canyon, C 37.33 93 P P 23 34 44.8 +0.4
R11B IAmb IAmb 23 34 59.3
comp=Z,13nm,1.2s
ISA Isabella, Lake 37.41 99 P P 23 34 45.1 +0.1
ISA IAmb IAmb 23 35 00.3
comp=Z,18nm,1.3s
ISA Isabella, Lake 37.41 99 P P 23 34 45.1 +0.1
ISA pmax pmax
comp=Z,18nm,1.3s
HWUT Hardware Ranch 37.67 86 P P 23 34 47.5 +0.1
MPMC Manual Prospec 37.72 98 P P 23 34 47.2 -0.6
MPMC IAmb IAmb 23 35 03.0
comp=Z,18nm,1.2s
WCT Wildcat Mounta 37.74 96 P P 23 34 47.8 0.0
WCT IAmb IAmb 23 35 23.1
comp=Z,10nm,1.3s
FURC Furnace Creek, 37.82 97 P P 23 34 48.6 +0.3
TPNV Topopah Spring 37.86 95 P P 23 34 49.4 +0.5
TPNV IAmb IAmb 23 35 04.1
comp=Z,19nm,0.9s
TPNV Topopah Spring 37.86 95 P P 23 34 49.4 +0.5
TPNV pmax pmax
comp=Z,19nm,1.0s
LAO LASA Array 37.89 75 P P 23 34 49.5 +0.5
LAO IAmb IAmb 23 34 53.5
comp=Z,14nm,1.0s
WSHM Spangler Hills 38.03 98 P P 23 34 50.5 +0.3
WSHM IAmb IAmb 23 35 05.2
comp=Z,24nm,1.4s
TPO Tropico Hills 38.10 100 P P 23 34 51.3 +0.5
TPO IAmb IAmb 23 35 19.4
comp=Z,25nm,1.4s
GWY Greenwater Val 38.12 97 P P 23 34 51.5 +0.3
GWY IAmb IAmb 23 35 06.1
comp=Z,14nm,0.9s
CCCA Chr Cany lake 38.16 98 P P 23 34 51.6 +0.3
PD31 Pinedale Array 38.17 83 P P 23 34 51.9 +0.3
PDAR Pinedale Array 38.17 83 P P 23 34 50.9 -0.7
PDAR Pinedale Array 38.17 83 P P 23 34 51.9 +0.3
comp=Z,1.0nm,0.8s,baz=298,slow=3.2,SNR=6.6
PDAR LR LR 23 48 51.2
comp=Z,144nm,19.7s,baz=311,slow=33
comp=Z,1.0nm,0.8s
PRN Pahroc Range 38.26 94 P P 23 34 52.7 +0.5
PRN IAmb IAmb 23 35 16.4
comp=Z,16nm,1.1s
SHOC Shoshone, Teco 38.55 97 P P 23 34 54.8 +0.2
SHOC IAmb IAmb 23 35 09.7
comp=Z,20nm,1.0s
GSC Goldstone, Bar 38.65 98 P P 23 34 55.8 +0.4
GSC IAmb IAmb 23 35 10.5
comp=Z,26nm,1.2s
GSC Goldstone, Bar 38.65 98 P P 23 34 55.8 +0.4
GSC pmax pmax
comp=Z,26nm,1.2s
MWC Mount Wilson 38.66 100 P P 23 34 55.2 -0.5
MWC IAmb IAmb 23 35 26.4
comp=Z,22nm,1.3s
MWC Mount Wilson 38.66 100 P P 23 34 55.2 -0.5
MWC pmax pmax
comp=Z,22nm,1.3s
SHPR Sheep Range 38.80 95 sP 23 35 15.4 +2.5
BSUT Blindstream Ca 38.81 87 P P 23 34 57.3 +0.2
BSUT IAmb IAmb 23 35 33.1
comp=Z,14nm,1.3s
BFSC Mount Baldy Ra 38.88 100 P P 23 34 56.4 -1.1
BFSC IAmb IAmb 23 34 59.4
comp=Z,8.8nm,0.9s
ALE Alert 39.02 12 P P 23 34 57.4 -0.5
CCUT Cedar City 39.17 92 P P 23 35 00.7 +0.7
CCUT IAmb IAmb 23 35 21.1
comp=Z,24nm,1.7s
MTPC Mountain Pass 39.26 97 P P 23 35 00.8 +0.1
MTPC IAmb IAmb 23 35 15.7
comp=Z,13nm,1.2s
TMUT Trail Mountain 39.33 88 P P 23 35 01.4 0.0
TMUT IAmb IAmb 23 35 21.4
comp=Z,18nm,1.1s
ELS Elsinore Mount 39.44 100 P P 23 35 01.7 -0.4
ELS IAmb IAmb 23 35 16.8
comp=Z,20nm,1.4s
P17A Butcher Ranch, 39.49 88 P P 23 35 02.3 -0.3
P17A IAmb IAmb 23 35 44.5
comp=Z,17nm,1.3s
V12A Nelson 39.51 96 P P 23 35 02.6 -0.1
V12A sP 23 35 17.7 -1.0
LCMT Little Creek M 39.60 93 P P 23 35 03.2 -0.3
LCMT IAmb IAmb 23 35 25.4
comp=Z,23nm,1.7s
P18A Preston Nutter 39.69 87 P P 23 35 04.6 +0.2
P18A IAmb IAmb 23 35 46.4
comp=Z,20nm,1.4s
H11N2 WAKE ISLAND Hy 39.69 222 T T 00 17 16.9
baz=25,slow=76,SNR=2238
H11N3 WAKE ISLAND Hy 39.70 222 T T 00 17 17.4
baz=25,slow=76,SNR=1483
H11N1 WAKE ISLAND Hy 39.71 222 T T 00 17 08.2
baz=25,slow=76,SNR=1341
KNB Kanab 39.85 92 P P 23 35 06.1 +0.5
KNB IAmb IAmb 23 35 26.9
comp=Z,26nm,1.7s
KNB Kanab 39.85 92 P P 23 35 06.1 +0.5
KNB pmax pmax
comp=Z,27nm,1.7s
SRU San Rafael Swe 39.85 88 P P 23 35 05.5 -0.1
SRU IAmb IAmb 23 35 27.2
comp=Z,13nm,1.0s
SRU San Rafael Swe 39.85 88 P P 23 35 05.5 -0.1
SRU pmax pmax
comp=Z,13nm,1.0s
HEH HeiHe 39.91 293 *e*P P 23 35 06.5 +0.8
HEH LR LR
comp=N,220nm,17.6s
HEH LR LR
comp=E,310nm,18.0s
HEH LR LR
comp=Z,440nm,19.9s
DANC Danby, Needles 39.95 97 P P 23 35 06.3 +0.1
DANC sP 23 35 21.0 -1.3
DANC IAmb IAmb 23 35 42.3
comp=Z,24nm,1.0s
DNR Dunn Ranch,Anz 39.96 100 P P 23 35 05.8 -0.7
DNR IAmb IAmb 23 35 37.4
comp=Z,25nm,1.1s
BELC Belle Mtn. Jos 40.03 99 P P 23 35 07.1 0.0
BELC pP 23 35 20.5 +2.2
PFO Pinyon Flats O 40.03 100 P P 23 35 06.3 -0.8
PFO IAmb IAmb 23 35 21.2
comp=Z,29nm,1.8s
PFO Pinyon Flats O 40.03 100 LR LR 23 48 19.1
comp=Z,793nm,20.6s,baz=290,slow=31
PFO Pinyon Flats O 40.03 100 P P 23 35 06.3 -0.8
PFO pmax pmax
comp=Z,29nm,1.8s
K22A Casper 40.03 81 P P 23 35 07.0 -0.1
K22A IAmb IAmb 23 35 19.6
comp=Z,12nm,1.1s
PMD Palm Desert 40.05 99 P P 23 35 06.5 -0.6
PMD IAmb IAmb 23 35 26.2
comp=Z,13nm,1.4s
DPP Dos Picos Cty 40.18 101 P P 23 35 07.8 -0.4
DPP IAmb IAmb 23 35 25.2
comp=Z,9.0nm,0.9s
WAKE Wake Island 40.19 222 P P 23 35 08.3 0.0
WAKE x x 23 35 18.3
IRM Iron Mountain 40.42 98 P P 23 35 10.8 +0.6
IRM IAmb IAmb 23 35 25.1
comp=Z,22nm,1.3s
HMU Henry Mountain 40.48 90 P P 23 35 11.6 +0.6
HMU IAmb IAmb 23 35 28.1
comp=Z,19nm,1.0s
W13A Hualapai Mount 40.52 96 P P 23 35 10.9 -0.3
W13A IAmb IAmb 23 35 26.1
comp=Z,13nm,1.1s
O20A White River Ci 40.56 85 IAmb IAmb 23 35 37.0
comp=Z,21nm,0.9s
BAR Barrett 40.57 101 P P 23 35 11.1 -0.3
BAR IAmb IAmb 23 35 26.4
comp=Z,10.0nm,0.9s
BC3 Big Chuckawall 40.59 99 P P 23 35 11.5 -0.2
RSSD Black Hills 40.62 77 P P 23 35 12.3 +0.4
RSSD Black Hills 40.62 77 P P 23 35 12.3 +0.4
RSSD pmax pmax
comp=Z,6.0nm,0.9s
USRK Ussuriysk Ar. 40.67 283 P P 23 35 10.4 -1.7
comp=Z,0.8nm,0.5s,baz=51,slow=11,SNR=2.1
USRK PcP PcP 23 37 14.1 +1.0
comp=Z,4.4nm,0.9s,baz=28,slow=8.6,SNR=6.0
comp=Z,0.8nm,0.5s
H11S1 WAKE ISLAND Hy 40.87 222 T T 00 19 17.2
baz=25,slow=76,SNR=1340
H11S2 WAKE ISLAND Hy 40.89 222 T T 00 19 18.2
baz=25,slow=76,SNR=1553
H11S3 WAKE ISLAND Hy 40.89 222 T T 00 19 18.6
baz=25,slow=76,SNR=1173
MDND Maddock 41.03 70 P P 23 35 15.3 +0.3
MDND sP 23 35 32.4 +1.2
BLYC Blythe 41.08 98 P P 23 35 15.2 -0.3
BLYC sP 23 35 29.7 -1.9
BLYC IAmb IAmb 23 35 30.4
comp=Z,19nm,1.2s
E28A Huff 41.12 72 P P 23 35 15.9 0.0
E28A IAmb IAmb 23 35 18.0
comp=Z,23nm,0.8s
PV21 Cone Mtn., Par 41.13 88 P P 23 35 16.4 +0.2
PV21 IAmb IAmb 23 36 01.5
comp=Z,14nm,1.2s
PV22 Blue Mesa, Par 41.26 87 P P 23 35 17.2 -0.1
PV22 IAmb IAmb 23 35 41.4
comp=Z,15nm,1.1s
PV05 Paradox Valley 41.37 88 P P 23 35 18.6 +0.4
PV05 IAmb IAmb 23 35 46.3
comp=Z,10nm,0.9s
PV18 Skein Mesa, Pa 41.38 88 P P 23 35 18.1 -0.1
PV18 IAmb IAmb 23 35 43.0
comp=Z,22nm,0.9s
PV03 Paradox Valley 41.41 88 P P 23 35 18.5 0.0
PV03 IAmb IAmb 23 36 00.4
comp=Z,41nm,1.8s
PV07 Paradox Valley 41.41 87 P P 23 35 18.9 +0.4
PV07 IAmb IAmb 23 35 42.7
comp=Z,14nm,1.2s
ESJX Sierra Juarez 41.48 101 P P 23 35 19.9 +0.8
ESJX IAmb IAmb 23 35 36.2
comp=Z,11nm,1.0s
PV13 Radium Mtn., P 41.49 88 IAmb IAmb 23 35 43.9
comp=Z,23nm,0.9s
PV02 Paradox Valley 41.50 88 IAmb IAmb 23 35 52.6
comp=Z,26nm,1.0s
PV15 Paradox Valley 41.57 87 P P 23 35 20.0 +0.1
PV01 Paradox Valley 41.65 88 IAmb IAmb 23 35 45.2
comp=Z,12nm,1.0s

WUAZ **Wupatki** 41.73 93 P 23 35 21.2 +0.2
ULM Lac du Bonnet 41.77 65 P P 23 35 20.6 -0.4
comp=Z,2.8nm,0.7s,baz=304,slow=11,SNR=2.0
ULM LR LR 23 53 58.6
comp=Z,340nm,18.5s,baz=304,slow=38
comp=Z,2.8nm,0.7s
MAJO Matsushiro 41.80 269 P P 23 35 21.8 +0.3
MAJO IAmb IAmb 23 35 23.0
comp=Z,15nm,0.9s
MAJO Matsushiro 41.80 269 P P 23 35 21.8 +0.3
MAJO pmax pmax
comp=Z,15nm,1.0s
MJAR Matsushiro Arr 41.80 269 P 23 35 21.6 +0.1
MJAR Matsushiro Arr 41.80 269 P P 23 35 21.0 -0.5
comp=Z,4.7nm,1.0s,baz=43,slow=6.6,SNR=11
MJAR PcP PcP 23 37 16.9 0.0
comp=Z,2.2nm,0.9s,baz=38,slow=3.3,SNR=4.3
comp=Z,4.7nm,1.0s
MJAR Matsushiro Arr 41.80 269 P P 23 35 21.6 +0.1
MJAR pmax pmax
comp=Z,20nm,1.9s
MJB9 Matsu-Tunnel 41.80 269 P 23 35 22.7 +1.2
MJB9 IAmb IAmb 23 35 23.9
comp=Z,15nm,0.9s
Y14A Wickenburg 41.84 96 P P 23 35 21.9 0.0
MSHR Mys Shultsa 42.12 281 ⇓*i*P P 23 35 23.5 -0.5
MSHR pmax pmax
comp=Z,10.0nm,1.0s
113A Mohawk Valley, 42.22 98 P P 23 35 24.9 0.0
113A IAmb IAmb 23 35 39.4
comp=Z,24nm,1.6s
X16A Lo Mia Camp, P 42.44 94 P 23 35 27.2 +0.3
AGMN Agassiz Nation 42.85 67 P P 23 35 30.2 +0.3
AGMN IAmb IAmb 23 35 31.5
comp=Z,9.4nm,0.8s
JHJ Hachijo jima 2 43.22 264 LR LR 23 51 14.4
comp=Z,174nm,21.2s,baz=80,slow=33
X18A Snowflake 43.25 93 P P 23 35 34.2 +0.8
X18A IAmb IAmb 23 35 55.3
comp=Z,52nm,1.9s
NEEM North Greenlan 43.28 17 *i*P P 23 35 32.3 -1.0
NEEM IAmb IAmb 23 35 33.8
comp=Z,31nm,1.1s
214A Organ Pipe Nat 43.36 98 P 23 35 34.3 +0.1
214A IAmb IAmb 23 35 49.1
comp=Z,16nm,1.3s
SDCO Great Sand Dun 43.73 86 P 23 35 37.5 0.0
SDCO IAmb IAmb 23 35 57.8
comp=Z,28nm,1.9s
NOR Nord 44.09 6 *i*P P 23 35 39.2 -0.2
NOR IAmb IAmb 23 35 39.9
comp=Z,20nm,1.3s
TUC Tucson 44.31 96 P 23 35 42.3 +0.4
TUC IAmb IAmb 23 36 01.8
comp=Z,10nm,1.1s
TUC Tucson 44.31 96 P P 23 35 42.3 +0.4
TUC pmax pmax
comp=Z,10.0nm,1.2s
T25A Trinidad 44.79 86 P P 23 35 45.9 +0.1
ANMO Albuquerque 45.05 90 P P 23 35 48.5 +0.6
ANMO IAmb IAmb 23 36 08.3
comp=Z,12nm,1.4s
ANMO Albuquerque 45.05 90 P P 23 35 47.5 -0.3
ANMO IAmb IAmb 23 36 08.2
comp=Z,9.8nm,1.3s
ANMO Albuquerque 45.05 90 P 23 35 47.7 -0.2
ANMO IAmb IAmb 23 36 08.2
comp=Z,12nm,1.4s
ANMO Albuquerque 45.05 90 LR LR 23 52 46.8
comp=Z,496nm,19.7s,baz=40,slow=34
ANMO Albuquerque 45.05 90⇑*e*P P 23 35 47.9 0.0
ANMO pmax pmax
comp=Z,10.0nm,1.4s
ECSD EROS Data Cent 45.13 73 IAmb IAmb 23 35 48.7
comp=Z,11nm,1.1s
DUN6 Lazy B Ranch 45.14 94 P P 23 35 49.0 +0.4
LENM Lemitar 45.28 91 P P 23 35 49.7 0.0
Y22D IRIS PASSCAL I 45.37 91 P P 23 35 49.9 -0.5
baz=314
Y22A Socorro 45.44 91 P 23 35 50.6 -0.4
Y22A IAmb IAmb 23 36 12.0
comp=Z,24nm,1.2s
BNM Barren Site 45.49 90 P 23 35 51.9 +0.4
121A Cookes Peak, D 45.94 93 P P 23 35 55.7 +0.8
I37A Lemond, Waseca 46.78 71 P P 23 36 01.4 +0.2
FRB Frobisher Bay 46.80 37 LR LR 23 58 15.9
comp=Z,668nm,18.5s,baz=296,slow=39
KSRS Korea Array 47.31 278 P P 23 36 05.3 0.0
comp=Z,7.3nm,0.9s,baz=56,slow=7.4,SNR=27
KSRS PcP PcP 23 37 36.5 +0.7
comp=Z,3.7nm,0.8s,baz=50,slow=4.1,SNR=5.3
comp=Z,7.3nm,0.9s
KS19 Wonju Array Si 47.31 278 P P 23 36 05.9 +0.5
KS19 IAmb IAmb 23 36 07.2
comp=Z,9.7nm,0.9s
KSAR Wonju Array Be 47.34 278 P 23 36 05.2 -0.4
KSAR Wonju Array Be 47.34 278 P P 23 36 05.2 -0.4
MNTX Cornudas Mount 47.96 92 P P 23 36 09.8 -0.7
MNTX IAmb IAmb 23 36 31.2
comp=Z,26nm,1.7s
DAG Danmarks Havn 48.31 10 P P 23 36 12.0 -0.6
DAG pmax pmax
comp=Z,46nm,0.9s
DAG Danmarks Havn 48.31 10 *i*P P 23 36 11.0 -1.6
DAG IAmb IAmb 23 36 13.1
comp=Z,43nm,1.0s
TJN Taejon 48.37 277 P P 23 36 14.2 +0.7
TJN pmax pmax
comp=Z,121nm,1.1s
JNU Nakatsue 48.52 272 LR LR 23 54 52.8
comp=Z,283nm,21.8s,baz=55,slow=34
SPITS Spitsbergen Ar 48.54 359 P P 23 36 13.9 -0.5
comp=Z,15nm,1.0s,baz=54,slow=4.2,SNR=6.7
SPITS LR LR 23 58 36.6
comp=Z,338nm,18.6s,baz=8.0,slow=38
comp=Z,15nm,1.0s
VHRN Van Horn 48.85 92 P 23 36 17.7 +0.2
SUMG Summit 49.03 18 P 23 36 18.6 0.0
SUMG Summit 49.03 18 P P 23 36 18.6 0.0
SUMG pmax pmax
comp=Z,28nm,1.2s
SUMG Summit 49.03 18 *i*P P 23 36 18.5 -0.1
SUMG IAmb IAmb 23 36 21.1
comp=Z,13nm,0.8s
WMOK Wichita Mounta 49.76 84 IAmb IAmb 23 36 53.5
comp=Z,6.3nm,0.8s
MNHN Monahans 49.78 90 IAmb IAmb 23 36 57.4
comp=Z,4.7nm,0.8s
ALPN Alpine 49.95 92 IAmb IAmb 23 36 45.8
comp=Z,17nm,1.5s
DBG Daneborg 50.37 11 *i*P P 23 36 27.4 -0.9
DBG IAmb IAmb 23 36 28.8
comp=Z,30nm,0.8s
SFJD Kangerlussuaq 50.40 27 LR LR 23 59 50.6
comp=Z,205nm,20.5s,baz=320,slow=38
LPIG La Paz 50.67 103 LR LR 23 52 54.9
comp=Z,204nm,21.6s,baz=286,slow=30
TX31 Lajitas Ar. Si 50.69 93 IAmb IAmb 23 36 45.9
comp=Z,9.2nm,0.8s
TXAR Lajitas Array 50.69 93 P P 23 36 31.3 -0.1
comp=Z,3.3nm,0.7s,baz=303,slow=5.4,SNR=47
TXAR ScP ScP 23 41 41.3 +0.5
comp=Z,0.9nm,0.9s,baz=270,slow=2.5,SNR=5.8
TXAR LR LR 23 56 31.4
comp=Z,152nm,18.9s,baz=304,slow=34
comp=Z,3.3nm,0.7s
TUL3 Leonard 50.72 81 P P 23 36 32.2 +0.7
TUL3 IAmb IAmb 23 36 42.1
comp=Z,8.5nm,0.9s
ABTX Abilene, Hawle 50.73 86 P P 23 36 31.8 +0.1
SAND Sanderson 51.16 91 IAmb IAmb 23 36 54.7
comp=Z,21nm,1.8s
R40A Maddies Statio 51.16 76 IAmb IAmb 23 37 06.8
comp=Z,7.4nm,0.7s
DY2G Dye2 51.96 26 *i*P P 23 36 39.7 -0.9
DY2G IAmb IAmb 23 36 43.3
comp=Z,7.1nm,0.7s
BRDY Brady 52.06 87 IAmb IAmb 23 37 14.8
comp=Z,7.2nm,0.9s
ULN Ulaanbaatar 52.11 302 P 23 36 41.4 -0.5
ULN IAmb IAmb 23 37 18.6
comp=Z,5.1nm,0.8s
ULN Ulaanbaatar 52.11 302 P P 23 36 41.4 -0.5
ULN pmax pmax
comp=Z,5.0nm,0.8s
BJI Beijing 52.39 289 P P 23 36 44.3 +0.4
BJI pmax pmax
comp=Z,3.0nm,0.8s
BJI LR LR
comp=N,180nm,20.2s
BJI LR LR
comp=E,120nm,21.0s
BJI LR LR
comp=Z,280nm,21.8s
SONM Songino Array 52.46 302 P 23 36 44.3 -0.2
SONM IAmb IAmb 23 37 56.3
comp=Z,6.2nm,1.0s
SONM Songino Array 52.46 302 P P 23 36 44.3 -0.2
comp=Z,2.9nm,1.0s,baz=47,slow=8.1,SNR=16
SONM PcP PcP 23 37 54.4 -0.3
comp=Z,4.6nm,0.9s,baz=57,slow=2.6,SNR=6.8
SONM ScP ScP 23 41 48.2 0.0
comp=Z,0.4nm,0.7s,baz=88,slow=4.5,SNR=1.7
SONM LR LR 00 00 32.5
comp=Z,328nm,21.4s,baz=50,slow=38
comp=Z,2.9nm,1.0s
MOY Mondy 52.57 308 *e*P P 23 36 45.0 -0.2
MOY pmax pmax
comp=Z,14nm,1.5s
MIAR Mount Ida 52.97 80 P P 23 36 48.7 +0.4
MIAR IAmb IAmb 23 37 07.9
comp=Z,16nm,1.3s
MIAR Mount Ida 52.97 80 P P 23 36 48.7 +0.4
MIAR pmax pmax
comp=Z,16nm,1.3s
SCHQ Schefferville 53.15 46 P P 23 36 50.1 +0.8
comp=Z,44nm,0.8s,baz=326,slow=7.3,SNR=5.4
SCHQ LR LR 00 00 51.2
comp=Z,3µm,19.8s,baz=312,slow=38
comp=Z,44nm,0.8s
SCO Scoresbysund 53.60 14 *i*P P 23 36 50.3 -2.1
SCO IAmb IAmb 23 36 50.6
comp=Z,71nm,1.4s
SADO Sadowa 54.06 61 LR LR 00 00 06.9
comp=Z,1µm,19.8s,baz=320,slow=36
HHC Hu-ho-hao-te 54.42 292 *e*P P 23 37 00.5 +1.6
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,64nm,4.3s
HHC LR LR
comp=N,170nm,14.3s
HHC LR LR
comp=E,100nm,14.7s
HHC LR LR
comp=Z,280nm,14.3s
JOW Kunigami 54.62 268 P P 23 37 00.4 0.0
comp=Z,44nm,0.9s,baz=46,slow=3.5,SNR=7.7
JOW LR LR 23 59 03.8
comp=Z,48nm,21.6s,baz=52,slow=35
comp=Z,44nm,0.9s
JMIC Jan Mayen 54.73 9 LR LR 00 01 12.8
comp=Z,157nm,20.3s,baz=352,slow=37
KNGR Kungurtug, Tuv 54.90 309⇑*i*P P 23 37 03.3 +1.0
KNGR pmax pmax
comp=Z,9.0nm,1.1s
T47A Sharon Grove 55.02 73 IAmb IAmb 23 37 25.3
comp=Z,11nm,0.9s
HNS HongShan 55.04 287 ⇓P P 23 37 03.5 +0.2
HNS pmax pmax
comp=Z,21nm,0.9s
HNS LR LR
comp=N,260nm,22.2s
HNS LR LR
comp=E,240nm,21.8s
HNS LR LR
comp=Z,470nm,22.6s
WVT Waverly 55.21 75 P P 23 37 03.9 -0.7
WVT IAmb IAmb 23 37 26.6
comp=Z,9.8nm,0.9s
WVT Waverly 55.21 75 P P 23 37 03.9 -0.7
WVT pmax pmax
comp=Z,10.0nm,1.0s
GUMO Guam 55.49 243 LR LR 23 56 51.0
comp=Z,50nm,19.9s,baz=87,slow=32
CLTN Cedars of Leba 56.10 74 IAmb IAmb 23 37 52.2
comp=Z,8.9nm,1.2s
ZAIG Zacatecas 56.24 97 P P 23 37 12.4 -0.1
ZAIG IAmb IAmb 23 37 33.6
comp=Z,11nm,1.1s
NJ2 Nanjing 56.42 280 *e*P P 23 37 14.0 +0.8
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
LONY Lake Ozonia 56.52 59 IAmb IAmb 23 37 22.5
comp=Z,19nm,1.4s
ARCES ARCESS Array B 56.95 355 P P 23 37 15.7 -0.9
comp=Z,3.5nm,0.9s,baz=11,slow=7.4,SNR=18
ARCES PcP PcP 23 38 11.2 -0.2
comp=Z,8.2nm,0.9s,baz=29,slow=2.8,SNR=6.5
ARCES LR LR 00 04 31.9
comp=Z,180nm,18.4s,baz=6.0,slow=39
comp=Z,3.5nm,0.9s
NCB Newcomb 57.16 59 IAmb IAmb 23 37 25.7
comp=Z,12nm,0.9s
J59A Piesco 57.38 60 IAmb IAmb 23 37 21.2
comp=Z,11nm,0.8s
BINY Binghamton 57.50 62 IAmb IAmb 23 37 22.1
comp=Z,11nm,0.8s
SSPA Standing Stone 57.59 64 P P 23 37 21.3 -0.1
SSPA IAmb IAmb 23 37 22.2
comp=Z,13nm,0.9s
SSPA Standing Stone 57.59 64 P P 23 37 21.2 -0.3
FPAL Fort Paine 57.61 75 IAmb IAmb 23 38 01.5
comp=Z,6.2nm,1.1s
TKL Tuckaleechee C 57.87 72 LR LR 00 01 08.0
comp=Z,296nm,21.1s,baz=324,slow=35
ZALV Zalesovo Beam 57.93 319 P 23 37 23.2 -0.4
ZALV Zalesovo Beam 57.93 319 P P 23 37 23.1 -0.5
comp=Z,1.5nm,0.4s,baz=44,slow=4.4,SNR=11
ZALV PcP PcP 23 38 15.1 -0.4
comp=Z,5.2nm,0.8s,baz=30,slow=3.3,SNR=8.4
ZALV LR LR 00 03 25.2
comp=Z,492nm,21.9s,baz=43,slow=37
comp=Z,1.5nm,0.4s
L59A Walton 58.00 61 IAmb IAmb 23 37 26.2
comp=Z,14nm,0.9s
U54A Nelsons Funny 58.35 70 P P 23 37 25.8 -1.2
U54A IAmb IAmb 23 37 43.5
comp=Z,17nm,1.2s
BORG Borgarnes 58.93 17 LR LR 00 04 24.6
comp=Z,138nm,21.0s,baz=335,slow=38
M63A Gales Ferry 60.12 60 P P 23 37 39.6 +0.6
XAN Xi'an 60.72 288 P P 23 37 43.0 -0.3
XAN sP pP 23 37 49.5 -5.7
XAN pmax pmax
comp=Z,13nm,1.0s
XAN LR LR
comp=N,190nm,15.8s
XAN LR LR
comp=E,280nm,17.9s
XAN LR LR
comp=Z,410nm,21.3s
GTA Gaotai 61.77 299 *e*P P 23 37 50.0 -0.4
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA LR LR
comp=N,250nm,18.9s
GTA LR LR
comp=E,350nm,17.8s
GTA LR LR
comp=Z,530nm,18.9s
LZH Lanzhou 62.05 294 *e*P P 23 37 57.5 +5.1
LZH pP pP 23 38 03.3 -1.0
LZH pmax pmax
comp=Z,23nm,0.9s
LZDM Lanzhou Array 62.23 294 P P 23 37 52.6 -1.2
comp=Z,1.2nm,0.3s,baz=87,slow=3.2,SNR=4.5
LZDM LR LR 00 06 33.7
comp=Z,236nm,20.8s,baz=355,slow=38
comp=Z,1.2nm,0.3s
KURK Kurchatov 62.85 320*d i*P P 23 37 57.1 -0.1
KURK pmax pmax
comp=Z,15nm,1.3s
KURBB Kurchatov Arra 62.96 320 P P 23 37 57.3 -0.6
comp=Z,7.2nm,1.0s,baz=49,slow=7.3,SNR=31
KURBB LR LR 00 07 26.6
comp=Z,809nm,19.7s,baz=88,slow=38
comp=Z,7.2nm,1.0s
SVE Sverdlovsk 63.60 334 *e*P P 23 38 01.9 -0.2
BVAR Borovoye Array 63.93 326 P P 23 38 04.6 +0.2
comp=Z,2.3nm,0.5s,baz=46,slow=6.4,SNR=19
BVAR LR LR 00 08 15.3
comp=Z,299nm,21.6s,baz=30,slow=38
comp=Z,2.3nm,0.5s
BORK Borovoye 63.93 326*ce*P P 23 38 05.4 +1.0
BORK pmax pmax
comp=Z,9.0nm,1.0s
KLMR Klimovskoe 64.16 346 *e*P P 23 38 02.3 -3.4
KLMR pmax pmax
comp=Z,9.0nm,1.6s
KLMR MLR MLR
comp=Z,278nm,13.0s
MK31 Makanchi Array 64.48 315*d i*P P 23 38 07.0 -1.1
MKAR Makanchi Array 64.48 315 P 23 38 06.6 -1.5
MKAR Makanchi Array 64.48 315 P P 23 38 06.9 -1.2
comp=Z,5.9nm,0.8s,baz=47,slow=6.3,SNR=39
MKAR LR LR 00 07 23.3
comp=Z,528nm,21.0s,baz=18,slow=37
comp=Z,5.9nm,0.8s
ARTI Arti 64.57 335 P 23 38 07.9 -0.7
ARTI Arti 64.57 335 LR LR 00 08 41.2
comp=Z,250nm,21.5s,baz=12,slow=38
ARTI Arti 64.57 335*c i*P P 23 38 08.3 -0.2
ARTI 23 38 40.6
ARTI 23 40 26.2
ARTI S S 23 46 47.7 +3.0
ARTI SS SS 23 50 51.7 -2.8
ARTI pmax pmax
comp=Z,8.0nm,1.0s
KIRV Kirov 64.63 340 LR LR 00 09 30.9
comp=Z,449nm,20.6s,baz=21,slow=39
KIRV Kirov 64.63 340*ce*P P 23 38 10.6 +1.8
FINES FINESS Array B 64.97 354 P P 23 38 09.7 -1.3
comp=Z,1.7nm,0.3s,baz=6.2,slow=6.6,SNR=45
FINES LR LR 00 09 13.8
comp=Z,146nm,18.2s,baz=9.5,slow=38
comp=Z,1.7nm,0.3s
FINES FINESS Array B 64.97 354 *i*P P 23 38 09.6 -1.4
FINES pmax pmax
comp=Z,2.0nm,0.3s
CMIG Matias Romero 65.19 95 LR LR 00 02 52.1
comp=Z,253nm,21.4s,baz=331,slow=32
NB201 NORSAR Array S 65.74 1 P 23 38 15.8 -0.2
NB2 NORSAR Subarra 65.75 2 P P 23 38 14.7 -1.4
comp=Z,9.1nm,0.9s,baz=0.5,slow=6.9
NOA NORSAR Array B 65.75 2 P P 23 38 15.5 -0.6
comp=Z,6.3nm,0.9s,baz=0.0,slow=6.5,SNR=20
NOA LR LR 00 07 33.8
comp=Z,97nm,20.7s,baz=350,slow=36
comp=Z,6.3nm,0.9s
TAOE Nuku Hiva Isla 65.90 152 *e*S S 23 47 04.7 +2.9
comp=Z,90nm,29.7s
TAOE *e*SS SS 23 51 20.0 +2.4
comp=Z,168nm,28.3s
TAOE *e*LR LR 23 57 49.9
comp=Z,440nm,22.7s
HFS Hagfors 66.68 0 P P 23 38 20.7 -1.3
comp=Z,11nm,0.8s,baz=29,slow=3.4,SNR=18
HFS LR LR 00 07 33.0
comp=Z,110nm,20.2s,baz=357,slow=36
comp=Z,11nm,0.8s
GOMU GeErMu 66.78 300 P P 23 38 22.3 -1.3
GOMU pP pP 23 38 25.5 -10
GOMU sP sP 23 38 29.5 -11
GOMU S S 23 47 15.0 +2.0
GOMU pmax pmax
comp=Z,3.0nm,0.8s
GOMU LR LR
comp=N,230nm,14.9s
GOMU LR LR
comp=E,120nm,14.3s
GOMU LR LR
comp=Z,270nm,14.5s
KONO Kongsberg 67.11 2⇑*e*P P 23 38 24.9 +0.2
KONO pmax pmax
comp=Z,22nm,1.1s
GYA Guiyang 67.67 285 ⇑P P 23 38 29.3 +0.3
GYA pmax pmax
comp=Z,37nm,1.1s
VSU Vasula 67.88 353*de*P P 23 38 28.1 -1.5
VSU pmax pmax
comp=Z,14nm,1.0s
TGY Tagaytay City 68.75 265 P P 23 38 36.4 +0.6
comp=Z,97nm,0.3s,baz=157,slow=4.1,SNR=8.6
HNR Honiara 69.09 216 LR LR 00 06 11.7
comp=Z,44nm,20.8s,baz=26,slow=34
BORU Boraas 69.18 1 *i*P P 23 38 36.3 -1.5
FABU Falkenberg 69.81 1 *i*P P 23 38 40.4 -1.2
AKTO Aktyubinsk 70.00 332 LR LR 00 14 24.9
comp=Z,142nm,18.4s,baz=10.0,slow=40
OBN Obninsk 70.13 346 LR LR 00 13 13.3
comp=Z,285nm,20.2s,baz=62,slow=39
OBN Obninsk 70.13 346 *e*P P 23 38 42.5 -1.1
OBN *e* 23 39 06.1
OBN *e* 23 41 16.5
OBN *e*PPP PPP 23 42 56.2
OBN pmax pmax
comp=Z,6.0nm,1.4s
DEL Delary 70.35 0 *i*P P 23 38 43.3 -1.7
KDJ Kajisay 70.40 315 IAmb IAmb 23 38 46.6
comp=Z,12nm,0.8s
PZH PanZhiHua 70.46 288 P P 23 38 47.0 +0.7
AB31 Akbulak array 70.49 330 IAmb IAmb 23 38 47.3
comp=Z,7.5nm,1.0s
ABKAR Akbulak array 70.49 330 P 23 38 45.5 -0.5
EKA Eskdalemuir Ar 70.57 10 P P 23 38 45.5 -0.8
comp=Z,5.9nm,0.8s,baz=353,slow=5.1,SNR=9.3
comp=Z,5.9nm,0.8s
BJUU Bjuv 70.75 1 *i*P P 23 38 46.4 -1.0
BELG Belogornoye 70.78 339⇓*e*P P 23 38 46.7 -0.9
BELG pmax pmax
comp=Z,1.0nm,0.8s
KMI Kunming 70.96 287 ⇑P P 23 38 48.3 -1.2
KMI S S 23 48 06.0 +3.6
KMI pmax pmax
comp=Z,15nm,1.2s
KMI LR LR
comp=N,160nm,17.6s
KMI LR LR
comp=E,160nm,19.6s
KMI LR LR
comp=Z,260nm,21.3s
AAK Ala-Archa 71.08 317 P 23 38 50.4 +0.5
AAK Ala-Archa 71.08 317 LR LR 00 12 02.0
comp=Z,460nm,21.1s,baz=31,slow=38
AAK Ala-Archa 71.08 317 P P 23 38 50.4 +0.5
AAK pmax pmax
comp=Z,17nm,1.0s
JAY Jayapura 71.28 238 LR LR 00 05 35.1
comp=Z,138nm,19.8s,baz=246,slow=32
QIZ Qiongzhong 71.52 277 P P 23 38 53.3 +0.7
DAV Davao City (W) 71.62 257 LR LR 00 08 45.0
comp=Z,86nm,20.9s,baz=359,slow=34
MNK Minsk 71.72 352 *i*P P 23 38 51.7 -1.6
MNK *i* 23 41 31.7
MNK *i*PPP PPP 23 43 16.1
MNK *i*S S 23 48 13.1 +3.3
MNK *i*SS SS 23 52 50.2 +5.5
MNK pmax pmax
comp=E,9.0nm,1.0s
MNK pmax pmax
comp=Z,15nm,1.0s
MNK MLR MLR
comp=N,153nm,18.0s
MNK MLR MLR
comp=Z,184nm,18.0s
MNK MLR MLR
comp=E,195nm,19.0s
PPT Papeete 72.21 164 LR LR 00 04 00.3
comp=E,226nm,19.1s,baz=355,slow=30
PPT2 Papeete2 72.23 164 *e*S S 23 48 21.3 +4.9
comp=E,125nm,29.8s
PPT2 *e*SS SS 23 52 57.5 +2.2
comp=E,93nm,29.2s
PPT2 *e*LR LR 00 00 51.3
comp=E,443nm,22.2s
PPT2 *e*LR LR 00 00 51.4
comp=E,433nm,23.0s
KKAR Karatay Array 72.26 320 P 23 38 56.1 -0.7
KKAR Karatay Array 72.26 320 P P 23 38 56.1 -0.7
SUW Suwalki 72.55 354 *e*P P 23 38 57.9 -0.4
SUW Suwalki 72.55 354 P P 23 38 57.5 -0.7
SUW Suwalki 72.55 354 P P 23 38 57.5 -0.7
KSH Kashi 73.08 314 P P 23 39 04.5 +2.7
KSH sP pP 23 39 15.0 +1.0
KSH pmax pmax
comp=Z,27nm,0.9s
KSH LR LR
comp=N,380nm,23.5s
KSH LR LR

	comp=E,340nm,22.6s									
KSH					LR	LR				
	comp=Z,600nm,21.6s									
LSA	**Lhasa**	**73.77**	**298**		P	**P**	**23**	**39**	**05.0**	**-1.5**
LSA					pmax	pmax				
	comp=Z,17nm,0.9s									
PMG	**Port Moresby**	**74.21**	**228**		LR	LR	00	05	46.5	
	comp=Z,131nm,20.3s,baz=50,slow=31									
RAR	**Rarotonga**	**74.63**	**174**		LR	LR	00	05	42.3	
	comp=Z,120nm,19.1s,baz=330,slow=31									
SWI	**Sorong**	**74.89**	**247**		P	**P**	**23**	**39**	**12.9**	**+0.4**
	comp=Z,62nm,1.0s									
AKASG	**Malin Array Be**	**75.35**	**350**		P	**P**	**23**	**39**	**13.3**	**-1.4**
	comp=Z,9.6nm,0.9s,baz=14,slow=5.8,SNR=24									
	comp=Z,9.6nm,0.9s									
AKBB	**Malin Array Si**	**75.35**	**350**		IAmb	IAmb	23	39	14.6	
	comp=Z,12nm,0.9s									
AKBB	**Malin Array Si**	**75.35**	**350**	⇓	*e*P	**P**	**23**	**39**	**12.8**	**-1.9**
AKBB					pmax	pmax				
	comp=Z,17nm,1.1s									
KIEV	**Kiev**	**75.36**	**350**			**P**	**23**	**39**	**13.2**	**-1.5**
KIEV					IAmb	IAmb	23	39	14.5	
	comp=Z,11nm,0.9s									
KIEV	**Kiev**	**75.36**	**350**		P	**P**	**23**	**39**	**13.2**	**-1.5**
KIEV					pmax	pmax				
	comp=Z,11nm,0.9s									
CLL	**Collm**	**75.52**	**1**	*i*	P	**P**	**23**	**39**	**15.2**	**-0.5**
CLL					pmax	pmax				
	comp=Z,13nm,1.4s									
CLL	**Collm**	**75.52**	**1**	*i*	P	**P**	**23**	**39**	**15.2**	**-0.5**
	comp=Z,13nm,1.4s									
CLL					LmV		00	16	00.0	
	comp=Z,100nm,21.0s									
BRG	**Berggiesshubel**	**75.96**	**0**	*e*	P	**P**	**23**	**39**	**17.9**	**-0.3**
BRG					Amp		23	39	19.3	
	comp=Z,4.2nm,1.0s									
BRG	**Berggiesshubel**	**75.96**	**0**		P	P	23	39	29.3	+11
BRG					Amp		23	39	31.5	
	comp=Z,5.6nm,1.1s									
KSP	**Ksiaz**	**75.97**	**359**		P	**P**	**23**	**39**	**18.5**	**+0.2**
OSTC	**Ostas**	**76.26**	**359**	*e*	P	**P**	**23**	**39**	**20.2**	**+0.2**
OSTC	**Ostas**	**76.26**	**359**	*e*	P	**P**	**23**	**39**	**20.2**	**+0.2**
JTS	**Las Juntas de**	**76.44**	**91**		LR	LR	00	11	12.0	
	comp=Z,106nm,21.5s,baz=308,slow=34									
DPC	**Dobruska-Polom**	**76.47**	**359**	*e*	P	**P**	**23**	**39**	**21.1**	**-0.1**
DPC	**Dobruska-Polom**	**76.47**	**359**	*e*	P	**P**	**23**	**39**	**21.1**	**-0.1**
OJC	**Ojcow**	**76.50**	**356**		P	**P**	**23**	**39**	**22.3**	**+1.0**
CHGR	**Chuyangaron**	**76.60**	**319**		P	**P**	**23**	**39**	**21.3**	**-0.9**
SIMJ	**Simiganj**	**76.66**	**319**			**P**	**23**	**39**	**21.9**	**-0.7**
SHL	**Shillong**	**76.67**	**295**		IAmb	IAmb	23	39	22.2	
	comp=Z,13nm,1.0s									
KRLC	**Kraliky**	**76.73**	**358**	*e*	P	**P**	**23**	**39**	**22.1**	**-0.6**
KRLC	**Kraliky**	**76.73**	**358**	*e*	P	**P**	**23**	**39**	**22.1**	**-0.6**
STEB	**Steborice**	**76.85**	**358**	*e*	P	**P**	**23**	**39**	**22.9**	**-0.4**
KWP	**Kalwaria Pacla**	**76.94**	**354**		P	**P**	**23**	**39**	**24.0**	**+0.2**
MORC	**Moravsky Berou**	**77.02**	**358**		IAmb	IAmb	23	39	25.4	
	comp=Z,5.5nm,1.0s									
MORC	**Moravsky Berou**	**77.02**	**358**	*e*	P	**P**	**23**	**39**	**23.8**	**-0.5**
MORC	**Moravsky Berou**	**77.02**	**358**	⇓	P	**P**	**23**	**39**	**23.1**	**-1.2**
MORC	**Moravsky Berou**	**77.02**	**358**		P	**P**	**23**	**39**	**23.0**	**-1.2**
MYLDM	**Lahad Datu**	**77.28**	**261**		P	**P**	**23**	**39**	**26.7**	**+0.5**
MYLDM					IAmb	IAmb	23	39	28.4	
	comp=Z,15nm,1.0s									
ZVC	**Zvikov**	**77.40**	**360**	*e*	P	**P**	**23**	**39**	**25.8**	**-0.5**
VRAC	**Vranov**	**77.50**	**358**		LR	LR	00	14	13.4	
	comp=Z,88nm,20.3s,baz=6.5,slow=36									
VRAC	**Vranov**	**77.50**	**358**	*e*	P	**P**	**23**	**39**	**26.7**	**-0.3**
VRAC	**Vranov**	**77.50**	**358**	⇑	P	**P**	**23**	**39**	**26.3**	**-0.7**
VRAC	**Vranov**	**77.50**	**358**		P	**P**	**23**	**39**	**26.3**	**-0.7**
LANS	**Liptovska Anna**	**77.58**	**356**	*e*	P	**P**	**23**	**39**	**28.7**	**+1.3**
LANS					pmax	pmax				
	comp=Z,8.0nm,0.9s									
KOLS	**Kolonicke sedl**	**77.67**	**354**	*e*	P	**P**	**23**	**39**	**28.4**	**+0.5**
KOLS					pmax	pmax				
	comp=Z,7.0nm,0.8s									
KHC	**Kasperske Hory**	**77.70**	**0**	*e*	P	**P**	**23**	**39**	**27.7**	**-0.4**
KHC	**Kasperske Hory**	**77.70**	**0**	*e*	P	**P**	**23**	**39**	**27.7**	**-0.4**
KRUC	**Moravsky**	**77.75**	**358**	*e*	P	**P**	**23**	**39**	**28.0**	**-0.3**
TBI	**Tubuai**	**77.89**	**165**	*e*	LR	LR	00	03	26.0	
	comp=Z,2µm,29.8s									
JAVC	**Velka Javorina**	**77.93**	**358**	*e*	P	**P**	**23**	**39**	**29.5**	**+0.1**
SORM	**Soroca**	**77.98**	**350**	⇓	P	**P**	**23**	**39**	**28.5**	**-1.0**
SORM	**Soroca**	**77.98**	**350**		P	**P**	**23**	**39**	**28.5**	**-1.0**
GEC2	**GERESS Array S**	**77.99**	**0**		IAmb	IAmb	23	39	30.3	
	comp=Z,5.1nm,0.9s									
GERES	**GERESS Array B**	**77.99**	**0**		P	**P**	**23**	**39**	**29.7**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=15,slow=5.5,SNR=16									
	comp=Z,2.2nm,0.7s									
CKRC	**Cesky Krumlov**	**78.02**	**360**	*e*	P	**P**	**23**	**39**	**28.7**	**-1.1**
CKRC	**Cesky Krumlov**	**78.02**	**360**	*e*	P	**P**	**23**	**39**	**28.7**	**-1.1**
CHTO	**Chiang Mai**	**78.07**	**285**			**P**	**23**	**39**	**29.9**	**-0.7**
CHTO					IAmb	IAmb	23	39	31.0	
	comp=Z,18nm,1.1s									
CHTO	**Chiang Mai**	**78.07**	**285**		P	**P**	**23**	**39**	**29.9**	**-0.7**
CHTO					pmax	pmax				
	comp=Z,18nm,1.2s									
KECS	**Kecovo**	**78.21**	**356**	*e*	P	**P**	**23**	**39**	**31.2**	**+0.3**
KECS					pmax	pmax				
	comp=Z,20nm,1.0s									
MSAI	**Masohi**	**78.23**	**248**		P	**P**	**23**	**39**	**34.3**	**+2.9**
CMAR	**Chiang Mai Arr**	**78.35**	**285**			**P**	**23**	**39**	**32.1**	**0.0**
CMAR	**Chiang Mai Arr**	**78.35**	**285**		P	**P**	**23**	**39**	**31.9**	**-0.3**
	comp=Z,25nm,1.1s,baz=21,slow=5.6,SNR=102									
CMAR					LR	LR	00	18	48.5	
	comp=Z,84nm,18.3s,baz=35,slow=39									
	comp=Z,25nm,1.1s									
CMAR	**Chiang Mai Arr**	**78.35**	**285**	*i*	P	**P**	**23**	**39**	**31.8**	**-0.3**
CMAR					pmax	pmax				
	comp=Z,24nm,1.1s									
MODS	**Modra-Piesok**	**78.43**	**358**	*e*	P	**P**	**23**	**39**	**33.4**	**+1.3**
MODS					pmax	pmax				
	comp=Z,22nm,1.1s									
GOF	**Gofitskoye**	**78.70**	**340**	*ce*	P	**P**	**23**	**39**	**33.9**	**+0.3**
BURAR	**Bucovina Array**	**78.78**	**352**			**P**	**23**	**39**	**33.2**	**-0.9**
BURAR	**Bucovina Array**	**78.78**	**352**	⇑	P	**P**	**23**	**39**	**33.3**	**-0.9**
BURAR	**Bucovina Array**	**78.78**	**352**		P	**P**	**23**	**39**	**33.2**	**-0.9**
PSZ	**Piszkesteto**	**78.80**	**356**		IAmb	IAmb	23	39	36.2	
	comp=Z,10nm,1.0s									
PSZ	**Piszkesteto**	**78.80**	**356**	⇑	P	**P**	**23**	**39**	**34.2**	**-0.1**
PSZ	**Piszkesteto**	**78.80**	**356**		P	**P**	**23**	**39**	**34.1**	**-0.1**
SANI	**Sanana**	**78.80**	**251**		P	**P**	**23**	**39**	**34.3**	**-0.2**
	comp=Z,41nm,1.0s									
CONA	**Conrad Observa**	**78.90**	**359**	*i*	P	**P**	**23**	**39**	**34.6**	**-0.1**
	comp=Z,11nm,1.3s,SNR=5.8									
SRO	**Srobarova**	**78.96**	**357**	*e*	P	**P**	**23**	**39**	**36.0**	**+1.0**
SRO					pmax	pmax				
	comp=Z,6.0nm,0.6s									
MOA	**Molln**	**78.99**	**360**	*i*	P	**P**	**23**	**39**	**35.7**	**+0.5**
	comp=Z,4.9nm,1.2s									
DZM	**Mont Dzumac**	**79.00**	**206**	*e*	SS	SS	23	54	32.6	-5.4
	comp=Z,47nm,24.9s									
DZM					eLR	LR	00	03	56.7	
	comp=Z,321nm,21.9s									
BRDH	**Bariadhala**	**79.11**	**293**		LR	LR	00	17	12.4	
	comp=Z,108nm,19.3s,baz=90,slow=38									
RONA	**Rosalia, Austr**	**79.12**	**358**	*i*	P	**P**	**23**	**39**	**36.4**	**+0.4**
	comp=Z,5.0nm,0.9s									
BIOA	**Bad Ischl, Aus**	**79.14**	**0**	*i*	P	**P**	**23**	**39**	**36.7**	**+0.7**
	comp=Z,2.5nm,0.7s									
TOLI2	**Tolitoli**	**79.22**	**257**		IAmb	IAmb	23	39	36.7	
	comp=Z,19nm,1.3s									
RETA	**Reutte**	**79.31**	**2**	*i*	P	**P**	**23**	**39**	**37.6**	**+0.6**
	comp=Z,5.1nm,1.1s									
BSZH	**Besenyszg**	**79.40**	**356**	⇓	P	**P**	**23**	**39**	**37.1**	**-0.3**
LESA	**Schwarzleotal**	**79.41**	**1**	*i*	P	**P**	**23**	**39**	**38.1**	**+0.6**
	comp=Z,4.0nm,1.1s									
MOTA	**Moosalm**	**79.46**	**2**	*i*	P	**P**	**23**	**39**	**38.4**	**+0.4**
	comp=Z,9.6nm,1.0s									
WATA	**Walderalm**	**79.48**	**2**	*e*	P	**P**	**23**	**39**	**38.8**	**+0.7**
	comp=Z,12nm,1.2s									
WTTA	**Wattenberg**	**79.55**	**2**	*i*	P	**P**	**23**	**39**	**38.8**	**+0.4**
	comp=Z,8.6nm,1.2s									
ARSA	**Arzberg**	**79.58**	**359**		IAmb	IAmb	23	39	39.8	
	comp=Z,6.2nm,1.0s									
ARSA	**Arzberg**	**79.58**	**359**	*i*	P	**P**	**23**	**39**	**38.9**	**+0.5**
	comp=Z,4.0nm,0.9s									
SQTA	**Sankt Quirin**	**79.59**	**2**	*i*	P	**P**	**23**	**39**	**39.2**	**+0.6**
	comp=Z,11nm,0.9s,SNR=6.2									
MAK	**Makhachkala**	**79.68**	**336**	*e*	P	**P**	**23**	**39**	**34.6**	**-4.4**
MAK				*e*			23	42	39.3	
MAK				*eS*		**S**	**23**	**49**	**35.1**	**-2.9**
MAK				*eSS*		**SS**	**23**	**54**	**46.0**	**+0.5**
MAK				*eSSS*		SSS	23	58	15.1	
KBA	**Koelnbreinsper**	**79.76**	**0**	*i*	P	**P**	**23**	**39**	**40.0**	**+0.4**
	comp=Z,2.8nm,0.6s,SNR=15									
DRGR			**79.77**	**354**	⇑	P	**P**	**23**	**39**	**38.1**	**-1.5**
DRGR			**79.77**	**354**		P	**P**	**23**	**39**	**38.1**	**-1.5**
FETA	**Feichten**		**79.78**	**2**	*i*	P	**P**	**23**	**39**	**40.1**	**+0.4**
	comp=Z,12nm,1.0s,SNR=6.3										
CJR	**Cluj-Napoca**		**79.79**	**353**	⇑	P	**P**	**23**	**39**	**39.5**	**-0.2**
CJR	**Cluj-Napoca**		**79.79**	**353**		P	**P**	**23**	**39**	**39.4**	**-0.2**
LUWI	**Luwuk**		**79.81**	**254**		P	**P**	**23**	**39**	**38.8**	**-1.3**
LUWI	**Luwuk**		**79.81**	**254**		P	**P**	**23**	**39**	**41.7**	**+1.6**
KIV	**Kislovodsk**		**79.83**	**339**			**P**	**23**	**39**	**40.3**	**+0.4**
KIV						IAmb	IAmb	23	40	26.3	
	comp=Z,12nm,0.9s										
KIV	**Kislovodsk**		**79.83**	**339**	⇑	P	**P**	**23**	**39**	**40.7**	**+0.8**
KIV	**Kislovodsk**		**79.83**	**339**	*e*	P	**P**	**23**	**39**	**40.0**	**+0.1**
KIV						pmax	pmax				
	comp=Z,10.0nm,1.1s										
KIV						MLR	MLR				
	comp=Z,192nm,19.0s										
MARR	**Marisel-Cluj**		**79.86**	**354**	⇓	P	**P**	**23**	**39**	**39.7**	**-0.4**
KBZ	**Khabaz**		**80.00**	**339**		P	**P**	**23**	**39**	**42.1**	**+1.4**
	comp=Z,6.9nm,1.0s,baz=294,slow=3.2,SNR=7.8										
KBZ						LR	LR	00	18	31.0	
	comp=Z,238nm,21.3s,baz=9.5,slow=38										
	comp=Z,6.9nm,1.0s										
KBZ	**Khabaz**		**80.00**	**339**	⇑	*i*P	**P**	**23**	**39**	**42.0**	**+1.3**
KBZ						pmax	pmax				
	comp=Z,9.0nm,1.1s										
SHA1	**Shidzhatmaz**		**80.04**	**339**	⇑	*i*P	**P**	**23**	**39**	**42.2**	**+0.9**
NCK	**Nalchik**		**80.07**	**339**	⇓	*i*P	**P**	**23**	**39**	**42.3**	**+1.1**
NCK						pmax	pmax				
	comp=Z,24nm,1.0s										
ABTA	**Abfaltersbach**		**80.08**	**1**	*i*	P	**P**	**23**	**39**	**41.7**	**+0.4**
	comp=Z,10nm,1.1s										
SOKA	**Soboth**		**80.16**	**359**	*e*	P	**P**	**23**	**39**	**42.3**	**+0.6**
	comp=Z,12nm,1.0s,SNR=6.0										
FUORN	**Ofenpass-Fuorn**		**80.17**	**3**		IAmb	IAmb	23	39	43.2	
	comp=Z,8.9nm,1.0s										
PERS	**Pernice**		**80.20**	**359**	*i*	P	**P**	**23**	**39**	**41.4**	**-0.4**
KBL	**Kabul**		**80.20**	**317**			**P**	**23**	**39**	**40.6**	**-1.7**
KBL	**Kabul**		**80.20**	**317**		P	**P**	**23**	**39**	**40.6**	**-1.7**
KBL						pmax	pmax				
	comp=Z,27nm,0.9s										
MYKA	**Terra Mystica**		**80.21**	**0**	*i*	P	**P**	**23**	**39**	**42.4**	**+0.5**
	comp=Z,0.1nm,0.2s										
TUE	**Stuetta**		**80.28**	**3**		P	**P**	**23**	**39**	**42.7**	**+0.2**
TUE						IAmb	IAmb	23	40	15.6	
	comp=Z,14nm,1.5s										
OBKA	**Obir**		**80.33**	**360**	*i*	P	**P**	**23**	**39**	**42.5**	**-0.1**
	comp=Z,18nm,0.8s,SNR=19										
SIRR	**Siria**		**80.36**	**355**	⇑	P	**P**	**23**	**39**	**42.3**	**-0.4**
DOPR	**Dopca**		**80.40**	**352**	⇓	P	**P**	**23**	**39**	**42.8**	**-0.1**
NEUR	**Neytrino**		**80.49**	**339**	*e*	P	**P**	**23**	**39**	**44.3**	**+0.7**
NEUR						pmax	pmax				
	comp=Z,5.0nm,1.6s										
CADS	**Cadrg**		**80.61**	**0**	*i*	P	**P**	**23**	**39**	**42.5**	**-1.5**
MLR	**Muntele Rosu**		**80.83**	**352**		LR	LR	00	19	46.7	
	comp=Z,273nm,18.3s,baz=20,slow=39										
SURR	**Surduc**		**80.84**	**354**	⇓	P	**P**	**23**	**39**	**44.0**	**-1.3**
RKT	**Rikitea**		**80.91**	**151**	*e*	LR	LR	00	04	47.4	
	comp=Z,17µm,36.8s										
BZS	**Buzias**		**81.01**	**355**	⇑	P	**P**	**23**	**39**	**44.9**	**-1.3**
BZS	**Buzias**		**81.01**	**355**		P	**P**	**23**	**39**	**44.8**	**-1.3**
AKT	**Akhty**		**81.01**	**335**	*e*	P	**P**	**23**	**39**	**45.6**	**-0.8**
AKT						pmax	pmax				
	comp=Z,16nm,1.0s										
ARR	**Arges**		**81.06**	**352**	⇑	P	**P**	**23**	**39**	**45.8**	**-0.7**
GZR	**Gura Zlata**		**81.16**	**354**	⇑	P	**P**	**23**	**39**	**46.0**	**-1.0**
GZR	**Gura Zlata**		**81.16**	**354**		P	**P**	**23**	**39**	**46.0**	**-1.0**
SJG	**San Juan**		**81.29**	**71**		LR	LR	00	15	35.1	
	comp=Z,126nm,21.1s,baz=316,slow=35										
BNI	**Bardonecchia**		**81.58**	**5**		IAmb	IAmb	23	40	22.0	
	comp=Z,18nm,1.2s										
HERR	**Herculane**		**81.70**	**354**	⇑	P	**P**	**23**	**39**	**48.8**	**-1.0**
MDVR	**Moldovita**		**81.84**	**355**	⇑	P	**P**	**23**	**39**	**49.9**	**-0.7**
BOVS	**Bovan**		**82.98**	**354**	⇑	P	**P**	**23**	**39**	**54.8**	**-1.7**
GNI	**Garni**		**83.00**	**337**		LR	LR	00	23	44.6	
	comp=Z,208nm,18.6s,baz=13,slow=41										
SBUM	**Sibu**		**83.18**	**265**		P	**P**	**23**	**39**	**57.3**	**-0.7**
SBUM						IAmb	IAmb	23	39	59.4	
	comp=Z,12nm,1.1s										
OSSC	**Osservatorio P**		**83.28**	**2**		IAmb	IAmb	23	40	42.1	
	comp=Z,14nm,1.2s										
BKB	**Balikpapan**		**83.40**	**259**		P	**P**	**23**	**39**	**59.8**	**+0.8**
GUMA	**Gualdo di Mace**		**83.77**	**1**		P	**P**	**23**	**40**	**01.5**	**+0.9**
FDMO	**Fiordimonte**		**83.80**	**1**		IAmb	IAmb	23	40	42.0	
	comp=Z,14nm,1.3s										
NRCA	**Norcia**		**84.00**	**1**		IAmb	IAmb	23	40	03.2	
	comp=Z,9.2nm,1.1s										
CESX	**Cesi**		**84.22**	**1**		IAmb	IAmb	23	40	26.4	
	comp=Z,5.7nm,0.9s										
CAMP	**Campotosto**		**84.30**	**0**		IAmb	IAmb	23	40	56.6	
	comp=Z,16nm,1.3s										
AQU	**L'Aquila**		**84.48**	**0**		P	**P**	**23**	**40**	**07.1**	**+2.8**
KAPI	**Kappang**		**84.77**	**254**		LR	LR	00	14	19.2	
	comp=Z,31nm,20.5s,baz=56,slow=33										
BKSI	**Bulukumba**		**84.81**	**254**		P	**P**	**23**	**40**	**03.3**	**-2.8**
	comp=Z,30nm,1.2s										
GURO	**Guroymak-BITLI**		**85.14**	**338**		IAmb	IAmb	23	40	09.7	
	comp=Z,11nm,1.3s										
RDO	**Rodhopi**		**85.17**	**351**		IAmb	IAmb	23	40	08.3	
	comp=Z,6.6nm,0.8s										
ANTO	**Ankara**		**85.57**	**346**		P	**P**	**23**	**40**	**10.8**	**+1.0**
ANTO	**Ankara**		**85.57**	**346**	⇓	P	**P**	**23**	**40**	**10.0**	**+0.2**
ANTO	**Ankara**		**85.57**	**346**		P	**P**	**23**	**40**	**10.8**	**+1.0**
ANTO						pmax	pmax				
	comp=Z,11nm,0.8s										
BR131	**Keskin Array S**		**85.58**	**345**		IAmb	IAmb	23	40	10.9	
	comp=Z,7.1nm,0.8s										
BR131	**Keskin Array S**		**85.58**	**345**	*c*	*i*P	**P**	**23**	**40**	**09.9**	**-0.1**
BRTR	**Keskin Array B**		**85.58**	**345**			**P**	**23**	**40**	**09.5**	**-0.4**
BRTR	**Keskin Array B**		**85.58**	**345**		P	**P**	**23**	**40**	**09.7**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=56,slow=3.1,SNR=22										
	comp=Z,4.7nm,0.8s										
BRTR	**Keskin Array B**		**85.58**	**345**	*i*	P	**P**	**23**	**40**	**09.6**	**-0.4**
BRTR						pmax	pmax				
	comp=Z,5.0nm,0.8s										
PAOL	**Paolisi**		**85.80**	**360**		IAmb	IAmb	23	40	11.4	
	comp=Z,8.0nm,0.9s										
ESDC	**Sonseca Array**		**85.86**	**14**			**P**	**23**	**40**	**11.0**	**-0.2**
ESDC						IAmb	IAmb	23	40	13.1	
	comp=Z,4.5nm,1.1s										
ESDC	**Sonseca Array**		**85.86**	**14**		P	**P**	**23**	**40**	**10.7**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=336,slow=4.5,SNR=9.3										
ESDC						LR	LR	00	21	06.2	
	comp=Z,103nm,18.9s,baz=346,slow=37										
	comp=Z,2.4nm,0.9s										
BNN	**Bunyan**		**86.07**	**343**			**P**	**23**	**40**	**12.8**	**+0.4**
DSLB	**Salisbury**		**86.10**	**69**	*e*	P		23	40	21.4	+8.7
MATE	**Matera**		**86.16**	**358**	⇓	P	**P**	**23**	**40**	**12.3**	**-0.3**
CUC	**Castrocucco**		**86.83**	**359**		IAmb	IAmb	23	40	16.7	
	comp=Z,10nm,1.1s										
RUSC	**La Rusia**		**87.00**	**84**		P	**P**	**23**	**40**	**16.9**	**-0.8**
ROSC	**El Rosal**		**87.11**	**86**		LR	LR	00	22	20.1	
	comp=Z,89nm,18.5s,baz=18,slow=38										
PCRV	**Puerto La Cruz**		**88.53**	**75**		LR	LR	00	18	34.6	
	comp=Z,114nm,21.4s,slow=34										
WRA	**Warramunga Arr**		**89.37**	**234**		P	**P**	**23**	**40**	**27.1**	**-1.0**
	comp=Z,2.3nm,1.1s,baz=42,slow=4.5,SNR=8.1										
WRA						LR	LR	00	16	29.0	
	comp=Z,104nm,21.6s,baz=21,slow=33										
	comp=Z,2.3nm,1.1s										
PSI	**Prapat**		**90.83**	**276**		LR	LR	00	24	09.3	
	comp=Z,109nm,19.3s,baz=51,slow=37										
IDI	**Anoyia**		**91.04**	**351**		LR	LR	00	26	55.6	
	comp=Z,90nm,18.8s,baz=340,slow=39										
MMAI	**Mount Meron Ar**		**91.83**	**342**		P	**P**	**23**	**40**	**39.1**	**-0.6**
	comp=Z,5.3nm,1.0s,baz=11,slow=1.5,SNR=5.9										
MMAI						LR	LR	00	29	35.0	
	comp=Z,92nm,18.1s,baz=358,slow=41										
	comp=Z,5.3nm,1.0s										
FITZ	**Fitzroy Crossi**		**92.23**	**242**		P	**P**	**23**	**40**	**41.5**	**+0.2**
ASF	**Jabal al Asfar**		**92.37**	**341**		LR	LR	00	28	24.7	
	comp=Z,72nm,19.2s,baz=33,slow=40										
MDT	**Midelt**		**92.49**	**16**		LR	LR	00	26	50.2	
	comp=Z,48nm,18.1s,baz=354,slow=38										
URZ	**Urewera**		**92.60**	**193**		LR	LR	00	15	34.0	
	comp=Z,86nm,20.1s,baz=340,slow=31										
ASAR	**Alice Springs**		**92.75**	**233**		P	**P**	**23**	**40**	**43.5**	**-0.2**
	comp=Z,1.4nm,1.0s,baz=33,slow=3.5,SNR=8.2										
ASAR						LR	LR	00	27	12.5	
	comp=Z,25nm,18.0s,baz=18,slow=39										
	comp=Z,1.4nm,1.0s										
RPN	**Rapa Nui**		**94.08**	**132**		LR	LR	00	12	29.0	
	comp=Z,80nm,19.5s,baz=318,slow=29										
EIL	**Elat**		**95.17**	**342**		LR	LR	00	31	18.3	
	comp=Z,78nm,18.7s,baz=354,slow=40										
STKA	**Stephens Creek**		**96.45**	**223**		LR	LR	00	24	20.0	
	comp=Z,61nm,18.5s,baz=22,slow=35										
PALK	**Pallekele**		**97.69**	**293**		LR	LR	00	30	53.5	
	comp=Z,36nm,19.1s,baz=50,slow=39										
PALK	**Pallekele**		**97.69**	**293**	*i*	P	Pdif	23	41	07.1	+0.4
RAYN	**Ar Rayn**		**98.57**	**331**			**P**	**23**	**41**	**09.8**	**-0.7**
RAYN	**Ar Rayn**		**98.57**	**331**		P	**P**	**23**	**41**	**09.8**	**-0.7**
RAYN						pmax	pmax				
	comp=Z,6.0nm,0.9s										
MDP	**Montagnes des**		**99.45**	**68**		LR	LR	00	29	48.8	
	comp=Z,65nm,18.5s,baz=350,slow=38										
H03N2	**Juan Fernandez**		**114.46**	**113**		T	T	01	50	49.3	
	baz=322,slow=77,SNR=1071										
H03N1	**Juan Fernandez**		**114.47**	**113**		T	T	01	50	51.1	
	baz=322,slow=77,SNR=1128										
H03N3	**Juan Fernandez**		**114.47**	**113**		T	T	01	50	49.8	
	baz=322,slow=77,SNR=1341										
QSPA	**South Pole Qui**		**143.31**	**180**		PKhKP	PKPpre	23	47	00.6	
	comp=Z,3.4nm,1.0s,baz=211,slow=2.1,SNR=11										
TSUM	**Tsumeb**		**145.62**	**354**			**PKPdf**	**23**	**47**	**09.5**	**-0.4**
PHDHD	**Phuduhudu**		**145.75**	**342**	*i*	P	**PKPbc**	**23**	**47**	**10.7**	**+0.1**
PHDHD	**Phuduhudu**		**145.75**	**342**	*i*	P	**PKPbc**	**23**	**47**	**10.3**	**-0.2**
SOOWA	**Sowa**		**145.78**	**339**	*i*	P	**PKPab**	**23**	**47**	**11.1**	**+0.1**
SOOWA	**Sowa**		**145.78**	**339**	*i*	P	**PKPab**	**23**	**47**	**11.3**	**+0.3**
KHWEE	**KHWEE**		**147.28**	**340**	*i*	P	**PKPbc**	**23**	**47**	**13.8**	**-1.2**
KHWEE

EOS2			eS	Sb	23 37 12.6	-0.4	
NDS	**Dongshan**	**0.53 239**	eP	Pg	23 37 05.1	-0.4	
NDS			eS	Sg	23 37 11.9	-0.5	
TWE	**Neicheng**	**0.53 250**	eP	Pg	23 37 05.1	-0.4	
TWE			eS	Sg	23 37 11.7	-0.7	
FUSB	**Fushanzhiwuyua**	**0.58 256**	eP	Pg	23 37 06.3	-0.3	
FUSB			eS	Sg	23 37 14.9	+0.5	
EWUT	**Wuta**	**0.60 221**	eP	Pg	23 37 06.8	-0.2	
EWUT			eS	Sg	23 37 14.1	-0.8	
EOS3	**EOS3**	**0.62 171**	eP	Pb	23 37 08.1	-0.1	
NHDH	**Xindian Distri**	**0.63 276**	eP	Pn	23 37 09.0	-1.3	
YM01	**YM01**	**0.63 293**	eP	Pb	23 37 08.4	-0.1	
ENA	**Nanau**	**0.64 222**	eP	Pg	23 37 07.5	-0.2	
ENA			eS	Sg	23 37 16.1	+0.1	
ENTT	**Nioudou**	**0.64 246**	eP	Pg	23 37 07.5	-0.2	
TAP	**Taipei**	**0.65 282**	eS	Sb	23 37 18.0	-0.1	
NWLT	**Wulai**	**0.66 259**	eP	Pg	23 37 08.0	0.0	
ZUZH	**Zhuzihu**	**0.66 293**	eP	Pb	23 37 08.8	-0.1	
TATO	**Taipei**	**0.66 276**	P	Pn	23 37 09.7	-1.1	
TATO	**Taipei**	**0.66 276**	P	Pn	23 37 09.2	-1.6	
TATO			eS	Sb	23 37 17.7	-0.6	
TWY	**Chenhua**	**0.67 304**	eP	Pn	23 37 09.2	-1.7	
ANP	**Anpu**	**0.69 294**	eP	Pn	23 37 09.6	-1.7	
ANP			eS	Sb	23 37 19.3	+0.2	
EAHA	**Aohua**	**0.72 217**	eP	Pg	23 37 09.2	0.0	
EAHA			eS	Sg	23 37 17.9	-0.5	
LATG	**Datong**	**0.72 240**	eP	Pg	23 37 08.8	-0.5	
PCYT	**Pengchaiyu**	**0.73 350**	eP	Pn	23 37 11.5	-0.4	
NTST	**Danshui**	**0.74 291**	eP	Pn	23 37 10.8	-1.1	
TWS1	**Kuangyinshan**	**0.75 285**	eP	Pn	23 37 10.9	-1.1	
EOS4	**EOS4**	**0.79 173**	eP	Pb	23 37 11.1	+0.2	
YHNB	**Yeheng**	**0.80 253**	P	Pg	23 37 10.0	-0.6	
YHNB	**Yeheng**	**0.80 253**	eP	Pg	23 37 10.0	-0.6	
JYNG	**Yonagunijimaku**	**0.81 124**	eP	Pn	23 37 12.6	-0.2	
JYNG			eS	Sn	23 37 23.2	-1.7	
NSK	**Sanguang**	**0.81 254**	eP	Pg	23 37 10.4	-0.5	
YOJ	**Yonaguni jima**	**0.85 121**	P	Pn	23 37 13.0	-0.4	
YOJ	**Yonaguni jima**	**0.85 121**	eP	Pn	23 37 13.1	-0.3	
YOJ			eS	Sn	23 37 26.9	+0.9	
YOJ	**Yonaguni jima**	**0.85 121**	P	Pn	23 37 13.0	-0.4	
YOJ			eS	Sn	23 37 24.8	-1.2	
NNSB	**Datong**	**0.89 238**	eP	Pg	23 37 11.7	-0.8	
NNSB			eS	Sg	23 37 23.2	-0.8	
NNS	**Nan Shan**	**0.89 239**	eP	Pb	23 37 12.9	-0.1	
NNS			eS	Sg	23 37 23.6	-0.5	
ETL	**Fush Village**	**0.92 216**	eP	Pg	23 37 12.3	-0.6	
ETL			eS	Sg	23 37 24.8	0.0	
NACB	**Ninganchiao**	**0.92 218**	P	Pg	23 37 12.3	-0.7	
NACB	**Ninganchiao**	**0.92 218**	/ P	Pg	23 37 12.2	-0.7	
NACB			S	Sg	23 37 23.4	-1.5	
NCUH	**Zhongli**	**0.93 274**	eP	Pn	23 37 15.7	+1.1	
KSHI	**Guanxi Townshi**	**0.95 263**	eP	Pn	23 37 14.7	-0.1	
ETLH	**Xiulin Townshi**	**0.96 224**	eP	Pg	23 37 13.4	-0.4	
ETLH			eS	Sg	23 37 25.7	-0.6	
TWD	**Chiawan**	**0.99 214**	eP	Pb	23 37 13.7	-0.9	
TWD			eS	Sb	23 37 26.2	-1.7	
NFF	**Wufeng Townshi**	**1.03 255**	eP	Pn	23 37 15.9	-0.1	
HWA	**Hwalien**	**1.08 211**	eS	Sg	23 37 30.6	+0.6	
FUSS	**Fushou**	**1.10 234**	eP	Pg	23 37 16.5	+0.1	
FUSS			eS	Sb	23 37 30.6	-0.5	
LIOB	**Emei**	**1.12 257**	eP	Pg	23 37 17.8	+1.0	
SBCB	**Hsinchu**	**1.12 265**	eP	Pg	23 37 17.2	+0.4	
NSTT	**Nanjuang**	**1.13 256**	eP	Pg	23 37 16.8	-0.2	
LXIB	**Xiulin Townshi**	**1.14 220**	eP	Pb	23 37 16.2	-1.1	
LXIB			eS	Sb	23 37 32.4	+0.2	
TWT	**Tachien**	**1.14 236**	eP	Pg	23 37 19.7	+0.6	
TWT			eS	Sb	23 37 32.1	-0.3	
WHF	**Hehuan Shan**	**1.15 229**	/ P	Pb	23 37 17.1	-0.4	
WHF			eS	Sb	23 37 31.9	-0.8	
TDCB	**Techi**	**1.16 236**	eP	Pg	23 37 17.8	+0.2	
TDCB			S	Sb	23 37 32.2	-0.5	
TEYL	**Yanliau Villag**	**1.17 209**	eP	Pn	23 37 17.4	-0.5	
TEYL			eS	Sg	23 37 34.2	+1.2	
SHUL	**Shoufeng**	**1.26 208**	eP	Pg	23 37 20.2	+0.7	
ESL	**Shilin**	**1.30 213**	eP	Pn	23 37 19.4	-0.2	
ESL			eS	Sb	23 37 36.6	0.0	
WHP	**Taichung City**	**1.31 242**	eP	Pg	23 37 21.0	+0.5	
OWD	**Renai**	**1.34 225**	eP	Pb	23 37 20.2	-0.4	
OWD			eS	Sb	23 37 37.5	-0.4	
TEGC	**Jichi Village**	**1.34 207**	eP	Pb	23 37 20.6	0.0	
NMLH	**Miaoli**	**1.34 254**	eS	Sg	23 37 39.0	+0.5	
WUSB	**Renai**	**1.35 228**	eP	Pb	23 37 20.5	-0.3	
WUSB			eS	Sn	23 37 37.6	-0.9	
WARBT	**Fenglin Townsh**	**1.40 213**	eP	Pb	23 37 21.1	-0.5	
EGFH	**Guangfu**	**1.40 220**	eS	Sn	23 37 40.0	-0.1	
WCS	**Beigang Elemen**	**1.45 235**	eP	Pg	23 37 23.1	-0.2	
SMLT	**Sun Moon Lake**	**1.57 230**	eP	Pg	23 37 25.0	-0.4	
SMLT			eS	Sb	23 37 44.4	-0.2	
HGSD	**Ruisui**	**1.58 207**	eP	Pb	23 37 24.2	-0.4	
HGSD			eS	Sg	23 37 46.8	+0.7	
TYC	**Yuchr**	**1.59 231**	eP	Pg	23 37 25.8	0.0	
TYC			eS	Sb	23 37 45.1	+0.2	
TCU	**Taichung**	**1.59 242**	eP	Pg	23 37 25.8	0.0	
SSLB	**Suanglung**	**1.60 226**	P	Pb	23 37 24.9	-0.1	
SSLB	**Suanglung**	**1.60 226**	S	Sb	23 37 44.9	-0.3	
SSLB	**Suanglung**	**1.60 226**	P	Pb	23 37 25.2	+0.2	
SSLB			eS	Sb	23 37 45.0	-0.3	
EHY	**Hungye**	**1.61 210**	eP	Pb	23 37 24.4	-0.8	
EHY			eS	Sb	23 37 45.4	-0.3	
EHYH	**Wanrong**	**1.61 210**	eP	Pb	23 37 25.4	+0.1	
EHYH			eS	Sg	23 37 47.1	0.0	
YULB	**Yu-li**	**1.72 209**	P	Pb	23 37 27.3	+0.2	
YULB	**Yu-li**	**1.72 209**	eP	Pn	23 37 28.0	0.0	
WHYT	**Xinyi Township**	**1.73 226**	eP	Pg	23 37 28.2	-0.3	
JKRS	**Kuro-shima**	**1.77 112**	eP	Pb	23 37 27.9	0.0	
JIJ	**Ishigaki jima**	**1.84 107**	eP	Pg	23 37 29.2	-1.3	
JIJ			eS	Sb	23 37 52.0	-0.2	
ALS	**Alishan**	**1.89 223**	P	Pg	23 37 31.0	-0.6	
ALS			eS	Sb	23 37 55.4	+1.4	
CHN5	**Tsauling**	**1.91 227**	P	Pg	23 37 31.4	-0.6	
CHN5			eS	Sg	23 37 57.1	+0.4	
WGK	**Gukeng**	**1.93 231**	eP	Pg	23 37 31.8	-0.6	
WDLH	**Douliu**	**1.95 232**	eP	Pg	23 37 32.1	-0.6	
ELDTW	**Lidau**	**2.03 213**	eP	Pb	23 37 30.9	-1.4	
ELDTW			eS	Sb	23 37 57.0	-0.7	
WTCT	**Ta-ch'eng**	**2.04 240**	eP	Pb	23 37 32.0	-0.5	
WTK	**Tuku**	**2.06 234**	eS	Sg	23 38 01.1	-0.4	
WCKO	**Fanlu**	**2.07 225**	eP	Pb	23 37 33.8	+0.8	
EDH	**Donghe**	**2.10 204**	eS	Sn	23 37 56.8	0.0	
TPUB	**Ta-pu**	**2.15 222**	P	Pb	23 37 34.5	0.0	
KSRS	**Korea Argay**	**13.43 20**	Pn	P	23 40 21.7	+6.2	
	0.4nm,0.3s,baz=186,slow=11,SNR=4.0 0.4nm,0.4s						
SONM	**Songino Argay**	**26.09 335**	P	P	23 42 36.3	+7.0	
	0.7nm,0.7s,baz=161,slow=10,SNR=2.8 0.7nm,0.7s						
MKAR	**Makanchi Array**	**38.48 315**	P	P	23 44 22.3	+4.7	
	0.3nm,0.7s,baz=101,slow=7.5,SNR=2.6 0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**40.16 326**	P	**P**	**23 44 34.6**	**+3.1**	
	0.4nm,0.6s,baz=108,slow=9.3,SNR=1.8 0.4nm,0.6s						
WRA	**Warramunga Arr**	**46.11 164**	P	**P**	**23 45 19.5**	**-0.6**	
	0.8nm,0.7s,baz=347,slow=8.2,SNR=4.7 0.8nm,0.7s						
ASAR	**Alice Springs**	**49.60 166**	P	**P**	**23 45 47.9**	**+0.8**	
	0.5nm,0.8s,baz=348,slow=8.5,SNR=2.0 0.5nm,0.8s						

*NOU **27** 23:40:03.7, 38°.77S×175°.78E, h154km, MLv3.2/12, North Island, New Zealand*

WEL 27 23:40:04.9±1.2, 39°.S±9°×17°.6E±1°.2, h148km±9km, M2.5/12, ML2.4/13, MLv2.5/12, Error ellipse: s-maj=15.8km s-min=11.7km az=97.1, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.08**	**214**	P	Pn	23 40 26.0	+1.2
RATZ	**Rangitukua**	**0.23**	**184**	P	Pn	23 40 25.8	+0.8
RITZ	**Rihia Road**	**0.34**	**171**	P	Pn	23 40 26.5	+1.2
KATZ	**Kakaramea**	**0.34**	**193**	P	Pn	23 40 25.6	+0.1
TLZ	**Tolley Road**	**0.37**	**328**	P	Pn	23 40 26.2	+0.7
TLZ				S	Sn	23 40 43.2	+2.2
ALRZ	**Allen Road**	**0.44**	**80**	P	Pn	23 40 26.5	+0.8
NTVZ	**North Tongarir**	**0.47**	**191**	P	Pn	23 40 27.1	+1.2
TMVZ	**Te Maari**	**0.48**	**188**	P	Pn	23 40 27.1	+1.1
TMVZ				S	Sn	23 40 43.6	+1.4
ETVZ	**East Tongariro**	**0.50**	**187**	P	Pn	23 40 27.1	+1.0
WTVZ	**West Tongariro**	**0.50**	**198**	P	Pn	23 40 27.0	+0.9
NNVZ	**North Ngauruho**	**0.51**	**196**	P	Pn	23 40 27.0	+0.8
TWVZ	**Taurewa**	**0.51**	**213**	P	Pn	23 40 26.9	+0.8
MRHZ	**Matea Rd**	**0.53**	**112**	P	Pn	23 40 26.8	+0.7
OTVZ	**Oturere**	**0.53**	**191**	P	Pn	23 40 27.6	+1.3
NGZ	**Ngauruhoe**	**0.55**	**195**	P	Pn	23 40 27.2	+0.8
SNVZ	**South Ngauruho**	**0.56**	**192**	P	Pn	23 40 27.3	+0.9
SNVZ				S	Sn	23 40 45.1	+2.1
COVZ	**Chateau Observ**	**0.59**	**199**	P	Pn	23 40 27.4	+0.8
TUVZ	**Tukino**	**0.63**	**190**	P	Pn	23 40 27.8	+0.9
FWVZ	**Far West T-bar**	**0.64**	**197**	P	Pn	23 40 27.7	+0.7
FWVZ				S	Sn	23 40 45.2	+1.2
MAVZ	**Matarangi**	**0.65**	**196**	P	Pn	23 40 27.9	+0.7
MAVZ				S	Sn	23 40 45.9	+1.7
WHVZ	**Whangaehu Hut**	**0.66**	**194**	P	Pn	23 40 27.9	+0.7
WHVZ				S	Sn	23 40 45.3	+1.1
TRVZ	**Turoa**	**0.68**	**196**	P	Pn	23 40 28.2	+0.9
WNVZ	**Wahianoa**	**0.70**	**192**	P	Pn	23 40 28.2	+0.8
PKVZ	**Pokaka**	**0.73**	**208**	P	Pn	23 40 28.1	+0.7
HIZ	**Hauiti**	**0.74**	**280**	P	Pn	23 40 27.9	+0.5
HIZ	**Hauiti**	**0.74**	**280**	P	Pn	23 40 46.6	+19
HIZ	**Hauiti**	**0.74**	**280**	P	Pn	23 40 27.8	+0.4
BKZ	**Black Stump Fm**	**0.76**	**134**	P	Pn	23 40 28.5	+0.9
BKZ	**Black Stump Fm**	**0.76**	**134**	S	Sn	23 40 45.6	+0.7
BKZ	**Black Stump Fm**	**0.76**	**134**	P	Pn	23 40 28.4	+0.9
MOVZ	**Moawhango**	**0.76**	**182**	P	Pn	23 40 28.2	+0.6
MTVZ	**Mangateitei**	**0.78**	**198**	P	Pn	23 40 28.6	+0.8
MUGZ	**Murupara**	**0.79**	**78**	P	Pn	23 40 28.4	+0.6
MTHZ	**Maungataniwha**	**0.85**	**105**	P	Pn	23 40 29.2	+0.9
NMHZ	**Naumai**	**0.92**	**120**	P	Pn	23 40 30.7	+1.9
TOZ	**Tahuroa Road**	**0.94**	**346**	P	Pn	23 40 29.3	+0.4
VRZ	**Vera Road**	**0.94**	**239**	P	Pn	23 40 29.4	+0.5
RAHZ	**Arahi**	**1.05**	**106**	P	Pn	23 40 31.3	+1.5
MCHZ	**McNeill Hill**	**1.07**	**139**	P	Pn	23 40 31.8	+1.8
KRHZ	**Kereru**	**1.10**	**156**	P	Pn	23 40 31.3	+0.9
URZ	**Urewera**	**1.10**	**70**	P	Pn	23 40 30.4	+0.1
URZ	**Urewera**	**1.10**	**70**	P	Pn	23 40 49.9	+20
URZ	**Urewera**	**1.10**	**70**	P	Pn	23 40 30.6	+0.2
ARHZ	**Aropaoanui**	**1.13**	**124**	P	Pn	23 40 32.0	+1.5
WAZ	**Wanganui**	**1.27**	**209**	P	Pn	23 40 32.4	+0.5
PNHZ	**Pukenui**	**1.31**	**166**	P	Pn	23 40 32.9	+0.5
LREZ	**Lake Rotokare**	**1.35**	**232**	P	Pn	23 40 33.4	+0.7
MWZ	**Matawai**	**1.40**	**78**	P	Pn	23 40 33.6	+0.4
TSZ	**Takapari Road**	**1.42**	**175**	P	Pn	23 40 33.9	+0.5
CKHZ	**Cape Kidnapper**	**1.43**	**136**	P	Pn	23 40 34.7	+1.3
KAHZ	**Kahuranaki**	**1.43**	**144**	P	Pn	23 40 34.6	+1.1
PREZ	**Palmer Road**	**1.45**	**241**	P	Pn	23 40 34.2	+0.5
NEZ	**North Egmont**	**1.46**	**244**	P	Pn	23 40 34.5	+0.6
WPHZ	**Waipukurau**	**1.51**	**161**	P	Pn	23 40 34.0	-0.3
PKE	**Pukeiti**	**1.51**	**248**	P	Pn	23 40 34.6	+0.2
KNZ	**Kokohu**	**1.52**	**105**	P	Pn	23 40 35.2	+0.8
KHEZ	**Kahui Hut**	**1.53**	**244**	P	Pn	23 40 34.9	+0.3
KHEZ	**Kahui Hut**	**1.53**	**244**	P	Pn	23 40 34.9	+0.2
RIGZ	**Rimuhau**	**1.54**	**93**	P	Pn	23 40 35.5	+0.8
MKAZ	**Moumakai**	**1.61**	**342**	P	Pn	23 40 35.4	-0.1
PXZ	**Pawanui**	**1.62**	**149**	P	Pn	23 40 36.1	+0.6
NBEZ	**Newall Road No**	**1.62**	**247**	P	Pn	23 40 35.7	+0.2
TKGZ	**Te Karaka**	**1.63**	**84**	P	Pn	23 40 36.4	+0.8
RUGZ	**Raukumara Rang**	**1.63**	**66**	P	Pn	23 40 35.1	-0.8
PRGZ	**Paritu Road**	**1.66**	**100**	P	Pn	23 40 36.6	+0.6
DVHZ	**Dannevirke**	**1.68**	**170**	P	Pn	23 40 36.3	0.0
MHGZ	**Mahia Peninsul**	**1.73**	**108**	P	Pn	23 40 37.7	+0.9
POWZ	**Post Office Ro**	**1.75**	**181**	P	Pn	23 40 36.8	-0.2
TWGZ	**Tauwhareparae**	**1.78**	**76**	P	Pn	23 40 37.9	+0.5
HAZ	**Te Kaha**	**1.80**	**61**	P	Pn	23 40 36.9	-0.7
AWAZ	**Awhitu Peninsu**	**1.82**	**330**	P	Pn	23 40 37.6	-0.2
ETAZ	**East Tamaki Re**	**1.82**	**338**	P	Pn	23 40 37.1	-0.7
ANWZ	**Angora Road**	**1.89**	**164**	P	Pn	23 40 37.5	-1.1
KUZ	**Kuaotunu**	**1.89**	**358**	P	Pn	23 40 39.5	+0.8
KUZ	**Kuaotunu**	**1.89**	**358**	P	Pn	23 40 38.3	-0.4
CNGZ	**Carnagh Statio**	**1.90**	**86**	P	Pn	23 40 39.4	+0.7
WTAZ	**Waiatarua**	**1.96**	**330**	P	Pn	23 40 39.5	+0.1
PKGZ	**Pakihiroa**	**1.96**	**67**	P	Pn	23 40 39.2	-0.2
MBAZ	**Motutapu North**	**2.00**	**339**	P	Pn	23 40 39.5	-0.3
PUZ	**Puketiti**	**2.02**	**74**	P	Pn	23 40 39.9	-0.3
MRZ	**Mangatainoka R**	**2.02**	**185**	P	Pn	23 40 39.4	-0.7
BFZ	**Birch Farm**	**2.07**	**170**	P	Pn	23 40 40.5	-0.1
OGWZ	**Otaki Gorge**	**2.22**	**192**	P	Pn	23 40 41.7	-0.8
WMGZ	**Waiomatatini S**	**2.22**	**69**	P	Pn	23 40 42.1	-0.4
MXZ	**Matakaoa Point**	**2.26**	**62**	P	Pn	23 40 43.4	+0.5
MXZ	**Matakaoa Point**	**2.26**	**62**	P	Pn	23 40 42.8	-0.1
HOWZ	**Holdsworth Sta**	**2.26**	**185**	P	Pn	23 40 41.3	-1.7
KIW	**Kapiti Island**	**2.32**	**197**	P	Pn	23 40 42.3	-1.3
TMWZ	**Te Maipa**	**2.46**	**178**	P	Pn	23 40 44.3	-1.1
MTW	**Mount Morrison**	**2.52**	**185**	P	Pn	23 40 44.5	-1.6
CAW	**Cannon Point**	**2.52**	**193**	P	Pn	23 40 44.8	-1.3
DUWZ	**Uruville Isla**	**2.59**	**213**	P	Pn	23 40 44.8	-1.8
PAWZ	**Parunui Farm**	**2.75**	**186**	P	Pn	23 40 47.2	-1.8
WEL	**Wellington**	**2.75**	**196**	P	Pn	23 40 47.5	-1.5
TRWZ	**Traveller**	**2.75**	**182**	P	Pn	23 40 47.4	-1.6
MSWZ	**Moikau Station**	**2.80**	**188**	P	Pn	23 40 47.7	-1.9
TCW	**Tory Channel**	**2.82**	**204**	P	Pn	23 40 47.9	-1.8
BHW	**Baring Head**	**2.85**	**194**	P	Pn	23 40 48.2	-2.0
PLWZ	**Palliser**	**2.95**	**188**	P	Pn	23 40 49.3	-2.3
TUWZ	**Tuamarina**	**3.12**	**206**	P	Pn	23 40 52.1	-1.5
NNZ	**Nelson**	**3.17**	**215**	P	Pn	23 40 51.8	-2.5
TKNZ	**Takaka Hill**	**3.23**	**221**	P	Pn	23 40 52.2	-2.9
QRZ	**Quartz Range**	**3.33**	**228**	P	Pn	23 40 53.3	-3.0
QRZ	**Quartz Range**	**3.33**	**228**	S	Sn	23 41 32.8	-3.4
QRZ	**Quartz Range**	**3.33**	**228**	P	Pn	23 40 53.3	-3.0
BSWZ	**Blackbirch Sta**	**3.40**	**205**	P	Pn	23 40 54.9	-2.4
MRNZ	**Matariki Terra**	**3.61**	**219**	P	Pn	23 40 56.7	-3.2
THZ	**Tophouse**	**3.82**	**214**	P	Pn	23 40 59.6	-3.1
OUZ	**Omahuta**	**3.84**	**332**	P	Pn	23 41 02.6	-0.4
OUZ	**Omahuta**	**3.84**	**332**	P	Pn	23 41 02.9	-0.1
KHZ	**Kahutara**	**4.14**	**204**	P	Pn	23 41 04.2	-2.6
KHZ	**Kahutara**	**4.14**	**204**	P	Pn	23 41 04.4	-2.5
DSZ	**Denniston Nort**	**4.35**	**223**	P	Pn	23 41 06.0	-3.6
GVZ	**Greta Valley S**	**4.80**	**205**	P	Pn	23 41 12.1	-3.4

*NNC **27** 23:55:14.5±9.5, 39°.00N×71°.23E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=66.9km s-min=54.7km az=9.0*
*SOME **27** 23:55:19.4, 39°.48N×70°.97E, h10km*

ISC 27 23:55:14.3±3.0, 39°.1N±0.1×70°.76E±0°.09, h10km, n9, σ1.9 95/13, 4C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**3.09**	**350**	Pg	**Pb**	**23 56 10.2**	**+0.7**
	10nm,0.3s						
IUG				Lg	Lg	23 56 50.4	
	167nm,0.6s						
BRLS	**Borolday**	**3.98**	**350**	Pg	**Pb**	**23 56 22.9**	**-1.7**
	3.8nm,0.5s						
BRLS				Lg	Lg	23 57 14.0	
	6.4nm,0.4s						
BRLS	**Borolday**	**3.98**	**350**	*eP*	**Pb**	**23 56 22.9**	**-1.7**
	0.6nm,0.2s						
BRLS				*eS*	**Sb**	**23 57 14.0**	**+1.1**
	8.2nm,0.5s						
KK31	**Karatay Array**	**4.00**	**357**	⇓Pn	**Pb**	**23 56 23.1**	**-1.8**
	1.0nm,0.4s,baz=193,slow=14,SNR=26						
KK31				⇑Pg	**Pg**	**23 56 32.9**	**+1.9**
	1.0nm,0.3s,baz=180,slow=15,SNR=6.8						
KK31				⇓Sn	**Sb**	**23 57 15.8**	**+2.5**
	1.7nm,0.3s						
KK31				⇓Lg	Lg	23 57 29.1	
	16nm,0.7s,baz=182,slow=26,SNR=6.2						
MRKS	**Merke**	**4.09**	**26**	Pg	**Pb**	**23 56 27.2**	**+0.7**
	6.3nm,0.4s						
MRKS				Lg	Lg	23 57 22.4	
	11nm,0.6s						
MRKS	**Merke**	**4.09**	**26**	*eP*	**Pb**	**23 56 27.2**	**+0.7**
	6.3nm,0.4s						
MRKS				*eS*	**Sg**	**23 57 22.4**	**-3.2**
	10.0nm,0.4s						
AAK	**Ala-Archa**	**4.53**	**38**	⇑Pg	**Pb**	**23 56 34.6**	**+0.6**
	1.2nm,0.5s						
AAK				⇑Lg	Lg	23 57 33.5	
	10nm,1.0s						
SGDS	**Sogindy**	**5.23**	**33**	Pg	**Pb**	**23 56 43.8**	**-2.1**
	2.8nm,0.5s						
SGDS				Lg	Lg	23 57 51.5	
	6.5nm,0.5s						
AB31	**Akbulak array**	**12.76**	**326**	⇑P	**Pn**	**23 58 15.1**	**-0.7**
	0.8nm,0.6s,baz=148,slow=11,SNR=11						

IDC 28 00:02:42.5±2.0, 1°.30S×124°.11E, h0km, mb3.8/3, mbtmp3.9/3, Error ellipse: s-maj=90.0km s-min=32.6km az=71.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.06**	**152**	P	P	00 07 28.2	-0.2
	0.5nm,0.4s,baz=332,slow=10,SNR=5.9 0.5nm,0.4s						
PETK	**Petropavlovsk-**	**61.05**	**22**	P	P	00 12 58.2	+0.2
	5.2nm,0.9s,baz=228,slow=5.6,SNR=3.5 5.2nm,0.9s						
ZALV	**Zalesovo Beam**	**63.95**	**335**	P	P	00 13 17.2	-0.2
	0.4nm,0.4s,baz=133,slow=6.3,SNR=2.9 0.4nm,0.4s						

*NEIC **28** 00:14:47.9±1.1, 2°.0N±0°.1×128°.3E±0°.1, h135km±8km, mb4.2/17, Error ellipse: s-maj=19.1km s-min=16.0km az=123.0*
*IDC **28** 00:14:47.1±6.9, 2°.02N×128°.34E, h129km±61km, mb3.6/9, mbtmp4.0/9, Error ellipse: s-maj=83.0km s-min=15.9km az=67.0*

ISC 28 00:14:49.1±0.7, 1°.95N±0°.09×128°.21E±0°.10, h150km, n35, σ0.8 77/34, mb4.1/14, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.44**	**216**	Pn	**Pn**	**00 15 16.8**	**-1.3**
LUWI	**Luwuk**	**6.19**	**241**	Pn	**Pn**	**00 16 19.1**	**+0.6**
LUWI				Sn	**Sn**	**00 17 28.3**	**-0.1**
BKB	**Balikpapan**	**11.75**	**254**		**Pn**	**00 17 31.8**	**-0.5**
JAGI	**Jajag, Banyuwa**	**17.42**	**233**		**Pn**	**00 18 43.3**	**+0.1**
JAGI				IAmb	IAmb	00 19 21.6	
	comp=Z,43nm,1.3s						
KNRA	**Kununurra**	**17.52**	**178**	P	**P**	**00 18 42.5**	**-0.7**
KNRA				IAmb	IAmb	00 19 13.5	
	comp=Z,25nm,1.4s						
FITZ	**Fitzroy Crossi**	**20.08**	**187**	P	**P**	**00 19 10.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**20.08**	**187**	P	**P**	**00 19 11.9**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=16,slow=7.5,SNR=7.6 comp=Z,1.0nm,0.4s						
UGM	**Wanagama**	**20.18**	**241**	P	**P**	**00 19 13.1**	**+1.0**
WB0	**Warramunga Arr**	**22.41**	**165**	P	**P**	**00 19 35.6**	**0.0**
WB0				IAmb	IAmb	00 19 39.1	
	comp=Z,4.8nm,0.7s						
WRAB	**Tennant Creek**	**22.56**	**165**	P	**P**	**00 19 36.9**	**0.0**
WRAB				IAmb	IAmb	00 20 10.8	
	comp=Z,8.7nm,1.2s						
WRA	**Warramunga Arr**	**22.57**	**165**	P	**P**	**00 19 35.3**	**-1.7**
WRA	**Warramunga Arr**	**22.57**	**165**	P	**P**	**00 19 36.8**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=344,slow=11,SNR=39 comp=Z,1.7nm,0.5s						
WB2	**Warramunga Arr**	**22.57**	**165**	P	**P**	**00 19 36.6**	**-0.4**
WB2				IAmb	IAmb	00 19 48.1	
	comp=Z,9.6nm,1.2s						
WR8	**Warramunga Arr**	**22.62**	**164**	P	**P**	**00 19 37.5**	**0.0**
WR8				IAmb	IAmb	00 19 40.1	
	comp=Z,16nm,1.5s						
AS31	**Alice Springs**	**26.05**	**168**	P	**P**	**00 20 08.1**	**-0.6**
ASAR	**Alice Springs**	**26.05**	**168**	P	**P**	**00 20 08.4**	**-0.4**
ASAR	**Alice Springs**	**26.05**	**168**	P	**P**	**00 20 08.8**	**0.0**
	comp=Z,1.0nm,0.5s,baz=358,slow=8.5,SNR=34						
ASAR				PcP	**PcP**	**00 23 33.0**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=350,slow=2.2,SNR=7.4 comp=Z,1.0nm,

IDE	**Isla Desecheo**	**0.86 187**	⇑	*e*P	Pg	00 52 10.6	-1.6
IDE	**Isla Desecheo**	**0.86 187**		*e*S	Sg	00 52 22.4	-1.1
PRSN	**Puerto Rico Se**	**1.05 168**		*e*S	Sg	00 52 27.2	-2.2
AOPR	**Arecibo Observ**	**1.07 147**	‖	*e*P	Pg	00 52 12.8	-3.4
AOPR	**Arecibo Observ**	**1.07 147**		*e*S	Sg	00 52 27.0	-3.0
LSP	**Las Mesas**	**1.10 166**	‖	*e*P	Pg	00 52 14.5	-2.2
LSP	**Las Mesas**	**1.10 166**		*e*S	Sg	00 52 29.6	-1.4
EMPR	**Esperanza - Ma**	**1.10 134**	‖	*e*P	Pg	00 52 14.6	-2.2
EMPR	**Esperanza - Ma**	**1.10 134**		*e*S	Sg	00 52 28.7	-2.4
UUPR	**Utuado, UPR, P**	**1.17 148**	‖	*e*P	Pg	00 52 14.3	-3.7
UUPR	**Utuado, UPR, P**	**1.17 148**		*e*S	Sg	00 52 30.2	-3.0
CRPR	**Cabo Rojo, PR**	**1.26 169**	‖	*e*P	Pn	00 52 16.5	-3.0
CRPR	**Cabo Rojo, PR**	**1.26 169**		*e*S	Sb	00 52 32.3	-3.6
MLPR	**Magueyes Islan**	**1.31 166**	‖	*e*P	Pn	00 52 16.8	-3.4
MLPR	**Magueyes Islan**	**1.31 166**		*e*S	Sb	00 52 33.8	-3.6
ECPR	**Experimental S**	**1.33 134**	‖	*e*P	Pn	00 52 17.4	-3.0
ECPR	**Experimental S**	**1.33 134**		*e*S	Sb	00 52 33.3	-4.6
CELP	**Cerrillos**	**1.39 147**	‖	*e*P	Pn	00 52 17.8	-3.5
CELP	**Cerrillos**	**1.39 147**		*e*S	Sb	00 52 35.1	-4.5
OBIP	**Obispado Ponce**	**1.40 149**	‖	*e*P	Pn	00 52 18.1	-3.4
OBIP	**Obispado Ponce**	**1.40 149**		*e*S	Sb	00 52 36.6	-3.4
GCPR	**Guaynabo City**	**1.53 127**	‖	*e*P	Pn	00 52 20.3	-2.9
GCPR	**Guaynabo City**	**1.53 127**		*e*S	Sn	00 52 38.9	-4.5
SJG	**San Juan**	**1.61 134**	‖	*e*P	Pn	00 52 22.3	-2.1
SJG	**San Juan**	**1.61 134**		*e*S	Sn	00 52 42.0	-3.4
IGPR	**InterUniversit**	**1.75 137**	‖	*e*P	Pn	00 52 23.4	-2.8
IGPR	**InterUniversit**	**1.75 137**		*e*S	Sn	00 52 44.7	-4.0

SDD ***28*** *00:52:40.6±2.4, 19°.25N×67°.16W, h20km±81km, MD3.1, ML2.9, MW3.2*
OSPL ***28*** *00:52:42.4±0.5, 19°.10N×67°.39W, h22km±9km, ML2.7*
ISC 28 00:52:41.8±1.7**,19°.14N**±0°.10**×67°.22W**±0°.06**, h27**km**, n15, σ1§24/26, 19C-1D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.68**	**171**	‖ *e*Pg		**Pb**	**00 52 54.2**	**-0.8**
AGPR				⇑ *e*Sg		**Sb**	**00 53 05.2**	**+1.1**
AGPR				IAML			00 53 06.7	
	comp=N,488nm,0.2s							
AGPR	**Aguadilla, PR**	**0.68**	**171**	*i* P		**Pb**	**00 52 54.5**	**-0.6**
AGPR				*e*S		**Sb**	**00 53 04.0**	**-0.1**
AGPR				IAML			00 53 07.5	
	comp=Z,316nm,0.5s							
AOPR	**Arecibo Observ**	**0.91**	**151**	‖ *e*Pg		**Pn**	**00 52 58.2**	**-0.6**
AOPR				⇑ *e*Sg		**Sb**	**00 53 11.6**	**+0.9**
AOPR				IAML			00 53 18.8	
	comp=N,401nm,0.4s							
CRPR	**Cabo Rojo, PR**	**1.13**	**175**	⇑ *e*Pg		**Pn**	**00 53 01.6**	**-0.3**
CRPR				⇑ *e*Sg		**Sn**	**00 53 18.1**	**+1.6**
CRPR				IAML			00 53 18.7	
	comp=N,195nm,0.5s							
CRPR	**Cabo Rojo, PR**	**1.13**	**175**	*i* P		**Pn**	**00 53 01.5**	**-0.4**
CRPR				*e*S		**Sn**	**00 53 15.1**	**-1.5**
CRPR				IAML			00 53 22.8	
	comp=Z,138nm,0.3s							
MLPR	**Magueyes Islan**	**1.18**	**172**	‖ *e*Pg		**Pn**	**00 53 02.1**	**-0.4**
MLPR				⇑ *e*Sg		**Sn**	**00 53 18.5**	**+0.9**
MLPR				IAML			00 53 29.4	
	comp=N,32nm,0.2s							
CELP	**Cerrillos**	**1.22**	**150**	⇑ *e*Pg		**Pn**	**00 53 02.1**	**-1.0**
CELP				⇑ *e*Sg		**Sn**	**00 53 19.5**	**+0.6**
CELP				IAML			00 53 23.7	
	comp=N,255nm,0.3s							
PCDR	**Punta Cana, DR**	**1.26**	**241**	⇑ *e*Sg		**Sb**	**00 53 21.0**	**+0.2**
PCDR				IAML			00 53 29.5	
	comp=N,204nm,0.6s							
SJG	**San Juan**	**1.44**	**135**	‖ *e*Pg		**Pn**	**00 53 07.0**	**+0.9**
SJG	**San Juan**	**1.44**	**135**	*i* P		**Pn**	**00 53 07.0**	**+0.9**
SJG				IAML			00 53 28.8	
	comp=Z,86nm,0.3s							
HIDR	**Higuey Centro**	**1.52**	**249**	⇑ *e*Pg		**Pn**	**00 53 08.0**	**+0.8**
HIDR				⇑ *e*Sg		**Sb**	**00 53 30.4**	**+2.3**
HIDR				IAML			00 53 30.4	
	comp=N,233nm,0.2s							
MIDR	**Miches**	**1.74**	**265**	⇑ *e*Pg		**Pb**	**00 53 12.1**	**-0.9**
MIDR				⇑ *e*Sg		**Sb**	**00 53 36.5**	**+2.1**
MIDR				IAML			00 53 36.5	
	comp=N,58nm,0.4s							
SMDR	**Samana, DR**	**1.86**	**275**	‖ *e*Pg		**Pb**	**00 53 14.0**	**-1.2**
SMDR				IAML			00 54 05.5	
	comp=N,65nm,0.9s							
HATOM	**Hato Mayor del**	**2.07**	**261**	⇑ *e*Pg		**Pb**	**00 53 17.2**	**-1.6**
HATOM				⇑ *e*Sg		**Sb**	**00 53 42.9**	**-1.2**
HATOM				IAML			00 53 50.5	
	comp=N,40nm,0.3s							
DR08	**Loma La Naviza**	**2.66**	**267**	*e*Pg		**Pb**	**00 53 27.0**	**-1.7**
DR08				⇑ *e*Sg		**Sb**	**00 54 02.9**	**+2.0**
DR08				IAML			00 54 11.0	
	comp=N,1μm,0.2s							

SDD ***28*** *01:13:28.9±2.6, 20°.50N×66°.49W, h15km±13km, MD3.7, ML3.4, MW3.3*
RSPR ***28*** *01:13:48.5, 19°.21N×67°.19W, h10km±31km*
ISC 28 01:13:46.4±1.5**,19°.18N**±0°.08×**67°.17W**±0°.05**, h10**km**, n29, σ1§63/29, 17C-1D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.71**	**175**	‖ *e*P		**Pg**	**01 14 00.7**	**+0.5**
AGPR	**Aguadilla, PR**	**0.71**	**175**	*e*S		**Sg**	**01 14 11.8**	**+2.3**
AGPR	**Aguadilla, PR**	**0.71**	**175**	*i* P		**Pg**	**01 14 00.4**	**+0.2**
AGPR				⇑ *e*Sg		Sn	01 14 31.6	+18
AGPR				IAML			01 14 33.0	
	comp=N,601nm,0.1s							
AOPR	**Arecibo Observ**	**0.92**	**154**	‖ *e*P		**Pg**	**01 14 04.0**	**-0.2**
AOPR	**Arecibo Observ**	**0.92**	**154**	*i* P		**Pg**	**01 14 03.7**	**-0.4**
AOPR				IAML			01 14 47.6	
	comp=N,484nm,0.2s							
EMPR	**Esperanza - Ma**	**0.93**	**139**	‖ *e*P		**Pg**	**01 14 05.4**	**+1.1**
LSP	**Las Mesas**	**1.00**	**175**	‖ *e*P		**Pg**	**01 14 05.1**	**-0.7**
UUPR	**Utuado, UPR, P**	**1.02**	**155**	‖ *e*P		**Pg**	**01 14 06.0**	**-0.1**
ECPR	**Experimental S**	**1.15**	**138**	‖ *e*P		**Pb**	**01 14 08.2**	**-0.2**
ECPR	**Experimental S**	**1.15**	**138**	*e*S		**Sb**	**01 14 22.7**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.17**	**177**	‖ *e*P		**Pb**	**01 14 07.3**	**-1.4**
CRPR	**Cabo Rojo, PR**	**1.17**	**177**	*e*S		**Sb**	**01 14 24.5**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.17**	**177**	*i* P		**Pb**	**01 14 07.3**	**-1.4**
CRPR				⇑ *e*Sg		Sn	01 14 44.5	+20
CRPR				IAML			01 14 45.0	
	comp=N,244nm,0.5s							
MLPR	**Magueyes Islan**	**1.21**	**174**	‖ *e*P		**Pn**	**01 14 08.1**	**-1.4**
MLPR	**Magueyes Islan**	**1.21**	**174**	*i* P		**Pn**	**01 14 07.8**	**-1.6**
MLPR				*i* S		Sn	01 14 39.1	+13
MLPR				IAML			01 14 55.0	
	comp=N,62nm,0.4s							
CELP	**Cerrillos**	**1.24**	**153**	‖ *e*P		**Pn**	**01 14 08.9**	**-0.8**
CELP	**Cerrillos**	**1.24**	**153**	*e*S		**Sb**	**01 14 26.2**	**+0.4**
OBIP	**Obispado Ponce**	**1.25**	**155**	‖ *e*P		**Pn**	**01 14 09.2**	**-0.9**
OBIP	**Obispado Ponce**	**1.25**	**155**	*e*S		**Sb**	**01 14 26.4**	**0.0**
GCPR	**Guaynabo City**	**1.35**	**130**	‖ *e*P		**Pn**	**01 14 11.1**	**-0.2**
SJG	**San Juan**	**1.44**	**138**	‖ *e*P		**Pn**	**01 14 12.6**	**+0.1**
SJG	**San Juan**	**1.44**	**138**	*e*S		**Sn**	**01 14 30.8**	**-0.8**
HIDR	**Higuey Centro**	**1.58**	**248**	*i* P		**Pn**	**01 14 12.0**	**-2.5**
HIDR				*i* S		**Sg**	**01 14 43.5**	**+6.3**
HIDR				IAML			01 14 56.7	
	comp=N,224nm,0.3s							
IGPR	**InterUniversit**	**1.58**	**140**	‖ *e*P		**Pn**	**01 14 14.3**	**-0.1**
MIDR	**Miches**	**1.79**	**264**	‖ *e*P		**Pn**	**01 14 16.4**	**-1.0**
MIDR	**Miches**	**1.79**	**264**	*e*S		**Sn**	**01 14 38.9**	**-1.2**
MIDR	**Miches**	**1.79**	**264**	‖ *e*Pg		**Pn**	**01 14 16.6**	**-0.8**
MIDR				IAML			01 15 16.7	
	comp=N,54nm,0.5s							
SMDR	**Samana, DR**	**1.91**	**274**	‖ *e*P		**Pn**	**01 14 18.0**	**-1.0**
HATOM	**Hato Mayor del**	**2.13**	**260**	*i* P		Pn	01 14 18.8	-3.3
HATOM				IAML			01 15 19.1	
	comp=N,51nm,0.2s							

KRSC ***28*** *01:39:22.7±1.9, 50°.92N×157°.70E, h118km±22km, Ml4.3*
NEIC ***28*** *01:39:23.8±1.8, 51°.02N±0°.08×157°.1E±0°.2, h134km±5km, mb4.3/9, Error ellipse: s-maj=17.1km s-min=10.9km az=99.0*
MOS ***28*** *01:39:24.1±1.0, 51°.14N×157°.14E, h148km, mb4.1/10, Error ellipse: s-maj=12.0km s-min=3.9km az=78.1*
IDC ***28*** *01:39:25.5±1.4, 51°.31N×157°.07E, h137km±10km, mb3.5/24, mbtmp4.0/28, Error ellipse: s-maj=16.1km s-min=11.2km az=151.0*
ISC 28 01:39:23.8±0.6**,51°.03N**±0°.05×**157°.36E**±0°.05**, h136**km**±4km,**
n153, σ1§54/197, mb4.0/43, 7C-7D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.56**	**322**	PN		**Pn**	**01 39 43.8**	**0.0**
PAU				S		**Sn**	**01 39 58.9**	**-0.1**
PAU	**Pauzhetka**	**0.56**	**322**	*e*P		**Pn**	**01 39 43.9**	**0.0**
PAU				*e*S		**Sn**	**01 39 58.9**	**-0.1**
SKR	**Severo-Kuril's**	**0.86**	**247**	⇑ *i*PN		**Pn**	**01 39 45.6**	**-0.3**
SKR				*e*S		**Sn**	**01 40 01.1**	**-1.6**
SKR				pmax	pmax			
	comp=Z,1μm,0.3s							
SKR				smax	smax			
	comp=E,13μm,0.5s							
SKR				smax	smax			
	comp=N,15μm,0.5s							
SKR	**Severo-Kuril's**	**0.86**	**247**	*e*P		**Pn**	**01 39 45.6**	**-0.3**
SKR				*e*S		**Sn**	**01 40 01.3**	**-1.4**
MIPR	**Malaya Ipel'ka**	**1.31**	**344**	PN		**Pn**	**01 39 50.5**	**+0.3**
MIPR	**Malaya Ipel'ka**	**1.31**	**344**	*e*P		**Pn**	**01 39 50.5**	**+0.3**
ASAK	**Asacha**	**1.40**	**14**	PN		**Pn**	**01 39 51.1**	**-0.2**
ASAK				S		**Sn**	**01 40 13.9**	**+1.6**
ASAK	**Asacha**	**1.40**	**14**	*e*P		**Pn**	**01 39 51.1**	**-0.2**
ASAK				*e*S		**Sn**	**01 40 13.9**	**+1.6**
MTVR	**Mutnovka**	**1.55**	**19**	PN		**Pn**	**01 39 53.7**	**+0.8**
MTVR				S		**Sn**	**01 40 15.6**	**+0.4**
MTVR	**Mutnovka**	**1.55**	**19**	*e*P		**Pn**	**01 39 53.8**	**+0.8**
MTVR				*e*S		**Sn**	**01 40 15.7**	**+0.4**
RUS	**Russkaya**	**1.58**	**27**	PN		**Pn**	**01 39 53.2**	**+0.1**
RUS				S		**Sn**	**01 40 14.7**	**-0.9**
RUS	**Russkaya**	**1.58**	**27**	*e*P		**Pn**	**01 39 53.3**	**+0.1**
RUS				*e*S		**Sn**	**01 40 14.7**	**-0.9**
GRL	**Gorelyy**	**1.59**	**16**	PN		**Pn**	**01 39 54.4**	**+1.0**
GRL				S		**Sn**	**01 40 16.7**	**+0.6**
GRL	**Gorelyy**	**1.59**	**16**	*e*P		**Pn**	**01 39 54.4**	**+1.0**
GRL				*e*S		**Sn**	**01 40 16.7**	**+0.6**
KRMR	**Karymshinskiy**	**1.87**	**15**	PN		**Pn**	**01 39 57.2**	**+0.7**
KRMR				S		**Sn**	**01 40 22.0**	**+0.5**
KRMR	**Karymshinskiy**	**1.87**	**15**	*e*P		**Pn**	**01 39 57.2**	**+0.7**
KRMR				*e*S		**Sn**	**01 40 22.1**	**+0.5**
APC	**Apacha**	**1.91**	**356**	PN		**Pn**	**01 40 00.2**	**+3.3**
APC				S		**Sn**	**01 40 24.9**	**+2.6**
APC	**Apacha**	**1.91**	**356**	*e*P		**Pn**	**01 40 00.2**	**+3.3**
APC				*e*S		**Sn**	**01 40 24.9**	**+2.6**
PEA0B	**Petropavlovsk-**	**2.10**	**6**			**Pn**	**01 39 59.8**	**+0.6**
PEA0B	**Petropavlovsk-**	**2.10**	**6**	PN		**Pn**	**01 39 59.7**	**+0.5**
PEA0B				S		**Sn**	**01 40 26.8**	**+0.4**
PETK	**Petropavlovsk-**	**2.10**	**6**			**Pn**	**01 39 59.0**	**-0.2**
PETK	**Petropavlovsk-**	**2.10**	**6**	P		**Pn**	**01 39 59.0**	**-0.2**
	comp=N,47nm,0.4s,baz=173,slow=12,SNR=226							
PETK				S		**Sn**	**01 40 23.5**	**-3.0**
	comp=N,9.5nm,0.4s,baz=228,slow=36,SNR=2.4							
PET	**Petropavlovsk**	**2.15**	**21**	Pn		**Pn**	**01 40 00.7**	**+0.8**
PET	**Petropavlovsk**	**2.15**	**21**	*de*PN		**Pn**	**01 40 00.4**	**+0.5**
PET				*i* S		**Sn**	**01 40 25.9**	**-1.7**
PET	**Petropavlovsk**	**2.15**	**21**	*e*P		**Pn**	**01 40 00.4**	**+0.5**
PET				*e*S		**Sn**	**01 40 27.4**	**-0.3**
INSR	**Institute**	**2.18**	**20**	*e*S		**Sn**	**01 40 28.4**	**+0.1**
DALK	**Dalny**	**2.19**	**23**	PN		**Pn**	**01 40 01.0**	**+0.7**
DALK				S		**Sn**	**01 40 27.9**	**-0.4**
DALK	**Dalny**	**2.19**	**23**	*e*P		**Pn**	**01 40 01.0**	**+0.7**
DALK				*e*S		**Sn**	**01 40 27.9**	**-0.4**
UGLR	**Uglovaya**	**2.37**	**22**	PN		**Pn**	**01 40 03.9**	**+1.3**
UGLR				S		**Sn**	**01 40 31.9**	**-0.6**
UGLR	**Uglovaya**	**2.37**	**22**	*e*P		**Pn**	**01 40 04.0**	**+1.3**
UGLR				*e*S		**Sn**	**01 40 31.9**	**-0.6**
AVH	**Avacha**	**2.40**	**20**	PN		**Pn**	**01 40 04.7**	**+1.7**
AVH				S		**Sn**	**01 40 32.5**	**-0.6**
AVH	**Avacha**	**2.40**	**20**	*e*P		**Pn**	**01 40 04.7**	**+1.7**
AVH				*e*S		**Sn**	**01 40 32.6**	**-0.6**
KOK	**Koryaka**	**2.40**	**19**	PN		**Pn**	**01 40 04.8**	**+1.8**
KOK				S		**Sn**	**01 40 31.8**	**-1.5**
KOK	**Koryaka**	**2.40**	**19**	*e*P		**Pn**	**01 40 04.9**	**+1.8**
KOK				*e*S		**Sn**	**01 40 31.9**	**-1.5**
SMAR	**Somma**	**2.41**	**21**	PN		**Pn**	**01 40 04.4**	**+1.1**
SMAR				S		**Sn**	**01 40 31.6**	**-2.1**
SMAR	**Somma**	**2.41**	**21**	*e*P		**Pn**	**01 40 04.5**	**+1.1**
SMAR				*e*S		**Sn**	**01 40 31.6**	**-2.1**
KRER	**Koryakskii**	**2.44**	**20**	PN		**Pn**	**01 40 05.2**	**+1.6**
KRER	**Koryakskii**	**2.44**	**20**	*e*P		**Pn**	**01 40 05.2**	**+1.6**
SDLR	**Sedlovina**	**2.44**	**22**	PN		**Pn**	**01 40 04.4**	**+0.8**
SDLR				S		**Sn**	**01 40 33.2**	**-1.0**
SDLR	**Sedlovina**	**2.44**	**22**	*e*P		**Pn**	**01 40 04.5**	**+0.8**
SDLR				*e*S		**Sn**	**01 40 33.3**	**-1.0**
KRX	**Arik**	**2.47**	**18**	PN		**Pn**	**01 40 05.4**	**+1.5**
KRX				S		**Sn**	**01 40 32.5**	**-2.3**
KRX	**Arik**	**2.47**	**18**	*e*P		**Pn**	**01 40 05.5**	**+1.5**
KRX				*e*S		**Sn**	**01 40 32.5**	**-2.3**
NLC	**Nalytchevo**	**2.47**	**29**	PN		**Pn**	**01 40 03.5**	**-0.3**
NLC				S		**Sn**	**01 40 31.7**	**-2.9**
NLC	**Nalytchevo**	**2.47**	**29**	*e*P		**Pn**	**01 40 03.6**	**-0.3**
NLC				*e*S		**Sn**	**01 40 31.8**	**-2.9**
SPN	**Mys Shipunski**	**2.65**	**37**	PN		**Pn**	**01 40 06.3**	**+0.3**
SPN				S		**Sn**	**01 40 36.4**	**-2.2**
SPN	**Mys Shipunski**	**2.65**	**37**	*e*P		**Pn**	**01 40 06.4**	**+0.3**
SPN				*e*S		**Sn**	**01 40 36.4**	**-2.2**
GNL	**Ganaly**	**2.70**	**7**	PN		**Pn**	**01 40 07.7**	**+0.9**
GNL				S		**Sn**	**01 40 40.6**	**+0.7**
GNL	**Ganaly**	**2.70**	**7**	*e*P		**Pn**	**01 40 07.8**	**+0.9**
GNL				*e*S		**Sn**	**01 40 40.6**	**+0.7**
KII	**Karymskiy**	**3.27**	**22**	*e*S		**Sn**	**01 40 52.7**	**-0.4**
MKZ	**Mys Kozlova**	**4.42**	**35**	PN		**Pn**	**01 40 29.0**	**-0.1**
MKZ				S		**Sn**	**01 41 15.3**	**-4.6**
MKZ	**Mys Kozlova**	**4.42**	**35**	*e*P		**Pn**	**01 40 29.1**	**-0.1**
MKZ				*e*S		**Sn**	**01 41 15.4**	**-4.6**
TUMD	**Tumrok D**	**4.57**	**22**	PN		**Pn**	**01 40 31.7**	**+0.6**
TUMD				S		**Sn**	**01 41 23.3**	**-0.2**
TUMD	**Tumrok D**	**4.57**	**22**	*e*P		**Pn**	**01 40 31.7**	**+0.6**
TUMD				*e*S		**Sn**	**01 41 23.3**	**-0.2**
ESO	**Esso**	**4.97**	**9**	PN		**Pn**	**01 40 37.6**	**+1.1**
ESO	**Esso**	**4.97**	**9**	*e*P		**Pn**	**01 40 37.7**	**+1.1**
KPT	**Kopyto**	**5.24**	**18**	PN		**Pn**	**01 40 40.9**	**+0.8**
KPT	**Kopyto**	**5.24**	**18**	*e*P		**Pn**	**01 40 41.0**	**+0.8**
KOZ	**Kozyrevsk**	**5.26**	**16**	PN		**Pn**	**01 40 42.2**	**+1.9**
KOZ	**Kozyrevsk**	**5.26**	**16**	*e*P		**Pn**	**01 40 42.3**	**+1.9**
BZMR	**Bezymyannaya**	**5.26**	**20**	PN		**Pn**	**01 40 42.9**	**+2.4**
BZMR	**Bezymyannaya**	**5.26**	**20**	*e*P		**Pn**	**01 40 42.9**	**+2.4**
BZWR	**Bezymyannyi-We**	**5.29**	**20**	PN		**Pn**	**01 40 42.6**	**+1.7**
BZWR	**Bezymyannyi-We**	**5.29**	**20**	*e*P		**Pn**	**01 40 42.6**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**5.31**	**21**	PN		**Pn**	**01 40 43.1**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**5.31**	**21**	*e*P		**Pn**	**01 40 43.2**	**+2.0**
ZLN	**Zelenaya**	**5.41**	**21**	PN		**Pn**	**01 40 44.5**	**+2.1**
ZLN	**Zelenaya**	**5.41**	**21**	*e*P		**Pn**	**01 40 44.5**	**+2.1**
CIRR	**Tsirk**	**5.48**	**20**	PN		**Pn**	**01 40 46.2**	**+2.8**
CIRR	**Tsirk**	**5.48**	**20**	*e*P		**Pn**	**01 40 46.3**	**+2.8**
KBTR	**Krutoberegovo**	**6.12**	**30**	PN		**Pn**	**01 40 52.1**	**+0.3**
KBTR				S		**Sn**	**01 41 56.0**	**-4.7**
KBTR	**Krutoberegovo**	**6.12**	**30**	*e*P		**Pn**	**01 40 52.2**	**+0.3**
KBTR				*e*S		**Sn**	**01 41 56.0**	**-4.7**
KBG	**Krutoberegovo**	**6.13**	**29**	PN		**Pn**	**01 40 51.4**	**-0.5**
KBG	**Krutoberegovo**	**6.13**	**29**	*e*P		**Pn**	**01 40 51.4**	**-0.5**
MA2	**Magadan**	**9.35**	**339**	P		**Pn**	**01 41 31.9**	**-3.3**
	comp=N,12nm,0.9s,baz=157,slow=15,SNR=4.2							
MA2	**Magadan**	**9.35**	**339**	‖ *e*PN		**Pn**	**01 41 34.7**	**-0.5**
YSS	**Yuzhno-Sakhali**	**10.42**	**253**	⇑ *e*PN		**Pn**	**01 41 49.9**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**10.45**	**232**	‖ *e*PN		**Pn**	**01 41 51.2**	**+1.3**
SHEM	**Shemya Is, Ala**	**10.49**	**74**	Pn		**Pn**	**01 41 52.1**	**+1.7**
SHEM	**Shemya Is, Ala**	**10.49**	**74**	P		**Pn**	**01 41 52.5**	**+2.1**
	comp=N,43nm,0.8s,baz=218,slow=1.4,SNR=8.2							
SHEM				S		**Sn**	**01 43 46.4**	**+0.3**
	comp=N,15nm,0.4s,baz=276,slow=20,SNR=6.5							
ASAJ	**Asahikawa**	**12.12**	**241**	P		**Pn**	**01 42 12.2**	**+0.3**
	comp=N,8.6nm,0.7s,baz=77,slow=16,SNR=3.8							
SEY	**Seymchan**	**12.24**	**349**	P		**Pn**	**01 42 13.3**	**0.0**
	comp=N,0.7nm,0.2s,baz=163,slow=23,SNR=2.1							
SEY	**Seymchan**	**12.24**	**349**	‖ *e*PN		**Pn**	**01 42 13.0**	**-0.3**
ERM	**Erimo**	**13.28**	**233**	Pn		**Pn**	**01 42 23.9**	**-3.0**
ERM	**Erimo**	**13.28**	**233**	PN		**Pn**	**01 42 23.9**	**-3.0**
JTM	**Tenmabayashi**	**15.24**	**234**	Pn		**Pn**	**01 42 49.1**	**-2.7**
BILL	**Bilibino**	**17.62**	**11**	‖ *i*P		**P**	**01 43 20.1**	**+0.6**
BILL				pmax	pmax			
	comp=Z,23nm,1.5s							
YAK	**Yakutsk**	**18.66**	**317**	‖ *e*P		**P**	**01 43 29.3**	**-1.6**
YAK				pmax	pmax			
	comp=Z,31nm,0.7s							
MAJO	**Matsushiro**	**19.93**	**231**	‖ *e*P		**P**	**01 43 46.3**	**+1.3**
MAJO				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MJAR	**Matsushiro Arr**	**19.93**	**231**	P		**P**	**01 43 47.2**	**+2.2**
	comp=Z,1.9nm,0.2s,baz=21,slow=13,SNR=7.5							
KSRS	**Korea Array**	**24.88**	**248**	P		**P**	**01 44 34.9**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=166,slow=38,SNR=1.7							
	comp=Z,0.4nm,0.4s							
B21K	**Ikpikpuk River**	**29.05**	**32**	P		**P**	**01 45 13.0**	**+2.2**
SML	**Sawmill**	**30.98**	**49**	P		**P**	**01 45 28.7**	**+0.8**
SML				IAmb		IAmb	01 45 47.0	
	comp=Z,6.7nm,1.3s							
COLA	**College**	**31.06**	**43**	⇑ *e*P		**P**	**01 45 29.5**	**+1.0**
COLA				pmax	pmax			
	comp=Z,25nm,2.4s							
ILAR	**Eielson Array**	**31.48**	**43**	P		**P**	**01 45 32.4**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=261,slow=7.9,SNR=4.7							
	comp=Z,0.4nm,0.8s							
ILAR	**Eielson Array**	**31.48**	**43**	*e*P		**P**	**01 45 33.2**	**+1.0**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**32.13**	**163**	T		T	02 20 00.3	
	baz=349,slow=76,SNR=26							
H11N3	**WAKE ISLAND Hy**	**32.14**	**163**	T		T	02 19 45.0	
	baz=349,slow=76,SNR=32							
H11N1	**WAKE ISLAND Hy**	**32.14**	**163**	T		T	02 20 00.5	
	baz=349,slow=76,SNR=21							
SONM	**Songino Array**	**32.76**	**285**	P		**P**	**01 45 44.3**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=330,slow=27,SNR=1.9							
	comp=Z,0.3nm,0.4s							
H11S1	**WAKE ISLAND Hy**	**33.28**	**164**	T		T	02 21 04.5	
	baz=348,slow=76,SNR=66							
H11S3	**WAKE ISLAND Hy**	**33.30**	**164**	T		T	02 21 06.7	
	baz=348,slow=76,SNR=67							
H11S2	**WAKE ISLAND Hy**	**33.30**	**164**	T		T	02 21 05.0	
	baz=348,slow=76,SNR=52							
ZALV	**Zalesovo Beam**	**42.49**	**303**	P		**P**	**01 47 03.4**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=55,slow=6.0,SNR=4.9							
	comp=Z,0.4nm,0.3s							
ZALV	**Zalesovo Beam**	**42.49**	**303**	*e*P		**P**	**01 47 03.8**	**-1.4**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KURK	**Kurchatov**	**47.40**	**302**	P		**P**	**01 47 43.1**	**-0.9**
KURK				IAmb		IAmb	01 47 44.0	
	comp=Z,4.5nm,0.7s							
KURK	**Kurchatov**	**47.40**	**302**	P		**P**	**01 47 43.1**	**-0.9**
KURK				pmax	pmax			
	comp=Z,5.0nm,0.7s							
KURBB	**Kurchatov Arra**	**47.49**	**302**	P		**P

comp=Z,1.7nm,0.8s
H03N2 Juan Fernandez 135.92 89 T T 04 29 25.8
baz=314,slow=77,SNR=27
H03N1 Juan Fernandez 135.93 89 T T 04 29 28.9
baz=314,slow=77,SNR=24
H03N3 Juan Fernandez 135.93 89 T T 04 29 29.5
baz=314,slow=77,SNR=24

*SFS **28** 01:41:32.8, 36.°10N×7.°24W, h39km, ML2.8/6, ML2.9/6, MLv2.8/6*
*IGIL **28** 01:41:33.9, 36.°08N×7.°23W, h32km, ML1.4*
*MDD **28** 01:41:33.3±0.6, 36.°08N×7.°24W, h40km±37km, mb_Lg2.4/12, Error ellipse: s-maj=4.7km s-min=4.2km az=61.0*
*INMG **28** 01:41:34.2±1.4, 36.°08N×7.°23W, h31km±7km, ML1.8, Error ellipse: s-maj=4.0km s-min=2.6km az=60.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Golfo de Cadiz*
*CNRM **28** 01:41:36.8, 35.°72N×7.°07W, h35km, ML2.9*

ISC 28 01:41:30.7±1.5, 36.°07N±0.°03×7.°21W±0.°03, h31km±15km, n60, σ1°73/94, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**1.31**	**334**	*eP*		**Pb**	**01 41 54.5**	**-0.3**
PBDV				*eS*		**Sn**	**01 42 09.8**	**+0.4**
PBDV				*i*	IAML		01 42 10.8	
PBDV				*i*	IAML		01 42 11.2	
PBDV				*i*	IAML		01 42 11.5	
ESPR	**Espera**	**1.35**	**53**	S		**Sn**	**01 42 10.9**	**+0.6**
ESPR				P		**Pn**	**01 41 54.4**	**+1.0**
ESPR	**Espera**	**1.35**	**53**	P		**Pb**	**01 41 55.0**	**-0.4**
ESPR				S		**Sn**	**01 42 10.8**	**+0.6**
ESPR				*i*	IVmb_Lg		01 42 21.4	
PVAQ	**Vaqueiros**	**1.39**	**343↓**	*eP*		**Pb**	**01 41 55.6**	**-0.5**
PVAQ				eS		**Sn**	**01 42 11.8**	**+0.4**
PVAQ				*i*	IAML		01 42 12.2	
PVAQ				*i*	IAML		01 42 12.7	
PVAQ				*i*	IAML		01 42 12.8	
EJIF	**Jimena Fronter**	**1.45**	**74**	P		**Pb**	**01 41 57.4**	**+0.2**
EGRO	**El Granado**	**1.48**	**351**	S		**Sn**	**01 42 13.8**	**+0.3**
EGRO	**El Granado**	**1.48**	**351**	P		**Pb**	**01 41 57.0**	**-0.7**
EGRO				S		**Sn**	**01 42 14.6**	**+1.1**
EGRO				*i*	IVmb_Lg		01 42 15.0	
SMIR	**Smir Dam**	**1.53**	**104**	P		**Pb**	**01 41 58.1**	**-0.4**
SMIR	**Smir Dam**	**1.53**	**104**	S		**Sn**	**01 42 16.2**	**+1.5**
MORF	**Marmelete**	**1.69**	**317**	*eP*		**Pn**	**01 41 59.6**	**+1.4**
PCVE	**Castro Verde**	**1.70**	**337**	*eP*		**Pb**	**01 42 00.1**	**-1.2**
PCVE				eS		**Sn**	**01 42 19.6**	**+0.8**
PCVE				*i*	IAML		01 42 19.9	
PCVE				*i*	IAML		01 42 20.3	
PCVE				*i*	IAML		01 42 21.4	
EMIN	**Mina Concepcio**	**1.75**	**14**	P		**Pn**	**01 42 00.3**	**+1.4**
EMIN				S		**Sn**	**01 42 18.7**	**-1.4**
EMIN	**Mina Concepcio**	**1.75**	**14**	P		**Pn**	**01 42 00.3**	**+1.4**
EMIN				S		**Sn**	**01 42 19.1**	**-1.0**
EMIN				*i*	IVmb_Lg		01 42 21.0	
E1302	**La Puebla de C**	**1.90**	**55**	P		**Pb**	**01 42 03.6**	**-1.2**
PTEO	**Sao Teotonio**	**1.91**	**321**	*eP*		**Pn**	**01 42 03.1**	**+1.9**
PTEO				eS		**Sn**	**01 42 24.8**	**+0.7**
MESJ	**Messejana**	**1.94**	**336**	*eP*		**Pn**	**01 42 03.3**	**+1.7**
MESJ				eS		**Sn**	**01 42 24.9**	**-0.1**
MESJ				IAML			01 42 28.1	
	comp=E,2.6nm,0.1s							
MESJ	**Messejana**	**1.94**	**336**	*eP*		**Pn**	**01 42 03.4**	**+1.7**
MESJ				eS		**Sn**	**01 42 25.6**	**+0.6**
MESJ				*i*	IAML		01 42 29.7	
MESJ				*i*	IAML		01 42 31.5	
MESJ				*i*	IAmb	IAmb	01 42 33.3	
	comp=E,29nm,1.8s							
PBEJ	**Beja**	**2.02**	**345**	eS		**Sn**	**01 42 27.0**	**+0.1**
PBEJ				*i*	IAML		01 42 27.3	
PBEJ				*i*	IAML		01 42 28.7	
PBEJ				*i*	IAML		01 42 30.9	
PBAR	**Barrancos**	**2.11**	**4**	*eP*		**Pn**	**01 42 05.9**	**+2.1**
PBAR				eS		**Sn**	**01 42 29.4**	**+0.4**
PBAR				*i*	IAML		01 42 33.6	
PBAR				*i*	IAML		01 42 34.5	
PBAR				*i*	IAML		01 42 35.9	
ECAB	**El Cabril**	**2.46**	**35**	P		**Pn**	**01 42 09.5**	**+0.8**
ECAB				S		**Sn**	**01 42 36.0**	**-1.7**
ECAB	**El Cabril**	**2.46**	**35**	P		**Pn**	**01 42 10.2**	**+1.5**
ECAB				S		**Sn**	**01 42 36.9**	**-0.9**
ECAB				*i*	IVmb_Lg		01 42 39.2	
EVO	**Evora**	**2.54**	**346**	*eP*		**Pn**	**01 42 11.8**	**+1.9**
EVO				eS		**Sn**	**01 42 39.6**	**-0.1**
EVO				*i*	IAML		01 42 40.2	
EVO				*i*	IAML		01 42 40.3	
EVO				*i*	IAML		01 42 41.7	
EBAD	**Badajoz**	**2.69**	**3**	P		**Pn**	**01 42 13.6**	**+1.8**
EBAD				S		**Sn**	**01 42 42.6**	**-0.6**
EBAD				*i*	IVmb_Lg		01 42 46.3	
EGOR	**Sierra Gorda,**	**2.70**	**66**	P		**Pn**	**01 42 13.3**	**+1.2**
EGOR				S		**Sn**	**01 42 43.5**	**-0.3**
EGOR	**Sierra Gorda,**	**2.70**	**66**	P		**Pn**	**01 42 14.2**	**+2.1**
EGOR				S		**Sn**	**01 42 44.1**	**+0.3**
AVE	**Averroes**	**2.77**	**184**	S		**Sn**	**01 42 45.9**	**+0.6**
PESTR	**Estremoz**	**2.81**	**354**	*eP*		**Pn**	**01 42 15.6**	**+2.1**
PESTR				eS		**Sn**	**01 42 45.9**	**-0.5**
PESTR				*i*	IAML		01 42 49.6	
PESTR				*i*	IAML		01 42 51.4	
PESTR				*i*	IAML		01 42 52.2	
EADA	**Adamuz**	**2.97**	**44**	P		**Pn**	**01 42 16.7**	**+1.0**
EADA				S		**Sn**	**01 42 49.5**	**-0.7**
EADA	**Adamuz**	**2.97**	**44**	P		**Pn**	**01 42 17.0**	**+1.3**
EADA				S		**Sn**	**01 42 48.5**	**-1.7**
EADA				*i*	IVmb_Lg		01 42 55.2	
ELGU	**Los Guajares,**	**2.99**	**73**	P		**Pn**	**01 42 18.2**	**+2.1**
ELGU				S		**Sn**	**01 42 51.6**	**+0.7**
ELGU				*i*	IVmb_Lg		01 42 57.9	
PMTG	**Montargil**	**3.10**	**345**	*eP*		**Pn**	**01 42 19.4**	**+1.9**
PMTG				eS		**Sn**	**01 42 53.4**	**-0.1**
PMTG				*i*	IAML		01 42 55.2	
PMTG				*i*	IAML		01 42 55.9	
PMTG				*i*	IAML		01 42 56.1	
PARRA	**Arraiolos**	**3.11**	**333**	*eP*		**Pn**	**01 42 15.4**	**-2.1**
PARRA				eS		**Sn**	**01 42 46.3**	**-7.4**
PARRA				*i*	IAML		01 42 47.4	
PARRA				*i*	IAML		01 42 47.9	
PARRA				*i*	IAML		01 42 48.6	
PARRA				*i*	IAmb	IAmb	01 42 49.3	
	comp=E,21nm,2.0s							
AKLM	**AKL**	**3.15**	**119**	P		**Pn**	**01 42 20.3**	**+2.1**
AKLM	**AKL**	**3.15**	**119**	S		**Sn**	**01 42 51.5**	**-3.2**
PMAFR	**Mafra**	**3.32**	**331**	*eP*		**Pn**	**01 42 22.3**	**+1.7**
PMRV	**Marv??o**	**3.36**	**358**	*eP*		**Pn**	**01 42 23.2**	**+2.2**
PMRV				eS		**Sn**	**01 42 59.2**	**-0.6**
PMRV				*i*	IAML		01 43 00.6	
PMRV				*i*	IAML		01 43 00.6	
PMRV				*i*	IAML		01 43 00.7	
PMRV				*i*	IAmb	IAmb	01 43 05.1	
	comp=E,18nm,1.5s							
E0803	**Jimena (Jaen)**	**3.47**	**58**	P		**Pn**	**01 42 24.5**	**+1.9**
E0803				S		**Sn**	**01 43 03.9**	**+1.2**
PSARD	**Sardoal**	**3.61**	**348**	*eP*		**Pn**	**01 42 26.5**	**+2.1**
PSARD				eS		**Sn**	**01 43 05.5**	**-0.5**
PSARD				*i*	IAML		01 43 06.4	
PSARD				*i*	IAML		01 43 06.4	
PSARD				*i*	IAML		01 43 06.5	
EQES	**Quesada**	**3.74**	**61**	P		**Pn**	**01 42 27.9**	**+1.5**
EQES				*i*	IVmb_Lg		01 43 16.4	
PCBR	**Castelo Branco**	**3.77**	**357**	*eP*		**Pn**	**01 42 29.0**	**+2.3**
PCBR				eS		**Sn**	**01 43 08.3**	**-1.7**
PCBR				*i*	IAML		01 43 10.5	
PCBR				*i*	IAML		01 43 10.8	
PCBR				*i*	IAML		01 43 11.0	
MD31	**MD31**	**3.78**	**147**	P		**Pn**	**01 42 27.8**	**+0.8**
MD31	**MD31**	**3.78**	**147**	S		**Sn**	**01 43 07.8**	**-2.6**
PSIM	**Granatula de C**	**3.88**	**44**	P		**Pn**	**01 42 29.5**	**+1.2**
PSIM				S		**Sn**	**01 43 10.1**	**-2.7**
MDT	**Midelt**	**3.89**	**146**	P		**Pn**	**01 42 29.3**	**+0.9**
MDT	**Midelt**	**3.89**	**146**	S		**Sn**	**01 43 11.1**	**-2.1**
EPLA	**Plasencia**	**4.09**	**12**	P		**Pn**	**01 42 33.5**	**+2.4**
EPLA				S		**Sn**	**01 43 16.1**	**-1.7**
PAB	**San Pablo**	**4.14**	**32**	P		**Pn**	**01 42 33.9**	**+2.0**
PAB				S		**Sn**	**01 43 15.7**	**-3.6**
PAB				*i*	IVmb_Lg		01 43 20.5	
MTE	**Manteigas**	**4.33**	**357**	*eP*		**Pn**	**01 42 36.5**	**+2.0**
MTE				*eS*		**Sn**	**01 43 23.2**	**-0.7**
PVIS	**Viseu**	**4.67**	**354**	*eS*		**Sn**	**01 43 31.6**	**-0.7**
MVO	**Moncorvo**	**5.09**	**2**	*eS*		**Sn**	**01 43 40.6**	**-2.1**
MVO				*i*	IAML		01 43 41.0	
MVO				*i*	IAML		01 43 41.9	
MVO				*i*	IAML		01 43 42.5	
TIO	**Tiouine**	**5.13**	**181**	P		**Pn**	**01 42 46.3**	**+0.8**
TIO				S		**Sn**	**01 43 40.5**	**-3.3**
TIO	**Tiouine**	**5.13**	**181**	P		**Pn**	**01 42 47.5**	**+1.9**
TIO	**Tiouine**	**5.13**	**181**	S		**Sn**	**01 43 42.6**	**-1.2**
OUZM	**OUZ**	**5.16**	**176**	P		**Pn**	**01 42 47.5**	**+1.5**
OUZM	**OUZ**	**5.16**	**176**	S		**Sn**	**01 43 44.7**	**+0.2**
ETOB	**Tobarra**	**5.19**	**59**	P		**Pn**	**01 42 47.2**	**+0.9**
ETOB				S		**Sn**	**01 43 42.8**	**-2.3**
POLO	**Lamas de Olo**	**5.32**	**355**	*eS*		**Sn**	**01 43 47.1**	**-1.2**
POLO				*i*	IAML		01 43 49.7	
PCAB	**Cabril**	**5.67**	**354**	*eS*		**Sn**	**01 43 55.5**	**-1.3**
PBRG	**Braganca**	**5.74**	**3**	*eS*		**Sn**	**01 43 55.8**	**-2.8**
EVIV	**Cofrentes, Val**	**5.79**	**55**	P		**Pn**	**01 42 55.1**	**+0.6**

*IDC **28** 01:48:33.2±1.6, 3.°81S×127.°97E, h0km, mb4.2/4, mbtmp4.2/5, ML3.2/1, MS3.4/1, Error ellipse: s-maj=131.5km s-min=23.0km az=69.0*
*DJA **28** 01:48:33.3±0.5, 4.°5×12.°8E±.°, h10km, M3.8/4, MLv3.8/4*

ISC 28 01:48:33.3±0.8, 3.°67S±0.°09×128.°41E±0.°06, h10km, n9, σ1°73/11, mb4.0/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AAI	**Ambon**	**0.22**	**267**	P		**Pg**	**01 48 38.5**	**+0.6**
AAI				S		**Sg**	**01 48 41.1**	**+0.2**
MSAI	**Masohi**	**0.61**	**58**	P		**Pb**	**01 48 46.2**	**+0.1**
MSAI				S		**Sb**	**01 48 54.3**	**-0.5**
NLAI	**Namlea**	**1.38**	**288**	P		**Pg**	**01 48 58.5**	**-1.4**
FITZ	**Fitzroy Crossi**	**14.59**	**191**	Pn		**Pn**	**01 51 58.1**	**-1.9**
	0.1nm,0.3s,baz=7.1,slow=8.1,SNR=2.8							
	1.6nm,0.6s							
WRA	**Warramunga Arr**	**17.17**	**161**	Pn		**Pn**	**01 52 30.1**	**-3.5**
	0.1nm,0.3s,baz=341,slow=11,SNR=6.0							
ASAR	**Alice Springs**	**20.57**	**166**	P		**P**	**01 53 13.6**	**+1.0**
	21nm,0.8s,baz=345,slow=11,SNR=186							
ASAR					LR	LR	02 00 33.2	
	comp=Z,91nm,18.4s,baz=282,slow=35							
	21nm,0.8s							
STKA	**Stephens Creek**	**30.67**	**158**	P		**P**	**01 54 50.1**	**+1.9**
	2.3nm,0.9s,baz=342,slow=16,SNR=3.2							
	2.3nm,0.9s							
MKAR	**Makanchi Array**	**64.59**	**327**	P		**P**	**01 59 11.8**	**+0.8**
	0.2nm,0.4s,baz=127,slow=5.2,SNR=2.5							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**68.87**	**329**	P		**P**	**01 59 38.8**	**+0.7**
	2.7nm,0.2s,baz=130,slow=5.7,SNR=5.9							
	2.7nm,0.2s							

*SJA **28** 01:53:00.5±0.7, 28.°61S×67.°49W, h140km±2km, ML3.9, MW3.8*
*IDC **28** 01:53:01.6±2.1, 28.°52S×67.°49W, h128km±17km, mb3.9/6, mbtmp4.0/10, Error ellipse: s-maj=34.1km s-min=14.9km az=117.0*
*NEIC **28** 01:53:02.0±1.5, 28.°65S±0.°06×67.°6W±0.°1, h140km±12km, mb4.3/7, Error ellipse: s-maj=16.4km s-min=9.0km az=87.0*

ISC 28 01:53:01.8±0.7, 28.°58S±0.°03×67.°50W±0.°03, h135km±5km, n78, σ1°64/108, mb4.2/9, 4C, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AANI	**Anillaco**	**0.55**	**115**	*eP*		**Pn**	**01 53 22.2**	**+0.3**
AANI				eS		**Sn**	**01 53 36.9**	**-0.2**
AANI				IAML			01 53 41.5	
	comp=Z,3μm,0.4s							
VCA	**Vinchina**	**0.64**	**256**	*eP*		**Pn**	**01 53 21.9**	**-0.6**
VCA				eS		**Sn**	**01 53 38.5**	**+0.3**
VCA				IAML			01 53 40.7	
	comp=Z,4μm,0.8s							
ACLC	**CERRO LA CRUZ**	**0.97**	**150**	*eP*		**Pn**	**01 53 25.4**	**+0.3**
ACLC				eS		**Sn**	**01 53 42.2**	**-0.7**
ACLC				IAML			01 53 43.1	
	comp=Z,777nm,0.3s							
AGUA	**GUANDACOL**	**1.25**	**224**	*eP*		**Pn**	**01 53 27.4**	**-0.4**
AGUA				eS		**Sn**	**01 53 47.7**	**+0.2**
AGUA				IAML			01 53 49.6	
	comp=Z,466nm,0.4s							
CYA	**Choya**	**1.50**	**85**	*eP*		**Pn**	**01 53 31.0**	**+0.6**
CYA				eS		**Sn**	**01 53 51.9**	**-0.2**
CYA				IAML			01 53 53.4	
	comp=Z,511nm,1.1s							
APLL	**PUNTA DE LOS L**	**2.00**	**155**	*eP*		**Pn**	**01 53 36.0**	**-0.1**
APLL				eS		**Sn**	**01 54 00.1**	**-2.3**
AVFE	**Valle Fertil**	**2.07**	**179**	*eP*		**Pn**	**01 53 36.7**	**-0.3**
AVFE				eS		**Sn**	**01 54 03.1**	**-1.0**
AVFE				IAML			01 54 06.0	
	comp=Z,271nm,0.4s							
ACDV	**Cuesta del Vie**	**2.12**	**221**	*eP*		**Pn**	**01 53 37.9**	**+0.2**
AC02	**Maricunga**	**2.26**	**320**			**Pn**	**01 53 40.7**	**+1.0**
AC02	**Maricunga**	**2.26**	**320**	*eP*		**Pn**	**01 53 40.9**	**+1.1**
AC02				eS		**Sn**	**01 54 10.4**	**+1.6**
AROD	**Rodeo**	**2.34**	**227**	*eP*		**Pn**	**01 53 40.9**	**+0.3**
AROD				eS		**Sn**	**01 54 11.1**	**+0.9**
ACCO	**Cerro Coronel**	**2.42**	**214**	*eP*		**Pn**	**01 53 41.5**	**-0.1**
ACCO				eS		**Sn**	**01 54 12.6**	**+0.5**
GO03	**Copiapo**	**2.61**	**292**			**Pn**	**01 53 43.4**	**-0.3**
GO03	**Copiapo**	**2.61**	**292**	*eP*		**Pn**	**01 53 43.6**	**-0.1**
GO03				eS		**Sn**	**01 54 14.1**	**-1.7**
GO03				IAML			01 54 15.7	
	comp=Z,373nm,0.1s							
ACHE	**Chepes**	**2.67**	**164**	*eP*		**Pn**	**01 53 45.3**	**+0.7**
FSA	**Cafayete**	**2.81**	**29**	*eP*		**Pn**	**01 53 48.2**	**+1.9**
FSA				eS		**Sn**	**01 54 12.7**	**-8.0**
LCO	**Las Campanas**	**2.84**	**261**			**Pn**	**01 53 46.2**	**-0.6**
LCO	**Las Campanas**	**2.84**	**261**	*eP*		**Pn**	**01 53 45.6**	**-1.2**
LCO				eS		**Sn**	**01 54 21.1**	**-0.4**
LCO				IAML			01 54 21.9	
	comp=Z,607nm,0.3s							
RTLL	**Cerro Villicun**	**2.87**	**197**	*eP*		**Pn**	**01 53 46.7**	**-0.2**
RTLL				eS		**Sn**	**01 54 20.2**	**-1.5**
RTLL				IAML			01 54 22.1	
	comp=Z,406nm,0.4s							
SJA	**San Juan**	**3.08**	**197**	*eP*		**Pn**	**01 53 50.0**	**+0.4**
SJA				eS		**Sn**	**01 54 26.1**	**-0.6**
SJA				IAML			01 54 29.0	
	comp=Z,190nm,0.5s							
CFA	**Coronel Fontan**	**3.08**	**192**	P		**Pn**	**01 53 49.2**	**-0.5**
	comp=Z,24nm,0.3s,baz=29,slow=14,SNR=635							
CFA				S		**Sn**	**01 54 24.1**	**-2.6**
	comp=Z,184nm,0.4s,baz=185,slow=15,SNR=32							
CFA	**Coronel Fontan**	**3.08**	**192**	*eP*		**Pn**	**01 53 49.2**	**-0.5**
CFA				eS		**Sn**	**01 54 24.7**	**-2.0**
ZON	**Zonda**	**3.13**	**199**			**Pn**	**01 53 49.9**	**-0.4**
ZON	**Zonda**	**3.13**	**199**	*eP*		**Pn**	**01 53 49.9**	**-0.4**
ZON				eS		**Sn**	**01 54 26.4**	**-1.4**
ZON				IAML			01 54 27.4	
	comp=Z,274nm,0.6s							
AC04	**Llanos de Chal**	**3.17**	**276**			**Pn**	**01 53 49.5**	**-1.3**
AC04	**Llanos de Chal**	**3.17**	**276**	*eP*		**Pn**	**01 53 49.5**	**-1.3**
AC04				eS		**Sn**	**01 54 25.5**	**-3.1**
AC04				IAML			01 54 26.0	
	comp=Z,127nm,0.5s							
GO04	**Tololo Observa**	**3.29**	**240**			**Pn**	**01 53 51.6**	**-1.0**
GO04	**Tololo Observa**	**3.29**	**240**	*eP*		**Pn**	**01 53 51.7**	**-0.8**
GO04				eS		**Sn**	**01 54 31.5**	**-0.2**
GO04				IAML			01 54 31.9	
	comp=Z,323nm,0.4s							
CO05	**La Serena**	**3.53**	**247**			**Pn**	**01 53 53.6**	**-1.8**
RTLS	**Leoncito**	**3.56**	**205**	*eP*		**Pn**	**01 53 55.9**	**-0.4**
RTLS				eS		Sn	01 54 26.2	-12
RTLS				IAML			01 54 38.6	
	comp=Z,353nm,0.5s							
CO03	**El Pedregal**	**3.57**	**230**			**Pn**	**01 53 55.3**	**-0.8**
CO03	**El Pedregal**	**3.57**	**230**	*eP*		**Pn**	**01 53 55.6**	**-0.5**
CO03				eS		**Sn**	**01 54 37.7**	**-0.5**
CO03				IAML			01 54 44.2	
	comp=Z,106nm,0.6s							
AC01	**Pan de Azucar**	**3.67**	**311**			**Pn**	**01 53 56.8**	**-0.6**
AC01	**Pan de Azucar**	**3.67**	**311**	*eP*		**Pn**	**01 53 56.8**	**-0.6**
AC01				eS		Sn	01 54 28.9	-11
ACAN	**Cantantal**	**3.69**	**176**	*eP*		**Pn**	**01 53 56.9**	**-0.8**
TCA	**Tanti**	**3.73**	**138**	*eP*		**Pn**	**01 53 57.9**	**-0.3**
TCA				eS		Sn	01 54 29.0	-13
TCA				IAML			01 54 57.0	
	comp=Z,73nm,0.7s							
GO02	**Mina Guanaco**	**3.88**	**331**			**Pn**	**01 54 00.9**	**+0.4**
GO02	**Mina Guanaco**	**3.88**	**331**	*eP*		**Pn**	**01 54 00.8**	**+0.3**
GO02				eS		**Sn**	**01 54 45.4**	**-0.5**
GO02				IAML			01 54 49.4	
	comp=Z,237nm,0.8s							
CO02	**Combarbal**	**4.01**	**228**			**Pn**	**01 54 00.6**	**-1.3**
CO02	**Combarbal**	**4.01**	**228**	*eP*		**Pn**	**01 53 59.8**	**-2.1**
CO02				eS		**Sn**	**01 54 47.2**	**-1.3**
CO02				IAML			01 54 48.5	
	comp=Z,113nm,0.4s							
MRA	**San Martin**	**4.12**	**159**	*eP*		**Pn**	**01 54 03.0**	**-0.4**
MRA				eS		Sn	01 54 37.7	-14
MRA				IAML			01 54 49.7	
	comp=Z,259nm,0.5s							
CO06	**Fray Jorge**	**4.16**	**239**			**Pn**	**01 54 00.9**	**-2.9**
ASAL	**Salagasta**	**4.16**	**196**	*eP*		**Pn**	**01 54 03.5**	**-0.3**
ASAL				eS		**Sn**	**01 54 50.6**	**-1.5**
SLA	**San Lorenzo**	**4.24**	**25**	*eP*		**Pn**	**01 54 07.3**	**+2.2**
SLA				eS		Sn	01 54 39.7	-14
ARCO	**CERRO ARCO**	**4.42**	**196**	*eP*		**Pn**	**01 54 07.0**	**-0.4**
ARCO				eS		**Sn**	**01 54 54.6**	**-3.8**
ARCO				IAML			01 54 59.2	
	comp=Z,168nm,0.3s							
AAGR	**Agrelo**	**4.63**	**194**	*eP*		**Pn**	**01 54 09.7**	**-0.5**
AAGR				eS		**Sn**	**01 55 00.9**	**-2.5**
AAGR				IAML			01 55 05.0	
	comp=Z,89nm,0.3s							
PB14	**IPOC Station P**	**4.72**	**326**			**Pn**	**01 54 11.3**	**-0.2**
PB14	**IPOC Station P**	**4.72**	**326**	*eP*		**Pn**	**01 54 11.3**	**-0.2**
PB14				eS		**Sn**	**01 55 04.3**	**-1.5**
PB14				IAML			01 55 07.4	
	comp=Z,92nm,0.5s							
AZAP	**Zapla**	**4.86**	**27**	*eP*		**Pn**	**01 54 14.5**	**+1.1**
AZAP				eS		Sn	01 54 56.3	-13
AZAP				IAML			01 55 04.3	
	comp=Z,86nm,0.8s							
VA03	**San Esteban**	**4.93**	**211**			**Pn**	**01 54 13.1**	**-1.0**
VA03	**San Esteban**	**4.93**	**211**	*eP*		**Pn**	**01 54 13.1**	**-1.0**
VA03				eS		**Sn**	**01 55 12.1**	**+1.7**
VA03				IAML			01 55 21.7	
	comp=Z,80nm,0.6s							
VA06	**Catapilco**	**5.14**	**219**			**Pn**	**01 54 13.8**	**-3.0**
MT08	**Bocatoma Ro**	**5.31**	**203**	*eP*		**Pn**	**01 54 15.7**	**-3.6**
MT08				eS		**Sn**	**01 55 16.1**	**-3.5**
MT08				IAML			01 55 25.2	
	comp=Z,36nm,0.5s							
PEL	**Peldehue**	**5.31**	**210**			**Pn**	**01 54 18.4**	**-0.8**
MT04	**Ro Olivares**	**5.31**	**205**	*eP*		**Pn**	**01 54 19.4**	**0.0**
MT04				eS		**Sn**	**01 55 27.2**	**+7.3**
MT04				IAML			01 55 36.5	
	comp=Z,27nm,0.6s							
CPUP	**Villa Florida**	**9.31**	**78**	P		**Pn**	**01 55 13.0**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=111,slow=11,SNR=4.8							
LPAZ	**La Paz**	**12.25**	**357**	P		**Pn**	**01 55 52.2**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=199,slow=13,SNR=5.9							
ITAB	**Concordia**	**13.66**	**88**			**P**	**01 56 14.6**	**+0.4**
SIV	**San Ignacio**	**13.87**	**27**	P		**Pn**	**01 56 12.4**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=188,slow=8.8,SNR=7.3							
PTLB	**Pontes e Lacer**	**15.19**	**32**	P		**P**	**01 56 30.2**	**-1.0**
VAO	**Valinhos**	**19.30**	**78**	P		**P**	**01 57 16.1**	**-0.4**
VAO				IAmb		IAmb	01 57 20.2	
	comp=Z,18nm,1.2s							
BDFB	**Brasilia**	**22.14**	**59**	P		**P**	**01 57 45.5**	**-1.3**
BDFB				IAmb		IAmb	01 57 58.4	
	comp=Z,6.4nm,1.1s							
BDFB	**Brasilia**	**22.14**	**59**	P		**P**	**01 57 46.1**	**-0.7**
	comp=Z,2.7nm,0.3s,baz=224,slow=7.3,SNR=10							
	comp=Z,2.7nm,0.3s							
BOAV	**Boa Vista**	**31.52**	**13**	P		**P**	**01 59 12.3**	**+1.1**
BOAV				IAmb		IAmb	01 59 14.9	
	comp=Z,8.3nm,1.2s							
RUSC	**La Rusia**	**34.69**	**350**	P		**P**	**01 59 40.2**	**+0.9**
RUSC				IAmb		IAmb	01 59 40.8	
	comp=Z,5.1nm,0.7s							
BAUV	**El Baul**	**37.31**	**359**	P		**P**	**02 00 00.8**	**-0.3**
VNA3	**Neumayer Olymp**	**53.00**	**160**	⇑P		**P**	**02 02 03.3**	**-0.9**
	comp=Z,1.8nm,0.7s							
VNA2	**Neumayer--Watz**	**53.59**	**159**	⇑P		**P**	**02 02 09.2**	**+0.7**
	comp=Z,3.2nm,0.8s,baz=288,slow=7.0							
SNAA	**Sanae**	**55.21**	**160**	⇑P		**P**	**02 02 19.8**	**-0.5**
	comp=Z,25nm,0.4s							
SNAA	**Sanae**	**55.21**	**160**	P		**P**	**02 02 19.9**	**-0.5**
SNAA				IAmb		IAmb	02 02 22.0	
	comp=Z,9.2nm,1.4s							
SNAA	**Sanae**	**55.21**	**160**	P		**P**	**02 02 20.5**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=307,slow=21,SNR=9.8							
	comp=Z,0.9nm,0.4s							
TROLL	**Troll, Antarti**	**56.93**	**160**	⇑P		**P**	**02 02 33.2**	**+0.6**
	comp=Z,61nm,0.4

CSOR					S	Sg	02 18 09.5	+0.4		
	3.2nm,0.1s									
ARBS	**La Rabassa**	**0.20**	**56**	P	Pg	02 18 07.6	-0.3			
ARBS				S	Sg	02 18 10.4	-0.2			
	2.7nm,0.4s									
CEST	**Esterri de Car**	**0.27**	**348**	P	Pg	02 18 09.2	0.0			
CEST				S	Sg	02 18 13.1	+0.3			
	0.8nm,0.2s									
CTRE	**Tremp**	**0.41**	**268**	P	Pg	02 18 11.9	0.0			
CTRE				S	Sg	02 18 17.8	+0.4			
	0.8nm,0.2s									
SALF	**Salau**	**0.43**	**346**	P	Pg	02 18 12.2	-0.1			
SALF				S	Sg	02 18 18.4	+0.3			
	0.6nm,0.1s									
CAVN	**Les Avellanes**	**0.62**	**224**	P	Pg	02 18 15.5	-0.5			
CAVN				S	Sg	02 18 24.4	+0.3			
	0.4nm,0.2s									
CARF	**Carcanieres**	**0.69**	**56**	P	Pg	02 18 16.9	-0.2			
CARF				S	Sg	02 18 26.8	+0.7			
	0.4nm,0.3s									
EPOB	**Poblet**	**1.00**	**191**	P	Pg	02 18 22.3	-0.8			
EPOB				S	Sg	02 18 35.9	-0.2			
	0.3nm,0.2s									

IDC ***28*** *02:23:20.3±3.0,29˚.14N×139˚.74E,h87km±27km,mb3.7/11, mbtmp4.0/13,Error ellipse: s-maj=22.1km s-min=16.2km az=93.0*

JMA ***28*** *02:23:53.6±0.2,29˚№1˚×14˚0E±˚,h454km,MV3.8/13, NEAR TORISHIMA IS*

NEIC ***28*** *02:23:54.4±0.9,29˚.0N±0˚.1×139˚.4E±0˚.2,h421km±9km, mb4.0/24,Error ellipse: s-maj=24.3km s-min=17.4km az=132.0*

ISC 28 02:23:54.0±0.6,28˚.98N±0˚.07×139˚.39E±0˚.09,h423km,n47, σ0s87/51,mb3.9/23,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.10**	**127**	*eP*	**P**	**02 24 59.8**	**+0.1**
CBIJ				*eS*	**S**	**02 25 51.7**	**-1.4**
JHH2	**Haha-jima-NKT2**	**3.40**	**133**	*eP*	**P**	**02 25 02.3**	**+0.2**
JHH2				*eS*	**S**	**02 25 57.1**	**-0.4**
JHJ2	**Mitsune**	**4.13**	**5**		**P**	**02 25 07.9**	**-0.5**
JHJ	**Hachijo jima 2**	**4.14**	**5**	S	**P**	**02 25 08.5**	**0.0**
	54nm,0.4s,baz=82,slow=22,SNR=8.8						
BSO1	**Boso 1**	**5.81**	**13**	*eP*	**P**	**02 25 25.3**	**+0.9**
BSO1				S	**S**	**02 26 37.5**	**-1.3**
JIE	**Ise**	**5.86**	**338**	*eP*	**P**	**02 25 29.0**	**+3.5**
BSO3	**Boso 3**	**5.88**	**9**	*eP*	**P**	**02 25 25.9**	**+0.5**
BSO3				*eS*	**S**	**02 26 39.0**	**-1.6**
BSO4	**Boso 4**	**6.04**	**7**	*eS*	**S**	**02 26 42.5**	**-1.5**
JRY	**Ryogami san**	**7.03**	**357**	*eP*	**P**	**02 25 38.6**	**+0.1**
JMM	**Marumori**	**8.94**	**7**	P	**P**	**02 26 00.2**	**+0.9**
JTM	**Tenmabayashi**	**11.86**	**6**	P	**P**	**02 26 32.3**	**+0.9**
SSLB	**Suanglung**	**17.31**	**257**	P	**P**	**02 27 30.6**	**+0.1**
AKUT	**Akutan**	**46.63**	**41**	P	**P**	**02 31 42.3**	**+0.3**
MKAR	**Makanchi Array**	**47.37**	**308**	P	**P**	**02 31 46.9**	**-1.0**
	1.0nm,0.6s,baz=92,slow=9.2,SNR=8.5						
	1.0nm,0.6s						
WB0	**Warramunga Arr**	**48.71**	**186**	P	**P**	**02 31 58.0**	**-0.2**
WB0				IAmb	IAmb	02 32 24.3	
	comp=Z,7.6nm,1.2s						
WR8	**Warramunga Arr**	**48.88**	**186**	P	**P**	**02 31 59.0**	**-0.4**
WRA	**Warramunga Arr**	**48.88**	**186**	P	**P**	**02 31 59.1**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=2.5,slow=7.7,SNR=54						
	comp=Z,1.7nm,0.3s						
KURBB	**Kurchatov Arra**	**49.96**	**313**	P	**P**	**02 32 06.4**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=90,slow=8.0,SNR=20						
	comp=Z,2.2nm,0.7s						
H18K	**Honhosa River**	**52.46**	**28**	P	**P**	**02 32 26.2**	**+0.9**
ASAR	**Alice Springs**	**52.61**	**186**	P	**P**	**02 32 26.6**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=15,slow=11,SNR=19						
	comp=Z,0.5nm,0.4s						
J20K	**Nowinta River**	**54.08**	**30**	P	**P**	**02 32 38.3**	**+1.4**
J20K				IAmb	IAmb	02 32 40.7	
	comp=Z,10nm,1.4s						
BVAR	**Borovoye Array**	**54.98**	**316**	P	**P**	**02 32 43.2**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=213,slow=41,SNR=18						
	comp=Z,0.7nm,0.5s						
D22K	**Ayikyak River**	**55.34**	**24**	P	**P**	**02 32 46.1**	**+0.4**
E22K	**Anaktuvuk Pass**	**55.55**	**25**	P	**P**	**02 32 48.0**	**+0.7**
E22K				IAmb	IAmb	02 32 49.3	
	comp=Z,11nm,1.3s						
NIL	**Nilore**	**55.84**	**293**	P	**P**	**02 32 50.7**	**+0.8**
NIL				IAmb	IAmb	02 32 51.6	
	comp=Z,3.9nm,0.6s						
KK31	**Karatay Array**	**55.98**	**304**	P	**P**	**02 32 50.6**	**0.0**
ILAR	**Eielson Array**	**57.26**	**29**	P	**P**	**02 32 58.3**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=250,slow=5.6,SNR=14						
	comp=Z,0.5nm,0.4s						
CHGR	**Chuyangaron**	**57.87**	**300**	P	**P**	**02 33 03.9**	**+0.1**
BMRM	**Bremner River**	**58.38**	**34**	P	**P**	**02 33 07.1**	**+0.2**
BMRM				IAmb	IAmb	02 33 09.7	
	comp=Z,5.7nm,1.0s						
DOT	**Dot Lake**	**58.51**	**31**	P	**P**	**02 33 07.6**	**-0.1**
SCRK	**Sand Creek**	**58.53**	**30**		**P**	**02 33 07.8**	**-0.2**
SCRK				IAmb	IAmb	02 33 08.4	
	comp=Z,3.5nm,0.6s						
J26L	**Joseph Creek**	**58.69**	**30**		**P**	**02 33 08.6**	**-0.4**
D27M	**Malcolm River**	**59.56**	**24**	P	**P**	**02 33 15.5**	**+0.8**
D27M				IAmb	IAmb	02 33 46.4	
	comp=Z,6.4nm,1.1s						
AB31	**Akbulak array**	**62.01**	**313**	P	**P**	**02 33 30.3**	**-1.0**
YKA	**Yellowknife Ar**	**71.65**	**28**	P	**P**	**02 34 30.2**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=292,slow=5.3,SNR=4.6						
	comp=Z,1.5nm,0.7s						
FINES	**FINESS Array B**	**75.16**	**333**	P	**P**	**02 34 51.4**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=77,slow=4.3,SNR=4.2						
	comp=Z,0.4nm,0.4s						
B08A	**Colville Reser**	**75.82**	**42**	P	**P**	**02 34 55.6**	**+0.4**
B08A				IAmb	IAmb	02 35 30.5	
	comp=Z,7.7nm,1.4s						
PINE	**Pine Mountain**	**76.94**	**47**	P	**P**	**02 35 03.0**	**+1.2**
BEKR	**Beckworth**	**79.17**	**50**	P	**P**	**02 35 14.2**	**+0.3**
BEKR				IAmb	IAmb	02 35 14.8	
	comp=Z,2.4nm,0.7s						
NVAR	**Mina Array Bea**	**81.27**	**51**	P	**P**	**02 35 25.6**	**+0.6**
NVAR	**Mina Array Bea**	**81.27**	**51**	P	**P**	**02 35 25.4**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=291,slow=5.5,SNR=13						
	comp=Z,1.0nm,0.5s						
RAYN	**Ar Rayn**	**82.14**	**292**	P	**P**	**02 35 29.7**	**+0.2**
RAYN				IAmb	IAmb	02 35 30.1	
	comp=Z,2.9nm,0.6s						
R11B	**Troy Canyon, C**	**83.15**	**50**	P	**P**	**02 35 35.3**	**+0.8**
TPNV	**Topopah Spring**	**83.43**	**51**	P	**P**	**02 35 35.7**	**-0.3**
TPNV				IAmb	IAmb	02 35 37.0	
	comp=Z,3.9nm,0.8s						
PDAR	**Pinedale Array**	**84.58**	**44**	P	**P**	**02 35 41.9**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=299,slow=1.5,SNR=4.5						
	comp=Z,0.3nm,0.4s						
PFO	**Pinyon Flats O**	**85.01**	**54**	P	**P**	**02 35 44.1**	**+0.3**
PFO				IAmb	IAmb	02 36 20.9	
	comp=Z,6.2nm,1.4s						
TXAR	**Lajitas Array**	**96.41**	**52**	P	**P**	**02 36 37.4**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=327,slow=5.2,SNR=5.4						
	comp=Z,0.6nm,0.9s						

IDC 28 02:31:04.0±13.0,9˚.10N×91˚.88E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=665.1km s-min=31.7km az=59.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.44**	**349**	P	P	02 38 27.4	-0.1
	0.3nm,0.7s,baz=168,slow=7.4,SNR=2.4						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**50.79**	**125**	P	P	02 40 06.0	-0.5
	0.3nm,0.5s,baz=301,slow=8.0,SNR=7.4						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**52.41**	**129**	P	P	02 40 19.0	+0.3
	0.2nm,0.5s,baz=301,slow=7.0,SNR=4.9						
	0.2nm,0.5s						

JMA ***28*** *03:03:30.1±0.2,40˚.6N±0˚.4×142˚.9E±0˚.6,h11km±2km, MV3.9/40,E OFF AOMORI PREF*

NIED ***28*** *03:03:30.1,40˚.56N×142˚.90E,h11km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.95; Mθθ0.97; Mφφ-0.02; Mrθ0.38; Mθφ-0.46; Mφr0.18; Fault plane solution: M₀1.14000×10¹⁵ NP1: φs130.00000°,δ40.00000°,λ-61.00000°. NP2: φs274.00000°,δ56.00000°,λ-113.00000°.*

IDC ***28*** *03:03:34.7±2.2,40˚.57N×142˚.84E,h46km±20km,mb3.5/12, mbtmp3.7/14,ML3.4/2,MS3.3/7 Error ellipse: s-maj=24.8km s-min=13.7km az=94.0*

ISC 28 03:03:29.4±1.7,40˚.57N±0˚.04×142˚.87E±0˚.05,h7km±10km, n40,σ0s86/41,mb3.7/12,MS3.4/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.96**	**248**	P	**Pb**	**03 03 48.3**	**-0.1**
JKEN				*eS*	**Sb**	**03 04 01.5**	**+0.2**
JTH	**Tanohata**	**1.00**	**231**	*i* P	**Pn**	**03 03 49.2**	**-0.6**
JANG	**Nango**	**1.05**	**260**	*i* P	**Pn**	**03 03 50.1**	**-0.5**
JANG				*eS*	**Sb**	**03 04 03.9**	**-0.1**
JARK	**Aomorirokkasho**	**1.23**	**291**	*eP*	**Pn**	**03 03 53.4**	**+0.5**
JARK				S	**Sg**	**03 04 08.5**	**-0.3**
JKZ	**Kuzumaki**	**1.32**	**244**	P	**Pg**	**03 03 54.4**	**-0.3**
JKZ				*eS*	**Sb**	**03 04 11.6**	**0.0**
JTM	**Tenmabayashi**	**1.39**	**280**	P	**Pg**	**03 03 56.2**	**+0.1**
JTM				*eS*	**Sg**	**03 04 14.7**	**+0.6**
JEM	**Erimo**	**1.46**	**8**	P	**Pb**	**03 03 56.5**	**-0.4**
JOT	**Ohata**	**1.60**	**301**	*i* P	**Pb**	**03 03 58.8**	**-0.6**
JOT				*eS*	**Sn**	**03 04 19.7**	**+0.6**
JOM	**Ohasama**	**1.63**	**228**	*i* P	**Pb**	**03 03 59.5**	**-0.4**
JNBK	**Urakawa-nobuka**	**1.71**	**357**	P	**Pb**	**03 04 00.6**	**-0.7**
JAH	**Hinai**	**1.75**	**258**	P	**Pb**	**03 04 01.4**	**-0.5**
JAH				S	**Sn**	**03 04 23.1**	**+0.3**
JKB	**Kayabe**	**1.91**	**314**	P	**Pn**	**03 04 03.3**	**+0.9**
JKB				*eS*	**Sn**	**03 04 26.8**	**0.0**
JMK	**Ichinoseki**	**2.06**	**219**	P	**Pb**	**03 04 06.5**	**-0.6**
JMK				*eS*	**Sb**	**03 04 32.3**	**-0.6**
JCH	**Churui**	**2.08**	**10**	*i* P	**Pn**	**03 04 05.1**	**+0.4**
JCH				S	**Sn**	**03 04 29.9**	**-0.9**
JRG	**Rokugo**	**2.08**	**236**	*i* P	**Pb**	**03 04 07.1**	**-0.4**
ASAJ	**Asahikawa**	**3.55**	**357**	P	**Pn**	**03 04 26.5**	**+1.6**
	5.4nm,0.3s,baz=208,slow=13,SNR=31						
ASAJ				S	**Sn**	**03 05 08.2**	**+1.0**
	48nm,0.7s,baz=51,slow=22,SNR=4.0						
	16nm,0.4s						
MJAR	**Matsushiro Arr**	**5.43**	**224**	P	**Pn**	**03 04 54.5**	**+3.6**
	0.3nm,0.3s,baz=31,slow=14,SNR=15						
	3.2nm,0.5s						
PETK	**Petropavlovsk-**	**16.09**	**34**	LR	LR	03 14 27.9	
	comp=Z,57nm,18.0s,baz=122,slow=41						
MA2	**Magadan**	**19.66**	**12**	LR	LR	03 16 27.8	
	comp=Z,42nm,19.2s,baz=158,slow=39						
SONM	**Songino Array**	**26.95**	**298**	P	**P**	**03 09 10.8**	**-0.7**
	0.3nm,0.4s,baz=97,slow=11,SNR=1.8						
SONM				LR	LR	03 20 32.1	
	comp=Z,50nm,18.1s,baz=210,slow=38						
	0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**29.21**	**128**	T	T	03 40 12.8	
	baz=321,slow=74,SNR=45						
H11N1	**WAKE ISLAND Hy**	**29.22**	**128**	T	T	03 40 17.2	
	baz=321,slow=74,SNR=22						
H11N3	**WAKE ISLAND Hy**	**29.23**	**128**	T	T	03 40 14.0	
	baz=321,slow=74,SNR=30						
H11S1	**WAKE ISLAND Hy**	**30.04**	**130**	T	T	03 41 21.6	
	baz=322,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**30.05**	**130**	T	T	03 41 22.6	
	baz=322,slow=76,SNR=7.8						
H11S2	**WAKE ISLAND Hy**	**30.06**	**130**	T	T	03 41 21.5	
	baz=322,slow=76,SNR=9.8						
ZALV	**Zalesovo Beam**	**40.47**	**309**	P	**P**	**03 11 08.1**	**-0.3**
	0.7nm,0.4s,baz=91,slow=8.9,SNR=3.7						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**43.30**	**299**	P	**P**	**03 11 31.9**	**+0.2**
	0.6nm,0.7s,baz=83,slow=9.9,SNR=3.5						
MKAR				LR	LR	03 30 23.9	
	comp=Z,34nm,18.8s,baz=138,slow=37						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**44.80**	**305**	P	**P**	**03 11 42.9**	**-0.8**
	0.5nm,0.5s,baz=79,slow=8.9,SNR=5.1						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**45.92**	**34**	P	**P**	**03 11 52.6**	**+0.2**
	0.4nm,0.7s,baz=262,slow=5.8,SNR=8.0						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**49.10**	**310**	P	**P**	**03 12 18.2**	**+1.0**
	0.6nm,0.5s,baz=64,slow=9.8,SNR=2.0						
	0.6nm,0.5s						
ARTI	**Arti**	**54.61**	**317**	LR	LR	03 38 42.4	
	comp=Z,45nm,18.1s,baz=46,slow=39						
WRA	**Warramunga Arr**	**60.72**	**189**	P	**P**	**03 13 40.7**	**-0.9**
	1.7nm,0.7s,baz=7.1,slow=6.8,SNR=15						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**64.45**	**189**	P	**P**	**03 14 06.1**	**-0.4**
	1.0nm,0.7s,baz=4.8,slow=4.9,SNR=15						
	1.0nm,0.7s						
FINES	**FINESS Array B**	**66.22**	**332**	P	**P**	**03 14 17.7**	**+0.1**
	1.1nm,0.8s,baz=46,slow=5.5,SNR=5.0						
	1.1nm,0.8s						
HFS	**Hagfors**	**71.34**	**336**	P	**P**	**03 14 49.2**	**-0.3**
	1.9nm,0.8s,baz=42,slow=12,SNR=2.2						
	1.9nm,0.8s						
NOA	**NORSAR Array B**	**71.37**	**337**	P	**P**	**03 14 48.9**	**-0.8**
	0.3nm,0.6s,baz=35,slow=6.0,SNR=2.0						
NOA				LR	LR	03 52 05.3	
	comp=Z,20nm,18.4s,baz=20,slow=41						
	0.3nm,0.6s						
SFJD	**Kangerlussuaq**	**72.27**	**6**	LR	LR	03 47 52.1	
	comp=Z,46nm,18.6s,baz=355,slow=37						
TXAR	**Lajitas Array**	**87.08**	**53**	P	**P**	**03 16 16.8**	**+0.7**
	0.1nm,0.6s,baz=307,slow=4.0,SNR=2.4						
	0.1nm,0.6s						
SNAA	**Sanae**	**144.46**	**198**	PKP	**PKPab**	**03 23 03.2**	**-0.4**
	2.1nm,0.7s,baz=182,slow=1.9,SNR=12						

BJI ***28*** *04:07:55.4,22˚.12S×176˚.67W,h216km,mB4.8/11, mb4.8/39*

NOU ***28*** *04:07:56.1,22˚.72S×176˚.65W,h241km,mb5.2/71,South of Fiji Islands*

IDC ***28*** *04:07:56.1±1.3,22˚.53S×177˚.25W,h208km±10km, mb4.3/20,mbtmp4.9/21,MS3.7/10,Error ellipse: s-maj=12.6km s-min=10.5km az=126.0*

MOS ***28*** *04:07:57.0±1.2,22˚.69S×177˚.26W,h226km,mb5.1/19, Error ellipse: s-maj=10.5km s-min=9.2km az=89.7*

NEIC ***28*** *04:07:57.9,22˚.64S×177˚.14W,h250km*

NEIC ***28*** *04:07:57.9,22˚.64S×176˚.92W,h250km,Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10¹⁶Nm; Mrr-0.85; Mθθ-6.22; Mφφ7.07; Mrθ-4.22; Mθφ-1.32; Mφr1.08; Fault plane solution: M₀8.09000×10¹⁶ NP1:φs35.67000°, δ61.36000°,λ-12.65000°. NP2:φs131.81000°,δ78.91000°, λ-150.76000°. Principal axes: T 7.5062, Plg12.0000°, Azm261.0000°; N 1.0543, Plg59.0000°, Azm151.0000°; P -8.5605, Plg28.0000°, Azm357.0000°;*

GCMT ***28*** *04:07:58.2±0.2,22˚.72S±0.01˚×176˚.86W±0.01, h229km±1km,MW5.2/121,Moment Tensor Solution. s86,c110; s121,c172; Duration: 1s0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.07±.02; Mθθ-0.69±.02; Mφφ0.76±.02; Mrθ-0.42±.02; Mθφ0.19±.02; Mφr0.19±.02; Best double couple: M₀0.87600×10¹⁷ NP1:φs49.00000°,δ64.00000°, λ-13.00000°. NP2:φs145.00000°,δ78.00000°, λ-153.00000°. Principal axes: T 0.8100, Plg10.0000°, Azm275.0000°; N 0.1320, Plg61.0000°, Azm166.0000°; P -0.9430, Plg27.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***28*** *04:07:59.1±2.8,22˚.65S±0˚.09×177˚.20W±0˚.09, h226km±5km,mb5.1/454,Mww5.2/11 Error ellipse: s-maj=13.0km s-min=11.4km az=143.0*

ISC 28 04:07:56.6±0.3,22˚.81S±0˚.04×176˚.98W±0˚.04, h221km±3km,h222km:pP-P,n1035,σ1s37/921,mb5.0/287, 81C-62D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**4.86**	**339**	P	**Pn**	**04 09 09.4**	**-0.5**
RIZ	**Raoul Island**	**6.47**	**187**	P	**Pn**	**04 09 29.5**	**-0.6**
RIZ				S	**S**	**04 10 44.9**	**+0.3**
RAO	**Raoul Island**	**6.47**	**187**		**Pn**	**04 09 29.7**	**-0.5**
RAO	**Raoul Island**	**6.47**	**187**	P	**Pn**	**04 09 29.7**	**-0.5**
GLKZ	**Green Lake**	**6.49**	**187**	P	**Pn**	**04 09 30.4**	**+0.1**
GLKZ				S	**S**	**04 10 42.4**	**-2.5**
TAVE	**Taveuni**	**6.66**	**335**	P	**Pn**	**04 09 32.7**	**0.0**
MSVF	**Nonsavu**	**6.87**	**316**		**Pn**	**04 09 35.9**	**+0.4**
MSVF	**Nonsavu**	**6.87**	**316**	P	**Pn**	**04 09 35.9**	**+0.4**
MSVF	**Nonsavu**	**6.87**	**316**	*d* P	**Pn**	**04 09 35.7**	**+0.2**
DGTI	**Dogotuki**	**7.17**	**334**	P	**Pn**	**04 09 39.4**	**+0.1**
NIUE	**Niue**	**7.56**	**62**	P	**Pn**	**04 09 41.4**	**-2.8**
NIUE	**Niue**	**7.56**	**62**		**Pn**	**04 09 41.9**	**-2.4**
NIUE	**Niue**	**7.56**	**62**	P	**Pn**	**04 09 41.7**	**-2.6**
NIUE	**Niue**	**7.56**	**62**	S	**S**	**04 11 02.5**	**-7.8**
NIUE	**Niue**	**7.56**	**62**	P	**Pn**	**04 09 42.2**	**-2.1**
NIUE				S	S	04 11 00.3	-10
FUTU	**Fugatoga**	**8.52**	**353**		**Pn**	**04 09 56.4**	**-0.2**
FUTU	**Fugatoga**	**8.52**	**353**	P	**Pn**	**04 09 56.0**	**-0.6**
PINNC	**Pines Island,**	**14.37**	**268**		**P**	**04 11 12.9**	**+1.7**
PINNC	**Pines Island,**	**14.37**	**268**	P	**P**	**04 11 12.9**	**+1.7**
RTV	**Rentapao**	**14.57**	**287**	P	**P**	**04 11 14.9**	**+1.5**
FUNA	**Funafuti**	**14.66**	**345**	P	**Pn**	**04 11 12.7**	**-1.3**
DVP	**Devils Point**	**14.80**	**287**	P	**P**	**04 11 18.3**	**+2.3**
OUZ	**Omahuta**	**14.85**	**212**	P	**P**	**04 11 19.2**	**+2.8**
OUZ	**Omahuta**	**14.85**	**212**	P	**P**	**04 11 18.9**	**+2.5**
NFK	**Norfolk Island**	**14.91**	**242**	P	**P**	**04 11 20.5**	**+3.3**
	comp=Z,192nm,1.2s						
GRZ	**Great Barrier**	**14.92**	**204**	P	**P**	**04 11 18.0**	**+0.9**
YATNC	**Mamie plateau,**	**14.93**	**270**	P	**P**	**04 11 19.4**	**+1.9**
OUENC	**Ouen Island, N**	**14.95**	**268**	P	**P**	**04 11 19.9**	**+2.3**
MXZ	**Matakaoa Point**	**15.26**	**194**	P	**P**	**04 11 20.2**	**-0.7**
MXZ	**Matakaoa Point**	**15.26**	**194**	P	**P**	**04 11 17.8**	**-3.0**
MXZ				S	S	04 13 55.0	-14
KUZ	**Kuaotunu**	**15.26**	**203**	P	**Pn**	**04 11 22.5**	**+1.6**
ONTNC	**Ouen Toro**	**15.31**	**269**		**Pn**	**04 11 24.4**	**+2.6**
ONTNC	**Ouen Toro**	**15.31**	**269**	P	**Pn**	**04 11 24.1**	**+2.3**
DZM	**Mont Dzumac**	**15.34**	**270**	*eP*	**Pn**	**04 11 23.5**	**+1.3**
	comp=Z,440nm,0.8s						
DZM				*eS*	**S**	**04 14 13.4**	**+1.5**
	comp=Z,85nm,1.4s						
DZM	**Mont Dzumac**	**15.34**	**270**		**Pn**	**04 11 24.9**	**+2.7**
DZM	**Mont Dzumac**	**15.34**	**270**	P	**Pn**	**04 11 24.3**	**+2.1**
	comp=Z,202nm,0.7s,baz=90,slow=15,SNR=66						
DZM	**Mont Dzumac**	**15.34**	**270**	P	**Pn**	**04 11 24.4**	**+2.2**
ABAZ	**Army Bay**	**15.47**	**205**	P	**Pn**	**04 11 24.4**	**+0.9**
WMGZ	**Waiomatatini S**	**15.48**	**194**	P	**P**	**04 11 19.9**	**-3.4**
WMGZ				S	S	04 14 01.8	-13
HAZ	**Te Kaha**	**15.57**	**196**	P	**P**	**04 11 20.1**	**-4.2**
HAZ				S	S	04 14 05.1	-11
MBAZ	**Motutapu North**	**15.59**	**205**	P	**Pn**	**04 11 25.9**	**+1.0**
PKGZ	**Pakihiroa**	**15.60**	**195**	P	**P**	**04 11 19.0**	**-5.7**
PKGZ				S	S	04 14 05.4	-12
RVAZ	**Riverhead Bore**	**15.71**	**206**	P	**Pn**	**04 11 26.8**	**+0.3**
HBAZ	**Herne Bay Bore**	**15.72**	**205**	P	**P**	**04 11 25.9**	**-0.1**
ETAZ	**East Tamaki Re**	**15.74**	**205**	P	**Pn**	**04 11 28.6**	**+1.9**
PUZ	**Puketiti**	**15.76**	**194**	P	**P**	**04 11 24.5**	**-1.9**
PUZ				S	S	04 14 07.3	-13
MKAZ	**Moumakai**	**15.78**	**204**	P	**Pn**	**04 11 29.2**	**+1.9**
RUGZ	**Raukumara Rang**	**15.79**	**196**	P	**P**	**04 11 23.3**	**-3.6**
RUGZ				S	S	04 14 09.6	-12
WTAZ	**Waiatarua**	**15.86**	**206**	P	**Pn**	**04 11 29.0**	**+0.8**
TWGZ	**Tauwhareparae**	**15.92**	**195**	P	**P**	**04 11 28.5**	**+0.3**
TWGZ				S	S	04 14 13.2	-11
AWAZ	**Awhitu Peninsu**	**15.95**	**205**	P	**Pn**	**04 11 29.8**	**+0.6**
RAR	**Rarotonga**	**16.04**	**88**	P	**Pn**	**04 11 31.1**	**+0.6**
	comp=Z,59nm,1.0s,baz=254,slow=5.7,SNR=6.2						
RAR				S	**S**		
	comp=Z,9.9nm,0.4s,baz=320,slow=10,SNR=3.2						
MWZ	**Matawai**	**16.18**	**196**	P	**P**	**04 11 31.6**	**+0.5**
MWZ				S	S	04 14 15.7	-14
URZ	**Urewera**	**16.22**	**197**	P	**P**	**04 11 31.0**	**-0.4**
	comp=Z,73nm,0.6s,baz=33,slow=1.8,SNR=41						
URZ				S	**S**	**04 14 20.5**	**-10**
	comp=Z,86nm,0.4s,baz=73,slow=23,SNR=13						
URZ	**Urewera**	**16.22**	**197**	P	**P**	**04 11 30.1**	**-1.3**
URZ	**Urewera**	**16.22**	**197**	P	**P**	**04 11 30.3**	**-1.1**
URZ				S	S	04 14 17.6	-13
TOZ	**Tahuroa Road**	**16.22**	**202**	P	**Pn**	**04 11 33.5**	**+1.1**
RAGZ	**Rawiri**	**16.36**	**196**	P	**Pn**	**04 11 34.0**	**-0.3**
RAGZ				S	**S**	**04 14 23.3**	**-10**
RIGZ	**Rimuhau**	**16.48**	**195**	P	**P**	**04 11 33.4**	**-0.9**
RIGZ				S	S	04 14 23.4	-12
SANVU	**Saraoutou**	**16.63**	**293**		**Pn**	**04 11 38.1**	**+0.6**
SANVU	**Saraoutou**	**16.63**	**293**	P	**Pn**	**04 11 38.2**	**+0.6**
KNZ	**Kokohu**	**16.80**	**195**	P	**P**	**04 11 36.2**	**-1.6**
KNZ				S	S	04 14 26.7	-15
HIZ	**Hauiti**	**17.15**	**202**	P	**Pn**	**04 11 44.2**	**+0.8**
HIZ	**Hauiti**	**17.15**	**202**	P	**Pn**	**04 11 44.0**	**+0.6**
BKZ	**Black Stump Fm**	**17.23**	**197**	P	**P**	**04 11 41.5**	**-1.1**
BKZ	**Black Stump Fm**	**17.23**	**197**	P	**P**	**04 11 40.7**	**-1.9**
BKZ				S	**S**	**04 14 40.5**	**-10**
NGZ	**Ngauruhoe**	**17.50**	**199**	P	**P**	**04 11 46.0**	**+0.4**
NGZ				S	**S**	**04 14 50.9**	**-5.1**
**KOUN

GLAD Gladstone 34.52 230 P **P** 04 14 24.6 **+0.7**
QLP Quilpie 35.35 256 P **P** 04 14 30.9 **-0.2**
comp=Z,260nm,1.1s
QLP Quilpie 35.35 256 P **P** 04 14 31.0 **-0.2**
TOO Toolangi 35.37 237 P **P** 04 14 31.1 **-0.1**
comp=Z,8.0nm,0.6s
TOO Toolangi 35.37 237 P **P** 04 14 31.1 **-0.1**
TOO Toolangi 35.37 237 P **P** 04 14 31.1 **-0.1**
TOO pmax pmax
comp=Z,9.0nm,0.8s
MOO Moorlands 35.62 228 P **P** 04 14 33.7 **+0.5**
comp=Z,53nm,1.5s
MOO Moorlands 35.62 228 P **P** 04 14 33.3 **0.0**
TAU Tasmania Unive 35.71 227 P **P** 04 14 34.2 **+0.2**
MTSU Mount Surprise 36.48 270 P **P** 04 14 40.6 **-0.3**
comp=Z,175nm,0.7s
MTSU Mount Surprise 36.48 270 P **P** 04 14 40.7 **-0.2**
BRAT Ballarat 36.57 237 P **P** 04 14 42.0 **+0.6**
PMG Port Moresby 36.82 285 P **P** 04 14 43.4 **-0.3**
PMG Port Moresby 36.82 285 P **P** 04 14 43.6 **-0.2**
PMG Port Moresby 36.82 285 P **P** 04 14 43.5 **-0.3**
PMG Port Moresby 36.82 285 P **P** 04 14 43.4 **-0.3**
PMG pmax pmax
comp=Z,228nm,0.8s
PMG Port Moresby 36.82 285 P **P** 04 14 42.3 **-1.5**
PMG pP **pP** 04 15 27.6 **-1.4**
STKA Stephens Creek 37.70 247 P **P** 04 14 50.3 **-0.6**
comp=Z,241nm,0.8s
STKA Stephens Creek 37.70 247 P **P** 04 14 50.6 **-0.4**
comp=Z,36nm,0.8s,baz=89,slow=9.8,SNR=71
STKA S **S** 04 20 23.1 **-1.4**
comp=Z,2.6nm,0.9s,baz=245,slow=16,SNR=2.6
STKA ScS **ScS** 04 24 40.3 **+1.2**
comp=Z,1.9nm,0.8s,baz=226,slow=22,SNR=6.0
STKA LR LR 04 30 03.0
comp=Z,150nm,18.3s,baz=67,slow=35
comp=Z,36nm,0.8s
STKA Stephens Creek 37.70 247 P **P** 04 14 50.4 **-0.6**
ARPS Mount Arapiles 38.06 239 P **P** 04 14 53.1 **-0.8**
comp=Z,19nm,0.9s
INKA Innaminka 38.41 254 IAmb IAmb 04 14 59.2
comp=Z,32nm,0.8s
COEN Coen 38.72 276 P **P** 04 14 59.2 **-0.5**
comp=Z,78nm,0.9s
COEN Coen 38.72 276 IAmb IAmb 04 15 01.1
comp=Z,56nm,0.8s
COEN Coen 38.72 276 P **P** 04 14 59.6 **-0.1**
HTT Hallett 40.05 245 P **P** 04 15 09.3 **-1.2**
comp=Z,17nm,1.0s
HTT Hallett 40.05 245 P **P** 04 15 09.8 **-0.7**
QIS Mount Isa 40.30 265 P **P** 04 15 11.4 **-1.2**
comp=Z,30nm,0.7s
QIS Mount Isa 40.30 265 P **P** 04 15 11.8 **-0.9**
WHYH Whyalla 41.15 245 P **P** 04 15 19.6 **+0.2**
BBOO Buckleboo 42.42 246 P **P** 04 15 28.2 **-1.5**
comp=Z,46nm,0.6s
BBOO Buckleboo 42.42 246 P **P** 04 15 28.4 **-1.3**
BBOO Buckleboo 42.42 246 P **P** 04 15 28.2 **-1.5**
ASAR Alice Springs 44.96 259 P **P** 04 15 49.3 **-0.8**
ASAR Alice Springs 44.96 259 P **P** 04 15 49.1 **-0.9**
comp=Z,33nm,0.7s,baz=98,slow=8.0,SNR=250
ASAR PcP **PcP** 04 17 27.6 **+0.2**
comp=Z,11nm,0.8s,baz=111,slow=3.6,SNR=8.5
ASAR ScP **ScP** 04 21 00.8 **+2.2**
comp=Z,1.9nm,0.8s,baz=100,slow=3.4,SNR=5.1
ASAR S **S** 04 22 06.0 **-5.5**
comp=Z,2.6nm,0.8s,baz=94,slow=15,SNR=10
ASAR ScS **ScS** 04 25 23.9 **+0.3**
ASAR LR LR 04 33 42.3
comp=Z,145nm,18.6s,baz=107,slow=34
comp=Z,33nm,0.7s
WR0 Warramunga Arr 45.07 264 P **P** 04 15 49.5 **-1.5**
WR9 Warramunga Arr 45.10 264 P **P** 04 15 49.3 **-1.8**
WR8 Warramunga Arr 45.11 264 P **P** 04 15 49.7 **-1.6**
WB0 Warramunga Arr 45.25 264 P **P** 04 15 50.9 **-1.5**
WB0 IAmb IAmb 04 15 52.0
comp=Z,53nm,0.5s
WRAB Tennant Creek 45.25 264*c i* P **P** 04 15 50.5 **-1.9**
WRAB pmax pmax
comp=Z,37nm,0.8s
WRA Warramunga Arr 45.26 264 P **P** 04 15 50.9 **-1.6**
comp=Z,32nm,0.6s,baz=102,slow=8.7,SNR=390
WRA PcP **PcP** 04 17 28.7 **+0.2**
comp=Z,7.5nm,0.8s,baz=99,slow=3.6,SNR=7.0
WRA ScP **ScP** 04 21 01.9 **+1.9**
comp=Z,6.2nm,1.1s,baz=97,slow=3.9,SNR=12
WRA S **S** 04 22 08.2 **-7.7**
comp=Z,5.2nm,0.9s,baz=93,slow=15,SNR=9.0
comp=Z,32nm,0.6s
MLH Mauna Loa 47.03 28 IAmb IAmb 04 16 08.6
comp=Z,100nm,1.1s
HMH Humu'ula Sheep 47.09 28 P **P** 04 16 07.3 **+0.5**
KIP Kipapa 47.69 24 P **P** 04 16 11.9 **+0.8**
KIP Kipapa 47.69 24 P **P** 04 16 11.9 **+0.8**
KIP pmax pmax
comp=Z,278nm,1.2s
KIP Kipapa 47.69 24 P **P** 04 16 11.9 **+0.8**
FORT Forrest 49.29 248 P **P** 04 16 21.6 **-1.8**
comp=Z,120nm,0.6s
FORT Forrest 49.29 248 P **P** 04 16 21.9 **-1.4**
WRKA Warakurna 49.79 256 P **P** 04 16 25.9 **-1.4**
comp=Z,43nm,0.8s
DRS Darwin Rock St 50.51 273 P **P** 04 16 31.1 **-1.6**
KNRA Kununurra 51.48 268 P **P** 04 16 38.8 **-1.1**
comp=Z,85nm,0.7s
DRV Dumont d'Urvil 51.52 200 P **P** 04 16 40.9 **+1.5**
DRV sP **sP** 04 17 55.9 **+4.2**
FITZ Fitzroy Crossi 53.69 264 P **P** 04 16 54.9 **-1.1**
KMBL Kambalda 54.50 247 P **P** 04 17 00.2 **-1.6**
comp=Z,12nm,1.6s
SBA Scott Base 55.65 184 P **P** 04 17 13.9 **+4.7**
SBA Scott Base 55.65 184 P **P** 04 17 13.9 **+4.7**
SBA pmax pmax
comp=Z,7.0nm,0.7s
SBA Scott Base 55.65 184 P **P** 04 17 13.2 **+4.0**
VNDA Vanda 55.71 185 P **P** 04 17 13.0 **+3.3**
VNDA Vanda 55.71 185 P **P** 04 17 12.8 **+3.2**
comp=Z,1.5nm,0.6s,baz=1.8,slow=7.9,SNR=14
comp=Z,1.5nm,0.6s
VNDA Vanda 55.71 185 P **P** 04 17 13.0 **+3.3**
VNDA pmax pmax
comp=Z,4.0nm,1.1s
PSAC2 Pilbara Seismi 58.05 258 P **P** 04 17 25.0 **-2.0**
comp=Z,25nm,0.8s
MEEK Meekatharra 58.08 252 P **P** 04 17 25.2 **-1.9**
comp=Z,24nm,1.1s
MEEK Meekatharra 58.08 252 P **P** 04 17 25.7 **-1.5**
PSAB2 Pilbara Seismi 58.09 258 P **P** 04 17 25.6 **-1.6**
comp=Z,29nm,0.9s
PSA00 Pilbara Seismi 58.09 258 P **P** 04 17 25.7 **-1.6**
comp=Z,26nm,0.8s
PSA00 Pilbara Seismi 58.09 258 P **P** 04 17 25.6 **-1.7**
PSA00 Pilbara Seismi 58.09 258 IAmb IAmb 04 17 28.2
comp=Z,21nm,0.9s
PSA00 Pilbara Seismi 58.09 258 P **P** 04 17 26.0 **-1.3**
RKGY Rocky Gully 58.20 242 P **P** 04 17 26.8 **-0.9**
comp=Z,48nm,0.8s
NWAO Narrogin (SRO) 58.21 244 P **P** 04 17 26.9 **-1.0**
comp=Z,27nm,1.0s
NWAO Narrogin (SRO) 58.21 244 P **P** 04 17 27.3 **-0.6**
NWAO IAmb IAmb 04 17 29.1
comp=Z,47nm,1.3s
NWAO Narrogin (SRO) 58.21 244 P **P** 04 17 27.1 **-0.8**
NWAO Narrogin (SRO) 58.21 244 P **P** 04 17 27.3 **-0.6**
NWAO pmax pmax
comp=Z,47nm,1.3s
MBWA Marble Bar 58.30 259 P **P** 04 17 26.9 **-1.7**
comp=Z,55nm,0.7s
MBWA Marble Bar 58.30 259 P **P** 04 17 27.2 **-1.4**
MBWA IAmb IAmb 04 17 28.9
comp=Z,43nm,0.8s
MBWA Marble Bar 58.30 259 P **P** 04 17 27.1 **-1.6**
MBWA Marble Bar 58.30 259 P **P** 04 17 26.8 **-1.9**
BLDU Ballidu 59.01 247 P **P** 04 17 31.7 **-1.7**
comp=Z,32nm,0.7s
BLDU Ballidu 59.01 247 P **P** 04 17 32.1 **-1.3**
MUN Mundaring 59.21 245 P **P** 04 17 33.8 **-1.0**
comp=Z,44nm,0.8s
MUN Mundaring 59.21 245 P **P** 04 17 34.1 **-0.7**
MORW Morawa 59.85 249 P **P** 04 17 37.6 **-1.6**
comp=Z,36nm,1.3s
MORW Morawa 59.85 249 IAmb IAmb 04 17 40.2
comp=Z,49nm,1.2s
MORW Morawa 59.85 249 P **P** 04 17 38.1 **-1.1**
CCD Concordia, Ant 60.49 195 P **P** 04 17 45.2 **+2.0**
CCD pP **pwP** 04 18 35.2 **-0.2**
CCD sP **sP** 04 19 00.4 **+3.7**
CASY Casey 62.30 206 P **P** 04 17 56.7 **+1.7**
CASY IAmb IAmb 04 18 01.5
comp=Z,32nm,0.8s
CASY Casey 62.30 206 P **P** 04 17 56.2 **+1.3**
GIRL Giralia 62.87 255 P **P** 04 17 59.4 **-0.1**
comp=Z,42nm,1.9s
PLAI Plampang 63.85 271 P **P** 04 18 04.8 **-1.2**
TOLI2 Tolitoli 65.02 283 P **P** 04 18 11.9 **-1.7**
TOLI2 IAmb IAmb 04 18 14.3
comp=Z,30nm,0.6s
TOLI2 Tolitoli 65.02 283 P **P** 04 18 13.5 **-0.1**
QSPA South Pole Qui 67.28 180 P **P** 04 18 31.8 **+4.5**
QSPA South Pole Qui 67.28 180 P **P** 04 18 31.6 **+4.4**
comp=Z,14nm,0.6s,baz=32,slow=1.7,SNR=151
comp=Z,14nm,0.6s
QSPA South Pole Qui 67.28 180 P **P** 04 18 32.2 **+5.0**
QSPA pP pwP 04 19 24.0 **+3.9**
JHJ Hachijo jima 2 69.23 322 LR LR 04 42 31.7
comp=Z,34nm,21.5s,baz=5.5,slow=30
KKM Kota Kinabalu 71.27 285 P **P** 04 18 51.6 **-0.8**
KKM IAmb IAmb 04 18 52.4
comp=Z,22nm,0.8s
MJAR Matsushiro Arr 72.62 324 P **P** 04 18 58.5 **-1.4**
comp=Z,1.3nm,0.5s,baz=159,slow=6.2,SNR=7.5
MJAR LR LR 04 45 10.7
comp=Z,28nm,21.7s,baz=154,slow=31
comp=Z,1.3nm,0.5s
MAJO Matsushiro 72.62 324 *i* P **P** 04 18 58.3 **-1.6**
MAJO pmax pmax
comp=Z,5.0nm,1.0s
ADK Adak 74.36 0 P **P** 04 19 08.7 **-1.0**
KSM Kuching 74.67 278 P **P** 04 19 11.5 **-0.9**
NACB Ninganchiao 75.75 304 P **P** 04 19 16.4 **-1.8**
NACB IAmb IAmb 04 19 17.8
comp=Z,65nm,1.3s
NIKH Nikolski High 75.79 5 P **P** 04 19 16.4 **-1.4**
baz=188
TPUB Ta-pu 76.02 303 IAmb IAmb 04 19 18.6
comp=Z,34nm,0.7s
TPUB Ta-pu 76.02 303 P **P** 04 19 17.8 **-2.0**
ASAJ Asahikawa 76.19 331 LR LR 04 45 00.8
comp=Z,64nm,21.9s,baz=168,slow=29
UNV Unalaska Valle 76.87 6 P **P** 04 19 22.9 **-0.9**
UNV Unalaska Valle 76.87 6 P **P** 04 19 22.4 **-1.4**
baz=190
AKUT Akutan 77.23 7 P **P** 04 19 21.3 **-4.5**
YSS Yuzhno-Sakhali 78.37 333⇑*e* P **P** 04 19 32.1 **-0.2**
YSS pmax pmax
comp=Z,16nm,1.0s
PEA0B Petropavlovsk- 78.73 345⇑*e* P **P** 04 19 34.4 **+0.3**
PETK Petropavlovsk- 78.73 345 P **P** 04 19 32.8 **-1.3**
comp=Z,5.6nm,0.8s,baz=107,slow=5.1,SNR=5.8
PETK LR LR 04 48 55.0
comp=Z,40nm,21.7s,baz=131,slow=31
comp=Z,5.6nm,0.8s
CHNA Chernabura Isl 78.75 10 P **P** 04 19 32.7 **-1.5**
baz=196
SAO San Andreas Ge 79.07 42 IAmb IAmb 04 19 39.4
comp=Z,33nm,1.0s
SDPT Sand Point 79.11 10 P **P** 04 19 34.8 **-1.3**
baz=196
PKD Bear Valley Ra 79.12 44 IAmb IAmb 04 19 39.6
comp=Z,35nm,1.1s
PMPB Monarch Peak 79.13 43 IAmb IAmb 04 19 39.9
comp=Z,42nm,1.1s
S12K Black Hills 79.22 9 P **P** 04 19 35.5 **-1.2**
baz=194
KSRS Korea Array 79.23 318 P **P** 04 19 37.0 **-0.2**
comp=Z,2.5nm,0.7s,baz=140,slow=5.8,SNR=10.0
comp=Z,2.5nm,0.7s
KSRS Korea Array 79.23 318 P **P** 04 19 37.0 **-0.2**
MHC Mount Hamilton 79.31 42 IAmb IAmb 04 19 40.9
comp=Z,41nm,1.1s
P08K Saint George I 79.34 4 P **P** 04 19 37.1 **-0.2**
baz=187
GDXM Geysers 79.55 40 IAmb IAmb 04 21 07.1
comp=Z,47nm,1.7s
MWC Mount Wilson 79.69 46 IAmb IAmb 04 19 42.5
comp=Z,27nm,0.9s
MAW Mawson 79.72 200 P **P** 04 19 41.5 **+2.1**
comp=Z,12nm,0.6s,baz=125,slow=6.3,SNR=36
comp=Z,12nm,0.6s
DPP Dos Picos Cty 79.73 48 P **P** 04 19 41.0 **+1.0**
SPIA Saint Paul Isl 79.87 4 P **P** 04 19 40.3 **+0.2**
baz=186
TPO Tropico Hills 79.97 46 IAmb IAmb 04 19 44.2
comp=Z,56nm,1.0s
S14K Fog Glacier 80.15 10 P **P** 04 19 40.9 **-0.9**
baz=196
BORC Borrego Spring 80.24 48 IAmb IAmb 04 19 45.6
comp=Z,31nm,1.1s
DNR Dunn Ranch,Anz 80.27 47 IAmb IAmb 04 19 46.0
comp=Z,39nm,1.1s
ISA Isabella, Lake 80.28 45 IAmb IAmb 04 19 46.0
comp=Z,46nm,1.1s
CHGN Chignik 80.35 10 P **P** 04 19 42.4 **-0.3**
baz=198
PFO Pinyon Flats O 80.41 47 P **P** 04 19 45.6 **+1.8**
PFO Pinyon Flats O 80.41 47 P **P** 04 19 45.6 **+1.8**
PFO pmax pmax
comp=Z,25nm,1.2s
SUTB Sutter Butte 80.43 40 IAmb IAmb 04 19 45.9
comp=Z,44nm,1.3s
O02D Mt. Diablo Mer 80.45 39 IAmb IAmb 04 19 47.3
comp=Z,52nm,1.1s
LRMC Laurel Mtn Rad 80.69 45 IAmb IAmb 04 19 48.2
comp=Z,68nm,1.5s
MSHR Mys Shultsa 80.73 324⇑*e* P **P** 04 19 44.4 **-0.7**
MSHR pmax pmax
comp=Z,14nm,1.0s
KSXB Camp Six Broad 80.91 37 IAmb IAmb 04 19 49.5
comp=Z,50nm,1.1s
CCCA Chr Cany lake 80.92 45 IAmb IAmb 04 19 49.5
comp=Z,83nm,1.5s
CLC China Lake 80.94 45 IAmb IAmb 04 19 49.4
comp=Z,47nm,1.3s
CWC Cottonwood Cre 81.00 44 IAmb IAmb 04 19 49.7
comp=Z,36nm,1.4s
N02D Trinity Center 81.01 38 IAmb IAmb 04 19 50.1
comp=Z,56nm,1.3s
O03E Paynes Creek 81.10 39 IAmb IAmb 04 19 50.6
comp=Z,56nm,1.2s
BC3 Big Chuckawall 81.12 48 IAmb IAmb 04 19 50.9
comp=Z,62nm,1.5s
GSC Goldstone, Bar 81.16 46 IAmb IAmb 04 19 50.5
comp=Z,36nm,1.2s
M02C Callahan 81.20 38 P **P** 04 19 50.3 **+2.5**
M02C IAmb IAmb 04 19 51.2
comp=Z,50nm,1.2s
GLA Glamis 81.21 49 P **P** 04 19 50.0 **+2.0**
GLA IAmb IAmb 04 19 51.4
comp=Z,58nm,1.2s
GLA Glamis 81.21 49 P **P** 04 19 50.0 **+2.0**
GLA pmax pmax
comp=Z,58nm,1.2s
TIN Tinemaha, Big 81.27 44 P **P** 04 19 50.4 **+2.1**
TIN Tinemaha, Big 81.27 44 P **P** 04 19 50.4 **+2.1**
PIX Pinacate 81.34 51 IAmb IAmb 04 19 51.2
comp=Z,30nm,1.1s
USRK Ussuriysk Ar. 81.39 326 P **P** 04 19 48.3 **-0.3**
comp=Z,19nm,1.1s,baz=129,slow=3.7,SNR=14
comp=Z,19nm,1.1s
WAKR Walker 81.40 42 IAmb IAmb 04 19 52.1
comp=Z,46nm,1.2s
YBH Yreka Blue Hor 81.50 38 IAmb IAmb 04 19 52.5
comp=Z,36nm,1.1s
TYV Tymovskoe 81.52 335 *e* P **P** 04 19 48.0 **-1.0**
TYV pmax pmax
comp=Z,100nm,2.9s
TYV pmax pmax
comp=Z,12nm,1.3s
IRM Iron Mountain 81.62 48 IAmb IAmb 04 19 53.4
comp=Z,62nm,1.4s
BEKR Beckworth 81.68 41 IAmb IAmb 04 19 53.1
comp=Z,33nm,1.2s
R16K Pilot Point 81.70 10 P **P** 04 19 50.1 **+0.3**
baz=198
DANC Danby, Needles 81.73 47 IAmb IAmb 04 19 53.8
comp=Z,51nm,1.0s
113A Mohawk Valley, 81.79 49 IAmb IAmb 04 19 54.0
comp=Z,35nm,1.3s
GRAC Grapevine Rang 81.79 44 IAmb IAmb 04 19 54.1
comp=Z,76nm,1.4s
BLYC Blythe 81.81 48 IAmb IAmb 04 19 54.2
comp=Z,27nm,1.0s
LHV Little Huntoon 81.82 43 IAmb IAmb 04 19 54.1
comp=Z,47nm,1.4s
SHOC Shoshone, Teco 81.86 46 IAmb IAmb 04 19 54.0
comp=Z,49nm,1.2s
R17L Mt. Peulik Vol 81.97 11 P **P** 04 19 51.5 **+0.2**
baz=199
RYN Ryan 82.04 42 IAmb IAmb 04 19 55.1
comp=Z,46nm,1.5s
L04D Klamath Falls 82.05 38 IAmb IAmb 04 19 55.0
comp=Z,52nm,1.1s
NVAR Mina Array Bea 82.06 43 P **P** 04 19 54.2 **+1.8**
NVAR Mina Array Bea 82.06 43 P **P** 04 19 53.8 **+1.3**
comp=Z,17nm,1.1s,baz=222,slow=7.4,SNR=58
NVAR LR LR 04 47 49.6
comp=Z,38nm,21.0s,baz=246,slow=29
comp=Z,17nm,1.1s
NJ2 Nanjing 82.07 309 *e* P **P** 04 19 53.0 **+0.6**
NJ2 pmax pmax
comp=Z,12nm,0.7s
MTPC Mountain Pass 82.10 46 IAmb IAmb 04 19 55.7
comp=Z,32nm,1.1s
NV11 Mina Array Sit 82.15 43 IAmb IAmb 04 19 55.6
comp=Z,39nm,1.2s
OHAK Old Harbor 82.17 13 IAmb IAmb 04 19 54.0
comp=Z,66nm,1.4s
OHAK Old Harbor 82.17 13 P **P** 04 19 49.3 **-3.0**
OHAK Old Harbor 82.17 13 P **P** 04 19 52.3 **0.0**
baz=202
PAHR Pah Rah Range 82.17 41 IAmb IAmb 04 19 55.6
comp=Z,35nm,1.1s
R18K Karluk 82.26 12 P **P** 04 19 52.7 **0.0**
baz=201
I03D Drain, OR 82.44 36 IAmb IAmb 04 19 57.0
comp=Z,76nm,1.4s
TPH Tonopah 82.53 43 IAmb IAmb 04 19 57.6
comp=Z,43nm,1.2s
Q17K Contact Creek 82.65 11 P **P** 04 19 53.8 **-1.1**
baz=200
V12A Nelson 82.71 46 IAmb IAmb 04 19 58.8
comp=Z,40nm,1.5s
O14K Tigyukauivet M 82.78 8 P **P** 04 19 55.3 **-0.1**
baz=195
KDAK Kodiak Island 82.83 13 P **P** 04 19 56.1 **+0.4**
KDAK Kodiak Island 82.83 13 P **P** 04 19 56.1 **+0.4**
KDAK pmax pmax
comp=Z,81nm,1.4s
KDAK Kodiak Island 82.83 13 P **P** 04 19 55.9 **+0.2**
baz=203
KDAK Kodiak Island 82.83 13 P **P** 04 19 55.0 **-0.7**
O15K Ungalikthiuk R 82.90 9 P **P** 04 19 56.0 **0.0**
baz=196
Q16K King Salmon 82.91 11 P **P** 04 19 55.9 **-0.2**
baz=199
MDJ Mudanjiang 82.94 325 P **P** 04 19 56.7 **+0.1**
MDJ Mudanjiang 82.94 325 P **P** 04 19 57.0 **+0.4**
MDJ S **S** 04 30 01.3 **+4.8**
MDJ pmax pmax
comp=Z,15nm,1.0s
Y14A Wickenburg 82.97 49 IAmb IAmb 04 20 00.1
comp=Z,26nm,1.0s
P16K Nushagak River 83.03 10 P **P** 04 19 56.6 **-0.1**
baz=198
Q18K Katmai Hardscr 83.17 11 P **P** 04 19 57.4 **-0.1**
baz=200
S11A Rachel 83.22 44 IAmb IAmb 04 20 01.0
comp=Z,30nm,1.1s
H04D Lebanon 83.32 36 IAmb IAmb 04 20 01.0
comp=Z,62nm,1.1s
J05D Fort Rock, OR 83.34 37 IAmb IAmb 04 20 01.8
comp=Z,54nm,1.1s
M11K Mekoryuk 83.35 5 P **P** 04 19 57.9 **-0.3**
baz=190
N14K Kuskokwak Cree 83.38 8 P **P** 04 19 58.6 **+0.2**
baz=194,SNR=6.0
P17K Kvichak River 83.44 10 P **P** 04 19 58.6 **-0.1**
baz=195,SNR=15
WIFE Three Sisters- 83.52 37 IAmb IAmb 04 20 02.6
comp=Z,34nm,1.0s
PRN Pahroc Range 83.53 45 IAmb IAmb 04 20 03.2
comp=Z,43nm,1.1s
O16K Kokwok River B 83.55 10 P **P** 04 19 58.7 **-0.6**
baz=198,SNR=8.6
Q20K Shuyak Island 83.64 13 P **P** 04 19 59.2 **-0.6**
baz=203
M13K Dall Lake 83.66 7 P **P** 04 20 00.4 **+0.6**
baz=193
TUC Tucson 83.66 51 P **P** 04 20 03.2 **+2.5**
TUC IAmb IAmb 04 20 04.3
comp=Z,41nm,1.1s
TUC Tucson 83.66 51 P **P** 04 20 03.2 **+2.5**
TUC pmax pmax
comp=Z,41nm,1.1s
TUC Tucson 83.66 51 P **P** 04 20 02.9 **+2.2**
Q19K Cape Douglas, 83.69 12 P **P** 04 19 59.8 **-0.3**
baz=202
N15K Kwethluk River 83.82 8 P **P** 04 20 00.0 **-0.7**
baz=196,SNR=12
P18K Big Mountain, 83.83 11 P **P** 04 20 00.3 **-0.5**
baz=200
O17K Koliganek Bris 83.88 10 P **P** 04 20 00.4 **-0.6**
baz=199,SNR=6.3
H03S2 Juan Fernandez 83.92 124 T T 05 52 48.9
baz=246,slow=74,SNR=92
H03S1 Juan Fernandez 83.93 124 T T 05 52 46.5
baz=246,slow=74,SNR=86
H03S3 Juan Fernandez 83.94 124 T T 05 52 44.5
baz=246,slow=74,SNR=123
I05D Terrebonne, OR 83.96 37 IAmb IAmb 04 20 04.0
comp=Z,28nm,1.0s
H03N2 Juan Fernandez 84.07 124 T T 05 52 52.5
baz=250,slow=72,SNR=31
H03N3 Juan Fernandez 84.07 124 T T 05 52 53.7
baz=250,slow=72,SNR=68
H03N1 Juan Fernandez 84.08 124 T T 05 52 45.4
baz=250,slow=72,SNR=26
M14K Bethel 84.15 7 P **P** 04 20 03.1 **+0.8**
baz=194,SNR=10.0
M15K Kasigluk River 84.25 8 P **P** 04 20 03.6 **+0.8**
baz=195,SNR=18
O18K Koktuh Hills 84.27 11 P **P** 04 20 02.9 **-0.1**
baz=200,SNR=10.0
WVOR Wild Horse Val 84.29 39 IAmb IAmb 04 20 06.3
comp=Z,36nm,1.0s
N16K Nishlik Lake 84.30 9 P **P** 04 20 03.7 **+0.6**
baz=197,SNR=9.7
X16A Lo Mia Camp, P 84.32 49 IAmb IAmb 04 20 07.5
comp=Z,38nm,1.1s
IPM Ipoh 84.36 277 P **P** 04 20 04.1 **-0.5**
HOOD Mount Hood Mea 84.42 36 IAmb IAmb 04 20 06.8
comp=Z,28nm,1.0s
P19K Oil Pt 84.44 12 P **P** 04 20 03.7 **-0.2**
baz=202
LCMT Little Creek M 84.50 46 IAmb IAmb 04 20 07.9
comp=Z,26nm,1.1s
WHN Wuhan 84.56 306 P **P** 04 20 05.5 **+0.4**
N17K Nushagak Hills 84.58 10 IAmb IAmb 04 20 05.9
comp=Z,36nm,1.3s
N17K Nushagak Hills 84.58 10 P **P** 04 20 04.5 **0.0**
baz=198
NLWA Neilton Lookou 84.63 33 IAmb IAmb 04 20 08.3
comp=Z,57nm,1.2s
L14K Kuka Creek 84.64 7 P **P** 04 20 04.6 **-0.1**
baz=193,SNR=12
CN2 Changchun 84.69 322 P **P** 04 20 05.5 **0.0**
CN2 pmax pmax
comp=Z,20nm,0.9s
SYO Syowa Base 84.69 192⇑*e* P **P** 04 20 06.0 **+0.9**
SYO Syowa Base 84.69 192⇑*e* PcP **PcP** 04 20 09.4 **+1.2**
CCUT Cedar City 84.72 46 IAmb IAmb 04 20 09.3
comp=Z,28nm,1.1s
O19K Port Alsworth 84.75 11 P **P** 04 20 04.8 **-0.5**
baz=201,SNR=15
HOM Homer 84.76 13 P **P** 04 20 04.5 **-0.9**
baz=204
M16K Timber Creek 84.80 9 P **P** 04 20 05.1 **-0.5**
baz=197,SNR=19
BNX BinXian 84.84 325⇑P **P** 04 20 05.8 **-0.4**
BNX pmax pmax
comp=Z,13nm,1.0s
G06A Carlson Farm, 84.92 36 IAmb IAmb 04 20 09.2
comp=Z,36nm,1.2s
N18K Kilae Creek 84.94 10 P **P** 04 20 05.6 **-0.7**
baz=200
J08A Circle Bar Ran 84.95 39 IAmb IAmb 04 20 09.5
comp=Z,28nm,1.1s
O20K Slope Mountain 84.96 12 P **P** 04 20 05.5 **-1.0**
baz=203

BRSE	**Bradley Lake S**	85.02	13	P		**P**	04 20 06.7	-0.1
	baz=204							
K13K	**Kusilvak Mount**	85.02	6	P		**P**	04 20 07.3	+0.6
	baz=192,SNR=6.0							
L15K	**Ungalak Mounta**	85.11	7	P		**P**	04 20 07.5	+0.4
	baz=194,SNR=11							
RED	**Redoubt Volcan**	85.24	12	IAmb		IAmb	04 20 08.5	
	comp=Z,58nm,1.2s							
GNW	**Green Mountain**	85.28	33	IAmb		IAmb	04 20 11.0	
	comp=Z,31nm,1.2s							
N19K	**Bonanza Creek**	85.30	11	IAmb		IAmb	04 20 08.9	
	comp=Z,50nm,1.2s							
N19K	**Bonanza Creek**	85.30	11	P		**P**	04 20 07.7	-0.5
	baz=201,SNR=13							
ELK	**Elko**	85.33	42	P		**P**	04 20 10.1	+1.0
M17K	**Holitna River**	85.38	9	P		**P**	04 20 09.5	+1.1
	baz=198,SNR=14							
L16K	**Owhat River**	85.39	8	P		**P**	04 20 09.4	+1.0
	baz=196,SNR=8.1							
TROLL	**Troll, Antarti**	85.44	180	⇑P		**P**	04 20 10.3	+1.3
	comp=Z,456nm,0.4s							
TIA	**Tai'an**	85.52	312	P		**P**	04 20 09.5	-0.3
TIA				pmax		pmax		
	comp=Z,14nm,0.9s							
SEW	**Seward**	85.62	13	IAmb		IAmb	04 20 10.8	
	comp=Z,34nm,1.2s							
SEW	**Seward**	85.62	13	P		**P**	04 20 09.1	-0.5
	baz=206							
PSI	**Prapat**	85.63	275	P		**P**	04 20 09.7	-1.3
	comp=Z,5.8nm,0.8s,baz=119,slow=4.0,SNR=5.7							
	comp=Z,5.8nm,0.8s							
SNAA	**Sanae**	85.69	178	⇑P		**P**	04 20 11.0	+0.8
	comp=Z,59nm,0.5s							
SNAA	**Sanae**	85.69	178	P		**P**	04 20 11.1	+0.8
SNAA	**Sanae**	85.69	178	P		**P**	04 20 10.8	+0.7
	comp=Z,3.0nm,0.7s,baz=193,slow=8.3,SNR=18							
	comp=Z,3.0nm,0.7s							
SNAA	**Sanae**	85.69	178	P		**P**	04 20 11.1	+0.9
SNAA				pmax		pmax		
	comp=Z,14nm,1.5s							
K15K	**Wolf Creek Mou**	85.70	7	P		**P**	04 20 10.7	+0.7
	baz=194,SNR=11							
M18K	**Stony River**	85.71	10	P		**P**	04 20 10.4	+0.3
	baz=200,SNR=5.8							
VNA3	**Neumayer Olymp**	85.79	176	⇑P		**P**	04 20 11.5	+0.9
	comp=Z,15nm,0.6s							
G08A	**Pilot Rock**	85.87	37	IAmb		IAmb	04 20 14.0	
	comp=Z,29nm,1.2s							
CAPN	**Captain Cook N**	85.88	12	P		**P**	04 20 11.1	+0.2
	baz=204							
W18A	**Petrified Fore**	85.88	49	IAmb		IAmb	04 20 14.8	
	comp=Z,27nm,1.2s							
O22K	**Cooper Landing**	85.91	13	IAmb		IAmb	04 20 18.4	
	comp=Z,30nm,1.1s							
O22K	**Cooper Landing**	85.91	13	P		**P**	04 20 10.9	-0.1
	baz=205							
MXC	**Moxie City**	85.95	35	IAmb		IAmb	04 20 14.3	
	comp=Z,26nm,1.2s							
L17K	**Donlin**	85.96	9	P		**P**	04 20 12.6	+1.4
	baz=197,SNR=8.5							
N20K	**Mount Spurr**	86.07	12	P		**P**	04 20 10.7	-1.3
	baz=203							
SPCR	**Spurr Chakacha**	86.07	12	P		**P**	04 20 11.4	-0.6
	baz=203,SNR=6.7							
E07A	**Sunnyside**	86.18	36	IAmb		IAmb	04 20 15.6	
	comp=Z,43nm,1.1s							
LTY	**Liberty**	86.19	35	IAmb		IAmb	04 20 15.1	
	comp=Z,28nm,1.2s							
VNA2	**Neumayer--Watz**	86.24	177	⇑P		**P**	04 20 14.0	+1.2
	comp=Z,4.8nm,0.4s,baz=191,slow=4.5							
HAWA	**Hanford**	86.25	36	IAmb		IAmb	04 20 15.8	
	comp=Z,45nm,1.3s							
MA2	**Magadan**	86.25	344	LR		LR	04 55 03.2	
	comp=Z,23nm,20.1s,baz=164,slow=33							
MA2	**Magadan**	86.25	344	⇓*e*P		**P**	04 20 14.3	+1.5
L18K	**Granite Mounta**	86.27	9	IAmb		IAmb	04 20 14.9	
	comp=Z,49nm,1.1s							
L18K	**Granite Mounta**	86.27	9	P		**P**	04 20 13.4	+0.6
	baz=199,SNR=14							
GSI	**Gunungsitoli**	86.30	273	P		**P**	04 20 15.3	+1.2
GSI				IAmb		IAmb	04 20 16.0	
	comp=Z,22nm,0.7s							
GAMB	**Gambell**	86.39	2	P		**P**	04 20 13.1	-0.2
	baz=185							
STLK	**Strandline Lak**	86.42	12	IAmb		IAmb	04 20 13.9	
	comp=Z,31nm,1.2s							
CRAG	**Craig**	86.44	23	P		**P**	04 20 13.3	-0.4
	baz=220							
RC01	**Rabbit Creek A**	86.45	13	P		**P**	04 20 13.6	-0.2
	baz=205,SNR=14							
WAH2	**Wahluke Slope**	86.45	35	IAmb		IAmb	04 20 16.8	
	comp=Z,42nm,1.3s							
VNA1	**Neumayer--Stat**	86.46	176	⇑P		**P**	04 20 15.4	+1.6
	comp=Z,9.9nm,0.9s							
K17K	**Iditarod**	86.51	9	P		**P**	04 20 14.4	+0.5
	baz=197,SNR=6.1							
EPT	**El Paso**	86.52	54	IAmb		IAmb	04 20 18.0	
	comp=Z,36nm,1.1s							
L19K	**White Mountain**	86.52	10	P		**P**	04 20 14.3	+0.2
	baz=200,SNR=16							
MFID	**Camas Ranch**	86.53	40	P		**P**	04 20 15.1	+0.4
M20K	**Styx River**	86.53	11	IAmb		IAmb	04 20 14.9	
	comp=Z,35nm,1.4s							
M20K	**Styx River**	86.53	11	P		**P**	04 20 12.7	-1.6
	baz=202							
HIN	**Hinchinbrook I**	86.54	15	IAmb		IAmb	04 20 15.6	
	comp=Z,50nm,1.3s							
PWL	**Port Wells**	86.54	14	P		**P**	04 20 13.9	-0.3
	baz=206,SNR=18							
SUA	**Susitna One**	86.59	12	IAmb		IAmb	04 20 15.5	
	comp=Z,32nm,1.0s							
SUA	**Susitna One**	86.59	12	P		**P**	04 20 14.4	-0.1
	baz=204,SNR=11							
KAIM	**Kayak Island**	86.63	16	P		**P**	04 20 15.2	+0.6
	baz=210							
J16K	**Anvik River**	86.77	7	P		**P**	04 20 15.4	+0.2
	baz=195,SNR=5.2							
GLI	**Glacier Island**	86.83	14	P		**P**	04 20 15.5	0.0
	baz=208,SNR=28							
EYAK	**Cordova Ski Ar**	86.85	15	P		**P**	04 20 16.0	+0.4
	baz=209,SNR=7.9							
FID	**Port Fidalgo**	86.86	14	IAmb		IAmb	04 20 17.0	
	comp=Z,47nm,1.3s							
V35K	**Ketchikan**	86.89	24	IAmb		IAmb	04 20 18.7	
	comp=Z,41nm,1.2s							
V35K	**Ketchikan**	86.89	24	P		**P**	04 20 16.1	+0.1
	baz=221							
SIT	**Sitka**	86.91	21	P		**P**	04 20 15.6	-0.4
	baz=218							
SKT	**Skwentna**	86.92	12	IAmb		IAmb	04 20 16.2	
	comp=Z,31nm,1.3s							
SKT	**Skwentna**	86.92	12	P		**P**	04 20 14.9	-1.1
	baz=204,SNR=8.6							
U33K	**Whale Pass**	86.94	23	P		**P**	04 20 16.2	0.0
	baz=220							
L20K	**Farewell, AK**	86.96	11	P		**P**	04 20 16.0	-0.2
	baz=201,SNR=7.8							
RAGM	**Ragged Mountai**	86.97	15	IAmb		IAmb	04 20 18.1	
	comp=Z,37nm,1.3s							
M22K	**Willow**	86.98	12	P		**P**	04 20 16.1	-0.1
	baz=205,SNR=8.9							
D08A	**Wollman Farm,**	86.99	36	IAmb		IAmb	04 20 19.3	
	comp=Z,43nm,1.1s							
PLCA	**Paso Flores**	87.01	133	P		**P**	04 20 18.7	+1.4
	comp=Z,1.1nm,0.7s,baz=234,slow=8.7,SNR=3.8							
	comp=Z,1.1nm,0.7s							
KNK	**Knik Glacier**	87.02	13	IAmb		IAmb	04 20 17.9	
	comp=Z,39nm,1.2s							
KNK	**Knik Glacier**	87.02	13	P		**P**	04 20 16.2	-0.2
	baz=206,SNR=14							
HMT	**Hamilton**	87.03	16	IAmb		IAmb	04 20 19.5	
	comp=Z,45nm,1.6s							
PMR	**Palmer**	87.04	13	IAmb		IAmb	04 20 17.8	
	comp=Z,57nm,1.3s							
PMR	**Palmer**	87.04	13	P		**P**	04 20 16.4	-0.1
	baz=206,SNR=20							
J17K	**VABM Dome**	87.06	8	IAmb		IAmb	04 20 18.0	
	comp=Z,45nm,1.4s							
J17K	**VABM Dome**	87.06	8	P		**P**	04 20 16.6	0.0
	baz=197							
E09A	**Wood Farm, Sta**	87.07	36	IAmb		IAmb	04 20 19.3	
	comp=Z,37nm,1.2s							
BGLC	**Bering Glacier**	87.09	16	P		**P**	04 20 17.8	+1.1
	baz=211							
TMUT	**Trail Mountain**	87.09	45	IAmb		IAmb	04 20 20.7	
	comp=Z,37nm,1.0s							
VHRN	**Van Horn**	87.18	55	IAmb		IAmb	04 20 21.3	
	comp=Z,32nm,1.2s							
Y22A	**Socorro**	87.25	51	IAmb		IAmb	04 20 21.6	
	comp=Z,46nm,1.5s							
SNH	**Sunshine Point**	87.25	16	IAmb		IAmb	04 20 20.0	
	comp=Z,40nm,1.0s							
MNTX	**Cornudas Mount**	87.32	54	P		**P**	04 20 20.7	+2.1
MNTX				IAmb		IAmb	04 20 21.7	
	comp=Z,26nm,1.1s							
S31K	**Pelican**	87.33	20	IAmb		IAmb	04 20 20.4	
	comp=Z,28nm,1.1s							
S31K	**Pelican**	87.33	20	P		**P**	04 20 18.7	+0.7
	baz=217							
I17K	**Unalakleet**	87.34	7	P		**P**	04 20 19.2	+1.3
	baz=195							
Y22D	**IRIS PASSCAL I**	87.35	51	P		**P**	04 20 19.5	+0.6
	baz=240							
DIV	**Divide**	87.36	15	IAmb		IAmb	04 20 19.6	
	comp=Z,34nm,1.1s							
SML	**Sawmill**	87.40	13	IAmb		IAmb	04 20 19.8	
	comp=Z,61nm,1.7s							
SML	**Sawmill**	87.40	13	P		**P**	04 20 18.4	0.0
	baz=206,SNR=6.8							
CRNM	**Carthage**	87.42	52	P		**P**	04 20 20.7	+1.4
SRU	**San Rafael Swe**	87.44	46	IAmb		IAmb	04 20 21.6	
	comp=Z,37nm,1.0s							
J18K	**Innoko River**	87.45	9	P		**P**	04 20 19.1	+0.6
	baz=199,SNR=14							
WRAK	**Wrangell Islan**	87.45	23	P		**P**	04 20 19.4	+0.8
	baz=221							
MESA	**MESA**	87.49	17	P		**P**	04 20 19.7	+0.7
	baz=212,SNR=9.1							
BMRM	**Bremner River**	87.49	15	IAmb		IAmb	04 20 20.4	
	comp=Z,35nm,1.1s							
BMRM	**Bremner River**	87.49	15	P		**P**	04 20 19.1	+0.3
	baz=210,SNR=15							
P17A	**Butcher Ranch,**	87.49	45	IAmb		IAmb	04 20 22.2	
	comp=Z,26nm,1.1s							
TX31	**Lajitas Ar, Si**	87.51	57	IAmb		IAmb	04 20 22.9	
	comp=Z,28nm,1.1s							
TXAR	**Lajitas Array**	87.51	57	P		**P**	04 20 21.3	+1.6
TXAR	**Lajitas Array**	87.51	57	P		**P**	04 20 21.1	+1.4
	comp=Z,10.0nm,0.9s,baz=216,slow=6.2,SNR=53							
TXAR				PKKPbc		**PKKPbc**	04 38 09.5	+1.4
	comp=Z,0.2nm,0.7s,baz=76,slow=4.7,SNR=4.4							
	comp=Z,10.0nm,0.9s							
TXAR	**Lajitas Array**	87.51	57	P		**P**	04 20 21.3	+1.6
M23K	**Glacier View**	87.51	13	P		**P**	04 20 18.6	-0.2
	baz=207,SNR=9.1							
CUT	**Chulitna**	87.55	12	P		**P**	04 20 18.6	-0.3
	baz=205,SNR=13							
B08A	**Colville Reser**	87.58	34	IAmb		IAmb	04 20 21.4	
	comp=Z,26nm,0.9s							
SCM	**Sheep Creek Mo**	87.64	14	IAmb		IAmb	04 20 21.0	
	comp=Z,44nm,1.0s							
SCM	**Sheep Creek Mo**	87.64	14	P		**P**	04 20 19.6	+0.1
	baz=207,SNR=15							
PPLA	**Purkeypile**	87.64	11	IAmb		IAmb	04 20 19.5	
	comp=Z,56nm,1.6s							
PPLA	**Purkeypile**	87.64	11	P		**P**	04 20 18.1	-1.5
	baz=203							
KLU	**Klutina**	87.64	14	IAmb		IAmb	04 20 21.1	
	comp=Z,42nm,1.5s							
KLU	**Klutina**	87.64	14	P		**P**	04 20 20.1	+0.5
	baz=209,SNR=10							
CRQM	**Cirque**	87.67	16	IAmb		IAmb	04 20 21.6	
	comp=Z,29nm,1.1s							
CRQE	**Cirque**	87.68	16	P		**P**	04 20 20.5	+0.7
	baz=211,SNR=8.7							
YAH	**Yahtse**	87.70	17	IAmb		IAmb	04 20 22.2	
	comp=Z,33nm,1.1s							
LLLB	**Lillooet**	87.75	32	IAmb		IAmb	04 20 22.6	
	comp=Z,38nm,1.1s							
TGL	**Tana Glacier**	87.75	16	IAmb		IAmb	04 20 22.0	
	comp=Z,54nm,1.4s							
K20K	**Telida**	87.75	10	P		**P**	04 20 20.0	+0.1
	baz=201,SNR=13							
HEH	**HeiHe**	87.76	328	*e*P		**P**	04 20 19.5	-0.7
HEH				pmax		pmax		
	comp=Z,9.0nm,1.2s							
PNL	**Peninsula**	87.76	18	P		**P**	04 20 21.0	+1.0
	baz=214,SNR=9.1							
HNS	**HongShan**	87.79	312	⇓P		**P**	04 20 20.8	+0.1
HNS				pmax		pmax		
	comp=Z,12nm,1.0s							
C09A	**Chrisman Ranch**	87.79	35	IAmb		IAmb	04 20 22.8	
	comp=Z,34nm,1.0s							
PINM	**Pinnacle**	87.88	17	P		**P**	04 20 21.2	+0.6
	baz=214,SNR=5.1							
H16K	**Elim**	87.91	6	P		**P**	04 20 20.7	+0.1
	baz=194							
TABL	**Table Mountain**	87.92	17	IAmb		IAmb	04 20 22.9	
	comp=Z,37nm,1.0s							
U35K	**Hyder**	87.93	24	P		**P**	04 20 21.2	+0.3
	baz=223							
LYN	**LuoYang**	87.93	309	P		**P**	04 20 22.3	+0.9
LYN				pmax		pmax		
	comp=Z,18nm,0.8s							
TCUT	**Toone Canyon**	87.95	44	IAmb		IAmb	04 20 24.1	
	comp=Z,23nm,1.0s							
VRDI	**Verde Repeater**	88.00	16	IAmb		IAmb	04 20 23.1	
	comp=Z,36nm,1.4s							
GRNC	**Granite Creek**	88.01	16	IAmb		IAmb	04 20 23.3	
	comp=Z,29nm,1.1s							
ALPN	**Alpin**	88.01	56	IAmb		IAmb	04 20 25.0	
	comp=Z,29nm,1.4s							
BSUT	**Blindstream Ca**	88.05	44	IAmb		IAmb	04 20 24.8	
	comp=Z,23nm,1.0s							
PV19	**Morning Glory**	88.05	47	IAmb		IAmb	04 20 24.4	
	comp=Z,40nm,1.3s							
N25K	**Chitina, Valde**	88.05	15	IAmb		IAmb	04 20 23.2	
	comp=Z,32nm,1.2s							
N25K	**Chitina, Valde**	88.05	15	P		**P**	04 20 22.1	+0.6
	baz=210,SNR=16							
PV20	**West Nyswonger**	88.08	47	IAmb		IAmb	04 20 24.4	
	comp=Z,22nm,1.0s							
G15K	**Niukluk**	88.08	5	P		**P**	04 20 21.6	+0.2
	baz=192							
PV23	**Carpenter Ridg**	88.11	47	IAmb		IAmb	04 20 24.8	
	comp=Z,22nm,1.0s							
ANMO	**Albuquerque**	88.11	51	P		**P**	04 20 23.8	+1.3
ANMO				IAmb		IAmb	04 20 25.3	
	comp=Z,26nm,1.2s							
ANMO	**Albuquerque**	88.11	51	*de*P		**P**	04 20 23.9	+1.3
ANMO				pmax		pmax		
	comp=Z,25nm,1.3s							
ANMO	**Albuquerque**	88.11	51	P		**P**	04 20 24.0	+1.5
ANMO				pP		**pwP**	04 21 20.2	+1.3
J19K	**Poorman**	88.11	9	IAmb		IAmb	04 20 23.6	
	comp=Z,65nm,1.6s							
J19K	**Poorman**	88.11	9	P		**P**	04 20 22.2	+0.7
	baz=200,SNR=7.3							
M24K	**Tolsona, Glenn**	88.13	14	P		**P**	04 20 22.1	+0.3
	baz=208,SNR=8.6							
R32K	**Eaglecrest**	88.14	21	P		**P**	04 20 22.7	+0.8
	baz=219							
PV02	**Paradox Valley**	88.16	47	IAmb		IAmb	04 20 24.9	
	comp=Z,24nm,1.1s							
BJI	**Beijing**	88.19	315	P		**P**	04 20 22.8	+0.3
BJI				pmax		pmax		
	comp=Z,2.0nm,0.6s							
P29M	**Windy Craggy**	88.21	19	IAmb		IAmb	04 20 24.6	
	comp=Z,22nm,1.0s							
P29M	**Windy Craggy**	88.21	19	P		**P**	04 20 23.1	+0.9
	baz=216,SNR=8.2							
WAT6	**Susitna Watana**	88.22	13	P		**P**	04 20 22.5	+0.2
	baz=207,SNR=25							
MCARA	**McCarthy VSAT**	88.24	16	IAmb		IAmb	04 20 24.2	
	comp=Z,33nm,1.2s							
MCARA	**McCarthy VSAT**	88.24	16	P		**P**	04 20 22.8	+0.5
	baz=211,SNR=9.0							
BESE	**Bessie Mountai**	88.27	21	IAmb		IAmb	04 20 25.0	
	comp=Z,77nm,1.2s							
WAT1	**Susitna Watana**	88.27	13	P		**P**	04 20 22.1	-0.3
	baz=206							
LOGN	**Logan Glacier**	88.28	17	IAmb		IAmb	04 20 24.6	
	comp=Z,31nm,1.1s							
BARN	**Barnard Glacie**	88.31	16	P		**P**	04 20 23.2	+0.4
CTG	**Chitna Glacier**	88.31	17	P		**P**	04 20 23.5	+0.8
	baz=213,SNR=17							
CTGM	**Chitina Glacie**	88.32	17	IAmb		IAmb	04 20 24.7	
	comp=Z,25nm,1.0s							
TNA	**Tin City**	88.36	4	P		**P**	04 20 23.1	+0.4
	baz=186							
F14K	**Arctic Creek**	88.38	4	P		**P**	04 20 23.1	+0.3
	baz=190							
H17K	**Granite Mounta**	88.45	7	P		**P**	04 20 23.3	+0.2
	baz=196							
O28M	**Mount Upton**	88.46	17	P		**P**	04 20 24.2	+0.6
	baz=214,SNR=12							
KTH	**Kantishna Hill**	88.48	11	IAmb		IAmb	04 20 23.7	
	comp=Z,42nm,1.0s							
PLBC	**Pleasant Camp**	88.49	19	P		**P**	04 20 24.4	+1.0
	baz=217,SNR=8.5							
TRF	**Thorofare Moun**	88.50	12	P		**P**	04 20 23.1	-0.6
	baz=205,SNR=28							
J20K	**Nowinta River**	88.51	10	IAmb		IAmb	04 20 25.0	
	comp=Z,48nm,1.3s							
J20K	**Nowinta River**	88.51	10	P		**P**	04 20 23.8	+0.4
	baz=201,SNR=10							
O29M	**Mount Kennedy**	88.52	18	IAmb		IAmb	04 20 26.1	
	comp=Z,36nm,1.4s							
O29M	**Mount Kennedy**	88.52	18	P		**P**	04 20 24.4	+0.7
	baz=215,SNR=9.9							
CHUM	**Lake Minchumin**	88.53	11	P		**P**	04 20 22.8	-0.7
	baz=203,SNR=7.7							
HARP	**HAARP**	88.62	14	P		**P**	04 20 24.4	+0.4
	baz=209							
G16K	**Koyuk River**	88.63	6	P		**P**	04 20 22.8	-1.2
	baz=194							
T35M	**Bob Quinn**	88.64	24	IAmb		IAmb	04 20 27.4	
	comp=Z,55nm,1.7s							
T35M	**Bob Quinn**	88.64	24	P		**P**	04 20 23.7	-0.5
	baz=222							
GCSA	**Galena City Sc**	88.65	8	P		**P**	04 20 24.4	+0.4
	baz=199							
DHY	**Denali Highway**	88.73	13	IAmb		IAmb	04 20 26.1	
	comp=Z,37nm,1.5s							
DHY	**Denali Highway**	88.73	13	P		**P**	04 20 24.6	-0.1
	baz=207,SNR=9.5							
F15K	**North Star Dit**	88.73	5	P		**P**	04 20 24.9	+0.4
	baz=192							
SKAG	**Skagway**	88.81	20	P		**P**	04 20 26.3	+1.4
	baz=218,SNR=7.8							
SEY	**Seymchan**	88.82	347	LR		LR	04 56 00.2	
	comp=Z,30nm,19.9s,baz=110,slow=33							
SEY	**Seymchan**	88.82	347	⇓*i*P		**P**	04 20 24.3	-0.6
SEY				pmax		pmax		
	comp=Z,22nm,1.4s							
H18K	**Honhosa River**	88.84	8	P		**P**	04 20 26.5	+1.5
	baz=197							
P30M	**Million Dollar**	88.84	19	P		**P**	04 20 26.2	+1.0
	baz=217							
G17K	**Kiwalik Mounta**	88.91	7	P		**P**	04 20 25.5	+0.2
	baz=195							
BPAW	**Bear Paw Mtn.**	88.97	11	IAmb		IAmb	04 20 25.9	
	comp=Z,31nm,1.6s							
BPAW	**Bear Paw Mtn.**	88.97	11	P		**P**	04 20 26.3	+0.7
	baz=204,SNR=6.0							
YUK8	**Steele Glacier**	89.00	17	P		**P**	04 20 26.5	+0.4
	baz=214,SNR=13							
MCK	**McKinley**	89.01	12	P		**P**	04 20 25.2	-0.6
	baz=206,SNR=19							
S34M	**Telegraph Cree**	89.02	23	IAmb		IAmb	04 20 28.9	
	comp=Z,41nm,1.1s							
S34M	**Telegraph Cree**	89.02	23	P		**P**	04 20 26.9	+0.9
	baz=222,SNR=12							
I20K	**Naaghedeneel**	89.04	9	P		**P**	04 20 26.4	+0.6
	baz=201							
PAX	**Paxson**	89.05	14	IAmb		IAmb	04 20 27.2	
	comp=Z,23nm,1.3s							
PAX	**Paxson**	89.05	14	P		**P**	04 20 25.6	-0.5
	baz=209,SNR=11							
YUK6	**Outpost Mounta**	89.11	18	P		**P**	04 20 27.4	+0.8
	baz=215,SNR=7.0							
M26K	**Nabesna, AK**	89.12	15	IAmb		IAmb	04 20 28.4	
	comp=Z,29nm,1.1s							
M26K	**Nabesna, AK**	89.12	15	P		**P**	04 20 26.9	+0.5
	baz=211,SNR=20							
HYT	**Haines Junctio**	89.25	18	P		**P**	04 20 28.2	+1.1
	baz=216,SNR=8.8							
YUK4	**Talbot Arm**	89.36	17	P		**P**	04 20 29.1	+1.4
	baz=215							
M27K	**Edge Creek, AK**	89.36	16	P		**P**	04 20 28.8	+1.1
	baz=212,SNR=27							
MENT	**Mentasta**	89.42	15	IAmb		IAmb	04 20 29.7	
	comp=Z,22nm,1.0s							
Q32M	**Nakina River**	89.42	21	IAmb		IAmb	04 20 30.7	
	comp=Z,33nm,1.2s							
Q32M	**Nakina River**	89.42	21	P		**P**	04 20 28.9	+0.9
	baz=221,SNR=7.2							
P32M	**Atlin**	89.42	20	IAmb		IAmb	04 20 30.4	
	comp=Z,24nm,1.1s							
P32M	**Atlin**	89.42	20	P		**P**	04 20 28.6	+0.8
	baz=219,SNR=8.3							
H19K	**Roundabout Mou**	89.45	8	P		**P**	04 20 28.1	+0.3
	baz=199,SNR=13							
TPAW	**Teton Pass**	89.51	42	IAmb		IAmb	04 20 31.6	
	comp=Z,22nm,1.3s							
G18K	**Tagagawik**	89.52	7	IAmb		IAmb	04 20 29.2	
	comp=Z,24nm,1.1s							
G18K	**Tagagawik**	89.52	7	P		**P**	04 20 28.0	-0.2
	baz=197,SNR=5.5							
DLMT	**Dillon**	89.55	39	IAmb		IAmb	04 20 31.5	
	comp=Z,38nm,1.2s							
SNOW	**Snow King Moun**	89.62	42	IAmb		IAmb	04 20 32.1	
	comp=Z,27nm,1.1s							
O30N	**Mendenhall**	89.62	19	IAmb		IAmb	04 20 31.1	
	comp=Z,22nm,1.1s							
O30N	**Mendenhall**	89.62	19	P		**P**	04 20 29.2	+0.4
	baz=217,SNR=16							
H20K	**Anotleneega Mo**	89.64	9	P		**P**	04 20 29.4	+0.7
	baz=200,SNR=15							
ODSA	**Odessa**	89.64	55	IAmb		IAmb	04 20 32.0	
	comp=Z,30nm,1.2s							
K24K	**Donnelly Dome**	89.72	13	P		**P**	04 20 28.6	-0.5
	baz=209,SNR=13							
F17K	**Baldwin Pennin**	89.76	6	P		**P**	04 20 29.1	-0.1
	baz=195

COLA pmax pmax
comp=Z,38nm,1.0s
COLA College 90.25 12 P **P** 04 20 31.0 -0.5
baz=207
SCRK Sand Creek 90.26 14 P **P** 04 20 32.2 +0.5
baz=210,SNR=14
IMAR Indian Mountai 90.26 9 P **P** 04 20 32.1 +0.5
XAN Xi'an 90.27 307 P **P** 04 20 33.0 +0.5
XAN pmax pmax
comp=Z,19nm,0.9s
N31M Braeburn, Yuko 90.28 18 IAmb IAmb 04 20 34.0
comp=Z,26nm,1.1s
N31M Braeburn, Yuko 90.28 18 P **P** 04 20 32.4 +0.5
baz=218,SNR=7.9
M29M Somme Creek 90.31 17 IAmb IAmb 04 20 34.1
comp=Z,19nm,1.1s
M29M Somme Creek 90.31 17 P **P** 04 20 32.6 +0.6
baz=215,SNR=16
E17K Hotham Inlet 90.33 6 P **P** 04 20 31.6 -0.3
baz=194
YNR Norris Junctio 90.33 41 IAmb IAmb 04 20 37.1
comp=Z,46nm,1.7s
IL31 90.35 12 IAmb IAmb 04 20 32.9
comp=Z,27nm,1.2s
ILAR Eielson Array 90.35 12 P **P** 04 20 32.0 0.0
ILAR Eielson Array 90.35 12 P **P** 04 20 31.4 -0.5
comp=Z,10nm,1.0s,baz=222,slow=5.2,SNR=44
comp=Z,10nm,1.0s
ILAR Eielson Array 90.35 12 P **P** 04 20 32.0 0.0
833A Chaparral WMA, 90.40 59 IAmb IAmb 04 20 35.5
comp=Z,26nm,1.3s
J25K Salcha River, 90.51 13 IAmb IAmb 04 20 34.2
comp=Z,19nm,1.1s
J25K Salcha River, 90.51 13 P **P** 04 20 32.4 -0.5
baz=209,SNR=15
F19K Shaleruckik Mo 90.53 7 IAmb IAmb 04 20 34.0
comp=Z,37nm,1.1s
F19K Shaleruckik Mo 90.53 7 P **P** 04 20 32.7 0.0
baz=198
POKR Poker Plat Res 90.55 12 P **P** 04 20 32.5 -0.4
baz=207
H22K Ishtalitna Cre 90.55 10 P **P** 04 20 33.0 0.0
baz=204,SNR=24
K27K Chicken 90.73 15 IAmb IAmb 04 20 36.1
comp=Z,23nm,1.1s
K27K Chicken 90.73 15 P **P** 04 20 34.3 +0.5
baz=212
G21K Allakaket 90.80 9 P **P** 04 20 33.3 -0.7
baz=202,SNR=14
H23K Yukon River 90.80 11 P **P** 04 20 33.3 -0.8
baz=205
J26L Joseph Creek 90.80 14 P **P** 04 20 34.8 +0.6
baz=211,SNR=39
D17K Noatak River 90.82 5 P **P** 04 20 33.2 -0.9
baz=193
N32M Quiet Lake 90.83 20 IAmb IAmb 04 20 36.7
comp=Z,20nm,1.1s
N32M Quiet Lake 90.83 20 P **P** 04 20 34.7 +0.3
baz=220
POST Post 90.86 54 IAmb IAmb 04 20 37.1
comp=Z,28nm,1.2s
M30M Minto, Yukon 90.87 17 IAmb IAmb 04 20 36.4
comp=Z,16nm,0.9s
M30M Minto, Yukon 90.87 17 P **P** 04 20 35.4 +0.9
baz=217,SNR=18
YNE Yellowstone No 90.89 41 IAmb IAmb 04 20 38.2
comp=Z,30nm,1.1s
L29M L29M 90.94 17 P **P** 04 20 35.2 +0.3
baz=216,SNR=23
F20K Avaraart Lake 90.99 8 IAmb IAmb 04 20 36.4
comp=Z,34nm,1.1s
F20K Avaraart Lake 90.99 8 P **P** 04 20 34.4 -0.5
baz=200
HNDO Hondo 91.01 58 IAmb IAmb 04 20 38.6
comp=Z,22nm,1.0s
JCT Junction City 91.02 57 IAmb IAmb 04 20 37.8
comp=Z,27nm,1.4s
H24K Noodor Dome 91.11 12 P **P** 04 20 34.6 -1.0
baz=207
RDOG Red Dog Mine 91.18 5 P **P** 04 20 36.3 +0.5
baz=193
C16K Lisburne Hills 91.21 4 P **P** 04 20 34.9 -1.0
baz=191
KMI Kunming 91.23 297 P **P** 04 20 38.3 +1.0
KMI pmax pmax
comp=Z,10.0nm,0.9s
M31M Drury Creek, Y 91.26 19 P **P** 04 20 36.5 +0.2
baz=219
PRP Porcupine Dome 91.28 13 IAmb IAmb 04 20 37.7
comp=Z,27nm,1.2s
PRP Porcupine Dome 91.28 13 P **P** 04 20 36.0 -0.5
baz=209,SNR=20
SN07 Snyder 07 91.33 55 IAmb IAmb 04 20 39.1
comp=Z,19nm,1.2s
DAWY Dawson 91.41 16 IAmb IAmb 04 20 38.9
comp=Z,22nm,1.1s
DAWY Dawson 91.41 16 P **P** 04 20 37.7 +0.7
baz=214,SNR=13
BILL Bilibino 91.42 354 *eP* **P** 04 20 36.3 -0.6
BILL pmax pmax
comp=Z,24nm,1.1s
F21K Alatna River 91.46 9 P **P** 04 20 36.8 -0.3
baz=202
WTLY Watson Lake, Y 91.46 22 IAmb IAmb 04 20 39.7
comp=Z,22nm,1.2s
WTLY Watson Lake, Y 91.46 22 P **P** 04 20 38.5 +1.2
baz=224,SNR=5.4
G22K Bettles 91.48 10 P **P** 04 20 37.5 +0.3
baz=204
G23K Bananza Creek 91.52 10 P **P** 04 20 37.7 +0.2
baz=205,SNR=6.7
C17K DeLong Mountai 91.58 5 P **P** 04 20 37.4 -0.2
baz=193
EGAK Eagle 91.58 15 IAmb IAmb 04 20 39.4
comp=Z,27nm,1.2s
EGAK Eagle 91.58 15 P **P** 04 20 37.3 -0.4
baz=213,SNR=12
I26K Coal Creek Min 91.59 14 IAmb IAmb 04 20 39.5
comp=Z,19nm,1.2s
I26K Coal Creek Min 91.59 14 P **P** 04 20 37.4 -0.4
baz=211
HHC Hu-ho-hao-te 91.63 314 *eP* **P** 04 20 40.3 +1.6
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,72nm,4.1s
K29M Barlow Dome 91.70 16 IAmb IAmb 04 20 40.7
comp=Z,27nm,1.1s
K29M Barlow Dome 91.70 16 P **P** 04 20 37.8 -0.7
baz=216,SNR=18
CMAR Chiang Mai Arr 91.77 289 P **P** 04 20 40.5 +0.9
comp=Z,7.2nm,0.8s,baz=137,slow=3.3,SNR=39
comp=Z,7.2nm,0.8s
CMAR Chiang Mai Arr 91.77 289 *ceP* **P** 04 20 40.9 +1.2
CMAR pmax pmax
comp=Z,8.0nm,0.8s
TOAD Toad River Com 91.85 24 P **P** 04 20 40.0 +0.8
baz=227,SNR=9.7
K22A Casper 91.86 44 IAmb IAmb 04 20 41.7
comp=Z,20nm,1.1s
H25L Birch Creek 91.88 12 P **P** 04 20 40.2 +1.2
baz=209
CHTO Chiang Mai 91.91 289 P **P** 04 20 41.1 +0.9
CHTO Chiang Mai 91.91 289 P **P** 04 20 41.2 +0.9
CHTO pmax pmax
comp=Z,11nm,0.9s
C18K Utukok River 91.92 6 P **P** 04 20 39.1 -0.2
baz=195
F22K John River 91.92 9 P **P** 04 20 39.8 +0.6
baz=203
G24K Hadweenzic Riv 91.96 11 P **P** 04 20 39.6 +0.1
baz=207
COLD Coldfoot 91.97 10 IAmb IAmb 04 20 42.1
comp=Z,25nm,1.2s
COLD Coldfoot 91.97 10 P **P** 04 20 40.1 +0.7
baz=205,SNR=11
BRDY Brady 91.99 57 IAmb IAmb 04 20 42.4
comp=Z,15nm,1.1s
J29N Klondike Camp 92.02 16 P **P** 04 20 40.2 +0.4
baz=216
I27K Kandik River 92.18 14 P **P** 04 20 39.4 -1.1
baz=212,SNR=5.9
G25K Bearman Lake 92.27 12 P **P** 04 20 40.4 -0.4
baz=208
I28M Miner Creek 92.43 15 P **P** 04 20 41.0 -0.8
baz=214,SNR=6.4
D20K Etivluk River 92.46 7 P **P** 04 20 40.9 -0.8
baz=199

C19K Lookout Ridge 92.51 6 P **P** 04 20 41.5 -0.5
baz=196
MMPY Sheldon Lake, 92.51 19 IAmb IAmb 04 20 44.3
comp=Z,13nm,1.0s
MMPY Sheldon Lake, 92.51 19 P **P** 04 20 42.2 0.0
baz=222,SNR=10
E21K Killik River 92.53 8 P **P** 04 20 41.0 -1.1
baz=201
BTO Baotou 92.55 313 *eP* **P** 04 20 44.5 +1.6
BTO pP **pP** 04 21 32.0 -4.3
BTO S **S** 04 31 25.0 -2.8
BTO pmax pmax
comp=Z,19nm,0.7s
BTO pmax pmax
comp=Z,200nm,6.9s
BTO LR LR
comp=Z,290nm,5.6s
BTO LR LR
comp=Z,230nm,5.2s
BTO LR LR
comp=Z,150nm,4.8s
E22K Anaktuvuk Pass 92.55 9 IAmb IAmb 04 20 43.8
comp=Z,30nm,1.1s
E22K Anaktuvuk Pass 92.55 9 P **P** 04 20 42.4 +0.2
baz=203
B18K Kokolik River 92.56 5 P **P** 04 20 42.0 -0.1
baz=194
J30M Hart River 92.60 16 P **P** 04 20 42.9 +0.3
baz=217
PZH PanZhiHua 92.61 298 P **P** 04 20 44.5 +0.9
F24K Squaw Lake 92.62 11 IAmb IAmb 04 20 44.5
comp=Z,29nm,1.6s
F24K Squaw Lake 92.62 11 P **P** 04 20 43.0 +0.5
baz=207,SNR=5.2
TGTN Hyland Airport 92.66 21 P **P** 04 20 43.2 +0.4
baz=224
H27K Steamboat Moun 92.73 14 IAmb IAmb 04 20 45.0
comp=Z,20nm,1.2s
H27K Steamboat Moun 92.73 14 P **P** 04 20 42.5 -0.6
baz=213,SNR=6.4
I29M Ogilvie Camp, 92.74 15 P **P** 04 20 42.7 -0.4
baz=215
E23K Chandalar 92.82 10 IAmb IAmb 04 20 46.0
comp=Z,15nm,1.1s
E23K Chandalar 92.82 10 P **P** 04 20 43.9 +0.4
baz=205
G26K Porcupine Rive 92.88 12 IAmb IAmb 04 20 46.5
comp=Z,26nm,1.2s
G26K Porcupine Rive 92.88 12 P **P** 04 20 44.1 +0.5
baz=211,SNR=10
E24K Your Creek 93.02 10 P **P** 04 20 44.6 +0.2
baz=206
F25K Christian Rive 93.08 12 P **P** 04 20 45.3 +0.6
baz=209
C21K Knifeblade Rid 93.10 8 P **P** 04 20 45.1 +0.4
baz=201
I30M Mount Dempster 93.11 16 IAmb IAmb 04 20 46.7
comp=Z,17nm,1.2s
I30M Mount Dempster 93.11 16 P **P** 04 20 45.3 +0.4
baz=217,SNR=6.8
D22K Ayikyak River 93.12 9 IAmb IAmb 04 20 46.0
comp=Z,34nm,1.4s
D22K Ayikyak River 93.12 9 P **P** 04 20 44.9 +0.2
baz=202
BMAR Burnt Mountain 93.14 12 P **P** 04 20 46.0 +1.1
KOTAN Kotaneelee Air 93.17 24 P **P** 04 20 45.5 +0.4
baz=228
G27K Doyon Strip 93.19 13 P **P** 04 20 45.6 +0.4
baz=212
TOLK Toolik Lake Re 93.35 10 P **P** 04 20 46.1 +0.3
baz=205
H29M Whitestone 93.43 15 IAmb IAmb 04 20 51.5
comp=Z,25nm,1.4s
H29M Whitestone 93.43 15 P **P** 04 20 46.8 +0.5
baz=215
A19K Wainwright 93.44 5 P **P** 04 20 46.7 +0.6
baz=195
F26K Sheenjek River 93.45 12 P **P** 04 20 47.1 +0.7
baz=210
D23K Nanushuk River 93.48 9 IAmb IAmb 04 20 48.5
comp=Z,22nm,1.2s
D23K Nanushuk River 93.48 9 P **P** 04 20 47.0 +0.6
baz=204
B21K Ikpikpuk River 93.56 8 P **P** 04 20 48.2 +1.5
baz=201
E25K Arctic Village 93.56 11 P **P** 04 20 47.9 +1.0
baz=209
B20K Meade River 93.63 7 P **P** 04 20 48.7 +1.7
baz=198
D24K Happy Valley 93.94 10 P **P** 04 20 49.2 +0.7
baz=206
EPYK Eagle Plains 93.95 15 P **P** 04 20 49.1 +0.5
baz=217
LAO LASA Array 94.03 41 IAmb IAmb 04 20 52.4
comp=Z,22nm,1.4s
G29M Pine Creek 94.08 14 P **P** 04 20 49.6 +0.4
baz=216
H31M Peel River 94.09 16 P **P** 04 20 49.5 +0.1
baz=219
RSSD Black Hills 94.16 44 P **P** 04 20 51.1 +0.7
RSSD Black Hills 94.16 44 P **P** 04 20 51.1 +0.7
RSSD pmax pmax
comp=Z,28nm,1.0s
F28M Old Crow 94.25 13 P **P** 04 20 50.4 +0.4
baz=214
C23K Itkillik River 94.29 9 P **P** 04 20 50.7 +0.7
baz=204
E27K Coleen River 94.38 13 P **P** 04 20 50.7 +0.1
baz=213
B22K Teshekpuk Lake 94.38 8 P **P** 04 20 50.5 +0.1
baz=202
C24K Franklin Bluff 94.47 10 P **P** 04 20 50.7 -0.1
baz=206
D25K Kavik River 94.48 10 P **P** 04 20 50.7 -0.3
baz=208
G30M tAoh Zraii Nji 94.56 15 P **P** 04 20 51.4 0.0
baz=217
A22K Sinclair Lake 94.82 7 P **P** 04 20 52.8 +0.4
baz=200
LZH Lanzhou 94.91 307 *eP* **P** 04 20 54.8 +0.8
LZH sP sP 04 22 09.5 -0.7
LZH pmax pmax
comp=Z,16nm,1.0s
A21K Barrow 94.94 6 P **P** 04 20 53.8 +0.9
baz=199
G31M Satah River 94.98 16 P **P** 04 20 53.1 -0.1
baz=219
E28M Babbage River 95.15 13 P **P** 04 20 54.3 +0.2
baz=214
F30M Barrier River 95.16 15 P **P** 04 20 54.5 +0.3
baz=218
C27K Jago River 95.21 11 P **P** 04 20 54.0 -0.3
baz=211
C26K Camden Bay 95.25 11 P **P** 04 20 54.4 -0.1
baz=210
E29M Blow River 95.31 14 P **P** 04 20 55.7 +0.9
baz=216
D27M Malcolm River 95.39 12 P **P** 04 20 55.6 +0.4
baz=213
WRGLY Wrigley 95.46 21 P **P** 04 20 57.3 +1.7
baz=226
JTS Las Juntas de 95.77 81 LR LR 04 57 14.8
comp=Z,48nm,18.5s,baz=287,slow=31
D28M Stokes Point 95.91 13 P **P** 04 20 58.7 +1.3
baz=215
DGMT Dagmar 96.08 40 IAmb IAmb 04 21 01.1
comp=Z,15nm,1.0s
INK Inuvik 96.24 15 P **P** 04 20 59.5 +0.6
baz=220
SONM Songino Array 98.10 319 P **P** 04 21 07.4 -0.7
comp=Z,0.3nm,0.4s,baz=134,slow=6.2,SNR=2.3
comp=Z,0.3nm,0.4s
YKA Yellowknife Ar 98.20 25 P Pdif 04 21 08.2 +0.3
comp=Z,2.2nm,0.8s,baz=237,slow=5.5,SNR=4.7
comp=Z,2.2nm,0.8s
JORH JORHAT 98.90 295 *eP* Pdif 04 21 10.3 -1.6
SILR SILCHAR 99.43 293 *eP* **Pdif** 04 21 12.5 -1.8
A36M Sachs Harbour 100.86 14 P **Pdif** 04 21 20.4 +0.8
baz=228
JPG JALPAIGURI 103.49 293 *eP* **Pdif** 04 21 31.4 -1.0
BWNR Bhubaneshwar 103.98 286 *eP* **Pdif** 04 21 32.9 -1.7
GAYA Gaya 105.92 291 *eP* **Pdif** 04 21 41.1 -2.1
VJD Vijayawada 107.37 281 *eP* **Pdif** 04 21 49.2 -0.5
SALM Salem 107.97 275 *eP* **Pdif** 04 21 51.1 -1.4
WMQ Urumqi 109.14 310 Pdif **Pdif** 04 21 56.5 -0.7
LGTI Lohaghat 111.50 294 *eP* **PKiKP** 04 26 05.9 +1.0
ZALV Zalesovo Beam 112.87 321 PKiKP **PKiKP** 04 26 06.1 -0.6
comp=Z,1.3nm,0.6s,baz=161,slow=2.6,SNR=7.2

MK31 Makanchi Array 113.45 313 ⇑*i* PKIKP **PKiKP** 04 26 07.4 -0.7
MKAR Makanchi Array 113.45 313 PKiKP **PKiKP** 04 26 07.6 -0.5
comp=Z,0.6nm,0.4s,baz=98,slow=0.7,SNR=5.6
NPLP NPLP New Delhi 113.91 292 *eP* **PKiKP** 04 26 10.4 +0.9
NRLA Narela 114.00 292 *eP* **PKiKP** 04 26 10.4 +0.7
BHGR Bahadurgarh 114.12 292 *eP* **PKiKP** 04 26 10.6 +0.8
JHJR Jhajjar 114.35 292 *eP* **PKiKP** 04 26 10.9 +0.5
KKR Kurukshetra 114.51 294 *eP* **PKiKP** 04 26 11.2 +0.6
TSSA Tissa 115.68 297 *eP* **PKPdf** 04 26 12.4 -0.6
KURK Kurchatov 116.32 317 **PKPdf** 04 26 12.6 -0.9
KURK Kurchatov 116.32 317 ⇑*i* PKIKP **PKPdf** 04 26 13.0 -0.4
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURBB Kurchatov Arra 116.37 317 PKP **PKPdf** 04 26 12.8 -0.7
comp=Z,1.7nm,0.8s,baz=96,slow=1.9,SNR=14
AAK Ala-Archa 118.45 307 ⇓*i* PKIKP **PKiKP** 04 26 18.4 +0.3
KK31 Karatay Array 121.41 308 **PKPdf** 04 26 23.1 -0.4
KK31 Karatay Array 121.41 308 PKIKP **PKPdf** 04 26 23.1 -0.4
KKAR Karatay Array 121.41 308 **PKPdf** 04 26 23.3 -0.2
KKAR Karatay Array 121.41 308 PKIKP **PKPdf** 04 26 23.3 -0.2
BVAR Borovoye Array 121.44 319 PKP **PKPdf** 04 26 22.8 -0.5
comp=Z,2.9nm,0.5s,baz=98,slow=3.0,SNR=15
BORK Borovoye 121.48 319 *c i* PKIKP **PKPdf** 04 26 23.3 0.0
BORK pmax pmax
comp=Z,6.0nm,1.3s
KBL Kabul 121.81 297 **PKiKP** 04 26 25.1 +0.1
KBL Kabul 121.81 297 PKIKP **PKiKP** 04 26 25.1 +0.1
SIMJ Simiganj 122.26 302 **PKiKP** 04 26 25.8 +0.2
BOSA Boshof 124.57 204 PKP **PKiKP** 04 26 31.1 +0.4
comp=Z,2.9nm,0.5s,baz=128,slow=1.7,SNR=12
SVE Sverdlovsk 126.41 325 *e* PKIKP **PKiKP** 04 26 33.2 +0.1
ARTI Arti 127.73 325 **PKiKP** 04 26 35.5 -0.2
ARTI Arti 127.73 325 *i* PKIKP **PKPdf** 04 26 34.9 -0.3
ARTI 04 28 36.0
ARTI 04 33 23.5
ABKAR Akbulak array 128.40 316 **PKiKP** 04 26 37.2 -0.1
ARCES ARCESS Array B 131.35 350 PKP **PKPdf** 04 26 41.7 0.0
comp=Z,3.8nm,0.7s,baz=39,slow=1.5,SNR=14
ARCES SKPbc **SKPab** 04 29 46.9 +0.5
comp=Z,36nm,1.0s,baz=20,slow=3.9,SNR=32
ARCES SKP 04 29 55.6
comp=Z,2.1nm,0.7s,baz=84,slow=3.7,SNR=1.1
KIRV Kirov 131.42 330 *ce* PKIKP **PKPdf** 04 26 42.4 +0.3
KOOLE Kule 131.51 201 **PKiKP** 04 26 45.9 +1.2
GRTLG Ghanzi 132.65 203 **PKiKP** 04 26 47.8 +0.8
KLMR Klimovskoe 134.36 336 *e* PKIKP **PKPdf** 04 26 45.8 -1.8
KLMR pmax pmax
comp=Z,11nm,1.5s
BELG Belogornoye 135.00 323 *ce* PKIKP **PKPdf** 04 26 47.8 -1.2
FINES FINESS Array B 138.24 344 PKhKP PKPpre 04 26 43.1
comp=Z,0.8nm,0.4s,baz=35,slow=3.5,SNR=8.0
FINES PKP **PKPdf** 04 26 54.0 -0.7
comp=Z,2.5nm,0.5s,baz=62,slow=2.6,SNR=9.4
FINES SKPbc **SKPbc** 04 30 08.7 +0.7
comp=Z,3.2nm,0.8s,baz=72,slow=8.2,SNR=6.9
FINES SKPab **SKPab** 04 30 17.8 +1.0
comp=Z,2.2nm,0.8s,baz=29,slow=3.2,SNR=5.0
OBN Obninsk 139.22 331 *e* PKIKP **PKPdf** 04 26 56.5 -0.2
OBN *e* 04 29 52.4
OBN pmax pmax
comp=Z,7.0nm,1.1s
GNI Garni 140.84 306 ⇑*i* PKIKP **PKiKP** 04 27 02.4 -0.7
KIV Kislovodsk 141.22 313 *e* PKIKP **PKiKP** 04 27 02.5 -1.2
KIV pmax pmax
comp=Z,4.0nm,1.0s
SHA1 Shidzhatmaz 141.31 312 ⇓*e* PKIKP **PKPdf** 04 27 00.8 -0.4
NB2 NORSAR Subarra 141.37 354 PKP PKPpre 04 26 54.0
comp=Z,1.6nm,0.8s,baz=16,slow=3.2
NB2 pPKP **SKPbc** 04 30 17.5 +1.0
comp=Z,0.6nm,0.6s,baz=8.2,slow=2.5
NOA NORSAR Array B 141.37 354 PKhKP PKPpre 04 26 53.4
comp=Z,1.7nm,0.7s,baz=16,slow=5.0,SNR=8.1
NOA SKPbc **SKPbc** 04 30 16.9 +0.4
comp=Z,2.3nm,1.0s,baz=14,slow=4.3,SNR=3.9
NEUR Neytrino 141.44 312 *e* PKIKP **PKPdf** 04 26 58.9 -2.5
HFS Hagfors 141.95 351 PKhKP PKPpre 04 26 55.5
comp=Z,2.7nm,0.3s,baz=58,slow=3.7,SNR=31
HFS SKPbc **SKPbc** 04 30 18.8 +0.9
comp=Z,1.8nm,0.7s,baz=270,slow=0.1,SNR=3.7
MNK Minsk 143.26 336 *i* PKIKP PKPbc 04 27 01.1 -0.6
MNK *i* 04 28 00.2
MNK *i* 04 30 14.8
MNK *i* PPP PPP 04 33 26.2
MNK *i* 04 33 48.4
MNK *i* SS SS 04 48 36.8 -1.3
MNK *i* SSS SSS 04 54 01.7
MNK pmax pmax
comp=Z,27nm,1.0s
MNK pmax pmax
comp=E,14nm,0.9s
MNK pmax pmax
comp=N,12nm,0.9s
MNK MLR MLR
comp=Z,37nm,16.0s
MNK MLR MLR
comp=N,15nm,12.0s
MNK MLR MLR
comp=E,36nm,16.0s
STRU Stroemstad 143.34 353 *i* P PKPab 04 27 00.0 -0.5
TJOU Tjoern 144.26 352 *i* PKP **PKPab** 04 27 03.4 -0.8
MBAR Mbarara 144.37 233 **PKPdf** 04 27 07.2 -0.2
MBAR Mbarara 144.37 233 PKIKP **PKPdf** 04 27 07.2 -0.2
BORU Boraas 144.49 351 *i* P **PKPab** 04 27 03.6 -1.4
ONAU Onsala 144.84 352 *i* P **PKPbc** 04 27 05.1 -1.2
FABU Falkenberg 145.11 351 *i* P **PKPbc** 04 27 05.5 -1.6
SUW Suwalki 145.32 339 *e* PKP **PKPbc** 04 27 07.8 -0.1
DEL Delary 145.44 349 *i* P **PKPdf** 04 27 07.3 -0.4
AKASG Malin Array Be 145.48 330 **PKPdf** 04 27 07.8 -0.2
AKASG Malin Array Be 145.48 330 PKPbc **PKPdf** 04 27 07.5 -0.5
comp=E,25nm,0.6s,baz=41,slow=4.2,SNR=150
AKASG SKPbc **SKiKP** 04 30 28.3 +1.3
comp=E,1.4nm,0.7s,baz=39,slow=4.3,SNR=4.6
AKBB Malin Array Si 145.48 330 *d* PKIKP **PKPdf** 04 27 07.2 -0.8
KIEV Kiev 145.49 330 **PKPdf** 04 27 07.8 -0.2
KIEV Kiev 145.49 330 ⇑P **PKPdf** 04 27 07.8 -0.2
KIEV Kiev 145.49 330 ⇑PKIKP **PKPdf** 04 27 07.8 -0.2
BJUJ Bjuv 145.96 350 *i* P **PKPdf** 04 27 08.9 +0.3
MUD Monsted U'grnd 146.09 354 *i* PKP **PKPdf** 04 27 09.0 +0.2
MUD IAmb IAmb 04 27 11.1
comp=Z,265nm,1.9s
SIM Simferopol' 146.35 319 *e* PKP2 **PKPbc** 04 27 11.6 +0.3
SIM pmax pmax
comp=Z,66nm,0.9s
EKA Eskdalemuir Ar 147.19 7 PKPbc **PKPbc** 04 27 12.4 -0.9
comp=Z,9.3nm,0.9s,baz=329,slow=2.9,SNR=10
EKA Eskdalemuir Ar 147.19 7 PKP2 **PKPbc** 04 27 13.2 -0.1
R9F13 Warsaw-Wawer 147.49 339 *e* PKP **PKPbc** 04 27 15.1 +0.9
SORM Soroca 147.65 328 ⇑P **PKPbc** 04 27 14.6 -0.1
SORM Soroca 147.65 328 ⇑PKP2 **PKPbc** 04 27 14.6 -0.1
GKP Gorka Klasztor 147.71 344 *e* PKPbc **PKPbc** 04 27 14.5 -0.2
BZK Bozkurt 147.86 314 ⇓P **PKPbc** 04 27 14.6 -0.9
BEL Belsk 147.94 339 *e* PKPbc **PKPbc** 04 27 16.0 +0.6
MILM Milestii Mici 148.22 325 ⇓P **PKPbc** 04 27 15.2 -1.1
MILM Milestii Mici 148.22 325 ⇓*i* PKP **PKPbc** 04 27 15.3 -1.0
comp=Z,120nm,0.8s
MILM Milestii Mici 148.22 325 *i* PKP2 **PKPbc** 04 27 15.3 -1.0
MILM pmax pmax
comp=Z,120nm,0.8s
VASR Vaslui 148.93 326 ⇑P **PKiKP** 04 27 18.8 -0.5
KWP Kalwaria Pacla 149.06 335 *e* PKPbc **PKPbc** 04 27 18.4 +0.1
KWP *e* PKPab **PKPab** 04 27 23.4 +0.1
BR131 Keskin Array S 149.06 310 *c i* PKP2 **PKPbc** 04 27 18.5 -0.4
BRTR Keskin Array B 149.06 310 **PKPbc** 04 27 18.9 0.0
BRTR Keskin Array B 149.06 310 PKPbc **PKPbc** 04 27 18.6 -0.2
comp=Z,12nm,0.6s,baz=139,slow=4.6,SNR=60
BRTR Keskin Array B 149.06 310 PKP2 **PKPbc** 04 27 18.9 0.0
KIRS Kirsehir-Merke 149.10 309 ⇓P **PKPbc** 04 27 19.2 +0.3
GORT1 Trebel 149.20 350 *e* PKPbc **PKiKP** 04 27 19.5 0.0
baz=16,slow=2.4
RUE Ruedersdorf 149.24 347 *e* PKPbc **PKPbc** 04 27 19.2 +0.5
baz=16,slow=2.4
RUE *e* PKPab **PKPab** 04 27 23.6 -0.2
baz=16,slow=4.2
VLDR Vladesti 149.30 325 ⇓P **PKiKP** 04 27 20.0 -0.1
TLCR 149.32 323 ⇑P **PKPbc** 04 27 19.2 +0.1
TLCR 149.32 323 ⇑PKP2 **PKPbc** 04 27 19.2 +0.1
VARL Varlezi 149.39 325 ⇑P **PKiKP** 04 27 19.8 -0.4
SCTR Scanteiesti 149.46 324 ⇓P **PKiKP** 04 27 20.5 +0.1
GHRR 149.52 325 ⇓P **PKiKP** 04 27 20.7 +0.2
BURAR Bucovina Array 149.52 330 **PKiKP** 04 27 20.9 +0.2
BURAR Bucovina Array 149.52 330 ⇑P **PKiKP** 04 27 20.6 -0.1
JURR Jurilovca 149.54 322 ⇓P **PKPbc** 04 27 19.7 +0.1
ANTO Ankara 149.60 311 **PKiKP** 04 27 20.7 -0.3

ANTO	Ankara	149.60 311	⇓P	PKPbc	PKiKP	04 27 19.9	-0.2
ANTO	Ankara	149.60 311	PKP2	PKiKP	PKiKP	04 27 20.7	-0.3
TESR	Tescani	149.60 327	⇑P	PKPbc	PKiKP	04 27 20.1	+0.3
NEGRR	Negrea	149.61 324	⇓P	PKiKP	PKiKP	04 27 20.7	0.0
OJC	Ojcow	149.64 338	*e*PKPbc	PKPbc	PKiKP	04 27 19.9	+0.1
OJC			*e*PKPab	PKPab	PKiKP	04 27 25.9	+0.3
SCHLR	Schela	149.68 324	⇑P	PKiKP	PKiKP	04 27 21.0	+0.1
CFR	Carcaliu	149.70 323	⇓P	PKPbc	PKiKP	04 27 20.2	+0.2
CFR	Carcaliu	149.70 323	⇓PKP2	PKPbc	PKiKP	04 27 20.2	+0.2
COSR	Cosmesti PH	149.70 325	⇑P	PKiKP	PKiKP	04 27 20.6	-0.3
MMAI	Mount Meron Ar	149.73 297	PKPbc	PKiKP	PKiKP	04 27 21.2	-0.3
	comp=Z,28nm,0.5s,baz=70,slow=4.8,SNR=78						
TPGR	Topolog	149.74 323	⇓P	PKiKP	PKiKP	04 27 20.8	-0.3
KOLS	Kolonicke sedl	149.79 334	*e*PKP2	PKiKP	PKiKP	04 27 21.6	+0.6
FLTG	Flechtingen	149.85 350	*e*PKPbc	PKPbc	PKiKP	04 27 20.5	+0.3
	baz=16,slow=4.2						
FLTG			*e*PKPab	PKPab	PKiKP	04 27 25.8	-0.6
	baz=16,slow=4.2						
ONER	Baraj Valea Uz	149.85 327	⇓P	PKiKP	PKiKP	04 27 21.8	+0.5
TIRR	Tirgusor	149.99 322	⇑P	PKiKP	PKiKP	04 27 21.6	+0.1
TIRR	Tirgusor	149.99 322	⇑PKP2	PKiKP	PKiKP	04 27 21.6	+0.1
VRI	Vrincioaia	150.00 326	⇑P	PKPbc	PKiKP	04 27 20.4	-0.3
VRI	Vrincioaia	150.00 326	⇑PKHKP	PKPpre		04 27 20.4	
PLOR	Plostina	150.05 326	⇑P	PKPbc	PKiKP	04 27 21.4	+0.4
PLOR	Plostina	150.05 326	⇑PKP2	PKPbc	PKiKP	04 27 21.4	+0.4
HARR	Harsova	150.12 323	⇑P	PKiKP	PKiKP	04 27 21.6	-0.2
HARR	Harsova	150.12 323	⇑PKP2	PKiKP	PKiKP	04 27 21.6	-0.2
ASSE	Asse, Remlinge	150.13 351	*e*PKPbc	PKiKP	PKiKP	04 27 21.8	+0.3
	baz=16,slow=2.4						
ASSE			*e*PKPab	PKPab	PKiKP	04 27 27.8	+0.3
	baz=16,slow=4.2						
NIE	Niedzica	150.14 337	*e*PKPbc	PKiKP	PKiKP	04 27 22.0	+0.2
TLBR	Topalu	150.14 323	⇓P	PKiKP	PKiKP	04 27 22.0	+0.1
MFTR	Murfatlar	150.16 322	⇓P	PKiKP	PKiKP	04 27 22.1	+0.2
KSP	Ksiaz	150.16 343	*e*PKPbc	PKiKP	PKiKP	04 27 21.8	+0.1
KSP			*e*PKPab	PKPab	PKiKP	04 27 28.0	+0.2
GRER		150.19 325	⇓P	PKiKP	PKiKP	04 27 22.6	+0.6
BISRR	Bisoca	150.22 325	⇓P	PKPbc	PKiKP	04 27 21.5	+0.1
TURR	Turia	150.24 327	⇓P	PKiKP	PKiKP	04 27 22.1	0.0
BMR	Baia Mare	150.26 332	⇑P	PKiKP	PKiKP	04 27 24.2	+2.2
BMR	Baia Mare	150.26 332	⇑PKIKP	PKiKP	PKiKP	04 27 24.2	+2.2
MANR	Mangalia	150.28 321	⇑P	PKiKP	PKiKP	04 27 22.1	-0.1
COVR	Voineasa-Covas	150.28 326	⇓P	PKPbc	PKiKP	04 27 21.8	+0.3
IBBN	Ibbenburen	150.32 354	*e*PKPbc	PKiKP	PKiKP	04 27 22.2	+0.2
	baz=16,slow=2.4						
IBBN			*e*PKPab	PKPab	PKiKP	04 27 28.7	+0.3
	baz=16,slow=4.2						
OZUR		150.32 327	⇑P	PKiKP	PKiKP	04 27 22.7	+0.4
OSTC	Ostas	150.44 343	⇑*e*PKP	PKiKP	PKiKP	04 27 23.3	+1.0
OSTC	Ostas	150.44 343	*e*PKIKP	PKiKP	PKiKP	04 27 23.3	+1.0
CHVC	Chvalec	150.46 343	⇑*e*PKP	PKiKP	PKiKP	04 27 23.0	+0.6
CHVC	Chvalec	150.46 343	*e*PKIKP	PKiKP	PKiKP	04 27 23.0	+0.6
CLZ	Clausthal	150.46 351	*e*PKPbc	PKiKP	PKiKP	04 27 22.7	+0.3
	baz=16,slow=2.4						
CLZ			*e*PKPab	PKPab	PKiKP	04 27 29.4	+0.4
	baz=16,slow=4.2						
SAHE	Sakarya_HENDEK	150.47 314	⇑P	PKPbc	PKiKP	04 27 22.2	+0.1
CLL	Collm	150.51 347	*i* PKIKP	PKPab	PKiKP	04 27 28.9	-0.2
CLL			*i*			04 28 23.1	
CLL			pmax	pmax			
	comp=Z,47nm,1.4s						
CLL	Collm	150.51 347	*e*PKPbc	PKiKP	PKiKP	04 27 22.5	+0.1
	baz=16,slow=2.4						
CLL			*e*PKPab	PKPab	PKiKP	04 27 29.2	0.0
	baz=16,slow=4.2						
CLL	Collm	150.51 347	⇓*i* PKPbc	PKiKP	PKiKP	04 27 22.4	0.0
	comp=Z,50nm,1.0s						
CLL			*i* PKPab	PKPab	PKiKP	04 27 28.9	-0.2
	comp=Z,47nm,1.4s						
CLL			*i* pPKPab	pPKPab		04 28 23.1	-0.2
OKC	Ostrava-Krasne	150.51 340	⇑*e*PKP	PKiKP	PKiKP	04 27 22.8	+0.3
OKC	Ostrava-Krasne	150.51 340	*e*PKIKP	PKiKP	PKiKP	04 27 22.8	+0.3
NEHR	Nehoiu	150.52 326	⇑P	PKiKP	PKiKP	04 27 22.6	-0.1
UPC	Upice	150.54 343	⇑*e*PKP	PKiKP	PKiKP	04 27 22.9	+0.4
UPC	Upice	150.54 343	*e*PKIKP	PKiKP	PKiKP	04 27 22.9	+0.4
STEB	Steborice	150.54 340	⇑*e*PKP	PKiKP	PKiKP	04 27 23.0	+0.5
ICOR	Ion Corvin	150.55 322	⇑P	PKiKP	PKiKP	04 27 22.9	+0.2
ISR	Istrita	150.60 325	⇑P	PKiKP	PKiKP	04 27 22.8	-0.1
ISR	Istrita	150.60 325	⇑PKIKP	PKiKP	PKiKP	04 27 22.8	-0.1
DPC	Dobruska-Polom	150.60 343	⇑*e*PKP	PKiKP	PKiKP	04 27 23.3	+0.6
DPC	Dobruska-Polom	150.60 343	*e*PKIKP	PKiKP	PKiKP	04 27 23.3	+0.6
DOPR	Dopca	150.61 327	⇓P	PKiKP	PKiKP	04 27 23.3	+0.4
MLR	Muntele Rosu	150.66 326	⇑P	PKiKP	PKiKP	04 27 22.9	-0.2
MLR	Muntele Rosu	150.66 326	⇑PKIKP	PKiKP	PKiKP	04 27 22.9	-0.2
LANS	Liptovska Anna	150.66 338	*e*PKIKP	PKiKP	PKiKP	04 27 24.2	+1.3
KRLC	Kraliky	150.72 342	⇑*e*PKP	PKiKP	PKiKP	04 27 23.4	+0.4
KRLC	Kraliky	150.72 342	*e*PKIKP	PKiKP	PKiKP	04 27 23.4	+0.4
BRG	Berggiesshubel	150.72 346	*e*PKPbc	PKiKP	PKiKP	04 27 22.9	0.0
	baz=16,slow=2.4						
BRG			*e*PKPab	PKPab	PKiKP	04 27 30.5	+0.5
	baz=16,slow=4.2						
BRG	Berggiesshubel	150.72 346	⇓*e*PKPf			04 27 17.2	
BRG			Amp			04 27 18.9	
	comp=Z,3.8nm,1.0s						
BRG			⇑PKP	PKiKP	PKiKP	04 27 23.3	+0.5
BRG			Amp			04 27 23.7	
	comp=Z,31nm,0.9s						
BRG			PKPab	PKPab	PKiKP	04 27 29.9	-0.1
BRG			Amp			04 27 30.8	
	comp=Z,26nm,0.9s						
MORC	Moravsky Berou	150.75 341	*e*PKIKP	PKiKP	PKiKP	04 27 23.5	+0.5
MORC	Moravsky Berou	150.75 341	⇓P	PKiKP	PKiKP	04 27 23.3	+0.2
MORC	Moravsky Berou	150.75 341	⇓PKIKP	PKiKP	PKiKP	04 27 23.3	+0.2
GTTG	Gottingen	150.81 351	*e*PKPbc	PKiKP	PKiKP	04 27 23.1	+0.1
	baz=16,slow=2.4						
GTTG			*e*PKPab	PKPab	PKiKP	04 27 30.8	+0.4
	baz=16,slow=4.2						
NEUB	Neuenburg	150.84 349	*e*PKPbc	PKiKP	PKiKP	04 27 23.3	+0.2
	baz=16,slow=2.4						
NEUB			*e*PKPab	PKPab	PKiKP	04 27 30.6	+0.1
	baz=16,slow=4.2						
PVCC	Panska Ves	150.89 345	⇑*e*PKP	PKiKP	PKiKP	04 27 23.9	+0.7
PVCC	Panska Ves	150.89 345	*e*PKIKP	PKiKP	PKiKP	04 27 23.9	+0.7
MESR	Meseseni	150.90 331	⇓P	PKiKP	PKiKP	04 27 23.3	-0.1
CBBR	Cluj-Babes-Bol	150.91 330	⇑P	PKiKP	PKiKP	04 27 24.1	+0.7
CJR	Cluj-Napoca	150.93 330	⇓P	PKiKP	PKiKP	04 27 23.5	0.0
CJR	Cluj-Napoca	150.93 330	⇓PKIKP	PKiKP	PKiKP	04 27 23.5	0.0
MAUC	Maruska	151.03 340	⇑*e*PKP	PKiKP	PKiKP	04 27 24.5	+0.9
VOIR		151.15 327	⇓P	PKiKP	PKiKP	04 27 24.1	0.0
VOIR		151.15 327	⇓PKIKP	PKiKP	PKiKP	04 27 24.1	0.0
MARR	Marisel-Cluj	151.18 331	⇑P	PKiKP	PKiKP	04 27 24.0	-0.1
DRGR		151.28 331	⇓P	PKPbc	PKiKP	04 27 23.6	-0.2
DRGR		151.28 331	⇓PKIKP	PKPbc	PKiKP	04 27 23.6	-0.2
KASTN	Kahler Asten	151.34 353	*e*PKPbc	PKiKP	PKiKP	04 27 24.5	+0.3
	baz=16,slow=2.4						
KASTN			*e*PKPab	PKPab	PKiKP	04 27 32.7	0.0
	baz=16,slow=4.2						
TNR	Turnu Rosu	151.39 328	⇑P	PKiKP	PKiKP	04 27 25.8	+1.3
TNR	Turnu Rosu	151.39 328	⇑PKIKP	PKiKP	PKiKP	04 27 25.8	+1.3
PRU	Pruhonice	151.40 344	⇑*e*PKP	PKiKP	PKiKP	04 27 24.4	+0.1
PRU	Pruhonice	151.40 344	*e*PKIKP	PKiKP	PKiKP	04 27 24.4	+0.1
MOX	Moxa	151.41 349	*e*PKPbc	PKiKP	PKiKP	04 27 24.4	+0.1
	baz=16,slow=2.4						
MOX			*e*PKPab	PKPab	PKiKP	04 27 32.6	-0.4
	baz=16,slow=4.2						
ARR	Arges	151.41 327	⇓P	PKiKP	PKiKP	04 27 25.1	+0.6
VRAC	Vranov	151.46 341	*e*PKIKP	PKiKP	PKiKP	04 27 24.8	+0.3
VRAC	Vranov	151.46 341	⇑P	PKiKP	PKiKP	04 27 25.1	+0.7
VRAC	Vranov	151.46 341	⇑PKIKP	PKiKP	PKiKP	04 27 25.1	+0.7
PLN	Plauen	151.46 348	*e*PKPbc	PKiKP	PKiKP	04 27 24.8	+0.4
	baz=16,slow=2.4						
PLN			*e*PKPab	PKPab	PKiKP	04 27 32.9	-0.3
	baz=16,slow=4.2						
TANN	Tannenbergstha	151.47 347	*e*PKPbc	PKiKP	PKiKP	04 27 25.0	+0.5
	baz=16,slow=2.4						
TANN			*e*PKPab	PKPab	PKiKP	04 27 33.2	-0.1
	baz=16,slow=4.2						
JAVC	Velka Javorina	151.52 339	*e*PKIKP	PKiKP	PKiKP	04 27 26.2	+1.5
PSZ	Piszkesteto	151.54 336	⇑P	PKiKP	PKiKP	04 27 25.1	+0.3
PSZ	Piszkesteto	151.54 336	⇑PKIKP	PKiKP	PKiKP	04 27 25.1	+0.3
KRUC	Moravsky	151.73 341	*e*PKIKP	PKiKP	PKiKP	04 27 25.3	+0.3
LOT	Lotru	151.78 328	⇓P	PKPbc	PKiKP	04 27 24.5	-0.6
CTYL	Yalikoy Yolu	151.80 317	⇓P	PKPbc	PKiKP	04 27 22.3	-2.8
HUMR	Humele	151.82 326	⇓P	PKiKP	PKiKP	04 27 25.1	+0.1
DEV	Deva	151.87 330	⇑P	PKiKP	PKiKP	04 27 26.2	+0.8
DEV	Deva	151.87 330	⇑PKIKP	PKiKP	PKiKP	04 27 26.2	+0.8
MANZ	Manzenberg	151.94 347	*e*PKPbc	PKiKP	PKiKP	04 27 25.9	+0.4
	baz=16,slow=2.4						
MANZ			*e*PKPab	PKPab	PKiKP	04 27 34.5	-0.7
	baz=16,slow=4.2						
ZVC	Zvikov	151.99 344	⇑*e*PKP	PKiKP	PKiKP	04 27 26.2	+0.6
ZVC			*e*PKPAB	PKPab	PKiKP	04 27 35.5	+0.1
UCC	Uccle	152.04 358	*d*PKP	PKiKP	PKiKP	04 27 26.2	+0.7
UCC			*d*PKPab	PKPab	PKiKP	04 27 35.5	0.0
MODS	Modra-Piesok	152.07 339	*e*PKIKP	PKiKP	PKiKP	04 27 26.7	+0.9
ROTZ	Rotzenmuhle	152.13 347	*e*PKPab	PKPab	PKiKP	04 27 36.0	0.0
	baz=16,slow=4.2						
SIRR	Siria	152.14 332	⇓P	PKiKP	PKiKP	04 27 26.6	+0.6
BTNL	Ternell	152.16 356	*d*PKP	PKiKP	PKiKP	04 27 26.3	+0.4
BSTI	Sart Tilman	152.20 357	*d*PKPab	PKPab	PKiKP	04 27 35.9	-0.3
SRO	Srobarova	152.20 338	*e*PKIKP	PKiKP	PKiKP	04 27 26.9	+0.9
SRO			*e*			04 27 37.2	
GZR	Gura Zlata	152.30 329	⇑P	PKiKP	PKiKP	04 27 26.5	+0.1
GZR	Gura Zlata	152.30 329	⇑PKIKP	PKiKP	PKiKP	04 27 26.5	+0.1
TNS	Taunus Mts	152.31 352	*e*PKPbc	PKiKP	PKiKP	04 27 26.8	+0.5
	baz=16,slow=2.4						
SURR	Surduc	152.33 330	⇑P	PKiKP	PKiKP	04 27 26.4	0.0
BCLA	Clavier	152.38 357	*d*PKP	PKPab	PKiKP	04 27 36.6	-0.4
ELND	Elena	152.38 322	⇓P	PKPbc	PKiKP	04 27 26.3	0.0
GRFO	Grafenberg	152.40 348		PKPab	PKiKP	04 27 37.4	+0.3
BHOU	Houvegnez	152.40 356	*d*PKP	PKPab	PKiKP	04 27 37.0	-0.1
BGES	Gesves	152.42 357	*d*PKP	PKPab	PKiKP	04 27 37.2	0.0
KHC	Kasperske Hory	152.43 345	⇑*e*PKP	PKiKP	PKiKP	04 27 27.2	+0.7
KHC			*e*PKPAB	PKPab	PKiKP	04 27 38.1	+0.8
KHC	Kasperske Hory	152.43 345	*e*PKIKP	PKiKP	PKiKP	04 27 27.2	+0.7
KHC			*e*			04 27 38.1	
BMRD	Maredsous	152.52 358	*d*PKP	PKiKP	PKiKP	04 27 27.0	+0.4
BMRD			*d*PKPab	PKPab	PKiKP	04 27 36.8	-0.7
BAND	Balkesir-Ban	152.53 315	⇑P	PKPbc	PKiKP	04 27 26.5	-0.2
CKRC	Cesky Krumlov	152.53 344	⇑*e*PKP	PKiKP	PKiKP	04 27 27.2	+0.5
CKRC	Cesky Krumlov	152.53 344	*e*PKIKP	PKiKP	PKiKP	04 27 27.2	+0.5
WET	Wettzell	152.58 346	*e*PKPab	PKPab	PKiKP	04 27 38.1	+0.1
	baz=16,slow=4.2						
RCHB	Rochefort	152.65 357	*d*PKPab	PKPab	PKiKP	04 27 37.7	-0.4
BZS	Buzias	152.66 331	⇑P	PKiKP	PKiKP	04 27 27.5	+0.5
BZS	Buzias	152.66 331	⇑PKIKP	PKiKP	PKiKP	04 27 27.5	+0.5
GEC2	GERESS Array S	152.66 345	*e*PKPbc	PKiKP	PKiKP	04 27 27.2	+0.1
	baz=16,slow=2.4						
GEC2			*e*PKPab	PKPab	PKiKP	04 27 37.9	-0.5
	baz=16,slow=4.2						
GERES	GERESS Array B	152.66 345	PKP	PKPdf	PKiKP	04 27 19.4	-0.3
	comp=Z,0.3nm,0.5s,baz=35,slow=3.6,SNR=4.2						
GERES			PKPbc	PKPbc	PKiKP	04 27 26.9	0.0
	comp=Z,3.8nm,0.8s,baz=16,slow=1.9,SNR=26						
DOU	Dourbes	152.73 358	*d*PKP	PKPab	PKiKP	04 27 38.1	-0.4
PLVB	Pleven	152.78 324	⇓P	PKiKP	PKiKP	04 27 27.7	+0.3
HERR	Herculane	152.85 329	⇑P	PKPbc	PKiKP	04 27 27.3	0.0
CONA	Conrad Observa	152.91 341	*i* PKiKP	PKiKP	PKiKP	04 27 28.4	+0.8
	comp=Z,9.9nm,0.9s,SNR=9.2						
CONA			*i* PKP	PKPab	PKiKP	04 27 40.0	+0.6
	comp=Z,12nm,1.0s						
RONA	Rosalia, Austr	152.98 340	*i* PKP	PKPdf	PKiKP	04 27 20.2	+0.2
	comp=Z,4.5nm,1.5s						
RONA			*e*PKP	PKiKP	PKiKP	04 27 28.5	+0.8
	comp=Z,11nm,0.8s,SNR=8.9						
RONA			*i* PKP	PKPab	PKiKP	04 27 40.4	+0.8
	comp=Z,15nm,1.2s						
WLF	Walferdange	153.08 355	*d*PKPab	PKPab	PKiKP	04 27 40.2	+0.2
WLF	Walferdange	153.08 355	*e*PKPab	PKPab	PKiKP	04 27 40.4	+0.4
	baz=16,slow=4.2						
MDVR	Moldovita	153.25 330	⇓P	PKPbc	PKiKP	04 27 28.3	0.0
AKAS	Kas	153.37 306		PKPbc	PKiKP	04 27 28.7	-0.2
MOA	Molln	153.44 343	*i* PKP	PKiKP	PKiKP	04 27 28.7	+0.1
	comp=Z,4.9nm,0.9s						
MOA			*i* PKP	PKPab	PKiKP	04 27 41.9	+0.3
	comp=Z,16nm,1.2s						
ARSA	Arzberg	153.62 341	*i* PKP	PKPbc	PKiKP	04 27 28.8	-0.1
	comp=Z,3.6nm,0.9s						
ARSA			*i* PKP	PKPab	PKiKP	04 27 42.0	-0.4
	comp=Z,9.5nm,1.3s						
STU	Stuttgart	153.62 351	*e*PKPab	PKPab	PKiKP	04 27 42.4	+0.1
	baz=16,slow=4.2						
BIOA	Bad Ischl, Aus	153.75 344	*i* PKP	PKPdf	PKiKP	04 27 22.0	+0.8
	comp=Z,0.7nm,0.5s						
BIOA			*i* PKP	PKiKP	PKiKP	04 27 29.4	+0.1
	comp=Z,3.6nm,0.9s						
BIOA			*i* PKP	PKPab	PKiKP	04 27 43.4	+0.5
	comp=Z,36nm,1.3s						
FUR	Furstenfeldbru	153.85 347	*e*PKPab	PKPab	PKiKP	04 27 43.2	-0.1
	baz=16,slow=4.2						
RJOB	Jochberg	153.92 345	*e*PKPab	PKPab	PKiKP	04 27 43.9	+0.2
	baz=16,slow=4.2						
BFO	Black Forest	154.18 352		PKPab	PKiKP	04 27 44.1	-0.6
BFO	Black Forest	154.18 352	PKP2	PKPab	PKiKP	04 27 44.1	-0.6
LESA	Schwarzleotal	154.24 345	*i* PKP	PKPdf	PKiKP	04 27 21.8	-0.1
	comp=Z,4.6nm,1.2s						
LESA			*i* PKP	PKiKP	PKiKP	04 27 30.5	+0.1
	comp=Z,5.2nm,0.9s						
LESA			*i* PKP	PKPab	PKiKP	04 27 45.0	-0.1
	comp=Z,29nm,1.2s						
SOKA	Soboth	154.28 341	*i* PKP	PKPdf	PKiKP	04 27 22.0	0.0
	comp=Z,5.0nm,0.9s						
SOKA			*i* PKP	PKiKP	PKiKP	04 27 30.6	+0.1
	comp=Z,7.8nm,0.9s						
SOKA			*e*PKP	PKPab	PKiKP	04 27 44.6	-0.7
	comp=Z,6.7nm,0.7s						
KBA	Koelnbreinsper	154.39 344	*i* PKP	PKPdf	PKiKP	04 27 21.9	-0.4
	comp=Z,1.6nm,0.7s						
KBA			*i* PKP	PKPbc	PKiKP	04 27 30.6	-0.2
	comp=Z,3.8nm,0.8s						
KBA			*i* PKP	PKPab	PKiKP	04 27 46.1	+0.2
	comp=Z,12nm,0.8s						
WATA	Walderalm	154.57 346	*i* PKP	PKPdf	PKiKP	04 27 22.0	-0.5
	comp=Z,2.7nm,0.8s						
WATA			*i* PKP	PKiKP	PKiKP	04 27 31.3	+0.2
	comp=Z,7.9nm,1.2s						
WATA			*i* PKP	PKPab	PKiKP	04 27 46.5	-0.1
	comp=Z,16nm,0.9s						
OBKA	Obir	154.57 341	*i* PKiKP	PKiKP	PKiKP	04 27 32.4	+1.2
	comp=Z,2.7nm,1.1s						
OBKA			*i* PKP	PKPab	PKiKP	04 27 46.1	-0.5
	comp=Z,3.5nm,0.8s						
RETA	Reutte	154.60 348	*i* PKiKP	PKiKP	PKiKP	04 27 32.6	+1.5
	comp=Z,6.0nm,1.2s						
RETA			*i* PKP	PKPab	PKiKP	04 27 46.5	-0.1
	comp=Z,17nm,1.1s						
WTTA	Wattenberg	154.63 346	*i* PKP	PKPdf	PKiKP	04 27 22.6	0.0
	comp=Z,7.5nm,1.3s						
WTTA			*i* PKP	PKiKP	PKiKP	04 27 31.7	+0.4
	comp=Z,9.2nm,1.0s						
WTTA			*i* PKP	PKPab	PKiKP	04 27 47.0	+0.1
	comp=Z,14nm,0.8s						
MOTA	Moosalm	154.67 347	*i* PKP	PKPdf	PKiKP	04 27 22.6	-0.1
	comp=Z,2.6nm,0.9s						
MOTA			*i* PKP	PKiKP	PKiKP	04 27 31.6	+0.2
	comp=Z,7.6nm,1.4s						
MOTA			*i* PKP	PKPab	PKiKP	04 27 46.8	-0.2
	comp=Z,16nm,0.9s						
MYKA	Terra Mystica	154.72 343	*i* PKP	PKPdf	PKiKP	04 27 22.2	-0.4
	comp=Z,3.3nm,1.1s						
MYKA			*e*PKP	PKPbc	PKiKP	04 27 31.1	-0.3
	comp=Z,4.0nm,1.0s						
MYKA			*i* PKP	PKPab	PKiKP	04 27 46.5	-0.7
	comp=Z,12nm,1.4s						
SQTA	Sankt Quirin	154.76 347	*e*PKP	PKPdf	PKiKP	04 27 22.9	+0.2
	comp=Z,5.6nm,1.3s						
SQTA			*i* PKP	PKiKP	PKiKP	04 27 31.9	+0.4
	comp=Z,4.3nm,0.8s						
SQTA			*i* PKP	PKPab	PKiKP	04 27 47.4	0.0
	comp=Z,8.7nm,0.9s						
ABTA	Abfaltersbach	154.91 344	*e*PKP	PKPdf	PKiKP	04 27 22.5	-0.4
	comp=Z,7.3nm,1.2s						
ABTA			*i* PKP	PKPbc	PKiKP	04 27 31.8	0.0
	comp=Z,4.9nm,0.9s						
ABTA			*i* PKP	PKPab	PKiKP	04 27 47.2	-0.8
	comp=Z,23nm,1.4s						
DAVA	Damuels	154.96 349	*i* PKP	PKPdf	PKiKP	04 27 23.4	+0.4
	comp=Z,1.8nm,0.7s						
DAVA			*i* PKP	PKPbc	PKiKP	04 27 32.0	0.0
	comp=Z,8.4nm,1.2s						
DAVA			*i* PKP	PKPab	PKiKP	04 27 48.0	-0.3
	comp=Z,9.5nm,1.0s						
FETA	Feichten	155.05 347	*i* PKP	PKPdf	PKiKP	04 27 23.6	+0.5
	comp=Z,7.8nm,1.3s						
FETA			*i* PKP	PKPab	PKiKP	04 27 32.5	-16
	comp=Z,6.0nm,1.2s						
FETA			*e*PKP	PKPab	PKiKP	04 27 48.4	-0.3
	comp=Z,12nm,1.1s						
MVO	Moncorvo	159.84 22	*e*PKPab	PKPab	PKiKP	04 28 10.5	+1.1
PVIS	Viseu	159.91 25	*e*PKPab	PKPab	PKiKP	04 28 10.3	+0.6
CEST	Esterri de Car	160.21 4		PKPab	PKiKP	04 28 11.8	+0.8
PSARD	Sardoal	160.75 27	*e*PKPab	PKPab	PKiKP	04 28 14.1	+0.7
PCBR	Castelo Branco	160.82 25	*e*PKPab	PKPab	PKiKP	04 28 13.4	-0.2
PMTG	Montargil	161.16 28	*e*PKPab	PKPab	PKiKP	04 28 15.2	0.0
PMRV	Marv??o	161.21 26	*e*PKPab	PKPab	PKiKP	04 28 15.2	-0.3
PESTR	Estremoz	161.60 27	*e*PKPab	PKPab	PKiKP	04 28 17.4	+0.2
ESDC	Sonseca Array	162.17 18	PKP	PKPdf	PKiKP	04 27 32.5	+0.8
	comp=Z,0.6nm,1.0s,baz=356,slow=3.9,SNR=4.4						
ESDC			PKPab	PKPab	PKiKP	04 28 19.9	+0.3
	comp=Z,3.8nm,1.0s,baz=328,slow=4.0,SNR=15						
DBIC	Dimbokro	162.25 153	PKP	PKPdf	PKiKP	04 27 32.5	0.0
	comp=Z,2.2nm,0.7s,baz=196,slow=6.2,SNR=3.5						
DBIC			PKPab	PKPab	PKiKP	04 28 21.8	+1.3
	comp=Z,2.3nm,0.8s,baz=207,slow=2.3,SNR=3.9						
PVAQ	Vaqueiros	162.76 30	*e*PKPab	PKPab	PKiKP	04 28 23.3	+1.0
MD01	Midelt array s	167.85 33		PKPab	PKiKP	04 28 45.8	+0.8
TORD	Torodi Ar. Bea	170.31 172		PKPdf	PKiKP	04 27 38.9	+0.2
TORD	Torodi Ar. Bea	170.31 172	PKP	PKPdf	PKiKP	04 27 38.6	-0.1
	comp=Z,1.9nm,0.7s,baz=5.9,slow=1.4,SNR=14						
TORD			PKPab	sPKPdf	PKiKP	04 28 56.9	-0.4
	comp=Z,3.9nm,0.9s,baz=184,slow=2.5,SNR=12						

JMA ***28*** *04:08:04.4±0.3, 44.7N±0.8×14.2E±°, h253km±2km, MV3.6/36, NW OFF HOKKAIDO*
SKHL ***28*** *04:08:05.0±0.1, 44.50N×141.80E, h205km±8km, mb4.5/3, msha4.8/3*
IDC ***28*** *04:08:28.8±2.4, 42.57N×140.88E, h627km±35km, mb2.8/8, mbtmp3.8/9, Error ellipse: s-maj=31.4km s-min=20.7km az=37.0*

ISC 28 04:08:04.4±0.8, 44.63N±0.06×141.87E±0.06, h255km±6km, n33, σ1.03/44, mb3.5/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JSS	Shosan	0.23	183	P		P	Pn	04 08 37.6	+0.3
JSS				S		S	S	04 09 03.1	-0.1
JYG	Yagishiri	0.38	237	P		eP	Pn	04 08 37.3	-0.2
JSE	Soyaes	0.60	57	P		P	Pn	04 08 38.3	+0.2
JRR	Rishiri	0.64	322	P		P	Pn	04 08 38.3	+0.1
JWK2	Keihoku	0.68	2	P		P	Pn	04 08 38.4	0.0
JWK2				S		S	S	04 09 04.4	-0

RTAL Retalhuleu 2.31 96 Pn 04 15 34.5 -0.4
RTAL Retalhuleu 2.31 96 S Sn 04 16 02.8 -1.0
RTAL Retalhuleu 2.31 96 P Pn 04 15 35.1 +0.2
CCIG Comitan 2.38 51 Pn 04 15 37.6 +1.5
CCIG Comitan 2.38 51 *eP* **Pn 04 15 36.8 +0.7**
CCIG *eS* **Sn 04 16 05.6 -0.3**
CCIG Comitan 2.38 51⇑ *eP* **Pn 04 15 37.1 +1.0**
CCIG *i* S **Sn 04 16 06.2 +0.4**
CCIG IAML 04 16 14.5
comp=N,2µm,0.5s
CCIG Comitan 2.38 51 P **Pn 04 15 37.5 +1.4**
CMIG Matias Romero 2.43 341 Pn 04 15 35.3 -1.3
CMIG **Sn 04 16 01.8 -5.0**
CMIG Matias Romero 2.43 341 *eP* **Pn 04 15 35.3 -1.3**
CMIG *eS* **Sn 04 16 01.8 -5.0**
UXUV UXUV 2.53 358 Pn 04 15 37.9 0.0
UXUV **Sn 04 16 07.8 -1.3**
UXUV UXUV 2.53 358 *eP* **Pn 04 15 37.9 0.0**
UXUV *eS* **Sn 04 16 07.8 -1.3**
HUEH Huehuetenango 2.53 77 Pn 04 15 39.7 +1.5
HUEH Huehuetenango 2.53 77 *eP* **Pn 04 15 39.2 +1.0**
HUEH *i* S **Sn 04 16 11.2 +1.6**
HUEH IAML 04 16 20.4
comp=E,6µm,0.8s
HUEH Huehuetenango 2.53 77 P **Pn 04 15 39.1 +0.9**
SOKI Kika Raxquin 2.57 89 *eP* **Pn 04 15 41.2 +2.3**
QUIS Sacapulas 2.92 80⇑ *eP* **Pn 04 15 45.1 +1.7**
QUIS *eS* **Sn 04 16 20.2 +1.3**
QUIS IAML 04 16 25.2
comp=E,2µm,0.4s
PEIG Puerto Escondi 3.21 293 Pn 04 15 46.4 -0.9
PEIG Sn 04 16 18.6 -7.5
PEIG Puerto Escondi 3.21 293 *eP* **Pn 04 15 46.4 -0.9**
PEIG *eS* Sn 04 16 18.6 -7.5
TUIG Tuzandepetl 3.25 354 *eP* Pn 04 15 45.4 -2.5
TUIG *eS* **Sn 04 16 28.7 +1.6**
NEUV Arroyo Zacate 3.36 330 Pn 04 15 48.2 -1.2
NEUV **Sn 04 16 24.9 -4.8**
NEUV Arroyo Zacate 3.36 330 *eP* **Pn 04 15 48.2 -1.2**
NEUV *eS* **Sn 04 16 24.9 -4.8**
FG8 Yepocapa, Chim 3.43 98 *eP* Pn 04 15 45.0 -5.5
OXIG Oaxaca 3.43 312 Pn 04 15 51.2 +0.6
OXIG **Sn 04 16 27.1 -4.7**
VHO Vista Hermosa 3.43 312 *eP* **Pn 04 15 51.2 +0.6**
VHO *eS* **Sn 04 16 27.1 -4.7**
FG16 Alotenango, Sa 3.48 98 *eP* Pn 04 15 46.2 -5.0
PMUV Sontecomapan 3.88 345 Pn 04 15 52.6 -4.1
PMUV **Sn 04 16 40.0 -2.7**
PMUV Sontecomapan 3.88 345 *eP* Pn 04 15 52.6 -4.1
PMUV *eS* **Sn 04 16 40.0 -2.7**
YOIG Yosondua 3.94 302 Pn 04 15 57.9 +0.4
YOIG Sn 04 16 38.0 -6.4
YOIG Yosondua 3.94 302 *eP* **Pn 04 15 57.9 +0.4**
YOIG *eS* Sn 04 16 38.0 -6.4
FAME Alcaldia de Sa 4.03 103 P **Pn 04 16 01.1 +2.4**
FAME Alcaldia de Sa 4.03 103 S **Sn 04 16 44.0 -2.3**
NUBE Las Nubes 4.24 101 S **Sn 04 16 51.6 -0.2**
NUBE Las Nubes 4.24 101 P **Pn 04 16 03.2 +1.5**
TXIG Tlaxiaco 4.33 305 Pn 04 16 04.5 +1.5
TXIG **Sn 04 16 49.9 -4.1**
TXIG Tlaxiaco 4.33 305 *eP* **Pn 04 16 04.5 +1.5**
TXIG *eS* **Sn 04 16 49.9 -4.1**
TOIG Toxpalan 4.38 319 Pn 04 16 04.2 +0.8
TOIG **Sn 04 16 52.8 -2.2**
TOIG Toxpalan 4.38 319 *eP* **Pn 04 16 04.2 +0.8**
TOIG *eS* **Sn 04 16 52.8 -2.2**
CEVE Cerro Verde 4.41 102 P **Pn 04 16 05.6 +1.5**
CEVE Cerro Verde 4.41 102 S **Sn 04 16 58.9 +3.0**
PETF Flores 4.56 62 Pn 04 16 07.0 +1.0
PETF Flores 4.56 62 *eP* **Pn 04 16 07.2 +1.3**
PETF Flores 4.56 62 P **Pn 04 16 07.2 +1.3**
PETF Flores 4.56 62 S **Sn 04 16 57.4 -2.1**
MTO3 Montecristo 4.57 94 Pn 04 16 06.0 -0.2
ESQI Esquipulas 4.58 92 Pn 04 16 07.5 +1.3
JAYA Jayaque - finc 4.61 103⇑ *iP* **Pn 04 16 04.9 -1.8**
JAYA Jayaque - finc 4.61 103 P **Pn 04 16 06.2 -0.6**
HLIG Huajuapan de L 4.70 311 Pn 04 16 10.2 +2.1
HLIG Sn 04 16 57.1 -6.0
HLIG Huajuapan de L 4.70 311 *eP* **Pn 04 16 10.2 +2.1**
HLIG *eS* Sn 04 16 57.1 -6.0
PMON Piamonte 4.73 102 P **Pn 04 16 10.9 +2.6**
TPIG Tehuac#an 4.81 319 Pn 04 16 09.2 -0.2
TPIG **Sn 04 17 10.9 +5.3**
TPIG Tehuac#an 4.81 319 *eP* **Pn 04 16 09.2 -0.2**
TPIG *eS* **Sn 04 17 10.9 +5.3**
FTIG Fresnillo de T 4.99 309 Pn 04 16 13.9 +1.9
FTIG **Sn 04 17 04.6 -5.6**
FTIG Fresnillo de T 4.99 309 *eP* **Pn 04 16 13.9 +1.9**
FTIG *eS* **Sn 04 17 04.6 -5.6**
SCIG Sabancuy 5.00 33 *eP* **Pn 04 16 10.9 -0.9**
SCIG *eS* **Sn 04 17 06.3 -3.7**
SCIG Sabancuy 5.00 33⇑ *eP* **Pn 04 16 11.7 -0.1**
SCIG Sabancuy 5.00 33 P **Pn 04 16 11.8 -0.1**
SCIG Sabancuy 5.00 33 S **Sn 04 17 07.9 -2.2**
CRIG Cruz Grande 5.25 292 Pn 04 16 14.9 -0.5
CRIG Sn 04 17 07.5 -9.0
CRIG Cruz Grande 5.25 292 *eP* **Pn 04 16 14.9 -0.5**
CRIG *eS* Sn 04 17 07.5 -9.0
JAUV Jalcomulco 5.26 331 Pn 04 16 13.9 -1.6
JAUV Sn 04 17 09.8 -6.9
JAUV Jalcomulco 5.26 331 *eP* **Pn 04 16 13.9 -1.6**
JAUV *eS* Sn 04 17 09.8 -6.9
LVIG Laguna Verde 5.41 336 *eP* Pn 04 16 13.7 -3.8
LVIG *eS* **Sn 04 17 17.8 -2.4**
PPCL Tochimilco 5.99 314 *eP* Pn 04 16 31.6 +5.8
PPPT Popocatepetl 6.04 314 *eP* Pn 04 16 32.6 +5.9
PPSX Xalitzintla 6.04 316 *eP* Pn 04 16 34.0 +7.5
PPSX *eS* **Sn 04 17 38.6 +2.4**
PBPN Popocatepetl 6.09 315 *eP* **Pn 04 16 31.6 +4.3**
MEIG Mezcala 6.18 301 Pn 04 16 30.6 +2.3
MEIG **Sn 04 17 34.0 -5.5**
MEIG Mezcala 6.18 301 *eP* **Pn 04 16 30.6 +2.3**
MEIG *eS* **Sn 04 17 34.0 -5.5**
YAIG Yautepec 6.28 311 Pn 04 16 29.4 -0.3
YAIG Sn 04 17 35.9 -6.0
YAIG Yautepec 6.28 311 *eP* **Pn 04 16 29.4 -0.3**
YAIG *eS* Sn 04 17 35.9 -6.0
CXUV Coxquihui 6.33 328 Pn 04 16 28.4 -1.9
CXUV Sn 04 17 36.7 -6.3
CXUV Coxquihui 6.33 328 *eP* Pn 04 16 28.4 -1.9
CXUV *eS* Sn 04 17 36.7 -6.3
CAIG El Cayaco 6.38 292 Pn 04 16 31.4 +0.5
CAIG Sn 04 17 34.5 -10
CAIG El Cayaco 6.38 292 *eP* **Pn 04 16 31.4 +0.5**
CAIG *eS* Sn 04 17 34.5 -10
ARIG Puente Sto Nin 6.96 301 Pn 04 16 41.2 +2.3
ARIG Sn 04 17 52.4 -6.1
ARIG Puente Sto Nin 6.96 301 *eP* **Pn 04 16 41.2 +2.3**
ARIG *eS* Sn 04 17 52.4 -6.1
CNGN Cerro Negro 7.51 107 Pn **Pn 04 16 46.9 +0.4**
TEIG Tepich 7.74 45 Pn 04 16 48.6 -1.0
833A Chaparral WMA, 14.36 341 Pn 04 18 22.3 +2.1
TX31 Lajitas Ar. Si 16.99 330 Pn 04 18 58.0 +3.3
BRDY Brady 17.04 345 Pn 04 18 55.7 +0.4
OZNA Ozona 17.33 339 Pn 04 19 00.8 +1.9
OZNA IAmb IAmb 04 19 10.1
comp=Z,7.8nm,0.7s
ALPN Alpine 17.85 332 Pn 04 19 07.8 +2.3
MNHN Monahans 18.31 336 P **P 04 19 15.7 +4.4**
MIAR Mount Ida 19.69 1 P **P 04 19 24.8 -1.5**
MIAR IAmb IAmb 04 19 32.4
comp=Z,6.1nm,1.0s
DKNS Dickens 19.81 343 P **P 04 19 27.1 -0.6**
DKNS IAmb IAmb 04 19 44.3
comp=Z,7.2nm,1.0s
AMTX Amarillo 21.16 342 P 04 19 43.0 +0.6
AMTX IAmb IAmb 04 19 44.0
comp=Z,12nm,0.6s
121A Cookes Peak, D 21.65 327 P 04 19 50.6 +2.9
121A IAmb IAmb 04 20 15.8
comp=Z,27nm,1.1s
Y22A Socorro 22.36 331 P **P 04 19 57.8 +2.4**
RTBA Rita Blanca 22.92 342 IAmb IAmb 04 20 39.8
comp=Z,21nm,1.4s
N38A Joes South For 25.93 1 P **P 04 20 27.3 -2.1**
ISCO Idaho Springs 26.91 340 IAmb IAmb 04 20 39.0
comp=Z,7.1nm,1.2s
SZCU Shurtz Canyon 28.31 327 P **P 04 20 52.4 +1.3**
ECSD EROS Data Cent 28.94 356 P **P 04 20 54.5 -1.9**
ECSD IAmb IAmb 04 21 13.8
comp=Z,12nm,1.1s
LCO Las Campanas 49.04 153 P **P 04 23 44.5 -0.1**
BRG Berggiesshubel 89.62 37 P **P 04 27 56.5 +1.4**
BRG Amp 04 27 58.5
comp=Z,3.6nm,0.9s
HHC Hu-ho-hao-te 119.77 338 *eP* **PKPdf 04 33 48.3 +0.2**
PZH PanZhiHua 136.18 339 PKP **PKPdf 04 34 19.3 -0.4**

*IDC **28** 04:29:47.0±7.4, 14.˚10S×172.˚34E, h603km±87km, mb3.2/9, mbtmp4.2/9, Error ellipse: s-maj=43.3km s-min=17.8km az=82.0*
ISC 28 04:29:46.5±0.9, 14.˚2S±0.˚1×172.˚5E±0.˚2, h604km, n64, σ1°35/64, mb3.7/9, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABAZ	**Army Bay**	**22.41**	**175**	P	**P**	**04 34 02.6**	**+1.2**
MBAZ	**Motutapu North**	**22.58**	**175**	P	**P**	**04 34 04.3**	**+1.3**
AWAZ	**Awhitu Peninsu**	**22.86**	**176**	P	**P**	**04 34 06.4**	**+1.0**
MKAZ	**Moumakai**	**22.94**	**174**	P	**P**	**04 34 06.9**	**+0.8**
URZ	**Urewera**	**24.32**	**171**	P	**P**	**04 34 17.2**	**-1.0**
VRZ	**Vera Road**	**24.91**	**176**	P	**P**	**04 34 26.0**	**+2.4**
WTVZ	**West Tongariro**	**24.97**	**174**	P	**P**	**04 34 25.0**	**+0.8**
TMVZ	**Te Maari**	**24.98**	**174**	P	**P**	**04 34 24.9**	**+0.5**
ETVZ	**East Tongariro**	**25.00**	**174**	P	**P**	**04 34 24.3**	**-0.2**
NEZ	**North Egmont**	**25.02**	**177**	P	**P**	**04 34 24.5**	**-0.1**
NGZ	**Ngauruhoe**	**25.03**	**174**	P	**P**	**04 34 25.4**	**+0.6**
NMHZ	**Naumai**	**25.09**	**172**	P	**P**	**04 34 24.0**	**-1.3**
FWVZ	**Far West T-bar**	**25.11**	**174**	P	**P**	**04 34 26.5**	**+0.9**
BKZ	**Black Stump Fm**	**25.12**	**173**	P	**P**	**04 34 22.9**	**-2.6**
WHVZ	**Whangaehu Hut**	**25.14**	**174**	P	**P**	**04 34 26.6**	**+0.8**
WNVZ	**Wahianoa**	**25.18**	**174**	P	**P**	**04 34 26.4**	**+0.2**
MOVZ	**Moawhango**	**25.28**	**174**	P	**P**	**04 34 25.7**	**-1.2**
WAZ	**Wanganui**	**25.55**	**176**	P	**P**	**04 34 29.2**	**-0.1**
PNHZ	**Pukenui**	**25.83**	**173**	P	**P**	**04 34 30.0**	**-1.7**
PXZ	**Pawanui**	**26.02**	**172**	P	**P**	**04 34 32.6**	**-0.7**
PRWZ	**Pori Road**	**26.44**	**174**	P	**P**	**04 34 34.2**	**-2.8**
MRZ	**Mangatainoka R**	**26.50**	**175**	P	**P**	**04 34 35.8**	**-1.8**
QRZ	**Quartz Range**	**26.53**	**180**	P	**P**	**04 34 38.2**	**+0.4**
DUWZ	**D'Urville Isla**	**26.54**	**178**	P	**P**	**04 34 37.3**	**-0.5**
OGWZ	**Otaki Gorge**	**26.62**	**175**	P	**P**	**04 34 36.4**	**-2.1**
KIW	**Kapiti Island**	**26.65**	**176**	P	**P**	**04 34 36.4**	**-2.4**
TKNZ	**Takaka Hill**	**26.74**	**179**	P	**P**	**04 34 39.6**	**0.0**
NNZ	**Nelson**	**26.93**	**178**	P	**P**	**04 34 40.8**	**-0.4**
TCW	**Tory Channel**	**26.96**	**177**	P	**P**	**04 34 40.2**	**-1.3**
MTW	**Mount Morrison**	**26.99**	**175**	P	**P**	**04 34 39.2**	**-2.6**
MRNZ	**Matariki Terra**	**27.10**	**180**	P	**P**	**04 34 41.9**	**-0.8**
TUWZ	**Tuamarina**	**27.16**	**178**	P	**P**	**04 34 42.9**	**-0.4**
BHW	**Baring Head**	**27.19**	**176**	P	**P**	**04 34 41.4**	**-2.1**
PAWZ	**Paruwai Farm**	**27.21**	**175**	P	**P**	**04 34 41.5**	**-2.2**
PLWZ	**Palliser**	**27.38**	**175**	P	**P**	**04 34 43.1**	**-2.2**
DSZ	**Denniston Nort**	**27.45**	**181**	P	**P**	**04 34 45.6**	**-0.3**
THZ	**Tophouse**	**27.47**	**179**	P	**P**	**04 34 45.5**	**-0.5**
CMWZ	**Cape Campbell**	**27.49**	**177**	P	**P**	**04 34 46.1**	**0.0**
KHZ	**Kahutara**	**28.13**	**178**	P	**P**	**04 34 49.8**	**-1.9**
INZ	**Inchbonnie**	**28.44**	**182**	P	**P**	**04 34 53.2**	**-1.2**
LTZ	**Lake Taylor**	**28.48**	**180**	P	**P**	**04 34 54.1**	**-0.7**
GVZ	**Greta Valley S**	**28.67**	**179**	P	**P**	**04 34 54.4**	**-2.0**
WVZ	**Waitaha Valley**	**28.82**	**183**	P	**P**	**04 34 56.1**	**-1.4**
OXZ	**Oxford**	**29.03**	**181**	P	**P**	**04 34 57.8**	**-1.7**
MHCZ	**Mount Hutt**	**29.24**	**181**	P	**P**	**04 35 00.1**	**-1.3**
FOZ	**Fox Glacier**	**29.32**	**184**	P	**P**	**04 35 01.1**	**-0.8**
MQZ	**McQueen's Vall**	**29.41**	**180**	P	**P**	**04 35 00.4**	**-2.3**
RPZ	**Rata Peaks**	**29.44**	**182**	P	**P**	**04 35 02.5**	**-0.5**
JCZ	**Jackson Bay**	**29.94**	**185**	P	**P**	**04 35 06.8**	**-0.6**
TMZ	**Timaru**	**30.11**	**182**	P	**P**	**04 35 07.2**	**-1.6**
LBZ	**Lake Benmore**	**30.15**	**183**	P	**P**	**04 35 07.3**	**-1.8**
ODZ	**Otahua Downs**	**30.79**	**183**	P	**P**	**04 35 12.6**	**-1.8**
EAZ	**Earnscleugh**	**31.05**	**184**	P	**P**	**04 35 15.6**	**-1.1**
MLZ	**Mavora Lakes**	**31.29**	**186**	P	**P**	**04 35 18.2**	**-0.6**
STKA	**Stephens Creek**	**33.26**	**233**	P	**P**	**04 35 36.2**	**+0.6**
	0.7nm,0.4s,baz=70,slow=6.8,SNR=4.1 0.7nm,0.4s						
WRA	**Warramunga Arr**	**36.84**	**256**	P	**P**	**04 36 04.6**	**-0.9**
	2.4nm,0.7s,baz=86,slow=8.8,SNR=23 2.4nm,0.7s						
ASAR	**Alice Springs**	**37.58**	**250**	P	**P**	**04 36 11.2**	**-0.3**
	2.9nm,0.5s,baz=77,slow=9.2,SNR=69 2.9nm,0.5s						
MJAR	**Matsushiro Arr**	**59.94**	**328**	P	**P**	**04 38 55.1**	**-0.7**
	0.9nm,0.4s,baz=161,slow=5.2,SNR=4.6 0.9nm,0.4s						
VNDA	**Vanda**	**63.56**	**183**	P	**P**	**04 39 18.8**	**+0.2**
	0.5nm,0.6s,baz=7.7,slow=5.3,SNR=2.8 0.5nm,0.6s						
PETK	**Petropavlovsk-**	**68.23**	**350**	P	**P**	**04 39 48.8**	**+0.9**
	5.5nm,0.9s,baz=183,slow=7.2,SNR=4.5 5.5nm,0.9s						
QSPA	**South Pole Qui**	**75.83**	**180**	P	**P**	**04 40 33.5**	**+1.8**
	1.7nm,0.6s,baz=53,slow=4.2,SNR=19 1.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**79.38**	**292**	P	**P**	**04 40 52.0**	**+0.4**
	1.1nm,0.3s,baz=105,slow=6.3,SNR=6.6 1.1nm,0.3s						
ILAR	**Eielson Array**	**84.54**	**16**	P	**P**	**04 41 16.4**	**-0.3**
	0.8nm,0.6s,baz=234,slow=5.3,SNR=14 0.8nm,0.6s						
ARCES	**ARCESS Array B**	**120.94**	**347**	PKP	**PKPdf**	**04 47 30.0**	**-0.7**
	4.6nm,0.9s,baz=51,slow=1.8,SNR=5.1						

IDC 28 04:38:36.4±3.9, 15.˚81S×177.˚40W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=92.4km s-min=45.4km az=30.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.50**	**239**	P	P	04 46 15.4	-1.8
	0.9nm,0.4s,baz=50,slow=7.9,SNR=3.6 0.9nm,0.4s						
WRA	**Warramunga Arr**	**45.99**	**257**	P	P	04 47 02.6	+0.8
	0.4nm,0.4s,baz=95,slow=7.2,SNR=16 0.4nm,0.4s						
ASAR	**Alice Springs**	**46.31**	**252**	P	P	04 47 04.3	0.0
	2.5nm,0.6s,baz=86,slow=8.7,SNR=27 2.5nm,0.6s						
VNDA	**Vanda**	**62.60**	**185**	P	P	04 49 02.5	+0.6
	0.3nm,0.5s,baz=40,slow=7.9,SNR=5.8 0.3nm,0.5s						
BRTR	**Keskin Array B**	**143.94**	**317**	PKP	PKPab	04 58 11.8	+0.3
	0.4nm,0.6s,baz=37,slow=2.9,SNR=1.7						

*IDC **28** 04:58:24.6±0.9, 29.˚88N×81.˚58E, h0km, mb3.7/12, mbtmp3.8/15, ML4.2/3, MS3.3/1, Error ellipse: s-maj=28.0km s-min=16.9km az=47.0*
*NDI **28** 04:58:26.3±1.2, 29.˚89N×81.˚55E, h10km, ML4.1, MW4.1, mb4.4(NEIC)*
*NEIC **28** 04:58:27.2±1.7, 30.˚0N±0.˚1×81.˚53E±0.˚03, h10km±2km, mb4.4/4, Error ellipse: s-maj=21.2km s-min=4.4km az=181.0*
*DMN **28** 04:58:28.3±0.0, 30.˚14N×81.˚21E, h60km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 28 04:58:26.3±1.6, 30.˚00N±0.˚05×81.˚49E±0.˚03, h6km±11km, n86, σ1°76/130, mb3.8/12, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTH	**Pithoragarh**	**1.20**	**248**	*eP*	**Pg**	**04 58 48.5**	**-0.7**
PTH				*eS*	**Sg**	**04 59 05.3**	**+0.6**
PTH				IAML		04 59 06.2	
	comp=N,713nm,0.7s						
LGTI	**Lohaghat**	**1.21**	**243**	*eP*	**Pg**	**04 58 51.1**	**+1.6**
LGTI				*eS*	**Sn**	**04 59 09.7**	**+3.2**
JOSI	**Joshimath**	**1.76**	**289**	*eP*	**Pn**	**04 58 58.4**	**+0.9**
JOSI				*eS*	**Sn**	**04 59 22.1**	**+1.7**
JOSI				IAML		04 59 26.8	
	comp=N,3µm,0.8s						
JOSI				IAML		04 59 28.9	
	comp=E,3µm,0.5s						
PYUN	**Piuthan**	**2.31**	**145**	Pg	**Pb**	**04 59 07.9**	**-0.5**
	baz=142,slow=0.0						
PYUN				Sg	**Sb**	**04 59 36.4**	**-0.9**
	comp=E,856nm,0.3s,baz=142,slow=0.0						
PYUN	**Piuthan**	**2.31**	**145**	Pn	**Pb**	**04 59 07.8**	**-0.6**
	baz=145,slow=0.0						
PYUN				Sn	**Sn**	**04 59 35.9**	**+2.0**
	comp=E,856nm,0.3s,baz=145,slow=0.0						
PYUN	**Piuthan**	**2.31**	**145**	Sn	**Sb**	**04 59 36.4**	**-0.9**
	comp=E,856nm,0.3s,baz=142,slow=0.0						
PYUN	**Piuthan**	**2.31**	**145**	Pn	**Pb**	**04 59 07.8**	**-0.6**
	baz=143,slow=0.0						
PYUN				Sn	**Sb**	**04 59 36.5**	**-0.9**
	comp=E,856nm,0.3s,baz=143,slow=0.0						
TKRD	**Thakurdwara**	**2.45**	**250**	*eP*	**Pn**	**04 59 06.9**	**+0.1**
TKRD				*eS*	**Sn**	**04 59 36.6**	**-0.5**
TKRD				IAML		04 59 49.6	
	comp=E,6µm,0.6s						
TKRD				IAML		04 59 50.1	
	comp=N,5µm,0.3s						
DANN	**Dangsing**	**2.58**	**129**	Pg	**Pb**	**04 59 11.8**	**-1.3**
	baz=128,slow=0.0						
DANN				Sg	**Sb**	**04 59 44.7**	**-0.5**
	comp=N,1µm,0.8s,baz=128,slow=0.0						
DANN	**Dangsing**	**2.58**	**129**	Pn	**Pn**	**04 59 11.2**	**+2.3**
	baz=130,slow=0.0						
DANN				Sn	**Sb**	**04 59 43.4**	**-1.8**
	comp=N,1µm,0.8s,baz=130,slow=0.0						
DANN	**Dangsing**	**2.58**	**129**	Pn	**Pb**	**04 59 11.6**	**-1.5**
	baz=128,slow=0.0						
DANN				Sn	**Sb**	**04 59 43.5**	**-1.8**
	comp=N,1µm,0.8s,baz=128,slow=0.0						
DANN	**Dangsing**	**2.58**	**129**	Pn	**Pb**	**04 59 11.8**	**-1.3**
	baz=129,slow=0.0						
DANN				Sn	**Sb**	**04 59 43.4**	**-1.8**
	comp=N,1µm,0.8s,baz=129,slow=0.0						
KOLN	**Koldanda**	**2.90**	**140**	Pg	**Pn**	**04 59 15.6**	**+2.5**
	baz=138,slow=0.0						
KOLN				Sg	**Sn**	**04 59 51.2**	**+2.9**
	comp=N,262nm,0.4s,baz=138,slow=0.0						
KOLN	**Koldanda**	**2.90**	**140**	Pn	**Pn**	**04 59 15.8**	**+2.7**
	baz=140,slow=0.0						
KOLN				Sn	**Sn**	**04 59 50.3**	**+2.0**
	comp=N,838nm,1.2s,baz=140,slow=0.0						
KOLN	**Koldanda**	**2.90**	**140**	Pn	**Pn**	**04 59 15.5**	**+2.5**
	baz=138,slow=0.0						
KOLN				Sn	**Sn**	**04 59 50.9**	**+2.6**
	comp=N,838nm,1.2s,baz=138,slow=0.0						
KOLN	**Koldanda**	**2.90**	**140**	Pn	**Pn**	**04 59 15.6**	**+2.5**
	baz=139,slow=0.0						
KOLN				Sn	**Sn**	**04 59 50.8**	**+2.5**
	comp=N,838nm,1.2s,baz=139,slow=0.0						
DDI	**Dehra Dun**	**2.99**	**277**	*eP*	**Pn**	**04 59 14.8**	**+0.6**
DDI				*eS*	**Sn**	**04 59 50.9**	**+0.4**
KLP	**Kalpa**	**3.18**	**299**	*eP*	**Pn**	**04 59 17.8**	**+0.7**
KLP				*eS*	**Sn**	**04 59 55.7**	**+0.2**
GKN	**Gorkha**	**3.40**	**125**	Pn	**Pn**	**04 59 22.3**	**+2.3**
	baz=124,slow=0.0						
GKN				Sn	**Sn**	**05 00 02.6**	**+1.8**
	comp=N,380nm,0.4s,baz=124,slow=0.0						
GKN	**Gorkha**	**3.40**	**125**	Pn	**Pn**	**04 59 22.4**	**+2.4**
	baz=126,slow=0.0						
GKN				Sn	**Sn**	**05 00 02.2**	**+1.4**
	comp=N,380nm,0.4s,baz=126,slow=0.0						
GKN	**Gorkha**	**3.40**	**125**	Pn	**Pn**	**04 59 22.5**	**+2.4**
	baz=124,slow=0.0						
GKN				Sn	**Sn**	**05 00 02.6**	**+1.8**
	comp=N,380nm,0.4s,baz=124,slow=0.0						
GKN	**Gorkha**	**3.40**	**125**	Pn	**Pn**	**04 59 22.5**	**+2.4**
	baz=125,slow=0.0						
GKN				Sn	**Sn**	**05 00 02.9**	**+2.1**
	comp=N,380nm,0.4s,baz=125,slow=0.0						
HNLY	**HANLEY**	**3.50**	**323**	*eP*	**Pn**	**04 59 22.4**	**+0.6**
HNLY				*eS*	**Sn**	**05 00 03.4**	**-0.5**
UGON	**Onchagaon**	**3.56**	**243**	*eP*	**Pn**	**04 59 22.3**	**+0.3**
UGON				*eS*	**Sn**	**05 00 03.2**	**-1.2**
UGON				IAML		05 00 21.9	
	comp=N,721nm,0.7s						
UGON				IAML		05 00 23.8	
	comp=E,740nm,0.8s						
SMLA	**Simla**	**3.89**	**288**	*eP*	**Pn**	**04 59 27.2**	**+0.6**
SMLA				*eS*	**Sn**	**05 00 12.1**	**-0.6**
DMN	**Daman**	**3.97**	**126**	Pn	**Pn**	**04 59 30.1**	**+2.1**
	baz=125,slow=0.0						
DMN				Sn	**Sn**	**05 00 16.1**	**+1.1**
	comp=E,159nm,0.7s,baz=125,slow=0.0						
DMN	**Daman**	**3.97**	**126**	Pn	**Pn**	**04 59 30.3**	**+2.4**
	baz=127,slow=0.0						
DMN	**Daman**	**3.97**	**126**	Pn	**Pn**	**04 59 30.7**	**+2.8**
	baz=125,slow=0.0						
DMN				Sn	**Sn**	**05 00 17.1**	**+2.1**
	comp=E,319nm,0.8s,baz=125,slow=0.0						
DMN	**Daman**	**3.97**	**126**	Pn	**Pn**	**04 59 30.7**	**+2.8**
	baz=126,slow=0.0						
DMN				Sn	**Sn**	**05 00 16.1**	**+1.1**
	comp=E,127nm,0.5s,baz=126,slow=0.0						
KKN	**Kakani**	**3.99**	**123**	Pn	**Pn**	**04 59 30.6**	**+2.4**
	baz=122,slow=0.0						
KKN				Sn	**Sn**	**05 00 16.9**	**+1.5**
	comp=E,264nm,0.6s,baz=122,slow=0.0						
KKN	**Kakani**	**3.99**	**123**	Pn	**Pn**	**04 59 29.9**	**+1.7**
	baz=124,slow=0.0						
KKN	**Kakani**	**3.99**	**123**	Pn	**Pn**	**04 59 30.7**	**+2.6**
	baz=122,slow=0.0						
KKN	**Kakani**	**3.99**	**123**	Pn	**Pn**	**04 59 30.8**	**+2.6**
	baz=123,slow=0.0						
KKN				Sn	**Sn**	**05 00 16.9**	**+1.5**
	comp=E,549nm,1.3s,baz=123,slow=0.0						
PKIN	**Phulchoki**	**4.20**	**124**	Pn	**Pn**	**04 59 33.3**	**+2.2**
	baz=124,slow=0.0						
PKIN				Sn	**Sn**	**05 00 22.9**	**+2.4**
	comp=E,239nm,0.6s,baz=124,slow=0.0						
PKIN	**Phulchoki**	**4.20**	**124**	Pn	**Pn**	**04 59 33.2**	**+2.2**
	baz=125,slow=0.0						
PKIN	**Phulchoki**	**4.20**	**124**	Pn	**Pn**	**04 59 33.8**	**+2.7**
	baz=124,slow=0.0						
PKIN				Sn	**Sn**	**05 00 21.7**	**+1.2**
	comp=E,239nm,0.6s,baz=124,slow=0.0						
PKIN	**Phulchoki**	**4.20**	**124**	Pn	**Pn**	**04 59 33.6**	**+2.5**
	baz=124,slow=0.0						
PKIN				Sn	**Sn**	**05 00 21.7**	**+1.2**
	comp=E,97nm,0.4s,baz=124,slow=0.0						
PKI	**Pulchoki**	**4.21**	**124**	Pn	**Pn**	**04 59 33.4**	**+2.1**
	baz=124,slow=0.0						
PKI				Sn	**Sn**	**05 00 21.8**	**+0.8**
	comp=E,102nm,0.4s,baz=124,slow=0.0						
PKI	**Pulchoki**	**4.21**	**124**	Pn	**Pn**	**04 59 33.3**	**+2.0**
	baz=125,slow=0.0						
PKI				Sn	**Sn**	**05 00 21.9**	**+1.0**
	comp=E,102nm,0.4s,baz=125,slow=0.0						
PKI	**Pulchoki**	**4.21**	**124**	Pn	**Pn**	**04 59 34.8**	**+3.5**
	baz=124,slow=0.0						
PKI				Sn	**Sn**	**05 00 22.3**	**+1.4**
	comp=E,102nm,0.4s,baz=124,slow=0.0						
PKI	**Pulchoki**	**4.21**	**124**	Pn	**P

	comp=E,69nm,0.3s,baz=120,slow=0.0							
NIL	**Nilore**	**7.89**	**300**			**Pn**	**05 00 22.1**	**+0.4**
LSA	**Lhasa**	**8.40**	**90**	Sn		**Sn**	**05 02 02.7**	**-1.6**
LSA	**Lhasa**	**8.40**	**90**	P		**Pn**	**05 00 32.5**	**+3.6**
LSA				S		Sb	05 02 18.3	-14
LSA				pmax	pmax			
	comp=Z,7.0nm,0.5s							
LSA				LR	LR			
	comp=N,120nm,8.3s							
LSA				LR	LR			
	comp=E,110nm,8.3s							
LSA				LR	LR			
	comp=Z,200nm,9.4s							
SHL	**Shillong**	**10.21**	**113**			**Pn**	**05 00 52.2**	**-1.4**
KBL	**Kabul**	**11.46**	**296**			**Pn**	**05 01 09.9**	**-0.8**
BOOM	**Boomskoye usch**	**13.24**	**342**	Pn		**Pn**	**05 01 34.1**	**-0.7**
KKAR	**Karatay Array**	**15.75**	**329**	Pn		**Pn**	**05 02 07.0**	**-1.7**
MKAR	**Makanchi Array**	**16.78**	**2**	Pn		**Pn**	**05 02 21.9**	**+0.1**
MKAR	**Makanchi Array**	**16.78**	**2**	Pn		**Pn**	**05 02 20.1**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=172,slow=11,SNR=1.6							
	comp=Z,0.5nm,0.7s							
GTA	**Gaotai**	**17.72**	**53**	*e*P		**P**	**05 02 35.5**	**+0.8**
GTA				pmax	pmax			
	comp=Z,5.0nm,0.8s							
LZDM	**Lanzhou Array**	**19.54**	**66**	P		**P**	**05 02 54.7**	**-0.1**
	baz=258,slow=7.4							
	comp=Z,2.9nm,0.4s							
CMAR	**Chiang Mai Arr**	**19.60**	**122**	P		**P**	**05 02 54.1**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=311,slow=10,SNR=10							
	comp=Z,0.8nm,0.3s							
KURBB	**Kurchatov Arra**	**20.72**	**355**	P		**P**	**05 03 06.5**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=180,slow=11,SNR=12							
	comp=Z,2.5nm,0.9s							
KURK	**Kurchatov**	**20.80**	**355**			**P**	**05 03 07.2**	**-0.9**
KURK				IAmb		IAmb	05 03 17.7	
	comp=Z,5.4nm,0.7s							
XAN	**Xi'an**	**23.57**	**73**	*e*P		**P**	**05 03 40.5**	**+2.8**
XAN				pmax	pmax			
	comp=Z,6.0nm,1.2s							
ZALV	**Zalesovo Beam**	**24.05**	**5**	P		**P**	**05 03 39.3**	**-2.7**
ZALV	**Zalesovo Beam**	**24.05**	**5**	P		**P**	**05 03 41.8**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=190,slow=11,SNR=8.2							
	comp=Z,1.5nm,0.5s							
BVAR	**Borovoye Array**	**24.40**	**344**	P		**P**	**05 03 45.4**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=154,slow=11,SNR=4.1							
	comp=Z,1.2nm,0.6s							
AB31	**Akbulak array**	**25.24**	**326**	P		**P**	**05 03 53.0**	**+0.1**
ABKAR	**Akbulak array**	**25.24**	**326**	P		**P**	**05 03 52.8**	**-0.2**
SONM	**Songino Array**	**26.14**	**40**	P		**P**	**05 04 00.8**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=221,slow=11,SNR=4.5							
	comp=Z,0.8nm,0.6s							
JOW	**Kunigami**	**41.05**	**83**	LR		LR	05 23 48.6	
	comp=Z,39nm,20.1s,baz=142,slow=37							
FIA1	**FINESS Array S**	**47.70**	**328**	P		**P**	**05 07 03.5**	**+0.1**
FINES	**FINESS Array B**	**47.70**	**328**	P		**P**	**05 07 03.2**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=104,slow=6.1,SNR=11							
	comp=Z,2.4nm,0.8s							
ARCES	**ARCESS Array B**	**50.47**	**338**	P		**P**	**05 07 25.5**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=90,slow=7.3,SNR=4.1							
	comp=Z,1.2nm,0.8s							
HFS	**Hagfors**	**53.50**	**325**	P		**P**	**05 07 47.2**	**0.0**
	comp=Z,1.1nm,0.5s,baz=90,slow=7.4,SNR=6.0							
	comp=Z,1.1nm,0.5s							
GERES	**GERESS Array B**	**53.83**	**311**	P		**P**	**05 07 51.6**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=86,slow=6.6,SNR=2.5							
	comp=Z,0.2nm,0.4s							
NB2	**NORSAR Subarra**	**54.75**	**326**	P		**P**	**05 07 59.1**	**+2.7**
	comp=Z,0.5nm,0.5s,baz=89,slow=7.4							
NOA	**NORSAR Array B**	**54.75**	**326**	P		**P**	**05 07 57.6**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=91,slow=7.0,SNR=3.7							
	comp=Z,1.0nm,0.8s							
NC204	**NORSAR Array S**	**54.97**	**326**	P		**P**	**05 07 58.4**	**+0.3**
NC204				IAmb		IAmb	05 08 07.0	
	comp=Z,12nm,1.2s							
WRA	**Warramunga Arr**	**71.09**	**128**	P		**P**	**05 09 43.8**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=320,slow=6.4,SNR=5.7							
	comp=Z,0.4nm,0.7s							
ASAR	**Alice Springs**	**73.35**	**131**	P		**P**	**05 09 57.1**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=315,slow=6.0,SNR=2.3							
	comp=Z,0.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**74.80**	**277**	P		**P**	**05 10 07.2**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=47,slow=5.4,SNR=3.8							
	comp=Z,0.6nm,0.9s							

*SOME **28** 05:06:15.9, 42.07N×78.75E, h15km*
*KRNET **28** 05:06:16.0±0.1, 42.09N×78.75E, h15km, mb2.7*
*NNC **28** 05:06:16.3±1.3, 42.13N×78.83E, h0km, mb3.2, mpv3.1, Error ellipse: s-maj=8.4km s-min=4.9km az=161.0*

ISC 28 05:06:16.6±1.4, 42.08N±0.04×78.72E±0.04, h13km±9km, n32, σ1§47/55, 18C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PRZ	**Przheval'sk**	**0.47**	**330**	⇑	*i*P	**Pg**	**05 06 25.2**	**-0.7**
PRZ				⇑	*i*S	**Sg**	**05 06 32.4**	**+0.2**
TARG	**Taragay, Kyrgy**	**0.77**	**243**	⇑	*i*P	**Pg**	**05 06 31.2**	**-0.3**
TARG				⇑	*i*S	**Sb**	**05 06 42.1**	**-0.4**
SATY	**Saty**	**1.01**	**347**	P		**Pn**	**05 06 35.8**	**-0.7**
	2.8nm,0.1s							
SATY				S		**Sn**	**05 06 50.3**	**-0.3**
	24nm,0.1s							
UZB	**Uzynbulak**	**1.09**	**12**	P		**Pb**	**05 06 35.1**	**-2.3**
	2.8nm,0.2s							
UZB				S		**Sb**	**05 06 49.1**	**-2.5**
	19nm,0.2s							
UZB	**Uzynbulak**	**1.09**	**12**	*e*P		**Pb**	**05 06 35.1**	**-2.3**
	2.8nm,0.2s							
UZB				*e*S		**Sb**	**05 06 49.1**	**-2.5**
	19nm,0.2s							
KDJ	**Kajisay**	**1.15**	**273**	⇑	*i*P	**Pn**	**05 06 37.8**	**-0.7**
KDJ				⇑	*i*S	**Sg**	**05 06 53.9**	**+0.3**
SHLS	**Shalkode**	**1.21**	**27**	P		**Pg**	**05 06 40.8**	**+0.8**
	4.2nm,0.1s							
SHLS				S		**Sg**	**05 06 58.7**	**+3.0**
	20nm,0.3s							
SHLS	**Shalkode**	**1.21**	**27**	*e*P		**Pg**	**05 06 40.8**	**+0.8**
	4.2nm,0.1s							
SHLS				*e*S		**Sg**	**05 06 58.7**	**+3.0**
	20nm,0.3s							
KPKS	**Kokpek**	**1.39**	**359**	P		**Pn**	**05 06 41.1**	**-0.7**
	2.5nm,0.1s							
KPKS				S		**Sn**	**05 06 59.0**	**-0.9**
	5.6nm,0.4s							
KURS	**Kuram**	**1.46**	**344**	P		**Pg**	**05 06 44.7**	**-0.1**
	3.1nm,0.4s							
KURS				S		**Sg**	**05 07 04.9**	**+1.1**
	4.5nm,0.4s							
TNSS	**Tian-Shan**	**1.62**	**307**	P		**Pg**	**05 06 46.9**	**-0.8**
	0.6nm,0.2s							
TNSS				S		**Sg**	**05 07 09.3**	**+0.4**
	1.8nm,0.1s							
TNSS	**Tian-Shan**	**1.62**	**307**	*e*P		**Pg**	**05 06 46.9**	**-0.8**
	0.6nm,0.2s							
TNSS				*e*S		**Sg**	**05 07 09.3**	**+0.4**
	1.8nm,0.1s							
MDOK	**Medeo**	**1.64**	**312**	Pg		**Pg**	**05 06 47.2**	**-0.9**
	2.1nm,0.2s							
MDOK				Lg		Lg	05 07 09.6	
	4.9nm,0.2s							
ULHL	**Ulahol**	**1.85**	**276**	⇑	*i*P	**Pb**	**05 06 50.6**	**+0.2**
ULHL				⇑	*i*S	**Sg**	**05 07 15.7**	**-0.4**
MTBS	**Maitube**	**1.99**	**303**	Pg		**Pb**	**05 06 53.3**	**+0.7**
	3.3nm,0.2s							
MTBS				Lg		Lg	05 07 20.2	
	13nm,0.3s							
MTBS	**Maitube**	**1.99**	**303**	*e*P		**Pb**	**05 06 53.3**	**+0.7**
	3.3nm,0.2s							
MTBS				*e*S		**Sg**	**05 07 20.2**	**-0.4**
	13nm,0.3s							
BOOM	**Boomskoye usch**	**2.10**	**282**	⇑	*i*P	**Pb**	**05 06 54.1**	**-0.5**
BOOM				⇑	*i*S	**Sb**	**05 07 22.2**	**+1.5**
CHKK	**Chushkaly**	**2.18**	**325**	Pg		**Pb**	**05 06 56.4**	**+0.5**
	17nm,0.3s							
CHKK				Lg		Lg	05 07 25.3	
	18nm,0.2s							
CHKK	**Chushkaly**	**2.18**	**325**	*e*P		**Pb**	**05 06 56.4**	**+0.5**
	17nm,0.3s							
CHKK				*e*S		**Sg**	**05 07 25.3**	**-1.4**
	18nm,0.2s							
KTBS	**Karatobe**	**2.21**	**318**	Pg		**Pb**	**05 06 57.1**	**+0.6**
	5.5nm,0.3s							
KTBS				Lg		Lg	05 07 26.6	
	20nm,0.3s							
ARXS	**Arharly**	**2.23**	**343**	Pg		**Pb**	**05 06 56.5**	**-0.3**
	9.5nm,0.4s							
ARXS				Lg		Lg	05 07 25.5	
	9.6nm,0.4s							
ARXS	**Arharly**	**2.23**	**343**	*e*P		**Pb**	**05 06 56.5**	**-0.3**
ARXS				*e*S		**Sb**	**05 07 25.5**	**+1.1**
KST	**Kastek**	**2.25**	**296**	Pg		**Pg**	**05 06 58.5**	**-1.3**
	3.7nm,0.2s							
KST				Lg		Lg	05 07 28.8	
	31nm,0.6s							
KST	**Kastek**	**2.25**	**296**	*e*P		**Pg**	**05 06 58.5**	**-1.3**
	3.7nm,0.2s							
KST				*e*S		**Sg**	**05 07 28.8**	**-0.1**
	31nm,0.6s							
KNOS	**Konyrlen**	**2.30**	**8**	Pg		**Pb**	**05 06 56.8**	**-1.3**
	2.6nm,0.1s							
KNOS				Lg		Lg	05 07 26.0	
	11nm,0.2s							
TKM2	**Tokmak 2**	**2.46**	**291**	⇑	*i*P	**Pb**	**05 06 59.3**	**-1.4**
TKM2				⇑	*i*S	**Sb**	**05 07 30.7**	**-0.2**
JNKS	**Jany-Kuch**	**2.52**	**247**	⇑	*i*P	**Pb**	**05 07 00.1**	**-1.6**
JNKS				⇑	*i*S	**Sb**	**05 07 32.3**	**-0.4**
KUU	**Kurty**	**2.52**	**317**	Pg		**Pb**	**05 07 01.2**	**-0.4**
	2.3nm,0.0s							
KUU				Lg		Lg	05 07 33.6	
	6.0nm,0.1s							
KUU	**Kurty**	**2.52**	**317**	*e*P		**Pb**	**05 07 01.2**	**-0.4**
	2.3nm,0.0s							
KUU				*e*S		**Sb**	**05 07 33.6**	**+1.2**
	6.0nm,0.1s							
KRBS	**Karabastau**	**2.76**	**307**	Pg		**Pb**	**05 07 06.7**	**+0.9**
	2.8nm,0.3s							
KRBS				Lg		Lg	05 07 42.9	
	5.0nm,0.5s							
AAK	**Ala-Archa**	**3.18**	**282**	⇑	*i*P	**Pn**	**05 07 09.2**	**+2.8**
AAK				⇑	*i*S	**Sb**	**05 07 48.1**	**-3.6**
USP	**Ospenovka**	**3.33**	**292**	⇑	*i*P	**Pn**	**05 07 11.0**	**+2.6**
USP				⇑	*i*S	**Sn**	**05 07 51.2**	**+3.4**

IDC 28 05:14:43.6±45.0, 16.30S×172.29W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=880.2km s-min=189.8km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**44.52**	**241**	P		P	05 22 57.1	-0.1
	1.0nm,0.3s,baz=77,slow=14,SNR=1.7							
	1.0nm,0.3s							
WRA	**Warramunga Arr**	**50.68**	**257**	P		P	05 23 45.0	-0.3
	0.4nm,0.4s,baz=94,slow=6.8,SNR=14							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**50.85**	**253**	P		P	05 23 46.6	0.0
	3.4nm,0.4s,baz=89,slow=8.4,SNR=57							
	3.4nm,0.4s							

GCG 28 05:15:52.1±0.5, 13.92N×91.19W, h54km±10km, MD3.6, ML3.1, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ESSG	**Sabana Grande**	**0.58**	**38**	*i*	Pg	Pn	05 16 05.0	+0.3
ESSG					IAML		05 16 15.0	
	comp=N,242nm,0.1s							
FG8	**Yepocapa, Chim**	**0.70**	**61**	*e*P		Pn	05 16 04.6	-1.5
FG8				*i*	S	Sn	05 16 14.5	-1.9
FG16	**Alotenango, Sa**	**0.75**	**62**	*e*P		Pn	05 16 05.7	-1.2
FG16					IAML		05 16 18.8	
	comp=N,2μm,0.2s							
NUBE	**Las Nubes**	**1.37**	**91**	*e*P		Pn	05 16 15.6	+0.5

*AEIC **28** 05:32:44.1±1.6, 54.83N±0.10×163.35W±0.10, h96km±3km, Error ellipse: s-maj=16.0km s-min=1.6km az=149.0*

NEIC 28 05:32:43.7±1.9, 54.73N±0.09×163.23W±0.08, h102km±4km, mb3.6/6, ML3.6/28, ML3.1(AEIC), Error ellipse: s-maj=13.3km s-min=4.3km az=157.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FALS	**False Pass**	**0.17**	**321**			Pn	05 32 57.9	0.0
FALS						Sn	05 33 08.4	-0.2
ISNN	**Isanotski Nort**	**0.33**	**289**			Pn	05 32 58.8	+0.2
ISNN						Sn	05 33 10.2	+0.4
SSLS	**Shishaldin Sou**	**0.45**	**269**			Pn	05 32 59.5	+0.2
SSLS						Sn	05 33 11.4	+0.3
SSLN	**Shishaldin Nor**	**0.45**	**281**			Pn	05 32 59.6	+0.3
SSLN						Sn	05 33 11.7	+0.6
SSBA	**Shishaldin**	**0.52**	**276**			Pn	05 32 59.9	0.0
DT1	**Dutton Round H**	**0.67**	**55**			Pn	05 33 00.8	-0.1
DT1						Sn	05 33 13.3	-0.6
WEBT	**Westdahl Beart**	**0.89**	**262**			Pn	05 33 03.3	+0.2
HAG	**Hague Volcano**	**0.97**	**52**			Pn	05 33 04.5	+0.7
PN7A	**Pavlof North-7**	**1.00**	**45**			Pn	05 33 04.8	+0.5
PS4A	**Pavlof South-4**	**1.01**	**51**			Pn	05 33 04.8	+0.5
PS1A	**Pavlof South-1**	**1.10**	**50**			Pn	05 33 06.0	+0.6
PS1A						Sn	05 33 23.1	+1.4
S12K	**Black Hills**	**1.19**	**34**			Pn	05 33 06.2	-0.1
S12K						Sn	05 33 22.7	-0.7
S12K					IAML		05 33 23.6	
	comp=E,1μm,0.6s							
S12K					IAML		05 33 23.7	
	comp=N,883nm,0.5s							
AKSA	**Akutan Strait**	**1.56**	**249**			Pn	05 33 11.7	+1.0
AKUT	**Akutan**	**1.60**	**249**	Pn		Pn	05 33 11.1	-0.1
AKUT						Sn	05 33 31.9	-0.1
AKLV	**Akutan Long Va**	**1.69**	**252**			Pn	05 33 13.2	+0.8
AKGG	**Akutan Green G**	**1.69**	**253**			Pn	05 33 13.2	+0.8
SDPT	**Sand Point**	**1.71**	**67**	Pn		Pn	05 33 13.2	+0.7
SDPT					IAML		05 33 35.8	
	comp=E,253nm,1.1s							
SDPT					IAML		05 33 37.3	
	comp=N,321nm,0.7s							
LVA	**Lava Point**	**1.73**	**252**	Pn		Pn	05 33 13.2	+0.4
LVA					IAML		05 33 48.0	
	comp=N,313nm,0.8s							
AKMO	**Akutan Morgan**	**1.74**	**250**			Pn	05 33 13.8	+0.8
AKRB	**Akutan Reef Bi**	**1.76**	**251**			Pn	05 33 13.8	+0.6
AKRB						Sn	05 33 36.9	+1.2
UNV	**Unalaska Valle**	**2.11**	**247**	Pn		Pn	05 33 18.1	+0.4
CNBA	**Chernabura Isl**	**2.11**	**86**			Pn	05 33 17.3	-0.4
MNAT	**Makushin Natee**	**2.19**	**249**			Pn	05 33 19.4	+0.7
MSW	**Makushin Switc**	**2.23**	**250**			Pn	05 33 19.8	+0.5
MREP	**Makushin Rep't**	**2.25**	**247**			Pn	05 33 20.5	+0.8
MGOD	**Makushin Gods**	**2.33**	**248**			Pn	05 33 21.5	+0.9
MAPS	**Pakushin South**	**2.36**	**249**			Pn	05 33 21.9	+1.0
VNFG	**Fog Glacier, M**	**2.61**	**52**			Pn	05 33 26.3	+1.9
VNFG	**Fog Glacier, M**	**2.61**	**52**		IAML		05 33 59.7	
	comp=N,335nm,2.7s							
OKTU	**Okmok Mt. Tuli**	**3.14**	**247**			Pn	05 33 32.3	+1.0
CHGN	**Chignik**	**3.16**	**58**	Pn		Pn	05 33 32.5	+1.0
CHGN					IAML		05 34 57.7	
	comp=N,190nm,0.1s							
CHGN					IAML		05 34 57.8	
	comp=E,164nm,0.1s							
NIKH	**Nikolski High**	**3.77**	**244**	Pn		Pn	05 33 39.0	-0.6
NIKH					IAML		05 34 28.1	
	comp=N,96nm,2.4s							
NIKH					IAML		05 35 37.8	
	comp=E,110nm,3.9s							
O14K	**Tigyukauivet M**	**4.67**	**13**	Pn		Pn	05 33 51.5	-0.2
O14K					IAML		05 35 18.7	
	comp=E,34nm,2.5s							
O14K					IAML		05 35 21.2	
	comp=N,44nm,2.6s							
O15K	**Ungalikthiuk R**	**4.84**	**21**	Pn		Pn	05 33 53.4	-0.7
O15K					IAML		05 34 58.1	
	comp=E,32nm,2.8s							
O15K					IAML		05 35 57.9	
	comp=N,33nm,3.1s							
P16K	**Nushagak River**	**5.19**	**32**	Pn		Pn	05 33 59.0	+0.2
N14K	**Kuskokwak Cree**	**5.28**	**8**	Pn		Pn	05 33 59.8	-0.2
O16K	**Kokwok River B**	**5.62**	**28**			Pn	05 34 05.7	+0.9
M13K	**Dall Lake**	**5.71**	**359**	Pn		Pn	05 34 05.7	-0.1
N15K	**Kwethluk River**	**5.71**	**16**	Pn		Pn	05 34 06.1	+0.1
M14K	**Bethel**	**6.08**	**6**			Pn	05 34 11.2	+0.3
OHAK	**Old Harbor**	**6.12**	**62**	Pn		Pn	05 34 10.3	-1.1
P18K	**Big Mountain,**	**6.40**	**40**	Pn		Pn	05 34 16.1	+0.9
N17K	**Nushagak Hills**	**6.66**	**27**	Pn		Pn	05 34 19.5	+0.7
KDAK	**Kodiak Island**	**6.68**	**58**	Pn		Pn	05 34 17.8	-1.2
M16K	**Timber Creek**	**6.71**	**18**	Pn		Pn	05 34 19.6	+0.1
SYI	**Shuyak Island**	**7.13**	**52**	Pn		Pn	05 34 25.7	+0.5
N18K	**Kilae Creek**	**7.15**	**30**	Pn		Pn	05 34 24.8	-0.6
L16K	**Owhat River**	**7.28**	**14**	Pn		Pn	05 34 26.9	-0.3
M17K	**Holitna River**	**7.36**	**22**			Pn	05 34 28.8	+0.4
K15K	**Wolf Creek Mou**	**7.64**	**6**	Pn		Pn	05 34 32.0	-0.1
N19K	**Bonanza Creek**	**7.69**	**34**	Pn		Pn	05 34 31.7	-1.1
RED	**Redoubt Volcan**	**8.01**	**40**	Pn		Pn	05 34 38.2	+1.0
CNPM	**China Poot**	**8.10**	**49**	Pn		Pn	05 34 36.6	-1.9
L18K	**Granite Mounta**	**8.26**	**22**	Pn		Pn	05 34 39.2	-1.3
BRLK	**Bradley Lake**	**8.38**	**48**	Pn		Pn	05 34 42.9	+0.7
K17K	**Iditarod**	**8.41**	**16**	Pn		Pn	05 34 42.2	-0.3
L19K	**White Mountain**	**8.66**	**27**	Pn		Pn	05 34 45.4	-0.7
M20K	**Styx River**	**8.92**	**32**	Pn		Pn	05 34 50.2	+0.6
J17K	**VABM Dome**	**8.96**	**12**	Pn		Pn	05 34 49.6	-0.3
SEW	**Seward**	**9.17**	**48**	Pn		Pn	05 34 51.9	-1.0
O22K	**Cooper Landing**	**9.26**	**46**			Pn	05 34 53.8	-0.2
SUA	**Susitna One**	**9.44**	**39**	Pn		Pn	05 34 56.2	-0.4
SKT	**Skwentna**	**9.51**	**35**	Pn		Pn	05 34 57.7	+0.2
K20K	**Telida**	**9.85**	**25**	Pn		Pn	05 35 02.2	+0.1
PWL	**Port Wells**	**10.04**	**46**			Pn	05 35 03.3	-1.4
KNK	**Knik Glacier**	**10.29**	**43**	Pn		Pn	05 35 06.8	-1.2
SCM	**Sheep Creek Mo**	**10.97**	**43**	Pn		Pn	05 35 15.2	-2.2
KLU	**Klutina**	**11.37**	**46**			Pn	05 35 20.9	-1.8
RND	**Reindeer**	**11.39**	**34**	Pn		Pn	05 35 21.8	-1.3
M24K	**Tolsona, Glenn**	**11.57**	**43**			Pn	05 35 23.9	-1.6
HMT	**Hamilton**	**11.62**	**53**			Pn	05 35 24.7	-1.3
BMRM	**Bremner River**	**11.70**	**50**	Pn		Pn	05 35 25.1	-2.1
N25K	**Chitina, Valde**	**11.98**	**47**			Pn	05 35 28.8	-2.1
GLB	**Gilahina Butte**	**12.25**	**49**	Pn		Pn	05 35 32.4	-2.1
VRDI	**Verde Repeater**	**12.32**	**50**			Pn	05 35 33.6	-1.9
PAX	**Paxson**	**12.32**	**41**	Pn		Pn	05 35 34.1	-1.3
K24K	**Donnelly Dome**	**12.70**	**37**	Pn		Pn	05 35 38.9	-1.5
F20K	**Avaraart Lake**	**12.88**	**13**	Pn		Pn	05 35 43.0	+0.4
GRNC	**Granite Creek**	**12.92**	**54**			Pn	05 35 41.9	-1.5
M26K	**Nabesna, AK**	**13.02**	**46**	Pn		Pn	05 35 42.5	-2.0
CTGM	**Chitina Glacie**	**13.19**	**53**	Pn		Pn	05 35 46.0	-0.9
M27K	**Edge Creek, AK**	**13.46**	**47**	Pn		Pn	05 35 48.2	-2.3
O28M	**Mount Upton**	**13.67**	**54**			Pn	05 35 51.9	-1.3
BCAR	**Beaver Creek A**	**13.82**	**44**	Pn		Pn	05 35 52.8	-2.1
E24K	**Your Creek**	**15.07**	**22**	Pn		Pn	05 36 10.1	-0.9
E24K					IAmb	IAmb	05 36 32.5	
	comp=Z,2.4nm,1.0s							
M30M	**Minto, Yukon**	**15.74**	**49**	Pn		Pn	05 36 18.7	-0.7
K29M	**Barlow Dome**	**15.88**	**45**	Pn		Pn	05 36 21.2	0.0
K29M					IAmb	IAmb	05 36 25.8	
	comp=Z,4.2nm,1.1s							
C23K	**Itkillik River**	**16.20**	**16**	P		P	05 36 25.6	-0.6
C23K					IAmb	IAmb	05 36 47.4	
	comp=Z,3.2nm,0.8s							
H31M	**Peel River**	**17.92**	**40**	P		P	05 36 44.2	-1.1
H31M					IAmb	IAmb	05 36 49.9	
	comp=Z,6.2nm,1.1s							
TIXI	**Tiksi**	**32.68**	**327**	P		P	05 39 06.0	+0.4

*IDC **28** 05:37:53.9±5.0, 36.34N×71.08E, h162km±46km, mb3.3/9, mbtmp3.9/13, Error ellipse: s-maj=36.5km s-min=17.4km az=31.0*
*NNC **28** 05:38:01.8±7.9, 36.91N×70.95E, h163km±149km, mb2.9, mpv3.6, Error ellipse: s-maj=79.2km s-min=49.0km az=36.0*

ISC 28 05:37:57.2±1.1, 36.59N±0.09×71.1E±0.1, h188km, n17, σ1§47/21, mb3.6/7, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**6.52**	**356**	⇑	P	**Pn**	**05 39 31.9**	**+0.9**
	1.1nm,0.2s,baz=176,slow=12,SNR=27							
KK31				⇑	S	**Sn**	**05 40 40.9**	**-4.4**
	6.1nm,0.3s,baz=186,slow=19,SNR=18							
AAK	**Ala-Archa**	**6.59**	**23**	⇓	P	**Pn**	**05 39 33.1**	**+1.0**
	3.9nm,0.5s							
AAK				⇓	S	**Sn**	**05 40 45.4**	**-1.8**
	3.7nm,0.5s							
AAK	**Ala-Archa**	**6.59**	**23**	P		**Pn**	**05 39 33.3**	**+1.2**
	13nm,0.5s,baz=212,slow=6.1,SNR=26							
AAK				S		**Sn**	**05 40 46.4**	**-0.8**
	7.4nm,0.6s,baz=315,slow=23,SNR=14							
MKAR	**Makanchi Array**	**13.18**	**36**	P		**Pn**	**05 40 57.8**	**+0.5**
	1.6nm,0.9s,baz=230,slow=11,SNR=8.4							
AB31	**Akbulak array**	**15.04**	**331**	⇑	P	**Pn**	**05 41 19.0**	**-1.2**
	1.4nm,0.6s,baz=147,slow=12,SNR=12							
AB31				⇑	S	**Sn**	**05 44 09.0**	**+0.9**
	0.8nm,0.8s							
BVAR	**Borovoye Array**	**16.44**	**359**	P		**Pn**	**05 41 38.5**	**+1.2**
	0.9nm,0.4s,baz=164,slow=11,SNR=2.6							
AKTO	**Aktyubinsk**	**16.73**	**330**	P		**

	60nm,0.3s,baz=200,slow=22,SNR=13							
WRA	**Warramunga Arr**	**18.84**	**220**	P	P	05 52 30.8	+0.8	
	5.5nm,0.4s,baz=44,slow=12,SNR=84							
WRA				S	S	05 55 51.5	-1.9	
	1.5nm,0.9s,baz=41,slow=20,SNR=5.9							
ASAR	**Alice Springs**	**21.93**	**214**	P	P	05 53 04.2	+1.5	
	10nm,0.8s,baz=50,slow=8.2,SNR=61							
ASAR				S	S	05 56 51.8	+1.7	
	1.7nm,0.8s,baz=32,slow=22,SNR=8.2							
	10nm,0.8s							
STKA	**Stephens Creek**	**26.55**	**191**	LR	LR	06 05 15.9		
	comp=Z,28nm,21.3s,baz=19,slow=38							
ILAR	**Eielson Array**	**85.16**	**23**	P	P	06 00 36.7	-1.4	
	0.2nm,0.5s,baz=265,slow=5.5,SNR=5.4							
	0.2nm,0.5s							

IDC 28 06:01:10.8±4.5, 25°.60S×179°.03W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=177.5km s-min=70.1km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.94**	**250**	P	P	06 08 04.0	-0.6
	0.8nm,0.4s,baz=72,slow=10,SNR=2.9						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**42.65**	**262**	P	P	06 09 09.3	-0.1
	0.7nm,0.4s,baz=97,slow=8.6,SNR=18						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**43.19**	**268**	P	P	06 09 14.0	+0.1
	0.9nm,0.5s,baz=105,slow=7.6,SNR=10						
	0.9nm,0.5s						
HFS	**Hagfors**	**144.37**	**349**	PKP	PKPdf	06 20 48.0	-0.4
	3.6nm,1.1s,baz=45,slow=2.2,SNR=5.1						

*NEIC **28** 06:13:19.2±0.3, 19°.79N±0°.03×155°.06W±0°.03, h41km±5km, Error ellipse: s-maj=5.0km s-min=3.0km az=212.0*
HVO 28 06:13:20.1±0.8, 19°.82N±0°.04×155°.03W±0°.05, h40km±5km, ML2.5/21, ML2.7/43(NEIC), Error ellipse: s-maj=8.6km s-min=2.8km az=50.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.39**	**177**		Pn	06 13 28.2	-1.2
JOKA	**Jonika Flow**	**0.39**	**177**		Sn	06 13 33.4	-2.6
RSD	**Rainshed**	**0.43**	**214**		Pn	06 13 29.0	-1.0
RSD					Sn	06 13 35.6	-1.3
NPOC	**North of Pu'u**	**0.43**	**190**		Pn	06 13 28.8	-1.2
NPOC					Sn	06 13 35.3	-1.7
JCUZ	**Jacuzzi**	**0.44**	**189**		Pn	06 13 28.9	-1.2
JCUZ					Sn	06 13 35.3	-1.9
STCH	**Steam Cracks**	**0.45**	**192**		Pn	06 13 28.8	-1.4
STCH				IAML		06 13 36.2	
	comp=N,479nm,0.1s						
STCH	**Steam Cracks**	**0.45**	**192**		Sn	06 13 35.5	-1.8
HATHI	**Halema'uma'u T**	**0.45**	**209**		Pn	06 13 29.0	-1.3
HATHI					Sn	06 13 35.7	-1.8
HATHI	**Halema'uma'u T**	**0.45**	**209**	IAML		06 13 36.0	
	comp=N,570nm,0.1s						
HATHI				IAML		06 13 36.3	
	comp=E,347nm,0.1s						
SBLHI	**Steaming Bluff**	**0.45**	**210**		Pn	06 13 29.0	-1.4
SBLHI					Sn	06 13 35.7	-1.8
KNHH	**Kane Nui o Ham**	**0.46**	**197**		Pn	06 13 29.0	-1.4
UWB	**Uwekahuna Bluf**	**0.46**	**211**		Pn	06 13 29.0	-1.4
UWB					Sn	06 13 35.7	-2.0
BYL	**Byron's Ledge**	**0.46**	**208**		Pn	06 13 29.1	-1.4
BYL					Sn	06 13 35.8	-1.9
BYL	**Byron's Ledge**	**0.46**	**208**	IAML		06 13 36.0	
	comp=E,407nm,0.2s						
BYL				IAML		06 13 38.0	
	comp=N,225nm,0.2s						
MLH	**Mauna Loa**	**0.47**	**226**		Pn	06 13 29.5	-1.2
MLH					Sn	06 13 36.4	-1.7
MLH	**Mauna Loa**	**0.47**	**226**	IAML		06 13 36.8	
	comp=E,331nm,0.1s						
MLH				IAML		06 13 37.0	
	comp=N,512nm,0.2s						
OBL	**Observatory Le**	**0.47**	**211**		Pn	06 13 29.2	-1.3
OBL					Sn	06 13 36.1	-1.8
UWE	**Uwekahuna**	**0.47**	**212**		Pn	06 13 29.2	-1.3
UWE					Sn	06 13 36.1	-1.8
UWE	**Uwekahuna**	**0.47**	**212**	IAML		06 13 36.6	
	comp=N,911nm,0.1s						
UWE				IAML		06 13 36.6	
	comp=E,815nm,0.2s						
KKO	**Keanakako'i**	**0.48**	**208**		Pn	06 13 29.3	-1.3
KKO					Sn	06 13 36.1	-1.9
POHA	**Pohakuloa**	**0.48**	**262**		Pn	06 13 29.2	-1.6
POHA	**Pohakuloa**	**0.48**	**262**		Sn	06 13 36.0	-2.3
PUH	**Pauahi**	**0.48**	**202**		Pn	06 13 29.3	-1.4
PUH				IAML		06 13 36.6	
	comp=E,405nm,0.2s						
PUH	**Pauahi**	**0.48**	**202**		Sn	06 13 36.1	-2.0
HMH	**Humu'ula Sheep**	**0.48**	**243**		Pn	06 13 29.7	-1.1
HMH				IAML		06 13 37.4	
	comp=E,462nm,0.1s						
HMH	**Humu'ula Sheep**	**0.48**	**243**		Sn	06 13 37.1	-1.3
RIM	**Rim**	**0.48**	**209**		Pn	06 13 29.4	-1.4
RIM					Sn	06 13 36.4	-1.8
WRMHI	**West Rim**	**0.49**	**212**		Pn	06 13 29.3	-1.5
WRMHI					Sn	06 13 36.2	-2.0
SDHHI	**Sand Hill**	**0.50**	**210**		Pn	06 13 29.4	-1.5
SDHHI					Sn	06 13 36.6	-2.0
HLP	**Hilina Pali**	**0.59**	**207**		Pn	06 13 30.5	-1.5
HLP					Sn	06 13 38.4	-2.1
HLP	**Hilina Pali**	**0.59**	**207**	IAML		06 13 39.7	
	comp=N,232nm,0.9s						
HLP				IAML		06 13 45.1	
	comp=E,212nm,0.9s						
AIN	**Ainahou**	**0.60**	**222**		Pn	06 13 31.2	-1.3
AIN					Sn	06 13 39.4	-1.8
AIN	**Ainahou**	**0.60**	**222**	IAML		06 13 39.8	
	comp=N,542nm,0.3s						
AIN				IAML		06 13 40.8	
	comp=E,327nm,0.2s						
MWH	**Mokuaweoweo**	**0.63**	**238**		Pn	06 13 31.5	-1.6
MWH					Sn	06 13 40.2	-2.1
MWH	**Mokuaweoweo**	**0.63**	**238**	IAML		06 13 40.4	
	comp=N,255nm,0.8s						
MWH				IAML		06 13 40.5	
	comp=E,277nm,1.1s						
ALEP	**Alea Permanent**	**0.65**	**244**		Pn	06 13 31.7	-1.5
ALEP					Sn	06 13 40.2	-2.2
HPAH	**Hawaii Prepara**	**0.66**	**288**		Pn	06 13 31.3	-1.9
HPAH				IAML		06 13 39.4	
	comp=E,207nm,0.3s						
HPAH				IAML		06 13 39.9	
	comp=N,260nm,0.4s						
HTC	**Hot Caves**	**0.68**	**211**		Pn	06 13 31.9	-1.4
HUH	**Hualalai**	**0.77**	**260**		Sn	06 13 43.5	-1.9
HUH	**Hualalai**	**0.77**	**260**	Pn	Pn	06 13 33.4	-1.4
HUH				IAML		06 13 46.6	
	comp=N,195nm,0.9s						
KHU	**Kahuku**	**0.80**	**224**		Pn	06 13 33.3	-1.8
KHU					Sn	06 13 43.0	-2.9
HPO	**Honuapo**	**0.88**	**214**		Pn	06 13 34.4	-1.6
HPO					Sn	06 13 45.1	-2.5
MHA	**Mahukona**	**0.90**	**294**		Pn	06 13 34.3	-2.0
CPH	**Captain Cook**	**0.90**	**249**		Pn	06 13 34.5	-1.8
KKH	**Kailua Kona**	**0.95**	**260**		Pn	06 13 35.0	-1.9
KKH					Sn	06 13 46.9	-2.4
HLK	**Haleakala**	**1.48**	**309**		Pn	06 13 43.3	-1.1
HLK	**Haleakala**	**1.48**	**309**	IAML		06 14 32.7	
	comp=E,79nm,1.0s						
KHLH	**Kahului Airpor**	**1.69**	**309**		Pn	06 13 45.6	-1.5
KHLH					Sn	06 14 05.3	-2.3

GCG 28 06:13:38.3±1.0, 15°.16N×90°.23W, h13km±602km, MD3.7, ML2.4, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUIS	**Sacapulas**	**0.84**	**279**	*eP*	Pg	06 13 54.1	-0.5
QUIS				*i* S	Sb	06 14 06.2	+0.1
QUIS				IAML		06 14 06.8	
	comp=E,255nm,0.2s						
ESSG	**Sabana Grande**	**0.96**	**217**	*eS*	Sg	06 14 08.9	-0.6
MTO3	**Montecristo**	**1.13**	**132**	*eP*	Pb	06 13 58.3	-1.6
SOKI	**Kika Raxquin**	**1.18**	**254**	*eS*	Sg	06 14 16.5	0.0
NUBE	**Las Nubes**	**1.33**	**161**	*eP*	Pn	06 14 02.2	-0.4
NUBE				*eS*	Sg	06 14 21.6	+0.5
SARH	**Santa Rosa de**	**1.48**	**105**	*eP*	Pn	06 14 04.7	+0.1

*IDC **28** 06:18:09.5±1.2, 33°.94N×141°.65E, h0km, mb3.7/4, mbtmp3.6/6, ML3.0/2, MS3.2/2, Error ellipse: s-maj=23.9km s-min=20.2km az=80.0*
*JMA **28** 06:18:11.0±0.7, 34°.1N±1°×14°.2E±°, h24km, MV3.2/24, FAR SE OFF BOSO PEN*
ISC 28 06:18:12.9±1.2, 33°.95N±0°.06×141°.60E±0°.08, h24km, n21, σ0°81/20, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.87**	**324**	*eP*	Pb	06 18 27.6	-1.4
BSO1				*eX*		06 18 40.8	
BSO3	**Boso 3**	**1.24**	**314**	P	Pn	06 18 33.8	-0.6
BSO4	**Boso 4**	**1.47**	**315**	*eP*	Pn	06 18 37.5	-0.2
BSO4				*eS*	Sb	06 18 57.6	0.0
JMKN	**Mikurajimanish**	**1.67**	**269**	*eP*	Pn	06 18 40.8	+0.3
JMKN				*eS*	Sb	06 19 03.0	-0.4
JKUC	**kamogawauchiur**	**1.67**	**317**	*eP*	Pn	06 18 40.0	-0.5
JHJ2	**Mitsune**	**1.70**	**241**	*eP*	Pb	06 18 42.3	-1.1
JMYK	**Miyake Tsubota**	**1.70**	**274**	*eS*	Sb	06 19 04.4	0.0
JHJ	**Hachijo jima 2**	**1.73**	**242**	Pn	Pn	06 18 41.6	+0.2
	35nm,0.3s,baz=60,slow=20,SNR=14						
JHJ				Sn	Sb	06 19 04.4	-0.7
	84nm,0.3s,baz=60,slow=23,SNR=10						
TATJ	**Tateyama 2**	**1.77**	**308**	*eP*	Pn	06 18 42.1	+0.1
JIM2	**Oshima 3**	**1.95**	**294**	*eP*	Pn	06 18 43.3	-1.2
MJAR	**Matsushiro Arr**	**3.79**	**314**	Pn	Pn	06 19 10.2	+0.4
	0.9nm,0.3s,baz=136,slow=10,SNR=21						
MJAR				Sn	Sn	06 19 55.5	+1.8
	0.4nm,0.3s,baz=140,slow=21,SNR=7.3						
	5.0nm,0.3s						
KSRS	**Korea Array**	**11.65**	**291**	Pn	Pn	06 20 58.6	+1.0
	0.1nm,0.3s,baz=128,slow=14,SNR=1.9						
	0.3nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**27.17**	**118**	T	T	06 52 30.6	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**27.17**	**118**	T	T	06 52 28.5	
	baz=313						
H11S2	**WAKE ISLAND Hy**	**27.18**	**118**	T	T	06 52 26.4	
	baz=313						
PMG	**Port Moresby**	**43.44**	**172**	LR	LR	06 43 42.7	
	comp=Z,36nm,20.4s,baz=142,slow=35						
KURBB	**Kurchatov Arra**	**48.06**	**310**	P	P	06 26 50.4	+0.3
	1.9nm,0.2s,baz=84,slow=7.6,SNR=1.7						
	1.9nm,0.2s						
ILAR	**Eielson Array**	**52.03**	**31**	P	P	06 27 20.1	-0.1
	0.2nm,0.6s,baz=279,slow=5.6,SNR=4.3						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**54.04**	**188**	P	P	06 27 35.0	-0.3
	0.8nm,0.6s,baz=2.2,slow=7.7,SNR=13						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**57.76**	**188**	P	P	06 28 02.6	+0.6
	0.2nm,0.4s,baz=0.2,slow=6.9,SNR=6.6						
	0.2nm,0.4s						
AKTO	**Aktyubinsk**	**60.87**	**313**	LR	LR	06 57 16.6	
	comp=Z,19nm,19.6s,baz=224,slow=38						

*CATAC **28** 06:22:28.6±0.2, 10°.N±2°×8°.4W±°, h7km±2km, M3.7/11, MLv3.7/11, Error ellipse: s-maj=4.5km s-min=2.6km az=58.5, confirmed*
*UCR **28** 06:22:29.2±1.0, 9°.70N×84°.18W, h14km±2km, MW3.7*
ISC 28 06:22:29.1±0.8, 9°.67N±0°.02×84°.18W±0°.02, h17km±5km, n142, σ0°59/148, 2C-7D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICV	**PH. Pirrs**	**0.05**	**195**	*eP*	Pg	06 22 32.3	-0.1
PICV				*eS*	Sg	06 22 34.5	+0.1
PAR1A	**Puntarenas Pro**	**0.10**	**222**	*eP*	Pg	06 22 33.2	+0.5
PAR1A				*eS*	Sg	06 22 36.5	+1.4
PITB	**Pirrs, San**	**0.16**	**94**	*eP*	Pb	06 22 33.4	-0.3
PITB				*eS*	Sb	06 22 36.4	-0.3
RAZU	**San Marcos de**	**0.16**	**95**	*eP*	Pb	06 22 33.3	-0.4
RAZU				*eS*	Sb	06 22 36.2	-0.5
LLNJ	**Naranjito**	**0.21**	**158**	*eP*	Pb	06 22 34.5	-0.1
PURI	**Puriscal**	**0.21**	**324**	*eP*	Pb	06 22 34.4	-0.3
PIEC	**Cerro El Cedra**	**0.23**	**103**	*eP*	Pb	06 22 34.4	-0.6
QUEP	**Quepos**	**0.24**	**176**	*eP*	Pg	06 22 34.5	-0.1
QUEP	**Quepos**	**0.24**	**176**	⇓P	Pg	06 22 34.6	-0.1
QUEP	**Quepos**	**0.24**	**176**	S	Sb	06 22 39.0	0.0
SVQ2	**Quepos**	**0.24**	**176**	*eP*	Pg	06 22 34.5	-0.1
AMPA	**Desamparados**	**0.25**	**28**	*eP*	Pg	06 22 34.6	-0.3
SANTA	**Santa Ana**	**0.26**	**359**	*eP*	Pg	06 22 34.8	-0.2
LUJA	**Lujan**	**0.27**	**23**	*eP*	Pg	06 22 35.1	-0.1
CENT	**San Jose**	**0.28**	**21**	*eP*	Pg	06 22 36.1	+0.8
MEXI	**Barrio Mexico**	**0.28**	**20**	*eP*	Pg	06 22 35.3	-0.1
SJS3	**Mercedes San J**	**0.29**	**26**	*eP*	Pg	06 22 35.6	0.0
ECI	**Escuela Centro**	**0.29**	**26**	*eP*	Pg	06 22 35.5	-0.1
SJS	**Escuela Geolog**	**0.29**	**25**	*eP*	Pg	06 22 35.4	-0.2
TRIO	**Tres Rios**	**0.29**	**39**	*eP*	Pg	06 22 35.3	-0.4
BELE	**Belen**	**0.30**	**359**	*eP*	Pg	06 22 35.5	-0.2
TIBA	**Tibas**	**0.31**	**21**	*eP*	Pg	06 22 35.8	-0.1
TAGO	**Cartago**	**0.32**	**53**	*eP*	Pg	06 22 35.9	-0.1
DOMI	**Santo Domingo**	**0.32**	**16**	*eP*	Pg	06 22 36.0	0.0
HEME	**Heredia, Merce**	**0.32**	**8**	*eP*	Pb	06 22 37.2	+0.7
HDC	**Heredia**	**0.33**	**12**	*eP*	Pg	06 22 36.1	-0.6
UELA	**Alajuela**	**0.34**	**355**	*eP*	Pg	06 22 35.2	-1.2
REPA	**Paraso**	**0.34**	**64**	*eP*	Pg	06 22 36.2	-0.2
CORON	**Coronado**	**0.35**	**31**	*eP*	Pg	06 22 36.6	+0.1
ATEO	**Atenas**	**0.36**	**327**	*eP*	Pg	06 22 36.5	-0.2
TCS1	**Tacares**	**0.38**	**342**	*eP*	Pg	06 22 37.2	+0.1
TCS1	**Tacares**	**0.38**	**342**	⇓P	Pg	06 22 37.2	+0.1
POAS	**San Pedro de P**	**0.41**	**351**	*eP*	Pg	06 22 37.8	+0.3
OROT	**Orotina**	**0.41**	**305**	*eP*	Pg	06 22 37.1	-0.5
GREC	**Grecia**	**0.42**	**343**	*eP*	Pb	06 22 39.0	+0.8
CVIMO	**Finca Echandi**	**0.42**	**34**	*eP*	Pg	06 22 37.9	0.0
PCAYA	**Pacayas**	**0.44**	**56**	*eP*	Pg	06 22 38.0	-0.1
BUS1	**Rivas**	**0.45**	**105**	*eP*	Pg	06 22 37.8	-0.6
SARCI	**Sarchi**	**0.45**	**339**	*eP*	Pg	06 22 38.3	+0.1
PALD	**Palmares**	**0.45**	**327**	*eP*	Pg	06 22 38.0	-0.4
VICA	**Volcano Irazu**	**0.45**	**47**	*eP*	Pg	06 22 38.3	-0.2
VINA	**Juan Vinas**	**0.48**	**63**	*eP*	Pg	06 22 38.7	-0.2
RAMO	**San Ramon**	**0.50**	**326**	*eP*	Pg	06 22 39.8	-0.4
VPS8	**V. Poas**	**0.51**	**353**	*eP*	Pg	06 22 39.5	+0.1
VPS5	**V. Poas**	**0.52**	**355**	*eP*	Pg	06 22 39.4	-0.2
CVTQ	**Turrialba Volc**	**0.53**	**51**	*eP*	Pg	06 22 39.7	-0.1
CVTV	**Tajo**	**0.54**	**52**	*eP*	Pg	06 22 40.0	0.0
VTR0	**Volcan Turrial**	**0.54**	**51**	*eP*	Pg	06 22 40.0	-0.1
CVTR	**Volcan Turrial**	**0.54**	**50**	*eP*	Pg	06 22 40.0	-0.1
TURIB	**Turrialba**	**0.54**	**65**	*eP*	Pg	06 22 39.4	-0.6
ZARE	**Zarcero**	**0.55**	**338**	*eP*	Pg	06 22 40.1	0.0
VERB	**Verbena**	**0.55**	**61**	*eP*	Pg	06 22 39.9	-0.2
ABRB	**Las Abras (San**	**0.56**	**54**	*eP*	Pb	06 22 40.4	-0.4
ARZA	**Esparza**	**0.57**	**303**	*eP*	Pb	06 22 40.1	-0.6
ZEDO	**Perez Zeledon**	**0.58**	**123**	*eP*	Pb	06 22 40.4	-0.5
VPL1	**V. Platanar**	**0.61**	**343**	*eP*	Pb	06 22 40.7	-0.8
ROBF	**Roble, Puntare**	**0.63**	**299**	*eP*	Pb	06 22 41.0	-0.6
RESJ	**San Isidro (Tu**	**0.64**	**56**	*eP*	Pb	06 22 41.6	-0.3
VPL2	**V. Platanar**	**0.66**	**343**	*eP*	Pb	06 22 41.7	-0.6
ARTO	**Rio Cuarto**	**0.67**	**357**	*eP*	Pb	06 22 41.8	-0.5
QUEU	**Ciudad Quesada**	**0.69**	**339**	*eP*	Pb	06 22 42.9	+0.2
RVLA	**Villa Bonita**	**0.73**	**53**	*eP*	Pb	06 22 43.1	-0.3
LCOCO	**El Coco**	**0.74**	**56**	*eP*	Pb	06 22 43.1	-0.4
PAQE	**Paquera**	**0.76**	**281**	*eP*	Pb	06 22 43.0	-0.8
ITAL	**Pital**	**0.78**	**353**	*eP*	Pb	06 22 43.8	-0.4
OCHAL	**Ojochal**	**0.78**	**137**	⇓P	Pb	06 22 43.1	-1.2
OCHAL	**Ojochal**	**0.78**	**137**	S	Sb	06 22 54.0	-0.5
IRES	**Síquirres**	**0.79**	**58**	*eP*	Pb	06 22 44.0	-0.4
EDPE	**Pejíbaye, P**	**0.79**	**130**	*eP*	Pb	06 22 43.8	-0.6
SARA	**Sarapiqu**	**0.79**	**12**	*eP*	Pb	06 22 43.6	-0.8
CARI	**Cariari**	**0.81**	**33**	*eP*	Pb	06 22 44.5	-0.3
CBL1	**Cabuya**	**0.90**	**265**	*eP*	Pb	06 22 45.8	-0.5
MTEVE	**Monteverde**	**0.90**	**315**	*eP*	Pb	06 22 45.8	-0.6
FORC	**Fortuna**	**0.92**	**329**	*eP*	Pb	06 22 46.2	-0.5
ARE1	**Arenal 1**	**0.94**	**326**	*eP*	Pb	06 22 46.7	-0.4
VARE2	**V. Arenal**	**0.94**	**326**	*eP*	Pb	06 22 46.7	-0.4
CEDE	**Laguna Cedeo**	**0.96**	**328**	*eP*	Pb	06 22 47.2	-0.1
BURE	**Buenos Aires**	**0.97**	**121**	*eP*	Pb	06 22 46.7	-0.8
JTS	**Las Juntas de**	**0.98**	**309**	*eP*	Pb	06 22 46.5	-1.1
JTS	**Las Juntas de**	**0.98**	**309**	⇑P	Pb	06 22 46.7	-0.9
JTS				S	Sb	06 22 59.7	-0.5
JUNT	**Juntas**	**0.98**	**308**	*eP*	Pb	06 22 46.7	-0.9
TRT2	**Tortugero**	**0.98**	**27**	*eP*	Pb	06 22 46.8	-0.9
TRT2	**Tortugero**	**0.98**	**27**	⇓P	Pb	06 22 46.9	-0.8
TRT2	**Tortugero**	**0.98**	**27**	S	Sb	06 23 00.0	-0.3
REZ	**Monterrey de S**	**0.99**	**329**	*eP*	Pb	06 22 47.5	-0.4
TABAC	**Tabacon**	**1.00**	**325**	*eP*	Pb	06 22 47.9	-0.2
VERH	**Veragua Rainfo**	**1.01**	**75**	*eP*	Pb	06 22 47.2	-0.9
DRK0	**Durika**	**1.01**	**114**	*eP*	Pb	06 22 47.0	-1.3
DRK0	**Durika**	**1.01**	**114**	⇑P	Pb	06 22 47.0	-1.3
DRK0	**Durika**	**1.01**	**114**	S	Sb	06 23 00.7	-0.7
CHIK	**Chiripa**	**1.05**	**317**	*eP*	Pb	06 22 48.4	-0.5
COVE	**Coope Vega, Sa**	**1.06**	**348**	⇓P	Pb	06 22 48.3	-0.8
COVE	**Coope Vega, Sa**	**1.06**	**348**	S	Sn	06 23 03.8	+0.2
NYURE	**Nandayure**	**1.10**	**287**	*eP*	Pb	06 22 48.7	-1.0
TILA	**Tilaran**	**1.11**	**316**	*eP*	Pb	06 22 49.1	-0.8
LAES	**El Progreso Va**	**1.12**	**85**	*eP*	Pn	06 22 49.1	-0.9
CNAS	**Canas**	**1.17**	**310**	*eP*	Pn	06 22 51.1	+0.4
QUEB	**Quebradon, Cot**	**1.18**	**323**	*eP*	Pn	06 22 50.5	-0.4
INVE	**Universidad In**	**1.18**	**313**	*eP*	Pn	06 22 50.5	-0.3
EDP2	**Potrero Grande**	**1.19**	**123**	*eP*	Pn	06 22 50.7	-0.3
TIMP	**Tierras Morena**	**1.22**	**318**	*eP*	Pn	06 22 51.1	-0.4
CEUA	**Cerro Uatsi, L**	**1.23**	**92**	*eP*	Pn	06 22 52.2	+0.7
TENO	**El Achiote**	**1.29**	**323**	*eP*	Pn	06 22 52.2	-0.2
PLVR	**Palo Verde**	**1.33**	**300**	*eP*	Pn	06 22 52.3	-0.8
MOTZ	**Rio Naranjo**	**1.33**	**319**	*eP*	Pn	06 22 53.1	+0.1
BRIBI	**Bribri**	**1.35**	**92**	*eP*	Pn	06 22 53.8	+0.7
BAGA	**Bagaces**	**1.36**	**309**	*eP*	Pn	06 22 53.0	-0.4
CUI	**Cuipilapa**	**1.38**	**315**	*eP*	Pn	06 22 53.7	+0.1
HORNC	**Hornillas**	**1.42**	**317**	*eP*	Pn	06 22 54.4	+0.1
JUD3	**Juan Diaz 3**	**1.42**	**290**	*eP*	Pn	06 22 53.9	-0.4
LCHIL	**Los Chiles**	**1.45**	**339**	*eP*	Pn	06 22 55.5	+1.0
MESS	**Mesas**	**1.46**	**317**	*eP*	Pn	06 22 54.8	+0.1
VMAR	**Armenia, Volca**	**1.46**	**321**	*eP*	Pn	06 22 55.1	+0.4
UPAL	**Upala**	**1.47**	**326**	⇓P	Pn	06 22 55.0	+0.2
UPAL	**Upala**	**1.47**	**326**	S	Sb	06 23 14.4	+0.2
VITO	**San Vito**	**1.47**	**125**	*eP*	Pn	06 22 55.9	+1.0
ALCO	**Alturas Coton,**	**1.51**	**118**	*eP*	Pn	06 22 55.3	-0.3
PIRO	**Carate, Puerto**	**1.51**	**146**	*eP*	Pn	06 22 56.1	+0.7
PIRO	**Carate, Puerto**	**1.51**	**146**	⇓P	Pn	06 22 55.6	+0.2
PIRO	**Carate, Puerto**	**1.51**	**146**	S	Sb	06 23 17.4	+1.8
DELF	**Filadelfia**	**1.55**	**300**	*eP*	Pn	06 22 55.9	-0.1
RGM0	**Gandoca**	**1.56**	**93**	P	Pn	06 22 57.1	+1.2
RGM0	**Gandoca**	**1.56**	**93**	S	Sg	06 23 19.8	+0.5
GPS2	**Hotel Rincn d**	**1.57**	**313**	*eP*	Pn	06 22 56.8	+0.4
GPS3	**Bodega del ICE**	**1.58**	**313**	*eP*	Pn	06 22 58.0	0.0
VORI	**VORI**	**1.61**	**315**	*eP*	Pn	06 22 57.7	+0.7
ALIBA	**Liberia Airpor**	**1.62**	**304**	*eP*	Pn	06 22 57.3	+0.3
LAPC	**Finca la Perla**	**1.64**	**312**	*eP*	Pn	06 22 57.4	+0.1
BUAI	**Buenos Aires**	**1.65**	**317**	*eP*	Pn	06 22 58.1	+0.8
CDITO	**Canoas**	**1.69**	**130**	P	Pn	06 22 58.5	+0.6
CDITO	**Canoas**	**1.69**	**130**	S	Sn	06 23 20.8	+1.6
BRU2	**Volcan**	**1.71**	**121**	*eP*	Pn	06 22 58.8	+0.5
TBS2		**1.74**	**120**	*eP*	Pn	06 22 59.2	+0.5
BANCO	**falda S V. Bar**	**1.89**	**120**	*eP*	Pn	06 23 00.9	+0.2
BQTLY	**Boquete Panama**	**1.93**	**118**	*eP*	Pn	06 23 01.7	+0.4
DAP26	**falda E V. Bar**	**1.95**	**117**	*eP*	Pn	06 23 01.2	-0.3
WILLF	**Boquete**	**1.95**	**118**	*eP*	Pn	06 23 01.9	+0.3
CARN	**Rivas**	**2.00**	**319**	P	Pb	06 23 04.2	-0.9
CARN				S	Sb	06 23 31.4	+1.7
JAPN	**AI SSO del Vol**	**2.36**	**322**	P	Pb	06 23 10.1	-1.0
ACON	**Acoyapa**	**2.48**	**337**	P	Pn	06 23 08.2	-0.5
NADN	**Granada**	**2.75**	**319**	P	Pb	06 23 18.0	+0.1
MATN	**Matagalpa**	**3.66**	**332**	P	Pn	06 23 25.1	0.0

*SFS **28** 06:41:08.1, 35°.80N×4°.67W, h81km, ML2.3/8, MLv2.3/8*
*MDD **28** 06:41:09.9±1.9, 36°.

PARRA	**Arraiolos**	**4.59 312**	*eP*	Pn	06 42 07.7	-5.7
PARRA			*eS*	Sn	06 42 50.3	-15
PARRA			*i* IAML		06 42 50.6	
PARRA			*i* IAML		06 42 51.7	
PARRA			*i* IAML		06 42 52.3	
PCBR	**Castelo Branco**	**4.60 332**	*eS*	**Sn**	**06 43 04.4**	**-1.3**
PSARD	**Sardoal**	**4.69 325**	*eP*	**Pn**	**06 42 17.1**	**+2.3**
PSARD			*eS*	**Sn**	**06 43 05.9**	**-2.0**
PSARD			*i* IAML		06 43 07.5	
PSARD			*i* IAML		06 43 09.1	
PSARD			*i* IAML		06 43 09.3	

*JMA **28** 06:47:00.3±0.3,25°N×2°×122°.4E±0°.6, h92km±3km, MV2.5/13, TAIWAN REGION*
*TAP **28** 06:47:00.4, 24°.72N×122°.30E, h97km, ML3.6, C*
ISC 28 06:47:00.1±1.3**, 24°.65N**±0°.03×**122°.38E**±0°.02**, h95**km±6km**, n112**, σ0**91**/198**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.26 211**		*i* P		**Pn**		**06 47 14.6**	**+0.8**
EOS2					S		**Sn**	**06 47 25.9**	**+2.0**
EOS3	**EOS3**	**0.36 189**		P		**Pn**		**06 47 15.3**	**+1.0**
EOS3					*e*S		**Sn**	**06 47 25.8**	**+1.1**
EGS		**0.45 296**		*e*P		**Pn**		**06 47 14.9**	**-0.1**
TWC	**Suao**	**0.48 266**		*i* P		**Pn**		**06 47 15.0**	**-0.2**
TWC					S		**Sn**	**06 47 25.8**	**-0.7**
ESAO	**Su ao**	**0.49 262**		*e*P		**Pn**		**06 47 15.2**	**-0.1**
ESAO					*e*S		**Sn**	**06 47 26.1**	**-0.5**
TWB1	**Santiao Chiao**	**0.51 316**		P		**Pn**		**06 47 15.2**	**-0.1**
TWB1					S		**Sn**	**06 47 26.0**	**-0.8**
EOS4	**EOS4**	**0.53 186**		*e*P		**Pn**		**06 47 15.6**	**+0.5**
EOS4					*e*S		**Sn**	**06 47 26.7**	**+0.4**
JYNG	**Yonagunijimaku**	**0.55 110**		P		**Pn**		**06 47 15.9**	**+0.2**
JYNG					*e*S		**Sn**	**06 47 27.5**	**+0.1**
EWUT	**Wuta**	**0.58 250**		P		**Pn**		**06 47 16.3**	**+0.3**
EWUT					*e*S		**Sn**	**06 47 27.9**	**+0.1**
TIPB	**Shuangxi**	**0.60 303**		*i* P		**Pn**		**06 47 16.1**	**-0.1**
TIPB					*e*S		**Sn**	**06 47 27.4**	**-0.8**
YOJ	**Yonaguni jima**	**0.60 108**		P		**Pn**		**06 47 16.6**	**+0.4**
YOJ	**Yonaguni jima**	**0.60 108**		*e*P		**Pn**		**06 47 16.5**	**+0.3**
YOJ					*e*S		**Sn**	**06 47 28.1**	**0.0**
YOJ	**Yonaguni jima**	**0.60 108**		*e*P		**Pn**		**06 47 16.4**	**+0.2**
NDS	**Dongshan**	**0.60 269**		*i* P		**Pn**		**06 47 16.4**	**+0.2**
NDS					*e*S		**Sn**	**06 47 27.5**	**-0.7**
ENA	**Nanau**	**0.62 250**		P		**Pn**		**06 47 16.8**	**+0.3**
ENA					*e*S		**Sn**	**06 47 28.5**	**+0.1**
SXI1	**Grass Mountain**	**0.64 314**		P		**Pn**		**06 47 16.3**	**-0.3**
SXI1					*e*S		**Sn**	**06 47 28.2**	**-0.7**
TWE	**Neicheng**	**0.65 277**		P		**Pn**		**06 47 16.7**	**+0.1**
TWE					*e*S		**Sn**	**06 47 28.6**	**-0.4**
EAHA	**Aohua**	**0.66 242**		*e*P		**Pn**		**06 47 16.9**	**+0.2**
EAHA					*e*S		**Sn**	**06 47 29.5**	**+0.4**
NWF	**Wu-fen Shan**	**0.69 308**		*e*P		**Pn**		**06 47 16.8**	**-0.2**
NWF					*e*S		**Sn**	**06 47 29.1**	**-0.6**
WFSB	**Wu-fen Shan**	**0.69 308**		P		**Pn**		**06 47 16.8**	**-0.2**
WFSB					*e*S		**Sn**	**06 47 29.3**	**-0.2**
FUSB	**Fushanzhiwuyua**	**0.73 279**		P		**Pn**		**06 47 17.3**	**-0.1**
FUSB					S		**Sn**	**06 47 29.4**	**-1.0**
ENTT	**Nioudou**	**0.74 270**		P		**Pn**		**06 47 18.0**	**+0.5**
TNOU	**National Taiwa**	**0.75 312**		P		**Pn**		**06 47 17.4**	**-0.1**
TNOU					*e*S		**Sn**	**06 47 29.7**	**-0.8**
LATG	**Datong**	**0.79 262**		P		**Pn**		**06 47 18.3**	**+0.3**
LATG					*e*S		**Sn**	**06 47 31.7**	**+0.3**
NWLT	**Wulai**	**0.81 280**		P		**Pn**		**06 47 18.0**	**-0.2**
NWLT					*e*S		**Sn**	**06 47 30.6**	**-1.1**
NHDH	**Xindian Distri**	**0.84 292**		*e*P		**Pn**		**06 47 18.1**	**-0.3**
NHDH					*e*S		**Sn**	**06 47 30.8**	**-1.3**
ETL	**Fush Village**	**0.84 235**		*e*P		**Pn**		**06 47 18.3**	**-0.2**
ETL					*e*S		**Sn**	**06 47 31.1**	**-1.2**
NACB	**Ninganchiao**	**0.86 237**		P		**Pn**		**06 47 18.7**	**+0.1**
NACB	**Ninganchiao**	**0.86 237**		P		**Pn**		**06 47 18.3**	**-0.3**
NACB					S		**Sn**	**06 47 32.0**	**-0.4**
TATO	**Taipei**	**0.88 292**		P		**Pn**		**06 47 18.5**	**-0.3**
YM01	**YM01**	**0.89 304**		P		**Pn**		**06 47 18.7**	**-0.3**
YM01					*e*S		**Sn**	**06 47 32.1**	**-1.1**
TWD	**Chiawan**	**0.91 232**		*e*P		**Pn**		**06 47 19.0**	**-0.1**
TWD					*e*S		**Sn**	**06 47 33.5**	**0.0**
YHNB	**Yeheng**	**0.91 272**		P		**Pn**		**06 47 19.6**	**+0.3**
YHNB	**Yeheng**	**0.91 272**		*i* P		**Pn**		**06 47 19.5**	**+0.2**
YHNB					*i* S		**Sn**	**06 47 33.9**	**+0.2**
ZUZH	**Zhuzihu**	**0.92 304**		*i* P		**Pn**		**06 47 19.1**	**-0.2**
ZUZH					S		**Sn**	**06 47 32.2**	**-1.5**
ETLH	**Xiulin Townshi**	**0.93 242**		P		**Pn**		**06 47 19.5**	**+0.1**
ETLH					S		**Sn**	**06 47 33.7**	**-0.3**
NSK	**Sanguang**	**0.93 272**		P		**Pn**		**06 47 19.8**	**+0.3**
NSK					S		**Sn**	**06 47 33.9**	**-0.1**
NNSB	**Datong**	**0.93 257**		*i* P		**Pn**		**06 47 20.0**	**+0.4**
NNSB					*e*S		**Sn**	**06 47 34.6**	**+0.5**
NNS	**Nan Shan**	**0.94 258**		*i* P		**Pn**		**06 47 20.0**	**+0.4**
NNS					S		**Sn**	**06 47 34.1**	**-0.1**
TWY	**Chenhua**	**0.95 312**		*e*P		**Pn**		**06 47 19.4**	**-0.1**
ANP	**Anpu**	**0.95 305**		*e*P		**Pn**		**06 47 19.0**	**-0.7**
ANP					*e*S		**Sn**	**06 47 33.7**	**-0.7**
HWA	**Hwalien**	**0.97 227**		*e*P		**Pn**		**06 47 20.2**	**+0.4**
HWA					*e*S		**Sn**	**06 47 34.8**	**+0.2**
TWS1	**Kuangyinshan**	**0.98 298**		P		**Pn**		**06 47 19.8**	**-0.1**
TWS1					S		**Sn**	**06 47 34.2**	**-0.7**
NTST	**Danshui**	**0.99 302**		*e*P		**Pn**		**06 47 19.9**	**-0.2**
NTST					*e*S		**Sn**	**06 47 34.3**	**-0.7**
PCYT	**Pengchaiyu**	**1.02 344**		*e*P		**Pn**		**06 47 20.2**	**-0.2**
PCYT					*e*S		**Sn**	**06 47 36.2**	**+0.6**
TEYL	**Yanliau Villag**	**1.05 223**		*e*P		**Pn**		**06 47 20.5**	**-0.2**
TEYL					*e*S		**Sn**	**06 47 36.2**	**0.0**
ETM	**Tongmen**	**1.05 230**		P		**Pn**		**06 47 20.5**	**-0.2**
ETM					*e*S		**Sn**	**06 47 35.9**	**-0.4**
KSHI	**Guanxi Townshi**	**1.10 277**		P		**Pn**		**06 47 21.6**	**+0.3**
KSHI					*e*S		**Sn**	**06 47 38.1**	**+0.8**
FUSS	**Fushou**	**1.11 249**		P		**Pn**		**06 47 21.9**	**+0.2**
FUSS					*e*S		**Sn**	**06 47 38.0**	**+0.2**
WHF	**Hehuan Shan**	**1.13 244**		*i* P		**Pn**		**06 47 22.3**	**+0.2**
WHF					S		**Sn**	**06 47 37.9**	**-0.7**
NCUH	**Zhongli**	**1.13 287**		*e*P		**Pn**		**06 47 21.8**	**+0.1**
NCUH					*e*S		**Sn**	**06 47 38.5**	**+0.6**
SHUL	**Shoufeng**	**1.13 221**		*e*P		**Pn**		**06 47 22.4**	**+0.7**
SHUL					*e*S		**Sn**	**06 47 38.3**	**+0.4**
NFF	**Wufeng Townshi**	**1.15 270**		P		**Pn**		**06 47 22.1**	**+0.2**
NFF					*i* S		**Sn**	**06 47 38.5**	**+0.2**
TWT	**Tachien**	**1.17 251**		*e*P		**Pn**		**06 47 23.2**	**+1.0**
TWT					*e*S		**Sn**	**06 47 39.5**	**+0.6**
TDCB	**Techi**	**1.18 251**		P		**Pn**		**06 47 22.9**	**+0.5**
TDCB					*e*S		**Sn**	**06 47 38.7**	**-0.4**
ESL	**Shilin**	**1.20 226**		*e*P		**Pn**		**06 47 22.0**	**-0.4**
ESL					S		**Sn**	**06 47 38.1**	**-1.1**
TEGC	**Jichi Village**	**1.21 220**		*e*P		**Pn**		**06 47 20.8**	**-1.7**
TEGC					*e*S		**Sn**	**06 47 39.7**	**+0.3**
LIOB	**Emei**	**1.24 270**		P		**Pn**		**06 47 23.2**	**+0.2**
LIOB					*e*S		**Sn**	**06 47 40.6**	**+0.4**
NSTT	**Nanjuang**	**1.25 270**		*e*P		**Pn**		**06 47 23.1**	**0.0**
NSTT					*e*S		**Sn**	**06 47 40.2**	**-0.2**
IRIF	**Iriomote-Funau**	**1.27 104**		*e*S		**Sn**		**06 47 40.9**	**+0.2**
WARBT	**Fenglin Townsh**	**1.29 225**		P		**Pn**		**06 47 22.9**	**-0.7**
WARBT					*e*S		**Sn**	**06 47 39.8**	**-1.5**
OWD	**Renai**	**1.30 238**		*e*P		**Pn**		**06 47 24.0**	**+0.2**
OWD					*e*S		**Sn**	**06 47 40.7**	**-0.8**
EGFH	**Guangfu**	**1.30 222**		*e*S		**Sn**		**06 47 40.2**	**-1.3**
WUSB	**Renai**	**1.32 241**		P		**Pn**		**06 47 24.6**	**+0.5**
WUSB					S		**Sn**	**06 47 41.8**	**-0.3**
WHP	**Taichung City**	**1.36 255**		P		**Pn**		**06 47 25.6**	**+1.1**
WHP					*e*S		**Sn**	**06 47 43.7**	**+0.9**
HGSD	**Ruisui**	**1.44 217**		*e*P		**Pn**		**06 47 25.8**	**+0.4**
HGSD					*e*S		**Sn**	**06 47 44.1**	**-0.4**
NMLH	**Miaoli**	**1.45 266**		*e*P		**Pn**		**06 47 26.0**	**+0.5**
NMLH					*e*S		**Sn**	**06 47 44.4**	**-0.3**
WCS	**Beigang Elemen**	**1.46 247**		*e*P		**Pn**		**06 47 26.5**	**+0.9**
WCS					*e*S		**Sn**	**06 47 46.4**	**+1.5**
EHYH	**Wanrong**	**1.49 220**		*e*S		**Sn**		**06 47 43.9**	**-1.6**
EHY	**Hungye**	**1.49 221**		*e*P		**Pn**		**06 47 25.7**	**-0.3**
EHY					*e*S		**Sn**	**06 47 43.6**	**-2.0**
NSY	**Sanyi**	**1.49 262**		*e*P		**Pn**		**06 47 27.1**	**+1.0**
TWQ1	**Liyutan**	**1.49 259**		*e*P		**Pn**		**06 47 26.3**	**+0.3**
JKRS	**Kuro-shima**	**1.54 105**		P		**Pn**		**06 47 27.3**	**+0.7**
JKRS					*e*S		**Sn**	**06 47 47.0**	**+0.4**
SMLT	**Sun Moon Lake**	**1.55 241**		*e*P		**Pn**		**06 47 28.1**	**+1.3**
SMLT					*e*S		**Sn**	**06 47 48.7**	**+1.7**
SSLB	**Suanglung**	**1.56 237**		P		**Pn**		**06 47 27.6**	**+0.7**
SSLB	**Suanglung**	**1.56 237**		P		**Pn**		**06 47 28.3**	**+1.4**
SSLB					*e*S		**Sn**	**06 47 48.6**	**+1.5**

ECBN	**Changbin**	**1.57 213**	*eP*	**Pn**	**06 47 27.1**	**0.0**
ECBN			*e*S	**Sn**	**06 47 46.8**	**-0.6**
TYC	**Yuchr**	**1.57 242**	*eP*	**Pn**	**06 47 28.1**	**+1.1**
TYC			*e*S	**Sn**	**06 47 48.7**	**+1.3**
YULB	**Yu-li**	**1.59 219**	P	**Pn**	**06 47 28.9**	**+1.6**
YULB	**Yu-li**	**1.59 219**	*eP*	**Pn**	**06 47 26.5**	**-0.8**
YULB			*e*S	**Sn**	**06 47 46.1**	**-1.8**
TWF1	**Yuli**	**1.62 218**	*eP*	**Pn**	**06 47 27.5**	**-0.2**
JIJ	**Ishigaki jima**	**1.63 100**	P	**Pn**	**06 47 27.9**	**+0.2**
JIJ			*e*S	**Sn**	**06 47 48.1**	**-0.6**
WHYT	**Xinyi Township**	**1.68 236**	*eP*	**Pn**	**06 47 29.8**	**+1.3**
WHYT			*e*S	**Sn**	**06 47 51.5**	**+1.5**
CHKH	**Chenggong**	**1.70 212**	*e*S	**Sn**	**06 47 48.9**	**-1.5**
WJS	**Zhushan**	**1.72 242**	*eP*	**Pn**	**06 47 29.7**	**+0.9**
WJS			*e*S	**Sn**	**06 47 52.7**	**+2.0**
WNT	**Mingjian**	**1.73 244**	*e*S	**Sn**	**06 47 52.4**	**+1.5**
FULB	**Fuli**	**1.75 215**	*e*S	**Sn**	**06 47 51.2**	**-0.3**
JISG	**Ishigakijimahi**	**1.76 91**	*eP*	**Pn**	**06 47 29.6**	**+0.2**
JISG			*e*S	**Sn**	**06 47 51.5**	**-0.1**
CHKT	**Chengkung**	**1.80 211**	*eP*	**Pn**	**06 47 29.2**	**-0.7**
CHKT			*e*S	**Sn**	**06 47 50.7**	**-1.8**
ALS	**Alishan**	**1.83 232**	P	**Pn**	**06 47 31.9**	**+1.3**
ALS			*e*S	**Sn**	**06 47 55.3**	**+1.6**
EHD	**Haiduan**	**1.84 216**	*eP*	**Pn**	**06 47 30.7**	**+0.3**
EHD			*e*S	**Sn**	**06 47 51.6**	**-1.8**
CHN5	**Tsauling**	**1.87 236**	*eP*	**Pn**	**06 47 31.7**	**+0.7**
CHN5			*e*S	**Sn**	**06 47 56.3**	**+1.9**
ELDTW	**Lidau**	**1.91 221**	*eP*	**Pn**	**06 47 31.8**	**+0.3**
ELDTW			*e*S	**Sn**	**06 47 54.2**	**-1.1**
WDLH	**Douliu**	**1.93 241**	*eP*	**Pn**	**06 47 32.7**	**+1.1**
WDLH			*e*S	**Sn**	**06 47 57.2**	**+1.6**
EDH	**Donghe**	**1.94 211**	*eP*	**Pn**	**06 47 31.3**	**-0.4**
EDH			*e*S	**Sn**	**06 47 54.0**	**-1.6**
WCKO	**Fanlu**	**2.02 234**	*eP*	**Pn**	**06 47 33.7**	**+1.0**
WCKO			*e*S	**Sn**	**06 47 59.1**	**+1.4**
WTK	**Tuku**	**2.05 243**	*eP*	**Pn**	**06 47 33.6**	**+0.4**
WTK			*e*S	**Sn**	**06 47 58.6**	**+0.1**
LONT	**Longtian**	**2.08 214**	*e*S	**Sn**	**06 47 57.6**	**-1.4**
TPUB	**Ta-pu**	**2.09 230**	P	**Pn**	**06 47 35.4**	**+1.7**
TPUB	**Ta-pu**	**2.09 230**	S	**Sn**	**06 48 01.6**	**+2.3**
TPUB	**Ta-pu**	**2.09 230**	*eP*	**Pn**	**06 47 34.7**	**+1.0**
TPUB			*e*S	**Sn**	**06 48 00.9**	**+1.6**
JTJ	**Tarama**	**2.11 90**	*eP*	**Pn**	**06 47 34.7**	**+0.7**
JTJ			*e*S	**Sn**	**06 48 00.2**	**+0.4**
LDUT	**Ludao**	**2.13 203**	*eP*	**Pn**	**06 47 32.7**	**-1.6**
LDUT			*e*S	**Sn**	**06 47 57.8**	**-2.5**
TWGBT	**Beinan**	**2.17 213**	*eP*	**Pn**	**06 47 34.5**	**-0.3**
TWGBT			*e*S	**Sn**	**06 47 59.8**	**-1.5**
TWG	**Pinlang**	**2.18 214**	*eP*	**Pn**	**06 47 34.6**	**-0.2**
TWG			*e*S	**Sn**	**06 47 59.9**	**-1.5**
TWK	**Hsinying**	**2.21 232**	*eP*	**Pn**	**06 47 36.3**	**+1.0**
TWK			*e*S	**Sn**	**06 48 03.6**	**+1.5**
WSF	**Szhu**	**2.21 243**	*e*S	**Sn**	**06 48 02.5**	**+0.4**
SNST	**Tainan City**	**2.23 231**	*e*S	**Sn**	**06 48 03.4**	**+0.8**
WSL	**Shuilin Townsh**	**2.26 241**	*e*S	**Sn**	**06 48 03.4**	**0.0**
MASBT	**Mashibuluo**	**2.58 219**	*eP*	**Pn**	**06 47 41.2**	**+1.1**
MASBT			*e*S	**Sn**	**06 48 12.8**	**+1.9**
LYUB	**Lan-yu**	**2.73 196**	*eP*	**Pn**	**06 47 40.7**	**-1.5**
PHUB	**P'eng-hu**	**2.80 247**	*eP*	**Pn**	**06 47 41.9**	**-1.2**
PHUB			*e*S	**Sn**	**06 48 13.8**	**-2.4**

*NEIC **28** 07:15:31.9±2.0, 19°.31N±0°.10×64°.82W±0°.04, h35km±2km, ML2.9/19, Md3.3/14(RSPR), Error ellipse: s-maj=17.1km s-min=6.3km az=9.0*
*RSPR **28** 07:15:34.1, 19°.25N×64°.85W, h61km±25km, MD3.2/14*
*OSPL **28** 07:15:48.1±0.5, 18°.64N×65°.94W, h5km, ML2.1*
ISC 28 07:15:34.0±2.0**, 19°.2N**±0°.1×**64°.84W**±0°.04**, h35**km**, n57,**
σ1§**11**/59**, 10C-5D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.40 224**					**Pn**	**07 15 55.4**	**-1.6**
GCPR	**Guaynabo City**	**1.45 234**					**Pn**	**07 15 56.1**	**-1.7**
GCPR	**Guaynabo City**	**1.45 234**					**Sn**	**07 16 14.9**	**-0.8**
GCPR	**Guaynabo City**	**1.45 234**	⇑	*e*P			**Pn**	**07 15 56.5**	**-1.2**
GCPR	**Guaynabo City**	**1.45 234**		*e*S			**Sn**	**07 16 14.9**	**-0.8**
PDPR	**Patillas Dam,**	**1.60 225**					**Pn**	**07 15 58.3**	**-1.5**
PDPR						IAML		07 16 23.9	
	comp=N,71nm,0.6s								
PDPR						IAML		07 16 28.9	
	comp=E,80nm,0.6s								
PDPR	**Patillas Dam,**	**1.60 225**	⇑	*e*P			**Pn**	**07 15 59.0**	**-0.8**
PDPR	**Patillas Dam,**	**1.60 225**		*e*S			**Sn**	**07 16 20.7**	**+1.5**
SJG	**San Juan**	**1.62 230**					**Pn**	**07 15 58.9**	**-1.3**
SJG						IAML		07 16 22.4	
	comp=E,106nm,0.3s								
SJG	**San Juan**	**1.62 230**	⇑	*e*P			**Pn**	**07 16 00.5**	**+0.3**
SJG	**San Juan**	**1.62 230**		*e*S			**Sn**	**07 16 20.1**	**+0.3**
SJG	**San Juan**	**1.62 230**		*i* P			**Pn**	**07 15 58.1**	**-2.0**
SJG						IAML		07 16 22.5	
	comp=Z,37nm,0.2s								
ECPR	**Experimental S**	**1.67 240**	⇓	*e*P			**Pn**	**07 16 01.1**	**+0.4**
ECPR	**Experimental S**	**1.67 240**		*e*S			**Sn**	**07 16 21.7**	**+0.7**
IGPR	**InterUniversit**	**1.69 226**					**Pn**	**07 16 00.2**	**-0.9**
IGPR							**Sn**	**07 16 23.1**	**+1.6**
IGPR	**InterUniversit**	**1.69 226**	⇑	*e*P			**Pn**	**07 16 00.2**	**-0.9**
IGPR	**InterUniversit**	**1.69 226**		*e*S			**Sn**	**07 16 23.1**	**+1.6**
EMPR	**Esperanza - Ma**	**1.74 247**					**Sn**	**07 16 22.7**	**0.0**
EMPR	**Esperanza - Ma**	**1.74 247**			Pn		**Pn**	**07 16 00.4**	**-1.3**
EMPR	**Esperanza - Ma**	**1.74 247**	⇑	*e*P			**Pn**	**07 16 01.2**	**-0.5**
EMPR	**Esperanza - Ma**	**1.74 247**		*e*S			**Sn**	**07 16 22.7**	**0.0**
CELP	**Cerrillos**	**1.97 237**					**Pn**	**07 16 04.0**	**-1.0**
CELP						IAML		07 16 35.0	
	comp=E,51nm,0.4s								
CELP						IAML		07 16 41.5	
	comp=N,60nm,0.5s								
CELP	**Cerrillos**	**1.97 237**					**Sn**	**07 16 29.0**	**+0.5**
CELP	**Cerrillos**	**1.97 237**	⇓	*e*P			**Pn**	**07 16 04.5**	**-0.5**
CELP	**Cerrillos**	**1.97 237**		*e*S			**Sn**	**07 16 29.0**	**+0.5**
AOPR	**Arecibo Observ**	**1.99 246**					**Pn**	**07 16 03.5**	**-1.6**
AOPR						IAML		07 16 42.0	
	comp=N,151nm,0.5s								
AOPR	**Arecibo Observ**	**1.99 246**					**Sn**	**07 16 30.2**	**+1.3**
AOPR	**Arecibo Observ**	**1.99 246**	⇓	*e*P			**Pn**	**07 16 04.8**	**-0.4**
AOPR	**Arecibo Observ**	**1.99 246**		*e*S			**Sn**	**07 16 30.2**	**+1.3**
UUPR	**Utuado, UPR, P**	**2.00 243**					**Sn**	**07 16 28.6**	**-0.5**
UUPR	**Utuado, UPR, P**	**2.00 243**			Pn		**Pn**	**07 16 03.9**	**-1.4**
UUPR	**Utuado, UPR, P**	**2.00 243**	⇑	*e*P			**Pn**	**07 16 05.5**	**+0.2**
UUPR	**Utuado, UPR, P**	**2.00 243**		*e*S			**Sn**	**07 16 28.6**	**-0.5**
SMRT	**St. Maarten**	**2.00 123**			Pn		**Pn**	**07 16 03.0**	**-2.4**
SMRT						IAML		07 16 32.7	
	comp=N,178nm,0.5s								
OBIP	**Obispado Ponce**	**2.01 237**					**Pn**	**07 16 04.6**	**-0.8**
OBIP							**Sn**	**07 16 29.9**	**+0.5**
OBIP	**Obispado Ponce**	**2.01 237**				IAML		07 16 33.5	
	comp=E,61nm,0.3s								
OBIP	**Obispado Ponce**	**2.01 237**	⇓	*e*P			**Pn**	**07 16 04.6**	**-0.8**
OBIP	**Obispado Ponce**	**2.01 237**		*e*S			**Sn**	**07 16 29.9**	**+0.5**
SABA	**Saba**	**2.16 135**					**Pn**	**07 16 07.0**	**-0.4**
SABA						IAML		07 16 42.2	
	comp=N,164nm,0.7s								
SABA	**Saba**	**2.16 135**					**Sn**	**07 16 34.8**	**+1.8**
SABA	**Saba**	**2.16 135**	⇓	*e*P			**Pn**	**07 16 08.1**	**+0.7**
SABA	**Saba**	**2.16 135**		*e*S			**Sn**	**07 16 34.8**	**+1.8**
AGPR	**Aguadilla, PR**	**2.26 253**		*i* P			**Pn**	**07 16 07.9**	**-1.0**
AGPR						IAML		07 16 41.3	
	comp=Z,40nm,1.1s								
LSP	**Las Mesas**	**2.35 246**					**Pn**	**07 16 11.7**	**+1.6**
LSP							**Sn**	**07 16 38.8**	**+1.1**
LSP	**Las Mesas**	**2.35 246**	⇑	*e*P			**Pn**	**07 16 11.7**	**+1.6**
LSP	**Las Mesas**	**2.35 246**		*e*S			**Sn**	**07 16 38.8**	**+1.1**
PRSN	**Puerto Rico Se**	**2.38 247**			Pn		**Pn**	**07 16 09.1**	**-1.4**
MLPR	**Magueyes Islan**	**2.41 241**	⇑	*e*P			**Pn**	**07 16 10.7**	**-0.2**
MLPR	**Magueyes Islan**	**2.41 241**		*e*S			**Sn**	**07 16 39.5**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.44 242**					**Pn**	**07 16 11.1**	**-0.3**
CRPR	**Cabo Rojo, PR**	**2.44 242**				IAML		07 16 54.7	
	comp=N,37nm,0.7s								
CRPR						IAML		07 16 55.3	
	comp=E,47nm,0.8s								
CRPR	**Cabo Rojo, PR**	**2.44 242**	⇑	*e*P			**Pn**	**07 16 11.1**	**-0.3**
CRPR	**Cabo Rojo, PR**	**2.44 242**		*i* P			**Pn**	**07 16 10.9**	**-0.4**
CRPR						IAML		07 16 57.1	
	comp=Z,33nm,0.9s								
IDE	**Isla Desecheo**	**2.61 253**					**Pn**	**07 16 14.7**	**+0.9**
IDE							**Sn**	**07 16 45.0**	**+0.7**
IDE	**Isla Desecheo**	**2.61 253**	⇑	*e*P			**Pn**	**07 16 14.7**	**+0.9**
IDE	**Isla Desecheo**	**2.61 253**		*e*S			**Sn**	**07 16 45.0**	**+0.7**
GDHS	**Morne Mazeau,**	**4.10 134**		Pn			**Pn**	**07 16 33.1**	**-1.2**

*NNC **28** 07:22:50.0±0.4, 49°.97N×78°.71E, h0km, mb3.0, mpv2.5, Error ellipse: s-maj=9.3km s-min=1.8km az=76.0, Suspected Mining explosion.*
*IDC **28** 07:22:52.0±1.2, 50°.03N×78°.75E, h0km, mbtmp2.4/2, ML1.7/2, Error ellipse: s-maj=12.4km s-min=7.9km az=62.0*
ISC 28 07:22:51.0±2.0**, 49°.97N**±0°.08×**78°.6E**±0°.3**, h0**km**, n16,**
σ0§**57**/26**, 14C-8D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.61 356**		⇑	P		**Pg**	**07 23 02.4**	**-0.4**
KUR07					S		**Sg**	**07 23 11.1**	**+0.3**
KUR06	**Kurchatov Arra**	**0.63 357**		⇓	P		**Pg**	**07 23 02.6**	**-0.5**
KUR06				⇑	S		**Sg**	**07 23 12.1**	**+0.7**
KUR14	**Kurchatov Arra**	**0.64 1**		⇓	P		**Pg**	**07 23 02.9**	**-0.5**
KUR14				⇑	S		**Sg**	**07 23 11.4**	**-0.3**
KUR15	**Kurchatov Arra**	**0.65 359**		⇑	P		**Pg**	**07 23 02.9**	**-0.5**
KUR15				⇓	S		**Sg**	**07 23 11.5**	**-0.4**
KURBB	**Kurchatov Arra**	**0.65 357**		⇑	P		**Pg**	**07 23 03.0**	**-0.5**
	11nm,0.7s								
KURBB				⇑	S		**Sg**	**07 23 12.2**	**+0.2**
	16nm,0.6s								
KURBB	**Kurchatov Arra**	**0.65 357**		Pg			**Pg**	**07 23 03.0**	**-0.5**
	0.3nm,0.3s,baz=166,slow=18,SNR=21								
KURBB					Lg		Lg	07 23 13.5	
	1.0nm,0.3s,baz=166,slow=28,SNR=12								
KUR16	**Kurchatov Arra**	**0.66 356**		⇓	P		**Pg**	**07 23 03.4**	**-0.3**
KUR16				⇓	S		**Sg**	**07 23 12.1**	**-0.1**
KUR17	**Kurchatov Arra**	**0.67 354**		⇑	P		**Pg**	**07 23 03.6**	**-0.1**
KUR17				⇓	S		**Sg**	**07 23 13.0**	**+0.7**
KUR05	**Kurchatov Arra**	**0.67 358**		⇑	P		**Pg**	**07 23 03.3**	**-0.6**
KUR05				⇑	S		**Sg**	**07 23 12.5**	**-0.1**
KUR04	**Kurchatov Arra**	**0.69 358**		⇑	P		**Pg**	**07 23 03.

LPAZ	**La Paz**	**3.07**	**22**	*eP*		**Pn**	**07 24 18.7**	**+1.8**
PB06	**IPOC Station P**	**3.54**	**184**			**Pn**	**07 24 24.4**	**+1.6**
PB06	**IPOC Station P**	**3.54**	**184**	*eP*		**Pn**	**07 24 24.0**	**+1.2**
PB06				*eS*		Sn	07 24 47.2	-17
PB06				IAML			07 25 32.4	
	comp=Z,351nm,0.9s							
PB05	**IPOC Station P**	**3.77**	**193**			**Pn**	**07 24 25.5**	**-0.3**
PB05	**IPOC Station P**	**3.77**	**193**	*eP*		**Pn**	**07 24 26.4**	**+0.6**
PB05				*eS*		**Sn**	**07 25 10.6**	**+1.0**
PB05				IAML			07 25 34.1	
	comp=Z,215nm,0.8s							
AF01	**San Pedro de A**	**3.92**	**165**			**Pn**	**07 24 30.3**	**+2.3**
PB10	**IPOC Station P**	**4.49**	**195**	*eP*		**Pn**	**07 24 35.2**	**-0.1**
PB10				*eS*		**Sn**	**07 25 26.4**	**-0.2**
PB14	**IPOC Station P**	**5.54**	**190**			**Pn**	**07 24 48.4**	**-1.3**
GO02	**Mina Guanaco**	**5.99**	**182**			**Pn**	**07 24 55.6**	**-0.2**
AC02	**Maricunga**	**7.65**	**179**			**Pn**	**07 25 18.6**	**+0.2**
SIV	**San Ignacio**	**8.47**	**69**	P		**Pn**	**07 25 27.0**	**-2.2**
	comp=Z,17nm,0.4s,baz=259,slow=8.8,SNR=117							
PTLB	**Pontes e Lacer**	**10.39**	**71**			**Pn**	**07 25 52.6**	**-2.6**
PTLB	**Pontes e Lacer**	**10.39**	**71**	*eP*		**Pn**	**07 25 52.9**	**-2.4**
VILB	**Vilhena**	**10.71**	**56**	*eP*		**Pn**	**07 25 57.8**	**-1.8**
MURT	**Porto Murtinho**	**11.26**	**105**	*eP*		**Pn**	**07 26 04.7**	**-2.1**
BDQN	**Bodoquena, MS**	**11.90**	**98**	*eP*		**Pn**	**07 26 13.3**	**-2.1**
AQDB	**Aquidauana**	**12.88**	**98**	*eP*		**Pn**	**07 26 26.9**	**-1.3**
CPUP	**Villa Florida**	**13.16**	**125**	*eP*		**Pn**	**07 26 32.6**	**+0.8**
SALV	**Santo Antonio**	**13.39**	**78**	*eP*		**Pn**	**07 26 31.4**	**-3.4**
SJPY	**San Joaquin**	**13.55**	**118**	*eP*		**Pn**	**07 26 37.3**	**+0.4**
PP1B	**Ponte de Pedra**	**13.79**	**86**	*eP*		**Pn**	**07 26 40.1**	**0.0**
AMBA	**Amambai (Brazi**	**13.89**	**108**	*eP*		**Pn**	**07 26 41.1**	**-0.2**
PDRB	**Porto dos Gac**	**14.26**	**60**	*eP*		**Pn**	**07 26 45.3**	**-0.8**
CLDB	**Colider**	**15.43**	**60**	*eP*		**Pn**	**07 26 58.8**	**-2.0**
TRCB	**Terra Rica**	**15.99**	**106**	P		**P**	**07 27 09.1**	**0.0**
TRCB				IAmb		IAmb	07 27 11.0	
	comp=Z,37nm,0.6s							
TRCB	**Terra Rica**	**15.99**	**106**	*eP*		**Pn**	**07 27 07.4**	**-0.4**
TEFE	**Tefe**	**16.21**	**17**	*eP*		**Pn**	**07 27 10.4**	**-0.1**
PTGB	**Pitanga**	**16.93**	**112**	*eP*		**P**	**07 27 21.0**	**+1.5**
ITAB	**Concordia**	**17.71**	**120**	P		**P**	**07 27 27.9**	**0.0**
ITAB				IAmb		IAmb	07 27 31.1	
	comp=Z,40nm,1.1s							
ITAB	**Concordia**	**17.71**	**120**	*eP*		**Pn**	**07 27 30.1**	**+1.4**
NPGB	**Novo Progresso**	**18.14**	**50**	*eP*		**P**	**07 27 31.6**	**-1.2**
CPSB	**Cacapava Do Su**	**18.23**	**131**	*eP*		**Pn**	**07 27 35.3**	**+0.4**
SNDB	**Serra Nova Dou**	**18.76**	**70**	*eP*		**P**	**07 27 39.2**	**-0.3**
FRTB	**Fartura**	**18.87**	**106**	*eP*		**P**	**07 27 41.3**	**+0.5**
PLTB	**Pedras Altas**	**18.91**	**135**	P		**P**	**07 27 41.1**	**0.0**
PLTB	**Pedras Altas**	**18.91**	**135**	*eP*		**Pn**	**07 27 43.5**	**+0.5**
BB19B	**Bebedouro**	**19.61**	**99**	*eP*		**P**	**07 27 48.7**	**-0.2**
CNLB	**Canela**	**19.62**	**125**	*eP*		**P**	**07 27 49.5**	**+0.7**
ITTB	**Itaituba**	**19.79**	**44**	*eP*		**P**	**07 27 49.6**	**-1.1**
TRQA	**Tornquist**	**19.89**	**163**	P		**P**	**07 27 52.2**	**+0.6**
IPMB	**Ipameri, GO**	**20.04**	**90**	*eP*		**P**	**07 27 52.8**	**-0.7**
MAJ01	**Sao Joao Batis**	**20.36**	**118**	*eP*		**P**	**07 27 56.8**	**0.0**
RCLB	**Rio Claro- Sao**	**20.62**	**103**	*eP*		**P**	**07 27 59.2**	**-0.5**
BDFB	**Brasilia**	**20.62**	**84**	P		**P**	**07 27 58.7**	**-1.1**
	comp=Z,9.5nm,0.5s,baz=260,slow=8.6,SNR=31							
VAO	**Valinhos**	**21.20**	**104**	P		**P**	**07 28 04.3**	**-1.7**
VAO	**Valinhos**	**21.20**	**104**	*eP*		**P**	**07 28 05.0**	**-0.9**
FLOC	**Florencia**	**21.53**	**342**	P		**P**	**07 28 09.7**	**+0.3**
PLCA	**Paso Flores**	**21.53**	**183**	P		P	07 28 39.3	+30
	comp=Z,1.2nm,0.7s,baz=350,slow=7.8,SNR=4.5							
	comp=Z,1.2nm,0.7s							
PMNB	**Patos De Minas**	**21.66**	**92**	*eP*		**P**	**07 28 09.7**	**-1.2**
SMTB	**Santa Maria do**	**23.40**	**67**	*eP*		**P**	**07 28 28.5**	**+0.3**
JANB	**Januaria**	**24.23**	**84**	*eP*		**P**	**07 28 35.0**	**-0.7**
DIAM	**Diamantina, MG**	**24.30**	**92**	*eP*		**P**	**07 28 36.5**	**+0.1**
SDBA	**SAO DESIDERIO**	**24.41**	**78**	*eP*		**P**	**07 28 37.2**	**-0.2**
RUSC	**La Rusia**	**25.16**	**351**			**P**	**07 28 43.9**	**-0.7**
RUSC				IAmb		IAmb	07 28 47.3	
	comp=Z,22nm,1.4s							
DUB01	**Friburgo-RJ**	**25.37**	**101**	*eP*		**P**	**07 28 46.8**	**+0.8**
CAM01	**Campos-RJ**	**26.03**	**101**	*eP*		**P**	**07 28 52.4**	**+0.5**
SJMB	**Sao Joao De Ma**	**26.60**	**94**	*eP*		**P**	**07 28 57.4**	**+0.3**
RIB01	**Linhares ES**	**27.30**	**95**	*eP*		**P**	**07 29 03.6**	**+0.3**
BAUV	**El Baul**	**27.95**	**3**	P		**P**	**07 29 08.0**	**-1.1**
BAUV				IAmb		IAmb	07 29 09.7	
	comp=Z,13nm,0.9s							
GUA01	**Guaratinga, BA**	**28.19**	**90**	*eP*		**P**	**07 29 11.1**	**-0.1**
CMC01	**Camacan, BA**	**28.68**	**87**	*eP*		**P**	**07 29 15.6**	**-0.1**
NBAN	**Anadia - AL**	**33.30**	**78**	*eP*		**P**	**07 29 56.3**	**-0.1**
RCBR	**Riachuelo**	**35.12**	**72**	P		**P**	**07 30 12.4**	**+0.3**
CELP	**Cerrillos**	**37.09**	**4**	P		**P**	**07 30 28.6**	**-0.1**
CELP				IAmb		IAmb	07 30 29.4	
	comp=Z,6.1nm,0.5s							
456A	**Hilliard**	**51.08**	**346**	P		**P**	**07 32 20.1**	**+0.1**
V55A	**Taylorsville**	**55.85**	**348**	P		**P**	**07 32 55.1**	**+0.2**
V55A				IAmb		IAmb	07 32 56.6	
	comp=Z,5.5nm,0.8s							
T57A	**Hurt**	**56.63**	**350**	P		**P**	**07 33 00.8**	**+0.4**
T57A				IAmb		IAmb	07 33 02.5	
	comp=Z,8.5nm,1.3s							
SLBS	**Sierra La Lagu**	**58.17**	**315**	P		**P**	**07 33 13.3**	**+1.7**
TXAR	**Lajitas Array**	**58.50**	**325**	P		**P**	**07 33 14.3**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=134,slow=7.2,SNR=4.6							
	comp=Z,0.4nm,0.7s							
DBIC	**Dimbokro**	**68.45**	**74**	P		**P**	**07 34 18.5**	**-1.0**
DBIC	**Dimbokro**	**68.45**	**74**	P		**P**	**07 34 18.4**	**-1.1**
	comp=Z,2.2nm,0.5s,baz=218,slow=5.9,SNR=3.5							
	comp=Z,2.2nm,0.5s							
PDAR	**Pinedale Array**	**71.90**	**330**	P		**P**	**07 34 40.3**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=126,slow=7.8,SNR=5.9							
	comp=Z,0.4nm,0.5s							
NVAR	**Mina Array Bea**	**73.42**	**322**	P		**P**	**07 34 51.1**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=120,slow=4.6,SNR=4.7							
	comp=Z,0.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**76.94**	**71**	P		**P**	**07 35 08.8**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=255,slow=4.9,SNR=20							
	comp=Z,1.2nm,0.4s							
YKA	**Yellowknife Ar**	**88.86**	**341**	P		**P**	**07 36 10.6**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=96,slow=2.8,SNR=6.2							
	comp=Z,2.8nm,0.7s							
MJAR	**Matsushiro Arr**	**150.28**	**311**	PKPbc		**PKiKP**	**07 43 09.2**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=47,slow=1.7,SNR=5.2							
SONM	**Songino Array**	**151.18**	**6**	PKPbc		**PKiKP**	**07 43 10.1**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=333,slow=1.7,SNR=4.6							

*SOME **28** 07:39:03.9, 41.°63N×73.°85E, h10km*
*KRNET **28** 07:39:04.5±0.1, 41.°69N×73.°80E, h15km, mb2.5*
*NNC **28** 07:39:05.9±1.6, 41.°71N×73.°88E, h0km, mb2.6, mpv2.6,*
Error ellipse: s-maj=11.1km s-min=6.4km az=160.0

ISC 28 07:39:04.6±1.1, **41.°69N**±0.°03×**73.°84E**±0.°03, **h11**km±11km, **n20**, σ0**°82**/36, **21C-7D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.74**	**43**	⇓*i*P	**Pg**	**07 39 19.0**	**+0.1**
UCH				⇓*i*S	**Sb**	**07 39 29.4**	**-0.6**
SALK	**Salom-Alik**	**0.80**	**181**	⇑*i*P	**Pg**	**07 39 19.9**	**-0.2**
SALK				⇑*i*S	**Sg**	**07 39 31.0**	**+0.5**
EKS2	**Erkin-Say**	**0.98**	**357**	⇑*i*P	**Pg**	**07 39 22.9**	**-0.5**
EKS2				⇑*i*S	**Sb**	**07 39 36.2**	**-0.3**
AAK	**Ala-Archa**	**1.07**	**27**	⇑P	**Pn**	**07 39 25.4**	**-0.3**
	0.4nm,0.4s						
AAK				⇓S	**Sn**	**07 39 40.0**	**-0.6**
	1.9nm,0.7s						
AAK	**Ala-Archa**	**1.07**	**27**	⇓*i*P	**Pb**	**07 39 25.0**	**-0.2**
AAK				⇓*i*S	**Sn**	**07 39 39.8**	**-0.8**
MRKS	**Merke**	**1.15**	**337**	P	**Pn**	**07 39 27.1**	**+0.3**
	5.8nm,0.4s						
MRKS				S	**Sn**	**07 39 43.7**	**+1.1**
	12nm,0.5s						
MRKS	**Merke**	**1.15**	**337**	*eP*	**Pn**	**07 39 27.1**	**+0.3**
	5.8nm,0.4s						
MRKS				*eS*	**Sn**	**07 39 43.7**	**+1.1**
	12nm,0.5s						
JNKS	**Jany-Kuch**	**1.50**	**114**	⇑*i*P	**Pg**	**07 39 33.2**	**-0.2**
JNKS				⇑*i*S	**Sg**	**07 39 54.0**	**+1.1**
USP	**Ospenovka**	**1.65**	**17**	⇑*i*P	**Pb**	**07 39 35.2**	**+0.1**
USP				⇑*i*S	**Sg**	**07 39 57.6**	**-0.2**
SFK	**Sufi-Kurgan**	**1.69**	**189**	⇓*i*P	**Pb**	**07 39 35.9**	**+0.1**
SFK				⇓*i*S	**Sg**	**07 39 58.6**	**-0.3**
BOOM	**Boomskoye usch**	**1.76**	**62**	⇑*i*P	**Pg**	**07 39 37.5**	**-0.8**
BOOM				⇑*i*S	**Sg**	**07 40 01.6**	**+0.5**
TKM2	**Tokmak 2**	**1.79**	**46**	⇑*i*P	**Pg**	**07 39 38.1**	**-0.9**
TKM2				⇑*i*S	**Sg**	**07 40 02.4**	**+0.1**
ULHL	**Ulahol**	**1.88**	**72**	⇑*i*P	**Pg**	**07 39 39.7**	**-0.8**
ULHL				⇑*i*S	**Sg**	**07 40 05.3**	**+0.4**
TRKS	**Terek-Say**	**2.03**	**267**	⇑*e*P	**Pb**	**07 39 40.8**	**-0.8**
TRKS				⇑*e*S	**Sb**	**07 40 07.6**	**+0.7**
KST	**Kastek**	**2.08**	**49**	Pg	**Pg**	**07 39 44.7**	**+0.3**
	2.4nm,0.3s						
KST				Lg	Lg	07 40 14.6	
	9.0nm,0.6s						
KST	**Kastek**	**2.08**	**49**	*eP*	**Pg**	**07 39 44.6**	**+0.3**
	2.4nm,0.3s						
KST				*eS*	**Sg**	**07 40 14.1**	**+2.7**
	9.0nm,0.6s						
KRBS	**Karabastau**	**2.42**	**33**	Pg	**Pg**	**07 39 49.5**	**-1.4**
	2.2nm,0.2s						
KRBS				Lg	Lg	07 40 22.0	
	2.0nm,0.5s						
KDJ	**Kajisay**	**2.53**	**79**	⇑*i*P	**Pb**	**07 39 49.0**	**-1.1**
KDJ				⇑*i*S	**Sb**	**07 40 21.4**	**+0.1**
KK31	**Karatay Array**	**2.84**	**301**	⇑Pg	**Pg**	**07 39 58.4**	**-0.6**
	0.5nm,0.3s,baz=124,slow=18,SNR=7.5						
KK31				⇑Lg	Lg	07 40 39.4	
	1.0nm,0.3s,baz=127,slow=28,SNR=7.7						
KTBS	**Karatobe**	**2.91**	**45**	Pg	**Pb**	**07 39 57.3**	**+0.7**
	1.5nm,0.4s						
KTBS				Lg	Lg	07 40 35.8	
	4.6nm,0.5s						

IDC 28 07:56:52.8±8.3, **18.°21S**×**178.°11W, h643**km±93km, **mb2.8**/4, **mbtmp3.8**/4, **Error ellipse: s-maj=113.3km s-min=34.3km az=146.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.86**	**260**	P	P	08 04 12.5	-0.1
	1.0nm,0.3s,baz=96,slow=7.7,SNR=21						
WRA				PcP	PcP	08 05 39.6	-0.4
	0.3nm,0.8s,baz=92,slow=3.3,SNR=2.3						
	1.0nm,0.3s						
ASAR	**Alice Springs**	**44.98**	**255**	P	P	08 04 13.8	+0.3
	1.4nm,0.6s,baz=87,slow=8.2,SNR=37						
ASAR				PcP	PcP	08 05 40.0	-0.4
	0.3nm,0.6s,baz=87,slow=3.4,SNR=5.2						
	1.4nm,0.6s						
TXAR	**Lajitas Array**	**85.91**	**57**	P	P	08 08 27.1	+0.1
	0.4nm,0.8s,baz=259,slow=4.9,SNR=3.9						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**86.11**	**13**	P	P	08 08 27.1	+0.1
	0.2nm,0.5s,baz=222,slow=4.5,SNR=5.1						
	0.2nm,0.5s						

*SJA **28** 08:00:26.2±2.1, 24.°01S×68.°03W, h150km, ML3.4, MW3.6*
*NEIC **28** 08:00:26.5±2.0, 24.°04S±0.°07×67.°9W±0.°1, h151km±8km,*
mb4.0/3, ML4.0(GUC), Error ellipse: s-maj=17.1km
s-min=9.8km az=104.0
*GUC **28** 08:00:28.3±0.7, 23.°98S×68.°17W, h165km±7km, ML4.0*

ISC 28 08:00:26.7±0.8, **24.°02S**±0.°04×**68.°07W**±0.°05, **h161**km±9km, **n66**, σ0**°98**/**77**, **3C-9D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.07**	**354**		**Pn**	**08 00 53.0**	**-0.4**
AF01	**San Pedro de A**	**1.07**	**354**	*eP*	**Pn**	**08 00 53.1**	**-0.3**
AF01				IAML		08 01 17.5	
	comp=E,2μm,0.1s						
AF01	**San Pedro de A**	**1.07**	**354**	*i* P	**Pn**	**08 00 52.6**	**-0.8**
AF01				IAML		08 01 23.5	
	comp=Z,787nm,0.5s						
GO02	**Mina Guanaco**	**1.79**	**230**		**Pn**	**08 01 01.5**	**+1.0**
GO02	**Mina Guanaco**	**1.79**	**230**	⇑*eP*	**Pn**	**08 01 01.7**	**+1.2**
GO02				*eS*	**Sn**	**08 01 27.8**	**+1.2**
GO02				IAML		08 01 28.9	
	comp=N,1μm,0.3s						
GO02	**Mina Guanaco**	**1.79**	**230**	*i* P	**Pn**	**08 01 01.1**	**+0.6**
GO02				IAML		08 01 28.9	
	comp=Z,581nm,0.1s						
PB06	**IPOC Station P**	**1.90**	**313**		**Pn**	**08 01 02.6**	**+1.0**
PB06	**IPOC Station P**	**1.90**	**313**	⇓*i*P	**Pn**	**08 01 02.6**	**+1.0**
PB06				*eS*	**Sn**	**08 01 28.2**	**-0.2**
PB06				IAML		08 01 29.7	
	comp=N,2μm,0.2s						
PB06	**IPOC Station P**	**1.90**	**313**	*i* P	**Pn**	**08 01 02.0**	**+0.4**
PB06				*eS*	**Sn**	**08 01 28.9**	**+0.5**
PB06				IAML		08 01 29.8	
	comp=Z,1μm,0.1s						
PB14	**IPOC Station P**	**2.22**	**254**		**Pn**	**08 01 06.5**	**+1.2**
PB14	**IPOC Station P**	**2.22**	**254**	⇑*eP*	**Pn**	**08 01 06.3**	**+1.0**
PB14				*eS*	**Sn**	**08 01 35.3**	**+0.2**
PB14	**IPOC Station P**	**2.22**	**254**	*i* P	**Pn**	**08 01 05.7**	**+0.4**
PB14				⇓*eS*	**Sn**	**08 01 35.7**	**+0.6**
PB14				IAML		08 01 36.6	
	comp=Z,274nm,0.4s						
PB05	**IPOC Station P**	**2.28**	**300**		**Pn**	**08 01 06.7**	**+0.9**
PB05	**IPOC Station P**	**2.28**	**300**	*eP*	**Pn**	**08 01 06.8**	**+0.9**
PB05				*eS*	**Sn**	**08 01 35.0**	**-1.0**
PB05				IAML		08 01 37.2	
	comp=N,586nm,0.2s						
PB05	**IPOC Station P**	**2.28**	**300**	*i* P	**Pn**	**08 01 06.3**	**+0.4**
PB05				*eS*	**Sn**	**08 01 35.3**	**-0.7**
PB05				IAML		08 01 37.5	
	comp=Z,330nm,0.3s						
PB10	**IPOC Station P**	**2.33**	**282**		**Pn**	**08 01 07.8**	**+1.4**
PB10	**IPOC Station P**	**2.33**	**282**	⇓*i*P	**Pn**	**08 01 07.4**	**+1.1**
PB10				*eS*	**Sn**	**08 01 36.2**	**-0.8**
PB10				IAML		08 01 43.0	
	comp=N,492nm,0.2s						
PB10	**IPOC Station P**	**2.33**	**282**	*i* P	**Pn**	**08 01 07.1**	**+0.8**
PB10				IAML		08 01 42.2	
	comp=Z,320nm,0.4s						
SLA	**San Lorenzo**	**2.44**	**107**	*i* P	**Pn**	**08 01 08.4**	**+0.7**
SLA				IAML		08 01 45.4	
	comp=Z,3.5nm,2.2s						
PB09	**IPOC Station P**	**2.46**	**334**		**Pn**	**08 01 09.1**	**+1.0**
PB09	**IPOC Station P**	**2.46**	**334**	⇓*i*P	**Pn**	**08 01 09.3**	**+1.2**
PB09				*eS*	**Sn**	**08 01 40.1**	**0.0**
PB09				IAML		08 01 46.5	
	comp=E,320nm,0.5s						
PB09	**IPOC Station P**	**2.46**	**334**	*i* P	**Pn**	**08 01 08.7**	**+0.6**
PB09				IAML		08 01 43.6	
	comp=Z,334nm,0.4s						
PB03	**IPOC Station P**	**2.50**	**321**		**Pn**	**08 01 09.3**	**+0.7**
HJA	**Humahuaca**	**2.57**	**72**	*i* P	**Pn**	**08 01 10.0**	**+0.4**
HJA				IAML		08 01 55.3	
	comp=Z,8.3nm,1.9s						
FSA	**Cafayete**	**2.82**	**138**	*i* P	**Pn**	**08 01 12.8**	**+0.5**
AC02	**Maricunga**	**2.96**	**199**		**Pn**	**08 01 15.4**	**+0.9**
AC02	**Maricunga**	**2.96**	**199**	*i* P	**Pn**	**08 01 15.1**	**+0.6**
AC02				IAML		08 01 56.6	
	comp=Z,88nm,0.3s						
YJA	**Yavi**	**2.98**	**53**	*i* P	**Pn**	**08 01 15.1**	**+0.4**
YJA				IAML		08 01 56.5	
	comp=Z,1.6nm,1.0s						
AC01	**Pan de Azucar**	**3.12**	**227**		**Pn**	**08 01 16.2**	**+0.2**
AC01	**Pan de Azucar**	**3.12**	**227**	⇑*i*P	**Pn**	**08 01 16.0**	**0.0**
AC01				*i* S	**Sn**	**08 01 52.8**	**-1.6**
AC01				IAML		08 01 55.7	
	comp=E,238nm,0.4s						
AC01	**Pan de Azucar**	**3.12**	**227**	*i* P	**Pn**	**08 01 15.3**	**-0.7**
AC01				IAML		08 01 54.2	
	comp=Z,84nm,0.2s						
PB02	**IPOC Station P**	**3.17**	**327**		**Pn**	**08 01 17.1**	**+0.3**
PB02	**IPOC Station P**	**3.17**	**327**	⇓*i*P	**Pn**	**08 01 17.1**	**+0.3**
PB02	**IPOC Station P**	**3.17**	**327**	*i* P	**Pn**	**08 01 16.6**	**-0.1**
PB02				IAML		08 02 04.5	
	comp=Z,567nm,0.4s						
PB01	**IPOC Station P**	**3.24**	**336**		**Pn**	**08 01 17.6**	**0.0**
PB01	**IPOC Station P**	**3.24**	**336**	⇓*i*P	**Pn**	**08 01 17.5**	**-0.1**
PB01				IAML		08 01 57.7	
	comp=E,337nm,0.3s						
PB01	**IPOC Station P**	**3.24**	**336**	*i* P	**Pn**	**08 01 17.2**	**-0.4**
PB01				IAML		08 01 57.8	
	comp=Z,181nm,0.2s						
PATCX	**Punta Patache**	**3.72**	**328**		**Pn**	**08 01 23.6**	**-0.1**
PATCX	**Punta Patache**	**3.72**	**328**	⇓*i*P	**Pn**	**08 01 23.1**	**-0.6**
PATCX	**Punta Patache**	**3.72**	**328**	*i* P	**Pn**	**08 01 22.8**	**-0.9**
PATCX				IAML		08 02 16.1	
	comp=Z,87nm,0.8s						
TA01	**Diego Aracena**	**3.95**	**330**		**Pn**	**08 01 25.8**	**-0.9**
TA01	**Diego Aracena**	**3.95**	**330**	*i* P	**Pn**	**08 01 25.1**	**-1.5**
TA01				IAML		08 02 36.1	
	comp=Z,58nm,0.8s						
PB08	**IPOC Station P**	**3.99**	**345**		**Pn**	**08 01 27.7**	**+0.3**
PB08	**IPOC Station P**	**3.99**	**345**	⇓*i*P	**Pn**	**08 01 27.8**	**+0.3**
PB08	**IPOC Station P**	**3.99**	**345**	*i* P	**Pn**	**08 01 27.5**	**+0.1**
PB08				IAML		08 02 18.6	
	comp=Z,41nm,0.3s						
GO03	**Copiapo**	**4.06**	**208**	*eP*	**Pn**	**08 01 27.8**	**-0.3**
GO03				*i* S	**Sn**	**08 02 14.6**	**-1.4**
GO03	**Copiapo**	**4.06**	**208**	*i* P	**Pn**	**08 01 27.4**	**-0.7**
GO03				IAML		08 02 16.8	
	comp=Z,136nm,0.3s						
GO01	**Chusmiza**	**4.45**	**346**		**Pn**	**08 01 33.9**	**+0.2**
GO01	**Chusmiza**	**4.45**	**346**	*i* P	**Pn**	**08 01 33.0**	**-0.6**
GO01				IAML		08 02 27.1	
	comp=Z,49nm,0.6s						
PB11	**IPOC Station P**	**4.49**	**341**		**Pn**	**08 01 32.5**	**-1.3**
PB11	**IPOC Station P**	**4.49**	**341**	⇓*i*P	**Pn**	**08 01 32.4**	**-1.3**
PB11	**IPOC Station P**	**4.49**	**341**	*i* P	**Pn**	**08 01 32.3**	**-1.4**
PB11				IAML		08 02 28.6	
	comp=Z,61nm,0.3s						
VCA	**Vinchina**	**4.70**	**181**	*i* P	**Pn**	**08 01 36.9**	**+0.4**
VCA				IAML		08 02 36.7	
	comp=Z,13nm,0.8s						
CYA	**Choya**	**4.85**	**156**	*i* P	**Pn**	**08 01 37.7**	**-0.6**
CYA				IAML		08 02 38.8	
	comp=Z,4.9nm,4.3s						
AC04	**Llanos de Chal**	**4.97**	**212**	Pn	**Pn**	**08 01 38.5**	**-1.3**
AC04	**Llanos de Chal**	**4.97**	**212**	*i* P	**Pn**	**08 01 37.6**	**-2.2**
AC04				IAML		08 02 43.6	
	comp=Z,40nm,0.4s						
LCO	**Las Campanas**	**5.50**	**205**	Pn	**Pn**	**08 01 46.1**	**-1.0**
PB16	**IPOC Station P**	**5.81**	**346**		**Pn**	**08 01 51.2**	**-0.4**
GO04	**Tololo Observa**	**6.60**	**201**	Pn	**Pn**	**08 01 59.7**	**-1.9**
CO03	**El Pedregal**	**7.18**	**198**		**Pn**	**08 02 07.5**	**-1.7**
ZON	**Zonda**	**7.52**	**184**	Pn	**Pn**	**08 02 12.1**	**-1.5**
MT09	**Talagante**	**10.05**	**194**	Pn	**Pn**	**08 02 44.5**	**-2.8**
TRQA	**Tornquist**	**14.93**	**161**		**Pn**	**08 03 49.8**	**+0.2**
BDFB	**Brasilia**	**20.61**	**70**	P	**P**	**08 04 52.2**	**-1.3**
BDFB				IAmb	IAmb	08 05 13.4	
	comp=Z,3.3nm,0.9s						
BELA	**Belgrano 2**	**56.16**	**172**	P	**P**	**08 09 50.8**	**+1.8**
BELA				IAmb	IAmb	08 09 53.2	
	comp=Z,6.7nm,0.3s						
SNAA	**Sanae**	**59.66**	**161**	P	**P**	**08 10 13.9**	**+0.4**
SNAA				IAmb	IAmb	08 10 17.3	
	comp=Z,1.2nm,1.1s						

*IDC **28** 08:06:48.9±0.7, 9.°71N×126.°62E, h0km, mb4.0/15,*
mbtmp3.9/15, MS3.2/3, Error ellipse: s-maj=39.9km
s-min=14.5km az=70.0

ISC 28 08:06:55.0±0.7, **9.°6N**±0.°1×**126.°5E**±0.°2, **h43**km, **n22**, σ0**°72**/19, **mb3.9**/15, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**17.20**	**5**	LR	LR	08 16 47.3	
	comp=Z,48nm,19.9s,baz=71,slow=35						
GUMO	**Guam**	**18.38**	**76**	LR	LR	08 17 11.0	
	comp=Z,51nm,19.0s,baz=272,slow=34						
BATI	**Baumata**	**19.90**	**188**	P	**Pn**	**08 11 25.1**	**0.0**
	52nm,0.5s,baz=254,slow=2.5,SNR=5.5						
CMAR	**Chiang Mai Arr**	**28.14**	**291**	P	**P**	**08 12 43.9**	**+0.5**
	1.0nm,0.3s,baz=104,slow=8.8,SNR=4.2						
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**30.36**	**165**	P	**P**	**08 13 02.1**	**-0.9**
	0.7nm,0.8s,baz=339,slow=8.8,SNR=4.8						
WRA				PcP	**PcP**	**08 16 03.7**	**+1.2**
	0.2nm,0.6s,baz=339,slow=4.5,SNR=1.6						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**33.86**	**168**	P	**P**	**08 13 33.8**	**+0.1**
	0.4nm,0.6s,baz=344,slow=7.2,SNR=8.6						

NWCL	**Newcastle**	**10.15**	**206**	*e*P		**Pn**	**08 15 50.2**	**+0.5**
NWCL				IAML			08 17 23.3	
	comp=Z,3.3nm,0.3s							
NWCL				*e*S		**Sn**	**08 17 39.8**	**-4.0**
PRYS	**Parys**	**10.76**	**218**	*e*P		**Pn**	**08 15 59.4**	**+1.3**
PRYS				IAML			08 17 16.9	
	comp=Z,2.2nm,0.3s							
PMBG	**Pietermaritzbu**	**11.55**	**199**	*e*P		**Pn**	**08 16 08.4**	**-0.3**
PMBG				*e*S		**Sn**	**08 18 12.4**	**-5.5**
PMBG				IAML			08 18 43.2	
	comp=Z,3.3nm,0.8s							
SNKL	**Senekal, Frees**	**11.59**	**213**	*e*P		**Pn**	**08 16 10.4**	**+0.9**
SNKL				IAML			08 17 16.9	
	comp=Z,5.6nm,0.4s							
SNKL				*e*S		**Sn**	**08 18 15.9**	**-3.2**
SWZ	**Schweizer**	**12.21**	**224**	*e*P		**Pn**	**08 16 19.8**	**+1.9**
SWZ				IAML			08 18 46.4	
	comp=Z,4.0nm,0.4s							
BOSA	**Boshof**	**13.26**	**220**	*e*P		**Pn**	**08 16 34.5**	**+2.3**
ALKP	**Alkanpan, Nort**	**16.07**	**223**	*e*P		**P**	**08 17 13.2**	**-0.2**
BRAK	**Brakfontein**	**16.96**	**217**	*e*P		**P**	**08 17 24.6**	**+1.3**
MERW	**Merweville**	**18.41**	**218**	*e*P		**Pn**	**08 17 40.7**	**+1.4**

IDC 28 08:31:55.7±1.8,20°17S×179°09E,h0km,mb3.7/4, mbtmp3.7/4,Error ellipse: s-maj=43.7km s-min=40.7km az=171.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.94**	**257**	P	P	08 39 49.4	+0.9
	3.0nm,0.6s,baz=88,slow=8.6,SNR=53 3.0nm,0.6s						
WRA	**Warramunga Arr**	**41.94**	**262**	P	P	08 39 47.4	-1.1
	0.3nm,0.4s,baz=96,slow=7.1,SNR=13 0.3nm,0.4s						
VNDA	**Vanda**	**58.01**	**184**	P	P	08 41 49.6	-0.3
	0.5nm,0.6s,baz=49,slow=5.4,SNR=6.0 0.5nm,0.6s						
ILAR	**Eielson Array**	**88.63**	**14**	P	P	08 44 50.5	+0.2
	0.2nm,0.8s,baz=207,slow=5.0,SNR=1.3 0.2nm,0.8s						

*SJA **28** 08:43:59.2±0.6,23°96S×66°78W,h208km±4km,ML3.4, MW3.5*
*GUC **28** 08:44:01.0±0.7,23°99S×67°16W,h244km±13km,ML3.9*
ISC 28 08:43:59.1±2.0,23°98S±0°04×66°81W±0°05, h207km±15km,n29,σ1§48/52,3C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.49**	**119**	*e*P	**Pn**	**08 44 28.7**	**+1.0**
SALTA				*e*P		08 44 28.8	
SLA	**San Lorenzo**	**1.40**	**122**	*e*P	**Pn**	**08 44 33.5**	**+0.7**
SLA				*e*S	**Sn**	**08 44 57.0**	**-1.9**
HJA	**Humahuaca**	**1.50**	**59**	*e*P	**Pn**	**08 44 34.8**	**+0.9**
HJA				*e*S	**Sn**	**08 44 56.9**	**-3.9**
AF01	**San Pedro de A**	**1.62**	**309**	*e*P	**Pn**	**08 44 37.3**	**+2.4**
AF01				*e*S	**Sn**	**08 45 02.2**	**-0.4**
YJA	**Yavi**	**2.16**	**34**	*e*P	**Pn**	**08 44 43.9**	**+3.6**
FSA	**Cafayete**	**2.25**	**161**	*e*P	**Pn**	**08 44 41.7**	**+0.8**
FSA				*e*S	**Sn**	**08 45 13.1**	**-0.6**
GO02	**Mina Guanaco**	**2.79**	**245**	*i*P	**Pn**	**08 44 48.2**	**+1.1**
GO02	**Mina Guanaco**	**2.79**	**245**	*e*P	**Pn**	**08 44 48.2**	**+1.1**
GO02				*e*S	**Sn**	**08 45 25.1**	**+0.6**
GO02				IAML		08 45 25.6	
	comp=Z,149nm,0.4s						
PB06	**IPOC Station P**	**2.84**	**296**	*e*P	**Pn**	**08 44 48.6**	**+1.2**
PB06				*e*S	**Sn**	**08 45 24.4**	**-0.8**
PB06				IAML		08 45 26.6	
	comp=N,265nm,0.1s						
PB06	**IPOC Station P**	**2.84**	**296**	*e*P	**Pn**	**08 44 48.5**	**+1.0**
PB06				*e*S	**Sn**	**08 45 25.0**	**-0.2**
PB06				IAML		08 45 27.1	
	comp=Z,188nm,0.1s						
PB09	**IPOC Station P**	**3.13**	**314**	*e*P	**Pn**	**08 44 52.5**	**+1.7**
PB09				*e*S	**Sn**	**08 45 30.2**	**-1.1**
PB09	**IPOC Station P**	**3.13**	**314**	*e*P	**Pn**	**08 44 52.5**	**+1.7**
PB09				*e*S	**Sn**	**08 45 31.9**	**+0.6**
PB09				IAML		08 45 33.9	
	comp=Z,61nm,0.2s						
PB05	**IPOC Station P**	**3.31**	**289**	*i*P	**Pn**	**08 44 53.8**	**+0.8**
PB05				*i*S	**Sn**	**08 45 33.3**	**-1.9**
PB05	**IPOC Station P**	**3.31**	**289**	*e*P	**Pn**	**08 44 53.9**	**+0.9**
PB05				*e*S	**Sn**	**08 45 34.0**	**-1.1**
PB05				IAML		08 45 36.1	
	comp=Z,37nm,0.1s						
PB03	**IPOC Station P**	**3.33**	**305**	*i*P	**Pn**	**08 44 53.8**	**+0.6**
PB03	**IPOC Station P**	**3.33**	**305**	*e*P	**Pn**	**08 44 53.9**	**+0.7**
PB03				*e*S	**Sn**	**08 45 34.6**	**-0.9**
PB03				IAML		08 45 37.9	
	comp=Z,132nm,0.1s						
PB14	**IPOC Station P**	**3.34**	**258**	*e*P	**Pn**	**08 44 54.2**	**+0.7**
PB14				*e*S	**Sn**	**08 45 34.3**	**-1.7**
PB14	**IPOC Station P**	**3.34**	**258**	*e*P	**Pn**	**08 44 54.4**	**+0.9**
PB14				*e*S	**Sn**	**08 45 35.9**	**-0.2**
PB14				IAML		08 45 38.1	
	comp=Z,42nm,0.2s						
PB10	**IPOC Station P**	**3.46**	**277**	*e*P	**Pn**	**08 44 55.4**	**+0.8**
PB10				*e*S	**Sn**	**08 45 36.4**	**-1.8**
PB10	**IPOC Station P**	**3.46**	**277**	*e*P	**Pn**	**08 44 55.6**	**+0.9**
PB10				*e*S	**Sn**	**08 45 37.3**	**-0.8**
PB10				IAML		08 45 40.0	
	comp=Z,28nm,0.2s						
AC02	**Maricunga**	**3.53**	**216**	*e*P	**Pn**	**08 44 57.3**	**+1.4**
AC02				*e*S	**Sn**	**08 45 41.1**	**+0.6**
PB01	**IPOC Station P**	**3.83**	**319**	*i*P	**Pn**	**08 44 59.6**	**+0.3**
PB01				*i*S	**Sn**	**08 45 44.5**	**-2.0**
PB01	**IPOC Station P**	**3.83**	**319**	*e*P	**Pn**	**08 44 59.8**	**+0.6**
PB01				*e*S	**Sn**	**08 45 44.9**	**-1.6**
PB01				IAML		08 45 48.1	
	comp=Z,39nm,0.2s						
PB02	**IPOC Station P**	**3.89**	**312**	*i*S	**Sn**	**08 45 45.6**	**-2.2**
PB02	**IPOC Station P**	**3.89**	**312**	*e*P	**Pn**	**08 45 01.0**	**+1.0**
PB02				*e*S	**Sn**	**08 45 46.1**	**-1.8**
PB02				IAML		08 45 47.1	
	comp=Z,82nm,0.3s						
AC01	**Pan de Azucar**	**4.06**	**237**	*e*P	**Pn**	**08 45 01.0**	**-0.9**
AC01				*e*P		08 45 01.8	
AC01				IAML		08 45 49.8	
	comp=Z,23nm,0.9s						
PB08	**IPOC Station P**	**4.40**	**330**	*e*P	**Pn**	**08 45 08.5**	**+2.0**
PB08				*e*S	**Sn**	**08 45 59.0**	**-0.5**
PB08				IAML		08 46 02.2	
	comp=Z,14nm,0.2s						
PATCX	**Punta Patache**	**4.41**	**315**	*e*P	**Pn**	**08 45 06.9**	**+0.5**
PATCX				*e*S	**Sn**	**08 45 57.1**	**-2.4**
PATCX				IAML		08 46 06.9	
	comp=Z,15nm,0.3s						
PB11	**IPOC Station P**	**4.96**	**327**	*e*P	**Pn**	**08 45 14.6**	**+1.1**
PB11				*e*S	**Sn**	**08 46 10.3**	**-1.8**
PB11				IAML		08 46 12.7	
	comp=Z,24nm,0.3s						

*SNET **28** 08:51:46.8±2.1,13°81N×91°51W,h39km,ML3.3*
*CATAC **28** 08:51:47.7±0.7,14°N±5°×91°W±°,h34km±8km,M3.3/8, MLv3.3/8,Error ellipse: s-maj=12.4km s-min=5.3km az=36.7,confirmed*
*GCG **28** 08:51:48.0±0.9,14°02N×91°42W,h63km±9km,MD3.6, ML3.7,MW3.1*
ISC 28 08:51:42.0±1.7,13°71N±0°08×91°51W±0°07,h19km±3km, n20,σ1§23/32,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.83**	**347**	P	**Pn**	**08 52 00.7**	**+1.9**
RTAL	**Retalhuleu**	**0.83**	**347**	S	**Sn**	**08 52 11.0**	**+0.5**
ESSG	**Sabana Grande**	**0.94**	**44**	*i*P	**Pg**	**08 52 02.1**	**+1.7**
ESSG				*i*S	**Sb**	**08 52 13.6**	**+1.6**
ESSG				IAML		08 52 14.3	
	comp=E,1μm,0.1s						
ESSJ	**San Jos, E**	**0.99**	**98**	*e*P	**Pg**	**08 52 01.4**	**+0.1**
ESSJ				*e*S	**Sb**	**08 52 10.6**	**-2.7**
FG8	**Yepocapa, Chim**	**1.07**	**59**	*i*P	**Pn**	**08 52 02.0**	**-0.1**
FG8				*i*S	**Sb**	**08 52 13.1**	**-2.6**
SOKI	**Kika Raxquin**	**1.11**	**5**	*i*P	**Pg**	**08 52 04.6**	**+0.9**
SOKI				*i*S	**Sb**	**08 52 17.0**	**-0.2**
SOKI				IAML		08 52 19.7	
	comp=E,903nm,0.3s						
FG16	**Alotenango, Sa**	**1.12**	**60**	*i*P	**Pn**	**08 52 03.1**	**+0.1**
FG16				*e*S	**Sb**	**08 52 15.2**	**-2.0**
FG16				IAML		08 52 17.0	
	comp=N,13μm,0.2s						
SMCA	**Catarina**	**1.27**	**334**	*i*P	**Pg**	**08 52 06.9**	**+0.3**
SMCA				*i*S	**Sn**	**08 52 20.3**	**-1.1**
THIG		**1.40**	**328**	*i*S	**Sg**	**08 52 25.2**	**-2.2**
FAME	**Alcaldia de Sa**	**1.46**	**85**	P	**Pg**	**08 52 10.9**	**+0.7**
HUEH	**Huehuetenango**	**1.60**	**0**	*e*P	**Pg**	**08 52 12.5**	**-0.4**
HUEH	**Huehuetenango**	**1.60**	**0**	*e*	**Pb**	**08 52 11.1**	**-0.1**
HUEH				*i*P	**Pb**	**08 52 11.1**	**-0.1**
HUEH				*i*S	**Sb**	**08 52 30.9**	**-0.2**
NUBE	**Las Nubes**	**1.69**	**83**	*i*P	**Pg**	**08 52 14.4**	**-0.2**
NUBE				*i*S	**Sb**	**08 52 34.1**	**+0.5**
NUBE	**Las Nubes**	**1.69**	**83**	P	**Pg**	**08 52 14.4**	**-0.2**
CEVE	**Cerro Verde**	**1.83**	**86**	*e*P	**Pg**	**08 52 17.0**	**-0.3**
CEVE				*e*S	**Sb**	**08 52 39.5**	**+1.7**
CEVE	**Cerro Verde**	**1.83**	**86**	P	**Pg**	**08 52 17.6**	**+0.3**
JAYA	**Jayaque - finc**	**2.00**	**91**	*e*P	**Pg**	**08 52 20.1**	**-0.4**
JAYA				*e*S	**Sb**	**08 52 42.7**	**+0.2**
JAYA	**Jayaque - finc**	**2.00**	**91**	*e*P	**Pb**	**08 52 19.3**	**+1.3**
JAYA				*e*S	**Sb**	**08 52 42.8**	**+0.2**
JAYA	**Jayaque - finc**	**2.00**	**91**	P	**Pb**	**08 52 19.3**	**+1.3**
MTO3	**Montecristo**	**2.19**	**72**	P	**Pb**	**08 52 20.7**	**-0.6**

*SJA **28** 08:53:42.8±0.7,31°57S×70°05W,h125km±2km,ML3.6, MW3.6*
*GUC **28** 08:53:43.9±0.9,31°62S×70°32W,h119km±6km,ML4.0*
ISC 28 08:53:43.2±1.3,31°58S±0°02×70°11W±0°03,h126km±8km, n56,σ1§14/104,4C-6D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.72**	**108**	*e*P	**Pn**	**08 54 03.8**	**+0.1**
RTLS				*e*S	**Sn**	**08 54 18.1**	**-1.1**
RTLS				IAML		08 54 19.1	
	comp=Z,4μm,0.2s						
CO02	**Combarbal**	**0.85**	**296**	*i*P	**Pn**	**08 54 04.7**	**+0.2**
CO02				*e*S	**Sn**	**08 54 20.0**	**-0.7**
CO02				IAML		08 54 20.7	
	comp=N,8μm,0.3s						
CO02	**Combarbal**	**0.85**	**296**	*e*P	**Pn**	**08 54 04.5**	**-0.1**
CO02				*e*S	**Sn**	**08 54 20.8**	**+0.1**
CO02				IAML		08 54 21.2	
	comp=Z,2μm,0.6s						
CO04	**Los Peladeros**	**0.87**	**238**	*e*P	**Pn**	**08 54 04.5**	**-0.4**
CO04				*e*S	**Sn**	**08 54 20.1**	**-1.2**
CO04				IAML		08 54 21.5	
	comp=N,8μm,0.2s						
CO03	**El Pedregal**	**0.89**	**326**	*e*P	**Pn**	**08 54 05.2**	**+0.3**
CO03				*e*S	**Sn**	**08 54 21.2**	**-0.1**
CO03				IAML		08 54 22.4	
	comp=E,3μm,0.3s						
CO03	**El Pedregal**	**0.89**	**326**	*e*P	**Pn**	**08 54 05.2**	**+0.3**
CO03				*e*S	**Sn**	**08 54 21.7**	**+0.4**
CO03				IAML		08 54 24.0	
	comp=Z,1μm,0.1s						
ZON	**Zonda**	**1.22**	**89**	*e*P	**Pn**	**08 54 07.4**	**-0.6**
ZON				*e*S	**Sn**	**08 54 25.8**	**-1.1**
ZON				IAML		08 54 28.8	
	comp=Z,316nm,0.3s						
VA03	**San Esteban**	**1.24**	**198**	*e*P	**Pn**	**08 54 08.5**	**+0.2**
VA03				*e*S	**Sn**	**08 54 28.8**	**+1.5**
VA03				IAML		08 54 33.2	
	comp=Z,666nm,0.3s						
SJA	**San Juan**	**1.32**	**88**	*e*P	**Pn**	**08 54 05.4**	**-3.7**
SJA				*e*S	**Sn**	**08 54 28.6**	**-0.1**
SJA				IAML		08 54 29.6	
	comp=Z,414nm,0.2s						
ACCO	**Cerro Coronel**	**1.33**	**42**	*e*P	**Pn**	**08 54 10.0**	**+0.4**
ACCO				*e*S	**Sn**	**08 54 30.4**	**+0.8**
RTLL	**Cerro Villicun**	**1.42**	**80**	*e*P	**Pn**	**08 54 09.9**	**-0.2**
RTLL				*e*S	**Sn**	**08 54 29.7**	**-1.0**
RTLL				IAML		08 54 30.1	
	comp=Z,649nm,0.2s						
ASAL	**Salagasta**	**1.48**	**133**	*e*P	**Pn**	**08 54 11.5**	**+0.6**
ASAL				*e*S	**Sn**	**08 54 31.8**	**-0.2**
AROD	**Rodeo**	**1.51**	**21**	*e*P	**Pn**	**08 54 13.0**	**+1.5**
AROD				*e*S	**Sn**	**08 54 33.9**	**+0.8**
GO04	**Tololo Observa**	**1.52**	**337**	*i*P	**Pn**	**08 54 12.0**	**+0.4**
GO04				*e*S	**Sn**	**08 54 32.9**	**-0.3**
GO04	**Tololo Observa**	**1.52**	**337**	*e*P	**Pn**	**08 54 11.9**	**+0.4**
GO04				*e*S	**Sn**	**08 54 33.7**	**+0.5**
ROCH	**El Roble**	**1.58**	**209**	*i*P	**Pn**	**08 54 11.9**	**-0.3**
ROCH				*i*P		08 54 12.0	
ROCH				*e*S	**Sn**	**08 54 33.5**	**-0.8**
ROCH				*e*S		08 54 33.6	
ROCH				IAML		08 54 35.6	
	comp=N,1μm,0.4s						
ROC1	**El Roble**	**1.59**	**209**	*e*P	**Pn**	**08 54 11.6**	**-0.8**
ROC1				*e*S	**Sn**	**08 54 34.5**	**0.0**
CO06	**Fray Jorge**	**1.59**	**304**	*i*P	**Pn**	**08 54 12.0**	**-0.1**
CO06				*e*S	**Sn**	**08 54 32.5**	**-1.6**
CFA	**Coronel Fontan**	**1.60**	**91**	*e*P	**Pn**	**08 54 12.1**	**-0.1**
CFA				*e*S	**Sn**	**08 54 33.4**	**-0.8**
ARCO	**CERRO ARCO**	**1.60**	**142**	*e*P	**Pn**	**08 54 13.4**	**+1.0**
ARCO				*e*S	**Sn**	**08 54 36.0**	**+1.4**
ARCO				IAML		08 54 38.5	
	comp=Z,763nm,0.3s						
PEL	**Peldehue**	**1.63**	**197**	*e*P	**Pn**	**08 54 12.6**	**0.0**
PEL				*e*S	**Sn**	**08 54 37.0**	**+1.9**
PEL				IAML		08 54 38.2	
	comp=Z,264nm,0.2s						
ACDV	**Cuesta del Vie**	**1.64**	**31**	*e*P	**Pn**	**08 54 13.9**	**+1.0**
ACDV				*e*S	**Sn**	**08 54 37.0**	**+1.5**
ACDV				IAML		08 54 39.1	
	comp=Z,297nm,0.1s						
MT10	**Hacienda Santa**	**1.73**	**192**	*e*P	**Pn**	**08 54 14.3**	**+0.5**
MT10				*e*S	**Sn**	**08 54 37.6**	**+0.5**
MT10				IAML		08 54 38.9	
	comp=E,1μm,0.7s						
MT04	**Ro Olivares**	**1.82**	**181**	*e*P	**Pn**	**08 54 16.0**	**+1.0**
MT04				*e*S	**Sn**	**08 54 42.1**	**+2.9**
MT04				IAML		08 54 43.9	
	comp=Z,272nm,0.3s						
MT14	**Cerro Cal¡n**	**1.84**	**191**	*e*P	**Pn**	**08 54 15.6**	**+0.4**
MT14				*e*S	**Sn**	**08 54 39.7**	**+0.1**
AAGR	**Agrelo**	**1.85**	**144**	*e*P	**Pn**	**08 54 16.5**	**+1.2**
AAGR				*e*S	**Sn**	**08 54 40.9**	**+1.1**
AAGR				IAML		08 54 44.5	
	comp=Z,425nm,0.6s						
MT08	**Bocatoma Ro**	**1.86**	**178**	*e*P	**Pn**	**08 54 17.1**	**+1.5**
MT08				*e*S	**Sn**	**08 54 39.5**	**-0.6**
MT05	**Renca**	**1.88**	**196**	*e*P	**Pn**	**08 54 15.7**	**+0.1**
MT05				*e*S	**Sn**	**08 54 40.3**	**-0.1**
MT05				IAML		08 54 44.6	
	comp=E,1μm,0.2s						
MT05	**Renca**	**1.88**	**196**	*e*P	**Pn**	**08 54 16.0**	**+0.4**
MT05				*e*S	**Sn**	**08 54 41.4**	**+1.0**
MT05				IAML		08 54 42.7	
	comp=Z,334nm,0.3s						
MT02	**Curacav**	**1.89**	**207**	*e*P	**Pn**	**08 54 15.1**	**-0.5**
MT02				*e*S	**Sn**	**08 54 40.3**	**-0.1**
MT02				IAML		08 54 41.0	
	comp=Z,238nm,0.3s						
CO05	**La Serena**	**1.92**	**329**	*e*P	**Pn**	**08 54 15.9**	**-0.1**
CO05				*e*S	**Sn**	**08 54 39.7**	**-1.4**
CO05				IAML		08 54 43.4	
	comp=N,2μm,0.4s						
MT03	**Universidad Ad**	**1.94**	**190**	*e*P	**Pn**	**08 54 16.9**	**+0.6**
MT03				*e*S	**Sn**	**08 54 42.5**	**+0.9**
MT03				IAML		08 54 45.6	
	comp=Z,592nm,0.1s						
VA01	**Torpederas**	**1.94**	**222**	*e*P	**Pn**	**08 54 15.0**	**-1.2**
VA01				IAML		08 54 40.2	
	comp=Z,214nm,0.1s						
MT13	**San Alfonso**	**2.16**	**184**	*e*P	**Pn**	**08 54 19.9**	**+0.9**
MT13				*e*S	**Sn**	**08 54 42.5**	**-4.1**
MT13				*e*S		08 54 47.6	
MT13				IAML		08 54 48.4	
	comp=Z,332nm,0.2s						
LMEL	**Las Melosas**	**2.26**	**182**	*e*P	**Pn**	**08 54 21.3**	**+0.9**
LMEL				*e*S	**Sn**	**08 54 51.8**	**+2.9**
LMEL				IAML		08 55 00.4	
	comp=Z,154nm,0.1s						
AVIZ	**Vizcacheras**	**2.32**	**145**	*e*P	**Pn**	**08 54 22.2**	**+1.2**
AVIZ				*e*S	**Sn**	**08 54 51.0**	**+1.0**
AVFE	**Valle Fertil**	**2.45**	**69**	*e*P	**Pn**	**08 54 22.8**	**+0.1**
AVFE				*e*S	**Sn**	**08 54 52.4**	**-0.7**
AVFE				IAML		08 54 53.9	
	comp=Z,254nm,0.6s						
MT01	**Popeta**	**2.47**	**203**	*e*P	**Pn**	**08 54 22.3**	**-0.6**
MT01				IAML		08 54 53.8	
	comp=Z,169nm,0.1s						
AGUA	**GUANDACOL**	**2.51**	**34**	*e*P	**Pn**	**08 54 24.9**	**+1.3**
AGUA				*e*S	**Sn**	**08 54 55.9**	**+1.5**
AGUA				IAML		08 54 57.5	
	comp=Z,416nm,0.3s						
ACAN	**Cantantal**	**2.58**	**106**	*e*P	**Pn**	**08 54 23.7**	**-0.5**
ACAN				IAML		08 54 57.8	
	comp=Z,738nm,0.2s						
LCO	**Las Campanas**	**2.61**	**349**	*e*P	**Pn**	**08 54 25.5**	**+0.5**
LCO				*e*S	**Sn**	**08 54 57.5**	**+0.4**
BO01	**Tunca**	**2.92**	**196**	*e*P	**Pn**	**08 54 27.9**	**-0.8**
BO01				*e*S	**Sn**	**08 55 05.0**	**+1.3**
BO01				IAML		08 55 06.1	
	comp=Z,74nm,0.2s						
ACHE	**Chepes**	**2.98**	**83**	*e*P	**Pn**	**08 54 29.9**	**+0.4**
ACHE				*e*S	Sn	08 54 55.5	-10
BO02	**Sierra Bellavi**	**3.25**	**190**	*e*P	**Pn**	**08 54 32.9**	**-0.1**
BO02				*e*S	**Sn**	**08 55 12.5**	**+0.9**
BO02				IAML		08 55 17.6	
	comp=Z,155nm,0.1s						
VCA	**Vinchina**	**3.28**	**31**	*e*P	**Pn**	**08 54 34.7**	**+1.1**
VCA				*e*S	**Sn**	**08 55 15.2**	**+2.8**
VCA				IAML		08 55 26.3	
	comp=Z,154nm,0.3s						
APLL	**PUNTA DE LOS L**	**3.29**	**70**	*e*P	**Pn**	**08 54 33.5**	**-0.1**
APLL				*e*S	Sn	08 54 54.5	-18
RFA	**San Rafael**	**3.46**	**157**	*e*P	**Pn**	**08 54 35.9**	**0.0**
RFA				*e*S	**Sn**	**08 55 14.8**	**-1.8**
AC04	**Llanos de Chal**	**3.47**	**346**	*e*P	**Pn**	**08 54 36.4**	**+0.5**
AC04				*e*S	**Sn**	**08 55 15.7**	**-0.9**
AC04				IAML		08 55 30.4	
	comp=Z,125nm,0.2s						
ACLC	**CERRO LA CRUZ**	**3.47**	**53**	*e*P	**Pn**	**08 54 35.9**	**-0.2**
ACLC				*e*S	**Sn**	**08 55 16.8**	**-0.1**
ACLC				IAML		08 55 17.7	
	comp=Z,83nm,0.3s						
GO05	**Hualane**	**3.74**	**204**	*e*P	**Pn**	**08 54 38.0**	**-1.4**
GO05				*e*S	**Sn**	**08 55 23.3**	**+0.2**
GO05				IAML		08 55 24.7	
	comp=Z,33nm,0.6s						
MRA	**San Martin**	**3.82**	**104**	*e*P	**Pn**	**08 54 40.6**	**0.0**
MRA				*e*S	**Sn**	**08 55 23.1**	**-2.0**
MRA				IAML		08 55 24.6	
	comp=Z,68nm,0.2s						
GO03	**Copiapo**	**3.98**	**358**	*e*P	**Pn**	**08 54 43.2**	**+0.5**
GO03				*e*S	**Sn**	**08 55 28.2**	**-0.5**
GO03				IAML		08 55 37.5	
	comp=Z,86nm,0.4s						
TCA	**Tanti**	**4.72**	**88**	*e*P	**Pn**	**08 54 52.1**	**-0.4**
TCA				*e*S	Sn	08 55 28.5	-18
TCA				IAML		08 55 43.5	
	comp=Z,51nm,0.9s						
AC02	**Maricunga**	**4.81**	**10**	*e*P	**Pn**	**08 54 54.7**	**+0.5**
AC02				*e*S	Sn	08 55 35.3	-14
AC02				*e*S		08 55 40.6	
AC02				IAML		08 55 51.7	
	comp=Z,24nm,0.3s						
CYA	**Choya**	**4.87**	**51**	*e*P	**Pn**	**08 54 53.2**	**-1.3**
CYA				*e*S	**Sn**	**08 55 47.6**	**-2.4**
CYA				IAML		08 55 49.8	
	comp=Z,17nm,0.2s						
BI02	**San Fabin de**	**5.16**	**190**	*e*P	**Pn**	**08 54 58.6**	**+0.1**
BI02				IAML		08 56 01.2	
	comp=Z,12nm,0.5s						

*SDD **28** 08:54:12.7±1.6,18°59N×71°77W,h31km±12km,MD2.6, ML2.3,MW3.1*
*OSPL **28** 08:54:12.9±1.7,18°68N×71°66W,h22km±8km,ML1.8*
ISC 28 08:54:12.2±1.3,18°62N±0°04×71°66W±0°04,h35km,n11, σ1§39/19,1C,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONE3	**El Aguacate, B**	**0.19**	**95**	*i*P	**Pn**	**08 54 17.2**	**-1.9**
LONE3				*e*S	**Sn**	**08 54 21.6**	**-2.2**
LONE3				IAML		08 54 22.1	
	comp=Z,109nm,0.3s						
JIDR	**Jimani**	**0.22**	**234**	*e*Pg	**Pn**	**08 54 17.6**	**-1.6**
JIDR				*e*Sg	**Sn**	**08 54 22.4**	**-1.6**
JIDR				IAML		08 54 22.8	
	comp=N,2μm,0.2s						
NEDR	**Neiba UASD**	**0.27**	**120**	*e*Pg	**Pn**	**08 54 18.6**	**-1.2**
NEDR				*e*Sg	**Sn**	**08 54 25.2**	**+0.4**
NEDR				IAML		08 54 28.6	
	comp=N,124nm,0.7s						
LODU1	**El Espartillar**	**0.32**	**146**	*i*P	**Pn**	**08 54 19.8**	**-0.6**
LODU1				*e*S	**Sn**	**08 54 26.3**	**+0.3**
LODU1				IAML		08 54 26.8	
	comp=Z,117nm,1.1s						
SDDR	**Presa de Saban**	**0.51**	**44**	*e*S	**Sn**	**08 54 28.9**	**-1.6**
SDDR				IAML		08 54 30.0	
	comp=Z,25nm,0.6s						
PODR	**Polo**	**0.58**	**141**	*e*Pg	**Pn**	**08 54 24.2**	**0.0**
PODR				*e*Sg	**Sn**	**08 54 34.0**	**+1.6**
PODR				IAML		08 54 38.3	
	comp=N,70nm,0.7s						
PODR	**Polo**	**0.58**	**141**	*i*P	**Pn**	**08 54 24.1**	**0.0**
PODR				*e*S	**Sn**	**08 54 33.8**	**+1.4**
PAPH	**Port-au-Prince**	**0.61**	**261**	*i*P	**Pn**	**08 54 23.9**	**-0.5**
PAPH				*e*S	**Sn**	**08 54 33.6**	**+0.5**
LOBH	**Bahia de las A**	**0.75**	**178**	*i*P	**Pn**	**08 54 27.0**	**+0.7**
LOBH				IAML		08 54 46.5	
	comp=Z,30nm,0.7s						
LOVI	**El Cajuil, Ovi**	**0.86**	**161**	*i*P	**Pn**	**08 54 28.9**	**+1.1**
LOVI				IAML		08 54 43.0	
	comp=Z,30nm,2.3s						
MCDR	**Montecristi**	**1.27**	**0**	*e*Pg	**Pn**	**08 54 35.1**	**+1.7**
MCDR				*e*Sg	**Sn**	**08 54 51.0**	**+1.8**

LRMC				IAML			09 09 33.8	
	comp=N,2μm,0.3s							
LRMC				IAML			09 09 34.1	
	comp=E,3μm,0.3s							
WNMM	**Nine Mile Cany**	**0.31**	**293**		Pn		09 09 34.7	-0.6
WVPM	**Volcano Peak E**	**0.31**	**317**		Pg		09 09 30.2	+0.1
WVPM					Sg		09 09 34.8	+0.6
JRC2	**Joshua Ridge**	**0.33**	**321**		Pn		09 09 35.2	-0.7
MPMC	**Manual Prospec**	**0.34**	**9**		Pg		09 09 30.6	-0.1
MPMC				IAML			09 09 35.6	
	comp=E,1μm,0.4s							
MPMC				IAML			09 09 37.0	
	comp=N,1μm,0.5s							
WCSM	**Coso Springs S**	**0.35**	**330**		Pg		09 09 30.7	-0.1
WCSM					Sg		09 09 35.7	+0.3
WRVM	**Rose V. Centra**	**0.40**	**316**		Pg		09 09 31.6	-0.1
WRVM					Sg		09 09 37.1	+0.2
MFS	**McCloud Flat S**	**0.46**	**328**		Pg		09 09 32.9	-0.1
MFS					Sg		09 09 39.0	-0.1
WBSM	**Bird Springs**	**0.51**	**249**		Pg		09 09 33.7	-0.2
WBSM					Sg		09 09 40.5	0.0
DTP	**Desert Tortois**	**0.51**	**208**		Pg		09 09 33.6	-0.3
DTP					Sg		09 09 40.8	+0.2
WORM	**Onyx Ranch**	**0.56**	**267**		Pg		09 09 34.6	-0.3
WORM					Sg		09 09 41.4	-0.2
QSM	**Queen of Sheba**	**0.61**	**66**		Pg		09 09 35.4	-0.3
QSM					Sg		09 09 43.4	-0.2
QSM				IAML			09 09 43.9	
	comp=E,515nm,0.3s							
QSM				IAML			09 09 45.1	
	comp=N,438nm,0.2s							
WHFM	**Hanning Flat**	**0.65**	**268**		Pg		09 09 36.2	-0.3
WHFM					Sg		09 09 44.8	-0.1
CCAC	**Calif City Air**	**0.68**	**214**		Pg		09 09 36.9	-0.2
CCAC					Sg		09 09 46.4	+0.3
GSC	**Goldstone, Bar**	**0.74**	**124**		Sg		09 09 48.1	+0.3
GSC	**Goldstone, Bar**	**0.74**	**124**		Pg		09 09 38.1	-0.2
GSC				IAML			09 09 51.2	
	comp=N,568nm,0.4s							
GSC				IAML			09 09 52.5	
	comp=E,371nm,0.4s							
ISA	**Isabella, Lake**	**0.75**	**266**		Sg		09 09 48.0	-0.3
ISA	**Isabella, Lake**	**0.75**	**266**		Pg		09 09 38.2	-0.2
ISA				IAML			09 09 48.8	
	comp=N,467nm,0.3s							
ISA				IAML			09 09 49.0	
	comp=E,465nm,0.2s							
WASM	**Alta Sierra Ca**	**0.82**	**271**		Pg		09 09 39.4	-0.3
WASM					Sg		09 09 50.2	-0.1
CWC	**Cottonwood Cre**	**0.83**	**329**		Pg		09 09 40.0	0.0
CWC					Sg		09 09 51.4	+0.5
CGO	**Cerro Gordo**	**0.85**	**346**		Pg		09 09 40.4	0.0
CGO					Sg		09 09 51.9	+0.4
GWY	**Greenwater Val**	**0.85**	**57**		Pg		09 09 40.1	-0.3
GWY					Sg		09 09 51.6	+0.1
GWY				IAML			09 09 56.8	
	comp=N,330nm,0.6s							
GWY				IAML			09 09 56.9	
	comp=E,403nm,0.4s							
HYS	**Haystack Butte**	**0.86**	**181**		Pg		09 09 39.8	-0.7
HYS					Sg		09 09 51.2	-0.4
EDW2	**Edwards Air Fo**	**0.91**	**203**		Pg		09 09 40.8	-0.8
EDW2					Sg		09 09 53.2	-0.2
FURC	**Furnace Creek,**	**0.93**	**37**		Pg		09 09 41.8	0.0
FURC					Sb		09 09 54.7	-0.7
FURC				IAML			09 09 57.2	
	comp=E,284nm,0.6s							
FURC				IAML			09 09 58.5	
	comp=N,220nm,0.5s							
RRX	**Edison Barstow**	**0.96**	**152**		Pg		09 09 42.4	-0.1
RRX					Sb		09 09 56.1	-0.2
TPO	**Tropico Hills**	**1.01**	**213**		Pg		09 09 42.8	-0.6
TPO				IAML			09 10 01.9	
	comp=N,200nm,0.7s							
TPO				IAML			09 10 02.3	
	comp=E,251nm,0.8s							
TEJ	**El Tejon**	**1.05**	**242**		Pg		09 09 42.5	-1.7
SHOC	**Shoshone, Teco**	**1.05**	**80**		Pg		09 09 44.1	-0.2
SBB	**Saddle Back Bu**	**1.06**	**192**		Pg		09 09 43.3	-1.0
SBB					Sb		09 09 59.2	0.0
SPG2	**Springville 2**	**1.09**	**296**		Pg		09 09 44.1	-0.9
SPG2					Sg		09 09 58.0	-1.2
TJR	**Tejon Ranch**	**1.19**	**235**		Pg		09 09 45.7	-1.2
THC	**Tehachapi Micr**	**1.22**	**228**		Pg		09 09 46.2	-1.2
LEOC	**Leona Valley**	**1.25**	**210**		Pg		09 09 47.0	-1.0
VES	**Vestal, Richgr**	**1.25**	**276**		Pg		09 09 47.5	-0.5
LRRC	**Littlerock Res**	**1.26**	**198**		Pg		09 09 47.0	-1.1
LRRC					Sb		09 10 04.9	+0.1
AMDNV	**Amargosa**	**1.26**	**54**		Pg		09 09 47.4	-0.8
GRAC	**Grapevine Rang**	**1.28**	**7**		Pg		09 09 48.1	-0.5
GRAC				IAML			09 10 10.5	
	comp=N,135nm,0.8s							
GRAC				IAML			09 10 11.5	
	comp=E,189nm,0.5s							
HOLC	**Holcomb Ridge**	**1.28**	**191**		Pg		09 09 47.4	-1.3
HOLC					Sb		09 10 05.8	+0.1
JNH	**Juniper Hills**	**1.31**	**195**		Pg		09 09 47.9	-1.4
JNH					Sb		09 10 07.0	+0.3
DSCC	**Desert Studies**	**1.32**	**116**		Pn		09 09 48.3	-1.0
DSCC					Sb		09 10 06.8	+0.2
SGV	**South Grapevin**	**1.32**	**18**		Sg		09 09 48.4	-1.1
SGV					Sg		09 10 06.7	+0.1
HEC	**Hector,Ludlow**	**1.34**	**131**		Pn		09 09 48.9	-0.7
TUQ	**Turquoise Moun**	**1.36**	**102**		Sn		09 10 08.2	-0.2
CHFC	**Chilao Flat St**	**1.44**	**196**		Pb		09 09 51.4	-0.1
CHFC					Sb		09 10 09.8	-0.5
OSI	**Osito Audit: C**	**1.46**	**221**		Pn		09 09 50.6	-0.7
BFSC	**Mount Baldy Ra**	**1.48**	**183**		Pn		09 09 50.5	-1.1
BFSC				IAML			09 10 11.9	
	comp=E,103nm,0.6s							
BFSC				IAML			09 10 14.5	
	comp=N,70nm,0.7s							
SSK	**Sunset Peak**	**1.51**	**184**		Pn		09 09 51.0	-1.1
BBRC	**Big Bear Solar**	**1.55**	**160**		Pb		09 09 53.5	+0.1
MWC	**Mount Wilson**	**1.55**	**196**		Pn		09 09 51.5	-1.2
MWC				IAML			09 10 16.3	
	comp=E,141nm,0.6s							
MWC				IAML			09 10 16.5	
	comp=N,137nm,0.6s							
GMN	**Gold Mountain**	**1.59**	**8**		Pn		09 09 52.5	-0.7
TPNV	**Topopah Spring**	**1.61**	**40**		Pn		09 09 53.5	0.0
TPNV				IAML			09 10 22.7	
	comp=N,67nm,0.7s							
PASC	**Pasadena Art C**	**1.63**	**199**		Pn		09 09 52.9	-0.7
PASC				IAML			09 10 19.6	
	comp=E,69nm,0.6s							
PSRC	**Puddingstone R**	**1.64**	**187**		Pn		09 09 53.1	-0.5
MTC	**Mountain Pass**	**1.65**	**98**		Pn		09 09 53.5	-0.5
PEC	**Perris**	**1.85**	**170**		Pn		09 09 55.2	-1.5
BLAC	**Blackrock camp**	**1.91**	**150**		Pn		09 09 56.5	-1.0
ELS	**Elsinore Mount**	**2.07**	**177**		Pn		09 09 58.8	-0.9
ELS				IAML			09 10 36.3	
	comp=E,35nm,0.5s							
BELC	**Belle Mtn. Jos**	**2.14**	**143**		Pn		09 09 59.3	-1.4
BELC				IAML			09 10 35.1	
	comp=E,57nm,0.5s							
BELC				IAML			09 10 36.8	
	comp=N,62nm,0.6s							
PMD	**Palm Desert**	**2.29**	**155**		Pn		09 10 01.0	-1.5
PMD				IAML			09 10 39.0	
	comp=E,33nm,0.4s							
PFO	**Pinyon Flats O**	**2.29**	**157**		Pn		09 10 01.5	-1.2
TPH	**Tonopah**	**2.36**	**6**		Pn		09 10 03.4	-0.4
TPH				IAML			09 10 42.4	
	comp=N,29nm,1.1s							
BORC	**Borrego Spring**	**2.62**	**159**	Pn	Pn		09 10 06.1	-1.1
BORC				IAML			09 10 51.5	
	comp=N,24nm,0.7s							
BORC				IAML			09 10 52.5	
	comp=E,29nm,1.0s							
PRN	**Pahroc Range**	**2.62**	**49**		Pn		09 10 08.3	+1.0
PRN				IAML			09 10 53.2	
	comp=N,26nm,0.5s							
PRN				IAML			09 10 56.8	
	comp=E,32nm,0.8s							
LHV	**Little Huntoon**	**2.64**	**343**	Pn	Pn		09 10 07.0	-0.3
LHV				IAML			09 10 58.5	
	comp=N,22nm,2.2s							
LHV				IAML			09 11 44.8	
	comp=E,21nm,4.9s							
DPP	**Dos Picos Cty**	**2.76**	**169**	Pn	Pn		09 10 08.3	-0.9
DPP				IAML			09 10 56.4	
	comp=E,19nm,0.7s							
NVAR	**Mina Array Bea**	**2.77**	**348**		Pn		09 10 09.0	-0.4
RYN	**Ryan**	**3.00**	**345**	Pn	Pn		09 10 12.6	0.0
W13A	**Hualapai Mount**	**3.06**	**101**	Pn	Pn		09 10 11.8	-1.6
BAR	**Barrett**	**3.12**	**166**	Pn	Pn		09 10 13.3	-0.8
BAR				IAML			09 11 00.5	
	comp=E,18nm,0.3s							
BAR				IAML			09 11 03.9	
	comp=N,14nm,0.3s							
CBX	**Cerro Bola**	**3.48**	**167**	Pn	Pn		09 10 19.1	0.0
CBX				IAML			09 11 19.0	
	comp=N,30nm,2.4s							

*NEIC **28** 09:23:37.4±1.5,34.°05N±0.°06,-24.°87E±0.°08,h10km±1km, mb4.2/12,Error ellipse: s-maj=12.0km s-min=10.4km az=59.0*
*IDC **28** 09:23:38.7±1.0,34.°302N×24.°96E,h0km,mb4.0/12, mbtmp3.9/18,ML4.2/5,MS2.7/1,Error ellipse: s-maj=17.8km s-min=16.5km az=45.0*
*ATH **28** 09:23:40.7,34.°20N×25.°01E,h12km±5km,ML3.3/14, Manual Solution by N.Liadopoulou First location: 2019/09/28 09:24:59, This location: 2019/09/28 11:27:20 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*ISK **28** 09:23:41.2,34.°28N×24.°99E,h11km,ML3.4/18*
*HLW **28** 09:23:43.0,34.°17N×25.°05E,h21km±5km,Md3.5,Ml3.4*
*THE **28** 09:23:44.4,34.°N±4.°×2.°5E±.°,h15km±9km,M3.1/13, MLh3.1/13*
*AFAD **28** 09:23:47.5,34.°53N×25.°73E,h7km±2km,ML3.2*
*NAO **28** 09:24:53.3,40.°91N×20.°23E,h33km,MB3.0*

ISC 28 09:23:40.2±1.2,34.°18N±0.°04×25.°05E±0.°03,h17km±7km, n144,σ1ᵍ87/168,mb4.1/15,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TMBK	**Timbaki Herakl**	**0.92**	**346**	P		**Pg**	**09 23 58.1**	**0.0**
TMBK	**Timbaki Herakl**	**0.92**	**346**	P		**Pg**	**09 23 58.0**	**-0.2**
TMBK				S		**Sg**	**09 24 09.6**	**-0.7**
GVD	**Gavdhos**	**1.03**	**310**	Pg		**Pg**	**09 23 59.6**	**-0.5**
GVD				Sg		**Sg**	**09 24 12.9**	**-0.8**
GVD	**Gavdhos**	**1.03**	**310**	P		**Pg**	**09 23 59.7**	**-0.5**
GVD				S		**Sg**	**09 24 13.1**	**-0.6**
GVD	**Gavdhos**	**1.03**	**310**	P		**Pg**	**09 23 59.5**	**-0.7**
GVD				S		**Sg**	**09 24 13.2**	**-0.5**
IDI	**Anoyia**	**1.12**	**353**	Pg		**Pb**	**09 24 00.7**	**-0.4**
IDI				Sg		**Sg**	**09 24 15.7**	**-0.8**
IDI	**Anoyia**	**1.12**	**353**	P		**Pb**	**09 24 00.8**	**-0.3**
IDI				S		**Sg**	**09 24 15.3**	**-1.2**
IDI	**Anoyia**	**1.12**	**353**	Pn		**Pb**	**09 24 00.8**	**-0.3**
	45nm,0.3s,baz=200,slow=8.6,SNR=111							
IDI				Sn		**Sg**	**09 24 15.4**	**-1.1**
	54nm,0.3s,baz=315,slow=19,SNR=8.5							
IDI				LR		LR	09 24 23.9	
	comp=Z,103nm,19.3s,baz=294,slow=47							
IDI	**Anoyia**	**1.12**	**353**	P		**Pb**	**09 24 00.4**	**-0.7**
IACM	**Heraklion**	**1.13**	**1**	P		**Pb**	**09 24 01.9**	**+0.6**
IACM				S		**Sb**	**09 24 14.9**	**-0.7**
IACM	**Heraklion**	**1.13**	**1**	P		**Pb**	**09 24 01.7**	**+0.5**
IACM				S		**Sb**	**09 24 16.0**	**+0.4**
NPS	**Neapolis**	**1.18**	**23**	P		**Pb**	**09 24 02.8**	**+0.7**
NPS				S		**Sb**	**09 24 17.7**	**+0.6**
NPS	**Neapolis**	**1.18**	**23**	P		**Pb**	**09 24 03.0**	**+0.9**
NPS				S		**Sb**	**09 24 17.7**	**+0.6**
PRNS	**Prines Rethymn**	**1.27**	**339**	P		**Pn**	**09 24 03.5**	**+0.4**
PRNS	**Prines Rethymn**	**1.27**	**339**	P		**Pn**	**09 24 03.5**	**+0.4**
STIA	**Sitia Lasithi**	**1.34**	**40**	P		**Pn**	**09 24 05.1**	**+1.0**
ZKR	**Zakros**	**1.34**	**46**	Pn		**Pg**	**09 24 06.3**	**+0.2**
ZKR				Sn		**Sg**	**09 24 24.2**	**+0.5**
ZKR	**Zakros**	**1.34**	**46**	P		**Pg**	**09 24 06.6**	**+0.5**
ZKR	**Zakros**	**1.34**	**46**	P		**Pn**	**09 24 05.4**	**+1.2**
KNDR	**Palaiochora Ch**	**1.54**	**314**	Pn		**Pn**	**09 24 08.1**	**+1.2**
KNDR	**Palaiochora Ch**	**1.54**	**314**	P		**Pb**	**09 24 08.6**	**+0.3**
KNDR				S		**Sn**	**09 24 28.1**	**+1.6**
KNDR	**Palaiochora Ch**	**1.54**	**314**	P		**Pn**	**09 24 08.0**	**+1.1**
CHAN	**Chania**	**1.57**	**329**	P		**Pn**	**09 24 07.4**	**+0.1**
ANKY	**Antikythira Is**	**2.21**	**320**	P		**Pn**	**09 24 17.9**	**+1.8**
ANKY				S		**Sn**	**09 24 42.1**	**-1.0**
ANKY	**Antikythira Is**	**2.21**	**320**	P		**Pn**	**09 24 16.6**	**+0.5**
KARP	**Karpathos**	**2.21**	**51**	Pn		**Pn**	**09 24 19.1**	**-0.7**
KARP	**Karpathos**	**2.21**	**51**			**Pn**	**09 24 16.2**	**0.0**
KARP	**Karpathos**	**2.21**	**51**	P		**Pb**	**09 24 20.4**	**+0.6**
KARP	**Karpathos**	**2.21**	**51**	P		**Pb**	**09 24 20.0**	**+0.2**
THERA	**Ancient Thera,**	**2.21**	**9**	P		**Pn**	**09 24 18.0**	**+1.9**
SNT5	**Nea Kammeni, S**	**2.24**	**7**	P		**Pn**	**09 24 16.7**	**+0.2**
SNT5	**Nea Kammeni, S**	**2.24**	**7**	P		**Pn**	**09 24 17.3**	**+0.7**
SAP3	**Santorini-Thir**	**2.27**	**6**	P		**Pn**	**09 24 18.2**	**+1.3**
SAP3	**Santorini-Thir**	**2.27**	**6**	P		**Pn**	**09 24 18.5**	**+1.6**
MHLO	**Agia Marina, M**	**2.56**	**348**	P		**Pn**	**09 24 22.0**	**+1.1**
MHLO	**Agia Marina, M**	**2.56**	**348**	P		**Pn**	**09 24 22.0**	**+1.1**
KTHA	**Kythira Island**	**2.63**	**323**	Pn		**Pn**	**09 24 23.5**	**+1.5**
KTHA	**Kythira Island**	**2.63**	**323**	P		**Pn**	**09 24 23.0**	**+1.1**
SLUM	**Salum**	**2.68**	**177**	P		**Pn**	**09 24 25.5**	**+2.9**
VLI	**Veliai**	**3.06**	**326**	P		**Pn**	**09 24 28.6**	**+0.7**
VLI	**Veliai**	**3.06**	**326**	P		**Pn**	**09 24 28.5**	**+0.7**
YAZI	**Mula-Dat§a-**	**3.18**	**38**	P		**Pn**	**09 24 31.8**	**+2.3**
ARG	**Arkhangelos**	**3.24**	**50**	Pn		**Pn**	**09 24 33.1**	**+2.8**
ARG				Sn		**Sn**	**09 25 10.5**	**+2.0**
ARG	**Arkhangelos**	**3.24**	**50**	Pn		**Pn**	**09 24 29.9**	**-0.4**
DAT	**Datca**	**3.28**	**38**	Pn		**Pn**	**09 24 33.8**	**+2.9**
DAT	**Datca**	**3.28**	**38**	P		**Pn**	**09 24 33.6**	**+2.7**
BODT	**Bodrum**	**3.42**	**32**	Pn		**Pn**	**09 24 35.4**	**+2.6**
BODT	**Bodrum**	**3.42**	**32**	P		**Pn**	**09 24 36.0**	**+3.2**
MET5	**Makryloggos,Me**	**3.70**	**339**	P		**Pn**	**09 24 37.3**	**+0.7**
VLY	**Voula,Athens**	**3.81**	**345**	P		**Pn**	**09 24 39.5**	**+1.4**
KARY	**Karystos**	**3.88**	**353**	P		**Pn**	**09 24 39.6**	**+0.5**
ATHU	**Athens Univers**	**3.92**	**345**	P		**Pn**	**09 24 40.1**	**+0.5**
ITM	**Ithomi**	**3.93**	**321**	Pn		**Pn**	**09 24 41.9**	**+2.2**
ITM	**Ithomi**	**3.93**	**321**	Pn		**Pn**	**09 24 37.2**	**-2.5**
ITM	**Ithomi**	**3.93**	**321**	P		**Pn**	**09 24 41.4**	**+1.7**
DALY	**Dalyan (Mula)**	**3.95**	**47**	Pn		**Pn**	**09 24 43.5**	**+3.5**
YER	**Yerkesik**	**3.96**	**41**	Pn		**Pn**	**09 24 43.4**	**+3.2**
PTL	**Penteli**	**3.98**	**346**	P		**Pn**	**09 24 41.3**	**+0.8**
DION	**Dionisos Attik**	**4.00**	**347**	P		**Pn**	**09 24 41.6**	**+0.9**
SABU	**Mula-Dalaman**	**4.15**	**49**	P		**Pn**	**09 24 45.4**	**+2.6**
SABU				S		**Sn**	**09 25 31.0**	**+0.1**
AYDN	**Tasoluk**	**4.17**	**33**	P		**Pn**	**09 24 46.4**	**+3.3**
LTK	**Loutraki**	**4.19**	**337**	P		**Pn**	**09 24 43.4**	**0.0**
KSL	**Kastellorizon**	**4.21**	**61**	P		**Pn**	**09 24 45.6**	**+2.0**
AKAS	**Kas**	**4.26**	**60**	Pn		**Pn**	**09 24 48.0**	**+3.6**
AKAS	**Kas**	**4.26**	**60**	Pn		**Pn**	**09 24 44.8**	**+0.3**
AKAS	**Kas**	**4.26**	**60**	P		**Pn**	**09 24 46.7**	**+2.3**
AKAS				S		**Sn**	**09 25 28.4**	**-5.4**
AKAS				*i*	IAML		09 25 40.0	
	comp=N,83nm,0.4s							
AKAS				*i*	IAML		09 25 40.0	
	comp=E,52nm,0.5s							
VIL2	**Platees**	**4.28**	**341**	P		**Pn**	**09 24 44.1**	**-0.4**
CHOS	**Chios island**	**4.28**	**11**	Pn		**Pn**	**09 24 46.9**	**+2.3**
URLA	**Izmir**	**4.36**	**16**	Pn		**Pn**	**09 24 48.3**	**+2.6**
AYDB	**Zeytinkoy-Aydi**	**4.41**	**31**	Pn		**Pn**	**09 24 49.5**	**+3.0**
CAME	**Cameli-Denizli**	**4.43**	**50**	Pn		**Pn**	**09 24 49.4**	**+2.6**
DNZT	**Denizli-Tavas-**	**4.48**	**45**	P		**Pn**	**09 24 50.1**	**+2.8**
DNZT				S		**Sn**	**09 25 37.2**	**-2.0**
ESEN	**Aydn-Nazilli**	**4.50**	**36**	P		**Pn**	**09 24 51.0**	**+3.4**
ESEN				S		**Sn**	**09 25 38.0**	**-1.4**
KYMI	**Kymi, Euboea I**	**4.51**	**351**	P		**Pn**	**09 24 48.4**	**+0.7**
KLV	**Kalavryta, Ach**	**4.51**	**330**	P		**Pn**	**09 24 48.0**	**+0.2**
TAVA	**DENIZLI_Tavas**	**4.54**	**43**	P		**Pn**	**09 24 51.3**	**+3.0**
TAVA				S		**Sn**	**09 25 35.1**	**-5.6**
KNIK	**Mula-Seydike**	**4.55**	**53**	P		**Pn**	**09 24 51.2**	**+2.8**
DRO	**Drossia**	**4.64**	**325**	P		**Pn**	**09 24 50.8**	**+1.3**
ELL	**Elmali**	**4.72**	**56**			**Pn**	**09 24 51.8**	**+1.0**
DNIZ	**Denizli-Tavas-**	**4.73**	**42**	P		Pn	09 24 55.6	+4.8
DNIZ				S		**Sn**	**09 25 43.1**	**-2.2**
DNIZ				*i*	IAML		09 25 51.0	
	comp=E,33nm,0.3s							
APMY	**Acipayam-Deniz**	**4.77**	**45**	Pn		**Pn**	**09 24 54.7**	**+3.3**
GOLH	**Golhisar**	**4.78**	**49**	P		**Pn**	**09 24 54.4**	**+2.9**
GOLH				S		**Sn**	**09 25 43.3**	**-3.2**
AKUM	**Antalya-Kumluc**	**4.83**	**62**	P		**Pn**	**09 24 54.2**	**+2.1**
AKUM				S		Sn	09 25 39.7	-8.1
KIRA	**zmir-Kiraz**	**4.84**	**33**	P		**Pn**	**09 24 55.5**	**+3.1**
SWA2		**4.93**	**176**	P		**Pn**	**09 24 56.1**	**+2.6**
AXS	**Araxos**	**4.99**	**325**	P		**Pn**	**09 24 55.5**	**+1.2**
MANT	**Manisa**	**5.15**	**32**			**Pn**	**09 24 58.3**	**+1.5**
PVO	**Paravola**	**5.26**	**328**	P		**Pn**	**09 24 59.0**	**+0.9**
PASA	**Karahalli, USA**	**5.50**	**39**	P		**Pn**	**09 25 03.4**	**+2.1**
USAK	**Uak-Merkez**	**5.54**	**34**	P		**Pn**	**09 25 04.9**	**+2.9**
FSK	**Fiskardo**	**5.60**	**321**	P		**Pn**	**09 25 04.0**	**+1.3**
TETR	**Tetrakomo, Epi**	**5.98**	**331**	P		**Pn**	**09 25 08.6**	**+0.5**
AKMS	**Akamas**	**6.07**	**80**	P		**Pn**	**09 25 09.9**	**+0.7**
LIT	**Litokhoron**	**6.25**	**342**	Pn		**Pn**	**09 25 11.2**	**-0.5**
ALFC	**Alefka**	**6.30**	**79**	P		**Pn**	**09 25 13.3**	**+1.0**
SEDI	**Konya, Seydise**	**6.35**	**57**	P		**Pn**	**09 25 16.4**	**+3.3**
RYAN	**Fayoum**	**6.76**	**137**	P		**Pn**	**09 25 21.2**	**+2.5**
RYAN				S		**Sn**	**09 26 32.9**	**-2.3**
ASGA	**Asgata**	**6.80**	**83**	P		**Pn**	**09 25 20.3**	**+1.1**
CSS	**Mathiatis**	**6.88**	**81**	Pn		**Pn**	**09 25 20.8**	**+0.5**
KEK	**Kerkira**	**6.94**	**324**	P		**Pn**	**09 25 22.2**	**+1.1**
HFRF	**Wahat Farafira**	**7.55**	**157**	P		**Pn**	**09 25 31.4**	**+1.9**
HFRF				S		**Sn**	**09 26 51.5**	**-3.1**
NBNS	**Bani Suef**	**7.69**	**134**	P		**Pn**	**09 25 33.9**	**+2.5**
CEL	**Celeste**	**8.44**	**301**	Pn		**Pn**	**09 25 38.8**	**-3.0**
MMAI	**Mount Meron Ar**	**8.72**	**95**	Pn		**Pn**	**09 25 46.2**	**+0.6**
	2.4nm,0.3s,baz=268,slow=12,SNR=9.2							
MMAI				Sn		**Sn**	**09 27 22.1**	**-1.5**
	3.0nm,0.3s,baz=274,slow=22,SNR=5.1							
	0.8nm,0.3s							
BRTR	**Keskin Array B**	**8.83**	**49**	Pn		**Pn**	**09 25 47.9**	**+0.7**
BRTR	**Keskin Array B**	**8.83**	**49**	Pn		**Pn**	**09 25 49.8**	**+2.7**
	0.8nm,0.8s,baz=243,slow=13,SNR=1.1							
RAFF	**Raffo Rosso**	**9.21**	**292**	Pn		**Pn**	**09 25 48.7**	**-3.5**
GHAJ	**Ghor Haditha**	**9.31**	**105**	Pn		**Pn**	**09 25 53.4**	**-0.2**
CUC	**Castrocucco**	**9.38**	**311**	Pn		**Pn**	**09 25 52.3**	**-2.3**
EIL	**Elat**	**9.54**	**115**	Pn		**Pn**	**09 25 58.2**	**+1.4**
	1.5nm,0.3s,baz=236,slow=6.2,SNR=2.0							
EIL				Sn		**Sn**	**09 27 37.1**	**-6.5**
	0.4nm,0.3s,baz=238,slow=13,SNR=1.7							
	3.5nm,0.4s							
MLR	**Muntele Rosu**	**11.32**	**3**	LR		LR	09 30 47.9	
	comp=Z,38nm,19.9s,baz=130,slow=38							
VRAC	**Vranov**	**16.36**	**340**	Pn		**Pn**	**09 27 30.9**	**+1.9**
	0.4nm,0.3s,baz=116,slow=13,SNR=3.9							
	2.2nm,0.5s							
FUORN	**Ofenpass-Fuorn**	**16.73**	**322**			**Pn**	**09 27 31.7**	**-2.4**
KIEV	**Kiev**	**16.79**	**9**	Pn		**Pn**	**09 27 33.4**	**-0.9**
KIEV				IAmb		IAmb	09 27 36.3	
	comp=Z,8.3nm,0.7s							
AKASG	**Malin Array Be**	**16.79**	**9**	P		**Pn**	**09 27 33.1**	**-1.3**
AKASG	**Malin Array Be**	**16.79**	**9**	Pn		**Pn**	**09 27 34.7**	**+0.3**
	comp=Z,1.9nm,0.3s,baz=202,slow=11,SNR=10							
	comp=Z,0.4nm,0.3s							
AKBB	**Malin Array Si**	**16.79**	**9**	Pn		**Pn**	**09 27 33.4**	**-1.0**
AKBB				IAmb		IAmb	09 27 36.4	
	comp=Z,9.3nm,0.7s							
KBZ	**Khabaz**	**16.82**	**50**	Pn		**Pn**	**09 27 36.6**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=216,slow=11,SNR=4.8							
	comp=Z,2.4nm,0.6s							
GEC2	**GERESS Array S**	**16.91**	**333**			**Pn**	**09 27 34.9**	**-1.1**
GERES	**GERESS Array B**	**16.91**	**333**	Pn		**P**	**09 27 38.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=145,slow=12,SNR=16							
CLL	**Collm**	**19.23**	**337**	*e*	Px	Px	09 28 05.0	
PABE	**Paberze**	**21.34**	**358**	P		**P**	**09 28 25.1**	**-1.2**
PABE				IAmb		IAmb	09 28 28.7	
	comp=Z,9.1nm,0.7s							
ESDC	**Sonseca Array**	**23.77**	**292**	P		**P**	**09 28 51.8**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=90,slow=9.4,SNR=4.8							
	comp=Z,0.4nm,0.5s							
HFS	**Hagfors**	**27.01**	**347**	P		**P**	**09 29 20.4**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=162,slow=10,SNR=9.3							
	com

H04N1	**CROZET ISLANDS**	**64.86**	**212**	T	T	11 04 17.1		
	baz=50,slow=75,SNR=7.7							
H04N3	**CROZET ISLANDS**	**64.87**	**212**	T	T	11 04 15.8		
	baz=50,slow=75,SNR=6.9							
H04S1	**CROZET ISLANDS**	**65.24**	**211**	T	T	11 04 49.6		
	baz=48							
H04S3	**CROZET ISLANDS**	**65.25**	**211**	T	T	11 04 40.6		
	baz=48,SNR=3.4							
H04S2	**CROZET ISLANDS**	**65.26**	**211**	T	T	11 04 40.7		
	baz=48							
PETK	**Petropavlovsk-**	**68.76**	**35**	LR	LR	10 29 33.4		
	comp=Z,16nm,19.9s,baz=198,slow=40							
LBTB	**Lobatse**	**74.33**	**242**	LR	LR	10 25 32.0		
	comp=Z,34nm,18.5s,baz=78,slow=34							
FINES	**FINESS Array B**	**74.58**	**332**	P	**P**	**09 55 09.1**	**-2.1**	
	1.4nm,0.9s,baz=99,slow=6.5,SNR=6.9							
	1.4nm,0.9s							
ARCES	**ARCESS Array B**	**77.10**	**340**	P	**P**	**09 55 26.1**	**+0.5**	
	2.6nm,1.0s,baz=119,slow=7.8,SNR=1.7							
	2.6nm,1.0s							
NOA	**NORSAR Array B**	**81.60**	**331**	LR	LR	10 36 25.1		
	comp=Z,17nm,18.6s,baz=235,slow=39							

*IDC **28** 10:05:11.4±5.6,24°.29N×141°.59E,h106km±51km,mb3.3/9, mbtmp3.7/10,Error ellipse: s-maj=31.8km s-min=16.8km az=92.0*
*JMA **28** 10:05:16.1±0.1,24°.6N±0°.6×14°.2E±°,h115km,MV4.4/17, IOTO ISLANDS REGION*
ISC 28 10:05:11.0±0.9,24°.36N±0°.08×141°.4E±0°.2,h100km,n16, σ1ş78/20,mb3.6/9,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**2.38**	**17**	*eP*	**Pn**	**10 05 51.1**	**+2.7**
JHH2				*eS*	**Sn**	**10 06 17.5**	**+0.3**
CBIJ	**Chichi jima**	**2.82**	**15**	*eP*	**Pn**	**10 05 57.0**	**+2.6**
CBIJ				*eS*	**Sn**	**10 06 28.9**	**+1.1**
BSO3	**Boso 3**	**10.44**	**356**	*eP*	**Pn**	**10 07 38.8**	**+1.4**
BSO4	**Boso 4**	**10.64**	**355**	*eP*	**Pn**	**10 07 41.5**	**+1.3**
JAG	**Ashikaga**	**12.14**	**353**	*eP*	**Pn**	**10 07 59.6**	**-0.9**
JAG				*eS*	Sn	10 10 07.5	-6.5
JHO	**Hitachi**	**12.23**	**357**	*eP*	**Pn**	**10 08 01.1**	**-0.7**
JHO				*eS*	**Sn**	**10 10 11.5**	**-4.7**
MJAR	**Matsushiro Arr**	**12.45**	**348**	P	**Pn**	**10 08 06.2**	**+1.6**
	0.4nm,0.3s,baz=126,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**44.56**	**189**	P	**P**	**10 13 12.6**	**-0.6**
	1.1nm,0.6s,baz=7.6,slow=8.6,SNR=16						
WRA				PcP	**PcP**	**10 14 54.5**	**-0.2**
	0.4nm,0.8s,baz=2.9,slow=3.6,SNR=5.3						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**48.29**	**189**	P	**P**	**10 13 41.0**	**-1.2**
	0.3nm,0.8s,baz=22,slow=12,SNR=5.4						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**51.70**	**311**	P	**P**	**10 14 09.6**	**+1.7**
	0.3nm,0.5s,baz=95,slow=9.5,SNR=4.4						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**54.47**	**316**	P	**P**	**10 14 29.4**	**+1.4**
	0.4nm,0.4s,baz=93,slow=6.3,SNR=4.9						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**60.45**	**28**	P	**P**	**10 15 08.9**	**-0.9**
	0.7nm,0.8s,baz=262,slow=5.0,SNR=6.5						
	0.7nm,0.8s						
ARCES	**ARCESS Array B**	**75.88**	**341**	P	**P**	**10 16 46.4**	**+0.2**
	2.0nm,0.8s,baz=61,slow=9.9,SNR=3.7						
	2.0nm,0.8s						
FINES	**FINESS Array B**	**80.08**	**334**	P	**P**	**10 17 08.7**	**-0.8**
	0.3nm,0.3s,baz=62,slow=4.8,SNR=4.8						
	0.3nm,0.3s						
NVAR	**Mina Array Bea**	**82.78**	**51**	P	**P**	**10 17 24.6**	**0.0**
	0.4nm,0.6s,baz=270,slow=5.9,SNR=3.8						
	0.4nm,0.6s						
PDAR	**Pinedale Array**	**86.66**	**44**	P	**P**	**10 17 43.5**	**-0.4**
	0.1nm,0.4s,baz=85,slow=0.2,SNR=5.0						
	0.1nm,0.4s						

*SOME **28** 10:07:18.5,41°.92N×78°.40E*
NNC 28 10:07:19.9±2.4,41°.83N×78°.34E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=17.2km s-min=10.4km az=161.0, Suspected Mining explosion.,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KST	**Kastek**	**2.14**	**305**	Pg	Pb	10 07 58.7	-0.9
	3.1nm,0.3s						
KST				Lg	Lg	10 08 27.5	
	13nm,0.6s						
KTBS	**Karatobe**	**2.24**	**328**	Pg	Pb	10 08 01.4	+0.1
	6.0nm,0.5s						
KTBS				Lg	Lg	10 08 32.5	
	17nm,0.7s						
ARXS	**Arharly**	**2.41**	**351**	Pg	Pb	10 08 03.5	-0.7
	4.7nm,0.2s						
ARXS				Lg	Lg	10 08 35.8	
	12nm,0.7s						
KNOS	**Konyrlen**	**2.60**	**13**	Pg	Pb	10 08 07.6	+0.2
	5.9nm,0.5s						
KNOS				Lg	Lg	10 08 42.9	
	4.7nm,0.7s						

OMAN 28 10:11:37.3±0.5,24°.91N×49°.20E,h10km,mb4.2/8,ml4.1/1, Error ellipse: s-maj=5.5km s-min=4.4km az=179.0, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMRA	**Abu-Samra**	**1.48**	**96**	P	Pb	10 12 04.9	0.0
	SNR=12						
SMRA				S	Sg	10 12 24.8	-0.1
SAKB	**Bahrain**	**1.61**	**48**	P	Pn	10 12 06.2	+0.5
SAKB				S	Sb	10 12 27.1	-0.3
TRNA	**Turayna**	**1.83**	**95**	P	Pb	10 12 10.6	-0.3
	SNR=11						
TRNA				S	Sb	10 12 34.4	+0.4
SHMA	**Al-Shehemyia**	**1.85**	**59**	P	Pb	10 12 10.7	-0.4
	SNR=52						
SHMA				S	Sb	10 12 34.9	+0.6
	SNR=7.9						
SLWR	**Sila**	**2.42**	**110**	P	Pn	10 12 17.2	+0.3
SLWR				S	Sb	10 12 50.0	-0.7
RAYN	**Ar Rayn**	**3.65**	**248**	P	Pn	10 12 34.7	+0.8
KBD	**Kabd**	**4.45**	**343**	P	Pn	10 12 45.4	+0.6
ASUD	**Al Ashush, Dub**	**5.58**	**92**	P	Pn	10 13 00.6	+0.3
ASUD				S	Sn	10 14 04.4	-0.1
ALNE	**Al Ain**	**6.03**	**97**	P	Pn	10 13 05.8	-0.7
ALNE				S	Sn	10 14 14.7	-0.9
ASHO	**Ashiyiah**	**6.23**	**91**	P	Pn	10 13 08.8	-0.6
HATD	**Hatta, Dubai**	**6.29**	**89**	P	Pn	10 13 09.7	-0.5
MASF	**Masafi**	**6.32**	**84**	P	Pn	10 13 10.1	-0.4
UOSS	**Minazif**	**6.36**	**88**	P	Pn	10 13 10.9	-0.2
BANOM	**Banah**	**6.50**	**80**	P	Pn	10 13 12.1	-0.9
SOHO	**SOHO**	**6.72**	**95**	P	Pn	10 13 15.7	-0.3
ARQ	**Araqi**	**6.87**	**102**	P	Pn	10 13 18.7	+0.6
HOQ	**Hoqain**	**7.52**	**98**	P	Pn	10 13 26.9	-0.2
DOK	**Doka**	**7.76**	**143**	P	Pn	10 13 29.8	-0.5
WHFO	**Wadi Hawf**	**8.16**	**148**	P	Pn	10 13 35.5	-0.3
	SNR=8.5						
ABTO	**Aybut**	**8.44**	**152**	P	Pn	10 13 39.9	+0.2
WSAR	**Wadi Sarin**	**8.78**	**99**	P	Pn	10 13 43.6	-0.7
DMTO	**DMTO**	**8.94**	**142**	P	Pn	10 13 45.1	-1.5
	SNR=10						
DMTO				P	Pg	10 13 45.1	-43
	SNR=10						
SHAO	**Shalim**	**9.10**	**138**	P	Pn	10 13 48.5	-0.2
JLN	**Jalan Bani Buh**	**9.76**	**104**	P	Pn	10 13 57.1	-0.7

IDC 28 10:35:54.0±2.2,0°.04S×128°.00E,h0km,mb3.2/3, mbtmp3.2/3,Error ellipse: s-maj=144.3km s-min=29.1km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.73**	**163**	P	P	10 40 37.3	+0.9
	0.7nm,0.5s,baz=343,slow=10,SNR=7.6						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**24.18**	**167**	P	P	10 41 11.6	-0.7
	0.1nm,0.3s,baz=341,slow=9.8,SNR=5.6						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**61.36**	**326**	P	P	10 46 11.9	+0.1
	0.3nm,0.6s,baz=120,slow=5.5,SNR=2.7						
	0.3nm,0.6s						

IDC 28 10:44:06.7±3.5,6°.21S×145°.73E,h113km±40km,mb3.4/2, mbtmp3.8/5,Error ellipse: s-maj=81.2km s-min=26.7km az=50.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.48**	**156**	P	Pn	10 44 57.5	-1.7
	28nm,0.2s,baz=353,slow=8.1,SNR=54						
PMG				S	Sn	10 45 44.3	+4.5
	18nm,0.6s,baz=128,slow=17,SNR=1.1						
JAY	**Jayapura**	**6.21**	**306**	P	Pn	10 45 37.3	+1.3
	2.7nm,0.4s,baz=153,slow=9.0,SNR=5.1						
WRA	**Warramunga Arr**	**17.58**	**218**	P	P	10 48 03.9	-0.3
	1.3nm,0.4s,baz=36,slow=10,SNR=36						
ASAR	**Alice Springs**	**20.76**	**212**	P	P	10 48 37.3	-1.4
	1.8nm,0.6s,baz=45,slow=8.5,SNR=19						
	1.8nm,0.6s						
STKA	**Stephens Creek**	**25.83**	**188**	P	P	10 49 29.5	+1.9
	1.1nm,0.6s,baz=5.2,slow=11,SNR=3.6						
	1.1nm,0.6s						

NOU 28 10:51:55.2,20°.55S×169°.42E,h0km,MLv4.5/14,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PINNC	**Pines Island,**	**2.75**	**221**	P	Pn	10 52 40.4	-0.2
PINNC	**Pines Island,**	**2.75**	**221**	S	Sn	10 53 14.2	-0.4
YATNC	**Mamie plateau,**	**2.80**	**237**	P	Pn	10 52 41.2	0.0
RTV	**Rentapao**	**2.90**	**341**	P	Pn	10 52 42.7	+0.1
OUENC	**Ouen Island, N**	**3.04**	**232**	P	Pn	10 52 45.1	+0.6
OUENC	**Ouen Island, N**	**3.04**	**232**	S	Sn	10 53 22.2	+0.6
DVP	**Devils Point**	**3.04**	**337**	P	Pn	10 52 43.6	-1.0
DZM	**Mont Dzumac**	**3.16**	**241**	P	Pn	10 52 46.5	+0.2
DZM	**Mont Dzumac**	**3.16**	**241**	S	Sn	10 53 24.9	+0.1
ONTNC	**Ouen Toro**	**3.27**	**237**	P	Pn	10 52 48.3	+0.6
ONTNC	**Ouen Toro**	**3.27**	**237**	S	Sn	10 53 27.5	+0.1
KOUNC	**Koumac, New Ca**	**4.81**	**269**	P	Pn	10 53 10.4	+1.5
SANVU	**Saraoutou**	**5.50**	**337**	P	Pn	10 53 18.8	+0.4

*MOS **28** 11:03:02.5±1.0,40°.88N×28°.41E,h13km,mb4.0/1,Error ellipse: s-maj=7.9km s-min=4.4km az=90.2*
*IDC **28** 11:03:02.8±3.2,40°.82N×28°.38E,h0km,mb3.4/3, mbtmp3.4/5,ML3.6/3,MS2.7/1,Error ellipse: s-maj=56.3km s-min=11.3km az=41.0*
*SOF **28** 11:03:03.2,40°.88N±0°.01×28°.25E±0°.01,h18km±1km, MD3.9/2*
*AFAD **28** 11:03:03.5,40°.87N×28°.24E,h12km±2km,ML3.8*
*ISK **28** 11:03:03.2,40°.87N×28°.28E,h15km,ML3.8/28*
*CFUSG **28** 11:03:07.0,40°.86N×28°.80E,h10km,mb3.2/4,MD3.6/5, Sea of Marmara Magtype MSH 3.4 from 6 stations*
ISC 28 11:03:02.8±1.1,40°.85N±0°.02×28°.34E±0°.02,h10km±8km, n182,σ1ş44/221,mb3.5/3,29C-15D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELBA	**Catalca**	**0.30**	**14**	P	**Pb**	**11 03 10.2**	**-0.2**
ELBA				S	**Sb**	**11 03 14.2**	**-1.3**
SLVT	**Silivri**	**0.39**	**346**	Pg	**Pb**	**11 03 11.8**	**0.0**
SLVT				Sg	**Sb**	**11 03 16.9**	**-1.0**
CTKS	**Kestanelik-??a**	**0.41**	**18**	Pg	**Pb**	**11 03 11.9**	**-0.2**
BGKT	**Bogazkoy**	**0.47**	**45**	Pg	**Pb**	**11 03 13.5**	**+0.4**
BGKT				Sg	**Sb**	**11 03 20.5**	**+0.4**
ARMT	**Armutlu**	**0.49**	**125**	Pg	**Pn**	**11 03 14.8**	**-1.2**
ARMT				Sg	**Sb**	**11 03 22.2**	**+1.3**
BAND	**Balkesir-Ban**	**0.53**	**200**	P	**Pb**	**11 03 14.1**	**-0.1**
BAND	**Balkesir-Ban**	**0.53**	**200**	⇓P	**Pb**	**11 03 14.2**	**-0.1**
BAND				⇓S	**Sb**	**11 03 21.5**	**-0.4**
ISK	**Istanbul-Kandi**	**0.59**	**68**	Pg	**Pn**	**11 03 15.8**	**-1.5**
ISK				Sg	**Sn**	**11 03 24.5**	**-2.4**
ISK	**Istanbul-Kandi**	**0.59**	**68**	P	**Pn**	**11 03 15.8**	**-1.5**
KAVV	**Kandilli-Istan**	**0.59**	**69**	Pg	**Pb**	**11 03 14.5**	**-0.7**
EDC	**Edincik**	**0.62**	**216**	Pg	**Pb**	**11 03 15.5**	**-0.3**
EDC	**Edincik**	**0.62**	**216**	P	**Pb**	**11 03 15.7**	**-0.1**
TKR	**Tekirdag**	**0.62**	**283**	Pg	**Pb**	**11 03 15.6**	**-0.2**
TKR				Sg	**Sg**	**11 03 23.4**	**+0.4**
CTYL	**Yalikoy Yolu**	**0.62**	**357**	Pg	**Pb**	**11 03 15.4**	**-0.4**
CTYL				Sg	**Sb**	**11 03 23.9**	**-0.7**
CTYL	**Yalikoy Yolu**	**0.62**	**357**	⇑P	**Pn**	**11 03 16.9**	**-0.9**
CTYL				⇓S	**Sb**	**11 03 25.3**	**+0.6**
MDNY	**Mudanya-Bursa**	**0.64**	**139**	Pg	**Pn**	**11 03 17.2**	**-0.7**
KLYT	**Kilyos**	**0.67**	**53**	⇑P	**Pn**	**11 03 17.5**	**-0.8**
KURT	**Yalova, Merkez**	**0.71**	**111**	P	**Pn**	**11 03 18.6**	**-0.4**
KURT				S	**Sb**	**11 03 27.9**	**+0.7**
KURT				*i* IAML		11 03 32.0	
	comp=N,4μm,0.6s						
VIZE	**Kirklareli, Vi**	**0.82**	**333**	P	**Pb**	**11 03 18.9**	**-0.2**
VIZE				S	**Sg**	**11 03 29.1**	**-0.1**
YLV	**Yalova**	**0.84**	**110**	Pg	**Pn**	**11 03 20.6**	**-0.2**
SART	**Tekirdag**	**0.89**	**260**	P	**Pg**	**11 03 20.0**	**0.0**
SART				S	**Sg**	**11 03 31.2**	**-0.4**
SUSR	**Susurluk-Balik**	**0.91**	**192**	Pg	**Pb**	**11 03 20.9**	**+0.2**
ORLT	**Orhaneli**	**0.91**	**152**	Pg	**Pn**	**11 03 21.7**	**-0.1**
KRBG	**Karabiga-Canak**	**0.91**	**240**	Pg	**Pn**	**11 03 20.6**	**+0.2**
ULDT	**Uludag**	**0.94**	**139**	P	**Pn**	**11 03 22.6**	**+0.3**
ULDT				S	**Sn**	**11 03 34.7**	**-1.1**
GONE	**Gonen-Balikesi**	**0.95**	**212**	Pg	**Pb**	**11 03 21.8**	**+0.5**
PHSR	**Pinarhisar**	**0.99**	**322**	Pg	**Pb**	**11 03 22.0**	**-0.1**
PHSR	**Pinarhisar**	**0.99**	**322**	⇑P	**Pb**	**11 03 22.0**	**-0.1**
HRT	**Hereke**	**1.01**	**91**	Pg	**Pn**	**11 03 23.8**	**+0.7**
BLKS	**Balkesir-Sus**	**1.02**	**196**	P	**Pn**	**11 03 23.1**	**-0.1**
SILT	**Sile**	**1.03**	**73**	Pg	**Pn**	**11 03 23.9**	**+0.5**
SILT				S	**Sn**	**11 03 38.9**	**+1.0**
SILT	**Sile**	**1.03**	**73**	⇑P	**Pn**	**11 03 24.6**	**+1.2**
SILT				⇑S	**Sn**	**11 03 39.1**	**+1.1**
SEMS	**Kocaeli-K¶rfe**	**1.06**	**89**	P	**Pn**	**11 03 24.7**	**+0.9**
SEMS				S	**Sn**	**11 03 39.0**	**+0.3**
SEMS				*i* IAML		11 03 42.0	
	comp=N,2μm,0.4s						
SEMS				*i* IAML		11 03 42.0	
	comp=E,3μm,0.3s						
OSMT	**Osmaniye**	**1.07**	**103**	Pn	**Pn**	**11 03 24.5**	**+0.6**
ADVT	**Abdulvahap**	**1.15**	**111**	Pn	**Pn**	**11 03 25.7**	**+0.8**
BKES	**Balkesir-Mer**	**1.16**	**196**	P	**Pn**	**11 03 25.9**	**+0.8**
ARMN	**Kirklareli, Me**	**1.22**	**326**	P	**Pg**	**11 03 26.1**	**-0.1**
ARMN				S	**Sb**	**11 03 41.4**	**-0.4**
BALY	**Balya**	**1.24**	**207**	P	**Pg**	**11 03 26.9**	**+0.3**
YENI	**Yenice-Canakka**	**1.24**	**223**	Pn	**Pn**	**11 03 26.2**	**0.0**
DURS	**Dursunbey**	**1.25**	**175**	P	**Pg**	**11 03 27.8**	**+0.9**
KESN	**Edirne-Kesan**	**1.26**	**269**	P	**Pn**	**11 03 26.5**	**-0.3**
DST	**Dursunbey**	**1.27**	**170**	Pn	**Pg**	**11 03 27.5**	**+0.4**
HISA	**Bilecik-Osmane**	**1.27**	**107**	P	**Pg**	**11 03 28.4**	**+1.3**
CANM	**Can-anakkale**	**1.29**	**230**	Pn	**Pn**	**11 03 26.8**	**-0.1**
LPK	**Lapseki**	**1.29**	**249**	Pn	**Pn**	**11 03 26.7**	**-0.2**
KIRK	**Kırklareli**	**1.32**	**315**	P	**Pn**	**11 03 27.0**	**0.0**
KIRK				S	**Sb**	**11 03 43.2**	**-1.4**
UKOP	**Uzunkopru-Edir**	**1.32**	**283**	Pn	**Pn**	**11 03 27.3**	**0.0**
BILE	**Bilecik/Merkez**	**1.36**	**120**	P	**Pg**	**11 03 29.7**	**+0.8**
ERIK	**Erikli-Kesan**	**1.40**	**263**	Pn	**Pn**	**11 03 28.1**	**-0.3**
KAND	**Kocaeli-Kandir**	**1.43**	**80**	P	**Pg**	**11 03 30.9**	**+0.7**
DOMA	**Ktahya-Doman**	**1.49**	**135**	P	**Pg**	**11 03 32.0**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.49**	**253**	Pn	**Pn**	**11 03 29.3**	**-0.3**
SAUV	**Serdivan-Sakar**	**1.52**	**94**	Pn	**Pg**	**11 03 30.8**	**-1.1**
KAYN	**Sakarya, Kayna**	**1.52**	**85**	P	**Pg**	**11 03 32.5**	**+0.5**
GEYV	**SAKARYA_Geyve**	**1.54**	**103**	P	**Pg**	**11 03 32.6**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.55**	**198**	P	**Pb**	**11 03 31.1**	**-0.5**
EDRB	**Edirne**	**1.56**	**310**	Pn	**Pn**	**11 03 30.2**	**-0.4**
YAYO	**Edremit-Balk**	**1.57**	**218**	Pn	**Pn**	**11 03 31.2**	**+0.4**
COMU	**Canakkale**	**1.61**	**243**	Pn	**Pn**	**11 03 31.3**	**0.0**
CAVK	**Edirne/Enez-Ca**	**1.66**	**265**	P	**Pn**	**11 03 32.2**	**+0.2**
CAVK	**Edirne/Enez-Ca**	**1.66**	**265**	⇓P	**Pn**	**11 03 32.1**	**+0.2**
CAVK				⇑S	**Sn**	**11 03 53.7**	**+0.4**
EMET	**Ktahya-Emet**	**1.66**	**153**	P	**Pg**	**11 03 33.9**	**-0.7**
BUHA	**Balikesir, Bur**	**1.66**	**216**	P	**Pn**	**11 03 32.8**	**+0.8**
CNKL	**anakkale-Mer**	**1.68**	**243**	P	**Pb**	**11 03 34.1**	**+0.3**
ALN	**Alexandroupoli**	**1.74**	**272**	Pn	**Pn**	**11 03 32.7**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**1.76**	**232**	P	**Pb**	**11 03 35.7**	**+0.4**
ANDZ	**Kutahya, Merke**	**1.80**	**138**	P	**Pb**	**11 03 35.9**	**0.0**
SOMA	**Soma-Manisa**	**1.80**	**200**	Pn	**Pn**	**11 03 34.5**	**+0.5**
SMAA	**Simav-Kutahya**	**1.82**	**164**	Pn	**Pn**	**11 03 34.8**	**+0.5**
DEMI	**Demirci**	**1.83**	**171**	P	**Pb**	**11 03 35.8**	**-0.7**
ECEA	**Canakkale, Ece**	**1.84**	**245**	P	**Pb**	**11 03 36.8**	**+0.3**
EZN	**Ezine**	**1.85**	**237**	Pn	**Pn**	**11 03 34.7**	**+0.1**
EZN	**Ezine**	**1.85**	**237**	⇑P	**Pn**	**11 03 34.8**	**+0.2**
EZN	**Ezine**	**1.85**	**237**	P	**Pb**	**11 03 37.0**	**+0.3**
EZNE	**Ezine-Canakkal**	**1.86**	**235**	Pn	**Pn**	**11 03 34.9**	**+0.1**
SAHE	**Sakarya_HENDEK**	**1.91**	**89**	P	**Pb**	**11 03 37.6**	**-0.1**
SAHE	**Sakarya_HENDEK**	**1.91**	**89**	⇑P	**Pb**	**11 03 37.8**	**+0.1**
GDZ	**Gediz**	**1.97**	**153**	P	**Pb**	**11 03 38.2**	**-0.6**
GADA	**Gvkgeada**	**1.97**	**251**	Pn	**Pn**	**11 03 36.2**	**-0.1**
GOAD	**anakkale-G¶**	**1.98**	**250**	P	**Pn**	**11 03 36.9**	**+0.6**
SUSU	**Bolu-G¶ynk-**	**1.98**	**104**	P	**Pg**	**11 03 40.9**	**+0.2**
AYVA	**Ayvalik**	**1.99**	**220**	P	**Pn**	**11 03 37.5**	**+0.9**
BOZC	**Bozcaada**	**2.02**	**241**	Pn	**Pn**	**11 03 36.8**	**-0.1**
BOZC	**Bozcaada**	**2.02**	**241**	P	**Pn**	**11 03 39.4**	**-0.2**
BTAS	**Taskesti**	**2.04**	**97**	P	**Pg**	**11 03 41.0**	**-1.0**
JMB	**Yambol**	**2.12**	**321**	P	**Pn**	**11 03 38.9**	**+0.5**
JMB				S	**Sg**	**11 04 11.1**	**0.0**
RDO	**Rodhopi**	**2.14**	**279**	Pn	**Pn**	**11 03 38.6**	**0.0**
KDZ	**Kurdzhali**	**2.39**	**290**	P	**Pn**	**11 03 41.7**	**-0.4**
KDZ				S	**Sb**	**11 04 16.8**	**+1.3**
KDZ	**Kurdzhali**	**2.39**	**290**	Pn	**Pn**	**11 03 42.5**	**+0.4**
KDZ	**Kurdzhali**	**2.39**	**290**	P	**Pn**	**11 03 42.4**	**+0.4**
DIM	**Dimitrovgrad**	**2.39**	**301**	P	**Pn**	**11 03 42.3**	**+0.2**
PRD	**Provadia**	**2.41**	**344**	*eP*	**Pb**	**11 03 46.9**	**+0.7**
NEF	**NEVSHA**	**2.54**	**342**	P	**Pn**	**11 03 44.7**	**+0.6**
ELND	**Elena**	**2.77**	**319**	⇑P	**Pn**	**11 03 47.9**	**+0.6**
PSN	**Preselentsi**	**2.79**	**357**	*eP*	**Pn**	**11 03 47.6**	**+0.1**
LOZB	**Loznitsa**	**2.83**	**333**	⇑P	**Pn**	**11 03 49.0**	**+0.9**
RZN	**Rozhen**	**2.84**	**288**	P	**Pn**	**11 03 48.5**	**+0.1**
SZH	**Strazhitsa**	**2.98**	**325**	P	**Pn**	**11 03 50.8**	**+0.6**
PLD	**Plovdiv**	**2.99**	**297**	*eP*	**Pn**	**11 03 50.9**	**+0.6**
RAZG	**Razgrad**	**3.03**	**334**	⇑P	**Pn**	**11 03 51.5**	**+0.6**
ICOR	**Ion Corvin**	**3.29**	**353**	⇑P	**Pn**	**11 03 55.9**	**+1.6**
ISP	**Isparta**	**3.47**	**150**	*i* P	**Pn**	**11 03 58.8**	**+1.8**
CVDA	**Cernavoda**	**3.49**	**356**	⇑P	**Pn**	**11 03 59.6**	**+2.5**
MMB	**Musomishta**	**3.53**	**283**	*eP*	**Pb**	**11 04 06.0**	**+0.6**
ZIMR		**3.57**	**323**	⇓P	**Pn**	**11 03 59.3**	**+1.0**
ZIMR		**3.57**	**323**	P	**Pn**	**11 03 59.2**	**+1.0**
TIRR	**Tirgusor**	**3.60**	**1**	⇑P	**Pn**	**11 03 59.7**	**+1.0**
TIRR	**Tirgusor**	**3.60**	**1**	P	**Pn**	**11 03 59.7**	**+1.0**
TLBR	**Topalu**	**3.70**	**357**	⇓P	**Pn**	**11 04 02.0**	**+2.0**
PLVB	**Pleven**	**3.75**	**314**	⇓P	**Pn**	**11 04 01.7**	**+0.9**
HARR	**Harsova**	**3.85**	**356**	⇑P	**Pn**	**11 04 04.5**	**+2.4**
HARR	**Harsova**	**3.85**	**356**	P	**Pn**	**11 04 04.4**	**+2.4**
TPGR	**Topolog**	**4.00**	**1**	⇓P	**Pn**	**11 04 06.1**	**+1.8**
PLNA	**Plana**	**4.02**	**295**	P	**Pn**	**11 04 05.9**	**+1.3**
KKB	**Krupnik**	**4.04**	**286**	*eP*	**Pb**	**11 04 14.9**	**+0.8**
VTS	**Vitosha**	**4.21**	**296**	P	**Pn**	**11 04 07.7**	**+0.5**
BR131	**Keskin Array S**	**4.21**	**104**	*i* P	**Pn**	**11 04 08.9**	**+1.7**
BRTR	**Keskin Array B**	**4.21**	**104**	Pn	**Pn**	**11 04 08.8**	**+1.7**
	0.4nm,0.3s,baz=278,slow=18,SNR=5.0						
BRTR				Sn	**Sn**	**11 04 57.9**	**+1.4**
	1.0nm,0.3s,baz=142,slow=13,SNR=5.2						
	1.1nm,0.5s						
MPEP	**Malo Peshtene**	**4.24**	**308**	P	**Pn**	**11 04 08.0**	**+0.6**
CFR	**Carcaliu**	**4.33**	**358**	⇑P	**Pn**	**11 04 10.3**	**+1.7**
CFR	**Carcaliu**	**4.33**	**358**	P	**Pn**	**11 04 10.3**	**+1.7**
TLCR		**4.35**	**4**	⇓P	**Pn**	**11 04 11.3**	**+2.3**
TLCR		**4.35**	**4**	P	**Pn**	**11 04 11.2**	**+2.3**
VALD	**Valchedram**	**4.61**	**310**	*eP*	**Pn**	**11 04 13.2**	**+0.6**
ARG	**Arkhangelos**	**4.63**	**182**	P	**Pn**	**11 04 14.0**	**+1.1**
BISRR	**Bisoca**	**4.84**	**346**	⇑P	**Pn**	**11 04 17.8**	**+2.0**
MLR	**Muntele Rosu**	**4.96**	**340**	Pn	**Pn**	**11 04 19.7**	**+2.2**
	3.3nm,0.3s,baz=181,slow=2.2,SNR=35						
MLR				Lg	Lg	11 05 44.3	
	3.5nm,0.3s,baz=173,slow=11,SNR=4.1			

comp=Z,61nm,0.2s
MNK Minsk 13.66 359 *i* P **Pn 11 06 12.2 -4.3**
comp=E,23nm,0.7s
MNK *i* P **Pn 11 06 12.2 -4.3**
comp=N,26nm,0.8s
MNK *i* P **Pn 11 06 12.2 -4.3**
comp=Z,19nm,0.7s,baz=178
MNK *i* PP **PnPn 11 06 20.1 -4.2**
MNK *i* PPP PPP 11 06 27.8
MNK *i* S **Sn 11 08 44.0 -4.2**
MNK *i* SSS SSS 11 09 10.0
MNK *i* LR LR 11 11 01.1
MNK *i* LRM MLR 11 12 34.8
comp=N,421nm,21.3s
MNK *i* LRM MLR 11 12 39.6
comp=Z,34nm,18.5s
MNK *i* LRM MLR 11 12 45.3
comp=E,583nm,19.4s
MNK Minsk 13.66 359 *i* P **Pn 11 06 12.2 -4.3**
MNK *i* S **Sn 11 08 44.0 -4.2**
MNK pmax pmax
comp=E,23nm,0.7s
MNK pmax pmax
comp=Z,19nm,0.7s
MNK pmax pmax
comp=N,26nm,0.8s
MNK MLR MLR
comp=N,421nm,21.0s
MNK MLR MLR
comp=Z,34nm,18.0s
MNK MLR MLR
comp=E,583nm,19.0s
OBN Obninsk 15.28 18 *e*P **Pn 11 06 38.6 +0.2**
OBN pmax pmax
comp=Z,8.0nm,0.4s
VSU Vasula 17.66 357 *i* P **Pn 11 07 08.6 -0.1**
VSU pmax pmax
comp=Z,7.0nm,1.0s
FINES FINESS Array B 20.67 357 P **P 11 07 42.5 0.0**
comp=Z,2.5nm,0.9s,baz=182,slow=11,SNR=1.5
comp=Z,2.5nm,0.9s
NOA NORSAR Array B 22.77 338 P **P 11 08 07.3 +2.0**
comp=Z,0.4nm,0.6s,baz=148,slow=11,SNR=3.2
comp=Z,0.4nm,0.6s
ARTI Arti 24.95 41 P **P 11 08 25.3 -0.8**
ARTI S **S 11 12 50.9 +1.5**
ARTI SS **SnSn 11 13 37.3 0.0**
BORK Borovoye 30.70 52 *i* P **P 11 09 18.5 +0.9**
KURK Kurchatov 35.79 57 *i* P **P 11 10 01.2 -0.8**
KURK pmax pmax
comp=Z,1.0nm,0.9s
MK31 Makanchi Array 38.73 63 *i* P **P 11 10 27.9 +0.9**
MKAR Makanchi Array 38.73 63 P **P 11 10 29.2 +2.2**
comp=Z,0.9nm,0.8s,baz=278,slow=9.0,SNR=4.8
comp=Z,0.9nm,0.8s
KMBO Kilima Mbogo 42.56 167 *i* P **P 11 10 59.4 +0.2**

*DJA **28** 12:06:08.6±1.3,5˚N±10˚×12˚4E±˚, h512km±18km, M4.5/10, mb4.5/5, mB4.6/2, MLv4.5/10, Mw(mB)3.8/2*
*NEIC **28** 12:06:11.6±1.0,4.56N±0.10×123.4E±0.1, h528km±8km, mb4.2/37, Error ellipse: s-maj=16.8km s-min=14.0km az=65.0*
*IDC **28** 12:06:13.3±1.9,4.57N×123.53E, h558km±23km, mb3.4/20, mbtmp4.3/21, Error ellipse: s-maj=19.5km s-min=8.0km az=70.0*
ISC 28 12:06:09.7±0.4,**4.54N**±0.06×**123.49E**±0.08,**h512**km,**n84,** σ1s**03**/91,**mb4.1**/42,**1C, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.21**	**113**	P	**P**	**12 07 15.7**	**-1.3**
DAV	**Davao City (W)**	**3.26**	**40**	P	**P**	**12 07 25.9**	**+2.4**
KMSI	**Cibinong**	**3.97**	**173**	P	**P**	**12 07 29.5**	**+0.7**
MRSI	**Marisa**	**4.32**	**201**	P	**P**	**12 07 31.9**	**+0.3**
TOLI2	**Tolitoli**	**4.35**	**218**	P	**P**	**12 07 32.3**	**+0.4**
MYLDM	**Lahad Datu**	**5.01**	**277**	P	**P**	**12 07 39.2**	**+1.7**
TNTI	**Ternate**	**5.39**	**134**	P	**P**	**12 07 39.5**	**-1.4**
LUWI	**Luwuk**	**5.59**	**187**	P	P	12 07 49.4	+6.6
SANI	**Sanana**	**7.01**	**159**	P	**P**	**12 07 55.4**	**-1.1**
	0.3nm85nm,0.8s						
KKM	**Kota Kinabalu**	**7.39**	**282**		**P**	**12 08 00.4**	**0.0**
SBUM	**Sibu**	**11.43**	**260**		**P**	**12 08 44.2**	**+1.8**
FAKI	**Fak Fak**	**11.47**	**130**	P	**P**	**12 08 44.1**	**+1.4**
JAY	**Jayapura**	**18.58**	**112**	P	**P**	**12 09 56.8**	**+1.8**
	11nm,0.6s,baz=239,slow=10.0,SNR=8.1						
TPUB	**Ta-pu**	**18.85**	**352**		**P**	**12 09 57.9**	**+0.5**
YULB	**Yu-li**	**18.86**	**354**		**P**	**12 09 57.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**22.59**	**175**	P	**P**	**12 10 31.8**	**+0.5**
JOW	**Kunigami**	**22.64**	**11**	P	**P**	**12 10 32.0**	**+0.5**
WB0	**Warramunga Arr**	**26.43**	**156**	P	**P**	**12 11 05.2**	**-0.1**
WB0				IAmb	IAmb	12 11 05.8	
	comp=Z,3.1nm,0.6s						
WRAB	**Tennant Creek**	**26.56**	**157**	P	**P**	**12 11 06.7**	**+0.2**
WRAB				IAmb	IAmb	12 11 07.1	
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**26.57**	**157**	P	**P**	**12 11 05.7**	**-0.8**
WRA	**Warramunga Arr**	**26.57**	**157**	P	**P**	**12 11 06.5**	**-0.1**
	comp=Z,3.7nm,0.6s,baz=335,slow=9.8,SNR=53						
WRA				PcP	**PcP**	**12 14 13.8**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=322,slow=2.7,SNR=4.7						
	comp=Z,3.7nm,0.6s						
WR8	**Warramunga Arr**	**26.64**	**156**	P	**P**	**12 11 07.2**	**0.0**
WR8				IAmb	IAmb	12 11 09.5	
	comp=Z,8.7nm,1.4s						
CMAR	**Chiang Mai Arr**	**27.69**	**302**	P	**P**	**12 11 17.4**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=119,slow=7.0,SNR=9.3						
CMAR				PcP	**PcP**	**12 14 18.0**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=175,slow=1.2,SNR=5.4						
	comp=Z,1.3nm,0.8s						
CHTO	**Chiang Mai**	**27.85**	**303**		**P**	**12 11 18.5**	**+0.7**
CHTO				IAmb	IAmb	12 11 19.1	
	comp=Z,4.7nm,0.7s						
AS31	**Alice Springs**	**29.82**	**161**	P	**P**	**12 11 35.6**	**+0.6**
ASAR	**Alice Springs**	**29.82**	**161**	P	**P**	**12 11 35.7**	**+0.7**
	comp=Z,2.7nm,0.5s,baz=340,slow=7.2,SNR=60						
ASAR				S	**S**	**12 15 53.5**	**-1.9**
	comp=Z,1.1nm,0.9s,baz=346,slow=15,SNR=6.6						
ASAR				ScP	**ScP**	**12 17 15.2**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=340,slow=2.9,SNR=18						
	comp=Z,2.7nm,0.5s						
JMN	**Monobe**	**30.61**	**17**	P	**P**	**12 11 41.9**	**+0.2**
LYN	**LuoYang**	**31.56**	**342**	*e*P	**P**	**12 11 50.5**	**+0.7**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KSRS	**Korea Array**	**33.01**	**6**	P	**P**	**12 12 02.7**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=190,slow=9.8,SNR=10.0						
	comp=Z,1.5nm,0.7s						
MJAR	**Matsushiro Arr**	**34.60**	**21**	P	**P**	**12 12 14.7**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=193,slow=10.0,SNR=11						
	comp=Z,2.7nm,0.8s						
INKA	**Innaminka**	**36.16**	**154**	P	**P**	**12 12 30.5**	**+1.9**
INKA				IAmb	IAmb	12 12 31.0	
	comp=Z,2.3nm,0.6s						
JTM	**Tenmabayashi**	**39.40**	**21**	P	**P**	**12 12 55.7**	**+0.8**
EIDS	**Eidsvold**	**40.02**	**139**	P	**P**	**12 13 01.0**	**+0.8**
EIDS				IAmb	IAmb	12 13 02.1	
	comp=Z,6.6nm,0.7s						
STKA	**Stephens Creek**	**40.11**	**156**	P	**P**	**12 13 01.7**	**+0.9**
STKA	**Stephens Creek**	**40.11**	**156**	P	**P**	**12 13 02.2**	**+1.5**
	comp=Z,4.4nm,0.8s,baz=290,slow=2.4,SNR=9.9						
	comp=Z,4.4nm,0.8s						
USRK	**Ussuriysk Ar.**	**40.20**	**9**	P	**P**	**12 13 01.6**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=183,slow=7.3,SNR=8.2						
	comp=Z,3.4nm,0.8s						
GTA	**Gaotai**	**40.80**	**332**	*e*P	**P**	**12 13 08.0**	**+1.7**
GTA				PcP	**PcP**	**12 14 56.3**	**+1.1**
GTA				pmax	pmax		
	comp=Z,18nm,0.7s						
BNX	**BinXian**	**41.18**	**4**	⇑P	**P**	**12 13 08.5**	**-0.6**
BNX				pmax	pmax		
	comp=Z,7.0nm,0.6s						
EVN	**Everest**	**41.93**	**308**		**P**	**12 13 17.0**	**+0.9**
EVN				IAmb	IAmb	12 13 17.5	
	comp=Z,7.3nm,0.7s						
JKA	**Kamikawa-asahi**	**42.86**	**20**	P	**P**	**12 13 23.2**	**+0.9**
ULN	**Ulaanbaatar**	**45.41**	**344**	P	**P**	**12 13 42.0**	**-0.3**
ULN				IAmb	IAmb	12 13 43.5	
	comp=Z,5.0nm,1.0s						
SONM	**Songino Array**	**45.56**	**344**	P	**P**	**12 13 43.5**	**+0.1**
SONM				IAmb	IAmb	12 13 44.5	
	comp=Z,3.2nm,0.8s						
SONM	**Songino Array**	**45.56**	**344**	P	**P**	**12 13 43.7**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=161,slow=8.4,SNR=10						
SONM				PcP	**PcP**	**12 15 11.2**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=151,slow=3.3,SNR=2.5						
	comp=Z,3.1nm,0.7s						
HEH	**HeiHe**	**45.67**	**4**	*e*P	**P**	**12 13 44.0**	**0.0**
HEH				pmax	pmax		
	comp=Z,12nm,0.8s						
TARG	**Taragay, Kyrgy**	**55.01**	**319**	P	**P**	**12 14 53.6**	**+0.6**
MK31	**Makanchi Array**	**55.07**	**326**	P	**P**	**12 14 52.9**	**-0.1**
MKAR	**Makanchi Array**	**55.07**	**326**		**P**	**12 14 52.8**	**-0.1**
MKAR	**Makanchi Array**	**55.07**	**326**	P	**P**	**12 14 53.2**	**+0.3**
	comp=Z,2.4nm,0.3s,baz=121,slow=7.9,SNR=53						
MKAR				PcP	**PcP**	**12 15 46.3**	**-0.4**
	comp=Z,3.1nm,0.6s,baz=120,slow=4.4,SNR=16						
	comp=Z,2.4nm,0.3s						
KSH	**Kashi**	**55.20**	**316**	P	**P**	**12 14 56.0**	**+1.9**
MAKZ	**Makanchi**	**55.25**	**326**	P	**P**	**12 14 54.2**	**0.0**
PEA0B	**Petropavlovsk-**	**55.96**	**24**	P	**P**	**12 14 59.4**	**+0.4**
PETK	**Petropavlovsk-**	**55.96**	**24**	P	**P**	**12 14 59.5**	**+0.5**
PETK	**Petropavlovsk-**	**55.96**	**24**	P	**P**	**12 14 60.0**	**+1.0**
	comp=Z,2.7nm,0.9s,baz=225,slow=1.3,SNR=3.9						
	comp=Z,2.7nm,0.9s						
ZALV	**Zalesovo Beam**	**58.43**	**334**	P	**P**	**12 15 14.9**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=131,slow=4.5,SNR=4.8						
ZALV				PcP	**PcP**	**12 15 58.0**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=64,slow=3.4,SNR=2.4						
	comp=Z,1.2nm,0.5s						
KBL	**Kabul**	**58.47**	**308**	P	**P**	**12 15 16.6**	**-0.2**
KBL				IAmb	IAmb	12 15 17.4	
	comp=Z,6.9nm,0.7s						
GAR	**Garm**	**59.01**	**313**		**P**	**12 15 20.1**	**-0.2**
GAR				IAmb	IAmb	12 15 21.0	
	comp=Z,12nm,1.0s						
KURBB	**Kurchatov Arra**	**59.34**	**328**	P	**P**	**12 15 22.1**	**+0.1**
	comp=Z,3.4nm,0.6s,baz=127,slow=6.1,SNR=5.5						
	comp=Z,3.4nm,0.6s						
KK31	**Karatay Array**	**60.45**	**318**	P	**P**	**12 15 29.8**	**+0.1**
KKAR	**Karatay Array**	**60.45**	**318**	P	**P**	**12 15 29.8**	**+0.2**
BVAR	**Borovoye Array**	**64.90**	**328**	P	**P**	**12 15 57.8**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=134,slow=8.5,SNR=12						
	comp=Z,2.3nm,0.7s						
TIXI	**Tiksi**	**67.11**	**2**	P	**P**	**12 16 11.3**	**-0.2**
TIXI				IAmb	IAmb	12 16 11.3	
	comp=Z,5.5nm,0.5s						
AB31	**Akbulak array**	**69.49**	**321**		**P**	**12 16 25.8**	**-0.7**
AB31				IAmb	IAmb	12 16 26.4	
	comp=Z,3.1nm,0.7s						
ABKAR	**Akbulak array**	**69.49**	**321**	P	**P**	**12 16 25.9**	**-0.5**
ARTI	**Arti**	**72.62**	**328**		**P**	**12 16 43.7**	**-1.0**
ARTI				IAmb	IAmb	12 16 44.2	
	comp=Z,7.1nm,0.6s						
RAYN	**Ar Rayn**	**77.19**	**293**		**P**	**12 17 10.4**	**-0.7**
VOI	**Vohitsoka**	**79.40**	**247**	P	**P**	**12 17 22.6**	**-0.6**
VOI				IAmb	IAmb	12 17 24.4	
	comp=Z,9.0nm,0.9s						
J18K	**Innoko River**	**81.40**	**27**	P	**P**	**12 17 32.6**	**0.0**
J18K				IAmb	IAmb	12 18 04.5	
	comp=Z,12nm,1.4s						
H19K	**Roundabout Mou**	**81.77**	**24**	P	**P**	**12 17 35.0**	**+0.7**
H19K				IAmb	IAmb	12 17 36.8	
	comp=Z,10nm,0.8s						
IMAR	**Indian Mountai**	**82.93**	**24**	P	**P**	**12 17 40.7**	**+0.5**
MLY	**Manley**	**84.12**	**25**	P	**P**	**12 17 46.8**	**+0.5**
MLY				IAmb	IAmb	12 18 03.1	
	comp=Z,5.1nm,1.4s						
VNDA	**Vanda**	**84.65**	**172**	P	**P**	**12 17 49.1**	**+0.6**
ILAR	**Eielson Array**	**85.77**	**25**	P	**P**	**12 17 51.6**	**-2.6**
	comp=Z,0.3nm,0.6s,baz=250,slow=5.3,SNR=6.7						
	comp=Z,0.3nm,0.6s						
RIDG	**Independent Ri**	**86.70**	**26**	P	**P**	**12 17 58.8**	**0.0**
RIDG				IAmb	IAmb	12 18 07.5	
	comp=Z,4.4nm,1.2s						
BRTR	**Keskin Array B**	**87.01**	**309**	P	**P**	**12 17 59.0**	**-1.9**
	comp=Z,0.8nm,0.6s,baz=115,slow=6.3,SNR=4.3						
	comp=Z,0.8nm,0.6s						
BCAR	**Beaver Creek A**	**88.13**	**27**	P	**P**	**12 18 06.1**	**+0.6**
ARCES	**ARCESS Array B**	**88.57**	**340**	P	**P**	**12 18 06.0**	**-1.3**
	comp=Z,1.8nm,0.6s,baz=76,slow=6.0,SNR=9.3						
	comp=Z,1.8nm,0.6s						
SPITS	**Spitsbergen Ar**	**89.06**	**349**	P	**P**	**12 18 08.7**	**-0.8**
	comp=Z,2.8nm,0.5s,baz=84,slow=8.5,SNR=8.1						
	comp=Z,2.8nm,0.5s						
FIA1	**FINESS Array S**	**89.59**	**332**	P	**P**	**12 18 10.9**	**-1.2**
FINES	**FINESS Array B**	**89.59**	**332**	P	**P**	**12 18 11.1**	**-1.1**
FINES	**FINESS Array B**	**89.59**	**332**	P	**P**	**12 18 10.6**	**-1.6**
	comp=Z,3.2nm,0.5s,baz=63,slow=5.2,SNR=32						
	comp=Z,3.2nm,0.5s						
HFS	**Hagfors**	**95.79**	**332**	P	**P**	**12 18 38.8**	**-1.9**
	comp=Z,1.1nm,0.5s,baz=116,slow=6.8,SNR=9.5						
	comp=Z,1.1nm,0.5s						
NB2	**NORSAR Subarra**	**96.61**	**333**	P	**P**	**12 18 42.4**	**-2.0**
	comp=Z,0.8nm,0.5s,baz=72,slow=4.4						
NOA	**NORSAR Array B**	**96.61**	**333**	P	**P**	**12 18 42.5**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=64,slow=1.9,SNR=4.6						
	comp=Z,0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**119.59**	**288**	PKP	**PKPdf**	**12 24 01.1**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=61,slow=1.5,SNR=8.3						

*TEH **28** 12:17:08.1,38˚.30N×48˚.92E, h28km±61km*
*AZER **28** 12:17:08.1,38˚.47N×48˚.92E, h26km, ml2.7*
ISC 28 12:17:08.2±1.2,**38˚.44N**±0.04×**48˚.96E**±0.05,**h29**km±9km, **n23,**σ1s**70**/35,**Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAS1	**Astara - Iran**	**0.11**	**239**	Pg	**Pn**	**12 17 13.6**	**-0.5**
ASTR	**Astara**	**0.18**	**311**	P	**Pn**	**12 17 14.4**	**-0.6**
ASTR				S	**Sb**	**12 17 19.2**	**+1.2**
LKRN	**Lenkeran, Azer**	**0.30**	**332**	P	**Pn**	**12 17 15.9**	**-0.8**
LKRN				S	**Sn**	**12 17 21.9**	**-0.3**
LRK	**Lerik**	**0.53**	**292**	P	**Pn**	**12 17 19.5**	**-0.4**
LRK				S	**Sn**	**12 17 27.9**	**-0.1**
YRD	**Yardimli**	**0.74**	**310**	P	**Pn**	**12 17 22.6**	**-0.2**
YRD				S	**Sn**	**12 17 33.5**	**+0.2**
GLBA	**Clilabad**	**0.91**	**331**	P	**Pn**	**12 17 25.3**	**+0.2**
GLBA				S	**Sn**	**12 17 38.5**	**+1.2**
ISRB	**Sarab**	**1.19**	**239**	Pg	**Pb**	**12 17 29.6**	**-0.7**
ALIB	**&Aumlli-Bayram**	**1.51**	**1**	Pn	**Pn**	**12 17 34.0**	**+0.7**
IHRS	**Heris**	**1.51**	**266**	Pg	**Pb**	**12 17 34.9**	**-0.9**
QRD	**Qoradiz**	**1.64**	**309**	Pn	**Pb**	**12 17 36.4**	**-1.3**
QRD				Sn	**Sb**	**12 17 58.3**	**+0.4**
BLQ	**Beylaqan**	**1.68**	**320**	Pn	**Pb**	**12 17 37.4**	**-1.0**
BLQ				Sn	**Sb**	**12 17 58.9**	**-0.2**
ZNJK	**Zanjan**	**1.78**	**187**	Pg	**Pn**	**12 17 37.6**	**+0.3**
BRDA	**Brd**	**2.28**	**323**	Pn	**Pb**	**12 17 46.4**	**-2.3**
BRDA				Sn	**Sb**	**12 18 14.2**	**-2.3**
IGZV	**Ghazvin**	**2.28**	**154**	Pn	**Pn**	**12 17 44.0**	**-0.2**
PQL	**Pirkuli**	**2.36**	**353**	Pn	**Pn**	**12 17 46.8**	**+1.6**
PQL				Sn	**Sb**	**12 18 15.7**	**-3.2**
ORD	**Ordubad**	**2.37**	**283**	Pn	**Pb**	**12 17 47.7**	**-2.6**
ORD				Sn	**Sb**	**12 18 17.3**	**-1.9**
IML	**Ismayilli**	**2.42**	**346**	Sn	**Sb**	**12 18 19.7**	**-0.9**
QBL	**Gabala**	**2.65**	**341**	Sn	**Sn**	**12 18 21.1**	**+0.9**
QABG	**Abgarm-Qazvin**	**2.77**	**170**	Pn	**Pn**	**12 17 50.9**	**0.0**
XNQ	**Khinaliq**	**2.80**	**347**	Pg	**Pb**	**12 17 57.8**	**+0.1**
XNQ				Sg	**Sb**	**12 18 34.0**	**+2.5**
NAX	**Nakhchivan**	**2.81**	**286**	Sg	**Sb**	**12 18 34.7**	**+3.1**
SBZ	**Shahbuz**	**2.82**	**291**	Pg	**Pb**	**12 17 58.4**	**+0.4**
SBZ				Sg	**Sb**	**12 18 36.0**	**+3.9**
GANJ	**Ganja**	**3.00**	**318**	Sg	**Sb**	**12 18 40.8**	**+3.7**

*IDC **28** 12:32:03.8±0.8,9˚.24S×150˚.56E, h0km, mb4.0/11, mbtmp4.0/14, ML3.6/2, MS3.4/17, Error ellipse: s-maj=18.3km s-min=16.6km az=129.0*
*NEIC **28** 12:32:05.7±0.5,9˚.3S±0.1×150˚.7E±0.2, h14km±10km, mb4.1/8, Error ellipse: s-maj=33.5km s-min=4.2km az=122.0*
ISC 28 12:32:05.3±0.7,**9˚.23S**±0.09×**150˚.59E**±0.09,**h10**km,**n40,** σ0s**94**/29,**mb4.0**/12,**MS3.4**/14,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.39**	**267**	Pn	**Pn**	**12 32 58.7**	**+0.4**
	11nm,0.4s,baz=80,slow=11,SNR=10.0						
PMG				Lg	**Pb**	**12 33 04.6**	**-0.9**
	6.3nm,0.3s,baz=74,slow=14,SNR=21						
PMG				Lg	Lg	12 33 49.2	
	6.4nm,0.3s,baz=345,slow=23,SNR=7.0						
PMG				LR	LR	12 34 38.6	
	comp=Z,274nm,18.2s,baz=98,slow=46						
RABL	**Rabaul**	**5.25**	**17**	Pn	**Pn**	**12 33 23.7**	**-0.2**
COEN	**Coen**	**8.65**	**236**	Pn	**Pn**	**12 34 10.9**	**+0.2**
HNR	**Honiara**	**9.24**	**92**	LR	LR	12 37 30.2	
	comp=Z,114nm,18.5s,baz=296,slow=35						
JAY	**Jayapura**	**11.88**	**304**	Pn	**Pn**	**12 34 56.2**	**+1.2**
	0.5nm,0.3s,baz=108,slow=13,SNR=4.1						
	4.2nm,0.6s						
WB0	**Warramunga Arr**	**18.84**	**234**	P	**P**	**12 36 25.4**	**-0.2**
WB0				IAmb	IAmb	12 36 28.2	
	comp=Z,7.3nm,1.0s						
WR8	**Warramunga Arr**	**18.85**	**234**	P	**P**	**12 36 25.6**	**-0.1**
WR8				IAmb	IAmb	12 36 28.7	
	comp=Z,8.1nm,0.9s						
WRA	**Warramunga Arr**	**18.97**	**234**	P	**P**	**12 36 26.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=58,slow=11,SNR=14						
WRA				LR	LR	12 43 46.1	
	comp=Z,134nm,18.9s,baz=88,slow=37						
	comp=Z,5.4nm,0.9s						
AS31	**Alice Springs**	**21.46**	**226**	P	**P**	**12 36 53.6**	**-0.5**
ASAR	**Alice Springs**	**21.46**	**226**	P	**P**	**12 36 53.8**	**-0.4**
ASAR	**Alice Springs**	**21.46**	**226**	P	**P**	**12 36 53.6**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=61,slow=9.6,SNR=17						
ASAR				LR	LR	12 44 55.1	
	comp=Z,124nm,20.6s,baz=54,slow=36						
	comp=Z,2.9nm,0.8s						
KNRA	**Kununurra**	**22.24**	**251**	P	**P**	**12 37 01.8**	**-0.8**
KNRA				IAmb	IAmb	12 37 28.3	
	comp=Z,16nm,1.1s						
GUMO	**Guam**	**23.37**	**346**	LR	LR	12 44 34.9	
	comp=Z,63nm,20.7s,baz=124,slow=32						
STKA	**Stephens Creek**	**24.03**	**199**	P	**P**	**12 37 19.3**	**-1.3**
	comp=Z,1.7nm,0.7s,baz=20,slow=15,SNR=3.1						
STKA				LR	LR	12 47 04.0	
	comp=Z,138nm,19.4s,baz=31,slow=38						
	comp=Z,1.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**25.77**	**247**	P	**P**	**12 37 36.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**25.77**	**247**	P	**P**	**12 37 35.8**	**-0.8**
	comp=Z,7.9nm,0.8s,baz=98,slow=8.5,SNR=12						
	comp=Z,7.9nm,0.8s						
TGY	**Tagaytay City**	**37.46**	**308**	LR	LR	12 54 27.8	
	comp=Z,97nm,21.6s,baz=18,slow=36						
NWAO	**Narrogin (SRO)**	**38.77**	**228**	LR	LR	12 55 53.3	
	comp=Z,145nm,20.1s,baz=74,slow=37						
JOW	**Kunigami**	**41.88**	**329**	LR	LR	12 53 38.3	
	comp=Z,46nm,20.7s,baz=173,slow=31						
JNU	**Nakatsue**	**46.11**	**337**	LR	LR	12 58 53.1	
	comp=Z,28nm,18.8s,baz=172,slow=35						
MJAR	**Matsushiro Arr**	**46.99**	**346**	P	**P**	**12 40 35.7**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=170,slow=8.7,SNR=5.1						
MJAR				LR	LR	12 59 11.6	
	comp=Z,20nm,19.6s,baz=185,slow=35						
	comp=Z,1.2nm,0.7s						
KSRS	**Korea Array**	**51.06**	**337**	P	**P**	**12 41 08.0**	**0.0**
	comp=Z,1.1nm,0.7s,baz=153,slow=8.2,SNR=6.6						
	comp=Z,1.1nm,0.7s						
KSAR	**Wonju Array Be**	**51.07**	**337**	P	**P**	**12 41 07.5**	**-0.4**
KS19	**Wonju Array Si**	**51.13**	**337**	P	**P**	**12 41 08.0**	**-0.4**
IPM	**Ipoh**	**51.24**	**283**	P	**P**	**12 41 09.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**57.91**	**299**	P	**P**	**12 41 58.9**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=114,slow=6.9,SNR=6.2						
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**62.39**	**5**	LR	LR	13 06 51.2	
	comp=Z,32nm,19.5s,baz=217,slow=34						
SHEM	**Shemya Is, Ala**	**64.91**	**16**	LR	LR	13 04 33.5	
	comp=Z,18nm,21.3s,baz=98,slow=30						
VNDA	**Vanda**	**68.52**	**177**	P	**P**	**12 43 08.3**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=345,slow=7.7,SNR=4.0						
	comp=Z,0.6nm,0.6s						
MA2	**Magadan**	**68.58**	**0**	LR	LR	13 09 18.1	
	comp=Z,17nm,21.6s,baz=173,slow=33						
SONM	**Songino Array**	**68.95**	**330**	P	**P**	**12 43 11.0**	**+0.2**
SONM				IAmb	IAmb	12 43 15.1	
	comp=Z,2.6nm,1.0s						
SONM	**Songino Array**	**68.95**	**330**	P	**P**	**12 43 11.9**	**+1.0**
	comp=Z,2.5nm,0.9s,baz=117,slow=5.2,SNR=5.7						
	comp=Z,2.5nm,0.9s						
QSPA	**South Pole Qui**	**80.76**	**180**	P	**P**	**12 44 20.1**	**+1.2**
	comp=Z,2.4nm,0.7s,baz=330,slow=1.0,SNR=20						
	comp=Z,2.4nm,0.7s						
MKAR	**Makanchi Array**	**82.24**	**320**	P	**P**	**12 44 25.6**	**-1.4**
MKAR	**Makanchi Array**	**82.24**	**320**	P	**P**	**12 44 28.5**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=117,slow=5.7,SNR=4.0						
	comp=Z,0.4nm,0.7s						
ILAR	**Eielson Array**	**87.06**	**22**	P	**P**	**12 44 49.4**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=238,slow=5.2,SNR=6.4						
	comp=Z,0.6nm,0.8s						
BVAR	**Borovoye Array**	**91.46**	**323**	LR	LR	13 28 26.6	
	comp=Z,17nm,18.2s,baz=127,slow=37						
SNAA	**Sanae**	**97.36**	**188**	LR	LR	13 28 55.7	
	comp=Z,47nm,18.3s,baz=162,slow=35						
ELK	**Elko**	**99.10**	**50**	LR	LR	13 26 36.6	
	comp=Z,18nm,18.2s,baz=306,slow=33						
TORD	**Torodi Ar. Bea**	**149.25**	**280**	PKPbc	**PKPdf**	**12 51 53.1**	**+2.0**
	comp=Z,2.5nm,0.5s,baz=45,slow=2.3,SNR=16						

*NEIC **28** 12:34:33.9±1.3,18˚.6N±0.2×68˚.74W±0.07, h138km±8km, ML2.7/11, Md2.9/11(RSPR), Error ellipse: s-maj=33.4km s-min=7.3km az=190.0*
*SDD **28** 12:34:33.3±1.6, 18˚.41N×68˚.83W, h156km±13km, MD3.5, ML3.1, MW3.0*
*RSPR **28** 12:

AOPR				⇑*e*Sg	Sn	12 35 31.5	-1.0			
AOPR				IAML		12 35 36.5				
	comp=N,199nm,0.3s									
UUPR	**Utuado, UPR, P**	**1.94**	**94**		Pn	12 35 07.8	+0.2			
UUPR					Sn	12 35 33.3	+0.1			
UUPR	**Utuado, UPR, P**	**1.94**	**94**⇑*e*P		Pn	12 35 07.8	+0.2			
UUPR	**Utuado, UPR, P**	**1.94**	**94** *e*S		Sn	12 35 33.3	+0.1			
OBIP	**Obispado Ponce**	**2.07**	**100**		Pn	12 35 09.0	-0.3			
OBIP	**Obispado Ponce**	**2.07**	**100**	IAML		12 35 43.1				
	comp=E,27nm,0.4s									
OBIP	**Obispado Ponce**	**2.07**	**100**⇑*e*P		Pn	12 35 09.0	-0.3			
OBIP	**Obispado Ponce**	**2.07**	**100** *e*S		Sn	12 35 37.1	+1.0			
CELP	**Cerrillos**	**2.09**	**99**		Pn	12 35 09.2	-0.3			
CELP				IAML		12 35 41.2				
	comp=N,47nm,0.3s									
CELP				IAML		12 35 42.3				
	comp=E,36nm,0.5s									
CELP	**Cerrillos**	**2.09**	**99**		Sn	12 35 36.9	+0.3			
CELP	**Cerrillos**	**2.09**	**99**⇑*e*P		Pn	12 35 09.6	0.0			
CELP	**Cerrillos**	**2.09**	**99** *e*S		Sn	12 35 36.9	+0.3			
CELP	**Cerrillos**	**2.09**	**99**⇑*e*Pg		Pn	12 35 09.3	-0.3			
CELP				⇓*e*Sg	Sn	12 35 36.9	+0.3			
CELP				IAML		12 35 41.1				
	comp=N,48nm,0.2s									
EMPR	**Esperanza - Ma**	**2.11**	**88**		Sn	12 35 36.7	-0.2			
EMPR	**Esperanza - Ma**	**2.11**	**88**	Pn	Pn	12 35 08.9	-0.8			
EMPR	**Esperanza - Ma**	**2.11**	**88**⇑*e*P		Pn	12 35 10.3	+0.6			
EMPR	**Esperanza - Ma**	**2.11**	**88** *e*S		Sn	12 35 36.7	-0.2			
ECPR	**Experimental S**	**2.27**	**92**⇑*e*P		Pn	12 35 11.5	-0.3			
ECPR	**Experimental S**	**2.27**	**92** *e*S		Sn	12 35 39.3	-1.2			
SDDR	**Presa de Saban**	**2.47**	**284**		Pn	12 35 15.0	+0.7			
SDDR				IAML		12 35 50.9				
	comp=N,52nm,0.7s									
PDPR	**Patillas Dam,**	**2.62**	**98**	Pn	Pn	12 35 15.9	-0.2			
PDPR				IAML		12 35 48.5				
	comp=N,29nm,0.1s									
PDPR				IAML		12 35 53.2				
	comp=E,18nm,0.2s									
PDPR	**Patillas Dam,**	**2.62**	**98**⇑*e*P		Pn	12 35 15.7	-0.5			
PDPR	**Patillas Dam,**	**2.62**	**98** *e*S		Sn	12 35 48.4	-0.1			
HUMP	**Col San Antoni**	**2.77**	**95**	Pn	Pn	12 35 17.7	-0.4			

NOU 28 12:47:25.1,17°98S×167°73E,h37km,MLv3.1/8,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.50**	**60**	P	Pn	12 47 36.9	+1.1
DVP	**Devils Point**	**0.50**	**60**	S	Sn	12 47 46.0	+2.8
RTV	**Rentapao**	**0.69**	**74**	P	Pn	12 47 39.4	+1.0
RTV	**Rentapao**	**0.69**	**74**	S	Sn	12 47 49.6	+1.8
SANVU	**Saraoutou**	**2.57**	**349**	P	Pn	12 48 04.4	+0.2
SANVU	**Saraoutou**	**2.57**	**349**	S	Sn	12 48 34.9	+0.7

IDC 28 12:48:29.9±7.7,18°20S×175°82E,h0km,mb3.8/2, mbtmp3.8/2,Error ellipse: s-maj=300.3km s-min=121.9km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.17**	**261**	P	P	12 55 59.2	-0.7
	0.3nm,0.6s,baz=97,slow=9.1,SNR=13						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**39.42**	**255**	P	P	12 56 02.5	+0.5
	2.2nm,0.5s,baz=82,slow=9.0,SNR=62						
	2.2nm,0.5s						
BRTR	**Keskin Array B**	**140.97**	**311**	PKP	PKPdf	13 08 01.5	-1.1
	0.3nm,0.4s,baz=80,slow=2.8,SNR=1.4						

GEN ***28*** *12:53:20.2,46°68N×8°66E,h8km±3km, Ml2.6*
ROM ***28*** *12:53:20.8±0.1,46°665N±0°002×8°671E±0°003, h11km,ML2.3/48,Error ellipse: s-maj=0.2km s-min=0.2km az=78.0*
ZUR ***28*** *12:53:21.1,46°66N×8°66E,h10km±1km,MLh2.7/115, Error ellipse: s-maj=1809.8km s-min=521.6km az=115.0*
PRU ***28*** *12:53:21.8,46°63N×8°66E,h10km*
BGR ***28*** *12:53:21.4±0.5,46°65N×8°64E,h5km±2km,ML2.6/17, Error ellipse: s-maj=4.4km s-min=2.2km az=17.0*
LDG ***28*** *12:53:21.4±0.1,46°65N×8°67E,h8km,Ml2.8/28,Error ellipse: s-maj=1.3km s-min=1.3km az=125.0*
BUG ***28*** *12:53:22.3±0.7,46°67N×8°48E,h0km,MD3.5/10, ML3.3/10*

ISC 28 12:53:21.0±0.7,46°649N±0°010×8°649E±0°009, h16km±3km,n280,σ0°94/459,65C-50D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NALPS	**Val Nalps**	**0.09**	**128**	⇓Pg	**Pg**	**12 53 24.2**	**-0.4**
NALPS				Sg	**Sg**	**12 53 26.1**	**-0.8**
NALPS	**Val Nalps**	**0.09**	**128**	⇓Pg	**Pg**	**12 53 24.1**	**-0.4**
NALPS				Sg	**Sg**	**12 53 26.0**	**-0.9**
BTAO	**Waffenplatz Be**	**0.13**	**199**	⇑Pg	**Pg**	**12 53 24.7**	**-0.1**
BTAO				Sg	**Sg**	**12 53 26.9**	**-0.4**
BTAO	**Waffenplatz Be**	**0.13**	**199**	⇑Pg	**Pg**	**12 53 24.7**	**-0.1**
BTAO				Sg	**Sg**	**12 53 26.9**	**-0.4**
SEFS	**Erstfeld, Schu**	**0.17**	**360**	⇓Pg	**Pg**	**12 53 25.0**	**-0.3**
SEFS	**Erstfeld, Schu**	**0.17**	**360**	⇓Pg	**Pg**	**12 53 25.0**	**-0.3**
RA41	**Rhonegletscher**	**0.19**	**253**	⇑Pg	**Pg**	**12 53 25.7**	**-0.1**
RA41				Sg	**Sg**	**12 53 28.7**	**-0.3**
GSF03	**Obergoms, Fort**	**0.19**	**248**	⇑Pg	**Pg**	**12 53 25.8**	**-0.1**
GSF03	**Obergoms, Fort**	**0.19**	**248**	⇑Pg	**Pg**	**12 53 25.7**	**-0.1**
GSF03				Sg	**Sg**	**12 53 28.7**	**-0.3**
FUSIO	**Fusio**	**0.19**	**177**	⇓Pg	**Pg**	**12 53 25.8**	**+0.1**
FUSIO				Sg	**Sg**	**12 53 28.8**	**-0.2**
FUSIO	**Fusio**	**0.19**	**177**	⇓Pg	**Pg**	**12 53 25.8**	**+0.1**
FUSIO				Sg	**Sg**	**12 53 28.7**	**-0.2**
FUSIO	**Fusio**	**0.19**	**177**	P	**Pg**	**12 53 25.8**	**+0.1**
FUSIO				S	**Sg**	**12 53 28.8**	**-0.2**
FUSIO	**Fusio**	**0.19**	**177**	P	**Pg**	**12 53 25.8**	**+0.1**
FUSIO				S	**Sg**	**12 53 28.8**	**-0.2**
FUSIO				AML	AML		
	comp=E,5470μm,0.1s						
FUSIO				AML	AML		
	comp=E,5470μm,0.2s						
FUSIO				AML	AML		
	comp=N,3605μm,0.5s						
FUSIO				AML	AML		
	comp=N,3605μm,1.5s						
SALTS	**Altdorf, Kanto**	**0.23**	**358**	⇓Pg	**Pg**	**12 53 26.0**	**-0.3**
SALTS	**Altdorf, Kanto**	**0.23**	**358**	⇓Pg	**Pg**	**12 53 26.0**	**-0.3**
SALTS				Sg	**Sg**	**12 53 29.2**	**-0.7**
SENGL	**Engelberg, Klo**	**0.24**	**317**	⇓Pg	**Pg**	**12 53 26.2**	**-0.2**
SENGL				Sg	**Sg**	**12 53 29.6**	**-0.5**
SENGL	**Engelberg, Klo**	**0.24**	**317**	⇓Pg	**Pg**	**12 53 26.2**	**-0.2**
SENGL				Sg	**Sg**	**12 53 29.6**	**-0.5**
GRIMS	**Grimsel Gerste**	**0.24**	**253**	⇑Pg	**Pg**	**12 53 26.4**	**-0.1**
GRIMS				Sg	**Sg**	**12 53 29.9**	**-0.4**
GRIMS	**Grimsel Gerste**	**0.24**	**253**	⇑Pg	**Pg**	**12 53 26.4**	**-0.1**
GRIMS				Sg	**Sg**	**12 53 29.9**	**-0.4**
BTNF	**Ladstafel, Nuf**	**0.26**	**228**	⇑Pg	**Pg**	**12 53 26.9**	**+0.1**
BTNF	**Ladstafel, Nuf**	**0.26**	**228**	⇑Pg	**Pg**	**12 53 26.9**	**+0.1**
BTNF				Sg	**Sg**	**12 53 30.6**	**-0.1**
BNALP	**Bannalp**	**0.27**	**325**	⇓Pg	**Pg**	**12 53 26.7**	**-0.2**
BNALP				Sg	**Sg**	**12 53 30.5**	**-0.5**
BNALP	**Bannalp**	**0.27**	**325**	⇓Pg	**Pg**	**12 53 26.7**	**-0.2**
BNALP				Sg	**Sg**	**12 53 30.5**	**-0.5**
BNALP	**Bannalp**	**0.27**	**325**	⇓P	**Pg**	**12 53 26.7**	**-0.2**
BNALP				S	**Sg**	**12 53 30.6**	**-0.5**
BNALP				AML	AML		
	comp=E,710μm,1.4s						
BNALP				AML	AML		
	comp=E,710μm,1.4s						
BNALP				AML	AML		
	comp=N,1014μm,0.5s						
BNALP				AML	AML		
	comp=E,710μm,0.6s						
LLS	**Linth-Limmern**	**0.32**	**51**	⇑Pg	**Pg**	**12 53 27.3**	**-0.4**
LLS				Sg	**Sg**	**12 53 31.4**	**-1.0**
LLS	**Linth-Limmern**	**0.32**	**51**	⇑Pg	**Pg**	**12 53 27.3**	**-0.4**
LLS				Sg	**Sg**	**12 53 31.3**	**-1.1**
MUO	**Muotathal**	**0.32**	**358**	⇓Pg	**Pg**	**12 53 27.6**	**-0.2**
MUO	**Muotathal**	**0.32**	**358**	⇓Pg	**Pg**	**12 53 27.6**	**-0.2**
MUO				Sg	**Sg**	**12 53 32.1**	**-0.4**
HASLI	**Hasliberg/Brie**	**0.36**	**288**	Pg	**Pg**	**12 53 28.4**	**0.0**
HASLI				Sg	**Sg**	**12 53 33.4**	**-0.2**
HASLI	**Hasliberg/Brie**	**0.36**	**288**	⇓Pg	**Pg**	**12 53 28.4**	**0.0**
HASLI				Sg	**Sg**	**12 53 33.2**	**-0.3**
SKEK	**Kerns, Kirchge**	**0.36**	**315**	Pg	**Pg**	**12 53 28.3**	**-0.1**
SKEK				Sg	**Sg**	**12 53 33.4**	**-0.1**
SKEK	**Kerns, Kirchge**	**0.36**	**315**	⇓Pg	**Pg**	**12 53 28.3**	**-0.1**
SKEK				Sg	**Sg**	**12 53 33.3**	**-0.1**
PANIX	**Pigniu (Panix)**	**0.36**	**61**	⇑Pg	**Pg**	**12 53 28.2**	**-0.4**
PANIX				Sg	**Sg**	**12 53 32.8**	**-0.9**
PANIX	**Pigniu (Panix)**	**0.36**	**61**	⇑Pg	**Pg**	**12 53 28.1**	**-0.5**
PANIX				Sg	**Sg**	**12 53 32.8**	**-0.9**
SLTM2	**Linthal, Matt**	**0.37**	**41**	⇑Pg	**Pg**	**12 53 28.2**	**-0.3**
SLTM2				Sg	**Sg**	**12 53 32.9**	**-0.8**
SLTM2	**Linthal, Matt**	**0.37**	**41**	⇑Pg	**Pg**	**12 53 28.2**	**-0.3**
SLTM2				Sg	**Sg**	**12 53 32.9**	**-0.8**
SARK	**Sarnen Kantons**	**0.37**	**311**	⇓Pg	**Pg**	**12 53 28.5**	**-0.1**
SARK				Sg	**Sg**	**12 53 33.7**	**-0.1**
SARK	**Sarnen Kantons**	**0.37**	**311**	⇓Pg	**Pg**	**12 53 28.5**	**-0.1**
SARK				Sg	**Sg**	**12 53 33.6**	**-0.1**
SWYZ	**Schwyz, Kanton**	**0.38**	**0**	Pg	**Pg**	**12 53 28.6**	**-0.1**
SWYZ				Sg	**Sg**	**12 53 34.1**	**+0.1**
SWYZ	**Schwyz, Kanton**	**0.38**	**0**	⇓Pg	**Pg**	**12 53 28.5**	**-0.1**
SIZS	**Ilanz Schule G**	**0.40**	**72**	Pg	**Pg**	**12 53 28.9**	**-0.3**
SIZS	**Ilanz Schule G**	**0.40**	**72**	Pg	**Pg**	**12 53 28.9**	**-0.3**
SIZS	**Ilanz Schule G**	**0.40**	**72**	⇑Pg	**Pg**	**12 53 28.9**	**-0.3**
SIZS				Sg	**Sg**	**12 53 34.2**	**-0.6**
FIESA	**Fiescheralp**	**0.43**	**240**	Pg	**Pg**	**12 53 29.9**	**+0.1**
FIESA	**Fiescheralp**	**0.43**	**240**	⇑Pg	**Pg**	**12 53 29.9**	**+0.1**
FIESA	**Fiescheralp**	**0.43**	**240**	P	**Pg**	**12 53 29.9**	**+0.1**
FIESA				S	**Sg**	**12 53 36.0**	**+0.3**
PREO2	**Preonzo, Alpe**	**0.46**	**150**	⇓Pg	**Pg**	**12 53 30.2**	**0.0**
PREO2	**Preonzo, Alpe**	**0.46**	**150**	⇓Pg	**Pg**	**12 53 30.3**	**0.0**
PREO4	**Preonzo, Alpe**	**0.46**	**150**	Pg	**Pg**	**12 53 30.3**	**0.0**
PREO4	**Preonzo, Alpe**	**0.46**	**150**	⇓Pg	**Pg**	**12 53 30.2**	**0.0**
SGLK	**Glarus, Kanton**	**0.49**	**36**	⇑Pg	**Pg**	**12 53 30.5**	**-0.2**
SGLK	**Glarus, Kanton**	**0.49**	**36**	⇑Pg	**Pg**	**12 53 30.5**	**-0.2**
SCAS2	**Camedo, Parato**	**0.49**	**183**	Pg	**Pg**	**12 53 31.0**	**+0.1**
SCAS2	**Camedo, Parato**	**0.49**	**183**	Pg	**Pg**	**12 53 31.0**	**+0.1**
TUE	**Stuetta**	**0.51**	**110**	⇓Pg	**Pg**	**12 53 31.1**	**-0.1**
TUE	**Stuetta**	**0.51**	**110**	⇓Pg	**Pg**	**12 53 31.1**	**-0.1**
TUE				Sg	**Sg**	**12 53 37.5**	**-0.6**
TUE	**Stuetta**	**0.51**	**110**	P	**Pg**	**12 53 31.1**	**-0.1**
TUE				S	**Sg**	**12 53 37.6**	**-0.6**
TUE	**Stuetta**	**0.51**	**110**	P	**Pg**	**12 53 31.1**	**-0.1**
TUE				S	**Sg**	**12 53 37.6**	**-0.6**
TUE				AML	AML		
	comp=E,600μm,0.1s						
TUE				AML	AML		
	comp=N,646μm,0.7s						
TUE				AML	AML		
	comp=N,664μm,0.7s						
TUE				AML	AML		
	comp=E,600μm,0.1s						
TUE				AML	AML		
	comp=E,604μm,0.1s						
SNTZ	**Naters, Zentru**	**0.56**	**235**	Pg	**Pg**	**12 53 32.1**	**0.0**
A060B	**Romoos, Napf,**	**0.58**	**307**	Pg	**Pg**	**12 53 32.9**	**+0.5**
A060B	**Romoos, Napf,**	**0.58**	**307**	⇓Pg	**Pg**	**12 53 32.9**	**+0.5**
A060B				Sg	**Sb**	**12 53 41.1**	**+0.3**
VDL	**Val di Lei**	**0.58**	**106**	Pg	**Pg**	**12 53 32.4**	**-0.1**
VDL	**Val di Lei**	**0.58**	**106**	⇓Pg	**Pg**	**12 53 32.3**	**-0.2**
VDL				Sg	**Sg**	**12 53 39.4**	**-0.7**
VDL	**Val di Lei**	**0.58**	**106**	P	**Pg**	**12 53 32.3**	**-0.2**
VDL				S	**Sg**	**12 53 39.6**	**-0.5**
SIMPL	**Simplonpass**	**0.60**	**227**	⇑Pg	**Pg**	**12 53 32.6**	**-0.2**
SIMPL	**Simplonpass**	**0.60**	**227**	⇑Pg	**Pg**	**12 53 32.6**	**-0.2**
SIMPL	**Simplonpass**	**0.60**	**227**	P	**Pg**	**12 53 32.6**	**-0.2**
SIMPL				S	**Sg**	**12 53 41.2**	**+0.4**
SVAM	**Vaz, Muldain**	**0.60**	**85**	⇑Pg	**Pg**	**12 53 32.6**	**-0.3**
SVAM				Sg	**Sg**	**12 53 40.4**	**-0.7**
BIBA	**Brigerbad**	**0.61**	**235**	⇑Pg	**Pg**	**12 53 32.9**	**-0.1**
SCHK	**Churwalden Klo**	**0.63**	**77**	Pg	**Pg**	**12 53 33.0**	**-0.4**
SCHK				Sg	**Sg**	**12 53 41.6**	**-0.1**
SCHK	**Churwalden Klo**	**0.63**	**77**	⇑Pg	**Pg**	**12 53 32.9**	**-0.4**
SVIO	**Visp Obere Sta**	**0.64**	**236**	⇑Pg	**Pg**	**12 53 33.5**	**-0.1**
PLONS	**Plons/SG**	**0.64**	**51**	Pg	**Pg**	**12 53 33.1**	**-0.5**
PLONS	**Plons/SG**	**0.64**	**51**	⇑Pg	**Pg**	**12 53 33.1**	**-0.5**
PLONS				Sg	**Sg**	**12 53 41.1**	**-1.1**
PLONS	**Plons/SG**	**0.64**	**51**	*e*Pg	**Pg**	**12 53 33.1**	**-0.5**
PLONS				*e*Sg	**Sg**	**12 53 41.2**	**-1.0**
PLONS	**Plons/SG**	**0.64**	**51**	P	**Pg**	**12 53 33.1**	**-0.5**
PLONS				S	**Sg**	**12 53 41.2**	**-1.0**
PLONS				AML	AML		
	comp=N,180μm,0.6s						
PLONS				AML	AML		
	comp=E,178μm,0.2s						
LAUCH	**Lauchernalp**	**0.65**	**249**	Pg	**Pg**	**12 53 33.8**	**0.0**
LAUCH	**Lauchernalp**	**0.65**	**249**	⇑Pg	**Pg**	**12 53 33.8**	**0.0**
LAUCH	**Lauchernalp**	**0.65**	**249**	P	**Pg**	**12 53 33.8**	**0.0**
LAUCH				S	**Sg**	**12 53 43.1**	**+0.6**
BRIZ2	**Brienz, Instab**	**0.65**	**87**	⇑Pg	**Pg**	**12 53 33.6**	**-0.2**
BRIZ2				Sg	**Sg**	**12 53 42.5**	**0.0**
BRIZ2	**Brienz, Instab**	**0.65**	**87**	⇑Pg	**Pg**	**12 53 33.6**	**-0.2**
BRIZ2				Sg	**Sg**	**12 53 42.4**	**0.0**
HAMIK	**Hmikon, Dlik**	**0.65**	**337**	⇓Pg	**Pg**	**12 53 34.0**	**+0.2**
HAMIK	**Hmikon, Dlik**	**0.65**	**337**	⇓Pg	**Pg**	**12 53 34.0**	**+0.2**
HAMIK				PmP		12 53 37.0	
HAMIK				Sg	**Sg**	**12 53 42.9**	**+0.4**
HAMIK				SmS		12 53 47.8	
NIE01	**Niedergesteln,**	**0.69**	**241**	⇑Pg	**Pg**	**12 53 34.3**	**-0.1**
NIE01				Sg	**Sg**	**12 53 43.0**	**-0.5**
SFRS	**Frutigen, Schu**	**0.69**	**265**	Pg	**Pg**	**12 53 34.5**	**0.0**
SFRS				Sg	**Sg**	**12 53 44.0**	**+0.4**
EWZT2	**Wettswil, ZR**	**0.70**	**351**	⇓Pg	**Pg**	**12 53 35.0**	**+0.3**
EWZT2	**Wettswil, ZR**	**0.70**	**351**	⇓Pg	**Pg**	**12 53 35.0**	**+0.3**
EWZT2				PmP		12 53 37.7	
EWZT2				Sg	**Sb**	**12 53 44.6**	**+0.3**
EWZT2				SmS		12 53 48.8	
WIMIS	**Wimmis**	**0.71**	**272**	⇑Pg	**Pg**	**12 53 35.0**	**+0.1**
SGAK	**Gampel Kirche,**	**0.71**	**242**	⇑Pg	**Pg**	**12 53 34.9**	**0.0**
SGAK				Sg	**Sg**	**12 53 43.9**	**-0.4**
EMBD	**Embd, Matterta**	**0.71**	**233**	⇑Pg	**Pg**	**12 53 34.6**	**-0.3**
EMBD	**Embd, Matterta**	**0.71**	**233**	P	**Pg**	**12 53 34.7**	**-0.3**
EMBD				S	**Sg**	**12 53 44.4**	**0.0**
ZUR	**Degenried**	**0.72**	**356**	⇓Pg	**Pg**	**12 53 35.3**	**+0.2**
ZUR				PmP		12 53 37.9	
ZUR				Sg	**Sb**	**12 53 45.1**	**+0.2**
ZUR				SmS		12 53 49.4	
SGRA	**Graechen Ausbl**	**0.72**	**231**	⇑Pg	**Pg**	**12 53 35.0**	**-0.2**
DAGMA	**Lutertal, Dagm**	**0.73**	**323**	⇓Pg	**Pb**	**12 53 35.6**	**+0.3**
SBUB	**Buchserberg Ma**	**0.73**	**47**	⇑Pg	**Pg**	**12 53 34.9**	**-0.4**
LKBD2	**Leukerbad 2**	**0.75**	**249**	⇑Pg	**Pg**	**12 53 35.5**	**-0.1**
LKBD2				Sg	**Sg**	**12 53 45.5**	**0.0**
SBUA2	**Buchs, Altendo**	**0.76**	**48**	Pg	**Pg**	**12 53 35.4**	**-0.5**
MMK	**Mattmark**	**0.76**	**219**	⇑Pg	**Pg**	**12 53 35.6**	**-0.4**
MMK				Sg	**Sg**	**12 53 45.8**	**-0.3**
MMK	**Mattmark**	**0.76**	**219**	P	**Pg**	**12 53 35.6**	**-0.4**
MMK				S	**Sg**	**12 53 45.8**	**-0.3**
MMK	**Mattmark**	**0.76**	**219**	P	**Pg**	**12 53 35.5**	**-0.4**
MMK				S	**Sg**	**12 53 46.4**	**+0.3**
MMK				AML	AML		
	comp=E,46μm,0.2s						
MMK				AML	AML		
	comp=E,46μm,1.8s						
MMK				AML	AML		
	comp=N,71μm,0.5s						
STRW	**Triesenberg, W**	**0.78**	**53**	⇑Pg	**Pg**	**12 53 35.7**	**-0.4**
MUGIO	**Muggio**	**0.78**	**159**	⇓Pg	**Pg**	**12 53 36.0**	**-0.1**
MUGIO				Sg	**Sg**	**12 53 46.1**	**-0.3**
MUGIO	**Muggio**	**0.78**	**159**	P	**Pg**	**12 53 36.1**	**-0.1**
MUGIO				S	**Sg**	**12 53 46.3**	**0.0**
MUGIO	**Muggio**	**0.78**	**159**	P	**Pg**	**12 53 36.0**	**-0.1**
MUGIO				S	**Sg**	**12 53 46.5**	**+0.1**
MUGIO				AML	AML		
	comp=N,208μm,0.6s						
MUGIO				AML	AML		
	comp=E,224μm,1.0s						
VARE	**Varese**	**0.79**	**174**	⇓Pg	**Pg**	**12 53 36.4**	**+0.2**
VARE				Sg	**Sg**	**12 53 46.4**	**-0.3**
VARE	**Varese**	**0.79**	**174**	P	**Pg**	**12 53 36.5**	**+0.2**
VARE				S	**Sg**	**12 53 46.7**	**0.0**
VARE	**Varese**	**0.79**	**174**	P	**Pg**	**12 53 36.1**	**-0.2**
VARE				S	**Sg**	**12 53 46.6**	**0.0**
VARE				AML	AML		
	comp=E,366μm,1.4s						
VARE				AML	AML		
	comp=N,386μm,0.7s						
WILA	**Wila**	**0.79**	**13**	⇑Pg	**Pg**	**12 53 36.5**	**+0.2**
WILA				Sg	**Sb**	**12 53 47.1**	**+0.3**
WILA				SmS		12 53 51.2	
WILA	**Wila**	**0.79**	**13**	*e*Pg	**Pg**	**12 53 36.6**	**+0.2**
WILA				*e*Sg	**Sb**	**12 53 47.3**	**+0.4**
ILL13	**Obere Abschlac**	**0.79**	**244**	⇑Pg	**Pg**	**12 53 36.4**	**0.0**
ILL12	**Sagenschleif I**	**0.79**	**243**	⇑Pg	**Pg**	**12 53 36.4**	**0.0**
ILL14	**Mittler Illalp**	**0.80**	**242**	⇑Pg	**Pg**	**12 53 36.7**	**0.0**
ILL16	**Illigraben, For**	**0.82**	**243**	⇑Pg	**Pg**	**12 53 37.1**	**+0.1**
ILL17	**Plaine Madelei**	**0.82**	**243**	⇑Pg	**Pg**	**12 53 37.0**	**0.0**
SIEB	**Ecole de Borzu**	**0.85**	**246**	⇑Pg	**Pb**	**12 53 37.3**	**0.0**
SGT04	**Schlatt-Haslen**	**0.85**	**34**	⇑Pg	**Pg**	**12 53 37.4**	**-0.1**
VANNI	**Vissoie, Val d**	**0.85**	**239**	⇑Pg	**Pg**	**12 53 37.3**	**-0.2**
VANNI	**Vissoie, Val d**	**0.85**	**239**	P	**Pg**	**12 53 37.3**	**-0.2**
VANNI				S	**Sg**	**12 53 48.5**	**-0.2**
SAPK	**Appenzell, Kan**	**0.86**	**37**	⇑Pg	**Pg**	**12 53 37.7**	**0.0**
LIENZ	**Kamor/St.Gall**	**0.87**	**41**	⇑Pg	**Pg**	**12 53 37.5**	**-0.4**
LIENZ				PmP		12 53 40.3	
RAW1	**Lenk, BE**	**0.87**	**255**	⇑Pg	**Pb**	**12 53 37.7**	**0.0**
SIE01	**Sierre, Farmho**	**0.88**	**245**	Pg	**Pb**	**12 53 38.0**	**+0.1**
STSW2	**Zeuzier, Staus**	**0.89**	**251**	⇑Pg	**Pb**	**12 53 38.2**	**0.0**
STSW2				Sg	**Sg**	**12 53 50.1**	**0.0**
STSW2				SmS		12 53 56.1	
SGT00	**Sennhlsen**	**0.90**	**30**	Pg	**Pb**	**12 53 38.5**	**+0.2**
EMMET	**Emmethof**	**0.90**	**331**	⇓Pg	**Pb**	**12 53 38.4**	**+0.2**
WEIN	**Weingarten**	**0.91**	**15**	⇑Pg	**Pg**	**12 53 38.8**	**+0.2**
WEIN				Sg	**Sg**	**12 53 51.0**	**+0.4**
SGT18	**Golfpark Waldk**	**0.91**	**26**	Pg	**Pb**	**12 53 38.8**	**+0.3**
QEG01	**Stadel, Weggab**	**0.92**	**352**	Pg	**Pb**	**12 53 38.9**	**+0.4**
QEG01				PmP		12 53 40.5	
QEG01				Sg	**Sg**	**12 53 51.2**	**+0.4**
QEG01				SmS		12 53 53.9	
BOBI	**Bbikon, Wasse**	**0.92**	**347**	Pg	**Pb**	**12 53 38.8**	**+0.2**
BOBI				Sg	**Sg**	**12 53 51.2**	**+0.1**
SAYF2	**Ayent-Fortunoz**	**0.93**	**247**	⇑Pg	**Pb**	**12 53 38.7**	**0.0**
SAYF2				PmP		12 53 42.2	
SAYF2				SmS		12 53 56.8	
JAUN	**Jaun, Euschels**	**0.94**	**270**	⇑Pg	**Pb**	**12 53 39.2**	**+0.2**
QEG00	**Eglisau, Reser**	**0.94**	**355**	Pg	**Pg**	**12 53 39.4**	**+0.3**
QEG00				Sg	**Sg**	**12 53 51.8**	**+0.4**
QEG00				SmS		12 53 54.5	
SATI	**Passo dei Sala**	**0.94**	**215**	⇑Pg	**Pb**	**12 53 38.9**	**-0.2**
SATI				Sg	**Sb**	**12 53 52.2**	**+0.6**
SATI	**Passo dei Sala**	**0.94**	**215**	P	**Pb**	**12 53 39.0**	**-0.2**
SATI				S	**Sb**	**12 53 52.1**	**+0.6**
SATI	**Passo dei Sala**	**0.94**	**215**	P	**Pb**	**12 53 39.0**	**-0.2**
SATI				S	**Sb**	**12 53 52.3**	**+0.6**
SATI				AML	AML		
	comp=E,232μm,0.6s						
SATI				AML	AML		
	comp=N,260μm,1.5s						
SATI				AML	AML		
	comp=N,260μm,0.5s						
SATI				AML	AML		
	comp=E,232μm,1.4s						
BALST	**Balsthal**	**0.95**	**317**	⇓Pg	**Pb**	**12 53 39.4**	**+0.3**
BALST	**Balsthal**	**0.95**	**317**	*e*Pg	**Pb**	**12 53 39.5**	**+0.3**
BALST				*e*Sg	**Sg**	**12 53 52.5**	**+0.7**
MH36	**Zermatt, Posit**	**0.95**	**226**	Pg	**Pb**	**12 53 39.1**	**-0.3**
SULZ	**Cheisacher**	**0.95**	**338**	⇓Pg	**Pb**	**12 53 39.6**	**+0.4**
SULZ				Sg	**Sg**	**12 53 52.3**	**+0.3**
SULZ	**Cheisacher**	**0.95**	**338**	*e*Pg	**Pb**	**12 53 39.

ILLF	**Illfurth**	**1.40**	**318**	Pn	**Pb**	**12 53 46.8**	**0.0**
MRGE	**Morge**	**1.41**	**232**	P	**Pn**	**12 53 47.0**	**+0.9**
MRGE				AML	AML		
	comp=N,77µm,0.5s						
MRGE				AML	AML		
	comp=E,88µm,1.4s						
MRGE				AML	AML		
	comp=N,77µm,1.5s						
MABI	**Malga Bissina**	**1.42**	**114**	Pn	**Pb**	**12 53 47.4**	**+0.1**
MABI	**Malga Bissina**	**1.42**	**114**	P	**Pn**	**12 53 46.5**	**+0.1**
MABI				AML	AML		
	comp=E,61µm,0.3s						
MABI				AML	AML		
	comp=N,97µm,0.8s						
CARE	**Lago del Cares**	**1.43**	**98**	*e*Pg	**Pb**	**12 53 47.5**	**0.0**
CARE				*e*Sg	**Sn**	**12 54 05.5**	**+0.3**
CARE	**Lago del Cares**	**1.43**	**98**	P	**Pn**	**12 53 46.5**	**0.0**
CARE				AML	AML		
	comp=N,50µm,0.9s						
CARE				AML	AML		
	comp=N,50µm,1.1s						
CARE				AML	AML		
	comp=E,57µm,0.4s						
GAVI	**Passo Gaver BS**	**1.45**	**120**	*e*Pg	**Pg**	**12 53 48.8**	**-0.1**
A101B	**Rottweil, Deis**	**1.47**	**357**	Pg	**Pg**	**12 53 49.3**	**0.0**
A101B				Sg	**Sg**	**12 54 08.3**	**-0.2**
FETA	**Feichten**	**1.48**	**75**	*i* Pn	**Pb**	**12 53 48.5**	**+0.3**
	comp=E,2.6nm,0.2s,SNR=34						
FETA				*e*Pg	**Pg**	**12 53 48.9**	**-0.5**
	comp=E,9.0nm,0.3s						
FETA				*e*Sg	**Sg**	**12 54 08.4**	**-0.2**
	comp=E,2.2nm,0.2s						
CHMF	**Charmoille**	**1.49**	**294**	⇓Pn	**Pb**	**12 53 48.4**	**0.0**
ROTE	**Rottweil**	**1.50**	**1**	Pn	**Pn**	**12 53 47.6**	**+0.3**
BRANT	**Les Verrieres**	**1.52**	**282**	⇓Pn	**Pb**	**12 53 49.2**	**+0.3**
RONC	**Roncone**	**1.52**	**115**	*e*Pg	**Pb**	**12 53 49.8**	**+0.8**
RONC				*e*Sg	**Sg**	**12 54 10.0**	**-0.1**
RONC	**Roncone**	**1.52**	**115**	P	**Pn**	**12 53 48.1**	**+0.4**
RONC				AML	AML		
	comp=E,276µm,0.9s						
RONC				AML	AML		
	comp=E,2960µm,0.5s						
RONC				AML	AML		
	comp=N,724µm,0.5s						
RONC				AML	AML		
	comp=N,424µm,0.2s						
A102A	**Sigmaringen, J**	**1.54**	**14**	Pg	**Pg**	**12 53 50.6**	**0.0**
A102A				Sg	**Sg**	**12 54 10.8**	**+0.2**
VOGT	**Vogtsburg - To**	**1.58**	**335**	Pn	**Pn**	**12 53 48.9**	**+0.6**
LSD	**Lago del Serru**	**1.59**	**222**	P	**Pn**	**12 53 49.8**	**+1.1**
LSD				AML	AML		
	comp=E,58µm,0.7s						
LSD				AML	AML		
	comp=N,56µm,0.9s						
LSD				AML	AML		
	comp=N,56µm,0.9s						
LSD				AML	AML		
	comp=N,56µm,1.1s						
A104C	**Biberach, Ahle**	**1.63**	**24**	Pg	**Pg**	**12 53 52.2**	**-0.1**
A104C				Sg	**Sg**	**12 54 13.9**	**+0.4**
MAGA	**Magasa**	**1.63**	**122**	P	**Pn**	**12 53 49.5**	**+0.4**
MAGA				AML	AML		
	comp=N,416µm,0.3s						
MAGA				AML	AML		
	comp=E,720µm,0.4s						
MAGA				AML	AML		
	comp=N,416µm,1.7s						
GIMEL	**St. Georges /**	**1.65**	**267**	P	**Pb**	**12 53 50.9**	**-0.2**
GIMEL				AML	AML		
	comp=E,88µm,0.9s						
GIMEL				AML	AML		
	comp=N,132µm,0.5s						
GIMEL				AML	AML		
	comp=N,132µm,1.5s						
RETA	**Reutte**	**1.67**	**59**	*e*Pn	**Pb**	**12 53 51.3**	**-0.1**
	comp=N,1.0nm,0.3s						
RETA				*i* Pg	**Pg**	**12 53 52.7**	**-0.4**
	comp=N,15nm,0.3s,SNR=26						
RETA				*e*Sn	**Sb**	**12 54 13.3**	**+1.0**
	comp=N,2.3nm,0.2s						
RETA				*e*Sg	**Sg**	**12 54 16.4**	**+1.6**
	comp=N,8.6nm,0.3s						
HINF	**Hinteralfeld**	**1.69**	**314**	*e*Pn	**Pn**	**12 53 50.5**	**+0.6**
HINF	**Hinteralfeld**	**1.69**	**314**	*e*Pg	**Pb**	**12 53 52.9**	**+1.1**
HINF				*e*Sn	**Sn**	**12 54 10.5**	**-0.8**
HINF				*e*Sg	**Sb**	**12 54 14.4**	**+1.6**
	comp=N,13nm,0.2s						
BFO	**Black Forest**	**1.70**	**353**	⇓Pn	**Pn**	**12 53 50.2**	**+0.3**
BFO	**Black Forest**	**1.70**	**353**	*e*Pn	**Pn**	**12 53 50.3**	**+0.3**
BFO				*e*Pg	**Pg**	**12 53 53.2**	**-0.3**
BFO				*e*Sn	**Sn**	**12 54 10.2**	**-1.2**
BFO				*e*Sg	**Sg**	**12 54 15.0**	**-0.7**
RONF	**Ronchamp**	**1.73**	**309**	⇓Pn	**Pn**	**12 53 51.4**	**+0.9**
LUSI	**Trento, Gardas**	**1.73**	**113**	P	**Pn**	**12 53 51.3**	**+0.8**
LUSI				AML	AML		
	comp=N,192µm,0.4s						
LUSI				AML	AML		
	comp=E,88µm,0.4s						
LUSI				AML	AML		
	comp=E,88µm,1.6s						
LPL	**La Plagne**	**1.75**	**230**	*e*Pg	**Pg**	**12 53 55.1**	**+0.5**
LPL				*e*Sg	**Sg**	**12 54 16.9**	**-0.5**
	comp=E,13nm,0.3s						
LPG	**La Plagne**	**1.75**	**230**	*e*Pg	**Pb**	**12 53 54.1**	**+1.2**
LPG				*e*Sg	**Sg**	**12 54 16.8**	**-0.7**
	comp=E,12nm,0.2s						
CABF	**La Chapelle**	**1.77**	**270**	*e*P	**Pb**	**12 53 53.0**	**0.0**
CABF	**La Chapelle**	**1.77**	**270**	*e*Pg	**Pg**	**12 53 54.9**	**0.0**
CABF				*e*Sn	**Sn**	**12 54 13.1**	**-0.1**
CABF				*e*Sg	**Sg**	**12 54 18.3**	**+0.4**
	comp=E,16nm,0.2s						
RSP	**Reno Superiore**	**1.79**	**213**	P	**Pn**	**12 53 52.0**	**+0.7**
RSP				AML	AML		
	comp=E,58µm,0.9s						
RSP				AML	AML		
	comp=N,67µm,0.5s						
A100A	**Rottenburg, We**	**1.81**	**6**	Pg	**Pg**	**12 53 56.0**	**+0.2**
A100A				Sg	**Sg**	**12 54 18.5**	**-0.9**
MOTA	**Moosalm**	**1.82**	**67**	*e*Pg	**Pg**	**12 53 55.3**	**-0.6**
	comp=N,4.0nm,0.1s,SNR=17						
MOTA				*e*Sg	**Sg**	**12 54 20.3**	**+0.8**
	comp=N,13nm,0.2s						
SQTA	**Sankt Quirin**	**1.84**	**71**	*e*Pg	**Pg**	**12 53 56.2**	**-0.2**
	comp=N,25nm,0.3s,SNR=38						
SQTA				*e*Sn	**Sb**	**12 54 17.5**	**+0.2**
	comp=N,2.6nm,0.2s						
ECH	**Echery**	**1.87**	**328**	⇓Pn	**Pn**	**12 53 53.0**	**+0.7**
ECH	**Echery**	**1.87**	**328**	*e*Pn	**Pn**	**12 53 53.0**	**+0.7**
ECH				*e*Sn	**Sn**	**12 54 14.7**	**-0.8**
ECH				*e*Sg	**Sg**	**12 54 19.9**	**-1.1**
A109A	**Bad Urach, See**	**1.88**	**17**	Pg	**Pg**	**12 53 56.8**	**-0.2**
A109A				Sg	**Sg**	**12 54 20.6**	**+0.8**
A108A	**Ulm, Ringingen**	**1.88**	**25**	Pg	**Pg**	**12 53 56.6**	**-0.5**
A108A				Sg	**Sg**	**12 54 21.4**	**-0.1**
PART	**Garmisch-Parte**	**1.89**	**62**	*e*Pg	**Pb**	**12 53 56.1**	**+1.1**
CDF	**Champ du Feu**	**2.00**	**333**	*e*Pn	**Pn**	**12 53 54.6**	**+0.5**
CDF	**Champ du Feu**	**2.00**	**333**	*e*Pg	**Pg**	**12 53 59.0**	**-0.3**
CDF				*e*Sn	**Sn**	**12 54 17.3**	**-1.5**
CDF				*e*Sg	**Sg**	**12 54 24.6**	**-0.6**
	comp=N,4.6nm,0.2s						
HAU	**Haudompre**	**2.07**	**312**	*e*Pn	**Pn**	**12 53 56.0**	**+0.9**
HAU	**Haudompre**	**2.07**	**312**	*e*Pg	**Pg**	**12 54 00.2**	**-0.5**
HAU				*e*Sn	**Sn**	**12 54 20.5**	**-0.1**
HAU				*e*Sg	**Sb**	**12 54 25.8**	**+2.1**
	comp=N,30nm,0.3s						
WATA	**Walderalm**	**2.12**	**70**	*i* Pg	**Pb**	**12 54 00.4**	**+1.3**
	comp=N,2.3nm,0.2s						
WATA				*e*Sg	**Sg**	**12 54 30.4**	**+1.2**
	comp=N,13nm,0.4s						
WTTA	**Wattenberg**	**2.14**	**72**	*e*Pn	**Pb**	**12 53 59.0**	**-0.4**
	comp=N,0.3nm,0.1s						
WTTA				*e*Pg	**Pg**	**12 54 01.1**	**-0.9**
	comp=N,8.7nm,0.4s,SNR=14						
WTTA				Sg	**Sg**	**12 54 30.6**	**+0.9**
	comp=N,11nm,0.5s,SNR=4.9						
WTTA	**Wattenberg**	**2.14**	**72**	P	**Pn**	**12 53 56.8**	**+0.7**
BE1	**Monatshausen**	**2.16**	**53**	*e*Pg	**Pb**	**12 54 01.3**	**+1.6**
MBDF	**Montbardon**	**2.33**	**215**	*e*Pg	**Pb**	**12 54 03.8**	**+1.1**
MBDF				*e*Sg	**Sb**	**12 54 33.4**	**+2.1**
	comp=N,6.9nm,0.2s						
FUR	**Furstenfeldbru**	**2.34**	**49**	Pg	**Pg**	**12 54 05.0**	**-0.9**
NORI	**Noerdlinger Ri**	**2.46**	**32**	*e*Pg	**Pg**	**12 54 07.3**	**-0.9**
NORI				*e*Sg	**Sg**	**12 54 39.6**	**-0.6**
ORIF	**Oris-en-Rattie**	**2.60**	**229**	*e*Pn	**Pn**	**12 54 05.0**	**+2.6**
ORIF	**Oris-en-Rattie**	**2.60**	**229**	*e*Pg	**Pg**	**12 54 09.8**	**-1.0**
ORIF				*e*Sg	**Sb**	**12 54 42.2**	**+3.3**
	comp=N,5.3nm,0.3s						
ABTA	**Abfaltersbach**	**2.66**	**86**	*i* Pn	**Pn**	**12 54 05.6**	**+2.3**
	comp=N,0.4nm,0.2s						
ABTA				*e*Pg	**Pg**	**12 54 13.0**	**+1.0**
	comp=N,2.4nm,0.4s						
ABTA				*i* Sg	**Sg**	**12 54 46.4**	**-0.1**
	comp=N,1.7nm,0.2s						
PAGF	**Fort de Pagny**	**2.75**	**315**	*e*Pn	**Pn**	**12 54 05.3**	**+0.9**
PAGF	**Fort de Pagny**	**2.75**	**315**	*e*Pg	**Pg**	**12 54 12.8**	**-0.8**
PAGF				*e*Sn	**Sn**	**12 54 36.8**	**-0.5**
PAGF				*e*Sg	**Sg**	**12 54 47.6**	**-1.7**
	comp=N,5.4nm,0.3s						
LESA	**Schwarzleotal**	**2.86**	**73**	*e*Pn	**Pn**	**12 54 08.1**	**+2.0**
	comp=N,1.3nm,0.4s						
LESA				*i* Pg	**Pg**	**12 54 15.1**	**-0.8**
	comp=N,2.4nm,0.2s						
LESA				*e*Sn	**Sn**	**12 54 42.4**	**+2.2**
	comp=N,0.7nm,0.1s						
LESA				*e*Sg	**Sg**	**12 54 52.6**	**-0.3**
	comp=N,4.0nm,0.4s						
SFTF	**Sexfontaines**	**2.90**	**304**	*e*Pn	**Pn**	**12 54 07.7**	**+1.1**
SFTF	**Sexfontaines**	**2.90**	**304**	*e*Pg	**Pg**	**12 54 15.2**	**-1.4**
	baz=127						
SFTF				*e*Sn	**Sn**	**12 54 41.0**	**-0.1**
SFTF				*e*Sg	**Sg**	**12 54 52.8**	**-1.5**
	comp=N,5.1nm,0.2s						
SBF	**Sospel**	**2.92**	**198**	*e*Pn	**Pn**	**12 54 09.0**	**+2.2**
SBF				*e*Sn	**Sn**	**12 54 39.3**	**-2.2**
	comp=N,2.4nm,0.2s						
RJOB	**Jochberg**	**3.03**	**67**	*e*Pn	**Pn**	**12 54 10.6**	**+2.2**
RJOB				*e*Pg	**Pg**	**12 54 19.1**	**+0.1**
RJOB				*e*Sg	**Sg**	**12 54 58.0**	**-0.3**
MEZF	**Maizieres J'vi**	**3.06**	**309**	*e*Pn	**Pn**	**12 54 10.6**	**+1.9**
MEZF	**Maizieres J'vi**	**3.06**	**309**	*e*Pg	**Pg**	**12 54 18.2**	**-1.4**
	baz=122						
MEZF				*e*Sn	**Sn**	**12 54 45.1**	**+0.1**
MEZF				*e*Sg	**Sg**	**12 54 58.0**	**-1.3**
	comp=N,9.8nm,0.3s						
SAVF	**Savonnieres en**	**3.09**	**311**	*e*Pn	**Pn**	**12 54 09.3**	**+0.2**
SAVF	**Savonnieres en**	**3.09**	**311**	*e*Pg	**Pg**	**12 54 18.6**	**-1.6**
SAVF	**Savonnieres en**	**3.09**	**311**	*e*Pg	**Pg**	**12 54 18.8**	**-1.4**
SAVF				*e*Sn	**Sn**	**12 54 46.2**	**+0.5**
SAVF				*e*Sg	**Sg**	**12 54 57.3**	**-2.9**
	comp=N,3.2nm,0.2s						
SAVF				*e*Sg	**Sb**	**12 54 57.7**	**+4.7**
	comp=N,2.7nm,0.3s						
KBA	**Koelnbreinsper**	**3.25**	**81**	*i* Pn	**Pn**	**12 54 14.9**	**+3.4**
	comp=N,0.7nm,0.3s						
KBA				*e*Pg	**Pg**	**12 54 23.1**	**-0.2**
	comp=N,2.7nm,0.3s						
VIVF	**Saint-Julien-l**	**3.31**	**239**	*e*Pn	**Pn**	**12 54 13.5**	**+1.3**
VIVF	**Saint-Julien-l**	**3.31**	**239**	*e*Pg	**Pg**	**12 54 22.4**	**-2.0**
VIVF				*e*Sn	**Sn**	**12 54 49.4**	**-1.8**
VIVF				*e*Sg	**Sg**	**12 55 04.3**	**-3.0**
	comp=N,3.5nm,0.3s						
SMF	**Signal de Mont**	**3.31**	**272**	*e*P	**Pn**	**12 54 14.9**	**+2.7**
SMF	**Signal de Mont**	**3.31**	**272**	*e*Pg	**Pg**	**12 54 22.9**	**-1.5**
SMF				*e*Sg	**Sg**	**12 55 04.4**	**-2.9**
	comp=N,8.3nm,0.2s						
LOR	**Lormes**	**3.34**	**282**	*e*Pn	**Pn**	**12 54 14.7**	**+2.2**
LOR	**Lormes**	**3.34**	**282**	*e*Pg	**Pg**	**12 54 23.4**	**-1.5**
	baz=98						
LOR				*e*Sn	**Sn**	**12 54 49.8**	**-2.1**
LOR				*e*Sg	**Sg**	**12 55 05.1**	**-3.1**
	comp=N,7.0nm,0.2s						
SMRF	**Simiane la Rot**	**3.44**	**220**	*e*Pg	**Pg**	**12 54 25.8**	**-1.1**
SMRF				*e*Sg	**Sg**	**12 55 09.7**	**-1.8**
	comp=N,0.9nm,0.2s						
GRF	**Grafenberg Arr**	**3.50**	**29**	*e*Sg	**Sg**	**12 55 12.1**	**-1.2**
SSF	**Saint Saulge**	**3.55**	**279**	*e*Pn	**Pn**	**12 54 17.5**	**+2.0**
SSF	**Saint Saulge**	**3.55**	**279**	*e*Pg	**Pg**	**12 54 28.0**	**-1.0**
SSF				*e*Sg	**Sg**	**12 55 12.0**	**-3.1**
	comp=N,8.8nm,0.3s						
BIOA	**Bad Ischl, Aus**	**3.56**	**71**	*i* Pn	**Pn**	**12 54 16.8**	**+1.2**
	comp=N,1.1nm,0.2s						
BIOA				*e*Pg	**Pg**	**12 54 27.3**	**-1.8**
	comp=N,5.0nm,0.2s						
BIOA				*e*Sg	**Sg**	**12 55 17.7**	**+2.5**
	comp=N,1.1nm,0.2s						
TNS	**Taunus Mts**	**3.58**	**358**	Pn	**Pn**	**12 54 16.5**	**+0.6**
AVF	**Avril sur Loir**	**3.65**	**274**	*e*Pn	**Pn**	**12 54 18.1**	**+1.4**
AVF	**Avril sur Loir**	**3.65**	**274**	*e*Pg	**Pg**	**12 54 29.4**	**-1.4**
AVF				*e*Sn	**Sn**	**12 54 58.0**	**-1.4**
AVF				*e*Sg	**Sg**	**12 55 15.2**	**-2.8**
	comp=N,4.1nm,0.4s						
LMR	**La Mourre**	**3.65**	**205**	*e*Sn	**Sn**	**12 54 59.6**	**+0.2**
	comp=N,3.9nm,0.4s						
WET	**Wettzell**	**3.79**	**47**	*e*Pn	**Pn**	**12 54 18.8**	**+0.1**
WET				*e*Pg	**Pg**	**12 54 32.2**	**-1.3**
WET				*e*Sn	**Sn**	**12 55 01.1**	**-1.8**
WET				*e*Sg	**Sg**	**12 55 21.6**	**-0.9**
ROTZ	**Rotzenmuhle**	**3.92**	**36**	*e*Pn	**Pn**	**12 54 19.5**	**-1.1**
ROTZ				*e*Pg	**Pg**	**12 54 34.3**	**-1.8**
ROTZ				*e*Sn	**Sn**	**12 55 04.3**	**-2.0**
ROTZ				*e*Sg	**Sg**	**12 55 24.9**	**-2.0**
BGF	**Bois d'Agland**	**4.00**	**271**	*e*Pn	**Pn**	**12 54 22.5**	**+0.9**
BGF				*e*Sn	**Sn**	**12 55 05.9**	**-2.3**
	comp=N,2.8nm,0.2s						
MOA	**Molln**	**4.01**	**71**	*i* Pn	**Pn**	**12 54 23.6**	**+1.9**
	comp=N,0.4nm,0.1s						
MOA				*e*Pg	**Pg**	**12 54 35.8**	**-2.0**
	comp=N,3.0nm,0.3s						
MOA				*i* Sn	**Sn**	**12 55 08.6**	**+0.2**
	comp=N,1.1nm,0.2s						
MOA				*e*Sg	**Sg**	**12 55 28.5**	**-1.2**
	comp=N,0.9nm,0.2s						
GEC2	**GERESS Array S**	**4.05**	**55**	*e*Pn	**Pn**	**12 54 23.3**	**+0.8**
GEC2				*e*Sn	**Sn**	**12 55 08.7**	**-1.0**
KHC	**Kasperske Hory**	**4.14**	**51**	*e*PN	**Pn**	**12 54 24.4**	**+0.8**
KHC				*e*PG	**Pb**	**12 54 36.8**	**+3.3**
KHC				*e*SN	**Sn**	**12 55 09.6**	**-2.1**
KHC				*e*SG	**Sg**	**12 55 34.3**	**+0.4**
	comp=N,2.9nm,0.3s						
CKRC	**Cesky Krumlov**	**4.39**	**58**	*e*PN	**Pn**	**12 54 28.3**	**+1.3**
CKRC				*e*SN	**Sn**	**12 55 16.7**	**-1.2**
TCF	**Toulx Ste Croi**	**4.46**	**268**	*e*Pn	**Pn**	**12 54 29.1**	**+1.1**
TCF	**Toulx Ste Croi**	**4.46**	**268**	*e*Pg	**Pg**	**12 54 44.9**	**-1.6**
TCF				*e*Sn	**Sn**	**12 55 17.2**	**-2.4**
TCF				*e*Sg	**Sg**	**12 55 41.3**	**-2.9**
	comp=N,3.5nm,0.3s						
CAF	**Calviac**	**4.92**	**252**	*e*Pn	**Pn**	**12 54 34.8**	**+0.5**
CAF				*e*Sn	**Sn**	**12 55 29.1**	**-1.7**
	comp=N,0.9nm,0.2s						
CONA	**Conrad Observa**	**5.07**	**73**	*i* Pn	**Pn**	**12 54 38.0**	**+1.6**
	comp=N,0.7nm,0.2s						
CONA				*i* Sn	**Sn**	**12 55 32.8**	**-1.9**
	comp=N,0.3nm,0.1s						
CLL	**Collm**	**5.47**	**30**	*e*Sg	**Sg**	**12 56 13.0**	**-3.5**

*IGIL **28** 13:05:07.9, 36.′49N×7.′68W, h24km, ML2.7*
*MDD **28** 13:05:07.6±0.4, 36.′49N×7.′75W, h28km±5km, mb_Lg3.6/61, Error ellipse: s-maj=3.6km s-min=2.1km az=55.0*
*LDG **28** 13:05:08.5±0.2, 36.′61N×7.′63W, h10km, Ml3.6/3, Error ellipse: s-maj=4.1km s-min=2.3km az=42.0*
*SFS **28** 13:05:08.2, 36.′51N×7.′76W, h40km, mb3.9/6, ML3.6/19, ML3.6/19, MLv3.5/18*
*INMG **28** 13:05:08.9±1.3, 36.′49N×7.′72W, h34km, ML3.1, Error ellipse: s-maj=2.3km s-min=1.6km az=54.0, #DIST_RANGE: LOCAL #IPMA_REGION: Golfo de Cadiz*
*CNRM **28** 13:05:09.9, 36.′17N×7.′60W, h118km, ML3.4*

ISC 28 13:05:07.0±1.1, 36.′55N±0.′03×7.′66W±0.′03, h35km, n147, σ1°93/254, 1C-12D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h	m	s	Res ISC
PFARO	**Faro**	**0.52**	**336**	*e*P		**Pn**	**13 05 19.2**			**+1.3**
PFARO				*e*S		**Sn**	**13 05 27.3**			**+1.9**
PFARO				*i* IAML			13 05 29.3			
PFARO				*i* IAML			13 05 38.6			
PFARO				*i* IAML			13 05 43.6			
PTAV	**Tavira**	**0.57**	**0**	*e*P		**Pn**	**13 05 20.2**			**+1.6**
PTAV				*e*S		**Sn**	**13 05 28.6**			**+1.9**
PTAV				*i* IAML			13 05 29.2			
PTAV				*i* IAML			13 05 30.3			
PALBU	**Albufeira**	**0.72**	**319**	*e*P		**Pn**	**13 05 21.6**			**+0.9**
PALBU				*e*S		**Sn**	**13 05 31.7**			**+1.3**
PALBU				*i* IAML			13 05 34.0			
PALBU				*i* IAML			13 05 34.9			
PALBU				*i* IAML			13 05 35.4			
PBDV	**Barranco-do-Ve**	**0.72**	**342**	⇓*i*P		**Pn**	**13 05 22.0**			**+1.3**
PBDV				*e*S		**Sn**	**13 05 32.6**			**+2.0**
PBDV				*i* IAML			13 05 34.5			
PBDV				*i* IAML			13 05 37.5			
PBDV				*i* IAML			13 05 42.7			
PVAQ	**Vaqueiros**	**0.85**	**357**	⇓*i*P		**Pn**	**13 05 23.9**			**+1.5**
PVAQ				*e*S		**Sn**	**13 05 35.0**			**+1.3**
PVAQ				*i* IAML			13 05 36.1			
PVAQ				*i* IAML			13 05 36.5			
PVAQ				*i* IAML			13 05 36.5			
ARNO	**Arenosillo**	**0.92**	**54**	P		**Pn**	**13 05 25.0**			**+1.6**
ARNO				S		**Sn**	**13 05 37.9**			**+2.4**
PLAGO	**Lagos**	**0.99**	**304**	*e*P		**Pn**	**13 05 24.9**			**+0.6**
PLAGO				*e*S		**Sn**	**13 05 39.2**			**+2.2**
PLAGO				*i* IAML			13 05 39.5			
PLAGO				*i* IAML			13 05 45.5			
PLAGO				*i* IAML			13 05 46.1			
EGRO	**El Granado**	**0.99**	**8**	P		**Pn**	**13 05 26.1**			**+1.7**
EGRO				S		**Sn**	**13 05 38.2**			**+1.1**
EGRO	**El Granado**	**0.99**	**8**	Pn		**Pn**	**13 05 26.0**			**+1.7**
EGRO				Sn		**Sn**	**13 05 38.6**			**+1.5**
EGRO				*i* IVmb_Lg			13 05 40.0			
MORF	**Marmelete**	**1.09**	**314**	*e*P		**Pn**	**13 05 26.4**			**+0.6**
MORF	**Marmelete**	**1.09**	**314**	⇓*i*P		**Pn**	**13 05 26.4**			**+0.6**
MORF				*i* IAML			13 05 49.1			
MORF				*i* IAML			13 05 49.2			
MORF				*i* IAML			13 05 51.0			
PFVI	**Vila Bisbo**	**1.10**	**302**	⇓*i*P		**Pn**	**13 05 26.4**			**+0.5**
PFVI				*e*S		**Sn**	**13 05 39.9**			**+0.1**
PFVI				*i* IAML			13 05 54.3			
PFVI				*i* IAML			13 05 56.2			
PFVI				*i* IAML			13 06 00.2			
PCVE	**Castro Verde**	**1.12**	**344**	*e*P		**Pn**	**13 05 27.8**			**+1.6**
PCVE				*e*S		**Sn**	**13 05 41.9**			**+1.6**
PCVE				*i* IAML			13 05 42.3			
PCVE				*i* IAML			13 05 42.5			
PCVE				*i* IAML			13 05 42.5			
PSVI	**Cabo S. Vicent**	**1.17**	**294**	*e*S		**Sn**	**13 05 40.8**			**-0.8**
PSVI				*i* IAML			13 05 42.8			
PALJ	**Aljezur**	**1.19**	**310**	*e*P		**Pn**	**13 05 28.2**			**+1.1**
PALJ				*e*S		**Sn**	**13 05 42.9**			**+0.9**
PALJ				*i* IAML			13 05 51.7			
PALJ				*i* IAML			13 05 53.5			
PTEO	**Sao Teotonio**	**1.31**	**320**	⇓*i*P		**Pn**	**13 05 29.8**			**+1.1**
PTEO				*e*S		**Sn**	**13 05 47.4**			**+2.5**
PTEO				*i* IAML			13 05 55.1			
PTEO				*i* IAML			13 05 55.6			
PTEO				*i* IAML			13 05 59.2			
CNIL	**Conil**	**1.31**	**98**	P		**Pn**	**13 05 30.5**			**+1.8**
MESJ	**Messejana**	**1.36**	**341**	*e*P		**Pn**	**13 05 30.9**			**+1.5**
MESJ				*e*S		**Sn**	**13 05 47.3**			**+1.0**
MESJ				IAML			13 05 48.9			
	comp=N,96nm,0.1s									
MESJ	**Messejana**	**1.36**	**341**	⇓*e*P		**Pn**	**13 05 30.9**			**+1.5**
MESJ				*e*S		**Sn**	**13 05 47.8**			**+1.5**
MESJ				*i* IAML			13 05 49.2			
MESJ				*i* IAML			13 05 51.1			
MESJ				*i* IAML			13 05 55.3			
EMIN	**Mina Concepcio**	**1.45**	**33**	P		**Pn**	**13 05 32.1**			**+1.5**
EMIN				S		**Sn**	**13 05 48.9**			**+0.4**
EMIN	**Mina Concepcio**	**1.45**	**33**	Pn		**Pn**	**13 05 32.1**			**+1.5**
EMIN				Sn		**Sn**	**13 05 48.8**			**+0.4**
EMIN				*i* IVmb_Lg			13 05 52.7			
PBEJ	**Beja**	**1.48**	**354**	*e*P		**Pn**	**13 05 32.5**			**+1.4**
PBEJ				*e*S		**Sn**	**13 05 50.6**			**+1.4**
PBEJ				*i* IAML			13 05 52.1			
PBEJ				*i* IAML			13 05 52.2			
PBEJ				*i* IAML			13 05 54.6			
ESPR	**Espera**	**1.48**	**77**	P		**Pn**	**13 05 32.8**			**+1.6**
ESPR				S		**Sn**	**13 05 50.7**			**+1.4**
ESPR	**Espera**	**1.48**	**77**	Pn		**Pn**	**13 05 32.8**			**+1.6**
ESPR				Sn		**Sn**	**13 05 50.2**			**+0.9**
ESPR				*i* IVmb_Lg			13 05 52.3			
PBAR	**Barrancos**	**1.69**	**17**	*e*P		**Pn**	**13 05 35.6**			**+1.6**
PBAR				*e*S		**Sn**	**13 05 56.0**			**+1.5**
PBAR				*i* IAML			13 06 00.6			
PBAR				*i* IAML			13 06 07.0			
PBAR				*i* IAML			13 06 07.6			
EJIF	**Jimena Fronter**	**1.77**	**93**	Pn		**Pn**	**13 05 36.8**			**+1.7**
EJIF				Sn		**Sn**	**13 05 59.1**			**+2.8**
ECEU	**Ceuta**	**1.96**	**109**	P		**Pn**	**13 05 39.5**			**+1.8**
ECEU	**Ceuta**	**1.96**	**109**	Pn		**Pn**	**13 05 39.5**			**+1.8**
ECEU				Sn		**Sn**	**13 06 03.1**			**+2

ZHG	**ZHG**	**3.21**	**165**	S	**Sn**	**13 06 30.4**	**-1.6**
AVE	**Averroes**	**3.25**	**176**	P	**Pn**	**13 05 55.7**	**+0.2**
AVE				S	**Sn**	**13 06 31.1**	**-1.9**
AVE	**Averroes**	**3.25**	**176**	P	**Pn**	**13 05 55.0**	**-0.5**
AVE	**Averroes**	**3.25**	**176**	S	**Sn**	**13 06 29.3**	**-3.8**
ELGU	**Los Guajares,**	**3.25**	**83**	P	**Pn**	**13 05 57.9**	**+2.3**
ELGU				S	**Sn**	**13 06 34.6**	**+1.5**
ELGU	**Los Guajares,**	**3.25**	**83**	Pn	**Pn**	**13 05 57.6**	**+2.0**
ELGU				Sn	**Sn**	**13 06 34.5**	**+1.3**
ELGU				*i* lVmb_Lg		13 06 40.3	
PCBR	**Castelo Branco**	**3.28**	**2**	*eP*	**Pn**	**13 05 57.5**	**+1.6**
PCBR				*eS*	**Sn**	**13 06 34.1**	**+0.4**
PCBR				*i* IAML		13 06 35.7	
PCBR				*i* IAML		13 06 35.7	
PCBR				*i* IAML		13 06 36.2	
PALE	**Palemas**	**3.30**	**113**	P	**Pn**	**13 05 57.3**	**+1.1**
PALE	**Palemas**	**3.30**	**113**	S	**Sn**	**13 06 35.5**	**+1.3**
EQTA	**Presa de Quent**	**3.44**	**78**	P	**Pn**	**13 06 00.4**	**+2.2**
EQTA				S	**Sn**	**13 06 38.4**	**+0.6**
EQUE	**Quentar**	**3.44**	**78**	Pn	**Pn**	**13 06 00.7**	**+2.5**
EQUE				Sn	**Sn**	**13 06 39.1**	**+1.3**
EQUE				*i* lVmb_Lg		13 06 41.9	
PCAS	**Casmilo, Conde**	**3.56**	**350**	*eP*	**Pn**	**13 06 01.3**	**+1.6**
PCAS				*eS*	**Sn**	**13 06 39.0**	**-1.4**
PCAS				*i* IAML		13 06 43.0	
PCAS				*i* IAML		13 06 43.8	
PCAS				*i* IAML		13 06 44.8	
E0803	**Jimena (Jaen)**	**3.58**	**68**	Pn	**Pn**	**13 06 01.1**	**+1.1**
E0803				Sn	**Sn**	**13 06 41.9**	**+0.8**
LCRM	**LCR**	**3.67**	**140**	P	**Pn**	**13 06 00.5**	**-0.8**
LCRM	**LCR**	**3.67**	**140**	S	**Sn**	**13 06 42.1**	**-1.4**
COI	**Coimbra**	**3.70**	**351**	*eP*	**Pn**	**13 06 02.8**	**+1.3**
COI				*eS*	**Sn**	**13 06 44.4**	**+0.6**
COI				*i* IAML		13 06 45.8	
COI				*i* IAML		13 06 46.3	
COI				*i* IAML		13 06 46.6	
E0802	**Ubeda,Jaen**	**3.72**	**65**	Pn	**Pn**	**13 06 02.9**	**+1.0**
E0802				Sn	**Sn**	**13 06 43.6**	**-1.0**
EPLA	**Plasencia**	**3.72**	**19**	Pn	**Pn**	**13 06 03.7**	**+1.8**
EPLA				Sn	**Sn**	**13 06 44.2**	**-0.3**
EPLA				*i* lVmb_Lg		13 06 46.1	
EALB	**Alboran**	**3.79**	**98**	P	**Pn**	**13 06 03.6**	**+0.9**
EALB				S	**Sn**	**13 06 44.2**	**-2.0**
EALB	**Alboran**	**3.79**	**98**	Pn	**Pn**	**13 06 03.7**	**+0.9**
EALB				Sn	**Sn**	**13 06 44.0**	**-2.2**
EALB				*i* lVmb_Lg		13 06 48.0	
PSIM	**Granatula de C**	**3.83**	**53**	Pn	**Pn**	**13 06 05.0**	**+1.5**
PSIM				Sn	**Sn**	**13 06 47.2**	**-0.2**
MTE	**Manteigas**	**3.84**	**1**	*eP*	**Pn**	**13 06 05.1**	**+1.5**
MTE				*eS*	**Sn**	**13 06 47.1**	**-0.4**
MTE				*i* IAML		13 06 49.2	
MTE				*i* IAML		13 06 50.0	
MTE				*i* IAML		13 06 50.0	
EQES	**Quesada**	**3.87**	**70**	Pn	**Pn**	**13 06 06.1**	**+2.0**
EQES				Sn	**Sn**	**13 06 49.1**	**+0.8**
EQES				*i* lVmb_Lg		13 06 59.0	
PAB	**San Pablo**	**3.97**	**40**	Pn	**Pn**	**13 06 06.7**	**+1.3**
PAB				Sn	**Sn**	**13 06 48.7**	**-2.1**
PAB				*i* lVmb_Lg		13 06 49.1	
GOG	**Mont Gurugu**	**4.01**	**108**	P	**Pn**	**13 06 07.2**	**+1.1**
SRHM	**Skhour des Reh**	**4.08**	**183**	P	**Pn**	**13 06 06.3**	**-0.6**
CZD	**Col de Zad**	**4.12**	**148**	P	**Pn**	**13 06 07.5**	**-0.2**
CZD	**Col de Zad**	**4.12**	**148**	S	**Sn**	**13 06 50.1**	**-4.7**
PVIS	**Viseu**	**4.16**	**358**	*eP*	**Pn**	**13 06 09.2**	**+1.2**
PVIS				*eS*	**Sn**	**13 06 54.1**	**-1.3**
ESDC	**Sonseca Array**	**4.27**	**42**	Pn	**Pn**	**13 06 10.9**	**+1.4**
ESDC				Sn	**Sn**	**13 06 53.2**	**-1.3**
ESDC				*i* lVmb_Lg		13 06 57.5	
ESBB	**Sonseca Array**	**4.27**	**42**	Pn	**Pn**	**13 06 10.9**	**+1.4**
ESBB				Sn	**Sn**	**13 06 56.8**	**-1.3**
MD31	**MD31**	**4.39**	**146**	P	**Pn**	**13 06 10.5**	**-0.6**
MD31	**MD31**	**4.39**	**146**	S	**Sn**	**13 06 57.6**	**-3.4**
ENIJ	**Nijar**	**4.40**	**83**	Pn	**Pn**	**13 06 12.7**	**+1.5**
ENIJ				Sn	**Sn**	**13 06 59.6**	**-1.6**
ENIJ				*i* lVmb_Lg		13 07 07.1	
MDT	**Midelt**	**4.50**	**145**	P	**Pn**	**13 06 12.0**	**-0.7**
MDT	**Midelt**	**4.50**	**145**	S	**Sn**	**13 06 60.0**	**-3.9**
MVO	**Moncorvo**	**4.63**	**6**⇑	*eP*	**Pn**	**13 06 15.8**	**+1.3**
MVO				*eS*	**Sn**	**13 07 05.2**	**-1.8**
MVO				*i* IAML		13 07 06.8	
MVO				*i* IAML		13 07 08.2	
MVO				*i* IAML		13 07 08.3	
PTO	**Porto**	**4.64**	**351**	*eP*	**Pn**	**13 06 15.9**	**+1.4**
PTO				*eS*	**Sn**	**13 07 05.6**	**-1.4**
JBK	**JBK**	**4.71**	**117**	P	**Pn**	**13 06 12.8**	**-0.3**
JBK	**JBK**	**4.71**	**117**	S	**Sn**	**13 07 05.9**	**-3.3**
PVRL	**Vila Real**	**4.71**	**359**	*eP*	**Pn**	**13 06 16.9**	**+1.3**
PVRL				*eS*	**Sn**	**13 07 08.1**	**-1.0**
PVRL				*i* IAML		13 07 10.2	
PVRL				*i* IAML		13 07 10.2	
PVRL				*i* IAML		13 07 10.5	
EJUZ	**Juzbado, Salam**	**4.73**	**16**	Pn	**Pn**	**13 06 16.9**	**+1.1**
EJUZ				Sn	**Sn**	**13 07 08.3**	**-1.3**
POLO	**Lamas de Olo**	**4.81**	**359**	*eP*	**Pn**	**13 06 18.4**	**+1.4**
POLO				*eS*	**Sn**	**13 07 10.2**	**-1.4**
POLO				*i* IAML		13 07 12.9	
POLO				*i* IAML		13 07 12.9	
POLO				*i* IAML		13 07 13.0	
GUD	**Guadarrama**	**4.92**	**33**	Pn	**Pn**	**13 06 20.0**	**+1.5**
GUD				Sn	**Sn**	**13 07 12.2**	**-2.1**
GUD				*i* lVmb_Lg		13 07 15.0	
TISM	**Timmit**	**4.93**	**168**	P	**Pn**	**13 06 15.7**	**-2.7**
UCM	**Universidad Co**	**5.10**	**41**	P	**Pn**	**13 06 23.1**	**+2.2**
UCM				S	**Sn**	**13 07 16.7**	**-2.0**
PCAB	**Cabril**	**5.16**	**357**	*eP*	**Pn**	**13 06 23.1**	**+1.5**
PCAB				*eS*	**Sn**	**13 07 17.8**	**-2.1**
PCAB				*i* IAML		13 07 21.2	
PCAB				*i* IAML		13 07 21.3	
PCAB				*i* IAML		13 07 21.3	
ETOB	**Tobarra**	**5.28**	**65**	P	**Pn**	**13 06 24.1**	**+0.7**
ETOB				S	**Sn**	**13 07 21.8**	**-1.3**
ETOB	**Tobarra**	**5.28**	**65**	Pn	**Pn**	**13 06 24.2**	**+0.7**
ETOB				Sn	**Sn**	**13 07 20.1**	**-3.0**
ETOB				*i* lVmb_Lg		13 07 25.3	
EMUR	**La Murta**	**5.28**	**74**	P	**Pn**	**13 06 24.7**	**+1.3**
EMUR				S	**Sn**	**13 07 21.6**	**-1.4**
EMUR	**La Murta**	**5.28**	**74**	Pn	**Pn**	**13 06 24.5**	**+1.1**
EMUR				Sn	**Sn**	**13 07 21.7**	**-1.4**
EMUR				*i* lVmb_Lg		13 07 24.6	
PBRG	**Braganca**	**5.29**	**7**	*eP*	**Pn**	**13 06 24.6**	**+1.0**
PBRG				*eS*	**Sn**	**13 07 21.1**	**-2.2**
PBRG				*i* IAML		13 07 24.1	
PBRG				*i* IAML		13 07 24.1	
PBRG				*i* IAML		13 07 24.7	
ELOB	**Lobios**	**5.32**	**357**	Pn	**Pn**	**13 06 24.9**	**+1.0**
ELOB				Sn	**Sn**	**13 07 20.8**	**-3.1**
ELOB				*i* lVmb_Lg		13 07 25.2	
OUK	**Oukaimeden**	**5.34**	**182**	P	**Pn**	**13 06 23.8**	**-0.7**
OUK	**Oukaimeden**	**5.34**	**182**	S	**Sn**	**13 07 18.9**	**-6.0**
YEBES	**Yebes (Guadala**	**5.34**	**41**	Pn	**Pn**	**13 06 26.7**	**+2.5**
YEBES				Sn	**Sn**	**13 07 23.0**	**-1.5**
YEBES				*i* lVmb_Lg		13 07 28.7	
CART	**Cartagena**	**5.42**	**77**	P	**Pn**	**13 06 26.3**	**+1.0**
CART				S	**Sn**	**13 07 24.2**	**-2.3**
CART	**Cartagena**	**5.42**	**77**	P	**Pn**	**13 06 26.4**	**+1.1**
PGAV	**Gavieira, Arco**	**5.42**	**355**	*eP*	**Pn**	**13 06 26.9**	**+1.5**
PGAV				*eS*	**Sn**	**13 07 24.4**	**-2.2**
PGAV				*i* IAML		13 07 27.9	
PGAV				*i* IAML		13 07 28.6	
PGAV				*i* IAML		13 07 29.0	
ECAL	**Calabor**	**5.43**	**7**	P	**Pn**	**13 06 26.5**	**+1.1**
ECAL				S	**Sn**	**13 07 25.1**	**-1.6**
ECAL	**Calabor**	**5.43**	**7**	Pn	**Pn**	**13 06 26.4**	**+1.1**
ECAL				Sn	**Sn**	**13 07 24.7**	**-2.0**
ECAL				*i* lVmb_Lg		13 07 28.5	
TIO	**Tiouine**	**5.62**	**177**	P	**Pn**	**13 06 27.4**	**-0.8**
TIO				S	**Sn**	**13 07 25.8**	**-5.8**
TIO	**Tiouine**	**5.62**	**177**	P	**Pn**	**13 06 27.7**	**-0.5**
EZAM	**Zamans**	**5.64**	**352**	Pn	**Pn**	**13 06 29.2**	**+0.8**
EZAM				Sn	**Sn**	**13 07 29.0**	**-2.9**
EZAM				*i* lVmb_Lg		13 07 32.8	
OUZM	**OUZ**	**5.68**	**172**	P	**Pn**	**13 06 28.4**	**-0.6**
EVIV	**Cofrentes, Val**	**5.84**	**60**	Pn	**Pn**	**13 06 31.3**	**+0.2**
EVIV				Sn	**Sn**	**13 07 34.6**	**-2.1**
EVIV				*i* lVmb_Lg		13 07 37.8	
TZRR	**Tazzarine**	**6.01**	**163**	P	**Pn**	**13 06 33.4**	**-0.1**
TTIG	**Tnine Tigouga,**	**6.03**	**186**	P	**Pn**	**13 06 29.9**	**-3.9**
AFON	**Font Roja**	**6.03**	**67**	Pn	**Pn**	**13 06 34.5**	**+0.8**
AFON				Sn	**Sn**	**13 07 39.1**	**-2.5**
AFON				*i* lVmb_Lg		13 07 49.6	
ECHE	**Chera**	**6.09**	**58**	P	**Pn**	**13 06 36.0**	**+1.5**
ECHE				S	**Sn**	**13 07 42.0**	**-0.9**
ECHE	**Chera**	**6.09**	**58**	Pn	**Pn**	**13 06 35.6**	**+1.1**
ECHE				Sn	**Sn**	**13 07 41.0**	**-1.8**
ECHE				*i* lVmb_Lg		13 07 45.9	
ETOR	**Torete**	**6.11**	**44**	Pn	**Pn**	**13 06 36.4**	**+1.6**
ETOR				Sn	**Sn**	**13 07 43.0**	**-0.5**
ETOR				*i* lVmb_Lg		13 07 46.4	
EAGO	**Agolada(Pontev**	**6.25**	**357**	Pn	**Pn**	**13 06 37.7**	**+1.0**
EAGO				Sn	**Sn**	**13 07 42.5**	**-4.3**
EAGO				*i* lVmb_Lg		13 07 48.8	
EBEN2	**Beniarda presa**	**6.30**	**68**	Pn	**Pn**	**13 06 37.9**	**+0.6**
EBEN2				Sn	**Sn**	**13 07 46.0**	**-2.0**
EBEN2				*i* lVmb_Lg		13 07 52.0	
E0901	**Celadas (Terue**	**6.45**	**51**	Pn	**Pn**	**13 06 42.3**	**+2.8**
E0901				Sn	**Sn**	**13 07 48.0**	**-3.8**
E0901				*i* lVmb_Lg		13 07 55.9	
EMAZ	**Mazaricos**	**6.47**	**351**	Pn	**Pn**	**13 06 41.1**	**+1.4**
EMAZ				Sn	**Sn**	**13 07 49.5**	**-2.6**
EMAZ				*i* lVmb_Lg		13 07 49.6	
ZGR	**Zagora**	**6.64**	**165**	P	**Pn**	**13 06 41.7**	**-0.5**
EPON	**Pontenova**	**6.78**	**3**	Pn	**Pn**	**13 06 45.4**	**+1.5**
EPON				Sn	**Sn**	**13 07 56.7**	**-3.1**
EPON				*i* lVmb_Lg		13 08 02.2	
EMOS	**Mosqueruela**	**6.80**	**54**	Pn	**Pn**	**13 06 45.5**	**+1.1**
EMOS				Sn	**Sn**	**13 07 58.3**	**-2.4**
EMOS				*i* lVmb_Lg		13 09 11.4	
EARI	**Arriondas**	**7.00**	**15**	Pn	**Pn**	**13 06 48.3**	**+1.3**
EARI				Sn	**Sn**	**13 08 03.5**	**-1.7**
ELAN	**Lanestosa**	**7.42**	**25**	Pn	**Pn**	**13 06 54.0**	**+1.3**
ELAN				Sn	**Sn**	**13 08 11.7**	**-3.9**
EIBI	**Ibiza**	**7.54**	**68**	Pn	**Pn**	**13 06 56.2**	**+1.8**
EIBI				Sn	**Sn**	**13 08 15.5**	**-3.1**
ESAC	**San Caprasio**	**7.60**	**45**	Pn	**Pn**	**13 06 56.5**	**+1.2**
ESAC				Sn	**Sn**	**13 08 15.8**	**-4.4**
ESAC				*i* lVmb_Lg		13 08 31.4	
ERTA	**Horta de San J**	**7.63**	**52**	Pn	**Pn**	**13 06 56.5**	**+0.8**
ERTA				Sn	**Sn**	**13 08 18.8**	**-2.1**
EARA	**Aranguren**	**7.78**	**35**	Pn	**Pn**	**13 06 58.8**	**+1.2**
EARA				Sn	**Sn**	**13 08 22.3**	**-2.1**
EORO	**Oroz-Betelu**	**8.00**	**36**	Pn	**Pn**	**13 07 03.2**	**+2.5**
EORO				Sn	**Sn**	**13 08 26.6**	**-3.3**
EALK	**Alkurruntz**	**8.16**	**33**	Pn	**Pn**	**13 07 05.0**	**+2.0**
EALK				Sn	**Sn**	**13 08 30.3**	**-3.7**
SJPF	**Ste Jean**	**8.21**	**35**	*eP*	**Pn**	**13 07 06.4**	**+2.9**
SJPF				*eSn*	**Sn**	**13 08 30.5**	**-4.5**
	comp=N,7.4nm,0.4s						
EPOB	**Poblet**	**8.32**	**52**	Pn	**Pn**	**13 07 06.4**	**+1.3**
EPOB				Sn	**Sn**	**13 08 35.4**	**-2.5**
ETSF	**Etsaut**	**8.37**	**39**	*eP*	**Pn**	**13 07 08.1**	**+2.3**
ETSF				*eSn*	**Sn**	**13 08 33.9**	**-5.1**
	comp=N,4.3nm,0.3s						
EPF	**Esparros**	**8.93**	**41**	*eP*	**Pn**	**13 07 16.2**	**+2.8**
EPF				*eSn*	**Sn**	**13 08 47.0**	**-5.7**
	comp=N,2.2nm,0.3s						

NEIC ***28*** *13:22:13.9±1.4, 19.°144N±0.°008×67.°12W±0.°03, h10km±2km, ML2.4/13, Md2.8/12(RSPR), Error ellipse: s-maj=5.1km s-min=3.0km az=255.0*
RSPR ***28*** *13:22:15.7, 19.°13N×67.°27W, h52km±7km, MD2.8/12*
SDD ***28*** *13:22:15.7±0.7, 19.°11N×67.°14W, h23km±37km, MD3.6, ML2.3, MW2.5*

ISC 28 13:22:12.3±1.5, 19.°16N±0.°05×67.°16W±0.°03, h6km±10km, n58, σ0°56/73, 17C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.69**	**176**		**Pb**	**13 22 27.5**	**+0.7**
AGPR					**Sb**	**13 22 37.0**	**+0.5**
AGPR	**Aguadilla, PR**	**0.69**	**176**⇑	*eP*	**Pb**	**13 22 27.5**	**+0.7**
AGPR	**Aguadilla, PR**	**0.69**	**176**	*eS*	**Sb**	**13 22 37.0**	**+0.5**
AGPR	**Aguadilla, PR**	**0.69**	**176**⇑	*ePg*	**Pb**	**13 22 27.3**	**+0.6**
AGPR				⇑*eSg*	**Sb**	**13 22 36.0**	**-0.6**
AGPR				IAML		13 22 37.0	
	comp=N,378nm,0.2s						
IDE	**Isla Desecheo**	**0.82**	**201**		**Pb**	**13 22 29.6**	**+0.6**
IDE					**Sb**	**13 22 41.3**	**+1.0**
IDE	**Isla Desecheo**	**0.82**	**201**⇑	*eP*	**Pb**	**13 22 29.6**	**+0.6**
IDE	**Isla Desecheo**	**0.82**	**201**	*eS*	**Sb**	**13 22 41.3**	**+1.0**
AOPR	**Arecibo Observ**	**0.90**	**154**		**Pb**	**13 22 30.6**	**+0.3**
AOPR					**Sb**	**13 22 42.0**	**-0.5**
AOPR	**Arecibo Observ**	**0.90**	**154**	*eP*	**Pb**	**13 22 30.6**	**+0.3**
AOPR	**Arecibo Observ**	**0.90**	**154**	*eS*	**Sb**	**13 22 42.0**	**-0.5**
AOPR	**Arecibo Observ**	**0.90**	**154**⇑	*ePg*	**Pb**	**13 22 30.4**	**+0.1**
AOPR				IAML		13 23 42.8	
	comp=N,32nm,0.3s						
EMPR	**Esperanza - Ma**	**0.91**	**138**		**Pn**	**13 22 32.6**	**+1.0**
EMPR					**Sn**	**13 22 45.2**	**+0.2**
EMPR	**Esperanza - Ma**	**0.91**	**138**		**Pn**	**13 22 31.6**	**-0.1**
EMPR	**Esperanza - Ma**	**0.91**	**138**	*eP*	**Pn**	**13 22 32.6**	**+1.0**
EMPR	**Esperanza - Ma**	**0.91**	**138**	*eS*	**Sn**	**13 22 45.2**	**+0.2**
PRSN	**Puerto Rico Se**	**0.94**	**179**		**Pb**	**13 22 31.7**	**+0.7**
PRSN					**Sb**	**13 22 43.4**	**-0.3**
PRSN	**Puerto Rico Se**	**0.94**	**179**⇑	*eP*	**Pb**	**13 22 31.7**	**+0.7**
PRSN	**Puerto Rico Se**	**0.94**	**179**	*eS*	**Sb**	**13 22 43.4**	**-0.3**
PRSN	**Puerto Rico Se**	**0.94**	**179**	*ePg*	**Pg**	**13 22 29.2**	**-1.1**
PRSN				⇑*eSg*	**Sg**	**13 22 41.9**	**-0.6**
PRSN				IAML		13 22 45.4	
	comp=N,346nm,0.2s						
LSP	**Las Mesas**	**0.98**	**176**		**Pb**	**13 22 32.0**	**+0.2**
LSP					**Sb**	**13 22 44.9**	**-0.1**
LSP	**Las Mesas**	**0.98**	**176**⇑	*eP*	**Pb**	**13 22 32.0**	**+0.2**
LSP	**Las Mesas**	**0.98**	**176**	*eS*	**Sb**	**13 22 44.9**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.99**	**155**		**Pb**	**13 22 32.0**	**0.0**
UUPR					**Sg**	**13 22 44.7**	**+0.4**
UUPR	**Utuado, UPR, P**	**0.99**	**155**		**Pg**	**13 22 31.7**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.99**	**155**⇑	*eP*	**Pb**	**13 22 32.0**	**0.0**
UUPR	**Utuado, UPR, P**	**0.99**	**155**	*eS*	**Sg**	**13 22 44.7**	**+0.4**
ECPR	**Experimental S**	**1.13**	**138**⇑	*eP*	**Pb**	**13 22 34.8**	**+0.5**
ECPR	**Experimental S**	**1.13**	**138**	*eS*	**Sn**	**13 22 50.7**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.15**	**177**		**Pg**	**13 22 34.4**	**0.0**
CRPR					**Sg**	**13 22 49.2**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.15**	**177**	IAML		13 22 49.5	
	comp=N,87nm,0.4s						
CRPR				IAML		13 22 57.8	
	comp=E,77nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.15**	**177**⇑	*eP*	**Pg**	**13 22 34.4**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.15**	**177**	*eS*	**Sg**	**13 22 49.2**	**-0.1**
MLPR	**Magueyes Islan**	**1.19**	**174**	*i P*	**Pg**	**13 22 35.0**	**-0.1**
MLPR	**Magueyes Islan**	**1.19**	**174**	*eS*	**Sg**	**13 22 49.7**	**-0.8**
MLPR	**Magueyes Islan**	**1.19**	**174**⇑	*ePg*	**Pg**	**13 22 35.0**	**-0.1**
MLPR				⇓*eSg*	**Sg**	**13 22 49.8**	**-0.8**
MLPR				IAML		13 22 49.9	
	comp=N,35nm,0.3s						
CELP	**Cerrillos**	**1.21**	**153**		**Pb**	**13 22 35.9**	**+0.2**
CELP					**Sg**	**13 22 51.0**	**-0.3**
CELP	**Cerrillos**	**1.21**	**153**⇓	*eP*	**Pb**	**13 22 35.9**	**+0.2**
CELP	**Cerrillos**	**1.21**	**153**	*eS*	**Sg**	**13 22 51.0**	**-0.3**
CELP	**Cerrillos**	**1.21**	**153**⇓	*ePg*	**Pg**	**13 22 35.6**	**0.0**
CELP				⇑*eSg*	**Sg**	**13 22 51.0**	**-0.3**
CELP				IAML		13 22 52.0	
	comp=N,112nm,0.2s						
OBIP	**Obispado Ponce**	**1.23**	**154**		**Pg**	**13 22 36.0**	**+0.1**
OBIP				IAML		13 22 56.8	
	comp=E,81nm,0.4s						
OBIP	**Obispado Ponce**	**1.23**	**154**		**Sb**	**13 22 52.1**	**0.0**
OBIP	**Obispado Ponce**	**1.23**	**154**⇓	*eP*	**Pb**	**13 22 36.3**	**+0.4**
OBIP	**Obispado Ponce**	**1.23**	**154**	*eS*	**Sb**	**13 22 52.1**	**0.0**
GCPR	**Guaynabo City**	**1.33**	**129**		**Pg**	**13 22 37.8**	**0.0**
GCPR					**Sg**	**13 22 54.8**	**-0.2**
GCPR	**Guaynabo City**	**1.33**	**129**⇑	*eP*	**Pg**	**13 22 37.8**	**0.0**
GCPR	**Guaynabo City**	**1.33**	**129**	*eS*	**Sg**	**13 22 54.8**	**-0.2**
SJG	**San Juan**	**1.42**	**137**		**Pn**	**13 22 37.8**	**-0.8**
SJG				IAML		13 23 03.0	
	comp=E,76nm,0.2s						
SJG				IAML		13 23 04.1	
	comp=E,62nm,0.5s						
SJG	**San Juan**	**1.42**	**137**⇑	*eP*	**Pn**	**13 22 38.8**	**+0.2**
SJG	**San Juan**	**1.42**	**137**	*eS*	**Sg**	**13 22 57.7**	**-0.2**
IGPR	**InterUniversit**	**1.55**	**140**		**Pb**	**13 22 41.8**	**+0.3**
IGPR					**Sn**	**13 22 59.2**	**-1.8**
IGPR	**InterUniversit**	**1.55**	**140**⇑	*eP*	**Pb**	**13 22 41.8**	**+0.3**
IGPR	**InterUniversit**	**1.55**	**140**	*eS*	**Sn**	**13 22 59.2**	**-1.8**
PDPR	**Patillas Dam,**	**1.57**	**136**		**Pn**	**13 22 41.5**	**+0.7**
PDPR				IAML		13 23 08.1	
	comp=E,49nm,0.1s						
PDPR				IAML		13 23 11.0	
	comp=N,62nm,0.2s						
PDPR	**Patillas Dam,**	**1.57**	**136**⇑	*eP*	**Pn**	**13 22 41.2**	**+0.5**
PDPR	**Patillas Dam,**	**1.57**	**136**	*eS*	**Sn**	**13 23 01.1**	**-0.2**
MIDR	**Miches**	**1.79**	**265**⇓	*eP*	**Pb**	**13 22 45.5**	**0.0**
MIDR	**Miches**	**1.79**	**265**⇓	*ePg*	**Pg**	**13 22 46.7**	**0.0**
MIDR				*eSg*	**Sb**	**13 23 08.8**	**+0.5**
MIDR				IAML		13 23 15.4	
	comp=N,35nm,0.7s						
DR12	**Loma Pena Alta**	**2.13**	**260**		**Pb**	**13 22 50.8**	**-0.6**

IDC ***28*** *13:41:38.5±1.8, 4.°34N×127.°02E, h0km, mb3.5/5, mbtmp3.5/5, MS3.6/2, Error ellipse: s-maj=122.5km s-min=21.8km az=70.0*
DJA ***28*** *13:41:40.7±1.0, 4.°7N±8.°×12.°7E±.°, h10km, M3.8/6, MLv3.8/6*

ISC 28 13:41:44.0±1.5, 4.°2N±0.°2×126.°8E±0.°2, h35km, n8, σ0°90/6, mb3.5/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.36**	**246**	P	**Pn**	**13 42 06.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**22.23**	**183**	P	**P**	**13 46 39.0**	**+1.2**
	1.2nm,0.6s,baz=353,slow=12,SNR=1.9 1.2nm,0.6s						
WRA	**Warramunga Arr**	**25.16**	**163**	P	**P**	**13 47 05.7**	**-0.5**
	0.5nm,0.5s,baz=341,slow=10,SNR=8.7 0.5nm,0.5s						
ASAR	**Alice Springs**	**28.60**	**166**	P	**P**	**13 47 36.5**	**-0.7**
	0.2nm,0.7s,baz=348,slow=9.2,SNR=1.4 0.2nm,0.7s						
STKA	**Stephens Creek**	**38.59**	**160**	LR	LR	14 05 36.7	
	comp=Z,60nm,20.8s,baz=216,slow=37						
MKAR	**Makanchi Array**	**57.16**	**325**	P	**P**	**13 51 27.5**	**+0.1**
	0.3nm,0.6s,baz=122,slow=8.4,SNR=2.7 0.3nm,0.6s						
AAK	**Ala-Archa**	**60.01**	**318**	LR	LR	14 20 25.0	
	comp=Z,58nm,19.0s,baz=157,slow=39						
KURBB	**Kurchatov Arra**	**61.33**	**327**	P	**P**	**13 51 56.4**	**+0.2**
	0.3nm,0.3s,baz=124,slow=5.9,SNR=4.6 0.3nm,0.3s						

TAP 28 13:59:50.0, 23.°00N×120.°82E, h7km±1km, ML1.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.17**	**339**	*i* P	Pg	13 59 54.6	+1.0
STYT				S	Sg	13 59 57.1	+1.0
STYH	**Taoyuan**	**0.17**	**345**	P	Pg	13 59 54.7	+1.1
STYH				S	Sg	13 59 57.4	+1.3
ELDTW	**Lidau**	**0.26**	**43**	*i* P	Pb	13 59 56.5	-0.5
ELDTW				S	Sg	13 59 59.9	+1.2
LONT	**Longtian**	**0.30**	**108**	P	Pb	13 59 57.5	-0.1
LONT				*eS*	Sb	14 00 02.0	-0.7
SSD	**Sandimen**	**0.31**	**215**	P	Pg	13 59 56.9	+0.8
SSD				S	Sg	14 00 01.1	+0.9
WTP	**Ta-pu**	**0.31**	**322**	P	Pb	13 59 57.8	-0.2
WTP				S	Sb	14 00 02.6	-0.7
TPUB	**Ta-pu**	**0.35**	**329**	P	Pb	13 59 58.8	+0.3
TPUB				*eS*	Sb	14 00 03.2	-1.1
EHD	**Haiduan**	**0.38**	**67**	P	Pb	13 59 58.8	-0.3
EHD				S	Sb	14 00 04.4	-0.8

TAP 28 14:00:00.8, 24.°52N×121.°80E, h10km, ML1.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.06**	**35**	*i* P	Pg	14 00 03.1	+0.2
ESAO				S	Sg	14 00 04.4	-0.2
EWUT	**Wuta**

CTAO	**Charters Tower**	**34.25**	**278**	P	**P**	**14 10 34.9**	**+1.7**
CTAO				IAmb	IAmb	14 10 49.6	
	comp=Z,6.1nm,1.0s						
STKA	**Stephens Creek**	**35.04**	**256**	P	**P**	**14 10 40.9**	**+1.1**
STKA	**Stephens Creek**	**35.04**	**256**	P	**P**	**14 10 41.7**	**+1.8**
	comp=Z,2.1nm,0.6s,baz=102,slow=10,SNR=5.7						
STKA				LR	LR	14 23 41.8	
	comp=Z,75nm,18.9s,baz=178,slow=34						
	comp=Z,2.1nm,0.6s						
INKA	**Innaminka**	**36.55**	**263**	P	**P**	**14 10 55.4**	**+2.5**
INKA				IAmb	IAmb	14 10 56.8	
	comp=Z,3.5nm,0.9s						
ASAR	**Alice Springs**	**43.63**	**266**	P	**P**	**14 11 51.5**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=103,slow=7.9,SNR=25						
ASAR				LR	LR	14 29 49.9	
	comp=Z,126nm,18.0s,baz=94,slow=36						
	comp=Z,1.5nm,0.6s						
WR8	**Warramunga Arr**	**44.45**	**272**		**P**	**14 11 58.9**	**+0.7**
WR8				IAmb	IAmb	14 11 59.1	
	comp=Z,4.2nm,0.8s						
WRA	**Warramunga Arr**	**44.59**	**272**	P	**P**	**14 11 58.6**	**-0.8**
WRA	**Warramunga Arr**	**44.59**	**272**	P	**P**	**14 11 59.1**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=110,slow=7.8,SNR=28						
	comp=Z,2.0nm,0.4s						
WB0	**Warramunga Arr**	**44.62**	**272**		**P**	**14 11 59.0**	**-0.6**
WB0				IAmb	IAmb	14 12 01.8	
	comp=Z,5.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.87**	**269**	P	**P**	**14 13 02.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**52.87**	**269**	LR	LR	14 34 40.8	
	comp=Z,119nm,18.1s,baz=358,slow=35						
CASY	**Casey**	**55.64**	**208**	P	**P**	**14 13 23.5**	**+1.1**
GUMO	**Guam**	**56.63**	**315**	LR	LR	14 34 38.8	
	comp=Z,16nm,21.4s,baz=106,slow=33						
QSPA	**South Pole Qui**	**60.01**	**180**	P	**P**	**14 13 56.9**	**+3.7**
QSPA				IAmb	IAmb	14 14 08.8	
	comp=Z,4.9nm,1.1s						
QSPA	**South Pole Qui**	**60.01**	**180**	P	P	14 13 58.1	+4.9
	comp=Z,0.8nm,0.6s,baz=274,slow=1.0,SNR=9.4						
H03S2	**Juan Fernandez**	**80.20**	**123**	T	T	15 45 24.6	
	baz=238,slow=74,SNR=14						
H03S1	**Juan Fernandez**	**80.22**	**123**	T	T	15 45 30.6	
	baz=238,slow=74,SNR=12						
H03S3	**Juan Fernandez**	**80.22**	**123**	T	T	15 45 28.2	
	baz=238,slow=74,SNR=14						
PETK	**Petropavlovsk-**	**85.65**	**345**	P	**P**	**14 16 24.4**	**-0.5**
	comp=Z,4.5nm,1.0s,baz=162,slow=5.2,SNR=7.3						
	comp=Z,4.5nm,1.0s						
FINES	**FINESS Array B**	**145.04**	**340**	PKPbc	**PKPab**	**14 23 21.7**	**-1.0**
	comp=Z,2.5nm,0.5s,baz=74,slow=2.6,SNR=19						
NOA	**NORSAR Array B**	**148.53**	**352**	PKPbc	**PKPbc**	**14 23 32.3**	**-0.5**
	comp=Z,1.1nm,1.0s,baz=16,slow=4.3,SNR=4.5						
HFS	**Hagfors**	**149.05**	**349**	PKPbc	**PKiKP**	**14 23 33.8**	**-1.5**
	comp=Z,3.5nm,0.8s,baz=329,slow=2.5,SNR=4.6						
AKASG	**Malin Array Be**	**151.37**	**323**	PKPbc	**PKiKP**	**14 23 39.7**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=54,slow=2.6,SNR=6.8						
MMAI	**Mount Meron Ar**	**151.95**	**284**	PKPbc	**PKiKP**	**14 23 43.0**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=64,slow=5.7,SNR=6.1						
MMAI				PKPab	**PKPab**	**14 23 49.8**	**-1.6**
	comp=Z,1.4nm,0.6s,baz=71,slow=8.6,SNR=5.7						
BRTR	**Keskin Array B**	**152.90**	**299**	PKPbc	**PKiKP**	**14 23 43.9**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=90,slow=1.4,SNR=2.2						

*NEIC **28** 14:08:08.5±1.1,36°.12N±0°.01×120°.17W±0°.02,h10km±2km, Error ellipse: s-maj=3.1km s-min=2.8km az=226.0*

NCEDC 28 14:08:08.5±1.1,36°.08N±0°.01×120°.20W±0°.02,h9km±8km, ML3.1/136,ML2.9/80(NEIC),Error ellipse: s-maj=2.6km s-min=1.6km az=68.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTM	**Castle Mountai**	**0.19**	**218**		Pg	14 08 13.5	+1.0
PHFM	**Heflinger Ranc**	**0.26**	**220**		Pb	14 08 14.9	-0.4
PSTM	**Stockdale Moun**	**0.29**	**239**		Pb	14 08 15.6	-0.3
PKD	**Bear Valley Ra**	**0.31**	**244**	Pg	Pb	14 08 15.8	-0.5
PKD				IAML		14 08 23.1	
	comp=E,2μm,0.5s						
PKD				IAML		14 08 23.7	
	comp=N,1μm,0.6s						
PVCM	**Vineyard Canyo**	**0.32**	**240**		Pb	14 08 15.9	-0.4
PSMM	**Smith Mountain**	**0.32**	**268**		Pb	14 08 16.2	-0.3
PKLM	**Kerr Lake**	**0.33**	**201**		Pb	14 08 16.1	-0.4
PHPM	**Hope Ranch**	**0.35**	**254**		Pb	14 08 16.4	-0.4
PAGB	**Antelope Grade**	**0.35**	**187**		Pb	14 08 16.4	-0.5
THIS	**South End of C**	**0.36**	**184**		Pb	14 08 16.7	-0.3
PPO	**Portuguese Can**	**0.40**	**238**		Pb	14 08 17.6	-0.1
TRAM	**Private Proper**	**0.41**	**189**		Pb	14 08 17.6	-0.3
TCHL	**Shandon**	**0.42**	**203**		Pb	14 08 18.1	-0.1
PPTM	**Peach Tree Val**	**0.43**	**274**		Pb	14 08 17.9	-0.2
PBPM	**Bitterwater Pu**	**0.51**	**169**		Pb	14 08 19.5	-0.1
PMPB	**Monarch Peak**	**0.51**	**286**		Pb	14 08 19.2	-0.4
PMPB	**Monarch Peak**	**0.51**	**286**	IAML		14 08 31.2	
	comp=N,1μm,0.9s						
PMPB				IAML		14 08 35.3	
	comp=E,990nm,0.5s						
TRAY	**Twisselman Ran**	**0.53**	**174**		Pb	14 08 19.8	-0.2
TSCN	**Private Proper**	**0.55**	**193**		Pb	14 08 20.3	+0.1
TCAS	**Cass Winery, P**	**0.56**	**212**		Pb	14 08 20.0	-0.3
PSAM	**San Ardo**	**0.56**	**265**		Pb	14 08 20.1	-0.4
LCUV	**Le Cuvier**	**0.61**	**226**		Pb	14 08 20.9	-0.4
VOG	**Valley Oaks Go**	**0.70**	**70**		Pg	14 08 21.8	-0.2
RAMR	**Ramage Ranch**	**0.70**	**231**		Pb	14 08 22.8	-0.1
LRV	**Little Rabbit**	**0.75**	**298**		Pg	14 08 23.3	+0.3
BMSM	**Mercy Hot Spri**	**0.75**	**320**		Pb	14 08 23.6	-0.2
KARE	**Kearney REC, C**	**0.76**	**47**		Pg	14 08 22.6	-0.6
SMMC	**Simmler**	**0.78**	**168**		Pb	14 08 23.9	-0.3
PCCM	**Crazy Canyon**	**0.78**	**271**		Pb	14 08 24.1	-0.2
PTAM	**Tassajara Cree**	**0.80**	**211**		Pb	14 08 24.3	-0.3
CARC	**Carrizo Plain**	**0.82**	**160**		Pb	14 08 24.9	-0.1
BBGB	**Big Mountain B**	**0.84**	**306**		Pg	14 08 25.0	+0.3
HULI	**Fort Hunter Li**	**0.84**	**266**		Pg	14 08 24.9	+0.2
HULI	**Fort Hunter Li**	**0.84**	**266**		Pb	14 08 25.0	-0.3
HULI				IAML		14 08 41.4	
	comp=E,550nm,0.6s						
HULI				IAML		14 08 41.4	
	comp=N,523nm,0.5s						
PCBM	**Cambria**	**0.90**	**232**		Pb	14 08 26.1	-0.2
BSGM	**Shirttail Gulc**	**0.92**	**292**		Pg	14 08 26.1	0.0
CRGC	**Crocker Grade**	**0.92**	**155**		Pb	14 08 26.7	+0.1
VES	**Vestal, Richgr**	**0.93**	**105**		Pg	14 08 25.7	-0.7
LSDC	**Los Osos Digit**	**0.94**	**214**		Pn	14 08 27.7	-0.1
DPD	**Davis Peak**	**0.97**	**210**		Pn	14 08 27.9	-0.3
FRI	**Friant**	**0.99**	**23**		Pg	14 08 26.4	-1.1
DCD	**Diablo Creek**	**1.01**	**21**		Pg	14 08 27.9	0.0
BSMM	**Soledad Missio**	**1.04**	**287**		Pg	14 08 27.9	-0.6
MHDM	**Hidden Dam**	**1.06**	**13**		Pg	14 08 27.5	-1.4
BJCM	**Johnson Can.**	**1.07**	**296**		Pg	14 08 28.2	-0.8
SCZ	**Santa Cruz**	**1.10**	**298**		Pg	14 08 28.8	-0.9
LEGD	**La Grand CA**	**1.13**	**2**		Pb	14 08 28.7	-1.5
LEGD	**La Grand CA**	**1.13**	**2**	IAML		14 08 46.5	
	comp=N,462nm,0.5s						
SPG2	**Springville 2**	**1.16**	**84**		Pb	14 08 29.0	-1.8
BSRM	**Salinas Radio**	**1.22**	**299**		Pn	14 08 30.6	-1.1
SAO	**San Andreas Ge**	**1.22**	**304**		Pn	14 08 30.9	-0.8
SAO	**San Andreas Ge**	**1.22**	**304**		Pn	14 08 31.2	-0.5
FRP	**Fremont Peak**	**1.24**	**303**		Pn	14 08 30.9	-1.2
BPRM	**Ponciano Ridge**	**1.28**	**285**		Pn	14 08 31.2	-1.4
SLD	**San Luis Dam**	**1.29**	**321**		Pn	14 08 31.4	-1.2
HPCM	**Pacheco Lake**	**1.31**	**319**		Pn	14 08 31.9	-1.0
MYLM	**Yosemite Lake**	**1.31**	**352**		Pn	14 08 31.7	-1.3
HFEM	**San Felipe**	**1.32**	**313**		Pn	14 08 31.9	-1.2
HTUM	**Tustin Road**	**1.39**	**303**		Pn	14 08 33.3	-0.6
MMIM	**Miami Mountain**	**1.39**	**15**		Pn	14 08 33.2	-0.8
FORD	**Fort Ord Natur**	**1.42**	**296**	Pn	Pb	14 08 34.8	-0.2
KCC	**Kaiser Creek**	**1.43**	**29**		Pn	14 08 33.9	-0.7
GHS	**Gilroy Hot Spr**	**1.43**	**316**		Pn	14 08 33.2	-1.4
HCBM	**Chamberlain**	**1.46**	**306**		Pn	14 08 33.8	-1.1
ISA	**Isabella, Lake**	**1.46**	**106**		Pn	14 08 33.8	-1.2
ISA	**Isabella, Lake**	**1.46**	**106**	Pn	Pn	14 08 34.1	-0.9
ISA				IAML		14 08 54.6	
	comp=N,103nm,0.5s						
ISA				IAML		14 08 55.8	
	comp=E,107nm,0.5s						
HCOM	**Corn Cob Canyo**	**1.46**	**304**		Pn	14 08 33.5	-1.5
TEJ	**El Tejon**	**1.49**	**124**		Pn	14 08 33.8	-1.6
WLHM	**Little Horse**	**1.53**	**87**		Pn	14 08 35.5	-0.7
BUCR	**Buckhorn Ranch**	**1.59**	**1**		Pn	14 08 36.3	-0.6
CCOB	**Coe Ranch Numb**	**1.67**	**315**		Pn	14 08 36.9	-1.0
MTOS	**Mt Oso, Westle**	**1.69**	**328**		Pn	14 08 36.3	-1.8
THC	**Tehachapi Micr**	**1.71**	**133**		Pn	14 08 37.5	-1.1
MHC	**Mount Hamilton**	**1.71**	**318**		Pn	14 08 37.7	-0.8
MHC				IAML		14 09 06.9	
	comp=N,79nm,0.8s						
MHC				IAML		14 09 17.6	
	comp=E,79nm,0.7s						
CWC	**Cottonwood Cre**	**1.75**	**78**		Pn	14 08 38.3	-0.8
CWC				IAML		14 09 04.0	
	comp=E,130nm,0.6s						
CWC				IAML		14 09 05.4	
	comp=N,127nm,0.5s						
MRDM	**Red Cones**	**1.77**	**31**		Pn	14 08 40.0	+0.5
MDPB	**Devils Postpil**	**1.79**	**30**		Pn	14 08 40.4	+0.6
MMPM	**Mammoth Pass**	**1.79**	**31**		Pn	14 08 40.5	+0.6
MTUM	**Tungsten Hills**	**1.83**	**45**		Pn	14 08 40.9	+0.7
MDYM	**Dry Creek**	**1.84**	**31**		Pb	14 08 41.5	-0.9
MLCM	**Laurel Creek C**	**1.84**	**34**		Pn	14 08 41.3	+0.8
MGPM	**Gravel Pit**	**1.86**	**34**		Pn	14 08 41.7	+1.0
MDCM	**Deadman Creek**	**1.87**	**29**		Pn	14 08 41.7	+0.8
WNMM	**Nine Mile Cany**	**1.87**	**97**		Pn	14 08 41.3	+0.7
MEMM	**East Mammoth H**	**1.88**	**32**		Pb	14 08 42.1	-0.9
MFS	**McCloud Flat S**	**1.90**	**88**		Pn	14 08 42.1	+0.9
MDRNC	**Doe Ridge**	**1.90**	**35**		Pb	14 08 42.6	-0.8
MFBM	**Five Bridges**	**1.96**	**46**		Pb	14 08 43.5	-0.8
CMB	**Columbia Colle**	**1.96**	**356**	Pn	Pn	14 08 41.5	-0.3
CMB				IAML		14 09 12.2	
	comp=N,82nm,0.5s						
CMB				IAML		14 09 13.1	
	comp=E,111nm,0.6s						
CGO	**Cerro Gordo**	**1.99**	**76**		Pb	14 08 43.8	-1.2
JRSC	**Jasper Ridge**	**2.11**	**309**	Pn	Pn	14 08 43.2	-0.7
JRSC				IAML		14 09 22.8	
	comp=E,96nm,2.8s						
JRSC				IAML		14 09 48.2	
	comp=N,93nm,3.3s						
MPMC	**Manual Prospec**	**2.19**	**90**	Pn	Pn	14 08 45.3	+0.1
DSP	**Deep Springs**	**2.20**	**54**		Pn	14 08 46.6	+1.4
DSP				IAML		14 09 17.2	
	comp=N,62nm,0.8s						
DSP				IAML		14 09 20.4	
	comp=E,88nm,0.7s						
WELL	**Weller Preserv**	**2.39**	**350**		Pn	14 08 46.5	-1.3
WELL				IAML		14 09 27.0	
	comp=N,57nm,0.5s						
WELL				IAML		14 09 37.6	
	comp=E,75nm,0.4s						
WAKR	**Walker**	**2.49**	**14**		Pn	14 08 51.2	+1.9
LHV	**Little Huntoon**	**2.55**	**31**		Pn	14 08 52.1	+2.1
LHV				IAML		14 09 31.0	
	comp=N,104nm,0.5s						
GWY	**Greenwater Val**	**2.86**	**87**		Pb	14 08 60.0	+0.3
GSC	**Goldstone, Bar**	**2.87**	**105**		Pb	14 08 58.8	-1.0
GSC				IAML		14 09 45.9	
	comp=E,37nm,0.8s						
GSC				IAML		14 10 12.7	
	comp=N,35nm,0.4s						
RYN	**Ryan**	**2.87**	**27**		Pn	14 08 53.6	-1.0
RYN				IAML		14 09 37.1	
	comp=N,63nm,0.5s						
RYN				IAML		14 09 37.3	
	comp=E,70nm,0.5s						
TPH	**Tonopah**	**3.10**	**49**	Pn	Pn	14 08 57.4	-0.4
TPNV	**Topopah Spring**	**3.29**	**74**		Pn	14 08 58.6	-1.7
TPNV				IAML		14 09 52.8	
	comp=E,26nm,0.8s						
TPNV				IAML		14 09 54.8	
	comp=E,28nm,0.8s						
ORV	**Oroville**	**3.62**	**344**	IAML		14 10 05.3	
	comp=E,19nm,0.8s						
PAHR	**Pah Rah Range**	**3.68**	**10**	IAML		14 10 06.1	
	comp=N,31nm,1.2s						
PAHR				IAML		14 10 06.5	
	comp=E,29nm,0.9s						
BEKR	**Beckworth**	**3.78**	**358**	IAML		14 10 08.2	
	comp=N,31nm,0.6s						
S11A	**Rachel**	**3.89**	**65**	IAML		14 10 23.9	
	comp=N,32nm,0.9s						
DPP	**Dos Picos Cty**	**4.08**	**138**	IAML		14 10 03.1	
	comp=N,12nm,0.4s						
DPP				IAML		14 10 22.7	
	comp=E,10nm,0.1s						

TAP 28 14:17:38.2,24°.05N×121°.49E,h58km,ML1.7,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LXIB	**Xiulin Townshi**	**0.08**	**245**	*i* P	Pn	14 17 47.4	+0.2
LXIB				*i* S	Sn	14 17 54.4	+0.7
ETM	**Tongmen**	**0.09**	**178**	P	Pn	14 17 46.9	-0.1
ETM				S	Sn	14 17 53.2	-0.2
TWD	**Chiawan**	**0.10**	**75**	*i* P	Pn	14 17 47.1	0.0
TWD				S	Sn	14 17 53.3	-0.1
ETLH	**Xiulin Townshi**	**0.15**	**358**	*e*P	Pn	14 17 47.7	+0.3
ETLH				*i* S	Sn	14 17 54.5	+0.5
NACB	**Ninganchiao**	**0.15**	**39**	*e*P	Pn	14 17 47.0	-0.3
NACB				*e*S	Sn	14 17 53.7	-0.1
WHF	**Hehuan Shan**	**0.22**	**294**	*e*P	Pn	14 17 47.8	-0.4
WHF				*e*S	Sn	14 17 55.8	+0.5
ESL	**Shilin**	**0.24**	**192**	*e*P	Pn	14 17 47.6	-0.2
ESL				S	Sn	14 17 54.3	-0.4
SHUL	**Shoufeng**	**0.27**	**166**	P	Pn	14 17 48.3	+0.3
SHUL				S	Sn	14 17 56.0	+1.1
FUSS	**Fushou**	**0.29**	**311**	*e*P	Pn	14 17 49.3	+0.9
FUSS				*e*S	Sn	14 17 57.0	+1.2
OWD	**Renai**	**0.30**	**251**	*e*P	Pn	14 17 48.6	+0.2
OWD				*e*S	Sn	14 17 55.8	+0.1
WUSB	**Renai**	**0.34**	**260**	*i* P	Pn	14 17 49.7	+1.0
WUSB				S	Sn	14 17 57.5	+1.2
TEGC	**Jichi Village**	**0.35**	**172**	*e*S	Sn	14 17 56.6	+0.6
TWT	**Tachien**	**0.35**	**305**	*e*S	Sn	14 17 57.9	+1.4
WARBT	**Fenglin Townsh**	**0.35**	**196**	*e*P	Pn	14 17 48.2	-0.4
WARBT				*i* S	Sn	14 17 55.7	-0.4
NNSB	**Datong**	**0.39**	**345**	*i* P	Pn	14 17 49.6	+0.6
NNSB				*i* S	Sn	14 17 57.5	+0.6
EGFH	**Guangfu**	**0.39**	**188**	*e*P	Pn	14 17 49.2	+0.2
EGFH				*i* S	Sn	14 17 56.0	-0.7
NNS	**Nan Shan**	**0.40**	**345**	P	Pn	14 17 49.6	+0.4
NNS				S	Sn	14 17 57.7	+0.6
ENA	**Nanau**	**0.44**	**32**	*e*P	Pn	14 17 49.8	+0.4
ENA				*e*S	Sn	14 17 58.4	+0.9
EWUT	**Wuta**	**0.47**	**34**	*e*P	Pn	14 17 49.9	+0.1
EWUT				*e*S	Sn	14 17 59.1	+1.0
LATG	**Datong**	**0.48**	**4**	*e*P	Pn	14 17 50.2	+0.1
LATG				*e*S	Sn	14 17 59.2	+0.7
DPDB	**Guoxing**	**0.52**	**268**	P	Pn	14 17 51.2	+0.9
DPDB				*e*S	Sn	14 18 00.1	+1.0
WHP	**Taichung City**	**0.54**	**294**	*e*P	Pn	14 17 51.7	+1.0
WHP				*e*S	Sn	14 18 01.0	+1.3
SSLB	**Suanglung**	**0.56**	**242**	*i* P	Pn	14 17 51.7	+1.0
SSLB				S	Sn	14 18 01.7	+1.9
SMLT	**Sun Moon Lake**	**0.56**	**253**	*e*P	Pn	14 17 51.5	+0.6
SMLT				*e*S	Sn	14 18 01.2	+1.1
ENTT	**Nioudou**	**0.59**	**7**	*e*P	Pn	14 17 51.5	+0.4
ENTT				*e*S	Sn	14 18 01.3	+0.9
TYC	**Yuchr**	**0.60**	**256**	*e*P	Pn	14 17 51.6	+0.5
TYC				*e*S	Sn	14 18 01.4	+0.9
YHNB	**Yeheng**	**0.62**	**350**	*e*P	Pn	14 17 51.8	+0.2
YHNB				*e*S	Sn	14 18 02.2	+1.0
NSK	**Sanguang**	**0.63**	**349**	*e*P	Pn	14 17 52.6	+0.9
NSK				*e*S	Sn	14 18 02.4	+1.0
NFF	**Wufeng Townshi**	**0.67**	**330**	*e*P	Pn	14 17 53.6	+1.5
NFF				*e*S	Sn	14 18 03.8	+1.6
WHYT	**Xinyi Township**	**0.68**	**239**	*e*P	Pn	14 17 52.8	+0.6
WHYT				*e*S	Sn	14 18 04.7	+2.3
YULB	**Yu-li**	**0.68**	**195**	*e*P	Pn	14 17 52.0	-0.3
YULB				*e*S	Sn	14 18 02.3	-0.1
FUSB	**Fushanzhiwuyua**	**0.71**	**7**	*e*P	Pn	14 17 52.8	+0.2
FUSB				*e*S	Sn	14 18 04.0	+0.9
TWF1	**Yuli**	**0.72**	**194**	*e*P	Pn	14 17 54.5	+1.8
NSTT	**Nanjuang**	**0.73**	**322**	*e*P	Pn	14 17 53.9	+1.2
NSTT				*e*S	Sn	14 18 04.6	+1.2

JMA 28 14:18:16.7±0.2,25°N±1°×123°.3E±0°.2,h19km,MV1.4/8, NW OFF ISHIGAKIJIMA IS,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.47**	**219**	*e*P	Pg	14 18 25.9	-0.4
JYNG	**Yonagunijimaku**	**0.52**	**223**	P	Pb	14 18 27.0	-0.2
JYNG				*e*S	Sg	14 18 34.0	-0.2
IRIF	**Iriomote-Funau**	**0.61**	**144**	P	Pb	14 18 28.4	-0.2
IRIF				*e*S	Sb	14 18 36.7	-0.1
JKRS	**Kuro-shima**	**0.85**	**134**	*e*P	Pb	14 18 32.3	-0.5
JIJ	**Ishigaki jima**	**0.87**	**122**	*e*P	Pb	14 18 32.9	-0.2
HATJ	**Hateruma jima**	**0.88**	**151**	*e*P	Pb	14 18 33.0	-0.4
JISG	**Ishigakijimahi**	**0.92**	**105**	*e*S	Sb	14 18 44.9	-1.0

*SKO **28** 14:21:45.0,41°.55N×19°.38E,h5km,ML3.3*
*TIR **28** 14:21:47.2,41°.37N×19°.44E,h45km±2km,Ml3.6/7*
*BEO **28** 14:21:47.9±0.5,41°.26N×19°.51E,h10km±3km,ML3.1/12*
*THE **28** 14:21:48.3,41°.N±13°×19°.E±°,h11km,M3.0/12,MLh3.0/12*
*PDG **28** 14:21:49.1±0.4,41°.37N×19°.37E,h22km±1km, MD3.3/1, ML3.2/11,Error ellipse: s-maj=1.2km s-min=2.6km az=0.0*
*IDC **28** 14:21:50.8±22.0,41°.85N±20°.38E,h0km,mb3.8/3, mbtmp3.8/4,ML2.8/1,MS3.4/3,Error ellipse: s-maj=426.9km s-min=70.1km az=52.0*

ISC 28 14:21:47.0±1.1,41°.31N±0°.02×19°.47E±0°.02,h9km±8km, n106,σ1°22/148,mb4.0/3,MS3.0/3,21C-8D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.30**	**83**	Pg	**Pg**	**14 21 52.6**	**-0.3**
TIR				Sg	**Sg**	**14 21 55.7**	**-1.3**
TIR				AML	AML	14 21 56.2	
	20nm,0.2s						
TIR				AML	AML	14 21 57.0	
	24nm,0.4s						
ULC	**Ulcinj**	**0.67**	**346**	↑*i*Pg	**Pg**	**14 22 00.0**	**0.0**
ULC				*i* Sg	**Sb**	**14 22 10.5**	**+0.1**
VLO	**Vlora**	**0.84**	**179**	Pg	**Pn**	**14 22 06.3**	**+1.3**
VLO				Sg	**Sb**	**14 22 16.4**	**+1.3**
VLO				AML	AML	14 22 22.4	
	8.0nm,0.4s						
VLO				AML	AML	14 22 29.0	
	7.9nm,0.5s						
DRME	**Dracevica, Mon**	**0.90**	**346**	*e*Pg	**Pg**	**14 22 04.7**	**+0.4**
DRME				*e*Sg	**Sn**	**14 22 20.1**	**+1.1**
DRME	**Dracevica, Mon**	**0.90**	**346**	↑*i*Pg	**Pg**	**14 22 04.5**	**+0.2**
DRME				*i* Sg	**Sb**	**14 22 17.9**	**+1.0**
OHR	**Ohrid**	**1.02**	**101**	*i* Pg	**Pg**	**14 22 05.7**	**-1.0**
OHR				*i* Sg	**Sb**	**14 22 21.9**	**+1.4**
OHR				*e*Lg	Lg	14 22 23.7	
	comp=E,516nm,0.5s						
OHR				*e*Lg	Lg	14 22 25.0	
	comp=N,887nm,1.2s						
BUM	**Brajici-Budva**	**1.08**	**337**	↓*i*Pg	**Pg**	**14 22 07.8**	**+0.1**
BUM				*i* Sg	**Sn**	**14 22 24.7**	**+1.3**
PDG	**Podgorica**	**1.13**	**352**	↓P	**Pn**	**14 22 09.8**	**+0.9**
PDG				↑S	**Sn**	**14 22 27.5**	**+3.0**
PDG	**Podgorica**	**1.13**	**352**	*e*Pg	**Pn**	**14 22 09.4**	**+0.8**
PDG				*e*Sg	**Sn**	**14 22 26.3**	**+1.7**
PDG	**Podgorica**	**1.13**	**352**	↑*i*Pg	**Pb**	**14 22 09.0**	**+0.4**
PDG				*i* Sg	**Sn**	**14 22 25.7**	**+1.1**
KBN	**Korca**	**1.21**	**124**	Pn	**Pg**	**14 22 10.5**	**+0.3**
KBN				Sn	**Sg**	**14 22 26.9**	**+0.9**
KBN				AML	AML	14 22 31.5	
	comp=N,3.0nm,0.5s						
CEME	**Cevo**	**1.30**	**342**	↑*i*Pg	**Pg**	**14 22 11.9**	**0.0**
CEME				*i* Sg	**Sn**	**14 22 29.9**	**+1.0**
HCY	**Herceg Novi**	**1.35**	**328**	↑*i*Pg	**Pn**	**14 22 12.9**	**+0.9**
HCY				*i* Sg	**Sn**	**14 22 30.9**	**+0.9**
NKME	**Niksic**	**1.50**	**345**	↑*i*Pg	**Pn**	**14 22 15.0**	**+0.8**
NKME				*i* Sg	**Sn**	**14 22 35.5**	**+1.6**
KOME	**Kolasin**	**1.54**	**1**	*e*Pg	**Pg**	**14 22 16.6**	**+0.1**
KOME				*e*Sg	**Sg**	**14 22 36.9**	**+0.5**
KOME	**Kolasin**	**1.54**	**1**	↓*i*Pg	**Pb**	**14 22 16.0**	**+0.3**
KOME				*i* Sg	**Sg**	**14 22 36.3**	**-0.1**
BEY	**Berane**	**1.59**	**11**	*e*Pn	**Pn**	**14 22 16.7**	**+1.3**
IVA	**Berane**	**1.59**	**11**	↓*i*Pg	**Pn**	**14 22 16.5**	**+1.1**
IVA				*i* Sg	**Sg**	**14 22 38.0**	**-0.1**
SKO	**Skopje**	**1.62**	**65**	*i* Pn	**Pn**	**14 22 16.3**	**+0.6**
SKO				*i* Sn	**Sn**	**14 22 37.6**	**+0.9**
TREB	**Trebinje**	**1.63**	**330**	*e*Pn	**Pn**	**14 22 16.3**	**+0.4**
TREB	**Trebinje**	**1.63**	**330**	*e*Pn	**Pb**	**14 22 17.5**	**+0.3**
PENT	**Pentalofos**	**1.69**	**131**	P	**Pn**	**14 22 18.4**	**+1.6**
PENT				S	**Sn**	**14 22 40.4**	**+

MMB	**Musomishta**	**3.23**	**84**	*i*	Pn		**Pn**	14 22 38.3	+0.4
MMB				*i*	Sn		**Sn**	14 23 15.7	-0.8
VLS	**Valsamata**	**3.25**	**164**	P			**Pn**	14 22 37.5	-0.6
BORS2	**Bor- Borsko je**	**3.35**	**33**	*e*	Pn		**Pn**	14 22 39.2	-0.4
KUBS	**Kucevo**	**3.50**	**27**	*e*	Pn		**Pn**	14 22 40.6	-0.9
KIJV	**Kijevo**	**3.51**	**321**	*e*	Pn		**Pn**	14 22 42.2	+0.4
BLY	**Banja Luka**	**3.82**	**335**	*e*	Pn		Pn	14 22 37.3	-8.7
MDVR	**Moldovita**	**3.84**	**25**	⇑	P		**Pn**	14 22 48.0	+1.7
MDVR	**Moldovita**	**3.84**	**25**	*e*	Pn		**Pn**	14 22 47.9	+1.7
HERR	**Herculane**	**4.17**	**30**	⇑	P		**Pn**	14 22 52.9	+2.1
SRE	**Strehaia**	**4.33**	**38**	⇑	P		**Pn**	14 22 54.4	+1.4
BZS	**Buzias**	**4.58**	**19**	⇑	P		**Pn**	14 22 58.3	+1.9
BZS	**Buzias**	**4.58**	**19**	*e*	Pn		**Pn**	14 22 56.8	+0.4
GZR	**Gura Zlata**	**4.74**	**29**	⇑	P		**Pn**	14 23 00.7	+2.1
GZR	**Gura Zlata**	**4.74**	**29**	*e*	Pn		**Pn**	14 23 00.5	+1.9
SURR	**Surduc**	**4.84**	**23**	⇑	P		**Pn**	14 23 02.4	+2.4
ELND	**Elena**	**5.03**	**69**	⇑	P		**Pn**	14 23 03.8	+1.2
LOT	**Lotru**	**5.19**	**36**	⇑	P		**Pn**	14 23 06.2	+1.3
BOJS	**Bojanci**	**5.19**	**325**	*e*	Pn		**Pn**	14 23 05.4	+0.6
BRJN	**Brijuni**	**5.51**	**313**	*e*	Pn		**Pn**	14 23 08.8	-0.4
ARR	**Arges**	**5.53**	**41**	⇓	P		**Pn**	14 23 11.3	+1.8
CEY	**Cerknica**	**5.74**	**322**	*e*	Pn		**Pn**	14 23 14.0	+1.6
VOIR		**5.79**	**43**	⇓	P		**Pn**	14 23 14.5	+1.4
DRGR		**5.96**	**22**	⇑	P		**Pn**	14 23 17.3	+1.9
MLR	**Muntele Rosu**	**6.30**	**46**	⇑	P		**Pn**	14 23 22.4	+2.3
VRI	**Vrincioaia**	**6.96**	**47**	⇑	P		**Pn**	14 23 31.2	+2.1
FINES	**FINESS Array B**	**20.56**	**9**	P			**P**	14 26 23.7	-1.9
	comp=N,0.1nm,0.3s,baz=185,slow=15,SNR=1.8 comp=N,1.6nm,0.8s								
MDT	**Midelt**	**20.95**	**254**	LR			LR	14 34 58.8	
	comp=N,57nm,18.4s,baz=66,slow=36								
AAK	**Ala-Archa**	**40.32**	**69**	LR			LR	14 47 26.0	
	comp=N,25nm,20.6s,baz=126,slow=39								
ZALV	**Zalesovo Beam**	**44.26**	**50**	P			**P**	14 29 54.9	-1.7
	comp=N,1.2nm,0.4s,baz=267,slow=10.0,SNR=4.1 comp=N,1.2nm,0.4s								
MKAR	**Makanchi Array**	**44.42**	**61**	P			**P**	14 29 56.2	-1.7
	comp=N,0.7nm,0.6s,baz=274,slow=8.1,SNR=8.2 comp=N,0.7nm,0.6s								
SONM	**Songino Array**	**59.12**	**52**	P			**P**	14 31 46.7	-1.2
	comp=N,0.5nm,0.4s,baz=290,slow=9.1,SNR=2.2 comp=N,0.5nm,0.4s								
CMIG	**Matias Romero**	**96.03**	**299**	LR			LR	15 21 02.6	
	comp=N,59nm,18.4s,baz=210,slow=37								

*JMA **28** 14:26:36.5±0.1,23.6°N±0.9×122.4°E±0.5,h39km,MV2.1/12, NEAR ISHIGAKIJIMA ISLAND*
*TAP **28** 14:26:37.0,23.62°N×122.45°E,h42km,ML2.6,D*
ISC 28 14:26:35.6±1.1,23.54N±0.03×122.45E±0.03,h28km±11km, n81,σ0965/125,2C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.59**	**348**	P	**Pb**	14 26 47.5	+0.3
EOS4				S	**Sb**	14 26 55.2	+0.2
EOS3	**EOS3**	**0.75**	**351**	P	**Pb**	14 26 50.3	+0.3
EOS3				S	**Sb**	14 26 59.7	-0.2
TEYL	**Yanliau Villag**	**0.84**	**293**	*e*P	**Pb**	14 26 51.6	-0.1
SHUL	**Shoufeng**	**0.85**	**287**	*e*P	**Pn**	14 26 52.0	+0.3
SHUL				*e*S	**Sb**	14 27 00.3	+0.5
TEGC	**Jichi Village**	**0.85**	**282**	*e*S	**Sn**	14 27 03.6	+0.4
EOS2	**EOS2**	**0.90**	**347**	*e*P	**Pn**	14 26 52.7	+0.5
HGSD	**Ruisui**	**0.94**	**267**	⇑P	**Pb**	14 26 53.2	-0.1
HGSD				*e*S	**Sb**	14 27 04.6	-0.8
ECBN	**Changbin**	**0.94**	**256**	*e*S	**Sn**	14 27 06.1	+0.6
EGFH	**Guangfu**	**0.94**	**278**	*e*P	**Pb**	14 26 53.5	+0.2
EGFH				*e*S	**Sb**	14 27 05.4	-0.1
TWD	**Chiawan**	**0.95**	**305**	*e*P	**Pn**	14 26 52.7	-0.3
ESL	**Shilin**	**0.97**	**286**	*e*P	**Pn**	14 26 53.0	-0.3
ESL				*e*S	**Sb**	14 27 05.1	-1.1
ETM	**Tongmen**	**0.97**	**296**	*e*P	**Pn**	14 26 53.2	-0.2
WARBT	**Fenglin Townsh**	**0.99**	**280**	⇓P	**Pn**	14 26 53.6	-0.1
WARBT				*e*S	**Sb**	14 27 05.6	-1.2
NACB	**Ninganchiao**	**1.00**	**309**	P	**Pn**	14 26 53.4	-0.5
NACB	**Ninganchiao**	**1.00**	**309**	*e*P	**Pn**	14 26 53.4	-0.5
NACB				*e*S	**Sn**	14 27 05.1	-2.0
EHYH	**Wanrong**	**1.01**	**268**	*e*P	**Pb**	14 26 54.8	+0.3
JYNG	**Yonagunijimaku**	**1.01**	**27**	P	**Pn**	14 26 53.9	-0.1
JYNG				S	**Sn**	14 27 05.9	-1.4
CHKH	**Chenggong**	**1.03**	**250**	*e*P	**Pb**	14 26 54.4	-0.3
CHKH				*e*S	**Sb**	14 27 07.2	-0.6
EHY	**Hungye**	**1.03**	**268**	*e*P	**Pb**	14 26 55.1	+0.2
EHY				*e*S	**Sb**	14 27 08.2	+0.2
YOJ	**Yonaguni jima**	**1.05**	**29**	P	**Pn**	14 26 54.5	0.0
YOJ	**Yonaguni jima**	**1.05**	**29**	*e*P	**Pn**	14 26 54.5	0.0
LXIB	**Xiulin Townshi**	**1.06**	**297**	*e*P	**Pn**	14 26 54.6	-0.1
LXIB				*e*S	**Sn**	14 27 09.1	+0.4
YULB	**Yu-li**	**1.07**	**262**	P	**Pb**	14 26 55.8	+0.4
YULB	**Yu-li**	**1.07**	**262**	S	**Sb**	14 27 09.3	+0.3
YULB	**Yu-li**	**1.07**	**262**	*e*P	**Pb**	14 26 55.3	-0.1
YULB				*e*S	**Sb**	14 27 09.0	0.0
TWF1	**Yuli**	**1.07**	**260**	*e*P	**Pb**	14 26 55.4	-0.1
TWF1				*e*S	**Sb**	14 27 09.8	+0.6
CHKT	**Chengkung**	**1.09**	**246**	⇑P	**Pb**	14 26 55.2	-0.5
CHKT				*e*S	**Sn**	14 27 09.2	-0.1
EWUT	**Wuta**	**1.09**	**326**	*e*P	**Pn**	14 26 55.6	+0.6
EWUT				*e*S	**Sn**	14 27 08.7	-0.5
ENA	**Nanau**	**1.09**	**324**	*e*P	**Pn**	14 26 55.6	+0.5
ENA				*e*S	**Sn**	14 27 09.2	-0.1
ETLH	**Xiulin Townshi**	**1.11**	**307**	*e*P	**Pn**	14 26 55.4	0.0
ETLH				*e*S	**Sn**	14 27 08.7	-1.1
FULB	**Fuli**	**1.11**	**252**	*e*S	**Sb**	14 27 10.0	-0.4
EDH	**Donghe**	**1.20**	**242**	⇓P	**Pb**	14 26 56.9	-0.6
TWC	**Suao**	**1.20**	**333**	*e*S	**Sn**	14 27 11.4	-0.5
EHD	**Haiduan**	**1.21**	**251**	*e*P	**Pb**	14 26 57.4	-0.4
EHD				*e*S	**Sb**	14 27 12.6	-0.4
OWD	**Renai**	**1.24**	**290**	*e*P	**Pn**	14 26 57.9	+0.7
OWD				*e*S	**Sn**	14 27 12.5	-0.5
LDUT	**Ludao**	**1.25**	**226**	*e*P	**Pn**	14 26 56.9	-0.3
NDS	**Dongshan**	**1.28**	**329**	*e*S	**Sn**	14 27 14.0	+0.2
WUSB	**Renai**	**1.30**	**290**	*e*P	**Pn**	14 26 58.6	+0.6
WUSB				*e*S	**Sn**	14 27 14.7	+0.2
LATG	**Datong**	**1.30**	**320**	*e*P	**Pn**	14 26 58.5	+0.5
LATG				*e*S	**Sn**	14 27 13.9	-0.6
NNSB	**Datong**	**1.32**	**312**	*e*P	**Pn**	14 26 58.7	+0.5
NNSB				*e*S	**Sn**	14 27 14.2	-0.7
HATJ	**Hateruma jima**	**1.34**	**67**	S	**Sn**	14 27 15.5	0.0
ENTT	**Nioudou**	**1.36**	**324**	*e*P	**Pn**	14 26 59.9	+1.1
ELDTW	**Lidau**	**1.36**	**255**	*e*P	**Pb**	14 26 59.7	-0.7
ELDTW				*e*S	**Sn**	14 27 15.8	-0.2
LONT	**Longtian**	**1.37**	**243**	*e*P	**Pb**	14 27 00.0	-0.5
LONT				*e*S	**Sb**	14 27 17.1	-0.5
YUS	**Yu-Shan**	**1.37**	**268**	*e*S	**Sn**	14 27 17.6	+0.7
TWE	**Neicheng**	**1.38**	**329**	*e*P	**Pn**	14 27 00.1	+1.1
TWE				*e*S	**Sn**	14 27 15.8	-0.4
SSLB	**Suanglung**	**1.39**	**280**	P	**Pb**	14 27 00.5	-0.4
SSLB	**Suanglung**	**1.39**	**280**	*e*P	**Pb**	14 27 00.5	-0.4
IRIF	**Iriomote-Funau**	**1.41**	**56**	P	**Pn**	14 27 00.2	+0.8
IRIF				*e*S	**Sn**	14 27 17.5	+0.4
FUSB	**Fushanzhiwuyua**	**1.45**	**327**	*e*P	**Pn**	14 27 01.3	+1.3
FUSB				*e*S	**Sn**	14 27 17.7	-0.4
TWGBT	**Beinan**	**1.45**	**241**	S	**Sb**	14 27 20.2	+0.2
TWGBT	**Beinan**	**1.45**	**241**	P	**Pb**	14 27 03.8	+1.9
TWGBT	**Beinan**	**1.45**	**241**	*e*S	**Sn**	14 27 18.5	+0.4
TWG	**Pinlang**	**1.46**	**241**	*e*S	**Sn**	14 27 18.6	+0.4
SMLT	**Sun Moon Lake**	**1.46**	**284**	*e*P	**Pb**	14 27 01.5	-0.6
SMLT				*e*S	**Sn**	14 27 19.6	+1.1
WHYT	**Xinyi Township**	**1.47**	**276**	*e*P	**Pb**	14 27 01.8	-0.5
WHYT				*e*S	**Sn**	14 27 19.4	+0.7
YHNB	**Yeheng**	**1.49**	**319**	S	**Sn**	14 27 19.5	+0.3
YHNB	**Yeheng**	**1.49**	**319**	P	**Pn**	14 27 01.8	+1.2
YHNB	**Yeheng**	**1.49**	**319**	*e*P	**Pn**	14 27 01.6	+1.0
YHNB				*e*S	**Sn**	14 27 18.8	-0.4
NSK	**Sanguang**	**1.51**	**319**	*e*P	**Pn**	14 27 01.9	+1.1
NSK				*e*S	**Sn**	14 27 18.6	-1.0
ALS	**Alishan**	**1.51**	**269**	*e*P	**Pb**	14 27 03.1	0.0
ALS				*e*S	**Sb**	14 27 21.3	-0.6
TIPB	**Shuangxi**	**1.53**	**338**	*e*P	**Pb**	14 27 02.7	-0.6
TIPB				*e*S	**Sn**	14 27 19.5	-0.7
WHP	**Taichung City**	**1.56**	**298**	*e*P	**Pb**	14 27 04.3	+0.4
JKRS	**Kuro-shima**	**1.59**	**64**	*e*P	**Pn**	14 27 02.7	+0.8
JKRS				*e*S	**Sn**	14 27 21.8	+0.3
CHN5	**Tsauling**	**1.62**	**272**	*e*S	**Sb**	14 27 24.9	-0.2
SXI1	**Grass Mountain**	**1.63**	**341**	*e*P	**Pn**	14 27 03.0	+0.4
ECL	**Taimali**	**1.67**	**236**	*e*S	**Sn**	14 27 23.9	+0.5
TPUB	**Ta-pu**	**1.69**	**262**	P	**Pb**	14 27 05.7	-0.3
TPUB	**Ta-pu**	**1.69**	**262**	S	**Sb**	14 27 27.5	+0.7
TPUB	**Ta-pu**	**1.69**	**262**	*e*P	**Pb**	14 27 05.9	-0.1
TPUB				*e*S	**Sb**	14 27 26.9	0.0
KSHI	**Guanxi Townshi**	**1.69**	**317**	*e*P	**Pb**	14 27 05.5	-0.5
KSHI				*e*S	**Sb**	14 27 26.6	-0.4
LIOB	**Emei**	**1.71**	**310**	*e*P	**Pb**	14 27 06.0	-0.4
LIOB				*e*S	**Sn**	14 27 26.4	+1.9
NSTT	**Nanjuang**	**1.71**	**310**	*e*P	**Pb**	14 27 06.1	-0.3
NSTT				*e*S	**Sn**	14 27 25.6	+1.0
WTP	**Ta-pu**	**1.71**	**260**	*e*P	**Pb**	14 27 06.4	0.0
WTP				*e*S	**Sb**	14 27 27.8	+0.3
LYUB	**Lan-yu**	**1.73**	**208**	*e*P	**Pn**	14 27 03.9	+0.1
LYUB				*e*S	**Sn**	14 27 23.9	-1.0
JIJ	**Ishigaki jima**	**1.75**	**62**	P	**Pn**	14 27 04.5	+0.4
JIJ				S	**Sn**	14 27 24.6	-0.9
TWK	**Hsinying**	**1.82**	**262**	*e*P	**Pb**	14 27 08.1	-0.2
TWK				*e*S	**Sb**	14 27 30.6	-0.1
SSD	**Sandimen**	**1.85**	**245**	*e*P	**Pb**	14 27 08.9	+0.2
MASBT	**Mashibuluo**	**1.91**	**241**	*e*P	**Pb**	14 27 08.3	-1.5
JISG	**Ishigakijimahi**	**2.00**	**58**	P	**Pn**	14 27 07.5	+0.1
JISG				*e*S	**Sn**	14 27 31.1	-0.4
JTJ	**Tarama**	**2.33**	**62**	*e*P	**Pn**	14 27 13.2	+1.1

JMA 28 14:30:08.3±0.2,27°N±1°×14°1E±°,h143km,MV3.8/11, NEAR CHICHIJIMA ISLAND,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.73**	**73**	*e*P	Pn	14 30 30.5	+0.2
CBIJ				S	Sn	14 30 47.2	+0.3
JHH2	**Haha-jima-NKT2**	**0.74**	**110**	P	Pn	14 30 30.5	+0.1
JHH2				S	Sn	14 30 47.3	+0.2
JHJ2	**Mitsune**	**6.35**	**348**	*e*P	Pn	14 31 39.2	-0.5
JAG	**Ashikaga**	**9.65**	**351**	P	Pn	14 32 19.9	-3.9
JHO	**Hitachi**	**9.72**	**356**	*e*P	Pn	14 32 21.1	-3.5

*WEL **28** 14:34:02.5±0.3,38°S±2°×17°8E±°,h17km±2km,M3.4/55, ML3.9/25,MLv3.4/55,Error ellipse: s-maj=3.5km s-min=2.2km az=111.3,confirmed*
*NOU **28** 14:34:03.7,38.45S×178.02E,h20km,MLv3.7/9,Off E. Coast of N. Island, N.Z.*
ISC 28 14:34:03.0±1.0,38.49S±0.03×178.10E±0.03,h22km±1km, n95,σ1902/109,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.09**	**85**	P	**Pb**	14 34 06.9	-0.2
GHHS	**Gisborne Hospi**	**0.16**	**202**	P	**Pb**	14 34 07.8	-0.8
GHHS				S	**Sb**	14 34 13.2	+0.7
GISS	**Gisborne 2ZG**	**0.18**	**198**	P	**Pb**	14 34 08.2	-0.4
GISS				S	**Sb**	14 34 13.9	+1.4
GWTS	**Gisborne Waipa**	**0.19**	**226**	P	**Pb**	14 34 08.2	-0.4
GWTS				S	**Sb**	14 34 14.2	+1.6
GKBS	**Kaiti Beach**	**0.20**	**195**	P	**Pb**	14 34 08.4	-0.3
TBAS	**Tolaga Bay Are**	**0.20**	**54**	P	**Pb**	14 34 08.8	+0.1
TKGZ	**Te Karaka**	**0.20**	**285**	P	**Pb**	14 34 07.3	-1.4
TKGZ				S	**Sb**	14 34 11.7	-0.9
TWGZ	**Tauwhareparae**	**0.33**	**344**	P	**Pb**	14 34 09.6	-0.6
RIGZ	**Rimuhau**	**0.34**	**231**	P	**Pb**	14 34 10.6	+0.2
PUZ	**Puketiti**	**0.44**	**17**	P	**Pb**	14 34 17.2	-0.2
PUZ				S	**Sb**	14 34 19.4	+1.3
PRGZ	**Paritu Road**	**0.46**	**201**	P	**Pb**	14 34 13.0	+0.6
MWZ	**Matawai**	**0.47**	**289**	P	**Pb**	14 34 11.7	-0.9
MWZ				S	**Sb**	14 34 18.9	-0.3
RAGZ	**Rawiri**	**0.53**	**269**	P	**Pb**	14 34 13.2	-0.5
RAGZ				S	**Sb**	14 34 21.8	+0.7
RUGZ	**Raukumara Rang**	**0.62**	**328**	P	**Pb**	14 34 14.2	-1.0
RUGZ				S	**Sb**	14 34 23.3	-0.3
KNZ	**Kokohu**	**0.62**	**212**	P	**Pb**	14 34 15.0	-0.2
KNZ				S	**Sn**	14 34 25.8	0.0
PKGZ	**Pakihiroa**	**0.62**	**359**	P	**Pb**	14 34 14.6	-0.7
PKGZ				S	**Sb**	14 34 24.1	+0.4
SNGZ	**Shannon Statio**	**0.66**	**244**	P	**Pb**	14 34 15.8	0.0
MHGZ	**Mahia Peninsul**	**0.68**	**193**	P	**Pb**	14 34 16.2	+0.1
WMGZ	**Waiomatatini S**	**0.72**	**21**	P	**Pb**	14 34 16.7	-0.1
WMGZ				S	**Sn**	14 34 28.5	+0.3
WFSS	**Wairoa Fire St**	**0.75**	**224**	P	**Pb**	14 34 17.9	+0.5
HAZ	**Te Kaha**	**0.78**	**341**	P	**Pb**	14 34 16.8	-1.0
OPCS	**Opotiki Colleg**	**0.79**	**307**	P	**Pb**	14 34 17.2	-0.8
URZ	**Urewera**	**0.81**	**286**	P	**Pb**	14 34 17.9	-0.4
URZ	**Urewera**	**0.81**	**286**	S	**Sn**	14 34 29.6	-0.8
URZ	**Urewera**	**0.81**	**286**	P	**Pb**	14 34 17.6	-0.7
URZ				S	**Sb**	14 34 28.8	0.0
ECLS	**East Cape Ligh**	**0.88**	**24**	P	**Pn**	14 34 20.2	+0.2
RTZ	**Ruatahuna**	**0.88**	**262**	P	**Pb**	14 34 19.1	-0.6
RTZ				S	**Sn**	14 34 31.9	-0.5
WHHZ	**Waihua**	**0.89**	**229**	P	**Pb**	14 34 19.3	-0.5
RAHZ	**Arahi**	**0.90**	**241**	P	**Pb**	14 34 19.9	0.0
MXZ	**Matakaoa Point**	**0.94**	**10**	P	**Pb**	14 34 19.9	-0.7
MXZ	**Matakaoa Point**	**0.94**	**10**	S	**Sn**	14 34 35.0	+1.3
MXZ	**Matakaoa Point**	**0.94**	**10**	P	**Pb**	14 34 20.0	-0.7
MXZ				S	**Sn**	14 34 34.1	+0.4
MUGZ	**Murupara**	**1.04**	**270**	P	**Pb**	14 34 21.5	-0.7
MTHZ	**Maungataniwha**	**1.05**	**249**	P	**Pb**	14 34 21.3	-1.1
WHRZ	**Whale Island**	**1.09**	**305**	P	**Pb**	14 34 23.3	-0.6
EDRZ	**Edgecumbe**	**1.14**	**289**	P	**Pb**	14 34 24.1	-0.2
ARHZ	**Arapaoanui**	**1.15**	**228**	P	**Pn**	14 34 23.0	-0.8
NMHZ	**Naumai**	**1.18**	**239**	P	**Pb**	14 34 25.0	+0.4
MARZ	**Manawahe**	**1.23**	**294**	P	**Pb**	14 34 25.9	+0.4
RRRZ	**Republican Roa**	**1.25**	**277**	P	**Pn**	14 34 25.1	-0.1
TARZ	**Mount Tarawera**	**1.28**	**281**	P	**Pn**	14 34 25.5	-0.1
PRRZ	**Plateau Road**	**1.34**	**269**	P	**Pn**	14 34 26.4	+0.1
MRHZ	**Matea Rd**	**1.36**	**255**	P	**Pn**	14 34 25.8	-0.8
OPRZ	**Ohinepanea**	**1.38**	**298**	P	**Pn**	14 34 26.1	-0.7
ALRZ	**Allen Road**	**1.38**	**267**	P	**Pn**	14 34 26.4	-0.5
HLRZ	**Highlands Stat**	**1.39**	**279**	P	**Pn**	14 34 27.2	+0.1
CKHZ	**Cape Kidnapper**	**1.41**	**214**	P	**Pn**	14 34 25.4	-1.9
OMRZ	**Omania**	**1.41**	**285**	P	**Pn**	14 34 29.5	+0.9
BKZ	**Black Stump Fm**	**1.42**	**241**	P	**Pb**	14 34 28.6	-0.2
BKZ	**Black Stump Fm**	**1.42**	**241**	P	**Pn**	14 34 26.4	-1.1
HRRZ	**Handcock Road**	**1.43**	**274**	P	**Pb**	14 34 29.2	+0.3
MCHZ	**McNeill Hill**	**1.45**	**228**	P	**Pn**	14 34 27.0	-0.9
HSRZ	**Hossack Road**	**1.47**	**276**	P	**Pn**	14 34 27.2	-0.9
WPRZ	**Whakapapatarin**	**1.52**	**268**	P	**Pb**	14 34 31.5	+1.1
UTU	**Utuhina**	**1.53**	**281**	P	**Pn**	14 34 29.1	+0.1
KARZ	**Kaharoa**	**1.53**	**287**	P	**Pn**	14 34 29.3	+0.3
GRRZ	**Galatos Road**	**1.57**	**275**	P	**Pn**	14 34 29.9	+0.4
KWHZ	**Kaweka Forest**	**1.60**	**234**	P	**Pn**	14 34 29.0	-1.0
KAHZ	**Kahuranaki**	**1.61**	**216**	P	**Pn**	14 34 28.2	-2.0
HATZ	**Hinemaiaia**	**1.62**	**255**	P	**Pb**	14 34 32.1	0.0
TGRZ	**Tauranga**	**1.64**	**297**	P	**Pn**	14 34 29.6	-0.9
WHTZ	**Whakaora**	**1.69**	**263**	P	**Pb**	14 34 36.3	+3.0
KRHZ	**Kereru**	**1.77**	**229**	P	**Pn**	14 34 31.2	-1.1
KUTZ	**Kaahu Road**	**1.78**	**269**	P	**Pn**	14 34 32.2	-0.3
RITZ	**Rihia Road**	**1.82**	**254**	P	**Pb**	14 34 34.4	-1.1
RATZ	**Rangitukua**	**1.86**	**258**	P	**Pb**	14 34 38.2	+2.0
TMVZ	**Te Maari**	**1.97**	**251**	P	**Pn**	14 34 36.5	+1.3
ETVZ	**East Tongariro**	**1.97**	**250**	P	**Pb**	14 34 36.8	-1.4
NTVZ	**North Tongarir**	**1.99**	**251**	P	**Pb**	14 34 37.1	-1.3
WPHZ	**Waipukurau**	**2.03**	**219**	P	**Pn**	14 34 33.6	-2.2
SNVZ	**South Ngauruho**	**2.04**	**249**	P	**Pb**	14 34 40.7	+1.3
NNVZ	**North Ngauruho**	**2.04**	**251**	P	**Pb**	14 34 38.5	-0.9
MOVZ	**Moawhango**	**2.04**	**243**	P	**Pb**	14 34 38.6	-0.8
PNHZ	**Pukenui**	**2.05**	**225**	P	**Pn**	14 34 33.8	-2.3
WTVZ	**West Tongariro**	**2.06**	**252**	P	**Pb**	14 34 40.8	+1.1
TUVZ	**Tukino**	**2.06**	**247**	P	**Pb**	14 34 38.6	-1.1
NGZ	**Ngauruhoe**	**2.06**	**250**	P	**Pb**	14 34 38.6	-1.2
WHVZ	**Whangaehu Hut**	**2.11**	**247**	P	**Pb**	14 34 40.9	+0.3
COVZ	**Chateau Observ**	**2.12**	**250**	P	**Pb**	14 34 42.4	+1.8
WNVZ	**Wahianoa**	**2.12**	**246**	P	**Pb**	14 34 42.1	+1.3
MAVZ	**Matarangi**	**2.12**	**248**	P	**Pb**	14 34 41.6	+0.7
FWVZ	**Far West T-bar**	**2.13**	**248**	P	**Pb**	14 34 40.8	-0.1
TOZ	**Tahuroa Road**	**2.18**	**290**	P	**Pn**	14 34 37.4	-0.6
PKVZ	**Pokaka**	**2.29**	**249**	P	**Pb**	14 34 44.6	+1.0
HIZ	**Hauiti**	**2.54**	**269**	P	**Pn**	14 34 43.2	+0.3
HIZ	**Hauiti**	**2.54**	**269**	P	**Pn**	14 34 43.1	+0.3
KUZ	**Kuaotunu**	**2.57**	**312**	P	**Pn**	14 34 42.2	-1.1
KUZ	**Kuaotunu**	**2.57**	**312**	P	**Pn**	14 34 42.2	-1.1
VRZ	**Vera Road**	**2.68**	**255**	P	**Pn**	14 34 45.1	+0.3
WAZ	**Wanganui**	**2.73**	**242**	P	**Pb**	14 34 48.5	-2.5
DREZ	**Durham Road**	**3.12**	**256**	P	**Pn**	14 34 53.9	+3.1
NEZ	**North Egmont**	**3.22**	**255**	P	**Pn**	14 34 53.8	+1.5
KHEZ	**Kahui Hut**	**3.28**	**255**	P	**Pn**	14 34 54.1	+0.9
KHEZ	**Kahui Hut**	**3.28**	**255**	P	**Pn**	14 34 54.4	+1.2
QRZ	**Quartz Range**	**4.89**	**240**	P	**Pn**	14 35 15.7	+0.6

IDC 28 14:49:51.1±2.5,6.56S×128.69E,h0km,mb3.2/1, mbtmp3.1/3,ML3.2/2,Error ellipse: s-maj=178.4km s-min=33.5km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.39**	**158**	P	Pn	14 53 16.4	+0.2
	0.1nm,0.3s,baz=341,slow=13,SNR=1.9						
WRA				Sn	Sn	14 55 41.7	-15
	0.2nm,0.3s,baz=333,slow=22,SNR=6.4 0.2nm,0.5s						
ASAR	**Alice Springs**	**17.73**	**164**	P	Pn	14 53 59.5	-0.1
	0.1nm,0.3s,baz=336,slow=9.2,SNR=7.0 0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.15**	**327**	P	P	15 00 46.9	0.0
	0.2nm,0.6s,baz=131,slow=7.9,SNR=2.0 0.2nm,0.6s						

GCG 28 15:20:59.6±0.9,14.35N×91.69W,h67km±8km,MD3.7, ML3.4,1C,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOKI	**Kika Raxquin**	**0.54**	**31**	*i*	Pn	15 21 14.3	+1.3
SOKI				*i*	Sn	15 21 25.6	+2.8
SOKI				IAML		15 21 29.1	
	comp=E,408nm,0.6s						
SMCA	**Catarina**	**0.62**	**323**	*e*P	Pn	15 21 13.2	-0.3
SMCA				*i*	Sn	15 21 23.7	0.0
ESSG	**Sabana Grande**	**0.83**	**88**	*e*S	Sn	15 21 28.8	+0.7
FG8	**Yepocapa, Chim**	**1.10**	**95**	⇑*i*P	Pn	15 21 15.2	-4.1
FG8				*i*	Sn	15 21 27.6	-6.4
FG16	**Alotenango, Sa**	**1.14**	**94**	*i*	Pn	15 21 16.4	-3.6
FG16				*i*	Sn	15 21 28.6	-6.6
FG16				IAML		15 21 30.2	
	comp=E,4μm,0.2s						
NUBE	**Las Nubes**	**1.91**	**103**	*e*P	Pn	15 21 30.2	+0.1
NUBE				*i*	Sn	15

Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.35**	**48**	Pg	Pg	16 17 19.6	+0.1
SIGR	**SIGRI**	**0.35**	**48**	P	Pg	16 17 19.6	+0.1
SIGR				S	Sg	16 17 24.3	-0.1
PRK	**Paraskevi**	**0.64**	**65**	P	Pg	16 17 25.1	+0.1
PRK				S	Sg	16 17 33.3	-0.2
EFSA	**Agios Efstrati**	**0.70**	**324**	P	Pb	16 17 26.2	-0.1
KOCA	**Canakkale, Ayv**	**0.71**	**42**	P	Pg	16 17 26.0	-0.2
KOCA				S	Sb	16 17 36.1	-0.1
KOCA				*i* IAML		16 17 39.0	
	comp=N,121nm,0.6s						
KOCA				*i* IAML		16 17 40.0	
	comp=E,126nm,0.3s						
CHOS	**Chios island**	**0.72**	**145**	P	Pg	16 17 26.6	+0.1
CHOS				S	Sb	16 17 36.8	+0.2
SKY	**Skiros Island**	**0.76**	**263**	P	Pg	16 17 27.3	+0.1
SKY				S	Sg	16 17 37.4	+0.1
LIA	**Limnos Island**	**0.96**	**344**	P	Pb	16 17 30.8	0.0
BOZC	**Bozcaada**	**0.96**	**25**	P	Pb	16 17 29.2	-1.6
BOZC				S	Sb	16 17 43.2	-0.1
BOZC				S	Sg	16 17 43.5	+0.1
BOZC				*i* IAML		16 17 46.0	
	comp=N,72nm,0.6s						
BOZC				*i* IAML		16 17 46.0	
	comp=E,77nm,0.6s						
AYVA	**Ayvalik**	**0.97**	**70**	P	Pg	16 17 31.0	0.0
AYVA				*i* IAML		16 17 49.0	
	comp=N,82nm,0.4s						
BAYC	**CANAKKALE_Bayr**	**1.10**	**46**	P	Pb	16 17 32.6	-0.6
BAYC				*i* IAML		16 17 53.0	
	comp=E,41nm,0.2s						
KYMI	**Kymi, Euboea I**	**1.16**	**253**	P	Pn	16 17 33.7	-0.6
ECEA	**Canakkale, Ece**	**1.18**	**25**	P	Pb	16 17 34.7	+0.2
KARY	**Karystos**	**1.27**	**222**	P	Pn	16 17 35.9	+0.2
CNKL	**anakkale-Mer**	**1.28**	**31**	P	Pn	16 17 34.7	-1.1
CNKL				S	Sg	16 17 54.0	+0.4
SMTH	**Samothraki Isl**	**1.49**	**0**	P	Pb	16 17 39.5	-0.4
DION	**Dionisos Attik**	**1.54**	**235**	P	Pn	16 17 39.4	-0.1
THAS	**Thassos island**	**1.74**	**339**	P	Pn	16 17 42.3	+0.1

AFAD ***28*** *16:17:15.7,39.06N×25.73E,h8km±3km,ML2.0*

ISK 28 16:17:16.1,39.19N×25.67E,h1km,ML2.2/14,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.72**	**24**	Pg	Pb	16 17 31.2	-0.2
BOZC				Sg	Sb	16 17 42.3	+0.5
EZNE	**Ezine-Canakkal**	**0.78**	**43**	Pg	Pb	16 17 32.3	-0.2
EZNE				Sg	Sb	16 17 43.9	+0.3
AYVA	**Ayvalik**	**0.80**	**81**	P	Pg	16 17 31.6	+0.1
AYVA				S	Sb	16 17 44.3	+0.1
EZN	**Ezine**	**0.82**	**38**	Pg	Pg	16 17 32.4	+0.6
BAYC	**CANAKKALE_Bayr**	**0.88**	**50**	P	Pg	16 17 32.1	-0.8
BAYC				S	Sb	16 17 46.8	+0.5
DKL	**Dikili**	**0.97**	**96**	Pg	Pg	16 17 33.9	-0.8
GADA	**Gvkgeada**	**1.02**	**10**	Pg	Pg	16 17 35.8	+0.1
GADA				Sg	Sn	16 17 51.5	-1.0
COMU	**Canakkale**	**1.10**	**34**	Pn	Pn	16 17 38.6	-0.1
COMU				Sn	Sn	16 17 54.4	-0.2
BUHA	**Balikesir, Bur**	**1.14**	**73**	P	Pg	16 17 36.5	-1.4
BUHA				S	Sb	16 17 53.5	-0.3
BUHA				*i* IAML		16 17 58.0	
	comp=N,31nm,0.3s						
BUHA				*i* IAML		16 17 59.0	
	comp=E,54nm,0.3s						
YAYO	**Edremit-Balk**	**1.17**	**68**	Pn	Pg	16 17 38.7	+0.2
YAYO				Sn	Sn	16 17 56.5	+0.4
CANM	**Can-anakkale**	**1.35**	**52**	Pn	Pb	16 17 42.9	+0.7
CANM				Sn	Sn	16 18 01.9	+1.3
GELI	**Tayfur-Gelibol**	**1.36**	**27**	Pn	Pg	16 17 41.6	-0.6
GELI				Sn	Sn	16 18 02.0	+1.1
YENI	**Yenice-Canakka**	**1.43**	**58**	Pn	Pb	16 17 44.1	+0.6
LPK	**Lapseki**	**1.45**	**35**	Pn	Pg	16 17 44.2	+0.2
STEP	**BALIKESIR_Sava**	**1.60**	**83**	P	Pn	16 17 45.5	0.0
STEP				S	Sg	16 18 07.8	+0.2
STEP				*i* IAML		16 18 11.0	
	comp=N,38nm,0.8s						
STEP				*i* IAML		16 18 16.0	
	comp=E,40nm,0.4s						
BALY	**Balya**	**1.61**	**69**	P	Pg	16 17 54.3	+7.4
BALY				S	Sg	16 18 08.6	+0.8
ERIK	**Erikli-Kesan**	**1.62**	**23**	Pn	Pb	16 17 46.7	0.0
ALN	**Alexandroupoli**	**1.73**	**9**	Pn	Pb	16 17 48.6	-0.1
KRBG	**Karabiga-Canak**	**1.74**	**46**	Pn	Pb	16 17 48.8	0.0
GONE	**Gonen-Balikesi**	**1.78**	**60**	Pn	Pb	16 17 49.6	+0.1

SDD 28 16:22:11.7±0.8,19.21N×67.26W,h4km±9km,MD2.5, ML2.4,MW2.6,1D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.75**	**169**	*i* P	Pg	16 22 24.5	-1.7
AGPR				*i* S	Sg	16 22 35.1	-0.8
AOPR	**Arecibo Observ**	**0.98**	**151**	*e*Pg	Pg	16 22 29.8	-0.8
AOPR				*i* S	Sg	16 22 42.7	-0.6
CELP	**Cerrillos**	**1.30**	**150**	*i* P	Pg	16 22 34.6	-2.1
CELP				⇓*e*Sg	Sg	16 22 52.6	-1.0
CELP				IAML		16 22 58.5	
	comp=N,40nm,0.5s						
HIDR	**Higuey Centro**	**1.51**	**246**	*i* P	Pn	16 22 37.8	-1.8
HIDR				*e*Sg	Sn	16 22 59.1	-0.8
HIDR				IAML		16 23 06.5	
	comp=N,77nm,0.2s						

RSPR 28 16:22:49.0,19.33N×67.31W,h39km±13km,MD3.0/3, 1C-1D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.87**	**168**	⇓*i* P	Pn	16 23 03.8	-1.0
AGPR	**Aguadilla, PR**	**0.87**	**168**	*e*S	Sn	16 23 14.2	-2.1
IDE	**Isla Desecheo**	**0.95**	**190**	⇑*i* P	Pn	16 23 04.6	-1.3
IDE	**Isla Desecheo**	**0.95**	**190**	*e*S	Sn	16 23 17.0	-1.1
EMPR	**Esperanza - Ma**	**1.12**	**139**	*e*S	Sn	16 23 24.6	+2.3
LSP	**Las Mesas**	**1.16**	**170**	*e*S	Sn	16 23 22.6	-0.9
CRPR	**Cabo Rojo, PR**	**1.32**	**172**	*e*S	Sn	16 23 26.5	-0.9
ECPR	**Experimental S**	**1.34**	**138**	*e*S	Sn	16 23 29.1	+1.2
MLPR	**Magueyes Islan**	**1.37**	**170**	*e*S	Sn	16 23 27.2	-1.4
CELP	**Cerrillos**	**1.42**	**151**	*e*S	Sn	16 23 28.1	-1.7
OBIP	**Obispado Ponce**	**1.44**	**152**	⇑*e*P	Pn	16 23 11.9	-0.7
OBIP	**Obispado Ponce**	**1.44**	**152**	*e*S	Sn	16 23 30.4	+0.2
GCPR	**Guaynabo City**	**1.54**	**131**	*e*S	Sn	16 23 31.4	-1.2
IGPR	**InterUniversit**	**1.77**	**140**	*e*S	Sn	16 23 40.7	+2.4

IDC ***28*** *16:24:51.8±1.9,3.42N×63.96E,h0km,mb3.9/5, mbtmp3.9/5,MS3.3/12,Error ellipse: s-maj=56.2km s-min=32.1km az=67.0*

ISC 28 16:24:54.9±2.1,3.5N±0.3×63.8E±0.4,h23km,n21,σ0≬65/7, mb4.0/5,MS3.3/12,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**33.01**	**52**	LR	LR	16 44 46.5	
	comp=Z,85nm,20.1s,baz=204,slow=36						
MBAR	**Mbarara**	**33.33**	**264**	LR	LR	16 44 53.3	
	comp=Z,34nm,18.9s,baz=82,slow=36						
CMAR	**Chiang Mai Arr**	**37.44**	**64**	P	**P**	**16 32 07.3**	**+0.5**
	0.5nm,0.9s,baz=261,slow=9.8,SNR=7.9						
CMAR				PcP	**PcP**	**16 34 25.6**	**+0.3**
	0.7nm,1.0s,baz=249,slow=5.4,SNR=4.2						
	0.5nm,0.9s						
ASF	**Jabal al Asfar**	**38.13**	**322**	LR	LR	16 48 01.0	
	comp=Z,35nm,18.0s,baz=157,slow=36						
LSZ	**Lusaka**	**39.91**	**241**	LR	LR	16 49 04.3	
	comp=Z,42nm,18.3s,baz=127,slow=36						
AAK	**Ala-Archa**	**40.14**	**12**	LR	LR	16 47 59.0	
	comp=Z,43nm,21.7s,baz=189,slow=34						
GNI	**Garni**	**40.39**	**337**	LR	LR	16 49 40.7	
	comp=Z,30nm,19.0s,baz=121,slow=37						
MATP	**Matopo**	**42.02**	**234**	LR	LR	16 48 12.0	
	comp=Z,50nm,18.0s,baz=266,slow=33						
BOSA	**Boshof**	**48.90**	**227**	LR	LR	16 50 54.8	
	comp=Z,24nm,19.5s,baz=22,slow=32						
BVAR	**Borovoye Array**	**49.69**	**5**	LR	LR	16 55 32.8	
	comp=Z,33nm,18.9s,baz=194,slow=37						
ZALV	**Zalesovo Beam**	**53.17**	**15**	P	**P**	**16 34 10.3**	**-0.7**
	0.5nm,0.5s,baz=220,slow=5.6,SNR=4.2						
	0.5nm,0.5s						
SONM	**Songino Array**	**57.33**	**33**	P	**P**	**16 34 41.5**	**+0.1**
	0.7nm,0.4s,baz=225,slow=5.9,SNR=1.9						
	0.7nm,0.4s						
H01W3	**Cape Leeuwin H**	**60.67**	**133**	T	T	17 40 28.5	
	baz=299,slow=75,SNR=38						
H01W2	**Cape Leeuwin H**	**60.67**	**133**	T	T	17 40 28.9	
	baz=299,slow=75,SNR=35						
H01W1	**Cape Leeuwin H**	**60.69**	**133**	T	T	17 40 29.8	
	baz=299,slow=75,SNR=35						
HFS	**Hagfors**	**68.14**	**336**	LR	LR	17 06 36.6	
	comp=Z,22nm,18.2s,baz=51,slow=37						
NOA	**NORSAR Array B**	**69.66**	**336**	LR	LR	17 07 59.0	
	comp=Z,12nm,21.5s,baz=215,slow=37						
WRA	**Warramunga Arr**	**72.96**	**112**	P	**P**	**16 36 22.9**	**-0.3**
	3.6nm,0.9s,baz=289,slow=5.6,SNR=18						
	3.6nm,0.9s						
ASAR	**Alice Springs**	**73.27**	**116**	P	**P**	**16 36 24.6**	**-0.5**
	1.6nm,0.9s,baz=291,slow=5.6,SNR=15						
	1.6nm,0.9s						
PETK	**Petropavlovsk-**	**89.57**	**37**	LR	LR	17 19 17.1	
	comp=Z,41nm,19.4s,baz=197,slow=36						
TXAR	**Lajitas Array**	**145.25**	**341**	PKPbc	**PKPdf**	**16 44 32.5**	**+0.7**
	0.9nm,0.6s,baz=58,slow=3.3,SNR=8.6						

ROM ***28*** *16:36:12.1±0.1,45.861N±0.005×7.050E±0.009, h10km,ML1.8/24,Error ellipse: s-maj=0.7km s-min=0.5km az=303.0*

ZUR ***28*** *16:36:12.7,45.88N×7.02E,h2km,MLh2.1/77,Error ellipse: s-maj=1659.5km s-min=592.5km az=231.0*

GEN ***28*** *16:36:12.5,45.85N×7.03E,h6km±5km,Ml1.7*

LDG ***28*** *16:36:13.0±0.1,45.86N×7.03E,h2km,Md1.8/2,Ml2.5/26, Error ellipse: s-maj=1.9km s-min=1.2km az=90.0*

STR 28 16:36:12.7±0.2,46.N±1°×°±°,h5km,MLv2.1/17,42C-1D, LOCSAT earthModelID alpes_taup-2.11 preliminary, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REMY	**Saint-Rhmy-en**	**0.09**	**108**	⇑Pg	Pg	16 36 15.2	+0.4
REMY				Sg	Sg	16 36 17.1	+0.8
REMY	**Saint-Rhmy-en**	**0.09**	**108**	⇑Pg	Pg	16 36 15.2	+0.4
REMY				Sg	Sg	16 36 17.1	+0.8
REMY	**Saint-Rhmy-en**	**0.09**	**108**	P	Pg	16 36 15.2	+0.4
REMY				S	Sg	16 36 17.0	+0.7
REMY				AML	AML		
	comp=E,1235μm,0.1s						
REMY				AML	AML		
	comp=N,1580μm,0.5s						
REMY	**Saint-Rhmy-en**	**0.09**	**108**	Pg	Pg	16 36 15.2	+0.4
REMY				Sg	Sg	16 36 17.0	+0.7
MRGE	**Morge**	**0.10**	**168**	⇑Pg	Pg	16 36 15.1	+0.2
MRGE				Sg	Sg	16 36 16.9	+0.5
MRGE	**Morge**	**0.10**	**168**	P	Pg	16 36 15.1	+0.2
MRGE				S	Sg	16 36 16.9	+0.5
MRGE				AML	AML		
	comp=E,4190μm,0.2s						
MRGE				AML	AML		
	comp=N,2890μm,0.1s						
MRGE				AML	AML		
	comp=E,4190μm,1.8s						
MFERR	**Prayon, Val Fe**	**0.10**	**34**	⇑Pg	Pg	16 36 15.0	0.0
MFERR				Sg	Sg	16 36 16.4	0.0
MFERR	**Prayon, Val Fe**	**0.10**	**34**	⇑Pg	Pg	16 36 15.0	0.0
MFERR				Sg	Sg	16 36 16.4	0.0
SEMOS	**Emosson Stauma**	**0.21**	**342**	⇑Pg	Pg	16 36 16.8	-0.1
SEMOS				Sg	Sg	16 36 19.5	-0.2
SEMOS	**Emosson Stauma**	**0.21**	**342**	⇑Pg	Pg	16 36 16.8	-0.1
SEMOS				Sg	Sg	16 36 19.5	-0.2
SMAO	**Martigny, Rue**	**0.23**	**8**	⇑Pg	Pg	16 36 17.3	0.0
SMAO	**Martigny, Rue**	**0.23**	**8**	⇑Pg	Pg	16 36 17.3	0.0
SALAN	**Lac Salanfe**	**0.28**	**352**	⇑Pg	Pg	16 36 18.1	-0.1
SALAN				Sg	Sg	16 36 21.6	-0.4
SALAN	**Lac Salanfe**	**0.28**	**352**	⇑Pg	Pg	16 36 18.1	-0.1
SALAN				Sg	Sg	16 36 21.6	-0.4
FULLY	**Reservoir Maze**	**0.30**	**14**	⇑Pg	Pg	16 36 18.5	0.0
FULLY				Sg	Sg	16 36 22.2	-0.3
FULLY	**Reservoir Maze**	**0.30**	**14**	⇑Pg	Pg	16 36 18.5	0.0
FULLY				Sg	Sg	16 36 22.2	-0.3
SAI01	**Saillon, Rue d**	**0.32**	**20**	⇑Pg	Pg	16 36 19.1	+0.2
SAI01				Sg	Sg	16 36 23.8	+0.6
SAI01	**Saillon, Rue d**	**0.32**	**20**	⇑Pg	Pg	16 36 19.1	+0.2
SAI01				Sg	Sg	16 36 23.8	+0.6
LAVEY	**Lavey les Bain**	**0.33**	**359**	⇑Pg	Pg	16 36 19.0	-0.2
LAVEY	**Lavey les Bain**	**0.33**	**359**	⇑Pg	Pg	16 36 19.0	-0.2
LAVEY				Sg	Sg	16 36 23.1	-0.5
RSL	**Roselend**	**0.34**	**238**	Pg	Pg	16 36 19.1	-0.2
RSL				Sg	Sg	16 36 23.2	-0.4
DIX	**Grande Dixence**	**0.34**	**51**	⇑Pg	Pg	16 36 19.2	-0.1
DIX				Sg	Sg	16 36 23.9	0.0
DIX	**Grande Dixence**	**0.34**	**51**	⇑Pg	Pg	16 36 19.2	-0.1
DIX				Sg	Sg	16 36 23.9	0.0
DIX	**Grande Dixence**	**0.34**	**51**	⇑P	Pg	16 36 19.2	-0.1
DIX				S	Sg	16 36 24.0	+0.2
DIX				AML	AML		
	comp=E,1175μm,0.4s						
DIX				AML	AML		
	comp=E,1175μm,0.4s						
DIX				AML	AML		
	comp=N,862μm,1.0s						
DIX	**Grande Dixence**	**0.34**	**51**	Pg	Pg	16 36 19.3	-0.1
DIX				Sg	Sg	16 36 23.9	0.0
RAW4	**Former Reservo**	**0.36**	**17**	⇑Pg	Pg	16 36 19.6	0.0
RAW4				Sg	Sg	16 36 24.2	-0.1
RAW4	**Former Reservo**	**0.36**	**17**	⇑Pg	Pg	16 36 19.6	0.0
RAW4				Sg	Sg	16 36 24.2	-0.1
ILLEZ	**Chalet Vouargn**	**0.36**	**350**	⇑Pg	Pg	16 36 19.5	-0.2
ILLEZ				Sg	Sg	16 36 24.1	-0.3
ILLEZ	**Chalet Vouargn**	**0.36**	**350**	⇑Pg	Pg	16 36 19.5	-0.2
ILLEZ				Sg	Sg	16 36 24.1	-0.3
GRYON	**Gryon**	**0.39**	**8**	⇑Pg	Pg	16 36 20.1	-0.1
GRYON				Sg	Sg	16 36 25.0	-0.3
GRYON	**Gryon**	**0.39**	**8**	⇑Pg	Pg	16 36 20.1	-0.1
GRYON				Sg	Sg	16 36 25.0	-0.3
VET01	**Vtroz, Route**	**0.39**	**25**	Pg	Pg	16 36 20.2	-0.1
VET01	**Vtroz, Route**	**0.39**	**25**	⇑Pg	Pg	16 36 20.2	-0.1
VET01				Sg	Sg	16 36 25.3	-0.2
CON01	**Conthey, Agros**	**0.39**	**29**	Pg	Pg	16 36 20.3	0.0
CON01	**Conthey, Agros**	**0.39**	**29**	⇑Pg	Pg	16 36 20.4	0.0
CON01				Sg	Sg	16 36 25.9	+0.4
LPL	**La Plagne**	**0.41**	**211**	*e*Pg	Pg	16 36 20.2	-0.4
LPL				*e*Sg	Sg	16 36 24.6	-1.4
	comp=N,48nm,0.3s						
SHER	**Hrmence, R**	**0.41**	**38**	Pg	Pg	16 36 20.6	0.0
SHER	**Hrmence, R**	**0.41**	**38**	⇑Pg	Pg	16 36 20.5	-0.1
SHER				Sg	Sg	16 36 25.9	-0.1
LSD	**Lago del Serru**	**0.41**	**170**	Pg	Pg	16 36 20.7	0.0
LSD				Sg	Sg	16 36 26.3	+0.1
LSD	**Lago del Serru**	**0.41**	**170**	⇑Pg	Pg	16 36 20.7	0.0
LSD				Sg	Sg	16 36 26.3	+0.1
LSD	**Lago del Serru**	**0.41**	**170**	P	Pg	16 36 20.6	-0.1
LSD				S	Sg	16 36 26.3	+0.1
LSD	**Lago del Serru**	**0.41**	**170**	P	Pg	16 36 20.7	0.0
LSD				S	Sg	16 36 26.3	+0.1
LSD				AML	AML		
	comp=E,334μm,0.2s						
LSD				AML	AML		
	comp=N,208μm,0.9s						
LSD	**Lago del Serru**	**0.41**	**170**	Pg	Pg	16 36 20.7	0.0
LSD				Sg	Sg	16 36 26.2	0.0
LPG	**La Plagne**	**0.42**	**208**	*e*Pg	Pg	16 36 20.6	-0.2
LPG				*e*Sg	Sg	16 36 26.4	+0.1
	comp=N,84nm,0.2s						
SIOV	**Sion-Valere**	**0.44**	**32**	⇑Pg	Pg	16 36 21.1	0.0
SIOV	**Sion-Valere**	**0.44**	**32**	⇑Pg	Pg	16 36 21.1	0.0
SIOV				Sg	Sg	16 36 26.6	-0.2
CIRO	**Champorcher**	**0.46**	**125**	P	Pg	16 36 21.5	-0.1
CIRO				S	Sg	16 36 27.8	+0.2
CIRO	**Champorcher**	**0.46**	**125**	P	Pg	16 36 21.4	-0.2
CIRO				S	Sg	16 36 27.6	0.0
CIRO				AML	AML		
	comp=E,68μm,0.5s						
CIRO				AML	AML		
	comp=E,68μm,1.5s						
CIRO				AML	AML		
	comp=N,79μm,0.4s						
CIRO	**Champorcher**	**0.46**	**125**	Pg	Pg	16 36 21.5	-0.1
CIRO				Sg	Sg	16 36 27.7	+0.1
LEO01	**Saint Lonard,**	**0.47**	**35**	Pg	Pg	16 36 21.8	0.0
LEO01	**Saint Lonard,**	**0.47**	**35**	⇑Pg	Pg	16 36 21.8	0.0
LEO01				Sg	Sg	16 36 28.3	+0.3
AIGLE	**Aigle**	**0.48**	**354**	Pg	Pg	16 36 21.8	-0.1
AIGLE	**Aigle**	**0.48**	**354**	⇑Pg	Pg	16 36 21.7	-0.2
AIGLE				Sg	Sg	16 36 27.9	-0.2
AIGLE	**Aigle**	**0.48**	**354**	Pg	Pg	16 36 21.7	-0.2
AIGLE				Sg	Sg	16 36 28.1	-0.1
RAW2	**Sanetsch, VS**	**0.49**	**24**	⇑Pg	Pg	16 36 22.2	+0.1
RAW2	**Sanetsch, VS**	**0.49**	**24**	⇓Pg	Pg	16 36 22.2	+0.1
RAW2				Sg	Sg	16 36 28.7	+0.1
NVL3	**Port Valais, L**	**0.52**	**348**	⇑Pg	Pg	16 36 22.4	-0.3
NVL3	**Port Valais, L**	**0.52**	**348**	⇑Pg	Pg	16 36 22.4	-0.3
VANNI	**Vissoie, Val d**	**0.52**	**49**	Pg	Pg	16 36 22.5	-0.2
VANNI	**Vissoie, Val d**	**0.52**	**49**	⇑Pg	Pg	16 36 22.5	-0.2
VANNI				Sg	Sg	16 36 29.3	-0.3
SENIN	**Lac Senin/Sane**	**0.53**	**21**	⇑Pg	Pg	16 36 22.8	-0.2
SENIN	**Lac Senin/Sane**	**0.53**	**21**	⇑Pg	Pg	16 36 22.7	-0.2
SENIN				Sg	Sg	16 36 29.9	0.0
SATI	**Passo dei Sala**	**0.58**	**89**	P	Pg	16 36 23.0	-1.0
SATI				AML	AML		
	comp=E,44μm,1.4s						
SATI				AML	AML		
	comp=N,50μm,0.3s						
SATI				AML	AML		
	comp=E,44μm,0.6s						
SATI	**Passo dei Sala**	**0.58**	**89**	Pg	Pg	16 36 23.6	-0.4
SATI				Sg	Sg	16 36 32.0	+0.4
TRAV	**Traversella**	**0.61**	**125**	Pg	Pg	16 36 24.3	-0.2
TRAV	**Traversella**	**0.61**	**125**	Pg	Pg	16 36 24.3	-0.2
TRAV	**Traversella**	**0.61**	**125**	P	Pg	16 36 24.4	-0.1
TRAV				S	Sg	16 36 32.1	-0.4
TRAV	**Traversella**	**0.61**	**125**	P	Pg	16 36 24.2	-0.3
TRAV				AML	AML		
	comp=E,76μm,1.2s						
TRAV				AML	AML		
	comp=N,98μm,1.2s						
TRAV				AML	AML		
	comp=N,98μm,0.8s						
TRAV	**Traversella**	**0.61**	**125**	Pg	Pg	16 36 24.4	-0.1
TRAV				Sg	Sg	16 36 32.7	+0.3
EMBD	**Embd, Matterta**	**0.66**	**58**	Pg	Pg	16 36 24.9	-0.5
EMBD	**Embd, Matterta**	**0.66**	**58**	⇑Pg	Pg	16 36 24.9	-0.5
EMBD				Sg	Sg	16 36 33.4	-0.5
EMBD	**Embd, Matterta**	**0.66**	**58**	Pg	Pg	16 36 24.9	-0.5
EMBD				Sg	Sg	16 36 33.7	-0.2
MMK	**Mattmark**	**0.68**	**74**	P	Pg	16 36 24.7	-1.0
OGMO	**Fort Saint-Gob**	**0.70**	**200**	P	Pg	16 36 25.9	-0.3
OGMO				S	Sg	16 36 34.6	-0.6
OGMO	**Fort Saint-Gob**	**0.70**	**200**	Pg	Pg	16 36 25.9	-0.3
OGMO				Sg	Sg	16 36 35.5	+0.2
RSP	**Reno Superiore**	**0.74**	**167**	P	Pg	16 36 26.6	-0.3
RSP				S	Sg	16 36 35.8	-0.6
RSP	**Reno Superiore**	**0.74**	**167**	P	Pg	16 36 26.4	-0.4
RSP				AML	AML		
	comp=E,113μm,0.2s						
RSP				AML	AML		
	comp=N,114μm,0.2s						
RSP				AML	AML		
	comp=N,114μm,1.8s						
RSP	**Reno Superiore**	**0.74**	**167**	Pg	Pg	16 36 26.6	-0.2
RSP				Sg	Sg	16 36 36.2	-0.2
SIMPL	**Simplonpass**	**0.78**	**61**	Pg	Pg	16 36 27.1	-0.6
SIMPL	**Simplonpass**	**0.78**	**61**	⇑Pg	Pg	16 36 27.1	-0.6
SIMPL				Sg	Sg	16 36 37.4	-0.5
OGMY	**Moye**	**0.80**	**271**	Pg	Pg	16 36 27.4	-0.6
OGMY				Sg	Sg	16 36 38.3	-0.1
BNI	**Bardonecchia**	**0.85**	**197**	P	Pg	16 36 28.5	-0.5
BNI				S	Sg	16 36 39.8	-0.2
BNI	**Bardonecchia**	**0.85**	**197**	P	Pg	16 36 28.3	-0.7
BNI				S	Sg	16 36 39.8	-0.2
GIMEL	**St. Georges /**	**0.85**	**322**	P	Pg	16 36 28.8	-0.3
GIMEL	**St. Georges /**	**0.85**	**322**	Pg	Pg	16 36 29.1	+0.1
GIMEL				Sg	Sg	16 36 40.8	+0.6
TORNY	**Torny/Romont**	**0.91**	**357**	Pg	Pg	16 36 30.1	0.0
TORNY				Sg	Sg	16 36 42.2	+0.3
RRL	**Rocca Remolon**	**0.96**	**190**	P	Pg	16 36 30.7	-0.4
RRL				S	Sg	16 36 42.9	-0.7
RRL	**Rocca Remolon**	**0.96**	**190**	P	Pg	16 36 30.2	-0.9
RRL				AML	AML		
	comp=E,42μm,0.9s						
RRL				AML	AML		
	comp=N,53μm,1.3s						
RRL				AML	AML		
	comp=E,42μm,1.1s						
RRL	**Rocca Remolon**	**0.96**	**190**	Pg	Pg	16 36 31.0	-0.2
RRL				Sg	Sg	16 36 44.2	+0.7
OGSM	**Saint Maurice**	**0.97**	**255**	Pg	Pg	16 36 31.0	-0.2
OGSM				Sg	Sg	16 36 44.0	+0.2
CABF	**La Chapelle**	**0.99**	**319**	*e*Pg	Pg	16 36 31.6	-0.1
CABF	**La Chapelle**	**0.99**	**319**	*e*P	Pn	16 36 33.6	+0.2
CABF				*e*Sg	Sb	16 36 45.5	-0.3
	comp=E,28nm,0.2s						
MONC	**Moncucco Torin**	**1.01**	**141**	P	Pg	16 36 30.3	-1.8
OG35	**Corcelles**	**1.03**	**280**	Pg	Pg	16 36 32.3	-0.2
OG35				Sg	Sg	16 36 45.8	-0.1
BHB	**Bricherasio**	**1.04**	**171**	P	Pg	16 36

SBF	**Sospel**	**2.02**	**172**	*e*Pg	Pg	16 36 52.7	+1.2
SBF				*e*Sg	Sg	16 37 17.2	-0.5
	comp=E,9.6nm,0.4s						
SMRF	**Simiane la Rot**	**2.15**	**209**	*e*Pg	Pg	16 36 53.2	-0.8
SMRF				*e*Sg	Sg	16 37 22.4	+0.5
	comp=E,1.2nm,0.2s						
HAU	**Haudompre**	**2.19**	**348**	*e*Pn	Pn	16 36 49.4	-0.4
HAU	**Haudompre**	**2.19**	**348**	*e*Pg	Pb	16 36 53.5	+0.7
HAU				*e*Sg	Sb	16 37 21.0	+0.8
	comp=E,6.4nm,0.3s						
SMF	**Signal de Mont**	**2.35**	**291**	*e*Pn	Pn	16 36 52.6	+0.7
SMF	**Signal de Mont**	**2.35**	**291**	*e*Pg	Pg	16 36 56.7	-0.9
SMF				*e*Sg	Sb	16 37 25.7	+1.0
	comp=E,4.7nm,0.2s						
DAVA	**Damuels**	**2.42**	**53**	*e*Pg	Pg	16 36 58.7	-0.4
	comp=E,1.4nm,0.2s						
DAVA				*e*Sg	Sg	16 37 32.2	+1.6
	comp=E,4.3nm,0.3s						
CDF	**Champ du Feu**	**2.55**	**4**	*e*Pn	Pn	16 36 53.7	-1.1
CDF	**Champ du Feu**	**2.55**	**4**	*e*Pg	Pb	16 37 00.2	+1.2
CDF				*e*Sg	Sg	16 37 32.8	-1.9
	comp=E,1.7nm,0.2s						
LMR	**La Mourre**	**2.56**	**189**	*e*P	Pn	16 36 56.4	+1.6
LMR				*e*Sg	Sg	16 37 34.1	-0.8
	comp=E,1.2nm,0.2s						
LOR	**Lormes**	**2.60**	**304**	*e*P	Pn	16 36 55.9	+0.5
LOR	**Lormes**	**2.60**	**304**	*e*Pg	Pg	16 37 02.8	+0.3
LOR				*e*Sg	Sg	16 37 34.3	-1.8
	comp=E,3.1nm,0.2s						
SFTF	**Sexfontaines**	**2.71**	**331**	*e*Sg	Sg	16 37 37.6	-2.0
	comp=E,4.1nm,0.2s						
AVF	**Avril sur Loir**	**2.71**	**291**	*e*Sg	Sb	16 37 36.5	+1.3
	comp=E,2.3nm,0.2s						
SSF	**Saint Saulge**	**2.71**	**297**	*e*P	Pn	16 36 57.3	+0.4
SSF	**Saint Saulge**	**2.71**	**297**	*e*Pg	Pg	16 37 03.5	-1.2
SSF				*e*Sg	Sb	16 37 37.5	+2.2
	comp=E,3.5nm,0.3s						
FETA	**Feichten**	**2.81**	**64**	Pg	Pg	16 37 05.0	-1.5
	comp=E,0.5nm,0.3s						
FETA				*e*Sg	Sg	16 37 44.9	+2.1
	comp=E,0.4nm,0.2s						
PAGF	**Fort de Pagny**	**2.83**	**342**	*e*Pn	Pn	16 36 58.9	+0.3
PAGF	**Fort de Pagny**	**2.83**	**342**	*e*Pg	Pg	16 37 06.7	-0.3
PAGF				*e*Sn	Sn	16 37 30.2	-2.9
PAGF				*e*Sg	Sg	16 37 41.9	-1.8
	comp=E,1.5nm,0.2s						
LASF	**Ste Croix**	**2.88**	**233**	*e*Pn	Pn	16 36 59.5	+0.3
LASF				*e*Sg	Sb	16 37 40.6	+0.6
	comp=E,1.5nm,0.3s						
MEZF	**Maizieres J'vi**	**2.96**	**334**	*e*Pg	Pb	16 37 06.0	+0.1
MEZF				*e*Sg	Sg	16 37 45.8	-2.0
	comp=E,1.8nm,0.2s						
BGF	**Bois d'Agland**	**2.99**	**285**	*e*Pn	Pn	16 37 00.0	-0.7
BGF	**Bois d'Agland**	**2.99**	**285**	*e*Pg	Pg	16 37 08.7	-1.2
BGF				*e*Sg	Sb	16 37 45.2	+2.1
	comp=E,6.9nm,0.4s						
SAVF	**Savonnieres en**	**3.04**	**335**	*e*Pn	Pn	16 37 01.1	-0.3
SAVF				*e*Sg	Sg	16 37 48.4	-1.9
	comp=E,11nm,0.4s						
SAVF				*e*Sg	Sb	16 37 48.5	+3.8
	comp=E,1.4nm,0.2s						
TCF	**Toulx Ste Croi**	**3.38**	**279**	*e*Sg	Sg	16 37 58.5	-2.8
	comp=E,1.1nm,0.2s						

*SDD **28** 16:42:02.7±2.8, 19°.21N×67°.19W, h15km±11km, MD3.6, ML3.6, MW3.4*
*NEIC **28** 16:42:03.6±1.9, 19°.09N±0°.03×67°.19W±0°.03, h10km±2km, ML3.4/21, Md3.5/13(RSPR), Error ellipse: s-maj=5.8km s-min=4.4km az=357.0*
*RSPR **28** 16:42:06.1, 19°.07N×67°.21W, h10km±31km, MD3.5/13*
*OSPL **28** 16:42:06.5±0.8, 19°.00N×67°.12W, h11km±7km, ML3.0*

ISC 28 16:41:59.1±1.2, 19°31N±0°.05×67°22W±0°.03, h17km±9km, n89, σ1°30/111, 10C-21D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.84**	**173**		**Pn**	**16 42 16.4**	**+0.2**
AGPR					**Sb**	**16 42 26.4**	**+0.1**
AGPR	**Aguadilla, PR**	**0.84**	**173**	⇑*i*P	**Pn**	**16 42 16.4**	**+0.2**
AGPR	**Aguadilla, PR**	**0.84**	**173**	*i* P	**Pn**	**16 42 16.1**	**-0.1**
AGPR				*i* S	**Sg**	**16 42 26.2**	**-0.5**
AGPR				IAML		16 42 28.5	
	comp=N,3μm,0.2s						
AGPR	**Aguadilla, PR**	**0.84**	**173**	*i* P	**Pn**	**16 42 16.4**	**+0.2**
AGPR				IAML		16 42 32.1	
	comp=Z,1μm,0.2s						
IDE	**Isla Desecheo**	**0.95**	**195**		**Pn**	**16 42 18.4**	**+0.8**
IDE					**Sb**	**16 42 29.4**	**0.0**
IDE	**Isla Desecheo**	**0.95**	**195**	⇓*i*P	**Pn**	**16 42 18.4**	**+0.8**
IDE	**Isla Desecheo**	**0.95**	**195**	*e*S	**Sb**	**16 42 29.4**	**0.0**
AOPR	**Arecibo Observ**	**1.05**	**155**		**Pn**	**16 42 20.0**	**+0.9**
AOPR					**Sb**	**16 42 32.3**	**-0.1**
AOPR	**Arecibo Observ**	**1.05**	**155**	⇑*i*P	**Pn**	**16 42 20.0**	**+0.9**
AOPR	**Arecibo Observ**	**1.05**	**155**	*e*S	**Sb**	**16 42 32.3**	**-0.1**
AOPR	**Arecibo Observ**	**1.05**	**155**	⇑*e*Pg	**Pn**	**16 42 20.0**	**+0.9**
AOPR				⇓*e*Sg	**Sb**	**16 42 30.4**	**-2.0**
AOPR				IAML		16 42 36.3	
	comp=N,2μm,0.2s						
EMPR	**Esperanza - Ma**	**1.05**	**142**	Pg	**Pn**	**16 42 21.0**	**+2.0**
EMPR	**Esperanza - Ma**	**1.05**	**142**		**Sn**	**16 42 33.9**	**+0.5**
EMPR	**Esperanza - Ma**	**1.05**	**142**	⇓*e*P	**Pn**	**16 42 21.1**	**+2.0**
EMPR	**Esperanza - Ma**	**1.05**	**142**	*e*S	**Sn**	**16 42 33.9**	**+0.5**
PRSN	**Puerto Rico Se**	**1.09**	**176**	Pg	**Pg**	**16 42 20.0**	**-0.1**
PRSN	**Puerto Rico Se**	**1.09**	**176**		**Sb**	**16 42 33.4**	**0.0**
PRSN	**Puerto Rico Se**	**1.09**	**176**	⇑*i*P	**Pg**	**16 42 20.1**	**-0.1**
PRSN	**Puerto Rico Se**	**1.09**	**176**	*e*S	**Sb**	**16 42 33.4**	**0.0**
PRSN	**Puerto Rico Se**	**1.09**	**176**	*e*Pg	**Pb**	**16 42 19.6**	**+0.1**
PRSN				⇓*e*Sg	**Sb**	**16 42 33.2**	**-0.2**
PRSN				IAML		16 42 37.1	
	comp=N,5μm,0.2s						
LSP	**Las Mesas**	**1.13**	**174**		**Pg**	**16 42 21.0**	**-0.1**
LSP					**Sb**	**16 42 34.6**	**-0.1**
LSP	**Las Mesas**	**1.13**	**174**	⇓*i*P	**Pg**	**16 42 21.0**	**-0.1**
LSP	**Las Mesas**	**1.13**	**174**	*e*S	**Sb**	**16 42 34.6**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.15**	**156**	Pg	**Pg**	**16 42 21.3**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.15**	**156**	⇑*e*P	**Pg**	**16 42 21.3**	**-0.1**
ECPR	**Experimental S**	**1.27**	**140**	⇓*e*P	**Pg**	**16 42 24.2**	**+0.4**
ECPR	**Experimental S**	**1.27**	**140**	*e*S	**Sg**	**16 42 39.8**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.30**	**175**		**Pb**	**16 42 23.5**	**+0.4**
CRPR					**Sb**	**16 42 37.1**	**-2.4**
CRPR	**Cabo Rojo, PR**	**1.30**	**175**	IAML		16 42 48.5	
	comp=E,856nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.30**	**175**	⇑*i*P	**Pb**	**16 42 23.5**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.30**	**175**	*e*S	**Sb**	**16 42 37.1**	**-2.4**
CRPR	**Cabo Rojo, PR**	**1.30**	**175**	*i* P	**Pb**	**16 42 23.3**	**+0.2**
CRPR				*e*S	**Sb**	**16 42 36.9**	**-2.5**
CRPR				IAML		16 42 48.4	
	comp=Z,818nm,0.6s						
MLPR	**Magueyes Islan**	**1.34**	**173**	⇑*e*P	**Pb**	**16 42 24.2**	**+0.4**
MLPR	**Magueyes Islan**	**1.34**	**173**	*e*S	**Sb**	**16 42 39.7**	**-1.0**
MLPR	**Magueyes Islan**	**1.34**	**173**	⇓*e*Pg	**Pb**	**16 42 23.9**	**+0.1**
MLPR				⇓*e*Sg	**Sn**	**16 42 41.2**	**+0.7**
MLPR				IAML		16 42 47.0	
	comp=N,188nm,0.3s						
GBPR	**Guanica, Bosqu**	**1.36**	**166**		**Pg**	**16 42 24.9**	**-0.6**
GBPR	**Guanica, Bosqu**	**1.36**	**166**	⇑*e*P	**Pg**	**16 42 24.9**	**-0.6**
CELP	**Cerrillos**	**1.37**	**154**		**Pg**	**16 42 24.8**	**-0.7**
CELP					**Sn**	**16 42 41.4**	**+0.1**
CELP	**Cerrillos**	**1.37**	**154**	IAML		16 42 43.8	
	comp=E,734nm,0.5s						
CELP				IAML		16 42 45.6	
	comp=N,835nm,0.3s						
CELP	**Cerrillos**	**1.37**	**154**	⇓*e*P	**Pg**	**16 42 24.8**	**-0.7**
CELP	**Cerrillos**	**1.37**	**154**	*e*S	**Sn**	**16 42 41.4**	**+0.1**
CELP	**Cerrillos**	**1.37**	**154**	⇓*e*Pg	**Pg**	**16 42 24.9**	**-0.7**
CELP				⇑*e*Sg	**Sn**	**16 42 41.2**	**0.0**
CELP				IAML		16 42 45.5	
	comp=N,836nm,0.3s						
OBIP	**Obispado Ponce**	**1.39**	**155**		**Pg**	**16 42 25.2**	**-0.7**
OBIP					**Sn**	**16 42 41.8**	**+0.2**
OBIP	**Obispado Ponce**	**1.39**	**155**	IAML		16 42 42.1	
	comp=E,680nm,0.7s						
OBIP				IAML		16 42 46.8	
	comp=N,838nm,0.4s						
OBIP	**Obispado Ponce**	**1.39**	**155**	⇑*e*P	**Pg**	**16 42 25.2**	**-0.7**
OBIP	**Obispado Ponce**	**1.39**	**155**	*e*S	**Sn**	**16 42 41.8**	**+0.2**
GCPR	**Guaynabo City**	**1.46**	**133**		**Pg**	**16 42 27.8**	**+0.4**
GCPR					**Sg**	**16 42 45.1**	**-1.4**
GCPR	**Guaynabo City**	**1.46**	**133**	⇓*e*P	**Pg**	**16 42 27.8**	**+0.4**
GCPR	**Guaynabo City**	**1.46**	**133**	*e*S	**Sg**	**16 42 45.1**	**-1.4**
SJG	**San Juan**	**1.56**	**139**	Pn	**Pg**	**16 42 29.0**	**-0.3**
SJG	**San Juan**	**1.56**	**139**	IAML		16 42 57.2	
	comp=N,647nm,0.5s						
SJG				IAML		16 42 57.7	
	comp=N,507nm,0.3s						
SJG	**San Juan**	**1.56**	**139**	⇓*e*P	**Pg**	**16 42 29.1**	**-0.1**
SJG	**San Juan**	**1.56**	**139**	*e*S	**Sn**	**16 42 45.1**	**-0.9**
SJG	**San Juan**	**1.56**	**139**	*i* P	**Pg**	**16 42 28.7**	**-0.6**
SJG				IAML		16 42 52.2	
	comp=Z,261nm,0.3s						
HIDR	**Higuey Centro**	**1.59**	**244**	⇓*e*P	**Pg**	**16 42 29.7**	**+0.1**
HIDR	**Higuey Centro**	**1.59**	**244**	*e*S	**Sn**	**16 42 47.7**	**+1.2**
HIDR	**Higuey Centro**	**1.59**	**244**	⇑*e*Pg	**Pg**	**16 42 29.8**	**+0.1**
HIDR				⇑*e*Sg	**Sb**	**16 42 48.4**	**+0.6**
HIDR				IAML		16 43 01.7	
	comp=N,1μm,0.2s						
IGPR	**InterUniversit**	**1.70**	**142**		**Pb**	**16 42 30.4**	**+0.4**
IGPR					**Sb**	**16 42 50.4**	**-0.7**
IGPR	**InterUniversit**	**1.70**	**142**	⇓*e*P	**Pb**	**16 42 30.4**	**+0.4**
IGPR	**InterUniversit**	**1.70**	**142**	*e*S	**Sb**	**16 42 50.4**	**-0.7**
PDPR	**Patillas Dam,**	**1.71**	**138**		**Pb**	**16 42 31.0**	**+0.8**
PDPR	**Patillas Dam,**	**1.71**	**138**	⇓*e*P	**Pb**	**16 42 30.8**	**+0.6**
PDPR	**Patillas Dam,**	**1.71**	**138**	*e*S	**Sb**	**16 42 52.1**	**+0.6**
HUMP	**Col San Antoni**	**1.74**	**132**		**Pg**	**16 42 31.7**	**-0.9**
MIDR	**Miches**	**1.76**	**260**	⇓*e*P	**Pg**	**16 42 34.3**	**+1.3**
MIDR	**Miches**	**1.76**	**260**	*e*S	**Sg**	**16 42 56.3**	**+0.4**
MIDR	**Miches**	**1.76**	**260**	⇑*e*Pg	**Pg**	**16 42 33.7**	**+0.7**
MIDR				⇓*e*Sg	**Sg**	**16 42 58.4**	**+2.5**
MIDR				IAML		16 43 05.9	
	comp=N,290nm,0.4s						
SMDR	**Samana, DR**	**1.86**	**270**	⇓*e*P	**Pg**	**16 42 34.2**	**-0.7**
SMDR	**Samana, DR**	**1.86**	**270**	*e*S	**Sb**	**16 42 57.9**	**+2.2**
SMDR	**Samana, DR**	**1.86**	**270**	⇑*e*Pg	**Pg**	**16 42 34.1**	**-0.7**
SMDR				*e*Sg	**Sg**	**16 42 58.0**	**-1.1**
SMDR				IAML		16 43 09.0	
	comp=N,314nm,0.6s						
DR12	**Loma Pena Alta**	**2.11**	**256**		**Pg**	**16 42 38.7**	**-1.0**
HATOM	**Hato Mayor del**	**2.11**	**256**	*i* P	**Pb**	**16 42 38.2**	**+1.3**
HATOM				*i* S	**Sn**	**16 42 59.6**	**0.0**
HATOM				IAML		16 43 10.7	
	comp=N,287nm,0.5s						
DR08	**Loma La Naviza**	**2.67**	**263**	*i* P	**Pn**	**16 42 44.4**	**+2.9**
DR08				*i* S	**Sn**	**16 43 15.8**	**+2.3**
DR08				IAML		16 43 28.9	
	comp=N,5μm,0.2s						
SDD	**Santo Domingo**	**2.69**	**252**		**Pb**	**16 42 48.0**	**+1.3**
SDD					**Sb**	**16 43 18.1**	**-1.4**
SDD	**Santo Domingo**	**2.69**	**252**	IAML		16 43 28.5	
	comp=E,215nm,0.9s						
SDD				IAML		16 43 37.0	
	comp=N,194nm,0.5s						
SDD	**Santo Domingo**	**2.69**	**252**	⇓*e*P	**Pb**	**16 42 48.0**	**+1.3**
SDD	**Santo Domingo**	**2.69**	**252**	*e*S	**Sb**	**16 43 18.1**	**-1.4**
SDD	**Santo Domingo**	**2.69**	**252**	*i* P	**Pb**	**16 42 48.4**	**+1.6**
SC01	**Santiago de lo**	**3.31**	**273**		**Pb**	**16 42 56.2**	**-1.3**
SC01	**Santiago de lo**	**3.31**	**273**	⇑*e*P	**Pb**	**16 42 56.2**	**-1.3**
SDDR	**Presa de Saban**	**3.86**	**266**		**Pb**	**16 43 04.7**	**-2.1**
SDDR	**Presa de Saban**	**3.86**	**266**	⇓*e*P	**Pb**	**16 43 04.7**	**-2.1**
SMRT	**St. Maarten**	**4.12**	**107**		**Pn**	**16 43 05.4**	**+4.0**
SMRT				IAML		16 44 06.2	
	comp=N,61nm,0.5s						
MASC	**Masc**	**6.66**	**279**	*e*P	**Pn**	**16 43 37.7**	**+1.5**
MASC				*e*S	**Sn**	**16 44 50.3**	**-1.5**
QMBU	**Quimbuelo**	**7.21**	**278**	*e*P	**Pn**	**16 43 45.6**	**+1.8**
QMBU				*e*S	**Sn**	**16 45 00.6**	**-4.7**
NMDO	**Nuevo Mundo**	**7.41**	**281**	*e*P	**Pn**	**16 43 47.0**	**+0.5**
NMDO				*e*S	**Sn**	**16 45 07.9**	**-2.3**
GTBY	**Guantanamo Bay**	**7.46**	**276**	*e*P	**Pn**	**16 43 48.0**	**+0.7**
GTBY				*e*S	**Sn**	**16 45 08.4**	**-3.2**
RCC	**Rio Carpintero**	**8.02**	**276**	*e*P	**Pn**	**16 43 56.1**	**+1.2**
RCC				*e*S	**Sn**	**16 45 23.1**	**-2.1**
PINC	**Pinares de May**	**8.15**	**280**	*e*P	**Pn**	**16 43 57.3**	**+0.6**
PINC				*e*S	**Sn**	**16 45 25.5**	**-3.0**

*SKHL **28** 16:50:51.7±0.3, 44°.90N×145°.30E, h25km±4km, mb4.0/2*
*JMA **28** 16:50:51.7±0.2, 44°.9N±0°.7×14°.5E±°, h19km±2km, MV2.5/26, SOUTHERN SEA OF OKHOTSK*

ISC 28 16:50:54.0±3.7, 44°.7N±0°.1×145°.24E±0°.05, h14km±28km, n12, σ1°43/20, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**0.80**	**186**	P	**Pb**	**16 51 09.7**	**+0.1**
JRA				S	**Sb**	**16 51 22.6**	**+2.4**
YUK	**Yuzh-Kuril'sk**	**0.83**	**147**	*i* P	**Pb**	**16 51 08.4**	**-1.7**
YUK				AMB	AMB	16 51 08.8	
	120nm,0.3s						
YUK				*i* S	**Sb**	**16 51 19.8**	**-1.3**
YUK				A	A	16 51 20.7	
	1μm,0.4s						
YUK				A	A	16 51 20.7	
	600nm,0.4s						
JNSB	**Nemuroshibetsu**	**0.97**	**190**	P	**Pb**	**16 51 12.2**	**-0.3**
JNSB				*e*S	**Sb**	**16 51 27.3**	**+2.1**
JNK	**Nakash**	**1.21**	**198**	P	**Pn**	**16 51 15.7**	**-0.7**
JNK				S	**Sb**	**16 51 33.4**	**+1.5**
JTKR	**Abashiri--Tokо**	**1.22**	**232**	P	**Pn**	**16 51 15.6**	**-1.0**
JTKR				S	**Sb**	**16 51 32.5**	**+0.1**
NMR	**Nemuro--Hokkai**	**1.41**	**165**	*i* P	**Pn**	**16 51 17.9**	**-1.2**
NMR				*i* S	**Sn**	**16 51 36.7**	**-0.7**
NEM2	**Nemuro 2**	**1.41**	**165**	P	**Pn**	**16 51 17.9**	**-1.3**
NEM2				S	**Sn**	**16 51 37.2**	**-0.4**
SHO	**Shikotan**	**1.43**	**126**	*e*P	**Pb**	**16 51 22.3**	**+1.9**
SHO				AMB	AMB	16 51 22.7	
	20nm,0.2s						
SHO				*e*S	**Sb**	**16 51 40.6**	**+2.1**
SHO				A	A	16 51 41.2	
	100nm,0.2s						
SHO				A	A	16 51 41.2	
	130nm,0.2s						
JMP	**Maruseppu**	**1.53**	**242**	S	**Sn**	**16 51 41.1**	**+0.7**
JKHN	**Kushirohamanak**	**1.65**	**182**	*e*P	**Pn**	**16 51 22.1**	**-0.3**
AKK	**Akkeshi**	**1.74**	**190**	*e*P	**Pn**	**16 51 22.4**	**-1.3**
JAK	**Akkeshi**	**1.78**	**193**	P	**Pn**	**16 51 23.8**	**-0.5**

*IDC **28** 16:57:10.7±6.5, 18°.89S×177°.88W, h576km±70km, mb2.9/6, mbtmp3.8/6, Error ellipse: s-maj=31.8km s-min=28.4km az=49.0*

ISC 28 16:57:06.6±0.9, 18°.8S±0°.3×177°.8W±0°.2, h532km, n10, σ0°76/12, mb3.4/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.02**	**260**	P	**P**	**17 04 35.5**	**+0.4**
	0.6nm,0.3s,baz=98,slow=7.7,SNR=21						
WRA				PcP	**PcP**	**17 06 03.7**	**-1.1**
	0.2nm,0.4s,baz=89,slow=3.2,SNR=5.5						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**45.09**	**255**	P	**P**	**17 04 35.9**	**+0.3**
	0.9nm,0.5s,baz=87,slow=8.3,SNR=55						
ASAR				PcP	**PcP**	**17 06 04.0**	**-1.1**
	0.4nm,0.5s,baz=105,slow=4.0,SNR=7.8						
	0.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**53.43**	**261**	P	**P**	**17 05 37.8**	**+0.6**
	1.1nm,0.8s,baz=130,slow=7.9,SNR=1.6						
	1.1nm,0.8s						
QSPA	**South Pole Qui**	**71.26**	**180**	P	**P**	**17 07 31.8**	**-0.1**
	1.1nm,0.7s,baz=320,slow=1.1,SNR=9.5						
	1.1nm,0.7s						
TXAR	**Lajitas Array**	**86.00**	**57**	P	**P**	**17 08 52.1**	**+1.0**
	0.4nm,0.6s,baz=205,slow=5.5,SNR=4.6						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**86.63**	**13**	P	**P**	**17 08 52.7**	**-0.4**
	0.2nm,0.5s,baz=234,slow=5.2,SNR=5.2						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**127.29**	**350**	PKP	**PKPdf**	**17 15 09.2**	**-0.9**
	1.6nm,0.9s,baz=8.1,slow=1.7,SNR=5.6						
BRTR	**Keskin Array B**	**145.80**	**314**	PKPbc	**PKPdf**	**17 15 45.2**	**+0.1**
	0.8nm,0.7s,baz=90,slow=3.8,SNR=4.2						
MMAI	**Mount Meron Ar**	**147.09**	**302**	PKPbc	**PKPbc**	**17 15 50.7**	**+0.3**
	0.7nm,0.6s,baz=49,slow=8.9,SNR=4.4						
GERES	**GERESS Array B**	**148.61**	**345**	PKPbc	**PKPbc**	**17 15 53.6**	**-0.1**
	0.3nm,0.4s,baz=67,slow=3.5,SNR=4.0						

*SKHL **28** 17:00:41.0±0.3, 43°.40N×145°.30E, h52km±1km, mb3.6/2*

JMA 28 17:00:40.6±0.3, 43°N±2°×14°6E±°, h38km±3km, MV1.7/13, OFF NEMURO PENINSULA, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.44**	**310**	*i* P	Pn	17 00 50.2	0.0
NEM2				*e*S	Sn	17 00 57.3	+0.1
NMR	**Nemuro--Hokkai**	**0.45**	**309**	*e*P	Pn	17 00 50.1	-0.3
NMR				*e*S	Sn	17 00 56.7	-0.7
JKHN	**Kushirohamanak**	**0.76**	**270**	P	Pn	17 00 55.3	+0.5
SHO	**Shikotan**	**0.91**	**30**	*e*P	Pn	17 00 59.9	+3.1
SHO				AMB	AMB	17 01 01.9	
	20nm,0.2s						
SHO				*e*S	Sn	17 01 14.9	+6.2
SHO				A	A	17 01 17.5	
	20nm,0.3s						
SHO				A	A	17 01 17.5	
	20nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.98**	**345**	*e*P	Pn	17 00 54.5	-3.3
YUK				AMB	AMB	17 00 55.5	
	20nm,0.2s						
YUK				*e*S	Sn	17 01 04.8	-5.6
YUK				A	A	17 01 07.7	
	150nm,0.7s						
YUK				A	A	17 01 07.7	
	170nm,0.7s						
AKK	**Akkeshi**	**1.00**	**267**	*e*S	Sn	17 01 00.6	-10
JAK	**Akkeshi**	**1.11**	**266**	*e*P	Pn	17 00 59.3	-0.2
JAK				*e*S	Sn	17 01 13.3	-0.2
JNK	**Nakash**	**1.19**	**295**	*e*S	Sn	17 01 15.8	+0.2
JAR	**Ashorobuto**	**1.79**	**278**	*e*S	Sn	17 01 31.8	+1.3

*NNC **28** 17:09:26.8±0.5, 42°.53N×70°.54E, h4km±6km, mb3.3, mpv2.9, Error ellipse: s-maj=2.5km s-min=1.6km az=143.0*
*SOME **28** 17:09:27.5, 42°.57N×70°.58E, h5km*
*KRNET **28** 17:09:27.2±0.1, 42°.46N×70°.62E, h5km, mb2.9*
*ISU **28** 17:09:29, 42°.40N×70°.42E, h5km*

ISC 28 17:09:25.5±1.2, 42°.56N±0°.03×70°.61E±0°.03, h12km±11km, n21, σ1°04/36, 10C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.55**	**352**	⇓P	**Pn**	**17 09 38.6**	**-0.6**
	3.1nm,0.3s,baz=178,slow=18,SNR=451						
KK31				⇑S	**Sb**	**17 09 46.7**	**+1.8**
	16nm,0.2s,baz=179,slow=31,SNR=36						
IUG	**Iuzhnay**	**0.60**	**226**	P	**Pb**	**17 09 37.5**	**-0.5**
	28nm,0.1s						
IUG				S	**Sb**	**17 09 45.6**	**-0.8**
	181nm,0.5s						
IUG	**Iuzhnay**	**0.60**	**226**	*e*P	**Pb**	**17 09 37.5**	**-0.5**
IUG				*e*S	**Sb**	**17 09 45.6**	**-0.8**
BRLS	**Boroldaу**	**0.74**	**310**	P	**Pb**	**17 09 40.4**	**0.0**
	7.5nm,0.3s						
BRLS				S	**Sb**	**17 09 50.4**	**0.0**
	64nm,0.2s						
BRLS	**Boroldaу**	**0.74**	**310**	*e*P	**Pb**	**17 09 40.4**	**0.0**
BRLS				*e*S	**Sb**	**17 09 50.5**	**0.0**
BRLS	**Boroldaу**	**0.74**	**310**	*e*P	**Pb**	**17 09 40.4**	**0.0**
	7.5nm,0.3s						
BRLS				*e*S	**Sb**	**17 09 50.5**	**0.0**
	64nm,0.2s						
CHRV	**Charvak**	**1.04**	**208**	P	**Pn**	**17 09 46.2**	**+0.1**
CHRV				S	**Sg**	**17 09 58.6**	**-0.6**
TRKS	**Terek-Say**	**1.10**	**159**	⇑*i*P	**Pn**	**17 09 47.4**	**+0.4**
TRKS				⇑*i*S	**Sn**	**17 10 02.1**	**+0.3**
ARK	**Arkit**	**1.26**	**127**	⇑*i*P	**Pn**	**17 09 50.5**	**+1.4**
ARK				⇑*i*S	**Sn**	**17 10 06.5**	**+0.5**
MRKS	**Merke**	**1.94**	**84**	Pg	**Pg**	**17 10 03.7**	**+1.0**
	6.7nm,0.3s						
MRKS				Lg	Lg	17 10 29.8	
	40nm,0.5s						
MRKS	**Merke**	**1.94**	**84**	*e*P	**Pg**	**17 10 03.7**	**+1.0**
	6.7nm,0.3s						
MRKS				*e*S	**Sg**	**17 10 29.8**	**+2.0**
	40nm,0.5s						
EKS2	**Erkin-Say**	**2.34**	**86**	⇑*e*P	**Pg**	**17 10 09.0**	**-1.4**
EKS2				⇑*i*S	**Sg**	**17 10 39.3**	**-1.4**
FRG	**Fergana**	**2.36**	**158**	S	**Sg**	**17 10 43.4**	**+2.2**
CHMI	**Chimion**	**2.39**	**163**	P	**Pg**	**17 10 11.4**	**0.0**
CHMI				S	**Sg**	**17 10 44.3**	**+1.9**
AAK	**Ala-Archa**	**2.87**	**87**	⇓Pg	**Pg**	**17 10 20.4**

comp=Z,0.9nm,0.7s,baz=162,slow=7.8,SNR=6.4
KSRS pP **pP** **17 15 40.3 +2.3**
comp=Z,1.2nm,0.7s,baz=148,slow=9.7,SNR=4.5
comp=Z,0.9nm,0.7s
ASAJ Asahikawa 30.09 356 LR LR 17 26 20.9
comp=Z,24nm,20.5s,baz=196,slow=33
MTSU Mount Surprise 31.95 182 P **P** **17 15 52.5 +0.6**
comp=Z,8.1nm,0.7s
KNRA Kununurra 33.67 209 P **P** **17 16 06.2 -0.8**
KNRA IAmb IAmb 17 16 24.2
comp=Z,18nm,1.4s
CTAO Charters Tower 33.90 178 P **P** **17 16 08.4 -0.4**
CTAO IAmb IAmb 17 16 43.1
comp=Z,5.9nm,1.1s
CTAO Charters Tower 33.90 178 P **P** **17 16 08.7 -0.1**
comp=Z,1.9nm,0.5s
QIS Mount Isa 34.79 189 P **P** **17 16 16.4 -0.1**
comp=Z,10nm,1.0s
WB0 Warramunga Arr 35.21 198 P **P** **17 16 19.0 -1.2**
WB0 IAmb IAmb 17 16 20.0
comp=Z,3.5nm,0.8s
WRAB Tennant Creek 35.38 198 P **P** **17 16 20.8 -0.8**
WRAB IAmb IAmb 17 16 22.1
comp=Z,5.1nm,0.9s
WRA Warramunga Arr 35.39 198 P **P** **17 16 19.0 -2.7**
WRA Warramunga Arr 35.39 198 P **P** **17 16 20.8 -0.9**
comp=Z,4.1nm,0.8s,baz=18,slow=9.1,SNR=36
WRA PcP **PcP** **17 18 50.0 +0.3**
comp=Z,1.1nm,0.5s,baz=12,slow=3.1,SNR=12
comp=Z,4.1nm,0.8s
FITZ Fitzroy Crossi 37.28 212 P **P** **17 16 37.1 -0.7**
FITZ Fitzroy Crossi 37.28 212 P **P** **17 16 37.4 -0.4**
comp=Z,1.2nm,0.3s,baz=34,slow=11,SNR=17
comp=Z,1.2nm,0.3s
HEH HeiHe 38.95 342 *eP* **P** **17 16 51.3 -0.1**
HEH pmax pmax
comp=Z,10.0nm,1.0s
AS31 Alice Springs 39.04 197 **P** **17 16 51.5 -1.0**
ASAR Alice Springs 39.04 197 P **P** **17 16 51.7 -0.9**
comp=Z,0.7nm,0.5s,baz=16,slow=8.3,SNR=40
ASAR PcP **PcP** **17 19 00.8 -0.1**
comp=Z,1.3nm,0.7s,baz=28,slow=2.3,SNR=11
ASAR LR LR 17 35 41.4
comp=Z,85nm,18.2s,baz=287,slow=40
comp=Z,0.7nm,0.5s
INKA Innaminka 41.73 186 P **P** **17 17 13.8 -0.8**
CMAR Chiang Mai Arr 44.54 282 P **P** **17 17 37.8 +0.2**
comp=Z,0.3nm,0.6s,baz=84,slow=8.3,SNR=2.0
CMAR pP **pP** **17 18 02.6 +2.5**
comp=Z,1.2nm,0.9s,baz=82,slow=6.1,SNR=3.4
comp=Z,0.3nm,0.6s
STKA Stephens Creek 45.75 184 P **P** **17 17 46.3 -0.5**
comp=Z,3.8nm,0.4s,baz=14,slow=7.3,SNR=11
comp=Z,3.8nm,0.4s
SONM Songino Array 46.58 324 pP pP 17 18 18.4 +2.0
comp=Z,1.1nm,0.7s,baz=134,slow=8.3,SNR=3.9
ADK Adak 48.54 31 P **P** **17 18 08.3 0.0**
CAN Canberra 49.19 176 P **P** **17 18 13.3 -0.1**
MORW Morawa 51.26 213 P **P** **17 18 27.1 -2.0**
UNV Unalaska Valle 54.80 33 P **P** **17 18 54.5 -0.3**
AKUT Akutan 55.32 33 P **P** **17 18 57.8 -0.7**
BKZ Black Stump Fm 60.43 152 P **P** **17 19 33.5 -1.0**
O15K Ungalikthiuk R 60.46 29 P **P** **17 19 34.4 0.0**
MKAR Makanchi Array 61.41 316 P **P** **17 19 40.2 -0.9**
comp=Z,0.4nm,0.3s,baz=90,slow=8.6,SNR=6.6
MKAR pP **pP** **17 20 07.5 +2.0**
comp=Z,1.0nm,0.6s,baz=94,slow=8.8,SNR=4.0
comp=Z,0.4nm,0.3s
ZALV Zalesovo Beam 61.47 324 pP pP 17 20 07.4 +1.7
comp=Z,0.6nm,0.5s,baz=96,slow=6.6,SNR=2.6
K17K Iditarod 62.59 26 P **P** **17 19 48.8 +0.1**
H18K Honhosa River 63.59 23 P **P** **17 19 54.7 -0.6**
KURK Kurchatov 64.47 320 P **P** **17 20 01.1 -0.1**
KURK IAmb IAmb 17 20 29.1
comp=Z,9.1nm,1.2s
KURBB Kurchatov Arra 64.51 320 P **P** **17 20 00.4 -1.1**
comp=Z,1.4nm,0.5s,baz=103,slow=7.0,SNR=17
KURBB pP **pP** **17 20 28.0 +2.0**
comp=Z,2.1nm,0.6s,baz=101,slow=6.8,SNR=7.7
comp=Z,1.4nm,0.5s
K20K Telida 64.62 26 P **P** **17 20 01.8 -0.2**
K20K IAmb IAmb 17 20 24.7
comp=Z,13nm,1.5s
PWL Port Wells 66.46 29 P **P** **17 20 13.2 -0.7**
PWL IAmb IAmb 17 20 28.7
comp=Z,14nm,1.5s
HIN Hinchinbrook I 67.23 30 P **P** **17 20 18.6 -0.2**
HIN IAmb IAmb 17 20 56.9
comp=Z,11nm,1.2s
ILAR Eielson Array 68.05 25 P **P** **17 20 21.5 -2.4**
comp=Z,0.7nm,0.4s,baz=257,slow=5.7,SNR=12
NVAR Mina Array Bea 86.41 51 P **P** **17 22 07.9 +0.7**
comp=Z,2.0nm,0.5s,baz=270,slow=5.0,SNR=14
comp=Z,2.0nm,0.5s
FINES FINESS Array B 90.92 335 P P 17 22 24.3 -3.4
comp=Z,1.8nm,0.9s,baz=53,slow=5.4,SNR=6.2
PDAR Pinedale Array 91.44 45 P **P** **17 22 30.4 -0.5**
comp=Z,0.6nm,0.6s,baz=239,slow=4.0,SNR=8.7
comp=Z,0.6nm,0.6s
NOA NORSAR Array B 96.77 339 LR LR 18 08 31.5
comp=Z,7.6nm,18.7s,baz=5.0,slow=36
PLCA Paso Flores 139.03 137 PKP **PKPdf** **17 28 51.3 +0.6**
comp=Z,2.5nm,1.0s,baz=198,slow=3.2,SNR=2.9
DBIC Dimbokro 143.87 303 PKhKP PKPpre 17 28 56.3
comp=Z,1.5nm,0.4s,baz=75,slow=3.1,SNR=7.6
LPAZ La Paz 147.77 98 PKPbc **PKPbc** **17 29 11.0 +0.7**
comp=Z,2.8nm,0.8s,baz=260,slow=3.5,SNR=8.7

*RSPR **28** 17:25:52.0, 19°.30N×64°.73W, h34km±31km, MD3.5/6*
*NEIC **28** 17:25:53.4±2.2, 18°.64N±0°.10×64°.71W±0°.05, h35km±2km, ML2.0/15, Md3.5/6(RSPR), Error ellipse: s-maj=17.2km s-min=6.8km az=192.0*
ISC 28 17:25:51.8±2.0, 18°.9N±0°.1×64°.72W±0°.04, h25km±16km, n30, σ1°41/38, 4C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HUMP	**Col San Antoni**	**1.29**	**236**			**Pn**	**17 26 13.8**	**-0.4**
HUMP				Sn		**Sn**	**17 26 30.9**	**+0.1**
GCPR	**Guaynabo City**	**1.41**	**247**			**Pn**	**17 26 14.8**	**-1.0**
GCPR				Sn		**Sn**	**17 26 33.0**	**-0.5**
PDPR	**Patillas Dam,**	**1.50**	**236**			**Pn**	**17 26 16.8**	**-0.2**
PDPR				Sn		**Sn**	**17 26 34.5**	**-1.2**
PDPR				IAML			17 26 42.7	
	comp=E,23nm,0.3s							
PDPR	**Patillas Dam,**	**1.50**	**236**	⇑*eP*		**Pn**	**17 26 18.4**	**+1.4**
PDPR	**Patillas Dam,**	**1.50**	**236**	*eS*		**Sb**	**17 26 39.6**	**+2.0**
SJG	**San Juan**	**1.55**	**241**	Pn		**Pn**	**17 26 15.4**	**-2.4**
SJG	**San Juan**	**1.55**	**241**	Sn		**Sn**	**17 26 35.2**	**-1.9**
SJG				IAML			17 26 43.6	
	comp=E,20nm,0.6s							
SJG				IAML			17 26 46.8	
	comp=E,19nm,0.2s							
ECPR	**Experimental S**	**1.65**	**251**	⇓*eP*		**Pn**	**17 26 18.8**	**-0.3**
ECPR	**Experimental S**	**1.65**	**251**	*eS*		**Sn**	**17 26 41.2**	**+1.6**
EMPR	**Esperanza - Ma**	**1.76**	**257**			**Pn**	**17 26 20.6**	**0.0**
EMPR						**Sn**	**17 26 43.8**	**+1.6**
EMPR	**Esperanza - Ma**	**1.76**	**257**	⇓*eP*		**Pn**	**17 26 20.6**	**0.0**
EMPR	**Esperanza - Ma**	**1.76**	**257**	*eS*		**Sn**	**17 26 43.8**	**+1.6**
SMRT	**St. Maarten**	**1.76**	**117**			**Pn**	**17 26 19.1**	**-1.6**
SMRT						**Sn**	**17 26 44.1**	**+1.8**
SMRT	**St. Maarten**	**1.76**	**117**	⇓*eP*		**Pn**	**17 26 19.5**	**-1.2**
SMRT	**St. Maarten**	**1.76**	**117**	*eS*		**Sb**	**17 26 46.5**	**+1.4**
CELP	**Cerrillos**	**1.93**	**246**			**Pn**	**17 26 22.0**	**-1.1**
CELP						**Sn**	**17 26 44.4**	**-2.1**
CELP				IAML			17 26 55.3	
	comp=N,13nm,0.6s							
CELP				IAML			17 27 16.5	
	comp=E,12nm,3.0s							
CELP	**Cerrillos**	**1.93**	**246**	⇓*eP*		**Pn**	**17 26 23.4**	**+0.4**
CELP	**Cerrillos**	**1.93**	**246**	*eS*		**Sb**	**17 26 48.9**	**-1.1**
OBIP	**Obispado Ponce**	**1.97**	**246**	Pn		**Pn**	**17 26 22.5**	**-1.1**
OBIP				IAML			17 27 04.0	
	comp=N,11nm,4.2s							
OBIP				IAML			17 27 12.4	
	comp=E,16nm,1.8s							
UUPR	**Utuado, UPR, P**	**1.99**	**252**	Pn		**Pn**	**17 26 22.2**	**-1.7**
AOPR	**Arecibo Observ**	**2.00**	**255**			**Pn**	**17 26 21.3**	**-2.7**
AOPR	**Arecibo Observ**	**2.00**	**255**	⇑*eP*		**Pb**	**17 26 26.9**	**-0.5**
MLPR	**Magueyes Islan**	**2.38**	**248**	⇑*eP*		**Pn**	**17 26 30.4**	**+1.3**
MLPR	**Magueyes Islan**	**2.38**	**248**	*eS*		**Sn**	**17 27 00.7**	**+3.1**
CRPR	**Cabo Rojo, PR**	**2.43**	**250**			**Pn**	**17 26 29.6**	**-0.2**
CRPR						**Sn**	**17 26 58.6**	**-0.1**
CRPR				IAML			17 27 11.3	
	comp=N,15nm,2.1s							
CRPR				IAML			17 27 20.7	
	comp=E,13nm,2.8s							
CRPR	**Cabo Rojo, PR**	**2.43**	**250**	⇑*eP*		**Pn**	**17 26 30.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.43**	**250**	*eS*		**Sn**	**17 27 00.2**	**+1.6**
IDE	**Isla Desecheo**	**2.66**	**260**			**Pn**	**17 26 33.2**	**+0.2**
IDE						**Sn**	**17 27 04.5**	**+0.2**
IDE	**Isla Desecheo**	**2.66**	**260**	⇓*eP*		**Pn**	**17 26 33.2**	**+0.2**
IDE	**Isla Desecheo**	**2.66**	**260**	*eS*		**Sn**	**17 27 04.5**	**+0.2**

*RSPR **28** 17:40:21.6, 19°.25N×64°.70W, h51km±21km, MD3.6/9*
*NEIC **28** 17:40:22.6±1.2, 18°.8N±0°.2×64°.80W±0°.05, h35km±2km, ML2.7/19, Md3.6/9(RSPR), Error ellipse: s-maj=27.2km s-min=3.9km az=13.0*
ISC 28 17:40:23.4±1.8, 19°.0N±0°.1×64°.72W±0°.04, h35km, n44, σ2°39/46, 4C-9D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HUMP	**Col San Antoni**	**1.34**	**233**	Pn		**Pn**	**17 40 41.0**	**-4.7**
GCPR	**Guaynabo City**	**1.45**	**243**			**Pn**	**17 40 42.4**	**-4.6**
GCPR	**Guaynabo City**	**1.45**	**243**	⇓*eP*		**Pn**	**17 40 43.9**	**-3.2**
GCPR	**Guaynabo City**	**1.45**	**243**	*eS*		**Sn**	**17 41 06.8**	**+2.0**
PDPR	**Patillas Dam,**	**1.55**	**233**	Pn		**Pn**	**17 40 45.1**	**-3.4**
PDPR				IAML			17 41 18.3	
	comp=E,102nm,0.6s							
PDPR	**Patillas Dam,**	**1.55**	**233**	⇓*eP*		**Pn**	**17 40 47.2**	**-1.3**
PDPR	**Patillas Dam,**	**1.55**	**233**	*eS*		**Sn**	**17 41 10.1**	**+2.7**
SJG	**San Juan**	**1.60**	**238**			**Pn**	**17 40 45.4**	**-3.7**
SJG				IAML			17 41 12.1	
	comp=E,91nm,0.4s							
SJG	**San Juan**	**1.60**	**238**	⇓*eP*		**Pn**	**17 40 49.2**	**0.0**
SJG	**San Juan**	**1.60**	**238**	*eS*		**Sn**	**17 41 11.0**	**+2.5**
IGPR	**InterUniversit**	**1.65**	**233**			**Pn**	**17 40 49.8**	**0.0**
IGPR						**Sn**	**17 41 11.6**	**+1.8**
IGPR	**InterUniversit**	**1.65**	**233**	⇓*eP*		**Pn**	**17 40 49.8**	**0.0**
IGPR	**InterUniversit**	**1.65**	**233**	*eS*		**Sn**	**17 41 11.6**	**+1.8**
ECPR	**Experimental S**	**1.68**	**248**	⇓*eP*		**Pn**	**17 40 49.4**	**-0.9**
EMPR	**Esperanza - Ma**	**1.78**	**255**			**Sn**	**17 41 16.6**	**+3.5**
EMPR	**Esperanza - Ma**	**1.78**	**255**	Pn		**Pn**	**17 40 49.2**	**-2.4**
EMPR	**Esperanza - Ma**	**1.78**	**255**	⇑*eP*		**Pn**	**17 40 50.4**	**-1.2**
EMPR	**Esperanza - Ma**	**1.78**	**255**	*eS*		**Sn**	**17 41 16.6**	**+3.5**
SMRT	**St. Maarten**	**1.81**	**120**			**Pn**	**17 40 51.0**	**-1.0**
SMRT				IAML			17 41 25.9	
	comp=N,200nm,0.4s							
SMRT	**St. Maarten**	**1.81**	**120**	⇑*eP*		**Pn**	**17 40 51.5**	**-0.5**
SMRT	**St. Maarten**	**1.81**	**120**	*eS*		**Sn**	**17 41 16.5**	**+2.6**
SABA	**Saba**	**1.94**	**133**	Pn		**Pn**	**17 40 51.4**	**-2.5**
SABA				IAML			17 41 34.5	
	comp=N,187nm,0.6s							
CELP	**Cerrillos**	**1.97**	**244**			**Pn**	**17 40 51.8**	**-2.5**
CELP				IAML			17 41 24.1	
	comp=E,52nm,0.5s							
CELP				IAML			17 41 29.4	
	comp=N,53nm,1.0s							
CELP	**Cerrillos**	**1.97**	**244**	⇓*eP*		**Pn**	**17 40 54.0**	**-0.3**
CELP	**Cerrillos**	**1.97**	**244**	*eS*		**Sn**	**17 41 19.0**	**+1.2**
OBIP	**Obispado Ponce**	**2.01**	**243**			**Pn**	**17 40 51.2**	**-3.6**
OBIP				IAML			17 41 25.1	
	comp=E,58nm,0.5s							
OBIP				IAML			17 41 25.7	
	comp=N,48nm,0.5s							
OBIP	**Obispado Ponce**	**2.01**	**243**	⇓*eP*		**Pn**	**17 40 54.5**	**-0.3**
OBIP	**Obispado Ponce**	**2.01**	**243**	*eS*		**Sn**	**17 41 20.4**	**+1.7**
AOPR	**Arecibo Observ**	**2.02**	**253**			**Pn**	**17 40 52.1**	**-2.9**
AOPR				IAML			17 41 35.8	
	comp=N,123nm,0.5s							
AOPR	**Arecibo Observ**	**2.02**	**253**	⇑*eP*		**Pn**	**17 40 53.9**	**-1.1**
UUPR	**Utuado, UPR, P**	**2.02**	**250**	Pn		**Pn**	**17 40 52.7**	**-2.3**
PRSN	**Puerto Rico Se**	**2.41**	**252**	Pn		**Pn**	**17 40 57.5**	**-2.8**
MLPR	**Magueyes Islan**	**2.41**	**246**	⇓*eP*		**Pn**	**17 41 00.0**	**-0.3**
MLPR	**Magueyes Islan**	**2.41**	**246**	*eS*		**Sn**	**17 41 33.0**	**+4.2**
CRPR	**Cabo Rojo, PR**	**2.46**	**248**			**Pn**	**17 40 58.3**	**-2.7**
CRPR				IAML			17 41 41.5	
	comp=N,33nm,0.9s							
CRPR				IAML			17 41 46.3	
	comp=E,44nm,1.1s							
CRPR	**Cabo Rojo, PR**	**2.46**	**248**	⇑*eP*		**Pn**	**17 41 01.3**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.46**	**248**	*eS*		**Sn**	**17 41 31.6**	**+1.8**
IDE	**Isla Desecheo**	**2.67**	**258**			**Pn**	**17 41 04.4**	**+0.5**
IDE						**Sn**	**17 41 33.8**	**-1.3**
IDE	**Isla Desecheo**	**2.67**	**258**	⇓*eP*		**Pn**	**17 41 04.4**	**+0.5**
IDE	**Isla Desecheo**	**2.67**	**258**	*eS*		**Sn**	**17 41 33.8**	**-1.3**
GDHS	**Morne Mazeau,**	**3.89**	**133**	Pn		**Pn**	**17 41 19.1**	**-1.6**
DR12	**Loma Pena Alta**	**4.41**	**268**	Pn		**Pn**	**17 41 26.7**	**-1.3**
BIM	**Bigot**	**5.64**	**141**	Pn		**Pn**	**17 41 42.2**	**-2.6**
MPOM	**Morne Pois Mar**	**5.82**	**140**	Pn		**Pn**	**17 41 45.5**	**-1.8**

*NEIC **28** 17:47:17.1±1.2, 19°.2N±0°.1×64°.73W±0°.03, h35km±2km, ML2.3/15, Md3.4/8(RSPR), Error ellipse: s-maj=17.9km s-min=3.6km az=7.0*
*RSPR **28** 17:47:19.2, 18°.94N×64°.66W, h73km±9km, MD3.4/8*
*SDD **28** 17:47:21.2±4.2, 19°.40N×67°.95W, h159km±95km, MD3.7, ML2.5, MW2.9*
ISC 28 17:47:17.9±2.3, 19°.1N±0°.2×64°.71W±0°.07, h42km, n38, σ0°87/45, 3C-7D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HUMP	**Col San Antoni**	**1.46**	**228**			**Pn**	**17 47 42.1**	**+0.3**
HUMP				Sn		**Sn**	**17 47 59.7**	**0.0**
GCPR	**Guaynabo City**	**1.54**	**238**	Pn		**Pn**	**17 47 42.3**	**-0.5**
GCPR						**Sn**	**17 48 00.8**	**-0.9**
PDPR	**Patillas Dam,**	**1.67**	**228**			**Pn**	**17 47 43.5**	**-1.1**
PDPR				IAML			17 48 12.0	
	comp=E,23nm,0.3s							
PDPR	**Patillas Dam,**	**1.67**	**228**	⇑*eP*		**Pn**	**17 47 44.8**	**+0.1**
PDPR	**Patillas Dam,**	**1.67**	**228**	*eS*		**Sn**	**17 48 04.7**	**-0.1**
SJG	**San Juan**	**1.70**	**234**			**Pn**	**17 47 44.4**	**-0.7**
SJG				IAML			17 48 14.7	
	comp=E,34nm,0.6s							
SJG				IAML			17 48 23.8	
	comp=E,41nm,0.2s							
IGPR	**InterUniversit**	**1.76**	**229**			**Pn**	**17 47 45.9**	**0.0**
IGPR						**Sn**	**17 48 06.8**	**-0.3**
IGPR	**InterUniversit**	**1.76**	**229**	⇑*eP*		**Pn**	**17 47 45.9**	**0.0**
IGPR	**InterUniversit**	**1.76**	**229**	*eS*		**Sn**	**17 48 06.8**	**-0.3**
ECPR	**Experimental S**	**1.76**	**243**	*eS*		**Sn**	**17 48 07.6**	**+0.4**
EMPR	**Esperanza - Ma**	**1.84**	**250**	Pn		**Pn**	**17 47 45.4**	**-1.6**
EMPR				Sn		**Sn**	**17 48 08.0**	**-1.1**
EMPR	**Esperanza - Ma**	**1.84**	**250**	⇓*eP*		**Pn**	**17 47 47.5**	**+0.4**
EMPR	**Esperanza - Ma**	**1.84**	**250**	*eS*		**Sn**	**17 48 11.0**	**+1.9**
SMRT	**St. Maarten**	**1.89**	**124**			**Pn**	**17 47 47.7**	**0.0**
CELP	**Cerrillos**	**2.06**	**240**			**Sn**	**17 48 15.1**	**+0.5**
CELP	**Cerrillos**	**2.06**	**240**			**Pn**	**17 47 49.3**	**-0.8**
CELP				IAML			17 48 21.8	
	comp=E,15nm,0.3s							
CELP				IAML			17 48 21.8	
	comp=N,20nm,0.3s							
CELP	**Cerrillos**	**2.06**	**240**	⇓*eP*		**Pn**	**17 47 50.9**	**+0.8**
CELP	**Cerrillos**	**2.06**	**240**	*eS*		**Sn**	**17 48 15.1**	**+0.5**
CELP	**Cerrillos**	**2.06**	**240**	⇓*ePg*		**Pn**	**17 47 50.9**	**+0.8**
CELP				*eSg*		**Sn**	**17 48 16.6**	**+2.0**
CELP				IAML			17 48 22.7	
	comp=N,16nm,0.2s							
AOPR	**Arecibo Observ**	**2.09**	**248**			**Pn**	**17 47 50.1**	**-0.4**
AOPR						**Sn**	**17 48 14.4**	**-0.9**
AOPR	**Arecibo Observ**	**2.09**	**248**	⇑*eP*		**Pn**	**17 47 51.5**	**+1.0**
AOPR	**Arecibo Observ**	**2.09**	**248**	*eS*		**Sn**	**17 48 15.4**	**+0.2**
AOPR	**Arecibo Observ**	**2.09**	**248**	*ePg*		**Pn**	**17 47 50.7**	**+0.3**
AOPR				*eSg*		**Sn**	**17 48 13.7**	**-1.5**
AOPR				IAML			17 48 19.5	
	comp=N,42nm,0.3s							
UUPR	**Utuado, UPR, P**	**2.09**	**246**			**Sn**	**17 48 16.1**	**+0.7**
UUPR	**Utuado, UPR, P**	**2.09**	**246**	Pn		**Pn**	**17 47 49.8**	**-0.7**
UUPR	**Utuado, UPR, P**	**2.09**	**246**	⇓*eP*		**Pn**	**17 47 50.9**	**+0.4**
UUPR	**Utuado, UPR, P**	**2.09**	**246**	*eS*		**Sn**	**17 48 16.1**	**+0.7**
OBIP	**Obispado Ponce**	**2.10**	**239**			**Pn**	**17 47 49.7**	**-0.9**
OBIP				IAML			17 48 19.8	
	comp=E,21nm,0.6s							
OBIP				IAML			17 48 23.7	
	comp=N,19nm,0.6s							
OBIP	**Obispado Ponce**	**2.10**	**239**			**Sn**	**17 48 15.8**	**+0.4**
OBIP	**Obispado Ponce**	**2.10**	**239**	⇓*eP*		**Pn**	**17 47 51.5**	**+0.9**
OBIP	**Obispado Ponce**	**2.10**	**239**	*eS*		**Sn**	**17 48 15.8**	**+0.4**
MLPR	**Magueyes Islan**	**2.50**	**243**	⇓*eP*		**Pn**	**17 47 56.4**	**+0.3**
MLPR	**Magueyes Islan**	**2.50**	**243**	*eS*		**Sn**	**17 48 25.8**	**+0.5**
MLPR	**Magueyes Islan**	**2.50**	**243**	*ePg*		**Pn**	**17 47 53.9**	**-2.2**
MLPR				IAML			17 49 45.0	
	comp=N,2.1nm,1.1s							
CRPR	**Cabo Rojo, PR**	**2.54**	**244**			**Pn**	**17 47 56.3**	**-0.3**
CRPR				IAML			17 48 36.2	
	comp=E,17nm,0.6s							
CRPR				IAML			17 48 45.2	
	comp=N,13nm,2.0s							
CRPR	**Cabo Rojo, PR**	**2.54**	**244**			**Sn**	**17 48 26.8**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.54**	**244**	⇓*eP*		**Pn**	**17 47 57.3**	**+0.7**
CRPR	**Cabo Rojo, PR**	**2.54**	**244**	*eS*		**Sn**	**17 48 26.8**	**+0.6**

*RSPR **28** 17:55:46.6, 19°.20N×64°.70W, h35km±30km, MD3.5/10*
*NEIC **28** 17:55:47.0±2.1, 19°.08N±0°.10×64°.76W±0°.02, h35km±2km, ML3.2/21, Md3.5/10(RSPR), Error ellipse: s-maj=16.7km s-min=3.1km az=10.0*
ISC 28 17:55:47.0±1.6, 19°.1N±0°.1×64°.72W±0°.04, h42km, n61, σ1°90/72, 13C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HUMP	**Col San Antoni**	**1.43**	**228**			**Pn**	**17 56 09.0**	**-1.5**
HUMP				Sn		**Sn**	**17 56 26.3**	**-1.8**
GCPR	**Guaynabo City**	**1.51**	**239**			**Pn**	**17 56 09.9**	**-1.7**
GCPR						**Sn**	**17 56 28.2**	**-1.9**
GCPR	**Guaynabo City**	**1.51**	**239**	⇑*eP*		**Pn**	**17 56 10.9**	**-0.7**
GCPR	**Guaynabo City**	**1.51**	**239**	*eS*		**Sn**	**17 56 29.5**	**-0.6**
PDPR	**Patillas Dam,**	**1.64**	**229**			**Pn**	**17 56 12.3**	**-1.1**
PDPR				Sn		**Sn**	**17 56 31.5**	**-1.7**
PDPR				IAML			17 56 35.8	
	comp=E,215nm,0.5s							
PDPR	**Patillas Dam,**	**1.64**	**229**	⇑*eP*		**Pn**	**17 56 12.9**	**-0.4**
PDPR	**Patillas Dam,**	**1.64**	**229**	*eS*		**Sn**	**17 56 32.9**	**-0.3**
SJG	**San Juan**	**1.67**	**234**			**Pn**	**17 56 12.6**	**-1.2**
SJG				Sn		**Sn**	**17 56 33.6**	**-0.5**
SJG				IAML			17 56 41.8	
	comp=E,205nm,0.6s							
SJG	**San Juan**	**1.67**	**234**	⇑*eP*		**Pn**	**17 56 12.6**	**-1.2**
SJG	**San Juan**	**1.67**	**234**	*eS*		**Sn**	**17 56 34.2**	**+0.2**
IGPR	**InterUniversit**	**1.73**	**230**			**Pn**	**17 56 14.8**	**+0.2**
IGPR						**Sn**	**17 56 36.7**	**+1.1**
IGPR	**InterUniversit**	**1.73**	**230**	⇓*eP*		**Pn**	**17 56 14.8**	**+0.2**
IGPR	**InterUniversit**	**1.73**	**230**	*eS*		**Sn**	**17 56 36.7**	**+1.1**
ECPR	**Experimental S**	**1.74**	**244**	⇑*eP*		**Pn**	**17 56 13.6**	**-1.2**
ECPR	**Experimental S**	**1.74**	**244**	*eS*		**Sn**	**17 56 35.1**	**-0.6**
EMPR	**Esperanza - Ma**	**1.82**	**250**	Pn		**Pn**	**17 56 14.7**	**-1.1**
EMPR				Sn		**Sn**	**17 56 36.9**	**-0.8**
EMPR	**Esperanza - Ma**	**1.82**	**250**	⇑*eP*		**Pn**	**17 56 15.0**	**-0.8**
EMPR	**Esperanza - Ma**	**1.82**	**250**	*eS*		**Sn**	**17 56 38.4**	**+0.7**
SMRT	**St. Maarten**	**1.88**	**123**			**Pn**	**17 56 15.6**	**-1.1**
SMRT				IAML			17 56 49.0	
	comp=E,366nm,0.2s							
SMRT				IAML			17 56 49.4	
	comp=N,298nm,0.4s							
SMRT	**St. Maarten**	**1.88**	**123**			**Sn**	**17 56 39.4**	**+0.1**
SMRT	**St. Maarten**	**1.88**	**123**	⇓*iP*		**Pn**	**17 56 15.6**	**-1.1**
SMRT	**St. Maarten**	**1.88**	**123**	*eS*		**Sn**	**17 56 39.4**	**+0.1**
CELP	**Cerrillos**	**2.03**	**240**			**Pn**	**17 56 17.5**	**-1.4**
CELP						**Sn**	**17 56 42.5**	**-0.6**
CELP				IAML			17 56 59.8	
	comp=N,139nm,1.1s							
CELP	**Cerrillos**	**2.03**	**240**	⇑*eP*		**Pn**	**17 56 18.3**	**-0.5**
CELP	**Cerrillos**	**2.03**	**240**	*eS*		**Sn**	**17 56 43.0**	**-0.1**
SABA	**Saba**	**2.04**	**136**	Pn		**Pn**	**17 56 19.1**	**+0.3**
SABA				IAML			17 57 12.7	
	comp=N,264nm,0.4s							
AOPR	**Arecibo Observ**	**2.06**	**249**			**Pn**	**17 56 18.0**	**-1.3**
AOPR	**Arecibo Observ**	**2.06**	**249**			**Sn**	**17 56 43.9**	**+0.1**
AOPR	**Arecibo Observ**	**2.06**	**249**	⇓*eP*		**Pn**	**17 56 18.5**	**-0.7**
AOPR	**Arecibo Observ**	**2.06**	**249**	*eS*		**Sn**	**17 56 43.9**	**+0.1**
UUPR	**Utuado, UPR, P**	**2.07**	**246**			**Sn**	**17 56 45.0**	**+1.1**
UUPR	**Utuado, UPR, P**	**2.07**	**246**	Pn		**Pn**	**17 56 18.5**	**-0.9**
UUPR	**Utuado, UPR, P**	**2.07**	**246**	⇑*eP*		**Pn**	**17 56 19.1**	**-0.2**
UUPR	**Utuado, UPR, P**	**2.07**	**246**	*eS*		**Sn**	**17 56 45.0**	**+1.1**
OBIP	**Obispado Ponce**	**2.07**	**240**			**Pn**	**17 56 18.1**	**-1.2**
OBIP						**Sn**	**17 56 42.8**	**-1.1**
OBIP				IAML			17 56 47.1	
	comp=E,186nm,0.5s							
OBIP				IAML			17 56 50.9	
	comp=N,143nm,0.6s							
OBIP	**Obispado Ponce**	**2.07**

VHRN	**Van Horn**	**1.41**	**245**		Pn		18 08 12.2	-0.5
VHRN					Sb		18 08 31.5	-0.1
VHRN				IAML			18 08 39.3	
	32nm,0.6s							
MNTX	**Cornudas Mount**	**1.64**	**281**		Pb		18 08 16.8	-0.2
MNTX					Sg		18 08 39.2	+0.2
MNTX				IAML			18 08 43.4	
	22nm,0.6s							
MNTX				IAML			18 08 46.3	
	26nm,0.5s							
CPRX	**Cap Rock**	**1.67**	**349**		Pb		18 08 17.2	-0.3
SAND	**Sanderson**	**1.85**	**140**		Pn		18 08 19.0	+0.3
TX31	**Lajitas Ar. Si**	**2.05**	**184**	Pn	Pn		18 08 21.9	+0.4
OZNA	**Ozona**	**2.08**	**102**		Pn		18 08 22.2	+0.3
SGCY	**Sterling City**	**2.08**	**75**		Pb		18 08 23.2	-1.3
SGCY				IAmb_Lg			18 08 53.3	
	comp=Z,14nm,0.9s							
SGCY				IAML			18 08 59.8	
	comp=Z,29nm,0.4s							
POST	**Post**	**2.38**	**45**		Pn		18 08 26.8	+0.9
POST				IAmb_Lg			18 09 01.4	
	comp=Z,4.0nm,0.7s							
MSTX	**Muleshoe**	**2.64**	**13**		Pn		18 08 30.7	+1.1
SN07	**Snyder 07**	**2.78**	**52**		Pn		18 08 32.5	+1.0
SN07				IAmb_Lg			18 09 14.8	
	comp=Z,9.6nm,0.8s							
DKNS	**Dickens**	**3.14**	**43**	IAmb_Lg			18 09 30.9	
	comp=Z,6.1nm,0.8s							
DRIO	**Del Rio**	**3.16**	**128**	Pn	Pn		18 08 37.3	+0.6
DRIO				IAML			18 09 27.0	
	comp=Z,16nm,0.4s							
DRIO				IAmb_Lg			18 09 32.4	
	comp=Z,9.5nm,0.8s							
JCT	**Junction City**	**3.30**	**105**	Pn	Pn		18 08 39.5	+1.0
JCT				IAML			18 09 38.3	
	comp=Z,11nm,0.5s							
APMT	**Aspermont**	**3.44**	**55**		Pn		18 08 41.6	+1.0
ABTX	**Abilene, Hawle**	**3.50**	**68**	Pn	Pn		18 08 42.5	+1.3
CRNM	**Carthage**	**3.74**	**314**	Pn	Pn		18 08 43.5	-1.3
BNM	**Barren Site**	**3.81**	**317**	Pn	Pn		18 08 43.9	-2.0
121A	**Cookes Peak, D**	**3.82**	**288**	Pn	Pn		18 08 45.5	-0.4
121A				IAML			18 09 56.5	
	comp=N,9.2nm,0.6s							
121A				IAML			18 09 59.4	
	comp=E,5.2nm,1.5s							
BRDY	**Brady**	**3.85**	**90**		Pn		18 08 46.1	0.0
BRDY				IAmb_Lg			18 09 49.5	
	comp=Z,5.1nm,0.7s							
BRDY				IAML			18 09 52.7	
	comp=Z,7.9nm,0.9s							
Y22A	**Socorro**	**3.88**	**312**	Pn	Pn		18 08 47.7	+1.0
Y22A				IAML			18 09 54.7	
	comp=N,6.9nm,1.4s							
SBM	**South Baldy**	**4.04**	**311**	Pn	Pn		18 08 48.7	-0.4
ANMO	**Albuquerque**	**4.33**	**326**	IAmb_Lg			18 10 09.0	
	comp=Z,2.1nm,0.8s							

*IDC **28** 18:09:40.9±15.0, 37˚.58N×75˚.72E, h95km±77km, mb3.5/4, mbtmp3.7/9, ML3.2/5, Error ellipse: s-maj=161.0km s-min=55.5km az=176.0*

ISC 28 18:09:42.6±3.9, 37.7N±0.4×75.6E±0.2, h100km, n12, σ0.98/11, mb3.7/4, 2C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.96**	**350**	⇑Pg		Pn		18 11 05.2	+10
AAK	1.4nm,0.5s			⇓Lg		Lg		18 11 45.3	
	16nm,0.8s								
AAK	**Ala-Archa**	**4.96**	**350**	P		**Pn**		**18 10 55.1**	**+0.2**
AAK	1.0nm,0.3s,baz=166,slow=8.3,SNR=5.2			S		Sn		18 11 44.2	-6.9
	10nm,0.5s,baz=216,slow=16,SNR=3.5								
	2.6nm,0.4s								
KK31	**Karatay Array**	**6.62**	**326**	Pn		**Pn**		**18 11 16.8**	**-0.5**
KK31	0.5nm,0.3s,baz=134,slow=12,SNR=14			⇑Lg		Lg		18 12 22.0	
	4.3nm,0.4s,baz=142,slow=20,SNR=11								
MKAR	**Makanchi Array**	**10.30**	**27**	P		**Pn**		**18 12 08.1**	**+0.8**
	0.1nm,0.3s,baz=206,slow=15,SNR=5.9								
	0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**13.04**	**8**	P		**P**		**18 12 48.5**	**-1.8**
	2.1nm,0.2s,baz=199,slow=10,SNR=4.5								
BVAR	**Borovoye Array**	**15.71**	**348**	P		**Pn**		**18 13 19.1**	**+1.0**
	baz=158,slow=12,SNR=9.6								
	1.8nm,0.6s								
ZALV	**Zalesovo Beam**	**17.40**	**18**	P		**P**		**18 13 37.6**	**-1.1**
	0.2nm,0.3s,baz=202,slow=11,SNR=5.7								
	0.6nm,0.3s								
AKTO	**Aktyubinsk**	**17.85**	**321**	P		**P**		**18 13 43.9**	**+0.2**
	0.3nm,0.3s,baz=120,slow=9.5,SNR=3.6								
	0.6nm,0.3s								
ARTI	**Arti**	**21.92**	**334**	P		**P**		**18 14 28.4**	**+0.8**
	2.1nm,0.6s,baz=212,slow=4.1,SNR=5.2								
	2.1nm,0.6s								
ARCES	**ARCESS Array B**	**41.46**	**336**	P		**P**		**18 17 19.4**	**+0.3**
	2.7nm,1.0s,baz=114,slow=8.3,SNR=8.5								
	2.7nm,1.0s								
HFS	**Hagfors**	**44.40**	**321**	P		**P**		**18 17 42.6**	**-0.3**
	1.6nm,0.9s,baz=96,slow=13,SNR=1.9								
	1.6nm,0.9s								
NOA	**NORSAR Array B**	**45.64**	**322**	P		**P**		**18 17 53.1**	**+0.4**
	0.5nm,0.7s,baz=82,slow=7.3,SNR=1.4								
	0.5nm,0.7s								

*RSPR **28** 18:12:11.9, 19˚.17N×64˚.68W, h43km±15km, MD3.1/13*
*NEIC **28** 18:12:11.1±1.6, 19˚.2N±0˚.1×64˚.71W±0˚.03, h35km±2km, ML3.4/27, Md3.1/13(RSPR), Error ellipse: s-maj=17.7km s-min=4.4km az=182.0*
*SDD **28** 18:12:13.3±2.4, 16˚.28N×67˚.17W, h15km±19km, MD3.4, ML3.2, MW3.5*

ISC 28 18:12:11.8±1.7, 19˚.1N±0˚.1×64˚.72W±0˚.04, h42km, n64, σ0.90/74, 10C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.44**	**228**			**Pn**		**18 12 34.3**	**-1.1**
HUMP					Sn	**Sn**		**18 12 52.9**	**-0.3**
GCPR	**Guaynabo City**	**1.52**	**238**			**Pn**		**18 12 35.3**	**-1.2**
GCPR						**Sn**		**18 12 54.2**	**-0.9**
GCPR	**Guaynabo City**	**1.52**	**238**	⇑*eP*		**Pn**		**18 12 35.4**	**-1.1**
GCPR	**Guaynabo City**	**1.52**	**238**	*eS*		**Sn**		**18 12 54.6**	**-0.5**
PDPR	**Patillas Dam,**	**1.65**	**229**			**Pn**		**18 12 37.7**	**-0.5**
PDPR				IAML				18 13 01.8	
	comp=E,256nm,0.6s								
PDPR				IAML				18 13 06.0	
	comp=N,228nm,0.4s								
PDPR	**Patillas Dam,**	**1.65**	**229**	⇓*eP*		**Pn**		**18 12 38.5**	**+0.2**
PDPR	**Patillas Dam,**	**1.65**	**229**	*eS*		**Sn**		**18 12 58.7**	**+0.5**
SJG	**San Juan**	**1.68**	**234**			**Pn**		**18 12 38.4**	**-0.3**
SJG	**San Juan**	**1.68**	**234**		Sn	**Sn**		**18 12 59.2**	**+0.1**
SJG				IAML				18 13 04.3	
	comp=N,227nm,0.6s								
SJG	**San Juan**	**1.68**	**234**	⇑*eP*		**Pn**		**18 12 38.4**	**-0.3**
SJG	**San Juan**	**1.68**	**234**	*eS*		**Sn**		**18 12 59.6**	**+0.5**
IGPR	**InterUniversit**	**1.74**	**229**			**Pn**		**18 12 39.7**	**+0.1**
IGPR						**Sn**		**18 13 01.2**	**+0.7**
IGPR	**InterUniversit**	**1.74**	**229**	⇑*eP*		**Pn**		**18 12 39.7**	**+0.1**
IGPR	**InterUniversit**	**1.74**	**229**	*eS*		**Sn**		**18 13 01.2**	**+0.7**
ECPR	**Experimental S**	**1.75**	**243**	⇑*eP*		**Pn**		**18 12 39.1**	**-0.5**
ECPR	**Experimental S**	**1.75**	**243**	*eS*		**Sn**		**18 13 00.6**	**-0.1**
EMPR	**Esperanza - Ma**	**1.83**	**250**			**Sn**		**18 13 03.5**	**+0.9**
EMPR	**Esperanza - Ma**	**1.83**	**250**	Pn		**Pn**		**18 12 40.8**	**+0.1**
EMPR	**Esperanza - Ma**	**1.83**	**250**	⇓*iP*		**Pn**		**18 12 40.9**	**+0.1**
EMPR	**Esperanza - Ma**	**1.83**	**250**	*eS*		**Sn**		**18 13 03.5**	**+0.9**
SMRT	**St. Maarten**	**1.89**	**124**			**Pn**		**18 12 41.3**	**-0.3**
SMRT					Sn	**Sn**		**18 13 05.5**	**+1.3**
SMRT				IAML				18 13 15.4	
	comp=N,490nm,0.3s								
CELP	**Cerrillos**	**2.04**	**240**			**Pn**		**18 12 43.6**	**-0.1**
CELP						**Sn**		**18 13 08.6**	**+0.6**
CELP	**Cerrillos**	**2.04**	**240**	IAML				18 13 13.9	
	comp=E,150nm,0.5s								
CELP				IAML				18 13 15.4	
	comp=N,152nm,0.3s								
CELP	**Cerrillos**	**2.04**	**240**	⇑*eP*		**Pn**		**18 12 43.6**	**-0.1**
CELP	**Cerrillos**	**2.04**	**240**	*eS*		**Sn**		**18 13 08.6**	**+0.6**
CELP	**Cerrillos**	**2.04**	**240**	*i* P		**Pn**		**18 12 43.6**	**-0.1**
CELP				*i* S		**Sn**		**18 13 05.8**	**-2.2**
CELP				IAML				18 13 15.3	
	comp=N,148nm,0.3s								

SABA	**Saba**	**2.05**	**136**			**Pn**		**18 12 44.0**	**+0.3**
SABA				IAML				18 13 21.1	
	comp=N,413nm,0.5s								
AOPR	**Arecibo Observ**	**2.07**	**249**			**Pn**		**18 12 43.6**	**-0.5**
AOPR				IAML				18 13 22.1	
	comp=N,337nm,0.3s								
AOPR	**Arecibo Observ**	**2.07**	**249**			**Sn**		**18 13 09.0**	**+0.3**
AOPR	**Arecibo Observ**	**2.07**	**249**	⇑*eP*		**Pn**		**18 12 43.9**	**-0.2**
AOPR	**Arecibo Observ**	**2.07**	**249**	*eS*		**Sn**		**18 13 09.0**	**+0.3**
AOPR	**Arecibo Observ**	**2.07**	**249**	*i* P		**Pn**		**18 12 44.2**	**+0.1**
AOPR				*i* S		**Sn**		**18 13 10.9**	**+2.2**
AOPR				IAML				18 13 24.1	
	comp=N,304nm,0.4s								
UUPR	**Utuado, UPR, P**	**2.08**	**246**			**Pn**		**18 12 43.0**	**-1.1**
UUPR					Sn	**Sn**		**18 13 06.3**	**-2.5**
UUPR	**Utuado, UPR, P**	**2.08**	**246**			Lg		18 13 09.6	
UUPR	**Utuado, UPR, P**	**2.08**	**246**	*eS*		**Sn**		**18 13 09.6**	**+0.8**
OBIP	**Obispado Ponce**	**2.08**	**239**			**Pn**		**18 12 44.0**	**-0.2**
OBIP	**Obispado Ponce**	**2.08**	**239**			**Sn**		**18 13 10.0**	**+1.1**
OBIP	**Obispado Ponce**	**2.08**	**239**	⇑*eP*		**Pn**		**18 12 44.1**	**-0.1**
OBIP	**Obispado Ponce**	**2.08**	**239**	*eS*		**Sn**		**18 13 10.0**	**+1.1**
SEUS	**St. Eustatius**	**2.31**	**134**	Pn		**Pn**		**18 12 45.5**	**-1.9**
SEUS				IAML				18 13 41.4	
	comp=N,423nm,0.1s								
SEUS				IAML				18 13 43.6	
	comp=E,378nm,0.2s								
AGPR	**Aguadilla, PR**	**2.35**	**254**			**Pn**		**18 12 47.9**	**0.0**
AGPR						**Sn**		**18 13 16.1**	**+0.5**
AGPR	**Aguadilla, PR**	**2.35**	**254**	⇑*eP*		**Pn**		**18 12 47.9**	**0.0**
AGPR	**Aguadilla, PR**	**2.35**	**254**	*eS*		**Sn**		**18 13 16.1**	**+0.5**
AGPR	**Aguadilla, PR**	**2.35**	**254**	*i* P		**Pn**		**18 12 47.6**	**-0.3**
AGPR				*e*Sg		**Sn**		**18 13 17.7**	**+2.1**
AGPR				IAML				18 13 37.2	
	comp=N,120nm,0.3s								
LSP	**Las Mesas**	**2.43**	**248**			**Pn**		**18 12 49.2**	**+0.2**
LSP						**Sn**		**18 13 18.5**	**+1.0**
LSP	**Las Mesas**	**2.43**	**248**	⇓*eP*		**Pn**		**18 12 49.2**	**+0.2**
LSP	**Las Mesas**	**2.43**	**248**	*eS*		**Sn**		**18 13 18.5**	**+1.0**
PRSN	**Puerto Rico Se**	**2.46**	**249**	Pn		**Pn**		**18 12 48.5**	**-1.0**
MLPR	**Magueyes Islan**	**2.48**	**243**	⇑*eP*		**Pn**		**18 12 50.1**	**+0.4**
MLPR	**Magueyes Islan**	**2.48**	**243**	*eS*		**Sn**		**18 13 20.0**	**+1.2**
CRPR	**Cabo Rojo, PR**	**2.52**	**244**			**Pn**		**18 12 50.0**	**-0.3**
CRPR				IAML				18 13 30.0	
	comp=E,116nm,0.8s								
CRPR	**Cabo Rojo, PR**	**2.52**	**244**			**Sn**		**18 13 20.6**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.52**	**244**	⇑*eP*		**Pn**		**18 12 50.5**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.52**	**244**	*eS*		**Sn**		**18 13 20.6**	**+0.9**
IDE	**Isla Desecheo**	**2.71**	**255**			**Pn**		**18 12 52.8**	**0.0**
IDE						**Sn**		**18 13 24.7**	**+0.3**
IDE	**Isla Desecheo**	**2.71**	**255**	⇓*eP*		**Pn**		**18 12 52.8**	**0.0**
IDE	**Isla Desecheo**	**2.71**	**255**	*eS*		**Sn**		**18 13 24.7**	**+0.3**
GDHS	**Morne Mazeau,**	**4.00**	**135**	Pn		**Pn**		**18 13 11.2**	**+0.6**
ABD	**La Joyeuse, An**	**4.05**	**130**	Pn		**Pn**		**18 13 12.7**	**+1.4**
ABD				IAML				18 14 11.7	
	comp=E,96nm,1.9s								
ABD				IAML				18 14 57.6	
	comp=N,76nm,1.8s								
CBE	**Ff, Capester**	**4.25**	**135**	Pn		**Pn**		**18 13 14.2**	**+0.2**
DR12	**Loma Pena Alta**	**4.42**	**266**	Pn		**Pn**		**18 13 15.7**	**-0.8**
GDSD	**La Dsirade Is**	**4.46**	**128**	Pn		**Pn**		**18 13 15.0**	**-2.0**
GDSD				IAML				18 14 27.4	
	comp=E,28nm,1.8s								
GDSD				IAML				18 15 46.0	
	comp=N,33nm,2.1s								
BANI	**BANI**	**5.39**	**263**	Pn		**Pn**		**18 13 28.7**	**-1.0**
SDDR	**Presa de Saban**	**6.21**	**270**			**Pn**		**18 13 39.5**	**-1.5**

*IDC **28** 18:19:13.4±0.6, 35˚.14S×78˚.60E, h0km, mb4.1/19, mbtmp4.1/19, MS4.2/48, Error ellipse: s-maj=19.0km s-min=16.3km az=107.0*
*BJI **28** 18:19:13.0, 35˚.30S×78˚.70E, h5km, mB4.9/6, mb4.5/22, Ms4.7/9, Ms7 4.3/9*
*NEIC **28** 18:19:14.9±1.3, 35˚.28S±0˚.09×78˚.7E±0˚.1, h10km±1km, mb5.0/39, Error ellipse: s-maj=18.6km s-min=15.0km az=300.0*
*GCMT **28** 18:19:16.9±0.2, 35˚.25S±0˚.01×78˚.60E±0˚.01, h16km±1km, MW5.0/114, Moment Tensor Solution. s51,c65; s114,c174; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.97±.11; Mθθ-3.51±.10; Mϕϕ4.49±.11; Mrθ1.37±.32; Mθϕ0.02±.09; Mϕr-0.45±.26; Best double couple: Mo4.32100×10¹⁶ NP1:ϕs223.00000°, δ70.00000°, λ-14.00000°. NP2:ϕs318.00000°, δ77.00000°, λ-159.00000°. Principal axes: T 4.5280, Plg5.0000°, Azm89.0000°; N -0.4070, Plg66.0000°, Azm348.0000°; P -4.1130, Plg24.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 18:19:14.6±0.4, 35˚.29S±0˚.07×78.64E±0˚.08, h10km, n123, σ1.26/71, mb4.8/43, MS4.2/52, 2C-2D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**2.64**	**199**	Pn		**Pn**		**18 19 55.7**	**-1.6**
H04N2	**CROZET ISLANDS**	**22.95**	**234**	T		T		18 48 15.2	
	baz=71,slow=75,SNR=992								
H04N1	**CROZET ISLANDS**	**22.96**	**234**	T		T		18 48 09.3	
	baz=71,slow=75,SNR=810								
H04N3	**CROZET ISLANDS**	**22.97**	**234**	T		T		18 48 13.3	
	baz=71,slow=75,SNR=957								
H04S1	**CROZET ISLANDS**	**23.11**	**232**	T		T		18 48 18.2	
	baz=70,slow=76,SNR=81								
H04S3	**CROZET ISLANDS**	**23.12**	**232**	T		T		18 48 16.8	
	baz=70,slow=76,SNR=26								
H04S2	**CROZET ISLANDS**	**23.12**	**232**	T		T		18 48 23.9	
	baz=70,slow=76,SNR=20								
H08S2	**Diego Garcia H**	**28.09**	**347**	T		T		18 54 14.4	
	baz=169,slow=76,SNR=381								
H08S1	**Diego Garcia H**	**28.09**	**347**	T		T		18 54 19.7	
	baz=169,slow=76,SNR=242								
H08S3	**Diego Garcia H**	**28.11**	**347**	T		T		18 54 14.6	
	baz=169,slow=76,SNR=906								
H01W2	**Cape Leeuwin H**	**28.95**	**100**	T		T		18 55 32.4	
	baz=259,slow=74,SNR=381								
H01W3	**Cape Leeuwin H**	**28.95**	**100**	T		T		18 55 28.3	
	baz=259,slow=74,SNR=961								
H01W1	**Cape Leeuwin H**	**28.97**	**100**	T		T		18 55 29.0	
	baz=259,slow=74,SNR=1176								
VOI	**Vohitsoka**	**30.84**	**287**	P		**P**		**18 25 30.1**	**-0.9**
VOI					IAmb	IAmb		18 26 34.6	
	comp=Z,49nm,1.6s								
NWAO	**Narrogin (SRO)**	**31.91**	**97**	LR		LR		18 35 24.4	
	comp=Z,1μm,18.3s,baz=261,slow=30								
OPO	**Ambohidratompo**	**32.43**	**293**	LR		LR		18 35 20.2	
	comp=Z,249nm,21.6s,baz=7.0,slow=30								
MAW	**Mawson**	**33.60**	**191**	P		**P**		**18 25 55.8**	**+1.1**
	comp=Z,2.7nm,0.8s,baz=309,slow=4.5,SNR=4.8								
MAW				LR		LR		18 36 59.3	
	comp=Z,448nm,19.1s,baz=15,slow=32								
	comp=Z,2.7nm,0.8s								
PSA00	**Pilbara Seismi**	**38.45**	**80**	P		**P**		**18 26 33.8**	**-3.0**
LEM	**Lembang**	**38.87**	**50**	LR		LR		18 39 34.9	
	comp=Z,349nm,19.4s,baz=227,slow=32								
SYO	**Syowa Base**	**40.05**	**201**	⇓*eP*		**P**		**18 26 51.0**	**+1.5**
SYO	**Syowa Base**	**40.05**	**201**	⇓*ep*		pP		18 26 53.8	+1.9
PALK	**Pallekele**	**42.38**	**3**	LR		LR		18 40 20.3	
	comp=Z,326nm,21.8s,baz=181,slow=30								
PSI	**Prapat**	**42.40**	**31**	LR		LR		18 41 13.2	
	comp=Z,412nm,19.0s,baz=201,slow=31								
FITZ	**Fitzroy Crossi**	**44.91**	**80**			**P**		**18 27 29.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**44.91**	**80**	P		**P**		**18 27 29.9**	**+0.2**
	comp=Z,7.0nm,1.0s,baz=233,slow=8.9,SNR=6.1								
FITZ				LR		LR		18 44 35.4	
	comp=Z,410nm,18.6s,baz=236,slow=34								
	comp=Z,7.0nm,1.0s								
BOSA	**Boshof**	**45.33**	**263**	P		**P**		**18 27 33.6**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=102,slow=9.3,SNR=5.2								
BOSA				LR		LR		18 42 24.1	
	comp=Z,541nm,21.1s,baz=116,slow=31								
	comp=Z,2.8nm,0.7s								
MATP	**Matopo**	**46.27**	**275**	LR		LR		18 43 14.6	
	comp=Z,529nm,21.6s,baz=128,slow=31								
LBTB	**Lobatse**	**46.52**	**268**	P		**P**		**18 27 41.5**	**-1.1**
LBTB						IAmb	IAmb	18 27 44.7	
	comp=Z,34nm,1.8s								
LBTB	**Lobatse**	**46.52**	**268**	LR		LR		18 43 21.1	
	comp=Z,290nm,21.2s,baz=120,slow=31								
MAKGR	**Makgori**	**46.83**	**266**	P		**P**		**18 27 44.9**	**-0.1**
MAKGR						IAmb	IAmb	18 27 48.0	
	comp=Z,32nm,1.4s								
LPHEP	**Lephephe**	**47.04**	**270**	P		**P**		**18 27 46.5**	**-0.1**
LPHEP						IAmb	IAmb	18 27 50.4	

	comp=Z,16nm,1.2s							
SUR	**Sutherland**	**47.54**	**256**	P		**P**		**18 27 51.1**	**+0.6**
BATI	**Baumata**	**47.90**	**70**	LR		LR		18 47 34.7
	comp=Z,450nm,18.1s,baz=263,slow=36							
KHWEE	**KHWEE**	**48.03**	**271**			**P**		**18 27 54.4**	**0.0**
KAPI	**Kappang**	**48.40**	**61**	LR		LR		18 46 22.1
	comp=Z,169nm,19.6s,baz=222,slow=34							
PHPEN	**Phepeng**	**48.56**	**266**	P		**P**		**18 27 57.2**	**-1.2**
PHPEN					IAmb	IAmb		18 27 59.6	
	comp=Z,16nm,0.8s							
SOEI	**Soe**	**48.64**	**70**	P		**P**		**18 27 57.9**	**-1.3**
KNRA	**Kununurra**	**48.72**	**80**	P		**P**		**18 27 58.3**	**-1.3**
ASAR	**Alice Springs**	**48.93**	**92**			**P**		**18 28 00.3**	**-0.9**
ASAR	**Alice Springs**	**48.93**	**92**	P		**P**		**18 28 01.6**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=238,slow=7.0,SNR=29								
ASAR					LR	LR		18 46 26.8	
	comp=Z,252nm,20.2s,baz=250,slow=33								
	comp=Z,2.1nm,0.8s								
AS31	**Alice Springs**	**48.93**	**92**	P		**P**		**18 28 00.5**	**-0.7**
SBUM	**Sibu**	**48.97**	**47**			**P**		**18 28 01.8**	**+0.4**
SBUM					IAmb	IAmb		18 28 05.3	
	comp=Z,14nm,1.2s								
BKB	**Balikpapan**	**49.10**	**55**	P		**P**		**18 28 03.4**	**+1.0**
LSZ	**Lusaka**	**49.21**	**281**			**P**		**18 28 03.4**	**-0.1**
LSZ					IAmb	IAmb		18 28 04.9	
	comp=Z,8.3nm,0.8s								
LSZ	**Lusaka**	**49.21**	**281**	LR		LR		18 45 57.9	
	comp=Z,467nm,19.4s,baz=130,slow=33								
KGCAE	**Kacgae**	**50.26**	**268**	P		**P**		**18 28 11.1**	**-0.3**
KSANE	**Kasane**	**50.32**	**276**	P		**P**		**18 28 11.3**	**-0.5**
KSANE					IAmb	IAmb		18 28 21.6	
	comp=Z,12nm,1.1s								
LKGWB	**Lokgwabe**	**50.50**	**266**	P		**P**		**18 28 09.4**	**-3.8**
WRA	**Warramunga Arr**	**51.04**	**88**			**P**		**18 28 17.9**	**+0.7**
WRA	**Warramunga Arr**	**51.04**	**88**	P		**P**		**18 28 17.9**	**+0.7**
	comp=Z,6.1nm,0.7s,baz=240,slow=7.5,SNR=31								
WRA					LR	LR		18 47 44.1	
	comp=Z,404nm,20.9s,baz=225,slow=34								
	comp=Z,6.1nm,0.7s								
WRAB	**Tennant Creek**	**51.06**	**88**	P		**P**		**18 28 16.4**	**-0.9**
WRAB					IAmb	IAmb		18 28 21.7	
	comp=Z,27nm,1.4s								
WR8	**Warramunga Arr**	**51.17**	**88**			**P**		**18 28 17.8**	**-0.4**
WR8					IAmb	IAmb		18 28 22.4	
	comp=Z,24nm,1.2s								
WB0	**Warramunga Arr**	**51.17**	**88**			**P**		**18 28 18.4**	**+0.2**
WB0					IAmb	IAmb		18 28 21.6	
	comp=Z,42nm,1.4s								
KMBO	**Kilima Mbogo**	**51.33**	**302**	LR		LR		18 46 49.9	
	comp=Z,138nm,19.9s,baz=98,slow=32								
GRTLG	**Ghanzi**	**51.77**	**269**			**P**		**18 28 22.6**	**-0.2**
GRTLG					IAmb	IAmb		18 28 29.8	
	comp=Z,48nm,1.9s								
STKA	**Stephens Creek**	**51.77**	**105**	P		**P**		**18 28 21.4**	**-1.2**
STKA	**Stephens Creek**	**51.77**	**105**	P		**P**		**18 28 23.1**	**+0.6**
	comp=Z,4.0nm,1.0s,baz=250,slow=12,SNR=3.1								
STKA					LR	LR		18 46 54.2	
	comp=Z,413nm,20.6s,baz=218,slow=32								
	comp=Z,4.0nm,1.0s								
KOOLE	**Kule**	**51.84**	**267**			**P**		**18 28 22.9**	**-0.4**
KOOLE					IAmb	IAmb		18 28 24.7	
	comp=Z,18nm,0.8s								
HYB	**Hyderabad**	**52.42**	**360**	*eP*		**P**		**18 28 27.4**	**0.0**
TROLL	**Troll, Antarti**	**52.58**	**202**	⇑P		**P**		**18 28 29.6**	**+1.5**
	comp=Z,66nm,0.8s								
TOLI2	**Tolitoli**	**53.46**	**57**	P		**P**		**18 28 34.7**	**-0.5**
TOLI2					IAmb	IAmb		18 28 38.3	
	comp=Z,7.6nm,1.0s								
SNAA	**Sanae**	**54.27**	**203**	P		**P**		**18 28 41.3**	**+0.9**
SNAA					IAmb	IAmb		18 30 35.0	
	comp=Z,16nm,1.9s								
SNAA	**Sanae**	**54.27**	**203**	P		**P**		**18 28 41.7**	**+1.2**
	comp=Z,1.5nm,1.1s,baz=104,slow=11,SNR=6.3								
	comp=Z,

HNS	**HongShan**	**79.70**	**28**	⇓P		**P**	**18 31 23.3**	**+1.0**
BTO	**Baotou**	**80.86**	**24**	*e*P		**P**	**18 31 29.5**	**+0.8**
BTO				PP		**PP**	**18 34 38.5**	**+5.0**
BTO				S		**S**	**18 41 40.3**	**+3.3**
BTO				pmax	pmax			
	comp=Z,13nm,0.5s							
BTO				pmax	pmax			
	comp=Z,140nm,4.1s							
BTO				LR	LR			
	comp=Z,180nm,7.3s							
BTO				LR	LR			
	comp=Z,150nm,5.2s							
BTO				LR	LR			
	comp=Z,260nm,16.1s							
GNI	**Garni**	**81.31**	**334**	LR	LR		19 05 41.2	
	comp=Z,93nm,18.9s,baz=148,slow=34							
HHC	**Hu-ho-hao-te**	**81.60**	**25**	*e*P		**P**	**18 31 33.5**	**+0.9**
HHC				pmax	pmax			
	comp=Z,9.0nm,0.8s							
HHC				pmax	pmax			
	comp=Z,60nm,4.7s							
HHC				LR	LR			
	comp=Z,120nm,16.7s							
HHC				LR	LR			
	comp=Z,110nm,16.1s							
HHC				LR	LR			
	comp=Z,88nm,16.5s							
MKAR	**Makanchi Array**	**81.78**	**3**	P		**P**	**18 31 34.0**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=176,slow=4.9,SNR=5.5							
MKAR				LR	LR		19 05 26.9	
	comp=Z,109nm,20.3s,baz=176,slow=34							
	comp=Z,0.8nm,0.8s							
BR131	**Keskin Array S**	**85.42**	**327**	P		**P**	**18 31 51.8**	**-0.5**
BRTR	**Keskin Array B**	**85.42**	**327**	P		**P**	**18 31 52.0**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=151,slow=6.1,SNR=9.2							
	comp=Z,1.1nm,0.8s							
KURBB	**Kurchatov Arra**	**85.55**	**360**	P		**P**	**18 31 52.3**	**-0.1**
	comp=Z,0.7nm,0.2s,baz=187,slow=4.9,SNR=6.7							
KURBB				LR	LR		19 08 28.9	
	comp=Z,126nm,19.1s,baz=175,slow=35							
	comp=Z,0.7nm,0.2s							
KSRS	**Korea Array**	**85.62**	**37**	P		**P**	**18 31 53.1**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=213,slow=6.0,SNR=1.8							
	comp=Z,0.3nm,0.6s							
KURK	**Kurchatov**	**85.64**	**360**			**P**	**18 31 52.3**	**-0.6**
AB31	**Akbulak array**	**85.81**	**348**	P		**P**	**18 31 53.2**	**-0.6**
AB31				IAmb		IAmb	18 34 34.0	
	comp=Z,4.3nm,0.5s							
SONM	**Songino Array**	**86.41**	**18**	P		**P**	**18 31 56.1**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=196,slow=3.7,SNR=4.2							
SONM				LR	LR		19 09 34.6	
	comp=Z,108nm,19.3s,baz=254,slow=35							
	comp=Z,1.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**87.14**	**288**	P		**P**	**18 31 59.8**	**-1.4**
	comp=Z,1.1nm,1.1s,baz=106,slow=5.5,SNR=4.9							
	comp=Z,1.1nm,1.1s							
AKTO	**Aktyubinsk**	**87.28**	**347**	LR	LR		19 07 48.0	
	comp=Z,49nm,21.4s,baz=130,slow=34							
BVAR	**Borovoye Array**	**88.25**	**355**	P		**P**	**18 32 06.3**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=155,slow=4.8,SNR=4.7							
BVAR				LR	LR		19 09 48.7	
	comp=Z,66nm,19.3s,baz=169,slow=34							
	comp=Z,0.9nm,0.8s							
DBIC	**Dimbokro**	**88.53**	**279**	LR	LR		19 06 54.4	
	comp=Z,306nm,21.9s,baz=172,slow=32							
JHJ	**Hachijo jima 2**	**88.94**	**47**	LR	LR		19 10 20.4	
	comp=Z,30nm,18.1s,baz=64,slow=34							
ZALV	**Zalesovo Beam**	**89.04**	**4**	P		**P**	**18 32 08.2**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=180,slow=4.3,SNR=4.9							
ZALV				LR	LR		19 10 07.6	
	comp=Z,67nm,20.5s,baz=194,slow=34							
	comp=Z,0.5nm,0.6s							
MJAR	**Matsushiro Arr**	**90.42**	**44**	P		**P**	**18 32 15.5**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=190,slow=6.2,SNR=4.5							
	comp=Z,0.9nm,0.9s							
ARTI	**Arti**	**92.94**	**349**	LR	LR		19 13 14.9	
	comp=Z,49nm,18.0s,baz=160,slow=35							
MLR	**Muntele Rosu**	**93.45**	**326**	LR	LR		19 09 51.7	
	comp=Z,73nm,21.9s,baz=123,slow=33							
KEST	**Kesra**	**95.69**	**310**	LR	LR		19 14 05.9	
	comp=Z,45nm,19.9s,baz=302,slow=34							
KIRV	**Kirov**	**96.66**	**345**	LR	LR		19 13 25.1	
	comp=Z,73nm,20.4s,baz=178,slow=34							
TBI	**Tubuai**	**105.98**	**135**	*e*LR	LR		19 08 17.5	
	comp=Z,839nm,36.5s							
PPT2	**Papeete2**	**110.31**	**131**	*e*LR	LR		19 10 20.8	
	comp=Z,95nm,28.0s							
PPT2				*e*LR	LR		19 10 23.0	
	comp=Z,72nm,27.2s							

*IDC **28** 18:31:02.2±6.6,36°.08N×70°.85E,h96km±58km,mb3.3/8, mbtmp3.7/12,ML3.3/4,MS2.4/1,Error ellipse: s-maj=47.2km s-min=23.9km az=33.0*
*NNC **28** 18:31:11.4±4.2,36°.85N×70°.81E,h209km±45km,mb3.0, mpv4.0,Error ellipse: s-maj=41.3km s-min=30.8km az=51.0*

ISC 28 18:31:13.6±1.1,36°.91N±0°.09×70°.8E±0°.1,h200km,n21, σ2s04/23,mb3.3/6,6C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say**	**6.18**	**21**	P	**Pn**	**18 32 41.4**	**-1.8**
	SNR=7.8						
KK31	**Karatay Array**	**6.19**	**358**	⇑P	**Pn**	**18 32 41.5**	**-1.7**
	10.0nm,0.3s,baz=176,slow=12,SNR=181						
KK31				⇑S	**Sn**	**18 33 54.6**	**+0.3**
	3.1nm,0.3s,baz=166,slow=18,SNR=6.5						
AAK	**Ala-Archa**	**6.39**	**25**	P	**Pn**	**18 32 44.2**	**-1.7**
	SNR=7.6						
AAK	**Ala-Archa**	**6.39**	**25**	⇑P	**Pn**	**18 32 44.1**	**-1.8**
	2.7nm,0.5s						
AAK				⇑S	**Sn**	**18 33 59.2**	**+0.1**
	1.7nm,0.3s						
AAK	**Ala-Archa**	**6.39**	**25**	P	**Pn**	**18 32 44.4**	**-1.5**
	4.4nm,0.3s,baz=190,slow=7.4,SNR=12						
AAK				S	**Sn**	**18 33 58.0**	**-1.1**
	12nm,0.4s,baz=124,slow=22,SNR=12						
AAK				LR	LR	18 35 28.3	
	comp=Z,28nm,18.5s,baz=178,slow=37						
	8.2nm,0.3s						
CHMS	**Chumysh**	**6.79**	**25**	P	**Pn**	**18 32 49.7**	**-1.3**
	SNR=5.5						
USP	**Ospenovka**	**6.95**	**23**	P	**Pn**	**18 32 51.0**	**-2.1**
	SNR=6.2						
TKM2	**Tokmak 2**	**7.04**	**30**	P	**Pn**	**18 32 52.9**	**-1.5**
	SNR=9.0						
MKAR	**Makanchi Array**	**13.05**	**37**	P	**Pn**	**18 34 11.5**	**-0.1**
	0.1nm,0.3s,baz=211,slow=12,SNR=4.4						
	0.5nm,0.6s						
AB31	**Akbulak array**	**14.65**	**331**	⇓P	**P**	**18 34 32.4**	**-0.1**
	1.5nm,0.3s						
AB31				⇑S	**S**	**18 37 10.9**	**-3.1**
	2.7nm,0.6s,baz=159,slow=23,SNR=10.0						
KURBB	**Kurchatov Arra**	**14.79**	**20**	P	**P**	**18 34 37.5**	**+3.6**
	0.1nm,0.3s,baz=204,slow=11,SNR=5.3						
	0.8nm,0.3s						
BVAR	**Borovoye Array**	**16.12**	**359**	P	**Pn**	**18 34 52.1**	**+3.0**
	baz=159,slow=9.5,SNR=6.3						
	0.9nm,0.6s						
AKTO	**Aktyubinsk**	**16.35**	**330**	⇓P	**P**	**18 34 48.4**	**-2.7**
	3.1nm,0.8s						
AKTO				⇑S	**S**	**18 37 50.6**	**-1.5**
	2.4nm,1.1s						
ZALV	**Zalesovo Beam**	**19.61**	**25**	P	**Pn**	**18 35 30.4**	**+0.1**
	5.3nm,0.5s,baz=220,slow=10,SNR=29						
	5.3nm,0.5s						
FINES	**FINESS Array B**	**37.06**	**326**	P	P	18 38 09.3	+5.3
	2.7nm,1.1s,baz=139,slow=10,SNR=3.4						
	2.7nm,1.1s						
ARCES	**ARCESS Array B**	**40.71**	**337**	P	P	18 38 40.4	+6.1
	1.8nm,0.8s,baz=118,slow=7.7,SNR=1.6						
	1.8nm,0.8s						
HFS	**Hagfors**	**42.65**	**322**	P	**P**	**18 38 53.1**	**+3.1**
	1.8nm,0.9s,baz=93,slow=8.9,SNR=1.9						
	1.8nm,0.9s						
NOA	**NORSAR Array B**	**43.96**	**323**	P	P	18 39 04.0	+3.4
	0.1nm,0.3s,baz=105,slow=8.4,SNR=2.2						
	0.1nm,0.3s						
TORD	**Torodi Ar. Bea**	**65.58**	**268**	P	**P**	**18 41 36.3**	**+0.2**
	0.3nm,0.5s,baz=50,slow=6.6,SNR=2.0						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**82.33**	**122**	P	**P**	**18 43 11.4**	**-1.7**
	0.1nm,0.5s,baz=319,slow=5.2,SNR=1.3						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**84.61**	**125**	P	**P**	**18 43 22.5**	**-2.2**
	0.2nm,0.7s,baz=306,slow=4.2,SNR=1.8						
	0.2nm,0.7s						

*TAP **28** 18:36:34.1,25°.17N×122°.75E,h190km±1km,ML3.2,D*
*JMA **28** 18:36:34.8±0.3,25°.N±2°×122°.7E±0°.6,h182km±2km, MV3.0/17,NW OFF ISHIGAKIJIMA IS*

ISC 28 18:36:35.1±1.8,25°.13N±0°.07×122°.73E±0°.03, h180km±10km,n99,σ0s63/154,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.69**	**260**	*i* P	**Pn**	**18 37 00.8**	**0.0**
JYNG	**Yonagunijimaku**	**0.70**	**164**	*e*P	**Pn**	**18 37 01.0**	**+0.1**
JYNG				*e*S	**Sn**	**18 37 21.4**	**+0.6**
YOJ	**Yonaguni jima**	**0.71**	**159**	P	**Pn**	**18 37 00.2**	**-0.8**
YOJ	**Yonaguni jima**	**0.71**	**159**	P	**Pn**	**18 37 01.0**	**0.0**
YOJ				*e*S	**Sn**	**18 37 20.6**	**-0.3**
YOJ	**Yonaguni jima**	**0.71**	**159**	*e*P	**Pn**	**18 37 01.2**	**+0.2**
PCYT	**Pengchaiyu**	**0.78**	**310**	*e*P	**Pn**	**18 37 02.0**	**+0.7**
SXI1	**Grass Mountain**	**0.78**	**267**	P	**Pn**	**18 37 01.4**	**0.0**
SXI1				S	**Sn**	**18 37 20.9**	**-0.7**
EGS		**0.78**	**249**	P	**Pn**	**18 37 02.0**	**+0.7**
TIPB	**Shuangxi**	**0.84**	**259**	P	**Pn**	**18 37 02.2**	**+0.4**
TIPB				S	**Sn**	**18 37 22.5**	**+0.3**
EOS2	**EOS2**	**0.84**	**213**	*i* P	**Pn**	**18 37 02.0**	**+0.4**
EOS2				*i* S	**Sn**	**18 37 22.4**	**+0.3**
EOS3	**EOS3**	**0.92**	**204**	P	**Pn**	**18 37 03.2**	**+1.1**
EOS3				S	**Sn**	**18 37 23.9**	**+1.0**
TWC	**Suao**	**0.96**	**237**	P	**Pn**	**18 37 02.7**	**+0.2**
YM08	**YM08**	**1.04**	**273**	*e*P	**Pn**	**18 37 01.2**	**-1.9**
NDS	**Dongshan**	**1.05**	**242**	P	**Pn**	**18 37 03.2**	**0.0**
NDS				*e*S	**Sn**	**18 37 25.0**	**+0.2**
TWE	**Neicheng**	**1.05**	**247**	P	**Pn**	**18 37 02.9**	**-0.3**
TWE				S	**Sn**	**18 37 24.8**	**-0.1**
YM01	**YM01**	**1.05**	**271**	P	**Pn**	**18 37 03.4**	**+0.1**
YM01				*e*S	**Sn**	**18 37 26.2**	**+1.3**
EOS4	**EOS4**	**1.08**	**201**	P	**Pn**	**18 37 04.0**	**+1.0**
EOS4				S	**Sn**	**18 37 25.3**	**+0.7**
ZUZH	**Zhuzihu**	**1.08**	**272**	*e*P	**Pn**	**18 37 03.2**	**-0.2**
EWUT	**Wuta**	**1.10**	**232**	P	**Pn**	**18 37 04.0**	**+0.3**
EWUT				S	**Sn**	**18 37 25.2**	**-0.4**
FUSB	**Fushanzhiwuyua**	**1.10**	**251**	P	**Pn**	**18 37 03.5**	**-0.2**
FUSB				S	**Sn**	**18 37 25.6**	**-0.1**
TATO	**Taipei**	**1.14**	**262**	P	**Pn**	**18 37 03.8**	**-0.1**
ENA	**Nanau**	**1.14**	**232**	*i* P	**Pn**	**18 37 04.2**	**+0.2**
ENA				*i* S	**Sn**	**18 37 25.8**	**-0.4**
ENTT	**Nioudou**	**1.17**	**245**	*i* P	**Pn**	**18 37 04.2**	**+0.1**
ENTT				S	**Sn**	**18 37 27.0**	**+0.4**
NWLT	**Wulai**	**1.17**	**253**	P	**Pn**	**18 37 03.6**	**-0.6**
NWLT				*e*S	**Sn**	**18 37 26.4**	**-0.2**
TWS1	**Kuangyinshan**	**1.19**	**269**	P	**Pn**	**18 37 04.1**	**-0.2**
TWS1				*e*S	**Sn**	**18 37 26.7**	**-0.2**
IRIF	**Iriomote-Funau**	**1.21**	**131**	*e*P	**Pn**	**18 37 04.5**	**+0.1**
IRIF				*e*S	**Sn**	**18 37 26.9**	**-0.1**
EAHA	**Aohua**	**1.21**	**229**	*e*P	**Pn**	**18 37 04.4**	**-0.1**
LATG	**Datong**	**1.25**	**242**	P	**Pn**	**18 37 05.9**	**+0.9**
LATG				*e*S	**Sn**	**18 37 28.1**	**+0.1**
YHNB	**Yeheng**	**1.32**	**250**	P	**Pn**	**18 37 05.5**	**0.0**
YHNB	**Yeheng**	**1.32**	**250**	S	**Sn**	**18 37 27.9**	**-1.0**
YHNB	**Yeheng**	**1.32**	**250**	P	**Pn**	**18 37 05.8**	**+0.3**
YHNB				*e*S	**Sn**	**18 37 28.1**	**-0.8**
NSK	**Sanguang**	**1.33**	**250**	*i* P	**Pn**	**18 37 05.4**	**-0.2**
NSK				*i* S	**Sn**	**18 37 27.4**	**-1.7**
ETL	**Fush Village**	**1.40**	**226**	P	**Pn**	**18 37 06.1**	**-0.1**
ETL				S	**Sn**	**18 37 30.0**	**-0.3**
NACB	**Ninganchiao**	**1.41**	**228**	P	**Pn**	**18 37 06.2**	**0.0**
NACB	**Ninganchiao**	**1.41**	**228**	P	**Pn**	**18 37 06.0**	**-0.2**
NACB				S	**Sn**	**18 37 29.4**	**-0.9**
NNSB	**Datong**	**1.41**	**241**	*e*P	**Pn**	**18 37 06.9**	**+0.5**
NNSB				*e*S	**Sn**	**18 37 30.3**	**-0.3**
NNS	**Nan Shan**	**1.42**	**241**	P	**Pn**	**18 37 06.8**	**+0.3**
NNS				S	**Sn**	**18 37 29.8**	**-0.9**
HATJ	**Hateruma jima**	**1.45**	**137**	*e*P	**Pn**	**18 37 06.3**	**-0.3**
HATJ				*e*S	**Sn**	**18 37 30.6**	**-0.3**
KSHI	**Guanxi Townshi**	**1.46**	**256**	*e*P	**Pn**	**18 37 07.5**	**+0.8**
KSHI				*e*S	**Sn**	**18 37 31.1**	**0.0**
JKRS	**Kuro-shima**	**1.46**	**127**	*e*P	**Pn**	**18 37 07.4**	**+0.7**
ETLH	**Xiulin Townshi**	**1.47**	**231**	*e*P	**Pn**	**18 37 07.0**	**+0.1**
ETLH				*e*S	**Sn**	**18 37 30.4**	**-1.0**
TWD	**Chiawan**	**1.47**	**225**	P	**Pn**	**18 37 06.9**	**+0.1**
TWD				*e*S	**Sn**	**18 37 30.7**	**-0.6**
JIJ	**Ishigaki jima**	**1.49**	**121**	*e*P	**Pn**	**18 37 07.0**	**0.0**
JIJ				*e*S	**Sn**	**18 37 30.6**	**-1.0**
JISG	**Ishigakijimahi**	**1.53**	**110**	*e*P	**Pn**	**18 37 07.5**	**+0.2**
JISG				*e*S	**Sn**	**18 37 32.1**	**-0.2**
HWA	**Hwalien**	**1.54**	**222**	*e*P	**Pn**	**18 37 08.2**	**+0.7**
NFF	**Wufeng Townshi**	**1.55**	**252**	*e*P	**Pn**	**18 37 07.5**	**-0.2**
NFF				*e*S	**Sn**	**18 37 32.0**	**-0.7**
FUSS	**Fushou**	**1.62**	**237**	*e*P	**Pn**	**18 37 09.1**	**+0.6**
FUSS				*e*S	**Sn**	**18 37 34.8**	**+0.5**
ETM	**Tongmen**	**1.62**	**224**	*e*P	**Pn**	**18 37 07.9**	**-0.4**
TEYL	**Yanliau Villag**	**1.63**	**220**	*e*P	**Pn**	**18 37 08.2**	**-0.1**
TEYL				*e*S	**Sn**	**18 37 34.2**	**+0.2**
LIOB	**Emei**	**1.63**	**253**	*e*P	**Pn**	**18 37 08.7**	**+0.3**
LIOB				*e*S	**Sn**	**18 37 33.1**	**-1.0**
LXIB	**Xiulin Townshi**	**1.63**	**228**	*e*P	**Pn**	**18 37 08.1**	**-0.5**
LXIB				*e*S	**Sn**	**18 37 34.2**	**-0.2**
NSTT	**Nanjuang**	**1.65**	**253**	*e*P	**Pn**	**18 37 08.7**	**+0.2**
NSTT				*e*S	**Sn**	**18 37 34.1**	**-1.0**
WHF	**Hehuan Shan**	**1.66**	**234**	*e*P	**Pn**	**18 37 09.7**	**+0.6**
WHF				*e*S	**Sn**	**18 37 35.0**	**-0.4**
TDCB	**Techi**	**1.68**	**239**	*e*P	**Pn**	**18 37 10.3**	**+1.3**
TDCB				*e*S	**Sn**	**18 37 36.4**	**+1.2**
SHUL	**Shoufeng**	**1.71**	**219**	*e*P	**Pn**	**18 37 09.3**	**+0.1**
SHUL				*e*S	**Sn**	**18 37 35.5**	**-0.1**
ESL	**Shilin**	**1.77**	**222**	*e*P	**Pn**	**18 37 09.3**	**-0.5**
ESL				*e*S	**Sn**	**18 37 34.8**	**-1.8**
TEGC	**Jichi Village**	**1.79**	**218**	*e*P	**Pn**	**18 37 09.9**	**0.0**
WHP	**Taichung City**	**1.83**	**243**	*e*P	**Pn**	**18 37 11.1**	**+0.6**
WHP				*e*S	**Sn**	**18 37 37.2**	**-0.7**
OWD	**Renai**	**1.84**	**231**	*e*P	**Pn**	**18 37 09.9**	**-0.8**
JTJ	**Tarama**	**1.85**	**105**	*e*P	**Pn**	**18 37 11.1**	**+0.5**
JTJ				*e*S	**Sn**	**18 37 38.0**	**-0.1**
WUSB	**Renai**	**1.86**	**233**	*e*P	**Pn**	**18 37 11.7**	**+0.9**
WUSB				*e*S	**Sn**	**18 37 38.6**	**+0.2**
WARBT	**Fenglin Townsh**	**1.87**	**221**	*e*P	**Pn**	**18 37 10.4**	**-0.4**
WARBT				*e*S	**Sn**	**18 37 38.4**	**-2.1**
EGFH	**Guangfu**	**1.88**	**220**	*e*P	**Pn**	**18 37 10.1**	**-0.9**
WCS	**Beigang Elemen**	**1.97**	**238**	*e*P	**Pn**	**18 37 12.0**	**+0.1**
HGSD	**Ruisui**	**2.02**	**216**	*e*P	**Pn**	**18 37 12.0**	**-0.4**
HGSD				*e*S	**Sn**	**18 37 42.0**	**+0.6**
EHYH	**Wanrong**	**2.06**	**218**	*e*P	**Pn**	**18 37 12.5**	**-0.4**
EHY	**Hungye**	**2.07**	**219**	*e*P	**Pn**	**18 37 12.9**	**-0.1**
SMLT	**Sun Moon Lake**	**2.08**	**234**	*e*P	**Pn**	**18 37 13.3**	**+0.1**
SMLT				*e*S	**Sn**	**18 37 43.8**	**+1.0**
SSLB	**Suanglung**	**2.10**	**231**	P	**Pn**	**18 37 14.3**	**+0.9**
SSLB	**Suanglung**	**2.10**	**231**	*e*P	**Pn**	**18 37 13.9**	**+0.5**
SSLB				*e*S	**Sn**	**18 37 43.1**	**0.0**
ECBN	**Changbin**	**2.15**	**213**	*e*P	**Pn**	**18 37 14.7**	**+0.8**
ECBN				*e*S	**Sn**	**18 37 43.9**	**-0.1**
YULB	**Yu-li**	**2.17**	**217**	P	**Pn**	**18 37 13.9**	**-0.2**
YULB	**Yu-li**	**2.17**	**217**	*e*P	**Pn**	**18 37 13.7**	**-0.5**
YULB				*e*S	**Sn**	**18 37 43.9**	**-0.5**
WHYT	**Xinyi Township**	**2.23**	**231**	*e*P	**Pn**	**18 37 15.3**	**+0.4**
WHYT				*e*S	**Sn**	**18 37 45.9**	**+0.3**
JIRB	**Irabujima**	**2.23**	**97**	P	**Pn**	**18 37 15.0**	**+0.2**
JIRB				*e*S	**Sn**	**18 37 44.9**	**-0.6**
WNT	**Mingjian**	**2.25**	**237**	*e*P	**Pn**	**18 37 15.5**	**+0.5**
CHKH	**Chenggong**	**2.29**	**213**	*e*P	**Pn**	**18 37 15.5**	**+0.1**
JIKM	**Ikemajima**	**2.29**	**95**	*e*S	**Sn**	**18 37 46.2**	**-0.4**
FULB	**Fuli**	**2.33**	**215**	*e*P	**Pn**	**18 37 16.5**	**+0.5**
CHKT	**Chengkung**	**2.38**	**212**	*e*P	**Pn**	**18 37 14.8**	**-1.6**
JMJ2	**Miyako jima3**	**2.39**	**99**	P	**Pn**	**18 37 17.2**	**+0.7**
JMJ2				*e*S	**Sn**	**18 37 48.4**	**-0.2**
ALS	**Alishan**	**2.39**	**228**	*e*P	**Pn**	**18 37 17.3**	**+0.4**
ALS				*e*S	**Sn**	**18 37 49.4**	**+0.2**
EHD	**Haiduan**	**2.42**	**216**	*e*P	**Pn**	**18 37 16.0**	**-0.9**
CHN5	**Tsauling**	**2.42**	**231**	*e*P	**Pn**	**18 37 17.5**	**+0.5**
CHN5				*e*S	**Sn**	**18 37 49.5**	**0.0**
JOGS	**Gusukube**	**2.45**	**98**	*e*S	**Sn**	**18 37 49.5**	**-0.5**
WDLH	**Douliu**	**2.46**	**235**	*e*P	**Pn**	**18 37 17.7**	**+0.3**
ELDTW	**Lidau**	**2.49**	**219**	*e*P	**Pn**	**18 37 17.9**	**+0.1**
EDH	**Donghe**	**2.52**	**212**	*e*P	**Pn**	**18 37 17.9**	**-0.1**
WCKO	**Fanlu**	**2.57**	**229**	*e*P	**Pn**	**18 37 18.6**	**-0.1**
WTK	**Tuku**	**2.58**	**237**	*e*P	**Pn**	**18 37 18.7**	**0.0**
WTK				*e*S	**Sn**	**18 37 52.2**	**-0.4**
STYH	**Taoyuan**	**2.65**	**223**	*e*P	**Pn**	**18 37 20.8**	**+1.2**
TPUB	**Ta-pu**	**2.65**	**227**	P	**Pn**	**18 37 20.4**	**+0.8**
TPUB	**Ta-pu**	**2.65**	**227**	S	**Sn**	**18 37 54.3**	**+0.1**
TPUB	**Ta-pu**	**2.65**	**227**	*e*P	**Pn**	**18 37 20.0**	**+0.4**
LONT	**Longtian**	**2.66**	**214**	*e*P	**Pn**	**18 37 18.8**	**-0.9**
WTP	**Ta-pu**	**2.70**	**226**	*e*P	**Pn**	**18 37 21.2**	**+1.0**
TWGBT	**Beinan**	**2.76**	**214**	P	**Pn**	**18 37 21.5**	**+0.6**
TWGBT	**Beinan**	**2.76**	**214**	*e*P	**Pn**	**18 37 21.2**	**+0.3**
TWG	**Pinlang**	**2.76**	**214**	*e*P	**Pn**	**18 37 21.1**	**+0.2**

*IDC **28** 18:39:26.7±3.2,16°.72N×121°.38E,h89km±33km,mb3.3/6, mbtmp3.7/7,Error ellipse: s-maj=49.5km s-min=16.6km az=72.0*

ISC 28 18:39:23.3±1.1,16°.95N±0°.09×121°.7E±0°.3,h50km,n7, σ2s12/8,mb3.6/6,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.93**	**195**	P	**Pn**	**18 40 07.6**	**+0.1**
	128nm,0.3s,baz=3.3,slow=3.3,SNR=3.1						
TGY				S	**Sn**	**18 40 43.9**	**+2.3**
	201nm,0.5s,baz=340,slow=3.1,SNR=3.4						
KSRS	**Korea Array**	**21.14**	**14**	P	**P**	**18 44 07.3**	**+3.3**
	0.6nm,0.7s,baz=202,slow=12,SNR=4.7						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**38.71**	**161**	P	**P**	**18 46 41.2**	**-1.4**
	0.6nm,0.6s,baz=339,slow=8.4,SNR=11						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**42.09**	**163**	P	**P**	**18 47 08.9**	**-1.7**
	0.6nm,0.4s,baz=338,slow=7.2,SNR=25						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**44.07**	**321**	P	**P**	**18 47 25.4**	**-1.0**
	0.3nm,0.7s,baz=135,slow=8.0,SNR=2.4						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**48.09**	**324**	P	**P**	**18 47 57.8**	**-0.1**
	1.0nm,0.2s,baz=118,slow=8.1,SNR=1.6						
	1.0nm,0.2s						
BVAR	**Borovoye Array**	**53.69**	**324**	P	**P**	**18 48 39.3**	**-0.6**
	0.2nm,0.4s,baz=114,slow=9.6,SNR=2.3						
	0.2nm,0.4s						

*IDC **28** 18:45:35.0±0.8,6°.52N×72°.69W,h163km±8km,mbtmp4.3/3, Error ellipse: s-maj=60.6km s-min=7.1km az=135.0*
*CATAC **28** 18:45:35.2±0.7,7°N±2°×7°3W±°,h156km±6km,M4.0/7, mb3.8/1,mB4.4/1,MLv4.1/7,Mw(mB)3.5/1,Error ellipse: s-maj=11.5km s-min=5.1km az=91.0,confirmed*
*RSNC **28** 18:45:35.9±0.0,7°N±1°×7°3W±°,h152km±2km,M3.8, mB4.6,mb4.1,ML3.5,Mw(mB)3.8*

ISC 28 18:45:33.9±1.0,6°.86N±0°.03×73°.07W±0°.04,h162km±6km, n47,σ1s42/88,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.29**	**203**	P	**Pn**	**18 45 56.6**	**+0.4**
BARC				S	**Sn**	**18 46 11.8**	**-1.4**
PAMC	**Pamplona, Colo**	**0.60**	**38**	P	**Pn**	**18 45 59.4**	**+1.7**
PAMC				S	**Sn**	**18 46 16.4**	**+0.5**
BRJC	**Barrancabermej**	**0.68**	**279**	P	**Pn**	**18 45 58.4**	**+0.8**
BRJC				S	**Sn**	**18 46 15.1**	**-0.5**
RUSC	**La Rusia**	**0.96**	**181**	P	**Pn**	**18 46 00.5**	**+0.4**
RUSC				S	**Sn**	**18 46 19.3**	**-0.9**
RUSC	**La Rusia**	**0.96**	**181**	P	**Pn**	**18 46 00.3**	**+0.2**
RUSC				S	**Sn**	**18 46 19.1**	**-1.1**
OCAC	**Ocana**	**1.39**	**350**	P	**Pn**	**18 46 04.8**	**+1.3**
OCAC				S	**Sn**	**18 46 26.9**	**+0.6**
PTBC	**PUERTO BERRIO,**	**1.42**	**257**	P	**Pn**	**18 46 03.0**	**-0.6**
PTBC				S	**Sn**	**18 46 24.3**	**-2.0**
SPBC	**San Pablo de B**	**1.56**	**220**	P	**Pn**	**18 46 05.1**	**0.0**
SPBC				S	**Sn**	**18 46 27.4**	**-1.8**
ZARC	**Zaragoza, Cauc**	**1.88**	**290**	P	**Pn**	**18 46 08.8**	**+0.3**
ZARC				S	**Sn**	**18 46 34.4**	**-0.7**
**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.03**	**175**	P	**Pn**	**19 10 01.9**	**+1.2**
	12nm,0.4s,baz=0.0,slow=13,SNR=12						
PMG				S	**Sn**	**19 10 50.1**	**+0.5**
	23nm,0.4s,baz=240,slow=22,SNR=7.8						
JAY	**Jayapura**	**6.74**	**295**	P	**Pn**	**19 10 38.6**	**+3.1**
	2.4nm,0.7s,baz=124,slow=15,SNR=1.4						
JAY				S	**Sn**	**19 11 50.6**	**-1.8**
	5.3nm,0.7s,baz=102,slow=5.6,SNR=2.8						
WRA	**Warramunga Arr**	**18.92**	**219**	P	**P**	**19 13 05.5**	**+1.1**
	0.6nm,0.5s,baz=45,slow=11,SNR=13						
WRA				S	**S**	**19 16 23.4**	**-5.3**
	0.9nm,0.8s,baz=38,slow=21,SNR=5.0						
ASAR	**Alice Springs**	**22.05**	**213**	P	**P**	**19 13 38.2**	**+0.8**
	1.3nm,0.6s,baz=36,slow=7.0,SNR=41						
ASAR				S	**S**	**19 17 25.2**	**-0.8**
	0.3nm,0.7s,baz=35,slow=23,SNR=4.9						
	1.3nm,0.6s						
ILAR	**Eielson Array**	**84.96**	**23**	P	**P**	**19 21 08.4**	**-2.6**
	0.3nm,0.9s,baz=259,slow=5.2,SNR=2.1						
	0.3nm,0.9s						

*IDC **28** 19:35:08.6±1.8, 3°.43S×128°.54E, h0km, mb3.8/2, mbtmp3.9/3, ML3.9/1, MS3.6/3, Error ellipse: s-maj=148.0km s-min=28.2km az=68.0*
*NEIC **28** 19:35:10.4±1.0, 3°.65S±0°.09×128°.47E±0°.06, h10km±1km, mb4.1/5, Error ellipse: s-maj=17.0km s-min=8.9km az=25.0*
*DJA **28** 19:35:10.3±0.3, 4°S±2°×12°8E±°, h10km, M3.5/9, MLv3.5/9*
ISC 28 19:35:10.1±0.7, **3°.65S**±0°.06×**128°.43E**±0°.04, **h10**km, **n22,** σ1**8**s**00/24, MS3.3/3, Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.24**	**261**	P	**Pg**	**19 35 15.1**	**+0.1**
AAI				S	**Sg**	**19 35 18.6**	**+0.3**
MSAI	**Masohi**	**0.58**	**59**	P	**Pg**	**19 35 21.2**	**-0.2**
MSAI				S	**Sg**	**19 35 28.9**	**-0.2**
NLAI	**Namlea**	**1.39**	**287**	P	**Pn**	**19 35 34.1**	**-1.5**
BNDI	**Bandanaira**	**1.71**	**121**	P	**Pn**	**19 35 40.3**	**+0.4**
SANI	**Sanana**	**2.91**	**303**	P	**Pn**	**19 35 57.1**	**+0.6**
FAKI	**Fak Fak**	**3.88**	**79**		**Pn**	**19 36 11.0**	**+1.1**
FAKI				Sn	**Sn**	**19 36 53.3**	**-2.2**
FAKI	**Fak Fak**	**3.88**	**79**	P	**Pn**	**19 36 11.8**	**+1.9**
SWI	**Sorong**	**3.96**	**46**	P	**Pn**	**19 36 11.6**	**+0.7**
TNTI	**Ternate**	**4.52**	**346**	Pn	**Pn**	**19 36 19.2**	**+0.5**
LUWI	**Luwuk**	**6.22**	**294**	Pn	**Pn**	**19 36 43.9**	**+1.8**
KNRA	**Kununurra**	**11.96**	**178**	Pn	**Pn**	**19 38 00.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**14.62**	**191**	Pn	**Pn**	**19 38 36.8**	**-0.3**
WB0	**Warramunga Arr**	**17.04**	**161**	Pn	**Pn**	**19 39 08.0**	**-0.8**
WRA	**Warramunga Arr**	**17.19**	**161**	P	**P**	**19 39 12.4**	**+0.3**
	0.4nm,0.3s,baz=341,slow=11,SNR=35						
	2.6nm,0.8s						
COEN	**Coen**	**17.79**	**126**		**Pn**	**19 39 17.3**	**-0.8**
COEN				IAmb	IAmb	19 39 22.8	
	comp=Z,12nm,1.0s						
AS31	**Alice Springs**	**20.59**	**166**	P	**P**	**19 39 49.7**	**+0.3**
AS31				IAmb	IAmb	19 39 53.1	
	comp=Z,3.6nm,0.6s						
ASAR	**Alice Springs**	**20.59**	**166**	P	**P**	**19 39 50.4**	**+0.9**
	comp=Z,9.6nm,0.8s,baz=349,slow=11,SNR=79						
ASAR				PcP	**PcP**	**19 44 01.6**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=346,slow=2.5,SNR=6.3						
ASAR				LR	LR	19 49 12.9	
	comp=Z,89nm,18.9s,baz=328,slow=41						
	comp=Z,9.6nm,0.8s						
NWAO	**Narrogin (SRO)**	**30.95**	**199**	LR	LR	19 54 52.0	
	comp=Z,58nm,18.4s,baz=274,slow=38						
DZM	**Mont Dzumac**	**41.15**	**120**	LR	LR	19 58 45.5	
	comp=Z,278nm,21.9s,baz=216,slow=34						
MKAR	**Makanchi Array**	**64.59**	**327**	P	**P**	**19 45 47.0**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=111,slow=6.7,SNR=4.4						
	comp=Z,0.5nm,0.9s						
MAKZ	**Makanchi**	**64.77**	**327**	P	**P**	**19 45 48.8**	**-0.1**
MAKZ				IAmb	IAmb	19 46 14.1	
	comp=Z,3.0nm,1.1s						
QSPA	**South Pole Qui**	**86.30**	**180**	P	**P**	**19 47 52.6**	**+0.5**

*IDC **28** 19:43:56.0±0.7, 14°.04N×120°.82E, h142km±5km, mb3.4/13, mbtmp3.8/13, Error ellipse: s-maj=27.6km s-min=15.5km az=63.0*
ISC 28 19:43:55.9±0.8, **14°.0N**±0°.1×**120°.8E**±0°.2, **h144**km±7km, **n14,** σ0**68/17, mb3.7/13, Mindoro**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.18**	**50**	P	**Pn**	**19 44 15.9**	**+0.4**
	756nm,0.4s,baz=277,slow=4.2,SNR=15						
TGY				S	**Sn**	**19 44 30.6**	**+0.2**
	1µm,0.7s,baz=281,slow=20,SNR=6.6						
CMAR	**Chiang Mai Arr**	**21.44**	**285**	P	**P**	**19 48 32.8**	**-0.2**
	1.1nm,0.8s,baz=98,slow=7.4,SNR=14						
	1.1nm,0.8s						
KSRS	**Korea Array**	**24.22**	**14**	P	**P**	**19 48 59.2**	**0.0**
	0.4nm,0.6s,baz=199,slow=9.6,SNR=4.1						
	0.4nm,0.6s						
SONM	**Songino Array**	**35.81**	**343**	P	**P**	**19 50 42.5**	**+0.9**
	1.7nm,0.4s,baz=168,slow=11,SNR=6.0						
	1.7nm,0.4s						
WRA	**Warramunga Arr**	**36.26**	**158**	P	**P**	**19 50 45.8**	**+0.3**
	0.3nm,0.5s,baz=337,slow=8.6,SNR=2.4						
WRA				pP	**pP**	**19 51 15.6**	**-1.3**
	0.5nm,0.8s,baz=332,slow=10,SNR=3.6						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**39.56**	**161**	P	**P**	**19 51 14.3**	**+1.1**
	0.3nm,0.6s,baz=335,slow=8.3,SNR=5.1						
ASAR				pP	**pP**	**19 51 44.6**	**-0.4**
	0.6nm,0.7s,baz=340,slow=8.0,SNR=4.6						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**45.86**	**323**	P	**P**	**19 52 04.1**	**+0.3**
	0.5nm,0.3s,baz=110,slow=7.9,SNR=26						
	0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**48.85**	**333**	P	**P**	**19 52 26.3**	**-0.4**
	1.3nm,0.3s,baz=118,slow=7.3,SNR=9.6						
	1.3nm,0.3s						
KURBB	**Kurchatov Arra**	**50.00**	**326**	P	**P**	**19 52 36.0**	**+0.5**
	1.5nm,0.5s,baz=134,slow=8.2,SNR=14						
	1.5nm,0.5s						
BVAR	**Borovoye Array**	**55.59**	**326**	P	**P**	**19 53 16.7**	**+0.2**
	2.1nm,0.6s,baz=109,slow=8.0,SNR=18						
	2.1nm,0.6s						
ILAR	**Eielson Array**	**78.45**	**26**	P	**P**	**19 55 40.2**	**-0.4**
	0.2nm,0.7s,baz=253,slow=4.5,SNR=4.8						
	0.2nm,0.7s						
ARCES	**ARCESS Array B**	**78.85**	**339**	P	**P**	**19 55 42.3**	**-0.4**
	2.3nm,1.0s,baz=57,slow=4.5,SNR=4.0						
	2.3nm,1.0s						
FINES	**FINESS Array B**	**80.08**	**331**	P	**P**	**19 55 49.0**	**-0.5**
	2.2nm,1.0s,baz=46,slow=5.5,SNR=7.6						
	2.2nm,1.0s						
NOA	**NORSAR Array B**	**87.05**	**333**	P	**P**	**19 56 24.4**	**-0.8**
	1.0nm,0.9s,baz=69,slow=6.2,SNR=2.3						
	1.0nm,0.9s						

*GCG **28** 19:46:42.7±1.2, 15°.64N×93°.86W, h36km±999km, MD4.6, ML3.0*
*MEX **28** 19:46:44.9±0.7, 15°.64N×93°.75W, h75km±8km, MD4.1*
*CATAC **28** 19:46:45.3±0.5, 16°N±3°×9°4W±°, h40km±6km, M3.8/7, MLv3.8/7, Error ellipse: s-maj=7.6km s-min=4.0km az=49.1, confirmed*
ISC 28 19:46:43.2±1.2, **15°.64N**±0°.04×**93°.82W**±0°.03, **h64**km±14km, **n44,** σ1**9**s**67/73, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.58**	**84**	*eP*	**Pn**	**19 46 56.4**	**+0.1**
PCIG				*eS*	**Sn**	**19 47 06.7**	**+0.8**
NILT	**Santiago Nilte**	**1.20**	**320**	*eP*	**Pn**	**19 47 04.5**	**+0.6**
NILT				*eS*	**Sn**	**19 47 20.8**	**+1.4**
TGIG		**1.31**	**31**	*i* P	**Pn**	**19 47 05.8**	**+0.3**
TGIG				*eS*	**Sn**	**19 47 21.9**	**-0.3**
TGIG		**1.31**	**31**	*eP*	**Pn**	**19 47 05.5**	**-0.1**
TGIG				*i* S	**Sn**	**19 47 22.2**	**-0.1**
TGIG				IAML		19 47 23.3	
	comp=N,316nm,0.1s						
PATR	**El Naranjo**	**1.61**	**109**	*eP*	**Pn**	**19 47 09.2**	**-0.6**
PATR				*eS*	**Sn**	**19 47 28.8**	**-1.0**
PAVE	**Pavencul**	**1.64**	**106**	*eP*	**Pn**	**19 47 10.4**	**+0.2**
PAVE				*eS*	**Sn**	**19 47 30.0**	**-0.4**
THIG		**1.67**	**116**	*eP*	**Pn**	**19 47 08.1**	**-2.1**
THIG				*eS*	**Sn**	**19 47 29.9**	**-0.8**
THIG		**1.67**	**116**	*i* P	**Pn**	**19 47 10.2**	**0.0**
THIG				*eS*	**Sn**	**19 47 29.7**	**-1.0**
UXUV	**UXUV**	**1.69**	**349**	*eP*	**Pn**	**19 47 12.1**	**+1.4**
UXUV				*eS*	**Sn**	**19 47 27.6**	**-3.7**
CCIG	**Comitan**	**1.73**	**68**	*eP*	**Pn**	**19 47 11.5**	**+0.2**
CCIG				*eS*	**Sn**	**19 47 30.4**	**-2.2**
CCIG	**Comitan**	**1.73**	**68**	*eP*	**Pn**	**19 47 11.5**	**+0.2**
CCIG	**Comitan**	**1.73**	**68**	P	**Pn**	**19 47 12.3**	**+1.0**
CHUJ	**Union Juarez**	**1.74**	**108**	*eP*	**Pn**	**19 47 11.0**	**-0.4**
CHUJ				*eS*	**Sn**	**19 47 32.1**	**-0.7**
CMIG	**Matias Romero**	**1.77**	**325**	*eP*	**Pn**	**19 47 12.0**	**+0.4**
CMIG				*eS*	**Sn**	**19 47 31.8**	**-1.3**
SMCA	**Catarina**	**1.85**	**115**	*eP*	**Pn**	**19 47 11.7**	**-1.1**
HUIG	**Huatulco**	**2.21**	**274**	*eP*	**Pn**	**19 47 16.5**	**-1.1**
HUIG				*eS*	**Sn**	**19 47 40.7**	**-3.2**
HUIG	**Huatulco**	**2.21**	**274**	*i* P	**Pn**	**19 47 16.5**	**-1.1**
HUIG				*i* S	**Sn**	**19 47 42.2**	**-1.7**
HUIG				IAML		19 47 46.4	
	comp=E,83nm,0.4s						
HUEH	**Huehuetenango**	**2.25**	**98**	*eP*	**Pn**	**19 47 17.9**	**-0.5**
HUEH				*eS*	**Sn**	**19 47 44.3**	**-1.0**
RTAL	**Retalhuleu**	**2.33**	**118**	*eP*	**Pn**	**19 47 18.8**	**-0.5**
RTAL				*eS*	**Sn**	**19 47 45.5**	**-1.3**
RTAL	**Retalhuleu**	**2.33**	**118**	P	**Pn**	**19 47 22.1**	**+2.8**
RTAL	**Retalhuleu**	**2.33**	**118**	S	**Sn**	**19 47 46.5**	**-0.3**
QUIS	**Sacapulas**	**2.65**	**97**	*eP*	**Pn**	**19 47 24.6**	**+0.9**
NEUV	**Arroyo Zacate**	**2.80**	**318**	*eP*	**Pn**	**19 47 25.9**	**+0.3**
NEUV				*eS*	**Sn**	**19 47 57.1**	**-1.2**
VHO	**Vista Hermosa**	**3.14**	**297**	*eP*	**Pn**	**19 47 32.5**	**+2.0**
VHO				*eS*	**Sn**	**19 48 08.4**	**+1.5**
PMUV	**Sontecomapan**	**3.14**	**337**	*eP*	**Pn**	**19 47 30.6**	**+0.2**
PMUV				*eS*	**Sn**	**19 48 05.5**	**-1.2**
PEIG	**Puerto Escondi**	**3.23**	**277**	*eP*	**Pn**	**19 47 30.5**	**-1.0**
PEIG				*eS*	**Sn**	**19 48 04.3**	**-4.5**
YOIG	**Yosondua**	**3.78**	**289**	*eP*	**Pn**	**19 47 40.4**	**+1.1**
YOIG				*eS*	**Sn**	**19 48 22.5**	**-0.1**
TOIG	**Toxpalan**	**3.95**	**309**	*eP*	**Pn**	**19 47 43.3**	**+1.8**
TOIG				*eS*	**Sn**	**19 48 26.8**	**+0.1**
PETF	**Flores**	**4.00**	**71**	*eP*	**Pn**	**19 47 42.5**	**+0.5**
PETF				*eS*	**Sn**	**19 48 25.2**	**-2.4**
PETF	**Flores**	**4.00**	**71**	P	**Pn**	**19 47 43.1**	**+1.2**
PETF	**Flores**	**4.00**	**71**	S	**Sn**	**19 48 26.6**	**-1.1**
TXIG	**Tlaxiaco**	**4.12**	**293**	*eP*	**Pn**	**19 47 45.9**	**+2.1**
TXIG				*eS*	**Sn**	**19 48 32.5**	**+1.6**
SCIG	**Sabancuy**	**4.15**	**37**	*eP*	**Pn**	**19 47 41.4**	**-2.7**
SCIG				*eS*	**Sn**	**19 48 29.8**	**-1.6**
SCIG	**Sabancuy**	**4.15**	**37**	S	**Sn**	**19 48 31.1**	**-0.2**
SCIG	**Sabancuy**	**4.15**	**37**	P	**Pn**	**19 47 45.3**	**+1.2**
NUBE	**Las Nubes**	**4.27**	**113**	*eP*	**Pn**	**19 47 47.5**	**+1.6**
NUBE				*eS*	**Sn**	**19 48 35.5**	**+0.9**
NUBE	**Las Nubes**	**4.27**	**113**	P	**Pn**	**19 47 50.2**	**+4.3**
HLIG	**Huajuapan de L**	**4.39**	**300**	*eP*	**Pn**	**19 47 50.0**	**+2.4**
JAUV	**Jalcomulco**	**4.67**	**323**	*eP*	**Pn**	**19 47 51.8**	**+0.5**
JAUV				*eS*	**Sn**	**19 48 41.7**	**-2.5**
FTIG	**Fresnillo de T**	**4.71**	**299**	*eP*	**Pn**	**19 47 54.3**	**+2.5**
FTIG				*eS*	**Sn**	**19 48 45.8**	**+0.6**
LVIG	**Laguna Verde**	**4.75**	**329**	*eP*	**Pn**	**19 47 53.4**	**+1.1**
LVIG				*e*		19 48 39.7	
PMON	**Piamonte**	**4.76**	**113**	P	**Pn**	**19 47 56.0**	**+3.5**
PMON	**Piamonte**	**4.76**	**113**	S	**Sn**	**19 48 49.6**	**+3.0**
CXUV	**Coxquihui**	**5.76**	**322**	*eP*	**Pn**	**19 48 07.4**	**+1.2**
CXUV				*eS*	**Sn**	**19 49 09.4**	**-1.6**

*PDG **28** 20:00:01.7±0.4, 41°.38N×19°.63E, h14km±1km, ML2.6/11, Error ellipse: s-maj=1.9km s-min=3.6km az=0.0*
*BEO **28** 20:00:02.6±0.4, 41°.36N×19°.64E, h4km±3km, ML1.8/12*
ISC 28 20:00:01.8±1.4, **41°.37N**±0°.04×**19°.56E**±0°.04, **h5**km±10km, **n36,** σ0**°77/63, 4C-7D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULC	**Ulcinj**	**0.64**	**339**	⇓*i* Pg	**Pg**	**20 00 13.6**	**-0.5**
ULC				*i* Sg	**Sb**	**20 00 24.7**	**-0.2**
DRME	**Dracevica, Mon**	**0.87**	**341**	*eP* g	**Pb**	**20 00 19.4**	**+0.1**
DRME				*eSg*	**Sb**	**20 00 32.0**	**+0.8**
DRME	**Dracevica, Mon**	**0.87**	**341**	⇓*i* Pg	**Pg**	**20 00 18.3**	**-0.1**
DRME				*i* Sg	**Sb**	**20 00 32.1**	**+0.8**
OHR	**Ohrid**	**0.97**	**105**	*i* Pn	**Pg**	**20 00 20.1**	**-0.2**
OHR				*i* Sn	**Sn**	**20 00 36.7**	**+0.4**
BUM	**Brajici-Budva**	**1.06**	**332**	⇑*i* Pg	**Pg**	**20 00 21.9**	**-0.2**
BUM				*i* Sg	**Sn**	**20 00 39.1**	**+0.5**
PDG	**Podgorica**	**1.09**	**348**	*ePg*	**Pg**	**20 00 22.5**	**-0.1**
PDG				*eSg*	**Sb**	**20 00 38.0**	**+0.4**
PDG	**Podgorica**	**1.09**	**348**	⇓*i* Pg	**Pg**	**20 00 21.9**	**-0.7**
PDG				*i* Sg	**Sn**	**20 00 39.3**	**+0.1**
CEME	**Cevo**	**1.27**	**338**	⇓*i* Pg	**Pg**	**20 00 25.4**	**-0.8**
CEME				*i* Sg	**Sb**	**20 00 43.5**	**+0.4**
HCY	**Herceg Novi**	**1.34**	**324**	⇓*i* Pg	**Pn**	**20 00 26.7**	**-0.5**
HCY				*i* Sg	**Sb**	**20 00 44.8**	**-0.2**
NKME	**Niksic**	**1.47**	**342**	⇓*i* Pg	**Pn**	**20 00 28.7**	**-0.3**
NKME				*i* Sg	**Sg**	**20 00 50.4**	**+1.3**
KOME	**Kolasin**	**1.48**	**359**	*ePg*	**Pn**	**20 00 29.3**	**0.0**
KOME				*eSg*	**Sg**	**20 00 50.7**	**+1.2**
KOME	**Kolasin**	**1.48**	**359**	⇑*i* Pg	**Pn**	**20 00 29.3**	**0.0**
KOME				*i* Sg	**Sg**	**20 00 50.7**	**+1.2**
BEY	**Berane**	**1.53**	**9**	*ePg*	**Pn**	**20 00 28.0**	**-0.6**
BEY				*eSg*	**Sb**	**20 00 50.0**	**-0.3**
IVA	**Berane**	**1.53**	**9**	⇓*i* Pg	**Pn**	**20 00 28.9**	**-0.9**
IVA				*i* Sg	**Sg**	**20 00 51.3**	**+0.5**
SKO	**Skopje**	**1.53**	**66**	*i* Pn	**Pg**	**20 00 30.8**	**-0.4**
TREB	**Trebinje**	**1.62**	**327**	*ePn*	**Pn**	**20 00 30.6**	**-0.5**
BRY	**Bratogost**	**1.71**	**334**	⇑*i* Pn	**Pn**	**20 00 32.2**	**-0.2**
BRY				*i* Sn	**Sg**	**20 00 56.5**	**-0.3**
UPM	**Unac-Piva**	**1.90**	**345**	⇑*i* Pn	**Pn**	**20 00 34.8**	**-0.3**
UPM				*i* Sn	**Sn**	**20 01 00.1**	**+0.6**
SJES	**Sjenica**	**1.92**	**9**	*ePn*	**Pb**	**20 00 36.4**	**-0.9**
SJES				*eSn*	**Sb**	**20 01 01.2**	**-0.5**
IGT	**Igoumenitsa**	**1.92**	**162**	*ePn*	**Pn**	**20 00 35.7**	**+0.5**
IGT				*eSn*	**Sb**	**20 01 01.9**	**+0.3**
STON	**Ston**	**2.04**	**318**	*ePn*	**Pn**	**20 00 35.6**	**-1.2**
SELS	**Selova**	**2.18**	**31**	*ePn*	**Pn**	**20 00 39.5**	**+0.7**
SELS				*eSn*	**Sn**	**20 01 06.7**	**+0.4**
BARS	**Barje**	**2.22**	**48**	*ePn*	**Pn**	**20 00 40.3**	**+0.7**
BARS				*eSn*	**Sn**	**20 01 07.5**	**+0.4**
IVAS	**Ivanjica**	**2.25**	**11**	*ePn*	**Pn**	**20 00 39.5**	**-0.3**
IVAS				*eSn*	**Sn**	**20 01 09.3**	**+1.3**
GOCS	**Kraljevo Serbi**	**2.40**	**23**	*ePn*	**Pn**	**20 00 42.6**	**+0.7**
GOCS				*eSn*	**Sn**	**20 01 12.0**	**+0.3**
BOSS	**Bosilegrad**	**2.45**	**62**	*eSn*	**Pn**	**20 00 41.9**	**-0.6**
BOSS	**Bosilegrad**	**2.45**	**62**	*ePn*	**Sn**	**20 01 11.4**	**-1.5**
BBLS	**Lazi&#263i**	**2.50**	**357**	*ePn*	**Pn**	**20 00 44.8**	**+1.6**
BBLS				*eSn*	**Sb**	**20 01 16.2**	**-2.2**
GRUS	**Gruza**	**2.66**	**18**	*ePn*	**Pn**	**20 00 45.8**	**+0.5**
BOVS	**Bovan**	**2.77**	**34**	*ePn*	**Pn**	**20 00 48.0**	**+1.2**
BOVS				*eSn*	**Sn**	**20 01 20.8**	**+0.2**
TRUS	**Trudelj**	**2.92**	**12**	*ePn*	**Pn**	**20 00 50.6**	**+1.6**
TRUS				*eSn*	**Sn**	**20 01 24.9**	**+0.4**
ZAPS	**Zavoj**	**2.97**	**49**	*ePn*	**Pn**	**20 00 49.4**	**-0.2**
ZAPS				*eSn*	**Sn**	**20 01 25.8**	**+0.1**
VTS	**Vitosha**	**3.01**	**64**	*ePn*	**Pn**	**20 00 49.9**	**-0.4**
ZAGS	**Zajecar**	**3.14**	**38**	*ePn*	**Pn**	**20 00 51.7**	**-0.2**
ZAGS				*eSn*	**Sn**	**20 01 28.8**	**-1.0**
TEKS	**Tekeris**	**3.18**	**360**	*ePn*	**Pn**	**20 00 53.5**	**+1.0**
KUBS	**Kucevo**	**3.42**	**26**	*ePn*	**Pn**	**20 00 55.9**	**+0.1**

*BJI **28** 20:01:28.6, 6°.14S×147°.17E, h113km, mB4.8/14, mb4.7/52*
*IDC **28** 20:01:28.2±1.5, 6°.31S×146°.84E, h88km±13km, mb4.2/16, mbtmp4.6/20, MS3.4/12, Error ellipse: s-maj=18.3km s-min=9.3km az=73.0*
*NEIC **28** 20:01:30.6±2.1, 6°.42S±0°.05×146°.83E±0°.07, h102km±3km, mb4.8/72, Error ellipse: s-maj=10.5km s-min=7.7km az=74.0*
*DJA **28** 20:01:31.2±1.5, 6°S±10°×14°7E±1°9, h80km±12km, M4.8/11, mb5.0/11, mB5.3/7, MLv4.8/3, Mw(mB)4.7/7*
ISC 28 20:01:29.2±0.5, **6°.39S**±0°.04×**146°.78E**±0°.05, **h92**km±4km, **h93**km**:pP-P, n456,** σ0**°94/465, mb4.8/67, 1C-2D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.02**	**173**		**Pn**	**20 02 15.8**	**+0.6**
PMG				Sn	**Sn**	**20 02 50.5**	**0.0**
PMG	**Port Moresby**	**3.02**	**173**	P	**Pn**	**20 02 15.9**	**+0.8**
	810nm,0.6s,baz=44,slow=5.3,SNR=356						
PMG				S	**Sn**	**20 02 50.7**	**+0.2**
	990nm,0.5s,baz=161,slow=19,SNR=16						
PMG				LR	LR	20 03 26.8	
	comp=Z,667nm,18.9s,baz=64,slow=38						
PMG	**Port Moresby**	**3.02**	**173**	P	**Pn**	**20 02 15.7**	**+0.6**
PMG	**Port Moresby**	**3.02**	**173**	S	**Sn**	**20 02 51.4**	**+0.9**
PMG	**Port Moresby**	**3.02**	**173**	P	**Pn**	**20 02 15.8**	**+0.6**
PMG	**Port Moresby**	**3.02**	**173**	S	**Sn**	**20 02 51.3**	**+0.8**
MANU	**Manus Island**	**4.36**	**8**		**Pn**	**20 02 34.9**	**+1.8**
RABL	**Rabaul**	**5.79**	**68**		**Pn**	**20 02 53.9**	**+1.2**
JAY	**Jayapura**	**7.17**	**302**	P	**Pn**	**20 03 12.3**	**+0.9**
	14nm,0.4s,baz=118,slow=5.6,SNR=40						
JAY				S	**Sn**	**20 04 30.0**	**-1.4**
	15nm,0.8s,baz=64,slow=16,SNR=1.6						
JAY	**Jayapura**	**7.17**	**302**	P	**Pn**	**20 03 13.4**	**+1.9**
GENI	**Genyem**	**7.59**	**299**	P	**Pn**	**20 03 18.8**	**+1.7**
	0.5nm41nm,0.7s						
COEN	**Coen**	**8.31**	**205**		**Pn**	**20 03 28.1**	**+1.1**
COEN				Sn	**Sn**	**20 04 56.9**	**-2.5**
COEN	**Coen**	**8.31**	**205**	P	**Pn**	**20 03 28.5**	**+1.5**
COEN	**Coen**	**8.31**	**205**	S	**Sn**	**20 04 57.3**	**-2.0**
SMPI	**Sarmi**	**9.15**	**298**	P	**Pn**	**20 03 38.5**	**+0.1**
	24nm,0.7s						
SRPI	**Serui, Papua**	**11.42**	**293**	P	**Pn**	**20 04 09.0**	**-0.4**
	1µm59nm,0.4s						
MTSU	**Mount Surprise**	**11.92**	**191**	P	**Pn**	**20 04 17.4**	**+1.4**
TV1H	**Townsville Har**	**12.80**	**180**	P	**Pn**	**20 04 29.7**	**+2.0**
HNR	**Honiara**	**13.39**	**104**	P	**Pn**	**20 04 35.5**	**-0.1**
	17nm,0.4s,baz=252,slow=3.2,SNR=1.4						
HNR				S	**Sn**	**20 07 00.6**	**-2.3**
	34nm,0.7s,baz=274,slow=7.9,SNR=1.6						
RKPI	**Ransiki, Papua**	**13.47**	**291**	P	**Pn**	**20 04 37.9**	**+1.3**
	1µm121nm,1.0s						
CTAO	**Charters Tower**	**13.63**	**182**		**Pn**	**20 04 41.8**	**+3.2**
CTAO	**Charters Tower**	**13.63**	**182**	P	**Pn**	**20 04 41.0**	**+2.3**
FAKI	**Fak Fak**	**14.88**	**283**		**Pn**	**20 04 56.8**	**+1.9**
FAKI	**Fak Fak**	**14.88**	**283**	P	**Pn**	**20 04 51.4**	**-3.5**
FAKI	**Fak Fak**	**14.88**	**283**	P	**Pn**	**20 04 55.9**	**+1.0**
	49nm,0.7s						
QIS	**Mount Isa**	**15.71**	**206**	P	**Pn**	**20 05 06.2**	**+0.9**
SWI	**Sorong**	**16.42**	**289**	P	**Pn**	**20 05 14.5**	**+0.3**
	2µm155nm,0.9s						
DRS	**Darwin Rock St**	**16.77**	**248**	P	**Pn**	**20 05 18.8**	**+0.3**
PATS	**Pohnpei**	**17.47**	**41**		**Pn**	**20 05 26.9**	**0.0**
WB0	**Warramunga Arr**	**17.94**	**221**		**P**	**20 05 31.9**	**-0.1**
WR8	**Warramunga Arr**	**18.00**	**220**		**P**	**20 05 32.8**	**+0.1**
MSAI	**Masohi**	**18.04**	**279**	P	**P**	**20 05 34.8**	**+1.6**
WRA	**Warramunga Arr**	**18.10**	**221**	P	**P**	**20 05 33.9**	**+0.1**
	40nm,0.8s,baz=46,slow=11,SNR=160						
WRA				S	S	20 08 45.6	-11
	1.5nm,0.6s,baz=42,slow=22,SNR=1.9						
WRA				LR	LR	20 13 10.6	
	comp=Z,146nm,22.0s,baz=355,slow=39						
WB1	**Warramunga Ar.**	**18.11**	**221**	P	**P**	**20 05 34.2**	**+0.3**
EIDS	**Eidsvold**	**19.32**	**168**	P	**P**	**20 05 47.6**	**+0.5**
EIDS	**Eidsvold**	**19.32**	**168**	P	**P**	**20 05 48.0**	**+0.9**
KNRA	**Kununurra**	**19.93**	**241**		**P**	**20 05 53.4**	**-0.4**
QLP	**Quilpie**	**20.23**	**187**	P	**P**	**20 05 57.8**	**+0.8**
TNTI	**Ternate**	**20.64**	**289**	P	Pn	20 06 05.1	+0.5
SANI	**Sanana**	**21.17**	**281**	P	**P**	**20 06 07.3**	**+0.1**
AS31	**Alice Springs**	**21.17**	**214**		**P**	**20 06 07.8**	**+0.6**
ASAR	**Alice Springs**	**21.18**	**214**	P	**P**	**20 06 07.8**	**+0.6**
ASAR	**Alice Springs**	**21.18**	**214**	P	**P**	**20 06 07.7**	**+0.4**

comp=Z,1.9nm,0.7s,baz=237,slow=16,SNR=16
MJAR pP **pP** **20 09 48.6 +3.3**
comp=Z,2.6nm,1.0s,baz=171,slow=8.6,SNR=2.8
comp=Z,1.9nm,0.7s
MAJO Matsushiro 43.45 350 P **P** **20 09 21.9 -1.2**
MAJO Matsushiro 43.45 350 P **P** **20 09 22.2 -0.9**
MAJO Matsushiro 43.45 350 P **P** **20 09 21.4 -1.7**
MAJO pP **pP** **20 09 43.7 -1.6**
MYKOM Kota Tinggi 43.62 279 P **P** **20 09 25.2 +0.4**
MYKOM IAmb IAmb 20 09 26.8
comp=Z,15nm,1.0s
JTU Tsushima 43.88 339 P **P** **20 09 25.8 -0.7**
QIZ Qiongzhong 44.30 306 P **P** **20 09 30.8 +0.7**
QIZ IAmb IAmb 20 10 08.6
comp=Z,36nm,1.3s
TJN Taejon 46.27 338 P **P** **20 09 44.4 -1.0**
NJ2 Nanjing 46.58 327 *e*P **P** **20 09 50.5 +2.6**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
IPM Ipoh 46.93 282 P **P** **20 09 51.8 +0.7**
IPM PcP **PcP** **20 11 22.7 +0.3**
IPM Ipoh 46.93 282 P **P** **20 09 51.9 +0.8**
KSRS Korea Array 47.03 339 P **P** **20 09 51.0 -0.3**
comp=Z,11nm,0.7s,baz=158,slow=8.9,SNR=70
comp=Z,11nm,0.7s
KS19 Wonju Array Si 47.09 339 P **P** **20 09 51.0 -0.8**
KS19 IAmb IAmb 20 09 52.0
comp=Z,17nm,0.9s
JTM Tenmabayashi 47.23 354 P **P** **20 09 52.2 -0.7**
KULM Kulim 47.48 283 P **P** **20 09 55.7 +0.4**
KULM IAmb IAmb 20 09 56.7
comp=Z,21nm,0.7s
KULM Kulim 47.48 283 P **P** **20 09 55.6 +0.3**
ERM Erimo 48.28 356 P **P** **20 10 00.8 -0.1**
GSI Gunungsitoli 49.70 277 P **P** **20 10 12.2 -0.2**
GSI Gunungsitoli 49.70 277 P **P** **20 10 12.4 0.0**
SLVN Son La 50.27 304 P **P** **20 10 16.5 -0.1**
ASAJ Asahikawa 50.41 356 LR LR 20 29 26.7
comp=Z,20nm,21.1s,baz=143,slow=33
TIA Tai'an 50.69 329 P **P** **20 10 18.3 -1.1**
TIA pmax pmax
comp=Z,6.0nm,0.7s
USRK Ussuriysk Ar. 52.09 347 P **P** **20 10 29.5 -0.2**
comp=Z,4.4nm,0.5s,baz=174,slow=8.8,SNR=11
comp=Z,4.4nm,0.5s
HNS HongShan 52.85 328 ⇓P **P** **20 10 34.8 -0.6**
HNS pmax pmax
comp=Z,16nm,0.8s
KMI Kunming 53.06 308 P **P** **20 10 39.0 +1.5**
KMI pmax pmax
comp=Z,9.0nm,0.7s
KMI LR LR
comp=Z,100nm,14.3s
KMI LR LR
comp=Z,94nm,12.6s
KMI LR LR
comp=Z,100nm,23.6s
MDJ Mudanjiang 53.07 345 P **P** **20 10 36.5 -0.4**
MDJ pmax pmax
comp=Z,9.0nm,0.7s
CM31 Chiang Mai Arr 53.24 299 P **P** **20 10 40.1 +1.5**
CMAR Chiang Mai Arr 53.24 299 P **P** **20 10 40.0 +1.4**
comp=Z,12nm,0.6s,baz=121,slow=5.9,SNR=131
CMAR LR LR 20 34 11.7
comp=Z,13nm,19.4s,baz=195,slow=37
comp=Z,12nm,0.6s
CHTO Chiang Mai 53.38 299 P **P** **20 10 40.8 +1.1**
CHTO IAmb IAmb 20 10 41.8
comp=Z,13nm,0.9s
CHTO PcP **PcP** **20 11 47.4 +1.4**
CHTO Chiang Mai 53.38 299 P **P** **20 10 41.0 +1.4**
CHTO Chiang Mai 53.38 299 P **P** **20 10 40.6 +0.9**
CHTO pP **pP** **20 11 03.2 +0.3**
CN2 Changchun 53.55 341 P **P** **20 10 38.5 -1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
XAN Xi'an 53.84 321 P **P** **20 10 42.3 -0.5**
XAN pmax pmax
comp=Z,12nm,0.9s
BJT Baijiatuau 54.12 331 P **P** **20 10 43.8 -0.8**
BJT IAmb IAmb 20 10 44.7
comp=Z,23nm,1.8s
BJI Beijing 54.13 331 P **P** **20 10 44.0 -0.7**
BJI pmax pmax
comp=Z,3.0nm,0.7s
BNX BinXian 54.71 343 ⇑P **P** **20 10 48.5 -0.3**
BNX pmax pmax
comp=Z,15nm,0.5s
CD2 Chengdu 55.38 315 P **P** **20 10 53.5 -0.6**
CD2 pmax pmax
comp=Z,30nm,0.5s
TNCH TengChong 56.37 306 ⇓P **P** **20 11 02.5 +1.1**
TNCH sP sP 20 11 39.8 +4.5
TNCH S **S** **20 18 51.0 +5.7**
TNCH pmax pmax
comp=Z,11nm,0.8s
TNCH pmax pmax
comp=Z,48nm,3.5s
HHC Hu-ho-hao-te 57.04 329 *e*P **P** **20 11 09.3 +3.5**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,71nm,4.9s
BTO Baotou 57.68 327 *e*P **P** **20 11 12.0 +1.8**
BTO S **S** **20 19 03.8 +1.9**
BTO pmax pmax
comp=Z,21nm,0.5s
BTO pmax pmax
comp=Z,230nm,4.5s
BTO LR LR
comp=Z,180nm,5.8s
BTO LR LR
comp=Z,190nm,9.4s
BTO LR LR
comp=Z,170nm,5.1s
HEH HeiHe 58.86 346 *e*P **P** **20 11 17.0 -1.1**
HEH pmax pmax
comp=Z,4.0nm,0.7s
PEA0B Petropavlovsk- 59.99 8 P **P** **20 11 26.0 +0.2**
PETK Petropavlovsk- 59.99 8 P **P** **20 11 25.9 +0.1**
comp=Z,3.7nm,0.7s,baz=162,slow=6.4,SNR=12
PETK LR LR 20 33 23.1
comp=Z,21nm,21.1s,baz=81,slow=32
comp=Z,3.7nm,0.7s
HIA Hailar 60.24 340 P **P** **20 11 26.8 -0.8**
SHL Shillong 62.04 303 P **P** **20 11 40.4 -0.1**
GTA Gaotai 62.90 320 *e*P **P** **20 11 46.5 +0.6**
GTA pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 64.29 307 P **P** **20 11 56.3 +0.6**
LSA Lhasa 64.29 307 P **P** **20 11 53.5 -2.2**
LSA Lhasa 64.29 307 P **P** **20 11 56.2 +0.5**
LSA pP **pP** **20 12 19.6 0.0**
ULN Ulaanbaatar 64.34 331 P **P** **20 11 55.1 -0.1**
SONM Songino Array 64.63 331 P **P** **20 11 56.3 -0.8**
comp=Z,0.9nm,0.6s,baz=142,slow=4.9,SNR=3.8
comp=Z,0.9nm,0.6s
CASY Casey 64.83 195 P **P** **20 11 58.2 +0.3**
CASY Casey 64.83 195 P **P** **20 11 58.5 +0.6**
EVN Everest 67.13 304 **P** **20 12 14.3 +0.1**
EVN IAmb IAmb 20 12 16.2
comp=Z,16nm,0.6s
PALK Pallekele 67.30 281 P **P** **20 12 15.3 +0.6**
PALK IAmb IAmb 20 12 16.5
comp=Z,9.7nm,0.8s
PALK Pallekele 67.30 281 P **P** **20 12 15.6 +0.8**
YAK Yakutsk 69.49 351 P **P** **20 12 26.4 -0.9**
YAK IAmb IAmb 20 12 27.0
comp=Z,6.5nm,0.6s
NIKH Nikolski High 70.02 27 P **P** **20 12 31.9 +1.1**
baz=227
VNDA Vanda 71.54 177 P **P** **20 12 39.9 +0.2**
VNDA Vanda 71.54 177 P **P** **20 12 39.9 +0.2**
comp=Z,1.4nm,0.7s,baz=333,slow=6.1,SNR=8.3
comp=Z,1.4nm,0.7s
VNDA Vanda 71.54 177 P **P** **20 12 40.5 +0.8**
VNDA pP **pP** **20 13 03.8 -0.1**
UNV Unalaska Valle 71.66 27 P **P** **20 12 41.2 +0.5**
baz=229
P08K Saint George I 72.21 24 P **P** **20 12 43.9 -0.1**
baz=226
SPIA Saint Paul Isl 72.34 23 P **P** **20 12 45.7 +1.0**
baz=225
S12K Black Hills 74.83 27 P **P** **20 12 59.6 +0.2**
baz=233

SDPT Sand Point 75.35 28 P **P** **20 13 01.4 -0.9**
baz=235
CHNA Chernabura Isl 75.47 29 P **P** **20 13 02.6 -0.5**
baz=236
M11K Mekoryuk 76.08 22 P **P** **20 13 07.0 +0.6**
baz=228
S14K Fog Glacier 76.31 28 P **P** **20 13 07.3 -0.6**
baz=235
M13K Dall Lake 77.18 23 P **P** **20 13 12.2 -0.4**
baz=231
O14K Tigyukauivet M 77.30 25 P **P** **20 13 14.3 +1.0**
baz=233
N14K Kuskokwak Cree 77.53 24 P **P** **20 13 14.4 -0.2**
baz=233
MKAR Makanchi Array 77.65 321 P **P** **20 13 14.9 -0.7**
comp=Z,3.7nm,0.9s,baz=99,slow=8.0,SNR=20
comp=Z,3.7nm,0.9s
K13K Kusilvak Mount 77.66 21 P **P** **20 13 15.1 -0.1**
baz=230
O15K Ungalikthiuk R 77.85 25 P **P** **20 13 16.1 -0.3**
baz=234
MAKZ Makanchi 77.86 321 P **P** **20 13 15.6 -1.1**
MAKZ Makanchi 77.86 321 P **P** **20 13 15.8 -0.9**
MAKZ pP **pP** **20 13 40.3 -1.1**
CHIR Chirikof Islan 77.92 29 P **P** **20 13 16.7 -0.1**
baz=239
M14K Bethel 77.93 23 P **P** **20 13 16.6 -0.2**
baz=232
R16K Pilot Point 77.93 27 P **P** **20 13 16.7 -0.1**
baz=237
L14K Kuka Creek 78.01 22 P **P** **20 13 17.5 +0.3**
baz=231
N15K Kwethluk River 78.32 24 P **P** **20 13 18.7 -0.3**
baz=234
M15K Kasigluk River 78.39 23 P **P** **20 13 19.8 +0.4**
baz=233
R17L Mt. Peulik Vol 78.52 27 P **P** **20 13 19.7 -0.5**
baz=238
L15K Ungalak Mounta 78.67 22 P **P** **20 13 21.3 +0.5**
baz=232
TNA Tin City 79.03 18 P **P** **20 13 23.1 +0.4**
baz=226
K15K Wolf Creek Mou 79.03 22 P **P** **20 13 23.2 +0.4**
K15K Wolf Creek Mou 79.03 22 P **P** **20 13 23.2 +0.4**
baz=232
N16K Nishlik Lake 79.04 24 P **P** **20 13 22.9 0.0**
baz=235
Q17K Contact Creek 79.06 27 P **P** **20 13 23.3 +0.1**
baz=238
ANM Nome 79.14 19 P **P** **20 13 23.4 0.0**
baz=228
ZAA0 Zalesovo Array 79.22 328 P **P** **20 13 22.2 -1.8**
ZALV Zalesovo Beam 79.22 328 P **P** **20 13 22.1 -1.9**
comp=Z,4.1nm,0.6s,baz=113,slow=5.5,SNR=22
comp=Z,4.1nm,0.6s
M16K Timber Creek 79.27 24 P **P** **20 13 24.0 -0.2**
baz=235
P17K Kvichak River 79.31 26 P **P** **20 13 24.3 -0.1**
baz=238
O17K Koliganek Bris 79.34 25 P **P** **20 13 24.1 -0.4**
baz=237
R18K Karluk 79.36 28 P **P** **20 13 24.6 -0.1**
baz=240
F14K Arctic Creek 79.45 18 P **P** **20 13 25.0 -0.1**
baz=227
L16K Owhat River 79.47 23 P **P** **20 13 25.0 -0.1**
baz=234
KSH Kashi 79.47 312 P **P** **20 13 27.0 +1.1**
KSH pmax pmax
comp=Z,3.0nm,1.0s
Q18K Katmai Hardscr 79.66 27 P **P** **20 13 26.3 -0.1**
baz=239
N17K Nushagak Hills 79.72 25 P **P** **20 13 26.1 -0.5**
baz=237
OHAK Old Harbor 79.74 29 P **P** **20 13 26.8 +0.1**
baz=241
G15K Niukluk 79.86 19 P **P** **20 13 27.1 -0.1**
baz=230
P18K Big Mountain, 79.94 26 P **P** **20 13 27.8 -0.1**
baz=239
NIL Nilore 79.97 306 **P** **20 13 28.3 -0.3**
J16K Anvik River 79.97 21 P **P** **20 13 28.1 +0.2**
baz=233
M17K Holitna River 80.09 24 P **P** **20 13 29.5 +0.9**
baz=236
F15K North Star Dit 80.13 18 P **P** **20 13 29.8 +1.1**
baz=229
L17K Donlin 80.17 23 P **P** **20 13 29.1 +0.2**
baz=235
O18K Koktuh Hills 80.19 26 P **P** **20 13 29.2 0.0**
baz=239
H16K Elim 80.23 20 P **P** **20 13 29.8 +0.5**
baz=231
I17K Unalakleet 80.30 21 P **P** **20 13 29.6 -0.1**
baz=233
N18K Kilae Creek 80.34 25 P **P** **20 13 29.7 -0.3**
baz=238
KDAK Kodiak Island 80.34 28 P **P** **20 13 29.7 -0.3**
baz=241
BOOM Boomskoye usch 80.39 315 P **P** **20 13 30.2 -0.7**
Q19K Cape Douglas, 80.41 27 P **P** **20 13 30.5 0.0**
baz=240
K17K Iditarod 80.50 22 P **P** **20 13 31.0 +0.3**
baz=235
J17K VABM Dome 80.59 22 P **P** **20 13 31.4 +0.2**
baz=234
G16K Koyuk River 80.66 19 P **P** **20 13 31.9 +0.3**
baz=231
O19K Port Alsworth 80.75 26 P **P** **20 13 32.3 +0.2**
baz=239
M18K Stony River 80.80 24 P **P** **20 13 32.6 +0.2**
baz=238
Q20K Shuyak Island 80.83 28 P **P** **20 13 32.5 0.0**
baz=241
L18K Granite Mounta 80.84 23 P **P** **20 13 32.3 -0.3**
baz=237
P19K Oil Pt 80.96 26 P **P** **20 13 33.0 -0.3**
baz=240
N19K Bonanza Creek 81.00 25 P **P** **20 13 33.5 -0.1**
baz=239
H17K Granite Mounta 81.20 20 P **P** **20 13 34.7 +0.2**
baz=234
G17K Kiwalik Mounta 81.29 20 P **P** **20 13 35.0 +0.1**
baz=233
KURK Kurchatov 81.38 323 **P** **20 13 34.5 -1.2**
KURBB Kurchatov Arra 81.40 323 P **P** **20 13 33.8 -2.1**
comp=Z,1.7nm,0.9s,baz=108,slow=4.0,SNR=9.3
comp=Z,1.7nm,0.9s
O20K Slope Mountain 81.43 26 P **P** **20 13 35.4 -0.5**
baz=241
J18K Innoko River 81.51 22 P **P** **20 13 36.1 0.0**
baz=237
L19K White Mountain 81.55 24 P **P** **20 13 35.9 -0.5**
baz=239
M19K Big River Lodg 81.59 24 P **P** **20 13 36.4 -0.2**
baz=239
C16K Lisburne Hills 81.63 16 P **P** **20 13 36.2 -0.4**
baz=228
F17K Baldwin Pennin 81.67 19 P **P** **20 13 35.9 -0.9**
baz=232
MAW Mawson 81.81 203 P **P** **20 13 37.7 0.0**
comp=Z,1.7nm,0.6s,baz=100,slow=7.7,SNR=9.2
comp=Z,1.7nm,0.6s
H18K Honhosa River 81.86 20 P **P** **20 13 37.7 -0.3**
baz=235
E17K Hotham Inlet 81.88 18 P **P** **20 13 37.6 -0.4**
baz=232
D17K Noatak River 81.90 17 P **P** **20 13 37.6 -0.5**
baz=230
L20K Farewell, AK 82.09 24 P **P** **20 13 38.7 -0.6**
baz=239
M20K Styx River 82.10 24 P **P** **20 13 38.8 -0.6**
baz=240
BRSE Bradley Lake S 82.11 27 P **P** **20 13 38.6 -0.8**
baz=243
N20K Mount Spurr 82.15 25 P **P** **20 13 39.3 -0.3**
baz=241
SPCR Spurr Chakacha 82.15 25 P **P** **20 13 39.3 -0.3**
baz=241
GCSA Galena City Sc 82.16 21 P **P** **20 13 39.3 -0.1**
baz=236
RDOG Red Dog Mine 82.17 17 P **P** **20 13 39.7 +0.2**
baz=230
G18K Tagagawik 82.19 20 P **P** **20 13 39.1 -0.5**
G18K IAmb IAmb 20 14 20.6
comp=Z,34nm,1.8s
G18K Tagagawik 82.19 20 P **P** **20 13 39.7 +0.1**
baz=235

J19K Poorman 82.21 22 P **P** **20 13 39.4 -0.3**
baz=238
F18K Selawik 82.28 19 P **P** **20 13 40.0 -0.1**
baz=234
C17K DeLong Mountai 82.37 17 P **P** **20 13 39.8 -0.7**
baz=230
K20K Telida 82.47 23 P **P** **20 13 40.6 -0.5**
baz=239
E18K Tukpahlearik C 82.47 18 P **P** **20 13 40.4 -0.6**
baz=233
H19K Roundabout Mou 82.74 21 P **P** **20 13 42.5 0.0**
H19K IAmb IAmb 20 13 44.0
comp=Z,20nm,1.4s
H19K Roundabout Mou 82.74 21 P **P** **20 13 42.2 -0.3**
baz=237
SKT Skwentna 82.81 25 P **P** **20 13 42.2 -0.7**
baz=242
SEW Seward 82.85 27 P **P** **20 13 43.1 -0.1**
baz=244
J20K Nowinta River 82.86 22 P **P** **20 13 43.1 0.0**
baz=239
O22K Cooper Landing 82.90 27 P **P** **20 13 43.1 -0.3**
baz=244
SUA Susitna One 82.90 25 P **P** **20 13 43.1 -0.4**
baz=242
F19K Shaleruckik Mo 83.02 19 P **P** **20 13 44.1 +0.2**
baz=235
C18K Utukok River 83.04 17 P **P** **20 13 43.9 -0.1**
baz=232
I20K Naaghedeneel 83.05 22 P **P** **20 13 44.6 +0.5**
baz=239
RC01 Rabbit Creek A 83.17 26 P **P** **20 13 44.6 -0.2**
baz=243
H20K Anotleneega Mo 83.27 21 P **P** **20 13 45.4 +0.1**
baz=238
B18K Kokolik River 83.32 16 P **P** **20 13 45.0 -0.4**
baz=231
CHUM Lake Minchumin 83.41 23 P **P** **20 13 45.4 -0.5**
baz=241
CUT Chulitna 83.53 25 P **P** **20 13 46.2 -0.4**
baz=243
GAR Garm 83.56 310 P **P** **20 13 47.4 -0.1**
GAR IAmb IAmb 20 13 49.4
comp=Z,4.5nm,0.6s
KBL Kabul 83.57 306 P **P** **20 13 46.9 -0.9**
KBL IAmb IAmb 20 14 43.9
comp=Z,7.1nm,0.5s
QSPA South Pole Qui 83.58 180 P **P** **20 13 48.5 +1.5**
QSPA South Pole Qui 83.58 180 P **P** **20 13 48.9 +1.8**
comp=Z,5.0nm,0.6s,baz=308,slow=0.6,SNR=39
comp=Z,5.0nm,0.6s
QSPA South Pole Qui 83.58 180 P **P** **20 13 49.0 +1.8**
PMR Palmer 83.65 26 P **P** **20 13 46.6 -0.6**
baz=244
PWL Port Wells 83.68 26 P **P** **20 13 46.5 -0.9**
baz=245
P23K Montague Islan 83.74 27 P **P** **20 13 47.3 -0.5**
baz=246
C19K Lookout Ridge 83.78 17 P **P** **20 13 47.5 -0.4**
baz=233
KTH Kantishna Hill 83.80 24 P **P** **20 13 47.0 -1.0**
KTH IAmb IAmb 20 15 07.6
comp=Z,31nm,1.8s
F20K Avaraart Lake 83.81 19 P **P** **20 13 48.2 +0.2**
F20K IAmb IAmb 20 13 49.5
comp=Z,19nm,1.6s
F20K Avaraart Lake 83.81 19 P **P** **20 13 47.9 0.0**
baz=237
KNK Knik Glacier 83.86 26 P **P** **20 13 47.5 -0.9**
baz=244
TRF Thorofare Moun 84.00 24 P **P** **20 13 48.2 -1.0**
baz=243
BPAW Bear Paw Mtn. 84.03 23 P **P** **20 13 48.7 -0.5**
baz=242
A19K Wainwright 84.04 16 P **P** **20 13 49.1 +0.1**
baz=232
SML Sawmill 84.09 26 P **P** **20 13 48.8 -0.7**
baz=245
H21K Melozitna Rive 84.10 21 P **P** **20 13 48.4 -1.1**
baz=240
I21K Tanana 84.17 22 P **P** **20 13 49.4 -0.4**
baz=241
GLI Glacier Island 84.24 27 P **P** **20 13 50.0 -0.3**
baz=246
G21K Allakaket 84.28 20 P **P** **20 13 50.2 -0.2**
G21K IAmb IAmb 20 14 50.1
comp=Z,37nm,1.9s
G21K Allakaket 84.28 20 P **P** **20 13 50.1 -0.2**
baz=239
M23K Glacier View 84.34 26 P **P** **20 13 49.9 -0.9**
baz=245
KK31 Karatay Array 84.40 314 P **P** **20 13 51.0 -0.6**
WAT1 Susitna Watana 84.43 25 P **P** **20 13 49.9 -1.4**
baz=244
D20K Etivluk River 84.44 18 P **P** **20 13 50.3 -0.9**
baz=236
SIMJ Simiganj 84.48 310 **P** **20 13 51.0 -1.2**
SCM Sheep Creek Mo 84.53 26 P **P** **20 13 51.3 -0.6**
baz=246
MLY Manley 84.56 22 P **P** **20 13 50.9 -1.0**
baz=242
F21K Alatna River 84.65 20 P **P** **20 13 51.5 -0.7**
baz=239
WAT6 Susitna Watana 84.67 25 P **P** **20 13 51.6 -1.0**
baz=245
MCK McKinley 84.67 24 P **P** **20 13 52.2 -0.2**
baz=244
EYAK Cordova Ski Ar 84.72 27 P **P** **20 13 52.7 +0.1**
baz=247
H22K Ishtalitna Cre 84.73 21 P **P** **20 13 52.0 -0.7**
baz=241
NEA2 Nenana 85.00 23 P **P** **20 13 53.3 -0.7**
baz=244
B20K Meade River 85.00 17 P **P** **20 13 53.7 -0.2**
baz=236
KLU Klutina 85.01 26 P **P** **20 13 53.7 -0.5**
baz=247
DHY Denali Highway 85.02 25 P **P** **20 13 53.7 -0.6**
baz=245
KAIM Kayak Island 85.09 28 P **P** **20 13 53.9 -0.7**
baz=248
E21K Killik River 85.12 19 P **P** **20 13 54.7 +0.1**
baz=239
I23K Minto, Yukon-K 85.13 22 P **P** **20 13 55.0 +0.4**
baz=243
M24K Tolsona, Glenn 85.14 26 P **P** **20 13 53.9 -0.9**
baz=246
G22K Bettles 85.18 20 P **P** **20 13 55.3 +0.4**
baz=241
F22K John River 85.23 20 P **P** **20 13 55.1 -0.1**
baz=241
C21K Knifeblade Rid 85.24 18 P **P** **20 13 55.1 -0.1**
baz=238
H23K Yukon River 85.37 22 P **P** **20 13 55.4 -0.5**
baz=243
BMRM Bremner River 85.39 27 P **P** **20 13 56.3 +0.2**
baz=248
B21K Ikpikpuk River 85.54 17 P **P** **20 13 57.3 +0.8**
baz=238
COLA College 85.59 23 P **P** **20 13 55.6 -1.3**
COLA pP **pP** **20 14 20.8 -1.3**
G23K Bananza Creek 85.60 21 **P** **20 13 56.9 -0.1**
G23K IAmb IAmb 20 13 57.8
comp=Z,6.1nm,0.8s
G23K Bananza Creek 85.60 21 P **P** **20 13 57.3 +0.3**
baz=243,SNR=6.5
N25K Chitina, Valde 85.64 27 P **P** **20 13 57.4 0.0**
baz=248
E22K Anaktuvuk Pass 85.66 19 P **P** **20 13 57.0 -0.3**
baz=241
HARP HAARP 85.69 26 P **P** **20 13 57.4 -0.2**
baz=247
D22K Ayikyak River 85.75 18 P **P** **20 13 57.1 -0.6**
baz=240
COLD Coldfoot 85.77 20 P **P** **20 13 57.3 -0.5**
baz=242
PAX Paxson 85.78 25 P **P** **20 13 57.4 -0.6**
baz=247
POKR Poker Plat Res 85.85 23 P **P** **20 13 58.0 -0.3**
baz=245
A21K Barrow 85.89 16 P **P** **20 13 57.7 -0.5**
baz=236
IL31 85.92 23 P **P** **20 13 56.9 -1.6**
IL31 IAmb IAmb 20 13 57.8
comp=Z,6.6nm,0.8s
ILAR Eielson Array 85.92 23 P **P** **20 13 56.3 -2.3**
comp=Z,5.2nm,0.7s,baz=254,slow=5.0,SNR=53
comp=Z,5.2nm,0.7s

K24K	Donnelly Dome baz=247	85.98	24	P		P		20 13 58.2	-0.7
H24K	Noodor Dome baz=245	85.99	22	P		P		20 13 58.9	-0.1
CRQE	Cirque baz=249	86.01	28	P		P		20 13 58.7	-0.5
A22K	Sinclair Lake baz=238	86.17	16	P		P		20 13 59.9	+0.2
MCARA	McCarthy VSAT baz=249	86.26	27	P		P		20 13 59.7	-0.7
B22K	Teshekpuk Lake baz=239	86.26	17	P		P		20 13 60.0	-0.2
RIDG	Independent Ri baz=248	86.33	24	P		P		20 14 00.2	-0.6
MESA	MESA baz=250	86.34	28	P		P		20 14 00.1	-0.9
E23K	Chandalar baz=243	86.35	20	P		P		20 14 00.5	-0.3
D23K	Nanushuk River D23K	86.42	19		IAmb	P IAmb		20 14 02.0 20 14 02.6	+1.0
	comp=Z,13nm,0.7s								
D23K	Nanushuk River baz=242,SNR=6.8	86.42	19	P		P		20 14 00.9	0.0
J25K	Salcha River, baz=247,SNR=14	86.46	24	P		P		20 14 00.3	-1.1
G24K	Hadweenzic Riv baz=245	86.50	21	P		P		20 14 01.3	-0.2
TOLK	Toolik Lake Re baz=243	86.63	19	P		P		20 14 01.3	-0.8
F24K	Squaw Lake baz=245,SNR=10	86.70	20	P		P		20 14 02.5	0.0
E24K	Your Creek baz=244	86.74	20	P		P		20 14 02.2	-0.4
PRP	Porcupine Dome baz=247	86.75	23	P		P		20 14 02.0	-0.8
SCRK	Sand Creek baz=248	86.78	24	P		P		20 14 02.2	-0.8
C23K	Itkillik River baz=242	86.85	18	P		P		20 14 03.0	0.0
CTG	Chitna Glacier baz=251,SNR=5.6	86.89	28	P		P		20 14 03.0	-0.6
H25L	Birch Creek baz=247	86.93	22	P		P		20 14 03.5	0.0
BVAR	Borovoye Array comp=Z,1.4nm,0.6s,baz=104,slow=6.3,SNR=9.6 comp=Z,1.4nm,0.6s	86.95	324	P		P		20 14 02.2	-1.6
G25K	Bearman Lake baz=246	87.03	21	P		P		20 14 04.4	+0.4
D24K	Happy Valley baz=244	87.10	19	P		P		20 14 04.2	-0.1
M27K	Edge Creek, AK baz=250,SNR=7.9	87.11	26	P		P		20 14 04.3	-0.3
PINM	Pinnacle baz=252	87.12	29	P		P		20 14 04.3	-0.3
J26L	Joseph Creek baz=249,SNR=5.4	87.14	24	P		P		20 14 03.8	-0.8
O28M	Mount Upton baz=252	87.36	28	P		P		20 14 05.0	-1.0
L27K	Beaver Creek, baz=250,SNR=6.6	87.36	26	P		P		20 14 05.1	-0.6
C24K	Franklin Bluff baz=244,SNR=8.6	87.39	18	P		P		20 14 05.6	0.0
PNL	Peninsula baz=253	87.41	29	P		P		20 14 05.7	-0.3
F25K	Christian Rive baz=247	87.52	21	P		P		20 14 06.2	-0.3
K27K	Chicken K27K	87.58	25	P	IAmb	P IAmb		20 14 07.4 20 14 08.6	+0.7
	comp=Z,7.0nm,0.8s								
K27K	Chicken baz=250	87.58	25	P		P		20 14 06.3	-0.4
I26K	Coal Creek Min baz=249	87.59	23	P		P		20 14 06.2	-0.5
YUK8	Steele Glacier baz=252	87.71	28	P		P		20 14 06.9	-0.8
E25K	Arctic Village baz=247	87.75	20	P		P		20 14 07.8	+0.4
G26K	Porcupine Rive baz=248,SNR=10	87.94	22	P		P		20 14 08.5	+0.2
D25K	Kavik River baz=246	87.97	19	P		P		20 14 08.7	+0.3
O29M	Mount Kennedy baz=253	87.98	29	P		P		20 14 08.2	-0.7
F26K	Sheenjek River baz=248	88.09	21	P		P		20 14 08.9	-0.1
P29M	Windy Craggy baz=254	88.20	29	P		P		20 14 09.6	-0.1
EGAK	Eagle EGAK	88.21	24		IAmb	P IAmb		20 14 09.2 20 14 10.2	-0.4
	comp=Z,7.3nm,0.8s								
EGAK	Eagle baz=251,SNR=5.2	88.21	24	P		P		20 14 09.5	-0.1
YUK4	Talbot Arm baz=253	88.25	28	P		P		20 14 10.0	-0.2
I27K	Kandik River baz=250,SNR=7.6	88.30	23	P		P		20 14 09.8	-0.4
S31K	Pelican baz=255	88.53	31	P		P		20 14 11.2	0.0
H27K	Steamboat Moun baz=250,SNR=9.2	88.54	23	P		P		20 14 11.5	+0.3
HYT	Haines Junctio	88.64	28			P		20 14 12.0	+0.1
HYT	Haines Junctio baz=254	88.64	28	P		P		20 14 11.5	-0.4
M29M	Somme Creek baz=253,SNR=6.3	88.64	27	P		P		20 14 11.7	-0.2
C26K	Camden Bay baz=247	88.67	19	P		P		20 14 12.3	+0.6
G27K	Doyon Strip baz=250	88.68	22	P		P		20 14 12.2	+0.3
P30M	Million Dollar baz=255	88.71	29	P		P		20 14 12.2	0.0
DAWY	Dawson baz=252	88.71	25	P		P		20 14 12.1	0.0
SIT	Sitka baz=256	88.78	32	P		P		20 14 11.6	-0.8
PLBC	Pleasant Camp baz=255	88.83	30	P		P		20 14 11.7	-1.0
I28M	Miner Creek baz=252	88.91	24	P		P		20 14 12.3	-0.8
C27K	Jago River baz=248,SNR=5.2	88.95	19	P		P		20 14 12.9	-0.2
L29M	L29M baz=254	88.98	26	P		P		20 14 12.4	-0.9
N30M	Aishikik Lake baz=255	89.00	28	P		P		20 14 13.4	-0.1
HRA	Herat	89.07	305	P		P		20 14 14.6	-0.1
E27K	Coleen River E27K	89.17	21		IAmb	P IAmb		20 14 13.9 20 14 15.3	-0.2
	comp=Z,4.9nm,0.8s								
E27K	Coleen River baz=250	89.17	21	P		P		20 14 13.5	-0.6
O30N	Mendenhall baz=256	89.29	29	P		P		20 14 14.8	-0.1
SKAG	Skagway baz=256	89.35	30	P		P		20 14 14.4	-0.7
M30M	Minto, Yukon baz=255	89.43	27	P		P		20 14 14.6	-0.9
K29M	Barlow Dome baz=254,SNR=7.0	89.44	25	P		P		20 14 15.9	+0.2
R32K	Eaglecrest baz=257	89.48	31	P		P		20 14 15.7	-0.1
I29M	Ogilvie Camp, baz=254	89.54	24	P		P		20 14 15.9	0.0
F28M	Old Crow baz=252	89.60	22	P		P		20 14 16.7	+0.5
N31M	Braeburn, Yuko baz=256	89.61	28	P		P		20 14 15.5	-0.9
CRAG	Craig baz=258	89.63	34	P		P		20 14 15.9	-0.6
D27M	Malcolm River baz=251	89.73	20	P		P		20 14 16.7	-0.1
H29M	Whitestone baz=253	89.75	23	P		P		20 14 16.7	-0.2
U33K	Whale Pass baz=258	89.76	33	P		P		20 14 16.7	-0.3
WHY	Whitehorse baz=257	89.84	29	P		P		20 14 16.6	-0.9
E28M	Babbage River baz=252	90.02	21	P		P		20 14 17.7	-0.4
G29M	Pine Creek baz=254	90.08	22	P		P		20 14 18.1	-0.4
J30M	Hart River baz=255	90.14	25	P		P		20 14 18.2	-0.7
P32M	Atlin baz=258	90.18	30	P		P		20 14 18.1	-0.9
WRAK	Wrangell Islan baz=259	90.25	33	P		P		20 14 18.4	-0.9
I30M	Mount Dempster baz=255	90.28	24	P		P		20 14 18.8	-0.7
M31M	Drury Creek, Y baz=257	90.42	27	P		P		20 14 19.6	-0.6
EPYK	Eagle Plains EPYK	90.44	23	P	IAmb	P IAmb		20 14 19.3 20 14 20.4	-0.8
	comp=Z,9.4nm,0.8s								
EPYK	Eagle Plains baz=255	90.44	23	P		P		20 14 19.9	-0.2
D28M	Stokes Point baz=253	90.51	20	P		P		20 14 20.0	-0.3
E29M	Blow River baz=254	90.54	21	P		P		20 14 20.3	-0.2
P33M	Teslin, Yukon baz=258	90.75	29	P		P		20 14 21.1	-0.6
Q32M	Nakina River baz=259	90.78	31	P		P		20 14 21.6	-0.5
G30M	tAoh Zraii Nji baz=255	90.78	23	P		P		20 14 21.2	-0.5
F30M	Barrier River baz=256	91.10	22	P		P		20 14 23.0	-0.1
S34M	Telegraph Cree baz=260	91.17	32	P		P		20 14 23.3	-0.4
H31M	Peel River baz=257	91.24	24	P		P		20 14 23.2	-0.7
T35M	Bob Quinn baz=260	91.48	33	P		P		20 14 23.7	-1.5
R33M	Jennings River baz=260	91.52	30	P		P		20 14 24.4	-1.0
G31M	Satah River baz=257	91.52	23	P		P		20 14 24.1	-0.9
F31M	Tsiigehtchic baz=258	91.83	22	P		P		20 14 25.2	-1.2
DLBC	Dease Lake baz=261	91.84	32	P		P		20 14 26.6	-0.3
MMPY	Sheldon Lake, baz=260	91.93	27	P		P		20 14 26.4	-0.8
INK	Inuvik baz=258	92.09	21	P		P		20 14 26.7	-1.0
AB31	Akbulak array	92.72	319	P		P		20 14 29.5	-1.5
KOTAN	Kotaneelee Air baz=266	95.08	30	P		P		20 14 40.9	-0.7
A36M	Sachs Harbour baz=266	95.40	18	P		P		20 14 42.2	-0.6
C36M	Paulatuk baz=267	95.63	21	P		P		20 14 43.1	-0.8
SNAA	Sanae comp=Z,22nm,19.9s,baz=26,slow=35	99.58	189	LR		LR		20 59 28.1	
RONA	Rosalia, Austr comp=Z,1.6nm,0.9s	121.15	323	*i* PKiKP		PKPdf		20 20 10.7	-0.7
CONA	Conrad Observa comp=Z,1.4nm,0.7s	121.30	324	*i* PKiKP		PKPdf		20 20 11.2	-0.6
GERES	GERESS Array B comp=Z,0.9nm,0.6s,baz=90,slow=2.7,SNR=9.7	122.10	325	PKP		PKPdf		20 20 12.6	-0.7
LESA	Schwarzleotal comp=Z,2.6nm,0.6s	123.42	324	*i* PKiKP		PKPdf		20 20 15.1	-0.8
ABTA	Abfaltersbach comp=Z,2.0nm,0.6s	123.86	324	*i* PKiKP		PKPdf		20 20 15.9	-0.9
WTTA	Wattenberg comp=Z,3.7nm,0.8s	124.11	325	*i* PKiKP		PKPdf		20 20 17.0	-0.4
MOTA	Moosalm comp=Z,3.1nm,0.8s	124.37	325	*i* PKiKP		PKPdf		20 20 17.2	-0.6
SQTA	Sankt Quirin comp=Z,2.5nm,0.8s	124.37	325	*e*PKiKP		PKPdf		20 20 17.3	-0.4
FETA	Fetten comp=Z,4.2nm,1.1s	124.76	325	*i* PKiKP		PKPdf		20 20 18.4	-0.2
DAVA	Damuels comp=Z,5.2nm,0.8s	125.09	325	*i* PKiKP		PKPdf		20 20 19.0	-0.2
EKA	Eskdalemuir Ar comp=Z,0.4nm,0.5s,baz=38,slow=3.6,SNR=1.9	125.60	339	PKP		PKPdf		20 20 18.6	-1.0
LPAZ	La Paz comp=Z,0.5nm,0.4s,baz=259,slow=5.2,SNR=3.8	138.76	124	PKP		PKPdf		20 20 46.1	-0.3
TORD	Torodi Ar. Bea comp=Z,45nm,0.9s,baz=64,slow=2.8,SNR=77	144.97	284	PKPbc		PKPbc		20 20 54.5	-1.7
DBIC	Dimbokro comp=Z,6.4nm,0.5s,baz=150,slow=2.3,SNR=13	151.81	272	PKPbc		PKPbc		20 21 13.4	-0.9
BDFB	Brasilia comp=Z,2.2nm,0.5s,baz=322,slow=1.1,SNR=4.6	153.66	146	PKPbc		PKPbc		20 21 18.3	-0.2

NEIC 28 20:16:02.3±0.6, 38.014N±0.009×98.00W±0.02, h2km±2km, mb_Lg2.6/63, ML2.8/8, Error ellipse: s-maj=1.8km s-min=1.2km az=101.0, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R32A	Long Quarter,	0.69	306		Pg	20 16 15.1	-0.5
R32A				Sg	Sg	20 16 24.1	-0.5
R32A				IAML		20 16 28.4	
	661nm,0.5s						
R32A				IAML		20 16 29.5	
	533nm,0.4s						
KAN08	Anthony NE Sta	0.79	178		Pg	20 16 16.7	-0.6
KAN08				Sg	Sg	20 16 27.2	-0.3
KAN08				IAML		20 16 33.0	
	comp=N,281nm,0.4s						
KAN01	Argonia South	0.88	167		Pg	20 16 18.5	-0.7
KAN01				IAML		20 16 30.5	
	comp=E,230nm,0.2s						
KAN01				IAmb_Lg		20 16 31.8	
	comp=Z,36nm,0.9s						
KAN14	Manchester OK	1.06	178		Pg	20 16 21.8	-0.8
GC02	Grant County #	1.17	174		Pg	20 16 23.7	-0.9
BLOK	Blackwell	1.40	153		Pn	20 16 27.5	-1.3
CROK	Carrier	1.51	180		Pn	20 16 29.1	-1.1
KSU1	Kansas State U	1.54	45		Pn	20 16 29.9	-0.8
NOKA	Waynoka	1.56	209		Pn	20 16 30.7	-0.4
CBKS	Cedar Bluff	1.58	301		Pn	20 16 31.0	-0.3
T35A	Sooner Cattle	1.61	132		Pn	20 16 31.3	-0.4
OK038	West end E0370	1.64	201		Pn	20 16 31.9	-0.2
OK051	E0350 and S346	1.77	148		Pn	20 16 33.5	-0.4
OK048	Pawnee Station	1.80	152		Pn	20 16 33.8	-0.5
QUOK	Quay	2.11	150		Pn	20 16 38.6	+0.1
OK052	Battle Ridge R	2.23	154		Pn	20 16 39.0	-1.2
ELIS	Ellis County	2.25	211	Pn	Pn	20 16 40.0	-0.6
OK029	Liberty Lake	2.26	169		Pn	20 16 39.7	-0.9
ADOK	Arcadia Dam	2.41	168		Pn	20 16 42.3	-0.4
DEOK	Depew	2.48	151		Pn	20 16 42.8	-0.8
DEOK				IAmb_Lg		20 17 25.1	
	comp=Z,18nm,0.8s						
OKCSW	OKLAHOMA CITY	2.64	170		Pn	20 16 45.8	0.0
TUL3	Leonard	2.75	139		Pn	20 16 47.0	-0.3
TUL3				IAmb_Lg		20 17 28.4	
	comp=Z,22nm,0.8s						
FNO	Franklin	2.79	170		Pn	20 16 47.1	-0.9
RLO	Rose Lookout	3.01	127	Pn	Pn	20 16 50.5	-0.5
U38A	Gravette	3.29	117		Pn	20 16 54.5	-0.2
U38A				IAmb_Lg		20 17 48.2	
	comp=Z,26nm,0.7s						
WMOK	Wichita Mounta	3.33	191		Pn	20 16 54.9	-0.4
BGNE	Belgrade	3.39	358	Pn	Pn	20 16 54.6	-1.7
BGNE				IAmb_Lg		20 17 47.4	
	comp=Z,23nm,0.7s						
SMWD	Samnorwood	3.42	213		Pn	20 16 56.6	0.0
SMWD				IAmb_Lg		20 17 55.1	
	comp=Z,21nm,0.8s						
HHAR	Hobbs	3.67	117	Pn	Pn	20 16 59.3	-0.8
P38A	Dawn	3.84	64		Pn	20 17 02.0	-0.4
P38A				IAmb_Lg		20 18 04.2	
	comp=Z,17nm,0.8s						
LOOK	Love County	4.07	170	IAmb_Lg		20 18 15.8	
	comp=Z,18nm,0.8s						
RTBA	Rita Blanca	4.09	249		Pn	20 17 05.4	-0.6
AMTX	Amarillo	4.31	225	IAmb_Lg		20 18 23.2	
	comp=Z,20nm,0.9s						
R40A	Maddies Statio	4.53	85		Pn	20 17 11.4	-0.3
N38A	Joes South For	4.62	52		Pn	20 17 12.2	-0.8
P40A	Paris	4.89	70	IAmb_Lg		20 18 46.3	
	comp=Z,7.3nm,0.7s						
DKNS	Dickens	4.95	210	IAmb_Lg		20 18 41.8	
	comp=Z,13nm,0.8s						
MIAR	Mount Ida	4.97	133	Pn	Pn	20 17 16.7	-1.2
MIAR				IAmb_Lg		20 18 44.3	
	comp=Z,16nm,0.8s						
APMT	Aspermont	4.99	201	IAmb_Lg		20 18 54.0	
	comp=Z,8.5nm,0.8s						
T25A	Trinidad	5.17	262	IAmb_Lg		20 18 48.3	
	comp=Z,11nm,0.9s						
CCM	Cathedral Cave	5.33	87	IAmb_Lg		20 18 53.6	
	comp=Z,10nm,0.9s						
WHAR	Wooly Hollow	5.34	119	Pn	Pn	20 17 21.4	-1.5
X40A	Basin Creek Fa	5.46	129	Pn	Pn	20 17 23.8	-0.8
X40A				IAmb_Lg		20 18 57.8	
	comp=Z,14nm,0.9s						
ABTX	Abilene, Hawle	5.54	195	IAmb_Lg		20 19 12.5	
	comp=Z,11nm,1.1s						
Q24A	Divide	5.69	282	IAmb_Lg		20 19 04.9	
	comp=Z,8.5nm,0.7s						
POST	Post comp=Z,8.7nm,0.9s	5.70	211	IAmb_Lg		20 19 09.2	
ECSD	EROS Data Cent comp=Z,7.4nm,0.9s	5.81	10	IAmb_Lg		20 19 07.3	
LCAR	Lake Charles comp=Z,11nm,0.8s	5.81	107	IAmb_Lg		20 19 08.4	
FVM	French Village comp=Z,11nm,1.1s	5.98	88	IAmb_Lg		20 19 09.6	
ISCO	Idaho Springs comp=Z,6.9nm,0.7s	6.20	289	IAmb_Lg		20 19 20.0	
S44A	Carbondale comp=Z,10.0nm,0.7s	6.93	90	IAmb_Lg		20 19 45.5	
SIUC	Southern Illin comp=Z,11nm,0.8s	6.95	90	IAmb_Lg		20 19 54.8	
OZNA	Ozona comp=Z,7.8nm,0.7s	7.53	201	IAmb_Lg		20 20 12.6	
JCT	Junction City comp=Z,8.2nm,0.8s	7.66	192	IAmb_Lg		20 20 21.3	
MNHN	Monahans comp=Z,8.6nm,1.1s	7.73	212	IAmb_Lg		20 20 19.4	
ALPN	Alpine comp=Z,4.8nm,1.0s	8.94	213	IAmb_Lg		20 21 06.0	

*SNET **28** 20:47:05.9±0.8, 13°.29N×89°.90W, h33km, ML3.4*
*CATAC **28** 20:47:05.8±0.5, 13°N±3°×9°.0W±°, h30km±2km, M3.5/12, MLv3.5/12, Error ellipse: s-maj=7.5km s-min=3.8km az=22.3, confirmed*
*GCG **28** 20:47:06.5±0.7, 13°.36N×89°.89W, h44km±14km, MD3.8, ML3.1*

ISC 28 20:47:08.6±1.6, 13°.36N±0°.07×89°.80W±0°.04, h35km, n50, σ1s54/53, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	Alcalda de L	0.49	74	*e*P	Pn	20 47 17.8	-1.3
LALI	Alcalda de L	0.49	74	*e*P	Pn	20 47 18.1	-1.0
LALI	Alcalda de L	0.49	74	P	Pn	20 47 18.0	-1.0
LALI	Alcalda de L	0.49	74	S	Sn	20 47 27.3	+1.0
CEVE	Cerro Verde	0.50	20	*i* P	Pn	20 47 18.5	-1.0
CEVE	Cerro Verde	0.50	20	S	Sn	20 47 28.0	+1.0
CEVE	Cerro Verde	0.50	20	P	Pn	20 47 18.5	-1.0
SBLS	San Blas	0.51	20	*e*S	Sn	20 47 28.1	+0.9
FAME	Alcaldia de Sa	0.53	337	P	Pn	20 47 17.7	-1.9
NUBE	Las Nubes	0.54	2	*i* P	Pn	20 47 18.5	-1.5
NUBE	Las Nubes	0.54	2	*i* P	Pn	20 47 18.1	-1.9
NUBE				*i* S	Sn	20 47 28.1	+0.2
NUBE	Las Nubes	0.54	2	P	Pn	20 47 18.5	-1.5
ITCA	Escuela Especi	0.60	58	P	Pn	20 47 20.0	-0.7
ITCA	Escuela Especi	0.60	58	S	Sn	20 47 30.5	+1.2
BOQS	Boqueron	0.63	53	*e*P	Pn	20 47 20.4	-0.9
LOAL	Lomas de Alarc	0.64	2	*e*P	Pn	20 47 20.0	-1.2
LOAL	Lomas de Alarc	0.64	2	P	Pn	20 47 20.0	-1.2
LOAL	Lomas de Alarc	0.64	2	S	Sn	20 47 31.4	+1.3
UEES	Universidad Ev	0.65	57	P	Pn	20 47 20.6	-0.8
UEES	Universidad Ev	0.65	57	S	Sn	20 47 31.7	+1.1
PANCS	Alcalda de	0.66	67	S	Sn	20 47 31.2	+0.6
UNIC	Universidad Ca	0.67	22	P	Pn	20 47 20.6	-1.1
UNIC	Universidad Ca	0.67	22	S	Sn	20 47 31.7	+0.7
LOMA	Loma Larga	0.68	65	*e*P	Pn	20 47 20.6	-1.2
LOMA	Loma Larga	0.68	65	P	Pn	20 47 20.7	-1.2
LOMA	Loma Larga	0.68	65	S	Sn	20 47 32.4	+1.2
UTEC	Universidad Te	0.68	60	S	Sn	20 47 32.8	+1.6
ESSJ	San Jos, E	0.71	287	*e*P	Pn	20 47 25.1	+3.7
IGN	Direccin Gen	0.71	60	P	Pn	20 47 21.6	-0.6
IGN	Direccin Gen	0.71	60	S	Sn	20 47 33.5	+1.6
UDBS	Universidad Do	0.72	60	P	Pn	20 47 22.0	-0.4
UDBS	Universidad Do	0.72	60	S	Sn	20 47 33.9	+1.6
LFRS	El Faro	0.77	70	*e*P	Pn	20 47 22.0	-1.0
LFU	La Fuente	0.78	60	*e*P	Pn	20 47 22.2	-0.9
PAVA	Las Pavas	0.91	67	P	Pn	20 47 24.6	-0.5
PAVA	Las Pavas	0.91	67	S	Sn	20 47 38.3	+1.3
TECO	Alcaldia de Te	1.01	80	S	Sn	20 47 39.4	+0.1
UESV	Universidad de	1.03	74	S	Sn	20 47 40.7	+1.0
SCLA	Alcaldia de Sa	1.10	72	P	Pn	20 47 27.2	-0.3
SCLA	Alcaldia de Sa	1.10	72	S	Sn	20 47 42.8	+1.2
FG16	Alotenango, Sa	1.14	323	*i* P	Pn	20 47 30.8	+2.5
FG16				*i* S	Sn	20 47 49.4	+6.6
ESQI	Esquipulas	1.28	20	S	Sn	20 47 46.4	+0.4
ESSG	Sabana Grande	1.43	316	*e*P	Pn	20 47 29.3	-2.8
ESSG				IAML		20 47 47.3	
	comp=N,511nm,0.1s						
PACA	Pacayal	1.44	85	P	Pn	20 47 32.0	-0.4
PACA	Pacayal	1.44	85	S	Sn	20 47 51.4	+1.2
RANC	El Ranchito	1.48	87	*e*P	Pn	20 47 32.1	-0.7
SARH	Santa Rosa de	1.73	36	*e*P	Pn	20 47 35.5	-0.8
SARH				*e*S	Sn	20 47 57.0	-0.3
SARH	Santa Rosa de	1.73	36	P	Pn	20 47 35.6	-0.7
LCND	La Caada	1.86	91	P	Pn	20 47 36.6	-1.4
SOKI	Kika Raxquin	2.13	313	*e*P	Pn	20 47 40.5	-1.5
SOKI				*e*S	Sn	20 48 05.8	-1.6

NEIC 28 20:47:44.2±0.3, 37.66N±0.02×105.45W±0.04, h5km±1km, ML1.9/16, Error ellipse: s-maj=5.7km s-min=2.9km az=250.0, Colorado

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDCO	Great Sand Dun	0.09	334		Pg	20 47 46.6	+0.2
SDCO				Sg	Sg	20 47 48.3	+0.4
SDCO				IAML		20 47 49.1	
	1µm,0.1s						
T25A	Trinidad	0.98	122	Pg	Pg	20 48 02.9	-0.1
T25A				Sg	Sg	20 48 15.6	-0.1
T25A				IAML		20 48 16.2	
	comp=N,32nm,0.5s						
T25A				IAML		20 48 17.9	
	comp=E,25nm,0.3s						
Q24A	Divide	1.32	10		Pg	20 48 08.6	-1.0
Q24A					Sg	20 48 26.2	-0.6
Q24A				IAML		20 48 27.2	
	comp=N,31nm,0.2s						
ISCO	Idaho Springs	2.14	357	Pn	Pn	20 48 19.8	-1.1
RTBA	Rita Blanca	2.49	119	Pn	Pn	20 48 25.6	0.0
ANMO	Albuquerque	2.83	197	Pn	Pn	20 48 29.1	-1.2

IDC 28 20:58:11.9±9.8, 19°.14S×177°.39W, h408km±98km, mb3.0/4, mbtmp3.9/5, Error ellipse: s-maj=50.8km s-min=26.9km az=39.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	19.65	193	P	P	21 02 12.1	-0.4
	12nm,0.9s,baz=47,slow=19,SNR=6.5						
WRA	Warramunga Arr	45.38	261	P	P	21 05 52.1	-0.1
	0.5nm,0.4s,baz=98,slow=7.8,SNR=16						
	0.5nm,0.4s						
ASAR	Alice Springs	45.41	255	P	P	21 05 52.5	+0.1
	1.0nm,0.5s,baz=88,slow=7.7,SNR=11						
	1.0nm,0.5s						
QSPA	South Pole Qui	70.92	180	P	P	21 08 46.7	+0.5
	1.5nm,0.9s,baz=82,slow=9.1,SNR=5.3						
	1.5nm,0.9s						
ILAR	Eielson Array	86.86	13	P	P	21 10 12.0	+0.7
	0.2nm,0.6s,baz=227,slow=4.8,SNR=1.9						
	0.2nm,0.6s						
MMAI	Mount Meron Ar	147.62	302	PKPbc	PKPdf	21 17 07.9	+1.6
	0.6nm,0.4s,baz=55,slow=7.9,SNR=2.3						
GERES	GERESS Array B	149.04	346	PKPbc	PKPbc	21 17 12.0	-0.8
	0.2nm,0.5s,baz=294,slow=1.0,SNR=2.1						

*IDC **28** 21:04:49.6±2.4, 7°.71S×125°.78E, h500km±26km, mb2.8/4, mbtmp3.5/6, Error ellipse: s-maj=70.0km s-min=19.3km az=62.0*

ISC 28 21:04:49.5±1.2, 7°.7S±0°.2×125°.8E±0°.2, h500km, n7, σ0s72/8, mb3.1/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	Baumata	3.27	221

ZALV	**Zalesovo Beam**	**70.46**	**336**	P		**P**		**21 15 12.4**	**-0.5**
	0.4nm,0.5s,baz=153,slow=1.0,SNR=2.2								
	0.4nm,0.5s								
KURBB	**Kurchatov Arra**	**71.01**	**330**	P		**P**		**21 15 16.6**	**+0.4**
	0.2nm,0.4s,baz=127,slow=5.5,SNR=2.2								
	0.2nm,0.4s								
VNDA	**Vanda**	**72.27**	**172**	P		**P**		**21 15 22.9**	**-0.2**
	0.5nm,0.5s,baz=320,slow=6.4,SNR=7.4								
	0.5nm,0.5s								

KRSC 28 21:11:08.7±2.5, 49.15N×156.61E, h10km±41km, MI4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.56**	**348**	*e*P	Pn	21 11 36.4	-0.2
SKR				*e*S	Sn	21 11 55.8	-1.1
PAU	**Pauzhetka**	**2.32**	**3**	*e*P	Pb	21 11 49.9	-0.8
PAU				*e*S	Sb	21 12 19.2	-0.2
MIPR	**Malaya Ipel'ka**	**3.13**	**2**	*e*P	Pn	21 11 59.3	+1.2
ASAK	**Asacha**	**3.34**	**14**	*e*P	Pb	21 12 05.0	-3.0
MTVR	**Mutnovka**	**3.48**	**16**	*e*P	Pb	21 12 07.1	-3.4
RUS	**Russkaya**	**3.50**	**19**	*e*P	Pn	21 12 05.9	+2.8
GRL	**Gorelyy**	**3.53**	**15**	*e*P	Pn	21 12 07.4	+3.7
DALK	**Dalny**	**4.11**	**18**	*e*P	Pn	21 12 15.8	+4.3
UGLR	**Uglovaya**	**4.29**	**18**	*e*P	Pn	21 12 18.6	+4.4
AVH	**Avacha**	**4.33**	**17**	*e*P	Pn	21 12 19.5	+4.9
SMAR	**Somma**	**4.34**	**18**	*e*P	Pn	21 12 19.6	+4.7
SDLR	**Sedlovina**	**4.37**	**18**	*e*P	Pn	21 12 18.9	+3.6
KRX	**Arik**	**4.40**	**16**	*e*P	Pn	21 12 19.9	+4.2
SPN	**Mys Shipunski**	**4.50**	**27**	*e*P	Pn	21 12 21.0	+4.2
SPN				*e*S	Sn	21 13 14.7	+5.5
GNL	**Ganaly**	**4.62**	**10**	*e*P	Pn	21 12 21.9	+3.2
MKZ	**Mys Kozlova**	**6.27**	**28**	*e*P	Pn	21 12 44.1	+2.9

IDC 28 21:12:08.3±2.3, 47.34N×152.36E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=101.1km s-min=31.3km az=85.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11N2	**WAKE ISLAND Hy**	**29.98**	**152**	T	T	21 49 49.8	
	baz=340,slow=75,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**30.00**	**152**	T	T	21 49 48.2	
	baz=340,slow=75,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**30.00**	**152**	T	T	21 49 53.3	
	baz=340,slow=75,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**31.07**	**153**	T	T	21 51 27.3	
	baz=346,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**31.07**	**153**	T	T	21 51 27.3	
	baz=346,slow=76,SNR=54						
H11S2	**WAKE ISLAND Hy**	**31.08**	**153**	T	T	21 51 27.3	
	baz=346,slow=76,SNR=37						
KURBB	**Kurchatov Arra**	**46.70**	**303**	P	P	21 20 38.7	+0.1
	0.5nm,0.7s,baz=67,slow=8.1,SNR=3.2						
	0.5nm,0.7s						
FINES	**FINESS Array B**	**63.29**	**334**	P	P	21 22 38.6	+0.3
	2.1nm,0.9s,baz=42,slow=5.6,SNR=6.4						
	2.1nm,0.9s						
NOA	**NORSAR Array B**	**67.50**	**341**	P	P	21 23 06.1	+0.4
	0.3nm,0.6s,baz=23,slow=8.2,SNR=3.0						
	0.3nm,0.6s						
HFS	**Hagfors**	**67.72**	**339**	P	P	21 23 06.7	-0.3
	2.1nm,0.9s,baz=46,slow=8.3,SNR=1.8						
	2.1nm,0.9s						
WRA	**Warramunga Arr**	**68.91**	**198**	P	P	21 23 14.9	0.0
	0.3nm,0.8s,baz=15,slow=6.6,SNR=4.9						
	0.3nm,0.8s						
AKASG	**Malin Array Be**	**70.77**	**326**	P	P	21 23 25.5	-0.5
	0.8nm,0.4s,baz=34,slow=6.3,SNR=4.3						
	0.8nm,0.4s						

*IDC **28** 21:15:39.3±4.7, 36.00N×139.98E, h62km±31km, mb3.0/2, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=60.1km s-min=11.0km az=59.0*
*JMA **28** 21:15:40.2±0.1, 36.1N±0.3×139.8E±0.3, h53km, MV3.2/39, SW IBARAKI PREF*
JMA Felt I J1 at SW IBARAKI PREF .

ISC 28 21:15:38.9±1.1, 36.08N±0.05×139.92E±0.06, h62km±9km, n17, σ0.89/20, 5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.27**	**56**	⇓*i*P	**Pn**	**21 15 49.8**	**+0.8**
JYT				⇓S	**Sn**	**21 15 56.8**	**+0.5**
JAG	**Ashikaga**	**0.51**	**313**	⇓*i*P	**Pn**	**21 15 51.1**	**-0.1**
JAG				⇓S	**Sn**	**21 15 58.9**	**-1.2**
JRY	**Ryogami san**	**0.82**	**266**	*i* P	**Pn**	**21 15 54.8**	**0.0**
JRY				S	**Sn**	**21 16 05.9**	**-0.7**
JKT	**Katashina**	**0.87**	**322**	*i* P	**Pn**	**21 15 55.4**	**-0.2**
JKT				S	**Sn**	**21 16 06.7**	**-1.0**
JOD2	**Odawara 2**	**1.06**	**220**	P	**Pn**	**21 15 58.3**	**+0.5**
JYN	**Shimob**	**1.26**	**243**	P	**Pn**	**21 16 01.6**	**+1.1**
JUON	**Uonuma**	**1.32**	**329**	P	**Pn**	**21 16 01.6**	**+0.3**
JFY	**Yanaizu**	**1.34**	**353**	⇓*i*P	**Pn**	**21 16 02.3**	**+0.8**
MJAR	**Matsushiro Arr**	**1.46**	**289**	P	**Pn**	**21 16 03.3**	**+0.2**
	17nm,0.3s,baz=92,slow=8.4,SNR=222						
MJAR				S	**Sn**	**21 16 22.8**	**+1.6**
	18nm,0.4s,baz=135,slow=13,SNR=4.5						
MAT	**Matsushiro**	**1.46**	**289**	*i* P	**Pn**	**21 16 03.6**	**+0.5**
JNT	**Takato**	**1.46**	**262**	*i* P	**Pn**	**21 16 04.6**	**+1.4**
JHJ	**Hachijo jima 2**	**2.96**	**182**	P	**Pn**	**21 16 23.8**	**+0.3**
	32nm,0.3s,baz=322,slow=19,SNR=12						
JHJ				S	**Sn**	**21 16 56.5**	**-1.3**
	150nm,0.8s,baz=85,slow=24,SNR=1.8						
	113nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.74**	**117**	T	T	21 51 37.8	
	baz=312						
H11N1	**WAKE ISLAND Hy**	**28.75**	**117**	T	T	21 51 37.8	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**28.76**	**117**	T	T	21 51 39.5	
	baz=312						
WRA	**Warramunga Arr**	**55.97**	**186**	P	**P**	**21 25 10.9**	**-0.1**
	0.3nm,0.5s,baz=0.5,slow=7.6,SNR=9.5						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**59.69**	**186**	P	**P**	**21 25 36.6**	**-0.5**
	0.2nm,0.6s,baz=4.0,slow=7.2,SNR=1.6						
	0.2nm,0.6s						

*AEIC **28** 21:20:50.4±2.0, 54.79N±0.04×160.51W±0.03, h22km±7km, Error ellipse: s-maj=5.5km s-min=2.9km az=181.0*

NEIC 28 21:20:50.4±1.1, 54.78N±0.04×160.59W±0.03, h23km±10km, ML3.0/10, ML2.8(AEIC), Error ellipse: s-maj=6.5km s-min=1.5km az=199.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**0.57**	**6**		Pb	21 21 02.0	+0.3
SDPT					Sb	21 21 10.1	+0.7
SDPT				IAML		21 21 10.7	
	comp=E,1μm,0.3s						
SDPT				IAML		21 21 10.7	
	comp=N,751nm,0.6s						
CNBA	**Chernabura Isl**	**0.58**	**86**	Pn	Pb	21 21 01.1	-0.8
PVV	**Pavlof Volcano**	**0.91**	**311**		Pb	21 21 07.3	-0.1
PVV					Sn	21 21 19.8	-0.4
PS1A	**Pavlof South-1**	**0.92**	**314**		Pb	21 21 07.7	0.0
PS1A					Sb	21 21 19.5	0.0
PS4A	**Pavlof South-4**	**0.92**	**308**		Pb	21 21 07.6	-0.1
PS4A					Sn	21 21 20.4	-0.1
HAG	**Hague Volcano**	**0.93**	**306**		Pb	21 21 07.8	0.0
DT1	**Dutton Round H**	**1.03**	**289**		Pn	21 21 08.7	-0.6
DT1					Sb	21 21 22.5	0.0
PN7A	**Pavlof North-7**	**1.04**	**309**		Pb	21 21 10.5	+0.8
PN7A					Sn	21 21 23.4	0.0
S12K	**Black Hills**	**1.25**	**318**	Pn	Pn	21 21 12.3	-0.1
S12K				Sn	Sb	21 21 29.1	+0.2
S12K				IAML		21 21 29.7	
	comp=N,619nm,0.3s						
S12K				IAML		21 21 30.5	
	comp=E,359nm,0.2s						
VNKR	**Veniaminof 5**	**1.43**	**29**		Pn	21 21 14.7	-0.3
FALS	**False Pass**	**1.64**	**274**	Pn	Pn	21 21 17.9	+0.2
FALS				Sn	Sb	21 21 39.2	-0.8
ISNN	**Isanotski Nort**	**1.85**	**273**		Pb	21 21 22.2	-1.2
CHGN	**Chignik**	**1.96**	**38**	Pn	Pn	21 21 22.4	+0.3
CHGN				Sn	Sn	21 21 45.9	-0.1
CHGN				IAML		21 21 51.1	
	comp=E,112nm,0.4s						
CHGN				IAML		21 21 52.6	
	comp=N,71nm,0.2s						

SSLN	**Shishaldin Nor**	**1.97**	**272**		Pn		21 21 23.7	+1.3
O15K	**Ungalikthiuk R**	**4.43**	**5**	Pn	Pn		21 21 56.6	+0.6
O14K	**Tigyukauivet M**	**4.50**	**356**	Pn	Pn		21 21 57.5	+0.5

*SFS **28** 21:28:04.4, 36.56N×2.02W, h13km, ML2.7/11, ML2.7/11, MLv2.6/11*
*MDD **28** 21:28:04.2±0.4, 36.59N×2.08W, h2km±2km, mb_Lg2.4/28, Error ellipse: s-maj=2.7km s-min=2.2km az=153.0*
*CNRM **28** 21:28:08.3, 36.13N×2.16W, h129km, ML1.6*

ISC 28 21:28:03.0±1.1, 36.54N±0.02×2.03W±0.02, h16km±8km, n55, σ1.30/102, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENIJ	**Nijar**	**0.45**	**342**	S	**Sg**	**21 28 18.2**	**0.0**
ENIJ				P	**Pb**	**21 28 12.8**	**+0.3**
ENIJ	**Nijar**	**0.45**	**342**	⇑Pg	**Pb**	**21 28 12.8**	**+0.3**
ENIJ				Sg	**Sg**	**21 28 17.6**	**-0.6**
ENIJ				*i* lVmb_Lg		21 28 19.0	
EALB	**Alboran**	**1.01**	**234**	P	**Pn**	**21 28 22.7**	**+0.3**
EALB	**Alboran**	**1.01**	**234**	Pg	**Pn**	**21 28 22.8**	**+0.4**
EALB				Sg	**Sb**	**21 28 35.6**	**+0.5**
EALB				*i* lVmb_Lg		21 28 44.9	
ELOR	**Lorca, Murcia**	**1.12**	**12**	Pg	**Pg**	**21 28 25.0**	**+0.4**
ELOR				Sg	**Sn**	**21 28 39.2**	**+0.1**
ELOR				*i* lVmb_Lg		21 28 40.4	
TLOR	**Lorca, Murcia**	**1.14**	**14**	P	**Pb**	**21 28 25.1**	**+0.7**
TLOR				S	**Sb**	**21 28 39.3**	**+0.3**
TLOR	**Lorca, Murcia**	**1.14**	**14**	Pg	**Pg**	**21 28 26.1**	**+1.1**
TLOR				Sg	**Sb**	**21 28 38.9**	**-0.1**
TLOR	**Lorca, Murcia**	**1.14**	**14**	Pg	**Pg**	**21 28 25.6**	**+0.6**
TLOR				Sg	**Sb**	**21 28 38.8**	**-0.2**
EXMAZ	**Mazarron**	**1.20**	**29**	Pg	**Pn**	**21 28 24.9**	**-0.2**
EXMAZ				Sg	**Sb**	**21 28 38.4**	**-2.1**
EQUE	**Quentar**	**1.31**	**301**	Pg	**Pb**	**21 28 27.6**	**+0.4**
EQUE				Sg	**Sb**	**21 28 43.5**	**-0.3**
EQUE				*i* lVmb_Lg		21 28 45.4	
EQTA	**Presa de Quent**	**1.31**	**301**	P	**Pb**	**21 28 27.7**	**+0.4**
EQTA				S	**Sn**	**21 28 44.2**	**+0.2**
ELGU	**Los Guajares,**	**1.32**	**285**	P	**Pn**	**21 28 26.7**	**-0.2**
ELGU				S	**Sn**	**21 28 43.4**	**-0.8**
ELGU	**Los Guajares,**	**1.32**	**285**	Pg	**Pn**	**21 28 26.7**	**-0.2**
ELGU				Sn	**Sn**	**21 28 42.4**	**-1.8**
ELGU				*i* lVmb_Lg		21 28 47.3	
CART	**Cartagena**	**1.33**	**38**	P	**Pn**	**21 28 26.6**	**-0.2**
CART				S	**Sn**	**21 28 44.4**	**+0.2**
EMUR	**La Murta**	**1.44**	**26**	P	**Pn**	**21 28 28.6**	**+0.1**
EMUR				S	**Sn**	**21 28 45.9**	**-1.2**
EMUR	**La Murta**	**1.44**	**26**	Pg	**Pn**	**21 28 28.4**	**0.0**
EMUR				Sn	**Sn**	**21 28 45.4**	**-1.7**
EMUR				*i* lVmb_Lg		21 28 51.4	
EQES	**Quesada**	**1.51**	**327**	Pg	**Pb**	**21 28 31.3**	**+0.6**
EQES				Sg	**Sg**	**21 28 51.4**	**-0.2**
EQES				*i* lVmb_Lg		21 28 53.8	
EXAGR	**Agron**	**1.53**	**289**	Sg	**Sn**	**21 28 49.7**	**+0.4**
EXBUL	**Bullas, Murcia**	**1.53**	**11**	Sg	**Sn**	**21 28 50.0**	**+0.7**
GOG	**Mont Gurugu**	**1.53**	**211**	P	**Pn**	**21 28 29.8**	**+0.1**
GOG	**Mont Gurugu**	**1.53**	**211**	S	**Sg**	**21 28 51.8**	**-0.6**
E0803	**Jimena (Jaen)**	**1.73**	**319**	Pg	**Pb**	**21 28 35.0**	**+0.6**
E0803				Sg	**Sb**	**21 28 56.8**	**+0.9**
TAF	**Taforalt**	**1.75**	**190**	P	**Pg**	**21 28 36.8**	**+0.1**
TAF	**Taforalt**	**1.75**	**190**	S	**Sn**	**21 28 55.3**	**+0.5**
EGOR	**Sierra Gorda,**	**1.76**	**289**	P	**Pb**	**21 28 34.4**	**-0.6**
EGOR				S	**Sn**	**21 28 55.8**	**+0.7**
EGOR	**Sierra Gorda,**	**1.76**	**289**	Pg	**Pb**	**21 28 34.7**	**-0.3**
EGOR				Sg	**Sb**	**21 28 58.4**	**+1.5**
EGOR				*i* lVmb_Lg		21 29 02.8	
ETRV	**Los Montesinos**	**1.79**	**34**	Sg	**Sg**	**21 28 59.7**	**-0.9**
ETRV				*i* lVmb_Lg		21 29 00.5	
E0802	**Ubeda,Jaen**	**1.83**	**324**	Pg	**Pb**	**21 28 36.3**	**+0.2**
E0802				Sg	**Sb**	**21 28 59.0**	**+0.3**
PALE	**Palemas**	**2.04**	**230**	P	**Pb**	**21 28 40.0**	**+0.3**
PALE	**Palemas**	**2.04**	**230**	S	**Sn**	**21 29 02.6**	**+0.9**
ETOB	**Tobarra**	**2.13**	**10**	P	**Pn**	**21 28 39.2**	**+1.2**
ETOB				S	**Sn**	**21 29 04.6**	**+0.5**
ETOB	**Tobarra**	**2.13**	**10**	Pn	**Pn**	**21 28 39.2**	**+1.2**
ETOB				Sn	**Sn**	**21 29 04.7**	**+0.5**
ETOB				*i* lVmb_Lg		21 29 08.0	
JBK	**JBK**	**2.25**	**191**	P	**Pn**	**21 28 40.7**	**+1.0**
JBK	**JBK**	**2.25**	**191**	S	**Sn**	**21 29 06.5**	**-0.7**
AFON	**Font Roja**	**2.42**	**29**	Pn	**Pn**	**21 28 43.0**	**+0.9**
AFON				Sn	**Sn**	**21 29 11.8**	**+0.3**
AFON				*i* lVmb_Lg		21 29 14.3	
EBENR	**Beniarda presa**	**2.58**	**34**	Pn	**Pn**	**21 28 44.5**	**+0.2**
EBEN2				Sn	**Sn**	**21 29 13.3**	**-2.9**
EADA	**Adamuz**	**2.60**	**309**	P	**Pn**	**21 28 45.2**	**+0.9**
EADA	**Adamuz**	**2.60**	**309**	Pn	**Pn**	**21 28 45.7**	**+1.3**
EADA				Pg	**Pb**	**21 28 48.8**	**-0.3**
EADA				Sn	**Sn**	**21 29 16.3**	**+0.8**
EADA				Sg	**Sb**	**21 29 22.6**	**+1.7**
EADA				*i* lVmb_Lg		21 29 29.3	
PSIM	**Granatula de C**	**2.65**	**329**	Pn	**Pn**	**21 28 46.0**	**+0.9**
PSIM				Pg	**Pg**	**21 28 53.0**	**-0.8**
PSIM				Sg	**Sg**	**21 29 25.8**	**-2.4**
EVIV	**Cofrentes, Val**	**2.81**	**15**	Pg	**Pg**	**21 28 55.9**	**-1.0**
EVIV				Sn	**Sn**	**21 29 21.8**	**+0.9**
EVIV				*i* lVmb_Lg		21 29 33.7	
ECAB	**El Cabril**	**3.10**	**301**	P	**Pn**	**21 28 51.5**	**+0.2**
ECAB				S	**Sn**	**21 29 27.4**	**-0.7**
ECAB	**El Cabril**	**3.10**	**301**	Pn	**Pn**	**21 28 51.9**	**+0.6**
ECAB				Sn	**Sn**	**21 29 27.3**	**-0.7**
ECAB				Sg	**Sb**	**21 29 36.1**	**+0.7**
ECAB				*i* lVmb_Lg		21 29 37.0	
ECHE	**Chera**	**3.16**	**15**	Pg	**Pb**	**21 29 00.3**	**+1.7**
ECHE				Sn	**Sn**	**21 29 32.2**	**+2.8**
ESDC	**Sonseca Array**	**3.48**	**335**	Pn	**Pn**	**21 28 58.3**	**+1.9**
ESDC				Sn	**Sn**	**21 29 35.2**	**-2.1**
ESDC				Sg	**Sb**	**21 29 50.4**	**+4.1**
ESDC				*i* lVmb_Lg		21 29 56.8	
ESBB	**Sonseca Array**	**3.48**	**335**	Pn	**Pn**	**21 28 58.3**	**+1.8**
ESBB				Sg	**Sg**	**21 29 54.2**	**-0.5**
PAB	**San Pablo**	**3.51**	**329**	Pn	**Pn**	**21 28 57.8**	**+0.9**
PAB				Sn	**Sn**	**21 29 37.4**	**-0.8**
PAB				Sg	**Sg**	**21 29 54.0**	**-1.8**
PAB				*i* lVmb_Lg		21 29 59.8	
EIBI	**Ibiza**	**3.65**	**46**	P	**Pn**	**21 28 59.5**	**+0.8**
EIBI				S	**Sn**	**21 29 38.9**	**-2.5**
EIBI	**Ibiza**	**3.65**	**46**	Pn	**Pn**	**21 28 59.7**	**+1.0**
EIBI				Sn	**Sn**	**21 29 38.7**	**-3.4**
EMIN	**Mina Concepcio**	**3.90**	**290**	S	**Sn**	**21 29 46.6**	**-1.2**
PBAR	**Barrancos**	**4.31**	**294**	*e*P	**Pn**	**21 29 10.2**	**+2.3**
PBAR				*e*S	**Sn**	**21 29 57.4**	**-0.4**
PBAR				IAML		21 30 01.7	
PBAR				IAML		21 30 09.9	
EBAD	**Badajoz**	**4.53**	**301**	P	**Pn**	**21 29 11.1**	**+0.3**
EBAD				S	**Sn**	**21 30 01.0**	**-2.2**
EBAD	**Badajoz**	**4.53**	**301**	Pn	**Pn**	**21 29 11.3**	**+0.5**
EBAD				Sn	**Sn**	**21 30 00.8**	**-2.4**
EBAD				*i* lVmb_Lg		21 30 03.1	
PVAQ	**Vaqueiros**	**4.63**	**282**	*e*P	**Pn**	**21 29 13.2**	**+0.9**
PVAQ				*e*S	**Sn**	**21 30 03.2**	**-2.5**
PVAQ				IAML		21 30 04.5	
PVAQ				IAML		21 30 04.8	
PVAQ				IAML		21 30 05.6	
EPLA	**Plasencia**	**4.74**	**319**	Pn	**Pn**	**21 29 15.9**	**+2.0**
EPLA				Sn	**Sn**	**21 30 07.3**	**-1.2**
EPLA				Sg	**Sg**	**21 30 31.5**	**-3.7**
PESTR	**Estremoz**	**4.98**	**299**	*e*S	**Sn**	**21 30 12.9**	**-1.4**

*IDC **28** 21:28:06.6±0.3, 56.21N×119.96E, h0km, mb4.2/32, mbtmp4.4/40, ML4.6/8, MS4.5/71, Error ellipse: s-maj=7.9km s-min=6.7km az=18.0*
*MOS **28** 21:28:07.2±1.0, 56.19N×119.99E, h15km, mb5.3/69, MS4.8/39, Error ellipse: s-maj=5.3km s-min=4.1km az=93.9*
MOS Felt (IV-V) at Chara, Novaya Chara, Kyust-Kemda; (IV) at Chita; (III-IV) at Verkhnyaya Khila.
*BJI **28** 21:28:07.7, 56.03N×120.29E, h9km, mB5.0/40, mb4.6/70, Ms5.5/69, Ms7 5.1/68*
*NEIC **28** 21:28:08.1, 56.22N×120.09E, h22km*
*NEIC **28** 21:28:08.0±1.5, 56.22N±0.07×120.1E±0.1, h10km±1km, mb5.2/165, Mww5.1/21, Error ellipse: s-maj=13.9km s-min=10.8km az=116.0*
*NEIC **28** 21:28:08.1, 56.22N×119.73E, h22km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^16 Nm; Mrr-1.21; Mθθ3.06; Mϕϕ-1.85; Mrθ-1.71; Mθϕ4.22; Mϕr0.20; Fault plane solution: Mo5.28000×10^16 NP1: ϕs195.29000°, δ69.24000°, λ-175.35000°. NP2: ϕs103.64000°, δ85.65000°, λ-20.82000°. Principal axes: T 5.7617, Plg11.0000°, Azm151.0000°; N -1.1585, Plg69.0000°, Azm272.0000°; P -4.6032, Plg18.0000°, Azm58.0000°;*
*BYKL **28** 21:28:09.2±0.2, 56.15N×119.94E, Mw5.1/12(IEC), #STATIONS ADK OBN ARTI COLA CHTO KBS QIZ GUMO KEV LVZ TULEG LSA FELT I=V MSK at Novaya Chara; IV-V at Srednyaya Olekma, Olekma, Chara, Kyust'-Kemda, IV at Ikab'ya, Chapo-Ologo, Moklakan, Zarechnoye, Tupik, Tynda, Chita; III-IV at Gulya, Ust'-Urkima, Yerofey Pavlovich, Verkhnyaya Khila.*
*GCMT **28** 21:28:11.1±0.1, 56.23N±0.01×119.90E±0.02, h27km, MW5.2/129, Moment Tensor Solution. s100,c154; s129,c239; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr-2.33±.17; Mθθ4.53±.13; Mϕϕ-2.19±.13; Mrθ-3.32±.26; Mθϕ6.62±.10; Mϕr2.53±.26; Best double couple: Mo8.75300×10^16 NP1:ϕs198.00000°, δ61.00000°, λ-162.00000°. NP2:ϕs99.00000°, δ74.00000°, λ-30.00000°. Principal axes: T 8.8170, Plg8.0000°, Azm151.0000°; N -0.1200, Plg57.0000°, Azm254.0000°; P -8.6880, Plg32.0000°, Azm55.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **28** 21:28:19.9, 52.75N×114.62E, h33km, mb5.2, Ms4.7*

ISC 28 21:28:08.6±0.6, 56.29N±0.02×120.14E±0.02, h12km±3km, n981, σ1.99/961, mb5.1/232, MS4.7/118, 60C-46D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YKLR	**Yuktali**	**0.89**	**70**	⇓*i*Pg	**Pn**	**21 28 28.9**	**+1.9**
YKLR				Pmax		21 28 30.0	
	72μm,0.9s						
YKLR				*i* Sg	**Sn**	**21 28 42.8**	**+3.0**
YKLR				Smax		21 28 45.9	
	204μm,1.3s						
YKLR	**Yuktali**	**0.89**	**70**	PG	**Pn**	**21 28 28.9**	**+1.9**
YKLR				SG	**Sn**	**21 28 42.9**	**+3.1**
CRS	**Chara**	**1.20**	**301**	⇑*i*Pg	**Pb**	**21 28 31.3**	**0.0**
	14μm,1.1s						
CRS				⇓*i*Pg	**Pb**	**21 28 31.3**	**0.0**
	3μm,1.1s						
CRS				⇑*i*Pg	**Pb**	**21 28 31.3**	**0.0**
	750nm,1.1s						
CRS				Pmax		21 28 31.9	
	68μm,1.1s						
CRS				*e*		21 28 37.1	
CRS				*i* Sg	**Sb**	**21 28 46.5**	**-0.3**
CRS				max		21 28 49.6	
	133μm,1.4s						
CRS	**Chara**	**1.20**	**301**	PG	**Pb**	**21 28 31.3**	**0.0**
CRS						21 28 46.5	
TUP	**Tupik**	**1.87**	**183**	⇑*i*Pn	**Pn**	**21 28 38.9**	**-1.6**
TUP				⇑*i*Pg	**Pb**	**21 28 40.6**	**-2.1**
TUP				Pmax		21 28 40.9	
	19μm,0.7s						
TUP				*e*		21 28 47.1	
TUP				*i* Sg	**Sn**	**21 29 03.0**	**-1.0**
TUP				Smax		21 29 04.4	
	165μm,1.3s						
TUP	**Tupik**	**1.87**	**183**	PN	**Pn**	**21 28 38.9**	**-1.6**
TUP						21 29 01.3	
NLYR	**Nelyaty**	**2.48**	**276**	⇓*i*Pn	**Pn**	**21 28 48.1**	**-0.6**
NLYR				⇓*i*Pg	**Pb**	**21 28 51.5**	**-1.5**
NLYR				Pmax		21 28 58.9	
	11μm,0.9s						
NLYR				*i* Sg	**Sb**	**21 29 22.5**	**-0.9**
NLYR				Smax		21 29 28.8	
	132μm,1.0s						
NLYR	**Nelyaty**	**2.48**	**276**	⇓*i*PN	**Pn**	**21 28 48.2**	**-0.5**
NLYR				PG	**Pb**	**21 28 51.4**	**-1.5**
NLYR				*e*SG	**Sb**	**21 29 23.2**	**-0.2**
CLNS	**Chul'man**	**2.69**	**76**	⇓*i*Pn	**Pb**	**21 28 54.3**	**-2.3**
CLNS				*e*Pg	**Pg**	**21 29 00.7**	**+0.6**
CLNS				Pmax		21 29 02.6	
	12μm,1.3s						
CLNS				*e*Sg	**Sg**	**21 29 36.6**	**+1.7**
CLNS				Smax		21 29 44.4	
	154μm,1.4s						
CLNS	**Chul'man**	**2.69**	**76**	⇓*i*PN	**Pb**	**21 28 54.3**	**-2.3**
CLNS				*e*		21 29 00.0	
CLNS				*e*		21 29 36.5	
ALDR	**Aldan**	**3.68**	**49**	*e*Pn	**Pn**	**21 29 07.8**	**+2.6**
ALDR				*e*Pg	**Pg**	**21 29 18.5**	**-0.5**
ALDR				*e*Sn	**Sn**	**21 29 52.3**	**+3.8**
ALDR				*e*Sg	**Sg**	**21 30 08.4**	**+1.9**
ALDR	**Aldan**	**3.68**	**49**	PN	**Pn**	**21 29 07.1**	**+1.9**
ALDR						21 29 18.5	
ALDR						21 30 08.5	
SVKR	**Severomuysk**	**3.68**	**270**	⇑*i*Pn	**Pn**	**21 29 04.8**	**-0.5**
SVKR				*e*Sg	**Sb**	**21 29 59.8**	**+1.7**
SVKR				Smax		21 30 14.6	
	85μm,1.2s						
BOD	**Bodaibo**	**3.69**	**297**	⇑*i*Pn	**Pn**	**21 29 04.8**	**-0.5**
BOD				*e*Pg	**Pb**	**21 29 13.9**	**+0.3**
BOD				Pmax		21 29 17.7	
	7μm,1.8s						
BOD				*e*Sg	**Sb**	**21 30 01.3**	**+3.2**
BOD				Smax		21 30 09.9	
	29μm,1.2s						
BOD	**Bodaibo**	**3.69**	**297**

BMKR SG **Sg** **21 30 53.9 -1.3**
YLYR Ulyunkhan 5.29 258 ⇓*i*Pn **Pn** **21 29 26.3 -1.1**
YLYR *e* 21 29 31.4
YLYR *e* 21 29 34.6
YLYR max 21 29 49.9
comp=N,2μm,1.5s
YLYR *e*Sg **Sb** **21 30 48.2 +3.9**
YLYR Smax 21 30 56.7
comp=N,21μm,1.4s
YLYR Ulyunkhan 5.29 258 ⇑*i*PN **Pn** **21 29 26.3 -1.1**
YLYR *e* 21 29 41.3
YLYR *e* 21 30 48.1
YLYR pmax pmax
comp=Z,2μm,0.9s
YLYR smax smax
comp=N,6μm,1.7s
CIT Chita 5.77 225 *e*Pn **Pn** **21 29 31.9 -2.1**
CIT *e*Pg **Pb** **21 29 50.5 +1.4**
CIT Pmax 21 30 03.7
comp=N,2μm,1.3s
CIT *e*Sg **Sb** **21 31 00.6 +2.5**
CIT Smax 21 31 08.8
comp=N,45μm,1.4s
NIZB Nizh Angarsk 5.96 269 *e*Pn **Pn** **21 29 36.3 -0.3**
NIZB *e*Pg **Pb** **21 29 54.1 +1.7**
NIZB Pmax 21 30 28.0
comp=N,1μm,1.4s
NIZB *e*Sg **Sb** **21 31 09.9 +6.2**
NIZB Smax 21 31 33.0
comp=N,11μm,1.9s
CGD Chagda 6.16 62 ⇓*i*Pn **Pn** **21 29 42.0 +2.8**
CGD *e*Pg **Pg** **21 30 02.6 -3.8**
CGD Pmax 21 30 03.7
comp=N,1μm,1.4s
CGD *e*Sg **Sg** **21 31 22.8 -3.3**
CGD Smax 21 31 38.6
comp=N,14μm,1.4s
CGD Chagda 6.16 62 PN **Pn** **21 29 42.1 +2.8**
CGD 21 30 03.1
CGD 21 30 52.8
CGD 21 31 26.9
SYVR Suvo 6.41 250 ⇓*i*Pn **Pn** **21 29 41.0 -1.7**
SYVR *e* 21 29 46.4
SYVR *e* 21 29 49.4
SYVR *e*Pg **Pb** **21 30 01.4 +1.5**
SYVR Pmax 21 30 09.9
comp=N,842nm,1.6s
SYVR *e*Sg **Sb** **21 31 21.5 +5.1**
SYVR Smax 21 31 36.3
comp=N,17μm,1.3s
BLSR Buluus 6.86 39 PN **Pn** **21 29 50.2 +1.3**
BLSR 21 31 05.1
BLSR 21 31 43.1
HIA Hailar 7.04 182 **Pn** **21 29 47.5 -3.9**
HIA Hailar 7.04 182 *e*Sg **Sb** **21 31 42.4 +7.7**
HIA Hailar 7.04 182 PN **Pn** **21 29 47.5 -3.9**
MXMB Maximikha 7.25 250 *e*Pn **Pn** **21 29 53.3 -1.0**
MXMB *e* 21 30 00.9
MXMB *e*Pg **Pb** **21 30 17.6 +3.2**
MXMB Pmax 21 30 20.2
comp=N,676nm,1.2s
MXMB *e*Sg Sb 21 31 49.7 +8.9
MXMB Smax 21 32 01.6
comp=N,25μm,0.9s
TBGR Tabaga 7.39 37 PN **Pn** **21 29 57.1 +0.9**
TBGR 21 31 18.9
TBGR 21 31 57.6
HEH HeiHe 7.45 141 *e*Pn **Pn** **21 29 56.3 -0.7**
HEH Sn **Sn** **21 31 24.0 +2.6**
YAK Yakutsk 7.56 36 **Pn** **21 29 58.6 +0.1**
YAK Yakutsk 7.56 36 Pn **Pn** **21 29 57.8 -0.5**
comp=N,18nm,0.3s,baz=21,slow=3.8,SNR=47
YAK Sn **Sn** **21 31 17.8 -6.1**
comp=N,58nm,0.3s,baz=313,slow=22,SNR=8.2
YAK Lg Lg 21 32 02.7
comp=N,100nm,0.3s,baz=270,slow=24,SNR=89
YAK LR LR 21 33 03.8
comp=N,5μm,19.1s,baz=228,slow=39
comp=N,72nm,0.4s
YAK Yakutsk 7.56 36 PN **Pn** **21 29 58.5 +0.1**
YAK 21 31 22.4
YAK 21 32 04.2
GORB Goryachinsk 7.63 249 Smax 21 29 58.0
GORB *e* 21 30 06.3
GORB *e* 21 30 24.4
GORB *e*Sg Sb 21 32 01.6 +10
GORB Smax 21 32 07.2
comp=N,14μm,1.3s
OGRR Ongureny 7.69 255 *e*Pn **Pn** **21 29 58.9 -1.4**
OGRR *e* 21 30 07.3
OGRR *e*Pg **Pb** **21 30 25.3 +3.5**
OGRR Pmax 21 30 25.3
comp=N,589nm,1.5s
OGRR *e*Sg Sb 21 32 03.5 +10
OGRR Smax 21 32 14.9
comp=N,6μm,1.4s
OGRR Ongureny 7.69 255 *e*PN **Pn** **21 29 58.8 -1.5**
OGRR *e* 21 30 24.3
OGRR *e* 21 32 03.8
OGRR pmax pmax
comp=Z,610nm,1.6s
OGRR smax smax
comp=N,9μm,2.5s
KELR Kotokel 7.86 248 ⇓*i*Pn **Pn** **21 30 01.0 -1.6**
KELR *e* 21 30 09.4
KELR *e*Pg **Pb** **21 30 27.3 +2.7**
KELR Pmax 21 30 38.4
comp=N,700nm,1.6s
KELR *e*Sg Sb 21 32 08.2 +10
KELR Smax 21 32 35.8
comp=N,13μm,2.8s
KPC Khapcheranga 8.09 219 *e*PN **Pn** **21 30 02.8 -3.0**
KPC *e* 21 30 31.2
KPC *e* 21 32 13.4
KPC pmax pmax
comp=Z,123nm,0.5s
KPC smax smax
comp=N,13μm,2.3s
UUDB Ulan-Yde 8.57 244 *e*Pn **Pn** **21 30 10.7 -1.6**
UUDB *e*Pg Pg 21 30 40.4 -12
UUDB *e*Sg Sg 21 32 30.8 -12
TRG Tyrgan 8.76 252 ⇓*i*Pn **Pn** **21 30 13.4 -1.7**
TRG ⇑*i* 21 30 21.6
TRG ⇑*i* 21 30 30.1
TRG *e*Pg Pg 21 30 44.0 -12
TRG Pmax 21 31 39.8
comp=N,166nm,1.5s
TRG *e*Sg Sg 21 32 36.6 -13
TRG Smax 21 32 50.4
comp=N,4μm,1.6s
TRG Tyrgan 8.76 252 *e*PN **Pn** **21 30 13.3 -1.8**
TRG *e* 21 30 44.4
TRG *e* 21 32 35.8
TRG pmax pmax
comp=Z,165nm,0.8s
TRG smax smax
comp=E,5μm,1.7s
FFNB Fofonovo 8.92 247 *e*Pn **Pn** **21 30 15.5 -1.7**
FFNB *e* 21 30 23.4
FFNB *e*Pg Pg 21 30 47.3 -12
FFNB Pmax 21 30 53.9
comp=E,282nm,1.4s
FFNB *e*Sg Sg 21 32 40.1 -14
FFNB Smax 21 32 46.9
comp=E,5μm,1.8s
KAB Kabansk 8.97 247 *e*Sg Sg 21 32 43.3 -13
KAB Smax 21 33 09.5
comp=E,44μm,1.5s
STDB Stepnoy Dvoret 9.06 249 *e*Pn **Pn** **21 30 18.4 -0.7**
STDB *e*Sg Sn 21 32 46.1 +45
HRMR Khuramsha 9.06 244 ⇓*i*Pn **Pn** **21 30 17.7 -1.5**
HRMR *e*Sg Sn 21 32 45.1 +44
HRMR Smax 21 33 02.2
comp=E,23μm,1.5s
VBR Suhoy Ruchey 9.44 247 *e*Sg Sn 21 32 56.6 +46
BGT Bolshoye Golou 9.62 250 *e*Pn **Pn** **21 30 25.2 -1.6**
BGT *e*Pg 21 30 58.2
BGT Pmax 21 31 08.9
comp=E,102nm,1.2s
BGT *e*Sg Sn 21 33 01.7 +47
BGT Smax 21 33 32.1
comp=E,5μm,1.8s
LSTR Listvyanka 10.02 250 ⇓*i*Pn **Pn** **21 30 30.8 -1.4**
LSTR *e*Sg Sn 21 33 13.8 +49
LSTR Smax 21 33 31.5
comp=E,6μm,2.0s
IRK Irkutsk 10.12 253 *e*Sg Sn 21 33 16.4 +49
IRK Smax 21 33 28.5
comp=E,8μm,1.4s
IRK Irkutsk 10.12 253 *e*P **Pn** **21 30 34.2 +0.5**
IRK *e*S **Sn** **21 32 19.2 -7.8**
IRK smax smax
comp=N,8μm,1.4s
IVK Ivanovka 10.28 251 *e*Pg Pn 21 31 10.9 +35
IVK Pmax 21 31 53.7
comp=N,187nm,1.1s
IVK *e*Sg Sn 21 33 20.4 +50
IVK Smax 21 33 45.2
comp=N,7μm,3.0s
TLY Talaya 10.75 251 *e*Pn **Pn** **21 30 42.2 0.0**
TLY *e*Sg Sn 21 33 36.4 +54
TLY Smax 21 34 12.0
comp=N,2μm,1.9s
GRNR Gornyy 11.14 113 ⇓*i*P **Pn** **21 30 48.7 +1.1**
GRNR pmax pmax
comp=E,6.0nm,0.7s
GRNR pmax pmax
comp=N,4.0nm,0.6s
GRNR pmax pmax
comp=Z,6.0nm,0.6s
GRNR MLR MLR
comp=E,2μm,16.0s
GRNR MLR MLR
comp=N,3μm,15.0s
GRNR MLR MLR
comp=Z,3μm,13.0s
ARS Arshan 11.27 255 *e*Pn **Pn** **21 30 49.8 +0.4**
ARS *e*Pg 21 31 29.3
ARS Pmax 21 32 40.8
comp=Z,139nm,0.8s
ARS *e*Sg Sn 21 33 54.0 +59
ARS Smax 21 34 07.1
comp=Z,6μm,1.9s
BNX BinXian 11.50 154 ⇓P **Pn** **21 30 52.0 -0.5**
ULN Ulaanbaatar 11.64 229 **Pn** **21 30 52.1 -2.5**
ULN Ulaanbaatar 11.64 229 *e*Pn **Pn** **21 30 53.1 -1.5**
ULN *e*Sg Sn 21 34 04.0 +60
ULN Ulaanbaatar 11.64 229 *ce*P **Pn** **21 30 53.3 -1.3**
ULN pmax pmax
comp=Z,19nm,1.3s
ULN MLR MLR
comp=Z,7μm,12.0s
ZAK Zakamensk 11.67 247 ⇓*i*Pn **Pn** **21 30 55.1 +0.2**
ZAK *e*Sg Sn 21 34 03.7 +59
ZAK Smax 21 34 47.5
comp=Z,6μm,2.0s
ZAK Zakamensk 11.67 247 *e*P **Pn** **21 30 53.8 -1.1**
ZAK pmax pmax
comp=Z,84nm,1.6s
SONM Songino Array 11.95 231 **Pn** **21 30 55.9 -2.8**
SONM Songino Array 11.95 231 Pn **Pn** **21 30 56.6 -2.2**
comp=Z,1.4nm,0.3s,baz=35,slow=14,SNR=28
SONM Pg 21 31 42.4
comp=Z,6.4nm,0.3s,baz=30,slow=15,SNR=7.9
SONM Lg Lg 21 34 14.3
comp=Z,26nm,0.3s,baz=28,slow=15,SNR=5.3
SONM LR LR 21 35 45.9
comp=Z,6μm,18.2s,baz=40,slow=39
comp=Z,15nm,0.9s
MOY Mondy 12.17 256 ⇓*i*Pn **Pn** **21 31 01.1 -0.7**
MOY *e*Sg 21 34 21.5
MOY Smax 21 34 52.8
comp=Z,7μm,2.0s
MOY Mondy 12.17 256 *e*P **Pn** **21 31 01.0 -0.7**
MOY *e*S **Sn** **21 33 12.8 -4.5**
ORL Orlik 12.41 261 *e*Pn **Pn** **21 31 03.8 -1.2**
ORL *e*Sg 21 34 27.8
ORL Smax 21 35 02.2
comp=Z,5μm,2.2s
XLT XiLinHaoTe 12.67 193 *e*P **Pn** **21 31 05.0 -3.6**
XLT sP P 21 31 10.8 -9.2
XLT PP **PnPn** **21 31 13.8 -2.4**
XLT S **Sn** **21 33 28.8 -0.8**
XLT pmax pmax
comp=Z,27nm,0.6s
XLT pmax pmax
comp=Z,76nm,3.5s
XLT LR LR
comp=Z,850nm,7.1s
XLT LR LR
comp=Z,7μm,6.6s
XLT LR LR
comp=Z,7μm,9.4s
CN2 Changchun 12.95 163 P **Pn** **21 31 09.8 -2.5**
CN2 PP **PnPn** **21 31 20.0 0.0**
CN2 S **Sn** **21 33 35.0 -1.3**
CN2 pmax pmax
comp=Z,30nm,1.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,6μm,10.0s
CN2 LR LR
comp=Z,15μm,10.0s
CN2 LR LR
comp=Z,10μm,14.0s
MDJ Mudanjiang 13.13 149 **Pn** **21 31 10.4 -4.4**
MDJ Mudanjiang 13.13 149 P **Pn** **21 31 13.8 -0.9**
MDJ S **Sn** **21 33 42.5 +1.9**
MDJ pmax pmax
comp=Z,12nm,0.9s
MDJ pmax pmax
comp=Z,280nm,3.6s
MDJ LR LR
comp=Z,8μm,6.7s
MDJ LR LR
comp=Z,6μm,6.9s
MDJ LR LR
comp=Z,9μm,10.0s
OKH Okha 13.38 92 *de*P **Pn** **21 31 19.4 +1.4**
OKH MLR MLR
comp=E,8μm,11.0s
OKH MLR MLR
comp=Z,4μm,6.0s
USRK Ussuriysk Ar. 14.25 143 Pn **Pn** **21 31 29.2 -0.9**
comp=Z,0.6nm,0.3s,baz=325,slow=13,SNR=28
USRK Lg Lg 21 35 38.0
comp=Z,1.7nm,0.3s,baz=30,slow=28,SNR=5.4
comp=Z,14nm,0.9s
SNY Shenyang 14.65 170 ⇑P **Pn** **21 31 35.0 -0.5**
SNY S **Sn** **21 34 23.5 +6.0**
SNY pmax pmax
comp=Z,10.0nm,1.0s
SNY LR LR
comp=Z,3μm,12.8s
SNY LR LR
comp=Z,3μm,8.3s
SNY LR LR
comp=Z,4μm,12.8s
VLA Vladivostok 15.18 145 *i*P **Pn** **21 31 43.0 +0.3**
VLA pmax pmax
comp=Z,39nm,1.2s
VLA MLR MLR
comp=Z,3μm,14.0s
MSHR Mys Shultsa 15.45 148 *ce*P **Pn** **21 31 46.6 +0.4**
MSHR pmax pmax
comp=Z,102nm,1.7s
MSHR MLR MLR
comp=Z,2μm,13.0s
TIXI Tiksi 15.86 10 **Pn** **21 31 47.1 -4.1**
TIXI IAmb IAmb 21 31 57.5
comp=Z,145nm,0.8s
TIXI Tiksi 15.86 10 Pn **Pn** **21 31 47.0 -4.2**
comp=Z,4.6nm,0.3s,baz=216,slow=9.8,SNR=37
TIXI Sn Sn 21 34 32.9 -14
comp=Z,8.1nm,0.3s,baz=341,slow=20,SNR=7.7
TIXI Lg Lg 21 36 31.4
comp=Z,1.0nm,0.3s,baz=248,slow=20,SNR=1.2
TIXI LR LR 21 38 53.5
comp=Z,4μm,18.6s,baz=220,slow=41
comp=Z,35nm,0.6s
TIXI Tiksi 15.86 10 ⇓P **Pn** **21 31 47.9 -3.3**
HHC Hu-ho-hao-te 16.44 204 *e*P **P** **21 32 01.0 -0.8**
HHC sP sP 21 32 08.0 +0.6
HHC PP **PnPn** **21 32 14.8 +6.8**
HHC S **Sn** **21 35 02.0 +0.7**
HHC sS S 21 35 08.3 -5.2
HHC SS **SnSn** **21 35 14.5 +0.4**
HHC pmax pmax
comp=Z,25nm,0.9s
HHC pmax pmax
comp=Z,240nm,4.7s
HHC LR LR
comp=Z,5μm,4.9s
HHC LR LR
comp=Z,12μm,5.0s
HHC LR LR
comp=Z,3μm,5.5s
BJI Beijing 16.47 191 P **Pn** **21 31 56.5 -2.8**
BJI S **Sn** **21 35 03.0 +1.1**
BJI pmax pmax
comp=Z,7.0nm,1.0s
BJI pmax pmax
comp=Z,95nm,3.6s
BJI LR LR
comp=Z,4μm,7.9s
BJI LR LR
comp=Z,9μm,10.3s
BJI LR LR
comp=Z,2μm,11.8s
BJT Baijiatuau 16.49 191 **Pn** **21 31 56.1 -3.5**
BJT Baijiatuau 16.49 191 P **Pn** **21 31 56.1 -3.5**
BJT pmax pmax
comp=Z,80nm,1.3s
MA2 Magadan 16.51 66 **Pn** **21 31 58.3 -1.4**
MA2 IAmb IAmb 21 32 05.9
comp=Z,144nm,1.1s
MA2 Magadan 16.51 66 Pn **Pn** **21 32 00.1 +0.3**
comp=Z,1.4nm,0.3s,baz=282,slow=9.9,SNR=5.6
MA2 Lg Lg 21 36 44.2
comp=Z,0.5nm,0.3s,baz=143,slow=6.6,SNR=11
MA2 LR LR 21 38 32.0
comp=Z,3μm,19.1s,baz=270,slow=38
comp=Z,28nm,1.1s
MA2 Magadan 16.51 66 *ce*P **Pn** **21 31 59.9 +0.2**
MA2 pmax pmax
comp=Z,239nm,1.7s
MA2 MLR MLR
comp=Z,3μm,11.0s
YSS Yuzhno-Sakhali 16.80 114 *e*P **P** **21 32 05.6 +0.1**
YSS *e*S **Sn** **21 35 13.2 +3.5**
YSS pmax pmax
comp=Z,500nm,5.4s
YSS pmax pmax
comp=N,200nm,3.3s
YSS pmax pmax
comp=E,200nm,5.5s
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=E,3μm,15.0s
YSS MLR MLR
comp=Z,4μm,15.0s
YSS MLR MLR
comp=N,3μm,16.0s
BTO Baotou 17.04 207 *e*P **Pn** **21 32 05.5 -1.1**
BTO PP **PnPn** **21 32 24.5 +8.3**
BTO S **Sn** **21 35 16.0 +0.1**
BTO pmax pmax
comp=N,15nm,0.6s
BTO pmax pmax
comp=N,400nm,3.8s
BTO LR LR
comp=N,8μm,4.9s
BTO LR LR
comp=N,10μm,5.8s
DL2 Dalian 17.42 176 P **Pn** **21 32 10.0 -1.3**
DL2 S **Sn** **21 35 19.3 -5.7**
DL2 pmax pmax
comp=N,41nm,1.7s
DL2 pmax pmax
comp=N,610nm,8.4s
DL2 LR LR
comp=N,5μm,11.6s
DL2 LR LR
comp=N,20μm,11.2s
DL2 LR LR
comp=N,7μm,12.4s
SEY Seymchan 17.46 54 P **Pn** **21 32 12.0 +0.4**
comp=N,1.4nm,0.3s,baz=266,slow=12,SNR=48
SEY Lg Lg 21 37 21.0
comp=N,0.8nm,0.3s,baz=263,slow=14,SNR=4.4
SEY LR LR 21 39 19.0
comp=N,3μm,19.4s,baz=270,slow=38
comp=N,76nm,1.1s
SEY Seymchan 17.46 54 *de*P **P** **21 32 12.7 -0.1**
SEY pmax pmax
comp=Z,177nm,0.9s
SEY MLR MLR
comp=Z,3μm,12.0s
ASAJ Asahikawa 18.74 121 P **Pn** **21 32 28.4 +1.0**
comp=Z,0.4nm,0.3s,baz=283,slow=15,SNR=8.5
ASAJ S **S** **21 35 59.9 0.0**
comp=Z,7.8nm,1.0s,baz=139,slow=24,SNR=0.8
ASAJ Lg Lg 21 37 50.5
comp=Z,0.1nm,0.3s,baz=297,slow=28,SNR=1.4
comp=Z,28nm,0.9s
JKA Kamikawa-asahi 18.74 121 **P** **21 32 24.4 -2.6**
JKA IAmb IAmb 21 32 38.2
comp=Z,237nm,1.5s
HNS HongShan 19.25 193 ⇑P **P** **21 32 32.5 -0.1**
HNS S **Sn** **21 36 09.3 +0.2**
HNS SS **SnSn** **21 36 27.0 +4.0**
HNS pmax pmax
comp=Z,36nm,1.2s
HNS pmax pmax
comp=Z,410nm,3.6s
HNS LR LR
comp=Z,6μm,12.7s
HNS LR LR
comp=Z,20μm,12.2s
HNS LR LR
comp=Z,6μm,10.5s
TIY Taiyuan 19.29 199 *e*P **Pn** **21 32 35.8 +1.6**
TIY S **Sn** **21 36 07.5 -2.8**
TIY SS **SnSn** **21 36 29.8 +5.6**
TIY pmax pmax
comp=Z,290nm,5.6s
TIY LR LR
comp=Z,7μm,5.8s
TIY LR LR
comp=Z,5μm,5.0s
TIY LR LR
comp=Z,3μm,10.5s
INCN Inchon 19.32 164 **P** **21 32 32.8 -0.6**
INCN IAmb IAmb 21 32 35.7
comp=Z,149nm,1.4s
INCN Inchon 19.32 164 P **P** **21 32 32.8 -0.6**
INCN pmax pmax
comp=Z,149nm,1.4s
KS19 Wonju Array Si 19.50 161 P **P** **21 32 34.8 -0.6**
KSRS Korea Array 19.56 161 P **Pn** **21 32 36.7 -0.6**
comp=Z,0.6nm,0.3s,baz=347,slow=9.3,SNR=115
KSRS S **S** **21 36 16.2 -0.3**
comp=Z,2.6nm,1.0s,baz=342,slow=12,SNR=4.0
KSRS Lg Lg 21 38 19.6
comp=Z,0.2nm,0.3s,baz=346,slow=30,SNR=5.5
comp=Z,34nm,1.0s
KSAR Wonju Array Be 19.56 161 **P** **21 32 35.0 -1.0**
KSAR Wonju Array Be 19.56 161 P **P** **21 32 35.1 -1.0**
TIA Tai'an 20.19 187 P **P** **21 32 42.3 -0.6**
TIA PP **PnPn** **21 33 02.8 +3.5**
TIA S **S** **21 36 26.3 -2.8**
TIA pmax pmax
comp=Z,46nm,1.1s
TIA pmax pmax
comp=Z,210nm,3.6s
TIA LR LR
comp=Z,5μm,10.3s
TIA LR LR
comp=Z,4μm,9.6s
TIA LR LR
comp=Z,5μm,10.3s
ZAA0 Zalesovo Array 20.20 278 **P** **21 32 41.4 -1.5**
ZALV Zalesovo Beam 20.20 278 **P** **21 32 40.9 -2.0**
ZALV Zalesovo Beam 20.20 278 P **P** **21 32 42.9 0.0**
comp=Z,20nm,0.9s,baz=68,slow=7.5,SNR=47
ZALV S **S** **21 36 27.2 -1.9**
comp=Z,4.3nm,0.8s,baz=64,slow=19,SNR=1.2
ZALV Lg Lg 21 38 42.1
comp=Z,0.3nm,0.3s,baz=74,slow=21,SNR=7.5
ZALV LR LR 21 41 42.0
comp=Z,255nm,21.9s,baz=65,slow=40
comp=Z,20nm,0.9s
TJN Taejon 20.51 163 P **P** **21 32 44.3 -2.1**
TJN Taejon 20.51 163 P **P** **21 32 44.3 -2.1**

TJN pmax pmax
comp=Z,470nm,1.3s
ERM Erimo 20.61 124 P 21 32 46.7 -0.7
ERM Erimo 20.61 124 P **P** 21 32 46.7 -0.7
ERM pmax pmax
comp=Z,69nm,1.1s
JTM Tenmabayashi 20.67 130 P 21 32 46.0 -2.1
JTM IAmb IAmb 21 32 56.9
comp=Z,105nm,1.1s
GTA Gaotai 21.57 227 P **P** 21 32 56.5 -1.5
GTA pP pP 21 33 02.0 +0.2
GTA S **S** 21 36 52.0 -4.7
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA pmax pmax
comp=Z,340nm,10.2s
GTA LR LR
comp=Z,5μm,8.4s
GTA LR LR
comp=Z,5μm,8.4s
GTA LR LR
comp=Z,7μm,9.8s
PEA0B Petropavlovsk- 21.75 83 P 21 32 59.4 -0.3
PEA0B Petropavlovsk- 21.75 83 P **P** 21 32 59.4 -0.3
PEA0B pmax pmax
comp=Z,184nm,1.1s
PETK Petropavlovsk- 21.75 83 P 21 33 00.0 +0.3
PETK Petropavlovsk- 21.75 83 P **P** 21 33 01.6 +1.9
comp=Z,64nm,0.8s,baz=288,slow=3.6,SNR=39
PETK S **S** 21 37 02.8 +2.9
comp=Z,3.2nm,0.7s,baz=306,slow=5.3,SNR=0.6
PETK LR LR 21 41 43.9
comp=Z,1μm,19.7s,baz=288,slow=37
comp=Z,64nm,0.8s
PET Petropavlovsk 22.32 82 P **P** 21 33 06.8 +1.1
PET IAmb IAmb 21 33 10.0
comp=Z,151nm,1.1s
PET Petropavlovsk 22.32 82 *e*P **P** 21 33 08.0 +2.3
PET *e*S **S** 21 37 04.4 -6.2
PET pmax pmax
comp=Z,700nm,2.0s
PET pmax pmax
comp=Z,147nm,1.1s
PET pmax pmax
comp=Z,200nm,2.5s
PET MLR MLR
comp=Z,2μm,16.0s
PET MLR MLR
comp=Z,2μm,14.0s
LYN LuoYang 22.37 197 ⇓*i*P **P** 21 33 06.5 +0.1
LYN PP **PnPn** 21 33 33.5 +4.3
LYN S **S** 21 37 12.5 +0.6
LYN SS **SnSn** 21 37 48.0 +8.3
LYN pmax pmax
comp=Z,56nm,1.4s
LYN pmax pmax
comp=Z,240nm,8.3s
LYN LR LR
comp=Z,6μm,11.0s
LYN LR LR
comp=Z,4μm,12.0s
LYN LR LR
comp=Z,9μm,13.4s
JMM Marumori 23.02 134 P **P** 21 33 12.2 -1.0
LZH Lanzhou 23.03 216 *e*P **P** 21 33 19.3 +5.7
LZH sP sP 21 33 26.3 +7.1
LZH S **S** 21 37 23.5 -0.6
LZH SS SnSn 21 38 13.5 +17
LZH pmax pmax
comp=Z,75nm,1.3s
LZH pmax pmax
comp=Z,490nm,4.0s
LZH LR LR
comp=N,5μm,10.2s
LZH LR LR
comp=E,9μm,12.4s
LZH LR LR
comp=Z,4μm,12.7s
LZDM Lanzhou Array 23.20 216 P **P** 21 33 15.1 -0.4
comp=Z,1.1nm,0.3s,baz=25,slow=7.4,SNR=14
LZDM S **S** 21 37 24.8 -2.4
comp=Z,1.6nm,0.3s,baz=299,slow=15,SNR=1.3
LZDM Lg Lg 21 40 21.7
baz=118,slow=39
LZDM LR LR 21 43 17.7
comp=Z,2μm,19.5s,baz=40,slow=40
comp=Z,1.1nm,0.3s
MJB9 Matsu-Tunnel 23.21 141 P 21 33 15.8 +0.5
MAJO Matsushiro 23.22 141 P **P** 21 33 15.2 -0.1
MAJO Matsushiro 23.22 141 P **P** 21 33 15.2 -0.1
MAJO pmax pmax
comp=Z,44nm,1.7s
MJAR Matsushiro Arr 23.22 141 P 21 33 13.5 -1.8
MJAR Matsushiro Arr 23.22 141 P **P** 21 33 14.8 -0.5
comp=Z,6.5nm,1.0s,baz=330,slow=7.8,SNR=16
MJAR S **S** 21 37 26.4 -0.6
comp=Z,1.1nm,0.9s,baz=302,slow=42,SNR=1.6
MJAR LR LR 21 42 24.0
comp=Z,1μm,18.5s,baz=346,slow=37
comp=Z,6.5nm,1.0s
MJAR Matsushiro Arr 23.22 141 P **P** 21 33 13.5 -1.8
MJAR pmax pmax
comp=Z,21nm,1.5s
ZSN Zaisan 23.28 263 *e*P **P** 21 33 16.3 +0.4
comp=Z,74nm,1.7s
ZSN Zaisan 23.28 263 *e*P **P** 21 33 16.2 +0.4
ZSN pmax pmax
comp=Z,74nm,1.7s
XAN Xi'an 23.55 204 P **P** 21 33 20.0 +1.3
XAN S **S** 21 37 34.8 +2.4
XAN pmax pmax
comp=Z,20nm,1.4s
XAN pmax pmax
comp=Z,270nm,5.3s
XAN LR LR
comp=Z,6μm,15.1s
XAN LR LR
comp=Z,10μm,16.5s
XAN LR LR
comp=Z,4μm,12.4s
JGF Kuroka 23.78 143 P **P** 21 33 19.4 -1.5
BILL Bilibino 23.86 42 P **P** 21 33 22.3 +1.0
BILL Bilibino 23.86 42 *de*P **P** 21 33 23.7 +2.3
BILL pmax pmax
comp=Z,128nm,1.0s
BILL MLR MLR
comp=Z,1μm,16.0s
INU Inuyama 23.89 144 P 21 33 21.4 -0.5
INU IAmb IAmb 21 33 47.7
comp=Z,88nm,1.7s
WMQ Urumqi 24.03 253 *e*P **P** 21 33 23.3 +0.1
WMQ pP sP 21 33 29.5 +0.5
WMQ S **S** 21 37 41.0 +1.1
WMQ pmax pmax
comp=Z,120nm,4.3s
WMQ LR LR
comp=Z,3μm,10.3s
WMQ LR LR
comp=Z,2μm,10.7s
WMQ LR LR
comp=Z,1μm,18.1s
NJ2 Nanjing 24.25 183 ⇓*i*P **P** 21 33 23.5 -1.8
NJ2 S **S** 21 37 41.5 -1.9
NJ2 sS **sS** 21 37 52.5 +2.3
NJ2 pmax pmax
comp=Z,18nm,0.9s
NJ2 pmax pmax
comp=Z,170nm,4.1s
NJ2 LR LR
comp=Z,1μm,17.8s
NJ2 LR LR
comp=Z,7μm,15.9s
NJ2 LR LR
comp=Z,3μm,14.8s
JNU Nakatsue 24.33 158 P 21 33 24.1 -2.0
JNU IAmb IAmb 21 33 35.8
comp=Z,57nm,1.2s
JNU Nakatsue 24.33 158 LR LR 21 43 38.9
comp=Z,854nm,19.5s,baz=22,slow=38
JMN Monobe 24.47 151 P **P** 21 33 25.4 -1.9
JMN IAmb IAmb 21 33 37.4
comp=Z,70nm,1.1s
KURK Kurchatov 25.02 275 P 21 33 30.4 -1.6
KURK IAmb IAmb 21 34 01.4
comp=Z,81nm,1.6s
KURK Kurchatov 25.02 275 P **P** 21 33 31.8 -0.3
KURK S **S** 21 37 58.2 +2.6
MK31 Makanchi Array 25.09 264 *i*P **P** 21 33 33.7 +0.9
MKAR Makanchi Array 25.09 264 P **P** 21 33 32.3 -0.5
MKAR Makanchi Array 25.09 264 P **P** 21 33 32.9 +0.1
comp=Z,1.8nm,0.9s,baz=58,slow=9.2,SNR=7.9
MKAR S **S** 21 37 57.1 +0.3
comp=Z,2.4nm,0.7s,baz=23,slow=9.5,SNR=1.1
MKAR LR LR 21 43 47.6
comp=Z,2μm,21.3s,baz=35,slow=38
comp=Z,1.8nm,0.9s
KURBB Kurchatov Arra 25.11 275 P **P** 21 33 31.8 -1.1
comp=Z,2.9nm,0.6s,baz=66,slow=10.0,SNR=14
KURBB S **S** 21 37 58.2 +1.1
comp=Z,0.7nm,0.3s,baz=249,slow=23,SNR=1.1
KURBB LR LR 21 43 46.9
comp=Z,2μm,18.1s,baz=35,slow=38
comp=Z,2.9nm,0.6s
SSE Sheshan 25.20 178 P **P** 21 33 33.3 -0.5
SSE S **S** 21 38 00.0 +1.3
SSE pmax pmax
comp=Z,12nm,0.6s
SSE LR LR
comp=Z,1μm,13.4s
SSE LR LR
comp=Z,740nm,13.9s
MAKZ Makanchi 25.25 264 P **P** 21 33 32.9 -1.4
MAKZ Makanchi 25.25 264 P **P** 21 33 32.9 -1.4
MAKZ pmax pmax
comp=Z,33nm,1.3s
WHN Wuhan 26.06 191 ⇑P **P** 21 33 41.0 -0.6
WHN sP **pP** 21 33 45.5 -0.3
WHN S **S** 21 38 09.5 -2.8
WHN SS **SnSn** 21 39 08.0 -2.0
WHN LR LR
comp=Z,6μm,13.0s
WHN LR LR
comp=Z,16μm,15.9s
WHN LR LR
comp=Z,9μm,13.5s
GOMU GeErMu 26.39 231 P **P** 21 33 45.0 -0.1
GOMU pP sP 21 33 50.3 -0.6
GOMU sP pP 21 33 57.0 +7.8
GOMU S **S** 21 38 19.5 +1.2
GOMU pmax pmax
comp=Z,2.0nm,0.6s
GOMU LR LR
comp=Z,2μm,9.7s
GOMU LR LR
comp=Z,2μm,9.3s
GOMU LR LR
comp=Z,3μm,9.8s
JHJ Hachijo jima 2 26.86 141 LR LR 21 44 47.9
comp=Z,1μm,18.7s,baz=13,slow=37
ENH Enshi 27.07 201 P **P** 21 33 48.8 -2.1
CD2 Chengdu 27.86 211 P **P** 21 34 03.8 +5.9
CD2 S **S** 21 38 41.5 +0.6
CD2 sS sS 21 38 49.8 +2.1
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 pmax pmax
comp=Z,130nm,7.5s
CD2 LR LR
comp=N,3μm,9.4s
CD2 LR LR
comp=E,2μm,8.6s
CD2 LR LR
comp=Z,3μm,10.2s
TDK Taldyqorghan 28.33 264 *e*P **P** 21 34 02.2 +0.1
comp=Z,20nm,1.5s
TDK Taldyqorghan 28.33 264 *e*P **P** 21 34 02.1 +0.1
TDK pmax pmax
comp=Z,20nm,1.5s
BVAR Borovoye Array 28.46 285 P **P** 21 34 02.0 -1.0
comp=Z,1.8nm,0.7s,baz=61,slow=12,SNR=5.4
BVAR S **S** 21 38 49.5 -0.4
comp=Z,4.1nm,0.8s,baz=45,slow=17,SNR=1.1
comp=Z,1.8nm,0.7s
BORK Borovoye 28.48 285 *ce*P **P** 21 34 02.9 -0.4
BORK pmax pmax
comp=Z,11nm,0.9s
BORK MLR MLR
comp=Z,1μm,14.0s
CNSH ChangSha 28.56 193 P **P** 21 34 03.5 -0.6
CNSH S **S** 21 38 49.8 -2.0
CNSH pmax pmax
comp=Z,22nm,1.5s
CNSH LR LR
comp=Z,2μm,9.8s
CNSH LR LR
comp=Z,4μm,9.4s
CNSH LR LR
comp=Z,2μm,11.8s
BRZS Berezniki 28.68 278 *e*P **P** 21 34 05.6 +0.6
BRZS Berezniki 28.68 278 *e*P **P** 21 34 05.6 +0.6
SHLS Shalkode 28.93 260 *e*P **P** 21 34 05.8 -1.8
comp=Z,27nm,1.8s
SHLS Shalkode 28.93 260 *e*P **P** 21 34 05.7 -1.8
SHLS pmax pmax
comp=Z,27nm,1.8s
UZB Uzynbulak 29.18 261 *e*P **P** 21 34 09.9 +0.2
comp=Z,13nm,1.0s
UZB Uzynbulak 29.18 261 *e*P **P** 21 34 09.9 +0.2
UZB pmax pmax
comp=Z,13nm,1.0s
SATY Saty 29.58 261 *e*P **P** 21 34 13.3 +0.1
SATY Saty 29.58 261 *e*P **P** 21 34 13.3 +0.1
JOW Kunigami 30.02 165 LR LR 21 46 17.7
comp=Z,551nm,19.2s,baz=38,slow=36
MDOK Medeo 30.26 263 *e*P **P** 21 34 19.5 +0.2
MDOK Medeo 30.26 263 *e*P **P** 21 34 19.5 +0.2
TARG Taragay, Kyrgy 30.80 260 P **P** 21 34 23.3 -1.0
TARG Taragay, Kyrgy 30.80 260 P **P** 21 34 23.3 -1.0
TARG pmax pmax
comp=Z,21nm,1.3s
SHEM Shemya Is, Ala 30.85 74 LR LR 21 47 42.5
comp=Z,598nm,18.1s,baz=290,slow=38
KDJ Kajisay 30.87 261 P **P** 21 34 23.2 -1.5
KDJ Kajisay 30.87 261 P **P** 21 34 23.2 -1.5
KDJ pmax pmax
comp=Z,27nm,1.4s
GYA Guiyang 31.36 204 ⇑P **P** 21 34 32.0 +3.0
GYA pmax pmax
comp=Z,8.0nm,0.9s
SGDS Sogindy 31.41 265 *e*P **P** 21 34 29.4 +0.1
GULI GuiLin 31.78 197 P **P** 21 34 29.5 -3.1
GULI S **S** 21 39 35.8 -6.5
GULI pmax pmax
comp=Z,38nm,1.3s
GULI LR LR
comp=Z,2μm,13.0s
GULI LR LR
comp=Z,8μm,15.1s
GULI LR LR
comp=Z,3μm,15.2s
FRU1 Bishkek 31.83 264 P **P** 21 34 32.2 -0.8
FRU1 Bishkek 31.83 264 P **P** 21 34 32.3 -0.8
FRU1 pmax pmax
comp=Z,13nm,0.9s
SVE Sverdlovsk 31.90 296 *e*P **P** 21 34 34.5 +1.1
SVE *e*S **S** 21 39 48.8 +5.1
SVE pmax pmax
comp=Z,30nm,1.4s
SVE MLR MLR
comp=Z,976nm,14.0s
AAK Ala-Archa 32.02 264 P **P** 21 34 34.8 0.0
AAK Ala-Archa 32.02 264 LR LR 21 47 58.1
comp=Z,2μm,18.9s,baz=38,slow=37
AAK Ala-Archa 32.02 264 *i*P **P** 21 34 35.0 +0.2
AAK pmax pmax
comp=Z,6.0nm,1.3s
AAK MLR MLR
comp=Z,2μm,16.0s
ARTI Arti 33.21 297 **P** 21 34 44.2 -0.7
ARTI Arti 33.21 297 LR LR 21 48 33.7
comp=Z,868nm,19.4s,baz=64,slow=37
ARTI Arti 33.21 297 *c i*P **P** 21 34 45.0 +0.1
ARTI 21 35 54.4
ARTI PPP PPP 21 36 07.0
ARTI 21 37 27.7
ARTI S **S** 21 40 07.6 +3.5
ARTI SS **SnSn** 21 42 09.7 +6.2
ARTI SSS SSS 21 42 31.1
ARTI pmax pmax
comp=Z,11nm,1.2s
ARTI MLR MLR
comp=Z,1μm,15.0s
KSH Kashi 33.34 259 P P 21 34 51.5 +5.2
KSH sP sP 21 34 57.8 +5.6
KSH S S 21 40 22.5 +16
KSH pmax pmax
comp=Z,23nm,1.3s
KSH LR LR
comp=Z,3μm,15.9s
KSH LR LR
comp=Z,6μm,14.1s
KSH LR LR
comp=Z,2μm,10.6s
LSA Lhasa 33.54 230 P **P** 21 34 46.5 -2.0
LSA Lhasa 33.54 230 P **P** 21 34 53.0 +4.5
LSA pmax pmax
comp=Z,6.0nm,1.3s
LSA LR LR
comp=Z,2μm,13.5s
LSA LR LR
comp=Z,2μm,11.1s
LSA LR LR
comp=Z,3μm,11.4s
LSA Lhasa 33.54 230 P **P** 21 34 46.5 -2.0
LSA pmax pmax
comp=Z,25nm,1.4s
KMI Kunming 33.61 209 P **P** 21 34 53.3 +4.4
KMI S **S** 21 40 09.0 -2.3
KMI pmax pmax
comp=Z,21nm,1.4s
KMI LR LR
comp=Z,2μm,15.1s
KMI LR LR
comp=Z,4μm,17.4s
KMI LR LR
comp=Z,1μm,12.3s
KK31 Karatay Array 33.93 269 P **P** 21 34 50.4 -0.9
KK31 Karatay Array 33.93 269 P **P** 21 34 50.4 -0.9
KK31 pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 33.93 269 P 21 34 49.9 -1.5
KKAR Karatay Array 33.93 269 P **P** 21 34 49.9 -1.5
TNA Tin City 34.23 45 P **P** 21 34 53.7 +0.1
baz=290
C16K Lisburne Hills 34.32 40 P 21 34 55.4 +1.0
C16K Lisburne Hills 34.32 40 P **P** 21 34 55.6 +1.2
baz=288,SNR=7.9
BRLS Borolday 34.35 269 *e*P **P** 21 34 57.5 +2.4
BRLS Borolday 34.35 269 *e*P **P** 21 34 57.4 +2.4
IUG luzhnay 34.82 268 *e*P **P** 21 34 59.3 +0.1
comp=Z,24nm,1.3s
IUG luzhnay 34.82 268 *e*P **P** 21 34 59.3 +0.1
IUG pmax pmax
comp=Z,24nm,1.3s
F14K Arctic Creek 34.88 44 P **P** 21 34 59.9 +0.6
baz=291
TNCH TengChong 34.97 216 ⇓P **P** 21 35 03.8 +3.2
TNCH pP sP 21 35 07.3 +0.8
TNCH sP pP 21 35 10.3 +5.5
TNCH PP **PP** 21 36 23.5 +3.7
TNCH S **S** 21 40 32.5 +0.4
TNCH sS pS 21 40 37.5 +0.3
TNCH pmax pmax
comp=Z,21nm,1.2s
TNCH pmax pmax
comp=Z,130nm,3.8s
TNCH LR LR
comp=Z,2μm,13.7s
TNCH LR LR
comp=Z,4μm,14.6s
TNCH LR LR
comp=Z,2μm,15.0s
C17K DeLong Mountai 35.02 39 P **P** 21 35 01.2 +0.7
baz=289
A19K Wainwright 35.17 35 P **P** 21 35 01.5 -0.2
baz=288
B18K Kokolik River 35.20 37 P **P** 21 35 02.6 +0.5
baz=289
RDOG Red Dog Mine 35.26 39 P **P** 21 35 03.4 +0.9
baz=290
D17K Noatak River 35.32 40 P **P** 21 35 04.3 +1.4
baz=290,SNR=18
F15K North Star Dit 35.45 44 P **P** 21 35 04.9 +0.8
baz=292
ANM Nome 35.60 46 P **P** 21 35 05.9 +0.4
baz=293
C18K Utukok River 35.65 38 P **P** 21 35 07.1 +1.2
C18K Utukok River 35.65 38 P **P** 21 35 06.3 +0.3
baz=290
DRK Karamyk 35.66 263 P **P** 21 35 05.8 -0.8
DRK Karamyk 35.66 263 P **P** 21 35 05.8 -0.8
DRK pmax pmax
comp=Z,41nm,0.3s
G15K Niukluk 35.96 45 P **P** 21 35 08.7 +0.2
baz=293
E17K Hotham Inlet 35.99 41 P **P** 21 35 09.0 +0.2
baz=292,SNR=5.3
AB31 Akbulak array 36.03 285 P 21 35 08.9 -0.5
ABKAR Akbulak array 36.03 285 P 21 35 08.8 -0.5
C19K Lookout Ridge 36.03 37 P **P** 21 35 09.7 +0.4
C19K IAmb IAmb 21 35 13.2
comp=Z,36nm,1.1s
C19K Lookout Ridge 36.03 37 P **P** 21 35 09.5 +0.3
baz=291
A21K Barrow 36.20 33 P **P** 21 35 10.5 +0.1
baz=290
E18K Tukpahlearik C 36.30 40 P **P** 21 35 12.4 +1.0
E18K IAmb IAmb 21 35 14.1
comp=Z,92nm,2.0s
E18K Tukpahlearik C 36.30 40 P **P** 21 35 11.4 -0.1
baz=292
AKTO Aktyubinsk 36.40 288 LR LR 21 50 41.4
comp=Z,1μm,18.8s,baz=35,slow=37
F17K Baldwin Pennin 36.45 42 P 21 35 14.0 +1.3
F17K IAmb IAmb 21 35 16.6
comp=Z,47nm,0.9s
F17K Baldwin Pennin 36.45 42 P **P** 21 35 12.3 -0.4
baz=293
G16K Koyuk River 36.45 43 P **P** 21 35 13.4 +0.7
G16K IAmb IAmb 21 35 17.0
comp=Z,31nm,1.2s
G16K Koyuk River 36.45 43 P **P** 21 35 13.0 +0.3
baz=294
B20K Meade River 36.50 35 P **P** 21 35 13.9 +0.8
B20K Meade River 36.50 35 P **P** 21 35 12.7 -0.4
baz=292
KIRV Kirov 36.53 304 LR LR 21 51 44.2
comp=Z,875nm,20.1s,baz=59,slow=39
KIRV Kirov 36.53 304 *c i*P **P** 21 35 13.4 0.0
SPIA Saint Paul Isl 36.68 59 P **P** 21 35 15.1 +0.4
baz=299
D19K Kuna River 36.76 38 P 21 35 16.2 +0.8
D19K Kuna River 36.76 38 P **P** 21 35 15.2 -0.2
baz=293
H16K Elim 36.80 45 P **P** 21 35 15.7 -0.1
baz=295
A22K Sinclair Lake 36.81 33 P **P** 21 35 15.1 -0.6
baz=292
GAR Garm 36.81 263 P **P** 21 35 16.1 -0.2
GAR IAmb IAmb 21 35 27.7
comp=Z,30nm,0.8s
SHL Shillong 36.88 225 P **P** 21 35 16.0 -1.0
SHL IAmb IAmb 21 35 26.2
comp=Z,38nm,1.3s
SHL Shillong 36.88 225 P **P** 21 35 16.0 -1.0
SHL pmax pmax
comp=Z,38nm,1.3s
SLVN Son La 36.93 206 P 21 35 16.2 -1.2
EVN Everest 36.94 234 P 21 35 16.7 -1.3
F18K Selawik 36.97 41 P **P** 21 35 16.7 -0.4
baz=294,SNR=6.6
K13K Kusilvak Mount 36.99 49 P **P** 21 35 15.8 -1.5
baz=296
M11K Mekoryuk 37.02 52 P **P** 21 35 16.9 -0.7
baz=297
G17K Kiwalik Mounta 37.05 43 P **P** 21 35 17.3 -0.6
baz=295,SNR=13
J14K Nanvaranak Lak 37.09 48 P **P** 21 35 18.1 0.0
baz=296
D20K Etivluk River 37.18 37 P **P** 21 35 18.3 -0.6
baz=294,SNR=8.7
ATKA Atka Island 37.28 68 P 21 35 19.7 -0.2
P08K Saint George I 37.30 59 P **P** 21 35 19.6 -0.4
baz=300
B21K Ikpikpuk River 37.47 35 P 21 35 21.9 +0.6
B21K IAmb IAmb 21 35 25.2
comp=Z,61nm,1.1s
B21K Ikpikpuk River 37.47 35 P **P** 21 35 21.5 +0.2

baz=294,SNR=9.6
B22K Teshekpuk Lake 37.55 34 P P 21 35 22.2 +0.2
baz=294,SNR=5.2
F19K Shaleruckik Mo 37.55 40 P 21 35 23.1 +1.1
F19K IAmb IAmb 21 35 25.2
comp=Z,55nm,0.9s
F19K Shaleruckik Mo 37.55 40 P P 21 35 21.8 -0.3
baz=295,SNR=24
H17K Granite Mounta 37.58 43 P 21 35 23.1 +0.7
H17K IAmb IAmb 21 35 26.1
comp=Z,37nm,0.9s
H17K Granite Mounta 37.58 43 P P 21 35 22.9 +0.6
baz=296,SNR=9.8
C21K Knifeblade Rid 37.60 36 P P 21 35 22.0 -0.5
baz=294,SNR=12
G18K Tagagawik 37.64 42 P P 21 35 22.0 -0.8
baz=296,SNR=8.0
CHGR Chuyangaron 37.70 264 P P 21 35 23.4 -0.3
CHGR IAmb IAmb 21 35 34.5
comp=Z,70nm,1.1s
CHGR Chuyangaron 37.70 264 P P 21 35 23.4 -0.3
CHGR pmax pmax
comp=Z,70nm,1.1s
I17K Unalakleet 37.74 45 P P 21 35 22.1 -1.6
baz=297
SIMJ Simiganj 37.78 264 P 21 35 24.1 -0.4
QIZ Qiongzhong 38.00 196 P P 21 35 26.0 -0.3
QIZ S S 21 41 21.0 +2.9
QIZ pmax pmax
comp=Z,11nm,2.5s
QIZ pmax pmax
comp=Z,190nm,3.6s
QIZ LR LR
comp=Z,1µm,10.7s
QIZ LR LR
comp=Z,5µm,13.2s
QIZ LR LR
comp=Z,2µm,13.2s
J16K Anvik River 38.05 46 P P 21 35 24.9 -1.5
baz=297
H18K Honhosa River 38.07 43 P P 21 35 27.9 +1.4
H18K IAmb IAmb 21 35 30.1
comp=Z,59nm,1.3s
H18K Honhosa River 38.07 43 P P 21 35 26.6 0.0
baz=297,SNR=6.0
L14K Kuka Creek 38.10 50 P P 21 35 26.9 +0.2
baz=298,SNR=11
K15K Wolf Creek Mou 38.13 48 P P 21 35 27.9 +0.9
baz=298,SNR=6.8
E21K Killik River 38.17 37 P P 21 35 27.7 +0.3
baz=296
F20K Avaraart Lake 38.19 39 P P 21 35 27.0 -0.4
baz=296
M13K Dall Lake 38.26 51 P P 21 35 28.6 +0.5
baz=299
SPA0 Spitsbergen Ar 38.29 341 eP P 21 35 30.3 +2.1
SPITS Spitsbergen Ar 38.29 341 P P 21 35 28.4 +0.2
comp=Z,14nm,1.0s,baz=72,slow=9.1,SNR=4.2
SPITS LR LR 21 51 32.3
comp=Z,701nm,19.7s,baz=30,slow=37
comp=Z,14nm,1.0s
SPITS Spitsbergen Ar 38.29 341 P P 21 35 28.9 +0.7
D22K Ayikyak River 38.40 36 P P 21 35 29.9 +0.7
baz=296,SNR=21
L15K Ungalak Mounta 38.44 49 P P 21 35 30.5 +0.9
baz=299,SNR=8.1
J17K VABM Doma 38.61 45 P P 21 35 31.6 +0.6
baz=298,SNR=12
H19K Roundabout Mou 38.62 42 P P 21 35 31.7 +0.6
baz=298,SNR=20
C23K Itkillik River 38.63 34 P P 21 35 32.2 +1.0
baz=297,SNR=10
M14K Bethel 38.69 50 P P 21 35 32.4 +0.7
baz=299,SNR=7.5
GCSA Galena City Sc 38.82 43 P P 21 35 33.4 +0.6
baz=298
APA Apatity 38.85 322 iP P 21 35 31.0 -2.0
APA i S S 21 41 23.4 -6.8
APA i SS SnSn 21 44 08.8 -11
APA MLR MLR
comp=Z,1µm,18.5s
F21K Alatna River 38.89 38 P P 21 35 34.5 +1.1
baz=298,SNR=39
VADS Vadso 38.97 327 eP P 21 35 36.2 +2.3
D23K Nanushuk River 39.01 35 P P 21 35 34.3 0.0
baz=298,SNR=24
E22K Anaktuvuk Pass 39.03 36 P P 21 35 35.1 +0.5
baz=298,SNR=21
NIL Nilore 39.13 255 P P 21 35 34.3 -1.5
NIL Nilore 39.13 255 P P 21 35 34.3 -1.5
NIL pmax pmax
comp=Z,33nm,1.0s
F22K John River 39.20 37 P P 21 35 37.0 +1.0
baz=298
H20K Anotleneega Mo 39.21 41 P P 21 35 37.1 +1.0
baz=299,SNR=23
G21K Aliakaket 39.22 39 P P 21 35 37.0 +0.9
baz=298,SNR=45
N14K Kuskokwak Cree 39.22 51 P P 21 35 36.5 +0.3
baz=300
K17K Iditarod 39.24 46 P P 21 35 36.7 +0.4
baz=299,SNR=12
M15K Kasigluk River 39.26 50 P P 21 35 37.6 +1.1
baz=300,SNR=9.6
L16K Owhat River 39.26 48 P P 21 35 37.2 +0.7
baz=300
C24K Franklin Bluff 39.27 33 P P 21 35 37.7 +1.2
baz=298
IMAR Indian Mountai 39.38 40 P P 21 35 38.4 +0.9
J18K Innoko River 39.50 45 P P 21 35 38.2 -0.3
baz=300
D24K Happy Valley 39.51 34 P P 21 35 38.6 +0.1
baz=299
TOLK Toolik Lake Re 39.52 35 P P 21 35 39.9 +1.2
TOLK IAmb IAmb 21 35 42.0
comp=Z,38nm,1.0s
TOLK Toolik Lake Re 39.52 35 P P 21 35 39.2 +0.6
baz=299,SNR=12
L17K Donlin 39.53 47 P P 21 35 38.0 -0.8
baz=300
NIKH Nikolski High 39.57 64 P P 21 35 39.2 +0.1
baz=304
J19K Poorman 39.66 43 P P 21 35 39.8 -0.1
baz=300,SNR=24
I20K Naaghedeneel 39.70 42 P P 21 35 40.4 +0.3
baz=300
G22K Bettles 39.72 38 P P 21 35 41.0 +0.8
baz=299,SNR=46
O14K Tigyukauivet M 39.75 52 P P 21 35 40.8 +0.2
baz=301
N15K Kwethluk River 39.78 50 P P 21 35 41.3 +0.4
baz=301
E23K Chandalar 39.79 36 P P 21 35 40.5 -0.5
baz=300,SNR=20
KLMR Klimovskoe 39.80 311 eP P 21 35 39.8 -1.1
KLMR e 21 37 46.1
KLMR pmax pmax
comp=Z,120nm,1.3s
KLMR MLR MLR
comp=Z,885nm,14.0s
M16K Timber Creek 39.83 49 P P 21 35 41.9 +0.7
baz=301,SNR=10
H21K Melozitna Rive 39.88 40 P P 21 35 42.3 +0.6
baz=300,SNR=37
COLD Coldfoot 40.01 37 P P 21 35 44.0 +1.3
COLD Coldfoot 40.01 37 P P 21 35 43.7 +1.1
baz=300,SNR=20
J20K Nowinta River 40.13 43 P P 21 35 45.4 +1.6
baz=300,SNR=23
L18K Granite Mounta 40.14 46 P P 21 35 44.7 +0.9
baz=301,SNR=9.1
E24K Your Creek 40.15 36 P P 21 35 45.2 +1.3
baz=300
D25K Kavik River 40.19 33 P P 21 35 45.3 +1.1
baz=300,SNR=21
N16K Nishlik Lake 40.19 49 P P 21 35 45.7 +1.4
baz=302,SNR=16
UNV Unalaska Valle 40.24 62 P P 21 35 47.0 +2.2
baz=304
M17K Holitna River 40.26 48 P P 21 35 46.5 +1.7
baz=301,SNR=14
H22K Ishtalitna Cre 40.27 39 P P 21 35 46.5 +1.6
baz=300,SNR=16
C26K Camden Bay 40.32 32 P P 21 35 46.9 +1.7
baz=301,SNR=8.0
G23K Bananza Creek 40.33 38 P P 21 35 46.2 +0.8
baz=301,SNR=21

HAMF Hammerfest 40.38 329 eP P 21 35 47.0 +1.3
O15K Ungalikthiuk R 40.42 51 P P 21 35 46.4 +0.3
baz=302
I21K Tanana 40.42 41 P P 21 35 47.0 +0.9
baz=301
ARA0 ARCESS Array S 40.42 327 eP P 21 35 48.0 +1.9
ARCES ARCESS Array B 40.42 327 P P 21 35 45.8 -0.3
comp=Z,4.5nm,1.1s,baz=5.1,slow=15,SNR=1.8
ARCES LR LR 21 56 40.9
comp=Z,2µm,18.5s,baz=62,slow=42
comp=Z,4.5nm,1.1s
K20K Telida 40.59 44 P P 21 35 49.1 +1.6
baz=301,SNR=20
F24K Squaw Lake 40.63 36 P P 21 35 49.5 +1.6
baz=301,SNR=41
BELG Belogornoye 40.65 296 i P P 21 35 48.8 +0.7
BELG pmax pmax
comp=Z,5.0nm,1.0s
CHTO Chiang Mai 40.67 212 P P 21 35 48.5 -0.1
CHTO Chiang Mai 40.67 212 P P 21 35 48.5 -0.1
CHTO pmax pmax
comp=Z,39nm,1.8s
KBL Kabul 40.75 260 P 21 35 48.6 -0.8
KBL Kabul 40.75 260 P P 21 35 48.6 -0.8
KBL pmax pmax
comp=Z,12nm,0.9s
N17K Nushagak Hills 40.83 49 P P 21 35 50.2 +0.7
baz=302
C27K Jago River 40.83 32 P P 21 35 51.2 +1.8
baz=302,SNR=16
M18K Stony River 40.87 47 P P 21 35 50.9 +1.0
baz=302,SNR=6.9
L19K White Mountain 40.90 46 P P 21 35 50.9 +0.8
baz=302,SNR=14
O16K Kokwok River B 40.95 50 P P 21 35 51.1 +0.6
baz=303
MLY Manley 40.95 40 P 21 35 51.1 +0.5
MLY IAmb IAmb 21 35 54.2
comp=Z,46nm,1.0s
MLY Manley 40.95 40 P P 21 35 51.6 +1.1
baz=302,SNR=41
H23K Yukon River 40.96 39 P P 21 35 52.2 +1.7
baz=302,SNR=33
CHUM Lake Minchumin 40.98 42 P P 21 35 52.0 +1.3
baz=302,SNR=18
CM31 Chiang Mai Arr 41.00 212 P P 21 35 50.5 -0.9
CMAR Chiang Mai Arr 41.00 212 P P 21 35 50.7 -0.7
CMAR Chiang Mai Arr 41.00 212 P P 21 35 50.2 -1.2
comp=Z,0.4nm,0.6s,baz=5.1,slow=7.4,SNR=17
CMAR PP PP 21 37 26.3 +0.4
comp=Z,5.1nm,1.1s,baz=18,slow=8.3,SNR=6.3
CMAR LR LR 21 53 53.3
comp=Z,516nm,19.2s,baz=30,slow=38
comp=Z,0.4nm,0.6s
CMAR Chiang Mai Arr 41.00 212 P P 21 35 50.7 -0.7
E25K Arctic Village 41.06 35 P P 21 35 52.7 +1.3
baz=302,SNR=21
L20K Farewell, AK 41.12 45 P P 21 35 51.4 -0.6
baz=302,SNR=15
G24K Hadweenzic Riv 41.20 37 P P 21 35 53.2 +0.7
baz=302,SNR=33
M19K Big River Lodg 41.23 46 P P 21 35 54.7 +1.8
baz=303,SNR=5.6
O17K Koliganek Bris 41.27 50 P P 21 35 52.7 -0.5
baz=303
N18K Kilae Creek 41.28 48 P P 21 35 54.5 +1.2
baz=303
P16K Nunagak River 41.30 51 P P 21 35 54.6 +1.3
baz=303
S12K Black Hills 41.32 57 P P 21 35 54.5 +0.8
baz=304
F25K Christian Rive 41.32 35 P P 21 35 54.9 +1.3
baz=303,SNR=36
BPAW Bear Paw Mtn. 41.36 42 P P 21 35 55.3 +1.5
BPAW IAmb IAmb 21 36 07.4
comp=Z,48nm,1.6s
BPAW Bear Paw Mtn. 41.36 42 P P 21 35 55.1 +1.2
baz=303,SNR=11
I23K Minto, Yukon-K 41.38 40 P P 21 35 55.6 +1.6
baz=303,SNR=38
KTK1 Kautokeino 41.39 327 eP P 21 35 55.7 +1.7
H24K Noodor Dome 41.53 38 P P 21 35 56.7 +1.4
baz=303,SNR=51
PPLA Purkeypile 41.55 44 P P 21 35 56.1 +0.4
PPLA IAmb IAmb 21 36 09.7
comp=Z,107nm,1.8s
PPLA Purkeypile 41.55 44 P P 21 35 56.4 +0.8
G25K Bearman Lake 41.62 37 P P 21 35 57.1 +1.2
baz=303,SNR=17
KTH Kantishna Hill 41.68 42 P P 21 35 57.9 +1.3
KTH IAmb IAmb 21 36 10.4
comp=Z,85nm,1.4s
M20K Styx River 41.74 45 P P 21 35 58.4 +1.3
baz=303
F26K Sheenjek River 41.75 35 P P 21 35 58.0 +0.9
baz=304,SNR=40
BMAR Burnt Mountain 41.76 35 P P 21 35 59.3 +2.2
N19K Bonanza Creek 41.79 47 P P 21 35 58.0 +0.5
baz=304
NEA2 Nenana 41.79 40 P P 21 35 58.4 +1.0
baz=303,SNR=24
D27M Malcolm River 41.85 32 P P 21 35 58.7 +0.8
baz=304,SNR=12
P17K Kvichak River 41.87 50 P P 21 35 59.9 +1.8
baz=304
BWN Browne 41.88 41 P P 21 35 59.6 +1.5
BWN IAmb IAmb 21 36 15.7
comp=Z,70nm,1.2s
JETT Jettan, Norway 41.92 329 eP P 21 35 59.3 +0.9
TRF Thorofare Moun 41.97 42 P P 21 36 00.5 +1.4
baz=304,SNR=20
H25L Birch Creek 41.99 37 P P 21 36 00.0 +1.0
baz=304,SNR=28
O18K Koktuh Hills 42.02 49 P P 21 35 59.8 +0.4
baz=304
COLA College 42.07 40 P P 21 36 01.3 +1.7
COLA IAmb IAmb 21 36 03.4
comp=Z,33nm,0.8s
COLA College 42.07 40 i P P 21 36 01.1 +1.5
COLA pmax pmax
comp=Z,32nm,0.9s
COLA College 42.07 40 P P 21 36 00.9 +1.2
baz=304
POKR Poker Plat Res 42.08 39 P P 21 36 01.5 +1.8
baz=304,SNR=5.6
TGY Tagaytay City 42.11 179 LR LR 21 54 20.8
comp=Z,620nm,18.2s,baz=17,slow=38
S14K Fog Glacier 42.15 55 P P 21 36 02.3 +1.8
baz=305
O19K Port Alsworth 42.20 48 P P 21 36 01.7 +1.0
baz=304
WRH Wood River Hil 42.21 40 P P 21 36 01.7 +0.9
WRH IAmb IAmb 21 36 04.1
comp=Z,58nm,1.0s
CCB Clear Creek Bu 42.21 40 P 21 36 02.0 +1.2
CCB IAmb IAmb 21 36 14.3
comp=Z,47nm,1.3s
SDPT Sand Point 42.26 57 P P 21 36 01.8 +0.5
baz=306
E27K Coleen River 42.27 33 P P 21 36 02.8 +1.5
baz=305,SNR=18
P18K Big Mountain, 42.27 49 P P 21 36 00.9 -0.5
baz=304
G26K Porcupine Rive 42.28 36 P P 21 36 02.8 +1.5
baz=305,SNR=53
TRO Tromso 42.30 329 eP P 21 36 02.5 +1.0
R16K Pilot Point 42.30 53 P P 21 36 01.7 +0.2
baz=305
LANU Lannavaara 42.31 326 eP P 21 36 02.5 +0.9
MCK McKinley 42.32 41 P 21 36 02.6 +0.9
MCK IAmb IAmb 21 36 15.3
comp=Z,75nm,1.3s
MCK McKinley 42.32 41 P P 21 36 02.7 +0.9
MCK pmax pmax
comp=Z,75nm,1.3s
MCK McKinley 42.32 41 P P 21 36 03.3 +1.5
baz=304,SNR=12
SKT Skwentna 42.32 45 P P 21 36 02.3 +0.6
baz=304
D28M Stokes Point 42.45 31 P P 21 36 03.2 +0.6
baz=306
IL31 42.47 39 P P 21 36 03.9 +1.0
IL31 IAmb IAmb 21 36 15.7
comp=Z,87nm,1.2s
ILAR Eielson Array 42.47 39 P P 21 36 04.1 +1.2
ILAR Eielson Array 42.47 39 P P 21 36 04.8 +1.9
comp=Z,43nm,1.1s,baz=298,slow=8.1,SNR=171
ILAR LR LR 21 57 09.1
comp=Z,516nm,18.3s,baz=334,slow=41
N20K Mount Spurr 42.49 46 P P 21 36 04.2 +0.9
baz=304
SPCR Spurr Chakacha 42.49 46 P P 21 36 04.5 +1.3
baz=304,SNR=12
PRP Porcupine Dome 42.52 38 P P 21 36 05.1 +1.6
baz=305,SNR=50
CUT Chulitna 42.57 44 P P 21 36 04.6 +0.9
baz=305
Q17K Contact Creek 42.64 51 P P 21 36 04.7 +0.2
baz=305
E28M Babbage River 42.65 32 P P 21 36 04.4 +0.1
baz=306,SNR=18
HDA Harding Lake 42.65 40 P P 21 36 05.5 +1.1
HDA IAmb IAmb 21 36 16.7
comp=Z,50nm,1.2s
HDA Harding Lake 42.65 40 P P 21 36 05.3 +0.9
baz=305,SNR=23
CHGN Chignik 42.66 54 P P 21 36 05.0 +0.5
baz=306
OUL Oulu 42.73 322 P P 21 36 08.7 +3.7
OUL pmax pmax
comp=Z,32nm,1.6s
Q18K Katmai Hardscr 42.79 50 P P 21 36 06.6 +0.8
baz=305,SNR=7.0
R17L Mt. Peulik Vol 42.80 52 P P 21 36 06.1 +0.4
baz=306
SUA Susitna One 42.92 45 P P 21 36 07.8 +1.1
SUA IAmb IAmb 21 36 19.0
comp=Z,45nm,1.1s
SUA Susitna One 42.92 45 P P 21 36 07.4 +0.7
baz=305,SNR=6.1
P19K Oil Pt 42.96 48 P P 21 36 07.4 +0.3
baz=305
O20K Slope Mountain 42.96 47 P P 21 36 06.9 -0.1
baz=305
WAT1 Susitna Watana 42.98 42 P P 21 36 07.4 +0.3
baz=305
CHNA Chernabura Isl 42.98 57 P P 21 36 06.0 -1.1
baz=306
M22K Willow 43.00 44 P P 21 36 06.7 -0.5
baz=305
G27K Doyon Strip 43.05 35 P P 21 36 10.6 +2.9
baz=306,SNR=28
J25K Salcha River, 43.09 39 P P 21 36 09.5 +1.4
baz=306,SNR=20
F28M Old Crow 43.13 33 P P 21 36 10.9 +2.6
baz=307,SNR=32
CAPN Captain Cook N 43.16 46 P P 21 36 10.4 +1.8
baz=306
Q19K Cape Douglas, 43.21 49 P P 21 36 10.0 +1.0
baz=306
E29M Blow River 43.26 32 P P 21 36 11.5 +2.3
baz=307,SNR=21
DHY Denali Highway 43.27 42 P 21 36 10.5 +0.9
DHY IAmb IAmb 21 36 21.8
comp=Z,74nm,1.2s
DHY Denali Highway 43.27 42 P P 21 36 11.1 +1.5
baz=306,SNR=35
K24K Donnelly Dome 43.42 40 P P 21 36 12.1 +1.4
baz=306,SNR=7.3
WAT6 Susitna Watana 43.42 42 P P 21 36 12.1 +1.2
baz=306,SNR=21
H27K Steamboat Moun 43.44 36 P P 21 36 13.5 +2.7
baz=307,SNR=22
I26K Coal Creek Min 43.45 37 P P 21 36 12.9 +2.1
baz=306,SNR=43
GHO Glory Hole Cre 43.45 44 P P 21 36 12.4 +1.4
GHO IAmb IAmb 21 36 13.9
comp=Z,49nm,1.0s
MOS Moscow 43.47 305 eP P 21 36 10.3 -0.8
MOS e 21 36 19.5
MOS e 21 37 53.4
MOS eS S 21 42 39.9 +0.9
MOS pmax pmax
comp=Z,36nm,0.9s
MOS MLR MLR
comp=N,800nm,15.0s
MOS MLR MLR
comp=E,800nm,15.0s
MOS MLR MLR
comp=Z,1µm,15.0s
PMR Palmer 43.48 44 P P 21 36 12.3 +1.3
baz=306,SNR=9.3
RC01 Rabbit Creek A 43.53 45 P P 21 36 13.2 +1.6
baz=306,SNR=5.8
HOM Homer 43.61 47 P P 21 36 13.2 +1.0
baz=306
SML Sawmill 43.66 43 P P 21 36 13.5 +0.9
SML IAmb IAmb 21 36 24.9
comp=Z,52nm,0.9s
SML Sawmill 43.66 43 P P 21 36 14.4 +1.8
baz=306,SNR=18
R18K Karluk 43.67 51 P P 21 36 13.7 +1.1
baz=306
I27K Kandik River 43.79 36 P P 21 36 16.7 +3.1
baz=307,SNR=26
J26L Joseph Creek 43.79 38 P P 21 36 15.5 +1.8
baz=307,SNR=31
RIDG Independent Ri 43.80 40 P 21 36 14.1 +0.4
RIDG IAmb IAmb 21 36 25.1
comp=Z,56nm,1.3s
RIDG Independent Ri 43.80 40 P P 21 36 14.6 +0.9
baz=307,SNR=14
KNK Knik Glacier 43.84 44 P P 21 36 15.8 +1.7
baz=306,SNR=8.5
M23K Glacier View 43.90 43 P P 21 36 15.9 +1.4
baz=307,SNR=8.7
O22K Cooper Landing 43.90 46 P P 21 36 15.5 +1.0
baz=307
Q20K Shuyak Island 43.92 49 P P 21 36 15.8 +1.1
baz=307
BRSE Bradley Lake S 43.93 47 P P 21 36 15.3 +0.4
baz=307
SCRK Sand Creek 43.96 39 P 21 36 15.4 +0.2
SCRK Sand Creek 43.96 39 P P 21 36 16.1 +1.0
baz=307,SNR=13
SCM Sheep Creek Mo 44.02 43 P P 21 36 16.7 +1.1
SCM IAmb IAmb 21 36 28.6
comp=Z,44nm,1.1s
SCM Sheep Creek Mo 44.02 43 P P 21 36 16.7 +1.1
SCM pmax pmax
comp=Z,44nm,1.1s
SCM Sheep Creek Mo 44.02 43 P P 21 36 17.0 +1.4
baz=307,SNR=8.4
PAX Paxson 44.03 41 P P 21 36 16.9 +1.3
baz=307,SNR=16
G29M Pine Creek 44.13 34 P P 21 36 19.4 +3.0
baz=308,SNR=18
CHIR Chirikof Islan 44.20 54 P P 21 36 18.4 +1.4
baz=307
A36M Sachs Harbour 44.22 24 P P 21 36 18.2 +1.4
baz=314
PWL Port Wells 44.22 45 P P 21 36 18.3 +1.2
baz=307,SNR=6.4
SEW Seward 44.23 46 P P 21 36 18.2 +1.0
baz=307
M24K Tolsona, Glenn 44.30 42 P P 21 36 19.6 +1.9
baz=307,SNR=11
VRH Novokhopyorsk 44.30 298 eP P 21 36 17.1 -0.7
VRH pmax pmax
comp=Z,30nm,0.8s
VRH MLR MLR
comp=Z,760nm,13.0s
OBN Obninsk 44.33 305 P P 21 36 17.6 -0.4
OBN Obninsk 44.33 305 LR LR 21 56 27.9
comp=Z,1µm,18.4s,baz=28,slow=38
OBN Obninsk 44.33 305 eP P 21 36 17.4 -0.6
OBN e 21 38 07.6
OBN eS S 21 42 56.9 +5.4
OBN eSS ScS 21 46 12.5 -2.9
OBN pmax pmax
comp=Z,10.0nm,1.2s
OBN MLR MLR
comp=Z,2µm,17.0s
KDAK Kodiak Island 44.34 50 LR LR 21 56 27.2
comp=Z,1µm,18.3s,baz=316,slow=38
KDAK Kodiak Island 44.34 50 P P 21 36 19.5 +1.4
baz=307
F30M Barrier River 44.37 32 P P 21 36 20.5 +2.3
baz=309,SNR=12
OHAK Old Harbor 44.38 51 P P 21 36 18.5 +0.2
OHAK IAmb IAmb 21 36 29.7
comp=Z,38nm,0.8s
OHAK Old Harbor 44.38 51 P P 21 36 19.7 +1.3

baz=307
STEI Steigen 44.41 329 *e*P **P** **21 36 19.5 +1.1**
I28M Miner Creek 44.44 36 P **P** **21 36 21.4 +2.6**
baz=308,SNR=16
EGAK Eagle 44.45 37 P **P** **21 36 20.9 +2.1**
baz=308,SNR=24
H29M Whitestone 44.46 35 P **P** **21 36 21.6 +2.7**
baz=309,SNR=10
HARP HAARP 44.50 41 P **P** **21 36 21.0 +1.7**
baz=308,SNR=5.4
INK Inuvik 44.58 31 **P**
INK IAmb IAmb 21 36 23.4
comp=Z,37nm,1.1s
INK Inuvik 44.58 31 LR LR 21 58 37.6
comp=Z,395nm,18.6s,baz=329,slow=41
INK Inuvik 44.58 31 P **P** **21 36 20.6 +0.8**
INK pmax pmax
comp=Z,37nm,1.2s
INK Inuvik 44.58 31 P **P** **21 36 22.1 +2.3**
baz=310,SNR=9.8
K27K Chicken 44.59 38 P **P** **21 36 22.1 +2.0**
baz=308
HRA Herat 44.62 266 P **P** **21 36 20.0 -0.9**
G30M tAoh Zraii Nji 44.64 33 P **P** **21 36 22.4 +1.9**
baz=310,SNR=14
DAG Danmarks Havn 44.67 348 P **P** **21 36 20.9 +0.5**
DAG pmax pmax
comp=Z,23nm,1.2s
DAG Danmarks Havn 44.67 348 *i* P **P** **21 36 23.4 +2.9**
DAG IAmb IAmb 21 36 30.0
comp=Z,15nm,0.9s
GLI Glacier Island 44.69 44 P **P** **21 36 22.0 +1.2**
baz=308,SNR=5.4
FAUS Fauske 44.74 328 *e*P **P** **21 36 21.5 +0.4**
KLU Klutina 44.77 43 P **P** **21 36 23.4 +1.8**
baz=308,SNR=24
LPSR Galich'ya Gora 44.78 301 *e*P **P** **21 36 20.9 -0.7**
LPSR pmax pmax
comp=Z,40nm,0.9s
LPSR MLR MLR
comp=Z,870nm,14.0s
FIA1 FINESS Array S 44.84 317 P **P** **21 36 21.6 -0.4**
FINES FINESS Array B 44.84 317 P **P** **21 36 21.5 -0.5**
FINES FINESS Array B 44.84 317 P **P** **21 36 22.0 0.0**
comp=Z,6.1nm,0.6s,baz=42,slow=9.6,SNR=54
FINES S **S** **21 42 57.7 -1.1**
comp=Z,2.8nm,1.0s,baz=145,slow=7.0,SNR=1.5
FINES LR LR 21 57 55.7
comp=Z,1μm,18.5s,baz=59,slow=40
comp=Z,6.1nm,0.6s
FINES FINESS Array B 44.84 317 *i* P **P** **21 36 22.3 +0.3**
FINES pmax pmax
comp=Z,6.0nm,0.6s
KEF Keuruu 44.85 318 *e*P **P** **21 36 21.8 -0.2**
EPYK Eagle Plains 44.88 34 P **P** **21 36 24.3 +1.9**
baz=310,SNR=8.1
I29M Ogilvie Camp, 45.02 35 P **P** **21 36 25.5 +2.1**
baz=310
F31M Tsiigehtchic 45.08 32 P **P** **21 36 25.7 +1.9**
baz=311,SNR=13
P23K Montague Islan 45.12 45 P **P** **21 36 25.9 +1.6**
baz=308
N25K Chitina, Valde 45.19 42 P **P** **21 36 27.2 +2.3**
baz=309,SNR=22
HIN Hinchinbrook I 45.22 44 P **P** **21 36 25.6 +0.5**
G31M Satah River 45.26 32 P **P** **21 36 27.2 +1.9**
baz=311,SNR=14
M26K Nabesna, AK 45.28 41 P **P** **21 36 27.5 +1.8**
baz=309,SNR=22
L27K Beaver Creek, 45.29 39 P **P** **21 36 27.9 +2.2**
baz=309,SNR=44
BCAR Beaver Creek A 45.30 39 P **P** **21 36 27.2 +1.5**
EYAK Cordova Ski Ar 45.42 44 P **P** **21 36 27.7 +1.1**
EYAK Cordova Ski Ar 45.42 44 P **P** **21 36 28.9 +2.3**
baz=309,SNR=22
DAWY Dawson 45.49 37 P **P** **21 36 27.4 +0.2**
DAWY Dawson 45.49 37 P **P** **21 36 28.1 +0.8**
baz=310,SNR=5.2
VSR Storozhevoye 45.54 300 *e*P **P** **21 36 27.1 -0.6**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR MLR MLR
comp=Z,1μm,15.0s
BMRM Bremner River 45.59 43 P **P** **21 36 29.5 +1.4**
BMRM Bremner River 45.59 43 P **P** **21 36 30.5 +2.4**
baz=309,SNR=27
J29N Klondike Camp 45.63 36 P **P** **21 36 30.8 +2.5**
baz=310
VORD Divnogorie 45.64 299 *e*P **P** **21 36 28.4 -0.1**
VORD pmax pmax
comp=Z,20nm,0.8s
M27K Edge Creek, AK 45.72 40 P **P** **21 36 31.9 +2.7**
baz=310,SNR=37
I30M Mount Dempster 45.73 35 P **P** **21 36 30.9 +1.7**
baz=311,SNR=16
RAUS Rausandaksla 45.74 327 *e*P **P** **21 36 29.1 0.0**
VAGH Vaagaholmen 45.77 328 *e*P **P** **21 36 30.2 +0.9**
MOR8 Moi Rana 45.79 327 *e*P **P** **21 36 28.3 -1.3**
VRDI Verde Repeater 45.86 42 P **P** **21 36 31.1 +0.8**
VRDI IAmb IAmb 21 36 43.3
comp=Z,35nm,1.1s
MCARA McCarthy VSAT 45.92 42 P **P** **21 36 31.0 +0.4**
MCARA IAmb IAmb 21 36 43.5
comp=Z,26nm,1.1s
MCARA McCarthy VSAT 45.92 42 P **P** **21 36 32.6 +2.0**
baz=310,SNR=7.7
H31M Peel River 45.98 34 P **P** **21 36 32.3 +1.3**
baz=312,SNR=11
STOK Stokkvaagen 46.11 328 *e*P **P** **21 36 34.4 +2.4**
ARBE Arbavere 46.14 315 *e*P **P** **21 36 31.0 -1.3**
J30M Hart River 46.17 36 P **P** **21 36 34.8 +2.1**
baz=311,SNR=18
LEIR Leirfjorden 46.23 327 *e*P **P** **21 36 34.1 +1.1**
K29M Barlow Dome 46.26 37 P **P** **21 36 36.0 +2.5**
baz=311,SNR=42
CRQE Cirque 46.30 42 P **P** **21 36 36.2 +2.4**
baz=310,SNR=20
KAIM Kayak Island 46.33 44 P **P** **21 36 35.8 +2.0**
baz=310
C36M Paulatuk 46.36 26 P **P** **21 36 34.4 +0.5**
C36M Paulatuk 46.36 26 P **P** **21 36 36.1 +2.2**
baz=316
NEEM North Greenlan 46.41 357 *i* P **P** **21 36 33.8 -0.8**
NEEM IAmb IAmb 21 36 45.5
comp=Z,160nm,2.0s
VSU Vasula 46.46 314 *e*P **P** **21 36 34.6 -0.2**
VSU Vasula 46.46 314 *i* P **P** **21 36 34.7 -0.2**
VSU pmax pmax
comp=Z,36nm,1.2s
VSU MLR MLR
comp=Z,1μm,17.0s
L29M L29M 46.54 38 P **P** **21 36 38.2 +2.7**
baz=311,SNR=26
BARN Barnard Glacie 46.63 41 P **P** **21 36 37.7 +1.3**
BGLC Bering Glacier 46.64 43 P **P** **21 36 38.9 +2.7**
baz=310
MAK Makhachkala 46.70 286 *e*P P 21 36 29.9 -7.0
MAK *e* 21 38 22.5
MAK *e*S S 21 43 16.6 -9.3
MAK *e*SS **SS** **21 46 49.5 -2.2**
MAK pmax pmax
comp=Z,361nm,1.6s
MAK MLR MLR
comp=Z,666nm,14.0s
CTG Chitna Glacier 46.81 41 P **P** **21 36 40.5 +2.7**
baz=311,SNR=27
M29M Somme Creek 46.87 39 P **P** **21 36 41.2 +3.0**
baz=312,SNR=37
MAYO Mayo, Yukon 46.97 36 P **P** **21 36 41.6 +2.8**
baz=312
MESA MESA 47.10 43 P **P** **21 36 42.6 +2.4**
baz=311
YUK8 Steele Glacier 47.18 40 P **P** **21 36 43.2 +2.4**
baz=312,SNR=17
RES Resolute Bay 47.24 12 LR LR 21 58 10.5
comp=Z,560nm,18.8s,baz=341,slow=38
M30M Minto, Yukon 47.36 38 P **P** **21 36 44.4 +2.5**
baz=312,SNR=22
O28M Mount Upton 47.37 41 P **P** **21 36 44.7 +2.4**
baz=312,SNR=11
YUK4 Talbot Arm 47.54 40 P **P** **21 36 46.1 +2.6**
baz=312,SNR=14
AKT Akhty 47.59 284 *e*P **P** **21 36 47.9 +3.8**
AKT MLR MLR
comp=Z,597nm,12.0s
GOF Gofitskoye 47.63 291 *ce*P P 21 36 53.0 +8.8

NSS Namsos 47.67 326 *e*P **P** **21 36 44.9 +0.7**
PINM Pinnacle 47.80 42 P **P** **21 36 47.9 +2.6**
baz=312,SNR=6.4
YUK6 Outpost Mounta 47.91 40 P **P** **21 36 48.8 +2.3**
baz=313,SNR=6.9
JMIC Jan Mayen 47.92 340 LR LR 21 59 37.3
comp=Z,220nm,18.4s,baz=30,slow=39
N30M Aishikik Lake 48.02 39 P **P** **21 36 50.2 +3.2**
baz=313,SNR=48
SEKA Sheki 48.07 284 P **P** **21 36 46.3 -1.4**
O29M Mount Kennedy 48.27 41 P **P** **21 36 52.2 +3.1**
baz=313,SNR=16
HYT Haines Junctio 48.30 40 P **P** **21 36 50.5 +1.2**
HYT IAmb IAmb 21 37 02.8
comp=Z,26nm,1.0s
HYT Haines Junctio 48.30 40 P **P** **21 36 52.1 +2.8**
baz=313,SNR=20
PNL Peninsula 48.40 42 P **P** **21 36 52.7 +2.7**
baz=313,SNR=9.2
M31M Drury Creek, Y 48.43 37 P **P** **21 36 52.5 +2.3**
baz=314
MNGR Mingechevir, A 48.44 284 P **P** **21 36 49.6 -0.8**
N31M Braeburn, Yuko 48.45 38 P **P** **21 36 53.5 +3.1**
baz=314,SNR=61
ERBR Yeremizino-Bor 48.51 293 *e*P **P** **21 36 51.7 +0.7**
ERBR *e*S **S** **21 43 50.7 -1.0**
ERBR pmax pmax
comp=Z,14nm,1.0s
ERBR MLR MLR
comp=E,2μm,13.0s
KIV Kislovodsk 48.57 290 P **P** **21 36 51.9 +0.3**
KIV Kislovodsk 48.57 290 ||P **P** **21 36 56.2 +4.6**
KIV Kislovodsk 48.57 290 *e*P **P** **21 36 51.6 0.0**
KIV *e* 21 38 15.7
KIV *e*S **S** **21 43 54.2 +1.4**
KIV pmax pmax
comp=Z,37nm,1.1s
KIV MLR MLR
comp=Z,897nm,16.0s
MNK Minsk 48.59 309 *i* P **P** **21 36 52.9 +1.5**
comp=E,18nm,1.1s
MNK *i* P **P** **21 36 52.9 +1.5**
comp=N,19nm,1.0s
MNK *i* P **P** **21 36 52.9 +1.5**
comp=Z,28nm,1.0s,baz=48
MNK *i* PcP **PcP** **21 38 17.9 +1.1**
MNK *i* PP **PP** **21 38 46.0 +2.1**
MNK *i* PPP PPP 21 39 35.4
MNK *i* S **S** **21 43 56.0 +3.5**
MNK *i* SS **SS** **21 47 28.0 +6.1**
MNK *i* LQ LQ 21 53 37.5
MNK *i* LQ LQ 21 53 55.4
MNK *i* LR LR 21 57 18.4
MNK *i* LRM MLR 21 59 20.5
comp=E,675nm,17.3s
MNK *i* LRM MLR 21 59 29.2
comp=Z,1μm,17.5s
MNK *i* LRM MLR 21 59 37.0
comp=N,792nm,15.9s
MNK Minsk 48.59 309 *i* P **P** **21 36 52.9 +1.5**
MNK *i* 21 38 17.9
MNK *i* 21 38 46.0
MNK *i* PPP PPP 21 39 35.4
MNK *i* S **S** **21 43 56.0 +3.5**
MNK pmax pmax
comp=Z,28nm,1.0s
MNK pmax pmax
comp=E,18nm,1.1s
MNK pmax pmax
comp=N,19nm,1.0s
MNK MLR MLR
comp=E,675nm,17.0s
MNK MLR MLR
comp=Z,1μm,18.0s
MNK MLR MLR
comp=N,792nm,16.0s
ISAL Salakas 48.62 311 *e*P **P** **21 36 51.4 -0.3**
KBZ Khabaz 48.62 290 P **P** **21 36 51.7 0.0**
comp=N,1.6nm,0.9s,baz=45,slow=5.7,SNR=1.9
KBZ LR LR 21 58 07.7
comp=N,1μm,18.2s,baz=34,slow=37
comp=N,1.6nm,0.9s
KBZ Khabaz 48.62 290 *i* P **P** **21 36 51.8 0.0**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ MLR MLR
comp=Z,1μm,18.0s
SHA1 Shidzhatmaz 48.74 290 *i* P **P** **21 36 53.3 +0.3**
NACGM Naroch 48.79 310 *e*P **P** **21 36 53.9 +0.9**
O30N Mendenhall 48.84 39 P **P** **21 36 56.4 +3.0**
baz=314,SNR=13
GANJ Ganja 48.94 284 P **P** **21 36 53.3 -1.1**
LKRN Lenkeran, Azer 48.97 281 P **P** **21 36 53.8 -0.8**
P30M Million Dollar 48.98 40 P **P** **21 36 56.9 +2.4**
baz=314
UPP Uppsala 49.03 319 *e*P **P** **21 36 54.8 +0.1**
P29M Windy Craggy 49.04 41 P **P** **21 36 57.6 +2.7**
baz=314,SNR=8.7
LABN Labinsk 49.12 292 *e*P **P** **21 36 53.3 -2.4**
LABN *e*S **S** **21 43 55.8 -4.5**
LABN pmax pmax
comp=Z,8.0nm,0.5s
LABN MLR MLR
comp=E,3μm,13.0s
MMPY Sheldon Lake, 49.17 35 P **P** **21 36 57.2 +1.4**
MMPY IAmb IAmb 21 37 09.3
comp=Z,35nm,1.1s
MMPY Sheldon Lake, 49.17 35 P **P** **21 36 58.6 +2.7**
baz=316,SNR=22
VSVD Vaisvydziai 49.25 312 *e*P **P** **21 36 56.1 -0.3**
DAV Davao City (W) 49.28 173 LR LR 22 00 43.9
comp=Z,592nm,18.9s,baz=330,slow=40
WHY Whitehorse 49.34 39 P **P** **21 36 59.5 +2.2**
baz=315,SNR=6.6
PABE Paberze 49.56 312 P **P** **21 36 59.1 +0.3**
PABE Paberze 49.56 312 *e*P **P** **21 36 58.8 -0.1**
N32M Quiet Lake 49.62 38 P **P** **21 37 00.6 +1.3**
baz=316
PLBC Pleasant Camp 49.66 41 P **P** **21 37 01.3 +1.6**
baz=315,SNR=8.1
HYB Hyderabad 49.83 236 *e*P **P** **21 37 00.8 -0.5**
HYB *e*PcP **PcP** **21 38 21.4 -0.5**
HYB *e*S **S** **21 44 10.6 -0.1**
SKAG Skagway 50.04 40 P **P** **21 37 05.2 +2.8**
baz=315,SNR=12
PBUR Paburge 50.04 314 *e*P **P** **21 37 02.5 0.0**
GNI Garni 50.14 285 P **P** **21 37 03.6 -0.1**
GNI IAmb IAmb 21 38 00.8
comp=Z,26nm,1.1s
GNI Garni 50.14 285 P **P** **21 37 03.8 +0.1**
comp=Z,3.7nm,0.7s,baz=102,slow=2.0,SNR=3.8
GNI LR LR 21 58 42.7
comp=Z,482nm,21.5s,baz=58,slow=37
comp=Z,3.7nm,0.7s
GNI Garni 50.14 285 *i* P **P** **21 37 04.6 +0.9**
GNI pmax pmax
comp=Z,9.0nm,1.3s
HFS Hagfors 50.23 321 P **P** **21 37 03.7 -0.2**
comp=Z,6.7nm,0.5s,baz=63,slow=6.8,SNR=54
HFS LR LR 22 00 08.2
comp=Z,910nm,18.6s,baz=46,slow=38
comp=Z,6.7nm,0.5s
NC303 NORSAR Array S 50.23 323 P **P** **21 37 03.5 -0.4**
SOC Sochi 50.38 292 *e*P **P** **21 37 02.8 -2.4**
SOC *e* 21 38 55.8
SOC *e*PPP PPP 21 39 54.6
SOC *e*S **S** **21 44 15.7 -2.2**
SOC *e*SS **SS** **21 47 50.6 -0.4**
SOC *e*SSS SSS 21 49 19.3
SOC MLR MLR
comp=Z,690nm,16.0s
DOMB Dombas 50.38 325 *e*P **P** **21 37 06.0 +0.9**
P33M Teslin, Yukon 50.38 38 P **P** **21 37 07.5 +2.3**
baz=316,SNR=59
NB2 NORSAR Subarra 50.42 323 P **P** **21 37 05.2 -0.2**
comp=Z,91nm,1.7s,baz=39,slow=7.9
NB2 NORSAR Subarra 50.42 323 P **P** **21 37 05.2 -0.2**
comp=Z,91nm,1.7s,baz=39,slow=7.9
NOA NORSAR Array B 50.42 323 P **P** **21 37 05.1 -0.2**
comp=Z,1.2nm,0.6s,baz=41,slow=7.1,SNR=14
NOA LR LR 22 00 20.2
comp=Z,679nm,20.2s,baz=25,slow=38
comp=Z,1.2nm,0.6s
NAX Nakhchivan 50.43 283 P **P** **21 37 04.8 -1.0**
MOL Molde 50.46 326 *e*P **P** **21 37 06.6 +1.0**
P32M Atlin 50.52 39 P **P** **21 37 08.9 +2.8**

baz=316,SNR=24
NC602 NORSAR Array S 50.53 323 *e*P **P** **21 37 06.0 -0.1**
SUMG Summit 50.57 352 P **P** **21 37 06.9 +0.1**
SUMG IAmb IAmb 21 37 17.5
comp=Z,18nm,1.0s
SUMG Summit 50.57 352 P **P** **21 37 06.9 +0.1**
SUMG pmax pmax
comp=Z,18nm,1.0s
SUMG Summit 50.57 352 *i* P P 21 37 14.2 +7.5
SUMG IAmb IAmb 21 37 17.2
comp=Z,36nm,1.4s
AKASG Malin Array Be 50.58 305 P **P** **21 37 06.3 -0.4**
AKASG Malin Array Be 50.58 305 P **P** **21 37 06.2 -0.4**
comp=Z,2.2nm,0.5s,baz=44,slow=8.4,SNR=12
AKASG PP **PP** **21 39 03.6 +1.5**
comp=Z,2.1nm,0.5s,baz=42,slow=9.9,SNR=4.3
AKASG LR LR 21 59 39.5
comp=Z,551nm,18.3s,baz=48,slow=38
comp=Z,2.2nm,0.5s
AKASG Malin Array Be 50.58 305 *i* P **P** **21 37 06.8 +0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 50.58 305 *i* P **P** **21 37 07.3 +0.7**
AKBB pmax pmax
comp=Z,23nm,0.9s
AKBB MLR MLR
comp=Z,1μm,16.0s
KIEV Kiev 50.59 305 P **P** **21 37 05.9 -0.8**
KIEV IAmb IAmb 21 37 16.2
comp=Z,21nm,0.8s
KIEV Kiev 50.59 305 P **P** **21 37 05.9 -0.8**
KIEV pmax pmax
comp=Z,21nm,0.9s
ANN Anapa 50.70 294 *e*P **P** **21 37 05.1 -2.5**
ANN *e*S **S** **21 44 19.8 -2.5**
ANN pmax pmax
comp=Z,11nm,0.9s
ANN MLR MLR
comp=Z,875nm,15.0s
ANN MLR MLR
comp=E,703nm,17.0s
S31K Pelican 50.78 42 P **P** **21 37 11.2 +3.2**
baz=316,SNR=8.8
TGTN Hyland Airport 50.93 35 P **P** **21 37 12.2 +3.0**
baz=318,SNR=8.0
AKN Aaknes 50.93 326 *e*P **P** **21 37 09.7 +0.5**
SUW Suwalki 50.93 311 *e*P P 21 37 15.6 +6.3
SUW *e*L L 22 00 26.7
comp=E,857nm,19.4s
SUW Suwalki 50.93 311 P **P** **21 37 09.1 -0.2**
SUW Suwalki 50.93 311 *e*P **P** **21 37 09.4 +0.2**
SUW Suwalki 50.93 311 P **P** **21 37 09.4 +0.2**
MYLDM Lahad Datu 50.98 182 P **P** **21 37 10.0 0.0**
WRGLY Wrigley 51.11 31 P **P** **21 37 12.1 +1.7**
baz=320
R32K Eaglecrest 51.18 41 P **P** **21 37 13.5 +2.4**
baz=316
UPNV Upernavik 51.19 359 *i* P P 21 37 19.2 +8.2
UPNV IAmb IAmb 21 37 22.0
comp=Z,32nm,1.1s
Q32M Nakina River 51.49 39 P **P** **21 37 15.7 +2.1**
baz=317
R33M Jennings River 51.62 38 P **P** **21 37 17.2 +2.7**
baz=318,SNR=32
SKAR Skarslia 51.64 324 *e*P **P** **21 37 15.6 +1.0**
SIT Sitka 51.77 42 P **P** **21 37 17.9 +2.4**
baz=317
WTLY Watson Lake, Y 51.82 36 P **P** **21 37 17.0 +1.1**
WTLY IAmb IAmb 21 37 28.3
comp=Z,42nm,1.1s
WTLY Watson Lake, Y 51.82 36 P **P** **21 37 17.6 +1.7**
baz=319,SNR=21
STRU Stroemstad 51.91 322 *e*P **P** **21 37 16.8 +0.3**
STRU Stroemstad 51.91 322 *i* P P 21 37 23.1 +6.6
HYA Hoyanger 51.95 326 *e*P **P** **21 37 17.9 +1.2**
SIM Simferopol' 52.27 296 *e*P **P** **21 37 17.0 -2.4**
SIM *e*S **S** **21 44 42.0 -1.9**
SIM *e*SS **SS** **21 48 20.8 -0.1**
SIM pmax pmax
comp=Z,23nm,1.2s
BORU Boraas 52.39 320 *i* P P 21 37 27.6 +7.5
TJOU Tjoern 52.50 321 *i* P P 21 37 28.1 +7.2
KOPT Kop Dagi 52.51 288 P **P** **21 37 20.6 -1.0**
DLBC Dease Lake 52.66 38 LR LR 22 02 15.7
comp=Z,7μm,18.2s,baz=308,slow=39
DLBC Dease Lake 52.66 38 P **P** **21 37 24.9 +2.7**
baz=319,SNR=11
S34M Telegraph Cree 52.67 39 P **P** **21 37 24.6 +2.5**
baz=318,SNR=9.3
GURO Guroymak-BITLI 52.75 285 P **P** **21 37 22.5 -0.7**
ODD1 Odda 52.77 325 *e*P **P** **21 37 23.9 +0.9**
SORM Soroca 52.79 303 ||P **P** **21 37 27.1 +3.9**
SORM Soroca 52.79 303 ||P **P** **21 37 27.1 +3.9**
T33K Petersburg 52.83 41 P **P** **21 37 26.4 +3.1**
baz=318
KULM Kulim 53.17 205 P **P** **21 37 25.6 -0.7**
KULM IAmb IAmb 21 37 36.8
comp=Z,24nm,1.2s
LIRD Liard River Hi 53.24 36 P **P** **21 37 28.5 +2.1**
baz=320
U33K Whale Pass 53.29 42 P **P** **21 37 29.4 +2.6**
baz=318
KOTAN Kotaneelee Air 53.33 34 P **P** **21 37 29.2 +2.2**
baz=321,SNR=5.3
KIS Kishinev 53.39 302 *e*P P 21 37 34.0 +6.4
comp=Z,80nm,1.8s
KIS *e*L L 21 56 30.0
KIS LQM 21 57 43.0
comp=Z,600nm,23.0s
KIS LRM MLR 22 00 34.0
comp=Z,300nm,14.5s
KIS Kishinev 53.39 302 *e*P P 21 37 34.0 +6.4
KIS pmax pmax
comp=Z,80nm,1.8s
KIS MLR MLR
comp=Z,300nm,14.5s
MILM Milestii Mici 53.45 301 ||P P 21 37 33.9 +5.8
MILM Milestii Mici 53.45 301 *e*P **P** **21 37 24.0 -4.0**
comp=Z,130nm,1.9s
MILM *e*S **S** **21 44 57.0 -2.9**
MILM *e*L L 21 51 56.0
MILM LQM 21 57 47.0
comp=Z,1μm,19.0s
MILM LRM MLR 22 03 56.0
comp=Z,800nm,12.0s
MILM Milestii Mici 53.45 301 *e*P P 21 37 34.0 +6.0
MILM *e*S **S** **21 44 57.0 -2.9**
MILM pmax pmax
comp=Z,130nm,1.9s
MILM MLR MLR
comp=Z,800nm,12.0s
BJUU Bjuv 53.46 318 *i* P P 21 37 35.7 +7.7
T35M Bob Quinn 53.69 40 P **P** **21 37 32.6 +2.8**
baz=319,SNR=8.6
CRAG Craig 53.77 43 P **P** **21 37 33.6 +3.3**
baz=319
GKP Gorka Klasztor 53.92 314 *e*P P 21 37 38.4 +7.0
GKP *e*L L 22 02 37.2
comp=Z,2μm,16.1s
TOAD Toad River Com 53.96 36 P **P** **21 37 34.0 +2.3**
baz=321,SNR=10
YKA Yellowknife Ar 54.14 28 P **P** **21 37 32.7 -0.2**
YKA Yellowknife Ar 54.14 28 P **P** **21 37 32.1 -0.8**
comp=Z,10nm,1.0s,baz=329,slow=8.2,SNR=16
YKA LR LR 22 04 07.7
comp=Z,291nm,19.6s,baz=328,slow=40
comp=Z,10nm,1.0s
YKA Yellowknife Ar 54.14 28 *i* P **P** **21 37 33.9 +1.0**
YKA pmax pmax
comp=Z,11nm,1.0s
ARPR Arapgir-MALATY 54.32 289 P **P** **21 37 34.4 -0.4**
MARD Mardin 54.33 285 P **P** **21 37 34.5 -0.3**
MARD IAmb IAmb 21 38 07.7
comp=Z,16nm,1.0s
V35K Ketchikan 54.45 42 P **P** **21 37 37.6 +2.4**
baz=320
BUR08 Bucovina Ar. S 54.61 304 P **P** **21 37 36.3 -0.4**
BUR08 IAmb IAmb 21 37 47.5
comp=Z,23nm,0.8s
BURAR Bucovina Array 54.63 304 P **P** **21 37 36.7 -0.1**
BURAR IAmb IAmb 21 37 47.8
comp=Z,24nm,0.8s
BURAR Bucovina Array 54.63 304 ||P **P** **21 37 37.4 +0.6**
BURAR Bucovina Array 54.63 304 ||P **P** **21 37 37.4 +0.6**
ILULI Ilulissat 54.64 356 P **P** **21 37 36.2 -0.2**
ILULI IAmb IAmb 21 37 47.4

comp=Z,32nm,1.1s
ILULI Ilulissat 54.64 356 P **P** **21 37 36.2 -0.2**
ILULI pmax pmax
comp=Z,32nm,1.1s
TESR Tescani 54.77 302 ⇑P P 21 37 44.2 +6.5
KOLS Kolonicke sedl 54.99 307 *e*P P 21 37 49.0 +10
KOLS pmax pmax
comp=Z,16nm,0.7s
PANC Panciu 55.00 302 ⇑P **P** **21 37 43.2 +3.8**
TOLI2 Tolitoli 55.01 179 P **P** **21 37 38.3 -1.5**
TOLI2 lAmb lAmb 21 37 51.4
comp=Z,16nm,0.9s
CFR Carcaliu 55.04 300 ⇑P **P** **21 37 41.3 +1.7**
CFR Carcaliu 55.04 300 ⇑P **P** **21 37 41.3 +1.7**
OJC Ojcow 55.12 310 P **P** **21 37 39.7 -0.5**
OJC Ojcow 55.12 310 P **P** **21 37 39.7 -0.5**
VRI Vrincioaia 55.20 302 ⇑P **P** **21 37 44.3 +3.4**
VRI Vrincioaia 55.20 302 ⇑P **P** **21 37 44.3 +3.4**
PLOR Plostina 55.25 302 ⇓P P 21 37 46.1 +4.9
PLOR Plostina 55.25 302 ⇓P P 21 37 46.1 +4.8
BMR Baia Mare 55.37 305 ⇑P P 21 37 47.8 +5.8
BMR Baia Mare 55.37 305 ⇑P P 21 37 47.8 +5.8
TURR Turia 55.40 302 ⇑P **P** **21 37 44.0 +1.7**
ARCR ARCALIA 55.41 304 ⇑P **P** **21 37 46.7 +4.3**
BISRR Bisoca 55.45 302 ⇑P P 21 37 47.9 +5.2
OZUR 55.48 303 ⇑P **P** **21 37 45.7 +2.8**
NIE Niedzica 55.50 309 *e*P P 21 37 50.8 +7.8
NIE *e*L L 22 03 36.4
comp=Z,778nm,16.6s
MRSI Marisa 55.66 178 P **P** **21 37 43.1 -1.3**
comp=Z,469nmcomp=Z,61nm,1.1s
NEHR Nehoiu 55.73 302 ⇓P **P** **21 37 47.0 +2.2**
DIB Dawson Inlet, 55.74 44 P **P** **21 37 45.1 +0.5**
DIB lAmb lAmb 21 37 50.8
comp=Z,39nm,1.1s
DOPR Dopca 55.76 303 ⇓P **P** **21 37 48.7 +3.8**
ISR Istrita 55.84 301 ⇓P **P** **21 37 48.8 +3.3**
ISR Istrita 55.84 301 ⇓P **P** **21 37 48.8 +3.3**
MLR Muntele Rosu 55.85 302 P **P** **21 37 45.2 -0.5**
MLR Muntele Rosu 55.85 302 LR LR 22 03 32.2
comp=Z,778nm,18.5s,baz=44,slow=38
MLR Muntele Rosu 55.85 302 ⇑P **P** **21 37 48.4 +2.7**
MLR Muntele Rosu 55.85 302 P **P** **21 37 45.2 -0.5**
MLR pmax pmax
comp=Z,66nm,1.7s
RUE Ruedersdorf 55.90 315 *e*P P 21 37 55.8 +10
comp=Z,65nm,1.3s,baz=44,slow=7.0
PSI Prapat 55.98 206 LR LR 22 04 06.6
comp=Z,676nm,18.9s,baz=354,slow=39
LANS Liptovska Anna 56.06 309 *e*P P 21 37 55.0 +8.0
LANS pmax pmax
comp=Z,23nm,1.5s
OKC Ostrava-Krasne 56.11 310 AMS AMS 22 03 20.0
comp=Z,900nm,15.7s
KECS Kecovo 56.12 308 *e*P P 21 37 56.6 +9.2
KECS pmax pmax
comp=Z,38nm,0.7s
STEB Steborice 56.20 311 *e*P P 21 37 55.0 +7.1
STEB *ex* x 21 37 57.7
MARR Marisel-Cluj 56.28 305 ⇑P **P** **21 37 48.0 +1.2**
BR131 Keskin Array S 56.31 292 *i* P **P** **21 37 49.0 -0.1**
BRTR Keskin Array B 56.31 292 P **P** **21 37 48.6 -0.4**
BRTR Keskin Array B 56.31 292 P **P** **21 37 47.2 -1.9**
comp=Z,3.6nm,1.2s,baz=77,slow=5.3,SNR=8.6
BRTR LR LR 22 03 57.2
comp=Z,1μm,19.2s,baz=135,slow=38
comp=Z,3.6nm,1.2s
BRTR Keskin Array B 56.31 292 *i* P **P** **21 37 49.0 -0.1**
BRTR pmax pmax
comp=Z,4.0nm,1.2s
VOIR 56.31 303 ⇑P **P** **21 37 50.6 +1.7**
VOIR 56.31 303 ⇑P **P** **21 37 50.6 +1.7**
OSTC Ostas 56.38 312 AMS AMS 22 03 30.0
comp=Z,1μm,15.9s
DRGR 56.38 305 ⇑P **P** **21 37 53.1 +3.7**
DRGR 56.38 305 ⇑P **P** **21 37 53.1 +3.7**
MORC Moravsky Berou 56.41 311 P **P** **21 37 49.8 +0.2**
MORC lAmb lAmb 21 38 00.7
comp=Z,34nm,1.1s
MORC Moravsky Berou 56.41 311 *e*P **P** **21 37 52.2 +2.7**
MORC Moravsky Berou 56.41 311 ⇓P **P** **21 37 53.8 +4.3**
MORC Moravsky Berou 56.41 311 ⇓P **P** **21 37 53.8 +4.3**
CHVC Chvalec 56.42 312 *e*P P 21 37 56.9 +7.3
CHVC AMS AMS 22 03 50.0
comp=Z,1μm,16.6s
CHVC Chvalec 56.42 312 *e*P P 21 37 56.9 +7.3
CHVC MLR MLR
comp=Z,1μm,16.6s
DPC Dobruska-Polom 56.49 312 *e*P **P** **21 37 51.6 +1.5**
DPC *ex* x 21 37 57.7
DPC *ex* x 21 38 00.2
DPC AMS AMS 22 04 40.0
comp=Z,1μm,13.0s
DPC Dobruska-Polom 56.49 312 *e*P **P** **21 37 51.6 +1.5**
DPC *e* 21 37 57.7
DPC *e* 21 38 00.2
DPC MLR MLR
comp=Z,1μm,13.0s
UPC Upice 56.50 312 *e*P P 21 37 57.3 +7.2
UPC AMS AMS 22 03 40.0
comp=Z,1μm,14.8s
UPC Upice 56.50 312 *e*P P 21 37 57.3 +7.2
UPC MLR MLR
comp=Z,1μm,14.8s
KRLC Kraliky 56.51 311 *e*P P 21 37 57.4 +7.2
KRLC AMS AMS 22 04 20.0
comp=Z,800nm,13.6s
KRLC Kraliky 56.51 311 *e*P P 21 37 57.4 +7.2
KRLC MLR MLR
comp=Z,800nm,13.6s
ARR Arges 56.56 303 ⇑P **P** **21 37 55.1 +4.5**
MAUC Maruska 56.60 310 *e*P P 21 37 58.4 +7.5
PSZ Piszkesteto 56.80 308 P **P** **21 37 52.5 +0.1**
PSZ Piszkesteto 56.80 308 ⇑P **P** **21 37 56.4 +4.0**
PSZ Piszkesteto 56.80 308 P **P** **21 37 52.5 +0.1**
PSZ pmax pmax
comp=Z,53nm,1.3s
SFJD Kangerlussuaq 56.84 356 P **P** **21 37 52.7 +0.5**
SFJD Kangerlussuaq 56.84 356 LR LR 22 03 15.8
comp=Z,327nm,19.1s,baz=9.0,slow=37
SFJD Kangerlussuaq 56.84 356 P **P** **21 37 52.7 +0.5**
SFJD pmax pmax
comp=Z,56nm,1.3s
SFJD Kangerlussuaq 56.84 356 *i* P P 21 38 00.4 +8.2
SFJD lAmb lAmb 21 38 03.1
comp=Z,54nm,1.2s
LOT Lotru 56.90 303 ⇑P P 21 37 60.0 +6.8
FLTG Flechtingen 57.00 316 *e*P P 21 38 02.4 +8.8
comp=Z,53nm,1.5s,baz=44,slow=7.0
JAVC Velka Javorina 57.05 310 *e*P **P** **21 37 57.7 +3.6**
BRG Berggiesshubel 57.06 314 *e*P P 21 38 01.0 +6.9
comp=Z,26nm,1.2s,baz=44,slow=7.0
BRG Berggiesshubel 57.06 314 *e*P P 21 38 01.1 +7.0
BRG Amp 21 38 02.6
comp=Z,12nm,1.2s
PVCC Panska Ves 57.08 313 AMS AMS 22 04 20.0
comp=Z,1μm,13.3s
CLL Collm 57.10 314 *i* P P 21 38 00.7 +6.3
CLL *e*S **S** **21 45 49.0 +0.3**
CLL pmax pmax
comp=Z,60nm,1.6s
CLL Collm 57.10 314 *e*P P 21 38 03.7 +9.3
comp=Z,24nm,1.0s,baz=44,slow=7.0
CLL Collm 57.10 314 *e*Px Px 21 37 57.0
CLL *i* Pmax 21 38 00.7
comp=Z,60nm,1.6s
CLL *e*PP **PP** **21 40 04.0 +3.3**
CLL *e*S **S** **21 45 49.0 +0.3**
CLL *e*SS SS 21 49 24.0 -13
DY2G Dye2 57.13 354 *i* P P 21 38 01.4 +6.9
DY2G lAmb lAmb 21 38 06.3
comp=Z,306nm,1.7s
VRAC Vranov 57.17 311 P **P** **21 37 54.1 -0.7**
comp=Z,1.6nm,0.9s,baz=47,slow=8.0,SNR=2.0
VRAC LR LR 22 04 35.2
comp=Z,810nm,18.6s,baz=40,slow=38
comp=Z,1.6nm,0.9s
VRAC Vranov 57.17 311 *e*P **P** **21 37 57.5 +2.6**
VRAC Vranov 57.17 311 ⇑P **P** **21 37 57.9 +3.0**
VRAC Vranov 57.17 311 ⇑P **P** **21 37 57.9 +3.0**
RICC Richard 57.25 313 AMS AMS 22 04 20.0
comp=Z,1μm,13.4s
SIRR Siria 57.26 305 ⇓P **P** **21 37 57.6 +2.0**
ASSE Asse, Remlinge 57.38 316 *e*P P 21 38 05.8 +10
comp=Z,74nm,1.6s,baz=44,slow=7.0
RETH Rethem/Aller, 57.40 318 *e*P P 21 38 05.8 +9.4
comp=Z,49nm,1.3s,baz=44,slow=7.0
GZR Gura Zlata 57.41 304 ⇑P **P** **21 38 00.4 +3.7**
GZR Gura Zlata 57.41 304 ⇑P **P** **21 38 00.4 +3.7**
SMOL Smolenice 57.42 310 *e*P P 21 38 07.2 +11
SMOL pmax pmax
comp=Z,15nm,0.8s
SURR Surduc 57.43 305 ⇓P **P** **21 38 00.0 +3.3**
KRUC Moravsky 57.44 311 *e*P **P** **21 37 59.5 +2.7**
PRA Prague 57.48 313 AMS AMS 22 04 40.0
comp=Z,1μm,15.6s
PRU Pruhonice 57.50 313 *e*P P 21 38 04.5 +7.3
PRU *ex* x 21 38 07.1
PRU AMS AMS 22 04 30.0
comp=Z,1μm,17.0s
PRU Pruhonice 57.50 313 *e*P P 21 38 04.5 +7.3
PRU *e* 21 38 07.1
PRU MLR MLR
comp=Z,1μm,17.0s
SRO Srobarova 57.57 309 *e*P P 21 38 08.3 +11
SRO pmax pmax
comp=Z,47nm,1.7s
MODS Modra-Piesok 57.59 310 *e*P P 21 38 08.3 +10
MODS pmax pmax
comp=Z,48nm,1.2s
TREC Trest 57.65 311 AMS AMS 22 04 10.0
comp=Z,1μm,16.9s
NEUB Neuenburg 57.67 315 *e*P P 21 38 08.1 +10
comp=Z,30nm,1.2s,baz=44,slow=7.0
CLZ Clausthal 57.72 316 *e*P P 21 38 08.9 +10
comp=Z,105nm,1.7s,baz=44,slow=7.0
GSI Gunungsitoli 57.76 207 P P 21 38 04.8 +5.5
comp=Z,84nm,1.2s
BZS Buzias 57.77 305 ⇑P **P** **21 38 02.4 +3.3**
BZS Buzias 57.77 305 ⇑P **P** **21 38 02.4 +3.3**
ELND Elena 57.80 300 ⇓P **P** **21 38 00.6 +1.2**
PALK Pallekele 57.89 228 LR LR 22 03 57.8
comp=Z,429nm,21.8s,baz=56,slow=37
HERR Herculane 57.96 304 ⇓P **P** **21 38 01.8 +1.3**
TANN Tannenbergstha 58.02 314 *e*P P 21 38 11.0 +10
comp=Z,113nm,2.3s,baz=44,slow=7.0
PLVB Pleven 58.05 301 ⇑P **P** **21 38 05.3 +4.1**
ZVC Zvikov 58.07 312 *e*P P 21 38 08.6 +7.4
ZVC AMS AMS 22 04 30.0
comp=Z,900nm,14.2s
PLN Plauen 58.08 314 *e*P P 21 38 08.5 +7.2
comp=Z,26nm,1.6s,baz=44,slow=7.0
GTTG Gottingen 58.11 316 *e*P P 21 38 11.7 +10
comp=Z,108nm,1.7s,baz=44,slow=7.0
MOX Moxa 58.17 315 *e*P P 21 38 09.1 +7.2
comp=Z,76nm,1.7s,baz=44,slow=7.0
MOX *e*L L 22 04 43.1
comp=Z,590nm,18.1s
BBB Bella Bella 58.20 42 LR LR 22 04 23.0
comp=Z,466nm,19.2s,baz=337,slow=37
MDVR Moldovita 58.36 304 ⇑P **P** **21 38 05.6 +2.2**
MANZ Manzenberg 58.49 314 *e*P P 21 38 10.3 +6.1
comp=Z,8.4nm,1.8s,baz=44,slow=7.0
CKRC Cesky Krumlov 58.50 312 *e*P P 21 38 11.3 +7.0
CKRC *e*S **S** **21 46 09.9 +2.7**
CKRC AMS AMS 22 04 50.0
comp=Z,900nm,22.2s
CKRC Cesky Krumlov 58.50 312 *e*P P 21 38 11.3 +7.0
CKRC *e*S **S** **21 46 09.9 +2.7**
CKRC MLR MLR
comp=Z,900nm,22.2s
RONA Rosalia, Austr 58.53 310 *e*pP pP 21 38 07.9 -1.0
comp=Z,20nm,0.9s,SNR=6.4
CONA Conrad Observa 58.54 310 *e*pP **P** **21 38 08.7 +4.1**
comp=Z,35nm,1.8s,SNR=7.5
KHC Kasperske Hory 58.56 312 *e*P **P** **21 38 06.8 +2.1**
KHC *ex* x 21 38 12.3
KHC *ex* x 21 38 15.0
KHC *e*S **S** **21 46 07.8 -0.2**
KHC AMS AMS 22 06 00.0
comp=Z,1μm,14.2s
KHC Kasperske Hory 58.56 312 *e*P **P** **21 38 06.8 +2.1**
KHC *e* 21 38 12.3
KHC *e* 21 38 15.0
KHC *e*S **S** **21 46 07.8 -0.2**
KHC MLR MLR
comp=Z,1μm,14.2s
ROTZ Rotzenmuhle 58.62 314 *e*P P 21 38 12.5 +7.4
comp=Z,9.2nm,1.4s,baz=44,slow=7.0
UBBA Unterbreizbach 58.67 316 *e*P P 21 38 15.0 +10
comp=Z,30nm,1.4s,baz=44,slow=7.0
GEC2 GERESS Array S 58.74 312 *e*P P 21 38 13.1 +7.1
comp=Z,22nm,1.2s,baz=44,slow=7.0
GERES GERESS Array B 58.74 312 P **P** **21 38 06.7 +0.7**
comp=Z,0.4nm,0.6s,baz=51,slow=8.7,SNR=12
GERES LR LR 22 06 46.5
comp=Z,670nm,18.2s,baz=30,slow=40
comp=Z,0.4nm,0.6s
WET Wettzell 58.84 313 *e*P P 21 38 14.2 +7.6
comp=Z,28nm,1.2s,baz=44,slow=7.0
GRF Grafenberg Arr 59.08 314 *e*L L 22 08 36.4
comp=Z,545nm,18.0s
ARSA Arzberg 59.21 310 *e*pP **P** **21 38 11.6 +2.3**
comp=Z,14nm,1.1s
MOA Molln 59.28 311 *e*pP **P** **21 38 11.5 +1.8**
comp=Z,22nm,1.5s,SNR=5.2
RDO Rodhopi 59.31 299 P **P** **21 38 09.4 -0.6**
RDO lAmb lAmb 21 38 21.1
comp=Z,29nm,1.2s
EKA Eskdalemuir Ar 59.58 326 P **P** **21 38 11.9 +0.3**
comp=Z,0.9nm,0.5s,baz=30,slow=5.9,SNR=7.9
comp=Z,0.9nm,0.5s
EKA Eskdalemuir Ar 59.58 326 P **P** **21 38 11.7 +0.1**
EKA pmax pmax
comp=Z,29nm,1.2s
BIOA Bad Ischl, Aus 59.67 311 *e*pP **P** **21 38 14.1 +1.7**
comp=Z,6.0nm,1.1s
TNS Taunus Mts 59.74 316 *e*P P 21 38 22.2 +9.3
comp=Z,20nm,1.1s,baz=44,slow=7.0
SOKA Soboth 59.87 310 *e*pP **P** **21 38 17.6 +3.7**
comp=Z,26nm,1.3s,SNR=5.8
SMPI Sarmi 60.03 158 P **P** **21 38 15.6 +0.5**
comp=Z,1μmcomp=Z,14nm,0.9s
CSS Mathiatis 60.06 289 P **P** **21 38 14.4 -0.9**
CSS lAmb lAmb 21 38 46.9
comp=Z,19nm,0.8s
FRB Frobisher Bay 60.11 4 LR LR 22 05 20.8
comp=Z,252nm,19.3s,baz=338,slow=37
OBKA Obir 60.21 310 *e*pP **P** **21 38 20.1 +3.9**
comp=Z,35nm,1.2s,SNR=6.4
KBA Koelnbreinsper 60.27 311 *e*pP **P** **21 38 20.2 +3.5**
comp=Z,35nm,1.2s,SNR=6.6
LESA Schwarzleotal 60.28 312 *e*pP **P** **21 38 18.8 +2.2**
comp=Z,22nm,1.2s
ASF Jabal al Asfar 60.30 284 LR LR 22 06 38.4
comp=Z,323nm,19.3s,baz=65,slow=38
MMAI Mount Meron Ar 60.45 286 P **P** **21 38 19.4 +1.4**
comp=Z,0.3nm,0.4s,baz=1.9,slow=8.8,SNR=1.6
MMAI LR LR 22 07 14.1
comp=Z,438nm,18.8s,baz=44,slow=39
MYKA Terra Mystica 60.50 311 *e*pP **P** **21 38 20.2 +2.1**
comp=Z,28nm,1.1s,SNR=5.8
STU Stuttgart 60.62 315 *e*P P 21 38 28.7 +10
baz=44,slow=7.0
SKO Skopje 60.65 302 *i* P P 21 38 26.6 +7.5
WATA Walderalm 60.80 312 *e*pP **P** **21 38 22.3 +2.0**
comp=Z,32nm,1.4s,SNR=5.4
WTTA Wattenberg 60.84 312 *i* pP **P** **21 38 22.9 +2.3**
comp=Z,28nm,1.6s
ABTA Abfaltersbach 60.88 311 *e*pP **P** **21 38 24.2 +3.4**
comp=Z,19nm,1.3s,SNR=5.9
MOTA Moosalm 60.99 313 *i* pP **P** **21 38 25.6 +4.0**
comp=Z,26nm,1.6s,SNR=6.2
RETA Reutte 61.02 313 *i* pP **P** **21 38 23.9 +2.3**
comp=Z,12nm,1.3s
SQTA Sankt Quirin 61.05 313 *e*pP **P** **21 38 26.0 +4.1**
comp=Z,30nm,1.5s,SNR=7.1
KAPI Kappang 61.09 180 LR LR 22 04 53.3
comp=Z,236nm,22.0s,baz=344,slow=36
UBR Ueberruh 61.13 314 *e*P P 21 38 30.6 +8.2
comp=Z,28nm,1.3s,baz=44,slow=7.0
PDG Podgorica 61.31 304 P **P** **21 38 23.0 -0.6**
PDG lAmb lAmb 21 38 33.9
comp=Z,25nm,1.2s
PDG Podgorica 61.31 304 ⇓P **P** **21 38 25.9 +2.3**
BFO Black Forest 61.31 315 *e*P P 21 38 32.7 +9.1
comp=Z,53nm,1.7s,baz=44,slow=7.0
FETA Feichten 61.40 313 *e*pP **P** **21 38 26.3 +1.9**
comp=Z,19nm,1.3s
DAVA Damuels 61.53 313 *e*pP **P** **21 38 27.1 +1.9**
comp=Z,16nm,1.2s
OHR Ohrid 61.62 302 *i* P **P** **21 38 28.7 +2.9**
LLLB Lillooet 61.76 40 P **P** **21 38 27.0 +0.4**
FUORN Ofenpass-Fuorn 61.91 313 P **P** **21 38 27.8 -0.1**
RAYN Ar Rayn 62.29 271 P **P** **21 38 29.7 -0.8**
RAYN Ar Rayn 62.29 271 P **P** **21 38 29.7 -0.8**
RAYN pmax pmax
comp=Z,7.0nm,1.1s
TNG Tangerang 63.23 195 P **P** **21 38 40.7 +4.1**
EIL Elat 63.29 284 LR LR 22 08 50.6
comp=Z,403nm,18.8s,baz=2.0,slow=39
LEM Lembang 63.74 194 LR LR 22 10 58.2
comp=Z,470nm,18.1s,baz=304,slow=40
INTR Introdacqua 64.06 307 P **P** **21 38 38.1 -4.0**
INTR lAmb lAmb 21 38 53.5
comp=Z,27nm,1.1s
FFC Flin Flon 64.13 26 P **P** **21 38 40.8 -1.4**
FFC lAmb lAmb 21 38 53.1
comp=Z,33nm,1.2s
FFC Flin Flon 64.13 26 P **P** **21 38 40.8 -1.4**
FFC pmax pmax
comp=Z,33nm,1.3s
ITM Ithomi 64.16 299 P **P** **21 38 40.5 -2.1**
ITM lAmb lAmb 21 38 52.3
comp=Z,18nm,0.8s
IDI Anoyia 64.17 295 P **P** **21 38 40.8 -2.0**
comp=Z,6.9nm,0.9s,baz=12,slow=16,SNR=5.2
comp=Z,6.9nm,0.9s
NEW Newport 65.41 38 LR LR 22 09 15.6
comp=Z,946nm,20.6s,baz=333,slow=38
SOEI Soe 65.89 176 P **P** **21 38 51.7 -2.5**
SOEI Soe 65.89 176 P P 21 38 59.4 +5.2
VAE Valguarnera 67.50 304 LR LR 22 09 02.4
comp=Z,177nm,20.8s,baz=110,slow=36
BMO Blue Mountains 68.28 40 P **P** **21 39 09.4 +0.3**
BMO lAmb lAmb 21 39 12.2
comp=Z,28nm,1.2s
BMO Blue Mountains 68.28 40 P **P** **21 39 09.4 +0.3**
BMO pmax pmax
comp=Z,28nm,1.2s
YBH Yreka Blue Hor 68.89 46 LR LR 22 09 07.9
comp=Z,16nm,20.4s,baz=326,slow=36
SCHQ Schefferville 69.09 4 P **P** **21 39 14.8 +0.9**
comp=Z,110nm,1.0s,baz=16,slow=11,SNR=3.6
SCHQ LR LR 22 10 50.0
comp=Z,4μm,20.0s,baz=335,slow=37
LRM Limekiln Ridge 69.11 36 P **P** **21 39 14.9 +0.4**
PMG Port Moresby 69.19 151 LR LR 22 07 27.4
comp=Z,90nm,21.1s,baz=278,slow=34
DGMT Dagmar 69.25 30 P **P** **21 39 15.1 0.0**
BOZ Bozeman (W) 69.58 36 P **P** **21 39 17.9 +0.6**
BOZ Bozeman (W) 69.58 36 P **P** **21 39 17.9 +0.6**
BOZ pmax pmax
comp=Z,45nm,1.4s
ULM Lac du Bonnet 69.70 24 P **P** **21 39 17.1 -0.6**
comp=Z,12nm,1.1s,baz=0.0,slow=7.1,SNR=5.2
comp=Z,12nm,1.1s
MCMT McKenzie Canyo 69.85 37 P **P** **21 39 18.9 -0.2**
HLID Hailey 70.43 39 P **P** **21 39 23.1 +0.6**
HLID lAmb lAmb 21 39 25.6
comp=Z,13nm,1.0s
KEST Kesra 71.24 307 P **P** **21 39 27.2 -0.2**
comp=Z,1.1nm,0.8s,baz=23,slow=7.7,SNR=2.0
comp=Z,1.1nm,0.8s
BEKR Beckworth 71.42 45 P **P** **21 39 29.0 +0.4**
BEKR lAmb lAmb 21 39 31.3
comp=Z,15nm,1.2s
KNRA Kununurra 72.06 171 P P 21 39 37.6 +5.4
KNRA Kununurra 72.06 171 P **P** **21 39 31.2 -1.1**
PBRG Braganca 72.47 321 *e*P P 21 39 44.2 +9.4
ELK Elko 72.60 41 P **P** **21 39 36.1 +0.3**
ELK lAmb lAmb 21 39 39.1
comp=Z,14nm,1.1s
ELK Elko 72.60 41 LR LR 22 14 20.1
comp=Z,369nm,21.1s,baz=340,slow=38
ELK Elko 72.60 41 P **P** **21 39 36.1 +0.3**
ELK pmax pmax
comp=Z,14nm,1.1s
PDAR Pinedale Array 72.78 36 P **P** **21 39 36.2 -0.5**
PDAR Pinedale Array 72.78 36 P **P** **21 39 36.8 0.0**
comp=Z,6.5nm,0.9s,baz=5.7,slow=3.0,SNR=34
PDAR LR LR 22 13 49.3
comp=Z,281nm,18.3s,baz=332,slow=38
comp=Z,6.5nm,0.9s
PGAV Gavieira, Arco 72.86 322 *e*P P 21 39 46.6 +9.5
PGAV *e*LR LR 22 11 30.7
PGAV *i* lAMs_20 lAMs_20 22 14 59.7
comp=Z,344nm,18.0s
MVO Moncorvo 73.14 321 *e*P P 21 39 48.8 +10
MVO *i* lAmb lAmb 21 39 50.4
comp=Z,42nm,1.9s
MVO *e*LQ LQ 22 06 02.5
MVO *e*LR LR 22 12 25.5
MVO *i* lAMs_20 lAMs_20 22 15 41.0
comp=Z,585nm,16.0s
POLO Lamas de Olo 73.22 322 *e*P P 21 39 49.4 +10
POLO *i* lAmb lAmb 21 39 53.7
comp=Z,17nm,1.8s
PVRL Vila Real 73.28 322 *e*P P 21 39 49.4 +10
ESBB Sonseca Array 73.34 318 P **P** **21 39 39.8 -0.2**
ESBB lAmb lAmb 21 39 51.1
comp=Z,22nm,1.1s
ESDC Sonseca Array 73.35 318 P **P** **21 39 39.3 -0.6**
ESDC lAmb lAmb 21 39 51.0
comp=Z,22nm,1.1s
ESDC Sonseca Array 73.35 318 P **P** **21 39 40.5 +0.6**
comp=Z,2.6nm,1.0s,baz=16,slow=6.4,SNR=14
ESDC LR LR 22 17 08.9
comp=Z,641nm,18.6s,baz=19,slow=40
comp=Z,2.6nm,1.0s
ATD Arta Tunnel 73.44 266 LR LR 22 15 50.5
comp=Z,31nm,18.1s,baz=32,slow=39
NVAR Mina Array Bea 73.46 44 P **P** **21 39 40.7 -0.2**
NVAR Mina Array Bea 73.46 44 P **P** **21 39 42.6 +1.8**
comp=Z,2.5nm,0.8s,baz=306,slow=4.0,SNR=12
NVAR LR LR 22 14 09.7
comp=Z,274nm,19.2s,baz=310,slow=38
comp=Z,2.5nm,0.8s
PAB San Pablo 73.60 318 P **P** **21 39 40.1 -1.4**
PAB San Pablo 73.60 318 P **P** **21 39 40.1 -1.4**
PAB pmax pmax
comp=Z,14nm,1.1s
PTO Porto 73.71 322 *e*P P 21 39 51.5 +9.5
PVIS Viseu 73.84 321 *e*P P 21 39 52.9 +10
MTE Manteigas 74.00 321 *e*P P 21 39 53.8 +10
MTE *i* lAmb lAmb 21 39 55.6
comp=Z,38nm,1.6s
MTE *e*SS SS 21 54 15.6 +16
MTE *e*LQ LQ 22 05 48.2
MTE *e*LR LR 22 11 29.3
MTE *i* lAMs_20 lAMs_20 22 16 15.8
comp=Z,418nm,16.0s
FITZ Fitzroy Crossi 74.24 175 P **P** **21 39 43.8 -1.3**
PCBR Castelo Branco 74.47 321 *e*P P 21 39 56.5 +10
PCAS Casmilo, Conde 74.64 322 *e*P P 21 39 57.4 +10
PMRV Marv??o 74.81 320 *e*P P 21 39 58.0 +10
PMRV *i* lAmb lAmb 21 40 12.4
comp=Z,18nm,2.1s
PMRV *e*S **S** **21 49 29.1 +4.4**
PMRV *e*LQ LQ 22 05 35.0
PMRV *e*LR LR 22 12 35.1
PMRV *i* lAMs_20 lAMs_20 22 18 02.1
comp=Z,520nm,16.0s
PSARD Sardoal 74.93 321 *e*P P 21 39 59.3 +10
VLDQ Val d'Or 74.93 12 P **P** **21 39 48.0 -0.9**
PSBE So Bento 75.22 322 *e*P P 21 40 01.1 +10
PESTR Estremoz 75.38 320 *e*P P 21 40 01.6 +10
PESTR *i* lAmb lAmb 21 40 03.2
comp=Z,31nm,1.9s
PMTG Montargil 75.42 321 *e*P P 21 40 01.9 +10
ECSD EROS Data Cent 75.64 27 P **P** **21 39 52.7 -0.4**
ECSD lAmb lAmb 21 40 04.4
comp=Z,32nm,1.1s
LDAQ Lac Daran 75.68 8 P **P** **21 39 51.6 -1.8**
LDAQ lAmb lAmb 21 40 05.3
comp=Z,31nm,1.1s
PBAR Barrancos 75.80 320 *e*P P 21 40 03.8 +10
PBAR *i* lAmb lAmb 21 40 05.8
comp=Z,20nm,1.4s
EVO Evora 75.83 320 *e*P P 21 40 04.3 +10
EVO *i* lAmb lAmb 21 40 05.3
comp=Z,46nm,1.3s
PARRA Arraiolos 75.93 321 *e*P P 21 40 02.5 +7.6
PARRA *i* lAmb lAmb 21 40 11.6
comp=Z,22nm,1.8s
LMQ La Malbaie 76.16 7 P **P** **21 39 55.5 -0.6**

LMQ					IAmb	IAmb	21 40 07.9			
	comp=Z,40nm,1.2s									
PBEJ	**Beja**	**76.22**	**320**	*eP*	P	21 40 06.9	+10			
PBEJ				*i* IAmb	IAmb	21 40 07.8				
	comp=Z,36nm,1.2s									
MESJ	**Messejana**	**76.52**	**320**	*eP*	P	21 40 08.6	+10			
MESJ				*i* IAmb	IAmb	21 40 09.4				
	comp=Z,55nm,1.3s									
PCVE	**Castro Verde**	**76.64**	**320**	*eP*	P	21 40 09.2	+10			
PCVE				*i* IAmb	IAmb	21 40 10.0				
	comp=Z,40nm,1.2s									
WB0	**Warramunga Arr**	**76.71**	**166**	P	**P**	**21 39 56.8**	**-2.5**			
PVAQ	**Vaqueiros**	**76.72**	**320**	*eP*	P	21 40 09.6	+10			
PVAQ				*i* IAmb	IAmb	21 40 11.1				
	comp=Z,42nm,1.6s									
PVAQ				*e*LQ	LQ	22 06 11.3				
PVAQ				*e*LR	LR	22 11 20.4				
PVAQ				*i* IAMs_20	IAMs_20	22 17 46.0				
	comp=Z,788nm,18.0s									
ISCO	**Idaho Springs**	**76.73**	**35**	P	**P**	**21 39 59.4**	**-0.4**			
ISCO				IAmb	IAmb	21 40 13.3				
	comp=Z,27nm,1.2s									
ISCO	**Idaho Springs**	**76.73**	**35**	P	**P**	**21 39 59.4**	**-0.4**			
ISCO				pmax	pmax					
	comp=Z,27nm,1.3s									
WRA	**Warramunga Arr**	**76.88**	**166**	P	**P**	**21 39 58.5**	**-1.8**			
WRA	**Warramunga Arr**	**76.88**	**166**	P	**P**	**21 39 58.6**	**-1.6**			
	comp=Z,3.0nm,1.1s,baz=352,slow=6.9,SNR=12									
WRA				LR	LR	22 14 14.6				
	comp=Z,104nm,21.4s,baz=10,slow=36									
	comp=Z,3.0nm,1.1s									
WRA	**Warramunga Arr**	**76.88**	**166**	*i* P	**P**	**21 39 59.5**	**-0.8**			
WRA				pmax	pmax					
	comp=Z,3.0nm,1.0s									
WR8	**Warramunga Arr**	**76.91**	**166**	P	**P**	**21 39 59.3**	**-1.1**			
PBDV	**Barranco-do-Ve**	**76.94**	**320**	*eP*	P	21 40 11.3	+11			
GLMI	**Grayling**	**77.12**	**18**	P	**P**	**21 39 59.5**	**-2.0**			
FURI	**Furi**	**77.92**	**268**	LR	LR	22 15 58.8				
	comp=Z,346nm,20.0s,baz=35,slow=37									
SADO	**Sadowa**	**78.01**	**14**	LR	LR	22 16 43.9				
	comp=Z,3µm,18.5s,baz=2.0,slow=37									
PFO	**Pinyon Flats O**	**78.39**	**45**	LR	LR	22 14 27.8				
	comp=Z,332nm,20.7s,baz=312,slow=35									
MDT	**Midelt**	**79.62**	**315**	LR	LR	22 17 38.1				
	comp=Z,164nm,18.2s,baz=32,slow=37									
MD01	**Midelt array s**	**79.64**	**315**	P	**P**	**21 40 15.1**	**-0.8**			
KSU1	**Kansas State U**	**79.99**	**28**	P	**P**	**21 40 16.8**	**-0.6**			
KSU1				IAmb	IAmb	21 40 28.4				
	comp=Z,35nm,0.8s									
ASAR	**Alice Springs**	**80.49**	**167**	P	**P**	**21 40 19.0**	**-1.1**			
ASAR	**Alice Springs**	**80.49**	**167**	P	**P**	**21 40 19.4**	**-0.7**			
	comp=Z,0.7nm,0.7s,baz=353,slow=4.7,SNR=9.9									
ASAR				LR	LR	22 18 04.9				
	comp=Z,102nm,19.3s,baz=332,slow=37									
	comp=Z,0.7nm,0.7s									
ANMO	**Albuquerque**	**80.87**	**37**	LR	LR	22 20 17.0				
	comp=Z,378nm,18.9s,baz=74,slow=39									
Y22D	**IRIS PASSCAL I**	**81.51**	**38**	P	**P**	**21 40 26.7**	**+0.9**			
	baz=336									
ACSO	**Alum Creek Sta**	**81.86**	**18**	P	**P**	**21 40 26.8**	**-0.6**			
SSPA	**Standing Stone**	**82.24**	**14**	P	**P**	**21 40 29.0**	**-0.4**			
SSPA				IAmb	IAmb	21 40 40.5				
	comp=Z,35nm,1.2s									
CCM	**Cathedral Cave**	**82.31**	**25**	P	**P**	**21 40 29.3**	**-0.5**			
CCM				IAmb	IAmb	21 40 40.6				
	comp=Z,22nm,0.9s									
CCM	**Cathedral Cave**	**82.31**	**25**	P	**P**	**21 40 29.3**	**-0.5**			
CCM				pmax	pmax					
	comp=Z,22nm,1.0s									
WCI	**Wyandotte Cave**	**83.20**	**21**	P	**P**	**21 40 34.5**	**+0.2**			
WCI	**Wyandotte Cave**	**83.20**	**21**	P	**P**	**21 40 34.6**	**+0.2**			
WCI				pmax	pmax					
	comp=Z,48nm,0.9s									
WMOK	**Wichita Mounta**	**83.47**	**31**	P	**P**	**21 40 35.7**	**-0.2**			
WMOK	**Wichita Mounta**	**83.47**	**31**	P	**P**	**21 40 35.7**	**-0.2**			
WMOK				pmax	pmax					
	comp=Z,54nm,1.3s									
WVT	**Waverly**	**84.91**	**22**	P	**P**	**21 40 42.4**	**-0.8**			
WVT	**Waverly**	**84.91**	**22**	P	**P**	**21 40 42.4**	**-0.8**			
WVT				pmax	pmax					
	comp=Z,41nm,1.2s									
TZTN	**Tazewell**	**85.36**	**19**	P	**P**	**21 40 45.1**	**-0.3**			
OXF	**Oxford**	**86.12**	**24**	P	**P**	**21 40 48.8**	**-0.4**			
OXF	**Oxford**	**86.12**	**24**	P	**P**	**21 40 48.8**	**-0.4**			
OXF				pmax	pmax					
	comp=Z,36nm,1.2s									
TKL	**Tuckaleechee C**	**86.17**	**19**	P	**P**	**21 40 49.2**	**-0.3**			
TKL				IAmb	IAmb	21 41 00.7				
	comp=Z,22nm,1.1s									
TKL	**Tuckaleechee C**	**86.17**	**19**	LR	LR	22 21 33.7				
	comp=Z,326nm,19.7s,baz=354,slow=37									
TKL	**Tuckaleechee C**	**86.17**	**19**	P	**P**	**21 40 49.2**	**-0.3**			
TKL				pmax	pmax					
	comp=Z,22nm,1.1s									
TX31	**Lajitas Ar. Si**	**86.95**	**37**	P	**P**	**21 40 53.5**	**0.0**			
TX31				IAmb	IAmb	21 41 06.3				
	comp=Z,19nm,1.6s									
TXAR	**Lajitas Array**	**86.95**	**37**	P	**P**	**21 40 53.6**	**+0.1**			
TXAR	**Lajitas Array**	**86.95**	**37**	P	**P**	**21 40 53.8**	**+0.3**			
	comp=Z,4.3nm,1.1s,baz=299,slow=2.6,SNR=21									
TXAR				LR	LR	22 24 12.3				
	comp=Z,229nm,18.3s,baz=325,slow=39									
	comp=Z,4.3nm,1.1s									
KMBO	**Kilima Mbogo**	**86.97**	**263**	*i* P	**P**	**21 40 53.0**	**-0.9**			
KMBO				pmax	pmax					
	comp=Z,26nm,0.4s									
FORT	**Forrest**	**86.99**	**173**	P	P	21 40 59.0	+5.8			
KMSC	**Kings Mountain**	**87.11**	**17**	P	**P**	**21 40 53.7**	**-0.4**			
DZM	**Mont Dzumac**	**87.30**	**138**	*e*SS	SS	21 57 20.5	+0.7			
	comp=Z,93nm,24.6s									
DZM	**Mont Dzumac**	**87.30**	**138**	*e*LR	LR	22 08 38.7				
	comp=Z,214nm,23.2s									
LPIG	**La Paz**	**89.28**	**45**	LR	LR	22 21 15.2				
	comp=Z,160nm,20.6s,baz=345,slow=36									
STKA	**Stephens Creek**	**89.70**	**162**	P	**P**	**21 41 07.0**	**+1.0**			
	comp=Z,0.4nm,0.4s,baz=338,slow=5.1,SNR=3.7									
STKA				LR	LR	22 22 00.4				
	comp=Z,69nm,21.9s,baz=1.7,slow=36									
	comp=Z,0.4nm,0.4s									
MBAR	**Mbarara**	**90.16**	**269**	LR	LR	22 26 24.1				
	comp=Z,330nm,18.5s,baz=37,slow=39									
TORD	**Torodi Ar. Bea**	**94.08**	**301**	P	**P**	**21 41 27.0**	**+0.1**			
	comp=Z,0.2nm,0.6s,baz=24,slow=5.2,SNR=5.8									
	comp=Z,0.2nm,0.6s									
OPO	**Ambohidratompo**	**96.19**	**246**	LR	LR	22 25 14.9				
	comp=Z,109nm,18.4s,baz=173,slow=36									
PPT2	**Papeete2**	**104.59**	**100**	*e*LR	LR	22 16 29.4				
	comp=Z,182nm,22.0s									
PPT2				*e*LR	LR	22 16 36.1				
	comp=Z,191nm,22.8s									
TBI	**Tubuai**	**109.31**	**103**	*e*LR	LR	22 18 45.5				
	comp=Z,1µm,33.0s									
TBI				*e*LR	LR	22 18 46.0				
	comp=Z,1µm,28.8s									
VNDA	**Vanda**	**136.03**	**168**	PKP	**PKPdf**	**21 47 27.9**	**+0.3**			
	comp=Z,0.6nm,0.8s,baz=281,slow=5.2,SNR=3.3									
SYO	**Syowa Base**	**137.85**	**212**	⇑*e*Pdiff	**Pdif**	**21 44 40.6**	**+0.1**			
LPAZ	**La Paz**	**139.58**	**12**	PKP	**PKPdf**	**21 47 35.8**	**-0.9**			
	comp=Z,0.8nm,0.5s,baz=225,slow=1.4,SNR=2.3									
LPAZ				PP	**PP**	**21 50 28.9**	**-1.9**			
	comp=Z,0.8nm,0.6s,baz=8.8,slow=7.4,SNR=3.5									
PB08	**IPOC Station P**	**143.24**	**15**		PKPbc	21 47 40.2	+0.3			
PB01	**IPOC Station P**	**144.08**	**15**		PKPbc	21 47 41.8	-0.2			
QSPA	**South Pole Qui**	**146.05**	**180**		**PKPdf**	**21 47 46.1**	**+0.2**			
QSPA	**South Pole Qui**	**146.05**	**180**	PKPbc	**PKPbc**	**21 47 47.0**	**+0.2**			
	comp=Z,5.8nm,1.1s,baz=249,slow=1.5,SNR=9.8									
CPUP	**Villa Florida**	**150.01**	**355**		**PKPdf**	**21 47 55.1**	**+1.4**			
CPUP	**Villa Florida**	**150.01**	**355**	PKPbc	**PKPbc**	**21 47 57.4**	**-1.1**			
	comp=Z,3.5nm,1.1s,baz=225,slow=2.8,SNR=13									
TROLL	**Troll, Antarti**	**150.38**	**214**	⇑P	**PKPbc**	**21 47 58.0**	**-0.2**			
	comp=Z,228nm,0.6s									
LCO	**Las Campanas**	**151.66**	**20**		**PKPbc**	**21 48 00.9**	**-1.8**			
LCO	**Las Campanas**	**151.66**	**20**	PKIKP	**PKPbc**	**21 48 00.9**	**-1.8**			
SNAA	**Sanae**	**152.07**	**215**	⇑P	**PKPbc**	**21 48 01.5**	**-0.6**			
	comp=Z,31nm,0.6s									
SNAA	**Sanae**	**152.07**	**215**	PKPbc	**PKPbc**	**21 48 00.2**	**-1.8**			
	comp=Z,1.8nm,0.8s,baz=219,slow=9.2,SNR=7.1									
VNA2	**Neumayer--Watz**	**153.59**	**216**	⇑P	**PKiKP**	**21 48 09.6**	**+4.1**			
	comp=Z,6.3nm,0.6s,baz=90,slow=2.8									
VNA1	**Neumayer--Stat**	**153.91**	**216**	⇑P	**PKPab**	**21 48 14.4**	**-5.0**			
	comp=Z,3.7nm,0.7s									
VNA3	**Neumayer Olymp**	**154.29**	**215**	⇑P	**PKiKP**	**21 48 13.6**	**+6.7**			
	comp=Z,2.6nm,0.7s									

*SFS **28** 21:30:09.4, 35˚.60N×8˚.96W, h64km, ML3.3/8, ML3.2/8,*
MLv3.2/8
*MDD **28** 21:30:09.4±0.6, 35˚.57N×9˚.05W, h33km±14km, mb_Lg3.1/25, Error ellipse: s-maj=5.6km s-min=3.3km az=72.0*
*IGIL **28** 21:30:10.6, 35˚.62N×8˚.87W, h26km, ML2.6*
*INMG **28** 21:30:11.6±1.3, 35˚.63N×8˚.88W, h35km, ML2.6, Error ellipse: s-maj=5.1km s-min=3.1km az=78.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Mar de Marrocos*
*CNRM **28** 21:30:13.8, 35˚.00N×8˚.48W, h182km, ML3.0*

ISC 28 21:30:08.9±1.3, 35˚.63N±0˚.04×8˚.88W±0˚.05, h35km, n83, σ1§95/135, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.50**	**2**	*e*P		**Pn**		**21 30 34.4**	**+1.1**
PFVI				*e*S		**Sn**		**21 30 52.0**	**+0.3**
PFVI				*i* IAML				21 30 53.3	
PFVI				*i* IAML				21 30 56.0	
PFVI				*i* IAML				21 30 57.8	
MORF	**Marmelete**	**1.68**	**6**	*e*P		**Pn**		**21 30 36.9**	**+1.1**
MORF				*e*S		**Sn**		**21 30 56.3**	**+0.1**
MORF				IAML				21 30 57.6	
	comp=N,87nm,0.2s								
MORF	**Marmelete**	**1.68**	**6**	*e*P		**Pn**		**21 30 37.0**	**+1.1**
MORF				*e*S		**Sn**		**21 30 56.5**	**+0.3**
MORF				*i* IAML				21 30 57.5	
MORF				*i* IAML				21 30 57.7	
MORF				*i* IAML				21 31 01.1	
PBDV	**Barranco-do-Ve**	**1.78**	**25**	*e*P		**Pn**		**21 30 38.8**	**+1.6**
PBDV				*e*S		**Sn**		**21 30 59.2**	**+0.5**
PBDV				*i* IAML				21 30 59.6	
PBDV				*i* IAML				21 31 01.4	
PBDV				*i* IAML				21 31 02.7	
PTEO	**Sao Teotonio**	**1.92**	**4**	*e*P		**Pn**		**21 30 40.2**	**+1.2**
PTEO				*e*S		**Sn**		**21 31 02.1**	**+0.2**
PTEO				*i* IAML				21 31 02.8	
PTEO				*i* IAML				21 31 03.2	
PTEO				*i* IAML				21 31 03.6	
EXAYA	**Ayamonte**	**1.98**	**36**	Pn		**Pn**		**21 30 40.9**	**+1.0**
EXAYA				Sn		**Sn**		**21 31 04.0**	**+0.4**
PVAQ	**Vaqueiros**	**2.00**	**28**	*e*P		**Pn**		**21 30 41.6**	**+1.4**
PVAQ				*e*S		**Sn**		**21 31 04.2**	**+0.2**
PVAQ				*i* IAML				21 31 07.1	
PVAQ				*i* IAML				21 31 08.4	
PVAQ				*i* IAML				21 31 09.0	
PCVE	**Castro Verde**	**2.11**	**18**	*e*P		**Pn**		**21 30 43.3**	**+1.6**
PCVE				*e*S		**Sn**		**21 31 07.3**	**+0.6**
PCVE				*i* IAML				21 31 08.2	
PCVE				*i* IAML				21 31 08.5	
PCVE				*i* IAML				21 31 08.7	
EGRO	**El Granado**	**2.21**	**30**	P		**Pn**		**21 30 44.4**	**+1.3**
EGRO				S		**Sn**		**21 31 09.3**	**+0.2**
EGRO	**El Granado**	**2.21**	**30**	Pn		**Pn**		**21 30 44.8**	**+1.7**
EGRO				Sn		**Sn**		**21 31 09.5**	**+0.4**
EGRO				*i* IVmb_Lg				21 31 10.8	
MESJ	**Messejana**	**2.27**	**13**	*e*P		**Pn**		**21 30 45.2**	**+1.4**
MESJ				*e*S		**Sn**		**21 31 10.5**	**-0.1**
MESJ				IAML				21 31 12.3	
	comp=E,18nm,0.1s								
MESJ	**Messejana**	**2.27**	**13**	*e*P		**Pn**		**21 30 45.3**	**+1.4**
MESJ				*e*S		**Sn**		**21 31 10.8**	**+0.2**
MESJ				*i* IAML				21 31 12.0	
MESJ				*i* IAML				21 31 12.2	
MESJ				*i* IAML				21 31 12.7	
PBEJ	**Beja**	**2.53**	**18**	*e*P		**Pn**		**21 30 48.9**	**+1.5**
PBEJ				*e*S		**Sn**		**21 31 16.9**	**-0.1**
PBEJ				*i* IAML				21 31 17.6	
PBEJ				*i* IAML				21 31 19.0	
PBEJ				*i* IAML				21 31 19.2	
AVE	**Averroes**	**2.62**	**152**	S		**Sn**		**21 31 18.0**	**-1.4**
AVE				P		**Pn**		**21 30 49.3**	**+0.5**
ESPR	**Espera**	**2.74**	**62**	P		**Pn**		**21 30 51.5**	**+1.2**
ESPR				S		**Sn**		**21 31 23.5**	**+1.4**
ESPR	**Espera**	**2.74**	**62**	Pn		**Pn**		**21 30 52.2**	**+1.8**
ESPR				Sn		**Sn**		**21 31 23.2**	**+1.0**
ESPR				*i* IVmb_Lg				21 31 28.5	
EMIN	**Mina Concepcio**	**2.77**	**39**	P		**Pn**		**21 30 51.5**	**+0.7**
EMIN				S		**Sn**		**21 31 22.2**	**-0.9**
EMIN	**Mina Concepcio**	**2.77**	**39**	Pn		**Pn**		**21 30 52.1**	**+1.3**
EMIN				Sn		**Sn**		**21 31 22.0**	**-1.1**
EMIN				*i* IVmb_Lg				21 31 23.5	
ZHG	**ZHG**	**2.86**	**139**	P		**Pn**		**21 30 53.1**	**+1.1**
ZHG	**ZHG**	**2.86**	**139**	S		**Sn**		**21 31 25.0**	**-0.2**
ECEU	**Ceuta**	**2.86**	**84**	P		**Pn**		**21 30 52.8**	**+0.8**
ECEU	**Ceuta**	**2.86**	**84**	Sn		**Sn**		**21 31 28.3**	**+3.0**
EJIF	**Jimena Fronter**	**2.88**	**72**	Pn		**Pn**		**21 30 54.3**	**+2.5**
EJIF				Sn		**Sn**		**21 31 29.3**	**+3.5**
PBAR	**Barrancos**	**2.94**	**30**	*e*P		**Pn**		**21 30 54.6**	**+1.5**
PBAR				*e*S		**Sn**		**21 31 26.6**	**-0.6**
PBAR				*i* IAML				21 31 29.3	
PBAR				*i* IAML				21 31 29.4	
PBAR				*i* IAML				21 31 29.6	
EVO	**Evora**	**2.98**	**13**	P		**Pn**		**21 30 54.2**	**+0.5**
EVO				S		**Sn**		**21 31 26.9**	**-1.3**
EVO	**Evora**	**2.98**	**13**	*e*P		**Pn**		**21 30 54.8**	**+1.1**
EVO				*e*S		**Sn**		**21 31 27.5**	**-0.7**
EVO				*i* IAML				21 31 28.7	
EVO				*i* IAML				21 31 28.7	
EVO				*i* IAML				21 31 29.9	
PARRA	**Arraiolos**	**3.18**	**358**	*e*P		**Pn**		**21 30 58.4**	**+2.0**
PARRA				*e*S		**Sn**		**21 31 34.1**	**+0.9**
PARRA				*i* IAML				21 31 35.9	
PARRA				*i* IAML				21 31 36.0	
PARRA				*i* IAML				21 31 36.2	
SRHM	**Skhour des Reh**	**3.25**	**165**	P		**Pn**		**21 30 58.1**	**+0.6**
E1302	**La Puebla de C**	**3.29**	**62**	Pn		**Pn**		**21 31 00.5**	**+2.5**
E1302				Sn		**Sn**		**21 31 36.7**	**+0.8**
PMAFR	**Mafra**	**3.33**	**355**	*e*P		**Pn**		**21 31 00.1**	**+1.5**
PMAFR				*e*S		**Sn**		**21 31 36.7**	**-0.3**
PMAFR				*i* IAML				21 31 37.8	
PMAFR				*i* IAML				21 31 39.9	
PMAFR				*i* IAML				21 31 40.1	
PESTR	**Estremoz**	**3.39**	**17**	*e*S		**Sn**		**21 31 37.6**	**-0.7**
PESTR				*i* IAML				21 31 38.4	
PESTR				*i* IAML				21 31 39.2	
PESTR				*i* IAML				21 31 39.4	
EBAD	**Badajoz**	**3.46**	**25**	P		**Pn**		**21 31 01.3**	**+1.1**
EBAD				S		**Sn**		**21 31 38.4**	**-1.5**
EBAD	**Badajoz**	**3.46**	**25**	Pn		**Pn**		**21 31 01.4**	**+1.2**
EBAD				Sn		**Sn**		**21 31 40.6**	**+0.6**
EBAD				*i* IVmb_Lg				21 31 42.5	
PMTG	**Montargil**	**3.47**	**8**	*e*P		**Pn**		**21 31 01.5**	**+1.1**
PMTG				*e*S		**Sn**		**21 31 38.8**	**-1.5**
PMTG				*i* IAML				21 31 39.3	
PMTG				*i* IAML				21 31 41.0	
PMTG				*i* IAML				21 31 41.7	
ECAB	**El Cabril**	**3.70**	**48**	P		**Pn**		**21 31 05.1**	**+1.6**
ECAB				S		**Sn**		**21 31 43.1**	**-2.8**
ECAB	**El Cabril**	**3.70**	**48**	Pn		**Pn**		**21 31 05.1**	**+1.6**
ECAB				Sn		**Sn**		**21 31 43.8**	**-2.0**
PSBE	**So Bento**	**3.88**	**1**	*e*P		**Pn**		**21 31 08.0**	**+2.0**
PSBE				*e*S		**Sn**		**21 31 49.5**	**-0.9**
PSBE				*i* IAML				21 31 50.3	
PSBE				*i* IAML				21 31 53.8	
PSBE				*i* IAML				21 31 55.7	
PMRV	**Marv??o**	**3.97**	**17**	*e*P		**Pn**		**21 31 08.4**	**+1.1**
PMRV				*e*S		**Sn**		**21 31 51.3**	**-1.3**
PMRV				*i* IAML				21 31 52.5	
PMRV				*i* IAML				21 31 53.2	
PMRV				*i* IAML				21 31 53.9	
PSARD	**Sardoal**	**4.00**	**8**	*e*P		**Pn**		**21 31 09.0**	**+1.3**
PSARD				*e*S		**Sn**		**21 31 52.1**	**-1.3**
PSARD				*i* IAML				21 31 53.6	
PSARD				*i* IAML				21 31 54.9	
PSARD				*i* IAML				21 31 55.4	
CZD	**Col de Zad**	**4.10**	**128**	P		**Pn**		**21 31 09.3**	**0.0**
CZD	**Col de Zad**	**4.10**	**128**	S		**Sn**		**21 31 51.0**	**-5.2**
EGOR	**Sierra Gorda,**	**4.12**	**68**	Pn		Pn		21 31 15.7	+6.2
EGOR				Sn		**Sn**		**21 31 57.2**	**+0.7**
AKLM	**AKL**	**4.26**	**104**	P		**Pn**		**21 31 13.5**	**+2.2**
AKLM	**AKL**	**4.26**	**104**	S		**Sn**		**21 31 57.2**	**-2.7**
EADA	**Adamuz**	**4.28**	**52**	P		**Pn**		**21 31 12.6**	**+1.1**
EADA				S		**Sn**		**21 31 58.5**	**-1.8**
EADA	**Adamuz**	**4.28**	**52**	Pn		**Pn**		**21 31 13.0**	**+1.4**
EADA				Sn		**Sn**		**21 31 58.7**	**-1.6**
EADA				*i* IVmb_Lg				21 32 01.4	
PCBR	**Castelo Branco**	**4.35**	**14**	*e*P		**Pn**		**21 31 13.8**	**+1.3**
PCBR				*e*S		**Sn**		**21 32 00.1**	**-1.8**
PCBR				*i* IAML				21 32 02.2	
PCBR				*i* IAML				21 32 02.3	
PCBR				*i* IAML				21 32 02.4	
MD31	**MD31**	**4.39**	**128**	P		**Pn**		**21 31 13.3**	**+0.2**
MD31	**MD31**	**4.39**	**128**	S		**Sn**		**21 31 58.8**	**-4.2**
TISM	**Timmit**	**4.40**	**152**	P		**Pn**		**21 31 10.4**	**-2.7**
TISM	**Timmit**	**4.40**	**152**	S		Sn		21 31 55.1	-7.9
ELGU	**Los Guajares,**	**4.42**	**72**	Sn		**Sn**		**21 32 04.6**	**+0.8**
ELGU				*i* IVmb_Lg				21 32 08.2	
PCAS	**Casmilo, Conde**	**4.43**	**4**	*e*P		**Pn**		**21 31 15.1**	**+1.6**
PCAS				*e*S		**Sn**		**21 32 02.3**	**-1.5**
PCAS				*i* IAML				21 32 03.1	
PCAS				*i* IAML				21 32 04.4	
PCAS				*i* IAML				21 32 04.6	
OUK	**Oukaimeden**	**4.49**	**169**	P		**Pn**		**21 31 14.1**	**-0.7**
OUK	**Oukaimeden**	**4.49**	**169**	S		**Sn**		**21 32 00.6**	**-5.3**
MDT	**Midelt**	**4.52**	**127**	P		**Pn**		**21 31 15.1**	**+0.2**
MDT	**Midelt**	**4.52**	**127**	S		**Sn**		**21 32 01.7**	**-4.6**
EQUE	**Quentar**	**4.66**	**69**	Sn		**Sn**		**21 32 11.5**	**+1.7**
E0803	**Jimena (Jaen)**	**4.87**	**62**	Pn		**Pn**		**21 31 21.8**	**+2.1**
E0803				Sn		**Sn**		**21 32 15.4**	**+0.6**
MTE	**Manteigas**	**4.88**	**12**	*e*P		**Pn**		**21 31 21.6**	**+1.8**
MTE				*e*S		**Sn**		**21 32 13.4**	**-1.6**
MTE				*i* IAML				21 32 15.1	
MTE				*i* IAML				21 32 15.2	
MTE				*i* IAML				21 32 15.3	
TIO	**Tiouine**	**4.88**	**163**	P		**Pn**		**21 31 19.1**	**-0.9**
TIO				S		**Sn**		**21 32 10.9**	**-4.4**
EPLA	**Plasencia**	**4.95**	**26**	Pn		**Pn**		**21 31 22.5**	**+1.8**
EPLA				Sn		**Sn**		**21 32 15.2**	**-1.6**
EPLA				*i* IVmb_Lg				21 32 17.4	
PVIS	**Viseu**	**5.14**	**8**	*e*S		**Sn**		**21 32 19.2**	**-2.2**
EQES	**Quesada**	**5.14**	**63**	Pn		**Pn**		**21 31 25.9**	**+2.4**
EQES				Sn		**Sn**		**21 32 21.5**	**-0.2**
EQES				*i* IVmb_Lg				21 32 24.5	
PSIM	**Granatula de C**	**5.18**	**51**	Pn		**Pn**		**21 31 25.5**	**+1.5**
PSIM				Sn		**Sn**		**21 32 21.3**	**-1.2**
PAB	**San Pablo**	**5.31**	**41**	Pn		**Pn**		**21 31 27.5**	**+1.8**
PAB				Sn		**Sn**		**21 32 21.7**	**-4.1**
PAB				*i* IVmb_Lg				21 32 27.3	
JBK	**JBK**	**5.34**	**102**	P		**Pn**		**21 31 25.0**	**-1.2**
TAF	**Taforalt**	**5.35**	**97**	P		**Pn**		**21 31 26.4**	**0.0**
TAF	**Taforalt**	**5.35**	**97**	S		**Sn**		**21 32 24.5**	**-2.4**
ESBB	**Sonseca Array**	**5.62**	**43**	Sn		**Sn**		**21 32 28.8**	**-4.4**
MVO	**Moncorvo**	**5.71**	**14**	*e*P		**Pn**		**21 31 32.9**	**+1.6**
MVO				*e*S		**Sn**		**21 32 33.1**	**-2.5**
MVO				*i* IAML				21 32 35.0	
MVO				*i* IAML				21 32 35.8	
MVO				*i* IAML				21 32 36.0	
POLO	**Lamas de Olo**	**5.80**	**8**	*e*P		**Pn**		**21 31 33.9**	**+1.4**
POLO				*e*S		**Sn**		**21 32 34.8**	**-3.0**
POLO				*i* IAML				21 32 37.9	
POLO				*i* IAML				21 32 38.1	
POLO				*i* IAML				21 32 38.7	
PCAB	**Cabril**	**6.11**	**6**	*e*P		**Pn**		**21 31 38.2**	**+1.6**
PCAB				*e*S		**Sn**		**21 32 42.8**	**-2.5**
PCAB				*i* IAML				21 32 43.4	
PCAB				*i* IAML				21 32 45.7	
PCAB				*i* IAML				21 32 47.2	
GUD	**Guadarrama**	**6.24**	**35**	Sn		**Sn**		**21

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUM	**Brajici-Budva**	**0.17**	**104**	⇓*i*Pg	**Pg**	**22 01 15.5**	**-0.2**
BUM				*i* Sg	**Sg**	**22 01 17.9**	**0.0**
HCY	**Herceg Novi**	**0.17**	**308**	⇑*i*Pg	**Pg**	**22 01 16.3**	**+0.6**
HCY				*i* Sg	**Sg**	**22 01 19.1**	**+1.2**
CEME	**Cevo**	**0.27**	**41**	⇓*i*Pg	**Pg**	**22 01 17.3**	**-0.3**
CEME				*i* Sg	**Sg**	**22 01 21.0**	**-0.2**
DRME	**Dracevica, Mon**	**0.41**	**112**	*e*Pg	**Pg**	**22 01 20.5**	**+0.3**
DRME				*e*Sg	**Sg**	**22 01 26.8**	**+1.2**
DRME	**Dracevica, Mon**	**0.41**	**112**	⇓*i*Pg	**Pg**	**22 01 20.3**	**+0.1**
DRME				*i* Sg	**Sg**	**22 01 26.3**	**+0.7**
PDG	**Podgorica**	**0.44**	**78**	⇓P	**Pg**	**22 01 20.1**	**-0.7**
PDG				⇓S	**Sg**	**22 01 26.6**	**0.0**
PDG	**Podgorica**	**0.44**	**78**	*e*Pg	**Pg**	**22 01 20.7**	**-0.1**
PDG				*e*Sg	**Sg**	**22 01 27.9**	**+1.4**
PDG	**Podgorica**	**0.44**	**78**	⇑*i*Pg	**Pg**	**22 01 20.3**	**-0.5**
PDG				*i* Sg	**Sg**	**22 01 26.8**	**+0.3**
TREB	**Trebinje**	**0.44**	**328**	⇑*i*Pg	**Pg**	**22 01 21.2**	**+0.3**
TREB				*e*Sg	**Sb**	**22 01 29.0**	**-1.0**
TREB	**Trebinje**	**0.44**	**328**	*e*Pg	**Pg**	**22 01 21.0**	**+0.1**
TREB				*e*Sg	**Sb**	**22 01 29.6**	**-0.4**
NKME	**Niksic**	**0.47**	**26**	⇓*i*Pg	**Pg**	**22 01 21.1**	**-0.3**
NKME				*i* Sg	**Sg**	**22 01 28.5**	**+0.9**
DBRK	**Dubrovnik**	**0.51**	**310**	*e*Pg	**Pg**	**22 01 22.1**	**0.0**
DBRK				Sg	**Sg**	**22 01 29.8**	**+1.1**
BRY	**Bratogost**	**0.57**	**350**	⇑*i*Pg	**Pg**	**22 01 22.9**	**-0.4**
BRY				*i* Sg	**Sg**	**22 01 31.7**	**+1.0**
ULC	**Ulcinj**	**0.57**	**132**	⇓*i*Pg	**Pg**	**22 01 22.5**	**-0.8**
ULC				*i* Sg	**Sg**	**22 01 31.2**	**+0.6**
KOME	**Kolasin**	**0.80**	**50**	*e*Pg	**Pg**	**22 01 27.2**	**-0.6**
KOME				*e*Sg	**Sn**	**22 01 41.4**	**-1.9**
KOME	**Kolasin**	**0.80**	**50**	⇓*i*Pg	**Pg**	**22 01 26.9**	**-0.9**
KOME				*i* Sg	**Sg**	**22 01 38.9**	**+0.7**
KLINJ	**Klinje**	**0.83**	**356**	*e*Pg	**Pg**	**22 01 27.6**	**-0.7**
KLINJ				*e*Sg	**Sb**	**22 01 41.2**	**0.0**
UPM	**Unac-Piva**	**0.88**	**11**	⇓*i*Pg	**Pg**	**22 01 28.0**	**-1.2**
UPM				*i* Sg	**Sb**	**22 01 41.5**	**-1.1**
STON	**Ston**	**0.89**	**307**	*e*Pg	**Pg**	**22 01 28.7**	**-0.8**
STON				*e*Sg	**Sb**	**22 01 42.6**	**-0.2**
STON	**Ston**	**0.89**	**307**	Sg	**Sb**	**22 01 42.3**	**-0.6**
STON	**Ston**	**0.89**	**307**	*e*Pg	**Pg**	**22 01 28.6**	**-0.9**
STON				*e*Sg	**Sn**	**22 01 43.0**	**-2.3**
STON	**Ston**	**0.89**	**307**	*e*Pg	**Pg**	**22 01 28.4**	**-1.1**
BEY	**Berane**	**1.04**	**59**	*e*Pg	**Pg**	**22 01 32.3**	**-0.1**
BEY				*e*Sg	**Sn**	**22 01 48.5**	**-0.7**
IVA	**Berane**	**1.04**	**59**	⇑*i*Pg	**Pg**	**22 01 31.4**	**-1.0**
IVA				*i* Sg	**Sb**	**22 01 47.0**	**-0.3**
SJES	**Sjenica**	**1.33**	**46**	*e*Pg	**Pb**	**22 01 37.4**	**-0.6**
SJES				*e*Sn	**Sg**	**22 01 58.7**	**+3.7**
RUDO	**Rudo**	**1.37**	**22**	*e*Pg	**Pg**	**22 01 37.8**	**-0.7**
RUDO				*e*Sg	**Sg**	**22 01 56.8**	**+0.3**
RUDO	**Rudo**	**1.37**	**22**	*e*Pg	**Pg**	**22 01 39.3**	**+0.6**
RUDO				*e*Sg	**Sg**	**22 01 58.1**	**+1.6**
LSTV	**Lastovo**	**1.38**	**289**	*e*Pn	**Pg**	**22 01 38.7**	**-0.2**
LSTV				Sg	**Sg**	**22 01 58.8**	**+2.0**
MAKA	**Makarska**	**1.54**	**308**	*e*Pn	**Pn**	**22 01 40.2**	**-0.6**
MAKA				Sn	**Sg**	**22 02 03.2**	**+1.3**
RICI	**Ricice**	**1.61**	**316**	*e*Pn	**Pn**	**22 01 41.4**	**-0.4**
RICI				Sn	**Sg**	**22 02 05.5**	**+1.3**
BBLS	**Lazi&#263i**	**1.61**	**19**	*e*Pn	**Pg**	**22 01 43.7**	**+0.4**
BBLS				*e*Sn	**Sg**	**22 02 06.0**	**+1.8**
IVAS	**Ivanjica**	**1.64**	**41**	*e*Pg	**Pb**	**22 01 43.0**	**-0.4**
IVAS				*e*Sn	**Sg**	**22 02 06.7**	**+1.5**
DIVS	**Divibare**	**2.00**	**28**	*e*Pn	**Pb**	**22 01 48.7**	**-0.8**
DIVS				*e*Sn	**Sg**	**22 02 16.4**	**-0.3**
SELS	**Selova**	**2.00**	**63**	*e*Pn	**Pb**	**22 01 48.2**	**-1.3**
SELS				*e*Sn	**Sb**	**22 02 15.0**	**+0.2**
OHR	**Ohrid**	**2.01**	**127**	*i* Pn	**Pg**	**22 01 50.6**	**-0.3**
OHR				*i* Sn	**Sg**	**22 02 23.6**	**+6.7**
GOCS	**Kraljevo Serbi**	**2.02**	**52**	*e*Pn	**Pb**	**22 01 48.7**	**-1.2**
GOCS				*e*Sn	**Sb**	**22 02 15.8**	**+0.3**
GRUS	**Gruza**	**2.15**	**43**	*e*Pn	**Pb**	**22 01 50.7**	**-1.3**
GRUS				*e*Sn	**Sb**	**22 02 19.5**	**+0.4**
TRUS	**Trudelj**	**2.27**	**33**	*e*Pn	**Pb**	**22 01 52.1**	**-1.9**
TRUS				*e*Sn	**Sb**	**22 02 22.5**	**+0.1**
TEKS	**Tekeris**	**2.29**	**15**	*e*Pn	**Pn**	**22 01 52.1**	**+0.9**
TEKS				*e*Sn	**Sb**	**22 02 22.6**	**-0.6**
KIJV	**Kijevo**	**2.35**	**316**	*e*Pn	**Pn**	**22 01 52.1**	**+0.2**
KIJV				*e*Sn	**Sb**	**22 02 22.4**	**-2.4**
KIJV	**Kijevo**	**2.35**	**316**	*e*Pn	**Pb**	**22 01 53.2**	**-2.2**
KIJV				Sn	**Sb**	**22 02 24.0**	**-0.8**
BARS	**Barje**	**2.37**	**77**	*e*Pn	**Pb**	**22 01 53.5**	**-2.2**
BARS				*e*Sn	**Sb**	**22 02 24.6**	**-0.8**
BOVS	**Bovan**	**2.57**	**59**	⇓S	**Sb**	**22 02 28.7**	**-3.1**
BOVS	**Bovan**	**2.57**	**59**	*e*Pn	**Pb**	**22 02 56.7**	**-2.5**
BOVS				*e*Sn	**Sb**	**22 02 28.7**	**-2.5**
BOVS	**Bovan**	**2.57**	**59**	⇑P	**Pn**	**22 01 56.2**	**+1.2**
ZIRJ	**Zirje**	**2.58**	**302**	*e*Pn	**Pn**	**22 01 55.5**	**+0.5**
ZIRJ				Sn	**Sb**	**22 02 29.2**	**-2.2**
BLY	**Banja Luka**	**2.64**	**336**	*e*Pn	**Pn**	**22 01 56.0**	**+0.1**
BLY				*e*Sn	**Sn**	**22 02 29.2**	**+0.8**
BLY	**Banja Luka**	**2.64**	**336**	⇑P	**Pb**	**22 01 59.9**	**-0.4**
BLY				⇓S	**Sb**	**22 02 33.0**	**-0.1**
BLY	**Banja Luka**	**2.64**	**336**	*e*Pn	**Pb**	**22 01 58.9**	**-1.4**
BLY				*e*Sn	**Sb**	**22 02 32.6**	**-0.5**
MORI	**Morici**	**2.65**	**306**	*e*Pn	**Pn**	**22 01 57.5**	**+1.4**
MORI				Sn	**Sb**	**22 02 30.8**	**-2.7**
AVAS	**Avala Beograd**	**2.71**	**29**	*e*Pn	**Pn**	**22 01 58.5**	**+1.7**
AVAS				*e*Sn	**Sb**	**22 02 32.3**	**-2.8**
FRGS	**Fruska Gora**	**2.93**	**16**	*e*Pn	**Pn**	**22 02 00.9**	**+1.0**
FRGS				*e*Sn	**Sn**	**22 02 36.7**	**+1.0**
ZAGS	**Zajecar**	**2.99**	**59**	*e*Pn	**Pn**	**22 02 00.2**	**+1.9**
ZAGS				*e*Sn	**Sb**	**22 02 39.8**	**-3.5**
ZAPS	**Zavoj**	**3.06**	**71**	*e*Pn	**Pb**	**22 02 04.0**	**-3.5**
ZAPS				*e*Sn	**Sn**	**22 02 40.1**	**+1.2**
IGT	**Igoumenitsa**	**3.08**	**155**	*e*Pn	**Pn**	**22 02 01.3**	**-0.6**
DUGI	**Dugi Otok**	**3.12**	**303**	*e*Pn	**Pn**	**22 02 03.0**	**+0.5**
DUGI				Sn	**Sn**	**22 02 42.1**	**+1.9**
VIRC	**Vir**	**3.28**	**308**	*e*Pn	**Pn**	**22 02 05.6**	**+0.9**
VIRC				Sn	**Sn**	**22 02 46.4**	**+2.2**
MDVR	**Moldovita**	**3.29**	**41**	⇓P	**Pn**	**22 02 06.3**	**+1.4**
MDVR				⇑S	**Sn**	**22 02 45.9**	**+1.3**
VRSS	**Vrsac**	**3.38**	**34**	*e*Pn	**Pn**	**22 02 07.7**	**+1.6**
VRSS				*e*Sn	**Sn**	**22 02 48.4**	**+1.7**
VTS	**Vitosha**	**3.39**	**84**	*e*Pn	**Pn**	**22 02 08.1**	**+1.8**
NVLJ	**Novalja**	**3.55**	**310**	*e*Pn	**Pn**	**22 02 09.2**	**+0.8**
NVLJ				Sn	**Sn**	**22 02 52.6**	**+1.8**
MOSL	**Moslavina**	**3.55**	**338**	*e*Pn	**Pn**	**22 02 07.6**	**-0.8**
MOSL				*e*Sn	**Sn**	**22 02 50.2**	**-0.3**
HERR	**Herculane**	**3.72**	**46**	⇓P	**Pn**	**22 02 12.0**	**+1.3**
HERR				⇑S	**Sn**	**22 02 57.0**	**+1.9**
BZS	**Buzias**	**3.90**	**32**	⇓P	**Pn**	**22 02 14.1**	**+0.9**
BZS				⇓S	**Sn**	**22 03 00.8**	**+1.2**
BZS	**Buzias**	**3.90**	**32**	*e*Pn	**Pn**	**22 02 14.1**	**+0.9**
BOJS	**Bojanci**	**4.01**	**323**	*e*Pn	**Pn**	**22 02 16.6**	**+1.9**
SURR	**Surduc**	**4.22**	**35**	⇑P	**Pn**	**22 02 18.7**	**+1.1**
SURR				⇑S	**Sn**	**22 03 07.9**	**+0.5**
RIY	**Rijeka**	**4.25**	**316**	*e*Pn	**Pn**	**22 02 19.6**	**+1.6**
GZR	**Gura Zlata**	**4.25**	**43**	⇑P	**Pn**	**22 02 20.2**	**+2.1**
GZR				⇓S	**Sn**	**22 03 09.8**	**+1.4**
SIRR	**Siria**	**4.47**	**28**	⇑S	**Sn**	**22 03 15.4**	**+1.7**
SIRR	**Siria**	**4.47**	**28**	*e*Pn	**Pn**	**22 02 21.8**	**+0.7**
SIRR	**Siria**	**4.47**	**28**	⇑P	**Pn**	**22 02 22.2**	**+1.2**
CEY	**Cerknica**	**4.57**	**319**	*e*Pn	**Pn**	**22 02 24.4**	**+1.9**
SKDS	**Skadanscina**	**4.64**	**315**	*e*Pn	**Pn**	**22 02 23.7**	**+0.2**
DRGR		**5.30**	**32**	⇓S	**Sn**	**22 03 34.9**	**+0.7**

*IDC **28** 22:25:17.6±8.3, 19°.20S×177°.02W, h192km±75km, mb3.8/9, mbtmp4.4/10, Error ellipse: s-maj=27.5km s-min=19.3km az=48.0*
*NEIC **28** 22:25:30.6±1.8, 19°.4S±0°.1×176°.9W±0°.1, h326km±9km, mb4.4/29, Error ellipse: s-maj=17.6km s-min=13.8km az=201.0*

ISC 28 22:25:33.6±0.6, 19°.43S±0°.08×177°.16W±0°.09, h351km, n47, σ1§31/49, mb4.3/22, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.84**	**290**		**Pn**	**22 26 50.4**	**-1.4**
FUTU	**Fugatoga**	**5.17**	**350**		**Pn**	**22 26 51.5**	**-3.8**
NIUE	**Niue**	**6.84**	**88**	Pn	Pn	22 27 06.8	-7.4
PINNC	**Pines Island,**	**14.72**	**255**	P	**Pn**	**22 28 47.2**	**0.0**
SANVU	**Saraoutou**	**15.43**	**282**	P	**P**	**22 28 54.1**	**+1.1**
DZM	**Mont Dzumac**	**15.56**	**257**		**Pn**	**22 28 56.1**	**-1.0**
DZM	**Mont Dzumac**	**15.56**	**257**	P	**P**	**22 28 54.7**	**+0.2**
	23nm,1.0s,baz=112,slow=8.8,SNR=15						
MXZ	**Matakaoa Point**	**18.50**	**191**	P	**P**	**22 29 23.8**	**-1.8**
TOZ	**Tahuroa Road**	**19.33**	**198**	P	**P**	**22 29 33.7**	**-0.7**
TOZ				IAmb	IAmb	22 29 35.2	
	comp=Z,36nm,1.4s						
URZ	**Urewera**	**19.41**	**194**	P	**P**	**22 29 31.7**	**-3.7**
	comp=Z,14nm,0.4s,baz=329,slow=2.5,SNR=24						
URZ				S	**S**	**22 32 50.9**	**-3.9**
	comp=Z,18nm,0.7s,baz=113,slow=16,SNR=8.3						
ARMA	**Armidale**	**30.25**	**243**	P	**P**	**22 31 13.7**	**+0.3**
ARMA				IAmb	IAmb	22 31 46.8	
	comp=Z,21nm,1.3s						
CAN	**Canberra**	**33.76**	**235**		**P**	**22 31 43.4**	**-0.3**
CAN				IAmb	IAmb	22 31 44.9	
	comp=Z,24nm,1.1s						
CTAO	**Charters Tower**	**34.40**	**263**	P	**P**	**22 31 49.1**	**0.0**
STKA	**Stephens Creek**	**38.97**	**243**		**P**	**22 32 26.9**	**-0.3**
STKA	**Stephens Creek**	**38.97**	**243**	P	**P**	**22 32 27.0**	**-0.3**
	comp=Z,22nm,1.1s,baz=86,slow=8.1,SNR=14						
	comp=Z,22nm,1.1s						
BBOO	**Buckleboo**	**43.73**	**243**		**P**	**22 33 04.9**	**-0.7**
BBOO				IAmb	IAmb	22 33 05.7	
	comp=Z,27nm,1.1s						
WB0	**Warramunga Arr**	**45.51**	**261**		**P**	**22 33 18.9**	**-0.8**
AS31	**Alice Springs**	**45.54**	**256**		**P**	**22 33 19.7**	**-0.2**
ASAR	**Alice Springs**	**45.54**	**256**	P	**P**	**22 33 19.6**	**-0.3**
	comp=Z,12nm,0.6s,baz=86,slow=8.4,SNR=128						
ASAR				S	**S**	**22 39 34.3**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=96,slow=15,SNR=4.5						
	comp=Z,12nm,0.6s						
WRA	**Warramunga Arr**	**45.54**	**261**		**P**	**22 33 19.3**	**-0.7**
WRA	**Warramunga Arr**	**45.54**	**261**	P	**P**	**22 33 19.4**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=97,slow=7.2,SNR=57						
WRA				S	**S**	**22 39 35.5**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=96,slow=20,SNR=3.2						
	comp=Z,2.1nm,0.3s						
FORT	**Forrest**	**50.45**	**246**	P	**P**	**22 33 56.4**	**-0.6**
FORT				IAmb	IAmb	22 33 57.5	
	comp=Z,10nm,0.8s						
KNRA	**Kununurra**	**51.53**	**265**	P	**P**	**22 34 05.5**	**+0.4**
KNRA				IAmb	IAmb	22 34 07.3	
	comp=Z,12nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.96**	**261**	P	**P**	**22 34 23.1**	**+0.4**
SOEI	**Soe**	**57.27**	**271**		**P**	**22 34 46.7**	**+0.4**
PSA00	**Pilbara Seismi**	**58.68**	**256**		**P**	**22 34 55.0**	**-0.8**
SBA	**Scott Base**	**58.99**	**184**		**P**	**22 34 58.0**	**+1.2**
VNDA	**Vanda**	**59.04**	**185**	P	**P**	**22 34 58.5**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=24,slow=7.4,SNR=7.0						
	comp=Z,1.1nm,0.5s						
MORW	**Morawa**	**60.97**	**247**	P	**P**	**22 35 11.2**	**+0.1**
MORW				IAmb	IAmb	22 35 12.7	
	comp=Z,16nm,1.2s						
CASY	**Casey**	**65.26**	**205**	P	**P**	**22 35 39.6**	**+1.3**
CASY				IAmb	IAmb	22 35 40.4	
	comp=Z,3.3nm,0.6s						
MJAR	**Matsushiro Arr**	**69.83**	**323**	P	**P**	**22 36 08.5**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=152,slow=4.9,SNR=3.5						
	comp=Z,0.8nm,0.7s						
KKM	**Kota Kinabalu**	**70.26**	**284**	P	**P**	**22 36 10.4**	**+0.2**
QSPA	**South Pole Qui**	**70.64**	**180**		**P**	**22 36 13.1**	**+1.4**
QSPA				IAmb	IAmb	22 36 14.6	
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**70.64**	**180**	P	**P**	**22 36 13.9**	**+2.2**
	comp=Z,8.9nm,1.0s,baz=34,slow=2.0,SNR=18						
	comp=Z,8.9nm,1.0s						
SMAI	**San Martin Ant**	**79.32**	**159**		**P**	**22 37 00.8**	**+0.1**
SMAI				IAmb	IAmb	22 37 02.1	
	comp=Z,9.0nm,1.1s						
BELA	**Belgrano 2**	**80.51**	**173**		**P**	**22 37 06.0**	**-0.9**
BELA				IAmb	IAmb	22 37 07.0	
	comp=Z,4.4nm,1.1s						
TRF	**Thorofare Moun**	**85.24**	**12**		**P**	**22 37 30.6**	**-0.6**
TRF				IAmb	IAmb	22 37 31.5	
	comp=Z,6.4nm,0.8s						
RND	**Reindeer**	**85.49**	**12**	P	**P**	**22 37 31.9**	**-0.3**
TXAR	**Lajitas Array**	**85.81**	**57**	P	**P**	**22 37 35.3**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=248,slow=5.3,SNR=4.1						
	comp=Z,0.3nm,0.7s						
M27K	**Edge Creek, AK**	**86.17**	**16**	P	**P**	**22 37 35.8**	**+0.1**
M27K				IAmb	IAmb	22 37 37.0	
	comp=Z,4.1nm,0.9s						
HDA	**Harding Lake**	**86.77**	**13**	P	**P**	**22 37 37.8**	**-0.5**
HDA				IAmb	IAmb	22 37 38.5	
	comp=Z,2.3nm,0.7s						
CCB	**Clear Creek Bu**	**86.81**	**12**		**P**	**22 37 37.8**	**-0.7**
CCB				IAmb	IAmb	22 37 38.4	
	comp=Z,5.5nm,1.1s						
ILAR	**Eielson Array**	**87.10**	**12**	P	**P**	**22 37 38.8**	**-1.1**
ILAR	**Eielson Array**	**87.10**	**12**	P	**P**	**22 37 39.2**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=221,slow=5.3,SNR=12						
	comp=Z,0.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**90.50**	**289**	P	**P**	**22 37 59.4**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=116,slow=5.1,SNR=5.3						
	comp=Z,0.7nm,0.7s						
BRTR	**Keskin Array B**	**146.69**	**314**	PKPbc	**PKPbc**	**22 44 35.3**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=46,slow=3.6,SNR=5.5						
GERES	**GERESS Array B**	**149.37**	**346**	PKPbc	**PKPbc**	**22 44 41.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=70,slow=1.6,SNR=4.3						

TRN 28 22:48:13.4, 16°.14N×60°.87W, h43km, MD3.6, East of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSDZ	**La Diserade, G**	**0.26**	**312**	*e*P	Pn	22 48 22.6	+1.1
DSDZ				*e*S	Sn	22 48 28.9	+1.7
DWS	**Wesley**	**0.71**	**217**	*e*P	Pn	22 48 28.1	+1.1
DWS				*e*S	Sn	22 48 39.1	+2.3
MMLZ	**Guadeloupe Bro**	**0.78**	**263**	*e*P	Pn	22 48 29.5	+1.6
MMLZ				*e*S	Sn	22 48 41.3	+2.9
TBG	**Guadaloupe-3**	**0.80**	**249**	*e*P	Pn	22 48 29.4	+1.1
TBG				*e*S	Sn	22 48 40.9	+1.9
ATGZ	**Broadband at L**	**0.82**	**267**	*e*P	Pn	22 48 29.8	+1.2
ATGZ				*e*S	Sn	22 48 42.2	+2.5
DHSZ	**Broadband at M**	**0.87**	**279**	*e*P	Pn	22 48 30.3	+1.1
DHSZ				*e*S	Sn	22 48 42.3	+1.5
DSLB	**Salisbury**	**0.88**	**217**	*e*P	Pn	22 48 30.6	+1.2
DSLB				*e*S	Sn	22 48 43.8	+2.8
DLPL	**La Plaine**	**0.88**	**204**	*e*P	Pn	22 48 30.5	+1.1
DLPL				*e*S	Sn	22 48 42.6	+1.5
SVN	**Savane Anatole**	**1.32**	**193**	*e*S	Sn	22 48 53.5	+1.6
ILAM	**Ilet Lapin Mar**	**1.36**	**180**	*e*P	Pn	22 48 36.9	+1.0
ILAM				*e*S	Sn	22 48 54.1	+1.5
BIM	**Bigot**	**1.62**	**187**	*e*P	Pn	22 48 41.1	+1.5
BIM				*e*S	Sn	22 49 01.2	+1.9
ANWB	**Willy Bob**	**1.76**	**330**	*e*P	Pn	22 48 42.2	+0.8
ANWB				*e*S	Sn	22 49 05.0	+2.5
SLBI	**Saint Lucia, B**	**2.10**	**183**	*e*P	Pn	22 48 47.5	+1.3
SLBI				*e*S	Sn	22 49 13.2	+2.1
SKI	**Saint Kitts**	**2.15**	**304**	*e*P	Pn	22 48 48.2	+1.4
SKI				*e*S	Sn	22 49 13.1	+0.8
SVB	**Belmont**	**2.87**	**187**	*e*P	Pn	22 48 57.9	+1.1

*SDD **28** 22:51:26.0±1.3, 19°.20N×67°.13W, h22km±9km, MD2.8, ML1.6, MW2.2*
*RSPR **28** 22:51:29.4, 19°.12N×67°.14W, h30km±26km, MD3.0/11*

ISC 28 22:51:25.9±2.0, 19°.14N±0°.10×67°.20W±0°.05, h29km, n27, σ0§66/31, 11C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.68**	**173**	⇑*e*P	**Pn**	**22 51 39.6**	**+0.1**
AGPR	**Aguadilla, PR**	**0.68**	**173**	*e*S	**Sn**	**22 51 49.7**	**+0.6**
AGPR	**Aguadilla, PR**	**0.68**	**173**	*e*Pg	**Pb**	**22 51 38.6**	**-0.6**
AGPR				*e*Sg	**Sb**	**22 51 49.0**	**+0.7**
AGPR				IAML		22 51 50.1	
	comp=E,21nm,0.6s						
AGPR				IAML		22 51 50.9	
	comp=N,20nm,0.2s						
IDE	**Isla Desecheo**	**0.80**	**199**	⇑*e*P	**Pb**	**22 51 41.8**	**+0.6**
IDE	**Isla Desecheo**	**0.80**	**199**	*e*S	**Sb**	**22 51 52.5**	**+0.8**
AOPR	**Arecibo Observ**	**0.90**	**152**	⇑*e*P	**Pb**	**22 51 42.7**	**-0.2**
AOPR	**Arecibo Observ**	**0.90**	**152**	*e*S	**Sb**	**22 51 55.5**	**+1.0**
AOPR	**Arecibo Observ**	**0.90**	**152**	*e*Pg	**Pb**	**22 51 42.6**	**-0.3**
AOPR				IAML		22 52 02.0	
	comp=N,22nm,0.4s						
EMPR	**Esperanza - Ma**	**0.92**	**136**	⇑*e*P	**Pb**	**22 51 44.8**	**+1.6**
LSP	**Las Mesas**	**0.97**	**174**	⇑*e*P	**Pb**	**22 51 44.6**	**+0.5**
LSP	**Las Mesas**	**0.97**	**174**	*e*S	**Sb**	**22 51 57.2**	**+0.7**
UUPR	**Utuado, UPR, P**	**0.99**	**153**	⇑*e*P	**Pb**	**22 51 44.4**	**-0.2**
UUPR	**Utuado, UPR, P**	**0.99**	**153**	*e*S	**Sn**	**22 51 56.6**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.13**	**176**	⇑*e*P	**Pn**	**22 51 45.8**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.13**	**176**	*e*S	**Sn**	**22 52 01.2**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.13**	**176**	*i* P	**Pb**	**22 51 46.3**	**-0.6**
CRPR				*i* S	**Sn**	**22 51 59.5**	**-0.9**
CRPR				IAML		22 52 18.8	
	comp=N,20nm,1.0s						
ECPR	**Experimental S**	**1.14**	**136**	⇑*e*P	**Pb**	**22 51 47.0**	**0.0**
ECPR	**Experimental S**	**1.14**	**136**	*e*S	**Sb**	**22 52 01.2**	**-0.2**
MLPR	**Magueyes Islan**	**1.17**	**173**	⇑*e*P	**Pb**	**22 51 46.7**	**-0.9**
MLPR	**Magueyes Islan**	**1.17**	**173**	*e*S	**Sb**	**22 52 02.7**	**+0.3**
MLPR	**Magueyes Islan**	**1.17**	**173**	*e*Pg	**Pb**	**22 51 46.6**	**-0.9**
MLPR				*e*Sg	**Sb**	**22 52 02.6**	**+0.1**
MLPR				IAML		22 52 28.9	
	comp=N,3.7nm,3.4s						
CELP	**Cerrillos**	**1.21**	**151**	⇑*e*P	**Pb**	**22 51 47.8**	**-0.4**
CELP	**Cerrillos**	**1.21**	**151**	*e*S	**Sn**	**22 52 02.4**	**0.0**
CELP	**Cerrillos**	**1.21**	**151**	*e*Pg	**Pn**	**22 51 46.5**	**-0.4**
CELP				*e*Sg	**Sb**	**22 52 03.2**	**-0.4**
CELP				IAML		22 52 03.9	
	comp=N,12nm,0.3s						
CELP				IAML		22 52 04.6	
	comp=E,5.0nm,0.1s						
OBIP	**Obispado Ponce**	**1.23**	**153**	⇑*e*P	**Pb**	**22 51 47.5**	**-1.0**
OBIP	**Obispado Ponce**	**1.23**	**153**	*e*S	**Sb**	**22 52 03.9**	**-0.1**
HATOM	**Hato Mayor del**	**2.10**	**261**	*e*Pg	**Pb**	**22 52 02.9**	**-0.3**
HATOM				IAML		22 52 47.6	
	comp=N,7.1nm,4.2s						

DJA 28 22:54:08.6±0.8, 3°N±6°×12°8E±°, h199km±7km, M3.8/8, mB5.2/1, mb3.9/7, MLv3.7/8, Mw(mB)4.6/1, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.06**	**293**	P	Pn	22 54 58.3	-0.7
SANI	**Sanana**	**5.10**	**208**	P	Pn	22 55 23.9	-0.5
	0.1nm12nm,0.7s						
NLAI	**Namlea**	**5.84**	**192**	P	Pn	22 55 33.0	-0.8
	0.1nm25nm,1.2s						
LUWI	**Luwuk**	**6.60**	**238**	P	Pn	22 55 44.2	+0.5
	27nm,0.6s						
PCI	**Palu**	**9.17**	**248**	P	Pn	22 56 16.8	-0.4

*IDC **28** 23:35:34.9±1.3, 67°.97N×20°.37E, h0km, mbtmp3.0/4, ML2.0/4, Error ellipse: s-maj=23.2km s-min=7.4km az=124.0*
*UPP **28** 23:35:35.5±0.1, 67°.85N×20°.22E, h0km, ML2.3, Suspected explosion*

ISC 28 23:35:35.7±1.0, 67°.83N±0°.04×20°.27E±0°.04, h0km, n11, σ1§21/15, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**11**	P	**Pg**	**23 35 38.0**	**-0.1**
KUA				S	**Sg**	**23 35 39.7**	**-0.1**
KOVU	**Salmi**	**0.40**	**354**	P	**Pg**	**23 35 42.9**	**-0.4**
LANU	**Lannavaara**	**0.69**	**71**	P	**Pg**	**23 35 48.8**	**0.0**
LANU				S	**

comp=Z,9.4nm,0.9s
RSSD Black Hills 6.38 317 IAmb_Lg 23 49 06.2
comp=Z,9.3nm,0.8s
F33A 5 Mile Ranch, 6.38 11 IAmb_Lg 23 49 20.5
comp=Z,9.4nm,0.9s
LCAR Lake Charles 6.47 121 IAmb_Lg 23 49 22.8
comp=Z,13nm,1.0s
UALR University of 6.60 135 IAmb_Lg 23 49 27.5
comp=Z,16nm,1.1s
JFWS Jewell Farm 6.74 58 IAmb_Lg 23 49 13.5
comp=Z,14nm,0.7s
MSTX Muleshoe 6.78 216 IAmb_Lg 23 49 34.7
comp=Z,11nm,1.1s
SPMN Marine on St. 6.83 33 IAmb_Lg 23 49 13.7
comp=Z,10nm,0.8s
SN07 Snyder 07 6.88 201 IAmb_Lg 23 49 31.9
comp=Z,8.7nm,1.0s
CGM3 Cape Girardeau 6.95 107 IAmb_Lg 23 49 27.5
comp=Z,17nm,1.2s
WLAR White Oak Lake 7.08 145 IAmb_Lg 23 49 32.5
comp=Z,12nm,0.8s
K22A Casper 7.11 298 IAmb_Lg 23 49 40.7
comp=Z,15nm,0.8s
HAYD Hayden 7.15 280 IAmb_Lg 23 49 38.0
comp=Z,17nm,1.3s
OXF Oxford 8.54 124 IAmb_Lg 23 50 21.2
comp=Z,12nm,0.7s
Y45A Yeager Farm, C 8.88 127 IAmb_Lg 23 50 46.8
comp=Z,10nm,0.9s
Y22A Socorro 9.12 235 IAmb_Lg 23 50 46.7
comp=Z,4.4nm,0.9s
PLAL Pickwick Lake 9.16 117 IAmb_Lg 23 50 32.9
comp=Z,6.9nm,1.1s
JCT Junction City 9.20 190 IAmb_Lg 23 50 38.7
comp=Z,5.7nm,0.8s

*IDC **28** 23:53:12.7±10.0, 28°.40N×58°.23E, h0km, mb3.6/3, mbtmp3.6/3, MS3.5/2, Error ellipse: s-maj=421.4km s-min=27.8km az=148.0*
*DSN **28** 23:53:12.2±2.5, 29°.28N×58°.07E, h30km, ML3.2/12, Error ellipse: s-maj=31.4km s-min=21.1km az=86.0*
*TEH **28** 23:53:14.2, 28°.77N×58°.14E, h7km±31km*
*OMAN **28** 23:53:17.5±0.1, 28°.65N×58°.11E, h10km, mb4.7/11, ml3.5/13, Error ellipse: s-maj=1.2km s-min=0.8km az=39.0*

ISC 28 23:53:16.9±0.7, 28°.76N±0°.04×58°.14E±0°.06, h19km, n81, σ1§40/94, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBAM	**BAM**	**0.46**	**36**	Pg	**Pg**	**23 53 24.9**	**-1.5**
KBAM				Sg	**Sg**	**23 53 31.4**	**-1.5**
KHNJ	**Kahnooj**	**0.90**	**206**	Pg	**Pb**	**23 53 31.9**	**-2.0**
KRBR	**Kerman**	**1.71**	**316**	Pg	**Pn**	**23 53 46.0**	**-0.1**
KRM1	**Kerman Provinc**	**1.90**	**337**	Pn	**Pn**	**23 53 49.7**	**+1.2**
IBND	**Bandar-abas**	**1.93**	**228**	Pn	**Pn**	**23 53 50.5**	**+1.9**
KHGB	**Koh Gabri**	**2.17**	**318**	Pn	**Pn**	**23 53 53.8**	**+1.5**
GENO	**Geno**	**2.21**	**233**	Pn	**Pn**	**23 53 54.4**	**+1.6**
ZHSF	**Zahedan**	**2.45**	**69**	Pn	**Pn**	**23 53 57.6**	**+1.5**
ZRDN	**Zarand Kerman**	**2.61**	**328**	Pn	**Pn**	**23 54 00.3**	**+2.0**
NHDN	**Nehbandan**	**3.10**	**32**	Pn	**Pn**	**23 54 06.5**	**+1.5**
SHME	**Shamm** SNR=8.2	**3.23**	**214**	P	**Pn**	**23 54 06.6**	**-0.1**
SHME	**Shamm**	**3.23**	**214**	P	**Pn**	**23 54 07.8**	**+1.1**
BANOM	**Banah**	**3.27**	**211**	P	**Pn**	**23 54 07.9**	**+0.7**
BANOM				S	**Sn**	**23 54 46.8**	**+1.2**
BANOM	**Banah** SNR=12	**3.27**	**211**	*i* P	**Pn**	**23 54 08.8**	**+1.6**
BANOM				S	**Sn**	**23 54 50.4**	**+4.9**
LAR1	**LAR**	**3.50**	**253**	Pn	**Pn**	**23 54 11.7**	**+1.3**
IBAF	**Bafgh**	**3.60**	**322**	Pn	**Pn**	**23 54 14.1**	**+2.2**
IKOO	**Kooshah**	**3.73**	**11**	Pn	**Pn**	**23 54 14.8**	**+1.1**
MASF	**Masafi** SNR=12	**3.81**	**208**	P	**Pn**	**23 54 15.3**	**+0.6**
MDH	**Madha**	**3.82**	**206**	P	**Pn**	**23 54 14.9**	**+0.1**
MDH				S	**Sn**	**23 54 59.8**	**+0.6**
MDH	**Madha**	**3.82**	**206**	P	**Pn**	**23 54 13.7**	**-1.1**
MSFE	**Esma-Masafi** SNR=12	**3.82**	**208**	*i* P	**Pn**	**23 54 15.8**	**+1.0**
SRVN	**Saravan**	**4.00**	**109**	Pn	**Pn**	**23 54 19.3**	**+2.0**
IMEH	**Mehriz**	**4.03**	**311**	Pn	**Pn**	**23 54 19.6**	**+1.8**
ITEG	**Tejag**	**4.16**	**7**	Pn	**Pn**	**23 54 20.9**	**+1.3**
UOSS	**Minazif**	**4.17**	**205**	P	**Pn**	**23 54 19.8**	**+0.1**
UOSS	**Minazif**	**4.17**	**205**	P	**Pn**	**23 54 18.7**	**-1.0**
IDAH	**Dahaneechah**	**4.24**	**20**	Pn	**Pn**	**23 54 21.7**	**+1.0**
HATD	**Hatta, Dubai**	**4.31**	**205**	P	**Pn**	**23 54 21.9**	**+0.3**
HATD	**Hatta, Dubai**	**4.31**	**205**	P	**Pn**	**23 54 20.3**	**-1.2**
NGCH	**Negor - Chabah** SNR=8.7	**4.31**	**141**	P	**Pn**	**23 54 22.7**	**+1.2**
NGCH	**Negor - Chabah**	**4.31**	**141**	Pn	**Pn**	**23 54 22.6**	**+1.0**
NAZ	**Nazwa, Dubai** SNR=8.7	**4.36**	**211**	*i* P	**Pn**	**23 54 24.3**	**+2.1**
TPRV	**Parvadeh(Tabas**	**4.43**	**344**	Pn	**Pn**	**23 54 24.8**	**+1.5**
ASHO	**Ashiyiah** SNR=22	**4.47**	**205**	P	**Pn**	**23 54 25.4**	**+1.7**
ASHO	**Ashiyiah** SNR=22	**4.47**	**205**	*i* P	**Pn**	**23 54 25.4**	**+1.7**
FAQ	**Al Faqa, Dubai**	**4.60**	**210**	P	**Pn**	**23 54 27.3**	**+1.7**
FAQ	**Al Faqa, Dubai**	**4.60**	**210**	P	**Pn**	**23 54 27.0**	**+1.5**
LMD1	**Lamerd**	**4.62**	**253**	Pn	**Pn**	**23 54 27.6**	**+1.8**
AFRZ	**Afriz**	**4.71**	**9**	Pn	**Pn**	**23 54 28.5**	**+1.3**
ASUD	**Al Ashush, Dub** SNR=14	**4.83**	**212**	P	**Pn**	**23 54 30.4**	**+1.9**
ASUD	**Al Ashush, Dub** SNR=14	**4.83**	**212**	*i* P	**Pn**	**23 54 30.9**	**+2.3**
SOHO	**SOHO**	**4.83**	**198**	P	**Pn**	**23 54 28.7**	**+0.1**
SOHO				S	**Sn**	**23 55 24.9**	**+0.9**
SOHO	**SOHO** SNR=12	**4.83**	**198**	*i* P	**Pn**	**23 54 28.1**	**-0.5**
TKDS	**Koohdasht(Taba**	**4.92**	**350**	Pn	**Pn**	**23 54 31.5**	**+1.6**
SHI	**Shiraz**	**5.00**	**281**	Pn	**Pn**	**23 54 32.8**	**+1.7**
AJN	**Ajban**	**5.04**	**215**	P	**Pn**	**23 54 32.1**	**+0.6**
AJN				S	**Sn**	**23 55 30.5**	**+1.1**
ALNE	**Al Ain** SNR=13	**5.15**	**205**	P	**Pn**	**23 54 34.7**	**+1.6**
ALNE	**Al Ain** SNR=12	**5.15**	**205**	*i* P	**Pn**	**23 54 34.4**	**+1.3**
HOQ	**Hoqain** SNR=7.0	**5.21**	**188**	P	**Pn**	**23 54 33.8**	**-0.1**
HOQ				S	**Sn**	**23 55 33.1**	**-0.4**
BIDO	**Bidbid**	**5.22**	**180**	P	**Pn**	**23 54 34.0**	**0.0**
BIDO				S	**Sn**	**23 55 34.1**	**+0.4**
TNSJ	**Nastanj**	**5.35**	**346**	Pn	**Pn**	**23 54 37.4**	**+1.5**
WSAR	**Wadi Sarin** SNR=59	**5.51**	**175**	P	**Pn**	**23 54 38.9**	**+0.8**
WSAR				S	**Sn**	**23 55 41.9**	**+0.9**
ARQ	**Araqi** SNR=38	**5.59**	**195**	P	**Pn**	**23 54 41.0**	**+1.8**
ARQ				S	**Sn**	**23 55 43.7**	**+0.7**
SMDO	**Samad** SNR=12	**5.68**	**181**	P	**Pn**	**23 54 40.9**	**+0.5**
SMDO				S	**Sn**	**23 55 46.8**	**+1.6**
DSBU	**Dashti - Bushe**	**6.07**	**268**	Pn	**Pn**	**23 54 46.7**	**+1.0**
KLNJ	**Kolanjah**	**6.11**	**293**	Pn	**Pn**	**23 54 48.6**	**+2.0**
MZWR	**Madinat Zayed**	**6.28**	**219**	P	**Pn**	**23 54 49.1**	**+0.5**
MZWR				S	**Sn**	**23 56 00.1**	**+0.3**
JMDO	**Jabal Madar**	**6.36**	**180**	P	**Pn**	**23 54 50.0**	**+0.2**
JMDO				S	**Sn**	**23 56 03.8**	**+1.9**
JLN	**Jalan Bani Buh**	**6.68**	**170**	P	**Pn**	**23 54 53.8**	**-0.3**
GHWR	**Ruwais**	**6.72**	**226**	P	**Pn**	**23 54 54.4**	**-0.1**
GHWR				S	**Sn**	**23 56 08.8**	**-1.8**
IBRJ	**Brojen**	**6.73**	**300**	Pn	**Pn**	**23 54 56.7**	**+1.8**
TBJM	**Torbat-e-JAM**	**6.75**	**15**	Pn	**Pn**	**23 54 56.9**	**+1.8**
SHMA	**Al-Shehemyia** SNR=7.6	**7.01**	**247**	P	**Pn**	**23 54 59.3**	**+0.7**
SHMA				S	**Sn**	**23 56 16.1**	**-1.7**
MZR	**Muzera**	**7.11**	**217**	P	**Pn**	**23 55 00.8**	**+0.9**
MZR				S	**Sn**	**23 56 20.6**	**+0.4**
MZR	**Muzera**	**7.11**	**217**	P	**Pn**	**23 54 59.9**	**0.0**
ZNGN	**Zangian**	**7.13**	**300**	Pn	**Pn**	**23 55 02.4**	**+1.9**
JHBN	**Jahan bin**	**7.32**	**300**	Pn	**Pn**	**23 55 04.9**	**+1.7**
TRNA	**Turayna**	**7.38**	**239**	P	**Pn**	**23 55 03.9**	**+0.2**
SMRA	**Abu-Samra** SNR=9.6	**7.67**	**240**	P	**Pn**	**23 55 08.4**	**+0.8**
IPAY	**Payeh**	**7.70**	**5**	Pn	**Pn**	**23 55 10.3**	**+2.0**
MHTO	**MHTO**	**7.74**	**181**	P	**Pn**	**23 55 09.0**	**+0.3**
KBD	**Kabd**	**9.16**	**275**	P	**Pn**	**23 55 28.7**	**+0.6**
DOK	**Doka**	**10.74**	**201**	P	**Pn**	**23 55 49.5**	**-0.3**
WHFO	**Wadi Hawf** SNR=6.9	**11.51**	**201**	P	**Pn**	**23 55 59.1**	**-1.3**
ABTO	**Aybut**	**12.20**	**202**	P	**Pn**	**23 56 08.3**	**-1.5**
RAYN	**Ar Rayn**	**12.49**	**248**	P	Pn	23 56 08.9	-4.9
MKAR	**Makanchi Array**	**26.07**	**40**	P	**P**	**23 58 50.0**	**+0.7**
0.6nm,0.7s,baz=223,slow=9.5,SNR=5.7
0.6nm,0.7s
ZALV Zalesovo Beam 31.81 30 P **P** **23 59 41.1 +1.0**
1.1nm,0.8s,baz=239,slow=9.9,SNR=5.8
1.1nm,0.8s
LSZ Lusaka 52.49 217 LR LR 00 26 33.1
comp=Z,63nm,18.5s,baz=159,slow=38
TORD Torodi Ar. Bea 54.49 266 P **P** **00 02 42.8 -0.9**
0.4nm,0.4s,baz=61,slow=7.5,SNR=11
0.4nm,0.4s
SFJD Kangerlussuaq 70.78 337 LR LR 00 36 15.5
comp=Z,26nm,19.9s,baz=298,slow=36

NNC 29 00:01:06.9±8.3, 37°.02N×70°.65E, h0km, mb3.8, mpv3.6, 3C-2D, Error ellipse: s-maj=65.7km s-min=54.6km az=163.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.08**	**359**	⇑P	Pn	00 02 39.3	+1.3
	4.8nm,0.3s,baz=181,slow=13,SNR=111						
KK31				⇓S	Sn	00 03 50.5	+2.2
	1.9nm,0.4s,baz=191,slow=15,SNR=6.1						
AAK	**Ala-Archa**	**6.34**	**27**	⇓P	Pn	00 02 42.0	+0.2
	0.8nm,0.4s						
AAK				⇑S	Sn	00 03 54.9	-0.1
	2.5nm,0.6s						
AB31	**Akbulak array**	**14.49**	**331**	⇑P	Pn	00 04 30.8	-2.4
	0.3nm,0.3s,baz=166,slow=11,SNR=24						
AB31				S	Sn	00 07 13.3	-1.2
	0.5nm,0.5s,baz=158,slow=23,SNR=7.2						

DJA 29 00:16:01.1±0.9, 4°.S±6°.×12°.9E±°, h12km±5km, M4.5/7, mB6.2/2, mb5.8/2, MLv3.9/7, Mw(mB)5.9/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.70**	**330**	P	Pb	00 16 15.3	0.0
MSAI	**Masohi**	**1.02**	**22**	P	Pb	00 16 19.8	-1.0
NLAI	**Namlea**	**1.78**	**306**	P	Pn	00 16 31.5	-0.2
SANI	**Sanana**	**3.39**	**311**	P	Pn	00 16 53.4	-0.5
SWI	**Sorong**	**4.36**	**39**	P	Pn	00 17 06.9	-0.4
SWI				S	Sn	00 17 58.9	+0.8
LUWI	**Luwuk**	**6.61**	**299**	P	Pn	00 17 39.2	+1.1
	3µm157nm,0.5s						
MMPI	**Merauke**	**12.47**	**110**	P	Pn	00 18 59.5	+0.9
MASI	**Maura Aman, Be**	**26.27**	**272**	P	P	00 21 36.0	-0.7

IDC 29 00:21:39.9±5.7, 6°.02S×148°.61E, h0km, mb2.9/1, mbtmp3.0/2, ML3.3/1, Error ellipse: s-maj=232.7km s-min=53.8km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.66**	**203**	Sn	Sn	00 23 24.3	+2.7
	3.6nm,0.3s,baz=0,slow=20,SNR=5.8						
WRA	**Warramunga Arr**	**19.59**	**224**	P	Pn	00 26 10.9	-0.2
	0.1nm,0.3s,baz=51,slow=11,SNR=5.5						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**22.54**	**217**	P	P	00 26 40.9	-0.7
	0.4nm,0.9s,baz=46,slow=9.3,SNR=4.4						
	0.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**146.65**	**285**	PKPbc	PKPdf	00 41 23.7	+0.7
	0.6nm,0.9s,baz=90,slow=4.6,SNR=2.7						

*IDC **29** 00:29:46.2±18.0, 18°.11S×178°.24W, h542km±189km, mb2.7/3, mbtmp3.6/3, Error ellipse: s-maj=105.3km s-min=43.1km az=55.0*
ISC 29 00:29:46.6±1.4, 18°.0S±0°.3×178°.3W±0°.3, h550km, n6, σ0§57/7, mb3.3/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.75**	**260**	P	**P**	**00 37 11.6**	**-0.1**
	0.2nm,0.5s,baz=98,slow=7.4,SNR=2.2						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**44.90**	**254**	P	**P**	**00 37 12.8**	**0.0**
	0.4nm,0.4s,baz=96,slow=7.9,SNR=8.6						
ASAR				PcP	**PcP**	**00 38 42.2**	**-0.4**
	0.3nm,0.9s,baz=96,slow=3.6,SNR=4.3						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**72.04**	**180**	P	**P**	**00 40 15.0**	**+0.1**
	1.5nm,1.1s,baz=11,slow=9.3,SNR=2.2						
	1.5nm,1.1s						
ARCES	**ARCESS Array B**	**126.45**	**350**	PKP	**PKPdf**	**00 47 46.0**	**-0.7**
	3.0nm,1.0s,baz=7.6,slow=2.7,SNR=1.6						
MMAI	**Mount Meron Ar**	**146.32**	**303**	PKPbc	**PKPbc**	**00 48 27.3**	**+0.8**
	0.4nm,0.5s,baz=84,slow=5.2,SNR=1.9						
GERES	**GERESS Array B**	**147.75**	**345**	PKPbc	**PKPbc**	**00 48 30.0**	**+0.1**
	0.4nm,0.7s,baz=0.0,slow=2.0,SNR=3.8						

*IDC **29** 00:44:09.6±4.7, 37°.25N×72°.15E, h169km±44km, mb3.4/6, mbtmp3.8/11, MS3.9/1, Error ellipse: s-maj=53.1km s-min=35.4km az=121.0*
*NNC **29** 00:44:16.7±4.5, 37°.97N×71°.99E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=34.6km s-min=28.2km az=170.0*
ISC 29 00:44:08.4±1.4, 37°.2N±0°.1×72°.0E±0°.1, h150km, n22, σ1§94/24, mb3.7/5, 1C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKS2	**Erkin-Say** SNR=20	**5.58**	**13**	P	**Pn**	**00 45 32.2**	**+2.6**
AAK	**Ala-Archa** SNR=18	**5.72**	**19**	P	**Pn**	**00 45 33.6**	**+2.2**
AAK	**Ala-Archa**	**5.72**	**19**	⇓P	**Pn**	**00 45 33.7**	**+2.2**
	3.1nm,0.4s						
AAK				⇑S	**Sn**	**00 46 33.6**	**-2.7**
	12nm,0.9s						
AAK	**Ala-Archa**	**5.72**	**19**	P	**Pn**	**00 45 33.7**	**+2.3**
	12nm,0.3s,baz=181,slow=8.5,SNR=39						
AAK				S	**Sn**	**00 46 35.8**	**-0.5**
	6.4nm,0.4s,baz=135,slow=20,SNR=7.5						
KBK	**Karagaybulak** SNR=7.7	**5.86**	**22**	P	**Pn**	**00 45 36.6**	**+3.3**
ULHL	**Ulahol** SNR=7.7	**5.97**	**32**	P	**Pn**	**00 45 36.5**	**+1.7**
KK31	**Karatay Array**	**5.97**	**349**	⇓P	**Pn**	**00 45 37.1**	**+2.5**
	2.9nm,0.3s,baz=162,slow=12,SNR=32						
KK31				⇓S	**Sn**	**00 46 39.2**	**-3.0**
	3.9nm,0.3s,baz=186,slow=26,SNR=4.3						
CHMS	**Chumysh** SNR=12	**6.12**	**19**	P	**Pn**	**00 45 38.8**	**+2.2**
TKM2	**Tokmak 2** SNR=19	**6.30**	**25**	P	**Pn**	**00 45 41.3**	**+2.0**
USP	**Ospenovka** SNR=6.5	**6.31**	**17**	P	**Pn**	**00 45 42.2**	**+3.0**
MKAR	**Makanchi Array**	**12.21**	**35**	P	**Pn**	**00 46 57.5**	**+0.2**
	0.2nm,0.4s,baz=219,slow=12,SNR=1.5						
KURBB	**Kurchatov Arra**	**14.17**	**17**	P	**Pn**	**00 47 22.3**	**+0.1**
	0.7nm,0.6s,baz=201,slow=11,SNR=9.9						
AB31	**Akbulak array**	**14.87**	**328**	⇓P	P	00 47 38.0	+5.1
	0.2nm,0.4s,baz=144,slow=11,SNR=12						
AB31				⇓S	**Sn**	**00 50 16.8**	**+0.9**
	0.2nm,0.3s,baz=152,slow=22,SNR=2.8						
BVAR	**Borovoye Array**	**15.83**	**356**	P	**P**	**00 47 43.3**	**-0.2**
	0.8nm,0.6s,baz=172,slow=12,SNR=3.8						
ZALV	**Zalesovo Beam**	**18.91**	**24**	P	**P**	**00 48 16.2**	**-1.0**
	2.2nm,0.6s,baz=222,slow=10,SNR=17						
BELG	**Belogornoye**	**22.85**	**319**	LR	LR	01 00 07.7	
	comp=Z,356nm,21.9s,baz=95,slow=42						
FINES	**FINESS Array B**	**37.34**	**325**	P	**P**	**00 51 05.7**	**-0.1**
	2.3nm,0.9s,baz=111,slow=7.7,SNR=3.8						
	2.3nm,0.9s						
ARCES	**ARCESS Array B**	**40.78**	**337**	P	**P**	**00 51 34.1**	**-0.2**
	3.2nm,1.1s,baz=118,slow=7.8,SNR=4.5						
	3.2nm,1.1s						
HFS	**Hagfors**	**43.00**	**321**	P	**P**	**00 51 52.3**	**-0.1**
	0.7nm,0.4s,baz=93,slow=15,SNR=5.0						
	0.7nm,0.4s						
NOA	**NORSAR Array B**	**44.29**	**323**	P	**P**	**00 52 02.4**	**-0.4**
	2.6nm,1.2s,baz=94,slow=7.6,SNR=2.6						
	2.6nm,1.2s						
ESDC	**Sonseca Array**	**57.84**	**298**	P	**P**	**00 53 44.0**	**-0.2**
	0.4nm,0.9s,baz=64,slow=6.6,SNR=4.3						
	0.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**66.55**	**269**	P	**P**	**00 54 41.9**	**-0.7**
	0.4nm,0.4s,baz=49,slow=6.1,SNR=12						
	0.4nm,0.4s						

IDC 29 00:51:46.2±2.0, 6°.51S×149°.92E, h0km, mb3.5/3,
mbtmp3.6/4, ML1.5/1, Error ellipse: s-maj=122.3km s-min=24.6km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.97**	**223**	Pn	Pn	00 52 50.6	+2.2
	2.7nm,0.3s,baz=59,slow=18,SNR=5.5						
PMG				Sn	Sn	00 53 37.3	+1.6
	5.3nm,0.3s,baz=65,slow=17,SNR=11						
	11nm,0.4s						
WRA	**Warramunga Arr**	**20.18**	**227**	P	P	00 56 21.8	-0.7
	1.2nm,0.6s,baz=53,slow=11,SNR=9.4						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**22.98**	**220**	P	P	00 56 51.4	-1.3
	0.6nm,0.5s,baz=49,slow=9.4,SNR=14						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**84.82**	**23**	P	P	01 04 21.8	-0.6
	0.5nm,0.7s,baz=256,slow=5.7,SNR=4.5						
	0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.03**	**284**	PKPbc	PKPbc	01 11 35.4	+0.6
	0.9nm,0.7s,baz=78,slow=2.0,SNR=7.2						

*IDC **29** 00:54:19.7±0.6, 34°.75N×135°.50E, h384km±6km, mb3.3/13, mbtmp4.1/20, Error ellipse: s-maj=9.9km s-min=9.6km az=165.0*
*NIED **29** 00:54:20.2, 34°.83N×135°.43E, h382km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.49; Mθθ-0.12; Mφφ-0.38; Mrθ-0.13; Mθφ0.19; Mφr-1.18; Fault plane solution: M₀1.28000×10¹⁵ NP1: φs319.00000°, δ14.00000°, λ46.00000°. NP2: φs183.00000°, δ80.00000°, λ100.00000°.*
*JMA **29** 00:54:20.2±0.1, 34°.8N±0°.8×135°.4E±0°.6, h382km±1km, MV3.7/37, SE HYOGO PREF*

ISC 29 00:54:19.9±0.6, 34°.80N±0°.06×135°.52E±0°.04, h385km±4km, n55, σ1§16/76, mb3.5/14, 3D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHE	**Heguri**	**0.20**	**137**	P	**Pn**	**00 55 07.9**	**+0.2**
JHE				S	**S**	**00 55 45.2**	**-0.9**
JWT	**Wachi**	**0.49**	**349**	*i* P	**Pn**	**00 55 08.2**	**+0.3**
JWT				S	**S**	**00 55 45.4**	**-1.3**
JWY	**Kouya**	**0.59**	**174**	*i* P	**Pn**	**00 55 08.8**	**+0.4**
JWY				S	**S**	**00 55 46.3**	**-1.1**
JTNC	**Tanabenakahech**	**0.98**	**175**	*i* P	**Pn**	**00 55 09.6**	**+0.2**
JTNC				S	**S**	**00 55 48.1**	**-1.1**
JIE	**Ise**	**1.06**	**112**	P	**Pn**	**00 55 10.2**	**+0.6**
JIE				S	**S**	**00 55 49.6**	**0.0**
JYTA	**Yamagatataniai**	**1.27**	**51**	*i* P	**Pn**	**00 55 11.1**	**+0.8**
JYTA				S	**S**	**00 55 51.1**	**0.0**
JAI	**Aioi**	**1.34**	**221**	P	**Pn**	**00 55 10.8**	**0.0**
JAI				S	**S**	**00 55 51.2**	**-0.6**
INU	**Inuyama**	**1.35**	**66**	P	**Pn**	**00 55 11.0**	**+0.3**
INU	**Inuyama**	**1.35**	**66**	S	**S**	**00 55 51.4**	**-0.3**
TTO1	**TONANKAI O.B.S**	**1.58**	**138**	P	**Pn**	**00 55 13.0**	**+1.4**
JKG	**Kaga**	**1.61**	**24**	P	**Pn**	**00 55 12.4**	**+0.4**
JKG				S	**S**	**00 55 53.4**	**-0.7**
JGF	**Kuroka**	**1.71**	**62**	P	**Pn**	**00 55 12.6**	**0.0**
JGF	**Kuroka**	**1.71**	**62**	S	**S**	**00 55 55.4**	**+0.2**
JMN	**Monobe**	**1.73**	**232**	P	**Pn**	**00 55 12.8**	**-0.1**
JMN	**Monobe**	**1.73**	**232**	S	**S**	**00 55 55.0**	**-0.5**
JMN	**Monobe**	**1.73**	**232**	P	**Pn**	**00 55 12.7**	**-0.2**
JHS	**Saijyo**	**1.98**	**276**	*i* P	**Pn**	**00 55 14.4**	**+0.1**
TK02	**Tokai 2**	**2.04**	**114**	⇓P	**Pn**	**00 55 15.6**	**+1.2**
JSG	**Sagara**	**2.20**	**93**	P	**Pn**	**00 55 16.9**	**+1.2**
JOI	**OKI**	**2.37**	**309**	P	**Pn**	**00 55 16.9**	**+0.1**
JGT2	**ShimaneMisato**	**2.49**	**277**	P	**Pn**	**00 55 17.3**	**-0.5**
JHT	**Toyohira**	**2.55**	**268**	*i* P	**Pn**	**00 55 18.3**	**0.0**
JYN	**Shimob**	**2.58**	**74**	⇓*i* P	**Pn**	**00 55 18.8**	**+0.3**
MAJO	**Matsushiro**	**2.79**	**51**	P	**Pn**	**00 55 20.4**	**+0.3**
MAT	**Matsushiro**	**2.79**	**51**	*i* P	**Pn**	**00 55 20.6**	**+0.5**
MAT				S	**S**	**00 56 09.2**	**+0.3**
MJAR	**Matsushiro Arr**	**2.80**	**51**	P	**Pn**	**00 55 20.8**	**+0.7**
	80nm,0.7s,baz=224,slow=7.2,SNR=344						
MJAR				S	**S**	**00 56 09.4**	**+0.5**
	8.9nm,0.9s,baz=232,slow=14,SNR=4.0						
JNA	**Nagahama**	**2.81**	**245**	P	**Pn**	**00 55 20.5**	**+0.2**
JNA				S	**S**	**00 56 08.8**	**-0.4**
JTO	**Tosashimizu**	**2.98**	**230**	P	**Pn**	**00 55 21.6**	**-0.1**
JRY	**Ryogami san**	**3.02**	**65**	⇓*i* P	**Pn**	**00 55 22.5**	**+0.5**
JSD	**Sado**	**3.91**	**34**	P	**Pn**	**00 55 30.4**	**+0.4**
JHJ	**Hachijo jima 2**	**3.92**	**114**	P	**Pn**	**00 55 30.8**	**+0.5**
	182nm,0.5s,baz=234,slow=19,SNR=9.1						
JNU	**Nakatsue**	**4.20**	**248**	P	**Pn**	**00 55 33.0**	**0.0**
	54nm,0.5s,baz=62,slow=7.4,SNR=26						
JNU				S	**S**	**00 56 31.4**	**-1.0**
	17nm,1.2s,baz=79,slow=16,SNR=3.6						
JNU	**Nakatsue**	**4.20**	**248**	P	**Pn**	**00 55 32.6**	**-0.5**
JTU	**Tsushima**	**5.05**	**269**	P	**Pn**	**00 55 41.6**	**0.0**
JMM	**Marumori**	**5.24**	**53**	P	**Pn**	**00 55 43.0**	**-0.6**
KSRS	**Korea Array**	**6.69**	**295**	P	**P**	**00 56 00.2**	**-0.2**
	11nm,0.8s,baz=111,slow=13,SNR=51						
KSRS				S	**S**	**00 57 21.5**	**+0.6**
	6.7nm,1.0s,baz=106,slow=22,SNR=12						
USRK	**Ussuriysk Ar.**	**9.77**	**345**	P	**P**	**00 56 35.5**	**+0.3**
	1.7nm,0.6s,baz=162,slow=9.1,SNR=4.9						
JOW	**Kunigami**	**10.09**	**220**	P	**P**	**00 56 38.2**	**-0.8**
	16nm,0.8s,baz=69,slow=15,SNR=3.9						
ASAJ	**Asahikawa**	**10.79**	**28**	P	**P**	**00 56 45.7**	**-0.7**
	5.9nm,0.3s,baz=218,slow=12,SNR=13						
ASAJ		

comp=Z,0.2nm,0.4s,baz=325,slow=7.8,SNR=3.7
comp=Z,0.2nm,0.4s
TXAR Lajitas Array 95.23 49 P **P** **01 07 02.3 +1.2**
comp=Z,0.2nm,0.6s,baz=321,slow=5.4,SNR=2.8
comp=Z,0.2nm,0.6s

IDC 29 01:00:14.1±2.1, 6.75S×128.63E, h0km, mb3.7/1, mbtmp3.8/3, ML4.0/2, MS3.4/2, Error ellipse: s-maj=117.5km s-min=31.6km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W) 14.06 347**			LR		LR		01 09 00.3	
	comp=Z,81nm,18.2s,baz=336,slow=37								
WRA	**Warramunga Arr 14.24 158**			Pn		Pn		01 03 36.1	-1.1
	0.7nm,0.3s,baz=336,slow=13,SNR=7.7								
WRA						Sn		01 06 06.0	-10
	0.6nm,0.3s,baz=333,slow=22,SNR=4.9								
	1.1nm,0.7s								
ASAR	**Alice Springs 17.57 164**			P		P		01 04 21.2	-0.5
	0.5nm,0.3s,baz=346,slow=11,SNR=26								
ASAR				S		Sn		01 07 31.1	-5.9
	0.4nm,0.8s,baz=350,slow=20,SNR=3.7								
	1.3nm,0.5s								
JHJ	**Hachijo jima 2 41.04 14**			LR		LR		01 24 01.4	
	comp=Z,88nm,18.9s,baz=358,slow=35								
MKAR	**Makanchi Array 67.28 327**			P		P		01 11 10.7	0.0
	0.3nm,0.4s,baz=130,slow=6.5,SNR=5.2								
	0.3nm,0.4s								

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*SJA **29** 01:14:11.6±0.7, 23.03S×66.48W, h251km±4km, ML4.3, MW4.1*
*NEIC **29** 01:14:12.8±2.4, 23.09S±0.07×66.45W±0.10, h230km±8km, mb4.4/19, ML4.4(GUC), Error ellipse: s-maj=12.7km s-min=10.7km az=92.0*
*VAO **29** 01:14:13.5±0.5, 23.04S×66.43W, h248km±4km, mb4.0*
*IDC **29** 01:14:13.1±1.6, 22.91S×66.28W, h226km±15km, mb3.5/9, mbtmp4.1/14, Error ellipse: s-maj=15.9km s-min=11.5km az=78.0*
*GUC **29** 01:14:14.3±0.5, 23.01S×66.83W, h264km±7km, ML4.4*
ISC 29 01:14:12.6±0.5, 23.04S±0.04×66.52W±0.04, h234km±5km, n166, σ1§43/198, mb3.9/18, 13C-5D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca 1.03 99**			*e*P		**Pn**		**01 14 47.7**	**+1.1**
SALTA		**1.19 172**		*e*P		Pn		01 14 37.2	-10
SALTA				*e*P				01 14 37.9	
SALTA				*e*P		**Pn**		**01 14 49.3**	**+1.7**
YJA	**Yavi 1.26 47**			*e*P		**Pn**		**01 14 49.3**	**+1.1**
YJA				*e*S		**S**		**01 15 17.5**	**+1.6**
AF01	**San Pedro de A 1.54 273**					**Pn**		**01 14 52.0**	**+2.0**
AF01	**San Pedro de A 1.54 273** ⇑			*e*P		**Pn**		**01 14 52.0**	**+2.0**
AF01	**San Pedro de A 1.54 273**			*e*P		**Pn**		**01 14 48.4**	**-1.6**
AZAP	**Zapla 1.78 132**			*e*P		**Pn**		**01 14 52.2**	**+0.3**
AZAP				*e*S		**S**		**01 15 23.1**	**+0.3**
SLA	**San Lorenzo 1.91 151**			*e*P		**Pn**		**01 14 54.3**	**+1.2**
SLA				*e*S		**S**		**01 15 26.7**	**+1.9**
ALOL	**LOMAS DE OLMED 2.45 109**			*e*P		**Pn**		**01 14 58.5**	**+0.3**
PB09	**IPOC Station P 2.81 296**					**Pn**		**01 15 03.8**	**+1.6**
PB09	**IPOC Station P 2.81 296** ⇑			*e*P		**Pn**		**01 15 03.8**	**+1.6**
PB09				*e*S		**S**		**01 15 40.8**	**-0.4**
PB09				IAML				01 15 44.0	
	comp=N,334nm,0.6s								
PB09	**IPOC Station P 2.81 296**			*e*P		**Pn**		**01 15 03.7**	**+1.4**
PB09				*e*S		**S**		**01 15 42.5**	**+1.3**
PB09				IAML				01 15 46.6	
	comp=Z,276nm,0.4s								
PB06	**IPOC Station P 2.84 276**					**Pn**		**01 15 03.4**	**+0.9**
PB06	**IPOC Station P 2.84 276** ⇑			*e*P		**Pn**		**01 15 03.4**	**+0.9**
PB06				*e*S		**S**		**01 15 40.4**	**-1.2**
PB06				IAML				01 15 45.1	
	comp=E,492nm,0.4s								
PB06	**IPOC Station P 2.84 276**			*e*P		**Pn**		**01 15 03.6**	**+1.1**
PB06				*e*S		**S**		**01 15 41.5**	**-0.1**
PB06				IAML				01 15 46.5	
	comp=Z,262nm,0.3s								
FSA	**Cafayete 3.10 171**			*e*P		**Pn**		**01 15 06.2**	**+0.9**
PB03	**IPOC Station P 3.15 288**					**Pn**		**01 15 06.8**	**+0.7**
PB03	**IPOC Station P 3.15 288** ⇑			*e*P		**Pn**		**01 15 06.7**	**+0.7**
PB03				*e*S		**S**		**01 15 46.7**	**-1.2**
PB03	**IPOC Station P 3.15 288**			*e*P		**Pn**		**01 15 06.0**	**0.0**
PB03				*e*S		**S**		**01 15 47.2**	**-0.7**
PB03				IAML				01 15 52.0	
	comp=Z,462nm,0.2s								
PB01	**IPOC Station P 3.40 305**					**Pn**		**01 15 09.4**	**+0.6**
PB01	**IPOC Station P 3.40 305** ⇑			*e*P		**Pn**		**01 15 09.3**	**+0.6**
PB01				*e*S		**S**		**01 15 52.7**	**-0.2**
PB01	**IPOC Station P 3.40 305**			*e*P		**Pn**		**01 15 09.4**	**+0.6**
PB01				*e*S		**S**		**01 15 51.7**	**-1.3**
PB01				IAML				01 15 54.1	
	comp=Z,462nm,0.3s								
PB05	**IPOC Station P 3.40 272**					**Pn**		**01 15 09.4**	**+0.6**
PB05	**IPOC Station P 3.40 272** ⇑			*e*P		**Pn**		**01 15 09.4**	**+0.6**
PB05				*e*S		**S**		**01 15 51.3**	**-1.8**
PB05	**IPOC Station P 3.40 272**			*e*P		**Pn**		**01 15 08.8**	**0.0**
PB05				*e*S		**S**		**01 15 52.8**	**-0.3**
PB05				IAML				01 15 55.1	
	comp=Z,237nm,0.5s								
GO02	**Mina Guanaco 3.52 232**					**Pn**		**01 15 11.1**	**+0.8**
GO02	**Mina Guanaco 3.52 232** ⇑			*e*P		**Pn**		**01 15 11.1**	**+0.8**
GO02				*e*S		**S**		**01 15 55.6**	**0.0**
GO02	**Mina Guanaco 3.52 232**			*e*P		**Pn**		**01 15 10.6**	**+0.4**
GO02				*e*S		**S**		**01 15 54.7**	**-1.0**
GO02				IAML				01 15 57.7	
	comp=Z,696nm,0.7s								
PB02	**IPOC Station P 3.57 298**					**Pn**		**01 15 11.1**	**+0.4**
PB02	**IPOC Station P 3.57 298** ⇑			*e*P		**Pn**		**01 15 11.1**	**+0.4**
PB02				*e*S		**S**		**01 15 54.5**	**-2.0**
PB02	**IPOC Station P 3.57 298**			*e*P		**Pn**		**01 15 11.1**	**+0.4**
PB02				*e*S		**S**		**01 15 55.3**	**-1.2**
PB02				IAML				01 15 59.6	
	comp=Z,598nm,0.5s								
PB10	**IPOC Station P 3.74 262**					**Pn**		**01 15 13.2**	**+0.6**
PB10	**IPOC Station P 3.74 262** ⇑			*e*P		**Pn**		**01 15 13.2**	**+0.6**
PB10				*e*S		**S**		**01 15 58.8**	**-1.2**
PB10	**IPOC Station P 3.74 262**			*e*P		**Pn**		**01 15 13.2**	**+0.6**
PB10				*e*S		**S**		**01 15 59.2**	**-0.8**
PB10				IAML				01 16 02.7	
	comp=Z,276nm,0.5s								
PB08	**IPOC Station P 3.79 319**					**Pn**		**01 15 15.1**	**+1.5**
PB08	**IPOC Station P 3.79 319** ⇑			*e*P		**Pn**		**01 15 15.1**	**+1.5**
PB08				*e*S		**S**		**01 16 01.5**	**-0.2**
PB08	**IPOC Station P 3.79 319**			*e*P		**Pn**		**01 15 15.1**	**+1.5**
PB08				*e*S		**S**		**01 16 02.5**	**+0.8**
PB08				IAML				01 16 04.1	
	comp=Z,494nm,0.6s								
PB14	**IPOC Station P 3.89 245**					**Pn**		**01 15 15.2**	**+0.5**
PB14	**IPOC Station P 3.89 245** ⇑			*i*P		**Pn**		**01 15 15.3**	**+0.5**
PB14				*i*S		**S**		**01 16 02.0**	**-1.8**
PB14	**IPOC Station P 3.89 245**			*e*P		**Pn**		**01 15 15.2**	**+0.5**
PB14				*e*S		**S**		**01 16 02.5**	**-1.2**
PB14				IAML				01 16 04.8	
	comp=Z,329nm,0.5s								
PATCX	**Punta Patache 4.04 303**					**Pn**		**01 15 16.3**	**0.0**
HMBC	**Humberstone 4.17 311**					**Pn**		**01 15 17.4**	**-0.5**
HMBC	**Humberstone 4.17 311** ⇑			*e*P		**Pn**		**01 15 17.5**	**-0.5**
HMBC				*e*S		**S**		**01 16 06.7**	**-2.8**
HMBC	**Humberstone 4.17 311**			*e*P		**Pn**		**01 15 17.5**	**-0.5**
HMBC				*e*S		**S**		**01 16 07.5**	**-2.0**
HMBC				IAML				01 16 15.5	
	comp=Z,690nm,0.4s								
GO01	**Chusmiza 4.18 323**					**Pn**		**01 15 19.3**	**+0.9**
GO01	**Chusmiza 4.18 323** ⇑			*e*P		**Pn**		**01 15 19.3**	**+0.9**
GO01				*e*S		**S**		**01 16 10.3**	**0.0**
GO01	**Chusmiza 4.18 323**			*e*P		**Pn**		**01 15 18.8**	**+0.3**
GO01				IAML				01 16 13.6	
	comp=Z,259nm,0.3s								
TA01	**Diego Aracena 4.20 305**					**Pn**		**01 15 17.8**	**-0.4**
TA01	**Diego Aracena 4.20 305**			*e*P		**Pn**		**01 15 17.8**	**-0.4**
TA01				*i*S		**S**		**01 16 07.0**	**-3.0**
TA01	**Diego Aracena 4.20 305**			*e*P		Pn		01 15 01.4	-17
TA01				*e*S		**S**		**01 16 08.3**	**-1.7**
TA01				IAML				01 16 10.5	
	comp=Z,353nm,0.5s								
PB11	**IPOC Station P 4.38 318**					**Pn**		**01 15 20.2**	**-0.3**
PB11	**IPOC Station P 4.38 318**			*e*P		**Pn**		**01 15 20.2**	**-0.3**
PB11				*e*S		**S**		**01 16 12.2**	**-2.0**
PB11				IAML				01 16 15.2	
	comp=Z,238nm,0.3s								

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AC02	**Maricunga 4.46 212**					**Pn**		**01 15 22.3**	**+0.6**
AC02	**Maricunga 4.46 212**			*e*P		**Pn**		**01 15 22.6**	**+0.9**
AC02				*e*S		**S**		**01 16 12.6**	**-3.9**
AC01	**Pan de Azucar 4.83 229**					**Pn**		**01 15 25.2**	**-0.6**
AC01	**Pan de Azucar 4.83 229**			*e*P		**Pn**		**01 15 25.3**	**-0.6**
AC01				*e*S		**S**		**01 16 22.3**	**-1.7**
AC01				IAML				01 16 23.2	
	comp=Z,97nm,0.7s								
CYA	**Choya 5.42 173**			*e*P		**Pn**		**01 15 28.8**	**-4.2**
PB16	**IPOC Station P 5.46 329**					**Pn**		**01 15 34.9**	**+0.7**
GO03	**Copiapo 5.64 216**					**Pn**		**01 15 35.2**	**-0.8**
LPAZ	**La Paz 6.89 347**					**Pn**		**01 15 52.8**	**+0.5**
LPAZ	**La Paz 6.89 347**			P		**Pn**		**01 15 52.9**	**+0.6**
	comp=Z,6.2nm,0.6s,baz=167,slow=12,SNR=28								
LPAZ				S		**S**		**01 17 10.2**	**-1.8**
	comp=Z,9.6nm,0.6s,baz=229,slow=20,SNR=8.7								
LPAZ	**La Paz 6.89 347**			*e*P		**Pn**		**01 15 54.3**	**+2.0**
LCO	**Las Campanas 7.04 211**					**Pn**		**01 15 52.4**	**-1.4**
MURT	**Porto Murtinho 8.36 82**			*e*P		**Pn**		**01 16 10.6**	**+0.1**
CFA	**Coronel Fontan 8.67 190**			P		**Pn**		**01 16 12.8**	**-1.6**
	comp=Z,2.5nm,0.3s,baz=8.7,slow=13,SNR=33								
CFA				S		**S**		**01 17 44.7**	**-7.7**
	comp=Z,4.5nm,0.3s,baz=90,slow=20,SNR=10								
ZON	**Zonda 8.69 192**					**Pn**		**01 16 13.4**	**-1.2**
SIV	**San Ignacio 8.69 37**			P		**Pn**		**01 16 13.1**	**-1.7**
	comp=Z,19nm,0.6s,baz=220,slow=10,SNR=120								
SIV				S		**S**		**01 17 49.5**	**-3.7**
	comp=Z,1.0nm,0.4s,baz=131,slow=20,SNR=0.9								
CPUP	**Villa Florida 8.97 113**			P		**Pn**		**01 16 15.3**	**-3.0**
	comp=Z,0.5nm,0.4s,baz=205,slow=19,SNR=5.2								
CPUP	**Villa Florida 8.97 113**			*e*P		**Pn**		**01 16 17.3**	**-1.0**
BDQN	**Bodoquena, MS 9.44 76**			*e*P		**Pn**		**01 16 25.4**	**+1.1**
SJPY	**San Joaquin 9.71 104**			*e*P		**Pn**		**01 16 25.1**	**-2.6**
PTLB	**Pontes e Lacer 10.27 44**			*e*P		**Pn**		**01 16 33.6**	**-1.3**
AQDB	**Aquidauana 10.37 78**					**Pn**		**01 16 37.5**	**+1.4**
AQDB	**Aquidauana 10.37 78**			*e*P		**Pn**		**01 16 36.2**	**+0.1**
AMBA	**Amambai (Brazi 10.62 92**			*e*P		**Pn**		**01 16 38.3**	**-1.0**
MT08	**Bocatoma Ro 10.81 196**					**Pn**		**01 16 43.0**	**+1.2**
MT02	**Curacav 10.96 201**					**Pn**		**01 16 42.9**	**-0.6**
PSAL	**Palomas, Salto 11.27 137**			*e*P		**Pn**		**01 16 47.2**	**-0.2**
MT01	**Popeta 11.56 200**					**Pn**		**01 16 49.9**	**-1.0**
VILB	**Vilhena 11.69 32**					**Pn**		**01 16 53.8**	**+0.9**
VILB	**Vilhena 11.69 32**			*e*P		**Pn**		**01 16 53.6**	**+0.7**
BO01	**Tunca 12.00 198**					**Pn**		**01 16 54.4**	**-2.1**
PP1B	**Ponte de Pedra 12.18 66**			*e*P		**Pn**		**01 17 00.3**	**+1.3**
SALV	**Santo Antonio 12.43 57**			*e*P		**Pn**		**01 17 00.7**	**-1.3**
TRCB	**Terra Rica 12.80 92**			P		**P**		**01 17 09.6**	**+0.5**
TRCB	**Terra Rica 12.80 92**			*e*P		**Pn**		**01 17 05.6**	**-1.0**
PTGB	**Pitanga 13.33 100**			*e*P		**Pn**		**01 17 13.7**	**+0.6**
C2SB	**Chapadao do Su 13.47 74**			*e*P		**Pn**		**01 17 13.9**	**-0.9**
ITAB	**Concordia 13.68 111**			P		**P**		**01 17 18.1**	**-0.7**
ITAB	**Concordia 13.68 111**			*e*P		**Pn**		**01 17 17.4**	**0.0**
CPBB	**Cacapava Do Su 13.79 125**			*e*P		**Pn**		**01 17 18.7**	**0.0**
LDASE	**Londrina, Braz 14.16 94**			*e*P		**Pn**		**01 17 22.3**	**-1.1**
PLTB	**Pedras Altas 14.38 130**			P		**Pn**		**01 17 24.6**	**-1.3**
PLTB	**Pedras Altas 14.38 130**			*e*P		**Pn**		**01 17 23.6**	**-2.3**
PDRB	**Porto dos Gac 14.70 41**			*e*P		**Pn**		**01 17 29.2**	**-0.8**
CNLB	**Canela 15.38 117**			*e*P		**P**		**01 17 34.8**	**-2.9**
ITRB	**Iturama 15.41 81**			*e*P		**Pn**		**01 17 38.3**	**-0.2**
TRQA	**Tornquist 15.46 166**			P		**P**		**01 17 38.0**	**-0.4**
TRQA				IAmb		IAmb		01 17 40.6	
	comp=Z,5.0nm,0.6s								
FRTB	**Fartura 15.59 94**			*e*P		**P**		**01 17 39.8**	**-0.2**
ARAG	**Araguaiana, MT 15.67 65**			*e*P		**P**		**01 17 40.9**	**+0.1**
CLDB	**Colider 15.85 42**			*e*P		**P**		**01 17 41.9**	**-1.0**
MAJ01	**Sao Joao Batis 16.42 109**			*e*P		**P**		**01 17 48.5**	**-0.5**
BB19B	**Bebedouro 16.79 87**			*e*P		**P**		**01 17 53.7**	**+0.5**
RCLB	**Rio Claro- Sao 17.53 92**			*e*P		**P**		**01 18 00.9**	**-0.3**
SPB	**Sao Paulo 17.54 96**			IAmb		IAmb		01 18 02.0	
	comp=Z,19nm,0.9s								
SPB	**Sao Paulo 17.54 96**			*e*P		**P**		**01 18 01.3**	**+0.1**
PET01	**Itanhaem-SP 17.67 98**			*e*P		**P**		**01 18 02.5**	**-0.2**
LR05	**Currie 17.75 194**			P		**Pn**		**01 18 05.0**	**-1.0**
IPMB	**Ipameri, GO 17.86 77**			*e*P		**P**		**01 18 04.7**	**-0.2**
PLCA	**Paso Flores 17.96 190**			P		**P**		**01 18 07.0**	**+1.2**
	comp=Z,6.5nm,0.8s,baz=9.0,slow=14,SNR=13								
PLCA	**Paso Flores 17.96 190**			*e*P		**P**		**01 18 06.6**	**+0.8**
VAO	**Valinhos 18.00 94**			P		**P**		**01 18 05.5**	**-0.8**
VAO	**Valinhos 18.00 94**			*e*P		**P**		**01 18 05.8**	**-0.5**
SNDB	**Serra Nova Dou 18.20 55**			*e*P		**P**		**01 18 07.7**	**-0.8**
BDFB	**Brasilia 18.93 70**			P		**P**		**01 18 16.3**	**-0.2**
BDFB	**Brasilia 18.93 70**			P		**P**		**01 18 16.4**	**-0.2**
	comp=Z,34nm,0.9s,baz=250,slow=10.0,SNR=41								
NPGB	**Novo Progresso 19.19 36**			*e*P		**P**		**01 18 17.0**	**-2.2**
PARB	**Paraibuna 19.21 95**			*e*P		**P**		**01 18 18.4**	**-1.0**
PMNB	**Patos De Minas 19.30 80**			*e*P		**P**		**01 18 19.6**	**-0.7**
TEFE	**Tefe 19.50 6**			*e*P		**P**		**01 18 21.8**	**-0.7**
ITTB	**Itaituba 21.29 31**			*e*P		**P**		**01 18 39.3**	**-2.0**
VAS01	**Vassouras-RJ 21.30 92**			*e*P		**P**		**01 18 41.3**	**-0.2**
DIAM	**Diamantina, MG 21.88 82**			*e*P		**P**		**01 18 46.4**	**-0.7**
DUB01	**Friburgo-RJ 22.31 92**			*e*P		**P**		**01 18 50.5**	**-0.4**
JANB	**Januaria 22.42 73**			*e*P		**P**		**01 18 50.9**	**-1.2**
SMTB	**Santa Maria do 22.98 55**			*e*P		**P**		**01 18 56.0**	**-1.1**
SMTB					*e*pP		**pP**	**01 19 39.9**	**+1.3**
CAM01	**Campos-RJ 23.00 92**			*e*P		**P**		**01 18 56.6**	**-0.6**
SDBA	**SAO DESIDERIO 23.11 66**			*e*P		**P**		**01 18 57.0**	**-1.3**
PRPB	**Parauapebas 23.24 46**			*e*P		**P**		**01 18 58.5**	**-1.0**
SJMB	**Sao Joao De Ma 24.05 84**			*e*P		**P**		**01 19 05.4**	**-1.3**
MAL2	**Monte Alegre, 24.08 32**			P		**P**		**01 19 06.1**	**-1.0**
MAL2				IAmb		IAmb		01 19 07.0	
	comp=Z,19nm,1.0s								
RIB01	**Linhares ES 24.62 86**			*e*P		**P**		**01 19 11.0**	**-1.0**
GUA01	**Guaratinga, BA 25.91 81**			*e*P		**P**		**01 19 22.8**	**-0.7**
BOAV	**Boa Vista 25.95 14**			*e*P		**P**		**01 19 22.9**	**-0.9**
CMC01	**Camacan, BA 26.58 78**			*e*P		**P**		**01 19 28.3**	**-1.2**
NBAN	**Anadia - AL 31.83 70**			*e*P		**P**		**01 20 14.2**	**-1.7**
RCBR	**Riachuelo 34.11 65**			P		**P**		**01 20 35.3**	**-0.3**
RCBR				IAmb		IAmb		01 20 43.1	
	comp=Z,25nm,1.4s								
RCBR	**Riachuelo 34.11 65**			*e*P		**P**		**01 20 35.6**	**0.0**
VNA3	**Neumayer Olymp 57.91 161** ⇓			P		**P**		**01 23 42.1**	**+2.2**
	comp=Z,0.5nm,0.3s								
VNA1	**Neumayer--Stat 58.10 160** ⇓			P		**P**		**01 23 43.8**	**+2.6**
	comp=Z,0.9nm,0.4s								
VNA2	**Neumayer--Watz 58.47 161** ⇓			P		**P**		**01 23 45.4**	**+1.7**
	comp=Z,1.2nm,0.4s,baz=291,slow=7.2								
LRAL	**Lakeview Retre 59.09 340**			P		**P**		**01 23 48.3**	**-0.2**
LRAL				IAmb		IAmb		01 24 13.6	
	comp=Z,11nm,1.5s								
SNAA	**Sanae 60.10 161** ⇓			P		**P**		**01 23 56.4**	**+1.4**
	comp=Z,20nm,0.5s								
SNAA	**Sanae 60.10 161**			P		**P**		**01 23 56.4**	**+1.4**
SNAA	**Sanae 60.10 161**			P		**P**		**01 23 56.6**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=281,slow=9.8,SNR=17								
	comp=Z,0.7nm,0.4s								
V55A	**Taylorsville 60.20 346**			P		**P**		**01 23 57.2**	**+1.2**
V55A				IAmb		IAmb		01 23 58.0	
	comp=Z,4.5nm,0.8s								
TROLL	**Troll, Antarti 61.82 161** ⇓			P		**P**		**01 24 08.1**	**+1.5**
	comp=Z,38nm,0.3s								
WVT	**Waverly 62.21 341**			P		**P**		**01 24 09.0**	**-0.4**
TXAR	**Lajitas Array 63.16 324**			P		**P**		**01 24 17.4**	**+1.4**
TXAR	**Lajitas Array 63.16 324**			P		**P**		**01 24 16.6**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=142,slow=6.8,SNR=9.2								
	comp=Z,0.3nm,0.3s								
MNHN	**Monahans 64.26 326**			P		**P**		**01 24 24.6**	**+1.5**
MNHN				IAmb		IAmb		01 24 25.2	
	comp=Z,4.0nm,0.5s								
VHRN	**Van Horn 65.01 324**			P		**P**		**01 24 29.4**	**+1.4**
DBIC	**Dimbokro 67.08 72**			P		**P**		**01 24 40.4**	**-1.0**
DBIC				IAmb		IAmb		01 25 16.7	
	comp=Z,8.9nm,1.1s								
DBIC	**Dimbokro 67.08 72**			P		**P**		**01 24 40.6**	**-0.7**
	comp=Z,2.0nm,0.4s,baz=259,slow=8.8,SNR=5.7								
	comp=Z,2.0nm,0.4s								
QSPA	**South Pole Qui 67.16 180**			P		**P**		**01 24 45.0**	**+3.8**
	comp=Z,1.2nm,0.5s,baz=188,slow=2.9,SNR=20								
	comp=Z,1.2nm,0.5s								
W13A	**Hualapai Mount 73.21 321**			IAmb		IAmb		01 25 25.9	
	comp=Z,4.7nm,0.7s								
TORD	**Torodi Ar. Bea 75.81 69**			P		**P**		**01 25 30.6**	**-2.9**
TORD	**Torodi Ar. Bea 75.81 69**			P		**P**		**01 25 32.4**	**-1.0**
	comp=Z,2.4nm,0.5s,baz=248,slow=5.7,SNR=12								
	comp=Z,2.4nm,0.5s								
PDAR	**Pinedale Array 76.56 329**			P		**P**		**01 25 38.9**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=145,slow=4.3,SNR=4.0								
	comp=Z,0.4nm,0.6s								
NVAR	**Mina Array Bea 78.08 321**			P		**P**		**01 25 48.0**	**+2.2**
	comp=Z,0.5nm,0.4s,baz=135,slow=1.2,SNR=3.6								
	comp=Z,0.5nm,0.4s								
HLID	**Hailey 79.53 327**			P		**P**		**01 25 56.8**	**+3.2**
HLID				IAmb		IAmb		01 25 57.1	
	comp=Z,3.4nm,0.7s								

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof 80.77 117**			P		**P**		**01 26 01.2**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=265,slow=3.4,SNR=5.8								
	comp=Z,0.7nm,0.4s								
ESDC	**Sonseca Array 85.40 43**			P		**P**		**01 26 24.2**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=236,slow=4.9,SNR=9.6								
	comp=Z,1.0nm,0.9s								
ASAR	**Alice Springs 129.51 204**			PKP		**PKiKP**		**01 32 55.7**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=178,slow=2.5,SNR=4.2								
WRA	**Warramunga Arr 132.68 207**			PKP		**PKiKP**		**01 33 01.5**	**0.0**
	comp=Z,0.4nm,0.7s,baz=177,slow=2.0,SNR=2.1								
MKAR	**Makanchi Array 145.50 39**			PKPbc		**PKPab**		**01 33 23.7**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=310,slow=3.1,SNR=13								

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*IDC **29** 01:41:55.9±1.0, 28.45N×82.97E, h0km, mb3.7/10, mbtmp3.7/12, ML4.0/2, MS2.7/1, Error ellipse: s-maj=29.8km s-min=18.2km az=55.0*
*DMN **29** 01:41:57.2±0.0, 28.33N×82.42E, h30km, Ml4.4/5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 29 01:41:57.5±1.8, 28.59N±0.07×82.94E±0.06, h7km±12km, n24, σ1§27/33, mb3.7/9, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PYUN	**Piuthan 0.49 175**			Pg		**Pg**		**01 42 07.1**	**+0.1**
	baz=114,slow=0.0								
PYUN				Sg		**Sb**		**01 42 15.9**	**-0.1**
	12μm,0.6s,baz=114,slow=0.0								
DANN	**Dangsing 0.76 108**			Pn		**Pb**		**01 42 10.2**	**-3.1**
	baz=88,slow=0.0								
KOLN	**Koldanda 1.00 144**			Pg		**Pb**		**01 42 16.1**	**-1.3**
	baz=118,slow=0.0								
KOLN				Sg		**Sg**		**01 42 31.4**	**+1.6**
	738nm,0.3s,baz=118,slow=0.0								
GKN	**Gorkha 1.60 111**			Pg		**Pn**		**01 42 26.8**	**+0.3**
	baz=99,slow=0.0								
GKN				Sg		**Sb**		**01 42 49.4**	**+1.2**
	baz=99,slow=0.0								
DMN	**Daman 2.15 117**			Pg		**Pn**		**01 42 34.7**	**+0.7**
	baz=106,slow=0.0								
DMN				Sn		**Sn**		**01 43 01.8**	**+0.7**
	313nm,0.3s,baz=106,slow=0.0								
KKN	**Kakani 2.21 111**			Pn		**Pn**		**01 42 36.8**	**+1.9**
	baz=101,slow=0.0								
KKN				Sn		**Sn**		**01 43 03.6**	**+1.0**
	357nm,0.2s,baz=101,slow=0

Duration: 3ᵏ2 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.07±.01; $M_{\theta\theta}$1.09±.01; $M_{\phi\phi}$-1.02±.01; $M_{r\theta}$-1.91±.01; $M_{\theta\phi}$0.04±.01; $M_{r\phi}$1.98±.01; Best double couple: M_o2.94600×10^{18} NP1:ϕ_s226.00000°, δ21.00000°, λ-179.00000°. NP2:ϕ_s135.00000°, δ90.00000°, λ-69.00000°. Principal axes: T 2.9050, Plg41.0000°, Azm205.0000°; N 0.0880, Plg21.0000°, Azm315.0000°; P -2.9880, Plg42.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

DJA ***29*** *02:02:53.5±0.2,6˚N±2˚×12˚7E±˚, h93km±2km, M6.3/144, mB6.6/143, mb6.3/144, MLv6.9/13, Mw6.2/88, Mw(mB)6.4/143, MwMwp6.1/125, Mwp6.1/125*

ISC 29 02:02:52.2±0.2,5.66N±0.02×126.47E±0.03, h84km±1km, h85km:pP-P,n2041,σ1988/2541,mb6.3/465,156C-98D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.66**	**328**				**Pn**	**02 03 20.4**	**+0.7**
DAV	**Davao City (W)**	**1.66**	**328**	P			**Pn**	**02 03 20.2**	**+0.4**
	25µm,0.5s,baz=125,slow=1.5,SNR=158								
DAV				S			**Sn**	**02 03 37.1**	**-3.5**
	42µm,0.6s,baz=258,slow=23,SNR=9.3								
DAV	**Davao City (W)**	**1.66**	**328**	P			**Pn**	**02 03 23.1**	**+3.4**
DAV				S			**Sn**	**02 03 44.8**	**+4.2**
DAV	**Davao City (W)**	**1.66**	**328**	P			**Pn**	**02 03 19.7**	**0.0**
DAV	**Davao City (W)**	**1.66**	**328**	↑P			**Pn**	**02 03 20.6**	**+0.8**
DAV	**Davao City (W)**	**1.66**	**328**	P			**Pn**	**02 03 21.4**	**+1.7**
DAV				S			**Sn**	**02 03 43.5**	**+2.9**
DAV	**Davao City (W)**	**1.66**	**328**	P			**Pn**	**02 03 19.0**	**-0.7**
SGSI	**Sangihe**	**2.18**	**206**	P			**Pn**	**02 03 28.0**	**+1.4**
SGSI				S			**Sn**	**02 03 55.5**	**+2.7**
TNTI	**Ternate**	**4.94**	**170**				**Pn**	**02 04 03.8**	**-0.2**
TNTI	**Ternate**	**4.94**	**170**	P			**Pn**	**02 04 04.0**	**0.0**
TNTI	**Ternate**	**4.94**	**170**	S			**Sn**	**02 05 00.2**	**+0.3**
TNTI	**Ternate**	**4.94**	**170**	P			**Pn**	**02 04 03.9**	**0.0**
TNTI	**Ternate**	**4.94**	**170**	↑P			**Pn**	**02 04 03.6**	**-0.4**
KMSI	**Cibinong**	**5.63**	**206**	P			**Pn**	**02 04 15.5**	**+2.1**
MRSI	**Marisa**	**6.85**	**221**	P			**Pn**	**02 04 32.2**	**+2.1**
TOLI2	**Tolitoli**	**7.26**	**232**				**Pn**	**02 04 35.2**	**-0.4**
TOLI2	**Tolitoli**	**7.26**	**232**	P			**Pn**	**02 04 35.6**	**0.0**
TOLI2	**Tolitoli**	**7.26**	**232**	S			**Sn**	**02 05 56.5**	**0.0**
LUWI	**Luwuk**	**7.62**	**209**	P			**Pn**	**02 04 42.9**	**+2.4**
LUWI	**Luwuk**	**7.62**	**209**				**Pn**	**02 04 42.9**	**+2.4**
LUWI	**Luwuk**	**7.62**	**209**	P			**Pn**	**02 04 42.0**	**+1.5**
LUWI	**Luwuk**	**7.62**	**209**	P			**Pn**	**02 04 44.1**	**+3.6**
LUWI	**Luwuk**	**7.62**	**209**	↑P			**Pn**	**02 04 42.4**	**+1.9**
SANI	**Sanana**	**7.67**	**184**	P			Pn	02 04 35.8	-5.5
SANI	**Sanana**	**7.67**	**184**	P			**Pn**	**02 04 39.4**	**-1.9**
SANI	**Sanana**	**7.67**	**184**	P			**Pn**	**02 04 39.3**	**-2.0**
SANI	**Sanana**	**7.67**	**184**	↑P			**Pn**	**02 04 38.3**	**-3.0**
MYLDM	**Lahad Datu**	**7.95**	**267**				**Pn**	**02 04 48.8**	**+3.7**
MYLDM	**Lahad Datu**	**7.95**	**267**	P			**Pn**	**02 04 47.5**	**+2.4**
MYLDM	**Lahad Datu**	**7.95**	**267**	↑P			**Pn**	**02 04 48.6**	**+3.6**
SWI	**Sorong**	**8.05**	**143**	P			**Pn**	**02 04 45.9**	**-0.6**
	1µm,0.7s								
APSI	**Ampana**	**8.11**	**217**	P			**Pn**	**02 04 51.6**	**+4.3**
NLAI	**Namlea**	**8.86**	**176**	P			**Pn**	**02 04 55.7**	**-1.8**
MSAI	**Masohi**	**9.28**	**165**	P			**Pn**	**02 05 04.3**	**+1.1**
	49µm52µm4µm,0.8s								
PCI	**Palu**	**9.30**	**226**	P			**Pn**	**02 05 06.0**	**+2.5**
	103µm54µm3µm,1.1s								
AAI	**Ambon**	**9.45**	**169**	P			**Pn**	**02 05 04.9**	**-0.6**
	43µm37µm3µm,1.1s								
TGY	**Tagaytay City**	**10.00**	**327**	P			**Pn**	**02 05 16.5**	**+3.4**
	163nm,0.4s,baz=210,slow=5.0,SNR=6.0								
KKM	**Kota Kinabalu**	**10.21**	**273**				**Pn**	**02 05 20.5**	**+4.4**
KKM	**Kota Kinabalu**	**10.21**	**273**	P			**Pn**	**02 05 17.2**	**+1.2**
KKM	**Kota Kinabalu**	**10.21**	**273**	↑P			**Pn**	**02 05 20.3**	**+4.3**
FAKI	**Fak Fak**	**10.29**	**146**				**Pn**	**02 05 17.3**	**+0.2**
FAKI	**Fak Fak**	**10.29**	**146**	P			**Pn**	**02 05 17.5**	**+0.4**
FAKI	**Fak Fak**	**10.29**	**146**	S			**Sn**	**02 07 10.9**	**+0.2**
FAKI	**Fak Fak**	**10.29**	**146**	P			**Pn**	**02 05 17.1**	**0.0**
	27µm2µm,1.2s								
FAKI	**Fak Fak**	**10.29**	**146**	⇓P			**Pn**	**02 05 17.3**	**+0.2**
RKPI	**Ransiki, Papua**	**10.49**	**133**	P			**Pn**	**02 05 21.5**	**+1.8**
	30µm4µm,1.8s								
BNDI	**Bandanaira**	**10.68**	**161**				**Pn**	**02 05 22.7**	**+0.4**
BNDI	**Bandanaira**	**10.68**	**161**	P			**Pn**	**02 05 23.3**	**+1.0**
	44µm3µm,1.6s								
BNDI	**Bandanaira**	**10.68**	**161**	↑P			**Pn**	**02 05 21.5**	**-0.8**
SMKI	**Samarinda**	**11.06**	**237**	P			**Pn**	**02 05 31.6**	**+4.1**
	89µm49µm3µm,1.7s								
SPSI	**Sidrap Palu**	**11.67**	**215**	P			**Pn**	**02 05 37.0**	**+1.2**
	91µm43µm1µm,0.6s								
KMPI	**Kaimana, Papua**	**11.75**	**142**	P			**Pn**	**02 05 37.3**	**+0.5**
	23µm2µm,1.0s								
BKB	**Balikpapan**	**11.78**	**235**				**Pn**	**02 05 40.5**	**+3.2**
BKB	**Balikpapan**	**11.78**	**235**	P			**Pn**	**02 05 37.1**	**-0.1**
BKB	**Balikpapan**	**11.78**	**235**	S			**Sn**	**02 07 48.8**	**+1.9**
BKB	**Balikpapan**	**11.78**	**235**	P			**Pn**	**02 05 40.6**	**+3.4**
BKB	**Balikpapan**	**11.78**	**235**	↑P			**Pn**	**02 05 40.3**	**+3.0**
BAKI	**Biak**	**11.79**	**125**	P			**Pn**	**02 05 38.5**	**+1.1**
	50µm3µm,1.1s								
BNSI	**Bone**	**11.85**	**213**	P			**Pn**	**02 05 39.6**	**+1.5**
SRPI	**Serui, Papua**	**12.29**	**127**	P			**Pn**	**02 05 44.2**	**-0.1**
	29µm2µm,1.4s								
KAPI	**Kappang**	**12.55**	**212**				**Pn**	**02 05 48.2**	**+0.5**
KAPI	**Kappang**	**12.55**	**212**	P			**Pn**	**02 05 47.2**	**-0.5**
	1µm,0.7s,baz=7.4,slow=7.5,SNR=218								
KAPI				S			**Sn**	**02 08 07.3**	**+1.7**
	62nm,0.6s,baz=229,slow=16,SNR=1.1								
KAPI				LR			LR	02 11 08.2	
	comp=Z,23µm,19.3s,baz=58,slow=39								
KAPI					PcP		**PcP**	**02 11 21.9**	**+1.6**
	48nm,0.7s,baz=0.0,slow=2.0,SNR=3.5								
KAPI					ScP		**ScP**	**02 14 47.8**	**+1.8**
	28nm,0.8s,baz=282,slow=0.2,SNR=5.5								
KAPI	**Kappang**	**12.55**	**212**	P			**Pn**	**02 05 49.3**	**+1.6**
KAPI				P			**Pn**	**02 05 49.3**	**+1.6**
KAPI				S			**Sn**	**02 08 10.7**	**+5.1**
KAPI				S			**Sn**	**02 08 10.7**	**+5.1**
KAPI	**Kappang**	**12.55**	**212**	P			**Pn**	**02 05 48.9**	**+1.2**
KAPI	**Kappang**	**12.55**	**212**	P			**Pn**	**02 05 48.4**	**+0.8**
KAPI				S			**S**	**02 08 20.1**	**-7.2**
BKSI	**Bulukumba**	**12.62**	**210**	P			**Pn**	**02 05 48.7**	**+0.1**
	76µm19µm1µm,1.4s								
BSSI	**Bau Bau, Buton**	**13.16**	**207**	P			**Pn**	**02 05 55.7**	**-0.1**
	66µm29µm2µm,1.1s								
SAUI	**Saumlaki**	**14.38**	**160**				**Pn**	**02 06 09.8**	**-2.0**
SAUI	**Saumlaki**	**14.38**	**160**	P			**Pn**	**02 06 13.2**	**+1.4**
SAUI	**Saumlaki**	**14.38**	**160**	P			**Pn**	**02 06 10.5**	**-1.3**
	32µm27µm2µm,1.1s								
SAUI	**Saumlaki**	**14.38**	**160**	↑P			**Pn**	**02 06 09.7**	**-2.2**
SMPI	**Sarmi**	**14.39**	**122**	P			**Pn**	**02 06 10.7**	**-1.3**
	43µm29µm1µm,1.2s								
SBUM	**Sibu**	**14.57**	**258**	P			**P**	**02 06 17.7**	**-0.7**
SBUM	**Sibu**	**14.57**	**258**	P			**P**	**02 06 17.4**	**-1.0**
SBUM	**Sibu**	**14.57**	**258**	↑P			**P**	**02 06 17.5**	**-1.0**
BBKI	**Banjar Baru**	**14.73**	**232**	P			**P**	**02 06 19.4**	**-0.8**
	3µm,0.9s								
MMRI	**Maumere**	**14.82**	**197**				**Pn**	**02 06 16.1**	**-1.3**
MMRI	**Maumere**	**14.82**	**197**	P			**Pn**	**02 06 18.7**	**+1.3**
MMRI	**Maumere**	**14.82**	**197**	P			**Pn**	**02 06 16.8**	**-0.6**
	57µm54µm4µm,1.7s								
MMRI	**Maumere**	**14.82**	**197**	↑P			**Pn**	**02 06 16.1**	**-1.3**
SOEI	**Soe**	**15.47**	**188**	P			**Pn**	**02 06 25.6**	**-0.3**
SOEI	**Soe**	**15.47**	**188**				**Pn**	**02 06 26.3**	**+0.5**
SOEI	**Soe**	**15.47**	**188**	P			**P**	**02 06 27.5**	**-1.1**
SOEI	**Soe**	**15.47**	**188**	P			**Pn**	**02 06 26.8**	**+0.9**
	79µm57µm3µm,0.9s								
SOEI	**Soe**	**15.47**	**188**	↑P			**Pn**	**02 06 26.3**	**+0.5**
GENI	**Genyem**	**15.95**	**121**	P			**Pn**	**02 06 30.9**	**-0.9**
GENI	**Genyem**	**15.95**	**121**	P			**Pn**	**02 06 30.8**	**-1.0**
	50µm50µm2µm,1.4s								
GENI	**Genyem**	**15.95**	**121**	⇓P			**Pn**	**02 06 30.4**	**-1.4**
BATI	**Baumata**	**16.01**	**190**	P			**Pn**	**02 06 32.8**	**+0.3**
	853nm,0.6s,baz=72,slow=1.0,SNR=102								
BATI				S			**Sn**	**02 09 31.5**	**+1.8**
	206nm,0.8s,baz=149,slow=23,SNR=1.2								
BATI				LR			LR	02 12 37.5	
	comp=Z,25µm,20.2s,baz=32,slow=36								
BATI					ScP		**ScP**	**02 14 53.7**	**+1.7**
	74nm,0.7s,baz=79,slow=2.3,SNR=4.2								
BATI	**Baumata**	**16.01**	**190**	P			**Pn**	**02 06 33.0**	**+0.5**
JAY	**Jayapura**	**16.37**	**119**	P			**Pn**	**02 06 35.1**	**-2.0**
	241nm,1.1s,baz=295,slow=5.6,SNR=24								
JAY				S			**Sn**	**02 09 37.7**	**-0.8**
	60nm,1.0s,baz=64,slow=23,SNR=1.2								
JAY				LR			LR	02 12 19.7	
	comp=Z,13µm,19.2s,baz=312,slow=35								
JAY					ScP		**ScP**	**02 14 54.4**	**+1.6**
	16nm,0.8s,baz=22,slow=1.2,SNR=4.0								
JAY	**Jayapura**	**16.37**	**119**	P			**Pn**	**02 06 34.8**	**-2.3**
WSI	**Waingapu**	**16.43**	**202**	P			**Pn**	**02 06 37.6**	**-0.1**
	84µm3µm,0.9s								
KSM	**Kuching**	**16.66**	**256**	P			**P**	**02 06 43.2**	**+1.6**
KSM	**Kuching**	**16.66**	**256**	P			**P**	**02 06 44.1**	**+2.5**
KSM	**Kuching**	**16.66**	**256**	↑P			**P**	**02 06 43.2**	**+1.6**
WBSI	**Waikabubak, Su**	**16.76**	**205**	P			**Pn**	**02 06 40.6**	**-1.3**
	61µm39µm2µm,0.7s								
PLAI	**Plampang**	**16.80**	**211**	P			**Pn**	**02 06 42.6**	**+0.2**
PLAI	**Plampang**	**16.80**	**211**	P			**Pn**	**02 06 42.5**	**+0.2**
BASI	**Baing, Sumba**	**16.83**	**200**	P			**Pn**	**02 06 41.6**	**-1.1**
	74µm48µm4µm,0.9s								
TWSI	**Taliwang, Sumb**	**17.20**	**214**	P			**P**	**02 06 47.6**	**0.0**
	76µm28µm3µm,0.8s								
SRBI	**Singaraja**	**17.68**	**220**	P			**Pn**	**02 06 53.5**	**+0.4**
	79µm37µm2µm,1.0s								
KMMI	**Kalianget**	**17.75**	**225**	P			**Pn**	**02 06 55.0**	**+1.0**
	80µm3µm2µm,1.2s								
TWGBT	**Beinan**	**17.83**	**344**	P			**P**	**02 06 53.6**	**-0.9**
TWG	**Pinlang**	**17.84**	**344**	P			**P**	**02 06 52.4**	**-2.1**
ABJI	**Asem Bagus**	**18.10**	**223**	P			**Pn**	**02 06 58.8**	**+0.6**
DNP	**Denpasar**	**18.14**	**218**	P			**Pn**	**02 07 00.4**	**+1.8**
YULB	**Yu-li**	**18.32**	**345**	P			**P**	**02 06 59.6**	**-0.3**
TPUB	**Ta-pu**	**18.42**	**343**	P			**P**	**02 07 00.6**	**-0.4**
BLJI	**Banyuglugur**	**18.50**	**224**	P			**Pn**	**02 07 02.5**	**-0.5**
	75µm17µm877nm,0.6s								
DRS	**Darwin Rock St**	**18.51**	**166**	P			**P**	**02 07 02.1**	**+0.2**
JAGI	**Jajag, Banyuwa**	**18.65**	**221**	P			**P**	**02 07 04.0**	**+0.5**
JAGI	**Jajag, Banyuwa**	**18.65**	**221**	P			**Pn**	**02 07 04.6**	**-0.2**
JAGI	**Jajag, Banyuwa**	**18.65**	**221**	P			**Pn**	**02 07 04.4**	**-0.4**
	66µm23µm2µm,0.8s								
JAGI	**Jajag, Banyuwa**	**18.65**	**221**	↑P			**P**	**02 07 03.1**	**-0.5**
GRJI	**Gresik**	**18.74**	**228**	P			**Pn**	**02 07 07.4**	**+1.6**
	60µm47µm4µm,1.1s								
SSLB	**Suanglung**	**18.79**	**344**	P			**P**	**02 07 05.1**	**+0.1**
SSLB	**Suanglung**	**18.79**	**344**	P			**P**	**02 07 05.5**	**+0.5**
DLV	**Lat**	**18.83**	**291**	P			**Pn**	**02 07 07.9**	**+0.8**
DLV	**Lat**	**18.83**	**291**	P			**Pn**	**02 07 08.0**	**+0.9**
DLV	**Lat**	**18.83**	**291**	↑P			**Pn**	**02 07 08.1**	**+1.0**
YOJ	**Yonaguni jima**	**18.99**	**350**	P			**Pn**	**02 07 08.3**	**-0.4**
YOJ	**Yonaguni jima**	**18.99**	**350**	P			**Pn**	**02 07 09.2**	**+0.5**
YOJ	**Yonaguni jima**	**18.99**	**350**	P			**P**	**02 07 06.5**	**-0.6**
YOJ	**Yonaguni jima**	**18.99**	**350**	⇓P			**P**	**02 07 05.8**	**-1.4**
NACB	**Ninganchiao**	**18.99**	**346**	P			**Pn**	**02 07 09.0**	**+0.2**
JMJ	**Miyako jima 2**	**19.08**	**357**	P			**P**	**02 07 08.4**	**+0.3**
TBJI	**Tambak Boyo**	**19.15**	**230**	P			**Pn**	**02 07 11.2**	**+0.5**
	70µm70µm5µm,1.4s								
YHNB	**Yeheng**	**19.52**	**346**	P			**Pn**	**02 07 14.4**	**-0.7**
MMPI	**Merauke**	**19.73**	**135**	P			**Pn**	**02 07 16.6**	**-1.0**
	28µm2µm,0.7s								
GUMO	**Guam**	**19.76**	**65**	P			**P**	**02 07 14.9**	**-0.8**
GUMO	**Guam**	**19.76**	**65**	P			**P**	**02 07 15.1**	**-0.6**
	2µm,1.0s,baz=280,slow=2.3,SNR=39								
GUMO					LR		LR	02 13 53.3	
	comp=Z,18µm,19.4s,baz=221,slow=34								
GUMO	**Guam**	**19.76**	**65**	P			**P**	**02 07 15.5**	**-0.2**
GUMO	**Guam**	**19.76**	**65**	P			**P**	**02 07 14.9**	**-0.8**
GUMO					pmax		pmax		
	comp=Z,6µm,1.4s								
GUMO	**Guam**	**19.76**	**65**	↑P			**P**	**02 07 14.8**	**-0.8**
TATO	**Taipei**	**19.79**	**347**	P			**Pn**	**02 07 17.1**	**-1.1**
TATO	**Taipei**	**19.79**	**347**	P			**P**	**02 07 16.2**	**+0.3**
TATO					P		**P**	**02 07 16.2**	**+0.3**
TATO					S		**S**	**02 10 54.5**	**+0.1**
TATO					S		**S**	**02 10 54.5**	**+0.1**
TATO	**Taipei**	**19.79**	**347**	P			**Pn**	**02 07 17.9**	**-0.2**
NGJI	**Ngawi**	**19.79**	**229**	P			**Pn**	**02 07 17.6**	**-0.7**
	comp=Z,40µmcomp=Z,4µm,1.0s								
KNMB	**Chin-men Tao**	**20.24**	**338**	P			**P**	**02 07 21.1**	**+0.3**
KNMB					IAmb		IAmb	02 07 27.5	
	comp=Z,2µm,1.2s								
HKC	**Hong Kong Obse**	**20.37**	**325**	↑P			**P**	**02 07 23.0**	**+0.8**
HKPS	**Hong Kong Po S**	**20.37**	**325**	P			**P**	**02 07 22.1**	**-0.1**
HKPS					IAmb		IAmb	02 07 29.7	
	comp=Z,2µm,1.1s								
HKPS	**Hong Kong Po S**	**20.37**	**325**	P			**P**	**02 07 23.0**	**+0.8**
SMRI	**Semarang**	**20.38**	**232**	P			**P**	**02 07 22.3**	**0.0**
SMRI	**Semarang**	**20.38**	**232**	P			Pn	02 07 25.1	-0.1
SMRI	**Semarang**	**20.38**	**232**	P			Pn	02 07 25.0	-0.2
SMRI	**Semarang**	**20.38**	**232**	↑P			**P**	**02 07 21.9**	**-0.5**
WOJI	**Wonogiri, Jawa**	**20.50**	**229**	P			Pn	02 07 25.4	-1.2
	comp=Z,61µmcomp=Z,21µmcomp=Z,2µm,1.2s								
PCJI	**Pacitan**	**20.55**	**228**	P			**P**	**02 07 25.6**	**+1.5**
	61mm=Z,56µmcomp=Z,20µmcomp=Z,1µm,0.7s								
JMZ	**Minamidaito 2**	**20.55**	**12**	P			**P**	**02 07 23.6**	**-0.5**
JMZ	**Minamidaito 2**	**20.55**	**12**	P			**P**	**02 07 24.1**	**0.0**
JMZ	**Minamidaito 2**	**20.55**	**12**	↑P			**P**	**02 07 24.2**	**+0.1**
TPI	**Tanjungpandan**	**20.57**	**246**	P			Pn	02 07 26.0	-1.4
	comp=Z,68µmcomp=Z,18µmcomp=Z,1µm,0.8s								
MCO	**Taipa Grande**	**20.58**	**324**	P			Pn	02 07 27.0	-0.5
QZH	**Quanzhou**	**20.61**	**339**	↑iP			**P**	**02 07 24.5**	**-0.2**
QZH					sP		**sP**	**02 07 50.8**	**-1.2**
QZH					S		**S**	**02 11 08.3**	**-2.2**
QZH					ScS		**ScS**	**02 18 46.8**	**+1.7**
QZH					pmax		pmax		
	comp=Z,3µm,0.8s								
QZH					pmax		pmax		
	comp=Z,7µm,4.8s								
QZH					LR		LR		
	comp=Z,22µm,21.0s								
QZH					LR		LR		
	comp=Z,10µm,17.5s								
QZH					LR		LR		
	comp=Z,39µm,28.9s								
UGM	**Wanagama**	**20.85**	**230**	P			**P**	**02 07 27.6**	**+0.1**
UGM					IAmb		IAmb	02 07 41.5	
	comp=Z,2µm,0.9s								
UGM	**Wanagama**	**20.85**	**230**	P			**P**	**02 07 29.0**	**+1.5**
UGM	**Wanagama**	**20.85**	**230**	P			**P**	**02 07 29.0**	**+1.5**
	comp=Z,48µmcomp=Z,30µmcomp=Z,3µm,0.9s								
QIZ	**Qiongzhong**	**20.95**	**311**	P			**P**	**02 07 30.0**	**+1.5**
QIZ					pP		**pwP**	**02 07 46.5**	**-1.1**
QIZ					S		**S**	**02 11 20.0**	**+2.5**
QIZ					sS		**sS**	**02 11 40.8**	**-3.3**
QIZ					pmax		pmax		
	comp=Z,780nm,0.9s								
QIZ					pmax		pmax		
	comp=Z,3µm,3.5s								
QIZ					LR		LR		
	comp=Z,9µm,13.7s								
QIZ					LR		LR		
	comp=Z,10µm,11.7s								
QIZ					LR		LR		
	comp=Z,17µm,12.9s								
QIZ	**Qiongzhong**	**20.95**	**311**	P			**P**	**02 07 29.8**	**+1.3**
JOW	**Kunigami**	**21.12**	**4**	P			**P**	**02 07 30.2**	**0.0**
JOW	**Kunigami**	**21.12**	**4**	P			**P**	**02 07 29.8**	**-0.4**
	comp=Z,119nm,0.7s,baz=183,slow=9.9,SNR=23								
JOW					S		**S**	**02 11 17.7**	**-3.0**
	comp=Z,20nm,0.7s,baz=282,slow=30,SNR=0.8								
JOW					ScP		**ScP**	**02 15 05.2**	**+2.2**
	comp=Z,90nm,1.3s,baz=168,slow=3.0,SNR=5.6								
JOW					LR		LR	02 16 31.0	
	comp=Z,7µm,18.9s,baz=182,slow=39								
JOW	**Kunigami**	**21.12**	**4**	P			**P**	**02 07 30.8**	**+0.6**
JOW	**Kunigami**	**21.12**	**4**	↑P			**P**	**02 07 29.9**	**-0.4**
KNRA	**Kununurra**	**21.32**	**174**	P			**P**	**02 07 31.9**	**-0.5**
	comp=Z,0.0nmcomp=Z,5µm,0.7s								
KNRA	**Kununurra**	**21.32**	**174**	P			**P**	**02 07 32.9**	**+0.4**
GZH	**Guangzhou**	**21.46**	**325**	P			**P**	**02 07 36.5**	**+2.7**
GZH					sP		**sP**	**02 08 00.3**	**0.0**
GZH					S		**S**	**02 11 32.0**	**+4.7**
GZH					LR		LR		
	comp=Z,14µm,15.1s								
GZH					LR		LR		
	comp=Z,8µm,14.7s								
GZH					LR		LR		
	comp=Z,22µm,16.6s								
PPBI	**Pangkal Pinang**	**21.75**	**250**	P			**P**	**02 07 38.0**	**+1.0**
KPJI	**Karang Pucung**	**21.75**	**234**	P			**P**	**02 07 37.4**	**+0.4**
	comp=Z,25µmcomp=Z,1µm,0.8s								
MANU	**Manus Island**	**22.23**	**110**	P			**P**	**02 07 38.9**	**-3.3**
MANU	**Manus Island**	**22.23**	**110**	↑P			**P**	**02 07 38.6**	**-3.6**
TPRI	**Tanjung Pinang**	**22.40**	**259**	P			**P**	**02 07 45.1**	**+1.0**
	comp=Z,22µmcomp=Z,924nm,1.1s								
LEM	**Lembang**	**22.54**	**237**	P			**P**	**02 07 46.6**	**+1.0**
	comp=Z,862nm,0.8s,baz=56,slow=7.5,SNR=52								
LEM					LR		LR	02 17 50.8	
	comp=Z,15µm,20.3s,baz=52,slow=40								
	comp=Z,862nm,0.8s								
LEM	**Lembang**	**22.54**	**237**	P			**P**	**02 07 46.3**	**+0.7**
	comp=Z,56µmcomp=Z,28µmcomp=Z,1µm,1.9s								
DSRI	**Dabo**	**22.70**	**255**	P			**P**	**02 07 48.0**	**+0.9**
	comp=Z,61µmcomp=Z,26µmcomp=Z,1µm,1.0s								
BBJI	**Bungbulang**	**22.86**	**235**	P			**P**	**02 07 48.7**	**-0.2**
MYKOM	**Kota Tinggi**	**22.89**	**261**	P			**P**	**02 07 49.5**	**+0.4**
MYKOM					IAmb		IAmb	02 08 16.7	
	comp=Z,1µm,1.1s								
MYKOM	**Kota Tinggi**	**22.89**	**261**	P			**P**	**02 07 50.6**	**+1.4**
MYKOM	**Kota Tinggi**	**22.89**	**261**	↑P			**P**	**02 07 49.2**	**0.0**
TNG	**Tangerang**	**23.02**	**240**	P			**P**	**02 07 51.2**	**+0.8**
	comp=Z,43µmcomp=Z,2µm,1.7s								
BTDF	**Bukit Timah Da**	**23.05**	**260**	P			**P**	**02 07 52.6**	**+1.9**
DBJI	**Dramaga**	**23.12**	**239**	P			**P**	**02 07 52.0**	**+0.6**
	comp=Z,40µmcomp=Z,2µm,1.7s								
CNJI	**Cibinong**	**23.20**	**236**	P			**P**	**02 07 51.9**	**-0.2**
PMBI	**Palembang**	**23.29**	**249**	P			**P**	**02 07 56.0**	**+3.0**
PMBI	**Palembang**	**23.29**	**249**	P			**P**	**02 07 55.4**	**+2.4**
PMBI	**Palembang**	**23.29**	**249**	P			**P**	**02 07 55.2**	**+2.2**
	comp=Z,4µm,1.4s								
SBJI	**Serang**	**23.44**	**240**	P			**P**	**02 07 55.1**	**+0.8**
	comp=Z,56µmcomp=Z,48µmcomp=Z,2µm,2.2s								
SKJI	**Sukabumi**	**23.52**	**238**	P			**P**	**02 07 55.0**	**-0.1**
	comp=Z,60µmcomp=Z,37µmcomp=Z,2µm,1.2s								
FITZ	**Fitzroy Crossi**	**23.62**	**182**	P			**P**	**02 07 55.5**	**-0.4**
	comp=Z,210nm,0.8s								
FITZ	**Fitzroy Crossi**	**23.62**	**182**	P			**P**	**02 07 55.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**23.62**	**182**	P			**P**	**02 07 56.5**	**+0.6**
	comp=Z,312nm,0.6s,baz=8.2,slow=8.6,SNR=283								
	comp=Z,312nm,0.6s								
FITZ	**Fitzroy Crossi**	**23.62**	**182**	P			**P**	**02 07 57.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**23.62**	**182**	↑P			**P**	**02 07 55.2**	**-0.7**
BLSI	**Bandar Lampung**	**23.86**	**243**	P			**P**	**02 07 59.8**	**+1.7**
	comp=Z,38µmcomp=Z,13µmcomp=Z,860nm,1.1s								
KLI	**Kotabumi**	**23.98**	**245**	P			**P**	**02 08 00.5**	**+1.3**
	comp=Z,57µmcomp=Z,24µmcomp=Z,2µm,0.8s								
CGJI	**Cibinong**	**24.06**	**240**	P			**P**	**02 07 59.0**	**-0.8**
	comp=Z,49µmcomp=Z,20µmcomp=Z,707nm,0.8s								

comp=Z,249µm,34.1s
WHN LR LR
comp=Z,90µm,27.7s
MNSI Mandailing Nat 27.27 261 P **P** **02 08 29.4 +0.4**
comp=Z,36µmcomp=Z,6µmcomp=Z,419nm,1.0s
MBWA Marble Bar 27.46 194 P **P** **02 08 29.0 -1.5**
comp=Z,0.0nmcomp=Z,724nm,0.8s
MBWA Marble Bar 27.46 194 P **P** **02 08 30.3 -0.2**
MBWA IAmb IAmb 02 08 40.9
comp=Z,529nm,0.8s
MBWA Marble Bar 27.46 194 P **P** **02 08 30.7 +0.2**
MBWA P **P** **02 08 30.7 +0.2**
MBWA Marble Bar 27.46 194 P **P** **02 08 30.8 +0.3**
MBWA Marble Bar 27.46 194 ⇑P **P** **02 08 29.6 -0.9**
MBWA Marble Bar 27.46 194 P **P** **02 08 30.3 -0.2**
MBWA S S 02 13 21.5 +16
PSI Prapat 27.61 265 P **P** **02 08 32.8 +0.6**
comp=Z,184nm,0.8s,baz=86,slow=5.1,SNR=124
PSI PcP **PcP** **02 11 48.9 +0.9**
comp=Z,78nm,0.8s,baz=21,slow=5.5,SNR=4.9
PSI ScP **ScP** **02 15 21.7 +0.4**
comp=Z,72nm,0.9s,baz=98,slow=1.6,SNR=10
PSI LR LR 02 21 43.8
comp=Z,8µm,20.6s,baz=88,slow=41
comp=Z,184nm,0.8s
RPSI Rantau Prapat 27.63 265 **PcP** **02 11 48.9 +1.0**
RPSI **ScP** **02 15 21.7 +0.5**
JNU Nakatsue 27.63 8 P **P** **02 08 30.3 -1.6**
JNU Nakatsue 27.63 8 P **P** **02 08 29.9 -2.0**
comp=Z,327nm,0.8s,baz=147,slow=3.8,SNR=110
JNU LR LR 02 18 28.3
comp=Z,7µm,21.9s,baz=172,slow=34
comp=Z,327nm,0.8s
JNU Nakatsue 27.63 8 P **P** **02 08 30.8 -1.2**
JNU Nakatsue 27.63 8 ⇓P **P** **02 08 30.1 -1.8**
PPSI Pulau Pagai 27.72 253 P **P** **02 08 35.5 +2.5**
comp=Z,33µmcomp=Z,10µmcomp=Z,620nm,1.2s
PSAC1 Pilbara Seismi 27.80 193 P **P** **02 08 32.7 -0.9**
comp=Z,1µm,0.8s
PSAC2 Pilbara Seismi 27.81 193 P **P** **02 08 33.1 -0.5**
comp=Z,892nm,0.8s
PSA00 Pilbara Seismi 27.83 193 P **P** **02 08 32.3 -1.6**
comp=Z,975nm,0.8s
PSA00 Pilbara Seismi 27.83 193 P **P** **02 08 33.4 -0.5**
PSA00 IAmb IAmb 02 08 38.0
comp=Z,669nm,0.7s
PSA00 Pilbara Seismi 27.83 193 P **P** **02 08 33.3 -0.5**
PSA00 IAmb IAmb 02 08 38.0
comp=Z,639nm,0.7s
PSA00 Pilbara Seismi 27.83 193 P **P** **02 08 33.9 +0.1**
PSAB3 Pilbara Seismi 27.85 193 P **P** **02 08 32.9 -1.1**
comp=Z,971nm,0.8s
TSI Tuntungan 27.90 267 P **P** **02 08 36.8 +2.3**
comp=Z,36µmcomp=Z,14µmcomp=Z,370nm,1.4s
GYA Guiyang 28.02 320 ⇑P **P** **02 08 37.0 +1.4**
GYA S **S** **02 13 17.5 +3.3**
GYA pmax pmax
comp=Z,74nm,0.6s
GYA LR LR
comp=Z,15µm,16.6s
SISI Saibi 28.21 257 P **P** **02 08 38.8 +1.5**
comp=Z,20µmcomp=Z,2µm,1.1s
KCSI Kotacane, Aceh 28.68 267 P **P** **02 08 42.1 +0.5**
comp=Z,18µmcomp=Z,5µmcomp=Z,314nm,1.0s
PBSI Pulau Batu 28.71 260 P **P** **02 08 42.3 +0.5**
comp=Z,28µmcomp=Z,11µmcomp=Z,452nm,0.9s
JMN Monobe 28.76 13 P **P** **02 08 41.9 -0.1**
JTU Tsushima 28.85 5 P **P** **02 08 44.5 +1.8**
JTU Tsushima 28.85 5 ⇓P **P** **02 08 41.4 -1.3**
QIS Mount Isa 29.08 154 P **P** **02 08 44.4 -0.5**
QIS Mount Isa 29.08 154 P **P** **02 08 45.6 +0.7**
GSI Gunungsitoli 29.16 263 IAmb IAmb 02 08 57.4
comp=Z,720nm,0.8s
GSI Gunungsitoli 29.16 263 P **P** **02 08 46.3 +0.5**
GSI Gunungsitoli 29.16 263 P **P** **02 08 45.3 -0.5**
comp=Z,12µmcomp=Z,884nm,0.7s
GSI Gunungsitoli 29.16 263 ⇑P **P** **02 08 44.0 -1.8**
ENH Enshi 29.24 329 IAmb IAmb 02 08 56.1
comp=Z,808nm,1.1s
ENH Enshi 29.24 329 P **P** **02 08 47.0 +0.6**
LHMI Lhok Sumawe 29.39 271 IAmb IAmb 02 09 30.5
comp=Z,2µm,1.8s
LHMI Lhok Sumawe 29.39 271 P **P** **02 08 49.3 +1.5**
LHMI Lhok Sumawe 29.39 271 P **P** **02 08 49.7 +1.9**
comp=Z,36µmcomp=Z,13µmcomp=Z,371nm,0.7s
LHMI Lhok Sumawe 29.39 271 ⇑P **P** **02 08 48.8 +0.9**
MTSU Mount Surprise 29.48 144 P **P** **02 08 48.2 -0.3**
comp=Z,390nm,1.0s
MTSU Mount Surprise 29.48 144 P **P** **02 08 49.3 +0.7**
CMAR Chiang Mai Arr 29.71 298 P **P** **02 08 51.5 +0.9**
comp=Z,85nm,0.7s,baz=121,slow=7.8,SNR=199
CMAR PcP **PcP** **02 11 55.1 +2.1**
comp=Z,47nm,0.8s,baz=102,slow=1.5,SNR=7.7
CMAR ScP **ScP** **02 15 29.6 +1.9**
comp=Z,44nm,0.8s,baz=118,slow=1.6,SNR=18
CMAR PKiKP **PKiKP** **02 19 26.4 +0.4**
comp=Z,5.5nm,0.6s,baz=250,slow=1.1,SNR=7.7
CMAR LR LR 02 22 59.8
comp=Z,16µm,18.4s,baz=105,slow=41
comp=Z,85nm,0.7s
CHTO Chiang Mai 29.85 298 P **P** **02 08 52.3 +0.5**
CHTO Chiang Mai 29.85 298 P **P** **02 08 50.0 -1.8**
CHTO S **S** **02 13 35.5 -7.4**
CHTO Chiang Mai 29.85 298 P **P** **02 08 52.4 +0.6**
CHTO Chiang Mai 29.85 298 P **P** **02 08 52.3 +0.5**
CHTO pmax pmax
comp=Z,140nm,0.7s
CHTO Chiang Mai 29.85 298 ⇑P **P** **02 08 51.6 -0.2**
CHTO Chiang Mai 29.85 298 P **P** **02 08 51.6 -0.2**
CHTO S S 02 13 58.5 +16
KMI Kunming 29.86 313 ⇑P **P** **02 08 53.3 +1.2**
KMI PcP **PcP** **02 11 55.5 +1.9**
KMI S **S** **02 13 41.0 -2.4**
KMI ScP **ScP** **02 15 30.5 +2.2**
KMI ScS **ScS** **02 19 25.3 +1.3**
KMI pmax pmax
comp=Z,290nm,0.7s
KMI pmax pmax
comp=Z,1.0nm,2.9s
KMI LR LR
comp=Z,17µm,11.4s
KMI LR LR
comp=Z,14µm,11.3s
KMI LR LR
comp=Z,14µm,17.6s
MLSI Meulaboh, Aceh 29.98 269 P **P** **02 08 52.9 -0.2**
comp=Z,22µmcomp=Z,8µmcomp=Z,579nm,0.7s
JHJ Hachijo jima 2 30.00 23 LR LR 02 19 27.5
comp=Z,11µm,21.6s,baz=226,slow=33
ASAR Alice Springs 30.04 166 P **P** **02 08 53.0 -0.4**
ASAR Alice Springs 30.04 166 P **P** **02 08 53.5 0.0**
comp=Z,132nm,0.6s,baz=350,slow=7.1,SNR=884
ASAR PcP **PcP** **02 11 54.7 +0.9**
comp=Z,119nm,0.6s,baz=348,slow=2.7,SNR=12
ASAR S **S** **02 13 51.0 +5.2**
comp=Z,6.7nm,0.6s,baz=357,slow=18,SNR=1.1
ASAR ScP **ScP** **02 15 29.4 +0.7**
comp=Z,50nm,0.8s,baz=354,slow=3.2,SNR=7.9
ASAR PKiKP **PKiKP** **02 19 24.9 -1.3**
comp=Z,20nm,1.1s,baz=332,slow=2.2,SNR=5.2
ASAR LR LR 02 22 33.4
comp=Z,13µm,19.5s,baz=347,slow=39
ASAR P3KPbc 02 40 46.5
comp=Z,3.8nm,0.6s,baz=163,slow=4.1,SNR=32
ASAR PKPPKP **P'P'df** **02 42 52.0 +1.3**
comp=Z,2.4nm,1.0s,baz=155,slow=1.7,SNR=4.1
comp=Z,132nm,0.6s
SNSI Sinabang, Aceh 30.24 265 P **P** **02 08 55.8 +0.5**
comp=Z,29µmcomp=Z,10µmcomp=Z,802nm,1.2s
WRKA Warakurna 30.57 177 P **P** **02 08 56.9 -1.2**
comp=Z,0.0nmcomp=Z,223nm,1.1s
GIRL Giralia 30.57 203 P **P** **02 08 58.0 -0.1**
comp=Z,0.0nmcomp=Z,815nm,0.8s
GIRL Giralia 30.57 203 P **P** **02 08 58.9 +0.8**
GIRL IAmb IAmb 02 09 02.4
comp=Z,550nm,0.8s
TJN Taejon 30.58 1 IAmb IAmb 02 09 05.6
comp=Z,805nm,1.1s
TJN Taejon 30.58 1 P **P** **02 08 59.1 +1.1**
TJN Taejon 30.58 1*d* iP **P** **02 08 55.2 -2.8**
JSG Sagara 30.84 19 IAmb IAmb 02 09 03.2
comp=Z,866nm,0.9s
JSG Sagara 30.84 19 P **P** **02 09 01.2 +0.9**
JSG Sagara 30.84 19 ⇓P **P** **02 08 59.2 -1.1**
INU Inuyama 31.10 17 IAmb IAmb 02 09 04.4
comp=Z,542nm,0.7s
INU Inuyama 31.10 17 P **P** **02 09 01.3 -1.4**
INU Inuyama 31.10 17 ⇑P **P** **02 09 00.8 -1.9**
PZH PanZhiHua 31.41 314 P **P** **02 09 05.8 +0.2**
PZH sP **pwP** **02 09 30.0 +2.0**
PZH PcP **PcP** **02 11 58.8 +1.3**
PZH S **S** **02 14 05.5 -1.9**
PZH SS **SnSn** **02 16 01.5 +1.6**
PZH pmax pmax
comp=Z,230nm,1.1s
PZH pmax pmax
comp=Z,910nm,3.5s
PZH LR LR
comp=Z,5µm,17.1s
PZH LR LR
comp=Z,5µm,17.6s
PZH LR LR
comp=Z,8µm,16.5s
JGF Kuroka 31.44 17 P **P** **02 09 04.6 -1.1**
JGF Kuroka 31.44 17 ⇓P **P** **02 09 03.3 -2.4**
LYN LuoYang 31.53 338 ⇓P **P** **02 09 07.5 +1.0**
LYN PcP **PcP** **02 12 00.5 +3.0**
LYN S **S** **02 14 07.5 -1.4**
LYN ScP **ScP** **02 15 36.0 +2.6**
LYN ScS **ScS** **02 19 33.8 +2.5**
LYN pmax pmax
comp=Z,600nm,0.7s
LYN pmax pmax
comp=Z,10µm,3.6s
LYN LR LR
comp=Z,20µm,24.1s
LYN LR LR
comp=Z,19µm,17.9s
LYN LR LR
comp=Z,26µm,24.8s
TIA Tai'an 31.59 345 P **P** **02 09 07.0 0.0**
TIA pP **pP** **02 09 21.5 -4.7**
TIA sP **sP** **02 09 34.8 -1.1**
TIA PcP **PcP** **02 11 59.5 +1.9**
TIA S **S** **02 14 10.3 +0.5**
TIA sS **sS** **02 14 43.5 +1.4**
TIA ScP **ScP** **02 15 35.8 +2.3**
TIA PcS **PcS** **02 15 43.5 +1.4**
TIA ScS **ScS** **02 19 33.3 +1.7**
TIA pmax pmax
comp=Z,1µm,0.8s
TIA pmax pmax
comp=Z,7µm,5.0s
TIA LR LR
comp=Z,12µm,15.3s
TIA LR LR
comp=Z,12µm,13.7s
TIA LR LR
comp=Z,12µm,21.7s
KSAR Wonju Array Be 31.66 2 P **P** **02 09 07.4 -0.1**
KSAR Wonju Array Be 31.66 2 P **P** **02 09 07.4 -0.1**
PATS Pohnpei 31.67 86 P **P** **02 09 05.8 -2.2**
comp=Z,204nm,1.0s
PATS Pohnpei 31.67 86 P **P** **02 09 07.7 -0.2**
KSRS Korea Array 31.67 2 P **P** **02 09 06.8 -0.8**
comp=Z,43nm,0.6s,baz=183,slow=9.5,SNR=112
KSRS PcP **PcP** **02 11 58.9 +1.1**
comp=Z,28nm,0.6s,baz=183,slow=2.4,SNR=11
KSRS S **S** **02 14 10.0 -0.9**
comp=Z,1.7nm,0.6s,baz=179,slow=6.9,SNR=1.9
KSRS ScP **ScP** **02 15 35.8 +2.1**
comp=Z,19nm,1.0s,baz=190,slow=3.4,SNR=9.9
KSRS PKiKP **PKiKP** **02 19 26.6 -0.1**
comp=Z,5.5nm,0.8s,baz=220,slow=0.9,SNR=8.6
KSRS LR LR 02 23 18.7
comp=Z,2461µm,19.0s,baz=185,slow=39
KSRS P3KPbc 02 40 40.8
comp=Z,3.8nm,0.9s,baz=356,slow=4.8,SNR=9.3
comp=Z,43nm,0.6s
INCN Inchon 31.67 0 P **P** **02 09 08.6 +0.9**
INCN Inchon 31.67 0 P **P** **02 09 06.7 -0.9**
INCN P **P** **02 09 06.7 -0.9**
INCN Inchon 31.67 0 P **P** **02 09 09.3 +1.6**
INCN Inchon 31.67 0 P **P** **02 09 08.6 +0.9**
INCN pmax pmax
comp=Z,85nm,0.9s
INCN Inchon 31.67 0 ⇓P **P** **02 09 05.9 -1.8**
TV1H Townsville Har 31.84 142 P **P** **02 09 10.1 +0.8**
CTAO Charters Tower 32.14 143 P **P** **02 09 12.2 +0.2**
CTAO IAmb IAmb 02 09 16.0
comp=Z,534nm,1.1s
CTAO Charters Tower 32.14 143 P **P** **02 09 12.5 +0.5**
CTAO Charters Tower 32.14 143 P **P** **02 09 12.2 +0.2**
CTAO pmax pmax
comp=Z,535nm,1.1s
CTAO Charters Tower 32.14 143 ⇓P **P** **02 09 12.6 +0.6**
CMBY CAMPBELL BAY 32.37 274 *e*P **P** **02 09 12.5 -1.6**
CMBY IAmb IAmb 02 09 27.5
comp=Z,369nm,0.7s
MAJO Matsushiro 32.56 18 P **P** **02 09 13.3 -2.2**
MAJO Matsushiro 32.56 18 P **P** **02 09 15.7 +0.2**
MAJO Matsushiro 32.56 18 P **P** **02 09 13.3 -2.2**
MAJO pmax pmax
comp=Z,214nm,0.9s
MAJO Matsushiro 32.56 18 ⇓P **P** **02 09 12.4 -3.1**
MAJO Matsushiro 32.56 18 P **P** **02 09 12.5 -3.0**
MAJO S S 02 14 08.8 -16
MAJO Matsushiro 32.56 18 P **P** **02 09 12.7 -2.8**
MAJO pP **pP** **02 09 31.5 -2.5**
MJAR Matsushiro Arr 32.56 18 P **P** **02 09 13.2 -2.2**
MJAR Matsushiro Arr 32.56 18 P **P** **02 09 12.4 -3.1**
comp=Z,121nm,0.7s,baz=187,slow=8.9,SNR=176
MJAR PcP **PcP** **02 12 01.0 +0.7**
comp=Z,58nm,0.7s,baz=182,slow=2.9,SNR=8.4
MJAR ScP **ScP** **02 15 38.6 +1.7**
comp=Z,26nm,1.0s,baz=201,slow=4.0,SNR=12
MJAR P3KPbc 02 40 37.1
comp=Z,2.9nm,0.7s,baz=10.0,slow=4.1,SNR=12
MJAR Matsushiro Arr 32.56 18 P **P** **02 09 13.3 -2.2**
MJAR pmax pmax
comp=Z,193nm,1.0s
XAN Xi'an 32.59 332 P **P** **02 09 14.8 -1.0**
XAN pP pP 02 09 30.8 -4.1
XAN PP **PnPn** **02 10 26.5 0.0**
XAN S **S** **02 14 24.5 -1.0**
XAN sS sS 02 14 56.0 -1.8
XAN pmax pmax
comp=Z,1µm,1.3s
XAN pmax pmax
comp=Z,6µm,3.5s
XAN LR LR
comp=Z,13µm,24.0s
XAN LR LR
comp=Z,9µm,19.9s
XAN LR LR
comp=Z,22µm,22.7s
CD2 Chengdu 32.95 322 P **P** **02 09 18.5 -0.5**
CD2 pP pP 02 09 36.5 -1.3
CD2 sP pwP 02 09 44.0 +3.1
CD2 PP **PnPn** **02 10 32.5 +1.4**
CD2 S **S** **02 14 27.5 -3.7**
CD2 sS sS 02 15 05.0 +1.4
CD2 pmax pmax
comp=Z,350nm,0.7s
CD2 pmax pmax
comp=Z,1µm,4.2s
CD2 LR LR
comp=Z,21µm,14.9s
CD2 LR LR
comp=Z,16µm,17.6s
CD2 LR LR
comp=Z,12µm,15.9s
TNCH TengChong 32.99 309 ⇓*i*P **P** **02 09 20.0 +0.4**
TNCH pP pP 02 09 37.8 -0.5
TNCH sP pwP 02 09 43.8 +1.8
TNCH PP **PP** **02 10 36.0 +0.3**
TNCH S **S** **02 14 31.3 -1.0**
TNCH sS sS 02 15 05.8 +1.2
TNCH ScS **ScS** **02 19 41.5 +2.0**
TNCH pmax pmax
comp=Z,220nm,2.0s
TNCH pmax pmax
comp=Z,1µm,2.6s
TNCH LR LR
comp=Z,4µm,15.0s
TNCH LR LR
comp=Z,5µm,18.1s
TNCH LR LR
comp=Z,11µm,18.4s
MEEK Meekatharra 33.00 193 P **P** **02 09 18.0 -1.4**
comp=Z,0.0nmcomp=Z,553nm,0.7s
MEEK Meekatharra 33.00 193 P **P** **02 09 18.9 -0.5**
HNS HongShan 33.37 343 ⇓P **P** **02 09 22.5 +0.1**
HNS PcP **PcP** **02 12 04.5 +2.1**
HNS S **S** **02 14 37.0 -0.3**
HNS sS **sS** **02 15 12.0 +2.3**
HNS ScP **ScP** **02 15 41.8 +2.2**
HNS ScS **ScS** **02 19 42.8 +2.3**
HNS pmax pmax
comp=Z,430nm,1.0s
HNS pmax pmax
comp=Z,7µm,4.1s
HNS LR LR
comp=Z,8µm,23.7s
DL2 Dalian 33.38 353 P **P** **02 09 23.5 +0.9**
DL2 PP **PP** **02 10 39.0 -0.6**
DL2 S **S** **02 14 40.0 +2.5**
DL2 pmax pmax
comp=Z,930nm,0.9s
DL2 pmax pmax
comp=Z,6µm,6.5s
DL2 LR LR
comp=Z,9µm,10.7s
DL2 LR LR
comp=Z,14µm,9.0s
DL2 LR LR
comp=Z,13µm,22.4s
PBA Port Blair 33.85 282 IAmb IAmb 02 09 51.9
comp=Z,2µm,1.9s
PBA Port Blair 33.85 282 P **P** **02 09 23.3 -3.7**
SNR=7.1
PBA Port Blair 33.85 282 *e*P **P** **02 09 24.6 -2.3**
PBA IAmb IAmb 02 09 51.5
comp=Z,216nm,0.5s
DGPR DIGLIPUR 33.89 285 *e*P **P** **02 09 26.7 -0.6**
DGPR IAmb IAmb 02 09 39.5
comp=Z,124nm,0.8s
JSD Sado 33.97 17 P **P** **02 09 26.5 -1.1**
JSD Sado 33.97 17 ⇓P **P** **02 09 24.9 -2.8**
TIY Taiyuan 34.37 340 P **P** **02 09 32.3 +1.0**
TIY pP **pP** **02 09 52.3 +1.6**
TIY S **S** **02 14 53.3 +0.2**
TIY sS **sS** **02 15 28.3 +2.8**
TIY ScS **ScS** **02 19 48.5 +2.5**
TIY pmax pmax
comp=Z,440nm,0.5s
TIY pmax pmax
comp=Z,6µm,4.8s
TIY LR LR
comp=Z,5µm,15.9s
TIY LR LR
comp=Z,8µm,13.5s
TIY LR LR
comp=Z,10µm,24.7s
JMM Marumori 34.61 20 P **P** **02 09 31.8 -1.4**
JMM Marumori 34.61 20 ⇓P **P** **02 09 31.6 -1.6**
BJT Baijiatuao 35.44 346 P **P** **02 09 41.5 +1.2**
BJT Baijiatuao 35.44 346 P **P** **02 09 41.0 +0.7**
BJT pP **pP** **02 09 59.5 -0.3**
BJI Beijing 35.46 346 P **P** **02 09 40.8 +0.3**
BJI pP **pP** **02 09 59.5 -0.4**
BJI sP **sP** **02 10 11.8 +2.2**
BJI S **S** **02 15 12.0 +2.5**
BJI sS **sS** **02 15 43.5 +1.5**
BJI ScS **ScS** **02 19 54.0 +2.4**
BJI pmax pmax
comp=Z,1µm,1.0s
BJI pmax pmax
comp=Z,5µm,3.9s
BJI LR LR
comp=Z,2µm,17.7s
BJI LR LR
comp=Z,3µm,15.1s
BJI LR LR
comp=Z,4µm,23.5s
INKA Innaminka 35.96 158 IAmb IAmb 02 09 49.1
comp=Z,434nm,0.9s
MORW Morawa 35.96 196 P **P** **02 09 44.5 -0.4**
comp=Z,0.0nmcomp=Z,219nm,1.1s
MORW Morawa 35.96 196 P **P** **02 09 44.9 0.0**
MORW Morawa 35.96 196 ⇑P **P** **02 09 44.4 -0.5**
SNY Shenyang 36.10 356 ⇓P **P** **02 09 46.3 +0.3**
SNY S **S** **02 15 17.3 -2.0**
SNY pmax pmax
comp=Z,670nm,1.0s
SNY pmax pmax
comp=Z,5µm,5.1s
SNY LR LR
comp=Z,6µm,15.1s
SNY LR LR
comp=Z,14µm,18.0s
SNY LR LR
comp=Z,11µm,24.8s
FORT Forrest 36.27 178 P **P** **02 09 47.1 -0.4**
comp=Z,0.0nmcomp=Z,573nm,1.1s
FORT Forrest 36.27 178 IAmb IAmb 02 09 53.6
comp=Z,493nm,1.0s
QLP Quilpie 36.38 153 P **P** **02 09 47.1 -1.5**
comp=Z,0.0nmcomp=Z,2µm,1.1s
QLP Quilpie 36.38 153 P **P** **02 09 48.9 +0.4**
QLP Quilpie 36.38 153 ⇓P **P** **02 09 48.0 -0.5**
HNR Honiara 36.58 114 LR LR 02 25 57.0
comp=Z,2µm,18.2s,baz=285,slow=38
LZDM Lanzhou Array 36.70 328 P **P** **02 09 51.0 -0.6**
comp=Z,232nm,0.9s,baz=161,slow=9.4,SNR=79
LZDM PcP **PcP** **02 12 14.8 +2.1**
comp=Z,120nm,0.8s,baz=188,slow=5.4,SNR=6.7
LZDM S **S** **02 15 31.8 +2.5**
comp=Z,8.6nm,0.3s,baz=100,slow=13,SNR=1.2
LZDM ScP **ScP** **02 15 53.3 +1.2**
comp=Z,38nm,0.9s,baz=186,slow=4.5,SNR=5.2
LZDM LR LR 02 25 44.1
comp=Z,11µm,21.7s,baz=105,slow=38
comp=Z,232nm,0.9s
LZH Lanzhou 36.72 329 *e*P **P** **02 09 52.3 +0.7**
LZH pP pP 02 10 12.3 +1.3
LZH sP sP 02 10 18.5 -2.0
LZH PcP **PcP** **02 12 15.0 +2.4**
LZH S **S** **02 15 28.3 -1.0**
LZH sS sS 02 15 59.8 -2.2
LZH ScS **ScS** **02 20 00.5 +1.4**
LZH pmax pmax
comp=Z,980nm,1.7s
LZH pmax pmax
comp=Z,5µm,4.1s
LZH LR LR
comp=Z,20µm,13.3s
LZH LR LR
comp=Z,18µm,14.3s
LZH LR LR
comp=Z,23µm,18.7s
KOHI KOHIMA 36.81 306 *e*P **P** **02 09 50.1 -2.4**
MSHR Mys Shultsa 37.00 6*de*P **P** **02 09 53.6 0.0**
MSHR pmax pmax
comp=Z,347nm,0.8s
KMBL Kambalda 37.08 187 P **P** **02 09 54.5 +0.1**
comp=Z,0.0nmcomp=Z,274nm,1.2s
AZL Aizawl 37.13 302 *e*P **P** **02 09 52.8 -2.3**
AZL IAmb IAmb 02 09 59.2
JORH JORHAT 37.18 308 *e*P **P** **02 09 53.0 -2.3**
BLDU Ballidu 37.26 194 P **P** **02 09 54.8 -1.2**
comp=Z,0.0nmcomp=Z,354nm,0.9s
BLDU Ballidu 37.26 194 P **P** **02 09 55.5 -0.5**
JTM Tenmabayashi 37.34 18 IAmb IAmb 02 09 59.5
comp=Z,936nm,1.5s
JTM Tenmabayashi 37.34 18 P **P** **02 09 56.7 +0.2**
JTM Tenmabayashi 37.34 18 ⇓P **P** **02 09 55.2 -1.2**
SILR SILCHAR 37.47 304 *e*P **P** **02 09 55.5 -2.3**
HHC Hu-ho-hao-te 37.50 341 *e*P **P** **02 09 59.0 +1.0**
HHC pP pP 02 10 18.5 +0.9
HHC sP sP 02 10 24.3 -2.9
HHC S **S** **02 15 41.0 +0.2**
HHC sS sS 02 16 15.0 +1.5
HHC SS **SnSn** **02 18 16.8 -10**
HHC ScS **ScS** **02 20 03.3 +0.1**
HHC pmax pmax
comp=Z,480nm,1.0s
HHC pmax pmax
comp=Z,10µm,4.7s
HHC LR LR
comp=Z,5µm,14.5s
HHC LR LR
comp=Z,7µm,16.0s
HHC LR LR
comp=Z,13µm,17.6s
VLA Vladivostok 37.61 6*c iP* **P** **02 09 57.3 -1.4**

VLA pmax pmax
comp=Z,340nm,0.7s
BRDH Bariadhala 37.62 300 P **P** **02 09 59.3 +0.2**
comp=Z,951nm,0.6s,baz=88,slow=6.5,SNR=50
BRDH PcP **PcP** **02 12 18.0 +2.7**
comp=Z,369nm,0.6s,baz=90,slow=3.3,SNR=7.1
BRDH LR LR 02 27 49.0
comp=Z,13µm,20.1s,baz=114,slow=40
comp=Z,951nm,0.6s
BTO Baotou 37.79 339 *e*P **P** **02 10 02.0 +1.5**
BTO pP **pP** **02 10 23.3 +3.2**
BTO S **S** **02 15 51.0 +5.7**
BTO pmax pmax
comp=Z,92nm,0.9s
BTO pmax pmax
comp=Z,14µm,3.8s
BTO LR LR
comp=Z,12µm,19.6s
BTO LR LR
comp=Z,12µm,13.3s
BTO LR LR
comp=Z,12µm,18.2s
ZIRO ZIRO 37.87 309 *e*P **P** **02 09 59.1 -2.3**
ZIRO IAmb IAmb 02 10 26.4
comp=Z,426nm,1.2s
GD1S Gladstone Soft 37.95 142 P **P** **02 10 02.6 +0.7**
CN2 Changchun 38.00 359 P **P** **02 10 02.0 0.0**
CN2 PP **PnPn** **02 11 35.8 +3.1**
CN2 PcP **PcP** **02 12 17.3 +1.3**
CN2 S **S** **02 15 47.3 -0.7**
CN2 ScP **ScP** **02 15 58.0 +1.7**
CN2 pmax pmax
comp=Z,220nm,0.7s
CN2 pmax pmax
comp=Z,3µm,5.0s
CN2 LR LR
comp=Z,6µm,17.0s
CN2 LR LR
comp=Z,13µm,17.0s
CN2 LR LR
comp=Z,9µm,20.0s
BELO BELONIA 38.00 301 *e*P **P** **02 10 00.6 -1.7**
TEZP TEZPUR 38.27 307 *e*P **P** **02 10 02.4 -2.1**
TEZP IAmb IAmb 02 10 07.2
comp=Z,154nm,1.0s
AGT Agartala 38.40 302 *e*P **P** **02 10 03.5 -2.2**
AGT IAmb IAmb 02 10 09.9
comp=Z,324nm,0.8s
SHL Shillong 38.55 305 IAmb IAmb 02 10 35.5
comp=Z,503nm,0.9s
SHL Shillong 38.55 305 P **P** **02 10 05.9 -1.3**
SNR=207
SHL Shillong 38.55 305 *e*P **P** **02 10 03.8 -3.3**
SHL IAmb IAmb 02 10 11.7
comp=Z,436nm,1.1s
SHL Shillong 38.55 305 P **P** **02 10 06.5 -0.7**
MUN Mundaring 38.69 194 P **P** **02 10 07.4 -0.5**
comp=Z,0.0nmcomp=Z,453nm,1.1s
MUN Mundaring 38.69 194 P **P** **02 10 08.1 +0.2**
USRK Ussuriysk Ar. 38.69 6 P **P** **02 10 07.5 -0.3**
comp=Z,423nm,0.6s,baz=194,slow=5.9,SNR=524
USRK ScP **ScP** **02 16 00.5 +1.6**
comp=Z,17nm,1.0s,baz=186,slow=1.7,SNR=7.9
comp=Z,423nm,0.6s
MTKN Mount Kenneth 38.75 195 P **P** **02 10 10.3 +1.9**
MDJ Mudanjiang 38.90 4 P **P** **02 10 09.5 0.0**
MDJ pP pP 02 10 28.5 +0.1
MDJ sP sP 02 10 37.5 -0.1
MDJ S **S** **02 16 01.0 -0.6**
MDJ ScS **ScS** **02 20 11.8 +1.0**
MDJ pmax pmax
comp=Z,88nm,1.1s
MDJ pmax pmax
comp=Z,7µm,4.1s
MDJ LR LR
comp=Z,10µm,22.4s
MDJ LR LR
comp=Z,6µm,13.9s
MDJ LR LR
comp=Z,10µm,19.1s
MDJ Mudanjiang 38.90 4 P **P** **02 10 10.2 +0.7**
EIDS Eidsvold 39.03 143 P **P** **02 10 10.2 -0.7**
comp=Z,408nm,1.4s
EIDS Eidsvold 39.03 143 IAmb IAmb 02 10 12.2
comp=Z,371nm,1.1s
EIDS Eidsvold 39.03 143 P **P** **02 10 10.8 -0.1**
EIDS Eidsvold 39.03 143 ⇓P **P** **02 10 10.4 -0.5**
ERM Erimo 39.13 20 P **P** **02 10 11.9 +0.4**
ERM IAmb IAmb 02 10 37.0
comp=Z,274nm,0.8s
ERM Erimo 39.13 20 P **P** **02 10 12.0 +0.5**
ERM Erimo 39.13 20 P **P** **02 10 11.9 +0.4**
ERM pmax pmax
comp=Z,274nm,0.9s
ERM Erimo 39.13 20 ⇓P **P** **02 10 10.8 -0.7**
ERM Erimo 39.13 20 P **P** **02 10 09.9 -1.6**
ERM S **S** **02 16 00.5 -4.6**
JEM Erimo 39.13 20 P **P** **02 10 12.0 +0.5**
XLT XiLinHaoTe 39.17 348 *e*P **P** **02 10 12.5 +0.6**
XLT pP pP 02 10 35.0 +3.3
XLT S **S** **02 16 07.3 +1.4**
XLT sS sS 02 16 40.3 +1.6
XLT ScS **ScS** **02 20 13.3 +0.7**
XLT pmax pmax
comp=Z,800nm,0.8s
XLT pmax pmax
comp=Z,8µm,4.3s
XLT LR LR
comp=Z,10µm,18.3s
XLT LR LR
comp=Z,9µm,23.0s
BBOO Buckleboo 39.33 167 P **P** **02 10 13.3 0.0**
NWAO Narrogin (SRO) 39.37 192 P **P** **02 10 14.0 +0.3**
comp=Z,0.0nmcomp=Z,430nm,1.4s
NWAO Narrogin (SRO) 39.37 192 P **P** **02 10 13.8 +0.3**
NWAO IAmb IAmb 02 10 21.9
comp=Z,286nm,0.8s
NWAO Narrogin (SRO) 39.37 192 P **P** **02 10 14.4 +0.8**
NWAO P **P** **02 10 14.4 +0.8**
NWAO Narrogin (SRO) 39.37 192 P **P** **02 10 13.9 +0.3**
NWAO Narrogin (SRO) 39.37 192 P **P** **02 10 13.8 +0.3**
NWAO pmax pmax
comp=Z,286nm,0.8s
WHYH Whyalla 39.90 165 P **P** **02 10 18.8 +0.8**
BNX BinXian 39.93 1 ⇑P **P** **02 10 18.5 +0.4**
BNX sP **sP** **02 10 46.5 -0.7**
BNX PP **PP** **02 11 52.8 +1.3**
BNX S **S** **02 16 18.0 +0.9**
BNX pmax pmax
comp=Z,330nm,1.0s
BNX pmax pmax
comp=Z,3µm,6.2s
BNX LR LR
comp=Z,6µm,19.5s
BNX LR LR
comp=Z,8µm,16.3s
BNX LR LR
comp=Z,13µm,30.4s
STKA Stephens Creek 40.02 160 P **P** **02 10 19.6 +0.5**
comp=Z,1µm,1.0s,baz=335,slow=8.5,SNR=504
STKA LR LR 02 29 04.5
comp=Z,7µm,19.2s,baz=332,slow=39
comp=Z,1µm,1.0s
STKA Stephens Creek 40.02 160 P **P** **02 10 19.8 +0.8**
PTPS Port Pirie 40.14 165 P **P** **02 10 21.3 +1.3**
TEY Ternei 40.21 11⇑ *e*P **P** **02 10 20.6 +0.2**
TEY pmax pmax
comp=N,70nm,0.7s
TEY pmax pmax
comp=Z,130nm,0.7s
TEY pmax pmax
comp=N,800nm,2.8s
TEY pmax pmax
comp=E,800nm,2.8s
TEY pmax pmax
comp=Z,1µm,2.7s
HTT Hallett 40.63 164 P **P** **02 10 24.8 +0.7**
HTT Hallett 40.63 164 P **P** **02 10 24.6 +0.5**
HTT Hallett 40.63 164 ⇑P **P** **02 10 24.3 +0.2**
JKA Kamikawa-asahi 40.84 18 IAmb IAmb 02 10 29.1
comp=Z,529nm,0.7s
LSA Lhasa 40.99 310 P **P** **02 10 26.0 -1.7**
LSA S **S** **02 16 30.8 -3.5**
LSA pmax pmax
comp=Z,91nm,0.9s

LSA LR LR
comp=Z,3µm,19.4s
LSA LR LR
comp=Z,2µm,19.4s
LSA LR LR
comp=Z,6µm,18.7s
TW1H Toowoomba 1 Ha 41.19 145 P **P** **02 10 29.5 +0.6**
H11S3 WAKE ISLAND Hy 41.23 68 P **P** **02 10 28.8 -0.2**
baz=239,slow=6.1,SNR=8.0
H11S3 T T 02 54 42.0
baz=258,slow=75,SNR=330
H11S1 WAKE ISLAND Hy 41.24 68 P **P** **02 10 28.9 -0.2**
baz=239,slow=6.1,SNR=8.0
H11S1 T T 02 54 44.4
baz=258,slow=75,SNR=246
H11S2 WAKE ISLAND Hy 41.25 68 P **P** **02 10 28.2 -0.9**
baz=239,slow=6.1,SNR=8.2
H11S2 T T 02 54 31.9
baz=258,slow=75,SNR=459
CMSA Cobar Meteorol 41.29 155 P **P** **02 10 30.1 +0.6**
GTA Gaotai 41.32 328 P **P** **02 10 30.5 +0.6**
GTA sP pP 02 10 54.0 +4.5
GTA PP **PnPn** **02 12 11.0 -1.1**
GTA PcP **PcP** **02 12 29.5 +2.6**
GTA ScP **ScP** **02 16 12.0 +2.4**
GTA S **S** **02 16 40.5 +2.2**
GTA ScS **ScS** **02 20 26.0 +0.2**
GTA pmax pmax
comp=Z,46nm,0.9s
GTA pmax pmax
comp=Z,3µm,5.1s
GTA LR LR
comp=Z,7µm,23.3s
GTA LR LR
comp=Z,9µm,22.9s
GTA LR LR
comp=Z,17µm,24.0s
WAKE Wake Island 41.38 67 P **P** **02 10 29.8 -0.6**
WAKE IAmb IAmb 02 10 31.0
comp=Z,1µm,1.2s
WAKE Wake Island 41.38 67 P **P** **02 10 30.4 0.0**
WAKE Wake Island 41.38 67 ⇓P **P** **02 10 29.3 -1.2**
WAKE Wake Island 41.38 67 P **P** **02 10 29.0 -1.5**
JPG JALPAIGURI 41.55 304 *e*P **P** **02 10 29.6 -2.1**
H11N1 WAKE ISLAND Hy 41.70 67 P **P** **02 10 32.8 0.0**
baz=325,slow=26,SNR=9.0
H11N1 T T 02 55 15.3
baz=255,slow=75,SNR=63
H11N2 WAKE ISLAND Hy 41.71 67 P **P** **02 10 33.0 +0.1**
baz=325,slow=26,SNR=3.8
H11N2 T T 02 55 16.3
baz=255,slow=75,SNR=64
H11N3 WAKE ISLAND Hy 41.72 67 P **P** **02 10 33.2 +0.2**
baz=325,slow=26,SNR=12
H11N3 T T 02 55 19.3
baz=255,slow=75,SNR=64
YUK Yuzh-Kuril'sk 41.85 21*c* *i*P **P** **02 10 32.9 -0.9**
YUK *i* 02 12 17.3
YUK *i* PPP PPP 02 12 41.8
YUK *i* S **S** **02 16 44.2 -1.3**
YUK *i* SS **SS** **02 19 54.4 -0.5**
YUK *i* SSS SSS 02 20 25.2
YUK pmax pmax
comp=Z,925nm,1.0s
YUK pmax pmax
comp=E,337nm,0.9s
YUK pmax pmax
comp=N,676nm,0.8s
YUK pmax pmax
comp=Z,2µm,2.0s
GHSS Government Hou 41.95 165 P **P** **02 10 36.1 +1.3**
H01W3 Cape Leeuwin H 41.97 195 P **P** **02 10 37.0 +2.3**
baz=24,slow=6.5,SNR=27
H01W1 Cape Leeuwin H 41.98 195 P **P** **02 10 36.8 +2.0**
baz=24,slow=6.5,SNR=67
H01W2 Cape Leeuwin H 41.99 195 P **P** **02 10 37.1 +2.3**
baz=24,slow=6.5,SNR=38
GOMU GeErMu 42.03 321 P **P** **02 10 36.0 0.0**
GOMU PcP **PcP** **02 12 31.0 +1.4**
GOMU S **S** **02 16 51.0 +1.8**
GOMU sS sS 02 17 23.0 +0.6
GOMU pmax pmax
comp=Z,150nm,1.2s
GOMU pmax pmax
comp=Z,3µm,6.7s
GOMU LR LR
comp=Z,4µm,17.4s
GOMU LR LR
comp=Z,7µm,19.2s
GOMU LR LR
comp=Z,11µm,19.1s
BWNR Bhubaneshwar 42.07 294 *e*P **P** **02 10 33.6 -2.4**
BWNR IAmb IAmb 02 10 39.3
comp=Z,237nm,0.9s
GC1S Gold Coast 1 S 42.56 144 P **P** **02 10 40.4 +0.6**
BOK Bokaro 42.98 299 *e*P **P** **02 10 42.0 -1.4**
BOK IAmb IAmb 02 10 52.0
comp=Z,297nm,1.4s
ARMA Armidale 43.22 148 IAmb IAmb 02 10 49.2
comp=Z,725nm,0.8s
ARMA Armidale 43.22 148 P **P** **02 10 46.4 +1.1**
ARMA Armidale 43.22 148 ⇓P **P** **02 10 45.7 +0.4**
KNTI KHUNTI 43.28 298 *e*P **P** **02 10 44.8 -1.1**
YSS Yuzhno-Sakhali 43.47 16 P **P** **02 10 46.9 0.0**
YSS IAmb IAmb 02 10 50.5
comp=Z,410nm,0.8s
YSS Yuzhno-Sakhali 43.47 16 P **P** **02 10 47.3 +0.4**
YSS Yuzhno-Sakhali 43.47 16^K *i*P **P** **02 10 46.1 -0.8**
YSS *e* 02 12 33.8
YSS *i* S **S** **02 17 06.7 -2.5**
YSS pmax pmax
comp=Z,490nm,0.7s
YSS pmax pmax
comp=N,190nm,0.8s
YSS pmax pmax
comp=Z,1µm,4.7s
YSS pmax pmax
comp=E,500nm,3.8s
YSS smax smax
comp=N,1µm,8.2s
YSS smax smax
comp=E,3µm,6.4s
YSS MLR MLR
comp=Z,2µm,15.0s
YSS MLR MLR
comp=N,2µm,18.0s
YSS Yuzhno-Sakhali 43.47 16 ⇓P **P** **02 10 45.8 -1.1**
KUR Kuril'sk 43.61 22*d* *i*P **P** **02 10 46.3 -1.8**
KUR *e*PPP PPP 02 13 10.7
KUR *e*S **S** **02 17 04.9 -6.4**
KUR pmax pmax
comp=Z,6µm,3.1s
KUR pmax pmax
comp=E,247nm,1.2s
KUR pmax pmax
comp=Z,1µm,1.2s
KUR pmax pmax
comp=N,406nm,1.7s
KUR MLR MLR
comp=Z,3µm,19.0s
KUR MLR MLR
comp=E,2µm,21.0s
KUR MLR MLR
comp=N,1µm,14.0s
EVN Everest 43.66 305 P **P** **02 10 50.2 +0.6**
EVN IAmb IAmb 02 10 57.3
comp=Z,325nm,0.7s
EVN Everest 43.66 305 ⇑P **P** **02 10 49.5 -0.1**
HIA Hailar 43.83 354 P **P** **02 10 50.8 +1.0**
GAYA Gaya 43.86 300 *e*P **P** **02 10 51.1 +0.6**
GAYA IAmb IAmb 02 10 55.2
comp=Z,360nm,1.1s
JHSG JHARSUGUGA 44.27 295 *e*P **P** **02 10 51.8 -2.0**
JHSG IAmb IAmb 02 10 56.8
comp=Z,487nm,0.7s
HEH HeiHe 44.45 1 *e*P **P** **02 10 54.5 -0.2**
HEH PcP **PP** **02 12 39.0 -1.0**
HEH ScP **ScP** **02 16 23.5 +1.8**
HEH S **S** **02 17 20.3 -3.1**
HEH ScS **ScS** **02 20 43.0 -1.4**
HEH pmax pmax
comp=Z,470nm,1.2s
HEH pmax pmax
comp=Z,6µm,4.9s
HEH LR LR
comp=Z,6µm,22.0s

HEH LR LR
comp=Z,9µm,20.0s
HEH LR LR
comp=Z,11µm,22.0s
MGBR Mount Gambier 45.12 164 P **P** **02 11 01.9 +1.7**
MGCD Mangrove Creek 45.18 150 P **P** **02 11 01.7 +0.9**
ULN Ulaanbaatar 45.22 342 P **P** **02 11 01.7 +0.6**
ULN IAmb IAmb 02 11 06.9
comp=Z,536nm,0.9s
ULN Ulaanbaatar 45.22 342 P **P** **02 11 00.9 -0.2**
ULN S **S** **02 17 33.0 -2.0**
ULN Ulaanbaatar 45.22 342 P **P** **02 11 01.7 +0.6**
ULN pmax pmax
comp=Z,536nm,0.9s
ULN Ulaanbaatar 45.22 342 ⇑P **P** **02 11 01.7 +0.6**
UGL Uglegorsk 45.24 14 *e*P **P** **02 11 01.2 +0.2**
UGL *e*S **S** **02 17 34.7 -0.2**
UGL *e*SS **ScS** **02 20 51.0 +1.5**
UGL pmax pmax
comp=Z,6µm,2.5s
UGL pmax pmax
comp=Z,1µm,0.9s
UGL smax smax
comp=E,6µm,7.1s
UGL smax smax
comp=N,3µm,8.1s
KOUNC **Koumac, New Ca 45.37 126** P **P** **02 11 03.2 +0.7**
SONM Songino Array 45.40 341 P **P** **02 11 02.7 +0.2**
SONM Songino Array 45.40 341 P **P** **02 11 02.6 +0.1**
comp=N,199nm,0.9s,baz=159,slow=8.5,SNR=244
SONM PcP **PcP** **02 12 42.4 +1.9**
comp=N,89nm,0.8s,baz=161,slow=3.1,SNR=5.6
SONM ScP **ScP** **02 16 28.0 +2.0**
comp=N,26nm,0.9s,baz=154,slow=3.7,SNR=5.3
SONM LR LR 02 30 59.4
comp=N,3µm,19.6s,baz=157,slow=37
SONM PKPPKP **P'P'df** **02 42 37.4 +1.6**
comp=N,1.7nm,0.9s,baz=336,slow=3.2,SNR=4.0
comp=N,199nm,0.9s
SONM Songino Array 45.40 341 P **P** **02 11 02.7 +0.1**
SONM pmax pmax
comp=Z,346nm,1.2s
SYDH Sydney Hard Ro 45.45 151 P **P** **02 11 04.0 +1.1**
SANVU Saraoutou 45.47 118 P **P** **02 11 03.2 -0.2**
SANVU IAmb IAmb 02 11 09.1
comp=Z,288nm,0.7s
SANVU Saraoutou 45.47 118 P **P** **02 11 03.9 +0.5**
SANVU Saraoutou 45.47 118 ⇓P **P** **02 11 03.0 -0.4**
PALK Pallekele 45.49 275 P **P** **02 11 05.1 +1.4**
PALK Pallekele 45.49 275 LR LR 02 31 37.4
comp=Z,5µm,20.5s,baz=88,slow=38
PALK Pallekele 45.49 275 P **P** **02 11 03.0 -0.7**
PALK S **S** **02 17 32.6 -7.0**
PALK Pallekele 45.49 275 P **P** **02 11 05.1 +1.4**
PALK Pallekele 45.49 275 P **P** **02 11 02.2 -1.5**
PALK S **S** **02 17 35.0 -4.7**
HALK Hakmana 45.54 273 ⇑P **P** **02 11 03.9 -0.1**
MALK Mahakanadarawa 45.65 276 P **P** **02 11 04.2 -0.6**
MALK Mahakanadarawa 45.65 276 ⇑P **P** **02 11 04.7 -0.2**
RIV Riverview 45.70 151 P **P** **02 11 05.5 +0.6**
RIV Riverview 45.70 151 ⇓P **P** **02 11 06.6 +1.7**
GRNR Gornyy 45.72 9⇓ *i*P **P** **02 11 05.2 +0.3**
GRNR pmax pmax
comp=N,60nm,1.1s
GRNR pmax pmax
comp=Z,120nm,1.0s
CAN Canberra 45.95 154 P **P** **02 11 08.6 +1.7**
CAN Canberra 45.95 154 P **P** **02 11 08.6 +1.7**
CAN pP **pP** **02 11 27.6 +1.1**
BRAT Ballarat 45.97 161 P **P** **02 11 08.1 +1.2**
CNB Canberra Magne 46.10 154 P **P** **02 11 09.6 +1.5**
VJD Vijayawada 46.13 287 *e*P **P** **02 11 06.3 -2.3**
VJD IAmb IAmb 02 11 35.0
comp=Z,337nm,1.0s
MDRS Chennai 46.14 283 *e*P **P** **02 11 09.3 +0.6**
TOO Toolangi 46.52 159 IAmb IAmb 02 11 16.3
comp=Z,526nm,1.4s
TOO Toolangi 46.52 159 P **P** **02 11 12.4 +1.0**
TOO Toolangi 46.52 159 ⇑P **P** **02 11 12.4 +1.0**
TARA Tarawa 46.55 93 P **P** **02 11 10.9 -1.0**
TARA Tarawa 46.55 93 P **P** **02 11 13.5 +1.6**
ALBI Allahabad 46.97 300 *e*P **P** **02 11 13.2 -1.9**
ALBI IAmb IAmb 02 11 16.7
comp=Z,890nm,0.6s
TYV Tymovskoe 47.04 14 *e*P **P** **02 11 16.1 +1.0**
TYV *e*S **S** **02 18 03.5 +2.9**
TYV pmax pmax
comp=Z,4µm,3.8s
TYV pmax pmax
comp=Z,144nm,1.1s
TYV smax smax
comp=E,30nm,2.6s
TYV smax smax
comp=N,1µm,8.0s
TYV smax smax
comp=E,3µm,8.0s
DVP Devils Point 47.28 120 P **P** **02 11 18.0 +0.5**
CIT Chita 47.43 349 *e*P **P** **02 11 19.6 +1.3**
CIT *e* 02 11 34.2
CIT *e* 02 12 46.4
CIT *e* 02 13 04.0
CIT *e*S **S** **02 18 09.8 +3.5**
CIT *e* 02 21 03.2
CIT pmax pmax
comp=Z,3µm,2.1s
BRCI Bahraich 47.85 302 *e*P **P** **02 11 19.8 -2.1**
BRCI IAmb IAmb 02 11 25.1
comp=Z,4µm,1.1s
DZM Mont Dzumac 47.87 127 *e*P **P** **02 11 21.0 -1.2**
comp=Z,1µm,1.1s
DZM Mont Dzumac 47.87 127 *e*PP **PP** **02 13 09.1 -5.7**
comp=Z,640nm,24.1s
DZM Mont Dzumac 47.87 127 IAmb IAmb 02 11 27.5
comp=Z,442nm,1.0s
DZM Mont Dzumac 47.87 127 LR LR 02 33 10.8
comp=Z,2µm,19.1s,baz=306,slow=38
DZM Mont Dzumac 47.87 127 P **P** **02 11 22.4 +0.2**
DZM Mont Dzumac 47.87 127 ⇓P **P** **02 11 21.5 -0.7**
ZEA Zeya 47.94 1 *e*P **P** **02 11 21.5 -0.5**
ZEA *e* 02 13 19.5
ZEA *e*S **S** **02 18 15.5 +2.3**
ZEA *e* 02 21 09.0
ZEA pmax pmax
comp=N,80nm,1.4s
ZEA pmax pmax
comp=Z,240nm,1.1s
ZEA pmax pmax
comp=E,200nm,5.0s
ZEA pmax pmax
comp=N,500nm,6.1s
ZEA pmax pmax
comp=Z,1µm,6.1s
ZEA smax smax
comp=N,2µm,17.6s
ZEA smax smax
comp=Z,6µm,17.6s
ONTNC **Ouen Toro 48.00 127** P **P** **02 11 22.9 -0.2**
ONTNC IAmb IAmb 02 11 28.1
comp=Z,330nm,0.9s
ONTNC **Ouen Toro 48.00 127** P **P** **02 11 23.4 +0.4**
ONTNC **Ouen Toro 48.00 127** ⇓P **P** **02 11 22.3 -0.7**
SALM Salem 48.04 281 *e*P **P** **02 11 21.8 -1.7**
YATNC **Mamie plateau, 48.22 126** P **P** **02 11 26.2 +1.4**
HYB Hyderabad 48.25 288 *e*P **P** **02 11 25.7 +0.6**
HYB IVmB_BB 02 11 27.0
comp=Z,2µm,2.2s
HYB *e*pP **pP** **02 11 43.9 -0.7**
HYB *e*PcP **PcP** **02 12 51.4 +0.3**
HYB *e*PP **PP** **02 13 19.9 +1.7**
HYB *e*ScP **ScP** **02 16 39.3 +1.0**
HYB *e*PcS **PcS** **02 16 47.4 +0.1**
HYB *e*S **S** **02 18 21.1 +2.2**
HYB IVMs_BB IVMs_BB 02 27 30.1
comp=Z,2µm,33.8s
LHI Lord Howe Isla 48.31 142 P **P** **02 11 25.9 +0.7**
OUENC **Ouen Island, N 48.36 127** P **P** **02 11 27.7 +1.9**
NGP Nagpur 48.42 293 *e*P **P** **02 11 24.1 -2.3**
NGP IAmb IAmb 02 11 30.7
comp=Z,124nm,0.7s
ZAK Zakamensk 48.63 340 *e*P **P** **02 11 26.6 -1.0**
ZAK *e* 02 12 51.8
ZAK pmax pmax
comp=Z,284nm,2.3s
KOD Kodaikanal 48.71 279 *e*P **P** **02 11 26.2 -2.8**

KOD IAmb IAmb 02 11 41.7
comp=Z,207nm,1.2s
NKL Nikolayevsk 48.75 11 *e*P **P 02 11 27.1 -1.2**
NKL *e*S **S 02 18 23.8 -0.9**
NKL pmax pmax
comp=E,665nm,1.2s
NKL pmax pmax
comp=N,1μm,1.1s
NKL pmax pmax
comp=Z,3μm,1.1s
NKL smax smax
comp=E,2μm,2.9s
NKL smax smax
comp=N,987nm,2.8s
NKL MLR MLR
comp=E,3μm,10.0s
NKL MLR MLR
comp=N,3μm,11.0s
NKL MLR MLR
comp=Z,14μm,15.0s
PINNC Pines Island, 48.94 127 P **P 02 11 31.4 +1.1**
PINNC Pines Island, 48.94 127 P **P 02 11 31.0 +0.7**
TRD Trivandrum 49.19 276 *e*P **P 02 11 30.2 -2.2**
LGTI Lohaghat 49.58 304 *e*P **P 02 11 33.9 -1.1**
LGTI IAmb IAmb 02 11 42.7
comp=Z,420nm,0.7s
JHNI Jhansi 49.86 299 *e*P **P 02 11 34.6 -2.7**
JHNI IAmb IAmb 02 11 40.3
comp=Z,481nm,1.1s
IRK Irkutsk 49.92 342 *e*P **P 02 11 38.6 +1.3**
IRK *e*S **S 02 18 46.7 +5.5**
IRK *e* 02 21 22.1
IRK pmax pmax
comp=Z,1μm,3.1s
AKL Akola 50.20 292 *e*P **P 02 11 37.9 -2.1**
AKL IAmb IAmb 02 12 08.0
comp=Z,1μm,1.4s
GLAD Gladstone 50.45 159 P **P 02 11 42.2 +0.8**
NRDN NARMADA NAGAR 50.45 295 *e*P **P 02 11 39.6 -2.1**
MOY Mondy 50.49 340 *e*P **P 02 11 42.0 +0.3**
MOY pmax pmax
comp=Z,1μm,3.2s
JOSI Joshimath 50.51 305 *e*P **P 02 11 40.2 -2.1**
JOSI IAmb IAmb 02 11 44.8
comp=Z,1μm,1.1s
CORO Coronation Par 50.56 160 P **P 02 11 43.0 +0.8**
TKRD Thakurdwara 50.63 303 *e*P **P 02 11 41.0 -2.1**
WMQ Urumqi 51.01 324 ⇓P **P 02 11 46.3 +0.6**
WMQ PcP **PcP 02 13 01.8 +1.1**
WMQ ScP **ScP 02 16 50.3 +0.6**
WMQ S **S 02 18 55.3 -1.4**
WMQ ScS **ScS 02 21 26.0 -2.5**
WMQ pmax pmax
comp=Z,75nm,1.1s
WMQ pmax pmax
comp=Z,2μm,3.6s
WMQ LR LR
comp=Z,6μm,16.1s
WMQ LR LR
comp=Z,8μm,17.9s
WMQ LR LR
comp=Z,7μm,24.2s
SKR Severo-Kuril's 51.26 24 *e*P **P 02 11 45.8 -1.5**
SKR *e*S **S 02 18 56.5 -3.2**
SKR *e*SS **ScS 02 21 28.5 -1.1**
SKR pmax pmax
comp=Z,3μm,6.9s
SKR MLR MLR
comp=Z,3μm,15.0s
MNGI Mangalore 51.40 282 *e*P **P 02 11 46.3 -2.7**
ASOR Ausora 51.42 302 *e*P **P 02 11 47.0 -2.0**
ASOR IAmb IAmb 02 11 55.7
comp=Z,951nm,0.8s
MOO Moorlands 51.46 160 P **P 02 11 50.6 +1.7**
PWAL Palwal 51.62 302 *e*P **P 02 11 48.5 -2.0**
DDI Dehra Dun 51.66 304 *e*P **P 02 11 47.7 -3.0**
DDI IAmb IAmb 02 12 01.0
comp=Z,2μm,1.0s
HNLY HANLEY 51.74 308 *e*P **P 02 11 49.5 -2.5**
HNLY IAmb IAmb 02 11 54.5
comp=Z,390nm,1.2s
JMIU JAMIA UNIVERSI 51.77 302 *e*P **P 02 11 49.5 -2.1**
LDR Lodi Road 51.84 302 *e*P **P 02 11 50.2 -1.9**
LDR IAmb IAmb 02 11 53.0
comp=Z,982nm,0.7s
NDI New Delhi 51.86 302 *e*P **P 02 11 50.4 -1.9**
NDI IAmb IAmb 02 11 52.3
comp=Z,947nm,0.9s
AYAN Aya Nagar 51.88 302 *e*P **P 02 11 48.6 -3.7**
KLP Kalpa 51.89 306 *e*P **P 02 11 50.8 -2.0**
KLP IAmb IAmb 02 12 01.7
comp=Z,957nm,0.6s
NPLP NPLP New Delhi 51.89 302 *e*P **P 02 11 50.6 -1.9**
TAU Tasmania Unive 51.92 161 P **P 02 11 53.7 +1.4**
TAU IAmb IAmb 02 11 56.9
comp=Z,657nm,1.2s
TAU Tasmania Unive 51.92 161 P **P 02 11 53.5 +1.2**
TAU Tasmania Unive 51.92 161 P **P 02 11 53.7 +1.4**
TAU pmax pmax
comp=Z,657nm,1.3s
TAU Tasmania Unive 51.92 161 ⇓P **P 02 11 53.7 +1.4**
TAU Tasmania Unive 51.92 161 P **P 02 11 54.2 +1.9**
NRLA Narela 51.99 302 *e*P **P 02 11 51.4 -1.9**
JHJR Jhajjar 52.33 302 *e*P **P 02 11 53.7 -2.0**
JHJR IAmb IAmb 02 11 56.1
comp=Z,1μm,1.0s
KUDL Kundal 52.33 301 *e*P **P 02 11 54.3 -1.5**
KAD Karad 52.37 287 *e*P **P 02 11 54.0 -2.3**
GOA Goa 52.54 285 *e*P **P 02 11 55.4 -2.0**
SMLA Simla 52.64 305 *e*P **P 02 11 56.0 -1.9**
SMLA IAmb IAmb 02 12 00.7
comp=Z,2μm,0.9s
NFK Norfolk Island 52.73 133 ⇓P **P 02 11 59.2 +0.6**
CGRH CHANDIGARH 52.83 305 *e*P **P 02 11 57.2 -2.2**
CGRH IAmb IAmb 02 12 02.0
comp=Z,3μm,0.5s
BHK Bhakra 53.34 305 *e*P **P 02 12 03.6 +0.5**
BHK IAmb IAmb 02 12 05.3
comp=Z,1μm,0.5s
AJM Ajmer 53.51 299 *e*P **P 02 12 01.2 -3.2**
AJM IAmb IAmb 02 12 06.2
comp=Z,214nm,0.9s
KAAM Kaadhehdhoo 53.62 266 P **P 02 12 05.8 +0.4**
KAAM Kaadhehdhoo 53.62 266 P **P 02 12 04.1 -1.4**
ALCI Alchi Leh 53.65 309 *e*P **P 02 12 04.3 -1.4**
ALCI IAmb IAmb 02 12 24.1
comp=Z,247nm,1.0s
PEA0B Petropavlovsk- 53.76 23 *ce*P **P 02 12 05.0 -0.8**
PETK Petropavlovsk- 53.76 23 P **P 02 12 05.7 -0.1**
comp=Z,354nm,0.8s,baz=218,slow=11,SNR=179
PETK LR LR 02 37 35.9
comp=Z,1μm,19.4s,baz=214,slow=39
comp=Z,354nm,0.8s
TLWR Talawar 53.88 306 *e*P **P 02 12 04.7 -2.4**
TSSA Tissa 54.00 307 *e*P **P 02 12 07.4 -0.7**
TSSA IAmb IAmb 02 12 16.5
comp=Z,991nm,0.9s
PET Petropavlovsk 54.06 23 P **P 02 12 07.9 -0.1**
PET Petropavlovsk 54.06 23 P **P 02 12 08.3 +0.3**
PET Petropavlovsk 54.06 23 *e*P **P 02 12 07.6 -0.3**
PET *e**PP **pP 02 12 26.2 -1.6**
PET *e*S **S 02 19 33.7 -4.1**
PET pmax pmax
comp=Z,5μm,2.7s
PET pmax pmax
comp=Z,3μm,17.1s
PET pmax pmax
comp=Z,762nm,1.3s
PET Petropavlovsk 54.06 23 ⇑P **P 02 12 07.7 -0.3**
ZSN Zaisan 54.76 327 *e*P **P 02 12 12.9 -0.4**
ZSN *e*S **S 02 19 48.1 +0.5**
ZSN Zaisan 54.76 327 *e*P **P 02 12 12.8 -0.4**
ZSN *e*S **S 02 19 48.0 +0.5**
JMU Jammu 54.96 306 *e*P **P 02 12 13.3 -1.5**
JMU IAmb IAmb 02 12 18.2
comp=Z,2μm,0.9s
BKNR BIKANER 55.05 300 *e*P **P 02 12 13.4 -2.1**
BKNR IAmb IAmb 02 12 16.7
comp=Z,798nm,0.7s
DGAR Diego Garcia 55.44 257 P **P 02 12 15.9 -2.7**
DGAR Diego Garcia 55.44 257 *i* P **P 02 12 17.5 -1.1**
DGAR pmax pmax
comp=Z,125nm,1.0s
H08S2 Diego Garcia H 55.45 257 P **P 02 12 17.6 -0.7**
baz=44,slow=9.3,SNR=14
H08S3 Diego Garcia H 55.45 257 P **P 02 12 17.4 -1.0**
baz=44,slow=9.3,SNR=25
H08S1 Diego Garcia H 55.46 257 P **P 02 12 18.3 -0.2**
baz=44,slow=9.3,SNR=24
SHLS Shalkode 55.71 320 *e*P **P 02 12 18.0 -2.3**
comp=Z,93nm,0.7s
SHLS Shalkode 55.71 320 *e*P **P 02 12 17.9 -2.3**
SHLS pmax pmax
comp=Z,93nm,0.7s
PDGK Podgornoye 55.77 320 P **P 02 12 20.0 -0.7**
MK31 Makanchi Array 55.84 325 *ce*P **P 02 12 20.4 -0.6**
MKAR Makanchi Array 55.84 325 P **P 02 12 20.1 -0.9**
MKAR Makanchi Array 55.84 325 P **P 02 12 20.4 -0.5**
comp=Z,273nm,0.6s,baz=120,slow=7.9,SNR=1227
MKAR PcP **PcP 02 13 18.2 -0.7**
comp=Z,247nm,0.7s,baz=118,slow=4.7,SNR=9.1
MKAR ScP **ScP 02 17 12.3 +1.7**
comp=Z,31nm,0.8s,baz=128,slow=4.9,SNR=4.4
MKAR LR LR 02 37 50.7
comp=Z,6μm,21.9s,baz=102,slow=38
MKAR PKPPKP **P'P'df 02 42 22.4 +0.3**
comp=Z,15nm,1.2s,baz=260,slow=4.7,SNR=7.2
MKAR PKP2bc 02 42 32.0
comp=Z,7.1nm,0.9s,baz=299,slow=3.3,SNR=5.0
MKAR P4KPbc 02 49 34.4
comp=Z,3.0nm,0.8s,baz=106,slow=5.8,SNR=12
comp=Z,273nm,0.6s
MSVF Nonsavu 55.96 116 P **P 02 12 22.4 +0.1**
MSVF IAmb IAmb 02 12 46.5
comp=Z,424nm,1.1s
MSVF Nonsavu 55.96 116 P **P 02 12 24.3 +1.9**
MSVF Nonsavu 55.96 116 ⇓P **P 02 12 22.6 +0.3**
UZB Uzynbulak 55.99 319 *e*P **P 02 12 22.0 -0.3**
comp=Z,83nm,0.6s
UZB *e*S **S 02 20 04.8 +0.4**
UZB Uzynbulak 55.99 319 *e*P **P 02 12 22.0 -0.3**
UZB *e*S **S 02 20 04.7 +0.4**
UZB pmax pmax
comp=Z,83nm,0.6s
MAKZ Makanchi 56.02 325 P **P 02 12 22.0 -0.3**
MAKZ Makanchi 56.02 325 P **P 02 12 21.6 -0.7**
MAKZ pP **pP 02 12 41.5 -1.2**
PRZ Przheval'sk 56.09 318 IAmb IAmb 02 12 29.8
comp=Z,320nm,0.7s
YAK Yakutsk 56.30 2 P **P 02 12 23.4 -0.5**
YAK Yakutsk 56.30 2 *di*P **P 02 12 24.4 +0.5**
YAK *e**PP **pP 02 12 42.1 -2.6**
YAK *e* 02 14 27.1
YAK *e*S **S 02 20 07.9 +0.5**
YAK *e* 02 22 02.4
YAK pmax pmax
comp=Z,2μm,0.9s
YAK pmax pmax
comp=N,572nm,1.1s
YAK pmax pmax
comp=E,165nm,1.1s
YAK pmax pmax
comp=Z,711nm,2.5s
YAK pmax pmax
comp=N,369nm,2.2s
YAK pmax pmax
comp=E,150nm,1.5s
YAK smax smax
comp=N,1μm,2.8s
YAK smax smax
comp=E,3μm,4.1s
YAK Yakutsk 56.30 2 ⇓P **P 02 12 23.7 -0.2**
SATY Saty 56.35 319 *e*P **P 02 12 24.6 -0.2**
comp=E,108nm,0.7s
SATY Saty 56.35 319 *e*P **P 02 12 24.6 -0.2**
SATY pmax pmax
comp=Z,108nm,0.7s
KPKS Kokpek 56.36 320 *e*P **P 02 12 24.4 -0.4**
KPKS Kokpek 56.36 320 *e*P **P 02 12 24.4 -0.4**
KSH Kashi 56.51 314 P **P 02 12 26.8 +0.8**
KSH sP sP 02 12 53.5 -2.5
KSH ScP **ScP 02 17 16.3 +2.4**
KSH S **S 02 20 09.8 -1.5**
KSH ScS **ScS 02 22 04.5 -3.2**
KSH pmax pmax
comp=Z,180nm,1.1s
KSH pmax pmax
comp=Z,920nm,2.7s
KSH LR LR
comp=Z,4μm,18.0s
KSH LR LR
comp=Z,4μm,16.1s
KSH LR LR
comp=Z,6μm,15.1s
NIL Nilore 56.56 307 P **P 02 12 26.1 -0.3**
NIL Nilore 56.56 307 P **P 02 12 26.1 -0.3**
NIL pmax pmax
comp=Z,1μm,0.9s
KDJ Kajisay 56.75 318 IAmb IAmb 02 12 33.8
comp=Z,156nm,0.8s
JASL Jaisalmer 56.87 298 *e*P **P 02 12 26.4 -2.3**
JASL IAmb IAmb 02 12 33.5
comp=Z,352nm,1.3s
MA2 Magadan 56.91 14 P **P 02 12 28.2 -0.1**
MA2 IAmb IAmb 02 12 31.6
comp=Z,274nm,0.9s
MA2 Magadan 56.91 14 LR LR 02 36 02.0
comp=Z,1μm,21.1s,baz=196,slow=35
MA2 Magadan 56.91 14 P **P 02 12 29.2 +0.9**
MA2 Magadan 56.91 14 *ce*P **P 02 12 28.4 +0.1**
MA2 pmax pmax
comp=Z,255nm,0.9s
MA2 Magadan 56.91 14 ⇓P **P 02 12 28.4 +0.1**
DGTI Dogotuki 57.03 113 P **P 02 12 30.2 +0.3**
ARXS Arharly 57.25 320 P **P 02 12 29.6 -1.5**
TDK Taldyqorghan 57.26 321 *e*P **P 02 12 30.9 -0.2**
comp=Z,132nm,0.8s
TDK Taldyqorghan 57.26 321 *e*P **P 02 12 30.8 -0.2**
TDK pmax pmax
comp=Z,132nm,0.8s
MDOK Medeo 57.28 319 *e*P **P 02 12 31.3 -0.2**
MDOK *e*S **S 02 20 21.9 +0.4**
MDOK Medeo 57.28 319 *e*P **P 02 12 31.2 -0.2**
MDOK *e*S **S 02 20 21.8 +0.3**
TNSS Tian-Shan 57.30 318 *e*P **P 02 12 31.4 -0.5**
TNSS Tian-Shan 57.30 318 *e*P **P 02 12 31.4 -0.5**
BHUJ Bhuj 57.35 294 *e*P **P 02 12 29.6 -2.5**
AAA Alma-Ata 57.39 319 *e*P **P 02 12 32.0 -0.1**
comp=Z,100nm,0.8s
AAA Alma-Ata 57.39 319 *e*P **P 02 12 32.0 -0.1**
AAA pmax pmax
comp=Z,100nm,0.8s
ULHL Ulahol 57.43 317 P **P 02 12 32.3 -0.3**
SNR=64
TAVE Taveuni 57.48 114 P **P 02 12 34.0 +1.0**
CHKK Chushkaly 57.63 319 *e*P **P 02 12 33.6 -0.2**
CHKK Chushkaly 57.63 319 *e*P **P 02 12 33.5 -0.2**
MIDW Midway 57.65 60 P **P 02 12 33.0 -1.1**
MIDW Midway 57.65 60 P **P 02 12 34.9 +0.9**
KUU Kurty 58.07 319 *e*P **P 02 12 36.4 -0.5**
comp=Z,160nm,0.8s
KUU Kurty 58.07 319 *e*P **P 02 12 36.3 -0.5**
KUU pmax pmax
comp=Z,160nm,0.8s
TKM2 Tokmak 2 58.14 318 P **P 02 12 37.6 0.0**
SNR=11
FUTU Fugatoga 58.42 110 IAmb IAmb 02 13 34.4
comp=Z,364nm,1.3s
FUTU Fugatoga 58.42 110 P **P 02 12 40.3 +0.6**
KBK Karagaybulak 58.47 317 P **P 02 12 40.1 +0.2**
SNR=43
UCH Uchtor 58.59 317 P **P 02 12 42.5 +1.5**
SNR=25
CHMS Chumysh 58.74 318 P **P 02 12 41.9 +0.3**
SNR=24
ZAA0 Zalesovo Array 58.76 333 IAmb IAmb 02 12 44.4
comp=Z,397nm,0.8s
ZALV Zalesovo Beam 58.76 333 P **P 02 12 39.9 -1.5**
ZALV Zalesovo Beam 58.76 333 P **P 02 12 40.4 -1.0**
comp=Z,416nm,0.8s,baz=127,slow=6.5,SNR=247
ZALV PcP **PcP 02 13 30.1 -0.1**
comp=Z,120nm,0.7s,baz=184,slow=5.0,SNR=6.1
ZALV LR LR 02 40 57.8
comp=Z,3μm,18.0s,baz=132,slow=39
ZALV PKPPKP **P'P'df 02 42 19.9 +2.8**
comp=Z,3.2nm,0.5s,baz=298,slow=3.7,SNR=6.9
ZALV PKP2bc 02 42 27.4
comp=Z,35nm,1.0s,baz=292,slow=4.0,SNR=17
ZALV P4KPbc 02 49 47.4
comp=Z,2.5nm,0.9s,baz=131,slow=4.1,SNR=6.2
comp=Z,416nm,0.8s
AAK Ala-Archa 58.77 317 P **P 02 12 41.5 -0.4**
SNR=66
AAK Ala-Archa 58.77 317 P **P 02 12 41.8 -0.1**
AAK Ala-Archa 58.77 317 P **P 02 12 41.9 +0.1**
comp=Z,45nm,0.8s,baz=124,slow=6.1,SNR=65
AAK ScP **ScP 02 17 25.8 +1.9**
comp=Z,30nm,0.9s,baz=150,slow=4.4,SNR=4.9
AAK LR LR 02 41 15.2
comp=Z,5μm,20.9s,baz=94,slow=39
comp=Z,45nm,0.8s
AAK Ala-Archa 58.77 317 P **P 02 12 42.0 +0.1**
AAK Ala-Archa 58.77 317 *i* P **P 02 12 41.8 -0.1**
SNR=68
AAK Ala-Archa 58.77 317 *ce*P **P 02 12 41.8 -0.1**
AAK pmax pmax
comp=Z,42nm,0.9s
AAK Ala-Archa 58.77 317 P **P 02 12 41.4 -0.4**
LKBA Tubou, Lakemba 58.94 115 P **P 02 12 43.8 +0.6**
SGDS Sogindy 59.01 318 *e*P **P 02 12 42.7 -0.7**
USP Ospenovka 59.02 318 P **P 02 12 44.0 +0.6**
SNR=12
EKS2 Erkin-Say 59.26 317 P **P 02 12 44.9 -0.4**
SNR=121
DRK Karamyk 59.51 313 IAmb IAmb 02 12 51.0
comp=Z,306nm,0.8s
KURBB Kurchatov Arra 59.99 327 P **P 02 12 49.0 -0.8**
comp=Z,501nm,0.9s,baz=124,slow=6.4,SNR=602
KURBB LR LR 02 40 44.1
comp=Z,2μm,18.5s,baz=132,slow=38
KURBB PKP2bc 02 42 25.4
comp=Z,5.6nm,0.8s,baz=286,slow=3.3,SNR=5.0
KURBB P4KPbc 02 49 54.1
comp=Z,1.1nm,0.8s,baz=110,slow=4.0,SNR=9.0
comp=Z,501nm,0.9s
KURK Kurchatov 59.99 327 P **P 02 12 49.6 -0.2**
KURK Kurchatov 59.99 327 P **P 02 12 48.9 -0.9**
KURK S **S 02 20 53.2 -2.6**
KURK Kurchatov 59.99 327 P **P 02 12 49.6 -0.2**
KURK pmax pmax
comp=Z,679nm,1.0s
KURK Kurchatov 59.99 327 P **P 02 12 49.4 -0.4**
KURK pP **pP 02 13 10.0 -0.8**
KBU Kabul Universi 60.08 307 P **P 02 12 47.4 -3.7**
OUZ Omahuta 60.12 136 P **P 02 12 52.4 +1.4**
OUZ Omahuta 60.12 136 ⇑P **P 02 12 52.2 +1.2**
KBL Kabul 60.16 307 P **P 02 12 51.0 -0.6**
KBL IAmb IAmb 02 12 53.7
comp=Z,287nm,0.8s
KBL Kabul 60.16 307 P **P 02 12 51.1 -0.6**
KBL pmax pmax
comp=Z,287nm,0.8s
SEY Seymchan 60.22 13 *de*P **P 02 12 52.1 +0.9**
SEY pmax pmax
comp=Z,242nm,1.0s
GAR Garm 60.44 312 P **P 02 12 53.3 -0.1**
SHEM Shemya Is, Ala 60.94 31 LR LR 02 38 16.3
comp=Z,2μm,19.6s,baz=242,slow=35
SMY Shemya 60.94 31 P **P 02 12 57.0 +0.6**
SMY Shemya 60.94 31 P **P 02 12 57.5 +1.2**
SMY Shemya 60.94 31 P **P 02 12 57.0 +0.6**
SMY pmax pmax
comp=Z,1μm,1.2s
SMY Shemya 60.94 31 ⇓P **P 02 12 56.9 +0.6**
DZA Taraz 61.02 316 *e*P **P 02 12 57.0 -0.1**
comp=Z,60nm,0.7s
DZA Taraz 61.02 316 *e*P **P 02 12 57.0 -0.1**
DZA pmax pmax
comp=Z,60nm,0.7s
WCZ Waipu Caves 61.02 137 P **P 02 12 58.4 +1.2**
SIMJ Simiganj 61.31 311 P **P 02 12 58.7 -0.6**
KK31 Karatay Array 61.66 316 IAmb IAmb 02 13 06.4
comp=Z,209nm,0.9s
KK31 Karatay Array 61.66 316 *i* P **P 02 13 00.2 -1.2**
KKAR Karatay Array 61.66 316 P **P 02 13 00.2 -1.2**
KKAR Karatay Array 61.66 316 P **P 02 13 00.2 -1.2**
IUG Iuzhnay 61.66 315 *e*P **P 02 13 01.3 -0.3**
comp=Z,129nm,0.6s
IUG *e*S **S 02 21 18.2 +0.4**
IUG Iuzhnay 61.66 315 *e*P **P 02 13 01.3 -0.3**
IUG *e*S **S 02 21 18.2 +0.4**
IUG pmax pmax
comp=Z,129nm,0.6s
GRZ Great Barrier 61.95 136 P **P 02 13 05.0 +1.6**
CHM Chimkent 62.02 315 *e*P **P 02 13 03.9 0.0**
comp=Z,114nm,1.2s
CHM Chimkent 62.02 315 *e*P **P 02 13 03.8 0.0**
CHM pmax pmax
comp=Z,114nm,1.2s
BRLS Borolday 62.10 316 *e*P **P 02 13 03.9 -0.5**
comp=Z,107nm,1.2s
BRLS Borolday 62.10 316 *e*P **P 02 13 03.9 -0.5**
BRLS pmax pmax
comp=Z,107nm,1.2s
MSZ Milford Sound 62.39 148 P **P 02 13 07.4 +1.3**
KUZ Kuaotunu 62.39 137 P **P 02 13 07.6 +1.3**
KUZ Kuaotunu 62.39 137 P **P 02 13 07.8 +1.4**
JCZ Jackson Bay 62.45 147 P **P 02 13 08.9 +2.2**
DCZ Deep Cove 62.52 149 P **P 02 13 07.0 +0.1**
DCZ IAmb IAmb 02 13 15.0
comp=Z,634nm,1.3s
DCZ Deep Cove 62.52 149 P **P 02 13 08.2 +1.3**
QRZ Quartz Range 62.60 142 P **P 02 13 07.6 0.0**
QRZ IAmb IAmb 02 13 11.5
comp=Z,700nm,1.3s
QRZ Quartz Range 62.60 142 P **P 02 13 08.7 +1.0**
KHEZ Kahui Hut 62.65 140 P **P 02 13 10.6 +2.5**
FOZ Fox Glacier 62.67 146 P **P 02 13 09.8 +1.8**
DSZ Denniston Nort 62.71 143 IAmb IAmb 02 13 14.4
comp=Z,242nm,0.9s
DSZ Denniston Nort 62.71 143 P **P 02 13 09.4 +1.0**
PYZ Puysegur Point 62.76 150 IAmb IAmb 02 13 12.0
comp=Z,612nm,1.3s
PYZ Puysegur Point 62.76 150 P **P 02 13 09.9 +1.3**
PYZ Puysegur Point 62.76 150 P **P 02 13 11.1 +2.5**
HIZ Hauiti 62.76 139 IAmb IAmb 02 13 13.1
comp=Z,725nm,1.4s
HIZ Hauiti 62.76 139 P **P 02 13 10.0 +1.3**
TOZ Tahuroa Road 62.77 138 P **P 02 13 09.8 +1.0**
TOZ IAmb IAmb 02 13 11.7
comp=Z,312nm,1.3s
TOZ Tahuroa Road 62.77 138 P **P 02 13 10.0 +1.2**
WVZ Waitaha Valley 62.90 145 P **P 02 13 11.2 +1.6**
MLZ Mavora Lakes 62.95 148 P **P 02 13 11.7 +1.7**
BRZS Berezniki 62.98 324 *e*P **P 02 13 09.7 -0.4**
BRZS Berezniki 62.98 324 *e*P **P 02 13 09.7 -0.4**
VRZ Vera Road 63.03 139 P **P 02 13 11.7 +1.1**
WKZ Wanaka 63.07 147 P **P 02 13 12.9 +2.1**
INZ Inchbonnie 63.09 144 IAmb IAmb 02 13 14.9
comp=Z,360nm,1.3s
INZ Inchbonnie 63.09 144 P **P 02 13 11.5 +0.6**
WHZ Wether Hill Ro 63.22 149 IAmb IAmb 02 13 14.2
comp=Z,377nm,1.3s
NNZ Nelson 63.35 142 P **P 02 13 12.3 -0.3**
THZ Tophouse 63.38 143 IAmb IAmb 02 13 18.9
comp=Z,322nm,0.7s
THZ Tophouse 63.38 143 P **P 02 13 13.0 +0.1**
LBZ Lake Benmore 63.42 146 IAmb IAmb 02 13 16.6
comp=Z,737nm,1.2s
TWVZ Taurewa 63.45 139 P **P 02 13 15.4 +2.0**
RPZ Rata Peaks 63.48 145 LR LR 02 41 50.8
comp=Z,5μm,18.1s,baz=308,slow=37
PKVZ Pokaka 63.50 139 P **P 02 13 15.8 +2.1**
JOHN Johnston Islan 63.51 74 P **P 02 13 11.3 -2.8**
JOHN Johnston Islan 63.51 74 P **P 02 13 15.0 +0.9**
RATZ Rangitukua 63.55 139 P **P 02 13 17.0 +2.9**
WTVZ West Tongariro 63.57 139 P **P 02 13 16.3 +2.1**
COVZ Chateau Observ 63.58 139 P **P 02 13 16.5 +2.2**
KRVZ Karewarewa 63.59 139 P **P 02 13 16.9 +2.5**
NNVZ North Ngauruho 63.59 139 P **P 02 13 17.0 +2.5**
NGZ Ngauruhoe 63.61 139 P **P 02 13 16.9 +2.3**
LTZ Lake Taylor 63.61 144 P **P 02 13 15.6 +1.2**
NTVZ North Tongariro 63.62 139 P **P 02 13 17.0 +2.4**
FWVZ Far West T-bar 63.62 139 P **P 02 13 17.2 +2.5**
MAVZ Matarangi 63.63 139 P **P 02 13 17.2 +2.3**
SNVZ South Ngauruho 63.64 139 P P 02 13 19.7 +4.9
OTVZ Oturere 63.64 139 P **P 02 13 16.9 +2.0**
TMVZ Te Maari 63.64 139 P **P 02 13 17.2 +2.4**
ETVZ East Tongariro 63.66 139 P **P 02 13 16.6 +1.8**
WHVZ Whangaehu Hut 63.66 139 P **P 02 13 17.1 +2.1**
RAO Raoul Island 63.67 126 P **P 02 13 13.2 -1.8**
RAO IAmb IAmb 02 13 16.1
comp=Z,712nm,1.3s

RAO	**Raoul Island**	**63.67**	**126**	P	**P**	**02 13 13.2**	**-1.8**
RAO				pmax	pmax		
	comp=Z,712nm,1.3s						
RITZ	**Rihia Road**	**63.67**	**139**	P	P	02 13 20.1	+5.3
WNVZ	**Wahianoa**	**63.69**	**139**	P	**P**	**02 13 17.3**	**+2.2**
WIZ	**White Island**	**63.80**	**137**	P	**P**	**02 13 16.3**	**+0.7**
OXZ	**Oxford**	**63.80**	**144**	P	**P**	**02 13 16.0**	**+0.4**
MOVZ	**Moawhango**	**63.83**	**139**	P	**P**	**02 13 17.1**	**+1.2**
MRHZ	**Matea Rd**	**63.96**	**138**	P	**P**	**02 13 17.6**	**+0.8**
KIW	**Kapiti Island**	**64.09**	**141**	P	**P**	**02 13 18.3**	**+0.7**
URZ	**Urewera**	**64.12**	**137**	LR	LR	02 40 43.3	
	comp=Z,4µm,20.8s,baz=298,slow=35						
URZ	**Urewera**	**64.12**	**137**	P	**P**	**02 13 18.9**	**+1.1**
URZ	**Urewera**	**64.12**	**137**	P	**P**	**02 13 17.1**	**-0.7**
TUZ	**Tuapeka**	**64.14**	**148**	P	**P**	**02 13 19.3**	**+1.7**
KHZ	**Kahutara**	**64.14**	**143**	P	**P**	**02 13 18.5**	**+0.7**
KHZ	**Kahutara**	**64.14**	**143**	P	**P**	**02 13 17.6**	**-0.1**
CMWZ	**Cape Campbell**	**64.17**	**142**	P	**P**	**02 13 18.9**	**+1.0**
GVZ	**Greta Valley S**	**64.17**	**144**	P	**P**	**02 13 19.4**	**+1.4**
BKZ	**Black Stump Fm**	**64.19**	**139**	IAmb	IAmb	02 13 25.0	
	comp=Z,589nm,1.3s						
BKZ	**Black Stump Fm**	**64.19**	**139**	P	**P**	**02 13 19.3**	**+1.1**
BKZ	**Black Stump Fm**	**64.19**	**139**	P	**P**	**02 13 18.6**	**+0.4**
SNZO	**South Karori**	**64.22**	**141**	P	**P**	**02 13 18.5**	**+0.2**
SNZO	**South Karori**	**64.22**	**141**	P	**P**	**02 13 19.6**	**+1.3**
SNZO	**South Karori**	**64.22**	**141**	⇓P	**P**	**02 13 17.8**	**-0.5**
SNZO	**South Karori**	**64.22**	**141**	P	**P**	**02 13 19.1**	**+0.8**
RTZ	**Ruatahuna**	**64.22**	**138**	P	**P**	**02 13 18.0**	**-0.5**
OGWZ	**Otaki Gorge**	**64.23**	**141**	P	**P**	**02 13 18.4**	**-0.1**
MTHZ	**Maungataniwha**	**64.25**	**138**	P	**P**	**02 13 18.6**	**-0.1**
KWHZ	**Kaweka Forest**	**64.28**	**139**	P	**P**	**02 13 19.5**	**+0.6**
TSZ	**Takapari Road**	**64.32**	**140**	P	**P**	**02 13 19.8**	**+0.7**
HAZ	**Te Kaha**	**64.32**	**137**	P	**P**	**02 13 18.6**	**-0.5**
NMHZ	**Naumai**	**64.36**	**138**	P	**P**	**02 13 19.9**	**+0.6**
KRHZ	**Kereru**	**64.36**	**139**	P	**P**	**02 13 19.5**	**+0.2**
MQZ	**McQueen's Vall**	**64.39**	**145**	IAmb	IAmb	02 13 22.9	
	comp=Z,985nm,1.5s						
PNHZ	**Pukenui**	**64.40**	**139**	P	**P**	**02 13 19.3**	**-0.2**
MWZ	**Matawai**	**64.44**	**137**	P	**P**	**02 13 18.8**	**-1.2**
MCHZ	**McNeill Hill**	**64.47**	**139**	P	**P**	**02 13 20.5**	**+0.5**
SNGZ	**Shannon Statio**	**64.55**	**138**	P	**P**	**02 13 20.7**	**+0.1**
ARHZ	**Aropaoanui**	**64.57**	**138**	P	**P**	**02 13 21.0**	**+0.4**
MXZ	**Matakaoa Point**	**64.58**	**136**	IAmb	IAmb	02 13 23.6	
	comp=Z,431nm,1.4s						
MXZ	**Matakaoa Point**	**64.58**	**136**	P	**P**	**02 13 22.3**	**+1.5**
MXZ	**Matakaoa Point**	**64.58**	**136**	P	**P**	**02 13 20.5**	**-0.3**
HHSZ	**Highcliff Hill**	**64.61**	**147**	P	**P**	**02 13 23.5**	**+2.8**
PLWZ	**Palliser**	**64.71**	**141**	P	**P**	**02 13 21.3**	**-0.3**
RIGZ	**Rimuhau**	**64.79**	**138**	P	**P**	**02 13 22.2**	**+0.1**
PUZ	**Puketiti**	**64.81**	**137**	P	**P**	**02 13 21.4**	**-0.9**
BFZ	**Birch Farm**	**64.84**	**140**	P	**P**	**02 13 23.5**	**+1.1**
BFZ	**Birch Farm**	**64.84**	**140**	P	**P**	**02 13 21.3**	**-1.1**
PXZ	**Pawanui**	**64.89**	**139**	P	**P**	**02 13 22.4**	**-0.3**
KNZ	**Kokohu**	**64.89**	**138**	P	**P**	**02 13 22.0**	**-0.8**
NGCH	**Negor - Chabah**	**65.32**	**295**	P	**P**	**02 13 25.2**	**-0.6**
NGCH				S	**S**	**02 21 57.6**	**-6.0**
ADK	**Adak**	**65.53**	**35**	P	**P**	**02 13 25.8**	**-0.8**
ADK	**Adak**	**65.53**	**35**	P	**P**	**02 13 26.7**	**+0.1**
ADK	**Adak**	**65.53**	**35**	P	**P**	**02 13 25.8**	**-0.8**
ADK				pmax	pmax		
	comp=Z,1µm,1.7s						
ADK	**Adak**	**65.53**	**35**	⇑P	**P**	**02 13 25.9**	**-0.8**
ADK	**Adak**	**65.53**	**35**	P	**P**	**02 13 26.4**	**-0.2**
ADK				pP	**pP**	**02 13 46.5**	**-0.6**
BVA0	**Borovoye Array**	**65.57**	**327**	*i* P	**P**	**02 13 25.7**	**-1.3**
BVAR	**Borovoye Array**	**65.57**	**327**	P	**P**	**02 13 26.3**	**-0.7**
	comp=Z,247nm,0.8s,baz=128,slow=7.6,SNR=474						
BVAR				PKPPKP	**P'P'df**	**02 42 07.7**	**+1.2**
	comp=Z,26nm,1.2s,baz=298,slow=3.2,SNR=9.7						
BVAR				LR	LR	02 44 25.6	
	comp=Z,4µm,20.2s,baz=108,slow=38						
BVAR				P4KPbc		02 50 14.2	
	comp=Z,3.0nm,0.7s,baz=104,slow=6.3,SNR=12						
	comp=Z,247nm,0.8s						
BORK	**Borovoye**	**65.62**	**327**	*ce* P	**P**	**02 13 26.5**	**-0.8**
BORK				pmax	pmax		
	comp=Z,298nm,0.9s						
TIXI	**Tiksi**	**65.93**	**1**	P	**P**	**02 13 28.2**	**-0.6**
TIXI	**Tiksi**	**65.93**	**1**	LR	LR	02 44 31.5	
	comp=Z,3µm,20.1s,baz=192,slow=38						
TIXI	**Tiksi**	**65.93**	**1**	*de* P	**P**	**02 13 28.5**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,1µm,1.8s						
GSTR	**Great Sitkin T**	**65.97**	**35**	IAmb	IAmb	02 13 30.8	
	comp=Z,487nm,0.9s						
JLN	**Jalan Bani Buh**	**66.65**	**292**	P	**P**	**02 13 32.0**	**-2.5**
	SNR=10.0						
JLN				S	**S**	**02 22 13.9**	**-6.0**
ROCAM	**Rodrigues Isla**	**66.97**	**246**	IAmb	IAmb	02 13 45.0	
	comp=Z,381nm,0.8s						
ATKA	**Atka Island**	**67.07**	**35**	P	**P**	**02 13 36.7**	**+0.2**
NIUE	**Niue**	**67.25**	**113**	IAmb	IAmb	02 13 43.9	
	comp=Z,483nm,0.8s						
NIUE	**Niue**	**67.25**	**113**	P	**P**	**02 13 39.6**	**+1.3**
WSAR	**Wadi Sarin**	**67.44**	**293**	P	**P**	**02 13 38.8**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=227,slow=24,SNR=12						
WSAR				LR	LR	02 48 36.1	
	comp=Z,5.3nm,18.1s,baz=110,slow=41						
WSAR	**Wadi Sarin**	**67.44**	**293**	P	**P**	**02 13 37.4**	**-2.0**
	SNR=16						
WSAR				S	**S**	**02 22 23.6**	**-5.7**
BILL	**Bilibino**	**67.77**	**15**	P	**P**	**02 13 40.9**	**+0.3**
BILL				IAmb	IAmb	02 13 42.7	
	comp=Z,1µm,1.9s						
BILL	**Bilibino**	**67.77**	**15**	*de* P	**P**	**02 13 40.3**	**-0.3**
BILL				pmax	pmax		
	comp=Z,127nm,1.0s						
BILL				MLR	MLR		
	comp=Z,3µm,18.0s						
JMDO	**Jabal Madar**	**67.87**	**292**	P	**P**	**02 13 39.8**	**-2.4**
	SNR=15						
JMDO				P	**P**	**02 13 39.8**	**-2.4**
	SNR=15						
JMDO				S	**S**	**02 22 28.8**	**-5.8**
JMDO				S	**S**	**02 22 28.8**	**-5.8**
BIDO	**Bidbid**	**67.91**	**293**	P	**P**	**02 13 40.9**	**-1.5**
	SNR=30						
BIDO				S	**S**	**02 22 29.1**	**-6.0**
MHTO	**MHTO**	**67.93**	**290**	P	**P**	**02 13 40.7**	**-1.9**
	SNR=19						
MHTO				P	**P**	**02 13 40.7**	**-1.9**
	SNR=19						
MHTO				S	**S**	**02 22 28.0**	**-7.3**
MHTO				S	**S**	**02 22 28.0**	**-7.3**
SMDO	**Samad**	**67.96**	**292**	P	**P**	**02 13 41.0**	**-1.8**
	SNR=16						
SMDO				S	**S**	**02 22 30.5**	**-5.2**
DQM	**DQM**	**68.30**	**289**	P	**P**	**02 13 44.0**	**-0.9**
	SNR=32						
DQM				S	**S**	**02 22 33.9**	**-5.8**
HOQ	**Hoqain**	**68.67**	**293**	P	**P**	**02 13 45.5**	**-1.7**
	SNR=25						
HOQ				P	**P**	**02 13 45.5**	**-1.7**
	SNR=25						
HOQ				S	**S**	**02 22 37.7**	**-6.2**
HOQ				S	**S**	**02 22 37.7**	**-6.2**
ARQ	**Araqi**	**69.38**	**293**	P	**P**	**02 13 50.2**	**-1.4**
	SNR=11						
ARQ				P	**P**	**02 13 50.2**	**-1.4**
	SNR=11						
ARQ				S	**S**	**02 22 46.5**	**-5.9**
ARQ				S	**S**	**02 22 46.5**	**-5.9**
SOHO	**SOHO**	**69.41**	**294**	P	**P**	**02 13 50.5**	**-1.1**
SOHO				S	**S**	**02 22 45.5**	**-7.1**
SOHO	**SOHO**	**69.41**	**294**	*i* P	**P**	**02 13 51.1**	**-0.6**
	SNR=13						
MDH	**Madha**	**69.68**	**295**	P	**P**	**02 13 51.6**	**-1.8**
MDH				P	**P**	**02 13 51.6**	**-1.8**
MDH				S	**S**	**02 22 49.6**	**-6.3**
MDH				S	**S**	**02 22 49.6**	**-6.3**
MDH	**Madha**	**69.68**	**295**	*i* P	**P**	**02 13 52.0**	**-1.4**
	SNR=7.5						
BANOM	**Banah**	**69.72**	**295**	P	**P**	**02 13 52.7**	**-0.9**
BANOM				S	**S**	**02 22 49.8**	**-6.5**
BANOM	**Banah**	**69.72**	**295**	*i* P	**P**	**02 13 54.0**	**+0.3**
	SNR=22						
UOSS	**Minazif**	**69.75**	**294**	P	**P**	**02 13 53.3**	**-0.5**
UOSS	**Minazif**	**69.75**	**294**	P	**P**	**02 13 51.4**	**-2.4**
UOSS				S	**S**	**02 22 50.2**	**-6.5**
UOSS	**Minazif**	**69.75**	**294**	*i* P	**P**	**02 13 53.3**	**-0.5**
	SNR=8.0						
UOSS	**Minazif**	**69.75**	**294**	P	**P**	**02 13 53.3**	**-0.5**
UOSS				S	S	02 22 44.7	-12

HATD	**Hatta, Dubai**	**69.81**	**294**	P	**P**	**02 13 53.0**	**-1.2**
	SNR=13						
HATD				P	**P**	**02 13 53.0**	**-1.2**
	SNR=13						
HATD				S	**S**	**02 22 50.4**	**-7.0**
HATD				S	**S**	**02 22 50.4**	**-7.0**
HATD	**Hatta, Dubai**	**69.81**	**294**	*i* P	**P**	**02 13 54.1**	**-0.1**
	SNR=23						
MSFE	**Esma-Masafi**	**69.81**	**295**	*i* P	**P**	**02 13 53.7**	**-0.5**
	SNR=14						
MASF	**Masafi**	**69.81**	**295**	P	**P**	**02 13 53.3**	**-0.9**
	SNR=8.2						
MASF				P	**P**	**02 13 53.3**	**-0.9**
	SNR=8.2						
MASF				S	**S**	**02 22 50.4**	**-7.1**
MASF				S	**S**	**02 22 50.4**	**-7.1**
ASHO	**Ashiyiah**	**69.87**	**294**	P	**P**	**02 13 53.6**	**-1.0**
	SNR=11						
ASHO	**Ashiyiah**	**69.87**	**294**	*i* P	**P**	**02 13 54.0**	**-0.6**
	SNR=24						
SHME	**Shamm**	**69.87**	**296**	*i* P	**P**	**02 13 54.7**	**+0.2**
	SNR=12						
SHAO	**Shalim**	**70.07**	**287**	P	**P**	**02 13 55.5**	**-0.4**
	SNR=6.5						
SHAO				P	**P**	**02 13 55.5**	**-0.4**
	SNR=6.5						
SHAO				S	**S**	**02 22 55.6**	**-5.0**
SHAO				S	**S**	**02 22 55.6**	**-5.0**
SHAO	**Shalim**	**70.07**	**287**	*i* P	**P**	**02 13 54.9**	**-1.0**
	SNR=15						
ALNE	**Al Ain**	**70.12**	**293**	P	**P**	**02 13 55.1**	**-0.9**
	SNR=30						
ALNE				S	**S**	**02 22 54.7**	**-6.4**
ALNE	**Al Ain**	**70.12**	**293**	*i* P	**P**	**02 13 55.8**	**-0.3**
	SNR=34						
NAZ	**Nazwa, Dubai**	**70.24**	**294**	P	**P**	**02 13 55.7**	**-1.1**
	SNR=9.3						
NAZ				S	**S**	**02 22 55.4**	**-7.0**
NAZ	**Nazwa, Dubai**	**70.24**	**294**	*i* P	**P**	**02 13 57.0**	**+0.2**
	SNR=11						
UMQ	**Umm Al-Quwin**	**70.27**	**295**	P	**P**	**02 13 55.9**	**-1.1**
UMQ				S	**S**	**02 22 58.6**	**-4.1**
FAQ	**Al Faqa, Dubai**	**70.29**	**294**	P	**P**	**02 13 56.5**	**-0.7**
	SNR=9.2						
FAQ				S	**S**	**02 22 55.8**	**-7.3**
FAQ	**Al Faqa, Dubai**	**70.29**	**294**	*i* P	**P**	**02 13 55.8**	**-1.3**
	SNR=9.8						
NIKH	**Nikolski High**	**70.40**	**35**	IAmb	IAmb	02 13 58.4	
	comp=Z,448nm,0.7s						
NIKH	**Nikolski High**	**70.40**	**35**	P	**P**	**02 13 57.7**	**+0.5**
NIKH	**Nikolski High**	**70.40**	**35**	P	**P**	**02 13 56.7**	**-0.5**
	baz=253,SNR=29						
NIKH				S	**S**	**02 23 02.3**	**-0.8**
	baz=253						
AB31	**Akbulak array**	**70.50**	**320**	*i* P	**P**	**02 13 57.1**	**-0.8**
ABKAR	**Akbulak array**	**70.50**	**320**	P	**P**	**02 13 57.3**	**-0.6**
ASUD	**Al Ashush, Dub**	**70.53**	**294**	P	**P**	**02 13 57.2**	**-1.3**
	SNR=11						
ASUD				S	**S**	**02 22 59.6**	**-6.2**
ASUD	**Al Ashush, Dub**	**70.53**	**294**	*i* P	**P**	**02 13 58.6**	**0.0**
	SNR=11						
UMZA	**Um Al Zommool**	**70.60**	**292**	P	**P**	**02 13 55.5**	**-3.6**
UMZA				S	**S**	**02 23 00.0**	**-6.6**
DMTO	**DMTO**	**70.72**	**287**	P	**P**	**02 13 58.9**	**-0.9**
DMTO				S	**S**	**02 23 03.1**	**-5.0**
AJN	**Ajban**	**70.84**	**294**	P	**P**	**02 13 59.3**	**-1.1**
	SNR=9.9						
AJN				S	**S**	**02 23 02.6**	**-6.7**
AJN	**Ajban**	**70.84**	**294**	*i* P	**P**	**02 13 59.5**	**-0.9**
	SNR=11						
CTZ	**Chatham Island**	**70.96**	**140**	IAmb	IAmb	02 14 04.1	
	comp=Z,676nm,1.6s						
CTZ	**Chatham Island**	**70.96**	**140**	P	**P**	**02 14 01.9**	**+1.2**
SPIA	**Saint Paul Isl**	**70.98**	**31**	IAmb	IAmb	02 14 02.9	
	comp=Z,497nm,1.0s						
SPIA	**Saint Paul Isl**	**70.98**	**31**	P	**P**	**02 14 02.2**	**+1.6**
SPIA	**Saint Paul Isl**	**70.98**	**31**	P	**P**	**02 14 01.3**	**+0.6**
	baz=250,SNR=5.9						
P08K	**Saint George I**	**71.15**	**32**	IAmb	IAmb	02 14 04.7	
	comp=Z,701nm,1.2s						
P08K	**Saint George I**	**71.15**	**32**	P	**P**	**02 14 02.3**	**+0.6**
	baz=251,SNR=9.3						
P08K				S	**S**	**02 23 14.8**	**+3.0**
	baz=251						
RBK	**Rabkut**	**71.42**	**286**	P	**P**	**02 14 02.6**	**-1.6**
	SNR=7.9						
RBK				S	**S**	**02 23 11.9**	**-4.6**
DOK	**Doka**	**71.50**	**288**	P	**P**	**02 14 02.6**	**-1.9**
	SNR=17						
DOK				S	**S**	**02 23 09.0**	**-8.1**
MZWR	**Madinat Zayed**	**71.82**	**293**	P	**P**	**02 14 05.8**	**-0.5**
MZWR				S	**S**	**02 23 14.6**	**-6.1**
WHFO	**Wadi Hawf**	**71.84**	**287**	P	**P**	**02 14 04.1**	**-2.5**
	SNR=14						
WHFO				S	**S**	**02 23 14.7**	**-6.5**
UNV	**Unalaska Valle**	**71.99**	**35**	IAmb	IAmb	02 14 08.2	
	comp=Z,558nm,0.8s						
UNV	**Unalaska Valle**	**71.99**	**35**	P	**P**	**02 14 06.4**	**-0.4**
	baz=254,SNR=46						
UNV				S	**S**	**02 23 21.2**	**-0.4**
	baz=254						
AKTO	**Aktyubinsk**	**72.00**	**321**	S	**S**	**02 23 18.9**	**-3.0**
	comp=Z,8.6nm,1.2s,baz=207,slow=22,SNR=14						
AKTO				LR	LR	02 48 52.7	
	comp=Z,5µm,20.5s,baz=98,slow=38						
AKTO	**Aktyubinsk**	**72.00**	**321**	P	**P**	**02 14 06.0**	**-0.9**
MZR	**Muzera**	**72.16**	**292**	P	**P**	**02 14 07.6**	**-0.9**
	SNR=95						
MZR				S	**S**	**02 23 19.0**	**-5.7**
MZR	**Muzera**	**72.16**	**292**	*i* P	**P**	**02 14 07.8**	**-0.6**
	SNR=74						
SVE	**Sverdlovsk**	**72.19**	**328**	*ce* P	**P**	**02 14 07.9**	**0.0**
SVE				*e* S	**S**	**02 23 20.7**	**-3.1**
SVE				*e*		02 24 01.7	
SVE				pmax	pmax		
	comp=Z,609nm,0.9s						
ABTO	**Aybut**	**72.29**	**286**	P	**P**	**02 14 07.6**	**-1.7**
ABTO				S	**S**	**02 23 21.0**	**-5.5**
AKUT	**Akutan**	**72.49**	**35**	P	**P**	**02 14 10.7**	**+1.0**
CASY	**Casey**	**72.69**	**187**	P	**P**	**02 14 11.4**	**+0.8**
CASY				IAmb	IAmb	02 14 13.2	
	comp=Z,340nm,0.7s						
GHWR	**Ruwais**	**72.74**	**293**	P	**P**	**02 14 10.7**	**-1.1**
GHWR				S	**S**	**02 23 24.9**	**-6.4**
GAMB	**Gambell**	**72.75**	**24**	IAmb	IAmb	02 14 13.7	
	comp=Z,447nm,1.1s						
GAMB	**Gambell**	**72.75**	**24**	P	**P**	**02 14 11.6**	**+0.5**
	baz=247,SNR=15						
GAMB				S	**S**	**02 23 32.6**	**+2.8**
	baz=247						
JRN	**Qarnain Island**	**72.79**	**294**	S	**S**	**02 23 23.9**	**-7.8**
ARTI	**Arti**	**73.26**	**327**	P	**P**	**02 14 13.8**	**-0.5**
ARTI				IAmb	IAmb	02 14 20.1	
	comp=Z,287nm,0.6s						
ARTI	**Arti**	**73.26**	**327**	LR	LR	02 49 35.9	
	comp=Z,4µm,18.1s,baz=104,slow=38						
ARTI	**Arti**	**73.26**	**327**	*c* *i* P	**P**	**02 14 13.1**	**-1.2**
ARTI				*PP	**pP**	**02 14 36.2**	**+0.3**
ARTI				PPP	PPP	02 18 36.5	
ARTI				S	**S**	**02 23 36.2**	**+0.2**
ARTI				*SS	**sS**	**02 24 10.5**	**-1.8**
ARTI				pmax	pmax		
	comp=Z,371nm,1.2s						
ARTI				MLR	MLR		
	comp=Z,3µm,17.0s						
ARTI	**Arti**	**73.26**	**327**	P	**P**	**02 14 13.4**	**-0.8**
FALS	**False Pass**	**74.00**	**34**	P	**P**	**02 14 19.1**	**+0.5**
FALS	**False Pass**	**74.00**	**34**	P	**P**	**02 14 17.9**	**-0.7**
	baz=257,SNR=29						
FALS				S	**S**	**02 23 43.3**	**-0.9**
	baz=257						
M11K	**Mekoryuk**	**74.00**	**28**	IAmb	IAmb	02 14 21.5	
	comp=Z,479nm,1.3s						
M11K	**Mekoryuk**	**74.00**	**28**	P	**P**	**02 14 18.9**	**+0.4**
	baz=253,SNR=14						
M11K				S	**S**	**02 23 48.8**	**+4.7**
	baz=253						
TRNA	**Turayna**	**74.27**	**294**	P	**P**	**02 14 19.0**	**-1.9**
	SNR=15						
TRNA				S	**SKiKP**	**02 23 41.0**	**+0.6**
KIP	**Kipapa**	**74.48**	**69**	P	**P**	**02 14 23.7**	**+1.6**
KIP				IAmb	IAmb	02 14 24.7	
	comp=Z,727nm,1.1s						
KIP	**Kipapa**	**74.48**	**69**	P	**P**	**02 14 23.3**	**+1.2**
KIP	**Kipapa**	**74.48**	**69**	P	**P**	**02 14 23.7**	**+1.6**

KIP				pmax	pmax		
	comp=Z,727nm,1.2s						
SHMA	**Al-Shehemyia**	**74.52**	**295**	P	**P**	**02 14 20.4**	**-1.8**
	SNR=6.3						
SHMA				S	**SKiKP**	**02 23 44.9**	**+4.1**
SMRA	**Abu-Samra**	**74.63**	**294**	P	**P**	**02 14 20.8**	**-2.1**
	SNR=21						
SMRA				S	**S**	**02 23 47.9**	**-4.5**
SAKB	**Bahrain**	**74.91**	**295**	P	**P**	**02 14 22.0**	**-2.4**
SAKB				S	**SKiKP**	**02 23 48.3**	**+6.9**
TNA	**Tin City**	**74.92**	**23**	IAmb	IAmb	02 14 26.2	
	comp=Z,758nm,2.0s						
TNA	**Tin City**	**74.92**	**23**	P	**P**	**02 14 24.0**	**+0.3**
	baz=250						
TNA				S	**S**	**02 23 56.2**	**+2.0**
	baz=250						
S12K	**Black Hills**	**74.94**	**34**	P	**P**	**02 14 22.8**	**-1.3**
	baz=258,SNR=7.3						
S12K				S	**S**	**02 23 54.3**	**-0.5**
	baz=258						
K13K	**Kusilvak Mount**	**75.17**	**27**	IAmb	IAmb	02 14 28.8	
	comp=Z,618nm,1.1s						
K13K	**Kusilvak Mount**	**75.17**	**27**	P	**P**	**02 14 26.1**	**+0.8**
	baz=254,SNR=116						
K13K				S	**S**	**02 23 59.6**	**+2.5**
	baz=254						
M13K	**Dall Lake**	**75.37**	**29**	IAmb	IAmb	02 14 29.5	
	comp=Z,625nm,1.2s						
M13K	**Dall Lake**	**75.37**	**29**	P	**P**	**02 14 27.3**	**+0.9**
	baz=255,SNR=18						
M13K				S	**S**	**02 24 03.9**	**+4.5**
	baz=255						
F14K	**Arctic Creek**	**75.52**	**23**	P	**P**	**02 14 28.1**	**+0.9**
	baz=251,SNR=22						
F14K				S	**S**	**02 24 03.7**	**+2.8**
	baz=251						
ANM	**Nome**	**75.62**	**24**	P	**P**	**02 14 28.6**	**+0.8**
	baz=252						
ANM				S	**S**	**02 24 05.1**	**+3.1**
	baz=252						
SDPT	**Sand Point**	**75.75**	**34**	P	**P**	**02 14 28.2**	**-0.5**
	baz=259						
J14K	**Nanvaranak Lak**	**75.89**	**26**	IAmb	IAmb	02 14 32.0	
	comp=Z,705nm,1.5s						
J14K	**Nanvaranak Lak**	**75.89**	**26**	P	**P**	**02 14 30.2**	**+0.9**
	baz=254						
J14K				S	**S**	**02 24 07.4**	**+2.5**
	baz=254						
L14K	**Kuka Creek**	**75.92**	**28**	P	**P**	**02 14 30.5**	**+0.9**
	baz=256,SNR=148						
L14K				S	**S**	**02 24 08.2**	**+2.8**
	baz=256						
XMAS	**Kiritimati**	**75.96**	**89**	P	**P**	**02 14 31.6**	**+0.9**
XMAS				IAmb	IAmb	02 14 33.7	
	comp=Z,824nm,1.4s						
XMAS	**Kiritimati**	**75.96**	**89**	P	**P**	**02 14 32.8**	**+2.1**
N14K	**Kuskokwak Cree**	**76.06**	**30**	IAmb	IAmb	02 14 32.8	
	comp=Z,458nm,0.8s						
N14K	**Kuskokwak Cree**	**76.06**	**30**	P	**P**	**02 14 31.0**	**+0.7**
	baz=257,SNR=45						
N14K				S	**S**	**02 24 08.0**	**+1.0**
	baz=257						
M14K	**Bethel**	**76.12**	**29**	IAmb	IAmb	02 14 33.4	
	comp=Z,572nm,0.8s						
M14K	**Bethel**	**76.12**	**29**	P	**P**	**02 14 31.4**	**+0.7**
	baz=256,SNR=94						
M14K				S	**S**	**02 24 10.2**	**+2.6**
	baz=256						
O14K	**Tigyukauivet M**	**76.12**	**30**	IAmb	IAmb	02 14 33.7	
	comp=Z,432nm,1.1s						
O14K	**Tigyukauivet M**	**76.12**	**30**	P	**P**	**02 14 31.4**	**+0.6**
	baz=257,SNR=29						
O14K				S	**S**	**02 24 08.9**	**+1.2**
	baz=257						
HLK	**Haleakala**	**76.14**	**70**	IAmb	IAmb	02 14 34.7	
	comp=Z,969nm,1.3s						
CHNA	**Chernabura Isl**	**76.16**	**35**	P	**P**	**02 14 32.2**	**+1.2**
CHNA	**Chernabura Isl**	**76.16**	**35**	P	**P**	**02 14 30.7**	**-0.3**
	baz=260,SNR=8.5						
CHNA				S	**S**	**02 24 08.9**	**+0.6**
	baz=260						
F15K	**North Star Dit**	**76.26**	**23**	IAmb	IAmb	02 14 34.1	
	comp=Z,727nm,1.5s						
F15K	**North Star Dit**	**76.26**	**23**	P	**P**	**02 14 32.4**	**+1.0**
	baz=253,SNR=30						
F15K				S	**S**	**02 24 11.2**	**+2.2**
	baz=253						
G15K	**Niukluk**	**76.30**	**24**	P	**P**	**02 14 32.0**	**+0.4**
	baz=254,SNR=13						
G15K				S	**S**	**02 24 10.8**	**+1.4**
	baz=254						
S14K	**Fog Glacier**	**76.44**	**33**	P	**P**	**02 14 32.9**	**+0.1**
	baz=260						
HUH	**Hualalai**	**76.55**	**71**	IAmb	IAmb	02 14 36.8	
	comp=Z,924nm,1.3s						
L15K	**Ungalak Mounta**	**76.56**	**28**	P	**P**	**02 14 33.5**	**+0.4**
	baz=257						
L15K				S	**S**	**02 24 13.9**	**+1.5**
	baz=257						
K15K	**Wolf Creek Mou**	**76.68**	**27**	IAmb	IAmb	02 14 36.9	
	comp=Z,608nm,1.2s						
K15K	**Wolf Creek Mou**	**76.68**	**27**	P	**P**	**02 14 35.0**	**+1.1**
	baz=256,SNR=60						
K15K				S	**S**	**02 24 15.4**	**+1.6**
	baz=256						
M15K	**Kasigluk River**	**76.72**	**29**	P	**P**	**02 14 34.7**	**+0.6**
	baz=258,SNR=72						
M15K				S	**S**	**02 24 15.8**	**+1.6**
	baz=258						
C16K	**Lisburne Hills**	**76.78**	**21**	IAmb	IAmb	02 14 37.6	
	comp=Z,538nm,1.2s						
C16K	**Lisburne Hills**	**76.78**	**21**	P	**P**	**02 14 35.1**	**+0.9**
	baz=252,SN

baz=254
KBD **Kabd** 77.47 299 P **P** **02 14 37.3 -1.7**
KBD S **S** **02 24 17.3 -6.3**
L16K **Owhat River** 77.50 28 IAmb IAmb 02 14 41.9
comp=Z,908nm,1.3s
L16K **Owhat River** 77.50 28 P **P** **02 14 39.3 +0.8**
baz=258,SNR=165
L16K S **S** **02 24 23.3 +0.6**
baz=258
RDOG **Red Dog Mine** 77.59 21 P **P** **02 14 39.9 +1.0**
baz=254,SNR=23
RDOG S **S** **02 24 24.6 +1.2**
baz=254
N16K **Nishlik Lake** 77.60 29 P **P** **02 14 39.8 +0.7**
baz=259,SNR=84
N16K S **S** **02 24 24.4 +0.6**
baz=259
C17K **DeLong Mountai** 77.61 21 P **P** **02 14 39.8 +0.8**
baz=254,SNR=32
C17K S **S** **02 24 23.9 +0.3**
baz=254
M16K **Timber Creek** 77.61 29 IAmb IAmb 02 14 42.4
comp=Z,563nm,1.1s
M16K **Timber Creek** 77.61 29 P **P** **02 14 39.9 +0.8**
baz=259
M16K S **S** **02 24 25.5 +1.6**
baz=259
R16K **Pilot Point** 77.72 32 P **P** **02 14 39.3 -0.4**
baz=261
E17K **Hotham Inlet** 77.73 22 P **P** **02 14 40.9 +1.2**
baz=255,SNR=49
E17K S **S** **02 24 26.2 +1.3**
baz=255
P16K **Nushagak River** 77.74 31 P **P** **02 14 40.6 +0.8**
baz=260,SNR=5.2
O16K **Kokwok River B** 77.78 30 IAmb IAmb 02 14 42.5
comp=Z,496nm,1.1s
O16K **Kokwok River B** 77.78 30 P **P** **02 14 40.8 +0.7**
baz=260,SNR=58
O16K S **S** **02 24 25.6 -0.1**
baz=260
F17K **Baldwin Pennin** 77.79 23 IAmb IAmb 02 14 42.8
comp=Z,387nm,1.2s
F17K **Baldwin Pennin** 77.79 23 P **P** **02 14 40.9 +0.9**
baz=256,SNR=22
F17K S **S** **02 24 27.2 +1.6**
baz=256
G17K **Kiwalik Mounta** 77.81 24 P **P** **02 14 41.1 +1.0**
baz=257,SNR=70
G17K S **S** **02 24 27.6 +1.8**
baz=257
AKT **Akhty** 77.84 311 *e*P **P** **02 14 40.3 -0.6**
AKT *e* 02 14 50.0
AKT *e* 02 17 41.3
AKT *e*S **S** **02 24 23.6 -3.8**
AKT *e* 02 24 57.7
AKT *e**SS **sS** **02 25 08.1 +4.1**
AKT pmax pmax
comp=Z,350nm,0.6s
AKT MLR MLR
comp=Z,3µm,22.0s
H17K **Granite Mounta** 77.98 25 IAmb IAmb 02 14 44.0
comp=Z,438nm,1.1s
H17K **Granite Mounta** 77.98 25 P **P** **02 14 42.2 +1.1**
baz=257,SNR=93
H17K S **S** **02 24 29.2 +1.5**
baz=257
J17K **VABM Dome** 78.02 26 IAmb IAmb 02 14 44.4
comp=Z,452nm,1.1s
J17K **VABM Dome** 78.02 26 P **P** **02 14 42.6 +1.3**
baz=258,SNR=75
J17K S **S** **02 24 30.5 +2.3**
baz=258
MAK **Makhachkala** 78.09 313 *d i*P **P** **02 14 39.9 -2.2**
MAK *e* 02 17 34.6
MAK *e*S **S** **02 24 26.2 -3.5**
MAK *e**SS **sS** **02 25 02.2 -4.1**
MAK *e*SS **SS** **02 29 30.6 -2.2**
MAK *e*SSS SSS 02 32 57.8
MAK pmax pmax
comp=Z,369nm,0.8s
MAK MLR MLR
comp=Z,4µm,20.0s
L17K **Donlin** 78.13 28 P **P** **02 14 43.1 +1.2**
baz=259
L17K S **S** **02 24 31.3 +1.8**
baz=259
K17K **Iditarod** 78.23 27 P **P** **02 14 43.7 +1.2**
baz=259,SNR=179
K17K S **S** **02 24 33.3 +2.8**
baz=259
O17K **Koliganek Bris** 78.31 30 P **P** **02 14 43.8 +0.8**
baz=261,SNR=25
O17K S **S** **02 24 31.6 +0.2**
baz=261
B18K **Kokolik River** 78.33 20 P **P** **02 14 44.2 +1.3**
baz=255,SNR=34
B18K S **S** **02 24 31.2 -0.1**
baz=255
C18K **Utukok River** 78.36 21 IAmb IAmb 02 14 45.8
comp=Z,1µm,1.9s
C18K **Utukok River** 78.36 21 P **P** **02 14 43.9 +0.8**
baz=255
C18K S **S** **02 24 31.5 -0.3**
baz=255
Q16K **King Salmon** 78.37 31 P **P** **02 14 43.0 -0.3**
baz=262,SNR=13
R17L **Mt. Peulik Vol** 78.38 32 P **P** **02 14 43.3 -0.1**
baz=262
R17L S **S** **02 24 31.3 -0.9**
baz=262
PLK4 **Peulik 4** 78.38 32 IAmb IAmb 02 14 45.5
comp=Z,438nm,0.9s
N17K **Nushagak Hills** 78.38 29 IAmb IAmb 02 14 46.5
comp=Z,730nm,1.4s
N17K **Nushagak Hills** 78.38 29 P **P** **02 14 44.4 +1.0**
baz=261,SNR=52
N17K S **S** **02 24 34.9 +2.7**
baz=261
M17K **Holitna River** 78.40 28 IAmb IAmb 02 14 46.8
comp=Z,775nm,1.3s
M17K **Holitna River** 78.40 28 P **P** **02 14 44.3 +0.8**
baz=260,SNR=62
M17K S **S** **02 24 36.1 +3.7**
baz=260
KIRV **Kirov** 78.45 329 LR LR 02 51 43.7
comp=Z,3µm,19.9s,baz=100,slow=37
KIRV **Kirov** 78.45 329 *ce*P **P** **02 14 43.4 -0.3**
F18K **Selawik** 78.45 23 P **P** **02 14 44.4 +0.8**
baz=257,SNR=51
F18K S **S** **02 24 33.9 +1.3**
baz=257
P17K **Kvichak River** 78.55 31 P **P** **02 14 44.8 +0.5**
baz=262,SNR=32
P17K S **S** **02 24 35.0 +1.0**
baz=262
H18K **Honhosa River** 78.67 25 IAmb IAmb 02 14 47.4
comp=Z,607nm,1.4s
H18K **Honhosa River** 78.67 25 P **P** **02 14 45.5 +0.6**
baz=259,SNR=74
H18K S **S** **02 24 36.7 +1.6**
baz=259
G18K **Tagagawik** 78.70 24 IAmb IAmb 02 14 47.4
comp=Z,559nm,1.6s
G18K **Tagagawik** 78.70 24 P **P** **02 14 45.4 +0.4**
baz=258,SNR=58
G18K S **S** **02 24 35.4 0.0**
baz=258
Q17K **Contact Creek** 78.71 32 P **P** **02 14 44.6 -0.7**
baz=262
BELG **Belogornoye** 78.73 322 *d i*P **P** **02 14 44.6 -0.8**
BELG pmax pmax
comp=Z,49nm,0.9s
A19K **Wainwright** 78.80 19 P **P** **02 14 46.9 +1.5**
baz=255,SNR=13
A19K S **S** **02 24 38.3 +2.1**
baz=255
L18K **Granite Mounta** 78.89 28 IAmb IAmb 02 14 49.3
comp=Z,494nm,1.1s
L18K **Granite Mounta** 78.89 28 P **P** **02 14 47.3 +1.1**
baz=261,SNR=102
L18K S **S** **02 24 40.1 +2.6**
baz=261
C19K **Lookout Ridge** 79.03 21 IAmb IAmb 02 14 51.0
comp=Z,1µm,1.2s
C19K **Lookout Ridge** 79.03 21 P **P** **02 14 48.0 +1.2**
baz=257
C19K S **S** **02 24 38.5 -0.4**
baz=257
N18K **Kilae Creek** 79.04 29 IAmb IAmb 02 14 49.9
comp=Z,454nm,1.2s
N18K **Kilae Creek** 79.04 29 P **P** **02 14 47.8 +0.8**
baz=262,SNR=38
N18K S **S** **02 24 41.8 +2.5**
baz=262
J18K **Innoko River** 79.08 26 P **P** **02 14 47.8 +0.7**
baz=261,SNR=43
J18K S **S** **02 24 39.3 -0.2**
baz=261
M18K **Stony River** 79.18 29 P **P** **02 14 48.4 +0.7**
baz=262,SNR=92
M18K S **S** **02 24 42.4 +1.7**
baz=262
P18K **Big Mountain,** 79.19 31 P **P** **02 14 48.0 +0.1**
baz=263,SNR=9.1
P18K S **S** **02 24 39.3 -1.7**
baz=263
GCSA **Galena City Sc** 79.22 25 P **P** **02 14 48.6 +0.8**
baz=260,SNR=29
GCSA S **S** **02 24 42.8 +1.9**
baz=260
Q18K **Katmai Hardscr** 79.22 31 P **P** **02 14 47.5 -0.6**
baz=263,SNR=31
Q18K S **S** **02 24 38.8 -2.6**
baz=263
F19K **Shaleruckik Mo** 79.23 23 IAmb IAmb 02 14 50.2
comp=Z,452nm,1.4s
F19K **Shaleruckik Mo** 79.23 23 P **P** **02 14 48.4 +0.5**
baz=259,SNR=60
F19K S **S** **02 24 41.4 +0.5**
baz=259
O18K **Koktuh Hills** 79.26 30 P **P** **02 14 49.2 +1.0**
baz=263,SNR=68
O18K S **S** **02 24 43.4 +1.8**
baz=263
R18K **Karluk** 79.39 33 P **P** **02 14 48.5 -0.4**
baz=264
D19K **Kuna River** 79.43 21 IAmb IAmb 02 14 52.6
comp=Z,1µm,1.4s
D19K **Kuna River** 79.43 21 P **P** **02 14 49.9 +0.9**
baz=258
D19K S **S** **02 24 43.3 +0.2**
baz=258
RAYN **Ar Rayn** 79.50 293 P **P** **02 14 49.0 -1.3**
RAYN **Ar Rayn** 79.50 293 P **P** **02 14 47.9 -2.4**
RAYN S **S** **02 24 39.1 -6.4**
RAYN **Ar Rayn** 79.50 293 *i* P **P** **02 14 49.8 -0.5**
SNR=207
RAYN **Ar Rayn** 79.50 293 P **P** **02 14 49.0 -1.3**
RAYN pmax pmax
comp=Z,104nm,0.8s
H19K **Roundabout Mou** 79.53 24 IAmb IAmb 02 14 53.3
comp=Z,948nm,1.2s
H19K **Roundabout Mou** 79.53 24 P **P** **02 14 50.8 +1.3**
baz=260,SNR=255
H19K S **S** **02 24 45.7 +1.6**
baz=260
E19K **Redstone River** 79.55 22 P **P** **02 14 50.8 +1.2**
baz=259
E19K S **S** **02 24 44.8 +0.4**
baz=259
J19K **Poorman** 79.64 26 IAmb IAmb 02 14 53.0
comp=Z,792nm,1.5s
J19K **Poorman** 79.64 26 P **P** **02 14 51.2 +1.0**
baz=262,SNR=117
J19K S **S** **02 24 47.1 +1.7**
baz=262
L19K **White Mountain** 79.73 28 IAmb IAmb 02 14 53.6
comp=Z,516nm,1.2s
L19K **White Mountain** 79.73 28 P **P** **02 14 51.8 +1.0**
baz=262,SNR=107
L19K S **S** **02 24 48.8 +2.3**
baz=262
N19K **Bonanza Creek** 79.74 29 IAmb IAmb 02 14 53.8
comp=Z,807nm,1.2s
N19K **Bonanza Creek** 79.74 29 P **P** **02 14 52.0 +1.0**
baz=263,SNR=80
N19K S **S** **02 24 47.8 +1.0**
baz=263
O19K **Port Alsworth** 79.75 30 IAmb IAmb 02 14 53.1
comp=Z,1µm,1.6s
O19K **Port Alsworth** 79.75 30 P **P** **02 14 51.2 +0.5**
baz=263,SNR=34
O19K S **S** **02 24 46.2 -0.4**
baz=263
M19K **Big River Lodg** 79.92 28 IAmb IAmb 02 14 54.8
comp=Z,492nm,1.3s
M19K **Big River Lodg** 79.92 28 P **P** **02 14 53.0 +1.2**
baz=263
M19K S **S** **02 24 49.4 +1.0**
baz=263
Q19K **Cape Douglas,** 79.95 31 IAmb IAmb 02 14 53.2
comp=Z,493nm,0.8s
Q19K **Cape Douglas,** 79.95 31 P **P** **02 14 51.5 -0.6**
baz=264,SNR=12
OHAK **Old Harbor** 79.98 33 IAmb IAmb 02 14 54.3
comp=Z,328nm,1.0s
OHAK **Old Harbor** 79.98 33 P **P** **02 14 53.2 +1.1**
OHAK **Old Harbor** 79.98 33 P **P** **02 14 52.7 +0.6**
baz=265,SNR=27
OHAK S **S** **02 24 49.3 +0.1**
baz=265
D20K **Etivluk River** 80.01 21 P **P** **02 14 53.2 +1.1**
baz=260,SNR=260
D20K S **S** **02 24 49.8 +0.5**
baz=260
B20K **Meade River** 80.06 20 IAmb IAmb 02 14 55.3
comp=Z,516nm,1.1s
B20K **Meade River** 80.06 20 P **P** **02 14 53.5 +1.2**
baz=259
B20K S **S** **02 24 50.2 +0.7**
baz=259
GNI **Garni** 80.06 310 P **P** **02 14 53.3 +0.1**
GNI IAmb IAmb 02 15 12.5
comp=Z,304nm,0.9s
GNI **Garni** 80.06 310 S **S** **02 24 51.7 +0.6**
comp=Z,6.6nm,0.9s,baz=32,slow=14,SNR=4.3
GNI **Garni** 80.06 310 P **P** **02 14 51.7 -1.5**
GNI S **S** **02 24 45.7 -5.4**
GNI **Garni** 80.06 310 *ce*P **P** **02 14 53.7 +0.5**
GNI pmax pmax
comp=Z,47nm,1.0s
F20K **Avaraart Lake** 80.06 23 IAmb IAmb 02 14 56.2
comp=Z,578nm,1.2s
F20K **Avaraart Lake** 80.06 23 P **P** **02 14 53.6 +1.2**
baz=261
F20K S **S** **02 24 51.5 +1.8**
baz=261
H20K **Anotleneega Mo** 80.17 25 P **P** **02 14 54.0 +1.0**
baz=262,SNR=252
H20K S **S** **02 24 53.3 +2.3**
baz=262
L20K **Farewell, AK** 80.22 28 P **P** **02 14 54.6 +1.2**
baz=263,SNR=51
L20K S **S** **02 24 52.7 +1.0**
baz=263
P19K **Oil Pt** 80.24 31 IAmb IAmb 02 14 55.0
comp=Z,851nm,1.8s
P19K **Oil Pt** 80.24 31 P **P** **02 14 53.0 -0.5**
baz=264
K20K **Telida** 80.24 27 IAmb IAmb 02 14 56.6
comp=Z,1µm,1.4s
K20K **Telida** 80.24 27 P **P** **02 14 54.8 +1.3**
baz=263
K20K S **S** **02 24 54.4 +2.6**
baz=263
I20K **Naaghedeneel** 80.24 25 P **P** **02 14 54.8 +1.4**
baz=262,SNR=80
I20K S **S** **02 24 53.6 +2.0**
baz=262
J20K **Nowinta River** 80.31 26 P **P** **02 14 55.0 +1.3**
baz=263,SNR=294
J20K S **S** **02 24 54.0 +1.6**
baz=263
KDAK **Kodiak Island** 80.41 32 P **P** **02 14 54.7 +0.3**
KDAK IAmb IAmb 02 14 56.6
comp=Z,482nm,0.9s
KDAK **Kodiak Island** 80.41 32 LR LR 02 46 41.3
comp=Z,3µm,21.3s,baz=243,slow=33
KDAK **Kodiak Island** 80.41 32 P **P** **02 14 54.7 +0.3**
KDAK pmax pmax
comp=Z,481nm,0.9s
KDAK **Kodiak Island** 80.41 32 P **P** **02 14 54.6 +0.3**
baz=265
KDAK S **S** **02 24 53.9 +0.2**
baz=265
KDAK **Kodiak Island** 80.41 32 P **P** **02 14 54.8 +0.3**
A21K **Barrow** 80.48 19 P **P** **02 14 55.8 +1.3**
baz=259,SNR=6.3
A21K S **S** **02 24 55.0 +1.0**
baz=259
M20K **Styx River** 80.51 28 IAmb IAmb 02 14 58.0
comp=Z,526nm,1.0s
M20K **Styx River** 80.51 28 P **P** **02 14 56.0 +1.0**
baz=264
M20K S **S** **02 24 57.5 +2.7**
baz=264
TRLG **Trialeti** 80.56 311 P **P** **02 14 56.5 +0.7**
Q20K **Shuyak Island** 80.57 32 P **P** **02 14 55.2 -0.1**
baz=265,SNR=26
Q20K S **S** **02 24 53.5 -1.9**
baz=265
SYI **Shuyak Island** 80.58 32 IAmb IAmb 02 14 57.2
comp=Z,534nm,1.1s
O20K **Slope Mountain** 80.58 30 P **P** **02 14 55.1 -0.3**
baz=265,SNR=6.5
O20K S **S** **02 24 53.6 -2.0**
baz=265
IMAR **Indian Mountai** 80.69 24 P **P** **02 14 56.4 +0.6**
C21K **Knifeblade Rid** 80.73 21 P **P** **02 14 57.2 +1.2**
baz=261,SNR=54
C21K S **S** **02 24 57.1 +0.4**
baz=261
G21K **Allakaket** 80.86 24 IAmb IAmb 02 15 00.4
comp=Z,742nm,1.2s
G21K **Allakaket** 80.86 24 P **P** **02 14 57.8 +1.1**
baz=263,SNR=301
G21K S **S** **02 24 58.8 +0.6**
baz=263
B21K **Ikpikpuk River** 80.86 20 IAmb IAmb 02 15 00.3
comp=Z,719nm,1.1s
B21K **Ikpikpuk River** 80.86 20 P **P** **02 14 57.9 +1.3**
baz=262
B21K S **S** **02 24 58.6 +0.6**
baz=262
N20K **Mount Spurr** 80.88 29 P **P** **02 14 57.0 0.0**
baz=265
N20K S **S** **02 24 57.4 -1.3**
baz=265
SPCR **Spurr Chakacha** 80.88 29 P **P** **02 14 56.8 -0.2**
baz=265,SNR=57
E21K **Killik River** 80.92 22 IAmb IAmb 02 15 00.5
comp=Z,719nm,1.2s
E21K **Killik River** 80.92 22 P **P** **02 14 58.1 +1.1**
baz=262
E21K S **S** **02 24 58.5 -0.3**
baz=262
A22K **Sinclair Lake** 80.95 19 P **P** **02 14 58.5 +1.4**
baz=261
A22K S **S** **02 25 00.1 +1.3**
baz=261
F21K **Alatna River** 80.95 23 P **P** **02 14 57.9 +0.7**
baz=263,SNR=81
F21K S **S** **02 24 59.5 +0.4**
baz=263
NCK **Nalchik** 80.97 313 *i* P **P** **02 14 57.3 -0.5**
NCK pmax pmax
comp=Z,217nm,0.7s
HOM **Homer** 81.04 31 P **P** **02 14 57.5 -0.3**
baz=266
PPLA **Purkeypile** 81.04 27 IAmb IAmb 02 15 00.3
comp=Z,533nm,1.1s
PPLA **Purkeypile** 81.04 27 P **P** **02 14 58.5 +0.6**
baz=265,SNR=107
PPLA S **S** **02 24 59.7 -0.7**
baz=265
H21K **Melozitna Rive** 81.04 24 IAmb IAmb 02 15 01.5
comp=Z,773nm,1.2s
H21K **Melozitna Rive** 81.04 24 P **P** **02 14 59.0 +1.2**
baz=264,SNR=234
H21K S **S** **02 25 02.2 +2.1**
baz=264
CHUM **Lake Minchumin** 81.07 26 P **P** **02 14 59.0 +1.2**
baz=264,SNR=99
CHUM S **S** **02 25 01.4 +0.9**
baz=264
CNPM **China Poot** 81.24 31 IAmb IAmb 02 15 00.3
comp=Z,440nm,1.0s
SKT **Skwentna** 81.27 28 IAmb IAmb 02 15 01.1
comp=Z,511nm,1.1s
SKT **Skwentna** 81.27 28 P **P** **02 14 58.4 -0.5**
baz=266,SNR=145
SKT S **S** **02 25 00.7 -1.9**
baz=266
I21K **Tanana** 81.34 25 IAmb IAmb 02 15 03.1
comp=Z,658nm,1.0s
I21K **Tanana** 81.34 25 P **P** **02 15 00.6 +1.4**
baz=265
I21K S **S** **02 25 04.2 +1.1**
baz=265
CAPN **Captain Cook N** 81.36 29 P **P** **02 15 00.0 +0.6**
baz=266
B22K **Teshekpuk Lake** 81.37 20 P **P** **02 15 00.3 +1.1**
baz=262,SNR=79
B22K S **S** **02 25 03.6 +0.3**
baz=262
GOF **Gofitskoye** 81.38 315 *ce*P **P** **02 14 59.8 -0.1**
GOF *e*S **S** **02 25 00.2 -4.2**
BRLK **Bradley Lake** 81.43 31 IAmb IAmb 02 15 04.0
comp=Z,433nm,0.8s
D22K **Ayikyak River** 81.45 21 IAmb IAmb 02 15 03.0
comp=Z,432nm,1.1s
D22K **Ayikyak River** 81.45 21 P **P** **02 15 01.1 +1.3**
baz=263,SNR=111
D22K S **S** **02 25 04.4 +0.2**
baz=263
KBZ **Khabaz** 81.47 313 P **P** **02 15 00.3 0.0**
comp=Z,84nm,0.9s,baz=119,slow=4.6,SNR=53
KBZ S **S** **02 25 02.8 -2.5**
comp=Z,4.6nm,1.0s,baz=20,slow=21,SNR=8.3
KBZ PKPPKP **P'P'df** **02 41 38.4 -0.9**
comp=Z,7.3nm,1.1s,baz=259,slow=2.6,SNR=4.2
KBZ LR LR 02 56 43.5
comp=Z,2µm,18.4s,baz=76,slow=40
comp=Z,84nm,0.9s
KBZ **Khabaz** 81.47 313 *ce*P **P** **02 14 59.5 -0.9**
KBZ pmax pmax
comp=Z,111nm,1.0s
F22K **John River** 81.49 23 P **P** **02 15 01.5 +1.5**
baz=264
F22K S **S** **02 25 05.8 +1.2**
baz=264
BRSE **Bradley Lake S** 81.50 31 P **P** **02 15 00.0 -0.2**
baz=267,SNR=54
BRSE S **S** **02 25 04.0 -1.1**
baz=267
SUA **Susitna One** 81.61 29 P **P** **02 15 00.6 -0.3**
baz=266,SNR=73
SUA S **S** **02 25 02.7 -3.6**
baz=266
KVAR **Kislovodsk Arr** 81.62 313 LR LR 02 56 11.7
comp=Z,1µm,19.2s,baz=244,slow=39
KIV **Kislovodsk** 81.63 313 P **P** **02 15 01.6 +0.2**
KIV IAmb IAmb 02 15 05.1
comp=Z,404nm,0.7s
KIV **Kislovodsk** 81.63 313 P **P** **02 15 00.5 -0.8**
KIV S **S** **02 25 03.4 -3.7**
KIV **Kislovodsk** 81.63 313 ⇑P **P** **02 15 01.9 +0.6**
KIV **Kislovodsk** 81.63 313 *i* P **P** **02 15 00.7 -0.7**
SNR=99
KIV **Kislovodsk** 81.63 313 *e*P **P** **02 15 00.8 -0.6**
KIV *e*S **S** **02 25 04.7 -2.5**
KIV pmax pmax
comp=Z,322nm,1.0s
KIV pmax pmax
comp=Z,214nm,4.6s
KIV MLR MLR
comp=Z,1µm,19.0s
KIV **Kislovodsk** 81.63 313 P **P** **02 15 01.5 +0.2**
KIV S **S** **02 25 07.0 -0.2**
SHA1 **Shidzhatmaz** 81.65 313 *i* P **P** **02 15 01.5 -0.1**
H22K **Ishtalitna Cre** 81.65 24 P **P** **02 15 02.3 +1.3**
baz=265,SNR=352
H22K S **S** **02 25 08.3 +1.9**
baz=265
KTH **Kantishna Hill** 81.67 27 IAmb IAmb 02 15 04.0
comp=Z,835nm,1.4s
BPAW **Bear Paw Mtn.** 81.68 26 P **P** **02 15 01.9 +0.8**
baz=266,SNR=375
BPAW S **S** **02 25 07.0 +0.3**
baz=266
E22K **Anaktuvuk Pass** 81.69 22 IAmb IAmb 02 15 04.9
comp=Z,510nm,1.0s
E22K **Anaktuvuk Pass** 81.69 22 P **P** **02 15 02.4 +1.3**

E22K	baz=264,SNR=305				S	**S**	**02 25 06.5**	**-0.3**
G22K	**Bettles**	**81.69**	**23**		P	**P**	**02 15 02.1**	**+1.1**
G22K	baz=265				S	**S**	**02 25 08.1**	**+1.4**
ABPO	baz=265 **Ambohimpanom**	**81.72**	**250**		P	**P**	**02 15 02.5**	**+0.1**
ABPO	**Ambohimpanom**	**81.72**	**250**		P	**P**	**02 15 02.5**	**+0.1**
ABPO	comp=Z,73nm,0.9s				pmax	pmax		
SLKM	**Skilak Lake**	**81.81**	**30**		IAmb	IAmb	02 15 04.0	
MLY	comp=Z,867nm,1.3s **Manley**	**81.85**	**25**		IAmb	IAmb	02 15 05.4	
MLY	comp=Z,669nm,1.2s **Manley**	**81.85**	**25**		P	**P**	**02 15 02.9**	**+0.9**
MLY	baz=266,SNR=497				S	**S**	**02 25 08.7**	**+0.2**
CUT	baz=266 **Chulitna**	**81.89**	**28**		P	**P**	**02 15 01.8**	**-0.4**
CUT	baz=267,SNR=83				S	**S**	**02 25 06.9**	**-2.0**
M22K	baz=267 **Willow**	**81.92**	**29**		P	**P**	**02 15 02.0**	**-0.3**
M22K	baz=267,SNR=161				S	**S**	**02 25 07.4**	**-1.8**
TRF	baz=267 **Thorofare Moun**	**81.94**	**27**		IAmb	IAmb	02 15 05.3	
TRF	comp=Z,949nm,1.2s **Thorofare Moun**	**81.94**	**27**		P	**P**	**02 15 02.7**	**0.0**
TRF	baz=266,SNR=262				S	**S**	**02 25 07.1**	**-2.7**
O22K	baz=266 **Cooper Landing**	**82.05**	**30**		IAmb	IAmb	02 15 11.0	
O22K	comp=Z,421nm,0.8s **Cooper Landing**	**82.05**	**30**		P	**P**	**02 15 03.1**	**0.0**
O22K	baz=267,SNR=17				S	**S**	**02 25 09.1**	**-1.5**
RC01	baz=267 **Rabbit Creek A**	**82.07**	**29**		IAmb	IAmb	02 15 04.8	
RC01	comp=Z,274nm,0.8s **Rabbit Creek A**	**82.07**	**29**		P	**P**	**02 15 03.0**	**-0.2**
RC01	baz=267,SNR=32				S	**S**	**02 25 07.8**	**-3.0**
GURO	baz=267 **Guroymak-BITLI**	**82.16**	**308**		IAmb	IAmb	02 15 11.2	
SEW	comp=Z,368nm,0.9s **Seward**	**82.17**	**30**		IAmb	IAmb	02 15 05.5	
SEW	comp=Z,411nm,1.0s **Seward**	**82.17**	**30**		P	**P**	**02 15 03.8**	**+0.1**
SEW	baz=268,SNR=45				S	**S**	**02 25 11.0**	**-0.8**
D23K	baz=268 **Nanushuk River**	**82.18**	**21**		IAmb	IAmb	02 15 07.2	
D23K	comp=Z,875nm,1.2s **Nanushuk River**	**82.18**	**21**		P	**P**	**02 15 05.4**	**+1.8**
D23K	baz=265,SNR=242				S	**S**	**02 25 13.7**	**+2.1**
COLD	baz=265 **Coldfoot**	**82.22**	**23**		IAmb	IAmb	02 15 07.2	
COLD	comp=Z,439nm,1.0s **Coldfoot**	**82.22**	**23**		P	**P**	**02 15 05.3**	**+1.4**
COLD	baz=266,SNR=180				S	**S**	**02 25 14.0**	**+1.8**
G23K	baz=266 **Bananza Creek**	**82.26**	**23**		IAmb	IAmb	02 15 07.5	
G23K	comp=Z,665nm,1.1s **Bananza Creek**	**82.26**	**23**		P	**P**	**02 15 05.2**	**+1.1**
G23K	baz=266,SNR=286				S	**S**	**02 25 14.8**	**+2.1**
C23K	baz=266 **Itkillik River**	**82.27**	**20**		IAmb	IAmb	02 15 07.2	
C23K	comp=Z,610nm,0.9s **Itkillik River**	**82.27**	**20**		P	**P**	**02 15 05.4**	**+1.3**
C23K	baz=265,SNR=244				S	**S**	**02 25 13.8**	**+1.3**
VRH	baz=265 **Novokhopyorsk**	**82.33**	**321**	*e*	P	**P**	**02 15 03.5**	**-1.2**
VRH	comp=Z,480nm,0.7s				pmax	pmax		
BATM	**Batumi**	**82.37**	**311**	⇑	P	**P**	**02 15 05.7**	**+0.5**
BATM	**Batumi**	**82.37**	**311**		P	**P**	**02 15 05.7**	**+0.5**
PMR	**Palmer**	**82.39**	**29**		IAmb	IAmb	02 15 06.4	
PMR	comp=Z,503nm,1.1s **Palmer**	**82.39**	**29**		P	**P**	**02 15 05.6**	**+0.8**
PMR	**Palmer**	**82.39**	**29**		P	**P**	**02 15 04.6**	**-0.1**
PMR	baz=268,SNR=130				S	**S**	**02 25 12.7**	**-1.2**
H23K	baz=268 **Yukon River**	**82.40**	**24**		IAmb	IAmb	02 15 08.1	
H23K	comp=Z,917nm,1.2s **Yukon River**	**82.40**	**24**		P	**P**	**02 15 05.9**	**+1.1**
H23K	baz=267				S	**S**	**02 25 15.1**	**+1.0**
I23K	baz=267 **Minto, Yukon-K**	**82.44**	**25**		P	**P**	**02 15 06.1**	**+1.1**
I23K	baz=267,SNR=469				S	**S**	**02 25 14.1**	**-0.4**
GHO	baz=267 **Glory Hole Cre**	**82.49**	**29**		IAmb	IAmb	02 15 07.3	
E23K	comp=Z,688nm,1.4s **Chandalar**	**82.50**	**22**		P	**P**	**02 15 06.5**	**+1.1**
E23K	baz=266,SNR=297				S	**S**	**02 25 17.5**	**+2.3**
NEA2	baz=266 **Nenana**	**82.54**	**26**		IAmb	IAmb	02 15 08.8	
NEA2	comp=Z,659nm,1.2s **Nenana**	**82.54**	**26**		P	**P**	**02 15 05.5**	**0.0**
NEA2	baz=267,SNR=304				S	**S**	**02 25 15.0**	**-0.5**
TOLK	baz=267 **Toolik Lake Re**	**82.56**	**22**		IAmb	IAmb	02 15 08.9	
TOLK	comp=Z,616nm,1.1s **Toolik Lake Re**	**82.56**	**22**		P	**P**	**02 15 06.9**	**+1.2**
TOLK	baz=266,SNR=175				S	**S**	**02 25 16.5**	**+0.9**
MCK	baz=266 **McKinley**	**82.56**	**27**		P	**P**	**02 15 05.6**	**-0.1**
MCK	baz=268,SNR=404				S	**S**	**02 25 14.3**	**-1.6**
ATD	baz=268 **Arta Tunnel**	**82.66**	**281**		LR	LR	02 50 27.3	
ATD	comp=Z,30nm,21.2s,baz=84,slow=35 **Arta Tunnel**	**82.66**	**281**		S	**S**	**02 25 13.9**	**-4.7**
KNK	**Knik Glacier**	**82.70**	**29**		IAmb	IAmb	02 15 08.7	
KNK	comp=Z,871nm,1.1s **Knik Glacier**	**82.70**	**29**		P	**P**	**02 15 06.9**	**+0.4**
KNK	baz=268,SNR=167				S	**S**	**02 25 16.8**	**-0.5**
WAT1	baz=268 **Susitna Watana**	**82.70**	**27**		P	**P**	**02 15 06.5**	**0.0**
WAT1	baz=268				S	**S**	**02 25 15.6**	**-1.7**
PWL	**Port Wells**	**82.75**	**29**		P	**P**	**02 15 07.0**	**+0.3**
PWL	baz=268,SNR=176				S	**S**	**02 25 17.3**	**-0.5**
SML	baz=268 **Sawmill**	**82.77**	**28**		P	**P**	**02 15 07.2**	**+0.3**
SML	baz=268,SNR=260				S	**S**	**02 25 17.8**	**-0.3**
D24K	baz=268 **Happy Valley**	**82.86**	**21**		IAmb	IAmb	02 15 10.5	
D24K	comp=Z,667nm,0.9s **Happy Valley**	**82.86**	**21**		P	**P**	**02 15 08.6**	**+1.5**
D24K	baz=267				S	**S**	**02 25 19.1**	**+0.6**
C24K	baz=267 **Franklin Bluff**	**82.93**	**20**		IAmb	IAmb	02 15 10.5	
C24K	comp=Z,1µm,1.2s **Franklin Bluff**	**82.93**	**20**		P	**P**	**02 15 08.7**	**+1.2**
C24K	baz=267				S	**S**	**02 25 19.9**	**+0.7**
E24K	baz=267 **Your Creek**	**82.93**	**22**		IAmb	IAmb	02 15 10.8	
E24K	comp=Z,1µm,1.5s **Your Creek**	**82.93**	**22**		P	**P**	**02 15 08.9**	**+1.3**
E24K	baz=268				S	**S**	**02 25 20.7**	**+1.2**
LABN	baz=268 **Labinsk**	**83.03**	**314**	*e*	P	**P**	**02 15 08.2**	**-0.3**
LABN				*e*	S	**S**	**02 25 19.8**	**-1.5**
LABN	comp=Z,153nm,0.8s				pmax	pmax		
LABN	comp=E,19nm,0.9s				pmax	pmax		
LABN	comp=N,20nm,0.7s				pmax	pmax		
LABN	comp=Z,5µm,21.0s				MLR	MLR		
M23K	**Glacier View**	**83.06**	**29**		P	**P**	**02 15 08.3**	**0.0**
M23K	baz=269,SNR=159				S	**S**	**02 25 21.3**	**+0.4**
WAT6	baz=269 **Susitna Watana**	**83.07**	**28**		P	**P**	**02 15 08.8**	**+0.3**
WAT6	baz=269,SNR=677				S	**S**	**02 25 20.4**	**-0.9**
COLA	baz=269 **College**	**83.07**	**25**		P	**P**	**02 15 08.7**	**+0.4**
COLA	comp=Z,345nm,1.1s				lAmb	lAmb	02 15 09.8	
COLA	**College**	**83.07**	**25**		P	**P**	**02 15 07.9**	**-0.4**
COLA	**College**	**83.07**	**25**		P	**P**	**02 15 08.7**	**+0.4**
COLA	comp=Z,345nm,1.1s				pmax	pmax		
COLA	**College**	**83.07**	**25**		P	**P**	**02 15 08.0**	**-0.2**
COLA	baz=268				S	**S**	**02 25 21.2**	**+0.4**
COLA	baz=268 **College**	**83.07**	**25**		P	**P**	**02 15 07.5**	**-0.7**
COLA					S	**SKSac**	**02 25 24.9**	**+2.5**
COLA	**College**	**83.07**	**25**		P	**P**	**02 15 07.8**	**-0.5**
H24K	**Noodor Dome**	**83.09**	**24**		P	**P**	**02 15 09.5**	**+1.1**
F24K	baz=268,SNR=468 **Squaw Lake**	**83.13**	**23**		P	**P**	**02 15 10.3**	**+1.7**
ERBR	baz=268,SNR=543 **Yeremizino-Bor**	**83.18**	**315**	*e*	P	**P**	**02 15 08.2**	**-1.1**
ERBR				*e*	S	**S**	**02 25 19.3**	**-3.4**
ERBR	comp=Z,481nm,0.8s				pmax	pmax		
ERBR	comp=N,64nm,0.7s				pmax	pmax		
ERBR	comp=E,29nm,0.6s				pmax	pmax		
ERBR	comp=N,4µm,18.0s				MLR	MLR		
ERBR	comp=E,4µm,23.0s				MLR	MLR		
ERBR	comp=Z,4µm,23.0s				MLR	MLR		
P23K	**Montague Islan**	**83.19**	**30**		P	**P**	**02 15 09.7**	**+0.7**
DHY	baz=269,SNR=102 **Denali Highway**	**83.24**	**27**		P	**P**	**02 15 09.7**	**+0.2**
SCM	baz=269,SNR=177 **Sheep Creek Mo**	**83.25**	**28**		P	**P**	**02 15 09.9**	**+0.5**
POKR	baz=269,SNR=224 **Poker Plat Res**	**83.25**	**25**		lAmb	lAmb	02 15 13.1	
POKR	comp=Z,430nm,1.2s **Poker Plat Res**	**83.25**	**25**		P	**P**	**02 15 08.9**	**-0.3**
G24K	baz=269,SNR=57 **Hadweenzic Riv**	**83.27**	**24**		P	**P**	**02 15 10.4**	**+1.0**
KOPT	baz=269,SNR=703 **Kop Dagi**	**83.31**	**310**		lAmb	lAmb	02 15 19.9	
GLI	comp=Z,318nm,0.8s **Glacier Island**	**83.35**	**29**		lAmb	lAmb	02 15 12.0	
GLI	comp=Z,595nm,1.0s **Glacier Island**	**83.35**	**29**		P	**P**	**02 15 10.2**	**+0.4**
HDA	baz=270,SNR=171 **Harding Lake**	**83.45**	**26**		lAmb	lAmb	02 15 11.5	
HDA	comp=Z,710nm,1.2s **Harding Lake**	**83.45**	**26**		P	**P**	**02 15 09.7**	**-0.6**
IL31	baz=269,SNR=262	**83.48**	**26**		lAmb	lAmb	02 15 12.1	
ILAR	comp=Z,363nm,1.1s **Eielson Array**	**83.48**	**26**		P	**P**	**02 15 08.9**	**-1.5**
ILAR	**Eielson Array**	**83.48**	**26**		P	**P**	**02 15 09.8**	**-0.7**
ILAR	comp=Z,169nm,1.0s,baz=253,slow=4.6,SNR=328				PKKPbc	**PKKPbc**	**02 33 28.9**	**-2.5**
ILAR	comp=Z,2.3nm,0.7s,baz=0.1,slow=0.4,SNR=9.1				PKPPKP	**P'P'df**	**02 41 33.5**	**-1.0**
ILAR	comp=Z,6.5nm,1.1s,baz=103,slow=1.3,SNR=9.0				LR	LR	02 52 34.3	
H04N2	comp=Z,1µm,20.8s,baz=244,slow=36 **CROZET ISLANDS**	**83.55**	**222**		P	**P**	**02 15 14.0**	**+3.2**
H04N1	comp=Z,169nm,1.0s baz=29,slow=9.5,SNR=4.1 **CROZET ISLANDS**	**83.56**	**222**		P	**P**	**02 15 13.7**	**+2.9**
H04N3	baz=29,slow=9.5,SNR=5.0 **CROZET ISLANDS**	**83.56**	**222**		P	**P**	**02 15 14.1**	**+3.2**
KLMR	baz=29,slow=9.5,SNR=3.8 **Klimovskoe**	**83.61**	**331**	*c i*	P	**P**	**02 15 07.3**	**-3.8**
KLMR				*e*			02 18 20.9	
KLMR					S	**SKSac**	**02 25 19.1**	**-7.0**
KLMR	comp=Z,890nm,0.8s				pmax	pmax		
KLMR	comp=Z,4µm,16.0s				MLR	MLR		
D25K	**Kavik River**	**83.73**	**21**		P	**P**	**02 15 12.9**	**+1.2**
SOC	baz=269 **Sochi**	**83.78**	**313**	*e*	P	**P**	**02 15 10.5**	**-1.9**
SOC				*e*	*PP	**pP**	**02 15 28.7**	**-5.7**
SOC				*e*			02 18 24.2	
SOC				*e*	PPP	PPP	02 20 14.2	
SOC				*e*	S	**SKSac**	**02 25 25.2**	**-2.8**
SOC				*e*	SS	**SS**	**02 30 59.5**	**+1.8**
SOC				*e*	SSS	SSS	02 34 21.8	
SOC	comp=Z,108nm,0.6s				pmax	pmax		
SOC	comp=Z,2µm,20.0s				MLR	MLR		
M24K	**Tolsona, Glenn**	**83.80**	**28**		P	**P**	**02 15 13.0**	**+0.8**
G25K	baz=270,SNR=193 **Bearman Lake**	**83.82**	**23**		P	**P**	**02 15 13.3**	**+1.2**
VORD	baz=270,SNR=348 **Divnogorie**	**83.86**	**321**	*e*	P	**P**	**02 15 11.3**	**-1.3**
VORD	comp=Z,280nm,0.9s				pmax	pmax		
VORR	**Voronezh**	**83.90**	**321**	*e*	P	**P**	**02 15 11.8**	**-1.0**
VORR	comp=Z,630nm,0.8s				pmax	pmax		
KLU	**Klutina**	**83.92**	**29**		P	**P**	**02 15 13.5**	**+0.7**
H25L	baz=271,SNR=179 **Birch Creek**	**83.93**	**24**		P	**P**	**02 15 13.8**	**+1.2**
VSR	baz=270,SNR=604 **Storozhevoye**	**83.94**	**321**	*e*	P	**P**	**02 15 11.2**	**-1.8**
VSR	comp=Z,380nm,0.8s				pmax	pmax		
K24K	**Donnelly Dome**	**83.96**	**26**		lAmb	lAmb	02 15 17.0	
K24K	comp=Z,568nm,0.9s **Donnelly Dome**	**83.96**	**26**		P	**P**	**02 15 13.0**	**0.0**
F25K	baz=270,SNR=275 **Christian Rive**	**84.00**	**23**		lAmb	lAmb	02 15 16.7	
F25K	comp=Z,906nm,1.4s **Christian Rive**	**84.00**	**23**		P	**P**	**02 15 14.3**	**+1.2**
EYAK	baz=270,SNR=387 **Cordova Ski Ar**	**84.02**	**30**		P	**P**	**02 15 14.1**	**+0.9**
EYAK	**Cordova Ski Ar**	**84.02**	**30**		P	**P**	**02 15 14.0**	**+0.8**
E25K	baz=271,SNR=113 **Arctic Village**	**84.02**	**22**		P	**P**	**02 15 14.7**	**+1.5**
LPSR	baz=270,SNR=684 **Galich'ya Gora**	**84.05**	**322**	*e*	P	**P**	**02 15 12.7**	**-0.8**
LPSR	comp=Z,650nm,0.8s				pmax	pmax		
PRP	**Porcupine Dome**	**84.06**	**25**		lAmb	lAmb	02 15 16.9	
PRP	comp=Z,522nm,1.6s **Porcupine Dome**	**84.06**	**25**		P	**P**	**02 15 12.8**	**-0.8**
PAX	baz=270,SNR=115 **Paxson**	**84.11**	**27**		P	**P**	**02 15 14.4**	**+0.6**
J25K	baz=271,SNR=392 **Salcha River,**	**84.13**	**26**		lAmb	lAmb	02 15 18.1	
J25K	comp=Z,237nm,0.9s **Salcha River,**	**84.13**	**26**		P	**P**	**02 15 13.3**	**-0.6**
C26K	baz=271,SNR=296 **Camden Bay**	**84.25**	**20**		P	**P**	**02 15 15.6**	**+1.4**
HARP	baz=271,SNR=270 **HARP**	**84.27**	**28**		P	**P**	**02 15 15.4**	**+0.9**
RIDG	baz=271,SNR=119 **Independent Ri**	**84.38**	**27**		P	**P**	**02 15 15.5**	**+0.4**
BMAR	baz=271,SNR=239 **Burnt Mountain**	**84.41**	**23**		P	**P**	**02 15 16.7**	**+1.5**
N25K	**Chitina, Valde**	**84.55**	**29**		P	**P**	**02 15 16.9**	**+0.9**
BMRM	baz=272,SNR=321 **Bremner River**	**84.57**	**29**		P	**P**	**02 15 16.7**	**+0.6**
F26K	baz=272,SNR=461 **Sheenjek River**	**84.57**	**23**		P	**P**	**02 15 17.2**	**+1.2**
C27K	baz=272,SNR=280 **Jago River**	**84.67**	**21**		P	**P**	**02 15 17.6**	**+1.2**
KAIM	baz=272,SNR=512 **Kayak Island**	**84.70**	**30**		P	**P**	**02 15 17.5**	**+0.8**
MOS	baz=272,SNR=362 **Moscow**	**84.71**	**325**	*e*	P	**P**	**02 15 15.1**	**-1.7**
MOS				*e*			02 18 36.0	
MOS				*e*			02 25 30.8	
MOS				*e*	S	**S**	**02 25 39.1**	**+1.5**
MOS				*e*	PS	PnS	02 27 02.4	+20
MOS	comp=Z,926nm,1.2s				pmax	pmax		
MOS	comp=E,215nm,0.9s				pmax	pmax		
MOS	comp=N,312nm,0.9s				pmax	pmax		
MOS	comp=Z,5µm,2.2s				pmax	pmax		
MOS	comp=E,2µm,3.0s				smax	smax		
MOS	comp=N,6µm,3.8s				smax	smax		
MOS	comp=E,2µm,19.0s				MLR	MLR		
MOS	comp=Z,2µm,19.0s				MLR	MLR		
G26K	**Porcupine Rive**	**84.73**	**23**		P	**P**	**02 15 18.0**	**+1.3**
SCRK	baz=272,SNR=610 **Sand Creek**	**84.75**	**26**		P	**P**	**02 15 17.3**	**+0.2**
MENT	baz=272,SNR=304 **Mentasta**	**84.91**	**27**		IAmb	IAmb	02 15 20.4	
MENT	comp=Z,563nm,1.4s **Mentasta**	**84.91**	**27**		P	**P**	**02 15 18.7**	**+0.9**
J26L	**Joseph Creek**	**84.92**	**26**		IAmb	IAmb	02 15 20.0	
J26L	comp=Z,591nm,1.3s **Joseph Creek**	**84.92**	**26**		P	**P**	**02 15 18.1**	**+0.3**
ARPR	baz=272,SNR=265 **Arapgir-MALATY**	**85.02**	**309**		IAmb	IAmb	02 15 29.5	
I26K	comp=Z,206nm,0.8s **Coal Creek Min**	**85.06**	**25**		IAmb	IAmb	02 15 21.2	
I26K	comp=Z,609nm,1.1s **Coal Creek Min**	**85.06**	**25**		P	**P**	**02 15 18.7**	**+0.3**
I26K	baz=273,SNR=345				S	**S**	**02 25 41.3**	**+0.6**
VRDI	baz=273 **Verde Repeater**	**85.12**	**29**		IAmb	IAmb	02 15 22.1	
BGLC	comp=Z,484nm,1.1s **Bering Glacier**	**85.26**	**30**		P	**P**	**02 15 20.6**	**+1.1**
BGLC	baz=273,SNR=8.3				S	**S**	**02 25 45.6**	**+2.8**
M26K	baz=273 **Nabesna, AK**	**85.27**	**28**		IAmb	IAmb	02 15 22.2	
M26K	comp=Z,1µm,1.7s **Nabesna, AK**	**85.27**	**28**		P	**P**	**02 15 20.1**	**+0.5**
M26K	baz=273,SNR=214				S	**S**	**02 25 44.9**	**+1.8**
MCARA	baz=273 **McCarthy VSAT**	**85.31**	**29**		P	**P**	**02 15 20.6**	**+0.8**
MCARA	baz=273,SNR=179				S	**S**	**02 25 44.2**	**+0.8**
CRQE	baz=273 **Cirque**	**85.32**	**30**		P	**P**	**02 15 20.6**	**+0.6**
CRQE	baz=273,SNR=271				S	**S**	**02 25 43.4**	**-0.3**
OBN	baz=273 **Obninsk**	**85.34**	**325**		P	**P**	**02 15 19.8**	**-0.1**
OBN	**Obninsk**	**85.34**	**325**		LR	LR	02 54 53.0	
OBN	comp=Z,2µm,21.8s,baz=26,slow=37 **Obninsk**	**85.34**	**325**	⇓	P	**P**	**02 15 20.5**	**+0.5**
OBN	**Obninsk**	**85.34**	**325**	*d i*	P	**P**	**02 15 19.6**	**-0.3**
OBN				*i*			02 18 37.0	
OBN				*i*	S	**SKSac**	**02 25 35.2**	**-2.2**
OBN	comp=Z,520nm,1.0s				pmax	pmax		
OBN	**Obninsk**	**85.34**	**325**		P	**P**	**02 15 19.7**	**-0.3**
VNDA	**Vanda**	**85.36**	**173**		P	**P**	**02 15 19.9**	**+0.3**
VNDA	comp=Z,210nm,1.1s,baz=318,slow=6.0,SNR=358				S	**SKSac**	**02 25 34.1**	**-2.5**
VNDA	comp=Z,1.2nm,0.9s,baz=308,slow=16,SNR=3.7				PKKPbc	**PKKPbc**	**02 33 26.1**	**-1.6**
VNDA	comp=Z,5.7nm,0.7s,baz=286,slow=1.4,SNR=19				PKPPKP	**P'P'df**	**02 41 28.7**	**-0.5**
VNDA	comp=Z,2.6nm,1.0s,baz=163,slow=2.3,SNR=5.4				LR	LR	02 53 17.9	
ANN	comp=Z,3µm,19.6s,baz=338,slow=35 comp=Z,210nm,1.1s **Anapa**	**85.37**	**314**	*e*	P	**P**	**02 15 18.9**	**-1.4**
ANN				*e*			02 25 35.2	
ANN	comp=Z,527nm,0.7s				pmax	pmax		
ANN	comp=N,223nm,0.6s				pmax	pmax		
ANN	comp=E,40nm,0.6s				pmax	pmax		
ANN	comp=Z,2µm,18.0s				MLR	MLR		
ANN	comp=N,2µm,19.0s				MLR	MLR		
ANN	comp=E,4µm,23.0s				MLR	MLR		
MAW	**Mawson**	**85.47**	**200**		P	**P**	**02 15 20.4**	**+0.1**
MAW	comp=E,58nm,0.7s,baz=58,slow=5.7,SNR=153				PKKPbc	**PKKPbc**	**02 33 25.5**	**-1.7**
MAW	comp=E,8.5nm,0.7s,baz=255,slow=3.8,SNR=13				PKPPKP	**P'P'df**	**02 41 27.9**	**-1.5**
MAW	comp=E,3.3nm,0.7s,baz=217,slow=5.3,SNR=4.6				LR	LR	02 49 02.0	
LVZ	comp=E,1µm,21.1s,baz=57,slow=32 comp=E,58nm,0.7s **Lovozero**	**85.48**	**338**		P	**P**	**02 15 21.1**	**+0.6**
LVZ					lAmb	lAmb	02 15 25.5	
LVZ	comp=Z,433nm,1.1s **Lovozero**	**85.48**	**338**	*c e*	P	**P**	**02 15 20.5**	**0.0**
LVZ	comp=Z,172nm,0.7s				pmax	pmax		
E27K	**Coleen River**	**85.51**	**22**		lAmb	lAmb	02 15 24.6	
E27K	comp=Z,654nm,1.2s **Coleen River**	**85.51**	**22**		P	**P**	**02 15 21.7**	**+1.1**
E27K	baz=274,SNR=308				S	**S**	**02 25 47.5**	**+2.3**
G27K	baz=274 **Doyon Strip**	**85.58**	**23**		P	**P**	**02 15 22.0**	**+1.0**
G27K	baz=274,SNR=294				S	**S**	**02 25 48.9**	**+3.0**
K27K	baz=274 **Chicken**	**85.59**	**26**		P	**P**	**02 15 22.5**	**+1.4**
K27K	baz=274				S	**S**	**02 25 48.3**	**+2.3**
D27M	baz=274 **Malcolm River**	**85.66**	**21**		P	**P**	**02 15 22.8**	**+1.4**
D27M	baz=274				S	**S**	**02 25 47.8**	**+1.1**
H27K	baz=274 **Steamboat Moun**	**85.67**	**24**		P	**P**	**02 15 22.7**	**+1.2**
H27K	baz=274,SNR=312				S	**S**	**02 25 50.1**	**+3.3**
I27K	baz=274 **Kandik River**	**85.68**	**25**		P	**P**	**02 15 22.7**	**+1.1**
I27K	baz=274,SNR=413				S	**S**	**02 25 49.4**	**+2.4**
L27K	baz=274 **Beaver Creek,**	**85.77**	**27**		IAmb	IAmb	02 15 25.0	
L27K	comp=Z,962nm,1.8s **Beaver Creek,**	**85.77**	**27**		P	**P**	**02 15 23.0**	**+1.0**
L27K	baz=274,SNR=215				S	**S**	**02 25 49.8**	**+1.9**
BCAR	baz=274 **Beaver Creek A**	**85.79**	**27**		P	**P**	**02 15 22.8**	**+0.7**
M27K	**Edge Creek, AK**	**85.80**	**28**		IAmb	IAmb	02 15 25.1	
M27K	comp=Z,1µm,1.9s **Edge Creek, AK**	**85.80**	**28**		P	**P**	**02 15 22.9**	**+0.6**
M27K	baz=274,SNR=163				S	**S**	**02 25 50.1**	**+1.7**
MESA	baz=274 **MESA**	**85.92**	**30**		IAmb	IAmb	02 15 26.9	
MESA	comp=Z,848nm,1.3s **MESA**	**85.92**	**30**		P	**P**	**02 15 24.0**	**+1.0**
MESA	baz=274,SNR=71				S	**S**	**02 25 52.4**	**+2.6**
EGAK	baz=274 **Eagle**	**85.93**	**25**		IAmb	IAmb	02 15 25.2	
EGAK	comp=Z,658nm,1.7s **Eagle**	**85.93**	**25**		P	**P**	**02 15 23.4**	**+0.7**
EGAK	baz=274				S	**S**	**02 25 50.6**	**+1.3**
PPT	baz=274 **Papeete**	**85.95**	**108**		P	**P**	**02 15 24.9**	**+1.2**
PPT	comp=Z,92nm,1.0s,baz=346,slow=1.0,SNR=7.3				LR	LR	02 52 20.7	
PPT2	comp=Z,696nm,18.2s,baz=270,slow=34 comp=Z,92nm,1.0s **Papeete2**	**85.95**	**108**		P	**P**	**02 15 21.0**	**-2.9**
PPT2	comp=Z,258nm,1.3s **Papeete2**	**85.95**	**108**	*e*	PP	PP	02 18 34.1	-11
PPT2	comp=Z,360nm,28.8s				*e*S	**SKSac**	**02 25 45.5**	**+2.6**
PPT2	comp=Z,3µm,26.5s				*e*SS	**SS**	**02 31 32.2**	**+1.1**

	comp=Z,3µm,23.8s								
PPT2					*e*LQ	LQ	02 38 39.5		
	comp=Z,3µm,28.8s								
PPT2					*e*LR	LR	02 42 24.8		
	comp=Z,7µm,30.8s								
PPT2					*e*LR	LR	02 42 34.4		
	comp=Z,11µm,30.0s								
PAE	**Paea**	**85.96**	**108**		*e*P	**P**	**02 15 22.5**	**-1.3**	
	comp=Z,105nm,1.4s								
PPTF	**Pamatai, Papee**	**85.96**	**108**		IAmb	IAmb	02 15 27.6		
	comp=Z,289nm,1.2s								
PPTF	**Pamatai, Papee**	**85.96**	**108**		P	**P**	**02 15 24.9**	**+1.0**	
BARN	**Barnard Glacie**	**86.00**	**29**		IAmb	IAmb	02 15 27.2		
	comp=Z,663nm,1.2s								
GAZ	**Gaziantep**	**86.03**	**307**		IAmb	IAmb	02 15 29.8		
	comp=Z,407nm,1.0s								
CTG	**Chitna Glacier**	**86.16**	**29**		P	**P**	**02 15 25.0**	**+0.9**	
	baz=275,SNR=442								
CTG					S	**S**	**02 25 53.7**	**+1.7**	
	baz=275								
TIAR	**Tiarei**	**86.17**	**108**		*e*P	**P**	**02 15 22.3**	**-2.6**	
	comp=Z,603nm,1.3s								
F28M	**Old Crow**	**86.20**	**23**		IAmb	IAmb	02 15 27.9		
	comp=Z,400nm,1.1s								
F28M	**Old Crow**	**86.20**	**23**		P	**P**	**02 15 24.8**	**+0.8**	
	baz=276,SNR=201								
F28M					S	**S**	**02 25 53.8**	**+1.8**	
	baz=276								
E28M	**Babbage River**	**86.23**	**22**		IAmb	IAmb	02 15 28.1		
	comp=Z,624nm,1.4s								
E28M	**Babbage River**	**86.23**	**22**		P	**P**	**02 15 25.1**	**+0.9**	
	baz=276,SNR=215								
E28M					S	**S**	**02 25 53.1**	**+0.9**	
	baz=276								
SBA	**Scott Base**	**86.27**	**172**		P	**P**	**02 15 25.6**	**+1.6**	
SBA	**Scott Base**	**86.27**	**172**		P	**P**	**02 15 25.7**	**+1.6**	
SBA					pmax	pmax			
	comp=Z,118nm,0.9s								
TVO	**Taravao**	**86.28**	**108**		*e*P	**P**	**02 15 25.9**	**+0.4**	
	comp=Z,299nm,1.5s								
LOGN	**Logan Glacier**	**86.33**	**29**		IAmb	IAmb	02 15 29.1		
	comp=Z,900nm,1.6s								
I28M	**Miner Creek**	**86.39**	**25**		IAmb	IAmb	02 15 29.1		
	comp=Z,487nm,1.1s								
I28M	**Miner Creek**	**86.39**	**25**		P	**P**	**02 15 25.8**	**+0.7**	
	baz=276,SNR=332								
I28M					S	**S**	**02 25 57.0**	**+2.9**	
	baz=276								
D28M	**Stokes Point**	**86.44**	**21**		P	**P**	**02 15 25.9**	**+0.8**	
	baz=276,SNR=6.7								
D28M					S	**S**	**02 25 57.2**	**+3.2**	
	baz=276								
ASF	**Jabal al Asfar**	**86.66**	**302**		LR	LR	03 01 04.4		
	comp=Z,778nm,18.2s,baz=110,slow=40								
O28M	**Mount Upton**	**86.74**	**29**		P	**P**	**02 15 27.7**	**+0.6**	
	baz=276,SNR=94								
O28M					S	**S**	**02 25 59.7**	**+1.7**	
	baz=276								
DAWY	**Dawson**	**86.77**	**26**		P	**P**	**02 15 27.6**	**+0.6**	
	baz=276,SNR=124								
DAWY					S	**S**	**02 25 59.8**	**+2.2**	
	baz=276								
PCA	**Pinnacle**	**86.77**	**30**		IAmb	IAmb	02 15 30.8		
	comp=Z,249nm,1.0s								
PINM	**Pinnacle**	**86.77**	**30**		P	**P**	**02 15 27.6**	**+0.6**	
	baz=276,SNR=83								
PINM					S	**S**	**02 25 59.6**	**+1.8**	
	baz=276								
TBI	**Tubuai**	**86.80**	**114**		*e*P	**P**	**02 15 27.3**	**-0.5**	
	comp=Z,333nm,1.2s								
TBI	**Tubuai**	**86.80**	**114**		*e*PP	**PP**	**02 18 45.4**	**-6.1**	
	comp=Z,2µm,30.0s								
TBI					*e*S	**S**	**02 25 54.6**	**-4.6**	
	comp=Z,9µm,28.2s								
TBI					*e*SS	**SS**	**02 31 35.7**	**-7.4**	
	comp=Z,19µm,26.8s								
TBI					*e*LQ	LQ	02 39 16.7		
	comp=Z,34µm,35.0s								
TBI					*e*LR	LR	02 42 56.4		
	comp=Z,42µm,30.8s								
TBI					*e*LR	LR	02 43 03.5		
	comp=Z,9µm,30.2s								
E29M	**Blow River**	**86.86**	**22**		P	**P**	**02 15 27.5**	**+0.3**	
	baz=277,SNR=57								
E29M					S	**S**	**02 25 59.4**	**+1.2**	
	baz=277								
YUK8	**Steele Glacier**	**86.89**	**29**		P	**P**	**02 15 28.5**	**+0.6**	
	baz=276,SNR=53								
YUK8					S	**S**	**02 26 02.0**	**+2.7**	
	baz=276								
H29M	**Whitestone**	**86.95**	**24**		P	**P**	**02 15 28.1**	**+0.4**	
	baz=277,SNR=65								
H29M					S	**S**	**02 26 01.7**	**+2.5**	
	baz=277								
FURI	**Furi**	**86.97**	**279**		LR	LR	02 56 29.9		
	comp=Z,1µm,18.6s,baz=84,slow=37								
G29M	**Pine Creek**	**87.00**	**23**		IAmb	IAmb	02 15 31.7		
	comp=Z,470nm,1.1s								
G29M	**Pine Creek**	**87.00**	**23**		P	**P**	**02 15 28.4**	**+0.4**	
	baz=277,SNR=185								
G29M					S	**S**	**02 26 01.3**	**+1.7**	
	baz=277								
I29M	**Ogilvie Camp,**	**87.08**	**25**		IAmb	IAmb	02 15 31.9		
	comp=Z,279nm,1.1s								
I29M	**Ogilvie Camp,**	**87.08**	**25**		P	**P**	**02 15 28.6**	**+0.2**	
	baz=277,SNR=190								
I29M					S	**S**	**02 26 02.3**	**+1.8**	
	baz=277								
VADS	**Vadso**	**87.14**	**340**		*e*P	**P**	**02 15 27.9**	**-0.6**	
VADS					IAmb	IAmb	02 15 31.5		
	comp=Z,236nm,1.1s								
VADS					*e*PP	**PP**	**02 18 49.5**	**-3.4**	
VADS					*e*SKSac	**SKSac**	**02 25 48.0**	**0.0**	
VADS					*e*		02 25 58.9		
VADS					*e*SS	**SS**	**02 31 42.8**	**-2.8**	
VADS					IAMs_20	IAMs_20	03 00 33.1		
	comp=Z,3µm,23.3s								
HOPEN	**Hopen**	**87.20**	**347**		*e*P	**P**	**02 15 28.3**	**-0.4**	
HOPEN					*e*PP	**PP**	**02 18 53.3**	**0.0**	
HOPEN					*e*SKSac	**SKSac**	**02 25 49.7**	**+1.5**	
HOPEN					*e*		02 26 01.9		
HOPEN					*e*SS	**SS**	**02 31 50.0**	**+3.8**	
HOPEN					IAMs_20	IAMs_20	02 54 42.6		
	comp=Z,6µm,23.2s								
J29N	**Klondike Camp**	**87.23**	**26**		P	**P**	**02 15 30.1**	**+0.9**	
	baz=277,SNR=11								
J29N					S	**S**	**02 26 04.7**	**+2.6**	
	baz=277								
PNL	**Peninsula**	**87.25**	**30**		P	**P**	**02 15 30.6**	**+1.3**	
PNL	**Peninsula**	**87.25**	**30**		P	**P**	**02 15 29.8**	**+0.5**	
	baz=276,SNR=55								
PNL					S	**S**	**02 26 04.4**	**+2.0**	
	baz=276								
PMOR	**Pomariorio Ree**	**87.25**	**105**		*e*P	**P**	**02 15 30.6**	**+0.5**	
	comp=Z,1µm,1.2s								
HWQ	**Hawqa**	**87.28**	**304**		*e*P	**P**	**02 15 30.4**	**+0.2**	
M29M	**Somme Creek**	**87.37**	**28**		P	**P**	**02 15 30.7**	**+0.8**	
	baz=277,SNR=87								
M29M					S	**S**	**02 26 07.2**	**+3.6**	
	baz=277								
YUK4	**Talbot Arm**	**87.42**	**29**		P	**P**	**02 15 31.1**	**+0.8**	
	baz=277,SNR=28								
YUK4					S	**S**	**02 26 07.0**	**+2.7**	
	baz=277								
L29M	**L29M**	**87.44**	**27**		P	**P**	**02 15 31.1**	**+1.0**	
	baz=277,SNR=156								
L29M					S	**S**	**02 26 07.2**	**+3.0**	
	baz=277								
VAH	**Vaihoa**	**87.53**	**105**		*e*P	**P**	**02 15 32.0**	**+0.5**	
	comp=Z,167nm,1.1s								
BHL	**Bhannes**	**87.56**	**304**		*e*P	**P**	**02 15 31.6**	**+0.2**	
O29M	**Mount Kennedy**	**87.58**	**30**		P	**P**	**02 15 31.7**	**+0.6**	
	baz=277,SNR=53								
O29M					S	**S**	**02 26 08.9**	**+3.1**	
	baz=277								
EPYK	**Eagle Plains**	**87.59**	**24**		IAmb	IAmb	02 15 34.2		
	comp=Z,274nm,1.1s								
EPYK	**Eagle Plains**	**87.59**	**24**		P	**P**	**02 15 30.7**	**-0.1**	
	baz=278,SNR=110								
EPYK					S	**S**	**02 26 07.2**	**+1.9**	
	baz=278								
YUK6	**Outpost Mounta**	**87.61**	**29**		P	**P**	**02 15 31.8**	**+0.5**	
	baz=277,SNR=34								
YUK6					S	**S**	**02 26 09.0**	**+2.8**	
	baz=277								
K29M	**Barlow Dome**	**87.61**	**26**		P	**P**	**02 15 31.4**	**+0.3**	
	baz=278,SNR=74								
K29M					S	**S**	**02 26 08.2**	**+2.3**	
	baz=278								
G30M	**tAoh Zraii Nji**	**87.69**	**23**		P	**P**	**02 15 30.9**	**-0.4**	
	baz=279,SNR=74								
G30M					S	**S**	**02 26 05.9**	**-0.5**	
	baz=279								
SIM	**Simferopol'**	**87.71**	**315**		*e*P	**P**	**02 15 31.3**	**-0.5**	
SIM					*e*S	**SKSac**	**02 25 52.0**	**-0.5**	
SIM					pmax	pmax			
	comp=Z,220nm,0.5s								
SIM					smax	smax			
	comp=E,800nm,4.4s								
F30M	**Barrier River**	**87.76**	**22**		IAmb	IAmb	02 15 35.3		
	comp=Z,772nm,1.8s								
F30M	**Barrier River**	**87.76**	**22**		P	**P**	**02 15 31.8**	**+0.2**	
	baz=279,SNR=68								
F30M					S	**S**	**02 26 07.6**	**+0.8**	
	baz=279								
MMAI	**Mount Meron Ar**	**87.85**	**303**		P	**P**	**02 15 33.4**	**+0.6**	
	comp=Z,30nm,0.5s,baz=84,slow=7.6,SNR=58								
MMAI					PKKPbc	**PKKPbc**	**02 33 21.1**	**+1.3**	
	comp=Z,0.7nm,0.3s,baz=270,slow=1.7,SNR=4.3								
MMAI					LR	LR	03 02 55.5		
	comp=Z,867nm,18.2s,baz=78,slow=41								
	comp=Z,30nm,0.5s								
GHAJ	**Ghor Haditha**	**87.87**	**301**		IAmb	IAmb	02 15 38.8		
	comp=Z,238nm,1.0s								
I30M	**Mount Dempster**	**87.90**	**25**		P	**P**	**02 15 32.5**	**+0.1**	
	baz=279,SNR=49								
I30M					S	**S**	**02 26 10.6**	**+2.0**	
	baz=279								
MSF	**Maaselka**	**87.91**	**336**		P	**P**	**02 15 32.2**	**-0.1**	
KEV	**Kevo**	**88.00**	**340**		P	**P**	**02 15 31.9**	**-0.7**	
KEV	**Kevo**	**88.00**	**340**		P	**P**	**02 15 31.9**	**-0.7**	
KEV					pmax	pmax			
	comp=Z,186nm,1.1s								
KEV	**Kevo**	**88.00**	**340**		P	**P**	**02 15 31.9**	**-0.7**	
KEV	**Kevo**	**88.00**	**340**		P	**P**	**02 15 32.1**	**-0.5**	
J30M	**Hart River**	**88.02**	**25**		P	**P**	**02 15 33.4**	**+0.4**	
	baz=279,SNR=58								
J30M					S	**S**	**02 26 12.6**	**+2.8**	
	baz=279								
HYT	**Haines Junctio**	**88.04**	**29**		P	**P**	**02 15 33.6**	**+0.5**	
	baz=278,SNR=73								
HYT					S	**S**	**02 26 11.8**	**+1.8**	
	baz=278								
P29M	**Windy Craggy**	**88.09**	**30**		P	**P**	**02 15 34.1**	**+0.8**	
	baz=278,SNR=80								
P29M					S	**S**	**02 26 14.1**	**+3.7**	
	baz=278								
BZK	**Bozkurt**	**88.09**	**312**		IAmb	IAmb	02 15 37.1		
	comp=Z,186nm,0.8s								
BZK	**Bozkurt**	**88.09**	**312**	⇑	P	**P**	**02 15 33.9**	**+0.3**	
M30M	**Minto, Yukon**	**88.12**	**27**		P	**P**	**02 15 34.1**	**+0.7**	
	baz=278,SNR=156								
M30M					S	**S**	**02 26 13.5**	**+2.9**	
	baz=278								
N30M	**Aishikik Lake**	**88.15**	**29**		P	**P**	**02 15 34.4**	**+0.7**	
	baz=278,SNR=83								
N30M					S	**S**	**02 26 14.4**	**+3.5**	
	baz=278								
PUL	**Pulkovo**	**88.25**	**330**	*ce*	P	**P**	**02 15 34.1**	**+0.1**	
PUL					pmax	pmax			
	comp=Z,833nm,0.6s								
MAYO	**Mayo, Yukon**	**88.36**	**26**		IAmb	IAmb	02 15 38.4		
	comp=Z,231nm,1.0s								
MAYO	**Mayo, Yukon**	**88.36**	**26**		P	**P**	**02 15 35.5**	**+0.9**	
	baz=279								
MAYO					S	**S**	**02 26 15.4**	**+2.6**	
	baz=279								
P30M	**Million Dollar**	**88.41**	**30**		P	**P**	**02 15 35.3**	**+0.5**	
	baz=278								
P30M					S	**S**	**02 26 16.2**	**+2.8**	
	baz=278								
KIRS	**Kirsehir-Merke**	**88.45**	**309**	⇑	P	**P**	**02 15 34.8**	**-0.8**	
G31M	**Satah River**	**88.46**	**23**		IAmb	IAmb	02 15 37.0		
	comp=Z,207nm,1.1s								
G31M	**Satah River**	**88.46**	**23**		P	**P**	**02 15 34.5**	**-0.3**	
	baz=281,SNR=97								
G31M					S	**S**	**02 26 13.0**	**-0.4**	
	baz=281								
INK	**Inuvik**	**88.47**	**21**		IAmb	IAmb	02 15 37.7		
	comp=Z,201nm,1.1s								
INK	**Inuvik**	**88.47**	**21**		LR	LR	02 55 17.1		
	comp=Z,946nm,21.9s,baz=264,slow=36								
INK	**Inuvik**	**88.47**	**21**		P	**P**	**02 15 34.6**	**-0.2**	
	baz=281,SNR=127								
INK					S	**S**	**02 26 13.1**	**-0.5**	
	baz=281								
SPB2	**Spitsbergen Ar**	**88.55**	**349**		IAmb	IAmb	02 15 38.8		
	comp=Z,203nm,0.8s								
SPA0	**Spitsbergen Ar**	**88.55**	**349**		*e*P	**P**	**02 15 34.3**	**-0.9**	
SPA0					IAmb	IAmb	02 15 37.5		
	comp=Z,158nm,0.8s								
SPA0					*e*PP	**PP**	**02 19 04.6**	**+0.5**	
SPA0					*e*SKSac	**SKSac**	**02 25 56.6**	**+0.2**	
SPA0					*e*		02 26 15.8		
SPA0					*e*SS	**SS**	**02 32 09.4**	**+3.6**	
SPA0					IAMs_20	IAMs_20	02 56 52.0		
	comp=Z,4µm,23.3s								
SPITS	**Spitsbergen Ar**	**88.55**	**349**		P	**P**	**02 15 34.2**	**-0.9**	
	comp=Z,112nm,0.6s,baz=96,slow=7.6,SNR=79								
SPITS					PKKPbc	**PKKPbc**	**02 33 17.3**	**-2.3**	
	comp=Z,6.7nm,0.8s,baz=191,slow=3.8,SNR=6.4								
SPITS					LR	LR	03 01 51.0		
	comp=Z,2µm,18.2s,baz=58,slow=40								
	comp=Z,112nm,0.6s								
SPITS	**Spitsbergen Ar**	**88.55**	**349**		P	**P**	**02 15 35.1**	**0.0**	
SPITS					pmax	pmax			
	comp=Z,158nm,0.8s								
ARA0	**ARCESS Array S**	**88.56**	**340**		*e*P	**P**	**02 15 33.7**	**-1.6**	
ARA0					IAmb	IAmb	02 15 39.4		
	comp=Z,281nm,0.9s								
ARA0					*e*SKSac	**SKSac**	**02 25 55.9**	**-0.8**	
ARA0					*e*		02 26 11.1		
ARA0					IVMs_BB	IVMs_BB	03 02 04.0		
	comp=Z,2µm,22.4s								
ARCES	**ARCESS Array B**	**88.56**	**340**		P	**P**	**02 15 34.9**	**-0.4**	
ARCES					IAmb	IAmb	02 15 39.9		
	comp=Z,274nm,0.9s								
ARCES	**ARCESS Array B**	**88.56**	**340**		P	**P**	**02 15 34.6**	**-0.7**	
	comp=Z,151nm,0.7s,baz=78,slow=5.7,SNR=280								
ARCES					PKiKP	**PKiKP**	**02 20 35.9**	**+0.6**	
	comp=Z,6.5nm,0.6s,baz=113,slow=2.8,SNR=5.6								
ARCES					PKKP	**PKKPdf**	**02 33 14.8**	**+1.6**	
	comp=Z,6.4nm,0.7s,baz=288,slow=1.9,SNR=11								
	comp=Z,151nm,0.7s								
ARCES	**ARCESS Array B**	**88.56**	**340**		P	**P**	**02 15 34.9**	**-0.4**	
ARCES					pmax	pmax			
	comp=Z,274nm,0.9s								
F31M	**Tsiigehtchic**	**88.56**	**22**		IAmb	IAmb	02 15 37.4		
	comp=Z,314nm,1.2s								
F31M	**Tsiigehtchic**	**88.56**	**22**		P	**P**	**02 15 35.0**	**-0.3**	
	baz=281,SNR=88								
F31M					S	**S**	**02 26 13.7**	**-0.7**	
	baz=281								
BR131	**Keskin Array S**	**88.60**	**310**		*e*P	**P**	**02 15 34.5**	**-1.8**	
BRTR	**Keskin Array B**	**88.60**	**310**		P	**P**	**02 15 34.8**	**-1.5**	
BRTR	**Keskin Array B**	**88.60**	**310**		P	**P**	**02 15 35.3**	**-1.0**	
	comp=Z,72nm,0.7s,baz=121,slow=4.3,SNR=215								
BRTR					PP	**PP**	**02 19 03.4**	**-2.3**	
	comp=Z,11nm,0.9s,baz=102,slow=6.3,SNR=3.8								
BRTR					PKKPbc	**PKKPbc**	**02 33 19.6**	**+1.3**	
	comp=Z,10nm,1.0s,baz=220,slow=2.7,SNR=16								
BRTR					PKPPKP	**P'P'df**	**02 41 24.5**	**-2.1**	
	comp=Z,0.8nm,0.9s,baz=300,slow=2.4,SNR=3.8								
BRTR					P4KP		02 52 34.1		
	comp=Z,0.5nm,0.8s,baz=346,slow=2.5,SNR=3.8								
BRTR					LR	LR	03 01 37.0		
	comp=Z,1µm,19.1s,baz=86,slow=40								
	comp=Z,72nm,0.7s								
BRTR	**Keskin Array B**	**88.60**	**310**	*i*	P	**P**	**02 15 35.0**	**-1.3**	
BRTR					pmax	pmax			
	comp=Z,72nm,0.7s								
H31M	**Peel River**	**88.64**	**24**		P	**P**	**02 15 35.6**	**-0.1**	
	baz=281,SNR=48								
H31M					S	**S**	**02 26 16.3**	**+1.0**	
	baz=281								
KIBK	**Kibwezi**	**88.66**	**268**		P	**P**	**02 15 35.2**	**-1.9**	
O30N	**Mendenhall**	**88.73**	**29**		P	**P**	**02 15 36.9**	**+0.5**	
	baz=279,SNR=58								
O30N					S	**S**	**02 26 19.6**	**+3.2**	
	baz=279								
N31M	**Braeburn, Yuko**	**88.76**	**28**		IAmb	IAmb	02 15 40.6		
	comp=Z,215nm,1.1s								
N31M	**Braeburn, Yuko**	**88.76**	**28**		P	**P**	**02 15 37.1**	**+0.6**	
	baz=279,SNR=107								
N31M					S	**S**	**02 26 19.2**	**+2.5**	
	baz=279								
PLBC	**Pleasant Camp**	**88.80**	**30**		P	**P**	**02 15 37.0**	**+0.4**	
	baz=279,SNR=32								
PLBC					S	**S**	**02 26 19.1**	**+2.1**	
	baz=279								
CIDE	**Kastamonu/Cide**	**88.88**	**312**	⇓	P	**P**	**02 15 36.7**	**-0.6**	
HAMF	**Hammerfest**	**88.91**	**341**	*e*	P	**P**	**02 15 35.6**	**-1.3**	
HAMF					IAmb	IAmb	02 15 40.0		
	comp=Z,230nm,0.9s								
HAMF					*e*PP	**PP**	**02 19 08.6**	**+1.5**	
HAMF					*e*SKSac	**SKSac**	**02 25 58.7**	**0.0**	
HAMF					*e*		02 26 14.5		
HAMF					IAMs_20	IAMs_20	03 02 05.3		
	comp=Z,4µm,14.6s								
KBS	**Kingsbay**	**89.07**	**350**		P	**P**	**02 15 36.9**	**-0.6**	
KBS	**Kingsbay**	**89.07**	**350**	*e*	P	**P**	**02 15 37.0**	**-0.5**	
KBS					*e*PP	**PP**	**02 19 09.6**	**+1.5**	
KBS					*e*SKSac	**SKSac**	**02 26 00.1**	**+0.7**	
KBS					*e*		02 26 20.5		
KBS					*e*SS	**SS**	**02 32 16.8**	**+3.5**	
KBS					IAMs_20	IAMs_20	02 55 26.6		
	comp=Z,5µm,24.7s								
KBS	**Kingsbay**	**89.07**	**350**		P	**P**	**02 15 36.9**	**-0.6**	
S31K	**Pelican**	**89.11**	**32**		P	**P**	**02 15 38.5**	**+0.5**	
	baz=279,SNR=12								
S31K					S	**S**	**02 26 22.4**	**+2.5**	
	baz=279								
HSPB	**Hornsund (broa**	**89.14**	**348**	*e*	P	**P**	**02 15 37.6**	**-0.3**	
HSPB				*e*	pP	**pP**	**02 15 57.5**	**-2.6**	
BJO1	**Bjornoya**	**89.19**	**345**	*e*	P	**P**	**02 15 35.9**	**-2.3**	
BJO1					*e*SKSac	**SKSac**	**02 26 00.9**	**+0.7**	
BJO1					*e*		02 26 17.3		
BJO1					*e*SS	**SS**	**02 32 19.1**	**+3.8**	
ANTO	**Ankara**	**89.23**	**310**		P	**P**	**02 15 38.2**	**-1.0**	
ANTO	**Ankara**	**89.23**	**310**	⇑	P	**P**	**02 15 38.6**	**-0.6**	
ANTO	**Ankara**	**89.23**	**310**		P	**P**	**02 15 38.2**	**-1.0**	
ANTO					pmax	pmax			
	comp=Z,81nm,0.8s								
ANTO	**Ankara**	**89.23**	**310**		P	**P**	**02 15 38.8**	**-0.4**	
ANTO					S	**S**	**02 26 19.9**	**-2.1**	
ANTO	**Ankara**	**89.23**	**310**		P	**P**	**02 15 38.5**	**-0.6**	
M31M	**Drury Creek, Y**	**89.29**	**28**		P	**P**	**02 15 39.1**	**+0.2**	
	baz=281,SNR=50								
M31M					S	**S**	**02 26 21.8**	**+0.3**	
	baz=281								
R31K	**City Hall, Gus**	**89.29**	**31**		P	**P**	**02 15 39.5**	**+0.6**	
	baz=280								
R31K					S	**S**	**02 26 24.5**	**+2.9**	
	baz=280								
SKAG	**Skagway**	**89.33**	**30**		P	**P**	**02 15 40.1**	**+1.0**	
SKAG	**Skagway**	**89.33**	**30**		P	**P**	**02 15 39.6**	**+0.6**	
	baz=280,SNR=34								
SKAG					S	**S**	**02 26 23.8**	**+2.0**	
	baz=280								
WHY	**Whitehorse**	**89.34**	**29**		IAmb	IAmb	02 15 41.7		
	comp=Z,461nm,1.4s								
WHY	**Whitehorse**	**89.34**	**29**		P	**P**	**02 15 40.0**	**+0.7**	
	baz=280,SNR=100								
WHY					S	**S**	**02 26 23.9**	**+1.6**	
	baz=280								
OUL	**Oulu**	**89.35**	**335**		P	**P**	**02 15 38.9**	**-0.1**	
CSS	**Mathiatis**	**89.36**	**305**		IAmb	IAmb	02 15 41.0		
	comp=Z,107nm,0.7s								
KTK1	**Kautokeino**	**89.47**	**339**	*e*	P	**P**	**02 15 38.2**	**-1.4**	
KTK1					*e*SKSac	**SKSac**	**02 26 01.8**	**-0.3**	
KTK1					*e*		02 26 19.6		
KTK1					*e*SS	**SS**	**02 32 24.4**	**+4.9**	
KTK1					IAMs_20	IAMs_20	02 56 52.4		
	comp=Z,4µm,40.2s								
SIT	**Sitka**	**89.74**	**33**		P	**P**	**02 15 43.1**	**+2.1**	
SIT	**Sitka**	**89.74**	**33**		P	**P**	**02 15 41.6**	**+0.6**	
	baz=280,SNR=6.4								
SIT					S	**S**	**02 26 29.5**	**+3.7**	
	baz=280								
R32K	**Eaglecrest**	**89.95**	**31**		P	**P**	**02 15 42.5**	**+0.5**	
	baz=281,SNR=21								
R32K					S	**S**	**02 26 31.1**	**+3.3**	
	baz=281								
FINES	**FINESS Array B**	**90.02**	**332**		P	**P**	**02 15 41.9**	**-0.3**	
	comp=Z,142nm,0.7s,baz=62,slow=4.8,SNR=891								
FINES					PKiKP	**PKiKP**	**02 20 38.0**	**+0.1**	
	comp=Z,14nm,0.7s,baz=108,slow=6.2,SNR=3.4								
FINES					ScS	**S**	**02 26 33.4**	**+5.1**	
	comp=Z,9.0nm,0.9s,baz=89,slow=12,SNR=4.5								
FINES					PKKPbc	**PKKPbc**	**02 33 13.7**	**-1.8**	
	comp=Z,4.2nm,0.7s,baz=268,slow=2.5,SNR=8.2								
FINES					LR	LR	03 00 50.0		
	comp=Z,3µm,18.0s,baz=80,slow=39								
	comp=Z,142nm,0.7s								
JIS	**Juneau Island**	**90.02**	**31**		P	**P**	**02 15 43.3**	**+1.0**	
N32M	**Quiet Lake**	**90.10**	**28**		IAmb	IAmb	02 15 45.6		
	comp=Z,298nm,1.2s								
N32M	**Quiet Lake**	**90.10**	**28**		P	**P**	**02 15 43.4**	**+0.6**	
	baz=282,SNR=35								
N32M					S	**S**	**02 26 32.0**	**+2.8**	
	baz=282								
P32M	**Atlin**	**90.11**	**30**		P	**P**	**02 15 43.3**	**+0.5**	
	baz=281,SNR=21								
P32M					S	**S**	**02 26 32.4**	**+3.1**	
	baz=281								
A36M	**Sachs Harbour**	**90.23**	**17**		IAmb	IAmb	02 15 45.7		
	comp=Z,513nm,1.8s								
A36M	**Sachs Harbour**	**90.23**	**17**		P	**P**	**02 15 43.5**	**+0.4**	
	baz=289,SNR=11								
A36M					S	**S**	**02 26 31.6**	**+1.8**	
	baz=289								
AKASG	**Malin Array Be**	**90.24**	**321**		P	**P**	**

P33M S **S** **02 26 33.7 +1.4**
baz=282
PURM Purcari **90.46 317** ⇑P **P** **02 15 44.3 -0.4**
SAHE Sakarya_HENDEK **90.58 311** ⇑P **P** **02 15 44.6 -0.8**
MMPY Sheldon Lake, **90.62 27** IAmb IAmb 02 15 47.6
comp=Z,218nm,1.3s
MMPY Sheldon Lake, **90.62 27** P **P** **02 15 45.8 +0.6**
baz=283,SNR=96
MMPY S **S** **02 26 36.4 +2.5**
baz=283
TRO Tromso **90.76 340** *e*P **P** **02 15 42.5 -3.0**
TRO *e*SKSac **SKSac** **02 26 10.4 +1.0**
TRO *e* 02 26 30.5
TRO *e*SS **SS** **02 32 41.4 +3.5**
TRO IVMs_BB IVMs_BB 02 59 39.2
comp=Z,2µm,17.2s
Q32M Nakina River **90.97 31** P **P** **02 15 47.7 +0.7**
baz=282,SNR=27
Q32M S **S** **02 26 39.9 +2.4**
baz=282
T33K Petersburg **91.07 33** P **P** **02 15 47.5 +0.3**
baz=282
T33K S **S** **02 26 41.0 +3.0**
baz=282
KIS Kishinev **91.10 317** ⇓*i*P **P** **02 15 45.4 -2.2**
comp=Z,170nm,1.8s
KIS Kishinev **91.10 317** *d i*P **P** **02 15 45.4 -2.2**
KIS *i* S **S** **02 26 39.0 +0.2**
KIS pmax pmax
comp=Z,170nm,1.8s
U33K Whale Pass **91.12 33** IAmb IAmb 02 15 49.9
comp=Z,260nm,1.6s
U33K Whale Pass **91.12 33** P **P** **02 15 48.3 +0.8**
baz=282,SNR=13
U33K S **S** **02 26 41.0 +2.5**
baz=282
MILM Milestii Mici **91.12 317** *e*P **P** **02 15 45.8 -1.9**
comp=Z,340nm,1.8s
MILM Milestii Mici **91.12 317** *d i*P **P** **02 15 45.8 -1.9**
MILM *i* S **S** **02 26 37.0 -1.9**
MILM pmax pmax
comp=Z,340nm,1.8s
NOR Nord **91.16 355** *i*P **P** **02 15 47.7 +0.4**
NOR IAmb IAmb 02 15 49.3
comp=Z,60nm,0.8s
SORM Soroca **91.23 318** ⇓P **P** **02 15 47.5 -0.7**
SORM Soroca **91.23 318** P **P** **02 15 47.5 -0.7**
CRAG Craig **91.25 34** IAmb IAmb 02 15 50.6
comp=Z,224nm,1.4s
CRAG Craig **91.25 34** P **P** **02 15 49.3 +1.2**
CRAG Craig **91.25 34** P **P** **02 15 48.5 +0.4**
baz=282,SNR=9.8
CRAG S **S** **02 26 42.8 +3.1**
baz=282
ISP Isparta **91.25 308** IAmb IAmb 02 15 52.3
comp=Z,111nm,0.8s
ISP Isparta **91.25 308** *ce*P **P** **02 15 47.4 -1.3**
ISP pmax pmax
comp=Z,83nm,0.6s
TLCR **91.40 315** ⇑P **P** **02 15 49.0 -0.1**
TLCR **91.40 315** P **P** **02 15 48.9 -0.1**
JURR Jurilovca **91.43 315** ⇑P **P** **02 15 48.9 -0.2**
WRAK Wrangell Islan **91.48 33** IAmb IAmb 02 15 52.2
comp=Z,378nm,1.7s
WRAK Wrangell Islan **91.48 33** P **P** **02 15 49.4 +0.2**
baz=282,SNR=20
WRAK S **S** **02 26 45.7 +4.0**
baz=282
C36M Paulatuk **91.49 20** P **P** **02 15 49.1 +0.2**
baz=290,SNR=17
C36M S **S** **02 26 43.1 +1.8**
baz=290
R33M Jennings River **91.52 30** IAmb IAmb 02 15 52.1
comp=Z,182nm,1.4s
R33M Jennings River **91.52 30** P **P** **02 15 50.2 +0.7**
baz=284,SNR=58
R33M S **S** **02 26 46.5 +4.2**
baz=284
TPGR Topolog **91.73 315** ⇑P **P** **02 15 50.6 0.0**
GIUM Giurgiulesti **91.77 316** ⇑P **P** **02 15 50.3 -0.5**
S34M Telegraph Cree **91.79 31** IAmb IAmb 02 15 53.2
comp=Z,156nm,1.4s
S34M Telegraph Cree **91.79 31** P **P** **02 15 51.3 +0.7**
baz=283,SNR=34
S34M S **S** **02 26 48.4 +3.9**
baz=283
VASR Vaslui **91.86 317** ⇑P **P** **02 15 50.8 -0.3**
TATR Tatarca **91.86 316** ⇑P **P** **02 15 51.3 +0.1**
KLYT Kilyos **91.87 312** ⇑P **P** **02 15 50.7 -0.6**
CFR Carcaliu **91.88 316** ⇑P **P** **02 15 51.2 -0.1**
CFR Carcaliu **91.88 316** P **P** **02 15 51.1 -0.1**
ELL Elmali **91.89 307** IAmb IAmb 02 15 55.8
comp=Z,81nm,0.8s
SCTR Scanteiesti **91.89 316** ⇑P **P** **02 15 51.7 +0.4**
VARL Varlezi **91.95 316** ⇑P **P** **02 15 51.5 -0.1**
NEGRR Negrea **92.00 316** ⇑P **P** **02 15 52.0 +0.2**
BIR Birlad **92.04 317** ⇑P **P** **02 15 52.1 +0.1**
BIR Birlad **92.04 317** P **P** **02 15 52.1 +0.1**
TLBR Topalu **92.05 315** ⇑P **P** **02 15 51.5 -0.6**
IZVR Izvoarele **92.07 316** ⇑P **P** **02 15 52.6 +0.5**
CVDA Cernavoda **92.09 315** ⇑P **P** **02 15 51.7 -0.5**
DIB Dawson Inlet, **92.09 36** IAmb IAmb 02 15 56.8
comp=Z,171nm,1.3s
H02S2 DAWSON INLET T **92.09 36** P **P** **02 15 52.5 +0.4**
SNR=7.0
HARR Harsova **92.11 315** ⇑P **P** **02 15 52.4 0.0**
HARR Harsova **92.11 315** P **P** **02 15 52.3 0.0**
V35K Ketchikan **92.12 34** IAmb IAmb 02 15 54.0
comp=Z,153nm,1.6s
V35K Ketchikan **92.12 34** P **P** **02 15 52.6 +0.4**
baz=283,SNR=5.9
V35K S **S** **02 26 50.3 +2.8**
baz=283
TUDR **92.13 316** ⇑P **P** **02 15 52.0 -0.4**
GHRR **92.22 317** ⇑P **P** **02 15 53.0 +0.1**
DLBC Dease Lake **92.23 31** LR LR 02 53 34.3
comp=Z,18µm,21.5s,baz=264,slow=33
DLBC Dease Lake **92.23 31** P **P** **02 15 53.3 +0.6**
baz=284,SNR=29
DLBC S **S** **02 26 52.1 +3.4**
baz=284
TGTN Hyland Airport **92.26 28** P **P** **02 15 53.4 +0.6**
baz=286,SNR=75
TGTN S **S** **02 26 48.7 -0.1**
baz=286
HORU Horodok **92.28 320** P **P** **02 15 52.3 -0.8**
ICOR Ion Corvin **92.30 315** ⇑P **P** **02 15 53.1 -0.1**
COSR Cosmesti PH **92.33 316** ⇑P **P** **02 15 54.0 +0.7**
CTYL Yalikoy Yolu **92.39 312** ⇑P **P** **02 15 53.7 0.0**
MOBC Moresby Island **92.40 36** IAmb IAmb 02 15 55.5
comp=Z,350nm,1.7s
WTLY Watson Lake, Y **92.40 29** P **P** **02 15 54.1 +0.7**
baz=286,SNR=51
WTLY S **S** **02 26 51.0 +0.9**
baz=286
PANC Panciu **92.44 316** ⇑P **P** **02 15 54.5 +0.6**
T35M Bob Quinn **92.47 32** IAmb IAmb 02 15 56.3
comp=Z,139nm,1.4s
T35M Bob Quinn **92.47 32** P **P** **02 15 54.6 +0.8**
baz=284,SNR=27
T35M S **S** **02 26 52.8 +2.0**
baz=284
ODBI Odobesti **92.52 316** ⇑P **P** **02 15 54.9 +0.7**
STEI Steigen **92.61 339** *e*P **P** **02 15 52.5 -1.6**
STEI *e*SKSac **SKSac** **02 26 20.6 +0.6**
STEI *e* 02 26 44.5
STEI IVMs_BB IVMs_BB 03 00 44.9
comp=Z,2µm,18.8s
TESR Tescani **92.66 317** ⇓P **P** **02 15 54.5 -0.4**
BAND Balkesir-Ban **92.72 311** ⇑P **P** **02 15 54.8 -0.6**
VRI Vrincioaia **92.73 316** ⇑P **P** **02 15 55.9 +0.7**
VRI Vrincioaia **92.73 316** P **P** **02 15 55.9 +0.7**
PLOR Plostina **92.78 316** ⇑P **P** **02 15 55.6 +0.1**
FAUS Fauske **92.79 339** *e*P **P** **02 15 51.4 -3.6**
FAUS IVmB_BB 02 15 54.9
comp=Z,3µm,2.1s
FAUS *e*SKSac **SKSac** **02 26 21.5 +0.5**
FAUS *e* 02 26 47.1
FAUS *e*SS **SS** **02 33 02.4 -4.9**
FAUS IVMs_BB IVMs_BB 03 02 27.0
comp=Z,2µm,17.5s
CICN Ciocanesti **92.83 315** ⇑P **P** **02 15 55.7 0.0**
U35K Hyder **92.86 33** P **P** **02 15 55.8 +0.2**
baz=284
U35K S **S** **02 26 55.1 +1.1**
baz=284
PHSR Pinarhisar **92.93 312** ⇑P **P** **02 15 55.6 -0.7**
ISR Istrita **93.00 316** ⇑P **P** **02 15 56.9 +0.3**
ISR Istrita **93.00 316** P **P** **02 15 56.8 +0.3**
HG4B Hotspring **93.05 37** IAmb IAmb 02 15 58.5
comp=Z,200nm,1.3s
COVR Voineasa-Covas **93.09 316** ⇑P **P** **02 15 56.8 -0.2**
NEHR Nehoiu **93.11 316** ⇑P **P** **02 15 57.2 +0.2**
LOF Lofoten **93.12 340** *e*P **P** **02 15 53.6 -2.9**
LOF *e* 02 19 31.2
LOF *e*SKSac **SKSac** **02 26 23.5 +0.7**
LOF IVMs_BB IVMs_BB 02 57 20.1
comp=Z,1µm,19.4s
TURR Turia **93.18 317** ⇑P **P** **02 15 57.3 0.0**
SUW Suwalki **93.20 325** *e*P **P** **02 15 56.9 -0.2**
SUW Suwalki **93.20 325** P **P** **02 15 56.2 -1.0**
LOZB Loznitsa **93.29 314** ⇑P **P** **02 15 57.3 -0.5**
OZUR **93.33 317** ⇑P **P** **02 15 58.2 +0.2**
MLR Muntele Rosu **93.34 316** LR LR 03 02 49.0
comp=Z,6µm,21.9s,baz=63,slow=39
MLR Muntele Rosu **93.34 316** ⇑P **P** **02 15 58.6 +0.4**
MLR Muntele Rosu **93.34 316** P **P** **02 15 58.6 +0.4**
ARG Arkhangelos **93.39 307** IAmb IAmb 02 16 04.2
comp=Z,98nm,0.9s
BURAR Bucovina Array **93.40 318** P **P** **02 15 58.2 -0.2**
BURAR IAmb IAmb 02 16 05.6
comp=Z,96nm,0.9s
BURAR Bucovina Array **93.40 318** ⇑P **P** **02 15 58.3 -0.2**
BURAR Bucovina Array **93.40 318** P **P** **02 15 58.2 -0.2**
JMB Yambol **93.50 313** *i*P **P** **02 15 58.3 -0.5**
MOR8 Moi Rana **93.56 338** *e*P **P** **02 15 54.7 -3.9**
MOR8 IVmB_BB 02 15 56.8
comp=Z,1µm,1.5s
MOR8 *e*SKSac **SKSac** **02 26 24.5 -0.9**
MOR8 *e* 02 26 51.2
MOR8 *e*SS **SS** **02 33 15.8 -2.6**
MOR8 IVMs_BB IVMs_BB 02 59 05.9
comp=Z,1µm,19.4s
SGRR Singureni **93.57 315** ⇑P **P** **02 15 58.6 -0.4**
RAUS Rausandaksla **93.61 338** *e*P **P** **02 15 56.9 -1.9**
RAUS IVmB_BB 02 16 01.6
comp=Z,2µm,3.2s
RAUS *e*SKSac **SKSac** **02 26 26.6 +1.0**
RAUS *e* 02 26 53.9
RAUS IVMs_BB IVMs_BB 02 51 11.7
comp=Z,678nm,3.7s
DOPR Dopca **93.62 317** ⇑P **P** **02 15 59.1 -0.3**
LVV L'vov **93.68 321** P **P** **02 15 59.6 +0.1**
SZH Strazhitsa **93.75 314** *i*P **P** **02 15 59.7 -0.3**
VAGH Vaagaholmen **93.78 339** *e*P **P** **02 15 56.9 -2.6**
VAGH IVmB_BB 02 15 59.3
comp=Z,2µm,2.5s
VAGH *e*SKSac **SKSac** **02 26 27.5 +1.1**
VAGH *e* 02 26 55.7
VAGH IVMs_BB IVMs_BB 03 03 04.4
comp=Z,2µm,19.4s
WRGLY Wrigley **93.86 25** IAmb IAmb 02 16 02.0
comp=Z,238nm,1.4s
WRGLY Wrigley **93.86 25** P **P** **02 16 00.2 +0.2**
baz=290,SNR=14
WRGLY S **S** **02 27 01.0 -1.7**
baz=290
ELND Elena **93.89 314** ⇑P **P** **02 16 00.0 -0.6**
LIRD Liard River Hi **93.91 29** P **P** **02 16 00.8 +0.4**
baz=288
LIRD S **S** **02 27 03.7 +0.3**
baz=288
KONS Konsvik **93.92 338** *e*P **P** **02 15 58.0 -2.2**
MORS Morshin **93.92 320** P **P** **02 16 01.1 +0.5**
VOIR **93.97 316** ⇑P **P** **02 16 00.7 -0.4**
VOIR **93.97 316** P **P** **02 16 00.5 -0.4**
STOK Stokkvaagen **94.03 338** *e*P **P** **02 16 00.2 -0.4**
LEIR Leirfjorden **94.08 338** *e*P **P** **02 15 59.1 -1.8**
ARCR ARCALIA **94.08 318** ⇑P **P** **02 16 01.8 +0.3**
TGMR Targu Mures **94.09 317** ⇑P **P** **02 16 01.9 +0.5**
SYO Syowa Base **94.12 201** ⇑*e*P **P** **02 16 01.9 +0.9**
SYO Syowa Base **94.12 201** ⇓*i*pP pP 02 16 23.8 +1.2
SYO Syowa Base **94.12 201** ⇑*i*sP sP 02 16 31.0 -0.2
EZN Ezine **94.16 311** ⇑P **P** **02 16 01.4 -0.5**
EZN Ezine **94.16 311** P **P** **02 16 01.4 -0.5**
ALN Alexandroupoli **94.16 312** P **P** **02 16 00.5 -1.4**
TAOE Nuku Hiva Isla **94.19 98** *e*P P 02 15 46.4 -16
comp=Z,457nm,40.9s
TAOE Nuku Hiva Isla **94.19 98** *e*PP PP 02 19 29.7 -21
comp=Z,294nm,26.6s
TAOE *e*S S 02 26 55.9 -12
comp=Z,4µm,25.0s
TAOE *e*SS SS 02 33 15.6 -15
comp=Z,5µm,42.0s
TAOE Nuku Hiva Isla **94.19 98** *e*LR LR 02 46 07.6
comp=Z,10µm,26.4s
HUMR Humele **94.20 315** ⇑P **P** **02 16 01.1 -0.9**
ARR Arges **94.27 316** ⇓P **P** **02 16 01.7 -0.7**
MDB Medias **94.27 317** ⇑P **P** **02 16 03.0 +0.7**
MDB Medias **94.27 317** P **P** **02 16 03.0 +0.7**
KARP Karpathos **94.28 306** IAmb IAmb 02 16 07.6
comp=Z,230nm,1.0s
DIM Dimitrovgrad **94.28 313** *i*P **P** **02 16 01.9 -0.5**
TNR Turnu Rosu **94.45 317** ⇑P **P** **02 16 03.9 +0.7**
TNR Turnu Rosu **94.45 317** P **P** **02 16 03.9 +0.7**
TOAD Toad River Com **94.51 30** P **P** **02 16 03.2 0.0**
baz=289,SNR=69
TOAD S **S** **02 27 05.8 -2.9**
baz=289
BMR Baia Mare **94.52 319** ⇑P **P** **02 16 04.3 +0.8**
BMR Baia Mare **94.52 319** P **P** **02 16 04.2 +0.8**
KWP Kalwaria Pacla **94.56 321** *e*P **P** **02 16 03.6 +0.1**
KWP Kalwaria Pacla **94.56 321** P **P** **02 16 04.0 +0.4**
KOTAN Kotaneelee Air **94.66 28** P **P** **02 16 04.1 +0.3**
baz=290,SNR=38
KOTAN S **S** **02 27 09.7 -0.1**
baz=290
CJR Cluj-Napoca **94.67 318** ⇑P **P** **02 16 05.1 +0.8**
CJR Cluj-Napoca **94.67 318** P **P** **02 16 05.0 +0.8**
CBBR Cluj-Babes-Bol **94.69 318** ⇑P **P** **02 16 05.0 +0.8**
PLVB Pleven **94.70 314** ⇑P **P** **02 16 03.8 -0.5**
VLAD Vladila **94.72 315** ⇑P **P** **02 16 03.6 -0.8**
TRSU Trosnyk **94.77 319** P **P** **02 16 04.3 -0.2**
LOT Lotru **94.84 316** ⇑P **P** **02 16 05.0 -0.1**
R9F13 Warsaw-Wawer **94.85 323** *e*P **P** **02 16 04.8 0.0**
R9F13 *i* S **SKSac** **02 26 35.0 +2.2**
R9F13 *e*SS **sS** **02 27 55.9 +6.4**
R9F13 *e*SP **SP** **02 28 31.4 +3.6**
R9F13 *e*PS **PS** **02 28 39.3 +0.4**
R9F13 *e*SS **SS** **02 33 42.0 +4.6**
BBB Bella Bella **94.91 37** IAmb IAmb 02 16 06.8
comp=Z,136nm,1.4s
BBB Bella Bella **94.91 37** LR LR 02 54 29.3
comp=Z,1µm,19.9s,baz=290,slow=33
MARR Marisel-Cluj **95.00 318** ⇑P **P** **02 16 05.7 0.0**
MESR Meseseni **95.00 318** ⇓P **P** **02 16 06.3 +0.7**
KOLS Kolonicke sedl **95.01 320** *e*P **P** **02 16 05.9 +0.3**
BEL Belsk **95.17 323** *e*P **P** **02 16 06.7 +0.4**
NSS Namsos **95.17 337** *e*P **P** **02 16 03.6 -2.4**
CEI Carei **95.20 319** ⇑P **P** **02 16 07.1 +0.6**
CEI Carei **95.20 319** P **P** **02 16 07.0 +0.6**
PGB Panagyurishte **95.21 313** *i*P **P** **02 16 05.7 -1.0**
DRGR **95.25 318** ⇑P **P** **02 16 06.6 -0.2**
DRGR **95.25 318** P **P** **02 16 06.6 -0.2**
DAG Danmarks Havn **95.32 352** P **P** **02 16 02.3 -4.1**
DAG Danmarks Havn **95.32 352** *i*P **P** **02 16 05.7 -0.8**
DAG IAmb IAmb 02 16 07.7
comp=Z,124nm,0.8s
MPEP Malo Peshtene **95.33 314** *i*P **P** **02 16 07.2 0.0**
DEV Deva **95.33 317** ⇑P **P** **02 16 07.3 +0.1**
DEV Deva **95.33 317** P **P** **02 16 07.3 +0.1**
SRE Strehaia **95.41 316** ⇑P **P** **02 16 08.3 +0.7**
SRE Strehaia **95.41 316** P **P** **02 16 08.3 +0.7**
BAIL Bailesti **95.46 315** ⇑P **P** **02 16 08.4 +0.6**
VALD Valchedram **95.47 315** *i*P **P** **02 16 08.2 +0.4**
GZR Gura Zlata **95.54 317** ⇑P **P** **02 16 08.2 -0.1**
GZR Gura Zlata **95.54 317** P **P** **02 16 08.1 -0.1**
QSPA South Pole Qui **95.56 180** P **P** **02 16 10.7 +2.8**
QSPA IAmb IAmb 02 16 19.4
comp=Z,115nm,0.9s
QSPA South Pole Qui **95.56 180** P **P** **02 16 10.2 +2.4**
comp=Z,113nm,0.9s,baz=235,slow=0.4,SNR=155
QSPA PP **PP** **02 20 00.9 +1.3**
comp=Z,30nm,0.9s,baz=344,slow=4.6,SNR=6.3
QSPA S **SKSac** **02 26 36.1 0.0**
comp=Z,3.5nm,0.9s,baz=16,slow=23,SNR=13
QSPA PKKPbc **PKKPdf** **02 33 01.4 -0.8**
comp=Z,7.3nm,0.5s,baz=229,slow=1.3,SNR=14
QSPA PKPPKP **P'P'df** **02 41 10.5 0.0**
comp=Z,5.2nm,1.1s,baz=197,slow=3.7,SNR=4.2
QSPA LR LR 03 00 33.1
comp=Z,2µm,19.2s,baz=352,slow=36
comp=Z,113nm,0.9s
PUNG Punghina **95.69 315** ⇑P **P** **02 16 09.3 +0.4**
PLNA Plana **95.75 314** *i*P **P** **02 16 08.8 -0.5**
MBAR Mbarara **95.76 270** LR LR 02 59 23.3
comp=Z,1µm,19.9s,baz=76,slow=35
RMGR Halanga-Turnu **95.77 316** ⇑P **P** **02 16 09.9 +0.8**
BORR Bors **95.79 318** ⇓P **P** **02 16 09.7 +0.5**
OUR Ouranopolis **95.82 311** P **P** **02 16 08.1 -1.4**
VTS Vitosha **95.86 314** *i*P **P** **02 16 09.3 -0.5**
SURR Surduc **95.89 317** ⇑P **P** **02 16 09.4 -0.3**
RES Resolute Bay **95.97 10** LR LR 02 59 17.4
comp=Z,696nm,21.8s,baz=316,slow=35
RES Resolute Bay **95.97 10** P **P** **02 16 09.3 -0.1**
SIRR Siria **96.08 318** ⇑P **P** **02 16 10.4 -0.2**
KKB Krupnik **96.11 313** *i*P **P** **02 16 09.8 -1.0**
NIE Niedzica **96.13 321** *e*P **P** **02 16 11.4 +0.6**
NIE *e*pP **pP** **02 16 35.4 +2.4**
IDI Anoyia **96.15 306** P **P** **02 16 10.4 -0.8**
IDI Anoyia **96.15 306** LR LR 03 07 51.6
comp=Z,377nm,19.1s,baz=89,slow=41
HFS Hagfors **96.20 332** P **P** **02 16 10.0 -0.8**
comp=Z,154nm,0.8s,baz=105,slow=3.4,SNR=285
HFS PP **PP** **02 20 04.7 +0.2**
comp=Z,31nm,0.9s,baz=79,slow=7.7,SNR=4.2
HFS PKKPbc **PKKPbc** **02 32 57.7 -1.8**
comp=Z,11nm,0.6s,baz=203,slow=3.1,SNR=32
HFS LR LR 03 04 40.6
comp=Z,4µm,18.5s,baz=64,slow=39
comp=Z,154nm,0.8s
HFS Hagfors **96.20 332** P **P** **02 16 10.0 -0.8**
OJC Ojcow **96.22 322** *e*P **P** **02 16 11.3 +0.2**
OJC *e*pP **pP** **02 16 35.3 +1.9**
OJC Ojcow **96.22 322** P **P** **02 16 10.1 -1.0**
KECS Kecovo **96.27 320** *e*P **P** **02 16 11.4 0.0**
BZS Buzias **96.27 317** ⇓P **P** **02 16 11.1 -0.3**
BZS Buzias **96.27 317** P **P** **02 16 11.1 -0.3**
BANR Banloc **96.66 317** ⇓P **P** **02 16 13.5 +0.3**
BOVS Bovan **96.70 315** ⇑P **P** **02 16 12.8 -0.6**
LANS Liptovska Anna **96.73 321** *e*P **P** **02 16 14.5 +1.0**
POGA Pongola **96.79 243** IAmb IAmb 02 16 21.4
comp=Z,146nm,0.9s
PSZ Piszkesteto **96.80 320** ⇑P **P** **02 16 13.6 -0.3**
PSZ Piszkesteto **96.80 320** P **P** **02 16 13.6 -0.3**
NC303 NORSAR Array S **96.81 334** IAmb IAmb 02 16 14.8
comp=Z,129nm,0.8s
GKP Gorka Klasztor **96.81 325** *e*P **P** **02 16 13.6 -0.1**
GKP *e*pP **pP** **02 16 37.4 +1.3**
NB201 NORSAR Array S **96.91 334** IAmb IAmb 02 16 15.2
comp=Z,87nm,0.8s
NC602 NORSAR Array S **96.94 333** IAmb IAmb 02 16 16.6
comp=Z,70nm,0.9s
NC602 NORSAR Array S **96.94 333** *e*P **P** **02 16 11.3 -2.8**
NC602 IVmB_BB 02 16 16.5
comp=Z,1µm,2.2s
NC602 *e*PP **PP** **02 20 09.4 -0.6**
NC602 *e*SKSac **SKSac** **02 26 43.3 -0.1**
NC602 *e* 02 27 22.7
NC602 IVMs_BB IVMs_BB 02 58 08.2
comp=Z,2µm,30.7s
NB2 NORSAR Subarra **96.95 334** P **P** **02 16 12.9 -1.3**
comp=Z,128nm,0.7s,baz=65,slow=4.6
NB2 NORSAR Subarra **96.95 334** P **P** **02 16 12.9 -1.3**
comp=Z,128nm,0.7s,baz=65,slow=4.6
NB2 PKKP **PKKPbc** **02 32 55.9 -1.6**
comp=Z,5.6nm,0.7s,baz=232,slow=3.2
NOA NORSAR Array B **96.95 334** P **P** **02 16 12.9 -1.3**
comp=Z,112nm,0.7s,baz=65,slow=4.6,SNR=529
NOA PKKPbc **PKKPbc** **02 32 56.1 -1.4**
comp=Z,3.3nm,0.6s,baz=72,slow=3.0,SNR=21
NOA LR LR 03 04 34.3
comp=Z,2µm,18.1s,baz=65,slow=38
comp=Z,112nm,0.7s
LIT Litokhoron **96.98 311** IAmb IAmb 02 16 14.1
comp=Z,56nm,0.7s
NEEM North Greenlan **97.00 359** *i*P Pdif 02 16 14.7 +0.1
NEEM IAmb IAmb 02 16 16.3
comp=Z,97nm,0.8s
NBO00 NORSAR Array S **97.15 334** IAmb IAmb 02 16 16.3
comp=Z,69nm,0.8s
NAO01 NORSAR Array S **97.18 334** IAmb IAmb 02 16 16.3
comp=Z,166nm,0.8s
SKO Skopje **97.31 313** *i*P **P** **02 16 15.2 -1.0**
OKC Ostrava-Krasne **97.35 322** *e*PDIFF Pdif 02 16 17.1 +0.8
OKC *e*S **S** **02 27 32.2 -1.2**
OKC AMS AMS 03 06 20.0
comp=Z,2µm,19.2s
OKC Ostrava-Krasne **97.35 322** *i*P Pdif 02 16 17.1 +0.8
OKC *e*S **S** **02 27 32.2 -1.2**
OKC MLR MLR
comp=Z,2µm,19.2s
OZB Mount Ozzard **97.43 39** IAmb IAmb 02 16 18.7
comp=Z,122nm,1.2s
DOMB Dombas **97.44 335** *e*P **P** **02 16 15.8 -0.6**
DOMB IVmB_BB 02 16 16.4
comp=Z,1µm,2.4s
DOMB *e*PP **PP** **02 20 14.8 +0.9**
DOMB *e*SKSac **SKSac** **02 26 46.0 -0.1**
DOMB IVMs_BB IVMs_BB 02 52 33.2
comp=Z,1µm,4.7s
DEL Delary **97.51 329** *i*P **P** **02 16 16.7 -0.1**
STEB Steborice **97.55 322** *e*PDIFF Pdif 02 16 17.8 +0.6
DBG Daneborg **97.59 351** ⇓*i*P **P** **02 16 15.9 -0.8**
DBG IAmb IAmb 02 16 20.0
comp=Z,143nm,1.4s
BORU Boraas **97.62 330** *i*P **P** **02 16 17.0 -0.2**
OSL Oslo **97.64 333** *e*P **P** **02 16 15.8 -1.4**
OSL IVmB_BB 02 16 18.1
comp=Z,3µm,0.8s
OSL IVMs_BB IVMs_BB 03 00 11.9
comp=Z,2µm,20.8s
MAUC Maruska **97.69 321** *e*PDIFF Pdif 02 16 18.7 +0.8
MORC Moravsky Berou **97.74 322** IAmb IAmb 02 16 26.8
comp=Z,109nm,1.4s
MORC Moravsky Berou **97.74 322** *e*PDIFF Pdif 02 16 18.7 +0.6
MORC *e*pP pP 02 16 41.7 +1.4
MORC *e*PP **PP** **02 20 18.2 +1.5**
MORC *e*SKS **SKSac** **02 26 48.1 -0.1**
MORC *e*S **S** **02 27 36.5 -0.4**
MORC Moravsky Berou **97.74 322** ⇑P Pdif 02 16 18.8 +0.7
MORC Moravsky Berou **97.74 322** P Pdif 02 16 18.8 +0.7
STRU Stroemstad **97.81 332** *i*P **P** **02 16 17.6 -0.5**
MOL Molde **97.82 336** IVmB_BB 02 16 17.7
comp=Z,744nm,1.6s
MOL *e*P **P** **02 16 18.0 0.0**
MOL *e*PP **PP** **02 20 17.7 +0.9**
MOL *e*SKSac **SKSac** **02 26 49.1 +1.3**
MOL IVMs_BB IVMs_BB 02 52 26.5
comp=Z,768nm,22.4s
YKAW3 Yellowknife Wh **97.82 24** IAmb IAmb 02 16 20.0
comp=Z,168nm,1.4s
SRO Srobarova **97.85 320** *e*P Pdif 02 16 18.6 +0.1
YKA Yellowknife Ar **97.86 24** P **P** **02 16 18.1 -0.1**
comp=Z,26nm,0.9s,baz=300,slow=5.7,SNR=45
YKA PP **PP** **02 20 15.3 -1.7**
comp=Z,3.7nm,0.9s,baz=286,slow=5.8,SNR=3.8
YKA PKiKP **PKiKP** **02 20 52.4 +1.0**
comp=Z,2.3nm,0.6s,baz=292,slow=2.0,SNR=11
YKA PKKPbc **PKKPbc** **02 32 52.1 -2.8**
comp=Z,8.2nm,0.7s,baz=118,slow=2.0,SNR=26
YKA LR LR 03 03 07.7
comp=Z,1µm,20.1s,baz=288,slow=37
comp=Z,26nm,0.9s
YKA Yellowknife Ar **97.86 24** *i*P **P** **02 16 18.1 -0.1**
YKA pmax pmax
comp=Z,29nm,0.9s
JNW Jan Mayen West **97.88 346** *e*P **P** **02 16 17.8 -0.3**
JNW IVmB_BB 02 16 21.8
comp=Z,4µm,2.1s
JNW *e*SKSac **SKSac** **02 26 49.5 +1.6**
JNW IVMs_BB IVMs_BB 02 52 25.3
comp=Z,1µm,3.1s
FABU Falkenberg **97.89 330** *i*P **P** **02 16 18.1 -0.3**
YKAW1 Yellowknife Wh **97.91 24** IAmb IAmb 02 16 20.4
comp=Z,185nm,1.5s
JMIC Jan Mayen **97.93 346** LR LR 03 06 49.4
comp=Z,1µm,19.8s,baz=48,slow=39
JAVC Velka Javorina **97.94 321** *e*PDIFF Pdif 02 16 20.3 +1.3
JAVC *e*PP **PP** **02 20 24.6 +6.3**
JAVC *e*SKS **SKSac** **02 26 51.7 +2.4**
OHR Ohrid **97.99 313** *i*P **P** **02 16 18.2 -1.2**
TJOU Tjoern **98.02 331** *i*P **P** **02 16 18.7 -0.3**

JMI Jan Mayen 98.02 346 *e*P Pdif 02 16 20.2 +1.4
JMI *e*SKSac **SKSac 02 26 50.4 +1.8**
ITM Ithomi 98.08 309 IAmb IAmb 02 16 27.3
comp=Z,207nm,1.8s
BJUU Bjuv 98.10 329 *i* P **P 02 16 19.0 -0.4**
KRLC Kraliky 98.11 322 *e*PDIFF Pdif 02 16 20.3 +0.6
KRLC Kraliky 98.11 322 *i* P Pdif 02 16 20.3 +0.6
ONAU Onsala 98.13 330 *i* P **P 02 16 19.2 -0.3**
KSP Ksiaz 98.16 323 *e*P Pdif 02 16 20.3 +0.4
KSP *e*pP pP 02 16 44.4 +2.3
AKN Aaknes 98.23 336 *e*P **P 02 16 18.6 -1.3**
AKN IVmB_BB 02 16 21.2
comp=Z,1µm,0.7s
AKN *e*PP **PP 02 20 21.3 +1.3**
AKN *e*SKSac **SKSac 02 26 51.3 +1.2**
AKN IVMs_BB IVMs_BB 03 02 10.2
comp=Z,2µm,33.0s
KONO Kongsberg 98.28 333 P **P 02 16 19.7 -0.5**
KONO IAmb IAmb 02 16 21.4
comp=Z,91nm,0.9s
KONO Kongsberg 98.28 333 *e*P **P 02 16 19.2 -0.9**
KONO IAmb IAmb 02 16 22.3
comp=Z,91nm,0.9s
KONO *e*SKSac **SKSac 02 26 50.2 -0.2**
KONO IVMs_BB IVMs_BB 02 57 43.1
comp=Z,2µm,43.0s
KONO Kongsberg 98.28 333 P **P 02 16 19.7 -0.5**
KONO pmax pmax
comp=Z,91nm,0.9s
OSTC Ostas 98.30 323 *e*PDIFF Pdif 02 16 21.4 +0.9
OSTC AMS AMS 03 07 20.0
comp=Z,3µm,18.3s
OSTC Ostas 98.30 323 *i* P Pdif 02 16 21.4 +0.9
OSTC MLR MLR
comp=Z,3µm,18.3s
DPC Dobruska-Polom 98.30 323 *e*PDIFF Pdif 02 16 20.9 +0.3
DPC AMS AMS 03 07 20.0
comp=Z,3µm,18.6s
DPC Dobruska-Polom 98.30 323 *i* P Pdif 02 16 20.9 +0.3
DPC MLR MLR
comp=Z,3µm,18.6s
MODS Modra-Piesok 98.34 320 *i* P Pdif 02 16 21.2 +0.4
RUDO Rudo 98.35 315 *e*P **P 02 16 19.7 -1.2**
CHVC Chvalec 98.38 323 *e*PDIFF Pdif 02 16 21.6 +0.7
CHVC AMS AMS 03 00 50.0
comp=Z,3µm,24.8s
CHVC Chvalec 98.38 323 *i* P Pdif 02 16 21.6 +0.7
CHVC MLR MLR
comp=Z,3µm,24.8s
SKAR Skarslia 98.39 334 *e*P **P 02 16 20.0 -0.8**
SKAR IVmB_BB 02 16 22.1
comp=Z,624nm,1.0s
SKAR *e*SKSac **SKSac 02 26 50.6 -0.4**
SKAR IVMs_BB IVMs_BB 02 57 12.1
comp=Z,2µm,43.5s
UPC Upice 98.44 323 *e*PDIFF **P 02 16 21.1 0.0**
UPC *e*SKS **SKSac 02 26 49.7 -1.9**
UPC AMS AMS 03 00 50.0
comp=Z,3µm,25.1s
UPC Upice 98.44 323 *i* P **P 02 16 21.1 0.0**
UPC *e* 02 26 49.7
UPC MLR MLR
comp=Z,3µm,25.1s
VRAC Vranov 98.47 322 LR LR 03 06 26.3
comp=Z,2µm,18.6s,baz=71,slow=39
VRAC Vranov 98.47 322 *e*PDIFF Pdif 02 16 21.9 +0.6
VRAC *e*pP pP 02 16 44.8 +1.2
VRAC *e*PP **PP 02 20 25.4 +3.1**
VRAC *e*SKS **SKSac 02 26 50.2 -1.6**
VRAC *e*S **S 02 27 40.5 -2.5**
VRAC *e*sS sS 02 28 23.3 +2.5
VRAC Vranov 98.47 322 ⇓P Pdif 02 16 21.8 +0.5
VRAC Vranov 98.47 322 P Pdif 02 16 21.8 +0.5
ZST Bratislava 98.51 320 *i* P Pdif 02 16 23.2 +1.7
KRUC Moravsky 98.68 321 *e*PDIFF Pdif 02 16 22.6 +0.4
KRUC *e*pP pP 02 16 45.2 +0.7
KRUC *e*PP **PP 02 20 27.2 +3.4**
KRUC *e*SKS **SKSac 02 26 53.7 +0.9**
PDG Podgorica 98.75 314 ⇑P **P 02 16 22.1 -0.5**
NLWA Neilton Lookou 98.95 40 IAmb IAmb 02 16 26.0
comp=Z,135nm,1.3s
KLINJ Klinje 99.02 315 *e*P **Pdif 02 16 22.0 -2.0**
HYA Hoyanger 99.07 335 *e*P **Pdif 02 16 21.6 -2.0**
HYA IVmB_BB 02 16 48.9
comp=Z,1µm,3.2s
HYA *e*PP **PP 02 20 27.3 +1.0**
HYA *e*SKSac **SKSac 02 26 54.9 +0.7**
HYA IVMs_BB IVMs_BB 02 53 47.3
comp=Z,1µm,4.1s
WISH Wishkah 99.10 41 IAmb IAmb 02 16 27.0
comp=Z,216nm,1.3s
LLLB Lillooet 99.11 37 IAmb IAmb 02 16 26.4
comp=Z,113nm,1.2s
TREC Trest 99.16 322 *e*PDIFF **Pdif 02 16 25.1 +0.7**
TREC AMS AMS 03 04 00.0
comp=Z,2µm,22.9s
TREC Trest 99.16 322 *i* P **Pdif 02 16 25.1 +0.7**
TREC MLR MLR
comp=Z,2µm,22.9s
RONA Rosalia, Austr 99.18 320 *e*Pdiff **Pdif 02 16 24.2 -0.3**
comp=Z,24nm,1.3s
RONA *e*PP **PP 02 20 34.4 +6.6**
comp=Z,16nm,1.1s
RONA *e*SKS **SKSac 02 26 53.7 -1.9**
comp=Z,6.3nm,1.4s
RONA *e*PKKP **PKKPbc 02 32 45.5 -5.4**
comp=Z,6.2nm,1.4s
BEHE Becsehely 99.26 319 *e*P **Pdif 02 16 23.1 -1.8**
PVCC Panska Ves 99.29 323 *e*PDIFF **Pdif 02 16 25.6 +0.7**
PVCC AMS AMS 03 01 10.0
comp=Z,3µm,22.8s
PVCC Panska Ves 99.29 323 *i* P **Pdif 02 16 25.6 +0.7**
PVCC MLR MLR
comp=Z,3µm,22.8s
RADR Rader Ridge 99.30 41 IAmb IAmb 02 16 27.5
comp=Z,198nm,1.4s
TREB Trebinje 99.32 315 ⇑*i*P **Pdif 02 16 23.9 -1.3**
CONA Conrad Observa 99.39 320 *i* Pdiff **Pdif 02 16 25.7 +0.2**
comp=Z,53nm,2.0s
CONA *e*PP **PP 02 20 36.7 +7.4**
comp=Z,26nm,1.2s
CONA *e*SKS **SKSac 02 26 54.9 -1.7**
comp=Z,6.5nm,1.4s
CONA *i* PKKP **PKKPbc 02 32 42.9 -7.4**
comp=Z,6.5nm,1.0s
HOMB Homborsund 99.41 332 IVmB_BB 02 16 26.1
comp=Z,959nm,1.4s
HOMB *e*P **Pdif 02 16 26.4 +1.2**
HOMB *e*SKSac **SKSac 02 26 54.2 -1.8**
HOMB IVMs_BB IVMs_BB 02 59 52.8
comp=Z,2µm,28.4s
HOMB Homborsund 99.41 332 *i* P **Pdif 02 16 24.8 -0.3**
MATP Matopo 99.41 250 LR LR 02 58 42.9
comp=Z,1µm,20.7s,baz=72,slow=34
E03A Lebam 99.42 41 IAmb IAmb 02 16 28.4
comp=Z,107nm,1.1s
LSZ Lusaka 99.44 256 LR LR 02 59 36.8
comp=Z,2µm,20.4s,baz=97,slow=34
ODD1 Odda 99.49 334 *e*P **Pdif 02 16 23.8 -1.8**
PRU Pruhonice 99.50 323 *e*PDIFF **Pdif 02 16 26.5 +0.7**
PRU *e*S **S 02 27 49.7 -1.9**
PRU AMS AMS 03 07 30.0
comp=Z,3µm,18.5s
PRU Pruhonice 99.50 323 *i* P **Pdif 02 16 26.5 +0.7**
PRU *e*S **S 02 27 49.7 -1.9**
PRU MLR MLR
comp=Z,3µm,18.5s
BLY Banja Luka 99.52 317 ⇑*i*P **Pdif 02 16 25.1 -1.0**
BLY Banja Luka 99.52 317 ⇑P **Pdif 02 16 26.4 +0.3**
PRA Prague 99.54 323 AMS AMS 03 01 10.0
comp=Z,3µm,25.1s
BRG Berggiesshubel 99.54 324 ⇓*e*Pif 02 16 26.6
BRG Amp 02 16 29.4
comp=Z,48nm,0.8s
BRG Berggiesshubel 99.54 324 P **Pdif 02 16 33.6 +7.6**
BRG Amp 02 16 35.4
comp=Z,90nm,1.2s
BRG Berggiesshubel 99.54 324 ⇓Sif 02 27 52.0
BRG Berggiesshubel 99.54 324 SP SP 02 29 27.0 +8.2
BRG PKKP 02 32 48.3
BRG Amp 02 32 51.7
comp=Z,8.3nm,1.1s
BRG Berggiesshubel 99.54 324 SS SS 02 34 50.0 +6.5
MOSL Moslavina 99.55 318 ⇑*i*P **Pdif 02 16 24.7 -1.5**

RICC Richard 99.57 323 *e*PDIFF **Pdif 02 16 26.7 +0.6**
RICC AMS AMS 03 02 00.0
comp=Z,3µm,26.5s
KOGS Kog 99.62 319 *i* Pdiff **Pdif 02 16 26.5 0.0**
KOGS *e*SKSac **SKSac 02 26 55.7 -1.9**
SUE Sulen 99.72 335 *e*P **Pdif 02 16 27.4 +0.9**
SUE IVmB_BB 02 16 37.3
comp=Z,2µm,3.9s
SUE *e*SKSac **SKSac 02 27 00.1 +2.6**
SUE IVMs_BB IVMs_BB 02 54 45.4
comp=Z,3µm,4.2s
STON Ston 99.73 315 ⇑*i*P **Pdif 02 16 24.6 -2.4**
BLS5 Blasjo 99.80 333 *e*P **Pdif 02 16 26.0 -1.0**
BLS5 IVmB_BB 02 16 28.3
comp=Z,3µm,0.8s
BLS5 *e*SKSac **SKSac 02 26 59.0 +1.0**
BLS5 IVMs_BB IVMs_BB 02 58 11.2
comp=Z,2µm,13.2s
BER Bergen 99.82 334 *e*P **Pdif 02 16 25.7 -1.3**
BER IVmB_BB 02 16 28.6
comp=Z,588nm,1.0s
BER *e*SKSac **SKSac 02 27 00.8 +2.9**
BER IVMs_BB IVMs_BB 02 57 50.9
comp=Z,2µm,4.5s
ARSA Arzberg 99.83 320 *e*Pdiff **Pdif 02 16 27.6 +0.2**
comp=Z,25nm,1.2s
ARSA *e*PP **PP 02 20 40.2 +7.6**
comp=Z,6.6nm,0.9s
ARSA *e*SKS **SKSac 02 26 57.8 -0.8**
comp=Z,10nm,1.6s
ARSA *e*PKKP PKKPbc 02 32 39.2 -10
comp=Z,8.5nm,1.2s
ASK Askoy 99.83 335 *e*P **Pdif 02 16 26.7 -0.3**
ASK *e*SKSac **SKSac 02 26 57.3 -0.7**
ASK IVMs_BB IVMs_BB 03 00 27.4
comp=Z,2µm,4.2s
MUD Monsted U'grnd 99.90 330 *i* P **Pdif 02 16 26.9 -0.5**
MUD *i* P **Pdif 02 16 27.0 -0.5**
MUD IAmb IAmb 02 16 29.5
comp=Z,66nm,1.2s
ZVC Zvikov 99.91 322 *e*PDIFF **Pdif 02 16 28.3 +0.6**
CLL Collm 99.93 324 *i* P **Pdif 02 16 27.8 +0.1**
CLL *e* 02 26 57.0
CLL *e*S **S 02 27 53.0 -2.2**
CLL pmax pmax
comp=Z,137nm,1.5s
SNART Snartemo 99.98 332 *e*P **Pdif 02 16 29.2 +1.4**
SNART Snartemo 99.98 332 *i* P **Pdif 02 16 27.3 -0.4**
CKRC Cesky Krumlov 100.05 322 *e*PDIFF **Pdif 02 16 28.8 +0.4**
CKRC *e*PP **PP 02 20 41.9 +7.6**
CKRC *e*SKS **SKSac 02 26 59.4 -0.3**
CKRC *e*S SKKSac 02 27 52.2 +19
CKRC AMS AMS 03 06 40.0
comp=Z,2µm,20.2s
CKRC Cesky Krumlov 100.05 322 *i* P **Pdif 02 16 28.8 +0.4**
CKRC *e* 02 20 41.9
CKRC *e* 02 26 59.4
CKRC *e*S **Sdif 02 27 52.2 -4.2**
CKRC MLR MLR
comp=Z,2µm,20.2s
RKT Rikitea 100.05 112 *e*S **Sdif 02 27 49.0 -8.2**
comp=Z,11µm,27.0s
RKT *e*SS **SS 02 34 48.6 -4.0**
comp=Z,17µm,31.5s
RKT *e*LQ LQ 02 44 46.5
comp=Z,30µm,37.8s
RKT *e*LR LR 02 49 04.3
comp=Z,21µm,35.8s
SSRD Sdr. Stenderup 100.09 329 *i* P **Pdif 02 16 27.3 -1.0**
KIJV Kijevo 100.28 316 *e*P **Pdif 02 16 28.5 -1.0**
SOKA Soboth 100.33 319 *i* Pdiff **Pdif 02 16 29.6 -0.1**
comp=Z,24nm,1.1s,SNR=14
SOKA *i* PP **PP 02 20 39.1 +2.6**
comp=Z,48nm,1.3s
SOKA *e*SKS **SKSac 02 26 59.8 -1.6**
comp=Z,7.4nm,1.7s
SOKA *e*PKKP **PKKPbc 02 32 47.1 -0.5**
comp=Z,7.1nm,0.8s,SNR=5.0
SOKA Soboth 100.33 319 P **PKKPbc 02 32 47.1 -0.5**
comp=Z,7.1nm,0.8s,SNR=5.0
KHC Kasperske Hory 100.39 322 *e*PDIFF **Pdif 02 16 30.3 +0.4**
KHC *ex* x 02 16 49.0
KHC *e*SKS **SKSac 02 26 59.4 -2.0**
KHC *e*S SKKSac 02 27 55.8 +20
KHC *e*PKKP **PKKPbc 02 32 45.0 -2.5**
KHC AMS AMS 03 00 10.0
comp=Z,3µm,25.0s
KHC Kasperske Hory 100.39 322 *i* P **Pdif 02 16 30.3 +0.4**
KHC *e* 02 26 59.4
KHC *e*S **Sdif 02 27 55.8 -3.4**
KHC MLR MLR
comp=Z,3µm,25.0s
OZLJ Ozalj 100.40 318 *e*P **Pdif 02 16 29.6 -0.3**
GERES GERESS Array B 100.42 322 P **Pdif 02 16 29.9 -0.1**
comp=Z,12nm,0.8s,baz=65,slow=3.5,SNR=85
GERES PKiKP **PKiKP 02 20 57.7 +1.2**
comp=Z,7.0nm,0.6s,baz=64,slow=2.9,SNR=12
GERES PKKPbc **PKKPbc 02 32 44.6 -2.8**
comp=Z,3.7nm,0.9s,baz=253,slow=1.4,SNR=9.3
GERES GERESS Array B 100.42 322 P **Pdif 02 16 30.0 -0.1**
MOA Molln 100.42 321 *i* Pdiff **Pdif 02 16 30.2 +0.2**
comp=Z,49nm,1.0s,SNR=24
MOA *i* PP PP 02 20 46.8 +10
comp=Z,31nm,1.2s
MOA *e*SKS **SKSac 02 26 58.8 -2.8**
comp=Z,13nm,2.4s
MOA *e*PKKP **PKKPbc 02 32 45.8 -1.5**
comp=Z,9.1nm,0.8s,SNR=6.4
MOA Molln 100.42 321 *e*P **PKKPbc 02 32 45.8 -1.5**
comp=Z,9.1nm,0.8s,SNR=6.4
KMY Karmoy 100.45 333 *e*P **Pdif 02 16 28.3 -1.5**
KMY IVmB_BB 02 16 33.2
comp=Z,2µm,1.9s
KMY *e*SKSac **SKSac 02 27 04.2 +3.1**
KMY IVMs_BB IVMs_BB 02 58 26.0
comp=Z,2µm,34.3s
MREMI Moremi 100.47 248 *i* P **Pdif 02 16 29.4 -1.4**
BROLN Tlhalogang 100.52 250 *i* P **Pdif 02 16 29.7 -1.5**
OBKA Obir 100.70 319 *i* Pdiff **Pdif 02 16 31.2 -0.2**
comp=Z,11nm,0.8s,SNR=6.6
OBKA *i* PP **PP 02 20 43.1 +3.7**
comp=Z,33nm,1.3s
OBKA *i* SKS **SKSac 02 27 03.1 -0.1**
comp=Z,25nm,2.5s
OBKA *i* PKKP **PKKPbc 02 32 46.5 0.0**
comp=Z,12nm,1.0s,SNR=6.8
OBKA Obir 100.70 319 *e*P **PKKPbc 02 32 46.5 0.0**
comp=Z,12nm,1.0s,SNR=6.8
BIOA Bad Ischl, Aus 100.87 321 *i* Pdiff **Pdif 02 16 32.3 +0.2**
comp=Z,39nm,1.4s
BIOA *i* PKiKP PKiKP 02 20 49.3 -8.0
comp=Z,19nm,1.3s
BIOA *e*SKS **SKSac 02 27 03.1 -0.7**
comp=Z,21nm,1.7s
BIOA *i* PKKP **PKKPbc 02 32 44.6 -1.4**
comp=Z,8.1nm,0.6s,SNR=6.4
BIOA Bad Ischl, Aus 100.87 321 *e*P **PKKPbc 02 32 44.6 -1.4**
comp=Z,8.1nm,0.6s,SNR=6.4
LJU Ljubljana 100.88 319 *i* Pdiff **Pdif 02 16 32.3 +0.2**
LJU *i* pPdiff pP 02 16 54.8 +0.3
LJU *i* sPdiff sP 02 17 04.3 +1.0
LJU *e*PP **PP 02 20 44.1 +3.5**
LJU *ep*PP 02 21 02.0
LJU *i* 02 27 38.1
LJU *e*Sdiff 02 27 59.7
LJU *ep*Sdiff **pS 02 28 33.0 +1.1**
LJU *e* 02 28 45.5
LJU *e*SS **SS 02 35 04.1 +1.7**
LJU *e* 02 45 02.6
CEY Cerknica 101.05 319 *i* P **Pdif 02 16 32.5 -0.4**
CEY *e*PP **PP 02 20 45.1 +3.2**
CEY *e*SKSac **SKSac 02 27 03.4 -1.3**
MYKA Terra Mystica 101.25 320 *i* Pdiff **Pdif 02 16 33.6 -0.2**
comp=Z,4.2nm,0.8s
MYKA *i* PKiKP **PKiKP 02 20 52.5 -5.6**
comp=Z,15nm,1.0s
MYKA *i* SKS **SKSac 02 27 04.1 -1.6**
comp=Z,21nm,1.4s
MYKA *i* PKKP **PKKPbc 02 32 43.2 -1.7**
comp=Z,13nm,0.7s
KBA Koelnbreinsper 101.28 320 *i* Pdiff **Pdif 02 16 33.5 -0.6**
comp=Z,12nm,0.9s
KBA *e*PKiKP **PKiKP 02 20 54.6 -3.7**
comp=Z,20nm,1.0s
KBA *e*SKS **SKSac 02 27 04.6 -1.5**
comp=Z,13nm,1.0s
KBA *i* PKKP PKKPbc 02 32 34.6 -10
comp=Z,7.9nm,1.1s
SUMG Summit 101.31 355 P **Pdif 02 16 31.6 -2.4**
SUMG Summit 101.31 355 *i* P **Pdif 02 16 33.5 -0.4**
SOOWA Sowa 101.55 250 *i* P **Pdif 02 16 35.5 -0.2**
LESA Schwarzleotal 101.58 321 *i* Pdiff **Pdif 02 16 34.9 -0.3**
comp=Z,35nm,0.9s,SNR=19
LESA *e*PP **PP 02 20 51.4 +5.5**
comp=Z,27nm,1.6s
LESA *i* SKS **SKSac 02 27 03.9 -3.4**
comp=Z,27nm,1.1s
LESA *i* PKKP **PKKPbc 02 32 43.3 -0.7**
comp=Z,18nm,0.7s
ABTA Abfaltersbach 101.93 320 *i* Pdiff **Pdif 02 16 36.1 -0.7**
comp=Z,9.2nm,0.7s,SNR=9.7
ABTA *e*PP **PP 02 20 51.5 +2.9**
comp=Z,20nm,1.3s
ABTA *i* SKS **SKSac 02 27 07.5 -1.6**
comp=Z,22nm,1.3s
ABTA *i* PKKP **PKKPbc 02 32 43.0 0.0**
comp=Z,17nm,1.0s
LPHEP Lephephe 101.95 247 *i* P **Pdif 02 16 36.4 -1.0**
WTTA Wattenberg 102.29 321 *i* Pdiff **Pdif 02 16 38.3 -0.3**
comp=Z,17nm,0.7s,SNR=10
WTTA *e*PKiKP **PKiKP 02 20 56.6 -3.6**
comp=Z,42nm,1.1s
WTTA *e*SKS **SKSac 02 27 08.4 -2.5**
comp=Z,17nm,1.1s
WTTA *i* PKKP **PKKPbc 02 32 42.5 +0.4**
comp=Z,5.4nm,0.7s,SNR=5.5
WTTA Wattenberg 102.29 321 *e*P **PKKPbc 02 32 42.5 +0.4**
comp=Z,5.4nm,0.7s,SNR=5.5
KHWEE KHWEE 102.30 249 *i* P **Pdif 02 16 38.3 -0.8**
WATA Walderalm 102.30 321 *i* Pdiff **Pdif 02 16 38.1 -0.4**
comp=Z,11nm,0.7s
WATA *i* PP **PP 02 20 55.6 +4.2**
comp=Z,38nm,1.4s
WATA *i* SKS **SKSac 02 27 08.5 -2.4**
comp=Z,28nm,1.5s
WATA *i* PKKP **PKKPbc 02 32 42.5 +0.5**
comp=Z,6.0nm,0.7s
KSANE Kasane 102.46 253 *i* P **Pdif 02 16 39.2 -0.6**
BOSA Boshof 102.53 242 P **Pdif 02 16 40.2 +0.3**
comp=Z,4.7nm,0.8s,baz=77,slow=5.0,SNR=8.3
BOSA PKiKP **PKiKP 02 21 01.9 +0.9**
comp=Z,5.6nm,0.8s,baz=102,slow=2.1,SNR=8.8
BOSA PKKPbc **PKKPbc 02 32 41.4 +0.7**
comp=Z,7.3nm,0.7s,baz=276,slow=4.1,SNR=14
SQTA Sankt Quirin 102.58 321 *i* Pdiff **Pdif 02 16 39.1 -0.7**
comp=Z,17nm,1.0s,SNR=12
SQTA *i* PP **PP 02 20 56.8 +3.4**
comp=Z,21nm,1.3s
SQTA *i* SKS **SKSac 02 27 11.0 -1.2**
comp=Z,45nm,1.9s
SQTA *i* PKKP **PKKPbc 02 32 40.3 -0.8**
comp=Z,8.1nm,0.9s
MOTA Moosalm 102.60 321 *i* Pdiff **Pdif 02 16 39.8 -0.1**
comp=Z,14nm,0.9s,SNR=13
MOTA *i* PP **PP 02 20 56.9 +3.3**
comp=Z,22nm,1.1s
MOTA *e*SKS **SKSac 02 27 10.4 -1.9**
comp=Z,28nm,1.0s
MOTA *i* PKKP **PKKPbc 02 32 41.0 -0.2**
comp=Z,11nm,0.9s
RETA Reutte 102.75 321 *i* Pdiff **Pdif 02 16 40.2 -0.3**
comp=Z,3.7nm,0.8s
RETA *i* PKiKP **PKiKP 02 20 59.1 -1.7**
comp=Z,14nm,0.9s
RETA *e*SKS **SKSac 02 27 12.4 -0.4**
comp=Z,28nm,1.5s
AQU L'Aquila 102.90 316 P **Pdif 02 16 38.5 -2.7**
AQU PKP **PKiKP 02 21 00.9 -0.3**
AQU L'Aquila 102.90 316 ⇑*i*P **Pdif 02 16 41.0 -0.2**
FETA Feichten 102.96 321 *i* Pdiff **Pdif 02 16 41.6 +0.1**
comp=Z,14nm,0.9s,SNR=10
FETA *i* PKiKP **PKiKP 02 21 00.0 -1.3**
comp=Z,28nm,1.4s
FETA *e*SKS **SKSac 02 27 16.3 +2.3**
comp=Z,35nm,2.2s
FETA *i* PKKP **PKKPbc 02 32 42.4 +2.3**
comp=Z,16nm,1.1s
KDWAN Kaudwane 103.05 247 *i* P **Pdif 02 16 40.4 -2.0**
DAVA Damuels 103.38 321 *i* Pdiff **Pdif 02 16 43.7 +0.3**
comp=Z,16nm,0.9s
DAVA *i* PP **PP 02 20 59.9 +0.4**
comp=Z,18nm,0.6s
DAVA *e*SKS **SKSac 02 27 12.2 -3.8**
comp=Z,12nm,1.1s
DAVA *i* PKKP **PKKPbc 02 32 39.7 +0.9**
comp=Z,11nm,1.2s
SKOMA Sekoma 103.72 246 *i* P **Pdif 02 16 45.3 0.0**
BTNL Ternell 104.18 325 *d*Pdif **Pdif 02 16 49.1 +2.4**
comp=Z,21nm,1.0s
MEM Membach 104.24 325 *d*Pdif **Pdif 02 16 48.7 +1.8**
VLC Villacollemand 104.30 318 PKP **PKiKP 02 20 56.5 -7.1**
BEBN Eben Emael 104.33 326 *d*Pdif **Pdif 02 16 49.2 +1.9**
BSTI Sart Tilman 104.50 326 *d*P **Pdif 02 16 49.3 +1.3**
comp=Z,8.0nm,1.0s
WLF Walferdange 104.59 325 P **Pdif 02 16 51.5 +3.0**
WLF Walferdange 104.59 325 *d*Pdif **Pdif 02 16 50.4 +1.9**
comp=Z,26nm,0.9s
BGES Gesves 104.86 326 *d*Pdif **Pdif 02 16 52.1 +2.4**
RCHB Rochefort 104.89 325 *d*Pdif **Pdif 02 16 50.3 +0.5**
comp=Z,22nm,1.1s
UCC Uccle 105.07 326 *d*P **Pdif 02 16 51.5 +0.9**
BMRD Maredsous 105.08 326 *d*Pdif **Pdif 02 16 51.4 +0.7**
BMRD *d*PKiKP **PKiKP 02 21 06.0 +1.2**
DOU Dourbes 105.28 325 *d*Pdif **Pdif 02 16 53.0 +1.4**
comp=Z,22nm,1.1s
DOU *d*PKiKP **PKiKP 02 21 04.1 -1.1**
KGCAE Kacgae 105.31 248 *i* P **Pdif 02 16 51.5 -0.9**
TROLL Troll, Antarti 105.42 196 PKKPab **PKKPab 02 32 47.6 -0.7**
TROLL ⇑Pdiff **Pdif 02 16 53.3 +1.5**
comp=Z,282nm,0.7s
TROLL ⇓PKiKP **PKiKP 02 21 06.5 +1.4**
comp=Z,313nm,0.5s
TROLL ⇑PP **PP 02 21 14.6 +0.6**
TROLL ⇓SKSac **SKSac 02 27 24.6 +0.5**
TROLL ⇓PKKPbc **PKKPbc 02 32 29.8 -3.8**
comp=Z,313nm,0.8s
NVAR Mina Array Bea 105.81 48 Pdiff **Pdif 02 16 54.5 0.0**
comp=Z,12nm,0.8s,baz=269,slow=5.1,SNR=32
NVAR PKiKP **PKiKP 02 21 08.1 +1.2**
comp=Z,2.3nm,0.7s,baz=304,slow=3.1,SNR=3.7
NVAR PKKPbc **PKKPbc 02 32 32.2 +0.9**
comp=Z,4.5nm,0.7s,baz=139,slow=5.0,SNR=14
NVAR PKKPab **PKKPab 02 32 47.5 -0.7**
comp=Z,6.5nm,0.7s,baz=142,slow=4.7,SNR=9.6
EKA Eskdalemuir Ar 106.40 333 Pdiff **Pdif 02 16 56.9 +0.5**
comp=Z,4.2nm,0.6s,baz=48,slow=1.9,SNR=18
EKA PKiKP **PKiKP 02 21 08.3 +1.2**
comp=Z,1.9nm,0.5s,baz=25,slow=2.8,SNR=7.9
EKA PKKPbc **PKKPbc 02 32 27.9 -2.0**
comp=Z,6.2nm,0.5s,baz=243,slow=3.7,SNR=30
SNAA Sanae 107.00 195 PKKPab **PKKPdf 02 32 40.0 -0.6**
SNAA ⇑Pdiff **Pdif 02 17 00.3 +1.5**
comp=Z,164nm,0.8s
SNAA ⇓PKiKP **PKiKP 02 21 08.6 +0.7**
comp=Z,54nm,0.5s
SNAA ⇑PP **PP 02 21 26.2 +0.6**
SNAA ⇓SKSac **SKSac 02 27 30.2 -0.7**
SNAA ⇓PKKPbc **PKKPbc 02 32 25.1 -3.5**
comp=Z,217nm,0.7s
SNAA Sanae 107.00 195 Pdiff **Pdif 02 17 00.2 +1.5**
comp=Z,2.7nm,0.6s,baz=154,slow=4.9,SNR=28
SNAA PKiKP **PKiKP 02 21 09.0 +1.1**
comp=Z,15nm,1.0s,baz=141,slow=3.7,SNR=3.8
SNAA PKKPbc **PKKPbc 02 32 24.8 -3.8**
comp=Z,9.9nm,0.9s,baz=327,slow=2.6,SNR=14
SNAA PKKPab **PKKPdf 02 32 40.6 0.0**
comp=Z,16nm,0.8s,baz=297,slow=5.7,SNR=13
KEST Kesra 108.19 310 Pdiff **Pdif 02 17 04.6 -0.4**
comp=Z,1.9nm,0.8s,baz=14,slow=4.2,SNR=5.0
KEST PKiKP **PKiKP 02 21 12.1 +0.9**
comp=Z,7.3nm,0.9s,baz=359,slow=1.0,SNR=3.8
KEST PKKPbc **PKKPbc 02 32 23.4 -0.3**
comp=Z,4.7nm,0.7s,baz=227,slow=3.5,SNR=8.4
VNA2 Neumayer--Watz 108.62 194 PKKPab **PKKPab 02 32 33.1 -0.8**
VNA2 ⇑Pdiff **Pdif 02 17 06.6 +0.7**
comp=Z,7.3nm,0.6s,baz=130,slow=4.5
VNA2 ⇓PKiKP **PKiKP 02 21 11.9 +1.1**
comp=Z,55nm,0.6s,baz=114,slow=1.7
VNA2 ⇑PP **PP 02 21 37.9 +0.6**
baz=132,slow=2.3
VNA2 ⇓SKSac **SKSac 02 27 36.8 -1.1**
baz=70,slow=32

VNA2				⇓PKKPbc	**PKKPbc**	**02 32 19.8**	**-3.5**
	comp=Z,7.4nm,0.7s,baz=317,slow=4.4							
VNA3	**Neumayer Olymp**	**108.96 194**		PKKPab	**PKKPab**	**02 32 31.6**	**-0.8**
VNA3				⇑Pdiff	**Pdif**	**02 17 09.0**	**+1.6**
	comp=Z,7.1nm,0.8s							
VNA3				⇓PKiKP	**PKiKP**	**02 21 12.5**	**+1.0**
	comp=Z,4.9nm,0.5s							
VNA3				⇑PP	**PP**	**02 21 40.1**	**+0.3**
VNA3				⇓SKSac	**SKSac**	**02 27 38.7**	**-0.6**
VNA3				⇓PKKPbc	**PKKPbc**	**02 32 19.1**	**-3.3**
	comp=Z,8.4nm,0.6s							
VNA1	**Neumayer--Stat**	**109.02 195**		⇓PKKPbc	**PKKPbc**	**02 32 18.1**	**-3.9**
	comp=Z,11nm,0.7s							
VNA1				⇓Pdiff	**Pdif**	**02 17 11.2**	**+3.5**
	comp=Z,7.5nm,0.8s							
VNA1				⇓PKiKP	**PKiKP**	**02 21 12.9**	**+1.4**
	comp=Z,2.7nm,0.6s							
VNA1				⇓PP	**PP**	**02 21 41.1**	**+1.0**
PDAR	**Pinedale Array**	**110.07 41**		Pdiff	**Pdif**	**02 17 13.5**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=184,slow=2.4,SNR=6.2							
PDAR				PKiKP	**PKiKP**	**02 21 15.5**	**+0.8**
	comp=Z,5.7nm,0.7s,baz=343,slow=1.5,SNR=13							
PDAR				PKKPbc	**PKKPbc**	**02 32 15.8**	**-2.3**
	comp=Z,2.0nm,0.6s,baz=122,slow=4.9,SNR=9.0							
PDAR				PKKPab	**PKKPab**	**02 32 26.8**	**-2.5**
	comp=Z,6.2nm,0.6s,baz=122,slow=6.1,SNR=16							
PDAR				PKPPKP	**P'P'df**	**02 40 45.3**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=128,slow=2.0,SNR=3.9							
CTGD	**Timgad**	**110.39 311**		P	**PKiKP**	**02 21 16.4**	**+1.0**
SET	**Setif**	**110.97 312**		P	PKiKP	02 21 01.0	-15
CKTS	**El Kantara**	**111.14 311**		P	**PKiKP**	**02 21 14.2**	**-2.5**
CAZD	**Ain Tagrout**	**111.16 312**		P	**PKiKP**	**02 21 17.6**	**+0.8**
CTCHA	**Tamokra**	**111.42 313**		P	PKiKP	02 20 50.2	-27
ABSD	**Ouled Sidi Bra**	**112.17 312**		P	**PKiKP**	**02 21 17.6**	**-1.1**
ULM	**Lac du Bonnet**	**113.39 28**		PKiKP	**PKiKP**	**02 21 20.5**	**0.0**
	comp=Z,24nm,0.6s,baz=321,slow=1.4,SNR=32							
ULM				PKKPbc	**PKKPbc**	**02 32 05.2**	**-2.0**
	comp=Z,3.8nm,0.7s,baz=111,slow=2.7,SNR=4.7							
ECHE	**Chera**	**113.91 318**		PKP	**PKiKP**	**02 21 21.9**	**+0.1**
ETOB	**Tobarra**	**114.77 317**		PKP	**PKiKP**	**02 21 21.9**	**-1.7**
CART	**Cartagena**	**114.93 316**		PKP	PKPdf	02 21 28.7	+2.9
EMUR	**La Murta**	**114.97 316**		PKP	PKPdf	02 21 25.8	+1.8
EDA	**Edea**	**115.71 277**			**PKPdf**	**02 21 25.6**	**-0.3**
ESDC	**Sonseca Array**	**115.84 319**			**PKPdf**	**02 21 25.9**	**+0.3**
ESDC	**Sonseca Array**	**115.84 319**		Pdiff	**Pdif**	**02 17 40.8**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=42,slow=3.3,SNR=4.3							
ESDC				PKPdf	**PKPdf**	**02 21 26.3**	**+0.7**
	comp=Z,4.3nm,0.6s,baz=22,slow=1.7,SNR=35							
ESDC				PKKPbc	**PKKPbc**	**02 31 57.6**	**-0.9**
	comp=Z,17nm,1.0s,baz=268,slow=2.3,SNR=11							
PAB	**San Pablo**	**116.16 319**			**PKiKP**	**02 21 27.2**	**+0.9**
PAB	**San Pablo**	**116.16 319**		PKiKP	**PKiKP**	**02 21 27.2**	**+0.9**
PBGG	**Braganca**	**116.38 323**		*e*PKP	**PKiKP**	**02 21 29.7**	**+3.1**
MVO	**Moncorvo**	**116.93 322**		*e*PKP	**PKiKP**	**02 21 29.1**	**+1.4**
MVO				*e*PP	**PP**	**02 22 43.0**	**+5.9**
MVO				*e*Sdif	Sdif	02 30 22.8	+5.2
MVO				*e*SS	**SS**	**02 38 44.7**	**+6.5**
MVO				*e*LR	LR	02 59 58.1	
MVO				*i* IAMs_20	IAMs_20	03 18 02.0	
	comp=Z,1μm,20.0s							
PGAV	**Gavieira, Arco**	**117.20 323**		*e*PKP	**PKiKP**	**02 21 29.0**	**+0.8**
PGAV				*e*PP	**PP**	**02 22 41.1**	**+2.1**
PGAV				*e*Sdif	Sdif	02 30 23.1	+3.1
PGAV				*e*SS	**SS**	**02 38 49.4**	**+7.7**
PGAV				*e*LR	LR	02 58 36.6	
PGAV				*i* IAMs_20	IAMs_20	03 16 00.0	
	comp=Z,2μm,24.0s							
PCAB	**Cabril**	**117.21 323**		*e*PKP	**PKiKP**	**02 21 29.2**	**+1.1**
POLO	**Lamas de Olo**	**117.27 323**		*e*PKP	**PKiKP**	**02 21 29.5**	**+1.2**
PVRL	**Vila Real**	**117.28 323**		*e*PKP	**PKiKP**	**02 21 29.7**	**+1.4**
MTE	**Manteigas**	**117.70 322**		*e*PKP	**PKiKP**	**02 21 30.6**	**+1.4**
MTE				*e*PP	**PP**	**02 22 45.4**	**+2.9**
MTE				*e*Sdif	Sdif	02 30 32.7	+8.7
MTE				*e*SS	SS	02 39 02.5	+14
MTE				*e*LR	LR	03 00 08.7	
MTE				*i* IAMs_20	IAMs_20	03 18 36.1	
	comp=Z,1μm,18.0s							
EMAL	**Malaga-Limoner**	**117.70 317**		PKP	**PKPdf**	**02 21 26.7**	**-2.5**
PVIS	**Viseu**	**117.73 322**		*e*PKP	**PKiKP**	**02 21 30.4**	**+1.2**
PCBR	**Castelo Branco**	**117.98 321**		*e*PKP	**PKiKP**	**02 21 30.9**	**+1.3**
PMRV	**Marv??o**	**118.17 321**		*e*PKP	**PKiKP**	**02 21 31.1**	**+1.0**
PMRV				*e*PP	**PP**	**02 22 51.4**	**+5.7**
PMRV				*e*SS	SS	02 38 58.3	+4.0
PMRV				*e*LR	LR	03 00 43.6	
PMRV				*i* IAMs_20	IAMs_20	03 14 25.2	
	comp=Z,1μm,20.0s							
COI	**Coimbra**	**118.35 322**			**PKPdf**	**02 21 30.1**	**-0.2**
COI	**Coimbra**	**118.35 322**		*e*PKP	**PKiKP**	**02 21 30.9**	**+0.6**
COI	**Coimbra**	**118.35 322**		PKIKP	**PKPdf**	**02 21 30.1**	**-0.2**
PCAS	**Casmilo, Conde**	**118.49 322**		*e*PKP	**PKiKP**	**02 21 31.6**	**+0.9**
PSARD	**Sardoal**	**118.55 321**		*e*PKP	**PKiKP**	**02 21 32.0**	**+1.2**
PESTR	**Estremoz**	**118.62 320**		*e*PKP	**PKiKP**	**02 21 32.4**	**+1.4**
PBAR	**Barrancos**	**118.67 319**		*e*PKP	**PKiKP**	**02 21 32.3**	**+1.3**
SCHQ	**Schefferville**	**118.71 9**		PKP	**PKiKP**	**02 21 31.1**	**+0.4**
	comp=Z,332nm,0.7s,baz=274,slow=0.3,SNR=34							
SCHQ				PKKPbc	**PKKPbc**	**02 31 46.0**	**-2.8**
	comp=Z,66nm,0.8s,baz=180,slow=5.3,SNR=7.9							
CEU	**Ceuta**	**118.80 316**		PKP	**PKiKP**	**02 21 31.4**	**0.0**
PMTG	**Montargil**	**118.91 321**		*e*PKP	**PKiKP**	**02 21 34.2**	**+2.7**
PSBE	**So Bento**	**119.00 322**		*e*PKP	**PKiKP**	**02 21 33.1**	**+1.4**
CNIL	**Conil**	**119.02 317**		PKP	**PKiKP**	**02 21 33.7**	**+2.0**
EVO	**Evora**	**119.09 320**		PKP	**PKiKP**	**02 21 32.5**	**+0.7**
EVO	**Evora**	**119.09 320**		*e*PKP	**PKiKP**	**02 21 33.0**	**+1.1**
PBEJ	**Beja**	**119.28 320**		*e*PKP	**PKiKP**	**02 21 33.7**	**+1.4**
PVAQ	**Vaqueiros**	**119.55 319**		*e*PKP	**PKiKP**	**02 21 34.2**	**+1.4**
PVAQ				*e*PP	**PP**	**02 23 00.8**	**+5.6**
PVAQ				*e*Sdif	Sdif	02 30 48.4	+9.0
PVAQ				*e*SS	**SKKSdf**	**02 39 20.4**	**-0.4**
PVAQ				*e*LR	LR	03 00 13.2	
PVAQ				*i* IAMs_20	IAMs_20	03 20 34.6	
	comp=Z,1μm,18.0s							
PARRA	**Arraiolos**	**119.57 321**		*e*PKP	**PKiKP**	**02 21 32.9**	**+0.1**
MESJ	**Messejana**	**119.62 320**		*e*PKPdf	**PKiKP**	**02 21 33.4**	**+0.5**
MESJ				*e*PP	**PP**	**02 22 57.0**	**+1.3**
MESJ				*e*SS	SS	02 39 16.6	+3.5
MESJ				IAMs_20	IAMs_20	03 06 15.7	
	comp=N,3μm,29.7s							
MESJ	**Messejana**	**119.62 320**		*e*PKP	**PKiKP**	**02 21 33.9**	**+1.0**
MESJ	**Messejana**	**119.62 320**		*e*PKIKP	**PKiKP**	**02 21 33.4**	**+0.5**
MESJ				*e*		02 22 57.0	
MESJ				*e*SS	SS	02 39 16.6	+3.5
PCVE	**Castro Verde**	**119.62 319**		*e*PKP	**PKiKP**	**02 21 34.2**	**+1.3**
PMAFR	**Mafra**	**119.64 321**		*e*PKP	**PKiKP**	**02 21 34.1**	**+1.2**
LIS	**Lisbon**	**119.69 321**		*e*PKPdf	**PKiKP**	**02 21 33.5**	**+0.5**
LIS				*e*PP	**PP**	**02 22 57.1**	**+1.0**
LIS				IAMs_20	IAMs_20	03 16 42.7	
	comp=E,4μm,25.5s							
LIS	**Lisbon**	**119.69 321**		*e*PKP	**PKiKP**	**02 21 34.5**	**+1.5**
LIS	**Lisbon**	**119.69 321**		*e*PKIKP	**PKiKP**	**02 21 33.5**	**+0.5**
LIS				*e*		02 22 57.1	
PBDV	**Barranco-do-Ve**	**119.78 319**		*e*PKP	**PKiKP**	**02 21 34.9**	**+1.6**
MD01	**Midelt array s**	**119.94 313**			**PKiKP**	**02 21 34.8**	**+0.9**
PTEO	**Sao Teotonio**	**120.12 320**		*e*PKP	**PKiKP**	**02 21 37.8**	**+3.9**
MORF	**Marmelete**	**120.21 319**		*e*PKPdf	**PKiKP**	**02 21 34.4**	**+0.3**
MORF				*e*PP	**PP**	**02 23 00.9**	**+1.1**
MORF				IAMs_20	IAMs_20	03 17 28.7	
	comp=Z,3μm,31.0s							
MORF	**Marmelete**	**120.21 319**		*e*PKP	**PKiKP**	**02 21 35.7**	**+1.6**
MORF	**Marmelete**	**120.21 319**		*e*PKIKP	**PKiKP**	**02 21 34.4**	**+0.3**
MORF				*e*		02 23 00.9	
PFVI	**Vila Bisbo**	**120.42 319**		*e*PKP	**PKiKP**	**02 21 36.1**	**+1.6**
PMSA	**Palmer Station**	**120.52 175**		PKP	**PKiKP**	**02 21 34.3**	**+0.5**
	comp=Z,15nm,0.7s,baz=176,slow=2.5,SNR=8.8							
TXAR	**Lajitas Array**	**120.61 51**			**PKiKP**	**02 21 35.4**	**+0.1**
TXAR	**Lajitas Array**	**120.61 51**		Pdiff	**Pdif**	**02 18 02.7**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=304,slow=3.9,SNR=5.1							
TXAR				PKP	**PKiKP**	**02 21 35.7**	**+0.5**
	comp=Z,15nm,0.8s,baz=237,slow=0.6,SNR=35							
TXAR				PKKPbc	**PKKPbc**	**02 31 40.3**	**-0.8**
	comp=Z,6.7nm,0.7s,baz=136,slow=4.9,SNR=24							
TXAR				SKKPbc	SKKPbc	02 35 25.1	+3.6
	comp=Z,2.7nm,0.9s,baz=128,slow=5.2,SNR=3.9							
AVE	**Averroes**	**121.62 315**		PKP	**PKPdf**	**02 21 34.9**	**-1.9**
TORD	**Torodi Ar. Bea**	**122.06 289**		PKP	**PKPdf**	**02 21 38.1**	**0.0**
	comp=Z,96nm,0.8s,baz=31,slow=3.5,SNR=95							
TORD				PKKPbc	**PKKPab**	**02 31 36.6**	**+0.5**
	comp=Z,14nm,0.9s,baz=273,slow=3.8,SNR=20							
TIO	**Tiouine**	**122.76 312**		PKP	**PKPdf**	**02 21 34.9**	**-4.4**
CCM	**Cathedral Cave**	**124.15 36**			**PKiKP**	**02 21 41.7**	**-0.1**
CCM	**Cathedral Cave**	**124.15 36**		PKIKP	**PKiKP**	**02 21 41.7**	**-0.1**
PMPST	**Porto Santo, M**	**127.76 320**		*e*PKP	**PKiKP**	**02 21 51.7**	**+2.5**
PMPS	**Porto Santo**	**127.77 320**		*e*PKP	**PKiKP**	**02 21 50.5**	**+1.4**
PMAR	**Madeira**	**128.36 320**		*e*PKP	**PKiKP**	**02 21 51.4**	**+0.8**
PMOZ	**Porto Moniz, M**	**128.47 320**		*e*PKP	**PKiKP**	**02 21 53.7**	**+3.0**
PMOZ				*e*PP	**PP**	**02 24 00.6**	**+5.4**
PMOZ				*e*LR	LR	03 05 44.4	
PMOZ				*i* IAMs_20	IAMs_20	03 20 21.8	
	comp=Z,549nm,22.0s							
HRV	**Adam Dziewonsk**	**129.33 17**			**PKiKP**	**02 21 52.3**	**+0.3**
HRV	**Adam Dziewonsk**	**129.33 17**		PKIKP	**PKiKP**	**02 21 52.3**	**+0.3**
BART	**Pico Bartolome**	**129.36 331**		*e*PKiKP	**PKiKP**	**02 21 55.6**	**+3.3**
PGRON	**Lagoa das Cont**	**129.46 331**		*e*PKiKP	**PKiKP**	**02 21 55.9**	**+3.4**
PCALD	**Caldeiras da R**	**129.49 331**		*e*PKiKP	**PKiKP**	**02 21 55.5**	**+3.0**
PAGU	**Agualva, Azore**	**129.50 333**		*e*PKiKP	**PKiKP**	**02 21 55.9**	**+3.4**
USHA	**Ushuaia**	**129.52 169**		PKP	**PKiKP**	**02 21 52.4**	**+0.5**
	comp=Z,37nm,0.6s,baz=166,slow=1.3,SNR=7.9							
PSCM	**Serra do Cume**	**129.52 333**		*e*PKiKP	**PKiKP**	**02 21 54.3**	**+1.8**
CMLA	**Cha da Macela**	**129.54 331**		*e*PKiKP	**PKiKP**	**02 21 56.3**	**+3.7**
PSET	**Sete Cidades**	**129.59 331**		*e*PKiKP	**PKiKP**	**02 21 55.8**	**+3.1**
ADH	**Angra Heroismo**	**129.61 333**		*e*PKiKP	**PKiKP**	**02 21 55.7**	**+3.0**
DBIC	**Dimbokro**	**129.90 284**		PKP	**PKiKP**	**02 21 54.2**	**+0.3**
	comp=Z,89nm,0.9s,baz=113,slow=2.4,SNR=36							
DBIC				SKPbc	SKPbc	02 25 09.4	+0.9
	comp=Z,313nm,0.9s,baz=103,slow=4.3,SNR=40							
DBIC	**Dimbokro**	**129.90 284**		PKP	**PKiKP**	**02 21 53.7**	**-0.2**
PSMN	**Pico do Norte,**	**129.91 330**		*e*PKiKP	**PKiKP**	**02 21 54.9**	**+1.5**
ROSA	**Rosais**	**130.00 334**		*e*PKiKP	**PKiKP**	**02 21 56.8**	**+3.2**
PMAN	**Manadas**	**130.01 334**		*e*PKiKP	**PKiKP**	**02 21 55.7**	**+2.1**
MG03	**Isla Dawson**	**130.02 167**			**PKiKP**	**02 21 54.2**	**+1.2**
PID	**Ribeirinha**	**130.18 334**		*e*PKiKP	**PKiKP**	**02 21 54.4**	**+0.5**
PICO	**Pico**	**130.27 334**		*e*PKiKP	**PKiKP**	**02 21 55.7**	**+1.5**
PCED	**Cedros**	**130.28 334**		*e*PKiKP	**PKiKP**	**02 21 55.9**	**+1.8**
CALA	**Caldeira**	**130.32 334**		*e*PKiKP	**PKiKP**	**02 21 55.9**	**+1.6**
PCAN	**Candelaria**	**130.32 334**		*e*PKiKP	**PKiKP**	**02 21 58.2**	**+4.0**
HOR	**Horta**	**130.33 334**		*e*PKiKP	**PKiKP**	**02 21 57.2**	**+3.1**
M65A	**Busby, Falmout**	**130.47 17**		P	**PKPdf**	**02 21 53.8**	**+0.3**
	baz=337							
TGUH	**Tegucigalpa,Un**	**141.21 59**			**PKPdf**	**02 22 11.4**	**-2.9**
PLCA	**Paso Flores**	**141.89 159**		PKhKP	PKPpre	02 22 10.7	
	comp=Z,42nm,0.9s,baz=224,slow=3.1,SNR=52							
PLCA	**Paso Flores**	**141.89 159**		PKP	**PKPdf**	**02 22 11.4**	**-3.4**
PAYG	**Puerto Ayora**	**142.98 84**			**PKPdf**	**02 22 17.1**	**-0.3**
SACV	**Santiago Islan**	**143.95 305**			PKPbc	02 22 17.8	+0.8
GO05	**Hualane**	**146.21 152**		*i* P	**PKPab**	**02 22 24.0**	**-0.4**
GO05				*i* P	**PKPbc**	**02 22 24.1**	**+0.6**
GO05				*i* P	**PKiKP**	**02 22 24.6**	**-2.1**
MTDJ	**Mount Denham**	**146.47 44**		*i* P	**PKPab**	**02 22 25.4**	**-0.5**
EDS3	**Malargue**	**146.67 156**		*i* P	**PKPbc**	**02 22 25.2**	**+0.1**
EDS3				*i* P	**PKPab**	**02 22 26.6**	**+0.4**
EDS3				*i* P	**PKiKP**	**02 22 26.9**	**-0.9**
TRQA	**Tornquist**	**146.85 168**			**PKPbc**	**02 22 24.8**	**-0.5**
TRQA	**Tornquist**	**146.85 168**		PKP2	**PKPbc**	**02 22 24.8**	**-0.5**
TRQA	**Tornquist**	**146.85 168**		PKP	**PKPdf**	**02 22 23.8**	**+0.4**
BO02	**Sierra Bellavi**	**146.92 153**		*i* P	**PKPbc**	**02 22 25.2**	**-0.4**
STH	**Stony Hill**	**147.07 44**		⇓*i* P	**PKPab**	**02 22 27.9**	**-0.2**
BO01	**Tunca**	**147.11 153**		*i* P	**PKPdf**	**02 22 24.7**	**+0.8**
GWJ	**Greenwich**	**147.13 44**		*i* P	**PKPab**	**02 22 28.0**	**-0.5**
HOJ	**Hope**	**147.16 44**		*i* P	**PKPab**	**02 22 28.2**	**-0.3**
MT01	**Popeta**	**147.47 152**		*i* P	**PKPdf**	**02 22 25.3**	**+0.8**
RFA	**San Rafael**	**147.91 156**		*i* P	**PKPdf**	**02 22 26.6**	**+1.3**
RFA				*i* P	**PKPbc**	**02 22 27.2**	**-1.2**
RFA				*i* P	**PKiKP**	**02 22 28.2**	**-2.1**
RFA				*i* P	**PKPab**	**02 22 28.7**	**-2.3**
LMEL	**Las Melosas**	**147.97 153**		*i* P	**PKPbc**	**02 22 28.8**	**+0.1**
LMEL				*i* P	**PKiKP**	**02 22 29.8**	**-0.7**
LMEL				*i* P	**PKPab**	**02 22 31.4**	**0.0**
VA01	**Torpederas**	**147.97 150**		*i* P	**PKPbc**	**02 22 29.0**	**+0.5**
MT13	**San Alfonso**	**148.02 153**		*i* P	**PKPbc**	**02 22 28.0**	**-0.7**
MT13				*i* P	**PKiKP**	**02 22 28.6**	**-2.0**
MT13				*i* P	**PKPab**	**02 22 29.4**	**-2.2**
MT02	**Curacav**	**148.02 151**		*i* P	**PKPdf**	**02 22 24.1**	**-1.3**
MT05	**Renca**	**148.10 152**			**PKPdf**	**02 22 26.9**	**+1.2**
MT05	**Renca**	**148.10 152**		*i* P	**PKPbc**	**02 22 27.4**	**-1.5**
MT03	**Universidad Ad**	**148.12 152**		*i* P	**PKPdf**	**02 22 27.0**	**+1.2**
MT03				*i* P	**PKPbc**	**02 22 29.4**	**+0.3**
MT03				*i* P	**PKiKP**	**02 22 30.1**	**-0.7**
ROC1	**El Roble**	**148.31 151**		*i* P	**PKPbc**	**02 22 28.4**	**-1.3**
PEL	**Peldehue**	**148.33 152**		*i* P	**PKPdf**	**02 22 27.6**	**+1.6**
MT04	**Ro Olivares**	**148.37 153**		*i* P	**PKPdf**	**02 22 26.4**	**+0.1**
MT04				*i* P	**PKPbc**	**02 22 27.2**	**-2.7**
MT04				*i* P	**PKiKP**	**02 22 31.5**	**0.0**
MT08	**Bocatoma Ro**	**148.39 153**		*i* P	**PKPbc**	**02 22 29.6**	**-0.3**
MT08				*i* P	**PKPbc**	**02 22 29.6**	**-0.3**
MT08				*i* P	**PKPab**	**02 22 30.0**	**-3.2**
VA03	**San Esteban**	**148.71 152**		*i* P	**PKPdf**	**02 22 28.6**	**+1.8**
AVIZ	**Vizcacheras**	**149.02 155**		*i* P	**PKPbc**	**02 22 29.6**	**-1.7**
AAGR	**Agrelo**	**149.22 154**		*i* P	**PKPdf**	**02 22 29.3**	**+1.8**
ARCO	**CERRO ARCO**	**149.38 154**		*i* P	**PKPdf**	**02 22 29.1**	**+1.3**
ASAL	**Salagasta**	**149.64 154**		*i* P	**PKPdf**	**02 22 29.7**	**+1.5**
CO02	**Combarbal**	**149.76 149**		*i* P	**PKPdf**	**02 22 29.8**	**+1.4**
RTLS	**Leoncito**	**150.10 152**		*i* P	**PKPdf**	**02 22 30.3**	**+1.1**
CO03	**El Pedregal**	**150.21 149**		*i* P	**PKPdf**	**02 22 30.8**	**+1.7**
CO03				*i* P	**PKiKP**	**02 22 35.1**	**0.0**
CO03				*i* P	**PKPbc**	**02 22 30.3**	**+0.9**
ZON	**Zonda**	**150.59 153**		*i* P	**PKPdf**	**02 22 31.6**	**+1.9**
ZON				*i* P	**PKPbc**	**02 22 33.5**	**-1.7**
ACAN	**Cantantal**	**150.61 156**		*i* P	**PKPdf**	**02 22 31.1**	**+1.4**
ACAN				*i* P	**PKPbc**	**02 22 31.7**	**-3.4**
ACAN				*i* P	**PKiKP**	**02 22 33.9**	**-1.9**
SJA	**San Juan**	**150.66 153**		*i* P	**PKPdf**	**02 22 31.9**	**+2.1**
GO04	**Tololo Observa**	**150.69 148**		*i* P	**PKPdf**	**02 22 31.1**	**+1.0**
CFA	**Coronel Fontan**	**150.74 154**		PKP	**PKPdf**	**02 22 30.9**	**+1.0**
	comp=Z,33nm,0.9s,baz=243,slow=1.5,SNR=30							
CFA				PKPbc	**PKiKP**	**02 22 36.2**	**+0.1**
	comp=Z,193nm,0.6s,baz=234,slow=2.9,SNR=80							
CFA	**Coronel Fontan**	**150.74 154**		*i* P	**PKPdf**	**02 22 31.1**	**+1.2**
CFA				*i* P	**PKiKP**	**02 22 36.3**	**+0.1**
CFA				*i* P	**PKiKP**	**02 22 36.3**	**+0.1**
RTLL	**Cerro Villicun**	**150.87 153**		*i* P	**PKPbc**	**02 22 36.1**	**+0.3**
RTLL				*i* P	**PKiKP**	**02 22 37.6**	**+1.1**
DOCA	**Reserva Natura**	**150.91 152**		*i* P	**PKPbc**	**02 22 35.9**	**-0.4**
DOCA				*i* P	**PKiKP**	**02 22 38.2**	**+1.3**
DOCA				*i* P	**PKPab**	**02 22 39.3**	**-4.5**
MRA	**San Martin**	**151.05 158**		*i* P	**PKPdf**	**02 22 31.4**	**+0.9**
SDD	**Santo Domingo**	**151.09 34**			**PKPdf**	**02 22 32.1**	**+1.4**
ACCO	**Cerro Coronel**	**151.22 151**		*i* P	**PKPdf**	**02 22 32.7**	**+1.7**
AROD	**Rodeo**	**151.37 150**		*i* P	**PKPdf**	**02 22 33.6**	**+2.3**
ACDV	**Cuesta del Vie**	**151.54 151**		*i* P	**PKPdf**	**02 22 33.3**	**+2.0**
ACHE	**Chepes**	**151.79 156**		*i* P	**PKPdf**	**02 22 32.7**	**+1.0**
AVFE	**Valle Fertil**	**151.89 154**		*i* P	**PKPdf**	**02 22 32.8**	**+1.1**
AGUA	**GUANDACOL**	**152.41 151**		*i* P	**PKPdf**	**02 22 34.1**	**+1.6**
APLL	**PUNTA DE LOS L**	**152.52 155**		*i* P	**PKPdf**	**02 22 33.3**	**+0.7**
PLTB	**Pedras Altas**	**154.03 180**		PKP	**PKPdf**	**02 22 36.5**	**+1.8**
PLTB				PKP	**PKPbc**	**02 22 36.8**	**-6.1**
ATAH	**Atahualpa**	**155.25 95**		PKP	**PKPdf**	**02 22 38.5**	**+1.1**
	comp=Z,70nm,1.2s,baz=335,slow=1.2,SNR=37							
ATAH				PKPab	**PKPab**	**02 23 05.2**	**+2.5**
	comp=Z,140nm,1.1s,baz=336,slow=6.9,SNR=4.4							
CPSB	**Cacapava Do Su**	**155.39 180**		PKP	**PKPdf**	**02 22 38.2**	**+1.6**
ANWB	**Willy Bob**	**155.43 19**		*e*P	**PKPdf**	**02 22 35.1**	**-1.9**
NNA	**Nana**	**156.13 107**		PKP	**PKPdf**	**02 22 39.1**	**+1.0**
	comp=Z,48nm,0.9s,baz=303,slow=1.1,SNR=15							
NNA				PKPab	**PKPab**	**02 23 07.4**	**+1.4**
	comp=Z,162nm,1.1s,baz=256,slow=6.5,SNR=11							
DHSZ	**Broadband at M**	**156.73 20**		*e*P	**PKPdf**	**02 22 38.6**	**-0.1**
ROSC	**El Rosal**	**156.76 20**		PKP	**PKPdf**	**02 22 40.7**	**+1.3**
	comp=Z,68nm,0.9s,baz=359,slow=1.3,SNR=48							
ROSC				PP	**PP**	**02 26 46.5**	**-1.0**
	comp=Z,28nm,1.1s,baz=31,slow=6.8,SNR=3.9							
DSDZ	**La Diserade, G**	**156.93 19**		*e*P	**PKPdf**	**02 22 39.1**	**+0.2**
MMLZ	**Guadeloupe Bro**	**156.98 20**		*e*P	**PKPdf**	**02 22 39.4**	**+0.4**
TBG	**Guadaloupe-3**	**157.16 20**		*e*P	**PKPdf**	**02 22 39.9**	**+0.6**
DWS	**Wesley**	**157.54 20**		*e*P	**PKPdf**	**02 22 39.7**	**0.0**
DSLB	**Salisbury**	**157.63 20**		*e*P	**PKPdf**	**02 22 40.3**	**+0.4**
SDV	**Santo Domingo**	**157.65 50**		PKP	**PKPdf**	**02 22 40.8**	**+0.5**
MDN	**Morne-Daniel**	**157.75 20**		*e*P	**PKPdf**	**02 22 39.6**	**-0.4**
SVN	**Savane Anatole**	**158.27 20**		*e*P	**PKPdf**	**02 22 40.3**	**-0.4**
ILAM	**Ilet Lapin Mar**	**158.43 20**		*e*P	**PKPdf**	**02 22 41.0**	**+0.1**
ITAB	**Concordia**	**158.50 183**		PKP	**PKPdf**	**02 22 41.7**	**+1.0**
BIM	**Bigot**	**158.60 20**		*e*P	**PKPdf**	**02 22 39.4**	**-2.8**
BIM	**Bigot**	**158.60 20**		*e*P	**PKPdf**	**02 22 44.0**	**+2.9**
SLBI	**Saint Lucia, B**	**159.09 21**		*e*P	**PKPdf**	**02 22 38.9**	**-2.7**
CPUP	**Villa Florida**	**159.13 170**		PKP	**PKPdf**	**02 22 42.8**	**+1.4**
	comp=Z,5.9nm,0.7s,baz=26,slow=0.5,SNR=38							
CPUP				PKPab	**PKPab**	**02 23 20.1**	**+1.8**
	comp=Z,31nm,1.0s,baz=57,slow=4.1,SNR=13							
CPUP	**Villa Florida**	**159.13 170**		PKP	**PKPdf**	**02 22 42.8**	**+1.4**
BAUV	**El Baul**	**159.51 45**		*e*P	**PKPdf**	**02 22 41.3**	**-0.9**
BAUV	**El Baul**	**159.51 45**		*e*P	**PKPdf**	**02 22 42.3**	**+0.1**
SVB	**Belmont**	**159.69 22**		*e*P	PKPdf	02 22 32.9	-10
CAM01	**Campos-RJ**	**160.25 214**		PKP	**PKPdf**	**02 22 43.9**	**+1.1**
GCMP	**Grenada, Carri**	**160.34 24**		*e*P	**PKPdf**	**02 22 36.6**	**-6.4**
GRHS	**Sauteurs**	**160.49 24**		*e*P	**PKPdf**	**02 22 41.6**	**-1.6**
PET01	**Itanhaem-SP**	**160.53 197**		PKP	**PKPdf**	**02 22 44.6**	**+1.5**
GRGR	**Grenville**	**160.56 25**		*e*P	**PKPdf**	**02 22 36.6**	**-6.7**
PCRV	**Puerto La Cruz**	**160.77 35**		*e*P	**PKPdf**	**02 22 42.3**	**-1.4

KMOZ	Kamo	2.12 247	‖*i*P	Pb	02 09 19.5	-1.2
KMOZ			‖*i*S	Sb	02 09 48.5	+1.3
VAYK	Vayk	2.14 204	*i* P	Pn	02 09 19.1	+1.2
VAYK			*i* S	Sb	02 09 47.3	-0.4
QRD	Qoradiz	2.28 165	Pn	Pn	02 09 19.8	0.0
QRD			Sn	Sb	02 09 51.2	-0.4
HYR	Heyderabad	2.33 214	Sn	Sb	02 09 53.2	+0.2
SBZ	Shahbuz	2.39 199	Pn	Pn	02 09 22.2	+0.9
SBZ			Sn	Sb	02 09 53.9	-0.8
EGVZ	Egvard	2.44 180	*e*P	Pb	02 09 24.3	-1.6
EGVZ			*e*S	Sb	02 09 57.1	+0.9
IGDI	IGDIR	2.59 227	Sn	Sb	02 09 58.5	-2.0
ORD	Ordubad	2.77 189	Pn	Pn	02 09 26.7	+0.2
ORD			Sg	Sb	02 10 05.7	+0.1
GLBA	Clilabad	2.81 149	Pn	Pn	02 09 27.6	+0.7
GLBA			Sn	Sb	02 10 05.2	-1.4
YRD	Yardimli	3.04 154	Pn	Pn	02 09 30.9	+0.6
YRD			Sn	Sn	02 10 08.1	+1.1
LRK	Lerik	3.32 155	Pn	Pn	02 09 34.7	+0.6
LRK			Sn	Sn	02 10 16.2	+2.3

*SJA **29** 02:14:55.8±0.7,21˚.16S×69˚.07W,h124$^{km}_{\pm 4}$,ML4.2, MW4.0*
*VAO **29** 02:14:57.1±1.0,21˚.12S×68˚.91W,h110^{km},mb4.1*
*NEIC **29** 02:14:57.7±1.7,21˚.14S±0˚.04×69˚.03W±0˚.07,h110$^{km}_{\pm 6}$, mb4.3/8,ML4.3(GUC),Error ellipse: s-maj=9.4km s-min=5.9km az=78.0*
*GUC **29** 02:14:58.4±0.8,21˚.14S×69˚.04W,h109$^{km}_{\pm 4}$,ML4.3*
*IDC **29** 02:15:00.3±2.7,21˚.01S×68˚.55W,h115$^{km}_{\pm 23}$,mb3.9/2, mbtmp4.1/6,Error ellipse: s-maj=29.8km s-min=22.7km az=110.0*

ISC 29 02:14:57.6±0.6,**21˚.16S**±0˚.03×**69˚.00W**±0˚.05,**h110**$^{km}_{\pm 5}$, **n295,**σ**1^{s}35/313,9C-1D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.47 284**					**Pn**	**02 15 14.2**	**-0.2**
PB01						Sn	**Sn**	**02 15 26.8**	**-0.2**
PB01	**IPOC Station P**	**0.47 284**		‖*e*P			**Pn**	**02 15 14.2**	**-0.2**
PB01				*e*S			**Sn**	**02 15 26.8**	**-0.2**
PB01	**IPOC Station P**	**0.47 284**		*e*P			**Pn**	**02 15 14.2**	**-0.2**
PB01				*e*S			**Sn**	**02 15 27.2**	**+0.2**
PB09	**IPOC Station P**	**0.68 199**					**Pn**	**02 15 16.5**	**+0.5**
PB09						Sn	**Sn**	**02 15 30.5**	**+0.6**
PB09	**IPOC Station P**	**0.68 199**		‖*e*P			**Pn**	**02 15 16.6**	**+0.5**
PB09				*e*S			**Sn**	**02 15 30.6**	**+0.7**
PB09				IAML				02 15 33.2	
	comp=E,5μm,0.3s								
PB09	**IPOC Station P**	**0.68 199**		*e*P			**Pn**	**02 15 15.8**	**-0.2**
PB09				*e*S			Sn	02 15 16.4	-14
PB09				IAML				02 15 34.1	
	comp=Z,6μm,0.5s								
PB02	**IPOC Station P**	**0.85 259**					**Pn**	**02 15 17.6**	**+0.2**
PB02						Sn	**Sn**	**02 15 32.0**	**-0.2**
PB02	**IPOC Station P**	**0.85 259**		‖*e*P			**Pn**	**02 15 17.7**	**+0.2**
PB02				*e*S			**Sn**	**02 15 32.3**	**-0.2**
PB02				IAML				02 15 33.7	
	comp=N,25μm,0.4s								
PB02	**IPOC Station P**	**0.85 259**		*e*P			**Pn**	**02 15 16.9**	**-0.6**
PB02				*e*S			**Sn**	**02 15 33.2**	**+0.8**
PB02				IAML				02 15 37.3	
	comp=Z,16μm,0.3s								
PB08	**IPOC Station P**	**1.02 352**					**Pn**	**02 15 19.6**	**+0.2**
PB08	**IPOC Station P**	**1.02 352**		*e*P			**Pn**	**02 15 19.7**	**+0.2**
PB08				*e*S			**Sn**	**02 15 36.2**	**+0.3**
PB08				IAML				02 15 37.1	
	comp=E,7μm,0.2s								
PB08	**IPOC Station P**	**1.02 352**		*e*P			**Pn**	**02 15 19.6**	**+0.2**
PB08				*e*S			**Sn**	**02 15 37.0**	**+1.1**
PB08				IAML				02 15 38.0	
	comp=Z,3μm,0.2s								
PATCX	**Punta Patache**	**1.13 287**					**Pn**	**02 15 20.2**	**0.0**
PATCX	**Punta Patache**	**1.13 287**		‖*e*P			**Pn**	**02 15 20.3**	**+0.1**
PATCX				*e*S			**Sn**	**02 15 37.5**	**+0.1**
PATCX				IAML				02 15 39.1	
	comp=N,10μm,0.2s								
PATCX	**Punta Patache**	**1.13 287**		*e*P			**Pn**	**02 15 19.6**	**-0.7**
PATCX				*e*S			**Sn**	**02 15 38.6**	**+1.3**
PATCX				IAML				02 15 39.5	
	comp=Z,4μm,0.4s								
PB03	**IPOC Station P**	**1.13 218**					**Pn**	**02 15 20.5**	**+0.1**
PB03	**IPOC Station P**	**1.13 218**		*e*P			**Pn**	**02 15 20.6**	**+0.1**
PB03				*e*S			**Sn**	**02 15 37.3**	**-0.3**
PB03				IAML				02 15 38.7	
	comp=E,3μm,0.2s								
PB03	**IPOC Station P**	**1.13 218**		*e*P			**Pn**	**02 15 19.9**	**-0.5**
PB03				*e*S			**Sn**	**02 15 38.2**	**+0.6**
PB03				IAML				02 15 39.2	
	comp=Z,2μm,0.1s								
HMBC	**Humberstone**	**1.20 316**					**Pn**	**02 15 20.4**	**-0.8**
HMBC	**Humberstone**	**1.20 316**		‖*e*P			**Pn**	**02 15 20.6**	**-0.6**
HMBC				*e*S			**Sn**	**02 15 38.5**	**-0.5**
HMBC				IAML				02 15 39.5	
	comp=N,12μm,0.2s								
HMBC	**Humberstone**	**1.20 316**		*e*P			**Pn**	**02 15 20.6**	**-0.6**
HMBC				*e*S			**Sn**	**02 15 39.0**	**+0.1**
HMBC				IAML				02 15 39.8	
	comp=Z,10μm,0.1s								
TA01	**Diego Aracena**	**1.25 298**					**Pn**	**02 15 21.1**	**-0.4**
TA01	**Diego Aracena**	**1.25 298**		‖*e*P			**Pn**	**02 15 21.1**	**-0.4**
TA01				*e*S			**Sn**	**02 15 38.7**	**-0.9**
TA01				IAML				02 15 40.1	
	comp=E,8μm,0.3s								
TA01	**Diego Aracena**	**1.25 298**		*e*P			**Pn**	**02 15 21.1**	**-0.4**
TA01				*e*S			**Sn**	**02 15 40.5**	**+0.9**
TA01				IAML				02 15 44.6	
	comp=Z,2μm,0.2s								
TA02	**Huaiquique**	**1.38 310**		‖*e*P			**Pn**	**02 15 22.3**	**-0.6**
TA02				*e*S			**Sn**	**02 15 40.8**	**-1.4**
TA02				IAML				02 15 46.7	
	comp=E,15μm,0.1s								
TA02	**Huaiquique**	**1.38 310**		*e*P			**Pn**	**02 15 22.4**	**-0.6**
TA02				*e*S			**Sn**	**02 15 43.0**	**+0.8**
TA02				IAML				02 15 44.6	
	comp=Z,3μm,0.1s								
GO01	**Chusmiza**	**1.49 353**					**Pn**	**02 15 25.1**	**+0.3**
GO01	**Chusmiza**	**1.49 353**		*e*P			**Pn**	**02 15 25.1**	**+0.3**
GO01				*e*S			**Sn**	**02 15 45.6**	**+0.2**
GO01	**Chusmiza**	**1.49 353**		*e*P			**Pn**	**02 15 24.9**	**+0.1**
GO01				*e*S			**Sn**	**02 15 46.4**	**+1.0**
GO01				IAML				02 15 47.6	
	comp=Z,2μm,0.2s								
PB11	**IPOC Station P**	**1.52 336**					**Pn**	**02 15 24.4**	**-0.5**
PB11	**IPOC Station P**	**1.52 336**		‖*e*P			**Pn**	**02 15 24.4**	**-0.5**
PB11				*e*S			**Sn**	**02 15 44.8**	**-0.7**
PB11				IAML				02 15 46.2	
	comp=E,13μm,0.3s								
PB11	**IPOC Station P**	**1.52 336**		*e*P			**Pn**	**02 15 24.3**	**-0.5**
PB11				*e*S			**Sn**	**02 15 45.4**	**-0.1**
PB11				IAML				02 15 46.7	
	comp=Z,4μm,0.3s								
PB06	**IPOC Station P**	**1.63 199**					**Pn**	**02 15 26.7**	**+0.5**
PB06	**IPOC Station P**	**1.63 199**		*e*P			**Pn**	**02 15 26.6**	**+0.5**
PB06				*e*S			**Sn**	**02 15 48.4**	**+0.4**
PB06				IAML				02 15 57.1	
	comp=N,2μm,0.4s								
PB06	**IPOC Station P**	**1.63 199**		*e*P			**Pn**	**02 15 26.1**	**-0.1**
PB06				*e*S			**Sn**	**02 15 49.6**	**+1.7**
PB06				IAML				02 15 52.5	
	comp=Z,911nm,0.3s								
AF01	**San Pedro de A**	**1.94 157**					**Pn**	**02 15 31.9**	**+1.7**
AF01	**San Pedro de A**	**1.94 157**		‖*e*P			**Pn**	**02 15 31.8**	**+1.7**
AF01	**San Pedro de A**	**1.94 157**		*e*P			**Pn**	**02 15 31.3**	**+1.1**
AF01				*e*S			Sn	02 15 41.9	-13
AF01				IAML				02 16 21.9	
	comp=Z,770nm,0.3s								
PB05	**IPOC Station P**	**2.02 213**					**Pn**	**02 15 30.9**	**-0.1**
PB05	**IPOC Station P**	**2.02 213**		‖*e*P			**Pn**	**02 15 30.9**	**-0.1**
PB05				*e*S			**Sn**	**02 15 55.1**	**-1.4**
PB05				IAML				02 15 56.0	
	comp=N,1μm,0.4s								
PB05	**IPOC Station P**	**2.02 213**		*e*P			**Pn**	**02 15 30.4**	**-0.7**
PB05				*e*S			**Sn**	**02 15 55.6**	**-0.9**
PB05				IAML				02 15 58.6	
	comp=Z,642nm,0.7s								
PB10	**IPOC Station P**	**2.75 211**		*e*P			**Pn**	**02 15 39.8**	**-0.6**
PB10				*e*S			**Sn**	**02 16 06.6**	**-6.7**
PB16	**IPOC Station P**	**2.85 350**					**Pn**	**02 15 42.6**	**+0.5**
PB16	**IPOC Station P**	**2.85 350**		*e*P			**Pn**	**02 15 42.0**	**-0.2**
PB16				*e*S			**Sn**	**02 16 13.6**	**-2.8**
YJA	**Yavi**			**3.40**	**108**	*e*P	**Pn**	**02 15 51.1**	**+1.8**
PB14	**IPOC Station P**			**3.69**	**200**		**Pn**	**02 15 52.0**	**-1.1**
PB14	**IPOC Station P**			**3.69**	**200**	*e*P	**Pn**	**02 15 51.6**	**-1.4**
PB14						*e*S	Sn	02 16 17.9	-18
GO02	**Mina Guanaco**			**4.03**	**188**		**Pn**	**02 15 57.0**	**-0.6**
LPAZ	**La Paz**			**4.91**	**10**		**Pn**	**02 16 11.4**	**+1.6**
LPAZ	**La Paz**			**4.91**	**10**	P	**Pn**	**02 16 11.1**	**+1.2**
	comp=Z,5.8nm,0.4s,baz=212,slow=5.3,SNR=35								
LPAZ	**La Paz**			**4.91**	**10**	*e*P	**Pn**	**02 16 07.8**	**-2.1**
AC02	**Maricunga**			**5.66**	**181**		**Pn**	**02 16 19.3**	**-0.4**
SIV	**San Ignacio**			**9.10**	**57**	P	**Pn**	**02 17 02.5**	**-3.6**
	comp=Z,16nm,0.4s,baz=240,slow=11,SNR=115								
SIV						S	Sn	02 18 38.1	-8.8
	comp=Z,1.4nm,0.7s,baz=261,slow=17,SNR=1.1								
MURT	**Porto Murtinho**			**10.62**	**95**	*e*P	**Pn**	**02 17 23.7**	**-3.0**
PTLB	**Pontes e Lacer**			**10.95**	**60**		**Pn**	**02 17 28.1**	**-3.0**
PTLB	**Pontes e Lacer**			**10.95**	**60**	*e*P	**Pn**	**02 17 28.5**	**-2.6**
BDQN	**Bodoquena, MS**			**11.48**	**89**	*e*P	Pn	02 17 33.7	-4.5
VILB	**Vilhena**			**11.71**	**47**		**Pn**	**02 17 39.1**	**-2.3**
VILB	**Vilhena**			**11.71**	**47**	*e*P	**Pn**	**02 17 40.4**	**-1.0**
CPUP	**Villa Florida**			**11.86**	**118**	Pn	**Pn**	**02 17 40.3**	**-2.9**
CPUP	**Villa Florida**			**11.86**	**118**	P	**Pn**	**02 17 40.5**	**-2.7**
	comp=Z,0.4nm,0.5s,baz=254,slow=7.4,SNR=6.0								
AQDB	**Aquidauana**			**12.46**	**89**		**Pn**	**02 17 52.9**	**+1.7**
AQDB	**Aquidauana**			**12.46**	**89**	*e*P	**Pn**	**02 17 50.0**	**-1.2**
SJPY	**San Joaquin**			**12.47**	**110**	*e*P	**Pn**	**02 17 49.8**	**-1.5**
AMBA	**Amambai (Brazi**			**13.11**	**100**	*e*P	**Pn**	**02 17 58.9**	**-0.8**
SALV	**Santo Antonio**			**13.66**	**70**	*e*P	**Pn**	**02 18 05.6**	**-1.2**
PP1B	**Ponte de Pedra**			**13.79**	**78**	*e*P	**Pn**	**02 18 07.2**	**-1.3**
PDRB	**Porto dos Gac**			**15.11**	**53**	*e*P	**Pn**	**02 18 24.4**	**-1.0**
TRCB	**Terra Rica**			**15.27**	**99**	P	**Pn**	**02 18 28.4**	**+1.1**
TRCB	**Terra Rica**			**15.27**	**99**	*e*P	**Pn**	**02 18 25.7**	**-1.6**
C2SB	**Chapadao do Su**			**15.38**	**84**	*e*P	**Pn**	**02 18 27.8**	**-0.9**
PTGB	**Pitanga**			**16.00**	**106**	*e*P	**Pn**	**02 18 35.4**	**-1.1**
CLDB	**Colider**			**16.29**	**53**	*e*P	**Pn**	**02 18 39.2**	**-0.7**
ITAB	**Concordia**			**16.53**	**115**	Pn	**Pn**	**02 18 41.6**	**-1.3**
ITAB	**Concordia**			**16.53**	**115**	*e*P	**Pn**	**02 18 42.9**	**-0.1**
LDASE	**Londrina, Braz**			**16.70**	**101**	*e*P	**Pn**	**02 18 44.8**	**-0.3**
ARAG	**Araguaiana, MT**			**17.18**	**74**	*e*P	**P**	**02 18 49.8**	**-1.0**
TRQA	**Tornquist**			**17.90**	**162**	P	**P**	**02 18 58.6**	**0.0**
BB19B	**Bebedouro**			**19.10**	**93**	*e*P	**P**	**02 19 10.3**	**-1.6**
MAJ01	**Sao Joao Batis**			**19.24**	**113**	*e*P	**P**	**02 19 11.4**	**-1.9**
SNDB	**Serra Nova Dou**			**19.25**	**64**	*e*P	**P**	**02 19 11.6**	**-2.0**
NPGB	**Novo Progresso**			**19.26**	**45**	*e*P	**P**	**02 19 12.8**	**-0.8**
PLCA	**Paso Flores**			**19.56**	**184**	P	**Pn**	**02 19 21.4**	**+2.3**
	comp=Z,3.5nm,0.8s,baz=0.7,slow=11,SNR=8.3								
IPMB	**Ipameri, GO**			**19.84**	**84**	*e*P	**P**	**02 19 18.3**	**-1.7**
RCLB	**Rio Claro- Sao**			**19.98**	**98**	*e*P	**P**	**02 19 20.6**	**-0.8**
PET01	**Itanhaem-SP**			**20.28**	**103**	*e*P	**P**	**02 19 23.4**	**-1.1**
VAO	**Valinhos**			**20.50**	**99**	P	**P**	**02 19 24.4**	**-2.6**
VAO						IAmb	IAmb	02 19 26.5	
	comp=Z,27nm,1.1s								
VAO	**Valinhos**			**20.50**	**99**	*e*P	**P**	**02 19 24.7**	**-2.4**
BDFB	**Brasilia**			**20.65**	**78**	P	**P**	**02 19 25.9**	**-2.8**
BDFB						IAmb	IAmb	02 19 31.2	
	comp=Z,8.7nm,0.6s								
BDFB	**Brasilia**			**20.65**	**78**	P	**P**	**02 19 26.9**	**-1.8**
	comp=Z,7.4nm,0.5s,baz=248,slow=11,SNR=16								
	comp=Z,7.4nm,0.5s								
ITTB	**Itaituba**			**21.09**	**39**	*e*P	**P**	**02 19 31.1**	**-2.2**
PMNB	**Patos De Minas**			**21.38**	**87**	*e*P	**P**	**02 19 34.7**	**-1.8**
PARB	**Paraibuna**			**21.75**	**100**	*e*P	**P**	**02 19 39.1**	**-1.3**
BSCB	**Bom Sucesso**			**22.61**	**94**	*e*P	**P**	**02 19 47.3**	**-2.0**
MAL2	**Monte Alegre,**			**23.89**	**39**	P	**P**	**02 19 59.0**	**-2.2**
MAL2						IAmb	IAmb	02 20 01.4	
	comp=Z,10nm,0.8s								
SMTB	**Santa Maria do**			**23.98**	**63**	*e*P	**P**	**02 20 00.7**	**-1.4**
DIAM	**Diamantina, MG**			**24.00**	**88**	*e*P	**P**	**02 20 01.4**	**-1.0**
JANB	**Januaria**			**24.22**	**80**	*e*P	**P**	**02 20 02.8**	**-1.5**
SDBA	**SAO DESIDERIO**			**24.63**	**73**	*e*P	**P**	**02 20 07.5**	**-0.5**
BOAV	**Boa Vista**			**24.84**	**21**	P	**P**	**02 20 09.0**	**-0.7**
SJMB	**Sao Joao De Ma**			**26.25**	**90**	*e*P	**P**	**02 20 21.1**	**-1.6**
RUSC	**La Rusia**			**27.18**	**351**	P	**P**	**02 20 31.4**	**0.0**
RUSC						IAmb	IAmb	02 20 57.7	
	comp=Z,4.7nm,0.9s								
GUA01	**Guaratinga, BA**			**27.98**	**86**	*e*P	**P**	**02 20 37.4**	**-0.7**
M65A	**Busby, Falmout**			**62.42**	**359**	P	**P**	**02 25 11.3**	**+2.6**
	baz=178								
TORD	**Torodi Ar. Bea**			**77.32**	**70**	P	**P**	**02 26 41.2**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=248,slow=6.0,SNR=8.2								
	comp=Z,1.7nm,0.6s								
KOTAN	**Kotaneelee Air**			**92.46**	**336**	P	**P**	**02 27 56.7**	**+1.1**
	baz=130								
V35K	**Ketchikan**			**92.81**	**329**	P	**P**	**02 27 58.6**	**+1.3**
	baz=124								
T35M	**Bob Quinn**			**93.12**	**331**	P	**P**	**02 27 59.6**	**+0.8**
	baz=125								
CRAG	**Craig**			**93.61**	**329**	P	**P**	**02 28 01.9**	**+0.9**
	baz=123								
WRAK	**Wrangell Islan**			**93.76**	**330**	P	**P**	**02 28 03.1**	**+1.4**
	baz=123								
DLBC	**Dease Lake**			**93.86**	**333**	P	**P**	**02 28 03.1**	**+0.9**
	baz=125								
S34M	**Telegraph Cree**			**94.04**	**332**	P	**P**	**02 28 03.2**	**+0.3**
	baz=124								
WRGLY	**Wrigley**			**94.25**	**338**	P	**P**	**02 28 04.8**	**+1.0**
	baz=130								
WTLY	**Watson Lake, Y**			**94.32**	**334**	P	**P**	**02 28 05.7**	**+1.4**
	baz=126								
R33M	**Jennings River**			**94.81**	**333**	P	**P**	**02 28 07.6**	**+1.0**
	baz=124								
Q32M	**Nakina River**			**95.12**	**332**	P	**P**	**02 28 08.8**	**+0.6**
	baz=123								
SIT	**Sitka**			**95.49**	**330**	P	**P**	**02 28 10.0**	**+0.4**
	baz=121								
R32K	**Eaglecrest**			**95.75**	**331**	P	**P**	**02 28 11.3**	**+0.5**
	baz=121								
P32M	**Atlin**			**96.09**	**332**	P	**P**	**02 28 12.9**	**+0.6**
	baz=122								
S31K	**Pelican**			**96.37**	**330**	P	**P**	**02 28 14.8**	**+1.3**
	baz=120								
N32M	**Quiet Lake**			**96.66**	**334**	P	**P**	**02 28 16.3**	**+1.4**
	baz=122								
SKAG	**Skagway**			**96.72**	**332**	P	**P**	**02 28 16.0**	**+0.8**
	baz=121								
MMPY	**Sheldon Lake,**			**96.73**	**336**	P	**P**	**02 28 15.9**	**+0.7**
	baz=124								
WHY	**Whitehorse**			**97.15**	**333**	P	Pdif	02 28 17.9	+0.6
	baz=121								
PLBC	**Pleasant Camp**			**97.18**	**332**	P	Pdif	02 28 18.3	+1.1
	baz=120								
O30N	**Mendenhall**			**97.72**	**333**	P	Pdif	02 28 20.2	+0.4
	baz=120								
M31M	**Drury Creek, Y**			**97.74**	**335**	P	Pdif	02 28 20.2	+0.4
	baz=120								
P30M	**Million Dollar**			**97.77**	**332**	P	Pdif	02 28 20.4	+0.4
	baz=119								
P29M	**Windy Craggy**			**97.88**	**331**	P	Pdif	02 28 21.2	+0.8
	baz=119								
N31M	**Braeburn, Yuko**			**97.94**	**334**	P	Pdif	02 28 21.2	+0.5
	baz=120								
HYT	**Haines Junctio**			**98.35**	**333**	P	Pdif	02 28 22.8	+0.2
	baz=119								
C36M	**Paulatuk**			**98.39**	**343**	P	Pdif	02 28 23.4	+1.0
	baz=129								
N30M	**Aishikik Lake**			**98.48**	**333**	P	Pdif	02 28 23.9	+0.8
	baz=119								
O29M	**Mount Kennedy**			**98.57**	**332**	P	Pdif	02 28 24.0	+0.4
	baz=118								
PNL	**Peninsula**			**98.64**	**331**	P	**P**	**02 28 23.8**	**0.0**
	baz=117								
YUK6	**Outpost Mounta**			**98.77**	**332**	P	**P**	**02 28 24.4**	**-0.3**
	baz=118								
M30M	**Minto, Yukon**			**98.90**	**334**	P	**P**	**02 28 24.7**	**-0.2**
	baz=119								
YUK4	**Talbot Arm**			**99.08**	**333**	P	**Pdif**	**02 28 26.0**	**0.0**
	baz=118								
PINM	**Pinnacle**			**99.22**	**331**	P	**Pdif**	**02 28 26.7**	**+0.2**
	baz=116								
O28M	**Mount Upton**			**99.49**	**332**	P	**Pdif**	**02 28 27.4**	**-0.5**
	baz=116								
M29M	**Somme Creek**			**99.52**	**334**	P	**Pdif**	**02 28 27.4**	**-0.3**
	baz=118								
YUK8	**Steele Glacier**			**99.53**	**332**	P	**Pdif**	**02 28 27.5**	**-0.6**
	baz=117								
H31M	**Peel River**			**99.58**	**338**	P	**Pdif**	**02 28 27.7**	**-0.1**
	baz=121								
J30M	**Hart River**			**99.69**	**336**	P	**Pdif**	**02 28 29.5**	**+1.0**
	baz=119								
L29M	**L29M**			**99.69**	**334**	P	**Pdif**	**02 28 29.5**	**+1.0**
	baz=118								
K29M	**Barlow Dome**			**99.80**	**335**	P	**Pdif**	**02 28 29.7**	**+0.7**
	baz=118								
MESA	**MESA**			**100.02**	**331**	P	**Pdif**	**02 28 30.5**	**+0.4**
	baz=115								
I30M	**Mount Dempster**			**100.02**	**337**	P	**Pdif**	**02 28 30.2**	**+0.2**
	baz=119								
CTG	**Chitna Glacier**			**100.08**	**332**	P	**Pdif**	**02 28 30.9**	**+0.6**
	baz=115								
G31M	**Satah River**			**100.12**	**339**	P	**Pdif**	**02 28 31.4**	**+1.2**
	baz=121								
F31M	**Tsiigehtchic**			**100.21**	**339**	P	**Pdif**	**02 28 31.4**	**+0.8**
	baz=121								
A36M	**Sachs Harbour**			**100.35**	**345**	P	**Pdif**	**02 28 32.2**	**+1.1**
	baz=128								
J29N	**Klondike Camp**			**100.35**	**336**	P	**Pdif**	**02 28 31.7**	**+0.3**
	baz=118								
INK	**Inuvik**			**100.59**	**340**	P	**Pdif**	**02 28 33.5**	**+1.3**
	baz=121								
BGLC	**Bering Glacier**			**100.60**	**331**	P	**Pdif**	**02 28 33.2**	**+0.8**
	baz=114								
DAWY	**Dawson**			**100.63**	**335**	P	**Pdif**	**02 28 34.0**	**+1.3**
	baz=117								
EPYK	**Eagle Plains**			**100.70**	**338**	P	**Pdif**	**02 28 34.2**	**+1.3**
	baz=118								
CRQE	**Cirque**			**100.77**	**331**	P	**Pdif**	**02 28 34.2**	**+0.8**
	baz=114								
I29M	**Ogilvie Camp,**			**100.80**	**336**	P	**Pdif**	**02 28 34.4**	**+1.1**
	baz=117								
G30M	**tAoh Zraii Nji**			**100.82**	**338**	P	**Pdif**	**02 28 34.1**	**+0.7**
	baz=119								
M27K	**Edge Creek, AK**			**100.91**	**333**	P	**Pdif**	**02 28 34.4**	**+0.4**
	baz=115								
F30M	**Barrier River**			**100.98**	**339**	P	**Pdif**	**02 28 35.0**	**+0.9**
	baz=119								
MCARA	**McCarthy VSAT**			**101.00**	**332**	P	**Pdif**	**02 28 35.0**	**+0.8**
	baz=114								
KAIM	**Kayak Island**			**101.05**	**330**	P	**Pdif**	**02 28 35.4**	**+1.0**
	baz=113								
L27K	**Beaver Creek,**			**101.18**	**334**	P	**Pdif**	**02 28 35.8**	**+0.8**
	baz=115								
H29M	**Whitestone**			**101.22**	**337**	P	**Pdif**	**02 28 35.8**	**+0.7**
	baz=117								
M26K	**Nabesna, AK**			**101.40**	**333**	P	**Pdif**	**02 28 37.0**	**+0.9**
	baz=114								
G29M	**Pine Creek**			**101.42**	**338**	P	**Pdif**	**02 28 36.9**	**+0.9**
	baz=117								
I28M	**Miner Creek**			**101.45**	**336**	P	**Pdif**	**02 28 37.1**	**+0.7**
	baz=116								
BMRM	**Bremner River**			**101.54**	**331**	P	**Pdif**	**02 28 37.6**	**+0.9**
	baz=113								
EGAK	**Eagle**			**101.63**	**335**	P	**Pdif**	**02 28 37.8**	**+0.8**
	baz=115								
K27K	**Chicken**			**101.68**	**335**	P	**Pdif**	**02 28 38.0**	**+0.8**
	baz=114								
N25K	**Chitina, Valde**			**101.78**	**332**	P	**Pdif**	**02 28 38.6**	**+0.7**
	baz=113								
EYAK	**Cordova Ski Ar**			**101.90**	**331**	P	**Pdif**	**02 28 39.5**	**+1.3**
	baz=112								
E29M	**Blow River**			**102.05**	**339**	P	**Pdif**	**02 28 39.9**	**+1.2**
	baz=117								
I27K	**Kandik River**			**102.15**	**336**	P	**Pdif**	**02 28 39.8**	**+0.4**
	baz=114								
HARP	**HAARP**			**102.33**	**332**	P	**Pdif**	**02 28 40.9**	**+0.7**
	baz=112								
KLU	**Klutina**			**102.33**	**331**	P	**Pdif**	**02 28 40.4**	**+0.2**
	baz=112								
F28M	**Old Crow**			**102.37**	**338**	P	**Pdif**	**02 28 41.1**	**+0.9**
	baz=116								
H27K	**Steamboat Moun**			**102.38**	**337**	P	**Pdif**	**02 28 41.4**	**+1.0**
	baz=114								
SCRK	**Sand Creek**			**102.44**	**334**	P	**Pdif**	**02 28 41

CHUM	**Lake Minchumin** baz=106	**105.88**	**333**	P	**PKiKP**	02 33 09.7	**+2.0**
COLD	**Coldfoot** baz=106,SNR=9.6	**105.96**	**336**	P	**PKiKP**	02 33 07.9	**0.0**
E23K	**Chandalar** baz=107	**105.98**	**337**	P	**PKiKP**	02 33 08.8	**+0.8**
D24K	**Happy Valley** baz=107	**106.02**	**338**	P	**PKiKP**	02 33 09.5	**+1.7**
H22K	**Ishtalitna Cre** baz=106	**106.04**	**335**	P	**PKiKP**	02 33 09.8	**+1.8**
I21K	**Tanana** baz=105	**106.09**	**334**	P	**PKiKP**	02 33 09.2	**+1.1**
TOLK	**Toolik Lake Re** baz=107,SNR=18	**106.13**	**338**	P	**PKiKP**	02 33 10.0	**+1.8**
C24K	**Franklin Bluff** baz=107	**106.15**	**339**	P	**PKiKP**	02 33 08.9	**+0.8**
L20K	**Farewell, AK** baz=104	**106.20**	**331**	P	**PKiKP**	02 33 11.4	**+3.0**
M19K	**Big River Lodg** baz=104	**106.29**	**331**	P	**PKiKP**	02 33 14.1	**+5.5**
G22K	**Bettles** baz=105	**106.36**	**336**	P	**PKiKP**	02 33 09.3	**+0.7**
K20K	**Telida** baz=104	**106.50**	**332**	P	**PKiKP**	02 33 11.6	**+2.6**
H21K	**Melozitna Rive** baz=104	**106.54**	**335**	P	**PKiKP**	02 33 09.6	**+0.6**
L19K	**White Mountain** baz=104	**106.57**	**331**	P	**PKiKP**	02 33 10.1	**+0.9**
D23K	**Nanushuk River** baz=106	**106.61**	**338**	P	**PKiKP**	02 33 09.5	**+0.5**
Q16K	**King Salmon** baz=103	**106.62**	**327**	P	**PKiKP**	02 33 10.8	**+1.6**
J20K	**Nowinta River** baz=104,SNR=6.2	**106.74**	**333**	P	**PKiKP**	02 33 09.5	**+0.2**
F22K	**John River** baz=105	**106.77**	**336**	P	**PKiKP**	02 33 10.0	**+0.7**
E22K	**Anaktuvuk Pass** baz=105,SNR=6.3	**106.79**	**337**	P	**PKiKP**	02 33 08.8	**-0.6**
C23K	**Itkillik River** baz=105	**106.82**	**339**	P	**PKiKP**	02 33 09.5	**+0.1**
R16K	**Pilot Point** baz=103	**106.84**	**326**	P	**PKiKP**	02 33 09.2	**-0.5**
M18K	**Stony River** baz=103	**106.86**	**330**	P	**PKiKP**	02 33 09.9	**+0.3**
G21K	**Allakaket** baz=104,SNR=9.4	**107.03**	**335**	P	**PKiKP**	02 33 11.2	**+1.3**
O17K	**Koliganek Bris** baz=103	**107.08**	**328**	P	**PKiKP**	02 33 09.3	**-0.7**
F21K	**Alatna River** baz=104,SNR=5.6	**107.19**	**336**	P	**PKiKP**	02 33 11.2	**+1.1**
D22K	**Ayikyak River** baz=104,SNR=7.6	**107.29**	**338**	P	**PKiKP**	02 33 11.9	**+1.6**
N17K	**Nushagak Hills** baz=102	**107.29**	**329**	P	**PKiKP**	02 33 13.4	**+3.0**
J19K	**Poorman** baz=103	**107.33**	**333**	P	**PKiKP**	02 33 12.6	**+2.2**
H20K	**Anotleneega Mo** baz=103	**107.34**	**334**	P	**PKiKP**	02 33 12.7	**+2.2**
CHNA	**Chernabura Isl** baz=102	**107.35**	**323**	P	**PKiKP**	02 33 13.3	**+2.6**
L18K	**Granite Mounta** baz=102	**107.42**	**331**	P	**PKiKP**	02 33 12.6	**+1.9**
O16K	**Kokwok River B** baz=103	**107.54**	**328**	P	**PKiKP**	02 33 14.1	**+3.2**
M17K	**Holitna River** baz=102	**107.59**	**330**	P	**PKiKP**	02 33 11.5	**+0.5**
E21K	**Killik River** baz=103	**107.65**	**337**	P	**PKiKP**	02 33 12.9	**+1.9**
J18K	**Innoko River** baz=102	**107.69**	**332**	P	**PKiKP**	02 33 10.5	**-0.7**
B22K	**Teshekpuk Lake** baz=103	**107.87**	**339**	P	**PKiKP**	02 33 11.8	**+0.6**
SDPT	**Sand Point** baz=101	**107.95**	**323**	P	**PKiKP**	02 33 12.6	**+0.8**
H19K	**Roundabout Mou** baz=101	**107.99**	**334**	P	**PKiKP**	02 33 13.8	**+2.2**
F20K	**Avaraart Lake** baz=102	**108.01**	**336**	P	**PKiKP**	02 33 12.4	**+0.8**
GCSA	**Galena City Sc** baz=101	**108.02**	**333**	P	**PKiKP**	02 33 10.9	**-0.7**
N16K	**Nishlik Lake** baz=101	**108.05**	**329**	P	**PKiKP**	02 33 13.6	**+1.7**
C21K	**Knifeblade Rid** baz=102	**108.09**	**338**	P	**PKiKP**	02 33 17.4	**+5.7**
B21K	**Ikpikpuk River** baz=102	**108.12**	**338**	P	**PKiKP**	02 33 13.0	**+1.2**
L17K	**Donlin** baz=101	**108.14**	**330**	P	**PKiKP**	02 33 11.3	**-0.7**
M16K	**Timber Creek** baz=101	**108.24**	**329**	P	**PKiKP**	02 33 12.7	**+0.5**
K17K	**Iditarod** baz=101	**108.25**	**331**	P	**PKiKP**	02 33 14.1	**+1.9**
O15K	**Ungalikthiuk R** baz=100	**108.33**	**327**	P	**PKiKP**	02 33 16.6	**+4.2**
L16K	**Owhat River** baz=100	**108.61**	**330**	P	**PKiKP**	02 33 13.4	**+0.5**
N15K	**Kwethluk River** baz=100	**108.64**	**328**	P	**PKiKP**	02 33 14.7	**+1.7**
D20K	**Etivluk River** baz=100	**108.65**	**337**	P	**PKiKP**	02 33 14.6	**+1.8**
E19K	**Redstone River** baz=100	**108.66**	**336**	P	**PKiKP**	02 33 14.2	**+1.3**
H18K	**Honhosa River** baz=100	**108.71**	**334**	P	**PKiKP**	02 33 14.1	**+1.0**
J17K	**VABM Dome** baz=100	**108.72**	**332**	P	**PKiKP**	02 33 13.4	**+0.3**
F19K	**Shaleruckik Mo** baz=100	**108.76**	**335**	P	**PKiKP**	02 33 15.1	**+2.1**
S12K	**Black Hills** baz=100	**108.90**	**323**	P	**PKiKP**	02 33 15.8	**+2.1**
G18K	**Tagagawik** baz=99	**108.95**	**334**	P	**PKiKP**	02 33 15.3	**+1.9**
M15K	**Kasigluk River** baz=99	**109.02**	**329**	P	**PKiKP**	02 33 15.4	**+1.7**
B20K	**Meade River** baz=99	**109.06**	**339**	P	**PKiKP**	02 33 15.5	**+2.0**
D19K	**Kuna River** baz=99	**109.16**	**337**	P	**PKiKP**	02 33 16.4	**+2.6**
H17K	**Granite Mounta** baz=98	**109.33**	**333**	P	**PKiKP**	02 33 16.7	**+2.5**
J16K	**Anvik River** baz=98	**109.38**	**331**	P	**PKiKP**	02 33 16.8	**+2.5**
MKAR	**Makanchi Array**	**145.41**	**36**	PKPab	**PKPab**	02 34 23.1	**+0.2**
MKAR	**Makanchi Array** comp=Z,1.2nm,0.7s,baz=328,slow=3.5,SNR=4.5	**145.41**	**36**	PKPbc	**PKPbc**	02 34 22.9	**+0.2**
USRK	**Ussuriysk Ar.** comp=Z,1.9nm,0.6s,baz=45,slow=2.7,SNR=3.4	**151.17**	**328**	PKPbc	**PKiKP**	02 34 38.4	**0.0**

*IDC **29** 02:17:27.8±5.2,35°.78N×70°.29E,h75km±44km,mb3.6/11, mbtmp4.1/16,ML3.9/5,Error ellipse: s-maj=35.9km s-min=21.8km az=26.0*

*NEIC **29** 02:17:31.5±2.0,35°.97N±0°.06×70°.23E±0°.09, h105km±10km,mb4.5/9,Error ellipse: s-maj=10.0km s-min=8.5km az=91.0*

ISC 29 02:17:32.1±0.7,36°.08N±0°.07×70°.27E±0°.08,h110km,n44, σ1°29/47,mb3.7/11,4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**1.84**	**213**	Pn	**Pn**	02 18 01.8	**-1.5**
CHGR	**Chuyangaron**	**2.72**	**341**	Pn	**Pn**	02 18 14.3	**-0.1**
SIMJ	**Simiganj**	**2.76**	**339**	Pn	**Pn**	02 18 15.0	**-0.1**
GAR	**Garm**	**2.91**	**1**	Pn	**Pn**	02 18 17.6	**+0.6**
NIL	**Nilore**	**3.45**	**134**	Pn	**Pn**	02 18 23.3	**-0.9**
DRK	**Karamyk**	**3.60**	**19**		**Pn**	02 18 27.8	**+1.4**
KK31	**Karatay Array**	**7.01**	**1**	Pn	**Pn**	02 19 12.2	**0.0**
KK31	**Karatay Array** 20nm,0.3s,baz=164,slow=11,SNR=336	**7.01**	**1**	⇓Pn	**Pn**	02 19 11.8	**-0.4**
KK31	25nm,0.6s,baz=189,slow=22,SNR=5.8			⇓Sn	**Sn**	02 20 25.9	**-4.4**
KKAR	**Karatay Array**	**7.01**	**1**	Pn	**Pn**	02 19 12.1	**-0.1**
AAK	**Ala-Archa**	**7.32**	**25**	Pn	**Pn**	02 19 16.8	**+0.3**
AAK	**Ala-Archa** 8.0nm,0.5s	**7.32**	**25**	⇓Pn	**Pn**	02 19 16.6	**+0.2**
AAK	18nm,0.6s			⇓Sn	**Sn**	02 20 36.4	**-1.5**
AAK	**Ala-Archa** 4.2nm,0.3s,baz=208,slow=7.8,SNR=16	**7.32**	**25**	P	**Pn**	02 19 16.5	**+0.1**
AAK	25nm,0.7s,baz=341,slow=19,SNR=8.8 19nm,0.4s			S	**Sn**	02 20 36.1	**-1.8**
AAK	**Ala-Archa**	**7.32**	**25**	S	**Sn**	02 20 36.0	**-2.0**
BOOM	**Boomskoye usch**	**7.76**	**33**	Pn	**Pn**	02 19 22.5	**0.0**
KDJ	**Kajisay**	**8.08**	**40**	Pn	**Pn**	02 19 26.1	**-0.7**
TARG	**Taragay, Kyrgy**	**8.14**	**44**	Pn	**Pn**	02 19 28.1	**+0.3**
MAKZ	**Makanchi**	**13.84**	**36**	Pn	**Pn**	02 20 44.0	**+0.5**
MKAR	**Makanchi Array**	**13.97**	**36**	Pn	**Pn**	02 20 47.2	**+2.0**
MKAR	**Makanchi Array** 0.8nm,0.3s,baz=211,slow=9.4,SNR=9.0 4.2nm,0.9s	**13.97**	**36**	P	**Pn**	02 20 45.7	**+0.5**
AB31	**Akbulak array**	**15.18**	**333**	Pn	**Pn**	02 20 59.7	**-0.7**
AB31	comp=Z,13nm,0.6s			IAmb	IAmb	02 21 00.5	
ABKAR	**Akbulak array**	**15.18**	**333**	Pn	**Pn**	02 20 60.0	**-0.5**
KURBB	**Kurchatov Arra** comp=Z,0.2nm,0.3s,baz=208,slow=11,SNR=7.2 comp=Z,2.9nm,0.8s	**15.71**	**20**	P	**Pn**	02 21 06.1	**-1.0**
EVN	**Everest**	**16.19**	**115**		**Pn**	02 21 11.6	**-2.3**
EVN	comp=Z,44nm,1.3s			IAmb	IAmb	02 21 39.2	
AKTO	**Aktyubinsk** comp=Z,1.1nm,0.3s,baz=139,slow=10,SNR=7.9 comp=Z,6.8nm,0.6s	**16.86**	**332**	P	**Pn**	02 21 21.1	**-0.2**
BVAR	**Borovoye Array** comp=Z,0.2nm,0.3s,baz=195,slow=11,SNR=7.8 comp=Z,3.1nm,0.5s	**16.94**	**0**	P	**P**	02 21 23.1	**+0.8**
ZAA0	**Zalesovo Array**	**20.54**	**25**	P	**P**	02 22 02.9	**+1.3**
ZALV	**Zalesovo Beam**	**20.54**	**25**	P	**P**	02 22 03.0	**+1.4**
ZALV	**Zalesovo Beam** comp=Z,31nm,0.5s,baz=216,slow=10,SNR=58 comp=Z,31nm,0.5s	**20.54**	**25**	P	**P**	02 22 03.0	**+1.4**
RAYN	**Ar Rayn**	**24.79**	**246**	P	**P**	02 22 43.9	**0.0**
FINES	**FINESS Array B** comp=Z,2.3nm,0.8s,baz=124,slow=7.3,SNR=1.7 comp=Z,2.3nm,0.8s	**37.50**	**327**	P	**P**	02 24 36.0	**+1.1**
ARCES	**ARCESS Array B**	**41.30**	**338**	P	**P**	02 25 07.9	**+1.5**
ARCES	**ARCESS Array B** comp=Z,2.0nm,0.5s,baz=100,slow=7.2,SNR=8.4 comp=Z,2.0nm,0.5s	**41.30**	**338**	P	**P**	02 25 08.2	**+1.8**
HFS	**Hagfors** comp=Z,2.3nm,0.7s,baz=111,slow=8.4,SNR=5.5 comp=Z,2.3nm,0.7s	**43.03**	**322**	P	**P**	02 25 21.3	**+0.8**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.5s,baz=110,slow=7.1,SNR=2.9 comp=Z,0.5nm,0.5s	**44.36**	**323**	P	**P**	02 25 32.9	**+1.8**
ESDC	**Sonseca Array** comp=Z,0.8nm,0.9s,baz=69,slow=6.5,SNR=1.2 comp=Z,0.8nm,0.9s	**57.13**	**298**	P	**P**	02 27 07.3	**0.0**
TORD	**Torodi Ar. Bea** comp=Z,2.3nm,1.1s,baz=64,slow=6.1,SNR=1.5 comp=Z,2.3nm,1.1s	**65.11**	**268**	P	**P**	02 28 01.2	**-0.2**
F21K	**Alatna River**	**71.80**	**16**	P	**P**	02 28 43.2	**+0.9**
C36M	**Paulatuk**	**74.35**	**5**	P	**P**	02 28 57.8	**+0.7**
INK	**Inuvik**	**74.41**	**9**	P	**P**	02 28 58.4	**+0.9**
INK	comp=Z,11nm,1.5s			IAmb	IAmb	02 29 05.5	
ILAR	**Eielson Array** comp=Z,0.3nm,0.6s,baz=313,slow=5.4,SNR=2.3 comp=Z,0.3nm,0.6s	**75.34**	**16**	P	**P**	02 29 04.3	**+1.3**
SCM	**Sheep Creek Mo**	**77.78**	**17**	P	**P**	02 29 17.8	**+0.9**
SCM	comp=Z,14nm,1.3s			IAmb	IAmb	02 29 45.2	
YKA	**Yellowknife Ar** comp=Z,0.9nm,0.8s,baz=356,slow=4.2,SNR=1.8 comp=Z,0.9nm,0.8s	**81.69**	**2**	P	**P**	02 29 38.8	**+1.0**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.5s,baz=307,slow=6.5,SNR=2.0 comp=Z,0.3nm,0.5s	**82.28**	**121**	P	**P**	02 29 40.1	**-1.5**
ASAR	**Alice Springs** comp=Z,0.3nm,0.6s,baz=316,slow=4.7,SNR=4.3 comp=Z,0.3nm,0.6s	**84.51**	**124**	P	**P**	02 29 51.9	**-1.1**

IDC 29 02:18:49.8±2.3,5°.45N×126°.01E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=220.9km s-min=24.7km az=66.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=342,slow=9.3,SNR=2.0 0.7nm,0.7s	**26.53**	**162**	P	P	02 24 30.1	**+0.8**
ASAR	**Alice Springs** 0.6nm,0.7s,baz=342,slow=8.4,SNR=1.8 0.6nm,0.7s	**29.94**	**165**	P	P	02 24 59.0	**-0.9**
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=119,slow=7.5,SNR=5.4 0.5nm,0.5s	**55.75**	**325**	P	P	02 28 28.0	**-0.5**
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=128,slow=6.0,SNR=1.9 0.2nm,0.4s	**59.92**	**327**	P	P	02 28 58.1	**+0.5**

*NOU **29** 02:26:07.8,41°.24S×172°.77E,h110km,MLv3.9/20,South Island, New Zealand*

*WEL **29** 02:26:09.7±0.9,41°.5±6°×17°.3E±°,h102km±7km,M3.4/11, MLv3.4/11,Error ellipse: s-maj=10.1km s-min=6.9km az=109.6,confirmed*

ISC 29 02:26:07.1±1.4,41°.26S±0°.04×172°.81E±0°.04,h130km±7km, n93,σ1°00/102,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRNZ	**Matariki Terra**	**0.15**	**197**	P	**Pn**	02 26 25.5	**+0.6**
MRNZ				S	**Sn**	02 26 37.5	**-0.9**
MOTS	**Motueka DOC wo**	**0.20**	**48**	P	**Pn**	02 26 25.3	**+0.4**
MOTS				S	**Sn**	02 26 37.2	**-1.1**
TKNZ	**Takaka Hill**	**0.25**	**26**	P	**Pn**	02 26 25.5	**+0.3**
TKNZ				S	**Sn**	02 26 37.8	**-1.0**
NNZ	**Nelson**	**0.43**	**85**	P	**Pn**	02 26 26.4	**+0.6**
NNZ				S	**Sn**	02 26 39.7	**-0.2**
QRZ	**Quartz Range**	**0.48**	**333**	P	**Pn**	02 26 26.2	**+0.1**
QRZ	**Quartz Range**	**0.48**	**333**	S	**Sn**	02 26 39.1	**-1.4**
QRZ	**Quartz Range**	**0.48**	**333**	P	**Pn**	02 26 26.6	**+0.5**
QRZ				S	**Sn**	02 26 38.8	**-1.6**
THZ	**Tophouse**	**0.51**	**172**	P	**Pn**	02 26 27.3	**+1.0**
THZ				S	**Sn**	02 26 41.1	**+0.1**
MCASZ	**Murchison**	**0.66**	**214**	P	**Pn**	02 26 28.0	**+0.9**
MCASZ				S	**Sn**	02 26 41.8	**-0.5**
KHLK	**Kaihoka Lakes**	**0.71**	**348**	P	**Pn**	02 26 28.6	**+1.0**
KHLK				S	**Sn**	02 26 41.6	**-1.5**
TUWZ	**Tuamarina**	**0.87**	**102**	P	**Pn**	02 26 29.9	**+1.1**
TUWZ				S	**Sn**	02 26 45.9	**+0.7**
DSZ	**Denniston Nort**	**0.90**	**237**	P	**Pn**	02 26 29.9	**+0.7**
BSWZ	**Blackbirch Sta**	**0.92**	**120**	P	**Pn**	02 26 30.3	**+1.1**
DUWZ	**D'Urville Isla**	**0.95**	**62**	P	**Pn**	02 26 30.9	**+1.2**
TCW	**Tory Channel**	**1.10**	**88**	P	**Pn**	02 26 32.0	**+1.0**
CMWZ	**Cape Campbell**	**1.16**	**116**	P	**Pn**	02 26 33.1	**+1.5**
KHZ	**Kahutara**	**1.28**	**155**	P	**Pn**	02 26 33.9	**+1.2**
KHZ	**Kahutara**	**1.28**	**155**	S	**Sn**	02 26 53.8	**-0.5**
KHZ	**Kahutara**	**1.28**	**155**	P	**Pn**	02 26 34.0	**+1.3**
SNZO	**South Karori**	**1.43**	**93**	P	**Pn**	02 26 34.6	**+0.3**
SNZO	**South Karori**	**1.43**	**93**	S	**Sn**	02 26 54.4	**-0.7**
WEL	**Wellington**	**1.47**	**92**	P	**Pn**	02 26 35.4	**+0.5**
BHW	**Baring Head**	**1.56**	**96**	P	**Pn**	02 26 36.0	**+0.2**
LTZ	**Lake Taylor**	**1.58**	**195**	P	**Pn**	02 26 37.4	**+1.3**
KIW	**Kapiti Island**	**1.63**	**77**	P	**Pn**	02 26 37.3	**+0.6**
CAW	**Cannon Point**	**1.71**	**86**	P	**Pn**	02 26 37.9	**+0.3**
GVZ	**Greta Valley S**	**1.72**	**175**	P	**Pn**	02 26 39.0	**+1.3**
INZ	**Inchbonnie**	**1.79**	**214**	P	**Pn**	02 26 39.7	**+1.2**
OGWZ	**Otaki Gorge**	**1.83**	**77**	P	**Pn**	02 26 39.5	**+0.4**
MSWZ	**Moikau Station**	**1.84**	**96**	P	**Pn**	02 26 39.2	**0.0**
PLWZ	**Palliser**	**1.86**	**100**	P	**Pn**	02 26 39.4	**-0.1**
AMCZ	**Amberley**	**1.92**	**184**	P	**Pn**	02 26 41.3	**+1.2**
PAWZ	**Paruwai Farm**	**1.97**	**95**	P	**Pn**	02 26 40.4	**-0.4**
NMEZ	**Namu Road**	**2.01**	**24**	P	**Pn**	02 26 43.1	**+1.9**
MTW	**Mount Morrison**	**2.03**	**88**	P	**Pn**	02 26 41.4	**0.0**
HOWZ	**Howworth Sta**	**2.07**	**81**	P	**Pn**	02 26 41.9	**-0.1**
NBEZ	**Newall Road No**	**2.14**	**22**	P	**Pn**	02 26 44.1	**+1.2**
OXZ	**Oxford**	**2.15**	**195**	P	**Pn**	02 26 43.3	**+0.5**
KHEZ	**Kahui Hut**	**2.16**	**25**	P	**Pn**	02 26 44.3	**+1.1**
KHEZ	**Kahui Hut**	**2.16**	**25**	S	**Sn**	02 27 10.2	**-0.6**
KHEZ	**Kahui Hut**	**2.16**	**25**	P	**Pn**	02 26 44.5	**+1.3**
TRWZ	**Traveller**	**2.17**	**95**	P	**Pn**	02 26 44.2	**+1.1**
PREZ	**Palmer Road**	**2.17**	**29**	P	**Pn**	02 26 44.7	**+1.4**
MRZ	**Mangatainoka R**	**2.18**	**75**	P	**Pn**	02 26 43.0	**-0.2**
NEZ	**North Egmont**	**2.21**	**27**	P	**Pn**	02 26 45.5	**+1.7**
WAZ	**Wanganui**	**2.23**	**49**	P	**Pn**	02 26 45.8	**+1.9**
PKE	**Pukeiti**	**2.25**	**24**	P	**Pn**	02 26 45.7	**+1.5**
DREZ	**Durham Road**	**2.32**	**28**	P	**Pn**	02 26 46.3	**+1.2**
TMWZ	**Te Maipa**	**2.33**	**87**	P	**Pn**	02 26 45.4	**+0.2**
WVZ	**Waitaha Valley**	**2.38**	**220**	P	**Pn**	02 26 46.7	**+0.9**
MQZ	**McQueen's Wall**	**2.45**	**183**	P	**Pn**	02 26 46.9	**+0.3**
MHCZ	**Mount Hutt**	**2.45**	**202**	P	**Pn**	02 26 47.0	**+0.3**
OKCZ	**Okains Bay**	**2.47**	**176**	P	**Pn**	02 26 47.8	**+0.9**
PRWZ	**Pori Road**	**2.49**	**75**	P	**Pn**	02 26 47.0	**-0.2**
RACZ	**Rakaia**	**2.52**	**191**	P	**Pn**	02 26 48.5	**+1.0**
VRZ	**Vera Road**	**2.60**	**36**	P	**Pn**	02 26 49.9	**+1.3**
AKCZ	**Akaroa Harbour**	**2.62**	**178**	P	**Pn**	02 26 49.6	**+0.9**
BFZ	**Birch Farm**	**2.66**	**79**	P	**Pn**	02 26 49.2	**-0.1**
TSZ	**Takapari Road**	**2.68**	**64**	P	**Pn**	02 26 48.8	**-0.8**
DVHZ	**Dannevirke**	**2.72**	**71**	P	**Pn**	02 26 49.7	**-0.4**
PKVZ	**Pokaka**	**2.76**	**45**	P	**Pn**	02 26 51.7	**+1.0**
MTVZ	**Mangateitei**	**2.76**	**48**	P	**Pn**	02 26 51.8	**+1.1**
WACZ	**Wakanui South**	**2.78**	**195**	P	**Pn**	02 26 51.8	**+1.0**
RPZ	**Rata Peaks**	**2.78**	**207**	P	**Pn**	02 26 51.6	**+0.7**
RPZ	**Rata Peaks**	**2.78**	**207**	S	**Sn**	02 27 23.2	**-1.4**
RPZ	**Rata Peaks**	**2.78**	**207**	P	**Pn**	02 26 51.5	**+0.7**
TRVZ	**Turoa**	**2.86**	**48**	P	**Pn**	02 26 53.3	**+1.2**
WNVZ	**Wahianoa**	**2.87**	**49**	P	**Pn**	02 26 52.9	**+0.6**
MAVZ	**Matarangi**	**2.89**	**48**	P	**Pn**	02 26 54.7	**+2.1**
FWVZ	**Far West T-bar**	**2.90**	**47**	P	**Pn**	02 26 53.7	**+1.1**
WHVZ	**Whangaehu Hut**	**2.90**	**48**	P	**Pn**	02 26 53.2	**+0.6**
PNHZ	**Pukenui**	**2.91**	**64**	P	**Pn**	02 26 51.9	**-0.7**
MOVZ	**Moawhango**	**2.91**	**52**	P	**Pn**	02 26 52.6	**0.0**
COVZ	**Chateau Observ**	**2.93**	**46**	P	**Pn**	02 26 55.0	**+2.1**
ARCZ	**Arundel**	**2.95**	**204**	P	**Pn**	02 26 53.1	**0.0**
TWVZ	**Taurewa**	**2.97**	**43**	P	**Pn**	02 26 54.2	**+0.8**
NGZ	**Ngauruhoe**	**2.98**	**47**	P	**Pn**	02 26 54.7	**+1.1**
SNVZ	**South Ngauruho**	**2.99**	**47**	P	**Pn**	02 26 54.9	**+1.1**
WTVZ	**West Tongariro**	**3.02**	**46**	P	**Pn**	02 26 54.7	**+0.7**
NNVZ	**North Ngauruho**	**3.02**	**46**	P	**Pn**	02 26 54.8	**+0.7**
OTVZ	**Oturere**	**3.02**	**47**	P	**Pn**	02 26 55.3	**+1.1**
ETVZ	**East Tongariro**	**3.07**	**47**	P	**Pn**	02 26 55.3	**+0.6**
HIZ	**Hauiti**	**3.16**	**30**	P	**Pn**	02 26 56.3	**+0.5**
KATZ	**Kakaramea**	**3.17**	**45**	P	**Pn**	02 26 57.9	**+1.8**
BKZ	**Black Stump Fm**	**3.51**	**55**	P	**Pn**	02 27 00.1	**-0.3**
BKZ	**Black Stump Fm**	**3.51**	**55**	S	**Sn**	02 27 40.7	**-0.9**
JCZ	**Jackson Bay**	**4.09**	**225**	P	**Pn**	02 27 08.6	**+0.5**
JCZ	**Jackson Bay**	**4.09**	**225**	S	**Sn**	02 27 54.0	**-1.5**
ODZ	**Otahua Downs**	**4.11**	**202**	P	**Pn**	02 27 08.5	**+0.3**
URZ	**Urewera**	**4.46**	**49**	P	**Pn**	02 27 12.1	**-0.9**
KUZ	**Kuaotunu**	**5.04**	**28**	P	**Pn**	02 27 21.5	**+0.8**
SYZ	**Scrubby Hill**	**5.91**	**205**	P	**Pn**	02 27 33.4	**+1.2**
CTZ	**Chatham Island** 71nm,2.7s	**8.19**	**111**	P	**Pn**	02 28 04.5	**+1.5**

*ZUR **29** 02:30:57.3,45°.88N×6°.98E,h-0km±1km,MLh0.7/18,Error ellipse: s-maj=3565.7km s-min=785.3km az=243.0*

STR 29 02:30:57.2±0.3,46°.N±2°×°±°,h5km,MLv1.1/7,4C-1D, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRGE	**Morge**	**0.12**	**145**	⇑Pg	Pg	02 30 59.8	+0.2
MRGE				Sg	Sg	02 31 01.8	+0.5
MFERR	**Prayon, Val Fe**	**0.13**	**50**	Pg	Pg	02 31 00.1	+0.1
MFERR				Sg	Sg	02 31 02.0	+0.1
REMY	**Saint-Rhmy-en**	**0.14**	**102**	⇑Pg	Pg	02 31 00.3	+0.3
REMY				Sg	Sg	02 31 02.6	+0.7
REMY	**Saint-Rhmy-en**	**0.14**	**102**	Pg	Pg	02 31 00.3	+0.2
REMY				Sg	Sg	02 31 02.2	+0.2
SALAN	**Lac Salanfe**	**0.28**	**1**	⇑Pg	Pg	02 31 02.9	+0.2
SALAN				Sg	Sg	02 31 06.6	+0.1
RSL	**Roselend**	**0.30**	**234**	Sg	Sg	02 31 07.0	+0.1
RSL	**Roselend**	**0.30**	**234**	Pg	Pg	02 31 03.0	0.0
RSL				Sg	Sg	02 31 06.8	-0.1
FULLY	**Reservoir Maze**	**0.31**	**22**	⇓Pg	Pg	02 31 03.5	+0.2
FULLY				Sg	Sg	02 31 07.5	0.0
LAVEY	**Lavey les Bain**	**0.34**	**7**	⇑Pg	Pg	02 31 03.9	+0.1
LAVEY				Sg	Sg	02 31 08.2	0.0
ILLEZ	**Chalet Vouargn**	**0.35**	**357**	Sg	Sg	02 31 08.9	+0.1
DIX	**Grande Dixence**	**0.38**	**55**	Pg	Pg	02 31 04.8	+0.3
DIX				Sg	Sg	02 31 10.0	+0.5
DIX	**Grande Dixence**	**0.38**	**55**	Pg	Pg	02 31 04.4	-0.2
DIX				Sg	Sg	02 31 09.6	+0.1
LSD	**Lago del Serru**	**0.42**	**164**	Pg	Pg	02 31 05.5	+0.1
AIGLE	**Aigle**	**0.48**	**359**	Pg	Pg	02 31 06.7	+0.3
AIGLE				Sg	Sg	02 31 12.7	+0.1
CIRO	**Champorcher**	**0.50**	**122**	Pg	Pg	02 31 06.5	-0.3
CIRO				Sg	Sg	02 31 13.2	-0.1
SATI	**Passo dei Sala**	**0.63**	**89**	Pg	Pg	02 31 09.3	0.0
TRAV	**Traversella**	**0.65**	**123**	Pg	Pg	02 31 09.5	-0.2
TRAV				Sg	Sg	02 31 18.4	+0.2
OGMO	**Fort Saint-Gob**	**0.69**	**197**	Pg	Pg	02 31 10.1	-0.2
OGMO				Sg	Sg	02 31 19.6	+0.3
RSP	**Reno Superiore**	**0.75**	**164**	Pg	Pg	02 31 11.5	0.0
RSP				Sg	Sg	02 31 21.6	+0.4
GIMEL	**St. Georges /**	**0.83**	**324**	Pg	Pg	02 31 13.0	-0.1
GIMEL				Sg	Sg	02 31 24.2	+0.3
RRL	**Rocca Remolon**	**0.95**	**188**	Pg	Pg	02 31 15.1	-0.3
RRL				Sg	Sg	02 31 28.4	+0.6
OG35	**Corcelles**	**0.99**	**281**	Pg	Pg	02 31 15.8	-0.4
OG35			

CELP			IAML		02 38 14.7	
	comp=N,59nm,0.3s					
OBIP	**Obispado Ponce**	**1.27 151**		**Pb**	**02 37 58.2**	**-0.1**
OBIP				**Sg**	**02 38 14.5**	**-0.3**
OBIP	**Obispado Ponce**	**1.27 151**	IAML		02 38 14.6	
	comp=N,52nm,0.6s					
OBIP			IAML		02 38 18.8	
	comp=E,68nm,0.2s					
OBIP	**Obispado Ponce**	**1.27 151**⇑*eP*		**Pb**	**02 37 58.2**	**-0.1**
OBIP	**Obispado Ponce**	**1.27 151** *eS*		**Sg**	**02 38 14.5**	**-0.3**
GCPR	**Guaynabo City**	**1.39 127**		**Pb**	**02 37 60.0**	**-0.5**
GCPR				**Sg**	**02 38 19.0**	**+0.2**
GCPR	**Guaynabo City**	**1.39 127**⇑*eP*		**Pb**	**02 37 60.0**	**-0.5**
GCPR	**Guaynabo City**	**1.39 127** *eS*		**Sg**	**02 38 19.0**	**+0.2**
SJG	**San Juan**	**1.48 135**		**Pb**	**02 38 01.2**	**-0.6**
SJG			IAML		02 38 23.9	
	comp=E,47nm,0.2s					
SJG			IAML		02 38 26.8	
	comp=E,44nm,0.3s					
SJG	**San Juan**	**1.48 135**⇑*eP*		**Pn**	**02 38 00.5**	**-0.6**
SJG	**San Juan**	**1.48 135** *eS*		**Sn**	**02 38 20.1**	**-0.6**
SJG	**San Juan**	**1.48 135**⇓*eP*g		**Pg**	**02 38 03.3**	**+1.0**
SJG		⇓*eS*g		**Sn**	**02 38 20.8**	**+0.1**
HIDR	**Higuey Centro**	**1.50 248**⇓*eP*g		**Pg**	**02 38 03.8**	**+1.0**
HIDR		⇓*eS*g		**Sg**	**02 38 24.1**	**+1.8**
HIDR			IAML		02 38 32.5	
	comp=N,51nm,0.3s					
IGPR	**InterUniversit**	**1.61 138**		**Pb**	**02 38 03.8**	**-0.3**
IGPR				**Sn**	**02 38 24.3**	**+0.2**
IGPR	**InterUniversit**	**1.61 138**⇑*eP*		**Pb**	**02 38 03.8**	**-0.3**
IGPR	**InterUniversit**	**1.61 138** *eS*		**Sn**	**02 38 24.3**	**+0.2**
PDPR	**Patillas Dam,**	**1.63 134** Pn		**Pn**	**02 38 03.4**	**+0.2**
PDPR	**Patillas Dam,**	**1.63 134**⇑*eP*		**Pb**	**02 38 03.9**	**-0.5**
PDPR	**Patillas Dam,**	**1.63 134** *eS*		**Sn**	**02 38 24.4**	**-0.1**
HUMP	**Col San Antoni**	**1.67 127** Pn		**Pn**	**02 38 04.0**	**+0.3**
SMDR	**Samana, DR**	**1.84 274**⇑*eP*g		**Pg**	**02 38 10.2**	**+1.0**
SMDR		⇓*eS*g		**Sg**	**02 38 35.0**	**+2.0**
SMDR			IAML		02 38 51.7	
	comp=N,17nm,0.7s					
HATOM	**Hato Mayor del**	**2.05 260**⇑*eP*g		**Pg**	**02 38 12.8**	**-0.5**
HATOM		⇑*eS*g		**Sg**	**02 38 39.2**	**-0.7**
HATOM			IAML		02 38 49.8	
	comp=N,13nm,0.2s					
DR08	**Loma La Naviza**	**2.63 266**⇓*eP*g		**Pg**	**02 38 21.6**	**-2.8**
DR08		⇓*eS*g		**Sg**	**02 38 57.4**	**-1.1**
DR08			IAML		02 39 17.4	
	comp=N,197nm,0.2s					

IDC ***29*** *02:37:29.9±1.6,0˚.57N×125˚.42E,h0km,mb3.5/4, mbtmp3.6/4,Error ellipse: s-maj=188.2km s-min=21.8km az=65.0*
DJA ***29*** *02:37:35.6±0.3,1˚.N±3˚×12˚.6E±˚,h10km,M3.8/10, MLv3.8/10*

ISC 29 02:37:38.3±1.0,0˚.52N±0˚.07×125˚.64E±0˚.05,h73km,n10, σ0°93/12,mb3.5/4,Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.66**	**272**	P	**Pn**	**02 38 04.4**	**-1.1**
KMSI				S	**Sn**	**02 38 26.2**	**+0.2**
TNTI	**Ternate**	**1.75**	**82**	P	**Pn**	**02 38 05.9**	**-0.8**
TNTI				S	**Sn**	**02 38 28.7**	**+0.5**
SANI	**Sanana**	**2.58**	**172**	P	**Pn**	**02 38 17.1**	**-0.8**
SGSI	**Sangihe**	**3.15**	**358**	P	**Pn**	**02 38 25.3**	**-0.3**
LUWI	**Luwuk**	**3.26**	**242**	P	**Pn**	**02 38 26.7**	**-0.4**
APSI	**Ampana**	**4.23**	**250**	P	**Pn**	**02 38 40.4**	**0.0**
WRA	**Warramunga Arr**	**22.05**	**158**	P	**P**	**02 42 26.9**	**-0.4**
	1.1nm,0.6s,baz=336,slow=11,SNR=6.2 1.1nm,0.6s						
ASAR	**Alice Springs**	**25.35**	**162**	P	**P**	**02 43 00.7**	**+1.9**
	0.6nm,0.5s,baz=341,slow=9.8,SNR=8.5 0.6nm,0.5s						
MKAR	**Makanchi Array**	**59.59**	**327**	P	**P**	**02 47 33.9**	**-0.7**
	0.3nm,0.3s,baz=114,slow=8.0,SNR=6.8 0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**63.87**	**329**	P	**P**	**02 48 03.8**	**+0.6**
	0.3nm,0.6s,baz=133,slow=6.4,SNR=5.1 0.3nm,0.6s						

IDC ***29*** *02:40:29.3±0.9,5˚.49N×126˚.29E,h0km,mb4.0/11, mbtmp4.0/11,MS4.1/1,Error ellipse: s-maj=72.3km s-min=17.0km az=75.0*
DJA ***29*** *02:40:39.1±0.6,6˚.N±5˚×12˚.6E±˚,h139km±7km,M4.3/9, mb4.3/4,MLv4.3/9*
NEIC ***29*** *02:40:40.3±1.2,5˚.62N±0˚.10×126˚.4E±0˚.2,h78km±8km, mb4.4/9,Error ellipse: s-maj=26.0km s-min=12.7km az=75.0*

ISC 29 02:40:38.3±0.6,5˚.64N±0˚.07×126˚.6E±0˚.1,h66km,n32, σ1°41/32,mb4.2/16,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.21**	**209**	P	**Pn**	**02 41 14.4**	**+1.7**
SGSI				S	**Sn**	**02 41 41.9**	**+3.0**
TNTI	**Ternate**	**4.89**	**171**		**Pn**	**02 41 51.4**	**+2.1**
TNTI	**Ternate**	**4.89**	**171**	P	**Pn**	**02 41 50.9**	**+1.5**
TOLI2	**Tolitoli**	**7.33**	**232**		**Pn**	**02 42 22.8**	**0.0**
SANI	**Sanana**	**7.66**	**185**	P	**Pn**	**02 42 25.4**	**-1.8**
SANI	**Sanana**	**7.66**	**185**	P	**Pn**	**02 42 25.6**	**-1.6**
	39nm,1.1s						
NLAI	**Namlea**	**8.83**	**177**	P	**Pn**	**02 42 42.7**	**-0.5**
KNRA	**Kununurra**	**21.28**	**174**	P	**P**	**02 45 19.7**	**+0.3**
KNRA				IAmb	IAmb	02 45 20.5	
	comp=Z,12nm,0.6s						
LEM	**Lembang**	**22.62**	**237**	LR	LR	02 54 54.2	
	comp=Z,484nm,19.6s,baz=40,slow=39						
FITZ	**Fitzroy Crossi**	**23.60**	**182**	P	**P**	**02 45 43.4**	**0.0**
FITZ	**Fitzroy Crossi**	**23.60**	**182**	P	**P**	**02 45 39.8**	**-3.6**
	comp=Z,1.5nm,0.5s,baz=10,slow=11,SNR=1.9 comp=Z,1.5nm,0.5s						
WB0	**Warramunga Arr**	**26.39**	**163**	P	**P**	**02 46 09.8**	**+1.1**
WRA	**Warramunga Arr**	**26.54**	**164**	P	**P**	**02 46 08.3**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=344,slow=10,SNR=5.5 comp=Z,0.4nm,0.4s						
WR8	**Warramunga Arr**	**26.59**	**163**	P	**P**	**02 46 12.3**	**+1.7**
WR8				IAmb	IAmb	02 46 31.3	
	comp=Z,10nm,1.5s						
ASAR	**Alice Springs**	**29.98**	**166**	P	**P**	**02 46 39.6**	**-1.1**
ASAR	**Alice Springs**	**29.98**	**166**	P	**P**	**02 46 40.2**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=340,slow=6.9,SNR=7.0 comp=Z,0.4nm,0.4s						
USRK	**Ussuriysk Ar.**	**38.70**	**6**	P	**P**	**02 47 56.5**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=197,slow=5.5,SNR=4.2 comp=Z,1.1nm,0.5s						
BBOO	**Buckleboo**	**39.28**	**167**	P	**P**	**02 48 00.5**	**-0.2**
BBOO				IAmb	IAmb	02 48 38.7	
	comp=Z,26nm,1.4s						
SONM	**Songino Array**	**45.46**	**341**	P	**P**	**02 48 51.5**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=145,slow=5.4,SNR=2.1 comp=Z,0.4nm,0.4s						
MK31	**Makanchi Array**	**55.93**	**325**	P	**P**	**02 50 08.9**	**-0.8**
MK31				IAmb	IAmb	02 50 20.5	
	comp=Z,2.2nm,0.9s						
MKAR	**Makanchi Array**	**55.93**	**325**	P	**P**	**02 50 08.7**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=120,slow=7.6,SNR=5.1 comp=Z,1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**60.07**	**327**	P	**P**	**02 50 37.7**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=122,slow=7.1,SNR=4.2 comp=Z,0.8nm,0.7s						
SHEM	**Shemya Is, Ala**	**60.91**	**31**	P	**P**	**02 50 45.4**	**+1.3**
BVAR	**Borovoye Array**	**65.66**	**327**	P	**P**	**02 51 16.9**	**+1.3**
	comp=Z,0.6nm,0.4s,baz=121,slow=14,SNR=1.4 comp=Z,0.6nm,0.4s						
ABKAR	**Akbulak array**	**70.60**	**320**	P	**P**	**02 51 46.5**	**-0.1**
CASY	**Casey**	**72.68**	**187**	P	**P**	**02 51 58.9**	**+0.3**
CASY				IAmb	IAmb	02 51 59.4	
	comp=Z,2.5nm,0.8s						
BMAR	**Burnt Mountain**	**84.39**	**23**	P	**P**	**02 53 04.0**	**+0.8**
ARCES	**ARCESS Array B**	**88.62**	**340**	P	**P**	**02 53 22.6**	**-1.2**
ARCES	**ARCESS Array B**	**88.62**	**340**	P	**P**	**02 53 22.8**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=81,slow=7.5,SNR=5.5 comp=Z,2.4nm,0.8s						
FINES	**FINESS Array B**	**90.10**	**332**	P	**P**	**02 53 30.0**	**-0.9**
FINES	**FINESS Array B**	**90.10**	**332**	P	**P**	**02 53 30.7**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=76,slow=3.9,SNR=11 comp=Z,1.9nm,0.8s						
HFS	**Hagfors**	**96.28**	**332**	P	**P**	**02 53 58.6**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=108,slow=4.7,SNR=2.1 comp=Z,1.4nm,0.7s						

DJA 29 02:41:39.5±0.6,4˚S±5˚×12˚8E±˚,h16km±3km,M3.0/6,
MLv3.0/6,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.15**	**256**	P	Pb	02 41 45.2	+1.2
AAI				S	Sb	02 41 48.5	+1.6
MSAI	**Masohi**	**0.66**	**63**	P	Pb	02 41 52.9	+0.2
MSAI				S	Sb	02 42 02.9	+1.3
NLAI	**Namlea**	**1.30**	**288**	P	Pn	02 42 02.4	-0.7

REY ***29*** *02:43:24.4,63˚.43N×24˚.07W,h10km*
IDC ***29*** *02:43:26.1±1.7,63˚.67N×23˚.97W,h0km,mb3.5/4, mbtmp3.5/5,ML3.1/1,Error ellipse: s-maj=41.9km s-min=22.0km az=168.0*

ISC 29 02:43:25.9±2.2,63˚.6N±0˚.1×23˚.81W±0˚.08,h3km±11km,n14, σ1°01/23,mb3.5/4,Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**0.53**	**66**	P	**Pg**	**02 43 37.1**	**+1.0**
IRNE				S	**Sb**	**02 43 46.3**	**+0.4**
IGRV	**Grindav??k**	**0.65**	**67**	P	**Pg**	**02 43 38.8**	**+0.4**
IGRV				S	**Sb**	**02 43 50.1**	**+0.8**
IVOG	**Vogar**	**0.73**	**59**	P	**Pg**	**02 43 40.0**	**+0.2**
IVOG				S	**Sn**	**02 43 53.3**	**-1.3**
IKRI	**Krysuvik**	**0.82**	**70**	P	**Pg**	**02 43 41.2**	**-0.4**
IKRI				S	**Sb**	**02 43 54.4**	**+0.4**
IKAS	**Kald??rsel**	**0.96**	**63**	P	**Pg**	**02 43 43.8**	**-0.5**
IKAS				S	**Sn**	**02 43 59.9**	**-0.5**
IVOS	**Vogsosar**	**0.97**	**74**	P	**Pg**	**02 43 43.5**	**-0.9**
IVOS				S	**Sb**	**02 43 58.8**	**+0.4**
ISAN	**Sandskeio**	**1.09**	**65**	P	**Pg**	**02 43 45.9**	**-0.8**
ISAN				S	**Sn**	**02 44 02.7**	**-0.8**
IMOR	**Morastadir**	**1.14**	**52**	P	**Pb**	**02 43 46.6**	**-1.7**
IMOR				S	**Sn**	**02 44 04.6**	**-0.3**
BORG	**Borgarnes**	**1.58**	**42**	Pn	**Pn**	**02 43 53.9**	**-0.8**
	60nm,0.3s,baz=230,slow=6.5,SNR=136						
BORG				Sn	**Sg**	**02 44 18.3**	**+1.8**
	19nm,0.3s,baz=295,slow=19,SNR=4.3						
ARCES	**ARCESS Array B**	**19.97**	**51**	P	**Pn**	**02 47 59.6**	**-0.8**
	0.1nm,0.3s,baz=274,slow=7.7,SNR=3.6 1.6nm,0.8s						
BRTR	**Keskin Array B**	**40.98**	**98**	P	**P**	**02 51 11.1**	**+1.3**
	0.6nm,0.9s,baz=338,slow=6.5,SNR=3.5 0.6nm,0.9s						
ILAR	**Eielson Array**	**45.27**	**330**	P	**P**	**02 51 44.6**	**+0.6**
	0.4nm,0.8s,baz=29,slow=9.4,SNR=4.7 0.4nm,0.8s						
PDAR	**Pinedale Array**	**50.98**	**289**	P	**P**	**02 52 27.8**	**-0.8**
	0.7nm,0.9s,baz=58,slow=7.4,SNR=4.8 0.7nm,0.9s						
KURBB	**Kurchatov Arra**	**51.04**	**53**	P	**P**	**02 52 30.1**	**+1.4**
	0.6nm,0.9s,baz=325,slow=7.2,SNR=4.0 0.6nm,0.9s						

IDC ***29*** *03:08:42.6±1.5,5˚.92N×127˚.10E,h0km,mb3.9/8, mbtmp3.9/8,Error ellipse: s-maj=204.3km s-min=17.5km az=69.0*
DJA ***29*** *03:08:53.8±0.6,6˚.N±4˚×12˚.7E±˚,h137km±7km,M4.2/10, mB4.9/1,mb4.0/4,MLv4.3/10,Mw(mB)4.2/1*
NEIC ***29*** *03:08:56.2±1.5,5˚.50N±0˚.06×126˚.6E±0˚.2,h91km±13km, mb4.4/9,Error ellipse: s-maj=26.0km s-min=5.5km az=73.0*

ISC 29 03:08:54.9±0.8,5˚.58N±0˚.07×126˚.6E±0˚.1,h100km,n28, σ1°68/29,mb4.2/13,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.82**	**325**	Pn	**Pn**	**03 09 26.2**	**+1.0**
SGSI	**Sangihe**	**2.18**	**210**	P	**Pn**	**03 09 28.4**	**-1.5**
SGSI				S	**Sn**	**03 09 56.2**	**-0.3**
TNTI	**Ternate**	**4.83**	**171**		**Pn**	**03 10 05.1**	**-0.2**
TNTI	**Ternate**	**4.83**	**171**	P	**Pn**	**03 10 04.2**	**-1.2**
TOLI2	**Tolitoli**	**7.33**	**233**		**Pn**	**03 10 37.2**	**-2.3**
SANI	**Sanana**	**7.60**	**185**	P	**Pn**	**03 10 39.4**	**-3.7**
LUWI	**Luwuk**	**7.62**	**211**	Pn	**Pn**	**03 10 47.0**	**+3.7**
MYLDM	**Lahad Datu**	**8.11**	**268**	Pn	**Pn**	**03 10 50.8**	**+0.9**
SBUM	**Sibu**	**14.71**	**258**	P	**P**	**03 12 23.8**	**+2.2**
SOEI	**Soe**	**15.41**	**189**	Pn	**Pn**	**03 12 22.9**	**-4.2**
SOEI				IAmb	IAmb	03 12 33.0	
	comp=Z,18nm,1.0s						
KNRA	**Kununurra**	**21.22**	**174**	P	**P**	**03 13 33.6**	**+0.7**
KNRA				IAmb	IAmb	03 13 34.6	
	comp=Z,16nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.55**	**182**	P	**P**	**03 13 56.0**	**-0.4**
BKNI	**Bangkinang**	**26.08**	**259**	P	**P**	**03 14 20.2**	**+0.7**
WB0	**Warramunga Arr**	**26.32**	**163**	P	**P**	**03 14 23.2**	**+1.7**
WB0				IAmb	IAmb	03 14 53.9	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**26.47**	**164**	P	**P**	**03 14 22.9**	**0.0**
	comp=Z,0.7nm,0.6s,baz=342,slow=10,SNR=8.8 comp=Z,0.7nm,0.6s						
WR8	**Warramunga Arr**	**26.52**	**163**	P	**P**	**03 14 24.6**	**+1.2**
PSA00	**Pilbara Seismi**	**27.79**	**194**	P	**P**	**03 14 33.9**	**-0.8**
PSA00				IAmb	IAmb	03 14 43.3	
	comp=Z,14nm,1.1s						
ASAR	**Alice Springs**	**29.92**	**167**	P	**P**	**03 14 54.5**	**+0.9**
ASAR	**Alice Springs**	**29.92**	**167**	P	**P**	**03 14 54.2**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=344,slow=6.8,SNR=12 comp=Z,0.6nm,0.6s						
BBOO	**Buckleboo**	**39.21**	**167**	P	**P**	**03 16 14.1**	**+0.6**
BBOO				IAmb	IAmb	03 16 52.1	
	comp=Z,16nm,1.3s						
STKA	**Stephens Creek**	**39.88**	**160**	P	**P**	**03 16 20.4**	**+1.4**
STKA	**Stephens Creek**	**39.88**	**160**	P	**P**	**03 16 20.6**	**+1.5**
	comp=Z,1.0nm,0.4s,baz=336,slow=11,SNR=3.2 comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**56.00**	**325**	P	**P**	**03 18 23.0**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=122,slow=8.3,SNR=6.7 comp=Z,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**58.91**	**333**	P	**P**	**03 18 43.4**	**0.0**
	comp=Z,0.5nm,0.5s,baz=157,slow=4.4,SNR=1.7 comp=Z,0.5nm,0.5s						
BVAR	**Borovoye Array**	**65.73**	**327**	P	**P**	**03 19 29.2**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=148,slow=8.6,SNR=3.6 comp=Z,0.9nm,0.7s						
ARCES	**ARCESS Array B**	**88.69**	**340**	P	**P**	**03 21 36.8**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=86,slow=5.0,SNR=6.6 comp=Z,1.8nm,0.8s						
FINES	**FINESS Array B**	**90.17**	**332**	P	**P**	**03 21 43.8**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=46,slow=6.0,SNR=5.5 comp=Z,1.4nm,0.8s						
HFS	**Hagfors**	**96.35**	**332**	P	**P**	**03 22 11.8**	**-0.5**
	comp=Z,5.0nm,1.1s,baz=65,slow=5.1,SNR=3.7						

IDC ***29*** *03:11:59.0±0.7,5˚.61N×126˚.27E,h0km,mb4.0/10, mbtmp4.0/10,Error ellipse: s-maj=77.2km s-min=15.6km az=68.0*
NEIC ***29*** *03:12:09.7±1.5,5˚.72N±0˚.09×126˚.6E±0˚.1,h77km±9km, mb4.5/11,Error ellipse: s-maj=20.1km s-min=9.7km az=63.0*
DJA ***29*** *03:12:10.1±0.5,6˚.N±4˚×12˚.7E±˚,h114km±9km,M4.6/12, mB5.3/6,mb4.5/7,MLv4.6/12,Mw(mB)4.7/6*

ISC 29 03:12:08.0±0.6,5˚.73N±0˚.07×126˚.70E±0˚.09,h66km,n42, σ1°16/41,mb4.4/17,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.74**	**320**		**Pn**	**03 12 37.0**	**+1.0**
SGSI	**Sangihe**	**2.34**	**210**	P	**Pn**	**03 12 45.1**	**+0.9**
SGSI				S	**Sn**	**03 13 12.8**	**+0.8**
TNTI	**Ternate**	**4.97**	**172**		**Pn**	**03 13 22.0**	**+1.8**
TNTI	**Ternate**	**4.97**	**172**	P	**Pn**	**03 13 21.4**	**+1.3**
KMSI	**Cibinong**	**5.80**	**208**	P	**Pn**	**03 13 30.4**	**-1.0**
	0.7nm5µm94nm,0.5s						
MRSI	**Marisa**	**7.06**	**222**	P	**Pn**	**03 13 49.9**	**+1.2**
TOLI2	**Tolitoli**	**7.48**	**232**		**Pn**	**03 13 53.5**	**-1.0**
SANI	**Sanana**	**7.76**	**185**	P	**Pn**	**03 13 57.6**	**-0.7**
LUWI	**Luwuk**	**7.79**	**210**	Pn	**Pn**	**03 14 03.1**	**+4.4**
LUWI	**Luwuk**	**7.79**	**210**	P	**Pn**	**03 13 58.5**	**-0.2**
	72nm,0.9s						
MYLDM	**Lahad Datu**	**8.18**	**267**	Pn	**Pn**	**03 14 06.5**	**+2.4**
NLAI	**Namlea**	**8.92**	**177**	P	**Pn**	**03 14 12.9**	**-1.3**
FAKI	**Fak Fak**	**10.22**	**147**	Pn	**Pn**	**03 14 34.6**	**+2.6**
KAPI	**Kappang**	**12.73**	**213**	Pn	**Pn**	**03 15 06.8**	**+0.5**
SBUM	**Sibu**	**14.80**	**258**	P	**P**	**03 15 39.6**	**+1.5**
KNRA	**Kununurra**	**21.37**	**175**		**P**	**03 16 50.0**	**-0.1**
KNRA				IAmb	IAmb	03 16 50.7	
	comp=Z,18nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.70**	**183**	P	**P**	**03 17 13.9**	**-0.1**
COEN	**Coen**	**25.49**	**140**	P	**P**	**03 17 30.6**	**+0.2**
COEN				IAmb	IAmb	03 17 59.5	
	comp=Z,18nm,1.2s						
WB0	**Warramunga Arr**	**26.44**	**164**	P	**P**	**03 17 37.9**	**-1.0**
WB0				IAmb	IAmb	03 17 44.0	
	comp=Z,9.1nm,0.5s						
WRA	**Warramunga Arr**	**26.59**	**164**	P	**P**	**03 17 39.6**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=342,slow=10,SNR=16						
WRA				PcP	**PcP**	**03 21 02.9**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=335,slow=2.4,SNR=3.0 comp=Z,2.6nm,0.7s						
WR8	**Warramunga Arr**	**26.65**	**163**		**P**	**03 17 39.9**	**-0.9**
MBWA	**Marble Bar**	**27.58**	**194**	P	**P**	**03 17 47.3**	**-1.8**
MBWA				IAmb	IAmb	03 17 57.6	
	comp=Z,14nm,1.2s						
ASAR	**Alice Springs**	**30.05**	**167**	P	**P**	**03 18 10.7**	**-0.4**
ASAR	**Alice Springs**	**30.05**	**167**	P	**P**	**03 18 10.6**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=345,slow=7.1,SNR=20						
ASAR				PcP	**PcP**	**03 21 11.4**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=349,slow=2.3,SNR=11 comp=Z,0.9nm,0.3s						
BBOO	**Buckleboo**	**39.35**	**168**	P	**P**	**03 19 30.9**	**-0.1**
BBOO				IAmb	IAmb	03 19 51.9	
	comp=Z,16nm,1.2s						
STKA	**Stephens Creek**	**40.00**	**160**	P	**P**	**03 19 35.9**	**-0.6**
STKA	**Stephens Creek**	**40.00**	**160**	P	**P**	**03 19 36.1**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=345,slow=6.4,SNR=7.4 comp=Z,3.7nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**40.99**	**68**	T	T	04 03 53.4	
	baz=257,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**41.01**	**68**	T	T	04 03 57.2	
	baz=257,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**41.01**	**68**	T	T	04 03 49.7	
	baz=257,slow=75,SNR=32						
ARMA	**Armidale**	**43.15**	**148**	P	**P**	**03 20 02.4**	**0.0**
DZM	**Mont Dzumac**	**47.73**	**127**	P	**P**	**03 20 39.7**	**+1.0**
DZM				IAmb	IAmb	03 20 43.5	
	comp=Z,7.6nm,1.0s						
MKAR	**Makanchi Array**	**55.91**	**325**	P	**P**	**03 21 38.4**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=117,slow=7.2,SNR=10 comp=Z,0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**58.81**	**333**	P	**P**	**03 21 59.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=128,slow=6.6,SNR=2.9 comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**60.05**	**327**	P	**P**	**03 22 06.3**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=122,slow=6.8,SNR=4.6 comp=Z,0.4nm,0.4s						
BVAR	**Borovoye Array**	**65.64**	**327**	P	**P**	**03 22 45.3**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=118,slow=8.6,SNR=5.3 comp=Z,0.5nm,0.5s						
ABKAR	**Akbulak array**	**70.60**	**320**	P	**P**	**03 23 16.6**	**+0.3**
CASY	**Casey**	**72.79**	**187**	P	**P**	**03 23 28.4**	**-0.6**
CASY				IAmb	IAmb	03 23 40.1	
	comp=Z,10nm,1.4s						
ILAR	**Eielson Array**	**83.32**	**26**	P	**P**	**03 24 29.5**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=279,slow=6.1,SNR=3.1 comp=Z,0.3nm,0.7s						
ARCES	**ARCESS Array B**	**88.57**	**340**	P	**P**	**03 24 52.4**	**-0.9**
	comp=Z,3.3nm,0.9s,baz=88,slow=6.6,SNR=5.5 comp=Z,3.3nm,0.9s						
FINES	**FINESS Array B**	**90.07**	**332**	P	**P**	**03 24 59.5**	**-0.9**
	comp=Z,2.1nm,0.9s,baz=89,slow=4.7,SNR=9.9 comp=Z,2.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**122.25**	**289**	PKP	**PKPdf**	**03 30 54.3**	**-2.2**
	comp=Z,0.3nm,0.5s,baz=67,slow=1.9,SNR=7.0						

IDC ***29*** *03:43:14.7±0.8,8˚.14S×155˚.98E,h0km,mb4.0/11, mbtmp4.1/13,ML4.2/2,MS3.7/2,Error ellipse: s-maj=26.7km s-min=18.6km az=91.0*
NEIC ***29*** *03:43:15.9±2.2,8˚.1S±0˚.2×156˚.11E±0˚.09,h10km±2km, mb4.3/7,Error ellipse: s-maj=26.0km s-min=14.0km az=8.0*

ISC 29 03:43:17.3±0.6,8˚.2S±0˚.1×156˚.10E±0˚.07,h18km,n25, σ1°23/26,mb4.1/13,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.00**	**109**	Pn	**Pn**	**03 44 17.6**	**-0.2**
HNR	**Honiara**	**4.00**	**109**	Pn	**Pn**	**03 44 18.3**	**+0.5**
	35nm,0.3s,baz=257,slow=4.0,SNR=4.3						
HNR				Sn	**Sn**	**03 45 03.8**	**-0.5**
	20nm,0.3s,baz=263,slow=19,SNR=1.4						
HNR				LR	LR	03 45 43.5	
	comp=Z,320nm,19.1s,baz=56,slow=36 420nm,0.8s						
PMG	**Port Moresby**	**8.92**	**261**		**Pn**	**03 45 25.7**	**+0.3**
PMG	**Port Moresby**	**8.92**	**261**	Pn	**Pn**	**03 45 27.9**	**+2.4**
	5.9nm,0.3s,baz=72,slow=13,SNR=10.0						
COEN	**Coen**	**13.93**	**244**	Pn	**Pn**	**03 46 33.8**	**-0.1**
DZM	**Mont Dzumac**	**17.03**	**145**	P	**P**	**03 47 16.2**	**-0.4**
DZM				IAmb	IAmb	03 47 19.8	
	comp=Z,12nm,0.9s						
DZM	**Mont Dzumac**	**17.03**	**145**	P	**P**	**03 47 16.6**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=353,slow=18,SNR=6.9 comp=Z,11nm,0.9s						
EIDS	**Eidsvold**	**17.76**	**195**	P	**P**	**03 47 25.4**	**+0.9**
EIDS				IAmb	IAmb	03 47 26.1

0.3nm,0.4s
ARCES ARCESS Array B 84.85 340 P **P** **03 59 31.4 +0.2**
4.6nm,1.1s,baz=78,slow=4.8,SNR=3.5
4.6nm,1.1s
FINES FINESS Array B 86.49 332 P **P** **03 59 39.9 +0.4**
1.0nm,0.4s,baz=77,slow=5.4,SNR=21
1.0nm,0.4s
HFS Hagfors 92.66 332 P **P** **04 00 08.1 -0.5**
0.6nm,0.4s,baz=72,slow=4.7,SNR=8.8
0.6nm,0.4s
PLCA Paso Flores 145.57 157 PKPbc **PKPdf** **04 06 35.5 -0.1**
3.0nm,1.0s,baz=300,slow=3.6,SNR=3.3

BJI ***29*** *03:48:13.4,21′.98N×144′.54E,h46km,mB4.8/12,mb5.0/58, Ms4.2/5,Ms7 4.0/4*
JMA ***29*** *03:48:15.8±0.4,22°.1±1°×14°.5E±°,h50km,MV5.5/29, IOTO ISLANDS REGION*
MOS ***29*** *03:48:17.7±1.1,22′.18N×144′.34E,h75km,mb5.1/34,Error ellipse: s-maj=11.5km s-min=5.1km az=119.9*
NEIC ***29*** *03:48:18.7±2.2,22′.29N±0°.07×144′.4E±0°.1,h62km±7km, mb4.8/123,Error ellipse: s-maj=16.5km s-min=10.5km az=81.0*
IDC ***29*** *03:48:20.1±2.4,22′.14N×144′.32E,h82km±21km,mb4.3/29, mbtmp4.7/30,MS3.6/4, Error ellipse: s-maj=15.6km s-min=9.7km az=75.0*

ISC 29 03:48:18.3±0.5,22′.24N±0°.04×144′.47E±0°.06,h64km±3km, h64km:pP-P,n541,σ1s14/513,mb4.8/136,16C-6D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**4.84**	**335**	P	**Pn**	**03 49 28.4**	**-0.3**
JHH2				S	**Sn**	**03 50 23.3**	**-0.2**
CBIJ	**Chichi jima**	**5.26**	**337**	P	**Pn**	**03 49 33.5**	**-0.8**
CBIJ				*e*S	**Sn**	**03 50 32.6**	**-1.0**
GUMO	**Guam**	**8.62**	**177**	P	**Pn**	**03 50 21.4**	**+1.0**
	48nm,0.8s,baz=2.8,slow=15,SNR=2.6						
JAOM	**Aogashimamukai**	**11.00**	**339**	*e*P	Pn	03 50 47.7	-5.2
JHJ2	**Mitsune**	**11.58**	**340**	Pn	**Pn**	**03 50 59.1**	**-1.7**
JHJ	**Hachijo jima 2**	**11.60**	**340**	P	**Pn**	**03 50 59.1**	**-2.0**
	110nm,0.9s,baz=77,slow=19,SNR=2.2						
JHJ				S	**Sn**	**03 53 02.1**	**-6.8**
	96nm,0.8s,baz=73,slow=19,SNR=1.3						
JMKN	**Mikurajimanish**	**12.38**	**341**	*e*P	**Pn**	**03 51 10.9**	**-0.8**
JMYK	**Miyake Tsubota**	**12.54**	**341**	*e*P	**Pn**	**03 51 13.4**	**-0.5**
JMZ	**Minamidaito 2**	**12.62**	**289**	Pn	**Pn**	**03 51 18.5**	**+3.5**
JMZ	**Minamidaito 2**	**12.62**	**289**	*e*P	**Pn**	**03 51 17.9**	**+2.9**
BSO1	**Boso 1**	**12.74**	**347**	P	**Pn**	**03 51 15.8**	**-0.3**
BSO1				*e*S	**Sn**	**03 53 30.2**	**-5.7**
BSO3	**Boso 3**	**12.99**	**345**	*e*P	**Pn**	**03 51 18.4**	**-1.3**
BSO4	**Boso 4**	**13.21**	**345**	*e*P	**Pn**	**03 51 22.1**	**-0.7**
BSO4				*e*S	**Sn**	**03 53 42.1**	**-5.8**
INU	**Inuyama**	**14.59**	**335**		**Pn**	**03 51 40.4**	**-0.9**
INU	**Inuyama**	**14.59**	**335**	P	**Pn**	**03 51 41.6**	**+0.3**
JGF	**Kuroka**	**14.69**	**337**		**Pn**	**03 51 41.5**	**-1.1**
JGF	**Kuroka**	**14.69**	**337**	P	**Pn**	**03 51 44.3**	**+1.7**
JMN	**Monobe**	**14.77**	**323**		**Pn**	**03 51 43.5**	**-0.2**
MJAR	**Matsushiro Arr**	**15.25**	**340**		**Pn**	**03 51 48.2**	**-1.6**
MJAR	**Matsushiro Arr**	**15.25**	**340**	P	**Pn**	**03 51 47.5**	**-2.3**
	2.0nm,0.3s,baz=160,slow=11,SNR=16						
MJAR				S	**Sn**	**03 54 30.1**	**-7.7**
	0.6nm,0.4s,baz=189,slow=22,SNR=2.1						
MJAR	**Matsushiro Arr**	**15.25**	**340**	P	**Pn**	**03 51 48.3**	**-1.6**
MAJO	**Matsushiro**	**15.25**	**340**		**Pn**	**03 51 48.1**	**-1.8**
MAJO	**Matsushiro**	**15.25**	**340**	P	**Pn**	**03 51 50.2**	**+0.3**
MAJO	**Matsushiro**	**15.25**	**340**	*i* P	**Pn**	**03 51 49.5**	**-0.4**
MJB9	**Matsu-Tunnel**	**15.26**	**340**		**Pn**	**03 51 47.8**	**-2.1**
JMM	**Marumori**	**15.89**	**349**		**Pn**	**03 51 55.8**	**-2.2**
JMM	**Marumori**	**15.89**	**349**	P	**Pn**	**03 51 59.1**	**+1.2**
JHS	**Saijyo**	**16.13**	**324**	*e*P	**Pn**	**03 52 01.6**	**+0.5**
JNU	**Nakatsue**	**16.18**	**315**	P	**P**	**03 52 02.5**	**-1.3**
JTU	**Tsushima**	**18.02**	**316**	P	**Pn**	**03 52 26.2**	**+1.9**
JTU	**Tsushima**	**18.02**	**316**	*e*P	**Pn**	**03 52 25.2**	**+0.9**
JTM	**Tenmabayashi**	**18.71**	**352**		**Pn**	**03 52 33.8**	**+1.1**
JTM				IAmb	IAmb	03 52 36.9	
	comp=Z,49nm,1.1s						
JTM	**Tenmabayashi**	**18.71**	**352**	P	**Pn**	**03 52 34.7**	**+2.1**
ERM	**Erimo**	**19.75**	**357**		**P**	**03 52 43.5**	**+0.6**
ERM	**Erimo**	**19.75**	**357**	P	**Pn**	**03 52 46.7**	**+1.8**
ERM	**Erimo**	**19.75**	**357**	P	**P**	**03 52 43.5**	**+0.6**
ERM				pmax	pmax		
	comp=Z,23nm,0.9s						
JEM	**Erimo**	**19.75**	**357**	P	**Pn**	**03 52 46.7**	**+1.8**
YOJ	**Yonaguni jima**	**19.82**	**281**	P	**P**	**03 52 44.0**	**+0.1**
YOJ				IAmb	IAmb	03 52 46.6	
	comp=Z,90nm,0.9s						
YOJ	**Yonaguni jima**	**19.82**	**281**	P	**P**	**03 52 44.0**	**+0.1**
YOJ				pmax	pmax		
	comp=Z,90nm,0.9s						
TJN	**Taejon**	**20.47**	**317**	P	Pn	03 52 52.4	-1.1
TJN	**Taejon**	**20.47**	**317**	*i* P	**P**	**03 52 49.9**	**-0.9**
KSRS	**Korea Array**	**20.83**	**320**	P	**P**	**03 52 54.5**	**-0.1**
	comp=Z,8.6nm,0.6s,baz=138,slow=8.1,SNR=23						
	comp=Z,8.6nm,0.6s						
KSAR	**Wonju Array Be**	**20.84**	**320**		**P**	**03 52 54.1**	**-0.7**
KSAR	**Wonju Array Be**	**20.84**	**320**	P	**P**	**03 52 54.1**	**-0.7**
KS19	**Wonju Array Si**	**20.89**	**320**	P	**P**	**03 52 55.0**	**-0.4**
H11N1	**WAKE ISLAND Hy**	**21.09**	**93**	T	T	04 15 17.9	
	baz=282,slow=74,SNR=21						
H11N2	**WAKE ISLAND Hy**	**21.09**	**93**	T	T	04 15 18.2	
	baz=282,slow=74,SNR=18						
H11N3	**WAKE ISLAND Hy**	**21.10**	**93**	T	T	04 15 31.4	
	baz=282,slow=74,SNR=20						
H11S3	**WAKE ISLAND Hy**	**21.16**	**96**	T	T	04 15 39.1	
	baz=283,slow=74,SNR=156						
H11S1	**WAKE ISLAND Hy**	**21.16**	**96**	T	T	04 15 27.3	
	baz=283,slow=74,SNR=85						
H11S2	**WAKE ISLAND Hy**	**21.17**	**96**	T	T	04 15 27.5	
	baz=283,slow=74,SNR=54						
YHNB	**Yeheng**	**21.32**	**281**		**P**	**03 52 59.2**	**-0.9**
YHNB				IAmb	IAmb	03 53 02.5	
	comp=Z,51nm,0.9s						
YHNB	**Yeheng**	**21.32**	**281**	P	**P**	**03 52 59.6**	**-0.5**
YULB	**Yu-li**	**21.39**	**278**	P	**P**	**03 53 01.2**	**+0.4**
YULB				IAmb	IAmb	03 53 06.0	
	comp=Z,47nm,0.9s						
YULB	**Yu-li**	**21.39**	**278**	P	**P**	**03 53 01.5**	**+0.7**
TWGBT	**Beinan**	**21.61**	**276**	P	**P**	**03 53 03.9**	**+0.7**
TWG	**Pinlang**	**21.62**	**276**	P	**P**	**03 53 03.2**	**0.0**
TWG				IAmb	IAmb	03 53 06.1	
	comp=Z,40nm,1.0s						
SSLB	**Suanglung**	**21.70**	**279**	P	**P**	**03 53 05.1**	**+1.0**
ASAJ	**Asahikawa**	**21.87**	**356**	P	**P**	**03 53 08.2**	**+2.4**
	comp=Z,10.0nm,0.8s,baz=241,slow=9.6,SNR=5.0						
	comp=Z,10.0nm,0.8s						
MSHR	**Mys Shultsa**	**23.13**	**334**	*ce*P	**P**	**03 53 19.4**	**+0.4**
MSHR				pmax	pmax		
	comp=Z,19nm,0.9s						
VLA	**Vladivostok**	**23.31**	**336**	*i* P	**P**	**03 53 20.5**	**-0.2**
VLA				pmax	pmax		
	comp=Z,35nm,0.9s						
TEY	**Ternei**	**23.64**	**346**	*e*P	P	03 53 12.7	-11
DAV	**Davao City (W)**	**23.65**	**233**	LR	LR	04 04 56.0	
	comp=Z,85nm,18.4s,baz=54,slow=42						
USRK	**Ussuriysk Ar.**	**24.20**	**338**	P	**P**	**03 53 30.5**	**+1.7**
	comp=Z,16nm,0.8s,baz=156,slow=9.0,SNR=29						
	comp=Z,16nm,0.8s						
SMPI	**Sarmi**	**24.73**	**194**	P	**P**	**03 53 34.1**	**+0.2**
	comp=Z,20nm,1.0s						
NJ2	**Nanjing**	**24.75**	**299**	⇑P	**P**	**03 53 34.5**	**+0.6**
NJ2				pP	**pP**	**03 53 48.3**	**0.0**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
JAY	**Jayapura**	**24.88**	**189**	P	**P**	**03 53 35.3**	**0.0**
	comp=Z,14nm,0.9s,baz=16,slow=6.5,SNR=6.7						
	comp=Z,14nm,0.9s						
JAY	**Jayapura**	**24.88**	**189**	P	**P**	**03 53 35.3**	**0.0**
MDJ	**Mudanjiang**	**25.45**	**335**	P	**P**	**03 53 41.8**	**+1.6**
MDJ				pmax	pmax		
	comp=Z,21nm,1.1s						
MDJ	**Mudanjiang**	**25.45**	**335**	P	**P**	**03 53 42.6**	**+2.4**
DL2	**Dalian**	**25.63**	**316**	P	**P**	**03 53 41.8**	**-0.1**
DL2				pmax	pmax		
	comp=Z,64nm,0.6s						
CN2	**Changchun**	**26.65**	**328**	P	**P**	**03 53 51.8**	**+0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BNX	**BinXian**	**27.26**	**333**	⇑P	**P**	**03 53 58.0**	**+1.5**
BNX				pmax	pmax		
	comp=Z,21nm,0.9s						
TIA	**Tai'an**	**27.51**	**306**	P	**P**	**03 53 58.5**	**-0.4**
TIA				pmax	pmax		
	comp=Z,17nm,1.0s						
WHN	**Wuhan**	**28.15**	**293**	P	**P**	**03 54 05.0**	**+0.3**
WHN				pmax	pmax		
	comp=Z,30nm,0.7s						
HNS	**HongShan**	**29.76**	**307**	⇓P	**P**	**03 54 18.8**	**0.0**
HNS				pmax	pmax		
	comp=Z,16nm,0.9s						
BJT	**Baijiatuau**	**29.83**	**313**		**P**	**03 54 18.7**	**-0.7**
BJT	**Baijiatuau**	**29.83**	**313**	P	**P**	**03 54 23.3**	**+3.9**
BJT	**Baijiatuau**	**29.83**	**313**	P	**P**	**03 54 18.7**	**-0.7**
BJT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BJI	**Beijing**	**29.84**	**313**	P	**P**	**03 54 18.3**	**-1.2**
MYLDM	**Lahad Datu**	**30.31**	**240**	P	**P**	**03 54 25.1**	**+1.2**
HEH	**HeiHe**	**31.00**	**339**	*e*P	**P**	**03 54 30.8**	**+1.2**
HEH				pP	**pwP**	**03 54 48.0**	**-0.5**
HEH				pmax	pmax		
	comp=Z,46nm,1.1s						
TOLI2	**Tolitoli**	**31.18**	**231**	P	**P**	**03 54 32.6**	**+1.0**
PETK	**Petropavlovsk-**	**32.44**	**15**	LR	LR	04 07 09.1	
	comp=Z,124nm,19.8s,baz=249,slow=35						
XAN	**Xi'an**	**33.32**	**298**	P	**P**	**03 54 51.8**	**+1.6**
XAN				pP	pwP	03 55 07.8	-1.5
XAN				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC	**Hu-ho-hao-te**	**33.35**	**311**	*e*P	**P**	**03 54 52.8**	**+2.3**
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,65nm,5.8s						
BTO	**Baotou**	**34.34**	**310**	*e*P	**P**	**03 54 59.5**	**+0.4**
BTO				S	**S**	**04 00 25.5**	**+3.3**
BTO				pmax	pmax		
	comp=Z,13nm,1.1s						
BTO				pmax	pmax		
	comp=Z,290nm,5.4s						
BTO				LR	LR		
	comp=Z,360nm,17.7s						
BTO				LR	LR		
	comp=Z,230nm,10.0s						
BTO				LR	LR		
	comp=Z,330nm,14.5s						
SPSI	**Sidrap Palu**	**35.52**	**226**	P	**P**	**03 55 10.0**	**+0.6**
	comp=Z,28nm,0.7s						
BNSI	**Bone**	**35.63**	**225**	P	**P**	**03 55 11.9**	**+1.7**
	comp=Z,18nm,1.2s						
COEN	**Coen**	**36.00**	**182**		**P**	**03 55 12.4**	**-0.9**
COEN	**Coen**	**36.00**	**182**	P	**P**	**03 55 12.5**	**-0.9**
SBUM	**Sibu**	**36.98**	**242**	P	**P**	**03 55 22.3**	**+0.4**
SBUM				IAmb	IAmb	03 55 23.4	
	comp=Z,36nm,1.6s						
SBUM	**Sibu**	**36.98**	**242**	P	**P**	**03 55 23.7**	**+1.8**
CD2	**Chengdu**	**37.25**	**292**	P	**P**	**03 55 23.0**	**-1.1**
CD2				pP	pP	03 55 35.5	-3.5
CD2				sP	pwP	03 55 42.8	+0.1
CD2				pmax	pmax		
	comp=Z,50nm,0.7s						
SLVN	**Son La**	**37.60**	**276**	IAmb	IAmb	03 55 27.4	
	comp=Z,7.8nm,0.7s						
SLVN	**Son La**	**37.60**	**276**	P	**P**	**03 55 26.9**	**-0.2**
LZH	**Lanzhou**	**37.79**	**301**	*e*P	**P**	**03 55 28.5**	**-0.2**
LZH				pP	pwP	03 55 45.5	-2.3
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
LZDM	**Lanzhou Array**	**37.88**	**300**	P	**P**	**03 55 30.1**	**+0.4**
	comp=Z,5.1nm,0.3s,baz=134,slow=6.4,SNR=13						
LZDM				LR	LR	04 11 36.2	
	comp=Z,167nm,21.7s,baz=355,slow=37						
	comp=Z,5.1nm,0.3s						
KMI	**Kunming**	**38.22**	**283**	P	**P**	**03 55 32.5**	**0.0**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH	**PanZhiHua**	**39.02**	**285**	P	**P**	**03 55 39.3**	**+0.2**
PZH				pmax	pmax		
	comp=Z,30nm,1.0s						
ULN	**Ulaanbaatar**	**39.31**	**320**	*ce*P	**P**	**03 55 41.1**	**-0.2**
ULN				*i* *PP	**pP**	**03 55 55.4**	**-0.6**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ULN	**Ulaanbaatar**	**39.31**	**320**	P	**P**	**03 55 41.4**	**+0.1**
SONM	**Songino Array**	**39.69**	**319**	P	**P**	**03 55 44.3**	**-0.1**
SONM	**Songino Array**	**39.69**	**319**	P	**P**	**03 55 44.4**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=132,slow=7.3,SNR=10						
	comp=Z,2.4nm,0.5s						
SONM	**Songino Array**	**39.69**	**319**	P	**P**	**03 55 44.3**	**-0.1**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SEY	**Seymchan**	**41.02**	**6**	*ce*P	**P**	**03 55 56.2**	**+1.2**
SEY				pmax	pmax		
	comp=Z,7.0nm,1.1s						
YAK	**Yakutsk**	**41.04**	**349**	*e*P	**P**	**03 55 55.0**	**-0.1**
YAK				*e*		03 57 55.1	
YAK				*e*S	**S**	**04 02 06.6**	**+3.8**
YAK				*e*SS	**SS**	**04 05 06.2**	**-0.8**
YAK				pmax	pmax		
	comp=Z,32nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				smax	smax		
	comp=N,191nm,3.0s						
YAK				smax	smax		
	comp=E,99nm,2.4s						
YAK	**Yakutsk**	**41.04**	**349**	P	**P**	**03 55 55.5**	**+0.4**
YAK				pP	**pP**	**03 56 10.6**	**+0.6**
GTA	**Gaotai**	**41.53**	**305**	*e*P	**P**	**03 55 59.8**	**+0.1**
GTA				pP	pP	03 56 10.0	-4.8
GTA				PcP	**PcP**	**03 57 56.8**	**+0.6**
GTA				pmax	pmax		
	comp=E,9.0nm,1.2s						
CTAO	**Charters Tower**	**42.11**	**177**	P	**P**	**03 56 03.1**	**-1.3**
CTAO				IAmb	IAmb	03 56 06.8	
	comp=Z,26nm,1.8s						
CTAO	**Charters Tower**	**42.11**	**177**	P	**P**	**03 56 03.1**	**-1.3**
CTAO				pmax	pmax		
	comp=Z,26nm,1.8s						
ZAK	**Zakamensk**	**42.65**	**322**	*e*P	**P**	**03 56 08.3**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.4s						
CHTO	**Chiang Mai**	**42.65**	**274**	P	**P**	**03 56 07.7**	**-1.2**
CHTO	**Chiang Mai**	**42.65**	**274**	P	**P**	**03 56 08.5**	**-0.5**
CHTO	**Chiang Mai**	**42.65**	**274**	P	**P**	**03 56 07.7**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,11nm,1.1s						
CHTO	**Chiang Mai**	**42.65**	**274**	P	**P**	**03 56 07.6**	**-1.4**
CMAR	**Chiang Mai Arr**	**42.73**	**273**	P	**P**	**03 56 08.8**	**-0.8**
	comp=Z,4.7nm,0.6s,baz=57,slow=8.3,SNR=24						
CMAR				LR	LR	04 12 33.3	
	comp=Z,87nm,21.6s,baz=210,slow=34						
	comp=Z,4.7nm,0.6s						
WB0	**Warramunga Arr**	**42.90**	**194**	IAmb	IAmb	03 56 12.2	
	comp=Z,18nm,1.3s						
WR8	**Warramunga Arr**	**43.06**	**194**	P	**P**	**03 56 10.4**	**-1.7**
WRAB	**Tennant Creek**	**43.07**	**194**	P	**P**	**03 56 10.9**	**-1.2**
WRA	**Warramunga Arr**	**43.08**	**194**	P	**P**	**03 56 10.4**	**-1.9**
WRA	**Warramunga Arr**	**43.08**	**194**	P	**P**	**03 56 10.6**	**-1.7**
	comp=Z,5.3nm,0.4s,baz=14,slow=8.8,SNR=28						
WRA				ScP	**ScP**	**04 01 45.5**	**-1.5**
	comp=Z,1.2nm,0.9s,baz=10,slow=4.0,SNR=5.3						
	comp=Z,5.3nm,0.4s						
WRA	**Warramunga Arr**	**43.08**	**194**	P	**P**	**03 56 10.4**	**-1.9**
FITZ	**Fitzroy Crossi**	**44.12**	**206**	P	**P**	**03 56 20.7**	**+0.1**
GOMU	**GeErMu**	**45.05**	**299**	P	**P**	**03 56 28.5**	**+0.1**
GOMU				pP	pP	03 56 43.0	-0.8
GOMU				pmax	pmax		
	comp=Z,22nm,1.0s						
KULM	**Kulim**	**45.56**	**255**	P	**P**	**03 56 32.1**	**-0.2**
KULM				IAmb	IAmb	03 56 33.0	
	comp=Z,27nm,1.3s						
ASAR	**Alice Springs**	**46.78**	**193**	P	**P**	**03 56 40.2**	**-1.4**
	comp=Z,1.3nm,0.4s,baz=17,slow=10.0,SNR=16						
	comp=Z,1.3nm,0.4s						
NIKH	**Nikolski High**	**46.83**	**37**	P	**P**	**03 56 41.9**	**+0.2**
	baz=248						
BILL	**Bilibino**	**47.76**	**11**	*i* P	**P**	**03 56 49.3**	**+0.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SPIA	**Saint Paul Isl**	**47.88**	**31**	P	**P**	**03 56 49.4**	**-0.4**
	baz=243						
SHL	**Shillong**	**47.94**	**285**	P	**P**	**03 56 49.6**	**-1.3**
SHL	**Shillong**	**47.94**	**285**	P	**P**	**03 56 49.6**	**-1.3**
SHL				pmax	pmax		
	comp=Z,12nm,0.4s						
P08K	**Saint George I**	**47.96**	**32**	P	**P**	**03 56 50.4**	**0.0**
	baz=244						
LSA	**Lhasa**	**48.16**	**291**	IAmb	IAmb	03 56 55.0	
	comp=Z,18nm,0.9s						
LSA	**Lhasa**	**48.16**	**291**	P	**P**	**03 56 52.1**	**-0.9**
LSA				pmax	pmax		
	comp=Z,20nm,0.9s						
QLP	**Quilpie**	**48.54**	**180**	P	**P**	**03 56 53.4**	**-1.7**
DZM	**Mont Dzumac**	**48.98**	**153**	P	**P**	**03 56 57.9**	**-0.8**
DZM	**Mont Dzumac**	**48.98**	**153**	P	**P**	**03 56 57.7**	**-1.0**
	comp=Z,6.7nm,0.7s,baz=352,slow=13,SNR=7.7						
	comp=Z,6.7nm,0.7s						
DZM	**Mont Dzumac**	**48.98**	**153**	P	**P**	**03 56 59.3**	**+0.6**
PSA00	**Pilbara Seismi**	**49.73**	**211**	P	**P**	**03 57 04.2**	**-0.1**
FALS	**False Pass**	**50.50**	**36**	P	**P**	**03 57 09.5**	**-0.3**
	baz=251						
GAMB	**Gambell**	**50.65**	**23**	P	**P**	**03 57 10.9**	**+0.2**
	baz=236						
WMQ	**Urumqi**	**51.16**	**309**	*e*P	**P**	**03 57 16.3**	**+1.2**
M11K	**Mekoryuk**	**51.20**	**29**	P	**P**	**03 57 15.0**	**0.0**
	baz=244						
S12K	**Black Hills**	**51.51**	**36**	P	**P**	**03 57 17.5**	**+0.1**
	baz=252						
SDPT	**Sand Point**	**52.26**	**36**	P	**P**	**03 57 23.3**	**+0.4**
	baz=254						
M13K	**Dall Lake**	**52.51**	**30**	P	**P**	**03 57 25.3**	**+0.6**
	baz=247						
K13K	**Kusilvak Mount**	**52.55**	**28**	P	**P**	**03 57 25.6**	**+0.6**
	baz=245						
CHNA	**Chernabura Isl**	**52.62**	**37**	P	**P**	**03 57 26.0**	**+0.5**
	baz=255						
TNA	**Tin City**	**52.98**	**23**	P	**P**	**03 57 29.1**	**+1.0**
	baz=239						
S14K	**Fog Glacier**	**53.02**	**35**	P	**P**	**03 57 29.4**	**+0.7**
	baz=254						
O14K	**Tigyukauivet M**	**53.07**	**31**	P	**P**	**03 57 29.3**	**+0.4**
	baz=250						
N14K	**Kuskokwak Cree**	**53.10**	**31**	P	**P**	**03 57 29.6**	**+0.6**
	baz=249						
L14K	**Kuka Creek**	**53.17**	**29**	P	**P**	**03 57 30.5**	**+1.0**
	baz=247						
M14K	**Bethel**	**53.27**	**30**	P	**P**	**03 57 30.9**	**+0.6**
	baz=248						
J14K	**Nanvaranak Lak**	**53.36**	**27**	P	**P**	**03 57 31.4**	**+0.5**
	baz=246						
ANM	**Nome**	**53.43**	**24**	P	**P**	**03 57 32.0**	**+0.5**
	baz=242						
F14K	**Arctic Creek**	**53.51**	**23**	P	**P**	**03 57 32.6**	**+0.5**
	baz=241						
CHGN	**Chignik**	**53.64**	**36**	P	**P**	**03 57 33.5**	**+0.4**
	baz=255						
O15K	**Ungalikthiuk R**	**53.74**	**32**	P	**P**	**03 57 34.0**	**+0.2**
	baz=252						
L15K	**Ungalak Mounta**	**53.83**	**29**	P	**P**	**03 57 35.2**	**+0.8**
	baz=248						
M15K	**Kasigluk River**	**53.83**	**30**	P	**P**	**03 57 34.7**	**+0.2**
	baz=250						
STKA	**Stephens Creek**	**53.88**	**183**	P	**P**	**03 57 33.4**	**-1.8**
	comp=Z,3.8nm,0.7s,baz=353,slow=7.5,SNR=10						
	comp=Z,3.8nm,0.7s						
N15K	**Kwethluk River**	**53.93**	**31**	P	**P**	**03 57 35.7**	**+0.5**
	baz=251						
K15K	**Wolf Creek Mou**	**54.04**	**28**	P	**P**	**03 57 35.7**	**-0.2**
	baz=248						
G15K	**Niukluk**	**54.14**	**24**	P	**P**	**03 57 36.3**	**-0.3**
	baz=244						
F15K	**North Star Dit**	**54.24**	**23**	P	**P**	**03 57 36.9**	**-0.4**
	baz=242						
R16K	**Pilot Point**	**54.41**	**34**	P	**P**	**03 57 38.6**	**-0.1**
	baz=255						
ZAA0	**Zalesovo Array**	**54.53**	**321**	P	**P**	**03 57 39.0**	**-0.6**
ZAA0				IAmb	IAmb	03 57 39.8	
	comp=Z,11nm,1.2s						
ZALV	**Zalesovo Beam**	**54.53**	**321**	P	**P**	**03 57 38.8**	**-0.8**
	comp=Z,4.5nm,0.4s,baz=107,slow=8.7,SNR=22						
	comp=Z,4.5nm,0.4s						
P16K	**Nushagak River**	**54.60**	**32**	P	**P**	**03 57 39.6**	**-0.4**
	baz=254						
N16K	**Nishlik Lake**	**54.66**	**31**	P	**P**	**03 57 40.6**	**+0.1**
	baz=252						
H16K	**Elim**	**54.68**	**25**	P	**P**	**03 57 40.9**	**+0.4**
	baz=246						
O16K	**Kokwok River B**	**54.71**	**32**	P	**P**	**03 57 41.1**	**+0.3**
	baz=253						
L16K	**Owhat River**	**54.73**	**29**	P	**P**	**03 57 41.4**	**+0.4**
	baz=250						
M16K	**Timber Creek**	**54.74**	**30**	P	**P**	**03 57 41.1**	**+0.1**
	baz=251						
J16K	**Anvik River**	**54.81**	**27**	P	**P**	**03 57 41.6**	**+0.1**
	baz=248						
G16K	**Koyuk River**	**54.95**	**24**	P	**P**	**03 57 43.2**	**+0.7**
	baz=245						
I17K	**Unalakleet**	**55.00**	**26**	P	**P**	**03 57 43.2**	**+0.4**
	baz=248						
R17L	**Mt. Peulik Vol**	**55.06**	**34**	P	**P**	**03 57 44.0**	**+0.5**
	baz=256						
Q16K	**King Salmon**	**55.17**	**33**	P	**P**	**03 57 44.0**	**-0.2**
	baz=255						
MK31	**Makanchi Array**	**55.21**	**312**	*ce*P	**P**	**03 57 44.8**	**+0.1**
MKAR	**Makanchi Array**	**55.21**	**312**	P	**P**	**03 57 44.7**	**0.0**
	comp=Z,13nm,0.7s,baz=93,slow=9.2,SNR=44						
	comp=Z,13nm,0.7s						
C16K	**Lisburne Hills**	**55.24**	**20**	P	**P**	**03 57 44.6**	**+0.1**
	baz=240						
O17K	**Koliganek Bris**	**55.25**	**32**	P	**P**	**03 57 44.8**	**+0.1**
	baz=254						
L17K	**Donlin**	**55.40**	**29**	P	**P**	**03 57 45.7**	**0.0**
	baz=251						
P17K	**Kvichak River**	**55.42**	**32**	P	**P**	**03 57 45.8**	**-0.1**
	baz=255						
N17K	**Nushagak Hills**	**55.42**	**31**	P	**P**	**03 57 46.2**	**+0.3**
	baz=253						
MAKZ	**Makanchi**	**55.43**	**312**

baz=258
C18K **Utukok River** 56.77 21 P P 03 57 55.6 +0.1
baz=244
N19K **Bonanza Creek** 56.78 31 P P 03 57 56.1 +0.3
baz=256
GCSA **Galena City Sc** 56.86 26 P P 03 57 56.4 +0.4
baz=251
B18K **Kokolik River** 56.89 20 P P 03 57 56.7 +0.4
baz=243
L19K **White Mountain** 56.96 29 P P 03 57 56.7 -0.2
baz=254
KDAK **Kodiak Island** 57.08 35 P P 03 57 57.8 +0.1
baz=260
M19K **Big River Lodg** 57.10 30 P P 03 57 58.1 +0.2
baz=255
P19K **Oil Pt** 57.12 32 P P 03 57 58.3 +0.2
baz=258
J19K **Poorman** 57.14 27 P P 03 57 58.5 +0.4
baz=253
F19K **Shaleruckik Mo** 57.23 23 P P 03 57 59.1 +0.4
baz=249
H19K **Roundabout Mou** 57.29 25 P P 03 58 00.7 +1.6
H19K IAmb IAmb 03 58 01.8
comp=Z,6.5nm,0.8s
H19K **Roundabout Mou** 57.29 25 P P 03 57 58.9 -0.2
baz=251
Q20K **Shuyak Island** 57.33 34 P P 03 58 00.1 +0.5
baz=259
L20K **Farewell, AK** 57.48 29 P P 03 58 01.2 +0.7
baz=255
C19K **Lookout Ridge** 57.49 21 P P 03 58 01.0 +0.4
baz=246
A19K **Wainwright** 57.50 19 P P 03 58 01.2 +0.7
baz=243
O20K **Slope Mountain** 57.51 32 P P 03 58 01.2 +0.3
baz=258
K20K **Telida** 57.62 28 P P 03 58 01.6 0.0
baz=255
E19K **Redstone River** 57.66 23 P P 03 58 02.1 +0.3
baz=249
M20K **Styx River** 57.67 30 P P 03 58 02.3 +0.2
baz=256
D19K **Kuna River** 57.74 22 P P 03 58 03.3 +1.0
baz=247
J20K **Nowinta River** 57.81 27 P P 03 58 03.8 +1.0
baz=254
I20K **Naaghedeneel** 57.85 26 P P 03 58 04.0 +0.9
baz=253
KURK **Kurchatov** 57.89 317 P P 03 58 03.2 -0.4
KURK **Kurchatov** 57.89 317 *ce*P P 03 58 03.3 -0.4
KURK pmax pmax
comp=Z,18nm,0.7s
KURK **Kurchatov** 57.89 317 P P 03 58 03.1 -0.5
KURK sP **sP** 03 58 25.8 0.0
H20K **Anotleneega Mo** 57.90 25 P P 03 58 04.3 +0.8
baz=252
PRZ **Przheval'sk** 57.91 307 P P 03 58 05.2 +1.0
PRZ pmax pmax
comp=Z,49nm,1.0s
KURBB **Kurchatov Arra** 57.95 317 P P 03 58 03.5 -0.5
comp=Z,20nm,0.6s,baz=93,slow=7.6,SNR=154
comp=Z,20nm,0.6s
N20K **Mount Spurr** 57.95 31 P P 03 58 04.4 +0.4
baz=258
SPCR **Spurr Chakacha** 57.95 31 P P 03 58 04.7 +0.8
baz=259
F20K **Avaraart Lake** 58.07 24 P P 03 58 05.1 +0.6
baz=251
E20K **Nigu River** 58.31 22 P P 03 58 07.0 +0.6
baz=250
D20K **Etivluk River** 58.33 22 P P 03 58 06.6 +0.2
baz=249,SNR=6.1
PPLA **Purkeypile** 58.34 29 P P 03 58 07.2 +0.5
baz=257
BRSE **Bradley Lake S** 58.37 33 P P 03 58 07.2 +0.3
baz=260
TARG **Taragay, Kyrgy** 58.38 306 IAmb IAmb 03 58 10.2
comp=Z,14nm,1.0s
TARG **Taragay, Kyrgy** 58.38 306 P P 03 58 09.0 +1.2
TARG pmax pmax
comp=Z,16nm,1.1s
SKT **Skwentna** 58.43 30 P P 03 58 07.7 +0.4
baz=258
CHUM **Lake Minchumin** 58.52 28 P P 03 58 08.0 +0.3
baz=256
B20K **Meade River** 58.63 20 P P 03 58 09.0 +0.5
baz=248
SUA **Susitna One** 58.69 31 P P 03 58 09.0 -0.2
baz=259
G21K **Allakaket** 58.74 24 P P 03 58 09.8 +0.5
baz=253
H21K **Melozitna Rive** 58.77 26 P P 03 58 09.8 +0.2
baz=254
KDJ **Kajisay** 58.83 307 IAmb IAmb 03 58 13.4
comp=Z,14nm,1.0s
KDJ **Kajisay** 58.83 307 P P 03 58 11.6 +1.0
KDJ pmax pmax
comp=Z,13nm,1.1s
F21K **Alatna River** 58.95 24 P P 03 58 11.1 +0.3
baz=253
I21K **Tanana** 58.98 26 P P 03 58 10.9 -0.1
baz=256
O22K **Cooper Landing** 59.00 32 P P 03 58 11.2 0.0
baz=260
M22K **Willow** 59.04 30 P P 03 58 11.8 +0.4
baz=259
SEW **Seward** 59.08 32 P P 03 58 12.5 +0.8
baz=261
CUT **Chulitna** 59.10 30 P P 03 58 12.1 +0.3
baz=259
RC01 **Rabbit Creek A** 59.10 31 P P 03 58 12.2 +0.3
baz=260
C21K **Knifeblade Rid** 59.10 21 P P 03 58 11.9 +0.1
baz=250
BPAW **Bear Paw Mtn.** 59.13 28 IAmb IAmb 03 58 14.4
comp=Z,6.7nm,0.8s
BPAW **Bear Paw Mtn.** 59.13 28 P P 03 58 12.5 +0.4
baz=257
E21K **Killik River** 59.15 22 P P 03 58 12.3 +0.1
baz=252
TRF **Thorofare Moun** 59.30 28 IAmb IAmb 03 58 15.1
comp=Z,8.9nm,0.8s
TRF **Thorofare Moun** 59.30 28 P P 03 58 14.2 +0.8
baz=258
A21K **Barrow** 59.31 19 P P 03 58 14.2 +1.1
baz=247
B21K **Ikpikpuk River** 59.32 21 P P 03 58 13.7 +0.5
baz=250
H22K **Ishtalitna Cre** 59.40 25 P P 03 58 14.4 +0.5
baz=256
MLY **Manley** 59.45 26 P P 03 58 14.9 +0.6
baz=257
PMR **Palmer** 59.48 31 P P 03 58 15.3 +0.9
baz=260
F22K **John River** 59.52 24 P P 03 58 15.6 +0.9
baz=254
ULHL **Ulahol** 59.52 307 P P 03 58 16.4 +1.0
SNR=10.0
G22K **Bettles** 59.61 24 P P 03 58 16.1 +0.8
baz=255
A22K **Sinclair Lake** 59.69 19 P P 03 58 16.5 +0.7
baz=249
D22K **Ayikyak River** 59.73 22 P P 03 58 18.5 +2.3
D22K **Ayikyak River** 59.73 22 P P 03 58 17.0 +0.8
baz=253,SNR=7.1
PWL **Port Wells** 59.74 31 P P 03 58 16.7 +0.4
baz=262
KNK **Knik Glacier** 59.76 31 P P 03 58 17.0 +0.5
baz=261
E22K **Anaktuvuk Pass** 59.83 23 IAmb IAmb 03 58 19.7
comp=Z,6.3nm,0.8s
E22K **Anaktuvuk Pass** 59.83 23 P P 03 58 17.0 +0.1
baz=254
SML **Sawmill** 59.89 30 IAmb IAmb 03 58 19.5
comp=Z,10nm,0.7s
SML **Sawmill** 59.89 30 P P 03 58 17.8 +0.4
baz=261
KSH **Kashi** 59.92 304 P P 03 58 21.0 +2.9
KSH pmax pmax
comp=Z,8.0nm,1.3s
B22K **Teshekpuk Lake** 59.95 20 P P 03 58 18.2 +0.7
baz=251
MCK **McKinley** 59.95 28 P P 03 58 18.2 +0.5
baz=259
WAT1 **Susitna Watana** 59.95 29 P P 03 58 18.1 +0.3
baz=260
TKM2 **Tokmak 2** 59.96 308 P P 03 58 18.9 +0.5
SNR=19

I23K **Minto, Yukon-K** 60.05 26 IAmb IAmb 03 58 51.0
comp=Z,29nm,2.0s
I23K **Minto, Yukon-K** 60.05 26 P P 03 58 18.9 +0.6
baz=258,SNR=6.4
NEA2 **Nenana** 60.06 27 P P 03 58 19.2 +0.8
baz=259
P23K **Montague Islan** 60.08 33 P P 03 58 19.3 +0.7
baz=263
H23K **Yukon River** 60.12 26 IAmb IAmb 03 58 57.0
comp=Z,7.2nm,1.2s
H23K **Yukon River** 60.12 26 P P 03 58 19.5 +0.7
baz=258
G23K **Bananza Creek** 60.13 25 IAmb IAmb 03 58 39.9
comp=Z,4.7nm,0.9s
G23K **Bananza Creek** 60.13 25 P P 03 58 19.9 +1.0
baz=256
M23K **Glacier View** 60.17 30 P P 03 58 20.2 +0.9
baz=262
COLD **Coldfoot** 60.18 24 IAmb IAmb 03 58 28.8
comp=Z,14nm,1.6s
COLD **Coldfoot** 60.18 24 P P 03 58 20.1 +0.8
baz=256
WAT6 **Susitna Watana** 60.28 30 P P 03 58 20.7 +0.5
baz=261
GLI **Glacier Island** 60.34 32 P P 03 58 20.6 +0.1
baz=263
SCM **Sheep Creek Mo** 60.36 30 P P 03 58 21.3 +0.6
baz=262
KBK **Karagaybulak** 60.45 307 P P 03 58 22.6 +0.9
SNR=5.8
D23K **Nanushuk River** 60.45 22 P P 03 58 21.8 +0.7
baz=255
DHY **Denali Highway** 60.53 29 P P 03 58 22.1 +0.2
baz=261
E23K **Chandalar** 60.60 23 P P 03 58 22.7 +0.5
baz=256,SNR=8.1
COLA **College** 60.62 27 P P 03 58 23.0 +0.8
baz=260
C23K **Itkillik River** 60.71 21 P P 03 58 22.9 +0.1
baz=254,SNR=7.0
USP **Ospenovka** 60.74 308 P P 03 58 23.6 +0.1
SNR=8.3
TOLK **Toolik Lake Re** 60.76 23 P P 03 58 24.2 +1.0
baz=256,SNR=6.9
AAK **Ala-Archa** 60.78 307 P P 03 58 24.6 +0.6
SNR=6.4
AAK **Ala-Archa** 60.78 307 P P 03 58 23.8 -0.2
AAK IAmb IAmb 03 58 25.1
comp=Z,7.9nm,0.9s
AAK **Ala-Archa** 60.78 307 *ce*P P 03 58 24.4 +0.4
AAK pmax pmax
comp=Z,15nm,1.7s
H24K **Noodor Dome** 60.79 26 IAmb IAmb 03 58 25.5
comp=Z,9.7nm,1.4s
H24K **Noodor Dome** 60.79 26 P P 03 58 24.1 +0.6
baz=259
POKR **Poker Plat Res** 60.84 27 P P 03 58 24.4 +0.7
baz=260
HDA **Harding Lake** 60.93 28 IAmb IAmb 03 58 24.7
comp=Z,3.4nm,0.6s
HDA **Harding Lake** 60.93 28 P P 03 58 25.1 +0.8
baz=261
M24K **Tolsona, Glenn** 60.94 30 P P 03 58 25.0 +0.4
baz=263
EYAK **Cordova Ski Ar** 60.96 32 P P 03 58 25.1 +0.5
baz=264
KLU **Klutina** 60.98 31 P P 03 58 25.7 +0.8
baz=263
IL31 61.01 27 IAmb IAmb 03 58 25.6
comp=Z,5.0nm,0.8s
ILAR **Eielson Array** 61.01 27 P P 03 58 24.7 -0.2
comp=Z,2.9nm,0.7s,baz=260,slow=5.5,SNR=37
comp=Z,2.9nm,0.7s
E24K **Your Creek** 61.02 23 IAmb IAmb 03 58 27.9
comp=Z,5.9nm,0.6s
E24K **Your Creek** 61.02 23 P P 03 58 25.6 +0.6
baz=257
G24K **Hadweenzic Riv** 61.12 25 P P 03 58 26.2 +0.6
baz=259
F24K **Squaw Lake** 61.12 24 P P 03 58 26.6 +0.9
baz=258
D24K **Happy Valley** 61.15 22 IAmb IAmb 03 58 28.6
comp=Z,8.6nm,0.9s
D24K **Happy Valley** 61.15 22 P P 03 58 26.5 +0.7
baz=256
EKS2 **Erkin-Say** 61.31 307 P P 03 58 27.6 +0.1
SNR=9.8
C24K **Franklin Bluff** 61.33 21 P P 03 58 27.9 +1.0
baz=256
K24K **Donnelly Dome** 61.34 28 P P 03 58 27.7 +0.5
baz=262
PAX **Paxson** 61.37 29 P P 03 58 28.1 +0.6
baz=263
HARP **HAARP** 61.45 30 P P 03 58 28.5 +0.6
baz=264
BMRM **Bremner River** 61.56 32 P P 03 58 29.0 +0.3
baz=265
KAIM **Kayak Island** 61.56 33 P P 03 58 29.3 +0.6
baz=266
N25K **Chitina, Valde** 61.62 31 P P 03 58 29.7 +0.5
baz=264
J25K **Salcha River,** 61.63 27 IAmb IAmb 03 59 31.4
comp=Z,8.8nm,1.5s
J25K **Salcha River,** 61.63 27 P P 03 58 29.9 +0.7
baz=262
G25K **Bearman Lake** 61.67 25 P P 03 58 30.1 +0.8
baz=260
H25L **Birch Creek** 61.70 26 P P 03 58 30.6 +1.2
baz=261
PRP **Porcupine Dome** 61.70 26 P P 03 58 30.3 +0.6
baz=262
RIDG **Independent Ri** 61.75 28 P P 03 58 30.7 +0.8
baz=263
F25K **Christian Rive** 61.98 24 P P 03 58 32.4 +0.9
baz=260
D25K **Kavik River** 62.04 22 IAmb IAmb 03 58 34.5
comp=Z,11nm,0.7s
D25K **Kavik River** 62.04 22 P P 03 58 32.6 +0.8
baz=255,SNR=14
E25K **Arctic Village** 62.10 23 IAmb IAmb 03 58 35.6
comp=Z,6.3nm,1.0s
E25K **Arctic Village** 62.10 23 P P 03 58 33.1 +0.9
baz=260
BGLC **Bering Glacier** 62.15 33 P P 03 58 33.0 +0.4
baz=266
SCRK **Sand Creek** 62.15 28 IAmb IAmb 03 58 34.3
comp=Z,5.6nm,0.8s
SCRK **Sand Creek** 62.15 28 P P 03 58 33.0 +0.2
baz=264,SNR=7.0
OHH **Osh** 62.26 305 P P 03 58 31.1 -2.7
OHH pmax pmax
comp=Z,29nm,0.9s
CRQE **Cirque** 62.28 32 P P 03 58 33.6 -0.1
baz=266
MCARA **McCarthy VSAT** 62.36 31 P P 03 58 34.7 +0.7
baz=266
J26L **Joseph Creek** 62.39 28 IAmb IAmb 03 58 36.2
comp=Z,5.2nm,0.7s
J26L **Joseph Creek** 62.39 28 P P 03 58 34.9 +0.6
baz=264,SNR=9.8
M26K **Nabesna, AK** 62.45 30 P P 03 58 34.5 -0.2
baz=266
F26K **Sheenjek River** 62.56 24 IAmb IAmb 03 59 19.3
comp=Z,22nm,1.8s
F26K **Sheenjek River** 62.56 24 P P 03 58 36.0 +0.6
baz=262,SNR=7.1
G26K **Porcupine Rive** 62.60 25 IAmb IAmb 03 58 39.6
comp=Z,5.4nm,0.9s
G26K **Porcupine Rive** 62.60 25 P P 03 58 36.0 +0.5
baz=262,SNR=5.6
C26K **Camden Bay** 62.65 22 P P 03 58 36.4 +0.6
baz=260
I26K **Coal Creek Min** 62.65 27 P P 03 58 36.7 +0.8
baz=264
ARK **Arkit** 62.73 307 P P 03 58 37.5 +0.5
ARK pmax pmax
comp=Z,21nm,1.0s
MESA **MESA** 62.81 33 P P 03 58 37.4 +0.1
baz=268
NIL **Nilore** 62.84 297 P P 03 58 38.4 +0.6
NIL **Nilore** 62.84 297 P P 03 58 38.4 +0.6
NIL pmax pmax
comp=Z,28nm,0.6s
M27K **Edge Creek, AK** 62.97 30 P P 03 58 38.6 +0.4
baz=266
K27K **Chicken** 62.99 28 P P 03 58 38.3 0.0
baz=266
C27K **Jago River** 63.02 22 IAmb IAmb 04 00 00.4
comp=Z,21nm,1.9s
C27K **Jago River** 63.02 22 P P 03 58 38.8 +0.6
baz=261
L27K **Beaver Creek,** 63.03 29 IAmb IAmb 03 58 41.1
comp=Z,20nm,1.9s
L27K **Beaver Creek,** 63.03 29 P P 03 58 38.7 +0.2
baz=266
BVAR **Borovoye Array** 63.04 319 P P 03 58 38.5 -0.1
comp=Z,26nm,0.4s,baz=91,slow=7.8,SNR=121
comp=Z,26nm,0.4s
BORK **Borovoye** 63.08 319 *ce*P P 03 58 37.9 -1.1
BORK pmax pmax
comp=Z,44nm,1.3s
CTG **Chitna Glacier** 63.15 32 P P 03 58 39.6 +0.1
baz=268
I27K **Kandik River** 63.32 27 P P 03 58 41.1 +0.7
baz=265
TRKS **Terek-Say** 63.38 306 P P 03 58 41.8 +0.4
TRKS pmax pmax
comp=Z,17nm,1.0s
H27K **Steamboat Moun** 63.41 26 P P 03 58 41.6 +0.6
baz=265,SNR=5.8
G27K **Doyon Strip** 63.42 25 P P 03 58 41.2 +0.1
baz=264
EGAK **Eagle** 63.45 27 P P 03 58 41.9 +0.7
baz=266
E27K **Colleen River** 63.58 24 P P 03 58 42.8 +0.7
baz=264
KKAR **Karatay Array** 63.66 308 P P 03 58 42.8 -0.2
KKAR **Karatay Array** 63.66 308 P P 03 58 42.8 -0.2
PINM **Pinnacle** 63.66 33 P P 03 58 43.6 +0.8
baz=269
O28M **Mount Upton** 63.70 32 P P 03 58 43.7 +0.4
baz=269
YUK8 **Steele Glacier** 63.92 31 P P 03 58 45.2 +0.4
baz=269
D27M **Malcolm River** 63.93 22 P P 03 58 45.4 +1.0
baz=264,SNR=5.7
I28M **Miner Creek** 64.01 27 P P 03 58 45.7 +0.7
baz=267
PNL **Peninsula** 64.09 33 P P 03 58 46.2 +0.7
baz=270
DAWY **Dawson** 64.18 28 P P 03 58 47.4 +1.3
baz=268
F28M **Old Crow** 64.18 24 P P 03 58 47.1 +1.1
baz=266
E28M **Babbage River** 64.38 23 P P 03 58 49.1 +1.8
E28M IAmb IAmb 03 58 50.4
comp=Z,15nm,1.5s
E28M **Babbage River** 64.38 23 P P 03 58 48.5 +1.2
baz=266
YUK4 **Talbot Arm** 64.46 31 P P 03 58 49.7 +1.5
baz=270
O29M **Mount Kennedy** 64.50 33 P P 03 58 48.9 +0.6
baz=270
M29M **Somme Creek** 64.56 30 P P 03 58 49.9 +1.2
baz=270,SNR=5.1
YUK6 **Outpost Mounta** 64.60 32 P P 03 58 50.0 +0.9
baz=270
H29M **Whitestone** 64.69 26 P P 03 58 50.6 +1.3
baz=268
L29M **L29M** 64.72 29 P P 03 58 50.9 +1.3
baz=270
D28M **Stokes Point** 64.72 22 P P 03 58 51.1 +1.6
baz=266
G29M **Pine Creek** 64.86 25 P P 03 58 51.6 +1.2
baz=268
P29M **Windy Craggy** 64.93 33 IAmb IAmb 03 59 21.3
comp=Z,11nm,1.1s
P29M **Windy Craggy** 64.93 33 P P 03 58 52.0 +0.9
baz=272
E29M **Blow River** 64.97 24 P P 03 58 52.2 +1.1
baz=267
K29M **Barlow Dome** 65.00 29 P P 03 58 52.6 +1.1
baz=270
HYT **Haines Junctio** 65.02 32 P P 03 58 52.7 +0.9
baz=271
N30M **Aishikik Lake** 65.21 31 P P 03 58 53.8 +0.9
baz=271
CHGR **Chuyangaron** 65.29 304 P P 03 58 53.7 -0.1
CHGR pmax pmax
comp=Z,77nm,1.0s
P30M **Million Dollar** 65.31 33 P P 03 58 53.5 0.0
baz=272
M30M **Minto, Yukon** 65.33 30 P P 03 58 54.2 +0.6
baz=271
EPYK **Eagle Plains** 65.36 26 P P 03 58 53.9 +0.2
baz=269
SIMJ **Simiganj** 65.40 304 P P 03 58 54.5 -0.2
SIMJ IAmb IAmb 03 58 56.1
comp=Z,20nm,1.0s
SIMJ **Simiganj** 65.40 304 P P 03 58 54.1 -0.5
SIMJ sP **sP** 03 59 17.4 -0.1
I30M **Mount Dempster** 65.50 27 P P 03 58 55.0 +0.3
baz=270
J30M **Hart River** 65.52 28 P P 03 58 55.2 +0.3
baz=270
G30M **tAoh Zraii Nji** 65.57 25 P P 03 58 55.4 +0.3
baz=269
PLBC **Pleasant Camp** 65.64 33 P P 03 58 55.8 +0.3
baz=273
O30N **Mendenhall** 65.72 32 P P 03 58 56.8 +0.7
baz=272
MAYO **Mayo, Yukon** 65.72 29 P P 03 58 56.7 +0.6
baz=271
F30M **Barrier River** 65.74 24 P P 03 58 56.8 +0.7
baz=270
S31K **Pelican** 65.79 35 P P 03 58 57.0 +0.5
baz=274
N31M **Braeburn, Yuko** 65.84 31 P P 03 58 57.5 +0.6
baz=272
R31K **City Hall, Gus** 66.02 35 P P 03 58 58.5 +0.5
baz=274
KBL **Kabul** 66.12 299 P P 03 58 58.8 -0.6
KBL **Kabul** 66.12 299 P P 03 58 58.8 -0.6
KBL pmax pmax
comp=Z,21nm,0.7s
SKAG **Skagway** 66.17 33 P P 03 59 00.0 +1.1
baz=274
WHY **Whitehorse** 66.32 32 P P 03 59 00.6 +0.6
baz=274
H31M **Peel River** 66.33 26 P P 03 59 00.6 +0.6
baz=272
G31M **Satah River** 66.34 25 P P 03 59 00.8 +0.9
G31M **Satah River** 66.34 25 P P 03 59 00.6 +0.8
baz=271
SIT **Sitka** 66.34 36 P P 03 59 00.7 +0.6
baz=275
M31M **Drury Creek, Y** 66.46 30 P P 03 59 01.2 +0.4
baz=273
F31M **Tsiigehtchic** 66.53 25 P P 03 59 01.6 +0.5
baz=272
INK **Inuvik** 66.59 24 P P 03 59 02.3 +0.8
baz=271
R32K **Eaglecrest** 66.67 35 P P 03 59 02.3 +0.1
baz=275
P32M **Atlin** 66.98 33 P P 03 59 04.3 +0.1
baz=275
N32M **Quiet Lake** 67.16 31 P P 03 59 06.2 +0.9
baz=275
P33M **Teslin, Yukon** 67.37 32 P P 03 59 07.5 +0.8
baz=275
U33K **Whale Pass** 67.65 37 P P 03 59 08.8 +0.5
baz=277
CRAG **Craig** 67.72 38 P P 03 59 09.3 +0.4
baz=277
Q32M **Nakina River** 67.78 34 P P 03 59 09.4 0.0
baz=276
MMPY **Sheldon Lake,** 67.88 30 P P 03 59 10.5 +0.6
baz=276
SVE **Sverdlovsk** 68.34 324 *e*P P 03 59 13.1 +0.3
SVE pmax pmax
comp=Z,17nm,0.9s
R33M **Jennings River** 68.39 33 P P 03 59 13.3 0.0
baz=277
V35K **Ketchikan** 68.59 38 P P 03 59 14.8 +0.4
baz=278
DLBC **Dease Lake** 69.00 34 P P 03 59 18.4 +1.4
comp=Z,16nm,0.8s,baz=284,slow=8.3,SNR=5.2
comp=Z,16nm,0.8s
DLBC **Dease Lake** 69.00 34 P P 03 59 17.1 +0.1
baz=278
T35M **Bob Quinn** 69.10 36 P P 03 59 18.3 +0.7
baz=279
A36M **Sachs Harbour** 69.13 19 P P 03 59 18.0 +0.6
baz=278
WTLY **Watson Lake, Y** 69.38 32 P P 03 59 20.2 +1.0
baz=279

TGTN	Hyland Airport	69.42	31	P		P	03 59 20.2	+0.7	
	baz=279								
ARTI	Arti	69.64	324	P		P	03 59 20.2	-0.6	
ARTI				IAmb		IAmb	03 59 20.9		
	comp=Z,17nm,0.7s								
ARTI	Arti	69.64	324	*PP		pP	03 59 20.0	-0.8	
ARTI							03 59 38.3	+1.5	
ARTI							04 01 54.2		
ARTI				S		S	04 08 25.8	+1.6	
ARTI				SS		SS	04 12 54.3	+1.6	
ARTI				pmax		pmax			
	comp=Z,12nm,0.7s								
ARTI	Arti	69.64	324	P		P	03 59 20.1	-0.8	
ARTI				sP		PcP	03 59 43.5	+0.1	
C36M	Paulatuk	69.91	22	P		P	03 59 22.7	+0.5	
	baz=280								
AB31	Akbulak array	69.99	316	P		P	03 59 22.5	-0.6	
AB31				IAmb		IAmb	03 59 23.3		
	comp=Z,15nm,1.0s								
ABKAR	Akbulak array	69.99	316	P		P	03 59 22.6	-0.5	
WRGLY	Wrigley	71.31	29	P		P	03 59 32.0	+1.2	
	baz=282								
TOAD	Toad River Com	71.40	33	P		P	03 59 32.3	+0.8	
	baz=282								
KIRV	Kirov	73.87	327	*ceP		P	03 59 46.1	0.0	
ALE	Alert	74.66	4	P		P	03 59 52.0	+1.5	
ALE				pP		pP	04 00 08.2	+1.8	
YKA	Yellowknife Ar	75.42	28	*ceP		P	03 59 58.4	+3.4	
YKA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
SPITS	Spitsbergen Ar	75.50	350	P		P	03 59 56.0	+0.7	
	comp=Z,16nm,1.0s,baz=92,slow=7.5,SNR=7.2								
	comp=Z,16nm,1.0s								
SPITS	Spitsbergen Ar	75.50	350	P		P	03 59 56.0	+0.7	
BELG	Belogornoye	76.72	321	*i* P		P	04 00 01.7	-0.9	
BELG				pmax		pmax			
	comp=Z,6.0nm,1.0s								
KLMR	Klimovskoe	77.81	331	*eP*		P	04 00 02.9	-5.7	
KLMR				pmax		pmax			
	comp=Z,18nm,1.3s								
PINE	Pine Mountain	78.12	48	IAmb		IAmb	04 00 13.8		
	comp=Z,7.8nm,0.8s								
ARCES	ARCESS Array B	78.78	342	P		P	04 00 14.2	+0.3	
	comp=Z,7.3nm,0.7s,baz=67,slow=6.4,SNR=16								
	comp=Z,7.3nm,0.7s								
BEKR	Beckworth	79.86	51	P		P	04 00 21.9	+1.4	
VRH	Novokhopyorsk	80.56	322	*eP*		P	04 00 21.2	-2.6	
VRH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
PLID	Pearl Lake	80.97	45	P		P	04 00 23.8	-2.6	
PLID				IAmb		IAmb	04 00 57.2		
	comp=Z,16nm,1.9s								
OBN	Obninsk	81.70	326	*i* P		P	04 00 29.2	-0.5	
OBN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
VORR	Voronezh	81.80	323	*eP*		P	04 00 28.4	-1.9	
VORR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
NVAR	Mina Array Bea	81.87	52	P		P	04 00 32.8	+1.5	
NVAR	Mina Array Bea	81.87	52	P		P	04 00 32.5	+1.2	
	comp=Z,2.6nm,0.6s,baz=271,slow=5.7,SNR=19								
	comp=Z,2.6nm,0.6s								
VSR	Storozhevoye	82.02	322	*eP*		P	04 00 28.6	-2.9	
VSR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
VORD	Divnogorie	82.06	322	*eP*		P	04 00 30.4	-1.3	
VORD				pmax		pmax			
	comp=Z,10.0nm,1.0s								
KBZ	Khabaz	82.85	314	P		P	04 00 36.0	0.0	
	comp=Z,19nm,0.9s,baz=101,slow=3.0,SNR=33								
	comp=Z,19nm,0.9s								
KBZ	Khabaz	82.85	314	*ceP*		P	04 00 35.1	-0.8	
KBZ				pmax		pmax			
	comp=Z,21nm,0.9s								
KIV	Kislovodsk	82.89	315	P		P	04 00 36.4	+0.1	
KIV	Kislovodsk	82.89	315	*eP*		P	04 00 36.3	-0.1	
KIV				pmax		pmax			
	comp=Z,21nm,1.1s								
KIV	Kislovodsk	82.89	315	P		P	04 00 36.5	+0.1	
SHA1	Shidzhatmaz	83.00	314	*i* P		P	04 00 36.6	-0.5	
GNI	Garni	83.01	310	P		P	04 00 37.8	+0.7	
GNI				IAmb		IAmb	04 00 43.1		
	comp=Z,23nm,1.4s								
GNI	Garni	83.01	310	*ceP*		P	04 00 36.5	-0.6	
GNI				pmax		pmax			
	comp=Z,19nm,1.3s								
FINES	FINESS Array B	83.20	335	P		P	04 00 36.5	-0.9	
	comp=Z,10nm,0.4s,baz=72,slow=4.8,SNR=104								
	comp=Z,10nm,0.4s								
YMR	Madison River	84.41	44	IAmb		IAmb	04 01 04.4		
	comp=Z,6.1nm,0.9s								
RLMT	Red Lodge	85.29	43	IAmb		IAmb	04 00 51.3		
	comp=Z,6.4nm,0.7s								
HWUT	Hardware Ranch	85.34	47	IAmb		IAmb	04 00 51.0		
	comp=Z,4.8nm,0.8s								
SUMG	Summit	85.41	1	IAmb		IAmb	04 00 51.4		
	comp=Z,18nm,1.2s								
SUMG	Summit	85.41	1	*i* P		P	04 00 49.0	+0.1	
GURO	Guroymak-BITLI	85.58	310	IAmb		IAmb	04 00 51.4		
	comp=Z,6.6nm,0.8s								
TCUT	Toone Canyon	85.66	47	IAmb		IAmb	04 00 52.5		
	comp=Z,6.2nm,0.6s								
PDAR	Pinedale Array	86.17	45	P		P	04 00 53.4	+0.3	
	comp=Z,1.1nm,0.7s,baz=238,slow=1.7,SNR=9.4								
	comp=Z,1.1nm,0.7s								
KNB	Kanab	86.42	51	IAmb		IAmb	04 00 56.9		
	comp=Z,8.9nm,0.8s								
TMUT	Trail Mountain	86.59	49	IAmb		IAmb	04 02 35.5		
	comp=Z,11nm,1.1s								
P17A	Butcher Ranch,	86.83	49	IAmb		IAmb	04 00 58.8		
	comp=Z,4.0nm,0.7s								
MARD	Mardin	87.00	309	IAmb		IAmb	04 00 57.1		
	comp=Z,10nm,0.8s								
Y14A	Wickenburg	87.59	54	IAmb		IAmb	04 01 02.0		
	comp=Z,8.1nm,0.8s								
AKASG	Malin Array Be	87.75	325	P		P	04 00 58.5	-1.8	
	comp=Z,2.6nm,0.5s,baz=52,slow=5.3,SNR=23								
	comp=Z,2.6nm,0.5s								
AKBB	Malin Array Si	87.75	325	*ceP*		P	04 00 58.3	-2.0	
KIEV	Kiev	87.77	325	P		P	04 00 58.4	-2.0	
KIEV				IAmb		IAmb	04 00 59.3		
	comp=Z,9.6nm,1.1s								
KIEV	Kiev	87.77	325	P		P	04 00 58.4	-2.0	
KIEV				pmax		pmax			
	comp=Z,10.0nm,1.2s								
KIEV	Kiev	87.77	325	P		P	04 00 58.3	-2.0	
HFS	Hagfors	88.68	338	P		P	04 01 02.9	-1.6	
	comp=Z,3.2nm,0.4s,baz=95,slow=3.7,SNR=33								
	comp=Z,3.2nm,0.4s								
NB2	NORSAR Subarra	88.87	339	P		P	04 01 03.9	-1.5	
	comp=Z,3.0nm,0.7s,baz=43,slow=5.1								
NOA	NORSAR Array B	88.87	339	P		P	04 01 03.9	-1.5	
	comp=Z,1.6nm,0.8s,baz=43,slow=4.6,SNR=8.3								
NOA				PP		PP	04 04 33.4	-1.3	
	comp=Z,1.3nm,0.9s,baz=45,slow=7.8,SNR=4.4								
	comp=Z,1.6nm,0.8s								
RAYN	Ar Rayn	89.04	295	P		P	04 01 06.1	-0.9	
RAYN				IAmb		IAmb	04 01 08.9		
	comp=Z,4.9nm,0.8s								
RAYN	Ar Rayn	89.04	295	P		P	04 01 06.1	-0.9	
RAYN				pmax		pmax			
	comp=Z,5.0nm,0.8s								
RAYN	Ar Rayn	89.04	295	P		P	04 01 05.5	-1.5	
RAYN				sP		sP	04 01 30.1	-0.1	
BR131	Keskin Array S	90.83	314	IAmb		IAmb	04 01 14.5		
	comp=Z,4.2nm,0.9s								
BR131	Keskin Array S	90.83	314	*i* P		P	04 01 14.6	-0.6	
BRTR	Keskin Array B	90.83	314	P		P	04 01 13.9	-1.3	
BRTR	Keskin Array B	90.83	314	P		P	04 01 13.8	-1.4	
	comp=Z,2.5nm,0.8s,baz=95,slow=3.5,SNR=16								
	comp=Z,2.5nm,0.8s								
BRTR	Keskin Array B	90.83	314	P		P	04 01 13.9	-1.3	
ANMO	Albuquerque	91.95	51	*ceP*		P	04 01 20.5	-0.1	
ANMO				pmax		pmax			
	comp=Z,1.0nm,0.9s								
GERES	GERESS Array B	96.72	330	P		P	04 01 40.7	-1.2	
	comp=Z,0.2nm,0.4s,baz=40,slow=6.7,SNR=2.3								
	comp=Z,0.2nm,0.4s								
TXAR	Lajitas Array	96.77	55	P		P	04 01 43.7	+1.1	
	comp=Z,0.2nm,0.5s,baz=250,slow=3.1,SNR=7.3								
	comp=Z,0.2nm,0.5s								
LSZ	Lusaka	119.63	265	PKP		PKPdf	04 07 01.4	-0.6	
	comp=Z,2.2nm,0.5s,baz=107,slow=4.7,SNR=5.7								
BOSA	Boshof	125.23	250	PKP		PKPdf	04 07 11.5	-0.9	
	comp=Z,2.9nm,1.0s,baz=151,slow=2.1,SNR=1.8								
TROLL	Troll, Antarti	125.76	194	⇓P		PKPdf	04 07 11.6	-0.5	
	comp=Z,85nm,0.6s								
SNAA	Sanae	127.14	192	⇓P		PKPdf	04 07 13.5	-1.2	
	comp=Z,33nm,0.8s								
SNAA	Sanae	127.14	192	PKP		PKPdf	04 07 13.7	-0.9	
	comp=Z,1.0nm,0.7s,baz=175,slow=4.1,SNR=9.6								
VNA2	Neumayer--Watz	128.61	191	⇓P		PKiKP	04 07 17.2	-0.9	
	comp=Z,4.0nm,0.6s,baz=102,slow=0.8								
VNA3	Neumayer Olymp	128.74	190	⇓P		PKPdf	04 07 16.6	-1.1	
	comp=Z,1.4nm,0.7s								
VNA1	Neumayer--Stat	129.00	191	⇓P		PKiKP	04 07 18.0	-0.8	
	comp=Z,1.1nm,0.4s								
TORD	Torodi Ar. Bea	129.31	310	PKP		PKPdf	04 07 19.7	-0.7	
	comp=Z,1.0nm,0.7s,baz=11,slow=5.0,SNR=5.0								
TORD				PP		PP	04 09 34.3	+5.2	
	comp=Z,0.4nm,0.7s,baz=41,slow=7.3,SNR=4.3								
PLCA	Paso Flores	145.21	130	PKPbc		PKPdf	04 07 48.8	-0.1	
	comp=Z,3.4nm,0.8s,baz=218,slow=5.1,SNR=5.6								
LPAZ	La Paz	148.70	85	PKPbc		PKiKP	04 08 00.8	-0.6	
	comp=Z,5.1nm,0.8s,baz=344,slow=2.4,SNR=3.5								
BDFB	Brasilia	166.49	63	PKPab		PKPab	04 09 19.7	+0.1	
	comp=Z,0.5nm,0.3s,baz=186,slow=8.8,SNR=3.2								

*NEIC **29** 03:50:09.2±0.8, 52.07N±0.07×162.6W±0.1, h10km±2km, ML3.7/18, ML3.5(AEIC), Error ellipse: s-maj=12.3km s-min=10.5km az=126.0*
*IDC **29** 03:50:09.1±1.6, 52.19N×162.60W, h0km, mb3.6/4, mbtmp3.6/6, ML2.9/2, MS3.8/2, Error ellipse: s-maj=40.2km s-min=24.7km az=6.0*
*AEIC **29** 03:50:11.5±1.5, 52.0N±0.1×162.44W±0.09, h5km±8km, Error ellipse: s-maj=16.5km s-min=5.1km az=156.0*

ISC 29 03:50:09.6±1.0, 52.13N±0.09×162.45W±0.05, h10km, n60, σ1§40/60, mb3.6/4, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SSLS	Shishaldin Sou	2.75	341		Pn	03 50 53.8	+0.1
SSLS					Sn	03 51 26.3	-0.7
FALS	False Pass	2.79	348		Pn	03 50 53.3	-1.0
FALS	False Pass	2.79	348	P	Pn	03 50 53.6	-0.6
AKSA	Akutan Strait	2.80	317		Pn	03 50 53.8	-0.6
AKSA					Sn	03 51 26.8	-1.5
ISNN	Isanotski Nor.	2.82	344		Pn	03 50 55.1	+0.4
WEBT	Westdahl Beart	2.82	332		Pn	03 50 55.0	+0.2
WEBT					Sn	03 51 29.8	+1.0
SSBA	Shishaldin	2.83	340		Pn	03 50 54.7	-0.2
AKUT	Akutan	2.83	316		Pn	03 50 54.6	-0.3
AKUT					Sn	03 51 27.3	-1.7
AKUT	Akutan	2.83	316	IAML		03 51 31.2	
	comp=E,299nm,0.4s						
AKUT				IAML		03 51 37.4	
	comp=N,171nm,0.6s						
AKUT	Akutan	2.83	316	P	Pn	03 50 54.3	-0.5
AHB	Akutan Harbor	2.84	316		Pn	03 50 54.5	-0.4
SSLN	Shishaldin Nor	2.84	342		Pn	03 50 55.2	+0.3
AKBBA	Akutan Broad B	2.88	315		Pn	03 50 55.0	-0.4
ZRO	Akutan Zero	2.89	314		Pn	03 50 55.2	-0.5
ZRO					Sn	03 51 28.9	-1.6
AKV	Akutan Volcano	2.91	315		Sn	03 51 30.6	-0.4
AKLV	Akutan Long Va	2.93	315		Pn	03 50 55.8	-0.4
AKRB	Akutan Reef Bi	2.96	314		Pn	03 50 56.3	-0.3
LVA	Lava Point	2.96	315	Pn	Pn	03 50 56.3	-0.3
LVA				IAML		03 51 34.5	
	comp=E,252nm,0.7s						
LVA				IAML		03 51 37.0	
	comp=N,388nm,1.0s						
AKGG	Akutan Green G	2.97	316		Pn	03 50 56.4	-0.4
AKGG					Sn	03 51 31.4	-1.1
DT1	Dutton Round H	2.98	2		Pn	03 50 56.4	-0.5
DT1					Sn	03 51 32.7	0.0
UNV	Unalaska Vale	2.99	307		Pn	03 50 56.1	-0.9
UNV				IAML		03 51 32.7	
	comp=E,149nm,0.3s						
UNV				IAML		03 51 33.1	
	comp=N,153nm,0.3s						
MREP	Makushin Rep't	3.09	305		Pn	03 50 57.6	-0.8
MSW	Makushin Switc	3.17	306		Pn	03 50 58.8	-0.7
CNBA	Chernabura Isl	3.19	31		Pn	03 50 59.8	0.0
CNBA					Sn	03 50 59.9	+0.2
PS1A	Pavlof South-1	3.32	7		Pn	03 51 02.6	+1.1
SDPT	Sand Point	3.43	19	Pn	Pn	03 51 04.0	+1.0
S12K	Black Hills	3.58	4	Pn	Pn	03 51 06.5	+1.3
S12K				IAML		03 51 52.1	
	comp=E,132nm,0.3s						
S12K				IAML		03 51 52.8	
	comp=N,115nm,0.5s						
OKCE	Okmok Cone E	3.70	293		Pn	03 51 05.9	-0.9
OKSP	Okmok Steepe	3.72	290		Pn	03 51 05.7	-1.5
NIKH	Nikolski High	4.00	285		Pn	03 51 09.0	-1.9
NIKH				IAML		03 51 58.8	
	comp=E,119nm,0.7s						
NIKH				IAML		03 52 01.5	
	comp=N,124nm,0.5s						
NIKH	Nikolski High	4.00	285	P	Pn	03 51 08.7	-2.2
CLCO	Concord Point,	4.49	281		Pn	03 51 15.5	-2.2
CHGN	Chignik	4.80	28	Pn	Pn	03 51 22.8	+0.9
R16K	Pilot Point	6.13	25	Pn	Pn	03 51 40.8	+0.7
KOFP	Korovin Flat P	7.16	276		Pn	03 51 53.0	-1.3
O15K	Ungalikthiuk R	7.21	11	Pn	Pn	03 51 55.8	+0.8
ATKA	Atka Island	7.22	275		Pn	03 51 54.0	-1.1
OHAK	Old Harbor	7.36	43	Pn	Pn	03 51 56.3	-0.7
OHAK	Old Harbor	7.36	43	P	Pn	03 51 56.5	-0.5
N14K	Kuskokwak Cree	7.82	3	Pn	Pn	03 52 04.6	+1.3
KDAK	Kodiak Island	8.02	41	Pn	Pn	03 52 05.5	-0.4
KDAK	Kodiak Island	8.02	41	Pn	Pn	03 52 05.8	-0.2
	comp=N,0.3nm,0.3s,baz=284,slow=4.2,SNR=12						
KDAK				Sn	Sn	03 53 29.8	-6.7
	comp=N,0.8nm,0.3s,baz=28,slow=17,SNR=8.6						
	comp=N,12nm,1.0s						
GSTR	Great Sitkin T	8.38	275	Pn	Pn	03 52 09.8	-1.2
ETKA	Kagalaska Isla	8.62	274		Pn	03 52 12.7	-1.6
ADK	Adak	8.79	274		Pn	03 52 15.3	-1.2
L15K	Ungalak Mounta	9.59	3		Pn	03 52 27.9	+0.5
ILAR	Eielson Array	15.00	26	Pn	Pn	03 53 40.2	-1.2
	baz=216,slow=14,SNR=1.8						
	comp=N,0.2nm,0.7s						
H31M	Peel River	19.69	35		Pn	03 54 40.9	+0.8
PETK	Petropavlovsk-	24.00	288	P	P	03 55 24.2	+0.1
	comp=N,2.4nm,0.5s,baz=88,slow=14,SNR=9.5						
	comp=N,2.4nm,0.5s						
NVAR	Mina Array Bea	33.41	96	P	P	03 56 51.3	+2.8
	comp=N,0.5nm,0.7s,baz=309,slow=7.2,SNR=1.7						
	comp=N,0.5nm,0.7s						
PDAR	Pinedale Array	36.24	83	P	P	03 57 15.6	+2.8
	comp=N,0.4nm,0.7s,baz=315,slow=7.7,SNR=3.1						
	comp=N,0.4nm,0.7s						
H11N2	WAKE ISLAND Hy	40.20	228	T	T	04 40 25.3	
	baz=25						
H11N3	WAKE ISLAND Hy	40.20	228	T	T	04 40 23.1	
	baz=25						
H11N1	WAKE ISLAND Hy	40.22	228	T	T	04 40 25.1	
	baz=25						
H11S1	WAKE ISLAND Hy	41.35	227	T	T	04 41 56.6	
	baz=29						
H11S2	WAKE ISLAND Hy	41.37	227	T	T	04 42 00.4	
	baz=29						
H11S3	WAKE ISLAND Hy	41.37	227	T	T	04 42 02.1	
	baz=29						
TXAR	Lajitas Array	48.49	94	P	P	03 58 52.5	0.0
	comp=N,0.7nm,0.9s,baz=297,slow=5.5,SNR=5.8						
	comp=N,0.7nm,0.9s						
GUMO	Guam	56.82	247	LR	LR	04 19 50.8	
	comp=N,51nm,21.3s,baz=118,slow=31						
KIRV	Kirov	66.64	342	LR	LR	04 32 15.7	
	comp=N,136nm,21.6s,baz=300,slow=38						

IDC 29 03:50:10.0±4.2, 23.26N×44.89W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=203.9km s-min=34.1km az=22.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	ASCENSION HYDR	42.88	133	T	T	04 43 55.7	
	baz=317,slow=75,SNR=5.5						
H10N3	ASCENSION HYDR	42.88	133	T	T	04 43 53.8	
	baz=317,slow=75,SNR=5.1						
H10N1	ASCENSION HYDR	42.90	133	T	T	04 43 54.9	
	baz=317,slow=75,SNR=5.3						
TORD	Torodi Ar. Bea	45.21	94	P	P	03 58 29.1	-0.1
	0.8nm,1.0s,baz=284,slow=8.8,SNR=2.8						
	0.8nm,1.0s						
PDAR	Pinedale Array	56.26	307	P	P	03 59 52.5	-0.1
	1.1nm,0.9s,baz=111,slow=8.3,SNR=8.2						
	1.1nm,0.9s						
ILAR	Eielson Array	74.17	334	P	P	04 01 48.2	0.0
	0.5nm,0.7s,baz=71,slow=5.5,SNR=6.2						
	0.5nm,0.7s						

*IDC **29** 03:50:13.2±2.6, 5.57N×126.25E, h0km, mb3.8/3, mbtmp3.8/3, MS4.0/1, Error ellipse: s-maj=207.9km s-min=29.1km az=65.0*
*DJA **29** 03:50:25.6±0.5, 5.1N±3.3×12.7E±7.1°, h139km±7km, M4.0/6, mB4.7/1, mb4.0/3, MLv4.1/6, Mw(mB)4.0/1*

ISC 29 03:50:24.2±1.5, 5.6N±0.1×126.6E±0.2, h100km, n7, σ1§38/7, mb3.6/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	2.19	209	P	Pn	03 50 59.3	0.0
SGSI				S	Sn	03 51 26.9	+0.8
TNTI	Ternate	4.86	171	P	Pn	03 51 35.6	+0.5
SANI	Sanana	7.63	185	P	Pn	03 52 10.3	-2.4
TGY	Tagaytay City	10.12	327	LR	LR	03 56 45.0	
	comp=Z,752nm,18.3s,baz=178,slow=39						
WRA	Warramunga Arr	26.50	164	P	P	03 55 53.1	+0.6
	1.2nm,0.7s,baz=342,slow=9.3,SNR=7.2						
	1.2nm,0.7s						
ASAR	Alice Springs	29.95	167	P	P	03 56 23.7	+0.5
	0.5nm,0.4s,baz=343,slow=8.3,SNR=7.9						
	0.5nm,0.4s						
MKAR	Makanchi Array	55.96	325	P	P	03 59 52.1	-0.1
	0.4nm,0.4s,baz=107,slow=7.6,SNR=1.6						
	0.4nm,0.4s						

*SNET **29** 03:51:29.0±0.8, 12.65N×88.35W, h19km±5km, ML3.8*
*CATAC **29** 03:51:29.2±0.4, 13.2N±2.8×87.8W±2.1°, h28km±2km, M4.1/28, MLv4.1/28, Error ellipse: s-maj=4.9km s-min=1.7km az=29.5, confirmed*
*GCG **29** 03:51:30.0±0.7, 12.74N×88.39W, h22km±5km, MD3.8, ML3.4*

ISC 29 03:51:28.2±1.4, 12.62N±0.05×88.32W±0.03, h26km±13km, n91, σ0§68/103, 10C-10D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCY	Lacayo	0.80	2	⇓*i* P	Pb	03 51 44.0	+0.4
LCND	La Caada	0.81	31	⇓*i* P	Pb	03 51 43.6	0.0
CNCH	Conchagua	0.81	36	⇓*i* P	Pb	03 51 43.8	0.0
CNCH				*e*S	Sb	03 51 55.0	+0.6
CNCH	Conchagua	0.81	36	S	Sb	03 51 55.2	+0.8
CNCH	Conchagua	0.81	36	⇓P	Pb	03 51 43.9	+0.2
RANC	El Ranchito	0.81	2	*i* P	Pb	03 51 44.2	+0.4
PACA	Pacayal	0.85	360	⇓*e*P	Pb	03 51 44.7	+0.3
PACA				*e*S	Sn	03 51 56.3	0.0
CNRM	Centro Naciona	0.87	10	*e*P	Pb	03 51 44.6	0.0
CNRM	Centro Naciona	0.87	10	S	Sn	03 51 56.4	+0.1
POTN	Potosi Cosigui	0.88	64	⇓P	Pb	03 51 44.9	+0.1
POTN				S	Sb	03 51 56.9	+0.7
TECA	Tecapa	0.89	349	⇓*e*P	Pb	03 51 45.1	0.0
TECO	Alcaldia de Te	1.02	334	*e*P	Pb	03 51 46.8	-0.4
TECO				*e*S	Sb	03 51 59.6	-0.6
TECO	Alcaldia de Te	1.02	334	P	Pb	03 51 46.8	-0.4
UESV	Universidad de	1.11	336	*e*P	Pn	03 51 48.3	+0.2
UESV	Universidad de	1.11	336	S	Sn	03 52 02.9	+0.3
UESV	Universidad de	1.11	336	⇓P	Pn	03 51 48.5	+0.4
SCLA	Alcaldia de Sa	1.15	340	⇓*e*P	Pn	03 51 48.9	+0.3
SCLA	Alcaldia de Sa	1.15	340	P	Pn	03 51 49.0	+0.3
SCLA	Alcaldia de Sa	1.15	340	S	Sn	03 52 04.5	+0.9
LFRS	El Faro	1.23	324	*e*P	Pn	03 51 50.3	+0.4
PAVA	Las Pavas	1.25	331	*e*P	Pn	03 51 50.3	+0.2
PAVA	Las Pavas	1.25	331	P	Pn	03 51 50.3	+0.2
PAVA	Las Pavas	1.25	331	S	Sn	03 52 06.4	+0.3
LALI	Alcalda de L	1.30	312	*e*P	Pn	03 51 50.8	+0.1
LALI	Alcalda de L	1.30	312	*i* P	Pn	03 51 51.1	+0.4
LALI				*i* S	Sn	03 52 06.8	-0.5
PKGN	Cerro Pekin	1.31	88	P	Pn	03 51 51.2	+0.4
PKGN				S	Sn	03 52 08.0	+0.4
LOMA	Loma Larga	1.32	321	*e*P	Pn	03 51 51.4	+0.3
LOMA	Loma Larga	1.32	321	P	Pn	03 51 51.5	+0.5
LOMA	Loma Larga	1.32	321	S	Sb	03 52 08.8	0.0
LBRS	Las Brisas	1.32	328	*e*P	Pn	03 51 51.8	+0.7
LFU	La Fuente	1.36	326	*e*P	Pn	03 51 52.6	+0.9
UEES	Universidad Ev	1.41	321	*e*P	Pn	03 51 53.1	+0.8
UEES	Universidad Ev	1.41	321	P	Pn	03 51 52.9	+0.6
UEES	Universidad Ev	1.41	321	S	Sb	03 52 11.0	-0.6
PIC2	El Picacho	1.45	321	*e*P	Pn	03 51 53.7	+0.8
BOQS	Boqueron	1.45	320	*e*P	Pn	03 51 53.6	+0.6
PMON	Piamonte	1.46	319	*e*P	Pn	03 51 53.5	+0.5
PMON	Piamonte	1.46	319	P	Pn	03 51 53.5	+0.5
PMON	Piamonte	1.46	319	S	Sb	03 52 12.6	-0.3
JAYA	Jayaque - finc	1.51	313	*e*P	Pn	03 51 53.8	+0.1
JAYA	Jayaque - finc	1.51	313	*i* P	Pn	03 51 53.8	+0.1
JAYA	Jayaque - finc	1.51	313	P	Pn	03 51 54.0	+0.3
JAYA	Jayaque - finc	1.51	313	S	Sb	03 52 14.2	-0.2

NUBE	**Las Nubes**	**1.59**	**91**	*i* P	Pn	04 09 00.6	+0.3
NUBE				*i* S	Sn	04 09 20.4	+0.4
JAYA	**Jayaque - finc**	**1.93**	**98**	*i* P	Pn	04 09 05.2	+0.3
JAYA				*i* S	Sn	04 09 29.4	+1.1
MTO3	**Montecristo**	**2.04**	**77**	*i* P	Pn	04 09 07.4	+0.9

IDC 29 04:18:49.5±2.3, 6°69S×129°61E, h0km, mb3.8/1, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=90.5km s-min=29.1km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.98**	**198**	Pn	Pn	04 21 42.5	+0.9
	0.1nm,0.3s,baz=10,slow=11,SNR=11						
FITZ				Sn	Sn	04 23 43.0	-13
	0.5nm,0.3s,baz=187,slow=23,SNR=7.9						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**13.95**	**161**	Pn	Pn	04 22 07.6	-1.1
	0.2nm,0.3s,baz=342,slow=13,SNR=7.2						
WRA				Sn	Sn	04 24 29.5	-15
	0.5nm,0.3s,baz=333,slow=23,SNR=12						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**17.38**	**167**	P	Pn	04 22 53.5	-0.1
	0.1nm,0.3s,baz=341,slow=11,SNR=8.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.75**	**327**	P	P	04 29 49.1	0.0
	0.9nm,0.8s,baz=126,slow=5.9,SNR=4.2						
	0.9nm,0.8s						

*IDC **29** 04:19:11.6±0.7, 5°73N×126°41E, h0km, mb4.1/12, mbtmp4.1/12, Error ellipse: s-maj=68.4km s-min=15.2km az=69.0*

*NEIC **29** 04:19:22.9±0.8, 5°73N±0°09×126°7E±0°2, h90km±10km, mb4.6/7, Error ellipse: s-maj=28.5km s-min=10.3km az=73.0*

*DJA **29** 04:19:23.3±0.6, 6°N±3°×12°7E±°, h109km±9km, M4.5/10, mB4.9/3, mb4.6/4, MLv4.5/10, Mw(mB)4.2/3*

ISC 29 04:19:23.6±0.6, 5°63N±0°06×126°6E±0°1, h100km, n41, σ1§14/38, mb4.3/17, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.75**	**325**		**Pn**	**04 19 51.1**	**-1.8**
SGSI	**Sangihe**	**2.21**	**209**	P	**Pn**	**04 19 57.6**	**-1.3**
SGSI				S	**Sn**	**04 20 25.4**	**-0.5**
TNTI	**Ternate**	**4.89**	**171**		**Pn**	**04 20 34.3**	**-0.5**
TNTI	**Ternate**	**4.89**	**171**	P	**Pn**	**04 20 34.1**	**-0.7**
MRSI	**Marisa**	**6.92**	**222**	P	**Pn**	**04 21 02.0**	**-0.4**
	0.4nm1µm106nm,0.8s						
TOLI2	**Tolitoli**	**7.34**	**232**		**Pn**	**04 21 06.1**	**-2.0**
SANI	**Sanana**	**7.66**	**185**	P	**Pn**	**04 21 08.5**	**-3.9**
	3µm63nm,0.9s						
MYLDM	**Lahad Datu**	**8.07**	**267**	Pn	**Pn**	**04 21 18.8**	**+0.7**
APSI	**Ampana**	**8.17**	**217**	P	**Pn**	**04 21 19.3**	**-0.1**
MPSI	**Mapaga**	**8.51**	**232**	P	**Pn**	**04 21 22.8**	**-1.2**
KAPI	**Kappang**	**12.59**	**213**	Pn	**Pn**	**04 22 19.5**	**+0.3**
SBUM	**Sibu**	**14.69**	**258**	P	**P**	**04 22 51.8**	**+1.8**
KNRA	**Kununurra**	**21.28**	**174**	P	**P**	**04 24 02.5**	**+0.4**
KNRA				IAmb	IAmb	04 24 03.9	
	comp=Z,20nm,1.1s						
WRA	**Warramunga Arr**	**26.53**	**164**	P	**P**	**04 24 54.1**	**+2.0**
	comp=Z,1.6nm,0.8s,baz=343,slow=9.3,SNR=6.4						
WRA				PcP	**PcP**	**04 28 15.0**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=334,slow=2.4,SNR=1.9						
	comp=Z,1.6nm,0.8s						
PSA00	**Pilbara Seismi**	**27.84**	**194**	P	**P**	**04 25 03.5**	**-0.2**
PSA00				IAmb	IAmb	04 25 35.9	
	comp=Z,14nm,1.3s						
PSA00	**Pilbara Seismi**	**27.84**	**194**	P	**P**	**04 25 03.8**	**0.0**
PSA00				IAmb	IAmb	04 25 07.0	
	comp=Z,3.2nm,1.1s						
ASAR	**Alice Springs**	**29.98**	**167**	P	**P**	**04 25 23.3**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=342,slow=6.5,SNR=7.4						
ASAR				PcP	**PcP**	**04 28 24.2**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=348,slow=2.5,SNR=5.1						
	comp=Z,0.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**38.70**	**6**	P	**P**	**04 26 37.3**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=131,slow=4.0,SNR=4.1						
	comp=Z,2.5nm,0.6s						
BBOO	**Buckleboo**	**39.28**	**167**	P	**P**	**04 26 43.6**	**+1.0**
BBOO				IAmb	IAmb	04 27 14.5	
	comp=Z,12nm,1.2s						
NWAO	**Narrogin (SRO)**	**39.37**	**192**	P	**P**	**04 26 44.0**	**+0.6**
NWAO				IAmb	IAmb	04 27 00.3	
	comp=Z,20nm,1.2s						
STKA	**Stephens Creek**	**39.95**	**160**	P	**P**	**04 26 48.7**	**+0.5**
STKA	**Stephens Creek**	**39.95**	**160**	P	**P**	**04 26 48.9**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=333,slow=8.9,SNR=5.0						
	comp=Z,1.0nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**41.12**	**68**	T	T	05 11 05.5	
	baz=257,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**41.14**	**68**	T	T	05 11 08.5	
	baz=257,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**41.14**	**68**	T	T	05 11 08.2	
	baz=257,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**41.59**	**67**	T	T	05 11 47.0	
	baz=254						
H11N2	**WAKE ISLAND Hy**	**41.60**	**67**	T	T	05 11 48.2	
	baz=254						
H11N3	**WAKE ISLAND Hy**	**41.61**	**67**	T	T	05 11 45.6	
	baz=254						
SONM	**Songino Array**	**45.46**	**341**	P	**P**	**04 27 32.2**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=152,slow=9.8,SNR=2.1						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**55.93**	**325**	P	**P**	**04 28 50.5**	**-0.8**
MKAR	**Makanchi Array**	**55.93**	**325**	P	**P**	**04 28 50.9**	**-0.4**
	comp=Z,1.8nm,0.4s,baz=119,slow=7.5,SNR=25						
	comp=Z,1.8nm,0.4s						
ZALV	**Zalesovo Beam**	**58.84**	**333**	P	**P**	**04 29 10.5**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=124,slow=7.9,SNR=3.0						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**60.08**	**327**	P	**P**	**04 29 19.4**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=124,slow=6.8,SNR=20						
	comp=Z,1.5nm,0.6s						
KURK	**Kurchatov**	**60.08**	**327**	P	**P**	**04 29 19.6**	**-0.5**
KURK				IAmb	IAmb	04 29 20.1	
	comp=Z,2.8nm,0.6s						
KKAR	**Karatay Array**	**61.76**	**316**	P	**P**	**04 29 31.5**	**-0.3**
BVAR	**Borovoye Array**	**65.67**	**327**	P	**P**	**04 29 56.5**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=128,slow=9.6,SNR=4.1						
	comp=Z,0.4nm,0.4s						
ABKAR	**Akbulak array**	**70.61**	**320**	P	**P**	**04 30 27.7**	**-0.4**
ARCES	**ARCESS Array B**	**86.63**	**340**	P	**P**	**04 32 04.7**	**-0.4**
	comp=Z,3.9nm,0.9s,baz=79,slow=6.3,SNR=7.9						
	comp=Z,3.9nm,0.9s						
FINES	**FINESS Array B**	**90.10**	**332**	P	**P**	**04 32 11.9**	**-0.2**
	comp=Z,5.3nm,1.0s,baz=80,slow=5.0,SNR=16						
	comp=Z,5.3nm,1.0s						
HFS	**Hagfors**	**96.28**	**332**	P	**P**	**04 32 40.1**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=122,slow=7.0,SNR=4.2						
	comp=Z,1.5nm,0.8s						
TXAR	**Lajitas Array**	**120.53**	**51**	PKP	**PKiKP**	**04 38 05.6**	**+1.2**
	comp=Z,0.3nm,1.0s,baz=314,slow=1.7,SNR=2.1						

IDC 29 04:20:38.4±1.5, 31°06N×143°01E, h0km, mb3.6/3, mbtmp3.6/5, ML2.5/2, Error ellipse: s-maj=47.9km s-min=24.6km az=84.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.43**	**308**	Pn	Pn	04 21 32.6	-0.4
	2.7nm,0.3s,baz=54,slow=19,SNR=1.9						
JHJ				Sn	Sn	04 22 07.9	-6.5
	3.0nm,0.3s,baz=231,slow=21,SNR=1.4						
	95nm,0.8s						
MJAR	**Matsushiro Arr**	**6.78**	**325**	Pn	Pn	04 22 19.3	+0.2
	baz=154,slow=12,SNR=4.1						
	0.3nm,0.3s						
PETK	**Petropavlovsk-**	**24.49**	**22**	P	P	04 25 58.8	-0.3
	1.5nm,0.6s,baz=197,slow=9.4,SNR=4.3						
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**51.39**	**190**	P	P	04 29 44.6	-0.4
	0.4nm,0.3s,baz=7.8,slow=7.8,SNR=4.6						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**55.11**	**190**	P	P	04 30 12.6	+0.2
	0.2nm,0.5s,baz=357,slow=7.7,SNR=2.4						
	0.2nm,0.5s						

*ASRS **29** 05:00:22.0±0.7, 52°75N×87°90E, h0km, M3.1, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

NNC 29 05:00:27.9±1.3, 52°68N×87°56E, h0km, mb3.5, mpv3.1, 7C-4D, Error ellipse: s-maj=11.2km s-min=4.4km az=82.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**2.08**	**309**	⇓Pn	Pn	05 01 03.2	-0.8
	1.7nm,0.4s						
ZAA0				⇑Sn	Sb	05 01 31.9	-0.9
	2.3nm,0.3s						
KURK	**Kurchatov**	**5.89**	**254**	⇑Pn	Pn	05 01 56.0	-0.4
	1.2nm,1.1s						
KURK				⇓Sn	Sn	05 03 05.0	+0.4
	0.7nm,0.6s						
KURK				⇑Lg	Lg	05 03 36.6	
	3.1nm,0.7s						
KURBB	**Kurchatov Arra**	**5.98**	**253**	⇑Pn	Pn	05 01 57.8	+0.2
	1.2nm,0.3s						
KURBB				⇓Sn	Sn	05 03 07.0	+0.2
	8.2nm,0.7s						
KURBB				⇓Lg	Lg	05 03 38.3	
	8.6nm,0.7s						
MK31	**Makanchi Array**	**6.81**	**212**	⇑Pn	Pn	05 02 10.1	+1.2
	1.4nm,0.5s,baz=30,slow=13,SNR=77						
MK31				⇑Sn	Sn	05 03 28.9	+1.8
	1.3nm,0.6s,baz=34,slow=26,SNR=4.8						
MK31				⇑Lg	Lg	05 04 04.8	
	3.3nm,0.8s						
MAKZ	**Makanchi**	**6.90**	**214**	Pn	Pn	05 02 10.8	+0.6
	1.4nm,0.3s						
MAKZ				Sn	Sn	05 03 30.9	+1.5
	0.7nm,0.4s						
MAKZ				Lg	Lg	05 04 04.9	
	2.3nm,0.8s						

RSNC 29 05:04:13.3±0.0, 7°N±1°×7°3W±°, h144km±2km, M2.5, mb3.7, ML2.2, MLv2.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.20**	**189**	P	Pn	05 04 32.8	-0.4
BARC				S	Sn	05 04 46.5	-1.8
BRJC	**Barrancabermej**	**0.62**	**287**	P	Pn	05 04 34.2	-0.4
BRJC				S	Sn	05 04 50.4	-0.4
PAMC	**Pamplona, Colo**	**0.71**	**39**	P	Pn	05 04 35.5	-0.3
PAMC				S	Sn	05 04 52.9	+0.1
RUSC	**La Rusia**	**0.89**	**176**	P	Pn	05 04 36.6	-0.6
RUSC				S	Sn	05 04 54.7	-0.7
PTBC	**PUERTO BERRIO,**	**1.32**	**259**	P	Pn	05 04 39.7	-0.9
PTBC				S	Sn	05 05 00.2	-1.2
OCAC	**Ocana**	**1.45**	**353**	P	Pn	05 04 41.1	-1.0
OCAC				S	Sn	05 05 03.8	-0.3
SPBC	**San Pablo de B**	**1.46**	**219**	P	Pn	05 04 41.7	-0.4
SPBC				S	Sn	05 05 04.0	0.0
ZARC	**Zaragoza, Cauc**	**1.83**	**292**	P	Pn	05 04 45.4	-0.7
ZARC				S	Sn	05 05 10.7	-0.6
ROSC	**El Rosal**	**2.26**	**211**	P	Pn	05 04 52.5	+0.9
CVER	**Cruz Verde, Cu**	**2.43**	**202**	P	Pn	05 04 54.0	+0.2
CVER				S	Sn	05 05 25.8	+0.9
HELC	**Santa Helena**	**2.44**	**256**	P	Pn	05 04 53.3	-0.4
HELC				S	Sn	05 05 26.7	+1.9
UREC	**San Jos de Ur**	**2.55**	**292**	P	Pn	05 04 53.3	-1.5
UREC				S	Sn	05 05 24.0	-2.7
GUY2C	**Guyana, Caldas**	**2.70**	**235**	P	Pn	05 04 57.8	+0.7
GUY2C				S	Sn	05 05 33.5	+2.8
CBOC	**Ciudad Bolivar**	**2.99**	**252**	P	Pn	05 05 00.6	+0.1
CBOC				S	Sn	05 05 38.7	+1.8
DBBC	**Dabeiba**	**3.05**	**274**	P	Pn	05 05 00.7	-0.4
DBBC				S	Sn	05 05 39.8	+1.8
PRAC	**Prado**	**3.51**	**210**	P	Pn	05 05 06.3	-0.8
PRAC				S	Sn	05 05 48.2	-0.6
ORTC	**Ortega, Tolima**	**3.54**	**216**	P	Pn	05 05 07.0	-0.5
ORTC				S	Sn	05 05 50.2	+0.7
APAC	**Apartado, Choc**	**3.58**	**288**	P	Pn	05 05 06.5	-1.4
SJCC	**San Jacinto, C**	**3.68**	**327**	P	Pn	05 05 06.9	-2.4
SJCC				S	Sn	05 05 48.4	-4.4
URMC	**La Uribe, Meta**	**3.73**	**199**	P	Pn	05 05 09.9	0.0
URMC				S	Sn	05 05 53.2	-0.7
YOTC	**Yotoco, Valle**	**4.23**	**229**	P	Pn	05 05 16.1	-0.5
MACC	**Macarena, Meta**	**4.67**	**189**	P	Pn	05 05 20.5	-1.8
URIC	**Uribia, Colomb**	**5.01**	**13**	P	Pn	05 05 23.2	-3.6
URIC				S	Sn	05 06 22.8	-1.3

IDC 29 05:11:17.7±5.0, 19°02N×122°41E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=454.1km s-min=23.5km az=63.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.45**	**163**	P	P	05 18 58.1	-0.1
	0.1nm,0.6s,baz=343,slow=8.6,SNR=2.8						
	0.1nm,0.6s						
MKAR	**Makanchi Array**	**42.91**	**319**	P	P	05 19 17.8	-0.3
	0.1nm,0.4s,baz=99,slow=8.9,SNR=2.5						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**43.89**	**165**	P	P	05 19 26.0	-0.2
	0.2nm,0.3s,baz=351,slow=6.7,SNR=4.7						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**46.83**	**323**	P	P	05 19 49.3	0.0
	1.6nm,0.7s,baz=123,slow=8.4,SNR=10						
	1.6nm,0.7s						

*NEIC **29** 05:21:23.9±1.0, 22°80S±0°10×63°8W±0°1, h524km±10km, mb4.4/66, Error ellipse: s-maj=18.3km s-min=14.0km az=74.0*

*VAO **29** 05:21:23.8±0.3, 22°85S×63°78W, h534km, mb4.4*

*IDC **29** 05:21:23.8±0.8, 22°80S×63°69W, h524km±7km, mb3.6/16, mbtmp4.4/23, Error ellipse: s-maj=12.7km s-min=9.1km az=70.0*

*SJA **29** 05:21:28.0±0.6, 23°32S×64°19W, h510km, ML3.8, MW4.5*

ISC 29 05:21:24.0±0.4, 22°82S±0°05×63°82W±0°06, h535km, n165, σ1§11/154, mb4.4/49, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALOL	**LOMAS DE OLMED**	**1.00**	**189**	*e*P	**P**	**05 22 30.3**	**+1.5**
HJA	**Humahuaca**	**1.52**	**255**	*e*P	**P**	**05 22 32.2**	**+1.4**
YJA	**Yavi**	**1.70**	**292**	*e*P	**P**	**05 22 33.2**	**+1.5**
YJA				*e*S	**S**	**05 23 27.6**	**+1.2**
AZAP	**Zapla**	**1.81**	**219**	*e*P	**P**	**05 22 32.1**	**+0.4**
AZAP				IAML		05 23 31.3	
	comp=Z,74nm,1.1s						
SLA	**San Lorenzo**	**2.44**	**219**	*e*P	**P**	**05 22 34.8**	**+0.1**
SALTA		**2.70**	**238**	*e*P	**P**	**05 22 37.1**	**+0.5**
SALTA				*e*P	P	05 22 37.2	+0.6
SALTA				*e*P	P	05 22 37.3	+0.7
FSA	**Cafayete**	**3.82**	**211**	*e*P	**P**	**05 22 43.2**	**-0.4**
AF01	**San Pedro de A**	**4.03**	**267**		**P**	**05 22 44.7**	**-0.7**
PB09	**IPOC Station P**	**5.13**	**280**	P	**P**	**05 22 54.2**	**-0.1**
PB09	**IPOC Station P**	**5.13**	**280**	*e*P	**P**	**05 22 54.2**	**-0.1**
PB09				*e*S	**S**	**05 24 03.8**	**-4.2**
PB06	**IPOC Station P**	**5.31**	**270**	P	**P**	**05 22 55.1**	**-0.8**
PB06	**IPOC Station P**	**5.31**	**270**	*e*P	**P**	**05 22 55.4**	**-0.6**
PB06				*e*S	**S**	**05 24 06.2**	**-4.7**
PB03	**IPOC Station P**	**5.55**	**277**	P	**P**	**05 22 57.4**	**-0.6**
PB01	**IPOC Station P**	**5.55**	**288**	P	**P**	**05 22 57.8**	**-0.2**
PB08	**IPOC Station P**	**5.64**	**297**	P	**P**	**05 22 59.0**	**-0.1**
GO02	**Mina Guanaco**	**5.77**	**245**		**P**	**05 22 59.6**	**-0.6**
PB02	**IPOC Station P**	**5.83**	**284**	P	**P**	**05 23 00.6**	**0.0**
MURT	**Porto Murtinho**	**5.87**	**80**	*e*P	**P**	**05 23 01.2**	**+0.5**
PB05	**IPOC Station P**	**5.89**	**268**	P	**P**	**05 23 00.3**	**-0.8**
GO01	**Chusmiza**	**5.92**	**301**	P	**P**	**05 23 02.1**	**+0.3**
PB10	**IPOC Station P**	**6.24**	**262**		**P**	**05 23 03.9**	**-0.3**
PB11	**IPOC Station P**	**6.24**	**298**	P	**P**	**05 23 04.2**	**-0.2**
AC02	**Maricunga**	**6.26**	**229**		**P**	**05 23 04.5**	**-0.4**
PB14	**IPOC Station P**	**6.30**	**252**		**P**	**05 23 04.6**	**-0.4**
CPUP	**Villa Florida**	**6.86**	**122**	P	**P**	**05 23 10.2**	**+0.2**
	comp=Z,22nm,0.8s,baz=171,slow=9.3,SNR=164						
CPUP				S	**S**	**05 24 34.1**	**-2.7**
	comp=Z,3.3nm,1.0s,baz=328,slow=17,SNR=2.1						
CPUP	**Villa Florida**	**6.86**	**122**	*e*P	**P**	**05 23 10.2**	**+0.2**
PB16	**IPOC Station P**	**6.95**	**309**		**P**	**05 23 12.8**	**+1.1**
BDQN	**Bodoquena, MS**	**6.99**	**72**	*e*P	**P**	**05 23 11.4**	**+0.1**
SIV	**San Ignacio**	**7.27**	**21**	P	**P**	**05 23 14.7**	**+0.5**
	comp=Z,5.9nm,0.4s,baz=197,slow=8.4,SNR=53						
SIV				S	**S**	**05 24 42.1**	**-2.4**
	comp=Z,8.2nm,0.9s,baz=202,slow=21,SNR=7.1						
SJPY	**San Joaquin**	**7.38**	**109**	*e*P	**P**	**05 23 15.8**	**+0.6**
LPAZ	**La Paz**	**7.67**	**327**	P	**P**	**05 23 19.6**	**+0.8**
	comp=Z,26nm,0.4s,baz=117,slow=3.6,SNR=280						
LPAZ				S	**S**	**05 24 50.8**	**-1.9**
	comp=Z,8.9nm,0.6s,baz=47,slow=20,SNR=6.6						
LPAZ	**La Paz**	**7.67**	**327**	*e*P	**P**	**05 23 19.6**	**+0.8**
AQDB	**Aquidauana**	**7.90**	**74**	*e*P	**P**	**05 23 21.0**	**+0.6**
AMBA	**Amambai (Brazi**	**8.14**	**92**	*e*P	**P**	**05 23 23.4**	**+0.7**
PTLB	**Pontes e Lacer**	**8.56**	**32**	*e*P	**P**	**05 23 28.1**	**+1.0**
LCO	**Las Campanas**	**8.74**	**224**		**P**	**05 23 29.1**	**+0.1**
CFA	**Coronel Fontan**	**9.59**	**203**	P	**P**	**05 23 36.8**	**-0.7**
	comp=Z,28nm,0.4s,baz=30,slow=11,SNR=150						
CFA				S	**S**	**05 25 23.7**	**-3.4**
	comp=Z,16nm,0.4s,baz=240,slow=20,SNR=22						
ZON	**Zonda**	**9.71**	**205**		**P**	**05 23 38.9**	**+0.2**
PP1B	**Ponte de Pedra**	**9.87**	**60**	*e*P	**P**	**05 23 40.5**	**0.0**
SALV	**Santo Antonio**	**10.30**	**49**	*e*P	**P**	**05 23 45.1**	**+0.1**
TRCB	**Terra Rica**	**10.32**	**92**	*e*P	**P**	**05 23 45.0**	**-0.1**
VILB	**Vilhena**	**10.40**	**20**	*e*P	**P**	**05 23 46.5**	**+0.4**
PTGB	**Pitanga**	**10.93**	**102**	*e*P	**P**	**05 23 51.6**	**+0.1**
C2SB	**Chapadao do Su**	**11.03**	**71**	*e*P	**P**	**05 23 53.8**	**+1.2**
ITAB	**Concordia**	**11.47**	**115**		**P**	**05 23 56.0**	**-1.0**
ITAB	**Concordia**	**11.47**	**115**	*e*P	**P**	**05 23 56.5**	**-0.5**
LDASE	**Londrina, Braz**	**11.70**	**95**	*e*P	**P**	**05 23 58.7**	**-0.8**
VA06	**Catapilco**	**11.74**	**213**		**P**	**05 23 59.3**	**-0.4**
CPSB	**Cacapava Do Su**	**11.96**	**131**	*e*P	**P**	**05 24 01.1**	**-1.0**
MT05	**Renca**	**12.17**	**209**		**P**	**05 24 04.1**	**-0.1**
MT02	**Curacav**	**12.24**	**210**		**P**	**05 24 04.5**	**-0.4**
PLTB	**Pedras Altas**	**12.71**	**137**		**P**	**05 24 08.6**	**-1.2**
PLTB	**Pedras Altas**	**12.71**	**137**	*e*P	**P**	**05 24 08.7**	**-1.2**
ITRB	**Iturama**	**12.92**	**79**	*e*P	**P**	**05 24 11.8**	**-0.5**
PDRB	**Porto dos Gac**	**13.04**	**32**	*e*P	**P**	**05 24 12.5**	**-1.1**
FRTB	**Fartura**	**13.13**	**95**	*e*P	**P**	**05 24 13.6**	**-0.8**
CNLB	**Canela**	**13.32**	**122**	*e*P	**P**	**05 24 14.6**	**-1.7**
ARAG	**Araguaiana, MT**	**13.36**	**60**	*e*P	**P**	**05 24 16.1**	**-0.7**
CLDB	**Colider**	**14.14**	**34**	*e*P	**P**	**05 24 24.0**	**-1.0**
MAJ01	**Sao Joao Batis**	**14.16**	**112**	*e*P	**P**	**05 24 23.4**	**-1.7**
RCLB	**Rio Claro- Sao**	**15.04**	**92**	*e*P	**P**	**05 24 33.2**	**-1.1**
BI02	**San Fabin de**	**15.23**	**203**	IAmb	IAmb	05 24 43.7	
	comp=Z,7.3nm,1.0s						
IPMB	**Ipameri, GO**	**15.40**	**75**	*e*P	**P**	**05 24 37.2**	**-0.8**
VAO	**Valinhos**	**15.53**	**94**	*e*P	**P**	**05 24 37.0**	**-2.3**
SNDB	**Serra Nova Dou**	**16.09**	**50**	*e*P	**P**	**05 24 43.1**	**-1.9**
NNA	**Nana**	**16.44**	**309**		**P**	**05 24 48.5**	**+0.1**
NNA	**Nana**	**16.44**	**309**	P	**P**	**05 24 49.0**	**+0.6**
	comp=Z,16nm,0.4s,baz=112,slow=9.6,SNR=12						
BDFB	**Brasilia**	**16.54**	**67**		**P**	**05 24 48.0**	**-1.4**
BDFB				IAmb	IAmb	05 24 49.7	
	comp=Z,15nm,0.7s						
BDFB	**Brasilia**	**16.54**	**67**	P	**P**	**05 24 47.6**	**-1.8**
	comp=Z,14nm,0.6s,baz=244,slow=10,SNR=47						
PARB	**Paraibuna**	**16.75**	**95**	*e*P	**P**	**05 24 49.6**	**-1.7**
PMNB	**Patos De Minas**	**16.81**	**79**	*e*P	**P**	**05 24 51.4**	**-0.5**
NPGB	**Novo Progresso**	**17.68**	**29**	*e*P	**P**	**05 24 58.6**	**-1.3**
BSCB	**Bom Sucesso**	**17.76**	**88**	*e*P	**P**	**05 25 00.1**	**-0.6**
PLCA	**Paso Flores**	**18.74**	**196**	P	**P**	**05 25 09.3**	**0.0**
	comp=Z,1.3nm,0.3s,baz=13,slow=10,SNR=17						
PLCA	**Paso Flores**	**18.74**	**196**	*e*P	**P**	**05 25 09.3**	**0.0**
MACA	**Manacapuru-AM**	**19.78**	**9**		**P**	**05 25 18.8**	**-0.2**
MACA	**Manacapuru-AM**	**19.78**	**9**	*e*P	**P**	**05 25 18.6**	**-0.4**
ITTB	**Itaituba**	**19.94**	**24**	*e*P	**P**	**05 25 20.4**	**-0.1**
JANB	**Januaria**	**19.99**	**71**	*e*P	**P**	**05 25 20.8**	**-0.2**
SDBA	**SAO DESIDERIO**	**20.77**	**63**	*e*P	**P**	**05 25 27.3**	**-0.7**
LL01	**San Ignacio de**	**20.78**	**198**		**P**	**05 25 29.0**	**+1.3**
SMTB	**Santa Maria do**	**20.86**	**51**	*e*P	**P**	**05 25 29.0**	**+0.2**
PRPB	**Parauapebas**	**21.36**	**41**	*e*P	**P**	**05 25 33.0**	**-0.4**
MAL2	**Monte Alegre,**	**22.70**	**26**		**P**	**05 25 44.9**	**-0.5**
BOAV	**Boa Vista**	**25.27**	**8**		**P**	**05 26 07.8**	**-0.3**
BOAV	**Boa Vista**	**25.27**	**8**	*e*P	**P**	**05 26 08.0**	**-0.1**
TMAB	**Tom-Au,PA,Br**	**25.41**	**39**	*e*P	**P**	**05 26 09.8**	**+0.4**
ROSC	**El Rosal**	**29.35**	**338**	P	**P**	**05 26 45.0**	**+0.7**
	comp=Z,6.9nm,0.5s,baz=22,slow=23,SNR=4.5						
	comp=Z,6.9nm,0.5s						
RUSC	**La Rusia**	**29.94**	**341**		**P**	**05 26 49.0**	**-0.5**
RUSC				IAmb	IAmb	05 26 53.4	
	comp=Z,9.4nm,0.6s						
OBIP	**Obispado Ponce**	**40.71**	**356**	P	**P**	**05 28 17.2**	**-1.2**
CELP	**Cerrillos**	**40.74**	**356**	P	**P**	**05 28 17.2**	**-1.3**
SJG	**San Juan**	**40.75**	**357**	P	**P**	**05 28 17.2**	**-1.4**
BELA	**Belgrano 2**	**56.82**	**173**	P	**P**	**05 30 17.9**	**+0.9**
154A	**Montr

MORF	**Marmelete**	**79.19**	**42**	*e*P	**P**	**05 32 35.4**	**+1.7**
MORF				*i* IAmb	IAmb	05 32 38.7	
	comp=Z,58nm,1.5s						
ELK	**Elko**	**79.26**	**323**	P	**P**	**05 32 35.5**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=120,slow=3.3,SNR=5.4						
	comp=Z,1.4nm,0.8s						
PBDV	**Barranco-do-Ve**	**79.60**	**42**	*e*P	**P**	**05 32 36.9**	**+1.2**
PCVE	**Castro Verde**	**79.78**	**42**	*e*P	**P**	**05 32 37.8**	**+1.1**
MESJ	**Messejana**	**79.80**	**42**	*e*P	**P**	**05 32 37.8**	**+1.1**
PARRA	**Arraiolos**	**79.92**	**40**	*e*P	**P**	**05 32 41.4**	**+4.0**
PARRA				*i* IAmb	IAmb	05 32 44.2	
	comp=Z,18nm,1.7s						
PBEJ	**Beja**	**80.13**	**42**	*e*P	**P**	**05 32 39.5**	**+1.0**
EVO	**Evora**	**80.36**	**41**	*e*P	**P**	**05 32 40.8**	**+1.1**
PSBE	**So Bento**	**80.52**	**40**	*e*P	**P**	**05 32 41.5**	**+1.0**
PMTG	**Montargil**	**80.57**	**41**	*e*P	**P**	**05 32 41.5**	**+0.8**
PBAR	**Barrancos**	**80.73**	**42**	*e*P	**P**	**05 32 42.3**	**+0.7**
PESTR	**Estremoz**	**80.83**	**41**	*e*P	**P**	**05 32 43.0**	**+0.9**
PESTR				*i* IAmb	IAmb	05 33 01.3	
	comp=Z,22nm,1.6s						
PSARD	**Sardoal**	**80.95**	**40**	*e*P	**P**	**05 32 43.5**	**+0.8**
PCAS	**Casmilo, Conde**	**81.04**	**40**	*e*P	**P**	**05 32 44.1**	**+0.9**
PMRV	**Marv??o**	**81.30**	**41**	*e*P	**P**	**05 32 45.1**	**+0.5**
PMRV				*i* IAmb	IAmb	05 33 01.3	
	comp=Z,27nm,1.8s						
PCBR	**Castelo Branco**	**81.51**	**40**	*e*P	**P**	**05 32 46.2**	**+0.6**
PCBR				*i* IAmb	IAmb	05 32 58.4	
	comp=Z,32nm,1.8s						
MAW	**Mawson**	**81.66**	**162**	P	**P**	**05 32 46.9**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=242,slow=6.7,SNR=5.4						
	comp=Z,1.6nm,0.5s						
PVRL	**Vila Real**	**82.28**	**39**	*e*P	**P**	**05 32 50.6**	**+1.1**
PVRL				*i* IAmb	IAmb	05 33 44.7	
	comp=Z,41nm,1.8s						
MVO	**Moncorvo**	**82.61**	**40**	*e*P	**P**	**05 32 51.8**	**+0.6**
PBRG	**Braganca**	**83.18**	**39**	*e*P	**P**	**05 32 54.0**	**0.0**
PAB	**San Pablo**	**83.23**	**42**	P	**P**	**05 32 55.1**	**+0.7**
PAB				IAmb	IAmb	05 32 56.0	
	comp=Z,7.2nm,0.8s						
ESDC	**Sonseca Array**	**83.55**	**42**	P	**P**	**05 32 56.6**	**+0.7**
	comp=Z,4.9nm,0.8s,baz=240,slow=4.8,SNR=31						
	comp=Z,4.9nm,0.8s						
MATP	**Matopo**	**84.33**	**110**	P	P	05 33 06.9	+6.5
	comp=Z,6.2nm,0.5s,baz=264,slow=4.0,SNR=29						
KEST	**Kesra**	**90.39**	**51**	P	**P**	**05 33 28.1**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=220,slow=7.9,SNR=3.5						
	comp=Z,2.5nm,0.9s						
EKA	**Eskdalemuir Ar**	**93.33**	**30**	P	**P**	**05 33 40.9**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=258,slow=4.0,SNR=4.3						
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**94.06**	**339**	P	**P**	**05 33 45.1**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=47,slow=4.1,SNR=6.8						
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**130.68**	**202**	PKP	**PKPdf**	**05 39 35.4**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=151,slow=2.1,SNR=6.4						
ASAR				SKPbc	**SKPab**	**05 42 09.8**	**0.0**
	comp=Z,3.4nm,0.6s,baz=147,slow=3.6,SNR=48						
WRA	**Warramunga Arr**	**133.95**	**204**	PKP	**PKPdf**	**05 39 41.9**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=171,slow=1.6,SNR=10						
WRA				SKPbc	**SKPbc**	**05 42 21.2**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=157,slow=2.7,SNR=16						
KURBB	**Kurchatov Arra**	**139.69**	**37**	PKhKP	PKPpre	05 39 47.3	
	comp=Z,1.4nm,0.7s,baz=297,slow=2.5,SNR=10						
ZALV	**Zalesovo Beam**	**140.96**	**29**	PKP	**PKPdf**	**05 39 51.9**	**-1.1**
	comp=Z,1.8nm,0.4s,baz=343,slow=2.6,SNR=9.9						
ZALV				SKPbc	**SKPbc**	**05 42 40.0**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=298,slow=3.2,SNR=8.2						
MKAR	**Makanchi Array**	**143.75**	**40**	PKP	PKPab	05 39 57.7	+0.5
	comp=Z,9.1nm,0.7s,baz=302,slow=3.5,SNR=58						
MKAR				SKPbc	**SKiKP**	**05 42 47.5**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=292,slow=2.9,SNR=4.0						
SONM	**Songino Array**	**153.84**	**15**	PKPbc	**PKiKP**	**05 40 23.6**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=315,slow=0.6,SNR=3.0						
SONM				PKPab	**PKPab**	**05 40 39.3**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=312,slow=3.7,SNR=7.4						
CMAR	**Chiang Mai Arr**	**163.29**	**102**	PKPab	**PKPab**	**05 41 20.1**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=251,slow=5.0,SNR=4.1						

*IDC **29** 05:30:03.6±3.2, 6.09S×102.28E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=132.7km s-min=21.8km az=53.0*
*DJA **29** 05:30:10.6±0.5, 6.5S±5.5×10.3E±.1, h10km, M4.0/7, mb4.0/1, MLv4.0/7*
ISC 29 05:30:08.7±1.2, 5.82S±0.09×102.6E±0.1, h21km, n27, σ1§33/16, mb3.8/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.48**	**13**	P	**Pn**	**05 30 34.5**	**+0.3**
MNAI				S	**Sb**	**05 30 54.4**	**+0.4**
LWLI	**Liwa**	**1.64**	**61**	P	**Pn**	**05 30 36.3**	**-0.1**
KASI	**Kota Agung**	**1.89**	**81**	P	**Pn**	**05 30 40.3**	**+0.5**
MDSI	**Maura Dua**	**2.04**	**50**	P	**Pn**	**05 30 42.7**	**+0.9**
KSI	**Kapahiang**	**2.15**	**359**	P	**Pn**	**05 30 45.5**	**+2.1**
LHSI	**Lahat**	**2.17**	**25**	P	**Pn**	**05 30 44.7**	**+1.1**
CGJI	**Cibinong**	**3.16**	**105**	P	**Pn**	**05 30 59.8**	**+2.6**
CMAR	**Chiang Mai Arr**	**24.39**	**352**	P	**P**	**05 35 25.5**	**-0.2**
	1.8nm,0.7s,baz=182,slow=8.9,SNR=15						
	1.8nm,0.7s						
H08S2	**Diego Garcia H**	**29.97**	**265**	T	T	06 07 38.1	
	baz=88,slow=76,SNR=17						
H08S3	**Diego Garcia H**	**29.98**	**265**	T	T	06 07 34.9	
	baz=88,slow=76,SNR=25						
H08S1	**Diego Garcia H**	**29.99**	**265**	T	T	06 07 37.5	
	baz=88,slow=76,SNR=6.7						
H01W3	**Cape Leeuwin H**	**30.82**	**161**	T	T	06 08 53.5	
	baz=338,slow=76,SNR=5.1						
H01W2	**Cape Leeuwin H**	**30.84**	**161**	T	T	06 08 56.7	
	baz=338,slow=76,SNR=8.1						
H01W1	**Cape Leeuwin H**	**30.84**	**161**	T	T	06 08 53.9	
	baz=338,slow=76,SNR=6.1						
WRA	**Warramunga Arr**	**33.87**	**117**	P	**P**	**05 36 48.4**	**-1.8**
	0.3nm,0.8s,baz=304,slow=7.6,SNR=1.0						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**34.94**	**124**	P	**P**	**05 36 59.0**	**-0.4**
	0.3nm,0.4s,baz=300,slow=8.9,SNR=5.6						
	0.3nm,0.4s						
SONM	**Songino Array**	**53.52**	**3**	P	**P**	**05 39 28.2**	**+0.3**
	1.4nm,0.8s,baz=186,slow=10,SNR=6.9						
	1.4nm,0.8s						
H04N2	**CROZET ISLANDS**	**59.38**	**219**	T	T	06 44 37.3	
	baz=63,slow=75,SNR=68						
H04N1	**CROZET ISLANDS**	**59.40**	**219**	T	T	06 44 39.5	
	baz=63,slow=75,SNR=69						
H04N3	**CROZET ISLANDS**	**59.40**	**219**	T	T	06 44 38.2	
	baz=63,slow=75,SNR=64						
H04S1	**CROZET ISLANDS**	**59.62**	**218**	T	T	06 44 57.9	
	baz=63,slow=76,SNR=8.6						
H04S3	**CROZET ISLANDS**	**59.63**	**218**	T	T	06 44 50.1	
	baz=63,slow=76,SNR=29						
H04S2	**CROZET ISLANDS**	**59.64**	**218**	T	T	06 44 53.7	
	baz=63,slow=76,SNR=16						
KURBB	**Kurchatov Arra**	**59.94**	**343**	P	**P**	**05 40 12.7**	**-0.4**
	0.2nm,0.3s,baz=167,slow=5.7,SNR=2.4						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**61.40**	**348**	P	**P**	**05 40 23.0**	**0.0**
	0.7nm,0.4s,baz=145,slow=5.3,SNR=2.6						
	0.7nm,0.4s						
BVAR	**Borovoye Array**	**64.65**	**339**	P	**P**	**05 40 42.6**	**-2.2**
	0.6nm,0.4s,baz=124,slow=7.8,SNR=2.8						
	0.6nm,0.4s						
TXAR	**Lajitas Array**	**145.89**	**44**	PKPbc	**PKPbc**	**05 49 48.2**	**+0.8**
	0.2nm,0.6s,baz=326,slow=1.9,SNR=5.2						

*IPEC **29** 05:38:00.8±0.2, 51.64N×16.10E, h1km, ML3.0/5, Error ellipse: s-maj=1.7km s-min=1.4km az=67.0*
*DNK **29** 05:38:01.4±1.8, 51.72N×15.66E, h0km±94km, ML2.2*
*BGR **29** 05:38:01.9±0.4, 51.58N×16.00E, h1km, ML3.1/15, Error ellipse: s-maj=5.6km s-min=2.2km az=17.0*
*VIE **29** 05:38:02.1±0.9, 51.54N×16.13E, h0km, mb2.7/14, ml3.1/14, ms3.4/2, Error ellipse: s-maj=11.5km s-min=5.6km az=74.0 79 km NW of Wroclaw Suspected Mining induced.*
*IDC **29** 05:38:02.3±0.7, 51.59N×15.99E, h0km, mbtmp3.1/6, ML2.3/5, Error ellipse: s-maj=12.5km s-min=7.3km az=109.0*
*PRU **29** 05:38:03.5, 51.53N×15.98E, h0km*
*UPP **29** 05:38:06.1±3.1, 51.90N×14.99E, h0km, ML2.3, Presumed earthquake*
ISC 29 05:37:59.0±0.7, 51.70N±0.03×16.03E±0.02, h0km, n74, σ1§71/137, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.88**	**169**	*e*Pg	**Pb**	**05 38 16.5**	**-0.6**
KSP				*e*Sg	**Sg**	**05 38 26.9**	**-0.2**
KSP	**Ksiaz**	**0.88**	**169**	*e*Pg	**Pb**	**05 38 16.4**	**-0.6**
KSP				*e*Sg	**Sg**	**05 38 26.8**	**-0.2**
CHVC	**Chvalec**	**1.11**	**179**	*e*PG	**Pb**	**05 38 21.0**	**-0.1**
CHVC				*e*SG	**Sg**	**05 38 35.1**	**+0.3**
	139nm,0.4s						
OSTC	**Ostas**	**1.15**	**174**	*e*PG	**Pb**	**05 38 22.0**	**+0.2**
OSTC				*e*SG	**Sg**	**05 38 35.9**	**-0.1**
	160nm,0.6s						
UPC	**Upice**	**1.20**	**180**	*e*PG	**Pb**	**05 38 22.4**	**-0.1**
UPC				*e*SG	**Sg**	**05 38 37.0**	**-0.3**
	217nm,0.4s						
DPC	**Dobruska-Polom**	**1.37**	**172**	*e*PG	**Pg**	**05 38 25.2**	**0.0**
DPC				*e*SG	**Sg**	**05 38 41.9**	**-0.9**
	96nm,0.3s						
DPC	**Dobruska-Polom**	**1.37**	**172**	*e*Pg	**Pg**	**05 38 25.1**	**0.0**
DPC				*e*Sg	**Sg**	**05 38 41.7**	**-1.1**
PVCC	**Panska Ves**	**1.49**	**219**	*e*PG	**Pg**	**05 38 27.7**	**+0.2**
PVCC				*e*SG	**Sn**	**05 38 47.2**	**0.0**
	304nm,0.2s						
BRG	**Berggiesshubel**	**1.55**	**238**	*e*Pn	**Pn**	**05 38 28.1**	**+0.3**
BRG				*e*Sg	**Sg**	**05 38 49.0**	**+0.3**
BRG	**Berggiesshubel**	**1.55**	**238**	Pn	**Pn**	**05 38 28.2**	**+0.3**
BRG				Pg	**Pg**	**05 38 29.4**	**+0.7**
BRG				Sg	**Sg**	**05 38 49.3**	**+0.6**
BRG				Amp		05 38 49.9	
	comp=Z,141nm,0.4s						
PIVO	**Bartosovice**	**1.55**	**168**	*e*Pn	**Pb**	**05 38 28.5**	**-0.1**
	baz=349						
PIVO				*e*Sg	**Sn**	**05 38 47.1**	**-1.6**
	comp=Z,121nm,0.2s,baz=349						
KRLC	**Kraliky**	**1.70**	**163**	*e*PG	**Pn**	**05 38 30.4**	**+0.5**
KRLC				*e*SG	**Sn**	**05 38 52.6**	**+0.3**
	comp=Z,155nm,0.5s						
PRA	**Prague**	**1.92**	**212**	*e*PG	**Pn**	**05 38 33.6**	**+0.7**
PRA				*e*SG	**Sb**	**05 38 59.3**	**0.0**
	comp=Z,85nm,0.5s						
CLL	**Collm**	**1.93**	**259**	*e*Pn	**Pn**	**05 38 33.6**	**+0.6**
CLL				*e*Pg	**Pg**	**05 38 36.5**	**+0.5**
CLL	**Collm**	**1.93**	**259**	*i* Pn	**Pn**	**05 38 33.5**	**+0.5**
	comp=Z,18nm,0.5s						
CLL				*i* Pg	**Pg**	**05 38 36.6**	**+0.6**
CLL				*i* x	x	05 38 40.7	
CLL				*ex*	x	05 38 52.0	
CLL				*e*Sg	**Sg**	**05 39 02.0**	**+1.0**
	comp=Z,52nm,0.5s						
PRU	**Pruhonice**	**1.96**	**209**	*e*PN	**Pn**	**05 38 33.6**	**+0.2**
PRU				*e*PG	**Pb**	**05 38 35.8**	**+0.3**
PRU				*e*SG	**Sb**	**05 39 00.2**	**-0.2**
	comp=Z,68nm,0.5s						
STEB	**Steborice**	**2.09**	**147**	*e*PN	**Pn**	**05 38 35.9**	**+0.7**
STEB				*e*PG	**Pg**	**05 38 38.5**	**-0.5**
STEB				*e*SG	**Sg**	**05 39 05.6**	**-0.4**
MORC	**Moravsky Berou**	**2.15**	**153**	*e*Pn	**Pn**	**05 38 36.6**	**+0.4**
	baz=334						
MORC				*e*Sg	**Sb**	**05 39 05.9**	**-0.2**
	comp=Z,112nm,0.7s,baz=334						
MORC	**Moravsky Berou**	**2.15**	**153**	*e*Pn	**Pn**	**05 38 36.6**	**+0.4**
MORC				*e*Sg	**Sb**	**05 39 06.8**	**+0.6**
OKC	**Ostrava-Krasne**	**2.30**	**143**	*e*Sg	**Sb**	**05 39 11.2**	**+0.9**
VRAC	**Vranov**	**2.42**	**171**	Pn	**Pn**	**05 38 41.2**	**+1.3**
	comp=Z,1.9nm,0.3s,baz=347,slow=15,SNR=31						
VRAC				Lg	Lg	05 39 14.7	
	comp=Z,8.4nm,0.3s,baz=113,slow=16,SNR=7.7						
	comp=Z,3.9nm,0.3s						
VRAC	**Vranov**	**2.42**	**171**	*e*Pn	**Pn**	**05 38 40.7**	**+0.9**
	baz=352						
VRAC				*e*Sg	**Sb**	**05 39 14.3**	**+0.5**
	comp=Z,70nm,0.6s,baz=352						
VRAC	**Vranov**	**2.42**	**171**	*e*PN	**Pn**	**05 38 40.8**	**+0.9**
VRAC				*e*SG	**Sb**	**05 39 14.4**	**+0.6**
TREC	**Trest**	**2.43**	**188**	*e*SG	**Sb**	**05 39 15.5**	**+1.3**
TANN	**Tannenbergstha**	**2.59**	**242**	*e*Sg	**Sg**	**05 39 21.6**	**-0.6**
KRUC	**Moravsky**	**2.65**	**175**	*e*Pn	**Pn**	**05 38 43.8**	**+0.8**
	baz=356						
KRUC	**Moravsky**	**2.65**	**175**	*e*Pg	**Pb**	**05 38 48.0**	**+0.7**
	baz=356						
KRUC				*e*Sg	**Sb**	**05 39 21.5**	**+1.1**
	comp=Z,74nm,1.0s,baz=356						
WERD	**Werda**	**2.66**	**243**	*e*Pg	**Pg**	**05 38 51.0**	**+1.0**
OJC	**Ojcow**	**2.81**	**120**	*e*Pg	**Pg**	**05 38 54.2**	**+1.4**
OJC				*e*Sg	**Sg**	**05 39 30.5**	**+1.3**
OJC	**Ojcow**	**2.81**	**120**	*e*Pg	**Pg**	**05 38 53.8**	**+1.0**
OJC				*e*Sg	**Sg**	**05 39 30.5**	**+1.3**
MOX	**Moxa**	**2.97**	**251**	*e*Pn	**Pn**	**05 38 48.2**	**+0.8**
MOX				*e*Sg	**Sg**	**05 39 34.4**	**+0.1**
KHC	**Kasperske Hory**	**3.01**	**212**	*e*PN	**Pn**	**05 38 48.8**	**+0.8**
KHC				*e*PG	**Pb**	**05 38 55.0**	**+1.5**
KHC				*e*SG	**Sg**	**05 39 33.5**	**-2.2**
	comp=Z,41nm,0.6s						
MANZ	**Manzenberg**	**3.02**	**237**	*e*Pn	**Pn**	**05 38 48.9**	**+0.8**
MANZ				*e*Sg	**Sg**	**05 39 36.3**	**+0.4**
JAVC	**Velka Javorina**	**3.04**	**159**	*e*Pn	**Pn**	**05 38 48.7**	**+0.5**
	baz=341						
JAVC	**Velka Javorina**	**3.04**	**159**	*e*PN	**Pn**	**05 38 48.8**	**+0.5**
CKRC	**Cesky Krumlov**	**3.09**	**202**	*e*PN	**Pn**	**05 38 49.8**	**+0.8**
CKRC				*e*PG	**Pb**	**05 38 56.1**	**+1.3**
CKRC				*e*SG	**Sb**	**05 39 35.0**	**+2.0**
	comp=Z,40nm,0.4s						
ROTZ	**Rotzenmuhle**	**3.10**	**233**	*e*Pn	**Pn**	**05 38 50.0**	**+0.8**
GEC2	**GERESS Array S**	**3.23**	**208**	*e*Pg	**Pb**	**05 38 58.9**	**+1.8**
GERES	**GERESS Array B**	**3.23**	**208**	Pn	**Pn**	**05 38 51.8**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=32						
GERES				Pg	**Pg**	**05 39 00.0**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=27,slow=17,SNR=36						
GERES				Lg	Lg	05 39 37.1	
	comp=Z,0.7nm,0.3s,baz=13,slow=24,SNR=9.4						
	comp=Z,2.7nm,0.4s						
WET	**Wettzell**	**3.26**	**219**	*e*Pn	**Pn**	**05 38 52.2**	**+0.8**
WET				*e*Sg	**Sg**	**05 39 42.0**	**-1.5**
CLZ	**Clausthal**	**3.52**	**274**	*e*Pn	**Pn**	**05 38 57.2**	**+2.3**
NIE	**Niedzica**	**3.56**	**128**	*e*Pg	**Pg**	**05 39 08.0**	**+0.9**
NIE				*e*Sg	**Sg**	**05 39 52.3**	**-0.9**
CONA	**Conrad Observa**	**3.78**	**182**	*i* Pn	**Pn**	**05 38 59.8**	**+1.3**
	comp=Z,1.2nm,0.2s,SNR=8.8						
CONA				*e*Sg	**Sb**	**05 39 55.9**	**+3.0**
	comp=Z,32nm,0.4s						
RONA	**Rosalia, Austr**	**4.01**	**177**	*e*Pn	**Pn**	**05 39 02.3**	**+0.7**
	comp=Z,0.8nm,0.5s						
RONA				*e*Sg	**Sb**	**05 40 03.2**	**+3.7**
	comp=Z,11nm,0.4s						
MOA	**Molln**	**4.02**	**197**	*i* Pn	**Pn**	**05 39 02.5**	**+0.7**
	comp=Z,2.3nm,0.3s,SNR=12						
MOA				*e*Sg	**Sg**	**05 40 05.8**	**-2.3**
	comp=Z,22nm,0.5s						
BIOA	**Bad Ischl, Aus**	**4.30**	**202**	*i* Pn	**Pn**	**05 39 06.4**	**+0.7**
	comp=Z,0.8nm,0.2s						
BIOA				*e*Sg	**Sg**	**05 40 15.6**	**-1.5**
	comp=Z,49nm,0.6s						
ARSA	**Arzberg**	**4.47**	**184**	*i* Pn	**Pn**	**05 39 09.7**	**+1.7**
	comp=Z,0.4nm,0.3s						
ARSA				*e*Sg	**Sg**	**05 40 19.8**	**-2.6**
	comp=Z,17nm,0.7s						
BJUU	**Bjuv**	**4.73**	**339**	P	**Pn**	**05 39 12.5**	**+1.0**
BJUU	**Bjuv**	**4.73**	**339**	P	**Pn**	**05 39 12.5**	**+1.0**
BJUU				*i* P	**Pn**	**05 39 12.6**	**+1.1**
BJUU				*i*		05 40 06.3	
LESA	**Schwarzleotal**	**4.80**	**208**	*i* Pn	**Pn**	**05 39 13.5**	**+0.9**
	comp=Z,0.3nm,0.2s						
LESA				Sg	**Sg**	**05 40 30.9**	**-2.4**
	comp=Z,7.5nm,0.5s						
DEL	**Delary**	**4.94**	**346**	P	**Pn**	**05 39 15.8**	**+1.4**
DEL				S	**Sn**	**05 40 11.2**	**-1.1**
DEL	**Delary**	**4.94**	**346**	P	**Pn**	**05 39 15.8**	**+1.4**
DEL				*i* P	**Pn**	**05 39 15.8**	**+1.4**
DEL				S	**Sn**	**05 40 11.2**	**-1.1**
DEL				*i* S	**Sn**	**05 40 11.7**	**-0.5**
DEL				IAML		05 40 19.4	
	comp=Z,1.3nm,0.4s						
KBA	**Koelnbreinsper**	**4.95**	**202**	*i* Pn	**Pn**	**05 39 15.9**	**+1.2**
	comp=Z,3.1nm,0.5s,SNR=6.8						
KBA				*e*Sg	**Sg**	**05 40 32.6**	**-5.2**
	comp=Z,12nm,0.5s						
WATA	**Walderalm**	**5.24**	**215**	*i* Pn	**Pn**	**05 39 21.0**	**+2.3**
	comp=Z,4.7nm,0.6s						
WATA				Sg	**Sg**	**05 40 55.7**	**+8.4**
	comp=Z,10nm,0.5s						
VXJU	**Vaexsjoe**	**5.27**	**353**	P	**Pn**	**05 39 21.4**	**+2.5**
VXJU				S	**Sn**	**05 40 18.4**	**-1.9**
VXJU	**Vaexsjoe**	**5.27**	**353**	P	**Pn**	**05 39 21.4**	**+2.5**
VXJU				S	**Sn**	**05 40 18.4**	**-1.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTTA	**Wattenberg**	**5.28**	**214**	*e*Pn	**Pn**	**05 39 19.9**	**+0.7**
	comp=Z,0.6nm,0.2s						
WTTA				*e*Sg	**Sg**	**05 40 49.0**	**+0.4**
	comp=Z,10nm,0.5s						
OBKA	**Obir**	**5.29**	**191**	*i* Pn	**Pn**	**05 39 21.3**	**+2.1**
	comp=Z,0.2nm,0.2s						
OBKA				*e*Sg	**Sg**	**05 40 49.1**	**+0.4**
	comp=Z,14nm,0.7s						
MOTA	**Moosalm**	**5.41**	**218**	*i* Pn	**Pn**	**05 39 21.6**	**+0.6**
	comp=Z,0.7nm,0.2s						
MOTA				*e*Sg	**Sg**	**05 40 51.4**	**-1.4**
	comp=Z,14nm,0.6s						
RETA	**Reutte**	**5.43**	**221**	*e*Pn	**Pn**	**05 39 19.8**	**-1.5**
	comp=Z,1.0nm,0.3s						
RETA				*e*Sg	**Sg**	**05 40 51.3**	**-2.1**
	comp=Z,4.0nm,0.4s						
ABTA	**Abfaltersbach**	**5.47**	**206**	*i* Pn	**Pn**	**05 39 23.1**	**+1.4**
	comp=Z,0.5nm,0.2s						
ABTA				*e*Sg	**Sg**	**05 40 52.3**	**-2.2**
	comp=Z,9.0nm,0.6s						
SQTA	**Sankt Quirin**	**5.47**	**217**	*i* Pn	**Pn**	**05 39 24.0**	**+2.1**
	comp=Z,0.5nm,0.2s						
SQTA				*e*Sg	**Sg**	**05 40 55.5**	**+0.7**
	comp=Z,8.2nm,0.5s						
GNOU	**Gnosjoe**	**5.75**	**348**	P	**Pn**	**05 39 28.2**	**+2.6**
GNOU	**Gnosjoe**	**5.75**	**348**	P	**Pn**	**05 39 28.2**	**+2.6**
FETA	**Feichten**	**5.82**	**219**	*e*Pn	**Pn**	**05 39 26.6**	**-0.1**
	comp=Z,0.4nm,0.4s						
FETA				*e*Sg	**Sg**	**05 41 04.0**	**-2.0**
	comp=Z,2.8nm,0.7s						
DAVA	**Damuels**	**5.96**	**225**	*e*Pn	**Pn**	**05 39 28.9**	**+0.3**
	comp=Z,1.6nm,0.4s						
DAVA				*e*Sg	**Sg**	**05 41 04.9**	**-5.5**
	comp=Z,5.5nm,0.5s						
FKPU	**Falk**	**6.61**	**349**	P	**Pn**	**05 39 39.9**	**+2.7**
FKPU	**Falk**	**6.61**	**349**	P	**Pn**	**05 39 39.9**	**+2.7**
NACGM	**Naroch**	**7.20**	**59**	*e*P	**Pn**	**05 39 45.6**	**+0.2**
AKASG	**Malin Array Be**	**8.35**	**92**	Pn	**Pn**	**05 40 01.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=278,slow=12,SNR=4.1						
AKASG				Sn	**Sn**	**05 41 32.4**	**-3.7**
	comp=Z,0.7nm,0.3s,baz=275,slow=23,SNR=3.2						
HFS	**Hagfors**	**8.55**	**352**	Pn	**Pn**	**05 40 05.2**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=168,slow=14,SNR=2.3						
	comp=Z,2.5nm,0.9s						
NOA	**NORSAR Array B**	**9.73**	**346**	Pn	**Pn**	**05 40 21.9**	**+1.8**
	baz=148,slow=10,SNR=1.8						
	comp=Z,0.1nm,0.4s						
FINES	**FINESS Array B**	**11.21**	**26**	Pn	**Pn**	**05 40 41.5**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=219,slow=11,SNR=8.2						
FINES				Sn	**Sn**	**05 42 41.5**	**-4.6**
	comp=Z,0.2nm,0.3s,baz=215,slow=21,SNR=5.0						
	comp=Z,0.6nm,0.3s						
EKA	**Eskdalemuir Ar**	**11.98**	**295**	Pn	**Pn**	**05 40 50.3**	**-0.5**
	baz=105,slow=13						
EKA				Sn	**Sn**	**05 43 00.7**	**-4.3**
	baz=107,slow=29						

*LDG **29** 05:38:09.5±0.1, 46.10N×2.09E, h10km, Md2.5/2, Ml2.4/25, Error ellipse: s-maj=1.4km s-min=1.0km az=132.0*
*STR **29** 05:38:10.3±0.4, 46.1N±2.1×2.1±1.1, h2km, MLv2.1/7, LOCSAT earthModelID auvergne_taup-2.11 preliminary*
ISC 29 05:38:08.5±0.9, 46.09N±0.02×2.10E±0.02, h17km±7km, n41, σ1§41/82, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCF	**Toulx Ste Croi**	**0.21**	**21**	*e*Pg	**Pg**	**05 38 14.1**	**+0.5**
TCF				*e*Sg	**Sg**	**05 38 16.9**	**-0.2**
	73nm,0.2s						
VERF	**Verneugheol**	**0.43**	**142**	Pg	**Pb**	**05 38 18.4**	**+0.7**
VERF				Sg	**Sb**	**05 38 24.1**	**+0.1**
BGF	**Bois d'Agland**	**0.70**	**48**	*e*Pg	**Pb**	**05 38 22.8**	**+0.6**
BGF				*e*Sg	**Sb**	**05 38 31.4**	**-0.1**
	35nm,0.2s						
AGO	**Saint Agoulin**	**0.72**	**93**	Pg	**Pn**	**05 38

	1.2nm,0.2s							
ETSF	**Etsaut**	**3.72**	**212**	*e*Pg		**Pg**	**05 39 19.0**	**-0.7**
ETSF				*e*Sg		**Sg**	**05 40 05.5**	**-2.4**
	0.5nm,0.2s							
SJPF	**Ste Jean**	**3.81**	**220**	*e*Pn		**Pn**	**05 39 06.3**	**-0.1**
SJPF	**Ste Jean**	**3.81**	**220**	*e*Pg		**Pg**	**05 39 19.6**	**-1.9**
SJPF				*e*Sn		**Sn**	**05 39 50.1**	**-0.7**
SJPF				*e*Sg		**Sg**	**05 40 08.1**	**-2.7**
	0.4nm,0.2s							

*IDC **29** 05:53:11.4±0.7,5°.79N×126°.79E, h0km, mb4.2/11, mbtmp4.2/11, Error ellipse: s-maj=57.1km s-min=14.6km az=66.0*
*NEIC **29** 05:53:21.8±1.2,5°.57N±0°.03×126°.39E±0°.07, h73km±9km, mb4.2/30, Error ellipse: s-maj=11.6km s-min=2.0km az=113.0*
*DJA **29** 05:53:25.3±0.6,5°.7N±5°×12°.7E±°, h116km±10km, M4.6/11, mB5.0/4, mb4.6/5, MLv4.6/11, Mw(mB)4.3/4*
ISC 29 05:53:20.2±0.5,5°.63N±0°.06×126°.53E±0°.09, h66km, n63, σ1§25/63, mb4.2/25, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.72**	**327**	Pn	**Pn**	**05 53 49.0**	**+0.9**
DAV	**Davao City (W)**	**1.72**	**327**	Pn	Pn	05 53 44.2	-3.8
	31nm,0.3s,baz=101,slow=10,SNR=1.6						
SGSI	**Sangihe**	**2.17**	**208**	P	**Pn**	**05 53 56.6**	**+2.4**
SGSI				S	**Sn**	**05 54 23.1**	**+3.0**
TNTI	**Ternate**	**4.89**	**170**	Pn	**Pn**	**05 54 31.9**	**+0.6**
MRSI	**Marisa**	**6.87**	**222**	P	**Pn**	**05 55 00.7**	**+2.3**
TOLI2	**Tolitoli**	**7.29**	**232**		**Pn**	**05 55 04.5**	**+0.4**
LUWI	**Luwuk**	**7.62**	**210**	Pn	**Pn**	**05 55 08.1**	**-0.5**
LUWI	**Luwuk**	**7.62**	**210**	P	**Pn**	**05 55 09.6**	**+1.0**
	124nm,1.1s						
SANI	**Sanana**	**7.64**	**184**	P	**Pn**	**05 55 09.6**	**+0.6**
	0.3nm2µm65nm,0.8s						
MYLDM	**Lahad Datu**	**8.01**	**267**		**Pn**	**05 55 12.7**	**-1.3**
NLAI	**Namlea**	**8.82**	**176**	P	**Pn**	**05 55 26.7**	**+1.6**
FAKI	**Fak Fak**	**10.23**	**146**	Pn	**Pn**	**05 55 42.6**	**-1.8**
KAPI	**Kappang**	**12.55**	**213**	Pn	**Pn**	**05 56 14.4**	**-1.6**
SBUM	**Sibu**	**14.62**	**258**		**Pn**	**05 56 42.2**	**-1.5**
SOEI	**Soe**	**15.45**	**188**	Pn	**Pn**	**05 56 54.5**	**+0.1**
SOEI				IAmb	IAmb	05 57 21.2	
	comp=Z,25nm,1.0s						
KSM	**Kuching**	**16.71**	**256**	P	**Pn**	**05 57 10.5**	**+0.3**
KSM				IAmb	IAmb	05 57 16.6	
	comp=Z,9.1nm,0.6s						
KNRA	**Kununurra**	**21.28**	**174**	P	**P**	**05 58 02.1**	**+0.7**
KNRA				IAmb	IAmb	05 58 02.3	
	comp=Z,14nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.59**	**182**	P	**P**	**05 58 25.4**	**+0.1**
COEN	**Coen**	**25.52**	**140**	P	**P**	**05 58 42.5**	**-0.3**
COEN				IAmb	IAmb	05 59 03.4	
	comp=Z,6.6nm,1.0s						
WB0	**Warramunga Arr**	**26.39**	**163**	P	**P**	**05 58 50.0**	**-0.7**
WRA	**Warramunga Arr**	**26.54**	**163**	P	**P**	**05 58 52.9**	**+0.8**
WRA	**Warramunga Arr**	**26.54**	**163**	P	**P**	**05 58 51.7**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=345,slow=10,SNR=24						
WRA				PcP	**PcP**	**06 02 16.5**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=336,slow=2.5,SNR=2.0 comp=Z,3.4nm,0.8s						
WR8	**Warramunga Arr**	**26.60**	**163**	P	**P**	**05 58 52.3**	**-0.3**
WR8				IAmb	IAmb	05 58 57.8	
	comp=Z,4.9nm,0.8s						
ASAR	**Alice Springs**	**29.99**	**166**	P	**P**	**05 59 23.3**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=344,slow=6.9,SNR=17						
ASAR				PcP	**PcP**	**06 02 23.9**	**0.0**
	comp=Z,0.6nm,0.5s,baz=344,slow=2.4,SNR=8.3 comp=Z,0.8nm,0.4s						
KSAR	**Wonju Array Be**	**31.69**	**2**	P	**P**	**05 59 39.8**	**+2.3**
KS19	**Wonju Array Si**	**31.75**	**2**	P	**P**	**05 59 40.6**	**+2.5**
EIDS	**Eidsvold**	**38.97**	**143**	P	**P**	**06 00 40.6**	**+0.4**
EIDS				IAmb	IAmb	06 00 54.6	
	comp=Z,2.2nm,0.8s						
BBOO	**Buckleboo**	**39.28**	**167**	P	**P**	**06 00 40.1**	**-2.6**
NWAO	**Narrogin (SRO)**	**39.35**	**192**	P	**P**	**06 00 41.1**	**-2.1**
STKA	**Stephens Creek**	**39.96**	**160**	P	**P**	**06 00 48.1**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=338,slow=11,SNR=5.6 comp=Z,3.6nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**41.19**	**68**	T	T	06 45 15.1	
	baz=257,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**41.20**	**68**	T	T	06 45 15.5	
	baz=257,slow=75,SNR=7.7						
H11S2	**WAKE ISLAND Hy**	**41.20**	**68**	T	T	06 45 10.6	
	baz=257,slow=75,SNR=13						
ARMA	**Armidale**	**43.16**	**148**	P	**P**	**06 01 14.9**	**+0.2**
ARMA				IAmb	IAmb	06 01 24.1	
	comp=Z,4.9nm,1.0s						
EVN	**Everest**	**43.73**	**305**	P	**P**	**06 01 17.7**	**-2.3**
EVN				IAmb	IAmb	06 01 24.9	
	comp=Z,7.6nm,1.5s						
MKAR	**Makanchi Array**	**55.90**	**325**	P	**P**	**06 02 51.5**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=118,slow=7.5,SNR=16						
MKAR				PcP	**PcP**	**06 03 49.6**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=118,slow=4.7,SNR=5.8 comp=Z,0.7nm,0.4s						
MAKZ	**Makanchi**	**56.09**	**324**	P	**P**	**06 02 52.1**	**-0.7**
MAKZ				IAmb	IAmb	06 03 00.8	
	comp=Z,1.5nm,0.8s						
NIL	**Nilore**	**56.63**	**307**	P	**P**	**06 02 56.8**	**0.0**
KDJ	**Kajisay**	**56.82**	**318**	P	**P**	**06 02 58.3**	**+0.1**
KDJ				IAmb	IAmb	06 03 17.8	
	comp=Z,2.4nm,1.1s						
ZALV	**Zalesovo Beam**	**58.82**	**333**	P	**P**	**06 03 10.5**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=128,slow=9.3,SNR=2.0 comp=Z,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**60.05**	**327**	P	**P**	**06 03 20.2**	**0.0**
	comp=Z,2.4nm,0.2s,baz=122,slow=6.0,SNR=4.2 comp=Z,2.4nm,0.2s						
KKAR	**Karatay Array**	**61.73**	**316**	P	**P**	**06 03 31.3**	**-0.5**
BVAR	**Borovoye Array**	**65.64**	**327**	P	**P**	**06 03 57.6**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=133,slow=10,SNR=5.7 comp=Z,0.9nm,0.4s						
D19K	**Kuna River**	**79.44**	**21**	P	**P**	**06 05 20.1**	**+0.9**
D19K				IAmb	IAmb	06 05 49.3	
	comp=Z,5.6nm,1.1s						
B21K	**Ikpikpuk River**	**80.87**	**20**	P	**P**	**06 05 27.2**	**+0.5**
D22K	**Ayikyak River**	**81.46**	**21**	P	**P**	**06 05 31.4**	**+1.4**
D22K				IAmb	IAmb	06 05 56.9	
	comp=Z,3.8nm,1.1s						
C23K	**Itkillik River**	**82.28**	**20**	P	**P**	**06 05 35.4**	**+1.2**
C23K				IAmb	IAmb	06 05 47.8	
	comp=Z,4.2nm,1.0s						
I23K	**Minto, Yukon-K**	**82.45**	**25**	P	**P**	**06 05 36.4**	**+1.3**
PWL	**Port Wells**	**82.75**	**29**	P	**P**	**06 05 36.9**	**0.0**
CCB	**Clear Creek Bu**	**83.09**	**26**	P	**P**	**06 05 38.5**	**0.0**
G24K	**Hadweenzic Riv**	**83.28**	**24**	P	**P**	**06 05 40.8**	**+1.3**
ILAR	**Eielson Array**	**83.49**	**26**	P	**P**	**06 05 41.9**	**+1.3**
ILAR	**Eielson Array**	**83.49**	**26**	P	**P**	**06 05 40.2**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=246,slow=5.0,SNR=9.4 comp=Z,0.4nm,0.6s						
FID	**Port Fidalgo**	**83.65**	**30**	P	**P**	**06 05 41.9**	**+0.4**
F25K	**Christian Rive**	**84.00**	**23**	P	**P**	**06 05 45.2**	**+1.9**
BMAR	**Burnt Mountain**	**84.42**	**23**	P	**P**	**06 05 47.1**	**+1.8**
BMRM	**Bremner River**	**84.57**	**29**	P	**P**	**06 05 47.0**	**+0.8**
BMRM				IAmb	IAmb	06 05 56.7	
	comp=Z,4.1nm,1.2s						
C27K	**Jago River**	**84.68**	**21**	P	**P**	**06 05 48.3**	**+1.7**
C27K				IAmb	IAmb	06 06 12.6	
	comp=Z,1.8nm,1.0s						
G26K	**Porcupine Rive**	**84.74**	**23**	P	**P**	**06 05 48.0**	**+1.2**
GLB	**Gilahina Butte**	**84.94**	**29**	P	**P**	**06 05 48.9**	**+0.9**
GLB				IAmb	IAmb	06 06 17.0	
	comp=Z,2.9nm,1.0s						
ARCES	**ARCESS Array B**	**88.61**	**340**	P	**P**	**06 06 05.4**	**-0.3**
	comp=Z,2.8nm,0.9s,baz=71,slow=6.7,SNR=8.5 comp=Z,2.8nm,0.9s						
FINES	**FINESS Array B**	**90.08**	**332**	P	**P**	**06 06 12.4**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=72,slow=4.7,SNR=10.0 comp=Z,2.1nm,0.9s						
HFS	**Hagfors**	**96.26**	**332**	P	**P**	**06 06 39.8**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=90,slow=4.3,SNR=5.2 comp=Z,0.4nm,0.4s						

*IDC **29** 06:03:16.2±1.7,4°.86S×145°.65E, h116km±15km, mb3.6/7, mbtmp4.1/10, Error ellipse: s-maj=20.2km s-min=10.4km az=97.0*
*DJA **29** 06:03:18.0±0.6,5°.5S±7°×14°.6E±°, h99km±10km, M4.7/7, mb4.8/7, mB5.2/4, MLv4.7/5, Mw(mB)4.6/4*
*NEIC **29** 06:03:19.1±1.9,4°.79S±0°.08×145°.44E±0°.04, h127km±8km, mb4.4/35, Error ellipse: s-maj=11.4km s-min=6.1km az=167.0*
ISC 29 06:03:20.1±0.6,4°.89S±0°.06×145°.53E±0°.08, h150km, n56, σ2§08/50, mb4.3/26, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.37**	**33**		**Pn**	**06 04 12.5**	**+0.4**
PMG	**Port Moresby**	**4.77**	**160**		**Pn**	**06 04 27.5**	**-3.0**
PMG	**Port Moresby**	**4.77**	**160**	P	**Pn**	**06 04 27.1**	**-3.3**
	86nm,0.7s,baz=349,slow=7.4,SNR=25						
PMG				S	**Sn**	**06 05 19.2**	**-6.1**
	61nm,0.3s,baz=151,slow=20,SNR=17						
JAY	**Jayapura**	**5.37**	**296**	P	**Pn**	**06 04 35.1**	**-3.3**
	17nm,0.3s,baz=157,slow=9.1,SNR=29						
JAY	**Jayapura**	**5.37**	**296**	P	**Pn**	**06 04 35.7**	**-2.7**
	483nm30nm,0.6s						
GENI	**Genyem**	**5.82**	**293**	P	**Pn**	**06 04 40.0**	**-4.4**
	0.5nm2µm141nm,0.9s						
SMPI	**Sarmi**	**7.39**	**293**	P	**Pn**	**06 05 02.1**	**-3.3**
	0.2nm3µm35nm,0.7s						
COEN	**Coen**	**9.30**	**194**		**Pn**	**06 05 30.3**	**-0.6**
RKPI	**Ransiki, Papua**	**11.82**	**286**	P	**Pn**	**06 06 05.0**	**+0.8**
	92nm,0.6s						
SWI	**Sorong**	**14.80**	**285**	P	**P**	**06 06 42.8**	**-1.4**
	47nm,0.7s						
CTAO	**Charters Tower**	**15.12**	**177**	Pn	**P**	**06 06 52.5**	**+4.7**
WB0	**Warramunga Arr**	**18.34**	**215**	P	**Pn**	**06 07 23.5**	**-1.5**
WR8	**Warramunga Arr**	**18.43**	**215**	P	**Pn**	**06 07 24.6**	**-1.4**
WRA	**Warramunga Arr**	**18.51**	**215**	P	**Pn**	**06 07 26.1**	**-0.9**
WRA	**Warramunga Arr**	**18.51**	**215**	P	**P**	**06 07 25.2**	**+0.2**
	1.3nm,0.3s,baz=38,slow=10,SNR=18						
WRA				S	**S**	**06 10 51.7**	**+3.2**
	8.2nm,1.0s,baz=35,slow=18,SNR=12						
KNRA	**Kununurra**	**19.66**	**236**	P	**P**	**06 07 35.4**	**-2.1**
KNRA				IAmb	IAmb	06 07 59.7	
	comp=Z,7.7nm,0.8s						
SOEI	**Soe**	**21.63**	**256**		**P**	**06 07 59.8**	**+1.0**
SOEI	**Soe**	**21.63**	**256**	P	**P**	**06 08 00.4**	**+1.6**
AS31	**Alice Springs**	**21.77**	**210**	P	**P**	**06 08 00.2**	**+0.1**
ASAR	**Alice Springs**	**21.78**	**210**	P	**P**	**06 08 00.9**	**+0.8**
ASAR	**Alice Springs**	**21.78**	**210**	P	**P**	**06 08 00.6**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=44,slow=7.0,SNR=20						
ASAR				S	**S**	**06 11 54.4**	**+3.2**
	comp=Z,0.9nm,0.9s,baz=28,slow=19,SNR=4.7 comp=Z,0.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**23.46**	**234**	P	**P**	**06 08 15.5**	**-0.7**
FORT	**Forrest**	**30.56**	**211**	P	**P**	**06 09 19.8**	**+0.2**
FORT				IAmb	IAmb	06 09 43.8	
	comp=Z,14nm,1.1s						
MORW	**Morawa**	**36.85**	**226**	P	**P**	**06 10 16.1**	**+2.0**
MORW				IAmb	IAmb	06 10 18.6	
	comp=Z,3.1nm,0.8s						
VNDA	**Vanda**	**73.10**	**176**	P	**P**	**06 14 34.2**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=335,slow=6.4,SNR=5.0 comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**75.72**	**321**	P	**P**	**06 14 49.2**	**0.0**
MKAR	**Makanchi Array**	**75.72**	**321**	P	**P**	**06 14 49.6**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=108,slow=6.6,SNR=8.5 comp=Z,0.3nm,0.4s						
MAKZ	**Makanchi**	**75.92**	**321**	P	**P**	**06 14 49.6**	**-0.7**
O14K	**Tigyukauivet M**	**76.47**	**25**	P	**P**	**06 14 54.5**	**+1.5**
ZALV	**Zalesovo Beam**	**77.30**	**328**	P	**P**	**06 14 57.4**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=117,slow=7.3,SNR=6.9 comp=Z,1.8nm,0.7s						
BOOM	**Boomskoye usch**	**78.46**	**315**	P	**P**	**06 15 04.5**	**-0.3**
BOOM				IAmb	IAmb	06 15 06.0	
	comp=Z,2.1nm,0.6s						
MAW	**Mawson**	**82.70**	**203**	P	**P**	**06 15 27.2**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=90,slow=5.1,SNR=2.1 comp=Z,0.9nm,0.5s						
BVAR	**Borovoye Array**	**85.02**	**324**	P	**P**	**06 15 38.5**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=106,slow=7.3,SNR=13 comp=Z,2.2nm,0.6s						
ILAR	**Eielson Array**	**85.05**	**23**	P	**P**	**06 15 38.0**	**-0.5**
	comp=Z,6.0nm,0.7s,baz=250,slow=5.2,SNR=77						
QSPA	**South Pole Qui**	**85.07**	**180**	P	**P**	**06 15 40.1**	**+1.2**
QSPA	**South Pole Qui**	**85.07**	**180**	P	**P**	**06 15 39.8**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=23,slow=0.9,SNR=5.1 comp=Z,1.0nm,0.8s						
G24K	**Hadweenzic Riv**	**85.57**	**22**	P	**P**	**06 15 42.5**	**+1.4**
G24K				IAmb	IAmb	06 15 43.2	
	comp=Z,2.0nm,0.7s						
J25K	**Salcha River,**	**85.59**	**24**		**P**	**06 15 42.0**	**+0.7**
F24K	**Squaw Lake**	**85.75**	**21**		**P**	**06 15 43.8**	**+1.7**
F24K				IAmb	IAmb	06 15 44.6	
	comp=Z,5.1nm,0.7s						
C23K	**Itkillik River**	**85.82**	**18**	P	**P**	**06 15 44.4**	**+2.1**
BARN	**Barnard Glacie**	**86.03**	**28**	P	**P**	**06 15 45.6**	**+1.9**
CTGM	**Chitina Glacie**	**86.15**	**28**	P	**P**	**06 15 46.1**	**+1.8**
J26L	**Joseph Creek**	**86.29**	**24**	IAmb	IAmb	06 15 46.6	
	comp=Z,2.2nm,0.7s						
M27K	**Edge Creek, AK**	**86.32**	**26**	IAmb	IAmb	06 15 47.5	
	comp=Z,6.3nm,0.8s						
O28M	**Mount Upton**	**86.63**	**28**	P	**P**	**06 15 48.3**	**+1.5**
O28M				IAmb	IAmb	06 15 49.5	
	comp=Z,5.4nm,1.0s						
K27K	**Chicken**	**86.75**	**25**	P	**P**	**06 15 49.2**	**+2.3**
K27K				IAmb	IAmb	06 15 49.6	
	comp=Z,4.3nm,0.8s						
D25K	**Kavik River**	**86.97**	**19**	IAmb	IAmb	06 15 50.0	
	comp=Z,4.2nm,0.7s						
O29M	**Mount Kennedy**	**87.28**	**29**	IAmb	IAmb	06 15 52.2	
	comp=Z,4.1nm,0.8s						
H27K	**Steamboat Moun**	**87.65**	**23**	IAmb	IAmb	06 15 53.7	
	comp=Z,3.3nm,0.8s						
M29M	**Somme Creek**	**87.87**	**27**	IAmb	IAmb	06 15 54.9	
	comp=Z,2.4nm,0.9s						
DAWY	**Dawson**	**87.89**	**25**	IAmb	IAmb	06 15 54.8	
	comp=Z,3.2nm,0.8s						
HYT	**Haines Junctio**	**87.92**	**29**	IAmb	IAmb	06 15 55.2	
	comp=Z,3.6nm,0.8s						
L29M	**L29M**	**88.19**	**26**	IAmb	IAmb	06 15 56.0	
	comp=Z,3.3nm,0.8s						
G31M	**Satah River**	**90.63**	**23**	P	**P**	**06 16 06.0**	**+1.0**
G31M				IAmb	IAmb	06 16 08.3	
	comp=Z,1.8nm,0.8s						
ABKAR	**Akbulak array**	**90.79**	**319**	P	**P**	**06 16 05.2**	**-1.1**
INK	**Inuvik**	**91.16**	**22**	P	**P**	**06 16 08.0**	**+0.4**
INK				IAmb	IAmb	06 16 10.4	
	comp=Z,3.0nm,1.1s						

*AFAD **29** 06:10:18.5,40°.70N×29°.27E, h11km±2km, **ML1.3**/8,*
Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURT	**Yalova, Merkez**	**0.12**	**205**	P	Pg	06 10 21.6	+0.2
KURT				P	Pb	06 10 21.9	-0.9
KURT				S	Sg	06 10 23.8	+0.2
KURT				S		06 10 24.0	
KURT				*i* IAML		06 10 24.0	
	comp=N,69nm,0.2s						
KURT				*i* IAML		06 10 24.0	
	comp=N,90nm,0.4s						
KURT	**Yalova, Merkez**	**0.12**	**205**	P	Pg	06 10 21.8	+0.3
KURT				P	Pb	06 10 21.8	-0.9
KURT				S	Sg	06 10 23.7	+0.2
KURT				S		06 10 23.9	
KURT				*i* IAML		06 10 24.0	
	comp=N,69nm,0.2s						
KURT				*i* IAML		06 10 24.0	
	comp=E,70nm,0.1s						
YLV	**Yalova**	**0.15**	**150**	Pg	Pg	06 10 22.6	+0.6
YLV				Sg	Sg	06 10 25.0	+0.5
HRT	**Hereke**	**0.33**	**67**	Pg	Pg	06 10 25.5	+0.4
OSMT	**Osmaniye**	**0.34**	**106**	Pg	Pg	06 10 25.8	+0.5
OSMT				Sg	Sg	06 10 30.9	+1.1
ARMT	**Armutlu**	**0.34**	**247**	Pg	Pg	06 10 25.7	+0.4
SEMS	**Kocaeli-K¶rfe**	**0.39**	**64**	P	Pg	06 10 26.9	+0.6
SEMS				S	Sg	06 10 31.8	+0.2
SEMS				*i* IAML		06 10 32.0	
	comp=E,21nm,0.6s						
ISK	**Istanbul-Kandi**	**0.40**	**336**	Pg	Pg	06 10 26.9	+0.4
MDNY	**Mudanya-Bursa**	**0.44**	**222**	Pg	Pg	06 10 27.6	+0.4
SILT	**Sile**	**0.54**	**31**	Pg	Pg	06 10 29.2	+0.3
HISA	**Bilecik-Osmane**	**0.55**	**115**	P	Pg	06 10 17.2	-12
ULDT	**Uludag**	**0.56**	**191**	P	Pg	06 10 29.5	0.0
KLYT	**Kilyos**	**0.58**	**343**	Pg	Pb	06 10 30.3	-0.4

*SOF **29** 06:10:57.7,40°.71N±0°.03×29°.27E±0°.02, h19km±3km, MD3.6/6*
*AFAD **29** 06:10:57.9,40°.69N×29°.25E, h10km, ML3.3*
*ISK **29** 06:10:57.5,40°.69N×29°.26E, h15km, ML3.7/45*
*CFUSG **29** 06:11:03.7,41°.00N×29°.61E, h10km, mb3.1/7, MD3.3/7, Northwestern Turkey Magtype MSH 3.3 from 7 stations*
ISC 29 06:10:57.9±0.8,40°.69N±0°.02×29°.26E±0°.02, h15km±5km, n103, σ1§20/125, 21C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURT	**Yalova, Merkez**	**0.11**	**202**	P	**Pg**	**06 11 01.0**	**-0.3**
KURT				P	**Pb**	**06 11 01.2**	**-0.3**
KURT				S	**Sg**	**06 11 03.0**	**-0.5**
KURT				*i* IAML		06 11 03.0	
	comp=N,9µm,0.2s						
KURT				S	**Sb**	**06 11 03.3**	**-0.7**
YLV	**Yalova**	**0.15**	**145**	Pg	**Pg**	**06 11 01.7**	**-0.2**
YLV				Sg	**Sg**	**06 11 04.6**	**+0.1**
ARMT	**Armutlu**	**0.33**	**248**	Pg	**Pg**	**06 11 04.9**	**+0.2**
ARMT				Sg	**Sg**	**06 11 09.7**	**+0.3**
HRT	**Hereke**	**0.34**	**67**	Pg	**Pg**	**06 11 04.9**	**0.0**
OSMT	**Osmaniye**	**0.34**	**104**	Pg	**Pg**	**06 11 04.8**	**-0.2**
OSMT				Sg	**Sg**	**06 11 10.1**	**+0.2**
KAVV	**Kandilli-Istan**	**0.40**	**338**	Pg	**Pg**	**06 11 05.1**	**-1.0**
ISK	**Istanbul-Kandi**	**0.41**	**338**	Pg	**Pg**	**06 11 06.4**	**-0.3**
SEMS	**Kocaeli-K¶rfe**	**0.41**	**63**	P	**Pg**	**06 11 06.3**	**+0.2**
SEMS				S	**Sg**	**06 11 11.5**	**-0.2**
SEMS				*i* IAML		06 11 12.0	
	comp=E,5µm,0.6s						
MDNY	**Mudanya-Bursa**	**0.43**	**222**	Pg	**Pg**	**06 11 07.0**	**+0.5**
SILT	**Sile**	**0.55**	**32**	Pg	**Pb**	**06 11 08.9**	**-0.2**
SILT				Sg	**Sb**	**06 11 16.5**	**-0.2**
SILT	**Sile**	**0.55**	**32**	⇑P	**Pb**	**06 11 09.1**	**0.0**
SILT				⇑S	**Sg**	**06 11 15.8**	**-0.1**
HISA	**Bilecik-Osmane**	**0.55**	**114**	P	**Pg**	**06 11 08.9**	**+0.1**
HISA				S	**Sg**	**06 11 16.2**	**+0.1**
HISA				*i* IAML		06 11 20.0	
	comp=N,3µm,0.3s						
ULDT	**Uludag**	**0.56**	**190**	P	**Pg**	**06 11 09.2**	**+0.3**
KLYT	**Kilyos**	**0.59**	**344**	Pg	**Pb**	**06 11 09.8**	**0.0**
KLYT	**Kilyos**	**0.59**	**344**	⇑P	**Pb**	**06 11 09.8**	**0.0**
KLYT				⇑S	**Sb**	**06 11 17.3**	**-0.6**
BGKT	**Bogazkoy**	**0.61**	**323**	Pg	**Pb**	**06 11 10.2**	**-0.1**
ORLT	**Orhaneli**	**0.70**	**204**	Pg	**Pg**	**06 11 11.8**	**+0.2**
BILE	**Bilecik/Merkez**	**0.70**	**138**	P	**Pb**	**06 11 12.0**	**+0.2**
ELBA	**Catalca**	**0.78**	**306**	P	**Pg**	**06 11 12.9**	**-0.1**
ELBA				S	**Sg**	**06 11 23.1**	**-0.2**
ELBA				*i* IAML		06 11 25.0	
	comp=E,1µm,0.2s						
CTKS	**Kestenelik-??a**	**0.79**	**314**	Pg	**Pg**	**06 11 13.1**	**-0.2**
SAUV	**Serdivan-Sakar**	**0.81**	**86**	Pg	**Pg**	**06 11 13.3**	**-0.3**
KAND	**Kocaeli-Kandir**	**0.81**	**60**	P	**Pb**	**06 11 13.6**	**0.0**
KAND				*i* IAML		06 11 24.0	
	comp=N,1µm,0.5s						
KAND				S	**Sg**	**06 11 24.0**	**-0.3**
GEYV	**SAKARYA_Geyve**	**0.81**	**104**	P	**Pb**	**06 11 13.8**	**+0.2**
KAYN	**Sakarya, Kayna**	**0.86**	**71**	P	**Pb**	**06 11 14.3**	**-0.2**
KAYN				S	**Sg**	**06 11 25.0**	**-1.0**
GPA	**Golpazari**	**0.89**	**116**	Pg	**Pb**	**06 11 15.1**	**+0.1**
BAND	**Balkesir-Ban**	**0.95**	**250**	P	**Pb**	**06 11 16.1**	**+0.1**
DOMA	**Ktahya-Doman**	**0.96**	**160**	P	**Pb**	**06 11 16.3**	**0.0**
SLVT	**Silivri**	**0.96**	**304**	Pg	**Pg**	**06 11 16.6**	**+0.1**
GULT	**Gulveren**	**0.99**	**105**	Pg	**Pb**	**06 11 16.9**	**+0.2**
CTYL	**Yalikoy Yolu**	**1.08**	**317**	Pg	**Pn**	**06 11 18.2**	**-0.1**
CTYL	**Yalikoy Yolu**	**1.08**	**317**	⇑P	**Pg**	**06 11 19.4**	**+0.7**
CTYL				⇓S	**Sn**	**06 11 34.0**	**+1.1**
EDC	**Edincik**	**1.12**	**253**	Pn	**Pb**	**06 11 19.0**	**+0.1**
DST	**Dursunbey**	**1.19**	**205**	Pn	**Pn**	**06 11 20.3**	**+0.3**
DURS	**Dursunbey**	**1.24**	**209**	P	**Pb**	**06 11 21.3**	**+0.2**
MRMT	**Marmara Adasi**	**1.27**	**267**	Pn	**Pn**	**06 11 21.1**	**0.0**
TKR	**Tekirdag**	**1.34**	**283**	Pn	**Pb**	**06 11 22.5**	**-0.2**
GONE	**Gonen-Balikesi**	**1.36**	**242**	Pn	**Pn**	**06 11 22.4**	**+0.1**
MDUB	**Mudurnu**	**1.49**	**98**	Pn	**Pb**	**06 11 25.6**	**+0.3**
KRBG	**Karabiga-Canak**	**1.53**	**259**	Pn	**Pb**	**06 11 25.6**	**-0.2**
SMAA	**Simav-Kutahya**	**1.60**	**188**	Pn	**Pn**	**06 11 26.3**	**+0.7**
PHSR	**Pinarhisar**	**1.61**	**306**	Pn	**Pn**	**06 11 26.5**	**+0.7**
PHSR	**Pinarhisar**	**1.61**	**306**	⇓P	**Pg**	**06 11 28.5**	**-0.4**
GEDZ	**Gediz**	**1.65**	**176**	Pn	**Pn**	**06 11 26.8**	**+0.5**
SHAP	**Saphane-Kutahy**	**1.66**	**181**	Pn	**Pn**	**06 11 27.5**	**+1.0**
YENI	**Yenice-Canakka**	**1.72**	**245**	Pn	**

SIM				Sm		06 13 25.9	
	comp=N,36nm,0.5s						
SIM				Sm		06 13 25.9	
	comp=E,38nm,0.5s						
COVR	**Voineasa-Covas**	**5.62**	**338**	⇓P	**Pn**	**06 12 23.4**	**+2.6**
VOIR		**5.66**	**326**	⇓P	**Pn**	**06 12 23.6**	**+2.2**
ARR	**Arges**	**5.78**	**326**	⇑P	**Pn**	**06 12 24.5**	**+1.5**
SUDU	**Sudak**	**5.95**	**43**	*i* P	**Pn**	**06 12 26.9**	**+1.6**
SUDU				Pm		06 12 27.5	
	comp=Z,16nm,0.2s						
SUDU				*e*S	**Sn**	**06 13 31.3**	**-1.9**
SUDU				Sm		06 13 36.8	
	comp=N,27nm,0.3s						
SUDU				Sm		06 13 36.8	
	comp=E,8.0nm,0.2s						
DOPR	**Dopca**	**5.98**	**333**	⇑P	**Pn**	**06 12 27.6**	**+1.8**
ONER	**Baraj Valea Uz**	**6.02**	**341**	⇓P	**Pn**	**06 12 28.4**	**+2.2**
TESR	**Tescani**	**6.12**	**343**	⇑P	**Pn**	**06 12 29.4**	**+1.7**
MILM	**Milestii Mici**	**6.24**	**357**	⇑P	**Pn**	**06 12 30.5**	**+1.3**
MARR	**Marisel-Cluj**	**7.46**	**325**	⇑P	**Pn**	**06 12 48.4**	**+2.3**
SORM	**Soroca**	**7.47**	**355**	⇑P	**Pn**	**06 12 47.2**	**+1.0**
BURAR	**Bucovina Array**	**7.51**	**339**	⇓P	**Pn**	**06 12 49.8**	**+3.0**
DRGR		**7.72**	**324**	⇑P	**Pn**	**06 12 52.3**	**+2.5**

*NEIC **29** 06:24:41.6±0.7, 19°.8S±0°.2×173°.2W±0°.1, h10km±1km, mb4.4/19, Error ellipse: s-maj=33.5km s-min=15.2km az=348.0*
*IDC **29** 06:25:01.1±7.5, 20°.25S×174°.14W, h128km±65km, mb3.7/11, mbtmp4.1/13, MS3.7/1, Error ellipse: s-maj=26.0km s-min=21.7km az=49.0*

ISC 29 06:24:41.7±0.5, **19°.9S**±0°.1×**173°.20W**±0°.06, **h10**km, **n50,** σ1**9**‰**63**/50, **mb4.3**/20, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.18**	**76**		**Pn**	**Pn**	**06 25 31.4**	**-0.3**
NIUE					Sn	**Sn**	**06 26 05.9**	**-3.9**
MSVF	**Nonsavu**	**8.56**	**283**	Pn	**Pn**	**Pn**	**06 26 44.5**	**-1.3**
RAR	**Rarotonga**	**12.65**	**98**	Pn	**Pn**	**Pn**	**06 27 41.1**	**-0.7**
PINNC	**Pines Island,**	**18.25**	**258**	P	**Pn**	**Pn**	**06 28 53.3**	**-1.9**
PINNC				IAmb	IAmb	IAmb	06 29 08.3	
	comp=Z,17nm,0.8s							
DZM	**Mont Dzumac**	**19.14**	**260**	P	**P**	**P**	**06 29 03.9**	**-1.4**
DZM				IAmb	IAmb	IAmb	06 29 10.3	
	comp=Z,14nm,0.9s							
DZM	**Mont Dzumac**	**19.14**	**260**	P	**P**	**P**	**06 29 05.3**	**0.0**
	comp=Z,10nm,0.8s,baz=92,slow=16,SNR=8.1							
URZ	**Urewera**	**20.18**	**203**	P	P	Pn	06 29 18.4	+0.2
	comp=Z,6.2nm,0.6s,baz=301,slow=3.2,SNR=5.5							
EIDS	**Eidsvold**	**33.36**	**254**	P	**P**	**P**	**06 31 19.4**	**-0.9**
EIDS				IAmb	IAmb	IAmb	06 31 35.9	
	comp=Z,1.4nm,0.5s							
ARMA	**Armidale**	**33.41**	**245**	P	**P**	**P**	**06 31 18.8**	**-2.0**
ARMA				IAmb	IAmb	IAmb	06 31 21.8	
	comp=Z,6.2nm,1.1s							
CAN	**Canberra**	**36.63**	**237**	P	**P**	**P**	**06 31 47.6**	**-0.9**
CAN				IAmb	IAmb	IAmb	06 31 48.1	
	comp=Z,6.2nm,0.7s							
CTAO	**Charters Tower**	**38.05**	**263**	P	**P**	**P**	**06 31 59.5**	**-1.1**
PMG	**Port Moresby**	**39.65**	**279**	P	**P**	**P**	**06 32 12.5**	**-1.6**
TOO	**Toolangi**	**39.94**	**235**	P	**P**	**P**	**06 32 15.6**	**-0.6**
TAU	**Tasmania Unive**	**40.29**	**226**	P	**P**	**P**	**06 32 19.1**	**+0.1**
COEN	**Coen**	**42.07**	**271**	P	**P**	**P**	**06 32 33.1**	**-1.0**
COEN				IAmb	IAmb	IAmb	06 32 55.8	
	comp=Z,5.6nm,0.9s							
STKA	**Stephens Creek**	**42.13**	**244**	P	**P**	**P**	**06 32 32.5**	**-1.9**
	comp=Z,1.2nm,0.4s,baz=96,slow=9.2,SNR=4.0							
	comp=Z,1.2nm,0.4s							
BBOO	**Buckleboo**	**46.87**	**243**	P	**P**	**P**	**06 33 11.5**	**-0.8**
JAY	**Jayapura**	**48.18**	**285**	P	**P**	**P**	**06 33 22.6**	**-0.1**
	comp=Z,7.2nm,0.7s,baz=192,slow=5.8,SNR=3.9							
	comp=Z,7.2nm,0.7s							
WR8	**Warramunga Arr**	**49.01**	**260**	P	**P**	**P**	**06 33 28.1**	**-0.9**
WR8				IAmb	IAmb	IAmb	06 33 38.4	
	comp=Z,4.2nm,1.1s							
AS31	**Alice Springs**	**49.05**	**256**	P	**P**	**P**	**06 33 29.1**	**-0.2**
ASAR	**Alice Springs**	**49.05**	**256**	P	**P**	**P**	**06 33 27.9**	**-1.5**
	comp=Z,2.3nm,0.6s,baz=91,slow=7.8,SNR=36							
ASAR				PcP	**PcP**	**PcP**	**06 34 54.4**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=99,slow=3.4,SNR=5.1							
ASAR				LR	LR	LR	06 52 59.3	
	comp=Z,83nm,18.8s,baz=162,slow=35							
	comp=Z,2.3nm,0.6s							
WB0	**Warramunga Arr**	**49.14**	**261**	P	**P**	**P**	**06 33 29.0**	**-1.0**
WB0				IAmb	IAmb	IAmb	06 33 35.3	
	comp=Z,5.7nm,1.1s							
WRA	**Warramunga Arr**	**49.16**	**260**	P	**P**	**P**	**06 33 28.4**	**-1.8**
	comp=Z,2.5nm,0.6s,baz=99,slow=8.4,SNR=24							
WRA				PcP	**PcP**	**PcP**	**06 34 55.5**	**+1.9**
	comp=Z,1.1nm,0.9s,baz=98,slow=3.1,SNR=3.0							
	comp=Z,2.5nm,0.6s							
FORT	**Forrest**	**53.68**	**246**	P	**P**	**P**	**06 34 03.8**	**-0.1**
FORT				IAmb	IAmb	IAmb	06 34 29.7	
	comp=Z,6.4nm,0.9s							
KNRA	**Kununurra**	**55.21**	**264**	P	**P**	**P**	**06 34 14.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**57.59**	**261**	P	**P**	**P**	**06 34 30.5**	**-1.6**
SBA	**Scott Base**	**58.85**	**185**	P	**P**	**P**	**06 34 40.4**	**+0.3**
SBA				IAmb	IAmb	IAmb	06 35 05.1	
	comp=Z,1.7nm,0.9s							
VNDA	**Vanda**	**58.99**	**186**	P	**P**	**P**	**06 34 44.1**	**+3.1**
	comp=Z,0.9nm,0.8s,baz=6.2,slow=3.4,SNR=4.6							
	comp=Z,0.9nm,0.8s							
MBWA	**Marble Bar**	**62.39**	**256**	P	**P**	**P**	**06 35 04.3**	**-0.8**
MBWA				IAmb	IAmb	IAmb	06 35 16.7	
	comp=Z,4.7nm,0.8s							
QSPA	**South Pole Qui**	**70.21**	**180**	P	**P**	**P**	**06 35 56.1**	**+1.4**
	comp=Z,1.7nm,1.1s,baz=116,slow=1.7,SNR=3.6							
	comp=Z,1.7nm,1.1s							
MJAR	**Matsushiro Arr**	**72.47**	**321**	P	**P**	**P**	**06 36 11.0**	**+2.4**
	comp=Z,0.8nm,0.5s,baz=161,slow=5.4,SNR=4.4							
	comp=Z,0.8nm,0.5s							
NVAR	**Mina Array Bea**	**77.52**	**41**	P	P	P	06 36 48.1	+10
	comp=Z,0.6nm,0.6s,baz=235,slow=5.6,SNR=1.7							
	comp=Z,0.6nm,0.6s							
KSRS	**Korea Array**	**79.48**	**316**	P	**P**	**P**	**06 36 52.9**	**+4.4**
	comp=Z,1.5nm,0.9s,baz=139,slow=6.8,SNR=8.1							
	comp=Z,1.5nm,0.9s							
TXAR	**Lajitas Array**	**82.94**	**56**	P	P	P	06 37 17.6	+10
	comp=Z,0.4nm,0.9s,baz=197,slow=2.6,SNR=4.4							
	comp=Z,0.4nm,0.9s							
CMAR	**Chiang Mai Arr**	**94.18**	**288**	P	**P**	**P**	**06 38 04.0**	**+2.5**
	comp=Z,0.7nm,0.3s,baz=114,slow=3.4,SNR=8.5							
	comp=Z,0.7nm,0.3s							
AKASG	**Malin Array Be**	**144.48**	**335**	PKP		**PKPdf**	**06 44 19.4**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=37,slow=3.7,SNR=6.1							
AK02	**Malin Array Si**	**144.52**	**335**	PKP		**PKPdf**	**06 44 19.7**	**+1.4**
AK18	**Malin Array Si**	**144.53**	**335**	PKP		**PKPdf**	**06 44 19.3**	**+1.0**
AK20	**Malin Array Si**	**144.53**	**336**	PKP		**PKPdf**	**06 44 19.3**	**+1.0**
AK19	**Malin Array Si**	**144.55**	**336**	PKP		**PKPdf**	**06 44 19.5**	**+1.2**
AK17	**Malin Array Si**	**144.56**	**335**	PKP		**PKPdf**	**06 44 19.1**	**+0.8**
AK06	**Malin Array Si**	**144.58**	**335**	PKP		**PKPdf**	**06 44 18.8**	**+0.4**
AK07	**Malin Array Si**	**144.61**	**335**	PKP		**PKPdf**	**06 44 19.7**	**+1.3**
AK13	**Malin Array Si**	**144.62**	**335**	PKP		**PKPdf**	**06 44 19.7**	**+1.3**
RNPP9	**Sopachiv**	**145.12**	**339**	PKP		**PKiKP**	**06 44 21.0**	**-2.1**
RNPP8	**Varash**	**145.19**	**339**	PKP		**PKiKP**	**06 44 21.8**	**-1.5**
RNPP5	**Staryi Chortor**	**145.27**	**339**	PKP		**PKiKP**	**06 44 21.9**	**-1.6**
LUBAR	**Lubar, Ukraine**	**145.67**	**336**	PKP		**PKiKP**	**06 44 23.1**	**-1.2**
BRTR	**Keskin Array B**	**149.62**	**316**	PKPbc		**PKiKP**	**06 44 34.4**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=98,slow=1.7,SNR=4.9							
GERES	**GERESS Array B**	**150.55**	**351**	PKPbc		**PKiKP**	**06 44 36.5**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=70,slow=4.4,SNR=4.5							

*ROM **29** 06:40:08.3±0.2, 45°.87N±0°.01×7°.03E±0°.02, h10km, ML1.0/6, Error ellipse: s-maj=1.3km s-min=1.1km az=301.0*

ZUR 29 06:40:09.0, 45°.88N×7°.01E, **h2**km, **MLh0.6**/7, **4C-4D, Error ellipse: s-maj=1727.3km s-min=613.6km az=266.0, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MFERR	**Prayon, Val Fe**	**0.10**	**45**	⇓Pg	Pg	Pg	06 40 11.3	+0.3
MFERR				Sg	Sg	Sg	06 40 12.8	+0.4
REMY	**Saint-Rhmy-en**	**0.11**	**111**	⇓Pg	Pg	Pg	06 40 11.6	+0.4
REMY				Sg	Sg	Sg	06 40 13.5	+0.8
REMY	**Saint-Rhmy-en**	**0.11**	**111**	⇓P	Pg	Pg	06 40 11.6	+0.4
REMY				S	Sg	Sg	06 40 13.4	+0.7
REMY				AML	AML			
	comp=N,108μm,0.5s							
REMY				AML	AML			
	comp=E,87μm,0.1s							
MRGE	**Morge**	**0.12**	**161**	⇑Pg	Pg	Pg	06 40 11.4	+0.2
MRGE				Sg	Sg	Sg	06 40 13.3	+0.5
MRGE	**Morge**	**0.12**	**161**	P	Pg	Pg	06 40 11.4	+0.1
MRGE				S	Sg	Sg	06 40 13.2	+0.4
MRGE				AML	AML			
	comp=N,85μm,0.1s							
MRGE				AML	AML			
	comp=E,116μm,0.2s							
SALAN	**Lac Salanfe**	**0.27**	**355**	⇑Pg	Pg	Pg	06 40 14.5	+0.3
SALAN				Sg	Sg	Sg	06 40 18.1	+0.4
FULLY	**Reservoir Maze**	**0.29**	**18**	Pg	Pg	Pg	06 40 14.9	+0.3
FULLY				Sg	Sg	Sg	06 40 18.7	+0.3
RSL	**Roselend**	**0.33**	**235**	Pg	Pg	Pg	06 40 15.5	+0.2
RSL				Sg	Sg	Sg	06 40 19.6	0.0
DIX	**Grande Dixence**	**0.34**	**54**	⇓Pg	Pg	Pg	06 40 15.8	+0.2
DIX				Sg	Sg	Sg	06 40 20.4	+0.2
DIX	**Grande Dixence**	**0.34**	**54**	P	Pg	Pg	06 40 15.8	+0.1
DIX				S	Sg	Sg	06 40 20.3	+0.1
ILLEZ	**Chalet Vouargn**	**0.34**	**352**	⇑Pg	Pg	Pg	06 40 15.9	+0.2
GRYON	**Gryon**	**0.38**	**11**	Pg	Pg	Pg	06 40 16.5	+0.2
GRYON	**Gryon**	**0.38**	**11**	⇑Pg	Pg	Pg	06 40 16.5	+0.2
GRYON				Sg	Sg	Sg	06 40 21.4	+0.2
LSD	**Lago del Serru**	**0.43**	**168**	Pg	Pg	Pg	06 40 17.2	-0.1
LSD	**Lago del Serru**	**0.43**	**168**	P	Pg	Pg	06 40 17.1	-0.1
CIRO	**Champorcher**	**0.48**	**125**	P	Pg	Pg	06 40 18.0	-0.2
CIRO				S	Sg	Sg	06 40 24.1	-0.4

*NEIC **29** 06:40:29.4±1.2, 35°.843N±0°.008×117°.74W±0°.01, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.4km az=208.0*

PAS 29 06:40:29.9±1.1, **35°.841N**±0°.008×**117°.74W**±0°.01, **h5**km±1km, **ML3.4**/117, **ML3.2**/110(NEIC), **Error ellipse: s-maj=1.2km s-min=1.1km az=220.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.04**	**215**			Pg	06 40 31.6	+0.5
TOW						Sg	06 40 33.3	+1.3
CLC	**China Lake**	**0.12**	**103**	Pg	Pg	Pg	06 40 32.4	+0.1
CLC				Sg	Sg	Sg	06 40 34.3	+0.3
CLC				IAML			06 40 34.6	
	comp=E,6μm,0.3s							
WVPM	**Volcano Peak E**	**0.13**	**329**			Pg	06 40 32.6	0.0
WVPM						Sg	06 40 34.5	+0.1
WNMM	**Nine Mile Cany**	**0.14**	**271**			Pg	06 40 32.9	+0.2
WNMM						Sg	06 40 35.3	+0.8
SRTC	**Snort**	**0.15**	**184**			Pg	06 40 33.5	+0.5
SRTC						Sg	06 40 36.6	+1.7
JRC2	**Joshua Ridge**	**0.15**	**337**			Pg	06 40 35.4	+2.3
WCSM	**Coso Springs S**	**0.19**	**352**			Pg	06 40 33.6	-0.1
WCSM						Sg	06 40 36.3	+0.1
GPO	**China Lake**	**0.20**	**162**			Pg	06 40 34.0	+0.1
GPO						Sg	06 40 37.6	+1.0
WRVM	**Rose V. Centra**	**0.21**	**323**			Pg	06 40 34.0	-0.1
WRVM						Sg	06 40 37.0	+0.2
MFS	**McCloud Flat S**	**0.29**	**341**			Pg	06 40 35.6	-0.1
MFS						Sg	06 40 39.5	0.0
MPMC	**Manual Prospec**	**0.29**	**43**			Pg	06 40 35.8	0.0
WSHM	**Spangler Hills**	**0.31**	**140**	Pg	Pg	Pg	06 40 35.9	-0.1
WSHM				IAML			06 40 40.8	
	comp=E,4μm,0.3s							
LRMC	**Laurel Mtn Rad**	**0.36**	**173**			Pg	06 40 36.8	-0.2
LRMC						Sg	06 40 42.2	+0.4
LRMC				IAML			06 40 42.6	
	comp=N,4μm,0.3s							
WORM	**Onyx Ranch**	**0.44**	**251**			Pg	06 40 38.2	-0.2
WORM						Sg	06 40 44.0	-0.1
CCCA	**Chr Cany lake**	**0.44**	**136**			Pg	06 40 38.8	+0.4
CCCA						Sg	06 40 45.5	+1.4
WBSM	**Bird Springs**	**0.45**	**227**			Pg	06 40 38.5	-0.1
WBSM						Sg	06 40 44.7	+0.3
WHFM	**Hanning Flat**	**0.52**	**254**			Pg	06 40 39.8	-0.1
WHFM						Sg	06 40 46.9	+0.2
DTP	**Desert Tortois**	**0.58**	**189**			Pg	06 40 40.8	-0.3
DTP						Sg	06 40 48.7	+0.1
ISA	**Isabella, Lake**	**0.63**	**254**			Pg	06 40 41.8	-0.2
ISA				IAML			06 40 51.0	
	comp=N,710nm,0.4s							
ISA	**Isabella, Lake**	**0.63**	**254**			Sg	06 40 50.4	+0.3
CWC	**Cottonwood Cre**	**0.66**	**335**			Pg	06 40 42.2	-0.4
CWC						Sg	06 40 51.1	-0.1
WASM	**Alta Sierra Ca**	**0.68**	**261**			Pg	06 40 42.7	-0.2
WASM						Sg	06 40 52.2	+0.5
CGO	**Cerro Gordo**	**0.71**	**356**			Pg	06 40 43.1	-0.5
CGO						Sg	06 40 54.0	+1.1
CCAC	**Calif City Air**	**0.72**	**198**			Pg	06 40 43.2	-0.7
CCAC						Sg	06 40 53.5	+0.3
SPG2	**Springville 2**	**0.91**	**294**			Pg	06 40 46.6	-0.8
SPG2						Pn	06 40 58.2	+8.8
GSC	**Goldstone, Bar**	**0.93**	**125**			Pg	06 40 47.0	-0.7
GSC						Sg	06 40 59.5	-0.3
GSC	**Goldstone, Bar**	**0.93**	**125**	Pg	Pg	Pg	06 40 46.8	-0.9
GSC				IAML			06 41 00.4	
	comp=N,1μm,0.3s							
GSC				IAML			06 41 07.1	
	comp=E,1μm,0.6s							
GWY	**Greenwater Val**	**0.93**	**68**	Pg	Pg	Pg	06 40 47.7	-0.1
GWY						Sg	06 41 00.2	+0.3
GWY				IAML			06 41 02.4	
	comp=N,633nm,0.3s							
GWY				IAML			06 41 03.8	
	comp=E,858nm,0.3s							
FURC	**Furnace Creek,**	**0.94**	**48**			Pg	06 40 48.0	0.0
FURC						Sg	06 41 00.8	+0.6
FURC				IAML			06 41 06.7	
	comp=E,1μm,0.8s							
FURC				IAML			06 41 06.8	
	comp=N,1μm,0.7s							
EDW2	**Edwards Air Fo**	**0.98**	**192**			Pg	06 40 47.9	-0.9
EDW2						Sg	06 41 00.8	-0.7
HYS	**Haystack Butte**	**0.98**	**172**			Pg	06 40 48.1	-0.7
HYS						Sg	06 41 01.4	-0.1
TEJ	**El Tejon**	**0.99**	**232**			Pg	06 40 48.0	-0.9
TEJ						Sg	06 41 00.9	-0.8
TPO	**Tropico Hills**	**1.04**	**203**	Pg		Pg	06 40 49.3	-0.6
TPO						Sg	06 41 03.1	-0.3
VES	**Vestal, Richgr**	**1.09**	**270**			Pg	06 40 50.4	-0.5
VES						Sg	06 41 05.4	+0.2
VES				IAML			06 41 14.5	
	comp=E,769nm,0.7s							
VES				IAML			06 41 16.1	
	comp=N,582nm,0.7s							
GRAC	**Grapevine Rang**	**1.19**	**14**	Pg	Pg	Pg	06 40 52.2	-0.6
GRAC				IAML			06 41 12.8	
	comp=E,496nm,0.8s							
GRAC				IAML			06 41 14.8	
	comp=N,482nm,0.8s							
TIN	**Tinemaha, Big**	**1.27**	**342**			Pg	06 40 54.1	-0.3
TIN				IAML			06 41 17.3	
	comp=E,554nm,1.0s							
TIN				IAML			06 41 20.9	
	comp=N,330nm,0.8s							
WCT	**Wildcat Mounta**	**1.31**	**43**			Pn	06 40 53.9	-1.0
WCT				IAML			06 41 14.3	
	comp=E,300nm,0.5s							
WCT				IAML			06 41 16.2	
	comp=N,227nm,0.6s							
LCH	**Last Change Ra**	**1.39**	**3**			Pn	06 40 55.6	-0.6
OSI	**Osito Audit: C**	**1.47**	**214**			Pn	06 40 57.3	+0.2
OSI				IAML			06 41 19.5	
	comp=E,298nm,0.7s							
OSI				IAML			06 41 24.3	
	comp=N,245nm,0.8s							
GMN	**Gold Mountain**	**1.51**	**15**			Pn	06 40 57.3	-0.5
DSP	**Deep Springs**	**1.54**	**353**			Pn	06 40 57.5	-0.5
BFSC	**Mount Baldy Ra**	**1.60**	**178**			Pn	06 40 58.9	-0.1
BFSC				IAML			06 41 21.6	
	comp=E,331nm,0.6s							
BFSC				IAML			06 41 26.5	
	comp=N,268nm,0.9s							
TPNV	**Topopah Spring**	**1.63**	**47**			Pn	06 40 58.9	-0.6
TPNV				IAML			06 41 27.5	
	comp=N,318nm,0.6s							
TPNV				IAML			06 41 27.7	
	comp=N,276nm,0.5s							
MWC	**Mount Wilson**	**1.64**	**189**			Pn	06 40 59.1	-0.5
PASC	**Pasadena Art C**	**1.71**	**193**			Pn	06 40 59.8	-0.6
MTPC	**Mountain Pass**	**1.81**	**101**			Pn	06 41 00.9	-1.1
MTPC				IAML			06 41 29.9	
	comp=E,134nm,0.4s							
MLAC	**Mammoth, Mammo**	**1.99**	**334**			Pb	06 41 06.8	0.0
MCSM	**Casa Diablo Ho**	**2.04**	**333**			Pb	06 41 07.6	0.0
TSCN	**Private Proper**	**2.15**	**263**			Pn	06 41 06.2	-0.2
SHPR	**Sheep Range**	**2.19**	**72**			Pn	06 41 06.8	-0.3
ELS	**Elsinore Mount**	**2.20**	**173**	Pn	Pn	Pn	06 41 06.8	-0.5
ELS				IAML			06 41 41.5	
	comp=N,93nm,0.4s							
ELS				IAML			06 41 41.5	
	comp=E,87nm,0.4s							
POB	**Polly Butte**	**2.25**	**162**			Pn	06 41 07.5	-0.5
DANC	**Danby, Needles**	**2.27**	**121**	Pn	Pn	Pn	06 41 06.5	-1.7
DANC				IAML			06 41 45.7	
	comp=E,201nm,0.5s							
PKD	**Bear Valley Ra**	**2.28**	**273**	Pn	Pn	Pn	06 41 07.7	-0.6
V12A	**Nelson**	**2.35**	**92**	Pn	Pn	Pn	06 41 09.5	+0.2
S11A	**Rachel**	**2.41**	**41**	Pn	Pn	Pn	06 41 10.0	-0.2
S11A				IAML			06 41 48.3	
	comp=N,183nm,0.7s							
S11A				IAML			06 41 48.6	
	comp=E,172nm,1.2s							
PMD	**Palm Desert**	**2.46**	**153**			Pn	06 41 09.7	-1.0
PMD				IAML			06 41 51.8	
	comp=E,83nm,0.6s							
MYLM	**Yosemite Lake**	**2.65**	**306**			Pb	06 41 17.1	-0.8
PRN	**Pahroc Range**	**2.67**	**53**			Pn	06 41 13.5	-0.2
PRN				IAML			06 42 03.8	
	comp=N,72nm,0.6s							
PRN				IAML			06 42 07.6	
	comp=E,77nm,0.8s							
IRM	**Iron Mountain**	**2.71**	**128**			Pn	06 41 12.2	-2.0
IRM				IAML			06 41 57.3	
	comp=E,54nm,0.4s							
NEE2	**Needles Airpor**	**2.77**	**112**	Pn	Pn	Pn	06 41 13.5	-1.4
NEE2				IAML			06 42 09.2	
	comp=N,97nm,0.5s							
NEE2				IAML			06 42 15.0	
	comp=E,97nm,0.7s							
BORC	**Borrego Spring**	**2.79**	**157**			Pn	06 41 15.0	-0.2
BORC				IAML			06 41 59.1	
	comp=E,102nm,0.7s							
BORC				IAML			06 42 01.5	
	comp=N,110nm,0.8s							
BC3	**Big Chuckawall**	**2.88**	**139**	Pn	Pn	Pn	06 41 16.5	-0.1
BC3				IAML			06 42 07.5	
	comp=N,74nm,0.6s							
BC3				IAML			06 42 07.7	
	comp=E,60nm,0.5s							
R11B	**Troy Canyon, C**	**3.04**	**34**	Pn	Pn	Pn	06 41 18.6	-0.2
W13A	**Hualapai Mount**	**3.23**	**102**	Pn	Pn	Pn	06 41 20.2	-1.3
BAR	**Barrett**	**3.27**	**164**	Pn	Pn	Pn	06 41 21.6	-0.4
BAR				IAML			06 42 13.6	
	comp=N,65nm,0.3s							
BLYC	**Blythe**	**3.37**	**127**	Pn	Pn	Pn	06 41 21.5	-1.7
BLYC				IAML			06 42 18.9	
	comp=E,37nm,0.5s							
BLYC				IAML			06 42 19.5	
	comp=N,43nm,0.5s							
PAHR	**Pah Rah Range**	**4.07**	**342**	Pn	Pn	Pn	06 41 31.8	-1.3
ESJX	**Sierra Juarez**	**4.11**	**158**	Pn	Pn	Pn	06 41 33.5	-0.1
ESJX				IAML			06 42 46.0	
	comp=E,26nm,0.7s							
ESJX				IAML			06 42 47.0	
	comp=N,18nm,0.8s							
SPR3	**Spring Creek 3**	**4.16**	**40**	Pn	Pn	Pn	06 41 33.4	-1.0
SPR3				IAML			06 42 44.0	
	comp=E,18nm,0.9s							
Y14A	**Wickenburg**	**4.33**	**115**			Pn	06 41 35.6	-0.8
Y14A				IAML			06 42 52.8	
	comp=N,22nm,0.8s							
Y14A				IAML			06 42 58.0	
	comp=E,16nm,1.1s							

STR 29 06:40:47.9±0.5, **44°N**±3°×±°, **h5**km, **MLv1.1**/6, **LOCSAT earthModelID alpes_taup-2.11 preliminary, Near south coast of France**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ENAUX	**Enaux**	**0.17**	**312**		Pg	Pg	06 40 51.1	-0.2
ENAUX					Sg	Sg	06 40 54.0	+0.4
MVIF	**Mont Vial**	**0.17**	**124**		Sg	Sg	06 40 54.6	+0.8
ISO	**Isola**	**0.20**	**21**		Pg	Pg	06 40 51.8	0.0
ISO					Sg	Sg	06 40 54.7	+0.2
SPIF	**crte de Spivo**	**0.21**	**74**		Pg	Pg	06 40 52.0	-0.1
SPIF					Sg	Sg	06 40 55.5	+0.5
SALSA	**La sagne**	**0.22**	**239**		Pg	Pg	06 40 52.7	+0.4
CALF	**Calern**	**0.24**	**185**		Pg	Pg	06 40 52.4	-0.2
CALF					Sg	Sg	06 40 56.1	+0.3
SAOF	**Saorge**	**0.43**	**91**		Pg	Pg	06 40 56.1	-0.1
SAOF					Sg	Sg	06 41 02.3	+0.4
PZZ	**Stroppo**	**0.53**	**13**		Sg	Sg	06 41 04.8	0.0

*CATAC **29** 06

TWB1	**Santiao Chiao**	**0.20 320**	*i* P	**Pn**	06 54 00.1	+0.2
TWB1			*i* S	**Sn**	06 54 11.7	-0.8
TIPB	**Shuangxi**	**0.30 293**	*i* P	**Pn**	06 54 00.4	+0.1
TIPB			*i* S	**Sn**	06 54 12.3	-0.8
SXI1	**Grass Mountain**	**0.33 316**	P	**Pn**	06 54 00.4	-0.1
SXI1			*eS*	**Sn**	06 54 13.0	-0.4
TWC	**Suao**	**0.35 227**	*i* P	**Pn**	06 54 00.5	0.0
TWC			*i* S	**Sn**	06 54 12.5	-0.8
ESAO	**Su ao**	**0.38 223**	*eP*	**Pn**	06 54 00.8	+0.1
ESAO			*eS*	**Sn**	06 54 12.9	-0.7
WFSB	**Wu-fen Shan**	**0.39 304**	*eP*	**Pn**	06 54 01.0	+0.4
WFSB			*eS*	**Sn**	06 54 13.2	-0.4
NDS	**Dongshan**	**0.44 240**	*eP*	**Pn**	06 54 01.8	+0.9
NDS			*eS*	**Sn**	06 54 14.1	0.0
TNOU	**National Taiwa**	**0.44 312**	P	**Pn**	06 54 01.1	+0.2
TNOU			S	**Sn**	06 54 13.6	-0.5
EOS2	**EOS2**	**0.44 168**	*eP*	**Pn**	06 54 01.8	+1.0
EOS2			*eS*	**Sn**	06 54 14.7	+0.8
TWE	**Neicheng**	**0.44 253**	P	**Pn**	06 54 01.1	+0.3
TWE			S	**Sn**	06 54 13.6	-0.5
FUSB	**Fushanzhiwuyua**	**0.50 259**	*eP*	**Pn**	06 54 01.5	+0.2
FUSB			*eS*	**Sn**	06 54 14.0	-0.9
EWUT	**Wuta**	**0.52 218**	*i* P	**Pn**	06 54 01.7	+0.4
EWUT			S	**Sn**	06 54 15.2	+0.3
ENA	**Nanau**	**0.55 220**	P	**Pn**	06 54 02.1	+0.5
ENA			*eS*	**Sn**	06 54 15.3	0.0
ENTT	**Nioudou**	**0.56 248**	P	**Pn**	06 54 02.2	+0.6
ENTT			*eS*	**Sn**	06 54 15.2	-0.2
NHDH	**Xindian Distri**	**0.56 281**	*eP*	**Pn**	06 54 01.8	+0.2
NHDH			*eS*	**Sn**	06 54 16.4	+0.9
NWLT	**Wulai**	**0.58 263**	*eP*	**Pn**	06 54 01.9	+0.1
NWLT			*eS*	**Sn**	06 54 16.4	-0.3
YM01	**YM01**	**0.59 300**	*eP*	**Pn**	06 54 02.0	+0.2
YM01			*eS*	**Sn**	06 54 14.9	-0.9
EOS3	**EOS3**	**0.59 163**	*eP*	**Pn**	06 54 02.7	+1.0
EOS3			*eS*	**Sn**	06 54 16.5	+1.1
YM08	**YM08**	**0.59 304**	*eP*	**Pn**	06 53 59.4	-2.5
TATO	**Taipei**	**0.60 282**	P	**Pn**	06 54 02.3	+0.4
ZUZH	**Zhuzihu**	**0.61 300**	*eP*	**Pn**	06 54 02.2	+0.1
ZUZH			*eS*	**Sn**	06 54 14.8	-1.4
EAHA	**Aohua**	**0.63 214**	P	**Pn**	06 54 02.5	+0.3
EAHA			*eS*	**Sn**	06 54 16.9	+0.5
LATG	**Datong**	**0.64 240**	*eP*	**Pn**	06 54 03.0	+0.7
LATG			*eS*	**Sn**	06 54 17.0	+0.4
TWY	**Chenhua**	**0.64 311**	P	**Pn**	06 54 02.6	+0.4
TWY			*eS*	**Sn**	06 54 16.4	0.0
NTST	**Danshui**	**0.69 297**	*eP*	**Pn**	06 54 03.1	+0.5
TWS1	**Kuangyinshan**	**0.69 291**	*eP*	**Pn**	06 54 03.5	+0.9
TWS1			*eS*	**Sn**	06 54 18.3	+1.2
YHNB	**Yeheng**	**0.71 255**	P	**Pn**	06 54 03.0	+0.2
YHNB	**Yeheng**	**0.71 255**	*eP*	**Pn**	06 54 03.1	+0.2
YHNB			*eS*	**Sn**	06 54 17.0	-0.5
NSK	**Sanguang**	**0.72 256**	*eP*	**Pn**	06 54 03.1	+0.2
NSK			*eS*	**Sn**	06 54 17.3	-0.4
EOS4	**EOS4**	**0.75 167**	*eP*	**Pn**	06 54 02.7	+0.1
EOS4			*eS*	**Sn**	06 54 16.6	-0.6
NNSB	**Datong**	**0.80 238**	P	**Pn**	06 54 04.2	+0.6
NNSB			S	**Sn**	06 54 19.0	0.0
NNS	**Nan Shan**	**0.80 239**	P	**Pn**	06 54 04.2	+0.5
NNS			*eS*	**Sn**	06 54 19.1	+0.1
ETL	**Fush Village**	**0.83 214**	*eP*	**Pn**	06 54 04.1	+0.2
ETL			*eS*	**Sn**	06 54 19.2	-0.1
NACB	**Ninganchiao**	**0.83 216**	P	**Pn**	06 54 03.5	-0.3
NACB	**Ninganchiao**	**0.83 216**	*eP*	**Pn**	06 54 03.6	-0.3
NACB			*eS*	**Sn**	06 54 18.2	-1.0
JYNG	**Yonagunijimaku**	**0.84 118**	P	**Pn**	06 54 04.1	+0.2
JYNG			*eS*	**Sn**	06 54 19.0	-0.3
NCUH	**Zhongli**	**0.87 278**	P	**Pn**	06 54 04.7	+0.6
KSHI	**Guanxi Townshi**	**0.87 265**	P	**Pn**	06 54 04.7	+0.6
KSHI			*eS*	**Sn**	06 54 20.5	+0.7
ETLH	**Xiulin Townshi**	**0.88 223**	P	**Pn**	06 54 04.2	-0.1
ETLH			S	**Sn**	06 54 19.1	-1.0
YOJ	**Yonaguni jima**	**0.89 116**	P	**Pn**	06 54 04.5	+0.2
YOJ	**Yonaguni jima**	**0.89 116**	P	**Pn**	06 54 04.4	+0.1
YOJ			S	**Sn**	06 54 19.7	-0.4
YOJ	**Yonaguni jima**	**0.89 116**	P	**Pn**	06 54 04.5	+0.2
TWD	**Chiawan**	**0.91 212**	P	**Pn**	06 54 04.4	-0.1
TWD			S	**Sn**	06 54 19.4	-1.0
NFF	**Wufeng Townshi**	**0.95 257**	*i* P	**Pn**	06 54 05.1	+0.2
NFF			S	**Sn**	06 54 20.3	-0.9
HWA	**Hwalien**	**1.00 209**	*eP*	**Pn**	06 54 05.7	+0.4
FUSS	**Fushou**	**1.01 233**	*eP*	**Pn**	06 54 06.5	+0.8
FUSS			*eS*	**Sn**	06 54 22.6	0.0
LIOB	**Emei**	**1.04 259**	*i* P	**Pn**	06 54 06.2	+0.5
LIOB			S	**Sn**	06 54 22.2	-0.4
SBCB	**Hsinchu**	**1.04 267**	*eP*	**Pn**	06 54 06.4	+0.7
NSTT	**Nanjuang**	**1.05 258**	P	**Pn**	06 54 06.2	+0.4
NSTT			S	**Sn**	06 54 22.5	-0.4
LXIB	**Xiulin Townshi**	**1.06 218**	*eP*	**Pn**	06 54 05.6	-0.4
LXIB			*eS*	**Sn**	06 54 22.6	-0.6
TWT	**Tachien**	**1.06 236**	*eP*	**Pn**	06 54 07.3	+1.2
TWT			S	**Sn**	06 54 23.7	+0.4
HSN	**Hsinchu**	**1.06 267**	*eP*	**Pn**	06 54 06.0	+0.1
HSN			*eS*	**Sn**	06 54 22.6	-0.3
ETM	**Tongmen**	**1.06 214**	*eP*	**Pn**	06 54 05.5	-0.4
ETM			*eS*	**Sn**	06 54 21.4	-1.6
WHF	**Hehuan Shan**	**1.06 228**	*eP*	**Pn**	06 54 07.0	+0.6
WHF			*eS*	**Sn**	06 54 23.6	-0.2
TDCB	**Techi**	**1.07 236**	*eP*	**Pn**	06 54 07.1	+0.9
TDCB			*eS*	**Sn**	06 54 23.7	+0.2
TEYL	**Yanliau Villag**	**1.09 207**	*eP*	**Pn**	06 54 06.6	+0.3
TEYL			*eS*	**Sn**	06 54 23.4	-0.2
SHUL	**Shoufeng**	**1.18 206**	*eP*	**Pn**	06 54 07.4	+0.2
SHUL			*eS*	**Sn**	06 54 25.1	-0.2
ESL	**Shilin**	**1.22 212**	*eP*	**Pn**	06 54 07.0	-0.6
WHP	**Taichung City**	**1.22 242**	*eP*	**Pn**	06 54 08.5	+0.8
WHP			*eS*	**Sn**	06 54 25.8	-0.4
OWD	**Renai**	**1.25 224**	*eP*	**Pn**	06 54 07.6	-0.5
OWD			*eS*	**Sn**	06 54 25.3	-1.6
NMLH	**Miaoli**	**1.26 256**	*eP*	**Pn**	06 54 08.5	+0.5
NMLH			*eS*	**Sn**	06 54 26.4	-0.4
WUSB	**Renai**	**1.26 227**	*eP*	**Pn**	06 54 09.2	+1.0
WUSB			*eS*	**Sn**	06 54 27.1	0.0
WARBT	**Fenglin Townsh**	**1.32 211**	*eP*	**Pn**	06 54 08.0	-0.8
WARBT			*eS*	**Sn**	06 54 26.0	-2.0
NSY	**Sanyi**	**1.32 251**	*eP*	**Pn**	06 54 09.6	+0.9
TWQ1	**Liyutan**	**1.33 248**	*eP*	**Pn**	06 54 09.4	+0.5
TWQ1			*eS*	**Sn**	06 54 28.3	0.0
EGFH	**Guangfu**	**1.34 209**	*eS*	**Sn**	06 54 26.7	-1.7
WCS	**Beigang Elemen**	**1.37 235**	*eP*	**Pn**	06 54 10.1	+0.8
WCS			*eS*	**Sn**	06 54 29.1	+0.2
WDJ	**Dajia District**	**1.45 250**	*eP*	**Pn**	06 54 10.9	+0.8
SMLT	**Sun Moon Lake**	**1.48 230**	*eP*	**Pn**	06 54 11.9	+1.2
SMLT			S	**Sn**	06 54 32.4	+1.0
HGSD	**Ruisui**	**1.50 206**	*eP*	**Pn**	06 54 10.9	+0.1
HGSD			*eS*	**Sn**	06 54 31.2	-0.4
SSLB	**Suanglung**	**1.51 226**	P	**Pn**	06 54 12.1	+1.2
SSLB	**Suanglung**	**1.51 226**	*eP*	**Pn**	06 54 11.9	+0.9
SSLB			*eS*	**Sn**	06 54 32.2	+0.3
EHY	**Hungye**	**1.53 209**	*eP*	**Pn**	06 54 10.9	-0.3
EHY			*eS*	**Sn**	06 54 30.3	-2.0
EHYH	**Wanrong**	**1.53 208**	*eS*	**Sn**	06 54 30.1	-2.2
IRIF	**Iriomote-Funau**	**1.54 109**	*eP*	**Pn**	06 54 11.5	+0.2
IRIF			*eS*	**Sn**	06 54 31.8	-0.7
WCHH	**Zhanghua**	**1.63 242**	*eP*	**Pn**	06 54 12.6	+0.4
WCHH			*eS*	**Sn**	06 54 34.0	-0.2
WNT	**Mingjian**	**1.64 234**	*eP*	**Pn**	06 54 13.3	+0.9
WNT			*eS*	**Sn**	06 54 35.0	+0.5
WHYT	**Xinyi Township**	**1.64 226**	*eP*	**Pn**	06 54 13.4	+1.0
WHYT			S	**Sn**	06 54 35.2	+0.6
WCH1	**Changhua City**	**1.64 242**	*eS*	**Sn**	06 54 34.9	+0.4
WJS	**Zhushan**	**1.64 232**	*eP*	**Pn**	06 54 13.2	+0.8
WJS			*eS*	**Sn**	06 54 34.9	+0.4
YULB	**Yu-li**	**1.64 208**	P	**Pn**	06 54 14.1	+1.6
YULB	**Yu-li**	**1.64 208**	*eP*	**Pn**	06 54 11.5	-1.0
YULB			*eS*	**Sn**	06 54 32.2	-2.4
ECBN	**Changbin**	**1.65 202**	*eS*	**Sn**	06 54 34.4	-0.4
TWF1	**Yuli**	**1.68 207**	*eP*	**Pn**	06 54 12.0	-0.9
HATJ	**Hateruma jima**	**1.72 117**	*eS*	**Sn**	06 54 36.5	+0.3
CHKH	**Chenggong**	**1.79 202**	*eS*	**Sn**	06 54 36.8	-0.8
ALS	**Alishan**	**1.80 222**	*eP*	**Pn**	06 54 15.8	+1.1
ALS			*eS*	**Sn**	06 54 39.9	+1.4
JKRS	**Kuro-shima**	**1.82 109**	*eP*	**Pn**	06 54 15.0	+0.5
JKRS			*eS*	**Sn**	06 54 38.0	-0.3
FULB	**Fuli**	**1.82 205**	*eS*	**Sn**	06 54 38.1	-0.3
CHN5	**Tsauling**	**1.82 227**	*eP*	**Pn**	06 54 15.7	+1.0
CHN5			S	**Sn**	06 54 39.2	+0.6
WDLH	**Douliu**	**1.86 232**	*eS*	**Sn**	06 54 39.7	+0.4
CHKT	**Chengkung**	**1.88 202**	*eS*	**Sn**	06 54 37.5	-2.2
JIJ	**Ishigaki jima**	**1.89 105**	*eP*	**Pn**	06 54 16.0	+0.5
JIJ			*eS*	**Sn**	06 54 39.1	-0.8
EHD	**Haiduan**	**1.90 207**	*eS*	**Sn**	06 54 38.3	-1.8
ELDTW	**Lidau**	**1.94 212**	*eP*	**Pn**	06 54 18.1	+1.9
ELDTW			*i* S	**Sn**	06 54 41.6	+0.3
WTK	**Tuku**	**1.97 234**	*eP*	**Pn**	06 54 17.2	+0.8
WTK			*eS*	**Sn**	06 54 41.4	-0.2
WCKO	**Fanlu**	**1.98 225**	*eS*	**Sn**	06 54 42.9	+0.9
JISG	**Ishigakijimahi**	**2.00 97**	*eP*	**Pn**	06 54 17.6	+0.9
JISG			*eS*	**Sn**	06 54 41.8	-0.4
EDH	**Donghe**	**2.02 202**	*eP*	**Pn**	06 54 16.9	-0.1
EDH			*eS*	**Sn**	06 54 41.5	-1.3
CHY	**Chiayi**	**2.06 229**	*eS*	**Sn**	06 54 44.3	+0.6
TPUB	**Ta-pu**	**2.07 222**	P	**Pn**	06 54 21.0	+3.3
TPUB	**Ta-pu**	**2.07 222**	*eS*	**Sn**	06 54 44.1	+0.2
STYH	**Taoyuan**	**2.08 217**	*eP*	**Pn**	06 54 18.7	+0.8
STYH			*eS*	**Sn**	06 54 44.5	+0.3
JTJ	**Tarama**	**2.35 95**	*eS*	**Sn**	06 54 50.3	+0.2
PNG	**Penghu**	**2.68 242**	*eS*	**Sn**	06 54 55.7	-2.1
PHUB	**P'eng-hu**	**2.69 241**	*eP*	**Pn**	06 54 25.3	-0.3
PHUB			S	**Sn**	06 54 55.7	-2.4
PTMZ	**Houxiangcun**	**2.74 275**	P	**Pn**	06 54 26.4	+0.2
PTMZ			*eS*	**Sn**	06 54 57.1	-2.1

*NEIC **29** 06:59:21.9±1.5, 63.36N±0.01×145.56W±0.04, h4km±8km, Error ellipse: s-maj=2.3km s-min=2.0km az=80.0*
*AEIC **29** 06:59:22.1±1.6, 63.35N±0.02×145.54W±0.04, h6km±6km, ML3.4, ML3.6/160(NEIC), Error ellipse: s-maj=3.3km s-min=1.0km az=49.0*
*IDC **29** 06:59:22.1±1.6, 63.46N×145.45W, h0km, mb3.3/2, mbtmp3.3/2, MS3.8/1, Error ellipse: s-maj=20.2km s-min=16.3km az=43.0*

ISC 29 06:59:21.7±1.2, 63.35N±0.02×145.56W±0.03, h2km±10km, n129, ₙ0ᵍ70/135, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAX	**Paxson**	**0.38**	**174**	Pg	**Pg**	**06 59 29.3**	**+0.2**
PAX					**Sg**	**06 59 34.4**	**+0.4**
K24K	**Donnelly Dome**	**0.47**	**348**	Pg	**Pg**	**06 59 31.6**	**+0.9**
K24K				Sg	**Sg**	**06 59 37.9**	**+1.2**
K24K				IAML		06 59 39.6	
	comp=E,6μm,0.5s						
RIDG	**Independent Ri**	**0.50**	**39**	Pg	**Pg**	**06 59 32.0**	**+0.7**
RIDG				IAML		06 59 39.9	
	comp=N,4μm,0.3s						
RIDG				IAML		06 59 40.4	
	comp=E,5μm,0.5s						
DOT	**Dot Lake**	**0.73**	**65**	Pg	**Pg**	**06 59 36.1**	**+0.4**
DOT				Sg	**Sg**	**06 59 43.1**	**-2.1**
DOT				IAML		06 59 52.2	
	comp=N,2μm,0.6s						
DOT				IAML		06 59 52.6	
	comp=E,2μm,0.5s						
DHY	**Denali Highway**	**0.87**	**252**	Pg	**Pg**	**06 59 37.7**	**-0.6**
MENT	**Mentasta**	**0.93**	**116**	Pg	**Pg**	**06 59 39.0**	**-0.5**
MENT					**Sg**	**06 59 52.1**	**+0.6**
SCRK	**Sand Creek**	**0.94**	**47**	Pg	**Pg**	**06 59 39.8**	**0.0**
SCRK				IAML		06 59 55.3	
	comp=E,2μm,0.6s						
SCRK				IAML		06 59 55.9	
	comp=N,1μm,0.5s						
HARP	**HAARP**	**0.97**	**169**		**Pg**	**06 59 40.2**	**-0.1**
HARP					**Sg**	**06 59 53.4**	**+0.5**
HDA	**Harding Lake**	**1.23**	**331**	Pg	**Pg**	**06 59 44.9**	**-0.3**
HDA				Sg	**Sg**	**07 00 00.6**	**-0.6**
HDA				IAML		07 00 03.9	
	comp=N,1μm,0.4s						
HDA				IAML		07 00 06.2	
	comp=E,863nm,0.7s						
WAT6	**Susitna Watana**	**1.26**	**233**		**Pg**	**06 59 44.5**	**-1.3**
J25K	**Salcha River,**	**1.27**	**4**		**Pg**	**06 59 45.7**	**-0.3**
J25K				IAML		07 00 03.8	
	comp=E,1μm,0.6s						
J25K				IAML		07 00 05.0	
	comp=N,859nm,0.5s						
M24K	**Tolsona, Glenn**	**1.28**	**193**		**Pg**	**06 59 45.7**	**-0.5**
M24K				IAML		07 00 03.9	
	comp=N,1μm,0.7s						
M24K				IAML		07 00 07.1	
	comp=E,1μm,0.9s						
WAZA	**Wrangell Mount**	**1.43**	**153**		**Pn**	**06 59 47.9**	**-1.1**
J26L	**Joseph Creek**	**1.45**	**36**		**Pn**	**06 59 48.5**	**-0.5**
J26L				IAML		07 00 09.9	
	comp=E,1μm,0.5s						
J26L				IAML		07 00 10.4	
	comp=N,1μm,0.5s						
WAT1	**Susitna Watana**	**1.46**	**250**		**Pn**	**06 59 47.9**	**-1.2**
WACK	**Wrangell Chich**	**1.48**	**157**		**Pn**	**06 59 48.3**	**-1.3**
RND	**Reindeer**	**1.49**	**274**	Pn	**Pn**	**06 59 49.3**	**-0.2**
M26K	**Nabesna, AK**	**1.51**	**128**		**Pn**	**06 59 48.6**	**-1.3**
M26K				IAML		07 00 14.8	
	comp=N,960nm,0.5s						
M26K				IAML		07 00 14.9	
	comp=E,802nm,0.5s						
IL31		**1.54**	**338**		**Pn**	**06 59 49.1**	**-1.1**
IL31					**Sn**	**07 00 10.5**	**-0.2**
ILAR	**Eielson Array**	**1.54**	**338**	Pg	**Pn**	**06 59 48.9**	**-1.3**
	comp=E,36nm,0.3s,baz=156,slow=14,SNR=703						
ILAR				Lg	Lg	07 00 10.2	
	comp=E,142nm,0.3s,baz=153,slow=27,SNR=87						
MCK	**McKinley**	**1.56**	**286**		**Pn**	**06 59 50.6**	**+0.1**
MCK				IAML		07 00 18.3	
	comp=N,509nm,0.9s						
WASW	**Wrangell South**	**1.56**	**155**		**Pn**	**06 59 49.6**	**-1.1**
WAT7	**Susitna Watana**	**1.58**	**252**		**Pn**	**06 59 50.0**	**-0.9**
WRH	**Wood River Hil**	**1.59**	**316**		**Pn**	**06 59 50.0**	**-0.8**
WRH					**Sn**	**07 00 11.5**	**-0.5**
CCB	**Clear Creek Bu**	**1.64**	**324**	Pn	**Pn**	**06 59 50.2**	**-1.3**
L27K	**Beaver Creek,**	**1.71**	**98**	Pn	**Pn**	**06 59 52.0**	**-0.6**
L27K				IAML		07 00 18.6	
	comp=N,764nm,0.5s						
L27K				IAML		07 00 21.8	
	comp=E,653nm,0.4s						
SCM	**Sheep Creek Mo**	**1.73**	**209**		**Pn**	**06 59 52.5**	**-0.3**
BC03		**1.73**	**98**		**Pn**	**06 59 52.2**	**-0.5**
N25K	**Chitina, Valde**	**1.81**	**165**	Pn	**Pn**	**06 59 53.5**	**-0.4**
COLA	**College**	**1.83**	**328**		**Pn**	**06 59 54.5**	**+0.3**
M23K	**Glacier View**	**1.86**	**214**		**Pn**	**06 59 54.4**	**-0.2**
KLU	**Klutina**	**1.87**	**185**		**Pn**	**06 59 55.2**	**+0.4**
BWN	**Browne**	**1.92**	**297**		**Pn**	**06 59 54.8**	**-0.7**
BWN				IAML		07 00 23.2	
	comp=N,490nm,0.7s						
BWN				IAML		07 00 24.0	
	comp=E,500nm,0.8s						
POKR	**Poker Plat Res**	**1.96**	**336**		**Pn**	**06 59 54.8**	**-1.1**
POKR				IAML		07 00 24.2	
	comp=E,438nm,0.7s						
POKR				IAML		07 00 25.0	
	comp=N,471nm,0.6s						
M27K	**Edge Creek, AK**	**1.96**	**119**		**Pn**	**06 59 56.4**	**+0.3**
M27K				IAML		07 00 28.8	
	comp=E,514nm,0.6s						
NEA2	**Nenana**	**1.99**	**310**		**Pn**	**06 59 56.1**	**-0.3**
SML	**Sawmill**	**2.01**	**221**		**Pn**	**06 59 56.8**	**0.0**
SML				IAML		07 00 22.8	
	comp=E,765nm,0.6s						
SML				IAML		07 00 30.1	
	comp=N,556nm,0.8s						
GLB	**Gilahina Butte**	**2.08**	**156**	Pn	**Pn**	**06 59 58.3**	**+0.6**
TRF	**Thorofare Moun**	**2.13**	**275**	Pn	**Pn**	**06 59 59.8**	**+1.3**
TRF				IAML		07 00 30.0	
	comp=N,681nm,0.7s						
PRP	**Porcupine Dome**	**2.18**	**0**		**Pn**	**06 59 58.9**	**-0.2**
PRP				IAML		07 00 30.6	
	comp=E,511nm,0.8s						
GHO	**Glory Hole Cre**	**2.22**	**226**	Pn	**Pn**	**07 00 00.5**	**+0.9**
GHO				IAML		07 00 33.5	
	comp=E,501nm,0.9s						
GHO				IAML		07 00 38.8	
	comp=N,289nm,0.8s						
I26K	**Coal Creek Min**	**2.23**	**27**	Pn	**Pn**	**06 59 59.5**	**-0.1**
I26K				IAML		07 00 34.1	
	comp=N,538nm,0.7s						
I26K				IAML		07 00 39.9	
	comp=E,561nm,0.6s						
DIV	**Divide**	**2.23**	**183**	Pn	**Pn**	**06 59 59.9**	**+0.1**
DIV				IAML		07 00 31.5	
	comp=E,602nm,0.6s						
DIV				IAML		07 00 31.7	
	comp=N,386nm,0.6s						
MCARA	**McCarthy VSAT**	**2.30**	**148**	Pn	**Pn**	**07 00 01.6**	**+1.0**
MCARA				IAML		07 00 37.1	
	comp=E,231nm,0.7s						
MCARA				IAML		07 00 38.2	
	comp=N,227nm,1.1s						
CUT	**Chulitna**	**2.36**	**248**		**Pn**	**07 00 02.2**	**+0.8**
EGAK	**Eagle**	**2.41**	**52**	Pn	**Pn**	**07 00 01.7**	**-0.4**
KTH	**Kantishna Hill**	**2.42**	**277**		**Pn**	**07 00 03.5**	**+1.1**
KTH				IAML		07 00 41.9	
	comp=E,361nm,1.1s						
KTH				IAML		07 00 45.1	
	comp=N,213nm,0.8s						
PMR	**Palmer**	**2.42**	**225**		**Pn**	**07 00 03.3**	**+1.0**
BMRM	**Bremner River**	**2.43**	**169**		**Pn**	**07 00 02.7**	**+0.2**
BMRM				IAML		07 00 38.8	
	comp=E,261nm,0.6s						
BMRM				IAML		07 00 43.2	
	comp=N,323nm,0.9s						
I23K	**Minto, Yukon-K**	**2.45**	**319**		**Pn**	**07 00 03.1**	**+0.4**
BPAW	**Bear Paw Mtn.**	**2.53**	**290**		**Pn**	**07 00 03.7**	**-0.1**
BPAW	**Bear Paw Mtn.**	**2.53**	**290**	IAML		07 00 43.8	
	comp=N,235nm,1.1s						
GLI	**Glacier Island**	**2.58**	**197**		**Pn**	**07 00 05.7**	**+1.2**
GLI				IAML		07 00 43.7	
	comp=E,364nm,0.5s						
GLI				IAML		07 00 47.5	
	comp=N,255nm,0.9s						
PTPK	**Patty Peak**	**2.61**	**145**		**Pn**	**07 00 04.8**	**-0.3**
H24K	**Noodor Dome**	**2.69**	**339**		**Pn**	**07 00 05.5**	**-0.5**
H24K				IAML		07 00 52.6	
	comp=N,201nm,0.9s						
H24K				IAML		07 00 53.5	
	comp=E,290nm,1.0s						
BALM	**Baldy**	**2.77**	**146**		**Pn**	**07 00 07.6**	**+0.5**
MLY	**Manley**	**2.83**	**309**		**Pn**	**07 00 08.3**	**+0.4**
I27K	**Kandik River**	**2.83**	**35**		**Pn**	**07 00 08.5**	**+0.5**
DAWY	**Dawson**	**2.84**	**73**		**Pn**	**07 00 07.7**	**-0.3**
DAWY				IAML		07 00 57.2	
	comp=N,367nm,0.6s						
KIAG	**Kiagna River**	**2.86**	**147**		**Pn**	**07 00 10.5**	**+2.0**
H25L	**Birch Creek**	**2.93**	**358**		**Pn**	**07 00 09.7**	**+0.4**
BARN	**Barnard Glacie**	**2.94**	**140**		**Pn**	**07 00 10.0**	**+0.5**
H23K	**Yukon River**	**3.02**	**327**		**Pn**	**07 00 10.8**	**+0.2**
KHIT	**Khitrov Hills**	**3.12**	**158**		**Pn**	**07 00 11.8**	**-0.1**
NICHA	**Nichawak Mount**	**3.21**	**166**		**Pn**	**07 00 13.4**	**+0.2**
I28M	**Miner Creek**	**3.22**	**47**		**Pn**	**07 00 14.4**	**+1.0**
I28M				IAML		07 01 12.2	
	comp=E,212nm,0.9s						
I28M				IAML		07 01 14.3	
	comp=N,263nm,0.6s						
GRIN	**Grindle Hills**	**3.26**	**160**		**Pn**	**07 00 14.3**	**+0.5**
BARK	**Barkley Ridge**	**3.29**	**152**		**Pn**	**07 00 14.8**	**+0.5**
H27K	**Steamboat Moun**	**3.37**	**29**		**Pn**	**07 00 15.7**	**+0.4**
H27K				IAML		07 01 14.7	
	comp=E,159nm,0.9s						
H27K				IAML		07 01 16.1	
	comp=N,131nm,0.7s						
L29M	**L29M**	**3.37**	**91**		**Pn**	**07 00 15.3**	**0.0**
M29M	**Somme Creek**	**3.37**	**102**		**Pn**	**07 00 15.5**	**+0.1**
M29M				IAML		07 01 12.5	
	comp=N,198nm,0.6s						
M29M				IAML		07 01 16.4	
	comp=E,223nm,0.7s						
G24K	**Hadweenzic Riv**	**3.46**	**347**		**Pn**	**07 00 16.1**	**-0.5**
G24K				IAML		07 01 12.0	
	comp=E,122nm,0.8s						
G24K				IAML		07 01 15.1	
	comp=N,150nm,1.0s						
P23K	**Montague Islan**	**3.48**	**195**		**Pn**	**07 00 17.5**	**+0.7**
P23K				IAML		07 01 14.8	
	comp=N,198nm,0.7s						
K29M	**Barlow Dome**	**3.62**	**79**		**Pn**	**07 00 18.8**	**-0.1**
RKAV	**Rock Avalanche**	**3.66**	**145**		**Pn**	**07 00 19.0**	**-0.4**
G26K	**Porcupine Rive**	**3.69**	**11**		**Pn**	**07 00 19.5**	**-0.2**
I29M	**Ogilvie Camp,**	**3.74**	**54**		**Pn**	**07 00 20.2**	**-0.3**
I29M				IAML		07 01 29.4	
	comp=E,151nm,0.7s						
K20K	**Telida**	**3.84**	**274**		**Pn**	**07 00 22.5**	**+0.7**
K20K				IAML		07 01 23.9	
	comp=N,82nm,1.0s						
K20K				IAML		07 01 34.8	
	comp=E,73nm,0.8s						
G27K	**Doyon Strip**	**3.84**	**24**		**Pn**	**07 00 22.3**	**+0.4**
H21K	**Melozitna Rive**	**3.90**	**310**		**Pn**	**07 00 22.3**	**-0.2**

K15K	Wolf Creek Mou	7.39	269	Pn	Pn	07 01 11.5	+1.0
N15K	Kwethluk River	7.59	252	Pn	Pn	07 01 12.9	-0.4
B22K	Teshekpuk Lake	7.67	340	Pn	Pn	07 01 13.9	-0.3
R33M	Jennings River	8.04	113		Pn	07 01 19.7	+0.1
B20K	Meade River	8.10	331	Pn	Pn	07 01 20.4	+0.3
J14K	Nanvaranak Lak	8.20	274	Pn	Pn	07 01 22.4	+0.9
DLBC	Dease Lake	9.02	116	LR	LR	07 04 40.0	
	comp=N,638nm,20.3s,baz=210,slow=35						
C36M	Paulatuk	10.47	46	Pn	Pn	07 01 50.6	-2.0
TXAR	Lajitas Array	43.27	122	P	P	07 07 26.1	+1.6
	comp=N,0.3nm,0.8s,baz=322,slow=7.9,SNR=3.8						
	comp=N,0.3nm,0.8s						
MKAR	Makanchi Array	63.86	325	P	P	07 09 54.6	-0.6
	comp=N,0.2nm,0.6s,baz=23,slow=7.8,SNR=3.2						
	comp=N,0.2nm,0.6s						

IDC ***29*** *07:19:44.6±1.5, 0°.73N×97°.25E, h0km, mb3.7/7, mbtmp3.7/9, ML3.1/1, MS2.8/1, Error ellipse: s-maj=45.6km s-min=19.8km az=57.0*

DJA ***29*** *07:19:47.6±0.8, 1°.1N±3°×9°.7E±°, h28km±4km, M4.0/11, mb4.2/2, MLv3.9/11*

ISC 29 07:19:46.9±3.8, 0°.81N±0°.06×97°.30E±0°.08, h15km±25km, n27, σ1s01/20, mb3.7/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.56	29	P	Pn	07 20 00.8	+0.4
GSI				S	Sn	07 20 10.7	+1.2
PBSI	Pulau Batu	1.30	131	P	Pb	07 20 10.9	-0.1
PBSI				S	Sn	07 20 27.4	-0.2
SNSI	Sinabang, Aceh	1.87	329	P	Pn	07 20 18.4	+0.1
SNSI				S	Sn	07 20 40.0	-1.6
MNSI	Mandailing Nat	2.28	90	P	Pn	07 20 24.3	+0.3
PSI	Prapat	2.56	39	Pn	Pn	07 20 28.1	+0.1
	3.8nm,0.3s,baz=212,slow=19,SNR=8.7						
PSI				Sn	Sn	07 20 56.4	-2.5
	4.9nm,0.3s,baz=191,slow=16,SNR=5.5						
PSI				LR	LR	07 21 16.1	
	comp=Z,198nm,19.6s,baz=197,slow=36						
	9.0nm,0.4s						
KCSI	Kotacane, Aceh	2.74	10	P	Pn	07 20 30.4	+0.1
KCSI				S	Sn	07 21 02.8	-0.4
PPI	Padang Panjang	3.34	112	P	Pn	07 20 38.0	-0.6
CMAR	Chiang Mai Arr	17.62	5	P	Pn	07 23 50.9	-1.0
	0.8nm,0.4s,baz=197,slow=12,SNR=6.0						
H08S2	Diego Garcia H	26.13	251	T	T	07 52 21.3	
	baz=72,slow=76,SNR=395						
H08S3	Diego Garcia H	26.13	251	T	T	07 52 23.3	
	baz=72,slow=76,SNR=579						
H08S1	Diego Garcia H	26.14	251	T	T	07 52 20.4	
	baz=72,slow=76,SNR=287						
H01W3	Cape Leeuwin H	38.84	158	T	T	08 08 24.3	
	baz=334,slow=76,SNR=47						
H01W2	Cape Leeuwin H	38.86	158	T	T	08 08 25.3	
	baz=334,slow=76,SNR=50						
H01W1	Cape Leeuwin H	38.86	158	T	T	08 08 25.5	
	baz=334,slow=76,SNR=43						
WRA	Warramunga Arr	41.74	122	P	P	07 27 35.2	-0.6
	0.5nm,0.6s,baz=302,slow=9.0,SNR=4.8						
	0.5nm,0.6s						
ASAR	Alice Springs	43.08	127	P	P	07 27 46.9	+0.2
	0.5nm,0.6s,baz=298,slow=7.7,SNR=10						
	0.5nm,0.6s						
KSRS	Korea Array	46.11	34	P	P	07 28 11.5	+0.9
	0.7nm,0.7s,baz=232,slow=10.0,SNR=2.5						
	0.7nm,0.7s						
MKAR	Makanchi Array	47.65	346	P	P	07 28 23.8	+1.2
	1.2nm,0.5s,baz=159,slow=8.9,SNR=18						
	1.2nm,0.5s						
KURBB	Kurchatov Arra	52.13	345	P	P	07 28 57.6	+1.0
	0.7nm,0.8s,baz=166,slow=7.1,SNR=8.3						
	0.7nm,0.8s						
ZALV	Zalesovo Beam	53.96	351	P	P	07 29 09.7	-0.3
	1.0nm,0.4s,baz=174,slow=5.5,SNR=6.8						
	1.0nm,0.4s						
BVAR	Borovoye Array	56.65	341	P	P	07 29 29.3	-0.1
	0.6nm,0.8s,baz=132,slow=10,SNR=4.1						
	0.6nm,0.8s						
H04N2	CROZET ISLANDS	61.51	214	T	T	08 36 43.1	
	baz=54,slow=76,SNR=288						
H04N1	CROZET ISLANDS	61.52	214	T	T	08 36 44.6	
	baz=54,slow=76,SNR=325						
H04N3	CROZET ISLANDS	61.52	214	T	T	08 36 42.3	
	baz=54,slow=76,SNR=221						
H04S1	CROZET ISLANDS	61.84	214	T	T	08 37 05.1	
	baz=54,slow=75,SNR=132						
H04S3	CROZET ISLANDS	61.85	214	T	T	08 37 08.2	
	baz=54,slow=75,SNR=167						
H04S2	CROZET ISLANDS	61.86	214	T	T	08 37 06.2	
	baz=54,slow=75,SNR=107						

NEIC ***29*** *07:32:52.0±1.8, 19°.09N±0°.03×67°.20W±0°.02, h10km±1km, mb3.9/10, ML3.7/23, Md3.8/21(RSPR), Error ellipse: s-maj=5.6km s-min=3.3km az=155.0*

SDD ***29*** *07:32:52.5±1.8, 19°.21N×67°.22W, h31km±51km, MD3.8, ML3.6, MW3.8*

RSPR ***29*** *07:32:54.4, 19°.18N×67°.17W, h16km±4km, MD3.8/21*

ISC 29 07:32:53.6±1.2, 19°.09N±0°.04×67°.18W±0°.03, h28km±11km, n104, σ0s84/126, mb3.9/4, 25C-27D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.62	174		Pb	07 33 05.7	-0.3
AGPR					Sn	07 33 15.8	+0.1
AGPR	Aguadilla, PR	0.62	174	⇓eP	Pb	07 33 05.7	-0.3
AGPR	Aguadilla, PR	0.62	174	eS	Sn	07 33 15.8	+0.1
AGPR	Aguadilla, PR	0.62	174	ePg	Pb	07 33 05.6	-0.3
AGPR				⇓eSg	Sn	07 33 16.1	+0.4
AGPR				IAML		07 33 16.9	
	comp=N,4μm,0.2s						
IDE	Isla Desecheo	0.75	202		Pb	07 33 07.6	-0.5
IDE					Sn	07 33 19.1	+0.3
IDE	Isla Desecheo	0.75	202	⇓eP	Pb	07 33 07.6	-0.5
IDE	Isla Desecheo	0.75	202	eS	Sn	07 33 19.1	+0.3
AOPR	Arecibo Observ	0.84	151		Pn	07 33 08.6	-1.0
AOPR				Sg	Sb	07 33 20.1	-0.5
AOPR				IAML		07 33 23.9	
	comp=N,4μm,0.3s						
AOPR	Arecibo Observ	0.84	151	⇓eP	Pn	07 33 08.8	-0.9
AOPR	Arecibo Observ	0.84	151	eS	Sb	07 33 20.9	+0.3
AOPR	Arecibo Observ	0.84	151	eP	Pn	07 33 08.7	-1.0
AOPR	Arecibo Observ	0.84	151	ePg	Pn	07 33 08.9	-0.8
AOPR				⇑eSg	Sn	07 33 22.0	+0.8
AOPR				IAML		07 33 23.8	
	comp=N,3μm,0.3s						
PRSN	Puerto Rico Se	0.87	178		Pn	07 33 09.3	-0.7
PRSN				Sg	Sb	07 33 21.2	-0.1
PRSN	Puerto Rico Se	0.87	178	⇑eP	Pn	07 33 09.6	-0.4
PRSN	Puerto Rico Se	0.87	178	eS	Sn	07 33 22.6	+0.9
PRSN	Puerto Rico Se	0.87	178	⇑ePg	Pn	07 33 09.4	-0.6
PRSN				⇑eSg	Sn	07 33 22.9	+1.2
PRSN				IAML		07 33 26.2	
	comp=N,5μm,0.2s						
EMPR	Esperanza - Ma	0.87	134	Pg	Pn	07 33 09.5	-0.5
EMPR				Sg	Sb	07 33 21.5	+0.2
EMPR	Esperanza - Ma	0.87	134	⇓eP	Pn	07 33 09.5	-0.5
EMPR	Esperanza - Ma	0.87	134	eS	Sb	07 33 21.9	+0.6
LSP	Las Mesas	0.91	174		Pn	07 33 10.3	-0.3
LSP					Sb	07 33 23.4	+0.8
LSP	Las Mesas	0.91	174	⇑eP	Pn	07 33 10.3	-0.3
LSP	Las Mesas	0.91	174	eS	Sb	07 33 23.4	+0.8
UUPR	Utuado, UPR, P	0.94	152		Pn	07 33 10.2	-0.7
UUPR	Utuado, UPR, P	0.94	152	⇑eP	Pn	07 33 10.3	-0.7
CRPR	Cabo Rojo, PR	1.08	176		Pn	07 33 12.4	-0.4
CRPR				Sn	Sn	07 33 27.5	+0.6
CRPR				IAML		07 33 32.3	
	comp=E,1μm,0.4s						
CRPR	Cabo Rojo, PR	1.08	176	⇓eP	Pn	07 33 12.4	-0.4
CRPR	Cabo Rojo, PR	1.08	176	eS	Sn	07 33 27.7	+0.8
CRPR	Cabo Rojo, PR	1.08	176	ePg	Pn	07 33 12.6	-0.2
CRPR				eSg	Sb	07 33 28.9	+1.6
CRPR				IAML		07 33 34.5	
	comp=N,997nm,0.3s						
ECPR	Experimental S	1.09	134	⇓eP	Pn	07 33 12.4	-0.7
ECPR	Experimental S	1.09	134	eS	Sn	07 33 26.5	-0.8
MLPR	Magueyes Islan	1.12	173	⇓eP	Pn	07 33 13.1	-0.4
MLPR	Magueyes Islan	1.12	173	eS	Sn	07 33 28.7	+0.7
MLPR	Magueyes Islan	1.12	173	⇑ePg	Pn	07 33 13.3	-0.1
MLPR				⇓eSg	Sn	07 33 28.1	+0.1
MLPR				IAML		07 33 31.9	
	comp=N,273nm,0.6s						
GBPR	Guanica, Bosqu	1.14	165		Pn	07 33 13.8	0.0
GBPR	Guanica, Bosqu	1.14	165	⇓eP	Pn	07 33 13.8	0.0
CELP	Cerrillos	1.16	150		Pn	07 33 13.7	-0.3
CELP	Cerrillos	1.16	150	Sg	Sn	07 33 29.3	+0.3
CELP				IAML		07 33 34.0	
	comp=N,1μm,0.2s						
CELP				IAML		07 33 37.0	
	comp=E,1μm,0.2s						
CELP	Cerrillos	1.16	150	⇓eP	Pn	07 33 13.7	-0.3
CELP	Cerrillos	1.16	150	eS	Sn	07 33 29.9	+1.0
CELP	Cerrillos	1.16	150	⇓ePg	Pn	07 33 13.8	-0.2
CELP				⇓eSg	Sn	07 33 30.1	+1.1
CELP				IAML		07 33 37.8	
	comp=N,1μm,0.2s						
OBIP	Obispado Ponce	1.17	152		Pn	07 33 13.9	-0.3
OBIP					Sn	07 33 30.4	+1.0
OBIP				IAML		07 33 31.6	
	comp=N,1μm,0.2s						
OBIP				IAML		07 33 36.3	
	comp=E,1μm,0.3s						
OBIP	Obispado Ponce	1.17	152	⇑eP	Pn	07 33 13.9	-0.3
OBIP	Obispado Ponce	1.17	152	eS	Sn	07 33 29.1	-0.2
PCDR	Punta Cana, DR	1.27	244	⇓ePg	Pn	07 33 15.3	-0.2
PCDR				IAML		07 33 35.5	
	comp=N,2μm,0.7s						
GCPR	Guaynabo City	1.30	126		Pn	07 33 15.1	-0.8
GCPR	Guaynabo City	1.30	126	⇑eP	Pn	07 33 15.2	-0.8
GCPR	Guaynabo City	1.30	126	eS	Sn	07 33 31.6	-0.7
SJG	San Juan	1.38	135		Pn	07 33 17.2	+0.2
SJG	San Juan	1.38	135	IAML		07 33 44.5	
	comp=N,1μm,0.4s						
SJG				IAML		07 33 46.6	
	comp=N,1μm,0.4s						
SJG	San Juan	1.38	135	⇑eP	Pn	07 33 17.2	+0.2
SJG	San Juan	1.38	135	eS	Sn	07 33 34.0	-0.4
SJG	San Juan	1.38	135	eP	Pn	07 33 16.8	-0.2
SJG	San Juan	1.38	135	⇑ePg	Pn	07 33 17.0	0.0
SJG				⇓eSg	Sb	07 33 36.5	+0.5
IGPR	InterUniversit	1.51	137		Pn	07 33 18.8	-0.1
IGPR					Sn	07 33 38.3	+0.7
IGPR	InterUniversit	1.51	137	⇓eP	Pn	07 33 18.8	-0.1
IGPR	InterUniversit	1.51	137	eS	Sn	07 33 38.3	+0.7
PDPR	Patillas Dam,	1.53	134	Pn	Pn	07 33 18.6	-0.5
PDPR				IAML		07 33 44.6	
	comp=N,742nm,0.5s						
PDPR				IAML		07 33 45.4	
	comp=E,723nm,0.2s						
PDPR	Patillas Dam,	1.53	134	⇑eP	Pn	07 33 19.4	+0.2
PDPR	Patillas Dam,	1.53	134	eS	Sn	07 33 39.1	+1.0
HIDR	Higuey Centro	1.53	252	⇓eP	Pn	07 33 18.6	-0.6
HIDR	Higuey Centro	1.53	252	eS	Sn	07 33 37.1	-1.1
HIDR	Higuey Centro	1.53	252	⇓ePg	Pn	07 33 19.0	-0.2
HIDR				⇓eSg	Sn	07 33 36.3	-1.9
HIDR				IAML		07 33 50.1	
	comp=N,1μm,0.2s						
HUMP	Col San Antoni	1.57	126	Pn	Pn	07 33 19.2	-0.5
MIDR	Miches	1.77	267	⇓eP	Pn	07 33 22.0	-0.4
MIDR	Miches	1.77	267	eS	Sn	07 33 43.6	-0.4
MIDR	Miches	1.77	267	⇓ePg	Pn	07 33 22.2	-0.2
MIDR				IAML		07 33 49.4	
	comp=N,168nm,0.7s						
SMDR	Samana, DR	1.91	276	⇑eP	Pn	07 33 22.8	-1.5
SMDR	Samana, DR	1.91	276	eS	Sn	07 33 47.7	+0.3
SMDR	Samana, DR	1.91	276	⇓ePg	Pn	07 33 22.9	-1.3
SMDR				⇓eSg	Sn	07 33 46.3	-1.1
SMDR				IAML		07 33 57.6	
	comp=N,379nm,0.8s						
DR12	Loma Pena Alta	2.10	262		Pn	07 33 27.0	0.0
HATOM	Hato Mayor del	2.10	262	⇓ePg	Pn	07 33 27.7	+0.7
HATOM				⇑eSg	Sn	07 33 53.1	+0.8
HATOM				IAML		07 34 04.2	
	comp=N,321nm,0.4s						
NADR	Nagua	2.54	276	⇓ePg	Pn	07 33 32.7	-0.3
NADR				IAML		07 34 18.5	
	comp=N,2μm,0.3s						
SDD	Santo Domingo	2.66	257		Pn	07 33 35.5	+0.8
SDD	Santo Domingo	2.66	257	⇑eP	Pn	07 33 35.5	+0.8
SDD	Santo Domingo	2.66	257	eS	Sn	07 34 06.2	+0.2
SDD	Santo Domingo	2.66	257	⇑ePg	Pn	07 33 35.9	+1.2
SDD				⇓eSg	Sn	07 34 06.5	+0.4
SDD				IAML		07 34 28.4	
	comp=N,67nm,0.8s						
DR08	Loma La Naviza	2.69	268	⇑ePg	Pn	07 33 35.6	+0.5
DR08				⇓eSg	Sn	07 34 08.0	+1.2
DR08				IAML		07 34 10.1	
	comp=N,8μm,0.2s						
SFDR	San Fco. de Ma	2.90	274	⇓ePg	Pn	07 33 38.5	+0.6
SFDR				⇑eSg	Sn	07 34 12.5	+0.6
SFDR				IAML		07 34 45.8	
	comp=N,930nm,0.4s						
ABDR	Alto Bandera	3.27	266	ePg	Pn	07 33 45.9	+2.5
ABDR				IAML		07 35 07.8	
	comp=N,0.2nm,0.2s						
SC01	Santiago de lo	3.37	276		Pn	07 33 44.6	+0.2
SC01	Santiago de lo	3.37	276	⇓eP	Pn	07 33 44.6	+0.2
SDDR	Presa de Saban	3.88	269		Pn	07 33 52.6	+1.1
SDDR	Presa de Saban	3.88	269	⇑eP	Pn	07 33 52.8	+1.3
SDDR	Presa de Saban	3.88	269	eP	Pn	07 33 52.8	+1.3
SDDR	Presa de Saban	3.88	269	⇑ePg	Pn	07 33 52.9	+1.3
SDDR				⇑eSg	Sn	07 34 39.9	+3.6
SDDR				IAML		07 35 05.7	
	comp=N,212nm,0.6s						
SABA	Saba	4.02	111		Pn	07 33 54.7	+1.3
SABA				IAML		07 35 01.2	
	comp=N,125nm,0.6s						
SMRT	St. Maarten	4.03	104		Pn	07 33 54.0	+0.4
SMRT				IAML		07 34 50.8	
	comp=N,111nm,0.2s						
SMRT				IAML		07 34 55.3	
	comp=E,127nm,0.2s						
SMRT	St. Maarten	4.03	104	⇑eP	Pn	07 33 53.7	+0.2
SMRT	St. Maarten	4.03	104	eS	Sn	07 34 40.1	+0.2
SKI	Saint Kitts	4.57	112	eP	Pn	07 34 02.4	+1.4
DHSZ	Broadband at M	5.87	118	eP	Pn	07 34 21.0	+2.1
ATGZ	Broadband at L	5.99	119	eP	Pn	07 34 21.4	+0.9
DSLB	Salisbury	6.59	123	eP	Pn	07 34 30.2	+1.5
ILAM	Ilet Lapin Mar	7.41	124	Pn	Pn	07 34 39.2	-0.7
RUSC	La Rusia	14.32	204	Pn	Pn	07 36 14.9	-0.1
656A	Willston	17.32	309		Pn	07 36 53.0	-0.5
BOAV	Boa Vista	17.82	158		Pn	07 36 58.0	-1.8
Y58A	Scranton	18.48	325	P	Pn	07 37 07.7	-0.1
JSC	Jenkinsville	19.64	323	P	P	07 37 20.4	+0.3
JSC				IAmb	IAmb	07 37 35.3	
	comp=Z,5.4nm,1.0s						
V55A	Taylorsville	20.79	326	P	P	07 37 32.6	0.0
Y52A	Lilburn	21.05	318	P	P	07 37 34.9	-0.6
Y52A				IAmb	IAmb	07 37 49.2	
	comp=Z,3.5nm,0.7s						
V53A	Saluda	21.52	323	P	P	07 37 40.3	-0.3
V53A				IAmb	IAmb	07 38 01.5	
	comp=Z,6.4nm,1.1s						
S54A	Dingess, Beckl	22.35	329	P	P	07 37 49.6	+0.2
S54A				IAmb	IAmb	07 38 05.5	
	comp=Z,3.4nm,0.7s						
Q56A	Snyder Ridge,	22.44	335	P	P	07 37 51.0	+0.7
Q56A				IAmb	IAmb	07 38 19.0	
	comp=Z,6.0nm,1.1s						

IDC 29 07:35:09.0±3.0, 4°.48S×134°.87E, h0km, mb3.6/1, mbtmp3.6/4, ML4.0/3, Error ellipse: s-maj=113.4km s-min=30.2km az=83.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.38	182	Pn	Pn	07 38 46.4	-1.1
	0.9nm,0.3s,baz=4.1,slow=13,SNR=75						
WRA				Sn	Sn	07 41 25.3	-13
	0.1nm,0.3s,baz=2.4,slow=23,SNR=1.9						
	0.3nm,0.5s						
FITZ	Fitzroy Crossi	16.27	213	Pn	Pn	07 38 56.9	-2.2
	0.2nm,0.3s,baz=32,slow=13,SNR=5.8						
FITZ				Sn	Sn	07 41 49.2	-11
	0.2nm,0.3s,baz=42,slow=16,SNR=3.7						
	0.6nm,0.3s						
ASAR	Alice Springs	19.10	183	P	Pn	07 39 34.8	+0.5
	0.4nm,0.3s,baz=8.6,slow=10,SNR=59						
ASAR				S	Sn	07 43 01.1	-7.9
	0.5nm,0.9s,baz=2.2,slow=27,SNR=1.9						
	2.2nm,0.5s						
MKAR	Makanchi Array	68.90	324	P	P	07 46 15.8	0.0
	0.4nm,0.7s,baz=136,slow=7.2,SNR=4.3						
	0.4nm,0.7s						

MOS ***29*** *07:40:11.4±0.9, 5°.65N×126°.28E, h39km, mb5.4/67, Error ellipse: s-maj=9.4km s-min=4.3km az=117.1*

MAN ***29*** *07:40:15.2, 5°.47N×126°.61E, h56km, mb5.8, ML4.8, MS5.3*

NEIC ***29*** *07:40:17.5±1.5, 5°.66N±0°.06×126°.50E±0°.08, h76km±4km, mb5.1/226, Mwb5.3/25, Mww5.3/30, Error ellipse: s-maj=12.3km s-min=8.1km az=65.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr0.74; Mθθ0.12; Mϕϕ-0.86; Mrθ-0.36; Mrϕ0.41; Mθϕ0.28; Fault plane solution: M0 1.01000×10^17 NP1:ϕs321.54000°, δ59.94000°, λ67.04000°. NP2:ϕs181.76000°, δ37.16000°, λ123.97000°. Principal axes: T 0.9127, Plg67.0000°, Azm188.0000°; N 0.1782, Plg20.0000°, Azm334.0000°; P -1.0909, Plg12.0000°, Azm68.0000°;*

IDC ***29*** *07:40:17.6±0.9, 5°.67N×126°.57E, h83km±7km, mb4.8/37, mbtmp5.1/41, MS3.9/44 Error ellipse: s-maj=13.1km s-min=6.4km az=72.0*

GCMT ***29*** *07:40:18.5±0.1, 5°.62N±0°.01×126°.58E±0°.01, h84km±1km, MW5.3/146, Moment Tensor Solution. s119,c181; s146,c263; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.65±.02; Mθθ0.29±.02; Mϕϕ-0.93±.02; Mrθ-0.62±.01; Mrϕ0.34±.01; Mθϕ0.26±.01; Best double couple: M0 1.12200×10^17 NP1:ϕs197.00000°, δ42.00000°, λ145.00000°. NP2:ϕs315.00000°, δ67.00000°, λ54.00000°. Principal axes: T 1.1150, Plg53.0000°, Azm180.0000°; N 0.0140, Plg33.0000°, Azm331.0000°; P -1.1290, Plg14.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***29*** *07:40:18.8±0.2, 6°.N±2°×12°.7E±°, h90km±2km, M5.2/93, mB5.6/52, mb5.4/93, MLv5.9/13, Mw5.3/97, Mw(mB)5.1/52, MwMwp5.0/15, Mwp5.3/15*

NEIC ***29*** *07:40:19.4, 5°.65N×126°.51E, h70km*

NEIC ***29*** *07:40:19.4, 5°.65N×126°.51E, h87km*

NEIC ***29*** *07:40:19.4, 5°.65N×126°.81E, h70km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^17Nm; Mrr0.82; Mθθ0.15; Mϕϕ-0.98; Mrθ-0.38; Mθϕ0.26; Mrϕ0.20; Fault plane solution: M0 1.04000×10^17 NP1: ϕs189.59000°, δ41.12000°, λ124.63000°. NP2: ϕs327.08000°, δ57.23000°, λ63.61000°. Principal axes: T 0.9977, Plg66.0000°, Azm186.0000°; N 0.0758, Plg22.0000°, Azm342.0000°; P -1.0735, Plg9.0000°, Azm76.0000°;*

ISC 29 07:40:17.8±0.3, 5°.60N±0°.03×126°.49E±0°.04, h84km±2km, h85km:pP-P, n980, σ1s37/977, mb5.1/274, 18C-14D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.71	328	Pn	Pn	07 40 45.1	-1.1
DAV	Davao City (W)	1.71	328	P	Pn	07 40 47.0	+0.9
	6μm,0.7s,baz=161,slow=0.6,SNR=89						
DAV				S	Sn	07 41 06.7	-0.9
	7μm,0.5s,baz=61,slow=20,SNR=4.7						
DAV				LR	LR	07 41 28.6	
	comp=Z,8μm,21.4s,baz=242,slow=42						
DAV	Davao City (W)	1.71	328	P	Pn	07 40 47.6	+1.4
DAV	Davao City (W)	1.71	328	P	Pn	07 40 48.0	+1.8
SGSI	Sangihe	2.13	207	P	Pn	07 40 52.9	+1.2
TNTI	Ternate	4.88	170	Pn	Pn	07 41 28.7	-0.1
TNTI	Ternate	4.88	170	P	Pn	07 41 29.6	+0.7
TNTI	Ternate	4.88	170	P	Pn	07 41 29.5	+0.7
TNTI				S	Sn	07 42 25.3	+1.2
KMSI	Cibinong	5.59	207	P	Pn	07 41 41.1	+2.6
MRSI	Marisa	6.82	222	P	Pn	07 41 57.5	+2.2
TOLI2	Tolitoli	7.24	232	Pn	Pn	07 42 00.8	-0.2
TOLI2	Tolitoli	7.24	232	P	Pn	07 42 00.8	-0.2
LUWI	Luwuk	7.57	209	Pn	Pn	07 42 08.9	+3.3
LUWI	Luwuk	7.57	209	P	Pn	07 42 10.2	+4.6
LUWI	Luwuk	7.57	209	P	Pn	07 42 10.1	+4.5
SANI	Sanana	7.62	184	P	Pn	07 42 03.9	-2.3
SANI	Sanana	7.62	184	P	Pn	07 42 04.3	-1.9
	3.6nm684nm,0.7s						
MYLDM	Lahad Datu	7.97	267		Pn	07 42 12.8	+1.8
MYLDM	Lahad Datu	7.97	267	P	Pn	07 42 14.2	+3.3
SWI	Sorong	8.00	143	P	Pn	07 42 11.9	+0.5
	1.0nm3μm225nm,0.7s						
APSI	Ampana	8.08	217	P	Pn	07 42 17.1	+4.6
	10μm822nm,1.4s						
MPSI	Mapaga	8.41	232	P	Pn	07 42 19.3	+2.3
NLAI	Namlea	8.80	176	P	Pn	07 42 21.2	-1.2
MSAI	Masohi	9.22	165	P	Pn	07 42 28.9	+0.9
	5μm377nm,0.8s						
PCI	Palu	9.27	226	P	Pn	07 42 31.6	+2.8
	5μm258nm,0.8s						
AAI	Ambon	9.38	170	P	Pn	07 42 31.2	+0.9
	10μm300nm,0.8s						
TGY	Tagaytay City	10.06	327	P	Pn	07 42 40.5	+0.9
	69nm,0.4s,baz=135,slow=20,SNR=4.0						
TGY				LR	LR	07 47 45.9	
	comp=Z,695nm,18.4s,baz=160,slow=45						
KKM	Kota Kinabalu	10.23	273		Pn	07 42 41.9	-0.1
KKM	Kota Kinabalu	10.23	273	P	Pn	07 42 46.0	+4.0
FAKI	Fak Fak	10.24	146		Pn	07 42 41.0	-1.0
FAKI	Fak Fak	10.24	146	P	Pn	07 42 43.0	+1.1
FAKI	Fak Fak	10.24	146	P	Pn	07 42 42.8	+0.9
	2μm142nm,0.8s						
KDI	Kendari	10.25	202	P	Pn	07 42 43.4	+1.2
RKPI	Ransiki, Papua	10.44	132	P	Pn	07 42 45.3	+0.6
	244nm,0.8s						
SMKI	Samarinda	11.05	237	P	Pn	07 42 57.3	+4.3
	265nm,1.4s						
SPSI	Sidrap Palu	11.64	215	P	Pn	07 43 02.8	+1.8
	2μm191nm,0.7s						
BAKI	Biak	11.74	125

SRBI	**Singaraja**	**17.65**	**220**	P		**Pn**	**07 44 18.3**	**0.0**
	232nm,0.8s								
KMMI	**Kalianget**	**17.73**	**225**	P		**Pn**	**07 44 21.2**	**+1.9**
	185nm,0.9s								
TWGBT	**Beinan**	**17.89**	**344**	P		**Pn**	**07 44 22.6**	**+1.4**
ABJI	**Asem Bagus**	**18.07**	**223**	P		**Pn**	**07 44 24.1**	**+0.6**
	75nm,0.8s								
DNP	**Denpasar**	**18.10**	**218**	P		**Pn**	**07 44 26.5**	**+2.7**
YULB	**Yu-li**	**18.38**	**345**	P		**P**	**07 44 24.6**	**-1.5**
YULB	**Yu-li**	**18.38**	**345**	P		**Pn**	**07 44 26.9**	**-0.2**
DRS	**Darwin Rock St**	**18.45**	**166**	P		**P**	**07 44 26.6**	**-0.3**
TPUB	**Ta-pu**	**18.48**	**343**	P		**P**	**07 44 26.1**	**-1.1**
TPUB	**Ta-pu**	**18.48**	**343**	P		**Pn**	**07 44 29.3**	**+1.0**
JAGI	**Jajag, Banyuwa**	**18.62**	**221**	P		**Pn**	**07 44 29.9**	**-0.2**
JAGI	**Jajag, Banyuwa**	**18.62**	**221**	P		**Pn**	**07 44 30.2**	**+0.1**
	3µm322nm,0.8s								
GRJI	**Gresik**	**18.71**	**229**	P		**Pn**	**07 44 32.3**	**+1.2**
	4µm356nm,0.9s								
SSLB	**Suanglung**	**18.85**	**344**	P		**P**	**07 44 31.9**	**+0.6**
SSLB	**Suanglung**	**18.85**	**344**	P		**Pn**	**07 44 34.1**	**+1.4**
DLV	**Lat**	**18.87**	**291**			**P**	**07 44 31.7**	**0.0**
DLV	**Lat**	**18.87**	**291**	P		**Pn**	**07 44 34.2**	**+1.0**
YOJ	**Yonaguni jima**	**19.05**	**350**	P		**P**	**07 44 31.4**	**-1.9**
YOJ	**Yonaguni jima**	**19.05**	**350**	P		**P**	**07 44 31.5**	**-1.9**
YHNB	**Yeheng**	**19.58**	**346**	P		**Pn**	**07 44 43.4**	**+2.0**
GUMO	**Guam**	**19.77**	**65**	P		**P**	**07 44 39.9**	**-1.4**
GUMO	**Guam**	**19.77**	**65**	P		**P**	**07 44 40.2**	**-1.1**
	211nm,1.1s,baz=152,slow=7.1,SNR=5.9								
GUMO				LR		LR	07 51 19.7		
	comp=Z,431nm,21.6s,baz=222,slow=34								
NGJI	**Ngawi**	**19.77**	**229**	P		**Pn**	**07 44 45.3**	**+1.7**
	253nm,0.9s								
KNMB	**Chin-men Tao**	**20.30**	**338**	P		Pn	07 44 49.4	-0.3
SMRI	**Semarang**	**20.36**	**232**	P		**P**	**07 44 48.3**	**+0.5**
SMRI	**Semarang**	**20.36**	**232**	P		Pn	07 44 50.5	0.0
HKPS	**Hong Kong Po S**	**20.43**	**325**	P		Pn	07 44 50.5	-0.8
WOJI	**Wonogiri, Jawa**	**20.48**	**229**	P		Pn	07 44 53.1	+1.2
PCJI	**Pacitan**	**20.52**	**228**	P		Pn	07 44 51.8	-0.6
	149nm,0.7s								
TPI	**Tanjungpandan**	**20.57**	**247**	P		Pn	07 44 51.8	-1.2
	3µm2µm224nm,0.8s								
QZH	**Quanzhou**	**20.67**	**339**	*e*P		Pn	07 44 53.5	-0.5
QZH				S		**S**	**07 48 41.0**	**+3.7**
QZH				sS		sS	07 49 02.3	-1.7
QZH				LR		LR			
	comp=Z,1µm,30.9s								
UGM	**Wanagama**	**20.83**	**230**	P		**P**	**07 44 54.5**	**+1.6**
UGM	**Wanagama**	**20.83**	**230**	P		**P**	**07 44 54.1**	**+1.2**
	283nm,0.9s								
QIZ	**Qiongzhong**	**21.01**	**311**	P		**P**	**07 44 55.4**	**+0.7**
QIZ	**Qiongzhong**	**21.01**	**311**	P		**P**	**07 44 56.5**	**+1.8**
QIZ				S		**S**	**07 48 42.3**	**-1.8**
QIZ				sS		**sS**	**07 49 13.8**	**+2.9**
QIZ				pmax		pmax			
	comp=Z,40nm,0.9s								
QIZ				pmax		pmax			
	comp=Z,170nm,3.6s								
QIZ				LR		LR			
	comp=N,740nm,13.2s								
QIZ				LR		LR			
	comp=E,320nm,11.5s								
QIZ				LR		LR			
	comp=Z,460nm,12.1s								
QIZ	**Qiongzhong**	**21.01**	**311**	P		**P**	**07 44 56.8**	**+2.1**
JOW	**Kunigami**	**21.18**	**4**	P		**P**	**07 44 56.0**	**-0.4**
JOW	**Kunigami**	**21.18**	**4**	P		**P**	**07 44 55.9**	**-0.5**
	19nm,0.8s,baz=194,slow=12,SNR=6.7								
	19nm,0.8s								
JOW	**Kunigami**	**21.18**	**4**	P		**P**	**07 44 58.2**	**+1.7**
KNRA	**Kununurra**	**21.26**	**174**	P		**P**	**07 44 58.1**	**+0.7**
	comp=Z,1µm,0.9s								
KNRA	**Kununurra**	**21.26**	**174**	P		**P**	**07 44 58.0**	**+0.7**
GZH	**Guangzhou**	**21.52**	**325**	P		**P**	**07 45 06.0**	**+5.9**
GZH				S		**S**	**07 48 56.8**	**+2.7**
GZH				pmax		pmax			
	comp=Z,69nm,1.1s								
GZH				LR		LR			
	comp=Z,810nm,14.9s								
GZH				LR		LR			
	comp=Z,570nm,13.2s								
GZH				LR		LR			
	comp=Z,700nm,22.5s								
KPJI	**Karang Pucung**	**21.73**	**234**	P		**P**	**07 45 04.1**	**+1.7**
	comp=Z,264nm,0.9s								
PPBI	**Pangkal Pinang**	**21.74**	**250**	P		**P**	**07 45 03.7**	**+1.1**
LEM	**Lembang**	**22.52**	**237**	LR		LR	07 55 10.8		
	comp=Z,308nm,21.8s,baz=338,slow=40								
LEM	**Lembang**	**22.52**	**237**	P		**P**	**07 45 12.3**	**+1.2**
	comp=Z,153nm,0.8s								
DSRI	**Dabo**	**22.70**	**255**	P		**P**	**07 45 14.1**	**+1.3**
	comp=Z,3µmcomp=Z,119nm,0.8s								
BBJI	**Bungbulang**	**22.84**	**236**	P		**P**	**07 45 13.7**	**-0.6**
MYKOM	**Kota Tinggi**	**22.90**	**261**	P		**P**	**07 45 15.6**	**+0.7**
MYKOM	**Kota Tinggi**	**22.90**	**261**	P		**P**	**07 45 15.6**	**+0.7**
BTDF	**Bukit Timah Da**	**23.06**	**260**	P		**P**	**07 45 17.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**23.57**	**182**	P		**P**	**07 45 21.0**	**0.0**
FITZ	**Fitzroy Crossi**	**23.57**	**182**	P		**P**	**07 45 20.9**	**-0.1**
	comp=Z,50nm,0.7s,baz=19,slow=8.0,SNR=72								
FITZ				S		**S**	**07 49 32.6**	**+3.7**
	comp=Z,24nm,1.1s,baz=61,slow=10,SNR=3.1								
	comp=Z,50nm,0.7s								
KLI	**Kotabumi**	**23.98**	**245**	P		**P**	**07 45 25.5**	**+0.8**
	comp=Z,329nm,0.8s								
CGJI	**Cibinong**	**24.05**	**240**	P		**P**	**07 45 26.6**	**+1.3**
	comp=Z,4µmcomp=Z,115nm,0.9s								
KASI	**Kota Agung**	**24.58**	**244**	P		**P**	**07 45 31.8**	**+1.6**
	comp=Z,127nm,0.9s								
LWLI	**Liwa**	**24.76**	**245**	P		**P**	**07 45 33.2**	**+1.2**
LHSI	**Lahat**	**24.78**	**248**	P		**P**	**07 45 34.0**	**+2.0**
	comp=Z,2µmcomp=Z,162nm,0.9s								
IPM	**Ipoh**	**25.39**	**269**	P		**P**	**07 45 38.0**	**+0.4**
IPM				IAmb		IAmb	07 45 40.4		
	comp=Z,47nm,0.8s								
IPM	**Ipoh**	**25.39**	**269**	P		**P**	**07 45 38.2**	**+0.6**
PMG	**Port Moresby**	**25.43**	**126**	P		**P**	**07 45 37.9**	**0.0**
	comp=Z,6.5nm,0.2s,baz=260,slow=18,SNR=2.2								
PMG				LR		LR	07 57 05.5		
	comp=Z,247nm,19.4s,baz=301,slow=40								
	comp=Z,6.5nm,0.2s								
PMG	**Port Moresby**	**25.43**	**126**	*i* P		**P**	**07 45 40.8**	**+2.9**
PMG				pmax		pmax			
	comp=Z,23nm,1.0s								
COEN	**Coen**	**25.53**	**140**	P		**P**	**07 45 37.6**	**-1.3**
	comp=Z,48nm,0.8s								
COEN	**Coen**	**25.53**	**140**			**P**	**07 45 38.9**	**0.0**
COEN				IAmb		IAmb	07 45 41.9		
	comp=Z,30nm,0.6s								
COEN	**Coen**	**25.53**	**140**	P		**P**	**07 45 39.3**	**+0.5**
KSI	**Kapahiang**	**25.58**	**249**	P		**P**	**07 45 40.7**	**+1.3**
KULM	**Kulim**	**25.73**	**271**	IAmb		IAmb	07 46 20.8		
	comp=Z,87nm,1.4s								
KULM	**Kulim**	**25.73**	**271**	P		**P**	**07 45 41.9**	**+1.3**
MASI	**Maura Aman, Be**	**25.73**	**251**	P		**P**	**07 45 44.7**	**+4.0**
	comp=Z,3µmcomp=Z,270nm,1.0s								
SSE	**Sheshan**	**25.84**	**350**	P		**P**	**07 45 41.8**	**+0.3**
SSE				S		**S**	**07 50 05.5**	**+0.4**
SSE				pmax		pmax			
	comp=Z,16nm,0.6s								
SSE				pmax		pmax			
	comp=Z,100nm,4.4s								
SSE				LR		LR			
	comp=Z,190nm,17.5s								
SSE				LR		LR			
	comp=Z,210nm,17.3s								
CNSH	**ChangSha**	**25.88**	**332**	P		**P**	**07 45 46.3**	**+4.4**
CNSH				S		**S**	**07 50 12.3**	**+6.5**
CNSH				pmax		pmax			
	comp=Z,32nm,0.9s								
CNSH				LR		LR			
	comp=Z,600nm,28.9s								
CNSH				LR		LR			
	comp=Z,750nm,19.2s								
CNSH				LR		LR			
	comp=Z,1µm,28.8s								
WRAB	**Tennant Creek**	**26.53**	**163**	P		**P**	**07 45 47.9**	**+0.1**
WRAB	**Tennant Creek**	**26.53**	**163**	P		**P**	**07 45 47.4**	**-0.4**
WRAB	**Tennant Creek**	**26.53**	**163**	P		**P**	**07 45 47.9**	**+0.1**
WRAB				pmax		pmax			
	comp=Z,91nm,0.8s								
WRA	**Warramunga Arr**	**26.53**	**163**	P		**P**	**07 45 47.5**	**-0.3**
	comp=Z,65nm,0.8s,baz=344,slow=10,SNR=52								
WRA				PcP		**PcP**	**07 49 10.2**	**-0.5**
	comp=Z,3.8nm,0.6s,baz=338,slow=2.5,SNR=2.9								
WRA				S		**S**	**07 50 16.2**	**0.0**
	comp=Z,7.5nm,0.9s,baz=338,slow=14,SNR=4.5								
WRA				ScP		**ScP**	**07 52 43.9**	**+0.6**
	comp=Z,5.0nm,0.7s,baz=342,slow=3.1,SNR=6.1								
WRA				LR		LR	07 57 44.6		
	comp=Z,266nm,18.8s,baz=344,slow=39								
WRA				P3KPbc			08 18 26.9		
	comp=Z,0.2nm,0.3s,baz=177,slow=5.2,SNR=4.7								
	comp=Z,65nm,0.8s								
PPI	**Padang Panjang**	**26.74**	**258**	P		**P**	**07 45 50.8**	**+1.0**
	comp=Z,2µmcomp=Z,72nm,0.7s								
PDSI	**Padang**	**26.79**	**257**	P		**P**	**07 45 51.4**	**+1.2**
	comp=Z,81nm,0.8s								
SURA	**Surathani**	**26.87**	**279**	P		**P**	**07 45 52.1**	**+1.2**
SLVN	**Son La**	**26.90**	**308**	P		**P**	**07 45 52.5**	**+1.3**
NJ2	**Nanjing**	**27.27**	**346**	*e*P		**P**	**07 45 56.3**	**+2.0**
NJ2				pP		**pP**	**07 46 14.5**	**+1.0**
NJ2				S		**S**	**07 50 29.5**	**+2.0**
NJ2				pmax		pmax			
	comp=Z,19nm,0.6s								
NJ2				pmax		pmax			
	comp=Z,260nm,6.2s								
MNSI	**Mandailing Nat**	**27.28**	**261**	P		**P**	**07 45 55.3**	**+0.6**
	comp=Z,60nm,0.8s								
WHN	**Wuhan**	**27.31**	**337**	P		**P**	**07 45 58.5**	**+3.8**
WHN				S		**S**	**07 50 35.3**	**+7.0**
WHN				sS		**sS**	**07 51 00.3**	**-0.3**
WHN				pmax		pmax			
	comp=Z,98nm,1.1s								
WHN				LR		LR			
	comp=Z,690nm,7.3s								
WHN				LR		LR			
	comp=Z,970nm,11.9s								
WHN				LR		LR			
	comp=Z,3µm,37.6s								
MBWA	**Marble Bar**	**27.41**	**194**	P		**P**	**07 45 55.3**	**-0.4**
	comp=Z,110nm,0.9s								
MBWA	**Marble Bar**	**27.41**	**194**	P		**P**	**07 45 55.7**	**0.0**
MBWA	**Marble Bar**	**27.41**	**194**	P		**P**	**07 45 55.7**	**0.0**
JNU	**Nakatsue**	**27.68**	**8**	P		**P**	**07 45 56.0**	**-2.1**
	comp=Z,17nm,0.9s,baz=137,slow=4.3,SNR=17								
	comp=Z,17nm,0.9s								
JNU	**Nakatsue**	**27.68**	**8**	P		**P**	**07 45 56.5**	**-1.5**
PSAC1	**Pilbara Seismi**	**27.75**	**193**	P		**P**	**07 45 58.4**	**-0.3**
	comp=Z,141nm,0.8s								
PSAC2	**Pilbara Seismi**	**27.76**	**193**	P		**P**	**07 45 58.6**	**-0.2**
	comp=Z,153nm,0.8s								
PSA00	**Pilbara Seismi**	**27.78**	**193**	P		**P**	**07 45 58.5**	**-0.4**
	comp=Z,138nm,0.8s								
PSA00	**Pilbara Seismi**	**27.78**	**193**	P		**P**	**07 45 59.1**	**+0.1**
PSA00	**Pilbara Seismi**	**27.78**	**193**	P		**P**	**07 45 59.2**	**+0.2**
PSA00				IAmb		IAmb	07 46 03.7		
	comp=Z,93nm,0.8s								
PSA00	**Pilbara Seismi**	**27.78**	**193**	P		**P**	**07 45 58.7**	**-0.3**
PSAB3	**Pilbara Seismi**	**27.80**	**193**	P		**P**	**07 45 58.5**	**-0.7**
	comp=Z,155nm,0.8s								
KCSI	**Kotacane, Aceh**	**28.70**	**267**	P		**P**	**07 46 07.5**	**+0.2**
	comp=Z,641nmcomp=Z,29nm,0.8s								
JMN	**Monobe**	**28.81**	**13**	P		**P**	**07 46 08.6**	**+0.5**
QIS	**Mount Isa**	**29.02**	**154**	P		**P**	**07 46 09.7**	**-0.3**
	comp=Z,129nm,0.8s								
QIS	**Mount Isa**	**29.02**	**154**	P		**P**	**07 46 10.2**	**+0.2**
GSI	**Gunungsitoli**	**29.17**	**263**	P		**P**	**07 46 10.5**	**-1.0**
GSI	**Gunungsitoli**	**29.17**	**263**	P		**P**	**07 46 10.6**	**-0.9**
GSI	**Gunungsitoli**	**29.17**	**263**	P		**P**	**07 46 12.0**	**+0.5**
	comp=Z,125nm,0.8s								
ENH	**Enshi**	**29.30**	**329**	P		**P**	**07 46 11.5**	**-0.9**
ENH				IAmb		IAmb	07 46 39.0		
	comp=Z,46nm,1.1s								
ENH	**Enshi**	**29.30**	**329**	P		**P**	**07 46 15.4**	**+2.9**
LHMI	**Lhok Sumawe**	**29.41**	**271**	P		**P**	**07 46 11.7**	**-2.0**
MTSU	**Mount Surprise**	**29.42**	**144**	P		**P**	**07 46 14.3**	**+0.7**
	comp=Z,25nm,0.9s								
MTSU	**Mount Surprise**	**29.42**	**144**	P		**P**	**07 46 14.5**	**+0.8**
CM31	**Chiang Mai Arr**	**29.76**	**298**			**P**	**07 46 16.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**29.76**	**298**	P		**P**	**07 46 16.2**	**-0.4**
	comp=Z,6.5nm,0.6s,baz=120,slow=7.8,SNR=16								
CMAR				PcP		**PcP**	**07 49 18.2**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=118,slow=0.8,SNR=6.1								
CMAR				ScP		**ScP**	**07 52 54.1**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=101,slow=1.3,SNR=10.0								
CMAR				LR		LR	07 59 25.0		
	comp=Z,204nm,19.4s,baz=110,slow=38								
	comp=Z,6.5nm,0.6s								
CHTO	**Chiang Mai**	**29.89**	**298**			**P**	**07 46 17.6**	**-0.2**
CHTO	**Chiang Mai**	**29.89**	**298**	P		**P**	**07 46 18.2**	**+0.4**
CHTO	**Chiang Mai**	**29.89**	**298**	P		**P**	**07 46 17.6**	**-0.2**
CHTO				pmax		pmax			
	comp=Z,10.0nm,0.6s								
KMI	**Kunming**	**29.91**	**313**	P		**P**	**07 46 20.8**	**+2.6**
KMI				S		**S**	**07 51 06.0**	**-3.8**
KMI				pmax		pmax			
	comp=Z,18nm,0.5s								
KMI				LR		LR			
	comp=Z,360nm,17.5s								
KMI				LR		LR			
	comp=Z,410nm,18.9s								
KMI				LR		LR			
	comp=Z,360nm,18.4s								
AS31	**Alice Springs**	**29.98**	**166**	P		**P**	**07 46 18.3**	**-0.2**
AS31				IAmb		IAmb	07 46 24.2		
	comp=Z,15nm,0.5s								
ASAR	**Alice Springs**	**29.98**	**166**	P		**P**	**07 46 18.4**	**-0.2**
	comp=Z,17nm,0.5s,baz=342,slow=6.9,SNR=175								
ASAR				PcP		**PcP**	**07 49 19.4**	**+0.3**
	comp=Z,9.8nm,0.6s,baz=348,slow=2.1,SNR=6.0								
ASAR				S		**S**	**07 51 12.4**	**+2.0**
	comp=Z,3.2nm,0.9s,baz=354,slow=18,SNR=3.5								
ASAR				ScP		**ScP**	**07 52 54.3**	**+0.3**
	comp=Z,2.6nm,0.5s,baz=345,slow=3.3,SNR=6.5								
ASAR				LR		LR	07 59 58.1		
	comp=Z,220nm,18.5s,baz=332,slow=39								
ASAR				P3KPbc			08 18 13.7		
	comp=Z,0.5nm,0.9s,baz=166,slow=3.5,SNR=4.8								
	comp=Z,17nm,0.5s								
WRKA	**Warakurna**	**30.51**	**177**	P		**P**	**07 46 22.9**	**-0.2**
	comp=Z,31nm,0.9s								
GIRL	**Giralia**	**30.53**	**203**	P		**P**	**07 46 23.5**	**+0.2**
	comp=Z,151nm,0.9s								
GIRL	**Giralia**	**30.53**	**203**			**P**	**07 46 24.7**	**+1.4**
INU	**Inuyama**	**31.15**	**17**	P		**P**	**07 46 27.1**	**-1.6**
INU	**Inuyama**	**31.15**	**17**	P		**P**	**07 46 27.3**	**-1.4**
INU	**Inuyama**	**31.15**	**17**	P		**P**	**07 46 26.9**	**-1.8**
PZH	**PanZhiHua**	**31.46**	**314**	P		**P**	**07 46 34.5**	**+2.8**
PZH				S		**S**	**07 51 32.5**	**-1.3**
PZH				LR		LR			
	comp=Z,290nm,18.0s								
PZH				LR		LR			
	comp=Z,390nm,18.0s								
PZH				LR		LR			
	comp=Z,310nm,18.1s								
JGF	**Kuroka**	**31.49**	**17**			**P**	**07 46 31.5**	**-0.2**
JGF				IAmb		IAmb	07 47 33.7		
	comp=Z,27nm,0.7s								
JGF	**Kuroka**	**31.49**	**17**	P		**P**	**07 46 31.4**	**-0.3**
LYN	**LuoYang**	**31.59**	**338**	P		**P**	**07 46 35.0**	**+2.4**
LYN				S		**S**	**07 51 41.0**	**+5.6**
LYN				sS		sS	07 52 10.8	+2.9
LYN				pmax		pmax			
	comp=Z,53nm,1.0s								
LYN				LR		LR			
	comp=Z,620nm,18.2s								
LYN				LR		LR			
	comp=Z,370nm,14.1s								
LYN				LR		LR			
	comp=Z,1µm,24.2s								
TIA	**Tai'an**	**31.65**	**345**	P		**P**	**07 46 34.0**	**+0.9**
TIA				PcP		**PcP**	**07 49 25.0**	**+1.6**
TIA				S		**S**	**07 51 34.3**	**-2.0**
TIA				ScP		**ScP**	**07 52 59.8**	**+0.5**
TIA				ScS		**ScS**	**07 56 51.3**	**-6.1**
TIA				pmax		pmax			
	comp=Z,34nm,0.8s								
TIA				LR		LR			
	comp=Z,350nm,13.5s								
TIA				LR		LR			
	comp=Z,740nm,13.1s								
TIA				LR		LR			
	comp=Z,500nm,24.0s								
KSRS	**Korea Array**	**31.73**	**2**	LR		LR	08 01 53.3		
	comp=Z,46µm,18.0s,baz=185,slow=41								
KS19	**Wonju Array Si**	**31.77**	**2**	P		**P**	**07 46 32.4**	**-1.7**
TV1H	**Townsville Har**	**31.79**	**142**	P		**P**	**07 46 35.0**	**+0.6**
CTAO	**Charters Tower**	**32.09**	**143**	P		**P**	**07 46 37.4**	**+0.3**
CTAO	**Charters Tower**	**32.09**	**143**	P		**P**	**07 46 38.1**	**+1.0**
CTAO	**Charters Tower**	**32.09**	**143**	P		**P**	**07 46 37.4**	**+0.3**
CTAO				pmax		pmax			
	comp=Z,111nm,1.9s								
MAJO	**Matsushiro**	**32.61**	**18**			**P**	**07 46 40.2**	**-1.3**
MAJO				IAmb		IAmb	07 46 52.6		
	comp=Z,16nm,0.7s								
MAJO	**Matsushiro**	**32.61**	**18**	P		**P**	**07 46 40.5**	**-1.0**
MAJO	**Matsushiro**	**32.61**	**18**	P		**P**	**07 46 40.2**	**-1.3**
MAJO				pmax		pmax			
	comp=Z,15nm,0.7s								
MJAR	**Matsushiro Arr**	**32.61**	**18**	P		**P**	**07 46 39.1**	**-2.4**
	comp=Z,8.4nm,0.8s,baz=194,slow=8.9,SNR=27								
MJAR				PcP		**PcP**	**07 49 27.0**	**+0.9**
	comp=Z,4.2nm,0.7s,baz=176,slow=3.0,SNR=4.9								
MJAR				ScP		**ScP**	**07 53 03.3**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=179,slow=4.1,SNR=4.4								
	comp=Z,8.4nm,0.8s								
MJB9	**Matsu-Tunnel**	**32.62**	**18**	P		**P**	**07 46 40.5**	**-1.1**
XAN	**Xi'an**	**32.65**	**332**	P		**P**	**07 46 41.3**	**-0.7**
XAN				pP		pP	07 47 00.5	-0.5
XAN				S		**S**	**07 51 58.0**	**+6.0**
XAN				sS		sS	07 52 22.3	-2.2
XAN				pmax		pmax			
	comp=Z,89nm,0.7s								
XAN				LR		LR			
	comp=Z,410nm,21.3s								
XAN				LR		LR			
	comp=Z,440nm,19.9s								
XAN				LR		LR			
	comp=Z,990nm,22.0s								
XAN	**Xi'an**	**32.65**	**332**	P		**P**	**07 46 41.2**	**-0.7**
MEEK	**Meekatharra**	**32.95**	**193**	P		**P**	**07 46 42.9**	**-1.7**
	comp=Z,125nm,0.8s								
MEEK	**Meekatharra**	**32.95**	**193**	P		**P**	**07 46 43.9**	**-0.7**
CD2	**Chengdu**	**33.01**	**322**	P		**P**	**07 46 45.0**	**-0.1**
CD2				pP		pP	07 47 05.0	+1.1
CD2				S		**S**	**07 52 00.0**	**+2.3**
CD2				pmax		pmax			
	comp=Z,20nm,0.7s								
CD2				pmax		pmax			
	comp=Z,120nm,6.0s								
CD2				LR		LR			
	comp=Z,740nm,14.7s								
CD2				LR		LR			
	comp=Z,540nm,14.0s								
CD2				LR		LR			
	comp=Z,860nm,14.6s								
HNS	**HongShan**	**33.43**	**343**	⇑P		**P**	**07 46 50.3**	**+1.7**
HNS				PcP		**PcP**	**07 49 32.0**	**+3.8**
HNS				S		**S**	**07 52 05.0**	**+1.2**
HNS				sS		**sS**	**07 52 36.3**	**-0.1**
HNS				ScP		**ScP**	**07 53 06.8**	**+1.5**
HNS				ScS		**ScS**	**07 57 08.8**	**+2.5**
HNS				pmax		pmax			
	comp=Z,73nm,0.8s								
HNS				LR		LR			
	comp=Z,340nm,22.7s								
DL2	**Dalian**	**33.44**	**353**	P		**P**	**07 46 50.3**	**+1.6**
DL2				S		**S**	**07 52 04.5**	**+0.5**
DL2				pmax		pmax			
	comp=Z,66nm,0.7s								
DL2				pmax		pmax			
	comp=Z,170nm,6.5s								
DL2				LR		LR			
	comp=Z,440nm,15.2s								
DL2				LR		LR			
	comp=Z,530nm,19.9s								
DL2				LR		LR			
	comp=Z,430nm,16.1s								
JSD	**Sado**	**34.02**	**17**	P		**P**	**07 46 53.4**	**-0.3**
JSD				IAmb		IAmb	07 46 53.7		
	comp=Z,16nm,0.6s								
TIY	**Taiyuan**	**34.43**	**340**	*e*P		**P**	**07 46 59.3**	**+1.9**
TIY				S		**S**	**07 52 16.5**	**-3.1**
TIY				sS		**sS**	**07 52 50.3**	**-1.9**
TIY				pmax		pmax			
	comp=Z,36nm,0.6s								
TIY				LR		LR			
	comp=Z,180nm,12.4s								
TIY				LR		LR			
	comp=Z,200nm,15.8s								
TIY				LR		LR			
	comp=Z,210nm,19.9s								
JMM	**Marumori**	**34.66**	**20**	P		**P**	**07 46 56.2**	**-3.0**
JMM	**Marumori**	**34.66**	**20**	P		**P**	**07 46 59.4**	**+0.2**
BJT	**Baijiatuao**	**35.50**	**346**	P		**P**	**07 47 06.9**	**+0.4**
BJT	**Baijiatuao**	**35.50**	**346**	P		**P**	**07 47 07.3**	**+0.8**
BJT	**Baijiatuao**	**35.50**	**346**	P		**P**	**07 47 06.9**	**+0.4**
BJT				pmax		pmax			
	comp=Z,53nm,0.8s								
BJT	**Baijiatuao**	**35.50**	**346**	P		**P**	**07 47 07.1**	**+0.6**
BJI	**Beijing**	**35.52**	**346**	P		**P**	**07 47 07.3**	**+0.7**
BJI				pP		**pP**	**07 47 24.0**	**-2.2**
BJI				sP		**sP**	**07 47 35.3**	**-0.6**
BJI				S		**S**	**07 52 37.3**	**+1.3**
BJI				sS		**sS**	**07 53 09.5**	**+0.8**
BJI				ScS		**ScS**	**07 57 19.5**	**+2.1**
BJI				pmax		pmax			
	comp=Z,34nm,1.0s								
BJI				pmax		pmax			
	comp=Z,94nm,3.8s								
BJI				LR		LR			
	comp=Z,89nm,15.1s								
BJI				LR		LR			
	comp=Z,130nm,18.5s								
BJI				LR		LR			
	comp=Z,150nm,23.2s								
INKA	**Innaminka**	**35.90**	**158**			**P**	**07 47 10.5**	**+0.6**
INKA				IAmb		IAmb	07 47 14.4		
	comp=Z,22nm,0.7s								
MORW	**Morawa**	**35.91**	**196**	P		**P**	**07 47 09.3**	**-0.8**
	comp=Z,42nm,1.0s								
MORW	**Morawa**	**35.91**	**196**			**P**	**07 47 10.2**	**+0.1**
MORW	**Morawa**	**35.91**	**196**	P		**P**	**07 47 10.1**	**+0.1**
SNY	**Shenyang**	**36.16**	**356**	⇓P		**P**	**07 47 14.0**	**+1.9**
SNY				S		**

HHC ScS **ScS** **07 57 30.0 +0.9**
HHC pmax pmax
comp=Z,43nm,0.8s
HHC pmax pmax
comp=Z,190nm,4.2s
HHC LR LR
comp=Z,260nm,19.9s
HHC LR LR
comp=Z,250nm,18.3s
HHC LR LR
comp=Z,550nm,20.6s
VLA Vladivostok 37.66 6 *i*P **P** **07 47 25.7 +0.9**
VLA pmax pmax
comp=Z,53nm,0.6s
BTO Baotou 37.85 339 *e*P **P** **07 47 30.3 +3.7**
BTO pP **sP** **07 47 53.3 -2.6**
BTO S **S** **07 53 18.0 +6.2**
BTO pmax pmax
comp=Z,27nm,0.6s
BTO pmax pmax
comp=Z,140nm,4.5s
BTO LR LR
comp=Z,370nm,7.9s
BTO LR LR
comp=Z,530nm,10.3s
BTO LR LR
comp=Z,770nm,18.4s
CN2 Changchun 38.05 359 P **P** **07 47 28.0 -0.1**
CN2 pP sP 07 47 53.3 -4.1
CN2 S **S** **07 53 13.5 -1.0**
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,300nm,19.0s
MUN Mundaring 38.64 194 P **P** **07 47 32.2 -0.9**
comp=Z,84nm,0.5s
MUN Mundaring 38.64 194 P **P** **07 47 33.5 +0.4**
USRK Ussuriysk Ar. 38.74 6 P **P** **07 47 34.2 +0.3**
comp=Z,40nm,0.6s,baz=182,slow=6.9,SNR=81
comp=Z,40nm,0.6s
MDJ Mundanjiang 38.95 4 P **P** **07 47 36.6 +1.1**
MDJ Mundanjiang 38.95 4 P **P** **07 47 36.3 +0.7**
MDJ pmax pmax
comp=Z,72nm,1.2s
MDJ Mundanjiang 38.95 4 P **P** **07 47 36.7 +1.1**
MDJ Mundanjiang 38.95 4 P **P** **07 47 36.5 +0.9**
EIDS Eidsvold 38.98 143 P **P** **07 47 35.9 -0.1**
comp=Z,35nm,1.0s
EIDS Eidsvold 38.98 143 P **P** **07 47 36.4 +0.4**
EIDS IAmb IAmb 07 47 38.8
comp=Z,25nm,0.9s
EIDS Eidsvold 38.98 143 P **P** **07 47 36.6 +0.5**
ERM Erimo 39.18 20 P **P** **07 47 37.5 0.0**
ERM IAmb IAmb 07 48 18.7
comp=Z,21nm,1.0s
ERM Erimo 39.18 20 P **P** **07 47 37.5 0.0**
ERM pmax pmax
comp=Z,21nm,1.0s
XLT XiLinHaoTe 39.23 348 *e*P **P** **07 47 39.3 +1.3**
XLT S **S** **07 53 32.3 0.0**
XLT pmax pmax
comp=Z,37nm,0.8s
XLT pmax pmax
comp=Z,200nm,4.7s
XLT LR LR
comp=Z,30nm,19.6s
XLT LR LR
comp=Z,240nm,17.7s
XLT LR LR
comp=Z,250nm,23.0s
BBOO Buckleboo 39.27 167 P **P** **07 47 37.8 -0.6**
comp=Z,251nm,0.8s
BBOO Buckleboo 39.27 167 **P** **07 47 38.9 +0.5**
BBOO Buckleboo 39.27 167 P **P** **07 47 38.7 +0.3**
NWAO Narrogin (SRO) 39.31 192 P **P** **07 47 38.4 -0.3**
comp=Z,187nm,0.9s
NWAO Narrogin (SRO) 39.31 192 P **P** **07 47 38.6 -0.1**
comp=Z,147nm,0.8s
NWAO Narrogin (SRO) 39.31 192 P **P** **07 47 39.5 +0.7**
NWAO Narrogin (SRO) 39.31 192 LR LR 08 06 08.3
comp=Z,109nm,19.2s,baz=224,slow=39
NWAO Narrogin (SRO) 39.31 192 P **P** **07 47 39.2 +0.5**
NWAO Narrogin (SRO) 39.31 192 P **P** **07 47 39.3 +0.5**
NWAO Narrogin (SRO) 39.31 192 P **P** **07 47 39.5 +0.7**
NWAO pmax pmax
comp=Z,153nm,1.3s
WHYH Whyalla 39.84 165 P **P** **07 47 43.3 +0.2**
STKA Stephens Creek 39.96 160 P **P** **07 47 43.7 -0.4**
comp=Z,328nm,0.8s
STKA Stephens Creek 39.96 160 P **P** **07 47 44.5 +0.4**
comp=Z,50nm,0.8s,baz=333,slow=8.7,SNR=68
STKA PcP **PcP** **07 49 48.1 +0.1**
comp=Z,19nm,0.7s,baz=307,slow=3.2,SNR=2.9
STKA ScP **ScP** **07 53 30.8 +1.1**
comp=Z,5.1nm,0.8s,baz=13,slow=6.5,SNR=3.0
STKA LR LR 08 06 28.3
comp=Z,169nm,20.4s,baz=332,slow=39
comp=Z,50nm,0.8s
STKA Stephens Creek 39.96 160 P **P** **07 47 44.4 +0.3**
BNX BinXian 39.99 1 ⇓P **P** **07 47 44.8 +0.6**
BNX S **S** **07 53 42.0 -1.5**
BNX sS **sS** **07 54 22.3 +5.7**
BNX pmax pmax
comp=Z,27nm,0.7s
BNX pmax pmax
comp=Z,150nm,4.6s
BNX LR LR
comp=Z,170nm,15.7s
BNX LR LR
comp=Z,430nm,15.7s
BNX LR LR
comp=Z,360nm,32.5s
TEY Ternei 40.26 11⇑ *e*P **P** **07 47 46.1 -0.3**
TEY pmax pmax
comp=N,10.0nm,0.7s
TEY pmax pmax
comp=Z,10.0nm,0.7s
HTT Hallett 40.57 164 P **P** **07 47 49.6 +0.3**
comp=Z,17nm,0.8s
HTT Hallett 40.57 164 P **P** **07 47 50.0 +0.8**
ASAJ Asahikawa 40.89 18 P **P** **07 47 51.9 +0.3**
comp=Z,26nm,0.7s,baz=211,slow=8.8,SNR=40
comp=Z,26nm,0.7s
ASAJ Asahikawa 40.89 18 P **P** **07 47 51.1 -0.5**
ASAJ pmax pmax
comp=Z,29nm,0.7s
JKA Kamikawa-asahi 40.89 18 P **P** **07 47 51.1 -0.5**
JKA IAmb IAmb 07 47 56.6
comp=Z,29nm,0.7s
RKGY Rocky Gully 40.99 192 P **P** **07 47 53.1 +0.5**
comp=Z,211nm,0.8s
LSA Lhasa 41.04 310 P **P** **07 47 52.3 -1.4**
LSA S **S** **07 53 55.8 -4.8**
LSA LR LR
comp=Z,210nm,14.7s
LSA LR LR
comp=Z,180nm,12.1s
LSA LR LR
comp=Z,150nm,22.9s
TW1H Toowoomba 1 Ha 41.14 145 P **P** **07 47 54.7 +0.7**
CMSA Cobar Meteorol 41.23 155 P **P** **07 47 54.5 -0.1**
comp=Z,46nm,0.9s
CMSA Cobar Meteorol 41.23 155 P **P** **07 47 55.3 +0.7**
H11S3 WAKE ISLAND Hy 41.23 68 T T 08 32 07.6
baz=257,slow=75,SNR=98
H11S1 WAKE ISLAND Hy 41.25 68 T T 08 32 00.7
baz=257,slow=75,SNR=33
H11S2 WAKE ISLAND Hy 41.25 68 T T 08 32 01.7
baz=257,slow=75,SNR=106
GTA Gaotai 41.38 328 *e*P **P** **07 47 56.5 +0.6**
GTA pP pwP 07 48 18.8 +1.1
GTA PcP **PcP** **07 49 54.3 +1.6**
GTA ScP **ScP** **07 53 37.0 +1.6**
GTA S **S** **07 54 00.5 -4.2**
GTA sS sS 07 54 43.5 +5.5
GTA SS **SS** **07 57 10.0 -1.8**
GTA ScS **ScS** **07 57 52.3 +0.6**
GTA pmax pmax
comp=Z,6.0nm,0.6s
GTA LR LR
comp=Z,350nm,22.5s
GTA LR LR
comp=Z,460nm,23.6s
GTA LR LR
comp=Z,830nm,24.7s
H11N1 WAKE ISLAND Hy 41.70 67 T T 08 33 07.8
baz=255,slow=75,SNR=66
H11N2 WAKE ISLAND Hy 41.71 67 T T 08 32 43.0
baz=255,slow=75,SNR=29
H11N3 WAKE ISLAND Hy 41.72 67 T T 08 32 49.3
baz=255,slow=75,SNR=40
GHSS Government Hou 41.89 165 P **P** **07 48 02.0 +2.1**
GOMU GeErMu 42.08 321 P **P** **07 48 02.8 +0.8**
GOMU pP pP 07 48 20.0 -1.8
GOMU PcP **PcP** **07 49 56.0 +0.6**
GOMU S **S** **07 54 17.3 +1.7**
GOMU sS sS 07 54 51.5 +2.5
GOMU pmax pmax
comp=Z,11nm,0.9s
GOMU pmax pmax
comp=Z,120nm,5.9s
GOMU LR LR
comp=Z,160nm,18.6s
GOMU LR LR
comp=Z,140nm,17.4s
GOMU LR LR
comp=Z,230nm,17.8s
ARMA Armidale 43.16 148 P **P** **07 48 11.0 +0.5**
comp=Z,44nm,0.8s
ARMA Armidale 43.16 148 P **P** **07 48 11.3 +0.9**
ARMA IAmb IAmb 07 48 14.2
comp=Z,29nm,0.8s
ARMA Armidale 43.16 148 P **P** **07 48 11.0 +0.5**
YSS Yuzhno-Sakhali 43.52 16 P **P** **07 48 14.4 +1.5**
YSS Yuzhno-Sakhali 43.52 16 *e*P **P** **07 48 13.7 +0.8**
YSS *e**PP **pP** **07 48 31.1 -1.1**
YSS *e*S **S** **07 54 35.7 +0.2**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS pmax pmax
comp=Z,100nm,3.2s
YSS MLR MLR
comp=Z,200nm,16.0s
EVN Everest 43.70 305 **P** **07 48 15.2 -0.4**
EVN IAmb IAmb 07 48 50.4
comp=Z,29nm,0.9s
HIA Hailar 43.88 354 P **P** **07 48 14.8 -1.1**
HIA Hailar 43.88 354 P **P** **07 48 17.6 +1.7**
HIA Hailar 43.88 354 P **P** **07 48 14.8 -1.1**
HIA pmax pmax
comp=Z,18nm,0.9s
HEH HeiHe 44.50 1 *e*P **P** **07 48 20.8 0.0**
HEH ScP **ScP** **07 53 47.5 0.0**
HEH S **S** **07 54 48.8 -1.0**
HEH ScS **ScS** **07 58 07.8 -2.5**
HEH pmax pmax
comp=Z,24nm,1.0s
HEH LR LR
comp=Z,300nm,21.6s
HEH LR LR
comp=Z,270nm,22.6s
HEH LR LR
comp=Z,400nm,22.7s
ARPS Mount Arapiles 44.53 162 P **P** **07 48 21.6 +0.4**
comp=Z,52nm,1.0s
YNG Young 44.76 154 P **P** **07 48 24.2 +1.1**
comp=Z,17nm,1.4s
ULN Ulaanbaatar 45.27 342 **P** **07 48 26.6 -0.6**
ULN IAmb IAmb 07 48 31.0
comp=Z,29nm,0.9s
ULN Ulaanbaatar 45.27 342*ce*P **P** **07 48 27.4 +0.2**
ULN pmax pmax
comp=Z,33nm,0.9s
ULN Ulaanbaatar 45.27 342 P **P** **07 48 28.6 +1.4**
ULN pP **pP** **07 48 47.3 -0.1**
ULN PcP **PcP** **07 50 05.3 -0.4**
SONM Songino Array 45.46 341 P **P** **07 48 29.0 +0.4**
comp=Z,6.5nm,0.5s,baz=157,slow=8.0,SNR=29
SONM PcP **PcP** **07 50 06.2 -0.1**
comp=Z,8.0nm,0.6s,baz=163,slow=4.6,SNR=7.1
SONM ScP **ScP** **07 53 51.0 -0.7**
comp=Z,0.5nm,0.5s,baz=80,slow=41,SNR=3.5
comp=Z,6.5nm,0.5s
GRNR Gornyy 45.78 9⇑ *i*P **P** **07 48 32.5 +1.6**
GRNR pmax pmax
comp=Z,8.0nm,0.9s
CAN Canberra 45.89 154 P **P** **07 48 33.3 +1.2**
comp=Z,51nm,0.9s
CAN Canberra 45.89 154 **P** **07 48 32.2 +0.1**
CAN Canberra 45.89 154 P **P** **07 48 33.3 +1.2**
CAN Canberra 45.89 154 P **P** **07 48 32.2 +0.1**
CAN pmax pmax
comp=Z,42nm,0.9s
CAN Canberra 45.89 154 P **P** **07 48 33.7 +1.6**
BRAT Ballarat 45.91 161 P **P** **07 48 33.7 +1.7**
CNB Canberra Magne 46.04 154 P **P** **07 48 34.3 +1.0**
comp=Z,39nm,0.9s
CNB Canberra Magne 46.04 154 P **P** **07 48 34.3 +1.0**
TOO Toolangi 46.46 159 P **P** **07 48 37.6 +1.0**
comp=Z,16nm,1.1s
TOO Toolangi 46.46 159 P **P** **07 48 37.5 +1.0**
TOO Toolangi 46.46 159 P **P** **07 48 37.5 +1.0**
TOO pmax pmax
comp=Z,22nm,1.3s
CIT Chita 47.49 349 *e*P **P** **07 48 46.2 +1.9**
CIT pmax pmax
comp=Z,85nm,2.3s
DZM Mont Dzumac 47.82 127 *e*P **P** **07 48 47.0 -0.4**
comp=Z,46nm,0.8s
DZM *e*S **S** **07 55 34.3 -4.0**
comp=Z,102nm,27.5s
DZM *e*SS **SS** **07 59 04.7 -3.4**
comp=Z,162nm,25.6s
DZM *e*LR LR 08 02 27.5
comp=Z,847nm,34.9s
DZM Mont Dzumac 47.82 127 **P** **07 48 46.8 -0.6**
DZM IAmb IAmb 07 48 49.5
comp=Z,26nm,0.9s
DZM Mont Dzumac 47.82 127 LR LR 08 08 34.0
comp=Z,140nm,21.6s,baz=351,slow=36
DZM Mont Dzumac 47.82 127 P **P** **07 48 48.0 +0.6**
DZM Mont Dzumac 47.82 127 P **P** **07 48 48.0 +0.6**
ONTNC Ouen Toro 47.95 127 P **P** **07 48 47.2 -1.0**
ONTNC IAmb IAmb 07 49 02.6
comp=Z,28nm,0.9s
ZEA Zeya 47.99 1 *e*P **P** **07 48 48.5 +0.4**
ZEA *e* 07 59 08.6
ZEA pmax pmax
comp=Z,20nm,1.1s
YATNC Mamie plateau, 48.17 126 P **P** **07 48 51.0 +1.0**
HYB Hyderabad 48.28 288 *e*P **P** **07 48 50.8 -0.1**
ZAK Zakamensk 48.69 340 *e*P **P** **07 48 53.6 -0.1**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
WMQ Urumqi 51.07 324 *e*P **P** **07 49 10.8 -1.0**
WMQ pmax pmax
comp=Z,24nm,0.7s
WMQ LR LR
comp=Z,370nm,21.5s
WMQ LR LR
comp=Z,330nm,16.1s
PEA0B Petropavlovsk- 53.80 23 P **P** **07 49 32.1 +0.4**
PEA0B Petropavlovsk- 53.80 23 P **P** **07 49 32.1 +0.4**
PEA0B pmax pmax
comp=Z,28nm,0.9s
PETK Petropavlovsk- 53.80 23 P **P** **07 49 32.0 +0.3**
comp=Z,15nm,0.8s,baz=164,slow=2.8,SNR=15
comp=Z,15nm,0.8s
PET Petropavlovsk 54.11 23 P **P** **07 49 33.4 -0.5**
PET IAmb IAmb 07 49 36.2
comp=Z,18nm,0.8s
PET Petropavlovsk 54.11 23 P **P** **07 49 34.2 +0.3**
PET Petropavlovsk 54.11 23 *e*P **P** **07 49 34.1 +0.2**
PET *e*S **S** **07 57 07.0 +3.0**
PET pmax pmax
comp=Z,13nm,0.8s
PET pmax pmax
comp=Z,100nm,14.4s
PET MLR MLR
comp=Z,100nm,17.0s
PET MLR MLR
comp=Z,200nm,14.0s
PET Petropavlovsk 54.11 23 P **P** **07 49 33.8 -0.1**
comp=Z,31nm,1.2s
ZSN Zaisan 54.82 327 *e*P **P** **07 49 38.6 -0.7**
ZSN Zaisan 54.82 327 *e*P **P** **07 49 38.5 -0.7**
SHLS Shalkode 55.77 320 *e*P **P** **07 49 43.7 -2.6**
SHLS Shalkode 55.77 320 *e*P **P** **07 49 43.6 -2.6**
PDGK Podgornoye 55.83 320 P **P** **07 49 45.1 -1.6**
MK31 Makanchi Array 55.89 325 P **P** **07 49 46.5 -0.5**
MK31 IAmb IAmb 07 50 10.6
comp=Z,12nm,0.8s
MK31 Makanchi Array 55.89 325 P **P** **07 49 46.5 -0.5**
MK31 pmax pmax
comp=Z,13nm,0.8s
MKAR Makanchi Array 55.89 325 P **P** **07 49 46.3 -0.7**
comp=Z,12nm,0.5s,baz=121,slow=8.4,SNR=155
MKAR PcP **PcP** **07 50 45.1 +0.3**
comp=Z,13nm,0.6s,baz=115,slow=4.5,SNR=5.2
MKAR ScP **ScP** **07 54 36.2 -0.2**
comp=Z,3.0nm,0.8s,baz=134,slow=5.2,SNR=4.7
comp=Z,12nm,0.5s
MKAR Makanchi Array 55.89 325 *i*P **P** **07 49 46.2 -0.8**
MKAR pmax pmax
comp=Z,12nm,0.5s
UZB Uzynbulak 56.05 319 *e*P **P** **07 49 47.6 -0.8**
UZB Uzynbulak 56.05 319 *e*P **P** **07 49 47.5 -0.8**
MAKZ Makanchi 56.08 325 **P** **07 49 47.7 -0.6**
MAKZ IAmb IAmb 07 49 58.6
comp=Z,24nm,1.1s
MAKZ Makanchi 56.08 325 P **P** **07 49 47.7 -0.6**
MAKZ pmax pmax
comp=Z,25nm,1.1s
MAKZ Makanchi 56.08 325 P **P** **07 49 47.4 -0.9**
PRZ Przheval'sk 56.15 318 P **P** **07 49 49.4 +0.3**
PRZ IAmb IAmb 07 50 20.9
comp=Z,20nm,0.8s
PRZ Przheval'sk 56.15 318 P **P** **07 49 49.4 +0.3**
PRZ pmax pmax
comp=Z,20nm,0.8s
TARG Taragay, Kyrgy 56.21 317 **P** **07 49 49.9 +0.1**
TARG Taragay, Kyrgy 56.21 317 P **P** **07 49 49.9 +0.1**
TARG pmax pmax
comp=Z,9.0nm,0.7s
YAK Yakutsk 56.35 2 *e*P **P** **07 49 51.2 +1.3**
YAK *e**PP **pP** **07 50 11.2 +1.3**
YAK *e*S **S** **07 57 38.4 +4.7**
YAK *e*SS **SS** **08 01 29.8 +8.0**
YAK pmax pmax
comp=Z,60nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=N,20nm,0.9s
YAK smax smax
comp=N,183nm,3.0s
YAK smax smax
comp=E,101nm,2.2s
SATY Saty 56.41 319 *e*P **P** **07 49 50.2 -0.7**
comp=E,6.7nm,0.6s
SATY Saty 56.41 319 *e*P **P** **07 49 50.1 -0.7**
SATY pmax pmax
comp=Z,7.0nm,0.6s
KPKS Kokpek 56.41 320 *e*P **P** **07 49 49.9 -0.9**
KPKS Kokpek 56.41 320 *e*P **P** **07 49 49.9 -0.9**
KSH Kashi 56.56 314 P **P** **07 49 53.0 +1.0**
KSH sP sP 07 50 23.0 +1.2
KSH pmax pmax
comp=Z,9.0nm,0.4s
NIL Nilore 56.61 307 **P** **07 49 51.8 -0.5**
NIL Nilore 56.61 307 P **P** **07 49 51.8 -0.5**
NIL pmax pmax
comp=Z,49nm,0.9s
KDJ Kajisay 56.80 318 **P** **07 49 53.1 -0.6**
KDJ Kajisay 56.80 318 P **P** **07 49 53.1 -0.6**
KDJ pmax pmax
comp=Z,15nm,0.6s
MDOK Medeo 57.34 319 *e*P **P** **07 49 56.9 -0.6**
MDOK Medeo 57.34 319 *e*P **P** **07 49 56.9 -0.6**
TNSS Tian-Shan 57.35 319 *e*P **P** **07 49 56.6 -1.2**
TNSS Tian-Shan 57.35 319 *e*P **P** **07 49 56.6 -1.2**
BOOM Boomskoye usch 57.79 318 P **P** **07 50 00.1 -0.6**
BOOM IAmb IAmb 07 50 57.2
comp=Z,11nm,0.6s
BOOM Boomskoye usch 57.79 318 P **P** **07 50 00.1 -0.6**
BOOM pmax pmax
comp=Z,11nm,0.6s
ZAA0 Zalesovo Array 58.82 333 P **P** **07 50 06.7 -0.7**
ZALV Zalesovo Beam 58.82 333 P **P** **07 50 06.4 -1.0**
comp=Z,14nm,0.5s,baz=135,slow=6.5,SNR=36
ZALV PcP **PcP** **07 50 57.6 +1.5**
comp=Z,4.9nm,0.5s,baz=111,slow=3.3,SNR=3.8
ZALV ScP **ScP** **07 54 48.7 -0.5**
comp=Z,0.4nm,0.3s,baz=124,slow=48,SNR=1.8
ZALV PKP2bc 08 19 53.5
comp=Z,1.2nm,0.7s,baz=306,slow=5.1,SNR=4.8
comp=Z,14nm,0.5s
ZALV Zalesovo Beam 58.82 333 *i*P **P** **07 50 06.0 -1.4**
ZALV pmax pmax
comp=Z,14nm,0.5s
AAK Ala-Archa 58.82 317 P **P** **07 50 07.0 -0.8**
AAK Ala-Archa 58.82 317 *i*P **P** **07 50 07.9 +0.1**
AAK pmax pmax
comp=Z,26nm,0.6s
SGDS Sogindy 59.06 318 *e*P **P** **07 50 08.3 -1.1**
ARSB Arslanbob 59.36 315 P **P** **07 50 10.8 -0.8**
ARSB IAmb IAmb 07 50 15.4
comp=Z,7.9nm,0.6s
ARSB Arslanbob 59.36 315 P **P** **07 50 10.8 -0.8**
ARSB pmax pmax
comp=Z,8.0nm,0.6s
DRK Karamyk 59.56 313 P **P** **07 50 12.7 -0.5**
DRK Karamyk 59.56 313 P **P** **07 50 12.7 -0.5**
DRK pmax pmax
comp=Z,27nm,0.7s
KURBB Kurchatov Arra 60.05 327 P **P** **07 50 15.2 -0.7**
comp=Z,34nm,0.6s,baz=125,slow=6.9,SNR=111
KURBB PKPPKP **P'P'df** **08 19 35.3 -5.7**
comp=Z,0.6nm,0.7s,baz=258,slow=1.8,SNR=6.0
comp=Z,34nm,0.6s
KURBB Kurchatov Arra 60.05 327 P **P** **07 50 14.5 -1.4**
KURK Kurchatov 60.05 327 **P** **07 50 15.0 -0.8**
KURK Kurchatov 60.05 327*ce*P **P** **07 50 15.1 -0.8**
KURK pmax pmax
comp=Z,32nm,0.5s
KURK Kurchatov 60.05 327 P **P** **07 50 15.1 -0.8**
KURK pP **pP** **07 50 33.8 -3.2**
KBL Kabul 60.21 307 P **P** **07 50 16.2 -1.4**
KBL IAmb IAmb 07 50 52.7
comp=Z,15nm,0.8s
KBL Kabul 60.21 307 P **P** **07 50 16.2 -1.4**
KBL pmax pmax
comp=Z,15nm,0.8s
ARK Arkit 60.25 315 P **P** **07 50 17.3 -0.3**
ARK pmax pmax
comp=Z,22nm,0.8s
SEY Seymchan 60.27 13 LR LR 08 15 48.4
comp=Z,75nm,20.7s,baz=191,slow=35
SEY Seymchan 60.27 13 *i*P **P** **07 50 17.5 +0.3**
SEY pmax pmax
comp=Z,13nm,0.9s
GAR Garm 60.49 312 P **P** **07 50 18.3 -1.1**
TRKS Terek-Say 60.73 315 P **P** **07 50 20.0 -0.9**
TRKS pmax pmax
comp=Z,13nm,0.6s
DZA Taraz 61.08 316 *e*P **P** **07 50 22.3 -0.9**
comp=Z,6.5nm,0.6s
DZA Taraz 61.08 316 *e*P **P** **07 50 22.2 -0.9**
DZA pmax pmax
comp=Z,7.0nm,0.6s
CHGR Chuyangaron 61.25 311 **P** **07 50 23.9 -0.5**
CHGR Chuyangaron 61.25 311 P **P** **07 50 24.0 -0.5**
CHGR pmax pmax
comp=Z,27nm,0.7s
SIMJ Simiganj 61.36 311 **P** **07 50 23.9 -1.4**
SIMJ IAmb IAmb 07 50 59.4
comp=Z,10nm,0.8s
KK31 Karatay Array 61.71 316 P **P** **07 50 26.1 -1.3**
KK31 IAmb IAmb 07 50 32.0
comp=Z,10nm,0.7s
KK31 Karatay Array 61.71 316 P **P** **07 50 26.1 -1.3**
KK31 pmax pmax
comp=Z,11nm,0.7s
IUG Iuzhnay 61.72 315 *e*P **P** **07 50 26.9 -0.6**
comp=Z,4.8nm,0.5s
IUG Iuzhnay 61.72 315 *e*P **P** **07 50 26.9 -0.6**
IUG pmax pmax
comp=Z,5.0nm,0.5s
CHM Chimkent 62.08 315 *e*P **P** **07 50 28.8 -1.0**
comp=Z,8.0nm,0.6s
CHM Chimkent 62.08 315 *e*P **P** **07 50 28.8 -1.0**
CHM pmax pmax

comp=Z,8.0nm,0.6s
BRLS **Borolday** 62.15 316 *e*P **P** 07 50 29.4 -0.9
BRLS **Borolday** 62.15 316 *e*P **P** 07 50 29.4 -0.9
BRZS **Berezniki** 63.03 324 *e*P **P** 07 50 35.8 -0.3
BRZS **Berezniki** 63.03 324 *e*P **P** 07 50 35.7 -0.3
URZ **Urewera** 64.07 137 LR LR 08 18 06.7
comp=Z,143nm,20.8s,baz=296,slow=35
BKZ **Black Stump Fm** 64.13 139 P **P** 07 50 44.1 +0.6
BKZ IAmb IAmb 07 50 48.8
comp=Z,19nm,0.8s
BKZ **Black Stump Fm** 64.13 139 P **P** 07 50 44.2 +0.7
KIWB **Kanaga Island** 65.29 35 P **P** 07 50 50.4 -0.3
ADK **Adak** 65.56 35 P **P** 07 50 52.5 0.0
ADK **Adak** 65.56 35 P **P** 07 50 52.5 0.0
ADK pmax pmax
comp=Z,34nm,0.9s
BVAR **Borovoye Array** 65.63 327 P **P** 07 50 52.2 -0.7
comp=Z,23nm,0.6s,baz=50,slow=5.3,SNR=32
BVAR LR LR 08 20 09.8
comp=Z,73nm,19.6s,baz=131,slow=36
comp=Z,23nm,0.6s
BORK **Borovoye** 65.68 327 *ce*P **P** 07 50 52.6 -0.6
BORK pmax pmax
comp=Z,55nm,1.0s
TIXI **Tiksi** 65.98 1 **P** 07 50 54.8 0.0
TIXI IAmb IAmb 07 51 17.4
comp=Z,19nm,0.8s
TIXI **Tiksi** 65.98 1 *ce*P **P** 07 50 55.4 +0.6
TIXI pmax pmax
comp=Z,56nm,1.8s
TIXI **Tiksi** 65.98 1 P **P** 07 50 54.5 -0.3
ATKA **Atka Island** 67.11 35 **P** 07 51 02.0 -0.3
ATKA **Atka Island** 67.11 35 P **P** 07 51 02.0 -0.3
NIKH **Nikolski High** 70.43 35 P **P** 07 51 22.9 -0.1
baz=253
AB31 **Akbulak array** 70.56 320 P **P** 07 51 22.9 -1.0
AB31 **Akbulak array** 70.56 320 P **P** 07 51 24.7 +0.9
SPIA **Saint Paul Isl** 71.02 31 P **P** 07 51 26.2 -0.2
baz=250
P08K **Saint George I** 71.19 32 P **P** 07 51 27.5 0.0
baz=251
UNV **Unalaska Valle** 72.03 35 P **P** 07 51 32.7 +0.1
baz=254
AKTO **Aktyubinsk** 72.05 321 P **P** 07 51 31.8 -1.0
comp=Z,6.5nm,0.6s,baz=101,slow=6.6,SNR=28
comp=Z,6.5nm,0.6s
SVE **Sverdlovsk** 72.25 328 *e*P **P** 07 51 33.6 -0.3
SVE pmax pmax
comp=Z,38nm,0.5s
CASY **Casey** 72.64 187 **P** 07 51 37.0 +1.1
DRV **Dumont d'Urvil** 72.75 174 P **P** 07 51 36.6 +0.1
GAMB **Gambell** 72.79 24 P **P** 07 51 37.5 +0.6
baz=247
ARTI **Arti** 73.32 327 **P** 07 51 39.0 -1.2
ARTI **Arti** 73.32 327 P **P** 07 51 39.4 -0.8
comp=Z,23nm,0.5s,baz=106,slow=3.0,SNR=15
comp=Z,23nm,0.5s
ARTI **Arti** 73.32 327 *d i*P **P** 07 51 39.1 -1.2
ARTI *PP **pP** 07 52 01.1 -0.7
ARTI S **S** 08 01 00.3 -1.9
ARTI *SS **ScS** 08 01 41.7 +0.4
ARTI pmax pmax
comp=Z,19nm,0.6s
ARTI **Arti** 73.32 327 P **P** 07 51 38.6 -1.6
FALS **False Pass** 74.03 34 P **P** 07 51 44.4 0.0
baz=257
M11K **Mekoryuk** 74.04 28 P **P** 07 51 44.4 0.0
baz=253
TNA **Tin City** 74.97 23 P **P** 07 51 49.7 +0.1
baz=250
S12K **Black Hills** 74.98 34 P **P** 07 51 49.7 -0.2
baz=258
K13K **Kusilvak Mount** 75.21 27 P **P** 07 51 51.5 +0.4
K13K IAmb IAmb 07 51 53.1
comp=Z,20nm,1.1s
K13K **Kusilvak Mount** 75.21 27 P **P** 07 51 51.3 +0.2
baz=254
M13K **Dall Lake** 75.41 29 P **P** 07 51 52.8 +0.6
baz=255
F14K **Arctic Creek** 75.57 23 P **P** 07 51 53.5 +0.4
baz=251
ANM **Nome** 75.67 24 P **P** 07 51 54.0 +0.4
baz=252
SDPT **Sand Point** 75.79 34 P **P** 07 51 55.4 +0.9
baz=259
J14K **Nanvaranak Lak** 75.93 26 P **P** 07 51 55.7 +0.6
baz=254
L14K **Kuka Creek** 75.96 28 IAmb IAmb 07 51 57.5
comp=Z,21nm,1.1s
L14K **Kuka Creek** 75.96 28 P **P** 07 51 55.5 +0.1
baz=256
N14K **Kuskokwak Cree** 76.10 30 P **P** 07 51 56.5 +0.3
baz=257
M14K **Bethel** 76.16 29 IAmb IAmb 07 52 30.8
comp=Z,18nm,0.8s
M14K **Bethel** 76.16 29 P **P** 07 51 57.4 +0.9
baz=256
O14K **Tigyukauivet M** 76.16 30 P **P** 07 51 56.9 +0.4
baz=257
CHNA **Chernabura Isl** 76.19 35 P **P** 07 51 56.6 -0.2
baz=260
F15K **North Star Dit** 76.30 23 P **P** 07 51 57.6 +0.4
baz=253
G15K **Niukluk** 76.34 24 P **P** 07 51 57.5 +0.1
baz=254
S14K **Fog Glacier** 76.47 33 P **P** 07 51 58.0 -0.5
baz=260
L15K **Ungalak Mounta** 76.60 28 P **P** 07 51 59.2 +0.2
baz=257
K15K **Wolf Creek Mou** 76.72 27 P **P** 07 51 60.0 +0.3
baz=256
M15K **Kasigluk River** 76.76 29 P **P** 07 52 00.1 +0.2
baz=258
C16K **Lisburne Hills** 76.83 21 P **P** 07 52 00.6 +0.5
baz=252
O15K **Ungalikthiuk R** 76.87 30 P **P** 07 52 00.9 +0.3
baz=259
N15K **Kwethluk River** 76.94 29 P **P** 07 52 00.5 -0.5
baz=258
H16K **Elim** 76.99 25 P **P** 07 52 00.9 -0.2
baz=255
RAR **Rarotonga** 76.99 113 LR LR 08 22 31.7
comp=Z,43nm,21.0s,baz=270,slow=33
CHGN **Chignik** 77.10 34 P **P** 07 52 01.8 0.0
baz=261
G16K **Koyuk River** 77.13 24 P **P** 07 52 02.2 +0.3
baz=255
J16K **Anvik River** 77.36 26 P **P** 07 52 03.1 -0.1
baz=257
I17K **Unalakleet** 77.46 26 P **P** 07 52 04.0 +0.2
baz=257
D17K **Noatak River** 77.47 22 P **P** 07 52 03.7 0.0
baz=254
L16K **Owhat River** 77.54 28 IAmb IAmb 07 52 06.0
comp=Z,31nm,1.2s
L16K **Owhat River** 77.54 28 P **P** 07 52 04.1 -0.2
baz=258
RDOG **Red Dog Mine** 77.64 21 P **P** 07 52 04.5 -0.2
baz=254
N16K **Nishlik Lake** 77.64 29 P **P** 07 52 04.5 -0.4
baz=259
M16K **Timber Creek** 77.65 29 P **P** 07 52 04.8 -0.1
baz=259
C17K **DeLong Mountai** 77.66 21 P **P** 07 52 04.5 -0.3
baz=254
R16K **Pilot Point** 77.76 32 P **P** 07 52 05.4 -0.1
baz=261
E17K **Hotham Inlet** 77.78 22 P **P** 07 52 05.5 +0.1
baz=255
P16K **Nushagak River** 77.78 31 P **P** 07 52 05.3 -0.3
baz=260
O16K **Kokwok River B** 77.82 30 P **P** 07 52 05.9 0.0
baz=260
F17K **Baldwin Pennin** 77.84 23 P **P** 07 52 06.1 +0.3
baz=256
G17K **Kiwalik Mounta** 77.85 24 P **P** 07 52 06.3 +0.3
baz=257
AKT **Akhty** 77.89 311 *e*P **P** 07 52 06.1 -0.7
AKT *e* 07 52 14.9
AKT *e* 07 55 03.2
AKT *e*PPP PPP 07 56 48.8
AKT pmax pmax
comp=Z,16nm,0.9s
H17K **Granite Mounta** 78.03 25 IAmb IAmb 07 52 09.1
comp=Z,30nm,1.4s
H17K **Granite Mounta** 78.03 25 P **P** 07 52 07.1 +0.2
baz=257
J17K **VABM Dome** 78.06 26 P **P** 07 52 07.9 +0.7
baz=258
L17K **Donlin** 78.17 28 P **P** 07 52 08.3 +0.5
baz=259
K17K **Iditarod** 78.28 27 IAmb IAmb 07 52 29.7
comp=Z,20nm,0.9s
K17K **Iditarod** 78.28 27 P **P** 07 52 08.5 +0.2
baz=259
E18K **Tukpahlearik C** 78.32 22 IAmb IAmb 07 52 42.7
comp=Z,20nm,1.0s
E18K **Tukpahlearik C** 78.32 22 P **P** 07 52 08.9 +0.4
baz=256
B18K **Kokolik River** 78.38 20 P **P** 07 52 09.8 +1.0
baz=255
C18K **Utukok River** 78.41 21 P **P** 07 52 09.2 +0.2
baz=255
Q16K **King Salmon** 78.41 31 P **P** 07 52 09.4 +0.3
baz=262
R17L **Mt. Peulik Vol** 78.41 32 P **P** 07 52 09.7 +0.5
baz=262
N17K **Nushagak Hills** 78.42 29 P **P** 07 52 09.3 +0.1
baz=261
M17K **Holitna River** 78.44 28 P **P** 07 52 09.2 -0.1
baz=260
F18K **Selawik** 78.50 23 P **P** 07 52 09.7 +0.3
baz=257
KIRV **Kirov** 78.51 329 LR LR 08 29 02.0
comp=Z,113nm,21.6s,baz=99,slow=37
KIRV **Kirov** 78.51 329 *ce*P **P** 07 52 09.4 -0.2
P17K **Kvichak River** 78.59 31 P **P** 07 52 09.4 -0.7
baz=262
H18K **Honhosa River** 78.71 25 P **P** 07 52 10.8 +0.1
baz=259
G18K **Tagagawik** 78.74 24 P **P** 07 52 11.1 +0.2
baz=258
Q17K **Contact Creek** 78.75 32 P **P** 07 52 10.7 -0.4
baz=262
BELG **Belogornoye** 78.79 322 *i* P **P** 07 52 10.2 -1.1
BELG pmax pmax
comp=Z,10.0nm,0.8s
A19K **Wainwright** 78.84 19 P **P** 07 52 11.7 +0.5
baz=255
L18K **Granite Mounta** 78.93 28 P **P** 07 52 11.8 -0.1
baz=261
N18K **Kilae Creek** 79.08 29 P **P** 07 52 13.1 +0.3
baz=262
C19K **Lookout Ridge** 79.08 21 IAmb IAmb 07 52 15.9
comp=Z,52nm,1.4s
C19K **Lookout Ridge** 79.08 21 P **P** 07 52 13.1 +0.4
baz=257
J18K **Innoko River** 79.12 26 P **P** 07 52 13.3 +0.3
baz=261
M18K **Stony River** 79.22 28 P **P** 07 52 13.8 +0.2
baz=262
Q18K **Katmai Hardscr** 79.26 31 P **P** 07 52 13.9 0.0
baz=263
GCSA **Galena City Sc** 79.26 25 P **P** 07 52 14.0 +0.3
baz=260
F19K **Shaleruckik Mo** 79.27 23 P **P** 07 52 13.6 -0.1
baz=259
O18K **Koktuh Hills** 79.30 30 P **P** 07 52 13.9 -0.2
baz=263
R18K **Karluk** 79.42 33 P **P** 07 52 14.6 -0.1
baz=264
D19K **Kuna River** 79.47 21 IAmb IAmb 07 52 50.3
comp=Z,19nm,0.8s
D19K **Kuna River** 79.47 21 P **P** 07 52 14.9 +0.1
baz=258
RAYN **Ar Rayn** 79.54 293 P **P** 07 52 14.8 -1.3
RAYN **Ar Rayn** 79.54 293 P **P** 07 52 14.8 -1.3
RAYN pmax pmax
comp=Z,9.0nm,0.6s
H19K **Roundabout Mou** 79.57 24 IAmb IAmb 07 52 18.2
comp=Z,33nm,1.3s
H19K **Roundabout Mou** 79.57 24 P **P** 07 52 16.1 +0.8
baz=260,SNR=10
E19K **Redstone River** 79.60 22 IAmb IAmb 07 52 44.9
comp=Z,24nm,0.9s
E19K **Redstone River** 79.60 22 P **P** 07 52 16.3 +0.8
baz=259
J19K **Poorman** 79.68 26 P **P** 07 52 16.2 +0.2
baz=262
L19K **White Mountain** 79.78 28 P **P** 07 52 16.1 -0.5
baz=262
N19K **Bonanza Creek** 79.78 29 P **P** 07 52 16.4 -0.3
baz=263
O19K **Port Alsworth** 79.79 30 P **P** 07 52 16.6 0.0
baz=263
M19K **Big River Lodg** 79.96 28 P **P** 07 52 17.6 +0.1
baz=263
Q19K **Cape Douglas,** 79.99 31 P **P** 07 52 18.1 +0.3
baz=264
OHAK **Old Harbor** 80.02 33 P **P** 07 52 18.1 +0.2
baz=265
D20K **Etivluk River** 80.06 21 IAmb IAmb 07 52 52.5
comp=Z,27nm,1.1s
D20K **Etivluk River** 80.06 21 P **P** 07 52 18.6 +0.6
baz=260
B20K **Meade River** 80.10 20 P **P** 07 52 18.4 +0.3
baz=259
F20K **Avaraart Lake** 80.11 23 P **P** 07 52 19.1 +0.9
baz=261,SNR=7.6
GNI **Garni** 80.11 310 P **P** 07 52 19.1 +0.1
comp=Z,3.3nm,0.4s,baz=98,slow=15,SNR=1.4
comp=Z,3.3nm,0.4s
E20K **Nigu River** 80.13 22 P **P** 07 52 18.9 +0.5
baz=260
H20K **Anotleneega Mo** 80.21 25 P **P** 07 52 19.1 +0.2
baz=262,SNR=9.2
L20K **Farewell, AK** 80.26 28 P **P** 07 52 19.0 -0.2
baz=263
P19K **Oil Pt** 80.28 31 P **P** 07 52 19.5 +0.2
baz=264
K20K **Telida** 80.28 27 P **P** 07 52 19.2 0.0
baz=263
I20K **Naaghedeneel** 80.28 25 P **P** 07 52 19.6 +0.4
baz=262
J20K **Nowinta River** 80.35 26 IAmb IAmb 07 52 23.4
comp=Z,42nm,1.7s
J20K **Nowinta River** 80.35 26 P **P** 07 52 19.8 +0.2
baz=263,SNR=9.0
KDAK **Kodiak Island** 80.44 32 LR LR 08 27 12.0
comp=Z,66nm,19.1s,baz=241,slow=35
KDAK **Kodiak Island** 80.44 32 P **P** 07 52 21.0 +0.8
baz=265
A21K **Barrow** 80.53 19 P **P** 07 52 21.0 +0.7
baz=259
M20K **Styx River** 80.55 28 P **P** 07 52 21.4 +0.6
baz=264,SNR=6.5
CCD **Concordia, Ant** 80.60 181 P **P** 07 52 22.3 +1.1
CCD pP **pP** 07 52 41.8 -0.5
Q20K **Shuyak Island** 80.61 32 P **P** 07 52 21.7 +0.6
baz=265
TRLG **Trialeti** 80.62 311 P **P** 07 52 21.1 -0.6
O20K **Slope Mountain** 80.62 30 P **P** 07 52 21.4 +0.2
baz=265
C21K **Knifeblade Rid** 80.78 21 P **P** 07 52 22.5 +0.7
baz=261
G21K **Allakaket** 80.90 24 P **P** 07 52 23.0 +0.5
baz=263
B21K **Ikpikpuk River** 80.91 20 IAmb IAmb 07 52 29.0
comp=Z,26nm,0.8s
B21K **Ikpikpuk River** 80.91 20 P **P** 07 52 22.3 -0.2
baz=262,SNR=9.6
SPCR **Spurr Chakacha** 80.92 29 P **P** 07 52 22.9 0.0
baz=265
E21K **Killik River** 80.97 22 IAmb IAmb 07 52 38.6
comp=Z,19nm,0.8s
E21K **Killik River** 80.97 22 P **P** 07 52 23.5 +0.6
baz=262
F21K **Alatna River** 81.00 23 P **P** 07 52 23.3 +0.2
baz=263,SNR=5.4
A22K **Sinclair Lake** 81.00 19 P **P** 07 52 23.4 +0.5
baz=261
HOM **Homer** 81.08 31 P **P** 07 52 23.3 -0.2
baz=266
PPLA **Purkeypile** 81.08 27 P **P** 07 52 23.9 +0.2
baz=265
H21K **Melozitna Rive** 81.09 24 P **P** 07 52 23.4 -0.1
baz=264
CHUM **Lake Minchumin** 81.12 26 P **P** 07 52 23.3 -0.3
baz=264,SNR=7.1
SKT **Skwentna** 81.31 28 IAmb IAmb 07 52 51.5
comp=Z,22nm,1.0s
SKT **Skwentna** 81.31 28 P **P** 07 52 24.3 -0.4
baz=266,SNR=6.7
I21K **Tanana** 81.38 25 IAmb IAmb 07 52 32.2
comp=Z,21nm,0.8s
I21K **Tanana** 81.38 25 P **P** 07 52 25.2 +0.1
baz=265
CAPN **Captain Cook N** 81.40 29 P **P** 07 52 24.9 -0.3
baz=266
B22K **Teshekpuk Lake** 81.42 20 P **P** 07 52 24.8 -0.3
baz=262
D22K **Ayikyak River** 81.49 21 IAmb IAmb 07 52 31.4
comp=Z,55nm,1.8s
D22K **Ayikyak River** 81.49 21 P **P** 07 52 25.6 -0.1
baz=263
KBZ **Khabaz** 81.53 313 P **P** 07 52 26.3 +0.1
comp=Z,7.2nm,0.8s,baz=144,slow=3.3,SNR=11
comp=Z,7.2nm,0.8s
KBZ **Khabaz** 81.53 313 *ce*P **P** 07 52 26.0 -0.2
F22K **John River** 81.53 23 P **P** 07 52 25.5 -0.3
baz=264
BRSE **Bradley Lake S** 81.54 31 P **P** 07 52 25.6 -0.5
baz=267
SUA **Susitna One** 81.65 29 P **P** 07 52 26.2 -0.5
baz=266
KVAR **Kislovodsk Arr** 81.67 313 P **P** 07 52 27.1 -0.2
comp=Z,6.0nm,1.0s
comp=Z,6.0nm,1.0s
KIV **Kislovodsk** 81.68 313 P **P** 07 52 26.6 -0.7
KIV IAmb IAmb 07 52 34.1
comp=Z,21nm,0.7s
KIV **Kislovodsk** 81.68 313 *e*P **P** 07 52 27.7 +0.5
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,77nm,19.0s
KIV **Kislovodsk** 81.68 313 P **P** 07 52 27.3 +0.1
comp=Z,16nm,0.7s
H22K **Ishtalitna Cre** 81.70 24 P **P** 07 52 27.1 +0.3
baz=265,SNR=14
BPAW **Bear Paw Mtn.** 81.72 26 IAmb IAmb 07 53 04.6
baz=264,SNR=17
BPAW **Bear Paw Mtn.** 81.72 26 P **P** 07 52 26.9 0.0
baz=266,SNR=16
ABPO **Ambohimpanom** 81.72 250 P **P** 07 52 26.4 -1.6
ABPO **Ambohimpanom** 81.72 250 P **P** 07 52 26.4 -1.6
ABPO pmax pmax
comp=Z,10.0nm,0.8s
E22K **Anaktuvuk Pass** 81.73 22 IAmb IAmb 07 52 38.8
comp=Z,15nm,0.8s
E22K **Anaktuvuk Pass** 81.73 22 P **P** 07 52 27.3 +0.3
baz=264,SNR=17
G22K **Bettles** 81.74 23 P **P** 07 52 26.8 -0.1
baz=265
SLKM **Skilak Lake** 81.84 30 IAmb IAmb 07 53 09.9
comp=Z,31nm,1.0s
MLY **Manley** 81.89 25 IAmb IAmb 07 52 34.4
comp=Z,24nm,0.8s
MLY **Manley** 81.89 25 P **P** 07 52 27.7 -0.1
baz=266
CUT **Chulitna** 81.93 28 P **P** 07 52 27.7 -0.3
baz=267
M22K **Willow** 81.96 29 P **P** 07 52 28.0 -0.2
baz=267,SNR=6.4
TRF **Thorofare Moun** 81.98 27 IAmb IAmb 07 53 07.7
comp=Z,17nm,0.8s
TRF **Thorofare Moun** 81.98 27 P **P** 07 52 28.0 -0.5
baz=266,SNR=5.7
RC01 **Rabbit Creek A** 82.11 29 P **P** 07 52 28.5 -0.5
baz=267
GURO **Guroymak-BITLI** 82.21 308 IAmb IAmb 07 52 36.9
comp=Z,17nm,0.7s
SEW **Seward** 82.21 30 P **P** 07 52 29.0 -0.4
baz=268
D23K **Nanushuk River** 82.22 21 IAmb IAmb 07 52 32.2
comp=Z,30nm,1.2s
D23K **Nanushuk River** 82.22 21 P **P** 07 52 29.2 -0.2
baz=265
COLD **Coldfoot** 82.27 23 IAmb IAmb 07 52 36.1
comp=Z,24nm,0.7s
COLD **Coldfoot** 82.27 23 P **P** 07 52 30.2 +0.5
baz=266,SNR=17
G23K **Bananza Creek** 82.31 23 IAmb IAmb 07 52 36.4
comp=Z,16nm,0.7s
G23K **Bananza Creek** 82.31 23 P **P** 07 52 30.3 +0.4
baz=266,SNR=12
C23K **Itkillik River** 82.32 20 P **P** 07 52 30.2 +0.3
baz=265,SNR=20
VRH **Novokhopyorsk** 82.39 321 *e*P **P** 07 52 28.4 -2.2
VRH pmax pmax
comp=Z,20nm,0.8s
PMR **Palmer** 82.43 29 IAmb IAmb 07 52 59.8
comp=Z,24nm,1.0s
PMR **Palmer** 82.43 29 P **P** 07 52 30.5 -0.1
PMR **Palmer** 82.43 29 P **P** 07 52 30.5 -0.1
baz=268
H23K **Yukon River** 82.44 24 IAmb IAmb 07 52 36.9
comp=Z,15nm,0.7s
H23K **Yukon River** 82.44 24 P **P** 07 52 30.8 +0.2
baz=267
I23K **Minto, Yukon-K** 82.48 25 IAmb IAmb 07 52 53.5
comp=Z,15nm,0.8s
I23K **Minto, Yukon-K** 82.48 25 P **P** 07 52 31.0 +0.2
baz=267,SNR=16
E23K **Chandalar** 82.55 22 IAmb IAmb 07 53 03.2
comp=Z,16nm,0.8s
E23K **Chandalar** 82.55 22 P **P** 07 52 31.3 0.0
baz=266,SNR=13
NEA2 **Nenana** 82.58 26 P **P** 07 52 31.0 -0.4
baz=267
TOLK **Toolik Lake Re** 82.60 22 IAmb IAmb 07 52 38.1
comp=Z,21nm,0.8s
TOLK **Toolik Lake Re** 82.60 22 P **P** 07 52 31.2 -0.3
baz=266,SNR=14
MCK **McKinley** 82.60 27 IAmb IAmb 07 52 37.2
comp=Z,29nm,0.9s
MCK **McKinley** 82.60 27 P **P** 07 52 31.5 -0.1
baz=268,SNR=18
KNK **Knik Glacier** 82.74 29 IAmb IAmb 07 52 33.8
comp=Z,25nm,1.0s
KNK **Knik Glacier** 82.74 29 P **P** 07 52 31.9 -0.4
baz=268
WAT1 **Susitna Watana** 82.74 27 P **P** 07 52 31.8 -0.5
baz=268
PWL **Port Wells** 82.79 29 P **P** 07 52 32.1 -0.4
baz=268
SML **Sawmill** 82.81 28 IAmb IAmb 07 53 17.0
comp=Z,18nm,0.8s
SML **Sawmill** 82.81 28 P **P** 07 52 32.4 -0.3
baz=268
D24K **Happy Valley** 82.90 21 IAmb IAmb 07 52 49.6
comp=Z,25nm,0.7s
D24K **Happy Valley** 82.90 21 P **P** 07 52 33.1 +0.2
baz=267
E24K **Your Creek** 82.97 22 P **P** 07 52 32.9 -0.5
baz=268,SNR=7.8
C24K **Franklin Bluff** 82.97 20 IAmb IAmb 07 52 38.9
comp=Z,17nm,0.7s
C24K **Franklin Bluff** 82.97 20 P **P** 07 52 33.7 +0.4
baz=267
WRH **Wood River Hil** 83.00 26 IAmb IAmb 07 52 35.2
comp=Z,21nm,1.1s
LABN **Labinsk** 83.09 314 *e*P P 07 52 29.6 -4.8
LABN pmax pmax
comp=Z,26nm,0.5s
M23K **Glacier View** 83.10 29 P **P** 07 52 34.0 -0.2
baz=269,SNR=7.7
WAT6 **Susitna Watana** 83.11 28 P **P** 07 52 34.3 -0.1
baz=269,SNR=8.3
COLA **College** 83.11 25 P **P** 07 52 34.1 0.0
COLA IAmb IAmb 07 52 39.4
comp=Z,17nm,0.8s
COLA **College** 83.11 25 P **P** 07 52 34.3 +0.2
COLA **College** 83.11 25 P **P** 07 52 34.1 0.0
COLA pmax pmax
comp=Z,17nm,0.8s
COLA **College** 83.11 25 P **P** 07 52 34.1 0.0
baz=268
H24K **Noodor Dome** 83.13 24 IAmb IAmb 07 52 40.6
comp=Z,24nm,0.8s
H24K **Noodor Dome** 83.13 24 P **P** 07 52 34.4 +0.1
baz=268,SNR=30
F24K **Squaw Lake** 83.18 23 P **P** 07 52 34.5 0.0
baz=268,SNR=13
P23K **Montague Islan** 83.23 30 P **P** 07 52 34.7 -0.2
baz=269
ERBR **Yeremizino-Bor** 83.24 315 *e*P **P** 07 52 33.9 -1.3
ERBR pmax pmax
comp=Z,29nm,0.8s
DHY **Denali Highway** 83.29 27 P **P** 07 52 34.9 -0.3
baz=269
SCM **Sheep Creek Mo** 83.29 28 IAmb IAmb 07 52 37.5
comp=Z,46nm,1.3s

SCM	Sheep Creek Mo	83.29	28	P		P		07 52 35.1	-0.1
	baz=269								
POKR	Poker Plat Res	83.30	25	P		P		07 52 35.1	0.0
	baz=269								
G24K	Hadweenzic Riv	83.32	24	IAmb		IAmb		07 52 37.8	
	comp=Z,18nm,0.8s								
G24K	Hadweenzic Riv	83.32	24	P		P		07 52 35.4	+0.3
	baz=269,SNR=15								
GLI	Glacier Island	83.39	29	IAmb		IAmb		07 53 07.4	
	comp=Z,15nm,0.8s								
GLI	Glacier Island	83.39	29	P		P		07 52 36.1	+0.5
	baz=270,SNR=8.2								
HDA	Harding Lake	83.49	26	IAmb		IAmb		07 52 40.2	
	comp=Z,16nm,0.7s								
HDA	Harding Lake	83.49	26	P		P		07 52 36.2	+0.1
	baz=269,SNR=11								
ILAR	Eielson Array	83.53	26	P		P		07 52 35.1	-1.1
	comp=Z,4.1nm,0.6s,baz=250,slow=5.1,SNR=56								
ILAR				PKKPbc		PKKPbc		08 10 54.5	-2.4
	comp=Z,0.4nm,0.7s,baz=77,slow=1.1,SNR=5.6								
ILAR				LR		LR		08 29 14.8	
	comp=Z,52nm,20.0s,baz=241,slow=35								
	comp=Z,4.1nm,0.6s								
KLMR	Klimovskoe	83.67	331	*eP*		P		07 52 35.3	-1.7
KLMR				pmax		pmax			
	comp=Z,86nm,1.6s								
KLMR				MLR		MLR			
	comp=Z,357nm,18.0s								
FID	Port Fidalgo	83.69	30	IAmb		IAmb		07 53 20.3	
	comp=Z,19nm,0.8s								
D25K	Kavik River	83.78	21	IAmb		IAmb		07 52 40.5	
	comp=Z,37nm,1.4s								
D25K	Kavik River	83.78	21	P		P		07 52 38.0	+0.5
	baz=269,SNR=6.8								
M24K	Tolsona, Glenn	83.84	28	P		P		07 52 38.0	0.0
	baz=270								
SOC	Sochi	83.84	313	*eP*		P		07 52 34.4	-3.9
SOC				*e*				07 55 50.5	
SOC				*e*PPP		PPP		07 57 41.0	
SOC				*e*S		SKSac		08 02 47.4	-6.5
SOC				MLR		MLR			
	comp=Z,130nm,21.0s								
G25K	Bearman Lake	83.86	23	P		P		07 52 38.9	+1.0
	baz=270,SNR=17								
VORD	Divnogorie	83.92	321	*eP*		P		07 52 37.7	-0.8
VORD				pmax		pmax			
	comp=Z,10.0nm,0.8s								
VORR	Voronezh	83.96	321	*eP*		P		07 52 37.7	-1.0
VORR				pmax		pmax			
	comp=Z,20nm,0.8s								
KLU	Klutina	83.96	29	IAmb		IAmb		07 52 44.1	
	comp=Z,13nm,0.6s								
KLU	Klutina	83.96	29	P		P		07 52 38.7	+0.1
	baz=271,SNR=7.4								
H25L	Birch Creek	83.98	24	P		P		07 52 39.4	+0.9
	baz=270,SNR=15								
VSR	Storozhevoye	83.99	321	*eP*		P		07 52 36.2	-2.7
VSR				pmax		pmax			
	comp=Z,10.0nm,0.8s								
K24K	Donnelly Dome	84.01	26	P		P		07 52 38.9	+0.2
	baz=270								
F25K	Christian Rive	84.04	23	P		P		07 52 39.5	+0.6
	baz=270,SNR=14								
EYAK	Cordova Ski Ar	84.06	30	P		P		07 52 40.7	+1.7
EYAK	Cordova Ski Ar	84.06	30	P		P		07 52 39.3	+0.3
	baz=271								
E25K	Arctic Village	84.07	22	P		P		07 52 39.3	+0.3
	baz=270,SNR=18								
PRP	Porcupine Dome	84.10	25	P		P		07 52 40.4	+1.1
	baz=270,SNR=6.7								
LPSR	Galich'ya Gora	84.11	322	*eP*		P		07 52 37.5	-1.9
LPSR				pmax		pmax			
	comp=Z,40nm,0.8s								
PAX	Paxson	84.16	27	IAmb		IAmb		07 52 42.0	
	comp=Z,41nm,1.6s								
PAX	Paxson	84.16	27	P		P		07 52 39.5	-0.2
	baz=271,SNR=5.9								
J25K	Salcha River,	84.18	26	IAmb		IAmb		07 52 44.2	
	comp=Z,16nm,0.8s								
J25K	Salcha River,	84.18	26	P		P		07 52 39.5	-0.1
	baz=271,SNR=21								
C26K	Camden Bay	84.29	20	P		P		07 52 40.7	+0.7
	baz=271,SNR=6.2								
HARP	HAARP	84.31	28	P		P		07 52 40.3	0.0
	baz=271								
RIDG	Independent Ri	84.42	27	P		P		07 52 40.9	0.0
	baz=271								
N25K	Chitina, Valde	84.59	29	IAmb		IAmb		07 53 05.6	
	comp=Z,15nm,1.0s								
N25K	Chitina, Valde	84.59	29	P		P		07 52 41.7	-0.2
	baz=272,SNR=8.4								
BMRM	Bremner River	84.61	29	IAmb		IAmb		07 52 47.8	
	comp=Z,20nm,0.7s								
BMRM	Bremner River	84.61	29	P		P		07 52 41.7	-0.2
	baz=272,SNR=10								
F26K	Sheenjek River	84.61	23	IAmb		IAmb		07 52 45.4	
	comp=Z,52nm,1.9s								
F26K	Sheenjek River	84.61	23	P		P		07 52 42.3	+0.6
	baz=272,SNR=16								
C27K	Jago River	84.72	21	IAmb		IAmb		07 52 48.5	
	comp=Z,18nm,0.7s								
C27K	Jago River	84.72	21	P		P		07 52 42.7	+0.5
	baz=272,SNR=20								
KAIM	Kayak Island	84.73	30	P		P		07 52 42.8	+0.4
	baz=272								
MOS	Moscow	84.77	325	*eP*		P		07 52 42.1	-0.6
MOS				*e*				07 56 03.7	
MOS				pmax		pmax			
	comp=Z,43nm,0.6s								
G26K	Porcupine Rive	84.78	23	IAmb		IAmb		07 53 06.9	
	comp=Z,17nm,0.9s								
G26K	Porcupine Rive	84.78	23	P		P		07 52 43.3	+0.8
	baz=272,SNR=20								
SCRK	Sand Creek	84.80	26	P		P		07 52 42.9	0.0
	baz=272,SNR=9.5								
MENT	Mentasta	84.96	27	IAmb		IAmb		07 53 14.0	
	comp=Z,17nm,1.1s								
MENT	Mentasta	84.96	27	P		P		07 52 44.7	+1.1
J26L	Joseph Creek	84.96	26	IAmb		IAmb		07 52 49.2	
	comp=Z,14nm,0.8s								
J26L	Joseph Creek	84.96	26	P		P		07 52 43.4	-0.3
	baz=272,SNR=24								
GLB	Gilahina Butte	84.98	29	IAmb		IAmb		07 52 51.5	
	comp=Z,17nm,0.7s								
I26K	Coal Creek Min	85.10	25	IAmb		IAmb		07 52 49.8	
	comp=Z,19nm,0.8s								
I26K	Coal Creek Min	85.10	25	P		P		07 52 44.0	-0.2
	baz=273								
VRDI	Verde Repeater	85.16	29	IAmb		IAmb		07 53 08.2	
	comp=Z,15nm,1.0s								
VNDA	Vanda	85.30	173	P		P		07 52 45.2	+0.2
	comp=Z,14nm,0.8s,baz=313,slow=6.0,SNR=79								
VNDA				PKKPbc		PKKPbc		08 10 52.0	-1.5
	comp=Z,0.7nm,0.7s,baz=322,slow=3.6,SNR=4.7								
VNDA				LR		LR		08 30 53.6	
	comp=Z,108nm,19.5s,baz=334,slow=36								
	comp=Z,14nm,0.8s								
VNDA	Vanda	85.30	173	P		P		07 52 45.1	+0.2
VNDA				pP		pP		07 53 05.5	-1.3
M26K	Nabesna, AK	85.31	28	P		P		07 52 45.6	+0.2
	baz=273								
CRQM	Cirque	85.33	30	IAmb		IAmb		07 53 16.1	
	comp=Z,19nm,0.8s								
MCARA	McCarthy VSAT	85.36	29	IAmb		IAmb		07 53 28.1	
	comp=Z,18nm,0.8s								
MCARA	McCarthy VSAT	85.36	29	P		P		07 52 46.0	+0.5
	baz=273								
CRQE	Cirque	85.36	30	P		P		07 52 45.3	-0.4
	baz=273,SNR=8.9								
OBN	Obninsk	85.40	325	P		P		07 52 45.7	-0.1
	comp=Z,30nm,0.5s,baz=25,slow=8.3,SNR=4.5								
OBN				LR		LR		08 35 57.4	
	comp=Z,92nm,18.3s,baz=66,slow=39								
	comp=Z,30nm,0.5s								
OBN	Obninsk	85.40	325	*i* P		P		07 52 45.0	-0.8
OBN				*i*				07 56 06.9	
OBN				pmax		pmax			
	comp=Z,21nm,0.5s								
OBN	Obninsk	85.40	325	P		P		07 52 46.1	+0.3
	comp=Z,45nm,0.7s								
MAW	Mawson	85.42	200	P		P		07 52 46.1	+0.6
	comp=Z,14nm,0.8s,baz=64,slow=6.2,SNR=37								
MAW				LR		LR		08 29 22.3	
	comp=Z,38nm,18.2s,baz=58,slow=34								
	comp=Z,14nm,0.8s								
MAW	Mawson	85.42	200	P		P		07 52 46.2	+0.6
MAW				pmax		pmax			
	comp=Z,4.0nm,0.9s								
ANN	Anapa	85.42	314	*eP*		P		07 52 44.6	-1.6
ANN				pmax		pmax			
	comp=Z,42nm,0.6s								
TGL	Tana Glacier	85.49	30	IAmb		IAmb		07 52 52.1	
	comp=Z,16nm,0.8s								
E27K	Coleen River	85.55	22	IAmb		IAmb		07 52 52.5	
	comp=Z,13nm,0.7s								
E27K	Coleen River	85.55	22	P		P		07 52 47.0	+0.6
	baz=271,SNR=17								
G27K	Doyon Strip	85.62	23	IAmb		IAmb		07 52 50.2	
	comp=Z,24nm,1.6s								
G27K	Doyon Strip	85.62	23	P		P		07 52 46.9	+0.1
	baz=274,SNR=9.5								
K27K	Chicken	85.63	26	IAmb		IAmb		07 53 24.8	
	comp=Z,18nm,1.1s								
K27K	Chicken	85.63	26	P		P		07 52 47.3	+0.4
	baz=274								
D27M	Malcolm River	85.71	21	IAmb		IAmb		07 52 54.1	
	comp=Z,12nm,0.7s								
D27M	Malcolm River	85.71	21	P		P		07 52 47.4	+0.2
	baz=274,SNR=17								
H27K	Steamboat Moun	85.72	24	IAmb		IAmb		07 52 54.3	
	comp=Z,11nm,0.8s								
H27K	Steamboat Moun	85.72	24	P		P		07 52 47.3	0.0
	baz=274,SNR=17								
I27K	Kandik River	85.72	25	P		P		07 52 47.7	+0.4
	baz=274,SNR=17								
ISLE	Juniper Island	85.74	30	IAmb		IAmb		07 53 11.3	
	comp=Z,24nm,1.0s								
L27K	Beaver Creek,	85.81	27	P		P		07 52 48.4	+0.5
	baz=274,SNR=8.7								
M27K	Edge Creek, AK	85.84	28	P		P		07 52 47.9	-0.2
	baz=274								
PPT	Papeete	85.92	108	LR		LR		08 25 50.1	
	comp=Z,40nm,19.9s,baz=286,slow=32								
PPT2	Papeete2	85.92	108	*e*PKP1		P		07 52 54.9	+5.6
	comp=Z,44nm,24.2s								
PPT2	Papeete2	85.92	108	*e*LR		LR		08 19 58.1	
	comp=Z,241nm,34.0s								
PPT2				*e*LR		LR		08 20 05.0	
	comp=Z,394nm,28.5s								
MESA	MESA	85.96	30	P		P		07 52 48.5	-0.3
	baz=274								
EGAK	Eagle	85.98	25	P		P		07 52 48.5	0.0
	baz=274								
GRNC	Granite Creek	86.02	29	IAmb		IAmb		07 52 52.0	
	comp=Z,26nm,1.2s								
BARN	Barnard Glacie	86.04	29	IAmb		IAmb		07 52 54.7	
	comp=Z,13nm,0.7s								
APA	Apatity	86.04	337	*i* P		P		07 52 47.5	-1.3
APA				*i*				07 56 08.8	
APA				MLR		MLR			
	comp=Z,630nm,4.8s								
YAH	Yahtse	86.05	30	IAmb		IAmb		07 53 13.6	
	comp=Z,29nm,1.2s								
GAZ	Gaziantep	86.08	307			P		07 52 49.1	-0.7
GAZ				IAmb		IAmb		07 53 23.2	
	comp=Z,17nm,0.8s								
CTG	Chitna Glacier	86.20	29	P		P		07 52 49.3	-0.7
	baz=275,SNR=12								
CTGM	Chitina Glacie	86.20	29	IAmb		IAmb		07 52 53.1	
	comp=Z,24nm,1.0s								
SBA	Scott Base	86.21	172	P		P		07 52 50.4	+1.0
SBA	Scott Base	86.21	172	P		P		07 52 50.4	+1.0
SBA				pmax		pmax			
	comp=Z,63nm,2.0s								
SBA	Scott Base	86.21	172	P		P		07 52 49.1	-0.3
SBA				pP		pP		07 53 09.3	-2.1
F28M	Old Crow	86.25	23	P		P		07 52 49.9	0.0
	baz=276,SNR=42								
E28M	Babbage River	86.28	22	P		P		07 52 49.8	-0.2
	baz=276,SNR=11								
TABL	Table Mountain	86.34	30	IAmb		IAmb		07 52 58.2	
	comp=Z,16nm,0.8s								
I28M	Miner Creek	86.43	25	P		P		07 52 50.7	-0.2
	baz=276,SNR=48								
D28M	Stokes Point	86.49	21	P		P		07 52 51.4	+0.4
	baz=276								
ASF	Jabal al Asfar	86.71	302	P		P		07 52 52.4	-0.6
	comp=Z,7.5nm,0.5s,baz=274,slow=2.8,SNR=8.4								
ASF				LR		LR		08 37 11.5	
	comp=Z,30nm,19.4s,baz=111,slow=39								
	comp=Z,7.5nm,0.5s								
TBI	Tubuai	86.75	114	*e*S		SKSac		08 03 18.6	+5.6
	comp=Z,668nm,35.5s								
TBI				*e*SS		SS		08 08 55.6	-12
	comp=Z,921nm,27.0s								
TBI				*e*LQ		LQ		08 16 48.2	
	comp=Z,2μm,37.5s								
TBI				*e*LR		LR		08 20 22.9	
	comp=Z,1μm,26.8s								
TBI				*e*LR		LR		08 20 30.1	
	comp=Z,1μm,29.2s								
O28M	Mount Upton	86.78	29	P		P		07 52 52.0	-1.0
	baz=276								
DAWY	Dawson	86.81	26	P		P		07 52 52.1	-0.6
	baz=276,SNR=8.4								
PCA	Pinnacle	86.81	30	IAmb		IAmb		07 54 40.0	
	comp=Z,11nm,0.7s								
PINM	Pinnacle	86.81	30	P		P		07 52 52.1	-0.7
	baz=276								
YUK8	Steele Glacier	86.93	29	P		P		07 52 52.8	-0.8
	baz=276								
H29M	Whitestone	86.99	24	IAmb		IAmb		07 52 59.6	
	comp=Z,11nm,0.8s								
H29M	Whitestone	86.99	24	P		P		07 52 53.2	-0.3
	baz=277,SNR=6.4								
FURI	Furi	86.99	279	LR		LR		08 33 02.5	
	comp=Z,34nm,18.4s,baz=96,slow=36								
G29M	Pine Creek	87.04	23	P		P		07 52 53.4	-0.4
	baz=277,SNR=14								
I29M	Ogilvie Camp,	87.12	25	P		P		07 52 54.3	+0.1
	baz=277,SNR=9.3								
J29N	Klondike Camp	87.27	26	P		P		07 52 54.6	-0.4
	baz=277								
PNL	Peninsula	87.29	30	P		P		07 52 56.3	+1.2
PNL	Peninsula	87.29	30	P		P		07 52 55.0	-0.1
	baz=276								
M29M	Somme Creek	87.41	28	P		P		07 52 55.6	-0.2
	baz=277								
YUK4	Talbot Arm	87.46	29	P		P		07 52 55.9	-0.2
	baz=277								
L29M	L29M	87.48	27	P		P		07 52 55.5	-0.5
	baz=277,SNR=9.5								
O29M	Mount Kennedy	87.62	30	P		P		07 52 56.5	-0.4
	baz=277								
EPYK	Eagle Plains	87.63	24	IAmb		IAmb		07 53 32.8	
	comp=Z,9.5nm,0.7s								
EPYK	Eagle Plains	87.63	24	P		P		07 52 56.5	-0.1
	baz=278								
YUK6	Outpost Mounta	87.65	29	P		P		07 52 56.6	-0.5
	baz=278								
K29M	Barlow Dome	87.66	26	P		P		07 52 56.3	-0.6
	baz=278								
G30M	tAoh Zraii Nji	87.73	23	P		P		07 52 57.0	-0.1
	baz=279								
SIM	Simferopol'	87.76	315	*eP*		P		07 52 57.6	-0.1
SIM				*e*				07 56 22.0	
SIM				pmax		pmax			
	comp=Z,12nm,0.9s								
F30M	Barrier River	87.80	22	IAmb		IAmb		07 53 42.0	
	comp=Z,14nm,1.1s								
F30M	Barrier River	87.80	22	P		P		07 52 57.3	-0.1
	baz=279								
MMAI	Mount Meron Ar	87.89	303	LR		LR		08 40 19.2	
	comp=Z,38nm,18.4s,baz=70,slow=41								
I30M	Mount Dempster	87.94	25	P		P		07 52 57.9	-0.4
	baz=279								
MSF	Maaselka	87.97	336	P		P		07 52 57.2	-1.0
MSF				pmax		pmax			
	comp=Z,26nm,0.7s								
J30M	Hart River	88.06	25	P		P		07 52 58.5	-0.3
	baz=279								
HYT	Haines Junctio	88.08	29	P		P		07 52 58.7	-0.2
	baz=278								
P29M	Windy Craggy	88.13	30	P		P		07 52 59.3	+0.2
	baz=278								
M30M	Minto, Yukon	88.16	27	P		P		07 52 59.7	+0.5
	baz=278								
N30M	Aishikik Lake	88.19	29	P		P		07 52 59.5	+0.1
	baz=278								
MAYO	Mayo, Yukon	88.41	26	IAmb		IAmb		07 53 45.6	
	comp=Z,13nm,0.8s								
MAYO	Mayo, Yukon	88.41	26	P		P		07 53 00.5	+0.2
	baz=279								
P30M	Million Dollar	88.45	30	P		P		07 53 00.5	-0.2
	baz=278								
G31M	Satah River	88.50	23	P		P		07 53 00.7	+0.1
	baz=281								
INK	Inuvik	88.52	21	LR		LR		08 36 53.4	
	comp=Z,46nm,19.0s,baz=262,slow=38								
INK	Inuvik	88.52	21	P		P		07 53 00.8	+0.1
	baz=281								
EIL	Elat	88.59	300	LR		LR		08 38 35.5	
	comp=Z,82nm,18.4s,baz=176,slow=40								
F31M	Tsiigehtchic	88.61	22	IAmb		IAmb		07 53 04.6	
	comp=Z,11nm,0.9s								
F31M	Tsiigehtchic	88.61	22	P		P		07 53 00.9	-0.2
	baz=281								
SPA0	Spitsbergen Ar	88.61	349	*eP*		P		07 53 01.3	+0.3
SPITS	Spitsbergen Ar	88.61	349	P		P		07 53 01.4	+0.3
	comp=Z,8.1nm,0.5s,baz=92,slow=7.7,SNR=14								
SPITS				LR		LR		08 38 08.8	
	comp=Z,37nm,18.6s,baz=63,slow=39								
	comp=Z,8.1nm,0.5s								
ARA0	ARCESS Array S	88.62	340	*eP*		P		07 53 00.1	-1.1
ARCES	ARCESS Array B	88.62	340	P		P		07 53 00.5	-0.7
	comp=Z,28nm,0.8s,baz=84,slow=5.8,SNR=59								
ARCES				LR		LR		08 37 15.8	
	comp=Z,52nm,18.7s,baz=70,slow=39								
	comp=Z,28nm,0.8s								
KIBK	Kibwezi	88.68	268	P		P		07 53 02.1	-0.6
H31M	Peel River	88.68	24	P		P		07 53 01.1	-0.5
	baz=281								
O30N	Mendenhall	88.77	29	P		P		07 53 01.4	-0.7
	baz=279								
N31M	Braeburn, Yuko	88.80	28	IAmb		IAmb		07 53 28.1	
	comp=Z,16nm,1.3s								
N31M	Braeburn, Yuko	88.80	28	P		P		07 53 01.9	-0.4
	baz=279								
PLBC	Pleasant Camp	88.84	30	P		P		07 53 02.1	-0.3
	baz=279								
HAMF	Hammerfest	88.97	341	*eP*		P		07 53 01.9	-0.9
S31K	Pelican	89.15	32	P		P		07 53 02.9	-0.9
	baz=279								
M31M	Drury Creek, Y	89.33	28	P		P		07 53 04.6	-0.1
	baz=281								
SKAG	Skagway	89.36	30	P		P		07 53 04.8	-0.1
	baz=280								
WHY	Whitehorse	89.38	29	P		P		07 53 04.7	-0.4
	baz=280								
OUL	Oulu	89.41	335	P		P		07 53 04.3	-0.6
OUL				pmax		pmax			
	comp=Z,26nm,1.1s								
KTK1	Kautokeino	89.53	339	*eP*		P		07 53 04.4	-1.1
SIT	Sitka	89.78	33	P		P		07 53 06.8	0.0
	baz=280								
R32K	Eaglecrest	89.99	31	P		P		07 53 07.1	-0.7
	baz=281								
FINES	FINESS Array B	90.08	332	P		P		07 53 07.5	-0.7
	comp=Z,7.2nm,0.5s,baz=63,slow=5.0,SNR=60								
FINES				LR		LR		08 37 09.8	
	comp=Z,88nm,18.8s,baz=58,slow=38								
	comp=Z,7.2nm,0.5s								
N32M	Quiet Lake	90.14	28	IAmb		IAmb		07 53 50.6	
	comp=Z,13nm,0.8s								
N32M	Quiet Lake	90.14	28	P		P		07 53 08.3	-0.3
	baz=282								
P32M	Atlin	90.15	30	P		P		07 53 07.9	-0.7
	baz=281								
AK08	Malin Array Si	90.29	321	P		P		07 53 09.6	+0.3
AK03	Malin Array Si	90.29	321	P		P		07 53 09.9	+0.5
AK10	Malin Array Si	90.30	321	P		P		07 53 08.3	-1.1
AKASG	Malin Array Be	90.30	321	P		P		07 53 07.9	-1.5
	comp=Z,4.8nm,0.9s,baz=67,slow=4.8,SNR=8.0								
AKASG				LR		LR		08 37 47.0	
	comp=Z,62nm,18.2s,baz=66,slow=38								
	comp=Z,4.8nm,0.9s								
AKASG	Malin Array Be	90.30	321	*i* P		P		07 53 07.5	-1.9
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.5s								
AKBB	Malin Array Si	90.30	321	*c*eP		P		07 53 10.2	+0.8
AKBB				pmax		pmax			
	comp=Z,8.0nm,1.0s								
AKBB	Malin Array Si	90.30	321	P		P		07 53 09.6	+0.2
AK01	Malin Array Si	90.31	321	P		P		07 53 09.6	+0.2
KIEV	Kiev	90.31	321	P		P		07 53 10.2	+0.7
KIEV	Kiev	90.31	321	P		P		07 53 10.2	+0.7
KIEV				pmax		pmax			
	comp=Z,8.0nm,1.0s								
AK02	Malin Array Si	90.31	321	P		P		07 53 09.6	+0.1
AK05	Malin Array Si	90.32	321	P		P		07 53 09.5	0.0
AK04	Malin Array Si	90.33	321	P		P		07 53 09.5	0.0
AK06	Malin Array Si	90.33	321	P		P		07 53 10.1	+0.5
AK07	Malin Array Si	90.33	321	P		P		07 53 10.1	+0.5
AK11	Malin Array Si	90.34	321	P		P		07 53 10.1	+0.5
JETT	Jettan, Norway	90.35	340	*eP*		P		07 53 08.2	-1.1
AK12	Malin Array Si	90.35	321	P		P		07 53 09.9	+0.3
AK16	Malin Array Si	90.38	321	P		P		07 53 10.1	+0.3
AK14	Malin Array Si	90.38	321	P		P		07 53 10.1	+0.3
AK22	Malin Array Si	90.38	321	P		P		07 53 10.1	+0.3
AK18	Malin Array Si	90.39	321	P		P		07 53 10.1	+0.3
AK21	Malin Array Si	90.40	321	P		P		07 53 10.0	+0.1
MNK	Minsk	90.46	325	*i* P		P		07 53 12.5	+2.4
MNK				*i*				07 56 47.3	
MNK				*i* PPP		PPP		07 58 44.9	
MNK				*i* S		SKSac		08 03 35.7	+1.8
MNK				*i* *SS		SKKSac		08 03 50.1	+1.9
MNK				pmax		pmax			
	comp=N,6.0nm,0.9s								
MNK				pmax		pmax			
	comp=Z,21nm,0.8s								
MNK				pmax		pmax			
	comp=E,24nm,0.9s								
MNK				MLR		MLR			
	comp=Z,136nm,20.0s								
MNK				MLR		MLR			
	comp=E,338nm,20.0s								
MNK				MLR		MLR			
	comp=N,211nm,19.0s								
P33M	Teslin, Yukon	90.47	29	P		P		07 53 09.5	-0.6
	baz=282								
MMPY	Sheldon Lake,	90.67	27	P		P		07 53 10.7	-0.3
	baz=283								
TRO	Tromso	90.82	340	*eP*		P		07 53 09.6	-1.8
Q32M	Nakina River	91.01	31	P		P		07 53 12.1	-0.7
	baz=282								
U33K	Whale Pass	91.16	33	P		P		07 53 12.6	-0.6
	baz=282								
CRAG	Craig	91.29	34	P		P		07 53 12.6	-1.2
	baz=282								
LUBAR	Lubar, Ukraine	91.36	320	P		P		07 53 15.

	baz=288								
VOIR		**94.02**	**316**	⇑P		**P**	07 53 24.5	**-2.3**
VOIR		**94.02**	**316**	P		**P**	07 53 25.7	**-1.2**
VOIR				pmax		pmax			
	comp=Z,4.0nm,1.5s								
SYO	**Syowa Base**	**94.08**	**201**	⇑*eP*		**P**	07 53 26.8	**+0.4**
SYO	**Syowa Base**	**94.08**	**201**	⇑epP		pP	07 53 48.6	+0.6
LEIR	**Leirfjorden**	**94.14**	**338**	*eP*		**P**	07 53 25.3	**-1.5**
TAOE	**Nuku Hiva Isla**	**94.16**	**98**	*eS*		S	08 04 23.4	-10
	comp=Z,58nm,25.6s								
TAOE	**Nuku Hiva Isla**	**94.16**	**98**	*eLR*		LR	08 23 47.5		
	comp=Z,441nm,27.4s								
TOAD	**Toad River Com**	**94.55**	**30**	P		**P**	07 53 28.5	**-0.5**
	baz=289								
KOTAN	**Kotaneelee Air**	**94.70**	**28**	P		**P**	07 53 29.2	**-0.3**
	baz=290								
NSS	**Namsos**	**95.23**	**337**	*eP*		**P**	07 53 30.1	**-1.7**
DRGR		**95.30**	**318**	P		**P**	07 53 30.8	**-1.9**
DRGR				pmax		pmax			
	comp=Z,4.0nm,1.1s								
DAG	**Danmarks Havn**	**95.38**	**352**	*i* P		**P**	07 53 32.0	**-0.3**
DAG				IAmb		IAmb	07 53 33.1		
	comp=Z,9.7nm,0.8s								
QSPA	**South Pole Qui**	**95.50**	**180**	P		**P**	07 53 34.3	**+1.1**
QSPA	**South Pole Qui**	**95.50**	**180**	P		**P**	07 53 35.0	**+1.9**
	comp=Z,9.1nm,0.9s,baz=294,slow=1.3,SNR=24								
QSPA				PKKP		**PKKPdf**	**08 10 26.7**	**-1.1**	
	comp=Z,0.7nm,0.6s,baz=183,slow=1.8,SNR=6.6								
QSPA				LR		LR	08 37 58.7		
	comp=Z,89nm,19.2s,baz=350,slow=36								
	comp=Z,9.1nm,0.9s								
MBAR	**Mbarara**	**95.78**	**270**	LR		LR	08 34 05.9		
	comp=Z,32nm,18.8s,baz=91,slow=34								
RES	**Resolute Bay**	**96.02**	**10**	LR		LR	08 40 25.1		
	comp=Z,34nm,20.0s,baz=14,slow=38								
HFS	**Hagfors**	**96.26**	**332**	P		**P**	07 53 35.6	**-1.0**
	comp=Z,7.2nm,0.5s,baz=116,slow=3.4,SNR=31								
HFS				PKKP		**PKKPbc**	**08 10 22.8**	**-2.1**	
	comp=Z,2.9nm,1.0s,baz=66,slow=1.8,SNR=4.0								
HFS				LR		LR	08 41 10.4		
	comp=Z,133nm,19.3s,baz=66,slow=38								
	comp=Z,7.2nm,0.5s								
NB2	**NORSAR Subarra**	**97.01**	**334**	P		**P**	07 53 38.3	**-1.8**
	comp=Z,3.2nm,0.7s,baz=66,slow=4.6								
NB2	**NORSAR Subarra**	**97.01**	**334**	P		**P**	07 53 38.3	**-1.8**
	comp=Z,3.2nm,0.7s,baz=66,slow=4.6								
NOA	**NORSAR Array B**	**97.01**	**334**	P		**P**	07 53 38.5	**-1.6**
	comp=Z,2.7nm,0.8s,baz=66,slow=4.5,SNR=11								
NOA				LR		LR	08 42 58.8		
	comp=Z,66nm,19.3s,baz=65,slow=39								
	comp=Z,2.7nm,0.8s								
NEEM	**North Greenlan**	**97.06**	**359**	*i* P		Pdif	07 53 40.4	0.0	
NEEM				IAmb		IAmb	07 53 42.3		
	comp=Z,9.3nm,0.6s								
OSL	**Oslo**	**97.70**	**333**	*eP*		**P**	07 53 42.1	**-1.0**
MOL	**Molde**	**97.88**	**336**	*eP*		**P**	07 53 43.0	**-0.9**
YKA	**Yellowknife Ar**	**97.90**	**24**	P		**P**	07 53 42.9	**-1.1**
	comp=Z,1.8nm,0.8s,baz=294,slow=5.4,SNR=1.8								
YKA				PKKP		**PKKPbc**	**08 10 19.1**	**-1.4**	
	comp=Z,0.9nm,0.9s,baz=314,slow=2.3,SNR=4.2								
	comp=Z,1.8nm,0.8s								
JMIC	**Jan Mayen**	**97.99**	**346**	LR		LR	08 43 43.8		
	comp=Z,36nm,19.4s,baz=54,slow=39								
VRAC	**Vranov**	**98.53**	**322**	P		**P**	07 53 46.5	**-0.6**
	comp=Z,3.3nm,0.7s,baz=90,slow=6.1,SNR=5.1								
VRAC				LR		LR	08 41 35.8		
	comp=Z,66nm,21.1s,baz=67,slow=37								
	comp=Z,3.3nm,0.7s								
MATP	**Matopo**	**99.41**	**250**	LR		LR	08 33 02.1		
	comp=Z,50nm,20.0s,baz=49,slow=32								
LSZ	**Lusaka**	**99.44**	**255**	LR		LR	08 33 43.5		
	comp=Z,75nm,19.9s,baz=104,slow=32								
BRG	**Berggiesshubel**	**99.60**	**324**	⇓*eP*	if		07 53 51.4		
BRG				Amp			07 54 02.2		
	comp=Z,3.3nm,0.8s								
GERES	**GERESS Array B**	**100.48**	**322**	P		**Pdif**	**07 53 55.5**	**-0.5**	
	comp=Z,1.5nm,0.9s,baz=41,slow=3,1,SNR=7.1								
TROLL	**Troll, Antarti**	**105.37**	**196**	⇑PKKPbc		**PKKPbc**	**08 09 57.1**	**-2.3**	
	comp=Z,35nm,0.7s								
TROLL				⇓Pdiff		**Pdif**	**07 54 21.1**	**+3.9**	
	comp=Z,39nm,0.7s								
TROLL				⇓PKiKP		**PKiKP**	**07 58 32.6**	**+2.0**	
	comp=Z,47nm,0.4s								
NVAR	**Mina Array Bea**	**105.83**	**48**	Pdiff		**Pdif**	**07 54 20.6**	**+0.4**	
	comp=Z,0.6nm,0.6s,baz=288,slow=4.2,SNR=5.7								
NVAR				PKiKP		**PKiKP**	**07 58 32.5**	**0.0**	
	comp=Z,0.1nm,0.5s,baz=287,slow=7.5,SNR=2.4								
NVAR				PKKPbc		**PKKPbc**	**08 09 55.8**	**-1.0**	
	comp=Z,1.0nm,0.8s,baz=146,slow=4.5,SNR=6.8								
NVAR				PKKPab		**PKKPab**	**08 10 12.4**	**-1.3**	
	comp=Z,1.0nm,0.7s,baz=128,slow=5.6,SNR=6.9								
SNAA	**Sanae**	**106.95**	**195**	⇑PKKPbc		**PKKPbc**	**08 09 50.8**	**-3.5**	
	comp=Z,21nm,0.8s								
SNAA				⇓Pdiff		**Pdif**	**07 54 28.3**	**+4.1**	
	comp=Z,25nm,0.9s								
SNAA				⇓PKiKP		**PKiKP**	**07 58 32.3**	**-1.1**	
	comp=Z,25nm,0.8s								
SNAA	**Sanae**	**106.95**	**195**	PKiKP		**PKiKP**	**07 58 33.6**	**+0.2**	
	comp=Z,1.5nm,1.0s,baz=160,slow=7.1,SNR=1.9								
SNAA				PKKPbc		**PKKPbc**	**08 09 51.2**	**-3.1**	
	comp=Z,0.7nm,0.8s,baz=250,slow=2.2,SNR=5.8								
SNAA				PKKPab		**PKKPdf**	**08 10 06.0**	**-0.2**	
	comp=Z,1.3nm,0.8s,baz=292,slow=3.9,SNR=6.9								
ELK	**Elko**	**107.16**	**44**	PKKPbc		PKKPbc	08 09 51.5	-1.4	
	comp=Z,1.1nm,0.7s,baz=25,slow=3.3,SNR=6.5								
ELK				PKKPab		**PKKPdf**	**08 10 04.9**	**-0.3**	
	comp=Z,1.0nm,0.8s,baz=331,slow=1.7,SNR=4.4								
VNA2	**Neumayer--Watz**	**108.57**	**194**	⇓PKiKP		**PKiKP**	**07 58 36.5**	**+0.2**	
	comp=Z,3.8nm,0.6s,baz=125,slow=2.3								
VNA3	**Neumayer Olymp**	**108.91**	**194**	⇑PKKPbc		**PKKPbc**	**08 09 44.5**	**-3.6**	
	comp=Z,0.5nm,0.7s								
VNA3				⇓Pdiff		**Pdif**	**07 54 35.0**	**+2.2**	
	comp=Z,1.1nm,0.9s								
VNA3				⇓PKiKP		**PKiKP**	**07 58 36.5**	**-0.5**	
	comp=Z,4.4nm,1.0s								
VNA1	**Neumayer--Stat**	**108.97**	**194**	⇓PKiKP		**PKiKP**	**07 58 37.5**	**+0.4**	
	comp=Z,3.3nm,0.8s								
PDAR	**Pinedale Array**	**110.10**	**41**	PKiKP		**PKiKP**	**07 58 40.2**	**-0.2**	
	comp=Z,0.1nm,0.3s,baz=134,slow=29,SNR=2.5								
PDAR				PKKPbc		**PKKPbc**	**08 09 40.8**	**-2.8**	
	comp=Z,0.6nm,0.9s,baz=147,slow=5.3,SNR=3.5								
PDAR				PKKPab		**PKKPab**	**08 09 52.5**	**-2.3**	
	comp=Z,1.4nm,0.8s,baz=126,slow=5.5,SNR=9.9								
ESDC	**Sonseca Array**	**115.89**	**319**	PKiKP		**PKiKP**	**07 58 51.3**	**0.0**	
	comp=Z,0.5nm,0.6s,baz=56,slow=1.2,SNR=6.7								
ESDC				PKKPbc		**PKKPbc**	**08 09 23.3**	**-0.6**	
	comp=Z,0.9nm,1.0s,baz=268,slow=3.9,SNR=4.6								
Y22D	**IRIS PASSCAL I**	**116.00**	**48**	P		**PKPdf**	**07 58 51.0**	**-0.7**	
	baz=297								
ECSD	**EROS Data Cent**	**117.38**	**34**			**PKPdf**	**07 58 53.9**	**-0.1**	
SCHQ	**Scheffervlle**	**118.77**	**9**	PKP		**PKPdf**	**07 58 56.2**	**-0.1**	
	comp=Z,93nm,0.9s,baz=28,slow=5.0,SNR=6.6								
KSU1	**Kansas State U**	**120.30**	**38**			**PKiKP**	**07 59 00.1**	**+0.3**	
TXAR	**Lajitas Array**	**120.63**	**51**	PKP		**PKPdf**	**07 59 00.8**	**0.0**	
	comp=Z,0.9nm,0.7s,baz=207,slow=0.9,SNR=15								
TXAR				PKKPbc		**PKKPbc**	**08 09 05.5**	**-1.2**	
	comp=Z,0.7nm,0.9s,baz=144,slow=6.0,SNR=3.5								
TORD	**Torodi Ar. Bea**	**122.09**	**289**	PKP		**PKPdf**	**07 59 02.8**	**-1.0**	
	comp=Z,5.8nm,0.8s,baz=30,slow=2.9,SNR=19								
JCT	**Junction City**	**123.01**	**48**			**PKiKP**	**07 59 05.9**	**+0.4**	
JCT	**Junction City**	**123.01**	**48**	PKiKP		**PKiKP**	**07 59 05.9**	**+0.4**	
BRDY	**Brady**	**123.18**	**47**			**PKiKP**	**07 59 06.5**	**+0.7**	
U38A	**Gravette**	**123.33**	**39**			**PKPdf**	**07 59 05.4**	**-0.2**	
CCM	**Cathedral Cave**	**124.18**	**36**			**PKiKP**	**07 59 08.3**	**+0.8**	
CCM	**Cathedral Cave**	**124.18**	**36**	PKiKP		**PKiKP**	**07 59 08.3**	**+0.8**	
MIAR	**Mount Ida**	**125.03**	**40**			**PKiKP**	**07 59 10.2**	**+0.9**	
MIAR	**Mount Ida**	**125.03**	**40**	PKiKP		**PKiKP**	**07 59 10.2**	**+0.9**	
WCI	**Wyandotte Cave**	**126.81**	**32**			**PKiKP**	**07 59 13.7**	**+1.0**	
WCI	**Wyandotte Cave**	**126.81**	**32**	PKiKP		**PKiKP**	**07 59 13.7**	**+1.0**	
WVT	**Waverly**	**127.48**	**35**			**PKiKP**	**07 59 14.3**	**+0.2**	
WVT	**Waverly**	**127.48**	**35**	PKiKP		**PKiKP**	**07 59 14.3**	**+0.2**	
SSPA	**Standing Stone**	**128.83**	**24**			**PKiKP**	**07 59 17.5**	**+0.8**	
DBIC	**Dimbokro**	**129.93**	**283**	PKiKP		**PKiKP**	**07 59 19.4**	**-0.2**	
	comp=Z,6.5nm,0.6s,baz=58,slow=6.8,SNR=5.2								
DBIC				SKPbc		SKPab	08 02 32.7	-1.0	
	comp=Z,15nm,0.7s,baz=98,slow=3.8,SNR=14								
PLCA	**Paso Flores**	**141.83**	**159**	PKhKP		PKPpre	07 59 35.2		
	comp=Z,4.3nm,0.9s,baz=228,slow=1.8,SNR=6.9								
PLCA				SKPbc		**SKPbc**	**08 03 10.5**	**+0.2**	
	comp=Z,2.5nm,1.1s,baz=183,slow=7.0,SNR=2.9								
BOAB	**BOACO BROADBAN**	**143.35**	**61**			**PKPdf**	**07 59 42.2**	**-1.3**	
SIUN	**Universidad Ur**	**143.51**	**58**			**PKPdf**	**07 59 43.3**	**-0.5**	
ACON	**Acoyapa**	**144.00**	**61**			PKPbc	07 59 42.7	0.0	
TRQA	**Tornquist**	**146.79**	**168**			**PKPbc**	**07 59 51.0**	**+0.3**	
TRQA	**Tornquist**	**146.79**	**168**	PKP2		**PKPbc**	**07 59 51.0**	**+0.3**	
MT05	**Renca**	**148.04**	**152**			**PKiKP**	**07 59 55.4**	**-0.7**	
AAGR	**Agrelo**	**149.16**	**154**	*eP*		**PKiKP**	**07 59 58.4**	**-0.1**	
ARCO	**CERRO ARCO**	**149.32**	**154**	*eP*		**PKiKP**	**07 59 58.4**	**-0.5**	
ASAL	**Salagasta**	**149.58**	**154**	*eP*		**PKiKP**	**07 59 59.5**	**+0.2**	
AUSP	**Uspallata**	**149.64**	**153**	⇓*eP*		**PKiKP**	**07 59 59.5**	**-0.3**	
RTLS	**Leoncito**	**150.04**	**152**	*eP*		**PKiKP**	**08 00 00.6**	**0.0**	
ACAN	**Cantantal**	**150.55**	**156**	*eP*		**PKiKP**	**08 00 01.5**	**+0.1**	
CFA	**Coronel Fontan**	**150.68**	**154**	PKPbc		**PKPbc**	**08 00 00.2**	**-0.8**	
	comp=Z,18nm,0.7s,baz=170,slow=0.7,SNR=91								
ACCO	**Cerro Coronel**	**151.16**	**151**	*eP*		**PKiKP**	**08 00 03.1**	**+0.1**	
AROD	**Rodeo**	**151.31**	**150**	*eP*		**PKiKP**	**08 00 03.7**	**+0.4**	
ACDV	**Cuesta del Vie**	**151.48**	**151**	*eP*		**PKiKP**	**08 00 04.0**	**+0.5**	
LCO	**Las Campanas**	**151.60**	**147**	PKPbc		**PKiKP**	**08 00 04.5**	**+0.7**	
LCO	**Las Campanas**	**151.60**	**147**	PKiKP		**PKiKP**	**08 00 04.5**	**+0.7**	
ACHE	**Chepes**	**151.74**	**156**	*eP*		**PKiKP**	**08 00 04.2**	**+0.3**	
AVFE	**Valle Fertil**	**151.84**	**154**	*eP*		**PKPbc**	**08 00 03.7**	**0.0**	
AC04	**Llanos de Chal**	**152.02**	**145**			**PKiKP**	**08 00 05.2**	**+0.8**	
AGUA	**GUANDACOL**	**152.35**	**151**	*eP*		**PKiKP**	**08 00 05.9**	**+0.7**	
APLL	**PUNTA DE LOS L**	**152.46**	**155**	*eP*		**PKPbc**	**08 00 04.8**	**-0.3**	
CRPR	**Cabo Rojo, PR**	**152.97**	**29**			**PKiKP**	**08 00 06.9**	**+0.3**	
VCA	**Vinchina**	**153.11**	**150**	*eP*		**PKiKP**	**08 00 08.1**	**+1.3**	
ACLC	**CERRO LA CRUZ**	**153.12**	**153**	*eP*		**PKPbc**	**08 00 06.8**	**0.0**	
GCPR	**Guaynabo City**	**153.20**	**27**			**PKiKP**	**08 00 07.8**	**+0.7**	
SJG	**San Juan**	**153.34**	**28**			**PKPbc**	**08 00 07.0**	**-0.1**	
SJG	**San Juan**	**153.34**	**28**	PKIKP		**PKPbc**	**08 00 07.1**	**-0.1**	
PDPR	**Patillas Dam,**	**153.48**	**27**			**PKiKP**	**08 00 08.0**	**+0.4**	
CYA	**Choya**	**154.47**	**154**	*eP*		**PKiKP**	**08 00 10.1**	**+0.6**	
ATAH	**Atahualpa**	**155.22**	**95**	PKP		**PKPdf**	**08 00 01.6**	**-1.3**	
	comp=Z,1.2nm,0.6s,baz=100,slow=15,SNR=1.4								
NNA	**Nana**	**156.10**	**107**	PKP		**PKPdf**	**08 00 03.2**	**-0.4**	
	comp=Z,4.8nm,0.7s,baz=195,slow=15,SNR=1.3								
ROSC	**El Rosal**	**156.77**	**64**	PKP		**PKPdf**	**08 00 05.2**	**+0.2**	
	comp=Z,3.6nm,0.4s,baz=152,slow=12,SNR=5.9								
SDV	**Santo Domingo**	**157.67**	**50**	PKP		**PKPdf**	**08 00 05.3**	**-0.6**	
	comp=Z,21nm,0.8s,baz=74,slow=1.9,SNR=7.8								
CPUP	**Villa Florida**	**159.07**	**170**	PKP		**PKPdf**	**08 00 06.1**	**-0.8**	
	comp=Z,0.4nm,0.7s,baz=359,slow=0.8,SNR=4.3								
CPUP				PKPab		**PKPab**	**08 00 44.6**	**+1.0**	
	comp=Z,3.9nm,0.9s,baz=191,slow=4.9,SNR=18								
PCRV	**Puerto La Cruz**	**160.80**	**35**	PKP		**PKPdf**	**08 00 08.8**	**-0.5**	
	comp=Z,8.6nm,1.1s,baz=336,slow=12,SNR=2.0								
LPAZ	**La Paz**	**162.16**	**128**	PKP		**PKPdf**	**08 00 11.6**	**+0.2**	
	comp=Z,2.2nm,0.8s,baz=23,slow=4.9,SNR=11								
AQDB	**Aquidauana**	**165.06**	**172**			**PKPab**	**08 01 11.2**	**+1.2**	
SIV	**San Ignacio**	**167.29**	**145**	PKP		**PKPdf**	**08 00 14.8**	**-0.3**	
	comp=Z,4.5nm,0.9s,baz=159,slow=2.4,SNR=20								
SIV				PKPab		**PKPab**	**08 01 20.1**	**0.0**	
	comp=Z,2.7nm,0.8s,baz=277,slow=4.1,SNR=3.8								
BDFB	**Brasília**	**168.66**	**209**	PKP		**PKPdf**	**08 00 15.6**	**-0.6**	
	comp=Z,2.2nm,0.7s,baz=261,slow=2.9,SNR=4.6								
BDFB				PKPab		**PKPab**	**08 01 25.0**	**-1.2**	
	comp=Z,3.6nm,0.7s,baz=98,slow=4.5,SNR=5.2								

NIED ***29*** *07:47:44.0,32.56N×130.65E,h11km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.08; Mθθ1.63; Mϕϕ-4.71; Mrθ-1.63; Mθϕ4.26; Mϕr-0.66; Fault plane solution: M₀6.03000×10¹⁴ NP1: ϕs191.00000°,δ63.00000°,λ150.00000°. NP2: ϕs296.00000°,δ64.00000°,λ31.00000°.*

JMA ***29*** *07:47:44.0±0.1,32.6N±0.2×130.7E±0.2,h11km,MD3.8/20, MV4.0/20,SOUTHERN KUMAMOTO PREF*

JMA Felt III J1 at SOUTHERN KUMAMOTO PREF .

IDC ***29*** *07:47:45.0±1.6,32.62N×130.58E,h0km,mb3.9/3, mbtmp3.8/6,ML3.3/3, Error ellipse: s-maj=29.2km s-min=10.5km az=125.0*

ISC 29 07:47:45.6±0.8,32.56N±0.03×130.67E±0.06,h10km,n23, σ1ş**29**/15**,mb4.2**/3**,2D,Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.12**	**93**	⇓*i* P		**Pg**		**07 47 47.2**	**-1.4**
JIU3				⇓S		**Sg**		**07 47 49.9**	**-0.8**
JIU3	**Izumi3**	**0.12**	**93**	A		A		07 47 47.2	
	comp=N,31nm,3.2s,comp=E,49nm,0.9s								
JZO	**Okuchi**	**0.42**	**188**	*i* P		**Pg**		**07 47 52.3**	**-1.6**
JZO				S		**Sg**		**07 47 58.1**	**-1.3**
JZO	**Okuchi**	**0.42**	**188**	A		A		07 47 52.3	
	comp=N,56nm,0.5s,comp=E,27nm,0.4s								
JTA	**Tamana**	**0.42**	**345**	*i* P		**Pg**		**07 47 52.2**	**-1.7**
JTA				S		**Sg**		**07 47 58.1**	**-1.4**
JTA	**Tamana**	**0.42**	**345**	A		A		07 47 52.2	
	comp=N,4.0nm,0.6s,comp=E,7.0nm,1.0s								
JHD	**Hondo**	**0.46**	**259**	A		A		07 47 52.9	
	comp=N,8.0nm,0.7s,comp=E,10.0nm,0.3s								
JNU	**Nakatsue**	**0.59**	**18**	Pg		**Pg**		**07 47 55.9**	**-1.3**
	comp=E,198nm,0.3s,baz=220,slow=7.9,SNR=2752								
JNU				Lg		Lg		07 48 03.4	
	comp=E,2μm,0.3s,baz=0.4,slow=11,SNR=85								
JNU	**Nakatsue**	**0.59**	**18**	A		A		07 47 55.5	
	comp=N,5.0nm,3.8s,comp=E,8.0nm,1.4s								
JKIT	**Kitakata**	**0.67**	**84**	A		A		07 47 57.1	
	comp=N,9.0nm,0.3s,comp=E,6.0nm,0.3s								
JTZ	**Takazaki**	**0.74**	**151**	*i* P		**Pg**		**07 47 58.9**	**-1.1**
JTZ				S		**Sg**		**07 48 09.0**	**-0.7**
JTSN	**Tsuno**	**0.77**	**113**	A		A		07 47 59.0	
	comp=N,7.0nm,0.7s,comp=E,4.0nm,0.5s								
JUR	**Ureshino**	**0.81**	**312**	A		A		07 47 59.2	
	comp=N,3.0nm,0.6s,comp=E,4.0nm,1.9s								
JHHC	**Hyugahichiya**	**0.83**	**98**	A		A		07 48 00.1	
	comp=N,9.0nm,2.2s,comp=E,7.0nm,1.4s								
JFI	**Itaya**	**0.90**	**345**	A		A		07 48 00.9	
	comp=N,5.0nm,0.3s,comp=E,6.0nm,0.4s								
JUS	**Usuki**	**1.04**	**61**	A		A		07 48 03.8	
	comp=N,4.0nm,0.4s,comp=E,2.0nm,1.2s								
JKI	**Kunimi**	**1.31**	**35**	A		A		07 48 08.2	
	comp=N,6.0nm,1.3s,comp=E,4.0nm,1.3s								
KSRS	**Korea Array**	**5.38**	**336**	Pn		**Pn**		**07 49 07.4**	**+1.5**
	comp=E,0.3nm,0.3s,baz=155,slow=14,SNR=2.4								
KSRS				Lg		Lg		07 50 31.4	
	comp=E,1.1nm,0.3s,baz=151,slow=30,SNR=6.7								
	comp=E,0.7nm,0.3s								
JOW	**Kunigami**	**6.07**	**201**	Pn		**Pn**		**07 49 16.4**	**+0.9**
	comp=E,4.1nm,0.3s,baz=48,slow=10,SNR=6.8								
	comp=E,13nm,0.5s								
MJAR	**Matsushiro Arr**	**7.38**	**55**	Pn		**Pn**		**07 49 34.6**	**+1.1**
	comp=E,0.2nm,0.3s,baz=243,slow=14,SNR=3.7								
	comp=E,2.3nm,0.5s								
BVAR	**Borovoye Array**	**47.18**	**314**	P		**P**		**07 56 18.8**	**+0.5**
	comp=E,1.4nm,0.7s,baz=80,slow=10,SNR=2.9								
	comp=E,1.4nm,0.7s								
FINES	**FINESS Array B**	**68.44**	**330**	P		**P**		**07 58 47.0**	**-0.4**
	comp=E,1.0nm,0.5s,baz=50,slow=7.2,SNR=4.9								
	comp=E,1.0nm,0.5s								
NOA	**NORSAR Array B**	**74.59**	**334**	P		**P**		**07 59 25.2**	**+0.6**
	comp=E,0.7nm,0.7s,baz=49,slow=8.8,SNR=1.6								
	comp=E,0.7nm,0.7s								

NIC ***29*** *07:50:46.0,35.08N×27.82E,h2km±1km,Ml3.8/13*

GII ***29*** *07:50:45.2±0.0,34.997N±0.004×27.588E±0.001, h1km,Mws4.3,confirmed*

IDC ***29*** *07:50:46.3±0.7,35.18N×27.76E,h0km,mb3.7/15, mbtmp3.7/25,ML3.8/10,MS3.3/8, Error ellipse: s-maj=15.2km s-min=12.5km az=10.0*

ISK ***29*** *07:50:47.9,35.20N×27.77E,h9km,ML4.0/39*

NEIC ***29*** *07:50:47.9±1.5,35.24N±0.06×27.87E±0.07,h10km±1km, mb4.4/10, Error ellipse: s-maj=9.9km s-min=8.6km az=215.0*

MOS ***29*** *07:50:47.3±2.3,35.03N×27.81E,h12km,mb4.5/8, Error ellipse: s-maj=7.4km s-min=4.4km az=84.7*

ATH ***29*** *07:50:48.3,35.19N×27.92E,h5km±2km,ML3.8/13, Manual Solution by N.Liadopoulou First location: 2019/09/29 07:52:14, This location: 2019/09/29 08:08:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

THE ***29*** *07:50:50.8,35°N±16"×2'8E±2'8,h1km±33km,M3.8/12, MLh3.8/12*

HLW ***29*** *07:50:51.0,35.11N×27.50E,h2km±2km,Ml4.0*

NAO ***29*** *07:50:52.9,35.26N×27.88E,h10km, MB4.2*

AFAD ***29*** *07:51:08.8,36.57N×27.83E,h24km±2km,MW4.0*

ISC 29 07:50:47.8±1.2,35.22N±0.03×27.84E±0.02,h2km±8km, n288,σ1ş**73**/291**,mb3.9**/92**,MS3.2**/7**,5C-1D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.64**	**301**	Pg		**Pg**		**07 51 00.2**	**+0.2**
KARP	**Karpathos**	**0.64**	**301**			**Pg**		**07 51 00.2**	**+0.2**
KARP	**Karpathos**	**0.64**	**301**	P		**Pg**		**07 51 00.3**	**+0.3**
KARP	**Karpathos**	**0.64**	**301**	P		**Pg**		**07 51 00.4**	**+0.3**
KARP				S		**Sb**		**07 51 11.3**	**+0.2**
KARP				AML		AML		07 51 22.3	
	14nm,0.6s								
KARP				AML		AML		07 51 23.9	
	14nm,0.9s								
KARP	**Karpathos**	**0.64**	**301**	P		**Pg**		**07 51 00.6**	**+0.5**
KARP				S		**Sb**		**07 51 11.5**	**+0.4**
RGE1	**Gennadi, Rhode**	**0.81**	**5**	P		**Pn**		**07 51 04.5**	**-1.6**
RGE1				S		**Sb**		**07 51 15.0**	**-0.8**
ARG	**Arkhangelos**	**1.02**	**13**	Pg		**Pn**		**07 51 08.4**	**-0.6**
ARG	**Arkhangelos**	**1.02**	**13**			**Pn**		**07 51 08.5**	**-0.6**
ARG	**Arkhangelos**	**1.02**	**13**	P		**Pn**		**07 51 08.5**	**-0.6**
ARG				S		**Sn**		**07 51 22.1**	**-1.9**
ARG	**Arkhangelos**	**1.02**	**13**	P		**Pn**		**07 51 08.5**	**-0.6**
ARG				S		**Sn**		**07 51 22.0**	**-1.9**
ARG	**Arkhangelos**	**1.02**	**13**	P		**Pn**		**07 51 08.1**	**-1.0**
ARG				S		**Sn**		**07 51 26.5**	**+2.6**
ARG				AML		AML		07 51 38.0	
	11nm,0.6s								
ARG				AML		AML		07 51 39.5	
	14nm,0.9s								
ARG	**Arkhangelos**	**1.02**	**13**	P		**Pb**		**07 51 07.6**	**-0.5**
ARG				S		**Sn**		**07 51 21.6**	**-2.3**
RODB	**Rodos**	**1.26**	**14**	P		**Pg**		**07 51 12.5**	**+0.5**
RDI1	**Rhodes Town Ha**	**1.27**	**14**	P		**Pg**		**07 51 12.9**	**+0.9**
ZKR	**Zakros**	**1.33**	**266**	Pn		**Pn**		**07 51 12.4**	**-0.9**
ZKR	**Zakros**	**1.33**	**266**	P		**Pb**		**07 51 13.3**	**-0.1**
ZKR	**Zakros**	**1.33**	**266**	P		**Pn**		**07 51 12.0**	**-1.4**
ZKR				AML		AML		07 51 51.5	
	3.2nm,0.9s								
ZKR				AML		AML		07 52 00.9	
	5.4nm,1.1s								
ZKR	**Zakros**	**1.33**	**266**	P		**Pn**		**07 51 13.2**	**-0.2**
SIT2	**Siteia**	**1.42**	**270**	P		**Pb**		**07 51 14.9**	**0.0**
YAZI	**Mula-Dat§a-**	**1.49**	**348**	P		**Pb**		**07 51 15.7**	**-0.

TROD AML AML 07 52 56.5
0.4nm,0.6s
HDMB Hadim 4.15 64 Pn **Pn 07 51 54.4 +2.2**
APOL The Sanctuary 4.16 96 S **Sn 07 52 43.1 +1.6**
APOL AML AML 07 52 56.4
0.5nm,0.5s
APOL AML AML 07 52 56.9
0.6nm,0.8s
VLY Voula,Athens 4.18 310 P **Pn 07 51 54.0 +1.5**
VLI Veliai 4.25 292 P **Pn 07 51 53.7 +0.3**
VLI Veliai 4.25 292 P **Pn 07 51 53.8 +0.3**
ATHU Athens Univers 4.26 311 P **Pn 07 51 55.3 +1.7**
XYLS Xyliatos 4.28 91 P **Pn 07 51 52.8 -1.1**
XYLS S **Sn 07 52 46.0 +1.7**
XYLS AML AML 07 52 59.1
0.4nm,0.4s
XYLS AML AML 07 53 06.3
0.4nm,0.5s
SIGR SIGRI 4.29 339 Pn **Pn 07 51 55.5 +1.6**
SLUM Salum 4.32 211 P **Pn 07 51 54.5 +0.1**
MET5 Makryloggos,Me 4.33 305 P **Pn 07 51 55.9 +1.3**
DURS Dursunbey 4.40 6 P **Pn 07 51 55.1 -0.5**
BLVD Bolvadin-AFYON 4.42 35 Pn **Pn 07 51 57.9 +2.0**
YAYO Edremit-Balk 4.42 352 Pn **Pn 07 51 57.6 +1.8**
ASGA Asgata 4.46 94 P **Pn 07 51 54.9 -1.5**
ASGA S **Sn 07 52 49.2 +0.4**
ASGA AML AML 07 52 59.5
0.7nm,0.8s
ASGA AML AML 07 53 00.4
1.3nm,0.6s
ASGA Asgata 4.46 94 P **Pn 07 51 55.4 -1.0**
CSS Mathiatis 4.51 92 **Pn 07 51 56.4 -0.6**
CSS Mathiatis 4.51 92 P **Pn 07 51 56.4 -0.6**
CSS AML AML 07 53 00.6
0.4nm,0.7s
CSS AML AML 07 53 05.2
0.4nm,1.3s
CSS Mathiatis 4.51 92 P **Pn 07 51 56.6 -0.4**
CSS Mathiatis 4.51 92 P **Pn 07 51 56.3 -0.8**
EZN Ezine 4.75 346 ⇑P Pn 07 52 04.7 +4.4
MVOU Mavrovouni 4.75 91 P **Pn 07 51 59.9 -0.5**
MVOU S **Sn 07 52 56.9 +0.9**
MVOU AML AML 07 53 09.1
0.3nm,0.9s
MVOU AML AML 07 53 19.9
0.3nm,0.6s
ULDT Uludag 5.02 11 P Pb 07 52 11.1 -5.2
BAND Balkesir-Ban 5.13 2 ⇑P Pn 07 52 09.9 +4.4
GOAD anakkale-G¶ 5.16 343 P **Pn 07 52 06.5 +0.5**
ITM Ithomi 5.16 294 **Pn 07 52 06.2 +0.2**
AGG Agios Georgios 5.81 312 P **Pn 07 52 17.5 +2.6**
AGG Agios Georgios 5.81 312 P **Pn 07 52 17.7 +2.8**
ALN Alexandroupoli 5.84 347 **Pn 07 52 13.9 -1.4**
ALN Alexandroupoli 5.84 347 P **Pn 07 52 13.9 -1.4**
RDO Rodhopi 6.19 344 **Pn 07 52 19.4 -0.6**
CTYL Yalikoy Yolu 6.25 3 ⇑P Pn 07 52 25.8 +4.8
SWA2 6.29 199 P **Pn 07 52 21.7 +0.2**
BR131 Keskin Array S 6.44 44 *i* P Pn 07 52 27.9 +4.2
BRTR Keskin Array B 6.44 44 Pn **Pn 07 52 25.8 +2.1**
0.5nm,0.3s,baz=217,slow=14,SNR=10
BRTR Sn **Sn 07 53 39.7 +1.9**
0.7nm,0.3s,baz=213,slow=25,SNR=6.5
0.7nm,0.6s
LIT Litokhoron 6.46 321 **Pn 07 52 23.6 -0.2**
LIT Litokhoron 6.46 321 P **Pn 07 52 23.6 -0.2**
RYAN Fayoum 6.46 161 P **Pn 07 52 27.3 +3.4**
THE Thessaloniki 6.63 326 P Pn 07 52 32.3 +6.1
MMAI Mount Meron Ar 6.65 107 Pn **Pn 07 52 25.7 -0.8**
7.2nm,0.3s,baz=304,slow=14,SNR=11
MMAI Sn **Sn 07 53 44.5 +1.6**
10nm,0.3s,baz=303,slow=25,SNR=6.2
2.6nm,0.4s
GEM Giv'at Ha'Em 6.79 105 P **Pn 07 52 28.3 0.0**
NATI Neve Ativ 6.83 104 P **Pn 07 52 28.7 -0.2**
SALP Salfit 6.89 115 P **Pn 07 52 29.7 -0.1**
KZIT Kziot 6.99 126 P **Pn 07 52 29.9 -1.2**
KZIT Kziot 6.99 126 S **Sn 07 53 50.6 -0.5**
HMDT Nahal Hemdat 7.05 113 P **Pn 07 52 31.1 -0.9**
HMDT Nahal Hemdat 7.05 113 S **Sn 07 53 54.1 +1.4**
YTIR Yattir 7.21 120 P **Pn 07 52 33.1 -1.0**
DSI Dead Sea 7.28 118 P **Pn 07 52 34.1 -1.0**
BNN Bunyan 7.36 58 Pn **Pn 07 52 34.6 -1.6**
MSBI Mazada 7.41 120 P **Pn 07 52 36.0 -0.8**
ILGA Ilgaz 7.44 37 Pn **Pn 07 52 35.6 -1.8**
GHAJ Ghor Haditha 7.56 119 **Pn 07 52 38.6 -0.2**
KRMI Paran Flat 7.72 129 P **Pn 07 52 39.3 -1.9**
KRMI Paran Flat 7.72 129 S **Sn 07 54 08.9 -0.2**
ZFRI Zfri 7.73 125 P **Pn 07 52 39.9 -1.4**
ZFRI Zfri 7.73 125 S **Sn 07 54 09.8 +0.4**
PRNI Paran 7.74 127 P **Pn 07 52 39.7 -1.8**
PRNI Paran 7.74 127 S **Sn 07 54 09.5 -0.2**
KEK Kerkira 7.81 307 Pn **Pn 07 52 41.3 -1.0**
GAZ Gaziantep 7.82 73 Pn **Pn 07 52 40.0 -2.7**
HRFI Mount Harif 7.97 128 P **Pn 07 52 43.5 -1.2**
OHR Ohrid 8.08 319 *i* P Pb 07 52 58.1 -10
ASF Jabal al Asfar 8.14 109 Pn **Pn 07 52 47.1 +0.1**
1.4nm,0.3s,baz=330,slow=7.2,SNR=13
ASF Sn **Sn 07 54 21.3 +1.8**
0.4nm,0.3s,baz=315,slow=8.4,SNR=1.4
1.5nm,0.5s
EIL Elat 8.17 131 Pn **Pn 07 52 45.7 -1.6**
3.1nm,0.3s,baz=344,slow=9.4,SNR=13
EIL Sn **Sn 07 54 20.6 +0.5**
4.6nm,0.3s,baz=0.0,slow=20,SNR=8.9
3.0nm,0.4s
EIL Elat 8.17 131 P **Pn 07 52 45.7 -1.6**
BOVS Bovan 9.64 332 ⇑P **Pn 07 53 11.0 +3.5**
PDG Podgorica 9.83 320 Pn **Pn 07 53 09.1 -0.9**
CEL Celeste 10.05 291 Pn **Pn 07 53 11.8 -1.3**
MLR Muntele Rosu 10.36 353 Pn **Pn 07 53 19.2 +1.8**
0.5nm,0.3s,baz=158,slow=11,SNR=6.1
3.0nm,0.6s
MDVR Moldovita 10.64 336 ⇓P Pn 07 53 28.5 +7.3
PLOR5 Plostina Array 10.65 356 P **Pn 07 53 21.0 -0.3**
CUC Castrocucco 10.66 300 **Pn 07 53 21.2 -0.2**
VRI Vrincioaia 10.67 356 P **Pn 07 53 24.3 +2.8**
VAE Valguarnera 11.06 286 Pn **Pn 07 53 29.8 +2.8**
1.3nm,0.3s,baz=164,slow=21,SNR=2.2
VAE Sn **Sn 07 55 32.3 +1.1**
2.0nm,0.3s,baz=127,slow=14,SNR=3.5
RAFF Raffo Rosso 11.07 284 **Pn 07 53 24.0 -3.0**
NRCA Norcia 13.73 308 Pn **Pn 07 54 02.5 -0.9**
NEUR Neytrino 14.03 51 *i* P **P 07 54 12.7 -3.0**
GNI Garni 14.26 65 *i* P **Pn 07 54 11.7 +1.0**
KIV Kislovodsk 14.38 48 *eP* **P 07 54 15.6 -3.9**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,43nm,13.0s
KBZ Khabaz 14.39 49 Pn **P 07 54 16.0 -3.5**
comp=Z,0.1nm,0.3s,baz=245,slow=19,SNR=1.5
KBZ LR LR 08 00 26.1
comp=Z,64nm,21.9s,baz=252,slow=40
comp=Z,1.4nm,0.7s
KBZ Khabaz 14.39 49 *i* P **P 07 54 18.0 -1.4**
NCK Nalchik 14.71 51 *i* P **P 07 54 20.5 -2.6**
SOKA Soboth 14.96 324 *i* Pn **Pn 07 54 21.0 +0.8**
comp=Z,5.9nm,0.9s
KEST Kesra 15.08 277 Pn **Pn 07 54 21.8 -0.1**
comp=Z,0.1nm,0.3s,baz=97,slow=19,SNR=1.5
comp=Z,0.8nm,0.5s
OBKA Obir 15.08 322 *i* Pn **Pn 07 54 23.2 +1.3**
comp=Z,1.5nm,1.3s
ARSA Arzberg 15.15 326 *i* Pn **P 07 54 24.8 -3.2**
comp=Z,6.1nm,1.5s
RONA Rosalia, Austr 15.15 329 *i* Pn **Pn 07 54 24.6 +1.8**
comp=Z,4.5nm,0.9s
LANS Liptovska Anna 15.22 339 *eP* **P 07 54 33.6 +4.8**
MODS Modra-Piesok 15.30 332 *eP* P 07 54 36.1 +6.5
AKBB Malin Array Si 15.50 3 *i* P **P 07 54 32.9 +1.1**
AKBB pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 15.51 3 Pn **Pn 07 54 28.0 +0.7**
comp=Z,0.9nm,0.3s,baz=194,slow=10.0,SNR=6.6
comp=Z,0.3nm,0.4s
CONA Conrad Observa 15.51 329 *eP* **Pn 07 54 29.0 +1.4**
comp=Z,3.8nm,1.2s
MYKA Terra Mystica 15.62 321 *i* Pn **Pn 07 54 30.3 +1.3**
comp=Z,2.7nm,0.6s
STAL STALIGIAL 15.88 319 **Pn 07 54 30.3 -1.9**
STAL IAmb IAmb 07 54 39.8
comp=Z,15nm,1.2s
TEOL Teolo 15.93 314 **Pn 07 54 31.8 -1.1**
MAUC Maruska 15.94 336 *eP* **P 07 54 36.9 +0.2**

KBA Koelnbreinsper 16.08 322 *ePn* **P 07 54 38.9 +0.5**
comp=Z,24nm,1.4s
OJC Ojcow 16.09 341 **Pn 07 54 33.6 -1.4**
OJC Ojcow 16.09 341 P **Pn 07 54 33.6 -1.4**
MOA Molln 16.17 325 *ePn* **P 07 54 37.1 -2.2**
comp=Z,5.0nm,1.1s
KRUC Moravsky 16.20 332 *eP* **P 07 54 40.4 +0.8**
ABTA Abfaltersbach 16.29 320 *i* Pn **P 07 54 39.0 -1.8**
comp=Z,6.8nm,1.0s
VRAC Vranov 16.32 333 Pn **P 07 54 38.8 -2.2**
comp=Z,0.3nm,0.3s,baz=132,slow=9.7,SNR=4.2
comp=Z,1.2nm,0.5s
VRAC Vranov 16.32 333 *eP* **P 07 54 44.0 +3.0**
CTI Castel Tesino 16.34 316 **Pn 07 54 38.0 -0.2**
CTI IAmb IAmb 07 55 00.1
comp=Z,16nm,0.9s
CTI Castel Tesino 16.34 316 P **Pn 07 54 38.0 -0.2**
CTI pmax pmax
comp=Z,16nm,0.9s
BIOA Bad Ischl, Aus 16.35 324 *i* Pn **P 07 54 41.9 +0.6**
comp=Z,21nm,1.5s
MORC Moravsky Berou 16.38 336 *eP* **P 07 54 43.9 +2.2**
LESA Schwarzleotal 16.65 322 *i* Pn **P 07 54 42.7 -2.0**
comp=Z,6.5nm,0.9s
CKRC Cesky Krumlov 16.86 328 *eP* **P 07 54 51.6 +4.6**
CKRC *ex* x 07 54 56.2
CKRC Cesky Krumlov 16.86 328 *eP* **P 07 54 51.6 +4.6**
WTTA Wattenberg 17.08 320 *i* Pn **P 07 54 49.3 -0.3**
comp=Z,48nm,1.8s
MAK Makhachkala 17.09 57 *eP* **Pn 07 54 45.0 -2.6**
MAK *eS* **Sn 07 57 55.9 -2.1**
MAK pmax pmax
comp=Z,134nm,1.1s
MAK MLR MLR
comp=Z,174nm,13.0s
GERES GERESS Array B 17.15 327 P **Pn 07 54 48.4 -0.1**
baz=146,slow=9.7,SNR=5.1
comp=Z,0.8nm,0.7s
GERES GERESS Array B 17.15 327 *eP* **P 07 54 50.8 +0.5**
WATA Walderalm 17.16 320 *i* Pn **P 07 54 50.2 -0.2**
comp=Z,19nm,1.2s
SQTA Sankt Quirin 17.28 319 *i* Pn **P 07 54 52.5 +0.7**
comp=Z,14nm,1.1s
DPC Dobruska-Polom 17.29 335 *eP* P 07 54 58.5 +6.8
DPC Dobruska-Polom 17.29 335 *eP* P 07 54 58.5 +6.8
MOTA Moosalm 17.42 319 *i* Pn **P 07 54 53.9 +0.7**
comp=Z,8.5nm,1.0s
KHC Kasperske Hory 17.42 327 *eP* **P 07 54 52.0 -1.1**
KHC *ex* x 07 54 58.7
KHC AMS AMS 08 02 30.0
comp=Z,200nm,13.0s
KHC Kasperske Hory 17.42 327 *i* P **P 07 54 57.2 +4.1**
KHC pmax pmax
comp=Z,9.0nm,0.9s
FETA Feichten 17.42 318 *ePn* **P 07 54 53.7 +0.4**
comp=Z,14nm,1.0s
FUORN Ofenpass-Fuorn 17.45 316 **Pn 07 54 51.8 -0.6**
UPC Upice 17.53 334 *eP* P 07 55 01.0 +6.7
UPC Upice 17.53 334 *eP* P 07 55 01.0 +6.7
RETA Reutte 17.69 319 *i* Pn **P 07 54 56.9 +0.7**
comp=Z,8.9nm,1.1s
VSR Storozhevoye 17.96 24 *eP* **P 07 55 04.2 +5.2**
VSR pmax pmax
comp=Z,10.0nm,0.8s
DAVA Damuels 18.05 317 *i* Pn **P 07 55 01.4 +1.1**
comp=Z,13nm,1.0s
VRH Novokhopyorsk 18.86 28 *eP* Pn 07 55 15.7 +6.4
VRH pmax pmax
comp=Z,10.0nm,1.0s
SENIN Lac Senin/Sane 19.07 312 **P 07 55 09.6 -1.9**
SENIN IAmb IAmb 07 55 23.2
comp=Z,14nm,0.8s
CLL Collm 19.31 331 P **P 07 55 12.6 -1.3**
CLL Collm 19.31 331 P **P 07 55 12.6 -1.3**
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 19.31 331 *ePx* Px 07 55 16.0
CLL *ex* x 07 55 24.0
CLL *i* PP **PnPn 07 55 25.1 -2.6**
CLL *es*PP 07 55 31.0
CLL *eSx* Sx 07 58 59.0
CLL *ex* x 08 00 48.0
CLL LmV 08 43 00.0
comp=Z,100nm,20.8s
MOX Moxa 19.39 328 P **Pn 07 55 19.8 +3.9**
OBN Obninsk 20.79 14 *i* P Pn 07 55 33.4 +1.1
OBN *i* 07 55 49.6
OBN pmax pmax
comp=Z,17nm,0.6s
OBN MLR MLR
comp=Z,90nm,20.0s
BELG Belogornoye 22.21 33 *i* P **P 07 55 48.8 +3.6**
BELG pmax pmax
comp=Z,7.0nm,0.9s
TAM Tamanrasset 23.05 243 P **P 07 55 59.3 +4.7**
TAM pmax pmax
comp=Z,10.0nm,1.1s
VSU Vasula 23.26 359 *i* P **P 07 56 01.2 +5.0**
VSU pmax pmax
comp=Z,18nm,1.2s
ESDC Sonseca Array 25.56 289 P **P 07 56 16.0 -2.0**
comp=Z,0.9nm,0.7s,baz=85,slow=9.1,SNR=7.3
comp=Z,0.9nm,0.7s
FINES FINESS Array B 26.27 358 P **P 07 56 21.8 -2.2**
comp=Z,1.6nm,0.7s,baz=189,slow=10.0,SNR=1.9
FINES LR LR 08 07 06.4
comp=Z,68nm,18.1s,baz=282,slow=37
comp=Z,1.6nm,0.7s
HFS Hagfors 26.57 344 P **P 07 56 25.2 -1.6**
comp=Z,1.2nm,0.7s,baz=165,slow=10,SNR=7.2
comp=Z,1.2nm,0.7s
AKTO Aktyubinsk 26.62 46 LR LR 08 10 05.6
comp=Z,42nm,18.9s,baz=80,slow=43
KLMR Klimovskoe 26.73 13 *eP* P 07 56 35.5 +7.3
KLMR pmax pmax
comp=Z,27nm,1.4s
KIRV Kirov 27.39 25 *i* P **P 07 56 36.6 +2.4**
NB2 NORSAR Subarra 27.95 343 P **P 07 56 36.9 -2.3**
comp=Z,2.9nm,1.0s,baz=150,slow=9.3
NOA NORSAR Array B 27.95 343 P **P 07 56 37.3 -1.9**
comp=Z,0.9nm,0.8s,baz=145,slow=10,SNR=6.2
NOA LR LR 08 08 33.7
comp=Z,50nm,18.2s,baz=150,slow=38
comp=Z,0.9nm,0.8s
NOA NORSAR Array B 27.95 343 *eP* **P 07 56 43.8 +4.6**
NOA pmax pmax
comp=Z,1.0nm,0.7s
FURI Furi 28.02 157 LR LR 08 09 23.0
comp=Z,171nm,19.0s,baz=22,slow=40
ARTI Arti 29.62 35*c* *i*P P 07 56 57.9 +3.8
ARTI 07 57 50.6
ARTI S **S 08 01 54.6 +4.6**
ARTI SS **SnSn 08 03 23.2 +5.5**
ARTI pmax pmax
comp=Z,3.0nm,0.8s
TORD Torodi Ar. Bea 32.25 234 P **P 07 57 16.4 -1.3**
comp=Z,1.6nm,0.6s,baz=25,slow=9.9,SNR=19
comp=Z,1.6nm,0.6s
ARCES ARCESS Array B 34.39 359 P **P 07 57 35.5 -0.4**
comp=Z,2.7nm,0.9s,baz=173,slow=8.3,SNR=6.2
comp=Z,2.7nm,0.9s
ARCES ARCESS Array B 34.39 359 *eP* P 07 57 40.7 +4.8
ARCES pmax pmax
comp=Z,3.0nm,0.8s
MBAR Mbarara 35.74 175 LR LR 08 13 49.4
comp=Z,70nm,18.3s,baz=354,slow=39
KURBB Kurchatov Arra 39.38 51 P **P 07 58 17.0 -1.5**
comp=Z,0.3nm,0.5s,baz=275,slow=8.8,SNR=6.8
comp=Z,0.3nm,0.5s
KURK Kurchatov 39.44 51 P **P 07 58 17.0 -2.0**
DBIC Dimbokro 41.35 234 P **P 07 58 33.5 -1.7**
comp=Z,2.0nm,0.8s,baz=74,slow=10,SNR=4.6
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 41.91 57 P **P 07 58 39.3 -0.2**
comp=Z,0.2nm,0.5s,baz=267,slow=9.6,SNR=7.1
comp=Z,0.2nm,0.5s
ZALV Zalesovo Beam 43.38 46 P **P 07 58 51.2 -0.1**
comp=Z,0.5nm,0.4s,baz=249,slow=12,SNR=1.9
comp=Z,0.5nm,0.4s
SFJD Kangerlussuaq 53.68 331 P **P 08 00 11.0 +0.6**
SFJD IAmb IAmb 08 00 32.6
comp=Z,8.6nm,1.0s
SFJD Kangerlussuaq 53.68 331 P **P 08 00 11.0 +0.6**
SFJD pmax pmax
comp=Z,9.0nm,1.0s
SONM Songino Array 57.74 51 P **P 08 00 40.2 +0.1**
comp=Z,0.3nm,0.6s,baz=289,slow=9.2,SNR=4.5
comp=Z,0.3nm,0.6s
CMAR Chiang Mai Arr 64.38 85 P **P 08 01 24.9 -0.5**
comp=Z,0.6nm,0.3s,baz=294,slow=9.1,SNR=5.4
comp=Z,0.6nm,0.3s
CMAR Chiang Mai Arr 64.38 85 P **P 08 01 25.0 -0.5**
SCHQ Schefferville 64.55 320 P **P 08 01 24.7 -1.3**
comp=Z,28nm,0.5s,baz=53,slow=3.3,SNR=4.0
E29M Blow River 76.15 355 P **P 08 02 35.3 -1.5**
E29M IAmb IAmb 08 02 53.8
comp=Z,5.0nm,1.1s
KSRS Korea Array 76.49 54 P **P 08 02 38.1 -1.0**
comp=Z,0.4nm,0.5s,baz=300,slow=4.9,SNR=4.8
comp=Z,0.4nm,0.5s
ILAR Eielson Array 80.25 358 P **P 08 02 58.2 -1.3**
comp=Z,0.2nm,0.8s,baz=341,slow=2.9,SNR=1.6
comp=Z,0.2nm,0.8s
ASAJ Asahikawa 81.30 41 LR LR 08 44 27.6
comp=Z,34nm,18.3s,baz=254,slow=40
MJAR Matsushiro Arr 83.64 49 P **P 08 03 17.9 0.0**
comp=Z,0.5nm,0.8s,baz=332,slow=3.9,SNR=4.2
comp=Z,0.5nm,0.8s

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*ATH **29** 08:12:49.8,35°.14N×27°.87E,h7km±3km,ML3.0/11, Manual Solution by G.Panopoulou First location: 2019/09/29 08:14:17, This location: 2019/09/29 15:42:19 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*ISK **29** 08:12:50.2,35°.23N×27°.83E,h8km,ML3.1/21*
*AFAD **29** 08:12:50.0,34°.95N×27°.78E,h36km,MW3.6*
ISC 29 08:12:49.6±1.4,35°.14N±0°.04×27°.86E±0°.03,h7km±10km, n64,σ0°85/78,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.70**	**306**	Pg	**Pg**	**08 13 02.3**	**-0.7**
KARP				Sg	**Sg**	**08 13 12.3**	**+0.2**
KARP	**Karpathos**	**0.70**	**306**	P	**Pg**	**08 13 02.3**	**-0.7**
KARP				S	**Sb**	**08 13 14.2**	**+0.2**
KARP	**Karpathos**	**0.70**	**306**	P	**Pg**	**08 13 02.3**	**-0.7**
KARP				S	**Sb**	**08 13 13.3**	**-0.7**
RGE1	**Gennadi, Rhode**	**0.89**	**4**	P	**Pg**	**08 13 07.1**	**+0.5**
RGE1				S	**Sg**	**08 13 18.4**	**+0.3**
ARG	**Arkhangelos**	**1.09**	**12**	Pg	**Pg**	**08 13 10.3**	**-0.3**
ARG	**Arkhangelos**	**1.09**	**12**	P	**Pg**	**08 13 09.8**	**-0.8**
ARG	**Arkhangelos**	**1.09**	**12**	P	**Pg**	**08 13 10.1**	**-0.5**
ARG				S	**Sg**	**08 13 24.6**	**-0.2**
ZKR	**Zakros**	**1.34**	**269**	Pn	**Pg**	**08 13 15.8**	**+0.5**
ZKR	**Zakros**	**1.34**	**269**	P	**Pg**	**08 13 16.0**	**+0.7**
ZKR	**Zakros**	**1.34**	**269**	P	**Pn**	**08 13 14.8**	**0.0**
ZKR				S	**Sn**	**08 13 33.0**	**+0.1**
YAZI	**Mula-Dat§a-**	**1.57**	**348**	P	**Pn**	**08 13 18.4**	**+0.5**
YAZI				S	**Sn**	**08 13 38.3**	**-0.2**
YAZI				*i* IAML		08 13 42.0	
	comp=E,94nm,0.4s						
NISR	**Nisiros**	**1.58**	**338**	P	**Pn**	**08 13 17.7**	**-0.3**
DAT	**Datca**	**1.60**	**352**	Pn	**Pn**	**08 13 18.9**	**+0.5**
KSL	**Kastellorizon**	**1.73**	**54**	P	**Pn**	**08 13 20.6**	**+0.5**
KSL	**Kastellorizon**	**1.73**	**54**	P	**Pn**	**08 13 20.4**	**+0.4**
KSL				S	**Sn**	**08 13 42.6**	**+0.2**
AKAS	**Kas**	**1.79**	**52**	Pn	**Pn**	**08 13 21.6**	**+0.5**
AKAS	**Kas**	**1.79**	**52**	P	**Pn**	**08 13 21.0**	**0.0**
KALY	**Dalyan (Mula)**	**1.79**	**21**	Pn	**Pn**	**08 13 21.2**	**+0.3**
FETY	**Fethiye**	**1.79**	**33**	P	Pn	08 13 11.7	-9.3
NPS	**Neapolis**	**1.84**	**274**	P	**Pn**	**08 13 21.9**	**+0.3**
NPS				S	**Sn**	**08 13 45.5**	**+0.3**
ASTA	**Astypalaia**	**1.86**	**319**	P	**Pn**	**08 13 22.3**	**+0.4**
ASTA				S	**Sn**	**08 13 45.4**	**-0.2**
SABU	**Mula-Dalaman**	**1.91**	**28**	P	**Pn**	**08 13 22.6**	**+0.1**
SABU				S	**Sg**	**08 13 53.4**	**+2.6**
SABU				*i* IAML		08 14 08.0	
	comp=N,79nm,0.6s						
BDRM	**Kayabasi**	**1.95**	**350**	P	**Pn**	**08 13 22.1**	**-1.0**
BDRM				S	**Sn**	**08 13 45.1**	**-2.8**
BDRM				*i* IAML		08 14 03.0	
	comp=E,76nm,0.5s						
BODT	**Bodrum**	**1.97**	**347**	Pn	**Pn**	**08 13 23.4**	**0.0**
BODT	**Bodrum**	**1.97**	**347**	P	**Pn**	**08 13 24.2**	**+0.8**
YER	**Yerkesik**	**2.02**	**10**	Pn	**Pn**	**08 13 24.2**	**+0.1**
YKAV	**Yalikavak-Bodr**	**2.03**	**347**	Pn	**Pn**	**08 13 24.3**	**+0.1**
MULA	**Mugla, Merkez-**	**2.14**	**10**	P	**Pb**	**08 13 28.4**	**-0.4**
CAME	**Cameli-Denizli**	**2.15**	**33**	Pn	**Pn**	**08 13 26.2**	**+0.3**
KNIK	**Mula-Seydike**	**2.20**	**39**	P	**Pn**	**08 13 25.2**	**-1.4**
ELL	**Elmali**	**2.31**	**45**	Pn	**Pn**	**08 13 28.9**	**+0.7**
ELL	**Elmali**	**2.31**	**45**	P	**Pn**	**08 13 28.6**	**+0.4**
AKUM	**Antalya-Kumluc**	**2.34**	**59**	P	**Pn**	**08 13 26.8**	**-1.7**
IDI	**Anoyia**	**2.43**	**274**	Pn	**Pn**	**08 13 31.5**	**+1.7**
IDI	**Anoyia**	**2.43**	**274**	P	**Pb**	**08 13 32.6**	**-1.1**
IDI	**Anoyia**	**2.43**	**274**	P	**Pn**	**08 13 30.2**	**+0.3**
IDI				S	**Sn**	**08 14 00.4**	**+0.5**
TAVA	**DENIZLI_Tavas**	**2.47**	**20**	P	**Pn**	**08 13 31.5**	**+1.1**
TAVA				S	**Sn**	**08 14 02.3**	**+1.5**
TAVA				*i* IAML		08 14 15.0	
	comp=E,43nm,0.7s						
GOLH	**Golhisar**	**2.50**	**33**	P	**Pn**	**08 13 31.5**	**+0.7**
AYDN	**Tasoluk**	**2.51**	**0**	P	**Pn**	**08 13 32.5**	**+1.6**
APMY	**Acipayam-Deniz**	**2.60**	**26**	Pn	**Pn**	**08 13 32.7**	**+0.5**
GCAM	**G?zelcaml?**	**2.60**	**349**	Pn	**Pn**	**08 13 32.9**	**+0.8**
GCAM	**G?zelcaml?**	**2.60**	**349**	P	**Pn**	**08 13 31.5**	**-0.6**
DNIZ	**Denizli-Tavas-**	**2.66**	**21**	P	**Pn**	**08 13 33.1**	**+0.1**
ESEN	**Aydn-Nazilli**	**2.68**	**8**	P	**Pn**	**08 13 33.9**	**+0.8**
KORT	**Korkueli**	**2.74**	**47**	Pn	**Pn**	**08 13 35.5**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**2.80**	**1**	Pn	**Pn**	**08 13 34.8**	**-0.1**
KIRA	**zmir-Kiraz**	**3.08**	**8**	P	**Pn**	**08 13 39.8**	**+1.1**
GVD	**Gavdhos**	**3.11**	**266**	P	**Pn**	**08 13 38.7**	**-0.3**
GVD				S	**Sn**	**08 14 17.6**	**+1.1**
ODEM	**Odemis-Izmir**	**3.13**	**3**	Pn	**Pn**	**08 13 40.1**	**+0.7**
BCK	**Bucak**	**3.20**	**43**	Pn	**Pn**	**08 13 41.9**	**+1.6**
URLA	**Izmir**	**3.37**	**343**	Pn	**Pn**	**08 13 43.3**	**+0.7**
KULA	**Kula-Manisa**	**3.43**	**11**	Pn	**Pn**	**08 13 44.5**	**+1.0**
PASA	**Karahalli, USA**	**3.46**	**22**	P	**Pn**	**08 13 44.6**	**+0.6**
AKMS	**Akamas**	**3.67**	**91**	P	**Pn**	**08 13 46.5**	**-0.4**
USAK	**Uak-Merkez**	**3.69**	**14**	P	**Pn**	**08 13 46.1**	**-0.9**
GORD	**Gordes-Manisa**	**3.77**	**4**	Pn	**Pn**	**08 13 49.2**	**+1.0**
ANKY	**Antikythira Is**	**3.79**	**282**	P	**Pn**	**08 13 48.6**	**+0.3**
ALFC	**Alefka**	**3.89**	**88**	P	**Pn**	**08 13 49.5**	**-0.3**
KARY	**Karystos**	**3.99**	**317**	P	**Pn**	**08 13 51.7**	**+0.6**
VLI	**Veliai**	**4.29**	**293**	P	**Pn**	**08 13 55.3**	**0.0**
ASGA	**Asgata**	**4.44**	**93**	P	**Pn**	**08 13 57.2**	**-0.1**
CSS	**Mathiatis**	**4.49**	**91**	P	**Pn**	**08 13 57.8**	**-0.4**
LTK	**Loutraki**	**4.87**	**308**	P	**Pn**	**08 14 03.3**	**0.0**
ITM	**Ithomi**	**5.21**	**295**	P	**Pn**	**08 14 08.7**	**+0.8**

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*IDC **29** 08:16:30.5±8.8,38°.25N×76°.65E,h0km,mb3.8/1, mbtmp3.8/4,ML3.2/3,Error ellipse: s-maj=118.6km s-min=45.5km az=34.0*
ISC 29 08:16:27.1±2.9,38°.0N±0°.2×75°.5E±0°.2,h35km,n6,σ2s01/8, 3C-1D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**4.72**	**351**	⇑Pn	**Pn**	**08 17 39.2**	**+3.3**
	0.7nm,0.3s						
AAK				⇑Sn	**Sn**	**08 18 29.2**	**-0.3**
	10.0nm,0.6s						
KK31	**Karatay Array**	**6.37**	**325**	⇓Pn	**Pn**	**08 18 00.1**	**+1.6**
	0.7nm,0.2s,baz=135,slow=13,SNR=25						
KK31				⇑Sn	**Sn**	**08 19 07.5**	**-2.5**
	2.8nm,0.3s,baz=132,slow=23,SNR=4.0						
MKAR	**Makanchi Array**	**10.15**	**28**	Pn	**Pn**	**08 18 50.5**	**+0.3**
	0.3nm,0.3s,baz=203,slow=15,SNR=9.3						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**15.46**	**348**	Pn	**P**	**08 20 06.1**	**-0.4**
	0.1nm,0.3s,baz=156,slow=13,SNR=9.2						
	1.9nm,0.5s						
ZALV	**Zalesovo Beam**	**17.22**	**19**	Pn	**Pn**	**08 20 24.1**	**-0.6**
	0.4nm,0.3s,baz=210,slow=11,SNR=4.3						
	1.1nm,0.4s						
SONM	**Songino Array**	**24.55**	**56**	P	**P**	**08 21 43.3**	**-0.3**
	1.3nm,0.5s,baz=255,slow=11,SNR=6.6						
	1.3nm,0.5s						

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*NEIC **29** 08:17:43.4±0.8, 19°.239N±0°.009×155°.579W±0°.009, h10km±1km,Error ellipse: s-maj=2.8km s-min=1.5km az=193.0*
HVO 29 08:17:43.2±0.9,19°.23N±0°.01×155°.573W±0°.009, h9km±3km,ML3.1/46,ML3.1/40(NEIC),Error ellipse:

s-maj=1.7km s-min=1.2km az=198.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHU	**Kahuku**	**0.04**	**298**		Pg	08 17 45.5	+0.2
KHU					Sg	08 17 47.1	+0.3
HPO	**Honuapo**	**0.14**	**172**		Pg	08 17 46.6	+0.4
HPO					Sg	08 17 49.1	+0.8
HTC	**Hot Caves**	**0.17**	**86**		Pg	08 17 47.3	+0.5
AIN	**Ainahou**	**0.18**	**37**	Pg	Pg	08 17 47.5	+0.3
AIN				IAML		08 17 50.7	
	comp=E,4μm,0.3s						
AIN				IAML		08 17 51.0	
	comp=N,4μm,0.3s						
HLP	**Hilina Pali**	**0.26**	**74**	Pg	Pg	08 17 49.3	+0.8
HLP				IAML		08 17 57.8	
	comp=N,2μm,0.2s						
HLP				IAML		08 17 57.9	
	comp=E,3μm,0.2s						
MWH	**Mokuaweoweo**	**0.26**	**355**		Pg	08 17 48.3	-0.4
MWH				IAML		08 17 52.6	
	comp=N,2μm,0.5s						
MWH				Sg	Sg	08 17 52.6	+0.3
SDHHI	**Sand Hill**	**0.31**	**58**		Pg	08 17 49.5	0.0
SDHHI					Sg	08 17 54.8	+1.1
WRMHI	**West Rim**	**0.32**	**55**		Pg	08 17 49.5	0.0
WRMHI					Sg	08 17 54.9	+1.1
MLH	**Mauna Loa**	**0.32**	**33**		Pg	08 17 49.5	-0.2
MLH					Sg	08 17 55.2	+1.2
ALEP	**Alea Permanent**	**0.32**	**348**		Pg	08 17 49.4	-0.4
ALEP					Sg	08 17 53.9	-0.3
UWE	**Uwekahuna**	**0.33**	**54**		Pg	08 17 50.1	+0.3
UWE					Sb	08 17 55.6	-1.3
RIM	**Rim**	**0.33**	**59**		Pg	08 17 50.1	+0.3
RIM					Sg	08 17 55.2	+0.9
OBL	**Observatory Le**	**0.33**	**55**		Pg	08 17 50.3	+0.4
OBL					Sg	08 17 55.7	+1.3
KKO	**Keanakako'i**	**0.34**	**59**		Pg	08 17 49.9	-0.1
KKO					Sg	08 17 55.7	+1.2
UWB	**Uwekahuna Bluf**	**0.34**	**54**		Pg	08 17 49.9	-0.1
UWB					Sg	08 17 55.2	+0.6
BYL	**Byron's Ledge**	**0.35**	**58**		Pg	08 17 50.4	+0.2
BYL				IAML		08 17 58.7	
	comp=N,2μm,0.7s						
BYL				IAML		08 18 01.7	
	comp=E,3μm,0.5s						
SBLHI	**Steaming Bluff**	**0.35**	**55**		Pg	08 17 50.3	+0.1
SBLHI					Sg	08 17 55.7	+0.8
HATHI	**Halema'uma'u T**	**0.35**	**56**		Pg	08 17 50.4	+0.1
HATHI					Sg	08 17 56.1	+1.1
HATHI				IAML		08 17 56.5	
	comp=N,3μm,0.6s						
PUH	**Pauahi**	**0.37**	**66**		Pg	08 17 50.6	0.0
PUH					Sg	08 17 55.4	-0.1
PUH				IAML		08 17 57.6	
	comp=N,2μm,0.4s						
PUH				IAML		08 17 58.3	
	comp=E,2μm,0.4s						
HMH	**Humu'ula Sheep**	**0.39**	**13**		Pg	08 17 50.5	-0.4
HMH				IAML		08 17 57.9	
	comp=E,2μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.41**	**68**		Pg	08 17 51.1	-0.2
CPH	**Captain Cook**	**0.42**	**309**		Pg	08 17 51.1	-0.4
STCH	**Steam Cracks**	**0.45**	**69**		Pg	08 17 51.6	-0.5
NPOC	**North of Pu'u**	**0.47**	**69**		Pg	08 17 51.9	-0.5
NPOC					Sg	08 17 59.2	+0.6
JCUZ	**Jacuzzi**	**0.47**	**70**		Pg	08 17 52.5	0.0
JCUZ					Sg	08 17 59.3	+0.6
HUH	**Hualalai**	**0.52**	**332**		Pg	08 17 53.3	-0.1
POHA	**Pohakuloa**	**0.53**	**4**	Pg	Pg	08 17 53.2	-0.4
POHA				IAML		08 18 01.4	
	comp=E,2μm,0.5s						
POHA				IAML		08 18 02.3	
	comp=E,1μm,0.5s						
POHA	**Pohakuloa**	**0.53**	**4**		Sg	08 18 00.7	0.0
JOKA	**Jonika Flow**	**0.58**	**69**		Pg	08 17 53.3	-1.1
JOKA					Sg	08 18 00.8	-1.2
JOKA				IAML		08 18 05.3	
	comp=N,775nm,0.2s						

*DJA **29** 08:22:41.2±0.7, 6°N±4°×12°7E±°, h72km±25km, M4.6/8, mb5.2/1, mb4.9/1, MLv4.5/8, Mw(mB)4.5/1*
*IDC **29** 08:22:42.6±2.0, 5°16N×125°48E, h94km±17km, mb3.5/9, mbtmp3.9/9, Error ellipse: s-maj=47.6km s-min=12.9km az=74.0*
ISC 29 08:22:39.5±0.7, 5°62N±0°06×126°7E±0°1, h66km, n13, σ2s09/17, mb3.9/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.82**	**322**	P	**Pn**	**08 23 12.6**	**+3.9**
	119nm,0.3s,baz=56,slow=14,SNR=1.5						
DAV				S	Sn	08 23 38.4	+7.6
	312nm,0.4s,baz=285,slow=23,SNR=4.0						
SGSI	**Sangihe**	**2.25**	**211**	P	**Pn**	**08 23 15.9**	**+1.4**
SGSI				S	**Sn**	**08 23 43.5**	**+2.2**
TNTI	**Ternate**	**4.87**	**172**	P	**Pn**	**08 23 53.1**	**+2.9**
MRSI	**Marisa**	**6.98**	**223**	P	**Pn**	**08 24 20.3**	**+1.1**
WRA	**Warramunga Arr**	**26.49**	**164**	P	**P**	**08 28 10.4**	**-0.5**
	0.5nm,0.5s,baz=343,slow=10,SNR=9.4						
WRA				ScP	**ScP**	**08 35 07.1**	**-1.9**
	0.1nm,0.4s,baz=329,slow=3.5,SNR=1.3						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**29.95**	**167**	P	**P**	**08 28 41.5**	**-0.3**
	0.4nm,0.5s,baz=343,slow=7.0,SNR=16						
ASAR				PcP	**PcP**	**08 31 42.5**	**-0.6**
	0.3nm,0.4s,baz=350,slow=2.4,SNR=5.5						
ASAR				ScP	**ScP**	**08 35 18.0**	**-1.7**
	0.2nm,0.8s,baz=335,slow=2.4,SNR=4.2						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**39.90**	**160**	P	**P**	**08 30 07.7**	**+0.5**
	0.7nm,0.4s,baz=323,slow=4.0,SNR=4.1						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**56.00**	**325**	P	**P**	**08 32 09.6**	**-1.8**
	0.4nm,0.3s,baz=117,slow=7.0,SNR=8.7						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**60.14**	**327**	P	**P**	**08 32 38.4**	**-1.9**
	0.9nm,0.6s,baz=124,slow=6.7,SNR=8.2						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**65.73**	**327**	P	**P**	**08 33 15.6**	**-1.8**
	1.2nm,0.9s,baz=83,slow=6.3,SNR=3.9						
	1.2nm,0.9s						
ILAR	**Eielson Array**	**83.42**	**26**	P	**P**	**08 35 02.4**	**+2.8**
	0.2nm,0.5s,baz=262,slow=5.3,SNR=4.7						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**88.67**	**340**	P	**P**	**08 35 23.8**	**-1.5**
	1.0nm,0.5s,baz=76,slow=5.1,SNR=6.1						
	1.0nm,0.5s						
FINES	**FINESS Array B**	**90.16**	**332**	P	**P**	**08 35 30.9**	**-1.5**
	1.7nm,0.8s,baz=73,slow=9.3,SNR=4.8						
	1.7nm,0.8s						

*EST **29** 08:29:16.8, 59°98N×24°22E, h0km, ML1.6(HEL), Explosion*
*HEL **29** 08:29:16.8±0.0, 59°98N×24°22E, h0km, ML1.6, Explosion*
*IDC **29** 08:29:18.4±1.2, 60°04N×24°28E, h0km, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=14.2km s-min=9.2km az=130.0*
ISC 29 08:29:15.6±1.1, 59°94N±0°02×24°23E±0°02, h5km±10km, n30, σ0s88/48, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.29**	**17**	*e*P	**Pg**	**08 29 21.5**	**+0.3**
MEF	**Metsahovi**	**0.29**	**17**	*e*P	**Pg**	**08 29 21.2**	**-0.1**
MEF				*e*S	**Sg**	**08 29 24.9**	**-0.1**
HEL5	**Espoo, Suvisaa**	**0.31**	**55**	*e*P	**Pg**	**08 29 21.9**	**+0.3**
HEL5				*e*S	**Sg**	**08 29 26.1**	**+0.3**
HEL1	**Helsinki**	**0.41**	**54**	*e*P	**Pg**	**08 29 23.6**	**+0.2**
HEL1				*e*S	**Sg**	**08 29 29.1**	**+0.4**
TVF	**Tvarminne**	**0.50**	**259**	*e*P	**Pg**	**08 29 25.9**	**+0.8**
TVF				*e*S	**Sg**	**08 29 32.6**	**+0.9**
TVF				MSG		08 29 33.0	
	comp=Z,4.5nm,0.2s						
NUR	**Nurmijarvi**	**0.61**	**20**	*e*P	**Pg**	**08 29 27.2**	**-0.1**
NUR				*e*S	**Sg**	**08 29 34.7**	**-0.5**
NUR				MSG		08 29 35.4	
	comp=Z,9.6nm,0.2s						
EE02	**Kiisa, Saku**	**0.79**	**162**	*e*P	**Pb**	**08 29 31.6**	**-0.1**
EE02				*e*S	**Sb**	**08 29 42.3**	**-0.3**
EE01	**Perakula, Nova**	**0.80**	**203**	*e*P	**Pb**	**08 29 31.5**	**-0.3**
EE01				*e*S	**Sb**	**08 29 41.9**	**-1.0**
PVF	**Pernaja**	**1.02**	**53**	*e*PB	**Pg**	**08 29 35.0**	**-0.1**
PVF				MSG		08 29 47.3	
	comp=Z,5.9nm,0.2s						
PVF				*e*SB	**Sg**	**08 29 48.0**	**-0.2**
ARBE	**Arbavere**	**1.02**	**119**	*e*PB	**Pn**	**08 29 36.3**	**-0.3**
EE06	**Soera, Palade,**	**1.20**	**216**	*e*P	**Pg**	**08 29 38.8**	**+0.2**
EE06				*e*S	**Sn**	**08 29 54.5**	**-1.0**
EE08	**Sarghaua, Vand**	**1.39**	**158**	*e*P	**Pg**	**08 29 42.2**	**0.0**
EE08				*e*SB	**Sg**	**08 30 01.0**	**+0.9**
EE03	**Tooma soojaam,**	**1.50**	**135**	*e*P	**Pg**	**08 29 44.0**	**-0.2**
EE03				*e*SB	**Sg**	**08 30 03.8**	**+0.2**
RAF	**Rauma**	**1.63**	**313**	*e*P	**Pb**	**08 29 45.8**	**-0.3**
RAF	**Rauma**	**1.63**	**313**	*e*PG	**Pb**	**08 29 45.7**	**-0.4**
RAF				MSG		08 30 04.9	
	comp=Z,4.4nm,0.2s						
FIA0	**FINESS Array S**	**1.76**	**30**	*e*PG	**Pb**	**08 29 47.8**	**-0.5**
FIA0				MSG		08 30 08.5	
	comp=Z,3.6nm,0.2s						
FIA0				*e*SN	**Sb**	**08 30 10.5**	**-0.2**
FINES	**FINESS Array B**	**1.76**	**30**	Pg	**Pb**	**08 29 48.0**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=210,slow=16,SNR=33						
FINES				Lg	Lg	08 30 10.4	
	comp=Z,0.5nm,0.3s,baz=212,slow=27,SNR=4.6						
VJF	**Virojoki**	**1.77**	**69**	*e*P	**Pb**	**08 29 48.0**	**-0.4**
VJF				MSG		08 30 09.1	
	comp=Z,3.6nm,0.2s						
VJF				*e*SN	**Sb**	**08 30 11.5**	**+0.7**
VSU	**Vasula**	**1.96**	**138**	*e*SG	**Sg**	**08 30 18.0**	**-0.6**
AAL	**Aland**	**2.14**	**278**	*e*PG	**Pb**	**08 29 54.5**	**-0.2**
AAL				*e*SG	**Sb**	**08 30 22.0**	**+0.6**
KPF	**Kankaanpaa**	**2.17**	**332**	*e*PG	**Pb**	**08 29 55.4**	**+0.1**
KPF				MSG		08 30 20.2	
	comp=Z,2.5nm,0.2s						
KPF				*e*SG	**Sb**	**08 30 23.0**	**+0.5**
KEF	**Keuruu**	**2.26**	**8**	*e*P	**Pn**	**08 29 53.8**	**+0.3**
KEF	**Keuruu**	**2.26**	**8**	*e*PG	**Pb**	**08 29 56.2**	**-0.6**
KEF				MSG		08 30 22.5	
	comp=Z,3.3nm,0.2s						
KEF				*e*SG	**Sb**	**08 30 25.6**	**+0.7**
KAF	**Kangasniemi**	**2.40**	**24**	*e*PB	**Pb**	**08 29 58.6**	**-0.7**
KAF				MSG		08 30 26.9	
	comp=Z,1.6nm,0.2s						
KAF				*e*SG	**Sb**	**08 30 29.5**	**+0.4**
SLIT	**Slitere, Latvi**	**2.53**	**204**	*e*SG	**Sg**	**08 30 35.4**	**-1.3**
OUF	**Merijarvi**	**4.45**	**3**	*e*SG	**Sg**	**08 31 34.2**	**-4.2**
JOF	**Joensuu**	**4.53**	**46**	*e*P	**Pn**	**08 30 26.3**	**+1.7**
JOF				*e*S	**Sn**	**08 31 19.0**	**+1.4**
NOA	**NORSAR Array B**	**6.52**	**285**	Pn	**Pn**	**08 30 52.2**	**+0.1**
	baz=92,slow=14,SNR=1.7						
NOA				Lg	Lg	08 32 42.9	
	baz=29,slow=11,SNR=4.2						
	comp=Z,0.5nm,0.9s						
ARCES	**ARCESS Array B**	**9.65**	**3**	Pn	**Pn**	**08 31 35.8**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=6.2						
	comp=Z,0.3nm,0.3s						
AKASG	**Malin Array Be**	**9.68**	**161**	Pn	**Pn**	**08 31 34.6**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=343,slow=13,SNR=1.4						
	comp=Z,0.3nm,0.4s						

*KRNET **29** 08:31:01.7±0.1, 42°02N×74°66E, h21km, mb3.4*
*KNET **29** 08:31:02.0±0.4, 42°05N×74°70E, h18km±2km, ml2.8, Error ellipse: s-maj=3.5km s-min=2.1km az=24.0*
*SOME **29** 08:31:02.0, 42°02N×74°62E, h10km*
*NNC **29** 08:31:04.1±1.2, 42°10N×74°55E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=8.0km s-min=5.5km az=35.0*
ISC 29 08:31:03.2±0.9, 42°10N±0°03×74°59E±0°02, h16km±7km, n56, σ1s25/96, 44C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.14**	**336**	P	**Pg**	**08 31 07.3**	**-0.2**
	246nm,0.1s,SNR=366						
UCH	**Uchtor**	**0.14**	**336**	⇑*i*P	**Pg**	**08 31 07.1**	**-0.4**
UCH				⇑*i*S	**Sb**	**08 31 10.9**	**0.0**
AAK	**Ala-Archa**	**0.55**	**352**	⇓P	**Pb**	**08 31 14.4**	**-0.1**
	33nm,0.2s,SNR=29						
AAK				⇑S	**Sb**	**08 31 22.7**	**+0.5**
	626nm,0.3s						
AAK	**Ala-Archa**	**0.55**	**352**	⇑P	**Pb**	**08 31 14.2**	**-0.3**
	5.7nm,0.3s						
AAK				⇑S	**Sb**	**08 31 22.4**	**+0.2**
	26nm,0.3s						
AAK	**Ala-Archa**	**0.55**	**352**	⇑*i*P	**Pg**	**08 31 13.7**	**-0.3**
AAK				⇑*i*S	**Sb**	**08 31 22.4**	**+0.2**
KBK	**Karagaybulak**	**0.62**	**25**	⇑P	**Pg**	**08 31 15.4**	**0.0**
	110nm,0.1s,SNR=12						
KBK				⇓S	**Sb**	**08 31 24.6**	**+0.3**
	980nm,0.3s						
KBK	**Karagaybulak**	**0.62**	**25**	⇑*i*P	**Pg**	**08 31 14.6**	**-0.8**
KBK				⇑*i*S	**Sb**	**08 31 23.9**	**-0.4**
FRU1	**Bishkek**	**0.71**	**2**	⇑*i*P	**Pg**	**08 31 16.9**	**-0.2**
FRU1				⇑*i*S	**Sn**	**08 31 28.0**	**-1.5**
EKS2	**Erkin-Say**	**0.83**	**313**	⇑P	**Pb**	**08 31 19.6**	**+0.3**
	28nm,0.1s,SNR=12						
EKS2				⇑S	**Sn**	**08 31 32.3**	**0.0**
	99nm,0.2s						
EKS2	**Erkin-Say**	**0.83**	**313**	⇑*i*P	**Pg**	**08 31 18.9**	**-0.4**
EKS2				⇑*i*S	**Sn**	**08 31 31.3**	**-1.0**
CHMS	**Chumysh**	**0.91**	**7**	⇓P	**Pg**	**08 31 20.9**	**0.0**
	37nm,0.2s,SNR=11						
CHMS				⇓S	**Sn**	**08 31 33.8**	**-0.4**
	237nm,0.1s						
CHMS	**Chumysh**	**0.91**	**7**	⇑*i*P	**Pb**	**08 31 19.9**	**-0.7**
CHMS				⇑*i*S	**Sn**	**08 31 33.0**	**-1.2**
BOOM	**Boomskoye usch**	**1.07**	**68**	⇑*i*P	**Pb**	**08 31 21.3**	**-2.2**
BOOM				⇑*i*S	**Sb**	**08 31 35.7**	**-1.7**
TKM2	**Tokmak 2**	**1.11**	**42**	⇑P	**Pb**	**08 31 23.4**	**-0.7**
	30nm,0.1s,SNR=38						
TKM2				⇑S	**Sg**	**08 31 38.7**	**-0.5**
	90nm,0.1s						
TKM2	**Tokmak 2**	**1.11**	**42**	⇓*i*P	**Pb**	**08 31 22.8**	**-1.3**
TKM2				⇓*i*S	**Sb**	**08 31 38.0**	**-0.5**
USP	**Ospenovka**	**1.17**	**357**	P	**Pg**	**08 31 25.7**	**-0.1**
	71nm,0.2s,SNR=39						
USP				⇓S	**Sn**	**08 31 42.1**	**+1.4**
	123nm,0.2s						
USP	**Ospenovka**	**1.17**	**357**	⇑*i*P	**Pb**	**08 31 24.8**	**-0.3**
USP				⇑*i*S	**Sn**	**08 31 41.6**	**+0.9**
MRKS	**Merke**	**1.20**	**303**	P	**Pg**	**08 31 26.1**	**-0.3**
	14nm,0.3s						
MRKS				S	**Sg**	**08 31 43.0**	**+1.0**
	92nm,0.4s						
MRKS	**Merke**	**1.20**	**303**	*e*P	**Pg**	**08 31 26.1**	**-0.3**
	14nm,0.3s						
MRKS				*e*S	**Sg**	**08 31 43.0**	**+1.0**
	92nm,0.4s						
ULHL	**Ulahol**	**1.23**	**83**	⇑P	**Pn**	**08 31 24.2**	**-1.9**
	30nm,0.1s,SNR=7.5						
ULHL				⇓S	**Sb**	**08 31 40.4**	**-1.7**
	120nm,0.2s						
ULHL	**Ulahol**	**1.23**	**83**	⇓*i*P	**Pn**	**08 31 24.0**	**-2.0**
ULHL				⇓*i*S	**Sb**	**08 31 40.0**	**-2.1**
SALK	**Salom-Alik**	**1.34**	**206**	⇑*i*P	**Pn**	**08 31 25.6**	**-1.9**
SALK				⇑*i*S	**Sn**	**08 31 42.9**	**-2.2**
KST	**Kastek**	**1.39**	**46**	*e*P	**Pn**	**08 31 28.5**	**+0.5**
	16nm,0.2s						
KST				*e*S	**Sg**	**08 31 47.4**	**-0.5**
	92nm,0.2s						
ARSB	**Arslanbob**	**1.43**	**238**	⇑*i*P	**Pn**	**08 31 28.1**	**-0.6**
ARSB				⇑*i*S	**Sn**	**08 31 47.3**	**+0.1**
MTBS	**Maitube**	**1.70**	**52**	*e*P	**Pg**	**08 31 35.7**	**-0.2**
	23nm,0.1s						
MTBS				*e*S	**Sg**	**08 31 59.7**	**+1.6**
	89nm,0.3s						
KDJ	**Kajisay**	**1.93**	**88**	⇑*i*P	**Pn**	**08 31 35.7**	**+0.2**
KDJ				⇑*i*S	**Sn**	**08 32 00.4**	**+0.9**
TNSS	**Tian-Shan**	**1.98**	**61**	Pg	**Pb**	**08 31 39.7**	**+0.7**
	3.8nm,0.2s						
TNSS				Lg	Lg	08 32 06.4	
	17nm,0.4s						
TNSS	**Tian-Shan**	**1.98**	**61**	*e*P	**Pb**	**08 31 39.7**	**+0.7**
	3.8nm,0.2s						
TNSS				*e*S	**Sg**	**08 32 06.5**	**-0.4**
	17nm,0.4s						
ARK	**Arkit**	**1.98**	**262**	⇑*i*P	**Pn**	**08 31 37.6**	**+1.4**
ARK				⇑*i*S	**Sb**	**08 32 03.4**	**-0.1**
KNDC	**Almaty**	**2.08**	**57**	⇑Pn	**Pg**	**08 31 42.6**	**-0.5**
	27nm,0.3s						
KNDC				⇑Sn	**Sg**	**08 32 12.1**	**+2.0**
	225nm,0.6s						
OHH	**Osh**	**2.08**	**222**	⇑*i*P	**Pn**	**08 31 37.7**	**+0.2**
OHH				⇑*i*S	**Sn**	**08 32 04.0**	**+0.9**
MDOK	**Medeo**	**2.10**	**59**	Pg	**Pb**	**08 31 41.7**	**+0.6**
	16nm,0.4s						
MDOK				Lg	Lg	08 32 09.6	
	62nm,0.5s						
KOTS	**Kotyrbulak**	**2.18**	**58**	Pg	**Pb**	**08 31 43.4**	**+1.1**
	34nm,0.3s						
KOTS				Lg	Lg	08 32 12.8	
	157nm,0.5s						
KOTS	**Kotyrbulak**	**2.18**	**58**	*e*P	**Pb**	**08 31 43.4**	**+1.1**
	34nm,0.3s						
KOTS				*e*S	**Sg**	**08 32 12.8**	**-0.5**
	157nm,0.5s						
KUU	**Kurty**	**2.21**	**35**	Pg	**Pb**	**08 31 43.5**	**+0.8**
	4.9nm,0.1s						
KUU				Lg	Lg	08 32 12.8	
	164nm,0.3s						
KUU	**Kurty**	**2.21**	**35**	*e*P	**Pb**	**08 31 43.5**	**+0.8**
	4.9nm,0.1s						
KUU				*e*S	**Sg**	**08 32 12.8**	**-1.3**
	164nm,0.3s						
KTBS	**Karatobe**	**2.23**	**43**	Pg	**Pb**	**08 31 43.5**	**+0.4**
	21nm,0.4s						
KTBS				Lg	Lg	08 32 13.0	
	118nm,0.4s						
SFK	**Sufi-Kurgan**	**2.24**	**202**	⇑*i*P	**Pn**	**08 31 39.8**	**0.0**
SFK				⇑*i*S	**Sn**	**08 32 07.5**	**+0.2**
CHKK	**Chushkaly**	**2.48**	**44**	Pg	**Pb**	**08 31 48.7**	**+1.2**
	9.1nm,0.2s						
CHKK				Lg	Lg	08 32 21.8	
	89nm,0.3s						
CHKK	**Chushkaly**	**2.48**	**44**	*e*P	**Pb**	**08 31 48.7**	**+1.2**
	9.1nm,0.2s						
CHKK				*e*S	**Sg**	**08 32 21.8**	**-1.2**
	89nm,0.3s						
TRKS	**Terek-Say**	**2.64**	**259**	⇑*i*P	**Pn**	**08 31 46.4**	**+1.1**
TRKS				⇑*i*S	**Sn**	**08 32 18.9**	**+1.8**
PRZ	**Przheval'sk**	**2.85**	**81**	⇓*e*P	**Pn**	**08 31 48.6**	**+0.4**
PRZ				⇓*e*S	**Sn**	**08 32 22.4**	**+0.1**
SATY	**Saty**	**2.98**	**70**	Pg	**Pb**	**08 31 56.4**	**+0.5**
	13nm,0.3s						
SATY				Lg	Lg	08 32 35.1	
	64nm,0.4s						
KURS	**Kuram**	**2.98**	**61**	Pg	**Pb**	**08 31 56.9**	**+1.0**
	9.9nm,0.6s						
KURS				Lg	Lg	08 32 36.1	
	32nm,0.6s						
ARXS	**Arharly**	**3.17**	**47**	Pg	**Pb**	**08 32 00.4**	**+1.1**
	4.2nm,0.3s						
ARXS				Lg	Lg	08 32 41.6	
	46nm,0.4s						
ARXS	**Arharly**	**3.17**	**47**	*e*P	**Pb**	**08 32 00.4**	**+1.1**
ARXS				*e*S	**Sg**	**08 32 41.6**	**-3.5**
KK31	**Karatay Array**	**3.18**	**290**	⇑Pn	**Pb**	**08 31 56.8**	**-2.5**
	4.0nm,0.5s,baz=115,slow=12,SNR=48						
KK31				Lg	Lg	08 32 42.3	
	14nm,0.3s,baz=112,slow=29,SNR=27						
KPKS	**Kokpek**	**3.31**	**64**	Pg	**Pb**	**08 32 02.1**	**+0.6**
	0.4nm,0.3s						
KPKS				Lg	Lg	08 32 45.0	
	71nm,0.6s						
IUG	**Iuzhnay**	**3.39**	**272**	Pg	**Pb**	**08 32 05.7**	**+2.7**
	34nm,0.4s						
IUG				Lg	Lg	08 32 51.1	
	224nm,2.5s						
UZB	**Uzunbulak**	**3.43**	**71**	Pg	**Pb**	**08 32 04.4**	**+0.7**
	4.4nm,0.4s						
UZB				Lg	Lg	08 32 48.5	
	19nm,0.3s						
UZB	**Uzunbulak**	**3.43**	**71**	*e*P	**Pb**	**08 32 04.4**	**+0.7**
	4.4nm,0.4s						
UZB				*e*S	**Sb**	**08 32 48.5**	**+3.3**
	19nm,0.3s						
BRLS	**Borolday**	**3.63**	**286**	Pg	**Pg**	**08 32 10.8**	**-2.0**
	4.4nm,0.4s						
BRLS				Lg	Lg	08 32 60.0	
	21nm,0.7s						
BRLS	**Borolday**	**3.63**	**286**	*e*P	**Pg**	**08 32 10.8**	**-2.0**
	4.4nm,0.4s						
BRLS				*e*S	**Sg**	**08 33 00.0**	**+0.1**
	21nm,0.7s						
SHLS	**Shalkode**	**3.75**	**72**	Pg	**Pg**	**08 32 15.6**	**+0.7**
	6.1nm,0.2s						
SHLS				Lg	Lg	08 33 07.8	
	30nm,0.5s						
SHLS	**Shalkode**	**3.75**	**72**	*e*P	**Pg**	**08 32 15.6**	**+0.7**
	6.1nm,0.2s						
SHLS				*e*S	**Sg**	**08 33 07.8**	**+4.3**
	30nm,0.5s						
PDGK	**Podgornoye**	**3.81**	**70**	⇑Pg	**Pg**	**08 32 16.7**	**+0.5**
	6.4nm,0.7s						
PDGK				⇑Sn	**Sb**	**08 32 56.3**	**+0.1**
	17nm,0.8s						

*SDD **29** 08:32:42.1±2.4, 19°10N×67°78W, h19km±134km, MD3.5, ML2.5, MW2.9*
*NEIC **29** 08:32:43.2±2.0, 19°2N±0°1×67°75W±0°06, h35km±2km, ML2.5/13, Md2.9/16(RSPR), Error ellipse: s-maj=19.5km s-min=7.8km az=20.0*
*RSPR **29** 08:32:44.6, 19°06N×67°77W, h86km±4km, MD2.9/16*
ISC 29 08:32:41.8±1.4, 19°19N±0°09×67°69W±0°04, h32km±12km, n54, σ1s34/66, 25C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.91**	**142**		**Pb**	**08 32 57.6**	**-1.4**
AGPR					**Sb**	**08 33 11.4**	**+0.6**
AGPR	**Aguadilla, PR**	**0.91**	**142**	⇑*e*P	**Pb**	**08 32 57.6**	**-1.4**
AGPR	**Aguadilla, PR**	**0.91**	**142**	*e*S	**Sb**	**08 33 11.4**	**+0.6**
AGPR	**Aguadilla, PR**	**0.91**	**142**	*e*Pg	**Pb**	**08 32 57.7**	**-1.4**
AGPR				⇑*e*Sg	**Sb**	**08 33 10.6**	**-0.2**
AGPR				IAML		08 33 11.5	
	comp=N,178nm,0.2s						

CELP				⇑*e*Sg		**Sb**	**08 33 29.1**	**+0.4**
CELP				IAML			08 33 31.5	
	comp=N,76nm,0.5s							
OBIP	**Obispado Ponce**	**1.54**	**138**			**Pn**	**08 33 07.5**	**+0.5**
OBIP				IAML			08 33 31.1	
	comp=E,49nm,0.5s							
OBIP				IAML			08 33 31.7	
	comp=N,57nm,0.6s							
OBIP	**Obispado Ponce**	**1.54**	**138**⇑	*e*P		**Pb**	**08 33 09.8**	**+0.2**
OBIP	**Obispado Ponce**	**1.54**	**138**	*e*S		**Sb**	**08 33 28.3**	**-0.5**
DR12	**Loma Pena Alta**	**1.65**	**256**			**Pn**	**08 33 09.8**	**+1.3**
HATOM	**Hato Mayor del**	**1.65**	**256**⇑	*e*Pg		**Pb**	**08 33 11.0**	**-0.6**
HATOM				⇓*e*Sg		**Sn**	**08 33 29.2**	**+0.6**
HATOM				IAML			08 33 32.3	
	comp=N,70nm,0.5s							
GCPR	**Guaynabo City**	**1.76**	**120**			**Pb**	**08 33 11.6**	**-1.9**
GCPR	**Guaynabo City**	**1.76**	**120**⇑	*e*P		**Pb**	**08 33 13.5**	**+0.1**
GCPR	**Guaynabo City**	**1.76**	**120**	*e*S		**Sb**	**08 33 35.7**	**+0.6**
SJG	**San Juan**	**1.81**	**126**			**Pb**	**08 33 12.7**	**-1.7**
SJG				IAML			08 33 39.2	
	comp=N,39nm,0.3s							
SJG				IAML			08 33 41.6	
	comp=N,42nm,0.3s							
SJG	**San Juan**	**1.81**	**126**⇑	*e*P		**Pb**	**08 33 13.4**	**-1.0**
SJG	**San Juan**	**1.81**	**126**	*e*S		**Sb**	**08 33 37.5**	**+0.8**
SJG	**San Juan**	**1.81**	**126**⇓	*e*Pg		**Pb**	**08 33 12.8**	**-1.7**
SJG				⇓*e*Sg		**Sb**	**08 33 36.4**	**-0.3**
IGPR	**InterUniversit**	**1.94**	**129**			**Pb**	**08 33 15.6**	**-0.8**
IGPR						**Sb**	**08 33 39.6**	**-0.6**
IGPR	**InterUniversit**	**1.94**	**129**⇑	*e*P		**Pb**	**08 33 15.6**	**-0.8**
IGPR	**InterUniversit**	**1.94**	**129**	*e*S		**Sb**	**08 33 39.6**	**-0.6**
PDPR	**Patillas Dam,**	**1.97**	**126**	Pn		**Pb**	**08 33 14.7**	**-2.3**
PDPR				IAML			08 33 44.8	
	comp=N,22nm,0.2s							
PDPR	**Patillas Dam,**	**1.97**	**126**⇑	*e*P		**Pb**	**08 33 15.7**	**-1.3**
HUMP	**Col San Antoni**	**2.04**	**120**	Pn		**Pb**	**08 33 15.7**	**-2.4**

*HEL **29** 08:43:12.7±0.1, 59.°97N×24.°21E, h0km, ML1.7, Explosion*
*IDC **29** 08:43:14.1±2.4, 60.°00N×24.°34E, h0km, mbtmp3.0/3, ML2.1/3, Error ellipse: s-maj=28.7km s-min=7.5km az=145.0*
ISC 29 08:43:12.3±0.8, 59.°99N±0.°03×24.°22E±0.°02, h10km, n29, σ1°44/41, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.24**	**22**	*e*P	**Pg**	**08 43 16.9**	**-0.3**
MEF	**Metsahovi**	**0.24**	**22**	*e*P	**Pg**	**08 43 17.1**	**-0.1**
MEF				*e*S	**Sg**	**08 43 20.7**	**+0.1**
HEL5	**Espoo, Suvisaa**	**0.29**	**64**	*e*P	**Pg**	**08 43 17.7**	**-0.4**
HEL5				*e*S	**Sg**	**08 43 21.1**	**-0.9**
HEL1	**Helsinki**	**0.38**	**61**	*e*P	**Pg**	**08 43 19.4**	**-0.4**
HEL1				*e*S	**Sg**	**08 43 25.1**	**+0.2**
TVF	**Tvarminne**	**0.51**	**253**	*e*P	**Pg**	**08 43 21.5**	**-0.6**
TVF				*e*S	**Sg**	**08 43 26.7**	**-2.2**
TVF				MSG		08 43 29.1	
	comp=Z,4.9nm,0.2s						
NUR	**Nurmijarvi**	**0.56**	**22**	*e*P	**Pg**	**08 43 23.0**	**-0.2**
NUR				*e*S	**Sg**	**08 43 30.5**	**-0.1**
NUR				MSG		08 43 30.9	
	comp=Z,9.5nm,0.2s						
PVF	**Pernaja**	**0.99**	**55**	*e*P	**Pg**	**08 43 30.7**	**-0.6**
PVF				MSG		08 43 43.3	
	comp=Z,5.2nm,0.2s						
ARBE	**Arbavere**	**1.05**	**121**	*e*P	**Pn**	**08 43 33.9**	**+0.8**
RAF	**Rauma**	**1.59**	**312**	*e*P	**Pg**	**08 43 42.0**	**-0.8**
RAF	**Rauma**	**1.59**	**312**	*e*PG	**Pb**	**08 43 41.5**	**-0.2**
RAF				MSG		08 44 00.4	
	comp=Z,9.7nm,0.2s						
RAF				*e*SN	**Sg**	**08 44 04.3**	**+0.8**
FIA0	**FINESS Array S**	**1.72**	**31**	*e*P	**Pb**	**08 43 43.3**	**-0.6**
FIA0				MSG		08 44 04.3	
	comp=Z,4.3nm,0.2s						
FIA0				*e*SN	**Sg**	**08 44 07.4**	**-0.1**
FINES	**FINESS Array B**	**1.72**	**31**	Pg	**Pb**	**08 43 43.8**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=210,slow=16,SNR=54						
FINES				Lg	Lg	08 44 06.8	
	comp=Z,2.5nm,0.3s,baz=210,slow=23,SNR=19						
VJF	**Virojoki**	**1.75**	**70**	*e*P	**Pb**	**08 43 43.6**	**-0.9**
VJF				MSG		08 44 05.0	
	comp=Z,5.0nm,0.2s						
VJF				*e*SN	**Sg**	**08 44 08.2**	**-0.3**
VSU	**Vasula**	**2.01**	**139**	*e*SG	**Sg**	**08 44 14.6**	**-2.1**
AAL	**Aland**	**2.12**	**277**	*e*P	**Pb**	**08 43 49.9**	**-0.9**
AAL	**Aland**	**2.12**	**277**	*e*PG	**Pb**	**08 43 50.3**	**-0.5**
AAL				*e*SG	**Sb**	**08 44 17.7**	**+0.6**
KPF	**Kankaanpaa**	**2.12**	**331**	*e*PG	**Pb**	**08 43 51.1**	**+0.3**
KPF				MSG		08 44 15.9	
	comp=Z,2.8nm,0.2s						
KPF				*e*SG	**Sg**	**08 44 19.0**	**-1.5**
KEF	**Keuruu**	**2.21**	**8**	*e*P	**Pb**	**08 43 51.0**	**-1.3**
KEF	**Keuruu**	**2.21**	**8**	*e*PG	**Pb**	**08 43 52.0**	**-0.2**
KEF				MSG		08 44 18.3	
	comp=Z,4.1nm,0.2s						
KEF				*e*SG	**Sg**	**08 44 21.6**	**-1.5**
KAF	**Kangasniemi**	**2.36**	**25**	*e*PB	**Pb**	**08 43 54.2**	**-0.6**
KAF				MSG		08 44 22.7	
	comp=Z,3.6nm,0.2s						
KAF				*e*SB	**Sb**	**08 44 24.8**	**+0.9**
SLIT	**Slitere, Latvi**	**2.57**	**204**	*e*P	**Pb**	**08 43 58.0**	**-0.4**
SLIT	**Slitere, Latvi**	**2.57**	**204**	*e*SG	**Sb**	**08 44 30.9**	**+0.9**
UMAU	**Umeaa**	**4.25**	**338**	*e*SG	**Sg**	**08 45 25.8**	**-2.7**
OUF	**Merijarvi**	**4.40**	**3**	*e*SG	**Sg**	**08 45 30.6**	**-2.8**
JOF	**Joensuu**	**4.50**	**46**	*e*SG	**Sg**	**08 45 32.1**	**-4.3**
OBF0	**Syolatti, Pyha**	**4.52**	**0**	*e*SG	**Sg**	**08 45 34.2**	**-3.1**
HFS	**Hagfors**	**5.27**	**276**	Pn	**Pn**	**08 44 33.5**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=82,slow=16,SNR=2.0						
HFS				Lg	Lg	08 46 01.7	
	comp=Z,0.4nm,0.3s,baz=80,slow=29,SNR=6.9						
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**6.51**	**285**	Pn	**Pn**	**08 44 47.5**	**-0.5**
	baz=92,slow=14,SNR=1.4						
	comp=Z,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**9.60**	**3**	Pn	**Pn**	**08 45 32.2**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=178,slow=13,SNR=14						
	comp=Z,1.5nm,0.9s						

*IDC **29** 08:48:02.6±9.7, 15.°83S×167.°53E, h132km±95km, mb3.8/3, mbtmp4.2/4, ML3.9/1, Error ellipse: s-maj=196.0km s-min=66.6km az=89.0*
*NOU **29** 08:48:05.8, 16.°33S×167.°90E, h176km, MLv3.9/10, Vanuatu Islands*
ISC 29 08:48:04.0±5.0, 16.°1S±0.°1×168.°1E±0.°6, h200km, n6, σ1°40/7, mb3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.08**	**303**	P	**Pn**	**08 48 33.8**	**-0.6**
SANVU	**Saraoutou**	**1.08**	**303**	S	**Sn**	**08 48 56.2**	**-1.7**
DZM	**Mont Dzumac**	**6.20**	**195**	P	**Pn**	**08 49 33.5**	**-0.4**
	2.7nm,0.3s,baz=46,slow=21,SNR=5.5						
DZM				S	**Sn**	**08 50 43.8**	**-1.5**
	3.8nm,0.7s,baz=0.0,slow=20,SNR=1.3						
	6.5nm,0.4s						
STKA	**Stephens Creek**	**28.82**	**232**	P	**P**	**08 53 44.9**	**+1.3**
	0.7nm,0.3s,baz=80,slow=9.8,SNR=6.0						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**32.35**	**258**	P	**P**	**08 54 15.1**	**+0.3**
	0.5nm,0.4s,baz=83,slow=8.0,SNR=12						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**33.02**	**251**	P	**P**	**08 54 21.4**	**+0.8**
	9.9nm,0.6s,baz=76,slow=9.0,SNR=208						
	9.9nm,0.6s						

IDC 29 08:51:01.1±5.5, 39.°83N×110.°94E, h0km, mb3.1/2, mbtmp3.3/4, ML3.6/2, MS2.8/1, Error ellipse: s-maj=72.9km s-min=23.0km az=113.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZDM	**Lanzhou Array**	**6.91**	**238**	Pn	Pn	08 52 43.8	-0.1
	baz=54,slow=14						
LZDM				Pg	Pb	08 53 05.8	+3.6
	baz=56,slow=11						
LZDM				Sn	Sn	08 54 05.5	+2.1
	baz=78,slow=23						
LZDM				Lg	Lg	08 54 40.8	
	baz=42,slow=18						
	1.4nm,0.3s						
SONM	**Songino Array**	**8.64**	**339**	Pn	Pn	08 53 06.2	-1.3
	0.3nm,0.3s,baz=159,slow=14,SNR=8.5						
SONM				Lg	Lg	08 55 36.1	
	baz=144,slow=30						
SONM				LR	LR	08 57 11.4	
	comp=Z,52nm,18.9s,baz=109,slow=43						
	2.1nm,0.7s						
MKAR	**Makanchi Array**	**21.89**	**298**	P	P	08 55 55.8	+0.2
	0.2nm,0.6s,baz=96,slow=8.8,SNR=2.8						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**25.05**	**306**	P	P	08 56 27.4	+0.6
	0.2nm,0.3s,baz=102,slow=9.0,SNR=1.9						
	0.2nm,0.3s						

IDC 29 08:53:10.8±2.6, 5.°50N×125.°91E, h0km, mb3.3/3, mbtmp3.3/3, MS4.0/1, Error ellipse: s-maj=220.5km s-min=29.9km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.60**	**162**	P	P	08 58 51.3	+0.2
	0.4nm,0.7s,baz=342,slow=10.0,SNR=2.5						
	0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.30**	**298**	LR	LR	09 10 49.4	
	comp=Z,249nm,18.5s,baz=225,slow=36						
ASAR	**Alice Springs**	**30.02**	**165**	P	P	08 59 21.4	-0.2
	0.1nm,0.6s,baz=350,slow=6.1,SNR=2.0						
	0.1nm,0.6s						
MKAR	**Makanchi Array**	**55.65**	**325**	P	P	09 02 48.6	-0.1
	0.2nm,0.4s,baz=118,slow=7.0,SNR=3.5						
	0.2nm,0.4s						

*NEIC **29** 08:53:57.8±0.9, 39.°63N±0.°04×97.°99W±0.°01, h5km±2km, mb_Lg2.9/98, Error ellipse: s-maj=6.0km s-min=3.0km az=355.0*
*IDC **29** 08:53:57.7±1.3, 39.°67N×98.°19W, h0km, mbtmp3.3/3, ML3.4/3, Error ellipse: s-maj=17.9km s-min=9.4km az=102.0*
ISC 29 08:53:55.6±0.8, 39.°67N±0.°04×98.°01W±0.°04, h10km, n58, σ2°11/24, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSU1	**Kansas State U**	**1.23**	**117**		**Pg**	**08 54 19.5**	**+0.3**
KSU1				Sg	**Sn**	**08 54 35.5**	**0.0**
R32A	**Long Quarter,**	**1.36**	**204**		**Pg**	**08 54 21.7**	**0.0**
R32A				Sg	**Sg**	**08 54 39.7**	**+0.4**
CBKS	**Cedar Bluff**	**1.59**	**238**		**Pg**	**08 54 26.0**	**0.0**
CBKS					**Sg**	**08 54 47.4**	**+0.7**
BGNE	**Belgrade**	**1.74**	**357**		**Pg**	**08 54 29.4**	**+0.5**
N35A	**Tabor**	**2.17**	**56**		**Pb**	**08 54 34.7**	**-0.2**
KAN08	**Anthony NE Sta**	**2.44**	**179**	IAmb_Lg		08 55 15.5	
	comp=Z,43nm,1.1s						
KAN01	**Argonia South**	**2.52**	**175**	Pn	**Pn**	**08 54 38.3**	**+1.7**
L34A	**Svendsen Farm,**	**2.61**	**28**	Pn	**Pn**	**08 54 39.9**	**+2.1**
KAN14	**Manchester OK**	**2.71**	**179**	Pn	**Pn**	**08 54 40.0**	**+0.8**
GC02	**Grant County #**	**2.82**	**177**		**Pn**	**08 54 42.1**	**+1.4**
T35A	**Sooner Cattle**	**2.99**	**156**		**Pn**	**08 54 44.7**	**+1.5**
CROK	**Carrier**	**3.16**	**180**	Pn	**Pn**	**08 54 46.4**	**+1.0**
K30B	**Basset**	**3.23**	**339**	IAmb_Lg		08 55 47.1	
	comp=Z,50nm,0.8s						
OK038	**West end E0370**	**3.24**	**190**		**Pn**	**08 54 48.2**	**+1.7**
KSCO	**Kaye Shedlock'**	**3.64**	**261**	IAmb_Lg		08 56 01.7	
	comp=Z,42nm,0.7s						
OK029	**Liberty Lake**	**3.89**	**173**	Pn	**Pn**	**08 54 56.9**	**+1.4**
CSTR	**Hydro, Custer**	**4.05**	**188**	Pn	**Pn**	**08 54 59.0**	**+1.2**
TUL3	**Leonard**	**4.15**	**154**		**Pn**	**08 55 00.8**	**+1.8**
TUL3				IAmb_Lg		08 56 14.5	
	comp=Z,37nm,0.8s						
SCIA	**State Center**	**4.27**	**57**	IAmb_Lg		08 56 12.6	
	comp=Z,34nm,0.7s						
OKCSW	**OKLAHOMA CITY**	**4.28**	**174**	IAmb_Lg		08 56 13.3	
	comp=Z,32nm,0.8s						
U38A	**Gravette**	**4.31**	**137**	IAmb_Lg		08 56 23.8	
	comp=Z,18nm,0.7s						
FNO	**Franklin**	**4.43**	**173**	IAmb_Lg		08 56 22.4	
	comp=Z,17nm,0.8s						
P40A	**Paris**	**4.61**	**90**	IAmb_Lg		08 56 21.9	
	comp=Z,32nm,0.8s						
R40A	**Maddies Statio**	**4.69**	**105**	IAmb_Lg		08 56 36.9	
	comp=Z,29nm,0.8s						
SUSD	**Miller**	**4.82**	**352**	IAmb_Lg		08 56 34.7	
	comp=Z,24nm,0.8s						
RTBA	**Rita Blanca**	**4.93**	**231**	IAmb_Lg		08 56 44.0	
	comp=Z,17nm,0.9s						
X34A	**Smith Ranch, M**	**5.06**	**178**	IAmb_Lg		08 56 48.6	
	comp=Z,18nm,0.9s						
MGMO	**Mountain Grove**	**5.17**	**117**	IAmb_Lg		08 56 49.0	
	comp=Z,24nm,0.7s						
CCM	**Cathedral Cave**	**5.52**	**105**	IAmb_Lg		08 56 56.1	
	comp=Z,24nm,0.8s						
I37A	**Lemond, Waseca**	**5.54**	**37**	IAmb_Lg		08 56 59.8	
	comp=Z,22nm,0.8s						
AMTX	**Amarillo**	**5.60**	**213**	IAmb_Lg		08 57 05.4	
	comp=Z,22nm,0.8s						
L40A	**Anamosa**	**5.68**	**63**	IAmb_Lg		08 56 55.1	
	comp=Z,23nm,0.8s						
LOOK	**Love County**	**5.71**	**173**	IAmb_Lg		08 57 06.0	
	comp=Z,14nm,1.1s						
FVM	**French Village**	**6.16**	**103**	IAmb_Lg		08 57 15.2	
	comp=Z,18nm,1.1s						
SDCO	**Great Sand Dun**	**6.16**	**254**	IAmb_Lg		08 57 17.6	
	comp=Z,10nm,0.8s						
MIAR	**Mount Ida**	**6.22**	**144**	IAmb_Lg		08 57 20.2	
	comp=Z,12nm,0.8s						
F33A	**5 Mile Ranch,**	**6.29**	**11**	IAmb_Lg		08 57 17.2	
	comp=Z,10nm,0.7s						
WHAR	**Wooly Hollow**	**6.31**	**132**	IAmb_Lg		08 57 24.3	
	comp=Z,21nm,0.8s						
RSSD	**Black Hills**	**6.32**	**317**	IAmb_Lg		08 57 24.6	
	comp=Z,9.9nm,0.7s						
DKNS	**Dickens**	**6.43**	**202**	IAmb_Lg		08 57 34.8	
	comp=Z,12nm,0.9s						
LCAR	**Lake Charles**	**6.51**	**121**	IAmb_Lg		08 57 29.0	
	comp=Z,12nm,0.8s						
X40A	**Basin Creek Fa**	**6.63**	**140**	IAmb_Lg		08 57 26.6	
	comp=Z,14nm,0.8s						
UALR	**University of**	**6.66**	**135**	IAmb_Lg		08 57 43.6	
	comp=Z,14nm,0.9s						
JFWS	**Jewell Farm**	**6.69**	**59**	IAmb_Lg		08 57 32.7	
	comp=Z,18nm,0.8s						
SPMN	**Marine on St.**	**6.75**	**33**	IAmb_Lg		08 57 33.1	
	comp=Z,14nm,0.8s						
SN07	**Snyder 07**	**6.96**	**200**	IAmb_Lg		08 57 40.5	
	comp=Z,9.1nm,0.8s						
CGM3	**Cape Girardeau**	**6.97**	**107**	IAmb_Lg		08 57 42.7	
	comp=Z,14nm,0.9s						
HAYD	**Hayden**	**7.14**	**280**	IAmb_Lg		08 57 53.7	
	comp=Z,8.1nm,0.7s						
HBAR	**Harrisburg**	**7.14**	**123**	IAmb_Lg		08 57 43.0	
	comp=Z,20nm,0.8s						
S22A	**4UR Ranch, Cre**	**7.16**	**257**	IAmb_Lg		08 58 02.3	
	comp=Z,13nm,1.2s						
POST	**Post**	**7.17**	**204**	IAmb_Lg		08 58 01.3	
	comp=Z,15nm,1.2s						
CCAR	**Cane Creek**	**7.62**	**137**	IAmb_Lg		08 58 15.0	
	comp=Z,17nm,0.8s						
OXF	**Oxford**	**8.59**	**124**	IAmb_Lg		08 58 30.3	
	comp=Z,13nm,0.8s						
Y22D	**IRIS PASSCAL I**	**9.06**	**235**	IAmb_Lg		08 58 55.2	
	comp=Z,14nm,0.8s						
PDAR	**Pinedale Array**	**9.23**	**293**	Pn	**Pn**	**08 56 12.6**	**+3.6**
	comp=Z,0.2nm,0.3s,baz=109,slow=9.1,SNR=6.1						
PDAR				Sn	**Sn**	**08 57 52.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=107,slow=12,SNR=1.6						
PDAR				Lg	Lg	08 58 42.9	
	comp=Z,0.3nm,0.3s,baz=107,slow=30,SNR=2.8						
	comp=Z,0.1nm,0.3s						
JCT	**Junction City**	**9.29**	**190**	IAmb_Lg		08 59 01.2	
	comp=Z,7.5nm,0.8s						
ULM	**Lac du Bonnet**	**10.69**	**7**	Pn	**Pn**	**08 56 28.4**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=185,slow=11,SNR=7.3						
ULM				Sn	**Sn**	**08 58 23.0**	**-5.2**
	comp=Z,0.2nm,0.3s,baz=256,slow=19,SNR=1.0						
ULM				Lg	Lg	08 59 29.0	
	comp=Z,0.4nm,0.3s,baz=106,slow=20,SNR=1.8						
	comp=Z,1.2nm,0.3s						
TXAR	**Lajitas Array**	**11.31**	**206**	Pn	**Pn**	**08 56 36.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=32,slow=10,SNR=18						
TXAR				Pg		08 57 23.0	
	comp=Z,0.2nm,0.3s,baz=26,slow=18,SNR=5.8						
TXAR				Sn	**Sn**	**08 58 38.6**	**-5.4**
	comp=Z,0.1nm,0.3s,baz=19,slow=26,SNR=2.2						
TXAR				Lg	Lg	08 59 45.2	
	comp=Z,0.1nm,0.3s,baz=22,slow=27,SNR=2.4						
	comp=Z,0.3nm,0.3s						

*SJA **29** 08:58:20.3±0.8, 21.°05S×69.°25W, h114km±4km, ML3.5, MW3.3*
*GUC **29** 08:58:22.3±0.7, 21.°04S×69.°20W, h108km±4km, ML3.2*
ISC 29 08:58:19.7±1.5, 21.°08S±0.°03×69.°24W±0.°07, h125km±9km, n22, σ0°99/40, 8C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.24**	**279**⇑	*e*P	**Pn**	**08 58 37.1**	**0.0**
PB01				*e*S	**Sn**	**08 58 48.4**	**-1.8**
PB01				IAML		08 58 49.1	
	comp=E,2μm,0.3s						
PB01	**IPOC Station P**	**0.24**	**279**	*e*P	**Pn**	**08 58 37.0**	**-0.1**
PB01				*e*S	**Sn**	**08 58 48.9**	**-1.3**
PB01				IAML		08 58 51.1	
	comp=Z,1μm,0.2s						
PB02	**IPOC Station P**	**0.66**	**249**⇑	*e*P	**Pn**	**08 58 40.2**	**+0.9**
PB02				*e*S	**Sn**	**08 58 53.9**	**-0.3**
PB02	**IPOC Station P**	**0.66**	**249**	*e*P	**Pn**	**08 58 39.6**	**+0.3**
PB02				*e*S	**Sn**	**08 58 54.1**	**0.0**
PB02				IAML		08 58 55.3	
	comp=Z,2μm,0.2s						
PB09	**IPOC Station P**	**0.71**	**180**	*e*P	**Pn**	**08 58 41.2**	**+1.4**
PB09				*e*S	**Sn**	**08 58 55.9**	**+0.9**
PB09	**IPOC Station P**	**0.71**	**180**	*e*P	**Pn**	**08 58 40.7**	**+0.9**
PB09				*e*S	**Sn**	**08 58 55.0**	**0.0**
PB08	**IPOC Station P**	**0.94**	**5**⇑	*e*P	**Pn**	**08 58 42.4**	**+0.4**
PB08				*e*S	**Sn**	**08 58 57.8**	**-1.0**
PB08				IAML		08 58 58.1	
	comp=E,1μm,0.3s						
PB08	**IPOC Station P**	**0.94**	**5**	*e*P	**Pn**	**08 58 42.3**	**+0.3**
PB08				*e*S	**Sn**	**08 58 58.0**	**-0.8**
PB08				IAML		08 58 58.6	
	comp=Z,664nm,0.1s						
TA01	**Diego Aracena**	**1.02**	**300**⇑	*e*P	**Pn**	**08 58 42.8**	**+0.5**
TA01				*e*S	**Sn**	**08 58 58.9**	**-0.5**
TA01				IAML		08 58 59.4	
	comp=E,641nm,0.2s						
TA01	**Diego Aracena**	**1.02**	**300**	*e*P	**Pn**	**08 58 42.1**	**-0.1**
TA01				*e*S	**Sn**	**08 58 59.5**	**+0.1**
TA02	**Huaiquique**	**1.16**	**314**⇑	*e*P	**Pn**	**08 58 44.1**	**+0.4**
TA02				*e*S	**Sn**	**08 59 01.3**	**-0.6**
TA02	**Huaiquique**	**1.16**	**314**	*e*P	**Pn**	**08 58 43.5**	**-0.2**
TA02				IAML		08 59 05.9	
	comp=Z,663nm,0.1s						
PB11	**IPOC Station P**	**1.37**	**343**⇑	*e*P	**Pn**	**08 58 46.4**	**+0.2**
PB11				*e*S	**Sn**	**08 59 05.5**	**-0.8**
PB11				IAML		08 59 06.1	
	comp=N,931nm,0.2s						
PB11	**IPOC Station P**	**1.37**	**343**	*e*P	**Pn**	**08 58 46.4**	**+0.2**
PB11				*e*S	**Sn**	**08 59 06.4**	**+0.2**
PB11				IAML		08 59 06.8	
	comp=Z,393nm,0.1s						
GO01	**Chusmiza**	**1.41**	**2**⇑	*e*P	**Pn**	**08 58 47.7**	**+0.8**
GO01				*e*S	**Sn**	**08 59 07.3**	**-0.2**
GO01	**Chusmiza**	**1.41**	**2**	*e*P	**Pn**	**08 58 47.0**	**+0.1**
GO01				*e*S	**Sn**	**08 59 08.0**	**+0.5**
GO01				IAML		08 59 09.3	
	comp=Z,354nm,0.1s						
PB06	**IPOC Station P**	**1.65**	**191**⇑	*e*P	**Pn**	**08 58 51.0**	**+1.8**
PB06				*e*S	**Sn**	**08 59 12.9**	**+1.1**
PB06				IAML		08 59 14.7	
	comp=E,253nm,0.2s						
PB06	**IPOC Station P**	**1.65**	**191**	*e*P	**Pn**	**08 58 46.3**	**-2.9**
PB06				*e*S	**Sn**	**08 59 13.3**	**+1.5**
PB10	**IPOC Station P**	**2.71**	**206**	*e*P	**Pn**	**08 59 03.0**	**+0.6**
PB10				*e*S	Sn	08 59 27.0	-8.2
PB10				*e*S		08 59 35.8	
PB16	**IPOC Station P**	**2.74**	**355**	*e*P	**Pn**	**08 59 04.8**	**+1.4**
PB16				*e*S	Sn	08 59 27.0	-10
HJA	**Humahuaca**	**4.13**	**122**	*e*P	**Pn**	**08 59 21.0**	**-0.4**
AC01	**Pan de Azucar**	**5.20**	**194**	*e*P	**Pn**	**08 59 35.2**	**-0.1**
AC01				*e*S	**Sn**	**09 00 32.4**	**-1.9**

*IDC **29** 09:02:09.0±0.5, 10.°84N×91.°60E, h0km, mb4.1/21, mbtmp4.0/24, ML4.1/3, MS3.9/54, Error ellipse: s-maj=19.5km s-min=12.9km az=60.0*
*BJI **29** 09:02:11.6, 11.°00N×91.°64E, h14km, mB4.9/13, mb4.5/34, Ms4.4/30, Ms7 4.1/28*
*NEIC **29** 09:02:11.9±1.6, 10.°98N±0.°07×91.°65E±0.°04, h10km±1km, mb4.7/24, Error ellipse: s-maj=13.6km s-min=2.9km az=203.0*
*GCMT **29** 09:02:12.9±0.4, 10.°87N±0.°05×91.°38E±0.°03, h18km±1km, MW4.8/66, Moment Tensor Solution. s21,c21; s66,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.85±.19; $M_{\theta\theta}$-0.45±.10; $M_{\phi\phi}$-1.40±.12; $M_{r\theta}$-0.11±.30; $M_{r\phi}$-0.22±.06; $M_{\theta\phi}$-1.38±.23; Best double couple: M_o2.15200×10^{16} NP1:ϕ_s15.00000°, δ25.00000°, λ96.00000°. NP2: ϕ_s188.00000°, δ65.00000°, λ87.00000°. Principal axes: T 2.3570, Plg70.0000°, Azm91.0000°; N -0.4070, Plg3.0000°, Azm189.0000°; P -1.9460, Plg20.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NDI **29** 09:02:14.5±1.0, 10.°98N×91.°65E, h10km, ML4.3, MW4.6, mb4.7(NEIC)*
ISC 29 09:02:12.2±0.4, 10.°82N±0.°05×91.°53E±0.°05, h20km, n125, σ1°90/96, mb4.4/41, MS4.0/66, 1D, Andaman Islands region

| Code | Station Name | Δ° | AZ° |

LSA	Lhasa	18.79	359	P	P	09 06 28.6	-2.3		
LSA	Lhasa	18.79	359	P	P	09 06 27.0	-3.9		
LSA				S	Sn	09 10 00.0	-1.3		
LSA				LR	LR				
	comp=N,420nm,16.8s								
LSA				LR	LR				
	comp=N,690nm,12.5s								
LSA				LR	LR				
	comp=N,420nm,15.9s								
QIZ	Qiongzhong	19.48	63	P	P	09 06 37.0	-1.1		
QIZ				S	Sn	09 10 17.3	-0.2		
QIZ				pmax	pmax				
	comp=N,13nm,1.4s								
QIZ				pmax	pmax				
	comp=N,280nm,4.3s								
QIZ				LR	LR				
	comp=N,430nm,11.1s								
QIZ				LR	LR				
	comp=N,260nm,7.1s								
QIZ				LR	LR				
	comp=N,390nm,12.1s								
CD2	Chengdu	22.99	28	P	P	09 07 16.8	+1.0		
CD2				sP	pP	09 07 19.5	-1.4		
CD2				pP	pP	09 07 19.5	-1.4		
CD2				S	S	09 11 23.8	-1.6		
CD2				sS	pS	09 11 30.0	-1.1		
CD2				pmax	pmax				
	comp=N,20nm,0.7s								
CD2				pmax	pmax				
	comp=N,230nm,5.1s								
CD2				LR	LR				
	comp=N,780nm,11.2s								
CD2				LR	LR				
	comp=N,610nm,11.9s								
CD2				LR	LR				
	comp=N,750nm,11.3s								
LEM	Lembang	23.75	137	LR	LR	09 17 25.5			
	comp=N,266nm,21.9s,baz=270,slow=39								
GOMU	GeErMu	25.44	6	P	P	09 07 39.8	+0.6		
GOMU				S	S	09 12 07.5	+2.0		
GOMU				pmax	pmax				
	comp=N,9.0nm,1.1s								
GOMU				pmax	pmax				
	comp=N,110nm,6.6s								
GOMU				LR	LR				
	comp=N,180nm,14.9s								
GOMU				LR	LR				
	comp=N,150nm,15.4s								
GOMU				LR	LR				
	comp=N,200nm,12.5s								
ENH	Enshi	25.57	38	P	P	09 07 37.9	-2.1		
H08S3	Diego Garcia H	26.36	227	T	T	09 35 23.7			
	baz=46,slow=75,SNR=402								
H08S2	Diego Garcia H	26.37	227	T	T	09 35 15.4			
	baz=46,slow=75,SNR=250								
H08S1	Diego Garcia H	26.38	227	T	T	09 35 16.9			
	baz=46,slow=75,SNR=293								
LZDM	Lanzhou Array	27.35	22	P	P	09 07 55.5	-0.9		
	comp=N,1.0nm,0.3s,baz=222,slow=11,SNR=1.6								
LZDM				LR	LR	09 20 56.8			
	comp=N,165nm,20.4s,baz=35,slow=41								
	comp=N,1.0nm,0.3s								
LZH	Lanzhou	27.52	22	eP	P	09 08 03.3	+5.5		
LZH				sP	pwP	09 08 09.8	+2.5		
LZH				S	S	09 12 38.8	+0.9		
LZH				pmax	pmax				
	comp=N,18nm,1.2s								
LZH				LR	LR				
	comp=N,350nm,14.6s								
LZH				LR	LR				
	comp=N,310nm,16.5s								
LZH				LR	LR				
	comp=N,410nm,15.2s								
XAN	Xi'an	28.06	32	eP	P	09 08 06.5	+4.0		
XAN				LR	LR				
	comp=N,410nm,17.2s								
XAN				LR	LR				
	comp=N,530nm,15.1s								
XAN				LR	LR				
	comp=N,490nm,15.1s								
TGY	Tagaytay City	28.89	80	LR	LR	09 19 15.2			
	comp=N,335nm,20.8s,baz=199,slow=36								
GTA	Gaotai	29.41	13	eP	P	09 08 15.3	+0.8		
GTA				pP	sP	09 08 22.3	+0.5		
GTA				S	S	09 13 13.0	+5.4		
GTA				pmax	pmax				
	comp=N,5.0nm,0.7s								
GTA				LR	LR				
	comp=N,310nm,17.1s								
GTA				LR	LR				
	comp=N,260nm,14.9s								
GTA				LR	LR				
	comp=N,230nm,17.1s								
KSH	Kashi	31.75	337	P	P	09 08 34.8	-0.4		
KSH				pP	pP	09 08 41.3	+1.0		
KSH				pmax	pmax				
	comp=N,4.0nm,0.7s								
KSH				LR	LR				
	comp=N,570nm,15.7s								
KSH				LR	LR				
	comp=N,650nm,14.5s								
KSH				LR	LR				
	comp=N,240nm,14.7s								
KAPI	Kappang	32.20	118	LR	LR	09 23 39.2			
	comp=N,223nm,18.1s,baz=284,slow=40								
NJ2	Nanjing	32.90	46	eP	P	09 08 43.5	-1.7		
NJ2				pmax	pmax				
	comp=N,9.0nm,0.6s								
NJ2				pmax	pmax				
	comp=N,130nm,6.2s								
NJ2				LR	LR				
	comp=N,130nm,11.8s								
NJ2				LR	LR				
	comp=N,470nm,12.8s								
NJ2				LR	LR				
	comp=N,960nm,12.3s								
WMQ	Urumqi	33.04	355	eP	P	09 08 48.5	+2.1		
WMQ				LR	LR				
	comp=N,2μm,13.9s								
WMQ				LR	LR				
	comp=N,950nm,14.7s								
WMQ				LR	LR				
	comp=N,2μm,23.5s								
TARG	Taragay, Kyrgy	33.06	341	P	P	09 08 47.3	+0.3		
DRK	Karamyk	33.50	332	P	P	09 08 51.0	+0.3		
PRZ	Przheval'sk	33.56	342	P	P	09 08 51.3	+0.2		
KDJ	Kajisay	33.62	341	P	P	09 08 52.3	+0.7		
HNS	HongShan	33.69	34	⇓P	P	09 08 58.5	+6.5		
HNS				pmax	pmax				
	comp=Z,12nm,0.7s								
HNS				LR	LR				
	comp=N,440nm,17.8s								
HNS				LR	LR				
	comp=E,330nm,17.5s								
HNS				LR	LR				
	comp=Z,640nm,19.4s								
GAR	Garm	33.84	330	P	P	09 08 53.0	-0.5		
GAR				IAmb	IAmb	09 09 01.3			
	comp=Z,6.4nm,0.9s								
BTO	Baotou	33.87	26	eP	P	09 08 57.5	+3.8		
BTO				S	S	09 14 24.5	+7.4		
BTO				pmax	pmax				
	comp=Z,8.0nm,0.9s								
BTO				pmax	pmax				
	comp=Z,280nm,4.1s								
BTO				LR	LR				
	comp=Z,410nm,13.9s								
BTO				LR	LR				
	comp=Z,380nm,11.4s								
BTO				LR	LR				
	comp=Z,500nm,15.8s								
CHGR	Chuyangaron	34.17	328	P	P	09 08 56.2	-0.1		
CHGR				IAmb	IAmb	09 09 04.2			
	comp=Z,10nm,0.7s								
SIMJ	Simiganj	34.25	328		P	09 08 57.4	+0.3		
SIMJ				IAmb	IAmb	09 09 04.9			
	comp=Z,4.6nm,0.7s								
ARSB	Arslanbob	34.49	335	P	P	09 08 59.6	+0.5		
ARSB				IAmb	IAmb	09 09 22.3			
	comp=Z,13nm,1.1s								
HHC	Hu-ho-hao-te	34.74	27	eP	P	09 09 02.3	+1.0		
HHC				pmax	pmax				
	comp=Z,14nm,0.6s								
HHC				pmax	pmax				
	comp=Z,100nm,4.1s								
AAK	Ala-Archa	35.01	338		P	09 09 04.1	+0.5		
AAK				IAmb	IAmb	09 09 08.2			
	comp=Z,10nm,1.5s								
AAK	Ala-Archa	35.01	338	P	P	09 09 03.9	+0.3		
	comp=Z,0.9nm,0.3s,baz=131,slow=6.8,SNR=5.9								
AAK				LR	LR	09 26 36.6			
	comp=Z,222nm,19.4s,baz=135,slow=42								
	comp=Z,0.9nm,0.3s								
BJI	Beijing	36.38	33	P	P	09 09 15.3	+0.1		
BJI				S	S	09 14 58.8	+3.2		
BJI				pmax	pmax				
	comp=Z,3.0nm,1.1s								
BJI				LR	LR				
	comp=Z,190nm,16.0s								
BJI				LR	LR				
	comp=Z,130nm,16.0s								
BJI				LR	LR				
	comp=Z,200nm,21.9s								
MKAR	Makanchi Array	36.70	349	P	P	09 09 17.8	-0.1		
	comp=Z,2.8nm,0.6s,baz=169,slow=8.1,SNR=33								
MKAR				PcP	PcP	09 11 40.7	+0.4		
	comp=Z,0.6nm,0.6s,baz=224,slow=3.3,SNR=2.8								
MKAR				LR	LR	09 28 28.5			
	comp=Z,209nm,18.8s,baz=140,slow=43								
	comp=Z,2.8nm,0.6s								
JOW	Kunigami	38.08	60	LR	LR	09 26 47.3			
	comp=Z,170nm,19.6s,baz=240,slow=39								
SONM	Songino Array	38.96	16	P	P	09 09 37.1	0.0		
	comp=Z,2.9nm,0.6s,baz=198,slow=12,SNR=12								
SONM				LR	LR	09 27 30.7			
	comp=Z,121nm,19.0s,baz=196,slow=39								
	comp=Z,2.9nm,0.6s								
KURBB	Kurchatov Arra	41.10	347	P	P	09 09 54.6	-0.1		
	comp=Z,1.0nm,0.6s,baz=172,slow=7.2,SNR=9.9								
KURBB				PcP	PcP	09 11 53.3	-0.7		
	comp=Z,0.3nm,0.4s,baz=160,slow=3.0,SNR=2.6								
KURBB				LR	LR	09 29 35.6			
	comp=Z,210nm,20.5s,baz=170,slow=40								
	comp=Z,1.0nm,0.6s								
TJN	Taejon	41.16	46	P	P	09 09 54.3	-1.0		
KURK	Kurchatov	41.17	348	P	P	09 09 55.1	-0.1		
KSRS	Korea Array	42.07	45	P	P	09 10 01.5	-1.3		
	comp=Z,0.8nm,0.7s,baz=245,slow=10,SNR=5.4								
	comp=Z,0.8nm,0.7s								
JNU	Nakatsue	42.36	52	LR	LR	09 30 12.1			
	comp=Z,110nm,19.9s,baz=234,slow=40								
FAKI	Fak Fak	42.76	106	P	P	09 10 08.0	-0.8		
FAKI				IAmb	IAmb	09 10 22.1			
	comp=Z,23nm,1.2s								
ZALV	Zalesovo Beam	43.34	354	P	P	09 10 12.8	-0.1		
	comp=Z,1.6nm,0.4s,baz=176,slow=11,SNR=8.8								
ZALV				LR	LR	09 32 49.7			
	comp=Z,200nm,18.2s,baz=254,slow=42								
	comp=Z,1.6nm,0.4s								
CN2	Changchun	44.03	36	P	P	09 10 18.0	-0.6		
CN2				S	S	09 16 48.5	-1.4		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CN2				LR	LR				
	comp=Z,300nm,13.0s								
CN2				LR	LR				
	comp=Z,300nm,13.0s								
CN2				LR	LR				
	comp=Z,200nm,17.0s								
JMN	Monobe	44.91	53	P	P	09 10 26.2	+0.3		
BVAR	Borovoye Array	45.40	342	P	P	09 10 29.5	+0.2		
	comp=Z,0.6nm,0.4s,baz=133,slow=11,SNR=2.6								
BVAR				LR	LR	09 31 01.0			
	comp=Z,71nm,19.8s,baz=152,slow=38								
	comp=Z,0.6nm,0.4s								
RAYN	Ar Rayn	45.56	292	P	P	09 10 33.0	+1.9		
RAYN				IAmb	IAmb	09 10 41.0			
	comp=Z,5.5nm,0.8s								
ATD	Arta Tunnel	47.71	276	LR	LR	09 28 56.5			
	comp=Z,5.3nm,18.6s,baz=116,slow=34								
AKTO	Aktyubinsk	48.14	332	LR	LR	09 33 27.2			
	comp=Z,137nm,18.5s,baz=143,slow=39								
JGF	Kuroka	48.24	52	P	P	09 10 51.2	-0.8		
JGF				IAmb	IAmb	09 11 11.1			
	comp=Z,11nm,1.3s								
HEH	HeiHe	49.16	30	eP	P	09 10 57.8	-0.9		
HEH				LR	LR				
	comp=Z,280nm,11.3s								
HEH				LR	LR				
	comp=Z,210nm,11.3s								
HEH				LR	LR				
	comp=Z,230nm,13.5s								
MJAR	Matsushiro Arr	49.20	51	LR	LR	09 33 54.5			
	comp=Z,80nm,18.6s,baz=250,slow=39								
JHJ	Hachijo jima 2	49.43	56	LR	LR	09 33 25.3			
	comp=Z,69nm,19.5s,baz=209,slow=38								
GNI	Garni	50.55	314	LR	LR	09 34 47.9			
	comp=Z,99nm,21.5s,baz=119,slow=39								
JAY	Jayapura	50.69	102	LR	LR	09 36 19.1			
	comp=Z,72nm,18.8s,baz=256,slow=40								
JMM	Marumori	51.58	50	P	P	09 11 17.0	-0.2		
JMM				IAmb	IAmb	09 11 43.3			
	comp=Z,25nm,1.4s								
FURI	Furi	52.05	273	LR	LR	09 32 39.0			
	comp=Z,378nm,18.1s,baz=68,slow=35								
WRA	Warramunga Arr	52.07	126	P	P	09 11 20.1	-1.0		
	comp=Z,1.3nm,0.5s,baz=308,slow=8.4,SNR=44								
WRA				PcP	PcP	09 12 33.1	-0.1		
	comp=Z,0.7nm,0.6s,baz=311,slow=3.2,SNR=2.2								
WRA				LR	LR	09 36 32.3			
	comp=Z,52nm,21.8s,baz=276,slow=40								
	comp=Z,1.3nm,0.5s								
GUMO	Guam	52.13	81	LR	LR	09 33 12.5			
	comp=Z,56nm,19.3s,baz=266,slow=36								
ARTI	Arti	52.23	337	LR	LR	09 35 26.1			
	comp=Z,216nm,19.3s,baz=160,slow=38								
JTM	Tenmabayashi	52.74	47	P	P	09 11 24.9	-0.9		
KBZ	Khabaz	53.18	317	P	P	09 11 29.1	0.0		
	comp=Z,0.5nm,0.3s,baz=119,slow=7.8,SNR=1.2								
	comp=Z,0.5nm,0.3s								
ASAR	Alice Springs	53.78	130	P	P	09 11 33.0	-0.7		
	comp=Z,4.4nm,0.6s,baz=304,slow=6.9,SNR=98								
	comp=Z,4.4nm,0.6s								
ASF	Jabal al Asfar	54.47	302	LR	LR	09 38 16.1			
	comp=Z,107nm,19.1s,baz=106,slow=40								
ASAJ	Asahikawa	54.97	43	LR	LR	09 37 21.3			
	comp=Z,110nm,18.4s,baz=312,slow=38								
EIL	Elat	55.74	299	LR	LR	09 36 32.8			
	comp=Z,87nm,21.1s,baz=7.5,slow=37								
MMAI	Mount Meron Ar	55.85	303	LR	LR	09 39 37.5			
	comp=Z,141nm,18.5s,baz=100,slow=40								
KIRV	Kirov	57.27	335	LR	LR	09 39 07.4			
	comp=Z,85nm,18.2s,baz=137,slow=39								
BRTR	Keskin Array B	58.56	310	P	P	09 12 07.8	-0.1		
	comp=Z,0.7nm,0.8s,baz=120,slow=8.8,SNR=4.2								
	comp=Z,0.7nm,0.8s								
INKA	Innaminka	61.16	130	P	P	09 12 26.2	+0.5		
INKA				IAmb	IAmb	09 12 35.1			
	comp=Z,5.2nm,0.9s								
MBAR	Mbarara	61.48	263	LR	LR	09 36 52.0			
	comp=Z,125nm,20.4s,baz=15,slow=34								
STKA	Stephens Creek	64.00	133	P	P	09 12 44.5	-0.1		
	comp=Z,1.9nm,0.6s,baz=320,slow=6.0,SNR=10								
STKA				LR	LR	09 45 15.2			
	comp=Z,99nm,18.2s,baz=236,slow=40								
	comp=Z,1.9nm,0.6s								
TIXI	Tiksi	64.89	12	P	P	09 12 49.3	-0.4		
TIXI				IAmb	IAmb	09 12 56.7			
	comp=Z,7.2nm,1.0s								
MLR	Muntele Rosu	65.27	315	LR	LR	09 46 38.1			
	comp=Z,90nm,19.6s,baz=88,slow=41								
MA2	Magadan	65.40	29	LR	LR	09 45 05.0			
	comp=Z,125nm,18.1s,baz=146,slow=39								
H04N2	CROZET ISLANDS	66.98	209	T	T	10 26 04.6			
	baz=44,slow=75,SNR=183								
H04N1	CROZET ISLANDS	66.99	209	T	T	10 26 03.8			
	baz=44,slow=75,SNR=179								
H04N3	CROZET ISLANDS	67.00	209	T	T	10 26 04.0			
	baz=44,slow=75,SNR=155								
PETK	Petropavlovsk-	67.16	37	LR	LR	09 46 54.3			
	comp=Z,91nm,18.2s,baz=250,slow=40								
SEY	Seymchan	67.37	26	LR	LR	09 45 25.0			
	comp=Z,113nm,18.5s,baz=272,slow=39								
LSZ	Lusaka	67.87	249	LR	LR	09 37 56.8			
	comp=Z,128nm,21.9s,baz=113,slow=32								
FINES	FINESS Array B	68.91	332	P	P	09 13 15.5	0.0		
	comp=Z,3.0nm,0.8s,baz=116,slow=4.4,SNR=6.8								
	comp=Z,3.0nm,0.8s								
ARCES	ARCESS Array B	71.64	340	P	P	09 13 32.4	+0.3		
	comp=Z,0.8nm,0.6s,baz=114,slow=6.0,SNR=4.9								
ARCES				LR	LR	09 47 12.9			
	comp=Z,211nm,19.5s,baz=108,slow=38								
	comp=Z,0.8nm,0.6s								
VRAC	Vranov	72.05	318	LR	LR	09 50 55.8			
	comp=Z,58nm,18.5s,baz=88,slow=41								
VAE	Valguarnera	73.30	306	LR	LR	09 50 48.5			
	comp=Z,54nm,18.2s,baz=168,slow=40								
LBTB	Lobatse	73.43	240	LR	LR	09 40 21.9			
	comp=Z,125nm,21.8s,baz=44,slow=31								
HFS	Hagfors	74.62	330	P	P	09 13 49.6	-0.3		
	comp=Z,2.4nm,1.0s,baz=94,slow=8.7,SNR=2.1								
	comp=Z,2.4nm,1.0s								
BOSA	Boshof	75.00	236	P	P	09 13 54.0	+1.1		
	comp=Z,5.9nm,1.2s,baz=58,slow=5.8,SNR=6.2								
BOSA				LR	LR	09 45 01.3			
	comp=Z,93nm,18.3s,baz=26,slow=34								
	comp=Z,5.9nm,1.2s								
NOA	NORSAR Array B	75.91	330	P	P	09 13 56.8	-0.5		
	comp=Z,0.4nm,0.6s,baz=94,slow=5.4,SNR=2.1								
NOA				LR	LR	09 50 35.1			
	comp=Z,99nm,19.7s,baz=115,slow=38								
	comp=Z,0.4nm,0.6s								
SPITS	Spitsbergen Ar	76.44	348	LR	LR	09 52 10.1			
	comp=Z,68nm,21.9s,baz=109,slow=39								
SHEM	Shemya Is, Ala	76.98	38	LR	LR	09 53 38.7			
	comp=Z,45nm,18.4s,baz=278,slow=40								
KEST	Kesra	77.45	304	LR	LR	09 54 53.4			
	comp=Z,37nm,18.2s,baz=358,slow=41								
TSUM	Tsumeb	78.71	248	LR	LR	09 46 17.0			
	comp=Z,133nm,18.9s,baz=348,slow=34								
JMIC	Jan Mayen	83.10	341	LR	LR	09 53 16.8			
	comp=Z,83nm,20.3s,baz=156,slow=37								
EKA	Eskdalemuir Ar	83.84	325	P	P	09 14 40.6	+0.3		
	comp=Z,0.9nm,0.6s,baz=97,slow=5.8,SNR=1.8								
	comp=Z,0.9nm,0.6s								
ESDC	Sonseca Array	87.36	310	LR	LR	10 00 07.3			
	comp=Z,30nm,18.4s,baz=47,slow=40								
TORD	Torodi Ar. Bea	87.42	283	P	P	09 14 58.7	-0.2		
	comp=Z,0.4nm,0.9s,baz=75,slow=7.6,SNR=2.0								
TORD				LR	LR	09 55 26.5			
	comp=Z,99nm,18.2s,baz=28,slow=36								
	comp=Z,0.4nm,0.9s								
BORG	Borgarnes	89.72	337	LR	LR	09 56 53.5			
	comp=Z,70nm,21.5s,baz=48,slow=37								
RPZ	Rata Peaks	89.94	135	LR	LR	09 59 12.0			
	comp=Z,118nm,18.7s,baz=114,slow=38								
ILAR	Eielson Array	92.98	21	P	P	09 15 22.6	-1.3		
	comp=Z,0.2nm,0.6s,baz=297,slow=4.3,SNR=4.2								
ILAR				LR	LR	10 01 36.6			
	comp=Z,77nm,18.5s,baz=258,slow=38								
	comp=Z,0.2nm,0.6s								
URZ	Urewera	93.18	128	LR	LR	09 58 08.9			
	comp=Z,73nm,20.7s,baz=296,slow=36								
INK	Inuvik	94.87	15	LR	LR	10 05 02.1			
	comp=Z,39nm,19.7s,baz=14,slow=40								
DBIC	Dimbokro	94.99	278	LR	LR	09 59 52.5			
	comp=Z,45nm,18.1s,baz=142,slow=36								
PDAR	Pinedale Array	123.29	18	PKP	PKPdf	09 21 08.0	-0.5		
	comp=Z,0.3nm,0.6s,baz=106,slow=1.2,SNR=4.5								
NVAR	Mina Array Bea	123.64	28	PKP	PKPdf	09 21 09.6	+0.4		
	comp=Z,0.3nm,0.6s,baz=319,slow=2.4,SNR=4.6								
TXAR	Lajitas Array	137.47	20	PKP	PKPdf	09 21 36.5	+0.9		
	comp=Z,0.1nm,0.5s,baz=267,slow=1.3,SNR=5.9								
PLCA	Paso Flores	146.26	205	PKPbc	PKPdf	09 21 51.6	+0.8		
	comp=Z,1.3nm,0.7s,baz=138,slow=7.0,SNR=4.0								

DJA ***29*** *09:03:41.6±0.5, 4°S×4°×12°BE±°, h10km, M3.0/4, MLv3.0/4*
IDC ***29*** *09:03:43.1±2.2, 3°90S×127°92E, h0km, mb3.4/2, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=149.7km s-min=30.2km az=67.0*

ISC 29 09:03:42.7±1.2, 3°6S±0°1×128°39E±0°07, h10km±9km, n6, σ1°37/8, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	Ambon	0.21	249	P	Pg	09 03 47.0	0.0
AAI				S	Sg	09 03 50.5	+0.6
MSAI	Masohi	0.60	64	P	Pg	09 03 54.4	0.0
MSAI				S	Sg	09 04 02.2	-0.1
NLAI	Namlea	1.34	286	P	Pn	09 04 05.7	-1.8
WRA	Warramunga Arr	17.24	161	P	P	09 07 44.6	-0.7
	baz=338,slow=12,SNR=2.8						
	0.5nm,1.0s						
ASAR	Alice Springs	20.64	166	P	P	09 08 22.7	+0.1
	1.2nm,0.7s,baz=347,slow=11,SNR=14						
	1.2nm,0.7s						
MKAR	Makanchi Array	64.53	327	P	P	09 14 21.9	+1.8
	0.3nm,0.6s,baz=123,slow=5.3,SNR=2.4						
	0.3nm,0.6s						

DJA ***29*** *09:15:50.9±0.9, 6°N×4°×12°6E±°, h136km±16km, M4.5/6, mB4.9/1, mb4.5/1, MLv4.4/6, Mw(mB)4.1/1*
IDC ***29*** *09:15:53.6±1.0, 5°84N×126°09E, h109km±7km, mb3.5/14, mbtmp3.9/15, Error ellipse: s-maj=40.2km s-min=10.5km az=74.0*

ISC 29 09:15:55.3±0.6, 5°90N±0°05×126°1E±0°2, h127km, n19, σ1°85/26, mb3.8/14, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	1.26	337	P	Pn	09 16 17.3	-3.3
	235nm,0.3s,baz=69,slow=14,SNR=6.8						
DAV				S	Sn	09 16 37.2	-2.7
	876nm,0.4s,baz=153,slow=22,SNR=20						
SGSI	Sangihe	2.26	194	P	Pn	09 16 30.4	-2.0
SGSI				S	Sn	09 17 01.7	+0.8
TNTI	Ternate	5.25	166	P	Pn	09 17 07.8	-4.0
KAPI	Kappang	12.54	210	P	Pn	09 18 49.1	-0.3
	12nm,0.8s,baz=24,slow=11,SNR=4.7						
FITZ	Fitzroy Crossi	23.85	181	P	P	09 20 56.9	-0.1
	1.3nm,0.4s,baz=356,slow=6.9,SNR=14						
	1.3nm,0.4s						
WRA	Warramunga Arr	26.94	163	P	P	09 21 23.7	-1.2
	1.0nm,0.8s,baz=344,slow=10.0,SNR=11						
WRA				ScP	ScP	09 28 16.3	+3.7
	0.4nm,0.8s,baz=345,slow=3.2,SNR=2.8						
	1.0nm,0.8s						
ASAR	Alice Springs	30.36	166	P	P	09 21 54.6	-0.7
	1.0nm,0.6s,baz=343,slow=7.0,SNR=27						
ASAR				PcP	PcP	09 24 53.3	+0.8
	0.2nm,0.7s,baz=341,slow=2.5,SNR=3.0						
ASAR				ScP	ScP	09 28 26.7	+3.4
	0.1nm,0.8s,baz=345,slow=3.0,SNR=2.7						
	1.0nm,0.6s						
KSRS	Korea Array	31.45	3	P	P	09 22 06.9	+2.2
	0.3nm,0.5s,baz=172,slow=9.6,SNR=2.3						
	0.3nm,0.5s						
STKA	Stephens Creek	40.38	159	P	P	09 23 20.7	-0.1
	2.1nm,0.7s,baz=359,slow=8.3,SNR=5.2						
	2.1nm,0.7s						
MKAR	Makanchi Array	55.41	325	P	P	09 25 17.1	+0.6
	0.6nm,0.6s,baz=128,slow=7.9,SNR=5.2						
MKAR				PcP	PcP	09 26 15.9	+0.6
	0.5nm,0.6s,baz=108,slow=4.7,SNR=2.2						
MKAR				ScP	ScP	09 30 04.1	+1.6
	0.2nm,0.6s,baz=115,slow=5.5,SNR=2.4						
	0.6nm,0.6s						
ZALV	Zalesovo Beam	58.37	333	P	P	09 25 38.1	+0.9

ML2.4/38, **ML2.7**/42(NEIC), **Error ellipse: s-maj=6.0km s-min=3.9km az=177.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.01**	**87**		Pb	09 45 06.4	-0.4
KKO	**Keanakako'i**	**0.04**	**308**		Pb	09 45 06.5	-0.4
KKO					Sb	09 45 09.8	-0.5
RIM	**Rim**	**0.04**	**299**		Pb	09 45 06.5	-0.4
RIM					Sb	09 45 09.8	-0.5
BYL	**Byron's Ledge**	**0.05**	**326**		Pb	09 45 06.2	-0.7
BYL				IAML		09 45 10.2	
	comp=N,1μm,0.2s						
BYL				IAML		09 45 10.6	
	comp=E,921nm,0.2s						
HATHI	**Halema'uma'u T**	**0.06**	**331**		Pb	09 45 06.0	-0.9
KNHH	**Kane Nui o Ham**	**0.06**	**84**		Pb	09 45 06.2	-0.7
SDHHI	**Sand Hill**	**0.06**	**286**		Pb	09 45 06.5	-0.4
SDHHI					Sb	09 45 10.0	-0.4
SBLHI	**Steaming Bluff**	**0.06**	**328**		Pb	09 45 06.3	-0.6
SBLHI					Sb	09 45 10.0	-0.4
OBL	**Observatory Le**	**0.07**	**312**		Pb	09 45 06.4	-0.5
OBL					Sb	09 45 09.8	-0.7
UWB	**Uwekahuna Bluf**	**0.07**	**320**		Pb	09 45 06.3	-0.6
UWB					Sb	09 45 09.4	-1.1
WRMHI	**West Rim**	**0.07**	**297**		Pb	09 45 06.4	-0.6
WRMHI					Sb	09 45 09.9	-0.6
UWE	**Uwekahuna**	**0.07**	**310**		Pb	09 45 06.2	-0.8
UWE				IAML		09 45 10.2	
	comp=N,923nm,0.4s						
UWE				IAML		09 45 12.2	
	comp=E,996nm,0.2s						
RSD	**Rainshed**	**0.10**	**334**		Pb	09 45 06.7	-0.5
STCH	**Steam Cracks**	**0.10**	**83**		Pb	09 45 06.2	-0.9
HLP	**Hilina Pali**	**0.10**	**223**		Pb	09 45 06.6	-0.5
NPOC	**North of Pu'u**	**0.12**	**80**		Pb	09 45 06.7	-0.4
NPOC					Sb	09 45 10.4	-0.5
JCUZ	**Jacuzzi**	**0.12**	**85**		Pb	09 45 06.8	-0.4
JCUZ					Sb	09 45 10.5	-0.5
MLH	**Mauna Loa**	**0.19**	**310**		Pb	09 45 07.2	-0.8
MLH				IAML		09 45 12.8	
	comp=N,864nm,0.5s						
HTC	**Hot Caves**	**0.21**	**229**		Pb	09 45 07.8	-0.2
AIN	**Ainahou**	**0.21**	**270**		Pb	09 45 07.8	-0.4
AIN				IAML		09 45 13.1	
	comp=N,1μm,0.3s						
AIN				IAML		09 45 13.7	
	comp=E,1μm,0.2s						
JOKA	**Jonika Flow**	**0.22**	**74**		Pb	09 45 07.5	-0.7
HMH	**Humu'ula Sheep**	**0.33**	**314**		Pb	09 45 09.2	-0.6
HMH	**Humu'ula Sheep**	**0.33**	**314**		Sb	09 45 14.6	-0.7
MWH	**Mokuaweoweo**	**0.36**	**288**		Pb	09 45 09.3	-1.2
MWH				IAML		09 45 22.8	
	comp=E,462nm,0.5s						
MWH	**Mokuaweoweo**	**0.36**	**288**		Sb	09 45 15.0	-1.3
KHU	**Kahuku**	**0.38**	**251**		Pb	09 45 09.3	-1.2
KHU					Sb	09 45 15.0	-1.4
HPO	**Honuapo**	**0.41**	**227**		Pb	09 45 09.6	-1.2
HPO					Sb	09 45 15.8	-1.2
ALEP	**Alea Permanent**	**0.42**	**293**		Pb	09 45 09.8	-1.4
ALEP					Sb	09 45 15.8	-1.9
POHA	**Pohakuloa**	**0.48**	**324**		Pb	09 45 10.5	-1.5
POHA				IAML		09 45 17.3	
	comp=E,487nm,0.3s						
POHA				IAML		09 45 17.6	
	comp=E,496nm,0.5s						
HUH	**Hualalai**	**0.65**	**299**		Pb	09 45 13.2	-1.6
CPH	**Captain Cook**	**0.66**	**280**		Pb	09 45 12.6	-2.2
HPAH	**Hawaii Prepara**	**0.79**	**326**	Pn	Pb	09 45 14.5	-2.5
HPAH				IAML		09 45 23.6	
	comp=N,322nm,0.1s						
HPAH				IAML		09 45 23.7	
	comp=E,390nm,0.1s						

*IDC **29** 09:46:03.5±2.0, 10°.73N×91°.50E, h0km, mb3.6/5, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=66.1km s-min=22.1km az=65.0*

ISC 29 09:46:06.0±1.8, 10°.7N±0°.2×91°.5E±0°.3, h17km, n9, σ0s28/6, mb3.6/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.52**	**42**	Pn	**Pn**	**09 48 36.2**	**0.0**
	0.2nm,0.3s,baz=231,slow=15,SNR=1.6 0.6nm,0.4s						
H08S3	**Diego Garcia H**	**26.29**	**227**	T	T	10 19 23.7	
	baz=46,slow=75,SNR=66						
H08S2	**Diego Garcia H**	**26.30**	**227**	T	T	10 19 21.8	
	baz=46,slow=75,SNR=37						
H08S1	**Diego Carcia H**	**26.31**	**227**	T	T	10 19 12.5	
	baz=46,slow=75,SNR=31						
MKAR	**Makanchi Array**	**36.77**	**349**	P	**P**	**09 53 12.4**	**-0.3**
	0.6nm,0.7s,baz=171,slow=8.2,SNR=6.4 0.6nm,0.7s						
SONM	**Songino Array**	**39.04**	**16**	P	**P**	**09 53 32.2**	**+0.2**
	0.7nm,0.4s,baz=201,slow=7.9,SNR=4.2 0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**41.17**	**347**	P	**P**	**09 53 49.6**	**+0.1**
	0.2nm,0.5s,baz=167,slow=8.6,SNR=2.8 0.2nm,0.5s						
WRA	**Warramunga Arr**	**52.04**	**126**	P	**P**	**09 55 15.0**	**-0.2**
	0.5nm,0.9s,baz=309,slow=8.3,SNR=3.6 0.5nm,0.9s						
ASAR	**Alice Springs**	**53.74**	**130**	P	**P**	**09 55 27.9**	**+0.2**
	1.2nm,0.7s,baz=306,slow=6.5,SNR=17 1.2nm,0.7s						

IDC 29 09:49:57.5±2.6, 14°.29N×119°.85E, h54km±30km, mb3.3/3, mbtmp3.6/3, MS3.3/1, Error ellipse: s-maj=47.0km s-min=22.7km az=29.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.07**	**100**	P	Pn	09 50 17.1	+0.8
	1μm,0.4s,baz=281,slow=2.5,SNR=23						
TGY				S	Sn	09 50 30.4	+0.1
	854nm,0.4s,baz=163,slow=21,SNR=6.7						
DAV	**Davao City (W)**	**9.12**	**141**	LR	LR	09 56 28.4	
	comp=Z,165nm,18.3s,baz=336,slow=43						
CMAR	**Chiang Mai Arr**	**20.48**	**284**	P	P	09 54 30.5	-0.5
	1.1nm,0.7s,baz=98,slow=11,SNR=8.2 1.1nm,0.7s						
WRA	**Warramunga Arr**	**36.88**	**157**	P	P	09 57 00.5	-0.6
	0.4nm,0.3s,baz=334,slow=8.9,SNR=14 0.4nm,0.3s						
ASAR	**Alice Springs**	**40.15**	**160**	P	P	09 57 28.9	+0.4
	0.3nm,0.3s,baz=334,slow=7.3,SNR=14 0.3nm,0.3s						
TXAR	**Lajitas Array**	**119.62**	**44**	PKP	PKPdf	10 08 42.0	-0.1
	0.2nm,0.5s,baz=249,slow=1.4,SNR=3.7						

*IDC **29** 09:49:58.8±1.5, 24°.22S×67°.00W, h154km±14km, mb3.4/8, mbtmp3.9/15, Error ellipse: s-maj=18.6km s-min=10.9km az=88.0*
*SJA **29** 09:49:59.4±0.6, 24°.20S×67°.13W, h197km±3km, ML4.2, MW3.9*
*NEIC **29** 09:50:00.1±1.9, 24°.26S±0°.06×67°.37W±0°.1, h195km±11km, mb4.2/3, ML4.4(GUC), Error ellipse: s-maj=16.4km s-min=8.3km az=105.0*
*GUC **29** 09:50:01.5±0.7, 24°.24S×67°.39W, h210km±6km, ML4.4*
*VAO **29** 09:50:03.9±1.1, 24°.20S×66°.91W, h211km±8km, mb3.9*

ISC 29 09:50:00.6±0.6, 24°.22S±0°.03×67°.17W±0°.04, h183km±6km, n113, σ1s43/143, mb4.0/10, 12C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.76**	**90**	*eP*	**Pn**	**09 50 27.8**	**+0.1**
SALTA				IAML		09 50 28.2	
	comp=Z,1μm,0.9s						
AF01	**San Pedro de A**	**1.57**	**324**		**Pn**	**09 50 35.2**	**+1.3**
AF01	**San Pedro de A**	**1.57**	**324**	*eP*	**Pn**	**09 50 35.7**	**+1.8**
AF01				*eS*	**Sn**	**09 51 02.0**	**+2.4**
AF01				IAML		09 51 09.3	
	comp=N,905nm,0.1s						
AF01	**San Pedro de A**	**1.57**	**324**	*eP*	**Pn**	**09 50 36.0**	**+2.1**
AF01				*eS*	**Sn**	**09 51 00.2**	**+0.7**
AF01				IAML		09 51 20.9	
	comp=Z,547nm,0.9s						
SLA	**San Lorenzo**	**1.60**	**109**	*eP*	**Pn**	**09 50 34.3**	**+0.3**
SLA				*eS*	**Sn**	**09 51 00.2**	**+0.4**
HJA	**Humahuaca**	**1.90**	**58**	*eP*	**Pn**	**09 50 37.5**	**+0.2**
HJA				*eS*	**Sn**	**09 51 05.8**	**0.0**
FSA	**Cafayete**	**2.17**	**150**	*eP*	**Pn**	**09 50 40.1**	**+0.1**
FSA				*eS*	**Sn**	**09 51 09.8**	**-0.8**
GO02	**Mina Guanaco**	**2.39**	**246**		**Pn**	**09 50 43.0**	**+0.4**
GO02	**Mina Guanaco**	**2.39**	**246**	*eP*	**Pn**	**09 50 43.4**	**+0.8**
GO02				*eS*	**Sn**	**09 51 15.0**	**-0.2**
GO02				IAML		09 51 18.6	
	comp=E,2μm,0.3s						
GO02	**Mina Guanaco**	**2.39**	**246**	*eP*	**Pn**	**09 50 43.4**	**+0.8**
GO02				*eS*	**Sn**	**09 51 15.8**	**+0.6**
GO02				IAML		09 51 16.8	
	comp=Z,1μm,0.3s						
YJA	**Yavi**	**2.54**	**37**	*eP*	**Pn**	**09 50 45.0**	**+0.5**
YJA				*eS*	**Sn**	**09 51 18.2**	**-0.4**
PB06	**IPOC Station P**	**2.67**	**304**		**Pn**	**09 50 46.3**	**+0.6**
PB06	**IPOC Station P**	**2.67**	**304**	*eP*	**Pn**	**09 50 46.6**	**+0.9**
PB06				*eS*	**Sn**	**09 51 20.5**	**-0.3**
PB06				IAML		09 51 22.7	
	comp=N,2μm,0.1s						
PB06	**IPOC Station P**	**2.67**	**304**	*eP*	**Pn**	**09 50 46.5**	**+0.8**
PB06				*eS*	**Sn**	**09 51 20.5**	**-0.3**
PB06				IAML		09 51 25.3	
	comp=Z,906nm,0.3s						
PB14	**IPOC Station P**	**2.98**	**262**		**Pn**	**09 50 48.7**	**-0.8**
PB14	**IPOC Station P**	**2.98**	**262**	*eP*	**Pn**	**09 50 49.7**	**+0.2**
PB14				*eS*	**Sn**	**09 51 26.0**	**-1.4**
PB14				IAML		09 51 28.0	
	comp=E,314nm,0.5s						
PB14	**IPOC Station P**	**2.98**	**262**	*eP*	Pn	09 50 37.6	-12
PB14				*eS*	**Sn**	**09 51 27.7**	**+0.2**
PB14				IAML		09 51 29.2	
	comp=Z,299nm,0.2s						
PB09	**IPOC Station P**	**3.08**	**321**		**Pn**	**09 50 51.5**	**+1.0**
PB09	**IPOC Station P**	**3.08**	**321**	*eP*	**Pn**	**09 50 51.7**	**+1.1**
PB09				*eS*	**Sn**	**09 51 29.8**	**+0.3**
PB09				IAML		09 51 35.0	
	comp=E,589nm,0.4s						
PB09	**IPOC Station P**	**3.08**	**321**	*eP*	**Pn**	**09 50 51.4**	**+0.8**
PB09				*eS*	**Sn**	**09 51 28.3**	**-1.2**
PB09				IAML		09 51 30.3	
	comp=Z,592nm,0.5s						
AC02	**Maricunga**	**3.15**	**214**		**Pn**	**09 50 52.0**	**+0.3**
AC02	**Maricunga**	**3.15**	**214**	*iP*	**Pn**	**09 50 52.4**	**+0.7**
AC02	**Maricunga**	**3.15**	**214**	*eP*	**Pn**	**09 50 52.2**	**+0.5**
AC02				*eS*	**Sn**	**09 51 36.8**	**+5.2**
AC02				IAML		09 52 37.1	
	comp=Z,194nm,0.8s						
PB10	**IPOC Station P**	**3.18**	**282**		**Pn**	**09 50 51.9**	**+0.3**
PB10	**IPOC Station P**	**3.18**	**282**	*eP*	**Pn**	**09 50 52.2**	**+0.6**
PB10				*eS*	**Sn**	**09 51 30.1**	**-1.2**
PB10				IAML		09 51 35.9	
	comp=E,389nm,0.5s						
PB10	**IPOC Station P**	**3.18**	**282**	*eP*	**Pn**	**09 50 52.2**	**+0.6**
PB10				*eS*	**Sn**	**09 51 30.9**	**-0.4**
PB10				IAML		09 51 35.2	
	comp=Z,408nm,0.6s						
PB03	**IPOC Station P**	**3.21**	**312**		**Pn**	**09 50 52.7**	**+0.5**
PB03	**IPOC Station P**	**3.21**	**312**	*eP*	**Pn**	**09 50 53.0**	**+0.7**
PB03				*eS*	**Sn**	**09 51 30.8**	**-1.6**
PB03	**IPOC Station P**	**3.21**	**312**	*eP*	**Pn**	**09 50 52.3**	**0.0**
PB03				*eS*	**Sn**	**09 51 31.7**	**-0.7**
PB03				IAML		09 51 34.7	
	comp=Z,812nm,0.2s						
AC01	**Pan de Azucar**	**3.65**	**238**		**Pn**	**09 50 56.3**	**-1.1**
AC01	**Pan de Azucar**	**3.65**	**238**	*eP*	**Pn**	**09 50 56.7**	**-0.7**
AC01				*eS*	**Sn**	**09 51 39.6**	**-2.3**
AC01	**Pan de Azucar**	**3.65**	**238**	*eP*	**Pn**	**09 50 56.8**	**-0.7**
AC01				*eS*	**Sn**	**09 51 40.2**	**-1.8**
AC01				IAML		09 51 40.8	
	comp=Z,161nm,0.1s						
PB01	**IPOC Station P**	**3.82**	**325**		**Pn**	**09 50 59.2**	**-0.5**
PB01	**IPOC Station P**	**3.82**	**325**	*eP*	**Pn**	**09 50 59.5**	**-0.3**
PB01				*eS*	**Sn**	**09 51 44.1**	**-1.8**
PB01	**IPOC Station P**	**3.82**	**325**	*eP*	**Pn**	**09 50 59.4**	**-0.3**
PB01				*eS*	**Sn**	**09 51 44.6**	**-1.3**
PB01				IAML		09 51 46.2	
	comp=Z,230nm,0.3s						
PB02	**IPOC Station P**	**3.83**	**318**		**Pn**	**09 50 59.0**	**-0.9**
PB02	**IPOC Station P**	**3.83**	**318**	*eP*	**Pn**	**09 50 59.6**	**-0.2**
PB02				*eS*	**Sn**	**09 51 44.2**	**-1.9**
PB02	**IPOC Station P**	**3.83**	**318**	*eP*	**Pn**	**09 50 59.6**	**-0.2**
PB02				*eS*	**Sn**	**09 51 44.6**	**-1.5**
PB02				IAML		09 51 49.2	
	comp=Z,812nm,0.3s						
GO03	**Copiapo**	**4.35**	**219**		**Pn**	**09 51 04.7**	**-1.6**
GO03	**Copiapo**	**4.35**	**219**	*eP*	**Pn**	**09 51 05.4**	**-0.9**
GO03				*eS*	**Sn**	**09 51 55.8**	**-2.1**
GO03	**Copiapo**	**4.35**	**219**	*eP*	**Pn**	**09 51 05.5**	**-0.8**
GO03				*eS*	**Sn**	**09 51 56.0**	**-1.8**
GO03				IAML		09 51 59.3	
	comp=Z,256nm,0.6s						
PATCX	**Punta Patache**	**4.37**	**320**		**Pn**	**09 51 05.8**	**-0.8**
PATCX	**Punta Patache**	**4.37**	**320**	*iP*	**Pn**	**09 51 06.4**	**-0.2**
PATCX	**Punta Patache**	**4.37**	**320**	*eP*	**Pn**	**09 51 06.4**	**-0.2**
PATCX				*eS*	**Sn**	**09 51 54.6**	**-3.8**
PATCX				IAML		09 52 08.1	
	comp=Z,159nm,0.5s						
CYA	**Choya**	**4.38**	**164**	*eP*	**Pn**	**09 51 07.6**	**+0.9**
CYA				*eS*	**Sn**	**09 51 57.0**	**-1.6**
PB08	**IPOC Station P**	**4.46**	**335**		**Pn**	**09 51 07.9**	**-0.2**
PB08	**IPOC Station P**	**4.46**	**335**	*iP*	**Pn**	**09 51 08.5**	**+0.4**
PB08	**IPOC Station P**	**4.46**	**335**	*eP*	**Pn**	**09 51 08.3**	**+0.2**
PB08				*eS*	**Sn**	**09 52 00.1**	**-0.8**
PB08				IAML		09 52 05.9	
	comp=Z,100nm,0.6s						
TA01	**Diego Aracena**	**4.58**	**322**		**Pn**	**09 51 08.5**	**-0.8**
TA01	**Diego Aracena**	**4.58**	**322**	*eP*	**Pn**	**09 51 09.2**	**-0.1**
TA01				*eS*	**Sn**	**09 52 02.1**	**-1.1**
TA01				IAML		09 52 03.6	
	comp=Z,101nm,0.7s						
VCA	**Vinchina**	**4.59**	**191**	*eP*	**Pn**	**09 51 09.6**	**+0.1**
GO01	**Chusmiza**	**4.90**	**337**		**Pn**	**09 51 13.1**	**-0.8**
GO01	**Chusmiza**	**4.90**	**337**	*eS*	**Sn**	**09 52 10.9**	**-0.5**
GO01				IAML		09 52 16.0	
	comp=Z,77nm,0.3s						
PB11	**IPOC Station P**	**5.00**	**332**		**Pn**	**09 51 13.6**	**-1.3**
PB11	**IPOC Station P**	**5.00**	**332**	*eS*	**Sn**	**09 52 08.7**	**-4.5**
PB11				IAML		09 52 14.2	
	comp=Z,128nm,0.3s						
ACLC	**CERRO LA CRUZ**	**5.19**	**178**	*eP*	Pn	09 50 59.4	-18
AC04	**Llanos de Chal**	**5.29**	**221**		**Pn**	**09 51 16.2**	**-2.2**
LCO	**Las Campanas**	**5.72**	**213**		**Pn**	**09 51 21.9**	**-2.3**
PB16	**IPOC Station P**	**6.25**	**339**		**Pn**	**09 51 30.3**	**-1.2**
GO04	**Tololo Observa**	**6.75**	**208**	Pn	**Pn**	**09 51 35.9**	**-1.8**
CFA	**Coronel Fontan**	**7.42**	**187**	P	**Pn**	**09 51 45.0**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=326,slow=12,SNR=18						
CFA				S	**Sn**	**09 53 04.8**	**-5.0**
	comp=Z,1.8nm,0.3s,baz=24,slow=13,SNR=7.8						
LPAZ	**La Paz**	**7.94**	**353**	P	**Pn**	**09 51 53.8**	**0.0**
	comp=Z,6.3nm,0.4s,baz=161,slow=7.0,SNR=80						
LPAZ				S	**Sn**	**09 53 20.4**	**-3.1**
	comp=Z,1.5nm,0.5s,baz=188,slow=19,SNR=4.4						
CPUP	**Villa Florida**	**9.15**	**105**	P	**Pn**	**09 52 05.8**	**-3.2**
	comp=Z,0.5nm,0.7s,baz=324,slow=6.0,SNR=5.3						
MURT	**Porto Murtinho**	**9.17**	**76**	*eP*	**Pn**	**09 52 07.1**	**-2.2**
SIV	**San Ignacio**	**9.99**	**36**	P	**Pn**	**09 52 17.5**	**-2.6**
	comp=Z,1.4nm,0.3s,baz=220,slow=7.5,SNR=13						
SIV				S	Sn	09 53 59.6	-12
	comp=Z,0.9nm,0.5s,baz=216,slow=17,SNR=1.8						
MT01	**Popeta**	**10.25**	**199**	Pn	**Pn**	**09 52 22.7**	**-0.6**
PSAL	**Palomas, Salto**	**10.88**	**131**	*eP*	**Pn**	**09 52 30.6**	**-1.0**
PTLB	**Pontes e Lacer**	**11.54**	**42**	*eP*	**Pn**	**09 52 41.0**	**+0.8**
TRCB	**Terra Rica**	**13.41**	**87**	*eP*	**Pn**	**09 53 04.3**	**+0.3**
SALV	**Santo Antonio**	**13.59**	**55**	*eP*	**Pn**	**09 53 06.6**	**+0.4**
CPSB	**Cacapava Do Su**	**13.67**	**120**	*eP*	**P**	**09 53 08.8**	**-1.0**
PTGB	**Pitanga**	**13.77**	**95**	*eP*	**Pn**	**09 53 08.8**	**+0.4**
ITAB	**Concordia**	**13.88**	**106**		**Pn**	**09 53 10.6**	**+0.8**
ITAB	**Concordia**	**13.88**	**106**	*eP*	**Pn**	**09 53 09.4**	**-0.4**
PLTB	**Pedras Altas**	**14.14**	**125**		**Pn**	**09 53 13.0**	**+0.1**
LDASE	**Londrina, Braz**	**14.72**	**90**	*eP*	**Pn**	**09 53 17.9**	**-2.3**
NNA	**Nana**	**15.24**	**321**	P	**P**	**09 53 28.7**	**+1.2**
	comp=Z,7.8nm,0.8s,baz=146,slow=3.6,SNR=2.2						
ITRB	**Iturama**	**16.23**	**77**	*eP*	**P**	**09 53 37.1**	**-1.2**
PLCA	**Paso Flores**	**16.71**	**189**	P	**Pn**	**09 53 44.7**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=18,slow=12,SNR=3.6						
ARAG	**Araguaiana, MT**	**16.73**	**62**	*eP*	**P**	**09 53 43.5**	**-0.3**
CLDB	**Colider**	**17.12**	**41**	*eP*	**P**	**09 53 47.9**	**-0.2**
VAO	**Valinhos**	**18.56**	**90**	P	**P**	**09 54 02.4**	**-1.4**
VAO				IAML	IAmb	09 54 03.5	
	comp=Z,28nm,0.9s						
VAO	**Valinhos**	**18.56**	**90**	*eP*	**P**	**09 54 02.4**	**-1.4**
IPMB	**Ipameri, GO**	**18.74**	**74**	*eP*	**P**	**09 54 04.9**	**-0.9**
SNDB	**Serra Nova Dou**	**19.37**	**54**	*eP*	**P**	**09 54 11.2**	**-1.4**
BDFB	**Brasilia**	**19.91**	**68**	P	**P**	**09 54 17.4**	**-1.1**
	comp=Z,13nm,0.6s,baz=245,slow=11,SNR=26						
TEFE	**Tefe**	**20.74**	**7**	*eP*	**P**	**09 54 28.2**	**+1.0**
ITTB	**Itaituba**	**22.61**	**31**	*eP*	**P**	**09 54 44.0**	**-2.0**
DIAM	**Diamantina, MG**	**22.66**	**79**	*eP*	**P**	**09 54 45.7**	**-1.0**
JANB	**Januaria**	**23.35**	**71**	*eP*	**P**	**09 54 51.2**	**-1.7**
SDBA	**SAO DESIDERIO**	**24.14**	**65**	*eP*	**P**	**09 54 58.4**	**-1.7**
SMTB	**Santa Maria do**	**24.15**	**54**	*eP*	**P**	**09 54 59.7**	**-0.3**
GUA01	**Guaratinga, BA**	**26.72**	**79**	*eP*	**P**	**09 55 21.9**	**-1.3**
BOAV	**Boa Vista**	**27.23**	**15**	*eP*	**P**	**09 55 27.0**	**-0.8**
CMC01	**Camacan, BA**	**27.43**	**76**	*eP*	**P**	**09 55 27.6**	**-2.0**
CELP	**Cerrillos**	**42.04**	**1**	P	**P**	**09 57 32.3**	**-2.0**
CELP				IAmb	IAmb	09 57 40.0	
	comp=Z,8.9nm,1.2s						
VNA3	**Neumayer Olymp**	**56.99**	**161**	⇓P	**P**	**09 59 27.9**	**+1.2**
	comp=Z,1.9nm,0.7s						
VNA2	**Neumayer--Watz**	**57.56**	**160**	⇓P	**P**	**09 59 31.5**	**+0.9**
	comp=Z,1.6nm,0.4s,baz=272,slow=6.7						
SNAA	**Sanae**	**59.19**	**161**	⇓P	**P**	**09 59 42.7**	**+0.6**
	comp=Z,24nm,0.6s						
SNAA	**Sanae**	**59.19**	**161**	P	**P**	**09 59 42.2**	**+0.2**
SNAA				IAmb	IAmb	09 59 58.3	
	comp=Z,5.4nm,1.5s						
SNAA	**Sanae**	**59.19**	**161**	P	**P**	**09 59 42.8**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=256,slow=9.7,SNR=13 comp=Z,1.0nm,0.6s						
TROLL	**Troll, Antarti**	**60.91**	**161**	⇓P	**P**	**09 59 54.6**	**+0.8**
	comp=Z,79nm,0.5s						
TXAR	**Lajitas Array**	**63.77**	**325**	P	**P**	**10 00 14.6**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=146,slow=6.3,SNR=4.8 comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**65.98**	**180**	P	**P**	**10 00 30.3**	**+3.2**
	comp=Z,1.5nm,0.5s,baz=199,slow=1.4,SNR=26 comp=Z,1.5nm,0.5s						
VNDA	**Vanda**	**74.46**	**190**	P	**P**	**10 01 18.7**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=72,slow=4.5,SNR=2.3 comp=Z,0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.79**	**69**	P	**P**	**10 01 32.5**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=254,slow=5.0,SNR=7.4 comp=Z,0.4nm,0.5s						
PDAR	**Pinedale Array**	**77.26**	**329**	P	**P**	**10 01 36.4**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=132,slow=7.4,SNR=3.7 comp=Z,0.3nm,0.6s						
NVAR	**Mina Array Bea**	**78.61**	**321**	P	**P**	**10 01 45.0**	**+2.6**
	comp=Z,0.3nm,0.7s,baz=72,slow=4.7,SNR=2.4 comp=Z,0.3nm,0.7s						
BOSA	**Boshof**	**80.77**	**117**	P	**P**	**10 01 54.4**	**+0.1**
	comp=Z,6.7nm,1.3s,baz=270,slow=5.1,SNR=1.7 comp=Z,6.7nm,1.3s						
ASAR	**Alice Springs**	**128.19**	**205**	PKP	**PKiKP**	**10 08 46.2**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=136,slow=2.0,SNR=11						
WRA	**Warramunga Arr**	**131.36**	**207**	PKP	**PKiKP**	**10 08 52.8**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=157,slow=1.7,SNR=15						
ZALV	**Zalesovo Beam**	**143.66**	**28**	PKP	PKPbc	10 09 12.2	+0.9
	comp=Z,0.7nm,0.5s,baz=284,slow=6.7,SNR=4.5						
MKAR	**Makanchi Array**	**146.79**	**40**	PKPbc	**PKPab**	**10 09 21.9**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=301,slow=3.4,SNR=11						

*IDC **29** 09:53:59.3±5.1, 39°.39N×143°.99E, h0km, mb3.7/3, mbtmp3.8/7, ML3.0/4, Error ellipse: s-maj=95.2km s-min=29.3km az=106.0*
*JMA **29** 09:54:01.1±0.4, 39°.5N±0°.7×14°.4E±°, h14km±4km, MV3.8/32, FAR E OFF SANRIKU*
*NIED **29** 09:54:01.1, 39°.45N×143°.66E, h14km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; Mrr4.15; Mθθ-0.41; Mφφ-3.74; Mrθ0.13; Mrφ-1.27; Mθφ1.39; Fault plane solution: M04.39000×10^{14} NP1: φs203.00000°, δ36.00000°, λ97.00000°. NP2: φs14.00000°, δ54.00000°, λ85.00000°.*

ISC 29 09:54:01.0±2.1, 39°.41N±0°.07×143°.8E±0°.2, h11km, n22, σ1s81/23, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.52**	**277**	P	**Pn**	**09 54 26.9**	**-1.2**
JTH	**Tanohata**	**1.57**	**290**	*i* P	**Pn**	**09 54 27.4**	**-1.4**
OFUJ	**Ofunato**	**1.67**	**259**	*i* P	**Pn**	**09 54 29.3**	**-0.9**
JOM	**Ohasama**	**1.92**	**273**	*i* P	**Pn**	**09 54 33.1**	**-0.5**
JANG	**Nango**	**1.99**	**300**	*eP*	**Pn**	**09 54 33.3**	**-1.3**
JMK	**Ichinoseki**	**2.04**	**258**	*i* P	**Pn**	**09 54 34.8**	**-0.4**
JIO	**Ouri**	**2.12**	**244**	*i* P	**Pn**	**09 54 35.7**	**-0.6**
JRG	**Rokugo**	**2.43**	**271**	*eP*	**Pn**	**09 54 40.3**	**-0.3**
JYK	**

PB03				IAML			09 58 43.1	
	comp=E,486nm,0.4s							
PB03	**IPOC Station P**	**1.45 229**	*eP*		**Pn**		**09 58 20.8**	**-1.3**
PB03				IAML			09 58 43.9	
	comp=Z,418nm,0.3s							
PATCX	**Punta Patache**	**1.49 280⇑**	*eP*		**Pn**		**09 58 22.1**	**-0.4**
PATCX			*eS*		**Sn**		**09 58 42.7**	**-0.8**
PATCX				IAML			09 58 44.5	
	comp=E,912nm,0.5s							
PATCX	**Punta Patache**	**1.49 280**	*eP*		**Pn**		**09 58 21.7**	**-0.7**
PATCX			*eS*		**Sn**		**09 58 44.0**	**+0.5**
PATCX				IAML			09 58 48.2	
	comp=Z,451nm,0.3s							
GO01	**Chusmiza**	**1.52 338⇓**	*eP*		**Pn**		**09 58 23.9**	**+0.6**
GO01			*eS*		**Sn**		**09 58 46.7**	**+1.8**
GO01				IAML			09 58 48.7	
	comp=E,808nm,0.3s							
GO01	**Chusmiza**	**1.52 338**	*eP*		**Pn**		**09 58 23.9**	**+0.6**
GO01			*eP*				09 58 24.2	
GO01				IAML			09 58 51.2	
	comp=Z,264nm,0.2s							
TA01	**Diego Aracena**	**1.58 289**	*eP*		**Pn**		**09 58 23.1**	**-0.3**
TA01			*eS*		**Sn**		**09 58 45.1**	**-0.1**
TA01				IAML			09 58 48.0	
	comp=Z,295nm,0.6s							
PB11	**IPOC Station P**	**1.66 322**	*eP*		**Pn**		**09 58 24.4**	**-0.1**
PB11			*eS*		**Sn**		**09 58 47.4**	**+0.3**
PB11				IAML			09 58 48.9	
	comp=E,835nm,0.2s							
PB11	**IPOC Station P**	**1.66 322**	*eP*		**Pn**		**09 58 24.2**	**-0.3**
PB11				IAML			09 58 48.8	
	comp=Z,294nm,0.2s							
PB06	**IPOC Station P**	**1.85 210⇑**	*eP*		**Pn**		**09 58 26.3**	**-0.5**
PB06			*eS*		**Sn**		**09 58 50.2**	**-1.1**
PB06				IAML			09 58 50.4	
	comp=E,718nm,0.4s							
PB06	**IPOC Station P**	**1.85 210**	*eP*		**Pn**		**09 58 25.6**	**-1.2**
PB06				IAML			09 58 51.2	
	comp=Z,332nm,0.3s							
AF01	**San Pedro de A**	**1.89 169**	*eS*		**Sn**		**09 58 54.4**	**+2.0**
AF01				IAML			09 58 57.3	
	comp=E,402nm,0.5s							
PB16	**IPOC Station P**	**2.87 342**	*eP*		**Pn**		**09 58 40.8**	**+0.6**
PB16			*eS*		**Sn**		**09 59 16.1**	**+1.2**
PB14	**IPOC Station P**	**3.90 205**	*eP*		**Pn**		**09 58 51.8**	**-1.6**
PB14			*eS*		Sn		09 59 27.9	-11
PB14				IAML			09 59 37.9	
	comp=Z,64nm,0.2s							
GO02	**Mina Guanaco**	**4.16 193**	*eP*		**Pn**		**09 58 55.5**	**-1.4**
GO02			*eS*		**Sn**		**09 59 42.4**	**-2.5**
GO02				IAML			09 59 54.5	
	comp=Z,158nm,0.5s							
LPAZ	**La Paz**	**4.79 5**	P		**Pn**		**09 59 07.8**	**+2.2**
	comp=Z,2.3nm,0.5s,baz=198,slow=7.5,SNR=18							
LPAZ			S		**Sn**		**10 00 02.0**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=114,slow=6.6,SNR=1.5							
AC01	**Pan de Azucar**	**5.37 200**	*eP*		**Pn**		**09 59 09.7**	**-3.0**
AC01			*eS*		**Sn**		**10 00 18.0**	**+4.5**
AC01				IAML			10 00 19.3	
	comp=Z,33nm,0.5s							
SIV	**San Ignacio**	**8.74 56**	P		**Pn**		**09 59 55.8**	**-2.6**
	comp=Z,5.0nm,0.4s,baz=242,slow=15,SNR=37							
SIV			S		**Sn**		**10 01 29.1**	**-6.2**
	comp=Z,0.4nm,0.6s,baz=282,slow=21,SNR=1.6							
PLCA	**Paso Flores**	**19.66 184**	P		**Pn**		**10 02 14.8**	**-1.8**
	comp=Z,3.2nm,1.0s,baz=1.8,slow=12,SNR=5.7							
BDFB	**Brasilia**	**20.25 78**	P		**P**		**10 02 19.7**	**-1.0**
	comp=Z,1.7nm,0.5s,baz=248,slow=14,SNR=5.0							
SNAA	**Sanae**	**62.57 161**	P		**P**		**10 08 05.6**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=304,slow=7.3,SNR=1.5							
	comp=Z,0.4nm,0.8s							
QSPA	**South Pole Qui**	**69.10 180**	P		**P**		**10 08 49.5**	**+2.2**
	comp=Z,0.4nm,0.5s,baz=129,slow=6.5,SNR=7.5							
	comp=Z,0.4nm,0.5s							
TORD	**Torodi Ar. Bea**	**76.93 70**	P		**P**		**10 09 33.8**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=259,slow=5.2,SNR=8.7							
	comp=Z,0.6nm,0.5s							
MKAR	**Makanchi Array**	**145.12 36**	PKPbc		**PKPab**		**10 17 18.4**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=306,slow=3.4,SNR=3.4							

*NEIC **29** 10:06:43.2±0.6,20.07N±0.04×155.54W±0.02,h30km±9km, Error ellipse: s-maj=5.7km s-min=3.3km az=189.0*

HVO 29 10:06:45.1±0.8,20.11N±0.05×155.55W±0.06,h25km±8km, ML3.0/10,ML2.9/48(NEIC),Error ellipse: s-maj=10.1km s-min=4.3km az=52.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPAH	**Hawaii Prepara**	**0.16**	**239**		Pb	10 06 49.9	-0.6
MHA	**Mahukona**	**0.34**	**283**		Pb	10 06 52.0	-0.8
MHA	**Mahukona**	**0.34**	**283**		Sb	10 06 57.2	-0.8
POHA	**Pohakuloa**	**0.35**	**177**		Pb	10 06 51.9	-1.2
POHA	**Pohakuloa**	**0.35**	**177**		Sb	10 06 57.1	-1.5
HUH	**Hualalai**	**0.51**	**212**		Pb	10 06 54.5	-1.1
HMH	**Humu'ula Sheep**	**0.51**	**173**		Pb	10 06 54.4	-1.4
HMH				IAML		10 07 10.9	
	comp=N,637nm,0.7s						
HMH				IAML		10 07 14.0	
	comp=E,516nm,0.4s						
ALEP	**Alea Permanent**	**0.58**	**189**		Pb	10 06 55.5	-1.4
ALEP					Sb	10 07 03.0	-1.8
MWH	**Mokuaweoweo**	**0.63**	**184**		Pb	10 06 55.9	-1.9
MWH	**Mokuaweoweo**	**0.63**	**184**		Sb	10 07 03.5	-2.9
KKH	**Kailua Kona**	**0.63**	**224**		Pb	10 06 55.7	-1.8
KKH					Sb	10 07 03.6	-2.4
MLH	**Mauna Loa**	**0.64**	**166**		Pb	10 06 55.9	-1.8
MLH	**Mauna Loa**	**0.64**	**166**		Sb	10 07 04.1	-2.3
RSD	**Rainshed**	**0.70**	**158**		Pb	10 06 56.8	-1.9
CPH	**Captain Cook**	**0.71**	**209**		Pb	10 06 56.6	-2.3
UWE	**Uwekahuna**	**0.73**	**161**		Pb	10 06 57.0	-2.3
UWE				IAML		10 07 23.0	
	comp=N,662nm,0.5s						
UWE	**Uwekahuna**	**0.73**	**161**		Sb	10 07 05.6	-3.3
UWB	**Uwekahuna Bluf**	**0.73**	**160**		Pb	10 06 56.9	-2.4
SBLHI	**Steaming Bluff**	**0.73**	**159**		Pb	10 06 56.9	-2.4
SBLHI					Sb	10 07 05.6	-3.4
OBL	**Observatory Le**	**0.74**	**160**		Pb	10 06 57.0	-2.3
HATHI	**Halema'uma'u T**	**0.74**	**158**		Pb	10 06 57.0	-2.4
HATHI				IAML		10 07 23.3	
	comp=E,380nm,0.6s						
HATHI				IAML		10 07 25.0	
	comp=N,366nm,0.5s						
WRMHI	**West Rim**	**0.74**	**162**		Pb	10 06 57.1	-2.4
WRMHI					Sb	10 07 06.4	-2.8
AIN	**Ainahou**	**0.74**	**173**		Pb	10 06 57.4	-2.1
AIN				IAML		10 07 21.7	
	comp=E,403nm,0.5s						
BYL	**Byron's Ledge**	**0.75**	**159**		Pb	10 06 57.0	-2.6
RIM	**Rim**	**0.76**	**160**		Pb	10 06 57.3	-2.4
RIM					Sb	10 07 07.0	-2.7
SDHHI	**Sand Hill**	**0.76**	**162**		Pb	10 06 57.3	-2.5
KKO	**Keanakako'i**	**0.76**	**159**		Pb	10 06 57.3	-2.4
KKO					Sb	10 07 07.2	-2.6
PUH	**Pauahi**	**0.80**	**157**		Pb	10 06 57.7	-2.7
PUH				IAML		10 07 07.6	
	comp=E,325nm,0.2s						
PUH				IAML		10 07 07.7	
	comp=N,492nm,0.7s						
KNHH	**Kane Nui o Ham**	**0.81**	**154**		Pb	10 06 57.9	-2.7
STCH	**Steam Cracks**	**0.83**	**151**		Pb	10 06 58.1	-2.7
NPOC	**North of Pu'u**	**0.83**	**150**		Pb	10 06 58.2	-2.7
JCUZ	**Jacuzzi**	**0.84**	**150**		Pb	10 06 58.3	-2.8
HLP	**Hilina Pali**	**0.84**	**164**		Pb	10 06 58.4	-2.7
HLP				IAML		10 07 24.4	
	comp=N,402nm,0.5s						
HLP				IAML		10 07 26.4	
	comp=E,362nm,0.7s						
JOKA	**Jonika Flow**	**0.85**	**143**		Pb	10 06 58.4	-2.8
JOKA				IAML		10 07 20.9	
	comp=N,408nm,0.6s						
KHU	**Kahuku**	**0.86**	**184**		Pb	10 06 58.7	-2.9
HTC	**Hot Caves**	**0.88**	**171**		Pb	10 06 59.1	-2.7
HLK	**Haleakala**	**0.92**	**314**		Pb	10 06 59.7	-2.8
HLK				IAML		10 07 10.5	
	comp=E,251nm,0.5s						
HLK				IAML		10 07 11.0	
	comp=N,370nm,0.5s						
HPO	**Honuapo**	**1.02**	**180**		Pn	10 07 00.8	-2.9
KHLH	**Kahului Airpor**	**1.13**	**314**		Pn	10 07 03.2	-2.1
KHLH					Sn	10 07 16.6	-3.5
KHLH	**Kahului Airpor**	**1.13**	**314**	IAML		10 07 17.6	
	comp=E,200nm,0.6s						
KHLH				IAML		10 07 18.2	
	comp=N,199nm,0.1s						
KPA	**Kalaupapa**	**1.72**	**309**	Pn	Pn	10 07 10.0	-3.4
WMR	**Waimanalo Ridg**	**2.33**	**301**		Pn	10 07 19.2	-2.6
KIP	**Kipapa**	**2.65**	**300**	IAML		10 07 54.4	
	comp=N,62nm,0.7s						
KIP				IAML		10 08 00.9	
	comp=N,36nm,0.6s						
KEKH	**Kekaha**	**4.31**	**296**	Pn	Pn	10 07 46.2	-2.8

RSNC 29 10:10:52.6±0.0,12°N±4°×7°4W±°,h12km±5km,M2.6,mB4.1, mb3.6,ML2.6,MLv3.2,Mw(mB)3.2,Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRC	**Santa Marta, M**	**0.99**	**210**	P	Pb	10 11 09.6	-2.2
SMRC				S	Sg	10 11 22.4	-2.3
CRJC	**Cerrejon, Guaj**	**1.30**	**141**	P	Pn	10 11 15.7	-0.9
CRJC				S	Sb	10 11 32.6	-1.1
URIC	**Uribia, Colomb**	**1.72**	**101**	P	Pn	10 11 21.3	-1.1
URIC				S	Sn	10 11 42.3	-2.0
ARGC	**Ariguani, Magd**	**2.22**	**194**	P	Pn	10 11 28.2	-1.1
ARGC				S	Sn	10 11 55.8	-0.9
OCAC	**Ocana**	**3.79**	**174**	P	Pn	10 11 51.7	+0.7
OCAC				S	Sn	10 12 36.5	+0.9
PTBC	**PUERTO BERRIO,** 173nm3.5nm,0.5s	**5.50**	**188**	P	Pn	10 12 14.3	-0.2
PTBC				S	Sn	10 13 19.3	+1.5
	173nm3.5nm,0.5s						
RUSC	**La Rusia**	**6.13**	**174**	P	Pn	10 12 25.8	+2.3

IDC 29 10:11:55.7±4.0,10.74N×91.32E,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=156.9km s-min=25.5km az=66.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**26.16**	**227**	T	T	10 45 32.1	
	baz=46,slow=75,SNR=27						
H08S2	**Diego Garcia H**	**26.17**	**226**	T	T	10 45 18.0	
	baz=46,slow=75,SNR=14						
H08S1	**Diego Carcia H**	**26.18**	**227**	T	T	10 45 08.2	
	baz=46,slow=75,SNR=12						
MKAR	**Makanchi Array**	**36.74**	**350**	P	P	10 19 04.5	-0.2
	0.3nm,0.6s,baz=166,slow=6.7,SNR=4.0						
	0.3nm,0.6s						
SONM	**Songino Array**	**39.09**	**16**	P	P	10 19 24.8	+0.1
	0.3nm,0.4s,baz=223,slow=7.7,SNR=2.4						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**52.19**	**126**	P	P	10 21 08.1	-0.5
	0.2nm,0.6s,baz=308,slow=8.4,SNR=6.2						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**53.88**	**130**	P	P	10 21 21.3	+0.2
	0.9nm,0.7s,baz=306,slow=6.9,SNR=16						
	0.9nm,0.7s						
H04N2	**CROZET ISLANDS**	**66.81**	**209**	T	T	11 35 58.1	
	baz=44,slow=75,SNR=7.9						
H04N1	**CROZET ISLANDS**	**66.82**	**209**	T	T	11 36 03.2	
	baz=44,slow=75,SNR=9.2						
H04N3	**CROZET ISLANDS**	**66.83**	**209**	T	T	11 35 58.1	
	baz=44,slow=75,SNR=6.3						

*IDC **29** 10:18:13.0±1.2,10.34N×138.62E,h0km,mb3.7/6, mbtmp3.7/6,Error ellipse: s-maj=43.5km s-min=22.7km az=83.0*

ISC 29 10:18:17.0±1.3,10.3N±0.2×138.6E±0.3,h26km,n6, σ0§43/6,mb3.5/6,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.36**	**188**	P	**P**	**10 24 26.6**	**-0.3**
	0.3nm,0.6s,baz=4.5,slow=9.5,SNR=6.2						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**34.08**	**188**	P	**P**	**10 24 59.8**	**+0.2**
	0.3nm,0.6s,baz=18,slow=12,SNR=10						
	0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**39.17**	**287**	P	**P**	**10 25 43.4**	**+0.2**
	0.5nm,0.4s,baz=89,slow=6.7,SNR=7.0						
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**60.84**	**327**	P	**P**	**10 28 26.4**	**-0.6**
	0.3nm,0.3s,baz=109,slow=8.4,SNR=1.7						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**63.25**	**322**	P	**P**	**10 28 43.3**	**0.0**
	1.0nm,0.2s,baz=113,slow=8.0,SNR=1.1						
	1.0nm,0.2s						
ILAR	**Eielson Array**	**74.14**	**25**	P	**P**	**10 29 51.1**	**+0.2**
	0.3nm,0.6s,baz=245,slow=6.5,SNR=4.4						
	0.3nm,0.6s						

*NEIC **29** 10:19:38.8±0.7,42.23N±0.01×111.51W±0.02,h5km±1km, Error ellipse: s-maj=2.9km s-min=2.3km az=17.0*

UUSS 29 10:19:38.8±0.8,42.24N±0.01×111.52W±0.01,h3km±5km, ML2.5/10,ML2.4/58(NEIC),Error ellipse: s-maj=1.7km s-min=1.1km az=197.0,Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEI	**Bear River Ran**	**0.23**	**239**		Pg	10 19 44.1	+0.8
BMUT	**Black Mountain**	**0.35**	**142**		Pg	10 19 45.9	+0.3
HDU	**Hyde Park**	**0.47**	**203**		Pg	10 19 48.2	+0.4
MLI	**Malad Range**	**0.50**	**245**		Pg	10 19 48.7	+0.3
MLI	**Malad Range**	**0.50**	**245**		Sb	10 19 56.5	-1.5
L17A	**Cokeville**	**0.50**	**106**		Pg	10 19 49.0	+0.5
L17A					Sb	10 19 56.8	-1.4
HWUT	**Hardware Ranch**	**0.63**	**183**		Pg	10 19 51.1	+0.3
HWUT				Sg	Sg	10 19 59.5	+0.4
PTU	**Portage**	**0.67**	**243**		Pg	10 19 51.9	+0.2
PTU	**Portage**	**0.67**	**243**		Sg	10 20 01.5	+1.1
WVUT	**Wellsville**	**0.70**	**208**		Pg	10 19 52.8	+0.4
GRRI	**Grays Lake**	**0.71**	**6**		Pg	10 19 52.7	+0.3
NPI	**North Pocatell**	**0.75**	**264**		Pg	10 19 53.2	+0.1
MCU	**Monte Cristo P**	**0.77**	**179**		Pg	10 19 53.7	0.0
LTU	**Little Mountai**	**0.84**	**220**		Pg	10 19 55.1	+0.2
HVU	**Hansel Valley**	**1.04**	**244**		Pg	10 19 58.4	-0.3
EPU	**East Promontor**	**1.07**	**219**		Pg	10 19 59.0	-0.4
TCUT	**Toone Canyon**	**1.12**	**176**		Pg	10 20 00.2	-0.1
TPAW	**Teton Pass**	**1.32**	**18**		Pg	10 20 03.3	-0.9
TPAW					Sg	10 20 21.6	+0.3
TPAW				IAML		10 20 23.7	
	53nm,0.3s						
TPAW				IAML		10 20 24.1	
	73nm,0.5s						
NAIU	**Northern Antel**	**1.33**	**204**		Pg	10 20 03.6	-0.7
SNOW	**Snow King Moun**	**1.35**	**24**		Pg	10 20 04.1	-0.6
SNOW					Sg	10 20 22.0	-0.2
SNOW				IAML		10 20 26.3	
	52nm,0.5s						
SNOW				IAML		10 20 28.8	
	49nm,0.6s						
SAIU	**Southern Antel**	**1.47**	**200**		Pn	10 20 05.6	-0.7
LOHW	**Long Hollow**	**1.53**	**26**		Pn	10 20 06.2	-1.1
LOHW				IAML		10 20 32.0	
	27nm,0.3s						
SNUT	**Stansbury Nort**	**1.54**	**209**		Pn	10 20 06.9	-0.4
BW06	**Boulder Array**	**1.55**	**69**		Pn	10 20 07.1	-0.4
BW06					Sn	10 20 26.4	-1.8
BW06				IAML		10 20 30.1	
	40nm,0.3s						
CTU	**Camp Tracy**	**1.55**	**186**		Pn	10 20 07.8	+0.3
CTU				IAML		10 20 31.8	
	comp=E,47nm,0.4s						
CTU				IAML		10 20 33.9	
	comp=N,34nm,0.5s						
JLU	**Jordanelle**	**1.63**	**178**		Pn	10 20 08.9	+0.2
JLU				IAML		10 20 34.3	
	comp=N,70nm,0.9s						
JLU				IAML		10 20 35.0	
	comp=E,66nm,0.6s						
BSUT	**Blindstream Ca**	**1.79**	**161**		Pn	10 20 11.1	+0.1
BSUT				IAML		10 20 35.9	
	comp=N,68nm,0.4s						
BSUT				IAML		10 20 36.2	
	comp=E,94nm,0.6s						
YPP	**Pitchstone Pla**	**2.10**	**14**		Pn	10 20 15.0	-0.2
YPP				IAML		10 21 24.7	
	comp=N,54nm,0.1s						
YPP				IAML		10 21 24.7	
	comp=E,69nm,0.1s						
RDMU	**Red Mountain**	**2.22**	**138**		Pn	10 20 15.1	-1.6
RDMU				IAML		10 20 49.0	
	comp=E,60nm,0.5s						
MPU	**Maple Canyon**	**2.22**	**182**		Pn	10 20 17.7	+1.0
YMR	**Madison River**	**2.47**	**9**		Pn	10 20 21.6	+1.5
YMR				IAML		10 20 40.9	
	comp=E,10nm,1.1s						
YMR				IAML		10 20 59.2	
	comp=N,11nm,0.7s						
HLID	**Hailey**	**2.50**	**303**		Pn	10 20 21.9	+1.3
HLID				IAML		10 21 00.2	
	comp=N,10nm,0.6s						
HLID				IAML		10 21 01.2	
	comp=N,8.7nm,0.5s						
YHL	**Hebgen Lake**	**2.63**	**5**		Pn	10 20 24.0	+1.6
MCMT	**McKenzie Canyo**	**2.77**	**340**		Pn	10 20 25.2	+0.9
TMUT	**Trail Mountain**	**2.94**	**175**		Pn	10 20 27.0	+0.2
TMUT				IAML		10 21 15.6	
	comp=N,20nm,0.7s						
TMUT				IAML		10 21 22.2	
	comp=E,17nm,0.6s						
ELK	**Elko**	**3.17**	**243**		Pn	10 20 30.8	+1.0
ELK				IAML		10 21 21.6	
	comp=E,6.3nm,0.5s						
SRU	**San Rafael Swe**	**3.21**	**166**	Pn	Pn	10 20 30.5	+0.1
SRU				IAML		10 21 22.4	
	comp=E,18nm,1.0s						
SRU				IAML		10 21 23.2	
	comp=N,22nm,0.5s						
DLMT	**Dillon**	**3.22**	**346**		Pn	10 20 31.6	+1.2
O20A	**White River Ci**	**3.25**	**129**		Pn	10 20 30.4	-0.4
BOZ	**Bozeman (W)**	**3.36**	**359**		Pn	10 20 34.5	+2.2
MFID	**Camas Ranch**	**3.38**	**292**		Pn	10 20 34.4	+1.8
MFID				IAML		10 21 24.9	
	comp=N,7.8nm,0.5s						
MFID				IAML		10 21 33.4	
	comp=N,7.5nm,0.7s						
PV22	**Blue Mesa, Par**	**4.25**	**150**	Pn	Pn	10 20 45.0	+0.4
PLID	**Pearl Lake**	**4.32**	**313**		Pn	10 20 48.6	+2.9
PLID				IAML		10 21 57.7	
	comp=N,3.0nm,1.2s						
PV20	**West Nyswonger**	**4.35**	**152**	Pn	Pn	10 20 46.5	+0.5
PV11	**David Mesa, Pa**	**4.42**	**152**		Pn	10 20 49.5	+2.5
PV15	**Paradox Valley**	**4.53**	**148**		Pn	10 20 48.6	+0.1
ISCO	**Idaho Springs**	**5.09**	**117**		Pn	10 20 55.8	-0.4
ISCO				IAML		10 22 27.6	
	comp=N,1.8nm,1.5s						
ISCO				IAML		10 22 32.3	
	comp=N,2.6nm,1.1s						

IDC 29 10:20:20.2±2.4,15.47N×123.86E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=206.3km s-min=29.0km az=70.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**33.40**	**177**	P	P	10 27 01.2	+0.6
	1.8nm,0.9s,baz=356,slow=11,SNR=2.2						
	1.8nm,0.9s						
WRA	**Warramunga Arr**	**36.67**	**163**	P	P	10 27 28.7	-0.2
	0.4nm,0.8s,baz=343,slow=9.3,SNR=1.0						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**40.12**	**166**	P	P	10 27 57.4	-0.5
	0.1nm,0.4s,baz=341,slow=7.0,SNR=4.8						
	0.1nm,0.4s						
ZALV	**Zalesovo Beam**	**48.97**	**330**	P	P	10 29 08.1	-0.1
	0.5nm,0.3s,baz=123,slow=5.3,SNR=2.4						
	0.5nm,0.3s						

*SDD **29** 10:21:56.1±2.1,19.27N×67.26W,h20km±114km,MD3.5, ML3.3,MW3.5*

*NEIC **29** 10:21:57.2±2.0,19.10N±0.03×67.25W±0.04,h10km±2km, ML3.2/19,Md2.8/18(RSPR),Error ellipse: s-maj=6.5km s-min=5.3km az=290.0*

*RSPR **29** 10:22:00.5,19.08N×67.23W,h74km±7km,MD2.8/18*

ISC 29 10:21:57.1±1.4,19.14N±0.05×67.26W±0.03,h19km±3km, n73,σ0§98/88,8C-27D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.68**	**168**		Pn	10 22 11.4	-0.4
AGPR					Sn	10 22 22.0	+0.2
AGPR	**Aguadilla, PR**	**0.68**	**168⇓**	*eP*	Pn	10 22 11.4	-0.4
AGPR	**Aguadilla, PR**	**0.68**	**168**	*eS*	Sn	10 22 22.0	+0.2
AGPR	**Aguadilla, PR**	**0.68**	**168**	*ePg*	Pg	10 22 10.2	-0.4
AGPR				⇑*eSg*	Sn	10 22 21.2	-0.7
AGPR				IAML		10 22 25.8	
	comp=N,871nm,0.3s						
IDE	**Isla Desecheo**	**0.78**	**195**		Pg	10 22 11.9	-0.4
IDE					Sn	10 22 23.9	-0.2
IDE	**Isla Desecheo**	**0.78**	**195⇓**	*eP*	Pg	10 22 11.9	-0.4
IDE	**Isla Desecheo**	**0.78**	**195**	*eS*	Sn	10 22 23.9	-0.2
AOPR	**Arecibo Observ**	**0.92**	**149**		Pb	10 22 13.5	-1.0
AOPR				IAML		10 22 32.7	
	comp=N,1μm,0.3s						
AOPR	**Arecibo Observ**	**0.92**	**149**		Sn	10 22 28.8	+1.0
AOPR	**Arecibo Observ**	**0.92**	**149⇓**	*eP*	Pn	10 22 15.8	+0.8
AOPR	**Arecibo Observ**	**0.92**	**149**	*eS*	Sn	10 22 28.8	+1.0
AOPR	**Arecibo Observ**	**0.92**	**149⇓**	*ePg*	Pb	10 22 14.0	-0.5
AOPR				⇓*eSg*	Sn	10 22 28.9	+1.2
AOPR				IAML		10 22 32.6	
	comp=N,1μm,0.3s						
PRSN	**Puerto Rico Se**	**0.92**	**173**		Sn	10 22 28.7	+0.9
PRSN	**Puerto Rico Se**	**0.92**	**173**		Pb	10 22 13.9	-0.6
PRSN	**Puerto Rico Se**	**0.92**	**173⇑**	*eP*	Pn	10 22 17.2	+2.1
PRSN	**Puerto Rico Se**	**0.92**	**173**	*eS*	Sn	10 22 28.7	+0.9
PRSN	**Puerto Rico Se**	**0.92**	**173⇓**	*ePg*	Pb	10 22 14.1	-0.4
PRSN				⇓*eSg*	Sn	10 22 28.2	+0.4
PRSN				IAML		10 22 28.8	
	comp=N,1μm,0.3s						
EMPR	**Esperanza - Ma**	**0.95**	**134**		Sn	10 22 31.9	+3.3
EMPR	**Esperanza - Ma**	**0.95**	**134**		Pb	10 22 14.5	-0.5
EMPR	**Esperanza - Ma**	**0.95**	**134⇓**	*eP*	Pg	10 22 17.2	+1.5
EMPR	**Esperanza - Ma**	**0.95**	**134**	*eS*	Sn	10 22 31.9	+3.3
LSP	**Las Mesas**	**0.97**	**170**		Pg	10 22 17.7	+1.6
LSP					Sn	10 22 30.5	+1.5
LSP	**Las Mesas**	**0.97**	**170⇓**	*eP*	Pg	10 22 17.7	+1.6
LSP	**Las Mesas**	**0.97**	**170**	*eS*	Sn	10 22 30.5	+1.5
**UUPR

GCPR	Guaynabo City	1.38 126	↓eP	Pg	10 22 23.3	-0.6		
GCPR	Guaynabo City	1.38 126	eS	Sb	10 22 40.0	+0.3		
SJG	San Juan	1.46 134		Pn	10 22 22.6	+0.1		
SJG			IAML		10 22 48.5			
	comp=E,241nm,0.4s							
SJG	San Juan	1.46 134	↓eP	Pg	10 22 24.1	-1.3		
SJG	San Juan	1.46 134	eS	Sg	10 22 43.2	-1.3		
SJG	San Juan	1.46 134	ePg	Pn	10 22 22.7	+0.1		
SJG			↓eSg	Sg	10 22 44.6	+0.1		
HIDR	Higuey Centro	1.49 249	↓eP	Pn	10 22 22.3	-0.5		
HIDR			↓eSg	Sb	10 22 43.6	+1.0		
HIDR			IAML		10 22 48.7			
	comp=N,545nm,0.2s							
IGPR	InterUniversit	1.60 137		Pb	10 22 25.7	-0.4		
IGPR				Sb	10 22 45.2	-0.6		
IGPR	InterUniversit	1.60 137	↓eP	Pb	10 22 25.7	-0.4		
IGPR	InterUniversit	1.60 137	eS	Sb	10 22 45.2	-0.6		
PDPR	Patillas Dam,	1.61 133		Pn	10 22 24.9	+0.3		
PDPR			IAML		10 22 56.4			
	comp=N,148nm,0.6s							
HUMP	Col San Antoni	1.66 126		Pn	10 22 24.7	-0.6		
MIDR	Miches	1.70 265	↓eP	Pb	10 22 27.4	-0.4		
MIDR	Miches	1.70 265	eS	Sb	10 22 49.7	+0.8		
MIDR	Miches	1.70 265	ePg	Pn	10 22 26.0	+0.2		
MIDR			↑eSg	Sn	10 22 47.1	0.0		
MIDR			IAML		10 22 50.3			
	comp=N,278nm,0.6s							
SMDR	Samana, DR	1.83 275	↓eP	Pn	10 22 28.5	+0.9		
DR12	Loma Pena Alta	2.04 261		Pn	10 22 30.5	0.0		
HATOM	Hato Mayor del	2.04 261	ePg	Pn	10 22 31.1	+0.6		
HATOM			↓eSg	Sb	10 22 58.2	-0.5		
HATOM			IAML		10 23 03.5			
	comp=N,186nm,0.3s							
NADR	Nagua	2.47 275	↓ePg	Pb	10 22 40.0	-0.8		
NADR			↓eSg	Sb	10 23 08.9	-2.0		
NADR			IAML		10 23 21.2			
	comp=N,696nm,0.3s							
SC01	Santiago de lo	3.29 276	Pn	Pn	10 22 48.4	+0.7		
SDDR	Presa de Saban	3.82 268		Pn	10 22 56.0	+1.1		
SMRT	St. Maarten	4.11 105	Pn	Pn	10 22 58.6	-0.4		
SMRT			IAML		10 23 50.5			
	comp=N,31nm,0.6s							
SMRT			IAML		10 23 50.7			
	comp=E,45nm,0.3s							

*IDC **29** 10:24:23.8±1.8,0.˚72S×122.˚08E,h0km,mb3.2/3, mbtmp3.3/4,ML3.8/1,Error ellipse: s-maj=58.0km s-min=27.9km az=65.0*

*DJA **29** 10:24:25.3±0.3,1˚S±3˚×12˚2E±˚,h10km,M3.6/8,MLv3.6/8*

ISC 29 10:24:28.9±1.0,0.72S±0.06×122.00E±0.05,h49km,n13, σ1s75/14,mb3.2/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APSI	Apsana	0.40	241	P	Pn	10 24 33.0	-5.9
LUWI	Luwuk	0.84	112	P	Pn	10 24 42.6	-1.8
LUWI				S	Sn	10 24 54.4	-1.4
MRSI	Marisa	1.19	357	P	Pn	10 24 46.6	-2.6
PCI	Palu	2.17	265	P	Pn	10 25 01.4	-1.2
PCI				S	Sn	10 25 28.8	+0.5
MPSI	Mapaga	2.35	297	P	Pn	10 25 03.0	-2.0
KMSI	Cibinong	2.36	57	P	Pn	10 25 05.0	-0.2
SPSI	Sidrap Palu	3.92	215	P	Pn	10 25 25.4	-1.2
BNSI	Bone	4.12	207	P	Pn	10 25 28.6	-0.7
SANI	Sanana	4.20	108	P	Pn	10 25 29.7	-0.8
KAPI	Kappang	4.82	208	Pn	Pn	10 25 36.4	-2.6
	3.7nm,0.3s,baz=47,slow=19,SNR=5.6						
KAPI				Sn	Sn	10 26 23.0	-10
	2.0nm,0.3s,baz=177,slow=21,SNR=1.5 14nm,0.4s						
WRA	Warramunga Arr	22.60	148	P	P	10 29 25.7	+0.1
	0.6nm,0.7s,baz=332,slow=10,SNR=7.1 0.6nm,0.7s						
ASAR	Alice Springs	25.57	154	P	P	10 29 54.9	+1.4
	0.3nm,0.8s,baz=337,slow=8.8,SNR=4.4 0.3nm,0.8s						
MKAR	Makanchi Array	58.70	329	P	P	10 34 23.8	+2.2
	0.2nm,0.5s,baz=135,slow=6.9,SNR=2.5 0.2nm,0.5s						

*SDD **29** 10:25:05.5±1.9,19˚.29N×67˚.25W,h20km±116km,MD3.6, ML3.4,MW3.7*

*NEIC **29** 10:25:06.1±1.5,19˚.09N±0˚.04×67˚.24W±0˚.04,h10km±1km, ML3.3/19,Md3.5/12(RSPR),Error ellipse: s-maj=8.6km s-min=3.7km az=38.0*

*RSPR **29** 10:25:09.5,19˚.13N×67˚.22W,h80km±5km,MD3.5/12*

ISC 29 10:25:05.9±1.3,19.18N±0.05×67.24W±0.03,h16km±9km, n69,σ1s08/84,15C-22D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	Aguadilla, PR	0.72	170	↑eP	Pn	10 25 22.3	+0.9
AGPR	Aguadilla, PR	0.72	170	eS	Sn	10 25 33.2	+1.1
AGPR	Aguadilla, PR	0.72	170	↓ePg	Pn	10 25 21.1	-0.3
AGPR				↑eSg	Sn	10 25 31.3	-0.8
AGPR			IAML			10 25 35.1	
	comp=N,1μm,0.2s						
IDE	Isla Desecheo	0.82	196		Pn	10 25 22.0	-0.9
IDE	Isla Desecheo	0.82	196	↑eP	Pn	10 25 22.0	-0.9
IDE	Isla Desecheo	0.82	196	eS	Sn	10 25 34.1	-0.6
AOPR	Arecibo Observ	0.95	151		Pb	10 25 23.1	-0.9
AOPR					Sg	10 25 36.0	-0.7
AOPR			IAML			10 25 53.4	
	comp=N,1μm,0.6s						
AOPR	Arecibo Observ	0.95	151	↓eP	Pg	10 25 26.6	+2.3
AOPR	Arecibo Observ	0.95	151	eS	Sn	10 25 40.5	+2.6
AOPR	Arecibo Observ	0.95	151	↑ePg	Pg	10 25 24.1	-0.2
AOPR				↓eSg	Sn	10 25 38.9	+1.1
AOPR			IAML			10 25 45.1	
	comp=N,1μm,0.2s						
PRSN	Puerto Rico Se	0.96	175		Sn	10 25 38.9	+0.8
PRSN	Puerto Rico Se	0.96	175	Pn	Pn	10 25 23.7	-1.1
PRSN	Puerto Rico Se	0.96	175	↓eP	Pg	10 25 27.0	+2.5
PRSN	Puerto Rico Se	0.96	175	eS	Sn	10 25 38.9	+0.8
PRSN	Puerto Rico Se	0.96	175	↑ePg	Pg	10 25 24.0	-0.5
PRSN				↓eSg	Sn	10 25 39.0	+0.9
PRSN			IAML			10 25 47.7	
	comp=N,1μm,0.2s						
EMPR	Esperanza - Ma	0.97	136	Pn	Pg	10 25 24.5	-0.2
EMPR	Esperanza - Ma	0.97	136	↑eP	Pg	10 25 26.7	+2.0
EMPR	Esperanza - Ma	0.97	136	eS	Sn	10 25 40.9	+2.6
LSP	Las Mesas	1.01	172		Pg	10 25 26.8	+1.3
LSP	Las Mesas	1.01	172	↑eP	Pg	10 25 26.8	+1.3
LSP	Las Mesas	1.01	172	eS	Sn	10 25 41.3	+1.9
UUPR	Utuado, UPR, P	1.04	152		Pb	10 25 24.1	-1.5
UUPR	Utuado, UPR, P	1.04	152	↓eP	Pg	10 25 27.6	+1.5
UUPR	Utuado, UPR, P	1.04	152	eS	Sg	10 25 42.4	+2.6
CRPR	Cabo Rojo, PR	1.17	174		Pb	10 25 27.3	-0.5
CRPR					Sn	10 25 42.2	-1.1
CRPR			IAML			10 25 47.0	
	comp=N,767nm,0.6s						
CRPR			IAML			10 25 47.4	
	comp=E,678nm,0.5s						
CRPR	Cabo Rojo, PR	1.17	174	↑eP	Pg	10 25 29.4	+0.9
CRPR	Cabo Rojo, PR	1.17	174	eS	Sg	10 25 44.9	+1.1
CRPR	Cabo Rojo, PR	1.17	174	↑ePg	Pb	10 25 27.2	-0.6
CRPR				↓eSg	Sg	10 25 42.7	-1.1
CRPR			IAML			10 25 46.9	
	comp=N,849nm,0.4s						
MLPR	Magueyes Islan	1.22	171	↓eP	Pg	10 25 30.6	+1.2
MLPR	Magueyes Islan	1.22	171	eS	Sg	10 25 45.4	+0.2
MLPR	Magueyes Islan	1.22	171	↓ePg	Pb	10 25 28.0	-0.6
MLPR				↑eSg	Sg	10 25 46.2	+0.9
MLPR			IAML			10 25 48.7	
	comp=N,151nm,0.8s						
GBPR	Guanica, Bosqu	1.25	164		Pg	10 25 29.9	0.0
GBPR	Guanica, Bosqu	1.25	164	↓eP	Pg	10 25 29.9	0.0
CELP	Cerrillos	1.26	150		Pn	10 25 28.2	-0.8
CELP					Sg	10 25 45.6	-1.1
CELP			IAML			10 25 47.0	
	comp=N,709nm,0.6s						
CELP			IAML			10 25 51.5	
	comp=E,557nm,0.9s						
CELP	Cerrillos	1.26	150	↑eP	Pg	10 25 30.5	+0.2
CELP	Cerrillos	1.26	150	eS	Sg	10 25 46.9	+0.2
CELP	Cerrillos	1.26	150	↓ePg	Pb	10 25 28.9	-0.4
CELP			IAML		Sg	10 25 46.9	+0.2
	comp=N,604nm,0.3s						
CELP				↓eSg	Sg	10 25 47.0	+0.2
OBIP	Obispado Ponce	1.28	152		Pn	10 25 28.4	-0.8
OBIP					Sg	10 25 45.7	-1.5
OBIP			IAML			10 25 49.0	
	comp=N,699nm,0.6s						
OBIP			IAML			10 25 54.0	
	comp=E,722nm,0.8s						
OBIP	Obispado Ponce	1.28	152	↓eP	Pg	10 25 31.0	+0.4
OBIP	Obispado Ponce	1.28	152	eS	Sg	10 25 47.2	0.0
GCPR	Guaynabo City	1.40	128		Pn	10 25 30.4	-0.3
GCPR	Guaynabo City	1.40	128		Sg	10 25 49.8	-1.1
GCPR	Guaynabo City	1.40	128	↓eP	Pb	10 25 31.4	-0.2
GCPR	Guaynabo City	1.40	128	eS	Sg	10 25 49.8	-1.1
SJG	San Juan	1.48	136		Pb	10 25 32.3	-0.7
SJG			IAML			10 26 01.2	
	comp=E,276nm,0.3s						
SJG			IAML			10 26 01.5	
	comp=E,279nm,0.3s						
SJG	San Juan	1.48	136	↓eP	Pg	10 25 34.0	-0.3
SJG	San Juan	1.48	136	eS	Sg	10 25 53.0	-0.7
SJG	San Juan	1.48	136	↑ePg	Pb	10 25 32.4	-0.7
SJG				↓eSg	Sg	10 25 53.3	-0.3
HIDR	Higuey Centro	1.52	248	↓eP	Pg	10 25 34.3	-0.8
HIDR	Higuey Centro	1.52	248	eS	Sg	10 25 53.6	-1.2
HIDR	Higuey Centro	1.52	248	ePg	Pn	10 25 32.4	0.0
HIDR				↓eSg	Sb	10 25 52.9	+0.2
HIDR			IAML			10 25 58.1	
	comp=N,733nm,0.3s						
IGPR	InterUniversit	1.61	138		Pb	10 25 35.1	-0.2
IGPR					Sb	10 25 54.4	-1.1
IGPR	InterUniversit	1.61	138	↑eP	Pb	10 25 35.1	-0.2
IGPR	InterUniversit	1.61	138	eS	Sb	10 25 54.4	-1.1
PDPR	Patillas Dam,	1.63	135		Pn	10 25 34.0	0.0
PDPR	Patillas Dam,	1.63	135	↑eP	Pb	10 25 35.5	-0.1
PDPR	Patillas Dam,	1.63	135	eS	Sg	10 25 57.0	-1.5
HUMP	Col San Antoni	1.67	128		Pn	10 25 34.3	-0.2
MIDR	Miches	1.73	264	↑eP	Pb	10 25 36.8	-0.4
MIDR	Miches	1.73	264	eS	Sb	10 25 59.7	+1.0
MIDR	Miches	1.73	264	↓ePg	Pn	10 25 36.0	+0.7
MIDR			IAML			10 26 00.0	
	comp=N,488nm,0.6s						
SMDR	Samana, DR	1.85	274	↓eP	Pb	10 25 38.7	-0.6
SMDR	Samana, DR	1.85	274	eS	Sb	10 26 02.0	-0.1
DR12	Loma Pena Alta	2.06	259		Pn	10 25 40.6	+0.5
HATOM	Hato Mayor del	2.06	259	ePg	Pn	10 25 41.1	+1.1
HATOM				↓eSg	Sb	10 26 08.2	-0.4
HATOM			IAML			10 26 13.5	
	comp=N,192nm,0.3s						
NADR	Nagua	2.48	274	↓eSg	Sb	10 26 18.4	-2.0
NADR			IAML			10 26 35.4	
	comp=N,938nm,0.8s						
SC01	Santiago de lo	3.31	275	Pn	Pn	10 25 57.3	+0.3
SDDR	Presa de Saban	3.83	268		Pn	10 26 05.4	+1.0
SMRT	St. Maarten	4.10	105	Pn	Pn	10 26 08.1	0.0
SMRT			IAML			10 27 08.8	
	comp=E,65nm,0.3s						
SMRT			IAML			10 27 17.2	
	comp=N,42nm,0.8s						

*IDC **29** 10:28:04.5±1.8,8.˚23S×124.˚81E,h0km,mb3.6/1, mbtmp3.9/5,ML3.5/4,Error ellipse: s-maj=52.1km s-min=25.5km az=77.0*

*DJA **29** 10:28:19.2±1.1,9˚S±3˚×12˚4E±˚,h15km±14km,M3.8/9, mb3.9/1,MLv3.7/9*

ISC 29 10:28:13.9±1.0,8.80S±0.06×124.29E±0.07,h10km,n23, σ2s75/21,Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	Soe	0.95	181	P	Pn	10 28 38.8	+5.3
SOEI	Soe	0.95	181	S	Sn	10 28 54.7	+7.5
SOEI	Soe	0.95	181	P	Pn	10 28 38.5	+5.0
BATI	Baumata	1.53	204	Pn	Pb	10 28 44.1	+1.7
	18nm,0.3s,baz=9.7,slow=2.7,SNR=16						
BATI				Sn	Sn	10 29 01.8	+0.4
	61nm,0.3s,baz=311,slow=22,SNR=43 52nm,0.3s						
BATI	Baumata	1.53	204	P	Pb	10 28 43.9	+1.5
BATI				S	Sg	10 29 04.3	+1.1
MMRI	Maumere	2.03	274	P	Pn	10 28 49.8	+1.6
MMRI	Maumere	2.03	274	S	Sn	10 29 14.2	+0.5
MMRI	Maumere	2.03	274	P	Pn	10 28 49.2	+1.0
EDFI	Ende, Flores	2.57	271	P	Pn	10 28 55.8	+0.1
BBSI	Bau Bau	3.70	332	P	Pn	10 29 13.8	+2.6
WSI	Waingapu	4.03	257	P	Pn	10 29 14.9	-0.8
BSSI	Bau Bau, Buton	4.60	305	P	Pn	10 29 24.3	+0.8
WBSI	Waikabubak, Su	4.91	260	P	Pn	10 29 27.4	-0.4
PLAI	Plampang	6.44	269	P	Pn	10 29 49.3	+0.5
SAUI	Saumlaki	6.99	84	P	Pn	10 29 53.2	-3.1
DRS	Darwin Rock St	7.43	120	P	Pn	10 30 03.9	+1.4
FITZ	Fitzroy Crossi	9.34	172	Pn	Pn	10 30 25.6	-3.1
	1.0nm,0.3s,baz=4.4,slow=13,SNR=22						
FITZ				Sn	Sn	10 32 03.3	-11
	2.5nm,0.3s,baz=31,slow=3.5,SNR=12 2.4nm,0.3s						
WRA	Warramunga Arr	14.74	140	Pn	Pn	10 31 37.6	-5.0
	0.1nm,0.3s,baz=315,slow=13,SNR=4.6						
WRA				Sn	Sn	10 34 13.0	-13
	1.4nm,0.3s,baz=318,slow=26,SNR=11 1.5nm,0.4s						
ASAR	Alice Springs	17.42	149	P	Pn	10 32 12.3	-4.9
	0.3nm,0.3s,baz=323,slow=12,SNR=26						
ASAR				S	Sn	10 35 12.2	-19
	1.8nm,0.6s,baz=316,slow=21,SNR=8.8 3.8nm,0.9s						
QIS	Mount Isa	18.85	130	P	P	10 32 32.0	-2.3
COEN	Coen	19.21	107	P	P	10 32 36.1	-2.1
TV1H	Townsville Har	24.16	118	P	P	10 33 28.1	-2.3
MKAR	Makanchi Array	66.78	330	P	P	10 38 56.3	-9.3
	0.4nm,0.5s,baz=125,slow=7.8,SNR=4.8 0.4nm,0.5s						

NEIC 29 10:28:30.5±1.7,39.60N±0.04×98.05W±0.07,h5km±2km, mb_Lg2.5/46,Error ellipse: s-maj=9.4km s-min=5.7km az=115.0,Kansas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSU1	Kansas State U	1.22	114		Pg	10 28 51.9	-2.0
R32A	Long Quarter,	1.28	204		Pg	10 28 54.3	-0.9
CBKS	Cedar Bluff	1.53	240		Pn	10 28 58.4	-0.1
BGNE	Belgrade	1.81	358		Pn	10 29 01.2	-1.2
N35A	Tabor	2.23	55		Pn	10 29 07.7	-0.4
L34A	Svendsen Farm,	2.68	28	Pn	Pn	10 29 15.0	+0.7
GC02	Grant County #	2.75	177	Pn	Pn	10 29 14.7	-0.5
OK038	West end E0370	3.17	190	IAmb_Lg		10 30 16.2	
	comp=Z,18nm,0.8s						
K30B	Basset	3.29	339	Pn	Pn	10 29 23.8	+1.1
K30B				IAmb_Lg		10 30 19.4	
	comp=Z,20nm,0.8s						
OK048	Pawnee Station	3.30	164		Pb	10 29 29.8	+0.4
OGNE	Ogallala	3.33	295	Pn	Pn	10 29 22.6	-0.8
OGNE				IAmb_Lg		10 30 20.1	
	comp=Z,21nm,0.7s						
QUOK	Quay	3.58	162		Pb	10 29 34.5	+0.1
KSCO	Kaye Shedlock'	3.60	262	Pn	Pn	10 29 27.3	+0.2
KSCO				IAmb_Lg		10 30 30.7	
	comp=Z,16nm,0.7s						
TUL3	Leonard	4.09	153	Pn	Pn	10 29 32.6	-1.1
TUL3				IAmb_Lg		10 30 46.7	
	comp=Z,13nm,0.8s						
ECSD	EROS Data Cent	4.27	14	Pn	Pn	10 29 33.2	-3.0
SCIA	State Center	4.33	56	IAmb_Lg		10 30 46.5	
	comp=Z,16nm,0.9s						
P40A	Paris	4.64	89	Pn	Pn	10 29 41.1	0.0
HHAR	Hobbs	4.64	134	Pn	Pn	10 29 39.9	-1.4
R40A	Maddies Statio	4.69	104	Pn	Pn	10 29 40.9	-1.0
R40A				IAmb_Lg		10 31 09.3	
	comp=Z,15nm,1.0s						
SMWD	Samnorwood	4.82	202	Pn	Pn	10 29 42.5	-1.3
SMWD				IAmb_Lg		10 31 06.6	
	comp=Z,9.0nm,0.8s						
RTBA	Rita Blanca	4.87	231	IAmb_Lg		10 31 16.4	
	comp=Z,6.4nm,0.9s						
MGMO	Mountain Grove	5.15	116	IAmb_Lg		10 31 21.2	
	comp=Z,8.7nm,0.7s						
AMTX	Amarillo	5.53	213	IAmb_Lg		10 31 33.7	
	comp=Z,10nm,1.0s						
CCM	Cathedral Cave	5.53	104	Pn	Pn	10 29 53.7	+0.2
CCM				IAmb_Lg		10 31 29.2	
	comp=Z,10.0nm,0.8s						
SDCO	Great Sand Dun	6.12	255	IAmb_Lg		10 31 46.4	
	comp=Z,5.3nm,1.1s						
WHAR	Wooly Hollow	6.28	131	IAmb_Lg		10 31 52.7	
	comp=Z,8.2nm,0.8s						
LCAR	Lake Charles	6.49	121	IAmb_Lg		10 32 08.9	
	comp=Z,4.5nm,0.8s						
X40A	Basin Creek Fa	6.59	139	IAmb_Lg		10 32 08.5	
	comp=Z,5.7nm,0.8s						
PBMO	Poplar Bluff	6.63	113	IAmb_Lg		10 32 11.2	
	comp=Z,7.6nm,0.7s						
CGM3	Cape Girardeau	6.97	107	IAmb_Lg		10 32 13.9	
	comp=Z,5.7nm,0.9s						
K22A	Casper	7.09	298	IAmb_Lg		10 32 24.0	
	comp=Z,7.9nm,0.9s						
FW13	Cleburne	7.25	176	IAmb_Lg		10 32 38.0	
	comp=Z,6.7nm,0.7s						

*JMA **29** 10:29:58.4±0.1,36.˚5N±0.˚2×140.˚5E±0.˚4,h53km,MD3.6/39, MV3.7/39,NORTHERN IBARAKI PREF*

JMA Felt II J1 at NORTHERN IBARAKI PREF .

*NIED **29** 10:29:58.4,36.˚53N×140.˚55E,h53km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=2.32; Mθθ=0.43; Mϕϕ=1.89; Mrθ=0.02; Mθϕ=1.64; Mϕr=0.90; Fault plane solution: M0=2.81000×10^14^ NP1:ϕs=47.00000°, δ=39.00000°,λ=-68.00000°. NP2:ϕs=200.00000°,δ=55.00000°, λ=-107.00000°.*

*IDC **29** 10:30:00.9±2.5,36.˚48N×140.˚57E,h81km±23km,mb3.2/5, mbtmp3.5/8 Error ellipse: s-maj=26.5km s-min=11.9km az=63.0*

ISC 29 10:29:58.5±0.9,36.54N±0.04×140.60E±0.05,h50km±7km, n48,σ1s22/47,mb3.3/5,8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	Hitachi	0.07	337	↓P	Pn	10 30 06.5	+0.2
JHO				↓S	Sn	10 30 11.8	-0.1
JHYU	Hitachinakayam	0.20	184	↓P	Pn	10 30 07.2	+0.3
JHYU				↓S	Sn	10 30 13.1	+0.3
JHYU	Hitachinakayam	0.20	184	A	A	10 30 07.2	
	comp=N,19nm,0.6s,comp=E,18nm,0.7s						
JYT	Yasato	0.46	226	↓P	Pn	10 30 08.9	-0.3
JYT				↓S	Sn	10 30 16.1	-0.9
JYT	Yasato	0.46	226	A	A	10 30 08.9	
	comp=N,8.0nm,0.4s,comp=E,12nm,0.5s						
ONAJ	Iwakimizuishiy	0.58	16	P	Pn	10 30 10.8	-0.1
ONAJ				S	Sn	10 30 19.5	-0.2
JSB	Shiboa	0.69	308	P	Pn	10 30 11.9	-0.3
JSB				S	Sn	10 30 21.7	-0.4
JSB	Shiboa	0.69	308	A	A	10 30 11.9	
	comp=N,4.0nm,0.8s,comp=E,3.0nm,3.3s						
JFK	Kawauchi	0.85	15	eP	Pn	10 30 13.9	-0.3
JFK				S	Sn	10 30 25.6	-0.3
JAG	Ashikaga	0.94	263	↓P	Pn	10 30 14.9	-0.4
JAG				↓eS	Sn	10 30 26.5	-1.3
JAG	Ashikaga	0.94	263	A	A	10 30 14.9	
	comp=N,3.0nm,0.4s,comp=E,4.0nm,0.6s						
JOTO	OTAMA OYAMA	1.04	348	P	Pn	10 30 16.8	0.0
JOTO				eS	Sn	10 30 30.0	-0.2
TOK	Tokyo	1.10	219	A	A	10 30 17.2	
	comp=N,7.0nm,0.8s,comp=E,4.0nm,0.4s						
JKT	Katashina	1.11	282	P	Pn	10 30 17.5	-0.3
JKT				S	Sn	10 30 31.5	-0.6
JFY	Yanaizu	1.12	320	P	Pn	10 30 17.9	-0.1
JMM	Marumori	1.33	6	P	Pn	10 30 21.3	+0.6
JMM	Marumori	1.33	6	P	Pn	10 30 20.9	+0.2
JMM				eS	Sn	10 30 37.1	-0.1
JUON	Uonuma	1.41	299	P	Pn	10 30 21.7	-0.1
JUON				eS	Sn	10 30 39.4	+0.3
MJAR	Matsushiro Arr	1.93	271	P	Pn	10 30 29.3	+0.4
	comp=E,41nm,0.4s,baz=96,slow=11,SNR=312						
MJAR				S	Sn	10 30 54.7	+2.7
	comp=E,19nm,0.3s,baz=93,slow=21,SNR=6.1						
MAJO	Matsushiro	1.93	271	P	Pn	10 30 29.7	+0.8
JSD	Sado	2.39	309	P	Pn	10 30 35.0	-0.2
JGF	Kuroka	2.79	251	P	Pn	10 30 42.7	+1.9
INU	Inuyama	3.15	249	P	Pn	10 30 47.2	+1.7
JHJ	Hachijo jima 2	3.48	191	P	Pn	10 30 51.4	+1.2
	comp=E,28nm,0.3s,baz=345,slow=21,SNR=13						
JHJ				S	Sn	10 31 32.4	+2.2
	comp=E,39nm,0.3s,baz=251,slow=22,SNR=2.0						
JHJ2	Mitsune	3.48	191	P	Pn	10 30 52.2	+2.0
JTM	Tenmabayashi	4.25	5	P	Pn	10 31 01.7	+1.0
JTM	Tenmabayashi	4.25	5	S	Sn	10 31 51.2	+2.2
ERM	Erimo	5.81	19	P	Pn	10 31 21.8	-0.3
ERM	Erimo	5.81	19	S	Sn	10 32 28.0	+0.7
JEM	Erimo	5.81	19	P	Pn	10 31 21.8	-0.3
JEM	Erimo	5.81	19	S	Sn	10 32 27.9	+0.6
ASAJ	Asahikawa	7.71	11	P	Pn	10 31 47.3	-0.9
	comp=E,1.6nm,0.3s,baz=259,slow=8,8,SNR=1.7						
USRK	Ussuriysk Ar.	10.08	322	P	Pn	10 32 24.3	+3.8
	comp=E,0.8nm,0.5s,baz=138,slow=14,SNR=4.3						
KSRS	Korea Array	10.19	279	P	Pn	10 32 24.4	+2.4
	comp=E,0.9nm,0.5s,baz=92,slow=14,SNR=6.2						
H11N2	WAKE ISLAND Hy	28.47	119	T	T	11 05 47.3	
	baz=312,slow=75,SNR=18						
H11N1	WAKE ISLAND Hy	28.48	119	T	T	11 05 49.6	
	baz=312,slow=75,SNR=26						
H11N3	WAKE ISLAND Hy	28.49	119	T	T	11 05 46.8	
	baz=312,slow=75,SNR=19						
H11S1	WAKE ISLAND Hy	29.15	121	T	T	11 06 35.1	
	baz=314,slow=76,SNR=93						
H11S3	WAKE ISLAND Hy	29.15	121	T	T	11 06 36.6	
	baz=314,slow=76,SNR=55						
H11S2	WAKE ISLAND Hy	29.17	121	T	T	11 06 39.6	
	baz=314,slow=76,SNR=61						
MKAR	Makanchi Array	43.83	302	P	P	10 37 58.9	-0.6
	comp=E,0.4nm,0

VHO eS Sn 10 46 38.5 0.0
HUIG Huatulco 1.75 220 eP Pn 10 46 13.8 -1.8
HUIG eS Sn 10 46 36.9 -2.2
HUIG Huatulco 1.75 220 eP Pn 10 46 13.7 -2.0
HUIG eS Sn 10 46 37.6 -1.5
TGIG 1.78 101 eP Pn 10 46 16.2 +0.2
TGIG eS Sn 10 46 38.6 -1.1
TGIG 1.78 101 eP Pn 10 46 16.0 0.0
TGIG eS Sn 10 46 38.4 -1.2
TGBT Tuxtla Gutierr 1.81 101 eP Pn 10 46 16.8 +0.5
TGBT eS Sn 10 46 39.3 -0.9
VHSA Villahermosa 2.09 66 eP Pn 10 46 20.2 +0.5
VHSA eS Sn 10 46 46.4 -0.1
PCIG 2.18 130 eP Pn 10 46 21.3 +0.4
PCIG eS Sn 10 46 48.4 +0.1
TOIG Toxpalan 2.24 296 eP Pn 10 46 22.5 +0.8
TOIG eS Sn 10 46 46.7 -3.3
PEIG Puerto Escondi 2.39 242 eP Pn 10 46 21.5 -2.1
PEIG eS Sn 10 46 50.0 -3.3
YOIG Yosondua 2.50 264 eP Pn 10 46 25.1 -0.2
YOIG eS Sn 10 46 50.4 -5.8
TPIG Tehuac#an 2.64 300 eP Pn 10 46 27.8 +1.0
TPIG eS Sn 10 46 58.6 -0.5
TXIG Tlaxiaco 2.70 273 eP Pn 10 46 28.1 +0.3
TXIG eS Sn 10 46 56.9 -3.9
CCIG Comitan 2.82 107 Pn 10 46 29.5 +0.3
CCIG Comitan 2.82 107 eP Pn 10 46 29.9 +0.7
CCIG eS Sn 10 46 57.2 -6.1
CCIG Comitan 2.82 107 eP Pn 10 46 30.0 +0.7
CCIG Comitan 2.82 107 P Pn 10 46 30.6 +1.4
CCIG Comitan 2.82 107 S Sn 10 47 03.2 -0.1
HLIG Huajuapan de L 2.82 285 eP Pn 10 46 29.7 +0.5
HLIG eS Sn 10 47 00.9 -2.4
JAUV Jalcomulco 2.84 322 eP Pn 10 46 28.4 -1.0
JAUV eS Sn 10 46 59.6 -4.1
LVIG Laguna Verde 2.94 332 eP Pn 10 46 29.0 -1.5
LVIG eS Sn 10 46 59.7 -6.1
FTIG Fresnillo de T 3.14 285 eP Pn 10 46 34.2 +0.8
FTIG eS Sn 10 47 06.5 -4.2
PAVE Pavencul 3.28 125 eP Pn 10 46 36.3 +1.0
PAVE e 10 47 06.0
PATR El Naranjo 3.28 127 eP Pn 10 46 35.8 +0.5
PATR e 10 47 06.6
THIG 3.39 130 eP Pn 10 46 37.7 +1.2
THIG eS Sn 10 47 15.0 -1.4
THIG 3.39 130 eP Pn 10 46 38.0 +1.4
CHUJ Union Juarez 3.39 126 eP Pn 10 46 37.6 +0.8
CHUJ e 10 47 09.4
TLIG Tlapa 3.49 278 eP Pn 10 46 38.4 +0.5
TLIG Tlapa 3.49 278 eP Pn 10 46 38.5 +0.6
TLIG eS Sn 10 47 15.6 -3.3
TLIG Tlapa 3.49 278 P Pn 10 46 38.8 +0.9
HUEH Huehuetenango 3.76 118 Pn 10 46 41.7 +0.1
HUEH Huehuetenango 3.76 118 eP Pn 10 46 42.2 +0.6
HUEH eS Sn 10 47 20.4 -5.2
HUEH Huehuetenango 3.76 118 P Pn 10 46 43.5 +1.8
HUEH Huehuetenango 3.76 118 S Sn 10 47 24.7 -0.8
PPSX Xalitzintla 3.91 300 eP Pn 10 46 46.5 +2.8
PPSX eS Sn 10 47 22.1 -7.1
PPCL Tochimilco 3.92 297 eP Pn 10 46 46.0 +2.2
PPCL eS Sn 10 47 27.2 -2.2
CXUV Coxquihui 3.93 321 eP Pn 10 46 44.0 +0.2
CXUV eS Sn 10 47 27.1 -2.3
PPPT Popocatepetl 3.95 298 eP Pn 10 46 46.9 +2.5
PPPT e 10 47 21.3
SCIG Sabancuy 4.02 62 eP Pn 10 46 43.3 -1.5
SCIG e 10 47 22.7
SCIG Sabancuy 4.02 62 eP Pn 10 46 43.4 -1.5
SCIG Sabancuy 4.02 62 P Pn 10 46 43.8 -1.0
SCIG Sabancuy 4.02 62 S Sn 10 47 27.0 -4.2
CRIG Cruz Grande 4.03 265 eP Pn 10 46 43.5 -1.4
CRIG e 10 47 19.6
RTAL Retalhuleu 4.06 129 Pn Pn 10 46 45.2 -0.2
RTAL Retalhuleu 4.06 129 eP Pn 10 46 47.1 +1.7
RTAL e 10 47 23.2
RTAL Retalhuleu 4.06 129 P Pn 10 46 48.0 +2.6
AMVM AMECAMECA 4.16 299 eP Pn 10 46 50.2 +3.2
AMVM e 10 47 23.1
MPVM San Francisco 4.38 299 eP Pn 10 46 52.5 +2.6
MPVM eS Sn 10 47 33.9 -6.5
THVM De Xico 4.40 300 eP Pn 10 46 52.4 +2.1
THVM eS Sn 10 47 33.8 -7.1
VTVM Tizayuca 4.49 306 eP Pn 10 46 53.3 +1.9
VTVM eS Sn 10 47 40.9 -2.0
XCVM Xochimilco 4.50 299 eP Pn 10 46 52.5 +1.0
XCVM eS Sn 10 47 41.8 -1.3
TLVM San Miguel Top 4.51 298 eP Pn 10 46 54.5 +2.9
TLVM eS Sn 10 47 36.8 -6.7
MEIG Mezcala 4.53 281 eP Pn 10 46 52.8 +1.0
MEIG eS Sn 10 47 38.9 -4.8
PBVM Pinon 4.56 301 eP Pn 10 46 51.4 -0.6
PBVM e 10 47 35.0
UNM Universidad Na 4.58 299 Pn 10 46 55.5 +2.9
MHVM Bosque de Chap 4.64 300 eP Pn 10 46 49.2 -4.2
MHVM eS Sn 10 47 40.7 -6.0
PTVM Pico Tres Padr 4.66 302 eP Pn 10 46 55.4 +1.8
PTVM e 10 47 37.5
AOVM Tlapan 4.67 298 eP Pn 10 46 56.5 +2.4
AOVM e 10 47 39.6
CJVM Cuajimalpa 4.69 299 eP Pn 10 46 54.2 +0.2
CJVM eS Sn 10 47 42.5 -5.2
INVM La Marquesa 4.74 298 *i* P Pn 10 46 57.0 +2.2
INVM e 10 47 40.7
ZUVM ZUMPANGO 4.75 305 eP Pn 10 46 54.4 -0.5
ZUVM eS Sn 10 47 45.5 -3.8
PETF Flores 4.86 92 Pn 10 46 55.2 -0.9
PETF Flores 4.86 92 eP Pn 10 46 55.7 -0.4
PETF eS Sn 10 47 48.2 -3.3
PETF Flores 4.86 92 P Pn 10 46 55.7 -0.4
PETF Flores 4.86 92 S Sn 10 47 47.3 -4.2
TOVM TOLUCA 4.98 296 eP Pn 10 47 00.8 +2.7
TOVM eS Sn 10 47 50.4 -4.5
CAIG El Cayaco 5.09 270 eP Pn 10 46 58.8 -0.5
CAIG eS Sn 10 47 50.1 -6.9
ARIG Puente Sto Nin 5.28 283 eP Pn 10 47 03.4 +1.6
ARIG eS Sn 10 47 51.5 -10
CTUV Llano Grande 5.39 324 eP Pn 10 47 01.4 -1.8
CTUV eS Sn 10 47 58.5 -5.7
ACIG Acambay 5.47 302 *e* Pn 10 47 07.0 +2.5
ACIG *e* 10 47 43.0
ESQI Esquipulas 5.96 115 Pn 10 47 08.4 -2.7
MTO3 Montecristo 6.02 116 Pn 10 47 10.0 -2.0
UNIC Universidad Ca 6.07 120 P Pn 10 47 22.1 +10
JRQG Juriquilla Cam 6.31 305 Pn 10 47 17.1 +1.3
SARH Santa Rosa de 6.39 111 P Pn 10 47 16.5 -0.2
MOIG Morelia 6.45 294 Pn 10 47 19.0 +1.3
MOIG Morelia 6.45 294 eP Pn 10 47 17.8 +0.1
MOIG eS Sn 10 48 24.3 -5.8
RPIG Rio Verde 6.71 316 eP Pn 10 47 23.9 +2.8
RPIG eS Sn 10 48 36.8 +0.6
TEIG Tepich 7.03 63 Pn 10 47 22.5 -2.9
TEIG Tepich 7.03 63 P Pn 10 47 23.1 -2.2
baz=310,slow=24,SNR=19
TEIG S Sn 10 48 37.9 -6.0
0.1nm,0.6s,baz=132,slow=24,SNR=9.4
TGUH Tegucigalpa,Un 8.00 111 Pn Pn 10 47 36.2 -2.4
MMIG Aquila 8.09 279 eP Pn 10 47 40.1 +0.5
MMIG eS Sn 10 49 03.7 -5.9
YUSH Yuscaran 8.42 111 P Pn 10 47 45.4 +1.1
INCO Volcan de Coli 8.56 288 eP Pn 10 47 48.5 +2.1
INCO eS Sn 10 49 21.9 +0.3
MNGA Volcan de Coli 8.56 287 eP Pn 10 47 49.2 +2.9
MNGA eS Sn 10 49 23.3 +1.9
SOMAC Volcano de Col 8.59 287 eP Pn 10 47 49.6 +2.9
SOMAC eS Sn 10 49 22.5 +0.4
CEGR Campo Tres 8.76 286 eP Pn 10 47 51.5 +2.6
CEGR eS Sn 10 49 27.6 +1.5
CDAR Ciudad de Arme 8.81 283 eP Pn 10 47 50.6 +1.3
CDAR eS Sn 10 49 22.5 -4.6
833A Chaparral WMA, 11.87 341 Pn 10 48 30.0 -0.4
HNDO Hondo 12.97 343 Pn 10 48 45.7 +1.0
441A DeRidder 13.66 6 Pn 10 48 54.7 +1.2
435B Jarrell 13.81 350 Pn 10 48 56.9 +1.5
TXAR Lajitas Array 14.55 328 P P 10 49 07.1 -0.9
1.6nm,0.7s,baz=148,slow=12,SNR=26
VHRN Van Horn 16.39 328 Pn 10 49 27.8 -0.1
WLAR White Oak Lake 16.57 5 P P 10 49 30.4 +0.1
WLAR IAmb IAmb 10 49 33.2
comp=Z,27nm,0.9s
OK029 Liberty Lake 18.73 354 P P 10 49 53.2 -0.7
OK029 IAmb IAmb 10 49 56.2
comp=Z,20nm,0.6s
T35A Sooner Cattle 19.76 356 P P 10 50 05.6 +0.5
V48A Smith Brothers 19.90 20 P P 10 50 04.4 -2.2
RTBA Rita Blanca 20.44 342 P P 10 50 13.1 +0.5
RTBA IAmb IAmb 10 50 41.8
comp=Z,7.6nm,0.8s
ANMO Albuquerque 20.51 332 P 10 50 15.3 +1.9
ANMO Albuquerque 20.51 332 P P 10 50 15.1 +1.6
comp=Z,0.9nm,0.4s,baz=225,slow=12,SNR=7.6
comp=Z,0.9nm,0.4s
TKL Tuckaleechee C 20.96 26 P P 10 50 16.6 -1.5
comp=Z,6.1nm,0.6s,baz=193,slow=10,SNR=16
comp=Z,6.1nm,0.6s
P46A Rosedale 23.40 15 P P 10 50 41.1 -1.5
P46A IAmb IAmb 10 50 42.8
comp=Z,30nm,0.9s
N41A Harden Midland 23.76 8 P P 10 50 44.8 -1.1
BAUV El Baul 27.41 104 P P 10 51 17.3 -1.8
BAUV IAmb IAmb 10 51 48.1
comp=Z,5.0nm,0.8s
PDAR Pinedale Array 28.43 337 P P 10 51 29.5 +1.3
comp=Z,0.1nm,0.4s,baz=141,slow=8.3,SNR=2.7
PDAR pP pP 10 51 55.9 +0.7
comp=Z,0.6nm,0.8s,baz=129,slow=12,SNR=3.4
comp=Z,0.1nm,0.4s
NVAR Mina Array Bea 29.47 321 P P 10 51 40.3 +2.9
comp=Z,2.2nm,0.7s,baz=133,slow=8.9,SNR=19
NVAR pP pP 10 52 05.9 +1.4
comp=Z,1.2nm,0.7s,baz=124,slow=6.8,SNR=4.8
NVAR sP sP 10 52 19.4 +0.4
comp=Z,1.1nm,0.7s,baz=133,slow=8.0,SNR=4.0
NVAR PcP PcP 10 54 39.5 -0.6
comp=Z,0.3nm,0.6s,baz=72,slow=2.8,SNR=2.9
comp=Z,2.2nm,0.7s
ULM Lac du Bonnet 33.05 359 P P 10 52 07.1 -1.3
comp=Z,5.3nm,0.8s,baz=333,slow=5.6,SNR=3.1
comp=Z,5.3nm,0.8s
LPAZ La Paz 42.44 140 P P 10 53 27.8 -0.6
comp=Z,2.6nm,0.6s,baz=347,slow=8.5,SNR=6.9
comp=Z,2.6nm,0.6s
PB16 IPOC Station P 43.22 143 P P 10 53 35.0 +0.3
PB16 IAmb IAmb 10 53 42.1
comp=Z,3.1nm,0.7s
SCHQ Schefferville 43.39 23 P P 10 53 33.5 -1.4
comp=Z,47nm,0.9s,baz=172,slow=7.7,SNR=2.4
GO01 Chusmiza 44.46 144 P P 10 53 44.8 +0.4
GO01 IAmb IAmb 10 53 51.3
comp=Z,4.0nm,0.6s
CPUP Villa Florida 56.59 139 P P 10 55 16.9 +2.0
comp=Z,0.5nm,0.8s,baz=204,slow=9.5,SNR=3.6
CPUP PcP PcP 10 56 08.8 -1.1
comp=Z,0.3nm,0.7s,baz=48,slow=4.6,SNR=3.1
ILAR Eielson Array 58.86 337 P P 10 55 30.9 +0.6
comp=Z,0.4nm,0.6s,baz=166,slow=4.1,SNR=8.2
ILAR pP pP 10 56 01.3 +1.1
comp=Z,1.3nm,1.0s,baz=110,slow=6.0,SNR=8.5
comp=Z,0.4nm,0.6s
ITAB Concordia 60.57 136 P P 10 55 43.9 +1.4
PLCA Paso Flores 61.87 159 P P 10 55 51.9 +0.8
comp=Z,2.7nm,0.7s,baz=305,slow=6.5,SNR=8.2
comp=Z,2.7nm,0.7s
TRQA Tornquist 63.02 151 P P 10 55 58.6 -0.2
TRQA IAmb IAmb 10 56 32.8
comp=Z,15nm,1.5s
EKA Eskdalemuir Ar 77.10 36 P P 10 57 24.0 -0.5
comp=Z,2.7nm,0.7s,baz=276,slow=6.6,SNR=9.2
comp=Z,2.7nm,0.7s
ESDC Sonseca Array 80.01 52 P P 10 57 40.3 -0.6
comp=Z,3.7nm,0.9s,baz=294,slow=5.5,SNR=16
comp=Z,3.7nm,0.9s
NOA NORSAR Array B 82.75 28 P P 10 57 55.4 +0.6
comp=Z,1.1nm,0.8s,baz=292,slow=5.2,SNR=3.9
comp=Z,1.1nm,0.8s
ARCES ARCESS Array B 84.06 18 P P 10 58 01.6 +0.3
comp=Z,6.9nm,1.1s,baz=311,slow=5.5,SNR=2.8
comp=Z,6.9nm,1.1s
DBIC Dimbokro 88.15 84 P P 10 58 22.6 +0.2
comp=Z,3.1nm,0.8s,baz=272,slow=2.5,SNR=2.4
comp=Z,3.1nm,0.8s
GERES GERESS Array B 88.98 39 P P 10 58 26.2 +0.4
comp=Z,0.2nm,0.7s,baz=272,slow=5.5,SNR=2.2
comp=Z,0.2nm,0.7s
HHC Hu-ho-hao-te 117.29 338 *e*P **PKiKP** 11 04 18.0 +1.9
WMQ Urumqi 119.30 358 *e*PKP **PKPdf** 11 04 18.5 -1.3
WMQ LR LR
comp=Z,1μm,16.9s
NJ2 Nanjing 121.34 326 *e*P **PKPdf** 11 04 23.8 -0.1
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
STKA Stephens Creek 127.04 243 PKP **PKiKP** 11 04 35.5 +0.2
comp=Z,2.2nm,0.8s,baz=132,slow=3.6,SNR=3.7
WRA Warramunga Arr 133.32 259 PKP **PKPdf** 11 04 47.3 +0.3
comp=Z,0.6nm,0.6s,baz=80,slow=2.1,SNR=13
PZH PanZhiHua 133.70 339 PKP **PKPdf** 11 04 45.8 -2.0
ASAR Alice Springs 133.93 253 PKP **PKPdf** 11 04 48.4 +0.2
comp=Z,0.5nm,0.7s,baz=81,slow=1.3,SNR=9.4

*IDC **29** 10:50:28.6±4.1,39.79N×97.78W,h0km,mbtmp2.9/3, ML3.7/3,Error ellipse: s-maj=48.1km s-min=17.9km az=70.0*
*NEIC **29** 10:50:32.5±0.3,39.64N±0.04×97.99W±0.03,h5km±2km, mb_Lg2.8/93,Error ellipse: s-maj=6.2km s-min=3.1km az=345.0*
ISC 29 10:50:32.2±1.0,39.60N±0.05×97.99W±0.05,h10km,n56, σ0.88/30,Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSU1	**Kansas State U**	**1.18**	**115**	Pg	**Pb**	**10 50 54.1**	**-0.6**
KSU1				Sg	**Sb**	**10 51 09.7**	**-0.4**
R32A	**Long Quarter,**	**1.30**	**206**	Pg	**Pn**	**10 50 56.4**	**-0.1**
R32A				Sg	**Sb**	**10 51 14.1**	**+0.4**
CBKS	**Cedar Bluff**	**1.57**	**240**		**Pn**	**10 51 00.7**	**+0.6**
CBKS				Sg	**Sb**	**10 51 21.7**	**+0.5**
CBKS				IAmb_Lg		10 51 25.3	
comp=Z,61nm,0.8s							
BGNE	**Belgrade**	**1.81**	**356**	Pn	**Pn**	**10 51 03.8**	**+0.3**
N35A	**Tabor**	**2.19**	**54**	Pn	**Pn**	**10 51 08.9**	**+0.2**
KAN08	**Anthony NE Sta**	**2.37**	**180**	Pn	**Pn**	**10 51 12.0**	**+0.8**
KAN08				IAmb_Lg		10 51 50.2	
comp=Z,33nm,0.9s							
KAN01	**Argonia South**	**2.45**	**176**	Pn	**Pn**	**10 51 13.1**	**+0.8**
KAN01				IAmb_Lg		10 51 54.1	
comp=Z,33nm,1.1s							
GC02	**Grant County #**	**2.75**	**178**	Pn	**Pn**	**10 51 16.9**	**+0.6**
T35A	**Sooner Cattle**	**2.92**	**156**	Pn	**Pn**	**10 51 19.5**	**+0.7**
OK038	**West end E0370**	**3.17**	**191**	Pn	**Pn**	**10 51 23.0**	**+0.8**
OK038				IAmb_Lg		10 52 16.7	
comp=Z,31nm,0.8s							
K30B	**Basset**	**3.31**	**339**	IAmb_Lg		10 52 24.8	
comp=Z,39nm,0.8s							
OGNE	**Ogallala**	**3.37**	**295**	Pn	**Pn**	**10 51 25.6**	**+0.6**
P38A	**Dawn**	**3.44**	**88**	Pn	**Pn**	**10 51 27.1**	**+1.2**
QUOK	**Quay**	**3.57**	**163**	Pn	**Pn**	**10 51 27.9**	**+0.3**
KSCO	**Kaye Shedlock'**	**3.64**	**262**	IAmb_Lg		10 52 32.7	
comp=Z,33nm,0.8s							
OK029	**Liberty Lake**	**3.82**	**173**	IAmb_Lg		10 52 40.9	
comp=Z,21nm,1.2s							
N38A	**Joes South For**	**3.83**	**70**	Pn	**Pn**	**10 51 32.3**	**+1.0**
TUL3	**Leonard**	**4.08**	**154**	Pn	**Pn**	**10 51 35.4**	**+0.8**
OKCSW	**OKLAHOMA CITY**	**4.21**	**174**	IAmb_Lg		10 52 57.2	
comp=Z,24nm,0.7s							
U38A	**Gravette**	**4.25**	**137**	Pn	**Pn**	**10 51 38.1**	**+1.1**
U38A				IAmb_Lg		10 52 58.4	
comp=Z,14nm,0.7s							
ECSD	**EROS Data Cent**	**4.25**	**14**	Pn	**Pn**	**10 51 37.9**	**+0.8**
SCIA	**State Center**	**4.30**	**56**	IAmb_Lg		10 52 53.1	
comp=Z,32nm,0.9s							
P40A	**Paris**	**4.59**	**89**	Pn	**Pn**	**10 51 43.0**	**+1.3**
P40A				IAmb_Lg		10 53 05.4	
comp=Z,28nm,0.8s							
R40A	**Maddies Statio**	**4.65**	**105**	IAmb_Lg		10 53 08.7	
comp=Z,21nm,0.7s							
SMWD	**Samnorwood**	**4.83**	**202**	Pn	**Pn**	**10 51 44.9**	**-0.1**
SMWD				IAmb_Lg		10 53 07.8	
comp=Z,24nm,1.0s							
SUSD	**Miller**	**4.89**	**352**	IAmb_Lg		10 53 09.9	
comp=Z,17nm,0.8s							
WMOK	**Wichita Mounta**	**4.90**	**188**	Pn	**Pn**	**10 51 45.7**	**-0.2**
RTBA	**Rita Blanca**	**4.90**	**231**	IAmb_Lg		10 53 16.5	
comp=Z,13nm,0.8s							
MGMO	**Mountain Grove**	**5.12**	**117**	IAmb_Lg		10 53 23.7	
comp=Z,20nm,0.8s							
CCM	**Cathedral Cave**	**5.49**	**104**	Pn	**Pn**	**10 51 55.4**	**+1.4**
CCM				IAmb_Lg		10 53 32.2	
comp=Z,17nm,0.9s							
AMTX	**Amarillo**	**5.55**	**213**	Pn	**Pn**	**10 51 55.5**	**+0.6**
I37A	**Lemond, Waseca**	**5.59**	**36**	IAmb_Lg		10 53 33.3	
comp=Z,20nm,0.7s							
SLM	**Saint Louis**	**6.11**	**97**	IAmb_Lg		10 53 48.9	
comp=Z,19nm,0.8s							
FVM	**French Village**	**6.13**	**103**	IAmb_Lg		10 53 47.5	
comp=Z,12nm,0.8s							
SDCO	**Great Sand Dun**	**6.16**	**255**	IAmb_Lg		10 53 48.8	
comp=Z,13nm,1.1s							
WHAR	**Wooly Hollow**	**6.25**	**132**	IAmb_Lg		10 53 59.0	
comp=Z,20nm,0.8s							
F33A	**5 Mile Ranch,**	**6.36**	**11**	IAmb_Lg		10 53 53.7	
comp=Z,10nm,0.8s							
DKNS	**Dickens**	**6.38**	**203**	Pn	**Pn**	**10 52 06.8**	**+0.6**
DKNS				IAmb_Lg		10 54 01.1	
comp=Z,8.4nm,0.8s							
RSSD	**Black Hills**	**6.38**	**317**	IAmb_Lg		10 53 59.3	
comp=Z,8.4nm,0.8s							
LCAR	**Lake Charles**	**6.46**	**121**	IAmb_Lg		10 54 01.2	
comp=Z,8.5nm,0.7s							
X40A	**Basin Creek Fa**	**6.56**	**139**	IAmb_Lg		10 54 01.2	
comp=Z,8.8nm,0.8s							
PBMO	**Poplar Bluff**	**6.59**	**113**	IAmb_Lg		10 54 12.1	
comp=Z,16nm,0.8s							
UALR	**University of**	**6.60**	**135**	IAmb_Lg		10 54 18.9	
comp=Z,13nm,1.1s							
JFWS	**Jewell Farm**	**6.71**	**58**	Pn	**Pn**	**10 52 10.8**	**+0.1**
JFWS				IAmb_Lg		10 54 10.1	
comp=Z,16nm,0.7s							
Z38A	**Mt. Pleasant**	**6.78**	**158**	IAmb_Lg		10 54 12.1	
comp=Z,14nm,1.0s							
MSTX	**Muleshoe**	**6.80**	**216**	IAmb_Lg		10 54 27.1	
comp=Z,8.6nm,1.0s							
SPMN	**Marine on St.**	**6.80**	**33**	IAmb_Lg		10 54 06.2	
comp=Z,12nm,0.9s							
CGM3	**Cape Girardeau**	**6.93**	**107**	IAmb_Lg		10 54 18.8	
comp=Z,15nm,1.1s							
POST	**Post**	**7.11**	**205**	IAmb_Lg		10 54 39.6	
comp=Z,8.7nm,0.9s							
K22A	**Casper**	**7.12**	**298**	IAmb_Lg		10 54 26.0	
comp=Z,17nm,0.9s							
ANMO	**Albuquerque**	**8.19**	**238**	Pg	Pb	10 53 01.1	+6.8
comp=Z,0.6nm,0.3s,baz=146,slow=16,SNR=16							
ANMO				Lg		10 54 46.8	
comp=Z,0.6nm,0.3s,baz=54,slow=23,SNR=8.5							
OXF	**Oxford**	**8.53**	**124**	IAmb_Lg		10 55 11.9	
comp=Z,11nm,0.8s							
JCT	**Junction City**	**9.22**	**190**	IAmb_Lg		10 55 32.5	
comp=Z,6.7nm,0.9s							
PDAR	**Pinedale Array**	**9.28**	**294**	Pn	**Pn**	**10 52 46.9**	**+0.7**
comp=Z,0.1nm,0.3s,baz=105,slow=15,SNR=4.2							
PDAR				Lg		10 55 17.0	
comp=Z,0.3nm,0.3s,baz=101,slow=30,SNR=4.0							
comp=Z,0.1nm,0.4s							
TXAR	**Lajitas Array**	**11.26**	**206**	Pn	**Pn**	**10 53 10.8**	**-2.5**
comp=Z,0.2nm,0.3s,baz=32,slow=10,SNR=8.6							
TXAR				Lg		10 56 26.0	
comp=Z,0.2nm,0.3s,baz=42,slow=32,SNR=5.8							
comp=Z,0.2nm,0.3s							
NVAR	**Mina Array Bea**	**15.83**	**272**	Pn	**Pn**	**10 54 15.5**	**+0.1**
comp=Z,0.1nm,0.3s,baz=74,slow=13,SNR=1.4							
comp=Z,0.1nm,0.3s							

IDC 29 10:53:48.2±1.2,33.44S×55.90E,h0km,mb3.8/5, mbtmp3.8/5,Error ellipse: s-maj=57.4km s-min=26.4km az=110.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04N2	**CROZET ISLANDS**	**13.09**	**193**	T	T	11 09 47.7	
baz=17,slow=74,SNR=438							
H04N1	**CROZET ISLANDS**	**13.09**	**193**	T	T	11 09 48.9	
baz=17,slow=74,SNR=653							
H04N3	**CROZET ISLANDS**	**13.10**	**193**	T	T	11 09 47.8	
baz=17,slow=74,SNR=956							
H08S1	**Diego Carcia H**	**29.90**	**35**	T	T	11 31 17.3	
baz=207,slow=75,SNR=21							
H08S2	**Diego Garcia H**	**29.91**	**35**	T	T	11 31 17.9	
baz=207,slow=75,SNR=9.2							
H08S3	**Diego Garcia H**	**29.92**	**35**	T	T	11 31 18.6	
baz=207,slow=75,SNR=29							
SNAA	**Sanae**	**48.88**	**201**	P	P	11 02 34.0	-1.4
0.5nm,0.8s,baz=32,slow=22,SNR=1.3							
0.5nm,0.8s							
QSPA	**South Pole Qui**	**56.73**	**180**	P	P	11 03 34.7	+1.1
1.7nm,0.8s,baz=332,slow=3.7,SNR=13							
1.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**65.96**	**45**	P	P	11 04 37.8	+1.4
0.3nm,0.3s,baz=219,slow=6.3,SNR=4.3							
0.3nm,0.3s							
WRA	**Warramunga Arr**	**69.90**	**101**	P	P	11 05 00.3	-1.1
0.8nm,0.9s,baz=242,slow=6.3,SNR=5.7							
0.8nm,0.9s							
BVAR	**Borovoye Array**	**87.03**	**9**	P	P	11 06 33.9	-1.1
0.4nm,0.4s,baz=197,slow=1.5,SNR=3.8							
0.4nm,0.4s							
ILAR	**Eielson Array**	**145.69**	**17**	PKPbc	PKPdf	11 13 27.5	-0.3
0.5nm,0.6s,baz=308,slow=3.7,SNR=7.9							

*IDC **29** 11:01:01.9±4.5,5.44S×105.24E,h119km±31km,mb3.4/5, mbtmp3.7/6,Error ellipse: s-maj=50.5km s-min=38.6km az=36.0*
*DJA **29** 11:01:03.9±0.4,6°S±5°×10°5E±°,h92km±5km,M3.7/14, MLv3.7/14*
ISC 29 11:01:02.8±0.8,5.87S±0.08×105.19E±0.07,h107km±7km, n30,σ0.75/31,mb3.5/5,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLSI	**Bandar Lampung**	**0.50**	**6**	P	**Pn**	**11 01 19.0**	**-0.4**
KASI	**Kota Agung**	**0.77**	**296**	P	**Pn**	**11 01 21.8**	**+0.3**
KASI				S	**Sn**	**11 01 36.1**	**+0.6**
CGJI	**Cibinong**	**0.89**	**146**	P	**Pn**	**11 01 22.7**	**0.0**
CGJI				S	**Sn**	**11 01 38.1**	**+0.5**
SBJI	**Serang**	**0.97**	**105**	P	**Pn**	**11 01 23.5**	**+0.1**
SBJI				S	**Sn**	**11 01 39.4**	**+0.4**
KLI	**Kotabumi**	**1.05**	**342**	P	**Pn**	**11 01 24.4**	**0.0**
KLI				S	**Sn**	**11 01 41.0**	**+0.4**
LWLI	**Liwa**	**1.41**	**307**	P	**Pn**	**11 01 28.5**	**0.0**
TNG	**Tangerang**	**1.48**	**102**	P	**Pn**	**11 01 28.7**	**-0.5**
DBJI	**Dramaga**	**1.69**	**114**	P	**Pn**	**11 01 32.2**	**+0.3**
MDSI	**Maura Dua**	**1.70**	**324**	P	**Pn**	**11 01 31.9**	**-0.1**
MDSI				S	**Sn**	**11 01 55.1**	**+1.0**
SKJI	**Sukabumi**	**1.77**	**130**	P	**Pn**	**11 01 33.2**	**+0.4**
CNJI	**Cibinong**	**2.40**	**127**	P	**Pn**	**11 01 40.6**	**-0.3**
LEM	**Lembang**	**2.59**	**112**	P	**Pn**	**11 01 44.7**	**+1.2**
64nm,0.6s,baz=154,slow=23,SNR=10							
LEM				S	**Sn**	**11 02 15.8**	**+1.0**
35nm,0.6s,baz=22,slow=23,SNR=1.5							
LEM	**Lembang**	**2.59**	**112**	P	**Pn**	**11 01 44.6**	**+1.0**
LHSI	**Lahat**	**2.62**	**321**	P	**Pn**	**11 01 44.9**	**+1.1**
MNAI	**Manna**	**2.68**	**304**	P	**Pn**	**11 01 45.4**	**+0.8**
MNAI				S	**Sn**	**11 02 17.3**	**+0.6**
KPJI	**Karang Pucung**	**3.99**	**112**	P	**Pn**	**11 02 03.9**	**+1.9**
BATI	**Baumata**	**18.79**	**104**	P	**P**	**11 05 14.2**	**+0.1**
22nm,0.3s,baz=279,slow=19,SNR=3.0							
FITZ	**Fitzroy Crossi**	**23.37**	**123**	P	**P**	**11 06 02.0**	**-0.2**
1.0nm,0.5s,baz=309,slow=6.5,SNR=7.5							
1.0nm,0.5s							
WRA	**Warramunga Arr**	**31.59**	**119**	P	**P**	**11 07 14.4**	**-1.3**
0.2nm,0.5s,baz=295,slow=8.3,SNR=10							
0.2nm,0.5s							
H08S2	**Diego Garcia H**	**32.51**	**265**	T	T	11 41 30.2	
baz=90							
H08S3	**Diego Garcia H**	**32.52**	**265**	T	T	11 41 46.3	
baz=90							
H08S1	**Diego Carcia H**	**32.53**	**265**	T	T	11 41 42.3	
baz=90							
ASAR	**Alice Springs**	**32.81**	**126**	P	**P**	**11 07 25.6**	**-0.7**
0.4nm,0.5s,baz=295,slow=7.8,SNR=16							
0.4nm,0.5s							
STKA	**Stephens Creek**	**42.73**	**132**	P	**

TXAR	**Lajitas Array**	**144.13**	**46**	PKP	**PKPab**	**11 20 23.8**	**-1.0**
	0.1nm,0.4s,baz=312,slow=1.8,SNR=5.3						
TKL	**Tuckaleechee C**	**149.23**	**14**	PKPbc	**PKPdf**	**11 20 35.2**	**0.0**
	0.9nm,0.4s,baz=190,slow=4.2,SNR=4.6						

*IDC **29** 11:05:33.4±2.3, 15°.57N×94°.12W, h0km, mb3.6/3, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=53.8km s-min=24.3km az=39.0*
*GCG **29** 11:05:35.5±1.7, 15°.17N×94°.35W, h34km±460km, MD4.4*
*MEX **29** 11:05:36.4±0.8, 15°.30N×94°.31W, h16km±63km, MD4.4*
*CATAC **29** 11:05:37.2±1.3, 16°.N±9°×9°.4W±°, h11km±4km, M4.4/11, mB5.0/1, MLv4.4/11, Mw(mB)4.3/1, Error ellipse: s-maj=22.1km s-min=10.1km az=144.3, confirmed*
ISC 29 11:05:32.9±1.6, **15°.42N**±0°.04×**94°.22W**±0°.03, **h8**km±10km, **n62**, σ2=**09**/101, **mb3.4**/3, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.01**	**73**	*eP*	**Pg**	**11 05 53.8**	**+1.6**
PCIG				*eS*	**Sn**	**11 06 07.1**	**-0.6**
NILT	**Santiago Nilte**	**1.20**	**342**	*eP*	**Pb**	**11 05 56.6**	**+0.7**
NILT				*eS*	**Sn**	**11 06 11.5**	**-1.0**
TGIG		**1.71**	**38**	*eP*	**Pb**	**11 06 04.4**	**-0.3**
TGIG				*eS*	**Sg**	**11 06 25.9**	**-2.2**
TGBT	**Tuxtla Gutierr**	**1.73**	**39**	*eP*	**Pb**	**11 06 04.6**	**-0.4**
TGBT				*eS*	**Sg**	**11 06 27.2**	**-1.5**
CMIG	**Matias Romero**	**1.78**	**339**	Pn	**Pn**	**11 06 04.4**	**+0.4**
	37nm,0.3s,baz=159,slow=13,SNR=419						
CMIG				Sn	**Sn**	**11 06 25.5**	**-1.4**
	104nm,0.3s,baz=290,slow=22,SNR=11						
CMIG				LR	LR	11 06 43.0	
	comp=Z,37nm,18.9s,baz=128,slow=42						
HUIG	**Huatulco**	**1.85**	**281**	*eP*	**Pn**	**11 06 04.0**	**-1.0**
HUIG				*eS*	**Sn**	**11 06 23.7**	**-4.9**
UXUV	**UXUV**	**1.89**	**2**	*eP*	**Pb**	**11 06 07.2**	**-0.5**
UXUV				*eS*	**Sb**	**11 06 30.2**	**-1.3**
PATR	**El Naranjo**	**1.94**	**99**	*eP*	**Pn**	**11 06 06.4**	**0.0**
PATR				*eS*	**Sn**	**11 06 29.7**	**-1.5**
THIG		**1.96**	**105**	*eP*	**Pn**	**11 06 06.9**	**+0.5**
THIG				*eS*	**Sn**	**11 06 29.5**	**-1.7**
PAVE	**Pavencul**	**1.99**	**96**	*eP*	**Pn**	**11 06 07.5**	**+0.5**
PAVE				*eS*	**Sn**	**11 06 30.3**	**-2.0**
CHUJ	**Union Juarez**	**2.06**	**99**	*eP*	**Pn**	**11 06 08.2**	**+0.1**
CHUJ				*eS*	**Sn**	**11 06 33.0**	**-1.2**
SMCA	**Catarina**	**2.15**	**105**	*iP*	**Pn**	**11 06 09.2**	**+0.2**
CCIG	**Comitan**	**2.18**	**67**	*eP*	**Pn**	**11 06 11.4**	**+1.7**
CCIG				*eS*	**Sg**	**11 06 41.8**	**-1.3**
RTAL	**Retalhuleu**	**2.60**	**110**	*eP*	**Pn**	**11 06 15.7**	**+0.4**
RTAL				*eS*	**Sn**	**11 06 46.8**	**-0.3**
RTAL	**Retalhuleu**	**2.60**	**110**	P	**Pn**	**11 06 16.3**	**+1.0**
TUIG	**Tuzandepetl**	**2.61**	**356**	*eP*	**Pn**	**11 06 16.6**	**+1.2**
TUIG				*eS*	**Sn**	**11 06 45.7**	**-1.6**
HUEH	**Huehuetenango**	**2.62**	**92**	*eP*	**Pn**	**11 06 16.8**	**+0.9**
HUEH				*eS*	**Sb**	**11 06 50.9**	**-2.0**
HUEH	**Huehuetenango**	**2.62**	**92**	*iP*	**Pn**	**11 06 19.4**	**+3.5**
HUEH				*iS*	**Sb**	**11 06 50.9**	**-2.0**
HUEH	**Huehuetenango**	**2.62**	**92**	P	**Pb**	**11 06 19.7**	**-0.6**
HUEH	**Huehuetenango**	**2.62**	**92**	S	**Sb**	**11 06 51.4**	**-1.5**
NEUV	**Arroyo Zacate**	**2.74**	**327**	*eP*	**Pn**	**11 06 17.7**	**+0.6**
NEUV				*eS*	**Sn**	**11 06 50.7**	**+0.2**
VHSA	**Villahermosa**	**2.83**	**26**	*eP*	**Pb**	**11 06 21.2**	**-2.5**
VHSA				*eS*	**Sg**	**11 07 00.8**	**-3.1**
PEIG	**Puerto Escondi**	**2.88**	**282**	*eP*	**Pn**	**11 06 18.4**	**-0.7**
PEIG				*eS*	Sn	11 06 47.7	-6.3
OXLC	**Oaxaca**	**2.89**	**305**	*eP*	**Pn**	**11 06 19.1**	**-0.3**
OXLC				*eS*	**Sn**	**11 06 52.1**	**-2.5**
OXBJ	**Oaxaca**	**2.91**	**305**	*eS*	**Sn**	**11 06 52.6**	**-2.4**
VHO	**Vista Hermosa**	**2.92**	**305**	*eP*	**Pn**	**11 06 21.8**	**+1.9**
VHO				*eS*	**Sn**	**11 06 53.8**	**-1.5**
QUIS	**Sacapulas**	**3.02**	**92**	*iP*	**Pn**	**11 06 24.2**	**+3.0**
PMUV	**Sontecomapan**	**3.23**	**345**	*eP*	**Pn**	**11 06 26.3**	**+2.3**
PMUV				*eS*	**Sn**	**11 07 00.3**	**-2.3**
YOIG	**Yosondua**	**3.50**	**295**	*eP*	**Pn**	**11 06 30.6**	**+2.7**
YOIG				*eS*	**Sn**	**11 07 09.6**	**-0.1**
TOIG	**Toxpalan**	**3.81**	**315**	*eP*	**Pn**	**11 06 35.0**	**+3.0**
TOIG				*eS*	**Sn**	**11 07 18.4**	**+1.2**
TXIG	**Tlaxiaco**	**3.86**	**299**	*eP*	**Pn**	**11 06 34.9**	**+2.0**
TXIG				*eS*	**Sn**	**11 07 13.9**	**-4.7**
HLIG	**Huajuapan de L**	**4.19**	**305**	*eP*	**Pn**	**11 06 39.8**	**+2.4**
HLIG				*eS*	**Sn**	**11 07 27.2**	**+0.6**
TPIG	**Tehuac#an**	**4.24**	**315**	*eP*	**Pn**	**11 06 40.8**	**+2.8**
TPIG				*eS*	**Sn**	**11 07 30.2**	**+2.5**
FAME	**Alcaldia de Sa**	**4.36**	**111**	P	**Pn**	**11 06 43.1**	**+3.5**
PETF	**Flores**	**4.44**	**70**	*eP*	**Pn**	**11 06 42.4**	**+1.8**
PETF				*eS*	**Sn**	**11 07 33.0**	**+0.4**
PETF	**Flores**	**4.44**	**70**	*iP*	**Pn**	**11 06 42.7**	**+2.1**
PETF	**Flores**	**4.44**	**70**	P	**Pn**	**11 06 42.7**	**+2.1**
FTIG	**Fresnillo de T**	**4.49**	**304**	*eP*	**Pn**	**11 06 44.3**	**+2.8**
FTIG				*eS*	**Sn**	**11 07 31.3**	**-2.7**
SCIG	**Sabancuy**	**4.57**	**39**	*eP*	**Pn**	**11 06 43.5**	**+1.1**
SCIG				*eS*	**Sn**	**11 07 34.6**	**-1.1**
JAUV	**Jalcomulco**	**4.63**	**328**	*eP*	**Pn**	**11 06 44.5**	**+1.2**
JAUV				*eS*	**Sn**	**11 07 36.4**	**-1.0**
POHV	**Veracruz**	**4.66**	**322**	*eP*	**Pn**	**11 06 47.3**	**+3.2**
TLIG	**Tlapa**	**4.68**	**298**	*eP*	**Pn**	**11 06 46.3**	**+2.2**
TLIG				*eS*	**Sn**	**11 07 38.1**	**-0.6**
CEVE	**Cerro Verde**	**4.72**	**109**	P	**Pn**	**11 06 48.3**	**+3.5**
LVIG	**Laguna Verde**	**4.76**	**334**	*eP*	**Pn**	**11 06 45.4**	**+0.3**
LVIG				*eS*	**Sn**	**11 07 35.8**	**-4.8**
MTO3	**Montecristo**	**4.81**	**102**	P	Pn	11 06 50.9	+5.1
CRIG	**Cruz Grande**	**4.90**	**286**	*eP*	**Pn**	**11 06 47.3**	**+0.4**
CRIG				*eS*	Sn	11 07 35.5	-8.4
JAYA	**Jayaque - finc**	**4.94**	**110**	P	**Pn**	**11 06 50.6**	**+3.0**
PMON	**Piamonte**	**5.04**	**109**	P	**Pn**	**11 06 52.8**	**+3.8**
SARH	**Santa Rosa de**	**5.31**	**96**	P	**Pn**	**11 06 56.6**	**+4.0**
PPCL	**Tochimilco**	**5.45**	**310**	*eP*	**Pn**	**11 06 55.7**	**+1.0**
PPCL				*eS*	**Sn**	**11 07 57.6**	**-0.3**
PPSX	**Xalitzintla**	**5.48**	**312**	*eP*	**Pn**	**11 06 56.3**	**+1.0**
PPSX				*eS*	**Sn**	**11 07 57.8**	**-1.0**
PPPT	**Popocatepetl**	**5.49**	**311**	*eP*	**Pn**	**11 06 56.6**	**+1.1**
PPPT				*eS*	**Sn**	**11 07 58.1**	**-1.2**
CXUV	**Coxquihui**	**5.71**	**326**	*eP*	**Pn**	**11 06 58.7**	**+0.5**
CXUV				*eS*	**Sn**	**11 08 02.8**	**-1.2**
MEIG	**Mezcala**	**5.74**	**296**	*eP*	**Pn**	**11 06 59.1**	**+0.5**
MEIG				*eS*	**Sn**	**11 07 59.1**	**-5.7**
YAIG	**Yautepec**	**5.76**	**307**	*eP*	**Pn**	**11 07 00.0**	**+1.1**
YAIG				*eS*	**Sn**	**11 08 03.8**	**-1.5**
ARIG	**Puente Sto Nin**	**6.52**	**297**	*eP*	**Pn**	**11 07 11.2**	**+2.0**
ARIG				*eS*	**Sn**	**11 08 22.2**	**-1.6**
TEIG	**Tepich**	**7.41**	**49**	Pn	**Pn**	**11 07 21.4**	**0.0**
	baz=130,slow=24,SNR=75						
TEIG				Sn	**Sn**	**11 08 40.9**	**-4.8**
	baz=310,slow=24,SNR=8.7						
JTS	**Las Juntas de**	**10.37**	**118**	Pn	**Pn**	**11 08 03.3**	**+1.1**
	0.7nm,0.3s,baz=300,slow=17,SNR=4.3						
	1.5nm,0.3s						
TXAR	**Lajitas Array**	**16.36**	**329**	Pn	**Pn**	**11 09 24.0**	**+0.9**
	baz=147,slow=12,SNR=7.6						
	0.5nm,0.7s						
NVAR	**Mina Array Bea**	**31.23**	**322**	P	**P**	**11 11 54.1**	**+0.9**
	0.3nm,0.6s,baz=125,slow=6.8,SNR=2.3						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**60.70**	**337**	P	**P**	**11 15 47.2**	**+2.7**
	0.1nm,0.5s,baz=129,slow=7.1,SNR=5.0						
	0.1nm,0.5s						
ARCES	**ARCESS Array B**	**85.46**	**18**	P	**P**	**11 18 09.9**	**-1.0**
	2.8nm,1.0s,baz=284,slow=5.5,SNR=3.6						
	2.8nm,1.0s						

*INMG **29** 11:08:34.1±1.7, 37°.13N×5°.20W, h13km±4km, ML1.9, Error ellipse: s-maj=4.0km s-min=3.4km az=26.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
*SFS **29** 11:08:34.7, 37°.10N×5°.22W, h15km, ML2.4/8, ML2.4/8, MLv2.3/8*
MDD 29 11:08:34.1±0.5, **37°.14N×5°.26W, h11**km±1km, **mb_Lg2.1**/12, **Error ellipse: s-maj=5.5km s-min=3.0km az=10.0, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E1302	**La Puebla de C**	**0.01**	**102**	Pg	Pg	11 08 34.5	-1.5
E1302				Sg	Sg	11 08 38.0	+0.6
E1302				*i* IVmb_Lg		11 08 38.8	
ESPR	**Espera**	**0.55**	**241**	Pg	Pg	11 08 44.8	+0.1
ESPR	**Espera**	**0.55**	**241**	Pg	Pg	11 08 44.9	+0.2
ESPR				*i* IVmb_Lg		11 08 57.5	
EJIF	**Jimena Fronter**	**0.70**	**194**	Pg	Pg	11 08 47.4	-0.3
EMAL	**Malaga-Limoner**	**0.76**	**119**	Sg	Sg	11 08 56.5	-2.3
EMAL				Pg	Pg	11 08 48.7	-0.1
EGOR	**Sierra Gorda,**	**0.92**	**91**	Pg	Pg	11 08 50.8	-1.0
EGOR				Sg	Sg	11 09 02.7	-1.2
EGOR	**Sierra Gorda,**	**0.92**	**91**	Pg	Pb	11 08 52.0	-0.1
EGOR				*i* IVmb_Lg		11 09 01.5	
EGOR				Sg	Sb	11 09 04.3	-0.1
ECAB	**El Cabril**	**0.95**	**352**	Pg	Pg	11 08 52.1	-0.2
ECAB				Sg	Sb	11 09 05.9	+0.8
ECAB	**El Cabril**	**0.95**	**352**	Pg	Pg	11 08 51.8	-0.5
ECAB				*i* IVmb_Lg		11 09 00.9	
ECAB				Sg	Sg	11 09 04.5	-0.1
EADA	**Adamuz**	**1.16**	**28**	Pg	Pb	11 08 55.1	-1.2
EADA				Sg	Sn	11 09 12.4	+0.2
EADA	**Adamuz**	**1.16**	**28**	Pg	Pb	11 08 54.8	-1.4
EADA				*i* IVmb_Lg		11 09 05.3	
EADA				Sg	Sb	11 09 11.2	-0.2
EMIN	**Mina Concepcio**	**1.29**	**300**	Pn	Pn	11 08 57.0	-1.0
EMIN				Sn	Sb	11 09 15.0	+0.1
EMIN	**Mina Concepcio**	**1.29**	**300**	Pg	Pn	11 08 56.3	-1.8
EMIN				*i* IVmb_Lg		11 09 06.9	
EMIN				Sg	Sb	11 09 14.4	-0.5
ELGU	**Los Guajares,**	**1.33**	**101**	Pn	Pn	11 08 57.3	-1.4
ELGU	**Los Guajares,**	**1.33**	**101**	Pg	Pn	11 08 58.3	-0.5
ELGU				*i* IVmb_Lg		11 09 08.8	
ELGU				Sg	Sb	11 09 14.4	-1.9
EQTA	**Presa de Quent**	**1.45**	**87**	Pn	Pn	11 08 59.5	-0.9
EQUE	**Quentar**	**1.46**	**87**	Pg	Pn	11 08 59.2	-1.2
EQUE				*i* IVmb_Lg		11 09 08.9	
EQUE				Sg	Sn	11 09 17.7	-1.8
PBAR	**Barrancos**	**1.75**	**307**	*e*Pn	Pn	11 09 03.3	-1.1
PBAR				*i* IAML		11 09 30.2	
PBAR				*i* IAML		11 09 34.1	
EGRO	**El Granado**	**1.81**	**283**	Pn	Pn	11 09 03.4	-1.9
EQES	**Quesada**	**1.86**	**68**	Pg	Pn	11 09 05.9	-0.2
EQES				*i* IVmb_Lg		11 09 15.9	
EQES				Sg	Sb	11 09 32.2	+0.6
PVAQ	**Vaqueiros**	**1.98**	**279**	*e*Pn	Pn	11 09 06.1	-1.4
PVAQ				*e*Sg	Sg	11 09 38.4	+0.8
PVAQ				*i* IAML		11 09 40.4	
PSIM	**Granatula de C**	**2.06**	**35**	Pg	Pn	11 09 09.2	+0.5
EBAD	**Badajoz**	**2.13**	**320**	Pn	Pn	11 09 08.4	-1.2
EBAD				Sn	Sn	11 09 35.8	-0.2
EBAD	**Badajoz**	**2.13**	**320**	*i* IVmb_Lg		11 09 19.9	
EBAD				Sg	Sb	11 09 38.9	-0.2
PBDV	**Barranco-do-Ve**	**2.13**	**274**	*e*Pn	Pn	11 09 08.5	-1.2
PBDV				*e*Sg	Sg	11 09 42.0	-0.7
PBDV				*i* IAML		11 09 50.4	
PCVE	**Castro Verde**	**2.27**	**283**	*e*Pn	Pn	11 09 10.1	-1.4
PMRV	**Marv?o**	**2.84**	**324**	*e*Pn	Pn	11 09 18.7	-0.6
PSARD	**Sardoal**	**3.35**	**318**	*e*Pn	Pn	11 09 26.6	+0.1
PARRA	**Arraiolos**	**3.42**	**300**	*e*Pn	Pn	11 09 17.9	-10
PARRA				*e*Sg	Sn	11 10 00.4	-7.6

*IDC **29** 11:19:57.7±0.4, 11°.92N×73°.64W, h0km, mb4.7/26, mbtmp4.7/28, ML2.1/1, MS4.4/50, Error ellipse: s-maj=13.9km s-min=10.7km az=62.0*
*MOS **29** 11:19:59.3±1.1, 11°.95N×73°.69W, h18km, mb5.1/15, Error ellipse: s-maj=11.0km s-min=7.4km az=102.7*
*NEIC **29** 11:19:59.5, 11°.98N×73°.69W, h20km*
*NEIC **29** 11:19:59.7±2.4, 11°.97N±0°.04×73°.69W±0°.07, h10km±1km, mb5.2/54, Mww4.9/17, Error ellipse: s-maj=11.6km s-min=7.2km az=277.0*
*NEIC **29** 11:19:59.5, 11°.98N×73°.69W, h20km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^{16}Nm; M_{rr}1.18; $M_{\theta\theta}$-1.23; $M_{\phi\phi}$0.05; $M_{r\theta}$-2.10; $M_{\theta\phi}$-0.70; $M_{\phi r}$-0.44; Fault plane solution: M_o2.56000×10^{16} NP1:ϕs50.28000°, δ17.65000°, λ64.20000°. NP2:ϕs257.18000°, δ74.16000°, λ97.89000°. Principal axes: T 2.3970, Plg60.0000°, Azm178.0000°; N 0.2982, Plg8.0000°, Azm75.0000°; P -2.6952, Plg29.0000°, Azm341.0000°;*
*RSNC **29** 11:20:01.3±0.0, 12°.N±3°×7°.4W±°, h11km±3km, M4.9, mb5.5, mB5.5, ML4.5, Mw5.0, Mw(mB)5.0, MwMwp4.8, Mwp5.2*
*CATAC **29** 11:20:03.8±0.2, 12°.N±2°×7°.4W±°, h97km±11km, M4.9/20, mb5.2/20, mB5.3/19, MLv5.4/15, Mw(mB)4.7/19, MwMwp4.8/7, Mwp5.1/7, Error ellipse: s-maj=5.9km s-min=2.8km az=127.9, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-1.38; $M_{\theta\theta}$0.46; $M_{\phi\phi}$0.92; $M_{r\theta}$-0.90; $M_{\theta\phi}$0.16; $M_{\phi r}$0.17; Fault plane solution: M_o1.52971×10^{16} NP1:ϕs185.06928°, δ43.09672°, λ-122.83885°. NP2:ϕs46.54236°, δ54.96681°, λ-63.09692°. Principal axes: T 0.9835, Plg6.3392°, Azm117.7632°; N 0.7789, Plg21.7466°, Azm210.3030°; P -1.7624, Plg67.2566°, Azm12.3953°; confirmed*
*GCMT **29** 11:20:03.5±0.3, 12°.25N±0°.02×73°.89W±0°.02, h40km±1km, MW4.9/80, Moment Tensor Solution. s37,c47; s80,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.23±.16; $M_{\theta\theta}$-1.91±.11; $M_{\phi\phi}$-0.32±.12; $M_{r\theta}$-1.73±.08; $M_{\theta\phi}$-1.11±.08; $M_{\phi r}$~0.76±.08; Best double couple: M_o3.01900×10^{16} NP1:ϕs60.00000°, δ26.00000°, λ85.00000°. NP2: ϕs245.00000°, δ64.00000°, λ92.00000°. Principal axes: T 2.8960, Plg71.0000°, Azm160.0000°; N 0.2440, Plg2.0000°, Azm64.0000°; P -3.1430, Plg19.0000°, Azm333.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*VAO **29** 11:20:03.6±0.8, 11°.79N×73°.59W, h43km±6km, mb5.0*
ISC 29 11:20:01.3±1.1, **12°.00N**±0°.03×**73°.72W**±0°.03, **h26**km±8km, **n631**, σ1s**79**/627, **mb4.9**/79, **MS4.5**/54, **7C**, **Near north coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRC	**Santa Marta, M**	**0.96**	**211**		**Pn**	**11 20 18.1**	**-1.0**
SMRC	**Santa Marta, M**	**0.96**	**211**	P	**Pn**	**11 20 18.8**	**-0.4**
SMRC				S	**Sb**	**11 20 31.6**	**-0.1**
CRJC	**Cerrejon, Guaj**	**1.27**	**140**	P	**Pn**	**11 20 24.0**	**+0.5**
CRJC				S	**Sb**	**11 20 41.6**	**+0.9**
URIC	**Uribia, Colomb**	**1.72**	**100**	P	**Pn**	**11 20 30.6**	**+1.0**
URIC				S	**Sn**	**11 20 51.5**	**+0.8**
URI	**Uribia**	**1.72**	**100**	P	**Pn**	**11 20 30.8**	**+1.2**
URI				S	**Sn**	**11 20 52.7**	**+1.9**
ARGC	**Ariguani, Magd**	**2.19**	**194**	P	**Pn**	**11 20 37.0**	**+1.0**
ARGC				S	**Sn**	**11 21 05.2**	**+2.9**
SJCC	**San Jacinto, C**	**2.53**	**215**	P	**Pn**	**11 20 41.0**	**+0.2**
SJCC				S	**Sb**	**11 21 23.7**	**+6.9**
SJCC	**San Jacinto, C**	**2.53**	**215**	P	**Pn**	**11 20 41.0**	**+0.2**
SJCC				S	**Sn**	**11 21 13.3**	**+2.5**
OCAC	**Ocana**	**3.75**	**174**	P	**Pn**	**11 20 58.5**	**+0.8**
OCAC				S	**Sn**	**11 21 44.7**	**+3.5**
SDV	**Santo Domingo**	**4.33**	**135**		**Pn**	**11 21 06.2**	**+0.4**
SDV	**Santo Domingo**	**4.33**	**135**	Pn	**Pn**	**11 21 06.7**	**+0.9**
	101nm,0.3s,baz=320,slow=4.0,SNR=123						
SDV				Sn	**Sn**	**11 21 56.4**	**+0.8**
	98nm,0.3s,baz=313,slow=23,SNR=4.4						
SDV				LR	LR	11 23 25.3	
	comp=Z,14μm,18.3s,baz=346,slow=49						
SDV	**Santo Domingo**	**4.33**	**135**	*eP*	**Pn**	**11 21 06.6**	**+0.9**
SDV	**Santo Domingo**	**4.33**	**135**	P	**Pn**	**11 21 06.5**	**+0.7**
SDV				S	**Sn**	**11 21 57.9**	**+2.3**
UREC	**San Jos de Ur**	**4.58**	**203**	P	**Pn**	**11 21 11.3**	**+2.3**
UREC				S	**Sn**	**11 22 01.4**	**0.0**
PAMC	**Pamplona, Colo**	**4.74**	**168**	P	**Pn**	**11 21 11.6**	**+0.1**
PAMC				S	**Sn**	**11 22 08.5**	**+2.6**
APAC	**Apartado, Choc**	**4.95**	**215**	P	**Pn**	**11 21 16.5**	**+2.5**
APAC				S	**Sn**	**11 22 09.1**	**-1.4**
BRJC	**Barrancabermej**	**4.99**	**180**	P	**Pn**	**11 21 16.9**	**+2.3**
	13μm985nm,0.8s						
BRJC				S	**Sn**	**11 22 17.5**	**+6.0**
	13μm985nm,0.8s						
BARC	**Barichara**	**5.40**	**174**	P	**Pn**	**11 21 22.5**	**+2.1**
PTBC	**PUERTO BERRIO,**	**5.47**	**188**	P	**Pn**	**11 21 23.5**	**+2.3**
	5μm631nm,0.9s						
DBBC	**Dabeiba**	**5.52**	**207**	P	**Pn**	**11 21 23.4**	**+1.4**
DBBC				S	**Sn**	**11 22 24.0**	**-0.7**
HELC	**Santa Helena**	**6.04**	**197**	P	**Pn**	**11 21 32.9**	**+3.6**
HELC				S	**Sn**	**11 22 40.3**	**+2.5**
HELC	**Santa Helena**	**6.04**	**197**	P	**Pn**	**11 21 31.4**	**+2.1**
	4μm438nm,0.9s						
HELC				S	**Sn**	**11 22 38.7**	**+0.9**
	4μm438nm,0.9s						
RUSC	**La Rusia**	**6.10**	**174**		**Pn**	**11 21 29.7**	**-0.6**
RUSC	**La Rusia**	**6.10**	**174**	P	**Pn**	**11 21 30.9**	**+0.7**
RUSC	**La Rusia**	**6.10**	**174**	P	**Pn**	**11 21 32.3**	**+2.0**
	5μm4μm400nm,0.7s						
SPBC	**San Pablo de B**	**6.31**	**183**	P	**Pn**	**11 21 35.5**	**+2.6**
	6μm4μm437nm,0.5s						
SPBC				S	**Sn**	**11 22 48.0**	**+3.7**
	6μm4μm437nm,0.5s						
BAUV	**El Baul**	**6.36**	**118**		**Pn**	**11 21 33.1**	**-0.3**
CBOC	**Ciudad Bolivar**	**6.50**	**201**	P	**Pn**	**11 21 37.6**	**+2.1**
	4μm247nm,0.7s						
LGNH	**Logne**	**6.57**	**9**	P	**Pn**	**11 21 36.3**	**0.0**
PAPH	**Port-au-Prince**	**6.63**	**12**	*eP*	**Sn**	**11 22 45.3**	**-6.7**
PAPH	**Port-au-Prince**	**6.63**	**12**	P	**Pn**	**11 21 37.0**	**-0.2**
PAPH	**Port-au-Prince**	**6.63**	**12**	S	**Sn**	**11 22 49.4**	**-2.6**
BCIP	**Isla Barro Col**	**6.64**	**246**	P	Pn	11 21 45.1	+7.9
BCIP	**Isla Barro Col**	**6.64**	**246**	P	**Pn**	**11 21 35.3**	**-1.9**
	2μm350nm,0.7s						
BCIP				S	**Sn**	**11 22 45.0**	**-7.1**
	2μm350nm,0.7s						
HOJ	**Hope**	**6.65**	**334**	*i*P	**Pn**	**11 21 38.3**	**+0.9**
GWJ	**Greenwich**	**6.70**	**335**	*i*P	**Pn**	**11 21 38.6**	**+0.3**
STH	**Stony Hill**	**6.74**	**334**	*i*P	**Pn**	**11 21 38.9**	**+0.2**
SOLC	**Bahia Solano**	**6.79**	**213**	P	**Pn**	**11 21 41.4**	**+2.1**
GUY2C	**Guyana, Caldas**	**6.92**	**194**	P	**Pn**	**11 21 44.0**	**+2.4**
	3μm5μm678nm,0.8s						
ROSC	**El Rosal**	**7.13**	**185**	Pn	**Pn**	**11 21 46.6**	**+2.2**
ROSC	**El Rosal**	**7.13**	**185**	Pn	**Pn**	**11 21 45.6**	**+1.2**
	13nm,0.3s,baz=98,slow=9.1,SNR=23						
ROSC				Sn	**Sn**	**11 23 05.9**	**+1.0**
	baz=205,slow=21						
ROSC				LR	LR	11 24 38.0	
	comp=Z,2μm,21.3s,baz=357,slow=40						
ROSC	**El Rosal**	**7.13**	**185**	P	**Pn**	**11 21 46.6**	**+2.2**
ROSC	**El Rosal**	**7.13**	**185**	P	**Pn**	**11 21 48.3**	**+3.9**
	5μm4μm957nm,0.9s						
BANI	**BANI**	**7.14**	**27**		**Pn**	**11 21 41.4**	**-2.9**
MTDJ	**Mount Denham**	**7.20**	**330**		**Pn**	**11 21 44.6**	**-0.5**
MTDJ	**Mount Denham**	**7.20**	**330**	*eP*	**Pn**	**11 21 43.9**	**-1.3**
MTDJ	**Mount Denham**	**7.20**	**330**	*iP*	**Pn**	**11 21 45.1**	**0.0**
MTDJ	**Mount Denham**	**7.20**	**330**	P	**Pn**	**11 21 45.1**	**0.0**
MTDJ	**Mount Denham**	**7.20**	**330**	P	**Pn**	**11 21 45.3**	**+0.2**
	4μm4μm689nm,0.8s						
MTDJ				S	**Sn**	**11 23 00.8**	**-5.4**
	4μm4μm689nm,0.8s						
SDDR	**Presa de Saban**	**7.33**	**18**		**Pn**	**11 21 46.5**	**-0.4**
SDDR	**Presa de Saban**	**7.33**	**18**	*eP*	**Pn**	**11 21 47.3**	**+0.5**
SDDR	**Presa de Saban**	**7.33**	**18**	P	**Pn**	**11 21 47.4**	**+0.6**
SDDR				S	**Sn**	**11 23 05.5**	**-3.8**
SDDR	**Presa de Saban**	**7.33**	**18**	P	**Pn**	**11 21 46.4**	**-0.4**
	4μm6μm940nm,0.9s						
SDDR				S	**Sn**	**11 23 05.2**	**-4.1**
	4μm6μm940nm,0.9s						
SDD	**Santo Domingo**	**7.40**	**29**	P	**Pn**	**11 21 47.1**	**-0.6**
CVER	**Cruz Verde, Cu**	**7.43**	**183**	P	**Pn**	**11 21 51.7**	**+3.1**
	8μm712nm,0.6s						
PRVC	**Isla de Provid**	**7.58**	**281**	P	**Pn**	**11 21 50.1**	**-0.1**
PRVC	**Isla de Provid**	**7.58**	**281**	P	**Pn**	**11 21 46.6**	**-3.6**
	3μm1μm84nm,0.8s						
PRVC				S	**Sn**	**11 23 07.8**	**-7.6**
	3μm1μm84nm,0.8s						
SAIC	**Isla e San And**	**7.83**	**275**	P	**Pn**	**11 21 52.3**	**-1.3**
	87nm,1.1s						
PTGC	**Puerto Gaitan,**	**7.91**	**168**	P	**Pn**	**11 21 56.2**	**+1.5**
	6μm505nm,0.5s						
SC01	**Santiago de Io**	**7.93**	**21**		**Pn**	**11 21 55.1**	**+0.1**
DR12	**Loma Pena Alta**	**7.95**	**31**		**Pn**	**11 21 53.0**	**-2.2**
GTBY	**Guantanamo Bay**	**8.00**	**351**		**Pn**	**11 21 55.1**	**-0.8**
GTBY	**Guantanamo Bay**	**8.00**	**351**	*eP*	**Pn**	**11 21 53.8**	**-2.1**
GTBY	**Guantanamo Bay**	**8

553A IAmb IAmb 11 24 43.2
comp=Z,124nm,0.8s
CMIG Matias Romero 21.09 286 P P 11 24 44.3 +0.3
comp=Z,17nm,0.8s,baz=106,slow=11,SNR=6.3
CMIG LR LR 11 34 02.8
comp=Z,3µm,18.1s,baz=95,slow=40
comp=Z,17nm,0.8s
TIGA Tifton 21.39 336 P P 11 24 47.9 +0.9
CSU Charleston Sou 21.69 345 P P 11 24 50.9 +0.7
NHSC New Hope 21.83 345 P P 11 24 53.3 +1.6
MDP Montagnes des 21.93 106 P P 11 24 51.2 -1.9
comp=Z,50nm,0.8s,baz=286,slow=9.8,SNR=29
comp=Z,50nm,0.8s
352A Blakely 21.98 334 P P 11 24 54.6 +1.3
352A IAmb IAmb 11 24 56.6
comp=Z,145nm,0.9s
154A Montrose 22.26 339 P P 11 24 57.0 +0.7
Y58A Scranton 22.48 347 P P 11 24 59.2 +0.6
Y58A IAmb IAmb 11 25 01.7
comp=Z,125nm,0.9s
Y57A Sumter 22.75 346 P P 11 25 01.8 +0.2
Y57A IAmb IAmb 11 25 23.4
comp=Z,58nm,0.9s
PAULI Pauline 23.88 343 P P 11 25 14.2 +1.3
PAULI IAmb IAmb 11 25 16.3
comp=Z,46nm,0.9s
MAL2 Monte Alegre, 23.89 124 P P 11 25 10.6 -2.6
MAL2 IAmb IAmb 11 25 14.4
comp=Z,32nm,0.9s
NNA Nana 24.03 188 P P 11 25 15.0 +0.5
NNA IAmb IAmb 11 25 54.3
comp=Z,52nm,0.8s
NNA Nana 24.03 188 P P 11 25 14.3 -0.1
comp=Z,29nm,0.9s,baz=0.9,slow=8.1,SNR=8.5
comp=Z,29nm,0.9s
NNA Nana 24.03 188 *i* P **P 11 25 14.6 +0.2**
NNA pmax pmax
comp=Z,108nm,1.3s
ITTB Itaituba 24.17 131 *eP* **P 11 25 13.6 -2.2**
BG3 Lake Jocassee 24.37 341 P P 11 25 17.7 +0.3
BG3 IAmb IAmb 11 25 22.0
comp=Z,59nm,0.9s
X51A Calhoun 24.65 338 P P 11 25 21.8 +1.9
X51A IAmb IAmb 11 25 24.8
comp=Z,34nm,0.9s
V55A Taylorsville 24.70 345 P P 11 25 21.0 +0.6
W52A Murphy 24.79 340 P P 11 25 22.8 +1.5
W52A IAmb IAmb 11 25 25.4
comp=Z,66nm,0.9s
Z47A Carrollton 24.86 330 P P 11 25 22.3 +0.4
FPAL Fort Paine 24.91 336 P P 11 25 23.9 +1.5
TKL Tuckaleechee C 25.25 341 P P 11 25 26.5 +1.1
comp=Z,31nm,0.9s,baz=158,slow=11,SNR=28
TKL LR LR 11 36 27.6
comp=Z,2µm,18.3s,baz=168,slow=39
comp=Z,31nm,0.9s
W50A Signal Mountai 25.38 337 P P 11 25 27.9 +1.3
W50A IAmb IAmb 11 25 41.6
comp=Z,64nm,1.0s
X48A Hartselle 25.43 334 P P 11 25 28.5 +1.5
X48A IAmb IAmb 11 25 40.5
comp=Z,37nm,0.9s
U54A Nelsons Funny 25.49 345 P P 11 25 28.4 +0.9
U54A IAmb IAmb 11 25 43.0
comp=Z,58nm,0.9s
NPGB Novo Progresso 26.30 135 *eP* **P 11 25 32.6 -2.5**
V48A Smith Brothers 26.44 336 P P 11 25 36.1 -0.1
V48A IAmb IAmb 11 25 42.3
comp=Z,69nm,0.9s
HKT Hockley 27.21 314 *i* P **P 11 25 43.2 +0.1**
HKT pmax pmax
comp=Z,26nm,2.2s
VILB Vilhena 28.18 151 P P 11 25 49.6 -2.4
VILB IAmb IAmb 11 26 07.4
comp=Z,32nm,0.8s
VILB Vilhena 28.18 151 *eP* **P 11 25 50.9 -1.2**
LPAZ La Paz 28.64 169 P P 11 25 56.1 -0.6
comp=Z,10nm,0.6s,baz=335,slow=8.1,SNR=48
LPAZ LR LR 11 38 27.6
comp=Z,1µm,18.5s,baz=331,slow=39
comp=Z,10nm,0.6s
CLDB Colider 28.87 141 *eP* **P 11 25 55.3 -2.7**
PDRB Porto dos Gac 28.89 144 *eP* **P 11 25 55.6 -2.7**
TMAB Tom-Au,PA,Br 29.20 118 *eP* **P 11 25 60.0 -1.1**
PB18 Visviri 29.69 172 P P 11 26 03.8 -2.2
PB18 IAmb IAmb 11 26 04.4
comp=Z,41nm,0.8s
PRPB Parauapebas 29.85 126 *eP* **P 11 26 06.3 -0.6**
FW06 Azle 30.21 318 P P 11 26 11.1 +1.3
FW06 IAmb IAmb 11 26 12.8
comp=Z,18nm,0.8s
PB16 IPOC Station P 30.42 172 P P 11 26 09.8 -2.7
SIV San Ignacio 30.50 155 LR LR 11 39 41.5
comp=Z,4µm,18.3s,baz=334,slow=39
PTLB Pontes e Lacer 30.86 152 P P 11 26 13.3 -2.3
PTLB Pontes e Lacer 30.86 152 *eP* **P 11 26 13.4 -2.2**
GO01 Chusmiza 31.78 172 P P 11 26 21.8 -2.5
PB11 IPOC Station P 31.81 173 P P 11 26 21.0 -3.2
PB11 IAmb IAmb 11 26 24.5
comp=Z,30nm,0.8s
HMBC Humberstone 32.29 173 P P 11 26 25.7 -2.7
SNDB Serra Nova Dou 32.60 136 *eP* **P 11 26 28.7 -2.3**
CSTR Hydro, Custer 32.62 320 P P 11 26 32.0 +1.0
TXAR Lajitas Array 32.76 306 P P 11 26 33.6 +1.1
comp=Z,5.3nm,0.9s,baz=130,slow=7.9,SNR=46
TXAR PcP **PcP 11 29 18.6 +1.1**
comp=Z,0.9nm,0.9s,baz=109,slow=4.5,SNR=3.5
TXAR LR LR 11 43 16.5
comp=Z,125nm,18.4s,baz=159,slow=43
comp=Z,5.3nm,0.9s
PATCX Punta Patache 32.80 174 P P 11 26 30.7 -2.1
SALV Santo Antonio 32.96 147 *eP* **P 11 26 31.4 -2.8**
SADO Sadowa 32.99 353 LR LR 11 40 16.5
comp=Z,3µm,19.9s,baz=146,slow=37
SMTB Santa Maria do 33.23 127 *eP* **P 11 26 35.3 -1.3**
PP1B Ponte de Pedra 34.80 147 *eP* **P 11 26 48.6 -1.6**
ARAG Araguaiana, MT 35.04 141 *eP* **P 11 26 49.6 -2.6**
BDQN Bodoquena, MS 36.31 152 *eP* **P 11 27 01.2 -1.8**
PB14 IPOC Station P 36.54 175 P P 11 27 03.5 -1.9
PB14 IAmb IAmb 11 27 04.8
comp=Z,35nm,0.8s
LPIG La Paz 36.70 294 LR LR 11 43 45.5
comp=Z,930nm,18.3s,baz=130,slow=39
AQDB Aquidauana 36.82 151 *eP* **P 11 27 06.0 -1.4**
MURT Porto Murtinho 37.00 155 *eP* **P 11 27 06.3 -2.6**
GO02 Mina Guanaco 37.15 174 P P 11 27 08.8 -1.7
GO02 IAmb IAmb 11 27 09.8
comp=Z,26nm,0.8s
Y22D IRIS PASSCAL I 37.37 312 P P 11 27 13.5 +1.3
baz=118
BDFB Brasilia 37.44 137 P P 11 27 11.0 -1.9
comp=Z,19nm,0.7s,baz=303,slow=9.6,SNR=36
BDFB PcP **PcP 11 29 31.9 +0.5**
comp=Z,4.7nm,0.8s,baz=314,slow=13,SNR=2.6
BDFB LR LR 11 43 36.8
comp=Z,1µm,19.1s,baz=313,slow=38
comp=Z,19nm,0.7s
ANMO Albuquerque 37.45 313 LR LR 11 45 45.7
comp=Z,283nm,18.1s,baz=247,slow=41
ANMO Albuquerque 37.45 313 *i* P **P 11 27 15.1 +2.2**
ANMO pmax pmax
comp=Z,12nm,0.9s
SDBA SAO DESIDERIO 37.50 129 *eP* **P 11 27 11.6 -1.7**
AC02 Maricunga 38.86 173 P P 11 27 23.8 -1.3
AC02 IAmb IAmb 11 27 25.4
comp=Z,35nm,0.7s
IPMB Ipameri, GO 39.01 139 *eP* **P 11 27 23.8 -2.2**
ITRB Iturama 39.01 144 *eP* **P 11 27 24.3 -1.7**
AMBA Amambai (Brazi 39.26 152 *eP* **P 11 27 25.8 -2.2**
TUC Tucson 39.55 307 P P 11 27 33.2 +2.7
JANB Januaria 39.63 132 *eP* **P 11 27 28.9 -2.4**
TRCB Terra Rica 40.28 149 P P 11 27 33.8 -2.7
PMNB Patos De Minas 40.56 138 *eP* **P 11 27 36.9 -2.1**
SJPY San Joaquin 40.59 155 *eP* **P 11 27 36.3 -2.7**
LCO Las Campanas 40.87 176 P P 11 27 41.1 -0.5
BB19B Bebedouro 41.14 143 *eP* **P 11 27 42.3 -1.4**
CPUP Villa Florida 41.30 157 P P 11 27 40.2 -4.6
comp=Z,0.4nm,0.6s,baz=209,slow=11,SNR=3.6
CPUP LR LR 11 46 24.1
comp=Z,619nm,18.1s,baz=199,slow=38
LDASE Londrina, Braz 41.55 148 *eP* **P 11 27 44.9 -2.1**
RCBR Riachuelo 41.57 113 P P 11 27 47.4 +0.1
RCBR Riachuelo 41.57 113 LR LR 11 46 08.2
comp=Z,548nm,18.9s,baz=301,slow=38
RCBR Riachuelo 41.57 113 P P 11 27 47.4 +0.1
RCBR pmax pmax
comp=Z,118nm,1.3s
PTGB Pitanga 42.17 150 *eP* **P 11 27 49.5 -2.6**
DIAM Diamantina, MG 42.25 135 *eP* **P 11 27 50.2 -2.7**
ULM Lac du Bonnet 42.26 339 P P 11 27 53.0 +0.6
comp=Z,56nm,0.9s,baz=140,slow=8.3,SNR=35
ULM LR LR 11 46 43.1
comp=Z,2µm,18.1s,baz=144,slow=38
comp=Z,56nm,0.9s
FRTB Fartura 42.34 146 *eP* **P 11 27 51.5 -1.9**
RCLB Rio Claro- Sao 42.77 143 *eP* **P 11 27 55.7 -1.2**
NBAN Anadia - AL 42.99 118 *eP* **P 11 27 58.0 -0.9**
SCHQ Schefferville 43.08 6 P P 11 28 00.7 +1.7
comp=Z,157nm,0.5s,baz=188,slow=7.3,SNR=28
SCHQ LR LR 11 46 59.3
comp=Z,5µm,18.4s,baz=152,slow=38
BSCB Bom Sucesso 43.41 139 *eP* **P 11 27 60.0 -2.3**
CMC01 Camacan, BA 43.42 128 *eP* **P 11 28 00.6 -1.7**
VAO Valinhos 43.55 143 *eP* **P 11 28 01.8 -1.5**
PDAR Pinedale Array 43.63 321 P P 11 28 05.2 +1.2
comp=Z,10nm,0.8s,baz=118,slow=9.7,SNR=64
PDAR PcP **PcP 11 29 51.7 +0.6**
comp=Z,4.2nm,0.7s,baz=122,slow=5.5,SNR=9.0
comp=Z,10nm,0.8s
SPB Sao Paulo 43.73 144 *eP* **P 11 28 02.8 -1.8**
GUA01 Guaratinga, BA 43.94 130 *eP* **P 11 28 04.8 -1.7**
PET01 Itanhaem-SP 44.36 144 *eP* **P 11 28 08.4 -1.4**
PFO Pinyon Flats O 44.48 306 LR LR 11 50 21.7
comp=Z,778nm,18.4s,baz=154,slow=41
PFO Pinyon Flats O 44.48 306 *i* P **P 11 28 12.5 +1.7**
PFO pmax pmax
comp=Z,14nm,1.1s
VAS01 Vassouras-RJ 45.19 139 *eP* **P 11 28 14.4 -2.0**
RIB01 Linhares ES 45.24 133 *eP* **P 11 28 14.9 -1.9**
DUB01 Friburgo-RJ 45.74 138 *eP* **P 11 28 19.2 -1.6**
ELK Elko 46.30 316 P P 11 28 27.3 +2.1
CPSB Cacapava Do Su 46.46 156 *eP* **P 11 28 23.2 -3.0**
NVAR Mina Array Bea 47.53 312 P P 11 28 36.1 +1.2
comp=Z,6.6nm,0.8s,baz=123,slow=7.3,SNR=39
NVAR PcP **PcP 11 30 06.0 +1.2**
comp=Z,2.5nm,0.7s,baz=137,slow=4.5,SNR=4.7
NVAR LR LR 11 52 32.8
comp=Z,499nm,18.8s,baz=130,slow=41
comp=Z,6.6nm,0.8s
PLTB Pedras Altas 47.59 157 *eP* **P 11 28 32.3 -2.8**
FFC Flin Flon 48.07 338 P P 11 28 38.3 -0.2
BMO Blue Mountains 49.51 320 P P 11 28 51.5 +1.6
NEW Newport 51.05 324 LR LR 11 53 06.0
comp=Z,884nm,18.1s,baz=126,slow=39
FRB Frobisher Bay 51.80 3 LR LR 11 51 29.9
comp=Z,360nm,19.4s,baz=164,slow=36
YBH Yreka Blue Hor 51.86 314 LR LR 11 55 31.2
comp=Z,20nm,18.2s,baz=146,slow=41
LR05 Currie 51.98 178 P P 11 29 07.6 -0.7
RPN Rapa Nui 52.03 221 LR LR 11 47 21.4
comp=Z,228nm,21.3s,baz=48,slow=32
PLCA Paso Flores 52.54 177 P P 11 29 12.2 -0.4
PLCA IAmb IAmb 11 29 13.9
comp=Z,26nm,0.9s
PLCA Paso Flores 52.54 177 P P 11 29 12.1 -0.5
comp=Z,23nm,0.8s,baz=353,slow=9.2,SNR=59
comp=Z,23nm,0.8s
PLCA Paso Flores 52.54 177 P P 11 29 12.2 -0.4
PLCA pmax pmax
comp=Z,26nm,0.9s
LL02 Futaleuf 54.94 178 P P 11 29 29.0 -1.0
SFJD Kangerlussuaq 57.07 11 LR LR 11 54 13.4
comp=Z,445nm,19.1s,baz=208,slow=36
YKA Yellowknife Ar 58.24 339 P P 11 29 54.0 +0.7
comp=Z,19nm,0.8s,baz=132,slow=6.3,SNR=36
YKA LR LR 11 56 20.3
comp=Z,1µm,18.0s,baz=138,slow=37
comp=Z,19nm,0.8s
YKA Yellowknife Ar 58.24 339 P P 11 29 54.0 +0.7
BBB Bella Bella 59.10 324 LR LR 11 57 20.7
comp=Z,277nm,18.6s,baz=144,slow=38
TOAD Toad River Com 60.46 332 P P 11 30 10.3 +1.5
baz=118,SNR=8.3
KOTAN Kotaneelee Air 60.57 334 P P 11 30 10.8 +1.4
baz=120
LIRD Liard River Hi 61.12 332 P P 11 30 14.8 +1.6
baz=118
WRGLY Wrigley 61.93 337 P P 11 30 19.7 +1.1
baz=122,SNR=6.6
T35M Bob Quinn 62.08 329 P P 11 30 21.7 +2.0
baz=112,SNR=5.4
V35K Ketchikan 62.18 327 P P 11 30 22.2 +1.8
baz=110
DLBC Dease Lake 62.54 330 LR LR 11 59 50.3
comp=Z,11µm,18.2s,baz=83,slow=38
DLBC Dease Lake 62.54 330 P P 11 30 24.3 +1.5
baz=114,SNR=10
WTLY Watson Lake, Y 62.66 332 P P 11 30 25.0 +1.5
baz=115,SNR=8.2
S34M Telegraph Cree 62.87 330 P P 11 30 26.6 +1.7
baz=112,SNR=8.8
PARRA Arraiolos 62.88 53 *eP* P 11 30 33.5 +8.1
WRAK Wrangell Islan 62.95 328 P P 11 30 27.1 +1.6
baz=110
CRAG Craig 63.04 327 P P 11 30 27.4 +1.4
baz=109
TGTN Hyland Airport 63.05 334 P P 11 30 27.9 +1.8
baz=117,SNR=7.0
U33K Whale Pass 63.25 327 P P 11 30 29.0 +1.5
baz=109
R33M Jennings River 63.37 331 P P 11 30 29.6 +1.2
baz=113
MESJ Messejana 63.43 54 *eP* **P 11 30 31.0 +2.0**
PMTG Montargil 63.54 52 *eP* **P 11 30 32.0 +2.2**
EVO Evora 63.65 53 *eP* **P 11 30 32.5 +2.0**
BORG Borgarnes 63.73 22 LR LR 11 54 32.5
comp=Z,69nm,21.6s,baz=239,slow=32
RES Resolute Bay 63.80 354 LR LR 11 58 43.1
comp=Z,307nm,20.2s,baz=160,slow=36
Q32M Nakina River 63.82 330 P P 11 30 33.0 +1.5
baz=112,SNR=7.8
PESTR Estremoz 64.02 53 *eP* **P 11 30 34.7 +1.7**
PESTR *i* IAmb IAmb 11 30 51.2
comp=Z,29nm,1.8s
SUMG Summit 64.05 11 P P 11 30 33.2 +0.2
SUMG Summit 64.05 11 P P 11 30 33.2 +0.2
SUMG pmax pmax
comp=Z,31nm,0.9s
SUMG Summit 64.05 11 *i* P **P 11 30 33.0 0.0**
POLO Lamas de Olo 64.13 50 *eP* **P 11 30 36.1 +2.4**
PVRL Vila Real 64.18 50 *eP* **P 11 30 36.0 +2.0**
PVRL *i* IAmb IAmb 11 30 44.1
comp=Z,51nm,1.6s
P33M Teslin, Yukon 64.54 332 P P 11 30 37.5 +1.4
baz=112,SNR=6.0
R32K Eaglecrest 64.69 329 P P 11 30 38.6 +1.7
baz=109
SIT Sitka 64.71 328 P P 11 30 38.8 +1.8
baz=108
P32M Atlin 64.74 331 P P 11 30 38.8 +1.5
baz=110
MMPY Sheldon Lake, 64.79 334 P P 11 30 39.1 +1.5
baz=114
N32M Quiet Lake 65.01 333 P P 11 30 40.7 +1.6
baz=112,SNR=13
S31K Pelican 65.45 329 P P 11 30 43.2 +1.4
baz=107
SKAG Skagway 65.47 330 P P 11 30 43.7 +1.8
baz=109,SNR=7.2
WHY Whitehorse 65.66 332 P P 11 30 45.0 +1.7
baz=110
PLBC Pleasant Camp 65.97 330 P P 11 30 46.8 +1.6
baz=108
M31M Drury Creek, Y 65.98 333 P P 11 30 46.9 +1.6
baz=111,SNR=12
MDT Midett 66.10 59 LR LR 11 56 15.6
comp=Z,90nm,20.2s,baz=284,slow=33
O30N Mendenhall 66.26 332 P P 11 30 49.0 +1.9
baz=109,SNR=10
N31M Braeburn, Yuko 66.35 332 P P 11 30 49.4 +1.8
baz=109,SNR=18
P30M Million Dollar 66.46 331 P P 11 30 50.3 +1.9
baz=108
NEEM North Greenlan 66.48 5 *i* P **P 11 30 49.3 +0.7**
P29M Windy Craggy 66.69 330 P P 11 30 49.8 0.0
P29M Windy Craggy 66.69 330 P P 11 30 51.7 +1.8
baz=107
ESDC Sonseca Array 66.89 52 P P 11 30 52.0 +0.4
comp=Z,2.8nm,1.0s,baz=273,slow=6.1,SNR=11
ESDC LR LR 11 58 49.9
comp=Z,51nm,18.4s,baz=264,slow=35
comp=Z,2.8nm,1.0s
HYT Haines Junctio 66.93 331 P P 11 30 53.5 +2.0
baz=107,SNR=6.9
N30M Aishikik Lake 66.93 332 P P 11 30 53.5 +2.1
baz=108,SNR=12
MAYO Mayo, Yukon 67.11 335 P P 11 30 54.4 +1.9
baz=110,SNR=6.2
M30M Minto, Yukon 67.16 333 P P 11 30 54.4 +1.6
baz=109,SNR=31
O29M Mount Kennedy 67.29 331 P P 11 30 55.5 +1.8
baz=106,SNR=10
H31M Peel River 67.29 337 P P 11 30 55.0 +1.4
baz=112,SNR=6.2
A36M Sachs Harbour 67.31 345 P P 11 30 54.3 +0.8
baz=124,SNR=6.7
YUK6 Outpost Mounta 67.37 331 P P 11 30 56.7 +2.3
baz=107,SNR=5.6
PNL Peninsula 67.51 330 P P 11 30 56.6 +1.5
baz=105
YUK4 Talbot Arm 67.61 332 P P 11 30 57.5 +1.6
baz=107,SNR=13
J30M Hart River 67.63 336 P P 11 30 57.2 +1.3
baz=110
G31M Satah River 67.70 338 P P 11 30 57.5 +1.4
baz=113,SNR=10.0
F31M Tsiigehtchic 67.72 339 P P 11 30 57.3 +1.2
baz=114,SNR=12
M29M Somme Creek 67.85 333 P P 11 30 58.8 +1.5
baz=107,SNR=17
I30M Mount Dempster 67.87 336 P P 11 30 58.0 +0.7
baz=110,SNR=7.1
K29M Barlow Dome 67.88 335 P P 11 30 58.5 +1.1
baz=109,SNR=12
L29M L29M 67.91 334 P P 11 30 58.9 +1.3
baz=108,SNR=6.7
INK Inuvik 68.00 340 LR LR 12 02 10.2
comp=Z,1µm,18.1s,baz=98,slow=37
INK Inuvik 68.00 340 P P 11 30 59.3 +1.4
INK Inuvik 68.00 340 P P 11 30 59.2 +1.4
baz=114,SNR=11
DBIC Dimbokro 68.02 88 P P 11 30 59.5 +0.5
comp=Z,8.7nm,0.8s,baz=318,slow=8.1,SNR=7.0
DBIC LR LR 11 58 51.9
comp=Z,94nm,19.8s,baz=305,slow=34
comp=Z,8.7nm,0.8s
PINM Pinnacle 68.04 330 P P 11 30 59.8 +1.3
baz=105
YUK8 Steele Glacier 68.12 332 P P 11 31 00.4 +1.3
baz=106,SNR=10
O28M Mount Upton 68.18 331 P P 11 31 01.9 +2.3
baz=105,SNR=7.3
J29N Klondike Camp 68.36 335 P P 11 31 01.9 +1.6
baz=108
EPYK Eagle Plains 68.40 337 P P 11 31 02.1 +1.5
baz=110,SNR=8.8
G30M tAoh Zraii Nji 68.44 338 P P 11 31 02.0 +1.3
baz=111
F30M Barrier River 68.51 339 P P 11 31 02.8 +1.6
baz=112,SNR=17
I29M Ogilvie Camp, 68.68 336 P P 11 31 04.0 +1.7
baz=108
DAWY Dawson 68.73 335 P P 11 31 03.8 +1.1
baz=107,SNR=7.8
CTG Chitna Glacier 68.78 331 P P 11 31 05.2 +2.1
baz=104,SNR=11
MESA MESA 68.88 330 P P 11 31 04.8 +0.9
baz=103
H29M Whitestone 68.98 337 P P 11 31 05.7 +1.6
baz=109,SNR=18
G29M Pine Creek 69.08 338 P P 11 31 06.2 +1.5
baz=109,SNR=15
EKA Eskdalemuir Ar 69.17 35 P P 11 31 06.3 +0.8
comp=Z,12nm,1.0s,baz=257,slow=4.9,SNR=8.9
comp=Z,12nm,1.0s
TAOE Nuku Hiva Isla 69.20 256 *e*S **S 11 40 05.1 -6.4**
comp=Z,33nm,26.2s
TAOE Nuku Hiva Isla 69.20 256 *e*LR LR 11 52 06.6
comp=Z,123nm,21.9s
RKT Rikitea 69.35 240 *e*LR LR 11 52 21.7
comp=Z,3µm,38.8s
I28M Miner Creek 69.36 336 P P 11 31 07.8 +1.2
baz=107,SNR=18
M27K Edge Creek, AK 69.36 332 P P 11 31 09.0 +2.2
baz=104,SNR=14
L27K Beaver Creek, 69.51 333 P P 11 31 09.6 +2.0
baz=104,SNR=25
E29M Blow River 69.53 339 P P 11 31 08.9 +1.4
baz=110,SNR=18
CRQE Cirque 69.56 331 P P 11 31 10.3 +2.3
baz=102,SNR=5.8
MCARA McCarthy VSAT 69.67 331 P P 11 31 09.9 +1.5
baz=102,SNR=7.8
EGAK Eagle 69.67 335 P P 11 31 10.3 +1.9
baz=106
K27K Chicken 69.86 334 P P 11 31 11.4 +1.8
baz=104
M26K Nabesna, AK 69.88 332 P P 11 31 11.4 +1.6
baz=103,SNR=9.6
F28M Old Crow 69.98 338 P P 11 31 11.7 +1.4
baz=108,SNR=16
KAIM Kayak Island 70.04 330 P P 11 31 12.0 +1.3
baz=101
I27K Kandik River 70.07 336 P P 11 31 12.6 +1.6
baz=105,SNR=19
D28M Stokes Point 70.14 340 P P 11 31 12.4 +1.2
baz=109
E28M Babbage River 70.17 339 P P 11 31 12.2 +0.8
baz=108,SNR=28
H27K Steamboat Moun 70.21 336 P P 11 31 12.9 +1.1
baz=106,SNR=9.8
BMRM Bremner River 70.33 331 P P 11 31 14.7 +2.0
baz=101,SNR=6.4
G27K Doyon Strip 70.41 337 P P 11 31 13.9 +0.9
baz=106,SNR=10
N25K Chitina, Valde 70.45 331 P P 11 31 15.0 +1.7
baz=101,SNR=6.0
J26L Joseph Creek 70.60 334 P P 11 31 15.0 +0.7
baz=103
I26K Coal Creek Min 70.62 335 P P 11 31 15.3 +1.0
baz=104
SCRK Sand Creek 70.67 334 P P 11 31 16.5 +1.9
baz=103,SNR=17
DAG Danmarks Havn 70.73 12 P P 11 31 15.1 +0.4
JMIC Jan Mayen 70.76 18 LR LR 11 59 09.8
comp=Z,58nm,21.5s,baz=246,slow=33
E27K Coleen River 70.77 338 P P 11 31 16.6 +1.5
baz=106,SNR=24
EYAK Cordova Ski Ar 70.81 330 P P 11 31 16.9 +1.5
baz=100
D27M Malcolm River 70.86 340 P P 11 31 17.0 +1.2
baz=107,SNR=15
HARP HAARP 70.86 332 P P 11 31 17.7 +1.9
baz=101
RIDG Independent Ri 70.99 334 P P 11 31 18.3 +1.8
baz=102
KLU Klutina 71.05 331 P P 11 31 18.7 +1.7
baz=100,SNR=7.4
PAX Paxson 71.11 333 P P 11 31 19.0 +1.6
baz=101,SNR=11
G26K Porcupine Rive 71.26 337 P P 11 31 19.1 +1.0
baz=104
M24K Tolsona, Glenn 71.28 332 P P 11 31 19.5 +1.2
baz=100
J25K Salcha River, 71.39 334 P P 11 31 20.2 +1.2
baz=102,SNR=8.0
GLI Glacier Island 71.51 330 P P 11 31 20.9 +1.2
baz=99
P23K Montague Islan 71.54 329 P P 11 31 21.1 +1.2
baz=98
F26K Sheenjek River 71.58 338 P P 11 31 21.4 +1.3
baz=104,SNR=8.9
PRP Porcupine Dome 71.64 335 P P 11 31 21.7 +1.1
baz=102,SNR=9.5
SCM Sheep Creek Mo 71.77 331 P P 11 31 23.2 +1.8
baz=99,SNR=6.9
C27K Jago River 71.90 340 P P 11 31 23.3 +1.4
baz=105,SNR=14
H25L Birch Creek 71.91 336 P P 11 31 23.2 +1.2
baz=102
M23K Glacier View 71.95 331 P P 11 31 23.9 +1.5
baz=98,SNR=13
DHY Denali Highway 71.99 333 P P 11 31 23.6 +0.9
baz=99,SNR=6.8
HDA Harding Lake 72.02 334 P P 11 31 23.5 +0.8
baz=100
ILAR Eielson Array 72.06 334 P P 11 31 23.6 +0.6
comp=Z,2.7nm,0.8s,baz=109,slow=4.4,SNR=27
ILAR PP **PP 11 34 02.9 -0.1**
comp=Z,1.2nm,0.8s,baz=99,slow=7.9,SNR=6.8

ILAR LR LR 12 04 42.4
comp=Z,989nm,19.3s,baz=90,slow=37
comp=Z,2.7nm,0.8s
WAT6 Susitna Watana 72.08 332 P **P** **11 31 24.6 +1.3**
baz=99,SNR=12
PWL Port Wells 72.11 330 P **P** **11 31 24.7 +1.4**
baz=98
F25K Christian Rive 72.11 337 P **P** **11 31 24.2 +0.9**
baz=102,SNR=14
G25K Bearman Lake 72.12 337 P **P** **11 31 24.5 +1.2**
baz=102
E25K Arctic Village 72.20 338 P **P** **11 31 25.0 +1.3**
baz=102,SNR=9.0
SML Sawmill 72.24 331 P **P** **11 31 25.5 +1.4**
baz=98,SNR=5.1
KNK Knik Glacier 72.25 331 P **P** **11 31 25.7 +1.6**
baz=98
POKR Poker Plat Res 72.35 335 P **P** **11 31 25.8 +1.1**
baz=100
C26K Camden Bay 72.38 340 P **P** **11 31 26.3 +1.6**
baz=104,SNR=7.7
WAT1 Susitna Watana 72.48 332 P **P** **11 31 26.7 +1.2**
baz=98
COLA College 72.48 334 *i* P **P** **11 31 26.1 +0.7**
COLA pmax pmax
comp=Z,8.0nm,0.9s
COLA College 72.48 334 P **P** **11 31 27.0 +1.6**
baz=99
SEW Seward 72.57 329 P **P** **11 31 26.8 +0.8**
baz=96
PMR Palmer 72.59 331 P **P** **11 31 27.3 +1.2**
baz=97,SNR=6.4
G24K Hadweenzic Riv 72.64 336 P **P** **11 31 27.9 +1.5**
baz=100
H24K Noodoo Dome 72.65 335 P **P** **11 31 27.8 +1.3**
baz=100,SNR=12
D25K Kavik River 72.74 339 P **P** **11 31 28.3 +1.3**
baz=102,SNR=21
O22K Cooper Landing 72.75 330 P **P** **11 31 28.3 +1.2**
baz=96
MCK McKinley 72.78 333 P **P** **11 31 28.6 +1.3**
baz=98
RC01 Rabbit Creek A 72.82 330 P **P** **11 31 29.0 +1.4**
baz=96
F24K Squaw Lake 72.94 337 P **P** **11 31 29.5 +1.3**
baz=100,SNR=16
NEA2 Nenana 72.96 334 P **P** **11 31 29.4 +1.1**
baz=98,SNR=6.0
M22K Willow 73.08 331 P **P** **11 31 30.4 +1.4**
baz=96
I23K Minto, Yukon-K 73.16 335 P **P** **11 31 30.6 +1.1**
baz=98,SNR=7.8
BRSE Bradley Lake S 73.18 329 P **P** **11 31 30.9 +1.2**
baz=95
CUT Chulitna 73.22 332 P **P** **11 31 31.2 +1.4**
baz=96,SNR=8.1
E24K Your Creek 73.26 338 P **P** **11 31 31.6 +1.5**
baz=100
H23K Yukon River 73.33 335 P **P** **11 31 31.7 +1.2**
baz=98
SUA Susitna One 73.34 331 P **P** **11 31 32.0 +1.3**
baz=96
TORD Torodi Ar. Bea 73.34 80 P **P** **11 31 31.8 +0.3**
comp=Z,1.7nm,0.5s,baz=294,slow=6.8,SNR=16
TORD LR LR 12 04 48.6
comp=Z,179nm,18.4s,baz=290,slow=37
comp=Z,1.7nm,0.5s
TRF Thorofare Moun 73.34 333 P **P** **11 31 32.3 +1.5**
baz=97,SNR=9.6
CAPN Captain Cook N 73.47 330 P **P** **11 31 32.6 +1.2**
baz=95
D24K Happy Valley 73.57 339 P **P** **11 31 33.0 +1.2**
baz=100
C24K Franklin Bluff 73.62 339 P **P** **11 31 33.6 +1.6**
baz=100,SNR=12
HOM Homer 73.63 329 P **P** **11 31 33.6 +1.3**
baz=94
G23K Bananza Creek 73.64 336 P **P** **11 31 33.7 +1.4**
baz=98
E23K Chandalar 73.68 338 P **P** **11 31 34.0 +1.4**
baz=99,SNR=6.1
MLY Manley 73.72 334 P **P** **11 31 34.0 +1.2**
baz=97
BPAW Bear Paw Mtn. 73.72 333 P **P** **11 31 34.1 +1.2**
baz=96,SNR=16
TOLK Toolik Lake Re 73.75 338 P **P** **11 31 34.0 +1.0**
baz=99
SKT Skwentna 73.76 331 P **P** **11 31 34.4 +1.2**
baz=95,SNR=5.2
COLD Coldfoot 73.78 337 P **P** **11 31 34.4 +1.3**
baz=98,SNR=6.0
Q20K Shuyak Island 73.94 328 P **P** **11 31 35.2 +1.0**
baz=93
KDAK Kodiak Island 74.00 327 LR LR 12 06 17.0
comp=Z,479nm,18.3s,baz=74,slow=38
KDAK Kodiak Island 74.00 327 *i* P **P** **11 31 34.7 +0.2**
KDAK pmax pmax
comp=Z,13nm,0.9s
KDAK Kodiak Island 74.00 327 P **P** **11 31 35.9 +1.4**
baz=93
SPCR Spurr Chakacha 74.02 330 P **P** **11 31 35.8 +1.1**
baz=94
H22K Ishtalitna Cre 74.08 335 P **P** **11 31 36.0 +1.1**
baz=96
O20K Slope Mountain 74.15 329 P **P** **11 31 36.5 +1.1**
baz=94
D23K Nanushuk River 74.20 339 P **P** **11 31 37.0 +1.5**
baz=98,SNR=6.0
G22K Bettles 74.25 336 P **P** **11 31 37.1 +1.3**
baz=96
I21K Tanana 74.26 335 P **P** **11 31 37.1 +1.2**
baz=96
CHUM Lake Minchumin 74.29 333 P **P** **11 31 37.3 +1.3**
baz=95,SNR=6.7
C23K Itkillik River 74.30 339 P **P** **11 31 37.3 +1.3**
baz=98,SNR=13
OHAK Old Harbor 74.35 326 P **P** **11 31 37.6 +1.0**
baz=92
P19K Oil Pt 74.43 329 P **P** **11 31 38.2 +1.1**
baz=93
E22K Anaktuvuk Pass 74.51 338 P **P** **11 31 38.3 +0.9**
baz=96
M20K Styx River 74.51 331 P **P** **11 31 38.5 +0.9**
baz=94,SNR=11
F22K John River 74.58 337 P **P** **11 31 38.8 +1.0**
baz=96
Q19K Cape Douglas, 74.61 328 P **P** **11 31 39.0 +0.8**
baz=92
H21K Melozitna Rive 74.65 335 P **P** **11 31 39.2 +1.0**
baz=95
L20K Farewell, AK 74.90 332 P **P** **11 31 40.8 +1.1**
baz=93
D22K Ayikyak River 74.91 338 P **P** **11 31 40.8 +1.2**
baz=96,SNR=6.2
R18K Karluk 75.00 327 P **P** **11 31 41.2 +0.9**
baz=91
G21K Allakaket 75.00 336 P **P** **11 31 40.9 +0.6**
baz=94
O19K Port Alsworth 75.00 329 P **P** **11 31 41.0 +0.7**
baz=92
K20K Telida 75.03 333 P **P** **11 31 41.7 +1.2**
baz=93,SNR=6.8
F21K Alatna River 75.05 337 P **P** **11 31 41.8 +1.3**
baz=95,SNR=6.2
M19K Big River Lodg 75.11 331 P **P** **11 31 42.1 +1.1**
baz=92
N19K Bonanza Creek 75.11 330 P **P** **11 31 41.6 +0.6**
baz=92
J20K Nowinta River 75.11 333 P **P** **11 31 42.0 +1.1**
baz=93,SNR=26
I20K Naaghedeneel 75.29 334 P **P** **11 31 43.2 +1.3**
baz=93
B22K Teshekpuk Lake 75.31 340 P **P** **11 31 43.3 +1.5**
baz=96,SNR=5.6
Q18K Katmai Hardscr 75.31 328 P **P** **11 31 43.5 +1.2**
baz=91
L19K White Mountain 75.34 331 P **P** **11 31 43.5 +1.2**
baz=92,SNR=5.4
E21K Killik River 75.34 338 P **P** **11 31 43.6 +1.5**
baz=95
O18K Koktuh Hills 75.44 329 P **P** **11 31 44.1 +1.2**
baz=91
P18K Big Mountain, 75.44 328 P **P** **11 31 44.1 +1.2**
baz=91
H20K Anotleneega Mo 75.50 335 P **P** **11 31 44.3 +1.2**
baz=93
B21K Ikpikpuk River 75.66 339 P **P** **11 31 44.8 +1.0**
baz=94,SNR=8.0

C21K Knifeblade Rid 75.69 339 P **P** **11 31 45.3 +1.2**
baz=94
J19K Poorman 75.75 333 P **P** **11 31 45.5 +0.9**
baz=92
Q17K Contact Creek 75.77 327 P **P** **11 31 46.0 +1.1**
baz=90
M18K Stony River 75.78 331 P **P** **11 31 45.9 +1.1**
baz=91
N18K Kilae Creek 75.79 330 P **P** **11 31 46.0 +1.1**
baz=91
A22K Sinclair Lake 75.89 341 P **P** **11 31 46.6 +1.5**
baz=94
F20K Avaraart Lake 75.92 336 P **P** **11 31 46.7 +1.3**
baz=93,SNR=6.8
R17L Mt. Peulik Vol 76.02 327 P **P** **11 31 47.4 +1.1**
baz=90
P17K Kvichak River 76.06 328 P **P** **11 31 47.6 +1.3**
baz=90
E20K Nigu River 76.15 338 P **P** **11 31 48.1 +1.3**
baz=92
H19K Roundabout Mou 76.15 335 P **P** **11 31 48.4 +1.6**
baz=92,SNR=8.8
Q16K King Salmon 76.17 328 P **P** **11 31 48.6 +1.6**
baz=90
L18K Granite Mounta 76.20 331 P **P** **11 31 48.8 +1.7**
baz=90
J18K Innoko River 76.22 333 P **P** **11 31 48.7 +1.4**
baz=91
GCSA Galena City Sc 76.32 334 P **P** **11 31 49.2 +1.5**
baz=91
D20K Etivluk River 76.32 338 P **P** **11 31 48.8 +1.0**
baz=92
KONO Kongsberg 76.37 31 *i* P **P** **11 31 48.6 +0.5**
KONO pmax pmax
comp=Z,6.0nm,0.9s
O17K Koliganek Bris 76.39 329 P **P** **11 31 49.6 +1.4**
baz=90
N17K Nushagak Hills 76.43 330 P **P** **11 31 49.3 +0.8**
baz=90
A21K Barrow 76.44 341 P **P** **11 31 49.6 +1.4**
baz=93
E19K Redstone River 76.52 337 P **P** **11 31 49.8 +1.0**
baz=91
M17K Holitna River 76.55 331 P **P** **11 31 50.2 +1.0**
baz=90
B20K Meade River 76.56 339 P **P** **11 31 50.1 +1.1**
baz=92
R16K Pilot Point 76.68 327 P **P** **11 31 50.5 +0.6**
baz=89
F19K Shaleruckik Mo 76.72 336 P **P** **11 31 50.9 +1.0**
baz=91
P16K Nushagak River 76.86 328 P **P** **11 31 51.8 +0.9**
baz=89
D19K Kuna River 76.87 338 P **P** **11 31 51.8 +0.9**
baz=91
PMSA Palmer Station 76.89 176 LR LR 12 08 15.0
comp=Z,84nm,18.0s,baz=343,slow=38
O16K Kokwok River B 76.90 329 P **P** **11 31 52.2 +1.1**
baz=89
K17K Iditarod 76.94 332 P **P** **11 31 52.3 +0.9**
baz=89
H18K Honhosa River 76.95 334 P **P** **11 31 52.6 +1.3**
baz=90
L17K Dolin 76.95 331 P **P** **11 31 52.4 +1.0**
baz=89
DAVA Damuels 76.97 44 *i* pP **P** **11 31 54.5 +2.5**
comp=Z,7.2nm,1.0s
G18K Tagagawik 77.07 335 P **P** **11 31 53.3 +1.3**
baz=90,SNR=12
NB2 NORSAR Subarra 77.15 30 P **P** **11 31 54.1 +1.5**
comp=Z,8.3nm,1.0s,baz=273,slow=5.9
NOA NORSAR Array B 77.15 30 P **P** **11 31 53.0 +0.4**
comp=Z,2.3nm,0.8s,baz=274,slow=5.8,SNR=6.8
NOA LR LR 12 02 02.8
comp=Z,45nm,21.5s,baz=265,slow=33
comp=Z,2.3nm,0.8s
NOA NORSAR Array B 77.15 30 P **P** **11 31 53.0 +0.4**
CHGN Chignik 77.18 325 P **P** **11 31 53.8 +1.1**
baz=88
N16K Nishlik Lake 77.22 330 P **P** **11 31 54.6 +1.6**
baz=88
J17K VABM Dome 77.29 333 P **P** **11 31 54.9 +1.6**
baz=89,SNR=7.0
M16K Timber Creek 77.29 330 P **P** **11 31 54.5 +1.2**
baz=88
C19K Lookout Ridge 77.40 338 P **P** **11 31 55.2 +1.4**
baz=90
F18K Selawik 77.46 336 P **P** **11 31 55.4 +1.3**
baz=89
KEST Kesra 77.52 56 P **P** **11 31 56.2 +1.0**
comp=Z,3.0nm,0.6s,baz=238,slow=1.8,SNR=6.5
comp=Z,3.0nm,0.6s
L16K Owhat River 77.52 331 P **P** **11 31 56.3 +1.7**
baz=88,SNR=6.5
FETA Feichten 77.56 44 *i* P **P** **11 31 57.0 +1.7**
comp=Z,7.4nm,0.9s
H17K Granite Mounta 77.61 334 P **P** **11 31 56.4 +1.4**
baz=88
MOTA Moosalm 77.80 44 *e*P **P** **11 31 58.3 +1.7**
comp=Z,5.8nm,1.2s
O15K Ungalikthiuk R 77.80 328 P **P** **11 31 57.3 +1.1**
baz=87
S14K Fog Glacier 77.81 325 P **P** **11 31 56.9 +0.4**
baz=87
E18K Tukpahlearik C 77.82 337 P **P** **11 31 57.2 +1.1**
baz=88
SQTA Sankt Quirin 77.88 44 *i* P **P** **11 31 58.5 +1.4**
comp=Z,2.6nm,0.7s
N15K Kwethluk River 77.89 329 P **P** **11 31 57.4 +0.8**
baz=87
A19K Wainwright 77.90 340 P **P** **11 31 57.2 +0.7**
baz=88
G17K Kiwalik Mounta 77.90 335 P **P** **11 31 57.4 +0.8**
baz=88
CHNA Chernabura Isl 77.92 324 P **P** **11 31 57.3 +0.4**
baz=86
J16K Anvik River 77.98 333 P **P** **11 31 57.9 +0.8**
baz=87
I17K Unalakleet 77.99 333 P **P** **11 31 58.5 +1.3**
baz=87
C18K Utukok River 78.00 338 P **P** **11 31 58.3 +1.1**
baz=88
F17K Baldwin Pennin 78.11 336 P **P** **11 31 58.9 +1.2**
baz=87
WATA Walderalm 78.12 44 *e*pP **P** **11 32 01.0 +2.6**
comp=Z,2.2nm,0.7s
M15K Kasigluk River 78.15 330 P **P** **11 31 59.4 +1.3**
baz=87
WTTA Wattenberg 78.16 44 *e*P **P** **11 32 00.2 +1.5**
comp=Z,6.0nm,0.8s
B18K Kokolik River 78.19 339 P **P** **11 31 59.3 +1.2**
baz=88
E17K Hotham Inlet 78.31 336 P **P** **11 32 00.1 +1.3**
baz=87
SPITS Spitsbergen Ar 78.36 12 P **P** **11 32 00.3 +1.3**
comp=Z,12nm,0.9s,baz=189,slow=5.0,SNR=4.5
SPITS LR LR 12 08 30.6
comp=Z,191nm,18.1s,baz=282,slow=37
comp=Z,12nm,0.9s
SDPT Sand Point 78.39 324 P **P** **11 32 00.4 +0.9**
baz=86
HFS Hagfors 78.41 31 P **P** **11 32 00.5 +1.0**
comp=Z,1.5nm,0.5s,baz=300,slow=2.9,SNR=14
comp=Z,1.5nm,0.5s
K15K Wolf Creek Mou 78.46 332 P **P** **11 32 00.6 +0.8**
baz=86
L15K Ungalak Mounta 78.48 331 P **P** **11 32 01.0 +1.1**
baz=86
O14K Tigyukauivet M 78.54 328 P **P** **11 32 01.4 +1.2**
baz=86
G16K Koyuk River 78.62 335 P **P** **11 32 02.1 +1.5**
baz=86
H16K Elim 78.62 334 P **P** **11 32 02.1 +1.5**
baz=86
RDOG Red Dog Mine 78.66 337 P **P** **11 32 02.2 +1.4**
baz=86
N14K Kuskokwak Cree 78.70 329 P **P** **11 32 02.4 +1.3**
baz=86
C17K DeLong Mountai 78.73 338 P **P** **11 32 02.5 +1.3**
baz=86
D17K Noatak River 78.75 337 P **P** **11 32 02.3 +1.0**
baz=86
M14K Bethel 78.77 330 P **P** **11 32 02.7 +1.1**
baz=86
ABTA Abfaltersbach 78.81 44 *i* P **P** **11 32 03.9 +1.7**
comp=Z,4.7nm,1.0s
LESA Schwarzleotal 78.85 44 *i* pP **P** **11 32 04.3 +1.9**
comp=Z,3.7nm,1.0s
L14K Kuka Creek 79.08 331 P **P** **11 32 04.3 +1.1**
baz=85
S12K Black Hills 79.26 325 P **P** **11 32 05.3 +1.0**
baz=84
KHC Kasperske Hory 79.28 42 *e*P **P** **11 32 06.7 +2.0**
KHC Kasperske Hory 79.28 42 *i* P **P** **11 32 05.9 +1.2**
KHC pmax pmax
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 79.28 42 P **P** **11 32 05.3 +0.6**
comp=Z,5.9nm,0.9s
KBA Koelnbreinsper 79.34 44 *i* pP **P** **11 32 07.2 +2.0**
comp=Z,5.6nm,0.9s
J14K Nanvaranak Lak 79.36 332 P **P** **11 32 06.1 +1.4**
baz=85
G15K Niukluk 79.36 334 P **P** **11 32 06.1 +1.4**
baz=84
GERES GERESS Array B 79.39 42 P **P** **11 32 06.2 +0.9**
comp=Z,3.0nm,0.8s,baz=284,slow=5.4,SNR=11
GERES LR LR 12 03 10.6
comp=Z,72nm,21.2s,baz=286,slow=33
comp=Z,3.0nm,0.8s
BIOA Bad Ischl, Aus 79.47 43 *i* pP **P** **11 32 09.3 +3.6**
comp=Z,3.1nm,1.0s
M13K Dall Lake 79.49 330 P **P** **11 32 06.8 +1.4**
baz=84
F15K North Star Dit 79.54 335 P **P** **11 32 07.0 +1.3**
baz=84
C16K Lisburne Hills 79.55 338 P **P** **11 32 07.3 +1.6**
baz=84
MYKA Terra Mystica 79.59 44 *e*pP **P** **11 32 08.6 +2.2**
comp=Z,2.3nm,0.8s
MOA Molln 79.88 43 *i* pP **P** **11 32 10.0 +2.1**
comp=Z,5.4nm,1.3s
K13K Kusilvak Mount 79.95 331 P **P** **11 32 09.5 +1.5**
baz=84
ANM Nome 79.97 334 P **P** **11 32 09.3 +1.3**
baz=83
SMAI San Martin Ant 80.06 177 P **P** **11 32 08.2 0.0**
FALS False Pass 80.12 324 P **P** **11 32 10.3 +1.3**
baz=83
OBKA Obir 80.23 44 *e*pP **P** **11 32 12.4 +2.5**
comp=Z,3.0nm,1.1s
F14K Arctic Creek 80.27 335 P **P** **11 32 10.9 +1.4**
baz=83
PPT Papeete 80.44 250 LR LR 12 00 03.8
comp=Z,55nm,21.4s,baz=103,slow=30
PPT2 Papeete2 80.44 250 *e*P **P** **11 32 13.4 +1.9**
comp=Z,33nm,25.8s
PPT2 *e*S **S** **11 42 10.0 -6.7**
comp=Z,271nm,25.0s
PPT2 *e*SS **SS** **11 47 26.3 -3.0**
comp=Z,237nm,28.8s
PPT2 *e*LQ LQ 11 53 40.7
comp=Z,234nm,26.0s
PPT2 *e*LR LR 11 57 11.0
comp=Z,106nm,23.0s
PPT2 *e*LR LR 11 57 19.9
comp=Z,136nm,25.0s
SOKA Soboth 80.54 44 *e*pP **P** **11 32 13.5 +1.9**
comp=Z,3.2nm,0.8s
ARSA Arzberg 80.80 44 *i* PcP **PcP** **11 32 21.4 +1.9**
comp=Z,4.3nm,1.2s
OSTC Ostas 80.81 40 *e*P **P** **11 32 15.2 +2.3**
OSTC Ostas 80.81 40 *e*P **P** **11 32 15.2 +2.3**
M11K Mekoryuk 80.90 330 P **P** **11 32 14.2 +1.2**
baz=82
DPC Dobruska-Polom 80.91 40 *e*P **P** **11 32 13.9 +0.5**
DPC Dobruska-Polom 80.91 40 *e*P **P** **11 32 13.9 +0.5**
DPC Dobruska-Polom 80.91 40 P **P** **11 32 14.4 +1.0**
TNA Tin City 80.91 335 P **P** **11 32 14.1 +1.0**
baz=81
CONA Conrad Observa 80.93 43 *e*PcP **PcP** **11 32 22.6 +2.5**
comp=Z,2.8nm,1.1s
VRAC Vranov 81.22 41 LR LR 12 04 38.9
comp=Z,105nm,21.1s,baz=266,slow=33
VAE Valguarnera 81.35 54 LR LR 12 06 07.0
comp=Z,95nm,18.1s,baz=316,slow=34
ZST Bratislava 81.72 43 *e*P P 11 32 24.1 +6.4
MODS Modra-Piesok 81.81 42 *e*P **P** **11 32 21.2 +3.0**
STEB Steborice 81.89 41 *e*P **P** **11 32 20.8 +2.2**
TBI Tubuai 81.94 244 *e*S **S** **11 42 34.7 +2.7**
comp=Z,437nm,36.0s
TBI Tubuai 81.94 244 *e*LQ LQ 11 54 16.5
comp=Z,706nm,29.8s
TBI *e*LR LR 11 58 02.8
comp=Z,576nm,23.2s
UNV Unalaska Valle 82.06 323 P **P** **11 32 20.0 +0.7**
baz=81
ARCES ARCESS Array B 82.06 21 P **P** **11 32 19.6 +0.5**
comp=Z,1.8nm,0.5s,baz=298,slow=4.3,SNR=18
ARCES LR LR 12 02 43.8
comp=Z,56nm,18.6s,baz=271,slow=31
comp=Z,1.8nm,0.5s
GAMB Gambell 82.84 334 P **P** **11 32 24.0 +0.8**
baz=78
P08K Saint George I 83.27 326 P **P** **11 32 26.4 +0.8**
baz=78
SPIA Saint Paul Isl 83.53 327 P **P** **11 32 27.4 +0.5**
baz=78
NIKH Nikolski High 83.60 323 P **P** **11 32 27.6 +0.3**
baz=79
FINES FINESS Array B 84.20 28 P **P** **11 32 31.1 +0.9**
comp=Z,3.1nm,0.8s,baz=259,slow=3.9,SNR=11
FINES LR LR 12 05 21.3
comp=Z,59nm,21.7s,baz=254,slow=32
comp=Z,3.1nm,0.8s
RNPP8 Varash 86.64 38 P **P** **11 32 43.1 +0.5**
PUL Pulkovo 86.68 29 *i* P **P** **11 32 42.6 0.0**
RNPP5 Staryi Chortor 86.68 38 P **P** **11 32 43.7 +0.9**
MNK Minsk 86.97 35 *i* P **P** **11 32 45.5 +1.3**
MNK *i* 11 32 48.1
MNK *i* 11 36 08.2
MNK *i* S **SKSac** **11 43 11.9 +2.3**
MNK pmax pmax
comp=E,18nm,0.8s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK pmax pmax
comp=Z,20nm,0.8s
MI28 Mi28,Pidlybu 87.84 38 P **P** **11 32 49.3 +0.8**
AK17 Malin Array Si 88.76 38 P **P** **11 32 53.6 +0.8**
AKASG Malin Array Be 88.86 38 P **P** **11 32 54.0 +0.8**
comp=Z,0.7nm,0.6s,baz=276,slow=3.5,SNR=2.1
AKASG LR LR 12 12 43.9
comp=Z,116nm,18.5s,baz=269,slow=36
AKBB Malin Array Si 88.86 38 *i* P **P** **11 32 54.4 +1.1**
AKBB pmax pmax
comp=Z,2.0nm,0.8s
AK09 Malin Array Si 88.92 38 P **P** **11 32 53.6 0.0**
RDO Rodhopi 89.06 48 P **P** **11 32 55.7 +1.3**
BILL Bilibino 89.58 341 *i* P **P** **11 32 57.5 +1.2**
BILL pmax pmax
comp=Z,65nm,2.9s
KLMR Klimovskoe 90.51 27 *e*P **P** **11 33 01.0 +0.2**
KLMR pmax pmax
comp=Z,11nm,1.2s
BELA Belgrano 2 92.37 172 P **P** **11 33 08.7 -0.3**
BELA lAmb lAmb 11 33 10.5
comp=Z,6.5nm,1.1s
VNA3 Neumayer Olymp 93.26 163 ⇑P **P** **11 33 14.5 +1.3**
comp=Z,7.6nm,0.8s
VNA1 Neumayer--Stat 93.40 162 ⇑P **P** **11 33 15.1 +1.3**
comp=Z,13nm,1.2s
SHEM Shemya Is, Ala 93.48 326 LR LR 12 18 28.0
comp=Z,144nm,18.9s,baz=64,slow=38
VNA2 Neumayer--Watz 93.78 162 ⇑P **P** **11 33 16.6 +1.1**
comp=Z,2.6nm,0.6s,baz=306,slow=4.5
TSUM Tsumeb 95.08 108 LR LR 12 12 09.7
comp=Z,156nm,21.8s,baz=304,slow=33
TIXI Tiksi 95.18 353 LR LR 12 18 23.7
comp=Z,196nm,19.6s,baz=40,slow=37
BRTR Keskin Array B 95.38 48 P **P** **11 33 25.1 +1.2**
comp=Z,1.2nm,0.9s,baz=336,slow=2.7,SNR=6.5
comp=Z,1.2nm,0.9s
SNAA Sanae 95.42 163 ⇑P **P** **11 33 24.0 +0.8**
comp=Z,60nm,1.3s
SNAA Sanae 95.42 163 P **P** **11 33 23.5 +0.3**
SNAA lAmb lAmb 11 33 25.4
comp=Z,6.0nm,1.2s
SNAA Sanae 95.42 163 P **P** **11 33 23.6 +0.4**
comp=Z,2.6nm,1.0s,baz=311,slow=3.0,SNR=5.7
SNAA LR LR 12 15 48.6
comp=Z,225nm,22.0s,baz=280,slow=35
comp=Z,2.6nm,1.0s
SNAA Sanae 95.42 163 P **P** **11 33 23.5 +0.3**
SNAA pmax pmax
comp=Z,6.0nm,1.2s
KIRV Kirov 95.98 26 LR LR 12 13 24.7

comp=Z,69nm,19.2s,baz=310,slow=33
TROLL Troll, Antarctica 97.12 162 ⇑P Pdif 11 33 31.8 +0.7
comp=Z,92nm,0.7s
SEY Seymchan 97.28 341 LR LR 12 21 57.0
comp=Z,351nm,18.4s,baz=62,slow=38
NVL N'lazarevskaya 99.77 160 *eP* **Pdif 11 33 41.2 -1.5**
NVL *e* 11 37 42.9
NVL *eS* **SKSac 11 44 20.9 +1.7**
NVL *ePS* **PS 11 46 39.9 -5.8**
NVL *eSS* **SS 11 52 09.2 +2.7**
NVL *e*SSS SSS 11 55 57.4
NVL pmax pmax
comp=Z,6.0nm,0.8s
NVL smax smax
comp=E,152nm,12.3s
NVL MLR MLR
comp=Z,110nm,19.0s
QSPA South Pole Qui 101.97 180 P **Pdif 11 33 52.6 -0.1**
comp=Z,2.1nm,1.0s,baz=111,slow=1.8,SNR=4.3
KURBB Kurchatov Arra 113.10 19 PKKPbc PKKPbc 11 49 22.5 -1.8
comp=Z,0.3nm,0.5s,baz=138,slow=2.6,SNR=4.2
MKAR Makanchi Array 117.66 18 PKP **PKPdf 11 38 44.5 -0.9**
comp=Z,0.2nm,0.5s,baz=336,slow=3.2,SNR=2.2
MKAR PP **PP 11 39 58.2 +1.2**
comp=Z,0.2nm,0.5s,baz=322,slow=4.4,SNR=3.5
SONM Songino Array 120.44 360 PP **PP 11 40 17.3 +1.1**
comp=Z,0.3nm,0.3s,baz=15,slow=6.3,SNR=3.6
WMQ Urumqi 121.92 16 *e*PKP **PKiKP 11 38 57.5 +3.6**
KSRS Korea Array 126.78 339 PKP **PKPdf 11 39 02.8 -0.3**
comp=Z,1.0nm,0.8s,baz=35,slow=2.4,SNR=6.3
HHC Hu-ho-hao-te 127.19 355 *e*PKP **PKPdf 11 38 59.3 -4.7**
BTO Baotou 127.55 356 *e*PKP **PKPdf 11 38 59.3 -5.4**
BTO LR LR
comp=Z,190nm,7.7s
BTO LR LR
comp=Z,250nm,12.8s
BTO LR LR
comp=Z,120nm,8.0s
GTA Gaotai 128.51 6 *e*PKP **PKiKP 11 39 07.8 +0.6**
GTA LR LR
comp=Z,180nm,16.0s
GTA LR LR
comp=Z,140nm,16.0s
GTA LR LR
comp=Z,240nm,17.1s
LZH Lanzhou 132.12 3 *e*PKP PKPdf 11 39 04.0 -10
LZH pPKP PKiKP 11 39 15.0 +0.4
LZH LR LR
comp=N,370nm,16.5s
LZH LR LR
comp=E,280nm,20.9s
LZH LR LR
comp=Z,460nm,17.9s
NJ2 Nanjing 134.58 345 *e*PKP **PKPdf 11 39 17.8 -0.2**
PZH PanZhiHua 141.48 7 PKP **PKPdf 11 39 32.8 +1.7**
STKA Stephens Creek 141.98 233 PKP **PKPdf 11 39 33.0 +1.4**
comp=Z,2.4nm,0.6s,baz=4.8,slow=2.7,SNR=5.7
STKA Stephens Creek 141.98 233 PKIKP **PKPdf 11 39 33.0 +1.4**
JAY Jayapura 144.62 283 PKP **PKPdf 11 39 37.1 +0.3**
comp=Z,12nm,0.8s,baz=323,slow=8.1,SNR=5.8
BBOO Buckleboo 145.74 228 P **PKPdf 11 39 37.9 -0.2**
BBOO P **PKPab 11 39 39.4 +0.5**
CMAR Chiang Mai Arr 148.89 14 PKPbc **PKPbc 11 39 46.9 -0.9**
comp=Z,6.6nm,0.8s,baz=327,slow=3.8,SNR=27
QIZ Qiongzhong 148.97 353 PKPbc **PKPdf 11 39 43.0 -0.9**
QIZ PP **PP 11 43 17.0 +0.2**
QIZ LR LR
comp=Z,180nm,15.5s
QIZ LR LR
comp=Z,260nm,19.2s
QIZ LR LR
comp=Z,180nm,19.2s
ASAR Alice Springs 151.31 242 PKP **PKPdf 11 39 48.3 +0.8**
comp=Z,1.9nm,0.6s,baz=99,slow=1.9,SNR=18
ASAR PKPbc **PKPbc 11 39 54.4 +0.9**
comp=Z,12nm,0.6s,baz=103,slow=2.3,SNR=70
WRA Warramunga Arr 151.92 250 PKP **PKPdf 11 39 49.3 +0.8**
comp=Z,1.3nm,0.7s,baz=91,slow=2.0,SNR=15
WRA PKPbc **PKPbc 11 39 55.5 +0.5**
comp=Z,13nm,0.6s,baz=98,slow=2.6,SNR=143

*AEIC **29** 11:26:02.7±0.7, 53°.45N±0°.04×165°.62W±0°.04, h17km±4km, Error ellipse: s-maj=6.3km s-min=2.5km az=153.0*
NEIC 29 11:26:02.6±1.1, 53°.47N±0°.03×165°.65W±0°.07, h23km±12km, mL2.7/12, ML2.4(AEIC), Error ellipse: s-maj=7.7km s-min=1.1km az=128.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UNV	**Unalaska Valle**	**0.63**	**307**		Pn	11 26 15.7	-0.4
UNV				IAML		11 26 26.1	
	comp=N,250nm,0.5s						
UNV				IAML		11 26 26.7	
	comp=E,205nm,0.2s						
UNV	**Unalaska Valle**	**0.63**	**307**		Sn	11 26 25.2	-0.2
AKBBA	**Akutan Broad B**	**0.65**	**345**		Pn	11 26 16.0	-0.4
ZRO	**Akutan Zero**	**0.65**	**343**		Pn	11 26 16.0	-0.4
AKMO	**Akutan Morgan**	**0.66**	**341**		Pn	11 26 16.2	-0.3
AKSA	**Akutan Strait**	**0.67**	**358**		Pb	11 26 15.9	+0.3
AKUT	**Akutan**	**0.67**	**354**		Pb	11 26 15.8	+0.2
AKRB	**Akutan Reef Bi**	**0.71**	**340**		Pn	11 26 16.9	-0.2
AKRB					Sn	11 26 27.9	+0.5
AKLV	**Akutan Long Va**	**0.72**	**346**		Pb	11 26 16.7	+0.2
LVA	**Lava Point**	**0.73**	**342**		Pn	11 26 17.1	-0.3
LVA	**Lava Point**	**0.73**	**342**	IAML		11 26 43.2	
	comp=N,237nm,0.7s						
MREP	**Makushin Rep't**	**0.74**	**298**		Pn	11 26 17.6	0.0
MNAT	**Makushin Natee**	**0.74**	**304**		Pn	11 26 17.6	0.0
AKGG	**Akutan Green G**	**0.76**	**345**		Pb	11 26 17.4	+0.4
MGOD	**Makushin Gods**	**0.80**	**295**		Pn	11 26 18.3	-0.1
MSW	**Makushin Switc**	**0.81**	**304**		Pn	11 26 18.6	0.0
MSW					Sn	11 26 30.2	+0.4
MAPS	**Pakushin South**	**0.84**	**294**		Pn	11 26 18.8	-0.1
WEBT	**Westdahl Beart**	**1.24**	**25**		Pn	11 26 24.8	+0.3
WEBT					Sb	11 26 41.6	+0.7
OKFG	**Magazine Ridge**	**1.35**	**268**		Pn	11 26 26.4	+0.4
OKTU	**Okmok Mt. Tuli**	**1.43**	**268**		Pn	11 26 27.6	+0.4
OKNC	**Okmok New Cone**	**1.48**	**271**		Pn	11 26 28.4	+0.7
OKCE	**Okmok Cone E**	**1.50**	**269**		Pb	11 26 29.0	-0.8
SSLS	**Shishaldin Sou**	**1.58**	**37**		Pn	11 26 29.7	+0.5
SSLS					Sb	11 26 50.4	-0.3
SSBA	**Shishaldin**	**1.58**	**34**		Pn	11 26 29.6	+0.3
SSBA					Sb	11 26 50.9	+0.1
OKSP	**Okmok Steeple**	**1.60**	**263**		Pn	11 26 29.8	+0.4
ISNN	**Isanotski Nort**	**1.75**	**38**		Pn	11 26 32.5	+1.0
ISNN					Sb	11 26 55.3	-0.3
FALS	**False Pass**	**1.91**	**42**	Pn	Pn	11 26 34.5	+0.9
NIKH	**Nikolski High**	**1.99**	**257**		Pn	11 26 35.5	+0.7
NIKH	**Nikolski High**	**1.99**	**257**	IAML		11 27 00.3	
	comp=N,129nm,0.6s						
NIKH				IAML		11 27 03.5	
	comp=E,78nm,0.7s						
DT1	**Dutton Round H**	**2.57**	**49**		Pn	11 26 43.4	+0.7
SDPT	**Sand Point**	**3.56**	**56**	Pn	Pn	11 26 55.7	-0.6
SDPT				IAML		11 29 12.7	
	comp=N,26nm,1.1s						
ATKA	**Atka Island**	**5.33**	**260**	Pn	Pn	11 27 21.4	+0.8

*IDC **29** 11:30:14.0±2.5, 4°.31S×128°.89E, h0km, mb3.5/1, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=174.5km s-min=31.0km az=68.0*
*DJA **29** 11:30:18.8±0.6, 4°.5S±4°×12°.8E±°, h10km, M3.4/8, MLv3.4/8*
ISC 29 11:30:19.4±1.1, 4°.58S±0°.08×128°.10E±0°.07, h35km, n10, σ1§95/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.89**	**6**	P	**Pn**	**11 30 33.9**	**-1.5**
AAI				S	**Sn**	**11 30 44.7**	**-2.4**
MSAI	**Masohi**	**1.47**	**34**	P	**Pn**	**11 30 44.1**	**+0.6**
NLAI	**Namlea**	**1.66**	**323**	P	**Pn**	**11 30 45.6**	**-0.5**
BNDI	**Bandanaira**	**1.80**	**88**	P	**Pn**	**11 30 48.7**	**+0.8**
SANI	**Sanana**	**3.28**	**320**	P	**Pn**	**11 31 09.4**	**+1.1**
SANI				S	**Sn**	**11 31 48.3**	**+2.2**
FAKI	**Fak Fak**	**4.45**	**68**	P	**Pn**	**11 31 25.9**	**+1.4**
SWI	**Sorong**	**4.85**	**41**	P	**Pn**	**11 31 31.1**	**+1.1**
WRA	**Warramunga Arr**	**16.44**	**159**	Pn	**Pn**	**11 34 03.9**	**-3.7**
	0.1nm,0.3s,baz=344,slow=13,SNR=4.6 0.4nm,0.8s						
ASAR	**Alice Springs**	**19.79**	**164**	P	**P**	**11 34 47.6**	**+0.7**
	0.1nm,0.3s,baz=343,slow=11,SNR=25 1.2nm,0.6s						
MKAR	**Makanchi Array**	**65.18**	**327**	P	**P**	**11 40 58.4**	**+1.3**
	0.4nm,0.7s,baz=121,slow=7.4,SNR=2.8 0.4nm,0.7s						

*DJA **29** 11:33:41.2±0.7, 6°.N±4°×12°.7E±°, h82km±17km, M4.1/6, mb4.1/2, MLv4.0/6*
*IDC **29** 11:33:45.2±2.0, 5°.58N×126°.24E, h94km±23km, mb3.2/4, mbtmp3.5/4, Error ellipse: s-maj=116.7km s-min=21.3km az=69.0*
ISC 29 11:33:46.2±1.1, 5°.67N±0°.06×126°.3E±0°.2, h100km, n8, σ1§59/11, mb3.4/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.56**	**333**	P	**Pn**	**11 34 14.0**	**+0.8**
	123nm,0.4s,baz=263,slow=8.7,SNR=1.6						
DAV				S	**Sn**	**11 34 33.1**	**-0.7**
	125nm,0.2s,baz=255,slow=16,SNR=2.1						
SGSI	**Sangihe**	**2.11**	**201**	P	**Pn**	**11 34 18.7**	**-1.5**
SGSI				S	**Sn**	**11 34 48.5**	**+2.3**
MRSI	**Marisa**	**6.74**	**220**	P	**Pn**	**11 35 23.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**23.62**	**182**	P	**P**	**11 38 47.9**	**-0.5**
	1.1nm,0.6s,baz=353,slow=9.2,SNR=1.6 1.1nm,0.6s						
WRA	**Warramunga Arr**	**26.65**	**163**	P	**P**	**11 39 14.8**	**-1.0**
	0.2nm,0.6s,baz=343,slow=10,SNR=9.9 0.2nm,0.6s						
QIS	**Mount Isa**	**29.16**	**154**	P	**P**	**11 39 40.6**	**+2.4**
QIS				P	P	11 39 43.2	+5.1
ASAR	**Alice Springs**	**30.09**	**166**	P	**P**	**11 39 44.3**	**-2.1**
	0.9nm,0.9s,baz=340,slow=8.7,SNR=8.8						
ASAR				PcP	**PcP**	**11 42 45.9**	**-0.1**
	0.4nm,0.8s,baz=336,slow=2.8,SNR=1.3 0.9nm,0.9s						
MKAR	**Makanchi Array**	**55.73**	**325**	P	**P**	**11 43 12.2**	**-0.4**
	0.1nm,0.3s,baz=120,slow=5.9,SNR=1.8 0.1nm,0.3s						

*ISK **29** 11:40:50.6, 36°.50N×28°.80E, h10km, ML2.7/19*
*AFAD **29** 11:40:50.5, 36°.48N×28°.77E, h7km±2km, ML2.3*
*ATH **29** 11:40:51.0, 36°.52N×28°.84E, h10km±2km, ML2.3/3, Manual Solution by G.Panopoulou First location: 2019/09/29 11:42:41, This location: 2019/09/29 18:06:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km*
ISC 29 11:40:51.1±1.0, 36°.49N±0°.02×28°.80E±0°.02, h10km±9km, n46, σ0§86/65, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DALY	**Dalyan (Mula)**	**0.35**	**340**	Pg	**Pg**	**11 40 57.4**	**-0.6**
DALY				Sg	**Sg**	**11 41 03.0**	**+0.3**
SABU	**Mula-Dalaman**	**0.36**	**22**	P	**Pg**	**11 40 58.4**	**+0.1**
SABU				S	**Sb**	**11 41 04.0**	**-1.4**
SABU				*i* IAML		11 41 05.0	
	comp=N,368nm,0.3s						
CAME	**Cameli-Denizli**	**0.60**	**41**	Pg	**Pg**	**11 41 02.7**	**-0.2**
CAME				Sg	**Sb**	**11 41 11.8**	**-0.8**
ARG	**Arkhangelos**	**0.61**	**244**	Pg	**Pg**	**11 41 02.5**	**-0.5**
ARG				Sg	**Sb**	**11 41 12.4**	**-0.2**
ARG	**Arkhangelos**	**0.61**	**244**	P	**Pg**	**11 41 02.7**	**-0.3**
ARG				S	**Sb**	**11 41 12.5**	**-0.2**
AKAS	**Kas**	**0.70**	**112**	Pg	**Pg**	**11 41 04.5**	**-0.1**
AKAS	**Kas**	**0.70**	**112**	P	**Pg**	**11 41 04.3**	**-0.4**
AKAS				S	**Sb**	**11 41 15.3**	**+0.1**
AKAS				*i* IAML		11 41 17.0	
	comp=E,189nm,0.4s						
KNIK	**Mula-Seydike**	**0.71**	**60**	P	**Pg**	**11 41 04.6**	**-0.4**
KNIK				S	**Sg**	**11 41 14.5**	**+0.2**
KSL	**Kastellorizon**	**0.72**	**118**	P	**Pg**	**11 41 04.7**	**-0.3**
KSL				S	**Sg**	**11 41 14.6**	**+0.3**
YER	**Yerkesik**	**0.77**	**327**	Pg	**Pg**	**11 41 05.5**	**-0.5**
DNZT	**Denizli-Tavas-**	**0.81**	**13**	P	**Pg**	**11 41 05.9**	**-0.8**
RGE1	**Gennadi, Rhode**	**0.84**	**237**	P	**Pg**	**11 41 07.1**	**-0.3**
RGE1				S	**Sb**	**11 41 18.8**	**-0.5**
MULA	**Mugla, Merkez-**	**0.86**	**333**	P	**Pg**	**11 41 07.2**	**-0.4**
ELL	**Elmali**	**0.93**	**74**	Pg	**Pn**	**11 41 09.6**	**-0.8**
ELL	**Elmali**	**0.93**	**74**	P	**Pg**	**11 41 08.2**	**-0.7**
ELL				S	**Sg**	**11 41 20.5**	**-0.5**
GOLH	**Golhisar**	**0.96**	**39**	P	**Pg**	**11 41 09.5**	**-0.1**
GOLH				S	**Sb**	**11 41 23.2**	**+0.4**
TAVA	**DENIZLI_Tavas**	**0.98**	**5**	P	**Pb**	**11 41 10.2**	**0.0**
DAT	**Datca**	**1.01**	**284**	Pg	**Pg**	**11 41 10.4**	**-0.3**
APMY	**Acipayam-Deniz**	**1.06**	**22**	Pg	**Pg**	**11 41 11.4**	**-0.1**
YAZI	**Mula-Dat§a-**	**1.10**	**280**	P	**Pb**	**11 41 11.6**	**-0.8**
YAZI				S	**Sb**	**11 41 26.3**	**-0.5**
YAZI				*i* IAML		11 41 30.0	
	comp=N,53nm,0.4s						
DNIZ	**Denizli-Tavas-**	**1.15**	**9**	P	**Pn**	**11 41 14.2**	**+0.8**
DNIZ				S	**Sn**	**11 41 29.2**	**0.0**
DNIZ				*i* IAML		11 41 33.0	
	comp=E,217nm,0.3s						
AKUM	**Antalya-Kumluc**	**1.25**	**97**	P	**Pg**	**11 41 15.4**	**+0.2**
BODT	**Bodrum**	**1.33**	**296**	Pn	**Pb**	**11 41 15.8**	**-0.4**
KORT	**Korkueli**	**1.34**	**67**	Pn	**Pb**	**11 41 16.2**	**-0.3**
KORT	**Korkueli**	**1.34**	**67**	P	**Pg**	**11 41 17.6**	**+0.6**
KORT				S	**Sg**	**11 41 39.0**	**+4.7**
KORT				*i* IAML		11 41 41.0	
	comp=E,71nm,0.5s						
ESEN	**Aydn-Nazilli**	**1.35**	**345**	P	**Pn**	**11 41 15.7**	**-0.4**
ESEN				S	**Sb**	**11 41 33.4**	**-0.6**
ESEN				*i* IAML		11 41 38.0	
	comp=E,70nm,0.6s						
ESEN				*i* IAML		11 41 39.0	
	comp=N,46nm,0.6s						
INCE	**Denizli-Bozkur**	**1.36**	**27**	P	**Pg**	**11 41 16.8**	**-0.5**
INCE				S	**Sg**	**11 41 36.1**	**+1.1**
INCE				*i* IAML		11 41 39.0	
	comp=E,40nm,0.3s						
YKAV	**Yalikavak-Bodr**	**1.38**	**298**	Pn	**Pb**	**11 41 16.8**	**-0.2**
NAZL	**Nazilli-Aydin**	**1.53**	**345**	Pn	**Pn**	**11 41 18.4**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.62**	**334**	Pn	**Pn**	**11 41 18.9**	**-1.1**
KARP	**Karpathos**	**1.63**	**235**	Pn	**Pn**	**11 41 19.9**	**-0.1**
KARP	**Karpathos**	**1.63**	**235**	P	**Pn**	**11 41 20.1**	**+0.2**
KARP				S	**Sb**	**11 41 42.4**	**+0.4**
BCK	**Bucak**	**1.73**	**55**	Pn	**Pn**	**11 41 21.6**	**+0.3**
GCAM	**G?zelcaml?**	**1.74**	**314**	Pn	**Pn**	**11 41 21.6**	**+0.2**
ODEM	**Odemis-Izmir**	**1.87**	**342**	Pn	**Pn**	**11 41 23.2**	**-0.2**
KULA	**Kula-Manisa**	**2.02**	**357**	Pn	**Pn**	**11 41 25.6**	**+0.2**
ZKR	**Zakros**	**2.51**	**238**	P	**Pn**	**11 41 32.1**	**0.0**
ZKR				S	**Sn**	**11 42 04.4**	**+1.6**
URLA	**Izmir**	**2.56**	**317**	Pn	**Pn**	**11 41 33.0**	**+0.2**
CHOS	**Chios island**	**2.89**	**312**	P	**Pn**	**11 41 37.6**	**+0.3**
CHOS				S	**Sn**	**11 42 12.4**	**+0.1**
AKMS	**Akamas**	**3.23**	**116**	P	**Pn**	**11 41 40.8**	**-1.1**
ALFC	**Alefka**	**3.36**	**112**	P	**Pn**	**11 41 42.6**	**-1.2**
IDI	**Anoyia**	**3.40**	**250**	P	**Pn**	**11 41 45.0**	**+0.7**
NATA	**Nata**	**3.51**	**118**	P	**Pn**	**11 41 45.5**	**-0.3**
CSS	**Mathiatis**	**3.99**	**111**	P	**Pn**	**11 41 51.0**	**-1.3**
ASGA	**Asgata**	**4.00**	**114**	P	**Pn**	**11 41 51.2**	**-1.3**
MVOU	**Mavrovouni**	**4.19**	**109**	P	**Pn**	**11 41 54.3**	**-0.9**

IDC 29 12:07:39.0±41.0, 16°.90S×178°.55W, h454km±353km, mb3.1/4, mbtmp3.9/4, Error ellipse: s-maj=299.5km s-min=46.7km az=45.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.00**	**240**	P	P	12 14 25.4	+0.3
	1.0nm,0.5s,baz=90,slow=12,SNR=2.6 1.0nm,0.5s						
WRA	**Warramunga Arr**	**44.69**	**259**	P	P	12 15 09.8	-0.7
	0.5nm,0.6s,baz=96,slow=7.4,SNR=10.0						
WRA				PcP	PcP	12 16 43.5	-0.2
	0.2nm,0.8s,baz=96,slow=3.8,SNR=1.5 0.5nm,0.6s						
ASAR	**Alice Springs**	**44.94**	**253**	P	P	12 15 12.3	-0.1
	5.0nm,0.6s,baz=89,slow=7.9,SNR=143						
ASAR				PcP	PcP	12 16 44.4	-0.2
	0.3nm,0.8s,baz=90,slow=4.0,SNR=2.2 5.0nm,0.6s						
QSPA	**South Pole Qui**	**73.15**	**180**	P	P	12 18 22.0	-0.1
	0.7nm,0.9s,baz=36,slow=10,SNR=1.6 0.7nm,0.9s						

*GCG **29** 12:11:14.3±2.5, 12°.86N×90°.32W, h0km±46km, MD4.2*
*SNET **29** 12:11:15.0±0.9, 12°.84N×90°.31W, h18km±22km, ML3.3*

*CATAC **29** 12:11:16.0±0.4, 13°.N±2°×9°.0W±°, h1km, M3.4/22, MLv3.4/22, Error ellipse: s-maj=5.3km s-min=3.8km az=81.7, confirmed*
ISC 29 12:11:16.5±2.9, 13°.06N±0°.08×90°.5W±0°.1, h24km, n62, σ1§09/66, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAME	**Alcaldia de Sa**	**0.90**	**29**	P	**Pb**	**12 11 33.5**	**0.0**
FAME	**Alcaldia de Sa**	**0.90**	**29**	S	**Sb**	**12 11 44.8**	**-0.2**
NUBE	**Las Nubes**	**1.07**	**38**	*eP*	**Pb**	**12 11 35.9**	**-0.7**
NUBE				*eS*	**Sb**	**12 11 52.4**	**+2.2**
NUBE	**Las Nubes**	**1.07**	**38**	*eP*	**Pb**	**12 11 35.8**	**-0.7**
NUBE				*eS*	**Sb**	**12 11 52.0**	**+1.9**
NUBE	**Las Nubes**	**1.07**	**38**	P	**Pb**	**12 11 36.0**	**-0.5**
NUBE	**Las Nubes**	**1.07**	**38**	S	**Sn**	**12 11 50.1**	**-0.4**
CEVE	**Cerro Verde**	**1.12**	**47**	*eP*	**Pb**	**12 11 36.5**	**-0.9**
CEVE				*eS*	**Sb**	**12 11 55.2**	**+3.5**
CEVE	**Cerro Verde**	**1.12**	**47**	P	**Pb**	**12 11 37.5**	**+0.1**
CEVE	**Cerro Verde**	**1.12**	**47**	S	**Sn**	**12 11 51.1**	**-0.7**
SBLS	**San Blas**	**1.13**	**46**	*eP*	**Pn**	**12 11 36.5**	**-0.6**
LOAL	**Lomas de Alarc**	**1.15**	**35**	P	**Pb**	**12 11 37.6**	**-0.1**
LOAL	**Lomas de Alarc**	**1.15**	**35**	S	**Sn**	**12 11 52.2**	**0.0**
JAYA	**Jayaque - finc**	**1.15**	**59**	*eP*	**Pn**	**12 11 35.9**	**-1.4**
JAYA	**Jayaque - finc**	**1.15**	**59**	*eP*	**Pn**	**12 11 36.0**	**-1.4**
JAYA	**Jayaque - finc**	**1.15**	**59**	S	**Sn**	**12 11 51.7**	**-0.7**
JAYA	**Jayaque - finc**	**1.15**	**59**	P	**Pn**	**12 11 36.1**	**-1.2**
RTR	**El Retiro**	**1.15**	**44**	*eP*	**Pb**	**12 11 37.2**	**-0.7**
SNJE	**San Jose**	**1.16**	**46**	*eP*	**Pn**	**12 11 36.9**	**-0.6**
LALI	**Alcalda de L**	**1.19**	**69**	P	**Pn**	**12 11 36.9**	**-0.8**
LALI	**Alcalda de L**	**1.19**	**69**	S	**Sn**	**12 11 51.8**	**-1.4**
CEDA	**San Andres**	**1.28**	**54**	S	**Sn**	**12 11 55.1**	**-0.2**
CEDA	**San Andres**	**1.28**	**54**	P	**Pb**	**12 11 38.8**	**-1.2**
UNIC	**Universidad Ca**	**1.28**	**44**	S	**Sn**	**12 11 55.8**	**+0.3**
UNIC	**Universidad Ca**	**1.28**	**44**	P	**Pb**	**12 11 39.2**	**-0.8**
RBDL	**Robledal**	**1.29**	**36**	*eP*	**Pb**	**12 11 39.6**	**-0.7**
PMON	**Piamonte**	**1.29**	**60**	P	**Pn**	**12 11 38.3**	**-0.9**
PMON	**Piamonte**	**1.29**	**60**	S	**Sn**	**12 11 55.2**	**-0.7**
ITCA	**Escuela Especi**	**1.31**	**62**	S	**Sn**	**12 11 55.5**	**-0.7**
ITCA	**Escuela Especi**	**1.31**	**62**	P	**Pb**	**12 11 39.2**	**-1.3**
UEES	**Universidad Ev**	**1.36**	**61**	P	**Pb**	**12 11 40.0**	**-1.4**
PANCS	**Alcalda de**	**1.37**	**66**	P	**Pn**	**12 11 39.9**	**-0.3**
UTEC	**Universidad Te**	**1.39**	**62**	P	**Pn**	**12 11 39.8**	**-0.6**
UTEC	**Universidad Te**	**1.39**	**62**	S	**Sn**	**12 11 57.7**	**-0.4**
LOMA	**Loma Larga**	**1.39**	**65**	P	**Pn**	**12 11 38.6**	**-1.9**
LOMA	**Loma Larga**	**1.39**	**65**	S	**Sn**	**12 11 57.5**	**-0.7**
IGN	**Direccin Gen**	**1.42**	**62**	S	**Sn**	**12 11 58.6**	**-0.3**
IGN	**Direccin Gen**	**1.42**	**62**	P	**Pn**	**12 11 40.8**	**-0.2**
UDBS	**Universidad Do**	**1.43**	**63**	S	**Sn**	**12 11 59.3**	**+0.1**
LFRS	**El Faro**	**1.48**	**67**	*eP*	**Pn**	**12 11 41.1**	**-0.7**
PAVA	**Las Pavas**	**1.62**	**66**	P	**Pb**	**12 11 44.1**	**-1.8**
PAVA	**Las Pavas**	**1.62**	**66**	S	**Sn**	**12 12 05.0**	**+1.0**
TECO	**Alcaldia de Te**	**1.71**	**74**	S	**Sn**	**12 12 06.3**	**+0.3**
TECO	**Alcaldia de Te**	**1.71**	**74**	P	**Pn**	**12 11 45.0**	**+0.1**
MTO3	**Montecristo**	**1.71**	**39**	*eP*	**Pb**	**12 11 45.8**	**-1.7**
MTO3	**Montecristo**	**1.71**	**39**	*eP*	**Pb**	**12 11 46.0**	**-1.4**
MTO3	**Montecristo**	**1.71**	**39**	P	**Pb**	**12 11 46.2**	**-1.2**
MTO3	**Montecristo**	**1.71**	**39**	S	**Sb**	**12 12 09.2**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.81**	**69**	P	**Pb**	**12 11 47.0**	**-2.0**
LLGN	**La Laguna**	**1.84**	**53**	P	**Pb**	**12 11 47.7**	**-2.1**
ESQI	**Esquipulas**	**1.85**	**36**	P	**Pb**	**12 11 48.9**	**-0.9**
ESQI	**Esquipulas**	**1.85**	**36**	S	**Sb**	**12 12 12.5**	**0.0**
PQSS	**Presa 15 de Se**	**1.94**	**73**	P	**Pn**	**12 11 48.6**	**+0.6**
PACA	**Pacayal**	**2.12**	**79**	P	**Pn**	**12 11 51.1**	**+0.4**
SARH	**Santa Rosa de**	**2.38**	**44**	P	**Pn**	**12 11 55.6**	**+1.5**
LCND	**La Caada**	**2.52**	**84**	P	**Pn**	**12 11 56.3**	**+0.3**
CNCH	**Conchagua**	**2.57**	**85**	P	**Pn**	**12 11 57.2**	**+0.4**
COMHN	**El Horno**	**3.14**	**64**	P	**Pn**	**12 12 05.8**	**+1.0**
ILCN	**San Idelfonso**	**3.70**	**97**	P	**Pn**	**12 12 12.6**	**+0.3**
ILCN				S	**Sn**	**12 12 56.3**	**+1.1**
CNGA	**Al SSO del Vol**	**3.71**	**98**	S	**Sn**	**12 12 56.4**	**+0.8**
CNGN	**Cerro Negro**	**3.71**	**98**	S	**Sn**	**12 12 56.5**	**+0.9**
AESN	**El Sauce Leon**	**3.83**	**92**	S	**Sn**	**12 12 59.2**	**+0.9**
OCON	**Estacion meteo**	**3.92**	**81**	S	**Sn**	**12 13 01.9**	**+1.2**

*IDC **29** 12:11:32.2±2.7, 5°.54N×126°.00E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=247.3km s-min=28.2km az=65.0*
*DJA **29** 12:11:41.7±1.0, 6°.N±8°×12°.6E±°, h147km±9km, M3.7/9, mB3.6/2, mb3.4/4, MLv3.9/9, Mw(mB)2.6/2*
ISC 29 12:11:42.7±1.5, 5°.6N±0°.1×126°.7E±0°.2, h100km, n7, σ1§47/8, mb2.8/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.21**	**210**	P	**Pn**	**12 12 18.3**	**+0.2**
SGSI				S	**Sn**	**12 12 45.3**	**+0.2**
TNTI	**Ternate**	**4.86**	**171**	P	**Pn**	**12 12 52.9**	**-0.7**
LBMI	**Labuha**	**6.26**	**172**	P	**Pn**	**12 13 12.2**	**-0.5**
	6.0nm0.1nm,1.2s						
SANI	**Sanana**	**7.63**	**185**	P	**Pn**	**12 13 29.2**	**-2.1**
WRA	**Warramunga Arr**	**26.49**	**164**	P	**P**	**12 17 12.9**	**+2.0**
	0.2nm,0.6s,baz=342,slow=9.3,SNR=1.8 0.2nm,0.6s						
ASAR	**Alice Springs**	**29.95**	**167**	P	**P**	**12 17 42.8**	**+1.1**
	0.1nm,0.5s,baz=343,slow=8.6,SNR=1.7 0.1nm,0.5s						
MKAR	**Makanchi Array**	**55.98**	**325**	P	**P**	**12 21 10.3**	**-0.6**
	0.4nm

PB14 IPOC Station P 3.05 263 eP Pn 12 33 44.7 +0.5
PB14 eS Sn **12 34 22.4 -0.6**
PB14 IAML 12 34 23.1
comp=Z,313nm,0.3s
AC02 Maricunga 3.15 216 Pn 12 33 46.6 +1.0
AC02 Maricunga 3.15 216⇑ iP Pn 12 33 46.9 +1.3
AC02 Maricunga 3.15 216 eP Pn 12 33 47.0 +1.3
AC02 eS Sn **12 34 31.4 +5.8**
PB09 IPOC Station P 3.17 321 Pn 12 33 46.6 +1.0
PB09 IPOC Station P 3.17 321 eP Pn 12 33 46.9 +1.3
PB09 iS Sn **12 34 25.8 +0.3**
PB09 IPOC Station P 3.17 321 eP Pn 12 33 46.6 +1.0
PB09 eS Sn **12 34 25.3 -0.2**
PB09 IAML 12 34 26.6
comp=Z,476nm,0.9s
PB10 IPOC Station P 3.27 283 Pn 12 33 47.0 +0.4
PB10 IPOC Station P 3.27 283 eP Pn 12 33 46.5 -0.2
PB10 iS Sn **12 34 25.6 -1.8**
PB10 IPOC Station P 3.27 283 eP Pn 12 33 47.5 +0.9
PB10 eS Sn **12 34 26.6 -0.8**
PB10 IAML 12 34 30.9
comp=Z,443nm,0.7s
PB03 IPOC Station P 3.31 311 Pn 12 33 47.9 +0.5
PB03 IPOC Station P 3.31 311 eP Pn 12 33 48.0 +0.7
PB03 iS Sn **12 34 25.8 -2.8**
PB03 IPOC Station P 3.31 311 eP Pn 12 33 47.6 +0.2
PB03 eS Sn **12 34 27.5 -1.1**
PB03 IAML 12 34 28.5
comp=Z,979nm,0.3s
AC01 Pan de Azucar 3.70 239 Pn 12 33 51.2 -0.6
AC01 Pan de Azucar 3.70 239⇑ iP Pn 12 33 51.5 -0.3
AC01 iS Sn **12 34 34.8 -2.1**
AC01 Pan de Azucar 3.70 239 eP Pn 12 33 51.5 -0.3
AC01 eS Sn **12 34 35.5 -1.3**
AC01 IAML 12 34 36.5
comp=Z,170nm,0.5s
PB01 IPOC Station P 3.91 325 Pn 12 33 54.3 -0.5
PB01 IPOC Station P 3.91 325 eP Pn 12 33 54.7 0.0
PB01 iS Sn **12 34 39.3 -2.6**
PB01 IPOC Station P 3.91 325 eP Pn 12 33 54.9 +0.1
PB01 eS Sn **12 34 40.6 -1.3**
PB01 IAML 12 34 42.7
comp=Z,398nm,0.2s
PB02 IPOC Station P 3.93 318 Pn 12 33 54.8 -0.1
PB02 IPOC Station P 3.93 318⇑ eP Pn 12 33 54.9 -0.1
PB02 iS Sn **12 34 39.2 -3.0**
PB02 IPOC Station P 3.93 318 eP Pn 12 33 55.0 +0.1
PB02 eS Sn **12 34 40.3 -1.9**
PB02 IAML 12 34 42.6
comp=Z,679nm,0.3s
CYA Choya 4.30 165 eP Pn 12 34 00.5 +0.8
CYA eS Sn **12 34 47.1 -3.8**
GO03 Copiapo 4.36 220 Pn 12 33 59.5 -0.9
GO03 Copiapo 4.36 220 eP Pn 12 33 59.6 -0.7
GO03 iS Sn **12 34 50.1 -2.0**
GO03 Copiapo 4.36 220 eP Pn 12 33 59.9 -0.5
GO03 eS Sn **12 34 50.4 -1.7**
GO03 IAML 12 34 52.5
comp=Z,184nm,0.2s
PATCX Punta Patache 4.46 320 Pn 12 34 01.7 0.0
PB08 IPOC Station P 4.54 335 Pn 12 34 03.3 +0.3
PB08 IPOC Station P 4.54 335 eP Pn 12 34 03.6 +0.6
PB08 eS Sn **12 34 56.0 -0.7**
PB08 IAML 12 35 02.5
comp=Z,98nm,0.6s
VCA Vinchina 4.56 193 eP Pn 12 33 59.9 -3.1
TA01 Diego Aracena 4.68 322 Pn 12 34 04.1 -0.3
TA01 Diego Aracena 4.68 322 eP Pn 12 34 04.9 +0.2
TA01 eS Sn **12 34 55.7 -3.6**
TA01 IAML 12 35 00.3
comp=Z,84nm,0.3s
HMBC Humberstone 4.75 326 Pn 12 34 04.9 -0.6
GO01 Chusmiza 4.99 336 Pn 12 34 08.6 -0.2
GO01 Chusmiza 4.99 336 eS Sn 12 35 06.7 -0.6
GO01 IAML 12 35 08.8
comp=Z,60nm,0.4s
PB11 IPOC Station P 5.09 331 Pn 12 34 09.3 -0.6
ACLC CERRO LA CRUZ 5.13 179 eP Pn 12 34 10.5 +0.1
AC04 Llanos de Chal 5.31 222 Pn 12 34 11.2 -1.4
AC04 Llanos de Chal 5.31 222 eP Pn 12 34 10.9 -1.7
AC04 iS Sn **12 35 10.3 -3.7**
AC04 Llanos de Chal 5.31 222 IAML 12 35 13.2
comp=Z,74nm,0.6s
AGUA GUANDACOL 5.34 193 eP Pn 12 33 54.9 -18
LCO Las Campanas 5.72 214 Pn 12 34 16.8 -1.3
PB18 Visviri 7.02 341 Pn 12 34 35.9 +0.4
CFA Coronel Fontan 7.38 188 P Pn **12 34 38.8 -0.8**
comp=Z,2.6nm,0.3s,baz=48,slow=20,SNR=22
CFA S Sn **12 35 58.0 -4.8**
comp=Z,3.2nm,0.3s,baz=305,slow=22,SNR=8.9
ZON Zonda 7.38 191 Pn 12 34 38.3 -1.3
LPAZ La Paz 8.01 353 P Pn **12 34 48.5 -0.1**
comp=Z,6.4nm,0.4s,baz=154,slow=8.1,SNR=36
LPAZ S Sn **12 36 16.3 -2.5**
comp=Z,2.6nm,0.5s,baz=170,slow=12,SNR=4.2
CPUP Villa Florida 9.05 105 P Pn **12 34 59.0 -2.6**
comp=Z,0.7nm,0.8s,baz=140,slow=12,SNR=6.1
SIV San Ignacio 9.98 35 P Pn **12 35 10.6 -3.3**
comp=Z,3.7nm,0.6s,baz=210,slow=12,SNR=23
SIV S Sn 12 36 52.0 -13
comp=Z,2.1nm,0.8s,baz=190,slow=18,SNR=3.9
SIV LR LR 12 38 55.9
comp=Z,48nm,20.6s,baz=111,slow=37
MT09 Talagante 10.07 199 Pn **Pn 12 35 14.1 -0.8**
H03N1 Juan Fernandez 13.81 226 P **P 12 36 04.2 -0.7**
baz=103,slow=74
H03N2 Juan Fernandez 13.82 226 P **P 12 36 04.8 -0.2**
baz=103
H03N3 Juan Fernandez 13.83 226 P **P 12 36 04.8 -0.3**
baz=103,slow=74
H03S3 Juan Fernandez 14.05 225 P **Pn 12 36 05.7 +0.4**
baz=107,slow=76,SNR=8.8
H03S1 Juan Fernandez 14.06 225 P **P 12 36 08.0 +0.4**
baz=107,slow=76,SNR=6.1
H03S2 Juan Fernandez 14.07 225 P **Pn 12 36 06.3 +0.8**
baz=107,slow=76,SNR=5.8
TRQA Tornquist 14.41 164 Pn **Pn 12 36 08.7 -1.4**
PLCA Paso Flores 16.67 189 P **P 12 36 36.0 -0.8**
PLCA Paso Flores 16.67 189 P **Pn 12 36 37.8 +0.2**
comp=Z,1.6nm,0.5s,baz=1.7,slow=11,SNR=5.8
VAO Valinhos 18.47 90 P **P 12 36 55.7 -1.0**
VAO IAmb IAmb 12 36 57.4
comp=Z,10nm,0.9s
LL02 Futaleuf 19.27 191 P **Pn 12 37 06.7 -1.5**
LL02 IAmb IAmb 12 37 09.5
comp=Z,18nm,0.8s
BDFB Brasilia 19.85 68 P **P 12 37 10.8 -0.9**
BDFB IAmb IAmb 12 37 15.0
comp=Z,16nm,1.4s
BDFB Brasilia 19.85 68 P **P 12 37 09.7 -2.0**
comp=Z,3.5nm,0.4s,baz=242,slow=7.4,SNR=8.7
MACA Manacapuru-AM 21.88 17 P **P 12 37 31.5 -1.4**
PIRO Carate, Puerto 36.15 332 P **P 12 39 37.3 -2.0**
ESPZ Base Esperanza 39.69 173 P **P 12 40 08.6 +0.3**
ESPZ IAmb IAmb 12 40 36.4
comp=Z,73nm,1.4s
VNA3 Neumayer Olymp 56.92 161 ⇓P **P 12 42 21.0 +1.0**
comp=Z,4.1nm,0.7s
VNA1 Neumayer--Stat 57.12 160 ⇓P **P 12 42 22.5 +1.2**
comp=Z,1.3nm,0.4s
VNA2 Neumayer--Watz 57.48 160 ⇓P **P 12 42 25.0 +1.1**
comp=Z,4.0nm,0.6s,baz=276,slow=6.7
SNAA Sanae 59.12 161 ⇓P **P 12 42 36.1 +0.9**
comp=Z,41nm,0.5s
SNAA Sanae 59.12 161 P **P 12 42 35.9 +0.6**
SNAA Sanae 59.12 161 P **P 12 42 36.3 +1.0**
comp=Z,2.1nm,0.7s,baz=278,slow=8.9,SNR=27
comp=Z,2.1nm,0.7s
TROLL Troll, Antarti 60.83 161 ⇓P **P 12 42 48.2 +1.2**
comp=Z,190nm,0.5s
TXAR Lajitas Array 63.86 325 P **P 12 43 08.1 +0.5**
baz=156,slow=5.6,SNR=1.4
QSPA South Pole Qui 65.93 180 P **P 12 43 23.5 +3.0**
QSPA IAmb IAmb 12 43 24.9
comp=Z,3.5nm,0.7s
QSPA South Pole Qui 65.93 180 P **P 12 43 23.9 +3.3**
comp=Z,3.2nm,0.5s,baz=326,slow=1.1,SNR=58
comp=Z,3.2nm,0.5s
VNDA Vanda 74.42 190 P **P 12 44 13.8 +2.1**
comp=Z,0.5nm,0.8s,baz=132,slow=6.3,SNR=2.1
comp=Z,0.5nm,0.8s
TORD Torodi Ar. Bea 76.73 69 P **P 12 44 25.6 -0.3**
comp=Z,0.4nm,0.4s,baz=267,slow=5.7,SNR=9.0
comp=Z,0.4nm,0.4s

PDAR Pinedale Array 77.35 329 P **P 12 44 30.6 +1.6**
comp=Z,0.1nm,0.5s,baz=134,slow=3.0,SNR=1.9
comp=Z,0.1nm,0.5s
NVAR Mina Array Bea 78.71 321 P **P 12 44 38.7 +2.1**
comp=Z,0.3nm,0.7s,baz=104,slow=4.6,SNR=2.7
comp=Z,0.3nm,0.7s
MAW Mawson 81.20 163 P **P 12 44 50.7 +1.4**
comp=Z,0.0nm,0.5s,baz=198,slow=5.0,SNR=12
comp=Z,2.0nm,0.5s
ASAR Alice Springs 128.18 205 PKP **PKiKP 12 51 40.0 -0.2**
comp=Z,0.3nm,0.5s,baz=138,slow=1.5,SNR=9.1
WRA Warramunga Arr 131.35 207 PKP **PKiKP 12 51 46.4 -0.1**
comp=Z,0.2nm,0.7s,baz=158,slow=1.6,SNR=13
KURBB Kurchatov Arra 142.64 36 PKP **PKiKP 12 52 07.3 -1.2**
comp=Z,0.2nm,0.3s,baz=325,slow=0.9,SNR=1.3
ZALV Zalesovo Beam 143.67 28 PKP **PKPdf 12 52 06.1 -0.9**
comp=Z,1.1nm,0.4s,baz=346,slow=3.1,SNR=4.8
MKAR Makanchi Array 146.78 40 PKPbc **PKPbc 12 52 14.4 -0.3**
comp=Z,1.5nm,0.6s,baz=295,slow=3.7,SNR=16

NEIC ***29*** *12:41:13.2±0.7, 19.22°N±0.02°×155.46°W±0.02, h42km±2km, Error ellipse: s-maj=3.5km s-min=2.5km az=138.0*

HVO 29 12:41:14.9±0.7, 19°21'N±0'05"×155°45'W±0'06", h34km±7km, ML2.4/30, ML2.5/40(NEIC), Error ellipse: s-maj=8.9km s-min=6.6km az=128.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
HTC	**Hot Caves**	**0.05**	**60**	Pb	12 41 20.3	-0.4
HLP	**Hilina Pali**	**0.16**	**57**	Pb	12 41 20.8	-0.5
HLP				Sb	12 41 25.2	-0.5
HLP	**Hilina Pali**	**0.16**	**57**	IAML	12 41 25.4	
	comp=N,496nm,0.2s					
HLP				IAML	12 41 26.6	
	comp=E,468nm,0.3s					
HPO	**Honuapo**	**0.16**	**220**	Pb	12 41 20.6	-0.6
HPO				Sb	12 41 24.9	-0.6
AIN	**Ainahou**	**0.16**	**356**	Pb	12 41 20.9	-0.6
AIN				Sb	12 41 25.4	-0.6
AIN	**Ainahou**	**0.16**	**356**	IAML	12 41 25.6	
	comp=E,1μm,0.3s					
AIN				IAML	12 41 26.3	
	comp=N,2μm,0.3s					
KHU	**Kahuku**	**0.16**	**283**	Pb	12 41 20.7	-0.8
KHU				Sb	12 41 24.9	-1.2
SDHHI	**Sand Hill**	**0.23**	**39**	Pn	12 41 21.2	-0.1
SDHHI				Sb	12 41 25.9	-1.1
WRMHI	**West Rim**	**0.24**	**35**	Pn	12 41 21.2	-0.3
WRMHI				Sn	12 41 25.9	+1.2
RIM	**Rim**	**0.25**	**41**	Pn	12 41 21.3	-0.4
RIM				Sb	12 41 26.3	-1.0
KKO	**Keanakako'i**	**0.25**	**42**	Pn	12 41 21.4	-0.5
KKO				Sn	12 41 26.1	+0.6
UWE	**Uwekahuna**	**0.26**	**35**	Pn	12 41 21.4	-0.6
UWE				Sn	12 41 26.4	+0.8
UWE	**Uwekahuna**	**0.26**	**35**	IAML	12 41 26.7	
	comp=N,673nm,0.6s					
UWE				IAML	12 41 28.7	
	comp=E,772nm,0.3s					
OBL	**Observatory Le**	**0.26**	**37**	Pn	12 41 21.3	-0.6
OBL				Sn	12 41 26.1	+0.5
UWB	**Uwekahuna Bluf**	**0.27**	**37**	Pn	12 41 21.3	-0.8
UWB				Sn	12 41 26.1	0.0
BYL	**Byron's Ledge**	**0.27**	**41**	Pn	12 41 21.4	-0.7
BYL				Sn	12 41 26.3	+0.2
BYL	**Byron's Ledge**	**0.27**	**41**	IAML	12 41 26.6	
	comp=E,284nm,0.3s					
BYL				IAML	12 41 34.9	
	comp=N,238nm,0.7s					
PUH	**Pauahi**	**0.27**	**53**	Pn	12 41 21.6	-0.7
PUH				Sn	12 41 26.3	0.0
PUH	**Pauahi**	**0.27**	**53**	IAML	12 41 26.5	
	comp=E,373nm,0.6s					
PUH				IAML	12 41 26.5	
	comp=N,348nm,0.3s					
SBLHI	**Steaming Bluff**	**0.27**	**38**	Pn	12 41 21.4	-0.9
SBLHI				Sn	12 41 26.5	+0.1
HATHI	**Halema'uma'u T**	**0.28**	**40**	Pn	12 41 21.5	-0.9
HATHI				IAML	12 41 26.8	
	comp=E,519nm,0.3s					
HATHI	**Halema'uma'u T**	**0.28**	**40**	Sn	12 41 26.5	+0.1
HATHI	**Halema'uma'u T**	**0.28**	**40**	IAML	12 41 26.5	
	comp=N,341nm,0.5s					
MLH	**Mauna Loa**	**0.29**	**11**	Pn	12 41 21.9	-0.7
MLH				Sn	12 41 27.0	-0.2
MLH	**Mauna Loa**	**0.29**	**11**	IAML	12 41 27.4	
	comp=N,677nm,0.5s					
MLH				IAML	12 41 27.4	
	comp=E,355nm,0.1s					
MWH	**Mokuaweoweo**	**0.31**	**333**	Pn	12 41 22.1	-0.9
MWH				Sn	12 41 27.8	-0.5
MWH	**Mokuaweoweo**	**0.31**	**333**	IAML	12 41 27.9	
	comp=E,397nm,0.6s					
MWH				IAML	12 41 28.7	
	comp=N,253nm,0.3s					
KNHH	**Kane Nui o Ham**	**0.31**	**57**	Pn	12 41 21.9	-1.0
STCH	**Steam Cracks**	**0.35**	**60**	Pb	12 41 22.3	-1.2
STCH				Sn	12 41 27.6	-1.5
STCH	**Steam Cracks**	**0.35**	**60**	IAML	12 41 28.0	
	comp=E,438nm,0.2s					
STCH				IAML	12 41 28.5	
	comp=N,304nm,0.1s					
NPOC	**North of Pu'u**	**0.37**	**60**	Pb	12 41 22.5	-1.2
NPOC				Sn	12 41 28.1	-1.4
JCUZ	**Jacuzzi**	**0.37**	**62**	Pb	12 41 22.5	-1.2
JCUZ				Sn	12 41 28.3	-1.4
ALEP	**Alea Permanent**	**0.38**	**331**	Pb	12 41 22.6	-1.5
ALEP				Sn	12 41 28.4	-1.6
HMH	**Humu'ula Sheep**	**0.39**	**355**	Pb	12 41 23.2	-1.1
HMH				Sn	12 41 29.3	-1.2
HMH				IAML	12 41 29.7	
	comp=N,380nm,0.2s					
HMH				IAML	12 41 30.0	
	comp=E,378nm,0.1s					
JOKA	**Jonika Flow**	**0.47**	**62**	Pb	12 41 23.7	-1.5
JOKA	**Jonika Flow**	**0.47**	**62**	IAML	12 41 30.9	
	comp=E,200nm,0.5s					
JOKA				IAML	12 41 33.8	
	comp=N,264nm,0.5s					
CPH	**Captain Cook**	**0.52**	**302**	Pn	12 41 24.1	-1.9
POHA	**Pohakuloa**	**0.55**	**352**	Pn	12 41 24.7	-1.8
HUH	**Hualalai**	**0.60**	**322**	Pn	12 41 25.6	-1.5
HUH				Sb	12 41 33.7	-2.1
HUH	**Hualalai**	**0.60**	**322**	IAML	12 41 34.5	
	comp=E,259nm,0.2s					
HUH				IAML	12 41 38.4	
	comp=N,282nm,0.2s					
HPAH	**Hawaii Prepara**	**0.85**	**344**	Pn	12 41 28.4	-2.1
HPAH	**Hawaii Prepara**	**0.85**	**344**	IAML	12 41 38.8	
	comp=E,149nm,0.2s					
HPAH				IAML	12 41 39.1	
	comp=N,105nm,0.1s					
MHA	**Mahukona**	**1.06**	**336**	Pn Pn	12 41 31.4	-1.9
HLK	**Haleakala**	**1.71**	**334**	Pn Pn	12 41 40.1	-2.5

NOU 29 12:48:45.0, 16°13'S×167°43'E, h9km, MLv4.2/13, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
SANVU	**Saraoutou**	**0.71**	**342**	P Pb	12 48 59.8	+0.2
SANVU	**Saraoutou**	**0.71**	**342**	S Sb	12 49 10.0	+0.5
SANVU	**Saraoutou**	**0.71**	**342**	P Pb	12 48 59.5	-0.1
SANVU	**Saraoutou**	**0.71**	**342**	S Sb	12 49 09.8	+0.3
DVP	**Devils Point**	**1.74**	**156**	P Pn	12 49 15.8	+0.3
RTV	**Rentapao**	**1.91**	**150**	P Pn	12 49 18.7	+1.0
YATNC	**Mamie plateau,**	**5.92**	**185**	P Pn	12 50 11.3	-1.6
DZM	**Mont Dzumac**	**5.98**	**189**	P Pn	12 50 13.0	-0.9
ONTNC	**Ouen Toro**	**6.21**	**188**	P Pn	12 50 17.1	+0.2
OUENC	**Ouen Island, N**	**6.28**	**185**	P Pn	12 50 17.3	-0.6
PINNC	**Pines Island,**	**6.45**	**180**	P Pn	12 50 20.6	+0.4

IDC 29 12:54:47.7±1.9, 5°50'N×126°29'E, h106km±22km, mb3.1/4, mbtmp3.4/4, MS3.6/1, Error ellipse: s-maj=106.8km s-min=20.7km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
DAV	**Davao City (W)**	**1.71**	**336**	P Pn	12 55 16.9	-0.1
	131nm,0.4s,baz=274,slow=7.4,SNR=2.3					
DAV				S Sn	12 55 39.5	+0.2
	172nm,0.4s,baz=90,slow=23,SNR=4.1					

BATI Baumata 15.82 190 LR LR 13 05 50.7
comp=Z,231nm,20.0s,baz=204,slow=42
FITZ Fitzroy Crossi 23.45 182 P P 12 59 48.2 +0.4
2.0nm,0.9s,baz=350,slow=11,SNR=1.9
2.0nm,0.9s
WRA Warramunga Arr 26.49 163 P P 13 00 14.8 -0.4
0.2nm,0.4s,baz=344,slow=10,SNR=15
0.2nm,0.4s
ASAR Alice Springs 29.92 166 P P 13 00 45.5 -0.3
0.2nm,0.6s,baz=342,slow=6.9,SNR=9.7
ASAR PcP PcP 13 03 47.3 +1.1
0.3nm,0.8s,baz=341,slow=2.3,SNR=4.8
0.2nm,0.6s
MKAR Makanchi Array 55.87 325 P P 13 04 13.4 -1.0
0.1nm,0.3s,baz=127,slow=6.6,SNR=2.8
0.1nm,0.3s

KRSC 29 12:57:56.9±1.1, 51°06'N×158°34'E, h50km±22km, Ml3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
PAU	**Pauzhetka**	**1.05**	**294**	eP Pn	12 58 17.1	+1.8
PAU				eS Sn	12 58 29.7	+0.9
ASAK	**Asacha**	**1.36**	**349**	eP Pn	12 58 21.4	+1.8
ASAK				eS Sn	12 58 38.1	+1.6
RUS	**Russkaya**	**1.39**	**4**	eP Pn	12 58 21.2	+1.4
RUS				eS Sn	12 58 38.1	+1.1
MTVR	**Mutnovka**	**1.43**	**356**	eP Pn	12 58 22.6	+1.9
MTVR				eS Sn	12 58 40.1	+1.7
SKR	**Severo-Kuril's**	**1.46**	**256**	eP Pn	12 58 22.0	+1.2
SKR				eS Sn	12 58 39.5	+0.8
GRL	**Gorelyy**	**1.51**	**354**	eP Pn	12 58 23.9	+2.2
GRL				eS Sn	12 58 42.5	+2.3
MIPR	**Malaya Ipel'ka**	**1.57**	**322**	eP Pn	12 58 24.4	+2.0
MIPR				eS Sn	12 58 43.9	+2.3
KRMR	**Karymshinskiy**	**1.78**	**356**	eP Pn	12 58 27.7	+2.4
KRMR				eS Sn	12 58 49.1	+2.4
PET	**Petropavlovsk**	**1.98**	**5**	eP Pn	12 58 30.3	+2.4
PET				eS Sn	12 58 53.9	+2.3
DALK	**Dalny**	**2.00**	**7**	eP Pn	12 58 30.5	+2.4
DALK				eS Sn	12 58 53.8	+1.9
APC	**Apacha**	**2.01**	**339**	eP Pn	12 58 33.7	+5.3
INSR	**Institute**	**2.02**	**5**	eP Pn	12 58 31.2	+2.6
INSR				eS Sn	12 58 55.2	+2.6
UGLR	**Uglovaya**	**2.18**	**8**	eP Pn	12 58 33.7	+2.9
NLC	**Nalytchevo**	**2.21**	**16**	eP Pn	12 58 32.3	+1.2
AVH	**Avacha**	**2.23**	**6**	eP Pn	12 58 34.7	+3.2
SMAR	**Somma**	**2.23**	**7**	eP Pn	12 58 33.9	+2.3
KOK	**Koryaka**	**2.25**	**5**	eP Pn	12 58 35.2	+3.5
SDLR	**Sedlovina**	**2.25**	**8**	eP Pn	12 58 34.1	+2.3
KRER	**Koryakskii**	**2.27**	**6**	eP Pn	12 58 35.2	+3.1
SPN	**Mys Shipunski**	**2.29**	**26**	eP Pn	12 58 35.0	+2.7
KRX	**Arik**	**2.32**	**5**	eP Pn	12 58 35.8	+3.1
GNL	**Ganaly**	**2.66**	**355**	eP Pn	12 58 40.3	+3.0
KII	**Karymskiy**	**3.06**	**12**	eP Pn	12 58 46.6	+3.8
MKZ	**Mys Kozlova**	**4.07**	**29**	eP Pn	12 58 59.3	+2.9
KBTR	**Krutoberegovo**	**5.81**	**26**	eP Pn	12 59 23.6	+3.2

SOME ***29*** *13:00:06.7, 43.32°N×79.72°E, h5km*
NNC ***29*** *13:00:06.2±0.5, 43.34°N×79.77°E, h0km, mb3.7, mpv2.5, Error ellipse: s-maj=3.9km s-min=2.2km az=10.0*

ISC 29 13:00:05.6±2.5, 43°26'N±0'06"×79°8'E±0'1", h10km±8km, n9, σ0s52/18, 1C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
PDGK	**Podgornoye**	**0.21**	**289**	⇓P Pg	**13 00 10.3**	**+0.3**
	1.6nm,0.3s					
PDGK				⇑S Sg	**13 00 13.5**	**+0.4**
	17nm,0.3s					
SHLS	**Shalkode**	**0.24**	**244**	P Pg	**13 00 10.8**	**+0.2**
	18nm,0.1s					
SHLS				S Sg	**13 00 13.3**	**-0.7**
	46nm,0.1s					
SHLS	**Shalkode**	**0.24**	**244**	eP Pg	**13 00 10.8**	**+0.2**
	18nm,0.1s					
SHLS				eS Sg	**13 00 13.3**	**-0.7**
	46nm,0.1s					
UZB	**Uzynbulak**	**0.55**	**258**	P Pb	**13 00 17.8**	**+0.4**
	1.3nm,0.1s					
UZB				S Sb	**13 00 25.3**	**0.0**
	3.6nm,0.1s					
UZB	**Uzynbulak**	**0.55**	**258**	eP Pb	**13 00 17.8**	**+0.4**
	1.3nm,0.1s					
UZB				eS Sb	**13 00 25.3**	**0.0**
	3.6nm,0.1s					
KPKS	**Kokpek**	**0.81**	**285**	P Pb	**13 00 22.1**	**+0.3**
	0.1nm,0.1s					
KPKS				S Sb	**13 00 32.7**	**-0.1**
	4.8nm,0.1s					
SATY	**Saty**	**1.01**	**259**	P Pn	**13 00 26.3**	**+0.4**
	1.3nm,0.2s					
SATY				S Sn	**13 00 39.8**	**-0.4**
	9.9nm,0.1s					
KNOS	**Konyrlen**	**1.17**	**339**	P Pb	**13 00 28.0**	**-0.1**
	0.8nm,0.1s					
KNOS				S Sg	**13 00 42.7**	**-0.7**
	0.5nm,0.1s					
KNDC	**Almaty**	**2.04**	**270**	P Pb	**13 00 41.7**	**-1.0**
	7.7nm,0.3s					
KNDC				S Sb	**13 01 08.6**	**+0.5**
	6.3nm,0.2s					

ROM ***29*** *13:00:13.4±0.2, 45.853°N±0.010°×7.04°E±0.02, h10km, ML1.7/12, Error ellipse: s-maj=1.2km s-min=1.1km az=258.0*
GEN ***29*** *13:00:13.1, 45.89°N×7.01°E, h6km, Ml1.5*
ZUR ***29*** *13:00:13.9, 45.88°N×7.02°E, h3km, MLh1.5/38, Error ellipse: s-maj=1764.7km s-min=640.0km az=238.0*
STR ***29*** *13:00:14.3±0.2, 46°N±2°×±°, h5km, MLv2.2/21, LOCSAT earthModelID alpes_taup-2.11 preliminary*
LDG ***29*** *13:00:14.2±0.1, 45.86°N×7.05°E, h5km, Md1.8/2, Ml2.2/17, Error ellipse: s-maj=1.5km s-min=1.1km az=108.0*

ISC 29 13:00:14.3±0.8, 45°86'N±0'01"×7°03'E±0'02", h8km±4km, n84, σ0s94/160, 12C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
REMY	**Saint-Rhmy-en**	**0.09**	**103**	⇑Pg **Pg**	**13 00 16.5**	**-0.3**
REMY				Sg **Sg**	**13 00 18.4**	**-0.2**
REMY	**Saint-Rhmy-en**	**0.09**	**103**	⇑Pg **Pg**	**13 00 16.5**	**-0.3**
REMY				Sg **Sg**	**13 00 18.4**	**-0.2**
REMY	**Saint-Rhmy-en**	**0.09**	**103**	P **Pg**	**13 00 16.5**	**-0.3**
REMY				S **Sg**	**13 00 18.4**	**-0.2**
REMY	**Saint-Rhmy-en**	**0.09**	**103**	⇑P **Pg**	**13 00 16.5**	**-0.3**
REMY				S **Sg**	**13 00 18.3**	**-0.2**
REMY				AML AML		
	comp=E,648μm,0.4s					
REMY				AML AML		
	comp=N,1355μm,0.5s					
REMY				AML AML		
	comp=N,1073μm,0.2s					
REMY				AML AML		
	comp=E,599μm,0.2s					
REMY	**Saint-Rhmy-en**	**0.09**	**103**	Pg **Pg**	**13 00 16.5**	**-0.3**
REMY				Sg **Sg**	**13 00 18.4**	**-0.2**
MRGE	**Morge**	**0.09**	**167**	P **Pg**	**13 00 16.4**	**-0.3**
MRGE				S **Sg**	**13 00 18.3**	**-0.2**
MRGE	**Morge**	**0.09**	**167**	P **Pg**	**13 00 16.4**	**-0.3**
MRGE				S **Sg**	**13 00 18.2**	**-0.3**
MRGE				AML AML		
	comp=N,1295μm,0.1s					
MRGE				AML AML		
	comp=E,1116μm,0.2s					
MRGE				AML AML		
	comp=N,1013μm,0.1s					
MRGE				AML AML		
	comp=N,1295μm,0.1s					
MFERR	**Prayon, Val Fe**	**0.11**	**31**	⇓Pg **Pg**	**13 00 16.3**	**-0.7**
MFERR				Sg **Sg**	**13 00 17.7**	**-1.1**
MFERR	**Prayon, Val Fe**	**0.11**	**31**	⇓Pg **Pg**	**13 00 16.3**	**-0.7**
MFERR				Sg **Sg**	**13 00 17.8**	**-1.1**
SALAN	**Lac Salanfe**	**0.29**	**352**	⇑Pg **Pg**	**13 00 19.4**	**-0.7**
SALAN				Sg **Sg**	**13 00 23.0**	**-1.0**
FULLY	**Reservoir Maze**	**0.31**	**14**	⇑Pg **Pg**	**13 00 19.8**	**-0.6**
FULLY				Sg **Sg**	**13 00 23.6**	**-0.9**
FULLY	**Reservoir Maze**	**0.31**	**14**	⇑Pg **Pg**	**13 00 19.8**	**-0.6**
FULLY				Sg **Sg**	**13 00 23.6**	**-0.9**
RSL	**Roselend**	**0.33**	**239**	P **Pg**	**13 00 20.4**	**-0.5**

RSL				S		Sg	13 00 24.7	-0.6
RSL	**Roselend**	**0.33**	**239**	Pg		**Pg**	**13 00 20.4**	**-0.5**
RSL				Sg		**Sg**	**13 00 24.9**	**-0.4**
LAVEY	**Lavey les Bain**	**0.34**	**359**	⇑Pg		**Pg**	**13 00 20.4**	**-0.7**
LAVEY				Sg		**Sg**	**13 00 24.5**	**-1.1**
DIX	**Grande Dixence**	**0.34**	**50**	Sg		**Sg**	**13 00 25.2**	**-0.6**
DIX	**Grande Dixence**	**0.34**	**50**	P		**Pg**	**13 00 20.7**	**-0.5**
DIX				S		**Sg**	**13 00 25.3**	**-0.4**
DIX	**Grande Dixence**	**0.34**	**50**	P		**Pg**	**13 00 20.9**	**-0.3**
DIX				S		**Sg**	**13 00 25.2**	**-0.6**
DIX				AML		AML		
	comp=E,360µm,0.4s							
DIX				AML		AML		
	comp=N,266µm,0.4s							
DIX				AML		AML		
	comp=E,320µm,0.2s							
DIX				AML		AML		
	comp=N,171µm,0.2s							
DIX	**Grande Dixence**	**0.34**	**50**	Pg		**Pg**	**13 00 20.6**	**-0.5**
DIX				Sg		**Sg**	**13 00 25.4**	**-0.4**
RAW4	**Former Reservo**	**0.36**	**16**	⇑Pg		**Pg**	**13 00 21.0**	**-0.5**
RAW4				Sg		**Sg**	**13 00 25.6**	**-0.7**
ILLEZ	**Chalet Vouargn**	**0.37**	**350**	⇑Pg		**Pg**	**13 00 20.8**	**-0.7**
GRYON	**Gryon**	**0.40**	**8**	⇑Pg		**Pg**	**13 00 21.5**	**-0.6**
GRYON				Sg		**Sg**	**13 00 26.4**	**-1.0**
VET01	**Vtroz, Route**	**0.40**	**24**	Pg		**Pg**	**13 00 21.6**	**-0.5**
VET01				Sg		**Sg**	**13 00 26.6**	**-0.8**
LPL	**La Plagne**	**0.40**	**212**	*e*Pg		**Pg**	**13 00 21.9**	**-0.3**
LPL				*e*Sg		**Sg**	**13 00 25.7**	**-1.8**
	comp=N,19nm,0.3s							
LSD	**Lago del Serru**	**0.41**	**170**	⇑Pg		**Pg**	**13 00 22.0**	**-0.3**
LSD				Sg		**Sg**	**13 00 27.4**	**-0.2**
LSD	**Lago del Serru**	**0.41**	**170**	⇑Pg		**Pg**	**13 00 22.1**	**-0.2**
LSD				Sg		**Sg**	**13 00 27.6**	**-0.1**
LSD	**Lago del Serru**	**0.41**	**170**	P		**Pg**	**13 00 22.1**	**-0.2**
LSD				S		**Sg**	**13 00 27.6**	**-0.1**
LSD	**Lago del Serru**	**0.41**	**170**	P		**Pg**	**13 00 22.1**	**-0.2**
LSD				S		**Sg**	**13 00 27.5**	**-0.1**
LSD				AML		AML		
	comp=E,81µm,0.4s							
LSD				AML		AML		
	comp=N,63µm,0.3s							
LSD				AML		AML		
	comp=E,75µm,0.1s							
LSD				AML		AML		
	comp=N,47µm,0.1s							
LSD	**Lago del Serru**	**0.41**	**170**	Pg		**Pg**	**13 00 22.0**	**-0.2**
LSD				Sg		**Sg**	**13 00 27.6**	**-0.1**
LPG	**La Plagne**	**0.41**	**209**	*e*Sg		**Sg**	**13 00 26.2**	**-1.6**
	comp=N,36nm,0.2s							
CIRO	**Champorcher**	**0.46**	**124**	P		**Pg**	**13 00 22.9**	**-0.3**
CIRO				S		**Sg**	**13 00 29.1**	**-0.1**
CIRO	**Champorcher**	**0.46**	**124**	P		**Pg**	**13 00 23.0**	**-0.2**
CIRO				S		**Sg**	**13 00 28.9**	**-0.2**
CIRO				AML		AML		
	comp=E,30µm,1.5s							
CIRO				AML		AML		
	comp=N,51µm,1.4s							
CIRO				AML		AML		
	comp=N,51µm,0.6s							
CIRO				AML		AML		
	comp=E,30µm,0.5s							
CIRO				AML		AML		
	comp=E,21µm,0.3s							
CIRO				AML		AML		
	comp=N,47µm,0.2s							
CIRO	**Champorcher**	**0.46**	**124**	Pg		**Pg**	**13 00 23.0**	**-0.2**
CIRO				Sg		**Sg**	**13 00 29.1**	**-0.1**
AIGLE	**Aigle**	**0.49**	**354**	Pg		**Pg**	**13 00 23.0**	**-0.8**
VANNI	**Vissoie, Val d**	**0.53**	**48**	P		**Pg**	**13 00 24.7**	**+0.1**
VANNI				S		**Sg**	**13 00 30.7**	**-0.9**
SENIN	**Lac Senin/Sane**	**0.54**	**20**	Pg		**Pg**	**13 00 24.1**	**-0.7**
SENIN				Sg		**Sg**	**13 00 31.2**	**-0.6**
SENIN	**Lac Senin/Sane**	**0.54**	**20**	P		**Pg**	**13 00 24.1**	**-0.7**
SENIN				S		**Sg**	**13 00 31.1**	**-0.8**
TRAV	**Traversella**	**0.61**	**124**	P		**Pg**	**13 00 25.9**	**-0.1**
TRAV				S		**Sg**	**13 00 33.5**	**-0.5**
TRAV	**Traversella**	**0.61**	**124**	P		**Pg**	**13 00 25.7**	**-0.4**
TRAV				S		**Sg**	**13 00 33.7**	**-0.4**
TRAV				AML		AML		
	comp=E,38µm,1.3s							
TRAV				AML		AML		
	comp=E,38µm,0.7s							
TRAV				AML		AML		
	comp=N,50µm,0.2s							
TRAV				AML		AML		
	comp=N,41µm,0.1s							
TRAV				AML		AML		
	comp=E,32µm,0.3s							
TRAV	**Traversella**	**0.61**	**124**	Pg		**Pg**	**13 00 25.6**	**-0.4**
TRAV				Sg		**Sg**	**13 00 33.6**	**-0.4**
OGMO	**Fort Saint-Gob**	**0.69**	**201**	Pg		**Pg**	**13 00 26.6**	**-1.1**
RSP	**Reno Superiore**	**0.73**	**167**	P		**Pg**	**13 00 26.6**	**-1.8**
RSP				S		**Sg**	**13 00 37.1**	**-0.7**
SIMPL	**Simplonpass**	**0.79**	**61**	P		**Pg**	**13 00 28.7**	**-0.7**
SIMPL				S		**Sg**	**13 00 38.5**	**-1.2**
OGMY	**Moye**	**0.80**	**272**	Pg		**Pn**	**13 00 32.4**	**+0.5**
OGMY				Sg		**Sn**	**13 00 43.4**	**-0.5**
OGMY				Sn		**Sb**	**13 00 45.3**	**+3.9**
GIMEL	**St. Georges /**	**0.86**	**322**	P		**Pg**	**13 00 30.6**	**-0.2**
GIMEL	**St. Georges /**	**0.86**	**322**	Pg		**Pg**	**13 00 30.5**	**-0.3**
GIMEL				Sg		**Sg**	**13 00 42.4**	**+0.3**
TORNY	**Torny/Romont**	**0.92**	**357**	Pg		**Pn**	**13 00 34.1**	**+0.6**
TORNY				Sg		**Sn**	**13 00 48.1**	**+1.2**
RRL	**Rocca Remolon**	**0.95**	**190**	Pg		**Pg**	**13 00 32.2**	**-0.4**
RRL				Sg		**Sg**	**13 00 44.7**	**-0.3**
RRL				Sn		**Sb**	**13 00 46.0**	**0.0**
OGSM	**Saint Maurice**	**0.97**	**256**	Pg		**Pg**	**13 00 32.6**	**-0.3**
OGSM				Sg		**Sg**	**13 00 45.5**	**0.0**
OGSM				Sn		**Sn**	**13 00 49.5**	**+1.4**
CABF	**La Chapelle**	**1.00**	**319**	*e*Pg		**Pg**	**13 00 33.3**	**-0.2**
CABF	**La Chapelle**	**1.00**	**319**	*e*P		**Pn**	**13 00 34.9**	**+0.2**
CABF				*e*Sg		**Sb**	**13 00 48.1**	**+0.9**
	comp=E,18nm,0.3s							
BHB	**Bricherasio**	**1.03**	**171**	Pg		**Pg**	**13 00 33.6**	**-0.5**
BHB				Sg		**Sg**	**13 00 47.2**	**-0.2**
OG35	**Corcelles**	**1.04**	**281**	Pg		**Pg**	**13 00 33.9**	**-0.3**
OG35				Sg		**Sg**	**13 00 47.2**	**-0.5**
OG35				Sn		**Sn**	**13 00 51.1**	**+1.3**
GRN	**Grenoble**	**1.09**	**236**	Pg		**Pn**	**13 00 37.1**	**+1.2**
MBDF	**Montbardon**	**1.15**	**189**	*e*Pg		**Pg**	**13 00 35.3**	**-1.0**
MBDF				*e*Sg		**Sg**	**13 00 49.9**	**-1.3**
	comp=E,5.0nm,0.3s							
BRANT	**Les Verrieres**	**1.15**	**340**	Pn		**Pg**	**13 00 36.0**	**-0.3**
BRANT				Sg		**Sn**	**13 00 53.8**	**+1.1**
RIVEL	**MONT RIVEL**	**1.19**	**320**	Pg		**Pn**	**13 00 37.9**	**+0.7**
ORIF	**Oris-en-Rattie**	**1.24**	**221**	*e*Pg		**Pg**	**13 00 37.5**	**-0.6**
ORIF				*e*Sg		**Sg**	**13 00 53.4**	**-0.8**
	comp=E,13nm,0.2s							
ORIF	**Oris-en-Rattie**	**1.24**	**221**	Pg		**Pg**	**13 00 37.4**	**-0.8**
ORIF				Sg		**Sb**	**13 00 54.0**	**-0.2**
PZZ	**Stroppo**	**1.35**	**177**	Pg		**Pn**	**13 00 39.2**	**-0.4**
PZZ				Sg		**Sg**	**13 00 57.2**	**-0.6**
CHMF	**Charmoille**	**1.42**	**349**	Pn		**Pn**	**13 00 40.2**	**-0.1**
CHMF				Sn		**Sn**	**13 01 00.1**	**+0.9**
BOUC	**Bouclans**	**1.49**	**339**	Pg		**Pg**	**13 00 42.6**	**-0.2**
BOUC				Sn		**Sg**	**13 01 02.2**	**0.0**
BOURR	**Bourrignon**	**1.54**	**5**	Pn		**Pg**	**13 00 43.4**	**-0.5**
BOURR				Sn		**Sg**	**13 01 04.8**	**+1.0**
BALST	**Balsthal**	**1.55**	**17**	Pn		**Pb**	**13 00 43.2**	**0.0**
BALST				Sn		**Sg**	**13 01 05.0**	**+1.0**
SULZ	**Cheisacher**	**1.83**	**24**	Pg		**Pg**	**13 00 48.9**	**-0.4**
SULZ				Sn		**Sg**	**13 01 13.2**	**+0.1**
SSB	**Saint Sauveur**	**1.84**	**253**	Pn		**Pn**	**13 00 46.2**	**-0.1**
SSB				Pg		**Pb**	**13 00 48.6**	**+0.4**
SSB				Sn		**Sb**	**13 01 11.6**	**+0.4**
ENDD	**Endenburg**	**1.92**	**14**	Pg		**Pg**	**13 00 50.2**	**-0.8**
ENDD				Sn		**Sg**	**13 01 15.4**	**-0.6**
VIVF	**Saint-Julien-l**	**1.94**	**240**	*e*Pg		**Pb**	**13 00 50.3**	**+0.4**
VIVF				*e*Sg		**Sb**	**13 01 15.1**	**+0.8**
	comp=E,13nm,0.3s							
HINF	**Hinteralfeld**	**1.96**	**356**	*e*Pg		**Pb**	**13 00 50.4**	**+0.1**
HINF				*e*Sg		**Sb**	**13 01 14.8**	**-0.1**
	comp=E,1.0nm,0.2s							
SMRF	**Simiane la Rot**	**2.15**	**209**	*e*Pg		**Pg**	**13 00 54.7**	**-0.8**
SMRF				*e*Sg		**Sb**	**13 01 21.4**	**+1.2**
	comp=E,0.7nm,0.3s							
KIZ	**Kirchzarten**	**2.18**	**16**	Pg		**Pb**	**13 00 54.8**	**+0.8**
HAU	**Haudompre**	**2.20**	**348**	*e*Pn		**Pn**	**13 00 50.0**	**-1.1**
HAU	**Haudompre**	**2.20**	**348**	*e*Pg		**Pb**	**13 00 55.1**	**+0.8**
HAU				*e*Sg		**Sb**	**13 01 21.8**	**+0.1**
	comp=E,1.2nm,0.2s							
SMF	**Signal de Mont**	**2.35**	**291**	*e*Pg		**Pg**	**13 00 58.1**	**-1.2**
SMF				*e*Sg		**Sb**	**13 01 27.0**	**+1.0**
	comp=E,4.1nm,0.2s							
CDF	**Champ du Feu**	**2.56**	**4**	*e*Pg		**Pb**	**13 01 01.6**	**+1.1**
CDF				*e*Sn		**Sn**	**13 01 24.1**	**-3.4**
CDF				*e*Sg		**Sg**	**13 01 34.5**	**-2.0**
	comp=E,0.6nm,0.2s							
LOR	**Lormes**	**2.60**	**304**	*e*P		**Pn**	**13 00 57.7**	**+1.0**
LOR	**Lormes**	**2.60**	**304**	*e*Pg		**Pb**	**13 01 02.2**	**+1.0**
LOR				*e*Sg		**Sb**	**13 01 34.1**	**+0.8**
	comp=E,1.7nm,0.2s							
AVF	**Avril sur Loir**	**2.71**	**291**	*e*Pn		**Pn**	**13 00 57.1**	**-1.0**
AVF	**Avril sur Loir**	**2.71**	**291**	*e*Pg		**Pg**	**13 01 05.1**	**-1.2**
AVF				*e*Sg		**Sb**	**13 01 38.4**	**+1.9**
	comp=E,2.3nm,0.3s							
SSF	**Saint Saulge**	**2.72**	**298**	*e*P		**Pn**	**13 00 59.9**	**+1.7**
SSF	**Saint Saulge**	**2.72**	**298**	*e*Pg		**Pg**	**13 01 05.6**	**-0.8**
SSF				*e*Sn		**Sn**	**13 01 28.3**	**-2.9**
SSF				*e*Sg		**Sb**	**13 01 38.5**	**+1.9**
	comp=E,2.8nm,0.3s							
LASF	**Ste Croix**	**2.87**	**233**	*e*Pn		**Pn**	**13 00 59.3**	**-1.1**
LASF	**Ste Croix**	**2.87**	**233**	*e*Pg		**Pb**	**13 01 06.7**	**+0.9**
LASF				*e*Sg		**Sg**	**13 01 43.8**	**-2.8**
	comp=E,0.8nm,0.4s							
BGF	**Bois d'Agland**	**2.99**	**285**	*e*P		**Pn**	**13 01 03.5**	**+1.6**
BGF				*e*Sn		**Sn**	**13 01 35.3**	**-2.6**
	comp=E,4.1nm,0.5s							

DJA ***29*** *13:11:17.9±1.0,6˚N±3˚×12˚7E±˚, h33km±16km, M4.4/12, mB5.2/3, mb4.5/6, MLv4.4/12, Mw(mB)4.6/3*
IDC ***29*** *13:11:17.8±2.9,5˚.72N×126˚.57E, h87km±22km, mb3.8/12, mbtmp4.1/13, Error ellipse: s-maj=98.1km s-min=11.4km az=68.0*
NEIC ***29*** *13:11:17.3±1.2,5˚.61N±0˚.07×126˚.7E±0˚.1, h70km±8km, mb4.5/20, Error ellipse: s-maj=18.5km s-min=9.2km az=71.0*

ISC 29 13:11:17.9±0.5, 5˚.71N±0˚.04×126˚.63E±0˚.09, h87km, n49, σ0.97/52, mb4.2/21, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.71**	**323**	Pn	**Pn**	**13 11 45.8**	**-0.5**
DAV	**Davao City (W)**	**1.71**	**323**	P	**Pn**	**13 11 45.0**	**-1.2**
	238nm,0.4s,baz=72,slow=8.5,SNR=2.0						
DAV				S	**Sn**	**13 12 06.7**	**-0.9**
	332nm,0.3s,baz=256,slow=22,SNR=6.8						
SGSI	**Sangihe**	**2.29**	**209**	P	**Pn**	**13 11 53.8**	**-0.1**
SGSI				S	**Sn**	**13 12 21.4**	**0.0**
TNTI	**Ternate**	**4.96**	**171**	Pn	**Pn**	**13 12 26.9**	**-3.2**
TNTI	**Ternate**	**4.96**	**171**	P	**Pn**	**13 12 29.5**	**-0.6**
TNTI				S	**Sn**	**13 13 26.9**	**+0.7**
KMSI	**Cibinong**	**5.74**	**207**	P	**Pn**	**13 12 39.9**	**-0.8**
	0.5nm4µm91nm,0.7s						
MRSI	**Marisa**	**6.99**	**222**	P	**Pn**	**13 12 58.3**	**+0.6**
TOLI2	**Tolitoli**	**7.41**	**232**		**Pn**	**13 13 01.3**	**-2.1**
LUWI	**Luwuk**	**7.73**	**210**	Pn	**Pn**	**13 13 05.6**	**-2.3**
LUWI	**Luwuk**	**7.73**	**210**	P	**Pn**	**13 13 08.3**	**+0.5**
	79nm,0.8s						
MYLDM	**Lahad Datu**	**8.11**	**267**	Pn	**Pn**	**13 13 13.1**	**+0.1**
APSI	**Ampana**	**8.24**	**217**	P	**Pn**	**13 13 14.3**	**-0.5**
SBUM	**Sibu**	**14.73**	**258**	P	**P**	**13 14 45.9**	**+0.2**
BATI	**Baumata**	**16.08**	**191**	P	**Pn**	**13 14 59.7**	**+0.6**
	12nm,0.4s,baz=249,slow=19,SNR=1.4						
TWG	**Pinlang**	**17.84**	**343**	P	**Pn**	**13 15 21.1**	**+0.6**
TWG				IAmb	IAmb	13 15 24.6	
	comp=Z,49nm,1.2s						
KNRA	**Kununurra**	**21.35**	**174**	P	**P**	**13 15 58.7**	**+0.4**
KNRA				IAmb	IAmb	13 15 59.6	
	comp=Z,13nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.68**	**182**	P	**P**	**13 16 21.6**	**-0.2**
COEN	**Coen**	**25.52**	**140**	P	**P**	**13 16 38.2**	**-0.4**
COEN				IAmb	IAmb	13 16 43.5	
	comp=Z,23nm,1.4s						
WB0	**Warramunga Arr**	**26.45**	**163**	P	**P**	**13 16 46.3**	**-0.6**
WB0				IAmb	IAmb	13 17 11.9	
	comp=Z,14nm,1.5s						
WRAB	**Tennant Creek**	**26.59**	**164**	P	**P**	**13 16 47.6**	**-0.6**
WRA	**Warramunga Arr**	**26.60**	**164**	P	**P**	**13 16 47.6**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=344,slow=10,SNR=20						
WRA				PcP	**PcP**	**13 20 11.1**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=340,slow=2.5,SNR=2.1						
	comp=Z,2.3nm,0.7s						
WR8	**Warramunga Arr**	**26.65**	**163**	P	**P**	**13 16 48.3**	**-0.5**
JMN	**Monobe**	**28.68**	**13**	P	**P**	**13 17 08.5**	**+1.7**
JMN				IAmb	IAmb	13 17 35.8	
	comp=Z,21nm,1.4s						
AS31	**Alice Springs**	**30.05**	**167**	P	**P**	**13 17 18.7**	**-0.3**
ASAR	**Alice Springs**	**30.05**	**167**	P	**P**	**13 17 18.9**	**0.0**
	comp=Z,1.0nm,0.4s,baz=340,slow=7.0,SNR=42						
ASAR				PcP	**PcP**	**13 20 19.5**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=344,slow=2.6,SNR=12						
	comp=Z,1.0nm,0.4s						
BBOO	**Buckleboo**	**39.34**	**167**	P	**P**	**13 18 38.2**	**-0.7**
STKA	**Stephens Creek**	**40.01**	**160**	P	**P**	**13 18 44.3**	**0.0**
STKA	**Stephens Creek**	**40.01**	**160**	P	**P**	**13 18 44.4**	**0.0**
	comp=Z,1.9nm,0.6s,baz=354,slow=11,SNR=4.3						
	comp=Z,1.9nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**41.54**	**67**	T	T	14 03 52.5	
	baz=258						
H11N2	**WAKE ISLAND Hy**	**41.55**	**67**	T	T	14 03 49.1	
	baz=258						
H11N3	**WAKE ISLAND Hy**	**41.56**	**67**	T	T	14 03 53.0	
	baz=258						
ARMA	**Armidale**	**43.18**	**148**	P	**P**	**13 19 09.9**	**-0.6**
ARMA				IAmb	IAmb	13 19 53.8	
	comp=Z,11nm,1.2s						
MGBR	**Mount Gambier**	**45.12**	**164**	P	**P**	**13 19 24.9**	**-0.9**
SANVU	**Saraoutou**	**45.36**	**118**	P	**P**	**13 19 26.3**	**-1.7**
SONM	**Songino Array**	**45.40**	**341**	P	**P**	**13 19 28.4**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=155,slow=5.9,SNR=1.8						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**55.89**	**325**	P	**P**	**13 20 46.1**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=117,slow=7.6,SNR=23						
MKAR				PcP	**PcP**	**13 21 43.8**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=120,slow=4.3,SNR=3.8						
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**58.79**	**333**	P	**P**	**13 21 06.7**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=154,slow=8.0,SNR=2.5						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**60.03**	**327**	P	**P**	**13 21 14.7**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=125,slow=6.6,SNR=8.0						
	comp=Z,0.8nm,0.5s						
KURK	**Kurchatov**	**60.03**	**327**	P	**P**	**13 21 14.8**	**-0.8**
KURK				IAmb	IAmb	13 21 15.3	
	comp=Z,2.0nm,0.5s						
BVAR	**Borovoye Array**	**65.62**	**327**	P	**P**	**13 21 52.0**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=144,slow=5.5,SNR=5.4						
	comp=Z,0.7nm,0.4s						
CASY	**Casey**	**72.76**	**187**	P	**P**	**13 22 37.2**	**+0.8**
D19K	**Kuna River**	**79.33**	**21**	P	**P**	**13 23 15.1**	**+1.2**
D19K				IAmb	IAmb	13 23 30.1	
	comp=Z,9.4nm,1.4s						
D22K	**Ayikyak River**	**81.35**	**21**	P	**P**	**13 23 25.8**	**+1.1**
D22K				IAmb	IAmb	13 23 47.1	
	comp=Z,9.4nm,1.4s						
VNDA	**Vanda**	**85.39**	**173**	P	**P**	**13 23 45.9**	**+0.8**
VNDA	**Vanda**	**85.39**	**173**	P	**P**	**13 23 45.4**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=232,slow=0.5,SNR=2.7						
	comp=Z,0.3nm,0.5s						
I28M	**Miner Creek**	**86.28**	**25**	P	**P**	**13 23 51.7**	**+1.7**
I28M				IAmb	IAmb	13 23 52.6	
	comp=Z,2.9nm,1.2s						
ARCES	**ARCESS Array B**	**88.57**	**340**	P	**P**	**13 24 00.2**	**-0.6**
	comp=Z,4.2nm,1.0s,baz=98,slow=4.4,SNR=6.2						
	comp=Z,4.2nm,1.0s						
FINES	**FINESS Array B**	**90.05**	**332**	P	**P**	**13 24 06.9**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=79,slow=9.9,SNR=7.8						
	comp=Z,0.6nm,0.5s						
QSPA	**South Pole Qui**	**95.60**	**180**	P	**P**	**13 24 33.4**	**0.0**
	comp=Z,2.0nm,1.2s,baz=124,slow=4.8,SNR=2.6						
	comp=Z,2.0nm,1.2s						

GEN ***29*** *13:17:50.9, 45˚.89N×7˚.04E, h6km±1km, MI1.4*
ROM ***29*** *13:17:51.4±0.1, 45˚.834N±0˚.010×7˚.02E±0˚.01, h10km, ML1.5/12, Error ellipse: s-maj=1.2km s-min=0.8km az=27.0*
ZUR ***29*** *13:17:51.7, 45˚.88N×7˚.02E, h3km, MLh1.7/19, Error ellipse: s-maj=1450.6km s-min=444.4km az=258.0*
LDG ***29*** *13:17:52.1±0.1, 45˚.86N×7˚.04E, h5km, Md1.8/2, Ml2.3/16, Error ellipse: s-maj=1.4km s-min=1.0km az=113.0*
STR 29 13:17:51.9±0.2, 46˚N±1˚×˚±˚, h6km, MLv2.2/24, 15C-3D,

LOCSAT earthModelID alpes_taup-2.11 preliminary, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRGE	**Morge**	**0.09**	**167**	⇑Pg	Pg	13 17 54.2	+0.3
MRGE				Sg	Sg	13 17 56.0	+0.6
MRGE	**Morge**	**0.09**	**167**	P	Pg	13 17 54.2	+0.3
MRGE				S	Sg	13 17 56.0	+0.6
MRGE	**Morge**	**0.09**	**167**	P	Pg	13 17 54.2	+0.2
MRGE				S	Sg	13 17 56.0	+0.7
MRGE				AML	AML		
	comp=N,928µm,0.1s						
MRGE				AML	AML		
	comp=E,660µm,0.1s						
REMY	**Saint-Rhmy-en**	**0.09**	**101**	⇑Pg	Pg	13 17 54.3	+0.3
REMY				Sg	Sg	13 17 56.2	+0.6
REMY	**Saint-Rhmy-en**	**0.09**	**101**	P	Pg	13 17 54.3	+0.3
REMY				S	Sg	13 17 56.2	+0.7
REMY	**Saint-Rhmy-en**	**0.09**	**101**	P	Pg	13 17 54.3	+0.3
REMY				S	Sg	13 17 56.2	+0.6
REMY				AML	AML		
	comp=E,482µm,0.4s						
REMY				AML	AML		
	comp=N,1161µm,0.5s						
REMY				AML	AML		
	comp=N,854µm,0.2s						
REMY				AML	AML		
	comp=E,480µm,0.2s						
REMY	**Saint-Rhmy-en**	**0.09**	**101**	Pg	Pg	13 17 54.3	+0.3
REMY				Sg	Sg	13 17 56.2	+0.6
MFERR	**Prayon, Val Fe**	**0.11**	**30**	⇓Pg	Pg	13 17 54.1	-0.3
MFERR				Sg	Sg	13 17 55.5	-0.5
SEMOS	**Emosson Stauma**	**0.22**	**342**	⇑Pg	Pg	13 17 55.9	-0.4
SEMOS				Sg	Sg	13 17 58.6	-0.7
SMAO	**Martigny, Rue**	**0.25**	**7**	Pg	Pg	13 17 56.3	-0.4
SMAO				Sg	Sg	13 17 59.5	-0.5
SALAN	**Lac Salanfe**	**0.29**	**352**	⇑Pg	Pg	13 17 57.2	-0.4
SALAN				Sg	Sg	13 18 00.8	-0.8
FULLY	**Reservoir Maze**	**0.31**	**13**	⇑Pg	Pg	13 17 57.6	-0.3
FULLY				Sg	Sg	13 18 01.4	-0.6
RSL	**Roselend**	**0.33**	**240**	⇓Pg	Pg	13 17 58.2	-0.1
RSL				Sg	Sg	13 18 02.5	-0.2
RSL	**Roselend**	**0.33**	**240**	P	Pg	13 17 58.2	-0.1
RSL				S	Sg	13 18 02.5	-0.2
RSL	**Roselend**	**0.33**	**240**	Pg	Pg	13 17 58.2	-0.2
RSL				Sg	Sg	13 18 02.6	-0.2
DIX	**Grande Dixence**	**0.34**	**49**	⇑Pg	Pg	13 17 58.5	-0.2
DIX				Sg	Sg	13 18 03.0	-0.3
DIX	**Grande Dixence**	**0.34**	**49**	P	Pg	13 17 58.5	-0.2
DIX				S	Sg	13 18 03.0	-0.2
DIX	**Grande Dixence**	**0.34**	**49**	Pg	Pg	13 17 58.5	-0.2
DIX				Sg	Sg	13 18 03.0	-0.3
LAVEY	**Lavey les Bain**	**0.34**	**359**	⇑Pg	Pg	13 17 58.1	-0.4
LAVEY				Sg	Sg	13 18 02.3	-0.8
RAW4	**Former Reservo**	**0.37**	**16**	⇑Pg	Pg	13 17 58.8	-0.2
RAW4				Sg	Sg	13 18 03.4	-0.5
ILLEZ	**Chalet Vouargn**	**0.37**	**350**	⇑Pg	Pg	13 17 58.6	-0.5
ILLEZ				Sg	Sg	13 18 03.3	-0.7
VET03	**Vtroz, Le Bot**	**0.39**	**26**	Sg	Sg	13 18 05.1	+0.4
GRYON	**Gryon**	**0.40**	**8**	⇑Pg	Pg	13 17 59.3	-0.4
GRYON				Sg	Sg	13 18 04.2	-0.7
LPL	**La Plagne**	**0.40**	**212**	*e*Pg	Pg	13 17 59.5	-0.1
LPL				*e*Sg	Sg	13 18 04.7	-0.2
	comp=E,20nm,0.3s						
LSD	**Lago del Serru**	**0.40**	**170**	⇑Pg	Pg	13 17 59.9	+0.2
LSD				Sg	Sg	13 18 05.2	+0.3
LSD	**Lago del Serru**	**0.40**	**170**	P	Pg	13 17 59.9	+0.2
LSD				S	Sg	13 18 05.3	+0.3
LSD	**Lago del Serru**	**0.40**	**170**	P	Pg	13 17 59.9	+0.2
LSD				S	Sg	13 18 05.2	+0.2
LSD				AML	AML		
	comp=E,93µm,0.1s						
LSD				AML	AML		
	comp=N,70µm,0.9s						
LSD				AML	AML		
	comp=N,70µm,1.1s						
LSD				AML	AML		
	comp=E,93µm,0.1s						
LSD				AML	AML		
	comp=N,54µm,0.2s						
LSD	**Lago del Serru**	**0.40**	**170**	Pg	Pg	13 17 59.9	+0.2
LSD				Sg	Sg

OGSM					Sg	Sg	13 18 23.1	+0.1	
OGSM					Sn	Sn	13 18 27.2	+1.1	
CABF	**La Chapelle**	**1.00**	**319**	*e*Pg	Pg	Pg	13 18 10.5	-0.6	
CABF	**La Chapelle**	**1.00**	**319**	*e*P	Pn	Pn	13 18 12.7	+0.1	
CABF				*e*Sg	Sg	Sg	13 18 24.3	+0.2	
	comp=N,17nm,0.3s								
OG35	**Corcelles**	**1.04**	**281**	Pn	Pg	Pg	13 18 10.7	-1.0	
OG35				Sg	Sg	Sg	13 18 25.1	-0.1	
GRN	**Grenoble**	**1.09**	**236**	Pg	Pn	Pn	13 18 15.0	+1.1	
MBDF	**Montbardon**	**1.14**	**189**	*e*Pg	Pg	Pg	13 18 12.7	-1.1	
MBDF				*e*Sg	Sg	Sg	13 18 28.8	+0.2	
	comp=N,5.6nm,0.3s								
BRANT	**Les Verrieres**	**1.15**	**340**	Pg	Pg	Pg	13 18 13.6	-0.3	
ORIF	**Oris-en-Rattie**	**1.24**	**221**	*e*P	Pg	Pg	13 18 15.3	-0.3	
ORIF				*e*Sg	Sg	Sg	13 18 31.3	-0.4	
	comp=N,11nm,0.2s								
ORIF	**Oris-en-Rattie**	**1.24**	**221**	Pn	Pg	Pg	13 18 15.2	-0.4	
ORIF				Sg	Sb	Sb	13 18 32.0	0.0	
PZZ	**Stroppo**	**1.35**	**177**	Pg	Pg	Pg	13 18 17.7	0.0	
CHMF	**Charmoille**	**1.42**	**349**	Pn	Pn	Pn	13 18 18.0	-0.3	
CHMF				Sn	Sg	Sg	13 18 38.1	+0.7	
BOUC	**Bouclans**	**1.49**	**339**	Pn	Pn	Pn	13 18 18.9	-0.3	
BOUC				Pg	Pg	Pg	13 18 20.3	-0.1	
BOUC				Sn	Sg	Sg	13 18 39.9	+0.1	
BOURR	**Bourrignon**	**1.54**	**5**	Pg	Pg	Pg	13 18 21.2	-0.3	
BALST	**Balsthal**	**1.55**	**17**	Pn	Pn	Pn	13 18 19.8	-0.3	
BALST				Pg	Pg	Pg	13 18 21.5	0.0	
BALST				Sg	Sg	Sg	13 18 43.0	+1.3	
SULZ	**Cheisacher**	**1.83**	**24**	Pg	Pg	Pg	13 18 26.6	-0.3	
SULZ				Sg	Sg	Sg	13 18 51.0	+0.4	
SSB	**Saint Sauveur**	**1.84**	**253**	Pn	Pn	Pn	13 18 23.9	-0.2	
SSB				Pg	Pb	Pb	13 18 26.5	+0.5	
SSB				Sg	Sb	Sb	13 18 49.8	+0.5	
ENDD	**Endenburg**	**1.92**	**14**	Pg	Pb	Pb	13 18 27.8	+0.5	
ENDD				Sg	Sg	Sg	13 18 53.4	-0.2	
PLYF	**Puligny Montra**	**1.93**	**306**	Pg	Pb	Pb	13 18 27.9	+0.4	
PLYF				Sg	Sg	Sg	13 18 53.1	-0.7	
VIVF	**Saint-Julien-l**	**1.94**	**240**	*e*Pg	Pb	Pb	13 18 28.2	+0.5	
VIVF				*e*Sg	Sb	Sb	13 18 52.7	+0.6	
	comp=N,12nm,0.3s								
HINF	**Hinteralfeld**	**1.97**	**356**	*e*P	Pn	Pn	13 18 24.7	-1.1	
HINF	**Hinteralfeld**	**1.97**	**356**	*e*Pg	Pb	Pb	13 18 28.4	+0.3	
HINF				*e*Sg	Sb	Sb	13 18 52.3	-0.6	
	comp=N,2.6nm,0.3s								
TRIGF	**Trigance**	**2.15**	**192**	Pg	Pb	Pb	13 18 30.3	-1.0	
KIZ	**Kirchzarten**	**2.19**	**16**	Pg	Pb	Pb	13 18 32.5	+0.7	
KIZ				Sg	Sb	Sb	13 19 00.2	+1.0	
HAU	**Haudompre**	**2.20**	**348**	*e*Pn	Pn	Pn	13 18 27.3	-1.7	
HAU	**Haudompre**	**2.20**	**348**	*e*Pg	Pg	Pg	13 18 33.4	-0.6	
HAU				*e*Sn	Sn	Sn	13 18 52.8	-3.8	
HAU				*e*Sg	Sg	Sg	13 19 01.9	-0.7	
	comp=N,2.7nm,0.2s								
SMF	**Signal de Mont**	**2.35**	**291**	*e*Pg	Pg	Pb	13 18 35.8	-1.1	
SMF				*e*Sg	Sb	Sb	13 19 05.1	+1.2	
	comp=N,3.7nm,0.2s								
ECH	**Echery**	**2.36**	**2**	Pn	Pn	Pn	13 18 29.6	-1.6	
COLF	**Collangettes**	**2.37**	**263**	Pg	Pb	Pb	13 18 35.7	+0.8	
COLF				Sg	Sg	Sg	13 19 06.1	-1.7	
CDF	**Champ du Feu**	**2.56**	**4**	*e*Pn	Pn	Pn	13 18 32.7	-1.3	
CDF	**Champ du Feu**	**2.56**	**4**	*e*Pg	Pg	Pg	13 18 39.8	-1.2	
CDF				*e*Sg	Sb	Sb	13 19 11.7	+1.6	
	comp=N,0.7nm,0.2s								
LOR	**Lormes**	**2.61**	**304**	*e*Pg	Pb	Pb	13 18 40.1	+1.1	
LOR				*e*Sg	Sb	Sb	13 19 13.3	+2.0	
	comp=N,2.1nm,0.2s								
AVF	**Avril sur Loir**	**2.72**	**291**	*e*Pg	Pg	Pg	13 18 42.9	-1.0	
AVF				*e*Sg	Sb	Sb	13 19 15.4	+1.0	
	comp=N,2.0nm,0.2s								
SSF	**Saint Saulge**	**2.72**	**298**	*e*Pg	Pg	Pg	13 18 42.5	-1.5	
SSF				*e*Sg	Sb	Sb	13 19 16.6	+2.1	
	comp=N,2.5nm,0.3s								
SBPO	**S.Benedetto Po**	**2.85**	**105**	AML	AML				
	comp=N,535µm,0.1s								
SBPO				AML	AML				
	comp=E,3365µm,0.1s								
LASF	**Ste Croix**	**2.87**	**233**	*e*P	Pn	Pn	13 18 38.5	+0.3	
LASF	**Ste Croix**	**2.87**	**233**	*e*Pg	Pb	Pb	13 18 44.6	+1.1	
LASF				*e*Sn	Sn	Sn	13 19 09.7	-3.4	
	comp=E,0.5nm,0.2s								
LASF				*e*Sg	Sg	Sg	13 19 21.9	-2.2	
	comp=E,0.8nm,0.3s								

MOS ***29*** *13:44:49.6±1.1,3.˚86N×64.˚22E,h10km,mb5.2/63, MS4.4/8,Error ellipse: s-maj=6.5km s-min=3.7km az=106.0*

IDC ***29*** *13:44:49.7±0.4,3.˚88N×64.˚24E,h0km,mb4.4/31, mbtmp4.4/32,ML1.7/1,MS4.2/73,Error ellipse: s-maj=13.1km s-min=11.9km az=32.0*

GCMT ***29*** *13:44:51.7±0.2,3.˚76N±0.˚01×64.˚25E±0.˚02,h12km, MW5.0/127,Moment Tensor Solution. s38,c48; s127,c201; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.05±.07; Mθθ-3.52±.07; Mφφ-0.53±.08; Mrθ-0.94±.27; Mθφ1.33±.06; Mφr0.27±.30; Best double couple: Mo4.15500×10¹⁶ NP1:φs112.00000°,δ38.00000°, λ92.00000°. NP2:φs290.00000°,δ52.00000°,λ89.00000°. Principal axes: T 4.1670, Plg83.0000°, Azm192.0000°; N -0.0300, Plg1.0000°, Azm291.0000°; P -4.1430, Plg7.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***29*** *13:44:52.7±1.9,3.˚94N±0.˚10×64.˚21E±0.˚07,h10km±1km, mb5.3/120 Error ellipse: s-maj=16.2km s-min=11.9km az=177.0*

ISC 29 13:44:51.4±0.6,**3.˚75N**±0.˚04×**64.˚23E**±0.˚04,**h11**km±3km, **h11**km:**pP-P,n633,**σ1§**64**/668,**mb5.1**/212,**MS4.3**/102, **48C-22D,Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAAM	**Kaadhehdhoo**	**9.33**	**110**	Pn	**Pn**	**13 47 08.0**	**+2.0**
KAAM	**Kaadhehdhoo**	**9.33**	**110**	P	**Pn**	**13 47 05.3**	**-0.7**
MSEY	**Mahe Island**	**12.11**	**226**	Pn	**Pn**	**13 47 42.4**	**-1.7**
MSEY	**Mahe Island**	**12.11**	**226**	P	Pn	13 47 38.8	-5.3
MSEY				S	Sn	13 49 50.3	-9.0
MSEY	**Mahe Island**	**12.11**	**226**	P	**Pn**	**13 47 42.4**	**-1.7**
TRD	**Trivandrum**	**13.50**	**69**	*e*P	**Pn**	**13 48 03.3**	**+0.2**
TRD				IAmb	IAmb	13 48 11.6	
	comp=Z,19nm,0.4s						
KOD	**Kodaikanal**	**14.62**	**63**	*e*P	**Pn**	**13 48 18.2**	**-0.5**
KOD				IAmb	IAmb	13 48 29.2	
	comp=Z,18nm,0.5s						
GOA	**Goa**	**15.01**	**38**	*e*P	**Pn**	**13 48 23.2**	**-0.4**
GOA				IAmb	IAmb	13 48 29.4	
	comp=Z,20nm,0.9s						
SALM	**Salem**	**15.90**	**60**	*e*P	**Pn**	**13 48 35.2**	**-0.1**
SALM				IAmb	IAmb	13 48 42.9	
	comp=Z,37nm,1.0s						
SHAO	**Shalim**	**16.50**	**330**	P	**Pn**	**13 48 43.6**	**+0.6**
SHAO				S	**Sn**	**13 51 50.7**	**+4.4**
DMTO	**DMTO**	**16.59**	**327**	P	**Pn**	**13 48 45.0**	**+0.7**
DMTO				P	**Pn**	**13 48 45.0**	**+0.7**
DMTO				S	**Sn**	**13 51 53.8**	**+5.1**
DMTO				S	**Sn**	**13 51 53.8**	**+5.1**
KAD	**Karad**	**16.63**	**35**	*e*P	**Pn**	**13 48 44.1**	**-0.6**
KAD				IAmb	IAmb	13 48 51.5	
	comp=Z,28nm,0.8s						
PALK	**Pallekele**	**16.76**	**77**	Pn	**Pn**	**13 48 46.5**	**+0.1**
PALK	**Pallekele**	**16.76**	**77**	Pn	**Pn**	**13 48 45.5**	**-0.9**
	comp=Z,5.2nm,0.7s,baz=263,slow=11,SNR=6.7						
PALK				LR	LR	13 53 46.9	
	comp=Z,1µm,19.8s,baz=262,slow=32						
PALK	**Pallekele**	**16.76**	**77**	P	**Pn**	**13 48 46.5**	**+0.1**
PALK				pmax	pmax		
	comp=Z,79nm,1.7s						
RBK	**Rabkut**	**16.84**	**325**	P	**Pn**	**13 48 48.2**	**+0.9**
RBK				P	**Pn**	**13 48 48.2**	**+0.9**
RBK				S	**S**	**13 52 00.5**	**-4.8**
RBK				S	**S**	**13 52 00.5**	**-4.8**
ABTO	**Aybut**	**17.25**	**322**	P	**Pn**	**13 48 52.7**	**+0.1**
ABTO				P	**Pn**	**13 48 52.7**	**+0.1**
ABTO				S	**Sn**	**13 52 08.7**	**+3.9**
ABTO				S	**Sn**	**13 52 08.7**	**+3.9**
DQM	**DQM**	**17.35**	**338**	P	**P**	**13 48 54.5**	**-0.6**
DQM				P	**P**	**13 48 54.5**	**-0.6**
WHFO	**Wadi Hawf**	**17.41**	**325**	P	**Pn**	**13 48 54.7**	**+0.1**
WHFO				P	**Pn**	**13 48 54.7**	**+0.1**
WHFO				S	**S**	**13 52 13.0**	**-4.1**
WHFO				S	**S**	**13 52 13.0**	**-4.1**
POO	**Poona**	**17.44**	**32**	*e*P	**Pn**	**13 48 54.4**	**-0.6**
POO				IAmb	IAmb	13 49 00.8	
	comp=Z,22nm,1.0s						
DOK	**Doka**	**17.77**	**327**	P	**P**	**13 49 00.4**	**+0.6**
DOK				S	**S**	**13 52 23.8**	**-0.5**
MHTO	**MHTO**	**18.18**	**341**	P	**P**	**13 49 04.7**	**+0.4**
MHTO				P	**P**	**13 49 04.7**	**+0.4**
MHTO				S	**S**	**13 52 32.0**	**-0.6**
MHTO				S	**S**	**13 52 32.0**	**-0.6**
JLN	**Jalan Bani Buh**	**18.88**	**346**	P	**Pn**	**13 49 13.3**	**+0.8**
JLN				P	**Pn**	**13 49 13.3**	**+0.8**
JMDO	**Jabal Madar**	**19.44**	**343**	P	**Pn**	**13 49 19.5**	**+0.2**
	SNR=7.2						
JMDO				P	**Pn**	**13 49 19.5**	**+0.2**
	SNR=7.2						
JMDO				S	**S**	**13 53 02.0**	**+4.0**
JMDO				S	**S**	**13 53 02.0**	**+4.0**
HYB	**Hyderabad**	**19.53**	**45**	*e*P	**Pn**	**13 49 25.5**	**+5.0**
BHUJ	**Bhuj**	**20.08**	**15**	*e*P	**P**	**13 49 24.5**	**-0.6**
SMDO	**Samad**	**20.10**	**343**	P	Pn	13 49 27.5	+0.2
SMDO				P	Pn	13 49 27.5	+0.2
SMDO				S	Sn	13 53 16.4	+2.7
SMDO				S	Sn	13 53 16.4	+2.7
WSAR	**Wadi Sarin**	**20.11**	**345**	P	**P**	**13 49 24.1**	**-1.4**
	baz=146,slow=24,SNR=4.5						
WSAR				LR	LR	13 55 41.3	
	comp=Z,7.1nm,18.9s,baz=184,slow=33						
VJD	**Vijayawada**	**20.52**	**51**	*e*P	Pn	13 49 31.0	-1.0
VJD				IAmb	IAmb	13 49 45.8	
	comp=Z,18nm,0.9s						
BIDO	**Bidbid**	**20.52**	**344**	P	Pn	13 49 31.6	-0.4
	SNR=8.9						
BIDO				P	Pn	13 49 31.6	-0.4
	SNR=8.9						
BIDO				S	Sn	13 53 25.7	+2.2
BIDO				S	Sn	13 53 25.7	+2.2
UMZA	**Um Al Zommool**	**20.80**	**336**	P	**P**	**13 49 33.4**	**+0.5**
UMZA				P	**P**	**13 49 33.4**	**+0.5**
UMZA				S	Sn	13 53 29.1	-1.1
UMZA				S	Sn	13 53 29.1	-1.1
HOQ	**Hoqain**	**20.82**	**342**	P	Pn	13 49 34.6	-1.0
	SNR=12						
HOQ				P	Pn	13 49 34.6	-1.0
	SNR=12						
HOQ				S	Sn	13 53 30.3	-0.4
HOQ				S	Sn	13 53 30.3	-0.4
ARQ	**Araqi**	**20.85**	**340**	P	**P**	**13 49 34.5**	**+1.1**
	SNR=12						
ARQ				P	**P**	**13 49 34.5**	**+1.1**
	SNR=12						
ARQ				S	Sn	13 53 31.6	+0.2
ARQ				S	Sn	13 53 31.6	+0.2
AKL	**Akola**	**20.94**	**35**	*e*P	**P**	**13 49 34.5**	**-0.1**
AKL				IAmb	IAmb	13 49 42.2	
	comp=Z,76nm,1.4s						
SOHO	**SOHO**	**21.58**	**341**	*i* P	**P**	**13 49 41.8**	**+0.5**
	SNR=6.4						
ALNE	**Al Ain**	**21.78**	**339**	P	**P**	**13 49 44.6**	**+1.1**
	SNR=16						
ALNE				S	**S**	**13 53 48.6**	**+4.1**
ALNE	**Al Ain**	**21.78**	**339**	*i* P	**P**	**13 49 44.6**	**+1.1**
	SNR=18						
MZR	**Muzera**	**21.78**	**332**	P	**P**	**13 49 43.9**	**+0.3**
	SNR=15						
MZR				P	**P**	**13 49 43.9**	**+0.3**
	SNR=15						
MZR				S	**S**	**13 53 49.0**	**+4.5**
MZR				S	**S**	**13 53 49.0**	**+4.5**
MZR	**Muzera**	**21.78**	**332**	*i* P	**P**	**13 49 43.8**	**+0.3**
	SNR=21						
ASHO	**Ashiyiah**	**22.25**	**340**	P	**P**	**13 49 49.5**	**+1.0**
	SNR=10						
ASHO				P	**P**	**13 49 49.5**	**+1.0**
	SNR=10						
ASHO				S	**S**	**13 53 59.1**	**+5.5**
ASHO				S	**S**	**13 53 59.1**	**+5.5**
ASHO	**Ashiyiah**	**22.25**	**340**	*i* P	**P**	**13 49 49.3**	**+0.8**
	SNR=11						
MZWR	**Madinat Zayed**	**22.26**	**334**	P	**P**	**13 49 49.4**	**+0.8**
MZWR				P	**P**	**13 49 49.4**	**+0.8**
MZWR				S	**S**	**13 53 58.2**	**+4.5**
MZWR				S	**S**	**13 53 58.2**	**+4.5**
HATD	**Hatta, Dubai**	**22.36**	**340**	P	**P**	**13 49 50.2**	**+0.5**
	SNR=14						
HATD				S	**S**	**13 54 01.2**	**+5.7**
HATD	**Hatta, Dubai**	**22.36**	**340**	*i* P	**P**	**13 49 50.5**	**+0.8**
	SNR=17						
UOSS	**Minazif**	**22.44**	**341**		**P**	**13 49 50.4**	**-0.1**
UOSS	**Minazif**	**22.44**	**341**	P	**P**	**13 49 51.2**	**+0.6**
UOSS				P	**P**	**13 49 51.2**	**+0.6**
UOSS				S	**S**	**13 54 03.0**	**+5.9**
UOSS				S	**S**	**13 54 03.0**	**+5.9**
UOSS	**Minazif**	**22.44**	**341**	*i* P	**P**	**13 49 51.0**	**+0.4**
	SNR=11						
ASUD	**Al Ashush, Dub**	**22.45**	**338**	P	**P**	**13 49 51.3**	**+0.6**
ASUD				S	**S**	**13 54 02.5**	**+5.2**
ASUD	**Al Ashush, Dub**	**22.45**	**338**	P	**P**	**13 49 51.5**	**+0.8**
FAQ	**Al Faqa, Dubai**	**22.47**	**339**	P	**P**	**13 49 51.6**	**+0.7**
	SNR=12						
FAQ				P	**P**	**13 49 51.6**	**+0.7**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**22.47**	**339**	*i* P	**P**	**13 49 52.0**	**+1.1**
	SNR=18						
AJN	**Ajban**	**22.53**	**338**	P	**P**	**13 49 53.0**	**+1.5**
AJN				P	**P**	**13 49 53.0**	**+1.5**
AJN				S	**S**	**13 54 03.7**	**+5.1**
AJN				S	**S**	**13 54 03.7**	**+5.1**
AJN	**Ajban**	**22.53**	**338**	*i* P	**P**	**13 49 51.9**	**+0.5**
	SNR=7.0						
ATD	**Arta Tunnel**	**22.55**	**291**		**P**	**13 49 52.0**	**+0.1**
ATD				IAmb	IAmb	13 49 56.7	
	comp=Z,75nm,1.2s						
ATD	**Arta Tunnel**	**22.55**	**291**	LR	LR	13 56 55.5	
	comp=Z,11nm,21.4s,baz=142,slow=32						
ATD	**Arta Tunnel**	**22.55**	**291**	P	**P**	**13 49 50.8**	**-1.0**
	SNR=8.6						
UDPR	**Udaipur**	**22.63**	**23**	*e*P	**P**	**13 49 52.5**	**-0.1**
UDPR				IAmb	IAmb	13 50 01.3	
	comp=Z,108nm,1.8s						
NRDN	**NARMADA NAGAR**	**22.64**	**32**	*e*P	**P**	**13 49 52.2**	**-0.4**
NAZ	**Nazwa, Dubai**	**22.67**	**339**	P	**P**	**13 49 53.9**	**+1.0**
	SNR=11						
NAZ				P	**P**	**13 49 53.9**	**+1.0**
	SNR=11						
NAZ	**Nazwa, Dubai**	**22.67**	**339**	*i* P	**P**	**13 49 53.2**	**+0.2**
	SNR=17						
MDH	**Madha**	**22.74**	**341**	P	**P**	**13 49 55.0**	**+1.3**
MDH				P	**P**	**13 49 55.0**	**+1.3**
MSFE	**Esma-Masafi**	**22.84**	**341**	*i* P	**P**	**13 49 55.7**	**+0.8**
	SNR=12						
MASF	**Masafi**	**22.85**	**341**	P	**P**	**13 49 56.0**	**+1.0**
	SNR=6.3						
MASF				P	**P**	**13 49 56.0**	**+1.0**
	SNR=6.3						
MASF				S	**S**	**13 54 08.0**	**+3.4**
MASF				S	**S**	**13 54 08.0**	**+3.4**
GHWR	**Ruwais**	**22.89**	**332**	P	**P**	**13 49 56.1**	**+0.8**
GHWR				P	**P**	**13 49 56.1**	**+0.8**
GHWR				S	**S**	**13 54 07.9**	**+2.7**
GHWR				S	**S**	**13 54 07.9**	**+2.7**
BHPL	**Bhopal**	**23.20**	**32**	*e*P	**P**	**13 49 58.3**	**-0.3**
BHPL				IAmb	IAmb	13 50 02.6	
	comp=Z,103nm,1.2s						
BANOM	**Banah**	**23.32**	**342**	P	**P**	**13 50 01.5**	**+1.7**
BANOM				P	**P**	**13 50 01.5**	**+1.7**
BANOM				S	**S**	**13 54 15.9**	**+3.3**
BANOM				S	**S**	**13 54 15.9**	**+3.3**
BANOM	**Banah**	**23.32**	**342**	*i* P	**P**	**13 50 01.2**	**+1.4**
	SNR=6.0						
ROCAM	**Rodrigues Isla**	**23.38**	**182**	P	**P**	**13 50 02.9**	**+2.6**
SHME	**Shamm**	**23.49**	**341**	P	**P**	**13 50 02.8**	**+1.4**
SHME				P	**P**	**13 50 02.8**	**+1.4**
SHME				S	**S**	**13 54 19.8**	**+4.6**
SHME				S	**S**	**13 54 19.8**	**+4.6**
SHME	**Shamm**	**23.49**	**341**	*i* P	**P**	**13 50 02.7**	**+1.4**
	SNR=5.2						
JRN	**Qarnain Island**	**23.75**	**334**	P	**P**	**13 50 05.4**	**+1.5**
JRN				S	**S**	**13 54 25.0**	**+5.7**
JASL	**Jaisalmer**	**23.91**	**15**	*e*P	**P**	**13 50 07.4**	**+2.0**
JASL				IAmb	IAmb	13 50 09.2	
	comp=Z,37nm,0.7s						
TRNA	**Turayna**	**24.34**	**330**	P	**P**	**13 50 10.2**	**+0.7**
	SNR=5.9						
TRNA				S	**S**	**13 54 33.4**	**+4.6**
SMRA	**Abu-Samra**	**24.54**	**329**	P	**P**	**13 50 12.0**	**+0.6**
	SNR=11						
SMRA				S	**S**	**13 54 35.8**	**+3.7**
JHNI	**Jhansi**	**25.59**	**31**	*e*P	**P**	**13 50 21.1**	**+0.2**
JHNI				IAmb	IAmb	13 50 26.4	
	comp=Z,60nm,1.6s						
SAKB	**Bahrain**	**25.71**	**331**	P	**P**	**13 50 23.1**	**+1.2**
SAKB				S	**S**	**13 54 53.4**	**+2.7**
FURI	**Furi**	**25.90**	**283**	P	**P**	**13 50 25.1**	**+0.9**
FURI	**Furi**	**25.90**	**283**	LR	LR	14 00 17.0	
	comp=Z,465nm,18.6s,baz=88,slow=36						
JHSG	**JHARSUGUGA**	**26.08**	**45**	*e*P	**P**	**13 50 25.3**	**-0.1**
JHSG				IAmb	IAmb	13 50 29.7	
	comp=Z,48nm,1.0s						
BWNR	**Bhubaneshwar**	**26.68**	**50**	*e*P	**P**	**13 50 30.9**	**+0.2**
BWNR				IAmb	IAmb	13 50 33.3	
	comp=Z,7.3nm,0.5s						
RAYN	**Ar Rayn**	**26.72**	**319**		**P**	**13 50 30.6**	**-0.6**
RAYN	**Ar Rayn**	**26.72**	**319**	*i* P	**P**	**13 50 31.0**	**-0.1**
	SNR=6.3						
RAYN	**Ar Rayn**	**26.72**	**319**	P	**P**	**13 50 30.6**	**-0.6**
RAYN				pmax	pmax		
	comp=Z,15nm,1.1s						
KUDL	**Kundal**	**26.92**	**24**	*e*P	**P**	**13 50 33.6**	**+0.8**
KUDL				IAmb	IAmb	13 50 35.2	
	comp=Z,28nm,1.2s						
KMBO	**Kilima Mbogo**	**27.40**	**260**	P	**P**	**13 50 38.0**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=74,slow=8.8,SNR=14						
	comp=Z,0.9nm,0.3s						
KMBO	**Kilima Mbogo**	**27.40**	**260**	*i* P	**P**	**13 50 40.0**	**+2.4**
KMBO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GNR	**GANAUR**	**28.01**	**24**	*e*P	**P**	**13 50 42.5**	**-0.1**
GNR				IAmb	IAmb	13 50 52.0	
	comp=Z,286nm,0.4s						
LODK	**Lodwar**	**28.82**	**270**		**P**	**13 50 50.9**	**+0.8**
LODK				IAmb	IAmb	13 50 54.3	
	comp=Z,58nm,1.7s						
KBD	**Kabd**	**29.76**	**330**	P	**P**	**13 50 58.1**	**-0.1**
KLP	**Kalpa**	**30.62**	**24**	*e*P	**P**	**13 51 06.2**	**+0.1**
KLP				IAmb	IAmb	13 51 09.8	
	comp=Z,13nm,0.8s						
NIL	**Nilore**	**30.91**	**15**	P	**P**	**13 51 07.6**	**-0.7**
NIL	**Nilore**	**30.91**	**15**	P	**P**	**13 51 07.6**	**-0.7**
NIL				pmax	pmax		
	comp=Z,16nm,0.8s						
EVN	**Everest**	**32.29**	**39**		**P**	**13 51 19.7**	**-1.6**
BRDH	**Bariadhala**	**32.53**	**52**	LR	LR	14 05 56.2	
	comp=Z,2µm,18.7s,baz=243,slow=39						
MBAR	**Mbarara**	**33.75**	**263**	P	**P**	**13 51 35.0**	**+1.3**
MBAR				IAmb	IAmb	13 51 39.4	
	comp=Z,45nm,2.0s						
MBAR	**Mbarara**	**33.75**	**263**	LR	LR	14 03 44.8	
	comp=Z,554nm,21.2s,baz=85,slow=34						
MBAR	**Mbarara**	**33.75**	**263**	*i* P	**P**	**13 51 35.8**	**+2.1**
MBAR				pmax	pmax		
	comp=Z,5.0nm,1.4s						
SHL	**Shillong**	**34.28**	**48**		**P**	**13 51 37.6**	**-0.6**
SHL	**Shillong**	**34.28**	**48**	P	**P**	**13 51 37.6**	**-0.6**
SHL				pmax	pmax		
	comp=Z,11nm,1.0s						
PSI	**Prapat**	**34.65**	**91**	LR	LR	14 03 45.7	
	comp=Z,526nm,19.6s,baz=261,slow=33						
SIMJ	**Simiganj**	**35.01**	**7**		**P**	**13 51 43.7**	**-0.6**
CHGR	**Chuyangaron**	**35.03**	**7**	P	**P**	**13 51 43.6**	**-0.8**
CHGR	**Chuyangaron**	**35.03**	**7**	P	**P**	**13 51 43.6**	**-0.8**
CHGR				pmax	pmax		
	comp=Z,22nm,1.2s						
MNSI	**Mandailing Nat**	**35.44**	**94**	P	**P**	**13 51 46.8**	**-1.3**
	comp=Z,30nm,1.3s						
GAR	**Garm**	**35.52**	**8**	P	**P**	**13 51 48.6**	**0.0**
GAR				IAmb	IAmb	13 51 50.5	
	comp=Z,71nm,1.4s						
LSA	**Lhasa**	**36.27**	**42**	P	**P**	**13 51 54.4**	**-1.2**
LSA				pmax	pmax		
	comp=Z,20nm,0.8s						
CMAR	**Chiang Mai Arr**	**36.95**	**64**	P	**P**	**13 52 00.1**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=261,slow=9.7,SNR=19						
CMAR				PcP	**PcP**	**13 54 22.8**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=239,slow=4.8,SNR=5.2						
CMAR				LR	LR	14 06 44.3	
	comp=Z,334nm,19.3s,baz=250,slow=36						
	comp=Z,1.8nm,0.9s						
CHTO	**Chiang Mai**	**37.07**	**63**	P	**P**	**13 52 02.8**	**+0.7**
CHTO	**Chiang Mai**	**37.07**	**63**	P	**P**	**13 52 03.0**	**+0.9**
CHTO				P	**P**	**13 52 03.0**	**+0.9**
CHTO	**Chiang Mai**	**37.07**	**63**	P	**P**	**13 52 02.8**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,54nm,1.9s						
KSH	**Kashi**	**37.16**	**15**	P	**P**	**13 51 59.0**	**-3.6**
KSH				sP	sP	13 52 07.8	+2.0
KSH				PP	**PP**	**13 53 21.3**	**-6.1**
KSH				S	**S**	**13 57 41.5**	**-7.8**
KSH				pmax	pmax		
	comp=Z,19nm,1.0s						
KSH				LR	LR		
	comp=Z,540nm,17.1s						
KSH				LR	LR		
	comp=Z,800nm,17.7s						
KSH				LR	LR		
	comp=Z,770nm,21.6s						
OHH	**Osh**	**37.41**	**11**	P	**P**	**13 52 02.8**	**-1.9**
OHH				pmax	pmax		
	comp=Z,28nm,1.3s						
LKRN	**Lenkeran, Azer**	**37.53**	**340**	P	**P**	**13

KDJ Kajisay 39.92 15 P **P** **13 52 26.3 +0.4**
KDJ pmax pmax
comp=Z,14nm,1.2s
MNGR Mingechevir, A 39.96 340 P **P** **13 52 28.5 +2.5**
FRU1 Bishkek 39.98 12 P **P** **13 52 26.5 +0.3**
FRU1 Bishkek 39.98 12 P **P** **13 52 26.5 +0.3**
FRU1 pmax pmax
comp=Z,18nm,0.7s
GANJ Ganja 40.12 339 P **P** **13 52 29.8 +2.4**
GNI Garni 40.29 337 LR LR 14 09 29.9
comp=Z,280nm,19.8s,baz=145,slow=37
GNI Garni 40.29 337 P **P** **13 52 30.5 +1.6**
GNI P **P** **13 52 30.5 +1.6**
GNI Garni 40.29 337 *ce*P **P** **13 52 30.5 +1.6**
GNI pmax pmax
comp=Z,40nm,1.0s
SEKA Sheki 40.31 340 P **P** **13 52 31.1 +2.1**
AKT Akhty 40.38 341 *e*P **P** **13 52 27.9 -1.7**
AKT *e*PPP PPP 13 54 24.6
AKT *e*S **S** **13 58 35.3 -2.4**
AKT pmax pmax
comp=Z,49nm,1.4s
AKT MLR MLR
comp=Z,327nm,20.0s
LSZ Lusaka 40.39 241 P **P** **13 52 30.4 +0.3**
LSZ Lusaka 40.39 241 LR LR 14 07 32.5
comp=Z,644nm,18.1s,baz=76,slow=34
LSZ Lusaka 40.39 241 P **P** **13 52 30.4 +0.3**
LSZ pmax pmax
comp=Z,35nm,1.5s
SGDS Sogindy 40.59 12 *e*P **P** **13 52 31.5 +0.2**
TNSS Tian-Shan 40.72 14 *e*P **P** **13 52 32.4 -0.4**
TNSS Tian-Shan 40.72 14 *e*P **P** **13 52 32.3 -0.4**
MDOK Medeo 40.86 14 *e*P **P** **13 52 33.8 +0.2**
MDOK Medeo 40.86 14 *e*P **P** **13 52 33.8 +0.2**
AAA Alma-Ata 40.87 14 *e*P **P** **13 52 33.8 +0.2**
AAA Alma-Ata 40.87 14 *e*P **P** **13 52 33.8 +0.2**
SATY Saty 41.12 16 *e*P **P** **13 52 35.9 +0.2**
SATY Saty 41.12 16 *e*P **P** **13 52 35.9 +0.2**
UZB Uzynbulak 41.37 16 *e*P **P** **13 52 37.8 -0.1**
UZB Uzynbulak 41.37 16 *e*P **P** **13 52 37.7 -0.1**
GAZ Gaziantep 41.48 327 P **P** **13 52 39.2 +0.5**
GAZ IAmb IAmb 13 52 43.4
comp=Z,106nm,1.8s
SHLS Shalkode 41.50 17 *e*P **P** **13 52 40.0 +1.1**
comp=Z,35nm,1.7s
SHLS Shalkode 41.50 17 *e*P **P** **13 52 39.9 +1.1**
SHLS pmax pmax
comp=Z,35nm,1.7s
TRLG Trialeti 41.73 337 P **P** **13 52 42.2 +1.4**
MAK Makhachkala 41.78 342 *c i*P P 13 52 36.0 -4.9
MAK *e*S **S** **13 58 51.4 -6.9**
MAK pmax pmax
comp=Z,68nm,0.3s
MAK MLR MLR
comp=Z,230nm,14.0s
KOPT Kop Dagi 42.00 332 P **P** **13 52 44.1 +1.0**
CSS Mathiatis 42.24 321 P **P** **13 52 45.4 +0.5**
comp=Z,12nm,1.5s
SLVN Son La 42.30 62 P **P** **13 52 45.8 +0.1**
PZH PanZhiHua 42.42 54 P **P** **13 52 47.0 +0.4**
PZH S **S** **13 59 11.5 +2.9**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,200nm,7.1s
PZH LR LR
comp=Z,450nm,16.0s
PZH LR LR
comp=Z,160nm,15.2s
PZH LR LR
comp=Z,280nm,17.2s
MATP Matopo 42.51 234 LR LR 14 08 19.7
comp=Z,511nm,18.2s,baz=56,slow=33
KMI Kunming 42.67 56 ⇓P **P** **13 52 50.0 +1.2**
KMI S **S** **13 59 18.3 +5.9**
KMI pmax pmax
comp=Z,240nm,4.0s
KMI LR LR
comp=Z,350nm,21.2s
KMI LR LR
comp=Z,260nm,18.7s
KMI LR LR
comp=Z,370nm,20.3s
BATM Batumi 42.76 335 ⇓P **P** **13 52 49.9 +0.9**
BATM Batumi 42.76 335 P **P** **13 52 49.8 +0.9**
GOMU GeErMu 42.85 37 P **P** **13 52 51.0 +0.7**
GOMU PcP **PcP** **13 54 42.8 +1.4**
GOMU S **S** **13 59 17.8 +2.7**
GOMU pmax pmax
comp=Z,11nm,0.9s
GOMU pmax pmax
comp=Z,120nm,4.9s
GOMU LR LR
comp=Z,630nm,19.0s
GOMU LR LR
comp=Z,730nm,18.4s
GOMU LR LR
comp=Z,1μm,18.8s
TDK Taldyqorghan 42.93 15 *e*P **P** **13 52 50.4 +0.1**
comp=Z,14nm,0.4s
TDK Taldyqorghan 42.93 15 *e*P **P** **13 52 50.4 +0.1**
TDK pmax pmax
comp=Z,14nm,0.4s
BNN Bunyan 43.44 327 P **P** **13 52 55.3 +0.6**
NCK Nalchik 43.60 338 *i*P **P** **13 52 56.7 +0.9**
NCK pmax pmax
comp=Z,12nm,1.1s
NEUR Neytrino 43.74 337 *i*P **P** **13 52 58.4 +1.3**
NEUR pmax pmax
comp=Z,8.0nm,1.4s
KBZ Khabaz 44.06 338 P **P** **13 52 59.7 +0.3**
comp=Z,20nm,1.0s,baz=128,slow=5.9,SNR=40
KBZ LR LR 14 12 12.1
comp=Z,203nm,19.8s,baz=140,slow=37
comp=Z,20nm,1.0s
KBZ Khabaz 44.06 338 *ce*P **P** **13 52 58.9 -0.5**
KBZ pmax pmax
comp=Z,57nm,1.4s
KSANE Kasane 44.08 240 P **P** **13 53 01.2 +1.0**
SHA1 Shidzhatmaz 44.16 338 *i*P **P** **13 53 01.1 +0.6**
TOKA Tokat 44.19 329 P **P** **13 53 01.7 +1.1**
TOKA IAmb IAmb 13 53 03.2
comp=Z,41nm,1.3s
KVAR Kislovodsk Arr 44.33 338 LR LR 14 12 16.5
comp=Z,170nm,19.5s,baz=42,slow=37
KIV Kislovodsk 44.33 338 P **P** **13 53 02.4 +0.6**
KIV IAmb IAmb 13 53 04.2
comp=Z,96nm,1.4s
KIV Kislovodsk 44.33 338 P **P** **13 53 02.4 +0.6**
KIV Kislovodsk 44.33 338 ⇑P **P** **13 53 03.0 +1.2**
KIV Kislovodsk 44.33 338 *i*P **P** **13 53 02.9 +1.2**
SNR=14
KIV Kislovodsk 44.33 338 P **P** **13 53 02.9 +1.2**
KIV Kislovodsk 44.33 338 P **P** **13 53 02.0 +0.2**
comp=Z,597nmcomp=Z,38nm,1.4s
MREMI Moremi 44.45 232 IAmb IAmb 13 53 06.2
comp=Z,72nm,1.9s
LEM Lembang 44.56 104 LR LR 14 10 02.9
comp=Z,157nm,18.2s,baz=278,slow=34
KIRS Kirsehir-Merke 44.70 326 ⇓P **P** **13 53 05.4 +0.6**
WMQ Urumqi 44.97 24 *e*P **P** **13 53 08.5 +1.7**
WMQ PcP **PcP** **13 54 48.3 +0.3**
WMQ S **S** **13 59 48.3 +3.0**
WMQ pmax pmax
comp=Z,35nm,1.3s
WMQ pmax pmax
comp=Z,200nm,3.7s
WMQ LR LR
comp=Z,1μm,10.1s
WMQ LR LR
comp=Z,1μm,15.9s
WMQ LR LR
comp=Z,800nm,18.5s
GOF Gofitskoye 45.15 339 *ce*P **P** **13 53 09.6 +1.5**
SOC Sochi 45.22 335 *e*P **P** **13 53 05.8 -2.9**
SOC *e* 13 54 53.2
SOC *e*PPP PPP 13 55 28.2
SOC *e*S **S** **13 59 45.2 -3.4**
SOC *e*SS **ScS** **14 03 03.9 -2.0**
SOC *e*SSS SSS 14 03 57.6
SOC MLR MLR
comp=Z,320nm,16.0s
BR104 Keskin Array S 45.25 326 P **P** **13 53 09.5 +0.3**
comp=Z,106nmcomp=Z,11nm,1.2s
BR131 Keskin Array S 45.26 326 P **P** **13 53 08.8 -0.5**
BR131 P **P** **13 53 08.8 -0.5**
BR131 Keskin Array S 45.26 326 *i*P **P** **13 53 10.3 +1.0**
BRTR Keskin Array B 45.26 326 P **P** **13 53 09.8 +0.5**
comp=Z,6.5nm,1.0s,baz=144,slow=9.2,SNR=38
BRTR PcP **PcP** **13 54 49.6 +0.4**
comp=Z,0.5nm,0.8s,baz=150,slow=6.7,SNR=1.6
comp=Z,6.5nm,1.0s
BR105 Keskin Array S 45.27 326 P **P** **13 53 09.6 +0.2**
comp=Z,111nmcomp=Z,11nm,1.3s
BR106 Keskin Array S 45.28 326 P **P** **13 53 09.7 +0.3**
comp=Z,103nmcomp=Z,10.0nm,1.2s
AKAS Kas 45.40 320 P **P** **13 53 09.9 -0.5**
AKAS IAmb IAmb 13 53 12.1
comp=Z,107nm,1.9s
ELL Elmali 45.52 321 IAmb IAmb 13 53 13.7
comp=Z,92nm,1.6s
MAKZ Makanchi 45.57 17 P **P** **13 53 10.3 -1.1**
MAKZ Makanchi 45.57 17 P **P** **13 53 10.3 -1.1**
MAKZ pmax pmax
comp=Z,5.0nm,1.0s
MK31 Makanchi Array 45.65 17 *ce*P **P** **13 53 10.8 -1.3**
MKAR Makanchi Array 45.65 17 P **P** **13 53 11.0 -1.1**
comp=Z,2.0nm,0.7s,baz=207,slow=8.6,SNR=25
MKAR PcP **PcP** **13 54 49.5 -0.7**
comp=Z,0.7nm,0.8s,baz=198,slow=0.4,SNR=4.0
MKAR LR LR 14 12 36.6
comp=Z,205nm,21.1s,baz=201,slow=37
comp=Z,2.0nm,0.7s
LABN Labinsk 45.67 337 *e*P **P** **13 53 11.6 -0.7**
LABN *e**PP **pP** **13 53 15.5 +0.9**
LABN *e* 13 55 02.7
LABN *e*S **S** **13 59 53.2 -2.0**
LABN pmax pmax
comp=Z,37nm,0.7s
ISP Isparta 45.81 322 P **P** **13 53 13.4 -0.2**
ISP IAmb IAmb 13 53 15.0
comp=Z,41nm,1.4s
ISP Isparta 45.81 322 P **P** **13 53 13.4 -0.2**
ISP pmax pmax
comp=Z,41nm,1.4s
ANTO Ankara 45.83 326 P **P** **13 53 13.3 -0.4**
ANTO IAmb IAmb 13 53 16.1
comp=Z,58nm,1.5s
ANTO Ankara 45.83 326 P **P** **13 53 13.7 0.0**
ANTO P **P** **13 53 13.7 0.0**
ANTO Ankara 45.83 326 P **P** **13 53 13.3 -0.4**
ANTO pmax pmax
comp=Z,58nm,1.5s
ANTO Ankara 45.83 326 P **P** **13 53 13.5 -0.2**
comp=Z,200nmcomp=Z,11nm,2.1s
CD2 Chengdu 45.99 50 P **P** **13 53 15.0 -0.1**
CD2 S **S** **14 00 00.8 +0.5**
CD2 pmax pmax
comp=Z,150nm,4.6s
CD2 LR LR
comp=Z,500nm,15.8s
CD2 LR LR
comp=Z,460nm,14.1s
CD2 LR LR
comp=Z,370nm,14.5s
LPHEP Lephephe 46.11 232 IAmb IAmb 13 53 24.6
comp=Z,61nm,1.8s
ILGA Ilgaz 46.16 328 P **P** **13 53 16.5 +0.1**
ILGA IAmb IAmb 13 53 26.3
comp=Z,56nm,1.4s
GYA Guiyang 46.44 57 ⇑P **P** **13 53 23.5 +4.7**
GYA pmax pmax
comp=Z,26nm,1.1s
BRZS Berezniki 46.62 7 *e*P **P** **13 53 20.2 +0.5**
BRZS Berezniki 46.62 7 *e*P **P** **13 53 20.1 +0.4**
ERBR Yeremizino-Bor 46.66 337 *e*P **P** **13 53 20.7 +0.7**
ERBR *e**PP **sP** **13 53 23.6 +0.3**
ERBR *e*S **S** **14 00 14.1 +4.8**
ERBR pmax pmax
comp=Z,32nm,1.5s
AKTO Aktyubinsk 46.81 355 LR LR 14 14 05.3
comp=Z,316nm,20.5s,baz=173,slow=38
ZSN Zaisan 47.03 19 *e*P **P** **13 53 22.9 -0.1**
comp=Z,15nm,1.4s
ZSN Zaisan 47.03 19 *e*P **P** **13 53 22.8 -0.2**
ZSN pmax pmax
comp=Z,15nm,1.4s
QIZ Qiongzhong 47.04 67 P **P** **13 53 27.0 +3.5**
QIZ S **S** **14 00 17.0 +1.4**
QIZ LR LR
comp=Z,170nm,14.4s
QIZ LR LR
comp=Z,290nm,13.4s
QIZ LR LR
comp=Z,450nm,16.5s
MDUB Mudurnu 47.14 325 P **P** **13 53 24.3 +0.3**
LBTB Lobatse 47.17 231 LR LR 14 10 19.8
comp=Z,484nm,21.0s,baz=59,slow=32
ANN Anapa 47.17 334 *e*P **P** **13 53 24.0 0.0**
ANN *e**PP **pP** **13 53 27.1 +0.7**
ANN *e* 13 55 13.1
ANN *e*S **S** **14 00 19.0 +2.3**
ANN pmax pmax
comp=Z,42nm,1.0s
GMARE Gumare 47.33 239 P **P** **13 53 28.2 +2.4**
MANT Manisa 47.44 322 P **P** **13 53 26.4 -0.1**
MANT IAmb IAmb 13 53 28.2
comp=Z,28nm,1.2s
XAUDM Khaudum 47.70 241 P **P** **13 53 30.6 +1.9**
XAUDM IAmb IAmb 13 55 11.7
comp=Z,41nm,1.9s
SBUM Sibu 47.93 90 P **P** **13 53 31.3 +0.8**
SBUM IAmb IAmb 13 53 33.7
comp=Z,15nm,0.9s
GTA Gaotai 47.94 37 *e*P **P** **13 53 30.8 +0.5**
GTA S **S** **14 00 29.3 +1.1**
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA LR LR
comp=Z,1μm,17.1s
GTA LR LR
comp=Z,1μm,17.1s
GTA LR LR
comp=Z,1μm,16.7s
IDI Anoyia 48.03 316 P **P** **13 53 32.2 +1.2**
IDI Anoyia 48.03 316 LR LR 14 12 59.4
comp=Z,63nm,19.4s,baz=115,slow=35
KURBB Kurchatov Arra 48.24 12 P **P** **13 53 31.6 -0.6**
comp=Z,1.1nm,0.4s,baz=208,slow=8.1,SNR=23
KURBB PcP **PcP** **13 54 58.6 -0.7**
comp=Z,0.3nm,0.3s,baz=201,slow=5.0,SNR=1.4
KURBB LR LR 14 14 28.7
comp=Z,426nm,18.0s,baz=198,slow=37
comp=Z,1.1nm,0.4s
KURK Kurchatov 48.34 12 P **P** **13 53 32.4 -0.6**
KURK IAmb IAmb 13 53 33.5
comp=Z,52nm,1.9s
KURK Kurchatov 48.34 12 *ce*P **P** **13 53 32.5 -0.6**
KURK pmax pmax
comp=Z,22nm,1.8s
LZDM Lanzhou Array 48.47 44 P **P** **13 53 32.8 -1.8**
comp=Z,3.2nm,0.4s,baz=224,slow=8.1,SNR=1.3
comp=Z,3.2nm,0.4s
LZH Lanzhou 48.64 43 *e*P **P** **13 53 33.3 -2.5**
LZH sP pwP 13 53 44.0 +1.7
LZH S **S** **14 00 36.0 -2.1**
LZH pmax pmax
comp=Z,25nm,1.7s
LZH LR LR
comp=Z,390nm,14.6s
LZH LR LR
comp=Z,400nm,14.6s
LZH LR LR
comp=Z,490nm,14.3s
SIM Simferopol' 48.80 332 *e*P **P** **13 53 37.3 +0.6**
SIM pmax pmax
comp=Z,210nm,2.1s
SIM MLR MLR
comp=Z,100nm,18.0s
BAND Balkesir-Ban 48.87 323 ⇓P **P** **13 53 37.7 +0.4**
BVAR Borovoye Array 49.37 5 P **P** **13 53 40.6 -0.3**
comp=Z,0.9nm,0.5s,baz=170,slow=9.0,SNR=9.4
BVAR PcP **PcP** **13 55 02.5 -0.8**
comp=Z,1.1nm,0.7s,baz=191,slow=1.5,SNR=2.4
BVAR LR LR 14 15 30.6
comp=Z,655nm,19.4s,baz=177,slow=37
comp=Z,0.9nm,0.5s
BOSA Boshof 49.38 227 P **P** **13 53 43.4 +1.9**
comp=Z,3.8nm,1.0s,baz=74,slow=9.9,SNR=3.9
BOSA LR LR 14 12 47.9
comp=Z,303nm,20.2s,baz=30,slow=34
comp=Z,3.8nm,1.0s
BORK Borovoye 49.39 5 *ce*P **P** **13 53 40.5 -0.5**
BORK pmax pmax
comp=Z,18nm,1.7s
EZN Ezine 49.62 322 P **P** **13 53 44.0 +0.9**
BELG Belogornoye 50.40 347 *i*P **P** **13 53 48.5 -0.2**
BELG pmax pmax
comp=Z,4.0nm,1.0s
ALN Alexandroupoli 50.43 323 P **P** **13 53 49.4 +0.2**
ALN Alexandroupoli 50.43 323 P **P** **13 53 49.4 +0.2**
ALN pmax pmax
comp=Z,85nm,1.5s
RDO Rodhopi 50.89 323 P **P** **13 53 52.8 +0.1**
RDO IAmb IAmb 13 53 54.6
comp=Z,52nm,1.4s
H04N2 CROZET ISLANDS 50.91 191 T T 14 49 27.3
baz=11,slow=75,SNR=9.5
H04N1 CROZET ISLANDS 50.91 191 T T 14 49 29.2
baz=11,slow=75,SNR=9.8
VRH Novokhopyorsk 50.91 342 *e*P P 13 53 47.0 -5.6
VRH pmax pmax
comp=Z,8.0nm,1.2s
H04N3 CROZET ISLANDS 50.93 191 T T 14 49 36.5
baz=11,slow=75,SNR=10
PRD Provadia 51.04 326 *i*P **P** **13 53 53.2 -0.5**
ITM Ithomi 51.06 316 P **P** **13 53 53.3 -0.7**
ITM IAmb IAmb 13 53 55.0
comp=Z,87nm,1.8s
JMB Yambol 51.12 324 *i*P **P** **13 53 54.3 0.0**
TSUM Tsumeb 51.24 242 P **P** **13 53 56.6 +0.8**
TSUM IAmb IAmb 13 53 58.6
comp=Z,64nm,2.0s
TSUM Tsumeb 51.24 242 LR LR 14 13 43.1
comp=Z,649nm,19.7s,baz=358,slow=34
XAN Xi'an 51.29 48 P **P** **13 53 56.0 +0.1**
XAN S **S** **14 01 15.0 0.0**
XAN pmax pmax
comp=Z,28nm,1.1s
XAN LR LR
comp=Z,320nm,20.6s
XAN LR LR
comp=Z,350nm,18.6s
XAN LR LR
comp=Z,470nm,22.8s
KDZ Kurdzhali 51.30 323 *i*P **P** **13 53 55.9 +0.2**
TIRR Tirgusor 51.33 328 P **P** **13 53 55.5 -0.3**
TIRR Tirgusor 51.33 328 ⇑P **P** **13 53 56.3 +0.4**
TIRR Tirgusor 51.33 328 P **P** **13 53 55.6 -0.3**
TIRR pmax pmax
comp=Z,20nm,1.0s
TIRR Tirgusor 51.33 328 P **P** **13 53 55.4 -0.5**
comp=Z,656nmcomp=Z,26nm,1.7s
OUR Ouranopolis 51.38 321 P **P** **13 53 58.5 +2.1**
VORD Divnogorie 51.50 340 *e*P **P** **13 53 54.6 -2.4**
VORD pmax pmax
comp=Z,10.0nm,1.3s
TLBR Topalu 51.59 327 ⇑P **P** **13 53 58.5 +0.7**
NE56 Odesa 51.59 331 P **P** **13 53 57.3 -0.5**
LOZB Loznitsa 51.63 325 ⇓P **P** **13 53 58.7 +0.5**
AGG Agios Georgios 51.73 318 P **P** **13 53 58.5 -0.6**
HARR Harsova 51.74 327 ⇑P **P** **13 53 59.4 +0.4**
HARR Harsova 51.74 327 P **P** **13 53 59.3 +0.4**
VSR Storozhevoye 51.75 340 *e*P **P** **13 53 55.5 -3.4**
VSR pmax pmax
comp=Z,10.0nm,1.2s
SZH Strazhitsa 51.92 325 *i*P **P** **13 54 00.8 +0.5**
CFR Carcaliu 51.96 328 ⇑P **P** **13 54 00.7 +0.2**
CFR Carcaliu 51.96 328 P **P** **13 54 00.7 +0.2**
PLD Plovdiv 51.96 323 *i*P **P** **13 54 00.8 +0.1**
SOH Sokhos 52.05 321 P **P** **13 54 01.6 +0.2**
SOH pmax pmax
comp=Z,18nm,2.4s
LIT Litokhoron 52.21 320 P **P** **13 54 02.0 -0.6**
LIT IAmb IAmb 13 54 03.3
comp=Z,29nm,1.4s
LIT Litokhoron 52.21 320 P **P** **13 54 02.0 -0.6**
LIT pmax pmax
comp=Z,29nm,1.4s
MMB Musomishta 52.22 322 *i*P **P** **13 54 02.9 +0.3**
PGB Panagyurishte 52.52 323 *i*P **P** **13 54 05.2 +0.3**
ARTI Arti 52.69 356 P **P** **13 54 04.6 -1.2**
ARTI Arti 52.69 356 LR LR 14 17 19.7
comp=Z,203nm,19.3s,baz=153,slow=37
ARTI Arti 52.69 356 *c i*P **P** **13 54 04.7 -1.1**
ARTI 13 55 11.1
ARTI S **S** **14 01 33.3 -0.1**
ARTI SS **SS** **14 05 08.1 -3.9**
ARTI pmax pmax
comp=Z,24nm,1.9s
ARTI MLR MLR
comp=Z,312nm,16.0s
KKB Krupnik 52.77 322 *i*P **P** **13 54 06.9 +0.2**
ISR Istrita 52.77 327 ⇑P **P** **13 54 07.0 +0.2**
ISR Istrita 52.77 327 P **P** **13 54 06.9 +0.2**
ISR Istrita 52.77 327 P **P** **13 54 07.4 +0.7**
comp=Z,1μmcomp=Z,53nm,1.4s
PLVB Pleven 52.77 324 ⇑P **P** **13 54 07.3 +0.7**
MILM Milestii Mici 52.79 330 ⇑*i*P **P** **13 54 05.0 -1.7**
comp=Z,320nm,1.8s
MILM Milestii Mici 52.79 330 *c i*P **P** **13 54 05.0 -1.7**
MILM pmax pmax
comp=Z,320nm,1.8s
ZALV Zalesovo Beam 52.80 15 P **P** **13 54 05.6 -1.0**
comp=Z,7.8nm,0.6s,baz=206,slow=7.9,SNR=41
ZALV LR LR 14 16 22.1
comp=Z,326nm,21.1s,baz=218,slow=36
comp=Z,7.8nm,0.6s
KIS Kishinev 52.84 330 *e*P **P** **13 54 07.0 -0.1**
comp=Z,160nm,2.5s
KIS Kishinev 52.84 330 *ce*P **P** **13 54 07.0 -0.1**
KIS pmax pmax
comp=Z,160nm,2.5s
ODBI Odobesti 52.91 328 P **P** **13 54 08.4 +0.7**
comp=Z,12nm,0.4s
SVE Sverdlovsk 53.00 358 *e*P **P** **13 54 07.8 -0.3**
SVE pmax pmax
comp=Z,20nm,1.5s
LPSR Galich'ya Gora 53.00 341 *e*P **P** **13 54 05.3 -2.9**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VTS Vitosha 53.15 323 *i*P **P** **13 54 10.2 +0.6**
VRI Vrincioaia 53.16 328 ⇑P **P** **13 54 10.5 +1.0**
VRI Vrincioaia 53.16 328 P **P** **13 54 10.4 +1.0**
PLOR5 Plostina Array 53.18 328 P **P** **13 54 10.9 +1.2**
comp=Z,2μmcomp=Z,122nm,1.7s
PLOR Plostina 53.19 328 ⇓P **P** **13 54 10.7 +0.9**
PLOR Plostina 53.19 328 P **P** **13 54 10.6 +0.9**
MPEP Malo Peshtene 53.27 324 *i*P **P** **13 54 10.8 +0.4**
MLR Muntele Rosu 53.33 327 P **P** **13 54 11.6 +0.6**
MLR Muntele Rosu 53.33 327 LR LR 14 17 24.5
comp=Z,199nm,20.5s,baz=121,slow=37
MLR Muntele Rosu 53.33 327 ⇓P **P** **13 54 11.7 +0.7**
MLR Muntele Rosu 53.33 327 P **P** **13 54 11.6 +0.6**
MLR Muntele Rosu 53.33 327 P **P** **13 54 12.0 +1.1**
comp=Z,1μmcomp=Z,52nm,1.8s
COVR Voineasa-Covas 53.42 328 ⇓P **P** **13 54 11.9 +0.4**
TESR Tescani 53.62 328 ⇑P **P** **13 54 13.3 +0.4**
TESR Tescani 53.62 328 P **P** **13 54 13.1 +0.2**
comp=Z,1μmcomp=Z,85nm,1.4s
VALD Valchedram 53.65 324 *i*P **P** **13 54 13.7 +0.6**
TURR Turia 53.66 328 ⇑P **P** **13 54 13.8 +0.6**
VOIR 53.79 327 ⇓P **P** **13 54 14.5 +0.2**
VOIR 53.79 327 P **P** **13 54 14.4 +0.2**
OZUR 53.80 328 ⇓P **P** **13 54 14.8 +0.5**
SORM Soroca 53.85 331 ⇓P **P** **13 54 14.2 -0.4**
SORM Soroca 53.85 331 P **P** **13 54 14.1 -0.4**
DOPR Dopca 53.94 327 ⇓P **P** **13 54 15.2 0.0**
EDA Edea 53.96 272 P **P** **13 54 16.1 +0.2**
ARR Arges 53.98 326 ⇑P **P** **13 54 15.6 0.0**
MYLDM Lahad Datu 54.11 86 P **P** **13 54 17.0 0.0**
WHN Wuhan 54.20 55 P **P** **13 54 17.8 +0.4**
WHN S **S** **14 01 53.5 -1.3**
KNGR Kungurtug, Tuv 54.43 25 ⇓*i*P **P** **13 54 18.2 -0.7**
KNGR pmax pmax
comp=Z,28nm,1.9s
LOT Lotru 54.51 326 ⇑P **P** **13 54 19.4 -0.1**
BOVS Bovan 54.64 323 ⇑P **P** **13 54 19.8 -0.6**
HERR Herculane 54.94 325 ⇑P **P** **13 54 22.8 +0.3**
GZR Gura Zlata 55.03 325 ⇓P **P** **13 54 23.6 +0.3**
GZR Gura Zlata 55.03 325 P **P** **13 54 23.5 +0.3**
KMPD K-Podol'skiy 55.07 330 P **pP** **13 54 23.0 -2.7**
KMPD P **P** **13 54 22.7 -0.7**
BURAR Bucovina Array 55.08 329 ⇑P **P** **13 54 23.9 +0.3**

BURAR **Bucovina Array** 55.08 329 P **P** 13 54 23.9 +0.3
BTO **Baotou** 55.11 42 *e*P **P** 13 54 24.3 +0.3
BTO S **S** 14 02 08.3 +1.3
BTO pmax pmax
comp=Z,21nm,1.0s
BTO pmax pmax
comp=Z,470nm,2.7s
BTO LR LR
comp=Z,950nm,15.9s
BTO LR LR
comp=Z,600nm,11.6s
BTO LR LR
comp=Z,1μm,14.0s
AK07 **Malin Array Si** 55.16 334 P **P** 13 54 22.8 -1.1
AK09 **Malin Array Si** 55.17 334 P **P** 13 54 23.2 -0.8
AK10 **Malin Array Si** 55.17 334 P **P** 13 54 23.2 -0.8
AK06 **Malin Array Si** 55.18 334 P **P** 13 54 23.3 -0.8
AK08 **Malin Array Si** 55.19 334 P **P** 13 54 23.4 -0.8
AK05 **Malin Array Si** 55.20 334 P **P** 13 54 23.5 -0.8
AK02 **Malin Array Si** 55.23 334 P **P** 13 54 23.7 -0.8
AK12 **Malin Array Si** 55.24 334 P **P** 13 54 23.8 -0.8
AK01 **Malin Array Si** 55.25 334 P **P** 13 54 23.8 -0.8
AKASG **Malin Array Be** 55.26 334 P **P** 13 54 23.7 -0.9
comp=Z,0.8nm,0.4s,baz=137,slow=6.2,SNR=36
AKASG PcP **PcP** 13 55 23.8 -1.7
comp=Z,0.3nm,0.4s,baz=104,slow=3.0,SNR=4.4
AKASG LR LR 14 21 56.8
comp=Z,129nm,18.9s,baz=121,slow=40
comp=Z,0.8nm,0.4s
AKBB **Malin Array Si** 55.26 334 *ce*P **P** 13 54 23.1 -1.5
AKBB pmax pmax
comp=Z,6.0nm,0.8s
AKBB **Malin Array Si** 55.26 334 P **P** 13 54 24.2 -0.4
KIEV **Kiev** 55.26 334 P **P** 13 54 23.4 -1.3
KIEV IAmb IAmb 13 54 25.1
comp=Z,54nm,1.6s
KIEV **Kiev** 55.26 334 ⇑P **P** 13 54 23.7 -1.0
KIEV **Kiev** 55.26 334 *i* P **P** 13 54 23.4 -1.3
SNR=7.7
KIEV **Kiev** 55.26 334 P **P** 13 54 23.4 -1.3
KIEV pmax pmax
comp=Z,53nm,1.6s
KIEV **Kiev** 55.26 334 P **P** 13 54 24.2 -0.5
comp=Z,2μmcomp=Z,73nm,2.0s
AK11 **Malin Array Si** 55.26 334 P **P** 13 54 23.5 -1.2
AK03 **Malin Array Si** 55.27 334 P **P** 13 54 23.5 -1.3
AK16 **Malin Array Si** 55.28 334 P **P** 13 54 23.6 -1.3
MDVR **Moldovita** 55.29 324 ⇑P **P** 13 54 25.0 -0.1
AK04 **Malin Array Si** 55.30 334 P **P** 13 54 23.8 -1.1
AK17 **Malin Array Si** 55.32 334 P **P** 13 54 24.0 -1.1
AK18 **Malin Array Si** 55.34 334 P **P** 13 54 24.1 -1.2
LUBAR **Lubar, Ukraine** 55.37 332 P **P** 13 54 24.6 -0.9
AK20 **Malin Array Si** 55.38 334 P **P** 13 54 24.4 -1.1
AK21 **Malin Array Si** 55.39 334 P **P** 13 54 24.5 -1.1
PDG **Podgorica** 55.51 321 P **P** 13 54 25.4 -1.2
PDG IAmb IAmb 13 54 27.2
comp=Z,47nm,1.9s
HORU **Horodok** 55.52 331 P **P** 13 54 26.1 -0.5
KSV **Kosov** 55.61 329 P **P** 13 54 26.2 -1.1
MARR **Marisel-Cluj** 55.61 327 ⇓P **P** 13 54 27.7 +0.2
SURR **Surduc** 55.62 325 ⇑P **P** 13 54 27.5 +0.1
MI30 **MI30,Zelenitsa** 55.75 333 P **P** 13 54 26.6 -1.6
comp=Z,35nm,1.5s
BZS **Buzias** 55.83 325 ⇓P **P** 13 54 28.5 -0.4
BZS **Buzias** 55.83 325 P **P** 13 54 28.5 -0.4
OBN **Obninsk** 55.88 341 P **P** 13 54 28.0 -0.9
OBN **Obninsk** 55.88 341 ⇓P **P** 13 54 28.5 -0.5
OBN **Obninsk** 55.88 341 *c i* P **P** 13 54 28.1 -0.9
OBN *i* 13 56 37.1
OBN pmax pmax
comp=Z,18nm,1.2s
KIRV **Kirov** 55.90 351 LR LR 14 20 06.0
comp=Z,334nm,19.4s,baz=154,slow=38
KIRV **Kirov** 55.90 351 *ce*P **P** 13 54 28.3 -0.8
DRGR 55.90 327 ⇑P **P** 13 54 29.8 +0.3
DRGR 55.90 327 P **P** 13 54 29.8 +0.3
BMR **Baia Mare** 56.02 328 ⇑P **P** 13 54 30.5 +0.3
BMR **Baia Mare** 56.02 328 P **P** 13 54 30.5 +0.3
MOS **Moscow** 56.07 342 *e*P **P** 13 54 28.7 -1.7
MOS pmax pmax
comp=Z,500nm,2.2s
MOS pmax pmax
comp=Z,214nm,1.8s
KAPI **Kappang** 56.14 99 LR LR 14 18 10.9
comp=Z,85nm,18.4s,baz=282,slow=36
STNU **Starunia** 56.15 329 P **P** 13 54 30.3 -0.9
SIRR **Siria** 56.18 326 ⇓P **P** 13 54 31.4 0.0
HHC **Hu-ho-hao-te** 56.26 42 *e*P **P** 13 54 33.5 +1.3
HHC S **S** 14 02 18.5 -3.8
HHC sS sS 14 02 28.5 +2.4
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,150nm,4.4s
HHC LR LR
comp=Z,410nm,15.3s
HHC LR LR
comp=Z,410nm,15.3s
HHC LR LR
comp=Z,420nm,14.5s
BNSI **Bone** 56.41 98 P **P** 13 54 32.1 -1.5
comp=Z,57nm,1.9s
KORU **Korolevo** 56.51 328 P **P** 13 54 33.8 +0.1
VAE **Valguarnera** 56.52 313 LR LR 14 17 06.3
comp=Z,58nm,21.6s,baz=138,slow=34
MEZ **Mezhgor'ye** 56.53 329 P **P** 13 54 33.7 -0.2
BKSI **Bulukumba** 56.55 99 P **P** 13 54 32.8 -1.8
TOLI2 **Tolitoli** 56.55 91 P **P** 13 54 34.2 -0.4
TOLI2 IAmb IAmb 13 54 36.9
comp=Z,39nm,1.7s
TRSU **Trosnyk** 56.56 328 P **P** 13 54 33.9 -0.2
CUC **Castrocucco** 56.60 317 P **P** 13 54 34.2 -0.4
CUC IAmb IAmb 13 54 36.1
comp=Z,39nm,1.5s
BRIU **Brid** 56.68 328 P **P** 13 54 34.6 -0.3
MORS **Morshin** 56.73 329 P **P** 13 54 35.5 +0.2
MORS **Morshin** 56.73 329 P **P** 13 54 34.9 -0.4
BERU **Beregovo** 56.81 328 P **P** 13 54 35.5 -0.4
TGY **Tagaytay City** 56.82 76 LR LR 14 16 12.6
comp=Z,241nm,21.2s,baz=47,slow=33
ACER **Acerenza** 56.88 317 P **P** 13 54 36.4 -0.1
SONM **Songino Array** 56.88 33 P **P** 13 54 37.0 +0.5
comp=Z,6.8nm,0.6s,baz=227,slow=7.9,SNR=37
SONM LR LR 14 19 09.6
comp=Z,930nm,20.6s,baz=236,slow=36
comp=Z,6.8nm,0.6s
ZAK **Zakamensk** 56.90 29 *e*P **P** 13 54 34.7 -1.9
ZAK pmax pmax
comp=Z,13nm,2.1s
MUKU **Mukachevo** 56.93 328 P **P** 13 54 36.3 -0.4
HNS **HongShan** 56.97 47 ⇑P **P** 13 54 37.5 +0.3
HNS S **S** 14 02 34.5 +3.0
HNS SS **SS** 14 06 21.5 +1.4
HNS pmax pmax
comp=Z,18nm,1.0s
HNS LR LR
comp=Z,210nm,16.1s
HNS LR LR
comp=Z,270nm,15.9s
HNS LR LR
comp=Z,350nm,22.4s
LVV **L'vov** 57.10 330 P **P** 13 54 38.0 +0.1
LVV **L'vov** 57.10 330 P **P** 13 54 37.5 -0.4
HOLU **Holmets** 57.13 328 P **P** 13 54 37.8 -0.3
RNPP5 **Staryi Chortor** 57.14 332 P **P** 13 54 37.7 -0.4
RNPP8 **Varash** 57.22 332 P **P** 13 54 37.8 -0.9
UZHM **Uzhgorod** 57.24 328 P **P** 13 54 38.6 -0.3
ULN **Ulaanbaatar** 57.25 33 P **P** 13 54 39.1 -0.1
ULN IAmb IAmb 13 54 41.7
comp=Z,28nm,1.6s
ULN **Ulaanbaatar** 57.25 33 P **P** 13 54 39.1 -0.1
ULN pmax pmax
comp=Z,28nm,1.7s
RNPP9 **Sopachiv** 57.26 332 P **P** 13 54 38.6 -0.3
KOLS **Kolonicke sedl** 57.44 328 *e*P **P** 13 54 41.1 +0.8
KOLS pmax pmax
comp=Z,50nm,1.2s
SGRT **San Giovanni R** 57.45 318 P **P** 13 54 40.8 +0.1
KWP **Kalwaria Pacla** 57.65 329 P **P** 13 54 41.4 -0.4
PAOL **Paolisi** 57.92 317 P **P** 13 54 44.2 +0.3
PAOL IAmb IAmb 13 54 52.8
comp=Z,61nm,2.0s
BLY **Banja Luka** 57.99 322 ⇓P **P** 13 54 44.2 0.0
PSZ **Piszkesteto** 58.12 326 P **P** 13 54 43.9 -1.3
PSZ IAmb IAmb 13 54 45.6
comp=Z,29nm,1.4s
PSZ **Piszkesteto** 58.12 326 ⇑P **P** 13 54 44.5 -0.7
PSZ **Piszkesteto** 58.12 326 P **P** 13 54 43.9 -1.3
PSZ pmax pmax
comp=Z,29nm,1.4s
TIA **Tai'an** 58.32 49 P **P** 13 54 46.8 0.0
TIA pmax pmax
comp=Z,12nm,1.5s
TIA LR LR
comp=Z,300nm,15.3s
TIA LR LR
comp=Z,220nm,15.5s
TIA LR LR
comp=Z,420nm,19.6s
NJ2 **Nanjing** 58.33 54 *e*P **P** 13 54 47.0 +0.1
NJ2 pmax pmax
comp=Z,18nm,0.6s
NJ2 LR LR
comp=Z,340nm,17.1s
NJ2 LR LR
comp=Z,250nm,19.9s
NJ2 LR LR
comp=Z,400nm,23.7s
MNK **Minsk** 58.56 336 ⇑*i*P **P** 13 54 46.0 -2.0
MNK *e*S **S** 14 02 49.0 -2.8
IRK **Irkutsk** 58.60 28 *e*P **P** 13 54 48.4 0.0
IRK pmax pmax
comp=Z,55nm,1.5s
EDFI **Ende, Flores** 58.61 103 P **P** 13 54 45.5 -3.8
comp=Z,15nm,0.9s
NIE **Niedzica** 58.77 328 *e*P **P** 13 54 49.4 -0.3
INTR **Introdacqua** 58.80 318 P **P** 13 54 49.5 -0.6
INTR IAmb IAmb 13 54 50.9
comp=Z,34nm,1.3s
SRO **Srobarova** 58.94 326 *e*P **P** 13 54 51.0 +0.2
SRO pmax pmax
comp=Z,101nm,2.1s
LANS **Liptovska Anna** 59.05 327 *e*P **P** 13 54 52.0 +0.3
LANS pmax pmax
comp=Z,17nm,1.1s
BJI **Beijing** 59.07 45 P **P** 13 54 51.8 -0.1
BJI S **S** 14 03 02.3 +3.3
BJI pmax pmax
comp=Z,4.0nm,0.8s
BJI LR LR
comp=Z,210nm,16.0s
BJI LR LR
comp=Z,250nm,15.4s
BJI LR LR
comp=Z,300nm,15.1s
BEHE **Becsehely** 59.12 324 P **P** 13 54 51.7 -0.4
AQU **L'Aquila** 59.28 318 P **P** 13 54 53.8 +0.4
CAMP **Campotosto** 59.36 318 P **P** 13 54 53.6 -0.3
CAMP IAmb IAmb 13 54 55.6
comp=Z,34nm,1.4s
KOGS **Kog** 59.41 323 *i* P **P** 13 54 53.8 -0.3
MORW **Morawa** 59.42 127 P **P** 13 54 55.7 +1.2
MORW IAmb IAmb 13 54 58.4
comp=Z,23nm,0.9s
OJC **Ojcow** 59.50 329 *e*P **P** 13 54 53.2 -1.4
OJC **Ojcow** 59.50 329 P **P** 13 54 52.9 -1.8
OJC **Ojcow** 59.50 329 P **P** 13 54 52.9 -1.8
GUMA **Gualdo di Mace** 59.64 319 P **P** 13 54 55.7 -0.1
NRCA **Norcia** 59.68 318 P **P** 13 54 55.3 -0.8
KEST **Kesra** 59.68 310 LR LR 14 20 23.9
comp=Z,106nm,18.8s,baz=303,slow=36
KEST **Kesra** 59.68 310 P **P** 13 54 55.0 -1.3
TAM **Tamanrasset** 59.78 294 P **P** 13 54 58.0 +0.7
TAM **Tamanrasset** 59.78 294 P **P** 13 54 58.0 +0.7
TAM pmax pmax
comp=Z,84nm,0.2s
FDMO **Fiordimonte** 59.79 319 P **P** 13 54 56.6 -0.2
FDMO IAmb IAmb 13 54 58.1
comp=Z,28nm,1.1s
SMOL **Smolenice** 59.82 326 *e*P **P** 13 54 56.4 -0.5
SMOL pmax pmax
comp=Z,11nm,1.4s
MODS **Modra-Piesok** 59.83 326 *e*P **P** 13 54 56.4 -0.6
MODS pmax pmax
comp=Z,79nm,1.5s
ZST **Bratislava** 59.83 325 *e*P **P** 13 54 56.8 -0.2
JAVC **Velka Javorina** 59.87 326 *e*P **P** 13 54 57.5 +0.2
PSA00 **Pilbara Seismi** 59.95 117 P **P** 13 54 59.2 +0.9
PSA00 **Pilbara Seismi** 59.95 117 IAmb IAmb 13 55 05.0
comp=Z,34nm,1.4s
BEL **Belsk** 59.96 330 *e*P **P** 13 54 57.5 -0.3
KLMR **Klimovskoe** 59.97 346 *e*P **P** 13 54 53.8 -3.9
KLMR *e* 13 55 39.6
KLMR pmax pmax
comp=Z,68nm,1.7s
KLMR MLR MLR
comp=Z,207nm,14.0s
RONA **Rosalia, Austr** 60.03 325 *i* P **P** 13 54 57.7 -0.7
comp=Z,20nm,1.4s,SNR=10.0
SUW **Suwalki** 60.22 333 *e*P **P** 13 54 58.5 -1.0
SUW **Suwalki** 60.22 333 P **P** 13 54 58.0 -1.6
SUW **Suwalki** 60.22 333 P **P** 13 54 58.0 -1.6
ARSA **Arzberg** 60.25 324 P **P** 13 54 59.0 -0.9
ARSA **Arzberg** 60.25 324 *i* P **P** 13 54 59.9 -0.1
comp=Z,26nm,1.5s,SNR=10
LJU **Ljubljana** 60.25 322 *i* P **P** 13 54 59.8 -0.2
MURB **Monte Urbino** 60.26 319 P **P** 13 54 59.4 -0.7
MURB IAmb IAmb 13 55 02.2
comp=Z,35nm,1.2s
SOKA **Soboth** 60.26 323 *i* P **P** 13 54 59.6 -0.4
comp=Z,16nm,1.1s,SNR=6.7
CONA **Conrad Observa** 60.40 325 *i* P **P** 13 55 00.1 -0.9
comp=Z,30nm,1.2s,SNR=17
STEB **Steborice** 60.41 327 *e*P **P** 13 55 00.1 -0.8
MORC **Moravsky Berou** 60.45 327 P **P** 13 55 00.0 -1.2
MORC **Moravsky Berou** 60.45 327 *e*P **P** 13 55 00.4 -0.8
MORC **Moravsky Berou** 60.45 327 ⇑P **P** 13 55 00.4 -0.8
MORC **Moravsky Berou** 60.45 327 P **P** 13 55 00.0 -1.2
MORC pmax pmax
comp=Z,67nm,1.6s
OBKA **Obir** 60.47 323 *i* P **P** 13 55 00.7 -0.8
comp=Z,26nm,1.5s,SNR=13
H01W3 **Cape Leeuwin H** 60.57 134 T T 15 00 38.9
baz=299,slow=75,SNR=70
H01W2 **Cape Leeuwin H** 60.58 134 T T 15 00 36.4
baz=299,slow=75,SNR=85
H01W1 **Cape Leeuwin H** 60.59 134 T T 15 00 40.8
baz=299,slow=75,SNR=74
XLT **XiLinHaoTe** 60.62 41 *e*P **P** 13 55 04.0 +1.4
XLT sP pwP 13 55 13.5 +4.3
XLT S **S** 14 03 14.3 -4.7
XLT pmax pmax
comp=Z,14nm,1.7s
XLT pmax pmax
comp=Z,170nm,3.5s
XLT LR LR
comp=Z,510nm,19.4s
XLT LR LR
comp=Z,680nm,20.7s
KRUC **Moravsky** 60.69 326 *e*P **P** 13 55 02.0 -0.9
VRAC **Vranov** 60.71 326 LR LR 14 22 47.5
comp=Z,107nm,20.9s,baz=116,slow=38
VRAC **Vranov** 60.71 326 *e*P **P** 13 55 02.4 -0.6
VRAC **Vranov** 60.71 326 ⇑P **P** 13 55 02.4 -0.6
VRAC **Vranov** 60.71 326 P **P** 13 55 02.4 -0.6
BATI **Baumata** 60.78 104 LR LR 14 20 05.4
comp=Z,208nm,20.6s,baz=236,slow=35
CADS **Cadrg** 60.83 322 *i* P **P** 13 55 02.6 -1.3
PABE **Paberze** 60.88 335 P **P** 13 55 02.7 -1.3
VSL **Villasalto** 60.95 314 P **P** 13 55 04.0 -0.8
MYKA **Terra Mystica** 61.07 323 *i* P **P** 13 55 05.0 -0.6
comp=Z,29nm,1.4s,SNR=10
DAV **Davao City (W)** 61.13 84 LR LR 14 21 52.9
comp=Z,76nm,19.6s,baz=194,slow=36
CASP **Castiglione de** 61.16 318 P **P** 13 55 05.4 -0.9
MOA **Molln** 61.29 324 *i* P **P** 13 55 06.5 -0.5
comp=Z,34nm,1.1s,SNR=18
SOEI **Soe** 61.29 103 IAmb IAmb 13 55 19.2
comp=Z,27nm,0.8s
SOEI **Soe** 61.29 103 P **P** 13 55 06.1 -1.6
comp=Z,38nm,1.1s
TREC **Trest** 61.32 326 *e*P **P** 13 55 06.3 -0.9
TREC **Trest** 61.32 326 *e*P **P** 13 55 06.3 -0.9
DPC **Dobruska-Polom** 61.42 327 *e*P **P** 13 55 07.1 -0.7
DPC **Dobruska-Polom** 61.42 327 *e*P **P** 13 55 07.1 -0.7
KBA **Koelnbreinsper** 61.47 323 *i* P **P** 13 55 06.7 -1.7
comp=Z,16nm,1.7s,SNR=6.6
STAL **STALIGIAL** 61.47 322 P **P** 13 55 06.8 -1.5
STAL IAmb IAmb 13 55 08.5
comp=Z,48nm,1.5s
BIOA **Bad Ischl, Aus** 61.58 324 *i* P **P** 13 55 08.0 -1.0
comp=Z,38nm,1.6s,SNR=16
OSTC **Ostas** 61.59 327 *e*P **P** 13 55 08.4 -0.5
OSTC **Ostas** 61.59 327 *e*P **P** 13 55 08.4 -0.5
KSP **Ksiaz** 61.70 328 *e*P **P** 13 55 09.0 -0.6
TEOL **Teolo** 61.72 321 P **P** 13 55 08.6 -1.3
TEOL IAmb IAmb 13 55 11.6
comp=Z,22nm,0.8s
ZCCA **Zocca** 61.73 319 P **P** 13 55 10.3 +0.2
CKRC **Cesky Krumlov** 61.74 325 *e*P **P** 13 55 08.7 -1.3
CKRC **Cesky Krumlov** 61.74 325 *e*P **P** 13 55 08.7 -1.3
ABTA **Abfaltersbach** 61.82 322 *i* P **P** 13 55 10.1 -0.6
comp=Z,21nm,0.9s,SNR=12
NWAO **Narrogin (SRO)** 61.97 130 P **P** 13 55 12.2 +0.4
NWAO IAmb IAmb 13 55 14.2
comp=Z,16nm,0.8s
NWAO **Narrogin (SRO)** 61.97 130 LR LR 14 16 46.8
comp=Z,143nm,21.2s,baz=276,slow=31
NWAO **Narrogin (SRO)** 61.97 130 P **P** 13 55 12.2 +0.4
NWAO pmax pmax
comp=Z,16nm,0.8s
LESA **Schwarzleotal** 62.03 323 *e*P **P** 13 55 10.7 -1.4
comp=Z,11nm,0.7s,SNR=11
CTI **Castel Tesino** 62.03 321 P **P** 13 55 11.3 -0.9
CTI IAmb IAmb 13 55 12.1
comp=Z,16nm,0.9s
CTI **Castel Tesino** 62.03 321 P **P** 13 55 11.3 -0.9
CTI pmax pmax
comp=Z,16nm,0.9s
GERES **GERESS Array B** 62.11 325 P **P** 13 55 10.7 -1.9
comp=Z,1.2nm,0.8s,baz=117,slow=8.2,SNR=6.3
comp=Z,1.2nm,0.8s
ZVC **Zvikov** 62.12 326 *e*P **P** 13 55 11.5 -1.0
PRU **Pruhonice** 62.20 326 *e*P **P** 13 55 12.2 -0.9
PRU **Pruhonice** 62.20 326 *e*P **P** 13 55 12.2 -0.9
KHC **Kasperske Hory** 62.32 325 *e*P **P** 13 55 12.3 -1.6
KHC *e*pP **sP** 13 55 18.3 +1.1
KHC **Kasperske Hory** 62.32 325 *i* P **P** 13 55 12.5 -1.4
KHC pmax pmax
comp=Z,25nm,1.6s
TORD **Torodi Ar. Bea** 62.42 283 P **P** 13 55 16.0 +0.9
comp=Z,1.5nm,0.6s,baz=67,slow=3.9,SNR=26
TORD LR LR 14 22 59.8
comp=Z,142nm,19.0s,baz=106,slow=37
comp=Z,1.5nm,0.6s
WTTA **Wattenberg** 62.59 322 *i* P **P** 13 55 14.6 -1.3
comp=Z,10nm,0.7s,SNR=8.5
DL2 **Dalian** 62.60 48 P **P** 13 55 15.8 -0.1
DL2 S **S** 14 03 43.8 -0.2
DL2 pmax pmax
comp=Z,19nm,0.8s
DL2 pmax pmax
comp=Z,220nm,7.3s
DL2 LR LR
comp=Z,350nm,14.1s
DL2 LR LR
comp=Z,330nm,18.0s
DL2 LR LR
comp=Z,470nm,17.1s
WATA **Walderalm** 62.65 322 *i* P **P** 13 55 15.2 -1.1
comp=Z,18nm,1.1s,SNR=5.1
SQTA **Sankt Quirin** 62.83 322 *i* P **P** 13 55 16.2 -1.3
comp=Z,14nm,0.5s,SNR=9.4
MOTA **Moosalm** 62.95 322 *i* P **P** 13 55 16.7 -1.6
comp=Z,16nm,1.0s,SNR=6.5
BRG **Berggiesshubel** 62.98 327 *e*P **P** 13 55 17.6 -0.6
BRG Amp 13 55 19.7
comp=Z,17nm,1.3s
FETA **Feichten** 63.03 322 *i* P **P** 13 55 17.9 -1.0
comp=Z,15nm,1.1s
FUORN **Ofenpass-Fuorn** 63.15 321 P **P** 13 55 18.8 -1.0
NLAI **Namlea** 63.21 96 P **P** 13 55 18.6 -1.8
RETA **Reutte** 63.22 322 *i* P **P** 13 55 18.5 -1.5
comp=Z,6.9nm,0.5s
TUE **Stuetta** 63.66 321 IAmb IAmb 13 55 27.7
comp=Z,18nm,1.0s
DAVA **Damuels** 63.67 322 *i* P **P** 13 55 22.2 -0.8
comp=Z,16nm,0.7s,SNR=10
CLL **Collm** 63.72 327 P **P** 13 55 22.3 -0.8
CLL IAmb IAmb 13 55 23.9
comp=Z,42nm,1.3s
CLL **Collm** 63.72 327 *i* P **P** 13 55 22.5 -0.6
CLL *i* 13 55 26.8
CLL pmax pmax
comp=Z,59nm,1.5s
CLL **Collm** 63.72 327 *i* P **P** 13 55 22.5 -0.6
comp=Z,59nm,1.5s
CLL *i* x x 13 55 26.8
comp=Z,40nm,1.5s
CLL *e*PP **PP** 13 57 44.0 +0.8
GRFO **Grafenberg** 63.94 325 P **P** 13 55 23.1 -1.5
GRFO **Grafenberg** 63.94 325 P **P** 13 55 23.1 -1.5
GRFO pmax pmax
comp=Z,78nm,1.6s
FITZ **Fitzroy Crossi** 64.27 112 P **P** 13 55 27.9 +0.6
FITZ **Fitzroy Crossi** 64.27 112 LR LR 14 20 53.2
comp=Z,133nm,18.1s,baz=320,slow=34
FINES **FINESS Array B** 64.27 341 P **P** 13 55 25.5 -1.1
comp=Z,1.3nm,0.6s,baz=134,slow=10.0,SNR=10
FINES LR LR 14 26 33.3
comp=Z,162nm,18.4s,baz=127,slow=39
comp=Z,1.3nm,0.6s
SENIN **Lac Senin/Sane** 64.92 320 P **P** 13 55 30.0 -1.4
BFO **Black Forest** 65.06 322 P **P** 13 55 30.7 -1.3
BFO **Black Forest** 65.06 322 P **P** 13 55 30.7 -1.3
BFO pmax pmax
comp=Z,113nm,1.6s
JOW **Kunigami** 65.20 62 LR LR 14 25 54.3
comp=Z,218nm,18.3s,baz=324,slow=38
ECH **Echery** 65.73 322 IAmb IAmb 13 55 36.0
comp=Z,15nm,1.1s
INCN **Inchon** 65.97 51 P **P** 13 55 36.3 -1.8
INCN IAmb IAmb 13 55 39.9
comp=Z,55nm,1.8s
INCN **Inchon** 65.97 51 P **P** 13 55 36.3 -1.8
INCN pmax pmax
comp=Z,55nm,1.8s
SSB **Saint Sauveur** 66.32 318 IAmb IAmb 13 55 40.1
comp=Z,12nm,0.8s
CN2 **Changchun** 66.87 44 P **P** 13 55 43.0 -0.7
CN2 S **S** 14 04 35.0 -1.6
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,500nm,14.0s
WLF **Walferdange** 66.91 323 *d*P **P** 13 55 42.7 -1.2
comp=Z,10nm,1.2s
KSRS **Korea Array** 66.96 51 P **P** 13 55 43.5 -0.8
comp=Z,3.2nm,0.7s,baz=256,slow=7.2,SNR=27
comp=Z,3.2nm,0.7s
BCLA **Clavier** 67.70 324 *d*P **P** 13 55 48.4 -0.5
CEST **Esterri de Car** 67.75 315 P **P** 13 55 48.9 -0.7
CEST IAmb IAmb 13 55 51.0
comp=Z,55nm,1.7s
DOU **Dourbes** 68.00 323 *d*P **P** 13 55 49.2 -1.5
HFS **Hagfors** 68.06 335 P **P** 13 55 49.8 -1.1
comp=Z,14nm,0.9s,baz=126,slow=7.5,SNR=23
HFS LR LR 14 26 51.2
comp=Z,153nm,21.4s,baz=116,slow=37
comp=Z,14nm,0.9s
JNU **Nakatsue** 68.45 56 LR LR 14 26 01.7
comp=Z,153nm,21.4s,baz=258,slow=36
BNX **BinXian** 68.79 42 ⇑P **P** 13 55 55.0 -0.8
BNX pmax pmax
comp=Z,14nm,1.5s
DBIC **Dimbokro** 68.82 276 P **P** 13 55 56.9 +0.3
comp=Z,4.9nm,0.9s,baz=112,slow=6.1,SNR=5.8
DBIC LR LR 14 26 54.2
comp=Z,149nm,18.5s,baz=120,slow=37
comp=Z,4.9nm,0.9s
NB2 **NORSAR Subarra** 69.58 335 P **P** 13 55 58.7 -1.7
comp=Z,72nm,1.7s,baz=120,slow=6.2
NB2 **NORSAR Subarra** 69.58 335 P **P** 13 55 58.7 -1.7
comp=Z,72nm,1.7s,baz=120,slow=6.2
NOA **NORSAR Array B** 69.58 335 P **P** 13 55 58.8 -1.6
comp=Z,3.9nm,1.0s,baz=113,slow=6.8,SNR=7.3
NOA LR LR 14 27 59.1
comp=Z,158nm,21.6s,baz=110,slow=37
comp=Z,3.9nm,1.0s
MDJ **Mudanjiang** 69.96 44 P **P** 13 56 03.0 -0.1
MDJ pmax pmax
comp=Z,22nm,1.7s

HEH	**HeiHe**	**70.19**	**38**	*e*P		**P**	**13 56 04.0**	**-0.3**
HEH				pmax		pmax			
	comp=Z,19nm,1.5s								
MDT	**Midelt**	**70.22**	**303**	LR		LR	14 25 41.8		
	comp=Z,133nm,19.9s,baz=53,slow=35								
ARCES	**ARCESS Array B**	**70.45**	**346**	P		**P**	**13 56 04.6**	**-0.9**
	comp=Z,2.9nm,0.8s,baz=139,slow=5.8,SNR=19								
ARCES				LR		LR	14 28 29.3		
	comp=Z,93nm,21.9s,baz=140,slow=37								
	comp=Z,2.9nm,0.8s								
ESDC	**Sonseca Array**	**70.89**	**311**	P		**P**	**13 56 07.1**	**-1.9**
	comp=Z,5.6nm,0.9s,baz=84,slow=5.1,SNR=34								
ESDC				LR		LR	14 27 15.9		
	comp=Z,38nm,18.4s,baz=89,slow=36								
	comp=Z,5.6nm,0.9s								
JMN	**Monobe**	**71.02**	**56**	P		**P**	**13 56 10.2**	**+0.4**
JMN				IAmb		IAmb	13 56 12.4		
	comp=Z,17nm,0.9s								
PAB	**San Pablo**	**71.16**	**310**	P		**P**	**13 56 10.0**	**-0.6**
PAB				IAmb		IAmb	13 56 11.6		
	comp=Z,68nm,1.9s								
PAB	**San Pablo**	**71.16**	**310**	P		**P**	**13 56 10.0**	**-0.6**
PAB				pmax		pmax			
	comp=Z,68nm,1.9s								
MAW	**Mawson**	**71.20**	**181**	P		**P**	**13 56 10.1**	**0.0**
	comp=Z,1.7nm,0.7s,baz=355,slow=5.8,SNR=8.9								
MAW				LR		LR	14 21 29.0		
	comp=Z,190nm,18.4s,baz=0.0,slow=31								
	comp=Z,1.7nm,0.7s								
ZEA	**Zeya**	**71.26**	**34**	*e*P		**P**	**13 56 11.2**	**+0.4**
ZEA				pmax		pmax			
	comp=Z,10.0nm,1.5s								
ZEA				MLR		MLR			
	comp=E,500nm,18.0s								
ZEA				MLR		MLR			
	comp=Z,600nm,18.0s								
ZEA				MLR		MLR			
	comp=N,300nm,16.0s								
USRK	**Ussuriysk Ar.**	**71.53**	**45**	P		**P**	**13 56 12.2**	**-0.4**
	comp=N,4.5nm,0.8s,baz=250,slow=3.8,SNR=7.3								
	comp=N,4.5nm,0.8s								
WRA	**Warramunga Arr**	**72.70**	**112**	P		**P**	**13 56 20.9**	**+0.7**
	comp=N,10nm,0.7s,baz=290,slow=5.4,SNR=91								
WRA				LR		LR	14 22 01.3		
	comp=N,76nm,20.3s,baz=294,slow=31								
	comp=N,10nm,0.7s								
WRAB	**Tennant Creek**	**72.71**	**112**	P		**P**	**13 56 20.5**	**+0.4**
WRAB				IAmb		IAmb	13 56 22.6		
	comp=Z,21nm,0.8s								
WRAB	**Tennant Creek**	**72.71**	**112**	P		**P**	**13 56 20.5**	**+0.4**
WRAB				pmax		pmax			
	comp=Z,21nm,0.9s								
ASAR	**Alice Springs**	**73.03**	**116**	P		**P**	**13 56 22.5**	**+0.5**
	comp=Z,8.4nm,0.7s,baz=288,slow=5.6,SNR=153								
ASAR				LR		LR	14 24 03.7		
	comp=Z,92nm,20.9s,baz=310,slow=32								
	comp=Z,8.4nm,0.7s								
PMRV	**Marv??o**	**73.45**	**310**	*e*P		**P**	**13 56 24.0**	**-0.3**
PMRV				*i* IAmb		IAmb	13 56 56.2		
	comp=Z,26nm,1.8s								
PCBR	**Castelo Branco**	**73.58**	**310**	*e*P		**P**	**13 56 25.0**	**0.0**
PCVE	**Castro Verde**	**73.69**	**308**	*e*P		**P**	**13 56 25.6**	**-0.1**
INU	**Inuyama**	**73.81**	**54**	P		**P**	**13 56 25.8**	**-0.5**
INU				IAmb		IAmb	13 56 32.7		
	comp=Z,86nm,2.0s								
POLO	**Lamas de Olo**	**74.06**	**312**	*e*P		**P**	**13 56 26.3**	**-1.6**
EKA	**Eskdalemuir Ar**	**74.18**	**327**	P		**P**	**13 56 26.6**	**-1.6**
	comp=Z,1.4nm,0.5s,baz=113,slow=7.1,SNR=6.1								
	comp=Z,1.4nm,0.5s								
PCAS	**Casmilo, Conde**	**74.39**	**310**	*e*P		**P**	**13 56 30.1**	**+0.3**
PCAS				*i* IAmb		IAmb	13 56 49.9		
	comp=Z,43nm,1.8s								
SYO	**Syowa Base**	**74.56**	**189⇑**	*e*P		**P**	**13 56 33.3**	**+3.3**
SYO	**Syowa Base**	**74.56**	**189⇑**	*es*P		sP	13 56 38.0	+5.0
PARRA	**Arraiolos**	**74.64**	**309**	*e*P		**P**	**13 56 26.6**	**-4.6**
PARRA				*i* IAmb		IAmb	13 56 55.9		
	comp=Z,30nm,1.9s								
MJAR	**Matsushiro Arr**	**74.91**	**53**	P		**P**	**13 56 32.8**	**0.0**
	comp=Z,3.8nm,0.7s,baz=268,slow=4.3,SNR=21								
MJAR				LR		LR	14 32 40.4		
	comp=Z,100nm,18.9s,baz=262,slow=38								
	comp=Z,3.8nm,0.7s								
YAK	**Yakutsk**	**75.35**	**26**	P		**P**	**13 56 33.5**	**-1.2**
YAK	**Yakutsk**	**75.35**	**26**	LR		LR	14 30 38.2		
	comp=Z,497nm,20.6s,baz=240,slow=36								
JHJ	**Hachijo jima 2**	**75.86**	**57**	LR		LR	14 32 29.6		
	comp=Z,111nm,18.8s,baz=301,slow=38								
JAY	**Jayapura**	**76.68**	**93**	LR		LR	14 32 12.6		
	comp=Z,50nm,19.0s,baz=224,slow=37								
JMM	**Marumori**	**77.10**	**52**	IAmb		IAmb	13 56 46.1		
	comp=Z,16nm,0.9s								
JTM	**Tenmabayashi**	**77.59**	**49**	P		**P**	**13 56 46.0**	**-1.9**
SPITS	**Spitsbergen Ar**	**78.36**	**351**	LR		LR	14 34 24.5		
	comp=Z,187nm,19.3s,baz=122,slow=38								
TIXI	**Tiksi**	**78.63**	**17**	P		**P**	**13 56 52.4**	**-0.7**
TIXI				IAmb		IAmb	13 56 53.1		
	comp=Z,85nm,2.0s								
TIXI	**Tiksi**	**78.63**	**17**	LR		LR	14 33 23.6		
	comp=Z,334nm,18.4s,baz=280,slow=37								
TIXI	**Tiksi**	**78.63**	**17**	P		**P**	**13 56 52.4**	**-0.7**
TIXI				pmax		pmax			
	comp=Z,85nm,2.0s								
ASAJ	**Asahikawa**	**79.04**	**46**	LR		LR	14 32 34.7		
	comp=Z,116nm,20.1s,baz=297,slow=36								
YSS	**Yuzhno-Sakhali**	**79.43**	**43**	*e*P		**P**	**13 56 57.7**	**-0.2**
YSS				pmax		pmax			
	comp=Z,10.0nm,0.8s								
YSS				MLR		MLR			
	comp=E,500nm,16.0s								
INKA	**Innaminka**	**79.85**	**119**	P		**P**	**13 57 01.1**	**+0.5**
GUMO	**Guam**	**80.03**	**77**	LR		LR	14 30 41.0		
	comp=E,66nm,20.4s,baz=286,slow=34								
JMIC	**Jan Mayen**	**80.88**	**342**	LR		LR	14 35 28.3		
	comp=E,134nm,18.9s,baz=308,slow=38								
STKA	**Stephens Creek**	**81.28**	**123**	P		**P**	**13 57 08.7**	**+0.5**
	comp=E,7.0nm,0.8s,baz=288,slow=5.4,SNR=11								
STKA				LR		LR	14 28 44.0		
	comp=E,135nm,21.3s,baz=214,slow=32								
	comp=E,7.0nm,0.8s								
NVL	**N'lazarevskaya**	**81.93**	**195**	*e*P		P	13 57 05.2	-5.6
NVL				*e*PPP		PPP	14 00 19.1		
NVL				*e*S		**S**	**14 07 19.6**	**-4.7**
NVL				*e*SSS		SSS	14 16 08.1		
NVL				pmax		pmax			
	comp=Z,5.0nm,0.6s								
NVL				smax		smax			
	comp=E,194nm,17.0s								
NVL				MLR		MLR			
	comp=Z,58nm,17.0s								
PMG	**Port Moresby**	**83.64**	**100**	LR		LR	14 38 20.2		
	comp=Z,25nm,18.2s,baz=240,slow=38								
CTAO	**Charters Tower**	**83.80**	**111**	P		**P**	**13 57 21.4**	**-0.2**
CTAO				IAmb		IAmb	13 57 23.4		
	comp=Z,11nm,0.8s								
CTAO	**Charters Tower**	**83.80**	**111**	P		**P**	**13 57 21.4**	**-0.2**
CTAO				pmax		pmax			
	comp=Z,11nm,0.8s								
BORG	**Borgarnes**	**84.73**	**335**	LR		LR	14 37 26.3		
	comp=Z,140nm,21.7s,baz=101,slow=37								
MA2	**Magadan**	**85.03**	**31**	LR		LR	14 36 21.9		
	comp=Z,588nm,21.9s,baz=273,slow=36								
TROLL	**Troll, Antarti**	**85.11**	**196**	⇑P		**P**	**13 57 29.1**	**+1.8**
	comp=Z,122nm,0.9s								
TOO	**Toolangi**	**85.35**	**128**	P		**P**	**13 57 30.4**	**+1.2**
TOO	**Toolangi**	**85.35**	**128**	P		**P**	**13 57 30.4**	**+1.2**
TOO				pmax		pmax			
	comp=Z,16nm,1.7s								
SEY	**Seymchan**	**85.84**	**27**	LR		LR	14 38 17.2		
	comp=Z,313nm,19.0s,baz=278,slow=37								
SNAA	**Sanae**	**86.48**	**197**	⇑P		**P**	**13 57 34.0**	**-0.1**
	comp=Z,21nm,0.8s								
SNAA	**Sanae**	**86.48**	**197**	P		**P**	**13 57 34.0**	**-0.1**
	comp=Z,1.1nm,1.2s,baz=255,slow=2.2,SNR=4.4								
SNAA				LR		LR	14 29 12.2		
	comp=Z,206nm,21.9s,baz=80,slow=31								
	comp=Z,1.1nm,1.2s								
SNAA	**Sanae**	**86.48**	**197**	P		**P**	**13 57 34.0**	**-0.1**
VNA2	**Neumayer--Watz**	**87.59**	**198**	⇑P		**P**	**13 57 40.3**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=46,slow=5.6								
VNA3	**Neumayer Olymp**	**88.40**	**198**	⇑P		**P**	**13 57 44.0**	**+0.7**
	comp=Z,3.0nm,0.8s								
PETK	**Petropavlovsk-**	**89.11**	**37**	LR		LR	14 39 14.2		
	comp=Z,370nm,21.1s,baz=276,slow=37								
SUMG	**Summit**	**90.23**	**343**	P		**P**	**13 57 52.0**	**-0.3**
SUMG				IAmb		IAmb	13 57 54.1		
	comp=Z,40nm,1.8s								
SUMG	**Summit**	**90.23**	**343**	P		**P**	**13 57 52.0**	**-0.3**
SUMG				pmax		pmax			
	comp=Z,40nm,1.8s								
QSPA	**South Pole Qui**	**93.72**	**180**	P		**P**	**13 58 09.5**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=244,slow=1.5,SNR=6.6								
QSPA				LR		LR	14 33 56.6		
	comp=Z,221nm,20.8s,baz=280,slow=31								
	comp=Z,0.8nm,0.8s								
VNDA	**Vanda**	**95.29**	**167**	LR		LR	14 34 47.3		
	comp=Z,225nm,21.5s,baz=264,slow=31								
SFJD	**Kangerlussuaq**	**96.03**	**339**	LR		LR	14 44 29.8		
	comp=Z,91nm,18.3s,baz=52,slow=37								
HNR	**Honiara**	**96.23**	**99**	LR		LR	14 44 37.6		
	comp=Z,36nm,18.1s,baz=279,slow=37								
SHEM	**Shemya Is, Ala**	**98.89**	**35**	LR		LR	14 46 28.9		
	comp=Z,164nm,18.1s,baz=286,slow=37								
DZM	**Mont Dzumac**	**102.71**	**112**	*e*LR		LR	14 32 27.7		
	comp=Z,146nm,24.2s								
PDAR	**Pinedale Array**	**133.36**	**354**	PKP		**PKPdf**	**14 04 07.9**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=67,slow=2.8,SNR=8.3								
NVAR	**Mina Array Bea**	**137.96**	**3**	PKP		**PKPdf**	**14 04 15.2**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=344,slow=3.4,SNR=5.5								
TBI	**Tubuai**	**142.06**	**124**	*e*LR		LR	14 50 38.0		
	comp=Z,774nm,25.5s								
TBI				*e*LR		LR	14 50 39.7		
	comp=Z,995nm,40.0s								
PPT2	**Papeete2**	**144.13**	**115**	*e*LR		LR	14 51 29.5		
	comp=Z,122nm,31.2s								
TXAR	**Lajitas Array**	**145.11**	**341**	PKPbc		**PKPbc**	**14 04 29.1**	**-0.2**
	comp=Z,9.2nm,0.8s,baz=58,slow=2.8,SNR=108								
TAOE	**Nuku Hiva Isla**	**155.25**	**103**	*e*LR		LR	14 56 41.6		
	comp=Z,63nm,28.4s								

NEIC ***29*** *13:54:31.3±0.8, 35.743°N±0.005°×117.55°W±0.01°, h12km±3km, Error ellipse: s-maj=1.5km s-min=0.7km az=67.0*

PAS 29 13:54:32.0±0.6, 35.748°N±0.008°×117.56°W±0.01°, h7km, ML3.1/104, ML2.7/98(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=102.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.08**	**334**	Pg	Pg	13 54 34.1	0.0
CLC				IAML		13 54 35.9	
	comp=N,5μm,0.1s						
CLC				IAML		13 54 36.0	
	comp=E,3μm,0.2s						
GPO	**China Lake**	**0.13**	**221**		Pg	13 54 35.0	+0.1
GPO					Sg	13 54 37.4	+0.6
WSHM	**Spangler Hills**	**0.16**	**161**		Pg	13 54 35.3	0.0
WSHM					Sg	13 54 37.9	+0.3
WSHM	**Spangler Hills**	**0.16**	**161**	IAML		13 54 38.0	
	comp=E,12μm,0.2s						
WSHM				IAML		13 54 38.1	
	comp=E,10μm,0.3s						
SRTC	**Snort**	**0.17**	**250**		Pg	13 54 35.9	+0.4
SRTC					Sg	13 54 39.3	+1.4
TOW	**Tower One**	**0.18**	**290**		Pg	13 54 36.2	+0.5
TOW					Sg	13 54 39.6	+1.4
CCCA	**Chr Cany lake**	**0.27**	**145**		Pg	13 54 37.8	+0.3
CCCA					Sg	13 54 42.2	+1.1
CCCA	**Chr Cany lake**	**0.27**	**145**	IAML		13 54 42.4	
	comp=N,7μm,0.4s						
CCCA				IAML		13 54 44.4	
	comp=E,5μm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.29**	**201**		Pg	13 54 37.6	-0.2
LRMC					Sg	13 54 41.8	+0.3
LRMC	**Laurel Mtn Rad**	**0.29**	**201**	IAML		13 54 42.2	
	comp=E,2μm,0.3s						
LRMC				IAML		13 54 42.4	
	comp=N,4μm,0.3s						
WVPM	**Volcano Peak E**	**0.29**	**314**		Pg	13 54 37.8	-0.1
WVPM					Sg	13 54 42.0	+0.3
WNMM	**Nine Mile Cany**	**0.30**	**289**		Pg	13 54 37.9	0.0
WNMM					Sg	13 54 42.3	+0.5
MPMC	**Manual Prospec**	**0.31**	**10**	Pg	Pg	13 54 38.1	-0.2
MPMC				IAML		13 54 43.0	
	comp=N,2μm,0.5s						
MPMC				IAML		13 54 43.0	
	comp=E,2μm,0.5s						
WCSM	**Coso Springs S**	**0.33**	**328**		Pg	13 54 38.2	-0.3
WCSM					Sg	13 54 42.9	+0.1
WRVM	**Rose V. Centra**	**0.38**	**314**		Pg	13 54 39.2	-0.2
WRVM					Sg	13 54 44.4	0.0
MFS	**McCloud Flat S**	**0.44**	**327**		Pg	13 54 40.4	-0.2
MFS					Sg	13 54 46.6	+0.1
WBSM	**Bird Springs**	**0.52**	**246**		Pg	13 54 48.6	-0.3
DTP	**Desert Tortois**	**0.53**	**206**		Pg	13 54 41.8	-0.5
DTP					Sg	13 54 49.0	-0.4
WORM	**Onyx Ranch**	**0.56**	**265**		Pg	13 54 42.4	-0.5
WORM					Sg	13 54 49.8	-0.4
WHFM	**Hanning Flat**	**0.65**	**266**		Pg	13 54 44.0	-0.5
WHFM					Sg	13 54 52.6	-0.4
CCAC	**Calif City Air**	**0.70**	**212**		Pg	13 54 45.1	-0.5
CCAC					Sg	13 54 54.8	+0.1
ISA	**Isabella, Lake**	**0.75**	**264**		Pg	13 54 45.9	-0.6
ISA				IAML		13 54 56.4	
	comp=N,404nm,0.3s						
ISA				IAML		13 54 56.9	
	comp=E,321nm,0.2s						
GSC	**Goldstone, Bar**	**0.76**	**126**	Pg	Pg	13 54 46.0	-0.5
GSC				IAML		13 54 59.0	
	comp=N,319nm,0.5s						
GSC				IAML		13 55 00.5	
	comp=E,359nm,0.4s						
CWC	**Cottonwood Cre**	**0.81**	**329**		Pg	13 54 47.3	-0.3
CWC				IAML		13 55 00.5	
	comp=E,175nm,0.2s						
CWC	**Cottonwood Cre**	**0.81**	**329**		Sg	13 54 58.2	0.0
WASM	**Alta Sierra Ca**	**0.81**	**270**		Pg	13 54 47.1	-0.6
WASM					Sg	13 54 58.0	-0.3
CGO	**Cerro Gordo**	**0.82**	**346**		Pg	13 54 47.0	-1.0
CGO					Sg	13 54 58.1	-0.6
GWY	**Greenwater Val**	**0.84**	**58**		Pg	13 54 47.7	-0.6
GWY					Sg	13 54 59.0	-0.2
GWY	**Greenwater Val**	**0.84**	**58**	IAML		13 55 02.4	
	comp=N,391nm,0.5s						
GWY				IAML		13 55 04.8	
	comp=E,334nm,0.4s						
HYS	**Haystack Butte**	**0.88**	**181**		Pg	13 54 48.1	-0.8
HYS					Sg	13 54 59.9	-0.6
FURC	**Furnace Creek,**	**0.91**	**38**		Pg	13 54 49.2	-0.4
FURC					Sg	13 55 01.6	+0.3
FURC	**Furnace Creek,**	**0.91**	**38**	IAML		13 55 01.9	
	comp=E,218nm,0.5s						
FURC				IAML		13 55 11.9	
	comp=N,256nm,0.7s						
EDW2	**Edwards Air Fo**	**0.94**	**203**		Sg	13 55 02.6	+0.5
RRX	**Edison Barstow**	**0.98**	**152**		Pg	13 54 50.3	-0.6
RRX					Sg	13 55 03.5	-0.2
TPO	**Tropico Hills**	**1.03**	**213**		Pg	13 54 50.8	-0.9
TPO				IAML		13 55 10.1	
	comp=E,334nm,0.6s						
TPO	**Tropico Hills**	**1.03**	**213**		Sg	13 55 04.9	-0.2
SHOC	**Shoshone, Teco**	**1.05**	**81**		Pg	13 54 51.9	-0.4
SHOC					Sg	13 55 06.0	+0.1
TEJ	**El Tejon**	**1.06**	**241**		Pg	13 54 50.9	-1.5
SBB	**Saddle Back Bu**	**1.08**	**192**		Pg	13 54 51.7	-1.0
SBB					Sg	13 55 05.5	-1.3
SPG2	**Springville 2**	**1.08**	**295**		Pg	13 54 51.6	-1.1
SPG2					Sg	13 55 05.8	-1.0
VES	**Vestal, Richgr**	**1.25**	**275**		Pn	13 54 55.0	-0.8
VES				IAML		13 55 12.4	
	comp=E,212nm,0.5s						
VES				IAML		13 55 12.7	
	comp=N,183nm,0.5s						
GRAC	**Grapevine Rang**	**1.25**	**7**		Pn	13 54 55.2	-0.8
GRAC				IAML		13 55 17.5	
	comp=E,160nm,0.6s						
GRAC				IAML		13 55 19.4	
	comp=N,197nm,0.8s						
WCT	**Wildcat Mounta**	**1.29**	**36**		Pn	13 54 55.1	-1.4
BAKC	**Calstate**	**1.32**	**253**		Pn	13 54 56.5	-0.4
TUQ	**Turquoise Moun**	**1.37**	**103**		Pn	13 54 56.7	-0.9
BFSC	**Mount Baldy Ra**	**1.51**	**183**		Pn	13 54 58.2	-1.3
BFSC				IAML		13 55 20.1	
	comp=N,127nm,0.3s						
BFSC				IAML		13 55 20.4	
	comp=E,167nm,0.3s						
GMN	**Gold Mountain**	**1.57**	**9**		Pn	13 54 59.5	-1.0
GMN				IAML		13 55 23.4	
	comp=N,64nm,0.5s						
TPNV	**Topopah Spring**	**1.60**	**41**		Pn	13 54 59.7	-1.1
DSP	**Deep Springs**	**1.65**	**349**		Pn	13 55 00.8	-0.6
PASC	**Pasadena Art C**	**1.66**	**198**	IAML		13 55 27.9	
PASC	comp=E,82nm,0.3s			IAML		13 55 29.9	
	comp=N,59nm,1.1s						
SHPR	**Sheep Range**	**2.08**	**68**	Pn	Pn	13 55 07.1	-0.4
DANC	**Danby, Needles**	**2.10**	**121**	IAML		13 55 42.0	
	comp=E,86nm,0.5s						
DANC				IAML		13 55 44.8	
	comp=N,86nm,0.6s						
ELS	**Elsinore Mount**	**2.10**	**177**	IAML		13 55 40.8	
	comp=E,56nm,0.3s						
ELS				IAML		13 55 41.9	
	comp=N,38nm,0.7s						
V12A	**Nelson**	**2.20**	**90**	IAML		13 55 43.5	
	comp=N,35nm,0.5s						
V12A				IAML		13 55 46.2	
	comp=E,31nm,0.4s						
PMD	**Palm Desert**	**2.31**	**155**	IAML		13 55 49.1	
	comp=E,29nm,0.5s						
TPH	**Tonopah**	**2.34**	**6**	IAML		13 55 51.9	
	comp=N,32nm,1.1s						
S11A	**Rachel**	**2.39**	**37**	IAML		13 55 55.5	
	comp=N,28nm,1.2s						
S11A				IAML		13 56 07.5	
	comp=E,33nm,0.9s						
IRM	**Iron Mountain**	**2.54**	**128**	IAML		13 55 52.6	
	comp=E,30nm,0.4s						
PRN	**Pahroc Range**	**2.61**	**50**	IAML		13 56 00.2	
	comp=N,24nm,0.6s						
BORC	**Borrego Spring**	**2.65**	**159**	IAML		13 55 56.5	
	comp=N,24nm,0.3s						
BORC				IAML		13 55 58.1	
	comp=E,37nm,0.6s						
BC3	**Big Chuckawall**	**2.71**	**140**	IAML		13 55 59.1	
	comp=E,25nm,0.6s						
BC3				IAML		13 56 00.7	
	comp=N,44nm,0.6s						
CMB	**Columbia Colle**	**3.22**	**316**	IAML		13 56 16.5	
	comp=N,12nm,0.7s						
CMB				IAML		13 56 22.0	
	comp=E,11nm,1.0s						
ELK	**Elko**	**5.31**	**19**	IAML		13 57 39.4	
	comp=E,2.6nm,4.6s						
ELK				IAML		13 58 04.6	
	comp=E,2.8nm,4.7s						

IDC ***29*** *14:10:10.3±0.8, 3.83°N×64.20°E, h0km, mb4.1/21, mbtmp4.1/22, ML3.7/1, MS3.8/56, Error ellipse: s-maj=24.2km s-min=14.0km az=29.0*

MOS ***29*** *14:10:10.3±1.2, 3.78°N×64.19°E, h10km, mb4.9/33, Error ellipse: s-maj=9.4km s-min=5.3km az=111.2*

BJI ***29*** *14:10:11.0, 3.80°N×64.20°E, h10km, mB5.1/7, mb4.5/41, Ms4.5/18, Ms7 4.2/19*

GCMT ***29*** *14:10:12.3±0.4, 3.74°N±0.03°×64.32°E±0.05°, h12km±1km, MW4.7/86, Moment Tensor Solution. s10,c11; s86,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.34±.13; $M_{\theta\theta}$-1.13±.09; $M_{\phi\phi}$-0.21±.07; $M_{r\theta}$-0.34±.26; $M_{\theta\phi}$0.30±.05; $M_{\phi r}$0.67±.32; Best double couple: $M_0$1.46900×10^{16} NP1:ϕ_s305.00000°, δ59.00000°, λ109.00000°. Principal axes: T 1.6080, Plg70.0000°, Azm256.0000°; N -0.2790, Plg16.0000°, Azm116.0000°; P -1.3310, Plg12.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***29*** *14:10:14.3±1.8, 3.9°N±0.1°×64.26°E±0.09°, h10km±1km, mb4.9/56 Error ellipse: s-maj=21.7km s-min=14.8km az=199.0*

ISC 29 14:10:12.8±0.4, 3.83°N±0.07°×64.18°E±0.06°, h10km, n280, σ1°16/246, mb4.7/113, MS3.9/65, 11C-2D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAAM	**Kaadhehdhoo**	**9.41**	**110**	Pn	**Pn**	**14 12 28.5**	**-0.1**
PALK	**Pallekele**	**16.79**	**78**	Pn	**Pn**	**14 14 08.2**	**-0.2**
PALK	**Pallekele**	**16.79**	**78**	Pn	**Pn**	**14 14 07.3**	**-1.1**
	0.3nm,0.3s,baz=261,slow=12,SNR=3.6						
PALK				LR	LR	14 19 07.3	
	comp=Z,362nm,21.3s,baz=268,slow=32						
	3.2nm,0.8s						
PALK	**Pallekele**	**16.79**	**78**	*i* P	**Pn**	**14 14 07.7**	**-0.7**
HYB	**Hyderabad**	**19.52**	**45**	*e*P	**P**	**14 14 40.7**	**+0.1**
SOHO	**SOHO**	**21.50**	**341**	*i* P	**P**	**14 15 03.4**	**+1.5**
	SNR=5.8						
ALNE	**Al Ain**	**21.70**	**339**	*i* P	**P**	**14 15 04.7**	**+0.6**
	SNR=5.8						
MZR	**Muzera**	**21.70**	**332**	*i* P	**P**	**14 15 03.9**	**-0.2**
	SNR=6.0						
ASHO	**Ashiyiah**	**22.16**	**340**	P	**P**	**14 15 09.8**	**+0.6**
HATD	**Hatta, Dubai**	**22.27**	**340**	P	**P**	**14 15 10.0**	**-0.3**
UOSS	**Minazif**	**22.36**	**341**	P	**P**	**14 15 10.7**	**-0.5**
UOSS	**Minazif**	**22.36**	**341**	P	**P**	**14 15 11.7**	**+0.5**
NAZ	**Nazwa, Dubai**	**22.58**	**340**	P	**P**	**14 15 15.2**	**+1.6**
MSFE	**Esma-Masafi**	**22.76**	**341**	*i* P	**P**	**14 15 19.3**	**+3.8**
	SNR=5.4						
FURI	**Furi**	**25.83**	**282**	LR	LR	14 25 45.9	
	comp=Z,161nm,18.1s,baz=72,slow=36						
RAYN	**Ar Rayn**	**26.63**	**319**		**P**	**14 15 52.6**	**+0.7**
RAYN	**Ar Rayn**	**26.63**	**319**	P	**P**	**14 15 52.6**	**+0.7**
RAYN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIBK	**Kibwezi**	**26.83**	**257**	P	**P**	**14 15 55.2**	**+1.3**
LODK	**Lodwar**	**28.77**	**270**		**P**	**14 16 13.3**	**+2.2**
NIL	**Nilore**	**30.86**	**15**	P	**P**	**14 16 30.6**	**+1.2**
NIL				IAmb	IAmb	14 16 32.8	
	comp=Z,27nm,1.3s						
NIL	**Nilore**	**30.86**	**15**	P	**P**	**14 16 30.6**	**+1.2**

TNCH sS sS 14 23 54.8 +9.4
TNCH pmax pmax
comp=Z,16nm,1.5s
TNCH pmax pmax
comp=Z,120nm,3.5s
TNCH LR LR
comp=Z,180nm,4.8s
TNCH LR LR
comp=Z,150nm,5.9s
TNCH LR LR
comp=Z,200nm,17.7s
MMAI Mount Meron Ar 39.58 321 LR LR 14 33 05.4
comp=Z,54nm,19.4s,baz=134,slow=35
MARD Mardin 39.64 330 **P** **14 17 47.0 +1.9**
MARD IAmb IAmb 14 17 48.9
comp=Z,48nm,1.5s
AAK Ala-Archa 39.72 12 **P** **14 17 46.3 +0.5**
AAK Ala-Archa 39.72 12 LR LR 14 34 23.4
comp=Z,78nm,18.2s,baz=194,slow=37
AAK Ala-Archa 39.72 12 *i* P **P** **14 17 47.6 +1.9**
SNR=5.8
AAK Ala-Archa 39.72 12 P **P** **14 17 46.3 +0.5**
AAK pmax pmax
comp=Z,8.0nm,1.1s
GNI Garni 40.20 337 **P** **14 17 49.9 +0.1**
GNI Garni 40.20 337 LR LR 14 34 50.1
comp=Z,92nm,19.0s,baz=143,slow=37
GNI Garni 40.20 337 P **P** **14 17 50.8 +1.0**
GNI Garni 40.20 337 P **P** **14 17 49.9 +0.1**
GNI pmax pmax
comp=Z,49nm,1.2s
GNI Garni 40.20 337 P **P** **14 17 50.8 +1.0**
comp=Z,660nmcomp=Z,37nm,1.9s
LSZ Lusaka 40.38 241 LR LR 14 32 23.4
comp=Z,274nm,18.5s,baz=66,slow=33
PZH PanZhiHua 42.42 54 P **P** **14 18 11.0 +2.8**
MATP Matopo 42.51 234 LR LR 14 32 41.9
comp=Z,195nm,21.1s,baz=60,slow=32
GOMU GeErMu 42.83 37 P **P** **14 18 11.8 +0.2**
GOMU pmax pmax
comp=Z,5.0nm,1.2s
GOMU LR LR
comp=Z,200nm,16.5s
GOMU LR LR
comp=Z,210nm,16.6s
GOMU LR LR
comp=Z,310nm,16.6s
BNN Bunyan 43.35 327 P **P** **14 18 16.9 +1.4**
NCK Nalchik 43.51 338 *i* P **P** **14 18 18.5 +1.9**
NCK pmax pmax
comp=Z,7.0nm,0.8s
KBZ Khabaz 43.97 338 P **P** **14 18 21.0 +0.7**
comp=Z,11nm,1.1s,baz=164,slow=4.6,SNR=16
KBZ LR LR 14 37 31.9
comp=Z,92nm,19.7s,baz=142,slow=37
comp=Z,11nm,1.1s
KBZ Khabaz 43.97 338 *ce*P **P** **14 18 21.2 +0.9**
KBZ pmax pmax
comp=Z,24nm,1.3s
SHA1 Shidzhatmaz 44.07 338 *i* P **P** **14 18 22.9 +1.5**
KIV Kislovodsk 44.25 338 P **P** **14 18 23.3 +0.7**
KIV Kislovodsk 44.25 338 *i* P **P** **14 18 24.3 +1.7**
SNR=5.4
KIV Kislovodsk 44.25 338 *e*P **P** **14 18 23.8 +1.1**
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,45nm,16.0s
KIV Kislovodsk 44.25 338 P **P** **14 18 23.7 +1.1**
comp=Z,238nmcomp=Z,18nm,1.4s
DLV Lat 44.57 77 P **P** **14 18 25.8 +0.1**
WMQ Urumqi 44.93 24 *e*P **P** **14 18 26.5 -1.5**
WMQ PcP **PcP** **14 20 11.3 +1.9**
WMQ pmax pmax
comp=Z,30nm,0.7s
WMQ LR LR
comp=Z,170nm,15.3s
WMQ LR LR
comp=Z,270nm,14.7s
WMQ LR LR
comp=Z,230nm,17.7s
GOF Gofitskoye 45.06 339 *ce*P **P** **14 18 30.3 +1.3**
SOC Sochi 45.13 335 *e*P **P** **14 18 28.0 -1.5**
SOC *e* 14 20 20.8
SOC *e*PPP PPP 14 20 50.7
SOC *e*S **S** **14 25 08.7 -0.2**
SOC *e*SS **ScS** **14 28 19.9 -7.0**
SOC MLR MLR
comp=Z,88nm,16.0s
BR104 Keskin Array S 45.16 326 P **P** **14 18 30.9 +0.9**
comp=Z,36nmcomp=Z,4.0nm,1.2s
BRTR Keskin Array B 45.17 326 P **P** **14 18 30.0 -0.2**
comp=Z,2.8nm,1.0s,baz=144,slow=11,SNR=17
comp=Z,2.8nm,1.0s
BRTR Keskin Array B 45.17 326 *i* P **P** **14 18 31.2 +1.0**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BR131 Keskin Array S 45.17 326 *i* P **P** **14 18 31.5 +1.3**
BR105 Keskin Array S 45.18 326 P **P** **14 18 31.1 +0.9**
comp=Z,44nmcomp=Z,4.9nm,1.4s
BR106 Keskin Array S 45.19 326 P **P** **14 18 31.2 +0.9**
comp=Z,37nmcomp=Z,4.0nm,1.5s
MAKZ Makanchi 45.51 17 P **P** **14 18 32.4 -0.2**
MAKZ Makanchi 45.51 17 P **P** **14 18 32.4 -0.2**
MAKZ pmax pmax
comp=Z,7.0nm,1.4s
MK31 Makanchi Array 45.59 17 *ce*P **P** **14 18 32.0 -1.2**
MKAR Makanchi Array 45.59 17 P **P** **14 18 31.8 -1.5**
comp=Z,1.6nm,0.9s,baz=203,slow=7.9,SNR=9.2
MKAR LR LR 14 37 14.8
comp=Z,73nm,19.8s,baz=188,slow=36
comp=Z,1.6nm,0.9s
MKAR Makanchi Array 45.59 17 *i* P **P** **14 18 32.5 -0.7**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
ISP Isparta 45.72 322 P **P** **14 18 35.2 +0.7**
ISP IAmb IAmb 14 18 36.2
comp=Z,18nm,1.3s
ISP Isparta 45.72 322 P **P** **14 18 35.2 +0.7**
ISP pmax pmax
comp=Z,18nm,1.3s
ILGA Ilgaz 46.07 328 P **P** **14 18 38.2 +0.9**
ILGA IAmb IAmb 14 18 47.4
comp=Z,26nm,1.6s
KSM Kuching 46.13 92 P **P** **14 18 38.1 +0.2**
KSM IAmb IAmb 14 19 10.0
comp=Z,17nm,1.4s
AKTO Aktyubinsk 46.74 355 LR LR 14 39 15.0
comp=Z,109nm,19.9s,baz=38,slow=37
LBTB Lobatse 47.17 230 LR LR 14 35 39.6
comp=Z,180nm,20.7s,baz=63,slow=32
MANT Manisa 47.35 322 P **P** **14 18 48.7 +1.3**
MANT IAmb IAmb 14 18 49.3
comp=Z,24nm,1.5s
GTA Gaotai 47.92 37 *e*P **P** **14 18 51.8 +0.1**
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA LR LR
comp=Z,310nm,20.0s
GTA LR LR
comp=Z,350nm,19.3s
GTA LR LR
comp=Z,370nm,20.0s
SBUM Sibu 47.98 90 P **P** **14 18 52.9 +0.4**
SBUM IAmb IAmb 14 18 54.8
comp=Z,13nm,1.3s
WOJI Wonogiri, Jawa 48.05 104 P **P** **14 18 53.7 +0.8**
comp=Z,66nm,2.0s
KURBB Kurchatov Arra 48.18 12 P **P** **14 18 52.2 -1.1**
comp=Z,2.2nm,1.0s,baz=205,slow=8.2,SNR=14
KURBB LR LR 14 40 06.8
comp=Z,149nm,18.2s,baz=180,slow=37
comp=Z,2.2nm,1.0s
KURK Kurchatov 48.28 12 **P** **14 18 53.2 -0.9**
KURK IAmb IAmb 14 18 54.9
comp=Z,12nm,1.4s
KURK Kurchatov 48.28 12 P **P** **14 18 53.2 -0.9**
KURK pmax pmax
comp=Z,13nm,1.5s
BVAR Borovoye Array 49.31 5 P **P** **14 19 01.7 -0.2**
comp=Z,0.5nm,0.5s,baz=170,slow=8.8,SNR=5.2
BVAR LR LR 14 40 51.1
comp=Z,200nm,19.3s,baz=171,slow=37
comp=Z,0.5nm,0.5s
BORK Borovoye 49.32 5 *ce*P **P** **14 19 01.5 -0.6**
BORK pmax pmax
comp=Z,8.0nm,1.6s
BWJI Bawean 49.36 101 P **P** **14 19 02.3 -0.7**
BOSA Boshof 49.39 227 LR LR 14 38 27.4
comp=Z,94nm,18.0s,baz=27,slow=34
BELG Belogornoye 50.32 347 *i* P **P** **14 19 09.5 -0.1**
BELG pmax pmax
comp=Z,4.0nm,1.0s
ALN Alexandroupoli 50.34 323 **P** **14 19 10.7 +0.6**
ALN IAmb IAmb 14 19 11.6
comp=Z,34nm,1.7s
ALN Alexandroupoli 50.34 323 P **P** **14 19 10.7 +0.6**
ALN pmax pmax
comp=Z,34nm,1.7s
RDO Rodhopi 50.80 323 P **P** **14 19 14.0 +0.5**
RDO IAmb IAmb 14 19 15.8
comp=Z,11nm,1.2s
TSUM Tsumeb 51.23 242 LR LR 14 39 30.9
comp=Z,205nm,18.2s,baz=342,slow=34
TIRR Tirgusor 51.24 328 P **P** **14 19 16.8 0.0**
TIRR IAmb IAmb 14 19 18.8
comp=Z,14nm,1.2s
TIRR Tirgusor 51.24 328 P **P** **14 19 16.8 0.0**
TIRR pmax pmax
comp=Z,14nm,1.2s
XAN Xi'an 51.28 49 P **P** **14 19 17.5 +0.1**
XAN pmax pmax
comp=Z,22nm,1.1s
SOH Sokhos 51.96 321 P **P** **14 19 22.7 +0.4**
SOH pmax pmax
comp=Z,3.0nm,1.2s
LIT Litokhoron 52.12 320 P **P** **14 19 23.8 +0.4**
LIT Litokhoron 52.12 320 P **P** **14 19 23.8 +0.4**
LIT pmax pmax
comp=Z,5.0nm,0.8s
KNT Kendrikon 52.44 321 P **P** **14 19 25.7 -0.1**
KNT pmax pmax
comp=Z,9.0nm,1.6s
ARTI Arti 52.62 356 LR LR 14 42 41.4
comp=Z,68nm,18.7s,baz=142,slow=37
ISR Istrita 52.68 327 P **P** **14 19 28.9 +1.3**
comp=Z,17nm,0.6s
ZALV Zalesovo Beam 52.74 15 P **P** **14 19 25.9 -1.8**
comp=Z,2.9nm,0.7s,baz=210,slow=7.9,SNR=16
ZALV LR LR 14 41 42.5
comp=Z,106nm,20.7s,baz=180,slow=36
comp=Z,2.9nm,0.7s
ZALV Zalesovo Beam 52.74 15 *i* P **P** **14 19 26.2 -1.6**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
VRI Vrincioaia 53.07 328 P **P** **14 19 30.2 -0.2**
VRI pmax pmax
comp=Z,33nm,1.5s
VRI Vrincioaia 53.07 328 P **P** **14 19 31.2 +0.8**
comp=Z,462nmcomp=Z,33nm,1.5s
PLOR5 Plostina Array 53.09 328 P **P** **14 19 31.4 +0.8**
comp=Z,677nmcomp=Z,45nm,1.4s
MLR Muntele Rosu 53.24 327 P **P** **14 19 33.0 +1.1**
MLR Muntele Rosu 53.24 327 LR LR 14 42 33.6
comp=Z,73nm,21.1s,baz=106,slow=36
MLR Muntele Rosu 53.24 327 P **P** **14 19 33.0 +1.1**
MLR pmax pmax
comp=Z,56nm,1.8s
MLR Muntele Rosu 53.24 327 P **P** **14 19 32.5 +0.7**
comp=Z,346nmcomp=Z,12nm,1.5s
TESR Tescani 53.53 328 P **P** **14 19 34.3 +0.5**
comp=Z,461nmcomp=Z,32nm,1.4s
KEK Kerkira 53.68 318 P **P** **14 19 37.1 +2.1**
KEK IAmb IAmb 14 19 41.2
comp=Z,13nm,1.0s
VOIR 53.70 327 P **P** **14 19 34.6 -0.5**
VOIR pmax pmax
comp=Z,9.0nm,1.6s
VOIR 53.70 327 P **P** **14 19 35.6 +0.5**
comp=Z,9.5nm,1.6s
WHN Wuhan 54.20 55 P **P** **14 19 39.5 +0.6**
WHN pmax pmax
comp=Z,40nm,1.1s
KMPD K-Podol'skiy 54.98 330 P **P** **14 19 43.6 -0.7**
KMPD P **P** **14 19 43.6 -0.7**
KMPD pP **sP** **14 19 47.4 +0.1**
AK07 Malin Array Si 55.07 334 P **P** **14 19 44.1 -0.7**
AK09 Malin Array Si 55.08 334 P **P** **14 19 44.2 -0.7**
AK10 Malin Array Si 55.08 334 P **P** **14 19 44.2 -0.7**
BTO Baotou 55.09 42 *e*P **P** **14 19 45.5 +0.1**
BTO S **S** **14 27 29.0 +0.7**
BTO pmax pmax
comp=Z,19nm,1.0s
BTO pmax pmax
comp=Z,310nm,5.2s
BTO LR LR
comp=Z,330nm,11.5s
BTO LR LR
comp=Z,310nm,12.1s
BTO LR LR
comp=Z,390nm,15.1s
AK06 Malin Array Si 55.09 334 P **P** **14 19 44.3 -0.8**
AK08 Malin Array Si 55.10 334 P **P** **14 19 44.4 -0.7**
AK05 Malin Array Si 55.12 334 P **P** **14 19 44.5 -0.7**
AK02 Malin Array Si 55.14 334 P **P** **14 19 44.7 -0.7**
AK01 Malin Array Si 55.16 334 P **P** **14 19 44.4 -1.1**
AKASG Malin Array Be 55.17 334 P **P** **14 19 44.6 -0.9**
comp=Z,0.5nm,0.5s,baz=128,slow=6.1,SNR=16
AKASG LR LR 14 46 17.5
comp=Z,41nm,18.7s,baz=106,slow=39
comp=Z,0.5nm,0.5s
AKASG Malin Array Be 55.17 334 *i* P **P** **14 19 45.2 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKBB Malin Array Si 55.17 334 *ce*P **P** **14 19 45.0 -0.6**
AKBB pmax pmax
comp=Z,13nm,1.5s
AKBB Malin Array Si 55.17 334 P **P** **14 19 44.9 -0.6**
KIEV Kiev 55.17 334 P **P** **14 19 45.0 -0.6**
KIEV IAmb IAmb 14 19 46.3
comp=Z,8.4nm,1.1s
KIEV Kiev 55.17 334 P **P** **14 19 45.2 -0.3**
KIEV Kiev 55.17 334 P **P** **14 19 45.0 -0.6**
KIEV pmax pmax
comp=Z,8.0nm,1.2s
KIEV Kiev 55.17 334 P **P** **14 19 44.4 -1.2**
comp=Z,34nm,1.4s
LUBAR Lubar, Ukraine 55.28 332 P **P** **14 19 46.0 -0.4**
HORU Horodok 55.43 331 P **P** **14 19 46.3 -1.2**
KSV Kosov 55.52 329 P **P** **14 19 47.1 -1.1**
KSV pP **sP** **14 19 50.8 -0.4**
OBN Obninsk 55.79 341 *i* P **P** **14 19 48.1 -1.8**
OBN pmax pmax
comp=Z,5.0nm,0.8s
DRGR 55.81 327 P **P** **14 19 50.7 +0.3**
DRGR pmax pmax
comp=Z,10.0nm,1.7s
KIRV Kirov 55.82 351 LR LR 14 45 26.0
comp=Z,102nm,18.6s,baz=154,slow=38
KIRV Kirov 55.82 351 *ce*P **P** **14 19 48.6 -1.5**
MOS Moscow 55.98 342 *e*P **P** **14 19 49.1 -2.2**
MOS pmax pmax
comp=Z,64nm,1.3s
MOS pmax pmax
comp=Z,100nm,1.6s
MI28 Mi28,Pidlybu 56.03 333 P **P** **14 19 50.5 -1.2**
STNU Starunia 56.06 329 P **P** **14 19 51.7 -0.4**
KAPI Kappang 56.20 99 LR LR 14 43 30.9
comp=Z,50nm,18.2s,baz=282,slow=36
HHC Hu-ho-hao-te 56.24 42 *e*P **P** **14 19 55.8 +2.2**
HHC pmax pmax
comp=Z,29nm,0.6s
HHC pmax pmax
comp=Z,340nm,5.3s
KORU Korolevo 56.42 328 P **P** **14 19 54.7 +0.1**
MEZ Mezhgor'ye 56.44 329 P **P** **14 19 54.6 -0.2**
TRSU Trosnyk 56.48 328 P **P** **14 19 55.9 +0.9**
CUC Castrocucco 56.52 316 P **P** **14 19 56.8 +1.2**
BRIU Brid 56.59 328 P **P** **14 19 55.9 +0.1**
MORS Morshin 56.64 329 P **P** **14 19 56.1 -0.1**
BERU Beregovo 56.73 328 P **P** **14 19 58.1 +1.3**
ACER Acerenza 56.79 317 P **P** **14 19 58.8 +1.3**
MUKU Mukachevo 56.84 328 P **P** **14 19 58.0 +0.4**
SONM Songino Array 56.85 33 P **P** **14 19 57.1 -0.7**
comp=Z,3.1nm,0.8s,baz=232,slow=6.4,SNR=18
SONM LR LR 14 44 29.9
comp=Z,296nm,20.5s,baz=240,slow=36
comp=Z,3.1nm,0.8s
HNS HongShan 56.96 47 J P **P** **14 19 58.8 +0.2**
HNS pmax pmax
comp=Z,11nm,1.2s
LVV L'vov 57.01 330 P **P** **14 19 57.7 -1.1**
LVV L'vov 57.01 330 P **P** **14 19 59.1 +0.3**
HOLU Holmets 57.04 328 P **P** **14 19 59.4 +0.4**
RNPP5 Staryi Chortor 57.05 332 P **P** **14 19 58.0 -1.0**
RNPP8 Varash 57.14 332 P **P** **14 19 59.2 -0.4**
ULN Ulaanbaatar 57.22 33 *ce*P **P** **14 20 00.3 -0.2**
ULN pmax pmax
comp=Z,10.0nm,2.5s
KOLS Kolonicke sedl 57.35 328 *e*P **P** **14 20 02.5 +1.3**
KOLS pmax pmax
comp=Z,20nm,0.9s
SGRT San Giovanni R 57.37 318 P **P** **14 20 02.3 +0.7**
KWP Kalwaria Pacla 57.56 329 P **P** **14 20 03.0 +0.3**
KWP pP **sP** **14 20 06.0 +0.3**
PSZ Piszkesteto 58.03 326 P **P** **14 20 06.2 +0.1**
PSZ IAmb IAmb 14 20 06.8
comp=Z,7.3nm,1.1s
PSZ Piszkesteto 58.03 326 P **P** **14 20 06.2 +0.1**
PSZ pmax pmax
comp=Z,7.0nm,1.1s
TIA Tai'an 58.31 49 P **P** **14 20 07.5 -0.8**
TIA pmax pmax
comp=Z,6.0nm,1.3s
NJ2 Nanjing 58.34 54 *e*P **P** **14 20 08.5 +0.1**
NJ2 pmax pmax
comp=Z,8.0nm,1.0s
LANS Liptovska Anna 58.97 327 *e*P **P** **14 20 13.2 +0.6**
LANS pmax pmax
comp=Z,7.0nm,1.1s
BEHE Becsehely 59.03 324 P **P** **14 20 14.5 +1.5**
BEHE IAmb IAmb 14 20 14.7
comp=Z,22nm,1.5s
BJI Beijing 59.06 45 P **P** **14 20 13.5 +0.2**
BJI pmax pmax
comp=Z,3.0nm,1.1s
BJI LR LR
comp=Z,75nm,15.1s
BJI LR LR
comp=Z,83nm,16.0s
BJI LR LR
comp=Z,110nm,15.1s
OJC Ojcow 59.41 329 P **P** **14 20 15.7 +0.1**
OJC Ojcow 59.41 329 P **P** **14 20 15.7 +0.1**
MORW Morawa 59.51 127 P **P** **14 20 16.4 -0.2**
NRCA Norcia 59.59 318 P **P** **14 20 17.2 +0.1**
KEST Kesra 59.60 310 LR LR 14 47 21.4
comp=Z,58nm,18.2s,baz=315,slow=37
FDMO Fiordimonte 59.70 319 P **P** **14 20 18.2 +0.4**
FDMO IAmb IAmb 14 20 20.3
comp=Z,15nm,1.2s
TAM Tamanrasset 59.70 294 P **P** **14 20 20.0 +1.7**
TAM Tamanrasset 59.70 294 P **P** **14 20 20.0 +1.7**
JAVC Velka Javorina 59.78 326 *e*P **P** **14 20 19.2 +0.9**
RONA Rosalia, Austr 59.94 325 *e*P **P** **14 20 18.3 -1.1**
comp=Z,9.2nm,1.2s
ARSA Arzberg 60.16 324 P **P** **14 20 20.7 -0.2**
ARSA IAmb IAmb 14 20 22.1
comp=Z,11nm,1.3s
ARSA Arzberg 60.16 324 *i* P **P** **14 20 20.3 -0.6**
comp=Z,10nm,1.5s
SOKA Soboth 60.17 323 *i* P **P** **14 20 21.8 +0.8**
comp=Z,3.1nm,0.6s
CONA Conrad Observa 60.31 325 *e*P **P** **14 20 21.2 -0.8**
comp=Z,17nm,1.2s
MORC Moravsky Berou 60.36 327 P **P** **14 20 22.5 +0.3**
MORC IAmb IAmb 14 20 23.0
comp=Z,14nm,1.2s
MORC Moravsky Berou 60.36 327 *e*P **P** **14 20 21.9 -0.3**
MORC Moravsky Berou 60.36 327 P **P** **14 20 22.5 +0.3**
MORC pmax pmax
comp=Z,14nm,1.2s
OBKA Obir 60.38 323 *e*P **P** **14 20 23.3 +0.9**
comp=Z,6.6nm,1.4s
KRUC Moravsky 60.60 326 *e*P **P** **14 20 22.9 -0.9**
VRAC Vranov 60.62 326 LR LR 14 47 46.1
comp=Z,44nm,20.3s,baz=86,slow=37
VRAC Vranov 60.62 326 *e*P **P** **14 20 23.8 -0.2**
VRAC Vranov 60.62 326 P **P** **14 20 23.6 -0.4**
VRAC pmax pmax
comp=Z,13nm,1.3s
H01W3 Cape Leeuwin H 60.66 134 T T 15 25 59.9
baz=300,slow=75,SNR=31
H01W2 Cape Leeuwin H 60.66 134 T T 15 26 06.0
baz=300,slow=75,SNR=34
H01W1 Cape Leeuwin H 60.67 134 T T 15 26 01.9
baz=300,slow=75,SNR=34
MYKA Terra Mystica 60.98 323 *i* P **P** **14 20 27.1 +0.5**
comp=Z,10nm,1.1s
DAV Davao City (W) 61.17 84 LR LR 14 47 04.3
comp=Z,38nm,18.5s,baz=213,slow=36
MOA Molln 61.20 324 *i* P **P** **14 20 27.2 -0.8**
comp=Z,16nm,1.1s
DPC Dobruska-Polom 61.33 327 *e*P **P** **14 20 28.2 -0.6**
DPC Dobruska-Polom 61.33 327 *e*P **P** **14 20 28.2 -0.6**
KBA Koelnbreinsper 61.38 323 *e*P **P** **14 20 29.2 -0.1**
comp=Z,6.7nm,1.2s
BIOA Bad Ischl, Aus 61.49 324 *i* P **P** **14 20 27.2 -2.8**
comp=Z,13nm,1.2s
ABTA Abfaltersbach 61.73 322 *i* P **P** **14 20 31.3 -0.3**
comp=Z,12nm,1.1s
LESA Schwarzleotal 61.94 323 *i* P **P** **14 20 31.6 -1.4**
comp=Z,5.2nm,1.0s
CTI Castel Tesino 61.95 321 P **P** **14 20 32.0 -1.1**
CTI IAmb IAmb 14 20 33.9
comp=Z,14nm,1.3s
CTI Castel Tesino 61.95 321 P **P** **14 20 32.0 -1.1**
CTI pmax pmax
comp=Z,14nm,1.3s
GERES GERESS Array B 62.02 325 P **P** **14 20 32.2 -1.3**
comp=Z,0.2nm,0.3s,baz=145,slow=3.3,SNR=4.6
comp=Z,0.2nm,0.3s
KHC Kasperske Hory 62.23 325 *e*P **P** **14 20 32.0 -2.9**
KHC Kasperske Hory 62.23 325 *ce*P **P** **14 20 33.5 -1.4**
KHC pmax pmax
comp=Z,7.0nm,1.7s
TORD Torodi Ar. Bea 62.35 283 P **P** **14 20 36.5 +0.2**
comp=Z,2.2nm,1.2s,baz=67,slow=8.1,SNR=8.6
comp=Z,2.2nm,1.2s
WTTA Wattenberg 62.50 322 *i* P **P** **14 20 34.6 -2.3**
comp=Z,8.0nm,1.0s
WATA Walderalm 62.56 322 *i* P **P** **14 20 36.4 -0.9**
comp=Z,7.5nm,0.9s
SQTA Sankt Quirin 62.74 322 *i* P **P** **14 20 36.9 -1.5**
comp=Z,13nm,1.5s
MOTA Moosalm 62.86 322 *i* P **P** **14 20 37.4 -1.8**
comp=Z,12nm,1.1s
BRG Berggiesshubel 62.90 327 *e*P **P** **14 20 39.1 -0.1**
BRG Amp 14 20 40.7
comp=Z,9.5nm,1.3s
FETA Feichten 62.94 322 *i* P **P** **14 20 38.7 -1.1**
comp=Z,7.5nm,1.4s
FUORN Ofenpass-Fuorn 63.06 321 P **P** **14 20 40.7 0.0**
FUORN IAmb IAmb 14 20 41.9
comp=Z,11nm,1.2s
RETA Reutte 63.13 322 *i* P **P** **14 20 38.8 -2.2**
comp=Z,9.4nm,1.7s
TUE Stuetta 63.57 321 P **P** **14 20 43.4 -0.6**
DAVA Damuels 63.58 322 *i* P **P** **14 20 42.7 -1.4**
comp=Z,15nm,1.3s
CLL Collm 63.63 327 P **P** **14 20 44.1 0.0**
CLL Collm 63.63 327 P **P** **14 20 44.1 0.0**
CLL pmax pmax
comp=Z,21nm,1.5s
CLL Collm 63.63 327 *i* P **P** **14 20 44.1 0.0**
comp=Z,18nm,1.5s
CLL *i* x x 14 20 55.4
FINES FINESS Array B 64.19 341 P **P** **14 20 45.2 -2.3**
comp=Z,2.7nm,1.0s,baz=144,slow=12,SNR=2.0
FINES LR LR 14 48 21.6
comp=Z,59nm,20.8s,baz=102,slow=36
comp=Z,2.7nm,1.0s
FITZ Fitzroy Crossi 64.34 112 P **P** **14 20 49.4 0.0**
comp=Z,5.6nm,1.0s,baz=300,slow=4.9,SNR=4.0
FITZ LR LR 14 46 14.6
comp=Z,60nm,18.5s,baz=358,slow=34
comp=Z,5.6nm,1.0s
SENIN Lac Senin/Sane 64.83 320 P **P** **14 20 51.5 -0.8**
BFO Black Forest 64.97 322 P **P** **14 20 53.2 +0.3**
BFO Black Forest 64.97 322 P **P** **14 20 53.2 +0.3**
BFO pmax pmax
comp=Z,22nm,1.3s
JOW Kunigami 65.21 62 LR LR 14 50 20.0
comp=Z,94nm,18.8s,baz=152,slow=37
CN2 Changchun 66.86 44 P **P** **14 21 05.0 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.7s

KSRS	Korea Array	66.96	51	P		P	14 21 05.0	-0.9
	comp=Z,1.1nm,0.8s,baz=259,slow=7.1,SNR=7.5							
	comp=Z,1.1nm,0.8s							
CEST	Esterri de Car	67.67	315	P		P	14 21 11.2	+0.7
HFS	Hagfors	67.97	335	P		P	14 21 10.9	-1.0
	comp=Z,9.6nm,1.0s,baz=134,slow=8.4,SNR=8.3							
	comp=Z,9.6nm,1.0s							
JNU	Nakatsue	68.45	56	LR		LR	14 51 11.3	
	comp=Z,61nm,21.6s,baz=205,slow=36							
DBIC	Dimbokro	68.76	276	LR		LR	14 51 44.9	
	comp=Z,71nm,18.0s,baz=125,slow=36							
BNX	BinXian	68.77	42	⇑P		P	14 21 16.8	-0.4
BNX				pmax		pmax		
	comp=Z,8.0nm,1.0s							
NB2	NORSAR Subarra	69.49	335	P		P	14 21 18.9	-2.5
	comp=Z,16nm,1.4s,baz=120,slow=6.2							
NOA	NORSAR Array B	69.49	335	P		P	14 21 19.3	-2.1
	comp=Z,3.3nm,1.1s,baz=114,slow=6.9,SNR=4.1							
NOA				LR		LR	14 53 30.3	
	comp=Z,46nm,21.4s,baz=95,slow=37							
	comp=Z,3.3nm,1.1s							
MDT	Midelt	70.14	303	LR		LR	14 52 35.9	
	comp=Z,65nm,18.2s,baz=56,slow=36							
ARCES	ARCESS Array B	70.37	347	P		P	14 21 24.7	-1.9
	comp=Z,2.1nm,1.0s,baz=156,slow=4.6,SNR=3.7							
ARCES				LR		LR	14 53 38.7	
	comp=Z,57nm,21.1s,baz=127,slow=37							
	comp=Z,2.1nm,1.0s							
ESDC	Sonseca Array	70.80	311	P		P	14 21 28.5	-1.4
	comp=Z,2.5nm,1.0s,baz=80,slow=4.6,SNR=11							
	comp=Z,2.5nm,1.0s							
MAW	Mawson	71.28	181	LR		LR	14 44 08.9	
	comp=Z,64nm,19.8s,baz=5.0,slow=29							
WRA	Warramunga Arr	72.77	112	P		P	14 21 40.7	-1.4
	comp=Z,4.0nm,1.0s,baz=286,slow=5.4,SNR=16							
	comp=Z,4.0nm,1.0s							
WRAB	Tennant Creek	72.78	112	P		P	14 21 42.2	+0.1
WRAB				IAmb		IAmb	14 21 42.9	
	comp=Z,14nm,1.2s							
WRAB	Tennant Creek	72.78	112	P		P	14 21 42.2	+0.1
WRAB				pmax		pmax		
	comp=Z,14nm,1.3s							
ASAR	Alice Springs	73.11	116	P		P	14 21 42.8	-1.2
	comp=Z,2.1nm,0.9s,baz=290,slow=5.7,SNR=20							
ASAR				LR		LR	14 53 51.0	
	comp=Z,54nm,18.2s,baz=152,slow=36							
	comp=Z,2.1nm,0.9s							
INU	Inuyama	73.81	54	P		P	14 21 47.6	-0.3
INU				IAmb		IAmb	14 22 01.9	
	comp=Z,17nm,1.5s							
MJAR	Matsushiro Arr	74.91	53	P		P	14 21 51.7	-2.6
	comp=Z,2.0nm,0.9s,baz=272,slow=7.5,SNR=11							
MJAR				LR		LR	14 58 10.3	
	comp=Z,32nm,18.5s,baz=262,slow=38							
	comp=Z,2.0nm,0.9s							
YAK	Yakutsk	75.31	26	LR		LR	14 56 09.6	
	comp=Z,148nm,20.4s,baz=250,slow=37							
YAK	Yakutsk	75.31	26	*ce*P		P	14 21 57.2	+1.1
YAK				pmax		pmax		
	comp=Z,26nm,1.9s							
JHJ	Hachijo jima 2	75.86	57	LR		LR	14 57 40.0	
	comp=Z,39nm,18.9s,baz=358,slow=38							
SPITS	Spitsbergen Ar	78.29	351	LR		LR	14 59 35.3	
	comp=Z,54nm,20.2s,baz=129,slow=38							
TIXI	Tiksi	78.58	17	P		P	14 22 14.3	+0.1
TIXI				IAmb		IAmb	14 22 14.6	
	comp=Z,18nm,1.4s							
TIXI	Tiksi	78.58	17	LR		LR	14 58 35.0	
	comp=Z,114nm,19.2s,baz=278,slow=37							
TIXI	Tiksi	78.58	17	*ce*P		P	14 22 14.7	+0.4
TIXI				pmax		pmax		
	comp=Z,15nm,1.5s							
INKA	Innaminka	79.93	119	P		P	14 22 23.5	+0.9
GUMO	Guam	80.07	77	LR		LR	14 56 12.4	
	comp=Z,22nm,19.8s,baz=202,slow=34							
STKA	Stephens Creek	81.36	123	LR		LR	14 58 19.4	
	comp=Z,85nm,18.2s,baz=208,slow=36							
NVL	N'lazarevskaya	81.98	195	*e*P		P	14 22 31.1	-1.5
NVL				*e*S		S	14 32 46.7	+0.2
NVL				*e*SS		SS	14 38 07.2	+1.9
NVL				*e*SSS		SSS	14 41 34.3	
NVL				pmax		pmax		
	comp=Z,16nm,1.0s							
NVL				smax		smax		
	comp=E,238nm,14.6s							
NVL				MLR		MLR		
	comp=Z,77nm,16.0s							
PMG	Port Moresby	83.71	100	LR		LR	15 00 53.5	
	comp=Z,32nm,18.1s,baz=196,slow=36							
BORG	Borgarnes	84.64	335	LR		LR	15 02 57.7	
	comp=Z,45nm,20.0s,baz=81,slow=37							
MA2	Magadan	84.99	31	LR		LR	15 01 42.5	
	comp=Z,179nm,21.6s,baz=250,slow=36							
SNAA	Sanae	86.54	197	LR		LR	14 54 21.9	
	comp=Z,74nm,21.4s,baz=80,slow=31							
PETK	Petropavlovsk-	89.08	37	LR		LR	15 04 34.2	
	comp=Z,112nm,20.4s,baz=282,slow=37							
VNDA	Vanda	95.38	167	LR		LR	15 00 40.3	
	comp=Z,88nm,20.4s,baz=265,slow=32							
SFJD	Kangerlussuaq	95.94	339	LR		LR	15 09 41.1	
	comp=Z,59nm,18.2s,baz=26,slow=37							
SHEM	Shemya Is, Ala	98.86	35	LR		LR	15 11 59.1	
	comp=Z,71nm,18.2s,baz=292,slow=38							
DZM	Mont Dzumac	102.79	112	*e*LR		LR	14 57 49.0	
	comp=Z,151nm,31.3s							
PPT2	Papeete2	144.21	115	*e*LR		LR	15 16 47.6	
	comp=Z,48nm,21.5s							
TXAR	Lajitas Array	145.03	341	PKPbc		PKPbc	14 29 49.4	-1.2
	comp=Z,13nm,1.2s,baz=61,slow=2.6,SNR=29							

SDD ***29*** *14:12:54.7±1.0, 18°.98N×67°.79W, h31km±7km, MD2.7, ML1.7, MW2.9*

RSPR ***29*** *14:12:57.2, 19°.25N×67°.45W, h53km±9km, MD3.0/6*

ISC 29 14:12:56.4±3.3, 19°2N±0°.2×67°.35W±0°.10, h27km, n20, σ1°01/22, 7C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	Aguadilla, PR	0.75	162	⇑*e*P	Pn	14 13 11.6	+0.3
AGPR	Aguadilla, PR	0.75	162	*e*S	Sn	14 13 23.2	+1.3
AGPR	Aguadilla, PR	0.75	162	*i*P	Pb	14 13 09.1	-1.8
AGPR				*i*S	Sb	14 13 19.7	-1.1
AGPR				IAML		14 13 26.6	
	comp=N,31nm,1.8s						
IDE	Isla Desecheo	0.81	188	⇓*i*P	Pn	14 13 12.6	+0.6
IDE	Isla Desecheo	0.81	188	*e*S	Sn	14 13 24.2	+1.1
AOPR	Arecibo Observ	1.01	146	⇑*e*P	Pb	14 13 14.8	-0.5
AOPR	Arecibo Observ	1.01	146	*e*Pg	Pn	14 13 14.6	-0.3
AOPR				*i*S	Sb	14 13 26.8	-1.5
AOPR				IAML		14 13 32.4	
	comp=N,26nm,0.2s						
LSP	Las Mesas	1.04	166	⇑*e*P	Pn	14 13 15.1	-0.2
LSP	Las Mesas	1.04	166	*e*S	Sn	14 13 30.6	+1.7
PCDR	Punta Cana, DR	1.18	236	*i*P	Pn	14 13 07.4	-10
PCDR				*i*S	Sn	14 13 17.1	-15
CRPR	Cabo Rojo, PR	1.20	169	⇓*e*P	Pb	14 13 17.9	-0.6
CRPR	Cabo Rojo, PR	1.20	169	*e*S	Sb	14 13 34.1	+0.5
MLPR	Magueyes Islan	1.25	166	⇑*e*P	Pb	14 13 18.5	-0.8
MLPR	Magueyes Islan	1.25	166	*e*S	Sb	14 13 35.0	0.0
ECPR	Experimental S	1.28	133	⇑*e*P	Pb	14 13 19.9	+0.1
ECPR	Experimental S	1.28	133	*e*S	Sb	14 13 37.4	+1.6
CELP	Cerrillos	1.33	146	⇑*e*P	Pb	14 13 19.8	-0.9
CELP	Cerrillos	1.33	146	*e*S	Sb	14 13 37.4	0.0
CELP	Cerrillos	1.33	146	*e*Pg	Pn	14 13 19.3	+0.1
CELP				⇑*e*Sg	Sb	14 13 37.3	0.0
CELP				IAML		14 13 42.2	
	comp=N,6.1nm,0.6s						
PDPR	Patillas Dam,	1.72	133	*e*S	Sb	14 13 47.3	-1.2

IDC ***29*** *14:22:32.2±1.4, 5°.86N×127°.13E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=67.6km s-min=15.9km az=61.0*

DJA ***29*** *14:22:42.0±1.1, 6°N±3°×12°7E±°, h16km±9km, M4.3/10, mB4.5/1, mb4.3/3, MLv4.2/10, Mw(mB)3.7/1*

ISC 29 14:22:38.7±1.2, 5°79N±0°.07×126°.9E±0°.1, h35km, n11, σ2°01/12, mb3.5/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	1.83	314		Pn	14 23 07.9	+0.2
	83nm,0.3s,baz=236,slow=5.7,SNR=2.5						
DAV					Sn	14 23 33.4	+3.7
	51nm,0.3s,baz=156,slow=10,SNR=1.6						
SGSI	Sangihe	2.50	213	P	Pn	14 23 18.2	+1.4
SGSI				S	Sn	14 23 44.8	-1.3
TNTI	Ternate	5.00	175	P	Pn	14 23 54.3	+3.0
MRSI	Marisa	7.24	223	P	Pn	14 24 23.0	+1.0
	51nm,0.5s						
APSI	Ampana	8.47	218	P	Pn	14 24 40.5	+1.5
FITZ	Fitzroy Crossi	23.77	183	P	P	14 27 46.4	-1.7
	1.9nm,0.8s,baz=0.0,slow=10,SNR=8.2						
	1.9nm,0.8s						
WRA	Warramunga Arr	26.59	164	P	P	14 28 13.3	-0.5
	0.6nm,0.4s,baz=344,slow=9.2,SNR=22						
	0.6nm,0.4s						
ASAR	Alice Springs	30.06	167	P	P	14 28 44.0	-0.7
	0.3nm,0.6s,baz=347,slow=7.1,SNR=10						
	0.3nm,0.6s						
STKA	Stephens Creek	39.99	160	P	P	14 30 08.1	-2.0
	0.5nm,0.3s,baz=347,slow=14,SNR=3.8						
	0.5nm,0.3s						
MKAR	Makanchi Array	55.99	324	P	P	14 32 12.1	-1.7
	0.2nm,0.5s,baz=111,slow=7.3,SNR=3.5						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	60.12	327	P	P	14 32 41.9	-0.7
	0.2nm,0.6s,baz=122,slow=8.0,SNR=8.3						
	0.2nm,0.6s						

NEIC ***29*** *14:40:33.0±1.3, 34°.949N±0°.010×97°.646W±0°.007, h7km±1km, Error ellipse: s-maj=2.2km s-min=1.6km az=148.0*

NEIC 29 14:40:32.5±1.4, 34°.969N±0°.009×97°.655W±0°.008, h5km±1km, mb_Lg2.4/37, ML2.2/12, ML2.5/48, Error ellipse: s-maj=2.5km s-min=1.5km az=169.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FNO	Franklin	0.35	36		Pg	14 40 40.2	+0.8
FNO					Sb	14 40 45.8	-1.5
X34A	Smith Ranch, M	0.40	202	Pg	Pg	14 40 40.7	+0.6
X34A					Sb	14 40 46.9	-1.5
X34A				IAML		14 40 47.1	
	comp=E,498nm,0.5s						
OKCSW	OKLAHOMA CITY	0.47	22	Pg	Pg	14 40 41.5	-0.1
OK029	Liberty Lake	0.84	11		Pg	14 40 48.5	-0.1
OK029				IAML		14 41 05.0	
	comp=E,156nm,0.4s						
WMOK	Wichita Mounta	0.95	256	Pg	Pg	14 40 49.9	-0.9
LOOK	Love County	1.05	158		Pg	14 40 52.2	-0.4
LOOK				IAML		14 41 14.6	
	comp=E,121nm,0.1s						
LOOK				IAML		14 41 16.4	
	comp=N,126nm,0.2s						
OK052	Battle Ridge R	1.24	34		Pg	14 40 55.4	-0.8
DEOK	Depew	1.28	47		Pn	14 40 55.9	-1.2
CROK	Carrier	1.56	350		Pn	14 41 00.6	-0.2
OK048	Pawnee Station	1.56	22	IAmb_Lg		14 41 22.6	
	comp=Z,18nm,1.2s						
GC02	Grant County #	1.89	355		Pn	14 41 03.7	-1.7
FW06	Azle	1.99	178		Pn	14 41 07.5	+0.7
SMWD	Samnorwood	2.13	274	IAmb_Lg		14 41 43.7	
	comp=Z,15nm,0.8s						
KAN01	Argonia South	2.18	358	IAmb_Lg		14 41 40.4	
	comp=Z,21nm,0.8s						
Z38A	Mt. Pleasant	2.79	127	IAmb_Lg		14 42 03.3	
	comp=Z,9.7nm,0.8s						
POST	Post	3.72	240	IAmb_Lg		14 42 32.2	
	comp=Z,7.4nm,0.9s						
BRDY	Brady	3.84	197	IAmb_Lg		14 42 37.5	
	comp=Z,12nm,1.1s						
X40A	Basin Creek Fa	4.00	96	IAmb_Lg		14 42 45.1	
	comp=Z,8.1nm,0.7s						
435B	Jarrell	4.18	179	IAmb_Lg		14 42 56.2	
	comp=Z,11nm,0.9s						
SGCY	Sterling City	4.21	225	IAmb_Lg		14 42 50.8	
	comp=Z,9.2nm,1.0s						
MGMO	Mountain Grove	4.88	62	IAmb_Lg		14 43 14.4	
	comp=Z,5.8nm,0.7s						
HNDO	Hondo	5.60	195	IAmb_Lg		14 43 41.5	
	comp=Z,8.0nm,1.1s						
MNHN	Monahans	5.61	231	IAmb_Lg		14 43 37.4	
	comp=Z,5.9nm,1.1s						
P38A	Dawn	5.69	34	IAmb_Lg		14 43 38.4	
	comp=Z,9.6nm,0.8s						
CCM	Cathedral Cave	6.01	57	IAmb_Lg		14 43 56.5	
	comp=Z,6.9nm,0.8s						
PBMO	Poplar Bluff	6.14	71	IAmb_Lg		14 43 51.2	
	comp=Z,7.5nm,0.8s						
SAND	Sanderson	6.26	218	IAmb_Lg		14 44 06.3	
	comp=Z,3.5nm,0.8s						
FVM	French Village	6.55	61	IAmb_Lg		14 44 05.9	
	comp=Z,5.8nm,0.9s						

NEIC ***29*** *14:51:29.5±0.7, 19°.33N±0°.03×67°.28W±0°.06, h24km±11km, ML2.1/13, Md3.0/12(RSPR), Error ellipse: s-maj=8.0km s-min=3.1km az=110.0*

SDD ***29*** *14:51:30.8±0.7, 19°.32N×67°.28W, h26km±5km, MD2.8, ML2.3, MW2.7*

RSPR ***29*** *14:51:34.1, 19°.22N×67°.26W, h40km±19km, MD3.0/12*

ISC 29 14:51:30.0±1.7, 19°30N±0°.07×67°.25W±0°.03, h30km±12km, n55, σ0°48/64, 10C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	Aguadilla, PR	0.84	171		Pb	14 51 46.6	+0.4
AGPR					Sn	14 51 57.1	-0.2
AGPR	Aguadilla, PR	0.84	171	⇓*e*P	Pb	14 51 46.6	+0.4
AGPR	Aguadilla, PR	0.84	171	*e*S	Sn	14 51 57.1	-0.2
AGPR	Aguadilla, PR	0.84	171	⇓*e*Pg	Pn	14 51 45.8	0.0
AGPR				⇓*e*Sg	Sn	14 51 56.4	-0.8
AGPR				IAML		14 51 57.6	
	comp=N,111nm,0.3s						
IDE	Isla Desecheo	0.94	193		Pb	14 51 47.7	0.0
IDE					Sb	14 52 00.1	+0.3
IDE	Isla Desecheo	0.94	193	⇑*i*P	Pb	14 51 47.7	0.0
IDE	Isla Desecheo	0.94	193	*e*S	Sb	14 52 00.1	+0.3
AOPR	Arecibo Observ	1.06	154		Pn	14 51 48.9	0.0
AOPR	Arecibo Observ	1.06	154		Sb	14 52 03.3	-0.1
AOPR	Arecibo Observ	1.06	154	⇑*e*P	Pb	14 51 49.8	-0.1
AOPR	Arecibo Observ	1.06	154	*e*S	Sb	14 52 03.3	-0.1
AOPR	Arecibo Observ	1.06	154	⇑*e*Pg	Pb	14 51 49.4	-0.5
AOPR				*i*S	Sn	14 52 02.0	-0.7
AOPR				IAML		14 52 11.1	
	comp=N,75nm,0.2s						
EMPR	Esperanza - Ma	1.07	140	Pn	Pn	14 51 49.1	+0.2
PRSN	Puerto Rico Se	1.08	175	Pn	Pn	14 51 49.4	+0.2
LSP	Las Mesas	1.13	172		Pn	14 51 50.3	+0.4
LSP					Sb	14 52 05.4	0.0
LSP	Las Mesas	1.13	172	⇑*i*P	Pn	14 51 50.3	+0.4
LSP	Las Mesas	1.13	172	*e*S	Sb	14 52 05.4	0.0
UUPR	Utuado, UPR, P	1.16	154		Pb	14 51 51.3	-0.1
UUPR					Sb	14 52 05.9	-0.2
UUPR	Utuado, UPR, P	1.16	154	Pn	Pb	14 51 51.0	-0.4
UUPR	Utuado, UPR, P	1.16	154	⇑*e*P	Pb	14 51 51.3	-0.1
UUPR	Utuado, UPR, P	1.16	154	*e*S	Sb	14 52 05.9	-0.2
ECPR	Experimental S	1.29	139	⇑*e*P	Pb	14 51 53.3	-0.3
ECPR	Experimental S	1.29	139	*e*S	Sb	14 52 10.0	+0.1
CRPR	Cabo Rojo, PR	1.30	174		Sn	14 52 09.0	+0.6
CRPR	Cabo Rojo, PR	1.30	174		Pn	14 51 52.4	+0.3
CRPR				IAML		14 52 11.7	
	comp=E,38nm,0.3s						
CRPR				IAML		14 52 15.0	
	comp=N,29nm,0.7s						
CRPR	Cabo Rojo, PR	1.30	174	⇑*e*P	Pn	14 51 52.8	+0.7
CRPR	Cabo Rojo, PR	1.30	174	*e*S	Sn	14 52 09.0	+0.6
PCDR	Punta Cana, DR	1.33	234	*i*P	Pn	14 51 51.6	-0.9
PCDR				*i*S	Sn	14 52 08.0	-1.2
MLPR	Magueyes Islan	1.34	172	⇑*e*P	Pn	14 51 53.4	+0.7
MLPR	Magueyes Islan	1.34	172	*e*S	Sn	14 52 09.6	+0.1
GBPR	Guanica, Bosqu	1.37	165		Pb	14 51 55.2	+0.3
GBPR	Guanica, Bosqu	1.37	165	⇑*e*P	Pb	14 51 55.2	+0.3
CELP	Cerrillos	1.38	152		Pn	14 51 53.8	+0.6
CELP				IAML		14 52 12.7	
	comp=E,29nm,0.4s						
CELP	Cerrillos	1.38	152		Sb	14 52 11.9	-0.4
CELP	Cerrillos	1.38	152	⇑*e*P	Pb	14 51 54.6	-0.6
CELP	Cerrillos	1.38	152	*e*S	Sb	14 52 11.9	-0.4
CELP	Cerrillos	1.38	152	⇑*e*Pg	Pb	14 51 54.3	-0.8
CELP				⇓*e*Sg	Sb	14 52 12.0	-0.4
CELP				IAML		14 52 12.2	
	comp=N,45nm,0.6s						
OBIP	Obispado Ponce	1.40	154		Sb	14 52 12.3	-0.5
OBIP	Obispado Ponce	1.40	154		Pn	14 51 53.9	+0.4
OBIP				IAML		14 52 13.0	
	comp=E,42nm,0.3s						
OBIP	Obispado Ponce	1.40	154	⇓*e*P	Pb	14 51 55.0	-0.4
OBIP	Obispado Ponce	1.40	154		Sb	14 52 12.3	-0.5
GCPR	Guayanobo City	1.48	132		Pn	14 51 55.4	+0.7
GCPR	Guayanobo City	1.48	132		Sb	14 52 15.1	-0.3
GCPR	Guayanobo City	1.48	132	⇑*e*P	Pb	14 51 56.4	-0.6
GCPR	Guayanobo City	1.48	132	*e*S	Sb	14 52 15.1	-0.3
SJG	San Juan	1.58	139	Pn	Pn	14 51 56.4	+0.4
SJG				IAML		14 52 20.4	
	comp=E,24nm,0.2s						
SJG				IAML		14 52 20.9	
	comp=E,17nm,0.2s						
IGPR	InterUniversit	1.72	141		Pb	14 52 01.1	+0.2
IGPR					Sn	14 52 18.6	-0.2
IGPR	InterUniversit	1.72	141	⇓*e*P	Pb	14 52 01.1	+0.2
IGPR	InterUniversit	1.72	141	*e*S	Sn	14 52 18.6	-0.2
PDPR	Patillas Dam,	1.73	138	Pn	Pn	14 51 59.0	+1.0
PDPR				IAML		14 52 23.2	
	comp=N,14nm,0.1s						
PDPR	Patillas Dam,	1.73	138	⇓*e*P	Pb	14 52 00.6	-0.5
PDPR	Patillas Dam,	1.73	138	*e*S	Sn	14 52 19.8	+0.7
MIDR	Miches	1.73	260	⇓*e*P	Pb	14 52 01.8	+0.7
MIDR	Miches	1.73	260	*e*S	Sb	14 52 22.4	-0.1
HUMP	Col San Antoni	1.76	131	Pn	Pn	14 51 59.1	+0.6
OBIP	Obispado Ponce	1.40	154	*e*S	Sb	14 52 12.3	-0.5

IDC 29 14:59:28.4±7.6, 17°.27S×174°.22W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=334.0km s-min=36.4km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S2	WAKE ISLAND Hy	40.19	331	T	T	15 49 29.2	
	baz=154						
H11S3	WAKE ISLAND Hy	40.20	331	T	T	15 49 30.7	
	baz=154						
H11S1	WAKE ISLAND Hy	40.20	331	T	T	15 49 26.7	
	baz=154						
H11N3	WAKE ISLAND Hy	41.17	332	T	T	15 50 31.7	
	baz=152						
H11N1	WAKE ISLAND Hy	41.17	332	T	T	15 50 37.5	
	baz=152						
H11N2	WAKE ISLAND Hy	41.18	332	T	T	15 50 33.9	
	baz=152						
WRA	Warramunga Arr	48.67	258	P	P	15 08 13.3	-1.5
	0.3nm,0.7s,baz=96,slow=7.5,SNR=6.1						
	0.3nm,0.7s						
ASAR	Alice Springs	48.80	253	P	P	15 08 16.7	+0.9
	0.9nm,0.5s,baz=90,slow=8.2,SNR=31						
	0.9nm,0.5s						
ILAR	Eielson Array	84.43	11	P	P	15 12 02.4	0.0
	0.3nm,0.8s,baz=211,slow=5.5,SNR=7.5						
	0.3nm,0.8s						

IDC 29 15:21:28.7±3.0, 18°.97S×176°.17W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=317.2km s-min=34.3km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	46.54	260	P	P	15 29 57.6	-0.8
	0.3nm,0.3s,baz=98,slow=7.5,SNR=8.2						
	0.3nm,0.3s						
ASAR	Alice Springs	46.56	255	P	P	15 29 59.1	+0.5
	2.2nm,0.6s,baz=90,slow=8.4,SNR=32						
	2.2nm,0.6s						
TXAR	Lajitas Array	84.78	57	P	P	15 34 05.4	0.0
	0.4nm,0.8s,baz=237,slow=4.0,SNR=3.7						
	0.4nm,0.8s						

AUST 29 15:23:22.0±0.4, 29°S±5°×12°5E±°, h10km, mb3.6/6, ML2.4/5, Error ellipse: s-maj=11.8km s-min=7.3km az=165.7, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FORT	Forrest	2.77	121	P	Pn	15 24 07.6	+1.1
DNDOZ	Balladonia	3.29	201	P	Pn	15 24 13.2	-0.5
KMBL	Kambalda	3.54	235	P	Pb	15 24 22.8	-2.0
WRKA	Warakurna	5.10	32	P	Pn	15 24 39.4	+0.9
	comp=Z,0.0nmcomp=Z,3.5nm,2.5s						
MEEK	Meekatharra	6.51	293	P	Pn	15 24 57.2	-0.7
	comp=Z,0.1nmcomp=Z,13nm,2.5s						
MULG	Mulgathing	7.67	99	P	Pn	15 25 13.4	-0.4
	comp=Z,9.4nm,1.9s,comp=Z,0.0nm						
MUN	Mundaring	8.23	249	P	Pn	15 25 22.1	+0.5
	comp=Z,13nm,2.4s,comp=Z,0.1nm						
RKGY	Rocky Gully	8.77	231	P	Pn	15 25 28.9	+0.1
	comp=Z,41nm,1.7s,comp=Z,0.1nm						
OOD	Oodnadatta	9.28	83	P	Pn	15 25 34.6	-1.3
	comp=Z,4.0nm,2.6s,comp=Z,0.0nm						

NNC ***29*** *15:25:00.8±8.4, 37°.77N×71°.61E, h0km, mb4.3, mpv4.2, Error ellipse: s-maj=65.8km s-min=52.5km az=170.0*

IDC ***29*** *15:25:11.6±7.5, 38°.25N×72°.27E, h196km±49km, mb3.4/3, mbtmp3.7/9, MS2.8/1, Error ellipse: s-maj=75.6km s-min=43.7km az=177.0*

ISC 29 15:24:58.8±0.8, 37°.29N±0°.07×72°.3E±0°.1, h150km, n23, σ2°46/29, mb3.7/3, 5C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMU	Jammu	5.02	154	*e*S	Sn	15 27 05.7	-4.3
JMU				IAML		15 27 14.4	
	comp=N,83nm,0.5s						
JMU				IAML		15 27 14.4	
	comp=E,113nm,0.6s						
TSSA	Tissa	5.43	144	*e*P	Pn	15 26 18.3	+0.2
TSSA				*e*S	Sn	15 27 18.7	-1.4
TSSA				IAML		15 27 25.8	
	comp=N,202nm,0.1s						
TSSA				IAML		15 27 26.1	
	comp=E,122nm,0.3s						
EKS2	Erkin-Say

ZALV	**Zalesovo Beam**	**18.76**	**23**	P		**P**	**15 29 06.5**	**+0.4**
	comp=N,0.8nm,0.4s,baz=205,slow=9.5,SNR=5.1							
ZALV				LR		LR	15 36 53.3	
	comp=N,30nm,19.8s,baz=84,slow=39							
FINES	**FINESS Array B**	**37.44**	**325**	P		**P**	**15 31 58.8**	**+1.7**
	comp=N,1.9nm,0.9s,baz=110,slow=7.6,SNR=4.4							
	comp=N,1.9nm,0.9s							
ARCES	**ARCESS Array B**	**40.83**	**337**	P		**P**	**15 32 26.3**	**+1.1**
	comp=N,1.9nm,0.9s,baz=116,slow=10,SNR=3.6							
	comp=N,1.9nm,0.9s							
HFS	**Hagfors**	**43.11**	**321**	P		**P**	**15 32 45.0**	**+1.2**
	comp=N,1.4nm,0.8s,baz=99,slow=9.6,SNR=5.1							
	comp=N,1.4nm,0.8s							

VAO ***29*** *15:50:52.8±0.5, 7.°07S×72.°81W, h0km, mbRG3.9*
OSUNB ***29*** *15:50:53.7±0.6, 7.°13S×72.°80W, h1km±4km, mR3.9/6, Error ellipse: s-maj=3.4km s-min=4.8km az=-0.0*

ISC 29 15:50:54.0±2.1, 7.°22S±0.°06×72.°9W±0.°1, h35km, n14, σ2s 00/22, Western Brazil

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CZSB	**Cruzeiro do Su**	**0.55**	**159**	P		**Pn**	**15 51 05.1**	**-0.3**
CZSB				S		**Sn**	**15 51 13.2**	**-0.1**
CZSB	**Cruzeiro do Su**	**0.55**	**159**	*e*P		**Pn**	**15 51 05.1**	**-0.3**
CZSB				*e*S		**Sn**	**15 51 14.4**	**+1.1**
TBTG	**Tabatinga, AM**	**4.24**	**45**	P		**Pn**	**15 51 57.3**	**+1.2**
TBTG				S		Sn	15 52 51.8	+7.3
TBTG	**Tabatinga, AM**	**4.24**	**45**	*e*P		**Pn**	**15 51 56.6**	**+0.5**
TBTG				*e*S		**Sn**	**15 52 45.9**	**+1.5**
LABB	**Lȷbrea**	**7.46**	**107**	P		**Pn**	**15 52 43.5**	**+3.1**
LABB				S		**Sn**	**15 54 06.3**	**+2.5**
TEFE	**Tefe**	**9.02**	**66**	P		Pn	15 53 05.9	+4.0
TEFE				S		**Sn**	**15 54 44.3**	**+2.1**
TEFE	**Tefe**	**9.02**	**66**	*e*P		**Pn**	**15 53 02.2**	**+0.4**
TEFE				*e*S		**Sn**	**15 54 43.8**	**+1.5**
SGC2	**Sao Gabriel da**	**9.18**	**40**	P		**Pn**	**15 53 05.2**	**+1.2**
SGC2				S		**Sn**	**15 54 46.7**	**+0.5**
MACA	**Manacapuru-AM**	**12.82**	**72**	S		**Sn**	**15 56 13.4**	**-2.1**
BOAV	**Boa Vista**	**15.62**	**53**	P		**Pn**	**15 54 32.2**	**+0.6**
BOAV				S		**Sn**	**15 57 22.3**	**-1.4**
PDRB	**Porto dos Gac**	**16.54**	**107**	P		**P**	**15 54 45.2**	**-0.5**
PDRB				S		**S**	**15 57 58.4**	**+1.3**
CLDB	**Colider**	**17.28**	**103**	S		**S**	**15 58 08.3**	**-3.8**
ITTB	**Itaituba**	**17.32**	**82**	S		**S**	**15 58 10.5**	**-2.3**
NPGB	**Novo Progresso**	**17.41**	**91**	S		**S**	**15 58 10.8**	**-4.1**

SJA ***29*** *15:57:50.5±0.7, 35.°43S×73.°27W, h22km±5km, ML6.6, MW6.8*
IDC ***29*** *15:57:52.0±0.3, 35.°50S×72.°95W, h0km, mb5.8/16, mbtmp5.8/20, ML5.1/4, MS6.8/41, Error ellipse: s-maj=12.8km s-min=7.1km az=90.0*
BJI ***29*** *15:57:51.7, 35.°55S×73.°12W, h10km, mB6.6/59, Ms6.8/95, Ms7 6.8/44*
OSUNB ***29*** *15:57:52.3±0.2, 35.°23S×72.°91W, h0km, Mw7.0/47, Error ellipse: s-maj=2.0km s-min=1.7km az=0.0*
IPGP ***29*** *15:57:53.0, 35.°48S×73.°15W, h16km, Mw6.8, Fault plane solution: NP1:φs13.00000°, δ17.00000°, λ108.00000°. NP2:φs174.00000°, δ74.00000°, λ84.00000°.*
NEIC ***29*** *15:57:53.2, 35.°48S×73.°16W, h24km*
GUC ***29*** *15:57:53.7±0.8, 35.°47S×73.°17W, h27km±4km, ML6.4*
NEIC ***29*** *15:57:53.2, 35.°58S×73.°04W, h24km, Moment Tensor Solution. Duration: 13s7 Moment tensor: Scale 10^19Nm; Mrr0.65; Mθθ-0.04; Mφφ-0.60; Mrθ-0.01; Mθφ-0.10; Mφr-1.12; Fault plane solution: Mo1.29000×10^19 NP1: φs16.21000°, δ15.14000°, λ104.02000°. NP2: φs181.71000°, δ75.32000°, λ86.25000°. Principal axes: T 1.3041, Plg60.0000°, Azm86.0000°; N -0.0391, Plg4.0000°, Azm183.0000°; P -1.2651, Plg30.0000°, Azm275.0000°;*
CATAC ***29*** *15:57:53.7±0.3, 35.°S±4.°×7.°3W±.°, h0km, M6.6/44, mb6.0/43, mB6.9/44, MLv7.2/3, Mw(mB)6.8/44, MwMwp6.4/37, Mwp6.3/37 Error ellipse: s-maj=10.6km s-min=8.7km az=81.2, Moment Tensor Solution. Moment tensor: Scale 10^19Nm; Mrr0.76; Mθθ0.08; Mφφ-0.83; Mrθ-0.13; Mθφ-0.12; Mφr-0.74; Fault plane solution: Mo1.10094×10^19 NP1:φs189.52499°, δ66.57995°, λ91.89253°. NP2:φs4.77274°, δ23.49210°, λ85.64005°. Principal axes: T 1.0534, Plg68.3650°, Azm103.1564°; N 0.0897, Plg1.7366°, Azm8.7725°; P -1.1430, Plg21.5581°, Azm278.0862°; confirmed*
NEIC ***29*** *15:57:53.2±1.3, 35.°48S±0.°03×73.°16W±0.°06, h11km±1km, mb6.4/559, Ms_20 6.7/1026, Mwb6.6/76, Mwr6.6/106, Mww6.7/61, Mww6.6(GUC) Error ellipse: s-maj=9.7km s-min=2.8km az=302.0*
MOS ***29*** *15:57:53.3±0.9, 35.°47S×72.°83W, h10km, mb6.3/28, MS6.8/33, Error ellipse: s-maj=12.0km s-min=7.3km az=85.6*
NEIC ***29*** *15:57:54, 35.°48S×73.°13W, h15km*
NEIC ***29*** *15:57:54.1, 35.°48S×73.°13W, h16km*
VAO ***29*** *15:57:55.3±0.3, 35.°36S×72.°70W, h10km, mb6.2*
GCMT ***29*** *15:58:00.2±0.0, 35.°56S×73.°10W, h17km, MW6.7/169, Moment Tensor Solution. s169,c420; s169,c745; Duration: 5s6 Moment tensor: Scale 10^19Nm; Mrr0.61±.00; Mθθ0.02±.00; Mφφ-0.62±.00; Mrθ0.03±.01; Mθφ-0.08±.00; Mφr-1.39±.02; Best double couple: Mo1.52500×10^19 NP1:φs16.00000°, δ12.00000°, λ106.00000°. NP2:φs180.00000°, δ78.00000°, λ87.00000°. Principal axes: T 1.5170, Plg57.0000°, Azm85.0000°; N 0.0160, Plg3.0000°, Azm180.0000°; P -1.5330, Plg33.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 29 15:57:54.1±0.6, 35.°46S±0.°02×72.°93W±0.°03, h15km±3km, n2171, σ1s 86/1786, mb6.3/368, MS6.7/588, 147C-38D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GO05	**Hualane**	**0.93**	**61**	*i*P		**Pn**	**15 58 13.2**	**+0.5**
GO05				*e*S		**Sn**	**15 58 26.7**	**+0.9**
GO05	**Hualane**	**0.93**	**61**	*e*P		**Pn**	**15 58 12.6**	**-0.1**
GO05				IAML			15 58 32.3	
	comp=Z,556μm,2.2s							
GO05	**Hualane**	**0.93**	**61**	⇑P		**Pn**	**15 58 13.2**	**+0.5**
BO03	**Pichilemu**	**1.25**	**40**	⇑*e*P		**Pb**	**15 58 17.2**	**-0.2**
BO03				*e*S		**Sg**	**15 58 34.4**	**-0.1**
BO03				IAML			15 58 43.6	
	comp=E,672μm,0.6s							
BI05	**Punta Hualpn**	**1.30**	**189**	⇑*e*P		**Pn**	**15 58 15.4**	**-2.4**
BI05				*e*S		**Sb**	**15 58 31.2**	**-3.5**
BI05	**Punta Hualpn**	**1.30**	**189**	*e*P		**Pn**	**15 58 15.5**	**-2.2**
BI05	**Punta Hualpn**	**1.30**	**189**			**Pn**	**15 58 15.3**	**-2.4**
BI02	**San Fabin de**	**1.80**	**132**	⇑*e*P		**Pn**	**15 58 25.5**	**+0.8**
BI02				*i* S		**Sb**	**15 58 49.8**	**+0.6**
BI02				IAML			15 58 57.2	
	comp=N,347μm,0.6s							
BI02	**San Fabin de**	**1.80**	**132**			**Pn**	**15 58 25.5**	**+0.8**
BO01	**Tunca**	**1.85**	**55**	⇑*i*P		**Pn**	**15 58 26.4**	**+1.1**
BO01				*i* S		**Sb**	**15 58 51.8**	**+1.1**
BO01	**Tunca**	**1.85**	**55**	*e*P		**Pn**	**15 58 26.5**	**+1.1**
BO01				IAML			15 59 00.3	
	comp=Z,245μm,3.1s							
BO01	**Tunca**	**1.85**	**55**			**Pb**	**15 58 26.9**	**-0.8**
BO02	**Sierra Bellavi**	**1.88**	**70**	⇑*i*P		**Pb**	**15 58 27.2**	**-1.0**
BO02				*i* S		**Sg**	**15 58 53.5**	**-1.2**
BO02				IAML			15 59 02.5	
	comp=N,1005μm,0.8s							
BO02	**Sierra Bellavi**	**1.88**	**70**	*e*P		**Pb**	**15 58 27.3**	**-1.0**
BO02				IAML			15 59 02.0	
	comp=Z,459μm,1.6s							
BO02	**Sierra Bellavi**	**1.88**	**70**	⇑P		**Pb**	**15 58 27.3**	**-1.0**
BO02	**Sierra Bellavi**	**1.88**	**70**			**Pb**	**15 58 27.9**	**-0.4**
MT01	**Popeta**	**2.11**	**41**	⇑*e*P		**Pn**	**15 58 28.9**	**+0.1**
MT01				IAML			15 59 13.2	
	comp=E,235μm,0.8s							
MT01	**Popeta**	**2.11**	**41**	*e*P		**Pn**	**15 58 28.7**	**-0.2**
MT01				IAML			15 59 10.4	
	comp=Z,184μm,1.2s							
MT01	**Popeta**	**2.11**	**41**			**Pn**	**15 58 29.4**	**+0.5**
MT09	**Talagante**	**2.32**	**44**	⇑*e*P		**Pn**	**15 58 32.6**	**+0.7**
MT09				IAML			15 59 20.8	
	comp=N,495μm,0.5s							
MT09	**Talagante**	**2.32**	**44**	⇑	*e*P	**Pn**	**15 58 33.0**	**+1.1**
BO04	**La Punta**	**2.41**	**53**	⇑	*e*P	**Pn**	**15 58 34.4**	**+1.3**
BO04					*e*S	**Sb**	**15 59 05.8**	**-1.0**
BO04	**La Punta**	**2.41**	**53**			**Pn**	**15 58 34.8**	**+1.8**
MT02	**Curacav**	**2.65**	**35**		*i* S	**Sg**	**15 59 17.2**	**-2.1**
MT02	**Curacav**	**2.65**	**35**		*e*P	**Pn**	**15 58 36.1**	**-0.2**
MT02					*e*S	**Sg**	**15 59 20.1**	**+0.8**
MT02					IAML		15 59 48.9	
	comp=Z,78μm,1.6s							
MT02	**Curacav**	**2.65**	**35**			**Pn**	**15 58 36.4**	**+0.1**
VA01	**Torpederas**	**2.65**	**24**		*e*P	**Pn**	**15 58 36.3**	**-0.1**
VA01					IAML		15 59 28.4	
	comp=Z,212μm,1.3s							
VA01	**Torpederas**	**2.65**	**24**			**Pn**	**15 58 36.3**	**-0.1**
MT05	**Renca**	**2.75**	**42**	⇑	*e*P	**Pn**	**15 58 38.7**	**+1.1**
MT05	**Renca**	**2.75**	**42**		*e*P	**Pn**	**15 58 39.1**	**+1.4**
MT05					IAML		15 59 30.4	
	comp=Z,393μm,1.4s							
MT05	**Renca**	**2.75**	**42**			**Pn**	**15 58 38.8**	**+1.1**
LMEL	**Las Melosas**	**2.76**	**55**	⇑	*e*P	**Pn**	**15 58 39.6**	**+1.6**
LMEL					*i* S	**Sb**	**15 59 14.7**	**-2.4**
LMEL					IAML		15 59 27.2	
	comp=N,84μm,0.7s							
LMEL	**Las Melosas**	**2.76**	**55**		*e*P	**Pn**	**15 58 40.2**	**+2.2**
LMEL					IAML		15 59 37.4	
	comp=Z,177μm,2.3s							
LMEL	**Las Melosas**	**2.76**	**55**			**Pn**	**15 58 40.0**	**+2.0**
MT13	**San Alfonso**	**2.77**	**53**		*e*P	**Pn**	**15 58 40.1**	**+2.0**
MT13					IAML		15 59 28.6	
	comp=Z,192μm,1.2s							
MT13	**San Alfonso**	**2.77**	**53**			**Pn**	**15 58 39.8**	**+1.7**
MT03	**Universidad Ad**	**2.80**	**46**	⇑	*e*P	**Pn**	**15 58 39.5**	**+1.0**
MT03					IAML		15 59 30.9	
	comp=N,113μm,0.6s							
MT03	**Universidad Ad**	**2.80**	**46**		*e*P	**Pn**	**15 58 38.2**	**-0.3**
MT03					IAML		15 59 30.7	
	comp=Z,212μm,1.2s							
MT03	**Universidad Ad**	**2.80**	**46**			**Pn**	**15 58 39.7**	**+1.2**
MT16	**CCHEN**	**2.84**	**45**			**Pn**	**15 58 40.1**	**+1.2**
CANA	**Caviahue**	**2.85**	**149**		*e*P	**Pb**	**15 58 42.3**	**-2.5**
EDS3	**Malargue**	**2.89**	**97**		*e*P	**Pb**	**15 58 45.7**	**+0.2**
ROCH	**El Roble**	**2.95**	**33**	⇑	*e*P	**Pn**	**15 58 40.9**	**+0.3**
ROCH					IAML		15 59 40.7	
	comp=N,73μm,0.8s							
PEL	**Peldehue**	**2.97**	**39**		P	**Pn**	**15 58 41.0**	**+0.3**
PEL	**Peldehue**	**2.97**	**39**	⇑	*e*P	**Pn**	**15 58 41.5**	**+0.8**
PEL					IAML		15 59 35.5	
	comp=E,99μm,0.6s							
PEL	**Peldehue**	**2.97**	**39**	⇑	P	**Pn**	**15 58 41.5**	**+0.8**
PEL	**Peldehue**	**2.97**	**39**		P	**Pn**	**15 58 42.4**	**+1.7**
PEL	**Peldehue**	**2.97**	**39**			**Pn**	**15 58 41.8**	**+1.1**
FCH	**Farellones**	**3.05**	**46**	⇑	*e*P	**Pn**	**15 58 43.0**	**+0.9**
FCH					*e*S	**Sn**	**15 59 21.7**	**+3.2**
MT04	**Ro Olivares**	**3.09**	**49**	⇑	*e*P	**Pn**	**15 58 43.9**	**+1.4**
MT04					IAML		15 59 40.6	
	comp=E,85μm,0.7s							
MT04	**Ro Olivares**	**3.09**	**49**		*e*P	**Pn**	**15 58 44.1**	**+1.6**
MT04					IAML		15 59 38.3	
	comp=Z,171μm,1.6s							
MT08	**Bocatoma Ro**	**3.14**	**51**	⇑	*e*P	**Pn**	**15 58 44.9**	**+1.7**
MT08					*e*S	**Sn**	**15 59 23.8**	**+3.3**
MT08					IAML		15 59 42.0	
	comp=N,58μm,0.5s							
MT08	**Bocatoma Ro**	**3.14**	**51**		*e*P	**Pn**	**15 58 45.6**	**+2.4**
MT08					IAML		15 59 39.3	
	comp=Z,216μm,1.2s							
MT08	**Bocatoma Ro**	**3.14**	**51**			**Pn**	**15 58 45.2**	**+2.0**
VA06	**Catapilco**	**3.19**	**26**	⇑	*e*P	**Pn**	**15 58 43.6**	**-0.2**
VA06					IAML		15 59 48.3	
	comp=N,99μm,0.7s							
VA06	**Catapilco**	**3.19**	**26**			**Pn**	**15 58 43.8**	**0.0**
VA03	**San Esteban**	**3.34**	**37**		*e*P	**Pn**	**15 58 46.7**	**+0.9**
VA03					IAML		15 59 47.7	
	comp=Z,164μm,1.4s							
RFA	**San Rafael**	**3.72**	**81**		*e*P	**Pn**	**15 58 53.7**	**+2.6**
RFA					IAML		16 00 03.7	
	comp=Z,91μm,1.9s							
AAGR	**Agrelo**	**4.14**	**56**		*e*P	**Pn**	**15 59 01.4**	**+4.5**
LR03	**Panguipulli**	**4.19**	**174**		*e*P	**Pn**	**15 58 57.2**	**-0.2**
LR03					IAML		16 00 10.3	
	comp=Z,71μm,2.0s							
LR03	**Panguipulli**	**4.19**	**174**			**Pn**	**15 58 57.3**	**-0.2**
ARCO	**CERRO ARCO**	**4.22**	**53**		*e*P	Pb	**15 59 03.2**	**-4.9**
ARCO					IAML		16 00 21.3	
	comp=Z,94μm,1.9s							
GO06	**Curarrehue**	**4.28**	**165**		*e*P	**Pn**	**15 58 59.0**	**+0.3**
GO06					IAML		16 00 15.7	
	comp=Z,24μm,2.4s							
GO06	**Curarrehue**	**4.28**	**165**	⇑	P	**Pn**	**15 58 58.8**	**0.0**
ASAL	**Salagasta**	**4.45**	**51**		*e*P	**Pn**	**15 59 05.5**	**+4.5**
CO02	**Combarbal**	**4.54**	**21**		*e*P	**Pn**	**15 59 01.9**	**-0.5**
CO02					IAML		16 00 33.3	
	comp=Z,64μm,1.3s							
CO02	**Combarbal**	**4.54**	**21**	⇑	P	**Pn**	**15 59 02.4**	**0.0**
CO02	**Combarbal**	**4.54**	**21**			**Pn**	**15 59 02.3**	**-0.2**
RTLS	**Leoncito**	**4.75**	**41**		*e*P	**Pn**	**15 59 09.2**	**+3.9**
LR05	**Currie**	**4.82**	**172**			**Pn**	**15 59 05.4**	**-0.7**
CO06	**Fray Jorge**	**4.90**	**13**			**Pn**	**15 59 05.9**	**-1.3**
CO03	**El Pedregal**	**4.98**	**23**		*e*P	**Pn**	**15 59 08.2**	**-0.2**
CO03					IAML		16 00 42.5	
	comp=Z,36μm,1.9s							
CO03	**El Pedregal**	**4.98**	**23**		P	**Pn**	**15 59 09.2**	**+0.8**
CO03	**El Pedregal**	**4.98**	**23**			**Pn**	**15 59 08.5**	**+0.1**
H03S1	**Juan Fernandez**	**5.18**	**286**		Pn	**Pn**	**15 59 07.6**	**-3.3**
	baz=66,slow=13							
H03S1					T	T	16 04 17.8	
	baz=109,slow=74,SNR=2442							
H03S3	**Juan Fernandez**	**5.19**	**287**		Pn	**Pn**	**15 59 08.9**	**-2.1**
H03S3					T	T	16 04 29.6	
	baz=109,slow=74,SNR=1783							
VA04	**Juan Fernndez**	**5.20**	**289**	⇓	P	**Pn**	**15 59 07.7**	**-3.6**
VA04	**Juan Fernndez**	**5.20**	**289**			**Pn**	**15 59 07.4**	**-3.9**
H03S2	**Juan Fernandez**	**5.20**	**286**		Pn	**Pn**	**15 59 07.8**	**-3.3**
	baz=66,slow=13							
H03S2					T	T	16 04 22.6	
	baz=109,slow=74,SNR=880							
ZON	**Zonda**	**5.28**	**43**		P	**Pn**	**15 59 15.3**	**+2.8**
ZON	**Zonda**	**5.28**	**43**	⇑	P	**Pn**	**15 59 14.4**	**+1.9**
H03N1	**Juan Fernandez**	**5.34**	**290**		Pn	**Pn**	**15 59 11.1**	**-1.9**
	baz=134,slow=25							
H03N1					T	T	16 04 27.1	
	baz=110,slow=76,SNR=47							
H03N3	**Juan Fernandez**	**5.34**	**290**		Pn	**Pn**	**15 59 12.1**	**-1.0**
	baz=134,slow=25							
H03N3					T	T	16 04 40.5	
	baz=110,slow=76,SNR=55							
H03N2	**Juan Fernandez**	**5.35**	**290**		Pn	**Pn**	**15 59 11.5**	**-1.7**
	baz=134,slow=25							
H03N2					T	T	16 04 44.3	
	baz=110,slow=76,SNR=35							
CFA	**Coronel Fontan**	**5.49**	**47**		Pn	**Pn**	**15 59 16.9**	**+1.5**
	comp=Z,32nm,0.3s,baz=223,slow=13,SNR=250							
CFA					Sn	**Sn**	**16 00 23.7**	**+5.4**
	comp=Z,59nm,0.3s,baz=235,slow=18,SNR=3.7							
CFA					LR	LR	16 00 57.8	
	comp=Z,76μm,21.5s,baz=226,slow=34							
	comp=Z,737nm,1.0s							
GO04	**Tololo Observa**	**5.57**	**19**	⇑	P	**Pn**	**15 59 16.2**	**-0.5**
PLCA	**Paso Flores**	**5.59**	**161**		Pn	**Pn**	**15 59 17.8**	**+1.0**
	comp=Z,30nm,0.3s,baz=326,slow=12,SNR=300							
PLCA					Sn	**Sn**	**16 00 24.1**	**+3.4**
	comp=Z,75nm,0.3s,baz=319,slow=5.5,SNR=3.1							
	comp=Z,276nm,0.7s							
LCO	**Las Campanas**	**6.70**	**17**		*e*P	**Pn**	**15 59 31.4**	**-0.9**
LCO	**Las Campanas**	**6.70**	**17**	⇑	P	**Pn**	**15 59 31.4**	**-0.9**
LCO	**Las Campanas**	**6.70**	**17**		P	**Pn**	**15 59 31.5**	**-0.9**
LCO	**Las Campanas**	**6.70**	**17**			**Pn**	**15 59 31.4**	**-0.9**
LL01	**San Ignacio de**	**6.92**	**177**	⇑	P	**Pn**	**15 59 34.6**	**-0.3**
GO07	**Milladeo Hill,**	**7.66**	**184**			**Pn**	**15 59 43.6**	**-1.5**
LL02	**Futaleuf**	**7.76**	**174**	⇑	P	**Pn**	**15 59 46.5**	**-0.1**
GO03	**Copiapo**	**8.17**	**17**	⇑	P	**Pn**	**15 59 51.0**	**-1.3**
TRQA	**Tornquist**	**9.16**	**110**		*e*P	**Pn**	**16 00 07.5**	**+1.8**
TRQA	**Tornquist**	**9.16**	**110**		P	**Pn**	**16 00 08.0**	**+2.3**
TRQA					S	**Sn**	**16 01 47.9**	**-0.6**
TRQA	**Tornquist**	**9.16**	**110**			**Pn**	**16 00 07.5**	**+1.8**
AC01	**Pan de Azucar**	**9.50**	**13**		P	**Pn**	**16 00 08.0**	**-2.4**
COYC	**Coyhaique**	**10.12**	**177**	⇑	P	**Pn**	**16 00 19.6**	**+0.8**
COYC	**Coyhaique**	**10.12**	**177**			**Pn**	**16 00 18.5**	**-0.3**
GO02	**Mina Guanaco**	**10.66**	**17**	⇑	P	**Pn**	**16 00 24.1**	**-2.6**
PB14	**IPOC Station P**	**11.02**	**12**		P	**Pn**	**16 00 31.1**	**-0.4**
PB14	**IPOC Station P**	**11.02**	**12**			**Pn**	**16 00 27.7**	**-3.8**
AY03	**Cochrane**	**11.78**	**179**			**Pn**	**16 00 40.3**	**-1.2**
PB10	**IPOC Station P**	**12.08**	**10**			**Pn**	**16 00 45.3**	**-0.5**
PSAL	**Palomas, Salto**	**13.54**	**76**		*e*P	**Pn**	**16 01 02.6**	**-3.0**
TA01	**Diego Aracena**	**15.04**	**10**		P	**Pn**	**16 01 27.2**	**+1.1**
TA01	**Diego Aracena**	**15.04**	**10**			**Pn**	**16 01 25.3**	**-0.8**
PB08	**IPOC Station P**	**15.62**	**13**		P	**Pn**	**16 01 33.0**	**-1.2**
CPUP	**Villa Florida**	**16.17**	**60**		Pn	**Pn**	**16 01 37.1**	**-3.7**
	comp=Z,0.2nm,0.3s,baz=99,slow=11,SNR=24							
CPUP					Sn	**S**	**16 04 51.0**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=86,slow=7.5,SNR=2.4							
CPUP					LR	LR	16 08 29.8	
	comp=Z,269μm,20.5s,baz=92,slow=39							
MG05	**Puerto Natales**	**16.21**	**179**		P	**P**	**16 01 43.1**	**-1.1**
PLTB	**Pedras Altas**	**16.52**	**83**		P	**Pn**	**16 01 42.6**	**-2.6**
PLTB					S	**Sn**	**16 04 48.6**	**+0.3**
PLTB	**Pedras Altas**	**16.52**	**83**		*e*P	**Pn**	**16 01 42.2**	**-3.0**
PLTB	**Pedras Altas**	**16.52**	**83**			**Pn**	**16 01 44.0**	**-1.3**
CPSB	**Cacapava Do Su**	**17.11**	**78**		P	**Pn**	**16 01 49.3**	**-3.5**
CPSB					S	**Sn**	**16 04 55.9**	**-7.0**
CPSB	**Cacapava Do Su**	**17.11**	**78**		*e*P	**Pn**	**16 01 49.6**	**-3.2**
PB16	**IPOC Station P**	**17.33**	**11**		P	**P**	**16 01 56.7**	**-0.7**
SJPY	**San Joaquin**	**17.87**	**59**		*e*P	**Pn**	**16 02 00.3**	**-1.9**
MURT	**Porto Murtinho**	**19.20**	**48**		*e*P	**P**	**16 02 16.7**	**-0.8**
EFI	**East Falkland**	**19.40**	**151**		*c i*P	**P**	**16 02 19.4**	**0.0**
EFI					pmax	pmax		
	comp=Z,2μm,2.0s							
EFI	**East Falkland**	**19.40**	**151**	⇑	P	**P**	**16 02 18.3**	**-1.1**
EFI	**East Falkland**	**19.40**	**151**		P	**Pn**	**16 02 20.3**	**-0.2**
EFI	**East Falkland**	**19.40**	**151**		P	**Pn**	**16 02 20.1**	**-0.5**
ITAB	**Concordia**	**19.54**	**71**		P	**P**	**16 02 20.1**	**-1.1**
ITAB					S	**Sn**	**16 06 01.8**	**+0.3**
ITAB	**Concordia**	**19.54**	**71**		*e*P	**P**	**16 02 21.1**	**0.0**
ITAB	**Concordia**	**19.54**	**71**		P	**P**	**16 02 21.5**	**+0.4**
ITAB					IAmb	IAmb	16 02 30.9	
	comp=Z,2μm,0.9s							
LPAZ	**La Paz**	**19.57**	**14**		P	**Pn**	**16 02 23.4**	**-0.1**
	comp=Z,3.1nm,0.3s,baz=181,slow=8.7,SNR=113							
LPAZ					S	**Sn**	**16 06 04.3**	**+1.1**
	comp=Z,67nm,1.2s,baz=355,slow=6.4,SNR=1.1							
	comp=Z,91nm,0.7s							
CNLB	**Canela**	**19.61**	**78**		P	**P**	**16 02 19.9**	**-2.1**
CNLB	**Canela**	**19.61**	**78**		*e*P	**P**	**16 02 21.1**	**-0.8**
USHA	**Ushuaia**	**19.62**	**172**		P	**P**	**16 02 22.2**	**+0.5**
	comp=Z,1.9nm,0.3s,baz=346,slow=11,SNR=17							
USHA					S	**S**	**16 06 02.0**	**-0.5**
	comp=Z,30nm,0.5s,baz=297,slow=2.5,SNR=1.6							
USHA					LR	LR	16 09 24.8	
	comp=Z,172μm,19.4s,baz=352,slow=35							
	comp=Z,131nm,0.8s							
USHA	**Ushuaia**	**19.62**	**172**			**S**	**16 06 02.0**	**-0.5**
MG01	**Puerto William**	**19.81**	**171**		IAmb	IAmb	16 02 36.6	
	comp=Z,1μm,0.8s							
AMBA	**Amambai (Brazi**	**19.99**	**56**		*e*P	**P**	**16 02 26.2**	**+0.1**
BDQN	**Bodoquena, MS**	**20.64**	**48**		*e*P	**P**	**16 02 33.4**	**+0.2**
PTGB	**Pitanga**	**20.95**	**65**		P	**P**	**16 02 36.9**	**+0.4**
PTGB					S	**S**	**16 06 19.1**	**-11**
PTGB	**Pitanga**	**20.95**	**65**		*e*P	**P**	**16 02 37.0**	**+0.4**
AQDB	**Aquidauana**	**21.27**	**50**		P	**P**	**16 02 40.5**	**+0.6**
AQDB					S	**S**	**16 06 35.4**	**-0.5**
AQDB	**Aquidauana**	**21.27**	**50**		*e*P	**P**	**16 02 39.6**	**-0.4**
AQDB	**Aquidauana**	**21.27**	**50**		P	**P**	**16 02 40.5**	**+0.6**
TRCB	**Terra Rica**	**21.71**	**60**		P	**P**	**16 02 44.7**	**0.0**
TRCB					S	**S**	**16 06 39.8**	**-4.8**
TRCB	**Terra Rica**	**21.71**	**60**		*e*P	**P**	**16 02 44.7**	**0.0**
TRCB	**Terra Rica**	**21.71**	**60**		P	**P**	**16 02 44.7**	**0.0**
MAJ01	**Sao Joao Batis**	**21.90**	**75**		P	**P**	**16 02 46.3**	**-0.4**
MAJ01					S	**S**	**16 06 51.5**	**+3.3**
MAJ01	**Sao Joao Batis**	**21.90**	**75**		*e*P	**P**	**16 02 46.3**	**-0.4**
SIV	**San Ignacio**	**22.10**	**32**		LR	LR	16 13 13.8	
	comp=Z,768μm,19.2s,baz=228,slow=42							
LDASE	**Londrina,

comp=Z,505nm,1.0s
DUB01 Friburgo-RJ 29.78 72 P **P** **16 04 00.5 +0.1**
DUB01 S **S** 16 08 53.4 -3.0
DUB01 Friburgo-RJ 29.78 72 *eP* **P** **16 04 01.3 +0.9**
PMSA Palmer Station 29.83 172 LR LR 16 16 00.2
comp=Z,202µm,18.6s,baz=346,slow=36
PMSA Palmer Station 29.83 172 *eP* **P** **16 04 00.5 +0.2**
PMSA Palmer Station 29.83 172 P **P** **16 04 00.1 -0.1**
PMSA IAmb IAmb 16 04 12.4
comp=Z,1µm,1.7s
PMSA Palmer Station 29.83 172 IAMs_20 IAMs_20 16 15 48.9
comp=Z,192µm,18.0s
CAM01 Campos-RJ 30.48 72 P **P** **16 04 06.7 +0.3**
CAM01 S S 16 09 24.2 +17
CAM01 Campos-RJ 30.48 72 *eP* **P** **16 04 06.8 +0.4**
SNDB Serra Nova Dou 30.50 45 S **S** **16 09 04.7 -3.0**
SNDB Serra Nova Dou 30.50 45 *eP* **P** **16 04 06.3 -0.4**
DIAM Diamantina, MG 31.03 64 P **P** **16 04 11.8 +0.3**
DIAM S **S** **16 09 20.4 +4.1**
DIAM Diamantina, MG 31.03 64 *eP* **P** **16 04 11.9 +0.3**
JQT1 Jequitai-MG 31.21 62 P **P** **16 04 13.1 0.0**
TBTG Tabatinga, AM 31.25 6 S **S** **16 09 18.6 -0.7**
TBTG Tabatinga, AM 31.25 6 P **P** **16 04 13.0 -0.2**
CAN3 Cana Brava 31.46 51 P **P** **16 04 14.8 -0.4**
HOPE Hope Point 31.47 138 P **P** **16 04 15.6 +0.8**
HOPE pmax pmax
comp=Z,509nm,2.3s
HOPE Hope Point 31.47 138 ⇑P **P** **16 04 15.7 +0.9**
HOPE Hope Point 31.47 138 P **P** **16 04 16.4 +1.6**
HOPE Hope Point 31.47 138 P **P** **16 04 15.2 +0.4**
HOPE Hope Point 31.47 138 IAMs_20 IAMs_20 16 19 16.0
comp=Z,159µm,19.0s
MCRA Macar, Loja 31.61 347 P **P** **16 04 15.6 -1.0**
MC01 Montes Claros 31.86 62 P **P** **16 04 18.6 -0.2**
MC01 S **S** **16 09 24.7 -4.4**
RPN Rapa Nui 32.06 275 LR LR 16 13 48.9
comp=Z,163µm,18.0s,baz=99,slow=30
RPN Rapa Nui 32.06 275 P **P** **16 04 21.7 +1.4**
RPN Rapa Nui 32.06 275 IAMs_20 IAMs_20 16 13 27.8
comp=Z,183µm,21.0s
VA02 Isla de Pascua 32.13 275 IAMs_20 IAMs_20 16 13 31.0
comp=Z,166µm,19.0s
NPGB Novo Progresso 32.56 34 P **P** **16 04 24.3 -0.5**
NPGB S **S** **16 09 37.2 -2.6**
NPGB Novo Progresso 32.56 34 *eP* **P** **16 04 24.5 -0.4**
SJMB Sao Joao De Ma 32.64 68 P **P** **16 04 25.2 -0.3**
SJMB S **S** **16 09 42.9 +1.9**
SJMB Sao Joao De Ma 32.64 68 *eP* **P** **16 04 26.2 +0.7**
JANB Januaria 32.71 59 P **P** **16 04 26.1 -0.2**
JANB S **S** **16 09 40.6 -1.7**
JANB Januaria 32.71 59 *eP* **P** **16 04 25.9 -0.3**
TEFE Tefe 32.71 15 P **P** **16 04 26.2 +0.1**
TEFE S **S** **16 09 40.6 -1.5**
TEFE Tefe 32.71 15 *eP* **P** **16 04 26.6 +0.5**
RIB01 Linhares ES 32.88 69 P **P** **16 04 27.7 +0.1**
RIB01 S **S** **16 09 49.7 +5.0**
RIB01 Linhares ES 32.88 69 *eP* **P** **16 04 27.9 +0.4**
SMAI San Martin Ant 32.88 176 P **P** **16 04 27.1 0.0**
SMAI IAMs_20 IAMs_20 16 17 01.2
comp=Z,176µm,19.0s
COHC Cochancay 33.35 348 P **P** **16 04 33.1 +1.4**
COHC IAmb IAmb 16 04 45.8
comp=Z,706nm,1.8s
COHC Cochancay 33.35 348 P **P** **16 04 33.1 +1.4**
comp=Z,27µmcomp=Z,17µmcomp=Z,829nm,1.6s
LAJE UHE Lajeado 33.84 47 P **P** **16 04 35.6 -0.5**
MACA Manacapuru-AM 34.09 22 S **S** **16 10 01.1 -2.3**
MACA Manacapuru-AM 34.09 22 *eP* **P** **16 04 38.3 +0.2**
SDBA SAO DESIDERIO 34.18 55 S **S** **16 10 02.8 -2.3**
SDBA SAO DESIDERIO 34.18 55 *eP* **P** **16 04 39.1 +0.1**
PPLP Puerto Lpez 34.52 346 P **P** **16 04 41.9 -0.1**
PIAT Ana Tenorio 34.65 351 P **P** **16 04 45.6 +2.2**
comp=Z,27µmcomp=Z,11µmcomp=Z,499nm,1.4s
ITTB Itaituba 34.78 31 P **P** **16 04 43.8 -0.4**
ITTB S **S** **16 10 11.0 -3.3**
ITTB Itaituba 34.78 31 *eP* **P** **16 04 44.0 -0.2**
GUA01 Guaratinga, BA 34.97 66 P **P** **16 04 46.0 +0.1**
GUA01 S **S** **16 10 21.9 +4.7**
GUA01 Guaratinga, BA 34.97 66 *eP* **P** **16 04 46.1 +0.3**
SMTB Santa Maria do 35.16 47 P **P** **16 04 47.6 +0.1**
SMTB S **S** **16 10 18.3 -1.9**
SMTB Santa Maria do 35.16 47 *eP* **P** **16 04 47.6 +0.1**
PTLC Puerto Leguiza 35.49 357 P **P** **16 04 48.2 -2.1**
SGC2 Sao Gabriel da 35.56 10 P **P** **16 04 50.1 -0.8**
SGC2 S **S** **16 10 21.7 -4.6**
SGC2 Sao Gabriel da 35.56 10 P **P** **16 04 50.0 -0.9**
comp=Z,53µmcomp=Z,17µmcomp=Z,407nm,1.3s
CUSE Cuicocha Este 35.95 351 P **P** **16 04 56.8 +2.1**
comp=Z,12µmcomp=Z,283nm,1.6s
CMC01 Camacan, BA 35.96 65 P **P** **16 04 54.3 0.0**
CMC01 S S 16 10 41.5 +9.1
CMC01 Camacan, BA 35.96 65 *eP* **P** **16 04 54.6 +0.3**
PAC1 Pacto, Paraso 35.96 350 P **P** **16 04 56.2 +1.7**
comp=Z,23µmcomp=Z,8µmcomp=Z,357nm,1.3s
PRPB Paraupebas 36.08 42 P **P** **16 04 54.5 -0.8**
PRPB S **S** **16 10 32.1 -2.1**
PRPB Paraupebas 36.08 42 *eP* **P** **16 04 54.8 -0.6**
TULM Tulcn-Chalpat 36.28 352 P **P** **16 05 00.2 +2.7**
comp=Z,38µmcomp=Z,6µmcomp=Z,182nm,1.1s
GCUF Volcan Galeras 36.73 353 P **P** **16 05 03.8 +2.4**
comp=Z,28µmcomp=Z,10µmcomp=Z,201nm,1.9s
FLOC Florencia 36.94 355 P **P** **16 05 04.1 +1.4**
FLOC Florencia 36.94 355 P **P** **16 05 01.7 -0.9**
FLOC IAmb IAmb 16 05 19.5
comp=Z,1µm,1.7s
FLOC Florencia 36.94 355 P **P** **16 05 03.5 +0.8**
comp=Z,39µmcomp=Z,9µmcomp=Z,365nm,1.6s
PAL01 Palmeiras do T 36.96 45 P **P** **16 05 02.7 -0.1**
PAL01 S **S** **16 10 46.5 -1.2**
PAL2 UHE Estreito - 37.01 45 P **P** **16 05 03.6 +0.3**
PAL2 S **S** **16 10 47.6 -0.8**
BMO2 UHE Belo Monte 37.38 36 P **P** **16 05 06.2 -0.2**
BMO2 S **S** **16 10 52.2 -1.8**
MACC Macarena, Meta 37.42 358 P **P** **16 05 07.5 +0.8**
comp=Z,41µmcomp=Z,17µmcomp=Z,541nm,1.2s
BBAC Balboa, Cauca 37.51 353 P **P** **16 05 09.0 +1.3**
comp=Z,25µmcomp=Z,8µmcomp=Z,321nm,1.9s
MAL2 Monte Alegre, 37.56 32 P **P** **16 05 08.0 +0.1**
MAL2 S **S** **16 10 53.2 -3.5**
BMO1 UHE Belo Monte 37.66 36 P **P** **16 05 08.9 +0.1**
BMO1 S **S** **16 10 53.7 -4.5**
GUVC San Jose del G 37.81 0 P **P** **16 05 11.3 +1.3**
TUC4 UHE Tucurui 37.84 40 P **P** **16 05 09.9 -0.4**
TUC4 S **S** **16 10 58.8 -2.2**
POPC Popayan, Colom 37.97 354 P **P** **16 05 12.6 +1.0**
comp=Z,32µmcomp=Z,8µmcomp=Z,222nm,2.2s
BETC Betania 38.02 356 P **P** **16 05 13.1 +1.3**
PAYG Puerto Ayora 38.20 331 P **P** **16 05 14.7 +1.4**
comp=Z,16µmcomp=Z,6µmcomp=Z,238nm,1.4s
URMC La Uribe, Meta 38.53 358 P **P** **16 05 17.5 +1.3**
comp=Z,42µmcomp=Z,14µmcomp=Z,483nm,1.2s
GR1C Gorgona, Isla 38.58 352 P **P** **16 05 17.9 +1.4**
PRAC Prado 39.01 357 P **P** **16 05 22.0 +1.8**
PRAC Prado 39.01 357 P **P** **16 05 21.5 +1.3**
comp=Z,39µmcomp=Z,19µmcomp=Z,649nm,2.4s
ORTC Ortega, Tolima 39.22 356 P **P** **16 05 23.3 +1.4**
comp=Z,38µmcomp=Z,19µmcomp=Z,749nm,1.5s
YOTC Yotoco, Valle 39.37 355 P **P** **16 05 23.9 +0.7**
comp=Z,30µmcomp=Z,7µmcomp=Z,165nm,1.3s
BOAV Boa Vista 39.41 20 P **P** **16 05 23.1 -0.4**
BOAV S **S** **16 11 22.2 -2.5**
BOAV Boa Vista 39.41 20 *eP* **P** **16 05 23.3 -0.2**
BOAV Boa Vista 39.41 20 IAmb IAmb 16 05 26.4
comp=Z,1µm,1.7s
BOAV Boa Vista 39.41 20 P **P** **16 05 22.8 -0.7**
comp=Z,56µmcomp=Z,22µmcomp=Z,326nm,1.5s
PTGC Puerto Gaitan, 39.46 1 P **P** **16 05 24.3 +0.4**
comp=Z,43µmcomp=Z,25µmcomp=Z,809nm,1.2s
CVER Cruz Verde, Cu 39.79 358 P **P** **16 05 29.5 +2.4**
comp=Z,134µmcomp=Z,15µmcomp=Z,511nm,1.8s
MAPC Malpelo 40.09 346 P **P** **16 05 30.3 +1.2**
comp=Z,9µmcomp=Z,240nm,2.2s
ROSC El Rosal 40.11 358 P **P** **16 05 30.9 +1.2**
comp=Z,80nm,0.9s,baz=170,slow=4.6,SNR=37
ROSC S **S** **16 11 36.6 +0.8**
comp=Z,6.6nm,0.3s,baz=176,slow=22,SNR=1.7
comp=Z,80nm,0.9s
ROSC El Rosal 40.11 358 P **P** **16 05 32.2 +2.5**
comp=Z,62µmcomp=Z,16µmcomp=Z,371nm,1.9s
TMAB Tom-Au,PA,Br 40.19 41 P **P** **16 05 30.5 +0.5**
TMAB S **S** **16 11 34.5 -1.8**
TMAB Tom-Au,PA,Br 40.19 41 *eP* **P** **16 05 31.0 +1.0**
GUY2C Guyana, Caldas 40.53 356 P **P** **16 05 34.5 +1.2**
comp=Z,41µmcomp=Z,11µmcomp=Z,258nm,1.7s
NORC Norcasia 40.85 357 P **P** **16 05 36.4 +1.0**
comp=Z,33µmcomp=Z,11µmcomp=Z,214nm,1.8s
SPBC San Pablo de B 40.91 358 P **P** **16 05 36.8 +0.8**
comp=Z,37µmcomp=Z,11µmcomp=Z,255nm,1.8s
RUSC La Rusia 41.13 360 P **P** **16 05 39.6 +1.3**
RUSC La Rusia 41.13 360 P **P** **16 05 39.0 +0.7**
comp=Z,44µmcomp=Z,27µmcomp=Z,931nm,1.3s
CBOC Ciudad Bolivar 41.21 355 P **P** **16 05 39.6 +1.1**
comp=Z,29µmcomp=Z,12µmcomp=Z,430nm,1.7s
CN01 Coaracy Nunes 41.48 34 S S 16 11 39.8 -16
HELC Santa Helena 41.50 356 P **P** **16 05 42.1 +0.9**
HELC Santa Helena 41.50 356 P **P** **16 05 42.1 +0.9**
comp=Z,32µmcomp=Z,14µmcomp=Z,457nm,2.1s
SOLC Bahia Solano 41.68 353 P **P** **16 05 45.1 +2.9**
PTBC PUERTO BERRIO, 41.80 358 P **P** **16 05 42.6 -0.6**
comp=Z,1µmcomp=Z,98nm,1.5s
BARC Barichara 41.83 360 P **P** **16 05 43.3 -0.4**
ROSB Rosrio 41.98 46 S **S** **16 12 01.6 -1.4**
NBAN Anadia - AL 42.09 61 P **P** **16 05 45.4 -0.3**
NBAN Anadia - AL 42.09 61 *eP* **P** **16 05 45.5 -0.3**
BRJC Barrancabermej 42.21 359 P **P** **16 05 46.6 0.0**
comp=Z,34µmcomp=Z,13µmcomp=Z,330nm,1.4s
DBBC Dabeiba 42.36 355 P **P** **16 05 50.2 +2.3**
NBPS Pedro II - PI 42.43 51 P **P** **16 05 48.4 -0.1**
NBPS S **S** **16 12 08.6 -1.2**
PAMC Pamplona, Colo 42.57 0 P **P** **16 05 50.1 +0.1**
PTAC Punta Ardita, 42.63 353 P **P** **16 05 52.7 +2.8**
comp=Z,12µmcomp=Z,330nm,1.6s
ZARC Zaragoza, Cauc 42.76 357 P **P** **16 05 50.9 -0.1**
comp=Z,16µmcomp=Z,314nm,1.2s
UREC San Jos de Ur 43.05 356 P **P** **16 05 54.4 +1.0**
comp=Z,4µmcomp=Z,77nm,1.3s
APAC Apartado, Choc 43.27 355 P **P** **16 05 58.0 +2.9**
comp=Z,63µmcomp=Z,17µmcomp=Z,537nm,2.0s
OCAC Ocana 43.47 359 P **P** **16 05 55.4 -1.5**
SBBR Sobral 43.67 51 P **P** **16 05 57.6 -0.9**
SBBR S **S** **16 12 25.9 -2.1**
SDV Santo Domingo 44.16 3 P **P** **16 06 02.5 0.0**
SDV S **S** **16 12 31.8 -3.5**
SDV Santo Domingo 44.16 3 *eP* **P** **16 06 02.8 +0.3**
SDV Santo Domingo 44.16 3 P **P** **16 06 01.8 -0.7**
SDV IAMs_20 IAMs_20 16 26 27.2
comp=Z,130µm,20.0s
SDV Santo Domingo 44.16 3 P **P** **16 06 02.0 -0.5**
comp=Z,48µmcomp=Z,13µmcomp=Z,298nm,1.0s
BAUV El Baul 44.41 7 P **P** **16 06 03.7 -0.6**
MDP Montagnes des 44.63 29 LR LR 16 26 47.4
comp=Z,288µm,18.7s,baz=200,slow=39
MPGF Montagnes des 44.63 29 ⇑P **P** **16 06 06.2 +0.1**
BCIP Isla Barro Col 44.86 350 ⇑P **P** **16 06 08.4 +0.5**
BCIP Isla Barro Col 44.86 350 P **P** **16 06 10.6 +2.7**
BCIP Isla Barro Col 44.86 350 P **P** **16 06 09.1 +1.2**
comp=Z,10µmcomp=Z,362nm,1.8s
RCBR Riachuelo 45.04 58 LR LR 16 26 10.8
comp=Z,163µm,19.0s,baz=218,slow=38
RCBR Riachuelo 45.04 58 P **P** **16 06 10.1 +0.7**
RCBR S S 16 12 57.5 +10
RCBR Riachuelo 45.04 58 P **P** **16 06 11.0 +1.5**
RCBR Riachuelo 45.04 58 *eP* **P** **16 06 09.4 -0.1**
RCBR Riachuelo 45.04 58 P **P** **16 06 10.1 +0.7**
NBPV Pedro Velho 45.04 59 P **P** **16 06 10.7 +1.3**
NBPV S **S** **16 12 47.3 -0.6**
ARGC Ariguani, Magd 45.09 358 P **P** **16 06 11.1 +1.4**
SJCC San Jacinto, C 45.16 357 P **P** **16 06 11.0 +0.7**
SJCC San Jacinto, C 45.16 357 P **P** **16 06 11.8 +1.4**
comp=Z,42µmcomp=Z,11µmcomp=Z,385nm,1.2s
BELA Belgrano 2 45.58 169 P **P** **16 06 13.3 +0.4**
CRJC Carrejon, Guaj 46.23 0 P **P** **16 06 17.1 -1.7**
SMRC Santa Marta, M 46.39 358 IAmb IAmb 16 06 30.0
comp=Z,622nm,1.4s
SMRC IAMs_20 IAMs_20 16 27 16.3
comp=Z,72µm,21.0s
SMRC Santa Marta, M 46.39 358 P **P** **16 06 19.3 -0.7**
comp=Z,36µmcomp=Z,16µmcomp=Z,338nm,1.3s
HDC Heredia 46.44 345 *eP* **P** **16 06 22.0 +1.5**
ESPN Las Esperanzas 46.90 344 LR LR 16 22 13.9
comp=Z,26µm,19.4s,baz=154,slow=31
JTS Las Juntas de 46.90 344 *c iP* **P** **16 06 25.9 +1.9**
JTS pmax pmax
comp=Z,495nm,1.6s
JTS MLR MLR
comp=Z,59µm,17.0s
JTS Las Juntas de 46.90 344 ⇑P **P** **16 06 25.5 +1.5**
JTS Las Juntas de 46.90 344 P **P** **16 06 24.8 +0.7**
JTS IAmb IAmb 16 06 37.8
comp=Z,607nm,1.6s
URI Uribia 46.91 1 P **P** **16 06 21.9 -2.1**
URIC Uribia, Colomb 46.91 1 P **P** **16 06 21.7 -2.4**
TRN Trinidad (W) 47.14 16 *eP* **P** **16 06 25.0 -0.8**
VNA3 Neumayer Olymp 48.29 157 ⇑P **P** **16 06 34.9 +0.6**
comp=Z,306nm,0.8s
VNA3 ⇓PP **PP** **16 08 27.8 +1.4**
VNA3 ⇓S **S** **16 13 34.8 +1.6**
GRFF Grenada Fort F 48.42 15 *eP* **P** **16 06 31.9 -3.9**
SAIC Isla e San And 48.45 349 P **P** **16 06 37.7 +1.7**
comp=Z,28µmcomp=Z,21µmcomp=Z,819nm,1.6s
GRGR Grenville 48.52 15 ⇑P **P** **16 06 36.9 +0.3**
GRGR Grenville 48.52 15 *eP* **P** **16 06 35.4 -1.2**
GRGR Grenville 48.52 15 P **P** **16 06 37.8 +1.2**
GRGR Grenville 48.52 15 P **P** **16 06 36.2 -0.4**
comp=Z,57µmcomp=Z,28µmcomp=Z,1µm,1.3s
ACON Acoyapa 48.57 344 P **P** **16 06 35.8 -1.2**
ACON IAmb IAmb 16 06 47.8
comp=Z,448nm,1.3s
ACON Acoyapa 48.57 344 P **P** **16 06 37.0 0.0**
comp=Z,36µmcomp=Z,6µmcomp=Z,267nm,1.3s
ESPN Las Esperanzas 48.60 345 IAmb IAmb 16 07 07.5
comp=Z,460nm,1.5s
ESPN Las Esperanzas 48.60 345 P **P** **16 06 38.2 +1.0**
comp=Z,23µmcomp=Z,11µmcomp=Z,240nm,2.6s
GRHS Sauteurs 48.61 15 *eP* **P** **16 06 35.4 -1.8**
VNA1 Neumayer--Stat 48.63 156 ⇑P **P** **16 06 38.1 +1.4**
comp=Z,272nm,1.0s
VNA1 ⇑PP **PP** **16 08 31.3 +1.9**
VNA1 ⇑S **S** **16 13 43.9 +6.1**
GRSS Sisters 48.69 15 *eP* **P** **16 06 36.3 -1.6**
GCMP Grenada, Carri 48.91 15 *eP* **P** **16 06 38.9 -0.7**
VNA2 Neumayer--Watz 48.96 157 ⇑P **P** **16 06 40.2 +0.8**
comp=Z,230nm,0.7s,baz=278,slow=8.1
VNA2 ⇑PP **PP** **16 08 33.2 +0.7**
baz=182,slow=2.4
VNA2 ⇓S **S** **16 13 44.5 +1.9**
baz=162,slow=2.3
PRVC Isla de Provid 49.22 349 P **P** **16 06 42.9 +0.9**
CNGN Cerro Negro 49.45 342 P **P** **16 06 42.6 -1.1**
SVB Belmont 49.71 15 *eP* **P** **16 06 45.3 -0.4**
BBGH Gun Hill 49.97 17 *eP* **P** **16 06 47.8 +0.1**
BBGH Gun Hill 49.97 17 P **P** **16 06 51.3 +3.6**
BBGH Gun Hill 49.97 17 IAMs_20 IAMs_20 16 29 32.7
comp=Z,68µm,21.0s
SIUN Universidad Ur 50.18 345 P **P** **16 06 49.0 -0.2**
SLBI Saint Lucia, B 50.50 15 *eP* **P** **16 06 50.1 -1.5**
SNAA Sanae 50.52 157 P **P** **16 06 52.0 +0.7**
SNAA Sanae 50.52 157 PP PP 16 08 50.2 +3.5
SNAA S **S** **16 14 05.5 +1.0**
SNAA Sanae 50.52 157 ⇑P **P** **16 06 52.0 +0.7**
comp=Z,8µm,0.9s
SNAA ⇑PP **PP** **16 08 50.2 +3.5**
SNAA ⇑S **S** **16 14 05.5 +1.0**
SNAA Sanae 50.52 157 P **P** **16 06 51.9 +0.7**
comp=Z,393nm,1.0s,baz=280,slow=6.5,SNR=381
SNAA S **S** **16 14 06.6 +2.1**
comp=Z,9.3nm,1.2s,baz=23,slow=20,SNR=6.8
SNAA LR LR 16 26 55.9
comp=Z,81µm,20.3s,baz=286,slow=34
comp=Z,393nm,1.0s
SNAA Sanae 50.52 157 *c iP* **P** **16 06 52.5 +1.2**
SNAA pmax pmax
comp=Z,2µm,1.6s
SNAA Sanae 50.52 157 ⇑P **P** **16 06 51.8 +0.5**
SNAA Sanae 50.52 157 P **P** **16 06 51.3 0.0**
SNAA IAMs_20 IAMs_20 16 26 45.3
comp=Z,86µm,20.0s
MPOM Morne Pois Mar 50.93 15 P **P** **16 06 53.6 -1.3**
MPOM IAMs_20 IAMs_20 16 30 58.2
comp=Z,94µm,21.0s
BIM Bigot 50.96 15 *eP* **P** **16 06 54.1 -1.0**
BIM Bigot 50.96 15 IAMs_20 IAMs_20 16 30 37.8
comp=Z,92µm,21.0s
TGUH Tegucigalpa,Un 51.09 342 ⇑P **P** **16 06 56.9 +0.6**
TGUH Tegucigalpa,Un 51.09 342 P **P** **16 06 57.8 +1.5**
ILAM Ilet Lapin Mar 51.25 15 *eP* **P** **16 06 55.2 -2.0**
ILAM Ilet Lapin Mar 51.25 15 IAMs_20 IAMs_20 16 32 12.5
comp=Z,87µm,20.0s
SVN Savane Anatole 51.26 15 *eP* **P** **16 06 55.6 -1.8**
SVN Savane Anatole 51.26 15 IAmb IAmb 16 07 09.9
comp=Z,570nm,0.8s
MDN Morne-Daniel 51.67 14 *eP* **P** **16 06 57.0 -3.4**
DLPL La Plaine 51.72 14 *eP* **P** **16 06 58.0 -2.8**
DSLB Salisbury 51.78 14 *eP* **P** **16 06 59.8 -1.5**
DWS Wesley 51.93 14 *eP* **P** **16 07 01.4 -0.9**
TBG Guadaloupe-3 52.14 14 *eP* **P** **16 07 01.8 -2.1**
TROLL Troll, Antarti 52.22 158 ⇑P **P** **16 07 04.9 +0.8**
comp=Z,13µm,0.9s
TROLL ⇓PP **PP** **16 09 08.2 +6.0**
TROLL ⇑S **S** **16 14 29.3 +1.2**
MAGL Barre de l'ile 52.31 14 IAMs_20 IAMs_20 16 32 25.5
comp=Z,91µm,20.0s
MMLZ Guadeloupe Bro 52.33 14 *eP* **P** **16 07 04.7 -0.6**
CBE Ff, Capester 52.36 14 P **P** **16 07 06.4 +0.8**
CBE Ff, Capester 52.36 14 IAMs_20 IAMs_20 16 32 49.7
comp=Z,104µm,20.0s
ATGZ Broadband at L 52.36 14 *eP* **P** **16 07 01.8 -3.7**
DHSZ Broadband at M 52.53 14 *eP* **P** **16 07 04.5 -2.3**
DSDZ La Diserade, G 52.70 14 *eP* **P** **16 07 04.5 -3.6**
GDSD La Dsirade Is 52.70 14 IAMs_20 IAMs_20 16 32 47.0
comp=Z,85µm,20.0s
STH Stony Hill 53.37 355 *eP* **P** **16 07 13.2 +0.1**
SKI Saint Kitts 53.39 12 *eP* **P** **16 07 12.9 -0.3**
CRPR Cabo Rojo, PR 53.46 7 IAmb IAmb 16 07 27.7
comp=Z,497nm,1.1s
CRPR IAMs_20 IAMs_20 16 34 20.4
comp=Z,76µm,19.0s
IGPR InterUniversit 53.53 8 P **P** **16 07 13.6 -0.5**
OBIP Obispado Ponce 53.55 7 IAmb IAmb 16 07 28.0
comp=Z,506nm,1.0s
OBIP IAMs_20 IAMs_20 16 34 18.8
comp=Z,83µm,19.0s
MTDJ Mount Denham 53.57 355 *eP* **P** **16 07 14.5 -0.1**
MTDJ Mount Denham 53.57 355 ⇑*iP* **P** **16 07 14.7 +0.1**
MTDJ Mount Denham 53.57 355 ⇑P **P** **16 07 14.9 +0.3**
MTDJ Mount Denham 53.57 355 P **P** **16 07 16.2 +1.7**
MTDJ Mount Denham 53.57 355 IAmb IAmb 16 07 32.0
comp=Z,725nm,1.6s
CELP Cerrillos 53.58 8 IAmb IAmb 16 07 28.2
comp=Z,582nm,1.0s
CELP IAMs_20 IAMs_20 16 34 19.7
comp=Z,78µm,19.0s
SABA Saba 53.58 12 P **P** **16 07 14.8 +0.2**
PDPR Patillas Dam, 53.59 8 IAMs_20 IAMs_20 16 33 55.9
comp=Z,100µm,20.0s
SJG San Juan 53.66 8 ⇑P **P** **16 07 13.9 -1.2**
SJG San Juan 53.66 8 *eP* **P** **16 07 11.7 -3.4**
SJG San Juan 53.66 8 P **P** **16 07 14.4 -0.8**
SJG San Juan 53.66 8 P **P** **16 07 13.5 -1.6**
SJG IAmb IAmb 16 07 26.6
comp=Z,545nm,1.2s
SJG San Juan 53.66 8 P **P** **16 07 13.9 -1.2**
comp=Z,14µmcomp=Z,6µmcomp=Z,174nm,1.4s
LGNH Logne 53.68 0 P **P** **16 07 17.3 +2.1**
PAPH Port-au-Prince 53.69 1 *eP* **P** **16 07 14.5 -0.8**
PAPH Port-au-Prince 53.69 1 P **P** **16 07 17.9 +2.5**
SDD Santo Domingo 53.70 4 P **P** **16 07 16.0 +0.6**
SDD Santo Domingo 53.70 4 IAmb IAmb 16 07 29.4
comp=Z,621nm,1.3s
AOPR Arecibo Observ 53.83 7 *eP* **P** **16 07 13.4 -3.0**
AOPR Arecibo Observ 53.83 7 IAMs_20 IAMs_20 16 34 18.3
comp=Z,79µm,20.0s
GCPR Guaynabo City 53.87 8 IAMs_20 IAMs_20 16 34 06.3
comp=Z,93µm,19.0s
ANWB Willy Bob 53.88 13 ⇑P **P** **16 07 15.3 -1.5**
ANWB Willy Bob 53.88 13 *eP* **P** **16 07 14.1 -2.7**
ANWB Willy Bob 53.88 13 P **P** **16 07 15.9 -0.9**
ANWB Willy Bob 53.88 13 IAMs_20 IAMs_20 16 33 05.2
comp=Z,87µm,20.0s
AGPR Aguadilla, PR 53.92 7 P **P** **16 07 18.0 +1.0**
SMRT St. Maarten 54.03 12 IAmb IAmb 16 07 28.1
comp=Z,475nm,1.4s
SDDR Presa de Saban 54.17 2 ⇑P **P** **16 07 18.5 -0.4**
SDDR Presa de Saban 54.17 2 P **P** **16 07 19.0 +0.1**
SDDR Presa de Saban 54.17 2 IAmb IAmb 16 07 45.6
comp=Z,401nm,1.4s
SDDR IAMs_20 IAMs_20 16 32 40.8
comp=Z,87µm,19.0s
CCIG Comitan 54.59 337 IAMs_20 IAMs_20 16 25 21.1
comp=Z,69µm,20.0s
SC01 Santiago de lo 54.63 3 P **P** **16 07 23.2 +1.0**
RKT Rikitea 54.70 265 *e*PP **PP** **16 09 21.0 -4.4**
comp=Z,13µm,27.5s
RKT *e*S **S** **16 15 04.8 +2.0**
comp=Z,124µm,26.0s
RKT *e*SS **SS** **16 18 48.4 +2.7**
comp=Z,31µm,27.2s
RKT *e*LQ LQ 16 21 01.2
comp=Z,90µm,38.5s
RKT *e*LR LR 16 23 13.3
comp=Z,265µm,28.2s
QSPA South Pole Qui 54.78 180 P **P** **16 07 24.4 +1.4**
comp=Z,100nm,0.9s,baz=140,slow=1.2,SNR=122
QSPA S **S** **16 15 02.1 -0.9**
comp=Z,6.7nm,1.1s,baz=101,slow=23,SNR=3.1
QSPA LR LR 16 29 08.5
comp=Z,34µm,19.3s,baz=162,slow=34
QSPA PKPPKP P'P'df 16 37 28.7 -12
comp=Z,14nm,1.1s,baz=295,slow=4.0,SNR=7.0
comp=Z,100nm,0.9s
QSPA South Pole Qui 54.78 180 P **P** **16 07 24.7 +1.7**
QSPA IAmb IAmb 16 07 48.6
comp=Z,468nm,1.0s
QSPA South Pole Qui 54.78 180 IAMs_20 IAMs_20 16 33 28.9
comp=Z,45µm,18.0s
FSCY Frank Sound, G 55.03 350 *eP* P 16 07 07.8 -17
GTBY Guantanamo Bay 55.12 357 *eP* **P** **16 07 24.9 -0.8**
GTBY Guantanamo Bay 55.12 357 ⇑P **P** **16 07 26.0 +0.3**
GTBY Guantanamo Bay 55.12 357 P **P** **16 07 26.3 +0.6**
GTBY Guantanamo Bay 55.12 357 P **P** **16 07 25.7 0.0**
comp=Z,31µmcomp=Z,10µmcomp=Z,301nm,1.7s
RCC Rio Carpintero 55.21 357 *eP* **P** **16 07 26.9 +0.5**
MARVS Santiago de Cu 55.23 357 *eP* **P** **16 07 26.3 -0.2**
CHIV Chivirico 55.23 356 *eP* **P** **16 07 25.6 -0.9**
CHIV Chivirico 55.23 356 P **P** **16 07 27.6 +1.1**
NVL N'lazarevskaya 55.28 156 *eP* **P** **16 07 22.3 -4.0**
NVL *e* 16 09 26.5
NVL *e*S **S** **16 15 04.3 -4.9**
NVL *e* 16 17 10.4
NVL *e*SS **SS** **16 18 50.7 -2.2**
NVL *e*SSS SSS 16 20 58.8
NVL pmax pmax
comp=Z,15nm,0.9s
NVL smax smax
comp=N,30µm,13.7s
CBCY The Bluff, Cay 55.28 352 P **P** **16 07 29.1 +2.3**
MASC Masc 55.34 359 *eP* **P** **16 07 27.6 +0.3**
MASC Masc 55.34 359 P **P** **16 07 29.4 +2.1**
LMGC Las Mercedes 55.36 355 *eP* **P** **16 07 25.9 -1.5**
QMBU Quimbuelo 55.38 358 *eP* **P** **16 07 26.9 -0.7**
QMBU Quimbuelo 55.38 358 P **P** **16 07 28.4 +0.8**
YAR Yar 55.62 356 *eP* **P** **16 07 29.3 -0.1**
PINC Pinares de May 55.71 357 *eP* **P** **16 07 30.3 +0.4**
NMDO Nuevo Mundo 55.75 358 *eP* **P** **16 07 29.3 -0.9**
NMDO Nuevo Mundo 55.75 358 P **P** **16 07 31.7 +1.5**
HLGC Holguin 56.12 356 *eP* **P** **16 07 32.6 -0.3**
CMIG Matias Romero 56.26 335 LR LR 16 26 04.4
comp=N,25µm,21.7s,baz=160,slow=30
GRTK Grand Turk 56.69 2 *eP* **P** **16 07 36.7 -0.2**
GRTK Grand Turk 56.69 2 P **P** **16 07 39.0 +2.1**
GRTK Grand Turk 56.69 2 IAMs_20 IAMs_20 16 34 19.5
comp=Z,63µm,18.0s
TEIG Tepich 57.26 343 P **P** **16 07 42.1 +1.1**
TEIG Tepich 57.26 343 P **P** **16 07 40.5 -0.6**
TEIG Tepich 57.26 343 P **P** **16 07 41.5 +0.5**
MGV Manicaragua 57.65 352 *eP* **P** **16 07 43.4 -0.3**
CAIB Caibarien 57.97 353 *eP* **P** **16 07 45.7 -0.2**
CAIB Caibarien 57.97 353 P **P** **16 07 47.6 +1.7**
CAIB Caibarien 57.97 353 IAmb IAmb 16 07 57.6
comp=Z,374nm,1.3s
SOR Soroa 58.72 349 *eP* **P** **16 07 50.4 -0.8**
CAMR Camarioca 58.75 351 *eP* **P** **16 07 50.1 -1.3**
CAMR Camarioca 58.75 351 P **P** **16 07 53.1 +1.7**
CAMR Camarioca 58.75 351 IAMs_20 IAMs_20 16 35 12.4
comp=Z,71µm,20.0s
UNM Universidad Na 59.91 331 IAMs_20 IAMs_20 16 28 06.7
comp=Z,61µm,20.0s
ASCN Ascension 59.94 78 P **P** **16 08 01.0 +1.0**
061Z Ochoppi 61.46 352 P **P** **16 08 10.1 +0.1**
SBA Scott Base 61.50 192 P **P** **16 08 10.8 +1.1**
SBA IAmb IAmb 16 08 24.4

	comp=Z,556nm,1.9s								
SBA	**Scott Base**	**61.50**	**192**		IAMs_20	IAMs_20	16 33 16.6		
	comp=Z,44µm,18.0s								
SHEL	**Horse Pasture**	**62.46**	**90**		P	**P**	**16 08 18.5**	**+1.4**	
VNDA	**Vanda**	**62.53**	**192**		P	**P**	**16 08 17.0**	**+0.4**	
	comp=Z,11nm,0.9s,baz=127,slow=5.9,SNR=39								
VNDA					S	**S**	**16 16 46.8**	**+3.7**	
	comp=Z,2.4nm,1.1s,baz=31,slow=3.5,SNR=1.8								
VNDA					LR	LR	16 33 25.6		
	comp=Z,24µm,18.0s,baz=126,slow=34								
VNDA					PKPPKP	P'P'df	16 37 19.5	-8.8	
	comp=Z,3.0nm,1.0s,baz=340,slow=3.1,SNR=5.7								
	comp=Z,11nm,0.9s								
DWPF	**Disney Wildern**	**63.74**	**352**	*eP*		**P**	**16 08 24.3**	**-0.8**	
DWPF	**Disney Wildern**	**63.74**	**352**	P		**P**	**16 08 24.6**	**-0.5**	
ZAIG	**Zacatecas**	**64.36**	**330**	IAMs_20	IAMs_20		16 31 21.6		
	comp=Z,51µm,20.0s								
SYO	**Syowa Base**	**64.78**	**158**	*i*PP		**P**	**16 08 31.5**	**0.0**	
SYO	**Syowa Base**	**64.78**	**158**	*i*PP		PP	16 10 52.1	-1.4	
656A	**Willston**	**65.12**	**351**	P		**P**	**16 08 33.5**	**-0.6**	
TBI	**Tubuai**	**66.27**	**258**	*e*P		P	16 08 35.9	-6.0	
	comp=Z,31µm,27.2s								
TBI	**Tubuai**	**66.27**	**258**	*e*P		**P**	**16 08 43.9**	**+2.0**	
	comp=Z,289nm,1.0s								
TBI	**Tubuai**	**66.27**	**258**	*e*PP		**PP**	**16 11 03.2**	**-4.5**	
	comp=Z,15µm,29.8s								
TBI				*e*S		**S**	**16 17 32.5**	**+1.5**	
	comp=Z,128µm,26.0s								
TBI				*e*SS		**SS**	**16 21 47.7**	**+0.8**	
	comp=Z,26µm,26.2s								
TBI				*e*LQ		LQ	16 25 46.5		
	comp=Z,82µm,30.5s								
TBI				*e*LR		LR	16 28 37.1		
	comp=Z,682µm,27.0s								
TBI				*e*LR		LR	16 28 39.1		
	comp=Z,158µm,27.8s								
TAOE	**Nuku Hiva Isla**	**66.38**	**276**	*e*P		**P**	**16 08 46.9**	**+4.1**	
	comp=Z,935nm,1.4s								
TAOE	**Nuku Hiva Isla**	**66.38**	**276**	P		P	16 08 49.0	+6.2	
TIGA	**Tifton**	**67.30**	**350**	IAmb		IAmb	16 08 57.7		
	comp=Z,397nm,1.2s								
257A	**Skidaway Islan**	**67.51**	**353**	IAMs_20		IAMs_20	16 44 07.5		
	comp=Z,37µm,18.0s								
BBSR	**BB Station**	**67.92**	**8**	P		**P**	**16 08 54.2**	**+2.2**	
BBSR	**BB Station**	**67.92**	**8**	P		**P**	**16 08 52.0**	**+0.1**	
BBSR				IAmb		IAmb	16 09 04.4		
	comp=Z,537nm,1.5s								
250A	**Grady**	**68.24**	**348**	IAmb		IAmb	16 09 22.6		
	comp=Z,389nm,1.4s								
CSU	**Charleston Sou**	**68.42**	**354**	IAMs_20		IAMs_20	16 43 39.6		
	comp=Z,35µm,19.0s								
SLBS	**Sierra La Lagu**	**68.48**	**324**	P		**P**	**16 08 58.4**	**+2.6**	
SACV	**Santiago Islan**	**68.53**	**52**	P		**P**	**16 08 57.4**	**+1.2**	
SACV	**Santiago Islan**	**68.53**	**52**	P		**P**	**16 08 56.2**	**0.0**	
SACV				IAmb		IAmb	16 08 59.6		
	comp=Z,457nm,1.3s								
HKT	**Hockley**	**68.55**	**339**	*c i*P		**P**	**16 08 57.4**	**+1.5**	
HKT				pmax		pmax			
	comp=Z,466nm,1.8s								
HKT				MLR		MLR			
	comp=Z,18µm,17.0s								
HKT	**Hockley**	**68.55**	**339**	P		**P**	**16 08 58.5**	**+2.6**	
HKT				P		**P**	**16 08 58.5**	**+2.6**	
HKT	**Hockley**	**68.55**	**339**	P		**P**	**16 08 56.3**	**+0.4**	
NHSC	**New Hope**	**68.55**	**353**	IAMs_20		IAMs_20	16 43 44.0		
	comp=Z,35µm,19.0s								
TVO	**Taravao**	**68.95**	**263**	*e*P		**P**	**16 09 03.2**	**+4.2**	
	comp=Z,159nm,1.5s								
VAH	**Vaihoa**	**68.97**	**266**	*e*P		**P**	**16 09 03.1**	**+4.0**	
	comp=Z,133nm,1.6s								
LPIG	**La Paz**	**69.01**	**324**	LR		LR	16 32 35.0		
	comp=Z,32µm,19.9s,baz=142,slow=30								
TIAR	**Tiarei**	**69.14**	**263**	*e*P		P	16 09 05.9	+5.8	
	comp=Z,331nm,1.1s								
GOGA	**Godfrey**	**69.22**	**351**	IAmb		IAmb	16 09 09.9		
	comp=Z,243nm,1.3s								
HNDO	**Hondo**	**69.25**	**336**	IAmb		IAmb	16 09 13.1		
	comp=Z,552nm,1.4s								
PAE	**Paea**	**69.28**	**263**	*e*P		**P**	**16 09 04.4**	**+3.5**	
	comp=Z,142nm,1.3s								
Y60A	**Bolivia**	**69.28**	**355**	IAmb		IAmb	16 09 10.6		
	comp=Z,422nm,1.1s								
Y58A	**Scranton**	**69.30**	**354**	IAmb		IAmb	16 09 10.6		
	comp=Z,277nm,1.1s								
PPTF	**Pamatai, Papee**	**69.30**	**263**	IAMs_20		IAMs_20	16 31 11.7		
	comp=Z,62µm,20.0s								
PPT2	**Papeete2**	**69.31**	**263**	*e*P		**P**	**16 09 01.9**	**+0.6**	
	comp=Z,389nm,1.4s								
PPT2	**Papeete2**	**69.31**	**263**	*e*PP		**PP**	**16 11 28.6**	**-5.8**	
	comp=Z,4µm,25.2s								
PPT2				*e*S		**S**	**16 18 06.9**	**-0.7**	
	comp=Z,55µm,23.0s								
PPT2				*e*SS		**SS**	**16 22 33.6**	**-0.7**	
	comp=Z,8µm,22.5s								
PPT2				*e*LR		LR	16 29 59.4		
	comp=Z,154µm,25.2s								
PPT2				*e*LR		LR	16 30 00.4		
	comp=Z,116µm,27.5s								
PMOR	**Pomariorio Ree**	**69.32**	**266**	*e*P		**P**	**16 09 05.9**	**+4.7**	
	comp=Z,263nm,1.4s								
PPT	**Papeete**	**69.32**	**263**	P		**P**	**16 09 02.9**	**+1.7**	
	comp=Z,63nm,0.9s,baz=71,slow=6.8,SNR=6.1								
PPT				S		**S**	**16 18 07.2**	**-0.4**	
	comp=Z,22nm,0.7s,baz=34,slow=22,SNR=1.5								
PPT				LR		LR	16 31 42.5		
	comp=Z,68µm,19.1s,baz=146,slow=29								
	comp=Z,63nm,0.9s								
PPT	**Papeete**	**69.32**	**263**	P		**P**	**16 09 02.9**	**+1.7**	
PPT						**S**	**16 18 07.2**	**-0.4**	
HPIG		**69.34**	**329**	IAmb		IAmb	16 09 14.0		
	comp=Z,617nm,1.7s								
HPIG				IAMs_20		IAMs_20	16 34 29.3		
	comp=Z,47µm,18.0s								
LRAL	**Lakeview Retre**	**69.40**	**347**	IAmb		IAmb	16 09 14.2		
	comp=Z,594nm,1.9s								
Y57A	**Sumter**	**69.47**	**353**	IAmb		IAmb	16 09 11.5		
	comp=Z,251nm,1.3s								
Y57A				IAMs_20		IAMs_20	16 40 34.4		
	comp=Z,42µm,20.0s								
DRIO	**Del Rio**	**69.61**	**334**	IAmb		IAmb	16 09 15.9		
	comp=Z,703nm,1.9s								
Y52A	**Lilburn**	**69.75**	**350**	IAmb		IAmb	16 09 13.3		
	comp=Z,383nm,1.2s								
JSC	**Jenkinsville**	**69.82**	**353**	IAMs_20		IAMs_20	16 40 25.6		
	comp=Z,41µm,21.0s								
435B	**Jarrell**	**69.86**	**338**	IAmb		IAmb	16 09 27.9		
	comp=Z,232nm,1.1s								
X58A	**Rowland**	**69.91**	**354**	IAmb		IAmb	16 09 14.4		
	comp=Z,241nm,1.2s								
NATX	**Nacogdoches**	**69.91**	**340**	IAmb		IAmb	16 09 18.9		
	comp=Z,431nm,1.1s								
PAULI	**Pauline**	**70.41**	**352**	IAmb		IAmb	16 09 17.5		
	comp=Z,349nm,1.3s								
W59A	**Clinton**	**70.45**	**355**	IAMs_20		IAMs_20	16 45 18.6		
	comp=Z,31µm,19.0s								
X51A	**Calhoun**	**70.55**	**350**	IAmb		IAmb	16 09 18.5		
	comp=Z,486nm,1.1s								
W57A	**Gilead**	**70.56**	**354**	IAMs_20		IAMs_20	16 41 17.3		
	comp=Z,36µm,20.0s								
SAND	**Sanderson**	**70.64**	**333**	IAmb		IAmb	16 09 21.5		
	comp=Z,382nm,1.3s								
TXAR	**Lajitas Array**	**70.66**	**332**	P		**P**	**16 09 10.6**	**+1.4**	
	comp=Z,28nm,1.0s,baz=151,slow=7.6,SNR=124								
TXAR				LR		LR	16 35 27.2		
	comp=Z,27µm,18.4s,baz=142,slow=32								
TXAR				PKPPKP		P'P'df	16 37 12.0	+10	
	comp=Z,1.3nm,1.0s,baz=153,slow=0.6,SNR=5.3								
	comp=Z,28nm,1.0s								
KMSC	**Kings Mountain**	**70.68**	**353**	IAmb		IAmb	16 09 18.9		
	comp=Z,332nm,1.4s								
KMSC				IAMs_20		IAMs_20	16 45 09.3		
	comp=Z,37µm,19.0s								
BG3	**Lake Jocassee**	**70.71**	**351**	IAmb		IAmb	16 09 19.4		
	comp=Z,422nm,1.4s								
BRDY	**Brady**	**70.77**	**337**	IAmb		IAmb	16 09 21.7		
	comp=Z,319nm,1.4s								
X48A	**Hartselle**	**70.79**	**348**	IAmb		IAmb	16 09 20.8		
	comp=Z,474nm,1.1s								
W52A	**Murphy**	**70.94**	**350**	IAmb		IAmb	16 09 23.6		
	comp=Z,696nm,1.9s								
W52A				IAMs_20		IAMs_20	16 46 26.1		
	comp=Z,34µm,19.0s								
V61A	**Roper**	**70.97**	**357**	IAMs_20		IAMs_20	16 43 52.4		
	comp=Z,39µm,20.0s								
TREL	**Terrell**	**71.23**	**340**	IAmb		IAmb	16 09 26.0		
	comp=Z,642nm,1.4s								
W50A	**Signal Mountai**	**71.24**	**349**	IAmb		IAmb	16 09 22.8		
	comp=Z,440nm,1.0s								
V53A	**Saluda**	**71.36**	**352**	IAmb		IAmb	16 09 23.2		
	comp=Z,349nm,1.4s								
V55A	**Taylorsville**	**71.37**	**353**	IAmb		IAmb	16 09 23.3		
	comp=Z,408nm,1.3s								
V55A				IAMs_20		IAMs_20	16 46 41.6		
	comp=Z,34µm,20.0s								
CPCT	**Cooper Cave**	**71.37**	**350**	IAmb		IAmb	16 09 23.3		
	comp=Z,307nm,1.2s								
PLAL	**Pickwick Lake**	**71.50**	**347**	IAmb		IAmb	16 09 23.8		
	comp=Z,277nm,1.1s								
ALPN	**Alpine**	**71.58**	**332**	IAmb		IAmb	16 09 28.4		
	comp=Z,817nm,1.9s								
U56A	**King**	**71.78**	**354**	IAmb		IAmb	16 09 25.9		
	comp=Z,319nm,1.3s								
FW06	**Azle**	**71.88**	**338**	IAmb		IAmb	16 09 29.5		
	comp=Z,430nm,1.3s								
MAW	**Mawson**	**71.99**	**164**	P		**P**	**16 09 17.1**	**+0.4**	
	comp=Z,207nm,1.2s,baz=212,slow=6.4,SNR=84								
MAW				S		**S**	**16 18 34.8**	**-2.4**	
	comp=Z,2.1nm,1.0s,baz=318,slow=19,SNR=1.8								
MAW				PKPPKP		**P'P'df**	**16 37 08.8**	**-3.2**	
	comp=Z,4.0nm,0.9s,baz=42,slow=2.4,SNR=5.5								
MAW				LR		LR	16 40 31.0		
	comp=Z,93µm,20.6s,baz=228,slow=36								
	comp=Z,207nm,1.2s								
U54A	**Nelsons Funny**	**72.09**	**352**	IAmb		IAmb	16 09 27.4		
	comp=Z,350nm,1.1s								
U54A				IAMs_20		IAMs_20	16 41 44.8		
	comp=Z,34µm,21.0s								
MNHN	**Monahans**	**72.12**	**333**	IAmb		IAmb	16 09 31.2		
	comp=Z,655nm,1.8s								
T59A	**Double "B" Far**	**72.19**	**356**	IAmb		IAmb	16 09 28.7		
	comp=Z,448nm,1.1s								
T59A				IAMs_20		IAMs_20	16 44 23.8		
	comp=Z,44µm,20.0s								
MIAR	**Mount Ida**	**72.27**	**342**	IAmb		IAmb	16 09 30.7		
	comp=Z,287nm,1.2s								
CLTN	**Cedars of Leba**	**72.28**	**349**	IAmb		IAmb	16 09 28.8		
	comp=Z,275nm,1.1s								
TZTN	**Tazewell**	**72.32**	**351**	IAmb		IAmb	16 09 28.7		
	comp=Z,372nm,1.4s								
T57A	**Hurt**	**72.33**	**355**	IAMs_20		IAMs_20	16 46 27.3		
	comp=Z,32µm,19.0s								
PECS	**Pecos**	**72.56**	**333**	IAmb		IAmb	16 09 33.3		
	comp=Z,563nm,1.8s								
HBAR	**Harrisburg**	**72.56**	**345**	IAmb		IAmb	16 09 32.1		
	comp=Z,429nm,1.2s								
WVT	**Waverly**	**72.57**	**347**	P		**P**	**16 09 19.5**	**-0.9**	
U49A	**Red Boiling Sp**	**72.60**	**349**	IAmb		IAmb	16 09 32.2		
	comp=Z,408nm,1.4s								
BLA	**Blacksburg**	**72.64**	**354**	IAmb		IAmb	16 09 33.7		
	comp=Z,549nm,1.8s								
SRIG	**Santa Rosalia**	**72.65**	**324**	IAMs_20		IAMs_20	16 35 11.5		
	comp=Z,47µm,18.0s								
WHAR	**Wooly Hollow**	**72.67**	**343**	IAmb		IAmb	16 09 31.3		
	comp=Z,495nm,1.2s								
S61A	**Accomac**	**72.82**	**358**	IAMs_20		IAMs_20	16 43 25.4		
	comp=Z,33µm,21.0s								
ELIM	**Elim**	**72.84**	**120**	*e*P		P	16 09 37.2	+15	
BBTS	**Babate**	**73.02**	**57**	LR		LR	16 40 42.3		
	comp=Z,155µm,20.1s,baz=277,slow=35								
SN07	**Snyder 07**	**73.06**	**336**	IAmb		IAmb	16 09 36.2		
	comp=Z,680nm,1.9s								
S57A	**Dark Hollow, R**	**73.07**	**355**	IAMs_20		IAMs_20	16 46 45.8		
	comp=Z,36µm,20.0s								
CER	**Ceres**	**73.16**	**119**	*e*P		**P**	**16 09 25.2**	**+0.8**	
LCAR	**Lake Charles**	**73.16**	**345**	IAmb		IAmb	16 09 33.7		
	comp=Z,349nm,1.0s								
R58B	**Mineral**	**73.20**	**356**	IAmb		IAmb	16 09 35.0		
	comp=Z,437nm,1.3s								
R58B				IAMs_20		IAMs_20	16 45 04.4		
	comp=Z,41µm,20.0s								
POST	**Post**	**73.24**	**335**	IAmb		IAmb	16 09 37.4		
	comp=Z,354nm,1.2s								
T47A	**Sharon Grove**	**73.28**	**348**	IAmb		IAmb	16 09 36.0		
	comp=Z,452nm,1.2s								
S54A	**Dingess, Beckl**	**73.31**	**353**	IAmb		IAmb	16 09 34.5		
	comp=Z,261nm,1.1s								
S51A	**Beattyville**	**73.40**	**351**	IAmb		IAmb	16 09 35.2		
	comp=Z,277nm,1.0s								
CBN	**Corbin Frederi**	**73.41**	**356**	IAmb		IAmb	16 09 36.0		
	comp=Z,299nm,1.2s								
CBN				IAMs_20		IAMs_20	16 45 27.0		
	comp=Z,40µm,20.0s								
MNTX	**Cornudas Mount**	**73.43**	**331**	IAMs_20		IAMs_20	16 36 46.7		
	comp=Z,42µm,20.0s								
R61A	**Willards**	**73.46**	**358**	IAMs_20		IAMs_20	16 48 03.3		
	comp=Z,39µm,19.0s								
X34A	**Smith Ranch, M**	**73.48**	**339**	IAmb		IAmb	16 09 39.8		
	comp=Z,382nm,1.1s								
R55A	**Marlinton**	**73.68**	**354**	IAmb		IAmb	16 09 37.5		
	comp=Z,338nm,1.1s								
PBMO	**Poplar Bluff**	**73.69**	**345**	IAmb		IAmb	16 09 38.5		
	comp=Z,289nm,1.1s								
KOMG	**Komaggas**	**73.71**	**115**	*e*P		**P**	**16 09 26.9**	**-0.7**	
WMOK	**Wichita Mounta**	**73.89**	**338**	IAmb		IAmb	16 09 41.0		
	comp=Z,451nm,1.5s								
EPT	**El Paso**	**73.94**	**331**	IAMs_20		IAMs_20	16 37 04.2		
	comp=Z,42µm,20.0s								
FNO	**Franklin**	**73.97**	**339**	IAmb		IAmb	16 09 40.6		
	comp=Z,387nm,1.1s								
R50A	**Paris**	**74.13**	**351**	IAMs_20		IAMs_20	16 41 02.6		
	comp=Z,34µm,22.0s								
TUL3	**Leonard**	**74.14**	**341**	IAmb		IAmb	16 09 39.5		
	comp=Z,326nm,1.0s								
R49A	**Shelbyville**	**74.26**	**350**	IAmb		IAmb	16 09 39.9		
	comp=Z,338nm,1.2s								
USIN	**University of**	**74.33**	**348**	IAmb		IAmb	16 09 40.7		
	comp=Z,589nm,1.1s								
S44A	**Carbondale**	**74.35**	**347**	IAmb		IAmb	16 09 42.3		
	comp=Z,456nm,1.3s								
Q56A	**Snyder Ridge,**	**74.36**	**355**	IAMs_20		IAMs_20	16 45 47.9		
	comp=Z,31µm,20.0s								
SIUC	**Southern Illin**	**74.36**	**347**	IAmb		IAmb	16 09 42.4		
	comp=Z,450nm,1.2s								
WCI	**Wyandotte Cave**	**74.36**	**349**	P		**P**	**16 09 29.6**	**-1.3**	
MGMO	**Mountain Grove**	**74.45**	**344**	IAmb		IAmb	16 09 42.1		
	comp=Z,296nm,1.1s								
Q52A	**Bidwell**	**74.56**	**352**	IAmb		IAmb	16 09 41.9		
	comp=Z,475nm,1.1s								
QUOK	**Quay**	**74.63**	**340**	IAmb		IAmb	16 09 43.4		
	comp=Z,666nm,1.2s								
SMWD	**Samnorwood**	**74.69**	**337**	IAmb		IAmb	16 09 46.8		
	comp=Z,430nm,1.1s								
P57A	**Homestead Farm**	**74.72**	**356**	IAmb		IAmb	16 09 43.9		
	comp=Z,420nm,1.2s								
P57A				IAMs_20		IAMs_20	16 46 08.7		
	comp=Z,36µm,20.0s								
Q51A	**Peebles**	**74.74**	**352**	IAmb		IAmb	16 09 42.9		
	comp=Z,359nm,1.2s								
SUR	**Sutherland**	**74.77**	**119**	P		**P**	**16 09 35.1**	**+1.2**	
SUR				IAmb		IAmb	16 09 50.0		
	comp=Z,591nm,1.2s								
P61A	**Hammonton**	**74.78**	**359**	IAmb		IAmb	16 09 44.8		
	comp=Z,497nm,1.2s								
P61A				IAMs_20		IAMs_20	16 46 45.5		
	comp=Z,32µm,19.0s								
FVM	**French Village**	**74.86**	**346**	IAmb		IAmb	16 09 43.8		
	comp=Z,557nm,1.4s								
OK048	**Pawnee Station**	**74.92**	**340**	IAmb		IAmb	16 09 45.1		
	comp=Z,582nm,1.1s								
AMTX	**Amarillo**	**74.96**	**336**	IAmb		IAmb	16 09 46.9		
	comp=Z,469nm,1.1s								
P53A	**Whipple**	**74.99**	**353**	IAmb		IAmb	16 09 44.5		
	comp=Z,340nm,1.2s								
MCWV	**Mont Chateau**	**75.02**	**354**	IAmb		IAmb	16 09 44.9		
	comp=Z,259nm,1.1s								
MCWV				IAMs_20		IAMs_20	16 46 12.5		
	comp=Z,35µm,21.0s								
CTZ	**Chatham Island**	**75.06**	**227**	IAMs_20		IAMs_20	16 35 19.1		
	comp=Z,30µm,19.0s								
WUPA	**West Chester U**	**75.06**	**358**	IAmb		IAmb	16 09 45.9		
	comp=Z,286nm,1.1s								
CCM	**Cathedral Cave**	**75.09**	**345**	P		**P**	**16 09 35.4**	**+0.2**	
CCM	**Cathedral Cave**	**75.09**	**345**	P		**P**	**16 09 34.5**	**-0.6**	
CCM				IAmb		IAmb	16 09 45.3		
	comp=Z,537nm,1.1s								
MERW	**Merweville**	**75.12**	**120**	*e*P		**P**	**16 09 36.8**	**+0.9**	
121A	**Cookes Peak, D**	**75.12**	**330**	IAmb		IAmb	16 10 12.5		
	comp=Z,562nm,1.6s								
MVL	**Millersville**	**75.16**	**357**	IAmb		IAmb	16 09 48.2		
	comp=Z,364nm,1.2s								
MVL				IAMs_20		IAMs_20	16 47 42.2		
	comp=Z,29µm,20.0s								
P51A	**Williamsport**	**75.16**	**352**	IAmb		IAmb	16 09 45.2		
	comp=Z,278nm,1.0s								
P52A	**Corning**	**75.21**	**353**	IAmb		IAmb	16 09 45.5		
	comp=Z,526nm,1.1s								
T35A	**Sooner Cattle**	**75.28**	**341**	IAmb		IAmb	16 09 46.6		
	comp=Z,342nm,1.0s								
CROK	**Carrier**	**75.30**	**339**	IAmb		IAmb	16 09 49.4		
	comp=Z,239nm,1.0s								
BLO	**Bloomington**	**75.32**	**349**	IAmb		IAmb	16 09 48.3		
	comp=Z,376nm,1.2s								
PAGS	**Pennsylvania G**	**75.40**	**357**	IAmb		IAmb	16 09 47.4		
	comp=Z,452nm,1.1s								
PAGS				IAMs_20		IAMs_20	16 48 44.7		
	comp=Z,49µm,19.0s								
P48A	**Milroy**	**75.44**	**350**	IAmb		IAmb	16 09 47.0		
	comp=Z,490nm,1.1s								
SLM	**Saint Louis**	**75.45**	**346**	IAmb		IAmb	16 09 47.1		
	comp=Z,527nm,1.1s								
OK038	**West end E0370**	**75.50**	**339**	IAmb		IAmb	16 09 48.6		
	comp=Z,402nm,1.1s								
R40A	**Maddies Statio**	**75.54**	**344**	IAmb		IAmb	16 09 47.6		
	comp=Z,320nm,1.1s								
RAR	**Rarotonga**	**75.54**	**254**	LR		LR	16 34 38.5		
	comp=Z,33µm,20.1s,baz=178,slow=29								
RAR	**Rarotonga**	**75.54**	**254**	IAMs_20		IAMs_20	16 34 27.7		
	comp=Z,35µm,20.0s								
O54A	**Avella**	**75.58**	**354**	IAMs_20		IAMs_20	16 48 20.3		
	comp=Z,41µm,19.0s								
O52A	**Adamsville**	**75.65**	**353**	IAmb		IAmb	16 09 48.1		
	comp=Z,336nm,1.1s								
KAN14	**Manchester OK**	**75.72**	**340**	IAmb		IAmb	16 09 49.8		
	comp=Z,352nm,1.2s								
O53A	**New Philadelph**	**75.72**	**353**	IAmb		IAmb	16 09 48.6		
	comp=Z,530nm,1.4s								
O53A				IAMs_20		IAMs_20	16 48 19.0		
	comp=Z,32µm,19.0s								
GRAN	**Grantham**	**75.78**	**120**	*e*P		**P**	**16 09 41.0**	**+1.4**	
BRNJ	**Basking Ridge**	**75.79**	**359**	IAmb		IAmb	16 09 50.1		
	comp=Z,344nm,1.2s								
BRNJ				IAMs_20		IAMs_20	16 45 25.1		
	comp=Z,48µm,20.0s								
KAN01	**Argonia South**	**75.84**	**340**	IAmb		IAmb	16 09 50.7		
	comp=Z,493nm,1.2s								
P46A	**Rosedale**	**75.86**	**349**	IAmb		IAmb	16 09 48.7		
	comp=Z,312nm,1.1s								
SSPA	**Standing Stone**	**75.86**	**356**	P		**P**	**16 09 38.8**	**-0.7**	
SSPA				IAmb		IAmb	16 09 55.2		
	comp=Z,500nm,1.5s								
SSPA	**Standing Stone**	**75.86**	**356**	IAMs_20		IAMs_20	16 48 49.9		
	comp=Z,31µm,19.0s								
CPNY	**Central Park**	**75.89**	**359**	IAMs_20		IAMs_20	16 45 23.7		
	comp=Z,33µm,20.0s								
N58A	**Sunbury**	**76.01**	**357**	IAmb		IAmb	16 09 51.0		
	comp=Z,339nm,1.1s								
N58A				IAMs_20		IAMs_20	16 49 29.8		
	comp=Z,27µm,19.0s								
O49A	**Covington**	**76.01**	**351**	IAmb		IAmb	16 09 52.5		
	comp=Z,638nm,1.4s								
N62A	**Caumsett State**	**76.02**	**360**	IAMs_20		IAMs_20	16 49 34.3		
	comp=Z,29µm,18.0s								
PAL	**Palisades**	**76.10**	**359**	IAMs_20		IAMs_20	16 45 29.4		
	comp=Z,29µm,20.0s								
TUC	**Tucson**	**76.20**	**328**	P		**P**	**16 09 42.7**	**+0.9**	
TUC				pmax		pmax			
	comp=Z,316nm,1.5s								
TUC	**Tucson**	**76.20**	**328**	P		**P**	**16 09 44.1**	**+2.4**	
TUC	**Tucson**	**76.20**	**328**	P		**P**	**16 09 42.7**	**+0.9**	
N53A	**Lisbon**	**76.24**	**354**	IAmb		IAmb	16 09 51.8		
	comp=Z,377nm,1.2s								
N53A				IAMs_20		IAMs_20	16 48 32.8		
	comp=Z,44µm,20.0s								
WSPT	**Westport, CT**	**76.26**	**360**	IAMs_20		IAMs_20	16 49 39.7		
	comp=Z,29µm,19.0s								
P43A	**Skaggs, Pawnee**	**76.28**	**347**	IAmb		IAmb	16 09 51.7		
	comp=Z,437nm,1.0s								
PAMR	**Moraine State**	**76.31**	**354**	IAmb		IAmb	16 09 52.3		
	comp=Z,365nm,1.2s								
PAMR				IAMs_20		IAMs_20	16 47 00.7		
	comp=Z,36µm,20.0s								
DBIC	**Dimbokro**	**76.34**	**71**	P		**P**	**16 09 43.5**	**+0.7**	
	comp=Z,503nm,1.0s,baz=244,slow=5.5,SNR=124								
DBIC				S		**S**	**16 19 29.9**	**+2.3**	
	comp=Z,2.9nm,0

HRV Adam Dziewonsk 77.61 1 P **P** **16 09 49.2 -0.1**
HRV IAmb IAmb 16 10 00.7
comp=Z,324nm,1.1s
X18A Snowflake 77.75 329 IAMs_20 IAMs_20 16 39 14.9
comp=Z,29µm,20.0s
K62A Royalston 77.76 1 IAmb IAmb 16 10 01.6
comp=Z,408nm,1.2s
K62A IAMs_20 IAMs_20 16 50 11.3
comp=Z,30µm,20.0s
TRY Troy 77.82 359 IAmb IAmb 16 10 01.7
comp=Z,558nm,1.2s
TRY IAMs_20 IAMs_20 16 48 48.0
comp=Z,28µm,20.0s
K57A Scipio Center 77.89 357 IAmb IAmb 16 10 05.3
comp=Z,418nm,1.6s
K57A IAMs_20 IAMs_20 16 49 15.6
comp=Z,42µm,18.0s
MMNY Mt. Morris Dam 77.95 356 IAmb IAmb 16 10 01.6
comp=Z,450nm,1.1s
MMNY IAMs_20 IAMs_20 16 48 04.2
comp=Z,31µm,20.0s
CBKS Cedar Bluff 77.96 339 IAmb IAmb 16 10 03.9
comp=Z,443nm,1.1s
L46A Eue Claire 78.07 350 IAmb IAmb 16 10 01.0
comp=Z,398nm,1.3s
W18A Petrified Fore 78.17 330 IAMs_20 IAMs_20 16 40 23.0
comp=Z,45µm,18.0s
GRHM Grahamstown, E 78.18 122 *eP* **P** **16 09 55.1 +2.0**
GRHM Grahamstown, E 78.18 122 P **P** **16 09 53.4 +0.2**
GRHM IAmb IAmb 16 10 03.6
comp=Z,412nm,1.0s
CPBX Cerro Prieto 78.35 324 IAMs_20 IAMs_20 16 37 41.6
comp=Z,35µm,19.0s
K50A Casco 78.37 353 IAmb IAmb 16 10 02.9
comp=Z,543nm,1.1s
K50A IAMs_20 IAMs_20 16 50 35.8
comp=Z,30µm,19.0s
MEDO Medina 78.42 356 IAmb IAmb 16 10 03.9
comp=Z,264nm,1.1s
MEDO IAMs_20 IAMs_20 16 48 20.4
comp=Z,31µm,20.0s
J61A Chester 78.44 0 IAmb IAmb 16 10 07.0
comp=Z,349nm,1.3s
J61A IAMs_20 IAMs_20 16 50 04.2
comp=Z,27µm,20.0s
ACCN Adirondack Com 78.47 359 IAmb IAmb 16 10 05.1
comp=Z,332nm,1.2s
ACCN IAMs_20 IAMs_20 16 49 16.2
comp=Z,29µm,20.0s
L44A Lake County Fo 78.48 349 IAmb IAmb 16 10 03.9
comp=Z,501nm,1.2s
J55A Hilton 78.48 356 IAMs_20 IAMs_20 16 50 50.1
comp=Z,36µm,19.0s
CASY Casey 78.55 181 P **P** **16 09 54.1 -0.3**
CASY IAmb IAmb 16 10 06.7
comp=Z,811nm,1.8s
J57A Williamstown 78.55 358 IAmb IAmb 16 10 04.8
comp=Z,270nm,1.1s
J57A IAMs_20 IAMs_20 16 47 05.0
comp=Z,32µm,21.0s
CCX Cicese 78.56 323 IAMs_20 IAMs_20 16 38 51.0
comp=Z,41µm,18.0s
Y14A Wickenburg 78.56 327 IAMs_20 IAMs_20 16 41 40.2
comp=Z,30µm,18.0s
J59A Piesco 78.57 359 IAMs_20 IAMs_20 16 49 15.6
comp=Z,34µm,20.0s
L42A Oliver, Polo 78.60 347 IAmb IAmb 16 10 04.5
comp=Z,385nm,1.0s
L42A IAMs_20 IAMs_20 16 51 43.7
comp=Z,37µm,19.0s
GLA Glamis 78.65 325 IAMs_20 IAMs_20 16 38 31.6
comp=Z,39µm,18.0s
N35A Tabor 78.77 343 IAmb IAmb 16 10 06.1
comp=Z,476nm,1.1s
HNH Hanover 78.80 0 IAmb IAmb 16 10 09.0
comp=Z,391nm,1.3s
YUH Yuha Desert 78.83 324 IAmb IAmb 16 10 13.8
comp=Z,509nm,1.9s
SDCO Great Sand Dun 78.86 334 IAMs_20 IAMs_20 16 41 12.6
comp=Z,35µm,19.0s
L40A Anamosa 78.95 346 IAmb IAmb 16 10 07.0
comp=Z,514nm,1.3s
I62A Tamworth 78.97 1 IAmb IAmb 16 10 08.2
comp=Z,369nm,1.3s
I62A IAMs_20 IAMs_20 16 51 18.6
comp=Z,30µm,19.0s
K43A Burlington 79.06 348 IAmb IAmb 16 10 07.8
comp=Z,443nm,1.2s
NCB Newcomb 79.07 359 IAMs_20 IAMs_20 16 49 37.9
comp=Z,28µm,20.0s
J47A Sunmer 79.07 351 IAmb IAmb 16 10 06.7
comp=Z,289nm,1.1s
J47A IAMs_20 IAMs_20 16 50 43.5
comp=Z,27µm,19.0s
HVD Gariep Dam 79.08 120 *eP* P 16 10 04.4 +6.1
PECO Prince Edward 79.11 357 IAMs_20 IAMs_20 16 50 11.8
comp=Z,37µm,19.0s
I63A Otisfield 79.17 2 IAmb IAmb 16 10 09.7
comp=Z,562nm,1.2s
I63A IAMs_20 IAMs_20 16 51 28.7
comp=Z,31µm,19.0s
WUAZ Wupatki 79.19 329 IAMs_20 IAMs_20 16 42 05.1
comp=Z,33µm,18.0s
SCIA State Center 79.21 345 IAmb IAmb 16 10 08.3
comp=Z,483nm,1.2s
BAR Barrett 79.22 324 IAMs_20 IAMs_20 16 38 08.6
comp=Z,44µm,20.0s
TJX Tijuana 79.27 323 IAMs_20 IAMs_20 16 39 12.9
comp=Z,46µm,18.0s
LBNH Lisbon 79.33 1 IAMs_20 IAMs_20 16 51 24.0
comp=Z,35µm,19.0s
SALN Salton City 79.38 324 IAMs_20 IAMs_20 16 39 28.0
comp=Z,24µm,18.0s
KOOLE Kule 79.44 111 *i* P **P** **16 10 01.6 +1.3**
KOOLE Kule 79.44 111 IAmb IAmb 16 10 10.9
comp=Z,565nm,1.1s
BC3 Big Chuckawall 79.44 325 IAMs_20 IAMs_20 16 38 53.5
comp=Z,47µm,18.0s
MVCO Mesa Verde 79.49 332 IAmb IAmb 16 10 13.2
comp=Z,518nm,1.6s
TSUM Tsumeb 79.52 106 LR LR 16 43 03.5
comp=Z,104µm,18.1s,baz=234,slow=34
TSUM Tsumeb 79.52 106 P **P** **16 10 00.7 -0.1**
TSUM IAmb IAmb 16 10 15.0
comp=Z,960nm,1.8s
I49A Point Hope 79.54 353 IAmb IAmb 16 10 09.4
comp=Z,531nm,1.3s
I49A IAMs_20 IAMs_20 16 50 37.9
comp=Z,42µm,20.0s
BORC Borrego Spring 79.58 324 IAMs_20 IAMs_20 16 38 51.1
comp=Z,49µm,19.0s
LKGWB Lokgwabe 79.59 112 IAmb IAmb 16 10 18.4
comp=Z,813nm,1.4s
JFWS Jewell Farm 79.59 347 IAmb IAmb 16 10 10.2
comp=Z,423nm,1.1s
JFWS Jewell Farm 79.59 347 IAMs_20 IAMs_20 16 52 14.8
comp=Z,29µm,19.0s
DPP Dos Picos Cty 79.61 324 IAMs_20 IAMs_20 16 39 25.0
comp=Z,45µm,18.0s
H62A Milan 79.68 1 IAMs_20 IAMs_20 16 51 48.2
comp=Z,33µm,19.0s
WVL Waterville 79.71 2 IAmb IAmb 16 10 12.3
comp=Z,382nm,1.2s
WVL IAMs_20 IAMs_20 16 45 26.1
comp=Z,29µm,21.0s
IRM Iron Mountain 79.71 326 IAMs_20 IAMs_20 16 39 14.7
comp=Z,32µm,19.0s
DELO Deloro Mine 79.72 357 IAMs_20 IAMs_20 16 50 24.9
comp=Z,36µm,18.0s
LONY Lake Ozonia 79.72 359 IAmb IAmb 16 10 11.6
comp=Z,370nm,1.1s
LONY IAMs_20 IAMs_20 16 49 59.2
comp=Z,28µm,19.0s
PMD Palm Desert 79.87 324 IAMs_20 IAMs_20 16 39 09.9
comp=Z,26µm,18.0s
PFO Pinyon Flats O 79.88 324 LR LR 16 39 20.0
comp=Z,37µm,18.1s,baz=146,slow=31
PFO Pinyon Flats O 79.88 324 *c i* P **P** **16 10 04.4 +2.2**
PFO pmax pmax
comp=Z,446nm,1.5s
PFO Pinyon Flats O 79.88 324 IAMs_20 IAMs_20 16 39 26.0
comp=Z,40µm,18.0s
BGNE Belgrade 79.92 341 IAmb IAmb 16 10 12.5
comp=Z,447nm,1.2s
FRNY Flat Rock 79.92 360 IAmb IAmb 16 10 12.7
comp=Z,330nm,1.1s
W13A Hualapai Mount 79.93 327 IAMs_20 IAMs_20 16 42 21.5
comp=Z,26µm,18.0s

EMMW East Machias 79.95 4 IAmb IAmb 16 10 13.7
comp=Z,370nm,1.2s
BOSA Boshof 80.04 118 P **P** **16 10 03.9 +0.4**
comp=Z,214nm,0.9s,baz=233,slow=5.4,SNR=100
BOSA S **S** **16 20 03.5 -4.0**
comp=Z,7.2nm,1.1s,baz=198,slow=15,SNR=2.3
BOSA LR LR 16 40 45.2
comp=Z,66µm,20.8s,baz=236,slow=32
comp=Z,214nm,0.9s
I45A Fountain 80.04 350 IAMs_20 IAMs_20 16 52 19.1
comp=Z,30µm,18.0s
SADO Sadowa 80.06 356 LR LR 16 48 47.6
comp=Z,116µm,18.9s,baz=172,slow=38
PHPEN Phepeng 80.06 114 IAmb IAmb 16 10 14.1
comp=Z,720nm,1.5s
HAL Halifax 80.17 7 IAmb IAmb 16 10 17.7
comp=Z,682nm,1.4s
DANC Danby, Needles 80.22 326 IAMs_20 IAMs_20 16 39 41.2
comp=Z,31µm,18.0s
I42A Draeger Farm, 80.31 348 IAmb IAmb 16 10 14.0
comp=Z,320nm,1.2s
G62A West of Eustis 80.33 2 IAmb IAmb 16 10 15.5
comp=Z,440nm,1.2s
G62A IAMs_20 IAMs_20 16 52 21.6
comp=Z,25µm,18.0s
GGN Saint George 80.39 4 IAmb IAmb 16 10 18.7
comp=Z,774nm,1.5s
PKME Peaks-Kenny Pk 80.42 3 IAMs_20 IAMs_20 16 45 56.9
comp=Z,34µm,21.0s
G65A Princeton 80.44 4 IAmb IAmb 16 10 16.3
comp=Z,355nm,1.3s
MNTQ Montreal, Queb 80.59 360 IAmb IAmb 16 10 18.8
comp=Z,410nm,1.6s
OGNE Ogallala 80.60 338 IAmb IAmb 16 10 26.7
comp=Z,484nm,1.5s
PV17 East Wray Mesa 80.61 332 IAMs_20 IAMs_20 16 41 10.7
comp=Z,50µm,20.0s
GLMI Grayling 80.61 352 IAmb IAmb 16 10 15.3
comp=Z,312nm,1.0s
GLMI IAMs_20 IAMs_20 16 49 58.2
comp=Z,34µm,20.0s
PV20 West Nyswonger 80.66 332 IAmb IAmb 16 10 30.5
comp=Z,590nm,1.6s
H43A Windswept, Lux 80.69 349 IAmb IAmb 16 10 17.8
comp=Z,41nm,1.2s
BUKO Buck Lake 80.74 355 IAmb IAmb 16 10 16.7
comp=Z,346nm,1.2s
BUKO IAMs_20 IAMs_20 16 49 51.9
comp=Z,35µm,21.0s
MTPC Mountain Pass 81.00 326 IAMs_20 IAMs_20 16 40 26.8
comp=Z,29µm,18.0s
KGCAE Kacgae 81.05 112 *i* P **P** **16 10 09.6 +0.7**
KGCAE Kacgae 81.05 112 IAmb IAmb 16 10 19.6
comp=Z,657nm,1.4s
F64A Sherman 81.06 3 IAmb IAmb 16 10 19.5
comp=Z,459nm,1.4s
F64A IAMs_20 IAMs_20 16 51 04.8
comp=Z,31µm,19.0s
KNB Kanab 81.08 329 IAmb IAmb 16 10 22.2
comp=Z,548nm,1.4s
BFZ Birch Farm 81.12 226 P P 16 10 15.9 +7.0
BFZ Birch Farm 81.12 226 P **P** **16 10 11.6 +2.7**
BFZ Birch Farm 81.12 226 IAMs_20 IAMs_20 16 40 20.7
comp=Z,35µm,18.0s
GRTLG Ghanzi 81.13 110 *i* P **P** **16 10 10.7 +1.3**
GRTLG Ghanzi 81.13 110 IAmb IAmb 16 10 24.9
comp=Z,910nm,1.9s
SYZ Scrubby Hill 81.15 218 P P 16 10 16.6 +7.7
GBN Guysborough 81.16 8 IAmb IAmb 16 10 22.7
comp=Z,544nm,1.4s
PASC Pasadena Art C 81.17 323 IAMs_20 IAMs_20 16 40 20.1
comp=Z,37µm,18.0s
MQZ McQueen's Vall 81.20 222 IAMs_20 IAMs_20 16 38 36.7
comp=Z,43µm,19.0s
LMN Caledonia Moun 81.27 6 IAmb IAmb 16 10 20.3
comp=Z,345nm,1.1s
MAKGR Makgori 81.31 115 *i* P **P** **16 10 11.0 +0.7**
TRQ Mont Tremblant 81.32 359 IAmb IAmb 16 10 19.8
comp=Z,372nm,1.1s
SKOMA Sekoma 81.40 114 *i* P **P** **16 10 12.0 +1.2**
GVZ Greta Valley S 81.48 223 IAMs_20 IAMs_20 16 40 19.0
comp=Z,32µm,19.0s
MRZ Mangatainoka R 81.53 226 P **P** **16 10 13.2 +2.2**
PUZ Puketiti 81.55 229 P **P** **16 10 15.6 +4.3**
KHZ Kahutara 81.56 223 P **P** **16 10 15.3 +4.2**
KHZ Kahutara 81.56 223 IAMs_20 IAMs_20 16 41 51.1
comp=Z,28µm,18.0s
SNZO South Karori 81.61 225 P P 16 10 17.1 +5.7
SNZO S **S** **16 20 24.7 +1.6**
SNZO South Karori 81.61 225 IAMs_20 IAMs_20 16 37 09.7
comp=Z,40µm,22.0s
PNHZ Pukenui 81.64 227 P **P** **16 10 14.3 +2.6**
SHOC Shoshone, Teco 81.67 326 IAMs_20 IAMs_20 16 39 39.6
comp=Z,34µm,20.0s
TSZ Takapari Road 81.69 226 P **P** **16 10 15.6 +3.7**
ECSD EROS Data Cent 81.72 343 IAmb IAmb 16 10 21.9
comp=Z,351nm,1.0s
E62A Clayton Lake 81.77 2 IAmb IAmb 16 10 23.0
comp=Z,383nm,1.2s
E62A IAMs_20 IAMs_20 16 51 14.5
comp=Z,26µm,20.0s
OSI Osito Audit: C 81.79 323 IAMs_20 IAMs_20 16 40 30.5
comp=Z,31µm,18.0s
OXZ Oxford 81.79 222 IAMs_20 IAMs_20 16 39 14.2
comp=Z,44µm,19.0s
CCCA Chr Cany lake 81.87 325 IAMs_20 IAMs_20 16 40 32.9
comp=Z,29µm,20.0s
BKZ Black Stump Fm 81.94 227 P P 16 10 20.5 +7.2
BKZ Black Stump Fm 81.94 227 P **P** **16 10 18.0 +4.6**
O20A White River Ci 81.96 333 IAMs_20 IAMs_20 16 44 01.7
comp=Z,23µm,18.0s
LRMC Laurel Mtn Rad 81.99 325 IAMs_20 IAMs_20 16 40 34.9
comp=Z,46µm,19.0s
WSHM Spangler Hills 81.99 325 IAMs_20 IAMs_20 16 40 36.1
comp=Z,32µm,19.0s
LTZ Lake Taylor 82.02 222 P **P** **16 10 16.1 +2.4**
LTZ Lake Taylor 82.02 222 IAMs_20 IAMs_20 16 40 46.4
comp=Z,36µm,19.0s
HAZ Te Kaha 82.04 229 P **P** **16 10 16.9 +3.1**
RPZ Rata Peaks 82.06 221 LR LR 16 39 34.1
comp=Z,68µm,18.8s,baz=136,slow=30
RPZ Rata Peaks 82.06 221 P P 16 10 19.9 +6.1
E46A Sault Ste Mari 82.10 352 IAMs_20 IAMs_20 16 53 05.5
comp=Z,46µm,20.0s
URZ Urewera 82.14 228 LR LR 16 39 07.0
comp=Z,67µm,18.7s,baz=137,slow=30
URZ Urewera 82.14 228 P **P** **16 10 16.1 +1.9**
WHZ Wether Hill Ro 82.19 218 IAMs_20 IAMs_20 16 39 18.8
comp=Z,31µm,19.0s
CLC China Lake 82.22 325 IAMs_20 IAMs_20 16 40 44.0
comp=Z,30µm,19.0s
D62A Allapoint, All 82.24 3 IAmb IAmb 16 10 25.2
comp=Z,419nm,1.1s
D62A IAMs_20 IAMs_20 16 52 05.2
comp=Z,28µm,20.0s
SPMN Marine on St. 82.30 346 IAMs_20 IAMs_20 16 54 15.6
comp=Z,28µm,18.0s
THZ Tophouse 82.34 224 P **P** **16 10 17.6 +2.2**
THZ Tophouse 82.34 224 IAMs_20 IAMs_20 16 41 58.9
comp=Z,30µm,19.0s
LBTB Lobatse 82.35 115 LR LR 16 44 05.3
comp=Z,56µm,19.5s,baz=230,slow=34
FURC Furnace Creek, 82.41 326 IAMs_20 IAMs_20 16 40 09.1
comp=Z,28µm,19.0s
FWVZ Far West T-bar 82.44 227 P **P** **16 10 19.8 +3.6**
MLZ Mavora Lakes 82.47 218 P **P** **16 10 18.3 +2.4**
MLZ Mavora Lakes 82.47 218 IAMs_20 IAMs_20 16 40 23.2
comp=Z,29µm,19.0s
TPNV Topopah Spring 82.53 326 IAMs_20 IAMs_20 16 40 41.2
comp=Z,35µm,19.0s
BATG Bathurst New B 82.59 5 IAmb IAmb 16 10 27.3
comp=Z,284nm,1.2s
KDWAN Kaudwane 82.60 113 *i* P **P** **16 10 18.4 +1.3**
MRNZ Matariki Terra 82.67 224 P **P** **16 10 19.5 +2.5**
LMQ La Malbaie 82.67 2 IAmb IAmb 16 10 29.8
comp=Z,550nm,1.5s
RDMU Red Mountain 82.83 333 IAmb IAmb 16 10 38.2
comp=Z,447nm,1.5s
VES Vestal, Richgr 82.95 324 IAMs_20 IAMs_20 16 41 36.3
comp=Z,38µm,18.0s
CWC Cottonwood Cre 82.95 325 IAMs_20 IAMs_20 16 41 16.5
comp=Z,40µm,19.0s
SUSD Miller 82.97 342 IAmb IAmb 16 10 30.9
comp=Z,357nm,1.0s
DSZ Denniston Nort 82.97 223 IAMs_20 IAMs_20 16 38 09.5
comp=Z,27µm,22.0s
GMARE Gumare 82.98 109 IAmb IAmb 16 10 29.4

comp=Z,532nm,1.8s
VRZ Vera Road 83.00 226 P **P** **16 10 19.8 +1.0**
JCZ Jackson Bay 83.02 220 P P 16 10 25.9 +7.0
GRAC Grapevine Rang 83.07 326 IAMs_20 IAMs_20 16 43 52.7
comp=Z,24µm,18.0s
QRZ Quartz Range 83.18 224 P **P** **16 10 21.6 +2.0**
QRZ Quartz Range 83.18 224 IAMs_20 IAMs_20 16 42 38.9
comp=Z,26µm,18.0s
EOSO Oscorio 83.19 49 P **P** **16 10 20.5 +0.7**
BSUT Blindstream Ca 83.25 332 IAmb IAmb 16 10 41.1
comp=Z,298nm,1.4s
VLDQ Val d'Or 83.30 357 IAmb IAmb 16 10 30.2
comp=Z,304nm,1.1s
HIZ Hauiti 83.34 227 P **P** **16 10 24.0 +3.4**
HIZ Hauiti 83.34 227 IAMs_20 IAMs_20 16 40 23.2
comp=Z,37µm,18.0s
R11B Troy Canyon, C 83.39 328 IAmb IAmb 16 10 34.2
comp=Z,408nm,1.7s
SPR3 Spring Creek 3 83.39 329 IAmb IAmb 16 10 33.8
comp=Z,435nm,1.5s
E38A The Farm, Brul 83.40 347 IAmb IAmb 16 10 30.0
comp=Z,223nm,1.1s
TOZ Tahuroa Road 83.45 228 P **P** **16 10 23.4 +2.3**
LPHEP Lephephe 83.50 114 *i* P **P** **16 10 22.1 +0.3**
K22A Casper 83.58 336 IAmb IAmb 16 10 35.9
comp=Z,330nm,1.2s
K22A IAMs_20 IAMs_20 16 44 15.7
comp=Z,33µm,19.0s
F33A 5 Mile Ranch, 83.63 344 IAmb IAmb 16 10 31.2
comp=Z,187nm,1.0s
DSP Deep Springs 83.66 325 IAmb IAmb 16 10 35.5
comp=Z,276nm,1.5s
PKD Bear Valley Ra 83.74 323 IAmb IAmb 16 10 35.9
comp=Z,380nm,1.4s
PKD IAMs_20 IAMs_20 16 40 44.3
comp=Z,26µm,18.0s
TPH Tonopah 83.89 326 IAmb IAmb 16 10 36.7
comp=Z,407nm,1.3s
KUZ Kuaotunu 83.95 229 P P 16 10 30.7 +7.0
TCUT Toone Canyon 84.00 332 IAmb IAmb 16 10 37.6
comp=Z,413nm,1.3s
KHWEE KHWEE 84.02 113 *i* P **P** **16 10 26.2 +1.7**
PMPB Monarch Peak 84.08 323 IAMs_20 IAMs_20 16 41 19.3
comp=Z,32µm,18.0s
RSSD Black Hills 84.11 338 P **P** **16 10 25.3 +1.0**
RSSD Black Hills 84.11 338 P **P** **16 10 23.2 -1.1**
HULI Fort Hunter Li 84.14 323 IAMs_20 IAMs_20 16 41 16.9
comp=Z,30µm,18.0s
HOR Horta 84.26 33 *eP* **P** **16 10 27.3 +2.4**
HOR *i* IAmb IAmb 16 10 31.5
comp=Z,587nm,2.2s
HOR *e*SKS **S** **16 20 52.8 +3.1**
CALA Caldeira 84.27 33 *eP* **P** **16 10 25.9 +0.8**
CALA *i* IAmb IAmb 16 10 30.1
comp=Z,576nm,2.9s
CALA *e*SKS **S** **16 20 52.2 +2.2**
PCAN Candelaria 84.28 34 *eP* **P** **16 10 27.3 +2.3**
PCAN *i* IAmb IAmb 16 10 33.0
comp=Z,660nm,2.5s
PCED Cedros 84.31 33 *eP* **P** **16 10 28.1 +2.9**
PCED *i* IAmb IAmb 16 10 30.9
comp=Z,866nm,1.9s
PICO Pico 84.33 34 *eP* **P** **16 10 28.1 +2.7**
PICO *i* IAmb IAmb 16 10 31.1
comp=Z,1µm,1.9s
PICO *e*SKS **S** **16 20 52.2 +1.7**
PHDHD Phuduhudu 84.34 111 *i* P **P** **16 10 27.2 +1.1**
PHDHD Phuduhudu 84.34 111 IAmb IAmb 16 10 36.9
comp=Z,420nm,1.2s
PPNO Prainha do Nor 84.38 34 *eP* **P** **16 10 28.1 +2.5**
PPNO *i* IAmb IAmb 16 10 31.5
comp=Z,930nm,1.1s
MDPB Devils Postpil 84.39 325 IAMs_20 IAMs_20 16 42 12.4
comp=Z,46µm,19.0s
PID Ribeirinha 84.42 34 *eP* **P** **16 10 28.1 +2.3**
PID *i* IAmb IAmb 16 10 31.4
comp=Z,1µm,1.9s
HWUT Hardware Ranch 84.48 332 IAmb IAmb 16 10 43.3
comp=Z,351nm,1.2s
HWUT IAMs_20 IAMs_20 16 43 27.4
comp=Z,37µm,20.0s
BBGB Big Mountain B 84.49 323 IAMs_20 IAMs_20 16 40 07.0
comp=Z,28µm,20.0s
CRZF Crozet Islands 84.55 145 IAMs_20 IAMs_20 16 41 16.2
comp=Z,33µm,22.0s
LEGD La Grand CA 84.56 324 IAMs_20 IAMs_20 16 42 36.0
comp=Z,34µm,18.0s
PMAN Manadas 84.59 34 *eP* **P** **16 10 28.1 +1.5**
PMAN *i* IAmb IAmb 16 10 32.2
comp=Z,1µm,1.4s
ROSA Rosais 84.59 34 *eP* **P** **16 10 28.3 +1.6**
ROSA *i* IAmb IAmb 16 10 32.2
comp=Z,700nm,1.3s
ROSA *e*SKS **SKSac** **16 20 51.7 +1.8**
LEPH Lephalale, Lim 84.65 115 *eP* **P** **16 10 24.5 -3.1**
NVAR Mina Array Bea 84.67 326 P **P** **16 10 28.6 +1.3**
comp=Z,20nm,1.0s,baz=148,slow=5.8,SNR=76
NVAR PKKP **PKKPbc** **16 28 36.5 -1.6**
comp=Z,1.8nm,0.6s,baz=332,slow=1.9,SNR=9.3
NVAR PKPPKP **P'P'df** **16 36 45.4 +7.2**
comp=Z,0.4nm,0.6s,baz=318,slow=2.0,SNR=3.5
NVAR LR LR 16 43 22.3
comp=Z,13µm,18.2s,baz=136,slow=32
comp=Z,20nm,1.0s
H04N3 CROZET ISLANDS 84.70 145 P **P** **16 10 30.1 +3.0**
baz=175,slow=4.6,SNR=3.0
PSMN Pico do Norte, 84.70 37 *eP* **P** **16 10 28.3 +1.0**
PSMN *e*SKS **SKSac** **16 20 50.6 -0.1**
H04N1 CROZET ISLANDS 84.71 145 P **P** **16 10 28.4 +1.3**
baz=175,slow=4.6,SNR=3.9
H04N2 CROZET ISLANDS 84.72 145 P **P** **16 10 27.8 +0.6**
baz=175,slow=4.6,SNR=2.9
BW06 Boulder Array 84.74 334 IAmb IAmb 16 10 47.7
comp=Z,244nm,1.4s
BW06 IAMs_20 IAMs_20 16 43 46.3
comp=Z,35µm,20.0s
PDAR Pinedale Array 84.74 334 P **P** **16 10 27.4 -0.1**
comp=Z,24nm,1.1s,baz=144,slow=5.3,SNR=87
PDAR PKKP **PKKPbc** **16 28 36.4 -1.9**
comp=Z,1.0nm,0.6s,baz=17,slow=1.0,SNR=6.3
PDAR PKPPKP P'P'df 16 36 47.8 +10
comp=Z,0.6nm,0.8s,baz=64,slow=3.4,SNR=3.6
PDAR LR LR 16 44 07.0
comp=Z,23µm,19.9s,baz=144,slow=33
comp=Z,24nm,1.1s
SAO San Andreas Ge 84.83 323 IAMs_20 IAMs_20 16 41 40.2
comp=Z,28µm,18.0s
RYN Ryan 84.93 326 IAmb IAmb 16 10 41.8
comp=Z,257nm,1.5s
FORD Fort Ord Natur 84.94 323 IAMs_20 IAMs_20 16 40 56.0
comp=Z,30µm,18.0s
SRBC Serra Branca 84.94 33 *eP* **P** **16 10 30.4 +2.1**
SRBC *i* IAmb IAmb 16 10 32.9
comp=Z,1µm,1.9s
PGRA Graciosa 84.96 34 *eP* P 16 10 42.8 +14
PGRA *i* IAmb IAmb 16 10 47.0
comp=Z,318nm,1.9s
PGRA *e*SKS **S** **16 21 05.2 +8.5**
ADH Angra Heroismo 85.00 34 *eP* **P** **16 10 30.6 +2.0**
ADH *i* IAmb IAmb 16 10 34.0
comp=Z,900nm,1.7s
ADH *e*SKS **S** **16 20 57.1 +0.1**
TBO Thunder Bay 85.02 349 IAmb IAmb 16 10 38.4
comp=Z,185nm,1.1s
PSET Sete Cidades 85.04 36 *eP* **P** **16 10 30.4 +1.5**
PSET *i* IAmb IAmb 16 10 36.1
comp=Z,1µm,1.2s
PSBA Serra de Santa 85.05 34 *eP* **P** **16 10 30.2 +1.3**
PSBA *i* IAmb IAmb 16 10 36.0
comp=Z,324nm,1.0s
CMLA Cha da Macela 85.09 36 *e*SKS **S** **16 21 00.3 +2.3**
CMLA Cha da Macela 85.09 36 P **P** **16 10 32.6 +3.4**
PSCM Serra do Cume 85.09 34 *eP* **P** **16 10 31.2 +2.0**
PSCM *i* IAmb IAmb 16 10 34.6
comp=Z,703nm,1.5s
PCALD Caldeiras da R 85.13 36 *eP* **P** **16 10 30.4 +1.1**
PCALD *i* IAmb IAmb 16 10 34.1
comp=Z,4.9nm,1.6s
MREMI Moremi 85.15 114 *i* P **P** **16 10 31.4 +1.3**
PGRON Lagoa das Cont 85.16 36 *eP* **P** **16 10 31.4 +1.8**
PGRON *i* IAmb IAmb 16 10 34.7
comp=Z,534nm,1.6s
ELK Elko 85.23 329 LR LR 16 44 04.2
comp=Z,13µm,19.2s,baz=142,slow=32
ELK Elko 85.23 329 IAmb IAmb 16 10 42.8
comp=Z,364nm,1.9s

BART **Pico Bartolome** 85.27 36 *e*P **P** **16 10 32.1 +2.0**
BART *i* IAmb IAmb 16 10 35.4
comp=Z,644nm,1.4s
CMB **Columbia Colle** **85.33 324** IAMs_20 IAMs_20 16 43 02.3
comp=Z,27µm,18.0s
MHC **Mount Hamilton** **85.39 323** IAMs_20 IAMs_20 16 41 33.8
comp=Z,21µm,18.0s
POGA **Pongola** **85.39 120** P **P** **16 10 30.6 -0.6**
TORD **Torodi Ar. Bea** **85.39 70** P **P** **16 10 30.8 -0.4**
comp=Z,145nm,1.1s,baz=236,slow=4.9,SNR=140
TORD S **S** **16 21 02.3 +0.3**
comp=Z,7.9nm,0.9s,baz=256,slow=2.0,SNR=8.1
TORD LR LR 16 46 03.6
comp=Z,91µm,20.1s,baz=229,slow=34
comp=Z,145nm,1.1s
SOOWA **Sowa** **85.41 112** *i* P **P** **16 10 32.5 +1.0**
PMOZ **Porto Moniz, M** **85.67 44** *e*P **P** **16 10 33.4 +1.1**
PMOZ *i* IAmb IAmb 16 10 42.7
comp=Z,251nm,2.1s
PMOZ *e*PP **PP** **16 13 50.4 -1.4**
PMOZ *e*S **S** **16 21 02.9 -1.3**
PMOZ *e*LQ LQ 16 36 54.7
PMOZ *e*LR LR 16 41 34.9
PMOZ *i* IAMs_20 IAMs_20 16 47 30.4
comp=Z,56µm,20.0s
FUL **Funchal** **85.72 45** *e*P **P** **16 10 32.8 +0.4**
FUL *i* IAmb IAmb 16 10 44.2
comp=Z,442nm,1.8s
FUL *e*PP **PP** **16 13 50.7 -1.3**
JRSC **Jasper Ridge** **85.73 323** IAMs_20 IAMs_20 16 41 28.8
comp=Z,24µm,18.0s
PMAR **Madeira** **85.76 44** *e*P **P** **16 10 34.1 +1.3**
PMAR *i* IAmb IAmb 16 10 37.5
comp=Z,364nm,3.2s
PMAR *e*PP **PP** **16 13 50.6 -2.0**
SNOW **Snow King Moun** **85.78 333** IAmb IAmb 16 10 45.2
comp=Z,545nm,1.9s
WELL **Weller Preserv** **85.81 324** IAMs_20 IAMs_20 16 42 43.1
comp=Z,26µm,18.0s
AGMN **Agassiz Nation** **85.87 345** IAmb IAmb 16 10 42.8
comp=Z,239nm,1.2s
AGMN IAMs_20 IAMs_20 16 56 39.8
comp=Z,25µm,20.0s
TPAW **Teton Pass** **85.87 333** IAmb IAmb 16 10 57.1
comp=Z,296nm,1.3s
TPAW IAMs_20 IAMs_20 16 45 05.3
comp=Z,30µm,20.0s
BROLN **Tlhalogang** **85.94 113** *i* P **P** **16 10 34.8 +0.7**
KSANE **Kasane** **86.21 109** *i* P **P** **16 10 37.3 +1.8**
PMPS **Porto Santo** **86.34 45** *e*P **P** **16 10 37.3 +1.8**
PMPS *i* IAmb IAmb 16 10 50.4
comp=Z,256nm,2.1s
PMPST **Porto Santo, M** **86.35 45** *e*P **P** **16 10 36.9 +1.4**
PMPST *i* IAmb IAmb 16 10 48.1
comp=Z,463nm,1.8s
PMPST *e*PP **PP** **16 13 59.0 +1.7**
RUSS **Russell Ranch** **86.44 324** IAMs_20 IAMs_20 16 42 55.8
comp=Z,32µm,18.0s
YPP **Pitchstone Pla** **86.50 334** IAmb IAmb 16 11 00.4
comp=Z,310nm,1.7s
EDA **Edea** **86.54 83** IAmb IAmb 16 10 51.0
comp=Z,329nm,1.6s
MCCM **Marconi Confer** **86.62 323** IAMs_20 IAMs_20 16 41 28.5
comp=Z,24µm,19.0s
RLMT **Red Lodge** **86.69 335** IAMs_20 IAMs_20 16 46 31.1
comp=Z,24µm,18.0s
XMAS **Kiritimati** **86.70 275** P P 16 10 44.2 +6.4
XMAS **Kiritimati** **86.70 275** IAMs_20 IAMs_20 16 39 23.5
comp=Z,35µm,20.0s
EPLO **Experimental L** **86.75 347** IAmb IAmb 16 10 46.8
comp=Z,199nm,1.2s
BEKR **Beckworth** **86.77 325** IAmb IAmb 16 10 51.9
comp=Z,327nm,1.6s
YNR **Norris Junctio** **86.83 334** IAmb IAmb 16 11 03.1
comp=Z,243nm,1.5s
YNM **Yellowstone No** **86.85 334** IAmb IAmb 16 13 16.8
comp=Z,179nm,0.6s
SUTB **Sutter Butte** **86.94 324** IAmb IAmb 16 10 52.0
comp=Z,473nm,1.7s
SUTB IAMs_20 IAMs_20 16 43 06.0
comp=Z,27µm,18.0s
MNRC **McLaughlin Min** **86.98 324** IAMs_20 IAMs_20 16 43 50.1
comp=Z,26µm,18.0s
ORV **Oroville** **87.06 325** IAMs_20 IAMs_20 16 43 13.2
comp=Z,23µm,19.0s
LAO **LASA Array** **87.09 338** IAmb IAmb 16 10 57.9
comp=Z,444nm,1.6s
LAO IAMs_20 IAMs_20 16 46 53.7
comp=Z,22µm,18.0s
GDXM **Geysers** **87.10 323** IAMs_20 IAMs_20 16 42 34.1
comp=Z,26µm,18.0s
MUSN **Musina, Limpop** **87.11 115** *e*P **P** **16 10 37.5 -2.3**
YHL **Hebgen Lake** **87.13 334** IAmb IAmb 16 10 59.6
comp=Z,343nm,1.8s
MATP **Matopo** **87.21 113** LR LR 16 48 02.4
comp=Z,102µm,18.6s,baz=232,slow=34
HLID **Hailey** **87.25 331** IAmb IAmb 16 11 00.4
comp=Z,396nm,1.7s
HOPS **Hopland Field** **87.38 323** IAMs_20 IAMs_20 16 42 22.5
comp=Z,25µm,19.0s
MOPA **Mopani** **87.49 117** *e*P **P** **16 10 41.0 -0.6**
MFID **Camas Ranch** **87.69 330** IAmb IAmb 16 11 02.1
comp=Z,436nm,1.7s
ULM **Lac du Bonnet** **87.72 345** P **P** **16 10 41.3 -0.4**
comp=Z,118nm,0.9s,baz=166,slow=3.8,SNR=68
ULM S **SKSac** **16 21 07.2 -1.7**
comp=Z,2.0nm,0.5s,baz=293,slow=19,SNR=5.9
comp=Z,118nm,0.9s
O03E **Paynes Creek** **87.79 325** IAmb IAmb 16 10 57.9
comp=Z,298nm,1.2s
O03E IAMs_20 IAMs_20 16 43 55.4
comp=Z,27µm,18.0s
BOZ **Bozeman (W)** **87.94 334** IAMs_20 IAMs_20 16 46 36.9
comp=Z,30µm,18.0s
HATC **Hat Creek Radi** **88.04 325** IAMs_20 IAMs_20 16 42 41.1
comp=Z,25µm,21.0s
WVOR **Wild Horse Val** **88.07 328** IAMs_20 IAMs_20 16 44 43.0
comp=Z,24µm,19.0s
DLMT **Dillon** **88.09 333** IAMs_20 IAMs_20 16 46 44.8
comp=Z,30µm,19.0s
O02D **Mt. Diablo Mer** **88.16 324** IAMs_20 IAMs_20 16 42 07.4
comp=Z,35µm,20.0s
KCPM **Cahto Peak** **88.17 323** IAMs_20 IAMs_20 16 42 16.4
comp=Z,23µm,20.0s
KMRM **Mail Ridge** **88.64 324** IAMs_20 IAMs_20 16 43 01.6
comp=Z,32µm,18.0s
BRIC **Briceland Vine** **88.65 323** IAMs_20 IAMs_20 16 46 07.1
comp=Z,27µm,18.0s
M03C **McCloud** **88.71 325** IAmb IAmb 16 11 10.7
comp=Z,329nm,1.4s
M03C IAMs_20 IAMs_20 16 45 09.8
comp=Z,27µm,18.0s
N02D **Trinity Center** **88.75 325** IAmb IAmb 16 11 03.1
comp=Z,466nm,1.8s
N02D IAMs_20 IAMs_20 16 44 55.8
comp=Z,21µm,19.0s
J08A **Circle Bar Ran** **88.75 329** IAMs_20 IAMs_20 16 45 38.0
comp=Z,26µm,18.0s
TULE **Intermountain** **88.95 326** IAMs_20 IAMs_20 16 43 36.3
comp=Z,35µm,21.0s
KMPM **Mount Pierce** **88.99 323** IAMs_20 IAMs_20 16 44 58.3
comp=Z,28µm,18.0s
PLID **Pearl Lake** **89.15 331** IAmb IAmb 16 11 02.7
comp=Z,284nm,1.3s
KHMM **Horse Mountain** **89.16 324** IAMs_20 IAMs_20 16 43 11.7
comp=Z,23µm,20.0s
JCC **Jacoby Creek,** **89.26 324** IAMs_20 IAMs_20 16 46 37.3
comp=Z,29µm,18.0s
K05A **Summer Lake** **89.29 327** IAMs_20 IAMs_20 16 45 36.4
comp=Z,28µm,20.0s
PAF **Port-aux-Franc** **89.44 157** IAMs_20 IAMs_20 16 47 32.0
comp=Z,38µm,20.0s
KRPM **Rodgers** **89.52 324** IAMs_20 IAMs_20 16 45 25.2
comp=Z,25µm,19.0s
L04D **Klamath Falls** **89.53 326** IAmb IAmb 16 11 06.7
comp=Z,391nm,1.6s
K04D **Chiloquin, OR** **89.60 326** IAMs_20 IAMs_20 16 43 57.5
comp=Z,36µm,22.0s
KRMB **Red Mountain** **89.74 324** IAMs_20 IAMs_20 16 44 57.2
comp=Z,22µm,19.0s
I07A **Izee** **89.77 328** IAMs_20 IAMs_20 16 48 59.1
comp=Z,31µm,18.0s
MSO **Missoula** **89.83 333** IAMs_20 IAMs_20 16 48 06.8
comp=Z,39µm,18.0s
J05D **Fort Rock, OR** **89.89 327** IAmb IAmb 16 11 06.5
comp=Z,269nm,1.4s
J05D IAMs_20 IAMs_20 16 44 47.2
comp=Z,28µm,20.0s
KSXB **Camp Six Broad** **89.97 325** IAMs_20 IAMs_20 16 50 10.1
comp=Z,29µm,19.0s
LSZ **Lusaka** **90.04 109** LR LR 16 47 12.4
comp=Z,147µm,20.1s,baz=230,slow=33
LSZ **Lusaka** **90.04 109** P **P** **16 10 54.8 +1.0**
LSZ pmax pmax
comp=Z,1µm,1.8s
LSZ **Lusaka** **90.04 109** P **P** **16 10 54.8 +1.0**
L02F **Cave Junction** **90.05 325** IAMs_20 IAMs_20 16 43 24.2
comp=Z,21µm,20.0s
SCHQ **Schefferville** **90.08 4** P **P** **16 10 52.7 -0.1**
comp=Z,540nm,1.1s,baz=180,slow=4.7,SNR=19
SCHQ S **SKSac** **16 21 18.1 -4.5**
comp=Z,31nm,0.9s,baz=183,slow=18,SNR=1.5
comp=Z,540nm,1.1s
PINE **Pine Mountain** **90.16 327** IAmb IAmb 16 11 08.1
comp=Z,188nm,1.2s
PINE IAMs_20 IAMs_20 16 46 48.4
comp=Z,36µm,18.0s
J04A **Umpqua Nationa** **90.25 326** IAMs_20 IAMs_20 16 45 33.6
comp=Z,35µm,19.0s
TIO **Tiouine** **90.36 52** P **P** **16 10 56.1 +1.2**
KBO **Bosley Butte** **90.42 325** IAMs_20 IAMs_20 16 45 18.3
comp=Z,21µm,18.0s
G08A **Pilot Rock** **90.52 329** IAMs_20 IAMs_20 16 47 22.9
comp=Z,21µm,18.0s
K02D **Willamette Mer** **90.53 325** IAMs_20 IAMs_20 16 43 21.9
comp=Z,24µm,22.0s
WIFE **Three Sisters-** **90.76 327** IAMs_20 IAMs_20 16 46 26.3
comp=Z,36µm,18.0s
I05D **Terrebonne, OR** **90.77 328** IAMs_20 IAMs_20 16 47 17.5
comp=Z,38µm,18.0s
KEBM **Edson Butte** **90.98 325** IAMs_20 IAMs_20 16 45 48.1
comp=Z,25µm,18.0s
I03D **Drain, OR** **91.17 326** IAMs_20 IAMs_20 16 44 23.9
comp=Z,25µm,22.0s
G06A **Carlson Farm,** **91.18 328** IAmb IAmb 16 11 15.1
comp=Z,465nm,1.9s
G06A IAMs_20 IAMs_20 16 47 14.4
comp=Z,39µm,19.0s
E09A **Wood Farm, Sta** **91.18 331** IAMs_20 IAMs_20 16 47 26.5
comp=Z,20µm,19.0s
BUCK **Buck Mountain** **91.39 327** IAMs_20 IAMs_20 16 49 26.9
comp=Z,19µm,18.0s
F07A **Phinny Hill Vi** **91.41 329** IAmb IAmb 16 11 19.6
comp=Z,249nm,1.8s
F07A IAMs_20 IAMs_20 16 48 48.5
comp=Z,22µm,18.0s
H04A **Detroit Lake** **91.42 327** IAMs_20 IAMs_20 16 46 46.6
comp=Z,32µm,20.0s
G05A **Wamic** **91.48 328** IAMs_20 IAMs_20 16 45 33.2
comp=Z,25µm,21.0s
HAWA **Hanford** **91.64 330** IAmb IAmb 16 11 21.3
comp=Z,233nm,1.6s
HOOD **Mount Hood Mea** **91.68 328** IAmb IAmb 16 11 16.0
comp=Z,208nm,1.6s
HOOD IAMs_20 IAMs_20 16 46 59.7
comp=Z,33µm,19.0s
COR **Corvallis** **91.84 327** IAMs_20 IAMs_20 16 50 22.7
comp=Z,30µm,18.0s
AVE **Averroes** **91.85 50** P **P** **16 11 02.4 +0.9**
D08A **Wollman Farm,** **91.93 331** IAmb IAmb 16 11 21.4
comp=Z,322nm,2.0s
D08A IAMs_20 IAMs_20 16 50 32.4
comp=Z,19µm,18.0s
G04A **Mulino** **91.95 327** IAMs_20 IAMs_20 16 47 22.8
comp=Z,21µm,20.0s
MXC **Moxie City** **92.11 329** IAMs_20 IAMs_20 16 52 46.0
comp=Z,26µm,18.0s
NEW **Newport** **92.21 332** LR LR 16 48 45.9
comp=Z,12µm,19.4s,baz=142,slow=33
C09A **Chrisman Ranch** **92.28 331** IAmb IAmb 16 11 18.9
comp=Z,172nm,1.4s
C09A IAMs_20 IAMs_20 16 48 48.6
comp=Z,23µm,18.0s
RTC **Rabat Centre** **92.65 49** P **P** **16 11 04.8 -0.4**
LTY **Liberty** **92.80 330** IAMs_20 IAMs_20 16 48 05.3
comp=Z,29µm,19.0s
F04D **Rainier, OR** **92.87 328** IAMs_20 IAMs_20 16 48 12.1
comp=Z,23µm,18.0s
B08A **Colville Reser** **93.15 331** IAMs_20 IAMs_20 16 50 08.6
comp=Z,19µm,18.0s
FFC **Flin Flon** **93.24 344** P **P** **16 11 06.2 -1.2**
FFC pmax pmax
comp=Z,73nm,1.4s
FFC **Flin Flon** **93.24 344** P **P** **16 11 07.6 +0.2**
FFC **Flin Flon** **93.24 344** P **P** **16 11 06.2 -1.2**
FFC **Flin Flon** **93.24 344** IAMs_20 IAMs_20 17 01 44.7
comp=Z,27µm,19.0s
D05A **Enumclaw** **93.30 329** IAmb IAmb 16 11 28.1
comp=Z,225nm,1.5s
MDT **Midelt** **93.30 52** LR LR 16 53 34.9
comp=Z,105µm,18.5s,baz=228,slow=36
RADR **Rader Ridge** **93.48 327** IAMs_20 IAMs_20 16 46 52.2
comp=Z,27µm,21.0s
PFVI **Vila Bisbo** **93.57 46** *e*P **P** **16 11 09.9 +0.6**
PFVI *i* IAmb IAmb 16 11 24.4
comp=Z,198nm,1.5s
PFVI *e*PP **PP** **16 14 53.3 -1.3**
FUTU **Fugatoga** **93.76 250** IAMs_20 IAMs_20 16 45 22.2
comp=Z,32µm,19.0s
TAU **Tasmania Unive** **93.78 208** IAMs_20 IAMs_20 16 46 42.4
comp=Z,24µm,19.0s
MORF **Marmelete** **93.79 46** *e*P **P** **16 11 10.8 +0.4**
MORF *e*PP **PP** **16 14 56.3 0.0**
MORF *e*SKSac **SKSac** **16 21 45.5 +1.0**
MORF IAMs_20 IAMs_20 16 52 37.6
comp=Z,62µm,18.3s
MORF **Marmelete** **93.79 46** *e*P **P** **16 11 11.3 +0.9**
MORF *i* IAmb IAmb 16 11 33.1
comp=Z,88nm,1.7s
MORF *e*PP **PP** **16 14 55.4 -1.0**
PTEO **Sao Teotonio** **93.91 46** *e*P **P** **16 11 11.7 +0.8**
PTEO *i* IAmb IAmb 16 11 25.9
comp=Z,181nm,1.7s
PTEO *e*PP **PP** **16 14 56.2 -1.1**
GNW **Green Mountain** **93.95 329** IAMs_20 IAMs_20 16 48 58.6
comp=Z,28µm,18.0s
WISH **Wishkah** **94.00 328** IAMs_20 IAMs_20 16 49 07.1
comp=Z,22µm,20.0s
TAM **Tamanrasset** **94.11 65** P **P** **16 11 12.5 +0.1**
TAM pmax pmax
comp=Z,412nm,1.7s
TAM **Tamanrasset** **94.11 65** P **P** **16 11 12.5 +0.1**
TAM IAmb IAmb 16 11 23.4
comp=Z,412nm,1.7s
PBDV **Barranco-do-Ve** **94.17 46** *e*P **P** **16 11 13.2 +1.0**
PBDV *i* IAmb IAmb 16 11 27.6
comp=Z,177nm,1.8s
PBDV *e*PP **PP** **16 14 58.1 -1.3**
NLWA **Neilton Lookou** **94.26 328** IAMs_20 IAMs_20 16 54 36.9
comp=Z,21µm,18.0s
PCVE **Castro Verde** **94.37 46** *e*P **P** **16 11 13.7 +0.7**
PCVE *i* IAmb IAmb 16 11 28.3
comp=Z,110nm,1.7s
PCVE *e*PP **PP** **16 15 00.4 -0.4**
MESJ **Messejana** **94.40 46** *e*P **P** **16 11 13.8 +0.5**
MESJ *e*PP **PP** **16 15 01.2 +0.1**
MESJ *e*SKSac **SKSac** **16 21 48.6 +1.0**
MESJ IAMs_20 IAMs_20 16 52 11.2
comp=Z,56µm,17.7s
MESJ **Messejana** **94.40 46** *e*P **P** **16 11 13.7 +0.5**
MESJ *i* IAmb IAmb 16 11 28.2
comp=Z,117nm,1.8s
MESJ *e*PP **PP** **16 15 00.1 -1.0**
PVAQ **Vaqueiros** **94.40 46** *e*P **P** **16 11 14.1 +0.9**
PVAQ *i* IAmb IAmb 16 11 36.9
comp=Z,142nm,1.7s
PVAQ *e*PP **PP** **16 14 59.3 -1.8**
PVAQ *e*S **SKSac** **16 21 48.5 +0.8**
PVAQ *e*LR LR 16 43 45.1
PVAQ *i* IAMs_20 IAMs_20 16 52 21.8
comp=Z,63µm,20.0s
LIS **Lisbon** **94.45 45** *e*P **P** **16 11 13.9 +0.6**
LIS *e*PP **PP** **16 15 01.6 +0.1**
LIS *e*SKSac **SKSac** **16 21 48.8 +0.9**
LIS IAMs_20 IAMs_20 16 57 34.0
comp=E,42µm,20.1s
LIS **Lisbon** **94.45 45** *e*P **P** **16 11 14.2 +0.8**
LIS *i* IAmb IAmb 16 11 18.5
comp=E,123nm,2.7s
LIS *e*PP **PP** **16 15 00.5 -0.9**
MSVF **Nonsavu** **94.52 245** IAMs_20 IAMs_20 16 49 05.7
comp=Z,33µm,18.0s
PMAFR **Mafra** **94.54 44** *e*P **P** **16 11 13.9 +0.1**
PMAFR *i* IAmb IAmb 16 11 17.9
comp=Z,126nm,2.2s
PMAFR *e*PP **PP** **16 15 01.5 -0.7**
PARRA **Arraiolos** **94.58 45** *e*P **P** **16 11 16.6 +2.6**
PARRA *i* IAmb IAmb 16 11 30.6
comp=Z,89nm,2.0s
PARRA *e*PP **PP** **16 15 06.1 +3.6**
B04A **Port Angeles** **94.62 329** IAMs_20 IAMs_20 16 54 19.4
comp=Z,24µm,20.0s
EGRO **El Granado** **94.63 47** P **P** **16 11 13.6 -0.6**
SFS **San Fernando** **94.69 48** P **P** **16 11 15.7 +1.2**
CNIL **Conil** **94.72 48** P **P** **16 11 15.5 +0.9**
PBEJ **Beja** **94.73 46** *e*P **P** **16 11 15.8 +1.1**
PBEJ *i* IAmb IAmb 16 11 19.9
comp=Z,78nm,2.3s
PBEJ *e*PP **PP** **16 15 00.9 -2.8**
A04D **Lummi Island** **94.80 330** IAMs_20 IAMs_20 16 49 34.2
comp=Z,26µm,18.0s
ECEU **Ceuta** **94.82 49** P **P** **16 11 15.7 +0.5**
CEU **Ceuta** **94.83 49** P **P** **16 11 15.7 +0.6**
EVO **Evora** **94.98 45** P **P** **16 11 15.7 -0.1**
EVO **Evora** **94.98 45** *e*P **P** **16 11 16.4 +0.5**
EVO *i* IAmb IAmb 16 11 29.6
comp=Z,61nm,2.5s
EVO *e*PP **PP** **16 15 04.1 -1.6**
PUH **Pauahi** **94.99 290** IAMs_20 IAMs_20 16 47 38.8
comp=Z,18µm,18.0s
HLP **Hilina Pali** **95.02 290** IAMs_20 IAMs_20 16 47 29.5
comp=Z,20µm,19.0s
ESPR **Espera** **95.17 48** P **P** **16 11 16.4 -0.3**
PSBE **So Bento** **95.19 44** *e*P **P** **16 11 17.2 +0.4**
PSBE *i* IAmb IAmb 16 11 31.8
comp=Z,164nm,1.7s
PSBE *e*PP **PP** **16 15 06.7 -0.6**
PMTG **Montargil** **95.22 45** *e*P **P** **16 11 16.8 -0.1**
PMTG *i* IAmb IAmb 16 11 30.7
comp=Z,120nm,1.9s
PMTG *e*PP **PP** **16 15 06.2 -1.3**
EMIN **Mina Concepcio** **95.27 47** P **P** **16 11 16.4 -0.8**
PBAR **Barrancos** **95.32 46** *e*P **P** **16 11 17.6 +0.2**
PBAR *i* IAmb IAmb 16 11 31.3
comp=Z,56nm,1.9s
PBAR *e*PP **PP** **16 15 07.7 -0.5**
PESTR **Estremoz** **95.45 45** *e*P **P** **16 11 19.0 +1.0**
PESTR *i* IAmb IAmb 16 11 21.8
comp=Z,89nm,1.9s
PESTR *e*PP **PP** **16 15 07.7 -1.6**
POHA **Pohakuloa** **95.46 290** IAMs_20 IAMs_20 16 47 53.1
comp=Z,18µm,18.0s
PSARD **Sardoal** **95.61 45** *e*P **P** **16 11 18.8 +0.1**
PSARD *i* IAmb IAmb 16 11 32.1
comp=Z,75nm,2.3s
PSARD *e*PP **PP** **16 15 09.8 -0.7**
HUH **Hualalai** **95.65 290** IAMs_20 IAMs_20 16 47 48.2
comp=Z,20µm,18.0s
EBAD **Badajoz** **95.72 46** P **P** **16 11 19.6 +0.4**
PCAS **Casmilo, Conde** **95.72 44** *e*P **P** **16 11 19.4 +0.1**
PCAS *i* IAmb IAmb 16 11 33.2
comp=Z,115nm,1.9s
PCAS *e*PP **PP** **16 15 10.9 -0.5**
COI **Coimbra** **95.88 44** *e*P **P** **16 11 19.9 +0.1**
COI *i* IAmb IAmb 16 11 33.2
comp=Z,140nm,1.8s
COI *e*PP **PP** **16 15 10.6 -1.9**
PMRV **Marv??o** **95.94 45** *e*P **P** **16 11 20.4 +0.2**
PMRV *i* IAmb IAmb 16 11 33.6
comp=Z,58nm,1.6s
PMRV *e*PP **PP** **16 15 13.0 -0.1**
PMRV *e*S **SKSac** **16 21 58.1 +2.2**
PMRV *e*LR LR 16 44 34.6
PMRV *i* IAMs_20 IAMs_20 16 53 43.7
comp=Z,34µm,20.0s
EMLI **Melilla** **95.95 51** P **P** **16 11 18.6 -1.7**
WMELI **Melilla** **95.96 51** P **P** **16 11 20.9 +0.5**
PCBR **Castelo Branco** **96.17 45** *e*P **P** **16 11 22.0 +0.8**
PCBR *i* IAmb IAmb 16 11 34.4
comp=Z,71nm,1.5s
PCBR *e*PP **PP** **16 15 14.8 0.0**
ECAB **El Cabril** **96.22 47** P **P** **16 11 21.4 -0.1**
EALB **Alboran** **96.30 50** P **P** **16 11 20.4 -1.5**
EGOR **Sierra Gorda,** **96.39 49** P **P** **16 11 22.4 -0.1**
MTE **Manteigas** **96.50 44** *e*P **P** **16 11 23.1 +0.3**
MTE *i* IAmb IAmb 16 11 26.1
comp=Z,72nm,1.4s
MTE *e*PP **PP** **16 15 15.6 -1.8**
MTE *e*S **SKSac** **16 21 58.3 -0.6**
MTE *e*LQ LQ 16 41 08.8
MTE *e*LR LR 16 44 58.0
MTE *i* IAMs_20 IAMs_20 16 57 18.5
comp=Z,53µm,18.0s
MTE **Manteigas** **96.50 44** IAmb IAmb 16 11 34.6
comp=Z,232nm,1.9s
PVIS **Viseu** **96.51 44** *e*P **P** **16 11 22.6 -0.2**
PVIS *e*PP **PP** **16 15 16.7 -0.8**
ELGU **Los Guajares,** **96.53 49** P **P** **16 11 22.4 -0.7**
EADA **Adamuz** **96.78 48** P **P** **16 11 23.5 -0.6**
EQTA **Presa de Quent** **96.86 49** P **P** **16 11 23.5 -1.0**
PVRL **Vila Real** **96.98 44** *e*P **P** **16 11 26.6 +1.7**
PVRL *i* IAmb IAmb 16 11 27.6
comp=Z,72nm,1.4s
PVRL *e*PP **PP** **16 15 19.9 -1.2**
POLO **Lamas de Olo** **97.01 43** *e*P **P** **16 11 24.9 -0.2**
POLO *i* IAmb IAmb 16 11 28.5
comp=Z,33nm,2.0s
POLO *e*PP **PP** **16 15 20.3 -1.1**
PCAB **Cabril** **97.10 43** *e*P Pdif 16 11 26.2 +0.6
PCAB *i* IAmb IAmb 16 12 15.4
comp=Z,73nm,1.6s
PCAB *e*PP **PP** **16 15 20.3 -1.7**
PGAV **Gavieira, Arco** **97.14 43** *e*P Pdif 16 11 25.9 +0.2
PGAV *e*PP **PP** **16 15 19.3 -3.1**
PGAV *e*LR LR 16 46 29.0
PGAV *i* IAMs_20 IAMs_20 16 53 30.0
comp=Z,77µm,20.0s
MVO **Moncorvo** **97.30 44** *e*P Pdif 16 11 26.5 0.0
MVO *i* IAmb IAmb 16 11 40.1
comp=Z,88nm,1.7s
MVO *e*PP **PP** **16 15 21.9 -1.7**
MVO *e*S **SKSac** **16 22 03.1 +0.1**
MVO *e*LR LR 16 45 37.7
MVO *i* IAMs_20 IAMs_20 16 55 42.8
comp=Z,48µm,18.0s
LHI **Lord Howe Isla** **97.40 223** IAMs_20 IAMs_20 16 47 45.5
comp=Z,25µm,19.0s
PAB **San Pablo** **97.80 47** P **P** **16 11 27.7 -1.0**
PBRG **Braganca** **97.88 44** *e*P Pdif 16 11 29.3 +0.3
PBRG *i* IAmb IAmb 16 11 42.7
comp=Z,75nm,1.6s
PBRG *e*PP **PP** **16 15 27.1 -0.9**
ESDC **Sonseca Array** **98.11 47** P Pdif 16 11 30.2 +0.1
comp=Z,14nm,1.1s,baz=237,slow=4.4,SNR=36
ESDC LR LR 16 54 32.1
comp=Z,60µm,20.1s,baz=218,slow=35
comp=Z,14nm,1.1s
HON **Honolulu** **98.25 290** IAMs_20 IAMs_20 16 50 03.8
comp=Z,18µm,18.0s
IVI **Ivigtut** **98.42 12** *i* P **P** **16 11 30.6 -0.2**
IVI IAmb IAmb 16 11 34.0
comp=Z,118nm,1.4s
IVI **Ivigtut** **98.42 12** IAmb IAmb 16 11 43.0
comp=Z,180nm,1.4s
IVI IAMs_20 IAMs_20 16 57 29.8
comp=Z,32µm,20.0s
CART **Cartagena** **98.61 50** P **P** **16 11 31.5 -0.8**
CART **Cartagena** **98.61 50** IAMs_20 IAMs_20 16 56 22.9
comp=Z,30µm,20.0s
PINNC **Pines Island,** **98.75 234** IAMs_20 IAMs_20 16 46 00.6
comp=Z,21µm,21.0s
NRS **Narsarsuaq** **98.86 13** *i* P **P** **16 11 31.6 -1.2**
NRS IAmb IAmb 16 11 34.0
comp=Z,175nm,1.8s
FRB **Frobisher Bay** **98.94 2** LR LR 16 56 18.9
comp=Z,7µm,21.0s,baz=165,slow=35
UCM **Universidad Co** **98.94 47** P **P** **16 11 33.4 -0.4**
TOO **Toolangi** **99.06 210** IAMs_20 IAMs_20 16 48 47.2
comp=Z,19µm,19.0s
OUENC **Ouen Island, N** **99.28 234** P **Pdif** **16 11 43.2 +7.4**
FUNA **Funafuti** **99.37 253** IAMs_20 IAMs_20 16 45 53.0
comp=Z,26µm,20.0s
CAN **Canberra** **99.45 214** IAMs_20 IAMs_20 16 49 32.7
comp=Z,24µm,19.0s
YATNC **Mamie plateau,** **99.50 234** P **Pdif** **16 11 44.6 +7.8**
DZM **Mont Dzumac** **99.79 234** *e*P **Pdif** **16 11 42.4 +4.2**
comp=Z,55nm,1.8s

DZM Mont Dzumac 99.79 234 *e*PP PP 16 15 37.3 -4.8
comp=Z,3µm,26.1s
DZM Mont Dzumac 99.79 234 LR LR 16 47 06.4
comp=Z,22µm,21.2s,baz=150,slow=30
DZM Mont Dzumac 99.79 234 IAMs_20 IAMs_20 16 46 44.1
comp=Z,23µm,22.0s
KEKH Kekaha 99.93 290 IAMs_20 IAMs_20 16 49 59.6
comp=Z,18µm,18.0s
MGBR Mount Gambier 100.83 206 IAMs_20 IAMs_20 16 47 48.9
comp=Z,19µm,21.0s
ATG Ambohiby 100.97 123 P PP 16 15 58.0 +6.6
FIRM Firavahana 101.57 123 P PP 16 15 57.8 +1.9
SET Setif 101.89 54 P Pdif 16 11 49.0 +1.9
ARMA Armidale 102.21 218 IAMs_20 IAMs_20 16 50 35.7
comp=Z,20µm,19.0s
U35K Hyder 103.16 331 Pdiff Pdif 16 11 52.8 +0.8
baz=136
YKA Yellowknife Ar 103.21 342 Pdiff Pdif 16 11 52.4 +0.3
comp=Z,7.3nm,1.0s,baz=153,slow=3.2,SNR=7.8
MAHO Mahon 103.28 50 P Pdif 16 11 54.0 +1.0
V35K Ketchikan 103.39 330 Pdiff Pdif 16 11 54.0 +1.0
baz=134
TOAD Toad River Com 103.53 335 Pdiff Pdif 16 11 53.8 +0.1
baz=139
SFJD Kangerlussuaq 103.55 9 P Pdif 16 11 52.8 -0.7
SFJD Kangerlussuaq 103.55 9 *i* P Pdif 16 11 55.5 +2.0
SFJD Kangerlussuaq 103.55 9 *i* P PP 16 16 10.2 -0.1
SFJD IAmb IAmb 16 16 14.6
comp=Z,60nm,1.4s
SFJD Kangerlussuaq 103.55 9 IAMs_20 IAMs_20 17 04 09.1
comp=Z,29µm,19.0s
DY2G Dye2 103.66 11 *i* P Pdif 16 11 54.5 +0.2
DY2G Dye2 103.66 11 *i* P PP 16 16 10.4 -1.0
DY2G IAmb IAmb 16 16 12.9
comp=Z,404nm,1.8s
SANVU Saraoutou 103.84 239 IAMs_20 IAMs_20 16 54 46.7
comp=Z,25µm,18.0s
T35M Bob Quinn 104.00 332 Pdiff Pdif 16 11 57.0 +1.2
baz=135
T35M Bob Quinn 104.00 332 IAMs_20 IAMs_20 16 56 08.8
comp=Z,20µm,18.0s
CCA1 Carnmenellis 104.08 38 *e*P Pdif 16 11 58.6 +2.3
CCA1 IAMs_20 IAMs_20 16 59 40.6
comp=Z,65µm,17.6s
ISOG Isortoq, Green 104.08 14 *i* P Pdif 16 11 56.5 +0.6
ISOG Isortoq, Green 104.08 14 *i* P PKiKP 16 16 08.8 -4.1
ISOG IAmb IAmb 16 16 10.7
comp=Z,18nm,1.0s
KOTAN Kotaneelee Air 104.10 336 Pdiff Pdif 16 11 57.3 +1.1
baz=139
CRAG Craig 104.11 329 Pdiff Pdif 16 11 57.1 +0.8
baz=133
LIRD Liard River Hi 104.24 335 Pdiff Pdif 16 11 56.9 +0.1
baz=138
KEST Kesra 104.27 56 Pdiff Pdif 16 11 58.9 +1.2
comp=Z,4.5nm,1.0s,baz=339,slow=2.3,SNR=5.2
KEST PKiKP PKiKP 16 16 13.8 -0.6
comp=Z,23nm,1.3s,baz=225,slow=5.7,SNR=7.6
ANGG Ammassalik, Gr 104.41 14 *i* P Pdif 16 11 58.5 +1.2
ANGG Ammassalik, Gr 104.41 14 *i* P PKiKP 16 16 10.7 -2.8
ANGG IAmb IAmb 16 16 13.3
comp=Z,42nm,1.2s
WRAK Wrangell Islan 104.44 330 Pdiff Pdif 16 11 58.7 +1.0
baz=134
WRAK Wrangell Islan 104.44 330 IAMs_20 IAMs_20 16 55 49.3
comp=Z,18µm,21.0s
U33K Whale Pass 104.55 330 Pdiff Pdif 16 11 59.5 +1.3
baz=133
SBD Saint Breward 104.59 38 *e*P Pdif 16 12 01.0 +2.4
DLBC Dease Lake 104.95 333 PKKPbc PKKPbc 16 27 50.2 +6.4
comp=Z,24nm,0.9s,baz=270,slow=3.0,SNR=3.7
DLBC Dease Lake 104.95 333 PKiKP PKiKP 16 16 15.7 +0.9
baz=135
HTL Hartland 104.96 37 *e*P Pdif 16 12 02.5 +2.4
HTL IAMs_20 IAMs_20 17 00 17.1
comp=Z,62µm,18.1s
T33K Petersburg 104.96 330 PKiKP PKiKP 16 16 16.1 +1.4
baz=133
S34M Telegraph Cree 105.00 332 PKiKP PKiKP 16 16 16.0 +1.2
baz=134
S34M Telegraph Cree 105.00 332 IAMs_20 IAMs_20 16 57 08.1
comp=Z,20µm,18.0s
JSA Saint Aubin 105.03 40 *e*P Pdif 16 12 02.5 +2.0
JSA IAMs_20 IAMs_20 16 58 00.4
comp=Z,65µm,20.9s
GDH Godhavn 105.38 7 *i* P Pdif 16 12 02.5 +0.9
STKA Stephens Creek 105.58 210 PKKPbc PKKPbc 16 27 45.4 +4.8
comp=Z,2.9nm,0.9s,baz=323,slow=5.1,SNR=4.1
KMBO Kilima Mbogo 105.68 103 Pdiff Pdif 16 12 07.4 +2.7
comp=Z,2.0nm,0.3s,baz=244,slow=7.5,SNR=5.8
WTLY Watson Lake, Y 105.69 334 PKiKP PKiKP 16 16 17.1 +1.0
baz=136
WTLY Watson Lake, Y 105.69 334 IAMs_20 IAMs_20 16 57 49.6
comp=Z,28µm,18.0s
LPW Lampeter 105.85 37 *e*P Pdif 16 12 05.8 +1.7
LPW IAMs_20 IAMs_20 16 58 09.7
comp=Z,30µm,20.3s
R33M Jennings River 105.97 333 PKiKP PKiKP 16 16 17.8 +1.1
baz=134
R33M Jennings River 105.97 333 IAMs_20 IAMs_20 16 57 09.8
comp=Z,21µm,20.0s
SIT Sitka 106.08 330 PKiKP PKiKP 16 16 17.6 +0.7
baz=131
Q32M Nakina River 106.16 332 PKiKP PKiKP 16 16 17.3 +0.1
baz=133
Q32M Nakina River 106.16 332 IAMs_20 IAMs_20 16 58 52.7
comp=Z,25µm,18.0s
WRGLY Wrigley 106.26 339 PKiKP PKiKP 16 16 17.2 +0.2
baz=139
WRGLY Wrigley 106.26 339 IAMs_20 IAMs_20 17 08 57.6
comp=Z,25µm,18.0s
SAQQ Saqqaq 106.27 7 *i* P Pdif 16 12 07.5 +1.9
MONM Monmouth 106.31 37 *e*P Pdif 16 12 07.7 +1.5
MONM IAMs_20 IAMs_20 17 01 06.7
comp=Z,70µm,18.2s
OLDB Oldbury-Upon-S 106.33 38 *e*P Pdif 16 12 08.1 +1.9
OLDB IAMs_20 IAMs_20 17 01 06.7
comp=Z,64µm,18.1s
WLF1 Llynfaes 106.41 36 *e*P Pdif 16 12 08.7 +2.1
WLF1 IAMs_20 IAMs_20 17 00 55.6
comp=Z,79µm,18.3s
LLW Llanuwychllyn 106.50 36 *e*P Pdif 16 12 08.8 +1.8
LLW IAMs_20 IAMs_20 16 58 40.5
comp=Z,26µm,19.8s
TGTN Hyland Airport 106.53 336 PKiKP PKiKP 16 16 17.1 -0.6
baz=136
EIDS Eidsvold 106.56 221 IAMs_20 IAMs_20 16 52 13.0
comp=Z,29µm,22.0s
R32K Eaglecrest 106.57 331 PKiKP PKiKP 16 16 17.7 0.0
baz=132
STRD Stroud 106.59 38 *e*P Pdif 16 12 09.3 +1.9
STRD IAMs_20 IAMs_20 17 01 05.8
comp=Z,58µm,18.3s
SWN1 Swindon 106.61 38 *e*P Pdif 16 12 10.6 +3.0
SWN1 IAMs_20 IAMs_20 16 58 37.2
comp=Z,62µm,20.8s
HLM1 Long Mynd 106.68 37 *e*P Pdif 16 12 10.0 +2.2
HLM1 IAMs_20 IAMs_20 16 58 43.1
comp=Z,57µm,20.0s
CLGH Cloghs, Cushen 106.72 33 *e*P Pdif 16 12 10.4 +2.4
FOEL Foel Wylfa 106.74 36 *e*P Pdif 16 12 09.6 +1.4
FOEL IAMs_20 IAMs_20 16 58 46.9
comp=Z,63µm,20.0s
WOL Wolverton 106.79 38 *e*P Pdif 16 12 10.4 +2.1
WOL IAMs_20 IAMs_20 16 58 41.4
comp=Z,84µm,20.2s
BBOO Buckleboo 106.85 205 IAMs_20 IAMs_20 16 50 22.4
comp=Z,20µm,22.0s
IOMK Kirk Michael 106.93 35 *e*P Pdif 16 12 11.0 +2.2
IOMK IAMs_20 IAMs_20 17 05 39.9
comp=Z,27µm,17.1s
S31K Pelican 107.05 330 PKiKP PKiKP 16 16 16.9 -1.6
baz=130
S31K Pelican 107.05 330 IAMs_20 IAMs_20 17 11 02.2
comp=Z,17µm,20.0s
SAATT Saattut 107.07 7 *i* P Pdif 16 12 12.5 +3.4
P32M Atlin 107.13 332 PKiKP PKiKP 16 16 17.1 -1.7
baz=132
P32M Atlin 107.13 332 IAMs_20 IAMs_20 16 59 32.5
comp=Z,21µm,18.0s
R31K City Hall, Gus 107.14 331 PKiKP PKiKP 16 16 18.1 -0.7
baz=131
P33M Teslin, Yukon 107.21 333 PKiKP PKiKP 16 16 18.5 -0.5
baz=132
P33M Teslin, Yukon 107.21 333 IAMs_20 IAMs_20 16 57 55.7
comp=Z,22µm,18.0s
GAL1 Galloway 107.23 34 *e*P Pdif 16 12 12.7 +2.5
GAL1 IAMs_20 IAMs_20 17 04 08.4
comp=Z,59µm,17.9s
HMNX Herstmonceux 107.33 39 *e*P Pdif 16 12 12.3 +1.6
HMNX IAMs_20 IAMs_20 17 01 11.4
comp=Z,56µm,18.6s
STNC Stoke 107.35 37 *e*P Pdif 16 12 13.5 +2.7
STNC IAMs_20 IAMs_20 16 59 14.4
comp=Z,66µm,19.8s
CWF Charnwood Fore 107.58 37 *e*P Pdif 16 12 13.4 +1.6
CWF IAMs_20 IAMs_20 17 02 04.8
comp=Z,52µm,18.7s
NEWG New Galloway 107.60 34 *e*P Pdif 16 12 14.2 +2.3
NEWG IAMs_20 IAMs_20 17 05 45.8
comp=Z,53µm,17.0s
SKAG Skagway 107.66 332 PKiKP PKiKP 16 16 19.4 -0.3
baz=131
SKAG Skagway 107.66 332 IAMs_20 IAMs_20 17 08 11.5
comp=Z,17µm,19.0s
BORG Borgarnes 107.71 21 IAMs_20 IAMs_20 17 00 21.2
comp=Z,26µm,19.0s
LBWR Ladybower, Pea 107.76 37 *e*P Pdif 16 12 14.9 +2.3
LBWR IAMs_20 IAMs_20 16 59 27.1
comp=Z,70µm,19.8s
LAWE Loch Awe, Argy 107.77 33 *e*P Pdif 16 12 15.3 +2.7
LAWE IAMs_20 IAMs_20 17 00 53.5
comp=Z,60µm,18.8s
KESW Keswick, Cumbr 107.81 35 *e*P Pdif 16 12 15.8 +3.0
KESW IAMs_20 IAMs_20 17 03 20.8
comp=Z,44µm,17.9s
ELSH Elham, Standar 107.90 40 *e*P Pdif 16 12 16.2 +2.9
ELSH IAMs_20 IAMs_20 17 01 39.2
comp=Z,51µm,19.1s
PGBU Glenifferbraes 107.91 33 *e*P Pdif 16 12 16.0 +2.8
SOEG Soedalen 107.92 15 *i* P Pdif 16 12 12.5 -0.4
N32M Quiet Lake 107.94 334 PKiKP PKiKP 16 16 19.3 -1.0
baz=132
N32M Quiet Lake 107.94 334 IAMs_20 IAMs_20 17 11 34.9
comp=Z,27µm,19.0s
GGERF Dalmarnock 108.04 34 *e*P Pdif 16 12 14.3 +0.6
GGERF IAMs_20 IAMs_20 17 00 44.7
comp=Z,74µm,19.5s
PLBC Pleasant Camp 108.07 331 PKiKP PKiKP 16 16 19.7 -0.8
baz=130
HPK Haverah Park 108.14 36 *e*P Pdif 16 12 17.0 +2.7
HPK IAMs_20 IAMs_20 16 59 30.6
comp=Z,47µm,19.7s
ESK Eskdalemuir 108.19 34 *e*P Pdif 16 12 15.7 +1.3
ESK IAMs_20 IAMs_20 17 04 45.7
comp=Z,59µm,17.7s
EKA Eskdalemuir Ar 108.22 34 Pdiff Pdif 16 12 16.4 +1.9
comp=Z,6.6nm,1.1s,baz=215,slow=4.1,SNR=6.0
EKA PKiKP PKiKP 16 16 21.1 +0.3
comp=Z,1.6nm,0.7s,baz=232,slow=3.5,SNR=2.2
EKA Eskdalemuir Ar 108.22 34 Pdif 16 12 16.4 +1.9
EKA PKiKP 16 16 21.1 +0.3
WHY Whitehorse 108.28 333 PKiKP PKiKP 16 16 19.3 -1.7
baz=131
LEWI Lewis, Hebride 108.30 31 *e*P Pdif 16 12 16.6 +1.8
LEWI IAMs_20 IAMs_20 17 02 02.7
comp=Z,44µm,18.7s
MMPY Sheldon Lake, 108.30 336 PKiKP PKiKP 16 16 19.7 -1.2
baz=133
MMPY Sheldon Lake, 108.30 336 IAMs_20 IAMs_20 17 11 27.5
comp=Z,22µm,18.0s
KPL Plockton 108.32 32 *e*P Pdif 16 12 17.5 +2.5
KPL IAMs_20 IAMs_20 17 03 01.8
comp=Z,60µm,18.0s
ELMS Elmsett, Ipswi 108.36 39 *e*P Pdif 16 12 17.7 +2.5
ELMS IAMs_20 IAMs_20 16 59 50.7
comp=Z,80µm,20.1s
INVG Invergeldie, C 108.47 33 *e*P Pdif 16 12 18.0 +2.3
INVG IAMs_20 IAMs_20 17 03 24.3
comp=Z,74µm,17.6s
LMK Market Rasen 108.48 37 *e*P Pdif 16 12 14.4 -1.4
LMK IAMs_20 IAMs_20 17 02 39.7
comp=Z,40µm,19.1s
EDMD Edmundbyers 108.48 35 *e*P Pdif 16 12 18.7 +2.9
EDMD IAMs_20 IAMs_20 17 01 00.4
comp=Z,43µm,20.7s
WACR West Acre 108.54 38 *e*P Pdif 16 12 17.2 +1.2
WACR IAMs_20 IAMs_20 17 02 24.2
comp=Z,62µm,18.3s
EDI Edinburgh 108.56 34 *e*P Pdif 16 12 17.5 +1.4
EDI IAMs_20 IAMs_20 17 06 34.2
comp=Z,61µm,17.4s
P29M Windy Craggy 108.72 331 PKiKP PKiKP 16 16 19.0 -2.8
baz=129
P30M Million Dollar 108.72 332 PKiKP PKiKP 16 16 19.7 -2.1
baz=129
O30N Mendenhall 108.80 332 PKiKP PKiKP 16 16 19.5 -2.4
baz=130
O30N Mendenhall 108.80 332 IAMs_20 IAMs_20 16 59 34.7
comp=Z,22µm,18.0s
LINV Loch Inver, As 109.00 31 *e*P Pdif 16 12 20.9 +2.9
LINV IAMs_20 IAMs_20 17 03 16.8
comp=Z,62µm,18.2s
CASP Castiglione de 109.03 51 IAMs_20 IAMs_20 17 02 44.8
comp=Z,26µm,20.0s
M31M Drury Creek, Y 109.11 334 PKiKP PKiKP 16 16 20.6 -1.8
baz=131
M31M Drury Creek, Y 109.11 334 IAMs_20 IAMs_20 16 58 30.7
comp=Z,27µm,20.0s
N31M Braeburn, Yuko 109.15 333 PKiKP PKiKP 16 16 20.6 -1.9
baz=130
N31M Braeburn, Yuko 109.15 333 IAMs_20 IAMs_20 16 59 03.8
comp=Z,21µm,21.0s
BMRD Maredsous 109.37 42 *d*PP PP 16 16 51.9 -1.7
HYT Haines Junctio 109.38 332 PKiKP PKiKP 16 16 20.3 -2.8
baz=129
PNL Peninsula 109.40 330 PKiKP PKiKP 16 16 20.4 -2.7
baz=128
UCC Ucele 109.41 41 *d*PP PP 16 16 52.2 -1.6
DRUM Mains of Drumt 109.45 33 *e*P Pdif 16 12 22.2 +2.2
DRUM IAMs_20 IAMs_20 17 04 10.6
comp=Z,58µm,17.5s
O29M Mount Kennedy 109.47 331 PKiKP PKiKP 16 16 20.3 -3.0
baz=128
O29M Mount Kennedy 109.47 331 IAMs_20 IAMs_20 17 09 16.2
comp=Z,15µm,18.0s
MCD Coleburn Disti 109.50 32 *e*P Pdif 16 12 22.8 +2.5
MCD IAMs_20 IAMs_20 17 01 36.2
comp=Z,66µm,19.4s
RCHB Rochefort 109.54 42 *d*PP PP 16 16 51.1 -3.7
N30M Aishikik Lake 109.62 333 PKiKP PKiKP 16 16 20.3 -3.1
baz=129
N30M Aishikik Lake 109.62 333 IAMs_20 IAMs_20 17 12 46.2
comp=Z,19µm,19.0s
YUK6 Outpost Mounta 109.78 332 PKiKP PKiKP 16 16 21.5 -2.4
baz=128
WLF Walferdange 109.79 43 *d*PP PP 16 16 54.7 -2.0
PINM Pinnacle 110.01 331 PKiKP PKiKP 16 16 22.8 -1.4
baz=127
YUK4 Talbot Arm 110.13 332 PKiKP PKiKP 16 16 23.5 -1.1
baz=128
M30M Minto, Yukon 110.21 334 PKiKP PKiKP 16 16 23.9 -0.6
baz=129
M30M Minto, Yukon 110.21 334 IAMs_20 IAMs_20 17 12 55.9
comp=Z,23µm,20.0s
KULLO Kullorsuaq 110.26 4 *i* P Pdif 16 12 19.3 -3.9
BFO Black Forest 110.33 45 IAMs_20 IAMs_20 16 59 29.7
comp=Z,26µm,21.0s
TARA Tarawa 110.33 257 IAMs_20 IAMs_20 16 54 18.5
comp=Z,21µm,19.0s
SUMG Summit 110.36 10 *i* P Pdif 16 12 25.0 +0.7
O28M Mount Upton 110.39 331 PKiKP PKiKP 16 16 23.9 -1.3
baz=127
YUK8 Steele Glacier 110.53 332 PKiKP PKiKP 16 16 24.3 -1.1
baz=127
MAYO Mayo, Yukon 110.53 335 IAMs_20 IAMs_20 16 59 37.4
comp=Z,22µm,21.0s
DAVA Damuels 110.70 46 *e*Pdiff Pdif 16 12 28.5 +2.4
comp=Z,16nm,1.7s
DAVA *i* PKiKP PKiKP 16 16 26.9 +0.9
comp=Z,13nm,1.0s
DAVA *i* PKKP PKKPdf 16 27 41.1 -2.3
comp=Z,14nm,1.5s
M29M Somme Creek 110.74 333 PKiKP PKiKP 16 16 25.3 -0.3
baz=128
MESA MESA 110.74 330 PKiKP PKiKP 16 16 25.0 -0.8
baz=126
YAH Yahtse 110.77 330 IAMs_20 IAMs_20 17 10 16.5
comp=Z,20µm,18.0s
CTG Chitna Glacier 110.96 331 PKiKP PKiKP 16 16 25.7 -0.3
baz=126
GRNC Granite Creek 110.98 331 IAMs_20 IAMs_20 17 10 42.3
comp=Z,19µm,19.0s
C36M Paulatuk 111.00 343 IAMs_20 IAMs_20 17 12 35.0
baz=137
comp=Z,26µm,20.0s
L29M L29M 111.02 334 PKiKP PKiKP 16 16 25.6 -0.4
baz=128
L29M L29M 111.02 334 IAMs_20 IAMs_20 17 13 17.3
comp=Z,23µm,18.0s
STU Stuttgart 111.05 45 IAMs_20 IAMs_20 17 01 12.7
comp=Z,26µm,21.0s
FETA Feichten 111.07 47 *i* Pdiff Pdif 16 12 30.5 +2.8
FETA *i* PKiKP PKiKP 16 16 27.5 +0.8
comp=Z,9.8nm,1.5s
FETA *i* PKKP PKKPbc 16 27 14.9 -9.1
comp=Z,26nm,1.3s
SNH Sunshine Point 111.11 330 IAMs_20 IAMs_20 17 07 04.5
comp=Z,19µm,19.0s
ISLE Juniper Island 111.15 330 IAMs_20 IAMs_20 17 10 27.5
comp=Z,15µm,20.0s
K29M Barlow Dome 111.25 335 PKiKP PKiKP 16 16 26.2 -0.3
baz=128
K29M Barlow Dome 111.25 335 IAMs_20 IAMs_20 16 59 55.5
comp=Z,22µm,20.0s
WAX Waxell Ridge 111.27 330 IAMs_20 IAMs_20 17 11 20.7
comp=Z,16µm,18.0s
J30M Hart River 111.30 336 PKiKP PKiKP 16 16 26.5 -0.1
baz=129
NWAO Narrogin (SRO) 111.30 189 IAMs_20 IAMs_20 16 57 47.7
comp=Z,28µm,20.0s
RETA Reutte 111.32 46 *e*Pdiff Pdif 16 12 30.5 +1.8
RETA *e*PKiKP PKiKP 16 16 28.2 +1.1
comp=Z,9.5nm,1.4s
RETA *i* PKKP PKKPdf 16 27 38.8 -3.3
comp=Z,16nm,1.2s
H31M Peel River 111.42 337 PKiKP PKiKP 16 16 26.7 0.0
baz=130
MOTA Moosalm 111.45 47 *i* Pdiff Pdif 16 12 32.6 +3.2
MOTA *i* PKiKP PKiKP 16 16 28.3 +0.8
comp=Z,12nm,1.5s
MOTA *i* PKKP PKKPdf 16 27 38.2 -3.8
comp=Z,29nm,1.5s
SQTA Sankt Quirin 111.45 47 *i* Pdiff Pdif 16 12 30.7 +1.3
SQTA *i* PKiKP PKiKP 16 16 28.7 +1.3
comp=Z,9.6nm,1.6s
SQTA *i* PKKP PKKPdf 16 27 37.7 -4.2
comp=Z,3nm,1.7s
CRQE Cirque 111.54 330 PKiKP PKiKP 16 16 26.6 -0.5
comp=Z,20nm,1.1s
BERG Berg Lake 111.58 330 IAMs_20 IAMs_20 17 11 32.1
baz=125
KAIM Kayak Island 111.62 329 PKiKP PKiKP 16 16 26.3 -0.9
comp=Z,15µm,20.0s
I30M Mount Dempster 111.72 336 PKiKP PKiKP 16 16 27.1 -0.3
baz=124
I30M Mount Dempster 111.72 336 IAMs_20 IAMs_20 17 02 16.8
baz=128
WATA Walderalm 111.73 47 *e*Pdiff Pdif 16 12 32.6 +2.0
comp=Z,27µm,19.0s
WATA *i* PKiKP PKiKP 16 16 29.6 +1.6
comp=Z,8.4nm,1.5s
WATA *i* PKKP PKKPdf 16 27 36.4 -5.0
comp=Z,34nm,1.5s
WTTA Wattenberg 111.73 47 *i* Pdiff Pdif 16 12 33.0 +2.3
WTTA *i* PKiKP PKiKP 16 16 29.6 +1.5
comp=Z,5.9nm,1.2s
WTTA *i* PKKP PKKPdf 16 27 36.6 -4.9
comp=Z,36nm,1.4s
TULEG Thule 111.76 1 IAMs_20 IAMs_20 17 12 14.4
comp=Z,13nm,1.4s
HMT Hamilton 111.78 330 IAMs_20 IAMs_20 16 59 54.3
comp=Z,25µm,18.0s
SCO Scoresbysund 111.79 16 IAMs_20 IAMs_20 17 02 16.6
comp=Z,15µm,20.0s
LRW Lerwick 111.85 31 *e*P Pdif 16 12 33.1 +2.6
LRW IAMs_20 IAMs_20 17 05 26.5
comp=Z,26µm,20.0s
MCARA McCarthy VSAT 111.87 331 PKiKP PKiKP 16 16 27.6 0.0
comp=Z,44µm,17.3s
MCARA McCarthy VSAT 111.87 331 IAMs_20 IAMs_20 17 14 28.6
baz=124
J29N Klondike Camp 111.87 335 PKiKP PKiKP 16 16 27.6 0.0
comp=Z,19µm,20.0s
J29N Klondike Camp 111.87 335 IAMs_20 IAMs_20 17 11 26.7
baz=127
M27K Edge Creek, AK 111.97 332 PKiKP PKiKP 16 16 27.8 -0.2
comp=Z,28µm,19.0s
M27K Edge Creek, AK 111.97 332 IAMs_20 IAMs_20 17 14 10.4
baz=125
RAGM Ragged Mountai 111.98 329 IAMs_20 IAMs_20 16 55 26.6
comp=Z,21µm,18.0s
ABTA Abfaltersbach 112.01 48 *e*Pdiff Pdif 16 12 33.9 +2.1
comp=Z,17µm,21.0s
ABTA *i* PKiKP PKiKP 16 16 30.2 +1.7
comp=Z,6.2nm,1.4s
ABTA *i* PKKP PKKPbc 16 27 17.9 -2.9
comp=Z,23nm,1.4s
DAWY Dawson 112.05 334 PKiKP PKiKP 16 16 28.0 0.0
comp=Z,7.9nm,1.5s
G31M Satah River 112.11 338 PKiKP PKiKP 16 16 28.1 +0.3
baz=126
G31M Satah River 112.11 338 IAMs_20 IAMs_20 17 14 09.4
baz=130
BMRM Bremner River 112.27 330 PKiKP PKiKP 16 16 28.4 -0.1
comp=Z,27µm,19.0s
BMRM Bremner River 112.27 330 IAMs_20 IAMs_20 17 14 05.3
baz=123
F31M Tsiigehtchic 112.29 339 PKiKP PKiKP 16 16 28.4 +0.2
comp=Z,16µm,21.0s
F31M Tsiigehtchic 112.29 339 IAMs_20 IAMs_20 17 13 19.0
baz=130
L27K Beaver Creek, 112.35 333 PKiKP PKiKP 16 16 28.7 +0.1
comp=Z,25µm,19.0s
L27K Beaver Creek, 112.35 333 IAMs_20 IAMs_20 17 14 28.6
baz=125
M26K Nabesna, AK 112.43 332 PKiKP PKiKP 16 16 29.0 +0.3
comp=Z,24µm,19.0s
M26K Nabesna, AK 112.43 332 IAMs_20 IAMs_20 17 14 36.4
baz=124
LESA Schwarzleotal 112.43 47 *e*Pdiff Pdif 16 12 35.7 +2.1
comp=Z,26µm,19.0s
LESA *i* PKiKP PKiKP 16 16 30.0 +0.8
comp=Z,6.2nm,1.5s
LESA *i* PKKP PKKPbc 16 27 19.1 -0.4
comp=Z,20nm,1.2s
I29M Ogilvie Camp, 112.44 336 PKiKP PKiKP 16 16 28.5 -0.1
comp=Z,7.3nm,2.0s
I29M Ogilvie Camp, 112.44 336 IAMs_20 IAMs_20 17 13 49.0
baz=127
comp=Z,26µm,19.0s
CADS Cadrg 112.50 49 *i* Pdiff Pdif 16 12 35.5 +1.6
CADS *e* 16 15 59.2
CADS *e*PKiKP PKiKP 16 16 21.2 -8.2
CADS *e*PP PP 16 17 15.2 -1.2
CADS *e* 16 19 29.5
CADS *i* SKSac SKSac 16 23 12.3 +0.4
CADS *e*SP SP 16 26 46.8 -1.2
EYAK Cordova Ski Ar 112.52 329 PKiKP PKiKP 16 16 28.6 -0.2
baz=123
EYAK Cordova Ski Ar 112.52 329 IAMs_20 IAMs_20 17 11 12.8
comp=Z,20µm,20.0s
EPYK Eagle Plains 112.53 337 PKiKP PKiKP 16 16 28.8 0.0
baz=128
N25K Chitina, Valde 112.62 331 PKiKP PKiKP 16 16 29.0 -0.1
baz=123
MYKA Terra Mystica 112.64 48 *i* Pdiff Pdif 16 12 37.8 +3.3
comp=Z,3.7nm,1.1s
MYKA *i* PKiKP PKiKP 16 16 30.4 +0.8
comp=Z,20nm,1.4s
MYKA *e*PKKP PKKPbc 16 27 19.5 +0.8
comp=Z,1.7nm,0.5s
GRFO Grafenberg 112.65 44 IAMs_20 IAMs_20 17 02 01.2
comp=Z,29µm,20.0s
GRA1 Grafenberg Arr 112.66 44 IAMs_20 IAMs_20 17 01 41.3
comp=Z,29µm,21.0s
KBA Koelnbreinsper 112.67 48 *e*Pdiff Pdif 16 12 37.2 +2.4
comp=Z,2.2nm,0.9s
KBA *i* PKiKP PKiKP 16 16 30.0 +0.2
comp=Z,18nm,1.3s
KBA *i* PKKP PKKPdf 16 27 37.7 -2.0
comp=Z,5.0nm,1.3s
HIN Hinchinbrook I 112.75 329 IAMs_20 IAMs_20 16 56 05.0
comp=Z,22µm,21.0s
G30M tAoh Zraii Nji 112.75 338 PKiKP PKiKP 16 16 29.3 +0.1
baz=128
G30M tAoh Zraii Nji 112.75 338 IAMs_20 IAMs_20 17 13 38.3

comp=Z,25µm,19.0s
INK Inuvik 112.78 339 PKKPbc PKKPbc 16 27 21.3 +2.7
comp=Z,4.6nm,1.0s,baz=314,slow=2.8,SNR=4.8
INK Inuvik 112.78 339 P **Pdif** **16 12 35.9 +1.4**
INK Inuvik 112.78 339 PKiKP **PKiKP** **16 16 29.6 +0.5**
baz=130
DIV Divide 112.84 330 IAMs_20 IAMs_20 17 14 31.3
comp=Z,16µm,20.0s
LJU Ljubljana 112.91 49 *i* Pdiff **Pdif** **16 12 36.5 +0.8**
LJU *i* 16 15 33.5
LJU *i* 16 16 11.4
LJU *i* PKiKP **PKiKP** **16 16 24.6 -5.5**
LJU *e* 16 16 53.8
LJU *i* PP **PP** **16 17 18.0 -1.1**
LJU *e* 16 19 37.4
LJU *e* 16 21 16.4
LJU *i* 16 24 20.2
LJU *i* PS **PS** **16 26 57.9 +4.1**
LJU *e* 16 33 59.6
LJU *e* 16 37 11.4
P23K Montague Islan 112.92 328 PKiKP **PKiKP** **16 16 29.7 +0.1**
baz=122
P23K Montague Islan 112.92 328 IAMs_20 IAMs_20 16 56 28.5
comp=Z,15µm,19.0s
FID Port Fidalgo 112.93 329 IAMs_20 IAMs_20 17 11 36.6
comp=Z,16µm,19.0s
H29M Whitestone 112.98 336 PKiKP **PKiKP** **16 16 30.0 +0.4**
baz=126
H29M Whitestone 112.98 336 IAMs_20 IAMs_20 17 14 49.1
comp=Z,27µm,20.0s
K27K Chicken 112.99 333 PKiKP **PKiKP** **16 16 30.3 +0.6**
baz=124
K27K Chicken 112.99 333 IAMs_20 IAMs_20 17 08 42.5
comp=Z,15µm,20.0s
MENT Mentasta 113.00 332 IAMs_20 IAMs_20 17 13 18.7
comp=Z,25µm,21.0s
F30M Barrier River 113.01 338 PKiKP **PKiKP** **16 16 29.9 +0.3**
baz=128
I28M Miner Creek 113.05 335 PKiKP **PKiKP** **16 16 30.4 +0.5**
baz=126
I28M Miner Creek 113.05 335 IAMs_20 IAMs_20 17 14 40.0
comp=Z,27µm,20.0s
HNR Honiara 113.08 239 IAMs_20 IAMs_20 16 54 46.6
comp=Z,19µm,20.0s
EGAK Eagle 113.09 334 PKiKP **PKiKP** **16 16 29.7 -0.1**
baz=125
EGAK Eagle 113.09 334 IAMs_20 IAMs_20 17 13 41.0
comp=Z,18µm,19.0s
KLU Klutina 113.09 330 IAMs_20 IAMs_20 17 11 58.0
comp=Z,16µm,21.0s
BIOA Bad Ischl, Aus 113.13 47 *e*Pdiff **Pdif** **16 12 38.6 +1.9**
comp=Z,3.7nm,1.2s
BIOA *i* PKiKP **PKiKP** **16 16 31.1 +0.6**
comp=Z,27nm,1.3s
BIOA *i* PKKP **PKKPdf** **16 27 31.8 -6.8**
comp=Z,6.1nm,1.1s
OBKA Obir 113.13 49 *i* Pdiff **Pdif** **16 12 39.7 +2.9**
comp=Z,7.8nm,1.6s
OBKA *i* PKiKP **PKiKP** **16 16 32.0 +1.4**
comp=Z,23nm,1.3s
OBKA *e*PKKP **PKKPbc** **16 27 16.4 -0.7**
comp=Z,5.8nm,1.5s
A36M Sachs Harbour 113.18 344 PKiKP **PKiKP** **16 16 30.3 +0.5**
baz=136
GLI Glacier Island 113.25 329 PKiKP **PKiKP** **16 16 31.0 +0.7**
baz=122
HARP HAARP 113.27 331 PKiKP **PKiKP** **16 16 29.9 -0.3**
baz=122
G29M Pine Creek 113.28 337 PKiKP **PKiKP** **16 16 29.6 -0.6**
baz=126
CTAO Charters Tower 113.42 220 IAMs_20 IAMs_20 17 00 11.9
comp=Z,19µm,18.0s
SOKA Soboth 113.51 49 *e*Pdiff **Pdif** **16 12 39.7 +1.3**
comp=Z,2.5nm,1.1s
SOKA *i* PKiKP **PKiKP** **16 16 32.0 +0.7**
comp=Z,17nm,1.3s
SOKA *i* PKKP **PKKPbc** **16 27 14.7 -1.1**
comp=Z,6.4nm,1.4s
DOT Dot Lake 113.52 333 IAMs_20 IAMs_20 17 14 54.4
comp=Z,15µm,19.0s
M24K Tolsona, Glenn 113.52 331 PKiKP **PKiKP** **16 16 31.0 +0.2**
baz=122
M24K Tolsona, Glenn 113.52 331 IAMs_20 IAMs_20 17 15 25.3
comp=Z,16µm,19.0s
MOA Molln 113.58 47 *e*Pdiff **Pdif** **16 12 41.0 +2.3**
comp=Z,7.1nm,1.6s
MOA *e*PKP **PKiKP** **16 16 31.5 +0.2**
comp=Z,16nm,1.2s
MOA *e*PKKP **PKKPbc** **16 27 09.9 -5.6**
comp=Z,8.9nm,1.5s
SCRK Sand Creek 113.67 333 PKiKP **PKiKP** **16 16 31.3 +0.2**
baz=123
SCRK Sand Creek 113.67 333 IAMs_20 IAMs_20 17 15 10.4
comp=Z,17µm,19.0s
PAX Paxson 113.69 332 PKiKP **PKiKP** **16 16 31.8 +0.7**
baz=122
PAX Paxson 113.69 332 IAMs_20 IAMs_20 17 15 30.0
comp=Z,21µm,18.0s
GERES GERESS Array B 113.70 46 PKiKP **PKiKP** **16 16 32.5 +0.9**
comp=Z,10nm,1.0s,baz=107,slow=1.4,SNR=22
GERES PKKPab **PKKPab** **16 27 19.8 +0.2**
comp=Z,0.5nm,0.6s,baz=70,slow=12,SNR=3.9
I27K Kandik River 113.71 335 PKiKP **PKiKP** **16 16 31.6 +0.6**
baz=124
KHC Kasperske Hory 113.76 46 *e*PDIFF **Pdif** **16 12 40.4 +1.0**
KHC *e*PKP **PKiKP** **16 16 32.3 +0.7**
KHC *e*PP **PP** **16 17 23.3 -1.9**
KHC *e*SKS **SKSac** **16 23 17.4 +0.8**
KHC AMS AMS 17 07 40.0
comp=Z,40µm,18.3s
KHC Kasperske Hory 113.76 46 *i* P **Pdif** **16 12 40.4 +1.0**
KHC *e* 16 16 32.3
KHC *e* 16 17 23.3
KHC *e* 16 23 17.4
KHC MLR MLR
comp=Z,40µm,18.3s
PWL Port Wells 113.77 329 PKiKP **PKiKP** **16 16 31.7 +0.4**
baz=120
PWL Port Wells 113.77 329 IAMs_20 IAMs_20 17 12 13.7
comp=Z,16µm,19.0s
J26L Joseph Creek 113.80 333 PKiKP **PKiKP** **16 16 31.5 +0.2**
baz=123
J26L Joseph Creek 113.80 333 IAMs_20 IAMs_20 17 15 21.7
comp=Z,20µm,18.0s
SCM Sheep Creek Mo 113.84 330 PKiKP **PKiKP** **16 16 31.1 -0.4**
baz=121
SCM Sheep Creek Mo 113.84 330 IAMs_20 IAMs_20 17 15 44.8
comp=Z,20µm,19.0s
RIDG Independent Ri 113.86 332 PKiKP **PKiKP** **16 16 31.9 +0.5**
baz=122
RIDG Independent Ri 113.86 332 IAMs_20 IAMs_20 17 15 04.5
comp=Z,18µm,19.0s
SEW Seward 113.86 328 PKiKP **PKiKP** **16 16 31.1 -0.3**
baz=120
SEW Seward 113.86 328 IAMs_20 IAMs_20 17 00 22.4
comp=Z,15µm,18.0s
BLY Banja Luka 113.98 51 ⇑P **PKiKP** **16 16 33.9 +1.8**
M23K Glacier View 113.98 330 PKiKP **PKiKP** **16 16 32.1 +0.5**
baz=121
H27K Steamboat Moun 114.03 336 PKiKP **PKiKP** **16 16 32.5 +0.8**
baz=124
H27K Steamboat Moun 114.03 336 IAMs_20 IAMs_20 17 15 48.0
comp=Z,26µm,19.0s
CKRC Cesky Krumlov 114.04 46 *e*PDIFF **Pdif** **16 12 41.5 +0.8**
CKRC *e*PKP **PKiKP** **16 16 33.4 +1.2**
CKRC AMS AMS 17 01 20.0
comp=Z,46µm,22.8s
CKRC Cesky Krumlov 114.04 46 *i* P **Pdif** **16 12 41.5 +0.8**
CKRC *e* 16 16 33.4
CKRC MLR MLR
comp=Z,46µm,22.8s
ARSA Arzberg 114.07 48 *e*PKP **PKiKP** **16 16 32.4 +0.1**
comp=Z,16nm,1.6s
ARSA *i* PKKP **PKKPbc** **16 27 11.5 -2.3**
comp=Z,3.6nm,1.5s
I26K Coal Creek Min 114.09 334 PKiKP PKPdf 16 16 31.6 -0.1
baz=123
I26K Coal Creek Min 114.09 334 IAMs_20 IAMs_20 17 15 43.4
comp=Z,23µm,19.0s
KNK Knik Glacier 114.10 329 PKiKP **PKiKP** **16 16 32.2 +0.3**
baz=120
E29M Blow River 114.11 338 PKiKP **PKiKP** **16 16 32.4 +0.7**
baz=126
KDAK Kodiak Island 114.15 325 PKiKP PKPdf 16 16 31.6 -0.4
baz=118
KDAK Kodiak Island 114.15 325 IAMs_20 IAMs_20 16 55 20.9
comp=Z,18µm,19.0s

KOGS Kog 114.15 49 *i* Pdiff **Pdif** **16 12 43.7 +2.5**
KOGS *i* SKSac **SKSac** **16 23 18.6 +0.4**
KMY Karmoy 114.16 33 *e*Pdif **Pdif** **16 12 41.2 +0.4**
KMY *e*PP **PP** **16 17 27.4 -0.3**
KMY *e* 16 27 05.1
KMY IVMs_BB IVMs_BB 17 07 54.2
comp=Z,22µm,18.4s
O22K Cooper Landing 114.17 328 PKiKP PKPdf 16 16 31.6 -0.3
baz=120
OHAK Old Harbor 114.22 324 PKiKP **PKiKP** **16 16 32.2 0.0**
baz=118
SML Sawmill 114.24 330 PKiKP **PKiKP** **16 16 33.4 +1.2**
baz=120
SML Sawmill 114.24 330 IAMs_20 IAMs_20 17 15 59.3
comp=Z,20µm,19.0s
K24K Donnelly Dome 114.25 332 PKiKP **PKiKP** **16 16 32.4 +0.3**
baz=121
K24K Donnelly Dome 114.25 332 IAMs_20 IAMs_20 17 15 55.7
comp=Z,20µm,20.0s
BRSE Bradley Lake S 114.25 327 PKiKP **PKiKP** **16 16 32.3 +0.1**
baz=119
ZVC Zvikov 114.25 46 *e*PDIFF **Pdif** **16 12 42.9 +1.3**
ZVC *e*PKP **PKiKP** **16 16 33.3 +0.8**
ZVC *e*SKS **SKSac** **16 23 18.5 0.0**
ZVC AMS AMS 17 09 40.0
comp=Z,32µm,17.0s
F28M Old Crow 114.27 337 PKiKP **PKiKP** **16 16 32.2 +0.2**
baz=125
F28M Old Crow 114.27 337 IAMs_20 IAMs_20 17 14 35.4
comp=Z,25µm,18.0s
WAT6 Susitna Watana 114.39 331 PKiKP **PKiKP** **16 16 33.1 +0.5**
baz=120
G27K Doyon Strip 114.40 336 PKiKP **PKiKP** **16 16 33.4 +1.1**
baz=124
CLL Collm 114.41 43 *e*P **Pdif** **16 12 45.0 +2.8**
CLL *i* 16 16 33.4
CLL *e* 16 23 20.0
CLL pmax pmax
comp=Z,41nm,1.3s
CLL MLR MLR
comp=Z,40µm,20.8s
Q20K Shuyak Island 114.46 326 PKiKP **PKiKP** **16 16 33.5 +0.9**
baz=118
PMR Palmer 114.47 329 PKiKP **PKiKP** **16 16 33.3 +0.8**
baz=120
PMR Palmer 114.47 329 IAMs_20 IAMs_20 17 15 31.3
comp=Z,16µm,21.0s
GHO Glory Hole Cre 114.47 330 IAMs_20 IAMs_20 17 16 18.4
comp=Z,18µm,19.0s
RC01 Rabbit Creek A 114.47 329 PKiKP **PKiKP** **16 16 33.0 +0.5**
baz=119
BEHE Becsehely 114.49 49 IAMs_20 IAMs_20 17 10 06.2
comp=Z,20µm,19.0s
DHY Denali Highway 114.49 331 PKiKP **PKiKP** **16 16 32.8 +0.1**
baz=120
J25K Salcha River, 114.52 333 PKiKP **PKiKP** **16 16 32.9 +0.2**
baz=121
J25K Salcha River, 114.52 333 IAMs_20 IAMs_20 17 03 52.8
comp=Z,16µm,19.0s
CONA Conrad Observa 114.57 48 *i* Pdiff **Pdif** **16 12 43.2 0.0**
comp=Z,4.8nm,1.6s
CONA *i* PKP **PKiKP** **16 16 33.8 +0.5**
comp=Z,18nm,1.1s
CONA *i* PKKP **PKKPbc** **16 27 13.4 +1.2**
comp=Z,8.1nm,1.7s
SNART Snartemo 114.64 35 *e*Pdif **Pdif** **16 12 43.9 +0.8**
SNART *e*PP **PP** **16 17 31.6 +0.5**
SNART *e* 16 27 08.2
PRA Prague 114.67 45 *e*PDIFF **Pdif** **16 12 44.0 +0.6**
PRA *e*SKS **SKSac** **16 23 21.4 +1.4**
PRA AMS AMS 17 05 20.0
comp=Z,35µm,20.8s
PRA Prague 114.67 45 *i* P **Pdif** **16 12 44.0 +0.6**
PRA *e* 16 23 21.4
PRA MLR MLR
comp=Z,35µm,20.8s
RICC Richard 114.69 45 AMS AMS 17 11 00.0
comp=Z,36µm,17.0s
PRU Pruhonice 114.70 45 *e*PDIFF **Pdif** **16 12 45.7 +2.1**
PRU *e*SKS **SKSac** **16 23 20.6 +0.5**
PRU AMS AMS 17 05 20.0
comp=Z,37µm,20.9s
PRU Pruhonice 114.70 45 *i* P **Pdif** **16 12 45.7 +2.1**
PRU *e* 16 23 20.6
PRU MLR MLR
comp=Z,37µm,20.9s
FIS Fire Island 114.70 329 IAMs_20 IAMs_20 17 15 52.5
comp=Z,14µm,19.0s
E28M Babbage River 114.73 338 PKiKP PKPdf 16 16 32.6 -0.3
baz=125
OHR Ohrid 114.73 56 *e*P PKPdf 16 16 33.0 -0.8
RONA Rosalia, Austr 114.74 48 *i* PKP PKPdf 16 16 33.2 -0.4
comp=Z,14nm,1.7s
RONA *e*PKKP **PKKPbc** **16 27 11.1 -0.5**
comp=Z,6.7nm,1.4s
ASK Askoy 114.75 32 *e*Pdif **Pdif** **16 12 43.8 +0.4**
ASK *e*PP **PP** **16 17 30.4 -1.4**
ASK *e* 16 27 10.7
ASK *e*SS SS 16 33 27.4 +1.8
BRG Berggiesshubel 114.75 44⇓ *e*Pif 16 12 46.0
BRG Berggiesshubel 114.75 44 PKP **PKiKP** **16 16 34.9 +1.5**
BRG Amp 16 16 37.0
comp=Z,13nm,1.1s
BRG Berggiesshubel 114.75 44 PP **PP** **16 17 30.0 -2.1**
BRG SKP 16 20 09.9
BRG Amp 16 20 11.7
comp=Z,147nm,2.3s
BRG Berggiesshubel 114.75 44 PS PS 16 27 14.0 +3.5
BRG PKKP **PKKPab** **16 27 18.0 +3.3**
BRG Amp 16 27 23.8
comp=Z,11nm,1.2s
BRG Berggiesshubel 114.75 44 SS SS 16 33 28.0 +1.9
BER Bergen 114.76 32 *e*Pdif **Pdif** **16 12 43.4 -0.2**
BER *e*PP **PP** **16 17 31.6 -0.3**
BER *e* 16 27 09.6
BER *e*SS SS 16 33 34.3 +8.6
BER IVMs_BB IVMs_BB 17 11 24.8
comp=Z,15µm,18.7s
BLS5 Blasjo 114.80 34 *e*Pdif **Pdif** **16 12 43.9 +0.1**
BLS5 *e*PP **PP** **16 17 32.9 +0.6**
BLS5 *e* 16 27 14.1
BLS5 *e*SS SS 16 33 27.9 +1.4
SUE Sulen 114.83 32 *e*Pdif **Pdif** **16 12 42.8 -1.0**
SUE *e*PP **PP** **16 17 33.0 +0.6**
SUE *e* 16 27 12.9
SUE *e*SS SS 16 33 26.6 0.0
SUE IVMs_BB IVMs_BB 17 07 45.3
comp=Z,17µm,18.8s
WAT1 Susitna Watana 114.84 331 PKiKP PKPdf 16 16 33.2 0.0
baz=120
D28M Stokes Point 114.91 339 PKiKP **PKiKP** **16 16 33.7 +0.6**
baz=125
CAPN Captain Cook N 114.92 328 PKiKP PKPdf 16 16 33.1 -0.3
baz=118
R18K Karluk 114.94 324 PKiKP PKPdf 16 16 32.9 -0.6
baz=117
TREC Trest 114.95 46 AMS AMS 17 14 40.0
comp=Z,36µm,17.7s
PVCC Panska Ves 114.95 45 AMS AMS 17 05 20.0
comp=Z,33µm,20.7s
M22K Willow 114.96 329 PKiKP PKPdf 16 16 33.2 -0.2
baz=119
M22K Willow 114.96 329 IAMs_20 IAMs_20 17 16 35.2
comp=Z,20µm,19.0s
HDA Harding Lake 115.00 333 PKiKP **PKiKP** **16 16 33.6 +0.1**
baz=120
HDA Harding Lake 115.00 333 IAMs_20 IAMs_20 17 13 42.5
comp=Z,17µm,19.0s
PRP Porcupine Dome 115.04 334 PKiKP **PKPdf** **16 16 33.4 -0.3**
baz=121
SUA Susitna One 115.08 329 PKiKP **PKPdf** **16 16 33.7 -0.2**
baz=118
SUA Susitna One 115.08 329 IAMs_20 IAMs_20 17 16 38.5
comp=Z,19µm,18.0s
ODD1 Odda 115.11 33 *e*Pdif **Pdif** **16 12 45.3 +0.1**
ODD1 *e*PP **PP** **16 17 33.0 -1.4**
ODD1 *e* 16 27 16.4
ODD1 *e*SS SS 16 33 33.8 +3.3
ODD1 IVMs_BB IVMs_BB 17 08 50.4
comp=Z,19µm,18.2s
E27K Coleen River 115.13 337 PKiKP **PKiKP** **16 16 34.6 +0.9**
baz=123
E27K Coleen River 115.13 337 IAMs_20 IAMs_20 17 04 55.2
comp=Z,23µm,19.0s
ILAR Eielson Array 115.16 333 PKP **PKiKP** **16 16 34.1 +0.3**
comp=Z,3.3nm,1.0s,baz=181,slow=1.6,SNR=10

ILAR PP **PP** **16 17 40.5 +5.8**
comp=Z,11nm,1.1s,baz=104,slow=4.1,SNR=6.2
ILAR PKKPbc **PKKPbc** **16 27 10.8 +0.4**
comp=Z,1.3nm,1.0s,baz=315,slow=4.5,SNR=5.1
G26K Porcupine Rive 115.18 336 PKiKP **PKiKP** **16 16 34.4 +0.7**
baz=122
Q19K Cape Douglas, 115.18 326 PKiKP **PKPdf** **16 16 33.6 -0.4**
baz=117
HOMB Homborsund 115.22 35 *e*Pdif **Pdif** **16 12 46.1 +0.5**
HOMB *e*PP **PP** **16 17 34.3 -0.8**
HOMB *e* 16 27 13.7
O20K Slope Mountain 115.25 327 PKiKP **PKiKP** **16 16 34.3 +0.1**
baz=118
MORW Morawa 115.26 189 IAMs_20 IAMs_20 17 00 15.5
comp=Z,23µm,19.0s
P19K Oil Pt 115.33 326 PKiKP **PKPdf** **16 16 34.1 -0.2**
baz=117
CUT Chulitna 115.33 330 PKiKP **PKiKP** **16 16 34.4 +0.3**
baz=118
KRUC Moravsky 115.39 47 *e*PDIFF **Pdif** **16 12 47.2 +0.6**
KRUC Moravsky 115.39 47 *e*PKP **PKiKP** **16 16 36.8 +2.1**
KRUC *e* 16 27 16.5
KRUC *e* 16 28 33.3
MCK McKinley 115.43 331 PKiKP **PKiKP** **16 16 34.9 +0.5**
baz=119
MCK McKinley 115.43 331 IAMs_20 IAMs_20 17 16 49.9
comp=Z,17µm,19.0s
ILSW Iliamna Southw 115.44 327 IAMs_20 IAMs_20 17 13 28.9
comp=Z,14µm,20.0s
CCB Clear Creek Bu 115.44 333 IAMs_20 IAMs_20 17 05 07.2
comp=Z,17µm,20.0s
WRH Wood River Hil 115.46 332 IAMs_20 IAMs_20 17 04 07.8
comp=Z,18µm,18.0s
RED Redoubt Volcan 115.47 327 IAMs_20 IAMs_20 17 16 49.8
comp=Z,15µm,19.0s
FYU Fort Yukon 115.47 335 IAMs_20 IAMs_20 17 16 35.2
comp=Z,25µm,19.0s
HYA Hoyanger 115.50 32 *e*Pdif **Pdif** **16 12 47.0 +0.2**
HYA *e*PP **PP** **16 17 37.2 +0.2**
HYA *e* 16 27 16.5
HYA *e*SS SS 16 33 34.1 -1.2
D27M Malcolm River 115.52 339 PKiKP **PKiKP** **16 16 34.8 +0.4**
baz=123
D27M Malcolm River 115.52 339 IAMs_20 IAMs_20 17 04 44.3
comp=Z,27µm,20.0s
H25L Birch Creek 115.53 335 PKiKP **PKPdf** **16 16 33.8 -0.6**
baz=120
POKR Poker Plat Res 115.53 333 PKiKP **PKPdf** **16 16 33.8 -0.7**
baz=120
POKR Poker Plat Res 115.53 333 IAMs_20 IAMs_20 17 16 38.6
comp=Z,17µm,19.0s
COLA College 115.57 333 ⇑PKiKP PKiKP 16 16 42.7 +8.2
COLA College 115.57 333 PKiKP **PKiKP** **16 16 34.7 +0.1**
baz=119
COLA College 115.57 333 IAMs_20 IAMs_20 17 15 57.7
comp=Z,17µm,18.0s
SPCR Spurr Chakacha 115.58 328 PKiKP **PKiKP** **16 16 34.9 +0.1**
baz=117
VRAC Vranov 115.61 47 PKP **PKiKP** **16 16 36.7 +1.6**
comp=Z,3.0nm,0.4s,baz=230,slow=3.4,SNR=12
VRAC PKKPbc **PKKPab** **16 27 11.2 +0.2**
comp=Z,3.5nm,1.0s,baz=310,slow=0.6,SNR=3.8
VRAC Vranov 115.61 47 *e*PDIFF **Pdif** **16 12 49.3 +1.7**
VRAC Vranov 115.61 47 *e*PKP **PKiKP** **16 16 37.1 +1.9**
VRAC *e* 16 27 17.9
VRAC *e* 16 28 32.2
VRAC Vranov 115.61 47 ⇓P PKPdf 16 16 26.0 -9.2
MODS Modra-Piesok 115.62 48 *e*PKIKP **PKiKP** **16 16 35.3 +0.1**
MODS *e* 16 27 15.0
SKT Skwentna 115.65 329 PKiKP **PKiKP** **16 16 35.8 +0.9**
baz=118
F26K Sheenjek River 115.69 336 PKiKP **PKiKP** **16 16 36.2 +1.4**
baz=121
Q18K Katmai Hardscr 115.69 325 PKiKP **PKiKP** **16 16 35.8 +0.7**
baz=116
UPC Upice 115.78 45 *e*PDIFF **Pdif** **16 12 51.3 +3.0**
UPC AMS AMS 17 03 10.0
comp=Z,42µm,23.2s
UPC Upice 115.78 45 *i* P **Pdif** **16 12 51.3 +3.0**
UPC MLR MLR
comp=Z,42µm,23.2s
TRF Thorofare Moun 115.83 331 PKiKP **PKiKP** **16 16 35.9 +0.5**
baz=118
TRF Thorofare Moun 115.83 331 IAMs_20 IAMs_20 17 16 51.4
comp=Z,24µm,18.0s
CHVC Chvalec 115.84 45 AMS AMS 17 03 10.0
comp=Z,39µm,22.8s
BWN Browne 115.85 332 IAMs_20 IAMs_20 17 05 10.1
comp=Z,17µm,18.0s
G25K Bearman Lake 115.88 335 PKiKP **PKiKP** **16 16 36.3 +1.2**
baz=120
PLK4 Peulik 4 115.89 324 IAMs_20 IAMs_20 16 55 17.8
comp=Z,16µm,21.0s
R17L Mt. Peulik Vol 115.89 324 PKiKP **PKiKP** **16 16 36.5 +1.0**
baz=116
DPC Dobruska-Polom 115.89 45 *e*PKP **PKiKP** **16 16 36.7 +1.0**
DPC *e*PP **PP** **16 17 37.4 -2.8**
DPC *e*SKS **SKSac** **16 23 24.9 +0.1**
DPC Dobruska-Polom 115.89 45 *e*PKIKP **PKiKP** **16 16 36.7 +1.0**
DPC *e* 16 23 24.9
NEA2 Nenana 115.89 332 PKiKP **PKiKP** **16 16 35.9 +0.7**
baz=118
NEA2 Nenana 115.89 332 IAMs_20 IAMs_20 17 04 30.1
comp=Z,15µm,18.0s
OSTC Ostas 115.92 45 *e*PDIFF **Pdif** **16 12 51.6 +2.6**
OSTC *e*PKP **PKiKP** **16 16 37.1 +1.4**
OSTC Ostas 115.92 45 *i* P **Pdif** **16 12 51.6 +2.6**
OSTC *e* 16 16 37.1
ASAR Alice Springs 115.94 207 PKP **PKiKP** **16 16 35.6 -1.1**
comp=Z,2.5nm,0.8s,baz=142,slow=1.7,SNR=18
ASAR PP **PP** **16 17 45.0 +5.5**
comp=Z,2.8nm,1.0s,baz=162,slow=5.6,SNR=4.6
ASAR PKKPbc **PKKPbc** **16 27 07.5 +0.5**
comp=Z,3.1nm,0.7s,baz=338,slow=2.9,SNR=26
Q17K Contact Creek 115.94 324 PKiKP **PKiKP** **16 16 36.3 +0.7**
baz=116
KRLC Kraliky 116.04 46 *e*PDIFF **Pdif** **16 12 51.0 +1.4**
KRLC *e*PKP **PKiKP** **16 16 37.8 +1.8**
KRLC *e*SKS **SKSac** **16 23 24.5 -0.9**
KRLC AMS AMS 17 08 50.0
comp=Z,25µm,17.7s
KRLC Kraliky 116.04 46 *i* P **Pdif** **16 12 51.0 +1.4**
KRLC *e* 16 16 37.8
KRLC *e* 16 23 24.5
KRLC MLR MLR
comp=Z,25µm,17.7s
H24K Noodor Dome 116.05 334 PKiKP **PKiKP** **16 16 35.8 +0.3**
baz=119
O19K Port Alsworth 116.06 327 PKiKP **PKiKP** **16 16 36.0 +0.4**
baz=116
O19K Port Alsworth 116.06 327 IAMs_20 IAMs_20 17 03 31.3
comp=Z,16µm,18.0s
JAVC Velka Javorina 116.06 47 *e*PDIFF **Pdif** **16 12 52.4 +2.7**
JAVC Velka Javorina 116.06 47 *e*PKP **PKiKP** **16 16 39.3 +3.2**
JAVC *e* 16 27 17.6
KSP Ksiaz 116.08 45 *e*Pdif **Pdif** **16 12 52.3 +2.6**
KSP *e*PP **PP** **16 17 39.9 -1.6**
KSP *e*SP SP 16 27 20.1 -0.3
KSP *e*L L 17 03 56.6
comp=Z,39µm,22.8s
P18K Big Mountain, 116.12 326 PKiKP **PKiKP** **16 16 36.2 +0.3**
baz=116
KTH Kantishna Hill 116.13 331 IAMs_20 IAMs_20 17 17 08.3
comp=Z,22µm,18.0s
F25K Christian Rive 116.13 336 PKiKP **PKiKP** **16 16 36.0 +0.3**
baz=120
F25K Christian Rive 116.13 336 IAMs_20 IAMs_20 17 16 03.5
comp=Z,26µm,19.0s
SKAR Skarslia 116.20 33 *e*Pdif **Pdif** **16 12 49.8 -0.2**
SKAR *e*PP **PP** **16 17 40.9 -1.2**
I23K Minto, Yukon-K 116.27 333 PKiKP **PKiKP** **16 16 36.5 +0.6**
baz=118
I23K Minto, Yukon-K 116.27 333 IAMs_20 IAMs_20 17 17 22.9
comp=Z,18µm,18.0s
M20K Styx River 116.28 329 PKiKP **PKiKP** **16 16 36.2 +0.1**
baz=116
M20K Styx River 116.28 329 IAMs_20 IAMs_20 17 02 04.3
comp=Z,14µm,18.0s
AKN Aaknes 116.30 31 *e*Pdif **Pdif** **16 12 50.7 +0.3**
O18K Koktuh Hills 116.31 326 PKiKP **PKiKP** **16 16 37.0 +0.8**
baz=116
G24K Hadweenzic Riv 116.32 335 PKiKP **PKiKP** **16 16 36.1 +0.1**
baz=119
G24K Hadweenzic Riv 116.32 335 IAMs_20 IAMs_20 17 17 02.4
comp=Z,26µm,19.0s
CNBA Chernabura Isl 116.33 320 IAMs_20 IAMs_20 16 55 58.4

comp=Z,17µm,19.0s
CHNA Chernabura Isl 116.33 320 PKiKP PKPdf 16 16 35.5 -0.8
baz=115
KONO Kongsberg 116.34 34 ePdif Pdif 16 12 50.9 +0.3
KONO IVMs_BB IVMs_BB 17 12 28.8
comp=Z,13µm,18.2s
KONO Kongsberg 116.34 34 c iPKiKP PKiKP 16 16 39.3 +3.1
KONO pmax pmax
comp=Z,29nm,1.7s
CHGN Chignik 116.34 322 PKiKP PKiKP 16 16 36.3 0.0
baz=115
CHGN Chignik 116.34 322 IAMs_20 IAMs_20 16 57 21.7
comp=Z,13µm,18.0s
PPLA Purkeypile 116.34 330 PKiKP PKPdf 16 16 35.5 -0.9
baz=117
PPLA Purkeypile 116.34 330 IAMs_20 IAMs_20 17 16 59.9
comp=Z,17µm,20.0s
MAUC Maruska 116.37 47 ePKP PKiKP 16 16 37.7 +1.0
MORC Moravsky Berou 116.37 46 ePDIFF Pdif 16 12 53.0 +2.0
MORC Moravsky Berou 116.37 46 ePKP PKiKP 16 16 39.2 +2.5
MORC e 16 27 19.8
MORC Moravsky Berou 116.37 46 ⇓P PKiKP 16 16 37.0 +0.3
MORC Moravsky Berou 116.37 46 ⇓PKiKP PKiKP 16 16 37.0 +0.3
E25K Arctic Village 116.37 336 PKiKP PKPdf 16 16 35.5 -0.6
baz=120
N19K Bonanza Creek 116.40 327 PKiKP PKPdf 16 16 35.0 -1.5
baz=116
N19K Bonanza Creek 116.40 327 IAMs_20 IAMs_20 16 58 40.4
comp=Z,15µm,18.0s
BOVS Bovan 116.43 54 ⇑P PKiKP 16 16 38.6 +1.7
R16K Pilot Point 116.45 323 PKiKP PKPdf 16 16 35.0 -1.4
baz=115
Q16K King Salmon 116.48 325 PKiKP PKPdf 16 16 35.6 -0.9
baz=115
C27K Jago River 116.55 338 PKiKP PKPdf 16 16 36.1 -0.3
baz=121
C27K Jago River 116.55 338 IAMs_20 IAMs_20 17 13 25.5
comp=Z,18µm,20.0s
STEB Steborice 116.57 46 ePKP PKiKP 16 16 38.0 +1.0
P17K Kvichak River 116.60 325 PKiKP PKPdf 16 16 35.8 -0.9
baz=115
KKB Krupnik 116.63 56 P Pdif 16 12 53.4 +1.0
H23K Yukon River 116.65 333 PKiKP PKPdf 16 16 36.2 -0.5
baz=118
MOL Molde 116.70 31 ePdif Pdif 16 12 52.8 +0.7
MOL IVMs_BB IVMs_BB 17 08 55.0
comp=Z,20µm,18.4s
MLY Manley 116.73 332 PKiKP PKPdf 16 16 36.9 0.0
baz=117
MLY Manley 116.73 332 IAMs_20 IAMs_20 17 15 03.3
comp=Z,20µm,19.0s
OKC Ostrava-Krasne 116.75 46 ePDIFF Pdif 16 12 55.0 +2.3
OKC AMS AMS 17 09 30.0
comp=Z,38µm,17.8s
OKC Ostrava-Krasne 116.75 46 i P Pdif 16 12 55.0 +2.3
OKC MLR MLR
comp=Z,38µm,17.8s
MIDW Midway 116.83 287 IAMs_20 IAMs_20 16 55 20.1
comp=Z,15µm,21.0s
CHUM Lake Minchumin 116.83 331 PKiKP PKiKP 16 16 37.1 0.0
baz=116
M19K Big River Lodg 116.83 328 IAMs_20 IAMs_20 17 04 25.8
comp=Z,15µm,20.0s
F24K Squaw Lake 116.85 335 PKiKP PKiKP 16 16 37.1 +0.1
baz=118
L20K Farewell, AK 116.86 329 PKiKP PKPdf 16 16 36.8 -0.3
baz=116
DAG Danmarks Havn 116.89 12 PP PP 16 17 37.2 -9.3
S14K Fog Glacier 116.91 321 PKiKP PKPdf 16 16 36.9 -0.7
baz=114
MMB Musomishta 116.93 57 P Pdif 16 12 55.5 +1.7
N18K Kilae Creek 116.97 327 PKiKP PKPdf 16 16 37.0 -0.4
baz=115
SDPT Sand Point 117.01 320 PKiKP PKPdf 16 16 37.6 0.0
baz=114
VTS Vitosha 117.02 55 P Pdif 16 12 55.5 +1.2
C26K Camden Bay 117.05 338 PKiKP PKiKP 16 16 38.8 +1.5
baz=120
PLNA Plana 117.09 56 P Pdif 16 12 56.8 +2.2
DOMB Dombas 117.12 32 ePdif Pdif 16 12 54.4 +0.3
DOMB IVMs_BB IVMs_BB 17 11 51.6
comp=Z,21µm,18.8s
O17K Koliganek Bris 117.14 326 PKiKP PKPdf 16 16 37.6 -0.1
baz=114
L19K White Mountain 117.15 329 PKiKP PKiKP 16 16 37.9 +0.1
baz=115
L19K White Mountain 117.15 329 IAMs_20 IAMs_20 17 02 29.1
comp=Z,16µm,19.0s
BZS Buzias 117.18 52 ⇑P PKiKP 16 16 38.6 +0.3
BZS Buzias 117.18 52 ⇑PKiKP PKiKP 16 16 38.6 +0.3
D25K Kavik River 117.21 337 PKiKP PKiKP 16 16 38.3 +0.6
baz=119
D25K Kavik River 117.21 337 IAMs_20 IAMs_20 17 05 38.1
comp=Z,25µm,18.0s
G23K Bananza Creek 117.22 334 PKiKP PKiKP 16 16 38.6 +0.8
baz=117
G23K Bananza Creek 117.22 334 IAMs_20 IAMs_20 17 17 25.3
comp=Z,17µm,18.0s
P16K Nushagak River 117.26 325 PKiKP PKiKP 16 16 38.3 +0.3
baz=114
LANS Liptovska Anna 117.26 48 ePKiKP PKiKP 16 16 40.2 +1.8
LANS e 16 17 47.1
I21K Tanana 117.27 332 PKiKP PKiKP 16 16 38.9 +1.0
baz=116
I21K Tanana 117.27 332 IAMs_20 IAMs_20 17 15 19.2
comp=Z,21µm,18.0s
M18K Stony River 117.28 328 PKiKP PKiKP 16 16 38.6 +0.7
baz=114
E24K Your Creek 117.31 336 PKiKP PKiKP 16 16 39.0 +1.0
baz=117
E24K Your Creek 117.31 336 IAMs_20 IAMs_20 17 17 17.7
comp=Z,23µm,20.0s
K20K Telida 117.31 330 PKiKP PKiKP 16 16 38.5 +0.4
baz=115
K20K Telida 117.31 330 IAMs_20 IAMs_20 17 18 03.3
comp=Z,22µm,19.0s
H22K Ishtalitna Cre 117.35 333 PKiKP PKiKP 16 16 38.8 +0.8
baz=116
HERR Herculane 117.40 53 ⇑P PKiKP 16 16 39.7 +1.0
SIRR Siria 117.47 51 ⇑P PKiKP 16 16 39.2 +0.3
N17K Nushagak Hills 117.49 326 PKiKP PKiKP 16 16 39.3 +0.9
baz=114
COLD Coldfoot 117.52 335 PKiKP PKiKP 16 16 39.4 +1.1
baz=116
COLD Coldfoot 117.52 335 IAMs_20 IAMs_20 17 17 09.1
comp=Z,26µm,19.0s
O16K Kokwok River B 117.53 325 PKiKP PKiKP 16 16 39.1 +0.6
baz=114
O16K Kokwok River B 117.53 325 IAMs_20 IAMs_20 16 57 30.3
comp=Z,16µm,19.0s
SURR Surduc 117.56 52 ⇓P PKiKP 16 16 39.1 +0.1
GKP Gorka Klasztor 117.59 43 ePdif Pdif 16 12 58.5 +2.2
GKP ePKPdf PKiKP 16 16 39.1 +0.3
GKP eSP SP 16 27 38.0 +4.0
GKP eL L 17 03 58.0
comp=Z,39µm,21.8s
KECS Kecovo 117.62 49 ePKiKP PKiKP 16 16 41.4 +2.4
NB2 NORSAR Subarra 117.65 33 PKPdf PKiKP 16 16 39.0 +0.2
comp=Z,165nm,2.0s,baz=248,slow=1.9
NB2 NORSAR Subarra 117.65 33 PKPdf PKiKP 16 16 39.0 +0.2
comp=Z,165nm,2.0s,baz=248,slow=1.9
NB2 PP PP 16 17 51.4 -0.8
comp=Z,2µm,5.0s,baz=242,slow=7.9
NB2 PKKP PKKPbc 16 27 03.7 +2.1
comp=Z,110nm,2.5s,baz=68,slow=4.4
NOA NORSAR Array B 117.65 33 PKP PKiKP 16 16 39.5 +0.7
comp=Z,4.1nm,0.8s,baz=250,slow=2.2,SNR=13
NOA PP PP 16 17 53.4 +1.2
comp=Z,3.5nm,1.0s,baz=244,slow=7.0,SNR=4.0
NOA PKKPbc PKKPbc 16 27 05.0 +3.3
comp=Z,3.3nm,0.7s,baz=68,slow=4.5,SNR=10.0
MPEP Malo Peshtene 117.66 55 P Pdif 16 12 55.5 -1.4
NC602 NORSAR Array S 117.67 34 ePdif Pdif 16 12 56.7 +0.2
NC602 IVMs_BB IVMs_BB 17 09 06.8
comp=Z,19µm,18.9s
E23K Chandalar 117.68 336 PKiKP PKiKP 16 16 39.7 +1.0
baz=116
E23K Chandalar 117.68 336 IAMs_20 IAMs_20 17 17 04.5
comp=Z,24µm,18.0s
J20K Nowinta River 117.69 331 PKiKP PKiKP 16 16 39.7 +1.0
baz=114
H21K Melozitna Rive 117.78 333 PKiKP PKiKP 16 16 39.4 +0.5
baz=115
H21K Melozitna Rive 117.78 333 IAMs_20 IAMs_20 17 17 45.1
comp=Z,25µm,19.0s
ARG Arkhangelos 117.80 64 IAMs_20 IAMs_20 17 11 31.8
comp=Z,26µm,19.0s
GZR Gura Zlata 117.84 52 ⇑P PKiKP 16 16 40.5 +0.8
GZR Gura Zlata 117.84 52 ⇑PKiKP PKiKP 16 16 40.5 +0.8
G22K Bettles 117.84 334 PKiKP PKiKP 16 16 39.7 +0.8
baz=115
PLD Plovdiv 117.86 56 P Pdif 16 12 59.4 +1.6
NIE Niedzica 117.87 48 ePdif Pdif 16 13 00.2 +2.5
NIE ePKPdf PKiKP 16 16 41.5 +2.0
NIE eSP SP 16 27 45.2 +8.5
NIE eL L 17 03 17.6
comp=Z,19µm,23.5s
OJC Ojcow 117.88 47 ePdif Pdif 16 12 59.7 +2.0
OJC ePKPdf PKiKP 16 16 40.9 +1.3
OJC eSP SP 16 27 40.1 +3.3
OJC eL L 17 04 35.7
comp=Z,40µm,22.3s
D24K Happy Valley 117.91 337 PKiKP PKiKP 16 16 39.1 +0.1
baz=117
TOLK Toolik Lake Re 117.93 336 PKiKP PKiKP 16 16 39.5 +0.4
baz=116
TOLK Toolik Lake Re 117.93 336 IAMs_20 IAMs_20 17 16 19.9
comp=Z,26µm,19.0s
L18K Granite Mounta 117.95 328 PKiKP PKPdf 16 16 38.9 -0.3
baz=114
M17K Holitna River 117.95 327 PKiKP PKPdf 16 16 39.2 -0.1
baz=113
M17K Holitna River 117.95 327 IAMs_20 IAMs_20 16 59 28.4
comp=Z,14µm,19.0s
S12K Black Hills 117.98 320 PKiKP PKPdf 16 16 39.4 -0.1
baz=113
KDZ Kurdzhali 118.05 57 P Pdif 16 12 58.9 +0.2
I20K Naaghedeneel 118.07 331 PKiKP PKiKP 16 16 39.7 +0.3
baz=114
I20K Naaghedeneel 118.07 331 IAMs_20 IAMs_20 17 18 23.6
comp=Z,18µm,19.0s
DEV Deva 118.11 52 ⇑P PKiKP 16 16 41.2 +1.1
DEV Deva 118.11 52 ⇑PKiKP PKiKP 16 16 41.2 +1.1
C24K Franklin Bluff 118.12 337 PKiKP PKiKP 16 16 40.1 +0.7
baz=116
C24K Franklin Bluff 118.12 337 IAMs_20 IAMs_20 17 05 43.2
comp=Z,19µm,19.0s
O15K Ungalikthiuk R 118.19 324 PKiKP PKPdf 16 16 39.6 -0.2
baz=113
O15K Ungalikthiuk R 118.19 324 IAMs_20 IAMs_20 16 57 47.5
comp=Z,16µm,18.0s
N16K Nishlik Lake 118.19 326 PKiKP PKiKP 16 16 40.4 +0.5
baz=113
J19K Poorman 118.21 330 PKiKP PKiKP 16 16 40.4 +0.7
baz=114
J19K Poorman 118.21 330 IAMs_20 IAMs_20 17 05 13.2
comp=Z,14µm,19.0s
F22K John River 118.33 335 PKiKP PKiKP 16 16 40.2 +0.3
baz=114
DRGR 118.34 51 ⇑P PKiKP 16 16 41.0 +0.4
DRGR 118.34 51 ⇑PKiKP PKiKP 16 16 41.0 +0.4
FALS False Pass 118.38 319 PKiKP PKPdf 16 16 40.1 -0.1
baz=112
G21K Allakaket 118.40 333 PKiKP PKiKP 16 16 40.8 +0.8
baz=114
G21K Allakaket 118.40 333 IAMs_20 IAMs_20 17 17 52.3
comp=Z,14µm,18.0s
HFS Hagfors 118.42 35 PKP PKPdf 16 16 40.2 0.0
comp=Z,8.9nm,0.8s,baz=151,slow=3.4,SNR=8.9
HFS PP PP 16 17 58.9 +1.4
comp=Z,9.4nm,1.1s,baz=224,slow=4.1,SNR=5.4
HFS PKKPbc PKKPbc 16 27 02.2 +3.4
comp=Z,3.4nm,0.8s,baz=339,slow=7.9,SNR=4.1
D23K Nanushuk River 118.43 336 PKiKP PKiKP 16 16 40.9 +0.8
baz=115
D23K Nanushuk River 118.43 336 IAMs_20 IAMs_20 17 06 51.3
comp=Z,25µm,19.0s
J18K Innoko River 118.45 329 PKiKP PKiKP 16 16 41.1 +0.9
baz=113
E22K Anaktuvuk Pass 118.46 335 PKiKP PKiKP 16 16 41.2 +1.0
baz=114
E22K Anaktuvuk Pass 118.46 335 IAMs_20 IAMs_20 17 15 01.1
comp=Z,24µm,19.0s
M16K Timber Creek 118.49 326 PKiKP PKiKP 16 16 40.9 +0.6
baz=112
M16K Timber Creek 118.49 326 IAMs_20 IAMs_20 17 04 50.5
comp=Z,15µm,21.0s
H20K Anotleneega Mo 118.51 332 PKiKP PKiKP 16 16 41.2 +1.0
baz=113
PVL Pavlikeni 118.53 56 P Pdif 16 13 02.3 +1.5
MARR Marisel-Cluj 118.56 51 ⇑P PKiKP 16 16 41.6 +0.5
L17K Donlin 118.61 328 PKiKP PKiKP 16 16 41.4 +0.9
baz=112
F21K Alatna River 118.67 334 PKiKP PKiKP 16 16 41.3 +0.7
baz=114
F21K Alatna River 118.67 334 IAMs_20 IAMs_20 17 19 04.6
comp=Z,23µm,18.0s
N15K Kwethluk River 118.69 325 PKiKP PKiKP 16 16 41.8 +1.0
baz=112
N15K Kwethluk River 118.69 325 IAMs_20 IAMs_20 17 00 57.7
comp=Z,15µm,18.0s
C23K Itkillik River 118.77 337 PKiKP PKiKP 16 16 41.8 +1.1
baz=115
C23K Itkillik River 118.77 337 IAMs_20 IAMs_20 17 06 03.4
comp=Z,24µm,19.0s
K17K Iditarod 118.83 328 PKiKP PKiKP 16 16 41.6 +0.6
baz=112
K17K Iditarod 118.83 328 IAMs_20 IAMs_20 17 19 14.7
comp=Z,14µm,18.0s
KOLS Kolonicke sedl 118.88 49 ePKiKP PKiKP 16 16 41.6 +0.1
KOLS e 16 17 58.2
O14K Tigyukauivet M 118.90 324 PKiKP PKiKP 16 16 42.1 +1.0
baz=111
O14K Tigyukauivet M 118.90 324 IAMs_20 IAMs_20 16 58 09.5
comp=Z,18µm,19.0s
TNR Turnu Rosu 118.91 53 ⇑P PKiKP 16 16 41.9 +0.2
TNR Turnu Rosu 118.91 53 ⇑PKiKP PKiKP 16 16 41.9 +0.2
ELND Elena 118.93 56 ⇑P PKiKP 16 16 42.2 +0.4
HUMR Humele 118.95 54 ⇑P PKiKP 16 16 44.8 +3.1
L16K Owhat River 118.97 327 PKiKP PKiKP 16 16 41.8 +0.6
baz=112
GCSA Galena City Sc 119.00 331 PKiKP PKiKP 16 16 41.4 +0.2
baz=112
ARR Arges 119.04 53 ⇑P PKiKP 16 16 42.0 0.0
D22K Ayikyak River 119.06 336 PKiKP PKiKP 16 16 42.0 +0.7
baz=113
D22K Ayikyak River 119.06 336 IAMs_20 IAMs_20 17 17 07.8
comp=Z,24µm,21.0s
BEL Belsk 119.06 45 ePdif Pdif 16 13 04.8 +1.9
BEL ePKPdf PKiKP 16 16 41.8 +0.1
BEL ePP PP 16 18 01.2 -1.0
BEL eSP SP 16 27 51.0 +3.6
BEL eL L 17 06 12.4
comp=Z,42µm,21.4s
H19K Roundabout Mou 119.12 332 PKiKP PKiKP 16 16 42.3 +0.8
baz=112
H19K Roundabout Mou 119.12 332 IAMs_20 IAMs_20 17 19 20.5
comp=Z,3µm,18.0s
SZH Strazhitsa 119.13 56 P Pdif 16 13 04.5 +1.1
WRA Warramunga Arr 119.13 210 PKP PKPdf 16 16 42.1 -0.9
comp=Z,4.6nm,0.7s,baz=158,slow=1.6,SNR=38
WRA PP PP 16 18 05.1 +3.3
comp=Z,11nm,1.3s,baz=140,slow=5.7,SNR=6.7
WRA PKKPbc PKKPbc 16 26 57.7 +2.1
comp=Z,2.9nm,0.8s,baz=342,slow=3.8,SNR=10
WRAB Tennant Creek 119.14 210 IAMs_20 IAMs_20 16 58 54.7
comp=Z,23µm,21.0s
M15K Kasigluk River 119.15 326 PKiKP PKiKP 16 16 41.7 +0.1
baz=111
BMR Baia Mare 119.17 50 ⇓P PKiKP 16 16 43.8 +1.7
JMB Yambol 119.20 57 P Pdif 16 13 13.8 +10
NSS Namsos 119.30 30 ePdif Pdif 16 13 04.3 +0.6
E21K Killik River 119.32 335 PKiKP PKiKP 16 16 42.6 +0.7
baz=112
E21K Killik River 119.32 335 IAMs_20 IAMs_20 17 16 07.7
comp=Z,17µm,19.0s
VOIR 119.34 53 ⇓P PKiKP 16 16 42.7 +0.1
VOIR 119.34 53 ⇓PKiKP PKiKP 16 16 42.7 +0.1
N14K Kuskokwak Cree 119.34 325 PKiKP PKiKP 16 16 42.5 +0.5
baz=111
N14K Kuskokwak Cree 119.34 325 IAMs_20 IAMs_20 16 58 00.1
comp=Z,17µm,19.0s
KWP Kalwaria Pacla 119.40 48 ePKPdf PKiKP 16 16 42.8 +0.3
KWP ePP PP 16 18 03.3 -1.3
KWP eL L 17 05 17.5
comp=Z,35µm,24.0s
R9F13 Warsaw-Wawer 119.41 45 ePKPdfc 16 16 42.6
R9F13 ePP PP 16 18 03.0 -1.5
R9F13 ePPP PPP 16 20 44.3
J17K VABM Dome 119.41 329 PKiKP PKiKP 16 16 43.2 +1.1
baz=111
F20K Avaraart Lake 119.42 333 PKiKP PKiKP 16 16 43.0 +1.0
baz=112
F20K Avaraart Lake 119.42 333 IAMs_20 IAMs_20 17 18 38.2
comp=Z,18µm,18.0s
PHSR Pinarhisar 119.56 58 ⇑P PKiKP 16 16 43.5 +0.5
UNV Unalaska Valle 119.70 317 PKiKP PKiKP 16 16 43.2 +0.3
baz=110
H18K Honhosa River 119.74 331 PKiKP PKiKP 16 16 43.8 +1.1
baz=111
H18K Honhosa River 119.74 331 IAMs_20 IAMs_20 17 19 08.7
comp=Z,17µm,19.0s
DOPR Dopca 119.75 53 ⇑P PKiKP 16 16 44.2 +0.8
M14K Bethel 119.76 326 PKiKP PKiKP 16 16 43.6 +0.8
baz=110
M14K Bethel 119.76 326 IAMs_20 IAMs_20 16 57 49.1
comp=Z,15µm,21.0s
B22K Teshekpuk Lake 119.86 337 PKiKP PKiKP 16 16 43.3 +0.6
baz=112
B22K Teshekpuk Lake 119.86 337 IAMs_20 IAMs_20 17 19 56.0
comp=Z,21µm,21.0s
L15K Ungalak Mounta 119.86 327 PKiKP PKiKP 16 16 44.3 +1.3
baz=110
C21K Knifeblade Rid 119.86 336 PKiKP PKiKP 16 16 43.8 +1.0
baz=112
MLR Muntele Rosu 119.94 53 PKP PKPdf 16 16 43.4 -0.4
comp=Z,27nm,1.1s,baz=356,slow=1.4,SNR=19
MLR PP PP 16 18 09.8 +1.2
comp=Z,43nm,1.2s,baz=262,slow=4.1,SNR=9.0
MLR Muntele Rosu 119.94 53 ⇑P PKiKP 16 16 44.5 +0.6
MLR Muntele Rosu 119.94 53 ⇑PKiKP PKiKP 16 16 44.5 +0.6
B21K Ikpikpuk River 119.97 336 PKiKP PKiKP 16 16 43.3 +0.3
baz=111
B21K Ikpikpuk River 119.97 336 IAMs_20 IAMs_20 17 06 43.1
comp=Z,24µm,19.0s
J16K Anvik River 120.02 329 PKiKP PKiKP 16 16 44.1 +0.8
baz=110
E20K Nigu River 120.02 335 PKiKP PKPdf 16 16 43.0 -0.2
baz=111
CTYL Yalikoy Yolu 120.03 58 ⇑P PKiKP 16 16 44.8 +0.9
PRD Provadia 120.06 56 P Pdif 16 13 04.0 -3.5
F19K Shaleruckik Mo 120.09 333 PKiKP PKPdf 16 16 43.0 -0.2
baz=110
F19K Shaleruckik Mo 120.09 333 IAMs_20 IAMs_20 17 19 32.1
comp=Z,13µm,18.0s
G18K Tagagawik 120.11 332 PKiKP PKiKP 16 16 44.0 +0.6
baz=110
G18K Tagagawik 120.11 332 IAMs_20 IAMs_20 17 20 07.5
comp=Z,18µm,18.0s
E19K Redstone River 120.11 334 PKiKP PKiKP 16 16 43.6 +0.2
baz=110
E19K Redstone River 120.11 334 IAMs_20 IAMs_20 17 19 36.4
comp=Z,17µm,19.0s
COEN Coen 120.13 221 IAMs_20 IAMs_20 17 00 21.4
comp=Z,25µm,20.0s
NEHR Nehoiu 120.15 53 ⇑P PKPdf 16 16 43.8 -0.3
ISR Istrita 120.20 54 ⇑P PKiKP 16 16 45.2 +0.9
ISR Istrita 120.20 54 ⇑PKiKP PKiKP 16 16 45.2 +0.9
ISR Istrita 120.20 54 PKP PKPdf 16 16 43.9 -0.3
ISP Isparta 120.20 63 c iPKiKP PKiKP 16 16 44.8 +0.2
ISP pmax pmax
comp=Z,29nm,2.5s
ISP MLR MLR
comp=Z,43µm,21.0s
BURAR Bucovina Array 120.24 51 ⇓P PKiKP 16 16 45.0 +0.7
BURAR Bucovina Array 120.24 51 ⇓PKiKP PKiKP 16 16 45.0 +0.7
COVR Voineasa-Covas 120.24 53 ⇑P PKiKP 16 16 46.2 +1.9
I17K Unalakleet 120.25 329 PKiKP PKiKP 16 16 43.8 +0.1
baz=109
I17K Unalakleet 120.25 329 IAMs_20 IAMs_20 17 17 31.3
comp=Z,16µm,19.0s
H17K Granite Mounta 120.28 330 PKiKP PKPdf 16 16 43.6 0.0
baz=110
H17K Granite Mounta 120.28 330 IAMs_20 IAMs_20 17 20 10.0
comp=Z,24µm,18.0s
L14K Kuka Creek 120.29 326 PKiKP PKPdf 16 16 43.6 -0.1
baz=109
M13K Dall Lake 120.29 325 PKiKP PKPdf 16 16 43.1 -0.6
baz=109
M13K Dall Lake 120.29 325 IAMs_20 IAMs_20 16 59 16.2
comp=Z,18µm,19.0s
LEIR Leirfjorden 120.30 28 ePdif Pdif 16 13 08.7 +0.7
D20K Etivluk River 120.32 335 PKiKP PKiKP 16 16 44.5 +0.7
baz=110
STOK Stokkvaagen 120.34 28 ePdif Pdif 16 13 08.7 +0.5
BISRR Bisoca 120.46 53 ⇑P PKPdf 16 16 44.4 -0.3
PLOR Plostina 120.53 53 ⇓P PKPdf 16 16 44.5 -0.3
PLOR Plostina 120.53 53 ⇓PKiKP PKPdf 16 16 44.5 -0.3
ONER Baraj Valea Uz 120.54 53 ⇓P PKiKP 16 16 46.3 +1.5
VAGH Vaagaholmen 120.57 27 ePdif Pdif 16 13 09.7 +0.5
A22K Sinclair Lake 120.58 338 PKiKP PKiKP 16 16 45.0 +0.9
baz=110
VRI Vrincioaia 120.59 53 ⇑P PKPdf 16 16 44.3 -0.6
VRI Vrincioaia 120.59 53 ⇑PKiKP PKPdf 16 16 44.3 -0.6
VRI Vrincioaia 120.59 53 PKP PKPdf 16 16 44.5 -0.4
F18K Selawik 120.72 332 PKiKP PKiKP 16 16 45.2 +0.7
baz=109
NIKH Nikolski High 120.73 316 PKiKP PKiKP 16 16 45.1 +0.2
baz=109
G17K Kiwalik Mounta 120.76 331 PKiKP PKiKP 16 16 45.5 +0.9
baz=108
RAUS Rausandaksla 120.76 28 ePdif Pdif 16 13 10.7 +0.5
TESR Tescani 120.77 52 ⇑P PKPdf 16 16 45.0 -0.2
TESR Tescani 120.77 52 PKP PKPdf 16 16 44.6 -0.6
D19K Kuna River 120.77 335 PKiKP PKiKP 16 16 45.6 +0.9
baz=109
D19K Kuna River 120.77 335 IAMs_20 IAMs_20 17 18 30.9
comp=Z,17µm,20.0s
MOR8 Moi Rana 120.83 28 ePdif Pdif 16 13 11.6 +1.1
SILT Sile 120.85 59 ⇑P PKPdf 16 16 44.9 -0.5
B20K Meade River 120.94 336 PKiKP PKiKP 16 16 45.6 +0.8
baz=109
B20K Meade River 120.94 336 IAMs_20 IAMs_20 17 06 54.6
comp=Z,22µm,20.0s
HARR Harsova 120.97 55 ⇑P PKiKP 16 16 46.6 +0.9
HARR Harsova 120.97 55 ⇑PKiKP PKiKP 16 16 46.6 +0.9
GHRR 121.10 53 PKP PKPdf 16 16 45.1 -0.7
LOF Lofoten 121.11 26 ePdif Pdif 16 13 12.0 +0.4
H16K Elim 121.13 330 PKiKP PKiKP 16 16 46.2 +0.8
baz=108
CSS Mathiatis 121.14 67 PKP PKiKP 16 16 47.1 +0.7
CSS Mathiatis 121.14 67 IAMs_20 IAMs_20 17 12 56.7
comp=Z,23µm,20.0s
SUW Suwalki 121.17 43 ePdif Pdif 16 13 13.8 +1.6
SUW ePKPdf PKiKP 16 16 45.7 0.0
SUW ePP PP 16 18 12.6 -3.9
SUW eSP SP 16 28 06.3 +0.3
SUW eL L 17 09 51.6
comp=Z,40µm,20.7s
SUW Suwalki 121.17 43 PKiKP PKiKP 16 16 45.8 0.0
A21K Barrow 121.19 338 PKiKP PKiKP 16 16 45.9 +0.6
baz=109
TIRR Tirgusor 121.20 55 ⇑P PKiKP 16 16 46.2 0.0
TIRR Tirgusor 121.20 55 ⇑PKiKP PKiKP 16 16 46.2 0.0
TIRR Tirgusor 121.20 55 PKP PKiKP 16 16 46.8 +0.6
CFR Carcaliu 121.27 54 ⇑P PKPdf 16 16 46.2 +0.1
CFR Carcaliu 121.27 54 ⇑PKiKP PKPdf 16 16 46.2 +0.1
F17K Baldwin Pennin 121.28 332 PKiKP PKiKP 16 16 46.5 +0.9
baz=108
E18K Tukpahlearik C 121.33 333 PKiKP PKiKP 16 16 46.4 +0.6
baz=108
E18K Tukpahlearik C 121.33 333 IAMs_20 IAMs_20 17 20 07.6
comp=Z,23µm,20.0s
TPGR Topolog 121.35 55 ⇑P PKPdf 16 16 43.8 -2.6
K13K Kusilvak Mount 121.37 326 PKiKP PKiKP 16 16 46.4 +0.5
baz=107
G16K Koyuk River 121.41 331 PKiKP PKiKP 16 16 46.0 +0.1
baz=107
G16K Koyuk River 121.41 331 IAMs_20 IAMs_20 17 20 18.7
comp=Z,13µm,19.0s
C19K Lookout Ridge 121.47 335 PKiKP PKiKP 16 16 46.9 +0.9
baz=107
PMG Port Moresby 121.50 228 PKP PKiKP 16 16 47.7 0.0
comp=Z,20nm,0.9s,baz=296,slow=7.8,SNR=3.9
FAUS Fauske 121.52 27 ePdif Pdif 16 13 13.9 +0.5
FAUS eP PKiKP 16 16 46.8 +0.8
VASR Vaslui 121.55 53 ⇓P PKiKP 16 16 47.9 +1.1
JURR Jurilovca 121.62 55 ⇓P PKiKP 16 16 49.3 +2.3
M11K Mekoryuk 121.63 324 PKiKP PKiKP 16 16 47.1 +0.7
baz=107
M11K Mekoryuk 121.63 324 IAMs_20 IAMs_20 17 01 42.6
comp=Z,16µm,18.0s
STEI Steigen 121.66 26 ePdif Pdif 16 13 14.7 +0.7
E17K Hotham Inlet 121.69 333 PKiKP PKiKP 16 16 47.0 +0.6
baz=107
GIRL Giralia 121.82 188 IAMs_20 IAMs_20 17 04 58.2
comp=Z,15µm,20.0s
RNPP5 Staryi Chortor 121.86 47 PKP PKPdf 16 16 46.3 -0.8

RNPP8	**Varash**	**121.87**	**47**	PKP	**PKPdf**	**16 16 46.4**	**-0.7**
C18K	**Utukok River**	**121.90**	**334**	PKiKP	**PKiKP**	**16 16 47.5**	**+0.5**
	baz=106						
C18K	**Utukok River**	**121.90**	**334**	IAMs_20	IAMs_20	17 16 53.8	
	comp=Z,20µm,22.0s						
RNPP9	**Sopachiv**	**121.92**	**47**	PKP	**PKPdf**	**16 16 47.2**	**0.0**
MMAI	**Mount Meron Ar**	**121.93**	**70**	PKP	**PKPdf**	**16 16 47.5**	**-0.4**
	comp=Z,9.3nm,0.9s,baz=212,slow=3.0,SNR=12						
MMAI				PP	**PP**	**16 18 20.9**	**-1.5**
	comp=Z,8.6nm,1.0s,baz=242,slow=8.4,SNR=4.0						
G15K	**Niukluk**	**121.97**	**330**	PKiKP	**PKiKP**	**16 16 47.8**	**+0.8**
	baz=106						
PSA00	**Pilbara Seismi**	**122.00**	**194**	P	**PKiKP**	**16 16 48.5**	**-0.1**
P08K	**Saint George I**	**122.22**	**320**	PKiKP	**PKiKP**	**16 16 48.0**	**+0.2**
	baz=107						
P08K	**Saint George I**	**122.22**	**320**	IAMs_20	IAMs_20	17 02 23.3	
	comp=Z,13µm,18.0s						
A19K	**Wainwright**	**122.28**	**336**	PKiKP	**PKiKP**	**16 16 48.2**	**+0.7**
	baz=105						
B18K	**Kokolik River**	**122.30**	**335**	PKiKP	**PKiKP**	**16 16 48.2**	**+0.6**
	baz=105						
MILM	**Milestii Mici**	**122.30**	**53**	⇑P	**PKPdf**	**16 16 47.7**	**-0.4**
MILM	**Milestii Mici**	**122.30**	**53**	*e*P	**Pdif**	**16 13 16.0**	**-1.4**
MILM	**Milestii Mici**	**122.30**	**53**	⇑*i*PKP	**PKPdf**	**16 16 46.0**	**-2.1**
	comp=Z,740nm,2.6s						
MILM	**Milestii Mici**	**122.30**	**53**	*i* PP	PP	16 18 21.0	-3.5
MILM	**Milestii Mici**	**122.30**	**53**	*i* PS	PS	16 28 12.0	-6.8
MILM	**Milestii Mici**	**122.30**	**53**	*ce*P	**Pdif**	**16 13 16.0**	**-1.4**
MILM				*i*		16 16 46.0	
MILM				*i*		16 18 21.0	
MILM				*i* PS	**PS**	**16 28 12.0**	**-6.8**
MILM				pmax	pmax		
	comp=Z,740nm,2.6s						
D17K	**Noatak River**	**122.32**	**333**	PKiKP	**PKiKP**	**16 16 48.3**	**+0.6**
	baz=105						
KIS	**Kishinev**	**122.33**	**52**	*e*PKP	**PKPdf**	**16 16 46.0**	**-2.1**
	comp=Z,400nm,2.6s						
KIS	**Kishinev**	**122.33**	**52**	*i* PP	PP	16 18 21.0	-3.7
KIS	**Kishinev**	**122.33**	**52**	*i* PS	PS	16 28 13.0	-6.1
KIS	**Kishinev**	**122.33**	**52**	*e*PKiKP	**PKPdf**	**16 16 46.0**	**-2.1**
KIS				*i* PS	**PS**	**16 28 13.0**	**-6.1**
KIS				*i* PPS	PPS	16 29 46.0	
KIS				pmax	pmax		
	comp=Z,400nm,2.6s						
RDOG	**Red Dog Mine**	**122.35**	**334**	PKiKP	**PKiKP**	**16 16 48.6**	**+0.8**
	baz=105						
SORM	**Soroca**	**122.40**	**51**	⇑P	**PKPdf**	**16 16 47.2**	**-1.0**
SORM	**Soroca**	**122.40**	**51**	⇑PKiKP	**PKPdf**	**16 16 47.2**	**-1.0**
F15K	**North Star Dit**	**122.41**	**331**	PKiKP	**PKiKP**	**16 16 48.4**	**+0.5**
	baz=105						
F15K	**North Star Dit**	**122.41**	**331**	IAMs_20	IAMs_20	17 20 55.3	
	comp=Z,14µm,18.0s						
ANM	**Nome**	**122.41**	**329**	PKiKP	**PKiKP**	**16 16 48.6**	**+0.7**
	baz=105						
ANM	**Nome**	**122.41**	**329**	IAMs_20	IAMs_20	17 20 57.3	
	comp=Z,15µm,19.0s						
MBWA	**Marble Bar**	**122.42**	**194**	PKP	**PKPdf**	**16 16 48.0**	**-1.2**
C17K	**DeLong Mountai**	**122.56**	**334**	PKiKP	**PKPdf**	**16 16 48.0**	**0.0**
	baz=105						
LUBAR	**Lubar, Ukraine**	**122.58**	**49**	PKP	**PKPdf**	**16 16 47.3**	**-1.2**
ANTO	**Ankara**	**122.62**	**62**	⇑P	**PKPdf**	**16 16 49.1**	**+0.1**
ANTO	**Ankara**	**122.62**	**62**	⇑PKiKP	**PKPdf**	**16 16 49.1**	**+0.1**
ANTO	**Ankara**	**122.62**	**62**	PKP	**PKPdf**	**16 16 48.3**	**-0.7**
SPIA	**Saint Paul Isl**	**122.75**	**320**	PKiKP	**PKiKP**	**16 16 48.7**	**0.0**
	baz=106						
MI28	**MI28,Pidlybu**	**122.84**	**48**	PKP	**PKPdf**	**16 16 48.5**	**-0.5**
F14K	**Arctic Creek**	**123.03**	**330**	PKiKP	**PKiKP**	**16 16 49.2**	**0.0**
	baz=104						
BR105	**Keskin Array S**	**123.16**	**62**	PKP	**PKPdf**	**16 16 49.6**	**-0.6**
BR106	**Keskin Array S**	**123.16**	**62**	PKP	**PKPdf**	**16 16 49.7**	**-0.5**
KIRS	**Kirsehir-Merke**	**123.16**	**63**	⇓P	**PKiKP**	**16 16 51.6**	**+1.3**
BR104	**Keskin Array S**	**123.17**	**62**	PKP	**PKPdf**	**16 16 49.9**	**-0.3**
BRTR	**Keskin Array B**	**123.17**	**62**	PKP	**PKiKP**	**16 16 50.4**	**-0.1**
	comp=Z,14nm,1.0s,baz=201,slow=2.4,SNR=24						
BRTR				PP	**PP**	**16 18 29.9**	**-0.8**
	comp=Z,12nm,1.1s,baz=232,slow=7.3,SNR=4.7						
BR131	**Keskin Array S**	**123.17**	**62**	*ic*PKiKP	**PKPdf**	**16 16 49.9**	**-0.3**
C16K	**Lisburne Hills**	**123.29**	**334**	PKiKP	**PKPdf**	**16 16 49.3**	**0.0**
	baz=103						
C16K	**Lisburne Hills**	**123.29**	**334**	IAMs_20	IAMs_20	17 18 37.6	
	comp=Z,22µm,21.0s						
TRO	**Tromso**	**123.39**	**25**	*e*Pdif	**Pdif**	**16 13 22.1**	**+0.4**
TRO				*e*P	**PKiKP**	**16 16 50.0**	**+0.3**
KBS	**Kingsbay**	**123.54**	**13**	IAMs_20	IAMs_20	17 17 57.7	
	comp=Z,17µm,19.0s						
ATKA	**Atka Island**	**123.60**	**314**	IAMs_20	IAMs_20	17 04 52.6	
	comp=Z,13µm,18.0s						
AK18	**Malin Array Si**	**123.62**	**48**	PKP	**PKPdf**	**16 16 49.5**	**-1.0**
AK21	**Malin Array Si**	**123.62**	**48**	PKP	**PKPdf**	**16 16 49.5**	**-1.0**
AK16	**Malin Array Si**	**123.63**	**48**	PKP	**PKPdf**	**16 16 49.5**	**-1.0**
AK22	**Malin Array Si**	**123.64**	**48**	PKP	**PKPdf**	**16 16 49.5**	**-1.0**
TNA	**Tin City**	**123.70**	**330**	PKiKP	**PKiKP**	**16 16 51.3**	**+0.9**
	baz=102						
TNA	**Tin City**	**123.70**	**330**	IAMs_20	IAMs_20	17 09 40.3	
	comp=Z,15µm,19.0s						
KIEV	**Kiev**	**123.70**	**48**	⇓P	**PKPdf**	**16 16 50.0**	**-0.6**
KIEV	**Kiev**	**123.70**	**48**	*i* PKPdf	**PKPdf**	**16 16 49.7**	**-0.9**
	SNR=12						
KIEV	**Kiev**	**123.70**	**48**	⇓PKiKP	**PKPdf**	**16 16 50.0**	**-0.6**
AKASG	**Malin Array Be**	**123.71**	**48**	PKP	**PKPdf**	**16 16 50.0**	**-0.6**
	comp=Z,16nm,0.8s,baz=269,slow=2.8,SNR=53						
AKASG				PP	**PP**	**16 18 31.6**	**-2.3**
	comp=Z,15nm,0.9s,baz=256,slow=6.6,SNR=8.6						
AKBB	**Malin Array Si**	**123.71**	**48**	*c*PKiKP	**PKPdf**	**16 16 50.0**	**-0.6**
AK03	**Malin Array Si**	**123.72**	**48**	PKP	**PKPdf**	**16 16 49.5**	**-1.2**
HSPB	**Hornsund (broa**	**123.89**	**16**	*e*PKPdf	**PKiKP**	**16 16 51.6**	**+1.1**
HSPB				*e*PP	**PP**	**16 18 33.9**	**-0.4**
HSPB				*e*L	L	17 04 50.2	
	comp=Z,20µm,24.3s						
FITZ	**Fitzroy Crossi**	**123.90**	**201**	PKP	**PKPdf**	**16 16 51.8**	**-0.3**
	comp=Z,7.2nm,0.7s,baz=214,slow=3.9,SNR=22						
MNK	**Minsk**	**123.95**	**44**	*i* PKiKP	**PKiKP**	**16 16 51.4**	**+0.1**
MNK				*i*		16 18 34.6	
MNK				*i* PPP	PPP	16 21 12.6	
MNK				*i*		16 24 02.4	
MNK				*i* SP	SP	16 28 34.3	+3.6
MNK				*i* SS	**SS**	**16 35 25.3**	**+0.7**
MNK				pmax	pmax		
	comp=E,9.0nm,0.9s						
MNK				pmax	pmax		
	comp=N,14nm,1.1s						
MNK				pmax	pmax		
	comp=Z,125nm,1.0s						
MNK				MLR	MLR		
	comp=N,21µm,20.0s						
MNK				MLR	MLR		
	comp=E,23µm,20.0s						
MNK				MLR	MLR		
	comp=Z,31µm,20.0s						
BZK	**Bozkurt**	**124.20**	**60**	⇓P	**PKiKP**	**16 16 53.4**	**+1.2**
SPITS	**Spitsbergen Ar**	**124.27**	**14**	PKP	**PKPdf**	**16 16 50.1**	**-0.9**
	comp=Z,11nm,0.7s,baz=197,slow=0.9,SNR=7.8						
VSU	**Vasula**	**124.29**	**39**	*c*PKiKP	**PKPdf**	**16 16 50.2**	**-1.3**
VSU				pmax	pmax		
	comp=Z,149nm,1.3s						
FINES	**FINESS Array B**	**124.61**	**35**	PKP	**PKPdf**	**16 16 51.5**	**-0.5**
	comp=Z,25nm,1.1s,baz=349,slow=3.9,SNR=19						
KTK1	**Kautokeino**	**124.78**	**26**	*e*Pdif	**Pdif**	**16 13 28.7**	**+0.7**
KTK1				*e*P	**PKiKP**	**16 16 52.6**	**+0.1**
GAMB	**Gambell**	**124.94**	**328**	PKiKP	**PKiKP**	**16 16 53.4**	**+0.5**
	baz=100						
ADK	**Adak**	**125.00**	**313**	PKiKP	**PKiKP**	**16 16 53.3**	**-0.1**
ADK	**Adak**	**125.00**	**313**	IAMs_20	IAMs_20	17 05 15.6	
	comp=Z,14µm,18.0s						
HAMF	**Hammerfest**	**125.16**	**24**	*e*Pdif	**Pdif**	**16 13 30.0**	**+0.4**
SIM	**Simferopol'**	**125.21**	**56**	*i* P	**Pdif**	**16 13 30.2**	**-0.2**
SIM				*e*		16 16 54.4	
SIM				*e*		16 18 43.5	
SIM				*e*SP	SP	16 28 41.2	-1.2
SIM				*e*PS	**PS**	**16 28 50.0**	**+5.4**
SIM				pmax	pmax		
	comp=Z,170nm,10.6s						
SIM				pmax	pmax		
	comp=Z,370nm,2.7s						
SIM				pmax	pmax		
	comp=Z,2µm,6.8s						
WAKE	**Wake Island**	**125.45**	**269**	IAMs_20	IAMs_20	16 59 52.1	
	comp=Z,19µm,22.0s						
H11N3	**WAKE ISLAND Hyd**	**125.46**	**270**	T	T	18 34 54.9	
	baz=115,slow=78,SNR=43						
H11N1	**WAKE ISLAND Hyd**	**125.47**	**270**	T	T	18 34 54.1	
	baz=115,slow=78,SNR=113						
H11N2	**WAKE ISLAND Hyd**	**125.47**	**270**	T	T	18 35 06.4	
	baz=115,slow=78,SNR=124						
ARA0	**ARCESS Array S**	**125.65**	**25**	*e*P	**PKiKP**	**16 16 54.3**	**+0.1**
ARCES	**ARCESS Array B**	**125.65**	**25**	PKP	**PKPdf**	**16 16 53.8**	**0.0**
	comp=Z,8.7nm,0.6s,baz=265,slow=2.1,SNR=25						
RAYN	**Ar Rayn**	**125.87**	**85**	*i* PKiKP	**PKiKP**	**16 16 56.1**	**0.0**
	SNR=14						
RAYN	**Ar Rayn**	**125.87**	**85**	⇑PKiKP	**PKiKP**	**16 16 56.7**	**+0.6**
KEV	**Kevo**	**126.19**	**25**	PKP	**PKPdf**	**16 16 54.7**	**-0.2**
KEV	**Kevo**	**126.19**	**25**	IAMs_20	IAMs_20	17 08 24.0	
	comp=Z,23µm,20.0s						
PUL	**Pulkovo**	**126.36**	**38**	*c*PKiKP	**PKiKP**	**16 16 57.6**	**+1.7**
PUL				pmax	pmax		
	comp=Z,249nm,1.3s						
MANU	**Manus Island**	**127.00**	**234**	IAMs_20	IAMs_20	17 09 37.2	
	comp=Z,12µm,18.0s						
DRS	**Darwin Rock St**	**127.30**	**210**	P	**PKiKP**	**16 16 59.5**	**+0.3**
ANN	**Anapa**	**127.43**	**57**	*i* PKiKP	**PKPdf**	**16 16 57.8**	**-0.1**
ANN				*e*		16 17 01.5	
ANN				*e*		16 24 02.7	
ANN				*e*SP	SP	16 28 54.5	-7.4
ANN				*e*SS	**SS**	**16 36 15.2**	**+6.4**
ANN				pmax	pmax		
	comp=Z,170nm,1.6s						
ANN				pmax	pmax		
	comp=E,21nm,1.6s						
ANN				pmax	pmax		
	comp=N,30nm,0.8s						
APA	**Apatity**	**128.42**	**28**	⇓*i*PKiKP	**PKPdf**	**16 16 59.1**	**-0.1**
APA				*e*PS	**PS**	**16 29 05.6**	**-6.4**
APA				*i* SS	SS	16 36 16.8	-3.0
APA				MLR	MLR		
	comp=Z,26µm,20.7s						
SOC	**Sochi**	**128.70**	**59**	*c*PKiKP	**PKPdf**	**16 17 00.0**	**-0.4**
SOC				*e*		16 19 07.1	
SOC				*e*PPP	PPP	16 21 50.8	
SOC				*e*SS	SS	16 36 24.3	-0.2
SOC				*e*SSS	SSS	16 41 05.8	
SOC				pmax	pmax		
	comp=Z,97nm,1.1s						
VSLR	**Vesyoloye**	**128.89**	**59**	*d*PKiKP	**PKiKP**	**16 17 02.7**	**+1.2**
LVZ	**Lovozero**	**128.90**	**28**	*c*PKiKP	**PKiKP**	**16 17 00.6**	**-0.2**
LVZ				pmax	pmax		
	comp=Z,97nm,1.3s						
OBN	**Obninsk**	**129.00**	**44**	PKP	**PKPdf**	**16 17 00.5**	**0.0**
	comp=Z,146nm,1.3s,baz=128,slow=0.2,SNR=34						
OBN				PP	**PP**	**16 19 06.9**	**-1.9**
	comp=Z,11nm,0.5s,baz=112,slow=4.7,SNR=3.3						
OBN	**Obninsk**	**129.00**	**44**	⇓P	**PKiKP**	**16 17 02.2**	**+1.0**
OBN	**Obninsk**	**129.00**	**44**	*c*PKiKP	**PKPdf**	**16 17 00.5**	**0.0**
OBN				*i*		16 19 06.6	
OBN				pmax	pmax		
	comp=Z,257nm,1.3s						
OBN				MLR	MLR		
	comp=Z,46µm,20.0s						
OBN	**Obninsk**	**129.00**	**44**	PKP	**PKPdf**	**16 17 00.6**	**0.0**
BATM	**Batumi**	**129.58**	**62**	⇓P	**PKPdf**	**16 17 02.4**	**+0.2**
BATM	**Batumi**	**129.58**	**62**	⇓PKiKP	**PKPdf**	**16 17 02.4**	**+0.2**
LABN	**Labinsk**	**129.66**	**58**	*i* PKiKP	**PKiKP**	**16 17 03.2**	**+0.2**
LABN				*e*		16 17 06.3	
LABN				*e*		16 19 11.6	
LABN				*e*PPP	PPP	16 22 02.6	
LABN				*e*SP	SP	16 29 18.1	-3.2
LABN				pmax	pmax		
	comp=E,16nm,0.8s						
LABN				pmax	pmax		
	comp=N,18nm,0.9s						
LABN				pmax	pmax		
	comp=Z,110nm,1.7s						
LABN				MLR	MLR		
	comp=E,27µm,22.0s						
LABN				MLR	MLR		
	comp=Z,15µm,19.0s						
LABN				MLR	MLR		
	comp=N,9µm,16.0s						
MOS	**Moscow**	**129.67**	**43**	*i* PKiKP	**PKPdf**	**16 16 59.4**	**-2.5**
MOS				*e*		16 19 10.4	
MOS				*e*PPP	PPP	16 21 59.6	
MOS				*e*		16 24 05.0	
MOS				*e*PS	**PS**	**16 29 17.0**	**-6.3**
MOS				*e*PPS	PPS	16 30 56.8	
MOS				*e*SS	SS	16 36 33.9	-2.0
MOS				*e*SSS	SSS	16 41 24.2	
MOS				pmax	pmax		
	comp=Z,296nm,1.8s						
MOS				MLR	MLR		
	comp=Z,47µm,21.0s						
MOS				MLR	MLR		
	comp=E,37µm,22.0s						
ERBR	**Yeremizino-Bor**	**129.75**	**57**	*i* PKiKP	**PKiKP**	**16 17 03.1**	**0.0**
ERBR				*e*		16 17 05.9	
ERBR				*e*PPP	PPP	16 22 00.4	
ERBR				*e*		16 24 11.4	
ERBR				*e*SP	SP	16 29 26.6	+4.6
ERBR				*e*SS	**SS**	**16 36 38.4**	**+1.0**
ERBR				pmax	pmax		
	comp=Z,125nm,1.4s						
ERBR				pmax	pmax		
	comp=E,10.0nm,0.8s						
ERBR				pmax	pmax		
	comp=N,7.0nm,0.9s						
ERBR				MLR	MLR		
	comp=E,34µm,23.0s						
ERBR				MLR	MLR		
	comp=Z,34µm,23.0s						
ERBR				MLR	MLR		
	comp=N,10µm,19.0s						
VSR	**Storozhevoye**	**129.95**	**49**	*e*PKiKP	**PKPdf**	**16 16 59.6**	**-3.0**
VSR				pmax	pmax		
	comp=Z,50nm,1.1s						
VSR				MLR	MLR		
	comp=Z,41µm,20.0s						
VORD	**Divnogorie**	**129.99**	**50**	*e*PKiKP	**PKPdf**	**16 16 59.6**	**-3.0**
VORD				pmax	pmax		
	comp=Z,50nm,1.1s						
VORD				MLR	MLR		
	comp=Z,11µm,20.0s						
LPSR	**Galich'ya Gora**	**130.02**	**48**	*e*PKiKP	**PKPdf**	**16 17 02.7**	**+0.1**
LPSR				*e*		16 19 12.1	
LPSR				pmax	pmax		
	comp=Z,90nm,1.1s						
LPSR				MLR	MLR		
	comp=Z,38µm,20.0s						
VORR	**Voronezh**	**130.05**	**49**	*e*PKiKP	**PKPdf**	**16 17 02.2**	**-0.5**
VORR				pmax	pmax		
	comp=Z,80nm,1.0s						
VORR				MLR	MLR		
	comp=Z,33µm,21.0s						
SMY	**Shemya**	**130.71**	**312**	IAMs_20	IAMs_20	17 08 27.6	
	comp=Z,14µm,18.0s						
NEUR	**Neytrino**	**130.72**	**60**	*i* PKiKP	**PKiKP**	**16 17 06.1**	**+0.7**
SHA1	**Shidzhatmaz**	**130.80**	**60**	*c*PKiKP	**PKPdf**	**16 17 05.1**	**+0.3**
KIV	**Kislovodsk**	**130.87**	**59**	⇓P	**PKiKP**	**16 17 06.3**	**+0.7**
KIV	**Kislovodsk**	**130.87**	**59**	*i* PKPdf	**PKPdf**	**16 17 05.0**	**+0.3**
	SNR=29						
KIV	**Kislovodsk**	**130.87**	**59**	*i* P	**Pdif**	**16 13 55.5**	**-0.3**
KIV				*i*		16 17 04.7	
KIV				*e*		16 19 19.3	
KIV				*e*PPP	PPP	16 22 07.5	
KIV				*e*PS	**PS**	**16 29 28.1**	**-6.2**
KIV				*e*SS	SS	16 36 49.0	-2.6
KIV				pmax	pmax		
	comp=Z,70nm,1.1s						
KIV				MLR	MLR		
	comp=Z,20µm,23.0s						
KIV	**Kislovodsk**	**130.87**	**59**	PKP	**PKPdf**	**16 17 04.1**	**-0.6**
KIV				PKP		16 20 28.3	
KBZ	**Khabaz**	**130.97**	**60**	PKP	**PKiKP**	**16 17 06.4**	**+0.8**
	comp=Z,24nm,1.1s,baz=276,slow=1.1,SNR=40						
KBZ				PP	**PP**	**16 19 22.5**	**+0.5**
	comp=Z,22nm,1.1s,baz=306,slow=6.7,SNR=3.9						
KBZ				SKPbc	**SKPab**	**16 20 30.5**	**+1.8**
	comp=Z,9.3nm,1.1s,baz=355,slow=3.5,SNR=5.0						
KBZ	**Khabaz**	**130.97**	**60**	*c*PKiKP	**PKiKP**	**16 17 05.2**	**-0.4**
KBZ				*i*		16 17 07.5	
KLMR	**Klimovskoe**	**131.01**	**37**	*e*PKiKP	**PKPdf**	**16 17 04.6**	**+0.3**
KLMR				pmax	pmax		
	comp=Z,491nm,1.4s						
KLMR				MLR	MLR		
	comp=Z,33µm,20.0s						
GOF	**Gofitskoye**	**131.36**	**58**	*c*PKiKP	**PKiKP**	**16 17 06.4**	**0.0**
NCK	**Nalchik**	**131.41**	**60**	*i* PKiKP	**PKiKP**	**16 17 07.1**	**+0.5**
GNI	**Garni**	**131.42**	**65**	*c*PKiKP	**PKiKP**	**16 17 07.3**	**+0.4**
VRH	**Novokhopyorsk**	**131.54**	**50**	*e*PKiKP	**PKPdf**	**16 17 04.2**	**-1.4**
VRH				pmax	pmax		
	comp=Z,40nm,1.1s						
VRH				MLR	MLR		
	comp=Z,19µm,18.0s						
MZR	**Muzera**	**132.13**	**90**	*i* PKPdf	**PKPdf**	**16 17 06.7**	**-1.0**
	SNR=31						
SOEI	**Soe**	**132.18**	**203**	PKP	**PKPdf**	**16 17 04.7**	**-3.5**
BILL	**Bilibino**	**133.82**	**333**	*c*PKiKP	**PKiKP**	**16 17 10.3**	**-0.4**
BILL				*i*		16 17 12.1	
BILL				MLR	MLR		
	comp=Z,13µm,20.0s						
BILL	**Bilibino**	**133.82**	**333**	IAMs_20	IAMs_20	17 29 14.0	
	comp=Z,14µm,20.0s						
MMRI	**Maumere**	**133.86**	**201**	IAMs_20	IAMs_20	17 12 30.1	
	comp=Z,19µm,20.0s						
AKT	**Akhty**	**133.94**	**64**	*i* PKiKP	**PKPdf**	**16 17 09.6**	**-1.0**
AKT				*e*PPP	PPP	16 22 38.0	
AKT				*e*		16 24 20.3	
AKT				*e*PS	**PS**	**16 29 54.4**	**-6.4**
AKT				*e*SS	SS	16 37 23.9	-5.2
AKT				pmax	pmax		
	comp=Z,175nm,1.9s						
AKT				pmax	pmax		
	comp=N,58nm,1.8s						
AKT				pmax	pmax		
	comp=E,124nm,2.3s						
AJN	**Ajban**	**134.07**	**89**	*i* PKPdf	**PKPdf**	**16 17 10.7**	**-0.5**
	SNR=15						
MAK	**Makhachkala**	**134.09**	**62**	*e*P	**Pdif**	**16 14 08.9**	**-1.0**
MAK				*e*PPP	PPP	16 22 35.7	
MAK				*e*		16 24 16.5	
MAK				*e*		16 31 37.3	
MAK				*e*SS	SS	16 37 23.8	-6.7
ASUD	**Al Ashush, Dub**	**134.38**	**89**	*i* PKPdf	**PKPdf**	**16 17 11.0**	**-0.7**
	SNR=12						
ALNE	**Al Ain**	**134.47**	**90**	*i* PKPdf	**PKPdf**	**16 17 11.8**	**-0.1**
	SNR=34						
FAQ	**Al Faqa, Dubai**	**134.65**	**89**	*i* PKPdf	**PKPdf**	**16 17 12.0**	**-0.2**
	SNR=21						
NAZ	**Nazwa, Dubai**	**134.81**	**89**	*i* PKPdf	**PKPdf**	**16 17 12.3**	**-0.2**
	SNR=16						
ASHO	**Ashiyiah**	**135.00**	**89**	*i* PKPdf	**PKPdf**	**16 17 12.3**	**-0.7**
	SNR=26						
UMQ	**Umm Al-Quwin**	**135.04**	**88**	*i* PKPdf	**PKPdf**	**16 17 13.3**	**+0.4**
	SNR=7.7						
HATD	**Hatta, Dubai**	**135.12**	**89**	*i* PKPdf	**PKPdf**	**16 17 12.8**	**-0.3**
	SNR=19						
SOHO	**SOHO**	**135.14**	**90**	*i* PKPdf	**PKPdf**	**16 17 11.9**	**-1.3**
	SNR=23						
UOSS	**Minazif**	**135.23**	**89**	*i* PKPdf	**PKPdf**	**16 17 12.1**	**-1.2**
	SNR=13						
UOSS	**Minazif**	**135.23**	**89**	PKP	**PKPdf**	**16 17 11.3**	**-2.1**
BELG	**Belogornoye**	**135.29**	**49**	PKhKP	PKPpre	16 17 07.0	
	comp=E,136nm,1.1s,baz=107,slow=1.5,SNR=15						
BELG	**Belogornoye**	**135.29**	**49**	*c*PKiKP	**PKPdf**	**16 17 12.8**	**+0.2**
MSFE	**Esma-Masafi**	**135.37**	**89**	*i* PKPdf	**PKPdf**	**16 17 13.2**	**-0.5**
	SNR=14						
MDH	**Madha**	**135.46**	**89**	*i* PKPdf	**PKPdf**	**16 17 13.3**	**-0.5**
	SNR=23						
SHME	**Shamm**	**135.65**	**88**	*i* PKPdf	**PKPdf**	**16 17 14.4**	**+0.3**
	SNR=17						
BANOM	**Banah**	**135.73**	**88**	*i* PKPdf	**PKPdf**	**16 17 14.2**	**-0.1**
	SNR=13						
JAGI	**Jajag, Banyuwa**	**135.80**	**190**	IAMs_20	IAMs_20	17 17 39.6	
	comp=Z,16µm,19.0s						
KIRV	**Kirov**	**136.12**	**40**	PKhKP	PKPpre	16 17 05.8	
	comp=Z,9.7nm,0.7s,baz=269,slow=12,SNR=4.8						
KIRV	**Kirov**	**136.12**	**40**	*c*PKiKP	**PKPdf**	**16 17 14.7**	**+0.8**
KIRV	**Kirov**	**136.12**	**40**		PKPpre	16 17 05.8	
UGM	**Wanagama**	**136.74**	**185**	IAMs_20	IAMs_20	17 12 29.8	
	comp=Z,16µm,21.0s						
LEM	**Lembang**	**137.94**	**181**	PKhKP	PKPpre	16 17 10.4	
	comp=Z,11nm,0.3s,baz=257,slow=12,SNR=3.8						
LEM				PP	**PP**	**16 20 04.3**	**-0.7**
	comp=Z,11nm,0.4s,baz=54,slow=3.3,SNR=3.6						
LEM	**Lembang**	**137.94**	**181**	PKPpre		16 17 10.4	
KAPI	**Kappang**	**138.01**	**199**	*c*PKiKP	**PKiKP**	**16 17 20.1**	**-0.8**
KAPI				MLR	MLR		
	comp=Z,16µm,19.0s						
KAPI	**Kappang**	**138.01**	**199**	PKP	**PKPdf**	**16 17 18.3**	**-0.6**
KAPI	**Kappang**	**138.01**	**199**	IAMs_20	IAMs_20	17 18 34.0	
	comp=Z,17µm,20.0s						
SANI	**Sanana**	**138.70**	**209**	PKP	PKPpre	16 17 10.4	
PET	**Petropavlovsk**	**140.06**	**313**	*i* PKiKP	**PKPdf**	**16 17 22.4**	**+1.1**
PET				*e*		16 20 18.5	
PET				*e*SS	SS	16 38 39.8	-1.0
PET				pmax	pmax		
	comp=Z,2µm,12.3s						
PET				pmax	pmax		
	comp=Z,2µm,9.6s						
PET				MLR	MLR		
	comp=Z,15µm,20.0s						
PEA0B	**Petropavlovsk-**	**140.62**	**313**	*c*PKiKP	**PKPdf**	**16 17 23.6**	**+1.2**
PEA0B	**Petropavlovsk-**	**140.62**	**313**	IAMs_20	IAMs_20	17 10 57.9	
	comp=Z,11µm,20.0s						
PETK	**Petropavlovsk-**	**140.62**	**313**	PKhKP	PKPpre	16 17 16.2	
	comp=Z,7.6nm,0.8s,baz=90,slow=5.5,SNR=8.6						
LUWI	**Luwuk**	**140.83**	**205**	PKP	PKPdf	16 17 13.1	-11
SEY	**Seymchan**	**140.92**	**329**	PKhKP	PKPpre	16

KUR pmax pmax
comp=N,166nm,0.9s
KUR MLR MLR
comp=Z,9µm,20.0s
KUR MLR MLR
comp=E,6µm,18.0s
KUR MLR MLR
comp=N,3µm,17.0s
JASL Jaisalmer 148.05 95 *e*P **PKPdf 16 17 32.5 -3.7**
MYLDM Lahad Datu 148.07 202 IAMs_20 IAMs_20 17 28 59.7
comp=Z,16µm,20.0s
BVAR Borovoye Array 148.84 44 PKPbc **PKPbc 16 17 39.3 -1.2**
comp=Z,55nm,0.8s,baz=318,slow=2.0,SNR=70
HYB Hyderabad 148.94 118 *e*PKPdf **PKPdf 16 17 37.8 -0.1**
HYB *es*PKPdf **PKPbc 16 17 41.9 0.0**
HYB *e*PKiKP **pPKPdf 16 17 42.8 -0.2**
HYB IVmB_BB 16 17 43.6
comp=Z,10µm,2.8s
HYB *e*PP **PP 16 21 12.8 +0.3**
HYB *es*SKSdf **SKSdf 16 24 44.9 -1.0**
HYB *es*SKKSac **SKKSac 16 28 03.6 -0.2**
KBU Kabul Universi 149.03 81 PKP **PKPdf 16 17 37.6 -0.1**
CMBY CAMPBELL BAY 149.22 154 *e*P **PKPdf 16 17 35.5 -2.9**
KKM Kota Kinabalu 149.54 198 IAMs_20 IAMs_20 17 32 44.5
comp=Z,15µm,21.0s
AKL Akola 149.82 111 *e*P **PKPdf 16 17 35.3 -3.9**
AKL IAMs_20 IAMs_20 16 22 37.8
comp=N,2µm,11.7s
AKL IAMs_20 IAMs_20 16 22 42.1
comp=E,2µm,17.2s
YAK Yakutsk 149.84 339 PKP **PKPdf 16 17 38.5 +0.6**
comp=E,66nm,0.9s,baz=56,slow=2.1,SNR=23
YAK PKPbc **PKiKP 16 17 43.5 -0.2**
comp=E,271nm,0.9s,baz=16,slow=0.5,SNR=72
YAK Yakutsk 149.84 339 *i* PKIKP **PKPdf 16 17 37.4 -0.5**
YAK pmax pmax
comp=Z,449nm,1.3s
YAK pmax pmax
comp=E,31nm,1.5s
YAK pmax pmax
comp=N,70nm,1.5s
YAK Yakutsk 149.84 339 IAMs_20 IAMs_20 17 38 42.5
comp=Z,17µm,20.0s
TYV Tymovskoe 150.17 312 *e*PKIKP **PKiKP 16 17 45.6 +0.9**
TYV pmax pmax
comp=Z,118nm,1.3s
TYV pmax pmax
comp=Z,3µm,5.8s
CHM Chimkent 150.22 65 *e*PKP **PKPdf 16 17 39.4 +0.1**
CHM *e*PP **PP 16 21 20.0 0.0**
CHM LR LR 17 29 13.7
comp=Z,9µm,18.5s
CHM Chimkent 150.22 65 *e*PKIKP **PKPdf 16 17 39.3 +0.1**
CHM *e* 16 21 20.0
BRLS Borolday 150.38 64 *e*PKP **PKPdf 16 17 39.3 -0.1**
BRLS Borolday 150.38 64 *e*PKIKP **PKPdf 16 17 39.3 -0.1**
BKNR BIKANER 150.42 95 *e*P **PKPdf 16 17 36.8 -3.2**
NKL Nikolayevsk 150.52 317 *i* PKIKP **PKPbc 16 17 43.7 -0.9**
NKL *e* 16 21 20.4
NKL *es*SS SS 16 41 20.8 +41
IUG Iuzhnay 150.54 66 *e*PKP **PKPdf 16 17 39.8 0.0**
IUG *e*PKPab **PKPab 16 17 52.1 +0.1**
IUG *e*PP **PP 16 21 22.0 0.0**
IUG Iuzhnay 150.54 66 *e*PKIKP **PKPdf 16 17 39.8 0.0**
IUG *e* 16 21 21.9
KK31 Karatay Array 150.87 64 *i* PKIKP **PKPdf 16 17 39.9 -0.3**
JMP Maruseppu 151.01 298 P **PKiKP 16 17 46.6 -0.1**
YSS Yuzhno-Sakhali 151.04 304 *i* PKIKP **PKPdf 16 17 40.8 +0.6**
YSS *e* 16 17 48.7
YSS *e* 16 17 54.3
YSS *e* 16 21 30.8
YSS *es*SS SS 16 40 45.9 -0.5
YSS *e* 16 41 26.5
YSS *es*SSS SSS 16 46 36.6
YSS pmax pmax
comp=Z,170nm,0.9s
YSS pmax pmax
comp=Z,4µm,4.2s
NRDN NARMADA NAGAR 151.07 108 *e*P **PKPdf 16 17 37.0 -4.1**
BRZS Berezniki 151.16 49 *e*PKP **PKPdf 16 17 40.8 +0.4**
BRZS Berezniki 151.16 49 *e*PKIKP **PKPdf 16 17 40.8 +0.4**
ERM Erimo 151.25 294 PKP **PKPdf 16 17 41.0 +0.3**
DZA Taraz 151.48 64 *e*PKP **PKPdf 16 17 41.3 +0.1**
DZA *e*PKPab **PKPab 16 17 55.9 +0.2**
DZA Taraz 151.48 64 *e*PKIKP **PKPdf 16 17 41.2 +0.1**
JKA Kamikawa-asahi 151.54 299 IAMs_20 IAMs_20 17 19 16.2
comp=Z,17µm,19.0s
ASAJ Asahikawa 151.54 299 PKP **PKPdf 16 17 42.4 +1.3**
comp=Z,15nm,1.0s,baz=323,slow=5.8,SNR=5.0
ASAJ PKPbc **PKiKP 16 17 47.6 -0.2**
comp=Z,62nm,1.0s,baz=265,slow=8.5,SNR=13
BHPL Bhopal 151.55 107 *e*P **PKPdf 16 17 37.8 -4.1**
JTM Tenmabayashi 152.84 292 IAMs_20 IAMs_20 17 17 16.6
comp=Z,17µm,20.0s
JHJ2 Mitsune 152.91 275 IAMs_20 IAMs_20 17 13 14.5
comp=Z,11µm,21.0s
PBA Port Blair 152.97 148 *e*P **PKPdf 16 17 39.8 -4.3**
KUDL Kundal 153.08 97 *e*P **PKPdf 16 17 40.2 -3.6**
JMU Jammu 153.28 87 *e*P **PKPdf 16 17 40.4 -3.6**
EKS2 Erkin-Say 153.29 64 P **PKPdf 16 17 44.9 +1.0**
SNR=15
JHJR Jhajjar 153.39 96 *e*P **PKPdf 16 17 40.8 -3.6**
JHNI Jhansi 153.55 104 *e*P **PKPdf 16 17 41.8 -2.9**
SRNI Srinagar 153.56 84 *e*P **PKPdf 16 17 40.5 -3.9**
AYAN Aya Nagar 153.73 97 *e*P **PKPdf 16 17 41.1 -3.7**
PWAL Palwal 153.76 98 *e*P **PKPdf 16 17 41.2 -3.7**
USP Ospenovka 153.76 63 P **PKPdf 16 17 45.1 +0.6**
SNR=13
NRLA Narela 153.82 96 *e*P **PKPdf 16 17 41.2 -3.7**
AAK Ala-Archa 153.82 64 P **PKPdf 16 17 47.3 +2.5**
SNR=15
AAK Ala-Archa 153.82 64 *i* PKPdf **PKPdf 16 17 44.9 +0.2**
SNR=16
AAK Ala-Archa 153.82 64 PKIKP **PKPdf 16 17 45.6 +0.8**
AAK Ala-Archa 153.82 64 PKP **PKPdf 16 17 45.6 +0.8**
NPLP NPLP New Delhi 153.82 97 *e*P **PKPdf 16 17 41.3 -3.7**
SGNS Sogindy 153.84 62 *e*PKP **PKPdf 16 17 44.7 +0.1**
SGDS *e*PP **PP 16 21 40.6 0.0**
LDR Lodi Road 153.84 97 *e*P **PKPdf 16 17 41.0 -4.0**
AGRA Agra 153.88 100 *e*P **PKPdf 16 17 41.4 -3.7**
GNR GANAUR 153.89 95 *e*P **PKPdf 16 17 40.9 -4.1**
GRNR Gornyy 153.90 315 ⇓ *i* PKIKP **PKPdf 16 17 44.7 +0.3**
GRNR pmax pmax
comp=Z,10.0nm,1.3s
TLWR Talawar 153.94 89 *e*P **PKPdf 16 17 41.4 -3.7**
JOD2 Odawara 2 153.95 279 P **PKPdf 16 17 45.2 +0.3**
CHMS Chumysh 153.97 63 P **PKPdf 16 17 45.4 +0.6**
SNR=9.4
KBK Karagaybulak 154.15 64 P **PKPdf 16 17 47.5 +2.3**
SNR=10
BHK Bhakra 154.16 90 *e*P **PKPdf 16 17 42.0 -3.4**
JRY Ryogami san 154.21 281 P **PKPdf 16 17 45.9 +0.5**
CGRH CHANDIGARH 154.24 92 *e*P **PKPdf 16 17 44.8 -0.8**
TSSA Tissa 154.33 87 *e*P **PKPdf 16 17 41.7 -4.1**
ASOR Ausora 154.36 97 *e*P **PKPdf 16 17 42.8 -2.9**
DGPR DIGLIPUR 154.40 147 *e*P **PKPdf 16 17 42.2 -4.1**
KURBB Kurchatov Arra 154.43 45 PKP **PKPdf 16 17 45.4 +0.3**
comp=Z,13nm,1.0s,baz=301,slow=2.1,SNR=73
KURBB PP **PP 16 21 42.0 -1.4**
comp=Z,18nm,1.0s,baz=280,slow=6.3,SNR=7.9
KURBB Kurchatov Arra 154.43 45 PKIKP **PKPdf 16 17 47.1 +2.0**
KURK Kurchatov 154.44 45 PKIKP **PKPdf 16 17 45.4 +0.3**
TKM2 Tokmak 2 154.60 63 P **PKPdf 16 17 46.1 +0.2**
SNR=22
SMLA Simla 154.68 91 *e*P **PKPdf 16 17 42.2 -3.9**
MJAR Matsushiro Arr 154.84 282 PKP **PKPdf 16 17 46.3 +0.1**
comp=Z,4.4nm,1.1s,baz=154,slow=1.0,SNR=13
MJAR PP **PP 16 21 45.6 -0.8**
comp=Z,20nm,1.3s,baz=126,slow=4.3,SNR=4.6
MAJO Matsushiro 154.84 282 ⇑ PKIKP **PKiKP 16 17 59.3 +4.4**
MAJO Matsushiro 154.84 282 PKP **PKPdf 16 17 44.9 -1.2**
MAJO Matsushiro 154.84 282 IAMs_20 IAMs_20 17 13 07.6
comp=Z,16µm,22.0s
MAT Matsushiro 154.84 282 P **PKPdf 16 17 45.0 -1.2**
MJB9 Matsu-Tunnel 154.84 282 IAMs_20 IAMs_20 17 13 09.6
comp=Z,17µm,22.0s
KSH Kashi 155.06 71 PKPbc **PKPdf 16 17 47.3 +0.8**
KSH PP **PP 16 21 44.0 -3.7**
KSH SKKS 16 28 32.5
KSH SS **SS 16 41 25.0 -6.4**
KSH AMB AMB
comp=Z,13µm,6.1s
KSH LR LR
comp=Z,17µm,21.6s

DDI Dehra Dun 155.15 94 *e*P **PKPdf 16 17 43.0 -3.8**
DDI IAMs_20 IAMs_20 16 22 43.0
comp=E,5µm,8.6s
DDI IAMs_20 IAMs_20 16 22 43.1
comp=N,4µm,4.8s
TKRD Thakurdwara 155.38 97 *e*P **PKPdf 16 17 43.4 -3.7**
JGF Kuroka 155.40 279 P **PKPdf 16 17 45.5 -1.5**
ALCI Alchi Leh 155.48 84 *e*P **PKPdf 16 17 43.3 -4.3**
JHSG JHARSUGUGA 155.49 118 *e*P **PKPdf 16 17 43.6 -3.8**
SEM Semipalatinsk 155.51 44 *e*PKP **PKPdf 16 17 47.0 0.0**
SEM LR LR 17 32 51.8
comp=N,7µm,19.7s
SEM Semipalatinsk 155.51 44 *e*PKIKP **PKPdf 16 17 46.9 0.0**
JGN Niukaw 155.51 281 P **PKPdf 16 17 46.4 -0.8**
AAA Alma-Ata 155.52 62 *e*PKP **PKPdf 16 17 47.1 +0.1**
AAA *e*PKPab **PKPab 16 18 13.2 +0.3**
AAA *e*PP **PP 16 21 50.2 +0.1**
AAA Alma-Ata 155.52 62 *e*PKIKP **PKPdf 16 17 47.0 +0.1**
AAA *e* 16 21 50.2
TNSS Tian-Shan 155.57 63 *e*PKP **PKPdf 16 17 47.1 -0.4**
TNSS *e*PKPab **PKPab 16 18 13.4 -0.1**
TNSS *e*PP **PP 16 21 50.5 -0.3**
TNSS Tian-Shan 155.57 63 *e*PKIKP **PKPdf 16 17 47.1 -0.4**
TNSS *e* 16 21 50.4
MDOK Medeo 155.62 63 *e*PKP **PKPdf 16 17 47.2 0.0**
MDOK *e*PKPab **PKPab 16 18 13.7 +0.2**
MDOK *e*PP **PP 16 21 50.7 0.0**
MDOK LR LR 17 32 58.6
MDOK Medeo 155.62 63 *e*PKIKP **PKPdf 16 17 47.2 0.0**
MDOK *e* 16 21 50.7
TEY Ternei 155.63 302 ⇓ *e*PKIKP **PKPdf 16 17 46.9 0.0**
TEY pmax pmax
comp=Z,10.0nm,2.8s
TEY pmax pmax
comp=Z,200nm,12.2s
TEY pmax pmax
comp=E,10.0nm,1.5s
ZALV Zalesovo Beam 155.85 33 PKP **PKPdf 16 17 46.8 -0.2**
comp=E,37nm,1.1s,baz=288,slow=1.4,SNR=71
BWNR Bhubaneshwar 155.96 123 *e*P **PKPdf 16 17 44.2 -3.9**
ARXS Arharly 156.00 60 *i* PKIKP **PKPdf 16 17 47.4 -0.2**
ALBI Allahabad 156.03 108 *e*P **PKPdf 16 17 44.3 -3.8**
TDK Taldyqorghan 156.24 58 *e*PKP **PKPdf 16 17 48.0 +0.1**
TDK *e*PP **PP 16 21 54.2 +0.3**
TDK LR LR 17 33 14.5
comp=E,23µm,18.6s
TDK Taldyqorghan 156.24 58 *e*PKIKP **PKPdf 16 17 47.9 +0.1**
TDK *e* 16 21 54.1
JOSI Joshimath 156.45 94 *e*P **PKPdf 16 17 44.6 -4.2**
LGTI Lohaghat 156.62 97 *e*P **PKPdf 16 17 45.0 -3.7**
SATY Saty 156.62 62 *e*PKP **PKPdf 16 17 48.6 0.0**
SATY *e*PKPab **PKPab 16 18 18.0 +0.3**
SATY *e*PP **PP 16 21 56.3 +0.1**
SATY Saty 156.62 62 *e*PKIKP **PKPdf 16 17 48.5 0.0**
SATY *e* 16 21 56.3
PTH Pithoragarh 156.64 97 *e*P **PKPdf 16 17 44.8 -4.2**
KPKS Kokpek 156.75 61 *e*PKP **PKPdf 16 17 48.1 -0.5**
KPKS Kokpek 156.75 61 *e*PKIKP **PKPdf 16 17 48.1 -0.5**
ZEA Zeya 156.90 329 *i* PKIKP **PKPdf 16 17 47.9 -0.4**
ZEA *e* 16 21 59.9
ZEA *e* 16 41 52.6
ZEA pmax pmax
comp=E,300nm,5.6s
ZEA pmax pmax
comp=N,400nm,5.9s
ZEA pmax pmax
comp=Z,2µm,6.0s
ZEA pmax pmax
comp=Z,50nm,1.3s
JWT Wachi 156.93 278 P **PKPdf 16 17 47.9 -1.1**
BRCI Bahraich 156.93 103 *e*P **PKPdf 16 17 45.1 -4.1**
UZB Uzynbulak 157.05 62 *e*PKP **PKPdf 16 17 49.1 0.0**
UZB *e*PP **PP 16 21 58.7 +0.1**
UZB Uzynbulak 157.05 62 *e*PKIKP **PKPdf 16 17 49.0 0.0**
UZB *e* 16 21 58.6
BOD Bodaibo 157.16 350 *e*PKIKP **PKPdf 16 17 47.2 -1.3**
BOD pmax pmax
comp=Z,388nm,1.3s
PDGK Podgornoye 157.36 61 PKIKP **PKPdf 16 17 51.2 +1.8**
SHLS Shalkode 157.37 62 *e*PKP **PKPdf 16 17 49.9 +0.4**
SHLS *e*PP **PP 16 22 02.1 +1.8**
SHLS Shalkode 157.37 62 *e*PKIKP **PKPdf 16 17 49.8 +0.4**
SHLS *e* 16 22 02.1
JAD Aida 157.87 277 P **PKPdf 16 17 49.2 -1.0**
JMN Monobe 157.88 273 P **PKPdf 16 17 50.7 +0.4**
MAKZ Makanchi 158.06 51 ⇓ PKIKP **PKPdf 16 17 50.7 +0.7**
MK31 Makanchi Array 158.26 51 *i* PKIKP **PKPdf 16 17 51.1 +0.8**
MKAR Makanchi Array 158.26 51 PKP **PKPdf 16 17 50.4 +0.1**
comp=Z,38nm,1.2s,baz=281,slow=2.0,SNR=70
MKAR PP **PP 16 22 04.1 -0.7**
comp=Z,18nm,1.1s,baz=298,slow=2.6,SNR=3.6
BOK Bokaro 158.27 117 *e*P **PKPdf 16 17 47.2 -3.8**
GAYA Gaya 158.38 113 *e*P **PKPdf 16 17 46.5 -4.6**
JHS Saijyo 158.73 276 P **PKPdf 16 17 50.1 -1.1**
USRK Usuriysk Ar. 159.03 302 PKP **PKPdf 16 17 51.8 +0.5**
comp=Z,2.9nm,1.0s,baz=229,slow=1.8,SNR=6.8
HEH HeiHe 159.10 321 *e*PKP **PKPdf 16 17 49.3 -1.8**
HEH PP **PP 16 22 10.3 +1.3**
HEH SKKS 16 28 54.8
HEH AMB AMB
comp=Z,3µm,8.9s
HEH LR LR
comp=Z,4µm,19.8s
HEH LR LR
comp=Z,17µm,21.5s
CAL Calcutta 159.20 123 *e*P **PKPdf 16 17 48.1 -4.0**
ZSN Zaisan 159.58 47 *e*PKP **PKPdf 16 17 52.1 +0.3**
ZSN *e*PKPab **PKPab 16 18 30.7 +0.5**
ZSN Zaisan 159.58 47 *e*PKIKP **PKPdf 16 17 52.1 +0.3**
JOW Kunigami 159.95 250 PKP **PKPdf 16 17 53.5 +0.6**
comp=Z,13nm,0.8s,baz=339,slow=9.0,SNR=3.9
JOW Kunigami 159.95 250 IAMs_20 IAMs_20 17 29 15.3
comp=Z,14µm,19.0s
JNU Nakatsue 160.20 270 PKP **PKPdf 16 17 53.2 +0.2**
comp=Z,3.6nm,0.8s,baz=180,slow=1.2,SNR=6.0
JNU PKPab **PKPab 16 18 35.5 +2.1**
comp=Z,19nm,1.0s,baz=86,slow=3.5,SNR=5.8
MDJ Mudanjiang 160.53 305 PKP **PKPdf 16 17 51.0 -1.9**
MDJ SKKS 16 29 01.8
MDJ LR LR
comp=Z,6µm,19.0s
MDJ LR LR
comp=Z,11µm,18.3s
BNX BinXian 161.51 310 ⇓ PKP **PKPdf 16 17 52.5 -1.4**
BNX PP **PP 16 22 25.8 +3.5**
BNX SS SS 16 42 39.0 +0.3
BNX AMB AMB
comp=Z,2µm,9.7s
BNX LR LR
comp=Z,10µm,19.6s
CMAR Chiang Mai Arr 161.59 155 PKP **PKPdf 16 17 55.0 +0.1**
comp=Z,24nm,1.2s,baz=246,slow=2.3,SNR=54
CMAR PKPab **PKPab 16 18 40.8 +1.2**
comp=Z,24nm,1.1s,baz=241,slow=3.5,SNR=7.8
BELO BELONIA 161.76 128 *e*P **PKPdf 16 17 51.2 -3.7**
CHTO Chiang Mai 161.92 154 PKP **PKPdf 16 17 54.9 -0.3**
CIT Chita 162.81 346 *e*PKIKP **PKPdf 16 17 54.2 -0.9**
CIT pmax pmax
comp=Z,449nm,3.1s
AZL Aizawl 162.91 129 *e*P **PKPdf 16 17 52.3 -3.9**
WMQ Urumqi 162.93 55 PKP **PKPdf 16 17 57.0 +1.4**
WMQ PKPab **PKPab 16 18 46.0 +1.0**
WMQ PP **PP 16 22 32.0 +1.9**
WMQ SKKS 16 29 20.0
WMQ SS **SS 16 42 51.0 -3.0**
WMQ AMB AMB
comp=Z,9µm,7.5s
WMQ LR LR
comp=Z,16µm,17.3s
IRK Irkutsk 163.10 6 *e*PKIKP **PKPdf 16 17 54.0 -1.4**
IRK *e* 16 18 44.5
IRK *e* 16 22 29.6
IRK pmax pmax
comp=Z,934nm,3.6s
KSRS Korea Array 163.11 283 PKP **PKPdf 16 17 55.6 -0.1**
comp=Z,6.1nm,1.0s,baz=186,slow=0.7,SNR=28
KSRS PKPab **PKPab 16 18 47.9 +1.9**
comp=Z,8.1nm,0.8s,baz=98,slow=4.3,SNR=15
KSRS Korea Array 163.11 283 **PKPab 16 18 47.9 +1.9**
MOY Mondy 163.22 13 *e*PKIKP **PKPdf 16 17 55.6 0.0**
MOY pmax pmax
comp=Z,424nm,3.4s
QIZ Qiongzhong 163.45 189 PKP **PKPdf 16 17 58.0 +1.3**

QIZ PKPab **PKPab 16 18 47.5 -0.1**
QIZ PP **PP 16 22 29.8 -1.8**
QIZ SKKS 16 29 21.0
QIZ SS **SS 16 42 55.5 -1.6**
QIZ AMB AMB
comp=Z,4µm,14.5s
QIZ LR LR
comp=Z,9µm,21.1s
QIZ LR LR
comp=Z,16µm,17.2s
CN2 Changchun 163.60 306 PKP **PKPdf 16 17 53.5 -2.6**
CN2 PP **PP 16 22 34.3 +0.8**
CN2 SKKS 16 29 15.8
CN2 SS **SS 16 42 56.0 -4.7**
CN2 AMB AMB
comp=Z,4µm,10.0s
CN2 LR LR
comp=Z,11µm,19.0s
SHL Shillong 163.63 123 *e*P **PKPdf 16 17 53.0 -4.0**
SILR SILCHAR 163.72 127 *e*P **PKPdf 16 17 52.7 -4.1**
IMP Imphal 164.49 130 *e*P **PKPdf 16 17 53.7 -3.9**
ZAK Zakamensk 164.84 9 *e*PKIKP **PKPdf 16 17 57.1 0.0**
ZAK pmax pmax
comp=Z,100nm,2.6s
TEZP TEZPUR 164.93 122 *e*P **PKPdf 16 17 54.4 -3.4**
KOHI KOHIMA 165.22 128 *e*P **PKPdf 16 17 54.5 -3.8**
LSA Lhasa 165.41 109 PKP **PKPdf 16 17 57.3 -1.5**
LSA LR LR
comp=Z,16µm,18.7s
LSA LR LR
comp=Z,7µm,24.9s
LSA Lhasa 165.41 109 PKPdf **PKPdf 16 17 59.5 +0.8**
HKC Hong Kong Obse 165.49 207 ⇑ P **PKPdf 16 17 59.0 +0.6**
QZH Quanzhou 165.55 227 PKP **PKPdf 16 17 59.0 +0.6**
QZH PKPab **pPKPab 16 19 00.8 -1.0**
QZH PP **PP 16 22 47.0 +3.5**
QZH SKKS 16 29 33.8
QZH AMB AMB
comp=Z,7µm,10.7s
QZH LR LR
comp=Z,9µm,18.9s
SNY Shenyang 165.63 301 ⇑ PKP **PKPdf 16 17 57.0 -0.9**
SNY PP **PP 16 22 45.3 +1.1**
SNY SKS **SKSdf 16 24 56.8 -4.6**
SNY AMB AMB
comp=Z,5µm,11.6s
SNY LR LR
comp=Z,11µm,21.6s
JORH JORHAT 166.01 125 *e*P **PKPdf 16 17 54.9 -3.8**
ZIRO ZIRO 166.23 121 *e*P **PKPdf 16 17 55.1 -4.0**
GZH Guangzhou 166.51 206 PKP **PKPdf 16 17 59.5 +0.3**
GZH PP **PP 16 22 50.5 +2.6**
GZH SS SS 16 43 37.0 +8.1
GZH LR LR
comp=Z,8µm,21.8s
TNCH TengChong 167.25 142 ⇑ PKP **PKPdf 16 18 00.0 0.0**
TNCH pPKP pPKPdf 16 18 04.5 -0.6
TNCH PKPab **PKPab 16 19 04.0 -0.6**
TNCH PP **PP 16 22 51.3 -0.9**
TNCH AMB AMB
comp=Z,12µm,5.7s
TNCH LR LR
comp=Z,5µm,18.4s
SSE Sheshan 167.41 254 PKP **PKPdf 16 17 58.5 -1.1**
SSE PP **PP 16 22 58.3 +4.5**
SSE SS SS 16 43 35.8 -4.6
SSE AMB AMB
comp=Z,2µm,8.8s
SSE LR LR
comp=Z,5µm,18.5s
ULN Ulaanbaatar 167.61 0 ⇑ PKIKP **PKPdf 16 17 59.8 +0.3**
SONM Songino Array 167.63 2 PKP **PKPdf 16 17 58.9 -0.6**
comp=Z,6.0nm,1.1s,baz=7.1,slow=0.2,SNR=34
SONM PKPab **PKPab 16 19 07.4 +1.9**
comp=Z,26nm,1.0s,baz=337,slow=3.2,SNR=17
SONM PP **PP 16 22 55.2 +1.7**
comp=Z,16nm,1.2s,baz=296,slow=2.2,SNR=3.9
DL2 Dalian 167.89 291 PKP **PKPdf 16 17 58.0 -1.7**
DL2 PKPab **PKPab 16 19 07.0 0.0**
DL2 AMB AMB
comp=Z,9µm,17.6s
DL2 LR LR
comp=Z,16µm,18.0s
KMI Kunming 169.04 159 ⇑ PKP **PKPdf 16 18 01.3 +0.1**
XLT XiLinHaoTe 169.09 323 *e*PKP **PKPdf 16 17 59.5 -1.0**
XLT PKPab **PKPab 16 19 13.5 +1.4**
XLT SKKS 16 29 48.8
XLT AMB AMB
comp=Z,5µm,10.2s
XLT LR LR
comp=Z,3µm,18.7s
XLT LR LR
comp=Z,20µm,19.4s
GULI GuiLin 169.47 197 PKP **PKPdf 16 18 03.0 +1.8**
GULI LR LR
comp=Z,9µm,18.3s
GULI LR LR
comp=Z,22µm,21.7s
NJ2 Nanjing 169.62 254 ⇑ PKP **PKPdf 16 18 00.8 -0.3**
NJ2 sPKP 16 18 06.5
NJ2 PP **PP 16 23 07.0 +2.0**
NJ2 SKKS 16 29 49.5
NJ2 AMB AMB
comp=Z,5µm,11.4s
NJ2 LR LR
comp=Z,10µm,18.6s
PZH PanZhiHua 169.97 151 PKP **PKPdf 16 18 01.3 -0.3**
PZH PKPab **PKPab 16 19 16.5 +0.1**
PZH PP **PP 16 23 08.5 +2.8**
PZH SKKS 16 29 56.0
PZH SS **SS 16 43 59.3 -4.7**
PZH AMB AMB
comp=Z,8µm,9.0s
PZH LR LR
comp=Z,11µm,18.6s
PZH LR LR
comp=Z,24µm,20.6s
GOMU GeErMu 170.02 82 PKP **PKPdf 16 18 01.3 -0.4**
GOMU PP **PP 16 23 06.5 -1.2**
GOMU SKKS 16 29 52.3
GOMU SS **SS 16 44 07.5 0.0**
GOMU AMB AMB
comp=Z,5µm,7.8s
GOMU LR LR
comp=Z,11µm,20.2s
GOMU LR LR
comp=Z,25µm,20.8s
GYA Guiyang 171.02 178 ⇑ PKP **PKPdf 16 18 01.8 -0.4**
GYA sPKP 16 18 07.5
GYA PKPab **PKPab 16 19 22.5 +1.5**
GYA PP **PP 16 23 09.0 -1.5**
GYA SS SS 16 44 12.8 -0.8
CNSH ChangSha 171.20 216 PKP **PKPdf 16 18 02.5 +0.5**
CNSH PP **PP 16 23 10.5 -1.4**
CNSH SS SS 16 44 14.0 -2.2
CNSH AMB AMB
comp=Z,2µm,7.5s
CNSH LR LR
comp=Z,14µm,20.2s
CNSH LR LR
comp=Z,26µm,22.3s
BJI Beijing 171.47 305 PKP **PKPdf 16 18 01.0 -0.8**
BJI PP **PP 16 23 13.5 -0.3**
BJI AMB AMB
comp=Z,3µm,7.7s
BJI LR LR
comp=Z,8µm,19.6s
BJI LR LR
comp=Z,13µm,20.1s
TIA Tai'an 171.80 278 PKP **PKPdf 16 18 01.5 -0.6**
TIA PP **PP 16 23 20.0 +3.9**
TIA SKKS 16 30 02.0
TIA SS **SS 16 44 25.3 +1.0**
TIA AMB AMB
comp=Z,8µm,9.2s
TIA LR LR
comp=Z,12µm,18.6s
WHN Wuhan 172.16 233 *i* PKP **PKPdf 16 18 02.8 +0.4**
WHN PKPab **pPKPab 16 19 29.3 -1.7**
WHN PP **PP 16 23 21.3 +4.1**
WHN SKKS 16 30 03.8
WHN LR LR
comp=Z,45µm,17.2s
GTA Gaotai 173.01 54 PKP **PKPdf 16 18 02.3 -0.4**

GTA				PKPab	**PKPab**	**16 19 31.0**	**+1.2**	
GTA				PP	**PP**	**16 23 21.3**	**-0.3**	
GTA				SKKS		16 30 07.0		
GTA				SS	**SS**	**16 44 35.5**	**+0.2**	
GTA				AMB	AMB			
	comp=Z,21μm,8.4s							
GTA				LR	LR			
	comp=Z,16μm,22.2s							
HNS	**HongShan**	**173.55**	**290**	⇑PKP	**PKPdf**	**16 18 03.0**	**+0.2**	
HNS				PP	**PP**	**16 23 28.0**	**+3.5**	
HNS				SKKS		16 30 09.0		
HNS				SS	**SS**	**16 44 31.3**	**-10**	
HNS				AMB	AMB			
	comp=Z,9μm,11.6s							
HNS				LR	LR			
	comp=Z,16μm,18.4s							
HHC	**Hu-ho-hao-te**	**173.56**	**328**	*e*PKP	**PKPdf**	**16 18 02.8**	**-0.1**	
HHC				PP	**PP**	**16 23 25.0**	**+1.4**	
HHC				SKKS		16 30 08.3		
HHC				AMB	AMB			
	comp=Z,14μm,10.7s							
HHC				LR	LR			
	comp=Z,16μm,19.1s							
HHC				LR	LR			
	comp=Z,22μm,19.9s							
BTO	**Baotou**	**174.36**	**336**	*e*PKP	**PKPdf**	**16 18 03.0**	**-0.1**	
BTO				PP	**PP**	**16 23 26.8**	**-0.5**	
BTO				SKKS		16 30 15.3		
BTO				SS	**SS**	**16 44 47.5**	**+0.8**	
BTO				AMB	AMB			
	comp=Z,8μm,4.6s							
BTO				LR	LR			
	comp=Z,20μm,15.9s							
CD2	**Chengdu**	**174.68**	**148**	PKP	**PKPdf**	**16 18 03.3**	**-0.2**	
CD2				pPKP	pPKPdf	16 18 06.8	-1.8	
CD2				sPKP		16 18 07.8		
CD2				PP	**PP**	**16 23 28.0**	**-1.0**	
CD2				SKKS		16 30 17.8		
CD2				SS	**SS**	**16 44 47.0**	**-3.0**	
CD2				AMB	AMB			
	comp=Z,16μm,12.3s							
CD2				LR	LR			
	comp=Z,18μm,20.0s							
CD2				LR	LR			
	comp=Z,12μm,19.6s							
TIY	**Taiyuan**	**175.13**	**299**	PKP	**PKPdf**	**16 18 03.5**	**+0.1**	
TIY				PP	**PP**	**16 23 33.5**	**+1.4**	
TIY				SKS	**SKSdf**	**16 25 02.8**	**-3.2**	
TIY				SKKS	**SKKSac**	**16 30 20.0**	**+2.3**	
TIY				AMB	AMB			
	comp=Z,4μm,10.3s							
TIY				LR	LR			
	comp=Z,10μm,17.9s							
TIY				LR	LR			
	comp=Z,22μm,19.9s							
LYN	**LuoYang**	**175.48**	**260**	⇑PKP	**PKPdf**	**16 18 03.8**	**+0.3**	
LYN				PP	**PP**	**16 23 33.5**	**-0.5**	
LYN				SKKS		16 30 18.5		
LYN				SS	**SS**	**16 44 51.8**	**-8.1**	
LYN				AMB	AMB			
	comp=Z,8μm,9.6s							
LYN				LR	LR			
	comp=Z,30μm,18.5s							
LZDM	**Lanzhou Array**	**177.21**	**79**	PKP	**PKPdf**	**16 18 04.6**	**+0.4**	
	comp=Z,3.8nm,0.4s,baz=282,slow=7.4,SNR=5.5							
LZDM				PKPab	**pPKPab**	**16 19 51.7**	**-2.2**	
	comp=Z,34nm,1.0s,baz=216,slow=4.8,SNR=5.5							
LZDM				PP	**PP**	**16 23 43.9**	**+1.2**	
	comp=Z,2.1nm,0.3s,baz=259,slow=6.9,SNR=4.9							
LZDM	**Lanzhou Array**	**177.21**	**79**		pPKPab	16 19 51.7	-2.2	
LZH	**Lanzhou**	**177.30**	**76**	⇑PKP	**PKPdf**	**16 18 04.8**	**+0.7**	
LZH				PP	**PP**	**16 23 40.0**	**-2.8**	
LZH				SKKS		16 30 27.3		
LZH				AMB	AMB			
	comp=Z,28μm,9.5s							
LZH				LR	LR			
	comp=Z,23μm,15.9s							
LZH				LR	LR			
	comp=Z,35μm,16.2s							
XAN	**Xi'an**	**177.92**	**228**	⇑PKP	**PKPdf**	**16 18 04.0**	**-0.1**	
XAN				PP	**PP**	**16 23 46.3**	**+1.5**	
XAN				LR	LR			
	comp=Z,14μm,19.6s							
XAN				LR	LR			
	comp=Z,30μm,18.1s							

*NEIC **29** 16:00:25.4±0.7, 35°.56S±0°.06×72°.96W±0°.09, h10km±1km, ML4.1(GUC), Error ellipse: s-maj=15.7km s-min=5.7km az=308.0*

*GUC **29** 16:00:26.9±0.8, 35°.58S×72°.99W, h16km±10km, ML4.1*

ISC 29 16:00:24.5±1.5, **35°.57S**±0°.04×**72°.98W**±0°.08, **h13**km±12km, **n19**, σ0**s97**/25, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**Hualane**	**1.03**	**58**	*e*P	**Pg**	**16 00 44.4**	**+0.1**
GO05				*i* S	**Sg**	**16 00 57.6**	**-0.1**
GO05				IAML		16 00 59.2	
	comp=E,12μm,0.3s						
BI05	**Punta Hualpn**	**1.19**	**188**	Pn	**Pg**	**16 00 48.0**	**+0.6**
BI05	**Punta Hualpn**	**1.19**	**188**	*e*P	**Pn**	**16 00 46.7**	**-0.1**
BI05				*i* S	**Sb**	**16 01 01.5**	**-0.7**
BI05				IAML		16 01 07.9	
	comp=E,13μm,0.6s						
BO03	**Pichilemu**	**1.36**	**38**	*e*P	**Pb**	**16 00 49.9**	**+0.1**
BO03				*i* S	**Sb**	**16 01 07.4**	**+0.4**
BO03				IAML		16 01 12.8	
	comp=N,4μm,0.4s						
BI02	**San Fabin de**	**1.77**	**129**	Pn	**Pn**	**16 00 55.6**	**+0.8**
BI02	**San Fabin de**	**1.77**	**129**	*e*P	**Pb**	**16 00 56.2**	**-0.5**
BI02				*i* S	**Sb**	**16 01 18.6**	**-0.3**
BI02				IAML		16 01 22.9	
	comp=N,6μm,0.3s						
BO01	**Tunca**	**1.95**	**54**	Pn	**Pb**	**16 00 58.6**	**-1.3**
BO01	**Tunca**	**1.95**	**54**	*e*P	**Pb**	**16 00 59.4**	**-0.5**
BO01				*i* S	**Sn**	**16 01 21.2**	**-0.4**
BO01				IAML		16 01 35.5	
	comp=N,2μm,0.6s						
BO02	**Sierra Bellavi**	**1.96**	**67**	Pn	**Pb**	**16 00 58.9**	**-1.2**
BO02	**Sierra Bellavi**	**1.96**	**67**	*e*P	**Pb**	**16 01 00.1**	**0.0**
BO02				*i* S	**Sn**	**16 01 22.2**	**+0.2**
BO02				IAML		16 01 30.8	
	comp=E,6μm,0.3s						
MT01	**Popeta**	**2.22**	**41**	Pn	**Pn**	**16 01 02.3**	**+1.3**
MT01	**Popeta**	**2.22**	**41**	*e*P	**Pb**	**16 01 03.9**	**-0.5**
MT09	**Talagante**	**2.43**	**43**	*e*P	**Pb**	**16 01 06.3**	**-1.8**
MT12	**Pirque**	**2.71**	**48**	*e*P	**Pb**	**16 01 10.8**	**-2.1**
MT02	**Curacav**	**2.76**	**34**	Pn	**Pn**	**16 01 09.5**	**+1.0**
VA01	**Torpederas**	**2.77**	**24**	Pn	**Pn**	**16 01 08.9**	**+0.4**
MT16	**CCHEN**	**2.95**	**44**	Pn	**Pn**	**16 01 11.7**	**+0.7**
CO03	**El Pedregal**	**5.09**	**23**	Pn	**Pn**	**16 01 41.4**	**+0.8**
LL05	**Los Muermos**	**5.84**	**184**	Pn	**Pn**	**16 01 52.2**	**+1.4**

*NEIC **29** 16:01:49.5±0.3, 35°.56S±0°.03×73°.1W±0°.1, h22km±9km, ML4.0(GUC), Error ellipse: s-maj=16.4km s-min=2.4km az=104.0*

*GUC **29** 16:01:50.2±0.7, 35°.54S×73°.03W, h27km±7km, ML4.0*

ISC 29 16:01:48.3±1.2, **35°.56S**±0°.04×**73°.05W**±0°.09, **h17**km, **n18**, σ0**s70**/22, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI05	**Punta Hualpn**	**1.19**	**186**	Pn	**Pn**	**16 02 10.5**	**+0.3**
BI05	**Punta Hualpn**	**1.19**	**186**	*e*P	**Pn**	**16 02 10.7**	**+0.4**
BI05				*i* S	**Sb**	**16 02 25.9**	**+0.3**
BI05				IAML		16 02 33.0	
	comp=E,6μm,0.4s						
BO03	**Pichilemu**	**1.38**	**40**	*e*P	**Pb**	**16 02 13.5**	**-0.2**
BO03				*i* S	**Sn**	**16 02 29.8**	**-0.9**
BO03				IAML		16 02 34.0	
	comp=N,3μm,0.5s						
BI02	**San Fabin de**	**1.81**	**128**	Pn	**Pn**	**16 02 19.5**	**+0.7**
BI02	**San Fabin de**	**1.81**	**128**	*e*P	**Pb**	**16 02 20.4**	**-0.7**
BI02				IAML		16 02 44.1	
	comp=N,4μm,0.4s						
BO01	**Tunca**	**1.98**	**55**	Pn	**Pn**	**16 02 21.8**	**+0.7**
BO01	**Tunca**	**1.98**	**55**	*e*P	**Pb**	**16 02 23.6**	**-0.3**
BO01				*i* S	**Sn**	**16 02 44.8**	**-0.8**
BO01				IAML		16 02 56.6	
	comp=N,1μm,0.3s						
BO02	**Sierra Bellavi**	**2.00**	**68**	Pn	**Pn**	**16 02 22.1**	**+0.6**
BO02	**Sierra Bellavi**	**2.00**	**68**	*e*P	**Pb**	**16 02 24.2**	**-0.2**
BO02				*i* S	**Sn**	**16 02 46.3**	**+0.1**
BO02				IAML		16 02 52.8	
	comp=N,7μm,0.2s						
MT01	**Popeta**	**2.24**	**42**	Pn	**Pn**	**16 02 25.4**	**+0.7**
BO04	**La Punta**	**2.54**	**53**	*e*P	**Pb**	**16 02 32.4**	**-1.1**
VA01	**Torpederas**	**2.78**	**25**	Pn	**Pn**	**16 02 33.0**	**+1.0**
MT10	**Hacienda Santa**	**3.08**	**43**	*e*P	**Pn**	**16 02 37.7**	**+1.4**
VA06	**Catapilco**	**3.32**	**26**	Pn	**Pn**	**16 02 39.6**	**+0.1**
CO02	**Combarbal**	**4.67**	**22**	Pn	**Pn**	**16 02 58.6**	**+0.5**
CO03	**El Pedregal**	**5.10**	**23**	Pn	**Pn**	**16 03 04.7**	**+0.6**
PB11	**IPOC Station P**	**16.02**	**12**	Pn	**Pn**	**16 05 32.8**	**-0.2**
EFI	**East Falkland**	**19.36**	**151**	Pn	**Pn**	**16 06 14.3**	**+0.3**

*BJI **29** 16:02:28.5, 36°.25N×140°.72E, h65km, mB4.7/9, mb4.5/44, Ms4.4/4*

*MOS **29** 16:02:28.5±1.0, 36°.51N×140°.74E, h47km, mb4.9/21, Error ellipse: s-maj=8.0km s-min=5.5km az=100.8*

*JMA **29** 16:02:31.4±0.1, 36°.5N±0°.2×140°.6E±0°.5, h56km, MD4.3/40, MW4.4/40, NORTHERN IBARAKI PREF*

JMA Felt III J1 at NORTHERN IBARAKI PREF .

*IDC **29** 16:02:31.5±1.6, 36°.51N×140°.70E, h59km±14km, mb4.2/23, mbtmp4.5/26, MS3.0/3, Error ellipse: s-maj=14.2km s-min=8.3km az=78.0*

*NIED **29** 16:02:31.4, 36°.46N×140°.61E, h56km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}2.68; $M_{\theta\theta}$-0.25; $M_{\phi\phi}$-2.43; $M_{r\theta}$1.09; $M_{\theta\phi}$-0.15; $M_{\phi r}$2.74; Fault plane solution: $M_0$3.90000×10¹⁵ NP1: φs175.00000°, δ22.00000°, λ69.00000°. NP2:φs17.00000°, δ70.00000°, λ98.00000°.*

*NEIC **29** 16:02:32.3±1.6, 36°.53N±0°.05×140°.60E±0°.02, h56km±8km, mb4.9/45 Error ellipse: s-maj=7.4km s-min=1.9km az=186.0*

ISC 29 16:02:31.0±0.5, **36°.49N**±0°.04×**140°.70E**±0°.05, **h55**km±3km, **h55**km**:pP-P,n254,**σ1s**46**/231, **mb4.8**/68, **MS5.0**/4, **13C-11D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.16**	**318**	*i* P	**Pn**	**16 02 40.2**	**+0.5**
JHO				S	**Sn**	**16 02 46.2**	**+0.2**
JHO	**Hitachi**	**0.16**	**318**	A	A	16 02 40.2	
	comp=N,37nm,0.2s,comp=E,144nm,0.7s						
JHYU	**Hitachinakayam**	**0.18**	**212**	*i* P	**Pn**	**16 02 40.1**	**+0.4**
JHYU				S	**Sn**	**16 02 46.1**	**+0.1**
JHYU	**Hitachinakayam**	**0.18**	**212**	A	A	16 02 40.1	
	comp=N,211nm,0.4s,comp=E,217nm,0.7s						
JYT	**Yasato**	**0.49**	**238**	⇓*i* P	**Pn**	**16 02 42.2**	**-0.3**
JYT				⇓S	**Sn**	**16 02 49.5**	**-1.2**
JYT	**Yasato**	**0.49**	**238**	A	A	16 02 42.2	
	comp=N,174nm,0.4s,comp=E,252nm,0.3s						
JIHU	**Itakohorinouch**	**0.54**	**195**	A	A	16 02 43.0	
	comp=N,53nm,0.7s,comp=E,95nm,1.2s						
JFFD	**Fukushimafurud**	**0.61**	**349**	A	A	16 02 44.6	
	comp=N,22nm,0.9s,comp=E,37nm,1.5s						
ONAJ	**Iwakimizuishiy**	**0.61**	**7**	*i* P	**Pn**	**16 02 44.5**	**+0.5**
ONAJ				S	**Sn**	**16 02 54.0**	**+0.6**
ONAJ	**Iwakimizuishiy**	**0.61**	**7**	A	A	16 02 44.5	
	comp=N,17nm,0.4s,comp=E,26nm,0.5s						
JSB	**Shiboa**	**0.79**	**307**	A	A	16 02 46.2	
	comp=N,22nm,1.0s,comp=E,19nm,1.0s						
JSMT	**Sammumatsuo**	**0.87**	**194**	A	A	16 02 47.1	
	comp=N,23nm,0.3s,comp=E,45nm,0.3s						
JFK	**Kawauchi**	**0.88**	**9**	*i* P	**Pn**	**16 02 47.8**	**+0.4**
JFK				S	**Sn**	**16 02 59.7**	**+0.3**
JFK	**Kawauchi**	**0.88**	**9**	A	A	16 02 47.8	
	comp=N,5.0nm,0.5s,comp=E,8.0nm,1.1s						
JAG	**Ashikaga**	**1.01**	**267**	⇓*i* P	**Pn**	**16 02 48.7**	**-0.3**
JAG				⇓S	**Sn**	**16 03 00.7**	**-1.7**
JAG	**Ashikaga**	**1.01**	**267**	A	A	16 02 48.7	
	comp=N,10.0nm,1.6s,comp=E,15nm,0.6s						
JOTO	**OTAMA OYAMA**	**1.11**	**345**	*i* P	**Pn**	**16 02 51.0**	**+0.7**
JOTO				S	**Sn**	**16 03 05.5**	**+0.9**
JOTO	**OTAMA OYAMA**	**1.11**	**345**	A	A	16 02 51.0	
	comp=N,18nm,0.8s,comp=E,21nm,1.1s						
TOK	**Tokyo**	**1.11**	**224**	A	A	16 02 49.9	
	comp=N,39nm,0.5s,comp=E,46nm,1.3s						
JKT	**Katashina**	**1.20**	**284**	⇓*i* P	**Pn**	**16 02 51.6**	**-0.1**
JKT				⇓S	**Sn**	**16 03 06.4**	**-0.6**
JKT	**Katashina**	**1.20**	**284**	A	A	16 02 51.6	
	comp=N,13nm,0.2s,comp=E,16nm,0.6s						
JFY	**Yanaizu**	**1.22**	**319**	⇓*i* P	**Pn**	**16 02 52.3**	**+0.5**
JFY	**Yanaizu**	**1.22**	**319**	A	A	16 02 52.3	
	comp=N,6.0nm,2.5s,comp=E,6.0nm,2.3s						
JMST	**Mimisoumatoc**	**1.24**	**7**	A	A	16 02 53.4	
	comp=N,7.0nm,0.4s,comp=E,8.0nm,3.3s						
JMM	**Marumori**	**1.37**	**3**		**Pn**	**16 02 54.8**	**+1.0**
JMM	**Marumori**	**1.37**	**3**	P	**Pn**	**16 02 55.2**	**+1.3**
JMM	**Marumori**	**1.37**	**3**	S	**Sn**	**16 03 11.7**	**+0.7**
JMM	**Marumori**	**1.37**	**3**	⇓*i* P	**Pn**	**16 02 54.9**	**+1.0**
JMM				⇓S	**Sn**	**16 03 12.0**	**+1.0**
JMM	**Marumori**	**1.37**	**3**	A	A	16 02 54.9	
	comp=N,19nm,0.6s,comp=E,11nm,0.6s						
JKUC	**kamogawauchiur**	**1.39**	**197**	A	A	16 02 54.2	
	comp=N,5.0nm,1.2s,comp=E,6.0nm,5.3s						
JYAR	**Yonezawaarcadi**	**1.49**	**343**	A	A	16 02 56.5	
	comp=N,9.0nm,0.9s,comp=E,14nm,1.3s						
JSGW	**Sagamiharawaka**	**1.50**	**234**	A	A	16 02 55.4	
	comp=N,9.0nm,1.3s,comp=E,9.0nm,1.5s						
JYO	**Yokosk**	**1.52**	**214**	A	A	16 02 55.8	
	comp=N,15nm,3.0s,comp=E,11nm,3.3s						
TATJ	**Tateyama 2**	**1.60**	**205**	A	A	16 02 57.0	
	comp=N,13nm,1.6s,comp=E,14nm,2.1s						
JGK	**Kuni**	**1.67**	**273**	A	A	16 02 57.8	
	comp=N,6.0nm,2.6s,comp=E,6.0nm,2.3s						
JNS	**Sasagawa**	**1.73**	**320**	A	A	16 02 59.5	
	comp=N,4.0nm,0.6s,comp=E,4.0nm,5.0s						
JOD2	**Odawara 2**	**1.80**	**227**	A	A	16 02 59.5	
	comp=N,9.0nm,2.2s,comp=E,8.0nm,1.0s						
JYS	**Shirataka**	**1.80**	**344**	A	A	16 03 01.0	
	comp=N,9.0nm,1.6s,comp=E,8.0nm,2.8s						
JOU	**Okura**	**1.87**	**359**	A	A	16 03 02.3	
	comp=N,6.0nm,1.1s,comp=E,5.0nm,0.8s						
JIZZ	**Izumozaki**	**1.91**	**304**	A	A	16 03 01.6	
	comp=N,7.0nm,6.1s,comp=E,8.0nm,4.8s						
MJAR	**Matsushiro Arr**	**2.01**	**272**	P	**Pn**	**16 03 01.8**	**-0.8**
	comp=E,394nm,0.6s,baz=95,slow=9.1,SNR=1430						
MJAR				S	**Sn**	**16 03 28.0**	**+1.4**
	comp=E,291nm,0.6s,baz=90,slow=8.5,SNR=3.3						
MAJO	**Matsushiro**	**2.01**	**272**		**Pn**	**16 03 02.8**	**+0.2**
MAJO	**Matsushiro**	**2.01**	**272**	P	**Pn**	**16 03 03.3**	**+0.7**
MAJO	**Matsushiro**	**2.01**	**272**	P	**Pn**	**16 03 02.8**	**+0.2**
JIM2	**Oshima 3**	**2.05**	**211**	A	A	16 03 03.3	
	comp=N,6.0nm,0.8s,comp=E,7.0nm,1.2s						
JHTM	**Izuhatsuma**	**2.06**	**223**	A	A	16 03 03.3	
	comp=N,12nm,1.4s,comp=E,12nm,1.8s						
JOFO	**Osakifurukawao**	**2.11**	**4**	A	A	16 03 05.7	
	comp=N,10.0nm,4.3s,comp=E,12nm,2.9s						
JJN	**Nakama**	**2.13**	**287**	A	A	16 03 04.6	
	comp=N,4.0nm,2.2s,comp=E,5.0nm,0.8s						
JYA	**Atsumi**	**2.24**	**340**	A	A	16 03 07.1	
	comp=N,5.0nm,0.6s,comp=E,8.0nm,0.9s						
SHZ3	**Shizuoka 3**	**2.48**	**236**	A	A	16 03 09.2	
	comp=N,6.0nm,1.1s,comp=E,7.0nm,0.8s						
JSD	**Sado**	**2.49**	**309**	P	**Pn**	**16 03 09.4**	**+0.4**
JNY	**Yasuok**	**2.57**	**245**	A	A	16 03 10.4	
	comp=N,5.0nm,1.8s,comp=E,4.0nm,3.9s						
JSG	**Sagara**	**2.74**	**229**		**Pn**	**16 03 13.7**	**+1.3**
JSG	**Sagara**	**2.74**	**229**	P	**Pn**	**16 03 14.4**	**+1.9**
JGF	**Kuroka**	**2.85**	**253**		**Pn**	**16 03 15.0**	**+0.9**
JGF	**Kuroka**	**2.85**	**253**	P	**Pn**	**16 03 15.5**	**+1.4**
INU	**Inuyama**	**3.20**	**250**		**Pn**	**16 03 19.7**	**+0.9**
INU	**Inuyama**	**3.20**	**250**	P	**Pn**	**16 03 20.2**	**+1.4**
JHJ	**Hachijo jima 2**	**3.45**	**193**	P	**Pn**	**16 03 22.6**	**+0.4**
	comp=E,118nm,0.3s,baz=326,slow=24,SNR=47						
JHJ				S	**Sn**	**16 04 03.0**	**+1.2**
	comp=E,306nm,0.3s,baz=66,slow=23,SNR=11						
JHJ				LR	LR	16 05 00.8	
	comp=E,213nm,18.6s,baz=303,slow=43						
JHJ2	**Mitsune**	**3.45**	**192**	P	**Pn**	**16 03 22.9**	**+0.7**
JTM	**Tenmabayashi**	**4.30**	**4**		**Pn**	**16 03 35.9**	**+2.1**
JTM	**Tenmabayashi**	**4.30**	**4**	P	**Pn**	**16 03 35.7**	**+1.9**
ERM	**Erimo**	**5.83**	**18**		**Pn**	**16 03 55.3**	**+0.4**
ERM	**Erimo**	**5.83**	**18**	P	**Pn**	**16 03 55.6**	**+0.7**
ERM	**Erimo**	**5.83**	**18**	S	**Sn**	**16 05 01.0**	**+0.6**
ERM	**Erimo**	**5.83**	**18**	P	**Pn**	**16 03 55.3**	**+0.4**
JEM	**Erimo**	**5.84**	**18**	P	**Pn**	**16 03 56.0**	**+1.1**
JMN	**Monobe**	**6.24**	**246**		**Pn**	**16 04 00.1**	**-0.3**
JMN	**Monobe**	**6.24**	**246**	P	**Pn**	**16 04 00.8**	**+0.3**
ASAJ	**Asahikawa**	**7.75**	**10**	P	**Pn**	**16 04 20.6**	**-0.5**
	comp=E,11nm,0.3s,baz=202,slow=8.7,SNR=59						
ASAJ				S	**Sn**	**16 05 47.4**	**0.0**
	comp=E,12nm,0.6s,baz=59,slow=33,SNR=3.6						
ASAJ				LR	LR	16 08 27.6	
	comp=E,50nm,19.8s,baz=184,slow=46						
NMR	**Nemuro--Hokkai**	**7.88**	**28**	*e*P	**Pn**	**16 04 20.7**	**-2.1**
NMR				*e*S	**Sn**	**16 05 45.0**	**-5.5**
GLVR	**Golovnino**	**8.12**	**26**	*e*P	**Pn**	**16 04 25.6**	**-0.6**
GLVR				*e*S	**Sn**	**16 05 52.2**	**-4.3**
GLVR				pmax	pmax		
	comp=Z,36nm,0.3s						
RUSJ	**Misakicho**	**8.36**	**23**	*e*P	**Pn**	**16 04 29.3**	**-0.1**
RUSJ				*e*S	**Sn**	**16 06 00.8**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**8.50**	**26**	*de*P	**Pn**	**16 04 31.7**	**+0.3**
YUK				*e*S	**Sn**	**16 06 00.7**	**-5.1**
YUK				pmax	pmax		
	comp=Z,73nm,0.4s						
YUK				smax	smax		
	comp=Z,832nm,1.4s						
JNU	**Nakatsue**	**8.75**	**250**	P	**Pn**	**16 04 33.6**	**-1.3**
	comp=Z,1.8nm,0.4s,baz=57,slow=14,SNR=7.3						
JNU				LR	LR	16 08 13.5	
	comp=Z,178nm,18.8s,baz=62,slow=39						
JNU	**Nakatsue**	**8.75**	**250**	P	**Pn**	**16 04 36.5**	**+1.6**
TEY	**Ternei**	**9.08**	**341**	*e*P	Pn	16 04 45.6	+6.3
VLA	**Vladivostok**	**9.48**	**317**	*i* P	**Pn**	**16 04 47.6**	**+2.9**
USRK	**Ussuriysk Ar.**	**10.17**	**322**	P	**Pn**	**16 04 57.2**	**+3.1**
	comp=Z,12nm,0.7s,baz=138,slow=13,SNR=22						
KSRS	**Korea Array**	**10.27**	**279**	P	**Pn**	**16 04 58.6**	**+3.0**
	comp=Z,7.2nm,0.7s,baz=95,slow=14,SNR=49						
KUR	**Kuril'sk**	**10.28**	**30**	P	**Pn**	**16 04 56.0**	**+0.4**
KUR				*e*S	**Sn**	**16 06 45.0**	**-4.2**
KUR				smax	smax		
	comp=E,73nm,0.8s						
KUR				smax	smax		
	comp=N,37nm,0.3s						
YSS	**Yuzhno-Sakhali**	**10.57**	**8**	Pn	**Pn**	**16 04 59.0**	**-0.6**
YSS	**Yuzhno-Sakhali**	**10.57**	**8**	*i* P	**Pn**	**16 04 58.7**	**-0.9**
MDJ	**Mudanjiang**	**11.71**	**317**	P	**Pn**	**16 05 19.8**	**+4.6**
MDJ				pmax	pmax		
	comp=N,24nm,1.0s						
BNX	**BinXian**	**13.62**	**317**	⇑P	P	16 05 54.0	+5.5
BNX				pmax	pmax		
	comp=Z,15nm,1.4s						
CN2	**Changchun**	**13.75**	**307**	P	**P**	**16 05 50.5**	**+0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NJ2	**Nanjing**	**18.59**	**263**	*e*P	**Pn**	**16 06 44.8**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TIA	**Tai'an**	**18.99**	**276**	P	**P**	**16 06 46.5**	**-1.5**
TIA				sP	**sP**	**16 07 06.3**	**-0.9**
TIA				pmax	pmax		
	comp=Z,13nm,0.9s						
YOJ	**Yonaguni jima**	**19.36**	**237**	P	**P**	**16 06 52.5**	**+0.4**
YOJ	**Yonaguni jima**	**19.36**	**237**	P	**P**	**16 06 52.5**	**+0.4**
YOJ				pmax	pmax		
	comp=Z,118nm,1.0s						
BJI	**Beijing**	**19.57**	**288**	P	**P**	**16 06 53.3**	**-0.9**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BJT	**Baijiatuau**	**19.57**	**288**	P	**P**	**16 06 52.9**	**-1.4**
BJT	**Baijiatuau**	**19.57**	**288**	P	**P**	**16 06 52.9**	**-1.4**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ZEA	**Zeya**	**19.63**	**336**	*e*P	**P**	**16 06 53.2**	**-1.6**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PET	**Petropavlovsk**	**20.78**	**32**	P	**P**	**16 07 08.2**	**+1.0**
HNS	**HongShan**	**20.78**	**280**	⇓P	**P**	**16 07 05.0**	**-2.4**
HNS				pmax	pmax		
	comp=Z,11nm,0.8s						
TPUB	**Ta-pu**	**21.75**	**238**	P	**P**	**16 07 17.5**	**-0.4**
TPUB				IAmb	IAmb	16 07 20.4	
	comp=Z,79nm,1.4s						
HHC	**Hu-ho-hao-te**	**23.11**	**290**	*e*P	**P**	**16 07 32.3**	**0.0**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,93nm,3.8s						
BTO	**Baotou**	**24.28**	**289**	*e*P	**P**	**16 07 46.0**	**+2.8**
BTO				PP	**PnPn**	**16 08 22.8**	**+7.4**
BTO				S	**S**	**16 12 02.3**	**+4.0**
BTO				pmax	pmax		
	comp=Z,20nm,0.6s						
BTO				pmax	pmax		
	comp=Z,200nm,4.1s						
BTO				LR	LR		
	comp=Z,880nm,6.0s						
BTO				LR	LR		
	comp=Z,1μm,5.4s						
CNSH	**ChangSha**	**24.82**	**258**	P	**P**	**16 07 47.5**	**-0.5**
CNSH				pmax	pmax		
	comp=Z,29nm,1.0s						
XAN	**Xi'an**	**26.01**	**274**	P	**P**	**16 07 54.8**	**-4.0**
XAN				pP	pP	16 08 07.8	-4.8
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YAK	**Yakutsk**	**26.48**	**348**		**P**	**16 08 02.2**	**-0.4**
YAK				IAmb	IAmb	16 08 04.0	
	comp=Z,23nm,0.8s						
YAK	**Yakutsk**	**26.48**	**348**	LR	LR	16 18 11.5	
	comp=Z,5μm,20.4s,baz=250,slow=36						

	comp=Z,52nm,1.8s								
MK31	**Makanchi Array**	**43.93**	**302**	*ce*	P		**P**	**16 10 32.6**	**+0.3**
MKAR	**Makanchi Array**	**43.93**	**302**		P		**P**	**16 10 32.4**	**+0.1**
	comp=Z,7.4nm,0.8s,baz=89,slow=9.7,SNR=54								
	comp=Z,7.4nm,0.8s								
MAKZ	**Makanchi**	**44.14**	**303**		P		**P**	**16 10 34.0**	**0.0**
MAKZ					pP		**pP**	**16 10 48.1**	**-0.3**
L16K	**Owhat River**	**44.47**	**36**		P		**P**	**16 10 38.5**	**+2.1**
L16K					IAmb		IAmb	16 10 50.3	
	comp=Z,37nm,1.8s								
K17K	**Iditarod**	**45.12**	**35**		P		**P**	**16 10 43.7**	**+2.1**
K17K					IAmb		IAmb	16 12 24.2	
	comp=Z,49nm,1.9s								
H18K	**Honhosa River**	**45.41**	**31**		P		**P**	**16 10 45.7**	**+1.9**
KURK	**Kurchatov**	**45.82**	**308**				**P**	**16 10 46.9**	**-0.3**
KURK	**Kurchatov**	**45.82**	**308**		P		**P**	**16 10 46.9**	**-0.3**
KURK					pmax		pmax		
	comp=Z,7.0nm,0.7s								
KURK	**Kurchatov**	**45.82**	**308**		P		**P**	**16 10 46.5**	**-0.7**
KURK					sP		**sP**	**16 11 06.9**	**-1.2**
EVN	**Everest**	**45.87**	**275**				**P**	**16 10 48.5**	**-0.2**
EVN					IAmb		IAmb	16 10 49.8	
	comp=Z,9.3nm,0.7s								
KURBB	**Kurchatov Arra**	**45.89**	**308**		P		**P**	**16 10 47.2**	**-0.6**
	comp=Z,6.4nm,0.6s,baz=83,slow=8.0,SNR=41								
	comp=Z,6.4nm,0.6s								
J19K	**Poorman**	**46.45**	**33**		P		**P**	**16 10 53.9**	**+2.0**
J19K					IAmb		IAmb	16 11 07.8	
	comp=Z,37nm,2.0s								
KDAK	**Kodiak Island**	**47.88**	**42**		P		**P**	**16 11 04.6**	**+1.4**
KDAK	**Kodiak Island**	**47.88**	**42**		P		**P**	**16 11 04.6**	**+1.4**
E22K	**Anaktuvuk Pass**	**48.35**	**28**		P		**P**	**16 11 08.4**	**+1.7**
E22K					IAmb		IAmb	16 12 43.2	
	comp=Z,22nm,1.9s								
HNR	**Honiara**	**49.13**	**155**		LR		LR	16 34 50.5	
	comp=Z,1µm,18.2s,baz=272,slow=40								
BATI	**Baumata**	**49.14**	**202**		P		**P**	**16 11 14.2**	**+0.8**
	comp=Z,36nm,0.9s,baz=357,slow=3.2,SNR=4.2								
	comp=Z,36nm,0.9s								
E24K	**Your Creek**	**49.59**	**28**		P		**P**	**16 11 18.1**	**+1.9**
WRH	**Wood River Hil**	**49.75**	**33**		P		**P**	**16 11 19.5**	**+2.1**
WRH					IAmb		IAmb	16 11 28.3	
	comp=Z,13nm,1.5s								
G24K	**Hadweenzic Riv**	**49.96**	**30**		P		**P**	**16 11 21.4**	**+2.3**
G24K					IAmb		IAmb	16 11 29.2	
	comp=Z,26nm,2.0s								
KSH	**Kashi**	**50.11**	**294**		P		**P**	**16 11 23.5**	**+2.8**
KSH					pmax		pmax		
	comp=Z,6.0nm,0.6s								
AAK	**Ala-Archa**	**50.25**	**299**	*i*	P		**P**	**16 11 21.9**	**+0.2**
AAK					pmax		pmax		
	comp=Z,2.0nm,0.6s								
ILAR	**Eielson Array**	**50.26**	**32**		P		**P**	**16 11 22.4**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=271,slow=6.4,SNR=26								
	comp=Z,1.7nm,0.7s								
BVAR	**Borovoye Array**	**50.52**	**313**		P		**P**	**16 11 23.3**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=81,slow=7.4,SNR=15								
	comp=Z,2.2nm,0.5s								
BORK	**Borovoye**	**50.55**	**313**	*ce*	P		**P**	**16 11 23.7**	**0.0**
BORK					pmax		pmax		
	comp=Z,4.0nm,0.9s								
ARK	**Arkit**	**52.29**	**298**		P		**P**	**16 11 38.1**	**+1.1**
ARK					pmax		pmax		
	comp=Z,5.0nm,1.5s								
TRKS	**Terek-Say**	**52.96**	**298**		P		**P**	**16 11 42.0**	**0.0**
TRKS					pmax		pmax		
	comp=Z,6.0nm,0.7s								
I29M	**Ogilvie Camp,**	**53.81**	**31**		IAmb		IAmb	16 12 57.4	
	comp=Z,28nm,1.9s								
GAR	**Garm**	**54.42**	**296**		IAmb		IAmb	16 12 14.9	
	comp=Z,20nm,1.4s								
H31M	**Peel River**	**55.34**	**30**		P		**P**	**16 12 00.6**	**+1.8**
H31M					IAmb		IAmb	16 13 38.9	
	comp=Z,27nm,1.6s								
CHGR	**Chuyangaron**	**55.38**	**296**		P		**P**	**16 11 59.7**	**+0.1**
CHGR					pmax		pmax		
	comp=Z,42nm,0.9s								
SIMJ	**Simiganj**	**55.49**	**296**				**P**	**16 11 59.9**	**-0.6**
SIMJ					IAmb		IAmb	16 12 01.3	
	comp=Z,12nm,1.1s								
SIMJ	**Simiganj**	**55.49**	**296**		P		**P**	**16 12 00.1**	**-0.4**
SIMJ					pP		**pP**	**16 12 14.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**56.13**	**197**		P		**P**	**16 12 05.3**	**+0.4**
	comp=Z,3.6nm,0.6s,baz=8.8,slow=6.7,SNR=18								
	comp=Z,3.6nm,0.6s								
WRA	**Warramunga Arr**	**56.45**	**187**		P		**P**	**16 12 06.9**	**-0.3**
	comp=Z,3.8nm,0.6s,baz=2.9,slow=7.4,SNR=63								
	comp=Z,3.8nm,0.6s								
ARTI	**Arti**	**56.50**	**319**		P		**P**	**16 12 06.7**	**-0.4**
ARTI	**Arti**	**56.50**	**319**	*c*	*i*P		**P**	**16 12 06.7**	**-0.4**
ARTI					*PP		**pP**	**16 12 20.9**	**-1.3**
ARTI								16 13 01.1	
ARTI								16 14 18.8	
ARTI					S		**S**	**16 19 52.7**	**-1.5**
ARTI					SS		**SS**	**16 23 40.0**	**-1.5**
ARTI					pmax		pmax		
	comp=Z,13nm,0.8s								
ARTI	**Arti**	**56.50**	**319**		P		**P**	**16 12 06.3**	**-0.8**
ARTI					pP		**pP**	**16 12 21.3**	**-0.9**
MMPY	**Sheldon Lake,**	**57.47**	**33**		P		**P**	**16 12 15.5**	**+1.5**
MMPY					IAmb		IAmb	16 12 50.0	
	comp=Z,25nm,1.8s								
ASAR	**Alice Springs**	**60.18**	**187**		P		**P**	**16 12 33.2**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=23,slow=7.2,SNR=23								
	comp=Z,2.3nm,0.8s								
KIRV	**Kirov**	**60.34**	**323**	*ce*	P		**P**	**16 12 34.0**	**+0.2**
ARCES	**ARCESS Array B**	**64.30**	**339**		P		**P**	**16 13 00.5**	**+0.3**
	comp=Z,4.4nm,0.8s,baz=55,slow=9.1,SNR=9.2								
	comp=Z,4.4nm,0.8s								
STKA	**Stephens Creek**	**68.02**	**179**		P		**P**	**16 13 24.4**	**+0.1**
	comp=Z,3.9nm,1.0s,baz=271,slow=3.8,SNR=3.6								
	comp=Z,3.9nm,1.0s								
OBN	**Obninsk**	**68.19**	**323**	*e*	P		**P**	**16 13 25.3**	**+0.1**
OBN					pmax		pmax		
	comp=Z,10.0nm,0.6s								
AKT	**Akhty**	**68.94**	**306**	*e*	P		**P**	**16 13 29.2**	**-1.2**
AKT					pmax		pmax		
	comp=Z,9.0nm,0.7s								
FINES	**FINESS Array B**	**69.03**	**332**		P		**P**	**16 13 30.3**	**-0.1**
	comp=Z,7.8nm,0.8s,baz=49,slow=5.4,SNR=21								
	comp=Z,7.8nm,0.8s								
KBZ	**Khabaz**	**70.82**	**310**		P		**P**	**16 13 41.8**	**+0.1**
	comp=Z,5.0nm,0.8s,baz=73,slow=2.0,SNR=18								
	comp=Z,5.0nm,0.8s								
KBZ	**Khabaz**	**70.82**	**310**	*ce*	P		**P**	**16 13 42.2**	**+0.5**
KBZ					pmax		pmax		
	comp=Z,6.0nm,0.9s								
KIV	**Kislovodsk**	**70.83**	**311**		P		**P**	**16 13 41.7**	**-0.2**
KIV					IAmb		IAmb	16 13 43.6	
	comp=Z,16nm,0.8s								
KIV	**Kislovodsk**	**70.83**	**311**	*e*	P		**P**	**16 13 41.9**	**0.0**
KIV					pmax		pmax		
	comp=Z,15nm,1.0s								
KIV	**Kislovodsk**	**70.83**	**311**		P		**P**	**16 13 41.2**	**-0.7**
	comp=Z,15nm,0.9s								
SOC	**Sochi**	**72.83**	**312**	*e*	P		**P**	**16 13 50.9**	**-2.9**
SOC				*e*				16 16 32.1	
SOC				*e*	S		**S**	**16 23 10.2**	**-5.4**
SOC					MLR		MLR		
	comp=Z,3µm,19.0s								
PABE	**Paberze**	**73.70**	**328**		IAmb		IAmb	16 14 00.1	
	comp=Z,17nm,0.9s								
GURO	**Guroymak-BITLI**	**74.20**	**306**		IAmb		IAmb	16 14 03.7	
	comp=Z,9.0nm,0.8s								
HFS	**Hagfors**	**74.35**	**335**		P		**P**	**16 14 02.1**	**-0.3**
	comp=Z,4.1nm,0.7s,baz=51,slow=5.0,SNR=9.8								
	comp=Z,4.1nm,0.7s								
AK03	**Malin Array Si**	**74.36**	**322**		P		**P**	**16 14 01.8**	**-0.8**
AKASG	**Malin Array Be**	**74.38**	**322**		P		**P**	**16 14 02.3**	**-0.4**
	comp=Z,4.8nm,0.6s,baz=48,slow=5.9,SNR=31								
	comp=Z,4.8nm,0.6s								
AKASG	**Malin Array Be**	**74.38**	**322**	*ce*	P		**P**	**16 14 02.2**	**-0.5**
AKASG					pmax		pmax		
	comp=Z,5.0nm,0.6s								
AKBB	**Malin Array Si**	**74.38**	**322**	*ce*	P		**P**	**16 14 02.6**	**-0.1**
AKBB					pmax		pmax		
	comp=Z,13nm,0.8s								
AKBB	**Malin Array Si**	**74.38**	**322**		P		**P**	**16 14 01.9**	**-0.8**
AK01	**Malin Array Si**	**74.39**	**322**		P		**P**	**16 14 01.9**	**-0.9**
KIEV	**Kiev**	**74.39**	**322**		P		**P**	**16 14 02.1**	**-0.7**
KIEV					IAmb		IAmb	16 14 03.1	
	comp=Z,10nm,0.8s								
KIEV	**Kiev**	**74.39**	**322**		P		**P**	**16 14 02.1**	**-0.7**
KIEV					pmax		pmax		
	comp=Z,10.0nm,0.8s								
KIEV	**Kiev**	**74.39**	**322**		P		**P**	**16 14 01.9**	**-0.9**
KIEV	**Kiev**	**74.39**	**322**		P		**P**	**16 14 02.3**	**-0.4**
AK04	**Malin Array Si**	**74.39**	**322**		P		**P**	**16 14 01.9**	**-0.9**
AK09	**Malin Array Si**	**74.40**	**322**		P		**P**	**16 14 01.9**	**-0.9**
AK08	**Malin Array Si**	**74.40**	**322**		P		**P**	**16 14 02.0**	**-0.8**
AK02	**Malin Array Si**	**74.41**	**322**		P		**P**	**16 14 02.0**	**-0.9**
AK10	**Malin Array Si**	**74.43**	**322**		P		**P**	**16 14 02.4**	**-0.6**
AK10					pP		**pP**	**16 14 19.0**	**+0.5**
NB2	**NORSAR Subarra**	**74.46**	**337**		P		**P**	**16 14 03.2**	**+0.1**
	comp=Z,6.9nm,0.8s,baz=40,slow=6.2								
NOA	**NORSAR Array B**	**74.46**	**337**		P		**P**	**16 14 03.2**	**+0.1**
	comp=Z,5.8nm,0.7s,baz=38,slow=5.8,SNR=27								
	comp=Z,5.8nm,0.7s								
AK19	**Malin Array Si**	**74.47**	**322**		P		**P**	**16 14 02.4**	**-0.8**
AK17	**Malin Array Si**	**74.47**	**322**		P		**P**	**16 14 02.4**	**-0.8**
AK14	**Malin Array Si**	**74.48**	**322**		P		**P**	**16 14 02.5**	**-0.8**
AK07	**Malin Array Si**	**74.48**	**322**		P		**P**	**16 14 02.5**	**-0.8**
AK13	**Malin Array Si**	**74.51**	**322**		P		**P**	**16 14 02.7**	**-0.8**
LUBAR	**Lubar, Ukraine**	**75.60**	**322**		P		**P**	**16 14 08.6**	**-1.2**
RNPP8	**Varash**	**75.60**	**324**		P		**P**	**16 14 09.3**	**-0.4**
RNPP5	**Staryi Chortor**	**75.66**	**324**		P		**P**	**16 14 08.9**	**-1.2**
MARD	**Mardin**	**75.72**	**306**		IAmb		IAmb	16 14 12.2	
	comp=Z,12nm,0.6s								
BNN	**Bunyan**	**77.96**	**309**		P		**P**	**16 14 23.7**	**+0.2**
BR131	**Keskin Array S**	**78.78**	**311**	*i*	P		**P**	**16 14 28.4**	**+0.4**
BRTR	**Keskin Array B**	**78.78**	**311**		P		**P**	**16 14 27.8**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=104,slow=5.2,SNR=15								
	comp=Z,2.7nm,0.8s								
BRTR	**Keskin Array B**	**78.78**	**311**	*ce*	P		**P**	**16 14 28.8**	**+0.8**
BRTR					pmax		pmax		
	comp=Z,3.0nm,0.8s								
KOLS	**Kolonicke sedl**	**78.92**	**324**	*e*	P		**P**	**16 14 29.2**	**+0.8**
OJC	**Ojcow**	**79.17**	**326**		P		**P**	**16 14 30.1**	**+0.3**
OJC	**Ojcow**	**79.17**	**326**		P		**P**	**16 14 30.1**	**+0.3**
LANS	**Liptovska Anna**	**80.08**	**325**	*e*	P		**P**	**16 14 36.3**	**+1.5**
STEB	**Steborice**	**80.28**	**327**	*e*	P		**P**	**16 14 36.5**	**+0.7**
RAYN	**Ar Rayn**	**80.33**	**292**		P		**P**	**16 14 36.0**	**-0.6**
RAYN	**Ar Rayn**	**80.33**	**292**		P		**P**	**16 14 36.0**	**-0.6**
RAYN					pmax		pmax		
	comp=Z,29nm,1.1s								
RAYN	**Ar Rayn**	**80.33**	**292**		P		**P**	**16 14 36.6**	**0.0**
RAYN					sP		**sP**	**16 14 57.4**	**-0.9**
MORC	**Moravsky Berou**	**80.50**	**327**	*e*	P		**P**	**16 14 37.5**	**+0.5**
CHVC	**Chvalec**	**80.55**	**328**	*e*	P		**P**	**16 14 38.0**	**+0.8**
CHVC	**Chvalec**	**80.55**	**328**	*e*	P		**P**	**16 14 38.0**	**+0.8**
DPC	**Dobruska-Polom**	**80.61**	**328**	*e*	P		**P**	**16 14 38.7**	**+1.1**
DPC	**Dobruska-Polom**	**80.61**	**328**	*e*	P		**P**	**16 14 38.7**	**+1.1**
JAVC	**Velka Javorina**	**81.11**	**326**	*e*	P		**P**	**16 14 41.6**	**+1.3**
BRG	**Berggiesshubel**	**81.23**	**329**		P		**P**	**16 14 41.0**	**+0.2**
BRG					Amp			16 14 42.6	
	comp=Z,4.8nm,1.0s								
BRG	**Berggiesshubel**	**81.23**	**329**		⇑SKKSa			16 24 37.0	
VRAC	**Vranov**	**81.26**	**327**	*e*	P		**P**	**16 14 41.0**	**0.0**
CLL	**Collm**	**81.28**	**330**	*i*	P		**P**	**16 14 41.2**	**+0.1**
CLL					pmax		pmax		
	comp=Z,15nm,1.2s								
CLL	**Collm**	**81.28**	**330**	*i*	P		**P**	**16 14 41.2**	**+0.1**
	comp=Z,15nm,1.2s								
KRUC	**Moravsky**	**81.53**	**327**	*e*	P		**P**	**16 14 42.7**	**+0.2**
PRU	**Pruhonice**	**81.64**	**328**	*e*	P		**P**	**16 14 43.8**	**+0.8**
PRU	**Pruhonice**	**81.64**	**328**	*e*	P		**P**	**16 14 43.8**	**+0.8**
MODS	**Modra-Piesok**	**81.65**	**326**	*e*	P		**P**	**16 14 47.0**	**+3.9**
TREC	**Trest**	**81.76**	**327**	*e*	P		**P**	**16 14 44.0**	**+0.3**
TREC	**Trest**	**81.76**	**327**	*e*	P		**P**	**16 14 44.0**	**+0.3**
MMAI	**Mont Meron Ar**	**81.81**	**305**		P		**P**	**16 14 44.2**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=12,slow=4.3,SNR=5.4								
	comp=Z,2.0nm,0.7s								
CKRC	**Cesky Krumlov**	**82.63**	**328**	*e*	P		**P**	**16 14 48.5**	**+0.3**
CKRC	**Cesky Krumlov**	**82.63**	**328**	*e*	P		**P**	**16 14 48.5**	**+0.3**
KHC	**Kasperske Hory**	**82.70**	**328**	*e*	P		**P**	**16 14 48.6**	**0.0**
KHC	**Kasperske Hory**	**82.70**	**328**	*e*	P		**P**	**16 14 48.6**	**0.0**
GERES	**GERESS Array B**	**82.87**	**328**		P		**P**	**16 14 49.6**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=38,slow=6.1,SNR=12								
	comp=Z,1.4nm,0.5s								
EKA	**Eskdalemuir Ar**	**83.45**	**340**		P		**P**	**16 14 52.4**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=37,slow=3.9,SNR=6.0								
	comp=Z,2.7nm,0.7s								
PDG	**Podgorica**	**85.02**	**321**		P		**P**	**16 15 00.3**	**-0.2**
BFO	**Black Forest**	**85.50**	**330**	*i*	P		**P**	**16 15 02.1**	**-0.7**
ATD	**Arta Tunnel**	**89.45**	**284**		LR		LR	16 58 26.6	
	comp=Z,316nm,21.0s,baz=212,slow=38								
TXAR	**Lajitas Array**	**90.90**	**52**		P		**P**	**16 15 30.3**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=321,slow=3.8,SNR=1.5								
	comp=Z,0.4nm,0.6s								
H03N2	**Juan Fernandez**	**147.53**	**96**		T		T	19 07 21.7	
	baz=291,slow=76,SNR=15								
H03N3	**Juan Fernandez**	**147.54**	**97**		T		T	19 07 20.6	
	baz=291,slow=76,SNR=17								
H03N1	**Juan Fernandez**	**147.55**	**96**		T		T	19 07 19.7	
	baz=291,slow=76,SNR=15								

*IDC **29** 16:09:45.9±0.8, 35°.52S×72°.86W, h0km, mb4.1/6, mbtmp4.1/9, ML4.0/3, Error ellipse: s-maj=42.8km s-min=18.2km az=86.0*
*NEIC **29** 16:09:46.1±1.2, 35°.45S±0°.05×73°.2W±0°.1, h10km±1km, mb5.2/17, Error ellipse: s-maj=15.9km s-min=7.5km az=286.0*
ISC 29 16:09:47.6±0.5, 35°.44S±0°.06×73°.04W±0°.09, h17km, n56, σ1s16/46, mb4.6/13, 4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**1.31**	**185**			**Pn**	**16 10 08.8**	**-2.3**
BI02	**San Fabin de**	**1.88**	**131**		Pn	**Pn**	**16 10 18.1**	**-1.0**
BO01	**Tunca**	**1.92**	**57**		Pn	**Pb**	**16 10 21.1**	**-1.1**
BO02	**Sierra Bellavi**	**1.96**	**71**		Pn	**Pn**	**16 10 21.2**	**+0.9**
MT01	**Popeta**	**2.16**	**44**			**Pn**	**16 10 23.3**	**+0.5**
VA01	**Torpederas**	**2.68**	**26**		Pn	**Pn**	**16 10 28.7**	**-1.2**
MT05	**Renca**	**2.79**	**44**			**Pn**	**16 10 32.5**	**+0.8**
LMEL	**Las Melosas**	**2.83**	**57**			**Pb**	**16 10 35.7**	**-2.1**
PEL	**Peldehue**	**3.01**	**41**			**Pn**	**16 10 35.5**	**+0.9**
MT08	**Bocatoma Ro**	**3.20**	**52**			**Pn**	**16 10 38.9**	**+1.6**
VA03	**San Esteban**	**3.38**	**38**		Pn	**Pn**	**16 10 40.7**	**+1.0**
CO06	**Fray Jorge**	**4.90**	**14**		Pn	**Pn**	**16 10 59.7**	**-0.8**
H03S1	**Juan Fernandez**	**5.09**	**287**		T	T	16 16 22.7	
	baz=110,slow=74,SNR=263							
H03S3	**Juan Fernandez**	**5.10**	**287**		T	T	16 16 23.9	
	baz=110,slow=74,SNR=213							
H03S2	**Juan Fernandez**	**5.11**	**287**		T	T	16 16 14.4	
	baz=110,slow=74,SNR=155							
H03N1	**Juan Fernandez**	**5.24**	**291**		T	T	16 16 33.8	
	baz=127,slow=71,SNR=12							
H03N3	**Juan Fernandez**	**5.25**	**291**		T	T	16 16 33.4	
	baz=127,slow=71,SNR=22							
H03N2	**Juan Fernandez**	**5.26**	**291**		T	T	16 16 35.6	
	baz=127,slow=71,SNR=14							
CFA	**Coronel Fontan**	**5.54**	**48**		Pn	**Pn**	**16 11 09.7**	**+0.3**
	1.6nm,0.3s,baz=193,slow=5.3,SNR=6.7							
CFA					Lg	Lg	16 12 32.3	
	2.1nm,0.3s,baz=324,slow=13,SNR=4.3							
	20nm,1.0s							
PLCA	**Paso Flores**	**5.64**	**160**		Pn	**Pn**	**16 11 10.9**	**+0.2**
PLCA	**Paso Flores**	**5.64**	**160**		Pn	**Pn**	**16 11 10.4**	**-0.2**
	1.6nm,0.3s,baz=327,slow=9.6,SNR=5.5							
PLCA					Lg	Lg	16 12 32.9	
	3.5nm,0.3s,baz=260,slow=20,SNR=5.2							
	22nm,0.8s							
AC02	**Maricunga**	**9.21**	**22**		Pn	**Pn**	**16 11 59.8**	**-0.4**
GO09	**Cerro Castillo**	**15.83**	**178**		P	**P**	**16 13 31.9**	**-1.4**
GO09					IAmb	IAmb	16 13 33.4	
	comp=Z,366nm,1.9s							
MG05	**Puerto Natales**	**16.23**	**179**		Pn	**Pn**	**16 13 33.5**	**-1.2**
LPAZ	**La Paz**	**19.57**	**14**		P	**Pn**	**16 14 18.3**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=181,slow=5.5,SNR=4.6							
	comp=Z,6.4nm,0.8s							
AQDB	**Aquidauana**	**21.33**	**50**		P	**P**	**16 14 34.3**	**+0.5**
BOAV	**Boa Vista**	**39.42**	**20**		P	**P**	**16 17 16.4**	**-0.4**
BOAV					IAmb	IAmb	16 18 32.9	
	comp=Z,75nm,1.9s							
BAUV	**El Baul**	**44.40**	**7**		P	**P**	**16 17 56.5**	**-1.0**
VNA3	**Neumayer Olymp**	**48.35**	**157**		⇓P	P	16 18 37.3	+9.4
	comp=Z,1.1nm,0.5s							
VNA2	**Neumayer--Watz**	**49.01**	**157**		⇓P	**P**	**16 18 33.2**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=276,slow=7.8							
SNAA	**Sanae**	**50.57**	**157**		⇓P	**P**	**16 18 44.9**	**-0.1**
	comp=Z,11nm,0.4s							
SNAA	**Sanae**	**50.57**	**157**		P	**P**	**16 18 44.9**	**-0.1**
SNAA					IAmb	IAmb	16 19 01.3	
	comp=Z,55nm,2.0s							
SNAA	**Sanae**	**50.57**	**157**		P	**P**	**16 18 44.3**	**-0.7**
	comp=Z,4.1nm,0.8s,baz=246,slow=7.0,SNR=8.3							
	comp=Z,4.1nm,0.8s							
TROLL	**Troll, Antarti**	**52.27**	**158**		⇓P	**P**	**16 18 57.8**	**+0.1**
	comp=Z,56nm,0.5s							
GDHS	**Morne Mazeau,**	**52.53**	**14**		P	**P**	**16 18 58.7**	**-1.4**
CELP	**Cerrillos**	**53.58**	**8**		P	**P**	**16 19 06.6**	**-1.1**
CELP					IAmb	IAmb	16 20 25.2	
	comp=Z,19nm,1.3s							
QSPA	**South Pole Qui**	**54.80**	**180**		P	**P**	**16 19 18.3**	**+2.0**
	comp=Z,6.7nm,1.1s,baz=125,slow=4.4,SNR=6.8							
	comp=Z,6.7nm,1.1s							
VNDA	**Vanda**	**62.53**	**192**		P	**P**	**16 20 11.7**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=142,slow=7.0,SNR=1.6							
	comp=Z,0.6nm,0.7s							
SACV	**Santiago Islan**	**68.59**	**52**		P	**P**	**16 20 49.1**	**-0.7**
TXAR	**Lajitas Array**	**70.60**	**332**		P	**P**	**16 21 03.6**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=138,slow=7.5,SNR=4.2							
	comp=Z,0.4nm,0.6s							
MAW	**Mawson**	**72.03**	**164**		P	**P**	**16 21 09.8**	**-0.4**
	comp=Z,4.3nm,0.8s,baz=199,slow=4.5,SNR=9.7							
	comp=Z,4.3nm,0.8s							
LCAR	**Lake Charles**	**73.12**	**345**		P	**P**	**16 21 16.4**	**-0.5**
LCAR					IAmb	IAmb	16 22 04.7	
	comp=Z,46nm,2.0s							
CCM	**Cathedral Cave**	**75.05**	**345**		P	**P**	**16 21 28.7**	**+0.6**
P48A	**Milroy**	**75.41**	**350**		P	**P**	**16 21 29.8**	**-0.3**
P48A					IAmb	IAmb	16 23 46.7	
	comp=Z,48nm,1.8s							
O48B	**Farmland**	**76.15**	**350**		P	**P**	**16 21 34.0**	**-0.3**
P40A	**Paris**	**76.64**	**345**		P	**P**	**16 21 37.8**	**+0.7**
ECSD	**EROS Data Cent**	**81.67**	**343**		P	**P**	**16 22 05.4**	**+0.8**
ECSD					IAmb	IAmb	16 22 21.1	
	comp=Z,39nm,1.9s							
HAYD	**Hayden**	**81.89**	**334**		P	**P**	**16 22 05.1**	**-1.0**
PDAR	**Pinedale Array**	**84.68**	**334**		P	**P**	**16 22 24.0**	**+3.5**
	comp=Z,0.6nm,0.7s,baz=163,slow=1.3,SNR=2.9							
	comp=Z,0.6nm,0.7s							
WRA	**Warramunga Arr**	**119.10**	**210**		PKP	**PKPdf**	**16 28 35.1**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=165,slow=1.5,SNR=5.8							
H11N3	**WAKE ISLAND Hyl**	**25.36**	**270**		T	T	18 46 47.9	
	baz=120							
H11N1	**WAKE ISLAND Hyl**	**25.38**	**270**		T	T	18 46 52.0	
	baz=120							
H11N2	**WAKE ISLAND Hyl**	**25.38**	**270**		T	T	18 46 53.3	
	baz=120							
BVAR	**Borovoye Array**	**148.89**	**44**		PKPbc	**PKPbc**	**16 29 33.9**	**0.0**
	comp=Z,2.4nm,0.6s,baz=350,slow=2.1,SNR=7.7							
HYB	**Hyderabad**	**149.03**	**118**	*e*	PKiKP	**PKiKP**	**16 29 36.2**	**-0.4**
YAK	**Yakutsk**	**149.79**	**339**		PKPbc	**PKPbc**	**16 29 35.6**	**-0.1**
	comp=Z,10nm,0.6s,baz=41,slow=0.7,SNR=6.6							

*NEIC **29** 16:13:01.6±0.6, 35°.53S±0°.04×73°.22W±0°.10, h10km±2km, ML4.0/34, ML3.7(GUC), Error ellipse: s-maj=13.4km s-min=5.9km az=260.0*
*GUC **29** 16:13:04.6±0.8, 35°.53S×73°.21W, h31km±4km, ML3.7*
ISC 29 16:13:01.4±3.4, 35°.53S±0°.04×73°.18W±0°.08, h8km±26km, n23, σ0s58/29, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO05	**Hualane**	**1.15**	**63**	*e*	P	**Pb

MT03	**Universidad Ad**	**2.54**	**46**			**Pn**		**16 22 21.6**	**-1.8**
PEL	**Peldehue**	**2.71**	**38**			**Pn**		**16 22 23.5**	**-2.2**
MT08	**Bocatoma Ro**	**2.88**	**51**		Pn	**Pn**		**16 22 25.1**	**-3.1**
VA06	**Catapilco**	**2.96**	**23**		Pn	**Pn**		**16 22 25.2**	**-3.8**
VA03	**San Esteban**	**3.08**	**36**			**Pn**		**16 22 28.8**	**-2.1**
LC02	**Puerto Saavedr**	**3.54**	**189**		Pn	Pn		16 22 29.4	-7.6
CO02	**Combarbal**	**4.31**	**20**			**Pn**		**16 22 44.2**	**-3.6**
LR03	**Panguipulli**	**4.34**	**176**			Pn		16 22 39.5	-8.6
H03S1	**Juan Fernandez**	**5.33**	**284**		T	T		16 28 11.2	
	baz=110,slow=74,SNR=310								
H03S3	**Juan Fernandez**	**5.34**	**284**		T	T		16 28 15.5	
	baz=110,slow=74,SNR=393								
H03S2	**Juan Fernandez**	**5.35**	**284**		T	T		16 28 10.5	
	baz=110,slow=74,SNR=313								
PLCA	**Paso Flores**	**5.69**	**163**		Pn	**Pn**		**16 23 06.0**	**-0.7**
	comp=N,1.9nm,0.3s,baz=331,slow=8.9,SNR=16								
PLCA					Lg	Lg		16 24 29.9	
	comp=N,3.2nm,0.3s,baz=277,slow=11,SNR=3.4								
	comp=N,7.1nm,0.5s								
LPAZ	**La Paz**	**19.36**	**13**		P	**Pn**		**16 26 12.4**	**+2.9**
	comp=N,0.1nm,0.3s,baz=202,slow=4.7,SNR=7.3								
	comp=N,2.5nm,0.8s								
SIV	**San Ignacio**	**21.85**	**31**		P	**P**		**16 26 37.8**	**+2.9**
	comp=N,5.7nm,0.8s,baz=204,slow=10,SNR=4.8								
	comp=N,5.7nm,0.8s								
VNA3	**Neumayer Olymp**	**48.37**	**157**	⇓	P	**P**		**16 30 23.8**	**+0.2**
	comp=Z,3.1nm,0.7s								
VNA1	**Neumayer--Stat**	**48.70**	**156**	⇑	P	**P**		**16 30 26.8**	**+0.8**
	comp=Z,3.1nm,0.7s								
VNA2	**Neumayer--Watz**	**49.04**	**157**	⇑	P	**P**		**16 30 28.7**	**0.0**
	comp=Z,2.5nm,0.6s,baz=274,slow=7.2								
SNAA	**Sanae**	**50.60**	**157**	⇑	P	P		16 30 33.6	-7.0
	comp=Z,77nm,0.9s								
SNAA	**Sanae**	**50.60**	**157**		P	**P**		**16 30 40.4**	**-0.3**
	comp=Z,3.9nm,0.9s,baz=278,slow=5.0,SNR=10								
	comp=Z,3.9nm,0.9s								
TROLL	**Troll, Antarti**	**52.30**	**158**	⇑	P	**P**		**16 30 53.4**	**-0.1**
	comp=Z,168nm,0.8s								
QSPA	**South Pole Qui**	**54.95**	**180**		P	**P**		**16 31 14.1**	**+1.2**
	comp=Z,2.0nm,0.7s,baz=142,slow=0.9,SNR=7.8								
	comp=Z,2.0nm,0.7s								
TXAR	**Lajitas Array**	**70.60**	**332**		P	**P**		**16 32 58.9**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=147,slow=7.4,SNR=2.9								
	comp=Z,0.4nm,0.7s								
MAW	**Mawson**	**72.10**	**164**		P	**P**		**16 33 05.3**	**-0.7**
	comp=Z,3.1nm,0.8s,baz=201,slow=6.3,SNR=8.2								
	comp=Z,3.1nm,0.8s								
H11S2	**WAKE ISLAND Hy**	**25.21**	**269**		T	T		18 58 19.7	
	baz=118								
H11S1	**WAKE ISLAND Hy**	**25.22**	**269**		T	T		18 58 20.2	
	baz=118								
H11S3	**WAKE ISLAND Hy**	**25.22**	**269**		T	T		18 58 15.7	
	baz=118								
H11N3	**WAKE ISLAND Hy**	**25.65**	**270**		T	T		18 58 42.1	
	baz=123								
H11N1	**WAKE ISLAND Hy**	**25.67**	**270**		T	T		18 58 35.8	
	baz=123								
H11N2	**WAKE ISLAND Hy**	**25.67**	**270**		T	T		18 58 43.3	
	baz=123								
BVAR	**Borovoye Array**	**148.58**	**44**		PKPbc	**PKiKP**		**16 41 29.7**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=288,slow=3.4,SNR=11								
KURBB	**Kurchatov Arra**	**154.17**	**45**		PKPbc	**PKiKP**		**16 41 41.1**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=297,slow=2.7,SNR=5.8								

*AEIC **29** 16:24:50.9±1.2, 52°.44N±0°.05×166°.75W±0°.08, h1km±6km, Error ellipse: s-maj=8.9km s-min=4.3km az=139.0*
*NEIC **29** 16:24:51.7±1.7, 52°.41N±0°.07×166°.80W±0°.08, h10km±2km, ML3.4/12, ML3.1(AEIC), Error ellipse: s-maj=13.7km s-min=3.4km az=147.0*
*IDC **29** 16:24:53.7±1.5, 53°.00N×167°.09W, h0km, mb3.8/12, mbtmp3.9/12, Error ellipse: s-maj=44.8km s-min=20.4km az=5.0*

ISC 29 16:24:55.2±0.9, 52°.50N±0°.08×166°.86W±0°.05, h25km, n50, σ1°.97/47, mb4.0/12, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.11**	**325**			**Pn**	**16 25 13.9**	**-1.3**
OKTU	**Okmok Mt. Tuli**	**1.14**	**322**			**Pn**	**16 25 14.5**	**-1.1**
OKSP	**Okmok Steeple**	**1.15**	**312**			**Pn**	**16 25 14.8**	**-0.9**
OKCE	**Okmok Cone E**	**1.22**	**320**			**Pn**	**16 25 16.3**	**-0.4**
OKNC	**Okmok New Cone**	**1.23**	**322**			**Pn**	**16 25 16.5**	**-0.2**
MGOD	**Makushin Gods**	**1.30**	**360**			**Pn**	**16 25 17.0**	**-0.8**
NIKH	**Nikolski High**	**1.30**	**292**			**Pn**	**16 25 16.6**	**-1.2**
NIKH					IAML		16 25 41.3	
	comp=E,494nm,0.6s							
NIKH					IAML		16 25 42.1	
	comp=N,676nm,0.5s							
NIKH	**Nikolski High**	**1.30**	**292**			**Sb**	**16 25 37.3**	**+2.1**
MAPS	**Pakushin South**	**1.31**	**358**			**Pn**	**16 25 16.8**	**-1.1**
MREP	**Makushin Rep't**	**1.31**	**3**			**Pn**	**16 25 17.1**	**-0.9**
UNV	**Unalaska Valle**	**1.36**	**9**			**Pn**	**16 25 17.4**	**-1.3**
UNV					IAML		16 25 49.4	
	comp=N,207nm,0.6s							
UNV	**Unalaska Valle**	**1.36**	**9**			**Sb**	**16 25 38.5**	**+1.5**
MNAT	**Makushin Natee**	**1.39**	**4**			**Pn**	**16 25 18.3**	**-0.8**
MSW	**Makushin Switc**	**1.42**	**2**			**Pn**	**16 25 18.7**	**-0.7**
AKMO	**Akutan Morgan**	**1.67**	**17**			**Sb**	**16 25 21.5**	**-1.4**
AKMO						**Sb**	**16 25 46.1**	**+0.2**
ZRO	**Akutan Zero**	**1.68**	**18**			**Pn**	**16 25 21.7**	**-1.3**
AKRB	**Akutan Reef Bi**	**1.70**	**16**			**Pn**	**16 25 22.7**	**-0.6**
AKRB						**Sb**	**16 25 46.9**	**+0.2**
AKV	**Akutan Volcano**	**1.72**	**18**			**Pn**	**16 25 23.1**	**-0.4**
AKV						**Sb**	**16 25 47.0**	**-0.2**
AHB	**Akutan Harbor**	**1.73**	**21**			**Pn**	**16 25 23.0**	**-0.8**
LVA	**Lava Point**	**1.74**	**16**			**Pn**	**16 25 22.5**	**-1.3**
LVA					IAML		16 25 54.0	
	comp=E,434nm,0.5s							
LVA					IAML		16 26 00.9	
	comp=N,690nm,0.7s							
LVA	**Lava Point**	**1.74**	**16**			**Sb**	**16 25 47.2**	**-0.5**
AKLV	**Akutan Long Va**	**1.75**	**18**			**Pn**	**16 25 22.3**	**-1.7**
AKUT	**Akutan**	**1.76**	**21**			**Pb**	**16 25 29.3**	**+2.5**
CLCO	**Concord Point,**	**1.77**	**280**			**Pn**	**16 25 24.0**	**-0.2**
CLCO						**Sb**	**16 25 49.0**	**+0.3**
AKGG	**Akutan Green G**	**1.78**	**17**			**Pn**	**16 25 23.8**	**-0.6**
CLES	**Cleveland East**	**1.88**	**281**			**Pn**	**16 25 25.1**	**-0.5**
CLES					IAML		16 25 56.7	
	comp=N,633nm,0.5s							
CLES	**Cleveland East**	**1.88**	**281**			**Sb**	**16 25 51.7**	**-0.1**
WEBT	**Westdahl Beart**	**2.44**	**30**			**Pn**	**16 25 33.2**	**-0.3**
SSBA	**Shishaldin**	**2.80**	**34**			**Pn**	**16 25 38.6**	**+0.2**
ISNN	**Isanotski Nort**	**2.97**	**37**			**Pn**	**16 25 40.9**	**+0.1**
FALS	**False Pass**	**3.12**	**40**			**Pn**	**16 25 40.4**	**-2.4**
DT1	**Dutton Round H**	**3.77**	**44**			**Pn**	**16 25 51.6**	**0.0**
PETK	**Petropavlovsk-**	**21.31**	**286**		P	**P**	**16 29 40.7**	**+0.9**
	comp=N,1.7nm,0.5s,baz=81,slow=13,SNR=12							
	comp=N,1.7nm,0.5s							
INK	**Inuvik**	**22.40**	**32**		P	**P**	**16 29 49.9**	**-1.4**
	comp=N,2.9nm,1.0s,baz=239,slow=5.9,SNR=1.9							
	comp=N,2.9nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**38.55**	**222**		T	T	17 13 56.8	
	baz=24,slow=76,SNR=16							
H11N3	**WAKE ISLAND Hy**	**38.55**	**222**		T	T	17 13 57.4	
	baz=24,slow=76,SNR=14							
H11N1	**WAKE ISLAND Hy**	**38.56**	**222**		T	T	17 13 56.7	
	baz=24,slow=76,SNR=8.4							
PDAR	**Pinedale Array**	**38.87**	**81**		P	**P**	**16 32 20.0**	**+1.5**
	comp=N,0.4nm,0.8s,baz=320,slow=9.8,SNR=2.5							
	comp=N,0.4nm,0.8s							
H11S1	**WAKE ISLAND Hy**	**39.73**	**221**		T	T	17 15 37.9	
	baz=24,slow=76,SNR=18							
H11S2	**WAKE ISLAND Hy**	**39.74**	**221**		T	T	17 15 36.3	
	baz=24,slow=76,SNR=17							
H11S3	**WAKE ISLAND Hy**	**39.74**	**221**		T	T	17 15 39.4	
	baz=24,slow=76,SNR=9.5							
KSRS	**Korea Array**	**46.91**	**278**		P	**P**	**16 33 22.8**	**-0.6**
	comp=N,1.0nm,1.0s,baz=68,slow=8.3,SNR=3.7							
	comp=N,1.0nm,1.0s							
TXAR	**Lajitas Array**	**51.21**	**91**		P	P	16 34 00.9	+4.4
	comp=N,0.7nm,0.8s,baz=308,slow=5.4,SNR=5.2							
	comp=N,0.7nm,0.8s							
KURBB	**Kurchatov Arra**	**63.39**	**320**		P	**P**	**16 35 21.4**	**-0.7**
	comp=N,0.7nm,0.6s,baz=48,slow=7.4,SNR=6.0							
	comp=N,0.7nm,0.6s							
BVAR	**Borovoye Array**	**64.48**	**326**		P	**P**	**16 35 28.6**	**-0.6**
	comp=N,0.9nm,0.7s,baz=46,slow=9.0,SNR=4.2							
	comp=N,0.9nm,0.7s							
MKAR	**Makanchi Array**	**64.82**	**315**		P	**P**	**16 35 30.6**	**-1.0**
	comp=N,1.0nm,0.7s,baz=44,slow=5.2,SNR=7.4							
	comp=N,1.0nm,0.7s							
FINES	**FINESS Array B**	**65.94**	**353**		P	**P**	**16 35 37.2**	**-1.3**
	comp=N,2.0nm,0.7s,baz=2.3,slow=4.8,SNR=7.2							
	comp=N,2.0nm,0.7s							
HFS	**Hagfors**	**67.72**	**360**		P	**P**	**16 35 49.3**	**-0.6**
	comp=N,2.0nm,0.8s,baz=66,slow=5.0,SNR=4.1							
	comp=N,2.0nm,0.8s							
AKASG	**Malin Array Be**	**76.28**	**350**		P	**P**	**16 36 40.5**	**-0.8**
	comp=N,1.2nm,0.6s,baz=15,slow=6.0,SNR=4.4							
	comp=N,1.2nm,0.6s							
BRTR	**Keskin Array B**	**86.44**	**344**		P	**P**	**16 37 36.6**	**+1.1**
	comp=N,0.7nm,0.7s,baz=59,slow=2.8,SNR=6.0							
	comp=N,0.7nm,0.7s							

*SNET **29** 16:29:15.4±2.1, 13°.18N×89°.95W, h27km, ML3.6*
*CATAC **29** 16:29:15.8±0.8, 13°.14°×9°.0W×°, h18km±4km, M3.5/8, MLv3.5/8, Error ellipse: s-maj=9.7km s-min=6.2km az=27.8, confirmed*
*GCG **29** 16:29:16.9±0.9, 13°.27N×89°.93W, h36km±7km, MD4.1, ML3.8*

ISC 29 16:29:18.1±1.8, 13°.26N±0°.08×89°.77W±0°.05, h22km±7km, n49, σ1°.05/71, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.49**	**62**		*e*P	**Pn**	**16 29 29.0**	**-0.8**
LALI					*e*S	**Sn**	**16 29 37.7**	**+0.1**
LALI	**Alcalda de L**	**0.49**	**62**		*e*P	**Pn**	**16 29 29.1**	**-0.8**
LALI					*e*S	**Sn**	**16 29 37.6**	**-0.1**
LALI	**Alcalda de L**	**0.49**	**62**		S	**Sn**	**16 29 38.9**	**+1.3**
LALI	**Alcalda de L**	**0.49**	**62**		P	**Pn**	**16 29 28.9**	**-0.8**
JAYA	**Jayaque - finc**	**0.50**	**38**		*e*P	**Pn**	**16 29 29.0**	**-1.1**
JAYA					*e*S	**Sn**	**16 29 38.0**	**-0.2**
JAYA	**Jayaque - finc**	**0.50**	**38**		P	**Pn**	**16 29 29.3**	**-0.8**
JAYA	**Jayaque - finc**	**0.50**	**38**		S	**Sn**	**16 29 39.1**	**+1.0**
CEVE	**Cerro Verde**	**0.58**	**14**		*e*P	**Pb**	**16 29 30.0**	**+0.1**
CEVE					*e*S	**Sn**	**16 29 41.0**	**+0.7**
SBLS	**San Blas**	**0.59**	**14**		*e*P	**Pb**	**16 29 30.1**	**0.0**
SBLS					*e*S	**Sn**	**16 29 40.6**	**+0.1**
SNJE	**San Jose**	**0.62**	**14**		*e*P	**Pb**	**16 29 30.4**	**-0.1**
SNJE					*e*S	**Sn**	**16 29 40.4**	**-1.0**
FAME	**Alcaldia de Sa**	**0.63**	**337**		P	**Pb**	**16 29 28.9**	**-1.6**
FAME	**Alcaldia de Sa**	**0.63**	**337**		S	**Sb**	**16 29 38.5**	**-0.4**
PMON	**Piamonte**	**0.63**	**44**		*e*P	**Pn**	**16 29 31.0**	**-0.8**
PMON	**Piamonte**	**0.63**	**44**		S	**Sn**	**16 29 43.4**	**+2.2**
PMON	**Piamonte**	**0.63**	**44**		P	**Pn**	**16 29 31.1**	**-0.8**
NUBE	**Las Nubes**	**0.64**	**359**		*e*P	**Pb**	**16 29 30.1**	**-0.7**
NUBE					*e*S	**Sn**	**16 29 40.5**	**-1.1**
NUBE	**Las Nubes**	**0.64**	**359**		*e*P	**Pb**	**16 29 30.1**	**-0.7**
NUBE					*e*S	**Sn**	**16 29 40.6**	**-1.0**
NUBE	**Las Nubes**	**0.64**	**359**		P	**Pb**	**16 29 30.3**	**-0.4**
RTR	**El Retiro**	**0.64**	**10**		*e*P	**Pb**	**16 29 30.8**	**0.0**
BOQS	**Boqueron**	**0.67**	**45**		*e*P	**Pn**	**16 29 31.7**	**-0.8**
BOQS					*e*S	**Sn**	**16 29 43.9**	**+1.5**
PANCS	**Alcalda de**	**0.67**	**58**		*e*P	**Pb**	**16 29 31.2**	**0.0**
PANCS					*e*S	**Sn**	**16 29 42.3**	**+0.1**
UEES	**Universidad Ev**	**0.68**	**48**		*e*P	**Pn**	**16 29 32.1**	**-0.5**
UEES					*e*S	**Sn**	**16 29 43.8**	**+1.2**
LOMA	**Loma Larga**	**0.69**	**57**		*e*P	**Pn**	**16 29 32.0**	**-0.8**
LOMA					*e*S	**Sn**	**16 29 43.7**	**+0.8**
LOMA	**Loma Larga**	**0.69**	**57**		P	**Pn**	**16 29 32.1**	**-0.6**
LOMA	**Loma Larga**	**0.69**	**57**		S	**Sn**	**16 29 44.2**	**+1.3**
LOAL	**Lomas de Alarc**	**0.73**	**359**		*e*P	**Pn**	**16 29 31.7**	**-0.6**
LOAL					*e*S	**Sn**	**16 29 43.3**	**-0.6**
UNIC	**Universidad Ca**	**0.75**	**16**		*e*P	**Pn**	**16 29 32.6**	**-0.9**
UNIC					*e*S	**Sn**	**16 29 43.9**	**-0.3**
LFRS	**El Faro**	**0.77**	**62**		*e*P	**Pb**	**16 29 33.0**	**0.0**
LFRS					*e*S	**Sn**	**16 29 45.6**	**+0.7**
LFU	**La Fuente**	**0.80**	**53**		*e*P	**Pn**	**16 29 33.8**	**-0.4**
LBRS	**Las Brisas**	**0.85**	**56**		*e*P	**Pn**	**16 29 34.5**	**-0.3**
LBRS					*e*S	**Sn**	**16 29 48.5**	**+1.9**
RBDL	**Robledal**	**0.85**	**5**		*e*P	**Pb**	**16 29 33.8**	**-0.6**
TECO	**Alcaldia de Te**	**1.00**	**74**		*e*P	**Pb**	**16 29 36.2**	**-0.6**
TECO					*e*S	**Sn**	**16 29 50.9**	**+0.7**
TECO	**Alcaldia de Te**	**1.00**	**74**		S	**Sn**	**16 29 51.3**	**+1.0**
TECO	**Alcaldia de Te**	**1.00**	**74**		P	**Pb**	**16 29 36.1**	**-0.6**
UESV	**Universidad de**	**1.02**	**68**		*e*P	**Pn**	**16 29 37.8**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.10**	**66**		*e*P	**Pb**	**16 29 39.3**	**+0.8**
SCLA					*e*S	**Sn**	**16 29 54.3**	**+1.4**
MTO3	**Montecristo**	**1.20**	**19**		*e*P	**Pn**	**16 29 39.2**	**-0.6**
MTO3	**Montecristo**	**1.20**	**19**		*e*P	**Pn**	**16 29 39.2**	**-0.8**
MTO3	**Montecristo**	**1.20**	**19**		P	**Pn**	**16 29 39.3**	**-0.6**
MTO3	**Montecristo**	**1.20**	**19**		S	**Sn**	**16 29 57.3**	**+1.8**
PQSS	**Presa 15 de Se**	**1.23**	**73**		*e*P	**Pb**	**16 29 40.8**	**+0.1**
PQSS					*e*S	**Sb**	**16 29 57.5**	**+1.4**
FG16	**Alotenango, Sa**	**1.24**	**324**		*e*P	**Pb**	**16 29 41.5**	**+0.5**
FG16					*e*S	**Sn**	**16 30 00.7**	**+4.2**
FG16					IAML		16 30 09.4	
	comp=N,1μm,0.2s							
FG8	**Yepocapa, Chim**	**1.26**	**322**		*e*P	**Pb**	**16 29 42.1**	**+0.8**
ESQI	**Esquipulas**	**1.35**	**18**		*e*P	**Pn**	**16 29 41.5**	**-0.4**
PACA	**Pacayal**	**1.42**	**81**		*e*P	**Pb**	**16 29 43.6**	**-0.4**
PACA					*e*S	**Sb**	**16 30 03.1**	**+1.4**
PACA	**Pacayal**	**1.42**	**81**		P	**Pb**	**16 29 43.7**	**-0.4**
BLLM	**Bellamira**	**1.50**	**83**		*e*P	**Pb**	**16 29 44.5**	**-0.8**
CNCH	**Conchagua**	**1.88**	**89**		*e*P	**Pb**	**16 29 50.0**	**-1.8**
CNCH					*e*S	**Sb**	**16 30 13.8**	**-1.2**
CNCH	**Conchagua**	**1.88**	**89**		P	**Pb**	**16 29 50.4**	**-1.4**

*SJA **29** 16:39:52.4±1.2, 35°.40S×73°.45W, h15km, ML4.3, MW4.5*
*IDC **29** 16:39:54.6±0.8, 35°.49S×73°.05W, h0km, mb4.1/8, mbtmp3.9/12, ML3.8/4, Error ellipse: s-maj=32.5km s-min=17.1km az=94.0*
*NEIC **29** 16:39:55.4±1.3, 35°.50S±0°.06×73°.2W±0°.1, h10km±1km, mb4.7/7, ML4.3(GUC), Error ellipse: s-maj=19.2km s-min=7.8km az=287.0*
*GUC **29** 16:39:57.7±0.8, 35°.53S×72°.98W, h28km±3km, ML4.3*

ISC 29 16:39:55.1±1.7, 35°.50S±0°.03×73°.05W±0°.06, h5km±10km, n98, σ1°.28/115, mb4.6/12, 6C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GO05	**Hualane**	**1.04**	**62**	⇓*i*P		**Pg**	**16 40 15.1**	**+0.1**
GO05				*i* S		**Sg**	**16 40 27.8**	**-0.7**
GO05				IAML			16 40 30.5	
	comp=E,15μm,0.3s							
BI05	**Punta Hualpn**	**1.25**	**185**			**Pn**	**16 40 18.0**	**-1.2**
BI05	**Punta Hualpn**	**1.25**	**185**	⇑*i*P		**Pn**	**16 40 18.1**	**-1.0**
BI05				*e*S		**Sb**	**16 40 34.1**	**-1.5**
BI05				IAML			16 40 40.4	
	comp=N,8μm,0.2s							
BI05	**Punta Hualpn**	**1.25**	**185**	*e*P		**Pn**	**16 40 18.2**	**-1.0**
BI05				IAML			16 40 40.5	
	comp=Z,4μm,0.7s							
BO03	**Pichilemu**	**1.34**	**42**	*e*P		**Pn**	**16 40 19.5**	**-1.0**
BO03				*e*S		**Sb**	**16 40 36.5**	**-1.8**
BO03				IAML			16 40 41.2	
	comp=N,8μm,0.4s							
BI02	**San Fabin de**	**1.85**	**129**			**Pn**	**16 40 27.2**	**-0.4**
BI02	**San Fabin de**	**1.85**	**129**	⇑*i*P		**Pn**	**16 40 27.2**	**-0.4**
BI02				*i* S		**Sn**	**16 40 49.8**	**-1.6**
BI02				IAML			16 40 57.6	
	comp=E,3μm,0.6s							
BI02	**San Fabin de**	**1.85**	**129**	*e*P		**Pn**	**16 40 26.9**	**-0.7**
BI02				IAML			16 41 07.0	
	comp=Z,1μm,1.5s							
BO01	**Tunca**	**1.96**	**56**			**Pn**	**16 40 29.9**	**+0.9**
BO01	**Tunca**	**1.96**	**56**	*e*P		**Pn**	**16 40 29.9**	**+0.9**
BO01				*i* S		**Sn**	**16 40 53.4**	**-0.5**
BO01				IAML			16 41 02.4	
	comp=E,3μm,0.5s							
BO02	**Sierra Bellavi**	**1.99**	**70**			**Pn**	**16 40 30.4**	**+0.9**
BO02	**Sierra Bellavi**	**1.99**	**70**	*e*P		**Pn**	**16 40 30.0**	**+0.6**
BO02				*i* S		**Sn**	**16 40 54.2**	**-0.6**
BO02				IAML			16 41 02.4	
	comp=N,10μm,0.4s							
MT01	**Popeta**	**2.21**	**43**			**Pn**	**16 40 33.3**	**+1.0**
MT01	**Popeta**	**2.21**	**43**	*e*P		**Pn**	**16 40 31.4**	**-0.9**
MT01				*e*S		**Sn**	**16 40 59.1**	**-0.9**
MT01				IAML			16 41 14.3	
	comp=E,2μm,0.5s							
MT01	**Popeta**	**2.21**	**43**	*e*P		**Pn**	**16 40 33.8**	**+1.4**
MT01				*e*S		**Sn**	**16 41 00.5**	**+0.5**
MT01				*e*S		**Sg**	**16 41 09.5**	**+3.5**
MT01				IAML			16 41 13.7	
	comp=Z,1μm,0.4s							
MT09	**Talagante**	**2.42**	**45**			**Pn**	**16 40 36.4**	**+1.0**
MT09	**Talagante**	**2.42**	**45**	*e*P		**Pn**	**16 40 36.0**	**+0.6**
MT09				*e*S		**Sb**	**16 41 08.0**	**-1.3**
MT09				IAML			16 41 14.9	
	comp=N,3μm,0.4s							
BO04	**La Punta**	**2.51**	**54**			**Pn**	**16 40 37.5**	**+0.9**
BO04	**La Punta**	**2.51**	**54**	*e*P		**Pn**	**16 40 37.5**	**+0.9**
BO04				*i* S		**Sb**	**16 41 11.8**	**-0.2**
BO04				IAML			16 41 15.6	
	comp=N,2μm,0.5s							
MT12	**Pirque**	**2.71**	**50**	*e*P		**Pn**	**16 40 40.2**	**+0.8**
MT12				*e*S		**Sn**	**16 41 11.1**	**-1.5**
MT12				IAML			16 41 25.4	
	comp=N,4μm,0.5s							
VA01	**Torpederas**	**2.73**	**26**			**Pn**	**16 40 38.9**	**-0.6**
VA01	**Torpederas**	**2.73**	**26**	*e*P		**Pn**	**16 40 39.6**	**+0.1**
MT02	**Curacav**	**2.74**	**36**			**Pn**	**16 40 38.8**	**-0.9**
MT02	**Curacav**	**2.74**	**36**	*e*P		**Pn**	**16 40 38.8**	**-0.9**
MT02	**Curacav**	**2.74**	**36**	*e*P		**Pn**	**16 40 40.6**	**+0.9**
MT02				*e*S		**Sb**	**16 41 16.0**	**-2.4**
MT02				IAML			16 41 30.8	
	comp=Z,669nm,0.6s							
MT15	**Las Vizcachas**	**2.83**	**49**	*e*P		**Pb**	**16 40 44.9**	**-1.3**
MT05	**Renca**	**2.84**	**43**			**Pn**	**16 40 40.6**	**-0.6**
MT05	**Renca**	**2.84**	**43**	*e*P		**Pn**	**16 40 42.0**	**+0.8**
MT05				*e*S		**Sn**	**16 41 15.9**	**+0.1**
MT05				IAML			16 41 28.6	
	comp=E,2μm,0.3s							
LMEL	**Las Melosas**	**2.87**	**56**			**Pn**	**16 40 42.0**	**+0.4**
LMEL	**Las Melosas**	**2.87**	**56**	*e*P		**Pb**	**16 40 45.0**	**-1.8**
LMEL				*e*S		**Sn**	**16 41 16.5**	**-0.1**
LMEL	**Las Melosas**	**2.87**	**56**	*e*P		**Pn**	**16 40 44.0**	**+2.4**
LMEL				*e*S		**Sn**	**16 41 16.0**	**-0.6**
LMEL				IAML			16 41 27.5	
	comp=Z,2μm,0.8s							
MT13	**San Alfonso**	**2.88**	**53**			**Pn**	**16 40 42.4**	**+0.7**
MT13	**San Alfonso**	**2.88**	**53**	*e*P		**Pb**	**16 40 45.3**	**-1.6**
MT13	**San Alfonso**	**2.88**	**53**	*e*P		**Pb**	**16 40 44.9**	**-2.0**
MT13				*e*S		**Sb**	**16 41 19.5**	**-3.0**
MT13				IAML			16 41 28.8	
	comp=Z,848nm,0.6s							
MT03	**Universidad Ad**	**2.90**	**47**			**Pn**	**16 40 42.7**	**+0.7**
MT03	**Universidad Ad**	**2.90**	**47**	*e*P		**Pn**	**16 40 43.0**	**+1.0**
MT03	**Universidad Ad**	**2.90**	**47**	*e*P		**Pn**	**16 40 44.0**	**+2.0**
MT03				*e*S		**Sb**	**16 41 20.5**	**-2.7**
MT03				IAML			16 41 29.6	
	comp=Z,2μm,0.5s							
MT16	**CCHEN**	**2.94**	**46**			**Pn**	**16 40 43.0**	**+0.5**
MT16	**CCHEN**	**2.94**	**46**	*e*P		**Pn**	**16 40 43.5**	**+1.1**
ROCH	**El Roble**	**3.04**	**34**	*e*P		**Pn**	**16 40 43.4**	**-0.6**
MT10	**Hacienda Santa**	**3.04**	**44**	*e*P		**Pn**	**16 40 44.4**	**+0.4**
PEL	**Peldehue**	**3.06**	**41**			**Pn**	**16 40 44.8**	**+0.6**
PEL	**Peldehue**	**3.06**	**41**	*e*P		**Pn**	**16 40 45.0**	**+0.8**
PEL				*e*S		**Sn**	**16 41 23.2**	**+2.0**
MT04	**Ro Olivares**	**3.19**	**50**	*e*P		**Pn**	**16 40 47.6**	**+1.5**
MT04	**Ro Olivares**	**3.19**	**50**	*e*P		**Pn**	**16 40 48.0**	**+1.9**
MT04				*e*S		**Sb**	**16 41 29.0**	**-2.6**
MT04				IAML			16 41 41.0	
	comp=Z,573nm,1.4s							
MT08	**Bocatoma Ro**	**3.24**	**52**			**Pn**	**16 40 46.5**	**-0.3**
MT08	**Bocatoma Ro**	**3.24**	**52**	*e*P		**Pn**	**16 40 48.2**	**+1.4**
MT08	**Bocatoma Ro**	**3.24**	**52**	*e*P		**Pn**	**16 40 49.1**	**+2.4**
MT08				*e*S		**Sb**	**16 41 30.5**	**-2.5**
MT08				IAML			16 41 44.6	
	comp=Z,540nm,0.4s							
VA06	**Catapilco**	**3.27**	**27**			**Pn**	**16 40 46.7**	**-0.3**
VA03	**San Esteban**	**3.43**	**38**

TORD	**Torodi Ar. Bea**	**85.50**	**71**	P		**P**		**16 52 33.7**	**-0.6**
	comp=Z,1.2nm,0.9s,baz=251,slow=4.3,SNR=0.6								
	comp=Z,1.2nm,0.9s								
WRA	**Warramunga Arr**	**119.05**	**210**	PKP		**PKPdf**		**16 58 43.9**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=147,slow=1.8,SNR=5.2								
H11S2	**WAKE ISLAND Hyl**	**24.91**	**269**	T		T		19 16 36.8	
	baz=118,slow=74,SNR=5.6								
H11S1	**WAKE ISLAND Hyl**	**24.92**	**269**	T		T		19 16 37.1	
	baz=118,slow=74,SNR=4.4								
H11S3	**WAKE ISLAND Hyl**	**24.92**	**269**	T		T		19 16 37.1	
	baz=118,slow=74,SNR=5.7								
BVAR	**Borovoye Array**	**148.94**	**44**	PKPbc		**PKPbc**		**16 59 43.6**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=319,slow=2.5,SNR=10								
KURBB	**Kurchatov Arra**	**154.53**	**45**	PKPbc		**PKPbc**		**16 59 55.4**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=282,slow=2.4,SNR=8.2								
ZALV	**Zalesovo Beam**	**155.94**	**33**	PKP		**PKPdf**		**16 59 51.0**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=180,slow=4.2,SNR=3.6								

*IDC **29** 16:44:59.1±1.1,56˚.36N×148˚.70W,h0km,mb3.7/8, mbtmp3.8/13,ML3.2/4,Error ellipse: s-maj=26.4km s-min=18.1km az=34.0*
*NEIC **29** 16:45:00.2±0.7,56˚.4N±0˚.1×148˚.9W±0˚.1,h21km±11km, ML4.0/74,ML3.8(AEIC),Error ellipse: s-maj=18.0km s-min=9.9km az=160.0*
*AEIC **29** 16:45:03.7±1.0,56˚.3N±0˚.1×148˚.8W±0˚.1,h12km±9km, Error ellipse: s-maj=17.8km s-min=9.9km az=161.0*

ISC 29 16:44:59.3±0.8,56˚.36N±0˚.07×148˚.85W±0˚.05,h10km, n130,σ1§21/120,mb3.8/8,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.49**	**307**		**Pn**	**16 45 39.1**	**-0.8**
KDAK	**Kodiak Island**	**2.49**	**307**		**Sn**	**16 46 07.2**	**-3.0**
KDAK	**Kodiak Island**	**2.49**	**307**	Pn	**Pn**	**16 45 39.6**	**-0.2**
	8.0nm,0.3s,baz=36,slow=3.2,SNR=98						
KDAK				Sn	**Sn**	**16 46 05.9**	**-4.3**
	10.0nm,0.3s,baz=187,slow=12,SNR=5.1						
	33nm,0.5s						
OHAK	**Old Harbor**	**2.59**	**291**		**Pn**	**16 45 39.9**	**-1.4**
OHAK	**Old Harbor**	**2.59**	**291**		**Sn**	**16 46 09.6**	**-3.2**
OHAK	**Old Harbor**	**2.59**	**291**	P	**Pn**	**16 45 40.1**	**-1.1**
OHAK	**Old Harbor**	**2.59**	**291**	S	**Sn**	**16 46 09.8**	**-2.9**
SYI	**Shuyak Island**	**2.96**	**321**		**Pn**	**16 45 45.9**	**-0.4**
SYI	**Shuyak Island**	**2.96**	**321**		**Sn**	**16 46 19.8**	**-2.0**
CNPM	**China Poot**	**3.42**	**339**		**Pn**	**16 45 52.4**	**-0.3**
CNPM	**China Poot**	**3.42**	**339**		**Sn**	**16 46 32.0**	**-1.3**
BRSE	**Bradley Lake S**	**3.54**	**344**		**Pn**	**16 45 53.9**	**-0.4**
BRSE					**Sn**	**16 46 34.6**	**-1.5**
BRLK	**Bradley Lake**	**3.58**	**343**		**Pn**	**16 45 54.0**	**-0.9**
BRLK				IAML		16 46 41.6	
	comp=E,153nm,0.4s						
Q19K	**Cape Douglas,**	**3.64**	**317**		**Pn**	**16 45 56.1**	**+0.4**
Q19K				IAML		16 46 55.1	
	comp=N,356nm,0.7s						
P23K	**Montague Islan**	**3.73**	**11**	Pn	**Pn**	**16 45 56.2**	**-0.6**
P23K					**Sn**	**16 46 39.1**	**-1.7**
P23K				IAML		16 46 39.5	
	comp=E,175nm,0.5s						
P23K				IAML		16 46 43.5	
	comp=N,241nm,0.4s						
KAHG	**Katmai Hook Gl**	**3.75**	**307**		**Pn**	**16 45 58.1**	**+0.8**
SEW	**Seward**	**3.77**	**355**		**Pn**	**16 45 56.8**	**-0.7**
SEW	**Seward**	**3.77**	**355**		**Sn**	**16 46 39.0**	**-2.8**
ACHA	**Angle Creek He**	**3.98**	**301**		**Pn**	**16 45 59.7**	**-0.6**
KABU	**Katmai Buttres**	**3.98**	**301**		**Pn**	**16 46 01.3**	**+0.9**
P19K	**Oil Pt**	**4.04**	**327**		**Pn**	**16 46 01.3**	**+0.1**
P19K				IAML		16 46 51.4	
	comp=E,232nm,0.5s						
P19K				IAML		16 46 56.4	
	comp=N,194nm,0.5s						
ANCK	**Angle Creek**	**4.05**	**300**		**Pn**	**16 46 02.0**	**+0.6**
O22K	**Cooper Landing**	**4.16**	**354**		**Pn**	**16 46 02.5**	**-0.3**
SLKM	**Skilak Lake**	**4.22**	**351**		**Pn**	**16 46 03.0**	**-0.7**
SLKM				IAML		16 46 53.1	
	comp=N,229nm,0.5s						
SLKM				IAML		16 46 55.2	
	comp=E,153nm,0.4s						
HIN	**Hinchinbrook I**	**4.23**	**16**		**Pn**	**16 46 03.5**	**-0.4**
CNTC	**Contact Creek**	**4.27**	**300**		**Pn**	**16 46 04.8**	**+0.4**
KAIM	**Kayak Island**	**4.28**	**31**		**Pn**	**16 46 03.9**	**-0.5**
KAIM	**Kayak Island**	**4.28**	**31**		**Sn**	**16 46 54.5**	**+0.1**
PLK4	**Peulik 4**	**4.30**	**290**		**Pn**	**16 46 03.7**	**-1.1**
PLK4				IAML		16 47 02.6	
	comp=N,210nm,0.8s						
PLK4				IAML		16 47 17.5	
	comp=E,166nm,0.8s						
PLK2	**Peulik 2**	**4.32**	**292**		**Pn**	**16 46 05.2**	**+0.2**
PLK1	**Peulik 1**	**4.47**	**292**		**Pn**	**16 46 07.1**	**0.0**
EYAK	**Cordova Ski Ar**	**4.51**	**20**		**Pn**	**16 46 07.4**	**-0.1**
EYAK				IAML		16 47 00.2	
	comp=E,118nm,1.0s						
EYAK				IAML		16 47 03.2	
	comp=N,166nm,0.7s						
EYAK	**Cordova Ski Ar**	**4.51**	**20**	P	**Pn**	**16 46 07.5**	**-0.1**
EYAK	**Cordova Ski Ar**	**4.51**	**20**	S	**Sn**	**16 46 57.3**	**-2.6**
PWL	**Port Wells**	**4.52**	**3**		**Pn**	**16 46 07.5**	**-0.3**
PWL				IAML		16 46 59.0	
	comp=E,163nm,0.5s						
PWL				IAML		16 47 01.1	
	comp=N,152nm,0.6s						
RED	**Redoubt Volcan**	**4.56**	**335**		**Pn**	**16 46 07.7**	**-0.8**
RED				IAML		16 47 04.4	
	comp=N,103nm,0.9s						
RED				IAML		16 47 10.6	
	comp=E,96nm,0.7s						
FID	**Port Fidalgo**	**4.58**	**15**		**Pn**	**16 46 07.9**	**-0.6**
FID				IAML		16 47 00.1	
	comp=E,111nm,0.6s						
FID				IAML		16 47 03.3	
	comp=N,95nm,0.5s						
SUCK	**Suckling Hills**	**4.59**	**34**		**Pn**	**16 46 08.2**	**-0.5**
SUCK	**Suckling Hills**	**4.59**	**34**	IAML		16 47 01.1	
	comp=N,157nm,1.2s						
SUCK				IAML		16 47 10.9	
	comp=E,153nm,0.9s						
RAGM	**Ragged Mountai**	**4.60**	**27**		**Pn**	**16 46 08.5**	**-0.4**
GLI	**Glacier Island**	**4.63**	**11**		**Pn**	**16 46 08.9**	**-0.3**
GLI				IAML		16 47 09.4	
	comp=N,99nm,1.1s						
GLI				IAML		16 47 10.4	
	comp=E,109nm,0.8s						
RDWB	**Redoubt West**	**4.64**	**335**		**Pn**	**16 46 08.7**	**-0.9**
HMT	**Hamilton**	**4.66**	**29**		**Pn**	**16 46 09.5**	**-0.2**
NICHA	**Nichawak Mount**	**4.66**	**31**		**Pn**	**16 46 09.4**	**-0.4**
GOAT	**Goat Mountain**	**4.75**	**25**		**Pn**	**16 46 10.9**	**-0.2**
RC01	**Rabbit Creek A**	**4.77**	**355**	Pn	**Pn**	**16 46 11.1**	**-0.1**
RC01				IAML		16 47 06.8	
	comp=E,132nm,0.6s						
RC01				IAML		16 47 06.8	
	comp=N,103nm,0.9s						
BGLC	**Bering Glacier**	**4.78**	**36**		**Pn**	**16 46 11.6**	**+0.2**
Q16K	**King Salmon**	**4.81**	**302**		**Pn**	**16 46 12.1**	**+0.5**
O19K	**Port Alsworth**	**4.81**	**325**		**Pn**	**16 46 10.6**	**-1.1**
O18K	**Koktuh Hills**	**4.86**	**319**		**Pn**	**16 46 12.2**	**-0.3**
BERG	**Berg Lake**	**4.87**	**32**		**Pn**	**16 46 11.7**	**-0.8**
SNH	**Sunshine Point**	**4.97**	**37**		**Pn**	**16 46 13.6**	**-0.4**
SNH				IAML		16 47 38.3	
	comp=N,77nm,1.1s						
SNH				IAML		16 47 43.0	
	comp=E,98nm,1.0s						
DIV	**Divide**	**5.05**	**17**		**Pn**	**16 46 14.8**	**-0.2**
KNK	**Knik Glacier**	**5.07**	**2**		**Pn**	**16 46 15.6**	**+0.2**
KNK	**Knik Glacier**	**5.07**	**2**	IAML		16 47 16.2	
	comp=N,66nm,0.6s						
KNK				IAML		16 47 17.2	
	comp=E,76nm,0.8s						
SPU	**Mount Spurr**	**5.12**	**342**		**Pn**	**16 46 15.8**	**-0.2**
BMRM	**Bremner River**	**5.12**	**24**	IAML		16 47 21.2	
	comp=E,107nm,0.6s						
BMRM				IAML		16 47 23.4	
	comp=N,92nm,1.0s						
WAX	**Waxell Ridge**	**5.17**	**35**		**Pn**	**16 46 16.2**	**-0.5**
SPCG	**Spurr Capps Gl**	**5.21**	**343**		**Pn**	**16 46 17.4**	**0.0**
PMR	**Palmer**	**5.25**	**359**	IAML		16 47 22.4	
	comp=E,58nm,0.8s						
PMR	**Palmer**	**5.25**	**359**	P	**Pn**	**16 46 18.4**	**+0.6**
MESA	**MESA**	**5.28**	**41**		**Pn**	**16 46 18.5**	**+0.1**
MESA	**MESA**	**5.28**	**41**	IAML		16 47 25.5	
	comp=N,69nm,0.6s						
MESA				IAML		16 47 44.0	
	comp=E,59nm,1.1s						
SPWE	**Spurr West**	**5.29**	**340**		**Pn**	**16 46 18.2**	**-0.3**
CRQM	**Cirque**	**5.33**	**32**	IAML		16 47 19.2	
	comp=E,104nm,0.8s						
KLU	**Klutina**	**5.37**	**15**		**Pn**	**16 46 19.4**	**0.0**
KLU	**Klutina**	**5.37**	**15**	IAML		16 47 21.8	
	comp=E,82nm,0.4s						
KLU				IAML		16 47 23.1	
	comp=N,81nm,0.7s						
STLK	**Strandline Lak**	**5.38**	**345**		**Pn**	**16 46 19.8**	**+0.2**
STLK	**Strandline Lak**	**5.38**	**345**	IAML		16 47 23.7	
	comp=E,49nm,0.5s						
STLK				IAML		16 47 25.9	
	comp=N,58nm,0.7s						
ISLE	**Juniper Island**	**5.46**	**36**		**Pn**	**16 46 20.7**	**-0.1**
SML	**Sawmill**	**5.47**	**3**		**Pn**	**16 46 21.4**	**+0.5**
SCM	**Sheep Creek Mo**	**5.55**	**7**		**Pn**	**16 46 22.6**	**+0.7**
O17K	**Koliganek Bris**	**5.55**	**311**		**Pn**	**16 46 21.9**	**-0.1**
P16K	**Nushagak River**	**5.59**	**302**		**Pn**	**16 46 22.6**	**+0.2**
N18K	**Kilae Creek**	**5.69**	**323**		**Pn**	**16 46 23.4**	**-0.4**
SAMH	**Samovar Hills**	**5.70**	**45**		**Pn**	**16 46 24.0**	**+0.1**
SKT	**Skwentna**	**5.80**	**347**		**Pn**	**16 46 25.6**	**+0.3**
PCA	**Pinnacle**	**5.88**	**47**		**Pn**	**16 46 26.3**	**-0.3**
M24K	**Tolsona, Glenn**	**5.93**	**12**		**Pn**	**16 46 27.9**	**+0.8**
PNL	**Peninsula**	**6.02**	**53**		**Pn**	**16 46 28.0**	**-0.3**
PNL	**Peninsula**	**6.02**	**53**	P	**Pn**	**16 46 28.3**	**-0.1**
WACK	**Wrangell Chich**	**6.10**	**20**		**Pn**	**16 46 29.9**	**+0.2**
CHNA	**Chernabura Isl**	**6.28**	**260**	P	**Pn**	**16 46 30.7**	**-1.2**
CNBA	**Chernabura Isl**	**6.28**	**260**		**Pn**	**16 46 30.6**	**-1.4**
O28M	**Mount Upton**	**6.33**	**42**		**Pn**	**16 46 32.8**	**-0.1**
HARP	**HAARP**	**6.34**	**16**		**Pn**	**16 46 33.3**	**+0.5**
O15K	**Ungalikthiuk R**	**6.51**	**300**		**Pn**	**16 46 35.3**	**+0.1**
SDPT	**Sand Point**	**6.63**	**266**		**Pn**	**16 46 35.9**	**-0.7**
N16K	**Nishlik Lake**	**6.64**	**312**		**Pn**	**16 46 37.0**	**0.0**
DHY	**Denali Highway**	**6.78**	**6**		**Pn**	**16 46 39.4**	**+0.5**
PAX	**Paxson**	**6.85**	**13**		**Pn**	**16 46 40.3**	**+0.5**
S31K	**Pelican**	**7.05**	**72**		**Pn**	**16 46 40.0**	**-2.4**
L18K	**Granite Mounta**	**7.11**	**329**		**Pn**	**16 46 42.6**	**-0.7**
TRF	**Thorofare Moun**	**7.15**	**355**		**Pn**	**16 46 44.4**	**+0.4**
P30M	**Million Dollar**	**7.32**	**54**		**Pn**	**16 46 46.1**	**-0.1**
HYT	**Haines Junctio**	**7.42**	**48**		**Pn**	**16 46 47.5**	**-0.3**
DOL	**Dolgoi Island**	**7.45**	**266**		**Pn**	**16 46 47.4**	**-0.5**
SIT	**Sitka**	**7.48**	**79**	P	**Pn**	**16 46 45.7**	**-2.6**
L17K	**Donlin**	**7.54**	**324**		**Pn**	**16 46 48.8**	**-0.4**
SKAG	**Skagway**	**7.84**	**61**	P	**Pn**	**16 46 53.8**	**+0.5**
N30M	**Aishikik Lake**	**7.94**	**45**		**Pn**	**16 46 54.7**	**-0.1**
JIS	**Juneau Island**	**8.06**	**70**		**Pn**	**16 46 55.4**	**-1.0**
JIS	**Juneau Island**	**8.06**	**70**	P	**Pn**	**16 46 55.3**	**-1.0**
FALS	**False Pass**	**8.39**	**266**	P	**Pn**	**16 47 01.0**	**+0.2**
L15K	**Ungalak Mounta**	**8.41**	**315**		**Pn**	**16 47 00.9**	**-0.3**
WHY	**Whitehorse**	**8.48**	**54**		**Pn**	**16 47 02.2**	**0.0**
IL31		**8.50**	**6**		**Pn**	**16 47 02.7**	**+0.5**
ILAR	**Eielson Array**	**8.50**	**6**	Pn	**Pn**	**16 47 02.0**	**-0.3**
	comp=N,0.5nm,0.3s,baz=192,slow=13,SNR=17						
ILAR				Sn	Sn	16 48 27.6	-10
	comp=N,0.7nm,0.3s,baz=195,slow=15,SNR=4.5						
	comp=N,1.0nm,0.4s						
COLA	**College**	**8.56**	**3**	P	**Pn**	**16 47 04.2**	**+1.1**
L29M	**L29M**	**8.66**	**34**		**Pn**	**16 47 04.7**	**+0.2**
CRAG	**Craig**	**8.88**	**89**	P	**Pn**	**16 47 06.4**	**-1.1**
K29M	**Barlow Dome**	**9.38**	**32**		**Pn**	**16 47 14.8**	**+0.3**
DLBC	**Dease Lake**	**10.37**	**71**	Pn	**Pn**	**16 47 27.2**	**-0.7**
	comp=N,8.8nm,0.3s,baz=258,slow=18,SNR=3.5						
DLBC				Sn	**Sn**	**16 49 17.5**	**-6.6**
	comp=N,0.5nm,0.3s,baz=276,slow=26,SNR=1.2						
INK	**Inuvik**	**13.88**	**24**	Pn	**Pn**	**16 48 17.1**	**+1.4**
	comp=N,0.1nm,0.3s,baz=218,slow=8.2,SNR=4.6						
	comp=N,5.5nm,1.1s						
YKA	**Yellowknife Ar**	**18.30**	**56**	P	**Pn**	**16 49 12.9**	**0.0**
	comp=N,0.1nm,0.3s,baz=270,slow=15,SNR=2.9						
	comp=N,1.5nm,0.8s						
NVAR	**Mina Array Bea**	**27.04**	**119**	P	**P**	**16 50 42.3**	**+0.5**
	comp=N,0.6nm,0.7s,baz=331,slow=11,SNR=5.3						
	comp=N,0.6nm,0.7s						
PDAR	**Pinedale Array**	**28.44**	**102**	P	**P**	**16 50 54.1**	**-0.2**
	comp=N,0.2nm,0.6s,baz=328,slow=5.3,SNR=3.5						
	comp=N,0.2nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**49.13**	**240**	T	T	17 47 34.8	
	baz=30,slow=76,SNR=9.4						
H11N3	**WAKE ISLAND Hy**	**49.13**	**240**	T	T	17 47 29.9	
	baz=30,slow=76,SNR=8.9						
H11N1	**WAKE ISLAND Hy**	**49.15**	**240**	T	T	17 47 28.0	
	baz=30,slow=76,SNR=6.6						
H11S1	**WAKE ISLAND Hy**	**50.27**	**240**	T	T	17 48 58.8	
	baz=29,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**50.28**	**240**	T	T	17 48 57.6	
	baz=29,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**50.29**	**240**	T	T	17 49 00.8	
	baz=29,slow=76,SNR=7.4						
ARCES	**ARCESS Array B**	**54.34**	**2**	P	**P**	**16 54 28.1**	**+2.7**
	comp=N,4.1nm,1.0s,baz=357,slow=9.0,SNR=2.5						
	comp=N,4.1nm,1.0s						
SONM	**Songino Array**	**58.77**	**310**	P	**P**	**16 54 59.0**	**+1.6**
	comp=N,0.9nm,0.7s,baz=53,slow=6.0,SNR=5.7						
	comp=N,0.9nm,0.7s						
FINES	**FINESS Array B**	**62.47**	**3**	P	**P**	**16 55 22.9**	**+0.8**
	comp=N,1.5nm,0.7s,baz=359,slow=8.0,SNR=2.2						
	comp=N,1.5nm,0.7s						
BVAR	**Borovoye Array**	**66.31**	**335**	P	**P**	**16 55 48.1**	**+0.6**
	comp=N,0.5nm,0.7s,baz=20,slow=4.6,SNR=1.8						
	comp=N,0.5nm,0.7s						
MKAR	**Makanchi Array**	**68.67**	**325**	P	**P**	**16 56 02.8**	**+0.3**
	comp=N,0.2nm,0.5s,baz=21,slow=5.3,SNR=2.3						
	comp=N,0.2nm,0.5s						
AKASG	**Malin Array Be**	**73.29**	**1**	P	**P**	**16 56 31.5**	**+1.1**
	comp=N,0.2nm,0.3s,baz=3.1,slow=6.1,SNR=6.2						
	comp=N,0.2nm,0.3s						
QSPA	**South Pole Qui**	**146.15**	**180**	PKPbc	**PKiKP**	**17 04 41.2**	**-0.1**
	comp=N,1.1nm,0.7s,baz=18,slow=0.1,SNR=5.8						

*SJA **29** 17:02:49.6±0.7,35˚.43S×73˚.34W,h20km±5km,ML4.2, MW4.2*
*IDC **29** 17:02:52.6±1.8,35˚.52S×72˚.32W,h0km,mb3.9/3, mbtmp3.7/6,ML3.7/3,Error ellipse: s-maj=80.4km s-min=24.1km az=96.0*
*GUC **29** 17:02:54.4±0.7,35˚.56S×73˚.04W,h25km±5km,ML3.8*

ISC 29 17:02:51.6±0.7,35˚.50S±0˚.03×72˚.97W±0˚.05,h10km,n42, σ1§90/59,mb3.9/3,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO05	**Hualane**	**0.98**	**60**	*eP*	**Pn**	**17 03 12.2**	**+0.7**
GO05				*eS*	**Sb**	**17 03 24.6**	**+0.8**
GO05	**Hualane**	**0.98**	**60**	*eP*	**Pn**	**17 03 12.8**	**+1.3**
GO05				*eS*	**Sg**	**17 03 19.6**	**-3.7**
GO05				IAML		17 03 26.9	
	comp=Z,7μm,0.8s						
BI05	**Punta Hualpn**	**1.25**	**188**	*eP*	**Pb**	**17 03 14.2**	**-1.2**
BI05				*eS*	**Sb**	**17 03 30.2**	**-1.4**
BI05				IAML		17 03 35.9	
	comp=E,5μm,0.6s						
BI05	**Punta Hualpn**	**1.25**	**188**	*eP*	**Pg**	**17 03 14.8**	**-0.9**
BO03	**Pichilemu**	**1.30**	**40**	*iP*	**Pb**	**17 03 15.9**	**-0.2**
BO03				*eS*	**Sg**	**17 03 35.2**	**+1.7**
BO03				IAML		17 03 37.9	
	comp=N,4μm,0.3s						
BI02	**San Fabín de**	**1.80**	**131**	*eP*	**Pb**	**17 03 23.9**	**-0.7**
BI02				*eS*	**Sb**	**17 03 47.2**	**-0.1**
BI02				IAML		17 03 48.3	
	comp=N,2μm,0.2s						
BI02	**San Fabín de**	**1.80**	**131**	*eP*	**Pb**	**17 03 23.4**	**-1.3**
BO01	**Tunca**	**1.91**	**55**	*eP*	**Pg**	**17 03 27.3**	**-0.8**
BO01				*eS*	**Sg**	**17 03 53.7**	**+0.9**
BO01				IAML		17 03 59.2	
	comp=E,1μm,0.3s						
BO02	**Sierra Bellavi**	**1.93**	**69**	*eP*	**Pb**	**17 03 26.2**	**-0.7**
BO02				*eS*	**Sb**	**17 03 52.5**	**+1.4**
MT01	**Popeta**	**2.16**	**41**	*eP*	**Pb**	**17 03 29.2**	**-1.7**
MT01				*eS*	**Sb**	**17 03 56.6**	**-1.2**
MT01				IAML		17 04 09.6	
	comp=Z,1μm,0.8s						
BO04	**La Punta**	**2.46**	**53**	*eP*	**Pg**	**17 03 37.2**	**-1.6**
BO04				*eS*	**Sg**	**17 04 09.7**	**-1.0**
MT02	**Curacav**	**2.70**	**35**	*eP*	**Pn**	**17 03 35.8**	**+0.7**
MT02				*eS*	**Sb**	**17 04 12.6**	**-0.7**
VA01	**Torpederas**	**2.71**	**24**	*eP*	**Pn**	**17 03 35.8**	**+0.7**
VA01				*eS*	**Sg**	**17 04 16.6**	**-1.9**
MT05	**Renca**	**2.80**	**42**	*eP*	**Pb**	**17 03 39.1**	**-2.6**
MT05				*eS*	**Sb**	**17 04 16.1**	**0.0**
MT05				IAML		17 04 27.2	
	comp=Z,795nm,1.2s						
LMEL	**Las Melosas**	**2.82**	**55**	*eP*	**Pb**	**17 03 40.0**	**-2.1**
LMEL				*eS*	**Sb**	**17 04 16.1**	**-0.6**
LMEL				*eS*	**Sn**	**17 04 16.6**	**+5.7**
LMEL				IAML		17 04 24.8	
	comp=Z,1μm,0.7s						
MT13	**San Alfonso**	**2.83**	**52**	*eP*	**Pb**	**17 03 39.4**	**-2.8**
MT13				*eS*	**Sb**	**17 04 16.6**	**-0.3**
MT13				IAML		17 04 30.0	
	comp=Z,742nm,0.7s						
MT03	**Universidad Ad**	**2.85**	**46**	*eP*	**Pn**	**17 03 39.6**	**+2.3**
MT03				*eS*	**Sb**	**17 04 17.1**	**-0.6**
MT03				IAML		17 04 35.0	
	comp=Z,858nm,0.7s						
MT16	**CCHEN**	**2.89**	**45**	*eP*	**Pb**	**17 03 43.8**	**+0.4**
FCH	**Farellones**	**3.10**	**46**	*eP*	**Pn**	**17 03 42.8**	**+1.9**
MT04	**Ro Olivares**	**3.14**	**49**	*eP*	**Pn**	**17 03 43.9**	**+2.6**
MT04				*eS*	**Sb**	**17 04 23.6**	**-2.5**
MT04				IAML		17 04 38.5	
	comp=Z,429nm,1.8s						
VA06	**Catapilco**	**3.25**	**26**	*eP*	**Pn**	**17 03 43.5**	**+1.0**
VA03	**San Esteban**	**3.39**	**37**	*eP*	**Pn**	**17 03 46.2**	**+1.6**
VA03				*eS*	**Sg**	**17 04 38.2**	**-2.3**
VA03	**San Esteban**	**3.39**	**37**	*eP*	**Pn**	**17 03 46.3**	**+1.6**
VA03				*eS*	**Sb**	**17 04 32.6**	**-0.6**
VA03				IAML		17 04 47.7	
	comp=Z,537nm,0.7s						
LC01	**Cunco**	**3.50**	**166**	*eP*	**Pn**	**17 03 48.0**	**+1.9**
RFA	**San Rafael**	**3.76**	**80**	*eP*	**Pb**	**17 03 53.9**	**-4.3**
RFA				*eS*	**Sg**	**17 04 53.5**	**+1.1**
RFA				IAML		17 04 57.4	
	comp=Z,334nm,0.8s						
CO04	**Los Peladeros**	**3.83**	**26**	*eP*	**Pn**	**17 03 51.3**	**+0.4**
GO06	**Curarrehue**	**4.25**	**164**	*eP*	**Pn**	**17 03 58.4**	**+2.0**
GO06				*eS*	**Sg**	**17 05 03.6**	**-4.3**
CO02	**Combarbal**	**4.59**	**22**	*eP*	**Pn**	**17 04 01.9**	**+0.7**
CO02				*eS*	**Sn**	**17 04 56.5**	**+1.7**
CO02				IAML		17 05 34.2	
	comp=Z,196nm,0.9s						
CO03	**El Pedregal**	**5.03**	**23**	*eP*	**Pn**	**17 04 08.2**	**+1.0**
CO03				*eS*	**Sn**	**17 05 05.9**	**+0.5**
H03S1	**Juan Fernandez**	**5.16**	**287**	T	T	17 09 26.0	
	baz=109,slow=75,SNR=1071						
H03S3	**Juan Fernandez**	**5.17**	**287**	T	T	17 09 28.9	
	baz=109,slow=75,SNR=964						
H03S2	**Juan Fernandez**	**5.18**	**287**	T	T	17 09 25.9	
	baz=109,slow=75,SNR=1181						
H03N1	**Juan Fernandez**	**5.32**	**291**	T	T	17 09 36.4	
	baz=110,slow=76,SNR=16						
H03N3	**Juan Fernandez**	**5.32**	**291**	T	T	17 09 38.0	
	baz=110,slow=76,SNR=21						
H03N2	**Juan Fernandez**	**5.34**	**291**	T	T	17 09 41.3	
	baz=110,slow=76,SNR=14						
PLCA	**Paso Flores**	**5.56**	**161**	Pn	**Pn**	**17 04 16.1**	**+1.6**
	comp=Z,1.3nm,0.3s,baz=332,slow=11,SNR=11						
PLCA				Lg	Lg	17 05 38.9	
	comp=Z,1.0nm,0.3s,baz=307,slow=5.0,SNR=3.1						
	comp=Z,4.3nm,0.5s						
CPUP	**Villa Florida**	**16.22**	**60**	Pn	**Pn**	**17 06 36.2**	**-3.4**
	baz=243,slow=11,SNR=2.0						
CPUP				Lg	Lg	17 11 09.1	
	baz=80,slow=9.6,SNR=1.5						
	comp=Z,0.7nm,1.1s						
LPAZ	**La Paz**	**19.62**	**14**	P	**Pn**	**17 07 23.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=174,slow=8.2,SNR=7.6						
	comp=Z,1.7nm,0.7s						
SNAA	**Sanae**	**50.49**	**157**	P	**P**	**17 11 50.0**	**+0.6**
	comp=Z,3.0nm,1.1s,baz=292,slow=9.3,SNR=6.2						
	comp=Z,3.0nm,1.1s						
QSPA	**South Pole Qui**	**54.74**	**180**	P	**P**	**17 12 23.8**	**+2.8**
	comp=Z,1.2nm,0.9s,baz=299,slow=2.6,SNR=11						
	comp=Z,1.2nm,0.9s						
MAW	**Mawson**	**71.96**	**164**	P	**P**	**17 14 15.1**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=192,slow=9.3,SNR=1.6						
	comp=Z,0.4nm,0.5s						
BVAR	**Borovoye Array**	**148.90**	**44**	PKPbc	**PKiKP**	**17 22 39.9**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=270,slow=2.9,SNR=5.6						

*IDC **29** 17:06:57.2±1.7,3˚.40S×128˚.73E,h0km,mb4.0/2, mbtmp3.9/4,ML3.5/2,Error ellip

MT09				*i* S		**Sn**	**17 13 47.8**	**+3.4**
MT09				IAML			17 13 53.0	
	comp=N,2μm,0.3s							
BO04	**La Punta**	**2.56**	**54**			**Pn**	**17 13 15.6**	**-0.5**
BO04	**La Punta**	**2.56**	**54**	*e*P		**Pn**	**17 13 18.0**	**+1.9**
BO04				*i* S		**Sn**	**17 13 48.4**	**+1.8**
BO04				IAML			17 13 60.0	
	comp=N,2μm,0.8s							
MT02	**Curacav**	**2.78**	**37**			**Pn**	**17 13 17.4**	**-1.6**
CANA	**Caviahue**	**2.88**	**146**	*i* P		**Pn**	**17 13 21.0**	**+0.4**
CANA				IAML			17 14 32.9	
	comp=Z,123nm,1.1s							
MT05	**Renca**	**2.89**	**43**			**Pn**	**17 13 20.8**	**+0.3**
LMEL	**Las Melosas**	**2.92**	**56**			**Pn**	**17 13 21.2**	**+0.1**
LMEL	**Las Melosas**	**2.92**	**56**	*e*P		**Pn**	**17 13 23.2**	**+2.2**
LMEL				*i* S		**Sn**	**17 13 57.7**	**+2.1**
LMEL				IAML			17 14 04.2	
	comp=N,989nm,0.5s							
MT13	**San Alfonso**	**2.93**	**54**			**Pn**	**17 13 22.7**	**+1.6**
MT03	**Universidad Ad**	**2.95**	**48**			**Pn**	**17 13 21.2**	**-0.2**
MT03	**Universidad Ad**	**2.95**	**48**	*i* P		**Pn**	**17 13 21.8**	**+0.4**
MT03				*e*S		**Sb**	**17 14 01.1**	**-2.1**
MT03				IAML			17 14 07.3	
	comp=Z,924nm,0.7s							
MT16	**CCHEN**	**2.99**	**46**			**Pn**	**17 13 23.9**	**+2.0**
PEL	**Peldehue**	**3.10**	**41**			**Pn**	**17 13 24.4**	**+0.9**
MT08	**Bocatoma Ro**	**3.29**	**52**			**Pn**	**17 13 27.1**	**+0.9**
VA06	**Catapilco**	**3.31**	**28**			**Pn**	**17 13 25.4**	**-0.9**
VA06	**Catapilco**	**3.31**	**28**	*e*P		**Pn**	**17 13 24.5**	**-1.8**
VA06				IAML			17 14 26.1	
	comp=E,740nm,0.1s							
VA03	**San Esteban**	**3.47**	**38**	*i* P		**Pn**	**17 13 29.6**	**+1.0**
VA03				IAML			17 14 41.7	
	comp=Z,299nm,0.8s							
RFA	**San Rafael**	**3.88**	**80**	*i* P		**Pn**	**17 13 35.8**	**+1.7**
RFA				IAML			17 14 50.6	
	comp=Z,79nm,1.2s							
LR03	**Panguipulli**	**4.15**	**172**			**Pn**	**17 13 37.3**	**-0.5**
GO06	**Curarrehue**	**4.26**	**163**	*i* P		**Pn**	**17 13 39.3**	**-0.2**
GO06				IAML			17 14 58.2	
	comp=Z,58nm,0.8s							
ARCO	**CERRO ARCO**	**4.37**	**54**	*i* P		Pn	17 13 45.7	+4.7
ARCO				IAML			17 15 11.9	
	comp=Z,58nm,0.8s							
AUSP	**Uspallata**	**4.52**	**44**	*i* P		**Pn**	**17 13 44.9**	**+1.8**
ASAL	**Salagasta**	**4.60**	**52**	*i* P		**Pn**	**17 13 48.2**	**+4.1**
ASAL				IAML			17 15 19.2	
	comp=Z,0.1nm,1.7s							
CO02	**Combarbal**	**4.65**	**23**			**Pn**	**17 13 43.6**	**-1.2**
LR05	**Currie**	**4.79**	**170**			**Pn**	**17 13 46.3**	**-0.2**
RTLS	**Leoncito**	**4.89**	**42**	*i* P		**Pn**	**17 13 49.8**	**+1.6**
RTLS				IAML			17 15 20.7	
	comp=Z,276nm,0.8s							
H03S1	**Juan Fernandez**	**5.06**	**288**	T		T	17 19 04.7	
	baz=109,slow=75,SNR=1749							
H03S3	**Juan Fernandez**	**5.07**	**288**	T		T	17 19 07.1	
	baz=109,slow=75,SNR=1729							
H03S2	**Juan Fernandez**	**5.07**	**288**	T		T	17 19 11.1	
	baz=109,slow=75,SNR=1187							
H03N1	**Juan Fernandez**	**5.22**	**292**	T		T	17 19 33.9	
	baz=110,slow=76,SNR=31							
H03N3	**Juan Fernandez**	**5.22**	**292**	T		T	17 19 25.2	
	baz=110,slow=76,SNR=49							
H03N2	**Juan Fernandez**	**5.23**	**292**	T		T	17 19 32.1	
	baz=110,slow=76,SNR=37							
PLCA	**Paso Flores**	**5.58**	**160**	Pn		**Pn**	**17 13 57.9**	**+0.3**
	comp=Z,2.2nm,0.3s,baz=338,slow=12,SNR=35							
PLCA				Lg		Lg	17 15 22.0	
	comp=Z,1.7nm,0.3s,baz=253,slow=19,SNR=4.6							
	comp=Z,6.7nm,0.5s							
CFA	**Coronel Fontan**	**5.64**	**48**	Pn		**Pn**	**17 13 56.5**	**-1.8**
	comp=Z,1.1nm,0.3s,baz=218,slow=15,SNR=16							
CFA				Lg		Lg	17 15 18.2	
	comp=Z,2.9nm,0.3s,baz=304,slow=17,SNR=6.0							
	comp=Z,1.4nm,0.5s							
GO04	**Tololo Observa**	**5.67**	**21**			**Pn**	**17 13 57.2**	**-1.7**
AGUA	**GUANDACOL**	**7.17**	**34**	*i* P		**Pn**	**17 14 18.9**	**-0.5**
AGUA				IAML			17 16 40.7	
	comp=Z,38nm,0.8s							
TRQA	**Tornquist**	**9.28**	**109**			**Pn**	**17 14 48.5**	**+0.2**
PB01	**IPOC Station P**	**14.77**	**13**			**Pn**	**17 16 01.2**	**-2.2**
PB11	**IPOC Station P**	**15.99**	**12**			**Pn**	**17 16 20.4**	**+0.9**
PB11				IAmb		IAmb	17 16 31.5	
	comp=Z,14nm,0.9s							
LPAZ	**La Paz**	**19.66**	**14**	P		**P**	**17 17 03.8**	**-0.1**
LPAZ	**La Paz**	**19.66**	**14**	P		**P**	**17 17 04.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=158,slow=4.0,SNR=7.9							
	comp=Z,1.8nm,0.8s							
AQDB	**Aquidauana**	**21.42**	**50**	P		**P**	**17 17 20.4**	**-2.0**
AQDB				IAmb		IAmb	17 17 33.2	
	comp=Z,8.0nm,0.7s							
SIV	**San Ignacio**	**22.23**	**32**	P		**P**	**17 17 29.5**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=205,slow=13,SNR=6.2							
	comp=Z,1.2nm,0.7s							
ESPN	**Las Esperanzas**	**48.62**	**345**	P		**P**	**17 21 18.0**	**0.0**
SNAA	**Sanae**	**50.52**	**157**	⇑P		**P**	**17 21 31.8**	**-0.3**
	comp=Z,76nm,0.9s							
SNAA	**Sanae**	**50.52**	**157**	P		**P**	**17 21 31.9**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=172,slow=9.0,SNR=7.0							
	comp=Z,3.3nm,0.9s							
TROLL	**Troll, Antarti**	**52.22**	**158**	⇑P		**P**	**17 21 44.7**	**-0.2**
	comp=Z,198nm,0.8s							
QSPA	**South Pole Qui**	**54.72**	**180**	P		**P**	**17 22 05.3**	**+2.0**
QSPA				IAmb		IAmb	17 22 07.4	
	comp=Z,4.2nm,0.9s							
QSPA	**South Pole Qui**	**54.72**	**180**	P		**P**	**17 22 05.0**	**+1.8**
	comp=Z,3.6nm,0.9s,baz=348,slow=0.6,SNR=14							
	comp=Z,3.6nm,0.9s							
TXAR	**Lajitas Array**	**70.64**	**332**	P		**P**	**17 23 50.4**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=163,slow=8.2,SNR=3.8							
	comp=Z,0.3nm,0.7s							
MAW	**Mawson**	**71.98**	**164**	P		**P**	**17 23 56.9**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=214,slow=7.3,SNR=8.2							
	comp=Z,2.9nm,0.8s							
H11S2	**WAKE ISLAND Hyl**	**24.86**	**269**	T		T	19 49 15.9	
	baz=118,slow=74,SNR=6.8							
H11S1	**WAKE ISLAND Hyl**	**24.87**	**269**	T		T	19 49 18.3	
	baz=118,slow=74,SNR=4.9							
H11S3	**WAKE ISLAND Hyl**	**24.87**	**269**	T		T	19 49 12.6	
	baz=118,slow=74,SNR=3.7							
H11N3	**WAKE ISLAND Hyl**	**25.31**	**270**	T		T	19 49 32.8	
	baz=122,slow=76,SNR=3.9							
H11N1	**WAKE ISLAND Hyl**	**25.32**	**270**	T		T	19 49 36.4	
	baz=122,slow=76,SNR=5.6							
H11N2	**WAKE ISLAND Hyl**	**25.33**	**270**	T		T	19 49 38.5	
	baz=122,slow=76,SNR=4.7							
BVAR	**Borovoye Array**	**148.99**	**44**	PKPbc		**PKPbc**	**17 32 21.3**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=307,slow=5.2,SNR=8.2							
KURBB	**Kurchatov Arra**	**154.57**	**45**	PKPbc		**PKPbc**	**17 32 33.8**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=301,slow=2.7,SNR=5.2							

BKK 29 17:21:48.5±0.6,**20°N**±3°×**9°6E**±°,**h10**km,**M3.7**/17,
Mjma3.6/17,**ML3.9**/13,**MLv3.6**/17,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAI	**Chiengmai2**	**2.74**	**84**	Pg	Pg	17 22 40.8	-0.3
CHTO	**Chiang Mai**	**2.77**	**107**	Pg	Pg	17 22 41.4	-0.2
CM13	**Chiang Mai Arr**	**2.88**	**115**	Pg	Pg	17 22 42.7	-1.1
CM15	**Chiang Mai Arr**	**2.89**	**114**	Pg	Pg	17 22 43.6	-0.2
CM02	**Chiang Mai Arr**	**2.91**	**114**	Pg	Pg	17 22 43.7	-0.7
CM01	**Chiang Mai Arr**	**2.93**	**114**	Pg	Pg	17 22 43.9	-0.8
CM04	**Chiang Mai Arr**	**2.96**	**115**	Pg	Pg	17 22 44.4	-0.8
PHIT	**Phitsanulok**	**4.74**	**121**	Pg	Pg	17 23 22.2	+2.9
PHIT				Sg	Sg	17 24 23.3	+2.6
UTHA	**Uthaitani**	**5.15**	**142**	Pg	Pg	17 23 27.3	+0.1

*SJA **29** 17:26:55.7±0.8,35°.44S×73°.15W,h17km±6km,ML3.3,*
MW3.5
*GUC **29** 17:26:59.6±0.8,35°.54S×72°.88W,h27km±7km,ML3.4*
ISC 29 17:26:57.1±2.0,**35°.49S**±0°.04×**73°.05W**±0°.07,**h20**km±6km,
n19,σ1°**38**/29,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Hualane**	**1.03**	**63**	*e*P	**Pb**	**17 27 16.4**	**+0.1**
GO05				IAML		17 27 32.3	
	comp=Z,655nm,0.8s						
BI05	**Punta Hualpn**	**1.26**	**185**	*e*P	**Pn**	**17 27 19.6**	**0.0**
BI05				*e*S	**Sn**	**17 27 36.1**	**+0.1**
BI05				IAML		17 27 42.0	
	comp=N,1μm,0.3s						
BI05	**Punta Hualpn**	**1.26**	**185**	*e*P	**Pb**	**17 27 20.4**	**+0.2**
BI05				IAML		17 27 40.4	
	comp=Z,440nm,0.4s						
BO03	**Pichilemu**	**1.33**	**42**	*e*P	**Pn**	**17 27 20.5**	**-0.1**
BO03				*i* S	**Sn**	**17 27 36.9**	**-0.9**
BO03				IAML		17 27 42.8	
	comp=N,830nm,0.3s						
BI02	**San Fabin de**	**1.85**	**130**	*e*P	**Pn**	**17 27 28.5**	**+0.7**
BI02				*i* S	**Sn**	**17 27 49.5**	**-1.2**
BI02				IAML		17 27 53.7	
	comp=N,273nm,0.4s						
BI02	**San Fabin de**	**1.85**	**130**	*e*P	**Pn**	**17 27 28.6**	**+0.7**
BI02				IAML		17 28 26.0	
	comp=Z,257nm,0.7s						
BO01	**Tunca**	**1.95**	**56**	*e*P	**Pn**	**17 27 30.6**	**+1.5**
BO01				*i* S	**Sb**	**17 27 55.9**	**+0.1**
BO01	**Tunca**	**1.95**	**56**	*e*P	**Pb**	**17 27 31.2**	**-0.8**
BO01				*e*S	**Sg**	**17 27 58.6**	**-1.3**
BO01				IAML		17 28 06.0	
	comp=Z,142nm,0.3s						
BO02	**Sierra Bellavi**	**1.98**	**70**	*e*P	**Pn**	**17 27 30.4**	**+0.7**
BO02				*i* S	**Sn**	**17 27 54.3**	**+0.3**
BO02				IAML		17 28 02.0	
	comp=N,2μm,0.2s						
BO02	**Sierra Bellavi**	**1.98**	**70**	*e*P	**Pb**	**17 27 31.7**	**-0.9**
BO02				*e*S	**Sb**	**17 27 58.2**	**+1.3**
BO02				IAML		17 27 59.8	
	comp=Z,551nm,0.2s						
MT01	**Popeta**	**2.20**	**43**	*e*P	**Pn**	**17 27 33.7**	**+1.2**
MT01				*e*S	**Sg**	**17 28 07.5**	**-0.3**
BO04	**La Punta**	**2.50**	**54**	*e*P	**Pn**	**17 27 38.6**	**+1.8**
BO04				*i* S	**Sn**	**17 28 07.3**	**+0.4**
BO04				IAML		17 28 20.7	
	comp=E,332nm,0.5s						
VA01	**Torpederas**	**2.72**	**26**	*e*P	**Pn**	**17 27 41.5**	**+1.7**
LMEL	**Las Melosas**	**2.86**	**56**	*e*P	**Pb**	**17 27 46.1**	**-1.5**
LMEL				*e*S	**Sb**	**17 28 20.5**	**-1.7**
CAHA	**Caviahue**	**2.87**	**147**	*e*P	**Pb**	**17 27 46.1**	**-1.7**
RFA	**San Rafael**	**3.82**	**80**	*e*P	**Pn**	**17 27 58.8**	**+3.9**
GO06	**Currarrehue**	**4.27**	**163**	*e*P	**Pn**	**17 28 03.1**	**+1.9**
GO06				*e*S	Sn	17 28 39.7	-11
CO02	**Combarbal**	**4.61**	**22**	*e*P	**Pn**	**17 28 06.5**	**+0.7**
CO03	**El Pedregal**	**5.04**	**24**	*e*P	**Pn**	**17 28 12.8**	**+1.1**

*IDC **29** 17:41:50.9±0.5,2°.55N×126°.82E,h0km,mb4.3/24,*
mbtmp4.3/25,ML4.3/1,Error ellipse: s-maj=27.5km
s-min=10.7km az=76.0
*DJA **29** 17:41:55.6±0.3,3°N×12°7E±°,h10km,M4.7/18,mB5.6/2,*
mb4.9/10,MLv4.7/18,Mw(mB)5.0/2
*NEIC **29** 17:41:56.2±2.0,2°.63N±0°.08×127°.1E±0°.2,h35km±5km,*
mb4.8/38,Error ellipse: s-maj=30.6km s-min=5.5km
az=71.0
ISC 29 17:41:58.1±0.4,**2°.61N**±0°.05×**127°.05E**±0°.08,**h53**km,**n106,**
σ1°**47**/109,**mb4.6**/46,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.85**	**170**		**Pn**	**17 42 25.8**	**-1.7**
TNTI				Sn	**Sn**	**17 42 46.5**	**-3.2**
TNTI	**Ternate**	**1.85**	**170**	P	**Pn**	**17 42 26.3**	**-1.2**
SGSI	**Sangihe**	**1.86**	**305**	P	**Pn**	**17 42 26.0**	**-1.6**
KMSI	**Cibinong**	**3.67**	**237**	P	**Pn**	**17 42 53.4**	**+0.9**
DAV	**Davao City (W)**	**4.67**	**342**	Pn	**Pn**	**17 43 04.0**	**-2.2**
	13nm,0.3s,baz=244,slow=17,SNR=1.2						
DAV				Sn	**Sn**	**17 44 01.4**	**+2.3**
	18nm,0.3s,baz=219,slow=11,SNR=3.6						
	46nm,0.3s						
SANI	**Sanana**	**4.75**	**193**	P	**Pn**	**17 43 06.6**	**-0.6**
SWI	**Sorong**	**5.44**	**129**	P	**Pn**	**17 43 17.9**	**+1.2**
	0.3nm94nm,1.3s						
MRSI	**Marisa**	**5.53**	**248**	P	**Pn**	**17 43 19.2**	**+1.3**
	0.6nm152nm,0.6s						
LUWI	**Luwuk**	**5.61**	**230**		**Pn**	**17 43 21.7**	**+2.7**
LUWI	**Luwuk**	**5.61**	**230**	P	**Pn**	**17 43 20.0**	**+1.0**
	0.9nm164nm,1.1s						
NLAI	**Namlea**	**5.81**	**180**	P	**Pn**	**17 43 21.6**	**-0.1**
	0.4nm79nm,1.0s						
APSI	**Ampana**	**6.43**	**237**	P	**Pn**	**17 43 31.6**	**+1.3**
	3μm161nm,0.8s						
TOLI2	**Tolitoli**	**6.44**	**257**		**Pn**	**17 43 30.2**	**-0.2**
FAKI	**Fak Fak**	**7.56**	**137**	Pn	**Pn**	**17 43 47.7**	**+1.9**
FAKI	**Fak Fak**	**7.56**	**137**	P	**Pn**	**17 43 47.4**	**+1.6**
	0.2nm49nm,0.9s						
MYLDM	**Lahad Datu**	**8.90**	**287**		**Pn**	**17 44 06.7**	**+2.5**
BBSI	**Bau Bau**	**9.20**	**209**	P	**Pn**	**17 44 08.6**	**+0.3**
BAKI	**Biak**	**9.81**	**113**	P	**Pn**	**17 44 18.2**	**+1.6**
KKM	**Kota Kinabalu**	**11.33**	**288**	Pn	**Pn**	**17 44 39.5**	**+1.9**
SOEI	**Soe**	**12.59**	**193**	P	**P**	**17 45 06.3**	**+1.6**
SBUM	**Sibu**	**14.82**	**270**		**Pn**	**17 45 23.4**	**-1.2**
KNRA	**Kununurra**	**18.25**	**175**		**P**	**17 46 07.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.62**	**184**		**P**	**17 46 33.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**20.62**	**184**	P	**P**	**17 46 32.6**	**-0.6**
	5.5nm,0.6s,baz=15,slow=7.9,SNR=27						
	5.5nm,0.6s						
TPUB	**Ta-pu**	**21.49**	**344**	P	**P**	**17 46 40.0**	**-2.5**
SSLB	**Suanglung**	**21.87**	**345**	P	**P**	**17 46 44.9**	**-1.7**
WB0	**Warramunga Arr**	**23.38**	**162**		**P**	**17 47 01.5**	**-0.8**
WB0				IAmb	IAmb	17 47 25.3	
	comp=Z,22nm,0.8s						
WRAB	**Tennant Creek**	**23.52**	**163**	P	**P**	**17 47 02.6**	**-1.1**
WRAB				IAmb	IAmb	17 47 28.3	
	comp=Z,35nm,1.1s						
WRAB	**Tennant Creek**	**23.52**	**163**	P	**P**	**17 47 03.2**	**-0.5**
WRA	**Warramunga Arr**	**23.52**	**163**		**P**	**17 47 02.0**	**-1.7**
WRA	**Warramunga Arr**	**23.52**	**163**	P	**P**	**17 47 02.8**	**-0.9**
	comp=Z,15nm,0.5s,baz=341,slow=9.0,SNR=142						
WRA				PcP	**PcP**	**17 50 48.9**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=340,slow=2.0,SNR=2.2						
	comp=Z,15nm,0.5s						
WR8	**Warramunga Arr**	**23.59**	**162**		**P**	**17 47 03.5**	**-0.7**
WR8				IAmb	IAmb	17 47 08.4	
	comp=Z,28nm,0.6s						
MBWA	**Marble Bar**	**24.68**	**197**		**P**	**17 47 13.8**	**-0.4**
MBWA				IAmb	IAmb	17 47 33.7	
	comp=Z,39nm,1.2s						
MBWA	**Marble Bar**	**24.68**	**197**	P	**P**	**17 47 15.9**	**+1.6**
PSA00	**Pilbara Seismi**	**25.04**	**196**		**P**	**17 47 17.2**	**-0.4**
PSA00				IAmb	IAmb	17 47 35.6	
	comp=Z,26nm,0.8s						
PSA00	**Pilbara Seismi**	**25.04**	**196**		**P**	**17 47 17.8**	**+0.2**
PSA00				IAmb	IAmb	17 47 37.1	
	comp=Z,20nm,1.0s						
PSA00	**Pilbara Seismi**	**25.04**	**196**	P	**P**	**17 47 19.4**	**+1.8**
AS31	**Alice Springs**	**26.95**	**166**		**P**	**17 47 34.7**	**-0.2**
ASAR	**Alice Springs**	**26.95**	**166**		**P**	**17 47 34.7**	**-0.2**
ASAR	**Alice Springs**	**26.95**	**166**	P	**P**	**17 47 34.5**	**-0.4**
	comp=Z,4.9nm,0.5s,baz=348,slow=7.5,SNR=80						
ASAR				PcP	**PcP**	**17 50 57.0**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=340,slow=2.6,SNR=5.6						
ASAR				ScP	**ScP**	**17 54 37.0**	**+5.2**
	comp=Z,0.3nm,0.5s,baz=346,slow=3.1,SNR=5.0						
	comp=Z,4.9nm,0.5s						
MEEK	**Meekatharra**	**30.19**	**195**	P	**P**	**17 48 04.4**	**+0.7**
NJ2	**Nanjing**	**30.29**	**346**	*e*P	**P**	**17 48 06.0**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CM31	**Chiang Mai Arr**	**31.72**	**302**	P	**P**	**17 48 16.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**31.72**	**302**	P	**P**	**17 48 16.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**31.72**	**302**	P	**P**	**17 48 16.1**	**-1.2**
	comp=Z,3.0nm,0.9s,baz=119,slow=7.0,SNR=19						
	comp=Z,3.0nm,0.9s						
CHTO	**Chiang Mai**	**31.88**	**302**		**P**	**17 48 17.5**	**-1.2**
ENH	**Enshi**	**32.16**	**331**	P	**P**	**17 48 19.8**	**-1.2**
ENH				IAmb	IAmb	17 48 24.5	
	comp=Z,7.0nm,0.6s						
INKA	**Innaminka**	**32.93**	**157**		**P**	**17 48 27.8**	**+0.2**
QLP	**Quilpie**	**33.43**	**151**	P	P	17 48 40.0	+7.9
PZH	**PanZhiHua**	**33.97**	**317**	P	**P**	**17 48 40.0**	**+3.0**
BLDU	**Ballidu**	**34.48**	**196**	P	**P**	**17 48 42.3**	**+1.2**
KSAR	**Wonju Array Be**	**34.68**	**1**		**P**	**17 48 43.7**	**+1.0**
KSRS	**Korea Array**	**34.69**	**1**	P	**P**	**17 48 43.1**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=178,slow=9.8,SNR=14						
	comp=Z,1.1nm,0.5s						
MJAR	**Matsushiro Arr**	**35.31**	**16**	P	**P**	**17 48 47.9**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=183,slow=9.5,SNR=5.7						
	comp=Z,1.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**36.54**	**194**	P	**P**	**17 49 00.2**	**+1.4**
STKA	**Stephens Creek**	**36.97**	**159**		**P**	**17 49 01.3**	**-1.2**
STKA	**Stephens Creek**	**36.97**	**159**	P	**P**	**17 49 01.5**	**-1.0**
	comp=Z,5.8nm,0.4s,baz=336,slow=8.0,SNR=17						
	comp=Z,5.8nm,0.4s						
BJT	**Baijiatuan**	**38.53**	**347**	P	**P**	**17 49 15.9**	**+0.4**
BJT				IAmb	IAmb	17 49 43.4	
	comp=Z,22nm,1.1s						
BJT	**Baijiatuan**	**38.53**	**347**	P	**P**	**17 49 16.4**	**+0.9**
BJI	**Beijing**	**38.55**	**347**	P	**P**	**17 49 15.8**	**+0.2**
BJI				pP	**pP**	**17 49 22.8**	**-6.0**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.4s						
HHC	**Hu-ho-hao-te**	**40.56**	**342**	*e*P	**P**	**17 49 34.5**	**+2.0**
SHL	**Shillong**	**40.80**	**307**		**P**	**17 49 33.7**	**-1.2**
SHL				IAmb	IAmb	17 50 11.6	
	comp=Z,17nm,1.1s						
USRK	**Ussuriysk Ar.**	**41.65**	**5**	P	**P**	**17 49 41.9**	**+0.6**
	comp=Z,3.2nm,0.6s,baz=192,slow=6.8,SNR=5.7						
	comp=Z,3.2nm,0.6s						
LSA	**Lhasa**	**43.42**	**312**	P	**P**	**17 49 56.8**	**+0.3**
LSA				IAmb	IAmb	17 49 58.9	
	comp=Z,28nm,1.6s						
GTA	**Gaotai**	**44.22**	**329**	*e*P	**P**	**17 50 04.5**	**+2.1**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GOMU	**GeErMu**	**44.76**	**322**	P	**P**	**17 50 06.5**	**-0.5**
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.6s						
EVN	**Everest**	**45.92**	**307**		**P**	**17 50 15.6**	**-1.0**
EVN				IAmb	IAmb	17 50 31.0	
	comp=Z,14nm,1.0s						
HEH	**HeiHe**	**47.48**	**0**	*e*P	**P**	**17 50 28.0**	**+0.3**
HEH				pmax	pmax		
	comp=Z,10.0nm,1.8s						
ULN	**Ulaanbaatar**	**48.28**	**342**		**P**	**17 50 34.6**	**+0.4**
ULN				IAmb	IAmb	17 50 60.0	
	comp=Z,8.0nm,0.9s						
ULN	**Ulaanbaatar**	**48.28**	**342**	P	**P**	**17 50 34.5**	**+0.4**
SONM	**Songino Array**	**48.46**	**341**	P	**P**	**17 50 34.0**	**-1.5**
SONM				IAmb	IAmb	17 51 01.1	
	comp=Z,8.3nm,1.3s						
SONM	**Songino Array**	**48.46**	**341**	P	**P**	**17 50 35.5**	**0.0**
	comp=Z,1.5nm,0.7s,baz=167,slow=6.9,SNR=8.4						
	comp=Z,1.5nm,0.7s						
WMQ	**Urumqi**	**53.82**	**325**	*e*P	**P**	**17 51 17.0**	**+1.3**
WMQ				LR	LR		
	comp=N,2μm,16.1s						
WMQ				LR	LR		
	comp=E,2μm,14.7s						
WMQ				LR	LR		
	comp=Z,2μm,18.9s						
PETK	**Petropavlovsk-**	**56.35**	**22**	P	**P**	**17 51 35.4**	**+1.7**
	comp=Z,4.2nm,0.8s,baz=200,slow=4.9,SNR=7.1						
	comp=Z,4.2nm,0.8s						
MKAR	**Makanchi Array**	**58.66**	**325**		**P**	**17 51 49.1**	**-1.0**
MKAR	**Makanchi Array**	**58.66**	**325**	P	**P**	**17 51 49.4**	**-0.7**
	comp=Z,3.8nm,0.5s,baz=120,slow=7.7,SNR=30						
	comp=Z,3.8nm,0.5s						
MAKZ	**Makanchi**	**58.84**	**325**		**P**	**17 51 50.4**	**-1.0**
MAKZ				IAmb	IAmb	17 52 30.2	
	comp=Z,17nm,1.3s						
KSH	**Kashi**	**59.06**	**315**	P	P	17 51 58.0	+4.8
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YAK	**Yakutsk**	**59.31**	**1**		**P**	**17 51 53.8**	**-0.5**
ZALV	**Zalesovo Beam**	**61.73**	**333**	P	**P**	**17 52 10.2**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=133,slow=6.7,SNR=6.8						
	comp=Z,1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**62.85**	**328**	P	**P**	**17 52 17.9**	**-0.6**
	comp=Z,4.6nm,0.6s,baz=132,slow=6.5,SNR=50						
	comp=Z,4.6nm,0.6s						
KURK	**Kurchatov**	**62.85**	**328**		**P**	**17 52 17.9**	**-0.7**
KURK				IAmb	IAmb	17 52 42.7	
	comp=Z,10nm,0.9s						
KURK	**Kurchatov**	**62.85**	**328**	P	**P**	**17 52 18.3**	**-0.2**
KURK				x	x	17 52 28.4	
KK31	**Karatay Array**	**64.27**	**317**	IAmb	IAmb	17 53 08.0	
	comp=Z,9.3nm,1.2s						
KKAR	**Karatay Array**	**64.27**	**317**		**P**	**17 52 27.3**	**-0.8**
BVAR	**Borovoye Array**	**68.43**	**327**	P	**P**	**17 52 54.0**	**-0.5**
	comp=Z,3.7nm,0.8s,baz=134,slow=11,SNR=13						
	comp=Z,3.7nm,0.8s						
AB31	**Akbulak array**	**73.22**	**321**		**P**	**17 53 22.6**	**-1.0**
AB31				IAmb	I

BI02 IAML 17 49 17.3
comp=Z,1µm,0.5s
BO01 Tunca 1.96 57 Pn 17 48 43.6 +0.3
BO01 Tunca 1.96 57 *e*P **Pn 17 48 43.9 +0.6**
BO01 *i* S **Sn 17 49 08.0 -0.4**
BO01 IAML 17 49 18.0
comp=E,2µm,0.5s
BO01 Tunca 1.96 57 *e*P **Pn 17 48 44.4 +1.1**
BO01 eS **Sg 17 49 12.6 +0.4**
BO01 IAML 17 49 17.0
comp=Z,2µm,0.4s
BO02 Sierra Bellavi 2.00 70 Pn **Pb 17 48 46.3 +0.2**
BO02 Sierra Bellavi 2.00 70 *e*P **Pn 17 48 44.9 +1.0**
BO02 eS **Sn 17 49 09.6 +0.1**
BO02 IAML 17 49 15.7
comp=N,9µm,0.3s
BO02 Sierra Bellavi 2.00 70 *e*P **Pb 17 48 45.6 -0.5**
BO02 eS **Sg 17 49 14.9 +1.6**
BO02 IAML 17 49 17.1
comp=Z,3µm,0.5s
MT01 Popeta 2.21 43 Pn 17 48 47.1 +0.4
MT01 Popeta 2.21 43 *e*P **Pn 17 48 47.2 +0.5**
MT01 *i* S **Sn 17 49 14.9 +0.4**
MT01 IAML 17 49 30.4
comp=E,1µm,0.5s
MT09 Talagante 2.42 46 Pn 17 48 50.4 +0.7
BO04 La Punta 2.52 54 Pn 17 48 51.7 +0.8
BO04 La Punta 2.52 54 *e*P **Pn 17 48 52.1 +1.2**
BO04 eS **Sn 17 49 21.6 -0.6**
BO04 IAML 17 49 40.0
comp=E,1µm,0.6s
VA01 Torpederas 2.73 26 Pn 17 48 54.0 +0.3
VA01 Torpederas 2.73 26 *e*P **Pn 17 48 54.7 +0.9**
VA01 eS **Sg 17 49 42.0 +5.4**
MT02 Curacav 2.74 36 Pn 17 48 54.3 +0.3
MT02 Curacav 2.74 36⇑ *i*P **Pn 17 48 54.3 +0.3**
MT02 eS **Sn 17 49 25.9 -1.7**
MT02 IAML 17 49 45.5
comp=E,594nm,0.5s
MT02 Curacav 2.74 36 *e*P **Pn 17 48 54.3 +0.3**
MT02 eS **Sb 17 49 30.6 -2.1**
MT02 IAML 17 49 46.2
comp=Z,448nm,0.8s
MT05 Renca 2.84 43 Pn 17 48 56.1 +0.6
MT05 Renca 2.84 43 *e*P **Pn 17 48 57.0 +1.6**
MT05 eS **Sb 17 49 35.5 -0.2**
MT05 IAML 17 49 52.3
comp=Z,845nm,1.2s
LMEL Las Melosas 2.87 56 Pn **Pn 17 48 58.2 +2.3**
LMEL Las Melosas 2.87 56 *e*P **Pn 17 48 58.7 +2.7**
LMEL eS **Sn 17 49 29.4 -1.8**
MT13 San Alfonso 2.88 54 Pn 17 48 57.8 +1.8
MT13 San Alfonso 2.88 54 *e*P **Pn 17 48 58.1 +2.1**
MT13 eS **Sb 17 49 35.5 -1.4**
MT13 IAML 17 49 43.7
comp=Z,755nm,0.8s
MT03 Universidad Ad 2.90 47 Pn 17 48 58.3 +1.9
MT03 Universidad Ad 2.90 47 *e*P **Pn 17 48 57.9 +1.6**
MT03 eS **Sn 17 49 34.0 +2.2**
MT03 IAML 17 49 53.6
comp=Z,949nm,0.6s
MT16 CCHEN 2.94 46 Pn **Pn 17 48 56.7 -0.1**
PEL Peldehue 3.06 41 Pn 17 49 00.1 +1.7
MT04 Ro Olivares 3.19 50 *e*P **Pn 17 49 02.0 +1.6**
MT04 eS **Sn 17 49 41.5 +2.4**
MT04 IAML 17 49 57.1
comp=Z,510nm,1.1s
MT08 Bocatoma Ro 3.24 52 Pn 17 49 02.9 +1.8
MT08 Bocatoma Ro 3.24 52 *e*P **Pn 17 49 01.6 +0.4**
MT08 eS **Sn 17 49 42.0 +1.7**
MT08 IAML 17 50 00.1
comp=Z,445nm,0.7s
VA06 Catapilco 3.27 27 Pn 17 49 01.7 +0.4
VA03 San Esteban 3.43 38 Pn 17 49 04.7 +1.1
VA03 San Esteban 3.43 38 *e*P **Pn 17 49 04.7 +1.1**
VA03 eS **Sg 17 49 58.5 -0.7**
VA03 IAML 17 50 07.9
comp=Z,774nm,0.7s
RFA San Rafael 3.84 81 *e*P **Pn 17 49 11.6 +2.4**
RFA *e*P Pb 17 49 12.6 -5.0
RFA eS **Sg 17 50 12.2 -0.3**
RFA IAML 17 50 16.3
comp=Z,415nm,0.8s
LR03 Panguipulli 4.17 172 Pn 17 49 14.5 +0.8
GO06 Curarrehue 4.28 163 *e*P **Pn 17 49 17.1 +1.8**
GO06 eS **Sg 17 50 23.6 -3.0**
GO06 IAML 17 50 29.3
comp=Z,116nm,0.8s
CO02 Combarbal 4.61 23 Pn 17 49 20.4 +0.6
CO02 Combarbal 4.61 23 *e*P **Pn 17 49 20.6 +0.8**
CO02 eS **Sn 17 50 13.0 -1.0**
CO02 IAML 17 50 54.6
comp=Z,208nm,0.9s
RTLS Leoncito 4.84 42 *e*P **Pn 17 49 26.1 +3.0**
RTLS eS **Sg 17 50 41.5 -3.1**
RTLS IAML 17 50 48.6
comp=Z,418nm,0.9s
CO06 Fray Jorge 4.95 14 Pn 17 49 24.1 -0.3
CO03 El Pedregal 5.05 24 Pn 17 49 26.7 +0.9
CO03 El Pedregal 5.05 24 *e*P **Pn 17 49 26.9 +1.1**
CO03 eS **Sn 17 50 25.2 +0.5**
CO03 IAML 17 51 01.5
comp=Z,151nm,0.6s
H03S1 Juan Fernandez 5.08 287 T T 17 54 48.9
baz=109,slow=74,SNR=876
H03S3 Juan Fernandez 5.09 287 T T 17 54 58.9
baz=109,slow=74,SNR=791
H03S2 Juan Fernandez 5.10 287 T T 17 54 48.5
baz=109,slow=74,SNR=723
H03N1 Juan Fernandez 5.24 291 T T 17 54 58.3
baz=110,slow=75,SNR=10
H03N3 Juan Fernandez 5.24 291 T T 17 54 59.0
baz=110,slow=75,SNR=18
H03N2 Juan Fernandez 5.26 291 T T 17 54 59.9
baz=110,slow=75,SNR=15
CFA Coronel Fontan 5.59 48 Pn **Pn 17 49 32.4 -0.8**
comp=Z,1.2nm,0.3s,baz=226,slow=12,SNR=21
CFA Lg Lg 17 50 55.5
comp=Z,2.2nm,0.3s,baz=316,slow=16,SNR=6.8
comp=Z,1.6nm,0.3s
PLCA Paso Flores 5.60 160 Pn 17 49 35.0 +1.6
PLCA Paso Flores 5.60 160 Pn **Pn 17 49 34.2 +0.9**
comp=Z,1.1nm,0.3s,baz=327,slow=10,SNR=19
PLCA Lg Lg 17 50 59.8
comp=Z,1.6nm,0.3s,baz=322,slow=11,SNR=5.1
comp=Z,5.3nm,0.5s
LCO Las Campanas 6.76 18 Pn 17 49 49.2 -0.4
TRQA Tornquist 9.26 109 Pn 17 50 28.1 +4.6
CPUP Villa Florida 16.29 60 Pn **Pn 17 51 58.9 0.0**
baz=96,slow=10,SNR=1.2
comp=Z,0.2nm,0.5s
LPAZ La Paz 19.62 14 P **P 17 52 36.0 -3.5**
LPAZ La Paz 19.62 14 P **Pn 17 52 40.7 -0.1**
comp=Z,0.2nm,0.3s,baz=188,slow=8.0,SNR=8.8
comp=Z,2.1nm,0.6s
SIV San Ignacio 22.18 32 P **P 17 53 06.7 +0.1**
comp=Z,4.1nm,0.8s,baz=216,slow=11,SNR=15
comp=Z,4.1nm,0.8s
BAUV El Baul 44.45 7 P **P 17 56 18.3 -3.2**
BAUV IAmb IAmb 17 56 22.5
comp=Z,8.6nm,0.8s
MDP Montagnes des 44.71 30 P **P 17 56 23.8 +0.2**
comp=Z,7.2nm,0.7s,baz=204,slow=6.8,SNR=6.1
comp=Z,7.2nm,0.7s
RCBR Riachuelo 45.15 58 P **P 17 56 25.0 -2.2**
VNA3 Neumayer Olymp 48.31 157⇑P **P 17 56 52.3 +1.0**
comp=Z,2.8nm,0.8s
SNAA Sanae 50.53 157⇑P **P 17 57 09.1 +0.7**
comp=Z,90nm,1.0s
SNAA Sanae 50.53 157 P **P 17 57 09.3 +1.0**
SNAA IAmb IAmb 17 57 22.2
comp=Z,2.5nm,0.9s
SNAA Sanae 50.53 157 P **P 17 57 08.8 +0.5**
comp=Z,3.5nm,0.9s,baz=283,slow=5.6,SNR=11
comp=Z,3.5nm,0.9s
TROLL Troll, Antarti 52.23 158⇓P **P 17 57 22.4 +1.2**
comp=Z,177nm,0.8s
QSPA South Pole Qui 54.75 180 P **P 17 57 40.2 +0.5**
QSPA IAmb IAmb 17 58 06.2
comp=Z,3.0nm,1.0s
QSPA South Pole Qui 54.75 180 P **P 17 57 42.1 +2.4**
comp=Z,2.7nm,0.9s,baz=327,slow=1.9,SNR=8.0
comp=Z,2.7nm,0.9s
TXAR Lajitas Array 70.63 332 P **P 17 59 28.2 +2.3**
comp=Z,0.5nm,0.8s,baz=150,slow=8.1,SNR=4.1
comp=Z,0.5nm,0.8s
MAW Mawson 71.99 164 P **P 17 59 34.9 +1.2**
comp=Z,3.1nm,0.9s,baz=185,slow=6.2,SNR=6.7
comp=Z,3.1nm,0.9s
LENM Lemitar 76.20 332 P **P 17 59 55.2 -3.6**
NVAR Mina Array Bea 84.63 326 P **P 18 00 46.1 +1.9**
comp=Z,0.3nm,0.6s,baz=154,slow=4.1,SNR=2.2
comp=Z,0.3nm,0.6s
TORD Torodi Ar. Bea 85.51 71 P **P 18 00 48.8 0.0**
comp=Z,3.9nm,1.0s,baz=229,slow=4.0,SNR=5.1
comp=Z,3.9nm,1.0s
WRA Warramunga Arr 119.05 210 PKP **PKPdf 18 06 59.8 -0.1**
comp=Z,0.2nm,0.6s,baz=146,slow=1.6,SNR=4.6
H11N3 WAKE ISLAND Hyd 25.34 270 T T 20 25 10.3
baz=122,slow=76,SNR=4.6
H11N1 WAKE ISLAND Hyd 25.36 270 T T 20 25 11.3
baz=122,slow=76,SNR=6.6
H11N2 WAKE ISLAND Hyd 25.36 270 T T 20 25 11.6
baz=122,slow=76,SNR=5.7
BVAR Borovoye Array 148.94 44 PKPbc **PKPbc 18 07 58.7 +0.9**
comp=Z,1.9nm,0.7s,baz=298,slow=3.2,SNR=9.8
YAK Yakutsk 149.83 339 PKPbc **PKPbc 18 08 00.3 +0.6**
comp=Z,8.1nm,0.7s,baz=317,slow=1.8,SNR=7.8
KURBB Kurchatov Arra 154.53 45 PKPbc **PKPbc 18 08 10.7 0.0**
comp=Z,0.9nm,0.9s,baz=294,slow=2.5,SNR=7.7

NEIC ***29*** *17:52:17.6±1.2, 18°.1N±0°.1×47°.1W±0°.1, h10km±1km, mb4.8/77, Error ellipse: s-maj=21.5km s-min=18.1km az=331.0*
IDC ***29*** *17:52:18.6±0.6, 18°.75N×47°.22W, h0km, mb4.1/21, mbtmp4.1/22, ML3.7/1, Error ellipse: s-maj=20.3km s-min=13.9km az=124.0*
ISC 29 17:52:20.2±0.5, 18°.68N±0°.08×47°.20W±0°.09, h10km, n335, σ1°38/296, mb4.7/74, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**14.50**	**202**	Pn	**Pn**	**17 55 46.0**	**+0.3**
	0.3nm,0.3s,baz=24,slow=14,SNR=5.2						
	4.4nm,0.7s						
SJG	**San Juan**	**17.99**	**271**		**Pn**	**17 56 27.4**	**-3.2**
BOAV	**Boa Vista**	**20.79**	**220**		P	17 56 52.8	-8.9
DR12	**Loma Pena Alta**	**21.00**	**274**	P	**P**	**17 57 04.2**	**+0.1**
RUSC	**La Rusia**	**28.25**	**247**		**P**	**17 58 12.4**	**-1.9**
RUSC				IAmb	IAmb	17 58 17.0	
	comp=Z,9.1nm,0.7s						
BDFB	**Brasilia**	**34.11**	**181**	P	**P**	**17 59 04.6**	**-0.9**
	comp=Z,6.6nm,1.0s,baz=7.4,slow=14,SNR=4.8						
	comp=Z,6.6nm,1.0s						
PLAL	**Pickwick Lake**	**39.62**	**303**	P	**P**	**17 59 51.3**	**-0.9**
LPAZ	**La Paz**	**40.39**	**212**	P	**P**	**18 00 00.7**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=22,slow=6.0,SNR=6.0						
	comp=Z,2.0nm,0.8s						
H10N3	**ASCENSION HYDR**	**41.65**	**126**	T	T	18 44 01.6	
	baz=310,slow=75,SNR=119						
H10N2	**ASCENSION HYDR**	**41.65**	**126**	T	T	18 44 11.7	
	baz=310,slow=75,SNR=153						
H10N1	**ASCENSION HYDR**	**41.67**	**126**	T	T	18 44 11.9	
	baz=310,slow=75,SNR=162						
FVM	**French Village**	**42.19**	**306**		**P**	**18 00 13.8**	**+0.5**
FVM				IAmb	IAmb	18 00 15.5	
	comp=Z,12nm,0.7s						
H10S3	**ASCENSION HYDR**	**42.24**	**128**	T	T	18 44 57.9	
	baz=309,slow=74,SNR=124						
H10S2	**ASCENSION HYDR**	**42.26**	**128**	T	T	18 44 59.3	
	baz=271,slow=74,SNR=90						
ESDC	**Sonseca Array**	**42.66**	**51**	P	**P**	**18 00 17.3**	**+0.1**
	comp=Z,0.9nm,1.0s,baz=270,slow=9.0,SNR=4.2						
	comp=Z,0.9nm,1.0s						
CPUP	**Villa Florida**	**45.81**	**193**	P	**P**	**18 00 42.1**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=236,slow=8.3,SNR=12						
	comp=Z,1.9nm,0.8s						
WMOK	**Wichita Mounta**	**48.26**	**300**		**P**	**18 01 00.6**	**-1.1**
APMT	**Aspermont**	**49.26**	**298**		**P**	**18 01 09.8**	**+0.4**
ULM	**Lac du Bonnet**	**49.76**	**321**	P	**P**	**18 01 11.8**	**-1.0**
	comp=Z,5.4nm,0.8s,baz=66,slow=6.4,SNR=3.5						
	comp=Z,5.4nm,0.8s						
TXAR	**Lajitas Array**	**52.23**	**293**	P	**P**	**18 01 30.3**	**-1.7**
	comp=Z,9.9nm,0.9s,baz=104,slow=10,SNR=5.3						
	comp=Z,0.8nm,0.9s						
KEST	**Kesra**	**52.39**	**59**	P	**P**	**18 01 32.0**	**-1.0**
	comp=Z,2.4nm,0.7s,baz=247,slow=4.9,SNR=4.0						
	comp=Z,2.4nm,0.7s						
ZON	**Zonda**	**54.02**	**203**		P	18 01 38.4	-6.5
ISCO	**Idaho Springs**	**54.16**	**306**	P	**P**	**18 01 46.2**	**-0.1**
CO03	**El Pedregal**	**54.16**	**205**		P	18 01 39.1	-6.9
CO03				IAmb	IAmb	18 01 45.4	
	comp=Z,11nm,0.7s						
DAVA	**Damuels**	**54.28**	**45**	*e*P	**P**	**18 01 44.0**	**-2.8**
	comp=Z,13nm,1.5s						
FETA	**Feichten**	**54.79**	**45**	*i* P	**P**	**18 01 51.0**	**+0.5**
	comp=Z,6.5nm,1.0s						
RETA	**Reutte**	**54.90**	**45**	*e*P	**P**	**18 01 50.7**	**-0.6**
	comp=Z,6.7nm,1.5s						
MOTA	**Moosalm**	**55.10**	**45**	*i* P	**P**	**18 01 52.7**	**-0.1**
	comp=Z,9.6nm,1.2s						
SQTA	**Sant Quirin**	**55.15**	**45**	*i* P	**P**	**18 01 53.2**	**+0.1**
	comp=Z,8.1nm,0.9s						
WTTA	**Wattenberg**	**55.45**	**45**	*i* P	**P**	**18 01 55.8**	**+0.5**
	comp=Z,6.5nm,1.1s						
ABTA	**Abfaltersbach**	**55.95**	**46**	*e*P	**P**	**18 01 59.3**	**+0.5**
	comp=Z,4.1nm,1.3s						
LESA	**Schwarzleotal**	**56.17**	**45**	*e*P	**P**	**18 02 00.6**	**+0.2**
	comp=Z,5.2nm,1.3s						
MYKA	**Terra Mystica**	**56.71**	**46**	*e*P	**P**	**18 02 04.4**	**+0.2**
	comp=Z,1.5nm,0.5s						
BIOA	**Bad Ischl, Aus**	**56.86**	**45**	*e*P	**P**	**18 02 04.8**	**-0.4**
	comp=Z,4.0nm,1.1s						
BO04	**La Punta**	**56.93**	**203**	P	P	18 01 57.6	-8.1
GERES	**GERESS Array B**	**57.08**	**43**	P	**P**	**18 02 05.7**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=286,slow=6.7,SNR=8.0						
	comp=Z,1.1nm,0.8s						
MOA	**Molln**	**57.30**	**45**	*e*P	**P**	**18 02 07.8**	**-0.5**
	comp=Z,5.4nm,1.2s						
OBKA	**Obir**	**57.31**	**46**	*e*P	**P**	**18 02 08.3**	**-0.2**
	comp=Z,3.6nm,1.0s						
PD31	**Pinedale Array**	**57.37**	**309**	P	**P**	**18 02 07.9**	**-1.2**
PDAR	**Pinedale Array**	**57.37**	**309**	P	**P**	**18 02 08.6**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=108,slow=9.3,SNR=18						
	comp=Z,1.6nm,0.5s						
BW06	**Boulder Array**	**57.37**	**309**	P	**P**	**18 02 08.6**	**-0.5**
RLMT	**Red Lodge**	**57.37**	**312**		**P**	**18 02 10.2**	**+1.2**
YMP	**Mirror Lake PI**	**57.96**	**312**	IAmb	IAmb	18 02 14.9	
	comp=Z,11nm,1.1s						
ARSA	**Arzberg**	**58.06**	**46**	*i* P	**P**	**18 02 13.0**	**-0.7**
	comp=Z,2.4nm,0.8s						
CONA	**Conrad Observa**	**58.37**	**45**	*e*P	**P**	**18 02 15.4**	**-0.5**
	comp=Z,5.8nm,1.8s						
TPAW	**Teton Pass**	**58.43**	**310**	IAmb	IAmb	18 02 17.9	
	comp=Z,14nm,1.4s						
NOA	**NORSAR Array B**	**58.69**	**29**	P	**P**	**18 02 17.8**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=248,slow=7.2,SNR=2.8						
	comp=Z,0.7nm,0.7s						
YHL	**Hebgen Lake**	**58.70**	**312**	IAmb	IAmb	18 02 20.8	
	comp=Z,7.3nm,1.0s						
YHB	**Horse Butte**	**58.70**	**311**	IAmb	IAmb	18 02 21.0	
	comp=Z,10.0nm,1.1s						
HFS	**Hagfors**	**59.58**	**30**	P	**P**	**18 02 23.7**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=186,slow=4.0,SNR=3.7						
	comp=Z,1.5nm,0.7s						
CCUT	**Cedar City**	**60.15**	**303**	P	**P**	**18 02 28.7**	**+0.1**
SPR3	**Spring Creek 3**	**60.88**	**305**		**P**	**18 02 33.8**	**+0.1**
SPR3				IAmb	IAmb	18 02 36.0	
	comp=Z,5.9nm,1.0s						
HLID	**Hailey**	**60.95**	**310**		**P**	**18 02 34.0**	**+0.1**
ELK	**Elko**	**61.55**	**307**		**P**	**18 02 37.4**	**-0.7**
ELK				IAmb	IAmb	18 02 39.6	
	comp=Z,4.7nm,0.8s						
MFID	**Camas Ranch**	**61.98**	**310**	IAmb	IAmb	18 02 42.3	
	comp=Z,7.3nm,1.1s						
PLCA	**Paso Flores**	**62.97**	**200**	P	**P**	**18 02 49.2**	**+2.1**
	comp=Z,4.6nm,1.0s,baz=309,slow=7.5,SNR=2.9						
	comp=Z,4.6nm,1.0s						
E09A	**Wood Farm, Sta**	**63.64**	**313**	IAmb	IAmb	18 02 52.6	
	comp=Z,9.0nm,1.1s						
DSP	**Deep Springs**	**63.82**	**303**		**P**	**18 02 53.9**	**+0.9**
DSP				IAmb	IAmb	18 02 55.7	
	comp=Z,6.1nm,1.1s						
NVAR	**Mina Array Bea**	**64.01**	**304**	P	**P**	**18 02 54.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=78,slow=8.4,SNR=3.6						
	comp=Z,0.4nm,0.6s						
FINES	**FINESS Array B**	**65.78**	**30**	P	**P**	**18 03 05.0**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=273,slow=8.3,SNR=3.5						
	comp=Z,1.9nm,0.8s						
LLLB	**Lillooet**	**66.11**	**318**	IAmb	IAmb	18 03 08.7	
	comp=Z,8.5nm,1.0s						
ARCES	**ARCESS Array B**	**66.60**	**21**	P	**P**	**18 03 10.3**	**-0.2**
	comp=Z,6.4nm,0.9s,baz=292,slow=3.8,SNR=6.2						
	comp=Z,6.4nm,0.9s						
AKASG	**Malin Array Be**	**67.22**	**42**	P	**P**	**18 03 14.0**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=280,slow=4.5,SNR=3.0						
	comp=Z,0.5nm,0.5s						
WRGLY	**Wrigley**	**67.31**	**332**	P	**P**	**18 03 15.3**	**+0.3**
	baz=94						
KOTAN	**Kotaneelee Air**	**67.45**	**328**	P	**P**	**18 03 16.8**	**+0.8**
	baz=92						
TOAD	**Toad River Com**	**68.03**	**327**	P	**P**	**18 03 20.5**	**+0.8**
	baz=90						
C36M	**Paulatuk**	**68.03**	**338**	P	**P**	**18 03 18.7**	**-0.8**
	baz=96						
TGTN	**Hyland Airport**	**69.52**	**330**	P	**P**	**18 03 29.7**	**+0.7**
	baz=88						
WTLY	**Watson Lake, Y**	**69.82**	**328**	P	**P**	**18 03 31.9**	**+1.1**
	baz=88						
DLBC	**Dease Lake**	**70.55**	**326**	P	**P**	**18 03 36.9**	**+1.5**
	baz=86						
T35M	**Bob Quinn**	**70.78**	**325**	IAmb	IAmb	18 03 39.5	
	comp=Z,8.0nm,0.9s						
T35M	**Bob Quinn**	**70.78**	**325**	P	**P**	**18 03 38.0**	**+1.2**
	baz=85						
MMPY	**Sheldon Lake,**	**70.88**	**331**	P	**P**	**18 03 37.6**	**+0.3**
	baz=86						
R33M	**Jennings River**	**70.96**	**327**	IAmb	IAmb	18 03 40.0	
	comp=Z,9.0nm,1.1s						
R33M	**Jennings River**	**70.96**	**327**	P	**P**	**18 03 39.1**	**+1.1**
	baz=86,SNR=8.2						
S34M	**Telegraph Cree**	**71.17**	**326**	P	**P**	**18 03 40.4**	**+1.3**
	baz=85						
BR131	**Keskin Array S**	**71.40**	**53**		**P**	**18 03 37.8**	**-3.2**
BRTR	**Keskin Array B**	**71.40**	**53**		**P**	**18 03 37.8**	**-3.2**
BRTR	**Keskin Array B**	**71.40**	**53**	P	**P**	**18 03 41.1**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=252,slow=5.1,SNR=11						
	comp=Z,1.7nm,0.8s						
INK	**Inuvik**	**71.45**	**337**	IAmb	IAmb	18 03 41.3	
	comp=Z,10.0nm,0.9s						
INK	**Inuvik**	**71.45**	**337**	P	**P**	**18 03 40.6**	**0.0**
	baz=86						
F31M	**Tsiigehtchic**	**71.59**	**336**	P	**P**	**18 03 41.3**	**-0.2**
	baz=86						
Q32M	**Nakina River**	**71.67**	**327**	P	**P**	**18 03 43.4**	**+1.0**
	baz=84						
V35K	**Ketchikan**	**71.70**	**323**	P	**P**	**18 03 44.0**	**+1.7**
	baz=84						
P33M	**Teslin, Yukon**	**71.82**	**328**	IAmb	IAmb	18 03 44.0	
	comp=Z,5.5nm,0.7s						
P33M	**Teslin, Yukon**	**71.82**	**328**	P	**P**	**18 03 43.5**	**+0.5**
	baz=84,SNR=5.7						
G31M	**Satah River**	**71.84**	**336**	P	**P**	**18 03 43.6**	**+0.7**
	baz=85						
H31M	**Peel River**	**71.97**	**334**	P	**P**	**18 03 44.5**	**+0.6**
	baz=85						
WRAK	**Wrangell Islan**	**71.98**	**324**	P	**P**	**18 03 45.4**	**+1.4**
	baz=84						
P32M	**Atlin**	**72.34**	**328**	P	**P**	**18 03 47.3**	**+1.2**
	baz=83						
F30M	**Barrier River**	**72.36**	**336**	P	**P**	**18 03 46.7**	**+0.6**
	baz=84						
M31M	**Drury Creek, Y**	**72.36**	**331**	P	**P**	**18 03 47.0**	**+0.8**
	baz=84						
U33K	**Whale Pass**	**72.45**	**324**	P	**P**	**18 03 48.0**	**+1.2**
	baz=83						
G30M	**tAoh Zraii Nji**	**72.60**	**336**	P	**P**	**18 03 48.2**	**+0.6**
	baz=83						
WHY	**Whitehorse**	**72.78**	**329**	P	**P**	**18 03 49.4**	**+0.6**
	baz=83						
EPYK	**Eagle Plains**	**72.87**	**335**	P	**P**	**18 03 49.5**	**+0.3**
	baz=83						
I30M	**Mount Dempster**	**72.88**	**334**	P	**P**	**18 03 49.9**	**+0.5**
	baz=83						
R32K	**Eaglecrest**	**72.92**	**326**	P	**P**	**18 03 50.9**	**+1.3**
	baz=82						
J30M	**Hart River**	**72.94**	**333**	IAmb	IAmb	18 03 51.1	
	comp=Z,7.5nm,1.1s						
J30M	**Hart River**	**72.94**	**333**	P	**P**	**18 03 50.3**	**+0.6**
	baz=83						
E29M	**Blow River**	**73.06**	**337**	P	**P**	**18 03 50.4**	**+0.2**
	baz=82						
N31M	**Braeburn, Yuko**	**73.11**	**330**	P	**P**	**18 03 51.7**	**+1.0**
	baz=82,SNR=12						
SKAG	**Skagway**	**73.17**	**328**	P	**P**	**18 03 52.0**	**+1.0**
	baz=82						
D28M	**Stokes Point**	**73.23**	**338**	P	**P**	**18 03 51.6**	**+0.4**
	baz=82						
G29M	**Pine Creek**	**73.31**	**336**	P	**P**	**18 03 52.1**	**+0.4**
	baz=82						
O30N	**Mendenhall**	**73.36**	**329**	P	**P**	**18 03 53.4**	**+1.2**
	baz=82,SNR=6.4						
M30M	**Minto, Yukon**	**73.42**	**331**	IAmb	IAmb	18 03 53.8	
	comp=Z,8.6nm,0.8s						
M30M	**Minto, Yukon**	**73.42**	**331**	P	**P**	**18 03 53.2**	**+0.7**
	baz=82,SNR=7.5						
SIT	**Sitka**	**73.53**	**325**	P	**P**	**18 03 54.2**	**+1.0**
	baz=81						
H29M	**Whitestone**	**73.55**	**335**	IAmb	IAmb	18 03 54.3	
	comp=Z,12nm,0.9s						
H29M	**Whitestone**	**73.55**	**335**	P	**P**	**18 03 53.1**	**0.0**
	baz=81,SNR=7.8						
K29M	**Barlow Dome**	**73.56**	**332**	IAmb	IAmb	18 03 54.6	
	comp=Z,9.6nm,1.2s						
K29M	**Barlow Dome**	**73.56**	**332**	P	**P**	**18 03 53.7**	**+0.3**
	baz=81						
E28M	**Babbage River**	**73.62**	**338**	IAmb	IAmb	18 03 53.7	
	comp=Z,20nm,1.8s						
E28M	**Babbage River**	**73.62**	**338**	P	**P**	**18 03 53.6**	**0.0**
	baz=81,SNR=5.0						
I29M	**Ogilvie Camp,**	**73.66**	**334**	P	**P**	**18 03 54.0**	**+0.1**
	baz=81						
PLBC	**Pleasant Camp**	**73.69**	**328**	P	**P**	**18 03 55.3**	**+1.2**
	baz=81						
N30M	**Aishikik Lake**	**73.73**	**330**	IAmb	IAmb	18 03 56.0	
	comp=Z,8.5nm,0.9s						
N30M	**Aishikik Lake**	**73.73**	**330**	P	**P**	**18 03 55.5**	**+1.0**
	baz=81,SNR=5.6						
S31K	**Pelican**	**73.86**	**326**	P	**P**	**18 03 56.9**	**+1.8**
	baz=81						
P30M	**Million Dollar**	**73.88**	**329**	P	**P**	**18 03 56.1**	**+0.8**
	baz=81						
F28M	**Old Crow**	**73.91**	**337**	P	**P**	**18 03 55.2**	**0.0**
	baz=80						
L29M	**L29M**	**73.94**	**332**	P	**P**	**18 03 56.1**	**+0.5**
	baz=81,SNR=11						
D27M	**Malcolm River**	**74.02**	**338**	IAmb	IAmb	18 03 58.5	
	comp=Z,12nm,1.4s						
D27M	**Malcolm River**	**74.02**	**338**	P	**P**	**18 03 57.0**	**+1.1**
	baz=80,SNR=6.0						
HYT	**Haines Junctio**	**74.03**	**329**		**P**	**18 03 56.7**	**+0.4**
HYT				IAmb	IAmb	18 03 58.2	
	comp=Z,9.0nm,1.0s						
HYT	**Haines Junctio**	**74.03**	**329**	P	**P**	**18 03 57.8**	**+1.5**
	baz=80,SNR=7.1						
M29M	**Somme Creek**	**74.21**	**331**	P	**P**	**18 03 57.3**	**0.0**
M29M				IAmb	IAmb	18 03 58.6	
	comp=Z,7.1nm,0.8s						
M29M	**Somme Creek**	**74.21**	**331**	P	**P**	**18 03 58.0**	**+0.7**
	baz=80,SNR=9.1						
I28M	**Miner Creek**	**74.32**	**334**	P	**P**	**18 03 58.1**	**+0.3**
	baz=80						
DAWY	**Dawson**	**74.34**	**333**	P	**P**	**18 03 58.3**	**+0.5**
	baz=80						
P29M	**Windy Craggy**	**74.35**	**328**	P	**P**	**18 03 59.5**	**+1.4**
	baz=80,SNR=5.6						
YUK6	**Outpost Mounta**	**74.43**	**330**	P	**P**	**18 03 59.5**	**+0.8**
	baz=80,SNR=5.5						
E27K	**Co

C26K	Camden Bay baz=76	75.24 339	P	P	18 04 04.4	+1.5
O28M	Mount Upton baz=78,SNR=9.2	75.34 330	P	P	18 04 05.4	+1.4
F26K	Sheenjek River comp=Z,7.1nm,1.1s	75.49 337	IAmb	IAmb	18 04 06.5	
F26K	Sheenjek River baz=76,SNR=5.7	75.49 337	P	P	18 04 05.6	+1.1
K27K	Chicken baz=77	75.50 333	P	P	18 04 05.5	+1.0
PINM	Pinnacle baz=78	75.51 329	P	P	18 04 06.0	+1.2
G26K	Porcupine Rive comp=Z,9.0nm,0.8s	75.53 336	IAmb	IAmb	18 04 06.1	
G26K	Porcupine Rive baz=77,SNR=9.9	75.53 336	P	P	18 04 05.5	+0.9
L27K	Beaver Creek, baz=77	75.61 332	P	P	18 04 05.8	+0.6
I26K	Coal Creek Min baz=77	75.67 334	P	P	18 04 05.7	+0.3
M27K	Edge Creek, AK baz=77	75.78 331	P	P	18 04 07.0	+0.6
CTG	Chitna Glacier baz=77	75.85 330	P	P	18 04 08.1	+1.3
D25K	Kavik River baz=75	75.88 339	P	P	18 04 07.8	+1.1
E25K	Arctic Village comp=Z,11nm,1.3s	75.91 338	IAmb	IAmb	18 04 09.0	
E25K	Arctic Village baz=75	75.91 338	P	P	18 04 08.0	+1.2
J26L	Joseph Creek baz=76	76.02 334	P	P	18 04 08.1	+0.4
F25K	Christian Rive baz=75,SNR=7.5	76.07 337	P	P	18 04 09.1	+1.2
M26K	Nabesna, AK baz=76	76.28 332	P	P	18 04 10.0	+0.9
MESA	MESA baz=77	76.32 329	P	P	18 04 10.0	+0.4
SCRK	Sand Creek baz=76	76.33 333	P	P	18 04 10.5	+1.0
G25K	Bearman Lake baz=74	76.47 336	P	P	18 04 11.5	+1.6
H25L	Birch Creek baz=75,SNR=5.6	76.49 336	P	P	18 04 11.6	+1.5
MCARA	McCarthy VSAT baz=76	76.54 330	P	P	18 04 11.5	+0.9
C24K	Franklin Bluff baz=73	76.56 339	P	P	18 04 11.5	+1.1
PRP	Porcupine Dome baz=75	76.57 335	P	P	18 04 11.9	+1.1
CRQE	Cirque baz=76	76.73 330	P	P	18 04 12.7	+1.0
J25K	Salcha River, baz=75	76.75 334	P	P	18 04 12.1	+0.4
RIDG	Independent Ri baz=75	76.76 333	P	P	18 04 12.6	+0.8
D24K	Happy Valley baz=72	76.77 339	P	P	18 04 12.4	+0.7
F24K	Squaw Lake comp=Z,7.3nm,0.8s	76.92 337	IAmb	IAmb	18 04 14.9	
F24K	Squaw Lake baz=73,SNR=6.2	76.92 337	P	P	18 04 14.3	+1.7
E24K	Your Creek comp=Z,12nm,1.0s	76.97 338	IAmb	IAmb	18 04 15.4	
E24K	Your Creek baz=73,SNR=10	76.97 338	P	P	18 04 14.5	+1.6
G24K	Hadweenzic Riv baz=73,SNR=5.6	77.01 336	P	P	18 04 14.3	+1.3
K24K	Donnelly Dome baz=74	77.14 333	P	P	18 04 14.3	+0.4
C23K	Itkillik River baz=71	77.15 340	P	P	18 04 15.0	+1.3
TOLK	Toolik Lake Re baz=72	77.18 338	P	P	18 04 15.0	+0.9
N25K	Chitina, Valde baz=75	77.22 331	P	P	18 04 15.4	+1.0
PAX	Paxson baz=74	77.24 332	P	P	18 04 15.3	+0.8
HARP	HAARP baz=74	77.26 332	P	P	18 04 15.8	+1.2
ILAR	Eielson Array baz=74	77.33 334	P	P	18 04 14.7	-0.3
ILAR	Eielson Array comp=Z,7.6nm,0.8s,baz=75,slow=4.7,SNR=52 comp=Z,7.6nm,0.8s	77.33 334	P	P	18 04 14.9	0.0
E23K	Chandalar baz=72	77.38 338	P	P	18 04 16.7	+1.5
BMRM	Bremner River baz=74	77.39 330	P	P	18 04 16.2	+0.9
KBZ	Khabaz comp=Z,1.6nm,0.9s,baz=349,slow=3.6,SNR=5.0 comp=Z,1.6nm,0.9s	77.41 48	P	P	18 04 16.7	+1.0
H24K	Noodor Dome baz=73	77.42 336	P	P	18 04 16.6	+1.1
POKR	Poker Plat Res baz=73	77.45 335	P	P	18 04 16.3	+0.7
D23K	Nanushuk River baz=71	77.46 339	P	P	18 04 16.8	+1.3
HDA	Harding Lake baz=73	77.46 334	P	P	18 04 16.5	+0.8
COLA	College baz=72	77.70 335	P	P	18 04 18.4	+1.5
CCB	Clear Creek Bu comp=Z,13nm,1.1s	77.75 334	IAmb	IAmb	18 04 18.2	
KLU	Klutina baz=74	77.86 331	P	P	18 04 20.1	+2.1
COLD	Coldfoot comp=Z,9.5nm,1.0s	77.86 337	IAmb	IAmb	18 04 19.9	
COLD	Coldfoot baz=71,SNR=6.2	77.86 337	P	P	18 04 19.2	+1.4
B22K	Teshekpuk Lake baz=69	77.88 341	P	P	18 04 18.3	+0.5
WRH	Wood River Hil comp=Z,11nm,1.0s	77.92 334	IAmb	IAmb	18 04 19.3	
G23K	Bananza Creek baz=71,SNR=8.2	77.97 337	P	P	18 04 19.7	+1.2
DHY	Denali Highway baz=73	78.04 333	P	P	18 04 20.3	+1.2
EYAK	Cordova Ski Ar baz=74	78.05 330	P	P	18 04 19.6	+0.6
H23K	Yukon River baz=71	78.07 336	P	P	18 04 20.1	+1.0
A22K	Sinclair Lake baz=67	78.11 341	P	P	18 04 20.2	+1.1
E22K	Anaktuvuk Pass comp=Z,13nm,1.2s	78.14 338	IAmb	IAmb	18 04 21.0	
E22K	Anaktuvuk Pass baz=70,SNR=5.9	78.14 338	P	P	18 04 20.1	+0.7
D22K	Ayikyak River baz=69	78.17 339	P	P	18 04 20.9	+1.3
I23K	Minto, Yukon-K comp=Z,10nm,0.8s	78.22 335	IAmb	IAmb	18 04 21.3	
I23K	Minto, Yukon-K baz=71,SNR=7.6	78.22 335	P	P	18 04 21.2	+1.4
NEA2	Nenana comp=Z,8.1nm,0.8s	78.28 334	IAmb	IAmb	18 04 21.2	
NEA2	Nenana baz=71,SNR=7.3	78.28 334	P	P	18 04 20.5	+0.3
SCM	Sheep Creek Mo baz=72	78.40 332	P	P	18 04 21.7	+0.8
G22K	Bettles baz=70	78.45 337	P	P	18 04 21.8	+0.7
A21K	Barrow baz=66	78.47 342	P	P	18 04 21.6	+0.6
F22K	John River baz=69	78.49 338	P	P	18 04 22.0	+0.7
MCK	McKinley baz=71	78.50 334	P	P	18 04 21.5	0.0
B21K	Ikpikpuk River baz=67	78.53 340	P	P	18 04 22.1	+0.6
GLI	Glacier Island baz=72	78.58 331	P	P	18 04 22.9	+0.9
M23K	Glacier View baz=72	78.59 332	P	P	18 04 22.6	+0.6
WAT1	Susitna Watana baz=72	78.63 333	P	P	18 04 23.1	+0.9
H22K	Ishtalitna Cre baz=70,SNR=6.4	78.76 336	P	P	18 04 24.5	+1.7
C21K	Knifeblade Rid baz=67	78.77 340	P	P	18 04 24.0	+1.2
E21K	Killik River baz=68	78.77 339	P	P	18 04 24.0	+1.1
MLY	Manley baz=70,SNR=6.4	78.81 335	P	P	18 04 23.8	+0.7
SML	Sawmill baz=72	78.86 332	P	P	18 04 25.0	+1.5
P23K	Montague Islan baz=72	79.00 330	P	P	18 04 26.4	+2.2
KNK	Knik Glacier baz=71	79.04 331	P	P	18 04 26.7	+2.3
F21K	Alatna River baz=68	79.06 338	P	P	18 04 25.3	+0.9
PWL	Port Wells baz=71	79.16 331	P	P	18 04 26.8	+1.7
TRF	Thorofare Moun comp=Z,9.6nm,0.8s	79.17 334	IAmb	IAmb	18 04 26.7	
TRF	Thorofare Moun baz=70	79.17 334	P	P	18 04 26.4	+1.1
B20K	Meade River baz=65	79.19 341	P	P	18 04 26.3	+1.3
BPAW	Bear Paw Mtn. baz=70,SNR=5.8	79.23 334	P	P	18 04 25.8	+0.3
PMR	Palmer baz=71	79.29 332	P	P	18 04 27.1	+1.3
G21K	Allakaket baz=68,SNR=8.5	79.34 337	P	P	18 04 27.5	+1.5
H21K	Melozitna Rive baz=68	79.40 336	P	P	18 04 27.7	+1.4
D20K	Etivluk River baz=65	79.55 340	P	P	18 04 28.5	+1.4
E20K	Nigu River baz=66	79.60 339	P	P	18 04 29.1	+1.7
IMAR	Indian Mountai	79.63 336	P	P	18 04 27.2	-0.3
M22K	Willow baz=70	79.68 332	P	P	18 04 29.5	+1.6
RC01	Rabbit Creek A baz=70	79.73 331	P	P	18 04 30.0	+1.8
CHUM	Lake Minchumin baz=68	79.86 334	P	P	18 04 29.8	+1.0
SEW	Seward baz=70	79.94 330	P	P	18 04 31.6	+2.3
F20K	Avaraart Lake baz=66	79.94 338	P	P	18 04 30.4	+1.3
SUA	Susitna One baz=69	80.06 332	P	P	18 04 31.6	+1.5
D19K	Kuna River baz=64	80.15 340	P	P	18 04 31.5	+1.1
PPLA	Purkeypile baz=68	80.17 333	P	P	18 04 32.0	+1.2
H20K	Anotleneega Mo baz=66	80.26 336	P	P	18 04 31.9	+0.9
E19K	Redstone River baz=65	80.30 338	P	P	18 04 32.1	+0.9
C19K	Lookout Ridge baz=63	80.35 340	P	P	18 04 32.6	+1.1
I20K	Naaghedeneel baz=67	80.38 335	P	P	18 04 33.0	+1.4
J20K	Nowinta River baz=67	80.49 335	P	P	18 04 33.4	+1.2
F19K	Shaleruckik Mo baz=64	80.76 338	P	P	18 04 34.5	+0.9
K20K	Telida baz=67	80.78 334	P	P	18 04 34.3	+0.4
SPCR	Spurr Chakacha baz=68	80.81 332	P	P	18 04 34.9	+0.8
H19K	Roundabout Mou baz=65	80.84 337	P	P	18 04 34.7	+0.6
B18K	Kokolik River baz=61	80.92 341	P	P	18 04 35.6	+1.1
M20K	Styx River baz=67	80.96 333	P	P	18 04 36.3	+1.3
L20K	Farewell, AK baz=67	81.05 333	P	P	18 04 36.6	+1.2
C18K	Utuk River baz=61	81.08 340	P	P	18 04 36.3	+0.9
J19K	Poorman baz=66	81.16 335	P	P	18 04 36.5	+0.7
GCSA	Galena City Sc baz=65	81.34 336	P	P	18 04 38.0	+1.3
O20K	Slope Mountain baz=68	81.43 331	P	P	18 04 38.5	+1.1
E18K	Tukpahlearik C baz=62	81.47 339	P	P	18 04 38.6	+1.2
G18K	Tagagawik baz=63	81.50 337	P	P	18 04 38.5	+0.8
M19K	Big River Lodg baz=66	81.50 333	P	P	18 04 38.7	+1.0
F18K	Selawik baz=62	81.53 338	P	P	18 04 38.7	+1.0
L19K	White Mountain baz=66	81.59 333	P	P	18 04 39.1	+0.9
H18K	Honhosa River baz=63	81.72 337	P	P	18 04 39.9	+1.1
C17K	DeLong Mountai baz=59	81.80 340	P	P	18 04 40.5	+1.3
J18K	Innoko River baz=64	81.83 335	P	P	18 04 40.1	+0.7
P19K	Oil Pt baz=67	81.88 330	P	P	18 04 41.4	+1.7
Q20K	Shuyak Island baz=68	81.88 329	P	P	18 04 41.9	+2.2
RDOG	Red Dog Mine baz=60	81.93 340	P	P	18 04 41.1	+1.2
N19K	Bonanza Creek baz=66	81.98 332	P	P	18 04 41.6	+1.3
O19K	Port Alsworth baz=66	82.16 331	P	P	18 04 42.9	+1.7
D17K	Noatak River baz=59	82.17 340	P	P	18 04 41.6	+0.5
F17K	Baldwin Pennin baz=61	82.17 338	P	P	18 04 42.6	+1.6
KDAK	Kodiak Island baz=67	82.29 329	P	P	18 04 43.7	+1.8
M18K	Stony River baz=65	82.30 333	P	P	18 04 43.2	+1.4
L18K	Granite Mounta baz=64	82.35 334	P	P	18 04 43.5	+1.3
Q19K	Cape Douglas, baz=67	82.36 330	P	P	18 04 44.2	+1.9
H17K	Granite Mounta baz=62	82.41 337	P	P	18 04 43.6	+1.2
G17K	Kiwalik Mounta baz=61	82.41 337	P	P	18 04 44.0	+1.6
C16K	Lisburne Hills baz=57	82.59 341	P	P	18 04 44.7	+1.5
N18K	Kilae Creek baz=65	82.67 332	P	P	18 04 45.5	+1.7
O18K	Koktuh Hills baz=65	82.71 331	P	P	18 04 44.9	+0.8
K17K	Iditarod baz=63	82.80 334	P	P	18 04 46.3	+1.8
J17K	VABM Dome baz=62	82.81 335	P	P	18 04 46.3	+1.8
OHAK	Old Harbor baz=67	82.86 328	P	P	18 04 47.2	+2.3
P18K	Big Mountain, baz=65	82.91 331	P	P	18 04 46.4	+1.2
M17K	Hotna River baz=64	83.03 333	P	P	18 04 47.4	+1.7
L17K	Donlin baz=63	83.07 334	P	P	18 04 47.8	+1.9
Q18K	Katmai Hardscr baz=65	83.12 330	P	P	18 04 48.6	+2.2
R18K	Karluk baz=66	83.30 329	P	P	18 04 49.0	+1.9
N17K	Nushagak Hills baz=64	83.31 332	P	P	18 04 48.8	+1.7
H16K	Elim baz=60	83.42 337	P	P	18 04 48.4	+0.7
J16K	Anvik River baz=61	83.47 335	P	P	18 04 50.0	+2.1
P17K	Kvichak River baz=64	83.56 331	P	P	18 04 51.0	+2.6
O17K	Koliganek Bris baz=64	83.60 331	P	P	18 04 50.8	+2.1
Q17K	Contact Creek baz=65	83.70 330	P	P	18 04 50.6	+1.3
F15K	North Star Dit baz=58	83.74 338	P	P	18 04 51.3	+2.1
L16K	Owhat River baz=62	83.76 334	P	P	18 04 51.4	+2.0
M16K	Timber Creek baz=62	83.86 333	P	P	18 04 51.8	+1.8
Q16K	King Salmon baz=64	83.89 330	P	P	18 04 52.1	+2.0
G15K	Niukluk baz=58	83.90 338	P	P	18 04 51.5	+1.4
N16K	Nishlik Lake baz=62	84.03 332	P	P	18 04 53.1	+2.2
O16K	Kokwok River B baz=63	84.14 331	P	P	18 04 54.3	+2.9
R17L	Mt. Peulik Vol baz=64	84.20 329	P	P	18 04 54.7	+2.9
K15K	Wolf Creek Mou baz=60	84.32 335	P	P	18 04 54.6	+2.2
P16K	Nushagak River baz=63	84.35 331	P	P	18 04 55.1	+2.6
F14K	Arctic Creek baz=56	84.45 339	P	P	18 04 55.0	+2.1
L15K	Ungalak Mounta baz=60	84.61 334	P	P	18 04 55.8	+2.1
ANM	Nome baz=57	84.61 338	P	P	18 04 55.8	+2.1
N15K	Kwethluk River baz=61	84.76 332	P	P	18 04 57.0	+2.4
M15K	Kasigluk River baz=61	84.76 333	P	P	18 04 57.2	+2.6
R16K	Pilot Point baz=63	84.82 330	P	P	18 04 57.2	+2.3
TNA	Tin City baz=55	84.95 339	P	P	18 04 57.2	+1.8
L14K	Kuka Creek baz=59	85.28 334	P	P	18 04 59.7	+2.6
N14K	Kuskokwak Cree baz=60	85.58 333	P	P	18 05 01.3	+2.7
O14K	Tigyukauivet M baz=60	85.73 332	P	P	18 05 01.6	+2.2
K13K	Kusilvak Mount baz=58	85.77 335	P	P	18 05 01.9	+2.4
CHGN	Chignik baz=62	85.81 329	P	P	18 05 03.4	+3.6
M13K	Dall Lake baz=59	86.04 333	P	P	18 05 03.8	+3.0
S14K	Fog Glacier baz=62	86.38 329	P	P	18 05 05.6	+2.8
CHNA	Chernabura Isl baz=61	87.09 328	P	P	18 05 09.5	+3.3
M11K	Mekoryuk baz=56	87.25 334	P	P	18 05 09.1	+2.3
SDPT	Sand Point baz=61	87.28 328	P	P	18 05 09.1	+2.0
S12K	Black Hills baz=60	87.89 329	P	P	18 05 11.9	+1.9
FALS	False Pass baz=58	88.99 329	P	P	18 05 17.9	+2.6
BVAR	Borovoye Array comp=Z,0.5nm,0.6s,baz=23,slow=8.0,SNR=4.1 comp=Z,0.5nm,0.6s	90.66 32	P	P	18 05 23.2	0.0
SPIA	Saint Paul Isl baz=53	90.83 333	P	P	18 05 27.1	+3.3
P08K	Saint George I baz=53	90.88 332	P	P	18 05 27.1	+3.1
UNV	Unalaska Valle baz=56	91.06 329	P	P	18 05 28.1	+3.2
KURBB	Kurchatov Arra comp=Z,0.4nm,0.9s,baz=308,slow=4.6,SNR=3.3 comp=Z,0.4nm,0.9s	96.16 31	P	P	18 05 47.6	-0.9

IDC ***29*** *18:02:14.8±0.5,2.59N×126.89E,h0km,mb4.2/18, mbtmp4.2/19,ML3.3/1,Error ellipse: s-maj=30.0km s-min=10.7km az=72.0*

DJA ***29*** *18:02:19.0±0.3,3.7N±4.4×12.7E±.,h10km,M4.4/13,mb4.6/7, MLv4.3/13*

NEIC ***29*** *18:02:22.0±1.9,2.63N±0.09×127.06E±0.09,h53km±9km, mb4.5/22,Error ellipse: s-maj=15.7km s-min=9.5km az=50.0*

ISC 29 18:02:21.8±0.4,2.62N±0.06×127.06E±0.08,h53km,n64, σ1s55/72,mb4.4/33,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.85	305	P		Pn		18 02 50.0	-1.2
TNTI	Ternate	1.87	170			Pn		18 02 49.7	-1.7
TNTI	Ternate	1.87	170	P		Pn		18 02 50.3	-1.1
KMSI	Cibinong	3.69	237	P		Pn		18 03 18.2	+1.9
SWI	Sorong 0.1nm31nm,0.8s	5.45	129	P		Pn		18 03 40.5	0.0
MRSI	Marisa 0.3nm74nm,0.6s	5.54	247	P		Pn		18 03 43.5	+1.7
LUWI	Luwuk	5.62	230	Pn		Pn		18 03 41.3	-1.6
MSAI	Masohi 0.3nm37nm,1.1s	6.22	162	P		Pn		18 03 51.5	+0.4
APSI	Ampana	6.45	237	P		Pn		18 03 55.7	+1.5
TOLI2	Tolitoli	6.45	257			Pn		18 03 53.8	-0.5
PCI	Palu 41nm,1.1s	8.02	244	P		Pn		18 04 18.3	+2.4
MYLDM	Lahad Datu	8.90	287			Pn		18 04 31.4	+3.5
BAKI	Biak	9.81	113	P		Pn		18 04 40.2	-0.1
JAY	Jayapura 0.1nm,0.3s,baz=294,slow=20,SNR=1.2 2.1nm,0.8s	14.57	110	Pn		Pn		18 05 45.5	+0.4
SBUM	Sibu	14.82	270			P		18 05 51.5	-1.6
KNRA	Kununurra	18.26	175	P		P		18 06 30.6	-0.6
FITZ	Fitzroy Crossi	20.64	184	P		P		18 06 57.1	0.0
FITZ	Fitzroy Crossi 4.5nm,0.8s,baz=3.8,slow=11,SNR=9.8 4.5nm,0.8s	20.64	184	P		P		18 06 56.8	-0.3
TPUB	Ta-pu	21.48	344	P		P		18 07 02.7	-3.4
WB0	Warramunga Arr	23.39	162			P		18 07 24.9	-1.3
WB0	comp=Z,17nm,0.7s				IAmb	IAmb		18 07 28.2	
WRAB	Tennant Creek	23.53	163	P		P		18 07 26.3	-1.2
WRAB	comp=Z,25nm,0.8s				IAmb	IAmb		18 07 29.7	
WRA	Warramunga Arr	23.54	163			P		18 07 25.3	-2.2
WRA	Warramunga Arr comp=Z,22nm,0.8s,baz=341,slow=9.4,SNR=61	23.54	163	P		P		18 07 26.2	-1.3
WRA	comp=Z,0.3nm,0.6s,baz=345,slow=2.3,SNR=2.1				PcP	PcP		18 11 14.4	+2.5
WRA	comp=Z,1.0nm,0.9s,baz=340,slow=16,SNR=4.5 comp=Z,22nm,0.8s				S	S		18 11 36.8	-1.0
WR8	Warramunga Arr	23.60	162			P		18 07 26.8	-1.3
WR8	comp=Z,16nm,0.8s				IAmb	IAmb		18 07 30.3	
MBWA	Marble Bar	24.70	197	P		P		18 07 38.1	0.0
MBWA	comp=Z,12nm,0.9s				IAmb	IAmb		18 08 03.3	
PSA00	Pilbara Seismi	25.06	196			P		18 07 42.0	+0.5
PSA00	comp=Z,9.9nm,1.1s				IAmb	IAmb		18 07 44.1	
AS31	Alice Springs	26.97	166			P		18 07 57.7	-1.0
ASAR	Alice Springs	26.97	166			P		18 07 57.1	-1.6
ASAR	Alice Springs comp=Z,3.0nm,0.8s,baz=345,slow=8.9,SNR=34	26.97	166	P		P		18 07 57.8	-0.9
ASAR	comp=Z,0.7nm,0.8s,baz=348,slow=2.3,SNR=4.6				PcP	PcP		18 11 20.2	+0.6
ASAR	comp=Z,0.4nm,0.8s,baz=353,slow=20,SNR=2.7 comp=Z,3.0nm,0.8s				S	S		18 12 38.1	+5.6
NJ2	Nanjing	30.27	346	eP		P		18 08 29.3	+1.4
NJ2	comp=Z,5.0nm,0.5s				pmax	pmax			
JNU	Nakatsue	30.55	6	P		P		18 08 29.2	-1.2
	comp=Z,1.6nm,0.9s,baz=191,slow=17,SNR=1.9 comp=Z,1.6nm,0.9s								
CMAR	Chiang Mai Arr	31.72	302	P		P		18 08 40.2	-0.7
CMAR	Chiang Mai Arr comp=Z,2.2nm,1.0s,baz=115,slow=8.2,SNR=11 comp=Z,2.2nm,1.0s	31.72	302	P		P		18 08 39.5	-1.4
CHTO	Chiang Mai	31.88	302			P		18 08 41.5	-0.8
CHTO	comp=Z,7.6nm,1.2s				IAmb	IAmb		18 08 43.7	
INKA	Innaminka	32.94	157	P		P		18 08 51.7	+0.3
FORT	Forrest	33.23	178	P		P		18 08 53.7	-0.2
FORT	comp=Z,10nm,1.1s				IAmb	IAmb		18 09 11.8	
KSRS	Korea Array comp=Z,0.6nm,0.5s,baz=179,slow=8.7,SNR=5.5 comp=Z,0.6nm,0.5s	34.67	1	P		P		18 09 07.1	+0.7
MJAR	Matsushiro Arr comp=Z,1.4nm,0.9s,baz=200,slow=12,SNR=5.7 comp=Z,1.4nm,0.9s	35.29	16	P		P		18 09 12.3	+0.6
BBOO	Buckleboo	36.26	167	P		P		18 09 17.3	-2.7
NWAO	Narrogin (SRO)	36.56	194	P		P		18 09 21.6	-1.0
STKA	Stephens Creek	36.99	159			P		18 09 26.0	-0.3
STKA	Stephens Creek comp=Z,13nm,0.8s,baz=333,slow=9.4,SNR=20	36.99	159	P		P		18 09 25.8	-0.5
STKA	comp=Z,2.6nm,0.7s,baz=14,slow=4.2,SNR=3.5 comp=Z,13nm,0.8s				PcP	PcP		18 11 47.8	+1.2
BJI	Beijing	38.53	347	P		P		18 09 40.0	+0.8
BJI					sP	sP		18 10 00.5	+2.2
BJI	comp=Z,3.0nm,1.1s				pmax	pmax			
HHC	Hu-ho-hao-te	40.54	342	eP		P		18 09 56.0	-0.1
HHC	comp=Z,17nm,0.6s				pmax	pmax			
HHC	comp=Z,2μm,6.5s				pmax	pmax			
USRK	Ussuriysk Ar. comp=Z,2.1nm,0.8s,baz=165,slow=8.2,SNR=2.5 comp=Z,2.1nm,0.8s	41.63	5	P		P		18 10 04.7	-0.2

GTA	**Gaotai**	**44.21**	**329**	*e*P		**P**	**18 10 29.5**	**+3.5**
GTA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
EVN	**Everest**	**45.91**	**307**			**P**	**18 10 37.9**	**-2.4**
EVN				IAmb		IAmb	18 10 43.3		
	comp=Z,7.4nm,0.8s								
SONM	**Songino Array**	**48.44**	**341**	P		**P**	**18 11 00.1**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=159,slow=10,SNR=4.4								
SONM				PcP		**PcP**	**18 12 25.8**	**+1.2**	
	comp=Z,0.8nm,0.8s,baz=131,slow=4.0,SNR=2.2								
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**58.64**	**325**	P		**P**	**18 12 13.3**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=124,slow=6.4,SNR=19								
MKAR				PcP		**PcP**	**18 13 03.2**	**-0.1**	
	comp=Z,1.0nm,0.7s,baz=123,slow=5.3,SNR=2.0								
	comp=Z,2.5nm,0.7s								
MAKZ	**Makanchi**	**58.83**	**325**	P		**P**	**18 12 14.3**	**-0.7**
MAKZ				IAmb		IAmb	18 12 17.7		
	comp=Z,4.0nm,0.9s								
ZALV	**Zalesovo Beam**	**61.72**	**333**	P		**P**	**18 12 34.6**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=116,slow=6.6,SNR=5.3								
	comp=Z,0.8nm,0.4s								
KURBB	**Kurchatov Arra**	**62.84**	**328**	P		**P**	**18 12 41.9**	**-0.2**
	comp=Z,4.2nm,0.7s,baz=129,slow=6.2,SNR=47								
	comp=Z,4.2nm,0.7s								
KURK	**Kurchatov**	**62.84**	**328**			**P**	**18 12 42.0**	**-0.1**
KURK				IAmb		IAmb	18 12 45.3		
	comp=Z,6.4nm,0.8s								
KKAR	**Karatay Array**	**64.26**	**317**			**P**	**18 12 51.2**	**-0.4**
BVAR	**Borovoye Array**	**68.42**	**327**	P		**P**	**18 13 17.8**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=124,slow=9.0,SNR=10.0								
	comp=Z,3.2nm,0.9s								
AB31	**Akbulak array**	**73.21**	**321**			**P**	**18 13 47.1**	**-0.1**
AB31				IAmb		IAmb	18 13 50.3		
	comp=Z,2.2nm,0.8s								
ABKAR	**Akbulak array**	**73.21**	**321**	P		**P**	**18 13 46.6**	**-0.6**
KBZ	**Khabaz**	**83.97**	**314**	P		**P**	**18 14 47.2**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=104,slow=8.3,SNR=6.3								
	comp=Z,2.2nm,0.9s								
GURO	**Guroymak-BITLI**	**84.48**	**308**	P		**P**	**18 14 46.0**	**-3.5**
MMAI	**Mount Meron Ar**	**89.97**	**303**	P		**P**	**18 15 15.3**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=95,slow=4.7,SNR=2.3								
	comp=Z,0.3nm,0.5s								
BRTR	**Keskin Array B**	**90.97**	**310**	P		**P**	**18 15 20.6**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=85,slow=4.9,SNR=4.5								
	comp=Z,0.6nm,0.7s								
ARCES	**ARCESS Array B**	**91.59**	**340**	P		**P**	**18 15 21.9**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=61,slow=6.0,SNR=1.5								
	comp=Z,1.4nm,0.7s								
QSPA	**South Pole Qui**	**92.54**	**180**	P		**P**	**18 15 28.0**	**+0.8**
QSPA				IAmb		IAmb	18 15 38.6		
	comp=Z,5.0nm,1.4s								
TORD	**Torodi Ar. Bea**	**123.57**	**288**	PKP		**PKiKP**	**18 21 15.0**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=81,slow=2.2,SNR=1.2								

*IDC **29** 18:28:33.3±0.5, 35°.41S×72°.62W, h0km, mb4.4/16, mbtmp4.4/18, ML3.9/2, Error ellipse: s-maj=19.4km s-min=11.7km az=92.0*
*SJA **29** 18:28:36.6±0.9, 35°.58S×72°.81W, h14km±5km, ML4.5, MW4.2*
*NEIC **29** 18:28:36.4±2.6, 35°.43S±0°.05×73°.1W±0°.1, h17km±4km, mb4.7/21, Mwr4.5(GUC), Error ellipse: s-maj=12.5km s-min=6.6km az=100.0*
*GUC **29** 18:28:37.3±0.9, 35°.52S×72°.94W, h22km±4km, ML4.5*
*VAO **29** 18:28:37.2±0.6, 35°.28S×72°.68W, h10km, mb4.4*
ISC 29 18:28:36.0±0.9, 35°.48S±0°.03×72°.84W±0°.04, h18km±4km, n147, σ1$40/170, mb4.6/27, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GO05	**Hualane**	**0.88**	**58**	⇑*i*P		**Pn**	**18 28 54.1**	**+0.6**
GO05				*i* S		**Sn**	**18 29 07.0**	**+1.2**
GO05				IAML			18 29 08.9	
	comp=N,44μm,0.4s							
GO05	**Hualane**	**0.88**	**58**	*i* P		**Pn**	**18 28 54.7**	**+1.1**
GO05				*e*S		**Sn**	**18 29 07.2**	**+1.3**
GO05				IAML			18 29 08.7	
	comp=Z,29μm,1.2s							
BO03	**Pichilemu**	**1.22**	**37**	*e*P		**Pb**	**18 28 58.6**	**+0.1**
BO03				*i* S		**Sg**	**18 29 15.1**	**-0.3**
BO03				IAML			18 29 22.0	
	comp=N,18μm,0.4s							
BI05	**Punta Hualpn**	**1.30**	**193**	Pn		**Pn**	**18 28 58.3**	**-1.0**
BI05	**Punta Hualpn**	**1.30**	**193**	*e*P		**Pn**	**18 28 58.1**	**-1.2**
BI05				*i* S		**Sn**	**18 29 14.1**	**-2.1**
BI05				IAML			18 29 20.2	
	comp=E,7μm,0.5s							
BI05	**Punta Hualpn**	**1.30**	**193**	*i* P		**Pn**	**18 28 59.2**	**-0.1**
BI05				IAML			18 29 25.2	
	comp=Z,3μm,1.4s							
BI02	**San Fabin de**	**1.74**	**134**	Pn		**Pn**	**18 29 07.4**	**+2.0**
BI02	**San Fabin de**	**1.74**	**134**	*e*P		**Pn**	**18 29 06.9**	**+1.5**
BI02				*i* S		**Sn**	**18 29 28.8**	**+1.7**
BI02				IAML			18 29 31.4	
	comp=N,10μm,0.5s							
BI02	**San Fabin de**	**1.74**	**134**	*i* P		**Pb**	**18 29 07.8**	**+0.3**
BI02				*e*S		**Sb**	**18 29 29.8**	**+0.9**
BI02				IAML			18 29 37.9	
	comp=Z,3μm,0.5s							
BO01	**Tunca**	**1.80**	**54**	Pn		**Pb**	**18 29 09.1**	**+0.5**
BO01	**Tunca**	**1.80**	**54**	*e*P		**Pb**	**18 29 08.6**	**+0.1**
BO01				*i* S		**Sb**	**18 29 31.9**	**+1.1**
BO01				IAML			18 29 41.3	
	comp=N,4μm,0.4s							
BO01	**Tunca**	**1.80**	**54**	*i* P		**Pg**	**18 29 10.7**	**0.0**
BO01				*e*S		**Sg**	**18 29 34.8**	**+0.7**
BO01				IAML			18 29 40.0	
	comp=Z,3μm,0.4s							
BO02	**Sierra Bellavi**	**1.82**	**69**	Pn		**Pg**	**18 29 10.0**	**-1.0**
BO02	**Sierra Bellavi**	**1.82**	**69**	*e*P		**Pb**	**18 29 09.1**	**+0.3**
BO02				*i* S		**Sg**	**18 29 32.9**	**-1.8**
BO02				IAML			18 29 37.7	
	comp=N,14μm,0.3s							
MT01	**Popeta**	**2.07**	**40**	Pn		**Pn**	**18 29 11.3**	**+1.4**
MT01	**Popeta**	**2.07**	**40**	*e*P		**Pb**	**18 29 13.1**	**-0.1**
MT01				*i* S		**Sb**	**18 29 39.4**	**+0.8**
MT01	**Popeta**	**2.07**	**40**	*i* P		**Pb**	**18 29 13.5**	**+0.4**
MT01				*e*S		**Sg**	**18 29 42.5**	**-0.3**
MT01				IAML			18 29 48.4	
	comp=Z,2μm,1.2s							
MT09	**Talagante**	**2.28**	**43**	Pn		**Pn**	**18 29 14.3**	**+1.3**
MT09	**Talagante**	**2.28**	**43**	*e*P		**Pb**	**18 29 15.4**	**-1.4**
BO04	**La Punta**	**2.36**	**52**	Pn		**Pb**	**18 29 17.6**	**-0.4**
BO04	**La Punta**	**2.36**	**52**	*e*P		**Pb**	**18 29 16.9**	**-1.1**
BO04				*e*S		**Sb**	**18 29 44.8**	**-2.1**
BO04				IAML			18 29 55.3	
	comp=N,4μm,0.4s							
MT02	**Curacav**	**2.62**	**33**	*e*P		**Pn**	**18 29 17.7**	**+0.2**
MT02				*i* S		**Sb**	**18 29 53.1**	**-1.2**
MT02				IAML			18 30 05.5	
	comp=E,1μm,0.4s							
VA01	**Torpederas**	**2.64**	**22**	Pn		**Pn**	**18 29 17.7**	**-0.1**
VA01	**Torpederas**	**2.64**	**22**	*i* P		**Pn**	**18 29 17.6**	**-0.1**
VA01				*e*S		**Sg**	**18 30 02.4**	**+1.5**
VA01				IAML			18 30 06.6	
	comp=Z,2μm,0.9s							
MT05	**Renca**	**2.71**	**40**	*e*P		**Pn**	**18 29 21.1**	**+2.4**
MT05	**Renca**	**2.71**	**40**	*i* P		**Pb**	**18 29 21.7**	**-2.3**
MT05				*e*S		**Sb**	**18 29 57.4**	**+0.5**
MT05				IAML			18 30 09.9	
	comp=Z,2μm,1.2s							
LMEL	**Las Melosas**	**2.71**	**54**	*i* P		**Pb**	**18 29 24.8**	**+0.6**
LMEL				*e*S		**Sg**	**18 30 02.4**	**-0.9**
LMEL				IAML			18 30 10.7	
	comp=Z,3μm,0.8s							
MT13	**San Alfonso**	**2.72**	**51**	Pn		**Pb**	**18 29 25.2**	**+1.0**
MT13	**San Alfonso**	**2.72**	**51**	*i* P		**Pb**	**18 29 25.1**	**+0.8**
MT13				*e*S		**Sg**	**18 30 03.2**	**-0.4**
MT13				IAML			18 30 06.0	
	comp=Z,2μm,0.5s							
MT03	**Universidad Ad**	**2.76**	**45**	*e*P		**Pn**	**18 29 21.4**	**+1.9**
MT03				*i* S		**Sb**	**18 29 55.5**	**-2.9**
MT03	**Universidad Ad**	**2.76**	**45**	*i* P		**Pb**	**18 29 24.4**	**-0.5**
MT03				*e*S		**Sg**	**18 30 05.5**	**+0.7**
MT03				IAML			18 30 07.7	
	comp=Z,4μm,0.6s							
CANA	**Caviahue**	**2.80**	**150**	*e*P		**Pn**	**18 29 18.7**	**-1.4**
CANA				IAML			18 30 22.1	
	comp=Z,580nm,1.0s							
EDS3	**Malargue**	**2.82**	**97**	*i* P		**Pg**	**18 29 28.6**	**-1.4**
ROC1	**El Roble**	**2.92**	**32**	*i* P		**Pg**	**18 29 32.5**	**+0.5**
ROC1				*e*S		**Sg**	**18 30 08.2**	**-1.6**
ROCH	**El Roble**	**2.92**	**32**	*e*P		**Pn**	**18 29 24.1**	**+2.3**
PEL	**Peldehue**	**2.93**	**38**	*i* P		**Pb**	**18 29 27.1**	**-0.7**
PEL				IAML			18 30 14.0	
	comp=Z,2μm,1.0s							
MT04	**Ro Olivares**	**3.04**	**48**	*i* P		Pn	18 29 16.0	-7.5
MT04				*e*S		**Sg**	**18 30 10.8**	**-3.0**
MT04				IAML			18 30 19.9	
	comp=Z,2μm,0.7s							
MT08	**Bocatoma Ro**	**3.09**	**50**	*e*P		**Pn**	**18 29 20.5**	**-3.6**
MT08	**Bocatoma Ro**	**3.09**	**50**	*i* P		**Pn**	**18 29 26.9**	**+2.7**
MT08				*e*S		**Sg**	**18 30 12.4**	**-2.9**
MT08				IAML			18 30 18.2	
	comp=Z,992nm,0.6s							
VA06	**Catapilco**	**3.18**	**24**			**Pn**	**18 29 26.1**	**+1.0**
VA03	**San Esteban**	**3.31**	**36**	Pn		**Pn**	**18 29 28.7**	**+1.7**
RFA	**San Rafael**	**3.65**	**80**	*i* P		**Pb**	**18 29 37.2**	**-2.9**
RFA				*i* P		Pn	18 29 38.5	+6.7
RFA				IAML			18 30 39.3	
	comp=Z,693nm,0.7s							
LR03	**Panguipulli**	**4.17**	**175**	Pn		**Pn**	**18 29 39.5**	**+0.7**
LR03	**Panguipulli**	**4.17**	**175**	*i* P		**Pn**	**18 29 39.1**	**+0.4**
LR03				IAML			18 30 52.3	
	comp=Z,1μm,1.1s							
GO06	**Curarrehue**	**4.24**	**166**	*i* P		**Pn**	**18 29 41.4**	**+1.5**
GO06				IAML			18 30 52.2	
	comp=Z,243nm,0.8s							
CO02	**Combarbal**	**4.53**	**20**	Pn		**Pn**	**18 29 44.4**	**+0.6**
RTLS	**Leoncito**	**4.71**	**40**	*i* P		**Pn**	**18 29 50.0**	**+3.6**
RTLS				IAML			18 31 07.9	
	comp=Z,891nm,0.9s							
CO06	**Fray Jorge**	**4.89**	**12**			**Pn**	**18 29 47.7**	**-1.0**
CO03	**El Pedregal**	**4.96**	**22**	Pn		**Pn**	**18 29 50.5**	**+0.8**
CO03	**El Pedregal**	**4.96**	**22**	*i* P		**Pn**	**18 29 50.3**	**+0.5**
CO03				IAML			18 31 17.6	
	comp=Z,368nm,0.8s							
ZON	**Zonda**	**5.24**	**43**			**Pn**	**18 29 56.0**	**+2.5**
H03S1	**Juan Fernandez**	**5.26**	**286**	Pn		**Pn**	**18 29 52.6**	**-0.9**
	baz=67,slow=13							
H03S1				T		T	18 35 10.5	
	baz=108,slow=75,SNR=738							
H03S3	**Juan Fernandez**	**5.27**	**286**	Pn		**Pn**	**18 29 52.8**	**-0.8**
	baz=67,slow=13							
H03S3				T		T	18 35 07.9	
	baz=108,slow=75,SNR=1028							
H03S2	**Juan Fernandez**	**5.28**	**286**	Pn		**Pn**	**18 29 52.6**	**-1.1**
	baz=67,slow=13							
H03S2				T		T	18 35 08.0	
	baz=108,slow=75,SNR=1093							
H03N1	**Juan Fernandez**	**5.41**	**290**	Pn		**Pn**	**18 29 55.5**	**-0.1**
	baz=138,slow=25							
H03N1				T		T	18 35 23.3	
	baz=109,slow=76,SNR=27							
H03N3	**Juan Fernandez**	**5.42**	**290**	Pn		**Pn**	**18 29 55.4**	**-0.3**
	baz=138,slow=25							
H03N3				T		T	18 35 23.5	
	baz=109,slow=76,SNR=36							
H03N2	**Juan Fernandez**	**5.43**	**290**	Pn		**Pn**	**18 29 55.6**	**-0.2**
	baz=138,slow=25							
H03N2				T		T	18 35 26.6	
	baz=109,slow=76,SNR=26							
CFA	**Coronel Fontan**	**5.45**	**46**	Pn		**Pn**	**18 29 55.2**	**-1.1**
	comp=Z,2.3nm,0.3s,baz=224,slow=14,SNR=7.5							
CFA					Sn	**Sn**	**18 31 01.9**	**+3.3**
	comp=Z,4.9nm,0.3s,baz=220,slow=17,SNR=2.2							
CFA					Lg	Lg	18 31 18.0	
	comp=Z,12nm,0.3s,baz=211,slow=18,SNR=5.8							
	comp=Z,4.7nm,0.3s							
PLCA	**Paso Flores**	**5.55**	**162**			**Pn**	**18 30 01.8**	**+4.0**
PLCA	**Paso Flores**	**5.55**	**162**	Pn		**Pn**	**18 29 59.0**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=340,slow=13,SNR=7.4							
PLCA					Lg	Lg	18 31 26.7	
	comp=Z,3.4nm,0.3s,baz=252,slow=19,SNR=4.9							
	comp=Z,5.5nm,0.5s							
PLCA	**Paso Flores**	**5.55**	**162**	*e*P		**Pn**	**18 30 01.8**	**+4.0**
GO04	**Tololo Observa**	**5.56**	**19**			**Pn**	**18 29 57.9**	**-0.2**
CO05	**La Serena**	**5.70**	**14**			**Pn**	**18 29 59.1**	**-0.7**
LCO	**Las Campanas**	**6.70**	**16**			**Pn**	**18 30 13.4**	**-0.4**
AC04	**Llanos de Chal**	**7.40**	**12**			**Pn**	**18 30 21.6**	**-1.6**
GO03	**Copiapo**	**8.17**	**16**			**Pn**	**18 30 33.0**	**-0.7**
TRQA	**Tornquist**	**9.09**	**110**			**Pn**	**18 30 49.6**	**+3.3**
AC02	**Maricunga**	**9.18**	**21**			**Pn**	**18 30 47.2**	**-0.8**
GO02	**Mina Guanaco**	**10.65**	**16**	Pn		**Pn**	**18 31 05.9**	**-2.2**
PB09	**IPOC Station P**	**13.99**	**14**			**Pn**	**18 31 55.2**	**+1.6**
CPUP	**Villa Florida**	**16.12**	**60**	Pn		**Pn**	**18 32 22.0**	**+0.3**
	baz=181,slow=0.7,SNR=3.4							
PB16	**IPOC Station P**	**17.33**	**11**			**P**	**18 32 39.2**	**+0.2**
MURT	**Porto Murtinho**	**19.16**	**48**	*e*P		**P**	**18 32 57.6**	**-0.9**
ITAB	**Concordia**	**19.48**	**71**			**P**	**18 33 02.4**	**+0.4**
LPAZ	**La Paz**	**19.57**	**14**			**P**	**18 33 04.4**	**+0.7**
LPAZ	**La Paz**	**19.57**	**14**	P		**Pn**	**18 33 05.2**	**+0.2**
	comp=Z,10nm,0.8s,baz=194,slow=6.6,SNR=22							
LPAZ	**La Paz**	**19.57**	**14**	*e*P		**P**	**18 33 01.9**	**-1.8**
AMBA	**Amambai (Brazi**	**19.94**	**56**	*e*P		**Pn**	**18 33 08.7**	**-0.1**
PTGB	**Pitanga**	**20.89**	**65**	*e*P		**P**	**18 33 18.3**	**+0.9**
AQDB	**Aquidauana**	**21.22**	**50**			**P**	**18 33 21.3**	**+0.4**
AQDB				IAmb		IAmb	18 33 22.5	
	comp=Z,22nm,0.9s							
TRCB	**Terra Rica**	**21.65**	**60**	*e*P		**P**	**18 33 26.5**	**+0.8**
SIV	**San Ignacio**	**22.07**	**31**	P		**P**	**18 33 29.8**	**-0.4**
	comp=Z,15nm,1.0s,baz=208,slow=10,SNR=30							
SIV				PcP		**PcP**	**18 37 28.6**	**+0.9**	
	comp=Z,1.1nm,0.7s,baz=214,slow=7.3,SNR=3.2							
	comp=Z,15nm,1.0s							
PTLB	**Pontes e Lacer**	**23.42**	**35**			**P**	**18 33 44.5**	**+0.3**
PTLB	**Pontes e Lacer**	**23.42**	**35**	*e*P		**P**	**18 33 44.3**	**+0.1**
NNA	**Nana**	**23.66**	**350**	P		**P**	**18 33 47.4**	**+0.8**
	comp=Z,4.3nm,0.4s,baz=162,slow=6.6,SNR=3.6							
	comp=Z,4.3nm,0.4s							
PP1B	**Ponte de Pedra**	**23.91**	**47**	*e*P		**P**	**18 33 49.4**	**+0.4**
SALV	**Santo Antonio**	**24.80**	**43**	*e*P		**P**	**18 33 57.6**	**+0.5**
VILB	**Vilhena**	**25.16**	**30**			**P**	**18 33 59.5**	**-0.9**
VILB				IAmb		IAmb	18 34 03.3	
	comp=Z,17nm,0.7s							
VILB	**Vilhena**	**25.16**	**30**	*e*P		**P**	**18 34 00.4**	**0.0**
CZSB	**Cruzeiro do Su**	**27.62**	**0**	*e*P		**P**	**18 34 25.3**	**+2.8**
CLDB	**Colider**	**28.98**	**36**	*e*P		**P**	**18 34 34.4**	**-0.3**
BDFB	**Brasilia**	**29.72**	**55**	P		**P**	**18 34 39.0**	**-2.4**
	comp=Z,2.4nm,0.6s,baz=194,slow=4.2,SNR=5.5							
	comp=Z,2.4nm,0.6s							
SNDB	**Serra Nova Dou**	**30.46**	**45**	*e*P		**P**	**18 34 48.0**	**+0.2**
NPGB	**Novo Progresso**	**32.53**	**34**	*e*P		**P**	**18 35 05.0**	**-1.1**
TEFE	**Tefe**	**32.70**	**15**	*e*P		**P**	**18 35 08.0**	**+0.5**
COHC	**Cochancay**	**33.38**	**348**	P		**P**	**18 35 14.7**	**+1.3**
MACA	**Manacapuru-AM**	**34.07**	**22**	P		**P**	**18 35 18.2**	**-1.3**
MACA	**Manacapuru-AM**	**34.07**	**22**	*e*P		**P**	**18 35 19.2**	**-0.3**
SMTB	**Santa Maria do**	**35.12**	**47**	*e*P		**P**	**18 35 28.5**	**-0.1**
CMC01	**Camacan, BA**	**35.90**	**65**	*e*P		**P**	**18 35 35.0**	**-0.3**
BOAV	**Boa Vista**	**39.40**	**20**			**P**	**18 36 04.5**	**-0.4**
BOAV				IAmb		IAmb	18 36 05.8	
	comp=Z,7.5nm,0.9s							
BOAV	**Boa Vista**	**39.40**	**20**	*e*P		**P**	**18 36 04.9**	**0.0**
RUSC	**La Rusia**	**41.15**	**360**			**P**	**18 36 21.1**	**+1.2**
RUSC				IAmb		IAmb	18 36 22.5	
	comp=Z,18nm,0.9s							
SDV	**Santo Domingo**	**44.17**	**3**	P		**P**	**18 36 43.8**	**-0.3**
	comp=Z,4.6nm,0.3s,baz=255,slow=19,SNR=4.4							
	comp=Z,4.6nm,0.3s							
BAUV	**El Baul**	**44.41**	**7**			**P**	**18 36 45.4**	**-0.4**
MDP	**Montagnes des**	**44.60**	**29**	P		**P**	**18 36 46.0**	**-1.3**
	comp=Z,13nm,0.6s,baz=205,slow=10,SNR=21							
	comp=Z,13nm,0.6s							
VNA3	**Neumayer Olymp**	**48.25**	**157**	⇑P		**P**	**18 37 16.7**	**+1.3**
	comp=Z,5.5nm,0.8s							
VNA1	**Neumayer--Stat**	**48.58**	**156**	⇑P		**P**	**18 37 18.6**	**+0.7**
	comp=Z,2.8nm,0.8s							
VNA2	**Neumayer--Watz**	**48.92**	**157**	⇑P		**P**	**18 37 21.7**	**+1.2**
	comp=Z,3.3nm,0.5s,baz=284,slow=8.7							
SNAA	**Sanae**	**50.48**	**157**	⇑P		**P**	**18 37 33.6**	**+1.2**
	comp=Z,144nm,0.9s							
SNAA	**Sanae**	**50.48**	**157**			**P**	**18 37 33.7**	**+1.3**
SNAA				IAmb		IAmb	18 37 34.7	
	comp=Z,7.2nm,0.9s							
SNAA	**Sanae**	**50.48**	**157**	P		**P**	**18 37 32.9**	**+0.4**
	comp=Z,6.2nm,0.9s,baz=278,slow=6.8,SNR=19							
	comp=Z,6.2nm,0.9s							
TROLL	**Troll, Antarti**	**52.18**	**158**	⇑P		**P**	**18 37 46.4**	**+1.1**
	comp=Z,369nm,0.8s							
CELP	**Cerrillos**	**53.59**	**7**			**P**	**18 37 56.0**	**-0.1**
CELP				IAmb		IAmb	18 37 57.2	
	comp=Z,23nm,1.3s							
PETF	**Flores**	**54.55**	**340**	P		**P**	**18 38 04.7**	**+1.6**
QSPA	**South Pole Qui**	**54.76**	**180**			**P**	**18 38 07.6**	**+3.3**
QSPA				IAmb		IAmb	18 38 15.9	
	comp=Z,5.5nm,0.8s							
QSPA	**South Pole Qui**	**54.76**	**180**	P		**P**	**18 38 05.3**	**+1.0**
	comp=Z,4.4nm,0.9s,baz=144,slow=4.6,SNR=12							
	comp=Z,4.4nm,0.9s							
VNDA	**Vanda**	**62.53**	**192**	P		**P**	**18 38 59.7**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=135,slow=1.4,SNR=3.9							
	comp=Z,0.7nm,0.8s							
TXAR	**Lajitas Array**	**70.71**	**332**	P		**P**	**18 39 51.7**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=151,slow=6.7,SNR=21							
	comp=Z,1.5nm,0.7s							
BRDY	**Brady**	**70.81**	**336**			**P**	**18 39 51.0**	**-0.5**
BRDY				IAmb		IAmb	18 39 52.9	
	comp=Z,5.8nm,1.0s							
X48A	**Hartselle**	**70.82**	**348**			**P**	**18 39 50.1**	**-1.3**
X48A				IAmb		IAmb	18 39 53.0	
	comp=Z,15nm,1.1s							
PLAL	**Pickwick Lake**	**71.53**	**347**	P		**P**	**18 39 56.1**	**+0.5**
PLAL				IAmb		IAmb	18 39 56.6	
	comp=Z,8.8nm,0.7s							
MAW	**Mawson**	**71.95**	**164**	P		**P**	**18 39 58.3**	**+0.4**
	comp=Z,4.3nm,0.8s,baz=218,slow=11,SNR=13							
	comp=Z,4.3nm,0.8s							
WVT	**Waverly**	**72.60**	**347**	P		**P**	**18 40 01.9**	**-0.1**
CCM	**Cathedral Cave**	**75.13**	**345**			**P**	**18 40 17.0**	**+0.2**
DBIC	**Dimbokro**	**76.27**	**71**	P		**P**	**18 40 24.5**	**+0.6**
	comp=Z,12nm,0.7s,baz=232,slow=5.0,SNR=11							
	comp=Z,12nm,0.7s							
ANMO	**Albuquerque**	**76.77**	**332**			**P**	**18 40 24.9**	**-1.6**
ANMO				IAmb		IAmb	18 40 29.0	
	comp=Z,4.2nm,0.9s							
BOSA	**Boshof**	**79.97**	**118**	P		**P**	**18 40 44.2**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=222,slow=4.1,SNR=4.8							
	comp=Z,2.8nm,0.7s							
NVAR	**Mina Array Bea**	**84.72**	**326**	P		**P**	**18 41 10.3**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=144,slow=3.5,SNR=11							
	comp=Z,1.8nm,0.8s							
PDAR	**Pinedale Array**	**84.79**	**334**	P		**P**	**18 41 08.9**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=156,slow=0.9,SNR=7.0							
	comp=Z,0.8nm,0.6s							
TORD	**Torodi Ar. Bea**	**85.33**	**70**	P		**P**	**18 41 11.3**	**-1.1**
	comp=Z,3.2nm,0.8s,baz=235,slow=4.2,SNR=18							
	comp=Z,3.2nm,0.8s							
ULM	**Lac du Bonnet**	**87.75**	**345**	P		**P**	**18 41 22.2**	**-1.1**
	comp=Z,6.6nm,0.8s,baz=153,slow=5.2,SNR=5.1							
	comp=Z,6.6nm,0.8s							
ASAR	**Alice Springs**	**115.96**	**207**	PKP		**PKiKP**	**18 47 17.5**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=150,slow=2.0,SNR=2.9							
ASAR				PKKPbc		**PKKPbc**	**18 57 47.3**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=346,slow=3.8,SNR=7.3							
BRTR	**Keskin Array B**	**123.12**	**62**	PKP		**PKPdf**	**18 47 30.2**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=298,slow=3.1,SNR=2.4							
AKASG	**Malin Array Be**	**123.67**	**48**	PKP		**PKPdf**	**18 47 29.7**	**-2.3**
	comp=Z,1.5nm,0.8s,baz=276,slow=2.7,SNR=2.7							
H11N3	**WAKE ISLAND Hyl**	**25.53**	**270**	T		T	21 05 46.5	
	baz=121							
H11N1	**WAKE ISLAND Hyl**	**25.55**	**270**	T		T	21 05 34.9	
	baz=121,slow=74,SNR=5.7							
H11N2	**WAKE ISLAND Hyl**	**25.55**	**270**	T		T	21 05 35.8	
	baz=121,slow=74,SNR=6.8							
ARCES	**ARCESS Array B**	**125.63**	**25**	PKP		**PKPdf**	**18 47 34.1**	**-1.2**
	comp=Z,2.2nm,0.8s,baz=262,slow=2.7,SNR=4.1							
BVAR	**Borovoye Array**	**148.80**	**44**	PKPbc		**PK

KRBG	**Karabiga-Canak**	**0.90**	**240**	Pg	Pg	18 33 30.7	+0.1		
ULDT	**Uludag**	**0.95**	**138**	P	Pb	18 33 32.0	-0.3		
BLKS	**Balkesir-Sus**	**1.01**	**195**	P	Pn	18 33 33.6	-0.4		
HRT	**Hereke**	**1.03**	**91**	Pg	Pb	18 33 33.7	+0.1		
SILT	**Sile**	**1.05**	**73**	Pg	Pb	18 33 33.8	-0.1		
SEMS	**Kocaeli-K¶rfe**	**1.08**	**89**	P	Pg	18 33 34.2	+0.1		
SEMS				S	Sg	18 33 47.3	-0.9		
SEMS				*i* IAML		18 33 50.0			
	comp=E,18nm,0.5s								
SEMS				*i* IAML		18 33 51.0			
	comp=N,17nm,0.2s								
BKES	**Balkesir-Mer**	**1.16**	**195**	P	Pg	18 33 35.5	-0.1		
BKES				*i* IAML		18 33 54.0			
	comp=E,18nm,0.2s								
BKES				*i* IAML		18 34 21.0			
	comp=N,10nm,2.2s								
ARMN	**Kirklareli, Me**	**1.21**	**327**	P	Pg	18 33 35.5	-1.1		
KESN	**Edirne-Kesan**	**1.24**	**269**	P	Pg	18 33 36.2	-1.0		
KESN				*i* IAML		18 33 54.0			
	comp=E,18nm,0.3s								
KESN				*i* IAML		18 34 03.0			
	comp=N,15nm,0.5s								
DURS	**Dursunbey**	**1.26**	**174**	P	Pn	18 33 37.3	-0.2		
DURS				*i* IAML		18 33 57.0			
	comp=N,10.0nm,0.3s								
DURS				*i* IAML		18 33 58.0			
	comp=E,14nm,0.2s								
HISA	**Bilecik-Osmane**	**1.28**	**107**	P	Pg	18 33 38.5	+0.4		
HISA				*i* IAML		18 33 58.0			
	comp=N,18nm,0.5s								
HISA				*i* IAML		18 33 58.0			
	comp=E,19nm,0.4s								
UKOP	**Uzunkopru-Edir**	**1.30**	**283**	Pn	Pn	18 33 36.7	-1.2		
KIRK	**Kırklareli**	**1.30**	**316**	P	Pn	18 33 37.8	-0.2		
ERIK	**Erikli-Kesan**	**1.38**	**263**	Pn	Pn	18 33 36.5	-2.5		
BILE	**Bilecik/Merkez**	**1.38**	**120**	P	Pg	18 33 41.0	+1.2		
BILE				*i* IAML		18 34 02.0			
	comp=N,7.8nm,0.4s								
KAND	**Kocaeli-Kandir**	**1.44**	**80**	P	Pn	18 33 40.1	+0.2		
KAND				*i* IAML		18 34 00.0			
	comp=E,18nm,1.7s								
KAND				*i* IAML		18 34 02.0			
	comp=N,11nm,0.5s								
EDRB	**Edirne**	**1.54**	**311**	Pn	Pn	18 33 40.3	-1.0		
KAYN	**Sakarya, Kayna**	**1.54**	**85**	P	Pb	18 33 42.2	0.0		
ALN	**Alexandroupoli**	**1.72**	**272**	Pn	Pn	18 33 42.2	-1.5		

TRN 29 18:34:59.0, 15°.10N×60°.58W, h31km, MD3.8, 1C, South-east of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ILAM	**Ilet Lapin Mar**	**0.43**	**221**	*eP*	Pn	18 35 10.3		+1.3
ILAM				*eS*	Sn	18 35 17.8		+2.0
SVN	**Savane Anatole**	**0.62**	**246**	*eP*	Pn	18 35 12.9		+1.2
SVN				*eS*	Sn	18 35 23.6		+3.0
DLPL	**La Plaine**	**0.68**	**290**	*eP*	Pn	18 35 14.1		+1.5
DLPL				*eS*	Sn	18 35 24.9		+2.7
BIM	**Bigot**	**0.74**	**219**	⇑*iP*	Pb	18 35 14.8		+1.2
BIM				*eS*	Sn	18 35 26.2		+2.4
MDN	**Morne-Daniel**	**0.81**	**286**	*eS*	Sn	18 35 28.8		+3.5
DWS	**Wesley**	**0.84**	**304**	*eP*	Pb	18 35 15.4		+0.3
DWS				*eS*	Sb	18 35 28.3		+2.1
DSLB	**Salisbury**	**0.88**	**293**	*eP*	Pb	18 35 17.1		+1.4
DSLB				*eS*	Sb	18 35 29.3		+2.2
SLBI	**Saint Lucia, B**	**1.13**	**199**	*eP*	Sb	18 35 19.9		-0.2
SLBI				*eS*	Sb	18 35 35.7		+1.3
TBG	**Guadaloupe-3**	**1.27**	**306**	*eP*	Pb	18 35 21.8		-0.7
TBG				*eS*	Sb	18 35 38.3		0.0
DSDZ	**La Diserade, G**	**1.29**	**339**	*eP*	Pb	18 35 22.8		0.0
DSDZ				*eS*	Sb	18 35 38.1		-0.9
MMLZ	**Guadeloupe Bro**	**1.41**	**312**	*eP*	Pb	18 35 24.0		-0.6
MMLZ				*eS*	Sb	18 35 41.7		-0.5
ATGZ	**Broadband at L**	**1.48**	**312**	*eP*	Pb	18 35 25.1		-0.8
ATGZ				*eS*	Sb	18 35 44.8		+0.4
DHSZ	**Broadband at M**	**1.63**	**316**	*eP*	Pb	18 35 28.0		-0.4
DHSZ				*eS*	Sb	18 35 48.5		-0.1
SVB	**Belmont**	**1.93**	**200**	*eP*	Pn	18 35 30.9		+1.2
SVB				*eS*	Sb	18 35 55.7		-1.5
SVB	**Belmont**	**1.93**	**200**	*e*	Pb	18 35 33.3		-0.2
SVB				*eS*	Sb	18 35 55.7		-1.5
ANWB	**Willy Bob**	**2.80**	**336**	*eP*	Pn	18 35 43.9		+2.1
SKI	**Saint Kitts**	**3.04**	**317**	*eP*	Pn	18 35 46.6		+1.6
DMDM	**Guralp CMG5TDE**	**4.47**	**192**	x	x	18 36 03.8		
TRN	**Trinidad (W)**	**4.50**	**190**	x	x	18 36 06.5		

*SJA **29** 18:45:54.4±1.7, 35°.43S×73°.44W, h13km±12km, ML4.4, MW4.1*
*IDC **29** 18:45:57.6±0.7, 35°.50S×72°.75W, h0km, mb4.1/9, mbtmp4.0/12, ML3.9/3, Error ellipse: s-maj=29.3km s-min=15.0km az=87.0*
*NEIC **29** 18:45:58.4±2.1, 35°.49S±0°.05×73°.26W±0°.10, h20km±6km, mb4.3/10, ML4.2(GUC), Error ellipse: s-maj=12.9km s-min=5.0km az=117.0*
*GUC **29** 18:46:00.2±0.5, 35°.53S×73°.02W, h25km±5km, ML4.2*
ISC 29 18:45:57.2±1.7, 35°.48S±0°.04×73°.06W±0°.05, h4km±10km, n112, σ1¦40/130, mb4.4/15, 6C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
GO05	**Hualane**	**1.04**	**64**	*eP*	**Pg**	**18 46 18.1**		**+1.0**
GO05				*eS*	**Sg**	**18 46 31.3**		**+0.8**
GO05				IAML		18 46 33.7		
	comp=E,14µm,0.2s							
GO05	**Hualane**	**1.04**	**64**	*i* P	**Pb**	**18 46 18.6**		**+0.8**
GO05				*eS*	**Sb**	**18 46 32.3**		**+0.6**
GO05				IAML		18 46 33.8		
	comp=Z,6µm,0.2s							
BI05	**Punta Hualpn**	**1.27**	**185**		**Pn**	**18 46 20.6**		**-1.2**
BI05	**Punta Hualpn**	**1.27**	**185**	*eP*	**Pn**	**18 46 20.8**		**-1.0**
BI05				*eS*	**Sb**	**18 46 39.0**		**+0.6**
BI05				IAML		18 46 41.9		
	comp=N,10µm,0.9s							
BI05	**Punta Hualpn**	**1.27**	**185**	*i* P	**Pn**	**18 46 20.5**		**-1.2**
BI05				IAML		18 46 41.0		
	comp=Z,3µm,0.9s							
BO03	**Pichilemu**	**1.33**	**43**	⇑*iP*	**Pn**	**18 46 22.6**		**0.0**
BO03				*eS*	**Sb**	**18 46 40.3**		**+0.1**
BO03				IAML		18 46 44.3		
	comp=N,7µm,0.6s							
BI02	**San Fabín de**	**1.87**	**130**		**Pn**	**18 46 29.8**		**-0.3**
BI02	**San Fabín de**	**1.87**	**130**	*eP*	**Pn**	**18 46 30.1**		**0.0**
BI02				*eS*	**Sn**	**18 46 53.0**		**-1.2**
BI02				IAML		18 46 54.9		
	comp=N,3µm,0.6s							
BI02	**San Fabín de**	**1.87**	**130**	*i* P	**Pn**	**18 46 30.1**		**0.0**
BI02				*eS*	**Sn**	**18 46 53.9**		**-0.3**
BI02				IAML		18 47 01.9		
	comp=Z,2µm,0.9s							
BO01	**Tunca**	**1.95**	**57**		**Pn**	**18 46 32.4**		**+1.2**
BO01	**Tunca**	**1.95**	**57**	‖*eP*	**Pb**	**18 46 33.2**		**-0.2**
BO01				*eS*	**Sg**	**18 46 59.4**		**-0.5**
BO01	**Tunca**	**1.95**	**57**	*i* P	**Pn**	**18 46 32.1**		**+1.0**
BO01				*eS*	**Sg**	**18 47 01.2**		**+1.3**
BO01				IAML		18 47 05.0		
	comp=Z,2µm,1.2s							
BO02	**Sierra Bellavi**	**1.99**	**71**		**Pn**	**18 46 32.3**		**+0.5**
BO02	**Sierra Bellavi**	**1.99**	**71**	*eP*	**Pn**	**18 46 32.5**		**+0.7**
BO02				*eS*	**Sb**	**18 46 58.3**		**-0.9**
BO02	**Sierra Bellavi**	**1.99**	**71**	*i* P	**Pb**	**18 46 33.7**		**-0.3**
BO02				*eS*	**Sb**	**18 47 00.1**		**+0.8**
BO02				IAML		18 47 03.3		
	comp=Z,4µm,1.2s							
MT01	**Popeta**	**2.20**	**43**		**Pn**	**18 46 34.8**		**+0.3**
MT01	**Popeta**	**2.20**	**43**	*eP*	**Pn**	**18 46 35.2**		**+0.7**
MT01				*eS*	**Sg**	**18 47 07.1**		**-0.7**
MT01	**Popeta**	**2.20**	**43**	*i* P	**Pb**	**18 46 38.4**		**+0.7**
MT01				*eS*	**Sb**	**18 47 06.4**		**+1.4**
MT01				IAML		18 47 16.2		
	comp=Z,2µm,0.7s							
MT09	**Talagante**	**2.41**	**46**		**Pn**	**18 46 38.1**		**+0.6**
MT09	**Talagante**	**2.41**	**46**	*eP*	**Pn**	**18 46 38.1**		**+0.6**
BO04	**La Punta**	**2.51**	**54**		**Pn**	**18 46 39.5**		**+0.7**
BO04	**La Punta**	**2.51**	**54**	*eP*	**Pn**	**18 46 41.2**		**+2.4**
BO04				*eS*	**Sb**	**18 47 15.8**		**+1.7**
BO04				IAML		18 47 20.9		
	comp=N,2µm,0.2s							
MT12	**Pirque**	**2.71**	**51**	*eP*	**Pb**	**18 46 46.7**		**+0.5**
MT12				*eS*	**Sg**	**18 47 22.5**		**-1.6**
VA01	**Torpederas**	**2.71**	**26**		**Pn**	**18 46 41.7**		**+0.1**
VA01	**Torpederas**	**2.71**	**26**	*i* P	**Pn**	**18 46 42.1**		**+0.5**
VA01				IAML		18 47 32.5		
	comp=Z,757nm,0.7s							
MT02	**Curacav**	**2.73**	**36**		**Pn**	**18 46 42.1**		**+0.3**
MT02	**Curacav**	**2.73**	**36**	*eP*	**Pn**	**18 46 42.1**		**+0.3**
MT02	**Curacav**	**2.73**	**36**	*i* P	**Pn**	**18 46 41.5**		**-0.3**
MT02				*eS*	**Sb**	**18 47 19.5**		**-0.9**
MT02				IAML		18 47 34.3		
	comp=Z,654nm,0.6s							
MT15	**Las Vizcachas**	**2.82**	**49**	*eP*	**Pb**	**18 46 49.2**		**+0.9**
MT05	**Renca**	**2.83**	**43**		**Pn**	**18 46 44.8**		**+1.5**
MT05	**Renca**	**2.83**	**43**	*eP*	**Pb**	**18 46 49.2**		**+0.9**
LMEL	**Las Melosas**	**2.86**	**56**		**Pn**	**18 46 46.7**		**+2.9**
LMEL	**Las Melosas**	**2.86**	**56**	*i* P	**Pn**	**18 46 46.6**		**+2.7**
LMEL				*eS*	**Sg**	**18 47 27.9**		**-1.3**
LMEL				IAML		18 47 30.9		
	comp=Z,2µm,0.8s							
MT13	**San Alfonso**	**2.87**	**54**	Pn	**Pn**	**18 46 45.4**		**+1.5**
MT03	**Universidad Ad**	**2.89**	**48**		**Pn**	**18 46 46.3**		**+2.1**
MT03	**Universidad Ad**	**2.89**	**48**	*eP*	**Pn**	**18 46 45.8**		**+1.6**
MT03	**Universidad Ad**	**2.89**	**48**	*i* P	**Pb**	**18 46 50.1**		**+0.7**
MT03				*eS*	**Sg**	**18 47 28.7**		**-1.4**
MT03				IAML		18 47 41.5		
	comp=Z,1µm,0.7s							
MT16	**CCHEN**	**2.93**	**46**		**Pn**	**18 46 46.5**		**+1.9**
MT16	**CCHEN**	**2.93**	**46**	*eP*	**Pb**	**18 46 50.9**		**+0.8**
MT14	**Cerro Cal¡n**	**2.94**	**46**	*eP*	**Pb**	**18 46 51.5**		**+1.2**
ROCH	**El Roble**	**3.02**	**35**	*eP*	**Pb**	**18 46 47.0**		**+0.9**
MT10	**Hacienda Santa**	**3.03**	**44**	*eP*	**Pn**	**18 46 46.5**		**+0.3**
PEL	**Peldehue**	**3.05**	**41**		**Pn**	**18 46 48.0**		**+1.7**
PEL	**Peldehue**	**3.05**	**41**	*eP*	**Pn**	**18 46 48.0**		**+1.7**
PEL				*eS*	**Sb**	**18 47 28.2**		**-1.5**
FCH	**Farellones**	**3.14**	**48**	*eP*	**Pn**	**18 46 49.1**		**+1.3**
MT04	**Ro Olivares**	**3.18**	**50**	*i* P	**Pn**	**18 46 48.7**		**+0.5**
MT04				*eS*	**Sb**	**18 47 34.4**		**+0.7**
MT04				IAML		18 47 42.2		
	comp=Z,821nm,1.1s							
MT08	**Bocatoma Ro**	**3.23**	**52**		**Pn**	**18 46 50.8**		**+1.8**
MT08	**Bocatoma Ro**	**3.23**	**52**	*eP*	**Pb**	**18 46 55.5**		**+0.2**
MT08				*eS*	**Sb**	**18 47 35.7**		**+0.6**
MT08	**Bocatoma Ro**	**3.23**	**52**	*i* P	**Pb**	**18 46 55.4**		**+0.1**
MT08				*eS*	**Sb**	**18 47 37.4**		**+2.2**
MT08				IAML		18 47 42.1		
	comp=Z,509nm,0.8s							
VA06	**Catapilco**	**3.26**	**27**		**Pn**	**18 46 49.3**		**+0.2**
VA06	**Catapilco**	**3.26**	**27**	*eP*	**Pn**	**18 46 49.7**		**+0.6**
VA03	**San Esteban**	**3.42**	**38**	*eP*	**Pn**	**18 46 52.7**		**+1.4**
VA03	**San Esteban**	**3.42**	**38**	*i* P	**Pn**	**18 46 52.3**		**+0.9**
VA03				IAML		18 47 54.6		
	comp=Z,886nm,0.8s							
RFA	**San Rafael**	**3.83**	**81**	*i* P	**Pn**	**18 47 00.5**		**+3.4**
RFA				*eS*	**Sb**	**18 47 55.0**		**+2.7**
RFA				*eS*	**Sg**	**18 47 55.4**		**-4.9**
RFA				IAML		18 48 04.2		
	comp=Z,335nm,0.7s							
LR03	**Panguipulli**	**4.18**	**172**	Pn	**Pn**	**18 47 02.0**		**+0.2**
GO06	**Curarrehue**	**4.29**	**163**	*i* P	**Pn**	**18 47 03.7**		**+0.4**
GO06				IAML		18 48 20.1		
	comp=Z,135nm,1.1s							
CO02	**Combarbal**	**4.60**	**23**	*i* P	**Pn**	**18 47 08.3**		**+0.7**
CO02				IAML		18 48 42.5		
	comp=Z,426nm,1.0s							
LR05	**Currie**	**4.82**	**170**		**Pn**	**18 47 11.0**		**+0.5**
RTLS	**Leoncito**	**4.83**	**42**	*i* P	**Pn**	**18 47 14.1**		**+3.1**
RTLS				IAML		18 48 36.7		
	comp=Z,859nm,0.9s							
CO06	**Fray Jorge**	**4.94**	**14**		**Pn**	**18 47 11.9**		**-0.3**
CO03	**El Pedregal**	**5.04**	**24**		**Pn**	**18 47 14.3**		**+0.7**
CO03	**El Pedregal**	**5.04**	**24**	*i* P	**Pn**	**18 47 13.9**		**+0.3**
CO03				IAML		18 48 49.4		
	comp=Z,164nm,0.8s							
H03S1	**Juan Fernandez**	**5.08**	**287**	Pn	**Pn**	**18 47 15.2**		**+1.2**
H03S1				T	T	18 52 27.3		
	baz=109,slow=75,SNR=1326							
H03S3	**Juan Fernandez**	**5.09**	**287**	Pn	**Pn**	**18 47 15.4**		**+1.3**
H03S3				T	T	18 52 35.0		
	baz=109,slow=75,SNR=1809							
H03S2	**Juan Fernandez**	**5.10**	**287**	Pn	**Pn**	**18 47 15.2**		**+1.0**
H03S2				T	T	18 52 32.3		
	baz=109,slow=75,SNR=1154							
H03N1	**Juan Fernandez**	**5.24**	**291**	Pn	**Pn**	**18 47 18.1**		**+2.0**
H03N3	**Juan Fernandez**	**5.25**	**291**	Pn	**Pn**	**18 47 18.1**		**+1.9**
H03N2	**Juan Fernandez**	**5.26**	**291**	Pn	**Pn**	**18 47 18.3**		**+1.9**
ZON	**Zonda**	**5.37**	**44**	Pn	**Pn**	**18 47 20.6**		**+2.5**
CFA	**Coronel Fontan**	**5.58**	**48**	Pn	**Pn**	**18 47 21.6**		**+0.5**
	comp=Z,1.0nm,0.3s,baz=232,slow=14,SNR=21							
CFA				Lg	Lg	18 48 43.0		
	comp=Z,2.3nm,0.3s,baz=239,slow=12,SNR=3.6							
	comp=Z,2.2nm,0.3s							
PLCA	**Paso Flores**	**5.61**	**160**		**Pn**	**18 47 22.4**		**+0.9**
PLCA	**Paso Flores**	**5.61**	**160**	Pn	**Pn**	**18 47 21.8**		**+0.3**
	comp=Z,1.1nm,0.3s,baz=330,slow=9.7,SNR=20							
PLCA				Lg	Lg	18 48 50.4		
	comp=Z,2.5nm,0.3s,baz=253,slow=19,SNR=5.4							
	comp=Z,3.6nm,0.4s							
GO04	**Tololo Observa**	**5.62**	**20**		**Pn**	**18 47 22.1**		**+0.2**
LCO	**Las Campanas**	**6.75**	**18**		**Pn**	**18 47 36.6**		**-0.7**
AC02	**Maricunga**	**9.25**	**22**		**Pn**	**18 48 11.0**		**-0.9**
TRQA	**Tornquist**	**9.26**	**109**	Pn	**Pn**	**18 48 11.1**		**-0.5**
AC01	**Pan de Azucar**	**9.54**	**13**	Pn	**Pn**	**18 48 11.6**		**-3.8**
PB11	**IPOC Station P**	**15.94**	**12**	Pn	**Pn**	**18 49 41.0**		**-1.6**
PB11				IAmb	IAmb	18 49 56.9		
	comp=Z,21nm,0.8s							
PB16	**IPOC Station P**	**17.36**	**11**	Pn	**Pn**	**18 49 57.0**		**-4.0**
PB16				IAmb	IAmb	18 50 14.0		
	comp=Z,16nm,1.1s							
LPAZ	**La Paz**	**19.61**	**14**	P	**P**	**18 50 28.3**		**+1.0**
LPAZ	**La Paz**	**19.61**	**14**	P	**Pn**	**18 50 29.6**		**+1.0**
	comp=Z,0.2nm,0.3s,baz=193,slow=5.7,SNR=12							
	comp=Z,3.1nm,0.8s							
AQDB	**Aquidauana**	**21.36**	**50**	P	**P**	**18 50 44.9**		**-0.8**
AQDB				IAmb	IAmb	18 50 57.9		
	comp=Z,20nm,0.9s							
PTLB	**Pontes e Lacer**	**23.53**	**36**	P	**P**	**18 51 07.7**		**-0.8**
PTLB				IAmb	IAmb	18 51 17.1		
	comp=Z,5.7nm,0.9s							
BDFB	**Brasilia**	**29.87**	**55**	P	**P**	**18 52 04.1**		**-1.9**
	comp=Z,3.6nm,0.8s,baz=192,slow=11,SNR=5.2							
	comp=Z,3.6nm,0.8s							
COHC	**Concncay**	**33.35**	**349**	P	**P**	**18 52 33.8**		**-2.7**
RUSC	**La Rusia**	**41.15**	**360**	P	**P**	**18 53 41.5**		**-1.8**
RUSC				IAmb	IAmb	18 54 01.3		
	comp=Z,5.7nm,1.0s							
BAUV	**El Baul**	**44.44**	**7**	P	**P**	**18 54 07.3**		**-2.1**
BAUV				IAmb	IAmb	18 54 17.8		
	comp=Z,7.9nm,0.9s							
VNA3	**Neumayer Olymp**	**48.32**	**157**	⇑P	**P**	**18 54 39.8**		**+0.4**
	comp=Z,4.1nm,0.8s							
ESPN	**Las Esperanzas**	**48.59**	**345**	P	**P**	**18 54 41.6**		**-0.3**
VNA1	**Neumayer--Stat**	**48.65**	**156**	⇑P	**P**	**18 54 42.1**		**+0.2**
	comp=Z,2.5nm,0.3s							
VNA2	**Neumayer--Watz**	**48.99**	**157**	⇑P	**P**	**18 54 44.6**		**+0.1**
	comp=Z,2.7nm,0.8s,baz=300,slow=12							
SNAA	**Sanae**	**50.54**	**157**	⇑P	**P**	**18 54 56.4**		**+0.1**
	comp=Z,100nm,0.9s							
SNAA	**Sanae**	**50.54**	**157**	P	**P**	**18 54 56.3**		**-0.1**
SNAA	**Sanae**	**50.54**	**157**	P	**P**	**18 54 56.0**		**-0.3**
	comp=Z,5.6nm,1.0s,baz=283,slow=8.0,SNR=14							
	comp=Z,5.6nm,1.0s							
TROLL	**Troll, Antarti**	**52.24**	**158**	⇑P	**P**	**18 55 09.4**		**+0.2**
	comp=Z,163nm,0.7s							
QSPA	**South Pole Qui**	**54.76**	**180**	P	**P**	**18 55 30.3**		**+2.6**
	comp=Z,4.2nm,1.0s,baz=147,slow=5.0,SNR=13							
	comp=Z,4.2nm,1.0s							
TXAR	**Lajitas Array**	**70.62**	**332**	P	**P**	**18 57 15.5**		**+1.6**
	comp=Z,0.4nm,0.7s,baz=150,slow=6.3,SNR=4.1							
	comp=Z,0.4nm,0.7s							
MAW	**Mawson**	**72.00**	**164**	P	**P**	**18 57 22.0**		**+0.3**
	comp=Z,4.4nm,0.9s,baz=220,slow=7.1,SNR=8.5							
	comp=Z,4.4nm,0.9s							
DBIC	**Dimbokro**	**76.45**	**72**	P	**P**	**18 57 48.5**		**0.0**
	comp=Z,4.8nm,0.9s,baz=225,slow=10.0,SNR=3.2							
	comp=Z,4.8nm,0.9s							
NVAR	**Mina Array Bea**	**84.62**	**326**	P	**P**	**18 58 33.9**		**+1.8**
	comp=Z,0.6nm,0.7s,baz=140,slow=2.8,SNR=3.8							
	comp=Z,0.6nm,0.7s							
PDAR	**Pinedale Array**	**84.71**	**334**	P	**P**	**18 58 33.4**		**+1.0**
	comp=Z,0.2nm,0.6s,baz=163,slow=1.3,SNR=2.2							
	comp=Z,0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**85.50**	**71**	P	**P**	**18 58 36.2**		**-0.5**
	comp=Z,1.4nm,1.0s,baz=246,slow=1.9,SNR=6.2							
	comp=Z,1.4nm,1.0s							
WRA	**Warramunga Arr**	**119.06**	**210**	PKP	**PKPdf**	**19 04 47.4**		**-0.4**
	comp=Z,0.4nm,0.9s,baz=162,slow=3.4,SNR=2.1							
H11S2	**WAKE ISLAND Hyl**	**24.90**	**269**	T	T	21 22 48.7		
	baz=117							
H11S1	**WAKE ISLAND Hyl**	**24.91**	**269**	T	T	21 22 33.8		
	baz=117							
H11S3	**WAKE ISLAND Hyl**	**24.92**	**269**	T	T	21 22 36.3		
	baz=117							
H11N3	**WAKE ISLAND Hyl**	**25.35**	**270**	T	T	21 22 59.7		
	baz=122,slow=76,SNR=6.7							
H11N1	**WAKE ISLAND Hyl**	**25.36**	**270**	T	T	21 23 00.4		
	baz=122,slow=76,SNR=6.7							
H11N2	**WAKE ISLAND Hyl**	**25.37**	**270**	T	T	21 22 57.3		
	baz=122,slow=76,SNR=7.7							
BVAR	**Borovoye Array**	**148.93**	**44**	PKPbc	**PKPbc**	**19 05 46.1**		**+0.3**
	comp=Z,1.7nm,0.7s,baz=270,slow=2.9,SNR=5.7							
KURBB	**Kurchatov Arra**	**154.52**	**45**	PKPbc	**PKPbc**	**19 05 57.6**		**-1.0**
	comp=Z,0.9nm,1.0s,baz=313,slow=2.4,SNR=6.1							
ZALV	**Zalesovo Beam**	**155.92**	**33**	PKP	**PKPdf**	**19 05 53.7**		**+1.6**
	comp=Z,1.2nm,0.7s,baz=305,slow=5.1,SNR=5.8							
ZALV				PKPab	**PKPab**	**19 06 19.8**		**+0.7**
	comp=Z,0.4nm,0.4s,baz=316,slow=4.0,SNR=4.4							

*NOU **29** 18:51:01.7, 40°.46S×174°.51E, h76km, MLv3.6/15, Cook Strait, New Zealand*
*WEL **29** 18:51:02.5±0.6, 40°.5S±3°.×17°.5E±°, h65km±7km, M3.5/23, ML3.9/23, MLv3.5/23, Error ellipse: s-maj=5.3km s-min=4.1km az=77.9, confirmed*
ISC 29 18:51:00.9±1.5, 40°.46S±0°.03×174°.53E±0°.03, h93km±10km, n60, σ0¦49/72, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KIW	**Kapiti Island**	**0.50**	**144**	P	**Pn**	**18 51 16.2**		**+0.2**
KIW				S	**Sn**	**18 51 26.7**		**-0.5**
FXBS	**Foxton Beach S**	**0.53**	**90**	P	**Pn**	**18 51 16.2**		**0.0**
OTKS	**Otaki School**	**0.56**	**122**	P	**Pn**	**18 51 16.6**		**+0.3**
DUWZ	**D'Urville Isla**	**0.57**	**233**	P	**Pn**	**18 51 16.6**		**0.0**
DUWZ				S	**Sn**	**18 51 28.1**		**-0.2**
OGWZ	**Otaki Gorge**	**0.61**	**126**	P	**Pn**	**18 51 17.1**		**+0.3**
OGWZ				S	**Sn**	**18 51 28.5**		**-0.2**
OHWZ	**Ohakea**	**0.65**	**67**	P	**Pn**	**18 51 17.6**		**+0.4**
OHWZ				S	**Sn**	**18 51 29.7**		**+0.3**
WCDS	**Wanganui Civil**	**0.66**	**37**	P	**Pn**	**18 51 17.7**		**+0.4**
POKS	**Katoa Kinderga**	**0.70**	**161**	P	**Pn**	**18 51 18.3**		**+0.5**
PWES	**Porirua West**	**0.70**	**161**	P	**Pn**	**18 51 18.4**		**+0.6**
CAW	**Cannon Point**	**0.77**	**148**	P	**Pn**	**18 51 18.8**		**+0.5**
CAW				S	**Sn**	**18 51 31.2**		**-0.2**
TCW	**Tory Channel**	**0.77**	**194**	P	**Pn**	**18 51 19.1**		**+0.7**
TCW				S	**Sn**	**18 51 31.4**		**-0.2**
WAZ	**Wanganui**	**0.79**	**27**	P	**Pn**	**18 51 19.0**		**+0.4**
WAZ				S	**Sn**	**18 51 31.6**		**-0.2**
MRZ	**Mangatainoka R**	**0.83**	**104**	P	**Pn**	**18 51 18.9**		**0.0**
MRZ				S	**Sn**	**18 51 31.6**		**-0.9**
WEL	**Wellington**	**0.84**	**168**	P	**Pn**	**18 51 19.7**		**+0.5**
WEL				S	**Sn**	**18 51 33.0**		**+0.3**
SNZO	**South Karori**	**0.86**	**171**	P	**Pn**	**18 51 20.2**		**+0.9**
SNZO	**South Karori**	**0.86**	**171**	P	**Sn**	**18 51 33.2**		**+0.1**
HOWZ	**Holdsworth Sta**	**0.87**	**121**	P	**Pn**	**18 51 19.5**		**+0.1**
HOWZ				S	**Sn**	**18 51 32.5**		**-0.8**
POWZ	**Post Office Ro**	**0.95**	**86**	P	**Pn**	**18 51 20.0**		**-0.2**
POWZ				S	**Sn**	**18 51 34.2**		**-0.6**
BHW	**Baring Head**	**0.98**	**165**	P	**Pn**	**18 51 21

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**1.02**	**36**	P	Pn	19 15 53.9	+0.2
TWSI				S	Sn	19 16 06.8	-0.3
DNP	**Denpasar**	**1.38**	**310**	P	Pn	19 15 58.9	+0.2
PLAI	**Plampang**	**1.65**	**64**	P	Pn	19 16 03.5	+1.0
SRBI	**Singaraja**	**1.81**	**324**	P	Pn	19 16 05.1	+0.4
JAGI	**Jajag, Banyuwa**	**2.37**	**297**	P	Pn	19 16 11.6	-0.7
ABJI	**Asem Bagus**	**2.68**	**311**	P	Pn	19 16 16.6	0.0
WBSI	**Waikabubak, Su**	**3.07**	**92**	P	Pn	19 16 20.4	-1.6
BLJI	**Banyuglugur**	**3.21**	**304**	P	Pn	19 16 23.4	-0.6
KMMI	**Kalianget**	**3.39**	**317**	P	Pn	19 16 27.0	+0.6
BSSI	**Bau Bau, Buton** 45nm,1.5s	**5.38**	**51**	P	Pn	19 16 54.3	+0.5
EDFI	**Ende, Flores** 0.0nm6.5nm,0.7s	**5.40**	**82**	P	Pn	19 16 53.6	-0.6
BKSI	**Bulukumba**	**5.69**	**42**	P	Pn	19 16 57.6	-0.4

*SJA **29** 19:21:13.0±1.6,35˚.39S×73˚.16W,h15km±10km,ML3.8, MW3.6*
*GUC **29** 19:21:17.6±0.6,35˚.52S×72˚.95W,h29km±3km,ML3.7*
ISC 29 19:21:14.9±2.2,**35˚.44S**±0˚.04×**73˚.02W**±0˚.08,**h10**km±14km, **n17**,σ0°**70**/28,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Hualane**	**0.99**	**64**	*e*P	**Pb**	**19 21 34.2**	**0.0**
GO05				*i* S	**Sg**	**19 21 47.3**	**+0.4**
GO05				IAML		19 21 49.2	
	comp=E,6µm,0.4s						
GO05	**Hualane**	**0.99**	**64**	*i* P	**Pb**	**19 21 34.2**	**0.0**
GO05				*e*S	**Sn**	**19 21 48.1**	**-0.9**
GO05				IAML		19 21 48.7	
	comp=Z,5µm,0.7s						
BO03	**Pichilemu**	**1.29**	**43**	*e*P	**Pn**	**19 21 38.4**	**-0.5**
BO03				*i* S	**Sg**	**19 21 56.0**	**-0.2**
BO03				IAML		19 21 59.4	
	comp=N,2µm,0.5s						
BI05	**Punta Hualpn**	**1.31**	**186**	*e*P	**Pn**	**19 21 38.9**	**-0.3**
BI05	**Punta Hualpn**	**1.31**	**186**	*i* P	**Pn**	**19 21 39.5**	**+0.3**
BI05				*e*S	**Sn**	**19 21 56.6**	**-0.1**
BI05				IAML		19 21 59.6	
	comp=Z,1µm,0.6s						
BI02	**San Fabin de**	**1.87**	**131**	*e*P	**Pn**	**19 21 47.1**	**+0.2**
BI02				*i* S	**Sn**	**19 22 09.8**	**-0.9**
BI02				IAML		19 22 11.8	
	comp=N,954nm,0.4s						
BO01	**Tunca**	**1.91**	**57**	*e*P	**Pb**	**19 21 49.3**	**-0.4**
BO01				*i* S	**Sn**	**19 22 10.9**	**-0.6**
BO01				IAML		19 22 22.9	
	comp=N,754nm,0.7s						
BO02	**Sierra Bellavi**	**1.95**	**71**	*e*P	**Pb**	**19 21 49.6**	**-0.9**
BO02				*i* S	**Sn**	**19 22 13.3**	**+0.7**
BO02	**Sierra Bellavi**	**1.95**	**71**	*i* P	**Pb**	**19 21 49.6**	**-0.9**
BO02				*e*S	**Sb**	**19 22 16.1**	**+1.2**
BO02				IAML		19 22 17.5	
	comp=Z,1µm,0.2s						
BO04	**La Punta**	**2.46**	**55**	*e*P	**Pb**	**19 21 58.9**	**-0.3**
BO04				*i* S	**Sb**	**19 22 30.9**	**+1.3**
BO04				IAML		19 22 38.4	
	comp=E,524nm,0.5s						
MT15	**Las Vizcachas**	**2.78**	**49**	*e*P	**Pb**	**19 22 04.5**	**-0.1**
LMEL	**Las Melosas**	**2.82**	**56**	*i* P	**Pb**	**19 22 04.0**	**-1.4**
LMEL				*e*S	**Sg**	**19 22 45.0**	**-0.4**
LMEL				IAML		19 22 50.8	
	comp=Z,440nm,0.7s						
MT13	**San Alfonso**	**2.82**	**54**	*e*P	**Pb**	**19 22 05.7**	**+0.3**
MT16	**CCHEN**	**2.88**	**46**	*e*P	**Pb**	**19 22 06.2**	**-0.3**
GO06	**Curarrehue**	**4.31**	**164**	*i* P	**Pn**	**19 22 21.2**	**+0.6**
GO06				IAML		19 23 37.0	
	comp=Z,41nm,0.8s						
CO02	**Combarbal**	**4.55**	**22**	*i* P	**Pn**	**19 22 24.5**	**+0.5**
CO02				*e*S	**Sn**	**19 23 16.3**	**-0.7**
CO02				IAML		19 23 56.1	
	comp=Z,85nm,0.8s						
CO03	**El Pedregal**	**4.99**	**24**	*i* P	**Pn**	**19 22 30.4**	**+0.4**
CO03				IAML		19 24 11.3	
	comp=Z,52nm,0.9s						

*SJA **29** 19:29:55.1±1.8,35˚.39S×73˚.17W,h22km±19km,ML4.0, MW3.8*
*IDC **29** 19:29:56.5±0.8,35˚.44S×72˚.82W,h0km,mb3.9/9, mbtmp3.8/12,ML3.8/3,Error ellipse: s-maj=33.3km s-min=17.2km az=91.0*
*GUC **29** 19:29:59.2±0.3,35˚.49S×73˚.01W,h25km±3km,ML3.8*
ISC 29 19:29:56.4±1.8,**35˚.46S**±0˚.04×**73˚.04W**±0˚.07,**h3**km±11km, **n61**,σ0°**84**/61,**mb4.1**/10,**5C**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Hualane**	**1.02**	**64**	*e*P	**Pg**	**19 30 16.2**	**+0.3**
GO05				*e*S	**Sb**	**19 30 29.6**	**-0.8**
GO05	**Hualane**	**1.02**	**64**	*i* P	**Pg**	**19 30 15.6**	**-0.3**
GO05				IAML		19 30 30.4	
	comp=Z,11µm,0.6s						
BI05	**Punta Hualpn**	**1.29**	**185**	*e*P	**Pn**	**19 30 20.5**	**-0.8**
BI05				*e*S	**Sb**	**19 30 36.6**	**-1.6**
BI05				IAML		19 30 43.8	
	comp=N,6µm,0.2s						
BI05	**Punta Hualpn**	**1.29**	**185**	*i* P	**Pn**	**19 30 21.3**	**+0.1**
BI05				IAML		19 30 42.9	
	comp=Z,2µm,0.4s						
BO03	**Pichilemu**	**1.31**	**43**	⇑*i*P	**Pn**	**19 30 20.3**	**-1.2**
BO03				*e*S	**Sg**	**19 30 39.7**	**+1.1**
BO03				IAML		19 30 42.0	
	comp=N,2µm,0.7s						
BI02	**San Fabin de**	**1.87**	**130**	*e*P	**Pn**	**19 30 29.0**	**-0.4**
BI02				*e*S	**Sn**	**19 30 52.6**	**-0.9**
BI02				IAML		19 30 53.9	
	comp=N,2µm,0.4s						
BI02	**San Fabin de**	**1.87**	**130**	*i* P	**Pn**	**19 30 28.9**	**-0.4**
BI02				IAML		19 30 54.0	
	comp=Z,2µm,0.3s						
BO01	**Tunca**	**1.93**	**57**	*e*P	**Pb**	**19 30 31.9**	**-0.3**
BO01				*e*S	**Sg**	**19 30 58.6**	**+0.2**
BO01				IAML		19 31 03.3	
	comp=N,1µm,0.6s						
BO01	**Tunca**	**1.93**	**57**	*i* P	**Pb**	**19 30 31.2**	**-1.0**
BO01				IAML		19 31 09.6	
	comp=Z,988nm,0.6s						
BO02	**Sierra Bellavi**	**1.97**	**71**	*e*P	**Pn**	**19 30 31.4**	**+0.7**
BO02				*e*S	**Sb**	**19 30 56.5**	**-1.5**
BO02	**Sierra Bellavi**	**1.97**	**71**	*i* P	**Pn**	**19 30 30.5**	**-0.2**
BO02				IAML		19 31 03.7	
	comp=Z,3µm,0.6s						
MT01	**Popeta**	**2.17**	**43**	*i* P	**Pn**	**19 30 32.6**	**-0.9**
MT01				IAML		19 31 17.3	
	comp=Z,622nm,1.2s						
MT09	**Talagante**	**2.39**	**46**	*e*P	**Pb**	**19 30 39.1**	**-1.0**
BO04	**La Punta**	**2.48**	**54**	*e*P	**Pb**	**19 30 41.6**	**-0.1**
MT12	**Pirque**	**2.68**	**51**	*e*P	**Pb**	**19 30 44.5**	**-0.6**
MT12				*e*S	**Sb**	**19 31 19.7**	**+1.2**
MT02	**Curacav**	**2.70**	**36**	*e*P	**Pn**	**19 30 39.7**	**-1.1**
MT02	**Curacav**	**2.70**	**36**	*i* P	**Pn**	**19 30 39.4**	**-1.4**
MT02				IAML		19 31 32.1	
	comp=Z,384nm,0.7s						
MT15	**Las Vizcachas**	**2.80**	**49**	*e*P	**Pb**	**19 30 46.7**	**-0.4**
MT13	**San Alfonso**	**2.85**	**54**	*e*P	**Pb**	**19 30 47.4**	**-0.5**
MT13				*e*S	**Sb**	**19 31 23.8**	**+0.6**
MT16	**CCHEN**	**2.91**	**46**	*e*P	**Pb**	**19 30 48.5**	**-0.5**
MT14	**Cerro Cal¡n**	**2.92**	**46**	*e*P	**Pb**	**19 30 48.3**	**-0.9**
ROCH	**El Roble**	**3.00**	**35**	*e*P	**Pn**	**19 30 44.1**	**-1.0**
MT10	**Hacienda Santa**	**3.01**	**44**	*e*P	**Pn**	**19 30 46.5**	**+1.4**
MT10				*e*S	**Sb**	**19 31 28.6**	**+0.6**
PEL	**Peldehue**	**3.03**	**41**	*e*P	**Pn**	**19 30 45.9**	**+0.7**
FCH	**Farellones**	**3.12**	**48**	*e*P	**Pn**	**19 30 47.3**	**+0.6**
MT04	**Ro Olivares**	**3.16**	**50**	*e*P	**Pn**	**19 30 48.1**	**+0.8**
MT04	**Ro Olivares**	**3.16**	**50**	*i* P	**Pn**	**19 30 47.8**	**+0.5**
MT04				IAML		19 31 36.7	
	comp=Z,315nm,1.6s						
MT08	**Bocatoma Ro**	**3.21**	**52**	*e*P	**Pb**	**19 30 53.2**	**-0.9**
VA06	**Catapilco**	**3.24**	**27**	*e*P	**Pn**	**19 30 47.5**	**-0.6**
VA03	**San Esteban**	**3.39**	**38**	*e*P	**Pn**	**19 30 50.6**	**+0.3**
VA03	**San Esteban**	**3.39**	**38**	*i* P	**Pn**	**19 30 50.0**	**-0.4**
VA03				IAML		19 31 54.7	
	comp=Z,389nm,0.6s						
GO06	**Curarrehue**	**4.30**	**164**	*i* P	**Pn**	**19 31 03.6**	**+0.8**
GO06				IAML		19 32 18.4	
	comp=Z,82nm,1.6s						
CO02	**Combarbal**	**4.58**	**22**	*i* P	**Pn**	**19 31 05.8**	**-0.9**
CO02				IAML		19 32 37.8	
	comp=Z,138nm,1.0s						
CO03	**El Pedregal**	**5.02**	**24**	*i* P	**Pn**	**19 31 12.2**	**-0.5**
CO03				IAML		19 32 44.7	
	comp=Z,76nm,0.8s						
H03S1	**Juan Fernandez** baz=109,slow=75,SNR=501	**5.10**	**287**	T	T	19 36 28.2	
H03S3	**Juan Fernandez** baz=109,slow=75,SNR=419	**5.11**	**287**	T	T	19 36 33.9	
H03S2	**Juan Fernandez** baz=109,slow=75,SNR=389	**5.11**	**287**	T	T	19 36 26.2	
H03N1	**Juan Fernandez** baz=110,slow=76,SNR=17	**5.25**	**291**	T	T	19 36 42.9	
H03N3	**Juan Fernandez** baz=110,slow=76,SNR=22	**5.25**	**291**	T	T	19 36 44.0	
H03N2	**Juan Fernandez** baz=110,slow=76,SNR=15	**5.27**	**291**	T	T	19 36 52.4	
CFA	**Coronel Fontan** comp=Z,0.6nm,0.3s,baz=224,slow=14,SNR=9.7	**5.56**	**48**	Pn	**Pn**	**19 31 20.3**	**+0.2**
CFA				Lg	Lg	19 32 37.9	
	comp=Z,1.3nm,0.3s,baz=267,slow=19,SNR=8.2						
	comp=Z,2.1nm,0.4s						
PLCA	**Paso Flores** comp=Z,0.8nm,0.3s,baz=330,slow=7.4,SNR=14	**5.62**	**160**	Pn	**Pn**	**19 31 21.8**	**+1.0**
PLCA				Lg	Lg	19 32 46.4	
	comp=Z,1.9nm,0.3s,baz=253,slow=19,SNR=6.0						
	comp=Z,2.9nm,0.4s						
LPAZ	**La Paz** comp=Z,0.3nm,0.3s,baz=192,slow=4.1,SNR=12	**19.59**	**14**	P	**Pn**	**19 34 27.9**	**+0.3**
	comp=Z,2.4nm,0.5s						
SIV	**San Ignacio** comp=Z,3.7nm,0.9s,baz=207,slow=11,SNR=13	**22.15**	**32**	P	**P**	**19 34 52.1**	**-1.4**
	comp=Z,3.7nm,0.9s						
VNA3	**Neumayer Olymp** comp=Z,2.5nm,0.7s	**48.33**	**157**	⇑P	**P**	**19 38 38.8**	**+0.1**
VNA2	**Neumayer--Watz** comp=Z,2.3nm,0.8s,baz=281,slow=9.0	**48.99**	**157**	⇑P	**P**	**19 38 44.0**	**+0.2**
SNAA	**Sanae** comp=Z,52nm,0.9s	**50.55**	**157**	⇑P	**P**	**19 38 55.8**	**+0.1**
SNAA	**Sanae** comp=Z,2.2nm,0.8s,baz=256,slow=6.9,SNR=11	**50.55**	**157**	P	**P**	**19 38 55.5**	**-0.3**
	comp=Z,2.2nm,0.8s						
TROLL	**Troll, Antarti** comp=Z,150nm,0.7s	**52.25**	**158**	⇑P	**P**	**19 39 08.8**	**+0.2**
QSPA	**South Pole Qui** comp=Z,2.0nm,0.9s,baz=183,slow=1.9,SNR=9.9	**54.78**	**180**	P	**P**	**19 39 29.1**	**+1.9**
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array** comp=Z,0.2nm,0.6s,baz=150,slow=4.7,SNR=2.5	**70.62**	**332**	P	**P**	**19 41 14.1**	**+0.9**
	comp=Z,0.2nm,0.6s						
MAW	**Mawson** comp=Z,1.1nm,0.7s,baz=207,slow=11,SNR=2.6	**72.01**	**164**	P	**P**	**19 41 20.8**	**-0.2**
	comp=Z,1.1nm,0.7s						
DBIC	**Dimbokro** comp=Z,3.5nm,0.7s,baz=225,slow=4.3,SNR=4.1	**76.43**	**72**	P	**P**	**19 41 46.9**	**-0.7**
	comp=Z,3.5nm,0.7s						
NVAR	**Mina Array Bea** comp=Z,0.6nm,0.8s,baz=139,slow=3.8,SNR=2.3	**84.62**	**326**	P	**P**	**19 42 33.0**	**+1.7**
	comp=Z,0.6nm,0.8s						
PDAR	**Pinedale Array** comp=Z,0.2nm,0.5s,baz=147,slow=8.1,SNR=1.6	**84.70**	**334**	P	**P**	**19 42 31.8**	**+0.1**
	comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.7s,baz=226,slow=3.8,SNR=5.1	**85.48**	**71**	P	**P**	**19 42 35.3**	**-0.6**
	comp=Z,0.5nm,0.7s						
H11N3	**WAKE ISLAND Hyd** baz=122	**125.37**	**270**	T	T	22 07 06.1	
H11N1	**WAKE ISLAND Hyd** baz=122	**125.38**	**270**	T	T	22 07 07.8	
H11N2	**WAKE ISLAND Hyd** baz=122	**125.38**	**270**	T	T	22 06 57.6	
BVAR	**Borovoye Array** comp=Z,1.1nm,0.5s,baz=318,slow=1.9,SNR=5.3	**148.91**	**44**	PKPbc	**PKPbc**	**19 49 44.9**	**-0.1**
KURBB	**Kurchatov Arra** comp=Z,0.3nm,0.3s,baz=307,slow=3.1,SNR=5.7	**154.49**	**45**	PKPbc	**PKPbc**	**19 49 57.1**	**-0.8**

*SJA **29** 19:44:07.0±1.0,35˚.46S×73˚.33W,h19km±38km,ML3.5, MW3.5*
*GUC **29** 19:44:13.2±0.6,35˚.54S×72˚.92W,h20km,ML3.5*
ISC 29 19:44:11.9±1.5,**35˚.47S**±0˚.04×**73˚.12W**±0˚.09,**h24**km±16km, **n32**,σ1°**53**/40,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Hualane**	**1.07**	**65**	*i* P	**Pn**	**19 44 30.1**	**-1.3**
GO05				*e*S	**Sn**	**19 44 42.5**	**-3.2**
GO05				IAML		19 44 44.0	
	comp=N,3µm,0.3s						
GO05	**Hualane**	**1.07**	**65**	*i* P	**Pn**	**19 44 30.3**	**-1.2**
GO05				IAML		19 44 46.3	
	comp=Z,1µm,0.2s						
BI05	**Punta Hualpn**	**1.28**	**183**	*e*P	**Pb**	**19 44 34.9**	**-0.4**
BI05				*e*S	**Sb**	**19 44 52.7**	**+1.4**
BI05				IAML		19 44 55.9	
	comp=N,1µm,0.4s						
BI05	**Punta Hualpn**	**1.28**	**183**	*i* P	**Pb**	**19 44 34.9**	**-0.4**
BI05				IAML		19 44 56.1	
	comp=Z,332nm,0.5s						
BO03	**Pichilemu**	**1.36**	**45**	*e*P	**Pn**	**19 44 35.9**	**+0.6**
BO03				*e*S	**Sn**	**19 44 53.0**	**+0.5**
BI02	**San Fabin de**	**1.91**	**129**	*e*P	**Pn**	**19 44 42.4**	**-0.6**
BI02				*e*S	**Sn**	**19 45 05.0**	**-1.4**
BI02				IAML		19 45 06.5	
	comp=N,696nm,0.2s						
BI02	**San Fabin de**	**1.91**	**129**	*i* P	**Pn**	**19 44 42.5**	**-0.5**
BI02				IAML		19 45 13.8	
	comp=Z,337nm,0.9s						
BO01	**Tunca**	**1.98**	**58**	*e*P	**Pn**	**19 44 46.1**	**+2.2**
BO01				*e*S	**Sn**	**19 45 08.1**	**+0.1**
BO01				IAML		19 45 17.0	
	comp=E,804nm,0.6s						
BO01	**Tunca**	**1.98**	**58**	*i* P	**Pn**	**19 44 44.5**	**+0.5**
BO01				IAML		19 45 14.1	
	comp=Z,353nm,0.5s						
BO02	**Sierra Bellavi**	**2.03**	**71**	*e*P	**Pn**	**19 44 45.5**	**+0.8**
BO02				*e*S	**Sn**	**19 45 10.4**	**+1.2**
BO02	**Sierra Bellavi**	**2.03**	**71**	*i* P	**Pn**	**19 44 44.5**	**-0.1**
BO02				IAML		19 45 14.5	
	comp=Z,1µm,0.6s						
MT01	**Popeta**	**2.22**	**44**	*e*P	**Pn**	**19 44 48.1**	**+0.9**
MT01	**Popeta**	**2.22**	**44**	*i* P	**Pn**	**19 44 46.6**	**-0.6**
MT01				IAML		19 45 27.3	
	comp=Z,209nm,0.7s						
MT09	**Talagante**	**2.44**	**47**	*e*P	**Pn**	**19 44 51.3**	**+1.0**
MT09				*e*S	**Sb**	**19 45 26.0**	**+1.3**
BO04	**La Punta**	**2.54**	**55**	*e*P	**Pn**	**19 44 54.5**	**+2.8**
BO04				*e*S	**Sb**	**19 45 27.8**	**+0.2**
BO04				IAML		19 45 33.6	
	comp=N,379nm,0.4s						
MT02	**Curacav**	**2.75**	**37**	*i* P	**Pn**	**19 44 53.8**	**-0.7**
MT02				IAML		19 45 44.8	
	comp=Z,122nm,0.6s						
MT15	**Las Vizcachas**	**2.85**	**50**	*e*P	**Pb**	**19 45 01.0**	**-1.1**
LMEL	**Las Melosas**	**2.90**	**57**	*i* P	**Pn**	**19 44 59.0**	**+2.4**
LMEL				IAML		19 45 42.1	
	comp=Z,339nm,0.6s						
MT13	**San Alfonso**	**2.90**	**54**	*e*P	**Pb**	**19 45 01.6**	**-1.4**
MT03	**Universidad Ad**	**2.92**	**48**	*i* P	**Pn**	**19 44 59.4**	**+2.5**
MT03				IAML		19 45 48.1	
	comp=Z,268nm,0.4s						
MT16	**CCHEN**	**2.96**	**47**	*e*P	**Pb**	**19 45 02.3**	**-1.6**
MT14	**Cerro Cal¡n**	**2.97**	**47**	*e*P	**Pb**	**19 45 03.2**	**-0.9**
ROCH	**El Roble**	**3.04**	**36**	*e*P	**Pn**	**19 45 00.9**	**+2.2**
MT10	**Hacienda Santa**	**3.06**	**45**	*e*P	**Pn**	**19 45 01.1**	**+2.2**
PEL	**Peldehue**	**3.07**	**42**	*e*P	**Pb**	**19 45 04.9**	**-1.0**
MT04	**Ro Olivares**	**3.21**	**51**	*i* P	**Pn**	**19 45 02.2**	**+1.2**
MT04				IAML		19 45 58.1	
	comp=Z,106nm,1.1s						
VA06	**Catapilco**	**3.27**	**28**	*e*P	**Pn**	**19 45 01.8**	**+0.2**
VA03	**San Esteban**	**3.44**	**39**	*i* P	**Pn**	**19 45 04.6**	**+0.6**
VA03				IAML		19 46 04.6	
	comp=Z,123nm,0.5s						
RFA	**San Rafael**	**3.88**	**81**	*i* P	**Pn**	**19 45 13.8**	**+3.8**
RFA				IAML		19 46 15.0	
	comp=Z,101nm,0.8s						
GO06	**Curarrehue**	**4.31**	**163**	*i* P	**Pn**	**19 45 16.3**	**+0.2**
GO06				IAML		19 46 25.7	
	comp=Z,11nm,0.7s						
CO02	**Combarbal**	**4.61**	**23**	*i* P	**Pn**	**19 45 20.0**	**-0.1**
CO02				IAML		19 46 51.9	
	comp=Z,47nm,0.8s						
CO03	**El Pedregal**	**5.04**	**24**	*i* P	**Pn**	**19 45 26.4**	**+0.2**
CO03				IAML		19 47 00.6	
	comp=Z,23nm,1.1s						

*NNC **29** 20:05:00.4±0.9,42˚.88N×79˚.31E,h0km,mb3.7,mpv2.3, Error ellipse: s-maj=6.3km s-min=2.2km az=145.0*
*SOME **29** 20:05:00.1,42˚.88N×79˚.32E,h15km*
ISC 29 20:04:59.3±3.5,**42˚.9N**±0˚.1×**79˚.32E**±0˚.08,**h7**km±29km,**n6**, σ0°**33**/12,**3C-1D**,**Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak** 1.3nm,0.1s	**0.32**	**318**	P	**Pb**	**20 05 07.8**	**+0.3**
UZB				S	**Sb**	**20 05 12.9**	**0.0**
	1.0nm,0.2s						
UZB	**Uzynbulak** 1.3nm,0.1s	**0.32**	**318**	*e*P	**Pb**	**20 05 07.8**	**+0.3**
UZB				*e*S	**Sb**	**20 05 12.9**	**0.0**
	1.0nm,0.2s						
PDGK	**Podgornoye** 0.5nm,0.3s	**0.44**	**17**	⇑P	**Pb**	**20 05 09.6**	**+0.2**
PDGK				⇑S	**Sb**	**20 05 16.0**	**-0.3**
	1.6nm,0.7s						
SATY	**Saty** 0.8nm,0.1s	**0.69**	**283**	P	**Pb**	**20 05 14.0**	**+0.4**
SATY				S	**Sb**	**20 05 23.6**	**+0.2**
	4.7nm,0.1s						
KPKS	**Kokpek** 0.5nm,0.2s	**0.72**	**320**	P	**Pb**	**20 05 14.2**	**-0.1**
KPKS				S	**Sb**	**20 05 24.2**	**-0.3**
	2.2nm,0.2s						
KNDC	**Almaty** 13nm,0.3s	**1.75**	**281**	⇓P	**Pb**	**20 05 31.3**	**-0.4**
KNDC				⇑S	**Sg**	**20 05 55.4**	**-0.1**
	4.4nm,0.6s						

*SJA **29** 20:11:55.4±1.1,35˚.56S×73˚.08W,h10km,ML5.0,MW4.8*
*MOS **29** 20:11:57.2±1.1,35˚.48S×72˚.88W,h10km,mb5.3/27,Error ellipse: s-maj=12.1km s-min=7.2km az=86.7*
*NEIC **29** 20:11:58.8,35˚.53S×72˚.97W,h13km*
*NEIC **29** 20:11:58.6,35˚.50S×72˚.95W,h20km*
*NEIC **29** 20:11:58.6,35˚.30S×73˚.07W,h20km,Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10¹⁶Nm; M_{rr}-2.51; $M_{\theta\theta}$0.09; $M_{\phi\phi}$2.42; $M_{r\theta}$1.93; $M_{r\phi}$1.45; $M_{\theta\phi}$1.27; Fault plane solution: $M_0$3.68000×10¹⁶ NP1:ϕs223.28000°,δ39.93000°,λ-59.11000°. NP2:ϕs5.33000°, δ65.73000°,λ-69.73000°. Principal axes: T 3.7716, Plg18.0000°, Azm301.0000°; N -0.1944, Plg18.0000°, Azm37.0000°; P -3.5772, Plg64.0000°, Azm169.0000°;*
*NEIC **29** 20:11:58.8±1.8,35˚.52S±0˚.04×72˚.99W±0˚.07,h14km±3km, mb5.3/397,Mwr4.7/74,Mww5.0/6,Mwr5.0(GUC) Error ellipse: s-maj=8.6km s-min=4.7km az=118.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; M_{rr}-1.12; $M_{\theta\theta}$0.10; $M_{\phi\phi}$1.01; $M_{r\theta}$0.25; $M_{r\phi}$0.52; $M_{\theta\phi}$-0.50; Fault plane solution: $M_0$1.31000×10¹⁶ NP1: ϕs223.28000°,δ39.93000°,λ-59.11000°. NP2:ϕs5.33000°, δ56.58000°,λ-113.25000°. Principal axes: T 1.3054, Plg9.0000°, Azm112.0000°; N 0.0176, Plg19.0000°, Azm19.0000°; P -1.3230, Plg69.0000°, Azm225.0000°;*
*GUC **29** 20:11:59.6±0.8,35˚.53S×72˚.90W,h16km±10km,ML4.7*
*VAO **29** 20:11:59.5±0.4,35˚.41S×72˚.69W,h10km,mb5.1*
*IDC **29** 20:12:04.1±2.2,35˚.47S×72˚.71W,h47km±19km,mb4.7/17, mbtmp4.9/20,ML4.4/4,MS4.2/15,Error ellipse: s-maj=16.9km s-min=11.1km az=91.0*
ISC 29 20:11:57.1±1.0,**35˚.50S**±0˚.03×**72˚.95W**±0˚.04,**h4**km±6km, **n469**,σ1°**22**/337,**mb5.3**/193,**MS4.3**/14,**8C-8D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Hualane**	**0.97**	**60**	⇑*i*P	**Pb**	**20 12 16.9**	**+0.5**
GO05				*e*S	**Sg**	**20 12 29.1**	**+0.8**
GO05				IAML		20 12 30.6	
	comp=E,67µm,0.5s						
GO05	**Hualane**	**0.97**	**60**	*i* P	**Pg**	**20 12 16.1**	**+0.5**
GO05				*e*S	**Sb**	**20 12 30.4**	**+0.9**
GO05				IAML		20 12 32.1	
	comp=Z,48µm,0.7s						
BI05	**Punta Hualpn**	**1.26**	**189**		**Pn**	**20 12 21.1**	**-0.3**
BI05					**Sg**	**20 12 37.0**	**-0.5**
BI05	**Punta Hualpn**	**1.26**	**189**	*e*P	**Pn**	**20 12 21.2**	**-0.2**
BI05				*e*S	**Sg**	**20 12 37.0**	**-0.5**
BI05				IAML		20 12 44.4	
	comp=N,15µm,0.4s						
BI05	**Punta Hualpn**	**1.26**	**189**	*i* P	**Pn**	**20 12 20.8**	**-0.6**
BI05				*e*S	**Sg**	**20 12 34.5**	**-3.0**
BI05				IAML		20 12 42.3	
	comp=Z,10µm,1.2s						
BO03	**Pichilemu**	**1.29**	**39**	*i* P	**Pb**	**20 12 22.1**	**+0.2**
BO03				*e*S	**Sb**	**20 12 38.8**	**0.0**
BO03				IAML		20 12 42.9	
	comp=N,39µm,0.1s						
BI02	**San Fabin de**	**1.78**	**131**		**Pn**	**20 12 29.2**	**+0.4**
BI02					**Sn**	**20 12 51.8**	**-0.1**
BI02	**San Fabin de**	**1.78**	**131**	⇑*i*P	**Pn**	**20 12 29.2**	**+0.4**
BI02				*e*S	**Sn**	**20 12 51.8**	**-0.1**
BI02	**San Fabin de**	**1.78**	**131**	*i* P	**Pn**	**20 12 29.1**	**+0.4**
BI02				*e*S	**Sb**	**20 12 53.6**	**+0.5**
BI02				IAML		20 12 55.6	
	comp=Z,8µm,0.7s						
BO01	**Tunca**	**1.89**	**55**		**Pn**	**20 12 30.7**	**+0.6**
BO01	**Tunca**	**1.89**	**55**	*e*P	**Pn**	**20 12 30.6**	**+0.5**
BO01				*e*S	**Sg**	**20 12 57.9**	**+0.1**
BO01				IAML		20 13 04.0	
	comp=N,9µm,0.4s						
BO01	**Tunca**	**1.89**	**55**	*i* P	**Pn**	**20 12 31.2**	**+1.1**
BO01				*e*S	**Sg**	**20 12 57.9**	**+0.1**
BO01				IAML		20 13 02.2	
	comp=Z,8µm,0.5s						
BO02	**Sierra Bellavi**	**1.91

EDS3 **Malargue** 2.90 96 *i* P Pb **20 12 48.3 -1.2**
ROCH **El Roble** 2.99 33 ⇓*i*P Pn **20 12 45.5 0.0**
PEL **Peldehue** 3.01 39 Pn **20 12 46.6 +1.1**
PEL **Peldehue** 3.01 39 P Pn **20 12 46.6 +1.1**
PEL **Peldehue** 3.01 39 *e*P Pn **20 12 47.4 +1.8**
MT04 **Ro Olivares** 3.13 49 *i* P Pn **20 12 49.8 +2.4**
MT04 *e*S **Sb** **20 13 30.0 -1.9**
MT04 IAML 20 13 44.0
comp=Z,4µm,1.4s
MT08 **Bocatoma Ro** 3.17 51 Pn **20 12 49.3 +1.3**
MT08 **Bocatoma Ro** 3.17 51 *i* P Pn **20 12 50.0 +2.0**
MT08 *e*S **Sb** **20 13 30.2 -3.1**
MT08 IAML 20 13 43.4
comp=Z,4µm,1.1s
VA06 **Catapilco** 3.24 26 Pn **20 12 48.5 -0.2**
VA06 **Catapilco** 3.24 26 *e*P Pn **20 12 49.0 +0.4**
LC02 **Puerto Saavedr** 3.30 186 Pn **20 12 50.6 +1.1**
VA03 **San Esteban** 3.38 37 *e*P Pn **20 12 52.0 +1.4**
VA03 **San Esteban** 3.38 37 *i* P Pn **20 12 52.3 +1.6**
VA03 *e*S **Sb** **20 13 35.7 -3.3**
VA03 IAML 20 13 54.1
comp=Z,5µm,0.7s
LC01 **Cunco** 3.50 166 *e*P Pn **20 12 53.4 +1.2**
RFA **San Rafael** 3.75 80 *i* P Pn **20 12 58.1 +2.4**
RFA *e*S **Sb** **20 13 45.1 -4.4**
RFA IAML 20 13 59.3
comp=Z,3µm,0.9s
CO04 **Los Peladeros** 3.82 26 *e*P Pn **20 12 56.7 -0.2**
LR03 **Panguipulli** 4.15 174 Pn **20 13 01.6 +0.5**
LR03 **Panguipulli** 4.15 174 *i* P Pn **20 13 01.9 +0.8**
LR03 IAML 20 14 17.9
comp=Z,3µm,1.2s
GO06 **Curarrehue** 4.24 164 *i* P Pn **20 13 03.6 +1.1**
GO06 IAML 20 14 17.5
comp=Z,712nm,1.1s
LR05 **Currie** 4.78 171 Pn **20 13 11.2 +1.4**
RTLS **Leoncito** 4.79 41 *i* P Pn **20 13 13.4 +3.2**
RTLS IAML 20 14 35.5
comp=Z,3µm,1.2s
CO06 **Fray Jorge** 4.94 13 Pn **20 13 11.5 -0.6**
CO03 **El Pedregal** 5.02 23 Pn **20 13 13.6 +0.3**
H03S1 **Juan Fernandez** 5.18 287 T T 20 18 31.5
baz=108,slow=74,SNR=5706
H03S3 **Juan Fernandez** 5.19 287 T T 20 18 30.2
baz=108,slow=74,SNR=7230
H03S2 **Juan Fernandez** 5.20 287 T T 20 18 28.9
baz=108,slow=74,SNR=5438
ZON **Zonda** 5.32 43 P Pn **20 13 19.3 +2.0**
H03N1 **Juan Fernandez** 5.34 291 T T 20 18 48.0
baz=110,slow=78
H03N3 **Juan Fernandez** 5.34 291 T T 20 18 45.4
baz=110,slow=78
H03N2 **Juan Fernandez** 5.35 291 T T 20 18 49.2
baz=110,slow=78
CFA **Coronel Fontan** 5.53 47 P Pn **20 13 21.3 +1.1**
comp=Z,2.9nm,0.3s,baz=227,slow=10.0,SNR=51
CFA *S* **Sn** **20 14 22.1 -2.2**
comp=Z,88nm,0.7s,baz=233,slow=15,SNR=3.8
CFA LR LR 20 15 31.1
comp=Z,946nm,18.9s,baz=331,slow=39
comp=Z,11nm,0.3s
PLCA **Paso Flores** 5.55 161 P Pn **20 13 22.6 +2.0**
comp=Z,6.6nm,0.3s,baz=326,slow=11,SNR=151
PLCA LR LR 20 15 44.9
comp=Z,1µm,18.4s,baz=342,slow=40
comp=Z,24nm,0.5s
PLCA **Paso Flores** 5.55 161 *e*P Pn **20 13 22.9 +2.4**
LL05 **Los Muermos** 5.91 184 Pn **20 13 24.8 -0.5**
LCO **Las Campanas** 6.75 17 Pn **20 13 36.6 -0.5**
LCO **Las Campanas** 6.75 17 P Pn **20 13 36.6 -0.5**
TRQA **Tornquist** 9.16 109 Pn **20 14 12.1 +2.1**
TRQA **Tornquist** 9.16 109 P Pn **20 14 12.1 +2.1**
GO02 **Mina Guanaco** 10.71 17 Pn **20 14 28.5 -3.0**
PB14 **IPOC Station P** 11.06 12 Pn **20 14 36.4 0.0**
AY03 **Cochrane** 11.74 179 Pn **20 14 46.5 +1.2**
PSAL **Palomas, Salto** 13.57 75 *e*P Pn **20 15 09.2 -1.1**
GO09 **Cerro Castillo** 15.77 179 Pn **20 15 40.5 +0.6**
PB11 **IPOC Station P** 15.95 11 Pn **20 15 42.2 -0.3**
CPUP **Villa Florida** 16.21 60 Pn **20 15 44.9 -0.8**
CPUP **Villa Florida** 16.21 60 P Pn **20 15 46.0 +0.3**
comp=Z,0.1nm,0.3s,baz=94,slow=9.3,SNR=5.7
CPUP **Villa Florida** 16.21 60 P Pn **20 15 46.0 +0.3**
CPUP **Villa Florida** 16.21 60 *e*P Pn **20 15 44.4 -1.2**
PLTB **Pedras Altas** 16.54 82 Pn **20 15 49.6 -0.2**
PLTB **Pedras Altas** 16.54 82 *e*P Pn **20 15 44.3 -5.5**
CPSB **Cacapava Do Su** 17.14 78 *e*P Pn **20 15 56.4 -1.1**
PB16 **IPOC Station P** 17.37 11 IAmb IAmb 20 16 09.8
comp=Z,322nm,1.9s
SJPY **San Joaquin** 17.90 59 *e*P Pn **20 16 05.7 -1.3**
PB18 **Visviri** 18.11 11 P Pn **20 16 09.3 -0.7**
MG03 **Isla Dawson** 18.43 175 P P **20 16 12.5 -0.7**
MURT **Porto Murtinho** 19.24 48 *e*P P **20 16 22.4 0.0**
EFI **East Falkland** 19.37 151 *i* P P **20 16 23.2 -0.3**
EFI pmax pmax
comp=Z,136nm,1.6s
ITAB **Concordia** 19.57 71 P P **20 16 26.2 +0.3**
ITAB IAmb IAmb 20 16 35.7
comp=Z,142nm,1.0s
ITAB **Concordia** 19.57 71 *e*P P **20 16 26.0 +0.1**
LPAZ **La Paz** 19.61 14 P P **20 16 26.8 -0.4**
LPAZ **La Paz** 19.61 14 P Pn **20 16 29.1 +0.7**
comp=Z,1.2nm,0.3s,baz=181,slow=7.1,SNR=29
comp=Z,21nm,0.7s
LPAZ **La Paz** 19.61 14 *e*P P **20 16 26.7 -0.5**
CNLB **Canela** 19.63 78 *e*P P **20 16 25.8 -0.9**
AMBA **Amambai (Brazi** 20.03 56 *e*P P **20 16 30.1 -0.9**
BDQN **Bodoquena, MS** 20.68 48 *e*P P **20 16 38.5 +0.5**
PTGB **Pitanga** 20.98 65 *e*P P **20 16 41.2 -0.3**
AQDB **Aquidauana** 21.31 50 P P **20 16 44.5 -0.3**
AQDB IAmb IAmb 20 16 53.1
comp=Z,119nm,0.8s
AQDB **Aquidauana** 21.31 50 *e*P P **20 16 45.1 +0.2**
TRCB **Terra Rica** 21.75 60 P P **20 16 51.5 +1.8**
TRCB IAmb IAmb 20 16 58.2
comp=Z,121nm,0.6s
TRCB **Terra Rica** 21.75 60 *e*P P **20 16 50.1 +0.5**
MAJ01 **Sao Joao Batis** 21.92 75 *e*P P **20 16 50.5 -1.0**
SIV **San Ignacio** 22.14 32 LR LR 20 27 02.6
comp=Z,998nm,18.8s,baz=220,slow=41
PTLB **Pontes e Lacer** 23.49 35 P P **20 17 07.9 0.0**
PTLB **Pontes e Lacer** 23.49 35 *e*P P **20 17 07.5 -0.4**
FRTB **Fartura** 23.64 65 *e*P P **20 17 08.5 -0.9**
NNA **Nana** 23.68 350 *i* P P **20 17 09.7 -0.1**
NNA pmax pmax
comp=Z,49nm,0.9s
PP1B **Ponte de Pedra** 24.00 47 *e*P P **20 17 13.1 +0.3**
C2SB **Chapadao do Su** 24.38 52 *e*P P **20 17 16.0 -0.4**
PET01 **Itanhaem-SP** 24.83 70 *e*P P **20 17 20.7 +0.2**
SALV **Santo Antonio** 24.88 43 *e*P P **20 17 21.0 0.0**
SPB **Sao Paulo** 25.09 69 IAmb IAmb 20 17 33.0
comp=Z,61nm,0.9s
SPB **Sao Paulo** 25.09 69 *e*P P **20 17 23.7 +0.9**
VILB **Vilhena** 25.23 30 P P **20 17 24.5 +0.3**
VILB **Vilhena** 25.23 30 *e*P P **20 17 24.5 +0.3**
ITRB **Iturama** 25.37 58 *e*P P **20 17 25.8 +0.4**
RCLB **Rio Claro- Sao** 25.69 66 *e*P P **20 17 28.7 +0.4**
BB19B **Bebedouro** 25.78 63 *e*P P **20 17 28.1 -1.0**
VAO **Valinhos** 25.78 68 P P **20 17 29.7 +0.5**
VAO IAmb IAmb 20 17 40.8
comp=Z,58nm,1.2s
VAO **Valinhos** 25.78 68 *e*P P **20 17 28.9 -0.2**
SLP01 **Ubatuba-SP** 26.98 71 *e*P P **20 17 39.6 -0.5**
ARAG **Araguaiana, MT** 27.31 49 *e*P P **20 17 42.4 -0.6**
PDRB **Porto dos Gac** 27.96 36 *e*P P **20 17 48.6 -0.2**
IPMB **Ipameri, GO** 28.03 58 *e*P P **20 17 48.7 -0.8**
BSCB **Bom Sucesso** 28.59 67 *e*P P **20 17 53.7 -0.8**
ATAH **Atahualpa** 28.67 349 LR LR 20 27 20.6
comp=Z,33nm,19.4s,baz=205,slow=32
PMNB **Patos De Minas** 28.91 61 *e*P P **20 17 56.8 -0.5**
CLDB **Colider** 29.05 37 *e*P P **20 17 58.2 -0.3**
PMSA **Palmer Station** 29.79 172 LR LR 20 29 43.9
comp=Z,960nm,18.3s,baz=344,slow=36
PMSA **Palmer Station** 29.79 172 *e*P P **20 18 06.5 +1.9**
BDFB **Brasilia** 29.80 55 P P **20 18 04.0 -1.3**
BDFB **Brasilia** 29.80 55 P P **20 18 03.7 -1.6**
comp=Z,11nm,1.0s,baz=219,slow=6.2,SNR=13
comp=Z,11nm,1.0s
BDFB **Brasilia** 29.80 55 P P **20 18 04.0 -1.3**
BDFB pmax pmax
comp=Z,24nm,1.1s
SNDB **Serra Nova Dou** 30.54 45 *e*P P **20 18 12.0 +0.3**
DIAM **Diamantina, MG** 31.07 64 *e*P P **20 18 15.8 -0.7**
RPN **Rapa Nui** 32.05 275 P P **20 18 26.1 +1.3**
RPN **Rapa Nui** 32.05 275 LR LR 20 28 01.0
comp=Z,446nm,18.4s,baz=47,slow=30
RPN **Rapa Nui** 32.05 275 P P **20 18 26.2 +1.3**
RPN pmax pmax
comp=Z,153nm,1.1s
NPGB **Novo Progresso** 32.60 34 *e*P P **20 18 29.0 -0.8**
SJMB **Sao Joao De Ma** 32.67 68 *e*P P **20 18 29.8 -0.6**
JANB **Januaria** 32.74 59 *e*P P **20 18 30.2 -0.9**
TEFE **Tefe** 32.75 15 *e*P P **20 18 31.8 +0.7**
SMAI **San Martin Ant** 32.84 176 P P **20 18 29.6 -1.7**
RIB01 **Linhares ES** 32.90 69 *e*P P **20 18 32.6 +0.2**
COHC **Cochancay** 33.39 348 P P **20 18 37.7 +1.0**
MACA **Manacapuru-AM** 34.13 22 P P **20 18 43.3 +0.2**
MACA **Manacapuru-AM** 34.13 22 *e*P P **20 18 43.0 -0.1**
SDBA **SAO DESIDERIO** 34.21 55 *e*P P **20 18 43.0 -0.9**
ITTB **Itaituba** 34.83 31 *e*P P **20 18 48.6 -0.5**
GUA01 **Guaratinga, BA** 35.00 66 *e*P P **20 18 49.9 -0.9**
SMTB **Santa Maria do** 35.20 47 *e*P P **20 18 52.5 0.0**
OTAV **Otavalo** 35.93 351 *e*P P **20 18 58.9 -0.3**
CMC01 **Camacan, BA** 35.99 65 *e*P P **20 18 58.6 -0.6**
PRPB **Parauapebas** 36.12 42 *e*P P **20 18 59.2 -1.1**
BOAV **Boa Vista** 39.45 20 P P **20 19 27.9 -0.5**
BOAV **Boa Vista** 39.45 20 *e*P P **20 19 28.3 -0.2**
ROSC **El Rosal** 40.15 358 P P **20 19 37.0 +2.3**
comp=Z,9.1nm,0.3s,baz=167,slow=7.7,SNR=7.0
comp=Z,9.1nm,0.3s
ROSC **El Rosal** 40.15 358 P P **20 19 37.0 +2.3**
RUSC **La Rusia** 41.17 360 P P **20 19 44.4 +1.1**
RUSC IAmb IAmb 20 19 46.1
comp=Z,57nm,0.9s
NBAN **Anadia - AL** 42.12 61 *e*P P **20 19 49.9 -0.7**
SDV **Santo Domingo** 44.20 3 *e*P P **20 20 08.1 +0.6**
BAUV **El Baul** 44.45 7 P P **20 20 09.5 +0.2**
MDP **Montagnes des** 44.67 29 LR LR 20 40 26.8
comp=Z,352nm,20.3s,baz=199,slow=38
RCBR **Riachuelo** 45.07 58 P P **20 20 14.0 -0.4**
RCBR **Riachuelo** 45.07 58 LR LR 20 38 12.5
comp=Z,88nm,19.3s,baz=216,slow=35
RCBR **Riachuelo** 45.07 58 P P **20 20 14.0 -0.4**
RCBR pmax pmax
comp=Z,16nm,1.0s
RCBR **Riachuelo** 45.07 58 *e*P P **20 20 14.2 -0.2**
PCRV **Puerto La Cruz** 46.11 11 LR LR 20 41 31.5
comp=Z,358nm,19.2s,slow=38
JTS **Las Juntas de** 46.94 344 *i* P P **20 20 29.4 +0.4**
JTS pmax pmax
comp=Z,23nm,1.4s
VNA3 **Neumayer Olymp** 48.26 157 ⇓P P **20 20 39.8 +1.1**
comp=Z,33nm,0.8s
VNA1 **Neumayer--Stat** 48.59 156 ⇓P P **20 20 42.6 +1.4**
comp=Z,22nm,0.9s
VNA2 **Neumayer--Watz** 48.93 157 ⇓P P **20 20 44.9 +1.1**
comp=Z,23nm,0.8s,baz=284,slow=8.7
SNAA **Sanae** 50.48 157 ⇓P P **20 20 56.8 +1.0**
comp=Z,880nm,0.9s
SNAA **Sanae** 50.48 157 P P **20 20 56.8 +1.0**
SNAA **Sanae** 50.48 157 P P **20 20 56.2 +0.5**
comp=Z,43nm,0.9s,baz=276,slow=6.7,SNR=150
comp=Z,43nm,0.9s
SNAA **Sanae** 50.48 157 P P **20 20 56.8 +1.0**
SNAA pmax pmax
comp=Z,82nm,1.1s
TROLL **Troll, Antarti** 52.19 158 ⇓P P **20 21 09.6 +1.1**
comp=Z,2µm,0.8s
GDSD **La Dsirade Is** 52.75 14 IAmb IAmb 20 21 13.4
comp=Z,50nm,1.0s
CRPR **Cabo Rojo, PR** 53.50 7 IAmb IAmb 20 21 19.4
comp=Z,67nm,1.2s
OBIP **Obispado Ponce** 53.59 8 IAmb IAmb 20 21 20.8
comp=Z,47nm,1.1s
CELP **Cerrillos** 53.62 8 P P **20 21 18.4 -1.2**
CELP IAmb IAmb 20 21 20.9
comp=Z,36nm,0.8s
PDPR **Patillas Dam,** 53.63 8 IAmb IAmb 20 21 19.8
comp=Z,22nm,0.9s
QSPA **South Pole Qui** 54.74 180 P P **20 21 27.4 0.0**
QSPA **South Pole Qui** 54.74 180 P P **20 21 30.4 +3.0**
comp=Z,42nm,0.9s,baz=145,slow=2.4,SNR=106
QSPA LR LR 20 43 37.7
comp=Z,170nm,18.8s,baz=166,slow=35
comp=Z,42nm,0.9s
NVL **N'lazarevskaya** 55.24 156 *i* P P **20 21 29.4 -1.4**
NVL *e* 20 23 33.0
NVL *e*PPP PPP 20 24 44.6
NVL *e*S S **20 29 15.5 +0.9**
NVL *e* 20 31 21.6
NVL *e*SSS SSS 20 35 07.9
NVL pmax pmax
comp=Z,10.0nm,0.9s
NVL smax smax
comp=N,229nm,17.5s
NVL MLR MLR
comp=Z,106nm,18.0s
TEIG **Tepich** 57.30 343 P P **20 21 46.0 0.0**
TEIG IAmb IAmb 20 21 47.9
comp=Z,38nm,1.0s
SOR **Soroa** 58.76 349 P P **20 21 56.3 +0.1**
SOR IAmb IAmb 20 21 57.7
comp=Z,32nm,0.9s
SOR **Soroa** 58.76 349 P P **20 21 56.3 +0.1**
SOR pmax pmax
comp=Z,32nm,0.9s
SBA **Scott Base** 61.45 192 P P **20 22 15.3 +1.2**
SBA **Scott Base** 61.45 192 P P **20 22 15.3 +1.2**
SBA pmax pmax
comp=Z,9.0nm,1.0s
VNDA **Vanda** 62.48 192 P P **20 22 20.9 0.0**
VNDA **Vanda** 62.48 192 P P **20 22 22.7 +1.7**
comp=Z,3.7nm,0.8s,baz=130,slow=6.3,SNR=24
VNDA LR LR 20 44 16.0
comp=Z,70nm,21.6s,baz=156,slow=31
comp=Z,3.7nm,0.8s
VNDA **Vanda** 62.48 192 P P **20 22 21.0 0.0**
VNDA pmax pmax
comp=Z,6.0nm,1.0s
SYO **Syowa Base** 64.75 158 ⇓*i*pP P **20 22 36.2 +0.2**
TBI **Tubuai** 66.25 258 *e*LR LR 20 42 39.8
comp=Z,1µm,29.0s
TIGA **Tifton** 67.34 350 IAmb IAmb 20 22 54.3
comp=Z,34nm,1.0s
HKT **Hockley** 68.58 339 *i* P P **20 23 02.0 +1.2**
HKT pmax pmax
comp=Z,24nm,1.9s
NHSC **New Hope** 68.59 353 P P **20 23 00.8 0.0**
GOGA **Godfrey** 69.26 351 P P **20 23 05.0 -0.1**
GOGA IAmb IAmb 20 23 05.8
comp=Z,10.0nm,0.6s
GOGA **Godfrey** 69.26 351 P P **20 23 05.0 -0.1**
GOGA pmax pmax
comp=Z,10.0nm,0.6s
HNDO **Hondo** 69.28 336 IAmb IAmb 20 23 08.0
comp=Z,23nm,0.8s
PPT2 **Papeete2** 69.29 263 *e*LR LR 20 43 59.3
comp=Z,209nm,24.5s
PPT2 *e*LR LR 20 44 00.6
comp=Z,152nm,25.0s
LRAL **Lakeview Retre** 69.44 347 P P **20 23 06.2 0.0**
Y52A **Lilburn** 69.79 350 IAmb IAmb 20 23 09.8
comp=Z,29nm,1.1s
JSC **Jenkinsville** 69.86 353 IAmb IAmb 20 23 10.1
comp=Z,16nm,0.9s
435B **Jarrell** 69.89 338 IAmb IAmb 20 23 11.7
comp=Z,20nm,0.8s
X58A **Rowland** 69.95 354 IAmb IAmb 20 23 10.8
comp=Z,26nm,0.7s
JCT **Junction City** 70.33 336 IAmb IAmb 20 23 14.2
comp=Z,29nm,0.9s
PAULI **Pauline** 70.45 352 IAmb IAmb 20 23 14.0
comp=Z,32nm,1.1s
W57A **Gilead** 70.60 354 IAmb IAmb 20 23 14.6
comp=Z,19nm,0.9s
SAND **Sanderson** 70.67 333 IAmb IAmb 20 23 16.6
comp=Z,31nm,1.1s
TX31 **Lajitas Ar. Si** 70.69 332 IAmb IAmb 20 23 16.8
comp=Z,22nm,1.4s
TXAR **Lajitas Array** 70.69 332 P P **20 23 14.4 +0.3**
TXAR **Lajitas Array** 70.69 332 P P **20 23 15.6 +1.5**
comp=Z,4.7nm,0.7s,baz=152,slow=8.9,SNR=58
comp=Z,4.7nm,0.7s
KMSC **Kings Mountain** 70.72 353 IAmb IAmb 20 23 15.4
comp=Z,19nm,0.8s
BG3 **Lake Jocassee** 70.75 351 IAmb IAmb 20 23 15.9
comp=Z,21nm,0.7s
BRDY **Brady** 70.81 337 IAmb IAmb 20 23 16.7
comp=Z,19nm,1.0s
W52A **Murphy** 70.98 350 IAmb IAmb 20 23 17.3
comp=Z,18nm,0.9s
V58A **Windy Hill, Pi** 71.17 355 IAmb IAmb 20 23 17.9
comp=Z,19nm,0.9s
OZNA **Ozona** 71.19 335 IAmb IAmb 20 23 19.3
comp=Z,26nm,1.0s
WLAR **White Oak Lake** 71.37 342 IAmb IAmb 20 23 21.1
comp=Z,34nm,0.9s
V53A **Saluda** 71.40 352 IAmb IAmb 20 23 19.6
comp=Z,19nm,0.9s
V55A **Taylorsville** 71.41 353 IAmb IAmb 20 23 19.7
comp=Z,32nm,0.8s
CPCT **Cooper Cave** 71.41 350 IAmb IAmb 20 23 19.7
comp=Z,26nm,0.7s
TKL **Tuckaleechee C** 71.51 351 IAmb IAmb 20 23 20.0
comp=Z,18nm,0.8s
PLAL **Pickwick Lake** 71.53 347 IAmb IAmb 20 23 20.3
comp=Z,29nm,0.8s
U56A **King** 71.82 354 IAmb IAmb 20 23 22.3
comp=Z,22nm,0.8s
MAW **Mawson** 71.95 164 P P **20 23 21.9 +0.8**
comp=Z,10nm,1.0s
MAW **Mawson** 71.95 164 P P **20 23 22.2 +1.1**
comp=Z,37nm,0.8s,baz=208,slow=6.3,SNR=88
comp=Z,37nm,0.8s
PLPT **Palo Pinto** 72.00 338 IAmb IAmb 20 23 23.9
comp=Z,48nm,1.2s
U54A **Nelsons Funny** 72.13 352 IAmb IAmb 20 23 23.8
comp=Z,34nm,0.8s
MNHN **Monahans** 72.15 333 IAmb IAmb 20 23 25.0
comp=Z,22nm,0.8s
T59A **Double "B" Far** 72.23 356 IAmb IAmb 20 23 25.1
comp=Z,51nm,1.2s
CLTN **Cedars of Leba** 72.31 349 IAmb IAmb 20 23 25.3
comp=Z,22nm,0.8s
TZTN **Tazewell** 72.36 351 IAmb IAmb 20 23 25.1
comp=Z,62nm,1.6s
WVT **Waverly** 72.60 347 P P **20 23 25.2 -0.1**
WVT **Waverly** 72.60 347 P P **20 23 25.2 -0.1**
WVT pmax pmax
comp=Z,61nm,0.9s
WHAR **Wooly Hollow** 72.70 344 IAmb IAmb 20 23 27.8
comp=Z,34nm,0.9s
LOOK **Love County** 72.76 339 IAmb IAmb 20 23 28.4
comp=Z,26nm,0.9s
WTFS **Witchita Falls** 72.93 338 IAmb IAmb 20 23 29.3
comp=Z,31nm,0.8s
APMT **Aspermont** 73.05 336 IAmb IAmb 20 23 30.2
comp=Z,26nm,0.8s
SN07 **Snyder 07** 73.09 336 IAmb IAmb 20 23 30.1
comp=Z,22nm,0.9s
S57A **Dark Hollow, R** 73.11 355 IAmb IAmb 20 23 30.0
comp=Z,29nm,1.0s
R58B **Mineral** 73.24 356 IAmb IAmb 20 23 31.4
comp=Z,29nm,1.2s
POST **Post** 73.27 335 IAmb IAmb 20 23 32.4
comp=Z,21nm,0.9s
T47A **Sharon Grove** 73.31 348 IAmb IAmb 20 23 30.8
comp=Z,31nm,0.9s
S54A **Dingess, Beckl** 73.35 353 IAmb IAmb 20 23 30.9
comp=Z,25nm,0.9s
S51A **Beattyville** 73.44 351 IAmb IAmb 20 23 31.6
comp=Z,36nm,0.8s
X34A **Smith Ranch, M** 73.52 339 IAmb IAmb 20 23 33.0
comp=Z,38nm,0.8s
DKNS **Dickens** 73.62 336 IAmb IAmb 20 23 33.3
comp=Z,25nm,0.8s
R55A **Marlinton** 73.72 354 IAmb IAmb 20 23 33.9
comp=Z,33nm,0.8s
PBMO **Poplar Bluff** 73.73 345 IAmb IAmb 20 23 33.3
comp=Z,33nm,1.0s
HHAR **Hobbs** 74.05 342 IAmb IAmb 20 23 35.3
comp=Z,17nm,0.7s
R50A **Paris** 74.17 351 IAmb IAmb 20 23 35.7
comp=Z,18nm,0.9s
R49A **Shelbyville** 74.29 350 IAmb IAmb 20 23 36.3
comp=Z,22nm,0.9s
S44A **Carbondale** 74.38 347 IAmb IAmb 20 23 37.0
comp=Z,29nm,0.9s
SIUC **Southern Illin** 74.40 347 IAmb IAmb 20 23 37.1
comp=Z,35nm,0.9s
WCI **Wyandotte Cave** 74.40 349 P P **20 23 34.7 -1.2**
WCI **Wyandotte Cave** 74.40 349 P P **20 23 34.7 -1.2**
WCI pmax pmax
comp=Z,15nm,1.0s
MGMO **Mountain Grove** 74.49 344 IAmb IAmb 20 23 38.1
comp=Z,20nm,0.9s
MSTX **Muleshoe** 74.53 335 IAmb IAmb 20 23 38.8
comp=Z,30nm,0.8s
P57A **Homestead Farm** 74.76 356 IAmb IAmb 20 23 40.3
comp=Z,30nm,1.0s
319A **Douglas** 74.77 328 IAmb IAmb 20 23 41.7
comp=Z,22nm,1.0s
Q51A **Peebles** 74.78 352 IAmb IAmb 20 23 39.4
comp=Z,32nm,0.8s
P53A **Whipple** 75.03 353 IAmb IAmb 20 23 40.9
comp=Z,23nm,1.0s
MCWV **Mont Chateau** 75.06 354 IAmb IAmb 20 23 41.3
comp=Z,23nm,1.1s
PSUB **Penn St. - Bra** 75.09 358 IAmb IAmb 20 23 42.1
comp=Z,27nm,0.9s
CCM **Cathedral Cave** 75.13 345 P P **20 23 39.4 -0.7**
CCM **Cathedral Cave** 75.13 345 P P **20 23 39.4 -0.7**
CCM pmax pmax
comp=Z,62nm,0.8s
121A **Cookes Peak, D** 75.15 330 IAmb IAmb 20 23 44.0
comp=Z,20nm,0.9s
MVL **Millersville** 75.20 357 IAmb IAmb 20 23 42.8
comp=Z,29nm,1.3s
T35A **Sooner Cattle** 75.31 341 IAmb IAmb 20 23 43.2
comp=Z,36nm,0.9s
CROK **Carrier** 75.33 339 IAmb IAmb 20 23 43.1
comp=Z,41nm,0.9s
BLO **Bloomington** 75.36 349 IAmb IAmb 20 23 42.2
comp=Z,22nm,0.8s
PAGS **Pennsylvania G** 75.44 357 IAmb IAmb 20 23 43.8
comp=Z,29nm,0.9s
Q44A **Meyer Farm, Va** 75.51 347 IAmb IAmb 20 23 43.2
comp=Z,27nm,1.0s
R40A **Maddies Statio** 75.58 344 IAmb IAmb 20 23 44.2
comp=Z,36nm,0.9s
O52A **Adamsville** 75.69 353 IAmb IAmb 20 23 44.5
comp=Z,36nm,0.9s
DUN6 **Lazy B Ranch** 75.71 329 IAmb IAmb 20 23 47.1
comp=Z,41nm,1.1s
BRNJ **Basking Ridge** 75.83 359 IAmb IAmb 20 23 46.4
comp=Z,28nm,1.1s
SSPA **Standing Stone** 75.90 356 P P **20 23 44.7 +0.2**
O49A **Covington** 76.05 351 IAmb IAmb 20 23 45.9
comp=Z,24nm,0.7s
N58A **Sunbury** 76.05 357 IAmb IAmb 20 23 47.3
comp=Z,18nm,0.9s
O48B **Farmland** 76.22 350 IAmb IAmb 20 23 47.0
comp=Z,23nm,0.7s
TUC **Tucson** 76.22 328 P P **20 23 46.9 +0.2**
TUC **Tucson** 76.22 328 P P **20 23 46.9 +0.2**
TUC pmax pmax
comp=Z,14nm,1.1s
N53A **Lisbon** 76.28 354 IAmb IAmb 20 23 48.8
comp=Z,32nm,1.1s
PAMR **Moraine State** 76.35 354 IAmb IAmb 20 23 48.6
comp=Z,30nm,1.1s
DBIC **Dimbokro** 76.37 71 P P **20 23 46.8 -1.0**
DBIC **Dimbokro** 76.37 71 P P **20 23 48.1 +0.3**
comp=Z,38nm,0.8s,baz=246,slow=5.9,SNR=35
comp=Z,38nm,0.8s
DBIC **Dimbokro** 76.37 71 P P **20 23 46.8 -1.0**
DBIC pmax pmax
comp=Z,46nm,0.9s
M57A **Sunshine Farm,** 76.56 357 IAmb IAmb 20 23 50.8
comp=Z,27nm,1.2s
ANMO **Albuquerque** 76.75 332 P P **20 23 51.0 +1.3**
ANMO IAmb IAmb 20 23 52.7
comp=Z,18nm,0.9s
ANMO **Albuquerque** 76.75 332 P P **20 23 51.0 +1.3**
ANMO pmax pmax
comp=Z,18nm,1.0s
RTBA **Rita Blanca** 76.75 336 IAmb IAmb 20 23 52.0
comp=Z,15nm,0.8s
WIN **Windhoek** 77.29 109 IAmb IAmb 20 23 55.4
comp=Z,36nm,1.1s
BINY **Binghamton** 77.38 358 IAmb IAmb 20 23 54.2
comp=Z,56nm,1.6s
KSU1 **Kansas State U** 77.39 341 IAmb IAmb 20 23 54.4
comp=Z,19nm,0.8s
L61B **Northampton** 77.58 0 IAmb IAmb 20 23 56.0
comp=Z,19nm,0.8s
N41A **Harden Midland** 77.61 346 IAmb IAmb 20 23 55.3
comp=Z,42nm,0.9s

TRY	Troy	77.86	359	IAmb	IAmb	20 23 58.0			
	comp=Z,26nm,0.9s								
W18A	Petrified Fore	78.19	330	IAmb	IAmb	20 24 01.0			
	comp=Z,38nm,1.1s								
HNH	Hanover	78.84	0	IAmb	IAmb	20 24 03.5			
	comp=Z,29nm,1.2s								
L40A	Anamosa	78.99	346	IAmb	IAmb	20 24 02.9			
	comp=Z,45nm,1.1s								
J47A	Sumner	79.11	351	IAmb	IAmb	20 24 03.2			
	comp=Z,22nm,0.8s								
I63A	Otisfield	79.21	2	IAmb	IAmb	20 24 06.0			
	comp=Z,37nm,1.0s								
SCIA	State Center	79.25	345	IAmb	IAmb	20 24 04.9			
	comp=Z,45nm,1.1s								
LBNH	Lisbon	79.38	1	IAmb	IAmb	20 24 06.2			
	comp=Z,24nm,0.9s								
TSUM	Tsumeb	79.52	106	P	P	20 24 05.5	-0.1		
TSUM	Tsumeb	79.52	106	P	P	20 24 06.3	+0.7		
	comp=Z,13nm,1.2s,baz=229,slow=7.5,SNR=6.1								
TSUM				LR	LR	20 57 00.7			
	comp=Z,163nm,18.2s,baz=216,slow=34								
	comp=Z,13nm,1.2s								
DPP	Dos Picos Cty	79.64	324	IAmb	IAmb	20 26 04.3			
	comp=Z,24nm,0.6s								
PFO	Pinyon Flats O	79.91	324	P	P	20 24 06.2	-0.9		
PFO	Pinyon Flats O	79.91	324	*i* P	P	20 24 09.0	+1.9		
PFO				pmax	pmax				
	comp=Z,28nm,1.1s								
FRNY	Flat Rock	79.97	360	IAmb	IAmb	20 24 09.0			
	comp=Z,20nm,0.8s								
BOSA	Boshof	80.03	118	IAmb	IAmb	20 24 09.6			
	comp=Z,44nm,1.1s								
BOSA	Boshof	80.03	118	P	P	20 24 08.1	-0.1		
	comp=Z,24nm,0.9s,baz=239,slow=3.7,SNR=20								
BOSA				LR	LR	20 57 18.7			
	comp=Z,127nm,19.2s,baz=216,slow=34								
	comp=Z,24nm,0.9s								
WBO	Williamsburg	80.16	358	IAmb	IAmb	20 24 09.8			
	comp=Z,32nm,0.9s								
DANC	Danby, Needles	80.25	326	IAmb	IAmb	20 24 12.5			
	comp=Z,30nm,1.3s								
PV01	Paradox Valley	80.36	332	IAmb	IAmb	20 27 01.8			
	comp=Z,58nm,1.3s								
G62A	West of Eustis	80.38	2	P	P	20 24 09.5	+0.3		
G62A				IAmb	IAmb	20 24 11.8			
	comp=Z,36nm,1.0s								
I40A	Norwalk	80.64	347	IAmb	IAmb	20 24 11.8			
	comp=Z,28nm,1.1s								
BUKO	Buck Lake	80.78	355	IAmb	IAmb	20 24 13.0			
	comp=Z,44nm,1.3s								
HMU	Henry Mountain	81.04	331	IAmb	IAmb	20 24 16.6			
	comp=Z,86nm,1.7s								
KGCAE	Kacgae	81.05	112	IAmb	IAmb	20 24 23.4			
	comp=Z,41nm,1.4s								
KNB	Kanab	81.11	329	IAmb	IAmb	20 24 17.1			
	comp=Z,30nm,1.0s								
GRTLG	Ghanzi	81.13	110	IAmb	IAmb	20 24 15.9			
	comp=Z,20nm,0.9s								
MAKGR	Makgori	81.30	115	IAmb	IAmb	20 24 15.8			
	comp=Z,25nm,1.2s								
TRQ	Mont Tremblant	81.36	359	IAmb	IAmb	20 24 16.1			
	comp=Z,34nm,1.0s								
SZCU	Shurtz Canyon	81.71	329	IAmb	IAmb	20 24 26.8			
	comp=Z,27nm,1.3s								
CCUT	Cedar City	81.79	329	IAmb	IAmb	20 24 21.0			
	comp=Z,23nm,1.0s								
CCCA	Chr Cany lake	81.90	325	IAmb	IAmb	20 24 21.3			
	comp=Z,28nm,1.2s								
Q16A	Castle Valley	82.05	331	IAmb	IAmb	20 24 21.6			
	comp=Z,22nm,0.8s								
D62A	Allapoint, All	82.29	3	P	P	20 24 19.4	+0.2		
D62A				IAmb	IAmb	20 24 21.4			
	comp=Z,34nm,0.9s								
LBTB	Lobatse	82.35	115	IAmb	IAmb	20 24 21.8			
	comp=Z,38nm,1.2s								
LBTB	Lobatse	82.35	115	P	P	20 24 20.2	-0.3		
	comp=Z,15nm,1.0s,baz=241,slow=5.3,SNR=8.5								
LBTB				LR	LR	20 56 42.0			
	comp=Z,122nm,18.4s,baz=278,slow=33								
	comp=Z,15nm,1.0s								
P17A	Butcher Ranch,	82.36	331	IAmb	IAmb	20 24 22.7			
	comp=Z,23nm,1.1s								
PRN	Pahroc Range	82.40	327	IAmb	IAmb	20 24 24.1			
	comp=Z,26nm,1.0s								
KDWAN	Kaudwane	82.60	113	IAmb	IAmb	20 24 23.6			
	comp=Z,40nm,1.2s								
RDMU	Red Mountain	82.86	333	IAmb	IAmb	20 24 25.2			
	comp=Z,26nm,0.9s								
GRAC	Grapevine Rang	83.10	326	IAmb	IAmb	20 24 27.5			
	comp=Z,28nm,1.4s								
LDAQ	Lac Daran	83.11	1	P	P	20 24 21.6	-2.1		
LDAQ				IAmb	IAmb	20 24 25.4			
	comp=Z,21nm,1.0s								
MPU	Maple Canyon	83.17	331	IAmb	IAmb	20 24 27.1			
	comp=Z,22nm,1.1s								
BSUT	Blindstream Ca	83.28	332	IAmb	IAmb	20 24 28.0			
	comp=Z,24nm,1.2s								
VLDQ	Val d'Or	83.34	357	IAmb	IAmb	20 24 26.5			
	comp=Z,22nm,1.1s								
SPR3	Spring Creek 3	83.42	329	IAmb	IAmb	20 24 28.6			
	comp=Z,21nm,1.1s								
E38A	The Farm, Brul	83.43	347	IAmb	IAmb	20 24 26.4			
	comp=Z,26nm,1.0s								
JLU	Jordanelle	83.61	332	IAmb	IAmb	20 24 29.2			
	comp=Z,13nm,0.9s								
F33A	5 Mile Ranch,	83.67	344	IAmb	IAmb	20 24 27.7			
	comp=Z,19nm,0.9s								
TPH	Tonopah	83.92	326	IAmb	IAmb	20 24 31.5			
	comp=Z,24nm,1.1s								
RSSD	Black Hills	84.14	338	P	P	20 24 29.6	+0.4		
RSSD				IAmb	IAmb	20 24 31.2			
	comp=Z,19nm,1.0s								
RSSD	Black Hills	84.14	338	P	P	20 24 29.6	+0.4		
RSSD				pmax	pmax				
	comp=Z,19nm,1.0s								
PHDHD	Phuduhudu	84.34	111	IAmb	IAmb	20 24 32.6			
	comp=Z,23nm,1.1s								
LEGD	La Grand CA	84.58	324	IAmb	IAmb	20 24 34.9			
	comp=Z,30nm,1.1s								
LHV	Little Huntoon	84.64	326	IAmb	IAmb	20 24 35.4			
	comp=Z,20nm,1.1s								
NVAR	Mina Array Bea	84.70	326	P	P	20 24 32.9	+0.7		
NVAR	Mina Array Bea	84.70	326	P	P	20 24 33.9	+1.7		
	comp=Z,7.0nm,0.9s,baz=150,slow=5.8,SNR=34								
	comp=Z,7.0nm,0.9s								
PDAR	Pinedale Array	84.77	334	P	P	20 24 32.1	-0.4		
PDAR	Pinedale Array	84.77	334	P	P	20 24 33.2	+0.7		
	comp=Z,2.7nm,0.6s,baz=141,slow=5.0,SNR=22								
PDAR				PKKP	PKKPbc	20 42 41.8	-1.2		
	comp=Z,0.5nm,0.8s,baz=286,slow=2.8,SNR=4.1								
	comp=Z,2.7nm,0.6s								
RYN	Ryan	84.96	326	IAmb	IAmb	20 24 36.7			
	comp=Z,18nm,1.1s								
MREMI	Moremi	85.15	114	P	P	20 24 34.1	-0.8		
WAKR	Walker	85.28	325	IAmb	IAmb	20 24 45.5			
	comp=Z,18nm,1.0s								
TORD	Torodi Ar. Bea	85.42	70	P	P	20 24 34.4	-1.7		
TORD				IAmb	IAmb	20 24 37.5			
	comp=Z,19nm,0.9s								
TORD	Torodi Ar. Bea	85.42	70	P	P	20 24 35.9	-0.2		
	comp=Z,14nm,0.8s,baz=232,slow=3.2,SNR=69								
	comp=Z,14nm,0.8s								
WELL	Weller Preserv	85.83	324	IAmb	IAmb	20 24 48.1			
	comp=Z,13nm,0.9s								
AGMN	Agassiz Nation	85.90	345	IAmb	IAmb	20 24 39.2			
	comp=Z,34nm,1.3s								
TPAW	Teton Pass	85.90	333	IAmb	IAmb	20 24 40.5			
	comp=Z,16nm,0.9s								
KSANE	Kasane	86.22	109	IAmb	IAmb	20 24 42.6			
	comp=Z,24nm,1.3s								
PAHR	Pah Rah Range	86.22	326	IAmb	IAmb	20 24 43.1			
	comp=Z,14nm,1.0s								
CVS	Carmenet Viney	86.60	323	IAmb	IAmb	20 24 44.7			
	comp=Z,26nm,0.9s								
YMP	Mirror Lake Pl	86.70	334	IAmb	IAmb	20 27 45.3			
	comp=Z,12nm,0.8s								
RLMT	Red Lodge	86.73	335	IAmb	IAmb	20 24 44.1			
	comp=Z,34nm,1.3s								
BEKR	Beckworth	86.80	325	IAmb	IAmb	20 24 45.7			
	comp=Z,14nm,1.0s								
MATP	Matopo	87.21	113	LR	LR	21 02 17.7			
	comp=Z,241nm,18.5s,baz=244,slow=35								
HLID	Hailey	87.28	331	IAmb	IAmb	20 24 47.8			
	comp=Z,13nm,1.1s								
MFID	Camas Ranch	87.72	330	IAmb	IAmb	20 24 49.6			
	comp=Z,18nm,1.4s								
ULM	Lac du Bonnet	87.76	346	P	P	20 24 46.5	-0.2		
	comp=Z,24nm,0.9s,baz=213,slow=2.7,SNR=15								
	comp=Z,24nm,0.9s								
O03E	Paynes Creek	87.81	325	IAmb	IAmb	20 24 49.4			
	comp=Z,21nm,1.0s								
WVOR	Wild Horse Val	88.09	328	IAmb	IAmb	20 24 51.6			
	comp=Z,24nm,1.4s								
DLMT	Dillon	88.12	333	IAmb	IAmb	20 24 52.2			
	comp=Z,28nm,1.4s								
M03C	McCloud	88.73	325	IAmb	IAmb	20 24 54.1			
	comp=Z,21nm,0.9s								
PLID	Pearl Lake	89.18	331	IAmb	IAmb	20 24 56.5			
	comp=Z,15nm,0.9s								
J05D	Fort Rock, OR	89.92	327	IAmb	IAmb	20 25 00.3			
	comp=Z,24nm,1.1s								
LSZ	Lusaka	90.04	109	P	P	20 24 59.5	+0.9		
LSZ				IAmb	IAmb	20 25 01.8			
	comp=Z,19nm,1.5s								
LSZ	Lusaka	90.04	109	P	P	20 25 00.3	+1.7		
	comp=Z,2.7nm,0.6s,baz=245,slow=4.1,SNR=7.3								
	comp=Z,2.7nm,0.6s								
LSZ	Lusaka	90.04	109	P	P	20 24 59.5	+0.9		
LSZ				pmax	pmax				
	comp=Z,19nm,1.5s								
PINE	Pine Mountain	90.19	327	IAmb	IAmb	20 25 01.9			
	comp=Z,25nm,0.9s								
E08A	Dider Farm, El	91.56	330	IAmb	IAmb	20 25 06.9			
	comp=Z,9.9nm,0.9s								
D08A	Wollman Farm,	91.96	331	IAmb	IAmb	20 25 08.9			
	comp=Z,10nm,1.0s								
MXC	Moxie City	92.13	329	IAmb	IAmb	20 25 10.1			
	comp=Z,11nm,1.0s								
ESDC	Sonseca Array	98.15	47	P	P	20 25 34.7	-0.4		
	comp=Z,1.3nm,1.1s,baz=233,slow=4.1,SNR=4.3								
	comp=Z,1.3nm,1.1s								
ILAR	Eielson Array	115.19	333	PKP	PKPdf	20 30 38.4	-0.3		
	comp=Z,0.5nm,0.8s,baz=113,slow=6.0,SNR=4.5								
ASAR	Alice Springs	115.89	207	PKP	PKiKP	20 30 40.6	-0.9		
	comp=Z,1.2nm,0.8s,baz=134,slow=2.2,SNR=12								
ASAR				PKKPbc	PKKPbc	20 41 11.7	-0.3		
	comp=Z,0.9nm,0.6s,baz=340,slow=2.9,SNR=12								
NOA	NORSAR Array B	117.69	33	PKP	PKPdf	20 30 41.8	-1.8		
	comp=Z,1.2nm,0.9s,baz=255,slow=2.0,SNR=3.6								
HFS	Hagfors	118.47	35	PKP	PKPdf	20 30 44.3	-0.8		
	comp=Z,1.7nm,0.8s,baz=248,slow=7.6,SNR=2.1								
KOLS	Kolonicke sedl	118.92	49	*e*PKIKP	PKiKP	20 30 52.5	+6.1		
WRA	Warramunga Arr	119.09	210		PKPdf	20 30 47.0	-0.7		
WRA	Warramunga Arr	119.09	210	PKP	PKPdf	20 30 46.7	-1.0		
	comp=Z,3.7nm,0.9s,baz=169,slow=1.6,SNR=23								
WRA				PKKPbc	PKKPbc	20 41 00.7	+0.2		
	comp=Z,0.6nm,0.7s,baz=344,slow=3.9,SNR=5.4								
WRA	Warramunga Arr	119.09	210	PKIKP	PKPdf	20 30 47.0	-0.7		
RNPP5	Staryi Chortor	121.89	47	PKP	PKPdf	20 30 51.7	-0.3		
RNPP8	Varash	121.91	47	PKP	PKPdf	20 30 51.6	-0.4		
RNPP9	Sopachiv	121.95	47	PKP	PKPdf	20 30 51.8	-0.3		
MMAI	Mount Meron Ar	121.96	70	PKP	PKPdf	20 30 51.8	-1.0		
	comp=Z,0.3nm,0.3s,baz=222,slow=1.9,SNR=1.8								
BRTR	Keskin Array B	123.21	62	PKP	PKPdf	20 30 54.5	-0.6		
	comp=Z,1.0nm,0.7s,baz=233,slow=8.7,SNR=8.5								
BRTR	Keskin Array B	123.21	62	*i* PKIKP	PKPdf	20 30 55.0	-0.1		
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
AKASG	Malin Array Be	123.75	48	PKP	PKPdf	20 30 54.4	-1.1		
	comp=Z,2.4nm,0.6s,baz=263,slow=2.6,SNR=12								
AKBB	Malin Array Si	123.75	48	*i* PKIKP	PKPdf	20 30 55.5	0.0		
FITZ	Fitzroy Crossi	123.85	201	P	PKPdf	20 30 54.8	-2.0		
FITZ	Fitzroy Crossi	123.85	201	PKP	PKPdf	20 30 56.8	-0.1		
	comp=Z,4.9nm,0.7s,baz=193,slow=8.5,SNR=10								
MNK	Minsk	123.99	44	*i* PKIKP	PKPdf	20 30 54.9	-1.0		
MNK				*i*		20 32 38.1			
MNK				*i* PPP	PPP	20 35 16.1			
MNK				*i*		20 38 06.8			
MNK				*i* SS	SS	20 49 28.7	-2.2		
MNK				pmax	pmax				
	comp=N,4.0nm,0.8s								
MNK				pmax	pmax				
	comp=Z,21nm,0.9s								
MNK				pmax	pmax				
	comp=E,5.0nm,0.8s								
VSU	Vasula	124.33	39	*c i* PKIKP	PKPdf	20 30 56.5	+0.1		
VSU				pmax	pmax				
	comp=Z,31nm,2.5s								
FINES	FINESS Array B	124.65	35	PKP	PKPdf	20 30 56.7	-0.2		
	comp=Z,4.2nm,0.9s,baz=297,slow=8.4,SNR=6.6								
H11N3	WAKE ISLAND Hyd	125.44	270	T	T	22 48 58.5			
	baz=121,slow=76,SNR=35								
H11N1	WAKE ISLAND Hyd	125.46	270	T	T	22 49 01.9			
	baz=121,slow=76,SNR=48								
H11N2	WAKE ISLAND Hyd	125.46	270	T	T	22 48 59.7			
	baz=121,slow=76,SNR=36								
ARCES	ARCESS Array B	125.69	25	PKP	PKPdf	20 30 58.7	-0.1		
	comp=Z,4.0nm,0.9s,baz=259,slow=2.5,SNR=7.6								
SOC	Sochi	128.73	59	*i* PKIKP	PKPdf	20 31 05.1	-0.2		
SOC				*e*		20 33 10.4			
SOC				*e*SS	SS	20 50 33.9	+3.1		
OBN	Obninsk	129.04	44	*e*PKIKP	PKiKP	20 31 06.0	-0.2		
OBN				pmax	pmax				
	comp=Z,9.0nm,0.6s								
VSR	Storozhevoye	129.99	50	*e*PKIKP	PKPdf	20 31 03.4	-4.0		
VSR				pmax	pmax				
	comp=Z,6.0nm,1.0s								
LPSR	Galich'ya Gora	130.06	48	*e*PKIKP	PKPdf	20 31 07.0	-0.5		
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
VORR	Voronezh	130.09	49	*e*PKIKP	PKPdf	20 31 07.2	-0.4		
VORR				pmax	pmax				
	comp=Z,7.0nm,0.8s								
KIV	Kislovodsk	130.91	59	*e*PKIKP	PKiKP	20 31 10.6	+0.1		
KIV				pmax	pmax				
	comp=Z,8.0nm,1.0s								
KLMR	Klimovskoe	131.06	37	*e*PKIKP	PKPdf	20 31 08.5	-0.7		
KLMR				pmax	pmax				
	comp=Z,44nm,1.4s								
VRH	Novokhopyorsk	131.58	50	*e*PKIKP	PKPdf	20 31 09.5	-0.9		
VRH				pmax	pmax				
	comp=Z,7.0nm,0.9s								
KIRV	Kirov	136.16	40	*c i* PKIKP	PKiKP	20 31 19.9	-0.6		
PETK	Petropavlovsk-	140.64	313	PKP	PKiKP	20 31 28.8	-1.1		
	comp=Z,8.8nm,0.8s,baz=92,slow=4.3,SNR=5.3								
SEY	Seymchan	140.94	329	*c i* PKIKP	PKPdf	20 31 27.2	-0.3		
SEY				pmax	pmax				
	comp=Z,66nm,2.5s								
ARTI	Arti	141.28	42	PKIKP	PKiKP	20 31 30.2	-0.8		
ABKAR	Akbulak array	143.19	53		PKPbc	20 31 28.8	-0.1		
HRA	Herat	143.49	78		PKPab	20 31 28.9	-0.7		
BORK	Borovoye	148.84	44	*c i* PKP2	PKiKP	20 31 46.5	-0.2		
BORK				pmax	pmax				
	comp=Z,35nm,1.7s								
BVAR	Borovoye Array	148.88	44	PKPbc	PKPbc	20 31 45.8	+0.4		
	comp=Z,17nm,0.7s,baz=293,slow=4.1,SNR=42								
KULM	Kulim	149.36	167		PKPbc	20 31 47.3	-0.5		
SIMJ	Simiganj	149.63	73		PKPbc	20 31 48.0	0.0		
YAK	Yakutsk	149.88	339	*i* PKHKP	PKPpre	20 31 42.6			
YAK				pmax	pmax				
	comp=Z,17nm,1.0s								
YAK				pmax	pmax				
	comp=N,7.0nm,1.9s								
KKAR	Karatay Array	150.90	64		PKPbc	20 31 51.0	+0.3		
KKAR	Karatay Array	150.90	64	PKIKP	PKPbc	20 31 51.0	+0.3		
YSS	Yuzhno-Sakhali	151.05	304	*e*PKIKP	PKiKP	20 31 51.6	+0.2		
YSS				pmax	pmax				
	comp=Z,20nm,0.9s								
KURBB	Kurchatov Arra	154.47	45	PKP	PKPdf	20 31 49.4	-0.6		
	comp=Z,0.9nm,0.6s,baz=287,slow=1.7,SNR=6.5								
KURBB				PKPbc	PKiKP	20 31 58.9	+0.5		
	comp=Z,7.4nm,0.8s,baz=300,slow=2.7,SNR=32								
KURBB				PKPab	PKPab	20 32 13.4	+0.7		
	comp=Z,1.3nm,0.3s,baz=296,slow=3.4,SNR=6.9								
KURBB				PP	PP	20 35 50.7	+2.4		
	comp=Z,0.7nm,0.3s,baz=284,slow=6.1,SNR=4.5								
KURK	Kurchatov	154.48	45	PKIKP	PKPdf	20 31 49.4	-0.6		
MJAR	Matsushiro Arr	154.83	282	PKPbc	PKiKP	20 31 60.0	+0.3		
	comp=Z,0.5nm,0.7s,baz=88,slow=4.1,SNR=4.1								
MJAR				PKPab	PKPab	20 32 15.6	+0.7		
	comp=Z,2.3nm,0.9s,baz=134,slow=1.9,SNR=7.9								
MJAR	Matsushiro Arr	154.83	282	PKIKP	PKiKP	20 32 00.0	+0.3		
KSH	Kashi	155.09	71	PKPbc	PKPdf	20 31 52.5	+1.1		
ZALV	Zalesovo Beam	155.89	33	PKP	PKPdf	20 31 51.4	-0.4		
	comp=Z,2.0nm,0.7s,baz=302,slow=2.8,SNR=16								
ZALV				PKPab	PKPab	20 32 19.0	+0.3		
	comp=Z,14nm,0.8s,baz=305,slow=5.2,SNR=10								
ZEA	Zeya	156.92	328	*i* PKP2	PKPab	20 32 23.9	+0.7		
MKAR	Makanchi Array	158.30	51	PKP	PKPdf	20 31 55.4	+0.2		
	comp=Z,2.1nm,1.0s,baz=306,slow=4.2,SNR=9.3								
MKAR				PKPab	PKPab	20 32 29.2	-0.2		
	comp=Z,4.0nm,0.9s,baz=284,slow=4.1,SNR=9.7								
MKAR				PP	PP	20 36 09.2	-0.6		
	comp=Z,1.3nm,0.9s,baz=312,slow=4.4,SNR=4.4								
BNX	BinXian	161.52	310	∥PKP	PKPdf	20 31 57.5	-1.3		
CMAR	Chiang Mai Arr	161.56	155	PKP	PKPdf	20 31 59.8	+0.1		
	comp=Z,2.7nm,0.9s,baz=243,slow=2.6,SNR=17								
CMAR				PKPab	PKPab	20 32 43.0	-1.1		
	comp=Z,2.7nm,1.0s,baz=222,slow=5.1,SNR=9.2								
WMQ	Urumqi	162.97	55	*e*PKP	PKPdf	20 31 59.0	-1.4		
KSRS	Korea Array	163.10	283	PKP	PKPdf	20 32 00.9	+0.4		
	comp=Z,0.8nm,0.7s,baz=219,slow=1.6,SNR=8.4								
KSRS				PKPab	pPKPab	20 32 52.8	+0.7		
	comp=Z,3.2nm,0.8s,baz=96,slow=4.2,SNR=14								
KSRS	Korea Array	163.10	283	PKIKP	PKPdf	20 32 01.0	+0.4		
IRK	Irkutsk	163.15	6	*e*PKP2	PKPab	20 32 47.6	-2.7		
IRK				pmax	pmax				
	comp=Z,34nm,1.3s								
ZAK	Zakamensk	164.88	9	*e*PKP2	PKPab	20 32 57.3	-0.7		
ZAK				pmax	pmax				
	comp=Z,8.0nm,2.0s								
LSA	Lhasa	165.41	109	P	PKPab	20 33 00.5	-1.1		
LSA				pmax	pmax				
	comp=Z,8.0nm,1.0s								
SONM	Songino Array	167.67	2	PKP	PKPdf	20 32 03.4	-0.9		
	comp=Z,0.6nm,0.8s,baz=318,slow=2.0,SNR=4.7								
SONM				PKPab	PKPab	20 33 11.3	+0.9		
	comp=Z,5.9nm,0.9s,baz=336,slow=3.9,SNR=25								
SONM				PP	PP	20 37 01.2	+2.7		
	comp=Z,1.2nm,1.0s,baz=3.3,slow=3.2,SNR=3.6								
NJ2	Nanjing	169.59	254	*e*PKP	PKPdf	20 32 05.8	-0.1		
PZH	PanZhiHua	169.94	152	PKP	PKPdf	20 32 05.5	-0.9		
GOMU	GeErMu	170.04	82	PKP	PKPdf	20 32 06.8	+0.3		
BJI	Beijing	171.48	305	PKP	PKPdf	20 32 06.8	+0.2		
TIA	Tai'an	171.79	278	PKP	PKPdf	20 32 07.3	+0.4		
GTA	Gaotai	173.05	54	*e*PKP	PKPdf	20 32 08.0	+0.4		
GTA				PKPab	PKPab	20 33 35.3	+0.6		
HHC	Hu-ho-hao-te	173.59	328	*e*PKP	PKPdf	20 32 03.5	-4.2		
BTO	Baotou	174.39	336	*e*PKP	PKPdf	20 32 05.3	-2.7		
BTO				PKPab	PKPab	20 33 36.8	-3.6		
BTO				AMB	AMB				
	comp=Z,410nm,4.9s								
BTO				LR	LR				
	comp=Z,330nm,4.8s								
BTO				LR	LR				
	comp=Z,380nm,5.0s								
BTO				LR	LR				
	comp=Z,470nm,5.2s								
LZH	Lanzhou	177.33	76	*e*PKP	PKPdf	20 32 12.5	+3.6		
XAN	Xi'an	177.88	227	PKP	PKPdf	20 32 09.8	+0.9		
XAN				LR	LR				
	comp=Z,480nm,22.0s								
XAN				LR	LR				
	comp=Z,300nm,21.2s								

IDC 29 20:19:56.4±2.5, 5°66S×130°30E, h0km, mb3.5/1, mbtmp3.6/4, ML3.8/3, Error ellipse: s-maj=97.4km s-min=30.1km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	13.17	200	Pn	Pn	20 23 06.9	+2.0
	0.3nm,0.3s,baz=27,slow=11,SNR=12						
FITZ				Sn	Sn	20 25 19.6	-13
	0.3nm,0.3s,baz=144,slow=23,SNR=6.4						
	1.5nm,0.8s						
WRA	Warramunga Arr	14.73	165	Pn	Pn	20 23 25.5	-0.7
	0.4nm,0.3s,baz=345,slow=14,SNR=17						
WRA				Sn	Sn	20 25 54.3	-16
	0.3nm,0.3s,baz=348,slow=18,SNR=9.0						
	0.4nm,0.4s						
ASAR	Alice Springs	18.24	169	P	Pn	20 24 10.2	-1.0
	0.4nm,0.3s,baz=347,slow=10,SNR=43						
	1.2nm,0.3s						
MKAR	Makanchi Array	67.28	326	P	P	20 30 53.0	0.0
	0.3nm,0.5s,baz=121,slow=8.0,SNR=2.2						
	0.3nm,0.5s						

CATAC 29 20:22:25.7±0.6, 11°N±2°×8°7W±°, h26km±4km, M3.5/22, MLv3.5/22, Error ellipse: s-maj=6.1km s-min=3.7km az=55.8, confirmed, Near coast of Nicaragua

| Code | Station Name | Δ° | AZ° | Phase | ID | Time | Res |
|---|---

LOAL	**Lomas de Alarc**	**1.24**	**22**	S		**Sn**	**20 25 51.5**	**+2.3**
LOAL	**Lomas de Alarc**	**1.24**	**22**	P		**Pg**	**20 25 33.3**	**+0.5**
ITCA	**Escuela Especi**	**1.26**	**49**	P		**Pg**	**20 25 33.7**	**+0.6**
PMON	**Piamonte**	**1.26**	**46**	*e*P		**Pg**	**20 25 33.7**	**+0.6**
PMON	**Piamonte**	**1.26**	**46**	P		**Pg**	**20 25 33.8**	**+0.7**
MAGS	**Ministerio de**	**1.26**	**48**	*e*P		**Pg**	**20 25 33.8**	**+0.6**
CEDA	**San Andres**	**1.27**	**41**	*e*P		**Pb**	**20 25 33.6**	**+0.6**
CEDA	**San Andres**	**1.27**	**41**	P		**Pg**	**20 25 33.8**	**+0.5**
PANCS	**Alcalda de**	**1.30**	**53**	*e*P		**Pb**	**20 25 33.8**	**+0.4**
PANCS	**Alcalda de**	**1.30**	**53**	P		**Pb**	**20 25 34.0**	**+0.6**
BOQS	**Boqueron**	**1.30**	**47**	*e*P		**Pg**	**20 25 34.4**	**+0.5**
UEES	**Universidad Ev**	**1.32**	**48**	*e*P		**Pb**	**20 25 34.2**	**+0.4**
UEES	**Universidad Ev**	**1.32**	**48**	P		**Pg**	**20 25 35.2**	**+1.0**
LOMA	**Loma Larga**	**1.32**	**53**	*e*P		**Pn**	**20 25 34.0**	**+0.5**
LOMA	**Loma Larga**	**1.32**	**53**	S		**Sg**	**20 25 53.8**	**+2.2**
LOMA	**Loma Larga**	**1.32**	**53**	P		**Pn**	**20 25 34.1**	**+0.5**
PIC2	**El Picacho**	**1.33**	**47**	*e*P		**Pb**	**20 25 34.6**	**+0.6**
UNIC	**Universidad Ca**	**1.33**	**31**	*e*P		**Pb**	**20 25 34.6**	**+0.7**
UNIC	**Universidad Ca**	**1.33**	**31**	P		**Pg**	**20 25 35.0**	**+0.6**
UTEC	**Universidad Te**	**1.34**	**50**	P		**Pg**	**20 25 35.2**	**+0.6**
UESS	**Universidad de**	**1.35**	**49**	*e*P		**Pg**	**20 25 35.1**	**+0.3**
UDBS	**Universidad Do**	**1.38**	**51**	*e*P		**Pb**	**20 25 35.5**	**+0.7**
UDBS	**Universidad Do**	**1.38**	**51**	P		**Pb**	**20 25 35.6**	**+0.8**
RBDL	**Robledal**	**1.38**	**23**	*e*P		**Pb**	**20 25 35.4**	**+0.4**
LFRS	**El Faro**	**1.40**	**56**	*e*P		**Pn**	**20 25 35.0**	**+0.5**
LFU	**La Fuente**	**1.43**	**51**	*e*P		**Pb**	**20 25 36.0**	**+0.3**
FG8	**Yepocapa, Chim**	**1.45**	**348**	*e*P		**Pg**	**20 25 38.0**	**+1.3**
FG16	**Alotenango, Sa**	**1.45**	**350**	*e*P		**Pg**	**20 25 38.1**	**+1.4**
LBRS	**Las Brisas**	**1.48**	**53**	*e*P		**Pb**	**20 25 36.6**	**+0.1**
PAVA	**Las Pavas**	**1.55**	**56**	*e*P		**Pb**	**20 25 37.7**	**-0.1**
PAVA	**Las Pavas**	**1.55**	**56**	P		**Pb**	**20 25 38.3**	**+0.5**
TECO	**Alcaldia de Te**	**1.59**	**64**	*e*P		**Pn**	**20 25 37.8**	**+0.7**
TECO	**Alcaldia de Te**	**1.59**	**64**	P		**Pb**	**20 25 38.3**	**-0.1**
UESV	**Universidad de**	**1.64**	**61**	*e*P		**Pn**	**20 25 38.8**	**+1.1**
UESV	**Universidad de**	**1.64**	**61**	P		**Pb**	**20 25 39.0**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.72**	**60**	*e*P		**Pn**	**20 25 39.8**	**+1.0**
SCLA	**Alcaldia de Sa**	**1.72**	**60**	P		**Pb**	**20 25 40.5**	**0.0**
MTO3	**Montecristo**	**1.78**	**29**			**Pn**	**20 25 41.1**	**+1.2**
MTO3	**Montecristo**	**1.78**	**29**	*e*P		**Pn**	**20 25 41.0**	**+1.2**
MTO3	**Montecristo**	**1.78**	**29**	P		**Pb**	**20 25 41.3**	**-0.4**
PQSS	**Presa 15 de Se**	**1.82**	**64**	P		**Pb**	**20 25 41.9**	**-0.5**
TECA	**Tecapa**	**1.83**	**69**	*e*P		**Pn**	**20 25 41.5**	**+1.0**
ESQI	**Esquipulas**	**1.93**	**27**			**Pn**	**20 25 43.3**	**+1.5**
ESQI	**Esquipulas**	**1.93**	**27**	*e*P		**Pn**	**20 25 43.2**	**+1.4**
ESQI	**Esquipulas**	**1.93**	**27**	P		**Pb**	**20 25 43.5**	**-0.7**
PACA	**Pacayal**	**1.98**	**71**	*e*P		**Pn**	**20 25 44.0**	**+1.4**
PACA	**Pacayal**	**1.98**	**71**	P		**Pb**	**20 25 44.6**	**-0.5**
PACA	**Pacayal**	**1.98**	**71**	S		**Sg**	**20 26 13.9**	**+1.3**
LCY	**Lacayo**	**2.00**	**73**	*e*P		**Pn**	**20 25 44.3**	**+1.5**
RANC	**El Ranchito**	**2.00**	**73**	*e*P		**Pn**	**20 25 44.1**	**+1.2**
VSM	**San Miguel**	**2.02**	**73**	*e*P		**Pn**	**20 25 44.6**	**+1.4**
BLLM	**Bellamira**	**2.05**	**73**	*e*P		**Pn**	**20 25 45.1**	**+1.6**
LCND	**La Caada**	**2.35**	**78**	*e*P		**Pn**	**20 25 48.5**	**+1.0**
LCND	**La Caada**	**2.35**	**78**	P		**Pn**	**20 25 48.8**	**+1.3**
LCND	**La Caada**	**2.35**	**78**	S		**Sb**	**20 26 20.1**	**-0.3**
CNCH	**Conchagua**	**2.40**	**79**	*e*P		**Pn**	**20 25 49.1**	**+0.8**
POTN	**Potosi Cosigui**	**2.68**	**86**	P		**Pn**	**20 25 53.1**	**+1.0**
POTN				S		**Sn**	**20 26 27.5**	**+2.8**
CRIN	**San Cristobal**	**3.13**	**92**	P		**Pn**	**20 25 60.0**	**+1.7**
CRIN	**San Cristobal**	**3.13**	**92**	S		**Sn**	**20 26 37.3**	**+1.5**
TGUH	**Tegucigalpa,Un**	**3.14**	**67**			**Pn**	**20 25 58.1**	**-0.4**
PKGN	**Cerro Pekin**	**3.20**	**93**	P		**Pn**	**20 26 00.4**	**+1.2**
PKGN				S		**Sn**	**20 26 38.8**	**+1.3**
CNGN	**Cerro Negro**	**3.48**	**95**			**Pn**	**20 26 03.3**	**+0.1**
LIMN	**Finca el Limon**	**3.80**	**86**	P		**Pn**	**20 26 08.3**	**+0.8**
LIMN				S		**Sn**	**20 26 53.3**	**+1.0**
CCIG	**Comitan**	**3.88**	**332**			**Pn**	**20 26 12.0**	**+3.5**
RCVN	**Varilla2**	**4.02**	**79**	P		**Pn**	**20 26 11.6**	**+0.9**
ELI1	**Hacienda Flor**	**5.09**	**115**	*e*P		**Pn**	**20 26 28.4**	**+3.2**
ALIBA	**Liberia Airpor**	**5.12**	**115**	*e*P		**Pn**	**20 26 28.6**	**+2.9**
LAPC	**Finca la Perla**	**5.15**	**113**	*e*P		**Pn**	**20 26 28.4**	**+2.4**
JUD3	**Juan Diaz 3**	**5.33**	**119**	*e*P		**Pn**	**20 26 30.7**	**+2.1**
MESS	**Mesas**	**5.37**	**112**	*e*P		**Pn**	**20 26 32.3**	**+3.1**
SIUN	**Universidad Ur**	**5.41**	**80**			**Pn**	**20 26 31.1**	**+1.5**
VMAR	**Armenia, Volca**	**5.42**	**111**	*e*P		**Pn**	**20 26 31.0**	**+1.2**
NICO	**Nicoya**	**5.42**	**119**	*e*P		**Pn**	**20 26 31.7**	**+1.9**
CUI	**Cuipilapa**	**5.43**	**113**	*e*P		**Pn**	**20 26 32.8**	**+2.8**
TENO	**El Achiote**	**5.58**	**112**	*e*P		**Pn**	**20 26 34.9**	**+2.8**
JTS	**Las Juntas de**	**5.78**	**115**			**Pn**	**20 26 37.4**	**+2.7**
JTS	**Las Juntas de**	**5.78**	**115**	Pn		**Pn**	**20 26 37.0**	**+2.3**
	6.5nm,0.3s,baz=298,slow=14,SNR=27							
JTS				Sn		**Sn**	**20 27 38.1**	**-3.0**
	1.2nm,0.3s,baz=150,slow=20,SNR=0.9							
JTS				Lg		Lg	20 28 14.0	
	baz=120,slow=15							
	19nm,0.4s							
JTS	**Las Juntas de**	**5.78**	**115**	*e*P		**Pn**	**20 26 37.3**	**+2.6**
ESPN	**Las Esperanzas**	**5.85**	**96**			**Pn**	**20 26 36.8**	**+1.1**
VARE2	**V. Arenal**	**5.91**	**113**	*e*P		**Pn**	**20 26 39.2**	**+2.5**
ARE1	**Arenal 1**	**5.91**	**113**	*e*P		**Pn**	**20 26 39.3**	**+2.8**
CEDE	**Laguna Cedeo**	**5.92**	**113**	*e*P		**Pn**	**20 26 39.5**	**+2.9**
CMIG	**Matias Romero**	**6.16**	**314**	Pn		**Pn**	**20 26 41.6**	**+1.7**
	1.0nm,0.3s,baz=114,slow=11,SNR=7.1							
CMIG				Sn		**Sn**	**20 27 54.4**	**+4.0**
	1.1nm,0.3s,baz=88,slow=12,SNR=2.1							
	7.3nm,0.7s							
PIEC	**Cerro El Cedra**	**6.95**	**117**	*e*P		**Pn**	**20 26 55.0**	**+3.9**
TEIG	**Tepich**	**7.59**	**14**			**Pn**	**20 27 01.9**	**+2.3**
DRK0	**Durika**	**7.74**	**117**	*e*P		**Pn**	**20 27 05.4**	**+3.6**
PIRO	**Carate, Puerto**	**8.10**	**122**			**Pn**	**20 27 10.6**	**+4.0**
ALCO	**Alturas Coton,**	**8.25**	**117**	*e*P		**Pn**	**20 27 11.7**	**+2.9**
ROSC	**El Rosal**	**17.62**	**115**	P		**P**	**20 29 18.6**	**+2.5**
	1.6nm,0.3s,baz=343,slow=7.8,SNR=14							
	8.3nm,0.5s							
DRIO	**Del Rio**	**19.11**	**331**			**P**	**20 29 31.7**	**-0.3**
BRDY	**Brady**	**20.05**	**338**			**P**	**20 29 41.6**	**-0.7**
TX31	**Lajitas Ar. Si**	**20.61**	**325**			Pn	20 29 49.8	-0.9
TXAR	**Lajitas Array**	**20.61**	**325**			**P**	**20 29 47.3**	**-1.2**
TXAR	**Lajitas Array**	**20.61**	**325**	P		Pn	20 29 49.8	-0.9
	2.8nm,0.8s,baz=148,slow=12,SNR=27							
	2.8nm,0.8s							
ALPN	**Alpine**	**21.40**	**327**			**P**	**20 29 58.1**	**+1.1**
ALPN					IAmb	IAmb	20 29 59.8	
	comp=Z,14nm,0.9s							
MNHN	**Monahans**	**21.73**	**330**			**P**	**20 30 00.3**	**-0.1**
MNHN					IAmb	IAmb	20 30 02.7	
	comp=Z,15nm,1.0s							
MIAR	**Mount Ida**	**21.82**	**353**			**P**	**20 30 00.7**	**-0.7**
FPAL	**Fort Paine**	**22.02**	**10**	P		**P**	**20 30 02.6**	**-0.8**
PLAL	**Pickwick Lake**	**22.14**	**5**	P		**P**	**20 30 04.9**	**+0.1**
PECS	**Pecos**	**22.30**	**328**	P		**P**	**20 30 07.9**	**+1.3**
PECS					IAmb	IAmb	20 30 10.4	
	comp=Z,10.0nm,0.9s							
VHRN	**Van Horn**	**22.45**	**325**		IAmb	IAmb	20 30 09.7	
	comp=Z,11nm,0.9s							
V48A	**Smith Brothers**	**23.02**	**7**		IAmb	IAmb	20 30 15.5	
	comp=Z,14nm,1.2s							
WVT	**Waverly**	**23.30**	**5**	P		**P**	**20 30 14.2**	**-2.7**
WVT					IAmb	IAmb	20 30 16.7	
	comp=Z,14nm,1.1s							
MNTX	**Cornudas Mount**	**23.37**	**326**		IAmb	IAmb	20 30 19.0	
	comp=Z,18nm,1.3s							
CLTN	**Cedars of Leba**	**23.42**	**8**			**P**	**20 30 15.7**	**-2.4**
TKL	**Tuckaleechee C**	**23.46**	**13**		IAmb	IAmb	20 30 49.1	
	comp=Z,12nm,1.1s							
TKL	**Tuckaleechee C**	**23.46**	**13**	LR		LR	20 40 25.1	
	comp=Z,216nm,18.3s,baz=181,slow=41							
U49A	**Red Boiling Sp**	**23.92**	**9**		IAmb	IAmb	20 30 23.1	
	comp=Z,16nm,1.0s							
SMWD	**Samnorwood**	**23.95**	**339**		IAmb	IAmb	20 30 24.7	
	comp=Z,9.5nm,0.8s							
S44A	**Carbondale**	**24.77**	**2**		IAmb	IAmb	20 30 41.1	
	comp=Z,15nm,0.8s							
CCM	**Cathedral Cave**	**25.13**	**358**			**P**	**20 30 33.0**	**-1.0**
CCM					IAmb	IAmb	20 30 34.5	
	comp=Z,7.5nm,0.8s							
R40A	**Maddies Statio**	**25.41**	**356**		IAmb	IAmb	20 31 13.3	
	comp=Z,9.9nm,1.2s							
WCI	**Wyandotte Cave**	**25.54**	**7**			**P**	**20 30 36.9**	**-0.8**
Y22A	**Socorro**	**25.93**	**327**		IAmb	IAmb	20 30 55.6	
	comp=Z,10nm,1.2s							
Q44A	**Meyer Farm, Va**	**25.99**	**2**		IAmb	IAmb	20 30 43.4	
	comp=Z,11nm,0.8s							
P40A	**Paris**	**26.64**	**357**		IAmb	IAmb	20 30 47.3	
	comp=Z,6.4nm,0.7s							
BOAV	**Boa Vista**	**31.20**	**107**			**P**	**20 31 29.1**	**+0.5**
BOAV					IAmb	IAmb	20 31 29.9	
	comp=Z,7.8nm,1.0s							
ECSD	**EROS Data Cent**	**31.27**	**351**			**P**	**20 31 27.5**	**-1.4**
ECSD					IAmb	IAmb	20 31 28.4	
	comp=Z,9.5nm,0.9s							
K22A	**Casper**	**32.89**	**338**		IAmb	IAmb	20 31 39.6	
	comp=Z,10nm,1.0s							

SADO	**Sadowa**	**33.21**	**15**	LR		LR	20 45 02.1	
	comp=Z,922nm,20.9s,baz=174,slow=37							
PDAR	**Pinedale Array**	**34.19**	**334**	P		**P**	**20 31 53.4**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=140,slow=9.6,SNR=2.6							
	comp=Z,0.9nm,0.7s							
NV11	**Mina Array Sit**	**35.55**	**321**	IAmb		IAmb	20 32 10.5	
	comp=Z,12nm,1.4s							
NVAR	**Mina Array Bea**	**35.64**	**321**	P		**P**	**20 32 08.6**	**+1.2**
NVAR	**Mina Array Bea**	**35.64**	**321**	P		**P**	**20 32 09.2**	**+1.9**
	comp=Z,3.8nm,0.7s,baz=131,slow=8.4,SNR=21							
NVAR				PcP		**PcP**	**20 34 37.3**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=117,slow=3.2,SNR=2.9							
	comp=Z,3.8nm,0.7s							
LHV	**Little Huntoon**	**35.66**	**320**	P		**P**	**20 32 05.8**	**-1.3**
LHV					IAmb	IAmb	20 32 11.6	
	comp=Z,6.1nm,0.8s							
ULM	**Lac du Bonnet**	**37.59**	**354**	P		**P**	**20 32 20.0**	**-3.5**
	comp=Z,7.7nm,1.0s,baz=158,slow=6.7,SNR=3.7							
	comp=Z,7.7nm,1.0s							
BEKR	**Beckworth**	**37.78**	**321**	IAmb		IAmb	20 32 45.9	
	comp=Z,7.8nm,1.2s							
J08A	**Circle Bar Ran**	**38.94**	**327**	IAmb		IAmb	20 32 36.8	
	comp=Z,12nm,1.1s							
SCHQ	**Schefferville**	**45.75**	**19**	P		P	20 33 25.3	-5.0
	comp=Z,103nm,0.9s,baz=222,slow=6.6,SNR=5.2							
SCHQ				LR		LR	20 53 32.4	
	comp=Z,2µm,18.3s,baz=118,slow=38							
BBB	**Bella Bella**	**49.61**	**330**	LR		LR	20 55 56.9	
	comp=Z,109nm,18.2s,baz=124,slow=38							
BDFB	**Brasilia**	**50.47**	**123**	P		P	20 34 13.1	+5.7
	comp=Z,2.5nm,0.7s,baz=288,slow=3.9,SNR=4.5							
	comp=Z,2.5nm,0.7s							
O29M	**Mount Kennedy**	**59.05**	**334**	P		**P**	**20 35 10.9**	**+1.9**
SFJD	**Kangerlussuaq**	**60.12**	**17**	LR		LR	21 01 45.3	
	comp=Z,107nm,18.4s,baz=161,slow=37							
M29M	**Somme Creek**	**60.15**	**336**			**P**	**20 35 16.2**	**-0.4**
M29M					IAmb	IAmb	20 35 17.4	
	comp=Z,3.3nm,0.9s							
ILAR	**Eielson Array**	**64.58**	**337**	P		**P**	**20 35 44.5**	**-1.6**
ILAR	**Eielson Array**	**64.58**	**337**	P		**P**	**20 35 45.0**	**-1.0**
	comp=Z,2.0nm,1.0s,baz=125,slow=4.8,SNR=13							
	comp=Z,2.0nm,1.0s							
D27M	**Malcolm River**	**64.76**	**342**	IAmb		IAmb	20 35 47.7	
	comp=Z,3.9nm,1.1s							
F21K	**Alatna River**	**68.02**	**338**			**P**	**20 36 07.6**	**-0.5**
EKA	**Eskdalemuir Ar**	**77.91**	**36**	P		**P**	**20 37 02.8**	**-4.1**
	comp=Z,1.1nm,0.7s,baz=266,slow=5.8,SNR=4.3							
	comp=Z,1.1nm,0.7s							
ESDC	**Sonseca Array**	**79.10**	**52**	P		**P**	**20 37 10.5**	**-3.5**
	comp=Z,0.7nm,0.8s,baz=288,slow=6.5,SNR=4.6							
	comp=Z,0.7nm,0.8s							
HFS	**Hagfors**	**85.79**	**29**	P		**P**	**20 37 45.5**	**-2.8**
	comp=Z,2.5nm,0.8s,baz=305,slow=5.1,SNR=3.7							
	comp=Z,2.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**88.99**	**77**	P		**P**	**20 38 03.2**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=290,slow=5.9,SNR=2.0							
	comp=Z,0.3nm,0.6s							
WRA	**Warramunga Arr**	**136.74**	**255**	PKP		**PKiKP**	**20 44 40.1**	**+5.8**
	comp=Z,0.6nm,0.8s,baz=85,slow=1.9,SNR=2.9							
ASAR	**Alice Springs**	**136.86**	**249**	PKP		**PKiKP**	**20 44 40.5**	**+6.1**
	comp=Z,0.2nm,0.7s,baz=110,slow=2.7,SNR=4.2							
CMAR	**Chiang Mai Arr**	**147.61**	**344**	PKPbc		**PKPbc**	**20 44 54.8**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=343,slow=3.4,SNR=27							

*SJA **29** 20:25:19.0±0.7,20°.80S×69°.20W,h114km±3km,ML3.5, MW3.4*
*GUC **29** 20:25:20.9±0.8,20°.81S×69°.14W,h104km±4km,ML3.2*
ISC 29 20:25:19.1±1.4,**20°.84S**±0°.03×**69°.24W**±0°.07,**h118**km±8km, **n26**,σ1°.07/51,**3C**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.31**	**230**	*i*P	**Pn**	**20 25 35.8**	**-0.2**
PB01				*e*S	**Sn**	**20 25 48.1**	**-0.6**
PB01	**IPOC Station P**	**0.31**	**230**	*e*P	**Pn**	**20 25 36.0**	**-0.1**
PB01				*e*S	**Sn**	**20 25 48.5**	**-0.2**
PB01				IAML		20 25 48.6	
	comp=Z,2µm,0.1s						
PX03	**IPOC Station P**	**0.57**	**320**	*e*P	**Pn**	**20 25 36.8**	**-0.7**
PX03				*e*S	**Sn**	**20 25 50.1**	**-1.1**
PX03				IAML		20 25 50.6	
	comp=N,1µm,0.2s						
PB08	**IPOC Station P**	**0.70**	**6**	*e*P	**Pn**	**20 25 38.5**	**-0.3**
PB08				*e*S	**Sn**	**20 25 52.5**	**-1.0**
PB08				IAML		20 25 54.0	
	comp=N,917nm,0.2s						
PB08	**IPOC Station P**	**0.70**	**6**	*e*P	**Pn**	**20 25 38.5**	**-0.3**
PB08				*e*S	**Sn**	**20 25 52.9**	**-0.7**
PB08				IAML		20 25 53.1	
	comp=Z,548nm,0.3s						
PB02	**IPOC Station P**	**0.78**	**232**	*i*P	**Pn**	**20 25 39.9**	**+0.9**
PB02				*e*S	**Sn**	**20 25 54.9**	**+0.8**
PB02				IAML		20 25 55.8	
	comp=E,1µm,0.3s						
PB02	**IPOC Station P**	**0.78**	**232**	*e*P	**Pn**	**20 25 39.7**	**+0.7**
PB02				*e*S	**Sn**	**20 25 55.6**	**+1.6**
PB02				IAML		20 26 00.2	
	comp=Z,790nm,0.2s						
HMBC	**Humberstone**	**0.83**	**313**	*i*P	**Pn**	**20 25 39.6**	**+0.1**
HMBC				*e*S	**Sn**	**20 25 54.3**	**-0.6**
HMBC				IAML		20 25 55.0	
	comp=E,924nm,0.4s						
HMBC	**Humberstone**	**0.83**	**313**	*e*P	**Pn**	**20 25 39.7**	**+0.1**
HMBC				*e*S	**Sn**	**20 25 54.9**	**0.0**
HMBC				IAML		20 25 57.9	
	comp=Z,1µm,0.3s						
TA01	**Diego Aracena**	**0.93**	**287**	*i*P	**Pn**	**20 25 40.6**	**+0.3**
TA01				*e*S	**Sn**	**20 25 56.2**	**0.0**
TA01				IAML		20 25 56.8	
	comp=E,433nm,0.2s						
TA01	**Diego Aracena**	**0.93**	**287**	*e*P	**Pn**	**20 25 40.7**	**+0.4**
TA01				*e*S	**Sn**	**20 25 56.5**	**+0.3**
PB09	**IPOC Station P**	**0.95**	**180**	*e*P	**Pn**	**20 25 41.7**	**+1.0**
PB09				*e*S	**Sn**	**20 25 57.1**	**+0.1**
PB09				IAML		20 25 58.8	
	comp=N,786nm,0.4s						
PB09	**IPOC Station P**	**0.95**	**180**	*e*P	**Pn**	**20 25 41.1**	**+0.4**
PB09				*e*S	**Sn**	**20 25 58.2**	**+1.2**
PB09				IAML		20 25 59.4	
	comp=Z,441nm,0.2s						
TA02	**Huaiquique**	**1.01**	**304**	*e*P	**Pn**	**20 25 41.7**	**+0.5**
TA02				*e*S	**Sn**	**20 25 56.1**	**-1.7**
TA02	**Huaiquique**	**1.01**	**304**	*e*P	**Pn**	**20 25 41.7**	**+0.5**
TA02				*e*S	**Sn**	**20 25 58.0**	**+0.2**
TA02				IAML		20 25 59.9	
	comp=Z,693nm,0.1s						
PB11	**IPOC Station P**	**1.15**	**340**	*i*P	**Pn**	**20 25 42.7**	**-0.1**
PB11				*e*S	**Sn**	**20 25 59.9**	**-0.6**
PB11	**IPOC Station P**	**1.15**	**340**	*e*P	**Pn**	**20 25 42.6**	**-0.1**
PB11				*e*S	**Sn**	**20 26 00.4**	**-0.1**
PB11				IAML		20 26 00.5	
	comp=Z,579nm,0.2s						
GO01	**Chusmiza**	**1.17**	**2**	*e*P	**Pn**	**20 25 43.3**	**0.0**
GO01				*e*S	**Sn**	**20 26 00.9**	**-0.6**
GO01	**Chusmiza**	**1.17**	**2**	*e*P	**Pn**	**20 25 43.4**	**0.0**
GO01				*e*S	**Sn**	**20 26 01.8**	**+0.3**
GO01				IAML		20 26 03.4	
	comp=Z,314nm,0.1s						
PB06	**IPOC Station P**	**1.88**	**189**	*e*P	**Pn**	**20 25 52.8**	**+1.6**
PB06				*e*S	**Sn**	**20 26 16.1**	**+0.4**
PB05	**IPOC Station P**	**2.19**	**204**	*e*P	**Pn**	**20 25 56.2**	**+1.1**
PB05				*e*S	**Sn**	**20 26 21.9**	**-0.6**
PB16	**IPOC Station P**	**2.51**	**354**	*e*P	**Pn**	**20 26 00.1**	**+0.5**
PB16				*e*S	**Sn**	**20 26 31.5**	**+1.1**
PB14	**IPOC Station P**	**3.92**	**196**	*e*P	**Pn**	**20 26 18.0**	**+0.2**
PB14				*e*S	**Sn**	**20 27 00.3**	**-2.9**
GO02	**Mina Guanaco**	**4.31**	**184**	*e*P	**Pn**	**20 26 23.7**	**+0.6**
GO02				*e*S	**Sn**	**20 27 13.3**	**+0.7**
GO02				IAML		20 27 15.7	
	comp=Z,48nm,0.1s						
LPAZ	**La Paz**	**4.65**	**13**	*e*P	**Pn**	**20 26 30.1**	**+2.1**
LPAZ				*e*S	Sn	20 27 05.4	-16
AC01	**Pan de Azucar**	**5.43**	**193**	*e*P	**Pn**	**20 26 36.5**	**-1.4**
AC01				*e*S	**Sn**	**20 27 35.1**	**-4.0**
AC01				IAML		20 28 07.3	
	comp=Z,33nm,4.4s						

*UCR **29** 20:28:18.6±1.1,11°.40N×86°.87W,h12km±27km,MW3.7*
*CATAC **29** 20:28:18.2±0.6,11°.N±2°.×8°.7W±°,h17km±5km,M3.6/26, ML3.6/26,Error ellipse: s-maj=5.6km s-min=4.4km az=59.4,confirmed*
ISC 29 20:28:18.5±1.6,**11°.43N**±0°.04×**86°.83W**±0°.06,**h17**km±10km,

n46,σ0°.71/52,**Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.78**	**17**	*e*P	**Pg**	**20 28 33.7**	**-0.1**
COPN	**Copaltepe**	**0.78**	**17**	P	**Pg**	**20 28 33.5**	**-0.2**
SABN	**Sabanita**	**0.84**	**51**	P	**Pb**	**20 28 34.3**	**-0.4**
NADN	**Granada**	**0.84**	**68**	P	**Pb**	**20 28 34.4**	**-0.3**
ABCN	**Banco Central**	**0.85**	**37**	P	**Pg**	**20 28 35.5**	**+0.3**
NANN	**Nandasmo**	**0.86**	**54**	P	**Pn**	**20 28 36.0**	**+0.2**
MASN	**Masaya**	**0.86**	**50**	P	**Pb**	**20 28 35.3**	**+0.2**
UNAN	**Cigeo UNAN**	**0.87**	**39**	P	**Pb**	**20 28 35.3**	**+0.2**
UNAN				S	**Sn**	**20 28 48.8**	**+0.5**
MAS3	**Al N del Volca**	**0.87**	**47**	P	**Pb**	**20 28 34.9**	**-0.3**
MAS3				S	**Sg**	**20 28 47.2**	**+0.3**
AMTN	**Mateare**	**0.89**	**26**	P	**Pb**	**20 28 35.5**	**0.0**
TISN	**Laguna Tiscapa**	**0.90**	**38**	P	**Pg**	**20 28 36.1**	**+0.2**
ALLN	**Telcor Managua**	**0.90**	**37**	P	**Pb**	**20 28 35.8**	**+0.1**
APQ2	**Apoyeque**	**0.91**	**33**	P	**Pb**	**20 28 35.4**	**-0.4**
MGAN	**Managua**	**0.91**	**39**	*e*P	**Pn**	**20 28 36.9**	**+0.3**
MGAN				*e*S	**Sn**	**20 28 49.6**	**+0.2**
MGAN	**Managua**	**0.91**	**39**	P	**Pb**	**20 28 35.9**	**+0.1**
WILN	**Americas 2**	**0.96**	**41**	P	**Pb**	**20 28 36.9**	**+0.2**
WILN				S	**Sg**	**20 28 50.3**	**+0.5**
AERN	**Aeropuerto Man**	**0.96**	**42**	S	**Sn**	**20 28 50.7**	**+0.2**
AERN	**Aeropuerto Man**	**0.96**	**42**	P	**Pb**	**20 28 36.4**	**-0.3**
CNGA	**Al SSO del Vol**	**1.06**	**7**	P	**Pb**	**20 28 38.3**	**-0.2**
CNGN	**Cerro Negro**	**1.07**	**7**	*e*P	**Pb**	**20 28 38.3**	**-0.3**
CNGN	**Cerro Negro**	**1.07**	**7**	P	**Pb**	**20 28 38.2**	**-0.3**
CNGN	**Cerro Negro**	**1.07**	**7**	S	**Sn**	**20 28 53.6**	**+0.3**
JAPN	**Al SSO del Vol**	**1.13**	**85**	*e*P	**Pn**	**20 28 38.0**	**-1.6**
JAPN	**Al SSO del Vol**	**1.13**	**85**	P	**Pn**	**20 28 38.8**	**-0.8**
PLRN	**Geotermica Pol**	**1.15**	**3**	P	**Pn**	**20 28 38.8**	**-1.0**
MORN	**Al O del Volca**	**1.17**	**84**	P	**Pn**	**20 28 39.7**	**-0.4**
MORN				S	**Sg**	**20 28 56.6**	**+0.3**
LCRUZ	**La Cruz**	**1.23**	**106**	*e*P	**Pn**	**20 28 40.3**	**-0.7**
PKGN	**Cerro Pekin**	**1.24**	**353**	P	**Pn**	**20 28 40.2**	**-0.8**

BASI	**Baing, Sumba**	**1.18**	**217**	P		Pn	20 39 47.6	-0.3
WBSI	**Waikabubak, Su**	**1.91**	**259**	P		Pn	20 39 56.3	-0.6
BATI	**Baumata**	**2.52**	**112**	P		Pn	20 40 05.9	+1.1
SOEI	**Soe**	**2.98**	**100**	P		Pn	20 40 09.2	-1.7
BSSI	**Bau Bau, Buton**	**3.21**	**346**	P		Pn	20 40 13.0	-0.9
PLAI	**Plampang**	**3.50**	**277**	P		Pn	20 40 19.1	+1.3
BKSI	**Bulukumba**	**4.09**	**343**	P		Pn	20 40 25.5	-0.3
TWSI	**Taliwang, Sumb**	**4.39**	**277**	P		Pn	20 40 29.8	0.0

PRE ***29*** *20:39:55.9±0.9, 26°.93S×26°.78E, h2km, ML3.5*
NEIC ***29*** *20:39:56.6±1.6, 26°.98S±0°.05×26°.77E±0°.07, h5km±1km, mb4.3/3, Error ellipse: s-maj=11.1km s-min=8.9km az=92.0*
IDC ***29*** *20:39:57.0±1.0, 26°.86S×26°.61E, h0km, mb3.8/5, mbtmp3.9/8, ML4.0/2, Error ellipse: s-maj=24.8km s-min=11.4km az=90.0*
BGSI ***29*** *20:39:59.6±2.2, 27°.09S×26°.90E, h54km±28km, ML4.0*
ISC 29 20:39:56.1±0.6, 26°.90S±0°.04×26°.73E±0°.05, h5km, n78, σ1s90/101, mb4.2/8, 5C, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HRAO	**HartRAO**	**1.32**	**41**	*eP*	**Pn**	**20 40 21.3**	**0.0**
HRAO				*eS*	**Sg**	**20 40 39.0**	**+0.4**
HRAO				IAML		20 40 42.1	
	comp=Z,925nm,0.4s						
MAKGR	**Makgori**	**2.04**	**302**	*i* P	**Pn**	**20 40 34.5**	**+3.2**
MAKGR				*i* S	**Sb**	**20 41 00.7**	**+1.2**
MAKGR				IAML		20 41 02.7	
	comp=N,6μm,0.6s						
MAKGR	**Makgori**	**2.04**	**302**		**Pn**	**20 40 32.7**	**+1.5**
LBTB	**Lobatse**	**2.13**	**331**		**Pn**	**20 40 34.8**	**+2.2**
LBTB	**Lobatse**	**2.13**	**331**	Pn	**Pn**	**20 40 34.9**	**+2.4**
	comp=N,42nm,0.3s,baz=150,slow=17,SNR=404						
LBTB				Lg	Lg	20 41 01.1	
	comp=N,402nm,0.3s,baz=225,slow=20,SNR=34						
	comp=N,158nm,0.4s						
LBTB	**Lobatse**	**2.13**	**331**	*eP*	**Pn**	**20 40 34.1**	**+1.6**
LBTB				*eS*	**Sn**	**20 41 01.9**	**+2.4**
LBTB				IAML		20 41 04.2	
	comp=Z,1μm,0.5s						
BOSA	**Boshof**	**2.15**	**217**		**Pn**	**20 40 33.8**	**+1.1**
BOSA	**Boshof**	**2.15**	**217**	Pn	**Pn**	**20 40 34.1**	**+1.3**
	comp=Z,40nm,0.3s,baz=38,slow=13,SNR=852						
BOSA				Lg	Lg	20 41 03.5	
	comp=Z,115nm,0.3s,baz=315,slow=18,SNR=26						
	comp=Z,101nm,0.3s						
BOSA	**Boshof**	**2.15**	**217**	*eP*	**Pn**	**20 40 34.4**	**+1.7**
BOSA				*eS*	**Sn**	**20 41 01.9**	**+2.0**
BOSA				IAML		20 41 04.6	
	comp=Z,264nm,0.3s						
CRLN	**Carolina, Mapu**	**3.09**	**74**	*eP*	**Pn**	**20 40 46.4**	**+0.8**
CRLN				*eS*	**Sn**	**20 41 23.3**	**+0.3**
CRLN				IAML		20 41 37.0	
	comp=Z,102nm,0.4s						
LEPH	**Lephalale, Lim**	**3.18**	**18**	*eP*	**Pn**	**20 40 48.2**	**+1.4**
LEPH				*eS*	**Sn**	**20 41 25.4**	**+0.3**
LEPH				IAML		20 41 37.9	
	comp=Z,176nm,0.3s						
SKOMA	**Sekoma**	**3.46**	**313**	*i* P	**Pn**	**20 40 52.4**	**+1.6**
SKOMA				IAML		20 41 49.5	
	comp=N,310nm,0.3s						
LPHEP	**Lephephe**	**3.61**	**347**	*i* P	**Pn**	**20 40 54.0**	**+1.2**
LPHEP				*i* S	**Sn**	**20 41 34.5**	**-1.3**
LPHEP	**Lephephe**	**3.61**	**347**		**Pn**	**20 40 54.3**	**+1.6**
PHPEN	**Phepeng**	**3.76**	**291**	*i* P	**Pn**	**20 40 57.0**	**+2.2**
PHPEN	**Phepeng**	**3.76**	**291**		**Pn**	**20 40 56.1**	**+1.3**
HVD	**Gariep Dam**	**3.85**	**196**	*eP*	**Pn**	**20 40 57.3**	**+1.2**
HVD				*eS*	**Sn**	**20 41 41.1**	**-0.8**
KDWAN	**Kaudwane**	**3.97**	**331**	*i* P	**Pn**	**20 40 59.5**	**+1.7**
KDWAN				IAML		20 42 05.1	
	comp=N,908nm,0.5s						
KDWAN	**Kaudwane**	**3.97**	**331**		**Pn**	**20 40 59.4**	**+1.6**
MREMI	**Moremi**	**4.36**	**9**	*i* P	**Pn**	**20 41 03.8**	**+0.7**
MREMI				IAML		20 42 13.2	
	comp=N,704nm,0.3s						
MREMI	**Moremi**	**4.36**	**9**		**Pn**	**20 41 04.0**	**+1.0**
POGA	**Pongola**	**4.46**	**97**		**Pn**	**20 41 04.2**	**-0.2**
ALKP	**Alkanpan, Nort**	**4.98**	**231**	*eP*	**Pn**	**20 41 12.9**	**+1.3**
ALKP				*eS*	**Sn**	**20 42 08.4**	**-1.2**
ALKP				IAML		20 42 31.8	
	comp=Z,150nm,0.3s						
KHWEE	**KHWEE**	**5.07**	**346**	*i* P	**Pn**	**20 41 14.5**	**+1.7**
KHWEE				IAML		20 42 38.5	
	comp=N,877nm,0.3s						
KHWEE	**KHWEE**	**5.07**	**346**		**Pn**	**20 41 14.7**	**+1.8**
KEIM	**Keimoes**	**5.41**	**249**	*eP*	**Pn**	**20 41 19.9**	**+2.3**
KEIM				*eS*	**Sn**	**20 42 19.6**	**-0.6**
KEIM				IAML		20 42 47.9	
	comp=Z,71nm,0.4s						
BFON	**Badsfontein, M**	**5.56**	**208**	*eP*	**Pn**	**20 41 20.8**	**+1.2**
BFON				*eS*	**Sn**	**20 42 22.2**	**-1.7**
BFON				IAML		20 42 50.9	
	comp=Z,104nm,0.5s						
LKGWB	**Lokgwabe**	**5.70**	**298**		Pn	20 41 17.5	-4.1
GRAF	**Camdeboo Natio**	**5.71**	**199**	*eP*	**Pn**	**20 41 23.0**	**+1.5**
GRAF				*eS*	**Sn**	**20 42 25.9**	**-1.6**
GRAF				IAML		20 42 58.0	
	comp=Z,66nm,0.4s						
KGCAE	**Kacgae**	**5.75**	**313**	*i* P	**Pn**	**20 41 23.3**	**+1.0**
KGCAE				IAML		20 43 01.6	
	comp=N,267nm,0.5s						
KGCAE	**Kacgae**	**5.75**	**313**		**Pn**	**20 41 23.9**	**+1.6**
BROLN	**Tlhalogang**	**5.80**	**6**	*i* P	**Pn**	**20 41 22.7**	**-0.2**
BROLN				*i* S	**Sn**	**20 42 26.2**	**-3.7**
BROLN				IAML		20 42 57.6	
	comp=E,98nm,0.4s						
BRAK	**Brakfontein**	**5.91**	**214**	*eP*	**Pn**	**20 41 26.1**	**+1.8**
BRAK				*eS*	**Sn**	**20 42 30.7**	**-1.7**
BRAK				IAML		20 43 08.3	
	comp=Z,66nm,0.4s						
AUGR	**Augrabies**	**5.91**	**252**	*eP*	**Pn**	**20 41 26.4**	**+2.1**
AUGR				*eS*	**Sn**	**20 42 31.6**	**-1.0**
AUGR				IAML		20 43 01.0	
	comp=Z,123nm,0.4s						
ARMS	**Ukamas**	**6.31**	**258**	*eP*	**Pn**	**20 41 32.2**	**+2.3**
ARMS				*eS*	**Sn**	**20 42 41.6**	**-0.9**
SOOWA	**Sowa**	**6.32**	**356**	*i* P	**Pn**	**20 41 31.7**	**+1.6**
SOOWA				IAML		20 43 16.5	
	comp=N,349nm,0.5s						
GRHM	**Grahamstown, E**	**6.36**	**183**	Pn	**Pn**	**20 41 30.4**	**-0.2**
GRHM	**Grahamstown, E**	**6.36**	**183**	*eP*	**Pn**	**20 41 30.5**	**-0.1**
GRHM				*eS*	**Sn**	**20 42 40.4**	**-3.3**
GRHM				IAML		20 43 15.1	
	comp=Z,26nm,0.5s						
MATP	**Matopo**	**6.64**	**14**	Pn	Pn	20 41 40.2	+5.7
	comp=Z,2.6nm,0.3s,baz=194,slow=14,SNR=46						
MATP				Sn	**Sn**	**20 42 54.0**	**+3.3**
	comp=Z,3.5nm,0.3s,baz=193,slow=14,SNR=9.0						
MATP				Lg	Lg	20 43 28.1	
	comp=Z,16nm,0.3s,baz=127,slow=14,SNR=13						
GRAN	**Grantham**	**6.69**	**215**	*eP*	**Pn**	**20 41 36.9**	**+1.9**
GRAN				*eS*	**Sn**	**20 42 50.0**	**-1.8**
GRAN				IAML		20 43 39.0	
	comp=Z,53nm,0.6s						
PHDHD	**Phuduhudu**	**6.97**	**343**	*i* P	**Pn**	**20 41 39.9**	**+0.9**
PHDHD	**Phuduhudu**	**6.97**	**343**		**Pn**	**20 41 40.7**	**+1.7**
KOOLE	**Kule**	**7.09**	**302**	*i* P	**Pn**	**20 41 40.0**	**-0.7**
KOOLE				IAML		20 43 48.7	
	comp=E,113nm,0.3s						
KOOLE	**Kule**	**7.09**	**302**		**Pn**	**20 41 41.5**	**+0.8**
KROM	**Kromhout**	**7.45**	**194**	*eP*	**Pn**	**20 41 46.0**	**+0.6**
KROM				*eS*	**Sn**	**20 43 06.4**	**-3.9**
KROM				IAML		20 43 09.3	
	comp=Z,110nm,0.5s						
GRTLG	**Ghanzi**	**7.46**	**316**	*i* P	**Pn**	**20 41 45.8**	**0.0**
GRTLG				*i* S	Sn	20 43 03.6	-7.4
GRTLG				IAML		20 43 55.9	
	comp=E,89nm,0.3s						
GRTLG	**Ghanzi**	**7.46**	**316**		**Pn**	**20 41 46.8**	**+1.0**
SUR	**Sutherland**	**7.51**	**222**	Pn	**Pn**	**20 41 47.5**	**+1.1**
KOMG	**Komaggas**	**8.64**	**248**	*eP*	**Pn**	**20 42 03.6**	**+1.8**
KOMG				*eS*	**Sn**	**20 43 36.7**	**-3.1**
KOMG				IAML		20 44 36.1	
	comp=Z,34nm,0.6s						
PRTV	**Porterville,We**	**9.03**	**225**	*eP*	**Pn**	**20 42 08.9**	**+1.7**
PRTV				*eS*	**Sn**	**20 43 46.6**	**-2.8**
PRTV				IAML		20 44 53.1	
	comp=Z,48nm,0.7s						
CER	**Ceres**	**9.11**	**223**	*eP*	**Pn**	**20 42 09.8**	**+1.7**
CER				*eS*	**Sn**	**20 43 48.0**	**-3.1**
KSANE	**Kasane**	**9.17**	**351**	*i* P	**Pn**	**20 42 08.4**	**-0.8**
KSANE	**Kasane**	**9.17**	**351**		**Pn**	**20 42 09.8**	**+0.6**
AUSN	**Aus**	**9.36**	**269**	*eP*	**Pn**	**20 42 13.9**	**+2.0**
AUSN				*eS*	**Sn**	**20 43 54.7**	**-2.9**
XAUDM	**Khaudum**	**9.69**	**328**		**Pn**	**20 42 17.3**	**+1.0**
ELIM	**Elim**	**9.74**	**216**	*eP*	**Pn**	**20 42 18.3**	**+1.4**
ELIM				*eS*	**Sn**	**20 44 02.2**	**-4.6**
ELIM				IAML		20 44 43.9	
	comp=Z,11nm,0.6s						
TSUM	**Tsumeb**	**11.38**	**310**	Pn	**Pn**	**20 42 39.0**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=139,slow=11,SNR=3.1						
TSUM				Sn	**Sn**	**20 44 41.0**	**-6.2**
	comp=Z,0.5nm,0.3s,baz=1.3,slow=14,SNR=4.5						
TSUM				Lg	Lg	20 45 49.7	
	comp=Z,2.0nm,0.3s,baz=270,slow=15,SNR=4.2						
LSZ	**Lusaka**	**11.64**	**7**		**Pn**	**20 42 42.5**	**-0.6**
LSZ	**Lusaka**	**11.64**	**7**	Pn	**Pn**	**20 42 42.1**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=196,slow=12,SNR=10						
LSZ				Sn	**Sn**	**20 44 48.3**	**-5.3**
	comp=Z,1.3nm,0.3s,baz=231,slow=7.7,SNR=7.4						
LSZ				Lg	Lg	20 45 56.4	
	comp=Z,1.4nm,0.3s,baz=280,slow=22,SNR=5.6						
TORD	**Torodi Ar. Bea**	**46.65**	**325**	P	**P**	**20 48 26.2**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=146,slow=6.6,SNR=14						
	comp=Z,1.1nm,0.8s						
TROLL	**Troll, Antarti**	**47.09**	**190**	P	**P**	**20 48 30.3**	**+1.6**
TROLL	**Troll, Antarti**	**47.09**	**190**	⇑P	**P**	**20 48 30.3**	**+1.6**
	comp=Z,28nm,0.9s						
SNAA	**Sanae**	**47.73**	**192**	P	**P**	**20 48 35.2**	**+1.5**
SNAA	**Sanae**	**47.73**	**192**	⇑P	**P**	**20 48 35.2**	**+1.5**
	comp=Z,37nm,0.7s						
SNAA	**Sanae**	**47.73**	**192**	P	**P**	**20 48 32.5**	**-1.1**
SNAA				IAmb	IAmb	20 48 36.0	
	comp=Z,3.1nm,1.1s						
SNAA	**Sanae**	**47.73**	**192**	P	**P**	**20 48 35.0**	**+1.4**
	comp=Z,2.1nm,0.9s,baz=45,slow=6.2,SNR=9.9						
	comp=Z,2.1nm,0.9s						
VNA1	**Neumayer--Stat**	**48.08**	**195**	P	**P**	**20 48 37.3**	**+1.1**
VNA1	**Neumayer--Stat**	**48.08**	**195**	⇑P	**P**	**20 48 37.3**	**+1.1**
	comp=Z,1.8nm,0.6s						
VNA2	**Neumayer--Watz**	**48.08**	**194**	P	**P**	**20 48 37.1**	**+0.8**
	baz=40,slow=3.5						
VNA2	**Neumayer--Watz**	**48.08**	**194**	⇑P	**P**	**20 48 37.1**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=40,slow=3.5						
VNA3	**Neumayer Olymp**	**48.83**	**195**	P	**P**	**20 48 42.3**	**+0.3**
VNA3	**Neumayer Olymp**	**48.83**	**195**	⇑P	**P**	**20 48 42.3**	**+0.3**
	comp=Z,1.1nm,0.6s						
QSPA	**South Pole Qui**	**63.29**	**180**	P	P	20 50 23.0	-2.8
QSPA				IAmb	IAmb	20 50 29.2	
	comp=Z,2.3nm,1.2s						
QSPA	**South Pole Qui**	**63.29**	**180**	P	**P**	**20 50 27.6**	**+1.8**
	comp=Z,0.4nm,0.4s,baz=252,slow=6.4,SNR=6.5						
	comp=Z,0.4nm,0.4s						
ESDC	**Sonseca Array**	**72.15**	**336**	P	**P**	**20 51 22.8**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=154,slow=5.8,SNR=8.6						
	comp=Z,0.5nm,0.5s						
VNDA	**Vanda**	**72.45**	**171**	P	P	20 51 19.0	-4.0
VNDA				IAmb	IAmb	20 51 29.1	
	comp=Z,4.1nm,1.4s						
AKASG	**Malin Array Be**	**77.29**	**2**	P	**P**	**20 51 51.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=189,slow=5.5,SNR=2.7						
	comp=Z,0.2nm,0.3s						
NVAR	**Mina Array Bea**	**148.57**	**300**	PKPbc	**PKPbc**	**20 59 47.4**	**+2.8**
	comp=Z,0.8nm,0.5s,baz=40,slow=5.5,SNR=6.8						

RSNC ***29*** *20:48:35.9±0.0, 10°.N±1°×7°.3W±°, h122km±2km, M3.2, mb3.5, ML2.8*
FUNV ***29*** *20:48:36.3, 10°.32N×73°.09W, h129km, MW3.7*
ISC 29 20:48:33.1±1.5, 10°.31N±0°.05×73°.08W±0°.04, h144km±11km, n28, σ2s10/53, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCQV	**Machiques**	**0.60**	**115**	*eP*	**Pn**	**20 48 55.7**	**+1.4**
MCQV				*eS*	**Sn**	**20 49 09.5**	**-0.8**
CRJC	**Cerrejon, Guaj**	**0.73**	**16**	P	**Pn**	**20 48 55.8**	**+0.5**
CRJC				S	**Sn**	**20 49 10.4**	**-1.8**
ARGC	**Ariguani, Magd**	**1.23**	**249**	P	**Pn**	**20 49 00.9**	**+1.5**
ARGC				S	**Sn**	**20 49 19.7**	**+0.2**
SMRC	**Santa Marta, M**	**1.41**	**307**	P	**Pn**	**20 49 02.3**	**+1.1**
SMRC				S	**Sn**	**20 49 22.0**	**-0.7**
URIC	**Uribia, Colomb**	**1.75**	**38**	P	**Pn**	**20 49 06.1**	**+1.1**
URIC				S	**Sn**	**20 49 29.0**	**-0.4**
OCAC	**Ocana**	**2.07**	**186**	P	**Pn**	**20 49 09.6**	**+0.7**
OCAC				S	**Sn**	**20 49 35.2**	**-1.1**
SJCC	**San Jacinto, C**	**2.10**	**259**	P	**Pn**	**20 49 10.1**	**+0.9**
SJCC				S	**Sn**	**20 49 36.7**	**-0.1**
CAPV	**Capacho**	**2.54**	**163**	*eP*	**Pn**	**20 49 16.4**	**+1.6**
CAPV				*eS*	**Sn**	**20 49 46.3**	**-0.5**
SDV	**Santo Domingo**	**2.80**	**120**	P	**Pn**	**20 49 19.5**	**+1.6**
SDV				S	**Sn**	**20 49 52.5**	**+0.1**
PAMC	**Pamplona, Colo**	**2.97**	**173**	P	**Pn**	**20 49 21.8**	**+1.4**
PAMC				S	**Sn**	**20 49 54.4**	**-2.5**
ZARC	**Zaragoza, Cauc**	**3.30**	**212**	P	**Pn**	**20 49 25.1**	**+0.9**
ZARC				S	**Sn**	**20 50 01.7**	**-2.0**
BRJC	**Barrancabermej**	**3.38**	**191**	P	**Pn**	**20 49 26.9**	**+1.8**
BRJC				S	**Sn**	**20 50 05.4**	**0.0**
UREC	**San Jos de Ur**	**3.51**	**224**	P	**Pn**	**20 49 28.2**	**+1.4**
UREC				S	**Sn**	**20 50 06.2**	**-2.2**
PTBC	**PUERTO BERRIO,**	**3.98**	**200**	P	**Pn**	**20 49 34.0**	**+0.9**
PTBC				S	**Sn**	**20 50 18.7**	**-0.9**
APAC	**Apartado, Choc**	**4.20**	**236**	P	**Pn**	**20 49 39.1**	**+3.2**
APAC				S	**Sn**	**20 50 24.6**	**0.0**
RUSC	**La Rusia**	**4.39**	**180**	P	**Pn**	**20 49 39.5**	**+0.7**
RUSC				S	**Sn**	**20 50 30.6**	**+0.8**
DBBC	**Dabeiba**	**4.50**	**224**	P	**Pn**	**20 49 40.6**	**+0.7**
DBBC				S	**Sn**	**20 50 26.1**	**-5.7**
SPBC	**San Pablo de B**	**4.73**	**192**	P	**Pn**	**20 49 45.1**	**+2.1**
SPBC				S	**Sn**	**20 50 34.4**	**-2.9**
HELC	**Santa Helena**	**4.75**	**211**	P	**Pn**	**20 49 45.1**	**+1.6**
HELC				S	**Sn**	**20 50 32.6**	**-5.7**
NORC	**Norcasia**	**5.03**	**201**	P	**Pn**	**20 49 48.1**	**+1.1**
NORC				S	**Sn**	**20 50 40.7**	**-3.9**
BAUV	**El Baul**	**5.15**	**105**	*eP*	**Pn**	**20 49 49.7**	**+1.2**
BAUV				*eS*	**Sn**	**20 50 44.1**	**-3.2**
CBOC	**Ciudad Bolivar**	**5.28**	**214**	P	**Pn**	**20 49 52.5**	**+2.1**
BENV	**Beln**	**5.41**	**93**	*eP*	**Pn**	**20 49 53.6**	**+1.6**
BENV				*eS*	**Sn**	**20 50 49.4**	**-4.1**
GUY2C	**Guyana, Caldas**	**5.53**	**204**	P	**Pn**	**20 49 55.6**	**+1.6**
	7.4nm,0.5s						
GUY2C				S	Sn	20 50 49.3	-7.8
	7.4nm,0.5s						
ROSC	**El Rosal**	**5.57**	**193**	P	**Pn**	**20 49 55.1**	**+0.7**
	8.8nm,0.7s						
ROSC				S	**Sn**	**20 51 01.8**	**+4.0**
	8.8nm,0.7s						
ORTC	**Ortega, Tolima**	**6.71**	**199**	P	**Pn**	**20 50 11.2**	**+1.8**
	4.6nm,1.1s						
ORTC				S	**Sn**	**20 51 24.9**	**+0.2**
	4.6nm,1.1s						
PRAC	**Prado**	**6.79**	**195**	P	**Pn**	**20 50 12.2**	**+1.7**
	4.7nm,1.1s						
PRAC				S	**Sn**	**20 51 25.1**	**-1.6**
	4.7nm,1.1s						
YOTC	**Yotoco, Valle**	**7.07**	**207**	P	**Pn**	**20 50 14.0**	**-0.2**

ISK ***29*** *20:49:28.8, 37°.85N×29°.73E, h5km, ML3.0/21*
AFAD ***29*** *20:49:29.7, 37°.82N×29°.73E, h7km±2km, ML3.0*
IDC ***29*** *20:49:29.5±1.6, 37°.83N×29°.84E, h0km, mb3.4/3, mbtmp3.2/5, ML3.0/2, Error ellipse: s-maj=32.4km s-min=21.5km az=138.0*
ISC 29 20:49:30.1±0.9, 37°.83N±0°.02×29°.73E±0°.02, h8km±7km, n62, σ0s55/86, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INCE	**Denizli-Bozkur**	**0.17**	**225**	P	**Pg**	**20 49 34.2**	**+0.6**
INCE				S	**Sg**	**20 49 36.9**	**+0.8**
INCE				*i* IAML		20 49 38.0	
	comp=E,4μm,0.5s						
BASM	**Basmaki-Afyon**	**0.27**	**70**	Pg	**Pg**	**20 49 35.3**	**-0.2**
BASM				Sg	**Sg**	**20 49 39.3**	**+0.1**
BRDR	**BURDUR-Merkez**	**0.30**	**116**	P	**Pg**	**20 49 35.8**	**-0.2**
BRDR				S	**Sg**	**20 49 40.1**	**+0.1**
BRDR				*i* IAML		20 49 42.0	
	comp=E,2μm,0.4s						
APMY	**Acipayam-Deniz**	**0.49**	**224**	Pg	**Pg**	**20 49 39.3**	**-0.3**
APMY				Sg	**Sb**	**20 49 48.0**	**-0.3**
KHL	**Karahalli**	**0.52**	**342**	Pg	**Pg**	**20 49 40.1**	**-0.1**
KZIL	**AFYON_Kizioren**	**0.54**	**37**	P	**Pg**	**20 49 40.6**	**0.0**
KZIL				*i* IAML		20 49 52.0	
	comp=N,896nm,0.6s						
KZIL				*i* IAML		20 49 53.0	
PASA	**Karahalli, USA**	**0.55**	**340**	P	**Pg**	**20 49 40.7**	**-0.1**
PASA				S	**Sg**	**20 49 48.2**	**+0.1**
PASA				*i* IAML		20 49 55.0	
	comp=E,785nm,0.4s						
PASA				*i* IAML		20 49 56.0	
	comp=N,770nm,0.4s						
DNIZ	**Denizli-Tavas-**	**0.58**	**250**	P	**Pb**	**20 49 41.6**	**-1.0**
DNIZ				S	**Sg**	**20 49 48.9**	**-0.1**
DNIZ				*i* IAML		20 50 00.0	
	comp=E,1μm,0.4s						
GOLH	**Golhisar**	**0.60**	**193**	P	**Pg**	**20 49 41.5**	**-0.2**
GOLH				S	**Sb**	**20 49 50.4**	**-1.2**
GOLH				*i* IAML		20 49 57.0	
	comp=E,761nm,0.4s						
GOLH				*i* IAML		20 50 08.0	
	comp=N,616nm,0.9s						
ISP	**Isparta**	**0.63**	**90**	Pg	**Pg**	**20 49 41.7**	**-0.6**
ISP				Sg	**Sb**	**20 49 51.6**	**-0.8**
TAVA	**DENIZLI_Tavas**	**0.74**	**241**	P	**Pg**	**20 49 44.1**	**-0.2**
TAVA				S	**Sg**	**20 49 53.0**	**-0.9**
AFYN	**Afyon-Dinar-K**	**0.76**	**54**	P	**Pb**	**20 49 44.7**	**-0.9**
AFYN				S	**Sb**	**20 49 56.0**	**0.0**
CAEL	**Denizli, Camel**	**0.77**	**205**	P	**Pb**	**20 49 45.2**	**-0.7**
CAEL				*i* IAML		20 50 08.0	
	comp=E,567nm,0.5s						
CAEL				*i* IAML		20 50 10.0	
	comp=N,559nm,0.8s						
BCK	**Bucak**	**0.78**	**118**	Pg	**Pg**	**20 49 44.8**	**-0.2**
BCK				Sg	**Sb**	**20 49 56.9**	**+0.3**
DNZT	**Denizli-Tavas-**	**0.78**	**226**	P	**Pg**	**20 49 44.7**	**-0.5**
DNZT				S	**Sg**	**20 49 54.7**	**-0.6**
BUCA	**Burdur, Bucak-**	**0.83**	**127**	P	**Pg**	**20 49 45.7**	**-0.3**
BUCA				S	**Sb**	**20 49 57.5**	**-0.5**
BAGO	**Egridir - ISPA**	**0.86**	**79**	P	**Pg**	**20 49 45.1**	**-1.0**
BAGO				S	**Sb**	**20 49 58.1**	**-0.8**
BNAZ	**Uak-Banaz**	**0.86**	**8**	P	**Pg**	**20 49 46.5**	**-0.2**
BNAZ				S	**Sb**	**20 49 59.5**	**+0.4**
CAME	**Cameli-Denizli**	**0.94**	**201**	Pg	**Pb**	**20 49 48.6**	**-0.2**
KORT	**Korkueli**	**0.96**	**149**	Pg	**Pb**	**20 49 49.1**	**0.0**
KORT	**Korkueli**	**0.96**	**149**	P	**Pn**	**20 49 49.2**	**-0.7**
KORT				S	**Sb**	**20 50 02.0**	**+0.1**
KNIK	**Mula-Seydike**	**0.99**	**187**	P	**Pg**	**20 49 48.4**	**-0.7**
KNIK				S	**Sn**	**20 50 03.5**	**-1.0**
USAK	**Uak-Merkez**	**1.05**	**328**	P	**Pb**	**20 49 50.1**	**-0.3**
AFYO	**Afyonkarahisar**	**1.06**	**25**	P	**Pb**	**20 49 50.2**	**-0.5**
KULA	**Kula-Manisa**	**1.08**	**310**	Pg	**Pb**	**20 49 50.8**	**-0.3**
ELL	**Elmali**	**1.09**	**172**	Pn	**Pb**	**20 49 50.7**	**-0.5**
ESEN	**Aydn-Nazilli**	**1.09**	**269**	P	**Pg**	**20 49 50.2**	**-0.9**
KIRA	**zmir-Kiraz**	**1.11**	**290**	P	**Pb**	**20 49 51.4**	**-0.2**
KIRA				S	**Sn**	**20 50 07.5**	**0.0**
MANT	**Manisa**	**1.14**	**306**	P	**Pb**	**20 49 51.6**	**-0.5**
MANT				*i* IAML		20 50 14.0	
	comp=N,386nm,0.7s						
MANT				*i* IAML		20 50 14.0	
	comp=E,343nm,1.0s						
NAZL	**Nazilli-Aydin**	**1.14**	**277**	Pn	**Pb**	**20 49 51.7**	**-0.4**
SABU	**Mula-Dalaman**	**1.17**	**211**	P	**Pb**	**20 49 52.3**	**-0.3**
SABU				S	**Sb**	**20 50 07.7**	**-0.2**
SABU				*i* IAML		20 50 14.0	
	comp=N,391nm,1.0s						
SABU				*i* IAML		20 50 14.0	
	comp=E,271nm,0.6s						
GEDZ	**Gediz**	**1.24**	**349**	Pn	**Pg**	**20 49 53.1**	**-0.8**
MULA	**Mugla, Merkez-**	**1.25**	**243**	P	**Pn**	**20 49 53.9**	**0.0**
MULA				S	**Sn**	**20 50 10.9**	**-0.1**
SHAP	**Saphane-Kutahy**	**1.26**	**342**	Pn	**Pg**	**20 49 53.5**	**-0.7**
GDZ	**Gediz**	**1.27**	**351**	P	**Pg**	**20 49 54.0**	**-0.6**
GDZ				S	**Sn**	**20 50 12.6**	**+0.9**
GDZ				*i* IAML		20 50 17.0	
	comp=N,351nm,0.8s						
GDZ				*i* IAML		20 50 17.0	
	comp=E,321nm,0.7s						
YVAC	**Isparta, Yalva**	**1.27**	**69**	P	**Pb**	**20 49 54.0**	**-0.4**
KURO	**Afyon-Bolvadin**	**1.31**	**46**	P	**Pn**	**20 49 54.5**	**-0.3**
KURO				S	**Sn**	**20 50 13.0**	**+0.5**
DALY	**Dalyan (Mula)**	**1.32**	**221**	Pn	**Pg**	**20 49 55.5**	**+0.1**
YER	**Yerkesik**	**1.34**	**239**	Pn	**Pg**	**20 49 55.6**	**-0.2**
**ODE

ISC 29 21:00:02.7±1.2,12°88N±0'.04×90°20W±0'.04, h33km±8km, n878, σ1933/751, mb5.0/169, MS4.6/56, 29C-7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
ESSJ	San Jos, E	0.74	336	eP	Pb	21 00 23.3	+6.1	
FAME	Alcaldia de Sa	0.97	10	S	Sb	21 00 37.3	+3.6	
FAME	Alcaldia de Sa	0.97	10	⇑P	Pn	21 00 19.9	-0.2	
LALI	Alcalda de L	1.05	55	eP	Pn	21 00 21.6	+0.5	
LALI				eS	Sb	21 00 38.1	+2.4	
LALI	Alcalda de L	1.05	55	eP	Pb	21 00 21.8	-0.5	
LALI	Alcalda de L	1.05	55	⇑P	Pb	21 00 21.9	-0.5	
JAYA	Jayaque - finc	1.06	43	eP	Pb	21 00 22.2	-0.5	
JAYA				eS	Sb	21 00 38.6	+2.2	
JAYA	Jayaque - finc	1.06	43	*i* P	Pb	21 00 22.4	-0.3	
JAYA				eS	Sb	21 00 37.0	+0.7	
JAYA	Jayaque - finc	1.06	43	⇑P	Pb	21 00 22.4	-0.3	
NUBE	Las Nubes	1.09	22	*i* P	Pn	21 00 22.3	+0.4	
NUBE				eS	Sb	21 00 38.8	+1.4	
NUBE	Las Nubes	1.09	22	⇑P	Pb	21 00 22.3	+0.4	
CEVE	Cerro Verde	1.10	31	eP	Pb	21 00 22.8	-0.5	
CEVE				eS	Sb	21 00 41.8	+4.4	
CEVE	Cerro Verde	1.10	31	⇑P	Pb	21 00 22.9	-0.5	
SBLS	San Blas	1.11	30	eP	Pb	21 00 22.9	-0.6	
SNJE	San Jose	1.14	30	eP	Pn	21 00 23.3	+0.8	
RTR	El Retiro	1.15	28	eP	Pb	21 00 23.5	-0.6	
LOAL	Lomas de Alarc	1.18	20	eP	Pn	21 00 23.7	+0.7	
LOAL				eS	Sb	21 00 42.2	+2.4	
LOAL	Lomas de Alarc	1.18	20	⇑P	Pn	21 00 23.9	+0.9	
LOAL	Lomas de Alarc	1.18	20	S	Sb	21 00 41.9	+2.2	
ITCA	Escuela Especi	1.19	48	eP	Pb	21 00 24.1	-0.8	
ITCA	Escuela Especi	1.19	48	⇑P	Pb	21 00 25.0	+0.1	
PMON	Piamonte	1.19	46	eP	Pb	21 00 24.3	-0.5	
PMON	Piamonte	1.19	46	⇑P	Pb	21 00 24.2	-0.7	
MAGS	Ministerio de	1.19	48	eP	Pn	21 00 24.1	+0.9	
CEDA	San Andres	1.21	40	eP	Pn	21 00 24.2	+0.9	
CEDA	San Andres	1.21	40	⇑P	Pb	21 00 24.4	-0.7	
PANC	Alcalda de	1.23	54	eP	Pn	21 00 24.4	+0.8	
PANC	Alcalda de	1.23	54	P	Pb	21 00 24.6	-0.8	
BOQS	Boqueron	1.23	46	eP	Pb	21 00 24.9	-0.8	
UEES	Universidad Ev	1.25	48	eP	Pn	21 00 24.8	+0.8	
UEES	Universidad Ev	1.25	48	⇑P	Pn	21 00 24.9	+1.0	
PIC2	El Picacho	1.26	47	eP	Pb	21 00 25.2	-0.8	
UNIC	Universidad Ca	1.27	30	eP	Pn	21 00 25.0	+0.8	
UNIC	Universidad Ca	1.27	30	⇑P	Pn	21 00 25.1	+1.0	
UNIC	Universidad Ca	1.27	30	S	Sb	21 00 46.1	+4.0	
UTEC	Universidad Te	1.27	50	P	Pn	21 00 25.1	+1.0	
UESS	Universidad de	1.28	49	eP	Pb	21 00 26.2	-0.1	
IGN	Direccin Gen	1.30	50	P	Pb	21 00 25.9	-0.7	
UDBS	Universidad Do	1.31	51	eP	Pb	21 00 26.1	-0.7	
UDBS	Universidad Do	1.31	51	P	Pb	21 00 26.8	-0.1	
RBDL	Robledal	1.32	22	eP	Pn	21 00 26.0	+1.0	
LFRS	El Faro	1.33	56	eP	Pn	21 00 26.0	+0.9	
LBRS	Las Brisas	1.41	53	eP	Pb	21 00 27.8	-0.7	
FG8	Yepocapa, Chim	1.42	346	*i* P	Pb	21 00 28.2	-0.1	
FG8				eS	Sb	21 00 50.5	+4.0	
FG16	Alotenango, Sa	1.42	348	*i* P	Pb	21 00 28.6	-0.1	
PAVA	Las Pavas	1.48	56	eP	Pb	21 00 28.6	-1.1	
PAVA	Las Pavas	1.48	56	⇑P	Pb	21 00 28.9	-0.8	
SNVI	San Vicente	1.51	61	eP	Pn	21 00 28.6	+1.1	
TECO	Alcaldia de Te	1.53	64	eP	Pn	21 00 28.4	+0.7	
TECO	Alcaldia de Te	1.53	64	⇑P	Pn	21 00 28.3	+0.6	
UESV	Universidad de	1.57	61	eP	Pn	21 00 29.3	+1.0	
UESV	Universidad de	1.57	61	P	Pn	21 00 29.5	+1.3	
ESSG	Sabana Grande	1.62	338	eP	Pn	21 00 27.5	-1.5	
SCLA	Alcaldia de Sa	1.65	60	eP	Pn	21 00 30.8	+1.5	
SCLA	Alcaldia de Sa	1.65	60	⇑P	Pn	21 00 30.9	+1.5	
MTO3	Montecristo	1.72	28		Pn	21 00 31.7	+1.2	
MTO3	Montecristo	1.72	28	eP	Pn	21 00 31.9	+1.4	
MTO3	Montecristo	1.72	28	⇑P	Pn	21 00 31.7	+1.2	
PQSS	Presa 15 de Se	1.76	65	eP	Pn	21 00 32.1	+1.3	
TECA	Tecapa	1.76	69	eP	Pn	21 00 31.7	+0.7	
ESQI	Esquipulas	1.87	26	P	Pn	21 00 32.6	+1.2	
ESQI				Sn	Sn	21 00 57.1	+2.2	
ESQI	Esquipulas	1.87	26	eP	Pn	21 00 34.2	+1.7	
ESQI	Esquipulas	1.87	26	⇑P	Pn	21 00 33.9	+1.5	
PACA	Pacayal	1.92	72	eP	Pn	21 00 34.1	+1.0	
PACA				eS	Sb	21 01 01.4	+0.7	
PACA	Pacayal	1.92	72	⇑P	Pn	21 00 34.1	+1.0	
LCY	Lacayo	1.93	74	eP	Pn	21 00 34.8	+1.5	
RANC	El Ranchito	1.94	73	eP	Pn	21 00 34.8	+1.3	
VSM	San Miguel	1.95	74	eP	Pn	21 00 34.9	+1.2	
BLLM	Bellamira	1.99	73	eP	Pn	21 00 35.6	+1.6	
RTAL	Retalhuleu	2.19	319		Pn	21 00 35.0	-1.8	
RTAL	Retalhuleu	2.19	319	⇓P	Pn	21 00 33.8	-3.0	
SOKI	Kika Raxquin	2.26	329	eP	Pn	21 00 37.6	-0.5	
SOKI				eS	Sn	21 01 04.7	-0.4	
LCND	La Caada	2.29	79	eP	Pn	21 00 38.9	+0.7	
LCND	La Caada	2.29	79	⇑P	Pn	21 00 39.2	+1.1	
CNCH	Conchagua	2.34	80	eP	Pn	21 00 39.4	+0.7	
CNCH	Conchagua	2.34	80	⇑P	Pn	21 00 39.4	+0.5	
SARH	Santa Rosa de	2.34	36	eP	Pn	21 00 41.0	+2.0	
SARH	Santa Rosa de	2.34	36	⇑P	Pn	21 00 40.9	+1.9	
QUIS	Sacapulas	2.55	340	eS	Sn	21 01 12.0	+0.1	
POTN	Potosi Cosigui	2.63	87	⇑P	Pn	21 00 43.2	+0.4	
POTN				S	Sn	21 01 17.3	+3.7	
HUEH	Huehuetenango	2.74	333		Pn	21 00 44.5	0.0	
THIG		2.85	315	eP	Pn	21 00 44.1	-1.7	
THIG				eS	Sn	21 01 15.6	-3.3	
CRIN	San Cristobal	3.08	93		Pn	21 00 50.4	+1.3	
CRIN	San Cristobal	3.08	93	P	Pn	21 00 49.6	+0.6	
CRIN	San Cristobal	3.08	93	S	Sb	21 01 29.8	-4.2	
CRIN	San Cristobal	3.08	93	P	Pn	21 00 50.0	+1.0	
TGUH	Tegucigalpa,Un	3.08	67		Pn	21 00 50.7	+1.6	
TGUH	Tegucigalpa,Un	3.08	67	P	Pn	21 00 50.0	+0.9	
PKGN	Cerro Pekin	3.15	93	P	Pn	21 00 50.5	+0.6	
PKGN				S	Sn	21 01 29.5	+3.0	
HERN	Volcan Telica	3.29	94	Pn	Pn	21 00 51.6	-0.5	
PLRN	Geotermica Pol	3.36	95	P	Pn	21 00 53.4	+0.5	
PLRN				S	Sn	21 01 33.4	+1.7	
CNGA	Al SSO del Vol	3.43	96	P	Pn	21 00 54.8	+0.8	
YUSH	Yuscaran	3.43	71	⇑P	Pn	21 00 55.2	+1.1	
CNGN	Cerro Negro	3.44	96		Pn	21 00 54.3	+0.3	
CNGN	Cerro Negro	3.44	96	S	Sn	21 01 35.8	+2.2	
CNGN	Cerro Negro	3.44	96	P	Pn	21 00 54.0	0.0	
CNGN	Cerro Negro	3.44	96	P	Pn	21 00 53.9	-0.1	
COPN	Copaltepe	3.59	101	⇑P	Pn	21 00 55.8	-0.2	
OCON	Estacion meteo	3.70	78	P	Pn	21 00 58.2	+0.6	
CCIG	Comitan	3.87	331		Pn	21 01 00.8	+0.7	
CCIG	Comitan	3.87	331	⇓P	Pn	21 01 01.1	+1.1	
TISN	Laguna Tiscapa	3.91	100	P	Pn	21 01 01.0	+0.6	
USIM	UNAN	3.91	101	Pn	Pn	21 01 00.4	0.0	
CRUN	El Crucero	3.91	103	P	Pn	21 01 00.7	+0.2	
UNAN	Cigeo UNAN	3.91	101	P	Pn	21 01 00.1	-0.4	
UNAN				S	Sn	21 01 44.2	-1.0	
MGAN	Managua	3.92	100		Pn	21 01 00.5	-0.2	
MGAN	Managua	3.92	100	P	Pn	21 01 00.4	-0.2	
MGAN				S	Sn	21 01 45.9	+0.3	
RCVN	Varillal2	3.96	79	⇓P	Pn	21 01 02.2	+0.9	
MAS3	Al N del Volca	4.02	102	P	Pn	21 01 02.3	+0.3	
MAS3				S	Sn	21 01 48.2	+0.2	
PETF	Flores	4.03	5		Pn	21 01 02.8	+0.7	
RCPN	Sur Rio San Ju	4.05	80	P	Pn	21 01 03.7	+1.2	
NANN	Nandasmo	4.09	103	P	Pn	21 01 03.6	+0.6	
NANN	Nandasmo	4.09	103	S	Sn	21 01 51.1	+1.4	
MATN	Matagalpa	4.17	89	P	Pn	21 01 03.3	-0.8	
JAPN	Al SSO del Vol	4.62	106	P	Pn	21 01 11.3	+1.0	
MORN	Al O del Volca	4.64	106	⇑P	Pn	21 01 11.7	+1.2	
MORN				S	Sn	21 02 03.8	+0.5	
CARN	Rivas	4.87	110	eP	Pn	21 01 13.9	+0.2	
CARN	Rivas	4.87	110	P	Pn	21 01 13.9	+0.2	
ACON	Acoyapa	4.99	100		Pn	21 01 15.5	+0.2	
ACON	Acoyapa	4.99	100	eP	Pn	21 01 14.2	-1.1	
ACON	Acoyapa	4.99	100	P	Pn	21 01 14.4	-0.9	
ACON	Acoyapa	4.99	100	P	Pn	21 01 14.3	-1.1	
ELI1	Hacienda Flor	5.06	116	eP	Pn	21 01 19.1	+2.8	
ALIBA	Liberia Airpor	5.09	116	eP	Pn	21 01 18.7	+2.0	
LAPC	Finca la Perla	5.11	114	eP	Pn	21 01 18.8	+1.7	
BUAI	Buenos Aires	5.16	112	eP	Pn	21 01 20.4	+2.6	
VRLE	La Escondida,	5.17	113	eP	Pn	21 01 19.2	+1.3	
PEJA	Penjamo Buenos	5.17	112	eP	Pn	21 01 20.3	+2.5	
VORI	VORI	5.17	113	eP	Pn	21 01 22.0	+4.0	
GPS1	Guardaparques	5.19	113	eP	Pn	21 01 20.5	+2.4	
GPS2	Hotel Rincn d	5.19	114	eP	Pn	21 01 20.4	+2.2	
JUD3	Juan Diaz 3	5.30	120	eP	Pn	21 01 20.9	+1.2	
MESS	Mesas	5.34	113	eP	Pn	21 01 22.1	+2.0	
SIUN	Universidad Ur	5.34	80		Pn	21 01 20.8	+0.6	
SIUN	Universidad Ur	5.34	80	P	Pn	21 01 20.0	-0.2	
COLC	Colonia	5.36	114	eP	Pn	21 01 22.8	+2.4	
HORNC	Hornillas	5.37	113	eP	Pn	21 01 22.3	+1.7	
BAGA	Bagaces	5.37	115	eP	Pn	21 01 22.7	+2.1	
VMAR	Armenia, Volca	5.38	112	eP	Pn	21 01 21.6	+0.8	
NICO	Nicoya	5.39	120	eP	Pn	21 01 22.0	+1.1	
CUI	Cuipilapa	5.40	114	eP	Pn	21 01 23.2	+2.2	
MOTZ	Rio Naranjo	5.47	113	eP	Pn	21 01 24.0	+2.0	
TENO	El Achiote	5.55	112	eP	Pn	21 01 24.8	+1.7	
TIMP	Tierras Morena	5.56	114	eP	Pn	21 01 25.3	+2.0	
INVE	Universidad In	5.57	115	eP	Pn	21 01 25.9	+2.6	
QUEB	Quebradon, Cot	5.66	113	eP	Pn	21 01 26.3	+1.8	
JUNT	Juntas	5.75	116	eP	Pn	21 01 27.9	+2.2	
JTS	Las Juntas de	5.75	116		Pn	21 01 25.8	0.0	
JTS	Las Juntas de	5.75	116	P	Pn	21 01 28.1	+2.4	
	22nm,0.3s,baz=302,slow=16,SNR=52							
JTS				S	Sn	21 02 33.1	+2.5	
	86nm,0.8s,baz=233,slow=20,SNR=1.5							
	62nm,0.4s							
JTS	Las Juntas de	5.75	116	eP	Pn	21 01 27.6	+1.9	
JTS	Las Juntas de	5.75	116	P	Pn	21 01 27.4	+1.6	
	4µm3µm179nm,0.9s							
ESPN	Las Esperanzas	5.80	96		Pn	21 01 26.8	+0.4	
ESPN	Las Esperanzas	5.80	96	eP	Pn	21 01 26.8	+0.4	
ESPN	Las Esperanzas	5.80	96	P	Pn	21 01 26.9	+0.4	
	3µm202nm,1.2s							
TABAC	Tabacon	5.82	113	eP	Pn	21 01 29.2	+2.4	
JCR1	Jicaral	5.82	121	eP	Pn	21 01 28.6	+1.8	
ARE1	Arenal 1	5.88	114	eP	Pn	21 01 29.3	+1.7	
VARE2	V. Arenal	5.88	114	eP	Pn	21 01 29.3	+1.7	
CEDE	Laguna Cedeo	5.88	113	eP	Pn	21 01 28.2	+0.6	
VACR	Volcan Arenal	5.91	113	eP	Pn	21 01 29.3	+1.2	
FORC	Fortuna	5.92	113	eP	Pn	21 01 30.6	+2.4	
SOCE	Pocosol	6.00	114		Pn	21 01 30.4	+1.2	
SOCE	Pocosol	6.00	114	eP	Pn	21 01 31.1	+1.9	
SOCE	Pocosol	6.00	114	⇑P	Pn	21 01 31.0	+1.7	
CMIG	Matias Romero	6.17	313	P	Pn	21 01 32.2	+0.6	
	2.3nm,0.3s,baz=121,slow=10,SNR=27							
CMIG				S	Sn	21 02 42.2	+1.2	
	128nm,0.8s,baz=33,slow=17,SNR=4.1							
	18nm,0.5s							
BELE	Belen	6.56	115	eP	Pn	21 01 39.2	+2.2	
HDC	Heredia	6.61	115		Pn	21 01 40.1	+2.3	
HDC	Heredia	6.61	115	eP	Pn	21 01 40.1	+2.3	
PAR1A	Puntarenas Pro	6.68	119	eP	Pn	21 01 37.4	-1.2	
PICV	PH. Pirrs	6.72	118	eP	Pn	21 01 42.3	+3.2	
TRT2	Tortugero	6.74	109	eP	Pn	21 01 40.2	+0.9	
BILN	Bilwi Airport	6.74	79		Pn	21 01 39.5	+0.2	
BILN	Bilwi Airport	6.74	79	eP	Pn	21 01 39.2	-0.2	
BILN	Bilwi Airport	6.74	79	⇑P	Pn	21 01 39.7	+0.4	
VICA	Volcano Irazu	6.86	114	eP	Pn	21 01 43.1	+1.6	
REPA	Paraso	6.91	115	eP	Pn	21 01 46.2	+4.4	
CVTQ	Turrialba Volc	6.92	114	eP	Pn	21 01 44.4	+2.2	
CVTR	Volcan Turrial	6.92	114	eP	Pn	21 01 43.6	+1.4	
VTR0	Volcan Turrial	6.92	114	eP	Pn	21 01 44.1	+1.8	
PIEC	Cerro El Cedra	6.92	117	eP	Pn	21 01 43.4	+1.3	
CVTV	Tajo	6.94	114	eP	Pn	21 01 45.4	+3.1	
ABRB	Las Abras (San	6.96	114	eP	Pn	21 01 45.3	+2.6	
VERH	Veragua Rainfo	7.47	112	eP	Pn	21 01 51.1	+1.7	
EDPE	Pejibaye, P	7.48	119	eP	Pn	21 01 53.3	+3.7	
TEIG	Tepich	7.53	14		Pn	21 01 50.9	+0.6	
TEIG	Tepich	7.53	14	P	Pn	21 01 52.0	+1.7	
	16µm6µm692nm,1.1s							
LAES	El Progreso Va	7.66	113	eP	Pn	21 01 55.1	+3.1	
BURE	Buenos Aires	7.67	118	eP	Pn	21 01 55.7	+3.4	
DRK0	Durika	7.71	117	eP	Pn	21 01 55.2	+2.3	
BRIBI	Bribri	7.93	113	eP	Pn	21 02 00.7	+5.0	
PIRO	Carate, Puerto	8.08	123		Pn	21 01 59.8	+2.0	
PIRO	Carate, Puerto	8.08	123	eP	Pn	21 01 59.9	+2.2	
RGM0	Gandoca	8.13	113		Pn	21 02 01.0	+2.5	
ALCO	Alturas Coton,	8.22	118	eP	Pn	21 02 02.1	+2.3	
CDITO	Canoas	8.37	120	⇑P	Pn	21 02 04.4	+2.6	
BRU2	Volcan	8.42	118		Pn	21 02 04.5	+1.9	
BRU2	Volcan	8.42	118	eP	Pn	21 02 05.2	+2.6	
BRU2	Volcan	8.42	118	⇑P	Pn	21 02 05.5	+2.9	
BANCO	falda S V. Bar	8.59	118	eP	Pn	21 02 07.3	+2.3	
JEFFS	S de V. Baru	8.61	118	eP	Pn	21 02 08.0	+2.8	
PRVC	Isla de Provid	8.62	86		Pn	21 02 06.5	+1.3	
PRVC	Isla de Provid	8.62	86	P	Pn	21 02 03.9	-1.3	
	3µm3µm222nm,1.6s							
WILLF	Boquete	8.66	118	eP	Pn	21 02 09.1	+3.3	
RBALA	Bur	8.84	116	eP	Pn	21 02 10.9	+2.7	
TLIG	Tlapa	9.32	301		Pn	21 02 15.1	+0.2	
UNM	Universidad Na	10.75	308	Pn	Pn	21 02 36.1	+1.5	
UNM	Universidad Na	10.75	308	P	Pn	21 02 36.1	+1.5	
SOR	Soroa	12.00	34		Pn	21 02 53.8	+2.3	
SOR	Soroa	12.00	34	P	Pn	21 02 53.8	+2.3	
JRQG	Juriquilla Cam	12.52	310		Pn	21 02 58.3	-0.6	
MOIG	Morelia	12.53	304		Pn	21 02 58.1	-0.9	
MTDJ	Mount Denham	13.31	65	⇓*i*P	Pn	21 03 12.8	+3.4	
MTDJ	Mount Denham	13.31	65	P	P	21 03 14.3	-4.4	
APAC	Apartado, Choc	14.28	109	P	Pn	21 03 25.3	+2.7	
	42nm,1.6s							
DBBC	Dabeiba	14.95	112	P	Pn	21 03 34.1	+2.2	
CHIV	Chivirico	14.98	60	Pn	Pn	21 03 32.0	-0.1	
CHIV				IAmb	IAmb	21 03 38.5		
	comp=Z,13nm,0.9s							
SJCC	San Jacinto, C	15.02	100	P	Pn	21 03 33.9	+1.2	
	comp=Z,850nmcomp=Z,54nm,0.7s							
ZAIG	Zacatecas	15.33	312		Pn	21 03 36.3	-0.8	
CBOC	Ciudad Bolivar	15.63	115	P	Pn	21 03 42.6	+1.8	
	comp=Z,2µmcomp=Z,146nm,1.3s							
HELC	Santa Helena	15.91	113	P	P	21 03 47.0	-1.0	
	comp=Z,1µmcomp=Z,103nm,1.2s							
ZARC	Zaragoza, Cauc	16.01	108	P	P	21 03 48.4	-0.4	
	comp=Z,34nm,1.3s							
GTBY	Guantanamo Bay	16.07	62	P	P	21 03 51.0	+1.6	
GTBY	Guantanamo Bay	16.07	62	P	Pn	21 03 44.8	-1.5	
	comp=Z,5µmcomp=Z,1µmcomp=Z,27nm,2.0s							
HBVL	Hebbronville	16.19	332		Pn	21 03 49.1	+1.3	
YOTC	Yotoco, Valle	16.29	122	P	P	21 03 51.0	-1.0	
	comp=Z,1µmcomp=Z,94nm,1.3s							
NMDO	Nuevo Mundo	16.44	60		Pn	21 03 51.3	+0.3	
NMDO				IAmb	IAmb	21 03 56.2		
	comp=Z,35nm,1.2s							
GUY2C	Guyana, Caldas	16.50	116	P	P	21 03 55.3	+0.7	
	comp=Z,4µmcomp=Z,329nm,1.2s							
PTBC	PUERTO BERRIO,	16.74	111	P	P	21 03 56.2	-0.6	
	comp=Z,375nmcomp=Z,46nm,1.0s							
BBAC	Balboa, Cauca	16.76	129	P	P	21 03 57.3	+0.1	
	comp=Z,2µmcomp=Z,87nm,1.1s							
NORC	Norcasia	16.78	114	P	P	21 03 58.1	+0.8	
	comp=Z,2µmcomp=Z,90nm,1.4s							
POPC	Popayan, Colom	16.87	126	P	P	21 03 58.5	0.0	
	comp=Z,2µmcomp=Z,194nm,1.6s							
OTAV	Otavalo	17.13	136	Pn	Pn	21 04 00.0	-0.1	
OTAV	Otavalo	17.13	136	P	Pn	21 04 00.0	-0.1	
GCUF	Volcan Galeras	17.21	131	P	P	21 04 04.4	+1.9	
	comp=Z,2µmcomp=Z,90nm,1.6s							
OCAC	Ocana	17.22	104	P	Pn	21 04 01.3	+0.3	
	comp=Z,1µmcomp=Z,35nm,1.1s							
ORTC	Ortega, Tolima	17.26	120	P	P	21 04 03.7	+1.1	
	comp=Z,3µmcomp=Z,124nm,1.3s							
SPBC	San Pablo de B	17.45	113	P	P	21 04 06.1	+1.3	
	comp=Z,3µmcomp=Z,72nm,1.5s							
ROSC	El Rosal	17.59	116		P	21 04 06.9	+0.2	
ROSC	El Rosal	17.59	116	P	P	21 04 08.4	+1.7	
	comp=Z,1.9nm,0.3s,baz=322,slow=19,SNR=59							
	comp=Z,27nm,0.3s							
ROSC	El Rosal	17.59	116	P	P	21 04 08.6	+1.9	
	comp=Z,5µmcomp=Z,5µmcomp=Z,241nm,1.6s							
833A	Chaparral WMA,	17.60	332		Pn	21 04 04.4	-1.1	
PRAC	Prado	17.66	120	P	P	21 04 09.1	+2.0	
	comp=Z,4µmcomp=Z,2µmcomp=Z,108nm,1.4s							
HKT	Hockley	17.77	344		P	21 04 08.4	+0.4	
HKT				IAmb	IAmb	21 04 17.5		
	comp=Z,276nm,2.0s							
HKT	Hockley	17.77	344	⇓*i*P	P	21 04 08.7	+0.6	
HKT				pmax	pmax			
	comp=Z,122nm,2.0s							
URIC	Uribia, Colomb	17.83	92	P	Pn	21 04 07.4	-1.0	
	comp=Z,1µmcomp=Z,36nm,1.2s							
656A	Willston	17.89	22		P	21 04 09.8	+0.4	
CVER	Cruz Verde, Cu	17.96	116	P	P	21 04 13.1	+2.3	
441A	DeRidder	18.00	352	P	P	21 04 11.0	+0.4	
441A				IAmb	IAmb	21 04 17.6		
	comp=Z,195nm,1.5s							
PAMC	Pamplona, Colo	18.08	106	P	Pn	21 04 10.8	-1.1	
PIAT	Ana Tenorio	18.17	138	P	P	21 04 16.4	+3.3	
	comp=Z,754nmcomp=Z,27nm,2.0s							
RUSC	La Rusia	18.25	111	Pn	P	21 04 12.7	-1.3	
RUSC	La Rusia	18.25	111	P	Pn	21 04 14.9	+0.9	
	comp=Z,1µmcomp=Z,52nm,1.2s							
FLOC	Florencia	18.26	127		Pn	21 04 14.1	+0.3	
FLOC	Florencia	18.26	127	P	Pn	21 04 15.9	+2.2	
	comp=Z,3µmcomp=Z,209nm,1.5s							
URMC	La Uribe, Meta	18.34	120	P	Pn	21 04 16.2	+1.5	
	comp=Z,2µmcomp=Z,60nm,1.1s							
HNDO	Hondo	18.59	334	P	P	21 04 15.5	-1.6	
COHC	Cochancay	18.72	144	P	P	21 04 15.1	-3.6	
	comp=Z,1µmcomp=Z,46nm,1.6s							
435B	Jarrell	19.08	340		P	21 04 21.0	-1.5	
DRIO	Del Rio	19.10	331		P	21 04 21.3	-1.4	
352A	Blakely	19.14	14	P	Pn	21 04 24.4	+0.3	
SDDR	Presa de Saban	19.16	69	P	Pn	21 04 24.2	-0.4	
NATX	Nacogdoches	19.23	348		Pn	21 04 24.8	-0.5	
VBMS	Vicksburg	19.25	359	P	Pn	21 04 25.1	-0.4	
456A	Hilliard	19.30	22	P	P	21 04 25.1	+0.2	
456A				IAmb	IAmb	21 04 37.3		
	comp=Z,147nm,1.5s							
250A	Grady	19.35	10	P	P	21 04 25.9	+0.5	
250A				IAmb	IAmb	21 04 36.4		
	comp=Z,156nm,1.7s							
MACC	Macarena, Meta	19.38	122	P	Pn	21 04 28.2	+0.9	
	comp=Z,4µmcomp=Z,1µmcomp=Z,66nm,1.0s							
TIGA	Tifton	19.45	17	P	P	21 04 26.8	+0.3	
TIGA				IAmb	IAmb	21 04 40.0		
	comp=Z,229nm,1.4s							
SDV	Santo Domingo	19.61	100		P	21 04 29.1	+0.4	
SDV	Santo Domingo	19.61	100	P	P	21 04 29.1	+0.4	
	comp=Z,1.7nm,0.3s,baz=266,slow=6.0,SNR=16							
SDV				LR	LR	21 12 59.7		
	comp=Z,1µm,20.9s,baz=276,slow=40							
	comp=Z,30nm,0.8s							
SDV	Santo Domingo	19.61	100	eP	Pn	21 04 31.2	+0.9	
SDV	Santo Domingo	19.61	100	P	P	21 04 28.6	-0.1	
	comp=Z,1µmcomp=Z,41nm,1.0s							
JCT	Junction City	19.64	335	P	P	21 04 28.0	-0.7	
JCT	Junction City	19.64	335	P	P	21 04 28.0	-0.7	
JCT				pmax	pmax			
	comp=Z,22nm,0.9s							
146A	Union	19.69	3	P	P	21 04 29.9	+0.6	
237A	Washetta, Mont	19.72	346	P	P	21 04 29.1	-0.4	
SC01	Santiago de lo	19.79	68	P	P	21 04 30.2	-0.2	
SC01				IAmb	IAmb	21 04 41.9		
	comp=Z,114nm,0.9s							
PTLC	Puerto

R40A	Maddies Statio	25.38	356		IAmb		IAmb	21 05 27.8	
	comp=Z,23nm,0.6s								
WCI	Wyandotte Cave	25.48	7	P		P		21 05 27.0	-0.9
WCI	Wyandotte Cave	25.48	7	P		P		21 05 27.0	-0.9
WCI					pmax		pmax		
	comp=Z,66nm,0.6s								
R49A	Shelbyville	25.70	9		IAmb		IAmb	21 05 29.9	
	comp=Z,62nm,1.5s								
BLA	Blacksburg	25.76	18		IAmb		IAmb	21 06 04.7	
	comp=Z,34nm,1.1s								
R50A	Paris	25.83	11		IAmb		IAmb	21 05 41.9	
	comp=Z,29nm,1.2s								
Y22A	Socorro	25.93	327		IAmb		IAmb	21 05 46.5	
	comp=Z,34nm,1.0s								
Q44A	Meyer Farm, Va	25.94	2		IAmb		IAmb	21 05 33.6	
	comp=Z,39nm,0.7s								
T57A	Hurt	25.94	20		IAmb		IAmb	21 05 41.8	
	comp=Z,37nm,1.3s								
Y22D	IRIS PASSCAL I	26.01	327		P		P	21 05 33.6	+0.7
	baz=140								
RTBA	Rita Blanca	26.03	336		IAmb		IAmb	21 06 03.7	
	comp=Z,47nm,1.3s								
BLO	Bloomington	26.39	6		IAmb		IAmb	21 06 16.4	
	comp=Z,67nm,1.4s								
ANMO	Albuquerque	26.45	329				P	21 05 37.3	+0.3
ANMO	Albuquerque	26.45	329‖		eP		P	21 05 37.2	+0.3
ANMO					pmax		pmax		
	comp=Z,10.0nm,1.6s								
T59A	Double "B" Far	26.53	23		IAmb		IAmb	21 06 07.3	
	comp=Z,34nm,1.1s								
R32A	Long Quarter,	26.54	345		IAmb		IAmb	21 05 49.1	
	comp=Z,54nm,1.0s								
P43A	Skaggs, Pawnee	26.66	1		IAmb		IAmb	21 06 18.8	
	comp=Z,85nm,1.6s								
KSU1	Kansas State U	26.73	349		IAmb		IAmb	21 06 12.4	
	comp=Z,21nm,0.8s								
Q51A	Peebles	26.74	12		IAmb		IAmb	21 05 50.9	
	comp=Z,30nm,0.8s								
P38A	Dawn	26.80	354		IAmb		IAmb	21 05 42.4	
	comp=Z,25nm,0.6s								
CZSB	Cruzeiro do Su	26.86	139		P		P	21 05 41.3	+0.8
CZSB					IAmb		IAmb	21 05 55.3	
	comp=Z,76nm,1.2s								
CZSB	Cruzeiro do Su	26.86	139		eP		P	21 05 39.9	-0.7
CZSB	Cruzeiro do Su	26.86	139		P		P	21 05 42.7	+2.2
	comp=Z,56nm,1.2s								
TUC	Tucson	27.02	319				P	21 05 42.9	+0.9
TUC	Tucson	27.02	319		P		P	21 05 42.9	+0.9
TUC					pmax		pmax		
	comp=Z,18nm,1.1s								
Q54A	Coxs Mills	27.29	16		IAmb		IAmb	21 05 55.8	
	comp=Z,26nm,1.0s								
T25A	Trinidad	27.31	335		IAmb		IAmb	21 05 53.3	
	comp=Z,75nm,1.8s								
O48B	Farmland	27.63	8		IAmb		IAmb	21 05 46.9	
	comp=Z,91nm,1.7s								
ACSO	Alum Creek Sta	27.98	12		IAmb		IAmb	21 05 52.3	
	comp=Z,26nm,0.6s								
N47A	Urbana	28.17	7		IAmb		IAmb	21 06 01.0	
	comp=Z,67nm,1.4s								
P57A	Homestead Farm	28.61	20		IAmb		IAmb	21 05 56.9	
	comp=Z,62nm,1.7s								
MVL	Millersville	29.64	22		IAmb		IAmb	21 06 17.6	
	comp=Z,21nm,1.2s								
JFWS	Jewell Farm	29.93	360		IAmb		IAmb	21 06 09.9	
	comp=Z,49nm,1.4s								
PV03	Paradox Valley	30.23	330		IAmb		IAmb	21 06 12.6	
	comp=Z,12nm,0.7s								
PV07	Paradox Valley	30.28	330		IAmb		IAmb	21 07 19.2	
	comp=Z,29nm,1.0s								
PV11	David Mesa, Pa	30.28	330		IAmb		IAmb	21 06 13.0	
	comp=Z,19nm,0.7s								
PV22	Blue Mesa, Par	30.43	330		IAmb		IAmb	21 06 14.1	
	comp=Z,14nm,0.8s								
M57A	Sunshine Farm,	30.57	20		IAmb		IAmb	21 06 15.8	
	comp=Z,34nm,1.4s								
YUH	Yuha Desert	30.68	314		IAmb		IAmb	21 06 31.0	
	comp=Z,39nm,1.4s								
K30B	Basset	30.79	346		IAmb		IAmb	21 06 24.7	
	comp=Z,31nm,0.7s								
BC3	Big Chuckawall	30.93	316		IAmb		IAmb	21 06 33.6	
	comp=Z,59nm,1.5s								
IRM	Iron Mountain	31.02	317		IAmb		IAmb	21 06 28.2	
	comp=Z,23nm,1.3s								
L56A	Greenwood	31.15	18		IAmb		IAmb	21 06 29.5	
	comp=Z,60nm,1.7s								
BOAV	Boa Vista	31.16	107				P	21 06 19.7	+0.9
BOAV					IAmb		IAmb	21 06 21.0	
	comp=Z,41nm,1.0s								
BOAV	Boa Vista	31.16	107		eP		P	21 06 19.8	+0.9
BOAV	Boa Vista	31.16	107		P		P	21 06 18.6	-0.2
	comp=Z,42nm,1.3s								
ECSD	EROS Data Cent	31.24	351		IAmb		IAmb	21 06 18.8	
	comp=Z,26nm,0.7s								
BORC	Borrego Spring	31.37	315		IAmb		IAmb	21 06 33.5	
	comp=Z,21nm,1.2s								
O20A	White River Ci	31.45	333		IAmb		IAmb	21 06 32.6	
	comp=Z,30nm,1.2s								
PMD	Palm Desert	31.55	315		IAmb		IAmb	21 06 35.0	
	comp=Z,20nm,1.1s								
PFO	Pinyon Flats O	31.59	315		LR		LR	21 21 33.0	
	comp=Z,1µm,18.4s,baz=128,slow=41								
PFO	Pinyon Flats O	31.59	315	*i*	P		P	21 06 23.2	+0.6
PFO					pmax		pmax		
	comp=Z,29nm,1.6s								
V12A	Nelson	31.80	320				P	21 06 25.1	+0.7
V12A					IAmb		IAmb	21 06 38.5	
	comp=Z,40nm,1.2s								
K57A	Scipio Center	32.02	19		IAmb		IAmb	21 06 25.9	
	comp=Z,17nm,0.7s								
MTPC	Mountain Pass	32.10	319		IAmb		IAmb	21 06 30.3	
	comp=Z,46nm,1.7s								
CCUT	Cedar City	32.12	324		IAmb		IAmb	21 06 30.8	
	comp=Z,29nm,1.4s								
G40A	Rib Lake	32.28	360		IAmb		IAmb	21 06 38.0	
	comp=Z,27nm,1.2s								
K22A	Casper	32.87	338		IAmb		IAmb	21 06 34.7	
	comp=Z,51nm,1.6s								
TRY	Troy	33.01	23		IAmb		IAmb	21 06 34.9	
	comp=Z,59nm,1.6s								
SADO	Sadowa	33.16	14		IAmb		IAmb	21 06 36.8	
	comp=Z,11nm,0.7s								
GWY	Greenwater Val	33.24	319		IAmb		IAmb	21 06 40.4	
	comp=Z,51nm,1.8s								
F33A	5 Mile Ranch,	33.26	352		IAmb		IAmb	21 06 36.0	
	comp=Z,47nm,1.3s								
RSSD	Black Hills	33.32	342				P	21 06 38.0	+0.2
RSSD	Black Hills	33.32	342		P		P	21 06 38.0	+0.2
RSSD					pmax		pmax		
	comp=Z,9.0nm,0.7s								
MACA	Manacapuru-AM	33.36	117				P	21 06 39.1	+0.9
MACA	Manacapuru-AM	33.36	117		eP		P	21 06 39.3	+1.1
TPNV	Topopah Spring	33.45	320		IAmb		IAmb	21 06 52.9	
	comp=Z,33nm,1.4s								
CTU	Camp Tracy	33.54	330		IAmb		IAmb	21 06 41.6	
	comp=Z,23nm,1.2s								
SPR3	Spring Creek 3	33.67	325		IAmb		IAmb	21 06 43.4	
	comp=Z,48nm,1.5s								
R11B	Troy Canyon, C	33.95	323		IAmb		IAmb	21 06 53.6	
	comp=Z,45nm,1.6s								
HWUT	Hardware Ranch	34.15	331		IAmb		IAmb	21 06 53.3	
	comp=Z,19nm,1.0s								
PDAR	Pinedale Array	34.17	334		P		P	21 06 44.9	-0.3
	comp=Z,1.0nm,0.5s,baz=130,slow=9.8,SNR=10.0								
PDAR					PcP		PcP	21 09 22.2	+0.4
	comp=Z,0.8nm,0.5s,baz=173,slow=3.0,SNR=6.6								
	comp=Z,1.0nm,0.5s								
LONY	Lake Ozonia	34.34	20		IAmb		IAmb	21 07 00.2	
	comp=Z,45nm,1.6s								
DSP	Deep Springs	34.79	319		IAmb		IAmb	21 07 01.9	
	comp=Z,27nm,1.5s								
LOHW	Long Hollow	35.31	334		IAmb		IAmb	21 07 03.3	
	comp=Z,81nm,1.9s								
TPAW	Teton Pass	35.36	334		IAmb		IAmb	21 07 00.3	
	comp=Z,39nm,1.3s								
NVAR	Mina Array Bea	35.64	321		P		P	21 06 59.5	+1.5
	comp=Z,9.6nm,0.6s,baz=132,slow=7.9,SNR=76								
NVAR					PcP		PcP	21 09 27.2	+1.1
	comp=Z,0.9nm,0.5s,baz=73,slow=2.0,SNR=4.9								
NVAR					LR		LR	21 23 20.2	
	comp=Z,1µm,18.1s,baz=129,slow=39								
	comp=Z,9.6nm,0.6s								
TBO	Thunder Bay	35.67	1		IAmb		IAmb	21 06 56.6	
	comp=Z,24nm,0.6s								
TRQ	Mont Tremblant	35.77	19		IAmb		IAmb	21 07 08.4	
	comp=Z,38nm,1.6s								
RYN	Ryan	35.90	321		IAmb		IAmb	21 07 03.7	
	comp=Z,57nm,1.6s								

RLMT	Red Lodge	36.01	337		IAmb		IAmb	21 07 01.9	
	comp=Z,39nm,1.6s								
LPAZ	La Paz	36.27	142		P		P	21 07 04.6	+0.6
LPAZ	La Paz	36.27	142		P		P	21 07 05.1	+1.1
	comp=Z,2.3nm,0.8s,baz=317,slow=7.6,SNR=6.7								
	comp=Z,2.3nm,0.8s								
LPAZ	La Paz	36.27	142		P		P	21 07 04.6	+0.6
LPAZ					pmax		pmax		
	comp=Z,6.0nm,1.1s								
LPAZ	La Paz	36.27	142		eP		P	21 07 01.9	-2.0
LPAZ	La Paz	36.27	142		P		P	21 07 04.5	+0.6
LAO	LASA Array	36.31	341		IAmb		IAmb	21 07 10.9	
	comp=Z,37nm,1.2s								
CMB	Columbia Colle	36.73	318				P	21 07 07.5	+0.5
CMB					IAmb		IAmb	21 07 22.7	
	comp=Z,30nm,1.4s								
CMB	Columbia Colle	36.73	318		P		P	21 07 07.5	+0.5
CMB					pmax		pmax		
	comp=Z,31nm,1.5s								
HLID	Hailey	37.01	330		IAmb		IAmb	21 07 18.2	
	comp=Z,51nm,1.8s								
PB16	IPOC Station P	37.13	146		IAmb		IAmb	21 07 18.5	
	comp=Z,96nm,2.0s								
ULM	Lac du Bonnet	37.55	354		P		P	21 07 11.5	-2.2
	comp=Z,11nm,0.5s,baz=163,slow=9.9,SNR=25								
ULM					LR		LR	21 26 04.6	
	comp=Z,546nm,18.9s,baz=166,slow=42								
	comp=Z,11nm,0.5s								
BEKR	Beckworth	37.78	321		IAmb		IAmb	21 07 28.5	
	comp=Z,30nm,1.2s								
MDP	Montagnes des	37.85	98		LR		LR	21 24 32.9	
	comp=Z,734nm,18.9s,baz=296,slow=39								
ITTB	Itaituba	38.28	114		eP		P	21 07 21.4	+1.0
ORV	Oroville	38.31	320		IAmb		IAmb	21 07 24.9	
	comp=Z,48nm,1.6s								
D62A	Allapoint, All	38.44	23		IAmb		IAmb	21 07 30.2	
	comp=Z,33nm,1.2s								
MNRC	McLaughlin Min	38.54	318		IAmb		IAmb	21 07 39.5	
	comp=Z,39nm,1.2s								
O03E	Paynes Creek	38.93	320		IAmb		IAmb	21 07 38.0	
	comp=Z,38nm,1.1s								
J08A	Circle Bar Ran	38.93	327		IAmb		IAmb	21 07 27.8	
	comp=Z,56nm,1.3s								
VILB	Vilhena	39.28	130				P	21 07 29.2	+0.4
VILB	Vilhena	39.28	130		eP		P	21 07 28.3	-0.5
NPGB	Novo Progresso	39.88	118		eP		P	21 07 32.8	-0.9
YBH	Yreka Blue Hor	40.33	322		LR		LR	21 25 38.6	
	comp=Z,52nm,18.2s,baz=130,slow=38								
SIV	San Ignacio	40.65	134		LR		LR	21 22 40.6	
	comp=Z,465nm,21.1s,baz=312,slow=33								
PDRB	Porto dos Gac	41.17	125		eP		P	21 07 43.5	-0.9
CLDB	Colider	41.51	123		eP		P	21 07 46.6	-0.6
PTLB	Pontes e Lacer	41.67	132		eP		P	21 07 48.2	-0.3
RPN	Rapa Nui	43.89	205		LR		LR	21 21 39.2	
	comp=Z,585nm,18.8s,baz=42,slow=29								
PRPB	Parauapebas	44.36	113		eP		P	21 08 10.2	-0.1
TMAB	Tom-Au,PA,Br	44.45	107		eP		P	21 08 11.7	+0.7
SALV	Santo Antonio	44.52	129		eP		P	21 08 11.7	+0.2
SCHQ	Schefferville	45.69	19		P		P	21 08 17.9	-2.4
	comp=Z,217nm,0.5s,baz=211,slow=7.0,SNR=35								
SNDB	Serra Nova Dou	45.82	121		eP		P	21 08 22.2	+0.4
BDQN	Bodoquena, MS	46.68	135		eP		P	21 08 28.4	-0.2
MURT	Porto Murtinho	46.92	137		eP		P	21 08 29.9	-0.5
H03N2	Juan Fernandez	47.30	167		T		T	21 59 17.4	
	baz=346,slow=77,SNR=11								
H03N1	Juan Fernandez	47.30	167		T		T	21 59 14.3	
	baz=346,slow=77,SNR=8.9								
H03N3	Juan Fernandez	47.31	167		T		T	21 59 18.3	
	baz=346,slow=77,SNR=8.9								
ARAG	Araguaiana, MT	47.42	126		eP		P	21 08 33.7	-0.7
AQDB	Aquidauana	47.43	134		eP		P	21 08 34.3	-0.1
SMTB	Santa Maria do	47.52	115		eP		P	21 08 35.4	+0.2
AMBA	Ambai (Brazi	49.55	136		eP		P	21 08 49.7	-1.0
BBB	Bella Bella	49.60	330		LR		LR	21 33 12.3	
	comp=Z,472nm,18.1s,baz=139,slow=40								
SJPY	San Joaquin	50.23	139		eP		P	21 08 54.3	-1.6
CPUP	Villa Florida	50.41	141		P		P	21 08 56.8	-0.3
	comp=Z,1.9nm,1.0s,baz=297,slow=4.5,SNR=7.0								
CPUP					LR		LR	21 31 23.3	
	comp=Z,66nm,18.0s,baz=183,slow=37								
	comp=Z,1.9nm,1.0s								
CPUP	Villa Florida	50.41	141		eP		P	21 08 56.0	-1.2
BDFB	Brasilia	50.44	123		P		P	21 08 57.1	-0.7
	comp=Z,8.1nm,1.0s,baz=279,slow=9.0,SNR=7.3								
BDFB					LR		LR	21 31 13.6	
	comp=Z,527nm,20.5s,baz=312,slow=37								
	comp=Z,8.1nm,1.0s								
SDBA	SAO DESIDERIO	51.47	117		eP		P	21 09 05.8	+0.4
IPMB	Ipameri, GO	51.54	126		eP		P	21 09 05.3	-0.6
YKA	Yellowknife Ar	52.52	346		P		P	21 09 10.6	-1.8
	comp=Z,4.0nm,0.7s,baz=148,slow=6.5,SNR=11								
YKA					LR		LR	21 35 17.7	
	comp=Z,421nm,18.0s,baz=148,slow=40								
	comp=Z,4.0nm,0.7s								
LDASE	Londrina, Braz	52.55	133		eP		P	21 09 12.4	-0.9
PTGB	Pitanga	52.73	135		eP		P	21 09 14.1	-0.6
TOAD	Toad River Com	52.83	338		P		P	21 09 14.2	-0.7
	baz=136								
FRB	Frobisher Bay	53.02	12		LR		LR	21 32 39.5	
	comp=Z,1µm,19.2s,baz=206,slow=37								
BB19B	Bebedouro	53.04	129		eP		P	21 09 17.2	+0.2
V35K	Ketchikan	53.16	332		P		P	21 09 17.6	+0.4
	baz=126								
JANB	Januaria	53.23	120		eP		P	21 09 17.8	-0.6
PMNB	Patos De Minas	53.26	125		eP		P	21 09 17.9	-0.8
KOTAN	Kotaneelee Air	53.34	340		P		P	21 09 20.0	+1.5
	baz=138								
LIRD	Liard River Hi	53.54	338		P		P	21 09 20.8	+0.7
	baz=135								
T35M	Bob Quinn	53.56	334		P		P	21 09 20.5	+0.3
	baz=129								
FRTB	Fartura	53.63	132		eP		P	21 09 21.2	-0.1
PSAL	Palomas, Salto	53.76	145		eP		P	21 09 21.5	-0.5
CRAG	Craig	53.94	331		P		P	21 09 23.3	+0.4
	baz=125								
TAOE	Nuku Hiva Isla	54.11	249		eS		S	21 17 04.7	+4.8
	comp=Z,412nm,24.9s								
TAOE					eLR		LR	21 24 54.4	
	comp=Z,618nm,25.3s								
WRAK	Wrangell Islan	54.13	333		P		P	21 09 25.1	+0.8
	baz=126								
U33K	Whale Pass	54.31	332		P		P	21 09 26.4	+0.7
	baz=135								
ITAB	Concordia	54.35	138		eP		P	21 09 26.6	+0.2
DLBC	Dease Lake	54.39	336		P		P	21 09 27.4	+1.0
	baz=130								
S34M	Telegraph Cree	54.51	335		P		P	21 09 28.1	+1.0
	baz=128								
WTLY	Watson Lake, Y	55.01	338		P		P	21 09 32.1	+1.3
	baz=132								
VAO	Valinhos	55.35	130		eP		P	21 09 33.9	+0.1
DIAM	Diamantina, MG	55.37	123		eP		P	21 09 34.4	+0.3
R33M	Jennings River	55.38	336		P		P	21 09 34.5	+1.0
	baz=129								
Q32M	Nakina River	55.63	335		P		P	21 09 36.0	+0.5
	baz=128								
CPSB	Cacapava Do Su	55.70	141		eP		P	21 09 35.7	-0.4
TGTN	Hyland Airport	55.79	339		P		P	21 09 36.8	+0.4
	baz=133								
R32K	Eaglecrest	56.17	334		P		P	21 09 39.4	+0.3
	baz=125								
PLCA	Paso Flores	56.36	162		LR		LR	21 29 52.4	
	comp=Z,302nm,18.1s,baz=335,slow=32								
PLTB	Pedras Altas	56.57	143		eP		P	21 09 41.2	-1.1
RKT	Rikitea	56.58	231		eS		S	21 17 30.6	-1.8
	comp=Z,1µm,26.0s								
RKT					eLR		LR	21 26 16.5	
	comp=Z,2µm,26.8s								
CNLB	Canela	56.58	138		eP		P	21 09 36.4	-6.1
P32M	Atlin	56.60	335		P		P	21 09 42.8	+0.6
	baz=127								
P33M	Teslin, Yukon	56.62	336		P		P	21 09 42.6	+0.2
	baz=128								
S31K	Pelican	56.75	333		P		P	21 09 43.6	+0.4
	baz=123								
RCBR	Riachuelo	57.05	106		LR		LR	21 36 16.9	
	comp=Z,145nm,18.4s,baz=298,slow=38								
RCBR	Riachuelo	57.05	106		eP		P	21 09 47.6	+1.5
SKAG	Skagway	57.20	334		P		P	21 09 47.1	+0.8
	baz=125								
N32M	Quiet Lake	57.30	337		P		P	21 09 47.7	+0.6
	baz=128								
CMC01	Camacan, BA	57.46	118		eP		P	21 09 49.5	+0.6
MMPY	Sheldon Lake,	57.57	339		P		P	21 09 49.4	+0.4
	baz=131								
SJMB	Sao Joao De Ma	57.61	122		eP		P	21 09 50.5	+0.6

PLBC	Pleasant Camp	57.63	334		P		P	21 09 50.2	+0.7
	baz=124								
WHY	Whitehorse	57.71	336		P		P	21 09 50.8	+0.7
	baz=126								
GUA01	Guaratinga, BA	57.77	119		eP		P	21 09 51.7	+0.7
NBAN	Anadia - AL	58.05	110		eP		P	21 09 53.1	+0.1
P30M	Million Dollar	58.25	335		P		P	21 09 54.4	+0.5
	baz=123								
O30N	Mendenhall	58.26	336		P		P	21 09 54.7	+0.8
	baz=125								
P29M	Windy Craggy	58.32	334		P		P	21 09 54.8	+0.5
	baz=122								
M31M	Drury Creek, Y	58.44	337		P		P	21 09 55.4	+0.3
	baz=127								
N31M	Braeburn, Yuko	58.55	336		P		P	21 09 56.5	+0.7
	baz=125								
RIB01	Linhares ES	58.56	122		eP		P	21 09 57.1	+0.5
CAM01	Campos-RJ	58.80	126		eP		P	21 09 58.3	+0.2
HYT	Haines Junctio	58.87	335		P		P	21 09 58.9	+0.7
	baz=123								
O29M	Mount Kennedy	59.03	334		P		P	21 09 59.9	+0.5
	baz=122								
N30M	Aishikik Lake	59.05	336		P		P	21 09 59.6	+0.2
	baz=124								
PNL	Peninsula	59.05	333		P		P	21 09 59.8	+0.4
	baz=121								
YUK6	Outpost Mounta	59.28	335		P		P	21 10 01.0	-0.3
	baz=122								
M30M	Minto, Yukon	59.57	337		P		P	21 10 03.4	+0.5
	baz=125								
YUK4	Talbot Arm	59.61	335		P		P	21 10 04.3	+0.9
	baz=122								
PINM	Pinnacle	59.64	334		P		P	21 10 04.8	+1.3
	baz=120								
O28M	Mount Upton	59.96	334		P		P	21 10 06.5	+0.6
	baz=120								
YUK8	Steele Glacier	60.04	335		P		P	21 10 07.0	+0.5
	baz=121								
SFJD	Kangerlussuaq	60.06	17		LR		LR	21 36 36.8	
	comp=Z,1µm,19.6s,baz=222,slow=37								
M29M	Somme Creek	60.13	336		P		P	21 10 06.4	-0.5
	baz=123								
L29M	L29M	60.37	337		P		P	21 10 08.7	+0.2
	baz=124								
C36M	Paulatuk	60.38	347		P		P	21 10 08.1	-0.1
	baz=141								
MESA	MESA	60.43	333		P		P	21 10 08.4	-0.6
	baz=118								
CTG	Chitna Glacier	60.54	334		P		P	21 10 08.6	-1.2
	baz=119								
K29M	Barlow Dome	60.56	338		P		P	21 10 09.2	-0.6
	baz=125								
J30M	Hart River	60.56	339		P		P	21 10 09.8	0.0
	baz=126								
H31M	Peel River	60.65	341		P		P	21 10 09.8	-0.4
	baz=129								
I30M	Mount Dempster	60.96	340		P		P	21 10 12.2	-0.4
	baz=126								
BGLC	Bering Glacier	60.99	333		P		P	21 10 12.7	+0.1
	baz=117								
DY2G	Dye2	61.00	19	*i*	P		P	21 10 09.3	-3.6
DY2G					IAmb		IAmb	21 10 20.8	
	comp=Z,50nm,1.6s								
G31M	Satah River	61.33	342		P		P	21 10 15.1	+0.4
	baz=129								
DAWY	Dawson	61.37	338		P		P	21 10 15.7	+0.5
	baz=123								
KAIM	Kayak Island	61.41	332		P		P	21 10 15.2	-0.3
	baz=116								
M27K	Edge Creek, AK	61.45	335		P		P	21 10 15.5	-0.4
	baz=120								
MCARA	McCarthy VSAT	61.46	334		P		P	21 10 15.8	0.0
	baz=118								
F31M	Tsiigehtchic	61.51	342		P		P	21 10 15.3	-0.6
	baz=130,SNR=6.0								
I29M	Ogilvie Camp,	61.70	339		P		P	21 10 16.8	-0.6
	baz=124								
EPYK	Eagle Plains	61.76	341		P		P	21 10 17.1	-0.7
	baz=127								
L27K	Beaver Creek,	61.78	336		P		P	21 10 17.2	-0.8
	baz=120,SNR=5.4								
RES	Resolute Bay	61.85	359		LR		LR	21 39 00.1	
	comp=Z,697nm,20.2s,baz=191,slow=38								
M26K	Nabesna, AK	61.93	335		P		P	21 10 18.0	-1.0
	baz=118								
BMRM	Bremner River	61.95	333		P		P	21 10 18.8	-0.4
	baz=116								
G30M	tAoh Zraii Nji	61.97	341		P		P	21 10 19.3	+0.1
	baz=127								
INK	Inuvik	62.01	343		LR		LR	21 41 09.8	
	comp=Z,513nm,20.0s,baz=139,slow=40								
INK	Inuvik	62.01	343		P		P	21 10 19.0	-0.3
	baz=131								
H29M	Whitestone	62.21	340		P		P	21 10 20.6	-0.2
	baz=125								
F30M	Barrier River	62.23	342		P		P	21 10 20.3	-0.5
	baz=128,SNR=7.9								
N25K	Chitina, Valde	62.23	334		P		P	21 10 20.3	-0.8
	baz=116								
EYAK	Cordova Ski Ar	62.28	333		P		P	21 10 20.5	-0.8
	baz=115								
I28M	Mi

DHY Denali Highway 64.04 335 P P 21 10 32.9 -0.2
baz=114

D28M Stokes Point 64.13 343 P P 21 10 33.1 -0.3
baz=126

PMR Palmer 64.20 333 P P 21 10 33.7 -0.3
baz=112

BRSE Bradley Lake S 64.29 331 P P 21 10 34.7 0.0
baz=110

RC01 Rabbit Creek A 64.29 332 P P 21 10 34.4 -0.3
baz=111

E27K Coleen River 64.35 341 P P 21 10 35.0 0.0
baz=122,SNR=6.2

PRP Porcupine Dome 64.37 338 P P 21 10 35.6 +0.3
baz=117

KULLO Kullorsuaq 64.39 9 *i* P P 21 10 30.4 -4.6
KULLO IAmb IAmb 21 11 08.5
comp=Z,399nm,2.5s

HDA Harding Lake 64.42 336 P P 21 10 35.2 -0.3
baz=115,SNR=6.8

WAT1 Susitna Watana 64.43 334 P P 21 10 35.1 -0.4
baz=113

G26K Porcupine Rive 64.44 339 P P 21 10 35.5 0.0
baz=120

ILAR Eielson Array 64.56 337 P P 21 10 35.1 -1.2
comp=Z,6.0nm,1.1s,baz=122,slow=4.4,SNR=35
ILAR LR LR 21 41 06.7
comp=Z,593nm,20.7s,baz=100,slow=38
comp=Z,6.0nm,1.1s

ILAR Eielson Array 64.56 337 *e*P P 21 10 35.7 -0.6
ILAR pmax pmax
comp=Z,9.0nm,1.1s

KDAK Kodiak Island 64.59 328 LR LR 21 38 19.3
comp=Z,384nm,20.8s,baz=102,slow=36

KDAK Kodiak Island 64.59 328 P P 21 10 36.5 -0.1
baz=107

HOM Homer 64.69 330 P P 21 10 36.9 -0.4
baz=109

D27M Malcolm River 64.74 342 P P 21 10 37.3 -0.2
baz=123

Q20K Shuyak Island 64.74 329 P P 21 10 37.1 -0.5
baz=108

OHAK Old Harbor 64.79 328 P P 21 10 37.9 0.0
baz=106

H25L Birch Creek 64.83 338 P P 21 10 37.8 -0.2
baz=117

CAPN Captain Cook N 64.83 332 P P 21 10 38.1 0.0
baz=110

SUA Susitna One 64.88 332 P P 21 10 38.4 -0.2
baz=110

POKR Poker Plat Res 64.92 337 P P 21 10 38.6 -0.1
baz=115

F26K Sheenjek River 64.93 340 P P 21 10 38.4 -0.3
baz=120,SNR=6.3

MCK McKinley 64.94 335 P P 21 10 38.7 -0.1
baz=113

COLA College 64.97 337 *i* P P 21 10 38.5 -0.5
COLA pmax pmax
comp=Z,24nm,2.3s

COLA College 64.97 337 P P 21 10 39.1 +0.1
baz=115

CUT Chulitna 65.00 334 P P 21 10 39.5 +0.3
baz=111

G25K Bearman Lake 65.15 339 P P 21 10 40.5 +0.3
baz=117

O20K Slope Mountain 65.30 331 P P 21 10 41.8 +0.5
baz=108

NEA2 Nenana 65.34 336 P P 21 10 41.3 -0.1
baz=113,SNR=5.1

F25K Christian Rive 65.38 340 P P 21 10 41.7 0.0
baz=118,SNR=7.2

H24K Noodor Dome 65.39 338 P P 21 10 41.7 -0.1
baz=115,SNR=6.1

TRF Thorofare Moun 65.40 335 P P 21 10 42.1 +0.1
baz=112

SKT Skwentna 65.41 333 P P 21 10 41.8 -0.1
baz=110

Q19K Cape Douglas, 65.45 329 P P 21 10 42.8 +0.5
baz=106

SPCR Spurr Chakacha 65.46 332 P P 21 10 42.8 +0.5
baz=109

P19K Oil Pt 65.46 330 P P 21 10 41.8 -0.5
baz=107

R18K Karluk 65.49 328 P P 21 10 43.0 +0.5
baz=105

E25K Arctic Village 65.61 340 P P 21 10 43.4 +0.3
baz=118,SNR=5.9

G24K Hadweenzic Riv 65.61 338 P P 21 10 43.4 +0.2
baz=116,SNR=7.0

I23K Minto, Yukon-K 65.67 337 P P 21 10 43.6 +0.1
baz=113,SNR=6.9

CHIR Chirikof Islan 65.69 326 P P 21 10 43.5 -0.3
baz=103

C27K Jago River 65.76 342 P P 21 10 44.2 +0.2
baz=121,SNR=6.1

BPAW Bear Paw Mtn. 65.92 335 P P 21 10 44.4 -0.8
baz=111,SNR=5.3

PPT Papeete 65.96 244 LR LR 21 32 37.5
comp=Z,349nm,18.5s,baz=30,slow=29

PPT2 Papeete2 65.97 244 *e*P P 21 10 46.2 -0.1
comp=Z,127nm,28.0s
PPT2 *e*S S 21 19 38.1 +6.0
comp=Z,181nm,24.2s
PPT2 *e*LQ LQ 21 27 43.8
comp=Z,237nm,25.0s
PPT2 *e*LR LR 21 30 24.0
comp=Z,472nm,26.0s
PPT2 *e*LR LR 21 30 30.7
comp=Z,426nm,23.0s

PPLA Purkeypile 66.01 334 P P 21 10 45.9 0.0
baz=110

H23K Yukon River 66.01 337 P P 21 10 45.7 0.0
baz=113

Q18K Katmai Hardscr 66.06 329 P P 21 10 45.8 -0.5
baz=105

M20K Styx River 66.09 333 P P 21 10 45.9 -0.5
baz=108

F24K Squaw Lake 66.12 339 P P 21 10 46.2 -0.2
baz=116

O19K Port Alsworth 66.14 331 P P 21 10 46.6 0.0
baz=106

MLY Manley 66.17 336 P P 21 10 46.2 -0.5
baz=112,SNR=13

C26K Camden Bay 66.27 342 P P 21 10 47.9 +0.6
baz=120

P18K Big Mountain, 66.36 330 P P 21 10 48.2 0.0
baz=105

CHUM Lake Minchumin 66.39 335 P P 21 10 47.8 -0.3
baz=110

N19K Bonanza Creek 66.39 331 P P 21 10 48.0 -0.3
baz=107

Q17K Contact Creek 66.41 328 P P 21 10 48.1 -0.4
baz=104

D25K Kavik River 66.43 341 P P 21 10 47.9 -0.5
baz=118,SNR=6.3

O18K Koktuh Hills 66.48 330 P P 21 10 48.2 -0.6
baz=106

R17L Mt. Peulik Vol 66.50 328 P P 21 10 48.6 -0.5
baz=104

G23K Bananza Creek 66.54 338 P P 21 10 48.9 -0.2
baz=113

E24K Your Creek 66.56 340 P P 21 10 48.8 -0.5
baz=115

L20K Farewell, AK 66.61 333 P P 21 10 49.5 -0.1
baz=108

M19K Big River Lodg 66.67 332 P P 21 10 49.6 -0.5
baz=107

I21K Tanana 66.71 336 P P 21 10 50.0 -0.2
baz=111

H22K Ishtalitna Cre 66.73 337 P P 21 10 51.2 +0.8
baz=112

COLD Coldfoot 66.81 338 P P 21 10 51.8 +1.0
baz=113

SUMG Summit 66.85 15 *i* P P 21 10 50.0 -1.5
SUMG IAmb IAmb 21 11 02.3
comp=Z,254nm,2.8s

Q16K King Salmon 66.90 329 P P 21 10 52.1 +0.7
baz=104

P17K Kvichak River 66.92 329 P P 21 10 52.5 +0.9
baz=104

E23K Chandalar 66.94 339 P P 21 10 52.0 +0.3
baz=114,SNR=6.1

L19K White Mountain 66.96 333 P P 21 10 52.5 +0.7
baz=107

N18K Kilae Creek 67.02 331 P P 21 10 52.8 +0.5
baz=105

R16K Pilot Point 67.13 327 P P 21 10 53.2 +0.3
baz=102

D24K Happy Valley 67.14 341 P P 21 10 53.4 +0.6
baz=115

G22K Bettles 67.16 338 P P 21 10 54.0 +1.0
baz=112

TOLK Toolik Lake Re 67.17 340 P P 21 10 53.8 +0.7
baz=114

H21K Melozitna Rive 67.20 336 P P 21 10 53.6 +0.3
baz=110

M18K Stony River 67.21 332 P P 21 10 53.4 0.0
baz=106

J20K Nowinta River 67.25 335 P P 21 10 53.9 +0.2
baz=108

CHGN Chignik 67.32 326 P P 21 10 54.5 +0.4
baz=101

C24K Franklin Bluff 67.34 341 P P 21 10 54.3 +0.1
baz=116

O17K Koliganek Bris 67.38 330 P P 21 10 54.7 +0.2
baz=104

NEEM North Greenlan 67.57 9 *i* P P 21 10 52.2 -3.6
NEEM IAmb IAmb 21 10 55.0
comp=Z,205nm,2.3s

I20K Naaghedeneel 67.58 335 P P 21 10 55.7 0.0
baz=108

N17K Nushagak Hills 67.60 331 P P 21 10 56.0 +0.1
baz=104

F22K John River 67.62 338 P P 21 10 56.0 0.0
baz=112

P16K Nushagak River 67.66 329 P P 21 10 56.0 -0.3
baz=103

D23K Nanushuk River 67.67 340 P P 21 10 55.9 -0.3
baz=114

CHNA Chernabura Isl 67.72 324 P P 21 10 56.5 -0.3
baz=100

E22K Anaktuvuk Pass 67.73 339 P P 21 10 56.7 0.0
baz=112,SNR=6.1

G21K Allakaket 67.76 337 P P 21 10 56.9 0.0
baz=110

L18K Granite Mounta 67.80 332 P P 21 10 57.3 +0.1
baz=105

J19K Poorman 67.82 334 P P 21 10 57.3 +0.1
baz=107

O16K Kokwok River B 67.83 329 P P 21 10 56.9 -0.5
baz=103

M17K Holitna River 67.93 331 P P 21 10 57.9 -0.1
baz=104

S14K Fog Glacier 67.94 326 P P 21 10 57.8 -0.5
baz=100

H20K Anotleneega Mo 67.96 336 P P 21 10 58.6 +0.4
baz=108

F21K Alatna River 68.00 338 P P 21 10 58.6 +0.3
baz=110,SNR=18

C23K Itkillik River 68.00 341 P P 21 10 58.8 +0.6
baz=114

J18K Innoko River 68.14 334 P P 21 10 59.1 -0.2
baz=106

TBI Tubuai 68.24 238 *e*S S 21 20 00.0 +0.9
comp=Z,863nm,27.2s

TBI Tubuai 68.24 238 *e*LR LR 21 31 31.4
comp=Z,3µm,28.8s

SDPT Sand Point 68.30 325 P P 21 10 59.8 -0.6
baz=99

D22K Ayikyak River 68.30 340 P P 21 11 01.5 +1.3
baz=112

N16K Nishlik Lake 68.36 330 P P 21 11 01.6 +0.9
baz=102

L17K Donlin 68.51 332 P P 21 11 02.4 +0.8
baz=104

GCSA Galena City Sc 68.55 335 P P 21 11 02.8 +1.0
baz=106

M16K Timber Creek 68.56 331 P P 21 11 02.8 +0.9
baz=102

E21K Killik River 68.59 339 P P 21 11 03.1 +1.0
baz=110

H19K Roundabout Mou 68.60 336 P P 21 11 02.4 +0.4
baz=107

O15K Ungalikthiuk R 68.61 329 P P 21 11 02.9 +0.6
baz=101

K17K Iditarod 68.64 333 P P 21 11 03.0 +0.6
baz=104

F20K Avaraart Lake 68.77 337 P P 21 11 04.2 +1.1
baz=108

N15K Kwethluk River 68.94 330 P P 21 11 05.3 +0.9
baz=101

L16K Owhat River 68.95 331 P P 21 11 05.2 +0.8
baz=102

B22K Teshekpuk Lake 69.08 341 P P 21 11 05.9 +0.9
baz=111

C21K Knifeblade Rid 69.11 340 P P 21 11 06.3 +1.1
baz=110

J17K VABM Dome 69.15 333 P P 21 11 06.4 +0.8
baz=103

B21K Ikpuk River 69.21 340 P P 21 11 06.7 +0.9
baz=110

S12K Black Hills 69.24 325 P P 21 11 06.4 +0.1
baz=98

H18K Honhosa River 69.27 335 P P 21 11 06.5 +0.2
baz=105

E20K Nigu River 69.31 339 P P 21 11 06.8 +0.3
baz=108

M15K Kasigluk River 69.33 330 P P 21 11 07.1 +0.4
baz=101

O14K Tigyukauivet M 69.36 329 P P 21 11 07.4 +0.5
baz=100

E19K Redstone River 69.45 338 P P 21 11 07.8 +0.4
baz=106

BORG Borgarnes 69.46 25 LR LR 21 42 15.8
comp=Z,379nm,18.1s,baz=263,slow=37

F19K Shaleruckik Mo 69.48 337 P P 21 11 08.0 +0.5
baz=106

G18K Tagagawik 69.57 336 P P 21 11 08.3 +0.2
baz=105

D20K Etivluk River 69.59 339 P P 21 11 08.1 -0.1
baz=108

N14K Kuskokwak Cree 69.68 329 P P 21 11 08.7 -0.1
baz=100

J16K Anvik River 69.80 333 P P 21 11 09.8 +0.2
baz=102

A22K Sinclair Lake 69.80 342 P P 21 11 10.4 +1.0
baz=110

H17K Granite Mounta 69.86 335 P P 21 11 10.7 +0.8
baz=103

L15K Ungalak Mounta 69.89 331 P P 21 11 10.9 +0.8
baz=100

M14K Bethel 69.95 330 P P 21 11 11.2 +0.7
baz=100

I17K Unalakleet 69.96 334 P P 21 11 11.0 +0.5
baz=102

K15K Wolf Creek Mou 70.02 332 P P 21 11 11.5 +0.5
baz=101

D19K Kuna River 70.06 339 P P 21 11 11.6 +0.4
baz=106

F18K Selawik 70.14 337 P P 21 11 12.8 +1.3
baz=104

B20K Meade River 70.17 340 P P 21 11 12.6 +0.9
baz=108

G17K Kiwalik Mounta 70.28 335 P P 21 11 13.3 +0.7
baz=103

L14K Kuka Creek 70.40 331 P P 21 11 13.8 +0.6
baz=99

A21K Barrow 70.41 342 P P 21 11 14.0 +0.9
baz=108

M13K Dall Lake 70.58 330 P P 21 11 15.1 +0.8
baz=98

E18K Tukpahlearik C 70.70 337 P P 21 11 15.3 +0.3
baz=103

F17K Baldwin Pennin 70.73 336 P P 21 11 15.7 +0.6
baz=102

C19K Lookout Ridge 70.74 339 P P 21 11 16.3 +1.0
baz=105

H16K Elim 70.77 334 P P 21 11 16.1 +0.6
baz=101

G16K Koyuk River 70.96 335 P P 21 11 17.1 +0.5
baz=101

E17K Hotham Inlet 71.09 337 P P 21 11 18.0 +0.7
baz=102

C18K Utukok River 71.19 339 P P 21 11 18.7 +0.6
baz=103

K13K Kusilvak Mount 71.42 331 P P 21 11 19.3 -0.1
baz=98

A19K Wainwright 71.51 340 P P 21 11 20.3 +0.4
baz=104

B18K Kokolik River 71.57 339 P P 21 11 20.2 0.0
baz=103

G15K Niukluk 71.59 335 P P 21 11 20.0 -0.4
baz=99

UNV Unalaska Valle 71.63 323 P P 21 11 20.1 -0.8
baz=93

D17K Noatak River 71.69 337 P P 21 11 21.2 +0.2
baz=101

RDOG Red Dog Mine 71.69 338 P P 21 11 21.1 +0.1
baz=101

C17K DeLong Mountai 71.87 338 P P 21 11 22.1 -0.1
baz=101

F15K North Star Dit 71.95 335 P P 21 11 22.4 -0.2
baz=99

M11K Mekoryuk 71.98 330 P P 21 11 22.7 -0.2
baz=96

ANM Nome 72.09 334 P P 21 11 23.6 +0.1
baz=98

F14K Arctic Creek 72.61 335 P P 21 11 26.8 +0.2
baz=97

C16K Lisburne Hills 72.62 338 P P 21 11 27.1 +0.6
baz=99

NIKH Nikolski High 73.00 322 P P 21 11 28.8 -0.3
baz=91

TNA Tin City 73.28 335 P P 21 11 30.3 -0.2
baz=96

DAG Danmarks Havn 73.34 13 *i* P P 21 11 28.0 -2.7
DAG IAmb IAmb 21 11 36.8
comp=Z,11nm,1.0s

P08K Saint George I 73.49 325 P P 21 11 31.6 -0.3
baz=92

SPIA Saint Paul Isl 73.89 326 P P 21 11 33.5 -0.7
baz=91

JMIC Jan Mayen 75.20 20 LR LR 21 46 25.0
comp=Z,319nm,18.1s,baz=266,slow=37

RAR Rarotonga 76.24 244 LR LR 21 37 23.1
comp=Z,133nm,22.0s,baz=95,slow=29

EKA Eskdalemuir Ar 77.84 36 P P 21 11 54.4 -2.5
comp=Z,4.7nm,0.6s,baz=268,slow=6.2,SNR=32
comp=Z,4.7nm,0.6s

PAB San Pablo 78.75 52 P P 21 12 02.9 +0.6
PAB IAmb IAmb 21 12 10.9
comp=Z,14nm,1.2s

PAB San Pablo 78.75 52 P P 21 12 02.9 +0.6
PAB pmax pmax
comp=Z,14nm,1.3s

ESDC Sonseca Array 79.03 52 P P 21 12 01.6 -2.3
comp=Z,2.6nm,1.0s,baz=292,slow=5.9,SNR=15
ESDC LR LR 21 43 53.7
comp=Z,412nm,18.8s,baz=282,slow=33
comp=Z,2.6nm,1.0s

MDT Midelt 79.48 59 LR LR 21 43 43.3
comp=Z,294nm,18.6s,baz=296,slow=33

PMSA Palmer Station 79.92 169 LR LR 21 41 10.3
comp=Z,207nm,18.4s,baz=342,slow=31

SPITS Spitsbergen Ar 80.83 12 P P 21 12 11.3 -1.5
comp=Z,12nm,0.9s,baz=141,slow=4.3,SNR=6.5
SPITS LR LR 21 50 40.5
comp=Z,632nm,18.3s,baz=298,slow=38
comp=Z,12nm,0.9s

BILL Bilibino 83.14 338 *i* P P 21 12 23.7 -1.4
BILL pmax pmax
comp=Z,6.0nm,0.6s

SHEM Shemya Is, Ala 83.29 322 LR LR 21 52 01.8
comp=Z,67nm,18.4s,baz=101,slow=38

DBIC Dimbokro 84.02 85 P P 21 12 30.8 +0.2

DBIC Dimbokro 84.02 85 P P 21 12 30.9 +0.2
comp=Z,3.9nm,0.5s,baz=316,slow=1.2,SNR=6.7
DBIC LR LR 21 47 01.5
comp=Z,329nm,20.6s,baz=316,slow=34
comp=Z,3.9nm,0.5s

DBIC Dimbokro 84.02 85 P P 21 12 30.8 +0.2
DBIC pmax pmax
comp=Z,58nm,1.9s

NB2 NORSAR Subarra 84.29 29 P P 21 12 28.8 -2.3
comp=Z,4.1nm,1.1s,baz=288,slow=5.1

NOA NORSAR Array B 84.29 29 P P 21 12 30.1 -1.0
comp=Z,0.9nm,0.7s,baz=289,slow=5.1,SNR=5.8
NOA LR LR 21 51 00.6
comp=Z,233nm,18.1s,baz=280,slow=36
comp=Z,0.9nm,0.7s

HFS Hagfors 85.72 29 P P 21 12 36.6 -1.7
comp=Z,2.0nm,0.6s,baz=276,slow=4.1,SNR=11
HFS LR LR 21 51 35.0
comp=Z,255nm,18.5s,baz=288,slow=36
comp=Z,2.0nm,0.6s

ARCES ARCESS Array B 86.64 19 P P 21 12 41.1 -1.5

ARCES ARCESS Array B 86.64 19 P P 21 12 41.3 -1.3
comp=Z,1.6nm,0.6s,baz=310,slow=5.7,SNR=9.2
ARCES LR LR 21 53 01.7
comp=Z,204nm,18.5s,baz=300,slow=37
comp=Z,1.6nm,0.6s

ARCES ARCESS Array B 86.64 19 P P 21 12 41.2 -1.5
ARCES pmax pmax
comp=Z,80nm,2.0s

TUE Stuetta 87.23 43 P P 21 12 45.9 -0.4
TUE IAmb IAmb 21 12 50.9
comp=Z,5.0nm,0.8s

TUE Stuetta 87.23 43 P P 21 12 46.4 +0.2
comp=Z,33nm,2.2s

DAVA Damuels 87.36 42 *i* P P 21 12 45.6 -1.2
comp=Z,10.0nm,1.2s

RETA Reutte 87.88 42 *e*P P 21 12 47.7 -1.5
comp=Z,3.5nm,0.7s

FETA Feichten 87.99 42 *i* P P 21 12 48.3 -1.6
comp=Z,3.1nm,1.2s

CLL Collm 88.13 38 *i* P P 21 12 48.1 -2.0
CLL pmax pmax
comp=Z,12nm,1.2s
CLL MLR MLR
comp=Z,300nm,19.0s

CLL Collm 88.13 38 *i* P P 21 12 48.1 -2.0
comp=Z,12nm,1.2s
CLL *e*SS SS 21 29 12.0 -8.3
CLL LmV 21 52 00.0
comp=Z,300nm,19.0s

MOTA Moosalm 88.14 42 *e*P P 21 12 48.9 -1.6
comp=Z,4.8nm,1.2s

SQTA Sankt Quirin 88.25 42 *i* P P 21 12 49.3 -1.7
comp=Z,3.7nm,1.0s

WATA Walderalm 88.45 42 *i* P P 21 12 51.2 -0.8
comp=Z,3.8nm,1.3s

WTTA Wattenberg 88.51 42 *e*P P 21 12 52.7 +0.4
comp=Z,3.6nm,1.3s

BRG Berggiesshubel 88.83 38 *e*P P 21 12 52.4 -1.0
BRG Amp 21 12 56.8
comp=Z,8.6nm,1.2s

TORD Torodi Ar. Bea 88.93 77 P P 21 12 51.7 -2.9

TORD Torodi Ar. Bea 88.93 77 P P 21 12 52.8 -1.8
comp=Z,0.9nm,0.7s,baz=294,slow=5.2,SNR=7.4
comp=Z,0.9nm,0.7s

LESA Schwarzleotal 89.14 41 *i* PcP PcP 21 12 57.3 +0.7
comp=Z,4.0nm,1.1s

ABTA Abfaltersbach 89.24 42 *i* P P 21 12 54.8 -0.8
comp=Z,4.1nm,1.0s

GERES GERESS Array B 89.34 40 P P 21 12 53.9 -2.1
comp=Z,0.9nm,0.8s,baz=241,slow=5.3,SNR=3.6
GERES LR LR 21 50 37.7
comp=Z,230nm,18.9s,baz=306,slow=34
comp=Z,0.9nm,0.8s

GERES GERESS Array B 89.34 40 *e*P P 21 12 55.4 -0.6
GERES pmax pmax
comp=Z,1.0nm,0.9s

BIOA Bad Ischl, Aus 89.67 41 *e*pP pP 21 13 03.3 -4.5
comp=Z,6.2nm,1.5s

KBA Koelnbreinsper 89.68 42 *i* pP pP 21 13 03.4 -4.6
comp=Z,4.3nm,0.8s

MYKA Terra Mystica 90.02 42 *e*P P 21 12 58.1 -1.1
comp=Z,4.5nm,1.0s

MOA Molln 90.02 41 *i* pP pP 21 13 05.0 -4.5
comp=Z,6.3nm,1.3s

KEST Kesra 90.16 53 P P 21 13 00.0 -0.1
KEST IAmb IAmb 21 13 09.3
comp=Z,6.3nm,0.9s

KEST Kesra 90.16 53 P P 21 12 59.1 -1.0
comp=Z,1.8nm,0.5s,baz=282,slow=0.9,SNR=5.7
KEST LR LR 21 48 20.2
comp=Z,138nm,19.5s,baz=284,slow=32
comp=Z,1.8nm,0.5s

SEY Seymchan 90.49 336 LR LR 22 00 07.9
comp=Z,241nm,18.6s,baz=49,slow=40

OBKA Obir 90.65 42 *e*P P 21 13 03.3 +1.1
comp=Z,2.2nm,0.7s

FINES FINESS Array B 90.76 26 P P 21 13 01.1 -1.1
comp=Z,1.5nm,0.7s,baz=278,slow=3.8,SNR=5.5
FINES LR LR 21 51 00.7
comp=Z,214nm,21.4s,baz=301,slow=34
comp=Z,1.5nm,0.7s

FINES FINESS Array B 90.76 26 *e*P P 21 13 03.9 +1.7
FINES pmax pmax
comp=Z,2.0nm,0.8s

SOKA Soboth 90.90 42 *i* P P 21 13 04.4 +1.1
comp=Z,2.8nm,1.4s

KRUC Moravsky 90.94 39 *e*P P 21 13 05.9 +2.5

VRAC Vranov 90.97 39 LR LR 21 48 58.4
comp=Z,157nm,20.8s,baz=290,slow=32

VRAC	Vranov		90.97	39	eP		P	21 13 05.0	+1.5
CONA	Conrad Observa		91.00	40	eP		P	21 13 03.8	0.0
	comp=Z,2.2nm,0.9s								
ARSA	Arzberg		91.02	41	epP		P	21 13 07.5	+3.7
	comp=Z,2.6nm,0.8s								
RONA	Rosalia, Austr		91.36	40	i P		P	21 13 06.4	+0.9
	comp=Z,2.4nm,0.8s								
TIXI	Tiksi		91.70	348	LR		LR	21 59 25.1	
	comp=Z,426nm,19.2s,baz=40,slow=39								
PET	Petropavlovsk		92.06	326	eP		P	21 13 13.5	+5.0
PET					eS		S	21 24 11.8	+3.5
PET					MLR		MLR		
	comp=Z,200nm,20.0s								
PETK	Petropavlovsk-		92.55	326	LR		LR	21 54 32.0	
	comp=Z,77nm,21.6s,baz=56,slow=35								
SGRT	San Giovanni R		93.06	46	P		P	21 13 13.0	-0.5
SGRT					IAmb		IAmb	21 16 20.4	
	comp=Z,11nm,0.9s								
VAE	Valguarnera		93.53	50	LR		LR	21 49 23.4	
	comp=Z,530nm,21.0s,baz=311,slow=32								
AKASG	Malin Array Be		97.68	34	LR		LR	21 59 17.1	
	comp=Z,202nm,18.1s,baz=304,slow=36								
AK05	Malin Array Si		97.71	34	P		Pdif	21 13 34.8	+0.4
MLR	Muntele Rosu		98.33	40	P		P	21 13 36.4	-1.0
MLR					IAmb		IAmb	21 13 47.0	
	comp=Z,9.1nm,1.3s								
MLR	Muntele Rosu		98.33	40	P		P	21 13 36.4	-1.0
MLR					pmax		pmax		
	comp=Z,9.0nm,1.3s								
MLR	Muntele Rosu		98.33	40	P		P	21 13 35.9	-1.5
OBN	Obninsk		98.86	28	LR		LR	21 58 32.6	
	comp=Z,202nm,18.9s,baz=200,slow=36								
YAK	Yakutsk		99.06	342	LR		LR	22 06 02.1	
	comp=Z,134nm,18.2s,baz=19,slow=40								
DZM	Mont Dzumac		106.96	251	eLR		LR	21 49 40.1	
	comp=Z,142nm,25.1s								
SYO	Syowa Base		115.56	162	⇓ePKPdf		PKPdf	21 18 41.8	+1.0
KURK	Kurchatov		115.92	8	PKIKP		PKPdf	21 18 42.4	+0.3
KURBB	Kurchatov Arra		116.00	8	PKP		PKPdf	21 18 42.4	+0.1
	comp=Z,0.5nm,0.6s,baz=353,slow=1.8,SNR=11								
SONM	Songino Array		117.78	347	PKPdf		PKPdf	21 18 45.5	-0.5
SONM	Songino Array		117.78	347	PKP		PKiKP	21 18 46.2	+0.2
	comp=Z,1.0nm,0.8s,baz=0.0,slow=2.2,SNR=5.4								
SONM	Songino Array		117.78	347	PKIKP		PKPdf	21 18 45.5	-0.5
BOSA	Boshof		118.29	116	PKPdf		PKiKP	21 18 49.0	+1.6
BOSA	Boshof		118.29	116	PKP		PKiKP	21 18 49.8	+2.3
	comp=Z,3.8nm,0.8s,baz=249,slow=3.3,SNR=8.1								
KSRS	Korea Array		118.45	326	PKP		PKiKP	21 18 47.8	+0.4
	comp=Z,1.4nm,0.6s,baz=17,slow=1.5,SNR=12								
LBTB	Lobatse		118.56	112	PKPdf		PKiKP	21 18 50.1	+2.0
LBTB	Lobatse		118.56	112	PKIKP		PKiKP	21 18 50.1	+2.0
MK31	Makanchi Array		120.22	6	PKPdf		PKiKP	21 18 50.8	+0.1
MK31	Makanchi Array		120.22	6	PKIKP		PKiKP	21 18 50.8	+0.1
MKAR	Makanchi Array		120.22	6	PKPdf		PKiKP	21 18 50.8	+0.1
MKAR	Makanchi Array		120.22	6	PKP		PKPdf	21 18 50.4	-0.2
	comp=Z,0.4nm,0.7s,baz=330,slow=3.7,SNR=4.4								
BJI	Beijing		121.93	336	PKP		PKPdf	21 18 52.8	-1.2
BJI					LR		LR		
	comp=Z,86nm,21.9s								
BJI					LR		LR		
	comp=Z,160nm,21.1s								
BJI					LR		LR		
	comp=Z,180nm,21.9s								
HHC	Hu-ho-hao-te		122.87	340	ePKP		PKPdf	21 18 53.8	-2.2
WMQ	Urumqi		123.54	2	ePKP		PKiKP	21 18 59.0	+1.6
WMQ					LR		LR		
	comp=Z,520nm,17.7s								
BTO	Baotou		123.58	342	ePKP		PKiKP	21 18 58.5	+0.9
BTO					PP		PP	21 20 42.5	+4.5
BTO					AMB		AMB		
	comp=Z,280nm,4.0s								
BTO					LR		LR		
	comp=Z,390nm,8.6s								
BTO					LR		LR		
	comp=Z,380nm,9.4s								
BTO					LR		LR		
	comp=Z,490nm,11.5s								
TIA	Tai'an		124.78	333	PKP		PKiKP	21 19 00.5	+0.6
HNS	HongShan		124.78	336	⇓PKP		PKiKP	21 19 01.0	+1.1
CHGR	Chuyangaron		125.22	20	PKPdf		PKPdf	21 19 00.1	-0.4
CHGR	Chuyangaron		125.22	20	PKIKP		PKPdf	21 19 00.1	-0.4
KSH	Kashi		126.31	13	PKP		PKiKP	21 19 04.3	+1.2
GTA	Gaotai		127.15	350	ePKP		PKiKP	21 19 04.8	+0.1
GTA					LR		LR		
	comp=Z,390nm,16.0s								
GTA					LR		LR		
	comp=Z,190nm,16.7s								
GTA					LR		LR		
	comp=Z,280nm,17.1s								
NJ2	Nanjing		127.37	329	ePKP		PKiKP	21 19 05.0	-0.2
LZH	Lanzhou		129.53	345	ePKP		PKPdf	21 19 09.3	+0.4
LZH					LR		LR		
	comp=Z,340nm,18.9s								
LZH					LR		LR		
	comp=Z,260nm,19.6s								
LZH					LR		LR		
	comp=Z,380nm,17.9s								
XAN	Xi'an		129.92	339	PKP		PKiKP	21 19 11.0	+0.7
XAN					LR		LR		
	comp=Z,490nm,20.6s								
XAN					LR		LR		
	comp=Z,230nm,19.2s								
XAN					LR		LR		
	comp=Z,380nm,17.9s								
GOMU	GeErMu		130.96	355	PKP		PKiKP	21 19 12.5	-0.3
GOMU					LR		LR		
	comp=Z,210nm,17.1s								
GOMU					LR		LR		
	comp=Z,90nm,18.7s								
GOMU					LR		LR		
	comp=Z,220nm,17.1s								
WB0	Warramunga Arr		136.76	255	PKPdf		PKPdf	21 19 22.4	-0.3
WB2	Warramunga Arr		136.79	255	PKPdf		PKPdf	21 19 22.6	-0.1
WRA	Warramunga Arr		136.81	255	PKP		PKPdf	21 19 22.5	-0.2
	comp=Z,1.1nm,0.8s,baz=100,slow=2.0,SNR=8.0								
WRA	Warramunga Arr		136.81	255	ePKIKP		PKPdf	21 19 23.2	+0.4
WRA					pmax		pmax		
	comp=Z,1.0nm,0.8s								
ASAR	Alice Springs		136.93	249	PKP		PKPdf	21 19 22.4	-0.5
	comp=Z,0.6nm,0.7s,baz=106,slow=3.7,SNR=7.9								
LSA	Lhasa		137.65	358	PKP		PKPdf	21 19 24.0	-0.7
FIRM	Firavahana		138.37	104	P		Pdif	21 16 43.5	+7.4
OPO	Ambohidratompo		138.66	103	P		Pdif	21 16 42.4	+5.1
PZH	PanZhiHua		139.17	344	PKP		PKPdf	21 19 27.0	-0.1
QIZ	Qiongzhong		142.65	328	PKP		PKPdf	21 19 32.5	-0.9
QIZ					PP		PP	21 22 41.3	+1.0
QIZ					LR		LR		
	comp=Z,200nm,7.9s								
QIZ					LR		LR		
	comp=Z,240nm,8.8s								
QIZ					LR		LR		
	comp=Z,280nm,19.2s								
FITZ	Fitzroy Crossi		145.12	257	PKPbc		PKPdf	21 19 37.6	-0.1
	comp=Z,11nm,0.9s,baz=65,slow=3.0,SNR=12								
CMAR	Chiang Mai Arr		147.58	344	PKPbc		PKPbc	21 19 43.6	-0.9
	comp=Z,12nm,0.6s,baz=23,slow=1.7,SNR=70								
CMAR	Chiang Mai Arr		147.58	344	ePKP2		PKPbc	21 19 43.4	-1.1
CMAR					pmax		pmax		
	comp=Z,12nm,0.6s								

*SJA **29** 21:04:27.2±0.7, 35.˚46S×73.˚29W, h10km±5km, ML4.0, MW3.8*

*IDC **29** 21:04:30.1±1.7, 35.˚49S×73.˚02W, h0km, mb3.9/2, mbtmp3.8/5, ML3.9/3, Error ellipse: s-maj=58.5km s-min=24.4km az=99.0*

*NEIC **29** 21:04:31.3±1.6, 35.˚40S±0.˚04×73.˚2W±0.˚1, h10km±1km, mb4.5/10, ML4.0(GUC), Error ellipse: s-maj=15.1km s-min=7.3km az=277.0*

*GUC **29** 21:04:33.2±0.8, 35.˚49S×72.˚96W, h30km±3km, ML4.0*

ISC 29 21:04:30.4±1.5, 35.˚44S±0.˚03×73.˚08W±0.˚05, h6km±9km, n86, σ1s29/108, mb4.4/6, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GO05	Hualane	1.04	66	⇑iP		Pg	21 04 50.2	-0.1
GO05				i S		Sg	21 05 02.9	-0.9
GO05				IAML			21 05 05.1	
	comp=E,6μm,0.3s							
GO05	Hualane	1.04	66	eP		Pg	21 04 49.8	-0.5
GO05				IAML			21 05 08.6	
	comp=Z,3μm,0.7s							
BI05	Punta Hualpn	1.31	184			Pn	21 04 54.8	-0.4
BI05				Sn		Sg	21 05 15.0	+2.5
BI05	Punta Hualpn	1.31	184	eP		Pg	21 04 54.9	-0.3
BI05				i S		Sb	21 05 10.6	-1.8
BI05				IAML			21 05 16.3	
	comp=E,3μm,0.5s							
BI05	Punta Hualpn	1.31	184	eP		Pg	21 04 56.3	+0.8
BO03	Pichilemu	1.32	45	⇑iP		Pn	21 04 54.7	-0.6
BO03				i S		Sb	21 05 11.2	-1.4
BO03				IAML			21 05 17.5	
	comp=N,3μm,0.4s							
BI02	San Fabin de	1.91	130			Pn	21 05 03.1	-0.5
BI02	San Fabin de	1.91	130	⇓iP		Pn	21 05 03.1	-0.5
BI02				i S		Sn	21 05 25.8	-2.1
BI02				IAML			21 05 28.0	
	comp=N,2μm,0.5s							
BI02	San Fabin de	1.91	130	eP		Pn	21 05 03.4	-0.1
BI02				IAML			21 05 37.1	
	comp=Z,528nm,0.5s							
BO01	Tunca	1.95	58			Pn	21 05 04.0	0.0
BO01	Tunca	1.95	58	eP		Pn	21 05 03.8	-0.2
BO01				i S		Sn	21 05 28.3	-0.4
BO01				IAML			21 05 36.8	
	comp=N,1μm,0.6s							
BO01	Tunca	1.95	58	eP		Pn	21 05 04.3	+0.3
BO01				eS		Sg	21 05 33.8	+0.8
BO01				IAML			21 05 38.1	
	comp=Z,886nm,0.3s							
BO02	Sierra Bellavi	2.00	72			Pn	21 05 04.5	-0.3
BO02	Sierra Bellavi	2.00	72	eP		Pn	21 05 04.4	-0.3
BO02				eS		Sn	21 05 28.2	-1.9
BO02				IAML			21 05 35.0	
	comp=N,5μm,0.5s							
BO02	Sierra Bellavi	2.00	72	eP		Pn	21 05 05.2	+0.5
BO02				eS		Sg	21 05 34.0	-0.5
BO02				IAML			21 05 37.1	
	comp=Z,4μm,0.5s							
MT01	Popeta	2.18	44			Pn	21 05 06.7	-0.5
MT01	Popeta	2.18	44	eP		Pn	21 05 05.8	-1.4
MT01				eS		Sb	21 05 38.0	+0.4
MT01	Popeta	2.18	44	eP		Pn	21 05 07.7	+0.5
MT01				eS		Sn	21 05 34.5	0.0
MT01				IAML			21 05 47.0	
	comp=Z,767nm,0.5s							
MT09	Talagante	2.40	47			Pn	21 05 10.7	+0.4
MT09	Talagante	2.40	47	eP		Pn	21 05 10.2	-0.1
MT09				i S		Sn	21 05 39.2	-0.9
MT09				IAML			21 05 55.4	
	comp=N,1μm,0.5s							
BO04	La Punta	2.50	55			Pn	21 05 12.3	+0.6
BO04	La Punta	2.50	55	eP		Pn	21 05 11.8	+0.1
BO04				i S		Sn	21 05 41.8	-0.7
BO04				IAML			21 05 54.8	
	comp=E,1μm,0.4s							
VA01	Torpederas	2.69	27			Pn	21 05 13.9	-0.3
VA01	Torpederas	2.69	27	eP		Pn	21 05 14.3	+0.1
VA01				IAML			21 06 02.8	
	comp=Z,221nm,0.7s							
MT12	Pirque	2.70	52	eP		Pn	21 05 14.8	+0.4
MT12				i S		Sn	21 05 48.8	+1.5
MT12				IAML			21 05 59.0	
	comp=E,3μm,0.6s							
MT02	Curacav	2.71	37			Pn	21 05 14.0	-0.5
MT02	Curacav	2.71	37	eP		Pn	21 05 13.9	-0.5
MT02				i S		Sn	21 05 44.7	-2.8
MT02	Curacav	2.71	37	eP		Pn	21 05 14.0	-0.5
MT02				eS		Sb	21 05 50.0	-2.7
MT02				IAML			21 06 06.2	
	comp=Z,328nm,0.5s							
MT05	Renca	2.82	44			Pn	21 05 16.8	+0.8
MT05	Renca	2.82	44	eP		Pn	21 05 16.9	+0.9
MT05				eS		Sb	21 05 57.5	+1.6
MT05				IAML			21 06 07.5	
	comp=Z,402nm,0.5s							
LMEL	Las Melosas	2.86	57			Pn	21 05 17.2	+0.5
LMEL	Las Melosas	2.86	57	eP		Pn	21 05 18.0	+1.4
LMEL				eS		Sb	21 05 54.5	-2.6
LMEL				IAML			21 06 04.3	
	comp=Z,603nm,0.7s							
MT13	San Alfonso	2.86	55			Pn	21 05 17.5	+0.8
MT13	San Alfonso	2.86	55	eP		Pn	21 05 18.3	+1.6
MT13				eS		Sb	21 05 55.0	-2.2
MT13				IAML			21 06 01.4	
	comp=Z,520nm,1.1s							
MT03	Universidad Ad	2.88	48			Pn	21 05 17.9	+1.0
MT03	Universidad Ad	2.88	48	eP		Pn	21 05 18.0	+1.1
MT03				eS		Sb	21 05 56.5	-1.2
MT03				IAML			21 06 08.6	
	comp=Z,607nm,0.4s							
MT16	CCHEN	2.92	47			Pn	21 05 18.2	+0.8
PEL	Peldehue	3.03	42			Pn	21 05 19.7	+0.8
MT04	Ro Olivares	3.17	51	eP		Pn	21 05 22.4	+1.3
MT04				eS		Sb	21 06 08.0	+1.8
MT04				IAML			21 06 17.0	
	comp=Z,257nm,1.1s							
MT08	Bocatoma Ro	3.22	53			Pn	21 05 22.8	+1.0
MT08	Bocatoma Ro	3.22	53	eP		Pn	21 05 23.2	+1.5
MT08				eS		Sb	21 06 08.0	+0.3
MT08				IAML			21 06 16.2	
	comp=Z,262nm,0.9s							
VA06	Catapilco	3.23	28			Pn	21 05 21.3	-0.4
VA03	San Esteban	3.40	39			Pn	21 05 24.5	+0.5
VA03	San Esteban	3.40	39	eP		Pn	21 05 24.7	+0.7
VA03				eS		Sb	21 06 14.5	+1.9
VA03				IAML			21 06 22.8	
	comp=Z,369nm,0.6s							
RFA	San Rafael	3.84	81	eP		Pn	21 05 33.8	+3.6
RFA				eS		Sb	21 06 28.5	+3.0
RFA				IAML			21 06 33.5	
	comp=Z,175nm,0.9s							
LR03	Panguipulli	4.22	172			Pn	21 05 36.7	+1.3
GO06	Curarrehue	4.33	163	eP		Pn	21 05 38.2	+1.4
GO06				eS		Sg	21 06 44.5	-5.0
CO02	Combarbal	4.57	23			Pn	21 05 40.6	+0.4
CO02	Combarbal	4.57	23	eP		Pn	21 05 40.4	+0.2
CO02				eS		Sn	21 06 33.1	-0.6
CO02				IAML			21 07 11.5	
	comp=Z,161nm,0.9s							
RTLS	Leoncito	4.81	42	eP		Pn	21 05 46.4	+2.7
LR05	Currie	4.86	170			Pn	21 05 45.1	+1.1
CO06	Fray Jorge	4.91	15			Pn	21 05 43.9	-0.8
CO03	El Pedregal	5.01	24			Pn	21 05 46.4	+0.2
CO03	El Pedregal	5.01	24	eP		Pn	21 05 46.4	+0.2
CO03				eS		Sn	21 05 45.6	+1.2
H03S1	Juan Fernandez	5.06	287	T		T	21 11 02.5	
	baz=108,slow=74,SNR=771							
H03S3	Juan Fernandez	5.07	287	T		T	21 11 02.0	
	baz=108,slow=74,SNR=648							
H03S2	Juan Fernandez	5.08	287	T		T	21 11 01.4	
	baz=108,slow=74,SNR=616							
H03N1	Juan Fernandez	5.21	291	T		T	21 11 19.2	
	baz=110,slow=75,SNR=11							
H03N3	Juan Fernandez	5.22	291	T		T	21 11 19.1	
	baz=110,slow=75,SNR=21							
H03N2	Juan Fernandez	5.23	291	T		T	21 11 21.2	
	baz=110,slow=75,SNR=17							
ZON	Zonda	5.35	45	Pn		Pn	21 05 52.1	+1.2
CFA	Coronel Fontan	5.57	48	Pn		Pn	21 05 54.8	+1.0
	comp=Z,1.0nm,0.3s,baz=218,slow=12,SNR=11							
CFA				Sn		Sn	21 06 59.5	+1.3
	comp=Z,1.0nm,0.3s,baz=203,slow=15,SNR=1.4							
CFA				Lg		Lg	21 07 15.8	
	comp=Z,1.8nm,0.3s,baz=287,slow=23,SNR=6.4							
	comp=Z,2.7nm,0.3s							
GO04	Tololo Observa	5.59	21			Pn	21 05 54.4	0.0
PLCA	Paso Flores	5.65	160	Pn		Pn	21 05 56.1	+1.2
PLCA	Paso Flores	5.65	160	Pn		Pn	21 05 55.6	+0.7
	comp=Z,1.4nm,0.3s,baz=329,slow=10,SNR=10							
PLCA				Lg		Lg	21 07 23.4	
	comp=Z,0.8nm,0.3s,baz=245,slow=20,SNR=5.9							
	comp=Z,4.0nm,0.9s							
CO05	La Serena	5.72	16	Pn		Pn	21 05 56.0	+0.1
LCO	Las Campanas	6.72	18			Pn	21 06 09.5	-0.4
GO03	Copiapo	8.19	18	Pn		Pn	21 06 29.5	-0.4
AC02	Maricunga	9.22	23	Pn		Pn	21 06 43.7	-0.7
TRQA	Tornquist	9.29	110	Pn		Pn	21 06 47.6	+2.8
LPAZ	La Paz	19.58	14			P	21 09 00.3	+0.5
LPAZ	La Paz	19.58	14	P		Pn	21 09 01.4	+0.3
	comp=Z,0.2nm,0.3s,baz=166,slow=4.2,SNR=5.6							
	comp=Z,4.9nm,0.8s							
PTLB	Pontes e Lacer	23.50	36	P		P	21 09 40.0	-1.1
PTLB				IAmb		IAmb	21 09 51.9	
	comp=Z,9.8nm,1.3s							
RPN	Rapa Nui	31.93	275	P		P	21 10 56.6	-0.3
BOAV	Boa Vista	39.43	20	P		P	21 12 01.5	+0.2
RUSC	La Rusia	41.11	0	P		P	21 12 17.9	+2.1
RUSC				IAmb		IAmb	21 12 26.8	
	comp=Z,18nm,1.5s							
BAUV	El Baul	44.40	7	P		P	21 12 42.5	+0.6
BAUV				IAmb		IAmb	21 12 43.2	
	comp=Z,10.0nm,0.6s							
BILN	Bilwi Airport	50.17	347	P		P	21 13 25.0	-1.9
BILN				IAmb		IAmb	21 13 27.4	
	comp=Z,34nm,0.7s							
SNAA	Sanae	50.59	157	P		P	21 13 29.3	-0.2
SNAA				IAmb		IAmb	21 13 39.9	
	comp=Z,5.3nm,1.3s							
SNAA	Sanae	50.59	157	P		P	21 13 29.5	0.0
	comp=Z,1.8nm,1.1s,baz=253,slow=6.1,SNR=3.9							
	comp=Z,1.8nm,1.1s							
DBIC	Dimbokro	76.45	72	P		P	21 16 21.3	0.0
DBIC				IAmb		IAmb	21 16 27.7	
	comp=Z,14nm,1.4s							
TORD	Torodi Ar. Bea	85.50	71	P		P	21 17 09.7	+0.2
TORD				IAmb		IAmb	21 17 10.5	
	comp=Z,1.0nm,0.9s							
TORD	Torodi Ar. Bea	85.50	71	P		P	21 17 08.9	-0.6
	comp=Z,0.7nm,0.8s,baz=276,slow=5.7,SNR=5.3							
	comp=Z,0.7nm,0.8s							
BVAR	Borovoye Array	148.91	44	PKPbc		PKPbc	21 24 19.2	+0.7
	comp=Z,1.3nm,0.7s,baz=349,slow=2.9,SNR=5.4							
KURBB	Kurchatov Arra	154.50	45	PKPbc		PKiKP	21 24 31.6	+0.2
	comp=Z,0.2nm,0.6s,baz=308,slow=3.0,SNR=5.0							
ZALV	Zalesovo Beam	155.90	33	PKPab		PKPab	21 24 52.3	+0.6
	comp=Z,0.3nm,0.4s,baz=287,slow=5.9,SNR=4.1							

*NEIC **29** 21:10:48.6±1.1, 36.˚036N±0.˚010×98.˚09W±0.˚01, h4km±2km, mb_Lg2.5/27, ML2.4/65, ML2.4/20, Error ellipse: s-maj=1.5km s-min=1.4km az=50.0*

NEIC 29 21:10:48.6±1.2, 36.˚030N±0.˚010×98.˚09W±0.˚01, h6km±4km, Error ellipse: s-maj=1.5km s-min=1.3km az=223.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CROK	Carrier	0.48	11			Pg	21 10 58.2	+0.3
CROK						Sg	21 11 04.8	+0.6
OK029	Liberty Lake	0.57	114			Pg	21 10 59.6	0.0
OK029						Sg	21 11 07.6	+0.7
OK029				IAML			21 11 07.9	
	222nm,0.3s							
CSTR	Hydro, Custer	0.62	232			Pg	21 11 01.0	+0.5
CSTR						Sg	21 11 09.3	+0.7
OK038	West end E0370	0.69	311			Pg	21 11 01.8	-0.1
OK038						Sg	21 11 11.6	+0.8
OKCSW	OKLAHOMA CITY	0.82	139			Pg	21 11 04.2	-0.1
OKCSW				IAML			21 11 23.2	
	comp=E,116nm,0.6s							
OKCSW				IAML			21 11 32.5	
	comp=N,177nm,0.9s							
GC02	Grant County #	0.84	13			Pg	21 11 04.5	-0.2
NOKA	Waynoka	0.91	312			Pb	21 11 06.5	-0.3
NOKA						Sg	21 11 18.2	+0.4
KAN14	Manchester OK	0.93	6			Pg	21 11 06.1	-0.3
FNO	Franklin	0.95	144			Pg	21 11 06.7	-0.3
FNO						Sg	21 11 19.4	+0.1
FNO				IAML			21 11 22.2	
	comp=E,137nm,0.3s							
FNO				IAML			21 11 22.2	
	comp=N,131nm,0.3s							
OK048	Pawnee Station	1.00	67			Pg	21 11 06.9	-1.0
OK048				IAML			21 11 26.2	
	comp=N,70nm,0.3s							
OK052	Battle Ridge R	1.05	92			Pg	21 11 08.2	-0.4
OK052						Sb	21 11 22.9	-0.1
OK052				IAML			21 11 26.6	
	comp=N,97nm,0.3s							
OK052				IAML			21 11 29.0	
	comp=N,88nm,0.4s							
QUOK	Quay	1.13	82			Pg	21 11 09.7	-0.6
QUOK						Sg	21 11 25.1	+0.2
QUOK				IAML			21 11 25.6	
	comp=N,110nm,0.3s							
QUOK				IAML			21 11 28.5	
	comp=E,88nm,0.2s							
DEOK	Depew	1.31	98			Pn	21 11 12.3	-1.0
DEOK						Sn	21 11 31.4	+0.3
DEOK				IAML			21 11 33.7	
	comp=N,67nm,0.6s							
DEOK				IAML			21 11 36.6	
	comp=E,55nm,0.6s							
WMOK	Wichita Mounta	1.41	204			Pn	21 11 13.7	-1.1
WMOK	Wichita Mounta	1.41	204			Pn	21 11 13.5	-1.3
X34A	Smith Ranch, M	1.44	171			Pn	21 11 15.3	0.0
X34A						Sg	21 11 36.0	+1.1
T35A	Sooner Cattle	1.55	55			Pn	21 11 16.4	-0.3
TUL3	Leonard	1.87	93			Pn	21 11 21.2	+0.1
TUL3				IAmb_Lg			21 11 48.3	
	comp=Z,26nm,1.0s							
SMWD	Samnorwood	1.98	243			Pn	21 11 23.0	+0.3
SMWD				IAmb_Lg			21 11 51.0	
	comp=Z,15nm,0.8s							
LOOK	Love County	2.17	160	Pn		Pn	21 11 26.0	+0.8
LOOK				IAmb_Lg			21 11 56.8	
	comp=Z,28nm,0.9s							
WTFS	Witchita Falls	2.28	188			Pn	21 11 27.5	+0.8
R32A	Long Quarter,	2.44	348	Pn		Pn	21 11 28.9	-0.1
R32A				IAmb_Lg			21 12 05.6	
	comp=Z,14nm,0.7s							
RLO	Rose Lookout	2.49	86	Pn		Pn	21 11 29.0	-0.6
U38A	Gravette	3.02	81	Pn		Pn	21 11 37.4	+0.4
AMTX	Amarillo	3.15	250	IAmb_Lg			21 12 26.6	
	comp=Z,15nm,0.8s							
DKNS	Dickens	3.31	225	IAmb_Lg			21 12 39.0	
	comp=Z,12nm,1.1s							
ABTX

NEAR TORISHIMA IS

ISC 29 21:12:34.0±0.8, 31°17N±0°09×138°67E±0°10, h350km, n35, σ1§95/39, mb3.4/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.16**	**26**	P	**Pn**	**21 13 29.6**	**+3.2**
	74nm,0.8s,baz=296,slow=22,SNR=10						
JHJ				S	**S**	**21 14 11.8**	**+3.3**
	81nm,0.5s,baz=91,slow=23,SNR=7.3						
JHJ2	**Mitsune**	**2.17**	**26**	Pn	**Pn**	**21 13 30.3**	**+3.9**
JHJ2				Sn	**S**	**21 14 11.9**	**+3.3**
JHJ2	**Mitsune**	**2.17**	**26**	*eP*	**Pn**	**21 13 30.8**	**+4.3**
JSG	**Sagara**	**3.52**	**354**	Pn	**Pn**	**21 13 40.6**	**+2.5**
JIE	**Ise**	**3.62**	**333**	P	**Pn**	**21 13 42.2**	**+3.1**
JKN2	**Miekihoku**	**3.67**	**327**	*eP*	**Pn**	**21 13 42.2**	**+2.6**
BSO1	**Boso 1**	**3.98**	**29**	*eP*	**Pn**	**21 13 43.7**	**+1.6**
BSO1				*eS*	**S**	**21 14 37.4**	**+0.2**
BSO4	**Boso 4**	**4.06**	**20**	*eP*	**Pn**	**21 13 45.2**	**+1.7**
BSO4				*eS*	**S**	**21 14 39.6**	**+0.1**
INU	**Inuyama**	**4.39**	**342**		**Pn**	**21 13 49.8**	**+2.8**
JGF	**Kuroka**	**4.56**	**346**		**Pn**	**21 13 51.3**	**+2.5**
JMN	**Monobe**	**4.79**	**303**	Pn	**Pn**	**21 13 53.7**	**+2.4**
JRY	**Ryogami san**	**4.84**	**2**	*eP*	**Pn**	**21 13 53.5**	**+1.7**
MJAR	**Matsushiro Arr**	**5.38**	**356**		**Pn**	**21 13 58.6**	**+0.9**
MJAR	**Matsushiro Arr**	**5.38**	**356**	P	**Pn**	**21 13 57.9**	**+0.2**
	2.4nm,0.3s,baz=171,slow=11,SNR=16						
MAJO	**Matsushiro**	**5.38**	**356**		**Pn**	**21 13 59.1**	**+1.4**
MJB9	**Matsu-Tunnel**	**5.38**	**356**		**Pn**	**21 13 59.5**	**+1.7**
JSD	**Sado**	**6.86**	**357**	Pn	**Pn**	**21 14 14.9**	**+0.3**
JMM	**Marumori**	**6.91**	**14**	Pn	**Pn**	**21 14 15.1**	**-0.1**
JTM	**Tenmabayashi**	**9.79**	**11**		**Pn**	**21 14 50.5**	**+1.1**
JKA	**Kamikawa-asahi**	**13.29**	**12**	P	**Pn**	**21 15 30.8**	**0.0**
SONM	**Songino Array**	**29.67**	**313**	P	**P**	**21 18 08.5**	**-0.1**
SONM	**Songino Array**	**29.67**	**313**	P	**P**	**21 18 08.6**	**0.0**
	0.4nm,0.4s,baz=123,slow=8.3,SNR=5.2 0.4nm,0.4s						
PMG	**Port Moresby**	**41.16**	**167**	P	**P**	**21 19 44.0**	**-1.5**
ZALV	**Zalesovo Beam**	**44.42**	**317**	P	**P**	**21 20 10.5**	**-0.6**
	0.5nm,0.4s,baz=93,slow=6.3,SNR=1.6 0.5nm,0.4s						
MKAR	**Makanchi Array**	**45.55**	**307**	P	**P**	**21 20 19.4**	**-0.7**
	0.4nm,0.6s,baz=95,slow=6.2,SNR=5.2 0.4nm,0.6s						
KURK	**Kurchatov**	**47.96**	**312**	P	**P**	**21 20 37.3**	**-1.2**
KURBB	**Kurchatov Arra**	**48.02**	**312**	P	**P**	**21 20 38.1**	**-0.8**
	0.7nm,0.3s,baz=91,slow=6.4,SNR=16 0.7nm,0.3s						
G18K	**Tagagawik**	**50.87**	**28**	P	**P**	**21 20 59.3**	**-0.7**
G18K				IAmb	IAmb	21 21 04.4	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**50.99**	**185**	P	**P**	**21 21 02.7**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=1.1,slow=7.7,SNR=10.0 comp=Z,0.9nm,0.5s						
BVAR	**Borovoye Array**	**52.98**	**315**	P	**P**	**21 21 15.2**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=89,slow=8.3,SNR=7.0 comp=Z,0.9nm,0.5s						
AB31	**Akbulak array**	**60.08**	**312**	P	**P**	**21 22 04.7**	**-0.4**
AB31				IAmb	IAmb	21 22 19.9	
	comp=Z,1.4nm,1.1s						
ABKAR	**Akbulak array**	**60.08**	**312**	P	**P**	**21 22 04.5**	**-0.6**
P32M	**Atlin**	**62.52**	**35**	P	**P**	**21 22 19.0**	**-2.2**
P32M				IAmb	IAmb	21 22 22.4	
	comp=Z,8.5nm,0.9s						
P33M	**Teslin, Yukon**	**62.79**	**34**	P	**P**	**21 22 22.5**	**-0.5**
P33M				IAmb	IAmb	21 22 35.9	
	comp=Z,4.8nm,1.4s						
FINES	**FINESS Array B**	**72.94**	**332**	P	**P**	**21 23 25.0**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=66,slow=3.5,SNR=6.3 comp=Z,1.1nm,0.6s						

*IDC **29** 21:17:33.2±5.0, 7°.28S×128°.67E, h128km±47km, mb3.3/4, mbtmp3.7/7, MS3.3/1, Error ellipse: s-maj=43.7km s-min=22.2km az=53.0*

*DJA **29** 21:17:35.1±0.3, 7°.5S±5°×12°.9E±°, h199km±11km, M4.3/7, mb4.1/7, mB4.8/2, MLv4.4/7, Mw(mB)4.0/2*

ISC 29 21:17:34.8±0.8, 7°.54S±0°.07×128°.71E±0°.08, h151km, n17, σ1§99/19, mb3.4/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.61**	**100**	P	Pn	21 18 21.9	+4.7
MSAI	**Masohi**	**4.18**	**3**	P	**Pn**	**21 18 38.2**	**+0.8**
SOEI	**Soe**	**4.91**	**243**	P	**Pn**	**21 18 48.7**	**+1.6**
BATI	**Baumata**	**5.64**	**242**	P	**Pn**	**21 18 58.0**	**+1.3**
	132nm,0.4s,baz=120,slow=3.0,SNR=32						
BATI				S	**Sn**	**21 20 00.9**	**0.0**
	43nm,0.4s,baz=165,slow=19,SNR=6.9						
BATI	**Baumata**	**5.64**	**242**	P	**Pn**	**21 18 57.9**	**+1.1**
FAKI	**Fak Fak**	**5.79**	**38**	P	**Pn**	**21 18 57.5**	**-1.3**
	0.1nm31nm,1.4s						
KMPI	**Kaimana, Papua**	**6.29**	**52**	P	**Pn**	**21 19 04.9**	**-0.5**
	172nm,0.8s						
EDFI	**Ende, Flores**	**7.05**	**260**	P	**Pn**	**21 19 14.4**	**-1.2**
	0.1nm7.4nm,0.8s						
WSI	**Waingapu**	**8.58**	**255**	P	**Pn**	**21 19 34.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**10.91**	**196**	P	**Pn**	**21 20 07.5**	**+0.7**
	6.2nm,0.7s,baz=17,slow=13,SNR=16						
FITZ				S	**Sn**	**21 22 02.8**	**-4.7**
	5.5nm,0.5s,baz=285,slow=24,SNR=8.0						
WRA	**Warramunga Arr**	**13.48**	**157**	P	**Pn**	**21 20 41.4**	**+1.2**
	0.2nm,0.5s,baz=336,slow=14,SNR=5.7						
WRA				S	**Sn**	**21 23 07.4**	**-2.1**
	1.5nm,0.6s,baz=333,slow=22,SNR=7.0						
ASAR	**Alice Springs**	**16.79**	**163**	P	**Pn**	**21 21 24.8**	**+3.7**
	0.6nm,0.3s,baz=340,slow=10.0,SNR=14						
ASAR				S	**S**	**21 24 27.1**	**-0.8**
	0.5nm,0.5s,baz=328,slow=19,SNR=5.3						
JNU	**Nakatsue**	**40.49**	**3**	LR	LR	21 39 22.9	
	comp=Z,42nm,21.5s,baz=71,slow=33						
SONM	**Songino Array**	**58.56**	**343**	P	**P**	**21 27 14.8**	**-0.9**
	0.5nm,0.9s,baz=152,slow=6.5,SNR=3.2 0.5nm,0.9s						
MKAR	**Makanchi Array**	**67.98**	**328**	P	**P**	**21 28 17.0**	**-0.6**
	0.4nm,0.6s,baz=124,slow=5.4,SNR=5.0 0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**72.31**	**329**	P	**P**	**21 28 43.1**	**-0.7**
	0.6nm,0.6s,baz=128,slow=5.2,SNR=6.1 0.6nm,0.6s						
QSPA	**South Pole Qui**	**82.44**	**180**	P	**P**	**21 29 43.0**	**+2.9**
	0.4nm,0.7s,baz=333,slow=2.3,SNR=3.3 0.4nm,0.7s						

DJA 29 21:19:50.6±0.5, 6°N±4°×12°7E±°, h131km±7km, M4.2/11, mB5.0/3, mb4.2/6, MLv4.3/11, Mw(mB)4.3/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.12**	**208**	P	Pn	21 20 26.3	+0.2
SGSI				S	Sn	21 20 52.8	-0.5
TNTI	**Ternate**	**4.84**	**170**	P	Pn	21 21 01.5	-0.1
MRSI	**Marisa**	**6.82**	**222**	P	Pn	21 21 28.9	+0.7
LUWI	**Luwuk**	**7.56**	**210**	P	Pn	21 21 37.7	-0.5
	2µm70nm,1.3s						
APSI	**Ampana**	**8.07**	**217**	P	Pn	21 21 46.0	+1.0
	35nm,1.2s						
NLAI	**Namlea**	**8.77**	**176**	P	Pn	21 21 54.2	-0.3

*NNC **29** 21:31:16.1±8.3, 36°.48N×70°.08E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=67.4km s-min=56.6km az=158.0*

ISC 29 21:31:21.6±3.4, 36°.4N±0°.2×70°.4E±0°.1, h200km, n8, σ0§75/11, 4C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.66**	**1**	⇑P	**Pn**	**21 32 56.0**	**-1.3**
	0.6nm,0.3s,baz=191,slow=14,SNR=19						
KK31				⇓S	**Sn**	**21 34 14.3**	**+1.0**
	2.2nm,0.5s,baz=193,slow=24,SNR=4.2						
EKS2	**Erkin-Say**	**6.75**	**22**	P	**Pn**	**21 32 59.0**	**+0.4**
	SNR=9.2						
AAK	**Ala-Archa**	**6.96**	**26**	P	**Pn**	**21 33 01.2**	**-0.2**
	SNR=7.1						
AAK	**Ala-Archa**	**6.96**	**26**	⇑P	**Pn**	**21 33 00.9**	**-0.5**
	1.6nm,0.5s						
AAK				⇑S	**Sn**	**21 34 20.1**	**-0.6**
	2.7nm,0.6s						
CHMS	**Chumysh**	**7.37**	**26**	P	**Pn**	**21 33 06.5**	**-0.1**
	SNR=14						
USP	**Ospenovka**	**7.52**	**24**	P	**Pn**	**21 33 09.2**	**+0.6**
	SNR=9.8						
TKM2	**Tokmak 2**	**7.63**	**30**	P	**Pn**	**21 33 09.5**	**-0.6**
	SNR=7.7						
AB31	**Akbulak array**	**14.89**	**333**	P	**P**	**21 34 43.5**	**+0.5**
	0.9nm,0.7s,baz=166,slow=12,SNR=13						
AB31				⇑S	**S**	**21 37 27.3**	**-0.3**
	0.5nm,0.5s,baz=164,slow=22,SNR=6.5						

GCG 29 21:34:54.2±0.3, 13°.23N×90°.35W, h27km±4km, MD3.8, ML3.1, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.87**	**40**	*eP*	Pb	21 35 10.7	-0.2
NUBE				*eS*	Sn	21 35 26.5	+3.7
JAYA	**Jayaque - finc**	**0.98**	**64**	*eP*	Pn	21 35 11.8	-0.6
FG16	**Alotenango, Sa**	**1.05**	**352**	*eP*	Pb	21 35 17.4	+3.5
FG16				IAML		21 35 49.5	
	comp=N,566nm,0.2s						
MTO3	**Montecristo**	**1.51**	**40**	*eP*	Pn	21 35 20.2	+0.4

*NEIC **29** 21:44:30.5±1.1, 36°.028N×0°.007×98°.10W±0°.01, h5km±1km, mb_Lg2.4/3, ML2.3/52, ML2.1/18, Error ellipse: s-maj=2.6km s-min=1.5km az=213.0*

NEIC 29 21:44:30.4±1.1, 36°.027N±0°.009×98°.098W±0°.009, h6km±3km, Error ellipse: s-maj=1.3km s-min=1.0km az=155.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.48**	**11**		Pg	21 44 40.1	+0.3
CROK					Sg	21 44 47.1	+0.9
OK029	**Liberty Lake**	**0.57**	**114**		Pg	21 44 41.5	+0.1
OK029					Sg	21 44 49.6	+0.7
OK029				IAML		21 44 49.8	
	162nm,0.4s						
CSTR	**Hydro, Custer**	**0.61**	**232**		Pg	21 44 42.8	+0.5
CSTR					Sg	21 44 51.3	+1.1
OK038	**West end E0370**	**0.69**	**311**		Pb	21 44 44.5	-0.4
OK038					Sg	21 44 53.4	+0.8
GC02	**Grant County #**	**0.84**	**13**		Pg	21 44 46.6	-0.1
GC02					Sg	21 44 58.2	+0.6
NOKA	**Waynoka**	**0.91**	**312**		Pg	21 44 47.5	-0.3
NOKA					Sg	21 45 00.1	+0.5
KAN14	**Manchester OK**	**0.93**	**7**		Pg	21 44 48.3	-0.1
KAN14				IAML		21 45 07.5	
	comp=E,57nm,0.2s						
FNO	**Franklin**	**0.96**	**143**		Pg	21 44 48.6	-0.1
FNO					Sg	21 45 01.2	0.0
FNO				IAML		21 45 03.6	
	comp=E,93nm,0.2s						
FNO				IAML		21 45 04.1	
	comp=N,78nm,0.3s						
BLOK	**Blackwell**	**1.02**	**44**	Pg	Pb	21 44 50.4	-0.1
OK052	**Battle Ridge R**	**1.05**	**91**		Pg	21 44 50.2	-0.4
OK052				IAML		21 45 05.9	
	comp=N,60nm,0.3s						
OK052				IAML		21 45 08.6	
	comp=N,68nm,0.3s						
OK051	**E0350 and S346**	**1.13**	**65**	Pg	Pg	21 44 51.9	-0.2
QUOK	**Quay**	**1.14**	**82**		Pg	21 44 51.7	-0.5
QUOK					Sg	21 45 07.0	0.0
QUOK				IAML		21 45 12.8	
	comp=E,69nm,0.2s						
QUOK				IAML		21 45 13.1	
	comp=N,96nm,0.2s						
DEOK	**Depew**	**1.31**	**98**		Pn	21 44 54.2	-1.1
DEOK					Sn	21 45 12.9	-0.2
DEOK				IAML		21 45 16.2	
	comp=N,55nm,0.2s						
DEOK				IAML		21 45 19.1	
	comp=E,43nm,0.3s						
WMOK	**Wichita Mounta**	**1.40**	**204**		Pn	21 44 55.7	-0.8
X34A	**Smith Ranch, M**	**1.44**	**171**		Pn	21 44 56.8	-0.2
T35A	**Sooner Cattle**	**1.56**	**55**		Pn	21 44 58.7	+0.1
TUL3	**Leonard**	**1.87**	**93**		Pn	21 45 03.3	+0.3
SMWD	**Samnorwood**	**1.98**	**243**	Pn	Pn	21 45 04.6	+0.1
WTFS	**Witchita Falls**	**2.28**	**188**	Pn	Pn	21 45 08.3	-0.3
U38A	**Gravette**	**3.03**	**81**	Pn	Pn	21 45 18.8	-0.1
HHAR	**Hobbs**	**3.38**	**84**	Pn	Pn	21 45 24.4	+0.8
HHAR				IAmb_Lg		21 46 18.4	
	comp=Z,5.3nm,1.0s						
SN07	**Snyder 07**	**3.73**	**219**	IAmb_Lg		21 46 29.5	
	comp=Z,7.6nm,1.1s						
HDIL	**Hopedale**	**8.27**	**54**	IAmb_Lg		21 49 01.0	
	comp=Z,19nm,1.2s						

*NNC **29** 21:47:25.7±0.8, 44°.24N×79°.74E, h0km, mb3.5, mpv2.7, Error ellipse: s-maj=5.7km s-min=2.4km az=58.0*

*SOME **29** 21:47:26.0, 44°.27N×79°.72E, h10km*

ISC 29 21:47:25.1±2.9, 44°27N±0°.08×79°8E±0°.1, h3km±13km, n10, σ0§25/19, 3C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNOS	**Konyrlen**	**0.46**	**282**	P	**Pg**	**21 47 34.1**	**+0.1**
	9.0nm,0.1s						
KNOS				S	**Sg**	**21 47 39.7**	**-0.3**
	5.8nm,0.1s						
PDGK	**Podgornoye**	**0.97**	**194**	⇑P	**Pg**	**21 47 43.5**	**-0.1**
	0.8nm,0.2s						
PDGK				⇑S	**Sg**	**21 47 56.6**	**+0.5**
	1.4nm,0.2s						
SHLS	**Shalkode**	**1.14**	**193**	P	**Pg**	**21 47 46.8**	**-0.1**
	1.4nm,0.1s						
SHLS				S	**Sg**	**21 48 01.7**	**+0.1**
	1.4nm,0.1s						
SHLS	**Shalkode**	**1.14**	**193**	*eP*	**Pg**	**21 47 46.8**	**-0.1**
	1.4nm,0.1s						
SHLS				*eS*	**Sg**	**21 48 01.7**	**+0.1**
	1.4nm,0.1s						
KPKS	**Kokpek**	**1.14**	**226**	P	**Pb**	**21 47 47.2**	**-0.3**
	0.2nm,0.1s						
KPKS				S	**Sb**	**21 48 02.4**	**-0.4**
	6.2nm,0.2s						
UZB	**Uzynbulak**	**1.26**	**207**	P	**Pg**	**21 47 49.3**	**+0.1**
	1.8nm,0.1s						
UZB				S	**Sb**	**21 48 05.9**	**-0.2**
	7.0nm,0.2s						
UZB	**Uzynbulak**	**1.26**	**207**	*eP*	**Pg**	**21 47 49.3**	**+0.1**
	1.8nm,0.1s						
UZB				*eS*	**Sb**	**21 48 05.9**	**-0.2**
	7.0nm,0.2s						
SATY	**Saty**	**1.58**	**221**	P	**Pb**	**21 47 54.9**	**0.0**
	2.3nm,0.1s						
SATY				S	**Sg**	**21 48 15.7**	**-0.1**
	10nm,0.1s						
KNDC	**Almaty**	**2.31**	**244**	⇓Pn	**Pn**	**21 48 04.0**	**0.0**
	8.1nm,0.6s						
KNDC				⇑Sn	**Sn**	**21 48 33.5**	**+0.4**
	4.3nm,0.6s						
KTBS	**Karatobe**	**2.32**	**257**	Pg	**Pb**	**21 48 07.8**	**+0.2**
	0.1nm,0.1s						
KTBS				Lg	Lg	21 48 37.7	
	2.4nm,0.4s						

*IDC **29** 22:15:38.2±2.5, 8°.40N×125°.68E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=190.1km s-min=27.9km az=65.0*

*DJA **29** 22:16:15.4±0.7, 6°.N±5°×12°7E±°, h143km±8km, M3.8/7, mb3.5/1, MLv3.9/7*

ISC 29 22:15:57.5±6.9, 6°.8N±0°.4×12°6E±°, h35km, n5, σ0§99/4, mb3.4/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**3.06**	**184**	P	Pn	22 16 51.2	+7.9
SGSI				S	**Sn**	**22 17 18.6**	**-0.1**
TNTI	**Ternate**	**6.17**	**164**	P	**Pn**	**22 17 26.3**	**+0.2**
WRA	**Warramunga Arr**	**27.86**	**162**	P	**P**	**22 21 43.1**	**-0.9**
	0.5nm,0.6s,baz=343,slow=10,SNR=5.8 0.5nm,0.6s						
ASAR	**Alice Springs**	**31.28**	**165**	P	**P**	**22 22 14.6**	**+0.3**
	0.3nm,0.5s,baz=345,slow=6.7,SNR=6.6 0.3nm,0.5s						
MKAR	**Makanchi Array**	**54.52**	**325**	P	P	22 24 58.0	-24
	0.2nm,0.4s,baz=112,slow=9.3,SNR=4.7 0.2nm,0.4s						

*NEIC **29** 22:41:14.7±1.2, 19°.22N±0°.03×67°.25W±0°.04, h10km±2km, ML3.7/21, Md3.4/22(RSPR), Error ellipse: s-maj=6.5km s-min=5.6km az=63.0*

*SDD **29** 22:41:15.3±2.8, 19°.33N×67°.14W, h21km±22km, MD3.2, ML3.5, MW3.8*

*RSPR **29** 22:41:18.3, 19°.26N×67°.24W, h26km±29km, MD3.4/22*

ISC 29 22:41:17.7±1.1, 19°.14N±0°.05×67°.24W±0°.02, h22km±8km, n72, σ1§07/93, 25C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.68**	**170**		**Pn**	**22 41 31.2**	**-0.8**
AGPR					**Sn**	**22 41 42.1**	**+0.2**
AGPR	**Aguadilla, PR**	**0.68**	**170**	⇑*iP*	**Pn**	**22 41 31.2**	**-0.8**
AGPR	**Aguadilla, PR**	**0.68**	**170**	*eS*	**Sn**	**22 41 42.1**	**+0.2**
IDE	**Isla Desecheo**	**0.78**	**197**		**Pn**	**22 41 32.6**	**-0.8**
IDE					**Sn**	**22 41 45.1**	**+0.7**
IDE	**Isla Desecheo**	**0.78**	**197**	⇑*iP*	**Pn**	**22 41 32.6**	**-0.8**
IDE	**Isla Desecheo**	**0.78**	**197**	*eS*	**Sn**	**22 41 45.1**	**+0.7**
AOPR	**Arecibo Observ**	**0.91**	**150**		**Pb**	**22 41 33.6**	**-1.2**
AOPR				IAML		22 41 59.1	
	comp=N,3µm,0.4s						
AOPR	**Arecibo Observ**	**0.91**	**150**	⇑*eP*	**Pb**	**22 41 34.1**	**-0.7**
AOPR	**Arecibo Observ**	**0.91**	**150**	⇑*ePg*	**Pb**	**22 41 33.8**	**-1.0**
AOPR				*i* S	**Sb**	**22 41 46.5**	**0.0**
AOPR				IAML		22 42 01.0	
	comp=N,2µm,0.3s						
PRSN	**Puerto Rico Se**	**0.92**	**174**		**Pb**	**22 41 34.3**	**-0.6**
PRSN					**Sn**	**22 41 48.8**	**+0.9**
PRSN	**Puerto Rico Se**	**0.92**	**174**	⇑*iP*	**Pb**	**22 41 34.3**	**-0.6**
PRSN	**Puerto Rico Se**	**0.92**	**174**	*eS*	**Sn**	**22 41 48.8**	**+0.9**
PRSN	**Puerto Rico Se**	**0.92**	**174**	⇑*ePg*	**Pb**	**22 41 33.3**	**-1.7**
PRSN				⇑*eSg*	**Sn**	**22 41 48.7**	**+0.9**
PRSN				IAML		22 41 51.8	
	comp=N,4µm,0.3s						
EMPR	**Esperanza - Ma**	**0.94**	**134**		**Pn**	**22 41 36.0**	**+0.5**
EMPR					**Sn**	**22 41 50.0**	**+1.7**
EMPR	**Esperanza - Ma**	**0.94**	**134**	⇑*eP*	**Pn**	**22 41 36.0**	**+0.5**
EMPR	**Esperanza - Ma**	**0.94**	**134**	*eS*	**Sn**	**22 41 50.0**	**+1.7**
LSP	**Las Mesas**	**0.97**	**171**		**Pn**	**22 41 35.2**	**-0.8**
LSP					**Sn**	**22 41 49.9**	**+0.9**
LSP	**Las Mesas**	**0.97**	**171**	⇓*iP*	**Pn**	**22 41 35.2**	**-0.8**
LSP	**Las Mesas**	**0.97**	**171**	*eS*	**Sn**	**22 41 49.9**	**+0.9**
UUPR	**Utuado, UPR, P**	**1.01**	**151**		**Pb**	**22 41 35.9**	**-0.5**
UUPR					**Sn**	**22 41 51.9**	**+1.9**
UUPR	**Utuado, UPR, P**	**1.01**	**151**	⇑*eP*	**Pb**	**22 41 35.9**	**-0.5**
UUPR	**Utuado, UPR, P**	**1.01**	**151**	*eS*	**Sn**	**22 41 51.9**	**+1.9**
CRPR	**Cabo Rojo, PR**	**1.13**	**174**		**Pn**	**22 41 37.1**	**-1.1**
CRPR				IAML		22 41 56.1	
	comp=N,1µm,0.7s						
CRPR				IAML		22 41 56.2	
	comp=E,1µm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.13**	**174**		**Sn**	**22 41 53.6**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.13**	**174**	⇑*iP*	**Pn**	**22 41 37.5**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.13**	**174**	*eS*	**Sn**	**22 41 53.6**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.13**	**174**	⇑*ePg*	**Pn**	**22 41 36.9**	**-1.3**
CRPR				⇑*eSg*	**Sb**	**22 41 53.8**	**+1.0**
CRPR				IAML		22 41 55.9	
	comp=N,1µm,1.0s						
ECPR	**Experimental S**	**1.16**	**134**	⇑*iP*	**Pb**	**22 41 38.1**	**-0.9**
ECPR	**Experimental S**	**1.16**	**134**	*eS*	**Sb**	**22 41 56.5**	**+2.8**
MLPR	**Magueyes Islan**	**1.18**	**171**	⇓*iP*	**Pn**	**22 41 38.1**	**-0.7**
MLPR	**Magueyes Islan**	**1.18**	**171**	*eS*	**Sn**	**22 41 54.6**	**+0.5**
MLPR	**Magueyes Islan**	**1.18**	**171**	⇑*ePg*	**Pn**	**22 41 38.0**	**-0.7**
MLPR				⇑*eSg*	**Sn**	**22 41 54.8**	**+0.7**
MLPR				IAML		22 41 55.7	
	comp=N,231nm,0.5s						
GBPR	**Guanica, Bosqu**	**1.20**	**163**		**Pn**	**22 41 38.9**	**-0.3**
GBPR	**Guanica, Bosqu**	**1.20**	**163**	⇑*eP*	**Pn**	**22 41 38.9**	**-0.3**
CELP	**Cerrillos**	**1.23**	**149**		**Pn**	**22 41 38.5**	**-1.1**
CELP					**Sn**	**22 41 55.4**	**-0.1**
CELP				IAML		22 41 59.3	
	comp=E,1µm,0.5s						
CELP				IAML		22 42 04.7	
	comp=N,2µm,0.6s						
CELP	**Cerrillos**	**1.23**	**149**	⇑*iP*	**Pb**	**22 41 39.4**	**-0.8**
CELP	**Cerrillos**	**1.23**	**149**	*eS*	**Sb**	**22 41 56.2**	**+0.6**
CELP	**Cerrillos**	**1.23**	**149**	⇑*ePg*	**Pn**	**22 41 38.9**	**-0.6**
CELP				⇑*eSg*	**Sb**	**22 41 56.8**	**+1.2**
CELP				IAML		22 41 57.1	
	comp=N,1µm,0.3s						
OBIP	**Obispado Ponce**	**1.24**	**151**		**Pn**	**22 41 39.1**	**-0.6**
OBIP					**Sb**	**22 41 56.5**	**+0.5**
OBIP				IAML		22 41 57.9	
	comp=E,1µm,0.7s						
OBIP				IAML		22 41 58.0	
	comp=N,1µm,0.6s						
OBIP	**Obispado Ponce**	**1.24**	**151**	⇓*iP*	**Pb**	**22 41 39.6**	**-0.9**
OBIP	**Obispado Ponce**	**1.24**	**151**	*eS*	**Sb**	**22 41 56.6**	**+0.5**
PCDR	**Punta Cana, DR**	**1.25**	**240**	⇑*ePg*	**Pb**	**22 41 39.4**	**-1.1**
PCDR				⇑*eSg*	**Sb**	**22 41 56.7**	**+0.6**
PCDR				IAML		22 41 57.7	
	comp=N,1µm,1.1s						
GCPR	**Guaynabo City**	**1.37**	**127**		**Pn**	**22 41 40.1**	**-1.4**
GCPR					**Sn**	**22 41 58.6**	**-0.3**
GCPR	**Guaynabo City**	**1.37**	**127**	⇑*eP*	**Pn**	**22 41 40.6**	**-0.9**
GCPR	**Guaynabo City**	**1.37**	**127**	*eS*	**Sn**	**22 41 58.6**	**-0.3**
SJG	**San Juan**	**1.45**	**134**		**Pn**	**22 41 41.7**	**-0.9**
SJG				IAML		22 42 10.4	
	comp=N,702nm,0.4s						
SJG				IAML		22 42 11.9	
	comp=N,1µm,0.4s						
SJG	**San Juan**	**1.45**	**134**	⇓*eP*	**Pb**	**22 41 42.4**	**-1.7**
SJG	**San Juan**	**1.45**	**134**	*eS*	**Sb**	**22 42 02.8**	**+0.8**
SJG	**San Juan**	**1.45**	**134**	⇑*ePg*	**Pn

GUY2C	**Guyana, Caldas**	**1.61**	**268**	P		Pn	22 42 44.7	0.0
GUY2C				S		Sn	22 43 06.5	-1.9
BRJC	**Barrancabermej**	**1.67**	**0**	P		Pn	22 42 44.8	-0.1
BRJC				S		Sn	22 43 09.6	+0.7
PRAC	**Prado**	**1.93**	**216**	P		Pn	22 42 47.4	-0.5
PRAC				S		Sn	22 43 13.2	-1.0
PTGC	**Puerto Gaitan,**	**1.94**	**124**	P		Pn	22 42 47.0	-0.9
PTGC				S		Sn	22 43 11.1	-3.2
HELC	**Santa Helena**	**1.98**	**297**	P		Pn	22 42 49.1	+0.3
HELC				S		Sn	22 43 14.9	-0.8
ORTC	**Ortega, Tolima**	**2.03**	**227**	P		Pn	22 42 48.5	-0.5
ORTC				S		Sn	22 43 15.0	-1.1
URMC	**La Uribe, Meta**	**2.12**	**197**	P		Pn	22 42 50.4	+0.2
URMC				S		Sn	22 43 17.9	-0.4
PAMC	**Pamplona, Colo**	**2.29**	**27**	P		Pn	22 42 52.4	-0.1
PAMC				S		Sn	22 43 21.9	-0.6
CBOC	**Ciudad Bolivar**	**2.32**	**284**	P		Pn	22 42 51.2	-1.4
CBOC				S		Sn	22 43 22.7	+0.1
ZARC	**Zaragoza, Cauc**	**2.45**	**333**	P		Pn	22 42 52.4	-1.6
ZARC				S		Sn	22 43 23.3	-1.9
OCAC	**Ocana**	**2.96**	**8**	P		Pn	22 43 00.2	-0.4
OCAC				S		Sn	22 43 36.7	-0.2
DBBC	**Dabeiba**	**2.99**	**305**	P		Pn	22 43 00.9	+0.1
DBBC				S		Sn	22 43 38.0	+0.7
UREC	**San Jos de Ur**	**3.02**	**324**	P		Pn	22 42 59.0	-2.2
UREC				S		Sn	22 43 35.3	-2.7
APAC	**Apartado, Choc**	**3.83**	**313**	P		Pn	22 43 11.5	0.0
APAC				S		Sn	22 43 56.0	-0.5
SJCC	**San Jacinto, C**	**4.79**	**343**	P		Pn	22 43 21.5	-2.8
SJCC				S		Sn	22 44 12.1	-7.3
CRJC	**Cerrejon, Guaj** 18nm,0.8s	**5.76**	**9**	P		Pn	22 43 35.4	-1.8
CRJC	18nm,0.8s			S		Sn	22 44 36.5	-6.0
URIC	**Uribia, Colomb**	**6.60**	**15**	P		Pn	22 43 46.3	-2.1
URIC				S		Sn	22 44 55.8	-6.8

*IDC **29** 22:47:34.5±4.1,36°.31N×70°.98E,h182^{km}±36^{km},mb3.4/12, mbtmp3.9/17,Error ellipse: s-maj=26.7km s-min=15.9km az=20.0*

*NEIC **29** 22:47:38.1±0.8,36°.63N±0°.03×70°.96E±0°.09, h208^{km}±7^{km}, mb4.2/6,Error ellipse: s-maj=10.8km s-min=3.8km az=94.0.*

ISC 29 22:47:36.2±0.7,**36°.57N**±0°.06×**71°.04E**±0°.07,**h188**^{km},**n57,** σ1^{s}**71**/63,**mb3.7**/12,**2C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.49**	**347**		**Pn**	**22 48 21.8**	**+2.5**
GAR				Sn	**Sn**	**22 48 53.4**	**+0.3**
CHGR	**Chuyangaron**	**2.56**	**325**		**Pn**	**22 48 22.3**	**+2.2**
KBL	**Kabul**	**2.60**	**219**		Pn	22 48 23.8	+3.1
SIMJ	**Simiganj**	**2.64**	**323**		**Pn**	**22 48 23.2**	**+2.2**
NIL	**Nilore**	**3.43**	**147**		Pn	22 48 34.3	+3.8
SRNI	**Srinagar**	**3.97**	**127**	*e*P	**Pn**	**22 48 37.6**	**+0.5**
SRNI				*e*S	**Sn**	**22 49 25.6**	**+0.7**
SRNI	comp=N,561nm,0.2s			IAML		22 49 28.4	
SRNI	comp=E,836nm,0.4s			IAML		22 49 28.8	
ARSB	**Arslanbob**	**4.98**	**17**		**Pn**	**22 48 51.7**	**+1.6**
JMU	**Jammu**	**4.99**	**139**	*e*P	**Pn**	**22 48 50.4**	**+0.2**
JMU				*e*S	**Sn**	**22 49 46.4**	**-1.9**
JMU	comp=N,437nm,0.8s			IAML		22 49 50.9	
JMU	comp=E,319nm,0.8s			IAML		22 49 51.6	
TSSA	**Tissa**	**5.62**	**130**	*e*P	**Pn**	**22 49 00.6**	**+2.0**
TSSA				*e*S	**Sn**	**22 50 02.8**	**-0.6**
TSSA	comp=N,357nm,0.4s			IAML		22 50 05.6	
TSSA	comp=E,305nm,0.5s			IAML		22 50 07.5	
UCH	**Uchtor** SNR=7.1	**6.26**	**24**	P	**Pn**	**22 49 08.9**	**+2.0**
EKS2	**Erkin-Say** SNR=31	**6.44**	**18**	P	**Pn**	**22 49 10.7**	**+1.7**
KK31	**Karatay Array**	**6.54**	**357**		**Pn**	**22 49 11.3**	**+1.1**
KK31	**Karatay Array** comp=E,5.7nm,0.2s,baz=182,slow=12,SNR=322	**6.54**	**357**	⇑Pn	**Pn**	**22 49 11.1**	**+0.9**
KK31	comp=E,16nm,0.4s,baz=178,slow=20,SNR=15			Sn	**Sn**	**22 50 19.7**	**-4.9**
KKAR	**Karatay Array**	**6.54**	**357**		**Pn**	**22 49 11.2**	**+1.0**
AAK	**Ala-Archa** SNR=12	**6.62**	**23**	P	**Pn**	**22 49 13.2**	**+1.8**
AAK	**Ala-Archa** comp=E,1.5nm,0.4s	**6.62**	**23**	⇓Pn	**Pn**	**22 49 12.5**	**+1.1**
AAK	comp=E,6.0nm,0.6s			⇑Sn	**Sn**	**22 50 25.2**	**-1.6**
AAK	**Ala-Archa** comp=E,8.2nm,0.3s,baz=166,slow=4.7,SNR=23	**6.62**	**23**	P	**Pn**	**22 49 12.9**	**+1.5**
AAK	comp=E,7.5nm,0.4s,baz=7.0,slow=22,SNR=11			S	**Sn**	**22 50 25.9**	**-0.8**
KBK	**Karagaybulak** SNR=14	**6.79**	**25**	P	**Pn**	**22 49 16.4**	**+2.8**
BHK	**Bhakra** comp=N,141nm,0.4s	**6.81**	**137**	IAML		22 50 31.4	
BHK	comp=E,131nm,0.4s			IAML		22 50 32.1	
BHK				*e*S	**Sn**	**22 50 36.1**	**+5.0**
FRU1	**Bishkek**	**6.82**	**23**	Pn	**Pn**	**22 49 15.8**	**+1.8**
BOOM	**Boomskoye usch**	**7.02**	**31**	Pn	**Pn**	**22 49 18.4**	**+1.8**
CHMS	**Chumysh** SNR=11	**7.03**	**23**	P	**Pn**	**22 49 17.8**	**+1.2**
USP	**Ospenovka** SNR=10	**7.20**	**21**	P	**Pn**	**22 49 20.3**	**+1.5**
TKM2	**Tokmak 2** SNR=7.0	**7.25**	**28**	P	**Pn**	**22 49 21.4**	**+1.7**
TARG	**Taragay, Kyrgy**	**7.36**	**44**	Pn	**Pn**	**22 49 23.0**	**+1.6**
SMLA	**Simla**	**7.44**	**135**	*e*P	**Pn**	**22 49 23.9**	**+1.8**
SMLA				*e*S	**Sn**	**22 50 43.8**	**-2.3**
SMLA	comp=N,91nm,0.2s			IAML		22 50 46.4	
SMLA	comp=E,157nm,0.6s			IAML		22 50 48.8	
DDI	**Dehra Dun**	**8.55**	**135**	*e*S	**Sn**	**22 51 10.7**	**-1.9**
DDI	comp=N,77nm,0.2s			IAML		22 51 13.7	
DDI	comp=E,91nm,0.8s			IAML		22 51 17.7	
JOSI	**Joshimath**	**9.30**	**128**	*e*S	**Sn**	**22 51 26.5**	**-4.1**
JOSI	comp=N,42nm,0.5s			IAML		22 51 29.0	
JOSI	comp=E,52nm,0.4s			IAML		22 51 31.9	
MAKZ	**Makanchi**	**13.08**	**35**	Pn	**Pn**	**22 50 35.6**	**+0.7**
MKAR	**Makanchi Array**	**13.22**	**36**	Pn	**Pn**	**22 50 38.2**	**+1.6**
MKAR	**Makanchi Array** comp=E,1.5nm,0.8s,baz=222,slow=13,SNR=10	**13.22**	**36**	P	**Pn**	**22 50 39.0**	**+2.3**
AB31	**Akbulak array**	**15.04**	**331**		**Pn**	**22 50 58.8**	**-0.3**
ABKAR	**Akbulak array**	**15.04**	**331**		**Pn**	**22 50 59.5**	**+0.4**
KURBB	**Kurchatov Arra** comp=E,0.5nm,0.5s,baz=205,slow=11,SNR=6.7	**15.05**	**19**	P	**P**	**22 51 01.1**	**+1.0**
EVN	**Everest**	**15.85**	**118**		**Pn**	**22 51 11.0**	**+1.1**
EVN	comp=Z,10nm,0.6s			IAmb	IAmb	22 51 11.8	
BVAR	**Borovoye Array** comp=Z,0.8nm,0.4s,baz=169,slow=14,SNR=9.3	**16.46**	**359**	P	**Pn**	**22 51 16.6**	**+0.3**
AKTO	**Aktyubinsk** comp=Z,1.2nm,0.4s,baz=138,slow=9.0,SNR=5.0	**16.74**	**330**	P	**Pn**	**22 51 19.9**	**+0.2**
ZAA0	**Zalesovo Array**	**19.84**	**25**		**P**	**22 51 52.9**	**+0.6**
ZAA0	comp=Z,2.3nm,0.7s			IAmb	IAmb	22 51 53.7	
ZALV	**Zalesovo Beam**	**19.84**	**25**		**P**	**22 51 51.9**	**-0.5**
ZALV	**Zalesovo Beam** comp=Z,1.8nm,0.4s,baz=222,slow=12,SNR=13 comp=Z,1.8nm,0.4s	**19.84**	**25**	P	**P**	**22 51 53.0**	**+0.6**
ARTI	**Arti** comp=Z,2.1nm,0.7s,baz=160,slow=8.0,SNR=3.7 comp=Z,2.1nm,0.7s	**21.59**	**341**	P	**P**	**22 52 12.0**	**+1.1**
SONM	**Songino Array** comp=Z,0.4nm,0.5s,baz=265,slow=10.0,SNR=1.9 comp=Z,0.4nm,0.5s	**28.27**	**55**	P	**P**	**22 53 13.1**	**+1.2**
ULN	**Ulaanbaatar**	**28.71**	**56**	P	**P**	**22 53 14.4**	**-1.4**
ULN	comp=Z,3.7nm,1.5s			IAmb	IAmb	22 53 50.6	
CHTO	**Chiang Mai**	**30.23**	**118**	P	**P**	**22 53 28.9**	**-0.4**
AKASG	**Malin Array Be** comp=Z,0.2nm,0.3s,baz=82,slow=6.9,SNR=4.6 comp=Z,0.2nm,0.3s	**32.93**	**309**	P	**P**	**22 53 52.9**	**+0.3**
FIA1	**FINESS Array S**	**37.44**	**326**	P	**P**	**22 54 31.7**	**+0.8**
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**22 54 31.6**	**+0.7**
FINES	**FINESS Array B** comp=Z,1.2nm,0.3s,baz=118,slow=9.5,SNR=24 comp=Z,1.2nm,0.3s	**37.44**	**326**	P	**P**	**22 54 31.5**	**+0.6**
KEV	**Kevo**	**40.75**	**338**	P	**P**	**22 54 58.5**	**+0.3**
KEV	comp=Z,42nm,1.5s			IAmb	IAmb	22 55 02.7	
ARCES	**ARCESS Array B** comp=Z,3.1nm,0.8s,baz=119,slow=8.0,SNR=16 comp=Z,3.1nm,0.8s	**41.09**	**338**	P	**P**	**22 55 01.9**	**+0.8**
HFS	**Hagfors** comp=Z,2.8nm,0.5s,baz=104,slow=11,SNR=15 comp=Z,2.8nm,0.5s	**43.03**	**322**	P	**P**	**22 55 17.0**	**+0.2**
NB2	**NORSAR Subarra** comp=Z,0.9nm,0.5s,baz=94,slow=7.9	**44.34**	**323**	P	**P**	**22 55 27.3**	**0.0**
NOA	**NORSAR Array B** comp=Z,1.5nm,0.6s,baz=97,slow=7.7,SNR=8.2 comp=Z,1.5nm,0.6s	**44.34**	**323**	P	**P**	**22 55 27.6**	**+0.3**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.4s,baz=49,slow=6.2,SNR=28 comp=Z,0.7nm,0.4s	**65.75**	**269**	P	**P**	**22 57 59.3**	**-1.8**
ILAR	**Eielson Array** comp=Z,0.4nm,0.7s,baz=323,slow=5.6,SNR=4.6 comp=Z,0.4nm,0.7s	**74.70**	**16**	P	**P**	**22 58 54.4**	**-0.3**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.3s,baz=317,slow=5.3,SNR=2.4 comp=Z,0.2nm,0.3s	**82.00**	**122**	P	**P**	**22 59 34.1**	**-1.2**
ASAR	**Alice Springs** comp=Z,0.6nm,0.7s,baz=313,slow=4.9,SNR=5.5 comp=Z,0.6nm,0.7s	**84.27**	**125**	P	**P**	**22 59 45.5**	**-1.3**

*NEIC **29** 22:48:04.5±0.7,19°.38N±0°.02×67°.30W±0°.06,h10^{km}±1^{km}, ML2.0/7,Md2.9/9(RSPR),Error ellipse: s-maj=9.1km s-min=3.0km az=256.0*

*SDD **29** 22:48:07.5±2.0,18°.86N×67°.18W,h152^{km}±22^{km},MD3.5, ML2.1,MW2.7*

*RSPR **29** 22:48:08.9,19°.33N×67°.37W,h32^{km}±17^{km},MD2.9/9*

ISC 29 22:48:08.6±1.8,**19°.27N**±0°.10×**67°.33W**±0°.05,**h33**^{km}±5^{km}, **n39,** σ0^{s}**69**/50,**15C-5D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.82**	**165**		**Pn**	**22 48 23.4**	**-0.5**
AGPR					**Sn**	**22 48 34.6**	**-0.3**
AGPR	**Aguadilla, PR**	**0.82**	**165**	⇓*i*P	**Pn**	**22 48 23.4**	**-0.5**
AGPR	**Aguadilla, PR**	**0.82**	**165**	*e*S	**Sn**	**22 48 34.6**	**-0.3**
IDE	**Isla Desecheo**	**0.88**	**189**		**Pn**	**22 48 24.7**	**-0.1**
IDE					**Sn**	**22 48 37.0**	**+0.5**
IDE	**Isla Desecheo**	**0.88**	**189**	⇑*i*P	**Pn**	**22 48 24.7**	**-0.1**
IDE	**Isla Desecheo**	**0.88**	**189**	*e*S	**Sn**	**22 48 37.0**	**+0.5**
PRSN	**Puerto Rico Se**	**1.06**	**170**	Pn	**Pn**	**22 48 26.9**	**-0.3**
PRSN					**Sn**	**22 48 41.2**	**+0.5**
AOPR	**Arecibo Observ**	**1.06**	**149**		**Pn**	**22 48 26.7**	**-0.6**
AOPR					**Sn**	**22 48 41.1**	**+0.2**
AOPR	**Arecibo Observ**	**1.06**	**149**	⇑*e*P	**Pn**	**22 48 26.7**	**-0.6**
AOPR	**Arecibo Observ**	**1.06**	**149**	*e*S	**Sn**	**22 48 41.1**	**+0.2**
AOPR	**Arecibo Observ**	**1.06**	**149**	⇑*e*Sg	**Sb**	**22 48 45.1**	**+2.9**
AOPR	comp=N,49nm,0.5s			IAML		22 48 52.8	
LSP	**Las Mesas**	**1.11**	**168**		**Pn**	**22 48 27.4**	**-0.5**
LSP					**Sb**	**22 48 44.1**	**+0.6**
LSP	**Las Mesas**	**1.11**	**168**	⇑*e*P	**Pn**	**22 48 27.4**	**-0.5**
LSP	**Las Mesas**	**1.11**	**168**	*e*S	**Sb**	**22 48 44.1**	**+0.6**
UUPR	**Utuado, UPR, P**	**1.16**	**150**		**Pn**	**22 48 28.5**	**-0.1**
UUPR					**Sb**	**22 48 44.4**	**-0.6**
UUPR	**Utuado, UPR, P**	**1.16**	**150**	⇑*e*P	**Pn**	**22 48 28.5**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.16**	**150**	*e*S	**Sb**	**22 48 44.4**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.27**	**170**		**Pn**	**22 48 29.6**	**-0.4**
CRPR					**Sn**	**22 48 45.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.27**	**170**	IAML		22 48 48.7	
CRPR	**Cabo Rojo, PR** comp=N,22nm,0.5s	**1.27**	**170**	⇑*e*P	**Pn**	**22 48 29.6**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.27**	**170**	*e*S	**Sn**	**22 48 45.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.27**	**170**	⇑*e*Pg	**Pn**	**22 48 30.1**	**+0.1**
CRPR				⇑*e*Sg	**Sn**	**22 48 46.4**	**+0.5**
CRPR	comp=N,23nm,0.7s			IAML		22 48 48.0	
ECPR	**Experimental S**	**1.31**	**136**	⇓*e*P	**Pn**	**22 48 31.1**	**+0.4**
ECPR	**Experimental S**	**1.31**	**136**	*e*S	**Sb**	**22 48 49.1**	**-0.3**
MLPR	**Magueyes Islan**	**1.32**	**168**	⇑*e*P	**Pn**	**22 48 30.3**	**-0.4**
MLPR	**Magueyes Islan**	**1.32**	**168**	*e*S	**Sn**	**22 48 47.2**	**+0.1**
MLPR	**Magueyes Islan**	**1.32**	**168**	⇑*e*Pg	**Pn**	**22 48 30.3**	**-0.4**
MLPR				⇑*e*Sg	**Sn**	**22 48 47.0**	**-0.1**
MLPR	comp=N,5.6nm,1.5s			IAML		22 48 47.9	
CELP	**Cerrillos**	**1.38**	**149**		**Pn**	**22 48 31.3**	**-0.3**
CELP					**Sn**	**22 48 49.2**	**+0.4**
CELP	**Cerrillos** comp=E,19nm,0.4s	**1.38**	**149**	IAML		22 48 51.4	
CELP	comp=N,24nm,0.4s			IAML		22 48 52.4	
CELP	**Cerrillos**	**1.38**	**149**	⇓*e*P	**Pn**	**22 48 31.3**	**-0.3**
CELP	**Cerrillos**	**1.38**	**149**	*e*S	**Sn**	**22 48 49.2**	**+0.4**
CELP	**Cerrillos**	**1.38**	**149**	⇑*e*Pg	**Pn**	**22 48 30.0**	**-1.6**
CELP				*e*Sg	**Sn**	**22 48 49.2**	**+0.4**
CELP	comp=N,25nm,0.3s			IAML		22 48 52.5	
OBIP	**Obispado Ponce**	**1.40**	**150**		**Pn**	**22 48 32.0**	**+0.2**
OBIP					**Sn**	**22 48 49.7**	**+0.6**
OBIP	**Obispado Ponce**	**1.40**	**150**	IAML		22 48 50.1	
OBIP	comp=E,19nm,0.6s			IAML		22 48 50.2	
OBIP	**Obispado Ponce**	**1.40**	**150**	⇓*e*P	**Pn**	**22 48 32.0**	**+0.2**
OBIP	**Obispado Ponce**	**1.40**	**150**	*e*S	**Sn**	**22 48 49.7**	**+0.6**
MIDR	**Miches**	**1.65**	**260**	⇑*e*Pg	**Pb**	**22 48 38.8**	**+0.4**
MIDR				⇑*e*Sg	**Sb**	**22 49 00.2**	**+1.4**
MIDR	comp=N,10.0nm,1.1s			IAML		22 49 24.3	
PDPR	**Patillas Dam,**	**1.75**	**135**	⇓*e*P	**Pn**	**22 48 37.1**	**+0.4**
HATOM	**Hato Mayor del**	**2.00**	**257**	⇑*e*Pg	**Pb**	**22 48 42.8**	**-1.6**
HATOM				⇑*e*Sg	**Sb**	**22 49 09.1**	**+0.3**
HATOM	comp=N,9.8nm,1.8s			IAML		22 49 24.0	

*CATAC **29** 23:08:57.3±1.1, 13°.N±5°.×9°.0W±°., h5^{km}±5^{km}, M4.1/19, MLv4.1/19, Error ellipse: s-maj=12.3km s-min=5.4km az=30.4, confirmed*

*NEIC **29** 23:08:57.5±2.3, 12°.80N±0°.06×90°.25W±0°.05, h10^{km}±2^{km}, mb4.2/34, Error ellipse: s-maj=11.0km s-min=8.3km az=199.0*

*SNET **29** 23:08:58.4±1.2, 12°.82N×90°.26W, h10^{km}, ML4.0*

*IDC **29** 23:08:59.1±1.2, 13°.69N×89°.59W, h0^{km}, mb3.7/7, mbtmp3.8/9,ML3.5/2, MS3.5/2, Error ellipse: s-maj=40.4km s-min=18.9km az=44.0*

*GCG **29** 23:09:00.0±0.9, 13°.00N×90°.38W, h18^{km}±8^{km}, MD4.7, ML3.9*

*UCR **29** 23:09:04.5±0.9, 13°.01N×89°.78W, h10^{km}, MW4.0*

ISC 29 23:08:58.1±1.6,**12.89N**±0°.05×**90.24W**±0°.04,**h15**^{km}±9^{km}, **n143,** σ1^{s}**50**/151,**mb4.2**/22,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.98**	**13**	P	**Pn**	**23 09 17.8**	**+0.4**
FAME	**Alcaldia de Sa**	**0.98**	**13**	S	**Sn**	**23 09 32.9**	**+2.0**
LALI	**Alcalda de L**	**1.08**	**56**	*e*P	**Pn**	**23 09 19.9**	**+1.3**
LALI	**Alcalda de L**	**1.08**	**56**	*e*P	**Pn**	**23 09 20.1**	**+1.4**
LALI	**Alcalda de L**	**1.08**	**56**	S	**Sn**	**23 09 35.0**	**+1.6**
LALI	**Alcalda de L**	**1.08**	**56**	P	**Pn**	**23 09 19.8**	**+1.2**
JAYA	**Jayaque - finc**	**1.09**	**45**	*e*P	**Pn**	**23 09 20.1**	**+1.1**
JAYA	**Jayaque - finc**	**1.09**	**45**	*e*P	**Pn**	**23 09 19.6**	**+0.7**
JAYA				*e*S	**Sn**	**23 09 35.5**	**+1.7**
JAYA	**Jayaque - finc**	**1.09**	**45**	P	**Pn**	**23 09 19.6**	**+0.7**
JAYA	**Jayaque - finc**	**1.09**	**45**	S	**Sn**	**23 09 36.9**	**+3.1**
NUBE	**Las Nubes**	**1.11**	**24**	*e*P	**Pn**	**23 09 19.4**	**+0.2**
NUBE	**Las Nubes**	**1.11**	**24**	*i* P	**Pn**	**23 09 19.5**	**+0.3**
NUBE				*e*S	**Sn**	**23 09 35.1**	**+0.8**
NUBE	**Las Nubes**	**1.11**	**24**	S	**Sn**	**23 09 36.6**	**+2.2**
NUBE	**Las Nubes**	**1.11**	**24**	P	**Pn**	**23 09 19.9**	**+0.7**
CEVE	**Cerro Verde**	**1.11**	**33**	*e*P	**Pn**	**23 09 20.4**	**+1.0**
CEVE	**Cerro Verde**	**1.11**	**33**	P	**Pn**	**23 09 20.5**	**+1.1**
CEVE	**Cerro Verde**	**1.11**	**33**	S	**Sn**	**23 09 37.3**	**+2.6**
SBLS	**San Blas**	**1.12**	**32**	*e*P	**Pn**	**23 09 20.3**	**+0.7**
SNJE	**San Jose**	**1.16**	**32**	*e*P	**Pn**	**23 09 20.6**	**+0.7**
SNJE				*e*P	**Pb**	**23 09 20.8**	**+0.9**
RTR	**El Retiro**	**1.16**	**30**	*e*P	**Pn**	**23 09 20.8**	**+0.8**
LOAL	**Lomas de Alarc**	**1.19**	**22**	S	**Sn**	**23 09 38.9**	**+2.6**
LOAL	**Lomas de Alarc**	**1.19**	**22**	P	**Pn**	**23 09 21.3**	**+0.9**
PMON	**Piamonte**	**1.22**	**48**	*e*P	**Pn**	**23 09 21.7**	**+1.0**
PMON	**Piamonte**	**1.22**	**48**	P	**Pn**	**23 09 22.1**	**+1.3**
ITCA	**Escuela Especi**	**1.22**	**50**	P	**Pn**	**23 09 22.6**	**+1.9**
CEDA	**San Andres**	**1.23**	**42**	*e*P	**Pn**	**23 09 22.1**	**+1.2**
CEDA				*e*S	**Sn**	**23 09 39.8**	**+2.6**
BOQS	**Boqueron**	**1.26**	**48**	*e*P	**Pn**	**23 09 22.9**	**+1.5**
PANCS	**Alcalda de**	**1.26**	**55**	P	**Pg**	**23 09 22.6**	**+0.2**
PANCS	**Alcalda de**	**1.26**	**55**	S	**Sn**	**23 09 41.6**	**+3.6**
UEES	**Universidad Ev**	**1.28**	**50**	*e*P	**Pg**	**23 09 22.6**	**-0.1**
UEES	**Universidad Ev**	**1.28**	**50**	P	**Pg**	**23 09 22.7**	**-0.1**
UNIC	**Universidad Ca**	**1.28**	**32**	*e*P	**Pg**	**23 09 22.6**	**-0.2**
UNIC	**Universidad Ca**	**1.28**	**32**	P	**Pg**	**23 09 22.7**	**-0.1**
PIC2	**El Picacho**	**1.28**	**48**	*e*P	**Pg**	**23 09 23.8**	**+0.9**
LOMA	**Loma Larga**	**1.29**	**54**	*e*P	**Pn**	**23 09 22.2**	**+0.5**
LOMA	**Loma Larga**	**1.29**	**54**	P	**Pn**	**23 09 22.4**	**+0.7**
IGN	**Direccin Gen**	**1.33**	**52**	P	**Pg**	**23 09 23.7**	**-0.1**
RBDL	**Robledal**	**1.33**	**24**	*e*P	**Pg**	**23 09 23.4**	**-0.5**
UDBS	**Universidad Do**	**1.34**	**52**	P	**Pg**	**23 09 24.0**	**+0.1**
LFRS	**El Faro**	**1.36**	**57**	*e*P	**Pn**	**23 09 23.3**	**+0.6**
LFU	**La Fuente**	**1.39**	**52**	*e*P	**Pb**	**23 09 24.4**	**+0.5**
FG16	**Alotenango, Sa**	**1.40**	**349**	*e*P	**Pg**	**23 09 27.2**	**+2.0**
LBRS	**Las Brisas**	**1.44**	**54**	*e*P	**Pn**	**23 09 25.0**	**+1.2**
PAVA	**Las Pavas**	**1.51**	**57**	*e*P	**Pn**	**23 09 26.1**	**+1.4**
PAVA	**Las Pavas**	**1.51**	**57**	P	**Pb**	**23 09 26.3**	**+0.4**
TECO	**Alcaldia de Te**	**1.56**	**65**	*e*P	**Pn**	**23 09 25.7**	**+0.3**
TECO	**Alcaldia de Te**	**1.56**	**65**	P	**Pn**	**23 09 26.2**	**+0.8**
UESV	**Universidad de**	**1.60**	**62**	P	**Pn**	**23 09 27.2**	**+1.2**
UESV	**Universidad de**	**1.60**	**62**	S	**Sb**	**23 09 49.1**	**+1.6**
SCLA	**Alcaldia de Sa**	**1.68**	**61**	*e*P	**Pn**	**23 09 28.0**	**+1.0**
MTO3	**Montecristo**	**1.73**	**30**		**Pn**	**23 09 29.1**	**+1.2**
MTO3					**Sn**	**23 09 52.5**	**-1.4**
MTO3	**Montecristo**	**1.73**	**30**	*e*P	**Pb**	**23 09 29.6**	**-0.2**
MTO3	**Montecristo**	**1.73**	**30**	*e*P	**Pb**	**23 09 29.2**	**-0.5**
MTO3	**Montecristo**	**1.73**	**30**	P	**Pb**	**23 09 29.8**	**-0.2**
MTO3	**Montecristo**	**1.73**	**30**	S	**Sg**	**23 09 54.2**	**+0.3**
TECA	**Tecapa**	**1.80**	**70**	*e*P	**Pn**	**23 09 29.4**	**+0.6**
ESQI	**Esquipulas**	**1.88**	**28**		**Pb**	**23 09 31.6**	**-0.6**
ESQI					**Sb**	**23 09 55.4**	**-0.2**
ESQI	**Esquipulas**	**1.88**	**28**	*e*P	**Pb**	**23 09 31.9**	**-0.3**
ESQI	**Esquipulas**	**1.88**	**28**	P	**Pb**	**23 09 32.4**	**+0.2**
PACA	**Pacayal**	**1.96**	**73**	P	**Pn**	**23 09 33.1**	**+2.2**
LCY	**Lacayo**	**1.97**	**74**	*e*P	**Pn**	**23 09 32.1**	**+1.1**
RANC	**El Ranchito**	**1.98**	**74**	*e*P	**Pn**	**23 09 32.0**	**+0.8**
VSM	**San Miguel**	**1.99**	**74**	*e*P	**Pn**	**23 09 32.7**	**+1.2**
RTAL	**Retalhuleu**	**2.16**	**319**		**Pn**	**23 09 35.0**	**+1.5**
RTAL					**Sn**	**23 10 01.6**	**-1.9**
LCND	**La Caada**	**2.33**	**79**	*e*P	**Pn**	**23 09 36.8**	**+0.9**
LCND	**La Caada**	**2.33**	**79**	P	**Pn**	**23 09 37.1**	**+1.2**
CNCH	**Conchagua**	**2.38**	**80**	*e*P	**Pn**	**23 09 37.4**	**+0.7**
CNCH	**Conchagua**	**2.38**	**80**	P	**Pn**	**23 09 38.4**	**+1.7**
MARCA	**Marcala la Paz**	**2.49**	**59**	*e*P	**Pn**	**23 09 40.6**	**+2.4**
POTN	**Potosi Cosigui**	**2.67**	**87**	P	**Pn**	**23 09 41.6**	**+1.0**
HUEH	**Huehuetenango**	**2.71**	**333**	Pn	**Pn**	**23 09 42.9**	**+1.5**
TGUH	**Tegucigalpa,Un**	**3.11**	**68**		**Pn**	**23 09 47.8**	**+0.9**
HERN	**Volcan Telica**	**3.34**	**94**	Pn	**Pn**	**23 09 52.6**	**+2.8**
CNGN	**Cerro Negro**	**3.48**	**96**		**Pn**	**23 09 51.9**	**+0.1**
CCIG	**Comitan**	**3.84**	**332**	Pn	**Pn**	**23 09 59.9**	**+3.0**
PETF	**Flores**	**4.02**	**5**	Pn	**Pn**	**23 10 01.3**	**+2.0**
ELI1	**Hacienda Flor**	**5.10**	**115**	*e*P	**Pn**	**23 10 16.0**	**+2.0**
ALIBA	**Liberia Airpor**	**5.13**	**116**	*e*P	**Pn**	**23 10 16.4**	**+2.0**
ALIBA				*e*S	**Sn**	**23 11 13.9**	**+0.4**
JUD3	**Juan Diaz 3**	**5.34**	**120**	*e*P	**Pn**	**23 10 18.5**	**+1.1**
MESS	**Mesas**	**5.38**	**113**	*e*P	**Pn**	**23 10 20.1**	**+2.2**
SIUN	**Universidad Ur**	**5.39**	**81**		**Pn**	**23 10 19.1**	**+1.1**
HORNC	**Hornillas**	**5.41**	**113**	*e*P	**Pn**	**23 10 19.8**	**+1.4**
PLVR	**Palo Verde**	**5.41**	**117**	*e*P	**Pn**	**23 10 20.2**	**+1.7**
VMAR	**Armenia, Volca**	**5.43**	**112**	*e*P	**Pn**	**23 10 19.2**	**+0.7**
CUI	**Cuipilapa**	**5.44**

MDND	**Maddock**	**35.72**	**349**	P	**P**	**23**	**15**	**55.8 -0.4**
LPAZ	**La Paz**	**36.31**	**142**	P	P	23	16	08.5 +6.4
	comp=Z,0.8nm,0.7s,baz=325,slow=7.2,SNR=3.7							
	comp=Z,0.8nm,0.7s							
MCMT	**McKenzie Canyo**	**37.23**	**333**		**P**	**23**	**16**	**08.5 -0.8**
J08A	**Circle Bar Ran**	**38.90**	**327**	P	**P**	**23**	**16**	**22.8 -0.5**
J08A				IAmb	IAmb	23	16	33.4
	comp=Z,6.3nm,1.2s							
SCHQ	**Schefferville**	**45.69**	**19**	P	**P**	**23**	**17**	**15.7 -2.7**
	comp=Z,28nm,0.5s,baz=210,slow=5.8,SNR=12							
ILAR	**Eielson Array**	**64.53**	**337**	P	**P**	**23**	**19**	**33.4 -0.8**
	comp=Z,1.1nm,1.1s,baz=93,slow=6.0,SNR=5.4							
	comp=Z,1.1nm,1.1s							
EKA	**Eskdalemuir Ar**	**77.86**	**36**	P	P	23	20	51.6 -3.5
	comp=Z,1.1nm,0.7s,baz=279,slow=4.8,SNR=5.9							
	comp=Z,1.1nm,0.7s							
ESDC	**Sonseca Array**	**79.06**	**52**	P	**P**	**23**	**21**	**00.1 -2.0**
	comp=Z,0.5nm,0.8s,baz=276,slow=5.2,SNR=3.2							
	comp=Z,0.5nm,0.8s							
WRA	**Warramunga Arr**	**136.76**	**255**	PKP	**PKiKP**	**23**	**28**	**26.5 +3.8**
	comp=Z,0.3nm,0.7s,baz=88,slow=2.8,SNR=1.8							
CMAR	**Chiang Mai Arr**	**147.56**	**344**	PKPbc	**PKPdf**	**23**	**28**	**42.9 +2.7**
	comp=Z,1.5nm,0.3s,baz=344,slow=3.6,SNR=10							

IDC 29 23:23:14.6±2.3, 30°42S×178°55W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=64.0km s-min=41.1km az=39.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
ASAR	**Alice Springs**	**42.63**	**267**	P	P	23	31	12.7	-0.3
	1.0nm,0.7s,baz=105,slow=7.5,SNR=9.0								
	1.0nm,0.7s								
WRA	**Warramunga Arr**	**43.62**	**272**	P	P	23	31	21.3	+0.3
	1.9nm,0.5s,baz=113,slow=7.8,SNR=16								
	1.9nm,0.5s								
QSPA	**South Pole Qui**	**59.69**	**180**	P	P	23	33	20.8	+0.2
	0.4nm,0.5s,baz=47,slow=9.1,SNR=1.3								
	0.4nm,0.5s								
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	23	42	50.9	-1.5
	1.7nm,0.9s,baz=24,slow=3.8,SNR=3.8								

*KRNET **29** 23:35:29.3±0.1, 42°.01N×74°.68E, h18km, mb3.1*
*KNET **29** 23:35:29.7±0.5, 42°.06N×74°.69E, h19km±2km, ml2.4, Error ellipse: s-maj=4.0km s-min=2.0km az=31.0*
*SOME **29** 23:35:31.1, 42°.05N×74°.63E, h10km*
*NNC **29** 23:35:31.9±1.2, 42°.11N×74°.53E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=7.9km s-min=4.7km az=39.0*

ISC 29 23:35:28.7±0.9, 42°.01N±0°.02×74°.64E±0°.02, h18km±7km, n55, σ1°9⁄10/95, 39C-17D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
UCH	**Uchtor**	**0.24**	**336**	⇑P	**Pb**	**23**	**35**	**34.7**	**-0.1**
	142nm,0.1s,SNR=452								
UCH	**Uchtor**	**0.24**	**336**	⇓*i*P	**Pg**	**23**	**35**	**34.5**	**-0.1**
UCH				⇓*i*S	**Sg**	**23**	**35**	**38.3**	**-0.3**
AAK	**Ala-Archa**	**0.64**	**350**	⇓P	**Pb**	**23**	**35**	**41.8**	**+0.3**
	22nm,0.1s,SNR=21								
AAK				⇑S	**Sb**	**23**	**35**	**50.4**	**+0.3**
	268nm,0.3s								
AAK	**Ala-Archa**	**0.64**	**350**	⇑P	**Pb**	**23**	**35**	**41.6**	**+0.2**
	2.0nm,0.3s								
AAK				⇑S	**Sg**	**23**	**35**	**49.8**	**-0.1**
	10nm,0.3s								
AAK	**Ala-Archa**	**0.64**	**350**	⇑*i*P	**Pb**	**23**	**35**	**41.5**	**0.0**
AAK				⇑*i*S	**Sb**	**23**	**35**	**50.4**	**+0.3**
KBK	**Karagaybulak**	**0.69**	**19**	⇑P	**Pb**	**23**	**35**	**42.2**	**-0.1**
	36nm,0.1s,SNR=40								
KBK				⇓S	**Sb**	**23**	**35**	**51.7**	**+0.1**
	400nm,0.3s								
KBK	**Karagaybulak**	**0.69**	**19**	⇑*i*P	**Pb**	**23**	**35**	**42.3**	**-0.1**
KBK				⇑*i*S	**Sb**	**23**	**35**	**51.7**	**+0.1**
FRU1	**Bishkek**	**0.80**	**359**	⇑*i*P	**Pn**	**23**	**35**	**44.9**	**-0.4**
FRU1				⇑*i*S	**Sn**	**23**	**35**	**56.2**	**-0.6**
EKS2	**Erkin-Say**	**0.92**	**316**	⇑P	**Pn**	**23**	**35**	**47.2**	**+0.3**
	11nm,0.2s,SNR=13								
EKS2				⇑S	**Sn**	**23**	**35**	**59.7**	**0.0**
	38nm,0.1s								
EKS2	**Erkin-Say**	**0.92**	**316**	⇑*i*P	**Pg**	**23**	**35**	**46.8**	**+0.2**
EKS2				⇑*i*S	**Sn**	**23**	**35**	**59.5**	**-0.2**
CHMS	**Chumysh**	**0.99**	**5**	⇓P	**Pn**	**23**	**35**	**48.3**	**+0.4**
	16nm,0.1s,SNR=35								
CHMS				⇓S	**Sn**	**23**	**36**	**01.1**	**-0.3**
	69nm,0.1s								
CHMS	**Chumysh**	**0.99**	**5**	⇑*i*P	**Pg**	**23**	**35**	**47.8**	**-0.2**
CHMS				⇑*i*S	**Sn**	**23**	**36**	**01.2**	**-0.3**
BOOM	**Boomskoye usch**	**1.08**	**63**	⇑*i*P	**Pn**	**23**	**35**	**49.0**	**-0.1**
BOOM				⇑*i*S	**Sg**	**23**	**36**	**03.3**	**-0.5**
TKM2	**Tokmak 2**	**1.15**	**37**	⇓P	**Pg**	**23**	**35**	**50.7**	**-0.3**
	7.3nm,0.1s,SNR=19								
TKM2				⇓S	**Sn**	**23**	**36**	**05.8**	**+0.1**
	13nm,0.1s								
TKM2	**Tokmak 2**	**1.15**	**37**	⇓*i*P	**Pn**	**23**	**35**	**50.4**	**+0.2**
TKM2				⇓*i*S	**Sn**	**23**	**36**	**05.8**	**+0.1**
ULHL	**Ulahol**	**1.21**	**78**	⇓P	**Pg**	**23**	**35**	**51.7**	**-0.5**
	8.6nm,0.1s,SNR=36								
ULHL				⇑S	**Sn**	**23**	**36**	**07.2**	**0.0**
	23nm,0.1s								
ULHL	**Ulahol**	**1.21**	**78**	⇑*i*P	**Pb**	**23**	**35**	**51.3**	**0.0**
ULHL				⇑*i*S	**Sg**	**23**	**36**	**07.4**	**-0.7**
USP	**Ospenovka**	**1.26**	**355**	⇓P	**Pg**	**23**	**35**	**53.2**	**+0.1**
	24nm,0.2s,SNR=30								
USP				⇑S	**Sg**	**23**	**36**	**09.6**	**0.0**
	71nm,0.2s								
USP	**Ospenovka**	**1.26**	**355**	⇑*i*P	**Pg**	**23**	**35**	**52.6**	**-0.5**
USP				⇑*i*S	**Sg**	**23**	**36**	**09.6**	**0.0**
MRKS	**Merke**	**1.28**	**305**	P	**Pg**	**23**	**35**	**53.7**	**+0.2**
	6.7nm,0.1s								
MRKS				S	**Sg**	**23**	**36**	**09.9**	**-0.4**
	52nm,0.2s								
MRKS	**Merke**	**1.28**	**305**	*e*P	**Pg**	**23**	**35**	**53.7**	**+0.2**
	6.7nm,0.1s								
MRKS				*e*S	**Sg**	**23**	**36**	**10.3**	**+0.1**
	52nm,0.2s								
SALK	**Salom-Alik**	**1.28**	**209**	⇑*i*P	**Pg**	**23**	**35**	**53.3**	**-0.2**
SALK				⇑*i*S	**Sg**	**23**	**36**	**10.9**	**+0.6**
ARSB	**Arslanbob**	**1.42**	**242**	⇑*i*P	**Pg**	**23**	**35**	**55.9**	**-0.2**
ARSB				⇑*i*S	**Sg**	**23**	**36**	**15.3**	**+0.7**
KST	**Kastek**	**1.42**	**43**	*e*P	**Pg**	**23**	**35**	**58.8**	**+2.7**
	7.3nm,0.3s								
KST				*e*S	**Sg**	**23**	**36**	**20.3**	**+5.6**
	37nm,0.3s								
SGDS	**Sogindy**	**1.44**	**360**	P	**Pg**	**23**	**35**	**56.4**	**-0.1**
	7.5nm,0.1s								
SGDS				S	**Sg**	**23**	**36**	**14.4**	**-1.0**
	49nm,0.2s								
MTBS	**Maitube**	**1.73**	**49**	P	**Pg**	**23**	**36**	**02.6**	**+0.5**
	4.3nm,0.2s								
MTBS				S	**Sg**	**23**	**36**	**24.6**	**+0.1**
	17nm,0.2s								
MTBS	**Maitube**	**1.73**	**49**	*e*P	**Pg**	**23**	**36**	**02.6**	**+0.5**
	4.3nm,0.2s								
MTBS				*e*S	**Sg**	**23**	**36**	**25.5**	**+0.9**
	17nm,0.2s								
KRBS	**Karabastau**	**1.85**	**24**	P	**Pg**	**23**	**36**	**03.9**	**-0.3**
	13nm,0.2s								
KRBS				S	**Sg**	**23**	**36**	**27.1**	**-1.2**
	68nm,0.3s								
KDJ	**Kajisay**	**1.89**	**85**	⇑*i*P	**Pb**	**23**	**36**	**03.4**	**+0.5**
KDJ				⇑*i*S	**Sg**	**23**	**36**	**28.3**	**-1.4**
TNSS	**Tian-Shan**	**1.99**	**58**	P	**Pg**	**23**	**36**	**08.1**	**+1.1**
	5.3nm,0.3s								
TNSS				S	**Sg**	**23**	**36**	**34.0**	**+1.1**
	5.3nm,0.2s								
TNSS	**Tian-Shan**	**1.99**	**58**	*e*P	**Pg**	**23**	**36**	**08.1**	**+1.1**
	5.3nm,0.3s								
TNSS				*e*S	**Sg**	**23**	**36**	**34.7**	**+1.8**
	5.3nm,0.2s								
ARK	**Arkit**	**2.01**	**265**	⇓*i*P	**Pb**	**23**	**36**	**05.5**	**+0.6**
ARK				⇓*i*S	**Sb**	**23**	**36**	**31.9**	**+2.3**
KNDC	**Almaty**	**2.10**	**54**	⇑Pn	**Pg**	**23**	**36**	**11.8**	**+2.8**
	12nm,0.3s								
KNDC				⇓Sn	**Sg**	**23**	**36**	**38.9**	**+2.7**
	22nm,0.4s								
MDOK	**Medeo**	**2.12**	**56**	Pg	**Pg**	**23**	**36**	**09.7**	**+0.3**
	5.2nm,0.2s								
MDOK				Lg	Lg	23	36	37.0	
	20nm,0.6s								
SFK	**Sufi-Kurgan**	**2.17**	**204**	⇑*i*P	**Pb**	**23**	**36**	**07.6**	**-0.1**
SFK				⇑*i*S	**Sb**	**23**	**36**	**35.6**	**+1.2**
KOTS	**Kotyrbulak**	**2.20**	**55**	Pg	**Pg**	**23**	**36**	**11.5**	**+0.6**
	12nm,0.3s								
KOTS				Lg	Lg	23	36	40.2	
	28nm,0.4s								
KOTS	**Kotyrbulak**	**2.20**	**55**	*e*P	**Pg**	**23**	**36**	**11.5**	**+0.6**
	12nm,0.3s								
KOTS				*e*S	**Sg**	**23**	**36**	**40.2**	**+0.8**
	28nm,0.4s								
KUU	**Kurty**	**2.26**	**33**	Pg	**Pg**	**23**	**36**	**11.5**	**-0.5**
	13nm,0.2s								
KUU				Lg	Lg	23	36	39.9	
	65nm,0.4s								
KUU	**Kurty**	**2.26**	**33**	*e*P	**Pg**	**23**	**36**	**11.5**	**-0.5**
	13nm,0.2s								
KUU				*e*S	**Sg**	**23**	**36**	**39.9**	**-1.5**
	65nm,0.4s								
KTBS	**Karatobe**	**2.27**	**41**	Pg	**Pg**	**23**	**36**	**11.6**	**-0.7**
	8.1nm,0.4s								
KTBS				Lg	Lg	23	36	40.4	
	55nm,0.4s								
CHKK	**Chushkaly**	**2.52**	**42**	Pg	**Pg**	**23**	**36**	**16.9**	**-0.3**
	9.4nm,0.3s								
CHKK				Lg	Lg	23	36	49.2	
	37nm,0.2s								
CHKK	**Chushkaly**	**2.52**	**42**	*e*P	**Pg**	**23**	**36**	**16.9**	**-0.3**
	9.4nm,0.3s								
CHKK				*e*S	**Sg**	**23**	**36**	**49.2**	**-0.7**
	37nm,0.2s								
DZA	**Taraz**	**2.60**	**291**	*e*P	**Pg**	**23**	**36**	**19.0**	**+0.3**
	12nm,0.1s								
DZA				*e*S	**Sg**	**23**	**36**	**53.3**	**+0.8**
	128nm,0.4s								
TRKS	**Terek-Say**	**2.66**	**261**	⇑*i*P	**Pb**	**23**	**36**	**14.5**	**-1.5**
TRKS				⇑*i*S	**Sb**	**23**	**36**	**47.4**	**-1.0**
PRZ	**Przheval'sk**	**2.83**	**79**	⇓*i*P	**Pb**	**23**	**36**	**16.3**	**-2.6**
PRZ				⇓*e*S	**Sb**	**23**	**36**	**50.6**	**-2.6**
SATY	**Saty**	**2.97**	**68**	Pg	**Pg**	**23**	**36**	**25.7**	**0.0**
	7.2nm,0.2s								
SATY				Lg	Lg	23	37	04.5	
	14nm,0.2s								
KURS	**Kuram**	**2.99**	**59**	Pg	**Pg**	**23**	**36**	**25.5**	**-0.5**
	7.2nm,0.8s								
KURS				Lg	Lg	23	37	04.1	
	9.4nm,0.6s								
KK31	**Karatay Array**	**3.24**	**291**	Pg	**Pg**	**23**	**36**	**30.8**	**-0.1**
	1.0nm,0.2s,baz=112,slow=16,SNR=14								
KK31				⇑Lg	Lg	23	37	09.9	
	5.3nm,0.2s,baz=112,slow=28,SNR=22								
KPKS	**Kokpek**	**3.31**	**63**	Pg	**Pg**	**23**	**36**	**30.9**	**-1.3**
	0.4nm,0.1s								
KPKS				Lg	Lg	23	37	13.7	
	7.4nm,0.3s								
UZB	**Uzynbulak**	**3.43**	**69**	Pg	**Pg**	**23**	**36**	**34.0**	**-0.4**
	2.9nm,0.2s								
UZB				Lg	Lg	23	37	18.9	
	5.7nm,0.3s								
UZB	**Uzynbulak**	**3.43**	**69**	*e*P	**Pg**	**23**	**36**	**34.0**	**-0.4**
	2.9nm,0.2s								
UZB				*e*S	**Sg**	**23**	**37**	**18.9**	**+0.1**
	5.7nm,0.3s								
BRLS	**Borolday**	**3.70**	**288**	*e*P	**Pg**	**23**	**36**	**38.9**	**-0.7**
	1.5nm,0.2s								
BRLS				*e*S	**Sg**	**23**	**37**	**27.5**	**+0.1**
	9.4nm,0.3s								
SHLS	**Shalkode**	**3.74**	**71**	Pg	Pg	23	36	45.1	+4.7
	2.4nm,0.3s								
SHLS				Lg	Lg	23	37	37.6	
	12nm,0.6s								
SHLS	**Shalkode**	**3.74**	**71**	*e*P	Pg	23	36	45.1	+4.7
	2.4nm,0.3s								
SHLS				*e*S	Sg	23	37	37.6	+8.8
	12nm,0.6s								
PDGK	**Podgornoye**	**3.81**	**68**	⇑Pg	**Pg**	**23**	**36**	**41.5**	**-0.3**
	3.0nm,0.6s								
PDGK				⇑Sn	**Sb**	**23**	**37**	**23.9**	**+2.5**
	4.5nm,0.5s								

*NEIC **29** 23:55:34.6±1.1, 19°.08N±0°.04×67°.06W±0°.03, h10km±2km, ML2.9/17, Md2.9/19(RSPR), Error ellipse: s-maj=6.6km s-min=4.1km az=182.0*
*SDD **29** 23:55:34.7±2.1, 19°.15N×67°.06W, h17km±54km, MD3.6, ML2.9, MW3.2*
*RSPR **29** 23:55:36.7, 19°.11N×67°.18W, h20km±32km, MD2.9/19*

ISC 29 23:55:33.6±1.7, 19°.10N±0°.06×67°.05W±0°.03, h4km±11km, n69, σ0°49/84, 27C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
AGPR	**Aguadilla, PR**	**0.63**	**185**		**Pb**	**23**	**55**	**47.4**	**+0.2**
AGPR					**Sb**	**23**	**55**	**56.0**	**-0.3**
AGPR	**Aguadilla, PR**	**0.63**	**185**	⇓*i*P	**Pb**	**23**	**55**	**47.4**	**+0.2**
AGPR	**Aguadilla, PR**	**0.63**	**185**	*e*S	**Sb**	**23**	**55**	**56.0**	**-0.3**
AGPR	**Aguadilla, PR**	**0.63**	**185**	⇓*e*Pg	**Pb**	**23**	**55**	**47.3**	**+0.2**
AGPR				⇑*e*Sg	**Sb**	**23**	**55**	**56.0**	**-0.3**
AGPR				IAML		23	56	01.0	
	comp=N,643nm,0.1s								
EMPR	**Esperanza - Ma**	**0.79**	**141**		**Pn**	**23**	**55**	**51.8**	**+0.3**
EMPR					**Sn**	**23**	**56**	**05.0**	**+1.2**
EMPR	**Esperanza - Ma**	**0.79**	**141**	Pg	**Pn**	**23**	**55**	**50.5**	**-1.0**
EMPR	**Esperanza - Ma**	**0.79**	**141**	⇑*e*P	**Pn**	**23**	**55**	**51.8**	**+0.3**
EMPR	**Esperanza - Ma**	**0.79**	**141**	*e*S	**Sn**	**23**	**56**	**05.0**	**+1.2**
AOPR	**Arecibo Observ**	**0.80**	**159**		**Pb**	**23**	**55**	**50.1**	**0.0**
AOPR				IAML		23	56	12.2	
	comp=N,644nm,0.2s								
AOPR	**Arecibo Observ**	**0.80**	**159**	⇑*i*P	**Pb**	**23**	**55**	**50.2**	**+0.2**
AOPR	**Arecibo Observ**	**0.80**	**159**	⇑*e*Pg	**Pb**	**23**	**55**	**50.2**	**+0.2**
AOPR				⇑*e*Sg	**Sb**	**23**	**56**	**01.4**	**+0.3**
AOPR				IAML		23	56	08.9	
	comp=N,577nm,0.2s								
IDE	**Isla Desecheo**	**0.81**	**210**		**Pb**	**23**	**55**	**50.0**	**-0.3**
IDE					**Sg**	**23**	**56**	**00.5**	**+0.7**
IDE	**Isla Desecheo**	**0.81**	**210**	⇑*i*P	**Pb**	**23**	**55**	**50.0**	**-0.3**
IDE	**Isla Desecheo**	**0.81**	**210**	*e*S	**Sg**	**23**	**56**	**00.5**	**+0.7**
PRSN	**Puerto Rico Se**	**0.88**	**186**	Pg	**Pg**	**23**	**55**	**50.9**	**+0.4**
PRSN	**Puerto Rico Se**	**0.88**	**186**	⇓*i*P	**Pb**	**23**	**55**	**51.2**	**-0.2**
PRSN	**Puerto Rico Se**	**0.88**	**186**	*e*S	**Sg**	**23**	**56**	**02.8**	**+0.9**
PRSN	**Puerto Rico Se**	**0.88**	**186**	⇓*e*Pg	**Pb**	**23**	**55**	**51.0**	**-0.4**
PRSN				⇑*e*Sg	**Sg**	**23**	**56**	**02.8**	**+0.9**
PRSN				IAML		23	56	12.1	
	comp=N,1μm,0.2s								
UUPR	**Utuado, UPR, P**	**0.90**	**159**	Pg	**Pb**	**23**	**55**	**51.3**	**-0.4**
UUPR	**Utuado, UPR, P**	**0.90**	**159**		**Sg**	**23**	**56**	**02.9**	**+0.5**
UUPR	**Utuado, UPR, P**	**0.90**	**159**	⇑*e*P	**Pb**	**23**	**55**	**51.5**	**-0.2**
UUPR	**Utuado, UPR, P**	**0.90**	**159**	*e*S	**Sg**	**23**	**56**	**02.9**	**+0.5**
LSP	**Las Mesas**	**0.92**	**182**		**Pb**	**23**	**55**	**51.9**	**-0.2**
LSP					**Sb**	**23**	**56**	**04.3**	**-0.3**
LSP	**Las Mesas**	**0.92**	**182**	⇓*e*P	**Pb**	**23**	**55**	**51.9**	**-0.2**
LSP	**Las Mesas**	**0.92**	**182**	*e*S	**Sb**	**23**	**56**	**04.3**	**-0.3**
ECPR	**Experimental S**	**1.01**	**140**	⇑*i*P	**Pn**	**23**	**55**	**54.6**	**0.0**
ECPR	**Experimental S**	**1.01**	**140**	*e*S	**Sb**	**23**	**56**	**07.7**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.09**	**183**		**Pg**	**23**	**55**	**54.2**	**-0.1**
CRPR					**Sg**	**23**	**56**	**07.8**	**-0.7**
CRPR				IAML		23	56	09.5	
	comp=N,286nm,0.2s								
CRPR				IAML		23	56	10.8	
	comp=E,309nm,0.2s								
CRPR	**Cabo Rojo, PR**	**1.09**	**183**	⇑*e*P	**Pg**	**23**	**55**	**54.3**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.09**	**183**	*e*S	**Sg**	**23**	**56**	**08.7**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.09**	**183**	⇑*e*Pg	**Pg**	**23**	**55**	**54.3**	**-0.1**
CRPR				⇑*e*Sg	**Sg**	**23**	**56**	**07.6**	**-0.9**
CRPR				IAML		23	56	09.5	
	comp=N,344nm,0.2s								
CELP	**Cerrillos**	**1.11**	**156**		**Sb**	**23**	**56**	**09.6**	**-0.6**
CELP	**Cerrillos**	**1.11**	**156**		**Pb**	**23**	**55**	**55.0**	**-0.3**
CELP				IAML		23	56	10.4	
	comp=E,233nm,0.3s								
CELP				IAML		23	56	10.6	
	comp=N,300nm,0.6s								
CELP	**Cerrillos**	**1.11**	**156**	⇓*i*P	**Pn**	**23**	**55**	**55.4**	**-0.6**
CELP	**Cerrillos**	**1.11**	**156**	*e*S	**Sb**	**23**	**56**	**09.6**	**-0.6**
CELP	**Cerrillos**	**1.11**	**156**	⇓*e*Pg	**Pb**	**23**	**55**	**55.1**	**-0.3**
CELP				⇑*e*Sg	**Sb**	**23**	**56**	**09.6**	**-0.6**
CELP				IAML		23	56	10.4	
	comp=N,299nm,0.3s								
MLPR	**Magueyes Islan**	**1.12**	**180**	⇓*i*P	**Pg**	**23**	**55**	**55.0**	**-0.1**
MLPR	**Magueyes Islan**	**1.12**	**180**	*e*S	**Sg**	**23**	**56**	**09.6**	**-0.1**
MLPR	**Magueyes Islan**	**1.12**	**180**	⇓*e*Pg	**Pg**	**23**	**55**	**54.9**	**-0.2**
MLPR				⇑*e*Sg	**Sg**	**23**	**56**	**10.1**	**+0.4**
MLPR				IAML		23	56	15.9	
	comp=N,51nm,0.5s								
GBPR	**Guanica, Bosqu**	**1.13**	**172**		**Pb**	**23**	**55**	**55.4**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.13**	**172**	⇓*e*P	**Pb**	**23**	**55**	**55.4**	**-0.2**
OBIP	**Obispado Ponce**	**1.13**	**158**		**Pb**	**23**	**55**	**55.5**	**-0.2**
OBIP				IAML		23	56	11.0	
	comp=E,344nm,0.3s								
OBIP				IAML		23	56	11.5	
	comp=N,378nm,0.3s								
OBIP	**Obispado Ponce**	**1.13**	**158**		**Sg**	**23**	**56**	**10.0**	**+0.1**
OBIP	**Obispado Ponce**	**1.13**	**158**	⇓*i*P	**Pb**	**23**	**55**	**55.5**	**-0.2**
OBIP	**Obispado Ponce**	**1.13**	**158**	*e*S	**Sg**	**23**	**56**	**10.0**	**+0.1**
GCPR	**Guaynabo City**	**1.21**	**130**		**Pn**	**23**	**55**	**57.3**	**+0.1**
GCPR	**Guaynabo City**	**1.21**	**130**		**Sn**	**23**	**56**	**14.5**	**+0.4**
GCPR	**Guaynabo City**	**1.21**	**130**	⇑*i*P	**Pn**	**23**	**55**	**57.4**	**+0.1**
GCPR	**Guaynabo City**	**1.21**	**130**	*e*S	**Sn**	**23**	**56**	**14.5**	**+0.4**
SJG	**San Juan**	**1.30**	**139**		**Pg**	**23**	**55**	**57.7**	**-0.8**
SJG				IAML		23	56	21.7	
	comp=N,170nm,0.3s								
SJG	**San Juan**	**1.30**	**139**	⇑*e*P	**Pn**	**23**	**55**	**58.8**	**+0.2**
SJG	**San Juan**	**1.30**	**139**	*e*S	**Sn**	**23**	**56**	**15.7**	**-0.7**
SJG	**San Juan**	**1.30**	**139**	⇑*e*Pg	**Pn**	**23**	**55**	**58.8**	**+0.2**
PCDR	**Punta Cana, DR**	**1.39**	**246**	⇑*e*Sg	**Sb**	**23**	**56**	**17.5**	**-0.7**
PCDR				IAML		23	56	23.9	
	comp=N,180nm,0.7s								
IGPR	**InterUniversit**	**1.44**	**141**		**Pg**	**23**	**56**	**01.1**	**0.0**
IGPR					**Sn**	**23**	**56**	**19.6**	**-0.2**
IGPR	**InterUniversit**	**1.44**	**141**	⇑*e*P	**Pg**	**23**	**56**	**01.1**	**0.0**
IGPR	**InterUniversit**	**1.44**	**141**	*e*S	**Sn**	**23**	**56**	**19.6**	**-0.2**
PDPR	**Patillas Dam,**	**1.45**	**138**		**Pb**	**23**	**56**	**00.6**	**-0.5**
PDPR				IAML		23	56	24.9	
	comp=N,138nm,0.3s								
PDPR	**Patillas Dam,**	**1.45**	**138**	⇑*e*P	**Pg**	**23**	**56**	**01.0**	**-0.4**
PDPR	**Patillas Dam,**	**1.45**	**138**	*e*S	**Sb**	**23**	**56**	**19.3**	**-0.7**
HUMP	**Col San Antoni**	**1.48**	**130**		**Pb**	**23**	**56**	**00.8**	**-0.9**
HIDR	**Higuey Centro**	**1.66**	**253**	⇑*e*P	**Pn**	**23**	**56**	**03.6**	**+0.2**
HIDR	**Higuey Centro**	**1.66**	**253**	⇑*e*Pg	**Pn**	**23**	**56**	**03.1**	**-0.3**
HIDR				⇑*e*Sg	**Sn**	**23**	**56**	**24.5**	**-0.6**
HIDR				IAML		23	56	30.0	
	comp=N,220nm,0.2s								
MIDR	**Miches**	**1.89**	**267**	⇓*e*P	**Pn**	**23**	**56**	**06.2**	**-0.4**
MIDR	**Miches**	**1.89**	**267**	⇓*e*Pg	**Pn**	**23**	**56**	**06.3**	**-0.4**
MIDR				⇑*e*Sg	**Sn**	**23**	**56**	**31.9**	**+0.9**
MIDR				IAML		23	56	37.8	
	comp=N,63nm,0.3s								
DR12	**Loma Pena Alta**	**2.23**	**262**		**Pn**	**23**	**56**	**11.3**	**-0.1**
HATOM	**Hato Mayor del**	**2.23**	**262**	⇑*e*Pg	**Pn**	**23**	**56**	**11.2**	**-0.1**
HATOM				⇑*e*Sg	**Sb**	**23**	**56**	**42.6**	**+0.2**
HATOM				IAML		23	56	47.0	
	comp=N,54nm,0.2s								
SMRT	**St. Maarten**	**3.91**	**105**	Pn	**Pn**	**23**	**56**	**35.6**	**+1.1**
SDDR	**Presa de Saban**	**4.01**	**269**		**Pn**	**23**	**56**	**36.3**	**+0.4**

*IDC **30** 00:02:39.6±6.7, 20°.04S×177°.73W, h452km±67km, mb3.0/5, mbtmp3.8/6, Error ellipse: s-maj=99.6km s-min=33.7km az=150.0*

ISC 30 00:02:39.0±1.6, 20°.1S±0°.6×177°.7W±0°.3, h450km, n10, σ0°57/10, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op

OBIP	Obispado Ponce	1.42	150	⇓*e*P		Pb	00 11 31.0	-0.5
OBIP	Obispado Ponce	1.42	150	*e*S		Sb	00 11 49.6	+0.1
HIDR	Higuey Centro	1.46	242	⇑*e*Pg		Pg	00 11 34.9	+1.6
HIDR				IAML			00 12 01.2	
	comp=N,34nm,0.2s							
GCPR	Guaynabo City	1.54	129			Pn	00 11 32.4	0.0
GCPR						Sb	00 11 53.2	+0.1
GCPR	Guaynabo City	1.54	129	⇑*e*P		Pn	00 11 32.4	0.0
GCPR	Guaynabo City	1.54	129	*e*S		Sb	00 11 53.2	+0.1
SJG	San Juan	1.63	135	Pn		Pb	00 11 34.8	-0.3
SJG	San Juan	1.63	135	IAML			00 11 59.8	
	comp=N,21nm,0.5s							
MIDR	Miches	1.63	260	⇓*e*Pg		Pg	00 11 39.1	+2.6
MIDR				⇑*e*Sg		Sg	00 11 59.5	+1.8
MIDR				IAML			00 12 23.5	
	comp=N,6.6nm,1.1s							
PDPR	Patillas Dam,	1.78	135	Pn		Pb	00 11 36.5	-1.2
PDPR	Patillas Dam,	1.78	135	⇓*e*P		Pb	00 11 36.4	-1.2
PDPR	Patillas Dam,	1.78	135	*e*S		Sn	00 11 58.9	+0.8
HUMP	Col San Antoni	1.82	128	Pn		Pb	00 11 37.7	-0.7
HUMP						Sn	00 11 59.2	+0.1
DR12	Loma Pena Alta	1.98	256	Pn		Pn	00 11 37.7	-0.8
HATOM	Hato Mayor del	1.98	256	⇓*e*Pg		Pg	00 11 42.4	-0.8
HATOM				⇓*e*Sg		Sg	00 12 07.3	-1.6
HATOM				IAML			00 12 37.6	
	comp=N,7.9nm,2.4s							
DR08	Loma La Naviza	2.54	263	⇑*e*Pg		Pb	00 11 50.7	0.0
DR08				⇑*e*Sg		Sg	00 12 23.1	-3.9
DR08				IAML			00 12 33.6	
	comp=N,147nm,0.2s							

*GCG **30** 00:17:16.2±0.5, 12°.90N×90°.42W, h18km±8km, MD4.2*
*CATAC **30** 00:17:19.0±0.9, 13°.N±4°×9°.0W±°, h13km±6km, M3.2/8, MLv3.2/8, Error ellipse: s-maj=14.6km s-min=8.5km az=86.1, confirmed*
*SNET **30** 00:17:19.8±3.1, 13°.06N×90°.30W, h10km, ML3.2*

ISC 30 00:17:17.2±2.5, 12°.9N±0°.1×90°.16W±0°.08, h10km, n29, σ0§76/31, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	Alcaldia de Sa	1.00	8	S	Sg	00 17 50.5	+1.0
FAME	Alcaldia de Sa	1.00	8	P	Pg	00 17 36.2	-0.2
JAYA	Jayaque - finc	1.06	41	*e*P	Pg	00 17 37.0	-0.6
JAYA	Jayaque - finc	1.06	41	*e*P	Pg	00 17 37.5	-0.1
JAYA	Jayaque - finc	1.06	41	P	Pg	00 17 37.8	+0.2
JAYA	Jayaque - finc	1.06	41	S	Sg	00 17 51.1	-0.3
CEVE	Cerro Verde	1.10	28	P	Pg	00 17 38.6	+0.1
CEVE	Cerro Verde	1.10	28	S	Sg	00 17 53.4	+0.5
NUBE	Las Nubes	1.11	19	*e*P	Pb	00 17 37.8	-0.9
NUBE	Las Nubes	1.11	19	*e*P	Pb	00 17 37.4	-1.2
NUBE				*e*S	Sg	00 17 54.1	+1.1
NUBE	Las Nubes	1.11	19	S	Sg	00 17 53.1	0.0
NUBE	Las Nubes	1.11	19	P	Pb	00 17 37.5	-1.1
SBLS	San Blas	1.12	28	*e*P	Pb	00 17 38.4	-0.4
SNJE	San Jose	1.15	28	*e*P	Pb	00 17 38.4	-0.9
RTR	El Retiro	1.16	26	*e*P	Pb	00 17 38.9	-0.6
PMON	Piamonte	1.19	44	P	Pn	00 17 40.1	0.0
LOAL	Lomas de Alarc	1.20	18	S	Sb	00 17 56.5	+0.7
LOAL	Lomas de Alarc	1.20	18	P	Pn	00 17 40.8	+0.7
LOMA	Loma Larga	1.25	50	P	Pn	00 17 40.6	-0.2
LFRS	El Faro	1.32	54	*e*P	Pn	00 17 42.0	+0.2
RBDL	Robledal	1.34	20	*e*P	Pn	00 17 41.4	-0.7
RBDL				*e*S	Sn	00 18 01.8	+1.7
FG8	Yepocapa, Chim	1.46	344	*e*P	Pn	00 17 44.2	+0.5
FG16	Alotenango, Sa	1.46	346	*e*P	Pn	00 17 44.1	+0.3
PAVA	Las Pavas	1.47	54	P	Pn	00 17 43.8	0.0
MTO3	Montecristo	1.73	27	*e*P	Pn	00 17 47.6	+0.1
MTO3	Montecristo	1.73	27	*e*P	Pn	00 17 47.0	-0.5
MTO3	Montecristo	1.73	27	P	Pn	00 17 47.4	-0.1
MTO3	Montecristo	1.73	27	S	Sn	00 18 08.5	-1.3
PACA	Pacayal	1.89	71	P	Pn	00 17 51.1	+1.4

*DJA **30** 00:28:07.7±0.8, 6°.N±4°×12°.7E±°, h124km±18km, M4.1/6, MLv4.1/6*
*IDC **30** 00:28:09.3±2.7, 5°.55N×126°.46E, h111km±18km, mb3.1/4, mbtmp3.5/4, MS2.7/1, Error ellipse: s-maj=171.2km s-min=18.1km az=66.0*

ISC 30 00:28:08.0±1.2, 5°.56N±0°.07×126°.6E±0°.2, h100km, n8, σ1§00/9, mb3.4/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.81	326	P	Pn	00 28 37.4	-0.7
	120nm,0.4s,baz=260,slow=15,SNR=1.5						
DAV				S	Sn	00 29 02.6	+1.5
	187nm,0.4s,baz=129,slow=17,SNR=2.0						
SGSI	Sangihe	2.15	210	P	Pn	00 28 41.9	-0.6
SGSI				S	Sn	00 29 09.5	+0.6
TNTI	Ternate	4.82	171	P	Pn	00 29 17.9	-0.4
WRA	Warramunga Arr	26.46	163	P	P	00 33 36.8	+0.9
	0.3nm,0.5s,baz=343,slow=10,SNR=7.4						
	0.3nm,0.5s						
ASAR	Alice Springs	29.91	166	P	P	00 34 07.0	+0.4
	0.3nm,0.4s,baz=340,slow=6.9,SNR=4.2						
	0.3nm,0.4s						
ASAJ	Asahikawa	40.89	18	LR	LR	00 55 08.9	
	comp=Z,8.5nm,18.4s,baz=186,slow=40						
MKAR	Makanchi Array	55.99	325	P	P	00 37 35.0	-1.1
	0.4nm,0.6s,baz=122,slow=7.2,SNR=4.1						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	60.14	327	P	P	00 38 05.1	+0.1
	0.2nm,0.5s,baz=126,slow=6.1,SNR=5.1						
	0.2nm,0.5s						

*HLW **30** 00:44:54.2, 27°.74N×33°.49E, h9km±12km, Md1.6, Ml1.5*

SGS 30 00:44:53.2, 27°.61N×34°.48E, h9km, Ml1.1, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TR1	Tor 1	0.61	310	P	Pg	00 45 03.8	-1.3
KRABS	KRABS	0.84	54	P	Pg	00 45 09.0	-0.5
KRABS	KRABS	0.84	54	S	Sg	00 45 19.7	-0.7
HHRG	Al Ghardaqah	0.90	245	P	Pg	00 45 07.6	-2.8
AYUS	`Aynunah	0.91	50	P	Pg	00 45 09.2	-1.5
MWLHS	Almuwaylih	0.93	81	S	Sg	00 45 21.9	-1.2
MWLHS				P	Pg	00 45 10.1	-1.0
BDAS	Al Bad`	0.99	34	S	Sg	00 45 24.7	-0.3
BDAS				P	Pg	00 45 11.0	-1.1
HKAT	Jabal Katrina	1.01	335	P	Pg	00 45 11.3	-1.3
WTBKS	WTBKS	1.35	69	P	Pn	00 45 17.7	-0.7
WTBKS	WTBKS	1.35	69	S	Sb	00 45 34.4	-1.9
JLOS		1.44	38	S	Sn	00 45 36.2	-2.3
JLOS		1.44	38	P	Pn	00 45 17.9	-1.5

*TIR **30** 00:51:40.2, 41°.98N×20°.23E, h26km±1km, Ml2.7/3*
*SKO **30** 00:51:40.7, 41°.86N×20°.48E, h15km, ML2.5*
*BEO **30** 00:51:41.0±0.3, 41°.89N×20°.39E, h0km±2km, ML2.3/16*

ISC 30 00:51:40.5±1.0, 41°.91N±0°.02×20°.38E±0°.02, h12km±9km, n39, σ1§19/68, 1C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.68	215	⇑Pg	Pg	00 51 53.1	-0.6
TIR				Sg	Sb	00 52 04.0	+0.4
TIR				AML	AML	00 52 04.5	
	0.5nm,0.3s						
PVY	Plav	0.76	336	*e*Pg	Pg	00 51 54.4	-0.8
PVY				*e*Sg	Sg	00 52 06.0	+0.9
SKO	Skopje	0.79	85	*i* Pg	Pg	00 51 54.8	-1.0
SKO				*i* Sg	Sg	00 52 06.4	+0.2
OHR	Ohrid	0.85	158	*i* Pg	Pg	00 51 56.1	-0.9
OHR				*i* Sg	Sn	00 52 09.8	-1.0
OHR				*e*Lg	Lg	00 52 09.8	
	comp=E,215nm,0.8s						
OHR				*e*Lg	Lg	00 52 09.9	
	comp=N,123nm,0.6s						
DRME	Dracevica, Mon	0.94	288	*e*Pg	Pb	00 51 57.6	-1.0
DRME				*e*Sg	Sb	00 52 11.3	+0.3
PDG	Podgorica	0.99	302	*e*Pg	Pb	00 51 58.1	-1.4
PDG				*e*Sg	Sg	00 52 13.3	+0.9
BEY	Berane	1.03	340	*e*Pg	Pb	00 51 59.1	-1.2
BEY				*e*Sg	Sg	00 52 14.9	+1.1
KOME	Kolasin	1.14	326	*e*Pg	Pn	00 52 00.9	-1.4
KOME				*e*Sg	Sn	00 52 18.1	+0.2
KBN	Korca	1.32	166	Pg	Pg	00 52 05.8	-0.1
KBN				Sg	Sg	00 52 25.8	+2.8
SJES	Sjenica	1.39	348	*e*Pg	Pn	00 52 05.6	-0.1
SJES				*e*Sg	Sg	00 52 26.3	+1.1
BARS	Barje	1.40	49	*i* Pg	Pg	00 52 07.2	-0.2
BARS				*i* Sg	Sg	00 52 26.5	+1.0
BARS	Barje	1.40	49	*e*Pg	Pb	00 52 06.3	-0.2
BARS				*e*Sg	Sg	00 52 25.9	+0.4
SELS	Selova	1.42	22	*e*Pg	Pb	00 52 06.9	0.0
SELS				*e*Sg	Sg	00 52 26.5	+0.3
VLO	Vlora	1.59	205	Pn	Pg	00 52 11.8	+0.9
VLO				Sn	Sg	00 52 30.6	-0.9
VLO				AML	AML	00 52 38.2	
	comp=N,0.6nm,0.5s						
BOSS	Bosilegrad	1.67	69	*e*Pg	Pb	00 52 10.8	-0.3
BOSS				*e*Sg	Sb	00 52 32.2	+0.2
IVAS	Ivanjica	1.68	354	*e*Pn	Pn	00 52 10.6	+0.9
IVAS				*e*Sn	Sb	00 52 33.8	+1.4
GOCS	Kraljevo Serbi	1.69	12	*e*Pn	Pb	00 52 12.0	+0.4
GOCS				*e*Sn	Sb	00 52 33.8	+0.9
TREB	Trebinje	1.71	299	*e*Pn	Pb	00 52 11.3	-0.6
KLINJ	Klinje	1.83	314	*e*Pn	Pb	00 52 14.6	+0.6
RUDO	Rudo	1.86	337	*e*Pn	Pn	00 52 13.2	+1.0
BOVS	Bovan	1.98	29	*e*Pn	Pb	00 52 16.8	+0.3
BOVS				*e*Sn	Sb	00 52 41.0	-0.1
GRUS	Gruza	2.00	7	*e*Pn	Pn	00 52 15.5	+1.5
GRUS				*e*Sn	Sb	00 52 42.5	+1.0
KNT	Kendrikon	2.03	111	*i* Pn	Pn	00 52 15.5	+1.1
KKB	Krupnik	2.05	91	*i* Pn	Pn	00 52 14.6	-0.2
BBLS	Lazi&#263i	2.08	340	*e*Pn	Pn	00 52 16.4	+1.1
BBLS				*e*Sn	Sb	00 52 43.7	-0.5
ZAPS	Zavoj	2.15	50	*e*Pn	Pb	00 52 19.0	-0.4
ZAPS				*e*Sn	Sb	00 52 45.6	-0.4
DIVS	Divibare	2.21	353	*e*Pn	Pn	00 52 18.0	+1.0
DIVS				*e*Sn	Sb	00 52 46.8	-0.9
STON	Ston	2.21	297	*e*Pn	Pb	00 52 18.8	-1.5
TRUS	Trudelj	2.31	0	*e*Pn	Pb	00 52 20.8	-1.4
TRUS				*e*Sn	Sb	00 52 50.2	-0.5
ZAGS	Zajecar	2.34	35	*e*Pn	Pb	00 52 21.9	-0.7
ZAGS				*e*Sn	Sb	00 52 51.0	-0.4
IGT	Igoumenitsa	2.37	181	Pn	Pb	00 52 22.8	-0.3
IGT				Sn	Sb	00 52 53.6	+1.2
IGT	Igoumenitsa	2.37	181	*e*Pn	Pb	00 52 21.5	-1.6
IGT				*e*Sn	Sb	00 52 51.2	-1.1
LIT	Litokhoron	2.41	138	*i* Pn	Pb	00 52 22.3	-1.5
BORS2	Bor- Borsko je	2.49	28	*e*Pn	Pb	00 52 24.2	-0.9
BORS2				*e*Sn	Sb	00 52 54.7	-1.0
SRS	Serrai	2.54	107	*e*Pn	Pn	00 52 22.3	+0.9
KUBS	Kucevo	2.68	20	*e*Pn	Pn	00 52 25.4	+2.0
KUBS				*e*Sn	Sb	00 52 58.6	-2.5
NOCI	Noci	2.74	247	Pn	Pn	00 52 25.3	+1.0
NOCI				Sn	Sn	00 52 57.5	+0.3
NOCI				AML	AML	00 53 02.1	
	comp=N,0.1nm,0.2s						
KIJV	Kijevo	3.59	307	*e*Pn	Pn	00 52 39.6	+3.6
BLY	Banja Luka	3.68	322	*e*Pn	Pn	00 52 33.8	-3.3

*NEIC **30** 01:03:53.7±3.0, 12°.7N±0°.1×90°.24W±0°.09, h10km±2km, mb4.4/96, Error ellipse: s-maj=18.9km s-min=12.7km az=210.0*
*CATAC **30** 01:03:55.7±0.5, 13°.N±2°×9°.0W±°, h15km±2km, M4.4/24, MLv4.4/24, Error ellipse: s-maj=4.6km s-min=2.9km az=31.7, confirmed*
*SNET **30** 01:03:55.1±2.1, 12°.82N×90°.37W, h16km, ML4.2*
*GCG **30** 01:03:56.3±0.8, 12°.91N×90°.42W, h21km±10km, MD4.3, ML4.1*
*IDC **30** 01:03:58.1±6.8, 13°.33N×89°.62W, h25km±45km, mb3.8/13, mbtmp4.0/16, ML3.2/2, MS3.5/10, Error ellipse: s-maj=32.5km s-min=12.2km az=43.0*

ISC 30 01:03:54.6±1.1, 12°.79N±0°.04×90°.29W±0°.04, h18km±4km, n205, σ1§56/188, mb4.3/53, MS3.5/11, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	Alcaldia de Sa	1.09	14	S	Sn	01 04 30.8	+1.2
FAME	Alcaldia de Sa	1.09	14	P	Pb	01 04 15.0	+0.1
LALI	Alcalda de L	1.18	53	*i* P	Pn	01 04 16.8	+0.6
LALI	Alcalda de L	1.18	53	*e*P	Pn	01 04 17.0	+0.8
LALI	Alcalda de L	1.18	53	S	Sg	01 04 33.3	+0.5
LALI	Alcalda de L	1.18	53	P	Pn	01 04 17.1	+0.8
JAYA	Jayaque - finc	1.19	43	*i* P	Pb	01 04 17.6	+0.7
JAYA	Jayaque - finc	1.19	43	*i* P	Pb	01 04 17.5	+0.7
JAYA				*e*S	Sg	01 04 34.6	+1.1
JAYA	Jayaque - finc	1.19	43	S	Sg	01 04 33.5	0.0
JAYA	Jayaque - finc	1.19	43	P	Pb	01 04 17.5	+0.7
NUBE	Las Nubes	1.22	24	*i* P	Pn	01 04 17.3	+0.4
NUBE	Las Nubes	1.22	24	*i* P	Pn	01 04 17.3	+0.4
NUBE				*e*S	Sg	01 04 33.9	-0.3
NUBE	Las Nubes	1.22	24	S	Sg	01 04 34.3	0.0
NUBE	Las Nubes	1.22	24	P	Pn	01 04 17.4	+0.4
CEVE	Cerro Verde	1.23	32	*i* P	Pb	01 04 18.1	+0.6
CEVE	Cerro Verde	1.23	32	S	Sg	01 04 34.1	-0.4
CEVE	Cerro Verde	1.23	32	P	Pb	01 04 18.0	+0.6
SBLS	San Blas	1.23	32	*i* P	Pn	01 04 18.1	+0.8
SNJE	San Jose	1.27	32	*e*P	Pn	01 04 18.4	+0.7
SNJE				*e*P	Pn	01 04 18.4	+0.7
SNJE				*e*S	Sg	01 04 37.0	+1.2
RTR	El Retiro	1.27	30	*i* P	Pb	01 04 18.7	+0.5
LOAL	Lomas de Alarc	1.31	22	S	Sg	01 04 36.2	-0.8
LOAL	Lomas de Alarc	1.31	22	P	Pn	01 04 18.9	+0.9
ITCA	Escuela Especi	1.33	48	*e*P	Pn	01 04 19.0	+0.6
ITCA	Escuela Especi	1.33	48	S	Sg	01 04 37.2	-0.5
ITCA	Escuela Especi	1.33	48	P	Pn	01 04 19.2	+0.8
PMON	Piamonte	1.33	46	*i* P	Pn	01 04 19.3	+0.9
PMON	Piamonte	1.33	46	S	Sg	01 04 37.0	-0.6
PMON	Piamonte	1.33	46	P	Pn	01 04 19.4	+1.0
MAGS	Ministerio de	1.33	48	*e*P	Pb	01 04 20.0	+0.9
CEDA	San Andres	1.34	41	*i* P	Pn	01 04 19.5	+1.0
CEDA	San Andres	1.34	41	S	Sg	01 04 37.8	-0.2
CEDA	San Andres	1.34	41	P	Pn	01 04 19.5	+1.0
PANCS	Alcalda de	1.36	53	S	Sg	01 04 38.5	-0.3
PANCS	Alcalda de	1.36	53	P	Pn	01 04 19.5	+0.7
BOQS	Boqueron	1.37	46	*e*P	Pn	01 04 20.0	+1.0
UEES	Universidad Ev	1.38	48	*i* P	Pn	01 04 19.9	+0.8
UEES	Universidad Ev	1.38	48	S	Sg	01 04 38.0	-0.4
UEES	Universidad Ev	1.38	48	P	Pn	01 04 20.1	+0.9
LOMA	Loma Larga	1.39	52	*i* P	Pn	01 04 20.0	+0.8
LOMA	Loma Larga	1.39	52	P	Pn	01 04 20.1	+0.8
LOMA	Loma Larga	1.39	52	S	Sb	01 04 38.3	+0.7
PIC2	El Picacho	1.39	47	*i* P	Pn	01 04 20.4	+1.0
UNIC	Universidad Ca	1.39	31	*e*P	Pn	01 04 20.1	+0.9
UNIC	Universidad Ca	1.39	31	S	Sg	01 04 39.0	-0.8
UNIC	Universidad Ca	1.39	31	P	Pn	01 04 20.2	+0.9
UTEC	Universidad Te	1.40	49	P	Pn	01 04 20.4	+1.1
UTEC	Universidad Te	1.40	49	S	Sb	01 04 39.1	+1.2
IGN	Direccin Gen	1.43	50	P	Pb	01 04 21.3	+0.4
IGN	Direccin Gen	1.43	50	S	Sb	01 04 39.9	+1.1
RBDL	Robledal	1.45	24	*i* P	Pn	01 04 21.2	+1.1
RBDL				*e*S	Sn	01 04 39.3	+0.6
LFRS	El Faro	1.46	55	*i* P	Pn	01 04 21.1	+0.8
FG8	Yepocapa, Chim	1.49	350	*e*P	Pg	01 04 23.5	+0.2
FG16	Alotenango, Sa	1.49	352	*e*P	Pg	01 04 23.7	+0.2
LFU	La Fuente	1.50	50	*e*P	Pn	01 04 21.9	+1.2
LBRS	Las Brisas	1.54	52	*i* P	Pn	01 04 22.6	+1.2
PAVA	Las Pavas	1.61	55	*i* P	Pn	01 04 23.9	+1.5
PAVA	Las Pavas	1.61	55	S	Sb	01 04 44.7	+0.7
PAVA	Las Pavas	1.61	55	P	Pn	01 04 23.7	+1.4
TECO	Alcaldia de Te	1.65	63	*e*P	Pn	01 04 23.4	+0.7
TECO	Alcaldia de Te	1.65	63	S	Sb	01 04 45.9	+0.8
TECO	Alcaldia de Te	1.65	63	P	Pn	01 04 23.5	+0.7
ESSG	Sabana Grande	1.67	342	*e*P	Pn	01 04 22.6	-0.5
ESSG				*e*S	Sn	01 04 42.1	-2.1
ESSG				IAML		01 04 54.0	
	comp=N,1μm,0.8s						
UESV	Universidad de	1.69	60	S	Sb	01 04 46.8	+0.5
UESV	Universidad de	1.69	60	P	Pn	01 04 24.5	+1.1
SCLA	Alcaldia de Sa	1.78	59	*e*P	Pn	01 04 26.0	+1.5
SCLA	Alcaldia de Sa	1.78	59	S	Sb	01 04 48.7	0.0
SCLA	Alcaldia de Sa	1.78	59	P	Pn	01 04 26.2	+1.7
MTO3	Montecristo	1.84	29	Pn	Pn	01 04 26.8	+1.2
MTO3	Montecristo	1.84	29	*i* P	Pn	01 04 26.9	+1.3
MTO3				*e*S	Sn	01 04 49.9	+1.3
MTO3	Montecristo	1.84	29	*e*P	Pn	01 04 27.0	+1.3
MTO3	Montecristo	1.84	29	S	Sb	01 04 50.8	0.0
MTO3	Montecristo	1.84	29	P	Pn	01 04 27.0	+1.3
PQSS	Presa 15 de Se	1.88	63	P	Pn	01 04 27.7	+1.8
PQSS	Presa 15 de Se	1.88	63	S	Sn	01 04 51.1	+1.9
ESQI	Esquipulas	1.99	28	Pn	Pn	01 04 29.0	+1.5
PACA	Pacayal	2.04	70	S	Sn	01 04 55.2	+2.0
PACA	Pacayal	2.04	70	P	Pn	01 04 29.8	+1.7
RANC	El Ranchito	2.06	71	*e*P	Pn	01 04 26.4	-2.1
CNRM	Centro Naciona	2.18	71	S	Sn	01 04 58.7	+2.1
CNRM	Centro Naciona	2.18	71	P	Pn	01 04 31.5	+1.5
RTAL	Retalhuleu	2.20	322	Pn	Pn	01 04 29.3	-1.1
SOKI	Kika Raxquin	2.29	332	*e*P	Pn	01 04 32.4	+0.4
SOKI				IAML		01 05 13.1	
	comp=N,2μm,0.7s						
LCND	La Caada	2.40	77	S	Sn	01 05 04.3	+2.3
LCND	La Caada	2.40	77	P	Pn	01 04 34.6	+1.6
SARH	Santa Rosa de	2.48	37	P	Pn	01 04 35.8	+1.6
MARCA	Marcala la Paz	2.59	58	P	Pn	01 04 37.4	+1.6
MARCA	Marcala la Paz	2.59	58	S	Sn	01 05 08.6	+1.8
POTN	Potosi Cosigui	2.73	85	P	Pn	01 04 39.0	+1.4
POTN				S	Sn	01 05 12.3	+2.3
HUEH	Huehuetenango	2.78	335	Pn	Pn	01 04 39.5	+1.0
CRIN	San Cristobal	3.17	91	Pn	Pn	01 04 43.5	-0.2
TGUH	Tegucigalpa,Un	3.20	66	Pn	Pn	01 04 44.5	+0.4
PKGN	Cerro Pekin	3.24	92	P	Pn	01 04 46.2	+1.6
PKGN				S	Sn	01 05 24.6	+1.9
HERN	Volcan Telica	3.38	93	Pn	Pn	01 04 46.8	+0.2
CNGN	Cerro Negro	3.52	94	Pn	Pn	01 04 48.7	+0.2
YUSH	Yuscaran	3.55	71	P	Pn	01 04 50.4	+1.4
COPN	Copaltepe	3.67	99	P	Pn	01 04 51.6	+1.1
ACON	Acoyapa	5.07	99	Pn	Pn	01 05 09.2	-0.5
SIUN	Universidad Ur	5.45	80	Pn	Pn	01 05 15.7	+0.6
JTS	Las Juntas de	5.79	115	Pn	Pn	01 05 22.3	+2.6
JTS	Las Juntas de	5.79	115	Pn	Pn	01 05 19.4	-0.3
	comp=N,10nm,0.3s,baz=113,slow=22,SNR=32						
JTS				Sn	Sn	01 06 22.4	-3.3
	comp=N,3.0nm,0.3s,baz=258,slow=22,SNR=1.8						
JTS				Lg	Lg	01 07 01.0	
	baz=148,slow=18						
JTS				LR	LR	01 07 02.5	
	comp=N,42nm,21.1s,baz=300,slow=34						
ESPN	Las Esperanzas	5.88	95	Pn	Pn	01 05 20.3	-0.6
CMIG	Matias Romero	6.17	315	Pn	Pn	01 05 28.2	+3.3
	comp=N,1.3nm,0.3s,baz=122,slow=8.2,SNR=6.2						
CMIG				Sn	Sn	01 06 41.8	+6.9
	comp=N,1.7nm,0.3s,baz=240,slow=22,SNR=4.3						
	comp=N,8.7nm,0.6s						
TEIG	Tepich	7.65	14	Pn	Pn	01 05 46.9	+1.7
TEIG	Tepich	7.65	14	Pn	Pn	01 05 38.5	-6.7
	baz=135,slow=24,SNR=1.4						
PIRO	Carate, Puerto	8.11	122	Pn	Pn	01 05 56.2	+4.6
BRU2	Volcan	8.46	117	Pn	Pn	01 06 01.0	+4.5
ROSC	El Rosal	17.64	115	P	Pn	01 07 57.4	-2.6
	comp=N,1.0nm,0.3s,baz=323,slow=2.2,SNR=7.8						
ROSC				S	Sn	01 11 07.1	-9.3
	comp=N,2.5nm,0.3s,baz=106,slow=22,SNR=1.6						
	comp=N,2.6nm,0.3s						
FLOC	Florencia	18.28	126	P	P	01 08 09.3	+1.7
HNDO	Hondo	18.64	335	P	Pn	01 08 14.0	+2.2
VBMS	Vicksburg	19.34	359	P	P	01 08 19.5	+0.3
VBMS				IAmb	IAmb	01 08 37.9	
	comp=Z,26nm,1.1s						
BRDY	Brady	20.09	338	P	P	01 08 28.7	+1.4
SAND	Sanderson	20.30	329	P	Pn	01 08 33.2	+1.5
Z47A	Carrollton	20.42	5	P	P	01 08 28.1	-2.8
Z47A				IAmb	IAmb	01 08 36.3	
	comp=Z,20nm,0.7s						
TXAR	Lajitas Array	20.63	325	P	Pn	01 08 35.6	-0.1
TXAR	Lajitas Array	20.63	325	P	Pn	01 08 36.0	+0.4
	comp=Z,4.0nm,0.9s,baz=148,slow=12,SNR=31						
	comp=Z,4.0nm,0.9s						
TX31	Lajitas Ar. Si	20.63	325	P	Pn	01 08 35.9	+0.3
Y45A	Yeager Farm, C	21.00	2	P	P	01 08 36.8	-0.3
Y45A				IAmb	IAmb	01 08 56.2	
	comp=Z,32nm,1.3s						
PLPT	Palo Pinto	21.25	341	P	P	01 08 41.9	+2.1
PLPT				IAmb	IAmb	01 09 09.6	
	comp=Z,9.8nm,0.9s						
Y49A	Blount Mountai	21.27	9	P	P	01 08 41.4	+1.3
ALPN	Alpine	21.42	327	P	P	01 08 44.0	+2.1
ALPN				IAmb	IAmb	01 08 45.3	
	comp=Z,9.3nm,0.7s						
GOGA	Godfrey	21.46	16	P	P	01 08 41.6	-

TBO	Thunder Bay	35.76	1	P		P	01 10 50.5	-2.0
LPAZ	La Paz	36.26	142	P		P	01 11 00.1	+2.3
	comp=Z,0.8nm,0.7s,baz=0.4,slow=4.0,SNR=3.7							
	comp=Z,0.8nm,0.7s							
WAKR	Walker	36.41	320	P		P	01 11 03.0	+4.6
WAKR				IAmb		IAmb	01 11 24.8	
	comp=Z,4.4nm,1.2s							
ULM	Lac du Bonnet	37.64	354	P		P	01 11 06.0	-2.4
	comp=Z,6.0nm,0.8s,baz=154,slow=12,SNR=4.1							
ULM				LR		LR	01 27 40.4	
	comp=Z,39nm,18.6s,baz=218,slow=38							
	comp=Z,6.0nm,0.8s							
LYMT	Lyon Mountain	38.77	336	P		P	01 11 18.7	+0.3
J08A	Circle Bar Ran	38.96	327	IAmb		IAmb	01 11 22.9	
	comp=Z,4.8nm,0.7s							
VILB	Vilhena	39.30	129	P		P	01 11 24.5	+1.6
VILB				IAmb		IAmb	01 11 30.4	
	comp=Z,10nm,0.8s							
J04A	Umpqua Nationa	40.90	324	P		P	01 11 38.8	+2.8
KBO	Bosley Butte	41.54	321	P		P	01 11 43.7	+2.5
NEW	Newport	41.82	333	LR		LR	01 33 21.8	
	comp=Z,60nm,18.1s,baz=251,slow=42							
H04A	Detroit Lake	41.85	326	P		P	01 11 44.2	+0.6
H04A				IAmb		IAmb	01 11 45.5	
	comp=Z,7.7nm,0.8s							
HOOD	Mount Hood Mea	41.97	327	P		P	01 11 45.9	+1.2
C09A	Chrisman Ranch	41.99	332	P		P	01 11 45.5	+0.7
C09A				IAmb		IAmb	01 11 46.9	
	comp=Z,3.5nm,0.6s							
FFC	Flin Flon	42.84	350	P		P	01 11 50.7	-0.8
FFC				IAmb		IAmb	01 11 52.8	
	comp=Z,10nm,1.4s							
SCHQ	Schefferville	45.81	19	P		P	01 12 13.1	-2.2
SCHQ	Schefferville	45.81	19	P		P	01 12 13.4	-1.9
	comp=Z,60nm,0.5s,baz=213,slow=6.5,SNR=15							
SCHQ				LR		LR	01 30 25.2	
	comp=Z,366nm,18.2s,baz=106,slow=35							
KUQ	Kuujjuuaa	48.17	15	P		P	01 12 31.5	-2.2
BDFB	Brasilia	50.47	123	P		P	01 12 53.1	+1.2
	comp=Z,1.2nm,0.4s,baz=114,slow=5.9,SNR=3.9							
	comp=Z,1.2nm,0.4s							
YKA	Yellowknife Ar	52.59	346	P		P	01 13 05.6	-1.5
	comp=Z,1.5nm,0.8s,baz=148,slow=17,SNR=5.6							
	comp=Z,1.5nm,0.8s							
FRB	Frobisher Bay	53.14	12	LR		LR	01 36 14.8	
	comp=Z,85nm,18.1s,baz=150,slow=37							
MMPY	Sheldon Lake,	57.62	339	P		P	01 13 44.1	+0.6
MMPY				IAmb		IAmb	01 14 03.2	
	comp=Z,3.7nm,1.3s							
SFJD	Kangerlussuaq	60.18	17	LR		LR	01 40 33.2	
	comp=Z,30nm,19.1s,baz=236,slow=37							
M29M	Somme Creek	60.18	336	P		P	01 14 01.5	+0.2
M29M				IAmb		IAmb	01 14 02.6	
	comp=Z,2.7nm,0.8s							
G31M	Satah River	61.39	342	P		P	01 14 09.1	-0.2
G31M				IAmb		IAmb	01 14 09.2	
	comp=Z,5.4nm,1.1s							
RES	Resolute Bay	61.94	359	LR		LR	01 44 53.1	
	comp=Z,30nm,18.2s,baz=15,slow=40							
F28M	Old Crow	63.55	341	P		P	01 14 24.6	+0.8
F28M				IAmb		IAmb	01 14 24.8	
	comp=Z,4.2nm,0.9s							
J25K	Salcha River,	63.95	337	P		P	01 14 27.2	+0.6
J25K				IAmb		IAmb	01 14 44.2	
	comp=Z,4.3nm,1.4s							
ILAR	Eielson Array	64.61	337	P		P	01 14 30.9	+0.2
	comp=Z,1.0nm,0.9s,baz=118,slow=4.8,SNR=7.2							
	comp=Z,1.0nm,0.9s							
BMAR	Burnt Mountain	65.00	340	P		P	01 14 33.1	-0.2
G21K	Allakaket	67.81	337	P		P	01 14 52.1	+0.8
G21K				IAmb		IAmb	01 15 36.0	
	comp=Z,3.5nm,1.3s							
F21K	Alatna River	68.05	338	P		P	01 14 53.3	+0.5
F21K				IAmb		IAmb	01 14 54.3	
	comp=Z,3.3nm,0.8s							
D20K	Etivluk River	69.65	339	P		P	01 15 03.2	+0.5
D19K	Kuna River	70.11	339	P		P	01 15 06.2	+0.6
EKA	Eskdalemuir Ar	77.98	36	P		P	01 15 49.1	-2.6
	comp=Z,1.5nm,0.6s,baz=268,slow=6.7,SNR=7.9							
	comp=Z,1.5nm,0.6s							
ESDC	Sonseca Array	79.16	52	P		P	01 15 56.5	-2.3
	comp=Z,0.4nm,0.5s,baz=291,slow=4.7,SNR=7.2							
	comp=Z,0.4nm,0.5s							
DBIC	Dimbokro	84.12	85	P		P	01 16 25.7	+0.4
	comp=Z,2.5nm,0.7s,baz=315,slow=6.3,SNR=3.8							
	comp=Z,2.5nm,0.7s							
NOA	NORSAR Array B	84.41	29	LR		LR	01 55 33.9	
	comp=Z,11nm,18.1s,baz=85,slow=37							
HFS	Hagfors	85.85	29	P		P	01 16 31.9	-1.2
	comp=Z,1.3nm,0.7s,baz=2.9,slow=5.9,SNR=2.1							
	comp=Z,1.3nm,0.7s							
ARCES	ARCESS Array B	86.76	18	LR		LR	01 56 35.1	
	comp=Z,23nm,18.1s,baz=82,slow=37							
FUORN	Ofenpass-Fuorn	87.93	43	P		P	01 16 42.4	-1.4
TORD	Torodi Ar. Bea	89.04	77	P		P	01 16 48.8	-0.6
	comp=Z,0.3nm,0.7s,baz=321,slow=5.4,SNR=1.6							
	comp=Z,0.3nm,0.7s							
CMAR	Chiang Mai Arr	147.65	343	PKPbc		PKPbc	01 23 40.3	+1.3
	comp=Z,3.2nm,0.6s,baz=341,slow=3.9,SNR=14							

IDC 30 01:04:45.8±4.1, 2.73N×63.62E, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=441.8km s-min=36.7km az=33.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	Sonseca Array	71.09	311	P	P	01 16 06.3	0.0
	0.2nm,0.6s,baz=100,slow=5.2,SNR=4.7						
	0.2nm,0.6s						
WRA	Warramunga Arr	72.89	112	P	P	01 16 17.5	0.0
	2.2nm,1.1s,baz=290,slow=5.4,SNR=6.5						
	2.2nm,1.1s						
TXAR	Lajitas Array	145.87	340	PKPbc	PKPdf	01 24 27.2	-0.3
	0.4nm,0.6s,baz=51,slow=2.9,SNR=6.9						

GCG 30 01:05:41.9±0.4, 14.39N×91.70W, h68km±14km, MD3.7, ML3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMCA	Catarina	0.59	322	*e*P	Pn	01 05 55.7	+0.2
SMCA				*e*S	Sn	01 06 06.0	+0.4
ESSG	Sabana Grande	0.84	90	*e*P	Pn	01 05 58.4	0.0
FG8	Yepocapa, Chim	1.11	96	*e*P	Pn	01 05 57.6	-4.2
FG16	Alotenango, Sa	1.16	95	*e*P	Pn	01 05 58.8	-3.7
FG16				IAML		01 06 12.5	
	comp=E,3μm,0.2s						

*IDC **30** 01:20:25.0±1.3, 62.23N×148.16W, h56km±13km, mb3.6/10, mbtmp3.9/14, MS3.3/4, Error ellipse: s-maj=19.1km s-min=9.4km az=104.0*

*NEIC **30** 01:20:25.4±1.3, 62.17N±0.01×147.81W±0.05, h45km±5km, Error ellipse: s-maj=3.7km s-min=0.6km az=116.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-6.18; Mθθ2.11; Mφφ4.07; Mrθ0.14; Mθφ5.10; Mφr6.16; Fault plane solution: M0 9.67000×10¹⁴ NP1:φ65.65000°, δ34.02000°, λ-44.50000°. NP2:φ194.81000°, δ66.91000°, λ-115.71000°. Principal axes: T 9.8609, Plg18.0000°, Azm304.0000°; N -0.3890, Plg24.0000°, Azm206.0000°; P -9.4719, Plg60.0000°, Azm67.0000°;*

*NEIC **30** 01:20:26.1, 62.18N×147.80W, h37km*

*AEIC **30** 01:20:26.2±1.1, 62.17N±0.02×147.80W±0.05, h34km±5km, ML3.8, mb4.1/10(NEIC), ML4.0/244(NEIC), Mwr3.9/82(NEIC), Error ellipse: s-maj=3.4km s-min=2.9km az=112.0*

ISC 30 01:20:24.8±0.7, 62.17N±0.03×147.87W±0.03, h46km±7km, n221, σ1°10/189, mb4.1/15, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
M23K	Glacier View	0.39	170		Pn	01 20 34.2	-0.3
M23K					Sn	01 20 41.7	+0.4
WAT6	Susitna Watana	0.42	8		Pn	01 20 34.7	-0.3
WAT6					Sn	01 20 42.3	+0.1
SCM	Sheep Creek Mo	0.42	143		Pn	01 20 34.5	-0.4
SCM				Sg	Sn	01 20 42.5	+0.3
SML	Sawmill	0.43	211		Pn	01 20 34.8	-0.1
SML				Sg	Sn	01 20 42.7	+0.5
SML				IAML		01 20 43.5	
	comp=N,9μm,0.7s						
SML				IAML		01 20 43.7	
	comp=E,11μm,0.6s						
GHO	Glory Hole Cre	0.64	232		Pn	01 20 37.6	-0.1
GHO					Sn	01 20 47.5	+0.7
GHO				IAML		01 20 48.8	
	comp=N,5μm,0.6s						
GHO				IAML		01 20 49.7	
	comp=E,7μm,0.4s						
WAT1	Susitna Watana	0.73	335		Pn	01 20 38.7	-0.1
WAT1					Sn	01 20 49.5	+0.5
M24K	Tolsona, Glenn	0.80	94		Pn	01 20 39.6	-0.1
M24K					Sn	01 20 50.4	-0.2
M24K				IAML		01 20 52.9	
	comp=N,6μm,0.3s						
M24K				IAML		01 21 00.4	
	comp=E,5μm,0.6s						
WAT7	Susitna Watana	0.81	326		Pn	01 20 39.8	-0.1
WAT7					Sn	01 20 51.4	+0.6
KNK	Knik Glacier	0.81	201		Pn	01 20 39.9	0.0
KNK					Sn	01 20 51.3	+0.5
PMR	Palmer	0.83	226		Sn	01 20 52.5	+1.2
PMR	Palmer	0.83	226	Pn	Pn	01 20 40.0	-0.1
PMR	Palmer	0.83	226	IAML		01 20 53.4	
	comp=E,3μm,0.6s						
PMR				IAML		01 20 53.4	
	comp=N,2μm,0.4s						
DHY	Denali Highway	0.94	14	Pn	Pn	01 20 41.3	-0.4
CUT	Chulitna	1.15	283		Sn	01 21 01.1	+2.2
CUT	Chulitna	1.15	283	Pn	Pn	01 20 45.1	+0.7
CUT	Chulitna	1.15	283	IAML		01 21 04.0	
	comp=E,7μm,0.4s						
CUT				IAML		01 21 08.4	
	comp=N,6μm,0.4s						
KLU	Klutina	1.15	126		Sn	01 20 59.8	+0.8
KLU	Klutina	1.15	126	Pn	Pn	01 20 43.7	-0.8
KLU	Klutina	1.15	126	IAML		01 21 01.2	
	comp=N,4μm,0.3s						
KLU				IAML		01 21 02.5	
	comp=E,3μm,0.2s						
RND	Reindeer	1.32	340	Pn	Pn	01 20 47.3	+0.5
PWL	Port Wells	1.33	190		Pn	01 20 47.5	+0.5
PWL				IAML		01 21 07.1	
	comp=E,3μm,0.3s						
GLI	Glacier Island	1.35	164		Sn	01 21 05.6	+1.7
GLI	Glacier Island	1.35	164	Pn	Pn	01 20 47.1	0.0
GLI	Glacier Island	1.35	164	IAML		01 21 07.2	
	comp=N,5μm,0.7s						
GLI				IAML		01 21 09.3	
	comp=E,5μm,0.4s						
PAX	Paxson	1.37	53	Pn	Pn	01 20 47.6	+0.1
PAX				IAML		01 21 06.9	
	comp=N,2μm,0.7s						
RC01	Rabbit Creek A	1.41	220	Pn	Pn	01 20 49.1	+1.2
RC01				IAML		01 21 10.8	
	comp=N,3μm,0.3s						
DIV	Divide	1.45	135		Sn	01 21 07.3	+1.0
DIV	Divide	1.45	135	Pn	Pn	01 20 47.5	-1.0
DIV	Divide	1.45	135	IAML		01 21 09.5	
	comp=E,3μm,0.6s						
DIV				IAML		01 21 09.9	
	comp=N,7μm,0.5s						
FIS	Fire Island	1.52	228	Pn	Pn	01 20 51.5	+2.0
FIS				IAML		01 21 21.4	
	comp=E,3μm,0.8s						
SUA	Susitna One	1.54	244	Pn	Pn	01 20 51.0	+1.2
SUA				IAML		01 21 14.0	
	comp=E,2μm,0.6s						
SUA				IAML		01 21 14.5	
	comp=N,2μm,0.9s						
FID	Port Fidalgo	1.57	154		Sn	01 21 10.8	+1.4
FID	Port Fidalgo	1.57	154	Pn	Pn	01 20 50.5	+0.3
FID	Port Fidalgo	1.57	154	IAML		01 21 14.3	
	comp=N,3μm,0.6s						
FID				IAML		01 21 15.1	
	comp=E,3μm,0.5s						
MCK	McKinley	1.64	343	Pn	Pn	01 20 52.3	+1.1
MCK				IAML		01 21 16.0	
	comp=E,1μm,0.4s						
MCK				IAML		01 21 17.0	
	comp=N,1μm,0.5s						
N25K	Chitina, Valde	1.65	109		Sn	01 21 12.4	+1.1
N25K	Chitina, Valde	1.65	109	Pn	Pn	01 20 51.1	-0.2
N25K	Chitina, Valde	1.65	109	IAML		01 21 14.7	
	comp=E,3μm,0.7s						
N25K				IAML		01 21 14.8	
	comp=N,2μm,0.7s						
TRF	Thorofare Moun	1.70	320	IAML		01 21 17.8	
	comp=N,1μm,0.6s						
TRF				IAML		01 21 18.3	
	comp=E,1μm,0.6s						
SKT	Skwentna	1.74	265	Pn	Pn	01 20 53.4	+1.0
SKT				IAML		01 21 18.9	
	comp=E,1μm,0.4s						
SKT				IAML		01 21 24.6	
	comp=N,1μm,1.1s						
WAZA	Wrangell Mount	1.75	92		Pn	01 20 53.4	+0.6
K24K	Donnelly Dome	1.90	29	Pn	Pn	01 20 56.8	+2.1
HIN	Hinchinbrook I	1.90	159	Pn	Pn	01 20 55.2	+0.5
HIN				IAML		01 21 30.0	
	comp=N,1μm,0.6s						
O22K	Cooper Landing	1.92	209	Pn	Pn	01 20 55.6	+0.8
EYAK	Cordova Ski Ar	1.92	147	Pn	Pn	01 20 55.4	+0.5
KTH	Kantishna Hill	1.97	316	Pn	Pn	01 20 56.5	+0.8
BMRM	Bremner River	1.97	126	Pn	Pn	01 20 55.5	-0.2
BMRM				IAML		01 21 26.9	
	comp=N,1μm,0.5s						
BMRM				IAML		01 21 29.6	
	comp=E,1μm,0.6s						
STLK	Strandline Lak	2.00	252	Pn	Pn	01 20 57.6	+1.5
STLK				IAML		01 21 25.8	
	comp=N,1μm,1.2s						
STLK				IAML		01 21 27.6	
	comp=E,898nm,0.5s						
SLKM	Skilak Lake	2.02	215	Pn	Pn	01 20 57.0	+0.7
SLKM				IAML		01 21 32.4	
	comp=N,1μm,0.5s						
GLB	Gilahina Butte	2.06	109	Pn	Pn	01 20 57.2	+0.3
GLB				IAML		01 21 26.8	
	comp=N,1μm,0.7s						
GLB				IAML		01 21 29.3	
	comp=E,752nm,0.6s						
MENT	Mentasta	2.07	66	Pn	Pn	01 20 57.5	+0.5
MENT				IAML		01 21 40.7	
	comp=E,994nm,0.6s						
PPLA	Purkeypile	2.13	292	Pn	Pn	01 20 59.4	+1.4
PPLA				IAML		01 21 39.6	
	comp=E,1μm,0.9s						
BWN	Browne	2.14	341	Pn	Pn	01 20 58.4	+0.5
BWN				IAML		01 21 39.6	
	comp=N,1μm,1.1s						
P23K	Montague Islan	2.19	174	Pn	Pn	01 21 00.4	+1.7
P23K				IAML		01 21 34.6	
	comp=N,1μm,0.9s						
P23K				IAML		01 21 35.2	
	comp=E,1μm,0.8s						
GOAT	Goat Mountain	2.20	135		Pn	01 20 59.4	+0.6
SEW	Seward	2.21	201	Pn	Pn	01 21 00.9	+2.0
SPU	Mount Spurr	2.23	245	Pn	Pn	01 21 00.5	+1.3
SPCN	Chakachatna No	2.27	247		Pn	01 21 01.5	+1.8
HDA	Harding Lake	2.29	10	Pn	Pn	01 21 01.1	+1.2
HDA				IAML		01 21 30.8	
	comp=N,837nm,0.5s						
HDA				IAML		01 21 32.1	
	comp=E,781nm,0.3s						
DOT	Dot Lake	2.29	48	IAML		01 21 40.6	
	comp=N,621nm,0.7s						
M26K	Nabesna, AK	2.29	82	Pn	Pn	01 21 00.4	+0.4
M26K				IAML		01 21 33.6	
	comp=E,653nm,0.5s						
M26K				IAML		01 21 33.6	
	comp=N,872nm,0.6s						
VRDI	Verde Repeater	2.31	112	Pn	Pn	01 21 00.9	+0.5
WRH	Wood River Hil	2.31	358	Pn	Pn	01 21 01.1	+0.8
CCB	Clear Creek Bu	2.49	1	Pn	Pn	01 21 03.4	+0.7
CCB				IAML		01 21 33.7	
	comp=E,457nm,0.8s						
NEA2	Nenana	2.49	348	IAML		01 21 33.7	
	comp=E,669nm,0.7s						
NEA2				IAML		01 21 34.7	
	comp=N,691nm,0.7s						
M20K	Styx River	2.50	266	IAML		01 21 37.5	
	comp=N,886nm,1.1s						
M20K				IAML		01 21 39.9	
	comp=E,607nm,0.9s						
SCRK	Sand Creek	2.53	43	Pn	Pn	01 21 03.6	+0.2
HMT	Hamilton	2.54	135	Pn	Pn	01 21 04.4	+1.0
IL31		2.65	9	Pn	Pn	01 21 06.0	+1.1
ILAR	Eielson Array	2.65	9	P	Pn	01 21 05.8	+0.9
	comp=E,55nm,0.3s,baz=187,slow=13,SNR=692						
ILAR				S	Sn	01 21 36.1	+0.4
	comp=E,54nm,0.3s,baz=200,slow=14,SNR=6.0						
CHUM	Lake Minchumin	2.66	312		Pn	01 21 06.4	+1.4
BERG	Berg Lake	2.69	130	Pn	Pn	01 21 05.9	+0.5
J25K	Salcha River,	2.70	24	IAML		01 21 41.0	
	comp=E,391nm,0.7s						
COLA	College	2.71	0	Pn	Pn	01 21 06.6	+0.9
PTPK	Patty Peak	2.76	109		Pn	01 21 07.2	+0.6
KAIM	Kayak Island	2.81	142	Pn	Pn	01 21 07.2	+0.1
KAIM				IAML		01 21 52.8	
	comp=E,448nm,1.0s						
KAIM				IAML		01 21 53.4	
	comp=N,365nm,0.8s						
M27K	Edge Creek, AK	2.81	84		Pn	01 21 08.4	+1.2
M27K	Edge Creek, AK	2.81	84	IAML		01 21 56.8	
	comp=N,494nm,1.1s						
M27K				IAML		01 21 59.1	
	comp=E,434nm,0.9s						
BRLK	Bradley Lake	2.83	213	Pn	Pn	01 21 08.9	+1.5
BRLK				IAML		01 21 53.6	
	comp=E,349nm,0.7s						
RDJH	Redoubt Jeurge	2.86	238		Pn	01 21 09.5	+1.6
SUCK	Suckling Hills	2.89	135	Pn	Pn	01 21 09.5	+1.2
SUCK				IAML		01 22 00.0	
	comp=E,424nm,0.7s						
GRIN	Grindle Hills	2.90	129		Pn	01 21 09.3	+0.9
L27K	Beaver Creek,	2.93	70	Pn	Pn	01 21 09.0	+0.2
BCAR	Beaver Creek A	2.95	70	Pn	Pn	01 21 09.2	+0.1
POKR	Poker Plat Res	2.96	4	IAML		01 21 46.4	
	comp=N,351nm,0.5s						
POKR				IAML		01 22 01.0	
	comp=E,321nm,1.2s						
WAX	Waxell Ridge	2.97	123		Pn	01 21 09.7	+0.3
J26L	Joseph Creek	3.04	38	Pn	Pn	01 21 10.8	+0.5
J26L				IAML		01 21 47.2	
	comp=E,300nm,0.5s						
J26L				IAML		01 21 50.4	
	comp=N,302nm,0.7s						
I23K	Minto, Yukon-K	3.06	348		Pn	01 21 11.7	+1.1
I23K	Minto, Yukon-K	3.06	348	IAML		01 21 49.1	
	comp=N,371nm,0.8s						
M19K	Big River Lodg	3.09	268	Pn	Pn	01 21 11.6	+0.7
M19K				IAML		01 22 07.8	
	comp=E,348nm,1.0s						
M19K				IAML		01 22 10.2	
	comp=N,389nm,1.1s						
ISLE	Juniper Island	3.09	118		Pn	01 21 11.7	+0.6
ISLE	Juniper Island	3.09	118	IAML		01 21 58.2	
	comp=E,578nm,0.5s						
K20K	Telida	3.09	295	IAML		01 22 06.2	
	comp=N,336nm,0.7s						
CNPM	China Poot	3.12	213	Pn	Pn	01 21 12.9	+1.5
CNPM				IAML		01 22 01.6	
	comp=E,321nm,1.2s						
CNPM				IAML		01 22 08.8	
	comp=N,281nm,0.5s						
MLY	Manley	3.15	337	Pn	Pn	01 21 12.6	+0.8
SNH	Sunshine Point	3.15	127	Pn	Pn	01 21 13.0	+1.1
SNH				IAML		01 22 00.2	
	comp=E,375nm,1.1s						
SNH				IAML		01 22 07.8	
	comp=N,400nm,0.7s						
BARN	Barnard Glacie	3.17	108	IAML		01 22 02.1	
	comp=N,509nm,1.0s						
BARN				IAML		01 22 02.9	
	comp=E,452nm,0.8s						
K27K	Chicken	3.23	52		Pn	01 21 13.5	+0.6
BAGL	Bagley Icefiel	3.25	119		Pn	01 21 13.3	+0.1
L19K	White Mountain	3.28	273		Pn	01 21 14.7	+1.1
L19K	White Mountain	3.28	273	IAML		01 22 00.8	
	comp=E,302nm,0.5s						
CTGM	Chitina Glacie	3.35	108	Pn	Pn	01 21 15.9	+1.2
CTGM				IAML		01 22 05.5	
	comp=N,413nm,0.8s						
CTGM				IAML		01 22 05.5	
	comp=E,247nm,0.7s						
ILSW	Iliamna Southw	3.37	232	Pn	Pn	01 21 16.6	+1.7
N19K	Bonanza Creek	3.45	250	IAML		01 22 16.5	
	comp=E,212nm,0.9s						
N19K				IAML		01 22 23.4	
	comp=N,226nm,1.2s						
YAH	Yahtse	3.47	119	Pn	Pn	01 21 17.5	+1.1
YAH				IAML		01 22 15.5	
	comp=N,440nm,0.9s						
YAH				IAML		01 22 16.1	
	comp=E,301nm,0.9s						
J20K	Nowinta River	3.49	308		Pn	01 21 17.5	+1.1
J20K	Nowinta River	3.49	308	IAML		01 22 00.5	
	comp=N,226nm,0.5s						
J20K				IAML		01 22 19.6	
	comp=E,340nm,0.7s						
MESA	MESA	3.49	122	Pn	Pn	01 21 16.8	+0.1
PRP	Porcupine Dome	3.52	16	Pn	Pn	01 21 17.5	+0.6
PRP				IAML		01 22 00.4	
	comp=N,382nm,0.7s						
I21K	Tanana	3.53	331	IAML		01 22 01.6	
	comp=N,251nm,1.0s						
LOGN	Logan Glacier	3.56	109	Pn	Pn	01 21 17.9	+0.4
LOGN				IAML		01 22 10.5	
	comp=N,285nm,0.7s						
LOGN				IAML		01 22 12.4	
	comp=E,249nm,0.6s						
P19K	Oil Pt	3.64	228	Pn	Pn	01 21 19.7	+1.2
P19K				IAML		01 22 18.2	
	comp=E,365nm,0.6s						
TABL	Table Mountain	3.68	115	Pn	Pn	01 21 19.0	-0.2
TABL				IAML		01 22 16.9	
	comp=E,226nm,0.7s						
TABL				IAML		01 22 21.6	
	comp=N,271nm,1.1s						
H24K	Noodor Dome	3.68	360		Pn	01 21 20.1	+1.0
H23K	Yukon River	3.74	349		Pn	01 21 21.3	+1.4
H23K	Yukon River	3.74	349	IAML		01 22 06.4	
	comp=N,241nm,0.9s						
I26K	Coal Creek Min	3.78	32	IAML		01 22 23.4	
	comp=N,160nm,0.9s						
I26K				IAML		01 22 24.9	
	comp=E,246nm,0.9s						
O28M	Mount Upton	3.94	107	IAML		01 22 30.5	
	comp=N,274nm,0.8s						
I20K	Naaghedeneel	3.97	315	Pn	Pn	01 21 24.0	+1.1
J19K	Poorman	3.97	301	Pn	Pn	01 21 23.8	+0.8
J19K				IAML		01 22 36.7	
	comp=E,161nm,0.6s						
J19K				IAML		01 22 40.0	
	comp=N,192nm,0.9s						
EGAK	Eagle	3.99	46	IAML		01 22 29.8	
	comp=N,151nm,0.7s						
EGAK				IAML		01 22 30.8	
	comp=N,216nm,0.8s						
L18K	Granite Mounta	4.13	275		Pn	01 21 25.7	+0.5
L18K	Granite Mounta	4.13	275	IAML		01 22 41.3	
	comp=E,124nm,1.3s						
L18K				IAML		01 22 44.4	
	comp=N,156nm,1.2s						
N18K	Kilae Creek	4.13	252	IAML		01 22 41.6	
	comp=N,121nm,0.7s						
SYI	Shuyak Island	4.22	214		Pn	01 21 27.7	+1.3
SYI	Shuyak Island	4.22	214	IAML		01 22 48.0	
	comp=E,122nm,2.6s						
PCA	Pinnacle	4.24	116	Pn	Pn	01 21 27.0	+0.2
J18K	Innoko River	4.26	292	IAML		01 22 47.0	
	comp=E,118nm,1.6s						
J18K				IAML		01 22

L29M				IAML			01 22 56.3	
	comp=E,124nm,0.9s							
M17K	**Holitna River**	**4.61**	**265**		**Pn**	**Pn**	**01 21 32.3**	**+0.5**
IMAR	**Indian Mountai**	**4.62**	**329**	Pn	**Pn**	**Pn**	**01 21 32.7**	**+0.9**
G23K	**Bananza Creek**	**4.65**	**349**		**Pn**	**Pn**	**01 21 33.6**	**+1.2**
N17K	**Nushagak Hills**	**4.78**	**254**	IAML			01 23 01.0	
N17K	comp=E,94nm,1.8s			IAML			01 23 01.0	
	comp=N,118nm,1.1s							
I28M	**Miner Creek**	**4.81**	**43**	IAML			01 22 59.4	
I28M	comp=E,138nm,1.0s			IAML			01 23 02.3	
	comp=N,83nm,1.1s							
PNL	**Peninsula**	**4.83**	**118**		**Pn**	**Pn**	**01 21 35.4**	**+0.4**
O29M	**Mount Kennedy**	**4.86**	**109**	Pn	**Pn**	**Pn**	**01 21 36.5**	**+1.1**
O29M	comp=E,103nm,0.8s			IAML			01 22 51.7	
O29M				IAML			01 22 56.3	
	comp=N,105nm,0.7s							
K17K	**Iditarod**	**4.88**	**281**	IAML			01 23 07.3	
K17K	comp=E,142nm,0.9s			IAML			01 23 15.0	
	comp=N,127nm,1.2s							
L17K	**Donlin**	**4.89**	**274**		**Pn**	**Pn**	**01 21 36.1**	**+0.5**
KDAK	**Kodiak Island**	**5.00**	**210**	P	**Pn**	**Pn**	**01 21 38.7**	**+1.6**
KDAK	comp=N,9.8nm,0.8s,baz=32,slow=2.5,SNR=15			S		**Sn**	**01 22 32.6**	**-1.0**
	comp=N,12nm,0.3s,baz=74,slow=14,SNR=6.6							
G21K	**Allakaket**	**5.00**	**333**	IAML			01 22 37.3	
G21K	comp=E,108nm,0.9s			IAML			01 22 50.2	
	comp=N,124nm,1.0s							
K29M	**Barlow Dome**	**5.00**	**66**		**Pn**	**Pn**	**01 21 37.7**	**+0.4**
H19K	**Roundabout Mou**	**5.07**	**315**	IAML			01 23 17.9	
H19K	comp=N,64nm,1.0s			IAML			01 23 17.9	
	comp=E,70nm,1.4s							
G26K	**Porcupine Rive**	**5.11**	**18**	IAML			01 23 04.9	
	comp=N,108nm,1.1s							
HYT	**Haines Junctio**	**5.14**	**101**	Pn	**Pn**	**Pn**	**01 21 40.1**	**+0.8**
COLD	**Coldfoot**	**5.17**	**350**	Pn	**Pn**	**Pn**	**01 21 41.0**	**+1.5**
COLD				IAML			01 22 53.8	
	comp=E,61nm,1.1s							
J17K	**VABM Dome**	**5.29**	**288**	IAML			01 23 22.2	
J17K	comp=E,63nm,2.2s			IAML			01 23 25.0	
	comp=N,76nm,1.6s							
I29M	**Ogilvie Camp,**	**5.31**	**49**	IAML			01 23 13.8	
	comp=N,64nm,0.7s							
F24K	**Squaw Lake**	**5.37**	**360**	Pn	**Pn**	**Pn**	**01 21 43.6**	**+1.3**
BMAR	**Burnt Mountain**	**5.46**	**13**	Pn	**Pn**	**Pn**	**01 21 44.1**	**+0.6**
F25K	**Christian Rive**	**5.53**	**9**		**Pn**	**Pn**	**01 21 45.1**	**+0.7**
H18K	**Honhosa River**	**5.55**	**307**	Pn	**Pn**	**Pn**	**01 21 45.9**	**+1.3**
P29M	**Windy Craggy**	**5.56**	**113**	Pn	**Pn**	**Pn**	**01 21 45.5**	**+0.7**
F21K	**Alatna River**	**5.61**	**337**	Pn	**Pn**	**Pn**	**01 21 46.5**	**+0.9**
J30M	**Hart River**	**5.72**	**60**	Pn	**Pn**	**Pn**	**01 21 47.9**	**+0.7**
F26K	**Sheenjek River**	**5.77**	**14**	Pn	**Pn**	**Pn**	**01 21 48.1**	**+0.5**
O30N	**Mendenhall**	**5.82**	**99**	Pn	**Pn**	**Pn**	**01 21 48.4**	**0.0**
E23K	**Chandalar**	**5.96**	**354**		**Pn**	**Pn**	**01 21 51.6**	**+1.3**
E25K	**Arctic Village**	**6.05**	**8**		**Pn**	**Pn**	**01 21 53.0**	**+1.4**
I17K	**Unalakleet**	**6.09**	**292**		**Pn**	**Pn**	**01 21 52.8**	**+0.8**
E22K	**Anaktuvuk Pass**	**6.21**	**346**		**Pn**	**Pn**	**01 21 55.1**	**+1.3**
G29M	**Pine Creek**	**6.37**	**37**	Pn	**Pn**	**Pn**	**01 21 56.9**	**+1.0**
WHY	**Whitehorse**	**6.42**	**98**	Pn	**Pn**	**Pn**	**01 21 56.7**	**0.0**
L15K	**Ungalak Mounta**	**6.45**	**272**		**Pn**	**Pn**	**01 21 57.3**	**+0.3**
TOLK	**Toolik Lake Re**	**6.54**	**355**	Pn	**Pn**	**Pn**	**01 22 00.5**	**+2.3**
G17K	**Kiwalik Mounta**	**6.56**	**306**		**Pn**	**Pn**	**01 21 59.7**	**+1.2**
E19K	**Redstone River**	**6.64**	**327**		**Pn**	**Pn**	**01 22 00.8**	**+1.3**
F18K	**Selawik**	**6.76**	**316**		**Pn**	**Pn**	**01 22 02.7**	**+1.4**
H16K	**Elim**	**6.91**	**297**		**Pn**	**Pn**	**01 22 04.1**	**+0.9**
D23K	**Nanushuk River**	**6.92**	**352**		**Pn**	**Pn**	**01 22 05.0**	**+1.5**
F17K	**Baldwin Pennin**	**7.22**	**312**	Pn	**Pn**	**Pn**	**01 22 09.3**	**+1.9**
BESE	**Bessie Mountai**	**7.38**	**113**	Pn	**Pn**	**Pn**	**01 22 09.3**	**-0.5**
F30M	**Barrier River**	**7.49**	**38**		**Pn**	**Pn**	**01 22 11.7**	**+0.5**
D20K	**Etivluk River**	**7.50**	**335**		**Pn**	**Pn**	**01 22 12.8**	**+1.4**
P33M	**Teslin, Yukon**	**7.53**	**98**	Pn	**Pn**	**Pn**	**01 22 12.1**	**+0.2**
E18K	**Tukpahlearik C**	**7.56**	**320**		**Pn**	**Pn**	**01 22 14.3**	**+2.1**
C21K	**Knifeblade Rid**	**7.57**	**341**		**Pn**	**Pn**	**01 22 14.0**	**+1.7**
C27K	**Jago River**	**7.68**	**11**		**Pn**	**Pn**	**01 22 15.5**	**+1.7**
MMPY	**Sheldon Lake,**	**7.73**	**79**	Pn	**Pn**	**Pn**	**01 22 14.4**	**-0.2**
E17K	**Hotham Inlet**	**7.75**	**316**		**Pn**	**Pn**	**01 22 16.3**	**+1.5**
C23K	**Itkillik River**	**7.78**	**353**		**Pn**	**Pn**	**01 22 16.1**	**+0.9**
F31M	**Tsiigehtchic**	**8.00**	**43**	Pn	**Pn**	**Pn**	**01 22 17.7**	**-0.5**
F15K	**North Star Dit**	**8.19**	**303**		**Pn**	**Pn**	**01 22 22.2**	**+1.5**
Q32M	**Nakina River**	**8.32**	**106**	Pn	**Pn**	**Pn**	**01 22 22.2**	**-0.7**
INK	**Inuvik**	**8.59**	**38**	Pn	**Pn**	**Pn**	**01 22 26.9**	**+0.6**
INK	**Inuvik**	**8.59**	**38**	P	**Pn**	**Pn**	**01 22 26.6**	**+0.3**
	comp=N,1.7nm,0.3s,baz=215,slow=15,SNR=27							
INK				S	**Sn**	**Sn**	**01 24 00.3**	**-1.3**
	comp=N,5.1nm,0.6s,baz=331,slow=18,SNR=3.8							
B18K	**Kokolik River**	**9.19**	**328**		**Pn**	**Pn**	**01 22 35.0**	**+0.5**
TNA	**Tin City**	**9.46**	**300**	Pn	**Pn**	**Pn**	**01 22 40.0**	**+1.9**
DLBC	**Dease Lake**	**9.60**	**105**	P	**Pn**	**Pn**	**01 22 42.3**	**+2.1**
	comp=N,5.6nm,0.5s,baz=264,slow=16,SNR=3.5							
DLBC				LR	LR	LR	01 26 36.6	
	comp=N,911nm,18.2s,baz=248,slow=38							
U33K	**Whale Pass**	**9.69**	**122**	Pn	**Pn**	**Pn**	**01 22 42.3**	**+0.9**
GAMB	**Gambell**	**10.94**	**289**	Pn	**Pn**	**Pn**	**01 23 00.2**	**+1.8**
C36M	**Paulatuk**	**12.06**	**43**	Pn	**Pn**	**Pn**	**01 23 11.9**	**-1.7**
BBB	**Bella Bella**	**14.59**	**124**	LR	LR	LR	01 29 39.6	
	comp=N,65nm,19.6s,baz=268,slow=38							
PLID	**Pearl Lake**	**25.09**	**118**	P		**P**	**01 25 45.1**	**0.0**
PETK	**Petropavlovsk-**	**29.65**	**278**	LR	LR	LR	01 37 56.2	
	comp=N,30nm,19.9s,baz=128,slow=36							
PDAR	**Pinedale Array**	**29.70**	**113**	P		**P**	**01 26 27.9**	**+1.6**
PDAR	**Pinedale Array**	**29.70**	**113**	P		**P**	**01 26 27.3**	**+1.0**
	comp=N,1.1nm,0.9s,baz=316,slow=6.2,SNR=8.1							
PDAR				LR	LR	LR	01 39 00.5	
	comp=N,34nm,19.8s,baz=17,slow=37							
	comp=N,1.1nm,0.9s							
SRU	**San Rafael Swe**	**32.32**	**118**	P		**P**	**01 26 50.4**	**+1.0**
SRU				IAmb	IAmb	IAmb	01 26 55.0	
	comp=Z,2.7nm,0.7s							
CCUT	**Cedar City**	**32.51**	**123**	P		**P**	**01 26 52.5**	**+1.4**
CCUT				IAmb	IAmb	IAmb	01 26 53.3	
	comp=Z,2.2nm,0.8s							
L40A	**Anamoose**	**38.60**	**94**	P		**P**	**01 27 42.6**	**-0.3**
TXAR	**Lajitas Array**	**43.60**	**118**	P		**P**	**01 28 25.4**	**+1.1**
TXAR	**Lajitas Array**	**43.60**	**118**	P		**P**	**01 28 24.8**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=325,slow=6.3,SNR=5.9							
	comp=Z,0.6nm,0.8s							
ARCES	**ARCESS Array B**	**48.50**	**3**	P		**P**	**01 29 00.4**	**-1.8**
	comp=Z,3.1nm,1.0s,baz=353,slow=3.9,SNR=4.5							
	comp=Z,3.1nm,1.0s							
FINES	**FINESS Array B**	**56.62**	**3**	P		**P**	**01 30 00.6**	**-1.7**
	comp=Z,2.8nm,1.0s,baz=1.8,slow=6.6,SNR=4.8							
	comp=Z,2.8nm,1.0s							
HHC	**Hu-ho-hao-te**	**59.33**	**300**	*eP*		**P**	**01 30 26.3**	**+4.6**
HHC				pmax		pmax		
	comp=Z,14nm,0.8s							
EKA	**Eskdalemuir Ar**	**59.61**	**22**	P		**P**	**01 30 22.8**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=326,slow=5.2,SNR=13							
	comp=Z,1.5nm,0.5s							
BVAR	**Borovoye Array**	**61.24**	**335**	P		**P**	**01 30 33.8**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=29,slow=3.4,SNR=3.8							
	comp=Z,0.6nm,0.6s							
MKAR	**Makanchi Array**	**64.21**	**324**	P		**P**	**01 30 52.2**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=25,slow=7.1,SNR=4.5							
	comp=Z,0.2nm,0.4s							
AB31	**Akbulak array**	**66.73**	**341**	P		**P**	**01 31 09.8**	**-0.7**
AB31				IAmb	IAmb	IAmb	01 31 24.5	
	comp=Z,1.8nm,0.8s							
ABKAR	**Akbulak array**	**66.73**	**341**	P		**P**	**01 31 09.9**	**-0.6**
AKASG	**Malin Array Be**	**67.45**	**2**	P		**P**	**01 31 13.4**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=7.5,slow=6.0,SNR=2.1							
	comp=Z,0.6nm,0.5s							
BUR08	**Bucovina Ar. S**	**70.39**	**5**	P		**P**	**01 31 33.1**	**-0.5**
BUR08				IAmb	IAmb	IAmb	01 31 33.4	
	comp=Z,2.7nm,1.2s							
BURAR	**Bucovina Array**	**70.42**	**5**	P		**P**	**01 31 32.7**	**-1.1**
ESDC	**Sonseca Array**	**74.40**	**28**	P		**P**	**01 31 56.3**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=339,slow=5.7,SNR=15							
	comp=Z,1.1nm,0.7s							
BRTR	**Keskin Array B**	**78.44**	**359**	P		**P**	**01 32 19.4**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=342,slow=6.2,SNR=3.7							
	comp=Z,0.5nm,0.8s							

*IDC **30** 02:00:02.8±0.7,5.65N×126.42E,h0km,mb4.1/13, mbtmp4.1/13,MS3.1/1,Error ellipse: s-maj=54.3km s-min=15.3km az=71.0*
*NEIC **30** 02:00:14.7±1.6,5.75N±0.09×126.4E±0.2,h99km±10km, mb4.3/15,Error ellipse: s-maj=27.5km s-min=10.7km az=70.0*

ISC 30 02:00:11.7±0.6,5.68N±0.06×126.5E±0.1,h66km,n37, σ1s31/38,mb4.2/20,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.65**	**327**	Pn	**Pn**	**Pn**	**02 00 41.5**	**+2.9**
TNTI	**Ternate**	**4.96**	**170**	Pn	**Pn**	**Pn**	**02 01 25.9**	**+2.3**
TOLI2	**Tolitoli**	**7.29**	**232**	Pn	**Pn**	**Pn**	**02 01 56.7**	**+1.1**
KAPI	**Kappang**	**12.58**	**212**	Pn	**Pn**	**Pn**	**02 03 10.6**	**+2.7**
JAGI	**Jajag, Banyuwa**	**18.69**	**221**	P	**P**	**P**	**02 04 25.3**	**+0.5**
JAGI	comp=Z,26nm,1.0s			IAmb	IAmb	IAmb	02 04 50.6	
KNRA	**Kununurra**	**21.34**	**174**	P	**P**	**P**	**02 04 52.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**23.65**	**182**	P	**P**	**P**	**02 05 15.9**	**-1.3**
WB0	**Warramunga Arr**	**26.46**	**163**	P	**P**	**P**	**02 05 41.4**	**-1.4**
WB0	comp=Z,3.3nm,0.8s			IAmb	IAmb	IAmb	02 05 47.6	
WRAB	**Tennant Creek**	**26.60**	**163**	P	**P**	**P**	**02 05 45.0**	**+1.0**
WRAB	comp=Z,4.6nm,0.7s			IAmb	IAmb	IAmb	02 06 08.0	
WRA	**Warramunga Arr**	**26.61**	**163**	P	**P**	**P**	**02 05 43.7**	**-0.4**
WRA	**Warramunga Arr**	**26.61**	**163**	P	**P**	**P**	**02 05 43.5**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=343,slow=10.0,SNR=8.4							
	comp=Z,0.8nm,0.4s							
WR8	**Warramunga Arr**	**26.67**	**163**	P	**P**	**P**	**02 05 44.5**	**-0.2**
WR8	comp=Z,3.4nm,1.0s			IAmb	IAmb	IAmb	02 06 02.0	
MBWA	**Marble Bar**	**27.49**	**194**	P	**P**	**P**	**02 05 50.8**	**-1.2**
MBWA	comp=Z,15nm,1.1s			IAmb	IAmb	IAmb	02 06 17.2	
PSA00	**Pilbara Seismi**	**27.86**	**193**	P	**P**	**P**	**02 05 54.7**	**-0.6**
PSA00	comp=Z,5.6nm,1.1s			IAmb	IAmb	IAmb	02 05 58.0	
PSA00	**Pilbara Seismi**	**27.86**	**193**	P	**P**	**P**	**02 05 54.7**	**-0.6**
PSA00	comp=Z,11nm,0.9s			IAmb	IAmb	IAmb	02 05 58.5	
ASAR	**Alice Springs**	**30.05**	**166**	P	**P**	**P**	**02 06 13.9**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=345,slow=6.9,SNR=10							
ASAR				PcP	**PcP**		**02 09 16.0**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=353,slow=2.8,SNR=5.9							
	comp=Z,0.7nm,0.5s							
MORW	**Morawa**	**35.99**	**196**	P	**P**	**P**	**02 07 05.7**	**-0.7**
MORW	comp=Z,5.5nm,1.1s			IAmb	IAmb	IAmb	02 07 06.8	
USRK	**Ussuriysk Ar.**	**38.66**	**6**	P	**P**	**P**	**02 07 29.9**	**+1.1**
	comp=Z,2.3nm,0.5s,baz=196,slow=7.7,SNR=5.3							
	comp=Z,2.3nm,0.5s							
BBOO	**Buckleboo**	**39.35**	**167**	P	**P**	**P**	**02 07 34.4**	**-0.3**
BBOO	comp=Z,8.4nm,1.1s			IAmb	IAmb	IAmb	02 07 38.0	
NWAO	**Narrogin (SRO)**	**39.39**	**192**	P	**P**	**P**	**02 07 34.9**	**-0.2**
STKA	**Stephens Creek**	**40.03**	**160**	P	**P**	**P**	**02 07 40.0**	**-0.4**
STKA	**Stephens Creek**	**40.03**	**160**	P	**P**	**P**	**02 07 39.6**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=323,slow=9.9,SNR=3.3							
	comp=Z,1.0nm,0.3s							
SONM	**Songino Array**	**45.38**	**341**	P	**P**	**P**	**02 08 24.6**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=158,slow=9.6,SNR=3.7							
	comp=Z,0.5nm,0.4s							
MKAR	**Makanchi Array**	**55.83**	**325**	P	**P**	**P**	**02 09 39.3**	**-3.0**
MKAR	**Makanchi Array**	**55.83**	**325**	P	**P**	**P**	**02 09 41.0**	**-1.3**
MKAR	comp=Z,0.4nm,0.3s,baz=114,slow=7.8,SNR=8.9			PcP	**PcP**		**02 10 42.2**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=129,slow=2.0,SNR=1.9							
	comp=Z,0.4nm,0.3s							
MA2	**Magadan**	**56.88**	**14**	LR	LR		02 33 53.7	
	comp=Z,17nm,19.8s,baz=246,slow=36							
ZALV	**Zalesovo Beam**	**58.76**	**333**	P	**P**	**P**	**02 10 03.5**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=120,slow=5.3,SNR=4.7							
	comp=Z,1.0nm,0.4s							
KURBB	**Kurchatov Arra**	**59.98**	**327**	P	**P**	**P**	**02 10 11.3**	**0.0**
	comp=Z,1.0nm,0.4s,baz=123,slow=6.6,SNR=6.1							
	comp=Z,1.0nm,0.4s							
BVAR	**Borovoye Array**	**65.57**	**327**	P	**P**	**P**	**02 10 48.6**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=106,slow=11,SNR=5.2							
	comp=Z,0.6nm,0.4s							
AB31	**Akbulak array**	**70.50**	**320**	P	**P**	**P**	**02 11 17.3**	**-2.2**
ABKAR	**Akbulak array**	**70.50**	**320**	P	**P**	**P**	**02 11 17.5**	**-1.9**
ILAR	**Eielson Array**	**83.45**	**26**	P	**P**	**P**	**02 12 30.9**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=264,slow=5.6,SNR=4.5							
	comp=Z,0.3nm,0.6s							
ARCES	**ARCESS Array B**	**88.55**	**340**	P	**P**	**P**	**02 12 56.2**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=79,slow=6.3,SNR=8.9							
	comp=Z,1.5nm,0.6s							
FINES	**FINESS Array B**	**90.01**	**332**	P	**P**	**P**	**02 13 03.3**	**-0.5**
	comp=Z,3.0nm,1.0s,baz=108,slow=6.2,SNR=7.9							
	comp=Z,3.0nm,1.0s							
HFS	**Hagfors**	**96.19**	**332**	P	**P**	**P**	**02 13 31.2**	**-1.1**
	comp=Z,3.1nm,1.0s,baz=120,slow=8.8,SNR=5.2							
	comp=Z,3.1nm,1.0s							
TORD	**Torodi Ar. Bea**	**122.08**	**289**	PKP		**PKPdf**	**02 18 59.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=71,slow=1.8,SNR=4.2							
DBIC	**Dimbokro**	**129.92**	**284**	PKP		**PKiKP**	**02 19 15.9**	**+0.2**
	comp=Z,6.8nm,1.1s,baz=258,slow=3.4,SNR=3.4							

IDC 30 02:06:33.5±1.9,5.78S×148.99E,h0km,mb3.6/3, mbtmp3.8/4,ML2.0/1,MS2.8/2,Error ellipse: s-maj=109.3km s-min=26.7km az=120.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.03**	**207**	Pn		Pn	02 07 38.1	+1.6
	7.6nm,0.3s,baz=33,slow=8.5,SNR=9.1							
PMG				Sn		Sn	02 08 21.1	-3.5
	10nm,0.3s,baz=164,slow=20,SNR=6.9							
PMG				LR	LR	LR	02 09 18.1	
	comp=Z,82nm,19.4s,baz=210,slow=41							
	22nm,0.4s							
WRA	**Warramunga Arr**	**20.03**	**224**	P		P	02 11 07.7	-0.5
	2.6nm,0.5s,baz=48,slow=11,SNR=22							
	2.6nm,0.5s							
ASAR	**Alice Springs**	**22.96**	**218**	P		P	02 11 38.8	-1.0
	0.8nm,0.5s,baz=56,slow=9.2,SNR=10							
	0.8nm,0.5s							
KAPI	**Kappang**	**29.12**	**270**	LR	LR	LR	02 26 01.9	
	comp=Z,20nm,18.1s,baz=62,slow=40							
ILAR	**Eielson Array**	**84.51**	**23**	P		P	02 19 08.0	-0.1
	0.5nm,0.8s,baz=257,slow=5.2,SNR=4.2							
	0.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**146.95**	**285**	PKPbc		PKPbc	02 26 19.1	-0.1
	1.1nm,1.0s,baz=101,slow=3.7,SNR=5.6							

*IDC **30** 02:07:18.1±1.0,3.79N×64.24E,h0km,mb3.8/12, mbtmp3.8/12,MS3.2/9,Error ellipse: s-maj=30.2km s-min=18.9km az=34.0*
*NEIC **30** 02:07:20.2±1.3,3.7N±0.1×64.3E±0.1,h10km±1km, mb4.5/25,Error ellipse: s-maj=31.5km s-min=7.4km az=217.0*

ISC 30 02:07:19.3±1.1,3.8N±0.2×64.2E±0.1,h10km,n68, σ0s88/58,mb4.3/38,MS3.2/8,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**16.76**	**77**	LR		LR	02 16 13.8	
	comp=Z,75nm,18.4s,baz=288,slow=32							
HYB	**Hyderabad**	**19.53**	**45**	*eP*		**P**	**02 11 47.7**	**+0.5**
OPO	**Ambohidratompo**	**27.82**	**217**	LR		LR	02 21 34.9	
	comp=Z,48nm,19.5s,baz=184,slow=31							
HRA	**Herat**	**30.53**	**357**	P		**P**	**02 13 34.4**	**+1.2**
HRA	comp=Z,7.6nm,1.4s			IAmb	IAmb	IAmb	02 13 35.6	
NIL	**Nilore**	**30.91**	**15**	P		**P**	**02 13 36.6**	**+0.3**
NIL	comp=Z,4.9nm,0.8s			IAmb	IAmb	IAmb	02 13 39.2	
EVN	**Everest**	**32.29**	**39**	P		**P**	**02 13 47.5**	**-1.7**
EVN	comp=Z,2.6nm,0.5s			IAmb	IAmb	IAmb	02 14 11.1	
MBAR	**Mbarara**	**33.75**	**263**	LR		LR	02 26 33.3	
	comp=Z,25nm,20.1s,baz=281,slow=34							
GAR	**Garm**	**35.52**	**8**	P		**P**	**02 14 16.7**	**+0.1**
LSA	**Lhasa**	**36.27**	**42**	P		**P**	**02 14 23.1**	**-0.5**
LSA	comp=Z,4.0nm,0.6s			IAmb	IAmb	IAmb	02 14 26.4	
CMAR	**Chiang Mai Arr**	**36.95**	**64**	P		**P**	**02 14 30.1**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=258,slow=8.2,SNR=4.1							
CMAR				LR		LR	02 29 02.2	
	comp=Z,18nm,18.1s,baz=235,slow=35							
	comp=Z,0.9nm,0.3s							
KK31	**Karatay Array**	**39.58**	**7**	P		**P**	**02 14 51.7**	**+0.9**
KKAR	**Karatay Array**	**39.58**	**7**	P		**P**	**02 14 51.7**	**+0.9**
MARD	**Mardin**	**39.72**	**330**	P		**P**	**02 14 53.4**	**+1.1**
MARD	comp=Z,5.4nm,0.5s			IAmb	IAmb	IAmb	02 14 55.3	
AAK	**Ala-Archa**	**39.78**	**12**	P		**P**	**02 14 53.2**	**+0.5**
GURO	**Guroymak-BITLI**	**40.11**	**333**	P		**P**	**02 14 56.3**	**+0.8**
GURO	comp=Z,5.5nm,0.4s			IAmb		IAmb	02 14 58.8	
GNI	**Garni**	**40.29**	**337**	P		**P**	**02 14 57.6**	**+0.7**
LSZ	**Lusaka**	**40.39**	**241**	LR		LR	02 28 37.7	
	comp=Z,46nm,21.1s,baz=60,slow=32							
ARPR	**Arapgir-MALATY**	**42.32**	**330**	P		**P**	**02 15 14.5**	**+0.9**
ARPR				IAmb		IAmb	02 15 23.2	
	comp=Z,9.6nm,1.2s							
BNN	**Bunyan**	**43.44**	**327**	P		**P**	**02 15 23.6**	**+0.9**
KBZ	**Khabaz**	**44.06**	**338**	P		**P**	**02 15 29.1**	**+1.6**
	comp=Z,5.4nm,1.0s,baz=162,slow=6.1,SNR=9.2							
	comp=Z,5.4nm,1.0s							
KIV	**Kislovodsk**	**44.33**	**338**	P		**P**	**02 15 31.0**	**+1.2**
BRTR	**Keskin Array B**	**45.26**	**326**	P		**P**	**02 15 36.9**	**-0.4**
BRTR	**Keskin Array B**	**45.26**	**326**	P		**P**	**02 15 37.9**	**+0.5**
	comp=Z,1.3nm,1.0s,baz=150,slow=8.0,SNR=8.9							
	comp=Z,1.3nm,1.0s							
AB31	**Akbulak array**	**45.48**	**356**	P		**P**	**02 15 38.9**	**+0.2**
ABKAR	**Akbulak array**	**45.48**	**356**	P		**P**	**02 15 38.6**	**-0.1**
MKAR	**Makanchi Array**	**45.64**	**17**	P		**P**	**02 15 39.6**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=208,slow=11,SNR=2.8							
MKAR				LR		LR	02 34 51.1	
	comp=Z,37nm,18.2s,baz=240,slow=36							
	comp=Z,0.4nm,0.7s							
ISP	**Isparta**	**45.81**	**322**	P		**P**	**02 15 41.5**	**-0.1**
ISP				IAmb		IAmb	02 15 42.8	
	comp=Z,6.3nm,1.1s							
ANTO	**Ankara**	**45.83**	**326**	P		**P**	**02 15 42.8**	**+1.1**
ANTO				IAmb		IAmb	02 15 43.7	
	comp=Z,7.6nm,1.4s							
LBTB	**Lobatse**	**47.17**	**231**	LR		LR	02 32 48.3	
	comp=Z,30nm,19.6s,baz=46,slow=32							
KURBB	**Kurchatov Arra**	**48.23**	**12**	P		**P**	**02 15 59.5**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=212,slow=8.0,SNR=5.2							
	comp=Z,0.7nm,0.9s							
BVAR	**Borovoye Array**	**49.37**	**5**	LR		LR	02 37 37.8	
	comp=Z,33nm,18.1s,baz=173,slow=37							
BOSA	**Boshof**	**49.38**	**227**	LR		LR	02 33 43.4	
	comp=Z,18nm,20.6s,baz=32,slow=32							
ALN	**Alexandroupoli**	**50.43**	**323**	P		**P**	**02 16 17.1**	**-0.1**
ALN				IAmb		IAmb	02 16 19.2	
	comp=Z,7.2nm,1.2s							
ZAA0	**Zalesovo Array**	**52.80**	**15**	P		**P**	**02 16 33.5**	**-1.1**
ZAA0				IAmb		IAmb	02 16 34.2	
	comp=Z,5.3nm,1.3s							
ZALV	**Zalesovo Beam**	**52.80**	**15**	P		**P**	**02 16 33.5**	**-1.1**
ZALV	**Zalesovo Beam**	**52.80**	**15**	P		**P**	**02 16 33.9**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=209,slow=7.1,SNR=8.1							
	comp=Z,1.8nm,0.6s							
BURAR	**Bucovina Array**	**55.08**	**329**	P		**P**	**02 16 52.2**	**+0.6**
BUR08	**Bucovina Ar. S**	**55.10**	**329**	P		**P**	**02 16 52.2**	**+0.4**
AKASG	**Malin Array Be**	**55.25**	**334**	P		**P**	**02 16 52.1**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=153,slow=6.8,SNR=4.8							
	comp=Z,0.3nm,0.5s							
SONM	**Songino Array**	**56.88**	**33**	P		**P**	**02 17 04.4**	**-0.1**
SONM	**Songino Array**	**56.88**	**33**	P		**P**	**02 17 04.8**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=229,slow=8.1,SNR=8.1

comp=N,241nm,0.4s
PB05 IPOC Station P 3.03 296 *e*P **Pn 02 15 44.6 +0.3**
PB05 *e*S **Sn 02 16 21.5 -1.0**
PB05 IAML 02 16 23.3
comp=Z,149nm,0.4s
PB09 IPOC Station P 3.04 323 *e*P **Pn 02 15 45.6 +1.2**
PB09 *e*S **Sn 02 16 21.1 -1.6**
PB09 IAML 02 16 25.0
comp=E,167nm,0.6s
PB09 IPOC Station P 3.04 323 *e*P **Pn 02 15 45.6 +1.2**
PB09 *e*S **Sn 02 16 23.2 +0.5**
PB09 IAML 02 16 24.8
comp=Z,162nm,0.3s
AC02 Maricunga 3.09 213 *e*P **Pn 02 15 45.8 +0.4**
AC02 *e*S **Sn 02 16 22.0 -2.5**
AC02 IAML 02 16 56.1
comp=Z,134nm,0.8s
PB10 IPOC Station P 3.10 283 *e*P **Pn 02 15 45.4 +0.4**
PB10 *e*S **Sn 02 16 22.7 -1.1**
PB10 IAML 02 16 28.0
comp=N,221nm,0.4s
PB10 IPOC Station P 3.10 283 *e*P **Pn 02 15 45.4 +0.4**
PB10 *e*S **Sn 02 16 23.2 -0.6**
PB10 IAML 02 16 29.1
comp=Z,173nm,0.6s
PB03 IPOC Station P 3.16 313 *e*P **Pn 02 15 46.4 +0.5**
PB03 IPOC Station P 3.16 313 *e*P **Pn 02 15 46.4 +0.5**
PB03 *e*S **Sn 02 16 24.2 -1.2**
PB03 IAML 02 16 27.6
comp=Z,381nm,0.3s
AC01 Pan de Azucar 3.58 237 *e*P **Pn 02 15 49.8 -1.0**
AC01 *e*S **Sn 02 16 32.1 -2.3**
AC01 IAML 02 16 32.7
comp=Z,65nm,0.1s
PB01 IPOC Station P 3.78 327 *e*P **Pn 02 15 53.6 0.0**
PB01 *e*S **Sn 02 16 37.3 -2.0**
PB01 IAML 02 16 40.4
comp=Z,113nm,0.2s
PB02 IPOC Station P 3.79 319 *e*P **Pn 02 15 53.4 -0.2**
PB02 IPOC Station P 3.79 319 *e*P **Pn 02 15 53.3 -0.4**
PB02 *e*S **Sn 02 16 37.5 -1.9**
PB02 IAML 02 16 43.3
comp=Z,366nm,0.3s
GO03 Copiapo 4.29 218 *e*P **Pn 02 15 58.7 -1.2**
GO03 *e*S **Sn 02 16 47.9 -2.8**
GO03 IAML 02 16 51.2
comp=Z,34nm,0.5s
PB08 IPOC Station P 4.43 336 *e*P **Pn 02 16 02.9 +0.7**
PB08 *e*S **Sn 02 16 54.1 -0.5**
PB08 IAML 02 17 01.0
comp=Z,29nm,0.5s
TA01 Diego Aracena 4.54 323 *e*P **Pn 02 16 03.2 0.0**
TA01 *e*S Sn 02 16 46.2 -10
TA01 IAML 02 17 03.8
comp=Z,25nm,0.2s
HMBC Humberstone 4.63 328 *e*P **Pn 02 16 03.3 -1.1**
HMBC *e*S **Sn 02 16 55.0 -3.8**
HMBC IAML 02 17 02.2
comp=Z,64nm,0.7s
GO01 Chusmiza 4.88 338 *e*P **Pn 02 16 08.3 +0.2**
GO01 IAML 02 17 07.7
comp=Z,21nm,0.4s
PB11 IPOC Station P 4.97 333 *e*P **Pn 02 16 08.0 -1.0**
PB11 IAML 02 17 08.0
comp=Z,40nm,0.7s
AC04 Llanos de Chal 5.23 220 *e*P **Pn 02 16 10.0 -2.1**
AC04 IAML 02 17 13.8
comp=Z,25nm,1.1s
CFA Coronel Fontan 7.39 187 P **Pn 02 16 40.0 -0.4**
comp=Z,0.5nm,0.3s,baz=0.0,slow=12,SNR=2.0
LPAZ La Paz 7.95 354 P **Pn 02 16 49.1 +0.7**
comp=Z,1.2nm,0.3s,baz=163,slow=9.7,SNR=16
SIV San Ignacio 10.05 36 P **Pn 02 17 12.9 -2.5**
comp=Z,1.0nm,0.3s,baz=224,slow=14,SNR=9.0
PLCA Paso Flores 16.68 189 P Pn 02 18 46.3 +7.7
comp=Z,1.4nm,0.6s,baz=12,slow=11,SNR=7.7
BDFB Brasilia 19.99 68 P **P 02 19 11.8 -2.3**
comp=Z,1.7nm,0.7s,baz=236,slow=11,SNR=3.5
SNAA Sanae 59.21 161 P **P 02 24 37.9 +0.9**
comp=Z,0.4nm,0.5s,baz=276,slow=10,SNR=5.3
comp=Z,0.4nm,0.5s
QSPA South Pole Qui 65.97 180 P **P 02 25 25.7 +3.7**
comp=Z,1.2nm,0.7s,baz=229,slow=0.6,SNR=9.5
comp=Z,1.2nm,0.7s
VNDA Vanda 74.43 190 P P 02 26 21.5 +8.5
comp=Z,0.5nm,0.6s,baz=309,slow=4.0,SNR=5.4
TORD Torodi Ar. Bea 76.87 69 P **P 02 26 27.9 0.0**
comp=Z,0.2nm,0.4s,baz=262,slow=5.1,SNR=9.8
comp=Z,0.2nm,0.4s
MKAR Makanchi Array 146.85 40 PKPbc **PKPbc 02 34 16.6 +0.5**
comp=Z,0.8nm,0.6s,baz=306,slow=2.8,SNR=5.1

*NEIC **30** 02:16:00.8±1.8, 6°.20N±0°.08×127°.6E±0°.1, h10km±1km, mb4.4/16, Error ellipse: s-maj=19.7km s-min=13.2km az=76.0*
*IDC **30** 02:16:05.9±0.8, 6°.14N×127°.30E, h59km±7km, mb3.9/11, mbtmp4.1/11, MS3.0/1, Error ellipse: s-maj=45.7km s-min=12.8km az=75.0*
ISC 30 02:16:05.4±0.5,**6°.16N**±0°.07×**127°.4E**±0°.1,**h52**km,**n39**, σ1**s04/42**,**mb4.3**/19,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.05**	**296**	Pn	**Pn**	**02 16 37.8**	**+0.3**
TOLI2	**Tolitoli**	**8.32**	**233**		**Pn**	**02 18 02.4**	**-1.1**
SBUM	**Sibu**	**15.61**	**257**	P	**P**	**02 19 46.0**	**+0.5**
SBUM				IAmb	IAmb	02 19 47.8	
comp=Z,7.2nm,0.6s							
GUMO	**Guam**	**18.69**	**65**	LR	LR	02 28 14.2	
comp=Z,40nm,18.9s,baz=262,slow=39							
KNRA	**Kununurra**	**21.73**	**177**	P	**P**	**02 20 53.1**	**+0.5**
KNRA				IAmb	IAmb	02 20 57.8	
comp=Z,8.4nm,0.7s							
FITZ	**Fitzroy Crossi**	**24.17**	**184**	P	**P**	**02 21 16.7**	**-0.3**
WB0	**Warramunga Arr**	**26.66**	**165**	P	**P**	**02 21 38.6**	**-1.1**
WRAB	**Tennant Creek**	**26.81**	**165**	P	**P**	**02 21 40.7**	**-0.2**
WRAB				IAmb	IAmb	02 22 18.7	
comp=Z,9.9nm,1.1s							
WRA	**Warramunga Arr**	**26.81**	**165**	P	**P**	**02 21 40.1**	**-1.0**
WRA	**Warramunga Arr**	**26.81**	**165**	P	**P**	**02 21 40.2**	**-0.8**
comp=Z,2.3nm,0.4s,baz=348,slow=10,SNR=27							
comp=Z,2.3nm,0.4s							
WR8	**Warramunga Arr**	**26.87**	**165**	P	**P**	**02 21 40.8**	**-0.7**
WR8				IAmb	IAmb	02 21 44.7	
comp=Z,7.6nm,0.7s							
JNU	**Nakatsue**	**27.02**	**6**	P	**P**	**02 21 42.7**	**0.0**
JNU				IAmb	IAmb	02 21 45.8	
comp=Z,11nm,0.9s							
AS31	**Alice Springs**	**30.31**	**168**	P	**P**	**02 22 11.4**	**-0.7**
ASAR	**Alice Springs**	**30.31**	**168**	P	**P**	**02 22 12.0**	**-0.2**
ASAR	**Alice Springs**	**30.31**	**168**	P	**P**	**02 22 12.2**	**+0.1**
comp=Z,1.5nm,0.6s,baz=12,slow=9.7,SNR=20							
ASAR				PcP	**PcP**	**02 25 12.2**	**+0.5**
comp=Z,0.6nm,0.5s,baz=338,slow=2.3,SNR=5.0							
comp=Z,1.5nm,0.6s							
KSRS	**Korea Array**	**31.15**	**1**	P	**P**	**02 22 19.4**	**+0.1**
comp=Z,0.5nm,0.4s,baz=167,slow=9.9,SNR=4.5							
comp=Z,0.5nm,0.4s							
FORT	**Forrest**	**36.73**	**179**	P	**P**	**02 23 07.8**	**-0.1**
FORT				IAmb	IAmb	02 23 15.5	
comp=Z,14nm,1.1s							
USRK	**Ussuriysk Ar.**	**38.10**	**5**	P	**P**	**02 23 20.1**	**+0.8**
comp=Z,2.4nm,0.7s,baz=182,slow=8.6,SNR=6.1							
USRK				pP	**sP**	**02 23 35.4**	**0.0**
comp=Z,2.2nm,0.8s,baz=167,slow=7.1,SNR=2.8							
comp=Z,2.4nm,0.7s							
BBOO	**Buckleboo**	**39.61**	**169**	P	**P**	**02 23 32.0**	**-0.1**
NWAO	**Narrogin (SRO)**	**40.06**	**193**	P	**P**	**02 23 37.0**	**+1.2**
STKA	**Stephens Creek**	**40.16**	**161**	P	**P**	**02 23 36.0**	**-0.7**
STKA	**Stephens Creek**	**40.16**	**161**	P	**P**	**02 23 36.3**	**-0.4**
comp=Z,2.9nm,0.5s,baz=340,slow=9.1,SNR=5.9							
STKA				pP	**sP**	**02 23 53.1**	**+0.2**
comp=Z,2.6nm,0.6s,baz=346,slow=6.5,SNR=3.5							
comp=Z,2.9nm,0.5s							
PETK	**Petropavlovsk-**	**52.93**	**22**	P	**P**	**02 25 14.8**	**-1.5**
MKAR	**Makanchi Array**	**55.99**	**324**	P	**P**	**02 25 38.6**	**-0.1**
MKAR	**Makanchi Array**	**55.99**	**324**	P	**P**	**02 25 39.5**	**+0.8**
comp=Z,0.4nm,0.4s,baz=134,slow=6.9,SNR=4.4							
MKAR				PcP	**PcP**	**02 26 35.8**	**-0.8**
comp=Z,0.8nm,0.7s,baz=104,slow=3.9,SNR=4.2							
comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**60.10**	**326**	P	**P**	**02 26 07.2**	**-0.1**
comp=Z,0.8nm,0.6s,baz=124,slow=6.1,SNR=9.5							
KURBB				pP	**pP**	**02 26 20.9**	**+2.0**
comp=Z,1.8nm,0.6s,baz=126,slow=5.8,SNR=12
comp=Z,0.8nm,0.6s
BVAR Borovoye Array 65.69 326 pP pP 02 26 58.5 +2.1
comp=Z,1.2nm,0.6s,baz=134,slow=10,SNR=4.2
AB31 Akbulak array 70.73 320 P **P 02 27 14.5 -1.7**
ABKAR Akbulak array 70.73 320 P **P 02 27 15.9 -0.3**
IMAR Indian Mountai 79.85 24 P **P 02 28 08.9 +0.7**
ILAR Eielson Array 82.62 26 P **P 02 28 21.1 -1.9**
comp=Z,0.4nm,0.8s,baz=248,slow=4.5,SNR=2.7
comp=Z,0.4nm,0.8s
BMAR Burnt Mountain 83.58 23 P **P 02 28 30.2 +2.3**
F28M Old Crow 85.38 23 P **P 02 28 38.0 +1.1**
F28M IAmb IAmb 02 29 06.6
comp=Z,7.0nm,1.5s
I28M Miner Creek 85.54 25 P **P 02 28 38.7 +0.8**
I28M IAmb IAmb 02 28 40.4
comp=Z,1.8nm,0.7s
ARCES ARCESS Array B 88.42 340 P **P 02 28 50.8 -0.9**
comp=Z,2.9nm,1.0s,baz=79,slow=6.3,SNR=4.5
comp=Z,2.9nm,1.0s
FINES FINESS Array B 90.03 332 P **P 02 28 57.6 -1.7**
comp=Z,1.0nm,0.7s,baz=117,slow=4.8,SNR=1.6
comp=Z,1.0nm,0.7s
HFS Hagfors 96.20 333 P **P 02 29 26.3 -1.5**
comp=Z,3.1nm,1.1s,baz=43,slow=8.9,SNR=1.9
comp=Z,3.1nm,1.1s
MT01 Popeta 147.44 150 PKPbc **PKPdf 02 35 44.0 +2.3**
MT02 Curacav 147.99 150 PKPbc **PKPbc 02 35 46.4 +0.7**

*JMA **30** 02:23:57.5±1.3, 45°N±6°×15°0E±°, h30km, MV4.1/15, SE OFF ETOROFU*
*IDC **30** 02:23:58.6±2.9, 44°.78N×149°.73E, h0km, mb4.0/9, mbtmp4.0/10, ML3.4/1, Error ellipse: s-maj=78.3km s-min=28.8km az=172.0*
*MOS **30** 02:23:59.2±1.5, 44°.17N×149°.65E, h33km, mb4.2/1, Error ellipse: s-maj=21.6km s-min=12.6km az=15.7*
*SKHL **30** 02:23:59.7±0.3, 44°.00N×149°.60E, h40km±4km, mb4.7/3*
ISC 30 02:23:60.0±2.7,**44°.0N**±0°.1×**149°.60E**±0°.1,**h29**km±16km, **n41**,σ1**s47**/36,**mb4.2**/9,**2D**,**East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.77**	**316**	*i*P	Pn	02 24 26.2	-2.4
KUR				S	**Sn**	**02 24 47.2**	**-2.8**
KUR	**Kuril'sk**	**1.77**	**316**	*i* P	Pn	02 24 26.7	-1.9
KUR				AMB	AMB	02 24 27.6	
150nm,0.4s							
KUR				*e*S	Sn	02 24 47.0	-3.0
KUR				A	A	02 24 57.6	
400nm,0.4s							
KUR				A	A	02 24 57.6	
140nm,0.4s							
SHO	**Shikotan**	**2.00**	**268**	*e*P	**Pb**	**02 24 35.6**	**-0.1**
SHO				*e*S	**Sb**	**02 24 59.6**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**2.70**	**273**	*d i*PN	**Pn**	**02 24 41.4**	**0.0**
YUK				*i* S	**Sn**	**02 25 12.2**	**-0.8**
YUK				pmax	pmax		
comp=Z,227nm,0.2s							
YUK				pmax	pmax		
comp=N,21nm,0.1s							
YUK				pmax	pmax		
comp=E,101nm,0.1s							
YUK				smax	smax		
comp=N,275nm,0.4s							
YUK				smax	smax		
comp=E,102nm,0.1s							
YUK	**Yuzh-Kuril'sk**	**2.70**	**273**	*i* P	**Pn**	**02 24 41.2**	**-0.2**
YUK				AMB	AMB	02 24 43.5	
comp=E,160nm,0.5s							
YUK				*i* S	Sn	02 25 11.3	-1.7
YUK				A	A	02 25 18.6	
comp=E,330nm,0.5s							
YUK				A	A	02 25 18.6	
comp=E,290nm,0.5s							
NEM2	**Nemuro 2**	**2.86**	**259**	*e*P	Pn	02 24 43.1	-0.5
NEM2				*e*S	**Sn**	**02 25 15.6**	**-1.5**
NMR	**Nemuro--Hokkai**	**2.87**	**259**	*e*PN	Pn	02 24 43.1	-0.7
NMR	**Nemuro--Hokkai**	**2.87**	**259**	*e*P	Pn	02 24 43.1	-0.7
NMR				*e*S	Sn	02 25 15.5	-1.9
GLVR	**Golovnino**	**2.96**	**267**	*e*PN	**Pn**	**02 24 44.8**	**-0.2**
GLVR				pmax	pmax		
comp=Z,222nm,0.3s							
GLVR				pmax	pmax		
comp=N,111nm,0.1s							
GLVR				pmax	pmax		
comp=E,94nm,0.1s							
GLVR	**Golovnino**	**2.96**	**267**	*e*P	**Pn**	**02 24 44.8**	**-0.2**
GLVR				AMB	AMB	02 24 45.7	
comp=E,220nm,0.3s							
GLVR				*e*S	**Sn**	**02 25 18.4**	**-1.1**
GLVR				A	A	02 25 24.4	
comp=E,290nm,0.3s							
GLVR				A	A	02 25 24.4	
comp=E,570nm,0.3s							
RUSJ	**Misakicho**	**3.14**	**274**	*e*PN	**Pn**	**02 24 48.3**	**+0.8**
RUSJ				*e*S	**Sn**	**02 25 26.1**	**+2.1**
JRA	**Rausu**	**3.23**	**271**	*e*P	Pn	02 24 45.2	-3.5
JNK	**Nakash**	**3.56**	**265**	*e*P	Pn	02 24 52.3	-0.9
AKK	**Akkeshi**	**3.59**	**256**	*e*P	**Pn**	**02 24 53.6**	**-0.1**
JAK	**Akkeshi**	**3.70**	**256**	*e*P	**Pn**	**02 24 55.6**	**+0.5**
JAK				S	**Sn**	**02 25 37.1**	**-0.6**
JTKR	**Abashiri--Toko**	**4.11**	**272**	*e*P	**Pn**	**02 25 01.6**	**+0.8**
JAR	**Ashorobuto**	**4.29**	**263**	*e*P	**Pn**	**02 25 03.7**	**+0.5**
JOB	**Onbets**	**4.33**	**258**	P	**Pn**	**02 25 04.5**	**+0.7**
JOB				*e*S	**Sn**	**02 25 53.2**	**-0.1**
JCH	**Churui**	**4.75**	**256**	*e*P	Pn	02 25 08.6	-1.0
JCH				*e*S	**Sn**	**02 26 02.8**	**-0.9**
JKA	**Kamikawa-asahi**	**5.05**	**274**	*e*P	**Pn**	**02 25 17.9**	**+4.2**
ASAJ	**Asahikawa**	**5.05**	**274**	Pn	**Pn**	**02 25 17.9**	**+4.2**
comp=E,1.1nm,0.3s,baz=98,slow=14,SNR=1.9							
comp=E,4.1nm,0.3s							
JNBK	**Urakawa-nobuka**	**5.29**	**254**	*e*P	**Pn**	**02 25 17.1**	**+0.1**
JNBK				*e*S	**Sn**	**02 26 16.2**	**-0.7**
JANG	**Nango**	**7.00**	**242**	*e*P	Pn	02 25 39.2	-1.3
JANG				*e*S	Sn	02 26 53.2	-5.8
H11N2	**WAKE ISLAND Hy**	**28.17**	**144**	T	T	03 00 56.2	
baz=334,slow=75,SNR=9.2							
H11N1	**WAKE ISLAND Hy**	**28.18**	**144**	T	T	03 00 54.5	
baz=334,slow=75,SNR=12							
H11N3	**WAKE ISLAND Hy**	**28.18**	**144**	T	T	03 00 57.3	
baz=334,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**29.18**	**145**	T	T	03 02 07.4	
baz=334,slow=76,SNR=12							
H11S3	**WAKE ISLAND Hy**	**29.18**	**145**	T	T	03 02 09.6	
baz=334,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**29.19**	**145**	T	T	03 02 07.9	
baz=334,slow=76,SNR=9.0							
SONM	**Songino Array**	**30.02**	**293**	P	**P**	**02 30 06.5**	**+0.3**
comp=E,1.1nm,0.6s,baz=76,slow=8.6,SNR=5.6							
comp=E,1.1nm,0.6s							
MKAR	**Makanchi Array**	**46.05**	**298**	P	**P**	**02 32 21.1**	**+0.2**
comp=E,2.1nm,0.8s,baz=72,slow=9.1,SNR=9.1							
comp=E,2.1nm,0.8s							
KURK	**Kurchatov**	**46.87**	**305**	P	**P**	**02 32 26.7**	**-0.5**
KURK	**Kurchatov**	**46.87**	**305**	*e*P	**P**	**02 32 26.7**	**-0.5**
KURBB	**Kurchatov Arra**	**46.95**	**304**	P	**P**	**02 32 26.7**	**-1.2**
comp=E,0.8nm,0.3s,baz=94,slow=25,SNR=15							
comp=E,0.8nm,0.3s							
FINES	**FINESS Array B**	**65.47**	**334**	P	**P**	**02 34 38.3**	**-1.5**
comp=E,2.0nm,0.5s,baz=36,slow=7.5,SNR=20							
comp=E,2.0nm,0.5s							
NB2	**NORSAR Subarra**	**70.02**	**340**	P	**P**	**02 35 07.6**	**-0.9**
comp=Z,1.1nm,0.5s,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**70.02**	**340**	P	**P**	**02 35 07.7**	**-0.9**
comp=Z,1.5nm,0.7s,baz=33,slow=6.6,SNR=8.7							
comp=Z,1.5nm,0.7s							
HFS	**Hagfors**	**70.16**	**338**	P	**P**	**02 35 08.1**	**-1.2**
comp=Z,1.4nm,0.4s,baz=35,slow=5.4,SNR=20							
comp=Z,1.4nm,0.4s							
KBZ	**Khabaz**	**70.96**	**313**	P	**P**	**02 35 16.9**	**+2.3**
comp=Z,0.9nm,0.5s,baz=348,slow=7.7,SNR=4.8							
comp=Z,0.9nm,0.5s							
BRTR	**Keskin Array B**	**78.66**	**315**	P	**P**	**02 35 59.8**	**+0.5**
comp=Z,0.2nm,0.6s,baz=46,slow=4.2,SNR=2.6							
comp=Z,0.2nm,0.6s							
TXAR	**Lajitas Array**	**81.04**	**58**	P	**P**	**02 36 12.5**	**+0.2**
comp=Z,0.3nm,0.6s,baz=306,slow=4.9,SNR=4.1							
comp=Z,0.3nm,0.6s							

*NEIC **30** 02:32:01.7±1.4, 19°.349N±0°.008×155°.801W±0°.009, h10km±1km, Error ellipse: s-maj=2.8km s-min=1.4km az=264.0*

HVO 30 02:32:01.5±1.2,**19°.359N**±0°.009×**155°.83W**±0°.02, **h12**km±2km,**ML2.4**/26,**ML2.5**/33(NEIC),**Error ellipse: s-maj=2.2km s-min=1.2km az=79.0**,**Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPH	**Captain Cook**	**0.15**	**327**		Pg	02 32 05.3	+0.1
KHU	**Kahuku**	**0.23**	**119**		Pg	02 32 06.6	0.0
KHU					Sg	02 32 10.3	+0.3
ALEP	**Alea Permanent**	**0.25**	**44**		Pg	02 32 07.4	+0.3
ALEP					Sg	02 32 11.3	+0.5
MWH	**Mokuaweoweo**	**0.25**	**60**	Pg	Pg	02 32 06.9	-0.2
MWH				Sg	Sg	02 32 11.2	+0.3
HUH	**Hualalai**	**0.33**	**359**	Sg	Sg	02 32 12.3	-0.5
KKH	**Kailua Kona**	**0.35**	**329**	Pg	Pg	02 32 08.2	-0.3
KKH				Sg	Sg	02 32 13.5	+0.3
AIN	**Ainahou**	**0.35**	**88**	Pg	Pg	02 32 08.2	-0.5
AIN				Sg	Sg	02 32 13.3	-0.2
AIN				IAML		02 32 13.9	
comp=E,854nm,0.2s							
HMH	**Humu'ula Sheep**	**0.41**	**53**	Pg	Pg	02 32 09.4	-0.4
HMH				Sg	Sb	02 32 16.6	-0.5
HTC	**Hot Caves**	**0.42**	**106**		Pg	02 32 09.7	-0.3
MLH	**Mauna Loa**	**0.44**	**72**	Pg	Pg	02 32 09.7	-0.7
MLH				Sg	Sg	02 32 15.9	-0.4
MLH				IAML		02 32 23.5	
comp=N,467nm,0.3s							
MLH				IAML		02 32 25.0	
comp=E,331nm,0.5s							
POHA	**Pohakuloa**	**0.49**	**35**	Pg	Pg	02 32 10.5	-0.7
POHA	**Pohakuloa**	**0.49**	**35**	Sg	Sg	02 32 17.3	-0.4
HLP	**Hilina Pali**	**0.50**	**97**	Pg	Pg	02 32 10.7	-0.7
HLP				IAML		02 32 18.2	
comp=N,498nm,3.3s							
HLP				IAML		02 32 22.4	
comp=E,477nm,1.7s							
WRMHI	**West Rim**	**0.50**	**84**		Pg	02 32 10.6	-0.9
WRMHI					Sg	02 32 18.1	-0.1
SDHHI	**Sand Hill**	**0.51**	**86**		Pg	02 32 10.9	-0.6
SDHHI					Sg	02 32 18.1	-0.2
UWE	**Uwekahuna**	**0.51**	**83**	Pg	Pg	02 32 10.5	-1.1
UWE				Sg	Sg	02 32 18.2	-0.2
OBL	**Observatory Le**	**0.52**	**83**		Pg	02 32 10.7	-1.1
OBL					Sg	02 32 19.3	+0.6
UWB	**Uwekahuna Bluf**	**0.53**	**83**		Pg	02 32 10.8	-1.1
UWB					Sg	02 32 19.5	+0.6
RIM	**Rim**	**0.53**	**86**		Pg	02 32 11.1	-0.8
RIM					Sg	02 32 18.4	-0.5
KKO	**Keanakako'i**	**0.53**	**86**		Pg	02 32 10.9	-1.1
KKO					Sg	02 32 18.4	-0.7
SBLHI	**Steaming Bluff**	**0.53**	**83**		Pg	02 32 11.0	-1.1
SBLHI					Sg	02 32 18.5	-0.7
BYL	**Byron's Ledge**	**0.54**	**84**	Pg	Pg	02 32 11.1	-1.1
BYL				IAML		02 32 28.1	
comp=E,392nm,0.8s							
HATHI	**Halema'uma'u T**	**0.54**	**83**	Pg	Pg	02 32 10.9	-1.3
HATHI				IAML		02 32 20.9	
comp=N,342nm,0.5s							
HATHI				IAML		02 32 26.1	
comp=E,505nm,0.9s							
PUH	**Pauahi**	**0.58**	**88**	Pg	Pg	02 32 11.3	-1.6
PUH				Sg	Sg	02 32 19.3	-1.3
PUH				IAML		02 32 22.9	
comp=E,208nm,0.8s							
PUH				IAML		02 32 27.7	
comp=N,230nm,0.4s							
KNHH	**Kane Nui o Ham**	**0.62**	**88**	Pg	Pg	02 32 12.4	-1.4
STCH	**Steam Cracks**	**0.67**	**88**	Pg	Pg	02 32 12.4	-2.1
STCH				IAML		02 32 31.3	
comp=N,177nm,3.9s							
JOKA	**Jonika Flow**	**0.78**	**84**	Pg	Pg	02 32 14.0	-2.7
JOKA				IAML		02 32 39.4	
comp=N,144nm,3.1s							

*FUNV **30** 02:33:40.2, 9°.45N×71°.69W, h10km, MW3.1*
*RSNC **30** 02:33:40.6±0.6, 10°N±2°×7°2W±°, h101km±13km, M2.3, ML2.2*
ISC 30 02:33:34.7±1.5,**9°.59N**±0°.04×**71°.45W**±0°.03,**h9**km±13km, **n13**,σ1**s84/25**,**Lake Maracaibo**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQV	**Machiques**	**1.17**	**293**	*e*P	**Pg**	**02 33 59.1**	**+1.9**
MCQV				*e*S	**Sn**	**02 34 13.6**	**+0.2**
CAPV	**Capacho**	**1.91**	**207**	*e*P	**Pb**	**02 34 08.7**	**-1.3**
CAPV				*e*S	**Sn**	**02 34 31.7**	**-0.5**
CRJC	**Cerrejon, Guaj**	**2.00**	**315**	P	**Pb**	**02 34 10.2**	**-1.3**
CRJC				S	**Sg**	**02 34 37.1**	**-2.2**
URIC	**Uribia, Colomb**	**2.17**	**346**	P	**Pb**	**02 34 12.0**	**-2.2**
URIC				S	**Sg**	**02 34 46.0**	**+1.5**
OCAC	**Ocana**	**2.28**	**234**	P	**Pb**	**02 34 14.1**	**-2.2**
OCAC				S	**Sb**	**02 34 42.4**	**-2.3**
PAMC	**Pamplona, Colo**	**2.55**	**209**	P	**Pb**	**02 34 20.0**	**-1.1**
PAMC				S	**Sb**	**02 34 50.1**	**-2.7**
ARGC	**Ariguani, Magd**	**2.77**	**276**	P	**Pn**	**02 34 20.7**	**+1.3**
ARGC				S	**Sg**	**02 35 02.4**	**-1.5**
BAUV	**El Baul**	**3.42**	**100**	*e*P	**Pb**	**02 34 35.3**	**-0.4**
BAUV				*e*S	**Sb**	**02 35 17.2**	**-0.2**
SJCC	**San Jacinto, C**	**3.69**	**275**	P	**Pn**	**02 34 34.1**	**+2.0**
SJCC				S	**Sn**	**02 35 16.6**	**+0.7**
BENV	**Beln**	**3.81**	**84**	*e*P	**Pb**	**02 34 40.7**	**-1.6**
BENV				*e*S	**Sb**	**02 35 26.3**	**-2.4**
RUSC	**La Rusia**	**4.01**	**204**	P	**Pb**	**02 34 45.3**	**-0.7**
RUSC				S	**Sb**	**02 35 35.3**	**+0.5**
PTBC	**PUERTO BERRIO,**	**4.25**	**225**	P	**Pn**	**02 34 39.4**	**-0.3**
PTBC				S	**Sn**	**02 35 33.0**	**+3.5**
UREC	**San Jos de Ur**	**4.43**	**246**	P	**Pn**	**02 34 44.2**	**+1.9**

*GCG **30** 02:40:23.2±0.7, 14°.95N×89°.57W, h2km±4km, MD3.8, ML3.5*
*CATAC **30** 02:40:24.0±0.3, 15°N±1°×9°0W±°, h1km, M3.3/13, MLv3.3/13, Error ellipse: s-maj=3.3km s-min=2.8km az=20.2, confirmed*
*SNET **30** 02:40:24.4±1.7, 14°.96N×89°.59W, h6km, ML3.4*
ISC 30 02:40:23.8±1.2,**14°.97N**±0°.03×**89°.56W**±0°.02,**h8**km±10km, **n58**,σ1**s11/70**,**Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESQI	**Esquipulas**	**0.46**	**153**	*e*P	**Pg**	**02 40 33.0**	**+0.2**
ESQI				*e*S	**Sg**	**02 40 39.8**	**+0.9**
ESQI	**Esquipulas**	**0.46**	**153**	P	**Pg**	**02 40 32.8**	**0.0**
MTO3	**Montecristo**	**0.60**	**161**	*i* P	**Pg**	**02 40 35.2**	**-0.3**
MTO3	**Montecristo**	**0.60**	**161**	P	**Pg**	**02 40 35.3**	**-0.2**
MTO3	**Montecristo**	**0.60**	**161**	S	**Sg**	**02 40 44.3**	**+0.9**
SARH	**Santa Rosa de**	**0.80**	**104**	*i* P	**Pg**	**02 40 39.2**	**0.0**
SARH				*i* S	**Sb**	**02 40 51.7**	**+0.7**
SARH	**Santa Rosa de**	**0.80**	**104**

LFU	La Fuente	1.29	160	*e*P		Pg	02 40 48.5	-0.1
JAYA	Jayaque - finc	1.32	175	*e*P		Pn	02 40 48.0	-0.6
JAYA	Jayaque - finc	1.32	175	*i* P		Pn	02 40 47.3	-1.3
JAYA				*i* S		Sb	02 41 05.4	-0.6
JAYA	Jayaque - finc	1.32	175	P		Pn	02 40 48.0	-0.6
JAYA	Jayaque - finc	1.32	175	S		Sg	02 41 06.9	+0.7
LBRS	Las Brisas	1.33	158	*e*P		Pg	02 40 49.1	-0.2
ESSG	Sabana Grande	1.36	245	*i* P		Pb	02 40 48.5	-1.0
ESSG				*i* S		Sg	02 41 07.6	0.0
ESSG				IAML			02 41 13.0	
	comp=E,231nm,0.3s							
LOMA	Loma Larga	1.38	164	*e*P		Pg	02 40 50.2	0.0
LOMA				*e*S		Sg	02 41 08.7	+0.6
LOMA	Loma Larga	1.38	164	S		Sg	02 41 09.1	+1.1
PAVA	Las Pavas	1.39	154	*e*P		Pb	02 40 49.8	-0.3
PAVA	Las Pavas	1.39	154	P		Pb	02 40 49.9	-0.3
PAVA	Las Pavas	1.39	154	S		Sg	02 41 09.8	+1.2
SCLA	Alcaldia de Sa	1.50	147	*e*P		Pb	02 40 51.7	-0.2
SCLA				*e*S		Sg	02 41 13.0	+0.9
QUIS	Sacapulas	1.51	282	*i* P		Pn	02 40 50.4	-0.9
QUIS				*i* S		Sn	02 41 09.4	-1.8
QUIS				IAML			02 41 15.3	
	comp=E,2µm,0.4s							
UESV	Universidad de	1.53	150	S		Sg	02 41 13.6	+0.6
TECO	Alcaldia de Te	1.62	152	*e*P		Pb	02 40 53.3	-0.6
TECO	Alcaldia de Te	1.62	152	S		Sg	02 41 16.5	+0.7
TECO	Alcaldia de Te	1.62	152	P		Pb	02 40 53.1	-0.8
MARCA	Marcala la Paz	1.69	119	*i* S		Sb	02 41 17.6	+1.0
MARCA	Marcala la Paz	1.69	119	P		Pn	02 40 53.8	+0.1
MARCA	Marcala la Paz	1.69	119	S		Sg	02 41 19.0	+0.9
SOKI	Kika Raxquin	1.79	265	*i* P		Pb	02 40 56.3	-0.7
HUEH	Huehuetenango	1.91	281	*i* P		Pb	02 40 57.3	-1.7
HUEH				IAML			02 41 30.5	
	comp=N,692nm,0.5s							
PACA	Pacayal	1.92	141	*e*P		Pb	02 40 58.7	-0.4
PETF	Flores	1.95	351	*i* S		Sb	02 41 24.4	+0.2
PETF				IAML			02 41 25.2	
	comp=E,760nm,0.7s							
RANC	El Ranchito	1.97	141	*e*P		Pb	02 40 59.3	-0.7
CCIG	Comitan	2.80	298	*i* P		Pn	02 41 09.6	+0.5
CCIG				IAML			02 42 06.4	
	comp=N,70nm,0.6s							

SNET ***30*** *02:47:42.2±1.1, 13°.46N×90°.09W, h53km, ML4.2*
GCG ***30*** *02:47:42.5±0.8, 13°.52N×90°.10W, h52km±8km, MD3.9, ML4.3, MW3.7*
CATAC ***30*** *02:47:42.0±0.3, 13°.N±2°×9°.0W±°, h33km±3km, M4.4/29, HLv4.4/29, Error ellipse: s-maj=5.7km s-min=2.4km az=23.4, confirmed*

ISC 30 02:47:43.4±1.3, 13°.48N±0°.06×90°.05W±0°.04, h58km±9km, n98, σ1°38/118, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAME	Alcaldia de Sa	0.36	6	P	Pn	02 47 52.4	-1.5
FAME	Alcaldia de Sa	0.36	6	S	Sn	02 48 01.0	-0.4
ESSJ	San Jos, E	0.44	280	*i* P	Pn	02 47 58.4	+3.8
NUBE	Las Nubes	0.49	32	⇓*i*P	Pn	02 47 54.3	-1.0
NUBE				*e*S	Sn	02 48 03.6	-0.4
NUBE	Las Nubes	0.49	32	*i* P	Pn	02 47 54.3	-1.0
NUBE				*i* S	Sn	02 48 03.8	-0.2
NUBE	Las Nubes	0.49	32	P	Pn	02 47 54.3	-1.0
NUBE	Las Nubes	0.49	32	S	Sn	02 48 04.3	+0.3
CEVE	Cerro Verde	0.54	50	*e*P	Pn	02 47 55.3	-0.7
CEVE				*e*S	Sn	02 48 05.2	+0.2
CEVE	Cerro Verde	0.54	50	P	Pn	02 47 55.2	-0.7
SBLS	San Blas	0.55	50	*i* P	Pn	02 47 55.1	-0.9
SBLS				*e*P		02 47 55.2	
SBLS				*e*S	Sn	02 48 05.2	0.0
RTR	El Retiro	0.57	44	⇓*i*P	Pn	02 47 55.6	-0.6
LOAL	Lomas de Alarc	0.58	27	*i* P	Pn	02 47 55.4	-0.7
LOAL	Lomas de Alarc	0.58	27	P	Pn	02 47 55.4	-0.7
SNJE	San Jose	0.58	48	*i* P	Pn	02 47 55.5	-0.8
SNJE				*i* P		02 47 55.6	
SNJE				*e*S	Sn	02 48 06.1	+0.4
JAYA	Jayaque - finc	0.61	74	*e*P	Pn	02 47 55.9	-0.8
JAYA	Jayaque - finc	0.61	74	*i* P	Pn	02 47 55.8	-0.8
JAYA				*i* S	Sn	02 48 05.6	-0.7
JAYA	Jayaque - finc	0.61	74	P	Pn	02 47 55.8	-0.8
JAYA	Jayaque - finc	0.61	74	S	Sn	02 48 06.6	+0.3
UNIC	Universidad Ca	0.70	45	*e*P	Pn	02 47 56.7	-0.9
UNIC	Universidad Ca	0.70	45	S	Sn	02 48 07.7	-0.2
UNIC	Universidad Ca	0.70	45	P	Pn	02 47 56.7	-0.9
LALI	Alcalda de L	0.71	89	*e*P	Pn	02 47 57.0	-0.6
LALI	Alcalda de L	0.71	89	*i* P	Pn	02 47 56.9	-0.6
LALI				*i* S	Sn	02 48 08.2	+0.1
LALI	Alcalda de L	0.71	89	S	Sn	02 48 09.1	+1.0
LALI	Alcalda de L	0.71	89	P	Pn	02 47 57.1	-0.6
CEDA	San Andres	0.71	63	*e*P	Pn	02 47 57.2	-0.6
CEDA				*e*S	Sn	02 48 09.0	+0.8
CEDA	San Andres	0.71	63	P	Pn	02 47 57.2	-0.6
RBDL	Robledal	0.72	30	*i* P	Pn	02 47 57.0	-1.0
RBDL				*e*S	Sn	02 48 08.7	+0.1
PMON	Piamonte	0.75	72	*e*P	Pn	02 47 58.0	-0.3
PMON				*e*S	Sn	02 48 10.0	+0.8
PMON	Piamonte	0.75	72	P	Pn	02 47 58.0	-0.3
MAGS	Ministerio de	0.77	75	*e*P	Pn	02 47 58.2	-0.3
ITCA	Escuela Especi	0.78	76	*e*P	Pn	02 47 58.3	-0.2
ITCA				*e*S	Sn	02 48 10.3	+0.6
ITCA	Escuela Especi	0.78	76	P	Pn	02 47 59.7	+1.2
BOQS	Boqueron	0.79	71	*e*P	Pn	02 47 58.3	-0.6
PIC2	El Picacho	0.82	71	*e*P	Pn	02 47 59.6	+0.4
UEES	Universidad Ev	0.82	73	*e*P	Pn	02 47 58.9	-0.3
UEES				*e*S	Sn	02 48 11.6	+0.8
UEES	Universidad Ev	0.82	73	P	Pn	02 47 57.4	-1.8
UTEC	Universidad Te	0.86	75	S	Sn	02 48 13.1	+1.6
UTEC	Universidad Te	0.86	75	P	Pn	02 47 58.1	-1.5
PANCS	Alcalda de	0.86	81	*e*P	Pn	02 47 59.1	-0.4
PANCS	Alcalda de	0.86	81	S	Sn	02 48 11.9	+0.5
PANCS	Alcalda de	0.86	81	P	Pn	02 47 58.4	-1.2
LOMA	Loma Larga	0.87	79	*e*P	Pn	02 47 59.5	-0.3
LOMA				*e*S	Sn	02 48 12.5	+0.6
LOMA	Loma Larga	0.87	79	P	Pn	02 47 58.5	-1.3
IGN	Direccin Gen	0.89	75	S	Sn	02 48 14.0	+1.8
IGN	Direccin Gen	0.89	75	P	Pn	02 48 00.7	+0.8
FG16	Alotenango, Sa	0.90	331	*i* P	Pn	02 48 03.2	+2.9
FG16				*i* S	Sn	02 48 19.5	+6.7
FG16				IAML		02 48 24.4	
	comp=N,34µm,0.3s						
FG8	Yepocapa, Chim	0.92	328	*i* P	Pn	02 48 03.2	+2.8
FG8				*i* S	Sn	02 48 20.0	+7.1
LFU	La Fuente	0.95	74	*e*P	Pn	02 48 00.4	-0.4
LFRS	El Faro	0.97	82	*i* P	Pn	02 48 00.9	-0.2
LBRS	Las Brisas	1.01	75	*e*P	Pn	02 48 01.0	-0.7
PAVA	Las Pavas	1.11	78	*e*P	Pn	02 48 02.4	-0.5
PAVA	Las Pavas	1.11	78	S	Sn	02 48 20.2	+2.8
PAVA	Las Pavas	1.11	78	P	Pn	02 48 02.1	-0.8
MTO3	Montecristo	1.13	36	*i* P	Pn	02 48 02.3	-1.0
MTO3				*e*S	Sn	02 48 17.9	-0.3
MTO3	Montecristo	1.13	36	*i* P	Pn	02 48 02.3	-1.0
MTO3	Montecristo	1.13	36	P	Pn	02 48 02.6	-0.7
ESSG	Sabana Grande	1.17	320	*i* P	Pn	02 48 01.5	-2.2
ESSG				*i* S	Sn	02 48 16.8	-2.0
ESSG				IAML		02 48 23.0	
	comp=E,4µm,0.3s						
GCG4	OSOP	1.19	337	*i* P	Pn	02 48 03.1	-1.0
GCG4				IAML		02 48 22.5	
	comp=N,4µm,0.2s						
TECO	Alcaldia de Te	1.24	87	*i* P	Pn	02 48 03.9	-0.6
TECO	Alcaldia de Te	1.24	87	S	Sn	02 48 21.1	+0.7
TECO	Alcaldia de Te	1.24	87	P	Pn	02 48 03.7	-0.8
UESV	Universidad de	1.24	83	*e*P	Pn	02 48 04.1	-0.5
UESV	Universidad de	1.24	83	S	Sn	02 48 22.6	+2.2
UESV	Universidad de	1.24	83	P	Pn	02 48 03.7	-0.8
ESQI	Esquipulas	1.27	33	*e*P	Pn	02 48 04.4	-0.7
ESQI	Esquipulas	1.27	33	S	Sn	02 48 21.5	+0.1
ESQI	Esquipulas	1.27	33	P	Pn	02 48 03.0	-2.1
SCLA	Alcaldia de Sa	1.31	80	*e*P	Pn	02 48 05.0	-0.5
TECA	Tecapa	1.51	89	*i* P	Pn	02 48 07.8	-0.5
PACA	Pacayal	1.68	90	S	Sn	02 48 33.4	+2.1
PACA	Pacayal	1.68	90	P	Pn	02 48 12.0	+1.3
LCY	Lacayo	1.71	92	*e*P	Pn	02 48 10.9	-0.1
RANC	El Ranchito	1.72	91	*e*P	Pn	02 48 10.8	-0.3
BLLM	Bellamira	1.77	91	*e*P	Pn	02 48 11.3	-0.4
SARH	Santa Rosa de	1.80	44	*i* P	Pn	02 48 11.9	-0.3
SARH				*i* S	Sn	02 48 34.6	+0.6
SOKI	Kika Raxquin	1.87	316	*i* P	Pn	02 48 12.9	-0.5
RTAL	Retalhuleu	1.90	303	S	Sn	02 48 34.6	-1.8
RTAL	Retalhuleu	1.90	303	P	Pn	02 48 11.7	-1.8
MARCA	Marcala la Paz	2.07	71	*i* P	Pn	02 48 15.4	-0.5
LCND	La Caada	2.11	94	*e*P	Pn	02 48 15.8	-0.5
LCND	La Caada	2.11	94	P	Pn	02 48 15.8	-0.5
CNCH	Conchagua	2.17	95	*e*P	Pn	02 48 16.6	-0.6
CNCH	Conchagua	2.17	95	P	Pn	02 48 16.9	-0.4
CNCH	Conchagua	2.17	95	S	Sn	02 48 42.4	-0.7
SMCA	Catarina	2.39	305	*i* P	Pn	02 48 19.0	-1.2
SMCA				*i* S	Sn	02 48 46.6	-1.8
SMCA				IAML		02 48 50.1	
	comp=N,684nm,0.1s						
POTN	Potosi Cosigui	2.53	101	P	Pn	02 48 22.4	+0.5
POTN				S	Sn	02 48 51.2	-0.4
THIG		2.57	304	*i* P	Pn	02 48 21.4	-1.2
PKGN	Cerro Pekin	3.10	105	*i* P	Pn	02 48 29.5	-0.4
PKGN				S	Sn	02 49 04.6	-1.2
CNGA	Al SSO del Vol	3.41	106	P	Pn	02 48 34.0	-0.2
CNGN	Cerro Negro	3.41	106	P	Pn	02 48 34.3	+0.1
CCIG	Comitan	3.44	324	*i* P	Pn	02 48 33.7	-1.0
CCIG				IAML		02 49 51.8	
	comp=N,101nm,0.6s						
LIMN	Finca el Limon	3.61	96	P	Pn	02 48 36.2	-0.8
COPN	Copaltepe	3.62	111	P	Pn	02 48 36.2	-0.7
RCVN	Varillal2	3.75	88	P	Pn	02 48 38.3	-0.6
RCPN	Sur Rio San Ju	3.85	89	P	Pn	02 48 39.8	-0.4
TISN	Laguna Tiscapa	3.92	109	P	Pn	02 48 41.3	+0.2
NANN	Nandasmo	4.13	111	P	Pn	02 48 46.2	+2.2

IDC ***30*** *02:52:19.2±1.0, 29°.28S×61°.04E, h0km, mb4.0/10, mbtmp4.0/10, MS3.6/10, Error ellipse: s-maj=33.0km s-min=24.9km az=47.0*
NEIC ***30*** *02:52:24.2±1.8, 28°.59S±0°.09×60°.6E±0°.1, h10km±1km, mb4.6/9, Error ellipse: s-maj=18.8km s-min=11.6km az=137.0*

ISC 30 02:52:22.3±0.6, 28°.8S±0°.1×60°.69E±0°.10, h10km, n48, σ2°.22/32, mb4.3/13, MS3.6/10, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FOMA	Nahampoana Res	12.82	284	Pn	Pn	02 55 22.5	-2.1
VOI	Vohitsoka	14.32	296	Pn	Pn	02 55 47.2	+1.9
OPO	Ambohidratompo	16.02	307	Pn	Pn	02 56 10.0	+2.0
	baz=148,slow=13,SNR=1.7						
OPO				Sn	Sn	02 58 59.5	-6.3
	baz=78,slow=20,SNR=1.3						
H04N2	CROZET ISLANDS	18.66	200	T	T	03 15 13.1	
	baz=26,slow=74,SNR=82						
H04N1	CROZET ISLANDS	18.67	200	T	T	03 15 14.2	
	baz=26,slow=74,SNR=67						
H04N3	CROZET ISLANDS	18.68	200	T	T	03 15 18.4	
	baz=26,slow=74,SNR=52						
KDWAN	Kaudwane	32.72	271	P	P	02 58 54.8	-0.6
PHDHD	Phuduhudu	33.89	276	P	P	02 59 06.4	+0.8
KOOLE	Kule	36.75	270	P	P	02 59 31.3	+1.0
KOOLE				IAmb	IAmb	03 00 06.9	
	comp=Z,7.5nm,1.0s						
MAW	Mawson	38.83	179	LR	LR	03 13 01.2	
	comp=Z,83nm,18.5s,baz=328,slow=32						
MBAR	Mbarara	40.07	309	LR	LR	03 15 13.1	
	comp=Z,72nm,19.2s,baz=192,slow=34						
FURI	Furi	43.10	327	LR	LR	03 15 56.8	
	comp=Z,66nm,19.1s,baz=175,slow=32						
H01W2	Cape Leeuwin H	45.35	112	T	T	03 48 43.2	
	baz=262,slow=74,SNR=10						
H01W3	Cape Leeuwin H	45.36	112	T	T	03 48 43.7	
	baz=262,slow=74,SNR=10						
H01W1	Cape Leeuwin H	45.37	112	T	T	03 48 43.2	
	baz=262,slow=74,SNR=11						
SNAA	Sanae	54.63	200	LR	LR	03 20 44.4	
	comp=Z,33nm,20.7s,baz=24,slow=31						
CMAR	Chiang Mai Arr	59.80	43	P	P	03 02 28.0	+0.1
	comp=Z,2.5nm,0.3s,baz=227,slow=7.1,SNR=6.0						
	comp=Z,2.5nm,0.3s						
QSPA	South Pole Qui	61.33	180	P	P	03 02 41.8	+3.8
QSPA				IAmb	IAmb	03 02 42.8	
	comp=Z,5.4nm,0.8s						
QSPA	South Pole Qui	61.33	180	P	P	03 02 34.1	-3.8
	comp=Z,1.1nm,0.7s,baz=212,slow=1.7,SNR=2.6						
	comp=Z,1.1nm,0.7s						
SHL	Shillong	61.83	32	P	P	03 02 41.4	-0.5
SHL				IAmb	IAmb	03 03 02.1	
	comp=Z,8.8nm,1.3s						
EIL	Elat	63.15	335	LR	LR	03 26 49.1	
	comp=Z,65nm,19.3s,baz=354,slow=32						
VNDA	Vanda	64.45	166	P	P	03 03 00.7	+2.3
VNDA				IAmb	IAmb	03 03 06.6	
	comp=Z,3.5nm,1.2s						
VNDA	Vanda	64.45	166	LR	LR	03 27 57.2	
	comp=Z,80nm,19.4s,baz=260,slow=33						
ASAR	Alice Springs	64.93	104	P	P	03 02 58.0	-4.4
	comp=Z,1.1nm,0.6s,baz=240,slow=6.4,SNR=5.7						
	comp=Z,1.1nm,0.6s						
WRA	Warramunga Arr	66.73	101	P	P	03 03 09.3	-4.8
	comp=Z,2.1nm,1.0s,baz=248,slow=6.3,SNR=4.6						
	comp=Z,2.1nm,1.0s						
GNI	Garni	70.21	347	LR	LR	03 32 56.7	
	comp=Z,37nm,19.4s,baz=146,slow=34						
TORD	Torodi Ar. Bea	70.62	298	P	P	03 03 40.2	+1.9
TORD	Torodi Ar. Bea	70.62	298	P	P	03 03 39.6	+1.4
	comp=Z,1.2nm,0.9s,baz=101,slow=4.6,SNR=8.0						
	comp=Z,1.2nm,0.9s						
KKAR	Karatay Array	72.14	8	P	P	03 03 47.6	+0.7
BRTR	Keskin Array B	72.70	338	P	P	03 03 51.6	+1.1
	comp=Z,0.7nm,0.9s,baz=169,slow=7.6,SNR=4.9						
	comp=Z,0.7nm,0.9s						
KBZ	Khabaz	74.02	347	LR	LR	03 34 45.8	
	comp=Z,44nm,21.8s,baz=161,slow=34						
AB31	Akbulak array	77.73	360	P	P	03 04 19.6	+0.6
ABKAR	Akbulak array	77.73	360	P	P	03 04 19.7	+0.7
MKAR	Makanchi Array	77.76	15	P	P	03 04 20.2	+0.9
	comp=Z,1.0nm,0.9s,baz=156,slow=9.3,SNR=4.2						
	comp=Z,1.0nm,0.9s						
VAE	Valguarnera	78.94	324	LR	LR	03 39 53.4	
	comp=Z,27nm,18.5s,baz=139,slow=36						
KURBB	Kurchatov Arra	80.66	11	P	P	03 04 35.8	+0.8
	comp=Z,0.8nm,0.9s,baz=203,slow=6.4,SNR=5.1						
	comp=Z,0.8nm,0.9s						
BVAR	Borovoye Array	81.94	6	P	P	03 04 43.0	+1.2
	comp=Z,0.5nm,0.5s,baz=124,slow=2.6,SNR=2.9						
	comp=Z,0.5nm,0.5s						
ZAA0	Zalesovo Array	85.04	14	P	P	03 04 58.6	+0.9
ZAA0				IAmb	IAmb	03 05 08.3	
	comp=Z,2.5nm,0.7s						
ZALV	Zalesovo Beam	85.04	14	P	P	03 04 57.9	+0.2
ZALV	Zalesovo Beam	85.04	14	P	P	03 04 57.7	0.0
	comp=Z,0.7nm,0.5s,baz=198,slow=8.9,SNR=4.1						
	comp=Z,0.7nm,0.5s						
NOA	NORSAR Array B	98.14	338	LR	LR	03 50 19.4	
	comp=Z,13nm,19.2s,baz=70,slow=35						
H19K	Roundabout Mou	136.68	22	PKPdf	PKiKP	03 11 45.1	-0.6
IMAR	Indian Mountai	137.21	20	PKPdf	PKPdf	03 11 44.9	-0.2
ILAR	Eielson Array	140.06	18	PKP	PKPdf	03 11 50.5	+0.2
	comp=Z,0.4nm,0.7s,baz=305,slow=3.2,SNR=4.6						
BARN	Barnard Glacie	144.47	19	PKPdf	PKPbc	03 11 57.1	+0.1
MMPY	Sheldon Lake,	145.31	10		PKPab	03 12 00.4	+0.8
N31M	Braeburn, Yuko	145.55	14		PKPdf	03 11 59.9	-0.2
HYT	Haines Junctio	145.75	16	PKPdf	PKPdf	03 12 01.0	+0.3

NEIC ***30*** *02:52:52.8±2.2, 5°.06S±0°.05×151°.42E±0°.08, h10km±1km, mb4.1/16, Error ellipse: s-maj=15.0km s-min=7.1km az=296.0*
IDC ***30*** *02:53:05.3±8.9, 5°.42S×150°.85E, h86km±61km, mb3.7/4, mbtmp4.1/5, ML2.4/1, Error ellipse: s-maj=74.3km s-min=56.3km az=66.0*

ISC 30 02:52:52.5±0.7, 5°.04S±0°.07×151°.40E±0°.09, h10km, n27, σ1°13/29, mb4.1/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	1.13	42	Pn	Pb	02 53 14.4	+0.3
RABL					Sn	02 53 30.4	+0.4
MANU	Manus Island	5.00	306	Pn	Pn	02 54 09.4	+1.7
PMG	Port Moresby	6.05	224	Pn	Pn	02 54 22.0	0.0
PMG	Port Moresby	6.05	224	P	Pn	02 54 23.2	+1.2
	7.7nm,0.3s,baz=48,slow=7.4,SNR=13						
PMG				S	Sn	02 55 33.2	+1.8
	86nm,0.6s,baz=327,slow=17,SNR=7.1						
	35nm,0.5s						
COEN	Coen	12.01	222	Pn	Pn	02 55 43.0	-1.0
CTAO	Charters Tower	15.78	198	Pn	Pn	02 56 34.7	-0.3
EIDS	Eidsvold	20.22	181		P	02 57 27.9	+0.1
EIDS				IAmb	IAmb	02 58 00.8	
	comp=Z,12nm,1.4s						

WB0	Warramunga Arr	22.11	227	P		P	02 57 46.7	-1.5
WB0				IAmb		IAmb	02 58 09.2	
	comp=Z,7.4nm,1.0s							
WR8	Warramunga Arr	22.15	227	P		P	02 57 47.1	-1.6
WR8				IAmb		IAmb	02 57 56.0	
	comp=Z,8.2nm,1.1s							
WRAB	Tennant Creek	22.24	227	P		P	02 57 49.1	-0.5
WRAB				IAmb		IAmb	02 58 15.2	
	comp=Z,5.8nm,0.8s							
WRA	Warramunga Arr	22.26	227	P		P	02 57 48.3	-1.6
WRA	Warramunga Arr	22.26	227	P		P	02 57 48.0	-1.8
	comp=Z,1.5nm,0.5s,baz=52,slow=10.0,SNR=18							
	comp=Z,1.5nm,0.5s							
DZM	Mont Dzumac	22.34	141	P		P	02 57 51.0	+0.3
DZM				IAmb		IAmb	02 57 57.8	
	comp=Z,5.1nm,0.8s							
KNRA	Kununurra	24.62	243	P		P	02 58 12.2	-1.2
AS31	Alice Springs	25.05	221	P		P	02 58 16.1	-1.1
ASAR	Alice Springs	25.05	221	P		P	02 58 16.9	-0.2
ASAR	Alice Springs	25.05	221	P		P	02 58 16.6	-0.7
	comp=Z,3.3nm,0.6s,baz=57,slow=8.4,SNR=23							
	comp=Z,3.3nm,0.6s							
ARMA	Armidale	25.25	180	P		P	02 58 20.2	+1.2
STKA	Stephens Creek	28.24	198	P		P	02 58 46.1	+0.3
STKA	Stephens Creek	28.24	198	P		P	02 58 45.2	-0.6
	comp=Z,1.2nm,0.6s,baz=12,slow=14,SNR=2.9							
	comp=Z,1.2nm,0.6s							
FITZ	Fitzroy Crossi	28.33	241	P		P	02 58 44.9	-1.8
MJAR	Matsushiro Arr	43.16	344	P		P	03 00 52.2	-1.3
MJAR				IAmb		IAmb	03 01 26.0	
	comp=Z,1.8nm,0.7s							
MAJO	Matsushiro	43.16	344	P		P	03 00 52.3	-1.2
MAJO				IAmb		IAmb	03 01 23.8	
	comp=Z,5.2nm,0.6s							
MJB9	Matsu-Tunnel	43.17	344	P		P	03 00 53.5	-0.1
QSPA	South Pole Qui	84.93	180	P		P	03 05 27.8	+0.1
QSPA				IAmb		IAmb	03 05 44.8	
	comp=Z,2.1nm,1.0s							
QSPA	South Pole Qui	84.93	180	P		P	03 05 29.1	+1.4
	comp=Z,1.4nm,0.6s,baz=332,slow=1.0,SNR=7.2							
	comp=Z,1.4nm,0.6s							
TORD	Torodi Ar. Bea	149.05	287	PKPbc		PKPbc	03 12 42.7	+0.6
	comp=Z,0.6nm,0.8s,baz=60,slow=2.5,SNR=3.8							

IDC ***30*** *02:54:06.2±0.7, 57°.20S×25°.71W, h0km, mb4.4/7, mbtmp4.3/9, ML3.8/2, MS3.1/6, Error ellipse: s-maj=27.2km s-min=17.7km az=73.0*
NEIC ***30*** *02:54:14.0±1.4, 57°.3S±0°.1×26°.0W±0°.3, h58km±6km, mb4.6/26, Error ellipse: s-maj=24.6km s-min=15.3km az=47.0*

ISC 30 02:54:14.4±0.6, 57°.32S±0°.10×26°.0W±0°.1, h65km, n70, σ0°.99/60, mb4.6/17, 6D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	6.64	293	Pn	Pn	02 55 49.1	-0.1
VNA1	Neumayer--Stat	15.37	157	⇓P	Pn	02 57 45.3	-1.7
	comp=Z,1.0nm,0.2s						
VNA3	Neumayer Olymp	15.57	160	⇓P	Pn	02 57 47.5	-2.1
	comp=Z,0.9nm,0.2s						
VNA3				⇓S	Sn	03 00 24.0	-17
VNA2	Neumayer--Watz	15.77	157	⇓P	Pn	02 57 48.9	-3.2
	comp=Z,0.8nm,0.2s,baz=325,slow=13						
SNAA	Sanae	17.32	155	⇓P	Pn	02 58 10.4	-1.0
	comp=Z,34nm,0.3s						
SNAA	Sanae	17.32	155	P	Pn	02 58 10.4	-1.0
SNAA	Sanae	17.32	155	P	Pn	02 58 10.8	-0.6
	comp=Z,0.7nm,0.3s,baz=315,slow=15,SNR=28						
SNAA				S	Sn	03 01 06.5	-17
	comp=Z,0.5nm,0.8s,baz=0.0,slow=13,SNR=1.4						
SNAA				LR	LR	03 03 40.1	
	comp=Z,23nm,21.1s,baz=280,slow=33						
	comp=Z,1.6nm,0.4s						
TROLL	Troll, Antarti	18.82	153	⇓P	Pn	02 58 32.3	+2.6
	comp=Z,18nm,0.1s						
PMSA	Palmer Station	19.59	232	P	Pn	02 58 38.6	-0.1
	comp=Z,0.2nm,0.3s,baz=84,slow=10,SNR=2.2						
PMSA				LR	LR	03 04 07.7	
	comp=Z,46nm,18.4s,baz=56,slow=30						
	comp=Z,3.9nm,0.8s						
TRQA	Tornquist	30.42	294	P	P	03 00 20

BOAV	**Boa Vista**	**65.68**	**322**	P	**P**	**03 04 51.8**	**0.0**
BOAV				IAmb	IAmb	03 04 52.5	
	comp=Z,5.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.86**	**28**	P	**P**	**03 05 42.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**73.86**	**28**	P	**P**	**03 05 42.5**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=202,slow=5.8,SNR=30						
	comp=Z,2.2nm,0.5s						
BAUV	**El Baul**	**74.43**	**317**	P	**P**	**03 05 44.7**	**-0.7**
BAUV				IAmb	IAmb	03 05 46.7	
	comp=Z,12nm,0.9s						
PDPR	**Patillas Dam,**	**82.12**	**322**	P	**P**	**03 06 27.2**	**-0.5**
PDPR				IAmb	IAmb	03 06 28.3	
	comp=Z,4.3nm,0.8s						
PDAR	**Pinedale Array**	**121.56**	**301**	PKPdf	**PKPdf**	**03 12 59.0**	**-0.9**
PDAR	**Pinedale Array**	**121.56**	**301**	PKP	**PKPdf**	**03 12 59.4**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=116,slow=6.8,SNR=5.2						
HWUT	**Hardware Ranch**	**121.61**	**299**	PKPdf	**PKPdf**	**03 12 59.6**	**-0.3**
NVAR	**Mina Array Bea**	**122.48**	**292**	PKP	**PKiKP**	**03 13 02.5**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=108,slow=3.7,SNR=4.8						
LOHW	**Long Hollow**	**122.70**	**301**	PKPdf	**PKiKP**	**03 13 02.4**	**+0.2**
FINES	**FINESS Array B**	**125.21**	**28**	PKPdf	**PKPdf**	**03 13 05.6**	**-0.3**
FINES	**FINESS Array B**	**125.21**	**28**	PKP	**PKPdf**	**03 13 05.0**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=146,slow=4.4,SNR=5.2						
HATC	**Hat Creek Radi**	**125.88**	**291**	PKPdf	**PKiKP**	**03 13 08.7**	**+0.3**
PLID	**Pearl Lake**	**126.36**	**298**	PKPdf	**PKiKP**	**03 13 09.2**	**-0.2**
BMO	**Blue Mountains**	**126.81**	**297**	PKPdf	**PKiKP**	**03 13 09.8**	**-0.3**
ABKAR	**Akbulak array**	**127.56**	**56**	PKPdf	**PKPdf**	**03 13 10.4**	**-0.4**
S31K	**Pelican**	**144.16**	**301**	PKPdf	**PKPdf**	**03 13 40.1**	**-1.1**
M31M	**Drury Creek, Y**	**145.30**	**309**		**PKPab**	**03 13 43.3**	**-0.1**
F30M	**Barrier River**	**147.81**	**317**	PKPbc	**PKPbc**	**03 13 50.8**	**+0.6**
K27K	**Chicken**	**149.22**	**309**	PKPbc	**PKiKP**	**03 13 54.4**	**-0.7**
SONM	**Songino Array**	**150.14**	**88**	PKPbc	**PKPbc**	**03 13 56.4**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=218,slow=3.8,SNR=5.9						
PWL	**Port Wells**	**150.39**	**301**	PKPbc	**PKPbc**	**03 13 58.1**	**-0.2**
ILAR	**Eielson Array**	**151.44**	**310**	PKPbc	**PKPbc**	**03 13 59.1**	**-0.1**
	comp=Z,5.4nm,0.7s,baz=142,slow=4.2,SNR=84						
CCB	**Clear Creek Bu**	**151.79**	**309**	PKPbc	**PKPbc**	**03 13 59.6**	**-0.4**

*IDC **30** 02:55:18.4±1.0,4.7°S×151.2°E,h0km,mb4.0/9, mbtmp4.1/10,ML2.6/1,MS3.5/13,Error ellipse: s-maj=42.5km s-min=19.0km az=114.0*
*NEIC **30** 02:55:22.2±2.7,5.2°S±0.0°×151.4°E±0.0°,h10km±1km, mb4.3/16,Error ellipse: s-maj=11.0km s-min=5.5km az=164.0*

ISC 30 02:55:21.2±0.5,5.04°S±0.07°×151.48°E±0.08,h10km,n44, σ1§53/36,mb4.2/17,MS3.5/11,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.08**	**39**	Pg	**Pg**	**02 55 42.7**	**+0.6**
RABL					**Sn**	**02 55 58.7**	**+1.1**
MANU	**Manus Island**	**5.08**	**306**	Pn	**Pn**	**02 56 37.9**	**+0.5**
PMG	**Port Moresby**	**6.10**	**224**	Pn	**Pn**	**02 56 52.6**	**+1.1**
PMG	**Port Moresby**	**6.10**	**224**	Pn	**Pn**	**02 56 52.0**	**+0.5**
	9.8nm,0.3s,baz=43,slow=9.7,SNR=4.5						
PMG				Sn	**Sn**	**02 58 03.8**	**+2.4**
	18nm,0.3s,baz=30,slow=8.8,SNR=6.3						
	59nm,0.5s						
HNR	**Honiara**	**9.46**	**118**	LR	LR	03 01 08.2	
	comp=Z,258nm,18.1s,baz=281,slow=36						
CTAO	**Charters Tower**	**15.80**	**198**		**P**	**02 59 07.9**	**+0.1**
GUMO	**Guam**	**19.64**	**341**	LR	LR	03 06 59.4	
	comp=Z,31nm,18.5s,baz=137,slow=36						
EIDS	**Eidsvold**	**20.22**	**181**		**P**	**02 59 57.9**	**+1.4**
WB0	**Warramunga Arr**	**22.16**	**227**	P	**P**	**03 00 16.5**	**-1.0**
WB0				IAmb	IAmb	03 00 38.5	
	comp=Z,16nm,1.1s						
WR8	**Warramunga Arr**	**22.20**	**227**	P	**P**	**03 00 16.8**	**-1.3**
WR8				IAmb	IAmb	03 00 38.4	
	comp=Z,15nm,1.1s						
DZM	**Mont Dzumac**	**22.28**	**141**	P	**P**	**03 00 18.4**	**-0.5**
DZM				IAmb	IAmb	03 00 49.7	
	comp=Z,9.5nm,1.1s						
DZM	**Mont Dzumac**	**22.28**	**141**	LR	LR	03 07 35.9	
	comp=Z,341nm,19.5s,baz=2.5,slow=33						
WRAB	**Tennant Creek**	**22.30**	**227**	P	**P**	**03 00 17.4**	**-1.6**
WRAB				IAmb	IAmb	03 00 23.4	
	comp=Z,7.4nm,0.8s						
WRA	**Warramunga Arr**	**22.31**	**227**	P	**P**	**03 00 16.8**	**-2.4**
	comp=Z,2.3nm,0.6s,baz=51,slow=10.0,SNR=5.3						
WRA				S	**S**	**03 04 23.2**	**-1.5**
	comp=Z,1.4nm,1.1s,baz=54,slow=18,SNR=4.3						
	comp=Z,2.3nm,0.6s						
KNRA	**Kununurra**	**24.69**	**243**	P	**P**	**03 00 41.1**	**-1.6**
INKA	**Innaminka**	**24.78**	**203**	P	**P**	**03 00 42.1**	**-1.2**
INKA				IAmb	IAmb	03 00 49.0	
	comp=Z,8.5nm,1.1s						
AS31	**Alice Springs**	**25.10**	**221**	P	**P**	**03 00 46.9**	**+0.5**
ASAR	**Alice Springs**	**25.10**	**221**	P	**P**	**03 00 44.5**	**-1.8**
ASAR	**Alice Springs**	**25.10**	**221**	P	**P**	**03 00 45.5**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=55,slow=8.5,SNR=7.7						
ASAR				S	**S**	**03 05 11.3**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=33,slow=16,SNR=1.7						
	comp=Z,1.7nm,0.4s						
BATI	**Baumata**	**28.04**	**258**	LR	LR	03 12 25.4	
	comp=Z,107nm,20.5s,baz=114,slow=37						
STKA	**Stephens Creek**	**28.26**	**198**	P	**P**	**03 01 13.8**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=3.2,slow=10,SNR=3.7						
STKA				LR	LR	03 12 39.8	
	comp=Z,126nm,19.5s,baz=17,slow=37						
	comp=Z,2.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**28.39**	**241**	P	**P**	**03 01 13.3**	**-2.7**
FITZ	**Fitzroy Crossi**	**28.39**	**241**	LR	LR	03 13 07.6	
	comp=Z,93nm,21.4s,baz=80,slow=38						
DAV	**Davao City (W)**	**28.52**	**295**	LR	LR	03 11 53.5	
	comp=Z,56nm,19.2s,baz=188,slow=35						
TOLI2	**Tolitoli**	**31.27**	**280**	P	**P**	**03 01 42.2**	**+0.6**
RAO	**Raoul Island**	**37.65**	**133**	LR	LR	03 16 32.7	
	comp=Z,115nm,18.2s,baz=172,slow=34						
JOW	**Kunigami**	**38.84**	**326**	LR	LR	03 14 36.8	
	comp=Z,223nm,20.9s,baz=135,slow=30						
MORW	**Morawa**	**41.18**	**230**	P	**P**	**03 03 06.5**	**+0.3**
MORW				IAmb	IAmb	03 03 29.5	
	comp=Z,13nm,1.3s						
MJAR	**Matsushiro Arr**	**43.19**	**344**	LR	LR	03 19 53.9	
	comp=Z,39nm,21.7s,baz=180,slow=34						
KSRS	**Korea Array**	**47.64**	**335**	P	P	03 03 53.5	-4.1
	comp=Z,1.4nm,1.1s,baz=143,slow=8.3,SNR=1.6						
	comp=Z,1.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**56.80**	**296**	P	**P**	**03 05 07.2**	**+1.0**
CHTO	**Chiang Mai**	**56.91**	**296**	P	**P**	**03 05 08.6**	**+1.6**
CHTO				IAmb	IAmb	03 05 17.5	
	comp=Z,2.2nm,0.9s						
SONM	**Songino Array**	**65.84**	**328**	P	**P**	**03 06 08.3**	**+1.2**
SONM				IAmb	IAmb	03 06 15.6	
	comp=Z,2.4nm,1.2s						
SONM	**Songino Array**	**65.84**	**328**	P	**P**	**03 06 08.1**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=151,slow=2.5,SNR=3.9						
K15K	**Wolf Creek Mou**	**76.09**	**21**	P	**P**	**03 07 08.7**	**-0.1**
ZALV	**Zalesovo Beam**	**80.63**	**327**	LR	LR	03 42 45.2	
	comp=Z,16nm,20.5s,baz=52,slow=36						
ILAR	**Eielson Array**	**82.88**	**22**	P	**P**	**03 07 43.2**	**-2.6**
	comp=Z,0.4nm,0.7s,baz=248,slow=5.9,SNR=5.3						
	comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**83.18**	**322**	P	**P**	**03 07 45.0**	**-2.7**
	comp=Z,0.2nm,0.5s,baz=111,slow=4.5,SNR=4.3						
	comp=Z,0.2nm,0.5s						
MAW	**Mawson**	**84.84**	**203**	P	**P**	**03 07 55.1**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=73,slow=10,SNR=3.7						
MAW				LR	LR	03 43 56.6	
	comp=Z,41nm,19.4s,baz=89,slow=34						
	comp=Z,1.4nm,0.6s						
QSPA	**South Pole Qui**	**84.92**	**180**	P	**P**	**03 08 00.2**	**+3.8**
QSPA	**South Pole Qui**	**84.92**	**180**	P	**P**	**03 07 56.9**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=24,slow=1.4,SNR=9.3						
	comp=Z,2.7nm,0.7s						
NVAR	**Mina Array Bea**	**93.27**	**52**	P	**P**	**03 08 36.7**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=254,slow=5.4,SNR=4.2						
	comp=Z,1.2nm,0.9s						
LPIG	**La Paz**	**99.52**	**67**	LR	LR	03 46 24.2	
	comp=Z,22nm,19.7s,baz=194,slow=31						
MACA	**Manacapuru-AM**	**146.85**	**104**	PKPdf	**PKPdf**	**03 15 03.9**	**+0.7**

*SNET **30** 03:16:54.8±8.4,12.2°N×90.2°W,h27km,ML3.0*
*CATAC **30** 03:16:60.0±0.7,13°N±4°×9°W±°,h7km±6km,MD2.9/11, MLv2.9/11,Error ellipse: s-maj=13.9km s-min=7.6km az=101.5,confirmed*

ISC 30 03:17:01.5±3.5,12.8N±0.1°×90.4W±0.1°,h24km,n35, σ1§11/40,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAME	**Alcaldia de Sa**	**1.10**	**22**	S	**Sn**	**03 17 36.1**	**+0.1**
FAME	**Alcaldia de Sa**	**1.10**	**22**	P	**Pn**	**03 17 21.2**	**-0.3**
NUBE	**Las Nubes**	**1.26**	**31**	P	**Pn**	**03 17 23.3**	**-0.5**
NUBE	**Las Nubes**	**1.26**	**31**	S	**Sb**	**03 17 41.3**	**+0.8**
JAYA	**Jayaque - finc**	**1.27**	**49**	*i* P	**Pn**	**03 17 23.9**	**-0.2**
JAYA	**Jayaque - finc**	**1.27**	**49**	P	**Pn**	**03 17 23.8**	**-0.2**
JAYA	**Jayaque - finc**	**1.27**	**49**	S	**Sb**	**03 17 41.9**	**+0.8**
CEVE	**Cerro Verde**	**1.28**	**38**	*e*P	**Pn**	**03 17 24.3**	**+0.1**
CEVE	**Cerro Verde**	**1.28**	**38**	P	**Pn**	**03 17 24.5**	**+0.3**
CEVE	**Cerro Verde**	**1.28**	**38**	S	**Sb**	**03 17 42.4**	**+1.1**
SBLS	**San Blas**	**1.29**	**38**	*e*P	**Pn**	**03 17 24.3**	**0.0**
SBLS				*e*S	**Sn**	**03 17 38.2**	**-2.7**
RTR	**El Retiro**	**1.32**	**36**	*e*P	**Pn**	**03 17 24.9**	**+0.1**
SNJE	**San Jose**	**1.32**	**38**	*i* P	**Pn**	**03 17 24.8**	**+0.1**
SNJE				*e*P	**Pn**	**03 17 24.8**	**+0.1**
SNJE				*e*S	**Sn**	**03 17 40.5**	**-1.3**
LOAL	**Lomas de Alarc**	**1.34**	**29**	S	**Sn**	**03 17 42.6**	**+0.7**
LOAL	**Lomas de Alarc**	**1.34**	**29**	P	**Pn**	**03 17 25.1**	**+0.3**
PMON	**Piamonte**	**1.41**	**51**	P	**Pn**	**03 17 26.1**	**+0.2**
PMON	**Piamonte**	**1.41**	**51**	S	**Sb**	**03 17 45.4**	**+0.4**
UNIC	**Universidad Ca**	**1.45**	**37**	P	**Pn**	**03 17 26.7**	**+0.4**
UNIC	**Universidad Ca**	**1.45**	**37**	S	**Sn**	**03 17 46.0**	**+1.3**
RBDL	**Robledal**	**1.48**	**30**	*e*P	**Pn**	**03 17 27.4**	**+0.5**
RBDL				*e*S	**Sn**	**03 17 43.1**	**-2.5**
LOMA	**Loma Larga**	**1.48**	**56**	*e*P	**Pn**	**03 17 25.9**	**-0.9**
LOMA				*e*S	**Sn**	**03 17 42.0**	**-3.6**
LOMA	**Loma Larga**	**1.48**	**56**	S	**Sn**	**03 17 47.1**	**+1.4**
LOMA	**Loma Larga**	**1.48**	**56**	P	**Pn**	**03 17 26.7**	**-0.2**
PAVA	**Las Pavas**	**1.71**	**58**	*e*P	**Pn**	**03 17 30.4**	**+0.4**
PAVA	**Las Pavas**	**1.71**	**58**	P	**Pn**	**03 17 30.9**	**+0.9**
PAVA	**Las Pavas**	**1.71**	**58**	S	**Sb**	**03 17 54.1**	**+0.5**
TECO	**Alcaldia de Te**	**1.77**	**66**	P	**Pn**	**03 17 30.8**	**+0.1**
TECO	**Alcaldia de Te**	**1.77**	**66**	S	**Sb**	**03 17 54.9**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.89**	**62**	P	**Pn**	**03 17 32.8**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.89**	**62**	S	**Sn**	**03 17 57.7**	**+2.3**
MTO3	**Montecristo**	**1.89**	**34**	*e*P	**Pn**	**03 17 33.2**	**+0.6**
MTO3	**Montecristo**	**1.89**	**34**	P	**Pn**	**03 17 33.2**	**+0.6**
MTO3	**Montecristo**	**1.89**	**34**	S	**Sb**	**03 17 58.3**	**-0.5**
PACA	**Pacayal**	**2.16**	**72**	S	**Sb**	**03 18 05.9**	**-0.7**
LCND	**La Caada**	**2.53**	**79**	P	**Pn**	**03 17 41.3**	**+0.1**

*UCR **30** 03:24:17.9±0.9,8.3°N×83.7°W,h58km±3km,MW3.6*
*UPA **30** 03:24:18.1±1.7,8.9°N×83.1°W,h15km±5km,MW3.2*

ISC 30 03:24:19.6±1.3,8.83N±0.03×83.18W±0.03,h43km±7km, n77,σ1§10/107,6C-4D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDAD	**Golfito**	**0.18**	**176**	*e*P	**Pn**	**03 24 26.3**	**-0.9**
EDAD				*e*S	**Sn**	**03 24 32.7**	**+0.3**
EDP2	**Potrero Grande**	**0.18**	**1**	*e*P	**Pn**	**03 24 26.8**	**-0.4**
VITO	**San Vito**	**0.21**	**94**	*e*P	**Pn**	**03 24 27.4**	**0.0**
FITO	**Golfito**	**0.21**	**173**	*e*P	**Pn**	**03 24 26.3**	**-1.0**
FITO				*e*S	**Sn**	**03 24 32.9**	**+0.2**
NELY	**Ciudad Neily**	**0.29**	**128**	*e*P	**Pn**	**03 24 27.1**	**-0.9**
NELY				*e*S	**Sn**	**03 24 35.1**	**+1.2**
PANP	**Palmar Norte**	**0.30**	**295**	*e*P	**Pn**	**03 24 27.1**	**-1.1**
JIME	**Puerto Jimenez**	**0.33**	**206**	*e*P	**Pn**	**03 24 27.7**	**-0.7**
JIME				*e*S	**Sn**	**03 24 36.4**	**+1.8**
ALCO	**Alturas Coton,**	**0.36**	**71**	*e*P	**Pn**	**03 24 28.1**	**-0.9**
BURE	**Buenos Aires**	**0.37**	**335**	*e*P	**Pn**	**03 24 28.1**	**-0.9**
SCLRA	**Santa Clara, W**	**0.39**	**90**	*e*P	**Pn**	**03 24 28.8**	**-0.5**
DMKA	**E. de Neily**	**0.41**	**113**	*e*P	**Pn**	**03 24 28.7**	**-0.8**
DRK0	**Durika**	**0.43**	**351**	*i* P	**Pn**	**03 24 28.8**	**-1.0**
DRK0				*e*S	**Sn**	**03 24 37.3**	**+0.2**
DRK0	**Durika**	**0.43**	**351**	*i* P	**Pn**	**03 24 28.8**	**-1.0**
DRK0				*e*S	**Sn**	**03 24 37.2**	**+0.2**
DRK0	**Durika**	**0.43**	**351**	*e*P	**Pn**	**03 24 28.7**	**-1.1**
PIRO	**Carate, Puerto**	**0.45**	**200**	*i* P	**Pn**	**03 24 28.9**	**-1.0**
PIRO				*e*S	**Sn**	**03 24 38.8**	**+1.7**
PIRO	**Carate, Puerto**	**0.45**	**200**	*e*P	**Pn**	**03 24 28.9**	**-1.0**
PIRO				*e*S	**Sn**	**03 24 38.8**	**+1.7**
PIRO	**Carate, Puerto**	**0.45**	**200**	*e*P	**Pn**	**03 24 28.8**	**-1.0**
BRU2	**Volcan**	**0.48**	**94**	*i* P	**Pn**	**03 24 29.5**	**-0.9**
BRU2				*e*S	**Sn**	**03 24 38.6**	**+0.6**
BRU2	**Volcan**	**0.48**	**94**	*i* P	**Pn**	**03 24 29.5**	**-0.9**
BRU2				*e*S	**Sn**	**03 24 37.5**	**-0.6**
BRU2	**Volcan**	**0.48**	**94**	*e*P	**Pn**	**03 24 29.5**	**-0.9**
EDPE	**Pejibaye, P**	**0.51**	**310**	*e*P	**Pn**	**03 24 28.8**	**-1.3**
TBS2		**0.52**	**94**	*e*P	**Pn**	**03 24 30.2**	**-0.6**
BC3P	**Paso Ancho**	**0.56**	**92**	*i* P	**Pn**	**03 24 30.3**	**-1.2**
BC3P				*e*S	**Sn**	**03 24 40.5**	**+0.6**
BC3P	**Paso Ancho**	**0.56**	**92**	*i* P	**Pn**	**03 24 30.3**	**-1.2**
BC3P				*e*S	**Sn**	**03 24 39.7**	**-0.2**
LESP3	**La Esperanza,**	**0.57**	**138**	*e*P	**Pn**	**03 24 29.2**	**-2.2**
LESP3				*e*S	**Sn**	**03 24 38.4**	**-1.4**
LESP3	**La Esperanza,**	**0.57**	**138**	*e*P	**Pn**	**03 24 30.4**	**-1.0**
LESP3				*e*S	**Sn**	**03 24 41.6**	**+1.8**
SAJE	**San Jernim**	**0.61**	**327**	*e*P	**Pn**	**03 24 30.4**	**-1.6**
BANCO	**falda S V. Bar**	**0.65**	**100**	*e*P	**Pn**	**03 24 31.6**	**-1.0**
JEFFS	**S de V. Baru**	**0.66**	**104**	*e*P	**Pn**	**03 24 31.7**	**-1.0**
PTAR3	**Potrerillos Ar**	**0.69**	**102**	*i* P	**Pn**	**03 24 32.4**	**-0.7**
PTAR3				*e*S	**Sn**	**03 24 43.6**	**+0.9**
PTAR3	**Potrerillos Ar**	**0.69**	**102**	*e*P	**Pn**	**03 24 32.4**	**-0.7**
PTAR3				*e*S	**Sn**	**03 24 43.6**	**+0.9**
BQTLY	**Boquete Panama**	**0.71**	**96**	*e*P	**Pn**	**03 24 32.0**	**-1.4**
WILL	**Boquete**	**0.74**	**96**	*e*P	**Pn**	**03 24 32.3**	**-1.4**
BQSF3	**Alto Boquete,**	**0.74**	**97**	*e*P	**Pn**	**03 24 32.6**	**-1.2**
BQSF3				*e*S	**Sn**	**03 24 44.6**	**+0.6**
BQSF3	**Alto Boquete,**	**0.74**	**97**	*e*P	**Pn**	**03 24 32.6**	**-1.2**
BQSF3				*e*S	**Sn**	**03 24 44.6**	**+0.6**
DAP26	**falda E V. Bar**	**0.75**	**93**	*e*P	**Pn**	**03 24 32.4**	**-1.5**
LMNES	**Limones**	**0.79**	**157**	*e*P	**Pn**	**03 24 33.7**	**-0.7**
DVD	**David**	**0.82**	**119**	*e*P	**Pn**	**03 24 33.8**	**-0.9**
DVD				*e*S	**Sn**	**03 24 46.2**	**+0.5**
DVD	**David**	**0.82**	**119**	*e*P	**Pn**	**03 24 33.8**	**-0.9**
DVD				*e*S	**Sn**	**03 24 46.2**	**+0.5**
PSOM3	**Paja de Sombre**	**0.86**	**100**	*e*P	**Pn**	**03 24 33.9**	**-1.4**
PSOM3				*e*S	**Sn**	**03 24 46.2**	**-0.6**
PSOM3	**Paja de Sombre**	**0.86**	**100**	*e*P	**Pn**	**03 24 33.9**	**-1.4**
PSOM3				*e*S	**Sn**	**03 24 46.7**	**0.0**
LOCO3	**Loma Colorada,**	**0.86**	**119**	*e*P	**Pn**	**03 24 34.3**	**-1.0**
LOCO3				*e*S	**Sn**	**03 24 47.5**	**+0.8**
LOCO3	**Loma Colorada,**	**0.86**	**119**	*e*P	**Pn**	**03 24 34.4**	**-0.8**
LOCO3				*e*S	**Sn**	**03 24 48.5**	**+1.8**
PEDE3	**Pedregal, Chir**	**0.87**	**121**	*i* P	**Pn**	**03 24 34.6**	**-0.8**
PEDE3	**Pedregal, Chir**	**0.87**	**121**	*i* P	**Pn**	**03 24 34.6**	**-0.8**
PEDE3				*e*S	**Sn**	**03 24 49.1**	**+2.1**
LOMA3	**Las Lomas, Chi**	**0.87**	**117**	*e*P	**Pn**	**03 24 34.4**	**-1.1**
LOMA3				*e*S	**Sn**	**03 24 48.3**	**+1.2**
LOMA3	**Las Lomas, Chi**	**0.87**	**117**	*e*P	**Pn**	**03 24 34.3**	**-1.1**
LOMA3				*e*S	**Sn**	**03 24 47.9**	**+0.8**
LAES	**El Progreso Va**	**0.93**	**8**	*e*P	**Pn**	**03 24 35.6**	**-0.7**
RGM0	**Gandoca**	**0.94**	**37**	*e*P	**Pn**	**03 24 37.0**	**+0.7**
RGM0				*e*S	**Sn**	**03 24 52.3**	**+3.6**
CHIR3	**Chiriqui UPA,**	**0.94**	**117**	*e*P	**Pn**	**03 24 35.9**	**-0.6**
CHIR3				*e*S	**Sn**	**03 24 51.2**	**+2.5**
CHIR3	**Chiriqui UPA,**	**0.94**	**117**	*e*P	**Pn**	**03 24 35.9**	**-0.6**
CHIR3				*e*S	**Sn**	**03 24 49.7**	**+0.9**
PBNVO	**Pueblo Nuevo,**	**0.98**	**86**	*e*P	**Pn**	**03 24 35.3**	**-1.5**
RBALA	**Bur**	**1.01**	**87**	*e*P	**Pn**	**03 24 35.9**	**-1.4**
VERH	**Veragua Rainfo**	**1.09**	**359**	*e*P	**Pn**	**03 24 37.3**	**-1.1**
PIEC	**Cerro El Cedra**	**1.10**	**316**	*e*P	**Pn**	**03 24 37.2**	**-1.6**
PITB	**Pirrs, San**	**1.17**	**315**	*e*P	**Pn**	**03 24 38.7**	**-1.0**
VINA	**Juan Vinas**	**1.20**	**332**	*e*P	**Pn**	**03 24 38.8**	**-1.2**
VERB	**Verbena**	**1.22**	**335**	*e*P	**Pn**	**03 24 39.6**	**-0.7**
LCR2	**La Lucha 2**	**1.22**	**318**	*e*S	**Sn**	**03 24 54.7**	**-1.1**
PCAYA	**Pacayas**	**1.25**	**330**	*e*P	**Pn**	**03 24 39.8**	**-1.0**
RESJ	**San Isidro (Tu**	**1.27**	**339**	*e*P	**Pn**	**03 24 40.5**	**-0.5**
PICV	**PH. Pirrs**	**1.28**	**308**	*e*P	**Pn**	**03 24 39.9**	**-1.1**
ABRB	**Las Abras (San**	**1.28**	**336**	*e*P	**Pn**	**03 24 40.6**	**-0.7**
CVTV	**Tajo**	**1.29**	**334**	*e*P	**Pn**	**03 24 40.8**	**-0.7**
CVTQ	**Turrialba Volc**	**1.30**	**334**	*e*P	**Pn**	**03 24 40.9**	**-0.8**
PAR1A	**Puntarenas Pro**	**1.30**	**306**	*e*P	**Pn**	**03 24 41.2**	**-0.1**
VTR0	**Volcan Turrial**	**1.31**	**334**	*e*P	**Pn**	**03 24 41.0**	**-0.8**
CVTR	**Volcan Turrial**	**1.31**	**334**	*e*P	**Pn**	**03 24 41.0**	**-0.8**
VICA	**Volcano Irazu**	**1.32**	**330**	*e*P	**Pn**	**03 24 40.7**	**-1.3**
ACOS	**Acosta**	**1.36**	**315**	*e*P	**Pn**	**03 24 42.1**	**-0.2**
SOCE	**Pocosol**	**2.10**	**317**	*e*P	**Pn**	**03 24 52.7**	**+0.4**
ARE1	**Arenal 1**	**2.22**	**317**	*e*P	**Pn**	**03 24 54.8**	**+0.9**
VARE2	**V. Arenal**	**2.22**	**317**	*e*P	**Pn**	**03 24 54.5**	**+0.5**
CEDE	**Laguna Cedeo**	**2.23**	**318**	*e*P	**Pn**	**03 24 54.2**	**+0.1**
JTS	**Las Juntas de**	**2.27**	**310**	*e*P	**Pn**	**03 24 54.6**	**-0.1**
JTS	**Las Juntas de**	**2.27**	**310**	*e*P	**Pn**	**03 24 54.4**	**-0.3**
JUD3	**Juan Diaz 3**	**2.68**	**300**	*e*P	**Pn**	**03 24 59.4**	**-0.9**

IDC 30 03:36:48.8±13.0,6.49S×129.79E,h213km±150km, mb3.3/1,mbtmp3.6/4,Error ellipse: s-maj=114.1km s-min=52.8km az=45.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.23**	**199**	P	Pn	03 39 37.2	+0.9
	0.7nm,0.3s,baz=32,slow=12,SNR=6.7						
WRA	**Warramunga Arr**	**14.09**	**162**	P	Pn	03 39 59.1	-0.3
	0.4nm,0.5s,baz=342,slow=13,SNR=4.9						
WRA				S	S	03 42 19.7	-16
	0.5nm,0.4s,baz=338,slow=22,SNR=7.4						
ASAR	**Alice Springs**	**17.53**	**167**	P	P	03 40 38.6	-0.2
	0.5nm,0.4s,baz=348,slow=10,SNR=7.1						
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	03 47 23.2	0.0
	0.6nm,0.6s,baz=111,slow=7.9,SNR=3.2						
	0.6nm,0.6s						

*IDC **30** 03:48:33.0±0.9,1.50N×66.65E,h0km,mb4.0/8, mbtmp4.0/9,ML3.7/1,MS3.7/25,Error ellipse: s-maj=27.4km s-min=23.5km az=16.0*
*NEIC **30** 03:48:35.1±2.4,1.27N±0.08×66.7E±0.1,h10km±1km, mb4.3/15,Error ellipse: s-maj=18.8km s-min=12.9km az=288.0*

ISC 30 03:48:35.3±0.8,1.3N±0.1×66.7E±0.1,h18km,n56, σ1§44/30,mb4.2/14,MS3.7/24,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAAM	**Kaadhehdhoo**	**6.30**	**97**		**Pn**	**03 50 05.6**	**-1.9**
PALK	**Pallekele**	**15.12**	**67**	P	**P**	**03 52 17.5**	**+4.1**
PALK				IAmb	IAmb	03 52 20.4	
	comp=Z,14nm,1.1s						
PALK	**Pallekele**	**15.12**	**67**	Pn	**Pn**	**03 52 06.1**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=261,slow=10,SNR=3.6						
PALK				LR	LR	03 56 50.2	
	comp=Z,395nm,18.1s,baz=240,slow=33						
	comp=Z,4.0nm,0.6s						
OPO	**Ambohidratompo**	**27.57**	**223**	LR	LR	04 02 36.6	
	comp=Z,117nm,19.8s,baz=182,slow=30						
FURI	**Furi**	**28.93**	**286**	LR	LR	04 05 00.8	
	comp=

COHC	**Cochancay**	**6.78**	**334**	P	Pn	04 02 57.0 +1.4
	980nm19nm,0.5s					
COHC				S	Sn	04 04 14.9 +1.9
	980nm19nm,0.5s					
PIAT	**Ana Tenorio**	**7.82**	**346**	P	Pn	04 03 10.4 +0.1
	8.1nm,0.6s					
PIAT				S	Sn	04 04 37.4 -1.9
	8.1nm,0.6s					
PPLP	**Puerto Lpez**	**8.31**	**328**	P	Pn	04 03 15.3 -1.4
	24nm,0.6s					
PTLC	**Puerto Leguiza**	**8.88**	**10**	P	Pn	04 03 18.2 -6.3
GCUF	**Volcan Galeras**	**9.84**	**354**	P	Pn	04 03 39.2 +1.0
	8.5nm,0.5s					
CRUC	**La Cruz**	**10.15**	**357**	P	Pn	04 03 43.6 +1.3
FLOC	**Florencia**	**10.17**	**4**	P	Pn	04 03 39.9 -2.3
	7.0nm,0.6s					
BBAC	**Balboa, Cauca**	**10.62**	**355**	P	Pn	04 03 49.3 +0.7
	5.2nm,0.9s					
MACC	**Macarena, Meta**	**10.99**	**13**	P	Pn	04 03 48.9 -4.6
POPC	**Popayan, Colom**	**11.10**	**358**	P	Pn	04 03 56.1 +0.9
	3.0nm,1.8s					
URMC	**La Uribe, Meta**	**11.96**	**9**	P	Pn	04 04 04.5 -2.3
	8.1nm,0.8s					
PRAC	**Prado**	**12.35**	**7**	P	Pn	04 04 13.9 +1.8
ORTC	**Ortega, Tolima**	**12.50**	**5**	P	Pn	04 04 12.6 -1.6
SGC2	**Sao Gabriel da**	**12.57**	**48**	P	Pn	04 04 10.3 -4.8

*IDC **30** 04:05:39.8±1.3,5.°09S×151.°50E,h0km,mb3.9/6, mbtmp4.0/7,ML2.3/1,MS3.5/11,Error ellipse: s-maj=44.9km s-min=20.9km az=112.0*

ISC 30 04:05:53.1±1.5,**5.°2S**±0.°2×**151.°2E**±0.°2,**h100**km,**n15,** σ3.°**50/8,mb3.8**/6,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.79**	**223**	Pn	**Pn**	**04 07 13.2**	**-3.4**
	5.0nm,0.3s,baz=82,slow=4.6,SNR=6.1						
PMG				Sn	**Sn**	**04 08 22.8**	**+1.1**
	2.6nm,0.3s,baz=281,slow=19,SNR=3.8						
PMG				LR	LR	04 09 17.3	
	comp=Z,284nm,19.0s,baz=40,slow=36						
	26nm,0.5s						
GUMO	**Guam**	**19.68**	**341**	LR	LR	04 16 05.8	
	comp=Z,45nm,20.1s,baz=158,slow=32						
WRA	**Warramunga Arr**	**21.99**	**227**	P	**P**	**04 10 37.6**	**-1.7**
	3.0nm,0.9s,baz=52,slow=10,SNR=19						
WRA				S	**S**	**04 14 42.5**	**+6.4**
	1.6nm,0.9s,baz=47,slow=15,SNR=5.2						
WRA				LR	LR	04 18 58.0	
	comp=Z,95nm,18.2s,baz=77,slow=36						
	3.0nm,0.9s						
DZM	**Mont Dzumac**	**22.36**	**140**	LR	LR	04 17 57.5	
	comp=Z,261nm,19.8s,baz=352,slow=33						
ASAR	**Alice Springs**	**24.79**	**220**	P	**P**	**04 11 05.6**	**-0.4**
	3.4nm,0.6s,baz=58,slow=8.1,SNR=33						
	3.4nm,0.6s						
BATI	**Baumata**	**27.71**	**258**	LR	LR	04 25 03.4	
	comp=Z,123nm,19.4s,baz=168,slow=42						
STKA	**Stephens Creek**	**28.03**	**198**	P	**P**	**04 11 33.8**	**-1.1**
	1.9nm,0.8s,baz=18,slow=9.5,SNR=3.8						
STKA				LR	LR	04 21 53.8	
	comp=Z,118nm,20.6s,baz=20,slow=34						
	1.9nm,0.8s						
DAV	**Davao City (W)**	**28.30**	**295**	LR	LR	04 22 29.7	
	comp=Z,95nm,18.8s,baz=186,slow=35						
JHJ	**Hachijo jima 2**	**39.60**	**345**	LR	LR	04 26 34.6	
	comp=Z,43nm,19.4s,baz=194,slow=32						
URZ	**Urewera**	**40.49**	**148**	LR	LR	04 27 28.3	
	comp=Z,100nm,19.5s,baz=285,slow=32						
MJAR	**Matsushiro Arr**	**43.25**	**345**	LR	LR	04 29 41.6	
	comp=Z,44nm,21.7s,baz=206,slow=33						
KSRS	**Korea Array**	**47.64**	**335**	P	**P**	**04 14 19.5**	**+0.2**
	0.6nm,0.4s,baz=157,slow=7.9,SNR=6.6						
	0.6nm,0.4s						
PETK	**Petropavlovsk-**	**58.34**	**5**	LR	LR	04 39 19.1	
	comp=Z,26nm,18.8s,baz=196,slow=35						
ILAR	**Eielson Array**	**83.13**	**22**	P	P	04 18 04.5	-3.2
	0.2nm,0.7s,baz=246,slow=5.1,SNR=4.0						
	0.2nm,0.7s						
QSPA	**South Pole Qui**	**84.77**	**180**	P	**P**	**04 18 18.0**	**+1.8**
	1.0nm,0.7s,baz=285,slow=1.7,SNR=11						
	1.0nm,0.7s						

*SSNC **30** 04:05:58.5±1.3,19.°71N×73.°12W,h20km±8km,MD3.1 SDD **30** 04:05:58.9±2.2,19.°91N×73.°17W,h31km±111km,MD3.5, ML2.3,MW2.9*

ISC 30 04:05:56.7±1.2,**19.°8N**±0.°1×**73.°14W**±0.°05,**h25**km±15km, **n15,**σ1.°**25/25,8C,Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**1.08**	**288**	*e*P	**Pb**	**04 06 17.2**	**+0.4**
MASC				*e*S	**Sb**	**04 06 30.1**	**-0.3**
MASC	**Masc**	**1.08**	**288**	⇑*e*Pg	**Pb**	**04 06 16.6**	**-0.1**
MASC				⇑*e*Sg	**Sn**	**04 06 30.9**	**+0.5**
MASC				IAML		04 06 33.7	
	comp=N,54nm,0.2s						
MCDR	**Montecristi**	**1.40**	**87**	*e*Sg	**Sb**	**04 06 40.9**	**+1.3**
MCDR				IAML		04 06 47.4	
	comp=N,73nm,0.5s						
QMBU	**Quimbuelo**	**1.61**	**283**	*e*P	**Pn**	**04 06 24.4**	**+0.8**
QMBU				*e*S	**Sn**	**04 06 43.3**	**-0.3**
QMBU	**Quimbuelo**	**1.61**	**283**	*e*Pg	**Pn**	**04 06 23.9**	**+0.3**
QMBU				⇑*e*Sg	**Sb**	**04 06 45.0**	**-0.8**
QMBU				IAML		04 06 48.3	
	comp=N,48nm,0.3s						
JIDR	**Jimani**	**1.81**	**137**	⇑*e*Sg	**Sb**	**04 06 53.1**	**+1.6**
GTBY	**Guantanamo Bay**	**1.86**	**273**	*e*P	**Pn**	**04 06 27.3**	**+0.3**
GTBY				*e*S	**Sn**	**04 06 49.5**	**-0.1**
GTBY				*e*Sg	**Sb**	**04 06 53.6**	**+0.8**
NMDO	**Nuevo Mundo**	**1.87**	**293**	*e*P	**Pb**	**04 06 29.1**	**-1.2**
NMDO				*e*S	**Sn**	**04 06 51.0**	**+1.0**
SDDR	**Presa de Saban**	**1.94**	**116**	⇑*e*Sg	**Sb**	**04 06 57.4**	**+2.1**
SDDR				IAML		04 07 02.0	
	comp=N,11nm,0.3s						
RCC	**Rio Carpintero**	**2.41**	**274**	*e*P	**Pn**	**04 06 34.9**	**+0.3**
RCC				*e*S	**Sn**	**04 07 02.5**	**-0.8**
PODR	**Polo**	**2.42**	**133**	⇑*e*Pg	**Pb**	**04 06 38.6**	**-1.1**
MARVS	**Santiago de Cu**	**2.60**	**274**	*e*P	**Pn**	**04 06 37.9**	**+0.7**
MARVS				*e*S	**Sn**	**04 07 08.1**	**+0.1**
CHIV	**Chivirico**	**3.08**	**273**	*e*S	**Sn**	**04 07 18.8**	**-1.1**
LMGC	**Las Mercedes**	**3.64**	**274**	*e*P	**Pn**	**04 06 53.0**	**+1.5**
LMGC				*e*S	**Sn**	**04 07 32.0**	**-1.7**
HATOM	**Hato Mayor del**	**3.70**	**106**	⇑*e*Sg	**Sb**	**04 07 42.7**	**-3.2**
HATOM				IAML		04 07 43.0	
	comp=N,6.9nm,0.9s						

*IDC **30** 04:18:47.8±2.2,3.°28N×127.°78E,h0km,mb3.6/3, mbtmp3.6/3,MS2.9/1,Error ellipse: s-maj=186.4km s-min=27.8km az=65.0*

*DJA **30** 04:18:54.7±0.5,3.°N±4.°×12.°8E±.°,h10km,M4.1/6,mB5.0/1, mb4.7/1,MLv3.8/6,Mw(mB)4.3/1*

ISC 30 04:18:53.1±1.5,**3.°3N**±0.°2×**128.°0E**±0.°1,**h35**km,**n6,**σ0.°**68**/6, **mb3.9**/3,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.49**	**280**	P	**Pn**	**04 19 32.0**	**+0.9**
SGSI				S	**Sn**	**04 20 00.0**	**-0.3**
MRSI	**Marisa**	**6.65**	**245**	P	**Pn**	**04 20 28.2**	**-0.1**
WRA	**Warramunga Arr**	**23.89**	**165**	P	**P**	**04 24 04.0**	**+0.4**
	0.3nm,0.4s,baz=344,slow=10.0,SNR=5.5						
	0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**32.19**	**300**	LR	LR	04 38 33.5	
	comp=Z,18nm,18.6s,baz=140,slow=37						
STKA	**Stephens Creek**	**37.27**	**161**	P	**P**	**04 26 01.7**	**0.0**
	0.8nm,0.4s,baz=326,slow=11,SNR=3.4						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**58.65**	**325**	P	**P**	**04 28 46.3**	**-0.6**
	0.5nm,0.5s,baz=108,slow=7.8,SNR=4.2						
	0.5nm,0.5s						

*KRNET **30** 04:23:51.6±0.1,40.°89N×74.°91E,h14km,mb3.3*
*SOME **30** 04:23:53.7,40.°95N×74.°87E,h5km*
*NNC **30** 04:23:53.4±1.5,40.°85N×74.°93E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=10.6km s-min=6.2km az=179.0*
*KNET **30** 04:23:55.5±0.6,41.°09N×74.°97E,h5km±3km,ml2.9,Error ellipse: s-maj=4.2km s-min=3.0km az=16.0*

ISC 30 04:23:50.8±1.2,**40.°87N**±0.°03×**74.°88E**±0.°02,**h18**km±5km, **n54,**σ0.°**97/91,34C-26D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKS	**Jany-Kuch**	**0.61**	**72**	⇑*e*P	**Pb**	**04 24 02.9**	**-0.2**
JNKS				⇑*e*S	**Sb**	**04 24 11.4**	**-0.1**
SALK	**Salom-Alik**	**0.80**	**271**	⇓*e*P	**Pn**	**04 24 07.3**	**-0.1**
SALK				⇑*e*S	**Sn**	**04 24 19.1**	**+0.1**
SFK	**Sufi-Kurgan**	**1.36**	**231**	⇓*e*P	**Pg**	**04 24 17.7**	**+0.7**
SFK				⇓*e*S	**Sg**	**04 24 36.9**	**+2.1**
UCH	**Uchtor**	**1.38**	**349**	⇓P	**Pg**	**04 24 18.2**	**+0.6**
	13nm,0.3s,SNR=24						
UCH				⇑S	**Sg**	**04 24 36.6**	**+0.8**
	59nm,0.2s						
UCH	**Uchtor**	**1.38**	**349**	⇑*e*P	**Pg**	**04 24 17.5**	**-0.1**
UCH				⇑*e*S	**Sg**	**04 24 36.6**	**+0.8**
ARSB	**Arslanbob**	**1.50**	**288**	⇑*e*P	**Pg**	**04 24 20.1**	**+0.3**
ARSB				⇑*e*S	**Sg**	**04 24 41.1**	**+1.6**
ULHL	**Ulahol**	**1.71**	**36**	⇑P	**Pg**	**04 24 23.8**	**0.0**
	14nm,0.2s						
ULHL				⇑S	**Sg**	**04 24 45.3**	**-0.8**
	115nm,0.4s						
ULHL	**Ulahol**	**1.71**	**36**	⇓*e*P	**Pb**	**04 24 23.0**	**+1.1**
ULHL				⇓*e*S	**Sg**	**04 24 46.1**	**0.0**
KBK	**Karagaybulak**	**1.79**	**2**	⇑P	**Pg**	**04 24 25.8**	**+0.6**
	16nm,0.1s,SNR=9.5						
KBK				⇑S	**Sg**	**04 24 48.4**	**0.0**
	167nm,0.3s						
KBK	**Karagaybulak**	**1.79**	**2**	⇓*e*P	**Pg**	**04 24 24.5**	**-0.7**
KBK				⇓*e*S	**Sg**	**04 24 48.6**	**+0.2**
AAK	**Ala-Archa**	**1.79**	**351**	⇑P	**Pg**	**04 24 25.8**	**+0.6**
	17nm,0.2s,SNR=10						
AAK				⇓S	**Sg**	**04 24 48.5**	**-0.1**
	94nm,0.6s						
AAK	**Ala-Archa**	**1.79**	**351**	⇓Pn	**Pg**	**04 24 25.2**	**-0.1**
	5.8nm,0.5s						
AAK				⇓Sn	**Sg**	**04 24 52.6**	**+4.1**
	32nm,0.6s						
AAK	**Ala-Archa**	**1.79**	**351**	⇑*e*P	**Pg**	**04 24 24.6**	**-0.7**
AAK				⇑*e*S	**Sg**	**04 24 48.8**	**+0.3**
BOOM	**Boomskoye usch**	**1.80**	**26**	⇓*e*P	**Pb**	**04 24 24.7**	**+1.3**
BOOM				⇓*e*S	**Sg**	**04 24 49.0**	**0.0**
FRU1	**Bishkek**	**1.95**	**355**	⇓*e*P	**Pg**	**04 24 28.0**	**-0.2**
FRU1				⇓*e*S	**Sg**	**04 24 54.0**	**+0.4**
EKS2	**Erkin-Say**	**1.97**	**336**	⇑P	**Pg**	**04 24 29.0**	**+0.3**
	8.3nm,0.3s,SNR=10.0						
EKS2				⇓S	**Sg**	**04 24 54.7**	**+0.4**
	25nm,0.5s						
EKS2	**Erkin-Say**	**1.97**	**336**	⇑*e*P	**Pg**	**04 24 27.9**	**-0.8**
EKS2				⇑*e*S	**Sg**	**04 24 54.6**	**+0.3**
TKM2	**Tokmak 2**	**2.12**	**14**	⇑P	**Pg**	**04 24 31.4**	**-0.1**
	20nm,0.2s,SNR=40						
TKM2				⇓S	**Sg**	**04 24 58.6**	**-0.4**
	238nm,0.5s						
TKM2	**Tokmak 2**	**2.12**	**14**	⇑*e*P	**Pb**	**04 24 29.8**	**+1.0**
TKM2				⇑*e*S	**Sg**	**04 24 57.9**	**-1.1**
CHMS	**Chumysh**	**2.13**	**357**	⇓P	**Pg**	**04 24 31.4**	**-0.3**
	25nm,0.4s,SNR=5.1						
CHMS				⇓S	**Sg**	**04 24 59.3**	**0.0**
	88nm,0.4s						
CHMS	**Chumysh**	**2.13**	**357**	⇓*e*P	**Pb**	**04 24 29.9**	**+1.0**
CHMS				⇓*e*S	**Sg**	**04 24 58.0**	**-1.3**
KDJ	**Kajisay**	**2.14**	**53**	⇑*e*P	**Pb**	**04 24 30.1**	**+1.0**
KDJ				⇑*e*S	**Sg**	**04 24 58.4**	**-1.2**
MRKS	**Merke**	**2.25**	**327**	Pg	**Pg**	**04 24 34.2**	**+0.3**
	42nm,0.5s						
MRKS				Lg	Lg	04 25 03.1	
	77nm,0.4s						
MRKS	**Merke**	**2.25**	**327**	*e*P	**Pg**	**04 24 34.2**	**+0.3**
	42nm,0.5s						
MRKS				*e*S	**Sg**	**04 25 03.1**	**0.0**
	77nm,0.4s						
KST	**Kastek**	**2.32**	**20**	Pg	**Pg**	**04 24 35.7**	**+0.4**
	19nm,0.3s						
KST				Lg	Lg	04 25 05.6	
	134nm,0.3s						
KST	**Kastek**	**2.32**	**20**	*e*P	**Pg**	**04 24 35.7**	**+0.4**
	19nm,0.3s						
KST				*e*S	**Sg**	**04 25 05.5**	**+0.2**
	134nm,0.3s						
TARG	**Taragay, Kyrgy**	**2.36**	**68**	⇑*e*P	**Pb**	**04 24 33.4**	**+0.3**
TARG				⇑*e*S	**Sb**	**04 25 04.0**	**+1.9**
ARK	**Arkit**	**2.38**	**294**	⇓*e*P	**Pb**	**04 24 34.0**	**+0.7**
ARK				⇓*e*S	**Sg**	**04 25 05.1**	**-2.4**
USP	**Ospenovka**	**2.41**	**353**	⇓P	**Pg**	**04 24 35.8**	**-1.3**
	18nm,0.3s,SNR=43						
USP				⇑S	**Sg**	**04 25 06.9**	**-1.5**
	51nm,0.3s						
USP	**Ospenovka**	**2.41**	**353**	⇓*e*P	**Pb**	**04 24 33.9**	**+0.2**
USP				⇓*e*S	**Sb**	**04 25 04.9**	**+1.8**
MTBS	**Maitube**	**2.54**	**27**	Pg	**Pg**	**04 24 39.9**	**+0.5**
	14nm,0.3s						
MTBS				Lg	Lg	04 25 12.7	
	50nm,0.3s						
MTBS	**Maitube**	**2.54**	**27**	*e*P	**Pg**	**04 24 39.9**	**+0.5**
	14nm,0.3s						
MTBS				*e*S	**Sg**	**04 25 12.7**	**+0.4**
	50nm,0.3s						
SGDS	**Sogindy**	**2.59**	**356**	Pg	**Pg**	**04 24 40.6**	**+0.1**
	19nm,0.4s						
SGDS				Lg	Lg	04 25 14.0	
	91nm,0.7s						
TNSS	**Tian-Shan**	**2.66**	**35**	Pg	**Pg**	**04 24 42.4**	**+0.5**
	3.7nm,0.5s						
TNSS				Lg	Lg	04 25 16.9	
	17nm,0.7s						
TNSS	**Tian-Shan**	**2.66**	**35**	*e*P	**Pg**	**04 24 42.4**	**+0.5**
	3.7nm,0.5s						
TNSS				*e*S	**Sg**	**04 25 16.9**	**+0.6**
	17nm,0.7s						
MDOK	**Medeo**	**2.80**	**34**	Pg	**Pg**	**04 24 45.1**	**+0.6**
	15nm,0.4s						
MDOK				Lg	Lg	04 25 21.4	
KRBS	**Karabastau**	**2.88**	**12**	Pg	**Pg**	**04 24 45.9**	**-0.2**
	11nm,0.4s						
KRBS				Lg	Lg	04 25 22.7	
	85nm,0.5s						
KOTS	**Kotyrbulak**	**2.89**	**34**	Pg	**Pg**	**04 24 46.7**	**+0.5**
	14nm,0.5s						
KOTS				Lg	Lg	04 25 24.2	
	92nm,0.9s						
KOTS	**Kotyrbulak**	**2.89**	**34**	*e*P	**Pg**	**04 24 46.7**	**+0.5**
	14nm,0.5s						
KOTS				*e*S	**Sg**	**04 25 24.2**	**+0.6**
	92nm,0.9s						
TRKS	**Terek-Say**	**2.90**	**284**	⇑*e*P	**Pb**	**04 24 40.8**	**-1.3**
TRKS				⇑*e*S	**Sb**	**04 25 16.6**	**-0.6**
PRZ	**Przheval'sk**	**3.09**	**57**	⇑*e*P	**Pb**	**04 24 43.5**	**-1.8**
PRZ				⇑*e*S	**Sb**	**04 25 20.9**	**-1.8**
KTBS	**Karatobe**	**3.14**	**25**	Pg	**Pg**	**04 24 50.9**	**-0.1**
	9.6nm,0.8s						
KTBS				Lg	Lg	04 25 31.5	
	71nm,0.7s						
KUU	**Kurty**	**3.21**	**19**	Pg	**Pg**	**04 24 52.1**	**-0.2**
	4.2nm,0.0s						
KUU				Lg	Lg	04 25 33.4	
	84nm,0.5s						
KUU	**Kurty**	**3.21**	**19**	*e*P	**Pg**	**04 24 52.1**	**-0.2**
	4.2nm,0.0s						
KUU				*e*S	**Sg**	**04 25 33.4**	**-0.4**
	84nm,0.5s						
CHKK	**Chushkaly**	**3.37**	**27**	Pg	**Pg**	**04 24 54.9**	**-0.4**
	25nm,0.5s						
CHKK				Lg	Lg	04 25 38.2	
	38nm,0.4s						
CHKK	**Chushkaly**	**3.37**	**27**	*e*P	**Pg**	**04 24 54.9**	**-0.4**
	25nm,0.5s						
CHKK				*e*S	**Sg**	**04 25 38.2**	**-0.7**
	38nm,0.4s						
SATY	**Saty**	**3.42**	**49**	Pg	**Pg**	**04 24 56.6**	**+0.3**
	9.8nm,0.3s						
SATY				Lg	Lg	04 25 41.5	
	34nm,0.6s						
KURS	**Kuram**	**3.58**	**42**	Pg	**Pg**	**04 24 59.0**	**-0.4**
	4.9nm,0.5s						
KURS				Lg	Lg	04 25 45.4	
	9.3nm,0.5s						
UZB	**Uzynbulak**	**3.83**	**52**	Pg	**Pg**	**04 25 04.0**	**-0.2**
	5.6nm,0.4s						
UZB				Lg	Lg	04 25 54.2	
	15nm,0.5s						
UZB	**Uzynbulak**	**3.83**	**52**	*e*P	**Pg**	**04 25 04.0**	**-0.2**
	5.6nm,0.4s						
UZB				*e*S	**Sg**	**04 25 54.2**	**+0.3**
	15nm,0.5s						
KK31	**Karatay Array**	**3.95**	**306**	⇑Pg	**Pg**	**04 25 04.5**	**-2.0**
	0.5nm,0.3s,baz=125,slow=18,SNR=7.2						
KK31				⇑Lg	Lg	04 25 59.5	
	1.6nm,0.3s,baz=124,slow=29,SNR=6.7						
PDGK	**Podgornoye**	**4.22**	**53**	⇓Pg	**Pg**	**04 25 09.7**	**-1.9**
	5.2nm,0.7s						
PDGK				⇑Lg	Lg	04 26 08.8	
	19nm,0.7s						
BRLS	**Borolday**	**4.34**	**301**	Pg	**Pg**	**04 25 12.8**	**-1.0**
	1.7nm,0.3s						
BRLS				Lg	Lg	04 26 09.0	
	3.8nm,0.5s						
BRLS	**Borolday**	**4.34**	**301**	*e*P	**Pg**	**04 25 12.8**	**-1.0**
	1.7nm,0.3s						
BRLS				*e*S	**Sg**	**04 26 09.1**	**-1.0**
	3.8nm,0.5s						

DJA 30 04:26:08.1±1.3,**8.°S**±5.°×**10.°8E**±.°,**h18**km±11km,**M3.6**/13, **mB3.8/1,MLv3.6/13,Mw(mB)2.7/1,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**1.12**	**318**	P	Pn	04 26 28.4	-0.6
KPJI	**Karang Pucung**	**1.31**	**52**	P	Pn	04 26 31.3	-0.2
LEM	**Lembang**	**1.34**	**348**	P	Pn	04 26 31.6	-0.5
SKJI	**Sukabumi**	**1.74**	**311**	P	Pn	04 26 38.1	+0.6
DBJI	**Dramaga**	**1.95**	**324**	P	Pn	04 26 40.3	0.0
UGM	**Wanagama**	**2.62**	**85**	P	Pn	04 26 49.1	-0.5
CGJI	**Cibinong**	**2.66**	**305**	P	Pn	04 26 49.8	-0.3
SMRI	**Semarang**	**2.75**	**67**	P	Pn	04 26 50.9	-0.5
WOJI	**Wonogiri, Jawa**	**3.02**	**84**	P	Pn	04 26 55.3	+0.2
PCJI	**Pacitan**	**3.25**	**91**	P	Pn	04 26 58.5	+0.2
PPBI	**Pangkal Pinang**	**6.20**	**344**	P	Pn	04 27 38.9	+0.1

*NEIC **30** 04:28:28.9±1.2,19.°19N±0.°03×67.°28W±0.°02,h10km±1km, ML2.8/19,Md3.1/17(RSPR),Error ellipse: s-maj=5.7km s-min=2.9km az=38.0*

*RSPR **30** 04:28:30.6,19.°30N×67.°38W,h50km±8km,MD3.1/17 SDD **30** 04:28:30.7±2.0,19.°22N×67.°18W,h17km±84km,MD3.5, ML2.7,MW3.2*

ISC 30 04:28:29.6±1.5,**19.°22N**±0.°06×**67.°26W**±0.°03,**h19**km±3km, **n65,**σ0.°**72/81,30C-3D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.76**	**169**		**Pn**	**04 28 45.3**	**-0.1**
AGPR					**Sb**	**04 28 55.1**	**+0.9**
AGPR	**Aguadilla, PR**	**0.76**	**169**	⇓*e*P	**Pn**	**04 28 45.3**	**-0.1**
AGPR	**Aguadilla, PR**	**0.76**	**169**	*e*S	**Sb**	**04 28 55.1**	**+0.9**
AGPR	**Aguadilla, PR**	**0.76**	**169**	⇑*e*Pg	**Pb**	**04 28 44.7**	**+0.5**
AGPR				⇑*e*Sg	**Sb**	**04 28 55.2**	**+0.9**
AGPR				IAML		04 28 59.3	
	comp=N,470nm,0.2s						
IDE	**Isla Desecheo**	**0.85**	**194**		**Pn**	**04 28 46.8**	**+0.2**
IDE					**Sn**	**04 28 58.7**	**+0.1**
IDE	**Isla Desecheo**	**0.85**	**194**	⇓*e*P	**Pn**	**04 28 46.8**	**+0.2**
IDE	**Isla Desecheo**	**0.85**	**194**	*e*S	**Sn**	**04 28 58.7**	**+0.1**
AOPR	**Arecibo Observ**	**0.99**	**151**		**Pb**	**04 28 47.7**	**-0.5**
AOPR				Sg	**Sb**	**04 28 58.7**	**-2.2**
AOPR				IAML		04 29 13.3	
	comp=N,479nm,0.3s						
AOPR	**Arecibo Observ**	**0.99**	**151**	⇑*e*P	**Pb**	**04 28 48.1**	**0.0**
AOPR	**Arecibo Observ**	**0.99**	**151**	⇑*e*Pg	**Pb**	**04 28 47.9**	**-0.3**
AOPR				⇑*e*Sg	**Sb**	**04 28 59.2**	**-1.7**
AOPR				IAML		04 29 08.7	
	comp=N,422nm,0.3s						
PRSN	**Puerto Rico Se**	**1.00**	**174**		**Pn**	**04 28 48.9**	**+0.2**
PRSN	**Puerto Rico Se**	**1.00**	**174**		**Pb**	**04 28 48.3**	**-0.1**
PRSN	**Puerto Rico Se**	**1.00**	**174**	Sg	**Sb**	**04 28 59.4**	**-1.8**
PRSN	**Puerto Rico Se**	**1.00**	**174**	⇑*e*P	**Pn**	**04 28 48.9**	**+0.2**
EMPR	**Esperanza - Ma**	**1.01**	**137**		**Pn**	**04 28 49.2**	**+0.5**
EMPR	**Esperanza - Ma**	**1.01**	**137**		**Sn**	**04 29 04.3**	**+1.9**
EMPR	**Esperanza - Ma**	**1.01**	**137**	Sg	**Sb**	**04 29 01.1**	**-0.3**
EMPR	**Esperanza - Ma**	**1.01**	**137**	Pg	**Pn**	**04 28 48.7**	**-0.1**
EMPR	**Esperanza - Ma**	**1.01**	**137**	⇑*e*P	**Pn**	**04 28 49.2**	**+0.5**
EMPR	**Esperanza - Ma**	**1.01**	**137**	*e*S	**Sn**	**04 29 04.3**	**+1.9**
LSP	**Las Mesas**	**1.05**	**171**		**Pn**	**04 28 49.5**	**+0.1**
LSP					**Sg**	**04 29 03.9**	**+0.1**
LSP	**Las Mesas**	**1.05**	**171**	⇑*e*P	**Pn**	**04 28 49.5**	**+0.1**
LSP	**Las Mesas**	**1.05**	**171**	*e*S	**Sg**	**04 29 03.9**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.09**	**152**	Pg	**Pb**	**04 28 49.2**	**-0.7**
UUPR	**Utuado, UPR, P**	**1.09**	**152**	⇑*e*P	**Pb**	**04 28 49.7**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.21**	**173**		**Pn**	**04 28 51.2**	**-0.4**
CRPR				Sg	**Sb**	**04 29 05.4**	**-1.8**
CRPR				IAML		04 29 14.5	
	comp=N,154nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.21**	**173**	⇑*e*P	**Pn**	**04 28 51.7**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.21**	**173**	*e*S	**Sn**	**04 29 08.1**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.21**	**173**	⇓*e*Pg	**Pn**	**04 28 51.5**	**-0.1**
CRPR				⇑*e*Sg	**Sb**	**04 29 06.7**	**-0.6**
CRPR				IAML		04 29 14.2	
	comp=N,170nm,0.5s						
ECPR	**Experimental S**	**1.23**	**136**	⇑*e*P	**Pb**	**04 28 52.0**	**-0.3**
ECPR	**Experimental S**	**1.23**	**136**	*e*S	**Sg**	**04 29 10.3**	**+0.6**
MLPR

SDD				IAML		04 30 06.4			
	comp=N,38nm,1.2s								
SC01	**Santiago de Io**	**3.28**	**274**	Pn	**Pn**	**04 29 18.6**	**-1.5**		
SDDR	**Presa de Saban**	**3.82**	**267**	Pn	**Pn**	**04 29 28.3**	**+0.8**		

*SNET **30** 04:29:04.8±2.6, 13°.77N×91°.44W, h21km, ML3.4*
*CATAC **30** 04:29:05.0±0.6, 14°.N±3°×9°.1W±°, h24km±4km, M3.4/18, MLv3.4/18, Error ellipse: s-maj=6.5km s-min=2.8km az=34.4, confirmed*
*GCG **30** 04:29:06.1±0.7, 13°.79N×91°.44W, h35km±630km, MD4.1, MW3.2*

ISC 30 04:29:02.6±1.9, **13°.79N**±0°.08×**91°.44W**±0°.05, **h6**km±11km, **n50**, σ0**93**/62, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC
RTAL	**Retalhuleu**	**0.77**	**341**	*e*P	**Pn**	**04 29 20.6**	**+0.5**
RTAL				*e*S	**Sn**	**04 29 31.1**	**-0.9**
RTAL	**Retalhuleu**	**0.77**	**341**	S	**Sn**	**04 29 32.4**	**+0.4**
RTAL	**Retalhuleu**	**0.77**	**341**	P	**Pn**	**04 29 20.5**	**+0.5**
ESSG	**Sabana Grande**	**0.83**	**45**	*i* P	**Pn**	**04 29 21.3**	**+0.3**
ESSG				*i* S	**Sn**	**04 29 33.4**	**-0.3**
FG8	**Yepocapa, Chim**	**0.97**	**61**	*i* P	**Pg**	**04 29 21.3**	**0.0**
FG8				*i* S	**Sg**	**04 29 33.5**	**-0.5**
FG16	**Alotenango, Sa**	**1.02**	**62**	*i* P	**Pg**	**04 29 22.5**	**+0.3**
FG16				*i* S	**Sg**	**04 29 35.4**	**-0.2**
SOKI	**Kika Raxquin**	**1.02**	**2**	*i* P	**Pn**	**04 29 24.9**	**+0.9**
SOKI				*i* S	**Sn**	**04 29 39.9**	**+1.1**
SMCA	**Catarina**	**1.22**	**330**	*i* P	**Pg**	**04 29 26.3**	**+0.2**
THIG		**1.37**	**324**	*i* P	**Pn**	**04 29 28.5**	**+0.2**
THIG				*i* S	**Sg**	**04 29 46.8**	**+0.2**
FAME	**Alcaldia de Sa**	**1.39**	**88**	P	**Pn**	**04 29 28.5**	**0.0**
FAME	**Alcaldia de Sa**	**1.39**	**88**	S	**Sb**	**04 29 46.9**	**0.0**
HUEH	**Huehuetenango**	**1.52**	**358**	*e*P	**Pg**	**04 29 32.8**	**+1.0**
HUEH	**Huehuetenango**	**1.52**	**358**	S	**Sg**	**04 29 52.1**	**+0.6**
HUEH	**Huehuetenango**	**1.52**	**358**	P	**Pg**	**04 29 32.8**	**+1.0**
NUBE	**Las Nubes**	**1.62**	**86**	*i* P	**Pn**	**04 29 32.5**	**+0.6**
NUBE				*e*S	**Sn**	**04 29 52.2**	**-0.9**
NUBE	**Las Nubes**	**1.62**	**86**	P	**Pn**	**04 29 32.4**	**+0.6**
NUBE	**Las Nubes**	**1.62**	**86**	S	**Sn**	**04 29 53.1**	**0.0**
LOAL	**Lomas de Alarc**	**1.62**	**83**	S	**Sn**	**04 29 53.6**	**+0.4**
LOAL	**Lomas de Alarc**	**1.62**	**83**	P	**Pn**	**04 29 32.2**	**+0.3**
RBDL	**Robledal**	**1.73**	**79**	*e*P	**Pn**	**04 29 34.6**	**+1.2**
RBDL				*e*S	**Sb**	**04 29 57.2**	**+0.1**
RTR	**El Retiro**	**1.75**	**86**	*e*P	**Pn**	**04 29 34.8**	**+1.1**
CEVE	**Cerro Verde**	**1.76**	**89**	*e*P	**Pn**	**04 29 35.4**	**+1.4**
CEVE				*e*S	**Sn**	**04 29 56.9**	**-0.1**
CEVE	**Cerro Verde**	**1.76**	**89**	S	**Sn**	**04 29 57.7**	**+0.8**
CEVE	**Cerro Verde**	**1.76**	**89**	P	**Pn**	**04 29 35.0**	**+1.1**
SBLS	**San Blas**	**1.77**	**88**	*e*P	**Pn**	**04 29 35.2**	**+1.2**
SBLS				*e*S	**Sn**	**04 29 56.3**	**-0.6**
SNJE	**San Jose**	**1.78**	**87**	*e*P	**Pn**	**04 29 35.1**	**+0.9**
SNJE				*e*P	**Pn**	**04 29 35.1**	**+0.9**
UNIC	**Universidad Ca**	**1.85**	**84**	S	**Sn**	**04 29 59.2**	**+0.5**
UNIC	**Universidad Ca**	**1.85**	**84**	P	**Pn**	**04 29 36.2**	**+1.3**
JAYA	**Jayaque - finc**	**1.94**	**94**	*e*P	**Pn**	**04 29 37.0**	**+0.6**
JAYA	**Jayaque - finc**	**1.94**	**94**	*i* P	**Pn**	**04 29 36.8**	**+0.5**
JAYA				*i* S	**Sn**	**04 30 00.1**	**-1.1**
JAYA	**Jayaque - finc**	**1.94**	**94**	P	**Pn**	**04 29 37.3**	**+1.0**
PMON	**Piamonte**	**2.07**	**92**	*e*P	**Pn**	**04 29 39.2**	**+1.1**
PMON	**Piamonte**	**2.07**	**92**	S	**Sn**	**04 30 04.9**	**+0.7**
PMON	**Piamonte**	**2.07**	**92**	P	**Pn**	**04 29 39.1**	**+1.1**
MTO3	**Montecristo**	**2.10**	**73**	*e*P	**Pn**	**04 29 40.0**	**+1.4**
MTO3	**Montecristo**	**2.10**	**73**	*i* P	**Pn**	**04 29 39.7**	**+1.0**
MTO3	**Montecristo**	**2.10**	**73**	P	**Pn**	**04 29 40.1**	**+1.4**
MTO3	**Montecristo**	**2.10**	**73**	S	**Sb**	**04 30 06.6**	**-1.3**
ESQI	**Esquipulas**	**2.17**	**69**	P	**Pn**	**04 29 41.4**	**+1.9**
ESQI	**Esquipulas**	**2.17**	**69**	S	**Sb**	**04 30 08.0**	**-1.7**
LOMA	**Loma Larga**	**2.21**	**94**	S	**Sn**	**04 30 08.3**	**+0.5**
LOMA	**Loma Larga**	**2.21**	**94**	P	**Pn**	**04 29 39.9**	**-0.1**
PAVA	**Las Pavas**	**2.43**	**92**	S	**Sn**	**04 30 13.3**	**0.0**
PAVA	**Las Pavas**	**2.43**	**92**	P	**Pn**	**04 29 44.6**	**+1.5**
CCIG	**Comitan**	**2.56**	**345**	*i* P	**Pn**	**04 29 46.4**	**+1.4**
CCIG	**Comitan**	**2.56**	**345**	P	**Pb**	**04 29 47.4**	**-1.8**
TECO	**Alcaldia de Te**	**2.60**	**95**	S	**Sn**	**04 30 18.3**	**+1.1**
TECO	**Alcaldia de Te**	**2.60**	**95**	P	**Pn**	**04 29 46.0**	**+0.7**
SCLA	**Alcaldia de Sa**	**2.64**	**92**	P	**Pn**	**04 29 46.7**	**+0.9**
SCLA	**Alcaldia de Sa**	**2.64**	**92**	S	**Sn**	**04 30 19.3**	**+1.1**

*BJI **30** 04:35:29.7, 5°.33S×151°.38E, h13km, mB5.2/8, mb4.8/27, Ms4.6/1, Ms7 4.4/2*
*IDC **30** 04:35:29.0±0.7, 5°.10S×151°.33E, h0km, mb4.4/18, mbtmp4.4/18, MS3.7/43, Error ellipse: s-maj=22.6km s-min=11.8km az=111.0*
*NEIC **30** 04:35:30.3±2.5, 5°.08S±0°.07×151°.46E±0°.08, h10km±4km, mb4.9/34, Error ellipse: s-maj=13.5km s-min=7.4km az=133.0*
*DJA **30** 04:35:48.1±0.7, 6°.S±4°×15°.1E±°, h111km±7km, M5.0/16, mb4.6/16, mB5.6/6, MLv5.1/1, Mw(mB)5.1/6*

ISC 30 04:35:30.5±0.4, **5°.10S**±0°.05×**151°.52E**±0°.06, **h10**km, **n115**, σ1**962**/82, **mb4.9**/45, **MS3.7**/41, **2C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.11**	**36**		**Pn**	**04 35 52.4**	**+0.3**
RABL					**Sn**	**04 36 08.1**	**+0.6**
MANU	**Manus Island**	**5.14**	**306**	Pn	**Pn**	**04 36 47.5**	**0.0**
PMG	**Port Moresby**	**6.08**	**225**	Pn	**Pn**	**04 37 01.0**	**+0.5**
PMG	**Port Moresby**	**6.08**	**225**	Pn	**Pn**	**04 37 02.2**	**+1.7**
	22nm,0.3s,baz=28,slow=7.3,SNR=39						
PMG				Sn	**Sn**	**04 38 12.2**	**+2.1**
	11nm,0.3s,baz=237,slow=23,SNR=4.6						
PMG				LR	LR	04 38 56.9	
	comp=Z,811nm,20.6s,baz=48,slow=35						
HNR	**Honiara**	**9.40**	**118**	LR	LR	04 41 01.7	
	comp=Z,360nm,21.1s,baz=292,slow=35						
JAY	**Jayapura**	**11.09**	**283**	LR	LR	04 41 31.5	
	comp=Z,537nm,21.9s,baz=348,slow=33						
JAY	**Jayapura**	**11.09**	**283**	P	Pn	04 38 14.3	+5.0
	15nm,1.0s						
COEN	**Coen**	**12.04**	**222**	Pn	**Pn**	**04 38 22.8**	**+0.6**
BAKI	**Biak**	**15.87**	**284**	P	**P**	**04 39 21.0**	**+3.2**
GUMO	**Guam**	**19.71**	**341**	LR	LR	04 47 34.4	
	comp=Z,42nm,20.3s,baz=154,slow=37						
EIDS	**Eidsvold**	**20.16**	**181**	P	**P**	**04 40 05.3**	**+0.3**
EIDS				IAmb	IAmb	04 40 10.3	
	comp=Z,53nm,1.4s						
SWI	**Sorong**	**20.66**	**281**	P	**P**	**04 40 10.5**	**-0.1**
	comp=Z,44nm,1.0s						
WB0	**Warramunga Arr**	**22.14**	**227**	P	**P**	**04 40 23.2**	**-3.4**
WR8	**Warramunga Arr**	**22.18**	**227**	P	**P**	**04 40 24.8**	**-2.2**
WR8				IAmb	IAmb	04 40 30.5	
	comp=Z,22nm,0.8s						
DZM	**Mont Dzumac**	**22.21**	**141**	*e*P	**P**	**04 40 28.5**	**+1.1**
	comp=Z,32nm,1.1s						
DZM				*e*LR	LR	04 45 51.0	
	comp=Z,512nm,25.3s						
DZM	**Mont Dzumac**	**22.21**	**141**	P	**P**	**04 40 28.5**	**+1.1**
DZM	**Mont Dzumac**	**22.21**	**141**	LR	LR	04 47 55.9	
	comp=Z,451nm,18.2s,baz=350,slow=34						
WRAB	**Tennant Creek**	**22.28**	**227**	P	**P**	**04 40 25.6**	**-2.5**
WRA	**Warramunga Arr**	**22.29**	**227**	P	**P**	**04 40 24.6**	**-3.6**
WRA	**Warramunga Arr**	**22.29**	**227**	P	**P**	**04 40 26.2**	**-2.0**
	comp=Z,10nm,0.5s,baz=51,slow=10,SNR=63						
WRA				S	**S**	**04 44 32.5**	**-1.2**
	comp=Z,4.9nm,0.9s,baz=46,slow=15,SNR=7.5						
WRA				LR	LR	04 49 31.8	
	comp=Z,152nm,18.9s,baz=83,slow=38						
	comp=Z,10nm,0.5s						
KNRA	**Kununurra**	**24.69**	**243**	P	**P**	**04 40 50.8**	**-1.2**
KNRA				IAmb	IAmb	04 41 16.1	
	comp=Z,16nm,0.8s						
INKA	**Innaminka**	**24.74**	**203**	P	**P**	**04 40 51.0**	**-1.3**
INKA				IAmb	IAmb	04 40 54.1	
	comp=Z,21nm,0.8s						
AS31	**Alice Springs**	**25.07**	**221**	P	**P**	**04 40 53.9**	**-1.5**
AS31				IAmb	IAmb	04 40 55.5	
	comp=Z,11nm,0.6s						
ASAR	**Alice Springs**	**25.07**	**221**	P	**P**	**04 40 54.6**	**-0.8**
ASAR	**Alice Springs**	**25.07**	**221**	P	**P**	**04 40 54.9**	**-0.5**
	comp=Z,25nm,0.6s,baz=59,slow=8.2,SNR=292						
ASAR				LR	LR	04 50 25.4	
	comp=Z,160nm,20.3s,baz=53,slow=36						
	comp=Z,25nm,0.6s						
STKA	**Stephens Creek**	**28.21**	**198**	P	**P**	**04 41 22.0**	**-1.6**
STKA				IAmb	IAmb	04 41 46.5	
	comp=Z,42nm,0.8s						
STKA	**Stephens Creek**	**28.21**	**198**	P	**P**	**04 41 23.1**	**-0.5**
	comp=Z,6.9nm,0.8s,baz=16,slow=13,SNR=5.9						
STKA				LR	LR	04 53 00.1	
	comp=Z,258nm,18.5s,baz=21,slow=37						
	comp=Z,6.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.39**	**241**	P	**P**	**04 41 22.2**	**-3.1**
FITZ	**Fitzroy Crossi**	**28.39**	**241**	P	**P**	**04 41 23.7**	**-1.6**
	comp=Z,20nm,0.7s,baz=91,slow=8.4,SNR=24						
FITZ				LR	LR	04 51 49.6	
	comp=Z,186nm,19.7s,baz=72,slow=35						
	comp=Z,20nm,0.7s						
DAV	**Davao City (W)**	**28.57**	**295**	LR	LR	04 52 11.1	
	comp=Z,184nm,18.6s,baz=156,slow=35						
BBOO	**Buckleboo**	**31.11**	**206**	P	**P**	**04 41 48.2**	**-1.1**
BBOO				IAmb	IAmb	04 42 31.1	
	comp=Z,41nm,1.5s						
KAPI	**Kappang**	**31.64**	**269**	LR	LR	04 57 11.8	
	comp=Z,65nm,19.1s,baz=104,slow=41						
FORT	**Forrest**	**33.75**	**218**	P	**P**	**04 42 11.0**	**-1.5**
FORT				IAmb	IAmb	04 42 12.3	
	comp=Z,17nm,0.7s						
MBWA	**Marble Bar**	**34.71**	**240**	P	**P**	**04 42 18.7**	**-2.2**
MBWA				IAmb	IAmb	04 42 19.6	
	comp=Z,17nm,0.7s						
PSA00	**Pilbara Seismi**	**34.78**	**239**	P	**P**	**04 42 19.2**	**-2.3**
RAO	**Raoul Island**	**37.59**	**133**	LR	LR	04 53 57.1	
	comp=Z,110nm,19.8s,baz=323,slow=29						
TAU	**Tasmania Unive**	**37.83**	**185**	P	**P**	**04 42 48.4**	**+1.1**
JHJ	**Hachijo jima 2**	**39.61**	**344**	LR	LR	04 58 48.9	
	comp=Z,59nm,18.9s,baz=133,slow=35						
URZ	**Urewera**	**40.39**	**148**	LR	LR	04 57 36.2	
	comp=Z,179nm,18.8s,baz=304,slow=33						
MORW	**Morawa**	**41.16**	**231**	P	**P**	**04 43 13.4**	**-1.9**
MORW				IAmb	IAmb	04 43 14.3	
	comp=Z,12nm,0.8s						
NWAO	**Narrogin (SRO)**	**42.27**	**225**	LR	LR	05 00 16.5	
	comp=Z,227nm,21.7s,baz=95,slow=35						
JNU	**Nakatsue**	**42.76**	**334**	LR	LR	05 01 09.7	
	comp=Z,28nm,18.9s,baz=158,slow=36						
MJAR	**Matsushiro Arr**	**43.26**	**344**	P	**P**	**04 43 31.0**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=168,slow=10.0,SNR=6.3						
MJAR				LR	LR	04 59 30.5	
	comp=Z,59nm,19.6s,baz=158,slow=33						
	comp=Z,1.5nm,0.5s						
LEM	**Lembang**	**43.68**	**265**	LR	LR	05 04 32.0	
	comp=Z,71nm,21.4s,baz=180,slow=40						
JTM	**Tenmabayashi**	**46.66**	**349**	P	**P**	**04 43 58.0**	**-1.2**
KSRS	**Korea Array**	**47.70**	**334**	P	**P**	**04 44 07.1**	**-0.4**
	comp=Z,19nm,0.6s,baz=153,slow=8.0,SNR=4.3						
	comp=Z,19nm,0.6s						
NJ2	**Nanjing**	**48.28**	**322**	*e*P	**P**	**04 44 11.5**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ASAJ	**Asahikawa**	**49.65**	**352**	LR	LR	05 03 02.9	
	comp=Z,54nm,21.5s,baz=166,slow=33						
DL2	**Dalian**	**51.79**	**330**	P	P	04 44 43.8	+5.3
DL2				pmax	pmax		
	comp=Z,24nm,0.8s						
USRK	**Ussuriysk Ar.**	**52.13**	**342**	P	**P**	**04 44 41.0**	**+0.1**
	comp=Z,8.1nm,1.0s,baz=166,slow=7.7,SNR=12						
	comp=Z,8.1nm,1.0s						
MNSI	**Mandailing Nat**	**52.20**	**275**	P	**P**	**04 44 43.1**	**+1.0**
PSI	**Prapat**	**53.12**	**277**	LR	LR	05 13 12.3	
	comp=Z,47nm,20.2s,baz=132,slow=43						
CN2	**Changchun**	**54.06**	**337**	P	**P**	**04 44 56.3**	**+1.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HNS	**HongShan**	**54.43**	**324**	⇑P	**P**	**04 45 02.0**	**+4.0**
HNS				pmax	pmax		
	comp=Z,11nm,1.3s						
BNX	**BinXian**	**54.99**	**340**	⇑P	**P**	**04 45 02.8**	**+0.8**
BNX				pmax	pmax		
	comp=Z,16nm,0.9s						
XAN	**Xi'an**	**55.97**	**317**	P	**P**	**04 45 13.3**	**+4.0**
XAN				pmax	pmax		
	comp=Z,14nm,0.9s						
KMI	**Kunming**	**56.10**	**305**	P	**P**	**04 45 10.5**	**-0.1**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**56.85**	**296**	P	**P**	**04 45 13.7**	**-2.1**
CMAR	**Chiang Mai Arr**	**56.85**	**296**	P	**P**	**04 45 16.6**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=106,slow=7.2,SNR=4.5						
CMAR				LR	LR	05 10 26.7	
	comp=Z,23nm,18.2s,baz=105,slow=37						
	comp=Z,0.9nm,0.3s						
CHTO	**Chiang Mai**	**56.97**	**296**	P	**P**	**04 45 15.7**	**-1.0**
PZH	**PanZhiHua**	**57.50**	**306**	P	**P**	**04 45 21.5**	**+1.1**
PETK	**Petropavlovsk-**	**58.23**	**4**	LR	LR	05 05 40.0	
	comp=Z,59nm,21.2s,baz=173,slow=31						
XLT	**XiLinHaoTe**	**58.29**	**330**	*e*P	P	04 45 30.3	+4.7
XLT				pmax	pmax		
	comp=Z,17nm,1.2s						
XLT				pmax	pmax		
	comp=Z,170nm,7.0s						
HHC	**Hu-ho-hao-te**	**58.55**	**325**	*e*P	**P**	**04 45 28.8**	**+1.3**
HHC				pmax	pmax		
	comp=Z,17nm,0.8s						
PPT2	**Papeete2**	**58.86**	**107**	*e*S	**S**	**04 53 33.9**	**-2.3**
	comp=Z,41nm,22.5s						
PPT2				*e*LR	LR	05 02 41.3	
	comp=Z,97nm,32.2s						
TBI	**Tubuai**	**59.60**	**114**	*e*LQ	LQ	05 00 38.0	
	comp=Z,1μm,35.8s						
TBI				*e*LR	LR	05 03 03.2	
	comp=Z,829nm,32.8s						
TBI				*e*LR	LR	05 03 05.8	
	comp=Z,842nm,29.5s						
LZH	**Lanzhou**	**60.56**	**317**	*e*P	P	04 45 46.3	+4.8
LZH				sP	sP	04 45 54.8	+8.8
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZDM	**Lanzhou Array**	**60.59**	**316**	P	**P**	**04 45 43.7**	**+1.8**
	comp=Z,0.9nm,0.4s,baz=109,slow=6.6,SNR=4.8						
SHEM	**Shemya Is, Ala**	**60.71**	**16**	LR	LR	05 07 24.8	
	comp=Z,99nm,21.2s,baz=167,slow=32						
MA2	**Magadan**	**64.48**	**360**	LR	LR	05 14 18.5	
	comp=Z,51nm,19.0s,baz=174,slow=36						
GTA	**Gaotai**	**65.01**	**318**	*e*P	P	04 46 16.3	+5.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
SHL	**Shillong**	**65.36**	**301**	P	**P**	**04 46 12.6**	**-1.2**
SONM	**Songino Array**	**65.90**	**328**	P	**P**	**04 46 17.1**	**+0.3**
SONM				IAmb	IAmb	04 46 36.8	
	comp=Z,12nm,1.9s						
SONM	**Songino Array**	**65.90**	**328**	P	**P**	**04 46 17.9**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=142,slow=7.5,SNR=7.4						
SONM				LR	LR	05 14 24.1	
	comp=Z,38nm,20.9s,baz=246,slow=36						
	comp=Z,1.0nm,0.6s						
SEY	**Seymchan**	**67.85**	**0**	LR	LR	05 11 18.5	
	comp=Z,57nm,20.7s,baz=126,slow=32						
TAOE	**Nuku Hiva Isla**	**67.86**	**97**	*e*LR	LR	05 07 02.2	
	comp=Z,70nm,23.6s						
PALK	**Pallekele**	**71.72**	**279**	LR	LR	05 20 52.4	
	comp=Z,27nm,20.2s,baz=89,slow=38						
VNDA	**Vanda**	**72.58**	**178**	P	**P**	**04 46 57.6**	**+0.1**
VNDA	**Vanda**	**72.58**	**178**	P	**P**	**04 46 58.2**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=333,slow=8.0,SNR=6.0						
	comp=Z,0.8nm,0.5s						
WMQ	**Urumqi**	**75.10**	**318**	*e*P	**P**	**04 47 13.5**	**+0.6**
WMQ				LR	LR		
	comp=Z,260nm,22.5s						
KDAK	**Kodiak Island**	**77.02**	**27**	LR	LR	05 14 04.5	
	comp=Z,46nm,22.0s,baz=229,slow=30						
TIXI	**Tiksi**	**78.03**	**353**	LR	LR	05 18 33.7	
	comp=Z,28nm,21.5s,baz=190,slow=33						
L19K	**White Mountain**	**78.52**	**23**	P	**P**	**04 47 31.2**	**-0.6**
L19K				IAmb	IAmb	04 47 52.0	
	comp=Z,20nm,1.5s						
CNPM	**China Poot**	**78.54**	**26**	P	**P**	**04 47 33.1**	**+1.2**
MKAR	**Makanchi Array**	**79.71**	**319**	P	**P**	**04 47 38.4**	**-0.3**
	comp=Z,1.5nm,1.1s,baz=96,slow=5.8,SNR=4.2						
MKAR				LR	LR	05 24 59.5	
	comp=Z,19nm,18.1s,baz=67,slow=37						
	comp=Z,1.5nm,1.1s						
J20K	**Nowinta River**	**79.93**	**21**	P	**P**	**04 47 38.2**	**-1.2**
ZALV	**Zalesovo Beam**	**80.70**	**327**	P	**P**	**04 47 41.5**	**-2.2**
ZALV	**Zalesovo Beam**	**80.70**	**327**	P	**P**	**04 47 42.7**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=125,slow=7.8,SNR=4.8						
ZALV				LR	LR	05 25 38.0	
	comp=Z,19nm,19.6s,baz=67,slow=37						
	comp=Z,0.8nm,0.3s						
E19K	**Redstone River**	**80.86**	**18**	P	**P**	**04 47 43.2**	**-1.2**
E19K				IAmb	IAmb	04 49 29.0	
	comp=Z,32nm,1.9s						
SML	**Sawmill**	**80.93**	**25**	P	**P**	**04 47 44.4**	**-0.5**
EYAK	**Cordova Ski Ar**	**81.45**	**26**	P	**P**	**04 47 47.9**	**+0.3**
CCB	**Clear Creek Bu**	**82.52**	**22**	P	**P**	**04 47 50.2**	**-2.9**
CCB				IAmb	IAmb	04 50 44.7	
	comp=Z,28nm,2.0s						
ILAR	**Eielson Array**	**82.92**	**22**	P	**P**	**04 47 52.9**	**-2.3**
ILAR	**Eielson Array**	**82.92**	**22**	P	**P**	**04 47 54.0**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=249,slow=5.6,SNR=9.0						
ILAR				LR	LR	05 24 33.8	
	comp=Z,61nm,18.7s,baz=269,slow=36						
	comp=Z,1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**83.25**	**322**	P	**P**	**04 47 55.5**	**-1.7**
	comp=Z,1.4nm,1.0s,baz=112,slow=4.5,SNR=5.3						
	comp=Z,1.4nm,1.0s						
J25K	**Salcha River,**	**83.43**	**23**	P	**P**	**04 47 56.6**	**-1.4**
J25K				IAmb	IAmb	04 48 24.4	
	comp=Z,34nm,1.9s						
BCAR	**Beaver Creek A**	**84.22**	**25**	P	**P**	**04 48 02.4**	**+0.4**
MAW	**Mawson**	**84.80**	**203**	P	**P**	**04 48 04.3**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=97,slow=8.1,SNR=5.0						
MAW				LR	LR	05 23 38.5	
	comp=Z,94nm,19.6s,baz=121,slow=34						
	comp=Z,1.2nm,0.3s						
QSPA	**South Pole Qui**	**84.86**	**180**	P	**P**	**04 48 06.7**	**+1.4**
QSPA				IAmb	IAmb	04 48 08.5	
	comp=Z,6.6nm,0.7s						
QSPA	**South Pole Qui**	**84.86**	**180**	P	**P**	**04 48 07.2**	**+1.8**
	comp=Z,6.2nm,0.7s,baz=325,slow=1.0,SNR=61						
QSPA				LR	LR	05 24 55.7	
	comp=Z,36nm,18.3s,baz=4.5,slow=35						
	comp=Z,6.2nm,0.7s						
G26K	**Porcupine Rive**	**85.04**	**21**	P	**P**	**04 48 05.8**	**-0.2**
G26K				IAmb	IAmb	04 49 17.9	
	comp=Z,12nm,1.4s						
I28M	**Miner Creek**	**85.88**	**23**	P	**P**	**04 48 10.9**	**+0.6**
I28M				IAmb	IAmb	04 50 39.8	
	comp=Z,17nm,1.9s						
BBB	**Bella Bella**	**88.11**	**37**	LR	LR	05 20 52.0	
	comp=Z,73nm,20.1s,baz=222,slow=31						
DLBC	**Dease Lake**	**88.30**	**31**	LR	LR	05 24 10.5	
	comp=Z,414nm,19.1s,baz=246,slow=33						
BVAR	**Borovoye Array**	**88.72**	**323**	P	**P**	**04 48 24.1**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=93,slow=5.9,SNR=4.6						
BVAR				LR	LR	05 29 40.2	
	comp=Z,17nm,20.3s,baz=94,slow=37						
	comp=Z,0.9nm,0.7s						
NVAR	**Mina Array Bea**	**93.28**	**52**	P	**P**	**04 48 48.3**	**+2.2**
	comp=Z,1.1nm,0.9s,baz=279,slow=6.3,SNR=3.3						
NVAR				LR	LR	05 26 11.4	
	comp=Z,56nm,19.0s,baz=268,slow=32						
	comp=Z,1.1nm,0.9s						
PFO	**Pinyon Flats O**	**94.48**	**57**	LR	LR	05 24 53.4	
	comp=Z,30nm,19.8s,baz=206,slow=31						
NEW	**Newport**	**94.68**	**42**	LR	LR	05 27 17.3	
	comp=Z,55nm,18.5s,baz=96,slow=33						
ELK	**Elko**	**95.76**	**50**	LR	LR	05 28 13.6	
	comp=Z,50nm,18.2s,baz=270,slow=33						
RPN	**Rapa Nui**	**95.80**	**118**	LR	LR	05 26 07.6	
	comp=Z,22nm,18.7s,baz=40,slow=32						
ARTI	**Arti**	**95.95**	**326**	LR	LR	05 32 23.7	
	comp=Z,20nm,21.4s,baz=179,slow=36						
YKA	**Yellowknife Ar**	**96.29**	**28**	LR	LR	05 28 46.3	
	comp=Z,48nm,19.9s,baz=289,slow=33						
PDAR	**Pinedale Array**	**100.00**	**48**	P	**Pdif**	**04 49 16.5**	**0.0**
	comp=Z,0.1nm,0.4s,baz=246,slow=2.5,SNR=1.9						
TORD	**Torodi Ar. Bea**	**149.18**	**287**	PKPbc	**PKPbc**	**04 55 18.8**	**-1.6**
	comp=Z,1.2nm,0.8s,baz=102,slow=2.6,SNR=6.6						
BDFB	**Brasilia**	**151.74**	**137**	PKPbc	**PKPbc**	**04 55 25.9**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=312,slow=4.2,SNR=3.3						

*IDC **30** 04:42:05.6±2.3, 2°.75S×128°.78E, h0km, mb3.4/2, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=113.9km s-min=27.9km az=71.0*
*DJA **30** 04:42:05.3±0.3, 3°.S±2°×12°.8E±°, h10km, M3.5/7, MLv3.5/7*

ISC 30 04:42:07.7±1.3, **2°.78S**±0°.09×**128°.11E**±0°.06, **h35**km, **n10**, σ1**924**/9, **Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC
AAI	**Ambon**	**0.91**	**174**	P	**Pn**	**04 42 23.0**	**-1.0**
MSAI	**Masohi**	**1.00**	**125**	P	**Pn**	**04 42 26.0**	**+0.8**
NLAI	**Namlea**	**1.10**	**245**	P	**Pn**	**04 42 27.8**	**+1.1**
**

BO02	**Sierra Bellavi**	**1.94**	**70**	*eP*		**Pn**	**04 50 06.1**	**+0.2**
BO02				IAML			04 50 40.9	
	comp=Z,3μm,0.5s							
MT01	**Popeta**	**2.15**	**43**	Pn		**Pn**	**04 50 08.1**	**-0.6**
MT01	**Popeta**	**2.15**	**43**	*i* P		**Pn**	**04 50 08.5**	**-0.2**
MT01				*i* S		**Sn**	**04 50 33.8**	**-1.8**
MT01				IAML			04 50 49.3	
	comp=E,2μm,0.3s							
MT01	**Popeta**	**2.15**	**43**	*eP*		**Pn**	**04 50 08.7**	**0.0**
MT01				*eS*		**Sn**	**04 50 36.2**	**+0.6**
MT01				IAML			04 50 44.9	
	comp=Z,1μm,0.8s							
MT09	**Talagante**	**2.37**	**45**	Pn		**Pn**	**04 50 11.9**	**+0.2**
MT09						**Sb**	**04 50 45.8**	**+1.0**
MT09	**Talagante**	**2.37**	**45**	*eP*		**Pn**	**04 50 12.6**	**+0.8**
MT09				*eS*		**Sn**	**04 50 40.8**	**-0.3**
MT09				IAML			04 50 51.4	
	comp=N,3μm,0.4s							
BO04	**La Punta**	**2.46**	**54**	Pn		**Pn**	**04 50 13.0**	**+0.1**
BO04	**La Punta**	**2.46**	**54**	*i* P		**Pn**	**04 50 13.9**	**+0.9**
BO04				*i* S		**Sn**	**04 50 42.7**	**-0.5**
BO04				IAML			04 50 54.8	
	comp=E,2μm,0.4s							
VA01	**Torpederas**	**2.68**	**25**	Pn		**Pn**	**04 50 14.1**	**-1.8**
VA01	**Torpederas**	**2.68**	**25**	*eS*		**Sb**	**04 50 57.1**	**+3.3**
VA01				IAML			04 51 04.2	
	comp=Z,754nm,0.8s							
MT02	**Curacav**	**2.69**	**36**	Pn		**Pn**	**04 50 15.6**	**-0.5**
MT02	**Curacav**	**2.69**	**36**	*eP*		**Pn**	**04 50 15.9**	**-0.2**
MT02				*eS*		**Sn**	**04 50 46.7**	**-2.1**
MT02				IAML			04 51 05.4	
	comp=N,835nm,0.4s							
MT02	**Curacav**	**2.69**	**36**	*eP*		**Pn**	**04 50 16.1**	**0.0**
MT02				*eS*		**Sn**	**04 50 50.4**	**+1.5**
MT02				IAML			04 51 00.2	
	comp=Z,760nm,0.6s							
MT05	**Renca**	**2.79**	**43**	Pn		**Pn**	**04 50 17.9**	**+0.4**
MT05	**Renca**	**2.79**	**43**	*eP*		**Pn**	**04 50 17.9**	**+0.4**
MT05				*eS*		**Sb**	**04 50 56.5**	**-0.5**
MT05				IAML			04 51 07.5	
	comp=Z,1μm,0.7s							
LMEL	**Las Melosas**	**2.82**	**56**	Pn		**Pn**	**04 50 18.4**	**+0.5**
LMEL	**Las Melosas**	**2.82**	**56**	*eP*		**Pn**	**04 50 18.9**	**+0.9**
LMEL				*eS*		**Sb**	**04 50 59.2**	**+1.4**
LMEL				IAML			04 51 03.8	
	comp=Z,2μm,0.7s							
MT13	**San Alfonso**	**2.82**	**53**	Pn		**Pn**	**04 50 18.7**	**+0.7**
MT13	**San Alfonso**	**2.82**	**53**	*eP*		**Pn**	**04 50 19.1**	**+1.1**
MT13				*eS*		**Sb**	**04 50 57.4**	**-0.6**
MT13				IAML			04 51 03.2	
	comp=Z,1μm,1.1s							
MT03	**Universidad Ad**	**2.85**	**47**	Pn		**Pn**	**04 50 18.7**	**+0.4**
MT03	**Universidad Ad**	**2.85**	**47**	*eP*		**Pn**	**04 50 19.1**	**+0.8**
MT03				*eS*		**Sn**	**04 50 54.9**	**+2.0**
MT03				IAML			04 51 06.2	
	comp=Z,2μm,0.8s							
CANA	**Caviahue**	**2.88**	**148**	*eP*		**Pn**	**04 50 16.9**	**-1.9**
CANA				*eS*		**Sb**	**04 51 02.8**	**+3.2**
MT16	**CCHEN**	**2.89**	**46**	Pn		**Pn**	**04 50 19.6**	**+0.7**
EDS3	**Malargue**	**2.95**	**97**	*eP*		**Pn**	**04 50 19.8**	**0.0**
ROC1	**El Roble**	**2.98**	**34**	*eP*		**Pn**	**04 50 20.4**	**+0.1**
ROC1				*eS*		**Sb**	**04 51 00.4**	**-2.2**
PEL	**Peldehue**	**3.01**	**40**	Pn		**Pn**	**04 50 21.2**	**+0.7**
MT04	**Ro Olivares**	**3.14**	**50**	*eP*		**Pn**	**04 50 23.7**	**+1.3**
MT04				*eS*		**Sn**	**04 51 04.2**	**+4.0**
MT04				IAML			04 51 17.7	
	comp=Z,590nm,1.1s							
MT08	**Bocatoma Ro**	**3.19**	**52**	Pn		**Pn**	**04 50 23.4**	**+0.3**
MT08	**Bocatoma Ro**	**3.19**	**52**	*eP*		**Pn**	**04 50 20.7**	**-2.4**
MT08				*eS*		**Sb**	**04 51 06.2**	**-2.4**
MT08				IAML			04 51 16.0	
	comp=Z,583nm,0.7s							
VA06	**Catapilco**	**3.23**	**27**	Pn		**Pn**	**04 50 23.1**	**-0.4**
LC02	**Puerto Saavedr**	**3.33**	**185**	Pn		**Pn**	**04 50 26.1**	**+1.2**
VA03	**San Esteban**	**3.38**	**38**	Pn		**Pn**	**04 50 26.6**	**+1.0**
VA03	**San Esteban**	**3.38**	**38**	*eP*		**Pn**	**04 50 25.7**	**+0.1**
VA03				IAML			04 51 27.9	
	comp=Z,812nm,0.6s							
RFA	**San Rafael**	**3.78**	**81**	*eP*		**Pn**	**04 50 32.0**	**+0.9**
RFA				*eS*		**Sb**	**04 51 26.1**	**+0.5**
RFA				IAML			04 51 34.5	
	comp=Z,296nm,0.7s							
LR03	**Panguipulli**	**4.19**	**173**	Pn		**Pn**	**04 50 37.1**	**+0.4**
LR03	**Panguipulli**	**4.19**	**173**	*eP*		Pn	04 50 32.1	-4.5
LR03				*eS*		**Sb**	**04 51 37.1**	**0.0**
LR03				IAML			04 51 49.8	
	comp=Z,1μm,1.0s							
GO06	**Curarrehue**	**4.29**	**164**	*eP*		**Pn**	**04 50 34.1**	**-4.0**
GO06				*eS*		**Sb**	**04 51 42.1**	**+2.1**
GO06				IAML			04 51 55.5	
	comp=Z,206nm,1.1s							
CO02	**Combarbal**	**4.57**	**22**	Pn		**Pn**	**04 50 42.2**	**+0.2**
LR05	**Currie**	**4.82**	**171**	Pn		**Pn**	**04 50 45.8**	**+0.5**
LR05	**Currie**	**4.82**	**171**	*eP*		Pn	04 50 41.1	-4.2
LR05				*eS*		**Sb**	**04 51 56.0**	**+0.7**
LR05				IAML			04 52 12.0	
	comp=Z,467nm,0.9s							
CO06	**Fray Jorge**	**4.92**	**14**	Pn		**Pn**	**04 50 45.8**	**-0.9**
CO03	**El Pedregal**	**5.01**	**23**	Pn		**Pn**	**04 50 48.7**	**+0.7**
H03S1	**Juan Fernandez**	**5.13**	**287**	T		T	04 56 10.3	
	baz=109,slow=74,SNR=1917							
H03S3	**Juan Fernandez**	**5.14**	**287**	T		T	04 56 08.7	
	baz=109,slow=74,SNR=1740							
H03S2	**Juan Fernandez**	**5.15**	**287**	T		T	04 56 09.2	
	baz=109,slow=74,SNR=2278							
H03N1	**Juan Fernandez**	**5.28**	**291**	T		T	04 56 20.9	
	baz=116,slow=78,SNR=50							
H03N3	**Juan Fernandez**	**5.29**	**291**	T		T	04 56 20.5	
	baz=116,slow=78,SNR=54							
H03N2	**Juan Fernandez**	**5.30**	**291**	T		T	04 56 21.9	
	baz=116,slow=78,SNR=54							
ZON	**Zonda**	**5.32**	**44**	Pn		**Pn**	**04 50 53.3**	**+1.0**
CFA	**Coronel Fontan**	**5.54**	**47**	P		**Pn**	**04 50 56.0**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=222,slow=10,SNR=29							
CFA				S		**Sn**	**04 52 00.6**	**+1.5**
	comp=Z,8.7nm,0.4s,baz=171,slow=18,SNR=1.6							
	comp=Z,4.3nm,0.3s							
GO04	**Tololo Observa**	**5.60**	**20**	Pn		**Pn**	**04 50 55.9**	**-0.4**
PLCA	**Paso Flores**	**5.60**	**161**	Pn		**Pn**	**04 50 56.5**	**+0.3**
PLCA	**Paso Flores**	**5.60**	**161**	P		**Pn**	**04 50 57.7**	**+1.5**
	comp=Z,2.1nm,0.3s,baz=327,slow=11,SNR=82							
PLCA				S		**Sb**	**04 52 15.8**	**-2.0**
	comp=Z,37nm,0.8s,baz=239,slow=18,SNR=1.4							
PLCA				LR		LR	04 53 21.1	
	comp=Z,410nm,19.7s,baz=336,slow=40							
	comp=Z,8.5nm,0.4s							
PLCA	**Paso Flores**	**5.60**	**161**	*eP*		**Pn**	**04 50 57.6**	**+1.5**
LL03	**Petrohue**	**5.68**	**175**	Pn		**Pn**	**04 50 56.9**	**-0.2**
CO05	**La Serena**	**5.73**	**16**	Pn		**Pn**	**04 50 57.4**	**-0.4**
LL05	**Los Muermos**	**5.94**	**183**	Pn		**Pn**	**04 51 00.1**	**-0.6**
LC01	**Las Campanas**	**6.73**	**17**	Pn		**Pn**	**04 51 11.3**	**-0.4**
AC04	**Llanos de Chal**	**7.42**	**13**	Pn		**Pn**	**04 51 19.5**	**-1.6**
GO03	**Copiapo**	**8.20**	**17**	Pn		**Pn**	**04 51 30.5**	**-1.3**
TRQA	**Tornquist**	**9.21**	**110**	Pn		**Pn**	**04 51 45.6**	**-0.1**
AC02	**Maricunga**	**9.22**	**22**	Pn		**Pn**	**04 51 44.8**	**-1.4**
AC01	**Pan de Azucar**	**9.52**	**13**	Pn		**Pn**	**04 51 46.9**	**-2.9**
PSAL	**Palomas, Salto**	**13.60**	**76**	*eP*		**Pn**	**04 52 46.8**	**+1.1**
PSAL				*eS*		**Sn**	**04 55 17.5**	**+0.5**
PB01	**IPOC Station P**	**14.70**	**13**	Pn		**Pn**	**04 53 01.1**	**+0.2**
PATCX	**Punta Patache**	**14.81**	**10**	Pn		**Pn**	**04 53 01.1**	**-1.1**
PB11	**IPOC Station P**	**15.92**	**12**			**P**	**04 53 21.9**	**+1.1**
GO01	**Chusmiza**	**16.09**	**13**	P		**P**	**04 53 23.5**	**+0.5**
CPUP	**Villa Florida**	**16.23**	**60**	P		**Pn**	**04 53 22.1**	**+1.3**
	baz=188,slow=13,SNR=3.0							
CPUP				LR		LR	04 59 50.9	
	comp=Z,37nm,22.0s,baz=95,slow=38							
	comp=Z,0.4nm,0.8s							
PB16	**IPOC Station P**	**17.34**	**11**			**Pn**	**04 53 35.9**	**+0.3**
SJPY	**San Joaquin**	**17.92**	**59**	*eP*		**Pn**	**04 53 42.9**	**+0.7**
MURT	**Porto Murtinho**	**19.25**	**48**	*eP*		**P**	**04 53 56.7**	**-0.6**
LPAZ	**La Paz**	**19.59**	**14**	P		**P**	**04 54 00.4**	**-1.4**
LPAZ	**La Paz**	**19.59**	**14**	P		**Pn**	**04 54 04.2**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=207,slow=8.4,SNR=16							
	comp=Z,5.4nm,0.8s							
LPAZ	**La Paz**	**19.59**	**14**	*eP*		**Pn**	**04 54 04.6**	**+1.5**
LPAZ				*eS*		**S**	**04 57 41.5**	**-2.0**
ITAB	**Concordia**	**19.60**	**71**	P		**P**	**04 54 00.6**	**-0.6**
ITAB				IAmb		IAmb	04 54 12.0	
	comp=Z,31nm,1.0s							
ITAB	**Concordia**	**19.60**	**71**	*eP*		**P**	**04 53 59.9**	**-1.2**
CNLB	**Canela**	**19.67**	**78**	*eP*		**P**	**04 54 01.9**	**0.0**
AMBA	**Amambai (Brazi**	**20.04**	**56**	*eP*		**P**	**04 54 06.0**	**0.0**
BDQN	**Bodoquena, MS**	**20.69**	**48**	*eP*		**P**	**04 54 12.4**	**-0.7**

PTGB	**Pitanga**	**21.01**	**65**	*eP*		**P**	**04 54 16.3**	**-0.3**
AQDB	**Aquidauana**	**21.32**	**50**	P		**P**	**04 54 18.7**	**-1.1**
AQDB				IAmb		IAmb	04 54 29.8	
	comp=Z,17nm,0.8s							
AQDB	**Aquidauana**	**21.32**	**50**	*eP*		**P**	**04 54 19.5**	**-0.3**
SIV	**San Ignacio**	**22.14**	**32**	P		**P**	**04 54 28.1**	**-0.6**
	comp=Z,8.4nm,1.0s,baz=206,slow=10,SNR=33							
SIV				LR		LR	05 04 38.7	
	comp=Z,183nm,20.4s,baz=123,slow=41							
	comp=Z,8.4nm,1.0s							
PTLB	**Pontes e Lacer**	**23.49**	**35**	P		**P**	**04 54 42.6**	**-0.1**
PTLB	**Pontes e Lacer**	**23.49**	**35**	*eP*		**P**	**04 54 42.2**	**-0.5**
PP1B	**Ponte de Pedra**	**24.00**	**47**	*eP*		**P**	**04 54 47.6**	**-0.2**
SALV	**Santo Antonio**	**24.89**	**43**	*eP*		**P**	**04 54 55.5**	**-0.3**
VILB	**Vilhena**	**25.22**	**30**	P		**P**	**04 54 57.6**	**-1.3**
VILB				IAmb		IAmb	04 55 01.1	
	comp=Z,16nm,0.8s							
VILB	**Vilhena**	**25.22**	**30**	*eP*		**P**	**04 54 59.0**	**+0.1**
BB19B	**Bebedouro**	**25.80**	**63**	*eP*		**P**	**04 55 03.2**	**-1.0**
PDRB	**Porto dos Gac**	**27.96**	**36**	*eP*		**P**	**04 55 23.0**	**-0.6**
BDFB	**Brasilia**	**29.82**	**55**	LR		LR	05 08 50.1	
	comp=Z,191nm,19.3s,baz=181,slow=39							
PMSA	**Palmer Station**	**29.84**	**172**	LR		LR	05 07 00.2	
	comp=Z,170nm,18.9s,baz=330,slow=35							
PMSA	**Palmer Station**	**29.84**	**172**	*eP*		**P**	**04 55 37.0**	**-2.7**
COHC	**Cochancay**	**33.34**	**349**			**P**	**04 56 11.9**	**+0.8**
MACA	**Manacapuru-AM**	**34.11**	**22**	P		**P**	**04 56 17.3**	**-0.5**
CMC01	**Camacan, BA**	**36.02**	**65**	*eP*		**P**	**04 56 31.9**	**-2.4**
BOAV	**Boa Vista**	**39.44**	**20**	P		**P**	**04 57 02.7**	**-0.5**
BOAV	**Boa Vista**	**39.44**	**20**	*eP*		**P**	**04 57 03.0**	**-0.2**
RUSC	**La Rusia**	**41.14**	**360**	P		**P**	**04 57 19.0**	**+1.2**
RUSC				IAmb		IAmb	04 57 20.3	
	comp=Z,9.6nm,1.0s							
BAUV	**El Baul**	**44.42**	**7**	P		**P**	**04 57 43.7**	**-0.1**
SOCE	**Pocosol**	**46.91**	**344**	P		**P**	**04 58 01.6**	**-1.9**
VNA3	**Neumayer Olymp**	**48.31**	**157**	⇑P		**P**	**04 58 14.4**	**+0.5**
	comp=Z,7.1nm,0.8s							
VNA1	**Neumayer--Stat**	**48.65**	**156**	⇑P		**P**	**04 58 17.4**	**+1.0**
	comp=Z,3.7nm,0.8s							
VNA2	**Neumayer--Watz**	**48.98**	**157**	P		**P**	**04 58 19.4**	**+0.4**
	baz=284,slow=8.7							
SNAA	**Sanae**	**50.53**	**157**	⇑P		**P**	**04 58 31.3**	**+0.4**
	comp=Z,179nm,0.9s							
SNAA	**Sanae**	**50.53**	**157**	P		**P**	**04 58 31.0**	**+0.1**
SNAA				IAmb		IAmb	04 58 32.6	
	comp=Z,13nm,1.0s							
SNAA	**Sanae**	**50.53**	**157**	P		**P**	**04 58 31.5**	**+0.6**
	comp=Z,7.4nm,0.8s,baz=284,slow=5.9,SNR=25							
	comp=Z,7.4nm,0.8s							
TROLL	**Troll, Antarti**	**52.23**	**158**	⇑P		**P**	**04 58 44.4**	**+0.6**
	comp=Z,311nm,0.6s							
CRPR	**Cabo Rojo, PR**	**53.47**	**7**	P		**P**	**04 58 51.6**	**-1.6**
CRPR				IAmb		IAmb	04 59 26.4	
	comp=Z,14nm,1.1s							
OBIP	**Obispado Ponce**	**53.56**	**8**	P		**P**	**04 58 53.0**	**-0.9**
CELP	**Cerrillos**	**53.59**	**8**	P		**P**	**04 58 53.8**	**-0.4**
CELP				IAmb		IAmb	04 59 00.6	
	comp=Z,8.5nm,1.0s							
QSPA	**South Pole Qui**	**54.77**	**180**	P		**P**	**04 59 03.7**	**+1.3**
QSPA				IAmb		IAmb	04 59 06.5	
	comp=Z,8.2nm,1.1s							
QSPA	**South Pole Qui**	**54.77**	**180**	P		**P**	**04 59 03.9**	**+1.5**
	comp=Z,5.7nm,0.9s,baz=166,slow=1.4,SNR=26							
	comp=Z,5.7nm,0.9s							
VNDA	**Vanda**	**62.51**	**192**	P		**P**	**04 59 57.3**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=122,slow=6.9,SNR=3.6							
	comp=Z,0.7nm,0.7s							
GOGA	**Godfrey**	**69.22**	**351**	P		**P**	**05 00 39.0**	**-0.6**
GOGA				IAmb		IAmb	05 01 04.3	
	comp=Z,8.3nm,1.4s							
HNDO	**Hondo**	**69.23**	**336**	P		**P**	**05 00 40.0**	**+0.2**
HNDO				IAmb		IAmb	05 00 42.1	
	comp=Z,4.9nm,0.8s							
Z47A	**Carrollton**	**69.75**	**347**	P		**P**	**05 00 43.9**	**+1.0**
TXAR	**Lajitas Array**	**70.64**	**332**	P		**P**	**05 00 49.8**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=157,slow=7.9,SNR=9.6							
TXAR				LR		LR	05 26 52.4	
	comp=Z,53nm,20.1s,baz=236,slow=32							
	comp=Z,0.6nm,0.6s							
TX31	**Lajitas Ar. Si**	**70.64**	**332**	P		**P**	**05 00 49.4**	**+0.8**
BG3	**Lake Jocassee**	**70.71**	**351**	P		**P**	**05 00 49.3**	**+0.5**
BG3				IAmb		IAmb	05 00 50.0	
	comp=Z,5.2nm,0.9s							
BRDY	**Brady**	**70.75**	**337**	P		**P**	**05 00 49.6**	**+0.5**
X48A	**Hartselle**	**70.79**	**348**	P		**P**	**05 00 49.6**	**+0.4**
X48A				IAmb		IAmb	05 00 50.9	
	comp=Z,7.3nm,1.1s							
OZNA	**Ozona**	**71.14**	**335**	P		**P**	**05 00 51.7**	**+0.2**
OZNA				IAmb		IAmb	05 01 00.7	
	comp=Z,3.9nm,0.9s							
W50A	**Signal Mountai**	**71.24**	**349**	P		**P**	**05 00 52.2**	**+0.2**
SWET	**Sewanee**	**71.35**	**349**	P		**P**	**05 00 53.2**	**+0.5**
SWET				IAmb		IAmb	05 00 53.7	
	comp=Z,6.1nm,0.6s							
V53A	**Saluda**	**71.36**	**352**	P		**P**	**05 00 52.8**	**0.0**
V53A				IAmb		IAmb	05 00 53.3	
	comp=Z,5.2nm,0.8s							
CPCT	**Cooper Cave**	**71.37**	**350**	P		**P**	**05 00 52.4**	**-0.3**
CPCT				IAmb		IAmb	05 00 53.9	
	comp=Z,3.6nm,0.7s							
TKL	**Tuckaleechee C**	**71.47**	**351**	P		**P**	**05 00 53.1**	**-0.2**
TKL				IAmb		IAmb	05 00 54.1	
	comp=Z,4.5nm,0.8s							
PLAL	**Pickwick Lake**	**71.49**	**347**	P		**P**	**05 00 53.7**	**+0.3**
PLAL				IAmb		IAmb	05 00 54.4	
	comp=Z,5.4nm,0.8s							
MAW	**Mawson**	**72.00**	**164**	P		**P**	**05 00 56.8**	**+0.5**
	comp=Z,5.6nm,0.8s,baz=218,slow=5.3,SNR=14							
	comp=Z,5.6nm,0.8s							
WVT	**Waverly**	**72.56**	**347**	P		**P**	**05 00 59.5**	**-0.3**
WVT				IAmb		IAmb	05 01 01.5	
	comp=Z,9.0nm,0.8s							
ODSA	**Odessa**	**72.73**	**334**	P		**P**	**05 01 01.8**	**+0.8**
LCAR	**Lake Charles**	**73.15**	**345**	P		**P**	**05 01 03.6**	**+0.2**
SMWD	**Samnorwood**	**74.67**	**337**	IAmb		IAmb	05 01 14.2	
	comp=Z,8.3nm,0.9s							
CCM	**Cathedral Cave**	**75.08**	**345**	P		**P**	**05 01 14.4**	**-0.2**
R40A	**Maddies Statio**	**75.53**	**344**	IAmb		IAmb	05 01 18.8	
	comp=Z,7.1nm,1.0s							
DBIC	**Dimbokro**	**76.40**	**72**	P		**P**	**05 01 22.5**	**-0.2**
	comp=Z,7.5nm,0.7s,baz=247,slow=5.4,SNR=7.4							
DBIC				LR		LR	05 35 11.6	
	comp=Z,33nm,18.3s,baz=201,slow=36							
	comp=Z,7.5nm,0.7s							
ANMO	**Albuquerque**	**76.70**	**332**	P		**P**	**05 01 25.5**	**+1.3**
SADO	**Sadowa**	**80.06**	**356**	LR		LR	05 39 55.0	
	comp=Z,464nm,19.9s,baz=312,slow=38							
BOSA	**Boshof**	**80.09**	**118**	P		**P**	**05 01 42.8**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=231,slow=7.8,SNR=4.3							
	comp=Z,3.5nm,0.8s							
ECSD	**EROS Data Cent**	**81.71**	**343**	IAmb		IAmb	05 01 52.5	
	comp=Z,9.5nm,0.8s							
CCUT	**Cedar City**	**81.73**	**329**	P		**P**	**05 01 53.2**	**+1.5**
CCUT				IAmb		IAmb	05 01 55.6	
	comp=Z,4.3nm,1.1s							
P18A	**Preston Nutter**	**82.25**	**332**	IAmb		IAmb	05 02 11.9	
	comp=Z,6.0nm,1.1s							
RDMU	**Red Mountain**	**82.81**	**333**	IAmb		IAmb	05 01 59.4	
	comp=Z,4.6nm,0.9s							
SPR3	**Spring Creek 3**	**83.36**	**329**	P		**P**	**05 02 00.5**	**+0.2**
TPH	**Tonopah**	**83.86**	**326**	IAmb		IAmb	05 02 13.0	
	comp=Z,7.7nm,1.4s							
HWUT	**Hardware Ranch**	**84.46**	**332**	IAmb		IAmb	05 02 07.7	
	comp=Z,7.6nm,1.2s							
NVAR	**Mina Array Bea**	**84.64**	**326**	P		**P**	**05 02 08.2**	**+1.5**
	comp=Z,1.2nm,0.9s,baz=148,slow=6.4,SNR=6.7							
	comp=Z,1.2nm,0.9s							
PDAR	**Pinedale Array**	**84.72**	**334**	P		**P**	**05 02 07.3**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=137,slow=5.8,SNR=6.3							
	comp=Z,0.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**85.45**	**70**	P		**P**	**05 02 10.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**85.45**	**70**	P		**P**	**05 02 10.7**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=268,slow=3.0,SNR=15							
	comp=Z,2.3nm,0.8s							
YMR	**Madison River**	**86.88**	**334**	IAmb		IAmb	05 02 20.2	
	comp=Z,5.6nm,1.0s							
J08A	**Circle Bar Ran**	**88.72**	**329**	P		**P**	**05 02 28.0**	**+1.6**
SCHQ	**Schefferville**	**90.09**	**4**	LR		LR	05 42 22.5	
	comp=Z,273nm,22.0s,baz=302,slow=35							
LSZ	**Lusaka**	**90.09**	**109**	LR		LR	05 39 03.9	
	comp=Z,56nm,18.4s,baz=182,slow=33							
WRA	**Warramunga Arr**	**119.10**	**210**	PKP		**PKPdf**	**05 08 21.6**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=171,slow=1.7,SNR=6.9							
FITZ	**Fitzroy Crossi**	**123.87**	**201**	PKPdf		**PKPdf**	**05 08 30.7**	**-0.9**
H11N3	**WAKE ISLAND Hy**	**125.40**	**270**	T		T	07 26 35.8	
	baz=123,slow=76,SNR=5.3							
H11N1	**WAKE ISLAND Hy**	**125.41**	**270**	T		T	07 26 36.9	
	baz=123,slow=76,SNR=8.6							
H11N2	**WAKE ISLAND Hy**	**125.42**	**270**	T		T	07 26 37.0	
	baz=123,slow=76,SNR=6.1							
AB31	**Akbulak array**	**143.20**	**53**	PKPpre		PKPpre	05 09 02.5	
ABKAR	**Akbulak array**	**143.20**	**53**	PKPpre		PKPpre	05 09 02.0	
BVAR	**Borovoye Array**	**148.89**	**44**	PKPbc		**PKPbc**	**05 09 20.6**	**+0.4**
	comp=Z,3.9nm,0.6s,baz=304,slow=3.2,SNR=14							
KKAR	**Karatay Array**	**150.92**	**64**			**PKPbc**	**05 09 25.4**	**-0.2**
KURBB	**Kurchatov Arra**	**154.47**	**45**	PKPbc		**PKPbc**	**05 09 33.2**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=301,slow=2.6,SNR=12							
ZALV	**Zalesovo Beam**	**155.89**	**33**	PKPbc		PKPdf	05 09 35.6	+9.0
	comp=Z,1.6nm,0.6s,baz=285,slow=2.9,SNR=6.3							
ZALV				PKPab		**PKPab**	**05 09 54.2**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=306,slow=5.2,SNR=6.0							
MKAR	**Makanchi Array**	**158.31**	**51**	PKPab		**PKPab**	**05 10 04.3**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=354,slow=1.4,SNR=3.7							
KSRS	**Korea Array**	**163.05**	**283**	PKPab		**PKPab**	**05 10 27.4**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=95,slow=3.9,SNR=4.0							

*CATAC **30** 05:05:22.9±0.8, 14°N±4°×9°2W±°, h12km±2km, M3.6/6, MLv3.6/6, Error ellipse: s-maj=9.2km s-min=5.1km az=24.5, confirmed*
*GCG **30** 05:05:24.6±1.0, 14°19N×92°20W, h30km±5km, MD3.9, ML3.6*
*MEX **30** 05:05:24.5±0.5, 14°37N×92°19W, h86km±7km, MD3.9*

ISC 30 05:05:17.8±1.8, 13°94N±0°07×92°35W±0°04, h25km±14km, n29, σ2s07/49, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.86**	**47**	*eP*			**Pn**	**05 05 37.5**	**+3.2**
RTAL				*eS*			**Sn**	**05 05 48.0**	**+1.9**
RTAL	**Retalhuleu**	**0.86**	**47**	P			**Pn**	**05 05 37.6**	**+3.2**
RTAL				S			**Sn**	**05 05 46.9**	**+0.8**
SMCA	**Catarina**	**0.95**	**16**	*i* P			**Pn**	**05 05 37.7**	**+1.5**
THIG		**0.97**	**5**	*i* P			**Pn**	**05 05 37.6**	**+1.8**
THIG				*eS*			**Sn**	**05 05 48.4**	**-0.4**
THIG		**0.97**	**5**	*i* P			**Pn**	**05 05 37.4**	**+1.6**
THIG				*i* S			**Sn**	**05 05 48.7**	**0.0**
THIG				IAML				05 05 50.0	
	comp=N,1μm,0.2s								
CHUJ	**Union Juarez**	**1.18**	**11**	*eP*			**Pb**	**05 05 39.6**	**0.0**
CHUJ				*eS*			**Sb**	**05 05 51.7**	**-2.8**
PATR	**El Naranjo**	**1.18**	**5**	*i* P			**Pb**	**05 05 39.9**	**+0.2**
PATR				*i* S			**Sb**	**05 05 51.9**	**-2.8**
PAVE	**Pavencul**	**1.26**	**7**	*eP*			**Pb**	**05 05 41.0**	**0.0**
PAVE				*eS*			**Sn**	**05 05 54.0**	**-2.3**
SOKI	**Kika Raxquin**	**1.27**	**46**	*i* P			**Pb**	**05 05 43.0**	**+

GBPR	Guanica, Bosqu	1.22	170		Pb	05 06 58.7	-0.1
GBPR	Guanica, Bosqu	1.22	170⇑*e*P		Pb	05 06 58.7	-0.1
OBIP	Obispado Ponce	1.23	157		Pb	05 06 57.9	-1.0
OBIP					Sn	05 07 13.6	+0.5
OBIP				IAML		05 07 14.7	
	comp=N,101nm,0.6s						
OBIP				IAML		05 07 17.6	
	comp=E,93nm,0.3s						
OBIP	Obispado Ponce	1.23	157⇑*e*P		Pb	05 06 58.3	-0.6
OBIP	Obispado Ponce	1.23	157 *e*S		Sn	05 07 13.7	+0.5
GCPR	Guaynabo City	1.30	131		Pb	05 06 59.5	-0.7
GCPR					Sb	05 07 15.5	-1.0
GCPR	Guaynabo City	1.30	131⇑*e*P		Pb	05 07 00.1	0.0
GCPR	Guaynabo City	1.30	131 *e*S		Sb	05 07 17.8	+1.3
PCDR	Punta Cana, DR	1.37	241⇑*e*Sg		Sb	05 07 19.3	+0.7
PCDR				IAML		05 07 26.0	
	comp=N,88nm,0.8s						
SJG	San Juan	1.40	139		Pb	05 07 01.0	-0.8
SJG				IAML		05 07 24.2	
	comp=N,75nm,0.3s						
SJG				IAML		05 07 27.0	
	comp=N,88nm,0.2s						
SJG	San Juan	1.40	139⇑*e*P		Pb	05 07 02.1	+0.3
SJG	San Juan	1.40	139⇑*e*Pg		Pb	05 07 01.7	-0.1
IGPR	InterUniversit	1.54	142		Pb	05 07 03.4	-0.7
IGPR	InterUniversit	1.54	142⇑*e*P		Pb	05 07 03.4	-0.7
PDPR	Patillas Dam,	1.55	138		Pb	05 07 02.8	-1.6
PDPR				IAML		05 07 24.8	
	comp=N,79nm,0.2s						
PDPR	Patillas Dam,	1.55	138⇑*e*P		Pb	05 07 03.9	-0.4
PDPR	Patillas Dam,	1.55	138 *e*S		Sb	05 07 22.3	-1.3
HUMP	Col San Antoni	1.58	131		Pb	05 07 03.4	-1.4
HIDR	Higuey Centro	1.63	249⇑*e*Pg		Pb	05 07 05.3	-0.4
HIDR			⇑*e*Sg		Sb	05 07 28.4	+2.5
HIDR				IAML		05 07 33.8	
	comp=N,71nm,0.2s						
MIDR	Miches	1.84	264⇑*e*Pg		Pb	05 07 08.0	-1.4
MIDR			⇑*e*Sg		Sb	05 07 34.0	+2.0
MIDR				IAML		05 07 35.6	
	comp=N,22nm,1.3s						
HATOM	Hato Mayor del	2.18	260⇑*e*Pg		Pb	05 07 13.6	-1.6
HATOM			⇑*e*Sg		Sb	05 07 41.8	-0.1
HATOM				IAML		05 07 54.1	
	comp=N,23nm,0.6s						

*SDD **30** 05:13:53.5±1.3, 18°.49N×67°.19W, h103^{km}±29^{km}, MD2.8, ML1.4, MW4.0*

RSPR 30 05:13:46.5, 19°.15N×67°.32W, h13^{km}±16^{km}, MD2.8/7, 14C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.71	164⇑*e*P		Pg	05 13 58.6	-1.7
AGPR	Aguadilla, PR	0.71	164 *e*S		Sg	05 14 08.5	-1.1
AOPR	Arecibo Observ	0.96	146⇑*e*P		Pb	05 14 02.8	-2.3
AOPR	Arecibo Observ	0.96	146 *e*S		Sg	05 14 14.7	-3.1
AOPR	Arecibo Observ	0.96	146⇑*e*Pg		Pn	05 14 08.3	+2.6
CRPR	Cabo Rojo, PR	1.16	170⇑*e*P		Pb	05 14 05.1	-3.2
CRPR	Cabo Rojo, PR	1.16	170 *e*S		Sb	05 14 20.4	-2.9
CRPR	Cabo Rojo, PR	1.16	170⇑*e*Pg		Pb	05 14 08.3	0.0
CRPR			⇑*e*Sg		Sb	05 14 20.2	-3.0
CRPR				IAML		05 14 56.8	
	comp=N,13nm,3.5s						
MLPR	Magueyes Islan	1.20	167⇑*e*P		Pn	05 14 05.8	-3.2
MLPR	Magueyes Islan	1.20	167 *e*S		Sb	05 14 21.4	-3.2
MLPR	Magueyes Islan	1.20	167⇑*e*Pg		Pn	05 14 08.4	-0.7
MLPR			⇑*e*Sg		Sb	05 14 20.4	-4.2
ECPR	Experimental S	1.23	132⇑*e*P		Pn	05 14 06.4	-3.0
ECPR	Experimental S	1.23	132 *e*S		Sb	05 14 22.0	-3.4
CELP	Cerrillos	1.28	147⇑*e*P		Pn	05 14 07.3	-2.8
CELP	Cerrillos	1.28	147⇑*e*Pg		Pg	05 14 11.3	+0.1
CELP			⇑*e*Sg		Sb	05 14 22.4	-4.5
CELP				IAML		05 14 36.4	
	comp=N,4.9nm,1.8s						
OBIP	Obispado Ponce	1.29	148⇑*e*P		Pn	05 14 07.2	-3.0
OBIP	Obispado Ponce	1.29	148 *e*S		Sb	05 14 23.2	-4.0

*NEIC **30** 05:26:56.0±1.4, 5°.20S±0°.08×151°.6E±0°.1, h10^{km}±1^{km}, mb4.3/13, Error ellipse: s-maj=20.0km s-min=8.9km az=126.0*
*IDC **30** 05:26:56.5±1.0, 5°.10S×151°.22E, h0^{km}, mb3.9/7, mbtmp4.0/8, ML2.7/1, MS3.3/10, Error ellipse: s-maj=45.5km s-min=20.2km az=115.0*

ISC 30 05:26:56.9±0.7, 5°.10S±0°.08×151°.4E±0°.1, h10^{km}, n34, σ1^{s}64/30, mb4.2/13, MS3.2/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.16	39		Pb	05 27 18.2	-0.9
RABL					Sn	05 27 35.0	-0.2
MANU	Manus Island	5.07	307		Pn	05 28 14.3	+1.2
PMG	Port Moresby	6.02	225		Pn	05 28 25.9	-0.2
PMG	Port Moresby	6.02	225	Pn	Pn	05 28 27.2	+1.1
	12nm,0.3s,baz=49,slow=7.6,SNR=13						
PMG				Sn	Sn	05 29 38.4	+3.2
	2.3nm,0.3s,baz=236,slow=11,SNR=3.1						
	50nm,0.5s						
COEN	Coen	11.98	222	Pn	Pn	05 29 47.1	-0.9
GUMO	Guam	19.68	341	LR	LR	05 39 17.0	
	comp=Z,31nm,18.6s,baz=182,slow=38						
WB0	Warramunga Arr	22.09	227	P	P	05 31 50.7	-1.7
WB0				IAmb	IAmb	05 31 57.4	
	comp=Z,7.0nm,0.7s						
WR8	Warramunga Arr	22.13	227		P	05 31 51.3	-1.6
WR8				IAmb	IAmb	05 31 57.8	
	comp=Z,6.6nm,0.7s						
WB2	Warramunga Arr	22.23	227	P	P	05 31 52.2	-1.7
WB2				IAmb	IAmb	05 31 58.4	
	comp=Z,7.1nm,0.7s						
WRA	Warramunga Arr	22.23	227	P	P	05 31 52.0	-2.0
WRA	Warramunga Arr	22.23	227	P	P	05 31 52.4	-1.7
	comp=Z,1.5nm,0.5s,baz=53,slow=9.9,SNR=21						
WRA				S	S	05 35 57.5	-1.5
	comp=Z,1.6nm,1.0s,baz=48,slow=16,SNR=5.5						
	comp=Z,1.5nm,0.5s						
DZM	Mont Dzumac	22.26	141	LR	LR	05 39 42.8	
	comp=Z,130nm,18.4s,baz=0.0,slow=34						
KNRA	Kununurra	24.62	243	P	P	05 32 17.3	-0.5
INKA	Innaminka	24.71	203	P	P	05 32 15.3	-3.0
INKA				IAmb	IAmb	05 32 40.8	
	comp=Z,3.8nm,0.8s						
AS31	Alice Springs	25.02	221		P	05 32 19.6	-1.8
ASAR	Alice Springs	25.02	221		P	05 32 19.8	-1.5
ASAR	Alice Springs	25.02	221	P	P	05 32 20.2	-1.1
	comp=Z,4.1nm,0.6s,baz=57,slow=8.0,SNR=22						
ASAR				LR	LR	05 43 07.9	
	comp=Z,68nm,18.4s,baz=82,slow=39						
	comp=Z,4.1nm,0.6s						
STKA	Stephens Creek	28.19	198	P	P	05 32 51.1	+1.4
	comp=Z,0.6nm,0.3s,baz=0.0,slow=16,SNR=1.8						
STKA				LR	LR	05 44 03.3	
	comp=Z,128nm,18.3s,baz=20,slow=36						
	comp=Z,0.6nm,0.3s						
FITZ	Fitzroy Crossi	28.32	241	P	P	05 32 49.3	-1.8
FITZ	Fitzroy Crossi	28.32	241	LR	LR	05 45 24.1	
	comp=Z,53nm,20.7s,baz=85,slow=39						
TOLI2	Tolitoli	31.23	281	P	P	05 33 16.8	-0.2
TOLI2				IAmb	IAmb	05 33 19.9	
	comp=Z,6.5nm,0.8s						
KAPI	Kappang	31.56	269	LR	LR	05 47 48.7	
	comp=Z,29nm,18.3s,baz=133,slow=40						
FORT	Forrest	33.70	218	P	P	05 33 36.5	-2.0
MBWA	Marble Bar	34.64	240	P	P	05 33 45.3	-1.4
JHJ	Hachijo jima 2	39.59	345	LR	LR	05 48 21.8	
	comp=Z,37nm,19.8s,baz=162,slow=32						
MORW	Morawa	41.10	230	P	P	05 34 39.2	-2.1
MORW				IAmb	IAmb	05 34 45.3	
	comp=Z,16nm,1.4s						
KSRS	Korea Array	47.67	335	P	P	05 35 33.9	+0.3
	comp=Z,0.3nm,0.3s,baz=156,slow=9.6,SNR=4.8						
	comp=Z,0.3nm,0.3s						
PETK	Petropavlovsk-	58.23	4	LR	LR	06 00 55.4	
	comp=Z,13nm,18.6s,baz=176,slow=35						
MA2	Magadan	64.48	360	LR	LR	06 07 20.8	
	comp=Z,16nm,18.4s,baz=241,slow=38						
ILAR	Eielson Array	82.95	22	P	P	05 39 22.7	+0.8
	comp=Z,0.4nm,0.7s,baz=256,slow=5.2,SNR=5.9						
	comp=Z,0.4nm,0.7s						
QSPA	South Pole Qui	84.86	180	P	P	05 39 32.8	+1.0
QSPA				IAmb	IAmb	05 39 37.3	
	comp=Z,2.8nm,0.9s						
QSPA	South Pole Qui	84.86	180	P	P	05 39 33.0	+1.2
	comp=Z,1.7nm,0.7s,baz=290,slow=1.0,SNR=9.5						
	comp=Z,1.7nm,0.7s						
NVAR	Mina Array Bea	93.34	52	P	P	05 40 15.2	+2.3
	comp=Z,0.3nm,0.7s,baz=261,slow=4.5,SNR=3.5						
NVAR				LR	LR	06 15 15.4	
	comp=Z,17nm,19.9s,baz=269,slow=31						
	comp=Z,0.3nm,0.7s						
TORD	Torodi Ar. Bea	149.10	287	PKPbc	PKiKP	05 46 48.7	+0.8
	comp=Z,0.7nm,0.7s,baz=44,slow=4.2,SNR=4.6						

RSPR 30 05:34:10.8, 19°.14N×66°.83W, h24^{km}±26^{km}, MD3.0/9, 6C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	0.79	175⇑*e*P		Pb	05 34 24.6	-1.3
UUPR	Utuado, UPR, P	0.89	173⇑*e*P		Pb	05 34 25.6	-1.8
UUPR	Utuado, UPR, P	0.89	173 *e*S		Sb	05 34 36.9	-2.1
ECPR	Experimental S	0.93	152⇑*e*P		Pb	05 34 25.4	-2.8
IDE	Isla Desecheo	0.97	219⇑*e*P		Pn	05 34 25.8	-3.0
LSP	Las Mesas	0.99	194 *e*S		Sb	05 34 39.5	-2.3
CELP	Cerrillos	1.08	167⇑*e*P		Pn	05 34 28.2	-2.2
CELP	Cerrillos	1.08	167 *e*S		Sb	05 34 42.2	-2.4
GCPR	Guaynabo City	1.08	139 *e*S		Sb	05 34 41.4	-3.3
OBIP	Obispado Ponce	1.11	169⇑*e*P		Pn	05 34 28.9	-1.9
OBIP	Obispado Ponce	1.11	169 *e*S		Sn	05 34 42.0	-3.3

*SDD **30** 05:34:11.2±2.2, 19°.06N×67°.11W, h20^{km}±73^{km}, MD3.4, ML1.9, MW2.5*

RSPR 30 05:34:11.5, 19°.07N×67°.13W, h8^{km}±1^{km}, MD3.3/8, 21C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.60	178⇑*e*P		Pg	05 34 22.9	-0.3
AGPR	Aguadilla, PR	0.60	178 *e*S		Sg	05 34 32.0	+1.0
AGPR	Aguadilla, PR	0.60	178 ⇓*i*P		Pg	05 34 22.9	-0.3
AGPR	Aguadilla, PR	0.60	178 *e*S		Sg	05 34 31.4	+0.4
AGPR	Aguadilla, PR	0.60	178⇑*e*Pg		Pg	05 34 22.5	-0.7
AGPR			⇑*e*Sg		Sg	05 34 30.1	-0.9
AGPR				IAML		05 34 31.9	
	comp=N,95nm,0.5s						
IDE	Isla Desecheo	0.76	206⇑*e*P		Pg	05 34 25.1	-1.0
IDE	Isla Desecheo	0.76	206 *e*S		Sg	05 34 35.9	-0.1
AOPR	Arecibo Observ	0.81	154⇑*e*P		Pg	05 34 25.9	-1.1
AOPR	Arecibo Observ	0.81	154 *e*S		Sg	05 34 37.2	-0.4
AOPR	Arecibo Observ	0.81	154⇑*e*Pg		Pg	05 34 27.2	+0.1
AOPR				IAML		05 34 46.7	
	comp=N,58nm,0.2s						
LSP	Las Mesas	0.89	177⇑*e*P		Pg	05 34 27.3	-1.4
LSP	Las Mesas	0.89	177 *e*S		Sg	05 34 40.2	-0.1
UUPR	Utuado, UPR, P	0.90	154⇑*e*P		Pg	05 34 27.0	-1.9
UUPR	Utuado, UPR, P	0.90	154 *e*S		Sg	05 34 39.6	-1.1
ECPR	Experimental S	1.05	136 *e*S		Sg	05 34 44.1	-1.1
CRPR	Cabo Rojo, PR	1.06	179⇑*e*P		Pg	05 34 29.0	-3.0
CRPR	Cabo Rojo, PR	1.06	179 *e*S		Sg	05 34 43.4	-2.3
CRPR	Cabo Rojo, PR	1.06	179 ⇑*i*P		Pg	05 34 29.5	-2.4
CRPR	Cabo Rojo, PR	1.06	179 *e*S		Sg	05 34 43.3	-2.4
CRPR	Cabo Rojo, PR	1.06	179⇑*e*Pg		Pg	05 34 29.0	-2.9
CRPR			⇑*e*Sg		Sg	05 34 43.4	-2.4
CRPR				IAML		05 34 47.9	
	comp=N,28nm,1.2s						
MLPR	Magueyes Islan	1.10	176⇑*e*P		Pg	05 34 29.6	-3.1
MLPR	Magueyes Islan	1.10	176 *e*S		Sg	05 34 45.2	-1.8
MLPR	Magueyes Islan	1.10	176 ⇓*i*P		Pg	05 34 30.3	-2.3
MLPR	Magueyes Islan	1.10	176 *e*S		Sg	05 34 44.6	-2.4
MLPR	Magueyes Islan	1.10	176⇑*e*Pg		Pg	05 34 29.0	-3.7
MLPR			⇑*e*Sg		Sg	05 34 45.0	-1.9
MLPR				IAML		05 34 45.1	
	comp=N,9.5nm,0.3s						
CELP	Cerrillos	1.12	152⇓*e*P		Pg	05 34 30.0	-3.1
CELP	Cerrillos	1.12	152 *e*S		Sg	05 34 44.9	-2.8
CELP	Cerrillos	1.12	152⇑*e*Pg		Pg	05 34 29.9	-3.2
CELP			⇑*e*Sg		Sg	05 34 44.1	-3.5
CELP				IAML		05 34 48.0	
	comp=N,29nm,0.2s						
OBIP	Obispado Ponce	1.14	154⇑*i*P		Pg	05 34 30.4	-3.0
OBIP	Obispado Ponce	1.14	154 *e*S		Sg	05 34 46.5	-1.7
IGPR	InterUniversit	1.47	138 *e*S		Sn	05 34 47.9	-10
HIDR	Higuey Centro	1.58	253⇑*e*Pg		Pn	05 34 39.3	-0.6
HIDR			⇑*e*Sg		Sn	05 34 58.3	-2.2
HIDR				IAML		05 35 32.0	
	comp=N,23nm,0.2s						
MIDR	Miches	1.82	267⇓*e*Pg		Pn	05 34 42.4	-0.7
MIDR			⇑*e*Sg		Sb	05 35 07.5	-0.5
MIDR				IAML		05 35 19.2	
	comp=N,9.4nm,1.6s						
HATOM	Hato Mayor del	2.15	263⇑*e*Pg		Pn	05 34 48.5	+0.7
HATOM			⇑*e*Sg		Sn	05 35 16.1	+1.4
HATOM				IAML		05 35 29.0	
	comp=N,7.6nm,1.3s						

*ISK **30** 05:34:27.3, 38°.03N×26°.89E, h6^{km}, ML2.8/40*
*AFAD **30** 05:34:27.0, 38°.00N×26°.85E, h6^{km}±1^{km}, ML2.6*
*THE **30** 05:34:28.1, 38°.N±29°×2°.7E±2°.3, h10^{km}±18^{km}, M3.0/5, MLh3.0/5*

ISC 30 05:34:26.8±0.8, 38°.01N±0°.02×26°.89E±0°.02, h11^{km}±5^{km}, n64, σ0^{s}96/82, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGB	zmir	0.04	351	P	Pg	05 34 29.2	+0.2
DGB				S	Sg	05 34 29.9	-0.5
DGB				*i* IAML		05 34 30.0	
	comp=N,5μm,0.1s						
DGB				*i* IAML		05 34 31.0	
	comp=E,4μm,0.3s						
GMLD	Gumuldur	0.07	15	Pg	Pg	05 34 29.5	+0.3
GMLD				Sg	Sg	05 34 30.9	0.0
ZEYE	Izmir, Urla-Ze	0.38	307	P	Pg	05 34 34.8	+0.4
ZEYE				S	Sg	05 34 39.8	+0.3
ZEYE				*i* IAML		05 34 40.0	
	comp=E,696nm,0.2s						
BLCB	Balcova	0.40	17	Pg	Pg	05 34 35.2	+0.6
BLCB				Sg	Sg	05 34 40.6	+0.7
BLCB	Balcova	0.40	17	P	Pg	05 34 35.3	+0.6
BLCB				S	Sg	05 34 40.9	+0.9
GCAM	G?zelcaml?	0.41	139	Pg	Pb	05 34 36.0	-0.1
GCAM				Sg	Sb	05 34 42.4	+0.1
GCAM	G?zelcaml?	0.41	139	P	Pb	05 34 36.0	-0.1
GCAM				S	Sb	05 34 41.3	-1.0
GCAM				*i* IAML		05 34 42.0	
	comp=N,513nm,0.1s						
GCAM				*i* IAML		05 34 43.0	
	comp=E,391nm,0.3s						
URLA	Izmir	0.42	327	Pg	Pg	05 34 35.6	+0.4
URLA				Sg	Sg	05 34 41.5	+0.7
URLA	Izmir	0.42	327	P	Pg	05 34 35.5	+0.3
URLA				S	Sg	05 34 40.9	+0.1
URLA				*i* IAML		05 34 42.0	
	comp=N,506nm,0.6s						
URLA				*i* IAML		05 34 45.0	
	comp=E,531nm,0.9s						
CESE	eme	0.57	305	Pg	Pb	05 34 38.7	-0.1
DDIM	Aydin, Didim	0.62	153	P	Pb	05 34 39.8	+0.2
DDIM				S	Sb	05 34 47.8	-0.4
DDIM				*i* IAML		05 34 50.0	
	comp=N,236nm,0.5s						
DDIM				*i* IAML		05 34 52.0	
	comp=E,253nm,0.6s						
DIDI	Didim-Aydin	0.69	156	Pg	Pn	05 34 42.2	-0.3
KARB	zmir-Karabur	0.76	330	P	Pg	05 34 41.3	-0.1
KARB				S	Sg	05 34 50.9	-0.4
KARB				*i* IAML		05 34 55.0	
	comp=E,494nm,0.6s						
KARB				*i* IAML		05 34 56.0	
	comp=N,321nm,0.3s						
CHOS	Chios island	0.76	300	Pg	Pg	05 34 41.7	+0.2
CHOS				Sg	Sb	05 34 53.2	+0.7
CHOS	Chios island	0.76	300	P	Pb	05 34 42.1	0.0
CHOS				S	Sn	05 34 55.9	+0.8
AYDB	Zeytinkoy-Aydi	0.79	94	Pg	Pb	05 34 42.8	+0.1
IZMR	zmir-demi	0.85	81	P	Pb	05 34 43.8	+0.2
IZMR				S	Sg	05 34 52.7	-1.6
IZMR				*i* IAML		05 34 56.0	
	comp=E,154nm,0.3s						
IZMR				*i* IAML		05 34 57.0	
	comp=N,161nm,0.4s						
AYDN	Tasoluk	0.85	114	P	Pn	05 34 44.1	-0.7
AYDN				S	Sb	05 34 55.5	+0.3
AYDN				*i* IAML		05 34 59.0	
	comp=N,209nm,0.3s						
AYDN				*i* IAML		05 34 59.0	
	comp=E,225nm,0.5s						
YKAV	Yalikavak-Bodr	0.93	161	Pg	Pn	05 34 46.2	+0.3
ZEDA	zmir-Bergama	0.97	9	P	Pn	05 34 46.4	0.0
ZEDA				*i* IAML		05 35 02.0	
	comp=N,286nm,0.4s						
ODEM	Odemis-Izmir	0.97	74	Pg	Pg	05 34 46.1	+0.6
IZMD	zmir-Dikili-	0.97	2	P	Pn	05 34 46.5	0.0
BODT	Bodrum	1.00	160	Pg	Pn	05 34 47.6	+0.8
BODT	Bodrum	1.00	160	P	Pn	05 34 47.7	+0.8
BODT				S	Sn	05 35 02.8	+1.9
BDRM	Kayabasi	1.04	155	P	Pn	05 34 47.3	0.0
BDRM				*i* IAML		05 35 05.0	
	comp=E,146nm,0.5s						
DKL	Dikili	1.06	1	Pg	Pg	05 34 47.9	+0.6
GOMA	Golmarmara-Man	1.07	49	Pg	Pg	05 34 48.3	+0.9
NAZL	Nazilli-Aydin	1.11	92	Pn	Pg	05 34 48.9	+0.8
AKS	Akhisar	1.13	39	Pn	Pg	05 34 49.1	+0.5
ESEN	Aydn-Nazilli	1.17	100	P	Pb	05 34 49.2	+0.2
KIRA	zmir-Kiraz	1.21	81	P	Pg	05 34 50.7	+0.7
SOMA	Soma-Manisa	1.25	23	Pn	Pg	05 34 51.3	+0.4
AYVA	Ayvalik	1.31	353	P	Pg	05 34 52.4	+0.5
AYVA				*i* IAML		05 35 13.0	
	comp=N,142nm,0.6s						
AYVA				*i* IAML		05 35 15.0	
	comp=E,99nm,0.6s						
PRK	Paraskevi	1.33	339	P	Pn	05 34 51.2	-0.1
PRK				S	Sg	05 35 10.5	+0.9
GORD	Gordes-Manisa	1.35	48	Pn	Pg	05 34 52.9	+0.1
MULA	Mugla, Merkez-	1.36	123	P	Pg	05 34 52.6	-0.4
DAT	Datca	1.39	157	Pn	Pg	05 34 53.9	+0.4
MANT	Manisa	1.40	69	P	Pg	05 34 54.4	+0.7
MANT				*i* IAML		05 35 17.0	
	comp=N,87nm,0.6s						
YER	Yerkesik	1.41	128	Pn	Pb	05 34 53.3	+0.2
SIGR	SIGRI	1.45	326	Pn	Pn	05 34 53.3	+0.3
SIGR	SIGRI	1.45	326	P	Pn	05 34 52.9	-0.1
SIGR				S	Sn	05 35 07.2	-4.8
KULA	Kula-Manisa	1.48	69	Pn	Pg	05 34 55.4	+0.1
GPNR	Gulpinar-Canak	1.56	338	Pn	Pb	05 34 56.3	+0.5
YAYO	Edremit-Balk	1.61	5	Pn	Pb	05 34 57.1	+0.6
DALY	Dalyan (Mula)	1.84	130	Pn	Pb	05 35 00.6	+0.2
EZN	Ezine	1.87	346	Pn	Pb	05 35 00.6	-0.4
BOZC	Bozcaada	1.94	341	Pn	Pb	05 35 01.8	-0.5
YENI	Yenice-Canakka	1.94	8	Pn	Pb	05 35 01.8	-0.5
SMAA	Simav-Kutahya	1.97	56	Pn	Pb	05 35 02.3	-0.4
APMY	Acipayam-Deniz	1.98	105	Pn	Pb	05 35 02.9	-0.1
CANM	Can-anakkale	2.00	4	Pn	Pb	05 35 02.6	-0.7
ARG	Arkhangelos	2.04	151	Pn	Pb	05 35 04.1	+0.2
DST	Dursunbey	2.09	40	Pn	Pb	05 35 04.1	-0.7
SHAP	Saphane-Kutahy	2.09	60	Pn	Pb	05 35 04.1	-0.7
COMU	Canakkale	2.11	351	Pn	Pb	05 35 04.4	-0.8
GONE	Gonen-Balikesi	2.13	17	Pn	Pb	05 35 04.6	-0.8
CAME	Cameli-Denizli	2.19	118	Pn	Pb	05 35 04.8	-1.8
GADA	Gvkgeada	2.31	341	Pn	Pb	05 35 07.2	-1.3
LPK	Lapseki	2.36	358	Pn	Pn	05 35 07.6	+2.0
KRBG	Karabiga-Canak	2.40	7	Pn	Pb	05 35 08.4	-1.7
GELI	Tayfur-Gelibol	2.41	352	Pn	Pb	05 35 08.4	-1.8
KARP	Karpathos	2.46	175	Pn	Pb	05 35 09.9	-1.3
ENZZ	Sultanice-Enez	2.66	348	Pn	Pn	05 35 12.1	+2.5
ERIK	Erikli-Kesan	2.68	354	Pn	Pn	05 35 11.0	+1.2

KRNET 30 05:35:55.0±0.1, 42°.27N×74°.79E, h27^{km}, mb2.4, 22C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	Uchtor	0.21	258	P	Pb	05 36 01.0	-0.4
	SNR=52						
UCH	Uchtor	0.21	258⇑*e*P		Pb	05 36 00.8	-0.7
UCH			⇑*e*S		Sb	05 36 04.9	-1.0
KBK	Karagaybulak	0.40	17⇑*e*P		Pb	05 36 03.6	-0.3
KBK			⇑*e*S		Sb	05 36 09.7	-0.2
AAK	Ala-Archa	0.42	329⇑*e*P		Pb	05 36 03.9	-0.3
AAK			⇑*e*S		Sb	05 36 10.3	-0.2
CHMS	Chumysh	0.73	358⇑*e*P		Pb	05 36 09.0	-0.1
CHMS			⇑*e*S		Sb	05 36 19.1	+0.4
EKS2	Erkin-Say	0.84	298	P	Pn	05 36 13.0	+1.8
	SNR=13						
EKS2	Erkin-Say	0.84	298⇑*e*P		Pb	05 36 11.0	-0.1
EKS2			⇑*e*S		Sn	05 36 22.5	-0.3
BOOM	Boomskoye usch	0.88	75⇑*e*P		Pb	05 36 11.5	-0.3
BOOM			⇑*e*S		Sn	05 36 23.6	-0.2
TKM2	Tokmak 2	0.88	42	P	Pn	05 36 12.0	+0.1
	SNR=5.9						
TKM2	Tokmak 2	0.88	42⇑*e*P		Pb	05 36 11.7	-0.1
TKM2			⇑*e*S		Sn	05 36 23.9	0.0
USP	Ospenovka	1.02	348⇑*e*P		Pb	05 36 14.0	0.0
USP			⇑*e*S		Sb	05 36 27.7	+0.7
ULHL	Ulahol	1.08	91	P	Pb	05 36 15.0	-0.2
	SNR=

KTBS	**Karatobe**	**1.97**	**44**	P	**Pb**	**05 36 33.3**	**+0.3**
	3.5nm,0.5s						
KTBS				S	**Sb**	**05 36 57.8**	**+0.7**
	9.5nm,0.6s						
KPKS	**Kokpek**	**3.09**	**67**	Pg	**Pb**	**05 36 52.5**	**+0.5**
	0.4nm,0.2s						
KPKS				Lg	Lg	05 37 30.7	
	3.1nm,0.5s						
KK31	**Karatay Array**	**3.25**	**286**	⇓Lg	Lg	05 37 39.2	
	0.4nm,0.2s,baz=103,slow=28,SNR=5.7						

*IDC **30** 05:39:30.6±2.4,36˚.25N×22˚.96E,h0km,mb4.0/8, mbtmp3.9/10,ML3.9/2,Error ellipse: s-maj=51.6km s-min=17.3km az=43.0*
*NEIC **30** 05:39:31.9±1.3,36˚.09N±0˚.08×22˚.92E±0˚.08,h10km±1km, mb4.3/11,Error ellipse: s-maj=15.6km s-min=7.2km az=220.0*
*ATH **30** 05:39:35.1,36˚.27N×23˚.18E,h6km±1km,ML3.3/18, Manual Solution by I.Dede First location: 2019/09/30 05:40:42, This location: 2020/10/23 13:34:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*THE **30** 05:39:35.5,36˚N±2˚×2˚3E±˚,h7km±6km,M3.2/24, MLh3.2/24*

ISC 30 05:39:33.8±0.5,36˚.26N±0˚.02×23˚.08E±0˚.03,h15km,n110, σ1§61/133,mb4.1/15,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**0.43**	**155**	P	**Pg**	**05 39 42.8**	**+0.4**
ANKY				S	**Sg**	**05 39 48.4**	**+0.3**
ANKY	**Antikythira Is**	**0.43**	**155**	P	**Pg**	**05 39 42.8**	**+0.4**
ANKY				S	**Sg**	**05 39 48.5**	**+0.3**
VLI	**Veliai**	**0.48**	**346**	P	**Pn**	**05 39 44.8**	**-1.3**
VLI				S	**Sn**	**05 39 53.3**	**-0.9**
VLI	**Veliai**	**0.48**	**346**	P	**Pb**	**05 39 44.6**	**+0.8**
VLI				S	**Sb**	**05 39 50.3**	**-0.4**
MHLO	**Agia Marina, M**	**1.15**	**67**	P	**Pg**	**05 39 56.8**	**+0.8**
MHLO				S	**Sg**	**05 40 14.2**	**+3.1**
MHLO	**Agia Marina, M**	**1.15**	**67**	P	**Pg**	**05 39 56.1**	**+0.1**
MHLO				S	**Sb**	**05 40 09.8**	**-0.4**
ITM	**Ithomi**	**1.31**	**315**		**Pg**	**05 39 58.2**	**-0.7**
ITM					**Sg**	**05 40 17.2**	**+1.3**
ITM	**Ithomi**	**1.31**	**315**	P	**Pg**	**05 39 58.4**	**-0.6**
ITM				S	**Sg**	**05 40 20.0**	**+4.0**
ITM	**Ithomi**	**1.31**	**315**	P	**Pg**	**05 40 00.7**	**+1.8**
ITM				S	**Sg**	**05 40 19.5**	**+3.5**
MET6	**Megalochori,Me**	**1.35**	**9**	P	**Pg**	**05 40 00.2**	**+0.4**
MET6				S	**Sg**	**05 40 17.3**	**-0.2**
MET2	**Kameni Chora,**	**1.37**	**8**	P	**Pg**	**05 40 00.6**	**+0.4**
MET2				S	**Sg**	**05 40 18.2**	**+0.2**
MET5	**Makryloggos,Me**	**1.38**	**9**	P	**Pg**	**05 40 01.2**	**+0.8**
MET5				S	**Sg**	**05 40 18.6**	**+0.1**
MET4	**Agioi Theodoro**	**1.39**	**11**	P	**Pg**	**05 40 00.7**	**+0.2**
MET4				S	**Sg**	**05 40 18.3**	**-0.3**
GVD	**Gavdhos**	**1.64**	**149**	P	**Pb**	**05 40 04.2**	**+0.5**
GVD	**Gavdhos**	**1.64**	**149**	P	**Pb**	**05 40 03.6**	**0.0**
VLY	**Voula,Athens**	**1.69**	**20**	P	**Pb**	**05 40 03.8**	**-0.8**
IDI	**Anoyia**	**1.76**	**123**	Pn	**Pn**	**05 40 03.2**	**-0.6**
IDI	**Anoyia**	**1.76**	**123**	P	**Pn**	**05 40 04.4**	**+0.6**
IDI				S	**Sg**	**05 40 31.6**	**+1.1**
IDI	**Anoyia**	**1.76**	**123**	Pn	**Pn**	**05 40 04.3**	**+0.6**
	20nm,0.3s,baz=296,slow=15,SNR=33						
IDI				Sn	**Sb**	**05 40 27.8**	**0.0**
	35nm,0.3s,baz=139,slow=18,SNR=8.2						
IDI	**Anoyia**	**1.76**	**123**	P	**Pg**	**05 40 07.1**	**-0.5**
LTK	**Loutraki**	**1.77**	**357**	P	**Pb**	**05 40 06.5**	**+0.6**
LTK				S	**Sg**	**05 40 31.3**	**+0.6**
LTK	**Loutraki**	**1.77**	**357**	P	**Pg**	**05 40 06.7**	**-1.0**
GUR	**Goura**	**1.78**	**341**	P	**Pg**	**05 40 07.4**	**-0.6**
ATHU	**Athens Univers**	**1.80**	**18**	P	**Pb**	**05 40 05.6**	**-0.9**
ATHU	**Athens Univers**	**1.80**	**18**	P	**Pb**	**05 40 06.4**	**-0.1**
MAGU	**Magoula**	**1.85**	**11**	P	**Pg**	**05 40 08.8**	**-0.6**
PTL	**Penteli**	**1.90**	**19**	P	**Pg**	**05 40 09.3**	**-0.9**
PTL				S	**Sb**	**05 40 31.1**	**-0.6**
PTL	**Penteli**	**1.90**	**19**	P	**Pg**	**05 40 09.5**	**-0.8**
KLV	**Kalavryta, Ach**	**1.93**	**338**	P	**Pg**	**05 40 09.8**	**-1.1**
KLV				S	**Sg**	**05 40 41.3**	**+5.3**
KLV	**Kalavryta, Ach**	**1.93**	**338**	P	**Pb**	**05 40 09.1**	**+0.3**
THERA	**Ancient Thera,**	**1.94**	**86**	P	**Pn**	**05 40 07.4**	**+1.2**
DION	**Dionisos Attik**	**1.94**	**20**	P	**Pb**	**05 40 07.9**	**-1.0**
DION				S	**Sg**	**05 40 38.0**	**+1.7**
DION	**Dionisos Attik**	**1.94**	**20**	P	**Pb**	**05 40 08.0**	**-0.9**
VIL2	**Platees**	**1.96**	**4**	P	**Pn**	**05 40 07.5**	**+1.0**
DRO	**Drossia**	**2.02**	**328**	P	**Pb**	**05 40 12.4**	**0.0**
DRO				S	**Sg**	**05 40 46.7**	**+8.1**
KARY	**Karystos**	**2.08**	**31**	P	**Pb**	**05 40 10.2**	**-1.0**
KARY				S	**Sb**	**05 40 36.0**	**-0.9**
KARY	**Karystos**	**2.08**	**31**	P	**Pb**	**05 40 09.8**	**-1.5**
NPS	**Neapolis**	**2.29**	**115**	P	**Pn**	**05 40 12.3**	**+1.3**
EFP	**Efpalio**	**2.36**	**337**	P	**Pb**	**05 40 16.3**	**+0.4**
EFP	**Efpalio**	**2.36**	**337**	P	**Pb**	**05 40 15.4**	**-0.6**
LKR	**Lokris**	**2.39**	**359**	P	**Pb**	**05 40 15.0**	**-1.6**
ATAL	**Atalanti**	**2.43**	**359**	P	**Pb**	**05 40 15.8**	**-1.5**
ORTH	**Orthonies,Zaky**	**2.48**	**311**	P	**Pb**	**05 40 15.7**	**-2.4**
ANX	**Ano Chora**	**2.51**	**339**	P	**Pb**	**05 40 16.9**	**-1.7**
KYMI	**Kymi, Euboea I**	**2.51**	**19**	P	**Pn**	**05 40 15.2**	**+1.2**
KYMI	**Kymi, Euboea I**	**2.51**	**19**	P	**Pb**	**05 40 16.3**	**-2.3**
AXAR	**Agios Charalam**	**2.53**	**353**	P	**Pb**	**05 40 16.8**	**-2.1**
PVO	**Paravola**	**2.66**	**333**	P	**Pb**	**05 40 21.1**	**0.0**
PVO	**Paravola**	**2.66**	**333**	P	**Pb**	**05 40 18.8**	**-2.3**
PSDA	**Pessada-Kefalo**	**2.72**	**314**	P	**Pn**	**05 40 18.3**	**+1.4**
PSDA				S	**Sn**	**05 40 50.1**	**+0.6**
ZKR	**Zakros**	**2.80**	**113**	P	**Pn**	**05 40 19.4**	**+1.4**
MAKR	**Makrakomi, Fth**	**2.85**	**345**	P	**Pb**	**05 40 22.2**	**-2.2**
MAKR	**Makrakomi, Fth**	**2.85**	**345**	P	**Pn**	**05 40 21.3**	**+2.5**
SKY	**Skiros Island**	**2.87**	**24**	P	**Pn**	**05 40 20.1**	**+1.1**
AOS	**Alonnisos**	**2.98**	**12**	P	**Pn**	**05 40 21.1**	**+0.7**
AMPL	**Ampelaki**	**3.05**	**332**	P	**Pb**	**05 40 25.4**	**-2.3**
NEO	**Neokhori**	**3.05**	**2**	P	**Pn**	**05 40 24.1**	**+2.6**
LKD2	**Lefkada island**	**3.18**	**323**	P	**Pn**	**05 40 25.8**	**+2.6**
LKD2				S	**Sn**	**05 41 00.6**	**-0.2**
CHOS	**Chios island**	**3.19**	**47**	P	**Pn**	**05 40 24.9**	**+1.5**
CHOS				S	**Sg**	**05 41 21.2**	**+5.0**
KARP	**Karpathos**	**3.39**	**101**	Pn	**Pn**	**05 40 27.4**	**+1.2**
LIT	**Litokhoron**	**3.87**	**353**	Pn	**Pn**	**05 40 33.3**	**+0.6**
ARG	**Arkhangelos**	**4.08**	**89**	Pn	**Pn**	**05 40 36.8**	**+1.1**
KEK	**Kerkira**	**4.32**	**324**		**Pn**	**05 40 38.4**	**-0.4**
ALN	**Alexandroupoli**	**5.19**	**26**		**Pn**	**05 40 52.2**	**+1.4**
RDO	**Rodhopi**	**5.25**	**21**	Pn	**Pn**	**05 40 53.4**	**+1.7**
AKAS	**Kas**	**5.28**	**88**	Pn	**Pn**	**05 40 53.6**	**+1.4**
ELL	**Elmali**	**5.53**	**358**	Pn	**Pn**	**05 40 55.7**	**+0.1**
TIP	**Timpagrande**	**5.80**	**302**	Pn	**Pn**	**05 40 56.9**	**-2.4**
CUC	**Castrocucco**	**6.83**	**305**		**Pn**	**05 41 11.2**	**-2.2**
PDG	**Podgorica**	**6.84**	**336**	Pn	**Pn**	**05 41 12.2**	**-1.3**
ACER	**Acerenza**	**7.19**	**311**	Pn	**Pn**	**05 41 16.1**	**-2.3**
SGRT	**San Giovanni R**	**7.92**	**316**	Pn	**Pn**	**05 41 27.0**	**-1.4**
PAOL	**Paolisi**	**8.19**	**308**	Pn	**Pn**	**05 41 30.1**	**-2.0**
BRTR	**Keskin Array B**	**9.03**	**64**	Pn	**Pn**	**05 41 44.8**	**+1.1**
BRTR	**Keskin Array B**	**9.03**	**64**	Pn	Pn	05 41 50.1	+6.5
	0.1nm,0.3s,baz=255,slow=14,SNR=8.2						
INTR	**Introdacqua**	**9.15**	**312**	Pn	**Pn**	**05 41 43.0**	**-2.3**
MLR	**Muntele Rosu**	**9.48**	**12**	Pn	**Pn**	**05 41 50.5**	**+0.7**
MLR	**Muntele Rosu**	**9.48**	**12**	Pn	Pn	05 41 55.2	+5.4
	0.1nm,0.3s,baz=153,slow=9.0,SNR=3.6						
ILGA	**Ilgaz**	**9.60**	**57**	Pn	**Pn**	**05 41 52.5**	**+1.0**
CAMP	**Campotosto**	**9.76**	**313**	Pn	**Pn**	**05 41 51.7**	**-1.9**
NRCA	**Norcia**	**10.11**	**314**	Pn	**Pn**	**05 41 57.5**	**-0.9**
FDMO	**Fiordimonte**	**10.25**	**314**	Pn	**Pn**	**05 41 58.3**	**-2.0**
MMAI	**Mount Meron Ar**	**10.66**	**104**	Pn	**Pn**	**05 42 05.1**	**-0.8**
	1.5nm,0.3s,baz=282,slow=16,SNR=4.1						
	0.9nm,0.4s						
KIEV	**Kiev**	**15.10**	**15**	Pn	**Pn**	**05 43 07.6**	**+1.2**
AKASG	**Malin Array Be**	**15.11**	**15**	Pn	**Pn**	**05 43 06.4**	**-0.1**
	0.3nm,0.3s,baz=208,slow=12,SNR=2.1						
	0.1nm,0.3s						
AKBB	**Malin Array Si**	**15.11**	**15**	Pn	**Pn**	**05 43 07.7**	**+1.2**
CLL	**Collm**	**16.69**	**338**	*e*P	**Pn**	**05 43 26.0**	**-0.9**
CLL				*e*pP	**P**	**05 43 29.0**	**-0.2**
CLL				*es*PP		05 43 40.0	
KBZ	**Khabaz**	**16.90**	**58**	Pn	**P**	**05 43 35.1**	**+3.6**
	0.3nm,0.3s,baz=253,slow=8.5,SNR=12						
HFS	**Hagfors**	**24.65**	**349**	P	**P**	**05 44 52.5**	**-1.0**
	1.0nm,0.4s,baz=152,slow=13,SNR=9.5						
	1.0nm,0.4s						
FINES	**FINES Array B**	**25.28**	**3**	P	**P**	**05 44 58.1**	**-1.1**
FINES	**FINES Array B**	**25.28**	**3**	P	**P**	**05 44 57.8**	**-1.4**
	1.1nm,0.5s,baz=164,slow=11,SNR=12						
	1.1nm,0.5s						
FIA1	**FINES Array S**	**25.28**	**3**	P	**P**	**05 44 58.2**	**-1.1**
NC602	**NORSAR Array S**	**25.59**	**347**	P	**P**	**05 45 02.2**	**+0.2**
NC602				IAmb	IAmb	05 45 12.0	
	comp=Z,16nm,1.2s						
NC303	**NORSAR Array S**	**26.07**	**347**	P	**P**	**05 45 06.9**	**+0.4**
NC303				IAmb	IAmb	05 45 24.8	
	comp=Z,16nm,1.2s						
EKA	**Eskdalemuir Ar**	**26.17**	**325**	P	**P**	**05 45 06.5**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=127,slow=9.0,SNR=6.8						
	comp=Z,1.3nm,0.5s						
AB31	**Akbulak array**	**29.72**	**52**	P	**P**	**05 45 40.0**	**+0.9**
AB31				IAmb	IAmb	05 45 46.7	
	comp=Z,2.8nm,1.5s						
ABKAR	**Akbulak array**	**29.72**	**52**	P	**P**	**05 45 39.6**	**+0.5**
ARCES	**ARCESS Array B**	**33.36**	**2**	P	**P**	**05 46 10.3**	**-0.7**
ARCES	**ARCESS Array B**	**33.36**	**2**	P	**P**	**05 46 09.7**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=181,slow=8.2,SNR=12						
	comp=Z,2.3nm,0.8s						
KK31	**Karatay Array**	**36.74**	**64**	P	**P**	**05 46 40.4**	**-0.1**
KK31				IAmb	IAmb	05 47 23.8	
	comp=Z,2.3nm,0.9s						
KKAR	**Karatay Array**	**36.74**	**64**	P	**P**	**05 46 40.4**	**0.0**
KURBB	**Kurchatov Arra**	**41.77**	**52**	P	**P**	**05 47 22.1**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=278,slow=8.6,SNR=5.5						
	comp=Z,1.2nm,0.6s						
MKAR	**Makanchi Array**	**44.60**	**57**	P	**P**	**05 47 45.2**	**-0.1**
MKAR	**Makanchi Array**	**44.60**	**57**	P	**P**	**05 47 44.9**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=270,slow=7.9,SNR=13						
	comp=Z,1.0nm,0.5s						
ZAA0	**Zalesovo Array**	**45.48**	**47**	P	**P**	**05 47 52.4**	**+0.2**
ZAA0				IAmb	IAmb	05 48 00.1	
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**45.48**	**47**	P	**P**	**05 47 52.4**	**+0.2**
ZALV	**Zalesovo Beam**	**45.48**	**47**	P	**P**	**05 47 51.7**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=280,slow=8.6,SNR=2.5						
	comp=Z,0.7nm,0.3s						
E29M	**Blow River**	**74.70**	**353**	P	**P**	**05 51 12.3**	**0.0**
E29M				IAmb	IAmb	05 51 13.0	
	comp=Z,2.1nm,0.7s						
E22K	**Anaktuvuk Pass**	**75.86**	**358**	P	**P**	**05 51 18.6**	**-0.4**
E22K				IAmb	IAmb	05 51 51.9	
	comp=Z,7.1nm,1.4s						
KSRS	**Korea Array**	**78.95**	**52**	P	**P**	**05 51 36.5**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=303,slow=5.4,SNR=9.4						
	comp=Z,1.6nm,0.5s						

*INMG **30** 05:41:38.4±1.6,38˚.46N×7˚.32W,h0km±3km,ML2.3,Error ellipse: s-maj=1.6km s-min=1.1km az=90.0,*
#DIST_RANGE: LOCAL #IPMA_REGION: NE Mourao #FELT: III (MM56) at R. Monsaraz (vora)
*IGIL **30** 05:41:38.6,38˚.45N×7˚.30W,h1km,ML1.9*
*MDD **30** 05:41:38.1±0.3,38˚.46N×7˚.32W,h4km±2km,mb_Lg2.6/28, Error ellipse: s-maj=2.3km s-min=1.7km az=59.0*
*SFS **30** 05:41:39.0,38˚.46N×7˚.34W,h0km,ML2.6/9,ML2.5/9, MLv2.4/9*

ISC 30 05:41:37.4±0.9,38˚.46N±0˚.01×7˚.33W±0˚.01,h16km±7km, n63,σ0§84/136,3C-1D,Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBAR	**Barrancos**	**0.36**	**141**	Pg	**Pg**	**05 41 44.8**	**-0.1**
PBAR				Sg	**Sg**	**05 41 49.2**	**-0.8**
PBAR	**Barrancos**	**0.36**	**141**	⇓*i*Pg	**Pg**	**05 41 44.8**	**-0.1**
PBAR				*e*Sg	**Sg**	**05 41 49.6**	**-0.4**
PBAR				*i* IAML		05 41 51.0	
PBAR				*i* IAML		05 41 51.8	
PBAR				*i* IAML		05 41 51.8	
EBAD	**Badajoz**	**0.38**	**40**	Pg	**Pb**	**05 41 45.8**	**0.0**
EBAD				Sg	**Sb**	**05 41 51.1**	**-0.5**
EBAD	**Badajoz**	**0.38**	**40**	Pg	**Pb**	**05 41 45.7**	**-0.1**
EBAD				Sg	**Sb**	**05 41 51.2**	**-0.4**
EBAD				*i* IVmb_Lg		05 41 54.8	
PESTR	**Estremoz**	**0.45**	**333**	⇑*e*Pg	**Pg**	**05 41 46.5**	**-0.1**
PESTR				*e*Sg	**Sb**	**05 41 53.7**	**0.0**
PESTR				*i* IAML		05 41 54.3	
PESTR				*i* IAML		05 41 54.6	
PESTR				*i* IAML		05 41 59.5	
EVO	**Evora**	**0.54**	**278**	Pg	**Pb**	**05 41 48.3**	**-0.2**
EVO				Sg	**Sg**	**05 41 55.1**	**-0.4**
EVO	**Evora**	**0.54**	**278**	⇑*i*Pg	**Pb**	**05 41 48.3**	**-0.2**
EVO				*e*Sg	**Sb**	**05 41 55.5**	**-0.6**
EVO				*i* IAML		05 41 57.7	
EVO				*i* IAML		05 41 58.2	
EVO				*i* IAML		05 41 59.1	
PBEJ	**Beja**	**0.61**	**224**	*e*Pg	**Pg**	**05 41 49.2**	**-0.1**
PBEJ				*e*Sg	**Sb**	**05 41 57.5**	**-0.5**
PBEJ				*i* IAML		05 41 58.1	
PBEJ				*i* IAML		05 41 58.1	
PBEJ				*i* IAML		05 41 59.1	
EMIN	**Mina Concepcio**	**0.86**	**143**	Pg	**Pb**	**05 41 53.5**	**-0.5**
EMIN				Sg	**Sn**	**05 42 06.5**	**-0.7**
EMIN	**Mina Concepcio**	**0.86**	**143**	Pg	**Pb**	**05 41 53.6**	**-0.5**
EMIN				Sg	**Sg**	**05 42 06.2**	**+0.7**
EMIN				*i* IVmb_Lg		05 42 10.8	
PMTG	**Montargil**	**0.93**	**311**	⇑*e*P	**Pg**	**05 41 55.1**	**-0.3**
PMTG				*e*S	**Sg**	**05 42 07.7**	**+0.1**
PMTG				*i* IAML		05 42 11.4	
PMTG				*i* IAML		05 42 11.5	
PMTG				*i* IAML		05 42 11.8	
EGRO	**El Granado**	**0.93**	**188**	Pg	**Pn**	**05 41 56.1**	**+0.2**
EGRO				Sg	**Sg**	**05 42 08.0**	**+0.2**
EGRO	**El Granado**	**0.93**	**188**	Pg	**Pn**	**05 41 56.1**	**+0.2**
EGRO				Sg	**Sg**	**05 42 07.5**	**-0.2**
EGRO				*i* IVmb_Lg		05 42 11.2	
MESJ	**Messejana**	**0.94**	**229**	*e*P	**Pn**	**05 41 55.6**	**-0.3**
MESJ				*e*S	**Sg**	**05 42 07.9**	**0.0**
MESJ				IAML		05 42 10.8	
	comp=N,26nm,0.1s						
MESJ	**Messejana**	**0.94**	**229**	*e*P	**Pn**	**05 41 55.8**	**-0.2**
MESJ				*e*S	**Sn**	**05 42 08.8**	**-0.3**
MESJ				*i* IAML		05 42 11.4	
MESJ				*i* IAML		05 42 11.9	
MESJ				*i* IAML		05 42 12.4	
PMRV	**Marv??o**	**0.97**	**357**	*e*P	**Pg**	**05 41 56.6**	**+0.5**
PMRV				*e*S	**Sn**	**05 42 09.1**	**-0.7**
PMRV				*i* IAML		05 42 11.8	
PMRV				*i* IAML		05 42 12.8	
PMRV				*i* IAML		05 42 13.2	
PCVE	**Castro Verde**	**1.00**	**214**	Pg	**Pg**	**05 41 57.0**	**+0.3**
PCVE				Sg	**Sn**	**05 42 10.7**	**+0.1**
PCVE	**Castro Verde**	**1.00**	**214**	*e*P	**Pg**	**05 41 56.9**	**+0.1**
PCVE				*e*S	**Sn**	**05 42 10.5**	**-0.1**
PCVE				*i* IAML		05 42 13.6	
PCVE				*i* IAML		05 42 14.4	
PCVE				*i* IAML		05 42 14.8	
PVAQ	**Vaqueiros**	**1.10**	**196**	*e*P	**Pg**	**05 41 58.4**	**-0.3**
PVAQ				*e*S	**Sg**	**05 42 12.9**	**-0.1**
PVAQ				*i* IAML		05 42 16.7	
PVAQ				*i* IAML		05 42 16.8	
PVAQ				*i* IAML		05 42 17.1	
PBDV	**Barranco-do-Ve**	**1.31**	**202**	Pg	**Pg**	**05 42 02.9**	**+0.3**
PBDV				Sg	**Sg**	**05 42 20.2**	**+0.5**
PBDV	**Barranco-do-Ve**	**1.31**	**202**	*e*P	**Pg**	**05 42 03.0**	**+0.3**
PBDV				*e*S	**Sg**	**05 42 19.9**	**+0.3**
PBDV				*i* IAML		05 42 21.8	
PBDV				*i* IAML		05 42 24.0	
PBDV				*i* IAML		05 42 24.2	
PSARD	**Sardoal**	**1.31**	**331**	*e*P	**Pg**	**05 42 02.3**	**-0.4**
PSARD				*e*S	**Sg**	**05 42 20.6**	**+0.8**
PSARD				*i* IAML		05 42 22.1	
PSARD				*i* IAML		05 42 23.8	
PSARD				*i* IAML		05 42 24.9	
PCBR	**Castelo Branco**	**1.38**	**355**	*e*P	**Pg**	**05 42 04.0**	**-0.1**
PCBR				*e*S	**Sg**	**05 42 22.5**	**+0.4**
PCBR				*i* IAML		05 42 23.2	
PCBR				*i* IAML		05 42 23.9	
PCBR				*i* IAML		05 42 24.5	
PARRA	**Arraiolos**	**1.39**	**285**	*e*Pg	Pn	05 41 50.4	-12
PARRA				*e*Sg	Sn	05 42 00.1	-20
PARRA				*i* IAML		05 42 00.9	
PARRA				*i* IAML		05 42 01.3	
PARRA				*i* IAML		05 42 03.0	
PTEO	**Sao Teotonio**	**1.43**	**231**	*e*Pg	**Pg**	**05 42 05.2**	**+0.2**
PTEO				*e*Sn	**Sg**	**05 42 23.4**	**-0.3**
PTEO				*i* IAML		05 42 26.0	
PTEO				*i* IAML		05 42 26.0	
PTEO				*i* IAML		05 42 27.0	
ARNO	**Arenosillo**	**1.44**	**161**	Sg	**Sg**	**05 42 26.8**	**+2.9**
ECAB	**El Cabril**	**1.55**	**104**	Pn	**Pg**	**05 42 06.8**	**-0.5**
ECAB				Sn	**Sg**	**05 42 27.6**	**+0.2**
ECAB	**El Cabril**	**1.55**	**104**	Pg	**Pg**	**05 42 06.7**	**-0.6**
ECAB				Sg	**Sg**	**05 42 27.6**	**+0.2**
ECAB				*i* IVmb_Lg		05 42 30.0	
PSBE	**So Bento**	**1.55**	**313**	*e*Pg	**Pg**	**05 42 07.2**	**-0.1**
PSBE				*e*Sg	**Sg**	**05 42 28.6**	**+1.0**
PSBE				*i* IAML		05 42 29.9	
PSBE				*i* IAML		05 42 30.7	
PSBE				*i* IAML		05 42 31.2	
MORF	**Marmelete**	**1.56**	**223**	*e*P	**Pb**	**05 42 05.5**	**-0.4**
MORF	**Marmelete**	**1.56**	**223**	*e*Pn	**Pb**	**05 42 05.8**	**-0.1**
MORF				*e*Sg	**Sg**	**05 42 28.1**	**+0.4**
MORF				*i* IAML		05 42 31.0	
MORF				*i* IAML		05 42 31.4	
MORF				*i* IAML		05 42 32.3	
PMAFR	**Mafra**	**1.61**	**288**	Pn	**Pg**	**05 42 07.5**	**-0.9**
PMAFR				Sn	**Sg**	**05 42 28.8**	**-0.4**
PMAFR	**Mafra**	**1.61**	**288**	*e*Pn	**Pb**	**05 42 06.1**	**-0.6**
PMAFR				*e*Pg	**Pg**	**05 42 07.8**	**-0.5**
PMAFR				*e*Sg	**Sg**	**05 42 30.4**	**+1.2**
PMAFR				*i* IAML		05 42 31.2	
PMAFR				*i* IAML		05 42 33.6	
PMAFR				*i* IAML		05 42 35.6	
PFVI	**Vila Bisbo**	**1.78**	**222**	Pn	**Pb**	**05 42 10.1**	**+0.4**
PFVI				Sn	**Sg**	**05 42 33.5**	**-1.3**
PFVI	**Vila Bisbo**	**1.78**	**222**	*e*Pn	**Pb**	**05 42 09.2**	**-0.5**
PFVI				*e*Sg	**Sg**	**05 42 34.6**	**-0.1**
PFVI				*i* IAML		05 42 36.3	
PFVI				*i* IAML		05 42 36.4	
PFVI				*i* IAML		05 42 36.9	
PCAS	**Casmilo, Conde**	**1.83**	**331**	*e*Pg	**Pg**	**05 42 12.0**	**-0.6**
PCAS				*e*Sg	**Sg**	**05 42 36.8**	**+0.4**
PCAS				*i* IAML		05 42 40.0	
PCAS				*i* IAML		05 42 40.1	
PCAS				*i* IAML		05 42 40.1	
EPLA	**Plasencia**	**1.87**	**31**	Pn	**Pn**	**05 42 09.3**	**+0.5**
EPLA				Pg	**Pg**	**05 42 12.7**	**-0.7**
EPLA				Sn	**Sn**	**05 42 32.6**	**+0.4**
EPLA				Sg	**Sg**	**05 42 37.3**	**-0.4**
EPLA				*i* IVmb_Lg		05 42 37.8	
MTE	**Manteigas**	**1.94**	**355**	*e*Pg	**Pg**	**05 42 14.2**	**-0.6**
MTE				*e*Sg	**Sg**	**05 42 38.7**	**-1.3**
MTE				*i* IAML		05 42 39.6	
MTE				*i* IAML		05 42 39.7	
MTE				*i* IAML		05 42 39.7	
ESPR	**Espera**	**1.97**	**143**	Sn	**Sb**	**05 42 38.7**	**+1.4**
ESPR	**Espera**	**1.97**	**143**	Sg	**Sg**	**05 42 40.6**	**-0.2**
ESPR				*i* IVmb_Lg		05 42 46.6	
EADA	**Adamuz**	**2.18**	**97**	Pn	**Pb**	**05 42 14.9**	**-1.6**
EADA				Sn	**Sb**	**05 42 44.4**	**+1.0**
EADA	**Adamuz**	**2.18**	**97**	Pn	**Pn**	**05 42 14.1**	**+0.9**
EADA				Pg	**Pb**	**05 42 17.4**	**+0.9**
EADA				Sn	**Sn**	**05 42 40.2**	**+0.3**
EADA				Sg	**Sg**	**05 42 47.4**	**-0.3**
EADA				*i* IVmb_Lg		05 42 52.5	
PVIS	**Viseu**	**2.29**	**349**	*e*Pg	**Pg**	**05 42 20.4**	**-1.0**
PVIS				*e*Sg	**Sg**	**05 42 49.7**	**-1.5**
PAB	**San Pablo**	**2.56**	**64**	Pn	**Pn**	**05 42 20.0**	**+1.6**
PAB				Pg	**Pb**	**05 42 24.3**	**+1.3**
PAB				Sn	**Sn**	**05 42 49.1**	**-0.1**
PAB				Sg	**Sg**	**05 42 59.9**	**+0.1**
PAB				*i* IVmb_Lg		05 43 02.5	
MVO	**Moncorvo**	**2.71**	**5**	*e*Pn	**Pb**	**05 42 22.6**	**-2.9**
MVO				*e*Sn	**Sn**	**05 42 54.9**	**+2.0**
MVO				*e*Sg	**Sg**	**05 43 04.3**	**-0.2**
MVO				*i* IAML		05 43 07.4	
MVO				*i* IAML		05 43 07.7	
MVO				*i* IAML		05 43 09.3	
PSIM	**Granatula de C**	**2.82**	**82**	Pn	**Pn**	**05 42 22.1**	**+0.2**
PSIM				Pg	**Pb**	**05 42 28.7**	**+1.3**
PSIM				Sn

SHLS	**Shalkode**	**4.50**	**307**	Pg	**Pb**	**06 05 29.7**	**-4.6**
	244nm,0.6s							
SHLS				Lg	Lg	06 06 13.2		
	2µm,0.5s							
SHLS	**Shalkode**	**4.50**	**307**	*eP*	**Pb**	**06 05 29.7**	**-4.6**
	244nm,0.6s							
SHLS				*eS*	**Sn**	**06 06 13.2**	**-2.6**
	2µm,0.5s							
PDGK	**Podgornoye**	**4.58**	**309**	⇑Pn	**Pn**	**06 05 26.0**	**+1.5**
	21nm,0.5s							
PDGK				⇓Pg	**Pb**	**06 05 35.3**	**-0.3**
	159nm,0.6s							
PDGK				⇑Lg	Lg	06 06 28.6		
	2µm,1.1s							
PDGK	**Podgornoye**	**4.58**	**309**	P	**Pn**	**06 05 25.4**	**+0.8**
PDGK						06 06 23.6		
UZB	**Uzynbulak**	**4.76**	**305**	Pg	**Pb**	**06 05 38.4**	**-0.4**
	126nm,0.8s							
UZB				Lg	Lg	06 06 28.5		
	374nm,0.7s							
UZB	**Uzynbulak**	**4.76**	**305**	*eP*	**Pb**	**06 05 38.4**	**-0.4**
	128nm,0.8s							
UZB				*eS*	**Sn**	**06 06 28.4**	**+6.0**
	374nm,0.7s							
PRZ	**Przheval'sk**	**4.87**	**296**	Pn	**Pn**	**06 05 28.8**	**+0.1**
PRZ	**Przheval'sk**	**4.87**	**296**	P	**Pn**	**06 05 28.8**	**+0.1**
TARG	**Taragay, Kyrgy**	**5.08**	**286**		**Pn**	**06 05 31.4**	**-0.4**
TARG	**Taragay, Kyrgy**	**5.08**	**286**	P	**Pn**	**06 05 31.4**	**-0.4**
KPKS	**Kokpek**	**5.14**	**307**	Pg	**Pb**	**06 05 46.2**	**+1.1**
	0.6nm,0.3s							
KPKS				Lg	Lg	06 06 41.8		
	421nm,0.5s							
KNOS	**Konyrlen**	**5.41**	**317**	Pg	**Pb**	**06 05 52.5**	**+2.7**
	100nm,0.8s							
KNOS				Lg	Lg	06 06 52.7		
	269nm,0.9s							
KURS	**Kuram**	**5.47**	**305**	Pg	**Pb**	**06 05 51.8**	**+1.0**
	58nm,0.7s							
KURS				Lg	Lg	06 06 51.3		
	208nm,0.9s							
KDJ	**Kajisay**	**5.63**	**289**	Pn	**Pn**	**06 05 38.5**	**-0.6**
KDJ	**Kajisay**	**5.63**	**289**	P	**Pn**	**06 05 38.5**	**-0.6**
KOTS	**Kotyrbulak**	**6.04**	**299**	Pg	**Pb**	**06 06 02.7**	**+2.2**
	46nm,0.7s							
KOTS				Lg	Lg	06 07 10.1		
	346nm,0.7s							
KOTS	**Kotyrbulak**	**6.04**	**299**	*eP*	**Pb**	**06 06 02.7**	**+2.2**
	46nm,0.7s							
KOTS				*eS*	**Sb**	**06 07 10.1**	**-2.8**
	346nm,0.7s							
MDOK	**Medeo**	**6.05**	**298**	Pg	**Pb**	**06 06 01.7**	**+1.0**
	32nm,0.5s							
MDOK				Lg	Lg	06 07 08.7		
	140nm,0.7s							
ARXS	**Arharly**	**6.07**	**309**	Pg	**Pb**	**06 06 03.4**	**+2.3**
	47nm,0.6s							
ARXS				Lg	Lg	06 07 12.1		
	218nm,0.9s							
ARXS	**Arharly**	**6.07**	**309**	*eP*	**Pb**	**06 06 03.4**	**+2.3**
ARXS				*eS*	**Sb**	**06 07 12.1**	**-1.7**
TNSS	**Tian-Shan**	**6.07**	**297**	Pg	**Pb**	**06 06 02.8**	**+1.5**
	7.6nm,0.6s							
TNSS				Lg	Lg	06 07 10.4		
	94nm,1.1s							
TNSS	**Tian-Shan**	**6.07**	**297**	*eP*	**Pb**	**06 06 02.8**	**+1.5**
	7.6nm,0.6s							
TNSS				*eS*	**Sb**	**06 07 10.4**	**-3.8**
	94nm,1.1s							
KNDC	**Almaty**	**6.13**	**298**	⇑Pg	**Pb**	**06 06 03.8**	**+1.8**
	119nm,0.6s							
KNDC				⇑Lg	Lg	06 07 17.0		
	345nm,1.1s							
AAA	**Alma-Ata**	**6.16**	**298**	Pg	**Pb**	**06 06 04.8**	**+2.2**
	61nm,0.2s							
AAA				Lg	Lg	06 07 14.0		
	15nm,0.5s							
AAA	**Alma-Ata**	**6.16**	**298**	*eP*	**Pb**	**06 06 04.8**	**+2.2**
	61nm,0.2s							
AAA				*eS*	**Sb**	**06 07 14.0**	**-2.3**
	15nm,0.5s							
TDK	**Taldyqorghan**	**6.25**	**318**	Pg	**Pb**	**06 06 08.1**	**+4.1**
	231nm,0.5s							
TDK				Lg	Lg	06 07 19.6		
	502nm,0.9s							
TDK	**Taldyqorghan**	**6.25**	**318**	*eP*	**Pb**	**06 06 08.1**	**+4.1**
	231nm,0.5s							
TDK				*eS*	**Sb**	**06 07 19.6**	**+0.7**
	502nm,0.9s							
CHKK	**Chushkaly**	**6.40**	**304**	Pg	**Pb**	**06 06 08.9**	**+2.4**
	49nm,0.4s							
CHKK				Lg	Lg	06 07 21.4		
	118nm,0.5s							
CHKK	**Chushkaly**	**6.40**	**304**	*eP*	**Pb**	**06 06 08.9**	**+2.4**
	49nm,0.4s							
CHKK				*eS*	**Sb**	**06 07 21.4**	**-1.6**
	118nm,0.5s							
MK31	**Makanchi Array**	**6.43**	**347**	Pn	**Pn**	**06 05 49.7**	**-0.3**
MK31	**Makanchi Array**	**6.43**	**347**	⇑Pn	**Pn**	**06 05 54.0**	**+4.0**
	2.8nm,0.4s,baz=181,slow=15,SNR=28							
MK31				Pg	**Pg**	**06 06 14.4**	**-4.0**
	32nm,0.7s,baz=172,slow=14,SNR=8.0							
MK31				⇑Lg	Lg	06 07 33.7		
	149nm,0.7s,baz=159,slow=28,SNR=3.9							
MK31	**Makanchi Array**	**6.43**	**347**	P	**Pn**	**06 05 53.8**	**+3.8**
MKAR	**Makanchi Array**	**6.43**	**347**	Pn	**Pn**	**06 05 49.4**	**-0.6**
MKAR	**Makanchi Array**	**6.43**	**347**	Pn	**Pn**	**06 05 54.7**	**+4.8**
	1.7nm,0.3s,baz=175,slow=14,SNR=26							
MKAR				Pg	**Pb**	**06 06 09.2**	**+2.0**
	2.2nm,0.3s,baz=182,slow=16,SNR=6.8							
MKAR				Sn	**Sn**	**06 07 02.1**	**-1.3**
	12nm,0.3s,baz=176,slow=20,SNR=7.2							
MKAR				Lg	Lg	06 07 31.2		
	21nm,0.3s,baz=156,slow=27,SNR=6.9							
MKAR				LR	LR	06 08 36.6		
	comp=Z,266nm,21.6s,baz=168,slow=43							
	3.2nm,0.4s							
MTBS	**Maitube**	**6.46**	**296**	Pg	**Pb**	**06 06 10.1**	**+2.4**
	32nm,0.7s							
MTBS				Lg	Lg	06 07 23.0		
	119nm,0.7s							
MTBS	**Maitube**	**6.46**	**296**	*eP*	**Pb**	**06 06 10.1**	**+2.4**
	32nm,0.7s							
MTBS				*eS*	**Sb**	**06 07 23.0**	**-2.0**
	119nm,0.7s							
MAKZ	**Makanchi**	**6.51**	**345**		**Pn**	**06 05 50.9**	**-0.1**
MAKZ	**Makanchi**	**6.51**	**345**	⇓Pn	**Pn**	**06 05 53.9**	**+3.0**
	5.9nm,0.6s							
MAKZ				⇑Pg	**Pg**	**06 06 15.2**	**-4.5**
	13nm,0.5s							
MAKZ				⇑Sn	**Sn**	**06 07 05.2**	**0.0**
	24nm,0.6s							
MAKZ				⇓Lg	Lg	06 07 37.0		
	140nm,1.0s							
MAKZ	**Makanchi**	**6.51**	**345**	P	**Pn**	**06 05 53.9**	**+3.0**
MAKZ				SN	**Sn**	**06 07 05.2**	**0.0**
KSH	**Kashi**	**6.51**	**264**	Pn	Pb	06 06 00.5	-8.0
KSH				Sn	Sn	06 07 15.3	+10
KSH				LR	LR		
	comp=N,710nm,9.2s							
KSH				LR	LR			
	comp=E,490nm,7.8s							
KTBS	**Karatobe**	**6.53**	**302**	Pg	**Pb**	**06 06 11.3**	**+2.6**
	36nm,0.6s							
KTBS				Lg	Lg	06 07 25.1		
	279nm,0.6s							
BOOM	**Boomskoye usch**	**6.61**	**290**	Pn	**Pn**	**06 05 52.6**	**+0.1**
BOOM	**Boomskoye usch**	**6.61**	**290**	P	**Pn**	**06 05 52.6**	**+0.1**
KST	**Kastek**	**6.75**	**295**	Pg	**Pb**	**06 06 15.6**	**+3.0**
	38nm,0.7s							
KST				Lg	Lg	06 07 32.7		
	363nm,1.0s							
KST	**Kastek**	**6.75**	**295**	*eP*	**Pb**	**06 06 15.6**	**+3.0**
	38nm,0.7s							
KST				*eS*	**Sb**	**06 07 32.7**	**-0.7**
	363nm,1.0s							
KUU	**Kurty**	**6.83**	**302**	Pg	**Pb**	**06 06 17.8**	**+3.9**
	41nm,0.5s							
KUU				Lg	Lg	06 07 36.2		
	210nm,0.8s							
KUU	**Kurty**	**6.83**	**302**	*eP*	**Pb**	**06 06 17.8**	**+3.9**
	41nm,0.5s							
KUU				*eS*	**Sb**	**06 07 36.2**	**+0.7**
	210nm,0.8s							
ZSN	**Zaisan**	**6.93**	**3**	Pg	**Pg**	**06 06 31.3**	**+3.6**
	15nm,0.4s							
ZSN				Lg	Lg	06 07 58.8		
	272nm,1.2s							
ZSN	**Zaisan**	**6.93**	**3**	*eP*	**Pg**	**06 06 31.3**	**+3.6**
	15nm,0.4s							
ZSN				*eS*	**Sg**	**06 07 58.8**	**+1.5**
	272nm,1.2s							
KRBS	**Karabastau**	**7.18**	**299**	Pg	**Pb**	**06 06 23.8**	**+3.8**
	19nm,0.7s							
KRBS				Lg	Lg	06 07 46.9		
	26nm,0.7s							
FRU1	**Bishkek**	**7.62**	**291**	Pn	**Pn**	**06 06 05.8**	**-0.6**
FRU1	**Bishkek**	**7.62**	**291**	P	**Pn**	**06 06 05.8**	**-0.6**
AAK	**Ala-Archa**	**7.68**	**289**	Pn	**Pn**	**06 06 06.6**	**-0.6**
AAK	**Ala-Archa**	**7.68**	**289**	⇑Pg	**Pb**	**06 06 31.9**	**+3.4**
	26nm,1.0s							
AAK				⇓Lg	Lg	06 08 05.3		
	174nm,1.4s							
AAK	**Ala-Archa**	**7.68**	**289**	Pn	**Pn**	**06 06 08.7**	**+1.5**
	0.2nm,0.3s,baz=0.0,slow=20,SNR=2.7							
AAK				Pg	**Pb**	**06 06 28.0**	**-0.5**
	1.1nm,0.3s,baz=122,slow=12,SNR=5.7							
AAK				Lg	Lg	06 08 01.2		
	2.4nm,0.3s,baz=255,slow=20,SNR=1.5							
AAK				LR	LR	06 09 20.1		
	comp=Z,146nm,21.0s,baz=106,slow=43							
	1.5nm,0.3s							
SGDS	**Sogindy**	**7.80**	**295**	Pg	**Pb**	**06 06 35.1**	**+4.6**
	8.3nm,0.6s							
SGDS				Lg	Lg	06 08 05.6		
	57nm,1.1s							
MRKS	**Merke**	**8.62**	**288**	Pg	Pg	06 06 49.8	-10	
	18nm,0.9s							
MRKS				Lg	Lg	06 08 31.2		
	35nm,0.8s							
MRKS	**Merke**	**8.62**	**288**	*eP*	Pg	06 06 49.8	-10	
	18nm,0.9s							
MRKS				*eS*	Sg	06 08 31.2	-20	
	35nm,0.8s							
GOMU	**GeErMu**	**9.29**	**114**	P	Pn	06 06 50.5	+21	
DRK	**Karamyk**	**9.69**	**268**	Pn	**Pn**	**06 06 33.7**	**-1.2**	
DRK	**Karamyk**	**9.69**	**268**	P	**Pn**	**06 06 33.7**	**-1.2**	
SEM	**Semipalatinsk**	**10.29**	**345**	Pg	Pn	06 07 29.1	+46	
	7.3nm,0.2s							
SEM				Lg	Lg	06 09 38.2		
	34nm,0.8s							
SEM	**Semipalatinsk**	**10.29**	**345**	*eP*	Pn	06 07 29.1	+46	
	7.3nm,0.2s							
SEM				*eS*	Sn	06 09 38.2	+60	
	34nm,0.8s							
KK31	**Karatay Array**	**10.64**	**288**	Pn	**Pn**	**06 06 47.2**	**-0.5**	
KK31	**Karatay Array**	**10.64**	**288**	⇓Pg	Pn	06 07 26.0	+38	
	8.7nm,0.9s,baz=86,slow=14,SNR=5.5							
KK31				⇓Lg	Lg	06 09 41.2		
	28nm,0.8s,baz=94,slow=25,SNR=4.6							
KK31	**Karatay Array**	**10.64**	**288**	P	**Pn**	**06 06 47.2**	**-0.5**	
KKAR	**Karatay Array**	**10.64**	**288**	Pn	**Pn**	**06 06 48.0**	**+0.3**	
KKAR	**Karatay Array**	**10.64**	**288**	P	**Pn**	**06 06 48.0**	**+0.3**	
KURBB	**Kurchatov Arra**	**10.88**	**340**	⇑Pn	**Pn**	**06 06 53.4**	**+2.6**	
	11nm,0.7s							
KURBB				⇓Sn	**Sn**	**06 08 51.1**	**-1.4**	
	39nm,0.7s							
KURBB				⇑Lg	Lg	06 09 54.2		
	115nm,0.7s							
KURBB	**Kurchatov Arra**	**10.88**	**340**	Pn	**Pn**	**06 06 52.0**	**+1.1**	
	0.1nm,0.3s,baz=153,slow=13,SNR=12							
KURBB				Sn	**Sn**	**06 08 48.7**	**-3.8**	
	0.2nm,0.3s,baz=164,slow=30,SNR=2.1							
KURBB				Lg	Lg	06 09 55.2		
	0.4nm,0.3s,baz=176,slow=31,SNR=6.2							
KURBB				LR	LR	06 11 16.6		
	comp=Z,201nm,19.8s,baz=159,slow=40							
	1.1nm,0.5s							
KURBB	**Kurchatov Arra**	**10.88**	**340**	P	**Pn**	**06 06 51.6**	**+0.8**	
KURBB						06 09 06.7		
IUG	**Iuzhnay**	**10.89**	**283**	Pg	Pn	06 07 33.1	+42	
	18nm,0.6s							
IUG				Lg	Lg	06 09 45.5		
	53nm,0.9s							
GAR	**Garm**	**10.91**	**266**	Pn	**Pn**	**06 06 51.0**	**-0.4**	
KURK	**Kurchatov**	**10.94**	**340**		**Pn**	**06 06 51.1**	**-0.6**	
KURK	**Kurchatov**	**10.94**	**340**	⇓Pn	**Pn**	**06 06 54.3**	**+2.6**	
	2.1nm,0.7s							
KURK				⇑Lg	Lg	06 09 55.8		
	25nm,0.8s							
KURK	**Kurchatov**	**10.94**	**340**	P	**Pn**	**06 06 52.0**	**+0.3**	
BRLS	**Boroldai**	**11.12**	**288**	Pg	Pn	06 07 37.8	+44	
	1.9nm,0.4s							
BRLS				Lg	Lg	06 09 53.3		
	9.8nm,1.5s							
BRLS	**Boroldai**	**11.12**	**288**	*eP*	Pn	06 07 37.8	+44	
	1.9nm,0.4s							
BRLS				*eS*	Sn	06 09 53.3	+55	
	9.8nm,1.5s							
NIL	**Nilore**	**11.21**	**236**	Pn	**Pn**	**06 06 53.6**	**-1.8**	
NIL	**Nilore**	**11.21**	**236**	P	**Pn**	**06 06 53.6**	**-1.8**	
CHGR	**Chuyangaron**	**11.87**	**266**	Pn	**Pn**	**06 07 03.0**	**-1.5**	
CHGR	**Chuyangaron**	**11.87**	**266**	P	**Pn**	**06 07 03.0**	**-1.5**	
GTA	**Gaotai**	**11.92**	**90**	*eP*	Pn	06 07 22.3	+17	
GTA				pmax	pmax			
	comp=Z,3.0nm,0.5s							
GTA				LR	LR			
	comp=N,440nm,10.9s							
GTA				LR	LR			
	comp=E,190nm,9.8s							
SIMJ	**Simiganj**	**11.98**	**266**		**Pn**	**06 07 05.7**	**-0.5**	
EVN	**Everest**	**12.71**	**170**	Pn	**Pn**	**06 07 15.2**	**-1.3**	
ZAA0	**Zalesovo Array**	**13.43**	**1**	Pn	**Pn**	**06 07 25.0**	**-0.6**	
ZALV	**Zalesovo Beam**	**13.43**	**1**	Pn	**Pn**	**06 07 25.4**	**-0.2**	
ZALV	**Zalesovo Beam**	**13.43**	**1**	Pn	**Pn**	**06 07 29.4**	**+3.8**	
	2.0nm,0.3s,baz=181,slow=13,SNR=46							
ZALV				Sn	**Sn**	**06 09 47.5**	**-7.3**	
	0.6nm,0.3s,baz=180,slow=19,SNR=2.2							
ZALV				Lg	Lg	06 11 16.9		
	0.9nm,0.3s,baz=183,slow=22,SNR=3.8							
ZALV				LR	LR	06 12 27.0		
	comp=Z,60nm,18.8s,baz=32,slow=37							
	12nm,0.5s							
KBL	**Kabul**	**13.53**	**249**	Pn	**Pn**	**06 07 26.7**	**-0.7**	
KBL	**Kabul**	**13.53**	**249**	P	**Pn**	**06 07 26.7**	**-0.7**	
KNGR	**Kungurtag, Tuv**	**13.64**	**38**	*i* P	**Pn**	**06 07 28.5**	**-0.1**	
BVA0	**Borovoye Array**	**15.70**	**327**	⇑P	**P**	**06 07 59.0**	**-1.3**	
	8.4nm,0.9s,baz=152,slow=13,SNR=39							
BVA0	**Borovoye Array**	**15.70**	**327**	P	**P**	**06 07 59.4**	**-0.9**	
BVAR	**Borovoye Array**	**15.70**	**327**	Pn	**Pn**	**06 07 56.4**	**+0.1**	
	baz=146,slow=11,SNR=12							
BVAR				Lg	Lg	06 12 25.5		
	0.1nm,0.3s,baz=135,slow=33,SNR=1.8							
BVAR				LR	LR	06 12 46.0		
	comp=Z,33nm,20.5s,baz=137,slow=34							
	1.2nm,0.6s							
BORK	**Borovoye**	**15.74**	**327**	*i* P	**Pn**	**06 07 56.7**	**-0.1**	
LZH	**Lanzhou**	**15.93**	**100**	*eP*	**Pn**	**06 08 00.0**	**+0.5**	
LZH				pP	pP	06 08 05.0	-1.2	
LZH				pmax	pmax			
	comp=Z,19nm,1.3s							
LZH				LR	LR			
	comp=N,430nm,15.1s							
LZH				LR	LR			
	comp=E,360nm,10.3s							
LZH				LR	LR			
	comp=Z,320nm,13.7s							
SHL	**Shillong**	**16.19**	**155**	Pn	**Pn**	**06 08 02.6**	**-0.4**	
SHL				IAmb	IAmb	06 08 28.1		
	comp=Z,7.6nm,0.6s							
SHL	**Shillong**	**16.19**	**155**	P	**Pn**	**06 08 02.6**	**-0.4**	
SHL				pmax	pmax			
	comp=Z,8.0nm,0.6s							
SONM	**Songino Array**	**17.38**	**58**	Pn	**Pn**	**06 08 17.2**	**-0.5**	
SONM	**Songino Array**	**17.38**	**58**	P	P	06 08 32.1	+13	
	comp=Z,0.3nm,0.3s,baz=234,slow=6.9,SNR=2.0							
SONM				LR	LR	06 15 55.5		
	comp=Z,247nm,18.2s,baz=267,slow=39							
	comp=Z,1.2nm,0.4s							
SONM	**Songino Array**	**17.38**	**58**	P	**Pn**	**06 08 17.3**	**-0.5**	
SONM				pmax	pmax			
	comp=Z,6.0nm,1.2s							
ULN	**Ulaanbaatar**	**17.81**	**58**		**Pn**	**06 08 23.4**	**+0.2**	
ULN				IAmb	IAmb	06 08 56.9		
	comp=Z,6.3nm,1.1s							
ULN	**Ulaanbaatar**	**17.81**	**58**	P	**Pn**	**06 08 23.4**	**+0.2**	
ULN				pmax	pmax			
	comp=Z,6.0nm,1.1s							
AB31	**Akbulak array**	**19.30**	**305**		**P**	**06 08 40.4**	**+0.3**	
AB31				IAmb	IAmb	06 09 04.2		
	comp=Z,3.9nm,0.9s							
AB31	**Akbulak array**	**19.30**	**305**	⇑P	**P**	**06 08 40.5**	**+0.4**	
	comp=Z,3.2nm,0.8s,baz=102,slow=12,SNR=9.7							
AB31	**Akbulak array**	**19.30**	**305**	P	**P**	**06 08 40.5**	**+0.4**	
ABKAR	**Akbulak array**	**19.30**	**305**	P	**Pn**	**06 08 40.6**	**-0.4**	
BTO	**Baotou**	**19.49**	**81**	*eP*	**P**	**06 08 38.3**	**-4.0**	
BTO				S	**Sn**	**06 12 19.5**	**-2.7**	
BTO				pmax	pmax			
	comp=Z,19nm,0.5s							
BTO				pmax	pmax			
	comp=Z,310nm,6.1s							
BTO				LR	LR			
	comp=N,560nm,8.6s							
BTO				LR	LR			
	comp=E,570nm,6.4s							
BTO				LR	LR			
	comp=Z,440nm,7.7s							
PZH	**PanZhiHua**	**20.10**	**129**	P	Pn	06 08 51.5	+0.6	
HHC	**Hu-ho-hao-te**	**20.61**	**80**	*eP*	Pn	06 08 56.3	-0.6	
HHC				pmax	pmax			
	comp=Z,13nm,0.6s							
AKTO	**Aktyubinsk**	**20.85**	**307**	P	Pn	06 08 58.9	-0.5	
	comp=Z,0.6nm,0.3s,baz=117,slow=14,SNR=1.4							
AKTO				LR	LR	06 17 39.2		
	comp=Z,48nm,19.6s,baz=182,slow=40							
	comp=Z,0.6nm,0.3s							
ARTI	**Arti**	**23.20**	**322**		**P**	**06 09 21.7**	**-0.3**	
ARTI				IAmb	IAmb	06 09 41.2		
	comp=Z,15nm,0.7s							
ARTI	**Arti**	**23.20**	**322**	LR	LR	06 18 51.9		
	comp=Z,129nm,18.1s,baz=158,slow=39							
ARTI	**Arti**	**23.20**	**322**	*d* P	**P**	**06 09 26.4**	**+4.4**	
ARTI						06 09 53.4		
ARTI				SS	Sn	06 14 24.4	+33	
ARTI				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BJI	**Beijing**	**24.22**	**81**	P	P	06 09 44.5	+13	
BJI				pmax	pmax			
	comp=Z,2.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**25.33**	**146**	P	P	06 10 00.2	+18	
	comp=Z,1.3nm,0.3s,baz=326,slow=9.3,SNR=12							
	comp=Z,1.3nm,0.3s							
KIRV	**Kirov**	**28.51**	**321**	LR	LR	06 22 09.6		
	comp=Z,49nm,20.3s,baz=114,slow=38							
KIV	**Kislovodsk**	**30.80**	**290**	*eP*	**P**	**06 10 28.3**	**-2.7**	
KIV				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KIV				MLR	MLR			
	comp=Z,22nm,15.0s							
KSRS	**Korea Array**	**33.75**	**81**	P	P	06 11 12.2	+15	
	comp=Z,0.6nm,0.4s,baz=282,slow=7.8,SNR=1.7							
	comp=Z,0.6nm,0.4s							
YAK	**Yakutsk**	**34.56**	**36**	LR	LR	06 26 10.4		
	comp=Z,130nm,20.8s,baz=260,slow=38							
TIXI	**Tiksi**	**38.17**	**21**	LR	LR	06 28 31.5		
	comp=Z,107nm,20.6s,baz=212,slow=38							
BRTR	**Keskin Array B**	**38.34**	**286**	P	P	06 11 41.5	+5.2	
	comp=Z,0.5nm,0.6s,baz=100,slow=10,SNR=2.7							
	comp=Z,0.5nm,0.6s							
PSI	**Prapat**	**39.80**	**157**	LR	LR	06 30 57.3		
	comp=Z,194nm,18.7s,baz=78,slow=39							
ARCES	**ARCESS Array B**	**41.87**	**333**	P	P	06 12 10.4	+5.4	
	comp=Z,2.8nm,0.9s,baz=26,slow=5.8,SNR=4.0							
ARCES				LR	LR	06 29 11.0		
	comp=Z,46nm,21.1s,baz=144,slow=36							
	comp=Z,2.8nm,0.9s							
BURAR	**Bucovina Array**	**42.16**	**300**	P	**P**	**06 12 07.8**	**-0.1**	
MLR	**Muntele Rosu**	**42.18**	**297**	P	**P**	**06 12 07.9**	**-0.2**	
MLR				IAmb	IAmb	06 12 28.0		
	comp=Z,2.0nm,0.8s							
MLR	**Muntele Rosu**	**42.18**	**297**	P	**P**	**06 12 07.9**	**-0.2**	
MLR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
HFS	**Hagfors**	**46.62**	**319**	P	P	06 12 48.1	+4.9	
	comp=Z,2.2nm,0.8s,baz=82,slow=10,SNR=1.3							
HFS				LR	LR	06 33 19.7		
	comp=Z,56nm,19.7s,baz=68,slow=38							
	comp=Z,2.2nm,0.8s							
NOA	**NORSAR Array B**	**47.69**	**321**	P	**P**	**06 12 56.3**	**+4.7**	
	comp=Z,0.5nm,0.6s,baz=82,slow=7.2,SNR=0.9							
NOA				LR	LR	06 33 43.2		
	comp=Z,48nm,20.2s,baz=90,slow=38							
	comp=Z,0.5nm,0.6s							
H19K	**Roundabout Mou**	**64.30**	**24**	P	**P**	**06 14 49.6**	**-0.7**	
ILULI	**Ilulissat**	**65.75**	**344**	P	**P**	**06 15 00.2**	**+0.6**	
ILULI	**Ilulissat**	**65.75**	**344**	P	**P**	**06 15 00.2**	**+0.6**	
BMAR	**Burnt Mountain**	**66.18**	**19**	P	**P**	**06 15 02.5**	**0.0**	
ILAR	**Eielson Array**	**67.64**	**21**	P	P	06 15 21.4	+10	
	comp=Z,0.2nm,0.6s,baz=320,slow=5.2,SNR=2.7							
	comp=Z,0.2nm,0.6s							
PSA00	**Pilbara Seismi**	**70.06**	**145**	P	**P**	**06 15 26.9**	**-0.5**	
PSA00				IAmb	IAmb	06 15 59.0		
	comp=Z,5.4nm,1.4s							
DAWY	**Dawson**	**70.17**	**19**	P	**P**	**06 15 27.8**	**+0.2**	
DAWY				IAmb	IAmb	06 15 58.0		
	comp=Z,3.8nm,1.3s							
WRA	**Warramunga Arr**	**76.02**	**132**	P	P	06 16 17.8	+15	
	comp=Z,0.6nm,0.7s,baz=330,slow=5.4,SNR=3.4							
	comp=Z,0.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**76.04**	**275**	P	**P**	**06 16 07.5**	**+4.5**	
	comp=Z,0.2nm,0.5s,baz=48,slow=5.8,SNR=1.6							
	comp=Z,0.2nm,0.5s							
NVAR	**Mina Array Bea**	**98.73**	**18**	LR	LR	07 06 32.5		
	comp=Z,43nm,19.6s,baz=284,slow=38							

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*IDC **30** 06:06:54.8±5.1, 15°.00S×167°.35E, h82km±42km, mb3.8/6, mbtmp4.2/7, ML4.8/1, Error ellipse: s-maj=31.2km s-min=28.6km az=29.0*

*NEIC **30** 06:06:58.0±1.5, 15°.1S±0°.1×167°.4E±0°.2, h102km±3km, mb4.4/13, Error ellipse: s-maj=25.4km s-min=15.8km az=108.0*

*NOU **30** 06:06:57.6, 15°.07S×167°.22E, h88km, mB5.0/17, Vanuatu Islands*

**ISC 30 06:06:57.2±0.8, 15°.07S±0°.08×167°.3E±0°.1, h100km, n43, σ1s04/45, mb4.3/13, 3C-1D, V

comp=Z,14nm,1.4s
QSPA South Pole Qui 74.96 180 P **P** **06 18 28.5 +1.2**
QSPA IAmb IAmb 06 18 29.9
comp=Z,3.9nm,1.1s
QSPA South Pole Qui 74.96 180 P **P** **06 18 28.4 +1.0**
comp=Z,2.2nm,0.9s,baz=16,slow=1.0,SNR=8.3
comp=Z,2.2nm,0.9s
ILSW Iliamna Southw 81.30 19 P **P** **06 19 03.5 +1.2**
IMAR Indian Mountai 85.88 15 P **P** **06 19 25.2 -0.2**
ILAR Eielson Array 86.83 18 P **P** **06 19 28.9 -1.1**
comp=Z,0.4nm,0.6s,baz=239,slow=5.5,SNR=8.1
comp=Z,0.4nm,0.6s
TROLL Troll, Antarti 92.53 185 ⇑P **P** **06 19 55.0 -2.1**
comp=Z,93nm,0.6s
SNAA Sanae 93.22 183 ⇑P **P** **06 19 58.7 -1.4**
comp=Z,25nm,0.7s
SNAA Sanae 93.22 183 P **P** **06 19 58.9 -1.2**
SNAA IAmb IAmb 06 20 18.9
comp=Z,2.9nm,1.2s
SNAA Sanae 93.22 183 P **P** **06 19 58.5 -1.6**
comp=Z,1.0nm,0.8s,baz=217,slow=6.8,SNR=9.4
comp=Z,1.0nm,0.8s
VNA3 Neumayer Olymp 93.88 181 P **P** **06 20 01.3 -1.8**
VNA2 Neumayer--Watz 94.15 182 ⇓P **P** **06 20 02.9 -1.5**
comp=Z,2.3nm,0.6s,baz=184,slow=4.4
VNA1 Neumayer--Stat 94.44 181 ⇑P **P** **06 20 03.7 -2.0**
comp=Z,1.1nm,0.3s
ARCES ARCESS Array B 120.59 345 PKP **PKPdf** **06 25 36.3 -0.3**
comp=Z,2.5nm,0.7s,baz=56,slow=1.9,SNR=8.0

*IDC **30** 06:10:11.0±0.5,9°.75N×126°.65E,h0km,mb4.2/21, mbtmp4.2/22,ML4.0/1,MS3.8/31,Error ellipse: s-maj=28.1km s-min=11.9km az=70.0*
*NEIC **30** 06:10:16.5±1.5,9°.68N±0°.06×126°.54E±0°.08,h35km±2km, mb4.7/62,Error ellipse: s-maj=14.2km s-min=11.0km az=88.0*
ISC 30 06:10:16.9±0.3,9°.62N±0°.05×126°.54E±0°.07,h43km,n156, σ1s15/126,mb4.6/62,MS3.9/27,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.70**	**201**	**Pn**	**Pn**	**06 10 57.2**	**-0.7**
DAV	**Davao City (W)**	**2.70**	**201**	Pn	Pn	06 11 06.1	+8.2
	49nm,0.3s,baz=255,slow=12,SNR=6.0						
DAV				LR	LR	06 11 35.0	
	comp=Z,618nm,21.8s,baz=44,slow=29						
DAV				Sn	Sn	06 11 45.6	+16
	64nm,0.3s,baz=28,slow=11,SNR=3.9						
DAV	**Davao City (W)**	**2.70**	**201**	P	Pn	06 11 04.0	+6.1
TGY	**Tagaytay City**	**7.07**	**310**	LR	LR	06 15 21.8	
	comp=Z,723nm,20.2s,baz=198,slow=44						
TNTI	**Ternate**	**8.83**	**175**	Pn	**Pn**	**06 12 20.2**	**-1.8**
MYLDM	**Lahad Datu**	**9.11**	**242**	Pn	**Pn**	**06 12 24.6**	**-1.2**
TOLI2	**Tolitoli**	**10.21**	**214**	Pn	**Pn**	**06 12 38.0**	**-3.0**
KKM	**Kota Kinabalu**	**10.83**	**252**	Pn	**Pn**	**06 12 47.9**	**-1.6**
FAKI	**Fak Fak**	**13.69**	**155**	Pn	**Pn**	**06 13 28.4**	**-0.2**
TPUB	**Ta-pu**	**14.73**	**338**	Pn	**Pn**	**06 13 40.4**	**-2.2**
SBUM	**Sibu**	**15.91**	**244**	Pn	**Pn**	**06 13 58.9**	**+0.9**
KAPI	**Kappang**	**16.03**	**205**	Pn	**Pn**	**06 13 59.8**	**+0.3**
KAPI	**Kappang**	**16.03**	**205**	LR	LR	06 20 00.7	
	comp=Z,94nm,21.1s,baz=26,slow=36						
JOW	**Kunigami**	**17.20**	**5**	LR	LR	06 19 58.6	
	comp=Z,427nm,20.2s,baz=160,slow=34						
KSM	**Kuching**	**18.06**	**244**		**P**	**06 14 25.1**	**+0.3**
GUMO	**Guam**	**18.38**	**76**	LR	LR	06 20 32.0	
	comp=Z,318nm,19.8s,baz=232,slow=34						
JAY	**Jayapura**	**18.56**	**130**	P	**P**	**06 14 28.4**	**-1.9**
	0.5nm,0.3s,baz=69,slow=3.0,SNR=9.1						
JAY				LR	LR	06 22 15.7	
	comp=Z,600nm,18.1s,baz=346,slow=39						
	26nm,1.0s						
QIZ	**Qiongzhong**	**18.67**	**302**	P	**P**	**06 14 31.5**	**0.0**
QIZ				S	**Sn**	**06 17 59.8**	**-0.5**
QIZ				LR	LR		
	comp=N,240nm,11.6s						
QIZ				LR	LR		
	comp=E,310nm,14.1s						
QIZ				LR	LR		
	comp=Z,420nm,14.8s						
SOEI	**Soe**	**19.38**	**187**	P	**P**	**06 14 38.0**	**-1.4**
BATI	**Baumata**	**19.90**	**188**	P	**Pn**	**06 14 47.5**	**+0.6**
	comp=Z,247nm,0.7s,baz=187,slow=2.2,SNR=13						
BATI				LR	LR	06 24 18.9	
	comp=Z,238nm,18.6s,baz=46,slow=42						
JAGI	**Jajag, Banyuwa**	**21.80**	**215**	P	**P**	**06 15 05.6**	**+0.2**
JAGI				IAmb	IAmb	06 15 13.8	
	comp=Z,33nm,0.9s						
NJ2	**Nanjing**	**23.43**	**343**	*eP*	**P**	**06 15 23.3**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WHN	**Wuhan**	**23.72**	**333**	P	**P**	**06 15 25.8**	**+0.7**
JNU	**Nakatsue**	**23.73**	**9**	P	**P**	**06 15 23.7**	**-1.5**
JNU	**Nakatsue**	**23.73**	**9**	LR	LR	06 25 38.0	
	comp=Z,160nm,19.0s,baz=181,slow=39						
MANU	**Manus Island**	**23.76**	**118**		**P**	**06 15 25.6**	**0.0**
MANU				IAmb	IAmb	06 15 28.0	
	comp=Z,25nm,1.1s						
MYKOM	**Kota Tinggi**	**23.86**	**252**	P	**P**	**06 15 24.4**	**-2.2**
SLVN	**Son La**	**24.69**	**301**	P	**P**	**06 15 32.8**	**-1.4**
KNRA	**Kununurra**	**25.23**	**175**		**P**	**06 15 38.5**	**-0.4**
KNRA				IAmb	IAmb	06 16 06.5	
	comp=Z,16nm,0.8s						
IPM	**Ipoh**	**25.82**	**260**		**P**	**06 15 44.1**	**-0.4**
IPM				IAmb	IAmb	06 16 04.0	
	comp=Z,16nm,0.9s						
JHJ	**Hachijo jima 2**	**26.39**	**26**	LR	LR	06 25 20.0	
	comp=Z,314nm,20.0s,baz=246,slow=35						
FITZ	**Fitzroy Crossi**	**27.55**	**182**	P	**P**	**06 15 59.4**	**-0.5**
KSAR	**Wonju Array Be**	**27.73**	**2**	P	**P**	**06 16 00.4**	**-0.9**
KSRS	**Korea Array**	**27.74**	**2**	P	**P**	**06 16 01.9**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=170,slow=9.5,SNR=9.4						
	comp=Z,1.0nm,0.5s						
LYN	**LuoYang**	**27.97**	**335**	P	**P**	**06 16 03.8**	**+0.3**
LYN				pmax	pmax		
	comp=Z,11nm,0.7s						
CMAR	**Chiang Mai Arr**	**28.14**	**291**	P	**P**	**06 16 05.2**	**0.0**
	comp=Z,0.9nm,0.3s,baz=104,slow=7.1,SNR=11						
CMAR				LR	LR	06 27 34.1	
	comp=Z,69nm,18.3s,baz=95,slow=37						
	comp=Z,0.9nm,0.3s						
COEN	**Coen**	**28.65**	**145**	P	**P**	**06 16 09.7**	**-0.1**
COEN				IAmb	IAmb	06 16 15.7	
	comp=Z,17nm,1.1s						
MAJO	**Matsushiro**	**28.82**	**20**	P	**P**	**06 16 07.5**	**-3.6**
MJAR	**Matsushiro Arr**	**28.82**	**20**	P	**P**	**06 16 07.8**	**-3.3**
	comp=Z,0.9nm,0.4s,baz=199,slow=10,SNR=1.6						
MJAR				LR	LR	06 27 26.8	
	comp=Z,359nm,19.0s,baz=211,slow=36						
	comp=Z,0.9nm,0.4s						
MJB9	**Matsu-Tunnel**	**28.82**	**20**	P	**P**	**06 16 08.5**	**-2.6**
PZH	**PanZhiHua**	**28.85**	**309**	P	**P**	**06 16 13.5**	**+1.8**
XAN	**Xi'an**	**29.20**	**329**	P	**P**	**06 16 14.5**	**0.0**
XAN				pP	pP	06 16 25.0	-0.5
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
HNS	**HongShan**	**29.65**	**341**	⇑P	**P**	**06 16 18.5**	**+0.1**
HNS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GSI	**Gunungsitoli**	**29.97**	**256**	P	**P**	**06 16 20.9**	**-0.6**
CD2	**Chengdu**	**29.97**	**318**	P	**P**	**06 16 21.3**	**-0.1**
WB0	**Warramunga Arr**	**30.21**	**165**		**P**	**06 16 22.5**	**-1.0**
WB0				IAmb	IAmb	06 17 04.7	
	comp=Z,8.0nm,0.8s						
WRA	**Warramunga Arr**	**30.36**	**165**	P	**P**	**06 16 22.9**	**-1.9**
WRA	**Warramunga Arr**	**30.36**	**165**	P	**P**	**06 16 24.5**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=341,slow=9.5,SNR=10						
	comp=Z,1.3nm,0.6s						
WB2	**Warramunga Arr**	**30.36**	**165**	P	**P**	**06 16 25.2**	**+0.3**
WB2				IAmb	IAmb	06 16 55.5	
	comp=Z,7.3nm,0.8s						
WR8	**Warramunga Arr**	**30.41**	**165**	P	**P**	**06 16 24.2**	**-1.2**
WR8				IAmb	IAmb	06 17 02.3	
	comp=Z,9.6nm,1.1s						
WR0	**Warramunga Arr**	**30.43**	**165**	P	**P**	**06 16 24.3**	**-1.2**
WR0				IAmb	IAmb	06 16 43.4	
	comp=Z,7.3nm,0.9s						
MBWA	**Marble Bar**	**31.31**	**192**	P	**P**	**06 16 33.6**	**+0.4**
MBWA				IAmb	IAmb	06 16 56.2	
	comp=Z,13nm,1.1s						
BJI	**Beijing**	**31.67**	**345**	P	**P**	**06 16 37.8**	**+1.6**
BJI				sP	**sP**	**06 16 51.0**	**-0.1**
BJI				S	**S**	**06 21 41.0**	**-1.7**
BJI				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BJI				LR	LR		
	comp=N,140nm,14.5s						
BJI				LR	LR		
	comp=E,76nm,12.9s						
BJI				LR	LR		
	comp=Z,160nm,15.5s						
PSA00	**Pilbara Seismi**	**31.68**	**192**		**P**	**06 16 36.5**	**0.0**
PSA00				IAmb	IAmb	06 16 40.4	
	comp=Z,6.9nm,0.8s						
LZH	**Lanzhou**	**33.46**	**325**	*eP*	**P**	**06 16 51.8**	**-0.4**
LZH				pP	pP	06 17 02.8	-0.3
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC	**Hu-ho-hao-te**	**33.82**	**339**	*eP*	**P**	**06 16 57.0**	**+1.9**
HHC				sP	pwP	06 17 11.8	+0.2
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.9s						
AS31	**Alice Springs**	**33.85**	**168**	P	**P**	**06 16 56.5**	**+1.0**
ASAR	**Alice Springs**	**33.85**	**168**	P	**P**	**06 16 56.5**	**+1.0**
	comp=Z,2.3nm,0.9s,baz=18,slow=9.5,SNR=21						
ASAR				PcP	**PcP**	**06 19 35.5**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=354,slow=3.4,SNR=1.8						
	comp=Z,2.3nm,0.9s						
CTAO	**Charters Tower**	**35.33**	**147**		**P**	**06 17 09.2**	**+0.9**
CTAO				IAmb	IAmb	06 17 12.0	
	comp=Z,7.6nm,0.9s						
XLT	**XiLinHaoTe**	**35.34**	**347**	*eP*	**P**	**06 17 13.0**	**+4.7**
XLT				sP	pwP	06 17 30.8	+6.4
XLT				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,140nm,5.9s						
BRDH	**Bariadhala**	**35.84**	**296**	LR	LR	06 32 29.5	
	comp=Z,217nm,19.2s,baz=108,slow=37						
GTA	**Gaotai**	**38.07**	**326**	*eP*	**P**	**06 17 33.3**	**+1.7**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GTA				LR	LR		
	comp=N,200nm,13.8s						
GTA				LR	LR		
	comp=E,170nm,14.2s						
GTA				LR	LR		
	comp=Z,360nm,15.3s						
YSS	**Yuzhno-Sakhali**	**39.68**	**17**	P	**P**	**06 17 45.5**	**+0.7**
MORW	**Morawa**	**39.77**	**194**	P	**P**	**06 17 45.6**	**-0.1**
H11S3	**WAKE ISLAND Hy**	**39.85**	**73**	T	T	07 00 50.7	
	baz=262,slow=73,SNR=22						
H11S1	**WAKE ISLAND Hy**	**39.87**	**73**	T	T	07 00 47.4	
	baz=262,slow=73,SNR=13						
H11S2	**WAKE ISLAND Hy**	**39.87**	**73**	T	T	07 00 47.7	
	baz=262,slow=73,SNR=8.4						
FORT	**Forrest**	**40.19**	**178**	P	**P**	**06 17 49.3**	**+0.2**
FORT				IAmb	IAmb	06 18 13.0	
	comp=Z,17nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**40.21**	**71**	T	T	07 01 15.8	
	baz=265,slow=74,SNR=8.7						
H11N2	**WAKE ISLAND Hy**	**40.22**	**71**	T	T	07 01 15.8	
	baz=265,slow=74,SNR=6.8						
H11N3	**WAKE ISLAND Hy**	**40.23**	**71**	T	T	07 01 17.5	
	baz=265,slow=74,SNR=8.7						
ULN	**Ulaanbaatar**	**41.52**	**340**	P	**P**	**06 18 00.0**	**-0.2**
ULN				IAmb	IAmb	06 18 18.0	
	comp=Z,9.5nm,0.8s						
SONM	**Songino Array**	**41.72**	**340**	P	**P**	**06 18 01.3**	**-0.4**
SONM	**Songino Array**	**41.72**	**340**	P	**P**	**06 18 02.6**	**+0.9**
	comp=Z,3.8nm,0.8s,baz=163,slow=10,SNR=6.4						
	comp=Z,3.8nm,0.8s						
EIDS	**Eidsvold**	**42.20**	**146**	P	**P**	**06 18 05.3**	**-0.5**
EIDS				IAmb	IAmb	06 18 08.5	
	comp=Z,10nm,0.8s						
BBOO	**Buckleboo**	**43.16**	**168**	P	**P**	**06 18 14.1**	**+0.6**
BBOO				IAmb	IAmb	06 18 16.5	
	comp=Z,24nm,0.9s						
NWAO	**Narrogin (SRO)**	**43.23**	**191**	P	**P**	**06 18 14.2**	**+0.2**
STKA	**Stephens Creek**	**43.70**	**161**	P	**P**	**06 18 18.5**	**+0.7**
STKA	**Stephens Creek**	**43.70**	**161**	P	**P**	**06 18 17.9**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=332,slow=10,SNR=5.8						
	comp=Z,2.6nm,0.6s						
PALK	**Pallekele**	**45.38**	**271**	LR	LR	06 38 48.9	
	comp=Z,51nm,19.7s,baz=94,slow=38						
ARMA	**Armidale**	**46.54**	**150**	P	**P**	**06 18 39.7**	**-0.8**
WMQ	**Urumqi**	**47.90**	**322**	*eP*	**P**	**06 18 52.8**	**+1.8**
WMQ				LR	LR		
	comp=Z,140nm,14.9s						
PETK	**Petropavlovsk-**	**50.12**	**24**	P	**P**	**06 19 07.3**	**-0.5**
DZM	**Mont Dzumac**	**50.23**	**129**	P	**P**	**06 19 09.6**	**+0.4**
DZM				IAmb	IAmb	06 19 49.4	
	comp=Z,15nm,1.5s						
MK31	**Makanchi Array**	**52.70**	**323**	P	**P**	**06 19 28.2**	**+0.9**
MKAR	**Makanchi Array**	**52.70**	**323**	P	**P**	**06 19 26.9**	**-0.3**
MKAR	**Makanchi Array**	**52.70**	**323**	P	**P**	**06 19 27.3**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=106,slow=8.9,SNR=3.8						
	comp=Z,2.1nm,0.8s						
MAKZ	**Makanchi**	**52.90**	**323**	P	**P**	**06 19 28.6**	**-0.1**
MAKZ				IAmb	IAmb	06 19 32.2	
	comp=Z,4.2nm,0.7s						
MA2	**Magadan**	**53.09**	**15**	LR	LR	06 41 21.2	
	comp=Z,71nm,20.3s,baz=220,slow=35						
KSH	**Kashi**	**53.87**	**312**	P	**P**	**06 19 39.3**	**+3.3**
KSH				pP	pP	06 19 48.8	+1.2
KSH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NIL	**Nilore**	**54.32**	**305**	P	**P**	**06 19 39.3**	**0.0**
NIL				IAmb	IAmb	06 19 46.9	
	comp=Z,11nm,0.8s						
ZALV	**Zalesovo Beam**	**55.32**	**331**	P	**P**	**06 19 45.8**	**-0.4**
ZALV	**Zalesovo Beam**	**55.32**	**331**	P	**P**	**06 19 46.3**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=120,slow=6.5,SNR=5.8						
	comp=Z,2.2nm,0.6s						
AAK	**Ala-Archa**	**55.98**	**315**	LR	LR	06 47 09.9	
	comp=Z,116nm,19.9s,baz=80,slow=40						
KURK	**Kurchatov**	**56.75**	**326**	P	**P**	**06 19 56.6**	**+0.2**
KURK				IAmb	IAmb	06 20 16.7	
	comp=Z,5.8nm,0.8s						
KURBB	**Kurchatov Arra**	**56.76**	**326**	P	**P**	**06 19 56.1**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=126,slow=6.7,SNR=9.8						
	comp=Z,1.4nm,0.6s						
SHEM	**Shemya Is, Ala**	**57.56**	**32**	LR	LR	06 46 43.8	
	comp=Z,28nm,18.4s,baz=157,slow=38						
GAR	**Garm**	**57.91**	**310**	P	**P**	**06 20 05.0**	**0.0**
GAR				IAmb	IAmb	06 20 18.2	
	comp=Z,7.1nm,0.6s						
KBL	**Kabul**	**57.92**	**305**	P	**P**	**06 20 05.2**	**-0.1**
KBL				IAmb	IAmb	06 20 12.9	
	comp=Z,5.0nm,0.8s						
KKAR	**Karatay Array**	**58.90**	**315**	P	**P**	**06 20 11.3**	**-0.4**
TIXI	**Tiksi**	**62.00**	**1**	LR	LR	06 47 42.2	
	comp=Z,165nm,20.9s,baz=194,slow=36						
BVAR	**Borovoye Array**	**62.35**	**326**	P	**P**	**06 20 34.5**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=134,slow=8.4,SNR=6.3						
BVAR				LR	LR	06 46 56.1	
	comp=Z,79nm,21.3s,baz=108,slow=35						
	comp=Z,1.5nm,0.6s						
LBZ	**Lake Benmore**	**66.67**	**147**	P	**P**	**06 21 03.6**	**+0.3**
RPZ	**Rata Peaks**	**66.70**	**146**	P	**P**	**06 21 03.2**	**-0.3**
AB31	**Akbulak array**	**67.54**	**319**	P	**P**	**06 21 08.0**	**-0.8**
ABKAR	**Akbulak array**	**67.54**	**319**	P	**P**	**06 21 08.7**	**-0.1**
AKTO	**Aktyubinsk**	**68.99**	**320**	P	**P**	**06 21 17.9**	**0.0**
	comp=Z,1.8nm,0.7s,baz=88,slow=8.1,SNR=4.9						
	comp=Z,1.8nm,0.7s						
ARTI	**Arti**	**70.00**	**327**	LR	LR	06 51 39.4	
	comp=Z,45nm,21.4s,baz=138,slow=36						
E18K	**Tukpahlearik C**	**74.61**	**23**	P	**P**	**06 21 50.9**	**-0.4**
E18K				IAmb	IAmb	06 22 08.1	
	comp=Z,7.4nm,1.0s						
C18K	**Utukok River**	**74.67**	**21**	P	**P**	**06 21 51.7**	**0.0**
L18K	**Granite Mounta**	**75.38**	**28**	P	**P**	**06 21 56.2**	**+0.4**
L18K				IAmb	IAmb	06 22 22.8	
	comp=Z,20nm,1.4s						
J18K	**Innoko River**	**75.53**	**27**	P	**P**	**06 21 57.0**	**+0.3**
J18K				IAmb	IAmb	06 22 04.5	
	comp=Z,8.7nm,1.2s						
F19K	**Shaleruckik Mo**	**75.59**	**23**	P	**P**	**06 21 56.4**	**-0.5**
F19K				IAmb	IAmb	06 22 30.3	
	comp=Z,9.1nm,1.3s						
KDAK	**Kodiak Island**	**77.06**	**33**	LR	LR	06 52 07.4	
	comp=Z,82nm,20.0s,baz=221,slow=33						
IMAR	**Indian Mountai**	**77.08**	**24**	P	**P**	**06 22 04.8**	**-0.6**
GNI	**Garni**	**77.62**	**309**	LR	LR	07 00 16.8	
	comp=Z,40nm,20.9s,baz=101,slow=39						
RAR	**Rarotonga**	**78.54**	**114**	LR	LR	06 54 06.6	
	comp=Z,80nm,18.4s,baz=244,slow=34						
KBZ	**Khabaz**	**78.84**	**313**	P	**P**	**06 22 15.9**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=135,slow=3.9,SNR=4.9						
KBZ				LR	LR	07 01 36.5	
	comp=Z,59nm,18.8s,baz=112,slow=39						
	comp=Z,0.9nm,0.5s						
ILAR	**Eielson Array**	**79.91**	**26**	P	**P**	**06 22 20.5**	**-0.5**
ILAR	**Eielson Array**	**79.91**	**26**	P	**P**	**06 22 20.4**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=248,slow=4.7,SNR=6.7						
ILAR				LR	LR	06 58 19.9	
	comp=Z,36nm,19.8s,baz=248,slow=36						
	comp=Z,0.5nm,0.8s						
BMAR	**Burnt Mountain**	**80.76**	**23**	P	**P**	**06 22 25.9**	**+0.3**
BCAR	**Beaver Creek A**	**82.26**	**27**	P	**P**	**06 22 33.9**	**+0.3**
F28M	**Old Crow**	**82.55**	**23**	P	**P**	**06 22 35.9**	**+0.9**
I28M	**Miner Creek**	**82.79**	**25**	P	**P**	**06 22 36.8**	**+0.4**
I28M				IAmb	IAmb	06 22 41.2	
	comp=Z,3.9nm,0.7s						
H29M	**Whitestone**	**83.33**	**24**	P	**P**	**06 22 39.9**	**+0.8**
H29M				IAmb	IAmb	06 22 59.7	
	comp=Z,11nm,1.4s						
G29M	**Pine Creek**	**83.36**	**23**	P	**P**	**06 22 39.4**	**+0.2**
G29M				IAmb	IAmb	06 22 45.9	
	comp=Z,3.3nm,0.8s						
I29M	**Ogilvie Camp,**	**83.48**	**25**	P	**P**	**06 22 40.3**	**+0.4**
HYT	**Haines Junctio**	**84.57**	**29**	P	**P**	**06 22 45.2**	**-0.5**
HYT				IAmb	IAmb	06 22 49.8	
	comp=Z,5.9nm,0.9s						
SPITS	**Spitsbergen Ar**	**84.70**	**349**	LR	LR	07 08 05.8	
	comp=Z,50nm,18.1s,baz=38,slow=41						
MAYO	**Mayo, Yukon**	**84.81**	**26**	P	**P**	**06 22 45.4**	**-1.2**
ARCES	**ARCESS Array B**	**84.89**	**340**	P	**P**	**06 22 46.1**	**-0.8**
ARCES	**ARCESS Array B**	**84.89**	**340**	P	**P**	**06 22 47.0**	**0.0**
	comp=Z,7.3nm,1.0s,baz=25,slow=6.7,SNR=7.9						
	comp=Z,7.3nm,1.0s						
H31M	**Peel River**	**85.02**	**24**	P	**P**	**06 22 46.9**	**-0.8**
H31M				IAmb	IAmb	06 23 12.0	
	comp=Z,6.7nm,1.1s						
MMAI	**Mount Meron Ar**	**85.78**	**303**	LR	LR	07 05 48.0	
	comp=Z,36nm,18.2s,baz=46,slow=39						
BRTR	**Keskin Array B**	**86.15**	**309**	P	**P**	**06 22 53.5**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=77,slow=2.7,SNR=3.6						
	comp=Z,0.8nm,0.7s						
FURI	**Furi**	**86.45**	**278**	LR	LR	07 02 29.8	
	comp=Z,71nm,18.2s,baz=97,slow=36						
FIA1	**FINESS Array S**	**86.59**	**332**	P	**P**	**06 22 55.7**	**+0.2**
FINES	**FINESS Array B**	**86.59**	**332**	P	**P**	**06 22 55.9**	**+0.5**
FINES	**FINESS Array B**	**86.59**	**332**	P	**P**	**06 22 55.6**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=85,slow=6.7,SNR=14						
	comp=Z,4.9nm,0.8s						
N32M	**Quiet Lake**	**86.62**	**29**	P	**P**	**06 22 55.6**	**-0.1**
PPT2	**Papeete2**	**87.11**	**108**	*eLR*	LR	06 50 36.0	
	comp=Z,104nm,25.2s						
PPT2				*eLR*	LR	06 50 36.7	
	comp=Z,81nm,21.8s						
AKASG	**Malin Array Be**	**87.23**	**321**	P	**P**	**06 22 58.6**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=79,slow=3.2,SNR=5.3						
	comp=Z,0.5nm,0.5s						
TBI	**Tubuai**	**88.32**	**114**	*eLR*	LR	06 51 09.0	
	comp=Z,468nm,26.8s						
VNDA	**Vanda**	**89.25**	**173**	P	**P**	**06 23 07.7**	**-0.1**
VNDA				IAmb	IAmb	06 23 12.9	
	comp=Z,2.9nm,0.9s						
VNDA	**Vanda**	**89.25**	**173**	P	**P**	**06 23 09.2**	**+1.4**
	comp=Z,2.0nm,0.9s,baz=315,slow=6.0,SNR=12						
	comp=Z,2.0nm,0.9s						
MLR	**Muntele Rosu**	**90.55**	**316**	LR	LR	07 08 30.0	
	comp=Z,52nm,18.6s,baz=70,slow=39						
HFS	**Hagfors**	**92.75**	**332**	P	**P**	**06 23 23.8**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=94,slow=4.5,SNR=9.5						
	comp=Z,3.2nm,0.8s						
NB2	**NORSAR Subarra**	**93.46**	**334**	P	**P**	**06 23 27.4**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=62,slow=4.6						
NOA	**NORSAR Array B**	**93.46**	**334**	P	**P**	**06 23 27.9**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=61,slow=4.7,SNR=5.4						
	comp=Z,0.9nm,0.7s						
TAOE	**Nuku Hiva Isla**	**94.68**	**98**	*eLR*	LR	06 54 02.4	
	comp=Z,114nm,27.7s						
VRAC	**Vranov**	**95.43**	**322**	LR	LR	07 08 05.3	
	comp=Z,44nm,20.6s,baz=176,slow=36						
MBAR	**Mbarara**	**95.82**	**270**	LR	LR	07 08 07.4	
	comp=Z,28nm,18.1s,baz=93,slow=36						
NEW	**Newport**	**99.72**	**37**	LR	LR	07 15 01.0	
	comp=Z,22nm,18.6s,baz=325,slow=39						
TORD	**Torodi Ar. Bea**	**120.75**	**292**	PKP	**PKiKP**	**06 29 07.0**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=21,slow=2.0,SNR=4.2						
PLCA	**Paso Flores**	**145.50**	**157**	PKPbc	**PKPab**	**06 29 52.4**	**+1.2**
	comp=Z,5.7nm,0.9s,baz=218,slow=7.1,SNR=6.7						
LPAZ	**La Paz**	**164.25**	**116**	PKP	**PKPdf**	**06 30 19.9**	**+2.4**
	comp=Z,2.2nm,0.9s,baz=2.6,slow=4.1,SNR=5.4						

*SOME **30** 06:14:23.6,40°.52N×82°.78E,h10km*
*NNC **30** 06:14:28.6±1.9,40°.40N×82°.32E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=15.0km s-min=11.8km az=15.0*
ISC 30 06:14:24.0±0.3,40°.8N±0°.2×83°.0E±0°.1,h10km,n20, σ2s80/27,3C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**3.49**	**313**	Pg	**Pb**	**06 15 26.3**	**

	2.9nm,0.6s							
KST				*e*S		**Sg**	06 17 25.9	**0.0**
	20nm,0.8s							
MK31	**Makanchi Array**	**5.98**	**356**	⇓Pn		Pb	06 16 05.7	-2.6
	2.3nm,0.8s,baz=186,slow=11,SNR=4.0							
MK31				⇑Sn		**Sb**	**06 17 20.1**	**+0.1**
	7.1nm,0.7s,baz=170,slow=15,SNR=5.2							
KRBS	**Karabastau**	**6.12**	**300**	Pg		**Pg**	**06 16 18.2**	**-2.8**
	0.5nm,0.1s							
KRBS				Lg		Lg	06 17 40.6	
	1.4nm,0.8s							

*VAO **30** 06:17:17.0±1.7,22°.59S×69°.27W, h62km±9km, mb3.9*
*GUC **30** 06:17:29.7±0.8,22°.67S×68°.50W, h109km±5km, ML3.7*
ISC 30 06:17:27.4±0.8**,22°.65S**±0°.06×**68°.47W**±0°.06**, h124**km±9km**,**
n28,σ1ᵎ**36**/34**,2C-1D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.41**	**138**	⇓*i*P	**Pn**	**06 17 45.7**	**0.0**
AF01				*e*S	**Sn**	**06 17 58.8**	**-0.6**
AF01				IAML		06 17 59.3	
	comp=N,3μm,0.4s						
PB06	**IPOC Station P**	**1.02**	**267**	*e*P	**Pn**	**06 17 50.5**	**+0.4**
PB06				*e*S	**Sn**	**06 18 07.4**	**+0.2**
PB06				IAML		06 18 08.6	
	comp=N,2μm,0.1s						
PB09	**IPOC Station P**	**1.11**	**320**	*e*P	**Pn**	**06 17 52.4**	**+1.4**
PB09				*e*S	**Sn**	**06 18 09.7**	**+0.8**
PB03	**IPOC Station P**	**1.33**	**297**	⇑*i*P	**Pn**	**06 17 54.1**	**+0.7**
PB03				*e*S	**Sn**	**06 18 12.7**	**-0.3**
PB03				IAML		06 18 14.1	
	comp=E,2μm,0.1s						
PB05	**IPOC Station P**	**1.61**	**262**	⇑*e*P	**Pn**	**06 17 56.8**	**+0.3**
PB05				*e*S	**Sn**	**06 18 17.8**	**-0.8**
PB01	**IPOC Station P**	**1.86**	**329**	*e*P	**Pn**	**06 17 59.9**	**+0.5**
PB01				*e*S	**Sn**	**06 18 24.0**	**+0.2**
PB01				IAML		06 18 25.3	
	comp=E,533nm,0.2s						
PB02	**IPOC Station P**	**1.87**	**315**	*e*P	**Pn**	**06 18 00.7**	**+1.1**
PB02				*e*S	**Sn**	**06 18 24.1**	**-0.1**
PB02				IAML		06 18 26.9	
	comp=E,847nm,0.2s						
SALTA		**2.51**	**129**	*e*P	**Pn**	**06 18 10.1**	**+2.2**
TA01	**Diego Aracena**	**2.61**	**322**	*e*P	**Pn**	**06 18 10.1**	**+1.3**
TA01				IAML		06 19 04.7	
	comp=N,185nm,0.2s						
PB14	**IPOC Station P**	**2.65**	**222**	*e*P	**Pn**	**06 18 09.7**	**+0.2**
LPAZ	**La Paz**	**6.34**	**3**	*e*P	Pn	06 18 47.2	-12
MURT	**Porto Murtinho**	**10.12**	**86**	*e*P	**Pn**	**06 19 48.4**	**-1.0**
BDQN	**Bodoquena, MS**	**11.13**	**81**	*e*P	**Pn**	**06 20 03.5**	**+0.6**
PTLB	**Pontes e Lacer**	**11.36**	**53**	*e*P	**Pn**	**06 20 04.7**	**-1.4**
AQDB	**Aquidauana**	**12.08**	**82**	*e*P	**Pn**	**06 20 16.9**	**+1.3**
VILB	**Vilhena**	**12.45**	**41**	*e*P	**Pn**	**06 20 17.3**	**-3.1**
PTGB	**Pitanga**	**15.17**	**101**	*e*P	**P**	**06 20 58.7**	**+1.3**
CPSB	**Cacapava Do Su**	**15.50**	**123**	*e*P	**Pn**	**06 21 00.3**	**+1.0**
PDRB	**Porto dos Gac**	**15.69**	**48**	*e*P	**Pn**	**06 21 01.7**	**0.0**
CLDB	**Colider**	**16.85**	**48**	*e*P	**P**	**06 21 14.9**	**-1.1**
ARAG	**Araguaiana, MT**	**17.18**	**69**	*e*P	**P**	**06 21 20.6**	**+1.1**
FRTB	**Fartura**	**17.43**	**96**	*e*P	**Pn**	**06 21 25.8**	**+2.9**
SNDB	**Serra Nova Dou**	**19.52**	**60**	*e*P	**P**	**06 21 44.7**	**-0.5**
IPMB	**Ipameri, GO**	**19.56**	**80**	*e*P	**P**	**06 21 47.1**	**+1.5**
VAO	**Valinhos**	**19.83**	**95**	*e*P	**P**	**06 21 48.6**	**0.0**
MACA	**Manacapuru-AM**	**20.79**	**22**	*e*P	**P**	**06 21 56.2**	**-2.6**
ITTB	**Itaituba**	**21.96**	**36**	*e*P	**P**	**06 22 10.6**	**-0.7**
BOAV	**Boa Vista**	**26.07**	**18**	*e*P	**P**	**06 22 47.2**	**-2.3**

*IDC **30** 06:44:32.2±1.4,55°.42S×29°.16W, h0km, mb4.0/4, mbtmp4.1/5,ML3.8/1,MS3.2/6, Error ellipse: s-maj=82.5km s-min=25.5km az=48.0*
*NEIC **30** 06:44:34.5±1.3,55°.45S±0°.2×29°.2W±0°.2, h10km±1km, mb4.6/15, Error ellipse: s-maj=34.5km s-min=17.1km az=209.0*
ISC 30 06:44:35.8±0.7**,55°.5S**±0°.1×**29°.2W**±0°.2**, h24**km**, n38,**
σ1ᵎ**09**/28**, mb4.6**/11**, MS3.3**/4**, 5C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.36**	**283**		**Pn**	**06 45 39.4**	**-1.1**
VNA1	**Neumayer--Stat**	**17.76**	**157**	⇑P	**Pn**	**06 48 39.4**	**-1.6**
	comp=Z,15nm,1.0s						
VNA3	**Neumayer Olymp**	**17.92**	**159**	⇑P	**Pn**	**06 48 40.2**	**-2.8**
	comp=Z,7.2nm,0.7s						
VNA2	**Neumayer--Watz**	**18.16**	**157**	⇑P	**P**	**06 48 46.4**	**+0.3**
	comp=Z,8.6nm,0.9s,baz=317,slow=12						
PMSA	**Palmer Station**	**19.42**	**227**	LR	LR	06 55 19.8	
	comp=Z,62nm,18.8s,baz=86,slow=33						
SNAA	**Sanae**	**19.73**	**155**	⇑P	**P**	**06 49 03.7**	**+0.4**
	comp=Z,277nm,0.8s						
SNAA	**Sanae**	**19.73**	**155**	P	**P**	**06 49 03.5**	**+0.1**
SNAA				IAmb	IAmb	06 49 10.3	
	comp=Z,17nm,0.9s						
SNAA	**Sanae**	**19.73**	**155**	P	**Pn**	**06 49 03.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=300,slow=9.9,SNR=23						
SNAA				LR	LR	06 55 29.7	
	comp=Z,50nm,19.1s,baz=290,slow=33						
	comp=Z,7.9nm,0.7s						
TROLL	**Troll, Antarti**	**21.27**	**153**	⇑P	**P**	**06 49 20.0**	**-0.1**
	comp=Z,806nm,0.7s						
PLCA	**Paso Flores**	**30.77**	**281**	LR	LR	07 03 15.4	
	comp=Z,28nm,18.1s,baz=98,slow=36						
QSPA	**South Pole Qui**	**34.77**	**180**	P	**P**	**06 51 26.7**	**+2.7**
QSPA				IAmb	IAmb	06 51 30.7	
	comp=Z,6.9nm,1.4s						
CPUP	**Villa Florida**	**35.58**	**313**	P	**P**	**06 51 31.5**	**+0.4**
CPUP	**Villa Florida**	**35.58**	**313**	P	**P**	**06 51 31.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=102,slow=4.7,SNR=8.1						
CPUP				LR	LR	07 05 52.9	
	comp=Z,5.8nm,18.2s,baz=22,slow=36						
	comp=Z,0.6nm,0.6s						
MT09	**Talagante**	**36.04**	**289**	P	**P**	**06 51 34.6**	**-0.6**
CFA	**Coronel Fontan**	**36.28**	**295**	P	**P**	**06 51 36.2**	**-0.9**
	comp=Z,3.3nm,0.8s,baz=147,slow=9.1,SNR=13						
	comp=Z,3.3nm,0.8s						
MT02	**Curacav**	**36.51**	**290**	P	**P**	**06 51 39.3**	**+0.2**
MT02				IAmb	IAmb	06 52 22.3	
	comp=Z,18nm,1.4s						
ZON	**Zonda**	**36.55**	**294**	P	**P**	**06 51 39.5**	**0.0**
ZON				IAmb	IAmb	06 51 39.8	
	comp=Z,6.1nm,0.6s						
AC01	**Pan de Azucar**	**41.90**	**297**	P	**P**	**06 52 24.6**	**+0.4**
AC01				IAmb	IAmb	06 52 35.8	
	comp=Z,22nm,1.2s						
GO02	**Mina Guanaco**	**42.21**	**299**	P	**P**	**06 52 28.2**	**+1.2**
GO02				IAmb	IAmb	06 52 28.6	
	comp=Z,14nm,0.7s						
PTLB	**Pontes e Lacer**	**46.10**	**318**	P	**P**	**06 52 58.9**	**+1.1**
SIV	**San Ignacio**	**46.36**	**315**	P	**P**	**06 52 58.8**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=142,slow=7.4,SNR=6.8						
	comp=Z,0.9nm,0.6s						
GO01	**Chusmiza**	**46.67**	**304**	P	**P**	**06 53 03.4**	**+0.5**
GO01				IAmb	IAmb	06 53 06.3	
	comp=Z,4.0nm,0.9s						
BOSA	**Boshof**	**46.96**	**78**	LR	LR	07 08 21.0	
	comp=Z,63nm,20.5s,baz=208,slow=30						
H04S2	**CROZET ISLANDS**	**48.83**	**116**	T	T	07 46 27.6	
	baz=230,slow=75,SNR=4.7						
H04S3	**CROZET ISLANDS**	**48.84**	**116**	T	T	07 46 31.9	
	baz=230,slow=75,SNR=3.7						
H04S1	**CROZET ISLANDS**	**48.85**	**116**	T	T	07 46 29.7	
	baz=230,slow=75,SNR=3.2						
H10N1	**ASCENSION HYDR**	**48.94**	**20**	T	T	07 46 10.2	
	baz=190,slow=75,SNR=15						
H10N3	**ASCENSION HYDR**	**48.94**	**20**	T	T	07 46 15.5	
	baz=190,slow=75,SNR=31						
H10N2	**ASCENSION HYDR**	**48.95**	**20**	T	T	07 46 18.3	
	baz=190,slow=75,SNR=19						
LPAZ	**La Paz**	**49.11**	**307**	P	**P**	**06 53 22.2**	**+0.2**
LPAZ				IAmb	IAmb	06 53 24.1	
	comp=Z,12nm,1.4s						
LPAZ	**La Paz**	**49.11**	**307**	P	**P**	**06 53 23.3**	**+1.3**
	comp=Z,3.1nm,0.5s,baz=124,slow=4.6,SNR=24						
	comp=Z,3.1nm,0.5s						
FOMA	**Nahampoana Res**	**62.07**	**94**	P	**P**	**06 54 54.0**	**-0.3**
BOAV	**Boa Vista**	**63.14**	**324**	P	**P**	**06 55 01.2**	**-0.3**
BOAV				IAmb	IAmb	06 55 15.9	
	comp=Z,7.6nm,1.4s						
COHC	**Cochancay**	**66.39**	**303**	P	**P**	**06 55 22.7**	**0.0**
ROSC	**El Rosal**	**70.64**	**312**	LR	LR	07 30 07.1	
	comp=Z,40nm,18.1s,baz=183,slow=39						
TEIG	**Tepich**	**90.44**	**306**	P	**P**	**06 57 35.9**	**+0.9**
FINES	**FINESS Array B**	**124.43**	**29**	PKP	**PKiKP**	**07 03 30.9**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=169,slow=7.9,SNR=4.5						
ILAR	**Eielson Array**	**148.88**	**313**	PKPbc	**PKPbc**	**07 04 19.6**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=126,slow=1.6,SNR=48						

*DJA **30** 06:52:57.1±0.6,0°.5±2°.×12°.5E±°, h10km±4km, M4.6/22, mB4.9/2, mb4.8/6, MLv4.5/22, Mw(mB)4.2/2*
*IDC **30** 06:52:59.2±4.4,0°.11S×124°.75E, h59km±43km, mb4.0/11, mbtmp4.3/13, ML4.3/2, MS3.2/3, Error ellipse: s-maj=31.2km s-min=14.2km az=66.0*
*NEIC **30** 06:53:00.7±1.4,0°.20S±0°.08×124°.76E±0°.07, h70km±8km, mb4.3/19, Error ellipse: s-maj=12.0km s-min=9.9km az=171.0*
ISC 30 06:52:59.7±0.9**,0°.15S**±0°.04×**124°.78E**±0°.04**, h63**km±10km**,**
n63,σ1ᵎ**26**/71**, mb4.3**/22**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.07**	**312**	P	**Pn**	**06 53 16.5**	**-2.3**
KMSI				S	**Sn**	**06 53 32.4**	**-0.6**
LUWI	**Luwuk**	**2.20**	**246**		**Pn**	**06 53 34.6**	**+0.7**
LUWI	**Luwuk**	**2.20**	**246**	P	**Pn**	**06 53 35.4**	**+1.5**
LUWI				S	**Sn**	**06 54 01.7**	**+1.6**
SANI	**Sanana**	**2.24**	**148**	P	**Pn**	**06 53 32.1**	**-2.4**
SANI				S	**Sn**	**06 54 02.0**	**+0.9**
TNTI	**Ternate**	**2.74**	**71**		**Pn**	**06 53 42.6**	**+1.4**
TNTI	**Ternate**	**2.74**	**71**	P	**Pn**	**06 53 42.0**	**+0.7**
TNTI				S	**Sn**	**06 54 15.8**	**+2.6**
MRSI	**Marisa**	**2.91**	**282**	P	**Pn**	**06 53 40.6**	**-3.0**
MRSI				S	**Sn**	**06 54 19.8**	**+2.4**
APSI	**Ampana**	**3.23**	**256**	P	**Pn**	**06 53 49.3**	**+1.4**
NLAI	**Namlea**	**3.85**	**143**	P	**Pn**	**06 53 55.3**	**-1.1**
SGSI	**Sangihe**	**3.88**	**11**	P	**Pn**	**06 53 57.6**	**+0.7**
TOLI2	**Tolitoli**	**4.19**	**287**		**Pn**	**06 54 01.9**	**+0.5**
KDI	**Kendari**	**4.36**	**210**	P	**Pn**	**06 54 02.7**	**-0.8**
AAI	**Ambon**	**4.90**	**136**	P	**Pn**	**06 54 11.4**	**+0.6**
PCI	**Palu**	**5.00**	**261**	P	**Pn**	**06 54 12.2**	**-0.1**
MSAI	**Masohi**	**5.22**	**128**	P	**Pn**	**06 54 14.5**	**-0.8**
MSAI				S	**Sn**	**06 55 15.7**	**+1.5**
SPSI	**Sidrap Palu**	**6.29**	**233**	P	**Pn**	**06 54 30.0**	**+0.2**
SPSI				S	**Sn**	**06 55 41.9**	**+1.6**
BNSI	**Bone**	**6.30**	**228**	P	**Pn**	**06 54 29.2**	**-0.8**
	0.2nm68nm,0.7s						
BNSI				S	**Sn**	**06 55 41.4**	**+0.7**
	0.2nm68nm,0.7s						
BKSI	**Bulukumba**	**6.94**	**222**	P	**Pn**	**06 54 39.2**	**+0.5**
	0.2nm465nm25nm,0.5s						
KAPI	**Kappang**	**6.97**	**226**		**Pn**	**06 54 39.8**	**+0.5**
KAPI	**Kappang**	**6.97**	**226**	P	**Pn**	**06 54 40.3**	**+1.0**
	7.9nm,0.3s,baz=198,slow=20,SNR=13						
KAPI				S	**Sn**	**06 55 57.4**	**+0.2**
	16nm,0.4s,baz=0.0,slow=20,SNR=2.8						
KAPI				LR	LR	06 57 45.2	
	comp=Z,103nm,20.0s,baz=48,slow=41						
	14nm,0.3s						
BSSI	**Bau, Buton**	**7.34**	**216**	P	**Pn**	**06 54 43.9**	**-0.4**
	0.2nm45nm,0.7s						
FAKI	**Fak Fak**	**7.95**	**110**	Pn	**Pn**	**06 54 52.3**	**-0.4**
BKB	**Balikpapan**	**7.96**	**262**	P	**Pn**	**06 54 52.2**	**-0.6**
MYLDM	**Lahad Datu**	**8.21**	**310**	Pn	**Pn**	**06 54 58.5**	**+2.4**
BATI	**Baumata**	**10.06**	**186**	LR	LR	06 59 25.2	
	comp=Z,190nm,20.1s,baz=2.0,slow=38						
KNRA	**Kunumurra**	**15.93**	**166**	Pn	**Pn**	**06 56 39.5**	**-0.5**
KNRA				IAmb	IAmb	06 56 44.1	
	comp=Z,10nm,0.7s						
FITZ	**Fitzroy Crossi**	**17.86**	**177**		**Pn**	**06 57 00.9**	**-3.0**
FITZ	**Fitzroy Crossi**	**17.86**	**177**	P	**P**	**06 57 03.5**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=12,slow=7.3,SNR=22						
	comp=Z,5.7nm,0.6s						
MBWA	**Marble Bar**	**21.46**	**193**	P	**P**	**06 57 43.6**	**+0.6**
MBWA				IAmb	IAmb	06 58 09.0	
	comp=Z,13nm,1.1s						
WB0	**Warramunga Arr**	**21.66**	**155**		**P**	**06 57 44.2**	**-0.8**
WB0				IAmb	IAmb	06 57 50.1	
	comp=Z,15nm,1.4s						
WRAB	**Tennant Creek**	**21.78**	**155**	P	**P**	**06 57 46.3**	**-0.2**
WRAB				IAmb	IAmb	06 58 29.5	
	comp=Z,5.4nm,0.7s						
WRA	**Warramunga Arr**	**21.79**	**155**	P	**P**	**06 57 43.9**	**-2.6**
WRA	**Warramunga Arr**	**21.79**	**155**	P	**P**	**06 57 45.4**	**-1.2**
	comp=Z,3.2nm,0.5s,baz=334,slow=10,SNR=20						
	comp=Z,3.2nm,0.5s						
WB2	**Warramunga Arr**	**21.79**	**155**	P	**P**	**06 57 45.4**	**-1.1**
WB2				IAmb	IAmb	06 57 49.6	
	comp=Z,5.5nm,0.7s						
WR8	**Warramunga Arr**	**21.87**	**155**		**P**	**06 57 46.6**	**-0.8**
WR8				IAmb	IAmb	06 57 47.3	
	comp=Z,9.1nm,1.1s						
COEN	**Coen**	**22.80**	**128**	P	**P**	**06 57 57.0**	**-0.4**
COEN				IAmb	IAmb	06 58 18.9	
	comp=Z,22nm,1.4s						
AS31	**Alice Springs**	**25.00**	**160**	P	**P**	**06 58 17.9**	**+0.1**
ASAR	**Alice Springs**	**25.00**	**160**	P	**P**	**06 58 18.4**	**+0.5**
	comp=Z,6.6nm,0.9s,baz=328,slow=7.4,SNR=52						
ASAR				PcP	**PcP**	**07 01 53.1**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=342,slow=2.2,SNR=7.5						
	comp=Z,6.6nm,0.9s						
JNU	**Nakatsue**	**33.58**	**9**	P	**P**	**06 59 34.6**	**+0.7**
STKA	**Stephens Creek**	**35.34**	**155**	P	**P**	**06 59 49.2**	**+0.1**
STKA	**Stephens Creek**	**35.34**	**155**	P	**P**	**06 59 49.8**	**+0.7**
	comp=Z,3.3nm,0.4s,baz=335,slow=9.3,SNR=10						
	comp=Z,3.3nm,0.4s						
KSRS	**Korea Array**	**37.52**	**4**	P	**P**	**07 00 08.6**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=177,slow=9.3,SNR=7.0						
	comp=Z,0.8nm,0.5s						
USRK	**Ussuriysk Ar.**	**44.62**	**7**	P	**P**	**07 01 04.9**	**-0.8**
	comp=Z,2.4nm,0.4s,baz=182,slow=6.7,SNR=7.2						
	comp=Z,2.4nm,0.4s						
GTA	**Gaotai**	**45.52**	**333**	*e*P	**P**	**07 01 15.5**	**+2.3**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SONM	**Songino Array**	**50.40**	**344**	P	**P**	**07 01 51.3**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=136,slow=6.8,SNR=3.0						
	comp=Z,1.2nm,0.7s						
MKAR	**Makanchi Array**	**59.68**	**327**	P	**P**	**07 02 56.6**	**-1.1**
MKAR	**Makanchi Array**	**59.68**	**327**	P	**P**	**07 02 56.9**	**-0.7**
	comp=Z,2.4nm,0.4s,baz=125,slow=7.5,SNR=26						
	comp=Z,2.4nm,0.4s						
ZALV	**Zalesovo Beam**	**63.19**	**335**	P	**P**	**07 03 19.4**	**-1.8**
	comp=Z,1.1nm,0.4s,baz=121,slow=7.2,SNR=4.8						
	comp=Z,1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**63.99**	**329**	P	**P**	**07 03 25.5**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=125,slow=6.5,SNR=8.1						
	comp=Z,1.1nm,0.3s						
KURK	**Kurchatov**	**64.00**	**329**	P	**P**	**07 03 26.1**	**-0.4**
BVAR	**Borovoye Array**	**69.53**	**328**	P	**P**	**07 04 02.5**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=154,slow=7.5,SNR=5.5						
	comp=Z,0.9nm,0.6s						
TIXI	**Tiksi**	**71.73**	**1**	P	**P**	**07 04 14.3**	**-0.3**
TIXI				IAmb	IAmb	07 04 50.7	
	comp=Z,5.2nm,0.8s						
AB31	**Akbulak array**	**73.94**	**322**	P	**P**	**07 04 27.4**	**-0.9**
ABKAR	**Akbulak array**	**73.94**	**322**	P	**P**	**07 04 27.8**	**-0.4**
SDPT	**Sand Point**	**81.47**	**34**	P	**P**	**07 05 10.6**	**+0.6**
L16K	**Owhat River**	**83.39**	**28**		**P**	**07 05 20.8**	**+0.9**
L16K				IAmb	IAmb	07 05 22.8	
	comp=Z,5.8nm,0.8s						
E18K	**Tukpahlearik C**	**84.25**	**22**	P	**P**	**07 05 24.7**	**+0.5**
E18K				IAmb	IAmb	07 05 27.3	
	comp=Z,5.3nm,0.8s						
C19K	**Lookout Ridge**	**85.03**	**20**	P	**P**	**07 05 28.2**	**+0.1**
FURI	**Furi**	**86.17**	**279**	LR	LR	07 41 57.2	
	comp=Z,13nm,19.1s,baz=128,slow=34						
QSPA	**South Pole Qui**	**89.79**	**180**	P	**P**	**07 05 50.2**	**-1.0**
QSPA				IAmb	IAmb	07 06 07.8	
	comp=Z,3.5nm,1.2s						
BMAR	**Burnt Mountain**	**90.38**	**23**	P	**P**	**07 05 54.3**	**+0.4**
BCAR	**Beaver Creek A**	**91.69**	**27**	P	**P**	**07 05 59.7**	**-0.4**
ARCES	**ARCESS Array B**	**93.39**	**340**	P	**P**	**07 06 05.8**	**-1.8**
	comp=Z,4.9nm,1.1s,baz=77,slow=4.9,SNR=4.7						
	comp=Z,4.9nm,1.1s						

CATAC 30 06:59:52.0±0.4**,10°N**±2°.×**8°.5W**±°**, h8**km±3km**, M2.9**/10**, MLv2.9**/10**, Error ellipse: s-maj=6.5km s-min=2.9km az=49.6, confirmed, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCS1	**Tacares**	**0.48**	**56**	P	Pb	07 00 02.3	-0.4
SOCE	**Pocosol**	**0.61**	**7**	P	Pg	07 00 04.4	+0.5
SOCE	**Pocosol**	**0.61**	**7**	S	Sb	07 00 13.3	-0.5
QUEP	**Quepos**	**0.63**	**123**	S	Sb	07 00 13.4	-0.8
QUEP	**Quepos**	**0.63**	**123**	P	Pb	07 00 04.8	-0.3
LCR2	**La Lucha 2**	**0.68**	**92**	P	Pg	07 00 05.3	+0.1
LCR2	**La Lucha 2**	**0.68**	**92**	S	Sg	07 00 15.1	+0.9
COVE	**Coope Vega, Sa**	**0.99**	**17**	S	Sb	07 00 24.6	+0.1
COVE	**Coope Vega, Sa**	**0.99**	**17**	P	Pg	07 00 10.5	-0.5
UPAL	**Upala**	**1.16**	**345**	S	Sb	07 00 29.6	+0.1
UPAL	**Upala**	**1.16**	**345**	P	Pg	07 00 13.5	-0.8
ELI1	**Hacienda Flor**	**1.21**	**316**	P	Pb	07 00 14.4	-0.8
ELI1	**Hacienda Flor**	**1.21**	**316**	S	Sg	07 00 30.9	0.0
TRT2	**Tortugero**	**1.23**	**50**	S	Sg	07 00 31.8	+0.3
TRT2	**Tortugero**	**1.23**	**50**	P	Pn	07 00 14.5	-0.9
OCHAL	**Ojochal**	**1.24**	**123**	P	Pn	07 00 14.7	-0.9
OCHAL	**Ojochal**	**1.24**	**123**	S	Sb	07 00 31.7	0.0
DRK0	**Durika**	**1.52**	**109**	S	Sn	07 00 39.4	-0.3
DRK0	**Durika**	**1.52**	**109**	P	Pn	07 00 19.4	-0.2

*NNC **30** 07:08:51.0±0.4,50°.02N×78°.91E, h0km, mb3.3, mpv2.7, Error ellipse: s-maj=8.7km s-min=2.2km az=67.0, Suspected Mining explosion.*
*IDC **30** 07:08:52.3±1.1,50°.04N×78°.76E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=15.4km s-min=6.8km az=66.0*
ISC 30 07:08:52.1±1.1**,49°.98N**±0°.06×**78°.7E**±0°.1**, h0**km**, n18,**
σ0ᵎ**81**/27**, 15C-8D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.61**	**348**	⇓P	**Pg**	**07 09 03.0**	**-0.9**
KUR07				⇑S	**Sg**	**07 09 11.9**	**+0.1**
KUR06	**Kurchatov Arra**	**0.63**	**349**	⇑P	**Pg**	**07 09 03.2**	**-1.0**
KUR06				⇑S	**Sg**	**07 09 12.4**	**-0.1**
KUR14	**Kurchatov Arra**	**0.64**	**353**	⇓P	**Pg**	**07 09 03.3**	**-1.0**
KUR14				⇓S	**Sg**	**07 09 12.6**	**0.0**
KUR15	**Kurchatov Arra**	**0.64**	**351**	⇓P	**Pg**	**07 09 03.3**	**-1.1**
KUR15				⇓S	**Sg**	**07 09 13.2**	**+0.4**
KURBB	**Kurchatov Arra**	**0.65**	**350**	⇑P	**Pg**	**07 09 03.8**	**-0.8**
	30nm,0.7s						
KURBB				⇓S	**Sg**	**07 09 13.6**	**+0.6**
	203nm,0.7s						
KURBB	**Kurchatov Arra**	**0.65**	**350**	Pg	**Pg**	**07 09 04.0**	**-0.7**
	1.2nm,0.3s,baz=166,slow=19,SNR=46						
KURBB				Lg	Lg	07 09 13.0	
	4.3nm,0.3s,baz=166,slow=32,SNR=47						
KUR16	**Kurchatov Arra**	**0.66**	**348**	⇑P	**Pg**	**07 09 03.9**	**-0.9**
KUR16				⇓S	**Sg**	**07 09 13.5**	**+0.2**
KUR17	**Kurchatov Arra**	**0.67**	**346**	⇑P	**Pg**	**07 09 04.3**	**-0.6**
KUR17				⇑S	**Sg**	**07 09 13.8**	**+0.2**
KUR05	**Kurchatov Arra**	**0.67**	**350**	⇑P	**Pg**	**07 09 04.0**	**-1.0**
KUR05				⇑S	**Sg**	**07 09 12.8**	**-0.8**
KUR04	**Kurchatov Arra**	**0.69**	**351**	⇑P	**Pg**	**07 09 04.1**	**-1.2**
KUR04				⇑S	**Sg**	**07 09 14.0**	**-0.3**
KURK	**Kurchatov**	**0.73**	**355**	⇑P	**Pg**	**07 09 05.1**	**-1.1**
	2.2nm,0.5s						
KURK				⇑S	**Sg**	**07 09 14.8**	**-0.9**
	21nm,0.6s						
MAKZ	**Makanchi**	**3.85**	**144**	Lg	Lg	07 10 51.2	
	11nm,0.7s						
MK31	**Makanchi Array**	**3.98**	**142**	⇑Pg	**Pb**	**07 10 03.5**	**+0.3**
	1.9nm,0.6s,baz=324,slow=14,SNR=9.6						
MK31				⇓Lg	Lg	07 10 56.4	
	11nm,0.6s,baz=327,slow=24,SNR=17						
MKAR	**Makanchi Array**	**3.98**	**142**	Pn	**Pn**	**07 09 54.5**	**+0.1**
	0.2nm,0.3s,baz=320,slow=15,SNR=2.6						
MKAR				Pg	**Pb**	**07 10 02.9**	**-0.3**
	0.3nm,0.3s,baz=326,slow=14,SNR=14						
MKAR				Lg	Lg	07 10 58.3	
	2.2nm,0.3s,baz=330,slow=21,SNR=16						
	0.4nm,0.4s						
I46RU	**ZALESOVO INFRA**	**5.48**	**41**	I	I	07 41 50.0	
	baz=224,slow=324,SNR=6.7						
ZALV	**Zalesovo Beam**	**5.48**	**41**	Pn	**Pn**	**07 10 16.3**	**+1.4**
	0.3nm,0.3s,baz=221,slow=14,SNR=5.9						
ZALV				Lg	Lg	07 11 42.7	
	0.3nm,0.3s,baz=223,slow=31,SNR=2.0						
	2.1nm,0.6s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Hualane**	**1.02**	**63**	*eP*	**Pb**	**08 14 47.0**	**+0.1**
GO05				*eS*	**Sg**	**08 14 59.8**	**-0.4**
GO05				IAML		08 15 02.4	
	comp=N,3μm,0.3s						
GO05	**Hualane**	**1.02**	**63**	*eP*	Pb	08 14 42.1	-4.8
GO05				*eS*	**Sg**	**08 15 01.1**	**+1.0**
GO05				IAML		08 15 02.0	
	comp=Z,2μm,0.6s						
BI05	**Punta Hualpn**	**1.27**	**186**	*eP*	**Pg**	**08 14 50.9**	**-0.9**
BI05				*eS*	**Sb**	**08 15 05.8**	**-1.8**
BI05	**Punta Hualpn**	**1.27**	**186**	*eP*	**Pg**	**08 14 50.9**	**-0.9**
BI05				IAML		08 15 12.4	
	comp=Z,968nm,0.7s						
BO03	**Pichilemu**	**1.32**	**42**	*eP*	**Pn**	**08 14 51.4**	**-0.2**
BO03				*eS*	**Sn**	**08 15 09.3**	**+0.2**
BO03				IAML		08 15 14.8	
	comp=N,2μm,0.3s						
BI02	**San Fabin de**	**1.85**	**130⇓**	*eP*	**Pn**	**08 14 59.2**	**+0.3**
BI02				*eS*	**Sn**	**08 15 21.8**	**-0.7**
BI02				IAML		08 15 27.3	
	comp=N,1μm,0.4s						
BI02	**San Fabin de**	**1.85**	**130**	*eP*	**Pn**	**08 14 59.0**	**0.0**
BI02				IAML		08 15 35.6	
	comp=Z,457nm,1.0s						
BO01	**Tunca**	**1.93**	**56**	*eP*	**Pb**	**08 15 02.1**	**-0.4**
BO01				*eS*	**Sb**	**08 15 26.8**	**+0.1**
BO01				IAML		08 15 34.5	
	comp=N,693nm,0.3s						
BO01	**Tunca**	**1.93**	**56**	*eP*	**Pb**	**08 15 02.3**	**-0.2**
BO01				*eS*	**Sn**	**08 15 23.0**	**-1.3**
BO01				IAML		08 15 33.6	
	comp=Z,479nm,0.4s						
BO02	**Sierra Bellavi**	**1.97**	**70**	*eP*	**Pb**	**08 15 02.3**	**-0.8**
BO02	**Sierra Bellavi**	**1.97**	**70**	*eP*	**Pn**	**08 15 01.8**	**+1.2**
BO02				*eS*	**Sg**	**08 15 31.9**	**+1.3**
BO02				IAML		08 15 32.3	
	comp=Z,2μm,0.5s						
MT01	**Popeta**	**2.18**	**43**	*eP*	**Pn**	**08 15 04.6**	**+1.1**
MT01				*eS*	**Sn**	**08 15 31.8**	**+1.4**
MT01				IAML		08 15 43.4	
	comp=Z,410nm,0.8s						
BO04	**La Punta**	**2.49**	**54**	*eP*	**Pn**	**08 15 08.9**	**+1.2**
BO04				IAML		08 15 52.5	
	comp=E,616nm,0.6s						
MT02	**Curacav**	**2.71**	**36**	*eP*	**Pn**	**08 15 11.8**	**+1.0**
MT02				*eS*	**Sb**	**08 15 47.0**	**-2.1**
MT02				IAML		08 16 02.6	
	comp=Z,208nm,0.6s						
MT05	**Renca**	**2.82**	**43**	*eP*	**Pn**	**08 15 13.3**	**+1.1**
MT05				*eS*	**Sn**	**08 15 44.4**	**-1.8**
MT05				IAML		08 16 08.4	
	comp=Z,321nm,0.9s						
LMEL	**Las Melosas**	**2.84**	**56**	*eP*	**Pb**	**08 15 15.9**	**-2.2**
LMEL				*eS*	**Sb**	**08 15 51.6**	**-1.4**
LMEL				IAML		08 15 59.7	
	comp=Z,476nm,0.9s						
MT13	**San Alfonso**	**2.85**	**53**	*eP*	**Pb**	**08 15 16.0**	**-2.2**
MT13				*eS*	**Sb**	**08 15 51.7**	**-1.4**
MT13				IAML		08 16 00.9	
	comp=Z,261nm,0.5s						
MT03	**Universidad Ad**	**2.88**	**47**	*eP*	**Pn**	**08 15 15.0**	**+2.0**
MT03				*eS*	**Sb**	**08 15 52.1**	**-1.7**
MT03				IAML		08 16 01.7	
	comp=Z,422nm,0.8s						
CANA	**Caviahue**	**2.88**	**147**	*eP*	**Pn**	**08 15 15.2**	**+2.0**
CANA				*eS*	**Sg**	**08 16 01.6**	**+1.8**
EDS3	**Malargue**	**2.98**	**97**	*eP*	**Pb**	**08 15 18.5**	**-1.9**
EDS3				*eS*	**Sb**	**08 15 57.0**	**+0.2**
ROC1	**El Roble**	**3.00**	**34**	*eP*	**Pn**	**08 15 16.5**	**+1.5**
ROC1				*eS*	**Sg**	**08 16 06.4**	**+2.6**
PEL	**Peldehue**	**3.03**	**41**	*eP*	**Pn**	**08 15 17.3**	**+2.1**
PEL				*eS*	**Sb**	**08 15 58.3**	**0.0**
PEL				IAML		08 16 13.2	
	comp=Z,255nm,0.5s						
FCH	**Farellones**	**3.12**	**47**	*eP*	**Pn**	**08 15 18.4**	**+1.7**
FCH				IAML		08 16 14.1	
	comp=N,241nm,0.4s						
MT04	**Ro Olivares**	**3.16**	**50**	*eP*	**Pn**	**08 15 19.7**	**+2.6**
MT04				*eS*	**Sb**	**08 16 01.1**	**-1.1**
MT04				IAML		08 16 13.2	
	comp=Z,188nm,1.1s						
MT08	**Bocatoma Ro**	**3.21**	**52**	*eP*	**Pn**	**08 15 20.5**	**+2.7**
MT08				*eS*	**Sb**	**08 16 02.7**	**-1.0**
MT08				IAML		08 16 16.7	
	comp=Z,154nm,0.6s						
VA03	**San Esteban**	**3.40**	**38**	*eP*	**Pn**	**08 15 21.8**	**+1.4**
VA03				*eS*	**Sb**	**08 16 11.7**	**+2.7**
VA03				IAML		08 16 28.4	
	comp=Z,282nm,0.7s						
LR03	**Panguipulli**	**4.18**	**173**	*eP*	**Pn**	**08 15 31.5**	**+0.6**
LR03				*eS*	**Sb**	**08 16 31.1**	**-0.2**
LR03				IAML		08 16 44.5	
	comp=Z,240nm,0.8s						
GO06	**Curarrehue**	**4.28**	**164**	*eP*	**Pn**	**08 15 34.0**	**+1.6**
GO06				*eS*	**Sb**	**08 16 37.0**	**+2.7**
GO06				IAML		08 16 50.2	
	comp=Z,38nm,1.7s						
CO03	**El Pedregal**	**5.03**	**24**	*eP*	**Pn**	**08 15 43.5**	**+0.8**
CO03				*eS*	**Sn**	**08 16 40.7**	**-0.1**
CO03				IAML		08 17 18.1	
	comp=Z,60nm,0.6s						

*ASRS **30** 08:36:39.0±1.7,53.75N×91.11E,h0km,M2.8,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

*NNC **30** 08:36:53.5±0.9,53.44N×90.24E,h0km,mb3.1,mpv2.8, Error ellipse: s-maj=10.1km s-min=6.7km az=153.0, Suspected Mining explosion.*

IDC 30 08:36:45.4±3.6,53.59N×90.83E,h0km,mbtmp3.0/3, ML2.4/3,6C-1D,Error ellipse: s-maj=35.7km s-min=24.8km az=26.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.58**	**278**	⇑Pn	Pn	08 37 45.8	+3.7
	0.6nm,0.7s						
ZAA0				⇑Lg	Lg	08 38 37.2	
	4.3nm,1.4s						
ZALV	**Zalesovo Beam**	**3.58**	**278**	Pn	Pn	08 37 44.3	+2.1
	0.5nm,0.3s,baz=95,slow=16,SNR=7.7						
ZALV				Lg	Lg	08 38 36.4	
	0.9nm,0.3s,baz=91,slow=27,SNR=9.2						
	1.1nm,0.3s						
KURK	**Kurchatov**	**8.04**	**254**	⇑Sn	Sn	08 40 15.3	+0.4
	1.0nm,0.8s						
KURK				⇑Lg	Lg	08 40 57.4	
	4.2nm,0.9s						
KURBB	**Kurchatov Arra**	**8.13**	**254**	⇑Pn	Pn	08 38 47.8	+3.2
	0.6nm,0.3s,baz=65,slow=13						
KURBB				⇓Sn	Sn	08 40 17.1	0.0
	10nm,0.8s						
KURBB				⇑Lg	Lg	08 40 59.6	
	14nm,0.9s						
KURBB	**Kurchatov Arra**	**8.13**	**254**	Pn	Pn	08 38 43.8	-0.8
	0.1nm,0.3s,baz=65,slow=14,SNR=7.2						
KURBB				Sn	Sn	08 40 16.8	-0.4
	baz=69,slow=27,SNR=7.7						
KURBB				Lg	Lg	08 41 04.4	
	baz=72,slow=33,SNR=8.2						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.73**	**222**	Pn	Pn	08 38 53.7	+0.9
	0.1nm,0.3s,baz=33,slow=16,SNR=6.2						
MKAR				Lg	Lg	08 41 20.3	
	baz=40,slow=34,SNR=2.6						
	0.5nm,0.6s						
I34MN	**SONGINO INFRAS**	**11.44**	**114**	I	I	09 44 00.0	
	baz=309,slow=318,SNR=2.0						

VIE 30 08:37:06.3±0.1,46.80N×14.56E,h0km,mb0.7/1,ml0.6/3, Error ellipse: s-maj=1.2km s-min=0.9km az=47.0 4 km SSE of Klein Sankt Paul Suspected Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBKA	**Obir**	**0.29**	**182**	*i* Pg	Pg	08 37 12.2	+0.3
	0.1nm,0.1s						
OBKA				*i* Sg	Sg	08 37 16.5	+0.9
	11nm,1.4s						
SOKA	**Soboth**	**0.34**	**111**	*i* Pg	Pg	08 37 12.8	-0.1
	0.3nm,0.2s						
SOKA				*i* Sg	Sg	08 37 18.0	+0.5
	0.8nm,0.2s						

LJU 30 08:37:13.3,45.74N×14.08E,h0km,ML0.5,1C,Explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVS	**Javornik**	**0.16**	**357**	*i* Pg	Pg	08 37 16.5	+0.2
JAVS				IAML		08 37 21.0	
	comp=Z,3.0nm,0.1s						
SKDS	**Skadanscina**	**0.20**	**193**	*i* Pg	Pg	08 37 17.1	+0.1
SKDS				*i* Sg	Sg	08 37 21.1	+1.5
SKDS				IAML		08 37 21.7	
	comp=Z,6.4nm,0.1s						
CEY	**Cerknica**	**0.24**	**90**	*i* Pg	Pg	08 37 18.1	+0.1
CEY				IAML		08 37 23.2	
	comp=Z,4.3nm,0.1s						
GBAS	**Gorenja Brezov**	**0.32**	**52**	*i* Pg	Pg	08 37 19.5	0.0
GBAS				IAML		08 37 26.5	
	comp=Z,2.8nm,0.1s						
VOJS	**Vojsko**	**0.32**	**335⇑**	*i* Pg	Pg	08 37 19.5	0.0
VOJS				IAML		08 37 26.7	
	comp=Z,1.7nm,0.1s						
CRNS	**Crni Vrh**	**0.37**	**21**	*i* Pg	Pg	08 37 20.4	0.0
CRNS				IAML		08 37 27.4	
	comp=Z,2.0nm,0.1s						

*SDD **30** 08:39:29.9±2.1,19.17N×67.20W,h2km±23km,MD2.8, ML1.6,MW2.1*

RSPR 30 08:39:29.5,19.21N×67.47W,h58km±7km,MD3.0/7, 30C-2D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.81**	**155⇑**	*eP*	Pn	08 39 46.4	-1.7
AGPR	**Aguadilla, PR**	**0.81**	**155**	*eS*	Sn	08 39 53.9	-2.5
AGPR	**Aguadilla, PR**	**0.81**	**155**	*iP*	Pn	08 39 42.0	-3.1
AGPR				⇑*eSg*	Sn	08 39 52.0	-4.4
AGPR				IAML		08 39 56.8	
	comp=N,24nm,0.7s						
AGPR	**Aguadilla, PR**	**0.81**	**155⇑**	*ePg*	Pn	08 39 42.9	-2.2
AGPR				⇑*eSg*	Sn	08 39 53.4	-3.0
AGPR				IAML		08 39 56.8	
	comp=N,24nm,0.7s						
IDE	**Isla Desecheo**	**0.82**	**181⇓**	*eP*	Pn	08 39 44.2	-1.0
IDE	**Isla Desecheo**	**0.82**	**181**	*eS*	Sn	08 39 56.0	-0.6
LSP	**Las Mesas**	**1.09**	**161⇑**	*eP*	Pn	08 39 47.7	-1.0
LSP	**Las Mesas**	**1.09**	**161**	*eS*	Sn	08 40 02.5	-0.5
AOPR	**Arecibo Observ**	**1.09**	**142⇑**	*eP*	Pn	08 39 48.2	-0.5
AOPR	**Arecibo Observ**	**1.09**	**142**	*eS*	Sn	08 40 02.5	-0.5
AOPR	**Arecibo Observ**	**1.09**	**142⇑**	*ePg*	Pn	08 39 46.9	-1.8
AOPR				IAML		08 40 07.4	
	comp=N,38nm,0.4s						
AOPR	**Arecibo Observ**	**1.09**	**142⇑**	*ePg*	Pn	08 39 48.6	-0.1
AOPR				IAML		08 40 07.4	
	comp=N,38nm,0.4s						
PCDR	**Punta Cana, DR**	**1.11**	**232**	*i* P	Pn	08 39 54.3	+5.3
UUPR	**Utuado, UPR, P**	**1.18**	**143⇑**	*eP*	Pn	08 39 49.5	-0.5
UUPR	**Utuado, UPR, P**	**1.18**	**143**	*eS*	Sn	08 40 04.0	-1.2
CRPR	**Cabo Rojo, PR**	**1.24**	**164⇑**	*eP*	Pn	08 39 49.6	-1.1
CRPR	**Cabo Rojo, PR**	**1.24**	**164**	*eS*	Sn	08 40 05.8	-0.7
CRPR	**Cabo Rojo, PR**	**1.24**	**164⇑**	*ePg*	Pn	08 39 49.5	-1.2
CRPR				⇑*eSg*	Sn	08 40 05.5	-1.0
CRPR				IAML		08 40 10.6	
	comp=N,13nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.24**	**164⇑**	*ePg*	Pn	08 39 50.0	-0.7
CRPR				⇑*eSg*	Sn	08 40 06.0	-0.5
CRPR				IAML		08 40 10.6	
	comp=N,13nm,0.5s						
MLPR	**Magueyes Islan**	**1.29**	**162⇑**	*eP*	Pn	08 39 50.6	-0.8
MLPR	**Magueyes Islan**	**1.29**	**162**	*eS*	Sn	08 40 07.1	-0.7
MLPR	**Magueyes Islan**	**1.29**	**162⇑**	*ePg*	Pn	08 39 50.9	-0.6
MLPR				⇑*eSg*	Sn	08 40 08.1	+0.3
MLPR				IAML		08 40 15.4	
	comp=N,4.8nm,1.9s						
MLPR	**Magueyes Islan**	**1.29**	**162⇑**	*ePg*	Pn	08 39 50.9	-0.5
MLPR				⇑*eSg*	Sn	08 40 06.5	-1.3
MLPR				IAML		08 40 15.2	
	comp=N,3.8nm,0.5s						
ECPR	**Experimental S**	**1.37**	**130⇑**	*eP*	Pn	08 39 51.5	-1.0
ECPR	**Experimental S**	**1.37**	**130**	*eS*	Sn	08 40 09.1	-0.5
CELP	**Cerrillos**	**1.41**	**143⇑**	*eP*	Pn	08 39 52.7	-0.3
CELP	**Cerrillos**	**1.41**	**143**	*eS*	Sn	08 40 09.3	-1.2
CELP	**Cerrillos**	**1.41**	**143⇑**	*ePg*	Pn	08 39 51.6	-1.3
CELP				⇑*eSg*	Sn	08 40 09.5	-1.0
CELP				IAML		08 40 16.1	
	comp=N,12nm,0.2s						
CELP	**Cerrillos**	**1.41**	**143⇑**	*ePg*	Pn	08 39 51.9	-1.0
CELP				⇑*eSg*	Sn	08 40 09.8	-0.7
CELP				IAML		08 40 16.1	
	comp=N,12nm,0.2s						
OBIP	**Obispado Ponce**	**1.42**	**145⇑**	*eP*	Pn	08 39 51.7	-1.4
OBIP	**Obispado Ponce**	**1.42**	**145**	*eS*	Sn	08 40 09.9	-0.8
MIDR	**Miches**	**1.51**	**262**	*iP*	Pn	08 39 58.9	+4.6
MIDR				*i* S	Sn	08 40 21.5	+8.4
MIDR				IAML		08 40 37.8	
	comp=N,6.5nm,2.3s						
MIDR	**Miches**	**1.51**	**262⇑**	*ePg*	Pn	08 39 58.7	+4.3
MIDR				⇑*eSg*	Sn	08 40 21.6	+8.5
MIDR				IAML		08 40 37.8	
	comp=N,6.5nm,2.3s						
PDPR	**Patillas Dam,**	**1.81**	**131⇓**	*eP*	Pn	08 39 58.0	-0.4
PDPR	**Patillas Dam,**	**1.81**	**131**	*eS*	Sn	08 40 19.1	-1.2
HATOM	**Hato Mayor del**	**1.86**	**257**	*iP*	Pn	08 40 05.0	+5.9
HATOM				*i* S	Sn	08 40 28.3	+6.7
HATOM				IAML		08 40 38.6	
	comp=N,10nm,1.6s						
HATOM	**Hato Mayor del**	**1.86**	**257⇑**	*ePg*	Pn	08 40 05.8	+6.7
HATOM				⇑*eSg*	Sn	08 40 32.6	+11
HATOM				IAML		08 40 38.6	
	comp=N,10nm,1.6s						

ISK 30 08:52:34.3,39.10N×27.57E,h0km,ML1.6/7,Suspected Mining explosion.,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOMA	**Soma-Manisa**	**0.06**	**336**	Pg	Pg	08 52 36.2	+0.7
SOMA				Sg	Sg	08 52 37.7	+1.5
GORD	**Gordes-Manisa**	**0.51**	**112**	Pg	Pg	08 52 44.7	+0.6
GORD				Sg	Sg	08 52 52.4	+1.6
YAYO	**Edremit-Balk**	**0.64**	**323**	Pg	Pg	08 52 46.9	+0.4
YAYO				Sg	Sg	08 52 55.8	+1.0
ODEM	**Odemis-Izmir**	**0.92**	**154**	Pg	Pg	08 52 52.3	+0.5
ODEM				Sg	Sb	08 53 05.4	-0.4
KULA	**Kula-Manisa**	**1.04**	**124**	Pg	Pb	08 52 54.7	-0.5
AYDB	**Zeytinkoy-Aydi**	**1.18**	**167**	Pn	Pb	08 52 57.4	-0.3
NAZL	**Nazilli-Aydin**	**1.27**	**153**	Pn	Pb	08 52 59.0	-0.1

AFAD 30 08:53:19.2,37.14N×27.83E,h7km±2km,ML1.1,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	**Mugla, Merkez-**	**0.41**	**73**	P	Pg	08 53 27.3	+0.1
MULA				S	Sg	08 53 33.6	+1.0
MULA				*i* IAML		08 53 34.0	
	comp=N,16nm,0.8s						
MULA				*i* IAML		08 53 37.0	
	comp=E,27nm,0.4s						
AYDN	**Tasoluk**	**0.53**	**4**	P	Pg	08 53 29.8	+0.4
AYDN				S	Sg	08 53 36.9	+0.6
AYDN				*i* IAML		08 53 38.0	
	comp=N,34nm,0.5s						
AYDN				*i* IAML		08 53 38.0	
	comp=E,51nm,0.5s						
ESEN	**Aydn-Nazilli**	**0.78**	**32**	P	Pg	08 53 33.9	-0.2
ESEN				S	Sb	08 53 45.3	-0.5
ESEN				*i* IAML		08 53 46.0	
	comp=E,7.6nm,0.4s						
ESEN				*i* IAML		08 53 51.0	
	comp=N,6.5nm,0.4s						
TAVA	**DENIZLI_Tavas**	**0.92**	**69**	P	Pn	08 53 38.2	-0.5
TAVA				S	Sg	08 53 48.8	-0.1
TAVA				*i* IAML		08 53 58.0	
	comp=N,5.8nm,0.6s						
TAVA				*i* IAML		08 54 22.0	
	comp=E,5.3nm,1.6s						

SGS 30 09:07:18.1,28.73N×35.00E,h7km,MI0.0,Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDAS	**Al Bad`**	**0.31**	**163**	P	Pg	09 07 24.1	-0.2
BDAS	**Al Bad`**	**0.31**	**163**	S	Sb	09 07 31.0	-0.4
BDAS	**Al Bad`**	**0.31**	**163**	P	Pg	09 07 24.1	-0.2
BDAS	**Al Bad`**	**0.31**	**163**	S	Sb	09 07 30.9	-0.4
HAQS	**Haql**	**0.33**	**348**	P	Pg	09 07 25.1	+0.5
HAQS				S	Sg	09 07 29.1	+0.1
HAQS	**Haql**	**0.33**	**348**	P	Pg	09 07 25.0	+0.4
JLOS		**0.43**	**89**	P	Pg	09 07 26.4	-0.2
JLOS		**0.43**	**89**	P	Pg	09 07 26.5	-0.2
JMOS	**Jabal al Moall**	**0.45**	**13**	P	Pg	09 07 23.4	-3.5
JMOS	**Jabal al Moall**	**0.45**	**13**	S	Sg	09 07 29.8	-3.0
JMOS	**Jabal al Moall**	**0.45**	**13**	P	Pg	09 07 23.2	-3.7
AYUS	**`Aynunah**	**0.59**	**156**	P	Pg	09 07 29.2	-0.2
AYUS	**`Aynunah**	**0.59**	**156**	P	Pg	09 07 29.0	-0.4

*NEIC **30** 09:09:56.2±1.1,19.13N±0.04×67.19W±0.03,h10km±2km, ML3.4/19,Md3.2/20(RSPR),Error ellipse: s-maj=6.4km s-min=4.2km az=7.0*

*SDD **30** 09:09:56.4±1.8,19.21N×67.23W,h15km±11km,MD3.2, ML3.3,MW3.5*

*RSPR **30** 09:09:57.2,19.21N×67.24W,h6km±2km,MD3.2/20*

ISC 30 09:09:54.8±1.6,19.20N±0.06×67.19W±0.03,h11km±10km, n71,σ0.970/83,17C-16D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.73**	**174**		**Pb**	**09 10 09.9**	**+0.3**
AGPR					**Sb**	**09 10 20.7**	**+1.1**
AGPR	**Aguadilla, PR**	**0.73**	**174⇓**	*iP*	**Pb**	**09 10 09.9**	**+0.3**
AGPR	**Aguadilla, PR**	**0.73**	**174**	*eS*	**Sb**	**09 10 20.7**	**+1.1**
AGPR	**Aguadilla, PR**	**0.73**	**174⇓**	*ePg*	**Pb**	**09 10 09.9**	**+0.3**
AGPR				⇓*eSg*	**Sb**	**09 10 20.2**	**+0.6**
AGPR				IAML		09 10 21.7	
	comp=N,3μm,0.2s						
IDE	**Isla Desecheo**	**0.85**	**198**		**Pb**	**09 10 11.7**	**+0.1**
IDE					**Sb**	**09 10 23.6**	**+0.5**
IDE	**Isla Desecheo**	**0.85**	**198⇑**	*eP*	**Pb**	**09 10 11.7**	**+0.1**
IDE	**Isla Desecheo**	**0.85**	**198**	*eS*	**Sb**	**09 10 23.6**	**+0.5**
AOPR	**Arecibo Observ**	**0.95**	**154**		**Pb**	**09 10 13.3**	**+0.1**
AOPR					**Sn**	**09 10 27.1**	**-0.5**
AOPR	**Arecibo Observ**	**0.95**	**154**	IAML		09 10 34.9	
	comp=N,2μm,0.4s						
AOPR	**Arecibo Observ**	**0.95**	**154⇓**	*eP*	**Pb**	**09 10 13.3**	**+0.1**
AOPR	**Arecibo Observ**	**0.95**	**154**	*eS*	**Sn**	**09 10 27.1**	**-0.5**
AOPR	**Arecibo Observ**	**0.95**	**154⇓**	*ePg*	**Pn**	**09 10 13.5**	**-0.5**
AOPR				IAML		09 10 29.4	
	comp=N,2μm,0.4s						
EMPR	**Esperanza - Ma**	**0.96**	**139**		**Pn**	**09 10 14.4**	**+0.3**
EMPR					**Sn**	**09 10 27.5**	**-0.2**
EMPR	**Esperanza - Ma**	**0.96**	**139⇑**	*eP*	**Pn**	**09 10 14.4**	**+0.3**
EMPR	**Esperanza - Ma**	**0.96**	**139**	*eS*	**Sn**	**09 10 27.5**	**-0.2**
PRSN	**Puerto Rico Se**	**0.98**	**177**		**Pg**	**09 10 13.6**	**-0.1**
PRSN					**Sb**	**09 10 27.9**	**+1.2**
PRSN	**Puerto Rico Se**	**0.98**	**177⇓**	*eP*	**Pg**	**09 10 13.6**	**-0.1**
PRSN	**Puerto Rico Se**	**0.98**	**177**	*eS*	**Sb**	**09 10 27.9**	**+1.2**
LSP	**Las Mesas**	**1.03**	**174**		**Pb**	**09 10 14.5**	**-0.1**
LSP					**Sb**	**09 10 29.3**	**+1.2**
LSP	**Las Mesas**	**1.03**	**174⇑**	*eP*	**Pb**	**09 10 14.5**	**-0.1**
LSP	**Las Mesas**	**1.03**	**174**	*eS*	**Sb**	**09 10 29.3**	**+1.2**
UUPR	**Utuado, UPR, P**	**1.04**	**155**		**Pb**	**09 10 14.7**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.04**	**155⇓**	*eP*	**Pb**	**09 10 14.7**	**-0.2**
ECPR	**Experimental S**	**1.18**	**138⇓**	*eP*	**Pg**	**09 10 17.0**	**-0.5**
ECPR	**Experimental S**	**1.18**	**138**	*eS*	**Sg**	**09 10 33.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.19**	**176**		**Pn**	**09 10 16.8**	**-0.5**
CRPR					**Sn**	**09 10 32.8**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.19**	**176**	IAML		09 10 37.0	
	comp=N,745nm,0.3s						
CRPR				IAML		09 10 43.2	
	comp=E,687nm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.19**	**176⇓**	*iP*	**Pn**	**09 10 16.8**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.19**	**176**	*eS*	**Sb**	**09 10 32.8**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.19**	**176⇓**	*ePg*	**Pn**	**09 10 16.8**	**-0.5**
CRPR				⇓*eSg*	**Sb**	**09 10 32.8**	**0.0**
CRPR				IAML		09 10 35.9	
	comp=N,848nm,0.5s						
MLPR	**Magueyes Islan**	**1.23**	**173⇓**	*iP*	**Pn**	**09 10 17.5**	**-0.4**
MLPR	**Magueyes Islan**	**1.23**	**173**	*eS*	**Sb**	**09 10 33.7**	**-0.3**
MLPR	**Magueyes Islan**	**1.23**	**173⇓**	*ePg*	**Pn**	**09 10 17.5**	**-0.4**
MLPR				⇑*eSg*	**Sb**	**09 10 33.9**	**-0.1**
MLPR				IAML		09 10 39.6	
	comp=N,185nm,0.2s						
GBPR	**Guanica, Bosqu**	**1.26**	**166**		**Pn**	**09 10 18.2**	**0.0**
GBPR	**Guanica, Bosqu**	**1.26**	**166⇓**	*eP*	**Pn**	**09 10 18.2**	**0.0**
CELP	**Cerrillos**	**1.26**	**153**		**Pn**	**09 10 18.3**	**-0.1**
CELP					**Sb**	**09 10 35.1**	**+0.3**
CELP	**Cerrillos**	**1.26**	**153**	IAML		09 10 37.1	
	comp=N,900nm,0.4s						
CELP				IAML		09 10 41.2	
	comp=E,696nm,0.3s						
CELP	**Cerrillos**	**1.26**	**153⇓**	*eP*	**Pn**	**09 10 18.3**	**-0.1**
CELP	**Cerrillos**	**1.26**	**153**	*eS*	**Sb**	**09 10 35.1**	**+0.3**
CELP	**Cerrillos**	**1.26**	**153⇑**	*ePg*	**Pb**	**09 10 18.5**	**-0.1**
CELP				⇑*eSg*	**Sb**	**09 10 35.2**	**+0.3**
CELP				IAML		09 10 36.7	
	comp=N,942nm,0.2s						
OBIP	**Obispado Ponce**	**1.28**	**154**		**Pn**	**09 10 18.6**	**0.0**
OBIP					**Sg**	**09 10 36.0**	**-0.1**
OBIP	**Obispado Ponce**	**1.28**	**154**	IAML		09 10 38.0	
	comp=E,1μm,0.4s						
OBIP				IAML		09 10 38.3	
	comp=N,854nm,0.5s						
OBIP	**Obispado Ponce**	**1.28**	**154⇓**	*iP*	**Pn**	**09 10 18.6**	**0.0**
OBIP	**Obispado Ponce**	**1.28**	**154**	*eS*	**Sg**	**09

3.6nm,0.3s,baz=42,slow=11,SNR=9.9
PMG Sn Sn 09 17 05.6 +8.3
0.5nm,0.3s,baz=225,slow=20,SNR=1.0
GUMO Guam 19.80 342 LR LR 09 27 35.8
comp=Z,39nm,18.4s,baz=131,slow=40
WRA Warramunga Arr 21.89 227 P P 09 19 19.1 -1.3
1.3nm,0.7s,baz=52,slow=10,SNR=14
1.3nm,0.7s
DZM Mont Dzumac 22.26 140 LR LR 09 27 01.1
comp=Z,188nm,18.6s,baz=357,slow=34
ASAR Alice Springs 24.68 221 P P 09 19 48.3 -0.2
8.3nm,1.0s,baz=57,slow=8.2,SNR=28
8.3nm,1.0s
BATI Baumata 27.67 258 LR LR 09 33 42.6
comp=Z,146nm,18.3s,baz=123,slow=42
STKA Stephens Creek 27.90 198 P P 09 20 18.1 +0.8
0.9nm,0.7s,baz=41,slow=8.9,SNR=2.9
STKA LR LR 09 31 01.9
comp=Z,79nm,18.9s,baz=24,slow=36
0.9nm,0.7s
JHJ Hachijo jima 2 39.73 345 LR LR 09 35 19.1
comp=Z,41nm,21.5s,baz=196,slow=32
URZ Urewera 40.38 148 LR LR 09 37 18.4
comp=Z,74nm,18.6s,baz=303,slow=34
KSRS Korea Array 47.76 335 P P 09 23 03.4 -1.1
0.3nm,0.3s,baz=156,slow=9.1,SNR=5.3
0.3nm,0.3s
ASAJ Asahikawa 49.82 352 LR LR 09 41 18.1
comp=Z,17nm,20.9s,baz=231,slow=32
CMAR Chiang Mai Arr 56.64 296 P P 09 24 12.2 +1.2
0.7nm,0.4s,baz=102,slow=8.1,SNR=6.6
0.7nm,0.4s
PETK Petropavlovsk- 58.47 5 LR LR 09 45 34.9
comp=Z,17nm,21.1s,baz=132,slow=32
MA2 Magadan 64.70 360 LR LR 09 55 49.7
comp=Z,12nm,18.0s,baz=91,slow=38
SONM Songino Array 65.91 329 LR LR 09 53 41.9
comp=Z,20nm,18.8s,baz=125,slow=36
YAK Yakutsk 69.17 349 LR LR 09 54 31.0
comp=Z,13nm,20.1s,baz=154,slow=35

*RSPR **30** 09:19:45.6, 19°.25N×67°.42W, h47km±12km, MD3.0/12*
*SDD **30** 09:19:45.4±0.6, 19°.24N×67°.21W, h31km±21km, MD3.5, ML2.2, MW2.9*
*NEIC **30** 09:19:46.1±1.3, 19°.10N±0°.07×67°.31W±0°.04, h20km±12km, ML2.1/13, Md3.0/12(RSPR), Error ellipse: s-maj=9.9km s-min=5.5km az=191.0*
ISC 30 09:19:46.3±1.6, 19°.16N±0°.08×67°.34W±0°.04, h30km±12km, n48, σ0s83/56, 24C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.72 162**			**Pn**	**09 19 59.4**	**-1.0**
AGPR					**Sb**	**09 20 10.9**	**+1.0**
AGPR	**Aguadilla, PR**	**0.72 162**		*i eP*	**Pn**	**09 19 59.4**	**-1.0**
AGPR	**Aguadilla, PR**	**0.72 162**		*eS*	**Sb**	**09 20 10.9**	**+1.0**
AGPR	**Aguadilla, PR**	**0.72 162**		*ePg*	**Pn**	**09 19 59.1**	**-1.3**
AGPR				*eSg*	**Sb**	**09 20 09.4**	**-0.5**
AGPR				IAML		09 20 14.3	
	comp=N,145nm,0.3s						
IDE	**Isla Desecheo**	**0.78 189**			**Pn**	**09 20 00.8**	**-0.4**
IDE					**Sn**	**09 20 12.9**	**+1.1**
IDE	**Isla Desecheo**	**0.78 189**		*eP*	**Pn**	**09 20 00.8**	**-0.4**
IDE	**Isla Desecheo**	**0.78 189**		*eS*	**Sn**	**09 20 12.9**	**+1.1**
PRSN	**Puerto Rico Se**	**0.95 169**	Pn		**Pn**	**09 20 03.4**	**-0.3**
PRSN	**Puerto Rico Se**	**0.95 169**		*ePg*	**Pn**	**09 20 02.3**	**-1.3**
PRSN				*eSg*	**Sn**	**09 20 16.2**	**0.0**
PRSN				IAML		09 20 19.1	
	comp=N,188nm,0.2s						
AOPR	**Arecibo Observ**	**0.98 145**			**Pn**	**09 20 02.8**	**-1.3**
AOPR					**Sn**	**09 20 16.5**	**-0.4**
AOPR	**Arecibo Observ**	**0.98 145**		*eP*	**Pn**	**09 20 02.8**	**-1.3**
AOPR	**Arecibo Observ**	**0.98 145**		*eS*	**Sn**	**09 20 16.5**	**-0.4**
AOPR	**Arecibo Observ**	**0.98 145**		*ePg*	**Pn**	**09 20 02.6**	**-1.4**
AOPR				IAML		09 20 26.6	
	comp=N,105nm,0.2s						
LSP	**Las Mesas**	**1.00 166**			**Pn**	**09 20 03.7**	**-0.7**
LSP	**Las Mesas**	**1.00 166**		*eP*	**Pn**	**09 20 03.7**	**-0.7**
EMPR	**Esperanza - Ma**	**1.02 131**			**Pb**	**09 20 04.9**	**-0.5**
EMPR					**Sb**	**09 20 19.8**	**+1.3**
EMPR	**Esperanza - Ma**	**1.02 131**			**Pn**	**09 20 04.2**	**-0.4**
EMPR	**Esperanza - Ma**	**1.02 131**		*eP*	**Pb**	**09 20 04.9**	**-0.5**
EMPR	**Esperanza - Ma**	**1.02 131**		*eS*	**Sb**	**09 20 19.8**	**+1.3**
UUPR	**Utuado, UPR, P**	**1.07 147**	Pn		**Pn**	**09 20 04.8**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.07 147**		*eP*	**Pn**	**09 20 04.9**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.17 169**			**Pn**	**09 20 06.0**	**-0.5**
CRPR					**Sn**	**09 20 22.4**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.17 169**	IAML			09 20 24.1	
	comp=E,44nm,0.2s						
CRPR			IAML			09 20 29.0	
	comp=N,47nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.17 169**		*eP*	**Pn**	**09 20 06.0**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.17 169**		*eS*	**Sn**	**09 20 22.4**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.17 169**		*ePg*	**Pn**	**09 20 05.9**	**-0.7**
CRPR				*eSg*	**Sn**	**09 20 21.6**	**+0.2**
CRPR			IAML			09 20 26.0	
	comp=N,49nm,0.2s						
PCDR	**Punta Cana, DR**	**1.18 237**		*ePg*	**Pb**	**09 20 08.1**	**+0.1**
PCDR			IAML			09 21 09.2	
	comp=N,49nm,5.0s						
MLPR	**Magueyes Islan**	**1.21 167**		*eP*	**Pn**	**09 20 06.6**	**-0.5**
MLPR	**Magueyes Islan**	**1.21 167**		*eS*	**Sn**	**09 20 23.2**	**+0.5**
MLPR	**Magueyes Islan**	**1.21 167**		*ePg*	**Pn**	**09 20 06.7**	**-0.5**
MLPR				*eSg*	**Sn**	**09 20 23.0**	**+0.3**
MLPR			IAML			09 20 30.4	
	comp=N,12nm,0.2s						
ECPR	**Experimental S**	**1.25 132**		*eP*	**Pn**	**09 20 07.5**	**-0.1**
CELP	**Cerrillos**	**1.29 146**			**Pn**	**09 20 07.7**	**-0.7**
CELP					**Sn**	**09 20 24.6**	**-0.1**
CELP	**Cerrillos**	**1.29 146**	IAML			09 20 25.9	
	comp=E,33nm,0.5s						
CELP	**Cerrillos**	**1.29 146**		*eP*	**Pn**	**09 20 07.7**	**-0.7**
CELP	**Cerrillos**	**1.29 146**		*eS*	**Sn**	**09 20 24.6**	**-0.1**
CELP	**Cerrillos**	**1.29 146**		*ePg*	**Pn**	**09 20 07.7**	**-0.7**
CELP			IAML			09 20 26.2	
	comp=N,64nm,0.4s						
OBIP	**Obispado Ponce**	**1.31 148**			**Pn**	**09 20 07.8**	**-0.7**
OBIP					**Sn**	**09 20 25.8**	**+0.8**
OBIP	**Obispado Ponce**	**1.31 148**	IAML			09 20 27.3	
	comp=N,42nm,0.6s						
OBIP			IAML			09 20 27.9	
	comp=E,42nm,0.4s						
OBIP	**Obispado Ponce**	**1.31 148**		*eP*	**Pn**	**09 20 07.8**	**-0.7**
OBIP	**Obispado Ponce**	**1.31 148**		*eS*	**Sn**	**09 20 25.8**	**+0.8**
GCPR	**Guaynabo City**	**1.46 125**	Pn		**Pn**	**09 20 10.4**	**-0.2**
SJG	**San Juan**	**1.53 132**	Pn		**Pn**	**09 20 11.8**	**+0.1**
SJG			IAML			09 20 55.5	
	comp=E,39nm,0.3s						
MIDR	**Miches**	**1.63 264**		*ePg*	**Pb**	**09 20 14.6**	**-1.0**
MIDR			IAML			09 20 43.1	
	comp=N,11nm,0.6s						
PDPR	**Patillas Dam,**	**1.69 132**	Pn		**Pn**	**09 20 13.5**	**-0.2**
PDPR			IAML			09 20 44.2	
	comp=N,21nm,0.2s						
PDPR	**Patillas Dam,**	**1.69 132**		*eP*	**Pn**	**09 20 13.9**	**+0.1**
PDPR	**Patillas Dam,**	**1.69 132**		*eS*	**Sn**	**09 20 35.8**	**+1.5**
DR12	**Loma Pena Alta**	**1.97 260**	Pn		**Pn**	**09 20 18.6**	**+1.0**
HATOM	**Hato Mayor del**	**1.97 260**		*ePg*	**Pb**	**09 20 19.7**	**-1.7**
HATOM			IAML			09 20 55.2	
	comp=N,9.7nm,2.4s						

*NEIC **30** 09:21:49.9, 34°.55S×73°.93W, h10km*
*NEIC **30** 09:21:49.9±2.8, 34°.55S±0°.05×73°.9W±0°.1, h10km±1km, mb4.7/91, Mwr4.2/37, ML3.8(GUC), Error ellipse: s-maj=15.4km s-min=7.8km az=285.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr-2.43; Mθθ 1.09; Mφφ 1.33; Mrθ 0.17; Mrφ 0.94; Mθφ -0.10; Fault plane solution: M0 2.32000×10^15 NP1:φs 37.38000°, δ 44.69000°, λ -95.69000°. NP2:φs 225.36000°, δ 45.59000°, λ -84.39000°. Principal axes: T 2.1660, Plg 0.0000°, Azm 311.0000°; N 0.2747, Plg 4.0000°, Azm 41.0000°; P -2.4407, Plg 86.0000°, Azm 215.0000°;*
*GUC **30** 09:21:52.7±0.7, 34°.75S×73°.73W, h35km, ML3.8*
*IDC **30** 09:21:53.1±0.6, 34°.57S×73°.87W, h22km±3km, mb4.2/11, mbtmp4.3/14, ML4.0/3, MS3.6/22, Error ellipse: s-maj=20.8km s-min=13.6km az=74.0*
*VAO **30** 09:21:54.1±1.2, 34°.65S×74°.00W, h41km±13km, mb4.1*
ISC 30 09:21:50.3±0.6, 34°.60S±0°.04×73°.92W±0°.05, h10km±3km, n146, σ1s73/123, mb4.6/43, MS3.5/20, 7C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**1.62**	**87**	*eP*	**Pn**	**09 22 17.4**	**-1.6**
BO03				*eS*	**Sn**	**09 22 36.4**	**-3.5**
BO03				IAML		09 22 38.3	
	comp=N,1μm,0.3s						
GO05	**Hualane**	**1.69**	**104**	*eP*	**Pn**	**09 22 18.5**	**-1.4**
GO05				*eS*	**Sn**	**09 22 37.0**	**-4.6**
GO05				IAML		09 22 40.0	
	comp=N,5μm,0.3s						
BI05	**Punta Hualpn**	**2.22**	**165**		**Pn**	**09 22 24.4**	**-2.8**
BI05	**Punta Hualpn**	**2.22**	**165**	*eP*	**Pn**	**09 22 24.3**	**-2.9**
BI05				*eS*	**Sn**	**09 22 49.3**	**-5.5**
BI05				IAML		09 22 50.0	
	comp=N,1μm,0.2s						
MT01	**Popeta**	**2.33**	**72**		**Pn**	**09 22 26.8**	**-2.0**
MT01	**Popeta**	**2.33**	**72**	*eP*	**Pn**	**09 22 26.8**	**-2.0**
MT01				*eS*	**Sn**	**09 22 54.7**	**-2.8**
MT01				IAML		09 22 55.8	
	comp=E,637nm,0.3s						
BO01	**Tunca**	**2.35**	**86**		**Pn**	**09 22 27.8**	**-1.2**
BO01	**Tunca**	**2.35**	**86**	*eP*	**Pn**	**09 22 27.6**	**-1.5**
BO01				*eS*	**Sn**	**09 22 54.1**	**-3.8**
BO01				IAML		09 22 58.5	
	comp=N,435nm,0.3s						
VA01	**Torpederas**	**2.46**	**51**		**Pn**	**09 22 28.6**	**-2.0**
MT09	**Talagante**	**2.57**	**72**		**Pn**	**09 22 30.6**	**-1.5**
BO02	**Sierra Bellavi**	**2.59**	**95**		**Pn**	**09 22 31.9**	**-0.5**
MT02	**Curacav**	**2.67**	**61**		**Pn**	**09 22 31.9**	**-1.6**
BO04	**La Punta**	**2.81**	**78**		**Pn**	**09 22 34.7**	**-0.6**
BO04	**La Punta**	**2.81**	**78**	*eP*	**Pn**	**09 22 34.8**	**-0.6**
BO04				*eS*	**Sn**	**09 23 05.6**	**-3.8**
BO04				IAML		09 23 11.5	
	comp=N,616nm,0.2s						
MT05	**Renca**	**2.91**	**66**		**Pn**	**09 22 36.4**	**-0.4**
BI02	**San Fabin de**	**2.98**	**134**		**Pn**	**09 22 36.9**	**-0.8**
BI02	**San Fabin de**	**2.98**	**134**	*i P*	**Pn**	**09 22 37.0**	**-0.8**
BI02				*eS*	Sn	09 23 03.0	-11
VA06	**Catapilco**	**2.99**	**48**		**Pn**	**09 22 35.9**	**-1.9**
MT03	**Universidad Ad**	**3.04**	**70**		**Pn**	**09 22 37.7**	**-0.9**
MT16	**CCHEN**	**3.06**	**68**		**Pn**	**09 22 38.0**	**-0.8**
PEL	**Peldehue**	**3.06**	**63**		**Pn**	**09 22 38.4**	**-0.4**
MT13	**San Alfonso**	**3.13**	**75**		**Pn**	**09 22 39.4**	**-0.5**
LMEL	**Las Melosas**	**3.17**	**77**		**Pn**	**09 22 40.1**	**-0.3**
VA03	**San Esteban**	**3.36**	**58**		**Pn**	**09 22 42.1**	**-0.8**
MT08	**Bocatoma Ro**	**3.44**	**71**	Pn	**Pn**	**09 22 44.0**	**-0.3**
CO02	**Combarbal**	**4.19**	**37**		**Pn**	**09 22 52.5**	**-1.8**
H03S1	**Juan Fernandez**	**4.20**	**279**	Pn	**Pn**	**09 22 50.9**	**-3.2**
H03S1				T	T	09 27 01.0	
	baz=98,slow=71,SNR=84						
H03S3	**Juan Fernandez**	**4.20**	**279**	Pn	**Pn**	**09 22 52.3**	**-2.0**
H03S3				T	T	09 26 59.0	
	baz=98,slow=71,SNR=53						
H03S2	**Juan Fernandez**	**4.22**	**279**	Pn	**Pn**	**09 22 50.9**	**-3.5**
H03S2				T	T	09 26 59.5	
	baz=98,slow=71,SNR=66						
H03N1	**Juan Fernandez**	**4.30**	**284**	Pn	**Pn**	**09 22 52.2**	**-3.4**
H03N1				T	T	09 27 07.8	
	baz=102,slow=80,SNR=3.2						
H03N3	**Juan Fernandez**	**4.31**	**284**	Pn	**Pn**	**09 22 52.4**	**-3.3**
H03N3				T	T	09 27 09.8	
	baz=102,slow=80,SNR=3.3						
H03N2	**Juan Fernandez**	**4.32**	**284**	Pn	**Pn**	**09 22 52.6**	**-3.2**
H03N2				T	T	09 27 10.8	
	baz=102,slow=80,SNR=3.1						
CO06	**Fray Jorge**	**4.37**	**27**		**Pn**	**09 22 53.9**	**-2.9**
CO03	**El Pedregal**	**4.64**	**37**		**Pn**	**09 22 59.5**	**-1.1**
LR03	**Panguipulli**	**5.18**	**166**		**Pn**	**09 23 06.5**	**-1.3**
CO05	**La Serena**	**5.19**	**27**		**Pn**	**09 23 05.8**	**-2.3**
CFA	**Coronel Fontan**	**5.63**	**60**	Pn	**Pn**	**09 23 14.7**	**+0.6**
	comp=N,2.6nm,0.3s,baz=229,slow=11,SNR=162						
CFA				Sn	**Sn**	**09 24 19.2**	**+0.3**
	comp=N,8.2nm,0.3s,baz=343,slow=20,SNR=9.6						
	comp=N,12nm,0.4s						
LR05	**Currie**	**5.82**	**165**		**Pn**	**09 23 15.7**	**-1.0**
LCO	**Las Campanas**	**6.21**	**27**		**Pn**	**09 23 19.8**	**-2.6**
LL03	**Petrohue**	**6.63**	**170**		**Pn**	**09 23 27.8**	**0.0**
PLCA	**Paso Flores**	**6.68**	**157**		**Pn**	**09 23 28.2**	**-0.3**
PLCA	**Paso Flores**	**6.68**	**157**	Pn	**Pn**	**09 23 28.6**	**+0.1**
	comp=N,1.0nm,0.3s,baz=326,slow=11,SNR=32						
PLCA				LR	LR	09 26 12.5	
	comp=N,528nm,18.0s,baz=326,slow=39						
	comp=N,6.3nm,0.5s						
PLCA	**Paso Flores**	**6.68**	**157**	*eP*	**Pn**	**09 23 28.5**	**-0.1**
GO02	**Mina Guanaco**	**10.13**	**23**		**Pn**	**09 24 15.1**	**-1.0**
TRQA	**Tornquist**	**10.23**	**113**		**Pn**	**09 24 18.4**	**+1.1**
PB05	**IPOC Station P**	**12.15**	**17**		**Pn**	**09 24 43.4**	**-0.2**
AY03	**Cochrane**	**12.68**	**176**		**Pn**	**09 24 50.4**	**-0.2**
PB11	**IPOC Station P**	**15.26**	**15**	Pn	**Pn**	**09 25 23.9**	**-2.1**
PB11				IAmb	IAmb	09 25 42.5	
	comp=Z,29nm,1.1s						
GO01	**Chusmiza**	**15.46**	**17**	P	**P**	**09 25 30.4**	**-3.1**
CPUP	**Villa Florida**	**16.50**	**64**	Pn	**P**	**09 25 45.5**	**+0.9**
	baz=91,slow=12,SNR=4.3						
CPUP				LR	LR	09 33 12.3	
	comp=Z,26nm,20.8s,baz=90,slow=41						
PB16	**IPOC Station P**	**16.67**	**15**		**Pn**	**09 25 44.4**	**-0.3**
SJPY	**San Joaquin**	**18.16**	**63**	*eP*	**P**	**09 26 04.7**	**+1.7**
LPAZ	**La Paz**	**18.96**	**17**		**Pn**	**09 26 13.0**	**-0.1**
LPAZ	**La Paz**	**18.96**	**17**	P	**Pn**	**09 26 14.6**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=176,slow=6.9,SNR=28						
	comp=Z,12nm,0.9s						
LPAZ	**La Paz**	**18.96**	**17**	*eP*	**Pn**	**09 26 14.4**	**+1.3**
MURT	**Porto Murtinho**	**19.29**	**52**	*eP*	**Pn**	**09 26 15.7**	**-0.6**
ITAB	**Concordia**	**20.06**	**74**	*eP*	**Pn**	**09 26 25.0**	**-0.6**
AMBA	**Amambai (Brazi**	**20.23**	**60**	*eP*	Pn	09 26 27.4	-0.2
BDQN	**Bodoquena, MS**	**20.71**	**52**	*eP*	**P**	**09 26 31.0**	**+0.2**
PTGB	**Pitanga**	**21.36**	**68**	*eP*	**P**	**09 26 39.8**	**+1.8**
AQDB	**Aquidauana**	**21.38**	**54**		**P**	**09 26 37.9**	**-0.2**
AQDB	**Aquidauana**	**21.38**	**54**	*eP*	**P**	**09 26 38.1**	**+0.1**
SIV	**San Ignacio**	**21.83**	**35**	P	**P**	**09 26 42.8**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=215,slow=8.1,SNR=19						
SIV				LR	LR	09 36 16.4	
	comp=Z,78nm,19.9s,baz=110,slow=40						
	comp=Z,3.7nm,0.8s						
PTLB	**Pontes e Lacer**	**23.25**	**39**		**P**	**09 26 57.8**	**-0.2**
PTLB	**Pontes e Lacer**	**23.25**	**39**	*eP*	**P**	**09 26 58.0**	**0.0**
PP1B	**Ponte de Pedra**	**23.99**	**50**	*eP*	**P**	**09 27 05.8**	**+0.5**
SALV	**Santo Antonio**	**24.80**	**46**	*eP*	**P**	**09 27 13.1**	**+0.5**
VILB	**Vilhena**	**24.89**	**33**		**P**	**09 27 13.2**	**-0.3**
VILB	**Vilhena**	**24.89**	**33**	*eP*	**P**	**09 27 13.2**	**-0.3**
ATAH	**Atahualpa**	**27.64**	**350**	LR	LR	09 36 29.3	
	comp=Z,89nm,19.0s,baz=179,slow=32						
PDRB	**Porto dos Gac**	**27.73**	**38**	*eP*	**P**	**09 27 38.6**	**-0.5**
BDFB	**Brasilia**	**29.37**	**57**	LR	LR	09 40 22.4	
	comp=Z,72nm,19.5s,baz=135,slow=37						
SNDB	**Serra Nova Dou**	**30.51**	**48**	*eP*	**P**	**09 28 03.3**	**-0.5**
PMSA	**Palmer Station**	**30.79**	**172**	LR	LR	09 39 55.1	
	comp=Z,55nm,20.9s,baz=70,slow=35						
PMSA	**Palmer Station**	**30.79**	**172**	*eP*	**P**	**09 28 06.0**	**+0.3**
MACA	**Manacapuru-AM**	**33.62**	**24**	*eP*	**P**	**09 28 31.5**	**+0.4**
SMTB	**Santa Maria do**	**35.20**	**49**	*eP*	**P**	**09 28 45.1**	**+0.3**
CMC01	**Camacan, BA**	**36.35**	**67**	*eP*	**P**	**09 28 54.5**	**-0.1**
BOAV	**Boa Vista**	**38.90**	**22**	*eP*	**P**	**09 29 16.0**	**-0.2**
ROSC	**El Rosal**	**39.23**	**359**	LR	LR	09 45 32.6	
	comp=Z,56nm,19.1s,baz=272,slow=36						
RUSC	**La Rusia**	**40.28**	**1**		**P**	**09 29 27.6**	**-0.6**
RUSC				IAmb	IAmb	09 29 30.0	
	comp=Z,22nm,1.0s						
BAUV	**El Baul**	**43.66**	**8**		**P**	**09 29 54.1**	**-1.2**
MDP	**Montagnes des**	**44.30**	**31**	LR	LR	09 47 18.5	
	comp=Z,40nm,18.6s,baz=186,slow=34						
PCRV	**Puerto La Cruz**	**45.40**	**13**	LR	LR	09 48 11.8	
	comp=Z,49nm,21.4s,slow=35						
JTS	**Las Juntas de**	**45.86**	**345**	LR	LR	09 44 07.7	
	comp=Z,64nm,21.6s,baz=102,slow=29						
BELA	**Belgrano 2**	**46.57**	**169**	P	**P**	**09 30 18.5**	**+0.7**
BELA				IAmb	IAmb	09 30 21.0	
	comp=Z,9.4nm,1.2s						
VNA3	**Neumayer Olymp**	**49.40**	**157**	⇓P	**P**	**09 30 40.7**	**+0.9**
	comp=Z,7.8nm,0.9s						
VNA1	**Neumayer--Stat**	**49.74**	**157**	⇑P	**P**	**09 30 43.9**	**+1.6**
	comp=Z,8.0nm,0.9s						
VNA2	**Neumayer--Watz**	**50.07**	**157**	⇓P	**P**	**09 30 45.9**	**+1.0**
	comp=Z,5.9nm,0.7s,baz=264,slow=7.5						
SNAA	**Sanae**	**51.62**	**158**	⇓P	**P**	**09 30 57.3**	**+0.7**
	comp=Z,178nm,1.0s						
SNAA	**Sanae**	**51.62**	**158**		**P**	**09 30 56.5**	**-0.1**
SNAA	**Sanae**	**51.62**	**158**	P	**P**	**09 30 57.6**	**+1.0**
	comp=Z,9.9nm,1.0s,baz=279,slow=6.1,SNR=25						
SNAA				LR	LR	09 50 15.4	
	comp=Z,52nm,21.4s,baz=291,slow=33						
	comp=Z,9.9nm,1.0s						
SJG	**San Juan**	**52.94**	**9**	LR	LR	09 54 13.4	
	comp=Z,36nm,18.3s,baz=221,slow=37						
TROLL	**Troll, Antarct**	**53.32**	**158**	⇓P	**P**	**09 31 09.9**	**+0.5**
	comp=Z,406nm,1.1s						
CMIG	**Matias Romero**	**55.14**	**335**	LR	LR	09 49 05.3	
	comp=Z,66nm,19.5s,baz=182,slow=30						
QSPA	**South Pole Qui**	**55.63**	**180**	P	**P**	**09 31 27.9**	**+1.6**
QSPA				IAmb	IAmb	09 31 31.4	
	comp=Z,7.1nm,1.1s						
QSPA	**South Pole Qui**	**55.63**	**180**	P	**P**	**09 31 28.5**	**+2.3**
	comp=Z,5.8nm,1.0s,baz=119,slow=3.0,SNR=9.6						
	comp=Z,5.8nm,1.0s						
TEIG	**Tepich**	**56.21**	**344**	P	**P**	**09 31 30.0**	**-0.6**
LPIG	**La Paz**	**67.83**	**324**	LR	LR	09 55 34.4	
	comp=Z,74nm,18.2s,baz=194,slow=30						
TXAR	**Lajitas Array**	**69.52**	**332**		**P**	**09 32 58.3**	**-1.0**
TXAR	**Lajitas Array**	**69.52**	**332**	P	**P**	**09 32 59.3**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=152,slow=8.7,SNR=49						
TXAR				pP	**pwP**	**09 33 06.6**	**-0.2**
	comp=Z,2.6nm,0.5s,baz=157,slow=8.8,SNR=16						
	comp=Z,3.8nm,0.7s						
TX31	**Lajitas Ar. Si**	**69.52**	**332**	IAmb	IAmb	09 33 00.4	
	comp=Z,8.1nm,1.1s						
BRDY	**Brady**	**69.67**	**337**	IAmb	IAmb	09 33 00.6	
	comp=Z,7.6nm,1.2s						
OZNA	**Ozona**	**70.04**	**335**	IAmb	IAmb	09 33 04.9	
	comp=Z,8.0nm,1.0s						
CLTN	**Cedars of Leba**	**71.28**	**349**	IAmb	IAmb	09 33 10.4	
	comp=Z,5.5nm,1.0s						
WHAR	**Wooly Hollow**	**71.62**	**344**	IAmb	IAmb	09 33 12.4	
	comp=Z,8.1nm,0.9s						
MNTX	**Cornudas Mount**	**72.29**	**332**		**P**	**09 33 15.0**	**-0.9**
MNTX				IAmb	IAmb	09 33 16.4	
	comp=Z,9.4nm,1.4s						
HHAR	**Hobbs**	**72.95**	**343**	IAmb	IAmb	09 33 20.0	
	comp=Z,3.6nm,0.8s						
MAW	**Mawson**	**73.04**	**164**	P	**P**	**09 33 20.8**	**+0.8**
	comp=Z,3.8nm,1.1s,baz=244,slow=12,SNR=5.3						
MAW				pP	**pwP**	**09 33 27.3**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=218,slow=9.3,SNR=3.7						
MAW				LR	LR	10 04 55.8	
	comp=Z,82nm,18.7s,baz=223,slow=35						
	comp=Z,3.8nm,1.1s						
319A	**Douglas**	**73.59**	**329**	IAmb	IAmb	09 33 25.7	
	comp=Z,7.8nm,1.0s						
121A	**Cookes Peak, D**	**73.97**	**331**	IAmb	IAmb	09 33 27.9	
	comp=Z,7.3nm,0.9s						
CCM	**Cathedral Cave**	**74.06**	**346**		**P**	**09 33 25.1**	**-1.1**
R40A	**Maddies Statio**	**74.50**	**345**	IAmb	IAmb	09 33 29.1	
	comp=Z,6.9nm,0.9s						
TUC	**Tucson**	**75.04**	**328**		**P**	**09 33 32.9**	**+0.7**
TUC				IAmb	IAmb	09 33 33.9	
	comp=Z,5.6nm,1.1s						
ANMO	**Albuquerque**	**75.58**	**333**		**P**	**09 33 35.6**	**+0.2**
ANMO	**Albuquerque**	**75.58**	**333**	LR	LR	10 02 15.4	
	comp=Z,86nm,18.1s,baz=256,slow=32						
DBIC	**Dimbokro**	**76.85**	**72**	P	**P**	**09 33 43.5**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=260,slow=12,SNR=3.4						
DBIC				pP	**pwP**	**09 33 50.8**	**-0.3**
	comp=Z,4.4nm,0.7s,baz=209,slow=3.4,SNR=3.4						
DBIC				LR	LR	10 05 54.2	
	comp=Z,20nm,18.4s,baz=222,slow=34						
	comp=Z,2.4nm,0.7s						
X16A	**Lo Mia Camp, P**	**77.12**	**329**	IAmb	IAmb	09 33 46.0	
	comp=Z,6.9nm,1.2s						
MVCO	**Mesa Verde**	**78.36**	**332**	IAmb	IAmb	09 33 51.9	
	comp=Z,4.8nm,0.9s						
KNB	**Kanab**	**79.92**	**329**	IAmb	IAmb	09 34 01.0	
	comp=Z,7.5nm,1.0s						
CCUT	**Cedar City**	**80.61**	**329**	IAmb	IAmb	09 34 05.1	
	comp=Z,5.0nm,1.0s						
SRU	**San Rafael Swe**	**80.79**	**332**	IAmb	IAmb	09 34 12.1	
	comp=Z,9.6nm,1.5s						
P18A	**Preston Nutter**	**81.13**	**332**	IAmb	IAmb	09 34 07.8	
	comp=Z,9.7nm,1.4s						
BOSA	**Boshof**	**81.16**	**119**	P	**P**	**09 34 07.0**	**+0.4**
	comp=Z,4.6nm,0.9s,baz=314,slow=2.6,SNR=3.3						
BOSA				pP	**pwP**	**09 34 14.1**	**-0.7**
	comp=Z,5.2nm,1.0s,baz=184,slow=2.1,SNR=2.6						
BOSA				LR	LR	10 05 09.0	
	comp=Z,34nm,19.4s,baz=204,slow=32						

KARZ	Kaharoa	0.34	21	P	Pn	09 28 31.2	+0.6
TLZ	Tolley Road	0.44	271	P	Pn	09 28 31.8	+0.9
WATZ	Wairara	0.47	217	P	Pn	09 28 32.0	+1.0
MUGZ	Murupara	0.55	105	P	Pn	09 28 31.8	+0.6
HATZ	Hinemaiaia	0.56	180	P	Pn	09 28 32.2	+0.9
MRHZ	Matea Rd	0.56	153	P	Pn	09 28 32.2	+0.8
MRHZ				S	Sn	09 28 49.2	-3.0
RATZ	Rangitukua	0.59	205	P	Pn	09 28 32.4	+1.0
OPRZ	Ohinepanea	0.61	37	P	Pn	09 28 32.0	+0.5
TGRZ	Tauranga	0.62	12	P	Pn	09 28 32.3	+0.7
RITZ	Rihia Road	0.67	196	P	Pn	09 28 33.2	+1.4
KATZ	Kakaramea	0.71	206	P	Pn	09 28 33.3	+1.1
RTZ	Ruatahuna	0.75	112	P	Pn	09 28 33.3	+1.0
RTZ				S	Sn	09 28 51.8	-2.0
TOZ	Tahuroa Road	0.76	322	P	Pn	09 28 33.7	+0.8
MTHZ	Maungataniwha	0.78	132	P	Pn	09 28 33.6	+1.2
MTHZ				S	Sn	09 28 52.2	-1.9
URZ	Urewera	0.80	85	P	Pn	09 28 32.9	+0.4
URZ	Urewera	0.80	85	P	Pn	09 28 32.9	+0.4
NTVZ	North Tongariro	0.83	203	P	Pn	09 28 34.1	+1.3
KRVZ	Karewarewa	0.84	205	P	Pn	09 28 34.0	+1.2
TMVZ	Te Maari	0.84	201	P	Pn	09 28 34.1	+1.3
ETVZ	East Tongariro	0.85	200	P	Pn	09 28 34.3	+1.4
WTVZ	West Tongariro	0.87	207	P	Pn	09 28 34.2	+1.2
NNVZ	North Ngauruho	0.88	205	P	Pn	09 28 34.3	+1.1
BKZ	Black Stump Fm	0.89	160	P	Pn	09 28 34.3	+1.2
BKZ	Black Stump Fm	0.89	160	S	Sn	09 28 53.1	-2.2
BKZ	Black Stump Fm	0.89	160	P	Pn	09 28 34.3	+1.2
OTVZ	Oturere	0.89	202	P	Pn	09 28 34.7	+1.5
TWVZ	Taurewa	0.90	215	P	Pn	09 28 34.4	+1.2
SNVZ	South Ngauruho	0.92	203	P	Pn	09 28 34.7	+1.3
NGZ	Ngauruhoe	0.93	104	P	Pn	09 28 34.8	+1.4
NMHZ	Naumai	0.94	144	P	Pn	09 28 35.6	+2.2
COVZ	Chateau Observ	0.96	206	P	Pn	09 28 34.9	+1.2
RAHZ	Arahi	0.97	127	P	Pn	09 28 35.3	+1.8
HIZ	Hauiti	0.99	259	P	Pn	09 28 35.0	+1.3
HIZ	Hauiti	0.99	259	S	Sn	09 28 55.9	-0.3
HIZ	Hauiti	0.99	259	P	Pn	09 28 34.9	+1.3
TUVZ	Tukino	0.99	200	P	Pn	09 28 35.3	+1.5
FWVZ	Far West T-bar	1.01	205	P	Pn	09 28 35.2	+1.1
MAVZ	Matarangi	1.02	204	P	Pn	09 28 35.6	+1.3
WHVZ	Whangaehu Hut	1.02	202	P	Pn	09 28 35.5	+1.3
RAGZ	Rawiri	1.05	99	P	Pn	09 28 35.7	+1.4
TRVZ	Turoa	1.05	204	P	Pn	09 28 35.8	+1.4
WNVZ	Wahianoa	1.06	201	P	Pn	09 28 35.7	+1.3
SNGZ	Shannon Statio	1.07	115	P	Pn	09 28 36.1	+1.8
MOVZ	Moawhango	1.10	194	P	Pn	09 28 35.6	+1.1
KWHZ	Kaweka Forest	1.12	167	P	Pn	09 28 36.3	+1.7
PKVZ	Pokaka	1.12	211	P	Pn	09 28 36.0	+1.3
MWZ	Matawai	1.13	90	P	Pn	09 28 35.8	+1.1
WHHZ	Waihua	1.16	130	P	Pn	09 28 36.2	+1.2
ARHZ	Aropaoanui	1.16	143	P	Pn	09 28 37.1	+2.1
MCHZ	McNeill Hill	1.20	157	P	Pn	09 28 37.6	+2.3
RUGZ	Raukumara Rang	1.30	74	P	Pn	09 28 36.4	+0.1
VRZ	Vera Road	1.31	233	P	Pn	09 28 37.8	+1.7
KRHZ	Kereru	1.32	171	P	Pn	09 28 38.0	+1.7
RIGZ	Rimuhau	1.36	106	P	Pn	09 28 38.3	+1.8
TKGZ	Te Karaka	1.38	95	P	Pn	09 28 38.3	+1.6
KNZ	Kokohu	1.41	119	P	Pn	09 28 38.8	+1.8
MKAZ	Moumakai	1.43	329	P	Pn	09 28 38.3	+1.1
HAZ	Te Kaha	1.45	67	P	Pn	09 28 37.8	+0.5
TWGZ	Tauwhareparae	1.49	85	P	Pn	09 28 39.4	+1.6
PRGZ	Paritu Road	1.52	113	P	Pn	09 28 39.9	+1.9
CKHZ	Cape Kidnapper	1.53	150	P	Pn	09 28 40.3	+2.4
PNHZ	Pukenui	1.58	177	P	Pn	09 28 40.1	+1.6
KAHZ	Kahuranaki	1.58	158	P	Pn	09 28 40.8	+2.3
KUZ	Kuaotunu	1.61	349	P	Pn	09 28 39.8	+0.9
KUZ	Kuaotunu	1.61	349	S	Sn	09 29 04.8	-0.7
KUZ	Kuaotunu	1.61	349	P	Pn	09 28 39.9	+0.9
MHGZ	Mahia Peninsul	1.64	120	P	Pn	09 28 41.4	+2.3
PKGZ	Pakihiroa	1.64	74	P	Pn	09 28 40.2	+1.1
WAZ	Wanganui	1.66	211	P	Pn	09 28 40.9	+1.6
ETAZ	East Tamaki Re	1.66	326	P	Pn	09 28 40.4	+1.1
CNGZ	Carnagh Statio	1.67	96	P	Pn	09 28 41.6	+2.3
DREZ	Durham Road	1.71	239	P	Pn	09 28 42.0	+2.3
AWAZ	Awhitu Peninsu	1.71	317	P	Pn	09 28 41.1	+1.3
TSZ	Takapari Road	1.72	183	P	Pn	09 28 41.5	+1.6
PUZ	Puketiti	1.73	82	P	Pn	09 28 40.9	+1.0
LREZ	Lake Rotokare	1.73	229	P	Pn	09 28 42.1	+2.2
WPHZ	Waipukurau	1.75	171	P	Pn	09 28 41.9	+1.8
PXZ	Pawanui	1.79	161	P	Pn	09 28 42.6	+2.0
PREZ	Palmer Road	1.81	236	P	Pn	09 28 43.0	+2.2
NEZ	North Egmont	1.82	238	P	Pn	09 28 43.3	+2.4
MBAZ	Motutapu North	1.83	328	P	Pn	09 28 42.2	+1.3
WTAZ	Waiatarua	1.85	202	P	Pn	09 28 42.9	+1.4
PKE	Pukeiti	1.86	242	P	Pn	09 28 43.3	+2.1
KHEZ	Kahui Hut	1.89	239	P	Pn	09 28 43.9	+2.3
KHEZ	Kahui Hut	1.89	239	S	Sn	09 29 12.1	+1.7
KHEZ	Kahui Hut	1.89	239	P	Pn	09 28 43.8	+2.2
WMGZ	Waiomatatini S	1.90	75	P	Pn	09 28 43.0	+1.3
MXZ	Matakaoa Point	1.91	67	P	Pn	09 28 43.5	+1.7
MXZ	Matakaoa Point	1.91	67	S	Sn	09 29 09.7	-0.9
MXZ	Matakaoa Point	1.91	67	P	Pn	09 28 43.3	+1.5
DVHZ	Dannevirke	1.96	178	P	Pn	09 28 43.7	+1.5
OHWZ	Ohakea	1.96	198	P	Pn	09 28 44.2	+2.0
NBEZ	Newall Road No	1.97	241	P	Pn	09 28 44.5	+2.1
PRHZ	Porangahau	1.97	168	P	Pn	09 28 44.3	+1.9
POWZ	Post Office Ro	2.07	187	P	Pn	09 28 44.8	+1.4
ANWZ	Angora Road	2.14	172	P	Pn	09 28 46.0	+1.9
GRZ	Great Barrier	2.14	346	P	Pn	09 28 45.5	+1.3
PRWZ	Pori Road	2.22	182	P	Pn	09 28 46.6	+1.7
BFZ	Birch Farm	2.35	177	P	Pn	09 28 47.7	+1.4
BFZ	Birch Farm	2.35	177	S	Sn	09 29 18.2	-0.9
BFZ	Birch Farm	2.35	177	P	Pn	09 28 47.8	+1.4
MRZ	Mangatainoka R	2.36	190	P	Pn	09 28 47.7	+1.2
TIWZ	Tintock	2.44	184	P	Pn	09 28 48.8	+1.4
CPWZ	Castlepoint	2.57	178	P	Pn	09 28 50.8	+1.9
OGWZ	Otaki Gorge	2.58	196	P	Pn	09 28 50.2	+1.2
HOWZ	Holdsworth Sta	2.60	190	P	Pn	09 28 50.1	+0.9
KIW	Kapiti Island	2.68	200	P	Pn	09 28 50.9	+0.7
TMWZ	Te Maipa	2.77	183	P	Pn	09 28 52.1	+0.9
MTW	Mount Morrison	2.86	189	P	Pn	09 28 52.8	+0.7
CAW	Cannon Point	2.88	196	P	Pn	09 28 53.3	+0.9
DUWZ	D'Urville Isla	2.98	214	P	Pn	09 28 54.2	+0.6
TRWZ	Traveller	3.08	186	P	Pn	09 28 55.5	+0.8
PAWZ	Paruwai Farm	3.09	189	P	Pn	09 28 55.5	+0.6
WEL	Wellington	3.12	199	P	Pn	09 28 55.8	+0.6
MSWZ	Moikau Station	3.15	192	P	Pn	09 28 56.0	+0.4
SNZO	South Karori	3.16	199	P	Pn	09 28 55.9	+0.2
TCW	Tory Channel	3.19	205	P	Pn	09 28 56.6	+0.4
BHW	Baring Head	3.21	197	P	Pn	09 28 56.8	+0.4
PLWZ	Palliser	3.29	191	P	Pn	09 28 57.7	+0.2
TUWZ	Tuamarina	3.50	207	P	Pn	09 29 00.6	+0.7
NNZ	Nelson	3.56	215	P	Pn	09 29 00.8	+0.2
TKNZ	Takaka Hill	3.62	221	P	Pn	09 29 01.2	-0.2
CMWZ	Cape Campbell	3.70	202	P	Pn	09 29 03.7	+1.4
QRZ	Quartz Range	3.71	227	P	Pn	09 29 02.4	-0.1
QRZ	Quartz Range	3.71	227	P	Pn	09 29 02.2	-0.3
BSWZ	Blackbirch Sta	3.78	206	P	Pn	09 29 03.8	+0.5
MRNZ	Matariki Terra	3.99	219	P	Pn	09 29 05.8	-0.2
THZ	Tophouse	4.21	215	P	Pn	09 29 08.7	-0.1
KHZ	Kahutara	4.52	205	P	Pn	09 29 13.1	+0.5
KHZ	Kahutara	4.52	205	P	Pn	09 29 12.9	+0.3
DSZ	Denniston Nort	4.74	223	P	Pn	09 29 14.8	-0.6
GVZ	Greta Valley S	5.18	206	P	Pn	09 29 21.2	+0.1
LTZ	Lake Taylor	5.31	212	P	Pn	09 29 22.4	-0.4
AMCZ	Amberley	5.50	207	P	Pn	09 29 24.7	-0.5
OKCZ	Okains Bay	5.85	209	P	Pn	09 29 26.6	-0.1
RPZ	Rata Peaks	6.59	214	P	Pn	09 29 39.3	0.0
ODZ	Otahua Downs	7.84	210	P	Pn	09 29 55.8	+0.1
JCZ	Jackson Bay	7.95	222	P	Pn	09 29 57.6	+0.5

*NEIC **30** 09:31:19.6±1.4,8.°10S±0.°08×120.°08E±0.°08,h193km±7km, mb4.7/16,Error ellipse: s-maj=12.9km s-min=10.2km az=52.0*

*DJA **30** 09:31:20.1±0.3,8.°3S±2.°×12.°0E±.°,h176km±4km,M4.3/21, mB5.0/1,mb4.3/5,MLv4.3/21,Mw(mB)4.3/1*

*IDC **30** 09:31:21.2±1.2,7.°93S×120.°38E,h220km±11km,mb3.6/12, mbtmp4.2/16,Error ellipse: s-maj=24.7km s-min=7.2km az=58.0*

ISC 30 09:31:18.7±0.6,8.°15S±0.°04×120.°09E±0.°04,h193km±6km, n69,σ1°39/81,mb4.1/15,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WSI	Waingapu	1.53	172	P		Pn		09 31 50.9	-1.1
WSI				S		Sn		09 32 17.6	-0.5
WBSI	Waikabubak, Su	1.64	205	P		Pn		09 31 53.2	+0.1
WBSI				S		Sn		09 32 18.9	-1.1
EDFI	Ende, Flores	1.69	111	P		Pn		09 31 54.6	+0.9
EDFI				S		Sn		09 32 20.5	-0.4
BSSI	Bau Bau, Buton	2.03	11	P		Pn		09 31 56.9	-0.1
BSSI				S		Sn		09 32 26.5	-0.5
BASI	Baing, Sumba	2.12	167	P		Pn		09 31 58.9	+1.0
BASI				S		Sn		09 32 28.9	+0.3
MMRI	Maumere	2.18	103			Pn		09 32 00.2	+1.6
MMRI	Maumere	2.18	103	P		Pn		09 32 00.4	+1.8
MMRI	Maumere	2.18	103	P		Pn		09 31 59.8	+1.2
PLAI	Plampang	2.39	253	P		Pn		09 32 01.9	+1.0
PLAI	Plampang	2.39	253	P		Pn		09 32 01.8	+0.9
PLAI				S		Sn		09 32 33.3	-0.5
BKSI	Bulukumba	2.81	1	P		Pn		09 32 05.8	+0.1
KAPI	Kappang	3.13	354	P		Pn		09 32 10.4	+0.9
	175nm,0.5s,baz=179,slow=7.9,SNR=95								
KAPI	Kappang	3.13	354	P		Pn		09 32 10.7	+1.1
TWSI	Taliwang, Sumb	3.23	259	P		Pn		09 32 11.3	+0.6
TWSI				S		Sn		09 32 51.5	+0.1
BNSI	Bone	3.72	0	P		Pn		09 32 18.8	+2.0
BATI	Baumata	4.08	120	P		Pn		09 32 23.0	+1.7
	113nm,0.4s,baz=184,slow=0.2,SNR=15								
BATI				S		Sn		09 33 08.9	-1.5
	76nm,0.3s,baz=166,slow=19,SNR=1.8								
BATI	Baumata	4.08	120	P		Pn		09 32 23.0	+1.7
SPSI	Sidrap Palu	4.17	356	P		Pn		09 32 23.4	+1.0
SOEI	Soe	4.42	111			Pn		09 32 27.0	+1.2
SOEI	Soe	4.42	111	P		Pn		09 32 27.7	+2.0
SOEI	Soe	4.42	111	P		Pn		09 32 27.2	+1.5
SRBI	Singaraja	4.83	270	P		Pn		09 32 31.3	+0.5
DNP	Denpasar	4.86	263	P		Pn		09 32 31.5	+0.4
ABJI	Asem Bagus	5.81	273	P		Pn		09 32 44.4	+1.0
	0.3nm61nm,1.0s								
JAGI	Jajag, Banyuwa	5.89	266			Pn		09 32 44.4	-0.1
JAGI	Jajag, Banyuwa	5.89	266	P		Pn		09 32 45.1	+0.7
	2µm56nm,0.8s								
BLJI	Banyuglugur	6.45	273	P		Pn		09 32 52.8	+1.1
UGM	Wanagama	9.48	271	Pn		Pn		09 33 31.4	+0.1
FITZ	Fitzroy Crossi	11.27	152	P		Pn		09 33 55.2	+0.8
	11nm,0.7s,baz=346,slow=7.9,SNR=26								
FITZ				S		Sn		09 35 55.6	-4.4
	23nm,0.7s,baz=133,slow=11,SNR=8.7								
FITZ	Fitzroy Crossi	11.27	152	P		Pn		09 33 55.3	+0.8
KNRA	Kununurra	11.31	132			Pn		09 33 54.6	-0.4
DRS	Darwin Rock St	11.46	113	P		Pn		09 33 56.8	0.0
MBWA	Marble Bar	12.94	182	Pn		Pn		09 34 16.3	+0.6
FAKI	Fak Fak	13.16	67			Pn		09 34 17.6	-1.0
PSA00	Pilbara Seismi	13.35	181	Pn		Pn		09 34 21.5	+0.7
KKM	Kota Kinabalu	14.62	345	Pn		Pn		09 34 36.2	-0.5
GIRL	Giralia	15.47	201			Pn		09 34 46.8	-0.2
WB0	Warramunga Arr	18.04	131			P		09 35 16.4	+0.9
WB0				IAmb		IAmb		09 35 17.0	
	comp=Z,14nm,0.6s								
WRA	Warramunga Arr	18.11	132			P		09 35 16.7	+0.5
WRA	Warramunga Arr	18.11	132	P		P		09 35 17.1	+0.8
	comp=Z,5.3nm,0.2s,baz=306,slow=12,SNR=177								
WRA				S		S		09 38 31.1	-2.6
	comp=Z,9.0nm,1.2s,baz=302,slow=21,SNR=11								
WRAB	Tennant Creek	18.11	132	P		P		09 35 17.3	+1.1
WRAB	Tennant Creek	18.11	132	P		P		09 35 17.2	+0.9
WR8	Warramunga Arr	18.23	132			P		09 35 18.8	+1.1
WR8				IAmb		IAmb		09 35 19.4	
	comp=Z,25nm,0.8s								
MEEK	Meekatharra	18.45	184	P		Pn		09 35 22.4	+0.1
AS31	Alice Springs	20.33	141			P		09 35 41.3	+1.1
AS31				IAmb		IAmb		09 35 43.9	
	comp=Z,6.9nm,0.4s								
ASAR	Alice Springs	20.33	141	P		P		09 35 41.2	+1.0
	comp=Z,4.4nm,0.3s,baz=323,slow=12,SNR=172								
ASAR				S		S		09 39 15.5	-2.0
	comp=Z,6.4nm,1.1s,baz=315,slow=18,SNR=15								
ASAR				ScP		ScP		09 43 00.2	-3.2
	comp=Z,1.9nm,0.5s,baz=321,slow=2.2,SNR=14								
	comp=Z,4.4nm,0.3s								
MORW	Morawa	21.16	190			P		09 35 50.5	+1.6
MORW				IAmb		IAmb		09 35 52.1	
	comp=Z,25nm,1.1s								
MORW	Morawa	21.16	190	P		P		09 35 50.4	+1.6
QIS	Mount Isa	22.54	125	P		P		09 36 03.7	+1.1
COEN	Coen	23.37	106	P		P		09 36 10.1	0.0
COEN				IAmb		IAmb		09 36 12.9	
	comp=Z,15nm,0.6s								
FORT	Forrest	23.72	163			P		09 36 14.8	+1.7
FORT				IAmb		IAmb		09 36 17.1	
	comp=Z,15nm,0.7s								
NWAO	Narrogin (SRO)	24.80	186	P		P		09 36 25.3	+2.3
NWAO				IAmb		IAmb		09 36 27.5	
	comp=Z,25nm,1.0s								
NWAO	Narrogin (SRO)	24.80	186	P		P		09 36 25.1	+2.2
	comp=Z,11nm,0.6s,baz=11,slow=8.5,SNR=10								
	comp=Z,11nm,0.6s								
BBOO	Buckleboo	28.66	151	P		P		09 36 58.8	+1.3
BBOO				IAmb		IAmb		09 36 59.3	
	comp=Z,11nm,0.8s								
STKA	Stephens Creek	30.95	143	P		P		09 37 18.9	+1.2
STKA	Stephens Creek	30.95	143	P		P		09 37 19.2	+1.6
	comp=Z,3.3nm,0.6s,baz=320,slow=8.3,SNR=16								
	comp=Z,3.3nm,0.6s								
CMAR	Chiang Mai Arr	33.68	322	P		P		09 37 42.4	+0.8
	comp=Z,1.5nm,0.3s,baz=136,slow=8.6,SNR=4.8								
	comp=Z,1.5nm,0.3s								
KSRS	Korea Array	45.95	9	P		P		09 39 21.6	-0.7
	comp=Z,0.5nm,0.5s,baz=188,slow=7.6,SNR=4.7								
	comp=Z,0.5nm,0.5s								
EVN	Everest	48.20	319	P		P		09 39 40.0	-0.6
SONM	Songino Array	57.04	349	P		P		09 40 45.0	+0.4
	comp=Z,0.7nm,0.6s,baz=178,slow=4.0,SNR=2.5								
	comp=Z,0.7nm,0.6s								
MKAR	Makanchi Array	64.20	332	P		P		09 41 32.4	-0.5
	comp=Z,1.7nm,0.5s,baz=143,slow=7.9,SNR=9.8								
	comp=Z,1.7nm,0.5s								
GAR	Garm	65.80	319	P		P		09 41 43.6	+0.2
ZALV	Zalesovo Beam	68.64	338	P		P		09 41 58.0	-2.7
	comp=Z,1.7nm,0.5s,baz=132,slow=4.2,SNR=6.4								
	comp=Z,1.7nm,0.5s								
KURBB	Kurchatov Arra	68.69	333	P		P		09 41 59.0	-2.2
	comp=Z,1.0nm,0.7s,baz=145,slow=5.8,SNR=6.9								
	comp=Z,1.0nm,0.7s								
VNDA	Vanda	72.66	171	P		P		09 42 26.4	+1.6
	comp=Z,0.5nm,0.5s,baz=293,slow=11,SNR=2.4								
	comp=Z,0.5nm,0.5s								
BVAR	Borovoye Array	74.06	331	P		P		09 42 32.4	-0.9
	comp=Z,0.9nm,0.6s,baz=111,slow=6.3,SNR=2.1								
	comp=Z,0.9nm,0.6s								
QSPA	South Pole Qui	81.84	180	P		P		09 43 17.1	+1.0
QSPA	South Pole Qui	81.84	180	P		P		09 43 18.4	+2.3
	comp=Z,0.5nm,0.8s,baz=346,slow=0.0,SNR=5.9								
	comp=Z,0.5nm,0.8s								
TORD	Torodi Ar. Bea	119.37	280	PKP		PKPdf		09 49 43.3	-2.7
	comp=Z,0.6nm,0.5s,baz=40,slow=1.9,SNR=8.0								

*RHSSO **30** 09:33:14.7±0.4,43.°75N×16.°46E,h6km±1km,ML3.1/9*
*PDG **30** 09:33:14.3±0.3,43.°60N×16.°39E,h7km±1km,ML3.3/11,*
Error ellipse: s-maj=1.0km s-min=0.9km az=90.0
*BEO **30** 09:33:15.0±0.3,43.°70N×16.°58E,h0km,ML2.8/12*

ISC 30 09:33:14.1±1.1,43.73N±0.°02×16.49E±0.°02,h1km±9km, n78,σ1°25/141,5C-8D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KIJV	Kijevo	0.28	348	⇓iPg		Pg		09 33 19.5	+0.1
KIJV				eSg		Sg		09 33 23.7	+0.7
KIJV	Kijevo	0.28	348	iPg		Pg		09 33 19.5	+0.1
KIJV				Sg		Sg		09 33 23.5	+0.5
RICI	Ricice	0.53	117	ePg		Pg		09 33 25.0	+0.8
RICI				Sg		Sg		09 33 32.7	+1.6
MORI	Morici	0.58	283	ePg		Pg		09 33 25.0	-0.2
MORI				Sg		Sg		09 33 33.5	+0.8
MAKA	Makarska	0.59	139	ePg		Pg		09 33 25.2	-0.2
MAKA				Sg		Sg		09 33 34.2	+1.0
ZIRJ	Zirje	0.62	263	ePg		Pg		09 33 25.7	-0.2
ZIRJ				Sg		Sg		09 33 34.7	+0.8
UDBI	Udbina	0.95	327	ePg		Pg		09 33 32.8	+0.5
UDBI				Sg		Sg		09 33 45.5	+0.9
LSTV	Lastovo	1.01	163	ePg		Pg		09 33 33.5	+0.1
LSTV				Sg		Sn		09 33 48.4	-1.9
DUGI	Dugi Otok	1.06	284	ePg		Pg		09 33 33.9	-0.7
DUGI				Sg		Sb		09 33 49.1	-0.7
BLY	Banja Luka	1.13	26	⇓iPg		Pg		09 33 35.2	-0.6
BLY				eSg		Sg		09 33 50.7	+0.2
BLY	Banja Luka	1.13	26	ePg		Pg		09 33 35.4	-0.4
BLY				eSg		Sg		09 33 52.4	+1.9
VIRC	Vir	1.17	299	ePg		Pg		09 33 35.6	-1.0
VIRC				Sg		Sg		09 33 52.1	+0.3
STON	Ston	1.24	134	ePg		Pg		09 33 36.4	-1.4
STON				eSg		Sb		09 33 54.8	+0.1
STON	Ston	1.24	134	ePg		Pg		09 33 38.1	+0.3
STON				Sg		Sb		09 33 54.6	-0.1
STON	Ston	1.24	134	ePg		Pg		09 33 36.4	-1.4
STON				eSg		Sg		09 33 52.1	-1.7
NVLJ	Novalja	1.43	306	ePn		Pn		09 33 40.2	-1.0
NVLJ				Sg		Sb		09 33 60.0	-0.3
RABC	Rab	1.59	310	ePn		Pn		09 33 42.6	-0.8
RABC				Sg		Sn		09 34 04.3	-0.3
DBRK	Dubrovnik	1.61	131	ePn		Pb		09 33 44.5	-0.3
DBRK				Sg		Sg		09 34 06.5	+0.5
KLINJ	Klinje	1.63	110	ePn		Pn		09 33 44.4	+0.3
KLINJ				eSn		Sb		09 34 06.6	+0.4
TREB	Trebinje	1.70	126	ePn		Pn		09 33 45.3	+0.3
TREB				eSn		Sb		09 34 07.5	-0.6
TREB	Trebinje	1.70	126	ePg		Pb		09 33 45.6	-0.6
TREB				eSg		Sn		09 34 05.9	-1.5
BRY	Bratogost	1.71	118	⇓iPn		Pn		09 33 45.3	0.0
BRY				i Sn		Sg		09 34 10.8	+1.6
UPM	Unac-Piva	1.84	106	⇓iPn		Pb		09 33 49.0	+0.3
UPM				i Sn		Sg		09 34 14.7	+1.5
MOSL	Moslavina	1.89	6	ePn		Pn		09 33 46.8	-0.8
MOSL				eSn		Sn		09 34 10.8	-1.3
HCY	Herceg Novi	1.95	130	⇑iPn		Pn		09 33 47.9	-0.6
HCY				i Sn		Sb		09 34 16.1	+0.7
BOJS	Bojanci	1.98	334	i Pn		Pn		09 33 49.9	+1.2
BOJS				eSn		Sb		09 34 15.6	-0.5
BOJS	Bojanci	1.98	334	ePn		Pn		09 33 50.0	+1.2
OZLJ	Ozalj	2.02	339	ePn		Pn		09 33 49.6	+0.3
OZLJ				eSn		Sn		09 34 13.9	-1.2
NKME	Niksic	2.05	117	⇓iPn		Pn		09 33 50.9	+1.1
NKME				i Sn		Sb		09 34 18.8	+0.7
RUDO	Rudo	2.10	92	ePn		Pn		09 33 50.9	+0.5
RUDO				eSn		Sn		09 34 17.2	0.0
RUDO	Rudo	2.10	92	ePg		Pb		09 33 52.1	-0.9
RUDO				eSg		Sb		09 34 20.7	+1.2
BBLS	Lazi&#263i	2.12	85	ePg		Pn		09 33 52.1	+1.3
BBLS				eSg		Sb		09 34 20.2	0.0
CEME	Cevo	2.14	123	⇑iPn		Pn		09 33 52.1	+1.0
CEME				i Sn		Sb		09 34 20.6	-0.2
RIY	Rijeka	2.14	319	ePn		Pb		09 33 53.2	-0.5
RIY				eSn		Sb		09 34 21.8	+1.0
CRES	Cresnjevec Ost	2.22	341	ePn		Pn		09 33 52.6	+0.5
BUM	Brajici-Budva	2.27	128	⇓iPn		Pn		09 33 53.6	+0.7
BUM				i Sn		Sb		09 34 23.4	-1.3
BRJN	Brijuni	2.29	302	ePn		Pn		09 33 53.2	+0.2
BRJN				eSn		Sn		09 34 20.3	-1.5
KOME	Kolasin	2.38	111	ePg		Pb		09 33 57.0	-0.9

KURK **Kurchatov** 2.15 263 ⇑Pg Pg 09 39 04.3 -0.5
0.5nm,0.6s
KURK ⇓Lg Lg 09 39 31.1
2.6nm,0.5s
KURBB **Kurchatov Arra** 2.22 261 ⇓Pg Pb 09 39 04.9 +0.2
1.3nm,0.5s
KURBB ⇑Lg Lg 09 39 35.6
10nm,0.6s
KURBB **Kurchatov Arra** 2.22 261 Pg Pg 09 39 06.2 0.0
0.1nm,0.3s,baz=71,slow=18,SNR=9.4
KURBB Lg Lg 09 39 37.1
0.3nm,0.3s,baz=74,slow=32,SNR=12
I46RU ZALESOVO INFRA 3.40 30 I I 09 56 40.0
baz=214,slow=326,SNR=3.6
ZALV Zalesovo Beam 3.40 30 Pn Pn 09 39 18.6 +0.6
0.2nm,0.3s,baz=223,slow=15,SNR=1.7
ZALV Pg Pb 09 39 24.3 -0.5
0.2nm,0.3s,baz=224,slow=15,SNR=3.2
ZALV Lg Lg 09 40 05.5
0.3nm,0.3s,baz=225,slow=25,SNR=5.1
0.5nm,0.4s
MK31 Makanchi Array 4.24 177 ⇑Lg Lg 09 40 51.9
1.5nm,0.6s,baz=141,slow=7.9,SNR=7.5
MKAR Makanchi Array 4.24 177 Pn Pb 09 39 38.5 -0.7
0.1nm,0.3s,baz=354,slow=11,SNR=1.2
MKAR Pg Pg 09 39 45.3 +0.3
0.1nm,0.3s,baz=338,slow=11,SNR=2.1
MKAR Lg Lg 09 40 52.8
0.3nm,0.3s,baz=4.7,slow=28,SNR=6.7
0.2nm,0.5s

HEL ***30*** *10:25:34.1±0.0,67.˙18N×20.˙64E,h1km,ML1.6, ML2.4(UPP),ML1.9(BER),Confirmed Induced event*
BER ***30*** *10:25:34.7±1.4,67.˙02N×20.˙99E,h0km,ML1.9,Confirmed Induced event*

UPP 30 10:25:33.5±0.0,67.˙19N×20.˙64E,h0km,ML2.4, Confirmed Induced event,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**202**	P		Pg	10 25 35.2	+0.3
DUNU				S		Sg	10 25 36.3	+0.5
DUNU	**Dundret**	**0.07**	**202**	*i* P		Pg	10 25 35.2	+0.3
DUNU				*i* S		Sg	10 25 36.3	+0.5
MASU	**Masugnsbyn**	**0.59**	**62**	P		Pg	10 25 44.9	+0.1
MASU				S		Sg	10 25 52.9	+0.5
MASU	**Masugnsbyn**	**0.59**	**62**	*i* P		Pg	10 25 44.9	+0.1
MASU				*i* S		Sg	10 25 52.9	+0.5
RATU	**Laukkuluspa**	**0.75**	**328**	P		Pg	10 25 47.7	-0.2
RATU	**Laukkuluspa**	**0.75**	**328**	*i* P		Pg	10 25 47.7	-0.2
KUA	**Kurravaara**	**0.78**	**351**	P		Pg	10 25 47.9	-0.5
baz=191								
KUA	**Kurravaara**	**0.78**	**351**	*i* P		Pg	10 25 47.9	-0.5
SALU	**Saltoluokta**	**0.85**	**284**	P		Pg	10 25 49.6	-0.1
SALU				S		Sg	10 26 01.2	+0.4
SALU	**Saltoluokta**	**0.85**	**284**	*i* P		Pg	10 25 49.6	-0.1
SALU				*i* S		Sg	10 26 01.2	+0.4
ERTU	**Ertsjaerv**	**0.88**	**136**	P		Pg	10 25 49.7	-0.7
ERTU	**Ertsjaerv**	**0.88**	**136**	*e*P		Pg	10 25 49.7	-0.7
NIKU	**Nikkaluokta**	**0.92**	**319**	P		Pg	10 25 50.7	-0.4
NIKU	**Nikkaluokta**	**0.92**	**319**	*e*P		Pg	10 25 50.7	-0.4
PAJU	**Pajala**	**0.98**	**99**	P		Pg	10 25 51.6	-0.6
PAJU	**Pajala**	**0.98**	**99**	*e*P		Pg	10 25 51.6	-0.6
PAJU				*e*SB		Sg	10 26 05.2	+0.3
PAJU				MSG			10 26 06.5	
comp=Z,6.0nm,0.1s								
LANU	**Lannavaara**	**1.01**	**30**	P		Pg	10 25 52.2	-0.5
LANU	**Lannavaara**	**1.01**	**30**	*e*P		Pg	10 25 52.2	-0.6
LANU				*e*SB		Sg	10 26 06.5	+0.8
HARU	**Harads**	**1.04**	**172**	P		Pg	10 25 52.4	-0.9
HARU	**Harads**	**1.04**	**172**	*e*P		Pg	10 25 52.4	-0.9
KOVU	**Salmi**	**1.05**	**350**	P		Pg	10 25 53.0	-0.6
baz=196								
KOVU	**Salmi**	**1.05**	**350**	*e*P		Pg	10 25 53.0	-0.6
HEF	**Hetta**	**1.68**	**42**	*e*P		Pn	10 26 03.7	-0.3
HEF	**Hetta**	**1.68**	**42**	*e*P		Pn	10 26 03.8	-0.2
HEF				*e*SG		Sn	10 26 26.2	0.0
HEF				MSG			10 26 30.2	
comp=Z,4.2nm,0.1s								
KALU	**Kalix**	**1.72**	**140**	P		Pn	10 26 04.5	-0.1
KALU	**Kalix**	**1.72**	**140**	*e*P		Pn	10 26 04.6	-0.1
KALU				*e*SN		Sb	10 26 27.9	-0.2
SJUU	**Sjulsmark**	**1.73**	**167**	P		Pn	10 26 04.7	-0.1
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P		Pn	10 26 04.7	-0.1
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*P		Pb	10 26 07.1	-0.6
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*P		Pb	10 26 07.0	-0.7
KIF				*e*SG		Sg	10 26 32.0	-0.1
TOF	**Tornio**	**1.84**	**126**	*e*PN		Pn	10 26 06.8	+0.5
TOF				*e*SG		Sb	10 26 31.3	-0.3
KTK1	**Kautokeino**	**2.07**	**27**	*e*P		Pb	10 26 10.8	-1.1
KTK1	**Kautokeino**	**2.07**	**27**	*e*PG		Pb	10 26 11.0	-0.9
FAUS	**Fauske**	**2.09**	**278**	*e*P		Pb	10 26 11.0	-1.2
FAUS				IAML			10 26 42.9	
comp=Z,20nm,0.5s								
FAUS	**Fauske**	**2.09**	**278**	*e*P		Pb	10 26 11.0	-1.2
FAUS				IAML			10 26 42.9	
comp=Z,20nm,0.5s								
RNF	**Rovaniemi**	**2.20**	**103**	*e*PB		Pn	10 26 12.2	+1.1
RNF				*e*SG		Sb	10 26 41.4	-0.4
STEI	**Steigen**	**2.20**	**292**	*e*P		Pb	10 26 13.6	-0.5
STEI				IAML			10 26 44.0	
comp=Z,8.2nm,0.5s								
STEI	**Steigen**	**2.20**	**292**	*e*P		Pb	10 26 13.6	-0.5
STEI				IAML			10 26 44.0	
comp=Z,8.2nm,0.5s								
SGF	**Sodankyl**	**2.30**	**81**	*e*P		Pn	10 26 13.4	+0.9
SGF				*e*SB		Sb	10 26 43.4	-1.2
JETT	**Jettan, Norway**	**2.38**	**358**	*e*P		Pb	10 26 16.2	-0.9
JETT	**Jettan, Norway**	**2.38**	**358**	*e*P		Pb	10 26 16.2	-0.9
BURU	**Burvik**	**2.63**	**173**	*e*P		Pn	10 26 18.0	+0.8
BURU				*e*S		Sn	10 26 50.4	+0.7
RANF	**Ranua**	**2.72**	**113**	*e*SB		Sb	10 26 56.5	-0.4
ARA0	**ARCESS Array S**	**2.97**	**35**	*e*P		Pn	10 26 22.8	+1.0

NIED ***30*** *10:32:08.9,46.˙02N×152.˙38E,h30km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.44; Mθθ-1.10; Mφφ-0.34; Mrθ1.39; Mθφ-0.79; Mφr4.03; Fault plane solution: M0 4.51000×10^15 NP1: φs256.00000°,δ14.00000°,λ143.00000°. NP2: φs22.00000°,δ82.00000°,λ79.00000°.*
JMA ***30*** *10:32:08.9±1.0,46.˙1N×15.˙2E±.˙1,h30km,MV4.9/17, KURILE ISLANDS REGION*
BJI ***30*** *10:32:09.5,46.˙01N×152.˙31E,h55km,mB4.7/12,mb4.6/38, Ms4.0/5,Ms7 4.0/8*
MOS ***30*** *10:32:10.6±1.2,46.˙04N×152.˙27E,h61km,mb5.1/32,Error ellipse: s-maj=6.9km s-min=5.5km az=82.0*
SKHL ***30*** *10:32:10.7±0.7,46.˙00N×152.˙40E,h63km±6km,mb5.4/6, mbv4.9/2*
IDC ***30*** *10:32:11.6±2.1,46.˙10N×152.˙22E,h52km±18km,mb4.1/30, mbtmp4.4/37,ML3.5/5,MS3.6/32,Error ellipse: s-maj=13.6km s-min=9.9km az=142.0*
NEIC ***30*** *10:32:12.9±1.6,46.˙2N±0.˙1×152.˙20E±0.˙08,h56km±7km, mb4.7/217,Error ellipse: s-maj=16.1km s-min=7.3km az=165.0*

ISC 30 10:32:11.6±0.6,45.˙96N±0.˙05×152.˙30E±0.˙05,h60km±4km, n632,σ1s28/565,mb4.7/186,24C-18D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.20**	**258**	*c* P	N	**Pn**	**10 32 59.1**	**-0.3**
KUR				*i* S		**Sn**	**10 33 36.0**	**-0.3**
KUR				pmax	pmax			
comp=Z,380nm,0.5s								
KUR				pmax	pmax			
comp=N,97nm,0.2s								
KUR				pmax	pmax			
comp=E,116nm,0.2s								
KUR				smax	smax			
comp=N,419nm,0.5s								
KUR				smax	smax			
comp=E,818nm,0.5s								
KUR	**Kuril'sk**	**3.20**	**258**	*i* P		**Pn**	**10 32 59.3**	**-0.1**
KUR				AMB	AMB		10 33 04.3	
comp=E,380nm,0.5s								
KUR				*i* S		**Sn**	**10 33 35.9**	**-0.3**
KUR				A	A		10 33 42.3	
comp=E,420nm,0.5s								
KUR				A	A		10 33 42.3	
comp=E,820nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**4.96**	**249**	*c i* PN		**Pn**	**10 33 23.9**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**4.96**	**249**	*i* P		**Pn**	**10 33 23.9**	**+0.5**
YUK				AMB	AMB		10 33 27.6	
comp=E,210nm,0.3s								
YUK				*i* S		**Sn**	**10 34 19.2**	**-0.2**
YUK				A	A		10 34 26.2	
comp=E,230nm,0.4s								
YUK				A	A		10 34 26.2	
comp=E,770nm,0.4s								
GLVR	**Golovnino**	**5.31**	**248**	*i* P	N	**Pn**	**10 33 28.3**	**0.0**
GLVR				*e*S		**Sn**	**10 34 27.3**	**-0.7**
GLVR				pmax	pmax			
comp=Z,82nm,0.1s								
GLVR				smax	smax			
comp=N,293nm,0.2s								
GLVR				smax	smax			
comp=E,484nm,0.3s								
GLVR	**Golovnino**	**5.31**	**248**	*i* P		**Pn**	**10 33 28.3**	**0.0**
GLVR				AMB	AMB		10 33 29.6	
comp=E,80nm,0.1s								
GLVR				*e*S		**Sn**	**10 34 27.3**	**-0.7**
GLVR				A	A		10 34 33.9	
comp=E,290nm,0.2s								
GLVR				A	A		10 34 33.9	
comp=E,480nm,0.2s								
RUSJ	**Misakicho**	**5.33**	**252**	*e*PN		**Pn**	**10 33 30.2**	**+1.6**
RUSJ				*i* S		**Sn**	**10 34 31.1**	**+2.5**
NEM2	**Nemuro 2**	**5.35**	**243**	*e*P		**Pn**	**10 33 26.9**	**-1.9**
NEM2				*e*S		**Sn**	**10 34 25.4**	**-3.6**
NMR	**Nemuro--Hokkai**	**5.36**	**243**	*i* P	N	**Pn**	**10 33 27.0**	**-1.9**
NMR	**Nemuro--Hokkai**	**5.36**	**243**	*e*P		**Pn**	**10 33 27.0**	**-1.9**
SKR	**Severo-Kuril's**	**5.37**	**27**	*e*PN		**Pn**	**10 33 27.4**	**-1.6**
SKR				pmax	pmax			
comp=Z,291nm,0.6s								
SKR				MLR	MLR			
comp=Z,200nm,14.0s								
SKR	**Severo-Kuril's**	**5.37**	**27**	*e*P		**Pn**	**10 33 27.5**	**-1.6**
SKR				AMB	AMB		10 33 31.7	
comp=Z,290nm,0.5s								
SKR				*e*S		**Sn**	**10 34 24.5**	**-5.0**
SKR				A	A		10 34 27.3	
comp=Z,220nm,0.7s								
SKR				A	A		10 34 27.3	
comp=Z,300nm,0.7s								
JRA	**Rausu**	**5.48**	**251**	*e*P		**Pn**	**10 33 31.6**	**+1.0**
JRA				*e*S		**Sn**	**10 34 33.2**	**+0.9**
JNK	**Nakash**	**5.90**	**249**	P		**Pn**	**10 33 36.6**	**+0.3**
JNK				*e*S		**Sn**	**10 34 41.3**	**-1.2**
AKK	**Akkeshi**	**6.09**	**244**	*e*P		**Pn**	**10 33 37.6**	**-1.4**
JAK	**Akkeshi**	**6.19**	**244**	P		**Pn**	**10 33 38.7**	**-1.7**
JAK				*e*S		**Sn**	**10 34 45.7**	**-4.1**
PAU	**Pauzhetka**	**6.27**	**27**	*e*P		**Pn**	**10 33 39.5**	**-1.9**
PAU				AMB	AMB		10 33 48.5	
comp=Z,100nm,0.3s								
PAU				*e*S		**Sn**	**10 34 45.3**	**-6.2**
PAU				A	A		10 34 53.7	
comp=Z,210nm,0.5s								
PAU				A	A		10 34 53.7	
comp=Z,210nm,0.5s								
JTKR	**Abashiri--Toko**	**6.28**	**255**	*e*P		**Pn**	**10 33 42.3**	**+0.8**
JAR	**Ashorobuto**	**6.64**	**249**	*e*P		**Pn**	**10 33 46.1**	**-0.5**
JAR				*e*S		**Sn**	**10 35 00.2**	**-0.6**
YSS	**Yuzhno-Sakhali**	**6.67**	**282**			**Pn**	**10 33 48.1**	**+1.2**
YSS	**Yuzhno-Sakhali**	**6.67**	**282**	*ce*PN		**Pn**	**10 33 49.3**	**+2.4**
YSS				*e*S		**Sn**	**10 35 02.0**	**+0.6**
YSS				pmax	pmax			
comp=Z,50nm,0.7s								
YSS				pmax	pmax			
comp=Z,200nm,4.1s								
YSS				smax	smax			
comp=N,30nm,0.6s								
YSS				smax	smax			
comp=E,40nm,0.9s								
YSS				MLR	MLR			
comp=Z,500nm,15.0s								
YSS				MLR	MLR			
comp=N,300nm,16.0s								
YSS				MLR	MLR			
comp=E,400nm,14.0s								
YSS	**Yuzhno-Sakhali**	**6.67**	**282**	*e*P		**Pn**	**10 33 47.6**	**+0.7**
YSS				*e*S		**Sn**	**10 34 57.7**	**-3.7**
YSS				A	A		10 35 07.3	
comp=E,30nm,0.7s								
YSS				A	A		10 35 07.3	
comp=E,40nm,0.7s								
JOB	**Onbets**	**6.79**	**246**	*e*P		**Pn**	**10 33 47.8**	**-0.7**
JOB				*e*S		**Sn**	**10 35 00.9**	**-3.4**
JKK2	**Kamakawa 2**	**7.10**	**256**	*e*P		**Pn**	**10 33 54.2**	**+1.4**
JKA	**Kamikawa-asahi**	**7.12**	**258**			**Pn**	**10 33 55.5**	**+2.5**
JKA	**Kamikawa-asahi**	**7.12**	**258**	*e*P		**Pn**	**10 33 55.6**	**+2.5**
ASAJ	**Asahikawa**	**7.12**	**258**	P		**Pn**	**10 33 52.8**	**-0.3**
comp=E,1.6nm,0.3s,baz=54,slow=15,SNR=18								
ASAJ				LR	LR		10 36 34.3	
comp=E,303nm,21.7s,baz=80,slow=37								
comp=E,12nm,0.7s								
ASAJ	**Asahikawa**	**7.12**	**258**	PN		**Pn**	**10 33 55.6**	**+2.5**
JCH	**Churui**	**7.23**	**246**	*e*P		**Pn**	**10 33 53.8**	**-0.8**
JCH				*e*S		**Sn**	**10 35 10.2**	**-5.1**
UGL	**Uglegorsk**	**7.60**	**298**	*e*PN		**Pn**	**10 34 02.4**	**+2.8**
UGL				pmax	pmax			
comp=Z,130nm,0.8s								
UGL	**Uglegorsk**	**7.60**	**298**	*e*P		**Pn**	**10 34 00.9**	**+1.3**
UGL				AMB	AMB		10 34 04.0	
comp=Z,130nm,0.4s								
ERM	**Erimo**	**7.68**	**242**			**Pn**	**10 34 01.1**	**+0.4**
ERM	**Erimo**	**7.68**	**242**	PN		**Pn**	**10 34 01.1**	**+0.4**
JNBK	**Urakawa-nobuka**	**7.79**	**245**	*e*P		**Pn**	**10 34 00.2**	**-2.0**
JRBN	**Rebuntou**	**7.89**	**270**	*e*P		**Pn**	**10 34 07.3**	**+3.7**
PEA0B	**Petropavlovsk-**	**7.97**	**24**	Pn		**Pn**	**10 34 03.1**	**-1.6**
PEA0B	**Petropavlovsk-**	**7.97**	**24**	PN		**Pn**	**10 34 03.1**	**-1.6**
PETK	**Petropavlovsk-**	**7.97**	**24**	Pn		**Pn**	**10 34 02.5**	**-2.2**
PETK	**Petropavlovsk-**	**7.97**	**24**	P		**Pn**	**10 34 01.9**	**-2.8**
comp=E,1.6nm,0.3s,baz=176,slow=12,SNR=21								
PETK				LR	LR		10 37 07.8	
comp=Z,167nm,21.0s,baz=217,slow=38								
comp=Z,11nm,0.8s								
PETK	**Petropavlovsk-**	**7.97**	**24**	PN		**Pn**	**10 34 02.5**	**-2.2**
TYV	**Tymovskoe**	**8.08**	**311**	*e*PN		**Pn**	**10 34 07.9**	**+1.8**
TYV				*e*S		**Sn**	**10 35 36.3**	**+0.4**
TYV				pmax	pmax			
comp=Z,100nm,2.7s								
TYV				pmax	pmax			
comp=Z,10.0nm,0.9s								
TYV				smax	smax			
comp=N,300nm,3.8s								
TYV				smax	smax			
comp=E,200nm,3.8s								
TYV				smax	smax			
comp=N,12nm,0.9s								
TYV				smax	smax			
comp=E,13nm,0.9s								
TYV	**Tymovskoe**	**8.08**	**311**	*e*P		**Pn**	**10 34 07.5**	**+1.4**
TYV				*e*S		**Sn**	**10 35 33.4**	**-2.5**
JANG	**Nango**	**9.65**	**239**	*e*P		**Pn**	**10 34 23.5**	**-4.3**
JANG				*e*S		Sn	10 36 04.6	-10
JTM	**Tenmabayashi**	**9.67**	**242**	Pn		**Pn**	**10 34 25.9**	**-2.1**
OKH	**Okha**	**9.71**	**325**	*e*P		**Pn**	**10 34 27.7**	**-0.8**
JTH	**Tanohata**	**9.73**	**236**	*e*P		**Pn**	**10 34 24.9**	**-3.9**
JTH				*e*S		Sn	10 36 05.3	-11
NKL	**Nikolayevsk**	**10.42**	**318**	*e*P		**Pn**	**10 34 38.5**	**+0.4**
JMM	**Marumori**	**11.77**	**231**	Pn		**Pn**	**10 34 56.6**	**-0.1**
MA2	**Magadan**	**13.67**	**357**	Pn		**Pn**	**10 35 20.5**	**-1.9**
MA2	**Magadan**	**13.67**	**357**	P		**Pn**	**10 35 21.8**	**-0.6**
comp=E,5.0nm,0.3s,baz=148,slow=12,SNR=4.8								
MA2				LR	LR		10 40 18.7	
comp=E,190nm,20.3s,baz=167,slow=36								
MA2	**Magadan**	**13.67**	**357**	P		**Pn**	**10 35 21.8**	**-0.6**
MAJO	**Matsushiro**	**14.15**	**233**	⇑*i* P		**Pn**	**10 35 30.2**	**+1.2**
MAJO				pmax	pmax			
comp=Z,5.0nm,1.0s								
MJAR	**Matsushiro Arr**	**14.15**	**233**	Pn		**Pn**	**10 35 31.3**	**+2.3**
MJAR	**Matsushiro Arr**	**14.15**	**233**	P		**Pn**	**10 35 29.7**	**+0.7**
comp=Z,0.1nm,0.3s,baz=42,slow=12,SNR=4.4								
comp=Z,0.6nm,0.4s								
MJAR	**Matsushiro Arr**	**14.15**	**233**	P		**Pn**	**10 35 31.3**	**+2.3**
USRK	**Ussuriysk Ar.**	**14.46**	**270**	P		**Pn**	**10 35 32.3**	**-0.6**
comp=Z,0.3nm,0.3s,baz=82,slow=11,SNR=8.7								
comp=Z,2.2nm,0.6s								
USRK	**Ussuriysk Ar.**	**14.46**	**270**	P		**Pn**	**10 35 32.3**	**-0.6**
SHEM	**Shemya Is, Ala**	**15.70**	**57**	P		**Pn**	**10 35 48.7**	**-0.1**
comp=Z,36nm,0.9s,baz=202,slow=4.6,SNR=4.2								
SHEM				LR	LR		10 40 30.7	
comp=Z,86nm,21.8s,baz=173,slow=32								
JHJ	**Hachijo jima 2**	**16.02**	**221**	LR	LR		10 42 55.5	
comp=Z,33nm,20.2s,baz=120,slow=40								
SEY	**Seymchan**	**17.01**	**0**	P		**Pn**	**10 36 04.0**	**-1.2**
SEY	**Seymchan**	**17.01**	**0**	P		**Pn**	**10 36 04.0**	**-1.2**
comp=Z,0.3nm,0.3s,baz=184,slow=14,SNR=5.0								
SEY				LR	LR		10 42 54.4	
comp=Z,144nm,18.4s,baz=192,slow=38								
comp=Z,3.3nm,0.7s								
SEY	**Seymchan**	**17.01**	**0**	⇓*e*P		**P**	**10 36 07.0**	**+0.8**
SEY				pmax	pmax			
comp=Z,4.0nm,0.6s								
HEH	**HeiHe**	**17.14**	**294**	*e*P		**Pn**	**10 36 07.0**	**+0.2**
HEH				pmax	pmax			
comp=Z,8.0nm,1.0s								
HEH				pmax	pmax			
comp=Z,170nm,4.4s								
ZEA	**Zeya**	**17.86**	**305**	*e*P		**Pn**	**10 36 16.7**	**+1.0**
ZEA				pmax	pmax			
comp=Z,10.0nm,1.3s								
ZEA				MLR	MLR			
comp=Z,100nm,18.0s								
ZEA	**Zeya**	**17.86**	**305**	*e*P		**Pn**	**10 36 16.7**	**+1.0**
CN2	**Changchun**	**19.12**	**273**	P		**P**	**10 36 23.3**	**-6.3**
CN2				pmax	pmax			
comp=Z,10.0nm,0.6s								
KSRS	**Korea Array**	**20.03**	**254**	P		Pn	10 36 41.4	-0.3
KSRS						**PcP**		**+0.5**
KSRS	**Korea Array**	**20.03**	**254**	P		Pn	10 36 41.4	-0.3
comp=Z,2.7nm,0.8s,baz=56,slow=8.3,SNR=19								
KSRS				PcP		**PcP**		**10 40 53.6 +0.5**
comp=Z,0.4nm,0.4s,baz=24,slow=1.5,SNR=5.1								
comp=Z,2.7nm,0.8s								
KSRS	**Korea Array**	**20.03**	**254**	P		Pn	10 36 41.4	-0.3
KSRS							10 40 53.6	
KS19	**Wonju Array Si**	**20.04**	**254**	P		Pn	10 36 41.4	-0.4
KSAR	**Wonju Array Be**	**20.06**	**254**	P		**P**	**10 36 40.4**	**+0.6**
KSAR	**Wonju Array Be**	**20.06**	**254**	P		**P**	**10 36 40.4**	**+0.6**
YAK	**Yakutsk**	**20.70**	**329**	P		**P**	**10 36 45.4**	**-1.1**
YAK				IAmb	IAmb	IAmb	10 36 55.5	
comp=Z,29nm,0.6s								
YAK	**Yakutsk**	**20.70**	**329**	P		**P**	**10 36 45.0**	**-1.5**
comp=Z,22nm,0.5s,baz=49,slow=3.0,SNR=5.4								
YAK				LR	LR		10 44 24.9	
comp=Z,128nm,20.0s,baz=124,slow=36								
comp=Z,22nm,0.5s								
YAK	**Yakutsk**	**20.70**	**329**	*e*P		**P**	**10 36 45.9**	**-0.6**
YAK				*e*			10 37 06.1	
YAK				*e*S		**S**	**10 40 33.6**	**-0.4**
YAK				*e*			10 40 53.5	
YAK				*e*SS		**SnSn**	**10 41 05.3**	**+7.8**
YAK				pmax	pmax			
comp=Z,34nm,1.1s								
YAK				pmax	pmax			
comp=N,8.0nm,1.3s								
YAK				pmax	pmax			
comp=E,13nm,1.6s								
YAK				pmax	pmax			
comp=Z,212nm,4.8s								
YAK				pmax	pmax			
comp=N,194nm,4.9s								
YAK				pmax	pmax			
comp=E,220nm,4.9s								
YAK				smax	smax			
comp=E,101nm,2.7s								
YAK				smax	smax			
comp=N,114nm,2.2s								
YAK	**Yakutsk**	**20.70**	**329**	*e*P		**P**	**10 36 45.9**	**-0.6**
JNU	**Nakatsue**	**20.83**	**240**	P		**P**	**10 36 48.3**	**+0.1**
comp=N,4.0nm,0.8s,baz=56,slow=12,SNR=4.1								
JNU				LR	LR		10 44 42.8	
comp=N,81nm,20.5s,baz=36,slow=36								
comp=N,4.0nm,0.8s								
TJN	**Taejon**	**21.00**	**252**	⇑*i* P		**P**	**10 36 50.2**	**+0.3**
BILL	**Bilibino**	**23.29**	**13**	*i* P		**P**	**10 37 14.4**	**+0.6**
BILL				pmax	pmax			
comp=Z,14nm,0.9s								
BILL	**Bilibino**	**23.29**	**13**	*e*P		**P**	**10 37 14.4**	**+0.6**
XLT	**XiLinHaoTe**	**25.59**	**279**	*e*P		**P**	**10 37 35.5**	**+0.4**
XLT				pmax	pmax			
comp=Z,14nm,0.7s								
XLT				pmax	pmax			
comp=Z,130nm,6.7s								
GAMB	**Gambell**	**26.79**	**35**	P		**P**	**10 37 46.0**	**+0.4**
baz=246								
BJI	**Beijing**	**26.91**	**270**	P		**P**	**10 37 47.5**	**+0.6**
BJI				PP		**PnPn**	**10 38 33.0**	**+1.4**
BJI				S		**S**	**10 42 15.5**	**-3.9**
BJI				pmax	pmax			
comp=Z,2.0nm,0.8s								
BJI				pmax	pmax			
comp=Z,70nm,4.9s								
BJI				LR	LR			
comp=Z,120nm,17.1s								
BJI				LR	LR			
comp=Z,82nm,19.8s								
BJI				LR	LR			
comp=Z,110nm,18.6s								
UNV	**Unalaska Valle**	**27.35**	**58**	P		**P**	**10 37 51.9**	**+1.2**
baz=271								
TIXI	**Tiksi**	**28.07**	**344**	LR		LR	10 49 06.0	
comp=Z,136nm,18.8s,baz=161,slow=36								
H11N2	**WAKE ISLAND Hy**	**28.79**	**150**	T		T	11 08 28.0	
baz=339,slow=75,SNR=4833								
H11N1	**WAKE ISLAND Hy**	**28.80**	**150**	T		T	11 08 29.1	
baz=339,slow=75,SNR=2875								
H11N3	**WAKE ISLAND Hy**	**28.81**	**150**	T		T	11 08 29.4	
baz=339,slow=75,SNR=3027								
NJ2	**Nanjing**	**29.23**	**253**	*e*P		**P**	**10 38 08.8**	**+1.2**
NJ2				pmax	pmax			
comp=Z,9.0nm,0.5s								
HHC	**Hu-ho-hao-te**	**29.80**	**275**	*e*P		**P**	**10 38 13.5**	**+0.8**
HHC				pmax	pmax			
comp=Z,12nm,0.8s								
HHC				pmax	pmax			
comp=Z,83nm,7.6s								
H11S1	**WAKE ISLAND Hy**	**29.86**	**152**	T		T	11 09 49.1	
baz=340,slow=76,SNR=2268								
H11S3	**WAKE ISLAND Hy**	**29.87**	**152**	T		T	11 09 52.5	
baz=340,slow=76,SNR=1673								
H11S2	**WAKE ISLAND Hy**	**29.88**	**152**	T		T	11 09 56.2	
baz=340,slow=76,SNR=1788								
L14K	**Kuka Creek**	**30.06**	**43**	P		**P**	**10 38

L17K	Donlin	32.24	42	P		P	10 38 33.8	-0.1	
	baz=263								
K17K	Iditarod	32.32	41	P		P	10 38 34.5	0.0	
	baz=262								
R16K	Pilot Point	32.37	51	P		P	10 38 35.5	+0.4	
	baz=271								
F18K	Selawik	32.53	34	P		P	10 38 36.2	-0.1	
	baz=255								
M17K	Holitna River	32.58	43	P		P	10 38 36.6	-0.3	
	baz=265								
C18K	Utukok River	32.59	30	P		P	10 38 36.2	-0.8	
	baz=250								
N17K	Nushagak Hills	32.63	45	P		P	10 38 37.4	0.0	
	baz=267								
B18K	Kokolik River	32.64	28	P		P	10 38 36.9	-0.4	
	baz=248								
O17K	Koliganek Bris	32.65	46	P		P	10 38 37.6	+0.2	
	baz=268								
YHNB	Yeheng	32.67	240			P	10 38 36.8	-1.3	
H18K	Honhosa River	32.70	36	P		P	10 38 37.7	-0.3	
	baz=259								
G18K	Tagagawik	32.75	35	P		P	10 38 38.0	-0.3	
	baz=257								
Q16K	King Salmon	32.85	48	P		P	10 38 39.9	+0.7	
	baz=270								
P17K	Kvichak River	32.97	48	P		P	10 38 40.6	+0.3	
	baz=270								
L18K	Granite Mounta	33.00	42	P		P	10 38 40.6	0.0	
	baz=265								
J18K	Innoko River	33.13	40	P		P	10 38 42.1	+0.4	
	baz=263								
N18K	Kilae Creek	33.28	45	P		P	10 38 43.7	+0.7	
	baz=268								
C19K	Lookout Ridge	33.29	29	P		P	10 38 42.2	-0.8	
	baz=251								
F19K	Shaleruckik Mo	33.31	33	P		P	10 38 43.2	+0.1	
	baz=257								
H19K	Roundabout Mou	33.56	36			P	10 38 45.6	+0.2	
H19K				IAmb		IAmb	10 38 47.1		
	comp=Z,14nm,0.9s								
H19K	Roundabout Mou	33.56	36	P		P	10 38 46.1	+0.8	
	baz=260,SNR=7.2								
P18K	Big Mountain,	33.59	47	P		P	10 38 46.2	+0.5	
	baz=270								
D19K	Kuna River	33.62	30	P		P	10 38 46.2	+0.3	
	baz=254								
E19K	Redstone River	33.66	32	P		P	10 38 47.4	+1.1	
	baz=256								
J19K	Poorman	33.68	39	P		P	10 38 46.3	-0.2	
	baz=263								
Q18K	Katmai Hardscr	33.71	49	P		P	10 38 46.7	-0.2	
	baz=272								
L19K	White Mountain	33.86	42	P		P	10 38 47.7	-0.4	
	baz=267								
N19K	Bonanza Creek	33.98	45	P		P	10 38 49.0	-0.2	
	baz=269								
M19K	Big River Lodg	34.06	43	P		P	10 38 49.6	-0.1	
	baz=267								
F20K	Avaraart Lake	34.14	33	P		P	10 38 50.2	-0.2	
	baz=258								
H20K	Anotleneega Mo	34.20	36	P		P	10 38 51.0	0.0	
	baz=262								
E20K	Nigu River	34.24	31	P		P	10 38 51.5	+0.1	
	baz=256								
I20K	Naaghedeneel	34.28	38	P		P	10 38 51.4	-0.2	
	baz=263								
K20K	Telida	34.30	40	P		P	10 38 51.4	-0.4	
	baz=266								
L20K	Farewell, AK	34.33	42	P		P	10 38 52.2	+0.1	
	baz=267								
J20K	Nowinta River	34.35	39	P		P	10 38 52.4	+0.2	
	baz=264								
B20K	Meade River	34.38	28	P		P	10 38 51.8	-0.7	
	baz=253								
P19K	Oil Pt	34.60	47	P		P	10 38 54.5	0.0	
	baz=272								
M20K	Styx River	34.66	43	P		P	10 38 55.0	0.0	
	baz=269								
OHAK	Old Harbor	34.71	51	P		P	10 38 54.9	-0.4	
	baz=275								
IMAR	Indian Mountai	34.74	36	P		P	10 38 54.5	-1.0	
XAN	Xi'an	34.89	266	*eP*		P	10 38 57.5	+0.2	
XAN				pmax		pmax			
	comp=Z,9.0nm,1.0s								
O20K	Slope Mountain	34.90	46	P		P	10 38 56.3	-0.7	
	baz=272								
G21K	Allakaket	34.91	35	IAmb		IAmb	10 38 58.4		
	comp=Z,8.1nm,0.8s								
G21K	Allakaket	34.91	35	P		P	10 38 57.2	+0.2	
	baz=262								
C21K	Knifeblade Rid	34.96	30	P		P	10 38 57.6	+0.2	
	baz=256								
F21K	Alatna River	35.04	33	P		P	10 38 58.6	+0.4	
	baz=261								
KDAK	Kodiak Island	35.04	50⇑	*eP*		P	10 38 57.2	-1.0	
KDAK				pmax		pmax			
	comp=Z,9.0nm,0.5s								
KDAK	Kodiak Island	35.04	50	P		P	10 38 58.0	-0.2	
	baz=275								
Q20K	Shuyak Island	35.08	48	P		P	10 38 59.8	+1.3	
	baz=274								
H21K	Melozitna Rive	35.08	36	P		P	10 38 59.0	+0.5	
H21K				IAmb		IAmb	10 38 59.8		
	comp=Z,9.6nm,0.9s								
H21K	Melozitna Rive	35.08	36	P		P	10 38 59.3	+0.8	
	baz=264,SNR=6.3								
E21K	Killik River	35.09	31	P		P	10 38 58.9	+0.4	
	baz=258								
SPCR	Spurr Chakacha	35.09	44	P		P	10 38 59.8	+1.1	
	baz=270								
CHUM	Lake Minchumin	35.13	39	P		P	10 39 00.2	+1.3	
	baz=266								
B21K	Ikpikpuk River	35.13	29	P		P	10 39 00.0	+1.2	
	baz=256								
PPLA	Purkeypile	35.13	41	P		P	10 39 00.3	+1.2	
	baz=268								
I21K	Tanana	35.37	37	P		P	10 39 01.8	+0.8	
	baz=265								
A22K	Sinclair Lake	35.38	27	P		P	10 39 01.4	+0.4	
	baz=254								
HOM	Homer	35.41	47	P		P	10 39 03.3	+2.0	
	baz=273								
SKT	Skwentna	35.41	43	P		P	10 39 02.5	+1.1	
	baz=270								
D22K	Ayikyak River	35.64	31	P		P	10 39 03.6	+0.4	
	baz=259								
H22K	Ishtalitna Cre	35.69	36	P		P	10 39 03.5	-0.3	
	baz=264								
BPAW	Bear Paw Mtn.	35.72	39	P		P	10 39 04.7	+0.6	
BPAW	Bear Paw Mtn.	35.72	39	P		P	10 39 03.6	-0.5	
	baz=267								
G22K	Bettles	35.76	34	P		P	10 39 04.4	+0.2	
	baz=263								
E22K	Anaktuvuk Pass	35.82	32			P	10 39 05.4	+0.6	
E22K				IAmb		IAmb	10 39 06.1		
	comp=Z,16nm,1.1s								
E22K	Anaktuvuk Pass	35.82	32	P		P	10 39 05.1	+0.3	
	baz=261								
MLY	Manley	35.89	37	P		P	10 39 06.3	+0.8	
MLY				IAmb		IAmb	10 39 07.0		
	comp=Z,4.7nm,0.6s								
MLY	Manley	35.89	37	P		P	10 39 05.6	+0.2	
	baz=266								
CUT	Chulitna	36.01	42	P		P	10 39 05.8	-0.6	
	baz=270								
TRF	Thorofare Moun	36.01	40	P		P	10 39 06.8	+0.1	
	baz=269								
M22K	Willow	36.08	43	P		P	10 39 07.0	-0.1	
	baz=271								
RC01	Rabbit Creek A	36.29	44	P		P	10 39 09.4	+0.5	
	baz=273								
COLD	Coldfoot	36.30	34	P		P	10 39 09.3	+0.3	
COLD	Coldfoot	36.30	34	P		P	10 39 09.3	+0.3	
	baz=264								
G23K	Bananza Creek	36.32	35	P		P	10 39 09.3	+0.2	
	baz=265								
O22K	Cooper Landing	36.33	45	P		P	10 39 10.0	+0.8	
	baz=274								
H23K	Yukon River	36.44	36	IAmb		IAmb	10 39 11.9		
	comp=Z,6.4nm,0.8s								
H23K	Yukon River	36.44	36	P		P	10 39 10.6	+0.5	
	baz=266								
I23K	Minto, Yukon-K	36.48	37	P		P	10 39 11.2	+0.8	
I23K				IAmb		IAmb	10 39 12.7		
	comp=Z,16nm,1.4s								
I23K	Minto, Yukon-K	36.48	37	P		P	10 39 10.8	+0.4	
	baz=268								
NEA2	Nenana	36.58	38	P		P	10 39 11.9	+0.5	
NEA2				IAmb		IAmb	10 39 12.5		
	comp=Z,6.7nm,0.8s								
NEA2	Nenana	36.58	38	P		P	10 39 11.8	+0.5	
	baz=268,SNR=7.3								
MCK	McKinley	36.62	40	P		P	10 39 11.9	+0.2	
	baz=270								
TOLK	Toolik Lake Re	36.71	31	P		P	10 39 12.5	0.0	
	baz=262								
KNK	Knik Glacier	36.89	44	P		P	10 39 14.1	0.0	
	baz=273								
SML	Sawmill	36.93	43	P		P	10 39 14.7	+0.2	
	baz=273								
PWL	Port Wells	36.98	44	P		P	10 39 15.1	+0.3	
	baz=274								
E24K	Your Creek	37.05	32	P		P	10 39 15.8	+0.5	
E24K				IAmb		IAmb	10 39 30.8		
	comp=Z,11nm,1.1s								
E24K	Your Creek	37.05	32	P		P	10 39 15.2	-0.1	
	baz=264								
D24K	Happy Valley	37.05	31	P		P	10 39 15.7	+0.4	
	baz=263								
COLA	College	37.11	38	P		P	10 39 16.7	+1.0	
COLA	College	37.11	38	P		P	10 39 16.7	+1.0	
COLA				pmax		pmax			
	comp=Z,15nm,0.7s								
COLA	College	37.11	38	P		P	10 39 16.0	+0.2	
	baz=269								
H24K	Nodor Dome	37.12	36	P		P	10 39 15.6	-0.4	
	baz=268								
C24K	Franklin Bluff	37.17	30	P		P	10 39 16.2	-0.1	
	baz=262								
WAT6	Susitna Watana	37.18	42	P		P	10 39 17.1	+0.5	
	baz=272								
M23K	Glacier View	37.22	43	P		P	10 39 17.6	+0.8	
	baz=273								
F24K	Squaw Lake	37.22	33	P		P	10 39 16.8	0.0	
	baz=266								
POKR	Poker Plat Res	37.29	37	P		P	10 39 18.1	+0.7	
	baz=269								
DHY	Denali Highway	37.33	41	P		P	10 39 18.0	+0.1	
	baz=272								
G24K	Hadweenzic Riv	37.33	35	IAmb		IAmb	10 39 19.6		
	comp=Z,10nm,0.8s								
G24K	Hadweenzic Riv	37.33	35	P		P	10 39 18.8	+1.1	
	baz=267,SNR=8.3								
LZH	Lanzhou	37.35	272	*eP*		P	10 39 20.0	+1.6	
LZH				pP		pP	10 39 35.8	+2.5	
LZH				pmax		pmax			
	comp=Z,56nm,1.2s								
HDA	Harding Lake	37.49	39	IAmb		IAmb	10 39 19.6		
	comp=Z,7.8nm,0.6s								
HDA	Harding Lake	37.49	39	P		P	10 39 19.3	+0.2	
	baz=271								
ILAR	Eielson Array	37.52	38	P		P	10 39 19.1	-0.2	
	comp=Z,2.2nm,0.8s,baz=260,slow=7.9,SNR=37								
	comp=Z,2.2nm,0.8s								
ILAR	Eielson Array	37.52	38	P		P	10 39 19.1	-0.2	
LZDM	Lanzhou Array	37.52	272	P		P	10 39 21.6	+1.5	
LZDM	Lanzhou Array	37.52	272	P		P	10 39 21.6	+1.5	
	comp=Z,3.6nm,0.5s,baz=50,slow=4.6,SNR=6.5								
	comp=Z,3.6nm,0.5s								
G25K	Bearman Lake	37.88	35	P		P	10 39 23.2	+0.9	
	baz=268								
M24K	Tolsona, Glenn	37.93	42	P		P	10 39 23.3	+0.4	
	baz=274								
H25L	Birch Creek	37.98	35	P		P	10 39 24.0	+0.9	
	baz=269								
K24K	Donnelly Dome	38.02	39	P		P	10 39 23.3	-0.2	
	baz=272								
F25K	Christian River	38.09	33	P		P	10 39 24.6	+0.4	
	baz=268								
PRP	Porcupine Dome	38.09	37	P		P	10 39 24.5	+0.2	
	baz=270								
KLU	Klutina	38.10	43	P		P	10 39 25.0	+0.7	
	baz=275								
E25K	Arctic Village	38.14	32	P		P	10 39 24.9	+0.3	
	baz=267								
J25K	Salcha River,	38.17	38	P		P	10 39 23.9	-1.0	
	baz=272,SNR=5.5								
PAX	Paxson	38.20	41	P		P	10 39 25.5	+0.3	
	baz=274								
FYU	Fort Yukon	38.22	35	IAmb		IAmb	10 39 27.1		
	comp=Z,19nm,1.1s								
EYAK	Cordova Ski Ar	38.28	45	P		P	10 39 26.0	+0.3	
	baz=277								
HARP	HAARP	38.39	42	P		P	10 39 27.4	+0.7	
	baz=275								
RIDG	Independent Ri	38.44	40	P		P	10 39 27.7	+0.6	
	baz=273								
C26K	Camden Bay	38.50	30	P		P	10 39 27.5	0.0	
	baz=265								
GTA	Gaotai	38.54	280	*eP*		P	10 39 30.3	+1.9	
GTA				pmax		pmax			
	comp=Z,8.0nm,0.8s								
F26K	Sheenjek River	38.66	33	P		P	10 39 29.7	+0.8	
	baz=269								
BMRM	Bremner River	38.79	44	P		P	10 39 30.0	0.0	
	baz=277								
G26K	Porcupine Rive	38.80	34	IAmb		IAmb	10 39 32.1		
	comp=Z,8.3nm,0.9s								
G26K	Porcupine Rive	38.80	34	P		P	10 39 30.8	+0.9	
	baz=270,SNR=5.9								
SCRK	Sand Creek	38.80	39	P		P	10 39 30.0	-0.2	
	baz=274								
C27K	Jago River	38.90	30	P		P	10 39 31.1	+0.3	
	baz=267								
J26L	Joseph Creek	38.96	38	P		P	10 39 31.8	+0.3	
	baz=274								
KAIM	Kayak Island	39.02	46	P		P	10 39 32.5	+0.6	
	baz=278								
I26K	Coal Creek Min	39.09	37	P		P	10 39 32.9	+0.4	
	baz=273								
M26K	Nabesna, AK	39.39	42	P		P	10 39 36.4	+1.4	
M26K				IAmb		IAmb	10 39 51.2		
	comp=Z,13nm,1.1s								
M26K	Nabesna, AK	39.39	42	P		P	10 39 35.5	+0.4	
	baz=277								
MCARA	McCarthy VSAT	39.50	43	P		P	10 39 35.7	-0.3	
	baz=278								
BGLC	Bering Glacier	39.55	45	P		P	10 39 36.4	+0.1	
	baz=279								
E27K	Colleen River	39.63	32	P		P	10 39 37.7	+0.7	
	baz=271								
G27K	Doyon Strip	39.64	35	P		P	10 39 37.8	+0.8	
	baz=272								
K27K	Chicken	39.64	39	IAmb		IAmb	10 39 38.7		
	comp=Z,14nm,0.9s								
K27K	Chicken	39.64	39	P		P	10 39 37.4	+0.3	
	baz=275								
I27K	Kandik River	39.72	36	P		P	10 39 38.0	+0.3	
	baz=274								
H27K	Steamboat Moun	39.72	35	P		P	10 39 38.5	+0.8	
	baz=273,SNR=6.5								
L27K	Beaver Creek,	39.85	40			P	10 39 40.1	+1.3	
L27K	Beaver Creek,	39.85	40	P		P	10 39 40.2	+1.3	
	baz=277,SNR=7.1								
D27M	Malcolm River	39.86	31	P		P	10 39 39.1	+0.2	
	baz=270								
BCAR	Beaver Creek A	39.87	40	P		P	10 39 40.4	+1.4	
M27K	Edge Creek, AK	39.91	42	P		P	10 39 39.8	+0.3	
	baz=278								
EGAK	Eagle	39.97	38	P		P	10 39 39.7	-0.1	
EGAK				IAmb		IAmb	10 39 40.4		
	comp=Z,9.9nm,0.8s								
EGAK	Eagle	39.97	38	P		P	10 39 39.9	+0.1	
	baz=275,SNR=6.3								
MESA	MESA	40.20	45	P		P	10 39 41.8	-0.2	
	baz=280								
CD2	Chengdu	40.25	265	P		P	10 39 43.5	+0.9	
CD2				pmax		pmax			
	comp=Z,20nm,0.7s								
F28M	Old Crow	40.30	33	P		P	10 39 43.4	+0.9	
	baz=273								
CTG	Chitna Glacier	40.37	44	P		P	10 39 43.6	+0.3	
	baz=280								
E28M	Babbage River	40.38	32	P		P	10 39 43.4	+0.2	
	baz=272								
I28M	Miner Creek	40.42	37			P	10 39 44.4	+0.7	
I28M	Miner Creek	40.42	37	P		P	10 39 44.6	+0.9	
	baz=276,SNR=5.6								
DAWY	Dawson	40.81	39	P		P	10 39 47.7	+0.9	
	baz=278								
O28M	Mount Upton	40.95	44	P		P	10 39 48.6	+0.3	
	baz=281								
H29M	Whitestone	40.99	35	P		P	10 39 48.6	+0.3	
	baz=276								
E29M	Blow River	41.00	32	P		P	10 39 48.6	+0.4	
	baz=274								
PINM	Pinnacle	41.05	45	P		P	10 39 49.2	+0.3	
	baz=282								
G29M	Pine Creek	41.06	34	P		P	10 39 50.4	+1.5	
G29M				IAmb		IAmb	10 39 51.1		
	comp=Z,14nm,1.1s								
G29M	Pine Creek	41.06	34	P		P	10 39 49.1	+0.3	
	baz=276								
YUK8	Steele Glacier	41.06	43	P		P	10 39 49.3	+0.2	
	baz=280								
I29M	Ogilvie Camp,	41.11	37	P		P	10 39 49.7	+0.4	
	baz=277,SNR=6.8								
M29M	Somme Creek	41.47	41	P		P	10 39 52.5	+0.2	
	baz=280								
L29M	L29M	41.51	40	P		P	10 39 53.0	+0.5	
	baz=280								
PNL	Peninsula	41.56	45	P		P	10 39 52.4	-0.6	
	baz=283								
YUK4	Talbot Arm	41.59	43	P		P	10 39 53.0	-0.3	
	baz=281								
EPYK	Eagle Plains	41.64	35	P		P	10 39 54.5	+0.9	
	baz=277,SNR=5.6								
K29M	Barlow Dome	41.66	39	P		P	10 39 54.3	+0.5	
	baz=279								
G30M	tAoh Zraii Nji	41.76	34	P		P	10 39 54.7	+0.1	
	baz=277								
YUK6	Outpost Mounta	41.80	43	P		P	10 39 54.3	-0.9	
	baz=282								
O29M	Mount Kennedy	41.83	44	P		P	10 39 56.2	+0.9	
	baz=282								
F30M	Barrier River	41.86	33	P		P	10 39 56.3	+1.0	
	baz=277								
I30M	Mount Dempster	41.94	37	IAmb		IAmb	10 39 57.6		
	comp=Z,11nm,0.8s								
I30M	Mount Dempster	41.94	37	P		P	10 39 56.9	+0.8	
	baz=279,SNR=9.8								
J30M	Hart River	42.05	38	P		P	10 39 57.0	-0.1	
	baz=280								
M30M	Minto, Yukon	42.21	41	P		P	10 39 59.4	+1.1	
	baz=281								
HYT	Haines Junctio	42.23	43	P		P	10 39 58.6	0.0	
	baz=283								
N30M	Aishikik Lake	42.30	42	P		P	10 39 58.8	-0.2	
	baz=282								
P29M	Windy Craggy	42.39	45	P		P	10 40 00.1	+0.3	
	baz=284								
MAYO	Mayo, Yukon	42.42	39	P		P	10 40 01.8	+1.9	
MAYO				IAmb		IAmb	10 40 33.5		
	comp=Z,14nm,0.8s								
G31M	Satah River	42.53	34	P		P	10 40 00.1	-0.6	
	baz=279								
INK	Inuvik	42.62	32			P	10 40 02.3	+0.8	
INK	Inuvik	42.62	32	P		P	10 40 01.9	+0.4	
	comp=Z,3.8nm,0.5s,baz=288,slow=6.0,SNR=26								
	comp=Z,3.8nm,0.5s								
INK	Inuvik	42.62	32	P		P	10 40 02.3	+0.8	
INK				pmax		pmax			
	comp=Z,5.0nm,0.6s								
INK	Inuvik	42.62	32	P		P	10 40 02.2	+0.8	
	baz=278								
ZALV	Zalesovo Beam	42.62	306	P		P	10 39 59.9	-1.8	
	comp=Z,0.8nm,0.5s,baz=79,slow=7.5,SNR=3.7								
ZALV				PcP		PcP	10 41 53.2	+0.5	
	comp=Z,4.0nm,0.8s,baz=87,slow=3.3,SNR=14								
ZALV				LR		LR	10 58 51.1		
	comp=Z,163nm,18.8s,baz=62,slow=38								
	comp=Z,0.8nm,0.5s								
ZALV	Zalesovo Beam	42.62	306	P		P	10 39 59.9	-1.8	
ZALV							10 41 53.2		
P30M	Million Dollar	42.66	44	P		P	10 40 03.0	+1.1	
	baz=284								
F31M	Tsiigehtchic	42.66	33	P		P	10 40 02.0	+0.3	
	baz=279								
H31M	Peel River	42.68	36	P		P	10 40 03.0	+1.0	
	baz=280								
N31M	Braeburn, Yuko	42.90	42	P		P	10 40 04.7	+0.8	
	baz=283								
O30N	Mendenhall	42.92	43	P		P	10 40 04.2	+0.1	
	baz=284								
PLBC	Pleasant Camp	43.11	45	P		P	10 40 06.1	+0.6	
	baz=285								
M31M	Drury Creek, Y	43.38	41	P		P	10 40 07.8	+0.1	
	baz=284								
WHY	Whitehorse	43.53	43	P		P	10 40 08.8	-0.2	
	baz=285								
GOMU	GeErMu	43.57	278	P		P	10 40 09.0	-1.0	
GOMU				pP		pP	10 40 23.5	-1.2	
GOMU				PcP		PcP	10 41 57.8	+1.1	
GOMU				pmax		pmax			
	comp=Z,9.0nm,0.9s								
SKAG	Skagway	43.62	45	P		P	10 40 09.3	-0.3	
	baz=286								
N32M	Quiet Lake	44.25	42	P		P	10 40 16.3	+1.6	
	baz=286								
SIT	Sitka	44.32	48	P		P	10 40 17.0	+1.8	
	baz=288								
PZH	PanZhiHua	44.34	262	P		P	10 40 17.5	+1.5	
R32K	Eaglecrest	44.36	46	P		P	10 40 16.8	+1.2	
	baz=288								
P32M	Atlin	44.38	44	P		P	10 40 16.9	+1.1	
	baz=287								
P33M	Teslin, Yukon	44.63	43	P		P	10 40 18.9	+1.0	
	baz=287								
MMPY	Sheldon Lake,	44.69	40	P		P	10 40 18.9	+0.7	
	baz=286								
WMQ	Urumqi	44.69	292	*eP*		P	10 40 21.5	+3.0	
WMQ				LR		LR			
	comp=Z,95nm,19.1s								
A36M	Sachs Harbour	44.81	26	P		P	10 40 19.4	+0.4	
	baz=281								
Q32M	Nakina River	45.27	45	P		P	10 40 23.7	+0.7	
	baz=288								
R33M	Jennings River	45.77	44	P		P	10 40 27.8	+0.9	
	baz=289								
U33K	Whale Pass	45.78	49	P		P	10 40 27.6	+0.8	
	baz=290								
C36M	Paulatuk	45.78	29	P		P	10 40 27.1	+0.4	
	baz=285								
CRAG	Craig	46.00	50	P		P	10 40 28.4	-0.2	
	baz=291								
WRAK	Wrangell Islan	46.08	48	P		P	10 40 29.9	+0.8	
	baz=291								
S34M	Telegraph Cree	46.18	46	P		P	10 40 31.2	+1.2	
	baz=290								
TGTN	Hyland Airport	46.35	41	P		P	10 40 32.9	+1.5	
	baz=289								
DLBC	Dease Lake	46.55	45	P		P	10 40 34.8	+1.8	
	comp=Z,12nm,0.6s,baz=285,slow=12,SNR=2.4								
DLBC				LR		LR	11 03 44.2		
	comp=Z,414nm,18.0s,baz=214,slow=41								
	comp=Z,12nm,0.6s								
DLBC	Dease Lake	46.55	45	P		P	10 40 34.3	+1.3	
	baz=290								
WTLY	Watson Lake, Y	46.58	43	P		P	10 40 33.9	+0.8	
	baz=290								
MK31	Makanchi Array	46.81	298	*eP*		P	10 40 34.3	-0.8	
MKAR	Makanchi Array	46.81	298	P		P	10 40 34.2	-0.9	
	comp=Z,1.6nm,0.6s,baz=70,slow=7.6,SNR=9.6								
MKAR				PcP		PcP	10 42 07.8	+0.6	
	comp=Z,2.7nm,0.6s,baz=63,slow=4.0,SNR=10								
MKAR				LR		LR	11 00 51.1		
	comp=Z,110nm,20.8s,baz=71,slow=37								
	comp=Z,1.6nm,0.6s								
MKAR	Makanchi Array	46.81	298	P		P	10 40 34.2	-0.9	
MKAR							10 42 07.9		
V35K	Ketchikan	46.85	49	P		P	10 40 36.3	+1.0	
	baz=292								
T35M	Bob Quinn	46.96	47	P		P	10 40 37.5	+1.4	
	baz=292								
KURK

BVAR Borovoye Array 50.93 310 P **P 10 41 06.2 -0.3**
comp=Z,1.4nm,0.5s,baz=57,slow=9.0,SNR=6.0
BVAR PcP **PcP 10 42 22.5 +0.4**
comp=Z,1.6nm,0.6s,baz=62,slow=3.4,SNR=4.9
BVAR LR LR 11 04 30.1
comp=Z,75nm,18.3s,baz=48,slow=38
comp=Z,1.4nm,0.5s
BVAR Borovoye Array 50.93 310 P **P 10 41 06.2 -0.3**
BVAR 10 42 22.5
BORK Borovoye 50.96 310⇓ *eP* **P 10 41 06.4 -0.3**
BORK pmax pmax
comp=Z,1.0nm,0.8s
CHTO Chiang Mai 51.39 257 **P 10 41 12.0 +1.6**
CHTO IAmb IAmb 10 41 13.1
comp=Z,11nm,0.8s
CHTO Chiang Mai 51.39 257 P **P 10 41 12.0 +1.6**
CHTO pmax pmax
comp=Z,11nm,0.9s
CMAR Chiang Mai Arr 51.64 256 **P 10 41 13.4 +1.1**
CMAR Chiang Mai Arr 51.64 256 P **P 10 41 14.6 +2.3**
comp=Z,5.6nm,0.8s,baz=38,slow=7.7,SNR=35
CMAR PcP **PcP 10 42 27.5 +2.3**
comp=Z,0.3nm,0.3s,baz=47,slow=3.8,SNR=4.3
CMAR LR LR 11 05 29.2
comp=Z,40nm,18.2s,baz=70,slow=39
comp=Z,5.6nm,0.8s
CMAR Chiang Mai Arr 51.64 256 P **P 10 41 14.6 +2.3**
CMAR 10 42 27.5
RES Resolute Bay 51.77 18 LR LR 11 05 14.6
comp=Z,38nm,18.1s,baz=22,slow=38
SHL Shillong 51.79 269 **P 10 41 14.2 +0.7**
SHL Shillong 51.79 269 P **P 10 41 14.2 +0.7**
SHL pmax pmax
comp=Z,12nm,0.7s
YKA Yellowknife Ar 51.90 36 P **P 10 41 13.5 -0.1**
comp=Z,2.4nm,0.7s,baz=301,slow=9.1,SNR=3.5
comp=Z,2.4nm,0.7s
YKA Yellowknife Ar 51.90 36 P **P 10 41 13.5 -0.1**
AAK Ala-Archa 53.68 296 LR LR 11 05 01.0
comp=Z,76nm,19.0s,baz=62,slow=37
AAK Ala-Archa 53.68 296⇓ *iP* **P 10 41 27.4 +0.1**
AAK pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 53.68 296 *eP* **P 10 41 27.4 +0.1**
EVN Everest 53.83 274 IAmb IAmb 10 41 32.8
comp=Z,6.0nm,0.6s
KSH Kashi 54.44 292 P **P 10 41 35.8 +3.0**
KSH pmax pmax
comp=Z,4.0nm,0.6s
ARTI Arti 55.32 318 P **P 10 41 37.4 -1.4**
comp=Z,1.8nm,0.3s,baz=45,slow=4.3,SNR=4.0
ARTI LR LR 11 07 08.8
comp=Z,54nm,19.0s,baz=98,slow=38
comp=Z,1.8nm,0.3s
ARTI Arti 55.32 318 *d iP* **P 10 41 36.9 -1.8**
ARTI *PP **pP** **10 41 52.0 -1.5**
ARTI 10 42 35.2
ARTI S **S** **10 49 16.5 -1.5**
ARTI SS **SS** **10 52 58.9 -3.5**
ARTI pmax pmax
comp=Z,6.0nm,1.0s
NEEM North Greenlan 56.01 6 *i* P **P 10 41 43.1 -0.7**
NEEM IAmb IAmb 10 41 44.8
comp=Z,13nm,0.8s
HOOD Mount Hood Mea 57.20 57 IAmb IAmb 10 41 55.5
comp=Z,12nm,1.0s
DAG Danmarks Havn 57.41 358 P **P 10 41 53.1 -0.2**
DAG pmax pmax
comp=Z,6.0nm,1.1s
DAG Danmarks Havn 57.41 358 *i* P **P 10 41 52.0 -1.3**
DAG IAmb IAmb 10 41 54.0
comp=Z,7.2nm,1.1s
C09A Chrisman Ranch 57.73 53 IAmb IAmb 10 41 57.7
comp=Z,5.9nm,1.1s
KULLO Kullorsuaq 58.13 9 *i* P **P 10 41 57.9 -0.5**
KULLO IAmb IAmb 10 41 58.4
comp=Z,11nm,0.8s
ARCES ARCESS Array B 58.41 341 P **P 10 42 00.8 +0.3**
comp=Z,8.9nm,1.1s,baz=34,slow=6.9,SNR=5.0
comp=Z,8.9nm,1.1s
ARCES ARCESS Array B 58.41 341 P **P 10 42 00.8 +0.3**
PINE Pine Mountain 58.49 58 **P 10 42 03.7 +2.1**
PINE IAmb IAmb 10 42 04.5
comp=Z,6.3nm,0.9s
AB31 Akbulak array 58.50 310 **P 10 42 00.8 -0.5**
AB31 IAmb IAmb 10 42 03.6
comp=Z,2.8nm,0.4s
ABKAR Akbulak array 58.50 310 **P 10 42 00.6 -0.8**
E09A Wood Farm, Sta 58.54 54 IAmb IAmb 10 42 03.5
comp=Z,9.0nm,1.2s
G08A Pilot Rock 58.78 56 **P 10 42 04.6 +1.1**
AKTO Aktyubinsk 58.84 312 LR LR 11 09 50.1
comp=Z,167nm,18.5s,baz=146,slow=38
CHGR Chuyangaron 59.27 295 P **P 10 42 07.6 +0.6**
CHGR pmax pmax
comp=Z,39nm,0.7s
NIL Nilore 59.62 288 **P 10 42 11.1 +1.7**
NIL Nilore 59.62 288 P **P 10 42 11.1 +1.7**
NIL pmax pmax
comp=Z,22nm,1.0s
DBG Daneborg 59.92 358 *i* P **P 10 42 10.0 -0.7**
DBG IAmb IAmb 10 42 10.8
comp=Z,4.7nm,0.6s
BMO Blue Mountains 59.98 55 **P 10 42 11.5 -0.3**
BMO Blue Mountains 59.98 55 P **P 10 42 11.5 -0.3**
BMO pmax pmax
comp=Z,3.0nm,0.9s
O03E Paynes Creek 60.02 62 **P 10 42 12.5 +0.4**
J08A Circle Bar Ran 60.20 57 IAmb IAmb 10 42 15.9
comp=Z,6.6nm,1.2s
PLID Pearl Lake 60.59 54 **P 10 42 17.1 +1.0**
WVOR Wild Horse Val 60.65 58 IAmb IAmb 10 42 18.8
comp=Z,7.6nm,1.1s
MSO Missoula 60.69 52 **P 10 42 17.6 +1.0**
MSO IAmb IAmb 10 42 18.6
comp=Z,7.6nm,1.0s
BEKR Beckworth 61.16 61 **P 10 42 20.3 +0.3**
BEKR IAmb IAmb 10 42 22.0
comp=Z,4.5nm,1.0s
SUMG Summit 61.53 4 **P 10 42 22.3 +0.1**
SUMG Summit 61.53 4 P **P 10 42 22.3 +0.1**
SUMG pmax pmax
comp=Z,19nm,0.6s
SUMG Summit 61.53 4 *i* P **P 10 42 22.2 0.0**
SUMG IAmb IAmb 10 42 23.2
comp=Z,22nm,0.9s
KBL Kabul 61.84 292 P **P 10 42 24.2 -0.4**
KBL pmax pmax
comp=Z,16nm,0.8s
PAHR Pah Rah Range 61.85 61 IAmb IAmb 10 42 27.4
comp=Z,9.4nm,1.3s
CMB Columbia Colle 62.26 63 IAmb IAmb 10 42 29.5
comp=Z,3.8nm,0.8s
BOZ Bozeman (W) 62.72 52 IAmb IAmb 10 42 32.0
comp=Z,5.1nm,0.8s
RYN Ryan 63.04 61 IAmb IAmb 10 42 34.9
comp=Z,5.6nm,0.9s
NVAR Mina Array Bea 63.30 62 P **P 10 42 35.8 +1.4**
NVAR Mina Array Bea 63.30 62 P **P 10 42 35.8 +1.4**
comp=Z,3.5nm,0.7s,baz=294,slow=7.0,SNR=33
comp=Z,3.5nm,0.7s
YHL Hebgen Lake 63.43 52 IAmb IAmb 10 42 37.5
comp=Z,5.2nm,1.0s
YMR Madison River 63.66 52 IAmb IAmb 10 42 39.1
comp=Z,4.9nm,0.9s
H17A Grant Village 64.05 52 IAmb IAmb 10 42 43.1
comp=Z,6.8nm,1.0s
DSP Deep Springs 64.17 62 IAmb IAmb 10 42 42.6
comp=Z,7.5nm,1.0s
TPH Tonopah 64.19 61 IAmb IAmb 10 42 42.4
comp=Z,7.7nm,1.0s
RLMT Red Lodge 64.30 51 IAmb IAmb 10 42 44.2
comp=Z,6.0nm,1.0s
TPAW Teton Pass 64.42 53 IAmb IAmb 10 42 44.7
comp=Z,9.2nm,0.8s
FINES FINESS Array B 64.52 335 P **P 10 42 41.0 -0.5**
comp=Z,4.5nm,0.6s,baz=37,slow=7.3,SNR=19
comp=Z,4.5nm,0.6s
FINES FINESS Array B 64.52 335 P **P 10 42 41.1 -0.5**
LOHW Long Hollow 64.54 53 IAmb IAmb 10 42 45.2
comp=Z,11nm,1.4s
SNOW Snow King Moun 64.55 53 IAmb IAmb 10 42 45.5
comp=Z,9.2nm,1.1s
GRAC Grapevine Rang 64.78 62 IAmb IAmb 10 42 46.0
comp=Z,6.2nm,0.7s
R11B Troy Canyon, C 65.01 60 IAmb IAmb 10 42 47.6
comp=Z,6.9nm,1.2s
HWUT Hardware Ranch 65.29 55 IAmb IAmb 10 42 49.6
comp=Z,15nm,1.4s
S11A Rachel 65.36 61 IAmb IAmb 10 42 50.2
comp=Z,15nm,1.2s
CLC China Lake 65.39 63 IAmb IAmb 10 42 49.9
comp=Z,6.8nm,0.9s
TPNV Topopah Spring 65.50 62 IAmb IAmb 10 42 51.0
comp=Z,11nm,1.3s
BW06 Boulder Array 65.67 53 IAmb IAmb 10 42 51.6
comp=Z,6.5nm,1.0s
PD31 Pinedale Array 65.67 53 IAmb IAmb 10 42 51.6
comp=Z,6.5nm,1.0s
PDAR Pinedale Array 65.67 53 P **P 10 42 50.7 +0.9**
PDAR Pinedale Array 65.67 53 P **P 10 42 50.6 +0.9**
comp=Z,3.4nm,0.8s,baz=287,slow=1.8,SNR=31
comp=Z,3.4nm,0.8s
CCCA Chr Cany lake 65.72 63 IAmb IAmb 10 42 52.2
comp=Z,7.2nm,0.9s
GWY Greenwater Val 65.73 63 IAmb IAmb 10 42 52.1
comp=Z,5.0nm,0.8s
QSM Queen of Sheba 65.75 63 IAmb IAmb 10 42 52.2
comp=Z,7.1nm,1.0s
SFJD Kangerlussuaq 66.03 10 *i* P **P 10 42 50.2 -1.1**
SFJD IAmb IAmb 10 42 51.7
comp=Z,9.7nm,1.0s
DY2G Dye2 67.00 8 *i* P **P 10 42 57.4 -0.4**
DY2G IAmb IAmb 10 42 57.9
comp=Z,8.8nm,0.8s
P17A Butcher Ranch, 67.16 56 IAmb IAmb 10 43 01.5
comp=Z,8.6nm,1.1s
LCMT Little Creek M 67.29 60 IAmb IAmb 10 43 02.6
comp=Z,6.2nm,0.9s
K22A Casper 67.42 52 IAmb IAmb 10 43 03.3
comp=Z,13nm,1.1s
SRU San Rafael Swe 67.52 57 IAmb IAmb 10 43 03.6
comp=Z,9.1nm,0.8s
KNB Kanab 67.54 60 IAmb IAmb 10 43 04.5
comp=Z,8.5nm,1.0s
WRA Warramunga Arr 67.58 198 P **P 10 43 01.9 +0.2**
comp=Z,0.8nm,0.5s,baz=16,slow=6.8,SNR=16
comp=Z,0.8nm,0.5s
WRA Warramunga Arr 67.58 198 P **P 10 43 02.0 +0.2**
RSSD Black Hills 67.77 49 **P 10 43 03.6 +0.5**
RSSD Black Hills 67.77 49 P **P 10 43 03.6 +0.5**
RSSD pmax pmax
comp=Z,20nm,1.2s
FITZ Fitzroy Crossi 68.18 207 P **P 10 43 07.0 +1.5**
comp=Z,2.2nm,0.8s,baz=315,slow=4.3,SNR=3.0
comp=Z,2.2nm,0.8s
NB2 NORSAR Subarra 68.79 341 P **P 10 43 09.0 0.0**
comp=Z,3.5nm,0.6s,baz=28,slow=6.5
NOA NORSAR Array B 68.79 341 P **P 10 43 08.9 0.0**
comp=Z,6.6nm,0.7s,baz=27,slow=6.3,SNR=19
NOA LR LR 11 17 10.4
comp=Z,25nm,18.8s,baz=40,slow=39
comp=Z,6.6nm,0.7s
NOA NORSAR Array B 68.79 341 P **P 10 43 08.9 0.0**
PV22 Blue Mesa, Par 68.91 56 IAmb IAmb 10 43 12.2
comp=Z,9.7nm,1.1s
PV16 Nyswonger Mesa 68.99 56 IAmb IAmb 10 43 12.9
comp=Z,15nm,1.2s
HFS Hagfors 69.00 339 P **P 10 43 09.5 -0.7**
comp=Z,11nm,0.6s,baz=51,slow=4.7,SNR=31
comp=Z,11nm,0.6s
HFS Hagfors 69.00 339 P **P 10 43 09.5 -0.7**
PV05 Paradox Valley 69.04 57 IAmb IAmb 10 43 13.3
comp=Z,13nm,0.9s
PV03 Paradox Valley 69.07 56 IAmb IAmb 10 43 13.3
comp=Z,10nm,1.2s
MNK Minsk 69.39 329 *i* P **P 10 43 13.3 +0.6**
MNK *i* *PP **pwP** **10 43 31.0 -2.0**
MNK *i* 10 45 47.5
MNK *i* PPP PPP 10 47 28.1
MNK *i* S **S** **10 52 15.6 +0.9**
MNK *i* *SS **sS** **10 52 46.3 +4.8**
MNK *i* SS **SS** **10 56 45.0 +3.4**
MNK pmax pmax
comp=E,30nm,1.4s
MNK pmax pmax
comp=Z,19nm,0.8s
MNK pmax pmax
comp=N,21nm,1.3s
MNK MLR MLR
comp=N,117nm,20.0s
MNK MLR MLR
comp=E,179nm,24.0s
MNK MLR MLR
comp=Z,39nm,23.0s
F33A 5 Mile Ranch, 70.47 44 IAmb IAmb 10 43 20.8
comp=Z,10nm,0.8s
KIV Kislovodsk 70.95 314⇓ *eP* **P 10 43 23.7 +1.2**
KIV Kislovodsk 70.95 314 *eP* **P 10 43 21.9 -0.6**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,44nm,17.0s
KIV Kislovodsk 70.95 314 *eP* **P 10 43 21.9 -0.6**
KBZ Khabaz 71.00 314 P **P 10 43 24.0 +1.3**
comp=Z,13nm,0.8s,baz=69,slow=5.6,SNR=31
KBZ LR LR 11 18 27.0
comp=Z,51nm,19.1s,baz=32,slow=39
comp=Z,13nm,0.8s
KBZ Khabaz 71.00 314 *ceP* **P 10 43 23.3 +0.6**
KBZ pmax pmax
comp=Z,15nm,0.9s
KBZ Khabaz 71.00 314 *eP* **P 10 43 23.3 +0.6**
SHA1 Shidzhatmaz 71.12 314 *iP* **P 10 43 24.2 +0.5**
ASAR Alice Springs 71.28 198 P **P 10 43 26.2 +1.7**
comp=Z,0.7nm,0.6s,baz=12,slow=6.1,SNR=24
ASAR LR LR 11 18 02.9
comp=Z,22nm,18.0s,baz=20,slow=38
comp=Z,0.7nm,0.6s
ASAR Alice Springs 71.28 198 P **P 10 43 26.3 +1.7**
ECSD EROS Data Cent 71.84 45 IAmb IAmb 10 43 29.0
comp=Z,19nm,1.1s
AK03 Malin Array Si 71.87 326 P **P 10 43 25.2 -2.6**
AKASG Malin Array Be 71.89 326 P **P 10 43 27.4 -0.5**
comp=Z,7.1nm,0.5s,baz=35,slow=6.2,SNR=26
AKASG LR LR 11 17 20.0
comp=Z,55nm,20.1s,baz=57,slow=38
comp=Z,7.1nm,0.5s
AKASG Malin Array Be 71.89 326 P **P 10 43 27.5 -0.5**
AKBB Malin Array Si 71.89 326 IAmb IAmb 10 43 28.6
comp=Z,12nm,0.8s
AKBB Malin Array Si 71.89 326 *ceP* **P 10 43 26.4 -1.5**
AKBB pmax pmax
comp=Z,12nm,0.8s
AKBB Malin Array Si 71.89 326 P **P 10 43 26.0 -1.9**
AK04 Malin Array Si 71.89 326 P **P 10 43 26.1 -1.9**
AK01 Malin Array Si 71.90 326 P **P 10 43 27.0 -1.0**
KIEV Kiev 71.90 326 **P 10 43 27.3 -0.7**
KIEV IAmb IAmb 10 43 28.6
comp=Z,10nm,0.8s
KIEV Kiev 71.90 326⇑ **P 10 43 27.4 -0.6**
KIEV Kiev 71.90 326 P **P 10 43 27.3 -0.7**
KIEV pmax pmax
comp=Z,10.0nm,0.8s
KIEV Kiev 71.90 326 P **P 10 43 26.2 -1.8**
comp=Z,69nm,0.8s
IVI Ivigtut 71.91 10 *i* P **P 10 43 27.8 -0.1**
IVI IAmb IAmb 10 43 30.5
comp=Z,12nm,0.9s
AK11 Malin Array Si 71.93 326 P **P 10 43 27.4 -0.8**
AK08 Malin Array Si 71.93 326 P **P 10 43 27.2 -1.0**
AK02 Malin Array Si 71.93 326 P **P 10 43 26.9 -1.3**
AK15 Malin Array Si 71.93 326 P **P 10 43 26.9 -1.3**
AK09 Malin Array Si 71.93 326 P **P 10 43 27.1 -1.1**
AK18 Malin Array Si 71.93 326 P **P 10 43 27.1 -1.1**
AK20 Malin Array Si 71.94 326 P **P 10 43 27.1 -1.1**
TUC Tucson 71.94 62 **P 10 43 30.5 +1.8**
TUC Tucson 71.94 62 P **P 10 43 30.5 +1.8**
TUC pmax pmax
comp=Z,5.0nm,1.1s
AK19 Malin Array Si 71.96 326 P **P 10 43 27.2 -1.1**
AK13 Malin Array Si 72.02 326 P **P 10 43 26.6 -2.2**
MI28 Mi28,Pidlybu 72.31 327 P **P 10 43 28.7 -1.7**
RNPP9 Sopachiv 72.59 328 P **P 10 43 30.9 -1.2**
GNI Garni 72.61 310 LR LR 11 19 14.8
comp=Z,60nm,18.1s,baz=58,slow=39
GNI Garni 72.61 310 *i* P **P 10 43 33.3 +0.6**
GNI pmax pmax
comp=Z,8.0nm,0.7s
ANMO Albuquerque 72.73 58 **P 10 43 34.5 +0.9**
ANMO Albuquerque 72.73 58 *ceP* **P 10 43 32.4 -1.1**
ANMO pmax pmax
comp=Z,6.0nm,2.5s
LUBAR Lubar, Ukraine 73.08 326 P **P 10 43 32.3 -2.8**
319A Douglas 73.51 62 IAmb IAmb 10 43 40.5
comp=Z,14nm,1.0s
SORM Soroca 74.28 325⇑ **P 10 43 41.1 -1.0**
SORM Soroca 74.28 325⇑ **P 10 43 41.1 -1.0**
KMPD K-Podol'skiy 74.68 326 P **P 10 43 42.3 -2.1**
KMPD P **P 10 43 41.8 -2.6**
KMPD pP **pP** **10 44 00.4 +0.7**
KSV Kosov 75.42 327 P **P 10 43 46.4 -2.3**
AMTX Amarillo 75.54 55 IAmb IAmb 10 43 51.9
comp=Z,14nm,0.9s
OJC Ojcow 75.74 331 *eP* **P 10 43 50.9 +0.4**
OJC Ojcow 75.74 331 P **P 10 43 50.8 +0.3**
OJC pmax pmax
comp=Z,20nm,0.9s
OJC Ojcow 75.74 331 P **P 10 43 50.4 -0.1**
comp=Z,20nm,0.9s
BURAR Bucovina Array 75.94 326 **P 10 43 52.5 +0.6**
BURAR Bucovina Array 75.94 326⇓ **P 10 43 52.4 +0.6**
BURAR Bucovina Array 75.94 326⇓ **P 10 43 52.4 +0.6**
KOLS Kolonicke sedl 75.95 329 *eP* **P 10 43 52.7 +1.0**
KOLS pmax pmax
comp=Z,15nm,0.8s
SMWD Samnorwood 76.20 54 IAmb IAmb 10 43 55.6
comp=Z,14nm,1.0s
HOLU Holmets 76.25 328 P **P 10 43 53.2 -0.2**
TESR Tescani 76.27 325⇑ **P 10 43 54.2 +0.6**
KSP Ksiaz 76.36 333 P **P 10 43 53.9 -0.1**
comp=Z,16nm,0.9s
LANS Liptovska Anna 76.76 330 *eP* **P 10 43 58.2 +1.8**
LANS pmax pmax
comp=Z,10.0nm,0.9s
MORC Moravsky Berou 76.87 332 IAmb IAmb 10 43 58.7
comp=Z,13nm,0.9s
MORC Moravsky Berou 76.87 332 *eP* **P 10 43 57.8 +0.8**
MORC Moravsky Berou 76.87 332⇓ **P 10 43 58.2 +1.2**
MORC Moravsky Berou 76.87 332⇓ **P 10 43 58.2 +1.2**
TPGR Topolog 76.88 323⇓ **P 10 43 57.3 +0.2**
CLL Collm 76.95 335 P **P 10 43 57.0 -0.4**
CLL IAmb IAmb 10 43 58.3
comp=Z,11nm,0.8s
CLL Collm 76.95 335 *i* P **P 10 43 57.4 +0.1**
CLL pmax pmax
comp=Z,13nm,0.9s
CLL Collm 76.95 335 P **P 10 43 57.1 -0.2**
comp=Z,16nm,1.0s
CLL Collm 76.95 335 *i* P **P 10 43 57.4 +0.1**
comp=Z,13nm,0.9s
EKA Eskdalemuir Ar 76.97 346 P **P 10 43 57.5 +0.1**
comp=Z,0.6nm,0.4s,baz=16,slow=5.9,SNR=4.3
comp=Z,0.6nm,0.4s
EKA Eskdalemuir Ar 76.97 346 P **P 10 43 57.5 +0.1**
COVR Voineasa-Covas 76.99 325⇓ **P 10 43 57.9 +0.2**
TIRR Tirgusor 77.20 322 P **P 10 43 57.0 -1.8**
comp=Z,12nm,1.1s
P40A Paris 77.25 46 IAmb IAmb 10 44 00.9
comp=Z,13nm,0.9s
WMOK Wichita Mounta 77.28 53 IAmb IAmb 10 44 01.1
comp=Z,5.7nm,0.9s
MLR Muntele Rosu 77.39 325⇑ **P 10 44 01.5 +1.4**
MLR Muntele Rosu 77.39 325⇑ **P 10 44 01.5 +1.4**
ILGA Ilgaz 77.51 317 **P 10 44 01.7 +0.7**
APMT Aspermont 77.56 55 IAmb IAmb 10 44 02.6
comp=Z,7.1nm,0.9s
VRAC Vranov 77.59 332 LR LR 11 23 08.1
comp=Z,67nm,18.8s,baz=20,slow=40
VRAC Vranov 77.59 332 *eP* **P 10 44 02.2 +1.3**
VRAC Vranov 77.59 332⇑ **P 10 44 02.3 +1.3**
VRAC Vranov 77.59 332⇑ **P 10 44 02.3 +1.3**
JAVC Velka Javorina 77.62 331 *eP* **P 10 44 03.1 +1.9**
PRU Pruhonice 77.65 334 P **P 10 44 01.7 +0.4**
PRU pmax pmax
comp=Z,12nm,1.7s
PSZ Piszkesteto 77.66 329 IAmb IAmb 10 44 03.4
comp=Z,12nm,1.0s
PSZ Piszkesteto 77.66 329⇓ **P 10 44 02.9 +1.4**
PSZ Piszkesteto 77.66 329⇓ **P 10 44 02.9 +1.4**
VOIR 77.79 325⇑ **P 10 44 03.2 +0.9**
VOIR 77.79 325⇑ **P 10 44 03.2 +0.9**
KRUC Moravsky 77.87 332 *eP* **P 10 44 03.4 +0.9**
ARR Arges 78.01 325⇓ **P 10 44 05.0 +1.6**
STKA Stephens Creek 78.08 189 LR LR 11 22 39.6
comp=Z,11nm,18.7s,baz=22,slow=39
R40A Maddies Statio 78.09 47 IAmb IAmb 10 44 04.7
comp=Z,9.3nm,0.7s
BNN Bunyan 78.17 314 IAmb IAmb 10 44 06.7
comp=Z,9.0nm,0.9s
MODS Modra-Piesok 78.17 331 *eP* **P 10 44 05.0 +0.8**
MODS pmax pmax
comp=Z,28nm,1.2s
TX31 Lajitas Ar. Si 78.37 60 IAmb IAmb 10 44 07.8
comp=Z,11nm,1.1s
TXAR Lajitas Array 78.37 60 **P 10 44 07.1 +1.3**
TXAR Lajitas Array 78.37 60 P **P 10 44 06.8 +1.0**
comp=Z,5.1nm,0.7s,baz=299,slow=4.2,SNR=60
comp=Z,5.1nm,0.7s
TXAR Lajitas Array 78.37 60 P **P 10 44 07.1 +1.3**
SIRR Siria 78.41 327⇑ **P 10 44 05.8 +0.2**
BR131 Keskin Array S 78.58 316 **P 10 44 07.5 +0.7**
BR131 Keskin Array S 78.58 316 P **P 10 44 07.5 +0.7**
BR131 pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 78.58 316 **P 10 44 07.6 +0.8**
BRTR Keskin Array B 78.58 316 P **P 10 44 08.0 +1.2**
comp=Z,3.3nm,0.9s,baz=66,slow=4.5,SNR=16
comp=Z,3.3nm,0.9s
BRTR Keskin Array B 78.58 316 P **P 10 44 08.0 +1.2**
BR106 Keskin Array S 78.58 316 P **P 10 44 04.9 -1.9**
comp=Z,39nmcomp=Z,4.9nm,1.0s
BR104 Keskin Array S 78.59 316 P **P 10 44 04.9 -1.9**
comp=Z,45nmcomp=Z,4.8nm,0.9s
BR105 Keskin Array S 78.59 316 P **P 10 44 04.9 -2.0**
comp=Z,41nmcomp=Z,6.0nm,1.0s
SURR Surduc 78.67 327⇓ **P 10 44 08.0 +1.0**
KHC Kasperske Hory 78.70 334 *eP* **P 10 44 07.5 +0.3**
KHC Kasperske Hory 78.70 334 *ceP* **P 10 44 07.3 +0.1**
KHC pmax pmax
comp=Z,32nm,2.5s
HHAR Hobbs 78.75 49 IAmb IAmb 10 44 08.5
comp=Z,8.7nm,1.0s
CCM Cathedral Cave 78.78 46 **P 10 44 07.1 -0.7**
CCM IAmb IAmb 10 44 08.8
comp=Z,8.3nm,0.8s
CCM Cathedral Cave 78.78 46 P **P 10 44 07.1 -0.7**
CCM pmax pmax
comp=Z,8.0nm,0.8s
GERES GERESS Array B 78.92 334 P **P 10 44 06.9 -1.5**
comp=Z,1.2nm,0.4s,baz=46,slow=2.8,SNR=2.8
comp=Z,1.2nm,0.4s
GERES GERESS Array B 78.92 334 P **P 10 44 06.9 -1.5**
MGMO Mountain Grove 78.96 47 IAmb IAmb 10 44 12.1
comp=Z,11nm,1.3s
PLPT Palo Pinto 78.96 54 IAmb IAmb 10 44 10.4
comp=Z,8.6nm,0.9s
CONA Conrad Observa 79.03 332 *eP* **P 10 44 09.5 +0.4**
comp=Z,3.2nm,0.8s
RONA Rosalia, Austr 79.09 331 *eP* **P 10 44 10.0 +0.7**
comp=Z,5.9nm,0.8s
Q44A Meyer Farm, Va 79.23 44 IAmb IAmb 10 44 11.2
comp=Z,14nm,0.9s
FVM French Village 79.25 46 IAmb IAmb 10 44 11.1
comp=Z,8.6nm,0.6s
MOA Molln 79.62 333 *i* P **P 10 44 13.5 +1.3**
comp=Z,3.1nm,0.6s
ARSA Arzberg 79.73 332 *i* P **P 10 44 13.8 +1.0**
comp=Z,3.2nm,1.0s
BIOA Bad Ischl, Aus 79.96 333 *i* P **P 10 44 15.0 +1.0**
comp=Z,1.4nm,0.4s
DRIO Del Rio 80.13 58 IAmb IAmb 10 44 16.9
comp=Z,7.5nm,0.8s
PBMO Poplar Bluff 80.18 46 IAmb IAmb 10 44 17.6
comp=Z,9.9nm,0.8s
MIAR Mount Ida 80.26 50 IAmb IAmb 10 44 17.4
comp=Z,7.0nm,0.9s
WHAR Wooly Hollow 80.38 49 IAmb IAmb 10 44 17.6
comp=Z,13nm,1.0s
SOKA Soboth 80.40 332 *eP* **P 10 44 16.9 +0.4**
comp=Z,6.2nm,0.9s
LESA Schwarzleotal 80.50 334 *i* P **P 10 44 17.8 +0.8**
comp=Z,2.4nm,0.7s
KBA Koelnbreinsper 80.59 333 *eP* **P 10 44 18.5 +0.9**
comp=Z,1.8nm,0.5s
BOVS Bovan 80.61 326⇑ **P 10 44 15.8 -1.7**
WATA Walderalm 80.91 334 *i* P **P 10 44 20.3 +1.0**
comp=Z,6.7nm,0.5s

WTTA	**Wattenberg**	**80.96**	**334**	*eP*		**P**	**10 44 20.5**	**+0.9**
	comp=Z,6.9nm,0.6s								
RETA	**Reutte**	**81.02**	**335**	*eP*		**P**	**10 44 20.0**	**+0.2**
	comp=Z,5.2nm,1.0s								
MOTA	**Moosalm**	**81.05**	**334**	*i P*		**P**	**10 44 19.3**	**-0.7**
	comp=Z,11nm,1.3s								
WCI	**Wyandotte Cave**	**81.07**	**43**			**P**	**10 44 20.8**	**+0.7**
WCI					IAmb	IAmb	10 44 21.5		
	comp=Z,13nm,0.9s								
WCI	**Wyandotte Cave**	**81.07**	**43**		P	**P**	**10 44 20.8**	**+0.7**
WCI					pmax	pmax			
	comp=Z,13nm,0.9s								
ALN	**Alexandroupoli**	**81.11**	**322**		IAmb	IAmb	10 44 21.9		
	comp=Z,8.6nm,1.2s								
ALN	**Alexandroupoli**	**81.11**	**322**		P	**P**	**10 44 21.0**	**+0.8**
ALN					pmax	pmax			
	comp=Z,6.0nm,0.8s								
SQTA	**Sankt Quirin**	**81.13**	**334**	*eP*		**P**	**10 44 19.8**	**-0.6**
	comp=Z,3.6nm,0.6s								
WVT	**Waverly**	**81.99**	**45**		P	**P**	**10 44 25.7**	**+0.7**
WVT					IAmb	IAmb	10 44 26.4		
	comp=Z,7.2nm,0.8s								
WVT	**Waverly**	**81.99**	**45**		P	**P**	**10 44 25.7**	**+0.7**
WVT					pmax	pmax			
	comp=Z,7.0nm,0.8s								
PPT	**Papeete**	**82.16**	**125**		LR	LR	11 15 34.4		
	comp=Z,41nm,18.7s,baz=305,slow=32								
PPT2	**Papeete2**	**82.17**	**125**	*e*	LR	LR	11 10 15.4		
	comp=Z,53nm,22.5s								
TUE	**Stuetta**	**82.36**	**335**		IAmb	IAmb	10 44 32.6		
	comp=Z,12nm,1.4s								
CLTN	**Cedars of Leba**	**82.75**	**44**		IAmb	IAmb	10 44 30.6		
	comp=Z,5.9nm,0.8s								
ASF	**Jabal al Asfar**	**82.77**	**309**		LR	LR	11 24 45.3		
	comp=Z,27nm,19.4s,baz=78,slow=38								
V48A	**Smith Brothers**	**82.80**	**45**		IAmb	IAmb	10 44 30.4		
	comp=Z,6.7nm,0.8s								
MMAI	**Mount Meron Ar**	**82.91**	**311**		P	**P**	**10 44 31.3**	**+1.4**
	comp=Z,4.1nm,0.5s,baz=44,slow=6.1,SNR=9.7								
MMAI					LR	LR	11 25 10.1		
	comp=Z,59nm,19.0s,baz=16,slow=38								
	comp=Z,4.1nm,0.5s								
X48A	**Hartselle**	**83.71**	**46**		IAmb	IAmb	10 44 34.7		
	comp=Z,5.5nm,0.7s								
W50A	**Signal Mountai**	**83.96**	**44**		IAmb	IAmb	10 44 36.5		
	comp=Z,7.7nm,0.8s								
CPCT	**Cooper Cave**	**84.14**	**43**		IAmb	IAmb	10 44 37.4		
	comp=Z,9.5nm,0.9s								
RAYN	**Ar Rayn**	**84.30**	**298**			**P**	**10 44 36.8**	**-0.4**
RAYN	**Ar Rayn**	**84.30**	**298**		P	**P**	**10 44 36.8**	**-0.4**
RAYN					pmax	pmax			
	comp=Z,6.0nm,1.1s								
TKL	**Tuckaleechee C**	**84.33**	**43**		IAmb	IAmb	10 44 38.4		
	comp=Z,12nm,0.9s								
FPAL	**Fort Paine**	**84.35**	**45**		IAmb	IAmb	10 44 38.4		
	comp=Z,6.1nm,0.9s								
NRCA	**Norcia**	**84.44**	**331**		IAmb	IAmb	10 44 40.4		
	comp=Z,7.3nm,0.8s								
ESDC	**Sonseca Array**	**92.14**	**342**		LR	LR	11 30 53.0		
	comp=Z,17nm,20.6s,baz=359,slow=38								
TORD	**Torodi Ar. Bea**	**115.48**	**328**		PKP	**PKiKP**	**10 50 45.9**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=2.4,slow=2.9,SNR=2.5								
DBIC	**Dimbokro**	**123.77**	**332**		PKP	**PKPdf**	**10 51 02.1**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=226,slow=2.6,SNR=3.3								
DBIC	**Dimbokro**	**123.77**	**332**		PKIKP	**PKPdf**	**10 51 02.2**	**-0.8**
LPAZ	**La Paz**	**135.21**	**62**		PKP	**PKiKP**	**10 51 27.1**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=243,slow=2.3,SNR=2.1								
LPAZ	**La Paz**	**135.21**	**62**		PKIKP	**PKiKP**	**10 51 27.1**	**+0.3**
QSPA	**South Pole Qui**	**135.69**	**180**		PKP	**PKiKP**	**10 51 27.0**	**+1.5**
	comp=Z,1.9nm,0.9s,baz=26,slow=0.7,SNR=10.0								
H03N2	**Juan Fernandez**	**139.31**	**91**		T	T	13 27 03.6		
	baz=308,slow=77,SNR=60								
H03N1	**Juan Fernandez**	**139.32**	**91**		T	T	13 27 08.9		
	baz=308,slow=77,SNR=62								
H03N3	**Juan Fernandez**	**139.32**	**91**		T	T	13 27 05.4		
	baz=308,slow=77,SNR=50								
BDFB	**Brasilia**	**145.31**	**36**		PKPbc	**PKPbc**	**10 51 42.2**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=150,slow=3.5,SNR=3.8								
BDFB	**Brasilia**	**145.31**	**36**		PKIKP	**PKPbc**	**10 51 42.2**	**-0.6**
PLCA	**Paso Flores**	**148.69**	**96**		PKPbc	**PKPbc**	**10 51 51.4**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=288,slow=2.8,SNR=6.3								
PLCA	**Paso Flores**	**148.69**	**96**		PKP2	**PKPbc**	**10 51 51.4**	**-0.3**
CPUP	**Villa Florida**	**149.35**	**60**		PKPbc	**PKPbc**	**10 51 54.0**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=5.0,slow=4.0,SNR=6.9								
CPUP	**Villa Florida**	**149.35**	**60**		PKP2	**PKPbc**	**10 51 54.1**	**+0.5**
SNAA	**Sanae**	**151.63**	**196**		PKPbc	**PKPbc**	**10 51 57.4**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=218,slow=7.7,SNR=10								
SNAA	**Sanae**	**151.63**	**196**		PKIKP	**PKPbc**	**10 51 57.4**	**-0.4**

*SJA **30** 10:35:13.5±1.2,35°.57S×73°.00W,h14km,ML3.8,MW3.9*
*IDC **30** 10:35:13.2±1.0,35°.54S×72°.94W,h0km,mb3.8/4,*
mbtmp3.7/7,ML3.8/2,MS3.1/2,Error ellipse: s-maj=26.4km
s-min=16.7km az=74.0
*GUC **30** 10:35:15.7±0.9,35°.52S×72°.99W,h16km±6km,ML3.9*
*NEIC **30** 10:35:16.0±2.5,35°.51S±0°.03×73°.12W±0°.09,h22km±6km,*
mb4.4/4,ML4.1(GUC),Error ellipse: s-maj=10.4km
s-min=3.8km az=79.0

ISC 30 10:35:14.4±0.7,**35°.50S**±0°.03×**73°.07W**±0°.05,**h10**km,**n76,**
σ1°**87**/97,**mb4.1/5,1D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO05	**Hualane**	**1.05**	**63**	⇓*eP*		**Pb**		**10 35 32.9**	**-1.9**
GO05				*eS*		**Sg**		**10 35 45.5**	**-2.9**
GO05				IAML				10 35 48.0	
	comp=E,7μm,0.5s								
GO05	**Hualane**	**1.05**	**63**	*eP*		Pb		10 35 27.5	-7.2
GO05				*eS*		**Sg**		**10 35 47.0**	**-1.4**
GO05				IAML				10 35 47.5	
	comp=Z,6μm,0.5s								
BI05	**Punta Hualpn**	**1.25**	**185**			**Pn**		**10 35 36.4**	**-1.5**
BI05	**Punta Hualpn**	**1.25**	**185**	*eP*		**Pn**		**10 35 35.8**	**-2.1**
BI05				*eS*		**Sb**		**10 35 52.0**	**-2.1**
BI05				IAML				10 35 58.1	
	comp=E,3μm,0.2s								
BI05	**Punta Hualpn**	**1.25**	**185**	*eP*		**Pn**		**10 35 36.3**	**-1.6**
BI05				*eS*		**Sb**		**10 35 52.8**	**-1.4**
BI05				IAML				10 35 57.3	
	comp=Z,1μm,0.8s								
BO03	**Pichilemu**	**1.35**	**42**	*eP*		**Pn**		**10 35 38.3**	**-1.1**
BO03				*eS*		**Sb**		**10 35 54.5**	**-2.7**
BO03				IAML				10 35 58.8	
	comp=N,2μm,0.3s								
BI02	**San Fabin de**	**1.86**	**129**			**Pn**		**10 35 45.2**	**-1.2**
BI02	**San Fabin de**	**1.86**	**129**	*eP*		**Pn**		**10 35 45.4**	**-1.1**
BI02				*eS*		**Sn**		**10 36 09.5**	**-0.5**
BI02				IAML				10 36 17.1	
	comp=Z,994nm,0.6s								
BO01	**Tunca**	**1.97**	**56**			**Pn**		**10 35 47.5**	**-0.3**
BO01	**Tunca**	**1.97**	**56**	*eP*		**Pn**		**10 35 48.0**	**+0.1**
BO01				*eS*		**Sn**		**10 36 09.2**	**-3.4**
BO01	**Tunca**	**1.97**	**56**	*eP*		**Pn**		**10 35 48.3**	**+0.5**
BO01				*eS*		**Sn**		**10 36 15.1**	**+2.4**
BO01				IAML				10 36 19.9	
	comp=Z,502nm,0.9s								
BO02	**Sierra Bellavi**	**2.00**	**70**			**Pn**		**10 35 48.3**	**-0.2**
BO02	**Sierra Bellavi**	**2.00**	**70**	*eP*		**Pn**		**10 35 48.2**	**-0.2**
BO02				*eS*		**Sn**		**10 36 12.4**	**-1.2**
BO02				IAML				10 36 18.9	
	comp=N,4μm,0.3s								
BO02	**Sierra Bellavi**	**2.00**	**70**	*eP*		**Pn**		**10 35 47.7**	**-0.7**
BO02				*eS*		**Sn**		**10 36 16.2**	**+2.6**
BO02				IAML				10 36 19.1	
	comp=Z,2μm,0.5s								
MT01	**Popeta**	**2.22**	**43**			**Pn**		**10 35 51.8**	**+0.5**
MT01	**Popeta**	**2.22**	**43**	*eP*		**Pn**		**10 35 51.9**	**+0.7**
MT01				IAML				10 36 33.0	
	comp=E,707nm,0.5s								
MT01	**Popeta**	**2.22**	**43**	*eP*		**Pn**		**10 35 51.8**	**+0.5**
MT01				*eS*		**Sn**		**10 36 22.9**	**+4.1**
MT01				IAML				10 36 29.8	
	comp=Z,498nm,0.6s								
MT09	**Talagante**	**2.43**	**45**			**Pn**		**10 35 55.4**	**+1.1**
MT09	**Talagante**	**2.43**	**45**	*eP*		**Pn**		**10 35 54.8**	**+0.4**
MT09				IAML				10 36 36.0	
	comp=N,910nm,0.4s								
BO04	**La Punta**	**2.52**	**54**			**Pn**		**10 35 56.3**	**+0.8**
BO04	**La Punta**	**2.52**	**54**	*eP*		**Pn**		**10 35 55.8**	**+0.3**
BO04				*eS*		**Sn**		**10 36 27.0**	**+0.6**
BO04				IAML				10 36 35.7	
	comp=N,879nm,0.5s								
VA01	**Torpederas**	**2.74**	**26**			**Pn**		**10 35 58.4**	**0.0**
VA01	**Torpederas**	**2.74**	**26**	*eP*		**Pn**		**10 35 59.0**	**+0.6**
VA01				IAML				10 36 46.5	
	comp=E,242nm,0.6s								
VA01	**Torpederas**	**2.74**	**26**	*eP*		Pn		10 35 54.4	-4.0
VA01				IAML				10 36 50.6	
	comp=Z,127nm,1.1s								
MT02	**Curacav**	**2.75**	**36**			**Pn**		**10 35 57.9**	**-0.7**
MT02	**Curacav**	**2.75**	**36**	*eP*		**Pn**		**10 36 00.5**	**+1.9**
MT02				*eS*		**Sn**		**10 36 34.3**	**+2.5**
MT02				IAML				10 36 44.5	
	comp=Z,270nm,0.7s								
MT05	**Renca**	**2.85**	**43**			**Pn**		**10 36 01.1**	**+1.1**
MT05	**Renca**	**2.85**	**43**	*eP*		**Pn**		**10 35 57.5**	**-2.5**
MT05				*eS*		**Sn**		**10 36 31.5**	**-3.0**
MT05				IAML				10 36 43.1	
	comp=Z,295nm,0.7s								
CANA	**Caviahue**	**2.88**	**146**	*eP*		**Pn**		**10 36 00.8**	**+0.3**
CANA				*eS*		**Sb**		**10 36 42.8**	**+1.5**
LMEL	**Las Melosas**	**2.88**	**56**			**Pn**		**10 36 02.4**	**+1.9**
LMEL	**Las Melosas**	**2.88**	**56**	*eP*		**Pn**		**10 36 02.4**	**+1.9**
LMEL				*eS*		Sn		10 36 25.8	-10
LMEL				IAML				10 36 44.6	
	comp=Z,670nm,0.8s								
MT13	**San Alfonso**	**2.89**	**53**			**Pn**		**10 36 02.6**	**+2.1**
MT13	**San Alfonso**	**2.89**	**53**	*eP*		**Pn**		**10 36 02.7**	**+2.1**
MT13				*eS*		**Sn**		**10 36 40.8**	**+5.3**
MT13				IAML				10 36 42.8	
	comp=Z,323nm,0.7s								
MT03	**Universidad Ad**	**2.91**	**47**			**Pn**		**10 36 02.8**	**+1.8**
MT03	**Universidad Ad**	**2.91**	**47**	*eP*		**Pn**		**10 36 02.7**	**+1.8**
MT03				*eS*		**Sn**		**10 36 39.0**	**+3.0**
MT03				IAML				10 36 48.0	
	comp=Z,594nm,0.4s								
MT16	**CCHEN**	**2.95**	**46**			**Pn**		**10 36 04.3**	**+2.9**
EDS3	**Malargue**	**3.00**	**96**	*eP*		**Pn**		**10 36 02.2**	**0.0**
EDS3				*eS*		**Sb**		**10 36 45.2**	**+0.4**
ROC1	**El Roble**	**3.04**	**35**	*eP*		**Pn**		**10 36 04.1**	**+1.3**
ROC1				*eS*		**Sn**		**10 36 43.1**	**+3.9**
PEL	**Peldehue**	**3.07**	**41**			**Pn**		**10 36 03.6**	**+0.6**
PEL	**Peldehue**	**3.07**	**41**	*eP*		**Pn**		**10 36 04.3**	**+1.3**
PEL				*eS*		**Sb**		**10 36 46.4**	**-0.4**
PEL				IAML				10 36 58.0	
	comp=Z,324nm,0.9s								
FCH	**Farellones**	**3.16**	**47**	*eP*		**Pn**		**10 36 04.2**	**-0.4**
MT04	**Ro Olivares**	**3.20**	**50**	*eP*		**Pn**		**10 36 06.8**	**+1.8**
MT04				*eS*		**Sn**		**10 36 47.2**	**+3.9**
MT04				IAML				10 37 02.2	
	comp=Z,189nm,1.4s								
MT08	**Bocatoma Ro**	**3.25**	**52**			**Pn**		**10 36 07.5**	**+1.8**
MT08	**Bocatoma Ro**	**3.25**	**52**	*eP*		**Pn**		**10 36 08.8**	**+3.1**
MT08				*eS*		**Sn**		**10 36 48.1**	**+3.5**
MT08				*eS*		**Sb**		**10 36 52.8**	**+0.7**
MT08				IAML				10 37 06.1	
	comp=Z,191nm,0.5s								
VA06	**Catapilco**	**3.28**	**27**			**Pn**		**10 36 05.6**	**-0.3**
VA03	**San Esteban**	**3.44**	**38**	*eP*		**Pn**		**10 36 08.4**	**+0.3**
VA03				*eS*		**Sn**		**10 36 52.0**	**+3.0**
VA03				IAML				10 37 08.6	
	comp=Z,291nm,0.8s								
RFA	**San Rafael**	**3.84**	**80**	*eP*		**Pn**		**10 36 15.8**	**+2.2**
RFA				*eS*		**Sn**		**10 37 03.2**	**+4.3**
RFA				IAML				10 37 17.7	
	comp=Z,97nm,0.7s								
GO06	**Curarrehue**	**4.27**	**163**	*eS*		**Sb**		**10 37 25.2**	**+4.0**
LR05	**Currie**	**4.79**	**170**			**Pn**		**10 36 26.6**	**-0.1**
RTLS	**Leoncito**	**4.85**	**41**	*eP*		**Pn**		**10 36 28.7**	**+0.9**
RTLS				IAML				10 37 50.1	
	comp=Z,153nm,1.4s								
CO03	**El Pedregal**	**5.06**	**24**	*eP*		**Pn**		**10 36 29.8**	**-0.7**
CO03				*eS*		**Sn**		**10 37 26.7**	**-2.3**
CO03				IAML				10 38 03.8	
	comp=Z,64nm,0.6s								
H03S1	**Juan Fernandez**	**5.09**	**287**	Pn		**Pn**		**10 36 30.6**	**+0.1**
	baz=68,slow=13								
H03S1					T	T		10 41 46.0	
	baz=108,slow=74,SNR=1217								
H03S3	**Juan Fernandez**	**5.10**	**287**	Pn		**Pn**		**10 36 30.7**	**+0.1**
	baz=68,slow=13								
H03S3					T	T		10 41 45.0	
	baz=108,slow=74,SNR=1127								
H03S2	**Juan Fernandez**	**5.11**	**287**	Pn		**Pn**		**10 36 30.5**	**-0.2**
	baz=68,slow=13								
H03S2					T	T		10 41 41.2	
	baz=108,slow=74,SNR=946								
H03N1	**Juan Fernandez**	**5.25**	**291**	Pn		**Pn**		**10 36 34.3**	**+1.7**
	baz=133,slow=24								
H03N1					T	T		10 42 04.4	
	baz=128,slow=71,SNR=18								
H03N3	**Juan Fernandez**	**5.25**	**291**	Pn		**Pn**		**10 36 34.3**	**+1.6**
	baz=133,slow=24								
H03N3					T	T		10 42 01.9	
	baz=128,slow=71,SNR=47								
H03N2	**Juan Fernandez**	**5.26**	**291**	Pn		**Pn**		**10 36 34.4**	**+1.5**
	baz=133,slow=24								
H03N2					T	T		10 42 04.8	
	baz=128,slow=71,SNR=23								
ZON	**Zonda**	**5.38**	**44**			**Pn**		**10 36 36.3**	**+1.4**
PLCA	**Paso Flores**	**5.59**	**160**			**Pn**		**10 36 37.8**	**+0.2**
PLCA	**Paso Flores**	**5.59**	**160**	Pn		**Pn**		**10 36 37.6**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=316,slow=14,SNR=42								
PLCA					Lg	Lg		10 38 04.6	
	comp=Z,0.7nm,0.3s,baz=258,slow=18,SNR=3.1								
PLCA					LR	LR		10 38 53.5	
	comp=Z,181nm,19.1s,baz=337,slow=40								
	comp=Z,3.4nm,0.5s								
CFA	**Coronel Fontan**	**5.60**	**47**	Pn		**Pn**		**10 36 38.0**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=249,slow=13,SNR=19								
CFA					Sn	**Sn**		**10 37 40.9**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=233,slow=19,SNR=1.7								
CFA					Lg	Lg		10 37 58.0	
	comp=Z,2.0nm,0.3s,baz=293,slow=24,SNR=6.0								
	comp=Z,2.2nm,0.3s								
TRQA	**Toist**	**9.25**	**109**	Pn		**Pn**		**10 37 28.7**	**+0.7**
AC02	**Maricunga**	**9.27**	**22**			**Pn**		**10 37 26.9**	**-1.8**
LPAZ	**La Paz**	**19.64**	**14**	P		**P**		**10 39 44.5**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=183,slow=8.6,SNR=2.2								
TRCB	**Terra Rica**	**21.83**	**60**	P		**P**		**10 40 06.2**	**-0.9**
PMSA	**Palmer Station**	**29.81**	**172**	LR		LR		10 53 52.1	
	comp=Z,36nm,19.0s,baz=347,slow=38								
BAUV	**El Baul**	**44.46**	**7**	P		**P**		**10 43 25.2**	**-0.6**
BAUV				IAmb		IAmb		10 43 25.8	
	comp=Z,6.4nm,0.8s								
SNAA	**Sanae**	**50.52**	**157**	P		**P**		**10 44 12.2**	**-0.3**
SNAA				IAmb		IAmb		10 44 13.0	
	comp=Z,4.4nm,1.1s								
SNAA	**Sanae**	**50.52**	**157**	P		**P**		**10 44 11.9**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=278,slow=4.0,SNR=7.4								
	comp=Z,1.9nm,0.8s								
QSPA	**South Pole Qui**	**54.74**	**180**	P		**P**		**10 44 45.5**	**+1.7**
QSPA	**South Pole Qui**	**54.74**	**180**	P		**P**		**10 44 45.6**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=160,slow=3.8,SNR=9.4								
	comp=Z,1.1nm,0.8s								
TXAR	**Lajitas Array**	**70.64**	**332**	P		**P**		**10 46 30.8**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=163,slow=5.3,SNR=1.6								
	comp=Z,0.1nm,0.5s								
MAW	**Mawson**	**71.98**	**164**	P		**P**		**10 46 37.0**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=212,slow=9.5,SNR=5.1								
	comp=Z,1.5nm,0.8s								
H11N3	**WAKE ISLAND Hyl**	**25.34**	**270**	T		T		13 12 09.1	
	baz=119								
H11N1	**WAKE ISLAND Hyl**	**25.36**	**270**	T		T		13 12 11.0	
	baz=119								
H11N2	**WAKE ISLAND Hyl**	**25.36**	**270**	T		T		13 12 11.2	
	baz=119								

*TAP **30** 10:38:02.6,22°.90N×120°.60E,h16km,ML4.1,B*
ISC 30 10:38:03.5±0.8,**22°.90N**±0°.01×**120°.59E**±0°.02,**h24**km±4km,
n141,σ0°**97**/245,**20C-11D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCST	**Cishan**	**0.09**	**259**	⇑*iP*		**Pb**		**10 38 06.6**	**-1.4**
SCST				*i S*		**Sb**		**10 38 10.1**	**-0.9**
SSD	**Sandimen**	**0.16**	**164**	⇓*iP*		**Pb**		**10 38 07.4**	**-1.3**
SSD				S		**Sb**		**10 38 10.6**	**-1.5**
TWM1	**Shoushan**	**0.17**	**243**	⇑*iP*		**Pb**		**10 38 08.2**	**-0.6**
TWM1				*eS*		**Sb**		**10 38 13.3**	**+1.0**
SGLT	**Jiouru**	**0.20**	**206**	⇑*iP*		**Pb**		**10 38 09.0**	**-0.1**
SGLT				S		**Sb**		**10 38 14.4**	**+1.6**
SHHT	**Tainan City**	**0.25**	**299**	⇓*P*		**Pb**		**10 38 10.3**	**+0.5**
SHHT				*eS*		**Sn**		**10 38 16.4**	**+2.4**
CHN3	**Shinhua**	**0.27**	**311**	⇓*iP*		**Pb**		**10 38 10.5**	**+0.5**
CHN3				*eS*		**Sn**		**10 38 16.5**	**-0.7**
SNJT	**Kaohsiung City**	**0.27**	**237**	*eP*		**Pb**		**10 38 10.8**	**+0.8**
SNJT				*eS*		**Sn**		**10 38 17.1**	**-0.2**

MASBT	**Mashibuluo**	**0.29**	**171**	⇓*iP*		**Pb**		**10 38 09.5**	**-0.9**
MASBT				*S*		**Sb**		**10 38 14.2**	**-0.9**
STYH	**Taoyuan**	**0.32**	**33**	⇓*iP*		**Pb**		**10 38 10.3**	**-0.5**
STYH				*S*		**Sb**		**10 38 15.9**	**+0.2**
WTP	**Ta-pu**	**0.34**	**4**	⇑*iP*		**Pb**		**10 38 10.8**	**-0.4**
WTP				*i S*		**Sb**		**10 38 17.1**	**+0.6**
TAI1	**Yung-k'ang**	**0.36**	**293**	*eP*		**Pb**		**10 38 11.5**	**+0.2**
TAI1				*eS*		**Sn**		**10 38 18.5**	**-0.9**
TWK	**Hsinying**	**0.37**	**346**	⇑*iP*		**Pb**		**10 38 11.4**	**-0.3**
TWK				S		**Sb**		**10 38 17.3**	**+0.1**
WSSB	**Gushan**	**0.40**	**229**	*eP*		**Pn**		**10 38 12.8**	**-0.8**
TPUB	**Ta-pu**	**0.40**	**6**	P		**Pb**		**10 38 11.6**	**-0.5**
TPUB	**Ta-pu**	**0.40**	**6**	⇑*iP*		**Pb**		**10 38 11.5**	**-0.5**
TPUB				*i S*		**Sb**		**10 38 18.2**	**+0.3**
SSPT	**Xinbi**	**0.42**	**182**	*eP*		**Pb**		**10 38 11.2**	**-1.1**
SCLT	**Jiali**	**0.45**	**307**	*eP*		**Pb**		**10 38 13.2**	**+0.3**
SCLT				*eS*		**Sn**		**10 38 21.4**	**-0.3**
ECL	**Taimali**	**0.46**	**132**	⇓*iP*		**Pb**		**10 38 12.3**	**-0.6**
ECL				*eS*		**Sb**		**10 38 18.5**	**-0.9**
TWG	**Pinlang**	**0.46**	**100**	⇓*iP*		**Pb**		**10 38 12.6**	**-0.3**
TWG				*eS*		**Sb**		**10 38 19.6**	**+0.2**
TWGBT	**Beinan**	**0.46**	**100**	P		**Pb**		**10 38 12.7**	**-0.4**
TWGBT	**Beinan**	**0.46**	**100**	S		**Pb**		**10 38 20.5**	**+0.9**
TWGBT	**Beinan**	**0.46**	**100**	⇓*iP*		**Pb**		**10 38 12.6**	**-0.4**
TWGBT				*eS*		**Sb**		**10 38 20.0**	**+0.4**
ELDTW	**Lidau**	**0.49**	**54**	⇑P		**Pb**		**10 38 13.3**	**-0.3**
ELDTW				*eS*		**Sb**		**10 38 20.8**	**+0.4**
LONT	**Longtian**	**0.50**	**89**	*eP*		**Pb**		**10 38 13.5**	**-0.2**
LONT				*eS*		**Sb**		**10 38 21.4**	**+0.7**
TSCK	**Chigu Township**	**0.52**	**298**	⇓P		**Pb**		**10 38 13.8**	**-0.3**
TSCK				*eS*		**Sn**		**10 38 24.0**	**+0.5**
SCZT	**Fangliau**	**0.53**	**177**	⇑*iP*		**Pb**		**10 38 13.9**	**-0.5**
SCZT				*eS*		**Sb**		**10 38 20.2**	**-1.2**
WCKO	**Fanlu**	**0.54**	**2**	*eP*		**Pb**		**10 38 13.8**	**-0.6**
WCKO				*eS*		**Sb**		**10 38 22.1**	**+0.4**
TTN	**Taitung**	**0.54**	**106**	*i P*		**Pn**		**10 38 14.8**	**-0.8**
TTN				*eS*		**Sn**		**10 38 23.9**	**0.0**
CHN8	**Yiju**	**0.56**	**322**	*eP*		**Pb**		**10 38 15.1**	**+0.3**
CHN8				*S*		**Sn**		**10 38 24.6**	**+0.1**
EAST	**Anshuo**	**0.57**	**155**	⇓*iP*		**Pb**		**10 38 14.6**	**-0.3**
EAST				*S*		**Sb**		**10 38 23.2**	**+0.5**
WLCH	**Liuqiu**	**0.58**	**199**	*eP*		**Pn**		**10 38 16.4**	**+0.2**
WLCH				*eS*		**Sn**		**10 38 27.1**	**+2.1**
TWP	**Hsiaoliuchiu**	**0.59**	**200**	*eP*		**Pn**		**10 38 17.4**	**+1.1**
TWP				*eS*		**Sn**		**10 38 29.3**	**+4.1**
CHY	**Chiayi**	**0.61**	**346**	⇓P		**Pb**		**10 38 15.6**	**0.0**
CHY				*S*		**Sn**		**10 38 25.8**	**+0.1**
TAW	**Tawu**	**0.61**	**152**	*eP*		**Pb**		**10 38 15.1**	**-0.5**
TAW				*eS*		**Sb**		**10 38 23.9**	**+0.1**
ECS	**Chishang**	**0.61**	**72**	⇑*iP*		**Pb**		**10 38 15.8**	**+0.1**
ECS				*eS*		**Sn**		**10 38 25.4**	**-0.4**
EHD	**Haiduan**	**0.62**	**67**	⇑*iP*		**Pb**		**10 38 15.6**	**-0.2**

WHP	**Taichung City**	**1.41**	**13**	*eP*	**Pb**	**10 38 28.5**	**-0.7**
WHP				*i S*	**Sb**	**10 38 48.7**	**+1.9**
WDJ	**Dajia District**	**1.44**	**2**	*eP*	**Pb**	**10 38 28.9**	**-0.8**
WDJ				*S*	**Sb**	**10 38 49.0**	**+1.4**
TDCB	**Techi**	**1.44**	**21**	*eP*	**Pb**	**10 38 29.3**	**-0.5**
TDCB				*eS*	**Sb**	**10 38 48.7**	**+0.8**
TWQ1	**Liyutan**	**1.45**	**7**	*eP*	**Pb**	**10 38 29.1**	**-0.7**
TWQ1				*eS*	**Sb**	**10 38 49.1**	**+1.2**
TWT	**Tachien**	**1.45**	**22**	*eP*	**Pb**	**10 38 28.9**	**-1.0**
TWT				*eS*	**Sb**	**10 38 49.5**	**+1.4**
FUSS	**Fushou**	**1.47**	**24**	*eP*	**Pb**	**10 38 29.4**	**-0.9**
TWD	**Chiawan**	**1.50**	**38**	*eP*	**Pn**	**10 38 29.0**	**+0.2**
TWD				*eS*	**Sb**	**10 38 48.3**	**-0.8**
NSY	**Sanyi**	**1.52**	**6**	*eP*	**Pb**	**10 38 30.0**	**-0.9**
NSY				*i S*	**Sb**	**10 38 50.8**	**+1.1**
ETLH	**Xiulin Townshi**	**1.54**	**32**	*eP*	**Pb**	**10 38 30.7**	**-0.7**
NACB	**Ninganchiao**	**1.57**	**36**	*P*	**Pb**	**10 38 31.3**	**-0.6**
NACB	**Ninganchiao**	**1.57**	**36**	*S*	**Sb**	**10 38 52.9**	**+1.6**
NACB	**Ninganchiao**	**1.57**	**36**	*eP*	**Pn**	**10 38 29.6**	**-0.2**
NACB				*eS*	**Sb**	**10 38 51.2**	**-0.1**
ETL	**Fush Village**	**1.57**	**37**	*eP*	**Pn**	**10 38 30.1**	**+0.2**
NMLH	**Miaoli**	**1.64**	**7**	*eP*	**Pb**	**10 38 32.7**	**-0.4**
NMLH				*i S*	**Sb**	**10 38 54.6**	**+1.3**
NNSB	**Datong**	**1.69**	**26**	*eP*	**Pb**	**10 38 33.3**	**-0.7**
NNSB				*eS*	**Sb**	**10 38 56.2**	**+1.4**
NNS	**Nan Shan**	**1.69**	**25**	*eP*	**Pb**	**10 38 33.7**	**-0.3**
NSTT	**Nanjuang**	**1.76**	**12**	*eP*	**Pn**	**10 38 33.2**	**+0.7**
NSTT				*eS*	**Sb**	**10 38 56.6**	**-0.2**
EAHA	**Aohua**	**1.77**	**36**	*eP*	**Pb**	**10 38 33.9**	**-1.4**
LIOB	**Emei**	**1.78**	**13**	*eP*	**Pn**	**10 38 33.5**	**+0.7**
LIOB				*eS*	**Sb**	**10 38 56.9**	**-0.5**
NFF	**Wufeng Townshi**	**1.79**	**16**	*eP*	**Pn**	**10 38 33.7**	**+0.8**
NFF				*eS*	**Sb**	**10 38 57.3**	**-0.4**
LATG	**Datong**	**1.84**	**28**	*eP*	**Pb**	**10 38 35.5**	**-1.0**
LATG				*eS*	**Sb**	**10 39 00.2**	**+1.0**
ENA	**Nanau**	**1.85**	**35**	*eP*	**Pn**	**10 38 34.1**	**+0.4**
EWUT	**Wuta**	**1.89**	**35**	*eP*	**Pb**	**10 38 35.9**	**-1.4**
NSK	**Sanguang**	**1.90**	**22**	*eP*	**Pn**	**10 38 35.5**	**+1.0**
NSK				*eS*	**Sb**	**10 39 00.3**	**-0.6**
YHNB	**Yeheng**	**1.90**	**22**	*P*	**Pb**	**10 38 35.8**	**-1.8**
YHNB	**Yeheng**	**1.90**	**22**	*S*	**Sb**	**10 39 02.4**	**+1.4**
YHNB	**Yeheng**	**1.90**	**22**	*eP*	**Pn**	**10 38 35.4**	**+0.9**
YHNB				*eS*	**Sb**	**10 38 59.4**	**-1.6**
SBCB	**Hsinchu**	**1.92**	**11**	*eP*	**Pn**	**10 38 35.4**	**+0.8**
KSHI	**Guanxi Townshi**	**1.94**	**16**	*eP*	**Pn**	**10 38 36.2**	**+1.2**
ENTT	**Nioudou**	**1.95**	**27**	*eP*	**Pb**	**10 38 37.9**	**-0.5**
EOS4	**EOS4**	**2.00**	**52**	*eP*	**Pn**	**10 38 36.8**	**+1.3**
EOS4				*eS*	**Sn**	**10 39 00.9**	**+1.4**
NDS	**Dongshan**	**2.01**	**31**	*eP*	**Pb**	**10 38 37.5**	**-1.9**
ESAO	**Su ao**	**2.03**	**34**	*eP*	**Pb**	**10 38 38.5**	**-1.1**
ESAO				*eS*	**Sb**	**10 39 02.4**	**-2.0**
NWLT	**Wulai**	**2.05**	**24**	*eP*	**Pb**	**10 38 39.0**	**-1.0**
TWC	**Suao**	**2.06**	**34**	*eP*	**Pn**	**10 38 37.1**	**+0.6**
TWC				*eS*	**Sb**	**10 39 05.0**	**-0.4**
TWE	**Neicheng**	**2.06**	**28**	*eP*	**Pb**	**10 38 38.6**	**-1.7**
TWE				*eS*	**Sb**	**10 39 06.3**	**+0.7**
FUSB	**Fushanzhiwuyua**	**2.06**	**26**	*P*	**Pb**	**10 38 38.6**	**-1.8**
FUSB				*eS*	**Sb**	**10 39 05.6**	**0.0**
EOS3	**EOS3**	**2.10**	**49**	*eP*	**Pn**	**10 38 38.4**	**+1.4**
EOS2	**EOS2**	**2.14**	**45**	*eP*	**Pb**	**10 38 39.3**	**-2.1**
TIPB	**Shuangxi**	**2.35**	**29**	*eP*	**Pb**	**10 38 43.4**	**-1.9**
TIPB				*eS*	**Sb**	**10 39 12.5**	**-1.4**
NTST	**Danshui**	**2.39**	**19**	*eP*	**Pb**	**10 38 43.6**	**-2.2**
ZUZH	**Zhuzihu**	**2.42**	**21**	*eP*	**Pn**	**10 38 42.0**	**+0.4**
YM08	**YM08**	**2.45**	**22**	*eP*	**Pn**	**10 38 41.3**	**-0.7**
PTMZ	**Houxiangcun**	**2.52**	**328**	*eP*	**Pn**	**10 38 42.6**	**-0.3**
TWY	**Chenhua**	**2.54**	**27**	*eS*	**Sn**	**10 39 15.5**	**+0.2**
KNMB	**Chin-men Tao**	**2.54**	**308**	*eP*	**Pn**	**10 38 42.5**	**-0.7**
ZPLA	**Ao Xicun**	**2.80**	**292**	*eP*	**Pn**	**10 38 46.0**	**-0.7**
AXDP	**Jialang**	**3.11**	**310**	*eP*	**Pn**	**10 38 49.7**	**-1.3**
MATB	**Ma-tsu**	**3.29**	**350**	*eP*	**Pn**	**10 38 52.8**	**-0.7**
XPSS	**Dashiqiu**	**4.03**	**355**	*eP*	**Pn**	**10 39 02.9**	**-0.8**

*IDC **30** 10:41:55.5±1.8,6°.29S×147°.24E,h75km±16km,mb3.7/13, mbtmp4.0/16,Error ellipse: s-maj=21.3km s-min=9.8km az=100.0*

ISC 30 10:41:52.9±0.8,6°.24S±0°.06×147°.4E±0°.1,h50km,n24, σ1§38/28,mb4.0/13,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.16**	**184**	P	**Pn**	**10 42 40.4**	**+0.3**
	53nm,0.4s,baz=35,slow=7.8,SNR=14						
PMG				S	**Sn**	**10 43 19.4**	**+2.8**
	72nm,0.7s,baz=11,slow=16,SNR=4.4						
PMG	**Port Moresby**	**3.16**	**184**	P	**Pn**	**10 42 40.7**	**+0.6**
JAY	**Jayapura**	**7.62**	**299**	P	**Pn**	**10 43 44.0**	**+2.6**
	4.0nm,0.5s,baz=75,slow=8.2,SNR=4.3						
COEN	**Coen**	**8.72**	**208**	P	**Pn**	**10 43 57.1**	**+0.6**
WRA	**Warramunga Arr**	**18.61**	**222**	P	**P**	**10 46 04.8**	**-1.5**
	2.6nm,0.5s,baz=45,slow=11,SNR=28						
WRA				S	**Sn**	**10 49 31.9**	**-2.6**
	0.4nm,0.8s,baz=43,slow=24,SNR=2.3						
WRA				PcP	**PcP**	**10 50 33.4**	**-0.5**
	0.3nm,0.6s,baz=20,slow=1.7,SNR=1.8						
WB1	**Warramunga Ar.**	**18.62**	**222**	P	**P**	**10 46 05.4**	**-1.0**
QLP	**Quilpie**	**20.46**	**188**	P	**P**	**10 46 27.2**	**+0.8**
ASAR	**Alice Springs**	**21.65**	**215**	P	**P**	**10 46 38.4**	**-0.9**
	4.1nm,0.5s,baz=53,slow=7.8,SNR=51						
ASAR				S	**S**	**10 50 34.3**	**-2.2**
	0.5nm,0.9s,baz=34,slow=25,SNR=3.3 4.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**24.27**	**239**	P	**P**	**10 47 05.0**	**-0.7**
	13nm,0.9s,baz=63,slow=7.1,SNR=15 13nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.27**	**239**	P	**P**	**10 47 04.8**	**-0.9**
STKA	**Stephens Creek**	**26.08**	**191**	P	**P**	**10 47 20.1**	**-1.8**
	2.6nm,0.5s,baz=10,slow=9.4,SNR=8.8 2.6nm,0.5s						
HTT	**Hallett**	**28.18**	**195**	P	**P**	**10 47 42.1**	**+1.3**
BBOO	**Buckleboo**	**28.47**	**200**	P	**P**	**10 47 44.0**	**+0.7**
JNU	**Nakatsue**	**42.17**	**339**	P	**P**	**10 49 42.0**	**+1.3**
	6.2nm,0.9s,baz=200,slow=1.7,SNR=5.2 6.2nm,0.9s						
MJAR	**Matsushiro Arr**	**43.41**	**349**	P	**P**	**10 49 50.7**	**-0.2**
	1.7nm,0.7s,baz=174,slow=8.7,SNR=6.7 1.7nm,0.7s						
KSRS	**Korea Array**	**47.11**	**339**	P	**P**	**10 50 18.9**	**-1.1**
	0.8nm,0.5s,baz=164,slow=6.9,SNR=6.7 0.8nm,0.5s						
SONM	**Songino Array**	**64.80**	**331**	P	**P**	**10 52 26.6**	**+0.1**
	1.3nm,0.9s,baz=163,slow=5.0,SNR=4.4 1.3nm,0.9s						
VNDA	**Vanda**	**71.65**	**177**	P	**P**	**10 53 08.4**	**-0.5**
	0.5nm,0.5s,baz=337,slow=6.3,SNR=5.1 0.5nm,0.5s						
MKAR	**Makanchi Array**	**77.93**	**320**	P	**P**	**10 53 46.6**	**+0.9**
	0.4nm,0.6s,baz=81,slow=8.9,SNR=1.5 0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**79.42**	**328**	P	**P**	**10 53 52.3**	**-1.4**
	1.2nm,0.5s,baz=128,slow=9.3,SNR=5.6 1.2nm,0.5s						
QSPA	**South Pole Qui**	**83.73**	**180**	P	**P**	**10 54 17.2**	**+0.8**
	0.9nm,0.5s,baz=288,slow=1.1,SNR=16 0.9nm,0.5s						
ILAR	**Eielson Array**	**85.55**	**23**	P	**P**	**10 54 24.7**	**-0.7**
	0.3nm,0.7s,baz=253,slow=4.8,SNR=2.7 0.3nm,0.7s						
BVAR	**Borovoye Array**	**87.19**	**324**	P	**P**	**10 54 33.1**	**-0.6**
	0.5nm,0.4s,baz=129,slow=11,SNR=2.3 0.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**145.53**	**284**	PKPbc	**PKPdf**	**11 01 25.5**	**-1.1**
	0.9nm,0.6s,baz=56,slow=4.6,SNR=6.1						

*AEIC **30** 10:42:18.3±2.6,68°.50N±0°.02×147°.52W±0°.04,h14km±4km, ML3.2,ML3.4/156(NEIC),Error ellipse: s-maj=3.1km s-min=1.0km az=220.0*

*IDC **30** 10:42:20.4±1.6,68°.55N×147°.52W,h0km,mb3.6/4, mbtmp3.7/8,ML3.8/4,MS2.5/1,Error ellipse: s-maj=24.7km s-min=19.3km az=84.0*

*NEIC **30** 10:42:20.1±2.9,68°.46N±0°.03×147°.46W±0°.09,h10km±2km, Error ellipse: s-maj=6.0km s-min=3.7km az=61.0*

ISC 30 10:42:19.8±0.6,68°.50N±0°.02×147°.51W±0°.02,h10km, n135,σ1§00/111,mb3.6/4,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E24K	**Your Creek**	**0.56**	**220**		**Pg**	**10 42 29.2**	**-1.6**
E24K					**Sg**	**10 42 37.7**	**-0.5**
TOLK	**Toolik Lake Re**	**0.77**	**281**		**Pg**	**10 42 33.5**	**-1.2**
TOLK	**Toolik Lake Re**	**0.77**	**281**		**Sg**	**10 42 44.5**	**-0.2**
TOLK					**Sb**	**10 42 45.6**	**-0.2**
TOLK	**Toolik Lake Re**	**0.77**	**281**	IAML		10 42 53.8	
	comp=N,823nm,2.5s						
TOLK				IAML		10 42 56.3	
	comp=E,707nm,2.1s						
D24K	**Happy Valley**	**0.81**	**325**		**Pg**	**10 42 34.1**	**-1.3**
E25K	**Arctic Village**	**0.82**	**117**		**Pg**	**10 42 34.7**	**-0.9**
E25K	**Arctic Village**	**0.82**	**117**		**Sg**	**10 42 45.6**	**-0.6**
E25K					**Sb**	**10 42 47.0**	**-0.3**
E23K	**Chandalar**	**0.90**	**241**		**Pg**	**10 42 35.0**	**-2.2**
D25K	**Kavik River**	**0.92**	**26**		**Pg**	**10 42 35.7**	**-1.8**
F24K	**Squaw Lake**	**1.00**	**188**	IAML		10 42 56.8	
	comp=N,757nm,0.7s						
F24K	**Squaw Lake**	**1.00**	**188**		**Pg**	**10 42 37.0**	**-2.0**
F24K					**Pb**	**10 42 37.5**	**-1.8**
F24K					**Sg**	**10 42 50.8**	**-1.2**
F24K					**Sb**	**10 42 52.3**	**-0.2**
F25K	**Christian Rive**	**1.15**	**142**		**Pb**	**10 42 41.1**	**-0.8**
F25K				IAML		10 43 01.4	
	comp=E,615nm,0.6s						
F25K				IAML		10 43 03.0	
	comp=N,630nm,0.8s						
F25K	**Christian Rive**	**1.15**	**142**		**Sg**	**10 42 57.2**	**+0.2**
D23K	**Nanushuk River**	**1.25**	**293**		**Pn**	**10 42 42.8**	**-0.5**
C24K	**Franklin Bluff**	**1.29**	**341**		**Sb**	**10 43 01.4**	**+0.5**
C24K	**Franklin Bluff**	**1.29**	**341**		**Pn**	**10 42 42.8**	**-1.2**
F26K	**Sheenjek River**	**1.50**	**121**		**Pn**	**10 42 46.9**	**+0.1**
F26K				IAML		10 43 14.9	
	comp=N,388nm,1.4s						
F26K	**Sheenjek River**	**1.50**	**121**		**Sg**	**10 43 07.8**	**-0.3**
BM05	**Burnt Mountain**	**1.55**	**133**		**Pn**	**10 42 47.6**	**+0.2**
BMAR	**Burnt Mountain**	**1.55**	**133**		**Pn**	**10 42 47.5**	**0.0**
COLD	**Coldfoot**	**1.64**	**220**		**Pn**	**10 42 47.7**	**-1.0**
COLD				IAML		10 43 14.3	
	comp=E,422nm,0.9s						
E22K	**Anaktuvuk Pass**	**1.64**	**259**		**Pn**	**10 42 48.5**	**-0.2**
E22K				IAML		10 43 18.6	
	comp=N,369nm,0.8s						
C26K	**Camden Bay**	**1.70**	**32**		**Pn**	**10 42 50.5**	**+1.0**
C26K	**Camden Bay**	**1.70**	**32**	IAML		10 43 22.5	
	comp=E,486nm,0.8s						
C26K				IAML		10 43 23.4	
	comp=N,367nm,1.3s						
C23K	**Itkillik River**	**1.74**	**322**		**Pn**	**10 42 49.5**	**-0.5**
C23K				IAML		10 43 25.4	
	comp=E,393nm,0.9s						
C23K				IAML		10 43 26.2	
	comp=N,403nm,0.9s						
C27K	**Jago River**	**1.77**	**49**		**Pn**	**10 42 50.9**	**+0.3**
C27K				IAML		10 43 16.9	
	comp=E,285nm,0.8s						
C27K				IAML		10 43 18.1	
	comp=N,322nm,1.2s						
G24K	**Hadweenzic Riv**	**1.81**	**180**		**Pn**	**10 42 51.0**	**-0.1**
G24K				IAML		10 43 19.7	
	comp=N,360nm,0.8s						
G24K				IAML		10 43 22.1	
	comp=E,391nm,0.6s						
G25K	**Bearman Lake**	**1.83**	**162**		**Pn**	**10 42 51.4**	**+0.1**
D22K	**Ayikyak River**	**1.93**	**284**	Pn	**Pn**	**10 42 53.3**	**+0.7**
D22K				IAML		10 43 26.4	
	comp=E,343nm,0.9s						
F22K	**John River**	**2.02**	**242**		**Pn**	**10 42 54.9**	**+0.9**
G23K	**Bananza Creek**	**2.04**	**209**	Pn	**Pn**	**10 42 54.6**	**+0.4**
G23K				IAML		10 43 26.7	
	comp=E,311nm,1.2s						
G26K	**Porcupine Rive**	**2.11**	**136**	Pn	**Pn**	**10 42 54.8**	**-0.3**
FYU	**Fort Yukon**	**2.13**	**155**	IAML		10 43 35.0	
	comp=N,254nm,0.8s						
FYU				IAML		10 43 36.8	
	comp=E,268nm,1.0s						
E27K	**Coleen River**	**2.22**	**96**		**Pn**	**10 42 56.4**	**-0.2**
H25L	**Birch Creek**	**2.34**	**163**		**Pn**	**10 42 58.5**	**+0.2**
E21K	**Killik River**	**2.38**	**271**		**Pn**	**10 43 00.9**	**+2.0**
E21K				IAML		10 43 41.3	
	comp=N,176nm,0.8s						
D27M	**Malcolm River**	**2.49**	**70**		**Pn**	**10 43 01.8**	**+1.4**
D27M				IAML		10 43 41.1	
	comp=N,162nm,0.8s						
F21K	**Alatna River**	**2.60**	**243**		**Pn**	**10 43 02.1**	**+0.2**
F21K	**Alatna River**	**2.60**	**243**	IAML		10 43 46.8	
	comp=E,194nm,0.9s						
F21K				IAML		10 43 49.9	
	comp=N,168nm,0.8s						
H24K	**Noodor Dome**	**2.68**	**183**		**Pn**	**10 43 03.0**	**-0.1**
H24K				IAML		10 43 51.8	
	comp=E,117nm,0.7s						
C21K	**Knifeblade Rid**	**2.72**	**287**		**Pn**	**10 43 04.0**	**+0.5**
B22K	**Teshekpuk Lake**	**2.78**	**314**	Pn	**Pn**	**10 43 04.0**	**-0.4**
B22K				IAML		10 43 59.7	
	comp=E,170nm,1.2s						
B22K				IAML		10 44 05.6	
	comp=N,157nm,0.9s						
B21K	**Ikpikpuk River**	**2.79**	**297**		**Pn**	**10 43 04.7**	**+0.3**
B21K				IAML		10 44 02.4	
	comp=E,118nm,1.2s						
H23K	**Yukon River**	**2.81**	**197**		**Pn**	**10 43 04.7**	**0.0**
H23K	**Yukon River**	**2.81**	**197**	IAML		10 43 55.4	
	comp=N,160nm,0.8s						
G27K	**Doyon Strip**	**2.81**	**125**	IAML		10 44 00.3	
	comp=E,114nm,1.2s						
E28M	**Babbage River**	**2.93**	**84**		**Pn**	**10 43 06.5**	**0.0**
E28M	**Babbage River**	**2.93**	**84**	IAML		10 44 02.1	
	comp=N,89nm,1.0s						
F28M	**Old Crow**	**3.01**	**104**	IAML		10 44 00.2	
	comp=N,144nm,0.8s						
F28M				IAML		10 44 12.3	
	comp=E,82nm,1.1s						
G21K	**Allakaket**	**3.05**	**232**		**Pn**	**10 43 08.0**	**0.0**
G21K	**Allakaket**	**3.05**	**232**	IAML		10 44 09.3	
	comp=E,130nm,0.9s						
G21K				IAML		10 44 11.2	
	comp=N,123nm,1.1s						
PRP	**Porcupine Dome**	**3.10**	**164**		**Pn**	**10 43 08.8**	**-0.1**
H27K	**Steamboat Moun**	**3.25**	**132**		**Pn**	**10 43 10.9**	**+0.1**
H27K	**Steamboat Moun**	**3.25**	**132**	IAML		10 44 15.5	
	comp=N,68nm,0.8s						
H27K				IAML		10 44 16.1	
	comp=E,83nm,0.8s						
D20K	**Etivluk River**	**3.34**	**278**		**Pn**	**10 43 12.4**	**+0.3**
D20K	**Etivluk River**	**3.34**	**278**	IAML		10 44 12.6	
	comp=N,77nm,1.7s						
D20K				IAML		10 44 17.6	
	comp=E,110nm,0.9s						
POKR	**Poker Plat Res**	**3.40**	**179**	Pn	**Pn**	**10 43 14.3**	**+1.4**
POKR				IAML		10 44 14.6	
	comp=E,61nm,1.0s						
F20K	**Avaraart Lake**	**3.45**	**249**		**Pn**	**10 43 14.2**	**+0.7**
F20K	**Avaraart Lake**	**3.45**	**249**	IAML		10 44 17.5	
	comp=N,93nm,1.4s						
I23K	**Minto, Yukon-K**	**3.45**	**193**		**Pn**	**10 43 14.1**	**+0.5**
IM01	**Indian Mountai**	**3.49**	**227**		**Pn**	**10 43 14.5**	**+0.4**
IMAR	**Indian Mountai**	**3.50**	**227**	Pn	**Pn**	**10 43 20.8**	**-1.1**
H21K	**Melozitna Rive**	**3.53**	**218**		**Pn**	**10 43 15.7**	**+1.0**
H21K				IAML		10 44 13.8	
	comp=E,83nm,1.6s						
H21K				IAML		10 44 31.2	
	comp=N,75nm,1.1s						
E29M	**Blow River**	**3.55**	**87**		**Pn**	**10 43 15.3**	**+0.4**
E29M	**Blow River**	**3.55**	**87**	IAML		10 44 17.4	
	comp=E,80nm,1.0s						
E29M				IAML		10 44 22.0	
	comp=N,90nm,0.8s						
A22K	**Sinclair Lake**	**3.61**	**318**		**Pn**	**10 43 15.1**	**-0.5**
I26K	**Coal Creek Min**	**3.64**	**150**	IAML		10 44 33.4	
	comp=E,84nm,0.8s						
COLA	**College**	**3.65**	**182**		**Pn**	**10 43 16.9**	**+0.7**
MLY	**Manley**	**3.71**	**202**		**Pn**	**10 43 18.6**	**+1.4**
MLY				IAML		10 44 24.9	
	comp=E,58nm,1.0s						
I27K	**Kandik River**	**3.72**	**139**		**Pn**	**10 43 17.3**	**0.0**
B20K	**Meade River**	**3.75**	**298**		**Pn**	**10 43 17.4**	**-0.2**
B20K	**Meade River**	**3.75**	**298**	IAML		10 45 31.0	
	comp=E,60nm,2.4s						
IL31	**Eielson Array**	**3.76**	**176**		**Pn**	**10 43 18.1**	**+0.4**
ILAR	**Eielson Array**	**3.76**	**176**		**Pn**	**10 43 17.9**	**+0.1**
ILAR	**Eielson Array**	**3.76**	**176**	Pn	**Pn**	**10 43 18.6**	**+0.8**
	comp=E,1.6nm,0.3s,baz=357,slow=14,SNR=91						
ILAR				Sn	**Sn**	**10 44 03.8**	**+1.8**
	comp=E,2.6nm,0.3s,baz=355,slow=19,SNR=3.0						
ILAR				Lg	Lg	10 44 19.6	
	comp=E,4.8nm,0.3s,baz=357,slow=30,SNR=12						
ILAR				LR	LR	10 45 11.7	
	comp=E,75nm,21.5s,baz=89,slow=45 comp=E,9.3nm,0.6s						
CCB	**Clear Creek Bu**	**3.88**	**182**		**Pn**	**10 43 19.9**	**+0.5**
D19K	**Kuna River**	**3.90**	**275**		**Pn**	**10 43 19.9**	**+0.1**
D19K	**Kuna River**	**3.90**	**275**	IAML		10 44 28.5	
	comp=E,60nm,1.1s						
D19K				IAML		10 44 42.2	
	comp=N,51nm,2.2s						
G29M	**Pine Creek**	**3.95**	**109**		**Pn**	**10 43 21.0**	**+0.5**
J25K	**Salcha River,**	**4.00**	**167**	IAML		10 44 37.3	
	comp=E,56nm,1.5s						
J25K				IAML		10 44 39.8	
	comp=N,41nm,0.8s						
WRH	**Wood River Hil**	**4.06**	**184**	IAML		10 44 34.1	
	comp=E,41nm,1.3s						
WRH				IAML		10 44 34.9	
	comp=N,41nm,1.0s						
HDA	**Harding Lake**	**4.12**	**177**		**Pn**	**10 43 23.1**	**+0.3**
HDA	**Harding Lake**	**4.12**	**177**	IAML		10 44 30.6	
	comp=E,54nm,1.2s						
H29M	**Whitestone**	**4.21**	**119**		**Pn**	**10 43 24.4**	**+0.3**
H29M	**Whitestone**	**4.21**	**119**	IAML		10 44 46.4	
	comp=E,48nm,1.3s						
I28M	**Miner Creek**	**4.27**	**132**	IAML		10 44 44.0	
	comp=E,47nm,1.4s						
J26L	**Joseph Creek**	**4.32**	**157**		**Pn**	**10 43 26.1**	**+0.6**
J26L				IAML		10 44 47.1	
	comp=N,34nm,0.9s						
J26L				IAML		10 44 49.2	
	comp=E,42nm,0.9s						
C19K	**Lookout Ridge**	**4.42**	**283**		**Pn**	**10 43 26.6**	**-0.3**
C19K				IAML		10 44 55.7	
	comp=N,38nm,1.4s						
C19K				IAML		10 45 04.9	
	comp=E,32nm,1.3s						
F30M	**Barrier River**	**4.49**	**96**		**Pn**	**10 43 29.1**	**+1.3**
F30M				IAML		10 44 26.8	
	comp=E,39nm,1.3s						
EGAK	**Eagle**	**4.52**	**143**	IAML		10 44 56.0	
	comp=E,43nm,1.0s						
EGAK				IAML		10 44 58.8	
	comp=E,28nm,2.1s						
G30M	**tAoh Zraii Nji**	**4.56**	**104**		**Pn**	**10 43 28.5**	**-0.3**
G30M				IAML		10 44 50.9	
	comp=N,29nm,1.6s						
BPAW	**Bear Paw Mtn.**	**4.64**	**199**		**Pn**	**10 43 30.1**	**+0.2**
BPAW	**Bear Paw Mtn.**	**4.64**	**199**	IAML		10 44 52.3	
	comp=N,32nm,0.8s						
SCRK	**Sand Creek**	**4.76**	**161**	IAML		10 44 56.8	
	comp=N,24nm,0.8s						
I29M	**Ogilvie Camp,**	**4.80**	**127**	IAML		10 45 02.6	
	comp=E,33nm,1.1s						
MCK	**McKinley**	**4.83**	**188**		**Pn**	**10 43 34.1**	**+1.6**
MCK				IAML		10 45 09.8	
	comp=N,27nm,2.5s						
MCK				IAML		10 45 24.6	
	comp=E,28nm,3.0s						
K27K	**Chicken**	**5.00**	**151**		**Pn**	**10 43 35.3**	**+0.5**
K27K	**Chicken**	**5.00**	**151**	IAML		10 45 01.6	
	comp=E,23nm,1.3s						
K27K				IAML		10 45 08.3	
	comp=N,18nm,1.9s						
C18K	**Utukok River**	**5.02**	**278**		**Pn**	**10 43 35.0**	**-0.2**
C18K	**Utukok River**	**5.02**	**278**	IAML		10 45 01.9	
	comp=N,29nm,2.2s						
C18K				IAML		10 45 36.3	
	comp=E,26nm,1.9s						
E18K	**Tukpahlearik C**	**5.05**	**264**		**Pn**	**10 43 35.6**	**+0.2**
E18K	**Tukpahlearik C**	**5.05**	**264**	IAML		10 45 09.7	
	comp=E,25nm,0.9s						
DOT	**Dot Lake**	**5.07**	**162**	IAML		10 45 20.9	
	comp=N,25nm,1.3s						
A19K	**Wainwright**	**5.09**	**296**		**Pn**	**10 43 35.8**	**-0.2**
RND	**Reindeer**	**5.15**	**187**	IAML		10 44 57.9	
	comp=E,18nm,3.0s						
RND				IAML		10 46 15.6	
	comp=N,19nm,4.2s						
INK	**Inuvik**	**5.17**	**86**		**Pn**	**10 43 37.2**	**+0.1**
INK	**Inuvik**	**5.17**	**86**	Pn	**Pn**	**10 43 38.0**	**+0.8**
	comp=N,2.1nm,0.3s,baz=307,slow=7.1,SNR=33						
INK				Sn	**Sn**	**10 44 35.5**	**-1.2**
	comp=N,1.1nm,0.3s,baz=149,slow=33,SNR=10.0 comp=N,6.2nm,0.4s						
TRF	**Thorofare Moun**	**5.20**	**194**		**Pn**	**10 43 39.2**	**+1.4**
B18K	**Kokolik River**	**5.22**	**286**		**Pn**	**10 43 37.1**	**-0.8**
G31M	**Satah River**	**5.28**	**101**		**Pn**	**10 43 38.5**	**-0.2**
F31M	**Tsiigehtchic**	**5.29**	**95**		**Pn**	**10 43 38.7**	**-0.1**
F31M	**Tsiigehtchic**	**5.29**	**95**	IAML		10 45 20.7	
	comp=N,25nm,1.8s						
F31M				IAML		10 45 21.2	
	comp=E,25nm,1.6s						
DHY	**Denali Highway**	**5.45**	**179**		**Pn**	**10 43 42.4**	**+1.2**
I30M	**Mount Dempster**	**5.49**	**122**		**Pn**	**10 43 41.4**	**-0.2**
DAWY	**Dawson**	**5.53**	**140**		**Pn**	**10 43 42.6**	**

ZAA0	**Zalesovo Array**	**2.75**	**273**	⇑Pn		**Pb**	**11 00 51.2**	**-1.4**
	0.2nm,0.3s,baz=84,slow=16							
ZAA0				⇓Lg		Lg	11 01 33.4	
	1.3nm,0.6s							
ZALV	**Zalesovo Beam**	**2.75**	**273**	Pn		**Pn**	**11 00 49.4**	**+1.4**
	0.8nm,0.3s,baz=84,slow=16,SNR=8.8							
ZALV				Lg		Lg	11 01 34.6	
	2.9nm,0.3s,baz=87,slow=28,SNR=15							
	1.6nm,0.3s							
KURBB	**Kurchatov Arra**	**7.47**	**248**	⇑Pn		**Pn**	**11 01 52.7**	**-0.1**
	1.3nm,0.3s							
KURBB	**Kurchatov Arra**	**7.47**	**248**	Pn		**Pn**	**11 01 52.9**	**+0.2**
	0.2nm,0.3s,baz=61,slow=14,SNR=9.2							
KURBB				Sn		**Sn**	**11 03 19.0**	**+0.9**
	0.1nm,0.3s,baz=66,slow=24,SNR=4.0							
KURBB				Lg		Lg	11 04 07.7	
	baz=61,slow=33,SNR=4.7							
	0.8nm,0.3s							
MK31	**Makanchi Array**	**8.46**	**216**	Pn		**Pn**	**11 02 08.1**	**+1.7**
	1.0nm,0.8s,baz=49,slow=16,SNR=7.6							
MKAR	**Makanchi Array**	**8.46**	**216**	Pn		**Pn**	**11 02 05.5**	**-0.8**
	0.3nm,0.3s,baz=30,slow=12,SNR=7.0							
	0.3nm,0.3s							

*NEIC **30** 11:04:47.8±2.1, 7°.40N±0°.10×127°.31E±0°.1, h35km±2km, mb4.3/12, Error ellipse: s-maj=18.3km s-min=16.7km az=74.0*

*IDC **30** 11:04:50.5±2.7, 7°.22N×127°.19E, h74km±25km, mb3.5/10, mbtmp3.9/11, MS2.8/1, Error ellipse: s-maj=25.6km s-min=13.5km az=81.0*

ISC 30 11:04:47.0±0.6, 7°.37N±0°.08×127°.31E±0°.09, h35km, n30, σ1ˢ49/32, mb4.0/14, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**1.75**	**260**			**Pn**	**11 05 15.4**	**+0.5**
DAV	**Davao City (W)**	**1.75**	**260**	P		**Pn**	**11 05 14.8**	**-0.1**
	1µm,0.5s,baz=22,slow=2.1,SNR=17							
DAV				S		**Sn**	**11 05 37.3**	**+1.4**
	846nm,0.6s,baz=64,slow=23,SNR=14							
TOLI2	**Tolitoli**	**9.00**	**227**	Pn		**Pn**	**11 06 54.0**	**-0.6**
LUWI	**Luwuk**	**9.50**	**209**	Pn		**Pn**	**11 07 03.0**	**+1.5**
SAUI	**Saumlaki**	**15.76**	**165**			**Pn**	**11 08 29.4**	**+2.9**
SBUM	**Sibu**	**15.81**	**253**			**P**	**11 08 29.8**	**-0.8**
SBUM				IAmb		IAmb	11 08 31.4	
	comp=Z,15nm,0.8s							
GUMO	**Guam**	**18.33**	**69**	LR		LR	11 15 29.0	
	comp=Z,32nm,19.9s,baz=207,slow=34							
JOW	**Kunigami**	**19.38**	**3**	P		**Pn**	**11 09 13.8**	**+2.6**
	comp=Z,16nm,0.7s,baz=209,slow=13,SNR=2.5							
KNRA	**Kununurra**	**22.94**	**176**	P		**P**	**11 09 47.9**	**-0.4**
KNRA				IAmb		IAmb	11 10 20.7	
	comp=Z,12nm,1.1s							
FITZ	**Fitzroy Crossi**	**25.36**	**184**	P		**P**	**11 10 11.1**	**+0.1**
WB0	**Warramunga Arr**	**27.85**	**166**	P		**P**	**11 10 33.0**	**-0.5**
WB0				IAmb		IAmb	11 11 04.6	
	comp=Z,3.9nm,0.9s							
WRAB	**Tennant Creek**	**28.00**	**166**	P		**P**	**11 10 36.2**	**+1.4**
WRAB				IAmb		IAmb	11 10 50.0	
	comp=Z,2.5nm,0.7s							
WRA	**Warramunga Arr**	**28.01**	**166**	P		**P**	**11 10 36.1**	**+1.2**
WRA	**Warramunga Arr**	**28.01**	**166**	P		**P**	**11 10 33.0**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=349,slow=9.3,SNR=7.9							
WRA				PcP		**PcP**	**11 13 49.1**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=335,slow=2.7,SNR=1.3							
	comp=Z,0.2nm,0.6s							
WR8	**Warramunga Arr**	**28.06**	**166**	P		**P**	**11 10 36.1**	**+0.8**
WR8				IAmb		IAmb	11 10 59.4	
	comp=Z,8.3nm,1.5s							
CMAR	**Chiang Mai Arr**	**29.72**	**295**	P		**P**	**11 10 50.8**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=151,slow=3.2,SNR=1.7							
	comp=Z,0.4nm,0.3s							
KSRS	**Korea Array**	**29.95**	**1**	P		**P**	**11 10 53.1**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=175,slow=10,SNR=20							
	comp=Z,2.5nm,0.8s							
AS31	**Alice Springs**	**31.51**	**168**	P		**P**	**11 11 06.3**	**+0.4**
ASAR	**Alice Springs**	**31.51**	**168**	P		**P**	**11 11 04.9**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=346,slow=7.6,SNR=8.8							
ASAR				PcP		**PcP**	**11 13 58.0**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=342,slow=2.4,SNR=9.7							
	comp=Z,0.2nm,0.5s							
USRK	**Ussuriysk Ar.**	**36.91**	**6**	P		**P**	**11 11 54.6**	**+2.1**
	comp=Z,8.4nm,0.8s,baz=198,slow=7.2,SNR=12							
	comp=Z,8.4nm,0.8s							
NWAO	**Narrogin (SRO)**	**41.20**	**193**	P		**P**	**11 12 28.5**	**0.0**
STKA	**Stephens Creek**	**41.34**	**161**	P		**P**	**11 12 31.0**	**+1.4**
STKA				IAmb		IAmb	11 13 14.2	
	comp=Z,28nm,1.3s							
STKA	**Stephens Creek**	**41.34**	**161**	P		**P**	**11 12 28.7**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=338,slow=11,SNR=1.6							
	comp=Z,0.8nm,0.5s							
MKAR	**Makanchi Array**	**54.95**	**324**	P		**P**	**11 14 13.6**	**-1.1**
MKAR	**Makanchi Array**	**54.95**	**324**	P		**P**	**11 14 12.8**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=113,slow=7.4,SNR=6.1							
	comp=Z,0.4nm,0.4s							
ZALV	**Zalesovo Beam**	**57.65**	**332**	P		**P**	**11 14 33.8**	**+0.1**
KURBB	**Kurchatov Arra**	**59.04**	**326**	P		**P**	**11 14 41.6**	**-1.9**
	comp=Z,0.5nm,0.4s,baz=126,slow=6.7,SNR=4.6							
	comp=Z,0.5nm,0.4s							
ILAR	**Eielson Array**	**81.59**	**26**	P		**P**	**11 16 59.8**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=269,slow=6.3,SNR=6.5							
	comp=Z,0.2nm,0.5s							
VNDA	**Vanda**	**86.94**	**173**	P		**P**	**11 17 24.4**	**-3.5**
	comp=Z,0.5nm,0.6s,baz=20,slow=5.2,SNR=1.9							
	comp=Z,0.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**122.27**	**291**	PKP		**PKPdf**	**11 23 37.8**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=96,slow=1.5,SNR=4.7							

*GUC **30** 11:12:50.9±0.9, 34°.49S×73°.36W, h28km±5km, ML3.2*

*IDC **30** 11:12:59.5±3.5, 34°.65S×72°.53W, h62km±30km, mb3.6/5, mbtmp3.7/8, ML3.6/3, Error ellipse: s-maj=35.7km s-min=15.9km az=103.0*

ISC 30 11:12:53.4±3.2, 34°.54S±0°.06×73°.15W±0°.07, h23km±24km, n21, σ1ˢ82/22, mb4.0/4, 4C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BO03	**Pichilemu**	**0.98**	**88**	⇑*e*P		Pn	11 13 10.2	-1.5
BO03				*e*S		**Sn**	**11 13 25.3**	**+0.3**
BO03				IAML			11 13 26.7	
	comp=N,586nm,0.4s							
GO05	**Hualane**	**1.11**	**116**	*e*P		**Pn**	**11 13 13.2**	**-0.4**
GO05				*e*S		**Sn**	**11 13 28.8**	**+0.6**
GO05				IAML			11 13 31.7	
	comp=N,860nm,0.2s							
MT01	**Popeta**	**1.71**	**67**	⇑*e*P		Pn	11 13 18.7	-3.1
MT01				*e*S		**Sn**	**11 13 40.9**	**-2.1**
MT01				IAML			11 13 42.0	
	comp=N,183nm,0.3s							
BO01	**Tunca**	**1.71**	**86**	*e*P		Pn	11 13 20.4	-1.4
BO01				*e*S		**Sn**	**11 13 43.5**	**+0.5**
BO01				IAML			11 13 45.1	
	comp=N,161nm,0.7s							
BO02	**Sierra Bellavi**	**1.97**	**98**	⇑*e*P		**Pn**	**11 13 25.5**	**+0.1**
BO02				*e*S		**Sn**	**11 13 52.1**	**+2.7**
BO02				IAML			11 13 53.8	
	comp=N,1µm,0.3s							
MT02	**Curacav**	**2.10**	**53**	IAML			11 13 49.2	
	comp=E,123nm,0.5s							
MT02				IAML			11 13 49.3	
	comp=N,126nm,0.3s							
BO04	**La Punta**	**2.17**	**76**	*e*P		**Pn**	**11 13 26.9**	**-1.3**
BO04				*e*S		**Sn**	**11 13 55.1**	**+0.6**
BO04				IAML			11 13 55.6	
	comp=N,314nm,0.4s							
BI05	**Punta Hualpn**	**2.21**	**181**	⇑*e*P		Pn	11 13 26.6	-2.0
BI05				*e*S		**Sn**	**11 13 53.3**	**-1.9**
BI02	**San Fabin de**	**2.62**	**145**	*e*P		**Pn**	**11 13 34.9**	**+0.6**
BI02				*e*S		**Sn**	**11 14 07.1**	**+1.7**
BI02				IAML			11 14 12.2	
	comp=E,140nm,0.5s							
H03S1	**Juan Fernandez**	**4.82**	**277**	T		T	11 18 36.6	
	baz=105,slow=72,SNR=8.2							
H03S3	**Juan Fernandez**	**4.83**	**277**	T		T	11 18 35.8	
	baz=105,slow=72,SNR=8.0							
H03S2	**Juan Fernandez**	**4.84**	**277**	T		T	11 18 33.3	
	baz=105,slow=72,SNR=9.3							
CFA	**Coronel Fontan**	**5.05**	**56**	P		**Pn**	**11 14 06.3**	**-1.5**
	comp=E,0.6nm,0.3s,baz=217,slow=16,SNR=11							
CFA				S		**Sn**	**11 15 03.5**	**-2.0**
	comp=E,4.4nm,0.4s,baz=137,slow=22,SNR=12							
	comp=E,1.3nm,0.3s							
PLCA	**Paso Flores**	**6.52**	**162**	P		**Pn**	**11 14 28.4**	**+0.4**
	comp=E,0.6nm,0.3s,baz=332,slow=10,SNR=17							
	comp=E,1.7nm,0.4s							
LPAZ	**La Paz**	**18.72**	**15**	P		**P**	**11 17 12.2**	**+1.1**
	comp=E,0.1nm,0.3s,baz=180,slow=3.6,SNR=4.6							
	comp=E,1.0nm,0.7s							
SNAA	**Sanae**	**51.44**	**158**	P		**P**	**11 21 56.1**	**-0.3**
	comp=E,2.5nm,0.6s,baz=278,slow=8.5,SNR=12							
	comp=E,2.5nm,0.6s							
QSPA	**South Pole Qui**	**55.70**	**180**	P		**P**	**11 22 29.1**	**+1.4**
	comp=E,1.5nm,0.9s,baz=140,slow=2.0,SNR=8.1							
	comp=E,1.5nm,0.9s							
TXAR	**Lajitas Array**	**69.76**	**332**	P		**P**	**11 24 06.3**	**+4.5**
	comp=E,0.4nm,0.7s,baz=156,slow=9.2,SNR=5.5							
	comp=E,0.4nm,0.7s							
MAW	**Mawson**	**72.92**	**164**	P		**P**	**11 24 19.6**	**-0.7**
	comp=E,1.8nm,1.1s,baz=243,slow=9.0,SNR=2.2							
	comp=E,1.8nm,1.1s							
TORD	**Torodi Ar. Bea**	**85.25**	**71**	P		**P**	**11 25 26.2**	**-2.3**
	comp=E,0.3nm,0.7s,baz=250,slow=5.7,SNR=2.0							
	comp=E,0.3nm,0.7s							
BVAR	**Borovoye Array**	**148.30**	**43**	PKPbc		**PKPdf**	**11 32 35.1**	**+1.4**
	comp=E,0.4nm,0.4s,baz=296,slow=2.0,SNR=2.2							

IDC 30 11:16:25.6±3.7, 4°.09S×152°.42E, h0km, mb3.9/3, mbtmp4.0/4, ML2.1/1, MS2.6/1, Error ellipse: s-maj=123.3km s-min=47.9km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**7.42**	**224**	Pn		Pn	11 18 13.8	-1.6
	1.8nm,0.3s,baz=40,slow=16,SNR=5.3							
	19nm,0.8s							
GUMO	**Guam**	**19.10**	**337**	LR		LR	11 27 28.8	
	comp=Z,17nm,18.4s,baz=204,slow=35							
WRA	**Warramunga Arr**	**23.64**	**227**	P		P	11 21 37.8	-1.0
	0.7nm,0.5s,baz=55,slow=12,SNR=10							
	0.7nm,0.5s							
ASAR	**Alice Springs**	**26.42**	**221**	P		P	11 22 06.0	+1.7
	2.0nm,0.6s,baz=53,slow=8.8,SNR=46							
	2.0nm,0.6s							
FITZ	**Fitzroy Crossi**	**29.67**	**240**	P		P	11 22 33.1	-0.3
	1.6nm,0.8s,baz=62,slow=9.9,SNR=6.1							
	1.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**149.72**	**289**	PKPbc		PKPbc	11 36 17.7	-0.9
	0.2nm,0.6s,baz=59,slow=3.9,SNR=1.4							

CATAC 30 11:16:37.2±0.5, 12°N±2°×8°8W±°, h21km±3km, M3.4/18, MLv3.4/18, 3C-4D, Error ellipse: s-maj=5.4km s-min=2.5km az=29.3, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
POTN	**Potosi Cosigui**	**0.96**	**21**	P		Pb	11 16 55.2	+0.1
POTN				S		Sn	11 17 08.6	+0.1
CRIN	**San Cristobal**	**0.99**	**53**	S		Sn	11 17 10.3	+0.8
CRIN	**San Cristobal**	**0.99**	**53**	P		Pb	11 16 55.8	+0.1
PKGN	**Cerro Pekin**	**1.03**	**57**	⇓P		Pb	11 16 55.9	-0.5
PKGN				S		Sn	11 17 10.7	+0.3
CNCH	**Conchagua**	**1.17**	**1**	S		Sn	11 17 14.3	+0.4
CNCH	**Conchagua**	**1.17**	**1**	⇓P		Pn	11 16 58.0	-0.5
CNGA	**Al SSO del Vol**	**1.20**	**71**	P		Pn	11 16 58.9	+0.1
CNGA				S		Sn	11 17 14.8	+0.2
LCND	**La Caada**	**1.20**	**359**	S		Pn	11 16 58.8	0.0
LCND	**La Caada**	**1.20**	**359**	S		Sn	11 17 14.8	+0.2
CNGN	**Cerro Negro**	**1.21**	**71**	S		Sn	11 17 14.8	+0.1
CNGN	**Cerro Negro**	**1.21**	**71**	⇑P		Pn	11 16 58.7	-0.2
COPN	**Copaltepe**	**1.25**	**86**	⇓P		Pn	11 16 58.4	-1.0
PACA	**Pacayal**	**1.43**	**342**	S		Sn	11 17 20.0	-0.4
PACA	**Pacayal**	**1.43**	**342**	⇓P		Pn	11 17 01.9	-0.3
UNAN	**Cigeo UNAN**	**1.56**	**89**	P		Pn	11 17 03.9	+0.2
UNAN				S		Sn	11 17 23.9	+0.5
WILN	**Americas 2**	**1.64**	**88**	P		Pn	11 17 05.2	+0.4
WILN				S		Sn	11 17 26.1	+0.7
MAS3	**Al N del Volca**	**1.65**	**92**	P		Pn	11 17 05.3	+0.2
MAS3				S		Sn	11 17 25.9	+0.2
MASN	**Masaya**	**1.68**	**94**	P		Pn	11 17 05.2	-0.2
MASN				S		Sn	11 17 27.2	+0.8
TECO	**Alcaldia de Te**	**1.69**	**328**	S		Sn	11 17 26.7	+0.2
TECO	**Alcaldia de Te**	**1.69**	**328**	P		Pn	11 17 06.0	+0.5
NANN	**Nandasmo**	**1.71**	**95**	P		Pn	11 17 05.9	0.0
NANN	**Nandasmo**	**1.71**	**95**	S		Sn	11 17 27.6	+0.4
LIMN	**Finca el Limon**	**1.75**	**57**	⇑P		Pn	11 17 06.1	-0.3
LIMN				S		Sb	11 17 29.2	-1.0
UESV	**Universidad de**	**1.77**	**330**	S		Sn	11 17 28.8	+0.1
UESV	**Universidad de**	**1.77**	**330**	P		Pn	11 17 06.8	+0.1
SCLA	**Alcaldia de Sa**	**1.80**	**332**	P		Pn	11 17 07.6	+0.5
SCLA	**Alcaldia de Sa**	**1.80**	**332**	S		Sb	11 17 30.6	-1.1
MATN	**Matagalpa**	**2.06**	**66**	P		Pn	11 17 10.9	+0.1
MATN	**Matagalpa**	**2.06**	**66**	S		Sn	11 17 36.5	+0.5
RCVN	**Varillal2**	**2.20**	**48**	S		Sn	11 17 40.3	+0.9
RCVN	**Varillal2**	**2.20**	**48**	⇑P		Pn	11 17 13.0	+0.4
RCPN	**Sur Rio San Ju**	**2.23**	**50**	P		Pb	11 17 15.9	-1.0
NUBE	**Las Nubes**	**2.59**	**314**	P		Pn	11 17 17.8	-0.3
NUBE	**Las Nubes**	**2.59**	**314**	S		Sn	11 17 49.6	+0.6
ACON	**Acoyapa**	**2.63**	**93**	P		Pn	11 17 18.6	0.0
ACON	**Acoyapa**	**2.63**	**93**	S		Sn	11 17 50.3	+0.4

*IDC **30** 11:22:49.3±13.0, 18°.36S×177°.83W, h524km±123km, mb3.2/6, mbtmp4.1/6, Error ellipse: s-maj=109.7km s-min=29.1km az=122.0*

ISC 30 11:22:52.3±2.4, 18°.4S±0°.4×177°.9W±0°.4, h557km, n7, σ0ˢ78/9, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.02**	**260**	P		**P**	**11 30 17.9**	**-1.2**
	1.1nm,0.6s,baz=97,slow=7.9,SNR=20							
WRA				PcP		**PcP**	**11 31 48.8**	**+0.7**
	0.2nm,0.4s,baz=92,slow=3.7,SNR=2.2							
	1.1nm,0.6s							
ASAR	**Alice Springs**	**45.13**	**255**	P		**P**	**11 30 20.1**	**+0.3**
	5.2nm,0.6s,baz=92,slow=7.8,SNR=121							
ASAR				PcP		**PcP**	**11 31 49.3**	**+0.9**
	0.4nm,0.4s,baz=96,slow=3.6,SNR=7.7							
	5.2nm,0.6s							
FITZ	**Fitzroy Crossi**	**53.43**	**261**	P		**P**	**11 31 21.1**	**+0.1**
	1.0nm,0.7s,baz=138,slow=3.7,SNR=1.3							
	1.0nm,0.7s							
MJAR	**Matsushiro Arr**	**68.57**	**323**	P		**P**	**11 33 00.0**	**+0.1**
	0.7nm,0.5s,baz=149,slow=9.2,SNR=1.4							
	0.7nm,0.5s							
PETK	**Petropavlovsk-**	**74.26**	**345**	P		**P**	**11 33 33.2**	**+0.5**
	2.0nm,0.6s,baz=159,slow=5.8,SNR=4.2							
	2.0nm,0.6s							
ILAR	**Eielson Array**	**86.24**	**13**	P		**P**	**11 34 34.2**	**-0.5**
	0.3nm,0.4s,baz=229,slow=4.9,SNR=14							
	0.3nm,0.4s							
BRTR	**Keskin Array B**	**145.46**	**315**	PKPbc		**PKPdf**	**11 41 26.9**	**-0.8**
	0.6nm,0.7s,baz=116,slow=3.4,SNR=2.7							

*IDC **30** 11:30:23.3±3.8, 11°.76N×88°.33W, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=105.5km s-min=38.1km az=27.0*

*SNET **30** 11:30:40.9±1.2, 12°.87N×90°.35W, h18km, ML3.4*

*GCG **30** 11:30:41.7±0.9, 13°.02N×90°.36W, h2km±22km, MD3.9, ML3.5*

*CATAC **30** 11:30:43.1±0.6, 13°N±3°×9°0W±°, h14km±3km, M3.4/14, MLv3.4/14, Error ellipse: s-maj=6.7km s-min=5.0km az=21.0, confirmed*

ISC 30 11:30:44.7±1.6, 12°.96N±0°.08×90°.14W±0°.05, h29km, n53, σ1ˢ13/54, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FAME	**Alcaldia de Sa**	**0.88**	**8**	P		**Pn**	**11 30 59.8**	**-1.4**
FAME	**Alcaldia de Sa**	**0.88**	**8**	S		**Sb**	**11 31 12.6**	**-0.4**
LALI	**Alcalda de L**	**0.95**	**57**	P		**Pn**	**11 31 02.4**	**+0.2**
JAYA	**Jayaque - finc**	**0.96**	**44**	*i* P		**Pn**	**11 31 01.9**	**-0.5**
JAYA	**Jayaque - finc**	**0.96**	**44**	*i* P		**Pn**	**11 31 01.9**	**-0.5**
JAYA				*i* S		**Sb**	**11 31 18.4**	**+3.1**
JAYA	**Jayaque - finc**	**0.96**	**44**	P		**Pn**	**11 31 02.2**	**-0.2**
JAYA	**Jayaque - finc**	**0.96**	**44**	S		**Sb**	**11 31 16.4**	**+1.0**
CEVE	**Cerro Verde**	**0.99**	**30**	*e*P		**Pn**	**11 31 02.4**	**-0.5**
CEVE	**Cerro Verde**	**0.99**	**30**	P		**Pn**	**11 31 02.7**	**-0.2**
CEVE	**Cerro Verde**	**0.99**	**30**	S		**Sb**	**11 31 16.7**	**+0.3**
NUBE	**Las Nubes**	**1.00**	**21**	*i* P		**Pn**	**11 31 01.9**	**-1.0**
NUBE				*e*S		**Sb**	**11 31 18.1**	**+1.7**
NUBE	**Las Nubes**	**1.00**	**21**	*i* P		**Pn**	**11 31 01.9**	**-1.0**
NUBE	**Las Nubes**	**1.00**	**21**	P		**Pn**	**11 31 02.3**	**-0.7**
NUBE	**Las Nubes**	**1.00**	**21**	S		**Sb**	**11 31 16.5**	**+0.1**
SBLS	**San Blas**	**1.01**	**30**	*e*P		**Pn**	**11 31 02.6**	**-0.5**
SNJE	**San Jose**	**1.04**	**30**	*e*P		**Pn**	**11 31 02.9**	**-0.6**
SNJE				*e*P		**Pb**	**11 31 03.1**	**-1.2**
RTR	**El Retiro**	**1.05**	**27**	*e*P		**Pn**	**11 31 03.3**	**-0.3**
LOAL	**Lomas de Alarc**	**1.09**	**19**	P		**Pn**	**11 31 03.6**	**-0.4**
LOAL	**Lomas de Alarc**	**1.09**	**19**	S		**Sb**	**11 31 18.5**	**-0.3**
PMON	**Piamonte**	**1.10**	**47**	*e*P		**Pb**	**11 31 04.8**	**-0.4**
PMON	**Piamonte**	**1.10**	**47**	S		**Sb**	**11 31 20.0**	**+0.9**
PMON	**Piamonte**	**1.10**	**47**	P		**Pn**	**11 31 04.6**	**+0.3**
CEDA	**San Andres**	**1.11**	**41**	P		**Pn**	**11 31 04.2**	**-0.1**
CEDA	**San Andres**	**1.11**	**41**	S		**Sb**	**11 31 19.9**	**+0.5**
UEES	**Universidad Ev**	**1.15**	**49**	S		**Sb**	**11 31 21.3**	**+0.5**
UEES	**Universidad Ev**	**1.15**	**49**	P		**Pn**	**11 31 05.2**	**+0.2**
LOMA	**Loma Larga**	**1.16**	**54**	*e*P		**Pn**	**11 31 04.2**	**-1.0**
LOMA	**Loma Larga**	**1.16**	**54**	P		**Pn**	**11 31 05.2**	**0.0**
LOMA	**Loma Larga**	**1.16**	**54**	S		**Sb**	**11 31 21.9**	**+0.9**
LFRS	**El Faro**	**1.24**	**58**	*e*P		**Pn**	**11 31 05.7**	**-0.5**
FG16	**Alotenango, Sa**	**1.35**	**345**	*i* P		**Pb**	**11 31 09.4**	**-0.1**
FG8	**Yepocapa, Chim**	**1.35**	**342**	*i* P		**Pb**	**11 31 10.1**	**+0.6**
FG8				*i* S		**Sb**	**11 31 31.0**	**+4.6**
PAVA	**Las Pavas**	**1.39**	**57**	*i* P		**Pn**	**11 31 08.5**	**+0.3**
PAVA	**Las Pavas**	**1.39**	**57**	P		**Pn**	**11 31 08.8**	**+0.5**
PAVA	**Las Pavas**	**1.39**	**57**	S		**Sb**	**11 31 28.3**	**+0.8**
TECO	**Alcaldia de Te**	**1.44**	**67**	P		**Pn**	**11 31 09.8**	**+0.9**
UESV	**Universidad de**	**1.48**	**63**	P		**Pn**	**11 31 09.9**	**+0.5**
UESV	**Universidad de**	**1.48**	**63**	S		**Sb**	**11 31 30.4**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.56**	**62**	S		**Sb**	**11 31 32.2**	**-0.1**
ESSG	**Sabana Grande**	**1.56**	**335**	*i* P		**Pn**	**11 31 08.3**	**-2.4**
MTO3	**Montecristo**	**1.62**	**28**	*e*P		**Pn**	**11 31 11.5**	**0.0**
MTO3	**Montecristo**	**1.62**	**28**	*i* P		**Pn**	**11 31 12.2**	**+0.7**
MTO3	**Montecristo**	**1.62**	**28**	P		**Pn**	**11 31 11.5**	**0.0**
MTO3	**Montecristo**	**1.62**	**28**	S		**Sb**	**11 31 32.7**	**-1.4**
ESQI	**Esquipulas**	**1.77**	**26**	P		**Pn**	**11 31 13.8**	**+0.4**
ESQI	**Esquipulas**	**1.77**	**26**	S		**Sb**	**11 31 37.0**	**-1.4**
PACA	**Pacayal**	**1.84**	**74**	S		**Sb**	**11 31 40.1**	**-0.4**
CNCH	**Conchagua**	**2.27**	**82**	S		**Sb**	**11 31 50.6**	**-2.2**
CNCH	**Conchagua**	**2.27**	**82**	P		**Pn**	**11 31 21.0**	**+0.6**
TXAR	**Lajitas Array**	**20.57**	**324**	P		Pn	11 35 25.7	+1.9
	0.2nm,0.5s,baz=134,slow=9.9,SNR=4.3							
	0.2nm,0.5s							
NVAR	**Mina Array Bea**	**35.61**	**320**	P		**P**	**11 37 40.5**	**+0.3**
	0.5nm,0.7s,baz=132,slow=10,SNR=4.1							
	0.5nm,0.7s							
SCHQ	**Schefferville**	**45.59**	**19**	P		P	11 38 49.7	-12
	26nm,0.7s,baz=206,slow=7.1,SNR=2.0							
TORD	**Torodi Ar. Bea**	**88.86**	**77**	P		P	11 43 13.2	-24
	0.4nm,0.8s,baz=282,slow=4.3,SNR=3.4							
	0.4nm,0.8s							

STR 30 11:34:52.8±0.7, 44°N±5°×°±°, h0km, MLv1.7/3, LOCSAT earthModelID haslach_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CRAS	**Crastes**	**0.17**	**313**	Pg		Pg	11 34 56.0	-0.2
CRAS				Sg		Sg	11 34 59.0	+0.6
CRAS	**Crastes**	**0.17**	**313**	Pg		Pg	11 34 56.0	-0.1
CRAS				Sg		Sg	11 34 58.9	+0.5
LABF	**Labassere**	**0.82**	**228**	Pg		Pg	11 35 07.7	-0.9
LABF				Sg		Sg	11 35 19.7	+0.5
SALF	**Salau**	**0.87**	**166**	Pg		Pb	11 35 10.4	-0.4
MTLF	**Montolieu**	**0.99**	**105**	Pg		Pg	11 35 11.9	+0.2
MTLF				Sg		Sg	11 35 24.5	0.0

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
PB09	**IPOC Station P**	**0.57**	**313**		**Pn**	**11 53 41.0**	**+0.6**
PB09				Sn	**Sn**	**11 53 54.9**	**+0.9**
PB09	**IPOC Station P**	**0.57**	**313⇑**	***eP***	**Pn**	**11 53 41.0**	**+0.6**
PB09				*eS*	**Sn**	**11 53 54.8**	**+0.8**
PB09				IAML		11 53 56.5	
	comp=N,304μm,0.8s						
PB09	**IPOC Station P**	**0.57**	**313**	***eP***	**Pn**	**11 53 40.8**	**+0.4**
PB09				IAML		11 54 01.2	
	comp=Z,154μm,0.7s						
PB06	**IPOC Station P**	**0.89**	**234**		**Pn**	**11 53 43.4**	**+0.4**
PB06				Sn	**Sn**	**11 53 58.5**	**-0.2**
PB06	**IPOC Station P**	**0.89**	**234⇑**	***eP***	**Pn**	**11 53 43.4**	**+0.4**
PB06				*eS*	**Sn**	**11 53 58.9**	**+0.2**
PB06				IAML		11 54 00.4	
	comp=E,289μm,0.3s						
PB06	**IPOC Station P**	**0.89**	**234**	***eP***	**Pn**	**11 53 43.3**	**+0.3**
PB03	**IPOC Station P**	**0.90**	**278**		**Pn**	**11 53 43.3**	**+0.2**
PB03				Sn	**Sn**	**11 53 58.5**	**-0.3**
PB03	**IPOC Station P**	**0.90**	**278⇑**	***eP***	**Pn**	**11 53 43.4**	**+0.2**
PB03				*eS*	**Sn**	**11 53 59.0**	**+0.2**
PB03				IAML		11 54 01.1	
	comp=E,188μm,0.7s						
PB03	**IPOC Station P**	**0.90**	**278**	***eP***	**Pn**	**11 53 43.2**	**+0.2**
PB03				*eS*	**Sn**	**11 54 00.1**	**+1.2**
PB03				IAML		11 54 03.6	
	comp=Z,89μm,0.5s						
AF01	**San Pedro de A**	**0.95**	**144**		**Pn**	**11 53 44.4**	**+0.6**
AF01				Sn	**Sn**	**11 54 00.4**	**+0.3**
AF01	**San Pedro de A**	**0.95**	**144⇓**	***iP***	**Pn**	**11 53 44.4**	**+0.6**
AF01				*eS*	**Sn**	**11 54 00.3**	**+0.3**
AF01				IAML		11 54 02.5	
	comp=E,289μm,0.6s						
AF01	**San Pedro de A**	**0.95**	**144**	***eP***	**Pn**	**11 53 44.7**	**+0.9**
AF01				*eS*	**Sn**	**11 54 02.2**	**+2.1**
AF01				IAML		11 54 17.1	
	comp=Z,241μm,1.8s						
PB01	**IPOC Station P**	**1.30**	**330**		**Pn**	**11 53 47.1**	**-0.2**
PB01				Sn	**Sn**	**11 54 05.7**	**-0.5**
PB01	**IPOC Station P**	**1.30**	**330**	***eP***	**Pn**	**11 53 47.5**	**+0.2**
PB01				*eS*	**Sn**	**11 54 06.0**	**-0.3**
PB01				IAML		11 54 08.3	
	comp=N,66μm,0.3s						
PB01	**IPOC Station P**	**1.30**	**330**	***eP***	**Pn**	**11 53 47.2**	**-0.2**
PB01				*eS*	**Sn**	**11 54 07.2**	**+0.9**
PB01				IAML		11 54 08.5	
	comp=Z,46μm,0.5s						
PB02	**IPOC Station P**	**1.34**	**310**		**Pn**	**11 53 47.7**	**0.0**
PB02				Sn	**Sn**	**11 54 06.1**	**-0.8**
PB02	**IPOC Station P**	**1.34**	**310⇑**	***iP***	**Pn**	**11 53 47.7**	**0.0**
PB02				*eS*	**Sn**	**11 54 06.5**	**-0.4**
PB02				IAML		11 54 08.4	
	comp=E,151μm,0.3s						
PB02	**IPOC Station P**	**1.34**	**310**	***eP***	**Pn**	**11 53 47.6**	**-0.1**
PB02				*eS*	**Sn**	**11 54 07.6**	**+0.7**
PB02				IAML		11 54 09.3	
	comp=Z,90μm,0.3s						
PB05	**IPOC Station P**	**1.46**	**243**		**Pn**	**11 53 49.0**	**0.0**
PB05				Sn	**Sn**	**11 54 08.4**	**-1.2**
PB05	**IPOC Station P**	**1.46**	**243⇑**	***eP***	**Pn**	**11 53 49.1**	**0.0**
PB05				*eS*	**Sn**	**11 54 08.2**	**-1.3**
PB05				IAML		11 54 13.8	
	comp=N,61μm,0.5s						
PB05	**IPOC Station P**	**1.46**	**243**	***eP***	**Pn**	**11 53 48.8**	**-0.3**
PB05				*eS*	**Sn**	**11 54 10.6**	**+1.1**
PB05				IAML		11 54 14.9	
	comp=Z,40μm,0.4s						
PATCX	**Punta Patache**	**1.85**	**317**		**Pn**	**11 53 53.2**	**-0.6**
PATCX				Sn	**Sn**	**11 54 15.9**	**-1.9**
PB08	**IPOC Station P**	**2.06**	**351**		**Pn**	**11 53 57.2**	**+0.5**
PB08	**IPOC Station P**	**2.06**	**351⇑**	***eP***	**Pn**	**11 53 57.3**	**+0.5**
PB08				*eS*	**Sn**	**11 54 23.2**	**+0.3**
PB08				IAML		11 54 26.9	
	comp=N,29μm,0.8s						
PB08	**IPOC Station P**	**2.06**	**351**	***eP***	**Pn**	**11 53 57.1**	**+0.5**
PB08				*eS*	**Sn**	**11 54 24.6**	**+1.7**
PB08				IAML		11 54 30.5	
	comp=Z,14μm,0.7s						
TA01	**Diego Aracena**	**2.06**	**321**		**Pn**	**11 53 55.5**	**-0.8**
TA01	**Diego Aracena**	**2.06**	**321⇑**	***eP***	**Pn**	**11 53 55.4**	**-1.0**
TA01				*eS*	**Sn**	**11 54 21.1**	**-1.3**
TA01				IAML		11 54 24.4	
	comp=N,56μm,0.4s						
TA01	**Diego Aracena**	**2.06**	**321**	***eP***	**Pn**	**11 53 55.3**	**-1.0**
TA01				*eS*	**Sn**	**11 54 21.7**	**-0.6**
TA01				IAML		11 54 25.8	
	comp=Z,15μm,0.6s						
PB10	**IPOC Station P**	**2.10**	**230**		**Pn**	**11 53 56.3**	**-0.4**
PB10	**IPOC Station P**	**2.10**	**230**	***eP***	**Pn**	**11 53 56.0**	**-0.7**
PB10				*eS*	**Sn**	**11 54 20.6**	**-2.6**
PB10				IAML		11 54 32.5	
	comp=N,23μm,0.5s						
PB10	**IPOC Station P**	**2.10**	**230**	***eP***	**Pn**	**11 53 54.7**	**-2.0**
PB10				*eS*	**Sn**	**11 54 21.6**	**-1.5**
PB10				IAML		11 54 23.3	
	comp=Z,19μm,0.4s						
HMBC	**Humberstone**	**2.15**	**331**		**Pn**	**11 53 56.9**	**-0.7**
TA02	**Huaiquique**	**2.28**	**326**	***eP***	**Pn**	**11 53 58.4**	**-0.6**
TA02				*eS*	**Sn**	**11 54 25.4**	**-1.7**
TA02				IAML		11 54 30.4	
	comp=Z,19μm,0.3s						
GO01	**Chusmiza**	**2.53**	**351**		**Pn**	**11 54 03.1**	**+0.4**
GO01	**Chusmiza**	**2.53**	**351**	***eP***	**Pn**	**11 54 03.2**	**+0.5**
GO01				*eS*	**Sn**	**11 54 33.9**	**+0.1**
GO01				IAML		11 54 37.6	
	comp=Z,22μm,0.6s						
PB11	**IPOC Station P**	**2.54**	**341**		**Pn**	**11 54 02.0**	**-0.7**
PB11	**IPOC Station P**	**2.54**	**341**	***eP***	**Pn**	**11 54 01.7**	**-0.9**
PB11				*eS*	**Sn**	**11 54 31.5**	**-2.0**
PB11				IAML		11 54 36.3	
	comp=Z,22μm,0.6s						
PB14	**IPOC Station P**	**2.85**	**211**		**Pn**	**11 54 06.0**	**-0.7**
PB14	**IPOC Station P**	**2.85**	**211**	***eP***	**Pn**	**11 54 06.0**	**-0.7**
PB14				*eS*	**Sn**	**11 54 36.4**	**-4.5**
PB14				IAML		11 54 47.1	
	comp=Z,15μm,0.3s						
SALTA		**3.04**	**132**	***eP***	**Pn**	**11 54 10.6**	**+1.2**
SALTA				*eS*	**Sn**	**11 54 51.2**	**+5.6**
YJA	**Yavi**	**3.04**	**90**	***eP***	**Pn**	**11 54 11.6**	**+2.3**
YJA				*eS*	**Sn**	**11 54 49.7**	**+4.1**
GO02	**Mina Guanaco**	**3.06**	**194**	Pn	**Pn**	**11 54 09.1**	**-0.4**
GO02	**Mina Guanaco**	**3.06**	**194**	***eP***	**Pn**	**11 54 08.7**	**-0.7**
GO02				*eS*	**Sn**	**11 54 40.3**	**-5.5**
GO02				IAML		11 54 42.4	
	comp=Z,26μm,0.8s						
HJA	**Humahuaca**	**3.29**	**109**	***eP***	**Pn**	**11 54 14.4**	**+1.9**
PB16	**IPOC Station P**	**3.89**	**350**	***eP***	**Pn**	**11 54 20.5**	**-0.2**
PB16				*eS*	Sn	11 54 56.1	-10
PB16				IAML		11 55 35.5	
	comp=Z,5μm,1.0s						
SLA	**San Lorenzo**	**3.94**	**131**	***eP***	**Pn**	**11 54 22.9**	**+1.8**
AZAP	**Zapla**	**3.98**	**121**	***eP***	**Pn**	**11 54 22.6**	**+0.9**
AZAP				IAML		11 55 15.9	
	comp=Z,3μm,0.9s						
AC01	**Pan de Azucar**	**4.28**	**202**	Pn	**Pn**	**11 54 23.7**	**-1.8**
AC01	**Pan de Azucar**	**4.28**	**202**	***eP***	**Pn**	**11 54 23.2**	**-2.2**
AC01				*eS*	Sn	11 54 58.8	-16
AC01				IAML		11 55 37.0	
	comp=Z,6μm,1.1s						
PB18	**Visviri**	**4.62**	**352**		**Pn**	**11 54 32.0**	**+1.5**
AC02	**Maricunga**	**4.64**	**184**		**Pn**	**11 54 30.5**	**-0.3**
AC02	**Maricunga**	**4.64**	**184**	***eP***	**Pn**	**11 54 30.5**	**-0.3**
AC02				*eS*	**Sn**	**11 55 15.7**	**-8.3**
AC02				IAML		11 56 06.1	
	comp=Z,4μm,1.4s						
FSA	**Cafayete**	**4.68**	**147**	***eP***	**Pn**	**11 54 31.6**	**+0.5**
LPAZ	**La Paz**	**5.90**	**6**		**Pn**	**11 54 48.7**	**+0.8**
LPAZ	**La Paz**	**5.90**	**6**	P	**Pn**	**11 54 48.4**	**+0.5**
	comp=Z,107nm,0.3s,baz=171,slow=7.7,SNR=643						
LPAZ	**La Paz**	**5.90**	**6**	P	**Pn**	**11 54 48.7**	**+0.8**
LPAZ	**La Paz**	**5.90**	**6**	***eP***	**Pn**	**11 54 48.7**	**+0.8**
LPAZ	**La Paz**	**5.90**	**6**	P	**Pn**	**11 54 49.2**	**+1.3**
ZON	**Zonda**	**9.33**	**179**	P	**Pn**	**11 55 30.8**	**-2.9**
CFA	**Coronel Fontan**	**9.40**	**177**	P	**Pn**	**11 55 31.1**	**-3.6**
	comp=Z,24nm,0.3s,baz=354,slow=14,SNR=92						
CFA				S	Sn	11 57 09.1	-9.5
	comp=Z,88nm,0.7s,baz=95,slow=21,SNR=1.3						
CFA				LR	LR	11 59 14.7	
	comp=Z,740nm,19.9s,baz=7.0,slow=37						
SIV	**San Ignacio**	**9.55**	**51**	P	**Pn**	**11 55 32.6**	**-4.1**
	comp=Z,632nm,0.5s,baz=241,slow=10,SNR=1526						
SIV				S	Sn	11 57 11.2	-11
	comp=Z,282nm,0.9s,baz=297,slow=14,SNR=6.0						
MURT	**Porto Murtinho**	**10.39**	**89**	***eP***	**Pn**	**11 55 44.6**	**-3.5**
PEL	**Peldehue**	**11.05**	**188**	P	**Pn**	**11 55 56.6**	**-0.3**
CPUP	**Villa Florida**	**11.24**	**114**	P	**Pn**	**11 55 55.7**	**-3.8**
	comp=Z,28nm,1.1s,baz=157,slow=11,SNR=72						
CPUP				LR	LR	12 01 06.1	
	comp=Z,1μm,19.8s,baz=171,slow=42						
CPUP	**Villa Florida**	**11.24**	**114**	***eP***	**Pn**	**11 55 56.3**	**-3.2**
PTLB	**Pontes e Lacer**	**11.33**	**55**	***eP***	**Pn**	**11 55 56.3**	**-4.4**
BDQN	**Boqueirao, MS**	**11.36**	**83**	***eP***	**Pn**	**11 55 56.9**	**-4.2**
MT03	**Universidad Ad**	**11.37**	**187**		**Pn**	**11 55 57.8**	**-3.5**
SJPY	**San Joaquin**	**11.97**	**106**	***eP***	**Pn**	**11 56 06.6**	**-2.6**
VILB	**Vilhena**	**12.30**	**43**	Pn	**Pn**	**11 56 10.2**	**-3.4**
VILB	**Vilhena**	**12.30**	**43**	***eP***	**Pn**	**11 56 10.4**	**-3.2**
AQDB	**Aquidauana**	**12.32**	**84**	***eP***	**Pn**	**11 56 09.9**	**-4.0**
NNA	**Nana**	**12.72**	**322**	P	**Pn**	**11 56 16.7**	**-2.5**
	comp=Z,38nm,0.7s,baz=172,slow=7.9,SNR=14						
NNA				S	**Sn**	**11 58 33.5**	**-5.8**
	comp=Z,52nm,0.6s,baz=231,slow=15,SNR=4.2						
NNA				LR	LR	12 00 58.5	
	comp=Z,1μm,21.9s,baz=157,slow=36						
NNA	**Nana**	**12.72**	**322**	***eP***	**Pn**	**11 56 17.2**	**-2.0**
NNA				pmax	pmax		
	comp=Z,82nm,0.8s						
NNA	**Nana**	**12.72**	**322**	P	**Pn**	**11 56 17.9**	**-1.3**
	comp=Z,3μmcomp=Z,347nm,1.0s						
AMBA	**Amambai (Brazi**	**12.78**	**96**	***eP***	**Pn**	**11 56 16.8**	**-3.0**
PSAL	**Palomas, Salto**	**13.36**	**134**	***eP***	**Pn**	**11 56 24.8**	**-2.5**
PP1B	**Ponte de Pedra**	**13.86**	**73**	***eP***	Pn	11 56 28.4	-5.5
SALV	**Santo Antonio**	**13.87**	**65**	***eP***	**Pn**	**11 56 29.2**	**-4.8**
H03N1	**Juan Fernandez**	**14.34**	**216**	P	**Pn**	**11 56 38.9**	**-0.8**
	baz=108,slow=14,SNR=68						
H03N1				T	T	12 09 21.3	
	baz=43,slow=72,SNR=58						
H03N2	**Juan Fernandez**	**14.35**	**216**	P	**Pn**	**11 56 38.9**	**-0.8**
	baz=108,slow=14,SNR=58						
H03N2				T	T	12 09 26.7	
	baz=43,slow=72,SNR=8.4						
H03N3	**Juan Fernandez**	**14.36**	**216**	P	**Pn**	**11 56 38.9**	**-1.0**
	baz=108,slow=14,SNR=100						
H03N3				T	T	12 08 56.5	
	baz=43,slow=72,SNR=28						
H03S3	**Juan Fernandez**	**14.63**	**215**	P	**Pn**	**11 56 41.5**	**-1.8**
	baz=34,slow=19,SNR=105						
H03S3				T	T	12 09 39.9	
	baz=44,SNR=2.7						
H03S1	**Juan Fernandez**	**14.64**	**215**	P	**Pn**	**11 56 42.0**	**-1.5**
	baz=34,slow=19,SNR=40						
H03S1				T	T	12 09 44.4	
	baz=44,SNR=4.6						
H03S2	**Juan Fernandez**	**14.65**	**215**	P	**Pn**	**11 56 42.0**	**-1.5**
	baz=34,slow=19,SNR=56						
H03S2				T	T	12 09 56.5	
	baz=44,SNR=4.5						
CZSB	**Cruzeiro do Su**	**14.86**	**345**	***eP***	**Pn**	**11 56 44.4**	**-2.2**
CZSB	**Cruzeiro do Su**	**14.86**	**345**	P	**Pn**	**11 56 44.0**	**-2.6**
TRCB	**Terra Rica**	**14.95**	**95**	***eP***	**Pn**	**11 56 44.9**	**-2.9**
C2SB	**Chapadao do Su**	**15.33**	**80**	***eP***	**Pn**	**11 56 51.1**	**-1.4**
PTGB	**Pitanga**	**15.56**	**103**	***eP***	**Pn**	**11 56 53.8**	**-1.6**
PDRB	**Porto dos Gac**	**15.60**	**50**	***eP***	**Pn**	**11 56 51.8**	**-4.1**
ITAB	**Concordia**	**15.95**	**112**	Pn	**Pn**	**11 56 58.2**	**-2.0**
ITAB	**Concordia**	**15.95**	**112**	***eP***	**Pn**	**11 56 57.0**	**-3.2**
CPSB	**Cacapava Do Su**	**16.01**	**124**	***eP***	**Pn**	**11 56 58.2**	**-2.7**
LDASE	**Londrina, Braz**	**16.35**	**98**	***eP***	**Pn**	**11 57 02.2**	**-2.9**
PLTB	**Pedras Altas**	**16.55**	**128**	***eP***	**Pn**	**11 57 03.8**	**-3.7**
CLDB	**Colider**	**16.77**	**58**	***eP***	**Pn**	**11 57 07.8**	**-2.5**
ARAG	**Araguaiana, MT**	**17.30**	**71**	***eP***	**P**	**11 57 14.0**	**-2.4**
ITRB	**Iturama**	**17.39**	**85**	***eP***	**P**	**11 57 15.8**	**-1.7**
ATAH	**Atahualpa**	**17.59**	**327**	P	**Pn**	**11 57 22.9**	**+2.1**
	comp=Z,76nm,0.7s,baz=174,slow=6.9,SNR=34						
ATAH				S	**Sn**	**12 00 36.6**	**-0.7**
	comp=Z,6.6nm,0.6s,baz=44,slow=14,SNR=1.1						
CNLB	**Canela**	**17.64**	**117**	***eP***	**P**	**11 57 17.7**	**-2.5**
LR05	**Currie**	**18.20**	**188**	P	**P**	**11 57 26.7**	**+0.6**
PLCA	**Paso Flores**	**18.55**	**184**	P	**P**	**11 57 29.9**	**-0.2**
PLCA	**Paso Flores**	**18.55**	**184**	P	**P**	**11 57 29.8**	**-0.3**
	comp=Z,12nm,0.5s,baz=356,slow=12,SNR=50						
PLCA				PcP	**PcP**	**12 01 54.9**	**+0.2**
	comp=Z,10nm,0.8s,baz=312,slow=2.6,SNR=4.2						
PLCA				LR	LR	12 06 10.5	
	comp=Z,2μm,19.6s,baz=6.0,slow=41						
PLCA	**Paso Flores**	**18.55**	**184**	P	**P**	**11 57 29.9**	**-0.2**
PLCA	**Paso Flores**	**18.55**	**184**	***eP***	**P**	**11 57 30.4**	**+0.4**
BB19B	**Bebedouro**	**18.88**	**90**	***eP***	**P**	**11 57 31.8**	**-1.9**
TEFE	**Tefe**	**19.00**	**13**	***eP***	**P**	**11 57 34.7**	**-0.3**
SNDB	**Serra Nova Dou**	**19.55**	**62**	***eP***	**P**	**11 57 38.8**	**-2.2**
RCLB	**Rio Claro- Sao**	**19.68**	**95**	***eP***	**P**	**11 57 40.1**	**-2.3**
SPB	**Sao Paulo**	**19.73**	**98**	P	**P**	**11 57 40.6**	**-2.3**
SPB	**Sao Paulo**	**19.73**	**98**	***eP***	**P**	**11 57 40.7**	**-2.3**
IPMB	**Ipameri, GO**	**19.77**	**81**	***eP***	**P**	**11 57 41.2**	**-2.3**
NPGB	**Novo Progresso**	**19.86**	**41**	***eP***	**P**	**11 57 41.5**	**-2.9**
PET01	**Itanhaem-SP**	**19.88**	**100**	***eP***	**P**	**11 57 42.2**	**-2.4**
VAO	**Valinhos**	**20.17**	**96**		**P**	**11 57 45.6**	**-2.2**
VAO	**Valinhos**	**20.17**	**96**	***eP***	**P**	**11 57 45.1**	**-2.7**
LL01	**San Ignacio de**	**20.37**	**188**	P	**P**	**11 57 49.7**	**+0.2**
MACA	**Manacapuru-AM**	**20.48**	**24**	P	**P**	**11 57 49.8**	**-1.3**
MACA	**Manacapuru-AM**	**20.48**	**24**	***eP***	**P**	**11 57 48.9**	**-2.1**
BDFB	**Brasilia**	**20.70**	**75**	P	**P**	**11 57 51.1**	**-2.4**
BDFB	**Brasilia**	**20.70**	**75**	P	**P**	**11 57 50.9**	**-2.6**
	comp=Z,217nm,0.5s,baz=251,slow=12,SNR=134						
BDFB				S	**S**	**12 01 31.5**	**-7.0**
	comp=Z,37nm,0.9s,baz=112,slow=22,SNR=1.2						
BDFB				LR	LR	12 06 58.0	
	comp=Z,2μm,18.2s,baz=263,slow=40						
	comp=Z,217nm,0.5s						
MCRA	**Macar, Loja**	**20.75**	**327**	P	**P**	**11 57 55.1**	**+1.1**
	comp=Z,5μmcomp=Z,426nm,1.0s						
LL02	**Futaleuf**	**21.10**	**186**	P	**P**	**11 57 57.9**	**+0.4**
PMNB	**Patos De Minas**	**21.27**	**84**	***eP***	**P**	**11 57 56.5**	**-3.1**
PARB	**Paraibuna**	**21.40**	**98**	***eP***	**P**	**11 57 58.3**	**-2.6**
ITTB	**Itaituba**	**21.77**	**37**	***eP***	**P**	**11 58 02.6**	**-2.2**
SLP01	**Ubatuba-SP**	**21.82**	**98**	***eP***	**P**	**11 58 03.1**	**-2.4**
SGC2	**Sao Gabriel da**	**21.97**	**5**	P	**P**	**11 58 05.7**	**-1.2**
	comp=Z,3μmcomp=Z,4μmcomp=Z,402nm,1.0s						
COHC	**Cochancay**	**22.08**	**331**	P	**P**	**11 58 09.9**	**+1.8**
COHC	**Cochancay**	**22.08**	**331**	P	**P**	**11 58 09.9**	**+1.8**
	comp=Z,8μmcomp=Z,592nm,1.0s						
BSCB	**Bom Sucesso**	**22.36**	**91**	***eP***	**P**	**11 58 08.7**	**-2.4**
PTLC	**Puerto Leguiza**	**22.98**	**344**	P	**P**	**11 58 12.4**	**-4.7**
PIAT	**Ana Tenorio**	**22.99**	**335**	P	**P**	**11 58 19.6**	**+2.0**
	comp=Z,7μmcomp=Z,5μmcomp=Z,247nm,0.6s						
VAS01	**Vassouras-RJ**	**23.46**	**95**	***eP***	**P**	**11 58 18.9**	**-2.6**
PPLP	**Puerto Lpez**	**23.59**	**329**	P	**P**	**11 58 24.0**	**+1.2**
	comp=Z,6μmcomp=Z,74nm,0.8s						
DIAM	**Diamantina, MG**	**23.87**	**85**	***eP***	**P**	**11 58 23.1**	**-2.3**
BONI	**La Bonita**	**24.06**	**338**	P	**P**	**11 58 29.1**	**+1.9**
	comp=Z,7μmcomp=Z,83μmcomp=Z,510nm,1.0s						
CUSE	**Cuicocha Este**	**24.23**	**336**	P	**P**	**11 58 30.9**	**+1.9**
	comp=Z,5μmcomp=Z,200nm,0.8s						
JANB	**Januaria**	**24.24**	**77**	***eP***	**P**	**11 58 26.3**	**-2.4**
PRPB	**Paraupebas**	**24.28**	**52**	***eP***	**P**	**11 58 26.8**	**-2.2**
SMTB	**Santa Maria do**	**24.30**	**60**	***eP***	**P**	**11 58 27.2**	**-2.0**
PAC1	**Pacto, Paraso**	**24.35**	**335**	P	**P**	**11 58 31.1**	**+1.4**
	comp=Z,6μmcomp=Z,243nm,0.7s						
TULM	**Tulcn-Chalpat**	**24.39**	**338**	P	**P**	**11 58 32.6**	**+2.1**
	comp=Z,6μmcomp=Z,298nm,0.9s						
DUB01	**Friburgo-RJ**	**24.46**	**95**	***eP***	**P**	**11 58 28.9**	**-1.8**
FLOC	**Florencia**	**24.55**	**343**	P	**P**	**11 58 31.5**	**+0.1**
FLOC				IAmb	IAmb	11 58 35.0	
	comp=Z,304nm,0.8s						
FLOC	**Florencia**	**24.55**	**343**	P	**P**	**11 58 32.0**	**+0.6**
	comp=Z,7μmcomp=Z,10μmcomp=Z,400nm,0.8s						
MAL2	**Monte Alegre,**	**24.57**	**37**	P	**P**	**11 58 30.2**	**-1.4**
CMBC	**Cumbal**	**24.61**	**338**	P	**P**	**11 58 34.8**	**+2.3**
MACC	**Macarena, Meta**	**24.68**	**348**	P	**P**	**11 58 30.8**	**-1.8**
GCUF	**Volcan Galeras**	**24.72**	**339**	P	**P**	**11 58 35.7**	**+2.2**
	comp=Z,9μmcomp=Z,229nm,1.0s						
SDBA	**SAO DESIDERIO**	**24.76**	**71**	***eP***	**P**	**11 58 31.0**	**-2.4**
GUVC	**San Jose del G**	**24.86**	**351**	P	**P**	**11 58 34.0**	**-0.2**
CRUC	**La Cruz**	**24.91**	**340**	P	**P**	**11 58 37.9**	**+2.8**
CAM01	**Campos-RJ**	**25.15**	**94**	***eP***	**P**	**11 58 34.4**	**-2.4**
AY03	**Cochrane**	**25.20**	**186**	P	**P**	**11 58 37.9**	**+0.9**
BBAC	**Balboa, Cauca**	**25.43**	**340**	P	**P**	**11 58 41.3**	**+1.6**
	comp=Z,9μmcomp=Z,9μmcomp=Z,405nm,0.8s						
BETC	**Betania**	**25.55**	**344**	P	**P**	**11 58 42.4**	**+1.9**
BOAV	**Boa Vista**	**25.73**	**19**	P	**P**	**11 58 42.0**	**-0.1**
BOAV	**Boa Vista**	**25.73**	**19**	***eP***	**P**	**11 58 42.1**	**+0.1**
BOAV	**Boa Vista**	**25.73**	**19**	P	**P**	**11 58 41.0**	**-1.1**
	comp=Z,1μmcomp=Z,110nm,1.2s						
POPC	**Popayan, Colom**	**25.75**	**342**	P	**P**	**11 58 44.2**	**+1.7**
	comp=Z,6μmcomp=Z,7μmcomp=Z,471nm,1.1s						
URMC	**La Uribe, Meta**	**25.86**	**347**	P	**P**	**11 58 43.3**	**0.0**
	comp=Z,2μmcomp=Z,132nm,0.9s						
SJMB	**Sao Joao De Ma**	**26.09**	**87**	***eP***	**P**	**11 58 43.4**	**-2.0**
PRAC	**Prado**	**26.42**	**346**	P	**P**	**11 58 48.8**	**+0.5**
	comp=Z,4μmcomp=Z,167nm,0.8s						
PTGC	**Puerto Gaitan,**	**26.42**	**352**	P	**P**	**11 58 47.8**	**-0.5**
	comp=Z,5μmcomp=Z,6μmcomp=Z,556nm,1.2s						
GR1C	**Gorgona, Isla**	**26.66**	**339**	P	**P**	**11 58 51.5**	**+1.1**
ORTC	**Ortega, Tolima**	**26.69**	**346**	P	**P**	**11 58 51.6**	**+0.8**
	comp=Z,5μmcomp=Z,7μmcomp=Z,433nm,0.9s						
RIB01	**Linhares ES**	**26.69**	**89**	***eP***	**P**	**11 58 48.5**	**-2.3**
YOTC	**Yotoco, Valle**	**27.04**	**343**	P	**P**	**11 58 54.3**	**+0.3**
	comp=Z,6μmcomp=Z,2μmcomp=Z,137nm,0.8s						
CVER	**Cruz Verde, Cu**	**27.04**	**348**	P	**P**	**11 58 55.3**	**+0.9**
ROSC	**El Rosal**	**27.40**	**348**	P	**P**	**11 58 57.1**	**-0.4**
ROSC	**El Rosal**	**27.40**	**348**	P	**P**	**11 58 57.7**	**+0.2**
	comp=Z,68nm,0.8s,baz=57,slow=13,SNR=12						
	comp=Z,68nm,0.8s						
ROSC	**El Rosal**	**27.40**	**348**	P	**P**	**11 58 57.1**	**-0.4**
ROSC				pmax	pmax		
	comp=Z,131nm,1.1s						
ROSC	**El Rosal**	**27.40**	**348**	P	**P**	**11 58 58.7**	**+1.2**
	comp=Z,2μmcomp=Z,122nm,1.0s						
GUA01	**Guaratinga, BA**	**27.88**	**84**	***eP***	**P**	**11 58 59.8**	**-1.6**
GUY2C	**Guyana, Caldas**	**27.99**	**346**	P	**P**	**11 59 03.3**	**+0.5**
	comp=Z,3μmcomp=Z,2μmcomp=Z,162nm,0.8s						
SPBC	**San Pablo de B**	**28.14**	**349**	P	**P**	**11 59 03.3**	**-0.5**
TMAB	**Tom-Au,PA,Br**	**28.15**	**48**	***eP***	**P**	**11 59 03.1**	**-0.7**
NORC	**Norcasia**	**28.21**	**347**	P	**P**	**11 59 03.6**	**-0.7**
	comp=Z,2μmcomp=Z,102nm,0.8s						
RUSC	**La Rusia**	**28.22**	**351**	P	**P**	**11 59 04.9**	**0.0**
RUSC	**La Rusia**	**28.22**	**351**	P	**P**	**11 59 04.9**	**0.0**
	comp=Z,4μmcomp=Z,4μmcomp=Z,257nm,1.3s						
CMC01	**Camacan, BA**	**28.50**	**81**	***eP***	**P**	**11 59 04.5**	**-2.5**
CBOC	**Ciudad Bolivar**	**28.76**	**345**	P	**P**	**11 59 09.1**	**-0.2**
	comp=Z,1μmcomp=Z,111nm,0.7s						
BARC	**Barichara**	**28.92**	**351**	P	**P**	**11 59 10.9**	**+0.1**
HELC	**Santa Helena**	**28.96**	**346**	P	**P**	**11 59 10.4**	**-1.0**
	comp=Z,2μmcomp=Z,201nm,1.0s						
PTBC	**PUERTO BERRIO,**	**29.08**	**348**	P	**P**	**11 59 10.0**	**-2.0**
PAMC	**Pamplona, Colo**	**29.59**	**352**	P	**P**	**11 59 16.3**	**-0.7**
DBBC	**Dabeiba**	**29.92**	**345**	P	**P**	**11 59 19.5**	**0.0**
PAYG

comp=Z,11µmcomp=Z,206nm,0.8s
CNGN Cerro Negro 38.68 331 P **P** **12 00 36.0 +1.0**
comp=Z,702nm,0.8s
SIUN Universidad Ur 38.97 335 IAmb IAmb 12 01 20.8
comp=Z,139nm,1.8s
CRPR Cabo Rojo, PR 39.98 2 P **P** **12 00 43.8 -1.8**
CRPR IAmb IAmb 12 01 15.0
comp=Z,104nm,0.8s
OBIP Obispado Ponce 40.03 3 IAmb IAmb 12 01 30.5
comp=Z,102nm,0.8s
PDPR Patillas Dam, 40.05 4 IAmb IAmb 12 01 13.3
comp=Z,126nm,0.9s
CELP Cerrillos 40.07 3 P **P** **12 00 44.2 -2.2**
SJG San Juan 40.13 4 P **P** **12 00 44.4 -2.5**
SJG IAmb IAmb 12 01 13.9
comp=Z,97nm,0.9s
SJG San Juan 40.13 4 P **P** **12 00 44.4 -2.5**
SJG pmax pmax
comp=Z,97nm,0.9s
SJG San Juan 40.13 4 P **P** **12 00 44.3 -2.5**
comp=Z,658nmcomp=Z,55nm,0.8s
PRSN Puerto Rico Se 40.18 2 P **P** **12 00 45.5 -1.9**
HOPE Hope Point 40.23 151 P **P** **12 00 47.7 +0.3**
HOPE IAmb IAmb 12 00 50.5
comp=Z,286nm,1.1s
HOPE Hope Point 40.23 151 P **P** **12 00 47.7 +0.3**
HOPE pmax pmax
comp=Z,286nm,1.1s
HOPE Hope Point 40.23 151 P **P** **12 00 48.6 +1.2**
HOPE pP **pP** **12 01 15.5 +0.9**
TGUH Tegucigalpa,Un 40.32 332 P **P** **12 00 50.0 +1.3**
comp=Z,4µmcomp=Z,392nm,0.9s
AOPR Arecibo Observ 40.33 3 IAmb IAmb 12 01 32.5
comp=Z,59nm,0.7s
BANI BANI 40.35 358 P **P** **12 00 47.6 -1.3**
DR12 Loma Pena Alta 40.72 359 P **P** **12 00 49.9 -2.0**
MTDJ Mount Denham 41.06 347 P **P** **12 00 55.1 +0.4**
MTO3 Montecristo 41.57 329 IAmb IAmb 12 01 01.9
comp=Z,200nm,0.8s
PMSA Palmer Station 42.69 177 P **P** **12 01 08.6 +1.3**
PMSA Palmer Station 42.69 177 LR LR 12 19 04.6
comp=Z,580nm,21.8s,baz=358,slow=36
PMSA Palmer Station 42.69 177 *e*P **P** **12 01 07.7 +0.4**
CCIG Comitan 44.55 327 IAmb IAmb 12 01 25.4
comp=Z,185nm,1.4s
TEIG Tepich 46.25 334 P **P** **12 01 36.5 +0.4**
TEIG IAmb IAmb 12 01 37.6
comp=Z,120nm,0.8s
TEIG Tepich 46.25 334 P **P** **12 01 36.3 +0.2**
TEIG pP **pP** **12 02 03.3 -0.2**
TEIG sP **sP** **12 02 17.3 +0.6**
CAMR Camarioca 46.61 344 IAmb IAmb 12 01 40.9
comp=Z,252nm,0.7s
SOR Soroa 46.80 342 IAmb IAmb 12 01 42.0
comp=Z,87nm,0.9s
DWPF Disney Wildern 51.47 346 P **P** **12 02 15.4 -0.4**
MOIG Morelia 52.28 320 IAmb IAmb 12 02 25.6
comp=Z,144nm,0.8s
451A Vernon 54.96 342 IAmb IAmb 12 02 42.8
comp=Z,149nm,1.0s
TIGA Tifton 55.17 345 IAmb IAmb 12 02 43.6
comp=Z,94nm,0.8s
152A Waverly Hall 56.63 344 IAmb IAmb 12 02 53.5
comp=Z,61nm,0.8s
HBVL Hebbronville 56.85 328 IAmb IAmb 12 02 57.2
comp=Z,95nm,0.8s
Y57A Sumter 56.97 349 IAmb IAmb 12 02 57.3
comp=Z,164nm,1.0s
JSC Jenkinsville 57.39 348 IAmb IAmb 12 02 59.6
comp=Z,64nm,0.8s
LRAL Lakeview Retre 57.59 342 IAmb IAmb 12 03 00.3
comp=Z,64nm,0.8s
Y52A Lilburn 57.60 345 IAmb IAmb 12 03 00.9
comp=Z,52nm,0.8s
735A Kenedy 57.94 330 IAmb IAmb 12 03 05.0
comp=Z,116nm,0.8s
HKT Hockley 57.99 332 P **P** **12 03 03.9 +1.1**
HKT IAmb IAmb 12 03 04.6
comp=Z,81nm,0.8s
HKT Hockley 57.99 332 P **P** **12 03 03.9 +1.1**
HKT pmax pmax
comp=Z,81nm,0.9s
HKT Hockley 57.99 332 P **P** **12 03 03.6 +0.8**
HKT pP **pP** **12 03 31.9 +0.3**
HKT sP **sP** **12 03 45.5 +0.9**
W57A Gilead 58.00 349 IAmb IAmb 12 03 04.4
comp=Z,102nm,0.9s
PAULI Pauline 58.02 347 IAmb IAmb 12 03 04.1
comp=Z,87nm,1.0s
BELA Belgrano 2 58.06 172 P **P** **12 03 03.5 +0.7**
BELA IAmb IAmb 12 03 33.2
comp=Z,73nm,1.1s
V61A Roper 58.13 353 IAmb IAmb 12 03 05.2
comp=Z,175nm,1.1s
Y49A Blount Mountai 58.20 343 IAmb IAmb 12 03 04.4
comp=Z,59nm,0.8s
KMSC Kings Mountain 58.24 348 IAmb IAmb 12 03 06.2
comp=Z,101nm,0.9s
BG3 Lake Jocassee 58.42 346 IAmb IAmb 12 03 07.3
comp=Z,67nm,0.8s
V58A Windy Hill, Pi 58.48 350 IAmb IAmb 12 03 07.6
comp=Z,91nm,0.8s
143A Socs Landing, 58.70 338 IAmb IAmb 12 03 10.5
comp=Z,111nm,0.8s
W52A Murphy 58.74 345 IAmb IAmb 12 03 09.3
comp=Z,72nm,0.9s
V53A Saluda 59.05 347 IAmb IAmb 12 03 11.4
comp=Z,68nm,0.8s
CPCT Cooper Cave 59.23 345 IAmb IAmb 12 03 12.4
comp=Z,114nm,1.0s
TKL Tuckaleechee C 59.25 346 LR LR 12 30 55.4
comp=Z,264nm,21.8s,baz=160,slow=38
VNA3 Neumayer Olymp 59.40 161 ⇑P **P** **12 03 12.5 +0.3**
comp=Z,29nm,0.8s
VNA3 ⇑pP **pP** **12 03 40.8 -0.2**
VNA3 ⇑S **S** **12 11 12.1 +0.3**
VNA1 Neumayer--Stat 59.61 160 ⇑P **P** **12 03 14.5 +0.9**
comp=Z,32nm,0.9s
VNA1 ⇓pP **pP** **12 03 43.4 +1.0**
T57A Hurt 59.68 350 IAmb IAmb 12 03 16.1
comp=Z,99nm,0.7s
DRIO Del Rio 59.76 328 IAmb IAmb 12 03 16.8
comp=Z,137nm,1.1s
VNA2 Neumayer--Watz 59.97 161 ⇑P **P** **12 03 16.5 +0.4**
comp=Z,32nm,1.0s,baz=283,slow=6.8
VNA2 ⇓pP **pP** **12 03 44.5 -0.5**
baz=293,slow=6.6
VNA2 ⇑S **S** **12 11 21.2 +2.0**
baz=162,slow=12
TZTN Tazewell 60.05 346 IAmb IAmb 12 03 17.9
comp=Z,60nm,0.9s
CLTN Cedars of Leba 60.29 344 IAmb IAmb 12 03 19.5
comp=Z,89nm,0.8s
S57A Dark Hollow, R 60.38 351 IAmb IAmb 12 03 21.1
comp=Z,136nm,1.1s
HPIG 60.48 322 IAmb IAmb 12 03 22.4
comp=Z,59nm,0.8s
BRDY Brady 60.54 330 IAmb IAmb 12 03 21.8
comp=Z,112nm,0.7s
U49A Red Boiling Sp 60.55 344 IAmb IAmb 12 03 20.5
comp=Z,76nm,0.8s
RKT Rikitea 60.58 255 *e*LR LR 12 21 23.7
comp=Z,9µm,39.5s
WVT Waverly 60.73 342 P **P** **12 03 21.2 -0.3**
WVT Waverly 60.73 342 P **P** **12 03 21.3 -0.3**
WVT pmax pmax
comp=Z,215nm,0.8s
WVT Waverly 60.73 342 P **P** **12 03 20.9 -0.7**
WVT pP **pP** **12 03 49.5 -1.3**
WVT sP **sP** **12 04 02.6 -1.2**
T50A Nancy 60.80 345 IAmb IAmb 12 03 22.7
comp=Z,84nm,0.7s
SAND Sanderson 60.95 327 IAmb IAmb 12 03 25.4
comp=Z,122nm,0.9s
S51A Beattyville 61.11 347 IAmb IAmb 12 04 07.3
comp=Z,85nm,1.1s
OZNA Ozona 61.24 328 IAmb IAmb 12 03 26.3
comp=Z,76nm,0.7s
TXAR Lajitas Array 61.25 325 P **P** **12 03 26.1 +0.7**
TXAR Lajitas Array 61.25 325 P **P** **12 03 25.7 +0.3**
comp=Z,21nm,0.8s,baz=148,slow=8.3,SNR=245
TXAR pP **pP** **12 03 54.1 -0.2**
comp=Z,11nm,0.9s,baz=126,slow=5.1,SNR=3.5
TXAR sP **sP** **12 04 07.4 +0.2**
comp=Z,18nm,0.9s,baz=140,slow=9.9,SNR=3.9
comp=Z,21nm,0.8s
WHAR Wooly Hollow 61.35 338 IAmb IAmb 12 03 26.9
comp=Z,107nm,0.9s
PLPT Palo Pinto 61.53 332 IAmb IAmb 12 03 28.8
comp=Z,159nm,1.0s
SNAA Sanae 61.60 161 ⇑P **P** **12 03 27.5 +0.3**
comp=Z,753nm,0.9s
SNAA ⇑pP **pP** **12 03 55.5 -0.7**
SNAA ⇑S **S** **12 11 41.1 +1.2**
SNAA Sanae 61.60 161 P **P** **12 03 27.7 +0.5**
SNAA IAmb IAmb 12 04 12.0
comp=Z,132nm,1.4s
SNAA Sanae 61.60 161 P **P** **12 03 26.5 -0.7**
comp=Z,30nm,0.8s,baz=280,slow=7.7,SNR=85
SNAA LR LR 12 27 53.7
comp=Z,210nm,21.8s,baz=280,slow=34
SNAA PKP2bc 12 32 44.3
comp=Z,5.4nm,1.2s,baz=24,slow=2.7,SNR=7.9
comp=Z,30nm,0.8s
SNAA Sanae 61.60 161 *c* *i*P **P** **12 03 27.5 +0.3**
SNAA *i* *P **pP** **12 03 55.3 -0.9**
SNAA pmax pmax
comp=Z,63nm,1.0s
LCAR Lake Charles 61.68 340 IAmb IAmb 12 03 28.8
comp=Z,112nm,0.8s
Q54A Coxs Mills 61.88 349 IAmb IAmb 12 04 00.2
comp=Z,84nm,0.9s
R50A Paris 61.89 346 IAmb IAmb 12 04 12.4
comp=Z,135nm,1.3s
P57A Homestead Farm 61.95 352 IAmb IAmb 12 03 31.9
comp=Z,101nm,0.8s
SGCY Sterling City 62.06 329 IAmb IAmb 12 04 14.3
comp=Z,98nm,1.1s
R49A Shelbyville 62.09 345 IAmb IAmb 12 03 31.2
comp=Z,62nm,0.8s
PSUB Penn St. - Bra 62.10 354 IAmb IAmb 12 03 32.1
comp=Z,68nm,0.9s
Q52A Bidwell 62.12 348 IAmb IAmb 12 04 01.5
comp=Z,76nm,0.8s
MVL Millersville 62.26 353 IAmb IAmb 12 03 33.5
comp=Z,91nm,0.8s
WCI Wyandotte Cave 62.30 344 P **P** **12 03 31.6 -0.5**
WCI Wyandotte Cave 62.30 344 P **P** **12 03 31.6 -0.5**
WCI pmax pmax
comp=Z,153nm,0.8s
MCWV Mont Chateau 62.38 350 IAmb IAmb 12 04 04.4
comp=Z,120nm,0.8s
MNHN Monahans 62.39 327 IAmb IAmb 12 03 35.0
comp=Z,131nm,0.8s
Q51A Peles 62.39 347 IAmb IAmb 12 04 15.8
comp=Z,86nm,1.0s
USIN University of 62.40 343 IAmb IAmb 12 03 33.1
comp=Z,133nm,0.8s
P53A Whipple 62.47 349 IAmb IAmb 12 04 04.4
comp=Z,159nm,1.0s
PAGS Pennsylvania G 62.53 353 IAmb IAmb 12 03 35.1
comp=Z,99nm,0.8s
P52A Corning 62.74 348 IAmb IAmb 12 04 05.1
comp=Z,94nm,0.8s
BRNJ Basking Ridge 62.77 355 IAmb IAmb 12 03 36.9
comp=Z,77nm,0.8s
ODSA Odessa 62.92 328 IAmb IAmb 12 03 38.0
comp=Z,220nm,1.3s
PECS Pecos 62.98 327 IAmb IAmb 12 03 38.5
comp=Z,51nm,0.8s
MGMO Mountain Grove 63.03 339 IAmb IAmb 12 04 20.3
comp=Z,210nm,1.2s
PAL Padles 63.04 356 IAmb IAmb 12 03 55.0
comp=Z,43nm,0.7s
SSPA Standing Stone 63.06 352 P **P** **12 03 37.9 +0.7**
SSPA IAmb IAmb 12 03 38.4
comp=Z,55nm,0.8s
VHRN Van Horn 63.09 325 IAmb IAmb 12 03 39.7
comp=Z,134nm,0.7s
U38A Gravette 63.12 337 IAmb IAmb 12 03 38.8
comp=Z,76nm,0.8s
N58A Sunbury 63.13 353 IAmb IAmb 12 03 39.4
comp=Z,106nm,0.9s
O52A Adamsville 63.16 349 IAmb IAmb 12 04 08.5
comp=Z,77nm,0.8s
WSPT Westport, CT 63.17 356 IAmb IAmb 12 03 39.4
comp=Z,99nm,1.0s
O53A New Philadelph 63.18 349 IAmb IAmb 12 04 21.6
comp=Z,123nm,1.2s
POST Post 63.19 329 IAmb IAmb 12 03 40.7
comp=Z,123nm,0.8s
OLIL Olney 63.24 343 IAmb IAmb 12 03 38.5
comp=Z,81nm,0.8s
FNO Franklin 63.24 334 IAmb IAmb 12 03 39.5
comp=Z,132nm,0.8s
BLO Bloomington 63.25 345 IAmb IAmb 12 03 38.7
comp=Z,98nm,0.7s
P48A Milroy 63.26 346 IAmb IAmb 12 04 07.6
comp=Z,71nm,0.9s
TROLL Troll, Antarti 63.32 161 ⇑P **P** **12 03 39.2 +0.5**
comp=Z,1µm,0.6s
TROLL ⇑pP **pP** **12 04 07.9 0.0**
TROLL ⇓S **S** **12 12 01.4 -0.2**
DKNS Dickens 63.42 330 IAmb IAmb 12 03 41.0
comp=Z,77nm,0.7s
ACSO Alum Creek Sta 63.48 348 IAmb IAmb 12 04 10.5
comp=Z,165nm,0.9s
CCM Cathedral Cave 63.53 340 P **P** **12 03 40.5 +0.2**
CCM Cathedral Cave 63.53 340 P **P** **12 03 40.5 +0.2**
CCM pmax pmax
comp=Z,192nm,0.8s
CCM Cathedral Cave 63.53 340 P **P** **12 03 39.9 -0.3**
CCM pP **pP** **12 04 09.3 -0.3**
CCM sP **sP** **12 04 22.5 -0.1**
Q44A Meyer Farm, Va 63.65 342 IAmb IAmb 12 04 23.4
comp=Z,176nm,1.0s
N53A Lisbon 63.66 350 IAmb IAmb 12 04 25.0
comp=Z,98nm,1.1s
M57A Sunshine Farm, 63.67 353 IAmb IAmb 12 03 42.5
comp=Z,64nm,0.8s
O49A Covington 63.72 347 IAmb IAmb 12 04 24.4
comp=Z,126nm,1.0s
KSPA Keystone Colle 63.74 354 IAmb IAmb 12 03 43.4
comp=Z,74nm,0.7s
SLM Saint Louis 63.75 341 IAmb IAmb 12 04 24.6
comp=Z,135nm,1.2s
P46A Rosedale 63.84 344 IAmb IAmb 12 04 24.7
comp=Z,145nm,1.0s
O48B Farmland 63.96 346 IAmb IAmb 12 04 13.2
comp=Z,183nm,1.0s
MNTX Cornudas Mount 64.02 326 IAmb IAmb 12 03 45.0
comp=Z,54nm,0.8s
PAOC Oil Creek Stat 64.17 351 IAmb IAmb 12 03 45.8
comp=Z,90nm,0.8s
BINY Binghamton 64.40 354 IAmb IAmb 12 03 47.9
comp=Z,130nm,0.9s
L61B Northampton 64.41 357 IAmb IAmb 12 03 47.5
comp=Z,66nm,1.1s
HRV Adam Dziewonsk 64.41 358 P **P** **12 03 46.6 +0.6**
HRV IAmb IAmb 12 03 47.7
comp=Z,71nm,1.1s
HRV Adam Dziewonsk 64.41 358 P **P** **12 03 46.6 +0.6**
HRV pmax pmax
comp=Z,71nm,1.1s
M52A Chesterland 64.46 350 IAmb IAmb 12 04 29.9
comp=Z,89nm,1.0s
L56A Greenwood 64.51 353 IAmb IAmb 12 03 47.7
comp=Z,80nm,0.8s
SFIN Lafayette 64.53 345 IAmb IAmb 12 04 15.8
comp=Z,91nm,0.8s
M50A Fremont 64.63 348 IAmb IAmb 12 04 17.5
comp=Z,57nm,0.8s
EPT El Paso 64.67 325 IAmb IAmb 12 03 49.8
comp=Z,51nm,0.8s
N47A Urbana 64.68 346 IAmb IAmb 12 04 17.8
comp=Z,166nm,1.2s
SRIG Santa Rosalia 64.70 317 IAmb IAmb 12 03 50.8
comp=Z,70nm,0.9s
TRY Troy 64.74 356 IAmb IAmb 12 03 50.2
comp=Z,122nm,0.9s
AMTX Amarillo 64.78 330 IAmb IAmb 12 03 50.0
comp=Z,156nm,1.3s
ERPA Erie 64.81 351 IAmb IAmb 12 03 49.8
comp=Z,72nm,0.7s
KAN14 Manchester OK 64.94 334 IAmb IAmb 12 03 50.8
comp=Z,128nm,0.8s
K57A Scipio Center 64.98 354 IAmb IAmb 12 03 50.9
comp=Z,88nm,0.8s
NOKA Waynoka 65.06 334 IAmb IAmb 12 03 51.3
comp=Z,90nm,0.9s
P40A Paris 65.13 340 IAmb IAmb 12 03 51.6
comp=Z,133nm,0.8s
MMNY Mt. Morris Dam 65.13 353 IAmb IAmb 12 03 51.5
comp=Z,67nm,0.8s
HDIL Hopedale 65.27 343 IAmb IAmb 12 04 20.9
comp=Z,99nm,0.8s
J59A Piesco 65.53 355 IAmb IAmb 12 03 55.1
comp=Z,129nm,0.8s
J57A Williamstown 65.60 354 IAmb IAmb 12 03 55.0
comp=Z,64nm,0.8s
HNH Hanover 65.64 357 IAmb IAmb 12 03 56.4
comp=Z,81nm,1.2s
M44A Midewin, Midew 65.72 344 IAmb IAmb 12 04 36.9
comp=Z,71nm,1.1s
I62A Tamworth 65.77 358 IAmb IAmb 12 04 30.0
comp=Z,119nm,1.9s
N41A Harden Midland 65.85 342 IAmb IAmb 12 04 38.0
comp=Z,139nm,1.0s
K50A Casco 65.88 349 IAmb IAmb 12 03 55.8
comp=Z,119nm,0.7s
319A Douglas 65.89 323 IAmb IAmb 12 03 58.9
comp=Z,120nm,0.8s
L46A Eue Claire 65.89 346 IAmb IAmb 12 03 55.5
comp=Z,86nm,0.8s
NVL N'lazarevskaya 66.16 159 *e*P **P** **12 03 52.9 -4.0**
NVL *e* 12 06 22.7
NVL *e*S **S** **12 12 33.9 -2.2**
NVL *e* 12 13 34.7
NVL smax smax
comp=N,315nm,9.4s
NVL MLR MLR
comp=Z,121nm,18.0s
PECO Prince Edward 66.22 354 IAmb IAmb 12 03 58.4
comp=Z,66nm,0.8s
WVL Waterville 66.42 359 IAmb IAmb 12 04 01.0
comp=Z,77nm,1.2s
L44A Lake County Fo 66.43 345 IAmb IAmb 12 04 29.1
comp=Z,109nm,1.0s
RTBA Rita Blanca 66.54 331 IAmb IAmb 12 04 03.3
comp=Z,142nm,1.5s
Y22A Socorro 66.60 326 IAmb IAmb 12 04 03.5
comp=Z,339nm,1.9s
N38A Joes South For 66.65 340 IAmb IAmb 12 04 01.2
comp=Z,140nm,0.8s
HAL Halifax 66.66 4 P **P** **12 04 00.8 +0.4**
HAL IAmb IAmb 12 04 16.7
comp=Z,63nm,0.8s
HAL Halifax 66.66 4 P **P** **12 04 00.8 +0.4**
HAL pmax pmax
comp=Z,63nm,0.8s
Y22D IRIS PASSCAL I 66.68 326 IAmb IAmb 12 04 08.8
comp=Z,95nm,0.9s
Y22D IRIS PASSCAL I 66.68 326 P **P** **12 04 03.2 +2.3**
baz=142
LONY Lake Ozonia 66.69 356 IAmb IAmb 12 04 01.9
comp=Z,79nm,0.9s
J47A Sunmer 66.75 347 IAmb IAmb 12 04 31.4
comp=Z,124nm,0.9s
FRNY Flat Rock 66.83 356 IAmb IAmb 12 04 03.4
comp=Z,73nm,0.8s
GGN Saint George 67.00 2 P **P** **12 04 03.1 +0.6**
I49A Point Hope 67.05 349 IAmb IAmb 12 04 33.3
comp=Z,89nm,0.8s
G65A Princeton 67.06 1 P **P** **12 04 03.6 +0.7**
G65A IAmb IAmb 12 04 04.7
comp=Z,64nm,0.9s
G62A West of Eustis 67.09 359 IAmb IAmb 12 04 05.4
comp=Z,187nm,1.0s
PKME Peaks-Kenny Pk 67.12 360 IAmb IAmb 12 04 05.1
comp=Z,84nm,1.0s
ANMO Albuquerque 67.13 327 P **P** **12 04 05.2 +1.4**
ANMO IAmb IAmb 12 04 06.5
comp=Z,96nm,0.8s
ANMO Albuquerque 67.13 327 LR LR 12 33 33.8
comp=Z,142nm,19.9s,baz=235,slow=36
ANMO Albuquerque 67.13 327 P **P** **12 04 05.2 +1.4**
ANMO pmax pmax
comp=Z,96nm,0.8s
L40A Anamosa 67.21 342 IAmb IAmb 12 04 04.6
comp=Z,157nm,0.9s
SADO Sadowa 67.29 352 IAmb IAmb 12 04 04.8
comp=Z,49nm,0.8s
SADO Sadowa 67.29 352 LR LR 12 36 05.8
comp=Z,2µm,19.4s,baz=162,slow=38
TUC Tucson 67.44 322 P **P** **12 04 06.4 +0.7**
TUC Tucson 67.44 322 P **P** **12 04 07.2 +1.5**
TUC sP **sP** **12 04 49.7 +1.8**
F64A Sherman 67.72 0 IAmb IAmb 12 04 08.8
comp=Z,91nm,0.9s
LMN Caledonia Moun 67.81 3 IAmb IAmb 12 04 08.8
comp=Z,54nm,0.8s
T25A Trinidad 67.89 330 IAmb IAmb 12 04 11.3
comp=Z,97nm,0.9s
BUKO Buck Lake 67.99 352 IAmb IAmb 12 04 10.0
comp=Z,92nm,0.8s
QSPA South Pole Qui 68.01 180 P **P** **12 04 12.2 +3.3**
QSPA IAmb IAmb 12 04 42.3
comp=Z,147nm,1.2s
QSPA South Pole Qui 68.01 180 P **P** **12 04 11.9 +3.0**
comp=Z,27nm,0.6s,baz=173,slow=0.7,SNR=339
QSPA pP **pP** **12 04 40.1 +1.7**
comp=Z,81nm,1.0s,baz=152,slow=5.6,SNR=9.2
QSPA S **S** **12 13 01.8 +3.0**
comp=Z,1.0nm,1.0s,baz=155,slow=18,SNR=9.4
QSPA PKP2bc 12 32 23.4
comp=Z,3.3nm,0.9s,baz=350,slow=2.4,SNR=9.0
QSPA LR LR 12 34 51.6
comp=Z,271nm,20.8s,baz=148,slow=36
comp=Z,27nm,0.6s
GLMI Grayling 68.23 348 IAmb IAmb 12 04 41.5
comp=Z,98nm,0.8s
I42A Draeger Farm, 68.29 344 IAmb IAmb 12 04 11.6
comp=Z,99nm,0.8s
214A Organ Pipe Nat 68.36 321 IAmb IAmb 12 04 14.2
comp=Z,103nm,0.9s
E62A Clayton Lake 68.48 359 IAmb IAmb 12 04 13.8
comp=Z,122nm,0.9s
H43A Windswept, Lux 68.56 346 IAmb IAmb 12 04 13.0
comp=Z,121nm,0.8s
I40A Norwalk 68.73 343 IAmb IAmb 12 04 14.1
comp=Z,62nm,0.7s
DBIC Dimbokro 68.83 73 P **P** **12 04 14.2 -0.5**
DBIC IAmb IAmb 12 04 20.6
comp=Z,73nm,0.7s
DBIC Dimbokro 68.83 73 P **P** **12 04 13.9 -0.7**
comp=Z,70nm,0.9s,baz=253,slow=6.8,SNR=50
DBIC pP **pP** **12 04 44.1 -0.5**
comp=Z,61nm,0.9s,baz=242,slow=7.3,SNR=4.6
DBIC S **S** **12 13 06.5 -3.2**
comp=Z,5.0nm,1.0s,baz=127,slow=20,SNR=6.5
DBIC LR LR 12 35 01.3
comp=Z,404nm,18.9s,baz=267,slow=36
comp=Z,70nm,0.9s
DBIC Dimbokro 68.83 73 P **P** **12 04 14.0 -0.7**
DBIC pP **pP** **12 04 44.1 -0.5**
SDCO Great Sand Dun 68.89 329 IAmb IAmb 12 04 17.6
comp=Z,166nm,0.9s
D62A Allapoint, All 68.94 360 IAmb IAmb 12 04 16.4
comp=Z,150nm,0.9s
BATG Bathurst New B 69.18 2 IAmb IAmb 12 04 17.8
comp=Z,67nm,0.9s
TAOE Nuku Hiva Isla 69.50 269 *e*PKP1 **P** **12 04 20.4 +1.4**
comp=Z,357nm,25.8s
LDAQ Lac Daran 69.86 358 IAmb IAmb 12 04 22.0
comp=Z,130nm,1.0s
MVCO Mesa Verde 69.92 327 IAmb IAmb 12 04 24.1
comp=Z,141nm,0.8s
ECSD EROS Data Cent 70.39 339 IAmb IAmb 12 04 24.3
comp=Z,68nm,0.8s
VLDQ Val d'Or 70.40 354 IAmb IAmb 12 04 25.1
comp=Z,123nm,0.7s
SPMN Marine on St. 70.56 342 IAmb IAmb 12 04 25.3
comp=Z,83nm,0.8s
ISCO Idaho Springs 70.59 331 IAmb IAmb 12 04 28.0
comp=Z,100nm,0.8s
BLYC Blythe 70.64 321 IAmb IAmb 12 04 28.7
comp=Z,96nm,1.1s
PV01 Paradox Valley 70.68 328 IAmb IAmb 12 04 28.9
comp=Z,113nm,0.9s
PV15 Paradox Valley 70.80 328 IAmb IAmb 12 04 29.8
comp=Z,235nm,1.0s
PV02 Paradox Valley 70.82 328 IAmb IAmb 12 05 12.1
comp=Z,213nm,1.1s
PV13 Radium Mtn., P 70.82 328 IAmb IAmb 12 04 29.5
comp=Z,126nm,1.0s
PV05 Paradox Valley 70.90 327 IAmb IAmb 12 04 29.8
comp=Z,121nm,1.0s
PV03 Paradox Valley 70.91 328 IAmb IAmb 12 04 30.1
comp=Z,226nm,1.7s
PV18 Skein Mesa, Pa 70.93 328 IAmb IAmb 12 04 30.1
comp=Z,139nm,1.0s
PV12 Saucer Basin, 70.94 328 IAmb IAmb 12 04 29.6
comp=Z,155nm,1.0s

PV07 Paradox Valley 70.95 328 lAmb lAmb 12 04 29.8
comp=Z,75nm,1.0s
PV11 David Mesa, Pa 70.95 328 lAmb lAmb 12 05 12.0
comp=Z,76nm,1.0s
PV19 Morning Glory 71.02 328 lAmb lAmb 12 05 13.0
comp=Z,210nm,1.4s
PV20 West Nyswonger 71.03 328 lAmb lAmb 12 04 30.0
comp=Z,116nm,1.1s
PV04 Paradox Valley 71.04 328 lAmb lAmb 12 04 50.5
comp=Z,152nm,1.4s
PV14 Lion Creek, Pa 71.09 328 lAmb lAmb 12 04 31.0
comp=Z,72nm,1.0s
PV22 Blue Mesa, Par 71.10 328 lAmb lAmb 12 04 31.1
comp=Z,111nm,0.9s
BC3 Big Chuckawall 71.12 320 lAmb lAmb 12 04 31.6
comp=Z,106nm,1.2s
PV23 Carpenter Ridg 71.14 328 lAmb lAmb 12 04 32.1
comp=Z,116nm,0.8s
PV21 Cone Mtn., Par 71.21 328 lAmb lAmb 12 04 31.3
comp=Z,74nm,1.0s
IRM Iron Mountain 71.29 321 lAmb lAmb 12 04 32.8
comp=Z,196nm,1.5s
ICQ Pointe Anglais 71.39 1 lAmb lAmb 12 04 47.1
comp=Z,107nm,0.5s
E38A The Farm, Brul 71.50 344 lAmb lAmb 12 04 31.1
comp=Z,77nm,0.9s
PFO Pinyon Flats O 71.70 319 P **P** **12 04 33.4 +1.5**
PFO Pinyon Flats O 71.70 319 LR LR 12 32 43.5
comp=Z,112nm,21.8s,baz=129,slow=33
PFO Pinyon Flats O 71.70 319 *d* *i*P **P** **12 04 33.7 +1.8**
PFO pmax pmax
comp=Z,82nm,1.0s
PFO Pinyon Flats O 71.70 319 P **P** **12 04 33.5 +1.6**
PFO pP **pP** **12 05 02.3 +0.7**
SUSD Miller 71.82 338 lAmb lAmb 12 04 33.5
comp=Z,147nm,0.8s
DRLN Deer Lake 71.82 8 lAmb lAmb 12 04 33.1
comp=Z,262nm,1.8s
HAYD Hayden 71.92 330 lAmb lAmb 12 04 36.6
comp=Z,143nm,1.4s
F33A 5 Mile Ranch, 72.16 340 lAmb lAmb 12 04 35.0
comp=Z,72nm,0.7s
SRU San Rafael Swe 72.41 327 lAmb lAmb 12 04 38.7
comp=Z,152nm,0.7s
Q16A Castle Valley 72.59 327 lAmb lAmb 12 04 40.5
comp=Z,81nm,0.8s
P18A Preston Nutter 72.66 328 lAmb lAmb 12 04 40.8
comp=Z,157nm,0.8s
P17A Butcher Ranch, 72.79 327 lAmb lAmb 12 04 41.2
comp=Z,155nm,0.9s
TBO Thunder Bay 72.88 346 lAmb lAmb 12 04 39.6
comp=Z,137nm,1.2s
RDMU Red Mountain 73.06 329 lAmb lAmb 12 04 42.4
comp=Z,120nm,0.7s
GSC Goldstone, Bar 73.07 321 lAmb lAmb 12 04 43.6
comp=Z,290nm,1.9s
K22A Casper 73.30 332 lAmb lAmb 12 04 43.8
comp=Z,114nm,0.9s
TBI Tubuai 73.38 251 *e*PKP1 **P** **12 04 44.9 +2.9**
comp=Z,706nm,27.5s
TBI *e*S **SKiKP** **12 14 00.5 -1.3**
comp=Z,3µm,28.2s
TBI Tubuai 73.38 251 *e*LR LR 12 27 13.9
comp=Z,2µm,42.5s
RSSD Black Hills 73.46 334 P **P** **12 04 43.7 +1.5**
RSSD lAmb lAmb 12 04 44.6
comp=Z,165nm,0.9s
RSSD Black Hills 73.46 334 P **P** **12 04 43.7 +1.5**
RSSD pmax pmax
comp=Z,165nm,0.9s
RSSD Black Hills 73.46 334 P **P** **12 04 43.4 +1.1**
RSSD pP **pP** **12 05 13.5 +1.3**
RSSD sP **sP** **12 05 26.4 +1.4**
BSUT Blindstream Ca 73.61 328 lAmb lAmb 12 04 46.4
comp=Z,118nm,0.8s
MPU Maple Canyon 73.65 327 lAmb lAmb 12 04 46.3
comp=Z,82nm,1.0s
JLU Jordanelle 74.00 328 lAmb lAmb 12 04 48.4
comp=Z,406nm,1.8s
AGMN Agassiz Nation 74.24 342 lAmb lAmb 12 04 47.6
comp=Z,88nm,0.8s
TCUT Toone Canyon 74.37 328 lAmb lAmb 12 04 50.9
comp=Z,58nm,0.7s
PDAR Pinedale Array 74.75 330 P **P** **12 04 50.1 +0.3**
PDAR Pinedale Array 74.75 330 P **P** **12 04 50.4 +0.6**
comp=Z,14nm,0.7s,baz=130,slow=7.2,SNR=150
PDAR pP **pP** **12 05 19.2 -0.6**
comp=Z,10nm,0.6s,baz=138,slow=8.0,SNR=2.9
PDAR LR LR 12 39 26.4
comp=Z,59nm,21.8s,baz=127,slow=37
comp=Z,14nm,0.7s
HWUT Hardware Ranch 74.82 328 lAmb lAmb 12 04 53.7
comp=Z,92nm,0.8s
EPLO Experimental L 74.89 344 lAmb lAmb 12 04 51.2
comp=Z,110nm,0.8s
PPT2 Papeete2 75.27 257 *e*PKP1 **P** **12 04 56.7 +3.5**
comp=Z,354nm,26.2s
PPT2 Papeete2 75.27 257 *e*PP **PP** **12 07 38.9 -4.2**
comp=Z,94nm,28.0s
PPT2 *e*S **S** **12 14 20.1 -3.4**
comp=Z,544nm,26.8s
PPT2 Papeete2 75.27 257 *e*LQ LQ 12 24 58.5
comp=Z,551nm,27.8s
PPT2 *e*LR LR 12 28 12.6
comp=Z,2µm,37.2s
PPT2 *e*LR LR 12 28 14.3
comp=Z,863nm,38.8s
Q09A Carvers 75.74 323 lAmb lAmb 12 04 58.6
comp=Z,93nm,1.0s
SYO Syowa Base 75.83 159⇑ *i*P **P** **12 04 56.0 +0.7**
SYO Syowa Base 75.83 159⇑ *i*pP pP 12 05 22.0 -3.4
SNOW Snow King Moun 75.85 330 lAmb lAmb 12 04 58.8
comp=Z,117nm,0.8s
LOHW Long Hollow 75.89 330 lAmb lAmb 12 04 58.4
comp=Z,78nm,0.8s
TPAW Teton Pass 75.96 330 lAmb lAmb 12 04 59.5
comp=Z,103nm,0.8s
ULM Lac du Bonnet 76.00 342 P **P** **12 04 56.3 -0.1**
comp=Z,76nm,0.7s,baz=151,slow=6.4,SNR=68
ULM LR LR 12 41 21.4
comp=Z,102nm,21.9s,baz=164,slow=38
comp=Z,76nm,0.7s
PMPB Monarch Peak 76.08 319 lAmb lAmb 12 05 30.3
comp=Z,182nm,1.5s
NVAR Mina Array Bea 76.09 322 P **P** **12 04 59.0 +1.4**
NVAR Mina Array Bea 76.09 322 P **P** **12 04 59.1 +1.5**
comp=Z,12nm,0.7s,baz=154,slow=6.6,SNR=101
NVAR pP **pP** **12 05 28.8 +1.3**
comp=Z,17nm,0.9s,baz=151,slow=7.0,SNR=5.7
NVAR LR LR 12 37 20.9
comp=Z,135nm,18.1s,baz=121,slow=35
comp=Z,12nm,0.7s
VNDA Vanda 76.20 190 P **P** **12 04 59.5 +2.2**
VNDA Vanda 76.20 190 P **P** **12 04 59.5 +2.2**
comp=Z,7.6nm,0.9s,baz=141,slow=5.1,SNR=30
VNDA LR LR 12 38 30.9
comp=Z,154nm,18.7s,baz=140,slow=35
comp=Z,7.6nm,0.9s
VNDA Vanda 76.20 190 P **P** **12 04 59.4 +2.0**
VNDA pP **pP** **12 05 29.2 +1.8**
LEGD La Grand CA 76.35 320 lAmb lAmb 12 05 31.2
comp=Z,94nm,0.9s
LAO LASA Array 76.44 335 lAmb lAmb 12 05 01.5
comp=Z,223nm,1.1s
BBGB Big Mountain B 76.46 319 lAmb lAmb 12 05 51.8
comp=Z,69nm,0.8s
YMP Mirror Lake Pl 76.56 331 lAmb lAmb 12 05 55.1
comp=Z,156nm,1.1s
YNE Yellowstone No 76.70 331 lAmb lAmb 12 05 34.1
comp=Z,251nm,1.0s
SCHQ Schefferville 76.72 1 P **P** **12 05 00.1 -0.2**
comp=Z,304nm,0.8s,baz=166,slow=4.3,SNR=18
SCHQ LR LR 12 40 49.5
comp=Z,846nm,20.5s,baz=173,slow=37
SAO San Andreas Ge 76.83 319 P **P** **12 05 03.1 +1.6**
SAO San Andreas Ge 76.83 319 P **P** **12 05 03.1 +1.6**
SAO pmax pmax
comp=Z,24nm,0.9s
YMR Madison River 76.87 331 lAmb lAmb 12 05 05.3
comp=Z,164nm,1.0s
YHB Horse Butte 77.04 330 lAmb lAmb 12 05 06.0
comp=Z,121nm,0.8s
YHL Hebgen Lake 77.11 331 lAmb lAmb 12 05 49.6
comp=Z,194nm,1.3s
TORD Torodi Ar. Bea 77.48 70 P **P** **12 05 04.1 -1.4**
TORD lAmb lAmb 12 05 13.0
comp=Z,64nm,0.6s
TORD Torodi Ar. Bea 77.48 70 P **P** **12 05 02.3 -3.3**
comp=Z,28nm,0.6s,baz=260,slow=5.0,SNR=112
TORD pP **pP** **12 05 34.9 -1.2**
comp=Z,35nm,0.8s,baz=257,slow=5.1,SNR=3.1
TORD S **S** **12 14 44.8 -2.8**
comp=Z,1.7nm,1.0s,baz=293,slow=7.9,SNR=3.5
TORD LR LR 12 39 50.3
comp=Z,264nm,18.1s,baz=230,slow=36
comp=Z,28nm,0.6s
PAHR Pah Rah Range 77.58 322 lAmb lAmb 12 05 09.0
comp=Z,114nm,0.8s
HLID Hailey 77.67 328 lAmb lAmb 12 05 09.5
comp=Z,129nm,0.8s
DLMT Dillon 78.15 330 lAmb lAmb 12 05 11.8
comp=Z,209nm,1.4s
WIN Windhoek 78.19 110 P **P** **12 05 09.3 -0.4**
WIN Windhoek 78.19 110 P **P** **12 05 09.3 -0.4**
WIN pmax pmax
comp=Z,83nm,1.2s
RUSS Russell Ranch 78.25 320 lAmb lAmb 12 05 12.2
comp=Z,70nm,0.8s
MFID Camas Ranch 78.27 327 lAmb lAmb 12 05 12.8
comp=Z,194nm,1.6s
CVS Carmenet Viney 78.47 320 P **P** **12 05 11.7 +1.2**
CVS lAmb lAmb 12 05 13.1
comp=Z,82nm,0.9s
MCCM Marconi Confer 78.59 319 lAmb lAmb 12 05 13.4
comp=Z,80nm,0.9s
ORV Orrville 78.69 321 lAmb lAmb 12 05 44.7
comp=Z,105nm,1.1s
HATC Hat Creek Radi 79.50 322 lAmb lAmb 12 05 18.6
comp=Z,107nm,0.8s
PLID Pearl Lake 79.57 328 lAmb lAmb 12 05 19.2
comp=Z,127nm,0.8s
TSUM Tsumeb 79.74 107 P **P** **12 05 18.4 +0.2**
TSUM lAmb lAmb 12 05 49.8
comp=Z,168nm,1.2s
TSUM Tsumeb 79.74 107 LR LR 12 36 49.3
comp=Z,484nm,21.1s,baz=324,slow=33
TSUM Tsumeb 79.74 107 P **P** **12 05 18.7 +0.6**
TSUM pP **pP** **12 05 48.3 -0.2**
BMO Blue Mountains 80.05 327 lAmb lAmb 12 05 21.7
comp=Z,97nm,1.0s
M03C McCloud 80.18 322 lAmb lAmb 12 05 21.7
comp=Z,90nm,0.7s
KMRM Mail Ridge 80.42 321 lAmb lAmb 12 05 23.7
comp=Z,70nm,0.9s
K05A Sumner Lake 80.46 324 lAmb lAmb 12 05 24.6
comp=Z,131nm,0.8s
KOOLE Kule 80.74 111 lAmb lAmb 12 05 55.0
comp=Z,153nm,1.1s
KMPM Mount Pierce 80.78 320 lAmb lAmb 12 05 26.1
comp=Z,98nm,0.8s
YBH Yreka Blue Hor 80.81 322 LR LR 12 40 18.2
comp=Z,9.8nm,19.3s,baz=115,slow=35
K04D Chiloquin, OR 80.86 323 lAmb lAmb 12 05 56.1
comp=Z,91nm,0.9s
J05D Fort Rock, OR 81.02 324 lAmb lAmb 12 05 27.1
comp=Z,95nm,1.1s
KRPM Rodgers 81.20 321 lAmb lAmb 12 05 29.4
comp=Z,95nm,1.0s
PINE Pine Mountain 81.20 325 lAmb lAmb 12 05 28.4
comp=Z,149nm,0.8s
J04A Umpqua Nationa 81.47 324 lAmb lAmb 12 05 29.2
comp=Z,126nm,0.7s
PFVI Vila Bisbo 81.66 44 *e*P **P** **12 05 31.4 +3.8**
PFVI *i* lAmb lAmb 12 05 42.1
comp=Z,78nm,1.5s
FFC Flin Flon 81.71 341 P **P** **12 05 27.8 +0.3**
FFC Flin Flon 81.71 341 P **P** **12 05 27.8 +0.3**
FFC pmax pmax
comp=Z,58nm,1.2s
WIFE Three Sisters- 81.85 324 lAmb lAmb 12 05 31.4
comp=Z,106nm,0.7s
MORF Marmelete 81.87 44 *e*P **P** **12 05 29.5 +0.7**
MORF lAmb lAmb 12 05 35.7
comp=Z,52nm,1.4s
MORF Marmelete 81.87 44 *e*P **P** **12 05 29.9 +1.0**
MORF *i* lAmb lAmb 12 05 35.5
comp=Z,49nm,1.3s
MORF Marmelete 81.87 44 *e*P **P** **12 05 29.5 +0.7**
PTEO Sao Teotonio 81.96 44 *e*P **P** **12 05 33.9 +4.7**
PTEO *i* lAmb lAmb 12 05 41.9
comp=Z,85nm,1.4s
KBO Bosley Butte 81.99 322 lAmb lAmb 12 05 31.9
comp=Z,91nm,1.0s
MD01 Midelt array s 82.02 50 P **P** **12 05 29.8 -0.1**
F07A Phinny Hill Vi 82.10 327 lAmb lAmb 12 06 16.1
comp=Z,216nm,1.8s
MDT Midelt 82.10 50 LR LR 12 42 25.9
comp=Z,277nm,19.4s,baz=246,slow=36
GRTLG Ghanzi 82.19 110 lAmb lAmb 12 06 02.6
comp=Z,103nm,1.1s
HAWA Hanford 82.24 327 lAmb lAmb 12 05 33.1
comp=Z,78nm,0.8s
PBDV Barranco-do-Ve 82.30 45 *e*P **P** **12 05 32.5 +1.4**
PBDV *i* lAmb lAmb 12 05 39.1
comp=Z,52nm,1.4s
G05A Wamic 82.37 326 lAmb lAmb 12 05 33.8
comp=Z,93nm,0.9s
PCVE Castro Verde 82.46 44 *e*P **P** **12 05 36.6 +4.7**
PCVE *i* lAmb lAmb 12 06 09.2
comp=Z,25nm,1.2s
MESJ Messejana 82.46 44 *e*P **P** **12 05 32.5 +0.6**
MESJ lAmb lAmb 12 05 39.1
comp=Z,22nm,1.1s
MESJ *e*S **S** **12 15 39.9 +1.0**
MESJ Messejana 82.46 44 *e*P **P** **12 05 32.5 +0.6**
MESJ *i* lAmb lAmb 12 05 43.3
comp=Z,23nm,1.0s
MESJ Messejana 82.46 44 *e*P **P** **12 05 32.5 +0.6**
MESJ *e*S **S** **12 15 39.9 +1.0**
H04A Detroit Lake 82.46 325 lAmb lAmb 12 05 33.5
comp=Z,57nm,0.7s
KEBM Edson Butte 82.47 322 lAmb lAmb 12 05 34.7
comp=Z,134nm,1.0s
WAH2 Wahluke Slope 82.51 328 lAmb lAmb 12 05 34.2
comp=Z,52nm,0.7s
PARRA Arraiolos 82.51 43 *e*P P 12 05 39.5 +7.5
PARRA *i* lAmb lAmb 12 05 42.7
comp=Z,36nm,1.2s
KGCAE Kacgae 82.53 112 P **P** **12 05 33.2 +0.3**
KGCAE lAmb lAmb 12 06 04.3
comp=Z,134nm,1.4s
PVAQ Vaqueiros 82.53 45 *e*P **P** **12 05 32.1 -0.1**
PVAQ *i* lAmb lAmb 12 05 45.5
comp=Z,26nm,1.6s
BUCK Buck Mountain 82.57 324 lAmb lAmb 12 05 34.6
comp=Z,142nm,0.7s
HOOD Mount Hood Mea 82.60 325 lAmb lAmb 12 05 38.1
comp=Z,78nm,0.9s
PBEJ Beja 82.80 44 *e*P **P** **12 05 36.4 +2.8**
PBEJ *i* lAmb lAmb 12 05 44.7
comp=Z,31nm,1.4s
G04A Mulino 82.96 325 lAmb lAmb 12 05 36.5
comp=Z,112nm,0.8s
I02E Swisshome, OR 82.99 323 lAmb lAmb 12 05 36.7
comp=Z,122nm,0.9s
EVO Evora 82.99 44 *e*P **P** **12 05 35.6 +1.0**
EVO *i* lAmb lAmb 12 05 47.8
comp=Z,19nm,1.4s
COR Corvallis 83.00 324 P **P** **12 05 36.1 +1.7**
COR lAmb lAmb 12 05 37.3
comp=Z,127nm,0.8s
COR Corvallis 83.00 324 P **P** **12 05 36.1 +1.7**
COR pmax pmax
comp=Z,127nm,0.8s
COR Corvallis 83.00 324 P **P** **12 05 36.2 +1.7**
COR pP **pP** **12 06 07.2 +2.1**
BOSA Boshof 83.03 118 P **P** **12 05 34.6 -0.8**
BOSA Boshof 83.03 118 P **P** **12 05 34.9 -0.5**
comp=Z,15nm,0.7s,baz=257,slow=3.6,SNR=24
BOSA LR LR 12 40 07.9
comp=Z,178nm,18.2s,baz=226,slow=34
comp=Z,15nm,0.7s
BOSA Boshof 83.03 118 P **P** **12 05 34.6 -0.8**
BOSA pmax pmax
comp=Z,41nm,1.0s
PSBE So Bento 83.07 42 *e*P P 12 05 40.0 +5.0
PSBE *i* lAmb lAmb 12 05 43.0
comp=Z,37nm,2.6s
RAR Rarotonga 83.09 250 LR LR 12 35 24.5
comp=Z,72nm,21.6s,baz=117,slow=30
PMTG Montargil 83.17 43 *e*P **P** **12 05 36.9 +1.4**
PMTG *i* lAmb lAmb 12 05 42.7
comp=Z,45nm,1.1s
FCC Fort Churchill 83.32 347 lAmb lAmb 12 05 36.9
comp=Z,77nm,0.9s
PBAR Barrancos 83.42 44 *e*P **P** **12 05 37.8 +1.0**
PBAR *i* lAmb lAmb 12 05 43.1
comp=Z,29nm,1.4s
PESTR Estremoz 83.46 44 *e*P P 12 05 42.0 +5.0
PESTR *i* lAmb lAmb 12 05 43.7
comp=Z,29nm,1.3s
PSARD Sardoal 83.52 43 *e*P **P** **12 05 39.9 +2.6**
PSARD *i* lAmb lAmb 12 05 44.3
comp=Z,50nm,1.1s
PCAS Casmilo, Conde 83.57 42 *e*P **P** **12 05 40.4 +2.9**
PCAS *i* lAmb lAmb 12 05 50.1
comp=Z,50nm,1.8s
MAW Mawson 83.65 163 P **P** **12 05 37.6 0.0**
comp=Z,18nm,0.8s,baz=216,slow=6.3,SNR=87
MAW PKKPbc **PKKPbc** **12 23 53.3 -2.6**
comp=Z,1.8nm,0.8s,baz=36,slow=8.7,SNR=5.0
comp=Z,18nm,0.8s
PMRV Marv??o 83.91 43 *e*P **P** **12 05 42.0 +2.7**
PMRV *i* lAmb lAmb 12 05 46.0
comp=Z,21nm,1.1s
D05A Enumclaw 84.02 327 lAmb lAmb 12 05 41.5
comp=Z,103nm,0.8s
PCBR Castelo Branco 84.09 43 *e*P **P** **12 05 43.4 +3.2**
PCBR *i* lAmb lAmb 12 05 53.0
comp=Z,18nm,1.3s
PVIS Viseu 84.33 42 *e*P **P** **12 05 41.6 +0.2**
MTE Manteigas 84.37 42 *e*P **P** **12 05 41.9 +0.2**
MTE *i* lAmb lAmb 12 05 47.9
comp=Z,36nm,1.3s
E03A Lebam 84.41 325 lAmb lAmb 12 05 43.9
comp=Z,65nm,0.8s
KDWAN Kaudwane 84.44 113 lAmb lAmb 12 06 14.4
comp=Z,112nm,1.2s
RADR Rader Ridge 84.45 325 lAmb lAmb 12 05 43.8
comp=Z,88nm,1.0s
LBTB Lobatse 84.64 115 LR LR 12 39 30.1
comp=Z,126nm,19.4s,baz=232,slow=33
IVI Ivigtut 84.75 10 P **P** **12 05 43.6 +0.7**
IVI lAmb lAmb 12 05 44.8
comp=Z,190nm,1.8s
IVI Ivigtut 84.75 10 *i*P **P** **12 05 43.8 +0.9**
IVI lAmb lAmb 12 05 44.0
comp=Z,46nm,1.0s
PVRL Vila Real 84.77 41 *e*P **P** **12 05 46.7 +3.1**
PVRL *i* lAmb lAmb 12 05 50.7
comp=Z,54nm,1.4s
POLO Lamas de Olo 84.78 41 *e*P **P** **12 05 43.3 -0.5**
POLO *i* lAmb lAmb 12 06 34.1
comp=Z,27nm,1.6s
PGAV Gavieira, Arco 84.83 41 *e*P **P** **12 05 47.1 +3.1**
PGAV *i* lAmb lAmb 12 05 53.5
comp=Z,41nm,1.4s
WISH Wishkah 84.89 326 lAmb lAmb 12 05 46.2
comp=Z,90nm,1.2s
TAM Tamanrasset 85.03 63 lAmb lAmb 12 05 57.1
comp=Z,46nm,0.4s
TAM Tamanrasset 85.03 63 P **P** **12 05 46.1 +0.6**
MVO Moncorvo 85.13 42 *e*P P 12 05 50.6 +5.2
MVO *i* lAmb lAmb 12 05 52.8
comp=Z,46nm,1.1s
NRS Narsarsuaq 85.17 11 *i*P **P** **12 05 44.8 -0.2**
NRS lAmb lAmb 12 05 46.7
comp=Z,45nm,1.1s
A04D Lummi Island 85.40 328 lAmb lAmb 12 05 48.5
comp=Z,74nm,0.8s
LPHEP Lephephe 85.47 113 P **P** **12 05 48.2 +0.5**
LPHEP lAmb lAmb 12 06 21.8
comp=Z,76nm,1.1s
PHDHD Phuduhudu 85.51 110 lAmb lAmb 12 06 20.0
comp=Z,231nm,1.9s
FRB Frobisher Bay 85.64 0 LR LR 12 46 41.8
comp=Z,126nm,19.8s,baz=172,slow=37
KHWEE KHWEE 85.65 112 lAmb lAmb 12 06 23.4
comp=Z,135nm,1.1s
PBRG Braganca 85.67 41 *e*P **P** **12 05 52.5 +4.4**
PBRG *i* lAmb lAmb 12 06 00.7
comp=Z,47nm,1.5s
PGC Sidney 85.72 327 lAmb lAmb 12 05 50.3
comp=Z,62nm,0.8s
PAB San Pablo 85.92 44 P **P** **12 05 50.0 +0.5**
PAB San Pablo 85.92 44 P **P** **12 05 50.0 +0.5**
PAB pmax pmax
comp=Z,48nm,1.3s
ESDC Sonseca Array 86.24 44 P **P** **12 05 51.3 +0.3**
ESDC Sonseca Array 86.24 44 P **P** **12 05 51.0 0.0**
comp=Z,3.0nm,0.9s,baz=235,slow=4.8,SNR=13
ESDC LR LR 12 42 37.5
comp=Z,255nm,19.2s,baz=235,slow=34
comp=Z,3.0nm,0.9s
LLLB Lillooet 86.25 329 lAmb lAmb 12 05 51.6
comp=Z,55nm,0.9s
KSANE Kasane 86.95 108 lAmb lAmb 12 06 27.5
comp=Z,62nm,0.9s
OZB Mount Ozzard 86.96 327 lAmb lAmb 12 05 56.3
comp=Z,119nm,0.8s
CBB Campbell River 87.57 327 lAmb lAmb 12 05 59.0
comp=Z,46nm,0.8s
BLKN Baker Lake 88.78 349 lAmb lAmb 12 06 03.8
comp=Z,170nm,1.6s
DRV Dumont d'Urvil 88.81 191 P **P** **12 06 03.8 +1.0**
DRV pP **pP** **12 06 33.4 -0.2**
MATP Matopo 88.86 111 P P 12 06 10.4 +6.2
comp=Z,10nm,0.5s,baz=260,slow=4.2,SNR=17
MATP LR LR 12 42 49.9
comp=Z,570nm,18.9s,baz=240,slow=34
SFJD Kangerlussuaq 89.95 7 LR LR 12 46 24.4
comp=Z,88nm,21.7s,baz=198,slow=35
DY2G Dye2 90.01 9 *i*P **P** **12 06 09.0 +0.5**
DY2G lAmb lAmb 12 06 10.1
comp=Z,306nm,1.6s
BBB Bella Bella 90.27 328 LR LR 12 49 32.3
comp=Z,83nm,18.3s,baz=130,slow=37
LSZ Lusaka 90.60 107 P **P** **12 06 14.3 +1.9**
comp=Z,5.3nm,0.8s,baz=166,slow=1.2,SNR=5.7
LSZ LR LR 12 45 55.4
comp=Z,444nm,18.3s,baz=244,slow=35
ANGG Ammassalik, Gr 90.70 12 *i*P **P** **12 06 11.6 +0.2**
ANGG lAmb lAmb 12 06 11.8
comp=Z,34nm,1.0s
ILON Igloolik, Nuna 91.78 355 lAmb lAmb 12 06 17.2
comp=Z,36nm,0.8s
CASY Casey 91.81 180 P **P** **12 06 18.5 +1.7**
YKAW1 Yellowknife Wh 91.82 341 lAmb lAmb 12 06 18.3
comp=Z,58nm,0.8s
YKA Yellowknife Ar 91.86 341 P **P** **12 06 17.1 +0.2**
YKA Yellowknife Ar 91.86 341 P **P** **12 06 17.2 +0.4**
comp=Z,34nm,0.7s,baz=141,slow=3.5,SNR=50
YKA pP **pP** **12 06 48.8 +0.8**
comp=Z,33nm,0.8s,baz=140,slow=3.5,SNR=10
YKA LR LR 12 52 04.3
comp=Z,94nm,19.7s,baz=126,slow=38
comp=Z,34nm,0.7s
YKAW3 Yellowknife Wh 91.92 341 lAmb lAmb 12 06 18.7
comp=Z,68nm,0.8s
ILULI Ilulissat 92.03 6 P **P** **12 06 18.2 +0.7**
ILULI lAmb lAmb 12 06 18.9
comp=Z,37nm,1.1s
ILULI Ilulissat 92.03 6 P **P** **12 06 18.2 +0.7**
ILULI pmax pmax
comp=Z,37nm,1.1s
SAQQ Saqqaq 92.72 6 *i*P **P** **12 06 19.6 -1.0**
SAQQ lAmb lAmb 12 06 21.4
comp=Z,36nm,0.9s
TOAD Toad River Com 93.11 334 P **P** **12 06 22.8 0.0**
baz=129
KOTAN Kotaneelee Air 93.47 336 P **P** **12 06 25.0 +0.7**
baz=130
KEST Kesra 93.63 53 P **P** **12 06 23.4 -2.4**
comp=Z,2.9nm,1.0s,baz=240,slow=6.8,SNR=4.0
KEST LR LR 12 50 22.8
comp=Z,359nm,19.5s,baz=239,slow=37
comp=Z,2.9nm,1.0s
V35K Ketchikan 93.79 329 P **P** **12 06 26.2 +0.3**
baz=124,SNR=5.9
URZ Urewera 93.81 226 LR LR 12 42 19.8
comp=Z,151nm,18.7s,baz=123,slow=31
LIRD Liard River Hi 93.81 334 P **P** **12 06 26.3 +0.4**
baz=128
BORG Borgarnes 94.03 18 LR LR 12 47 13.9
comp=Z,69nm,18.2s,baz=207,slow=34
T35M Bob Quinn 94.11 331 lAmb lAmb 12 06 29.3
comp=Z,18nm,0.7s
T35M Bob Quinn 94.11 331 P **P** **12 06 27.9 +0.5**
baz=125,SNR=12
SOEG Soedalen 94.20 13 *i*P **P** **12 06 29.9 +2.4**
SOEG lAmb lAmb 12 06 30.9
comp=Z,13nm,0.7s

CRAG	Craig	94.59	329		P		P		12 06 29.5	0.0
	baz=123									
WRAK	Wrangell Islan	94.74	330		IAmb		IAmb		12 06 31.8	
	comp=Z,23nm,0.8s									
WRAK	Wrangell Islan	94.74	330		P		P		12 06 30.9	+0.7
	baz=124,SNR=9.8									
RAO	Raoul Island	94.75	236		LR		LR		12 43 37.7	
	comp=Z,48nm,18.7s,baz=138,slow=32									
DLBC	Dease Lake	94.86	332		LR		LR		12 54 38.1	
	comp=Z,1µm,19.2s,baz=89,slow=39									
DLBC	Dease Lake	94.86	332		P		P		12 06 31.9	+1.1
	baz=125,SNR=11									
U33K	Whale Pass	94.94	330		P		P		12 06 31.5	+0.4
	baz=123									
S34M	Telegraph Cree	95.03	332		P		P		12 06 32.0	+0.4
	baz=124,SNR=8.2									
WRGLY	Wrigley	95.28	338		P		P		12 06 33.3	+0.8
	baz=130									
WTLY	Watson Lake, Y	95.33	334		P		P		12 06 33.9	+1.0
	baz=126									
R33M	Jennings River	95.81	333		P		P		12 06 36.1	+0.9
	baz=124									
TGTN	Hyland Airport	95.96	335		P		P		12 06 37.2	+1.4
	baz=126									
Q32M	Nakina River	96.12	332		P		P		12 06 37.8	+1.0
	baz=123									
SUMG	Summit	96.72	9		P		P		12 06 40.2	+0.9
SUMG	Summit	96.72	9		P		P		12 06 40.3	+0.9
SUMG					pmax		pmax			
	comp=Z,10.0nm,0.7s									
SUMG	Summit	96.72	9	*i*	P		P		12 06 41.0	+1.6
SUMG					IAmb		IAmb		12 06 42.1	
	comp=Z,12nm,1.1s									
R32K	Eaglecrest	96.74	331		P		P		12 06 40.6	+1.3
	baz=122,SNR=8.0									
P33M	Teslin, Yukon	97.04	333		P		Pdif		12 06 41.4	+0.6
	baz=123,SNR=7.5									
BESE	Bessie Mountai	97.05	331		IAmb		IAmb		12 06 42.2	
	comp=Z,24nm,1.0s									
P32M	Atlin	97.08	332		P		Pdif		12 06 41.7	+0.7
	baz=122									
S31K	Pelican	97.36	330		P		Pdif		12 06 42.4	+0.3
	baz=120									
R31K	City Hall, Gus	97.36	331		P		Pdif		12 06 42.9	+0.7
	baz=121									
N32M	Quiet Lake	97.66	334		P		Pdif		12 06 44.3	+0.8
	baz=122									
SKAG	Skagway	97.72	332		P		Pdif		12 06 44.2	+0.5
	baz=121									
MMPY	Sheldon Lake,	97.75	336		P		Pdif		12 06 44.3	+0.4
	baz=124									
RES	Resolute Bay	98.09	353		LR		LR		12 53 32.9	
	comp=Z,95nm,20.8s,baz=166,slow=37									
WHY	Whitehorse	98.14	333		P		Pdif		12 06 46.2	+0.4
	baz=121									
PLBC	Pleasant Camp	98.17	332		P		Pdif		12 06 47.4	+1.7
	baz=120									
MBAR	Mbarara	98.60	94		LR		LR		12 48 47.8	
	comp=Z,329nm,19.8s,baz=242,slow=34									
O30N	Mendenhall	98.71	333		P		Pdif		12 06 49.5	+1.3
	baz=120									
M31M	Drury Creek, Y	98.75	334		P		Pdif		12 06 49.2	+0.9
	baz=121									
P30M	Million Dollar	98.76	332		P		Pdif		12 06 49.3	+0.8
	baz=119									
P29M	Windy Craggy	98.87	331		P		Pdif		12 06 49.5	+0.6
	baz=119									
N31M	Braeburn, Yuko	98.94	333		P		Pdif		12 06 50.2	+1.0
	baz=120									
HYT	Haines Junctio	99.34	332		P		Pdif		12 06 51.9	+0.8
	baz=119									
N30M	Aishikik Lake	99.48	333		P		Pdif		12 06 52.6	+1.0
	baz=119									
O29M	Mount Kennedy	99.56	332		P		Pdif		12 06 53.1	+1.0
	baz=118									
PNL	Peninsula	99.63	331		P		Pdif		12 06 52.3	0.0
	baz=118									
YUK6	Outpost Mounta	99.77	332		P		Pdif		12 06 53.0	-0.1
	baz=118									
M30M	Minto, Yukon	99.90	334		P		Pdif		12 06 54.0	+0.5
	baz=119									
NEEM	North Greenlan	99.97	4	*i*	P		Pdif		12 06 53.6	-0.2
NEEM					IAmb		IAmb		12 06 55.2	
	comp=Z,16nm,1.2s									
MAYO	Mayo, Yukon	100.05	335		P		Pdif		12 06 54.8	+0.8
	baz=120									
YUK4	Talbot Arm	100.08	333		P		Pdif		12 06 55.1	+0.6
	baz=118									
PINM	Pinnacle	100.21	331		P		Pdif		12 06 55.1	+0.2
	baz=117									
O28M	Mount Upton	100.48	332		P		Pdif		12 06 56.4	0.0
	baz=117									
M29M	Somme Creek	100.52	334		P		Pdif		12 06 56.5	+0.2
	baz=118,SNR=5.6									
YUK8	Steele Glacier	100.53	332		P		Pdif		12 06 56.5	-0.1
	baz=117									
H31M	Peel River	100.60	338		P		Pdif		12 06 56.4	0.0
	baz=121,SNR=5.6									
L29M	L29M	100.70	334		P		Pdif		12 06 57.5	+0.6
	baz=118,SNR=11									
J30M	Hart River	100.70	336		P		Pdif		12 06 57.7	+0.6
	baz=119									
K29M	Barlow Dome	100.81	335		P		Pdif		12 06 58.2	+0.7
	baz=118,SNR=5.7									
MESA	MESA	101.01	331		P		Pdif		12 06 58.6	0.0
	baz=115									
I30M	Mount Dempster	101.04	337		P		Pdif		12 06 59.0	+0.4
	baz=119,SNR=7.0									
CTG	Chitna Glacier	101.07	332		P		Pdif		12 06 59.4	+0.5
	baz=116									
G31M	Satah River	101.15	339		P		Pdif		12 06 59.1	+0.3
	baz=121									
F31M	Tsiigehtchic	101.24	339		P		Pdif		12 06 59.4	+0.2
	baz=121									
J29N	Klondike Camp	101.36	336		P		Pdif		12 07 00.5	+0.6
	baz=118									
A36M	Sachs Harbour	101.39	345		P		Pdif		12 07 00.3	+0.6
	baz=128									
BGLC	Bering Glacier	101.59	330		P		Pdif		12 07 01.5	+0.6
	baz=114									
INK	Inuvik	101.62	340		P		Pdif		12 07 01.5	+0.7
	baz=121,SNR=5.8									
DAWY	Dawson	101.64	335		P		Pdif		12 07 01.9	+0.7
	baz=117									
EPYK	Eagle Plains	101.72	338		P		Pdif		12 07 01.7	+0.3
	baz=119									
CRQE	Cirque	101.76	331		P		Pdif		12 07 02.2	+0.3
	baz=114									
I29M	Ogilvie Camp,	101.82	336		P		Pdif		12 07 02.4	+0.5
	baz=117									
G30M	tAoh Zraii Nji	101.84	338		P		Pdif		12 07 02.9	+0.9
	baz=119									
M27K	Edge Creek, AK	101.91	333		P		Pdif		12 07 03.1	+0.6
	baz=115									
MCARA	McCarthy VSAT	101.99	332		P		Pdif		12 07 03.1	+0.4
	baz=114									
F30M	Barrier River	102.00	339		P		Pdif		12 07 03.4	+0.8
	baz=119									
KAIM	Kayak Island	102.03	330		P		Pdif		12 07 03.4	+0.5
	baz=113									
CLL	Collm	102.08	39	*e*	P		Pdif		12 07 04.0	+0.7
CLL				*e*					12 11 15.0	
CLL					pmax		pmax			
	comp=Z,4.0nm,0.6s									
L27K	Beaver Creek,	102.18	334		P		Pdif		12 07 04.4	+0.8
	baz=115									
H29M	Whitestone	102.24	337		P		Pdif		12 07 04.6	+0.9
	baz=117									
M26K	Nabesna, AK	102.40	333		P		Pdif		12 07 04.9	+0.3
	baz=114									
G29M	Pine Creek	102.44	338		P		Pdif		12 07 05.0	+0.4
	baz=117									
I28M	Miner Creek	102.47	336		P		Pdif		12 07 05.2	+0.3
	baz=116									
BMRM	Bremner River	102.53	331		P		Pdif		12 07 05.7	+0.5
	baz=113									
EGAK	Eagle	102.64	335		P		Pdif		12 07 05.9	+0.4
	baz=115									
K27K	Chicken	102.69	334		P		Pdif		12 07 06.1	+0.4
	baz=114									
N25K	Chitina, Valde	102.77	332		P		Pdif		12 07 06.5	+0.2
	baz=113									
EYAK	Cordova Ski Ar	102.88	330		P		Pdif		12 07 07.2	+0.6
	baz=112									
E29M	Blow River	103.07	339		P		Pdif		12 07 07.5	+0.1
	baz=117									
I27K	Kandik River	103.17	336		P		Pdif		12 07 08.0	+0.1
	baz=114									
KLU	Klutina	103.32	331		P		Pdif		12 07 09.6	+0.9
	baz=112									
HARP	HAARP	103.32	332		P		Pdif		12 07 09.1	+0.4
	baz=112									
F28M	Old Crow	103.39	338		P		Pdif		12 07 09.8	+1.0
	baz=116									
H27K	Steamboat Moun	103.39	337		P		Pdif		12 07 09.8	+0.9
	baz=114									
SCRK	Sand Creek	103.44	334		P		Pdif		12 07 09.9	+0.7
	baz=113									
J26L	Joseph Creek	103.47	335		P		Pdif		12 07 09.6	+0.2
	baz=113									
I26K	Coal Creek Min	103.63	335		P		Pdif		12 07 10.1	+0.2
	baz=113									
M24K	Tolsona, Glenn	103.66	332		P		Pdif		12 07 11.0	+0.8
	baz=111									
PAX	Paxson	103.67	333		P		Pdif		12 07 10.8	+0.6
	baz=112									
G27K	Doyon Strip	103.68	337		P		Pdif		12 07 10.6	+0.5
	baz=114									
RIDG	Independent Ri	103.70	334		P		Pdif		12 07 10.6	+0.3
	baz=112									
E28M	Babbage River	103.71	339		P		Pdif		12 07 11.0	+0.7
	baz=116									
D28M	Stokes Point	103.77	340		P		Pdif		12 07 11.2	+0.8
	baz=116									
SCM	Sheep Creek Mo	104.06	331		P		Pdif		12 07 12.7	+0.7
	baz=110									
PWL	Port Wells	104.18	330		P		Pdif		12 07 13.3	+0.8
	baz=110									
E27K	Coleen River	104.23	338		P		Pdif		12 07 13.0	+0.5
	baz=114									
J25K	Salcha River,	104.24	334		P		Pdif		12 07 12.9	+0.1
	baz=112									
KNK	Knik Glacier	104.43	331		P		Pdif		12 07 13.6	0.0
	baz=110									
SEW	Seward	104.45	329		P		Pdif		12 07 14.4	+0.8
	baz=109									
D27M	Malcolm River	104.45	339		P		Pdif		12 07 14.4	+0.8
	baz=114									
SML	Sawmill	104.50	331		P		Pdif		12 07 14.7	+0.8
	baz=110									
WAT6	Susitna Watana	104.51	332		P		Pdif		12 07 14.5	+0.4
	baz=110									
G26K	Porcupine Rive	104.51	337		P		Pdif		12 07 14.6	+0.9
	baz=112									
DHY	Denali Highway	104.52	333		P		Pdif		12 07 14.7	+0.6
	baz=110									
PRP	Porcupine Dome	104.63	335		P		Pdif		12 07 14.8	+0.3
	baz=111									
O22K	Cooper Landing	104.70	330		P		Pdif		12 07 16.2	+1.4
	baz=109									
PMR	Palmer	104.79	331		P		PKiKP		12 11 30.7	+0.9
	baz=109									
HDA	Harding Lake	104.80	334		P		PKiKP		12 11 30.3	+0.5
	baz=110									
RC01	Rabbit Creek A	104.90	330		P		PKiKP		12 11 30.5	+0.4
	baz=109									
ILAR	Eielson Array	104.91	334		Pdiff		Pdif		12 07 15.2	-0.4
	comp=Z,0.9nm,0.7s,baz=138,slow=2.5,SNR=14									
ILAR					PP		PP		12 11 35.5	-1.9
	comp=Z,4.8nm,1.0s,baz=114,slow=8.1,SNR=5.6									
F26K	Sheenjek River	104.92	338		P		PKiKP		12 11 31.3	+1.3
	baz=112									
WAT1	Susitna Watana	104.94	332		P		PKiKP		12 11 31.2	+1.1
	baz=109									
K20K	Telida	107.50	332		P		PKiKP		12 11 36.5	+1.7
	baz=104									
CHGN	Chignik	107.95	324		P		PKiKP		12 11 37.6	+1.8
	baz=103									
DZM	Mont Dzumac	110.49	234	*e*	PP		PP		12 12 10.8	-7.8
	comp=Z,158nm,26.9s									
DZM	Mt Dzumac	110.49	234	*e*	SS		SS		12 27 30.0	-8.1
	comp=Z,172nm,24.6s									
DZM				*e*	SS		SS		12 27 41.4	+3.3
	comp=Z,518nm,30.0s									
DZM	Mont Dzumac	110.49	234	*e*	LR		LR		12 44 37.6	
	comp=Z,373nm,36.7s									
M14K	Bethel	110.62	328		P		PKiKP		12 11 41.8	+1.1
	baz=98									
E18K	Tukpahlearik C	110.95	336		P		PKiKP		12 11 42.4	+1.2
	baz=98									
L14K	Kuka Creek	111.05	329		P		PKiKP		12 11 42.7	+1.2
	baz=98									
G16K	Koyuk River	111.41	333		P		PKiKP		12 11 44.2	+2.1
	baz=96									
FINES	FINESS Array B	111.53	31		PKKPbc		PKKPbc		12 22 38.2	-1.0
	comp=Z,1.4nm,0.6s,baz=84,slow=7.1,SNR=6.8									
MNK	Minsk	111.58	39	*i*	P		Pdif		12 07 44.2	-1.3
MNK				*i*					12 12 23.7	
MNK				*i*	PPP		PPP		12 14 46.1	
MNK				*i*					12 18 45.0	
MNK				*i*	SS		SS		12 27 52.6	+0.3
MNK				*i*	SSS		SSS		12 31 57.3	
MNK					pmax		pmax			
	comp=N,14nm,0.7s									
MNK					pmax		pmax			
	comp=E,20nm,0.9s									
MNK					pmax		pmax			
	comp=Z,7.0nm,0.6s									
MNK					MLR		MLR			
	comp=Z,163nm,21.0s									
MNK					MLR		MLR			
	comp=E,123nm,21.0s									
MNK					MLR		MLR			
	comp=N,184nm,22.0s									
AKASG	Malin Array Be	111.83	43		PKiKP		PKiKP		12 11 42.7	-0.6
	comp=N,1.0nm,0.6s,baz=280,slow=2.6,SNR=5.7									
AKASG					PP		PP		12 12 27.7	-0.5
	comp=N,1.2nm,0.6s,baz=255,slow=4.1,SNR=4.8									
AKBB	Malin Array Si	111.83	43	*i*	PKIKP		PKiKP		12 11 43.7	+0.4
AKBB					pmax		pmax			
	comp=Z,4.0nm,0.9s									
ARCES	ARCESS Array B	112.08	22		PKKPbc		PKKPbc		12 22 35.2	-2.5
	comp=Z,4.1nm,0.9s,baz=102,slow=4.5,SNR=5.6									
BRTR	Keskin Array B	113.13	55		PKiKP		PKiKP		12 11 45.8	-0.6
	comp=Z,1.3nm,0.8s,baz=165,slow=4.1,SNR=5.9									
BR131	Keskin Array S	113.13	55	*i*	PKIKP		PKiKP		12 11 46.2	-0.2
APA	Apatity	114.95	24	*e*	PKIKP		PKiKP		12 11 37.2	-12
APA				*e*					12 12 07.1	
GAMB	Gambell	115.36	331		P		PKPdf		12 11 50.9	+1.3
	baz=89									
ANN	Anapa	116.61	50	*i*	PKIKP		PKiKP		12 11 54.3	+1.6
ANN					pmax		pmax			
	comp=Z,40nm,0.8s									
OBN	Obninsk	116.64	38	*i*	PKIKP		PKiKP		12 11 53.3	+0.9
OBN				*i*					12 13 04.0	
OBN					SS		SS		12 28 55.0	-3.7
OBN					pmax		pmax			
	comp=Z,17nm,1.4s									
KLMR	Klimovskoe	118.03	32	*e*	PKIKP		PKPdf		12 11 51.4	-3.5
KLMR				*e*					12 12 22.2	
KLMR					pmax		pmax			
	comp=Z,20nm,1.2s									
SOC	Sochi	118.14	51	*i*	PKIKP		PKiKP		12 11 56.2	+0.5
SOC				*e*					12 13 13.2	
SOC				*e*					12 18 40.3	
SOC				*e*	PS		PKKPdf		12 22 45.0	+0.2
SOC				*e*	SS		SS		12 29 18.3	-0.8
SOC				*e*	SSS		SSS		12 33 49.3	
LABN	Labinsk	118.94	50	*i*	PKIKP		PKPdf		12 11 56.5	-0.7
LABN					pmax		pmax			
	comp=Z,22nm,0.5s									
KIV	Kislovodsk	120.31	51	*i*	PKIKP		PKPdf		12 11 59.2	-0.8
KIV					pmax		pmax			
	comp=Z,10.0nm,1.1s									
KIV					MLR		MLR			
	comp=Z,58nm,22.0s									
KBZ	Khabaz	120.46	51		PKP		PKiKP		12 12 00.4	+0.2
	comp=Z,6.3nm,0.8s,baz=239,slow=1.3,SNR=12									
GNI	Garni	121.65	56	*c*	PKIKP		PKPdf		12 12 02.2	-0.6
QLP	Quilpie	121.92	215		P		PKiKP		12 12 05.3	+1.5
QLP					P		PKPdf		12 12 05.4	+1.8
KIRV	Kirov	123.32	34		PKP		PKPdf		12 12 04.0	-1.1
	comp=Z,5.4nm,0.5s,baz=341,slow=4.3,SNR=3.9									
KIRV	Kirov	123.32	34	*d*	PKIKP		PKiKP		12 12 05.5	+0.2
NWAO	Narrogin (SRO)	124.90	186		PKP		PKiKP		12 12 09.5	0.0
	comp=Z,9.8nm,0.8s,baz=144,slow=1.7,SNR=2.0									
CTAO	Charters Tower	125.81	222				PKiKP		12 12 11.8	+0.3
CTAO	Charters Tower	125.81	222		PKIKP		PKiKP		12 12 11.9	+0.3
H11S2	WAKE ISLAND Hyl	128.07	277		T		T		14 32 37.1	
	baz=102,slow=74,SNR=127									
H11S1	WAKE ISLAND Hyl	128.08	277		T		T		14 32 37.1	
	baz=102,slow=74,SNR=120									
H11S3	WAKE ISLAND Hyl	128.08	277		T		T		14 32 43.2	
	baz=102,slow=74,SNR=101									
H11N3	WAKE ISLAND Hyl	128.16	278		T		T		14 32 42.3	
	baz=104,slow=74,SNR=265									
H11N2	WAKE ISLAND Hyl	128.18	278		T		T		14 32 40.1	
	baz=104,slow=74,SNR=204									
H11N1	WAKE ISLAND Hyl	128.18	278		T		T		14 32 42.9	
	baz=104,slow=74,SNR=217									
MTSU	Mount Surprise	128.47	222		P		PKiKP		12 12 17.9	+0.9
MTSU					P		PKPdf		12 12 18.2	+1.8
ARTI	Arti	128.57	35				PKiKP		12 12 16.0	+0.1
ARTI	Arti	128.57	35		PKP		PKiKP		12 12 15.8	-0.1
	comp=Z,12nm,0.8s,baz=250,slow=1.4,SNR=11									
ARTI	Arti	128.57	35	*i*	PKIKP		PKiKP		12 12 15.8	-0.1
ARTI									12 14 20.7	
ARTI									12 19 17.2	
ARTI					SP		SP		12 24 13.3	-3.9
ARTI					SS		SS		12 31 25.1	-4.7
QIS	Mount Isa	129.27	215		P		PKiKP		12 12 18.7	+0.2
ASAR	Alice Springs	129.36	207				PKPdf		12 12 18.2	+0.2
ASAR	Alice Springs	129.36	207		PKhKP		PKPpre		12 12 04.7	
	comp=Z,0.4nm,0.6s,baz=119,slow=1.6,SNR=8.2									
ASAR					PKP		PKPdf		12 12 18.1	+0.1
	comp=Z,10nm,0.8s,baz=150,slow=2.2,SNR=68									
ASAR					pPKP		pPKPdf		12 12 49.6	-0.6
	comp=Z,8.0nm,0.8s,baz=146,slow=2.1,SNR=7.3									
AS31	Alice Springs	129.36	207				PKPdf		12 12 17.6	-0.3
TIXI	Tiksi	129.48	353				PKPdf		12 12 16.3	-0.3
TIXI	Tiksi	129.48	353		PKP		PKPdf		12 12 15.6	-1.0
	comp=Z,4.8nm,0.3s,baz=1.4,slow=1.6,SNR=6.5									
TIXI	Tiksi	129.48	353	*i*	PKIKP		PKPdf		12 12 16.1	-0.5
WRKA	Warakurna	130.22	200		P		PKiKP		12 12 20.2	-0.2
WRKA					P		PKPdf		12 12 20.5	+1.0
SEY	Seymchan	130.76	337	*i*	PKIKP		PKPdf		12 12 19.1	-0.1
SEY					pmax		pmax			
	comp=Z,45nm,1.4s									
AB31	Akbulak array	131.57	43				PKiKP		12 12 22.1	-0.1
ABKAR	Akbulak array	131.57	43				PKPdf		12 12 21.4	+0.3
PATS	Pohnpei	132.13	259		P		PKiKP		12 12 25.0	+0.6
PATS	Pohnpei	132.13	259		P		PKiKP		12 12 24.6	+0.2
WR8	Warramunga Arr	132.34	210				PKiKP		12 12 24.6	-0.1
WRA	Warramunga Arr	132.42	210		PKhKP		PKPpre		12 12 10.2	
	comp=Z,0.7nm,0.6s,baz=135,slow=2.6,SNR=11									
WRA					PKP		PKiKP		12 12 24.5	-0.4
	comp=Z,9.9nm,0.7s,baz=144,slow=1.8,SNR=17									
WRA					pPKP		pPKPdf		12 12 56.2	+0.1
	comp=Z,7.8nm,0.9s,baz=156,slow=1.6,SNR=5.0									
WRA					SKPbc		SKPbc		12 15 40.7	+0.5
	comp=Z,8.9nm,1.1s,baz=140,slow=3.4,SNR=11									
WRAB	Tennant Creek	132.43	210				PKiKP		12 12 24.7	-0.2
WRAB	Tennant Creek	132.43	210		PKIKP		PKiKP		12 12 24.7	-0.2
WB0	Warramunga Arr	132.55	210				PKPdf		12 12 24.3	+0.2
PETK	Petropavlovsk-	133.17	323		PKhKP		PKPpre		12 12 12.1	
	comp=Z,6.2nm,0.8s,baz=69,slow=4.7,SNR=5.7									
PETK					PKP		PKPdf		12 12 24.5	+0.4
	comp=Z,5.7nm,0.6s,baz=52,slow=4.1,SNR=15									
PSAB3	Pilbara Seismi	135.68	192		P		PKPdf		12 12 30.3	+0.4
PSAB3					P		PKiKP		12 12 30.9	-0.6
PSA00	Pilbara Seismi	135.70	192				PKPdf		12 12 29.7	-0.2
BORK	Borovoye	136.24	35	*i*	PKIKP		PKiKP		12 12 30.9	-0.6
BVAR	Borovoye Array	136.29	35		PKP		PKPdf		12 12 30.6	+0.7
	comp=Z,9.0nm,0.8s,baz=309,slow=3.2,SNR=24									
BVAR					pPKP		pPKPdf		12 13 02.8	+0.4
	comp=Z,7.0nm,0.9s,baz=258,slow=1.3,SNR=4.3									
FITZ	Fitzroy Crossi	137.55	201		PKhKP		PKPpre		12 12 22.6	
	comp=Z,2.8nm,0.8s,baz=163,slow=6.3,SNR=7.5									
FITZ					PKP		PKPdf		12 12 34.1	+0.7
	comp=Z,8.3nm,0.8s,baz=208,slow=4.3,SNR=13									
YAK	Yakutsk	138.20	347		PKhKP		PKPpre		12 12 25.0	
	comp=Z,16nm,0.7s,baz=36,slow=0.8,SNR=5.0									
YAK					PKP		PKPdf		12 12 33.1	0.0
	comp=Z,19nm,0.6s,baz=327,slow=0.4,SNR=6.5									
YAK	Yakutsk	138.20	347	*e*	PKHKP		PKPpre		12 12 25.4	
YAK				*e*					12 12 33.5	
YAK					pmax		pmax			
	comp=Z,19nm,0.9s									
YAK					pmax		pmax			
	comp=N,2.0nm,1.0s									
YAK					pmax		pmax			
	comp=E,2.0nm,0.9s									
BRZS	Berezniki	139.00	38	*e*	PKP		PKPdf		12 12 35.8	+0.7
BRZS	Berezniki	139.00	38	*e*	PKIKP		PKPdf		12 12 35.7	+0.7
BRLS	Borolday	139.93	49	*e*	PKP		PKPdf		12 12 37.4	+0.4
BRLS	Borolday	139.93	49	*e*	PKIKP		PKPdf		12 12 37.4	+0.4
CHM	Chimkent	139.98	50	*e*	PKP		PKPdf		12 12 37.6	+0.5
CHM	Chimkent	139.98	50	*e*	PKIKP		PKPdf		12 12 37.6	+0.5
IUG	Iuzhnay	140.33	50	*e*	PKP		PKPdf		12 12 38.2	+0.4
IUG	Iuzhnay	140.33	50	*e*	PKIKP		PKPdf		12 12 38.2	+0.4
KKAR	Karatay Array	140.38	48		PKPdf		PKPdf		12 12 36.6	-1.2
KKAR	Karatay Array	140.38	48		PKIKP		PKPdf		12 12 36.6	-1.2
DZA	Taraz	141.02

AJM	**Ajmer**	**146.48**	**75**	*e*P		**PKiKP**	**12 12 54.2**	**+0.8**	
GUMO	**Guam**	**146.91**	**261**	PKPbc		**PKPdf**	**12 12 50.2**	**+0.2**	
	comp=Z,229nm,0.8s,baz=163,slow=2.2,SNR=24								
GUMO				pPKPbc	pPKPbc		12 13 23.6	-0.3	
	comp=Z,76nm,0.7s,baz=182,slow=3.7,SNR=3.2								
ZSN	**Zaisan**	**147.08**	**34**	*e*PKP		**PKPdf**	**12 12 49.9**	**+0.5**	
ZSN	**Zaisan**	**147.08**	**34**	*e*PKiKP		**PKPdf**	**12 12 49.8**	**+0.5**	
TLWR	**Talawar**	**147.26**	**65**	*e*P		**PKPab**	**12 12 54.0**	**-0.7**	
TSSA	**Tissa**	**147.28**	**63**	*e*P		**PKPab**	**12 12 54.4**	**-0.6**	
WBSI	**Waikabubak, Su**	**147.37**	**195**	PKP		**PKiKP**	**12 12 56.4**	**+0.8**	
RKPI	**Ransiki, Papua**	**147.49**	**227**	PKP		**PKiKP**	**12 12 55.0**	**-0.8**	
DHRM	**DHARAMSHALA**	**147.50**	**64**	*e*P		**PKPbc**	**12 12 53.5**	**0.0**	
MMRI	**Maumere**	**147.52**	**201**	PKP		**PKiKP**	**12 12 55.5**	**-0.4**	
EDFI	**Ende, Flores**	**147.59**	**200**	PKP		**PKPdf**	**12 12 52.1**	**+0.8**	
FAKI	**Fak Fak**	**147.67**	**222**	PKP		**PKiKP**	**12 12 55.9**	**-0.3**	
BHK	**Bhakra**	**147.72**	**66**	*e*P		**PKPab**	**12 12 56.4**	**-0.1**	
ALCI	**Alchi Leh**	**147.86**	**61**	*e*P		**PKPbc**	**12 12 54.1**	**-0.6**	
KUDL	**Kundal**	**148.09**	**72**	*e*P		**PKiKP**	**12 12 56.4**	**-0.2**	
SMLA	**Simla**	**148.40**	**66**	*e*P		**PKPbc**	**12 12 55.3**	**-0.3**	
PLAI	**Plampang**	**148.52**	**193**	PKP		**PKPbc**	**12 12 57.1**	**+0.7**	
NRDN	**NARMADA NAGAR**	**148.57**	**82**	*e*P		**PKiKP**	**12 12 57.2**	**-0.6**	
NDI	**New Delhi**	**148.70**	**71**	*e*P		**PKPbc**	**12 12 55.7**	**-0.8**	
LDR	**Lodi Road**	**148.71**	**71**	*e*P		**PKiKP**	**12 12 57.8**	**-0.1**	
TWSI	**Taliwang, Sumb**	**148.77**	**191**	PKP		**PKiKP**	**12 12 58.0**	**-0.4**	
BHPL	**Bhopal**	**148.86**	**81**	*e*P		**PKPbc**	**12 12 56.8**	**-0.3**	
HYB	**Hyderabad**	**148.95**	**93**	*e*PKPdf		**PKPdf**	**12 12 52.9**	**-0.4**	
HYB				*es*PKPbc		**sPKPbc**	**12 13 40.3**	**-1.5**	
HYB				*e*SKSdf		**SKSdf**	**12 19 49.4**	**-1.9**	
TEY	**Ternei**	**149.14**	**324**⇓	*e*PKHKP		PKPpre	12 12 56.7		
TEY				*e*			12 16 25.9		
TEY				pmax		pmax			
	comp=E,10.0nm,1.8s								
TEY				pmax		pmax			
	comp=N,10.0nm,1.0s								
TEY				pmax		pmax			
	comp=Z,30nm,1.9s								
TEY				pmax		pmax			
	comp=Z,100nm,2.9s								
HEH	**HeiHe**	**149.22**	**340**	*e*PKPbc		**PKPdf**	**12 12 52.5**	**-0.2**	
DDI	**Dehra Dun**	**149.27**	**68**	*e*P		**PKiKP**	**12 12 58.6**	**-0.5**	
JAGI	**Jajag, Banyuwa**	**149.40**	**186**	PKP		**PKiKP**	**12 12 59.5**	**-0.2**	
IRK	**Irkutsk**	**149.52**	**8**	*e*PKHKP		PKPpre	12 12 54.0		
IRK				pmax		pmax			
	comp=Z,158nm,2.6s								
MOY	**Mondy**	**149.52**	**13**	*e*PKP2		**PKiKP**	**12 12 58.9**	**-0.1**	
MOY				pmax		pmax			
	comp=Z,143nm,1.8s								
PCJI	**Pacitan**	**149.81**	**180**	PKP		**PKiKP**	**12 13 01.6**	**+1.0**	
SWI	**Sorong**	**149.88**	**223**	PKP		**PKiKP**	**12 13 01.3**	**+0.6**	
CIT	**Chita**	**150.16**	**357**	*e*PKiKP		**PKPdf**	**12 12 55.8**	**+1.5**	
CIT				*e*			12 13 31.8		
CIT				*e*			12 20 01.2		
CIT				pmax		pmax			
	comp=Z,222nm,1.9s								
WOJI	**Wonogiri, Jawa**	**150.16**	**179**	PKP		**PKiKP**	**12 13 01.6**	**+0.3**	
NLAI	**Namlea**	**150.34**	**214**	PKP		**PKiKP**	**12 13 02.6**	**+0.9**	
JOSI	**Joshimath**	**150.52**	**67**	*e*P		**PKPbc**	**12 13 00.3**	**-0.9**	
CGJI	**Cibinong**	**150.88**	**169**	PKP		**PKiKP**	**12 13 03.0**	**+0.2**	
WMQ	**Urumqi**	**150.95**	**36**	*e*PKPbc		**PKPdf**	**12 12 56.3**	**+0.5**	
WMQ				LR		LR			
	comp=Z,290nm,19.3s								
WMQ				LR		LR			
	comp=Z,190nm,22.5s								
ZAK	**Zakamensk**	**151.17**	**11**	*e*PKIKP		**PKPdf**	**12 12 57.1**	**+1.2**	
ZAK				pmax		pmax			
	comp=Z,39nm,1.6s								
PTH	**Pithoragarh**	**151.23**	**69**	*e*P		**PKPbc**	**12 13 01.7**	**-1.1**	
BKSI	**Bulukumba**	**151.31**	**199**	PKP		**PKiKP**	**12 13 03.9**	**+0.2**	
KASI	**Kota Agung**	**151.69**	**166**	PKP		**PKiKP**	**12 13 05.9**	**+1.4**	
KAPI	**Kappang**	**151.71**	**198**	PKPbc		**PKiKP**	**12 13 04.7**	**+0.2**	
	comp=Z,44nm,0.9s,baz=249,slow=4.0,SNR=11								
SANI	**Sanana**	**151.92**	**213**	PKP		**PKiKP**	**12 13 05.1**	**+0.1**	
USRK	**Ussuriysk Ar.**	**152.14**	**327**	PKP		**PKPdf**	**12 12 57.6**	**+0.2**	
	comp=Z,6.3nm,1.0s,baz=341,slow=3.1,SNR=10								
USRK				PKPbc		**PKPbc**	**12 13 03.2**	**-0.9**	
	comp=Z,33nm,0.7s,baz=331,slow=0.8,SNR=36								
USRK				PKPab		**PKPab**	**12 13 14.0**	**-0.2**	
	comp=Z,9.1nm,0.6s,baz=339,slow=2.2,SNR=7.9								
BNSI	**Bone**	**152.18**	**199**	PKP		**PKiKP**	**12 13 06.4**	**+0.9**	
MJAR	**Matsushiro Arr**	**152.57**	**307**	PKP		**PKPdf**	**12 12 58.3**	**-0.1**	
	comp=Z,1.5nm,1.0s,baz=357,slow=2.4,SNR=4.4								
MJAR				PKPbc		**PKiKP**	**12 13 05.7**	**+0.1**	
	comp=Z,27nm,0.9s,baz=88,slow=1.7,SNR=40								
SPSI	**Sidrap Palu**	**152.70**	**199**	PKP		**PKiKP**	**12 13 07.7**	**+1.2**	
MDJ	**Mudanjiang**	**152.99**	**330**			**PKPdf**	**12 12 59.7**	**+1.0**	
MDJ	**Mudanjiang**	**152.99**	**330**	PKPbc		**PKPdf**	**12 12 55.3**	**-3.4**	
BNX	**BinXian**	**153.04**	**334**	⇑PKPbc		**PKPdf**	**12 12 58.8**	**+0.1**	
BNX				PP		**PP**	**12 16 51.0**	**-0.1**	
BNX				AMB		AMB			
	comp=Z,260nm,5.2s								
JGF	**Kuroka**	**153.58**	**306**			**PKiKP**	**12 13 08.1**	**+0.2**	
INU	**Inuyama**	**153.94**	**306**			**PKPdf**	**12 13 01.0**	**+0.7**	
SONM	**Songino Array**	**154.12**	**7**	PKP		**PKPdf**	**12 13 00.9**	**+0.5**	
	comp=Z,7.7nm,0.8s,baz=290,slow=1.2,SNR=38								
SONM				PKPbc		**PKPbc**	**12 13 06.9**	**-1.7**	
	comp=Z,12nm,0.8s,baz=310,slow=1.2,SNR=20								
SONM				PKPab		**PKPab**	**12 13 23.6**	**+1.0**	
	comp=Z,5.6nm,0.7s,baz=328,slow=2.9,SNR=8.8								
ULN	**Ulaanbaatar**	**154.16**	**6**			**PKPdf**	**12 13 01.5**	**+1.0**	
ULN				PKPbc		**PKiKP**	**12 13 09.2**	**+0.4**	
ULN						**PKPab**	**12 13 23.8**	**+1.1**	
ULN	**Ulaanbaatar**	**154.16**	**6**	PKiKP		**PKPdf**	**12 13 01.5**	**+1.0**	
ULN							12 13 23.8		
LUWI	**Luwuk**	**154.31**	**208**	PKP		**PKiKP**	**12 13 12.4**	**+2.5**	
CN2	**Changchun**	**155.42**	**335**	PKP		**PKPdf**	**12 13 02.0**	**-0.1**	
CN2				PP		**PP**	**12 17 08.0**	**+3.6**	
STMR	**SITAMARHI**	**155.98**	**74**	*e*P		**PKPdf**	**12 13 08.8**	**+5.5**	
GAYA	**Gaya**	**156.05**	**79**	*e*P		**PKPdf**	**12 13 08.5**	**+5.0**	
BWNR	**Bhubaneshwar**	**156.26**	**90**	*e*P		**PKPdf**	**12 13 08.2**	**+4.3**	
CMBY	**CAMPBELL BAY**	**157.52**	**130**	*e*P		**PKPdf**	**12 13 09.2**	**+3.4**	
SNY	**Shenyang**	**157.83**	**335**	⇑PKP		**PKPdf**	**12 13 06.3**	**+1.0**	
SNY				PP		**PP**	**12 17 15.8**	**-1.9**	
SNY				AMB		AMB			
	comp=Z,230nm,4.1s								
SNY				LR		LR			
	comp=Z,450nm,13.5s								
SNY				LR		LR			
	comp=Z,300nm,8.8s								
SNY				LR		LR			
	comp=Z,190nm,13.3s								
XLT	**XiLinHaoTe**	**157.97**	**351**	*e*PKP		**PKPdf**	**12 13 06.8**	**+1.3**	
XLT				PKPab		**PKPab**	**12 13 40.0**	**+0.9**	
XLT				PP		**PP**	**12 17 17.3**	**-0.9**	
XLT				SS		SS	12 37 09.0	+2.2	
XLT				AMB		AMB			
	comp=Z,250nm,6.1s								
KSRS	**Korea Array**	**159.03**	**320**	PKP		**PKPdf**	**12 13 07.0**	**+0.1**	
	comp=Z,8.5nm,1.0s,baz=67,slow=1.0,SNR=51								
KSRS				PKPab		**PKPab**	**12 13 44.7**	**+0.8**	
	comp=Z,4.8nm,1.0s,baz=57,slow=4.0,SNR=3.2								
KSRS				PP		**PP**	**12 17 29.4**	**+4.7**	
	comp=Z,1.1nm,0.8s,baz=22,slow=5.4,SNR=5.5								
KSAR	**Wonju Array Be**	**159.06**	**320**			**PKPdf**	**12 13 07.4**	**+0.5**	
KSAR	**Wonju Array Be**	**159.06**	**320**	PKIKP		**PKPdf**	**12 13 07.4**	**+0.5**	
INCN	**Inchon**	**159.76**	**322**			**PKPab**	**12 13 47.7**	**+0.6**	
INCN	**Inchon**	**159.76**	**322**	PKP2		**PKPab**	**12 13 47.7**	**+0.6**	
GOMU	**GeErMu**	**160.04**	**42**	PKP		**PKPdf**	**12 13 08.5**	**-0.1**	
GTA	**Gaotai**	**160.26**	**27**	*e*PKP		**PKPdf**	**12 13 09.3**	**+0.9**	
GTA				pPKP		pPKPdf	12 13 41.3	+0.3	
DGPR	**DIGLIPUR**	**160.44**	**114**	*e*P		**PKPdf**	**12 13 12.1**	**+3.0**	
LSA	**Lhasa**	**160.49**	**63**	P		PKPab	12 13 40.0	-11	
DL2	**Dalian**	**161.09**	**334**	PKP		**PKPdf**	**12 13 15.8**	**+6.7**	
DL2				pPKP		**PKPab**	**12 13 52.3**	**-0.4**	
DL2				PP		PP	12 17 43.5	+8.1	
HHC	**Hu-ho-hao-te**	**161.39**	**359**	*e*PKP		**PKPdf**	**12 13 11.5**	**+2.0**	
HHC				PP		**PP**	**12 17 36.5**	**-0.2**	
HHC				SKS		**SKSdf**	**12 19 58.5**	**-5.6**	
HHC				SS		**SS**	**12 37 42.0**	**-0.8**	
BTO	**Baotou**	**161.60**	**3**	*e*PKP		**PKPdf**	**12 13 11.0**	**+1.2**	
BTO				pPKP		**pPKPdf**	**12 13 41.5**	**-0.9**	
BTO				PKPab		**PKPab**	**12 13 55.0**	**0.0**	
BTO				AMB		AMB			
	comp=Z,330nm,3.8s								
BTO				LR		LR			
	comp=Z,410nm,9.4s								
BTO				LR		LR			
	comp=Z,200nm,6.1s								
BTO				LR		LR			
	comp=Z,660nm,16.9s								
BJI	**Beijing**	**161.70**	**348**	PKP		**PKPdf**	**12 13 10.8**	**+1.1**	
BJI				PP		**PP**	**12 17 39.5**	**+1.2**	
BJI				SKS		**SKSdf**	**12 20 03.5**	**-0.6**	
BJI				AMB		AMB			
	comp=Z,120nm,11.1s								
BJI				LR		LR			
	comp=Z,93nm,15.1s								
BJI				LR		LR			
	comp=Z,130nm,14.7s								
BJI				LR		LR			
	comp=Z,87nm,16.2s								
TEZP	**TEZPUR**	**162.66**	**72**	*e*P		**PKPdf**	**12 13 16.7**	**+5.6**	
AZL	**Aizawl**	**162.87**	**81**	*e*P		**PKPdf**	**12 13 15.6**	**+4.1**	
KOHI	**KOHIMA**	**163.98**	**74**	*e*P		**PKPdf**	**12 13 17.6**	**+5.0**	
HNS	**HongShan**	**164.54**	**349**	⇑PKP		**PKPdf**	**12 13 14.0**	**+1.5**	
HNS				PKPab		**PKPab**	**12 14 08.5**	**+0.7**	
HNS				PP		**PP**	**12 17 52.8**	**-0.4**	
LZH	**Lanzhou**	**164.73**	**23**	PKP		**PKPdf**	**12 13 14.5**	**+1.5**	
LZH				sPKP			12 13 52.3		
LZH				AMB		AMB			
	comp=Z,330nm,10.3s								
LZH				LR		LR			
	comp=Z,300nm,20.5s								
LZDM	**Lanzhou Array**	**164.79**	**24**	PKPab		**PKPab**	**12 14 09.2**	**-0.3**	
	comp=Z,0.9nm,0.2s,baz=0.0,slow=4.3,SNR=4.3								
TIA	**Tai'an**	**165.10**	**341**	PKP		**PKPdf**	**12 13 13.8**	**+0.7**	
LKP	**Lekhapani**	**165.14**	**67**	*e*P		**PKPdf**	**12 13 18.8**	**+5.4**	
LYN	**LuoYang**	**167.63**	**355**	PKP		**PKPdf**	**12 13 15.5**	**+0.4**	
LYN				PKPab		**PKPab**	**12 14 21.8**	**+0.3**	
LYN				PP		**PP**	**12 18 08.8**	**-0.3**	
LYN				AMB		AMB			
	comp=Z,720nm,7.2s								
CMAR	**Chiang Mai Arr**	**167.91**	**106**	PKP		**PKPdf**	**12 13 16.2**	**+0.5**	
	comp=Z,4.5nm,1.0s,baz=271,slow=2.1,SNR=25								
CMAR				pPKP		**pPKPdf**	**12 13 47.4**	**-0.8**	
	comp=Z,1.8nm,0.9s,baz=352,slow=0.7,SNR=2.4								
CMAR				PKPab		**PKPab**	**12 14 23.1**	**-0.4**	
	comp=Z,1.0nm,0.4s,baz=249,slow=5.2,SNR=4.5								
CMAR				pPKPab		**pPKPab**	**12 14 54.0**	**-0.6**	
	comp=Z,5.9nm,1.1s,baz=260,slow=5.0,SNR=9.2								
CMAR				PP		**PP**	**12 18 10.8**	**-1.9**	
	comp=Z,1.0nm,0.8s,baz=278,slow=2.2,SNR=5.1								
XAN	**Xi'an**	**168.02**	**9**	PKP		**PKPdf**	**12 13 16.3**	**+0.9**	
XAN				pPKP		pPKPdf	12 13 48.5	+0.4	
XAN				sPKP			12 14 01.3		
NJ2	**Nanjing**	**168.05**	**327**	*e*PKP		**PKPdf**	**12 13 15.8**	**+0.4**	
CD2	**Chengdu**	**169.05**	**36**	PKP		**PKPdf**	**12 13 17.0**	**+0.8**	
PZH	**PanZhiHua**	**170.36**	**62**	PKP		**PKPdf**	**12 13 16.3**	**-0.9**	
WHN	**Wuhan**	**171.21**	**342**	PKP		**PKPdf**	**12 13 18.8**	**+1.5**	
WHN				PKPab		**PKPab**	**12 14 37.3**	**-0.2**	
WHN				SS		SS	12 39 22.0	-0.3	
GYA	**Guiyang**	**174.06**	**43**	⇓PKP		**PKPdf**	**12 13 19.0**	**+0.1**	
GYA				pPKP		pPKPdf	12 13 47.0	-4.7	
GYA				PP		**PP**	**12 18 41.0**	**-1.4**	
GYA				AMB		AMB			
	comp=Z,260nm,4.8s								
GYA				LR		LR			
	comp=Z,340nm,4.8s								
GYA				LR		LR			
	comp=Z,410nm,4.5s								
GYA				LR		LR			
	comp=Z,130nm,8.8s								
QIZ	**Qiongzhong**	**176.61**	**158**	PKP		**PKPdf**	**12 13 19.0**	**-0.6**	
QIZ				pPKP		**pPKPdf**	**12 13 49.0**	**-3.1**	
QIZ				PP		**PP**	**12 18 54.0**	**+0.4**	
QIZ				AMB		AMB			
	comp=Z,290nm,6.8s								
QIZ				LR		LR			
	comp=Z,190nm,10.6s								
QIZ				LR		LR			
	comp=Z,210nm,11.5s								
QIZ				LR		LR			
	comp=Z,330nm,29.8s								

IDC 30 11:53:45.4±3.8,5°40S×152°03E,h0km,mb3.8/4, mbtmp3.9/5,ML2.3/1,Error ellipse: s-maj=92.2km s-min=26.0km az=107.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.26**	**230**	P	Pn	11 55 18.6	-0.6
	3.9nm,0.3s,baz=54,slow=9.6,SNR=10						
PMG				S	Sn	11 56 32.0	+0.4
	0.6nm,0.3s,baz=110,slow=18,SNR=1.3 16nm,0.7s						
WRA	**Warramunga Arr**	**22.48**	**228**	P	P	11 58 45.9	-0.7
	1.9nm,0.7s,baz=54,slow=9.7,SNR=12 1.9nm,0.7s						
ASAR	**Alice Springs**	**25.20**	**222**	P	P	11 59 13.7	+0.7
	4.3nm,0.7s,baz=56,slow=8.5,SNR=55 4.3nm,0.7s						
KSRS	**Korea Array**	**48.19**	**334**	P	P	12 02 27.3	-0.4
	0.4nm,0.5s,baz=155,slow=9.0,SNR=4.5 0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**57.44**	**296**	P	P	12 03 36.9	+0.4
	0.5nm,0.4s,baz=116,slow=6.6,SNR=1.9 0.5nm,0.4s						

CATAC 30 12:01:20.3±0.4,12°N±3°×8°6W±°,h9km±2km,M3.2/28, MLv3.2/28,5C-3D,Error ellipse: s-maj=8.8km s-min=3.3km az=52.1,confirmed,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NADN	**Granada**	**0.20**	**78**	P	Pg	12 01 25.1	+0.7
NADN				S	Sg	12 01 29.4	+2.1
NANN	**Nandasmo**	**0.25**	**25**	⇓P	Pb	12 01 27.4	+0.3
NANN	**Nandasmo**	**0.25**	**25**	S	Sb	12 01 32.2	+0.5
SABN	**Sabanita**	**0.26**	**15**	⇓P	Pb	12 01 26.4	-0.8
CRUN	**El Crucero**	**0.28**	**346**	P	Pg	12 01 18.0	-8.1
MASN	**Masaya**	**0.29**	**15**	P	Pb	12 01 26.9	-0.8
MAS3	**Al N del Volca**	**0.32**	**10**	P	Pb	12 01 27.5	-0.8
MAS3				S	Sb	12 01 32.7	-0.8
UNAN	**Cigeo UNAN**	**0.40**	**354**	⇑P	Pb	12 01 29.0	-0.6
UNAN				S	Sb	12 01 35.5	-0.5
TISN	**Laguna Tiscapa**	**0.43**	**355**	⇑P	Pb	12 01 29.6	-0.6
MGAN	**Managua**	**0.44**	**358**	S	Sb	12 01 36.5	-0.4
MGAN	**Managua**	**0.44**	**358**	P	Pb	12 01 29.7	-0.5
ALLN	**Telcor Managua**	**0.45**	**354**	P	Pb	12 01 29.9	-0.5
WILN	**Americas 2**	**0.45**	**5**	P	Pg	12 01 29.6	+0.4
WILN				S	Sb	12 01 36.9	-0.4
APQ2	**Apoyeque**	**0.50**	**349**	P	Pg	12 01 30.3	+0.3
AMTN	**Mateare**	**0.56**	**340**	P	Pg	12 01 31.7	+0.5
JAPN	**AI SSO del Vol**	**0.57**	**108**	P	Pg	12 01 31.5	+0.1
JAPN				S	Sb	12 01 39.9	-0.8
COPN	**Copaltepe**	**0.59**	**323**	⇑P	Pg	12 01 31.4	-0.3
MORN	**AI O del Volca**	**0.59**	**106**	P	Pb	12 01 33.0	+0.1
MORN				S	Sb	12 01 41.7	+0.3
CARN	**Rivas**	**0.86**	**127**	P	Pb	12 01 37.6	+0.1
CNGA	**AI SSO del Vol**	**0.91**	**330**	P	Pg	12 01 37.4	-0.4
CNGA				S	Sb	12 01 50.5	0.0
CNGN	**Cerro Negro**	**0.91**	**330**	S	Sg	12 01 49.9	+0.1
CNGN	**Cerro Negro**	**0.91**	**330**	⇑P	Pg	12 01 37.5	-0.4
ACON	**Acoyapa**	**1.07**	**76**	⇓P	Pg	12 01 38.8	-2.0
ACON	**Acoyapa**	**1.07**	**76**	S	Sg	12 01 53.6	-1.1
MATN	**Matagalpa**	**1.25**	**14**	P	Pn	12 01 41.9	-2.2
MATN	**Matagalpa**	**1.25**	**14**	S	Sb	12 01 58.9	-1.6
CRIN	**San Cristobal**	**1.27**	**321**	P	Pn	12 01 43.7	-0.7
LIMN	**Finca el Limon**	**1.35**	**354**	⇑P	Pn	12 01 44.7	-0.8
LIMN				S	Sb	12 02 02.8	-0.6
RCPN	**Sur Rio San Ju**	**1.81**	**4**	P	Pn	12 01 52.5	+0.7
RCVN	**Varillal2**	**1.86**	**1**	P	Pn	12 01 53.3	+0.7
JTS	**Las Juntas de**	**1.89**	**138**	P	Pn	12 01 52.9	+0.1

IDC 30 12:09:09.9±19.0,4°32S×150°64E,h0km,mb3.8/3, mbtmp3.9/3,Error ellipse: s-maj=309.1km s-min=99.1km az=20.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.12**	**214**	Sn	Sn	12 11 55.6	+3.0
	0.4nm,0.3s,baz=329,slow=12,SNR=1.5						
WRA	**Warramunga Arr**	**22.21**	**224**	P	P	12 14 08.9	+0.6
	0.9nm,0.6s,baz=50,slow=11,SNR=3.2 0.9nm,0.6s						
ASAR	**Alice Springs**	**25.12**	**218**	P	P	12 14 36.0	-0.7
	1.6nm,0.7s,baz=54,slow=8.8,SNR=11 1.6nm,0.7s						
STKA	**Stephens Creek**	**28.70**	**196**	P	P	12 15 09.3	+0.4
	1.4nm,0.4s,baz=76,slow=8.3,SNR=6.9 1.4nm,0.4s						

DJA 30 12:11:10.4±0.9,3°S±5°×13°0E±°,h23km±10km,M3.6/9, MLv3.6/9,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**1.14**	**239**	P	Pn	12 11 30.3	-0.7
MSAI				S	Sn	12 11 48.0	+2.1
BNDI	**Bandanaira**	**1.75**	**180**	P	Pn	12 11 38.5	-0.9
AAI	**Ambon**	**1.94**	**242**	P	Pn	12 11 41.7	-0.3
SWI	**Sorong**	**2.32**	**36**	P	Pn	12 11 47.9	+0.7
FAKI	**Fak Fak**	**2.34**	**94**	P	Pn	12 11 47.4	-0.1
NLAI	**Namlea**	**2.85**	**260**	P	Pn	12 11 54.7	+0.2
SANI	**Sanana**	**3.98**	**280**	P	Pn	12 12 09.3	-0.8
RKPI	**Ransiki, Papua**	**4.44**	**74**	P	Pn	12 12 16.9	+0.5

IDC 30 12:14:39.2±2.8,6°44N×126°51E,h0km,mb3.7/3, mbtmp3.7/3,MS3.6/3,Error ellipse: s-maj=230.0km s-min=27.5km az=66.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.33**	**164**	P	P	12 20 26.5	+0.5
	0.3nm,0.3s,baz=344,slow=8.0,SNR=9.9 0.3nm,0.3s						
ASAR	**Alice Springs**	**30.78**	**167**	P	P	12 20 56.1	-0.7
	0.3nm,0.3s,baz=343,slow=7.5,SNR=13 0.3nm,0.3s						
MJAR	**Matsushiro Arr**	**31.81**	**18**	LR	LR	12 33 52.6	
	comp=Z,19nm,20.2s,baz=70,slow=36						
PALK	**Pallekele**	**45.48**	**274**	LR	LR	12 41 21.7	
	comp=Z,68nm,21.7s,baz=44,slow=35						
MKAR	**Makanchi Array**	**55.23**	**324**	P	P	12 24 14.2	+0.1
	1.2nm,1.0s,baz=111,slow=6.3,SNR=4.2 1.2nm,1.0s						
KIRV	**Kirov**	**77.81**	**329**	LR	LR	13 05 50.6	
	comp=Z,157nm,18.6s,baz=279,slow=40						

*SOME **30** 12:17:42.5,43°57N×69°77E*
NNC 30 12:17:41.5±1.6,43°68N×69°71E,h0km,mb3.7,mpv3.3, 1C,Error ellipse: s-maj=9.3km s-min=5.0km az=138.0, Suspected Mining explosion.,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRLS	**Borolday**	**0.65**	**172**	P	Pn	12 17 58.1	+0.1
	5.2nm,0.4s						
BRLS				S	Sn	12 18 09.5	+0.5
	22nm,0.5s						
KK31	**Karatay Array**	**0.82**	**134**	P	Pg	12 17 57.3	+0.2
	3.8nm,0.4s,baz=323,slow=17,SNR=49						
KK31				⇑S	Sb	12 18 08.9	-1.2
	51nm,0.7s,baz=316,slow=34,SNR=19						
IUG	**Iuzhnay**	**1.55**	**171**	P	Pn	12 18 10.1	-0.3
	26nm,0.4s						
IUG				S	Sg	12 18 30.2	-0.9
	60nm,0.6s						
MRKS	**Merke**	**2.73**	**109**	Pg	Pg	12 18 32.6	-1.2
	6.2nm,0.6s						
MRKS				Lg	Lg	12 19 08.3	
	16nm,0.5s						
KRBS	**Karabastau**	**4.32**	**88**	Pg	Pg	12 19 01.9	-2.4
	4.2nm,0.5s						
KRBS				Lg	Lg	12 19 59.0	
	3.7nm,0.6s						
KST	**Kastek**	**4.60**	**96**	Pg	Pg	12 19 07.2	-2.4
	3.6nm,0.4s						
KST				Lg	Lg	12 20 07.7	
	11nm,1.1s						
MTBS	**Maitube**	**4.92**	**94**	Pg	Pg	12 19 13.0	-2.9
	2.2nm,0.2s						
MTBS				Lg	Lg	12 20 17.9	
	7.8nm,0.5s						
KTBS	**Karatobe**	**5.05**	**87**	Pg	Pg	12 19 15.6	-2.7
	4.3nm,0.6s						
KTBS				Lg	Lg	12 20 22.3	
	7.9nm,0.7s						

AUST 30 12:19:39.0±0.6,27°S±4°×11°4E±°,h10km,mb3.9/1, ML2.9/4,Error ellipse: s-maj=18.5km s-min=6.5km az=72.3,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORW	**Morawa**	**2.08**	**139**	P	Pn	12 20 15.0	+1.1
MORW	**Morawa**	**2.08**	**139**	S

ULHL	**Ulahol**	**2.16**	**1**	P		**Pg**	**12 25 01.1**	**-1.8**		
	SNR=92									
ULHL	**Ulahol**	**2.16**	**1**	⇑*i*P		**Pb**	**12 24 59.3**	**-1.0**		
ULHL				⇑*i*S		**Sb**	**12 25 27.6**	**+0.6**		
ULHL	**Ulahol**	**2.16**	**1**	*i* PN		**Pb**	**12 24 59.3**	**-1.0**		
ULHL				*i* S		**Sb**	**12 25 27.6**	**+0.6**		
KDJ	**Kajisay**	**2.18**	**19**			**Pg**	**12 25 01.7**	**-1.5**		
KDJ	**Kajisay**	**2.18**	**19**	⇑*i*P		**Pb**	**12 24 59.3**	**-1.2**		
KDJ				⇑*i*S		**Sb**	**12 25 27.7**	**+0.4**		
KDJ	**Kajisay**	**2.18**	**19**	*i* PN		**Pb**	**12 24 59.3**	**-1.2**		
KDJ				*i* S		**Sb**	**12 25 27.7**	**+0.4**		
BOOM	**Boomskoye usch**	**2.42**	**355**			**Pg**	**12 25 04.8**	**-2.9**		
BOOM	**Boomskoye usch**	**2.42**	**355**	⇓*i*P		**Pb**	**12 25 02.9**	**-1.7**		
BOOM				⇓*i*S		**Sb**	**12 25 33.7**	**-0.5**		
BOOM	**Boomskoye usch**	**2.42**	**355**	*i* PN		**Pb**	**12 25 02.9**	**-1.7**		
BOOM				*i* S		**Sb**	**12 25 33.7**	**-0.5**		
UCH	**Uchtor**	**2.50**	**330**	P		**Pb**	**12 25 05.4**	**-0.7**		
	SNR=399									
UCH	**Uchtor**	**2.50**	**330**	⇑*i*P		**Pb**	**12 25 04.3**	**-1.8**		
UCH				⇑*i*S		**Sb**	**12 25 36.4**	**-0.4**		
UCH	**Uchtor**	**2.50**	**330**	*i* PN		**Pb**	**12 25 04.3**	**-1.8**		
UCH				*i* S		**Sb**	**12 25 36.4**	**-0.4**		
KBK	**Karagaybulak**	**2.74**	**340**	P		**Pb**	**12 25 09.4**	**-0.8**		
	SNR=176									
KBK	**Karagaybulak**	**2.74**	**340**	⇑*i*P		**Pb**	**12 25 07.5**	**-2.7**		
KBK				⇑*i*S		**Sb**	**12 25 41.9**	**-1.7**		
KBK	**Karagaybulak**	**2.74**	**340**	*i* PN		**Pb**	**12 25 07.5**	**-2.7**		
KBK				*i* S		**Sb**	**12 25 41.9**	**-1.7**		
ARSB	**Arslanbob**	**2.75**	**298**	⇑*i*P		**Pb**	**12 25 07.7**	**-2.5**		
ARSB				⇑*i*S		**Sb**	**12 25 42.3**	**-1.5**		
ARSB	**Arslanbob**	**2.75**	**298**	*i* PN		**Pb**	**12 25 07.7**	**-2.5**		
ARSB				*i* S		**Sb**	**12 25 42.3**	**-1.5**		
AAK	**Ala-Archa**	**2.86**	**334**	P		**Pb**	**12 25 11.1**	**-1.1**		
	SNR=81									
AAK	**Ala-Archa**	**2.86**	**334**			**Pb**	**12 25 10.3**	**-1.9**		
AAK	**Ala-Archa**	**2.86**	**334**	⇑Pg		**Pb**	**12 25 10.5**	**-1.7**		
	316nm,0.6s									
AAK				⇑Lg		Lg	12 25 50.2			
AAK	**Ala-Archa**	**2.86**	**334**	Pn		**Pb**	**12 25 11.0**	**-1.1**		
	81nm,0.3s,baz=154,slow=7.6,SNR=356									
AAK				Lg		Lg	12 25 52.1			
	148nm,0.3s,baz=335,slow=15,SNR=28									
AAK				LR		LR	12 26 34.8			
	comp=Z,633nm,21.1s,baz=184,slow=45									
	425nm,0.5s									
AAK	**Ala-Archa**	**2.86**	**334**	⇓*i*P		**Pb**	**12 25 09.2**	**-3.0**		
AAK				⇓*i*S		**Sb**	**12 25 44.7**	**-2.3**		
AAK	**Ala-Archa**	**2.86**	**334**	*i* PN		**Pb**	**12 25 09.2**	**-3.0**		
AAK				*i* S		**Sb**	**12 25 44.7**	**-2.3**		
TKM2	**Tokmak 2**	**2.88**	**351**	P		**Pb**	**12 25 11.8**	**-0.6**		
	SNR=56									
TKM2	**Tokmak 2**	**2.88**	**351**	⇓*i*P		**Pb**	**12 25 09.3**	**-3.1**		
TKM2				⇓*i*S		**Sb**	**12 25 45.0**	**-2.5**		
TKM2	**Tokmak 2**	**2.88**	**351**	*i* PN		**Pb**	**12 25 09.3**	**-3.1**		
TKM2				*i* S		**Sb**	**12 25 45.0**	**-2.5**		
PRZ	**Przheval'sk**	**2.92**	**34**			**Pb**	**12 25 12.4**	**-0.7**		
PRZ	**Przheval'sk**	**2.92**	**34**	⇑*i*P		**Pb**	**12 25 09.7**	**-3.4**		
PRZ				⇑*i*S		**Sb**	**12 25 45.6**	**-2.9**		
PRZ	**Przheval'sk**	**2.92**	**34**	*i* PN		**Pb**	**12 25 09.7**	**-3.4**		
PRZ				*i* S		**Sb**	**12 25 45.6**	**-2.9**		
KST	**Kastek**	**2.97**	**357**	Pg		**Pb**	**12 25 12.8**	**-1.1**		
	125nm,0.6s									
KST				Lg		Lg	12 25 54.3			
	982nm,0.6s									
KST	**Kastek**	**2.97**	**357**	*e*P		**Pb**	**12 25 12.8**	**-1.1**		
	125nm,0.6s									
KST				*e*S		**Sg**	**12 25 54.3**	**-2.4**		
	982nm,0.6s									
FRU1	**Bishkek**	**2.98**	**337**			**Pb**	**12 25 11.3**	**-2.7**		
FRU1	**Bishkek**	**2.98**	**337**	⇑*i*P		**Pb**	**12 25 10.9**	**-3.1**		
FRU1				⇑*i*S		**Sb**	**12 25 47.8**	**-2.4**		
FRU1	**Bishkek**	**2.98**	**337**	*i* PN		**Pb**	**12 25 10.9**	**-3.1**		
FRU1				*i* S		**Sb**	**12 25 47.8**	**-2.4**		
TNSS	**Tian-Shan**	**3.01**	**10**	Pg		**Pb**	**12 25 13.3**	**-1.5**		
	54nm,0.3s									
TNSS				Lg		Lg	12 25 55.0			
	480nm,0.7s									
TNSS	**Tian-Shan**	**3.01**	**10**	*e*P		**Pb**	**12 25 13.2**	**-1.5**		
	54nm,0.3s									
TNSS				*e*S		**Sg**	**12 25 55.0**	**-3.0**		
	480nm,0.7s									
TNSS	**Tian-Shan**	**3.01**	**10**	*e*P		**Pb**	**12 25 13.1**	**-1.7**		
TNSS	**Tian-Shan**	**3.01**	**10**	*e*PN		**Pb**	**12 25 13.1**	**-1.7**		
MTBS	**Maitube**	**3.05**	**3**	Pg		**Pb**	**12 25 14.2**	**-1.2**		
	243nm,0.5s									
MTBS				Lg		Lg	12 25 56.5			
	717nm,0.6s									
MTBS	**Maitube**	**3.05**	**3**	*e*P		**Pb**	**12 25 14.2**	**-1.2**		
	243nm,0.5s									
MTBS				*e*S		**Sg**	**12 25 56.5**	**-2.9**		
	717nm,0.6s									
CHMS	**Chumysh**	**3.12**	**340**	P		**Pb**	**12 25 14.5**	**-1.9**		
	SNR=205									
CHMS	**Chumysh**	**3.12**	**340**	Pg		**Sg**	**12 25 59.0**	**-2.4**		
	76nm,0.1s									
CHMS				Lg		Lg	12 27 13.3			
	219nm,0.3s									
CHMS	**Chumysh**	**3.12**	**340**	⇑*i*P		**Pb**	**12 25 12.5**	**-3.9**		
CHMS				⇑*i*S		**Sb**	**12 25 50.5**	**-3.7**		
CHMS	**Chumysh**	**3.12**	**340**	*i* PN		**Pb**	**12 25 12.5**	**-3.9**		
CHMS				*i* S		**Sb**	**12 25 50.5**	**-3.7**		
MDOK	**Medeo**	**3.15**	**11**	Pg		**Pb**	**12 25 15.1**	**-1.9**		
	57nm,0.5s									
MDOK				Lg		Lg	12 25 58.0			
	602nm,0.7s									
MDOK	**Medeo**	**3.15**	**11**	*e*P		**Pb**	**12 25 15.0**	**-1.9**		
MDOK	**Medeo**	**3.15**	**11**	*e*PN		**Pb**	**12 25 15.0**	**-1.9**		
EKS2	**Erkin-Say**	**3.16**	**325**	P		**Pb**	**12 25 15.4**	**-1.8**		
	SNR=44									
EKS2	**Erkin-Say**	**3.16**	**325**	⇓*i*P		**Pb**	**12 25 13.4**	**-3.9**		
EKS2				⇓*i*S		**Sb**	**12 25 52.0**	**-3.6**		
EKS2	**Erkin-Say**	**3.16**	**325**	*i* PN		**Pb**	**12 25 13.4**	**-3.9**		
EKS2				*i* S		**Sb**	**12 25 52.0**	**-3.6**		
AAA	**Alma-Ata**	**3.17**	**9**	Pg		**Pb**	**12 25 16.2**	**-1.2**		
	189nm,0.4s									
AAA				Lg		Lg	12 26 00.6			
	57nm,0.7s									
AAA	**Alma-Ata**	**3.17**	**9**	*e*P		**Pb**	**12 25 16.2**	**-1.2**		
	189nm,0.4s									
AAA				*e*S		**Sg**	**12 26 00.6**	**-2.6**		
	57nm,0.7s									
AAA	**Alma-Ata**	**3.17**	**9**	*e*P		**Pb**	**12 25 15.4**	**-2.0**		
AAA	**Alma-Ata**	**3.17**	**9**	*e*PN		**Pb**	**12 25 15.4**	**-2.0**		
KNDC	**Almaty**	**3.19**	**10**	⇑Pg		**Pb**	**12 25 17.8**	**+0.2**		
	528nm,0.6s									
KNDC				⇓Lg		Lg	12 26 02.5			
	1μm,0.8s									
KNDC	**Almaty**	**3.19**	**10**	PN		**Pb**	**12 25 15.6**	**-2.0**		
KNDC							12 26 02.5			
KOTS	**Kotyrbulak**	**3.22**	**12**	Pg		**Pb**	**12 25 16.6**	**-1.7**		
	97nm,0.3s									
KOTS				Lg		Lg	12 26 00.9			
	2μm,0.7s									
KOTS	**Kotyrbulak**	**3.22**	**12**	*e*P		**Pb**	**12 25 16.6**	**-1.7**		
	97nm,0.3s									
KOTS				*e*S		**Sg**	**12 26 00.9**	**-4.0**		
	2μm,0.7s									
SATY	**Saty**	**3.40**	**28**	Pg		**Pb**	**12 25 22.1**	**+0.7**		
	213nm,0.6s									
SATY				Lg		Lg	12 26 10.3			
	509nm,1.0s									
SATY	**Saty**	**3.40**	**28**	*e*P		**Pb**	**12 25 18.5**	**-2.8**		
SATY	**Saty**	**3.40**	**28**	*e*PN		**Pb**	**12 25 18.5**	**-2.8**		
USP	**Ospenovka**	**3.43**	**339**	P		**Pb**	**12 25 18.5**	**-3.3**		
	SNR=54									
USP	**Ospenovka**	**3.43**	**339**	⇓*i*P		**Pn**	**12 25 16.8**	**+2.6**		
USP				⇓*i*S		**Sn**	**12 25 58.2**	**+3.6**		
USP	**Ospenovka**	**3.43**	**339**	*i* PN		**Pn**	**12 25 16.8**	**+2.6**		
USP				*i* S		**Sn**	**12 25 58.2**	**+3.6**		
DRK	**Karamyk**	**3.45**	**261**			**Pn**	**12 25 16.9**	**+2.2**		
DRK	**Karamyk**	**3.45**	**261**	⇑*i*P		**Pn**	**12 25 17.2**	**+2.5**		
DRK				⇑*i*S		**Sn**	**12 25 59.0**	**+3.6**		
DRK	**Karamyk**	**3.45**	**261**	*i* PN		**Pn**	**12 25 17.2**	**+2.5**		
DRK				*i* S		**Sn**	**12 25 59.0**	**+3.6**		
MRKS	**Merke**	**3.48**	**321**	Pg		**Pb**	**12 25 18.9**	**-3.8**		
	96nm,0.4s									
MRKS				Lg		Lg	12 26 04.5			
	775nm,0.7s									
MRKS	**Merke**	**3.48**	**321**	*e*P		**Pb**	**12 25 18.9**	**-3.8**		
	96nm,0.4s									
MRKS				*e*S		**Sb**	**12 26 04.5**	**-0.2**		
	775nm,0.7s									
SGDS	**Sogindy**	**3.57**	**341**	Pg		**Pb**	**12 25 22.2**	**-1.9**		
	44nm,0.4s									
SGDS				Lg		Lg	12 26 10.5			
	937nm,0.9s									
SGDS	**Sogindy**	**3.57**	**341**	*e*P		**Pb**	**12 25 19.9**	**-4.3**		
KRBS	**Karabastau**	**3.64**	**354**	Pg		**Pb**	**12 25 25.3**	**0.0**		
	133nm,0.6s									
KRBS				Lg		Lg	12 26 15.8			
	549nm,0.6s									
ARK	**Arkit**	**3.65**	**299**	⇑*i*P		**Pn**	**12 25 20.1**	**+2.9**		
ARK				⇑*i*S		**Sn**	**12 26 03.8**	**+3.8**		
ARK	**Arkit**	**3.65**	**299**	*i* PN		**Pn**	**12 25 20.1**	**+2.9**		
ARK				*i* S		**Sn**	**12 26 03.8**	**+3.8**		
KTBS	**Karatobe**	**3.65**	**5**	Pg		**Pb**	**12 25 24.6**	**-0.8**		
	34nm,0.5s									
KTBS				Lg		Lg	12 26 15.3			
	356nm,0.8s									
KURS	**Kuram**	**3.71**	**23**	Pg		**Pb**	**12 25 26.6**	**+0.1**		
	142nm,0.9s									
KURS				Lg		Lg	12 26 18.0			
	466nm,1.1s									
UZB	**Uzynbulak**	**3.72**	**34**	Pg		**Pb**	**12 25 26.6**	**-0.1**		
	156nm,0.5s									
UZB				Lg		Lg	12 26 18.3			
	262nm,1.0s									
UZB	**Uzynbulak**	**3.72**	**34**	*e*P		**Pb**	**12 25 26.6**	**-0.1**		
	156nm,0.5s									
UZB				*e*S		**Sg**	**12 26 18.3**	**-2.6**		
	262nm,1.0s									
UZB	**Uzynbulak**	**3.72**	**34**	*e*P		**Pb**	**12 25 22.2**	**-4.6**		
UZB	**Uzynbulak**	**3.72**	**34**	*e*PN		**Pn**	**12 25 21.8**	**+3.5**		
KUU	**Kurty**	**3.81**	**1**	Pg		**Pb**	**12 25 28.2**	**0.0**		
	190nm,1.2s									
KUU				Lg		Lg	12 26 20.5			
	628nm,0.9s									
KUU	**Kurty**	**3.81**	**1**	*e*P		**Pb**	**12 25 28.2**	**0.0**		
	190nm,1.2s									
KUU				*e*S		**Sg**	**12 26 20.5**	**-3.3**		
	628nm,0.9s									
CHKK	**Chushkaly**	**3.82**	**9**	Pg		**Pb**	**12 25 28.0**	**-0.3**		
	18nm,0.3s									
CHKK				Lg		Lg	12 26 20.9			
	514nm,0.6s									
CHKK	**Chushkaly**	**3.82**	**9**	*e*P		**Pb**	**12 25 28.0**	**-0.3**		
	18nm,0.3s									
CHKK				*e*S		**Sg**	**12 26 20.9**	**-3.0**		
	514nm,0.6s									
CHKK	**Chushkaly**	**3.82**	**9**	*e*P		Pb	12 25 23.2	-5.1		
CHKK	**Chushkaly**	**3.82**	**9**	*e*PN		Pb	12 25 23.2	-5.1		
KPKS	**Kokpek**	**3.86**	**28**	Pg		**Pb**	**12 25 29.4**	**+0.3**		
	0.2nm,0.1s									
KPKS				Lg		Lg	12 26 22.8			
	784nm,0.5s									
SHLS	**Shalkode**	**3.92**	**37**	Pg		**Pg**	**12 25 33.2**	**-3.3**		
	20nm,0.4s									
SHLS				Lg		Lg	12 26 29.5			
	608nm,0.7s									
SHLS	**Shalkode**	**3.92**	**37**	*e*P		**Pg**	**12 25 33.2**	**-3.3**		
	20nm,0.4s									
SHLS				*e*S		**Sg**	**12 26 29.5**	**+2.1**		
	608nm,0.7s									
SHLS	**Shalkode**	**3.92**	**37**	*e*P		**Pb**	**12 25 27.9**	**-2.3**		
SHLS	**Shalkode**	**3.92**	**37**	*e*PN		**Pb**	**12 25 27.6**	**-2.6**		
SHLS					pmax	pmax				
	comp=Z,7.0nm,0.4s									
PDGK	**Podgornoye**	**4.07**	**36**	⇓Pn		**Pn**	**12 25 24.1**	**+1.0**		
	comp=Z,20nm,0.6s									
PDGK				⇓Pg		**Pg**	**12 25 35.8**	**-3.6**		
	comp=Z,134nm,0.8s									
PDGK				⇑Lg		Lg	12 26 32.5			
	comp=Z,437nm,0.8s									
PDGK	**Podgornoye**	**4.07**	**36**	PN		**Pn**	**12 25 26.4**	**+3.3**		
TRKS	**Terek-Say**	**4.11**	**292**	⇓*i*P		**Pn**	**12 25 25.2**	**+1.5**		
TRKS				⇓*i*S		**Sn**	**12 26 13.8**	**+2.3**		
TRKS	**Terek-Say**	**4.11**	**292**	*i* PN		**Pn**	**12 25 25.2**	**+1.5**		
TRKS				*i* S		**Sn**	**12 26 13.8**	**+2.3**		
ARXS	**Arharly**	**4.30**	**16**	Pg		**Pb**	**12 25 37.3**	**+0.7**		
	comp=Z,33nm,0.7s									
ARXS				Lg		Lg	12 26 36.9			
	comp=Z,235nm,0.6s									
ARXS	**Arharly**	**4.30**	**16**	*e*P		**Pb**	**12 25 37.3**	**+0.7**		
ARXS				*e*S		**Sg**	**12 26 36.9**	**-2.5**		
ARXS	**Arharly**	**4.30**	**16**	*e*PN		**Pn**	**12 25 29.1**	**+2.9**		
DZA	**Taraz**	**4.62**	**309**	Pg		**Pb**	**12 25 41.4**	**-0.5**		
	comp=Z,84nm,0.1s									
DZA				Lg		Lg	12 26 43.6			
	comp=Z,586nm,0.6s									
DZA	**Taraz**	**4.62**	**309**	*e*P		**Pb**	**12 25 41.4**	**-0.5**		
	comp=Z,84nm,0.1s									
DZA				*e*S		**Sg**	**12 26 43.6**	**-5.9**		
	comp=Z,586nm,0.6s									
GAR	**Garm**	**4.68**	**259**			**Pn**	**12 25 32.8**	**+1.3**		
KNOS	**Konyrlen**	**4.81**	**26**	Pg		**Pb**	**12 25 48.0**	**+2.6**		
	comp=Z,40nm,0.5s									
KNOS				Lg		Lg	12 26 54.7			
	comp=Z,144nm,1.2s									
IUG	**Iuzhnay**	**5.10**	**296**	Pg		**Pb**	**12 25 48.6**	**-1.7**		
	comp=Z,99nm,0.5s									
IUG				Lg		Lg	12 26 55.5			
	comp=Z,455nm,0.9s									
IUG	**Iuzhnay**	**5.10**	**296**	*e*P		**Pn**	**12 25 40.3**	**+3.1**		
IUG	**Iuzhnay**	**5.10**	**296**	*e*PN		**Pn**	**12 25 40.3**	**+3.1**		
TDK	**Taldyqorghan**	**5.18**	**18**	Pg		**Pb**	**12 25 53.1**	**+1.5**		
	comp=Z,69nm,0.4s									
TDK				Lg		Lg	12 27 03.5			
	comp=Z,443nm,0.8s									
TDK	**Taldyqorghan**	**5.18**	**18**	*e*P		**Pb**	**12 25 53.1**	**+1.5**		
	comp=Z,69nm,0.4s									
TDK				*e*S		**Sg**	**12 27 03.5**	**-4.1**		
	comp=Z,443nm,0.8s									
KK31	**Karatay Array**	**5.23**	**307**			**Pn**	**12 25 40.8**	**+1.8**		
KK31	**Karatay Array**	**5.23**	**307**	⇓Pn		**Pn**	**12 25 36.8**	**-2.2**		
	comp=Z,3.0nm,0.3s,baz=122,slow=12,SNR=51									
KK31				⇑Pg		**Pb**	**12 25 52.5**	**+0.1**		
	comp=Z,55nm,0.7s,baz=132,slow=15,SNR=20									
KK31				⇓Lg		Lg	12 27 01.1			
	comp=Z,107nm,0.6s,baz=126,slow=26,SNR=6.3									
KK31	**Karatay Array**	**5.23**	**307**	*e*PN		**Pn**	**12 25 40.6**	**+1.7**		
KKAR	**Karatay Array**	**5.23**	**307**			**Pn**	**12 25 40.7**	**+1.8**		
KKAR	**Karatay Array**	**5.23**	**307**	PN		**Pn**	**12 25 40.7**	**+1.8**		
CHM	**Chimkent**	**5.46**	**296**	*e*P		**Pb**	**12 25 59.0**	**+2.6**		
	comp=Z,76nm,0.1s									
CHM				*e*S		**Sg**	**12 27 13.3**	**-3.3**		
	comp=Z,219nm,0.3s									
BRLS	**Borolday**	**5.62**	**304**	Pg		**Pb**	**12 26 01.1**	**+2.1**		
	comp=Z,21nm,0.7s									
BRLS				Lg		Lg	12 27 17.5			
	comp=Z,112nm,1.1s									
BRLS	**Borolday**	**5.62**	**304**	*e*P		**Pb**	**12 26 01.1**	**+2.1**		
	comp=Z,21nm,0.7s									
BRLS				*e*S		**Sg**	**12 27 17.5**	**-4.0**		
	comp=Z,112nm,1.1s									
CHGR	**Chuyangaron**	**5.64**	**258**			**Pn**	**12 25 45.3**	**+0.6**		
CHGR	**Chuyangaron**	**5.64**	**258**	PN		**Pn**	**12 25 45.3**	**+0.6**		
SIMJ	**Simiganj**	**5.76**	**258**			**Pn**	**12 25 46.8**	**+0.5**		
NIL	**Nilore**	**6.84**	**201**			**Pn**	**12 26 03.4**	**+2.3**		
NIL	**Nilore**	**6.84**	**201**	PN		**Pn**	**12 26 03.4**	**+2.3**		
TSSA	**Tissa**	**7.23**	**180**	*e*P		**Pn**	**12 26 09.3**	**+2.7**		
TSSA				*e*S		**Sn**	**12 27 24.4**	**-4.0**		
TSSA				IAML			12 27 31.8			
	comp=N,361nm,0.3s									
TSSA				IAML			12 27 37.2			
	comp=E,383nm,1.0s									
JMU	**Jammu**	**7.42**	**189**	*e*P		**Pn**	**12 26 10.4**	**+1.4**		
JMU				*e*S		**Sn**	**12 27 27.2**	**-5.6**		
JMU				IAML			12 27 37.3			
	comp=N,194nm,0.4s									
JMU				IAML			12 27 48.7			
	comp=E,317nm,0.5s									
DHRM	**DHARAMSHALA**	**7.81**	**179**	*e*P		**Pn**	**12 26 16.8**	**+2.2**		
DHRM				*e*S		**Sn**	**12 27 37.8**	**-5.0**		
DHRM				IAML			12 27 46.8			
	comp=N,268nm,0.2s									
DHRM				IAML			12 27 47.3			
	comp=E,283nm,1.0s									
KBL	**Kabul**	**7.95**	**228**			**Pn**	**12 26 17.9**	**+1.5**		
KBL	**Kabul**	**7.95**	**228**	P		**Pn**	**12 26 17.9**	**+1.5**		
MK31	**Makanchi Array**	**8.04**	**31**	Pn		**Pn**	**12 26 19.7**	**+2.3**		
MK31	**Makanchi Array**	**8.04**	**31**	Pn		**Pn**	**12 26 20.8**	**+3.3**		
	comp=E,9.8nm,0.8s,baz=211,slow=14,SNR=24									
MK31				⇑Lg		Lg	12 28 36.2			
	comp=E,28nm,0.8s,baz=210,slow=25,SNR=5.1									
MK31	**Makanchi Array**	**8.04**	**31**	P		**Pn**	**12 26 20.7**	**+3.3**		
MKAR	**Makanchi Array**	**8.04**	**31**	Pn		**Pn**	**12 26 19.4**	**+2.0**		
MKAR	**Makanchi Array**	**8.04**	**31**	Pn		**Pn**	**12 26 20.9**	**+3.5**		
	comp=E,1.1nm,0.3s,baz=213,slow=13,SNR=28									
MKAR				Lg		Lg	12 28 34.8			
	comp=E,1.0nm,0.3s,baz=211,slow=25,SNR=6.2									
	comp=E,3.2nm,0.5s									
MKAR	**Makanchi Array**	**8.04**	**31**	P		**Pn**	**12 26 19.4**	**+2.0**		
BHK	**Bhakra**	**8.65**	**179**	*e*P		**Pn**	**12 26 28.5**	**+2.7**		
BHK				*e*S		**Sn**	**12 27 58.3**	**-4.7**		
BHK				IAML			12 28 05.5			
	comp=N,147nm,0.7s									
BHK				IAML			12 28 10.6			
	comp=E,86nm,0.7s									
SMLA	**Simla**	**8.97**	**175**	*e*P		**Pn**	**12 26 32.2**	**+2.0**		
SMLA				IAmb		IAmb	12 26 37.9			
	comp=Z,28nm,0.5s									
SMLA				*e*S		**Sn**	**12 28 04.6**	**-6.2**		
WMQ	**Urumqi**	**9.34**	**63**	P		Pn	12 26 41.5	+6.2		
WMQ				LR		LR				
	comp=Z,280nm,6.7s									
WMQ				LR		LR				
	comp=Z,240nm,5.5s									
ZSN	**Zaisan**	**9.66**	**37**	*e*P		**Pn**	**12 26 43.4**	**+3.6**		
ZSN	**Zaisan**	**9.66**	**37**	*e*P		**Pn**	**12 26 43.3**	**+3.6**		
BRZS	**Berezniki**	**10.21**	**347**	*e*P		**Pn**	**12 26 49.1**	**+1.9**		
BRZS	**Berezniki**	**10.21**	**347**	*e*P		**Pn**	**12 26 49.9**	**+2.7**		
KURBB	**Kurchatov Arra**	**10.67**	**8**	⇓Lg		Lg	12 29 57.5			
	comp=Z,82nm,0.7s									
KURBB	**Kurchatov Arra**	**10.67**	**8**	Pn		**Pn**	**12 26 53.8**	**+0.3**		
	comp=Z,0.9nm,0.5s,baz=192,slow=12,SNR=4.8									
KURBB				Lg		Lg	12 29 54.2			
	comp=Z,0.2nm,0.3s,baz=194,slow=30,SNR=5.1									
KURBB				LR		LR	12 31 16.9			
	comp=Z,330nm,19.8s,baz=167,slow=38									
KURK	**Kurchatov**	**10.77**	**8**			**Pn**	**12 26 56.4**	**+1.6**		
KURK	**Kurchatov**	**10.77**	**8**	P		**Pn**	**12 26 56.4**	**+1.6**		
BVA0	**Borovoye Array**	**13.55**	**345**	⇑Pn		**Pn**	**12 27 32.5**	**-0.2**		
	comp=Z,15nm,0.8s,baz=149,slow=13,SNR=37									
BVA0	**Borovoye Array**	**13.55**	**345**	*i* P		**Pn**	**12 27 32.5**	**-0.2**		
BVAR	**Borovoye Array**	**13.55**	**345**	Pn		**Pn**	**12 27 32.3**	**-0.4**		
	comp=Z,0.1nm,0.3s,baz=150,slow=12,SNR=39									
BVAR				Sn		**Sn**	**12 29 57.7**	**-5.2**		
	baz=161,slow=23,SNR=1.5									
BVAR				Lg		Lg	12 31 17.8			
	comp=Z,0.1nm,0.3s,baz=152,slow=29,SNR=6.6									
BVAR				LR		LR	12 32 56.7			
	comp=Z,301nm,18.3s,baz=177,slow=38									
	comp=Z,10nm,0.7s									
BORK	**Borovoye**	**13.58**	**345**	*c* *i*P		**Pn**	**12 27 33.2**	**0.0**		
AB31	**Akbulak array**	**14.74**	**314**			**Pn**	**12 27 47.5**	**-1.6**		
AB31	**Akbulak array**	**14.74**	**314**	Pn		**Pn**	**12 27 48.2**	**-0.9**		
	comp=Z,3.7nm,0.6s,baz=122,slow=12,SNR=55									
AB31	**Akbulak array**	**14.74**	**314**	*e*P		**Pn**	**12 27 47.4**	**-1.7**		
ABKAR	**Akbulak array**	**14.74**	**314**	Pn		**Pn**	**12 27 47.4**	**-1.6**		
ZAA0	**Zalesovo Array**	**15.05**	**20**			**Pn**	**12 27 54.0**	**+0.9**		
ZALV	**Zalesovo Beam**	**15.05**	**20**			**Pn**

comp=Z,0.8nm,0.5s
FINES FINESS Array B 36.99 322 P P 12 31 29.8 +0.1
ARCES ARCESS Array B 39.53 335 P P 12 31 51.6 +0.6
ARCES IAmb IAmb 12 32 32.4
comp=Z,10nm,1.1s
ARCES ARCESS Array B 39.53 335 P P 12 31 50.4 -0.6
comp=Z,3.2nm,0.9s,baz=106,slow=8.9,SNR=11
comp=Z,3.2nm,0.9s
ARCES ARCESS Array B 39.53 335 P P 12 31 51.6 +0.6
ARCES pmax pmax
comp=Z,10.0nm,1.2s
TIXI Tiksi 40.91 23 P P 12 32 03.2 +0.8
TIXI IAmb IAmb 12 32 04.4
comp=Z,5.7nm,0.7s
TIXI Tiksi 40.91 23 P P 12 32 03.2 +0.8
TIXI pmax pmax
comp=Z,6.0nm,0.7s
HFS Hagfors 42.91 319 P P 12 32 17.4 -1.4
comp=Z,3.6nm,1.0s,baz=98,slow=10,SNR=4.5
HFS LR LR 12 51 28.0
comp=Z,165nm,18.2s,baz=254,slow=38
comp=Z,3.6nm,1.0s
NOA NORSAR Array B 44.10 321 P P 12 32 27.4 -1.1
comp=Z,0.3nm,0.5s,baz=72,slow=8.8,SNR=1.4
NOA LR LR 12 51 42.8
comp=Z,111nm,19.4s,baz=240,slow=37
comp=Z,0.3nm,0.5s
GERES GERESS Array B 44.32 303 P P 12 32 29.7 -0.8
comp=Z,1.1nm,0.5s,baz=82,slow=9.6,SNR=4.1
comp=Z,1.1nm,0.5s
SPITS Spitsbergen Ar 45.01 345 LR LR 12 54 19.6
comp=Z,146nm,20.4s,baz=215,slow=40
FURI Furi 45.59 237 LR LR 12 54 47.1
comp=Z,360nm,20.5s,baz=232,slow=40
ESDC Sonseca Array 59.41 298 P P 12 34 22.1 -1.0
comp=Z,1.2nm,0.6s,baz=68,slow=7.1,SNR=11
comp=Z,1.2nm,0.6s
E23K Chandalar 66.84 17 P P 12 35 11.7 -0.3
E23K IAmb IAmb 12 35 38.4
comp=Z,8.3nm,1.4s
J20K Nowinta River 68.77 21 P P 12 35 24.5 +0.4
J20K IAmb IAmb 12 36 08.5
comp=Z,3.7nm,1.1s
INK Inuvik 69.66 11 P P 12 35 29.5 0.0
INK IAmb IAmb 12 36 05.2
comp=Z,5.4nm,1.3s
INK Inuvik 69.66 11 P P 12 35 29.5 0.0
INK pmax pmax
comp=Z,5.0nm,1.3s
TORD Torodi Ar. Bea 69.85 270 P P 12 35 30.4 -1.1
TORD Torodi Ar. Bea 69.85 270 P P 12 35 29.5 -2.1
comp=Z,1.0nm,0.5s,baz=48,slow=6.1,SNR=10
comp=Z,1.0nm,0.5s
C36M Paulatuk 69.86 8 P P 12 35 30.3 -0.4
ILAR Eielson Array 70.17 18 P P 12 35 31.8 -0.9
ILAR Eielson Array 70.17 18 P P 12 35 31.6 -1.1
comp=Z,0.4nm,0.8s,baz=339,slow=5.7,SNR=4.4
comp=Z,0.4nm,0.8s
ILAR Eielson Array 70.17 18 P P 12 35 31.8 -0.9
H29M Whitestone 70.73 14 P P 12 35 36.4 +0.2
H29M IAmb IAmb 12 35 50.3
comp=Z,7.7nm,1.2s
G31M Satah River 70.81 12 P P 12 35 36.2 -0.4
G31M IAmb IAmb 12 36 00.2
comp=Z,14nm,1.4s
SCM Sheep Creek Mo 72.51 20 P P 12 35 46.7 -0.3
SCM Sheep Creek Mo 72.51 20 P P 12 35 46.7 -0.3
BCAR Beaver Creek A 72.81 17 P P 12 35 48.5 -0.3
KNRA Kununurra 73.91 127 P P 12 35 55.5 -0.3
KNRA IAmb IAmb 12 36 02.4
comp=Z,7.2nm,1.1s
WRA Warramunga Arr 80.58 126 P P 12 36 31.4 -1.8
comp=Z,0.7nm,0.6s,baz=325,slow=5.0,SNR=12
comp=Z,0.7nm,0.6s
WRAB Tennant Creek 80.58 126 ⇓*i*P **P 12 36 34.7 +1.5**
WRAB pmax pmax
comp=Z,13nm,2.5s
WB2 Warramunga Arr 80.59 126 P P 12 36 32.5 -0.7
ASAR Alice Springs 83.11 129 P P 12 36 45.0 -1.4
comp=Z,0.7nm,0.7s,baz=320,slow=5.8,SNR=7.1
comp=Z,0.7nm,0.7s
PDAR Pinedale Array 97.37 4 P P 12 37 52.6 -1.6
comp=Z,0.5nm,1.1s,baz=17,slow=5.4,SNR=1.4
comp=Z,0.5nm,1.1s
QSPA South Pole Qui 129.86 180 PKPdf PKiKP 12 43 29.9 +0.2
QSPA South Pole Qui 129.86 180 PKP PKPdf 12 43 28.1 -0.9
comp=Z,0.9nm,0.8s,baz=270,slow=1.9,SNR=7.5

*NOU **30** 12:27:18.5, 21.°02S×178.°70W, h604km, mb4.3/14, Fiji Islands Region*
*IDC **30** 12:27:22.2±2.4, 20.°78S×179.°06W, h629km±29km, mb3.1/14, mbtmp4.1/15, Error ellipse: s-maj=18.8km s-min=11.5km az=155.0*
ISC 30 12:27:20.4±0.6, **20.°93S**±0.°09×**178.°9W**±0.°1, **h619**km, **n79,**
σ1°**76**/81, **mb3.7**/14, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**2.69**	**2**	P	**P**	**12 28 36.8**	**-2.9**
MSVF	**Nonsavu**	**4.28**	**318**	P	**P**	**12 28 47.8**	**-1.6**
TAVE	**Taveuni**	**4.31**	**347**	P	**P**	**12 28 47.5**	**-2.0**
DGTI	**Dogotuki**	**4.78**	**345**	P	**P**	**12 28 50.8**	**-2.2**
PINNC	**Pines Island,**	**12.78**	**260**	P	**P**	**12 30 06.6**	**-0.1**
DZM	**Mont Dzumac**	**13.67**	**263**	P	**P**	**12 30 15.1**	**-0.5**
	2.7nm,0.7s,baz=101,slow=19,SNR=2.1						
OUZ	**Omahuta**	**15.68**	**203**	P	**P**	**12 30 35.1**	**+1.2**
GRZ	**Great Barrier**	**16.03**	**197**	P	**P**	**12 30 37.6**	**+0.5**
WCZ	**Waipu Caves**	**16.07**	**200**	P	**P**	**12 30 38.9**	**+1.5**
KUZ	**Kuaotunu**	**16.43**	**195**	P	**P**	**12 30 40.2**	**-0.4**
HAZ	**Te Kaha**	**17.00**	**189**	P	**P**	**12 30 43.0**	**-2.9**
PUZ	**Puketiti**	**17.25**	**188**	P	**P**	**12 30 46.4**	**-1.8**
TOZ	**Tahuroa Road**	**17.42**	**195**	P	**P**	**12 30 49.8**	**0.0**
URZ	**Urewera**	**17.60**	**190**	P	**P**	**12 30 49.0**	**-2.3**
	9.9nm,0.3s,baz=252,slow=3.2,SNR=32						
URZ				S	**S**	**12 33 41.5**	**-1.1**
	15nm,1.0s,baz=3.4,slow=19,SNR=2.1						
URZ	**Urewera**	**17.60**	**190**	P	**P**	**12 30 49.3**	**-2.1**
URZ	**Urewera**	**17.60**	**190**	P	**P**	**12 30 48.9**	**-2.5**
MWZ	**Matawai**	**17.61**	**189**	P	**P**	**12 30 48.2**	**-3.3**
KNZ	**Kokohu**	**18.26**	**188**	P	**P**	**12 30 55.4**	**-2.0**
HIZ	**Hauiti**	**18.32**	**196**	P	**P**	**12 30 56.8**	**-1.1**
HIZ	**Hauiti**	**18.32**	**196**	P	**P**	**12 31 00.2**	**+2.3**
BKZ	**Black Stump Fm**	**18.59**	**191**	P	**P**	**12 30 58.1**	**-2.4**
BKZ	**Black Stump Fm**	**18.59**	**191**	P	**P**	**12 30 56.4**	**-4.1**
VRZ	**Vera Road**	**18.93**	**195**	P	**P**	**12 31 04.2**	**+0.8**
PXZ	**Pawanui**	**19.37**	**190**	P	**P**	**12 31 04.2**	**-3.2**
TSZ	**Takapari Road**	**19.56**	**192**	P	**P**	**12 31 07.1**	**-2.0**
BFZ	**Birch Farm**	**20.11**	**191**	P	**P**	**12 31 12.4**	**-1.7**
OGWZ	**Otaki Gorge**	**20.45**	**193**	P	**P**	**12 31 14.4**	**-2.7**
HOWZ	**Holdsworth Sta**	**20.45**	**192**	P	**P**	**12 31 15.2**	**-2.0**
DUWZ	**D'Urville Isla**	**20.72**	**196**	P	**P**	**12 31 17.4**	**-2.2**
CAW	**Cannon Point**	**20.75**	**193**	P	**P**	**12 31 17.1**	**-2.6**
MSWZ	**Moikau Station**	**21.01**	**192**	P	**P**	**12 31 20.1**	**-2.0**
TCW	**Tory Channel**	**21.02**	**194**	P	**P**	**12 31 20.6**	**-1.6**
QRZ	**Quartz Range**	**21.12**	**198**	P	**P**	**12 31 22.7**	**-0.4**
QRZ	**Quartz Range**	**21.12**	**198**	P	**P**	**12 31 22.4**	**-0.7**
PLWZ	**Palliser**	**21.15**	**192**	P	**P**	**12 31 21.3**	**-2.2**
NNZ	**Nelson**	**21.25**	**196**	P	**P**	**12 31 22.2**	**-2.1**
TUWZ	**Tuamarina**	**21.31**	**195**	P	**P**	**12 31 22.7**	**-2.1**
MRNZ	**Matariki Terra**	**21.59**	**197**	P	**P**	**12 31 25.5**	**-1.8**
THZ	**Tophouse**	**21.88**	**197**	P	**P**	**12 31 28.2**	**-1.8**
DSZ	**Denniston Nort**	**22.18**	**199**	P	**P**	**12 31 31.5**	**-1.1**
KHZ	**Kahutara**	**22.34**	**195**	P	**P**	**12 31 32.0**	**-1.9**
KHZ	**Kahutara**	**22.34**	**195**	P	**P**	**12 31 31.6**	**-2.3**
GVZ	**Greta Valley S**	**22.98**	**195**	P	**P**	**12 31 37.3**	**-2.4**
LTZ	**Lake Taylor**	**23.00**	**197**	P	**P**	**12 31 36.9**	**-3.0**
INZ	**Inchbonnie**	**23.18**	**198**	P	**P**	**12 31 38.9**	**-2.5**
OXZ	**Oxford**	**23.57**	**197**	P	**P**	**12 31 42.6**	**-2.3**
MQZ	**McQueen's Vall**	**23.77**	**195**	P	**P**	**12 31 43.9**	**-2.7**
RPZ	**Rata Peaks**	**24.20**	**198**	P	**P**	**12 31 49.7**	**-0.8**
FOZ	**Fox Glacier**	**24.42**	**200**	P	**P**	**12 31 50.4**	**-1.9**
TMZ	**Timaru**	**24.83**	**197**	P	**P**	**12 31 53.6**	**-2.4**
JCZ	**Jackson Bay**	**25.24**	**201**	P	**P**	**12 31 58.3**	**-1.4**
JCZ	**Jackson Bay**	**25.24**	**201**	P	**P**	**12 31 58.0**	**-1.6**
MLZ	**Mavora Lakes**	**26.60**	**201**	P	**P**	**12 32 11.2**	**-0.4**
WHZ	**Wether Hill Ro**	**27.12**	**200**	P	**P**	**12 32 16.1**	**0.0**
ARMA	**Armidale**	**28.10**	**244**	P	**P**	**12 32 24.9**	**0.0**
CMSA	**Cobar Meteorol**	**33.32**	**244**	P	**P**	**12 33 09.3**	**+0.1**
STKA	**Stephens Creek**	**36.82**	**244**	P	**P**	**12 33 38.9**	**+0.7**
	1.9nm,0.5s,baz=99,slow=11,SNR=5.5						
	1.9nm,0.5s						
ASAR	**Alice Springs**	**43.58**	**257**	P	**P**	**12 34 32.2**	**+0.3**
	1.6nm,0.5s,baz=94,slow=7.7,SNR=16						
ASAR				PcP	**PcP**	**12 36 04.5**	**-0.8**
	0.4nm,0.5s,baz=92,slow=4.3,SNR=5.4						
ASAR				S	**S**	**12 40 17.8**	**-0.3**
	0.9nm,0.7s,baz=96,slow=14,SNR=7.3						
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**43.69**	**263**	P	**P**	**12 34 33.1**	**+0.3**
	0.3nm,0.3s,baz=97,slow=7.0,SNR=31						
WRA				S	**S**	**12 40 18.5**	**-1.1**
	0.6nm,0.7s,baz=100,slow=13,SNR=4.5						
	0.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.12**	**263**	P	**P**	**12 35 35.9**	**+0.6**
	2.2nm,0.9s,baz=100,slow=3.0,SNR=2.6						
	2.2nm,0.9s						
QSPA	**South Pole Qui**	**69.14**	**180**	P	**P**	**12 37 28.5**	**+2.4**
	1.9nm,0.5s,baz=77,slow=3.1,SNR=34						
	1.9nm,0.5s						
MJAR	**Matsushiro Arr**	**70.05**	**324**	P	**P**	**12 37 31.7**	**-0.1**
	1.5nm,0.7s,baz=150,slow=5.5,SNR=4.8						
	1.5nm,0.7s						
PETK	**Petropavlovsk-**	**76.47**	**346**	P	**P**	**12 38 08.4**	**+0.7**
	1.6nm,0.6s,baz=227,slow=5.9,SNR=4.0						
	1.6nm,0.6s						
KSRS	**Korea Array**	**76.64**	**319**	P	**P**	**12 38 09.9**	**+0.8**
	0.4nm,0.5s,baz=126,slow=5.6,SNR=2.3						
	0.4nm,0.5s						
MAW	**Mawson**	**80.86**	**200**	P	**P**	**12 38 32.5**	**+1.7**
	0.5nm,0.5s,baz=133,slow=4.5,SNR=1.9						
	0.5nm,0.5s						
NVAR	**Mina Array Bea**	**81.93**	**44**	P	**P**	**12 38 37.9**	**+0.7**
	1.3nm,0.6s,baz=226,slow=7.6,SNR=12						
	1.3nm,0.6s						
TXAR	**Lajitas Array**	**88.02**	**58**	P	**P**	**12 39 07.5**	**+0.9**
	0.8nm,0.8s,baz=219,slow=5.5,SNR=10						
	0.8nm,0.8s						
ILAR	**Eielson Array**	**88.93**	**13**	P	**P**	**12 39 09.4**	**-0.4**
	0.7nm,0.5s,baz=216,slow=5.3,SNR=10.0						
	0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.45**	**290**	P	**P**	**12 39 15.3**	**+2.0**
	0.5nm,0.4s,baz=121,slow=3.0,SNR=6.7						
	0.5nm,0.4s						
PDAR	**Pinedale Array**	**89.87**	**44**	P	**P**	**12 39 15.3**	**+0.3**
	0.9nm,0.6s,baz=215,slow=3.8,SNR=12						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**118.85**	**320**	PKP	**PKiKP**	**12 44 59.1**	**-0.4**
	1.2nm,0.4s,baz=113,slow=2.3,SNR=7.0						
ARCES	**ARCESS Array B**	**129.19**	**349**	PKP	**PKPdf**	**12 45 18.6**	**-0.2**
	6.7nm,1.1s,baz=64,slow=2.8,SNR=5.8						
FINES	**FINESS Array B**	**135.94**	**343**	PKP	**PKPdf**	**12 45 31.3**	**-0.3**
	1.5nm,0.7s,baz=46,slow=4.0,SNR=3.6						
HFS	**Hagfors**	**139.82**	**350**	PKhKP	PKPpre	12 45 31.7	
	0.8nm,0.3s,baz=64,slow=3.4,SNR=11						
AKASG	**Malin Array Be**	**142.97**	**330**	PKhKP	PKPpre	12 45 42.4	
	4.7nm,0.4s,baz=44,slow=4.2,SNR=33						
EKA	**Eskdalemuir Ar**	**145.50**	**4**	PKPbc	**PKPbc**	**12 45 50.0**	**-0.4**
	1.7nm,0.7s,baz=344,slow=2.8,SNR=4.3						
BRTR	**Keskin Array B**	**146.48**	**311**	PKPbc	**PKPbc**	**12 45 54.0**	**+0.1**
	1.1nm,0.6s,baz=144,slow=4.4,SNR=4.9						
MMAI	**Mount Meron Ar**	**147.27**	**299**	PKPbc	**PKiKP**	**12 45 57.1**	**-0.6**
	1.9nm,0.5s,baz=98,slow=2.9,SNR=5.0						
GERES	**GERESS Array B**	**150.37**	**343**	PKPbc	**PKiKP**	**12 46 03.3**	**-0.4**
	1.1nm,0.6s,baz=360,slow=3.5,SNR=2.6						

*SOME **30** 12:31:38.6, 42.°12N×72.°78E, h10km*
*KRNET **30** 12:31:38.4±0.1, 42.°13N×72.°77E, h19km, mb2.6*
*NNC **30** 12:31:39.1±0.5, 42.°14N×72.°77E, h0km±2km, mb2.8, mpv2.9, Error ellipse: s-maj=5.2km s-min=1.7km az=177.0*
ISC 30 12:31:38.3±1.2, **42.°13N**±0.°03×**72.76E**±0.°02, **h4**km±11km, **n21,** σ0°**82**/39, **17C-10D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.68**	**241**	⇑*i*P	**Pg**	**12 31 51.4**	**-0.1**
ARK				⇑*i*S	**Sg**	**12 32 01.0**	**+0.7**
MRKS	**Merke**	**0.70**	**29**	P	**Pg**	**12 31 52.5**	**+0.7**
	20nm,0.2s						
MRKS				S	**Sb**	**12 32 02.6**	**-0.7**
	159nm,0.2s						
MRKS	**Merke**	**0.70**	**29**	*e*P	**Pg**	**12 31 52.5**	**+0.7**
	20nm,0.2s						
MRKS				*e*S	**Sb**	**12 32 02.6**	**-0.7**
	159nm,0.2s						
ARSB	**Arslanbob**	**0.82**	**168**	⇑*i*P	**Pg**	**12 31 54.0**	**-0.1**
ARSB				⇑*i*S	**Sg**	**12 32 05.1**	**+0.3**
EKS2	**Erkin-Say**	**0.92**	**54**	⇑*i*P	**Pg**	**12 31 55.8**	**-0.2**
EKS2				⇑*i*S	**Sg**	**12 32 07.8**	**-0.1**
UCH	**Uchtor**	**1.30**	**85**	⇑*i*P	**Pn**	**12 32 02.6**	**-1.1**
UCH				⇑*i*S	**Sb**	**12 32 20.0**	**-0.9**
TRKS	**Terek-Say**	**1.35**	**244**	⇓*i*P	**Pn**	**12 32 03.6**	**-0.5**
TRKS				⇓*i*S	**Sb**	**12 32 21.5**	**-0.5**
AAK	**Ala-Archa**	**1.38**	**68**	⇑P	**Pb**	**12 32 04.3**	**-0.4**
	1.1nm,0.6s						
AAK				⇑S	**Sg**	**12 32 23.6**	**+1.0**
	0.5nm,0.3s						
AAK	**Ala-Archa**	**1.38**	**68**	⇓*i*P	**Pn**	**12 32 03.6**	**-0.9**
AAK				⇓*i*S	**Sb**	**12 32 21.9**	**-0.9**
KBK	**Karagaybulak**	**1.70**	**71**	⇓*i*P	**Pb**	**12 32 09.4**	**-0.9**
KBK				⇓*i*S	**Sb**	**12 32 31.9**	**-0.2**
CHMS	**Chumysh**	**1.71**	**59**	⇑*i*P	**Pb**	**12 32 09.5**	**-0.7**
CHMS				⇑*i*S	**Sb**	**12 32 32.0**	**0.0**
USP	**Ospenovka**	**1.71**	**48**	⇓*i*P	**Pb**	**12 32 09.7**	**-0.6**
USP				⇓*i*S	**Sb**	**12 32 32.2**	**0.0**
KK31	**Karatay Array**	**1.93**	**301**	Pn	**Pb**	**12 32 13.8**	**-0.2**
	0.8nm,0.3s,baz=118,slow=16,SNR=13						
KK31				⇑Sn	**Sb**	**12 32 38.9**	**+0.6**
	3.8nm,0.2s,baz=119,slow=16,SNR=5.7						
IUG	**luzhnay**	**2.03**	**271**	Pg	**Pb**	**12 32 16.7**	**+0.8**
	7.8nm,0.2s						
IUG				Lg	Lg	12 32 43.9	
	23nm,0.3s						
TKM2	**Tokmak 2**	**2.24**	**68**	⇑*i*P	**Pn**	**12 32 17.2**	**+0.9**
TKM2				⇑*i*S	**Sb**	**12 32 45.3**	**-2.2**
BRLS	**Boroldoy**	**2.34**	**294**	Pg	**Pg**	**12 32 22.4**	**-0.8**
	1.6nm,0.2s						
BRLS				Lg	Lg	12 32 53.5	
	8.6nm,0.3s						
BRLS	**Boroldoy**	**2.34**	**294**	*e*P	**Pg**	**12 32 22.4**	**-0.8**
	1.6nm,0.2s						
BRLS				*e*S	**Sg**	**12 32 53.5**	**0.0**
	8.6nm,0.3s						
BOOM	**Boomskoye usch**	**2.38**	**80**	⇑*i*P	**Pn**	**12 32 19.2**	**+0.9**
BOOM				⇑*i*S	**Sn**	**12 32 48.9**	**+0.9**
KST	**Kastek**	**2.53**	**68**	Pg	**Pb**	**12 32 25.5**	**+1.1**
	1.6nm,0.1s						
KST				Lg	Lg	12 32 59.0	
	19nm,0.6s						
KST	**Kastek**	**2.53**	**68**	*e*P	**Pb**	**12 32 25.5**	**+1.1**
	1.6nm,0.1s						
KST				*e*S	**Sg**	**12 32 59.0**	**-0.7**
	19nm,0.6s						
ULHL	**Ulahol**	**2.59**	**86**	⇓*i*P	**Pn**	**12 32 22.0**	**+0.9**
ULHL				⇓*i*S	**Sn**	**12 32 53.9**	**+0.8**

*SOME **30** 12:38:18.5, 41.°08N×83.°72E, h20km*
*NNC **30** 12:38:21.6±3.4, 41.°08N×83.°45E, h3km±18km, mb3.7, mpv3.3, Error ellipse: s-maj=26.4km s-min=19.6km az=178.0*
ISC 30 12:38:22.5±3.0, **41.°2N**±0.°2×**83.°56E**±0.°09, **h10**km, **n15,**
σ3°**11**/22, **2C-3D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**3.59**	**304**	Pg	**Pb**	**12 39 22.0**	**-4.2**
	5.8nm,0.2s						
SHLS				Lg	Lg	12 40 07.5	
	86nm,0.5s						
SHLS	**Shalkode**	**3.59**	**304**	*e*P	**Pb**	**12 39 22.0**	**-4.2**
	5.8nm,0.2s						
SHLS				*e*S	**Sb**	**12 40 07.5**	**-2.5**
	86nm,0.5s						
PDGK	**Podgornoye**	**3.67**	**306**	⇑Pn	**Pn**	**12 39 19.3**	**-0.1**
	1.4nm,0.6s						
PDGK				⇓Pg	**Pg**	**12 39 30.2**	**-2.5**
	6.6nm,0.6s						
PDGK				⇓Lg	Lg	12 40 23.3	
	43nm,0.6s						
UZB	**Uzynbulak**	**3.87**	**301**	Pg	**Pb**	**12 39 31.8**	**+0.9**
	1.4nm,0.1s						
UZB				Lg	Lg	12 40 24.9	
	20nm,0.4s						
UZB	**Uzynbulak**	**3.87**	**301**	*e*P	**Pb**	**12 39 31.8**	**+0.9**
	1.4nm,0.1s						
UZB				*e*S	**Sg**	**12 40 24.9**	**-1.9**
	20nm,0.4s						
SATY	**Saty**	**4.24**	**297**	Pg	**Pb**	**12 39 38.4**	**+1.2**
	3.8nm,0.2s						
SATY				Lg	Lg	12 40 35.9	
	9.8nm,0.1s						
KPKS	**Kokpek**	**4.24**	**303**	Pg	**Pb**	**12 39 38.3**	**+1.1**
	0.2nm,0.1s						
KPKS				Lg	Lg	12 40 35.7	
	23nm,0.3s						
KNOS	**Konyrlen**	**4.48**	**315**	Pg	**Pb**	**12 39 42.8**	**+1.5**
	1.6nm,0.3s						
KNOS				Lg	Lg	12 40 43.4	
	8.1nm,0.4s						
KOTS	**Kotyrbulak**	**5.18**	**295**	Pg	**Pb**	**12 39 54.8**	**+1.5**
	2.0nm,0.3s						
KOTS				Lg	Lg	12 41 03.4	
	20nm,0.5s						
KOTS	**Kotyrbulak**	**5.18**	**295**	*e*P	**Pb**	**12 39 54.8**	**+1.5**
	2.0nm,0.3s						
KOTS				*e*S	**Sb**	**12 41 03.4**	**+7.8**
	20nm,0.5s						
TNSS	**Tian-Shan**	**5.23**	**292**	Pg	**Pg**	**12 39 59.3**	**-3.4**
	0.7nm,0.2s						
TNSS				Lg	Lg	12 41 11.5	
	4.3nm,0.6s						
TNSS	**Tian-Shan**	**5.23**	**292**	*e*P	**Pg**	**12 39 59.3**	**-3.4**
	0.7nm,0.2s						
TNSS				*e*S	**Sg**	**12 41 11.5**	**+1.0**
	4.3nm,0.6s						
MK31	**Makanchi Array**	**5.62**	**351**	Pn	**Pn**	**12 39 49.1**	**+2.9**
	0.4nm,0.5s,baz=158,slow=14,SNR=7.8						
MK31				⇑Pg	**Pg**	**12 40 07.5**	**-2.7**
	1.3nm,0.5s,baz=179,slow=12,SNR=4.5						
MK31				⇓Lg	Lg	12 41 27.6	
	4.1nm,0.6s,baz=163,slow=32,SNR=4.2						
KST	**Kastek**	**5.93**	**290**	Pg	**Pg**	**12 40 13.0**	**-2.9**
	1.4nm,0.2s						
KST				Lg	Lg	12 41 34.9	
	19nm,0.6s						
KST	**Kastek**	**5.93**	**290**	*e*P	**Pg**	**12 40 13.0**	**-2.9**
	1.4nm,0.2s						
KST				*e*S	**Sg**	**12 41 34.9**	**+2.2**
	19nm,0.6s						

*SKHL **30** 12:51:59.9±0.4, 44.°40N×149.°00E, h34km±2km, mb4.7/3*
*JMA **30** 12:52:00.9±0.9, 45.°N±4.°×14.°9E±.°, h30km, MV3.8/14, SE OFF ETOROFU*
ISC 30 12:51:58.2±3.7, **44.°36N**±0.°09×**149.°2E**±0.°2, **h35**km, **n16,**
σ2°**03**/28, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.30**	**313**	*i*P	**Pn**	**12 52 19.8**	**0.0**
KUR				AMB	AMB	12 52 24.6	
	190nm,0.3s						
KUR				*i*S	**Sn**	**12 52 33.5**	**-2.4**
KUR				A	A	12 52 39.4	
	340nm,0.2s						
KUR				A	A	12 52 39.4	
	380nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.43**	**264**	*e*P	**Pn**	**12 52 35.6**	**+0.3**
YUK				AMB	AMB	12 52 37.8	
	130nm,0.3s						
YUK				*e*S	**Sn**	**12 53 02.1**	**-1.7**
YUK				A	A	12 53 04.2	
	190nm,0.4s						
YUK				A	A	12 53 04.2	
	430nm,0.4s						
NEM2	**Nemuro 2**	**2.70**	**250**	P	**Pn**	**12 52 39.6**	**+0.6**
NEM2					**Sn**	**12 53 08.0**	**-2.4**
NMR	**Nemuro--Hokkai**	**2.71**	**250**	*e*P	**Pn**	**12 52 38.8**	**-0.3**
NMR				*e*S	**Sn**	**12 53 08.2**	**-2.4**
GLVR	**Golovnino**	**2.73**	**258**	*e*P	**Pn**	**12 52 40.0**	**+0.5**
GLVR				AMB	AMB	12 52 42.1	
	80nm,0.3s						
GLVR				*e*S	**Sn**	**12 53 10.3**	**-1.0**
GLVR				A	A	12 53 18.2	
	350nm,0.4s						
GLVR				A	A	12 53 18.2	
	220nm,0.4s						
JRA	**Rausu**	**2.97**	**263**	P	**Pn**	**12 52 44.4**	**+1.6**
JRA				*e*S	**Sn**	**12 53 16.7**	**-0.5**
JNK	**Nakash**	**3.33**	**258**	*e*P	**Pn**	**12 52 49.8**	**+2.0**
JNK				*e*S	**Sn**	**12 53 24.0**	**-2.1**
AKK	**Akkeshi**	**3.44**	**249**	*e*P	**Pn**	**12 52 51.4**	**+2.2**
JAK	**Akkeshi**	**3.55**	**249**	*e*P	**Pn**	**12 52 51.2**	**+0.5**
JAK				*e*S	**Sn**	**12 53 29.1**	**-2.3**
JTKR	**Abashiri--Toko**	**3.83**	**266**	*e*P	**Pn**	**12 52 57.0**	**+2.4**
JTKR				*e*S	**Sn**	**12 53 43.1**	**+4.6**
JAR	**Ashorobuto**	**4.08**	**257**	*e*P	**Pn**	**12 52 59.8**	**+1.8**
JAR				*e*S	**Sn**	**12 53 44.0**	**-0.4**
JOB	**Onbets**	**4.16**	**251**	*e*P	**Pn**	**12 53 00.6**	**+1.4**
JOB				*e*S	**Sn**	**12 53 44.5**	**-2.1**
JCH	**Churui**	**4.60**	**250**	*e*P	**Pn**	**12 53 07.4**	**+2.2**
JCH				*e*S	**Sn**	**12 53 55.1**	**-2.2**
JNBK	**Urakawa-nobuka**	**5.15**	**248**	*e*P	**Pn**	**12 53 16.0**	**+3.3**
JNBK				*e*S	**Sn**	**12 54 09.2**	**-1.7**
JANG	**Nango**	**6.95**	**238**	*e*P	**Pn**	**12 53 37.5**	**0.0**
JANG				*e*S	Sn	12 54 47.1	-8.2
JTH	**Tanohata**	**7.02**	**234**	*e*S	Sn	12 54 49.1	-7.9

*AEIC **30** 13:13:11.5±0.3, 52.°2N±0.°1×164.°4W±0.°2, h11km±9km, Error ellipse: s-maj=17.2km s-min=13.7km az=152.0*
NEIC 30 13:13:09.0±0.3, **52.°38N**±0.°04×**164.°6W**±0.°1, **h10**km±2km, **ML2.9**/12, **ML2.7**(AEIC), **Error ellipse: s-maj=14.1km s-min=4.1km az=63.0, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UNV	**Unalaska Valle**	**1.88**	**322**		Pn	13 13 40.9	-0.2
UNV				IAML		13 14 05.0	
	comp=N,108nm,0.5s						
UNV				IAML		13 14

*NOU **30** 13:30:11.1, 17°.68S×179°.93E, h615km, mb4.9/100, Fiji Islands*

ISC 30 13:30:09.6±0.3,**17°.62S**±0'.05×**179°.92E**±0'.05,**h600**km, **h601**km;**pP-P,n861,**○**0**≋**99**/703,**mb4.7**/223,**44C-51D,Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**0.92**	**11**	P	**P**	**13 31 23.0**	**+2.3**
TAVE	**Taveuni**	**0.92**	**11**	S	**S**	**13 32 24.2**	**+5.8**
DGTI	**Dogotuki**	**1.32**	**352**	P	**P**	**13 31 23.7**	**+2.0**
DGTI	**Dogotuki**	**1.32**	**352**	S	**S**	**13 32 24.7**	**+4.6**
LKBA	**Tubou, Lakemba**	**1.35**	**117**	P	**P**	**13 31 23.8**	**+2.2**
LKBA	**Tubou, Lakemba**	**1.35**	**117**	S	**S**	**13 32 24.2**	**+3.9**
MSVF	**Nonsavu**	**1.79**	**266**	P	**P**	**13 31 25.8**	**+2.6**
MSVF	**Nonsavu**	**1.79**	**266**	P	**P**	**13 31 26.1**	**+3.0**
MSVF	**Nonsavu**	**1.79**	**266**	S	**S**	**13 32 28.6**	**+5.6**
MSVF	**Nonsavu**	**1.79**	**266**	P	**P**	**13 31 25.8**	**+2.6**
FUTU	**Fugatoga**	**3.79**	**30**		**P**	**13 31 34.2**	**+0.5**
FUTU	**Fugatoga**	**3.79**	**30**	P	**P**	**13 31 34.5**	**+0.8**
FUNA	**Funafuti**	**9.06**	**355**	P	**P**	**13 32 19.1**	**-0.1**
NIUE	**Niue**	**9.75**	**100**		**P**	**13 32 26.3**	**+0.4**
RTV	**Rentapao**	**10.96**	**267**	P	**P**	**13 32 41.0**	**+3.1**
DVP	**Devils Point**	**11.18**	**268**	P	**P**	**13 32 42.8**	**+2.7**
DVP	**Devils Point**	**11.18**	**268**	P	**S**	**13 34 46.2**	**+2.4**
RAO	**Raoul Island** 103nm,0.3s,baz=53,slow=20,SNR=2.3	**11.75**	**171**	P	**P**	**13 32 45.1**	**-0.6**
RAO				S	**S**	**13 34 55.2**	**+1.3**
	182nm,0.4s,baz=268,slow=22,SNR=3.9						
SANVU	**Saraoutou**	**12.38**	**278**		**P**	**13 32 51.7**	**-0.5**
SANVU	**Saraoutou**	**12.38**	**278**	P	**P**	**13 32 52.3**	**+0.1**
SANVU	**Saraoutou**	**12.38**	**278**	S	**S**	**13 35 08.4**	**+2.5**
PINNC	**Pines Island,**	**12.72**	**245**		**P**	**13 32 54.9**	**-0.6**
PINNC	**Pines Island,**	**12.72**	**245**	P	**P**	**13 32 56.6**	**+1.0**
YATNC	**Mamie plateau,**	**13.03**	**248**	P	**P**	**13 33 00.0**	**+1.3**
OUENC	**Ouen Island, N**	**13.18**	**247**	P	**P**	**13 33 01.1**	**+0.8**
DZM	**Mont Dzumac** 48nm,0.8s,baz=73,slow=15,SNR=40	**13.43**	**249**	P	**P**	**13 33 02.1**	**-0.8**
DZM				S	**S**	**13 35 24.4**	**-0.6**
	25nm,1.2s,baz=349,slow=22,SNR=3.9						
DZM	**Mont Dzumac**	**13.43**	**249**	P	**P**	**13 33 03.3**	**+0.4**
ONTNC	**Ouen Toro**	**13.49**	**248**		**P**	**13 33 02.5**	**-0.9**
ONTNC	**Ouen Toro**	**13.49**	**248**	P	**P**	**13 33 05.1**	**+1.7**
RAR	**Rarotonga**	**19.48**	**104**		**P**	**13 33 59.9**	**+1.2**
RAR	**Rarotonga** 65nm,0.9s,baz=225,slow=5.9,SNR=6.9	**19.48**	**104**	P	**P**	**13 33 59.2**	**+0.5**
RAR	**Rarotonga**	**19.48**	**104**	P	**P**	**13 33 59.7**	**+1.0**
RAR	**Rarotonga**	**19.48**	**104**	P	**P**	**13 33 59.9**	**+1.2**
RAR	comp=Z,80nm,1.0s			pmax	pmax		
ALEG	**Aligegeo Malai**	**20.67**	**293**	P	**P**	**13 34 10.8**	**+1.3**
URZ	**Urewera** comp=Z,5.3nm,0.5s,baz=270,slow=1.7,SNR=8.8 comp=Z,5.3nm,0.5s	**20.71**	**186**	P	**P**	**13 34 08.6**	**-0.9**
URZ	**Urewera**	**20.71**	**186**	P	**P**	**13 34 10.2**	**+0.7**
HNR	**Honiara** comp=Z,49nm,0.6s,baz=124,slow=3.6,SNR=4.8 comp=Z,49nm,0.6s	**21.04**	**290**	P	**P**	**13 34 13.1**	**+0.4**
HIZ	**Hauiti**	**21.29**	**191**	P	**P**	**13 34 15.3**	**+0.6**
BFZ	**Birch Farm**	**23.20**	**187**	P	**P**	**13 34 29.9**	**-1.8**
QRZ	**Quartz Range**	**23.99**	**194**	P	**P**	**13 34 39.0**	**+0.3**
QRZ	**Quartz Range**	**23.99**	**194**	P	**P**	**13 34 39.7**	**+1.0**
NNZ	**Nelson**	**24.18**	**192**	P	**P**	**13 34 39.6**	**-0.8**
THZ	**Tophouse**	**24.81**	**193**		**P**	**13 34 45.1**	**-0.9**
KHZ	**Kahutara**	**25.31**	**191**	P	**P**	**13 34 50.8**	**+0.5**
LTZ	**Lake Taylor**	**25.92**	**193**		**P**	**13 34 54.1**	**-1.6**
GVZ	**Greta Valley S**	**25.94**	**192**	P	**P**	**13 34 54.3**	**-1.6**
INZ	**Inchbonnie**	**26.05**	**194**	P	**P**	**13 34 55.2**	**-1.6**
OXZ	**Oxford**	**26.49**	**193**		**P**	**13 34 59.1**	**-1.6**
FOZ	**Fox Glacier**	**27.21**	**196**	P	**P**	**13 35 06.1**	**-0.9**
TW1H	**Toowoomba 1 Ha**	**27.57**	**244**	P	**P**	**13 35 11.0**	**+0.5**
EIDS	**Eidsvold**	**27.88**	**249**	P	**P**	**13 35 11.9**	**-1.2**
EIDS	comp=Z,14nm,0.7s			IAmb	IAmb	13 35 13.7	
EIDS	**Eidsvold**	**27.88**	**249**	P	**P**	**13 35 13.1**	**0.0**
JCZ	**Jackson Bay**	**28.00**	**197**	P	**P**	**13 35 14.3**	**+0.4**
ODZ	**Otahua Downs**	**28.43**	**194**	P	**P**	**13 35 18.1**	**+0.6**
ARMA	**Armidale**	**28.72**	**238**	P	**P**	**13 35 21.4**	**+1.0**
PPT	**Papeete** comp=Z,104nm,0.8s,baz=105,slow=4.0,SNR=6.8 comp=Z,104nm,0.8s	**29.07**	**95**	P	**P**	**13 35 23.7**	**+0.2**
PPTF	**Pamatai, Papee**	**29.07**	**95**	P	**P**	**13 35 24.0**	**+0.4**
PPTF	**Pamatai, Papee**	**29.07**	**95**	P	**P**	**13 35 24.3**	**+0.7**
MLZ	**Mavora Lakes**	**29.37**	**197**	P	**P**	**13 35 25.3**	**-0.4**
WHZ	**Wether Hill Ro**	**29.91**	**197**	P	**P**	**13 35 29.7**	**-0.6**
MGCD	**Mangrove Creek**	**30.17**	**234**	P	**P**	**13 35 33.4**	**+0.7**
SYDH	**Sydney Hard Ro**	**30.68**	**233**	P	**P**	**13 35 37.8**	**+0.8**
TV1H	**Townsville Har**	**31.44**	**262**	P	**P**	**13 35 43.9**	**+0.2**
CTAO	**Charters Tower**	**31.92**	**260**	P	**P**	**13 35 47.3**	**-0.6**
CTAO	**Charters Tower**	**31.92**	**260**	P	**P**	**13 35 47.6**	**-0.3**
CTAO	**Charters Tower**	**31.92**	**260**	P	**P**	**13 35 47.3**	**-0.6**
CTAO	comp=Z,63nm,1.5s			pmax	pmax		
PATS	**Pohnpei**	**32.34**	**317**	P	**P**	**13 35 52.9**	**+1.5**
CNB	**Canberra Magne**	**32.36**	**231**	P	**P**	**13 35 51.9**	**+0.5**
CAN	**Canberra**	**32.63**	**231**	P	**P**	**13 35 53.1**	**-0.6**
CAN	comp=Z,14nm,0.9s			IAmb	IAmb	13 35 55.0	
CAN	**Canberra**	**32.63**	**231**	P	**P**	**13 35 53.1**	**-0.6**
CAN	comp=Z,14nm,0.9s			pmax	pmax		
PMG	**Port Moresby**	**32.84**	**280**	P	**P**	**13 35 55.6**	**0.0**
PMG	**Port Moresby** comp=Z,36nm,0.8s,baz=105,slow=7.3,SNR=5.5 comp=Z,36nm,0.8s	**32.84**	**280**	P	**P**	**13 35 55.5**	**-0.1**
PMG	**Port Moresby**	**32.84**	**280**	P	**P**	**13 35 56.5**	**+0.9**
PMG	**Port Moresby**	**32.84**	**280**	P	**P**	**13 35 56.7**	**+1.1**
PMG	**Port Moresby**	**32.84**	**280**	⇓*i*P	**P**	**13 35 56.8**	**+1.1**
PMG	comp=Z,54nm,1.0s			pmax	pmax		
MTSU	**Mount Surprise**	**33.85**	**264**	P	**P**	**13 36 03.8**	**-0.4**
CMSA	**Cobar Meteorol**	**33.92**	**239**	P	**P**	**13 36 04.4**	**-0.1**
QLP	**Quilpie**	**34.15**	**249**	P	**P**	**13 36 07.1**	**+0.6**
COEN	**Coen**	**35.51**	**271**	P	**P**	**13 36 17.8**	**-0.1**
COEN	**Coen**	**35.51**	**271**	P	**P**	**13 36 18.1**	**+0.2**
MANU	**Manus Island**	**35.51**	**292**	P	**P**	**13 36 17.7**	**-0.3**
GLAD	**Gladstone**	**35.96**	**223**	P	**P**	**13 36 21.6**	**+0.4**
TOO	**Toolangi**	**36.13**	**230**	P	**P**	**13 36 22.7**	**-0.1**
TOO	comp=Z,39nm,1.4s			IAmb	IAmb	13 36 24.2	
TOO	**Toolangi**	**36.13**	**230**	P	**P**	**13 36 22.7**	**-0.1**
TOO	comp=Z,39nm,1.4s			pmax	pmax		
CORO	**Coronation Par**	**36.76**	**223**	P	**P**	**13 36 28.3**	**+0.6**
BRAT	**Ballarat**	**37.26**	**230**	P	**P**	**13 36 32.7**	**+0.8**
STKA	**Stephens Creek**	**37.38**	**240**	P	**P**	**13 36 33.0**	**0.0**
STKA	**Stephens Creek** comp=Z,29nm,0.5s,baz=86,slow=10,SNR=78 comp=Z,29nm,0.5s	**37.38**	**240**	P	**P**	**13 36 33.1**	**+0.1**
STKA	**Stephens Creek**	**37.38**	**240**	P	**P**	**13 36 33.4**	**+0.4**
STKA	**Stephens Creek**	**37.38**	**240**	P	**P**	**13 36 33.0**	**0.0**
QIS	**Mount Isa**	**38.14**	**259**	P	**P**	**13 36 39.5**	**+0.1**
HTT	**Hallett**	**39.93**	**239**	P	**P**	**13 36 53.9**	**+0.4**
WHYH	**Whyalla** comp=Z,103nm,0.7s	**40.95**	**240**	P	**P**	**13 37 01.8**	**+0.3**
JAY	**Jayapura** comp=Z,33nm,0.5s,baz=143,slow=6.6,SNR=31 comp=Z,33nm,0.5s	**41.30**	**287**	P	**P**	**13 37 04.4**	**-0.2**
JAY	**Jayapura** comp=Z,70nm,1.0s	**41.30**	**287**	P	**P**	**13 37 04.5**	**-0.1**
GENI	**Genyem**	**41.75**	**286**	P	**P**	**13 37 09.5**	**+1.3**
GENI	**Genyem** comp=Z,2μmcomp=Z,167nm,1.0s	**41.75**	**286**	P	**P**	**13 37 09.0**	**+0.8**
BBOO	**Buckleboo**	**42.16**	**240**	P	**P**	**13 37 10.6**	**-0.5**
BBOO	**Buckleboo**	**42.16**	**240**	P	**P**	**13 37 10.9**	**-0.2**
WR8	**Warramunga Arr** comp=Z,17nm,0.5s	**42.97**	**259**	IAmb	IAmb	13 37 17.6	
WB0	**Warramunga Arr**	**43.08**	**260**	P	**P**	**13 37 16.8**	**-1.7**
WRAB	**Tennant Creek**	**43.11**	**259**	P	**P**	**13 37 17.0**	**-1.7**
WRAB	comp=Z,16nm,0.9s			IAmb	IAmb	13 37 18.5	
WRAB	**Tennant Creek**	**43.11**	**259**	P	**P**	**13 37 17.0**	**-1.7**
WRAB	comp=Z,16nm,1.0s			pmax	pmax		
WRA	**Warramunga Arr** comp=Z,9.1nm,0.5s,baz=95,slow=7.9,SNR=157	**43.12**	**259**	P	**P**	**13 37 17.0**	**-1.7**
WRA	comp=Z,6.8nm,0.8s,baz=94,slow=3.8,SNR=12			PcP	**PcP**	**13 38 54.0**	**-0.6**
WRA	comp=Z,6.9nm,1.1s,baz=96,slow=8.4,SNR=4.0			pP	**pP**	**13 39 03.1**	**+0.7**
WRA	comp=Z,3.5nm,1.0s,baz=93,slow=4.0,SNR=5.2			ScP	**ScP**	**13 41 48.6**	**-0.9**
WRA	comp=Z,3.2nm,0.8s,baz=93,slow=14,SNR=11			S	**S**	**13 42 58.2**	**-4.8**
SMPI	**Sarmi** comp=Z,73nm,0.8s	**43.33**	**286**	P	**P**	**13 37 21.1**	**+0.7**
AS31	**Alice Springs**	**43.34**	**254**	P	**P**	**13 37 19.6**	**-0.8**
ASAR	**Alice Springs** comp=Z,100nm,0.5s,baz=88,slow=8.0,SNR=2866	**43.34**	**254**	P	**P**	**13 37 19.6**	**-0.9**
ASAR	comp=Z,7.2nm,0.6s,baz=111,slow=3.6,SNR=8.3			PcP	**PcP**	**13 38 54.5**	**-0.8**
ASAR	comp=Z,7.6nm,1.1s,baz=84,slow=8.5,SNR=1.8			pP	**pP**	**13 39 05.8**	**+1.5**
ASAR	comp=Z,3.2nm,0.8s,baz=92,slow=3.5,SNR=7.3			ScP	**ScP**	**13 41 49.7**	**-0.7**
ASAR	comp=Z,13nm,1.0s,baz=90,slow=14,SNR=40 comp=Z,100nm,0.5s			S	**S**	**13 43 01.5**	**-4.5**
MWH	**Mokuaweoweo**	**44.02**	**34**	P	**P**	**13 37 25.6**	**-0.7**
MLH	**Mauna Loa**	**44.14**	**34**	P	**P**	**13 37 27.1**	**+0.3**
HLK	**Haleakala**	**44.73**	**33**	P	**P**	**13 37 31.0**	**-0.3**
BAKI	**Biak** comp=Z,767nmcomp=Z,98nm,0.9s	**46.03**	**286**	P	**P**	**13 37 41.2**	**+0.1**
GUMO	**Guam**	**46.45**	**310**	P	**P**	**13 37 43.9**	**-0.3**
GUMO	**Guam**	**46.45**	**310**	P	**P**	**13 37 45.3**	**+1.1**
GUMO	**Guam**	**46.45**	**310**	P	**P**	**13 37 43.9**	**-0.3**
GUMO	comp=Z,94nm,0.8s			pmax	pmax		
DRS	**Darwin Rock St** comp=Z,39nm,0.7s	**47.52**	**269**	P	**P**	**13 37 52.7**	**+0.4**
RKPI	**Ransiki, Papua** comp=Z,60nm,0.8s	**47.68**	**284**	P	**P**	**13 37 54.1**	**+0.6**
FORT	**Forrest**	**48.69**	**244**	P	**P**	**13 37 59.6**	**-1.1**
KNRA	**Kununurra**	**48.93**	**264**	P	**P**	**13 38 01.6**	**-1.1**
FAKI	**Fak Fak**	**48.96**	**282**	P	**P**	**13 38 02.0**	**-1.0**
FAKI	comp=Z,22nm,0.7s			IAmb	IAmb	13 38 03.1	
SWI	**Sorong**	**50.62**	**284**	P	**P**	**13 38 13.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**51.50**	**261**	P	**P**	**13 38 21.9**	**+0.5**
MSAI	**Masohi** comp=Z,48nm,0.8s	**51.92**	**280**	P	**P**	**13 38 24.5**	**0.0**
SOEI	**Soe**	**54.48**	**270**	P	**P**	**13 38 43.0**	**+0.4**
SOEI	**Soe**	**54.48**	**270**	P	**P**	**13 38 44.7**	**+2.0**
SOEI	**Soe**	**54.48**	**270**	P	**P**	**13 38 43.6**	**+0.9**
TNTI	**Ternate**	**54.84**	**284**	P	**P**	**13 38 44.2**	**-0.9**
TNTI	**Ternate**	**54.84**	**284**	P	**P**	**13 38 46.1**	**+1.0**
TNTI	**Ternate** comp=Z,1μmcomp=Z,87nm,0.8s	**54.84**	**284**	P	**P**	**13 38 45.3**	**+0.2**
SANI	**Sanana**	**55.12**	**280**	P	**P**	**13 38 47.8**	**+0.8**
SANI	**Sanana** comp=Z,704nmcomp=Z,95nm,0.9s	**55.12**	**280**	P	**P**	**13 38 46.2**	**-0.8**
PSA00	**Pilbara Seismi**	**56.44**	**255**	P	**P**	**13 38 54.7**	**-1.3**
PSA00	comp=Z,41nm,1.0s			IAmb	IAmb	13 38 56.5	
PSA00	**Pilbara Seismi** comp=Z,81nm,0.9s	**56.44**	**255**	IAmb	IAmb	13 38 56.4	
PSA00	**Pilbara Seismi**	**56.44**	**255**	P	**P**	**13 38 55.5**	**-0.5**
MBWA	**Marble Bar**	**56.60**	**256**	P	**P**	**13 38 56.0**	**-1.1**
MBWA	**Marble Bar**	**56.60**	**256**	P	**P**	**13 38 57.2**	**+0.1**
MMRI	**Maumere** comp=Z,51nm,0.7s	**56.70**	**271**	IAmb	IAmb	13 38 58.1	
MMRI	**Maumere**	**56.70**	**271**	P	**P**	**13 38 59.0**	**+1.1**
MEEK	**Meekatharra**	**57.04**	**249**	P	**P**	**13 38 59.0**	**-1.1**
EDFI	**Ende, Flores** comp=Z,676nmcomp=Z,63nm,0.7s	**57.19**	**271**	P	**P**	**13 39 00.7**	**-0.6**
SGSI	**Sangihe**	**57.66**	**286**	P	**P**	**13 39 04.4**	**0.0**
KMSI	**Cibinong**	**57.92**	**282**	P	**P**	**13 39 05.8**	**-0.3**
NWAO	**Narrogin (SRO)**	**57.94**	**242**	P	**P**	**13 39 04.8**	**-1.1**
NWAO	comp=Z,18nm,0.6s			IAmb	IAmb	13 39 05.9	
NWAO	**Narrogin (SRO)**	**57.94**	**242**	P	**P**	**13 39 05.9**	**-0.1**
NWAO	**Narrogin (SRO)**	**57.94**	**242**	P	**P**	**13 39 06.5**	**+0.5**
NWAO	**Narrogin (SRO)**	**57.94**	**242**	P	**P**	**13 39 04.9**	**-1.1**
NWAO	comp=Z,18nm,0.6s			pmax	pmax		
BLDU	**Ballidu**	**58.47**	**245**	P	**P**	**13 39 08.8**	**-0.8**
LUWI	**Luwuk**	**58.48**	**280**	P	**P**	**13 39 10.5**	**+0.6**
LUWI	**Luwuk** comp=Z,104nm,1.2s	**58.48**	**280**	P	**P**	**13 39 10.6**	**+0.6**
MORW	**Morawa** comp=Z,33nm,0.6s	**59.14**	**246**	IAmb	IAmb	13 39 13.9	
MORW	**Morawa**	**59.14**	**246**	P	**P**	**13 39 13.4**	**-0.7**
APSI	**Ampana** comp=Z,1μmcomp=Z,96nm,0.9s	**59.59**	**280**	P	**P**	**13 39 18.0**	**+0.7**
MRSI	**Marisa** comp=Z,912nmcomp=Z,38nm,1.0s	**59.79**	**281**	P	**P**	**13 39 18.3**	**-0.3**
BNSI	**Bone** comp=Z,847nmcomp=Z,68nm,1.4s	**59.93**	**275**	P	**P**	**13 39 19.8**	**+0.2**
KAPI	**Kappang**	**60.08**	**274**	P	**P**	**13 39 19.7**	**-0.9**
KAPI	comp=Z,43nm,1.4s			IAmb	IAmb	13 39 21.3	
KAPI	**Kappang** comp=Z,43nm,1.4s	**60.08**	**274**	P	**P**	**13 39 19.7**	**-0.9**
KAPI				pmax	pmax		
SPSI	**Sidrap Palu** comp=Z,37nm,1.0s	**60.38**	**276**	P	**P**	**13 39 22.0**	**-0.5**
VNDA	**Vanda**	**60.61**	**184**	P	**P**	**13 39 23.7**	**+0.8**
VNDA	**Vanda** comp=Z,4.3nm,0.7s,baz=25,slow=6.6,SNR=24 comp=Z,4.3nm,0.7s	**60.61**	**184**	P	**P**	**13 39 23.5**	**+0.6**
VNDA	**Vanda**	**60.61**	**184**	P	**P**	**13 39 23.7**	**+0.8**
VNDA	comp=Z,6.0nm,1.0s			pmax	pmax		
PLAI	**Plampang**	**60.90**	**270**	P	**P**	**13 39 25.9**	**-0.1**
PLAI	**Plampang** comp=Z,1μmcomp=Z,102nm,1.1s	**60.90**	**270**	P	**P**	**13 39 25.6**	**-0.4**
TOLI2	**Tolitoli**	**61.09**	**281**	P	**P**	**13 39 26.1**	**-1.1**
TOLI2	**Tolitoli**	**61.09**	**281**	P	**P**	**13 39 27.5**	**+0.3**
PCI	**Palu**	**61.29**	**279**	P	**P**	**13 39 30.1**	**+1.6**
TWSI	**Taliwang, Sumb**	**61.78**	**269**	P	**P**	**13 39 30.9**	**-0.8**
JAGI	**Jajag, Banyuwa**	**64.45**	**269**	P	**P**	**13 39 46.7**	**-2.1**
JAGI	**Jajag, Banyuwa**	**64.45**	**269**	P	**P**	**13 39 49.4**	**+0.6**
JAGI	**Jajag, Banyuwa** comp=Z,80nm,1.0s	**64.45**	**269**	P	**P**	**13 39 47.5**	**-1.3**
MYLDM	**Lahad Datu** comp=Z,47nm,1.1s	**64.69**	**285**	IAmb	IAmb	13 39 53.9	
MYLDM	**Lahad Datu**	**64.69**	**285**	P	**P**	**13 39 52.8**	**+2.5**
CASY	**Casey**	**65.74**	**205**	P	**P**	**13 39 55.5**	**-0.4**
CASY	comp=Z,41nm,0.9s			IAmb	IAmb	13 39 57.2	
JGF	**Kuroka**	**66.54**	**323**	P	**P**	**13 40 00.3**	**-1.1**
JGF	**Kuroka**	**66.54**	**323**	P	**P**	**13 40 02.0**	**+0.7**
MJAR	**Matsushiro Arr**	**66.73**	**324**	P	**P**	**13 40 01.0**	**-1.5**
MJAR	**Matsushiro Arr** comp=Z,14nm,0.7s,baz=159,slow=6.0,SNR=49 comp=Z,14nm,0.7s	**66.73**	**324**	P	**P**	**13 40 01.3**	**-1.2**
MJAR	**Matsushiro Arr**	**66.73**	**324**	P	**P**	**13 40 01.0**	**-1.5**
MJAR	comp=Z,9.0nm,0.7s			pmax	pmax		
MAJO	**Matsushiro**	**66.73**	**324**	P	**P**	**13 40 01.2**	**-1.2**
MAJO	comp=Z,18nm,0.7s			IAmb	IAmb	13 40 03.0	
MAJO	**Matsushiro**	**66.73**	**324**	P	**P**	**13 40 02.1**	**-0.4**
MAJO	**Matsushiro**	**66.73**	**324**	⇓*i*P	**P**	**13 40 01.4**	**-1.1**
MAJO	comp=Z,17nm,0.7s			pmax	pmax		
MJB9	**Matsu-Tunnel** comp=Z,18nm,0.6s	**66.74**	**324**	IAmb	IAmb	13 40 04.0	
JMN	**Monobe**	**67.33**	**319**	P	**P**	**13 40 05.8**	**-0.5**
JMN	comp=Z,24nm,1.0s			IAmb	IAmb	13 40 07.9	
JMN	**Monobe**	**67.33**	**319**	P	**P**	**13 40 07.4**	**+1.2**
WOJI	**Wonogiri, Jawa** comp=Z,91nm,1.3s	**67.70**	**269**	P	**P**	**13 40 08.9**	**0.0**
JSD	**Sado**	**67.79**	**325**	P	**P**	**13 40 09.8**	**+1.0**
SBUM	**Sibu**	**69.58**	**279**	P	**P**	**13 40 18.8**	**-1.4**
SBUM	comp=Z,15nm,0.9s			IAmb	IAmb	13 40 21.7	
SBUM	**Sibu** comp=Z,20nm,1.1s	**69.58**	**279**	P	**P**	**13 40 21.0**	**+0.8**
KPJI	**Karang Pucung** comp=Z,50nm,0.9s	**69.74**	**269**	P	**P**	**13 40 20.5**	**-0.6**
BBJI	**Bungbulang**	**70.92**	**268**	P	**P**	**13 40 27.7**	**-0.5**
NIKH	**Nikolski High** baz=191	**70.96**	**7**	P	**P**	**13 40 26.3**	**-1.1**
KSM	**Kuching**	**71.06**	**278**	P	**P**	**13 40 29.7**	**+0.8**
UNV	**Unalaska Valle** baz=194	**72.12**	**8**	P	**P**	**13 40 33.8**	**-0.3**
QSPA	**South Pole Qui**	**72.44**	**180**	P	**P**	**13 40 37.9**	**+1.8**
QSPA	**South Pole Qui** comp=Z,30nm,0.7s,baz=341,slow=0.4,SNR=269 comp=Z,30nm,0.7s	**72.44**	**180**	P	**P**	**13 40 38.0**	**+1.9**
YSS	**Yuzhno-Sakhali**	**72.45**	**334**	P	**P**	**13 40 35.0**	**-1.2**
YSS	comp=Z,23nm,0.9s			IAmb	IAmb	13 40 38.1	
YSS	**Yuzhno-Sakhali**	**72.45**	**334**	P	**P**	**13 40 37.9**	**+1.7**
YSS	**Yuzhno-Sakhali**	**72.45**	**334**	⇓*i*P	**P**	**13 40 36.8**	**+0.6**
YSS				pmax	pmax		
PETK	**Petropavlovsk-** comp=Z,12nm,0.9s,baz=126,slow=6.3,SNR=20 comp=Z,12nm,0.9s	**73.00**	**346**	P	**P**	**13 40 38.4**	**-0.9**
KSRS	**Korea Array** comp=Z,2.6nm,0.7s,baz=131,slow=6.2,SNR=20 comp=Z,2.6nm,0.7s	**73.43**	**319**	P	**P**	**13 40 42.0**	**0.0**
KSRS	**Korea Array**	**73.43**	**319**	P	**P**	**13 40 42.0**	**0.0**
KSAR	**Wonju Array Be**	**73.45**	**319**	P	**P**	**13 40 42.0**	**-0.1**
KSAR	**Wonju Array Be**	**73.45**	**319**	P	**P**	**13 40 42.0**	**-0.1**
FALS	**False Pass** baz=197	**73.57**	**10**	P	**P**	**13 40 42.0**	**-0.3**
CHNA	**Chernabura Isl** baz=200	**74.24**	**12**	P	**P**	**13 40 46.4**	**+0.2**
P08K	**Saint George I** baz=190	**74.46**	**6**	P	**P**	**13 40 47.0**	**-0.3**
SDPT	**Sand Point** baz=199	**74.56**	**11**	P	**P**	**13 40 47.1**	**-0.8**
S12K	**Black Hills** baz=198	**74.61**	**10**	P	**P**	**13 40 47.3**	**-0.9**
MSHR	**Mys Shultsa**	**74.84**	**325**	*e*P	**P**	**13 40 50.8**	**+1.0**
MSHR	comp=Z,23nm,0.9s			pmax	pmax		
SPIA	**Saint Paul Isl** baz=190	**74.96**	**6**	P	**P**	**13 40 49.7**	**-0.4**
USRK	**Ussuriysk Ar.** comp=Z,3.0nm,0.6s,baz=139,slow=5.5,SNR=11 comp=Z,3.0nm,0.6s	**75.48**	**327**	P	**P**	**13 40 53.8**	**+0.4**
S14K	**Fog Glacier** baz=200	**75.62**	**12**	P	**P**	**13 40 52.4**	**-1.5**
TYV	**Tymovskoe**	**75.62**	**337**	*e*P	**P**	**13 40 54.1**	**+0.2**
TYV	comp=Z,300nm,2.6s			pmax	pmax		
TYV	comp=Z,18nm,1.3s			pmax	pmax		
CHGN	**Chignik** comp=Z,33nm,1.0s	**75.86**	**12**	IAmb	IAmb	13 40 54.8	
CHGN	**Chignik** baz=201	**75.86**	**12**	P	**P**	**13 40 53.9**	**-1.1**
NJ2	**Nanjing**	**76.53**	**310**	*e*P	**P**	**13 41 00.3**	**+0.9**
NJ2	comp=Z,14nm,0.7s			pmax	pmax		
MDJ	**Mudanjiang**	**77.04**	**326**	P	**P**	**13 41 02.3**	**+0.4**
MDJ	comp=Z,27nm,1.1s			pmax	pmax		
MDJ	**Mudanjiang**	**77.04**	**326**	P	**P**	**13 41 03.7**	**+1.8**
BTDF	**Bukit Timah Da**	**77.22**	**276**	P	**P**	**13 41 04.5**	**+0.9**
MYKOM	**Kota Tinggi**	**77.28**	**276**	P	**P**	**13 41 03.1**	**-0.8**
MYKOM	comp=Z,30nm,1.0s			IAmb	IAmb	13 41 05.1	
MYKOM	**Kota Tinggi**	**77.28**	**276**	P	**P**	**13 41 04.7**	**+0.8**
R17L	**Mt. Peulik Vol** baz=203	**77.52**	**13**	P	**P**	**13 41 03.4**	**-0.8**
OHAK	**Old Harbor** baz=206	**77.84**	**15**	P	**P**	**13 41 05.6**	**-0.2**
R18K	**Karluk** baz=205	**77.88**	**14**	P	**P**	**13 41 05.7**	**-0.3**
O14K	**Tigyukauivet M** baz=198	**78.13**	**10**	P	**P**	**13 41 06.9**	**-0.4**
Q17K	**Contact Creek** baz=204	**78.20**	**13**	P	**P**	**13 41 07.0**	**-0.9**
DL2	**Dalian**	**78.29**	**317**	P	**P**	**13 41 07.8**	**-0.9**
DL2	comp=Z,36nm,0.7s			pmax	pmax		
O15K	**Ungalikthiuk R** baz=200	**78.30**	**10**	P	**P**	**13 41 07.9**	**-0.3**
O02D	**Mt. Diablo Mer** comp=Z,24nm,1.2s	**78.37**	**41**	IAmb	IAmb	13 41 11.8	
Q16K	**King Salmon** baz=203	**78.42**	**12**	P	**P**	**13 41 08.8**	**-0.1**
VES	**Vestal, Richgr** comp=Z,20nm,0.8s	**78.44**	**46**	IAmb	IAmb	13 41 11.1	
P16K	**Nushagak River** baz=202	**78.49**	**11**	P	**P**	**13 41 09.2**	**-0.1**
KDAK	**Kodiak Island**	**78.51**	**15**	*e*P	**P**	**13 41 07.9**	**-1.5**
KDAK	comp=Z,14nm,0.9s			pmax	pmax		
KDAK	**Kodiak Island** baz=207	**78.51**	**15**	P	**P**	**13 41 09.3**	**-0.1**
TPO	**Tropico Hills** comp=Z,17nm,0.9s	**78.54**	**48**	IAmb	IAmb	13 41 12.3	
N14K	**Kuskokwak Cree**	**78.70**	**9**	P	**P**	**13 41 09.9**	**-0.4**
N14K	**Kuskokwak Cree** baz=198,SNR=8.9	**78.70**	**9**	P	**P**	**13 41 10.1**	**-0.2**
Q18K	**Katmai Hardscr** baz=204,SNR=7.1	**78.74**	**13**	P	**P**	**13 41 09.6**	**-1.2**
CN2	**Changchun**	**78.82**	**323**	P	**P**	**13 41 11.5**	**+0.1**
CN2				PcP	**PcP**	**13 41 17.5**	**-0.1**
CN2				S	**S**	**13 50 22.0**	**+0.7**
CN2				ScS	**SKKSac**	**13 50 35.5**	**+3.0**
CN2	comp=Z,30nm,0.9s			pmax	pmax		
M13K	**Dall Lake** baz=196	**78.92**	**8**	P	**P**	**13 41 11.0**	**-0.5**
BNX	**BinXian**	**78.94**	**326**	⇓P	**P**	**13 41 11.8**	**-0.2**
BNX	comp=Z,27nm,1.0

NV11	Mina Array Sit comp=Z,19nm,1.1s	80.43	45	IAmb	IAmb	13 41 22.1			
GMN	Gold Mountain	80.45	46	P	P	13 41 20.7	+0.3		
J04A	Umpqua Nationa comp=Z,30nm,0.7s	80.54	39	IAmb	IAmb	13 41 22.7			
O20K	Slope Mountain baz=206	80.56	14	P	P	13 41 20.1	-0.2		
BRSE	Bradley Lake S baz=208	80.70	15	P	P	13 41 20.7	-0.1		
L16K	Owhat River comp=Z,30nm,1.1s	80.75	10	IAmb	IAmb	13 41 22.7			
L16K	Owhat River baz=200,SNR=9.0	80.75	10	P	P	13 41 21.3	+0.2		
IPM	Ipoh	80.80	278	P	P	13 41 22.9	+0.4		
M17K	Holitna River baz=202,SNR=13	80.80	11	P	P	13 41 21.1	-0.3		
N19K	Bonanza Creek comp=Z,21nm,1.0s	80.83	12	IAmb	IAmb	13 41 21.8			
N19K	Bonanza Creek baz=205,SNR=7.0	80.83	12	P	P	13 41 20.9	-0.7		
TPH	Tonopah comp=Z,26nm,1.1s	80.87	45	IAmb	IAmb	13 41 24.4			
TPNV	Topopah Spring comp=Z,16nm,1.1s	80.97	47	IAmb	IAmb	13 41 25.1			
K15K	Wolf Creek Mou baz=198,SNR=16	80.99	9	P	P	13 41 22.8	+0.5		
K05A	Summer Lake comp=Z,32nm,1.1s	80.99	40	IAmb	IAmb	13 41 25.2			
J14K	Nanvaranak Lak baz=196	81.15	8	P	P	13 41 23.2	+0.1		
M18K	Stony River baz=203,SNR=5.2	81.18	12	P	P	13 41 23.9	+0.6		
WIFE	Three Sisters- comp=Z,16nm,0.9s	81.19	38	IAmb	IAmb	13 41 25.8			
H04A	Detroit Lake comp=Z,13nm,0.8s	81.33	38	IAmb	IAmb	13 41 25.7			
SEW	Seward baz=210	81.33	15	P	P	13 41 24.3	+0.2		
L17K	Donlin baz=201,SNR=10	81.34	10	P	P	13 41 24.2	+0.1		
GAMB	Gambell baz=188	81.39	4	P	P	13 41 24.4	+0.1		
KULM	Kulim comp=Z,28nm,0.9s	81.41	278	IAmb	IAmb	13 41 26.9			
KULM	Kulim	81.41	278	P	P	13 41 26.3	+0.7		
CAPN	Captain Cook N baz=208	81.51	14	P	P	13 41 24.7	-0.2		
PINE	Pine Mountain comp=Z,28nm,0.8s	81.56	39	IAmb	IAmb	13 41 28.1			
O22K	Cooper Landing baz=209	81.59	15	P	P	13 41 25.1	-0.3		
I05D	Terrebonne, OR comp=Z,27nm,1.0s	81.63	38	IAmb	IAmb	13 41 27.8			
SPCR	Spurr Chakacha baz=207	81.66	13	P	P	13 41 25.2	-0.7		
S11A	Rachel comp=Z,19nm,0.8s	81.67	46	IAmb	IAmb	13 41 28.4			
SPU	Mount Spurr comp=Z,18nm,1.1s	81.68	13	IAmb	IAmb	13 41 25.7			
L18K	Granite Mounta comp=Z,21nm,0.9s	81.70	11	IAmb	IAmb	13 41 27.6			
L18K	Granite Mounta baz=202,SNR=8.1	81.70	11	P	P	13 41 25.9	0.0		
P23K	Montague Islan baz=211	81.76	16	P	P	13 41 25.4	-0.8		
HEH	HeiHe	81.84	329	eP	P	13 41 26.3	-0.6		
HEH	comp=Z,14nm,1.5s			pmax	pmax				
M19K	Big River Lodg baz=205	81.84	12	P	P	13 41 26.1	-0.6		
K17K	Iditarod comp=Z,19nm,1.1s	81.88	10	IAmb	IAmb	13 41 33.8			
K17K	Iditarod baz=201	81.88	10	P	P	13 41 26.4	-0.5		
HOOD	Mount Hood Mea comp=Z,24nm,1.0s	82.00	37	IAmb	IAmb	13 41 29.5			
L19K	White Mountain comp=Z,31nm,0.9s	82.00	12	IAmb	IAmb	13 41 28.8			
L19K	White Mountain baz=204,SNR=17	82.00	12	P	P	13 41 26.8	-0.8		
STLK	Strandline Lak comp=Z,20nm,0.8s	82.01	13	IAmb	IAmb	13 41 27.1			
PRN	Pahroc Range comp=Z,22nm,0.8s	82.03	47	IAmb	IAmb	13 41 30.7			
J16K	Anvik River comp=Z,25nm,0.8s	82.06	9	IAmb	IAmb	13 41 29.4			
J16K	Anvik River baz=199,SNR=5.1	82.06	9	P	P	13 41 27.4	-0.3		
M20K	Styx River baz=206	82.08	13	P	P	13 41 27.4	-0.6		
RC01	Rabbit Creek A comp=Z,39nm,1.1s	82.12	14	IAmb	IAmb	13 41 29.3			
RC01	Rabbit Creek A baz=209	82.12	14	P	P	13 41 27.7	-0.4		
HNS	HongShan	82.15	313	⇓P	P	13 41 29.5	+0.7		
HNS	comp=Z,10.0nm,1.7s			pmax	pmax				
SUA	Susitna One comp=Z,32nm,0.9s	82.22	14	IAmb	IAmb	13 41 28.9			
SUA	Susitna One baz=208,SNR=6.0	82.22	14	P	P	13 41 28.0	-0.7		
WVOR	Wild Horse Val comp=Z,21nm,0.9s	82.22	41	IAmb	IAmb	13 41 31.2			
PWL	Port Wells baz=210	82.26	15	P	P	13 41 28.2	-0.7		
J17K	VABM Dome comp=Z,25nm,1.2s	82.40	9	IAmb	IAmb	13 41 31.4			
J17K	VABM Dome baz=200	82.40	9	P	P	13 41 28.9	-0.6		
LYN	LuoYang	82.41	310	P	P	13 41 31.5	+1.3		
LYN	comp=Z,43nm,0.7s			pmax	pmax				
BJT	Baijiatuau	82.46	316	P	P	13 41 31.2	+0.9		
BJI	Beijing	82.46	316	P	P	13 41 30.5	+0.2		
BJI				SKS	SKSac	13 50 51.3	-3.4		
BJI	comp=Z,10.0nm,0.9s			pmax	pmax				
BJI	comp=Z,85nm,6.2s			pmax	pmax				
BJI	comp=N,75nm,18.8s			LR	LR				
BJI	comp=E,81nm,18.7s			LR	LR				
BJI	comp=Z,72nm,17.3s			LR	LR				
L20K	Farewell, AK baz=205,SNR=9.4	82.47	12	P	P	13 41 29.5	-0.3		
SKT	Skwentna baz=207	82.50	13	P	P	13 41 28.9	-1.1		
KAIM	Kayak Island baz=214	82.51	17	P	P	13 41 29.1	-1.0		
I07A	Izee comp=Z,14nm,0.8s	82.58	39	IAmb	IAmb	13 41 32.9			
GLI	Glacier Island baz=212	82.59	16	P	P	13 41 29.6	-0.9		
M22K	Willow baz=209	82.62	14	P	P	13 41 29.8	-0.7		
I17K	Unalakleet baz=199	82.62	9	P	P	13 41 29.5	-1.0		
EYAK	Cordova Ski Ar baz=213	82.66	16	P	P	13 41 29.7	-1.1		
PMR	Palmer comp=Z,35nm,1.4s	82.70	14	IAmb	IAmb	13 41 31.4			
PMR	Palmer	82.70	14	P	P	13 41 31.8	+0.8		
PMR	Palmer baz=210	82.70	14	P	P	13 41 30.1	-0.8		
KNK	Knik Glacier baz=210	82.71	15	P	P	13 41 30.7	-0.3		
ENH	Enshi	82.79	305	P	P	13 41 33.1	+0.9		
CBB	Campbell River comp=Z,14nm,1.0s	82.80	32	IAmb	IAmb	13 41 33.3			
J08A	Circle Bar Ran comp=Z,19nm,0.8s	82.82	40	IAmb	IAmb	13 41 34.0			
J18K	Innoko River baz=202	82.85	10	P	P	13 41 30.9	-0.9		
CRAG	Craig baz=225	82.91	25	P	P	13 41 31.3	-0.9		
BGLC	Bering Glacier baz=215	82.99	18	P	P	13 41 31.4	-1.0		
SML	Sawmill baz=210	83.08	15	P	P	13 41 32.0	-1.0		
GSI	Gunungsitoli	83.09	274	P	P	13 41 34.9	+0.8		
SEY	Seymchan	83.14	348	⇑P	P	13 41 32.0	-1.1		
SEY	comp=Z,16nm,0.6s			pmax	pmax				
CUT	Chulitna baz=209,SNR=11	83.16	13	P	P	13 41 32.1	-1.1		
PPLA	Purkeypile	83.18	12	P	P	13 41 32.7	-0.8		
M23K	Glacier View baz=211	83.22	15	P	P	13 41 33.5	-0.1		
SIT	Sitka baz=223	83.22	23	P	P	13 41 33.0	-0.6		
K20K	Telida comp=Z,25nm,0.9s	83.23	11	IAmb	IAmb	13 41 34.4			
K20K	Telida baz=205,SNR=16	83.23	11	P	P	13 41 33.1	-0.5		
X16A	Lo Mia Camp, P comp=Z,16nm,1.0s	83.23	51	IAmb	IAmb	13 41 37.0			
G15K	Niukluk baz=195	83.26	7	P	P	13 41 33.3	-0.4		
BMRM	Bremner River baz=214	83.32	17	P	P	13 41 33.2	-1.0		
SCM	Sheep Creek Mo baz=211,SNR=6.5	83.35	15	P	P	13 41 33.7	-0.7		
U33K	Whale Pass comp=Z,15nm,0.8s	83.37	24	IAmb	IAmb	13 41 36.1			
U33K	Whale Pass baz=225	83.37	24	P	P	13 41 34.4	0.0		
KLU	Klutina baz=213	83.41	16	P	P	13 41 34.7	0.0		
V35K	Ketchikan comp=Z,23nm,1.1s	83.42	26	IAmb	IAmb	13 41 36.4			
V35K	Ketchikan baz=226	83.42	26	P	P	13 41 34.7	0.0		
MESA	MESA baz=216	83.43	18	P	P	13 41 34.5	-0.4		
TNA	Tin City baz=192	83.43	5	P	P	13 41 34.5	0.0		
MXC	Moxie City comp=Z,12nm,1.0s	83.50	37	IAmb	IAmb	13 41 37.0			
GYA	Guiyang	83.51	300	⇓P	P	13 41 36.5	+0.5		
GYA	comp=Z,20nm,1.1s			pmax	pmax				
J19K	Poorman baz=204	83.53	11	P	P	13 41 35.0	-0.1		
319A	Douglas comp=Z,14nm,1.1s	83.55	54	IAmb	IAmb	13 41 38.8			
S31K	Pelican baz=222	83.56	22	P	P	13 41 35.4	+0.1		
CRQE	Cirque baz=215	83.56	17	P	P	13 41 35.6	+0.2		
G08A	Pilot Rock comp=Z,14nm,0.9s	83.56	38	IAmb	IAmb	13 41 37.5			
MAW	Mawson comp=Z,14nm,0.5s,baz=131,slow=4.7,SNR=98 comp=Z,14nm,0.5s	83.59	200	P	P	13 41 35.3	-0.1		
SURA	Surathani	83.61	282	P	P	13 41 37.2	+0.6		
LTY	Liberty comp=Z,12nm,1.0s	83.66	36	IAmb	IAmb	13 41 37.4			
H17K	Granite Mounta baz=199	83.73	8	P	P	13 41 36.2	+0.2		
E07A	Sunnyside comp=Z,16nm,0.8s	83.74	37	IAmb	IAmb	13 41 38.3			
PNL	Peninsula baz=219	83.81	19	P	P	13 41 36.1	-0.5		
HAWA	Hanford comp=Z,22nm,0.9s	83.83	37	IAmb	IAmb	13 41 38.8			
G16K	Koyuk River baz=197	83.85	7	P	P	13 41 37.0	+0.4		
VRDI	Verde Repeater comp=Z,21nm,1.0s	83.86	17	IAmb	IAmb	13 41 37.7			
N25K	Chitina, Valde baz=214,SNR=9.6	83.86	16	P	P	13 41 36.5	-0.4		
M24K	Tolsona, Glenn baz=212	83.87	15	P	P	13 41 37.0	+0.1		
PINM	Pinnacle baz=218	83.88	19	P	P	13 41 36.8	-0.2		
F15K	North Star Dit baz=195	83.89	6	P	P	13 41 37.0	+0.2		
WAT6	Susitna Watana baz=211,SNR=7.5	83.89	14	P	P	13 41 36.9	-0.2		
WRAK	Wrangell Islan comp=Z,15nm,0.9s	83.89	24	IAmb	IAmb	13 41 38.6			
WRAK	Wrangell Islan baz=225	83.89	24	P	P	13 41 36.4	-0.6		
SLVN	Son La	83.91	295	P	P	13 41 38.9	+0.9		
WAT1	Susitna Watana baz=210	83.92	14	P	P	13 41 36.9	-0.2		
T33K	Petersburg baz=225	83.94	24	P	P	13 41 37.2	0.0		
J20K	Nowinta River comp=Z,16nm,1.3s	83.96	11	IAmb	IAmb	13 41 37.5			
J20K	Nowinta River baz=205	83.96	11	P	P	13 41 36.9	-0.3		
GCSA	Galena City Sc baz=202	84.01	10	P	P	13 41 37.1	-0.2		
KTH	Kantishna Hill comp=Z,24nm,1.0s	84.03	13	IAmb	IAmb	13 41 37.1			
CHUM	Lake Minchumin baz=207,SNR=5.4	84.04	12	P	P	13 41 37.3	-0.2		
TRF	Thorofare Moun comp=Z,24nm,0.8s	84.08	13	IAmb	IAmb	13 41 37.8			
TRF	Thorofare Moun baz=208,SNR=13	84.08	13	P	P	13 41 36.5	-1.4		
MCARA	McCarthy VSAT comp=Z,29nm,1.1s	84.10	17	IAmb	IAmb	13 41 39.3			
MCARA	McCarthy VSAT baz=215	84.10	17	P	P	13 41 36.9	-1.1		
E08A	Dider Farm, El comp=Z,19nm,0.9s	84.16	37	IAmb	IAmb	13 41 40.2			
H18K	Honhosa River baz=201	84.16	9	P	P	13 41 37.5	-0.7		
G17K	Kiwalik Mounta baz=199	84.17	8	P	P	13 41 37.5	-0.6		
ZEA	Zeya	84.17	332	eP	P	13 41 39.1	+0.7		
ZEA	comp=N,10.0nm,0.9s			pmax	pmax				
ZEA	comp=Z,10.0nm,1.2s			pmax	pmax				
DUN6	Lazy B Ranch comp=Z,27nm,1.3s	84.19	53	IAmb	IAmb	13 41 43.0			
BARN	Barnard Glacie comp=Z,24nm,1.0s	84.23	18	IAmb	IAmb	13 41 39.6			
CTG	Chitna Glacier baz=217	84.24	18	P	P	13 41 37.9	-0.9		
P29M	Windy Craggy baz=220	84.31	20	P	P	13 41 37.9	-1.2		
HARP	HAARP baz=213	84.37	16	P	P	13 41 38.7	-0.6		
DHY	Denali Highway baz=211	84.40	14	P	P	13 41 39.0	-0.6		
R32K	Eaglecrest baz=223	84.41	22	P	P	13 41 38.7	-0.8		
O28M	Mount Upton baz=218	84.43	18	P	P	13 41 38.8	-1.1		
I20K	Naaghedeneel baz=204	84.47	11	P	P	13 41 38.5	-1.1		
U35K	Hyder baz=227	84.48	26	P	P	13 41 39.0	-0.8		
XLT	XiLinHaoTe	84.48	319	eP	P	13 41 40.5	+0.2		
XLT	comp=Z,22nm,0.8s			pmax	pmax				
XLT	comp=Z,100nm,6.0s			pmax	pmax				
MFID	Camas Ranch comp=Z,14nm,1.0s	84.50	41	IAmb	IAmb	13 41 42.2			
BPAW	Bear Paw Mtn. baz=208	84.50	12	P	P	13 41 40.0	+0.1		
D08A	Wollman Farm, comp=Z,15nm,0.9s	84.55	37	IAmb	IAmb	13 41 42.1			
O29M	Mount Kennedy baz=219	84.56	19	P	P	13 41 40.2	-0.2		
MCK	McKinley comp=Z,19nm,1.0s	84.62	13	IAmb	IAmb	13 41 40.7			
MCK	McKinley baz=210,SNR=5.2	84.62	13	P	P	13 41 40.4	-0.1		
PLBC	Pleasant Camp baz=222	84.64	21	P	P	13 41 40.0	-0.6		
E09A	Wood Farm, Sta comp=Z,16nm,1.2s	84.70	38	IAmb	IAmb	13 41 43.3			
PAX	Paxson baz=213	84.78	15	P	P	13 41 40.9	-0.4		
H19K	Roundabout Mou baz=203	84.81	10	P	P	13 41 40.5	-0.8		
G18K	Tagagawik baz=200	84.81	9	P	P	13 41 40.9	-0.5		
XAN	Xi'an	84.82	308	P	P	13 41 43.3	+1.1		
XAN				pP	pwP	13 43 53.3	+1.1		
XAN	comp=Z,41nm,1.4s			pmax	pmax				
M26K	Nabesna, AK comp=Z,28nm,1.1s	84.94	16	IAmb	IAmb	13 41 43.0			
M26K	Nabesna, AK baz=215,SNR=8.7	84.94	16	P	P	13 41 41.3	-0.8		
P30M	Million Dollar	84.94	20	P	P	13 41 41.9	-0.2		
YUK8	Steele Glacier baz=218	84.96	18	P	P	13 41 41.8	-0.7		
F17K	Baldwin Pennin baz=198	84.99	7	P	P	13 41 41.9	-0.2		
SKAG	Skagway	84.99	21	P	P	13 41 43.0	+0.7		
SKAG	Skagway baz=222	84.99	21	P	P	13 41 42.1	-0.2		
B08A	Colville Reser comp=Z,11nm,0.8s	85.03	36	IAmb	IAmb	13 41 43.7			
H20K	Anotleneega Mo baz=204	85.03	10	P	P	13 41 42.3	-0.2		
T35M	Bob Quinn baz=227	85.12	25	P	P	13 41 42.6	-0.4		
YUK6	Outpost Mounta baz=220	85.12	19	P	P	13 41 42.5	-0.8		
MENT	Mentasta	85.19	16	P	P	13 41 43.9	+0.6		
M27K	Edge Creek, AK comp=Z,33nm,1.4s	85.21	17	IAmb	IAmb	13 41 44.6			
M27K	Edge Creek, AK baz=216,SNR=5.1	85.21	17	P	P	13 41 43.1	-0.4		
I21K	Tanana baz=207	85.27	12	P	P	13 41 43.5	0.0		
G19K	Purcell Mounta baz=202	85.28	9	P	P	13 41 43.8	+0.2		
HYT	Haines Junctio baz=220	85.30	19	P	P	13 41 44.0	0.0		
C09A	Chrisman Ranch comp=Z,14nm,1.1s	85.32	37	IAmb	IAmb	13 41 45.5			
F18K	Selawik baz=200	85.34	8	P	P	13 41 43.6	-0.2		
YUK4	Talbot Arm baz=219	85.35	19	P	P	13 41 44.3	+0.1		
MLY	Manley baz=208	85.38	12	P	P	13 41 44.1	0.0		
K24K	Donnelly Dome baz=213,SNR=7.3	85.40	15	P	P	13 41 44.0	-0.3		
S34M	Telegraph Cree baz=226,SNR=20	85.41	24	P	P	13 41 44.3	-0.1		
HLID	Hailey comp=Z,11nm,0.8s	85.46	42	IAmb	IAmb	13 41 47.3			
E17K	Hotham Inlet baz=198	85.53	7	P	P	13 41 45.2	+0.5		
H21K	Melozitna Rive baz=206	85.55	11	P	P	13 41 44.7	-0.2		
RIDG	Independent Ri comp=Z,17nm,1.0s	85.58	15	IAmb	IAmb	13 41 45.2			
RIDG	Independent Ri baz=214	85.58	15	P	P	13 41 44.0	-1.1		
TMUT	Trail Mountain comp=Z,9.9nm,0.9s	85.58	47	IAmb	IAmb	13 41 48.3			
HDA	Harding Lake	85.65	14	P	P	13 41 43.5	-1.9		
HDA	comp=Z,7.4nm,0.7s			IAmb	IAmb	13 41 45.6			
HDA	Harding Lake baz=212,SNR=8.0	85.65	14	P	P	13 41 44.3	-1.1		
P32M	Atlin comp=Z,10nm,1.0s	85.65	22	IAmb	IAmb	13 41 47.0			
P32M	Atlin baz=224	85.65	22	P	P	13 41 44.6	-0.9		
CCB	Clear Creek Bu comp=Z,12nm,1.0s	85.66	13	IAmb	IAmb	13 41 45.9			
IMAR	Indian Mountai	85.68	10	P	P	13 41 43.9	-1.6		
O30N	Mendenhall baz=222	85.72	20	P	P	13 41 45.2	-0.6		
Q32M	Nakina River comp=Z,10nm,1.1s	85.72	23	IAmb	IAmb	13 41 48.2			
Q32M	Nakina River baz=225,SNR=5.3	85.72	23	P	P	13 41 45.4	-0.7		
I23K	Minto, Yukon-K baz=209	85.76	13	P	P	13 41 45.0	-0.8		
L27K	Beaver Creek, baz=216	85.80	16	P	P	13 41 45.3	-0.9		
F19K	Shaleruckik Mo baz=201	85.82	9	P	P	13 41 45.3	-0.8		
COLA	College	85.84	13	P	P	13 41 46.3	+0.1		
COLA	College baz=211	85.84	13	P	P	13 41 44.9	-1.3		
N30M	Aishikik Lake baz=221	85.92	19	P	P	13 41 44.5	-2.3		
HHC	Hu-ho-hao-te	85.94	315	eP	P	13 41 48.5	+1.1		
HHC	comp=Z,30nm,1.0s			pmax	pmax				
IL31	comp=Z,13nm,1.1s	85.97	14	IAmb	IAmb	13 41 46.8			
ILAR	Eielson Array	85.97	14	P	P	13 41 45.1	-1.8		
ILAR	Eielson Array comp=Z,7.6nm,1.0s,baz=233,slow=5.5,SNR=38	85.97	14	P	P	13 41 44.8	-2.1		
ILAR	comp=Z,1.7nm,1.0s,baz=238,slow=4.8,SNR=6.2 comp=Z,7.6nm,1.0s			pP	pP	13 43 55.8	+1.3		
D17K	Noatak River baz=196	85.98	6	P	P	13 41 45.6	-1.3		
SCRK	Sand Creek baz=214	85.99	15	P	P	13 41 45.7	-1.4		
BILL	Bilibino	85.99	355	P	P	13 41 45.5	-1.4		
BILL	comp=Z,15nm,0.7s			IAmb	IAmb	13 41 47.7			
BILL	Bilibino	85.99	355	⇓P	P	13 41 46.2	-0.7		
BILL	comp=Z,17nm,0.9s			pmax	pmax				
E18K	Tukpahlearik C baz=199	86.00	7	P	P	13 41 45.4	-1.5		
H22K	Ishtalitna Cre baz=207,SNR=6.6	86.03	11	P	P	13 41 46.2	-0.9		
WHY	Whitehorse	86.03	21	P	P	13 41 46.8	-0.6		
WHY	comp=Z,17nm,1.0s			IAmb	IAmb	13 41 48.0			
WHY	Whitehorse baz=223	86.03	21	P	P	13 41 46.4	-1.0		
POKR	Poker Plat Res baz=211	86.15	13	P	P	13 41 46.6	-1.1		
J25K	Salcha River, baz=213,SNR=9.1	86.18	14	P	P	13 41 46.8	-1.2		
DLBC	Dease Lake baz=227,SNR=5.6	86.20	24	P	P	13 41 47.2	-1.0		
G21K	Allakaket baz=205	86.20	10	P	P	13 41 47.5	-0.4		
NEW	Newport comp=Z,9.5nm,0.9s	86.22	37	IAmb	IAmb	13 41 49.5			
M29M	Somme Creek baz=219	86.26	18	P	P	13 41 47.8	-0.6		
TCUT	Toone Canyon comp=Z,17nm,0.8s	86.27	45	IAmb	IAmb	13 41 51.1			
KMI	Kunming	86.28	298	P	P	13 41 50.8	+1.2		
KMI	comp=Z,17nm,0.9s			pmax	pmax				
C16K	Lisburne Hills baz=194	86.32	5	P	P	13 41 47.8	-0.6		
H23K	Yukon River baz=209	86.32	12	P	P	13 41 48.2	-0.3		
F20K	Avaraart Lake baz=203	86.33	9	P	P	13 41 48.0	-0.5		
RDOG	Red Dog Mine baz=196	86.34	6	P	P	13 41 48.2	-0.4		
N31M	Braeburn, Yuko comp=Z,11nm,1.0s	86.35	20	IAmb	IAmb	13 41 50.8			
N31M	Braeburn, Yuko baz=222	86.35	20	P	P	13 41 48.3	-0.5		
P33M	Teslin, Yukon baz=225	86.41	22	P	P	13 41 48.5	-0.7		
BSUT	Blindstream Ca comp=Z,11nm,1.0s	86.45	46	IAmb	IAmb	13 41 52.1			
E19K	Redstone River baz=202	86.48	9	P	P	13 41 49.4	+0.2		
R33M	Jennings River comp=Z,17nm,1.1s	86.50	23	IAmb	IAmb	13 41 51.5			
R33M	Jennings River baz=226,SNR=12	86.50	23	P	P	13 41 49.8	+0.1		
K27K	Chicken baz=216	86.51	16	P	P	13 41 49.3	-0.1		
J26L	Joseph Creek comp=Z,17nm,0.8s	86.53	15	IAmb	IAmb	13 41 50.6			
J26L	Joseph Creek baz=215,SNR=17	86.53	15	P	P	13 41 49.5	-0.1		
H24K	Noodor Dome baz=211	86.67	13	P	P	13 41 50.1	-0.2		
C17K	DeLong Mountai baz=196	86.72	6	P	P	13 41 49.8	-0.5		
PV20	West Nyswonger comp=Z,20nm,1.3s	86.74	48	IAmb	IAmb	13 41 54.4			
PV18	Skein Mesa, Pa comp=Z,22nm,1.4s	86.74	48	IAmb	IAmb	13 41 53.1			
F21K	Alatna River baz=205	86.85	10	P	P	13 41 50.6	-0.3		
M30M	Minto, Yukon comp=Z,26nm,1.3s	86.86	19	IAmb	IAmb	13 41 52.0			
M30M	Minto, Yukon	86.86	19	P	P	13 41 50.6	-0.6		

baz=221,SNR=8.6
L29M L29M **86.87** **18** lAmb lAmb 13 41 53.2
comp=Z,18nm,1.1s
L29M L29M **86.87** **18** P **P** **13 41 51.0 -0.2**
baz=220,SNR=8.8
PRP Porcupine Dome **86.91** **14** lAmb lAmb 13 41 52.3
comp=Z,15nm,1.3s
PRP Porcupine Dome **86.91** **14** P **P** **13 41 50.7 -0.8**
baz=213
G22K Bettles **86.92** **11** P **P** **13 41 50.6 -0.6**
baz=207
PV22 Blue Mesa, Par **86.95** **48** lAmb lAmb 13 41 54.3
comp=Z,11nm,1.1s
N32M Quiet Lake **87.00** **21** P **P** **13 41 51.0 -0.9**
baz=224
G23K Bananza Creek **87.01** **12** P **P** **13 41 51.0 -0.7**
baz=209
PV07 Paradox Valley **87.01** **48** lAmb lAmb 13 41 56.2
comp=Z,13nm,1.2s
C18K Utukok River **87.10** **7** P **P** **13 41 51.6 -0.6**
baz=198
ANMO Albuquerque **87.17** **52** P **P** **13 41 53.2 -0.3**
ANMO Albuquerque **87.17** **52** ⇑*i*P **P** **13 41 53.7 +0.2**
ANMO pmax pmax
comp=Z,9.0nm,0.9s
TX31 Lajitas Ar. Si **87.19** **58** lAmb lAmb 13 41 56.6
comp=Z,25nm,1.2s
TXAR Lajitas Array **87.19** **58** P **P** **13 41 54.4 +0.8**
comp=Z,6.6nm,0.9s,baz=229,slow=5.6,SNR=43
TXAR pP **pwP** **13 44 04.5 +0.1**
comp=Z,1.5nm,1.1s,baz=256,slow=3.9,SNR=5.1
comp=Z,6.6nm,0.9s
DAWY Dawson **87.26** **17** P **P** **13 41 51.9 -1.1**
baz=218
CM31 Chiang Mai Arr **87.29** **290** lAmb lAmb 13 41 56.1
comp=Z,15nm,1.0s
CMAR Chiang Mai Arr **87.29** **290** P **P** **13 41 53.6 -0.5**
CMAR Chiang Mai Arr **87.29** **290** P **P** **13 41 54.5 +0.4**
comp=Z,9.1nm,0.9s,baz=113,slow=3.0,SNR=53
comp=Z,9.1nm,0.9s
I26K Coal Creek Min **87.29** **15** P **P** **13 41 52.6 -0.5**
baz=215
M31M Drury Creek, Y **87.33** **20** lAmb lAmb 13 41 53.9
comp=Z,10nm,1.2s
M31M Drury Creek, Y **87.33** **20** P **P** **13 41 52.4 -0.9**
baz=223
D19K Kuna River **87.33** **8** P **P** **13 41 52.0 -1.3**
baz=201
EGAK Eagle **87.36** **16** lAmb lAmb 13 41 54.0
comp=Z,11nm,0.8s
EGAK Eagle **87.36** **16** P **P** **13 41 52.3 -1.0**
baz=217
E20K Nigu River **87.38** **9** P **P** **13 41 53.1 -0.4**
baz=203
CHTO Chiang Mai **87.40** **291** P **P** **13 41 53.5 -1.1**
CHTO lAmb lAmb 13 41 56.3
comp=Z,14nm,0.9s
CHTO Chiang Mai **87.40** **291** P **P** **13 41 55.9 +1.2**
CHTO Chiang Mai **87.40** **291** P **P** **13 41 53.6 -1.1**
CHTO pmax pmax
comp=Z,14nm,1.0s
COLD Coldfoot **87.43** **11** lAmb lAmb 13 41 54.7
comp=Z,15nm,0.8s
COLD Coldfoot **87.43** **11** P **P** **13 41 52.6 -1.1**
baz=208,SNR=11
DLMT Dillon **87.47** **41** lAmb lAmb 13 41 56.4
comp=Z,11nm,0.8s
H25L Birch Creek **87.48** **13** P **P** **13 41 52.3 -1.6**
baz=213
G24K Hadweenzic Riv **87.50** **12** P **P** **13 41 53.7 -0.4**
baz=211
CD2 Chengdu **87.57** **303** P **P** **13 41 56.0 +0.7**
CD2 pmax pmax
comp=Z,20nm,1.1s
K29M Barlow Dome **87.61** **17** lAmb lAmb 13 41 55.9
comp=Z,14nm,1.1s
K29M Barlow Dome **87.61** **17** P **P** **13 41 54.2 -0.5**
baz=220,SNR=7.3
PZH PanZhiHua **87.61** **299** P **P** **13 41 55.8 +0.1**
TPAW Teton Pass **87.65** **43** lAmb lAmb 13 41 57.7
comp=Z,13nm,1.1s
B18K Kokolik River **87.72** **6** P **P** **13 41 55.0 +0.1**
baz=198
C19K Lookout Ridge **87.72** **7** P **P** **13 41 54.4 -0.7**
baz=200
D20K Etivluk River **87.74** **8** P **P** **13 41 54.4 -0.7**
baz=202
SNOW Snow King Moun **87.77** **43** lAmb lAmb 13 41 58.1
comp=Z,21nm,1.1s
WTLY Watson Lake, Y **87.80** **23** lAmb lAmb 13 41 57.1
comp=Z,12nm,1.0s
WTLY Watson Lake, Y **87.80** **23** P **P** **13 41 55.2 -0.4**
baz=228,SNR=5.6
G25K Bearman Lake **87.84** **13** P **P** **13 41 55.5 -0.1**
baz=212
E21K Killik River **87.88** **9** P **P** **13 41 55.4 -0.4**
baz=205
J29N Klondike Camp **87.88** **17** P **P** **13 41 55.5 -0.5**
baz=220
MAYO Mayo, Yukon **87.90** **18** P **P** **13 41 55.9 -0.1**
baz=222,SNR=6.4
I27K Kandik River **87.91** **15** P **P** **13 41 56.0 0.0**
baz=216
LOHW Long Hollow **87.93** **43** lAmb lAmb 13 41 58.7
comp=Z,8.2nm,1.0s
E22K Anaktuvuk Pass **87.95** **10** lAmb lAmb 13 41 56.9
comp=Z,12nm,1.0s
E22K Anaktuvuk Pass **87.95** **10** P **P** **13 41 56.3 +0.2**
baz=207
O20A White River Ci **88.01** **47** lAmb lAmb 13 41 59.1
comp=Z,18nm,1.0s
S22A 4UR Ranch, Cre **88.02** **49** lAmb lAmb 13 42 00.5
comp=Z,20nm,1.4s
YHB Horse Butte **88.07** **42** lAmb lAmb 13 41 59.9
comp=Z,14nm,1.0s
F24K Squaw Lake **88.12** **12** lAmb lAmb 13 41 57.9
comp=Z,11nm,0.8s
F24K Squaw Lake **88.12** **12** P **P** **13 41 56.6 -0.4**
baz=211,SNR=7.4
YMR Madison River **88.17** **42** lAmb lAmb 13 42 00.5
comp=Z,12nm,0.9s
BOZ Bozeman (W) **88.18** **41** lAmb lAmb 13 41 59.7
comp=Z,11nm,1.2s
I28M Miner Creek **88.20** **16** lAmb lAmb 13 41 57.8
comp=Z,7.6nm,0.8s
I28M Miner Creek **88.20** **16** P **P** **13 41 57.3 -0.2**
baz=218
BW06 Boulder Array **88.24** **44** lAmb lAmb 13 41 59.7
comp=Z,9.1nm,1.1s
PD31 Pinedale Array **88.24** **44** lAmb lAmb 13 41 59.6
comp=Z,11nm,1.1s
PDAR Pinedale Array **88.24** **44** P **P** **13 41 57.6 -0.8**
PDAR Pinedale Array **88.24** **44** P **P** **13 41 58.2 -0.2**
comp=Z,4.4nm,0.8s,baz=222,slow=3.6,SNR=26
PDAR pP **pP** **13 44 08.5 +1.6**
comp=Z,0.6nm,0.7s,baz=240,slow=4.8,SNR=3.5
comp=Z,4.4nm,0.8s
E23K Chandalar **88.27** **11** lAmb lAmb 13 41 58.4
comp=Z,9nm,0.9s
E23K Chandalar **88.27** **11** P **P** **13 41 57.9 +0.2**
baz=209,SNR=5.9
H17A Grant Village **88.30** **42** lAmb lAmb 13 42 02.1
comp=Z,9.8nm,0.9s
TOAD Toad River Com **88.37** **25** P **P** **13 41 57.9 -0.4**
baz=231,SNR=10
LIRD Liard River Hi **88.38** **24** P **P** **13 41 57.6 -0.7**
baz=230
YNR Norris Junctio **88.38** **42** lAmb lAmb 13 42 02.6
comp=Z,8.2nm,0.9s
C21K Knifeblade Rid **88.41** **9** P **P** **13 41 57.9 -0.3**
baz=204
H27K Steamboat Moun **88.43** **15** lAmb lAmb 13 41 59.4
comp=Z,12nm,1.1s
H27K Steamboat Moun **88.43** **15** P **P** **13 41 58.3 -0.1**
baz=216
D22K Ayikyak River **88.48** **10** P **P** **13 41 58.8 +0.2**
baz=206
E24K Your Creek **88.49** **11** lAmb lAmb 13 41 59.5
comp=Z,6.1nm,0.8s
E24K Your Creek **88.49** **11** P **P** **13 41 58.8 +0.1**
baz=210
G26K Porcupine Rive **88.50** **13** P **P** **13 41 59.0 +0.3**
baz=214
J30M Hart River **88.51** **17** P **P** **13 41 59.0 +0.1**
baz=221
I29M Ogilvie Camp, **88.56** **16** P **P** **13 41 58.8 -0.2**
baz=220
A19K Wainwright **88.60** **6** P **P** **13 41 58.3 -0.7**
baz=198
F25K Christian Rive **88.64** **13** lAmb lAmb 13 42 00.5
comp=Z,12nm,1.0s
F25K Christian Rive **88.64** **13** P **P** **13 41 59.3 -0.1**
baz=213,SNR=6.1
MMPY Sheldon Lake, **88.65** **20** P **P** **13 41 59.2 -0.3**
baz=226,SNR=14
SAND Sanderson **88.67** **58** lAmb lAmb 13 42 02.2
comp=Z,5.9nm,0.8s
YAK Yakutsk **88.72** **339** *e*P **P** **13 41 59.3 -0.5**
YAK pmax pmax
comp=Z,15nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.3s
BMAR Burnt Mountain **88.72** **13** P **P** **13 41 59.0 -0.8**
TOLK Toolik Lake Re **88.79** **11** P **P** **13 41 59.7 -0.3**
baz=209
HAYD Hayden **88.85** **47** lAmb lAmb 13 42 03.2
comp=Z,13nm,1.1s
B21K Ikpikpuk River **88.86** **9** P **P** **13 42 00.4 +0.2**
baz=204
G27K Doyon Strip **88.87** **14** P **P** **13 42 00.6 +0.1**
baz=216
B20K Meade River **88.87** **8** P **P** **13 42 00.2 -0.1**
baz=222
D23K Nanushuk River **88.88** **10** P **P** **13 42 00.6 +0.2**
baz=208
TGTN Hyland Airport **88.94** **22** P **P** **13 42 00.5 -0.4**
baz=229,SNR=7.4
YNE Yellowstone No **88.94** **42** lAmb lAmb 13 42 03.7
comp=Z,13nm,1.0s
I30M Mount Dempster **88.98** **17** lAmb lAmb 13 42 01.6
comp=Z,11nm,0.9s
I30M Mount Dempster **88.98** **17** P **P** **13 42 00.3 -0.8**
baz=219
F26K Sheenjek River **89.04** **13** lAmb lAmb 13 42 02.6
comp=Z,5.3nm,0.8s
F26K Sheenjek River **89.04** **13** P **P** **13 42 00.3 -0.9**
baz=214,SNR=5.5
E25K Arctic Village **89.10** **12** lAmb lAmb 13 42 02.5
comp=Z,16nm,1.1s
E25K Arctic Village **89.10** **12** P **P** **13 42 00.5 -1.0**
baz=213,SNR=5.7
H29M Whitestone **89.21** **16** lAmb lAmb 13 42 02.6
comp=Z,13nm,1.1s
H29M Whitestone **89.21** **16** P **P** **13 42 02.2 +0.1**
baz=219
D24K Happy Valley **89.37** **11** P **P** **13 42 02.7 0.0**
baz=210
LZH Lanzhou **89.45** **308** *e*P **P** **13 42 05.0 +0.9**
LZH sP sP 13 45 12.3 +0.5
LZH pmax pmax
comp=Z,39nm,0.7s
RLMT Red Lodge **89.46** **42** lAmb lAmb 13 42 05.9
comp=Z,12nm,1.1s
LZDM Lanzhou Array **89.52** **308** P **P** **13 42 03.9 -0.6**
comp=Z,7.4nm,0.7s,baz=103,slow=4.7,SNR=8.6
comp=Z,7.4nm,0.7s
C23K Itkillik River **89.67** **10** P **P** **13 42 04.0 0.0**
baz=208
EPYK Eagle Plains **89.76** **16** lAmb lAmb 13 42 05.6
comp=Z,17nm,1.1s
EPYK Eagle Plains **89.76** **16** P **P** **13 42 04.5 0.0**
baz=221
OZNA Ozona **89.82** **58** lAmb lAmb 13 42 07.4
comp=Z,9.6nm,0.8s
G29M Pine Creek **89.84** **15** P **P** **13 42 05.0 +0.1**
baz=220
C24K Franklin Bluff **89.89** **10** P **P** **13 42 04.8 -0.2**
baz=210
F28M Old Crow **89.94** **14** P **P** **13 42 05.0 -0.3**
baz=218
D25K Kavik River **89.96** **11** P **P** **13 42 05.0 -0.5**
baz=212
H31M Peel River **89.98** **17** P **P** **13 42 04.8 -0.8**
baz=223
E27K Coleen River **90.00** **13** P **P** **13 42 05.2 -0.5**
baz=216
A22K Sinclair Lake **90.08** **8** P **P** **13 42 05.3 -0.5**
baz=204
G30M IAoh Zraii Nji **90.35** **16** P **P** **13 42 06.8 -0.5**
baz=221,SNR=10
TROLL Troll, Antarti **90.58** **181** ⇑P **P** **13 42 07.8 -0.8**
comp=Z,2μm,0.6s
C27K Jago River **90.73** **12** P **P** **13 42 08.6 -0.4**
baz=214
C26K Camden Bay **90.74** **11** P **P** **13 42 08.0 -0.9**
baz=213
E28M Babbage River **90.80** **14** P **P** **13 42 08.3 -1.0**
baz=218
G31M Satah River **90.82** **16** P **P** **13 42 08.5 -0.9**
baz=223,SNR=9.7
SNAA Sanae **90.92** **179** ⇑P **P** **13 42 08.9 -1.2**
comp=Z,134nm,0.5s
SNAA Sanae **90.92** **179** P **P** **13 42 08.6 -1.5**
SNAA lAmb lAmb 13 42 10.3
comp=Z,7.8nm,0.8s
SNAA Sanae **90.92** **179** P **P** **13 42 08.9 -1.2**
comp=Z,6.2nm,0.5s,baz=209,slow=8.5,SNR=61
comp=Z,6.2nm,0.5s
SNAA Sanae **90.92** **179** ⇓*i*P **P** **13 42 09.2 -0.9**
SNAA pmax pmax
comp=Z,10.0nm,0.9s
F30M Barrier River **90.94** **16** P **P** **13 42 09.9 0.0**
baz=222
D27M Malcolm River **90.99** **13** P **P** **13 42 10.1 -0.2**
baz=217
E29M Blow River **91.01** **14** P **P** **13 42 09.7 -0.6**
baz=220
VNA3 Neumayer Olymp **91.12** **177** ⇑P **P** **13 42 09.9 -1.1**
comp=Z,33nm,0.7s
F31M Tsiigehtchic **91.34** **16** P **P** **13 42 10.9 -0.8**
baz=224,SNR=7.6
APMT Aspermont **91.45** **56** lAmb lAmb 13 42 14.3
comp=Z,6.4nm,0.8s
VNA2 Neumayer--Watz **91.54** **178** ⇑P **P** **13 42 12.0 -0.9**
comp=Z,29nm,0.6s,baz=182,slow=4.3
D28M Stokes Point **91.54** **14** P **P** **13 42 11.7 -1.0**
baz=219
WRGLY Wrigley **91.75** **22** P **P** **13 42 13.3 -0.4**
baz=233
VNA1 Neumayer--Stat **91.78** **177** ⇑P **P** **13 42 13.1 -0.8**
comp=Z,15nm,0.8s
ULN Ulaanbaatar **91.90** **320** P **P** **13 42 14.4 -0.7**
ULN lAmb lAmb 13 42 15.8
comp=Z,8.0nm,1.1s
ULN Ulaanbaatar **91.90** **320** ⇓*i*P **P** **13 42 14.6 -0.5**
ULN pmax pmax
comp=Z,6.0nm,1.0s
INK Inuvik **92.03** **16** lAmb lAmb 13 42 15.0
comp=Z,9.9nm,1.1s
INK Inuvik **92.03** **16** P **P** **13 42 14.8 -0.1**
baz=224
SONM Songino Array **92.29** **320** P **P** **13 42 15.9 -0.9**
SONM Songino Array **92.29** **320** P **P** **13 42 16.5 -0.3**
comp=Z,1.9nm,0.7s,baz=122,slow=5.3,SNR=8.2
comp=Z,1.9nm,0.7s
SONM Songino Array **92.29** **320** P **P** **13 42 15.9 -0.9**
SONM pmax pmax
comp=Z,5.0nm,1.1s
GTA Gaotai **93.62** **310** *e*P **P** **13 42 23.0 -0.1**
GTA pmax pmax
comp=Z,16nm,0.8s
C36M Paulatuk **95.28** **17** P **P** **13 42 29.4 -0.3**
baz=233
ZALV Zalesovo Beam **107.02** **322** PKiKP **PKiKP** **13 47 25.4 -2.5**
comp=Z,1.4nm,0.5s,baz=91,slow=2.5,SNR=8.1
MKAR Makanchi Array **107.79** **314** PKiKP **PKiKP** **13 47 27.6 -2.1**
comp=Z,2.1nm,0.7s,baz=63,slow=1.3,SNR=18
KURK Kurchatov **110.55** **318***c* *i*PKIKP **PKiKP** **13 47 33.0 -1.6**
KURBB Kurchatov Arra **110.60** **318** PKiKP **PKiKP** **13 47 33.6 -1.1**
comp=Z,2.9nm,0.2s,baz=94,slow=1.8,SNR=15
BVAR Borovoye Array **115.61** **321** PKP **PKPdf** **13 47 42.7 -1.6**
comp=Z,6.5nm,0.7s,baz=80,slow=1.8,SNR=26
BORK Borovoye **115.65** **321** ⇑*i*PKIKP **PKPdf** **13 47 42.5 -1.9**
ARTI Arti **121.83** **326***ce*PKIKP **PKPdf** **13 47 54.3 -1.8**
KIRV Kirov **125.50** **331***d* *i*PKIKP **PKPdf** **13 48 02.5 -0.6**
ARCES ARCESS Array B **125.74** **349** PKP **PKPdf** **13 48 01.8 -1.5**
comp=Z,7.9nm,0.8s,baz=56,slow=1.5,SNR=17
KLMR Klimovskoe **128.46** **337** *e*PKIKP **PKPdf** **13 48 06.9 -1.8**
KLMR pmax pmax
comp=Z,12nm,1.0s
BELG Belogornoye **129.12** **324** ⇑*i*PKIKP **PKPdf** **13 48 09.8 -0.4**
FINES FINESS Array B **132.46** **343** PKhKP PKPpre 13 48 08.5
comp=Z,4.7nm,1.0s,baz=29,slow=4.4,SNR=3.7
FINES PKP **PKPdf** **13 48 15.5 -0.8**
comp=Z,5.1nm,0.8s,baz=66,slow=1.9,SNR=9.2
FINES PP **PP** **13 50 47.3 -1.3**
comp=Z,1.9nm,0.7s,baz=54,slow=3.9,SNR=10
OBN Obninsk **133.30** **332** ⇓*e*PKIKP **PKPdf** **13 48 17.4 -0.6**
OBN *e* 13 51 36.4
OBN SS SS 14 07 49.0 -2.8
OBN pmax pmax
comp=Z,5.0nm,0.4s
KBZ Khabaz **135.48** **315** ⇓*i*PKIKP **PKPdf** **13 48 23.2 +0.8**
KIV Kislovodsk **135.53** **316** *e*PKIKP **PKPdf** **13 48 23.8 +1.1**
KIV pmax pmax
comp=Z,9.0nm,1.1s
NOA NORSAR Array B **135.88** **352** PKP **PKPdf** **13 48 22.7 0.0**
comp=Z,1.3nm,0.8s,baz=18,slow=4.6,SNR=5.4
HFS Hagfors **136.38** **350** PKhKP PKPpre 13 48 10.5
comp=Z,1.9nm,0.7s,baz=52,slow=2.4,SNR=6.2
HFS PKP **PKPdf** **13 48 23.4 -0.2**
comp=Z,3.0nm,0.8s,baz=48,slow=2.1,SNR=3.6
AKASG Malin Array Be **139.55** **331** PKhKP PKPpre 13 48 20.5
comp=Z,0.5nm,0.4s,baz=45,slow=4.7,SNR=5.7
AKASG PKP **PKPdf** **13 48 29.1 -0.6**
comp=Z,4.4nm,0.7s,baz=45,slow=2.7,SNR=9.9
AK04 Malin Array Si **139.56** **331** PKP **PKPdf** **13 48 28.5 -1.2**
AK02 Malin Array Si **139.59** **331** PKP **PKPdf** **13 48 28.6 -1.2**
AK17 Malin Array Si **139.64** **331** PKP **PKPdf** **13 48 28.8 -1.0**
IDGL Inch Island, C **142.18** **7** PKPdf **PKPdf** **13 48 34.9 +0.7**
EKA Eskdalemuir Ar **142.28** **3** PKhKP PKPpre 13 48 29.2
comp=Z,1.6nm,0.6s,baz=342,slow=2.5,SNR=7.8
CIDE Kastamonu/Cide **142.86** **318** ⇑P **PKPdf** **13 48 32.7 -3.1**
KWP Kalwaria Pacla **143.15** **335** *e*PKP PKPab 13 48 34.4 +0.2
KWP Kalwaria Pacla **143.15** **335** P PKPab 13 48 33.6 -0.7
ILTH Belurgan, Co L **143.34** **6** PKPdf PKPab 13 48 33.3 -1.4
VLDR Vladesti **143.40** **326** ⇓P PKPab 13 48 34.8 -0.5
TLCR **143.43** **325** ⇓P PKPab 13 48 34.6 -0.8
TLCR **143.43** **325** ⇓PKIKP PKPab 13 48 34.6 -0.8
BRTR Keskin Array B **143.44** **314** PKP PKPab 13 48 34.9 -1.0
comp=Z,21nm,0.9s,baz=131,slow=3.4,SNR=59
BRTR SKPbc **SKPbc** **13 51 18.1 -1.8**
comp=Z,0.4nm,0.6s,baz=116,slow=3.4,SNR=3.9
BR104 Keskin Array S **143.45** **314** PKP PKPab 13 48 34.2 -1.7
BR106 Keskin Array S **143.45** **314** PKP PKPab 13 48 34.5 -1.4
BR105 Keskin Array S **143.46** **314** PKP PKPab 13 48 34.5 -1.5
KIRS Kirsehir-Merke **143.51** **313** ⇑P PKPab 13 48 35.3 -0.9
IGLA Glengowla, Co **143.54** **9** PKPdf PKPab 13 48 34.4 -1.1
SCTR Scanteiesti **143.56** **326** P PKPab 13 48 35.8 -0.1
BURAR Bucovina Array **143.60** **331** ⇑P PKPab 13 48 35.6 -0.6
BURAR Bucovina Array **143.60** **331** ⇑PKIKP PKPab 13 48 35.6 -0.6
GHRR **143.61** **327** ⇓P PKPab 13 48 35.9 -0.2
GHRR **143.61** **327** PKP PKPab 13 48 35.0 -1.1
JURR Jurilovca **143.66** **324** ⇓P PKPbc 13 48 35.8 -0.5
TESR Tescani **143.69** **328** ⇑P PKPbc 13 48 35.8 -0.6
TESR Tescani **143.69** **328** PKP PKPbc 13 48 35.1 -1.3
OJC Ojcow **143.77** **338** *e*PKP PKPbc 13 48 36.3 -0.2
OJC Ojcow **143.77** **338** PKP PKPbc 13 48 35.5 -1.0
RAKU Rahkiv **143.77** **332** PKP PKPbc 13 48 35.0 -1.6
CFR Carcaliu **143.80** **326** ⇑P PKPbc 13 48 34.2 -2.5
CFR Carcaliu **143.80** **326** ⇑PKHKP PKPpre 13 48 34.2
TPGR Topolog **143.85** **325** ⇓P PKPbc 13 48 36.4 -0.5
KOLS Kolonicke sedl **143.88** **335** *e*PKIKP PKPbc 13 48 36.9 0.0
ONER Baraj Valea Uz **143.94** **328** ⇓P PKPbc 13 48 36.8 -0.4
ANTO Ankara **143.95** **315** ⇓P PKPbc 13 48 37.3 -0.2
ANTO Ankara **143.95** **315** PKP PKPbc 13 48 35.9 -1.6
BRIU Bird **144.03** **334** PKP PKPbc 13 48 37.3 -0.2
VRI Vrincioaia **144.09** **327** ⇓PKHKP PKPpre 13 48 22.4
DSB Dublin **144.10** **6** PKPdf PKPbc 13 48 36.9 -0.5
TIRR Tirgusor **144.11** **324** ⇑P PKPbc 13 48 37.1 -0.6
PLOR Plostina **144.14** **328** ⇓P PKPbc 13 48 37.3 -0.5
PLOR Plostina **144.14** **328** ⇓PKIKP PKPbc 13 48 37.3 -0.5
RETH Rethem/Aller, **144.18** **350** *e*PKPbc PKPbc 13 48 36.8 -0.8
baz=19,slow=2.8
FLTG Flechtingen **144.23** **348** *e*PKPbc PKPbc 13 48 36.7 -1.1
baz=19,slow=2.8
HARR Harsova **144.23** **325** ⇓P PKPbc 13 48 37.3 -0.8
NIE Niedzica **144.25** **337** *e*PKP PKPbc 13 48 38.2 +0.1
TLBR Topalu **144.26** **325** ⇑P PKPbc 13 48 38.0 -0.2
MFTR Murfatlar **144.28** **324** ⇓P PKPbc 13 48 37.0 -1.3
ARCR ARCALIA **144.38** **331** ⇑P **PKPdf** **13 48 37.8 -0.6**
MANR Mangalia **144.41** **323** ⇓P **PKPdf** **13 48 37.1 -1.4**
NEHR Nehoiu **144.61** **327** ⇑P **PKPdf** **13 48 38.6 -0.2**
OSTC Ostas **144.64** **342** *e*PKP **PKPdf** **13 48 39.4 +0.6**
OSTC Ostas **144.64** **342** *e*PKIKP **PKPdf** **13 48 39.4 +0.6**
MMAI Mount Meron Ar **144.64** **303** PKP **PKPdf** **13 48 39.5 +0.1**
comp=Z,41nm,0.8s,baz=72,slow=2.7,SNR=46
CHVC Chvalec **144.66** **342** *e*PKP **PKPdf** **13 48 39.0 +0.2**
CHVC Chvalec **144.66** **342** *e*PKIKP **PKPdf** **13 48 39.0 +0.2**
OKC Ostrava-Krasne **144.66** **340** *e*PKP **PKPdf** **13 48 39.2 +0.4**
OKC Ostrava-Krasne **144.66** **340** *e*PKIKP **PKPdf** **13 48 39.2 +0.4**
ISR Istrita **144.69** **327** ⇓P **PKPdf** **13 48 39.5 +0.4**
ISR Istrita **144.69** **327** ⇓PKIKP **PKPdf** **13 48 39.5 +0.4**
DOPR Dopca **144.69** **329** ⇑P **PKPdf** **13 48 39.5 +0.5**
SAHE Sakarya_HENDEK **144.74** **318** ⇓P **PKPdf** **13 48 39.3 +0.1**
UPC Upice **144.74** **342** *e*PKP **PKPdf** **13 48 39.4 +0.5**
UPC Upice **144.74** **342** *e*PKIKP **PKPdf** **13 48 39.4 +0.5**
MLR Muntele Rosu **144.75** **328** ⇓P **PKPdf** **13 48 39.8 +0.6**
MLR Muntele Rosu **144.75** **328** ⇓PKIKP **PKPdf** **13 48 39.8 +0.6**
LANS Liptovska Anna **144.78** **338** *e*PKIKP PKPbc 13 48 39.9 +0.2
DPC Dobruska-Polom **144.79** **342** *e*PKP **PKPdf** **13 48 39.5 +0.4**
DPC Dobruska-Polom **144.79** **342** *e*PKIKP **PKPdf** **13 48 39.5 +0.4**
CLL Collm **144.81** **346** *i* PKIKP **PKPdf** **13 48 39.0 0.0**
CLL pmax pmax
comp=Z,81nm,0.7s
CLL Collm **144.81** **346** *e*PKPbc **PKPdf** **13 48 38.8 -0.2**
baz=19,slow=2.8
CLL Collm **144.81** **346** *i* PKPbc **PKPdf** **13 48 39.0 0.0**
comp=Z,81nm,0.7s
CLL *e*pPKPdf **pPKPdf** **13 51 00.0 +2.2**
VAL Valentia **144.82** **11** PKPdf **PKPdf** **13 48 38.7 -0.2**
CLZ Clausthal **144.86** **349** *e*PKPbc **PKPdf** **13 48 39.1 0.0**
baz=19,slow=2.8
MORC Moravsky Berou **144.91** **340** *e*PKP **PKPdf** **13 48 39.8 +0.5**
MORC Moravsky Berou **144.91** **340** ⇓P **PKPdf** **13 48 40.0 +0.7**
MORC Moravsky Berou **144.91** **340** ⇓PKIKP **PKPdf** **13 48 40.0 +0.7**
IWEX Carrickbyrne, **144.92** **7** PKPdf **PKPdf** **13 48 38.6 -0.5**
KECS Kecovo **144.95** **336** *e*PKIKP **PKPab** **13 48 41.4 +0.2**
BRG Berggiesshubel **144.98** **344** *e*PKP **PKPdf** **13 48 39.5 +0.2**
baz=19,slow=2.8
BRG Berggiesshubel **144.98** **344** *e*PKP **PKPdf** **13 48 39.9 +0.6**
BRG Amp 13 48 41.3
comp=Z,49nm,0.8s
BRG Berggiesshubel **144.98** **344** P **PKiKP** **13 48 44.7 +1.3**
BRG Amp 13 48 47.4
comp=Z,9.0nm,0.9s
BRG Berggiesshubel **144.98** **344** Amp 13 49 00.6
comp=Z,5.6nm,0.9s
BRG Berggiesshubel **144.98** **344** P PKiKP 13 48 59.8 +16
CJR Cluj-Napoca **145.01** **331** ⇓P **PKPdf** **13 48 39.7 +0.1**
CJR Cluj-Napoca **145.01** **331** ⇓PKIKP **PKPdf** **13 48 39.7 +0.1**
PVCC Panska Ves **145.13** **344** *e*PKP **PKPdf** **13 48 40.5 +0.9**
PVCC Panska Ves **145.13** **344** *e*PKP2 **PKPdf** **13 48 40.5 +0.9**
VOIR **145.24** **328** ⇑P **PKPbc** **13 48 41.3 +0.1**
VOIR **145.24** **328** ⇑PKP2 **PKPbc** **13 48 41.3 +0.1**
RICC Richard **145.24** **344** *e*PKP **PKPdf** **13 48 40.8 +1.1**
MARR Marisel-Cluj **145.25** **332** ⇓P **PKPdf** **13 48 41.0 +1.0**
SILT Sile **145.34** **319** ⇓P **PKPdf** **13 48 40.8 +0.6**
DRGR **145.35** **332** ⇑P **PKPdf** **13 48 40.3 +0.2**
DRGR **145.35** **332** ⇑PKIKP **PKPdf** **13 48 40.3 +0.2**
TNR Turnu Rosu **145.47** **329** ⇑P **PKPbc** **13 48 42.5 +0.7**
TNR Turnu Rosu **145.47** **329** ⇑PKP2 **PKPbc** **13 48 42.5 +0.7**
ARR Arges **145.49** **329** ⇑P **PKPdf** **13 48 41.2 +0.7**
VRAC Vranov **145.62** **341** PKPbc **PKPdf** **13 48 40.8 +0.3**
comp=Z,11nm,0.8s,baz=358,slow=2.3,SNR=9.8
VRAC Vranov **145.62** **341** *e*PKP **PKPbc** **13 48 42.4 +0.3**
VRAC Vranov **145.62** **341** ⇑P **PKPdf** **13 48 41.7 +1.2**
PRU Pruhonice **145.63** **343** *e*PKP **PKPbc** **13 48 41.9 -0.2**
PRU Pruhonice **145.63** **343** *e*PKP2 **PKPbc** **13 48 41.9 -0.2**
JAVC Velka Javorina **145.66** **339** *e*PKP **PKPbc** **13 48 43.2 +0.9**
TANN Tannenbergstha **145.77** **346** *e*PKPbc **PKPdf** **13 48 41.8 +1.1**
baz=19,slow=2.8
PLN Plauen **145.77** **346** *e*PKPbc **PKPdf** **13 48 41.8 +1.1**
baz=19,slow=2.8
LOT Lotru **145.86** **330** ⇑P **PKPbc** **13 48 42.7 -0.3**
KRUC Moravsky **145.90** **341** *e*PKP **PKPbc** **13 48 42.6 -0.3**
MODS Modra-Piesok **146.21** **339** *e*PKP2 **PKPbc** **13 48 44.3 +0.5**
SIRR Siria **146.22** **332** ⇓P **PKPbc** **13 48 43.4 -0.5**
ZVC Zvikov **146.22** **343** *e*PKP **PKPbc** **13 48 43.5 -0.2**
MANZ Manzenberg **146.25** **346** *e*PKPbc **PKPbc** **13 48 43.3 -0.5**
baz=19,slow=2.8
PHSR Pinarhisar **146.37** **321** ⇑P **PKPdf** **13 48 43.2 +1.3**
GZR Gura Zlata **146.37** **330** ⇑P **PKPdf** **13 48 42.7 +0.8**
SURR Surduc **146.40** **331** ⇓P **PKPbc** **13 48 43.7 -0.6**
ROTZ Rotzenmuhle **146.43** **346** *e*PKPbc **PKPbc** **13 48 43.7 -0.6**
baz=19,slow=2.8

ELND	Elena	146.50	324	⇓P		PKPbc	13 48 44.2 -0.5
KHC	Kasperske Hory	146.67	344	*e*PKP		PKPbc	13 48 44.4 -0.6
KHC	Kasperske Hory	146.67	344	*e*PKP2		PKPbc	13 48 44.4 -0.6
MEM	Membach	146.72	353	*d*PKP		PKPdf	13 48 43.5 +1.3
GRF	Grafenberg Arr	146.73	347	*e*PKPbc		PKPbc	13 48 44.7 -0.4
	baz=19,slow=2.8						
BTNL	Ternell	146.73	353	*d*PKP		PKPbc	13 48 44.7 -0.4
BZS	Buzias	146.74	332	⇑P		PKPbc	13 48 44.4 -0.9
BZS	Buzias	146.74	332	⇑PKIKP		PKPbc	13 48 44.4 -0.9
CKRC	Cesky Krumlov	146.75	343	*e*PKP		PKPbc	13 48 44.6 -0.6
CKRC	Cesky Krumlov	146.75	343	*e*PKP2		PKPbc	13 48 44.6 -0.6
TNS	Taunus Mts	146.76	350	*e*PKPbc		PKPbc	13 48 44.4 -0.9
	baz=19,slow=2.8						
BAND	Balkesir-Ban	146.76	319	⇑P		PKPdf	13 48 44.2 +1.6
BSTI	Sart Tilman	146.80	353	*d*PKP		PKPbc	13 48 44.9 -0.3
GEC2	GERESS Array B	146.90	343	*e*PKPbc		PKPbc	13 48 44.8 -0.9
	baz=19,slow=2.8						
GERES	GERESS Array B	146.90	343	PKPbc		PKPbc	13 48 45.1 -0.6
	comp=Z,13nm,0.8s,baz=14,slow=3.3,SNR=21						
HERR	Herculane	146.92	330	⇓P		PKPdf	13 48 44.6 +1.8
BHOU	Houvegnez	146.98	353	*d*PKPdf		PKPdf	13 48 43.2 +0.5
BHOU				*d*PKP		PKPbc	13 48 45.7 0.0
CONA	Conrad Observa	147.07	340	*i* PKP		PKPbc	13 48 45.7 -0.5
	comp=Z,51nm,1.6s,SNR=15						
RONA	Rosalia, Austr	147.12	339	*i* PKP		PKPbc	13 48 45.8 -0.5
	comp=Z,27nm,0.9s,SNR=7.4						
BMRD	Maredsous	147.16	354	*d*PKP		PKPdf	13 48 43.3 +0.4
RCHB	Rochefort	147.26	354	*d*PKP		PKPbc	13 48 45.8 -0.6
MDVR	Moldovita	147.33	331	⇑P		PKPdf	13 48 43.7 +0.2
DOU	Dourbes	147.38	354	*d*PKP		PKPbc	13 48 46.0 -0.8
MOA	Molln	147.63	342	*i* PKP		PKPbc	13 48 46.6 -0.9
	comp=Z,14nm,1.1s						
WLF	Walferdange	147.63	352	*d*PKP		PKPbc	13 48 47.5 +0.1
WLF	Walferdange	147.63	352	*e*PKPbc		PKPbc	13 48 47.2 -0.3
	baz=19,slow=2.8						
CAVK	Edirne/Enez-Ca	147.75	321	⇓P		PKPdf	13 48 44.7 +0.5
ARSA	Arzberg	147.77	340	*i* PKP		PKPbc	13 48 46.8 -1.1
	comp=Z,14nm,1.3s						
BIOA	Bad Ischl, Aus	147.96	342	*e*PKP		PKPbc	13 48 47.2 -1.2
	comp=Z,18nm,1.3s						
RJOB	Jochberg	148.16	343	*e*PKPbc		PKPbc	13 48 47.8 -1.1
	baz=19,slow=2.8						
EZN	Ezine	148.18	319	⇑P		PKPbc	13 48 47.6 -1.5
EZN	Ezine	148.18	319	⇑PKHKP		PKPpre	13 48 47.6
BOVS	Bovan	148.19	329	⇑P		PKPbc	13 48 48.1 -0.9
SOKA	Soboth	148.44	340	*e*PKP		PKPbc	13 48 48.1 -1.5
	comp=Z,23nm,1.4s,SNR=8.5						
LESA	Schwarzleotal	148.47	343	*i* PKP		PKPbc	13 48 48.8 -1.0
	comp=Z,10nm,0.8s						
KBA	Koelnbreinsper	148.60	342	*e*PKP		PKPbc	13 48 48.6 -1.6
	comp=Z,20nm,0.9s,SNR=5.8						
BFO	Black Forest	148.60	349	*e*PKPbc		PKPbc	13 48 49.0 -1.0
	baz=19,slow=2.8						
OBKA	Obir	148.74	340	*i* PKP		PKPbc	13 48 48.8 -1.6
	comp=Z,11nm,1.0s						
WATA	Walderalm	148.84	345	*i* PKP		PKPbc	13 48 49.5 -1.2
	comp=Z,25nm,1.0s,SNR=6.5						
WTTA	Wattenberg	148.90	344	*i* PKP		PKPbc	13 48 49.9 -1.0
	comp=Z,32nm,0.7s,SNR=11						
RETA	Reutte	148.90	346	*i* PKP		PKPbc	13 48 49.7 -1.0
	comp=Z,10nm,0.7s						
MYKA	Terra Mystica	148.92	342	*e*PKP		PKPbc	13 48 49.1 -1.7
	comp=Z,14nm,0.6s,SNR=7.3						
MOTA	Moosalm	148.95	345	*i* PKP		PKPbc	13 48 49.8 -1.2
	comp=Z,22nm,0.8s,SNR=8.2						
SQTA	Sankt Quirin	149.04	345	*i* PKP		PKPbc	13 48 50.2 -1.0
	comp=Z,29nm,0.7s,SNR=8.9						
ABTA	Abfaltersbach	149.14	343	*i* PKP		PKPbc	13 48 49.8 -1.6
	comp=Z,48nm,1.0s,SNR=15						
DAVA	Damuels	149.29	347	*i* PKP		PKPbc	13 48 50.8 -1.0
	comp=Z,40nm,1.1s,SNR=6.0						
BLY	Banja Luka	149.31	336	⇑P		PKPbc	13 48 51.1 -0.6
FETA	Feichten	149.35	345	*i* PKP		PKPbc	13 48 51.2 -0.8
	comp=Z,34nm,1.0s,SNR=12						
IDI	Anoyia	151.67	313	PKP		PKPdf	13 48 50.3 -0.4
	comp=Z,5.0nm,0.9s,baz=17,slow=6.9,SNR=3.4						
IDI				PKPbc		PKPbc	13 48 56.6 -0.9
	comp=Z,17nm,0.6s,baz=54,slow=4.1,SNR=24						
PVIS	Viseu	156.01	15	*e*PKPab		PKPab	13 49 27.2 -0.3
PCBR	Castelo Branco	156.94	15	*e*PKPab		PKPab	13 49 31.0 -0.5
PSARD	Sardoal	157.00	16	*e*PKPab		PKPab	13 49 31.3 -0.5
PMRV	Marv??o	157.35	15	*e*PKPab		PKPab	13 49 33.2 -0.2
PARRA	Arraiolos	157.48	19	*e*PKPab		PKPab	13 49 33.9 -0.1
PMTG	Montargil	157.48	17	*e*PKPab		PKPab	13 49 33.7 -0.2
ESDC	Sonseca Array	157.76	8	PKP		PKPdf	13 48 58.3 -0.4
	comp=Z,0.4nm,0.6s,baz=271,slow=0.6,SNR=4.5						
ESDC				PKPab		PKPab	13 49 33.7 -1.5
	comp=Z,2.5nm,1.0s,baz=349,slow=5.1,SNR=9.2						
PESTR	Estremoz	157.84	16	*e*PKPab		PKPab	13 49 35.1 -0.4
EVO	Evora	158.04	17	*e*PKPab		PKPab	13 49 35.9 -0.5
PBAR	Barrancos	158.63	15	*e*PKPab		PKPab	13 49 38.6 -0.3
PCVE	Castro Verde	158.87	18	*e*PKPab		PKPab	13 49 40.6 +0.6
KEST	Kesra	160.11	337	PKPab		PKPab	13 49 44.6 -1.0
	comp=Z,5.0nm,0.8s,baz=167,slow=1.2,SNR=5.2						
DBIC	Dimbokro	168.16	156	PKPab		PKPab	13 50 21.4 -0.1
	comp=Z,2.3nm,0.6s,baz=208,slow=6.3,SNR=4.4						
TORD	Torodi Ar. Bea	175.24	201	PKP		PKPdf	13 49 10.7 -1.7
	comp=Z,1.3nm,0.8s,baz=5.5,slow=1.7,SNR=8.7						
TORD				PKPab		PKPab	13 50 52.3 -0.5
	comp=Z,1.6nm,0.7s,baz=141,slow=3.4,SNR=8.2						
TORD				PP		PP	13 54 44.7 +0.1
	comp=Z,1.1nm,0.9s,baz=156,slow=4.0,SNR=4.5						

IDC 30 13:31:57.9±2.7, 14°.90S×171°.76W, h0km, mb4.4/4, mbtmp4.4/4, MS4.0/6, Error ellipse: s-maj=202.0km s-min=28.3km az=147.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	28.17	278	LR	LR	13 48 15.1	
	comp=Z,302nm,21.5s,baz=54,slow=35						
PMG	Port Moresby	40.48	273	LR	LR	13 53 46.4	
	comp=Z,459nm,21.6s,baz=316,slow=32						
STKA	Stephens Creek	45.66	240	P	P	13 40 21.1	+0.6
	3.6nm,0.5s,baz=58,slow=9.5,SNR=4.1						
STKA				LR	LR	13 59 10.5	
	comp=Z,180nm,18.2s,baz=50,slow=36						
	3.6nm,0.5s						
JAY	Jayapura	48.45	280	LR	LR	13 59 51.4	
	comp=Z,74nm,18.6s,baz=188,slow=34						
WRA	Warramunga Arr	51.50	256	P	P	13 41 05.0	-0.7
	0.8nm,0.3s,baz=94,slow=8.0,SNR=8.4						
WRA				LR	LR	14 02 08.5	
	comp=Z,179nm,19.2s,baz=346,slow=35						
	0.8nm,0.3s						
ASAR	Alice Springs	51.77	251	P	P	13 41 07.7	-0.1
	12nm,0.5s,baz=89,slow=8.0,SNR=22						
	12nm,0.5s						
NVAR	Mina Array Bea	72.90	41	P	P	13 43 29.3	0.0
	1.1nm,0.8s,baz=233,slow=9.3,SNR=5.5						
	1.1nm,0.8s						
MA2	Magadan	80.17	342	LR	LR	14 13 20.8	
	comp=Z,51nm,20.0s,baz=164,slow=31						

IDC 30 13:38:21.8±4.1, 5°.20S×151°.57E, h0km, mb3.8/4, mbtmp3.9/5, ML2.2/1, Error ellipse: s-maj=99.0km s-min=25.1km az=106.0
NEIC 30 13:38:24.9±1.0, 5°.06S±0°.06×151°.6E±0°.1, h18km±6km, mb4.4/9, Error ellipse: s-maj=16.3km s-min=6.3km az=112.0

ISC 30 13:38:23.1±0.9, 5°.10S±0°.08×151°.6E±0°.1, h10km, n20, σ0s91/21, mb4.2/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.06	31		Pg	13 38 43.8	+0.3
MANU	Manus Island	5.22	305		Pn	13 39 41.6	+0.3
PMG	Port Moresby	6.15	226		Pn	13 39 55.0	+0.8
PMG	Port Moresby	6.15	226	Pn	Pn	13 39 54.2	0.0
	4.0nm,0.3s,baz=24,slow=7.0,SNR=12						
PMG				Sn	Sn	13 41 05.7	+1.1
	2.2nm,0.3s,baz=91,slow=22,SNR=6.2						
	17nm,0.6s						
WRAB	Tennant Creek	22.36	227	P	P	13 43 21.0	-0.6
WRAB				IAmb	IAmb	13 43 40.4	
	comp=Z,9.2nm,0.9s						
WRA	Warramunga Arr	22.37	227	P	P	13 43 20.9	-0.9
	comp=Z,1.9nm,0.6s,baz=50,slow=10,SNR=5.8						
	comp=Z,1.9nm,0.6s						
INKA	Innaminka	24.78	204		P	13 43 45.2	-0.1
INKA				IAmb	IAmb	13 43 48.7	
	comp=Z,4.3nm,0.8s						
KNRA	Kununurra	24.79	243	P	P	13 43 45.7	+0.2
KNRA				IAmb	IAmb	13 44 28.1	
	comp=Z,20nm,1.2s						
AS31	Alice Springs	25.14	221	P	P	13 43 48.9	+0.2
ASAR	Alice Springs	25.14	221	P	P	13 43 48.0	-0.6
ASAR	Alice Springs	25.14	221	P	P	13 43 47.0	-1.7
	comp=Z,4.4nm,0.8s,baz=57,slow=8.2,SNR=14						
	comp=Z,4.4nm,0.8s						
FITZ	Fitzroy Crossi	28.48	241	P	P	13 44 16.4	-2.4
BBOO	Buckleboo	31.16	206	P	P	13 44 42.9	+0.6
FORT	Forrest	33.82	218	P	P	13 45 05.9	+0.2
FORT				IAmb	IAmb	13 45 36.0	
	comp=Z,8.9nm,0.8s						
NNZ	Nelson	40.89	155	P	P	13 46 05.5	-0.1
JMN	Monobe	42.11	338	P	P	13 46 15.1	-0.6
JMN				IAmb	IAmb	13 46 24.5	
	comp=Z,10nm,1.0s						
KSRS	Korea Array	47.75	334	P	P	13 47 01.6	+1.1
	comp=Z,0.8nm,0.9s,baz=154,slow=9.5,SNR=5.3						
	comp=Z,0.8nm,0.9s						
KSAR	Wonju Array Be	47.76	334	P	P	13 47 01.4	+0.9
CMAR	Chiang Mai Arr	56.95	296	P	P	13 48 08.9	-0.2
CMAR	Chiang Mai Arr	56.95	296	P	P	13 48 09.1	-0.1
	comp=Z,0.4nm,0.3s,baz=102,slow=4.7,SNR=5.2						
	comp=Z,0.4nm,0.3s						

GCG 30 13:38:36.9±0.4, 13°.13N×89°.53W, h48km±11km, MD3.5
SNET 30 13:38:37.1±1.0, 13°.11N×89°.46W, h44km±25km

ISC 30 13:38:34.8±3.0, 13°.0N±0°.1×89°.51W±0°.09, h27km±15km, n11, σ0s35/20, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	Jayaque - finc	0.66	5	*i* P	Pn	13 38 48.5	-0.1
JAYA				*e*S	Sn	13 38 57.4	-0.7
JAYA	Jayaque - finc	0.66	5	*i* P	Pn	13 38 48.4	-0.1
JAYA				*e*S	Sb	13 38 57.0	+0.3
LFRS	El Faro	0.76	35	*e*P	Pn	13 38 50.0	+0.1
BOQS	Boqueron	0.77	17	*e*P	Pn	13 38 50.2	+0.1
BOQS				*e*S	Sn	13 39 00.9	0.0
SBLS	San Blas	0.85	352	*e*P	Pn	13 38 51.4	+0.2
SBLS				*e*S	Sn	13 39 03.3	+0.4
PAVA	Las Pavas	0.90	38	*e*P	Pn	13 38 52.0	+0.2
PAVA				*e*S	Sn	13 39 04.2	+0.2
NUBE	Las Nubes	0.94	344	*e*P	Pn	13 38 52.4	-0.1
NUBE				*e*S	Sn	13 39 04.9	-0.2
NUBE	Las Nubes	0.94	344	*e*P	Pn	13 38 52.3	-0.1
NUBE				*e*S	Sn	13 39 04.8	-0.2
PACA	Pacayal	1.24	68	*e*P	Pb	13 38 57.9	+0.2
PACA				*e*S	Sn	13 39 12.8	+0.3
LCY	Lacayo	1.25	70	*e*P	Pb	13 38 58.0	+0.1
LCY				*e*S	Sb	13 39 12.8	-0.9
MTO3	Montecristo	1.40	6	*e*P	Pn	13 38 59.1	+0.3

NEIC 30 13:38:35.5±0.4, 19°.23N±0°.03×155°.50W±0°.02, h36km±6km, Error ellipse: s-maj=4.9km s-min=2.6km az=161.0

HVO 30 13:38:36.6±0.7, 19°.2N±0°.2×155°.5W±0°.3, h33km±9km, ML2.5/36, ML2.6/43(NEIC), Error ellipse: s-maj=48.9km s-min=6.9km az=127.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.08	54		Pb	13 38 41.9	-0.4
HPO	Honuapo	0.13	219		Pn	13 38 42.0	+0.1
HPO					Sb	13 38 46.1	-0.4
KHU	Kahuku	0.15	293		Pn	13 38 42.1	-0.2
KHU					Sn	13 38 46.2	+1.1
AIN	Ainahou	0.18	4		Pn	13 38 42.6	-0.4
HLP	Hilina Pali	0.19	55		Pn	13 38 42.5	-0.5
HLP				IAML		13 38 47.3	
	comp=N,1μm,0.3s						
HLP				IAML		13 38 50.5	
	comp=E,921nm,0.5s						
SDHHI	Sand Hill	0.26	40		Pb	13 38 43.0	-1.0
SDHHI					Sn	13 38 47.9	-1.1
WRMHI	West Rim	0.27	36		Pb	13 38 43.1	-1.0
WRMHI					Sb	13 38 48.1	-1.2
RIM	Rim	0.28	42		Pb	13 38 43.2	-1.0
RIM					Sb	13 38 48.0	-1.3
KKO	Keanakako'i	0.28	43		Pb	13 38 43.3	-1.0
KKO					Sb	13 38 48.4	-1.1
UWE	Uwekahuna	0.29	36		Pb	13 38 43.3	-1.1
UWE					Sb	13 38 48.4	-1.1
UWE	Uwekahuna	0.29	36	IAML		13 38 52.0	
	comp=N,945nm,0.3s						
UWE				IAML		13 38 52.2	
	comp=E,843nm,0.4s						
OBL	Observatory Le	0.29	38		Pb	13 38 43.2	-1.1
OBL					Sb	13 38 48.2	-1.4
UWB	Uwekahuna Bluf	0.30	38		Pb	13 38 43.2	-1.2
UWB					Sb	13 38 48.1	-1.7
PUH	Pauahi	0.30	52		Pb	13 38 43.4	-1.1
PUH					Sb	13 38 48.4	-1.5
PUH	Pauahi	0.30	52	IAML		13 38 48.6	
	comp=E,632nm,0.4s						
PUH				IAML		13 38 48.8	
	comp=N,507nm,0.2s						
SBLHI	Steaming Bluff	0.30	39		Pb	13 38 43.3	-1.3
SBLHI					Sb	13 38 48.3	-1.6
HATHI	Halema'uma'u T	0.31	40		Pb	13 38 43.3	-1.2
HATHI					Sb	13 38 48.3	-1.6
HATHI	Halema'uma'u T	0.31	40	IAML		13 38 48.6	
	comp=N,442nm,0.2s						
HATHI				IAML		13 38 50.4	
	comp=E,448nm,0.4s						
MLH	Mauna Loa	0.31	15		Pb	13 38 43.7	-1.1
MLH					Sb	13 38 48.9	-1.5
MLH	Mauna Loa	0.31	15	IAML		13 38 49.2	
	comp=E,740nm,0.2s						
MLH				IAML		13 38 49.5	
	comp=N,1μm,0.3s						
MWH	Mokuaweoweo	0.32	338		Pb	13 38 43.7	-1.4
MWH	Mokuaweoweo	0.32	338	IAML		13 38 49.5	
	comp=E,786nm,0.3s						
MWH				IAML		13 38 53.3	
	comp=N,515nm,0.4s						
RSD	Rainshed	0.33	34		Sb	13 38 48.9	-1.6
RSD	Rainshed	0.33	34		Pb	13 38 43.6	-1.3
RSD	Rainshed	0.33	34	IAML		13 38 46.4	
	comp=N,18nm,0.2s						
KNHH	Kane Nui o Ham	0.34	56		Pb	13 38 43.9	-1.1
STCH	Steam Cracks	0.38	59		Pb	13 38 44.2	-1.3
STCH					Sb	13 38 49.9	-1.7
STCH	Steam Cracks	0.38	59	IAML		13 38 50.6	
	comp=N,311nm,0.4s						
STCH				IAML		13 38 51.7	
	comp=E,365nm,0.1s						
ALEP	Alea Permanent	0.39	335		Pb	13 38 44.3	-1.6
ALEP					Sb	13 38 49.9	-2.2
NPOC	North of Pu'u	0.40	59		Pb	13 38 44.5	-1.3
NPOC					Sb	13 38 50.4	-1.6
HMH	Humu'ula Sheep	0.41	358		Pb	13 38 45.0	-1.2
HMH	Humu'ula Sheep	0.41	358		Pn	13 38 51.2	+4.6
HMH	Humu'ula Sheep	0.41	358	IAML		13 38 51.5	
	comp=N,914nm,0.3s						
HMH				IAML		13 38 52.1	
	comp=E,552nm,0.2s						
JOKA	Jonika Flow	0.50	61	IAML		13 38 55.0	
	comp=N,343nm,1.6s						
JOKA	Jonika Flow	0.50	61		Pb	13 38 45.7	-1.6
JOKA					Pn	13 38 52.5	+4.9
CPH	Captain Cook	0.52	305		Pb	13 38 45.5	-2.0
POHA	Pohakuloa	0.57	354		Pn	13 38 53.6	+4.9
POHA	Pohakuloa	0.57	354	Pg	Pb	13 38 46.4	-2.2
POHA				IAML		13 38 59.7	
	comp=N,250nm,0.6s						
POHA				IAML		13 39 05.0	
	comp=N,202nm,1.0s						
HUH	Hualalai	0.60	325		Pb	13 38 47.3	-1.8
HPAH	Hawaii Prepara	0.86	346		Pn	13 38 50.3	-2.3
HPAH					Sn	13 39 00.1	-4.1
HPAH	Hawaii Prepara	0.86	346	IAML		13 39 00.9	
	comp=N,164nm,0.1s						
HPAH				IAML		13 39 01.0	
	comp=E,183nm,0.1s						

BGR 30 13:38:25.5, 19°.11S×179°.21W, h33km
MOS 30 13:39:33.7±1.1, 17°.57S×179°.71E, h608km, mb4.7/21, Error ellipse: s-maj=11.5km s-min=8.9km az=42.3
IDC 30 13:39:33.6±0.6, 17°.54S×179°.87E, h601km±6km, mb4.2/24, mbtmp5.1/26, Error ellipse: s-maj=9.0km s-min=8.7km az=157.0
NEIC 30 13:39:33.9±1.6, 17°.62S±0°.09×179°.91E±0°.10, h604km±7km, mb4.7/293, Error ellipse: s-maj=14.3km s-min=12.8km az=54.0
NOU 30 13:39:34.3, 17°.68S×179°.99W, h613km, mb5.0/85, Fiji Islands Region

ISC 30 13:39:33.9±0.4, 17°.65S±0°.04×179°.96E±0°.05, h608km±4km, h610km:pP-P, n869, σ0s98/723, mb4.7/208, 48C-41D, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	Taveuni	0.95	8	P	P	13 40 47.1	+1.1
LKBA	Tubou, Lakemba	1.30	117	P	P	13 40 47.5	+0.9
DGTI	Dogotuki	1.36	351	P	P	13 40 47.5	+0.5
MSVF	Nonsavu	1.82	267		P	13 40 49.8	+1.4
MSVF	Nonsavu	1.82	267	P	P	13 40 50.0	+1.6
MSVF	Nonsavu	1.82	267	P	P	13 40 49.8	+1.4
FUTU	Fugatoga	3.80	29		P	13 40 58.1	-0.7
FUTU	Fugatoga	3.80	29	P	P	13 40 58.7	-0.1
FUNA	Funafuti	9.10	355		P	13 41 42.4	-1.8
FUNA	Funafuti	9.10	355	P	P	13 41 43.0	-1.1
NIUE	Niue	9.71	100		P	13 41 50.0	+0.1
NIUE	Niue	9.71	100	P	P	13 41 50.1	+0.1
NIUE	Niue	9.71	100	P	P	13 41 49.8	-0.1
DVP	Devils Point	11.22	268	P	P	13 42 07.2	+2.3
RIZ	Raoul Island	11.70	171	P	P	13 42 07.9	-1.6
RAO	Raoul Island	11.71	171	P	P	13 42 10.0	+0.4
	256nm,0.3s,baz=68,slow=22,SNR=9.4						
RAO				S	S	13 44 17.8	+0.2
	159nm,0.3s,baz=72,slow=19,SNR=5.8						
RAO	Raoul Island	11.71	171	P	P	13 42 10.0	+0.4
GLKZ	Green Lake	11.72	171	P	P	13 42 09.0	-0.8
GLKZ				S	S	13 44 17.3	-0.4
SANVU	Saraoutou	12.42	278		P	13 42 15.3	-1.6
SANVU	Saraoutou	12.42	278	P	P	13 42 18.3	+1.4
PINNC	Pines Island,	12.74	245		P	13 42 19.3	-0.7
PINNC	Pines Island,	12.74	245	P	P	13 42 20.6	+0.6
YATNC	Mamie plateau,	13.05	248	P	P	13 42 22.9	-0.2
OUENC	Ouen Island, N	13.21	247	P	P	13 42 25.2	+0.6
DZM	Mont Dzumac	13.45	249		P	13 42 26.3	-0.9
DZM	Mont Dzumac	13.45	249	P	P	13 42 26.6	-0.7
	49nm,0.5s,baz=88,slow=20,SNR=47						
DZM	Mont Dzumac	13.45	249	P	P	13 42 27.3	+0.1
ONTNC	Ouen Toro	13.51	248		P	13 42 27.3	-0.4
ONTNC	Ouen Toro	13.51	248	P	P	13 42 28.7	+1.0
KOUNC	Koumac, New Ca	15.09	256	P	P	13 42 44.1	+1.5
NFK	Norfolk Island	15.81	222	P	P	13 42 52.8	+3.7
OUZ	Omahuta	18.39	197	P	P	13 43 14.6	+2.0
WCZ	Waipu Caves	18.89	194	P	P	13 43 19.3	+2.3
GRZ	Great Barrier	18.95	191	P	P	13 43 20.5	+3.0
GRZ				S	S	13 46 22.1	+3.4
KUZ	Kuaotunu	19.39	190	P	P	13 43 24.0	+2.5
RAR	Rarotonga	19.44	104	P	P	13 43 23.1	+0.9
	36nm,0.9s,baz=101,slow=16,SNR=3.2						
MKAZ	Moumakai	19.84	191	P	P	13 43 28.0	+2.5
MXZ	Matakaoa Point	19.89	184	P	P	13 43 25.9	-0.1
HAZ	Te Kaha	20.12	185	P	P	13 43 26.3	-1.9
WMGZ	Waiomatatini S	20.14	184	P	P	13 43 28.2	-0.1
WMGZ				S	S	13 43 33.8	-3.7
TOZ	Tahuroa Road	20.38	190	P	P	13 43 33.2	+2.7
PUZ	Puketiti	20.40	184	P	P	13 43 30.9	+0.2
TWGZ	Tauwhareparae	20.52	184	P	P	13 43 30.7	-1.1
URZ	Urewera	20.68	186	P	P	13 43 32.8	-0.4
	6.3nm,0.3s,baz=212,slow=23,SNR=13						
URZ				S	S	13 46 43.1	-3.0
	13nm,1.0s,baz=315,slow=13,SNR=1.3						
	6.3nm,0.3s						
URZ	Urewera	20.68	186	P	P	13 43 33.5	+0.3
URZ	Urewera	20.68	186	P	P	13 43 33.4	+0.2
URZ				S	S	13 46 41.0	-5.1
ALEG	Aligegeo Malai	20.71	293	P	P	13 43 33.9	+0.1
MWZ	Matawai	20.72	185	P	P	13 43 32.6	-1.0
CNGZ	Carnagh Station	20.81	184	P	P	13 43 34.5	+0.1
MUGZ	Murupara	20.94	187	P	P	13 43 34.9	-0.6
HNR	Honiara	21.08	290	P	P	13 43 36.2	-1.0
	101nm,0.6s,baz=104,slow=0.7,SNR=6.3						
	101nm,0.6s						
SNGZ	Shannon Statio	21.18	186	P	P	13 43 37.4	-0.2
SAVO	Savo Central	21.32	291	P	P	13 43 40.3	+1.0
RAHZ	Arahi	21.34	186	P	P	13 43 38.8	-0.3
KNZ	Kokohu	21.39	185	P	P	13 43 39.3	-0.1
BKZ	Black Stump Fm	21.65	187	P	P	13 43 41.9	0.0
BKZ				S	S	13 47 01.7	+0.2
VRZ	Vera Road	21.87	191	P	P	13 43 46.0	+2.2
NEZ	North Egmont	22.14	192	P	P	13 43 49.4	+3.1
WAZ	Wanganui	22.45	190	P	P	13 43 50.4	+1.5
PXZ	Pawanui	22.46	186	P	P	13 43 48.3	-0.7
PXZ				S	S	13 47 17.7	+3.6
TSZ	Takapari Road	22.60	188	P	P	13 43 52.2	+1.9
BFZ	Birch Farm	23.17	187	P	P	13 43 54.0	-1.4
BFZ				S	S	13 47 21.3	-4.0
MRZ	Mangatainoka R	23.24	188	P	P	13 43 54.4	-1.6
QRZ	Quartz Range	23.97	194	P	P	13 44 03.5	+1.2
QRZ	Quartz Range	23.97	194	P	P	13 44 03.6	+1.2
TK

GENI Genyem 41.80 286 P P 13 46 33.0 +0.6
GENI Genyem 41.80 286 P P 13 46 32.9 +0.6
BBOO Buckleboo 42.17 240 P P 13 46 35.2 +0.2
WR8 Warramunga Arr 42.99 259 IAmb IAmb 13 46 41.9
comp=Z,21nm,0.7s
WRAB Tennant Creek 43.14 259 P P 13 46 41.2 -1.4
WRAB IAmb IAmb 13 46 43.6
comp=Z,33nm,0.8s
WRAB Tennant Creek 43.14 259 P P 13 46 41.6 -1.1
WRAB Tennant Creek 43.14 259 P P 13 46 41.3 -1.4
WRAB pmax pmax
comp=Z,33nm,0.9s
WRA Warramunga Arr 43.15 259 P P 13 46 41.2 -1.5
WRA Warramunga Arr 43.15 259 P P 13 46 41.4 -1.3
comp=Z,27nm,0.6s,baz=94,slow=7.8,SNR=188
WRA PcP PcP 13 48 18.4 +0.1
comp=Z,2.9nm,0.4s,baz=92,slow=3.0,SNR=3.3
comp=Z,27nm,0.6s
WRA Warramunga Arr 43.15 259 P P 13 46 41.2 -1.5
WRA pmax pmax
comp=Z,4.0nm,0.8s
ASAR Alice Springs 43.36 254 P P 13 46 43.8 -0.6
comp=Z,207nm,0.5s,baz=88,slow=8.0,SNR=1152
ASAR PcP PcP 13 48 18.6 -0.4
comp=Z,4.0nm,0.5s,baz=99,slow=3.1,SNR=3.0
ASAR ScP ScP 13 51 14.2 +0.9
comp=Z,4.3nm,0.8s,baz=88,slow=3.7,SNR=9.7
ASAR S S 13 52 24.9 -4.8
comp=Z,7.8nm,0.8s,baz=88,slow=14,SNR=18
SMPI Sarmi 43.37 286 P P 13 46 44.7 +0.2
comp=Z,1µmcomp=Z,140nm,0.8s
STCH Steam Cracks 44.20 35 P P 13 46 51.0 +0.1
JOKA Jonika Flow 44.31 35 P P 13 46 51.6 0.0
SRPI Serui, Papua 45.69 285 P P 13 47 03.3 +1.0
BAKI Biak 46.08 286 P P 13 47 06.7 +1.5
comp=Z,1µmcomp=Z,163nm,0.8s
GUMO Guam 46.50 310 P P 13 47 07.8 -0.5
GUMO Guam 46.50 310 P P 13 47 07.3 -1.0
comp=Z,138nm,0.9s,baz=173,slow=8.3,SNR=15
comp=Z,138nm,0.9s
GUMO Guam 46.50 310 P P 13 47 08.7 +0.4
GUMO Guam 46.50 310 P P 13 47 07.8 -0.5
GUMO pmax pmax
comp=Z,129nm,0.9s
DRS Darwin Rock St 47.56 269 P P 13 47 16.1 -0.2
RKPI Ransiki, Papua 47.73 284 P P 13 47 18.3 +0.7
comp=Z,121nm,0.8s
FORT Forrest 48.71 244 P P 13 47 23.6 -1.0
SWI Sorong 50.67 284 P P 13 47 38.9 -0.3
FITZ Fitzroy Crossi 51.53 261 P P 13 47 45.2 -0.1
comp=Z,65nm,0.7s,baz=102,slow=9.5,SNR=62
FITZ S S 13 54 22.4 +0.5
comp=Z,2.1nm,0.8s,baz=168,slow=19,SNR=1.8
comp=Z,65nm,0.7s
MSAI Masohi 51.96 280 P P 13 47 48.9 +0.4
comp=Z,90nm,0.7s
NLAI Namlea 53.72 279 P P 13 48 05.2 +4.3
SOEI Soe 54.51 270 P P 13 48 08.5 +1.9
SOEI Soe 54.51 270 P P 13 48 07.7 +1.1
TNTI Ternate 54.89 284 P 13 48 08.5 -0.6
TNTI Ternate 54.89 284 P P 13 48 09.2 +0.1
TNTI Ternate 54.89 284 P P 13 48 09.2 +0.1
comp=Z,925nmcomp=Z,115nm,0.8s
BATI Baumata 54.98 270 P P 13 48 10.5 +0.8
comp=Z,66nm,0.5s,baz=171,slow=1.3,SNR=11
comp=Z,66nm,0.5s
BATI Baumata 54.98 270 P P 13 48 11.9 +2.2
comp=Z,94nm,0.8s
SANI Sanana 55.16 280 P P 13 48 11.5 +0.5
SANI Sanana 55.16 280 P P 13 48 10.4 -0.6
comp=Z,916nmcomp=Z,121nm,0.8s
PSA00 Pilbara Seismi 56.47 255 P P 13 48 18.9 -1.0
PSA00 IAmb IAmb 13 48 20.4
comp=Z,33nm,0.9s
PSA00 Pilbara Seismi 56.47 255 IAmb IAmb 13 48 21.1
comp=Z,82nm,0.7s
PSA00 Pilbara Seismi 56.47 255 P P 13 48 19.6 -0.3
MBWA Marble Bar 56.63 256 P 13 48 19.9 -1.0
MBWA IAmb IAmb 13 48 21.4
comp=Z,46nm,0.9s
MBWA Marble Bar 56.63 256 P P 13 48 20.3 -0.7
MMRI Maumere 56.74 271 P P 13 48 22.3 +0.5
MMRI Maumere 56.74 271 P P 13 48 21.3 -0.5
comp=Z,106nm,1.0s
MEEK Meekatharra 57.07 249 P P 13 48 23.2 -0.7
EDFI Ende, Flores 57.23 271 P P 13 48 24.5 -0.8
comp=Z,1µmcomp=Z,99nm,0.8s
SGSI Sangihe 57.70 286 P P 13 48 28.6 +0.2
NWAO Narrogin (SRO) 57.96 242 P P 13 48 29.2 -0.6
NWAO IAmb IAmb 13 48 31.4
comp=Z,35nm,1.1s
NWAO Narrogin (SRO) 57.96 242 P P 13 48 29.2 -0.6
NWAO pmax pmax
comp=Z,35nm,1.2s
KMSI Cibinong 57.96 282 P P 13 48 30.3 +0.2
BLDU Ballidu 58.48 245 P P 13 48 32.9 -0.5
LUWI Luwuk 58.53 280 IAmb IAmb 13 49 13.5
comp=Z,57nm,0.9s
MORW Morawa 59.16 246 IAmb IAmb 13 48 38.3
comp=Z,26nm,0.6s
MORW Morawa 59.16 246 P P 13 48 37.8 -0.1
APSI Ampana 59.63 280 P P 13 48 42.1 +0.9
comp=Z,934nmcomp=Z,102nm,1.2s
MRSI Marisa 59.83 281 P P 13 48 42.9 +0.3
comp=Z,56nm,0.9s
BNSI Bone 59.97 275 P P 13 48 43.5 0.0
comp=Z,765nmcomp=Z,64nm,0.9s
KAPI Kappang 60.12 274 P P 13 48 43.5 -1.0
comp=Z,11nm,0.5s,baz=148,slow=12,SNR=6.3
comp=Z,11nm,0.5s
KAPI Kappang 60.12 274 *i* P P 13 48 42.9 -1.6
KAPI pmax pmax
comp=Z,20nm,0.9s
SPSI Sidrap Palu 60.42 276 P P 13 48 45.8 -0.7
comp=Z,38nm,0.8s
VNDA Vanda 60.57 184 P P 13 48 47.7 +1.3
VNDA Vanda 60.57 184 P P 13 48 47.7 +1.3
comp=Z,4.4nm,0.7s,baz=20,slow=7.7,SNR=23
comp=Z,4.4nm,0.7s
SBA Scott Base 60.58 183 P P 13 48 49.0 +2.6
SBA Scott Base 60.58 183 P P 13 48 49.0 +2.6
SBA pmax pmax
comp=Z,13nm,0.9s
PLAI Plampang 60.94 270 P P 13 48 50.3 +0.4
PLAI Plampang 60.94 270 P P 13 48 49.8 -0.1
comp=Z,109nm,0.9s
TOLI2 Tolitoli 61.14 281 P P 13 48 50.7 -0.5
TOLI2 IAmb IAmb 13 48 55.7
comp=Z,19nm,0.8s
TOLI2 Tolitoli 61.14 281 P P 13 48 51.7 +0.5
PCI Palu 61.34 279 P P 13 48 54.1 +1.6
comp=Z,131nm,0.8s
TWSI Taliwang, Sumb 61.82 269 P P 13 48 55.2 -0.4
comp=Z,1µmcomp=Z,137nm,0.8s
JAGI Jajag, Banyuwa 64.49 269 P P 13 49 10.7 -2.0
JAGI Jajag, Banyuwa 64.49 269 P P 13 49 11.9 -0.8
JAGI Jajag, Banyuwa 64.49 269 P P 13 49 11.6 -1.1
comp=Z,94nm,0.9s
MYLDM Lahad Datu 64.74 285 P P 13 49 16.1 +1.9
MYLDM IAmb IAmb 13 49 44.2
comp=Z,21nm,0.9s
MYLDM Lahad Datu 64.74 285 P P 13 49 15.6 +1.4
BLJI Banyuglugur 65.22 270 P P 13 49 18.1 +0.9
comp=Z,2µmcomp=Z,115nm,0.9s
BBKI Banjar Baru 65.25 274 P P 13 49 19.5 +2.0
comp=Z,98nm,0.9s
CASY Casey 65.72 205 P P 13 49 19.6 +0.2
CASY IAmb IAmb 13 49 21.5
comp=Z,38nm,1.1s
JMM Marumori 66.37 327 IAmb IAmb 13 49 24.6
comp=Z,16nm,0.7s
JMM Marumori 66.37 327 P P 13 49 24.5 +0.7
JGF Kuroka 66.59 323 IAmb IAmb 13 49 26.4
comp=Z,18nm,0.9s
JGF Kuroka 66.59 323 P P 13 49 25.6 +0.3
MJAR Matsushiro Arr 66.78 324 P P 13 49 25.6 -0.8
MJAR IAmb IAmb 13 49 27.4
comp=Z,20nm,0.7s
MJAR Matsushiro Arr 66.78 324 P P 13 49 25.5 -0.9
comp=Z,17nm,0.7s,baz=157,slow=6.2,SNR=65
MJAR pP pP 13 51 24.9 -1.7
comp=Z,2.0nm,0.9s,baz=138,slow=7.8,SNR=3.6
comp=Z,17nm,0.7s
MJAR Matsushiro Arr 66.78 324 P P 13 49 25.6 -0.8
MJAR pmax pmax
comp=Z,20nm,0.7s
MAJO Matsushiro 66.78 324 P P 13 49 25.6 -0.8
MAJO Matsushiro 66.78 324 P P 13 49 26.8 +0.4
MAJO Matsushiro 66.78 324 P P 13 49 25.6 -0.8
MAJO pmax pmax
comp=Z,27nm,0.6s
MJB9 Matsu-Tunnel 66.79 324 IAmb IAmb 13 49 28.4
comp=Z,25nm,0.6s
JMN Monobe 67.38 319 P P 13 49 30.2 +0.1
JMN IAmb IAmb 13 49 32.4
comp=Z,34nm,1.0s
JMN Monobe 67.38 319 P P 13 49 30.7 +0.6
PCJI Pacitan 67.40 268 P P 13 49 31.1 +0.4
comp=Z,163nm,0.8s
JSD Sado 67.84 325 P P 13 49 33.3 +0.5
JNU Nakatsue 68.89 317 IAmb IAmb 13 49 41.5
comp=Z,17nm,1.1s
JNU Nakatsue 68.89 317 P P 13 49 39.4 +0.1
SBUM Sibu 69.63 279 P P 13 49 44.7 +0.6
ATKA Atka Island 69.74 4 P P 13 49 42.8 -1.0
JKA Kamikawa-asahi 70.31 332 P P 13 49 48.5 +1.0
JKA IAmb IAmb 13 49 50.3
comp=Z,19nm,0.7s
ASAJ Asahikawa 70.32 332 P P 13 49 48.5 +1.0
ASAJ pmax pmax
comp=Z,19nm,0.7s
BBJI Bungbulang 70.96 268 P P 13 49 51.6 -0.4
NIKH Nikolski High 70.99 7 P P 13 49 51.0 -0.2
baz=191
KSM Kuching 71.11 278 P P 13 49 54.2 +1.4
UNV Unalaska Valle 72.15 8 P P 13 49 57.2 -0.7
baz=194
QSPA South Pole Qui 72.40 180 P P 13 50 02.1 +2.6
QSPA IAmb IAmb 13 50 04.2
comp=Z,22nm,0.7s
QSPA South Pole Qui 72.40 180 P P 13 50 02.3 +2.8
comp=Z,24nm,0.7s,baz=63,slow=2.3,SNR=114
QSPA pP pwP 13 52 08.0 +1.6
comp=Z,3.7nm,0.8s,baz=32,slow=3.2,SNR=2.9
comp=Z,24nm,0.7s
YSS Yuzhno-Sakhali 72.50 334 P P 13 50 01.1 +1.0
YSS Yuzhno-Sakhali 72.50 334 *eP* P 13 50 00.7 +0.6
YSS pmax pmax
comp=Z,200nm,4.9s
YSS pmax pmax
comp=Z,30nm,1.1s
CGJI Cibinong 73.06 268 P P 13 50 03.1 -0.9
TJN Taejon 73.17 318 *i* P P 13 50 03.0 -1.2
KSRS Korea Array 73.48 319 P P 13 50 06.3 +0.4
comp=Z,5.7nm,1.0s,baz=133,slow=6.2,SNR=22
KSRS pP pP 13 52 07.3 -2.1
comp=Z,0.3nm,0.5s,baz=120,slow=7.3,SNR=1.8
comp=Z,5.7nm,1.0s
KSAR Wonju Array Be 73.50 319 P P 13 50 05.7 -0.3
KSAR Wonju Array Be 73.50 319 P P 13 50 05.7 -0.3
FALS False Pass 73.60 10 P P 13 50 05.7 -0.4
baz=196
CHNA Chernabura Isl 74.27 12 P P 13 50 10.7 +0.8
baz=200
P08K Saint George I 74.49 6 P P 13 50 11.8 +0.8
baz=190
KASI Kota Agung 74.51 269 P P 13 50 11.5 -0.7
comp=Z,833nmcomp=Z,86nm,0.8s
SDPT Sand Point 74.59 11 P P 13 50 10.4 -1.2
baz=199
S12K Black Hills 74.64 10 P P 13 50 11.4 -0.6
baz=198
VLA Vladivostok 74.86 326 *i* P P 13 50 13.0 -0.5
VLA pmax pmax
comp=Z,26nm,1.0s
MSHR Mys Shultsa 74.89 325 *ce* P P 13 50 13.7 0.0
MSHR pmax pmax
comp=Z,34nm,1.7s
SPIA Saint Paul Isl 74.99 6 P P 13 50 13.1 -0.8
baz=190
LWLI Liwa 75.07 269 P P 13 50 16.7 +1.2
MDSI Maura Dua 75.11 270 P P 13 50 15.6 0.0
USRK Ussuriysk Ar. 75.53 327 P P 13 50 17.4 +0.2
comp=Z,4.1nm,0.6s,baz=121,slow=4.6,SNR=14
comp=Z,4.1nm,0.6s
S14K Fog Glacier 75.64 12 P P 13 50 17.2 -0.5
baz=200
TYV Tymovskoe 75.67 337 *eP* P 13 50 17.3 -0.5
TYV pmax pmax
comp=Z,14nm,0.9s
TYV pmax pmax
comp=Z,300nm,5.1s
CHGN Chignik 75.89 12 P P 13 50 18.4 -0.4
baz=201
DLV Lat 76.43 287 IAmb IAmb 13 50 25.4
comp=Z,17nm,1.0s
NJ2 Nanjing 76.58 310 ⇓P P 13 50 25.0 +1.8
NJ2 pmax pmax
comp=Z,21nm,1.0s
MDJ Mudanjiang 77.09 326 P P 13 50 26.0 +0.3
MDJ pmax pmax
comp=Z,16nm,1.1s
MDJ Mudanjiang 77.09 326 P P 13 50 26.2 +0.5
R16K Pilot Point 77.23 12 P P 13 50 26.1 -0.1
baz=202
BTDF Bukit Timah Da 77.26 276 P P 13 50 27.8 +0.4
R17L Mt. Peulik Vol 77.55 13 P P 13 50 27.2 -0.7
baz=203
OHAK Old Harbor 77.86 15 P P 13 50 28.9 -0.6
baz=206
R18K Karluk 77.90 14 P P 13 50 29.1 -0.6
baz=205
GRNR Gornyy 78.10 333 ⇑ *iP* P 13 50 31.6 +0.5
GRNR pmax pmax
comp=Z,10.0nm,0.9s
O14K Tigyukauivet M 78.16 10 P P 13 50 30.8 -0.2
baz=198
Q17K Contact Creek 78.23 13 P P 13 50 31.7 0.0
baz=204
O15K Ungalikthiuk R 78.32 10 P P 13 50 31.9 -0.2
baz=200
DL2 Dalian 78.34 317 P P 13 50 32.8 +0.2
DL2 pmax pmax
comp=Z,35nm,0.8s
O02D Mt. Diablo Mer 78.38 41 IAmb IAmb 13 50 36.0
comp=Z,37nm,1.4s
VES Vestal, Richgr 78.44 46 IAmb IAmb 13 50 34.7
comp=Z,16nm,0.6s
Q16K King Salmon 78.45 12 P P 13 50 31.8 -0.8
baz=203
P16K Nushagak River 78.52 11 P P 13 50 32.8 -0.2
baz=201
KDAK Kodiak Island 78.53 15 P P 13 50 33.0 -0.2
baz=207
TPO Tropico Hills 78.54 48 IAmb IAmb 13 50 36.5
comp=Z,31nm,1.3s
M11K Mekoryuk 78.56 7 P P 13 50 32.7 -0.5
baz=194
N14K Kuskokwak Cree 78.73 9 P P 13 50 33.6 -0.5
baz=198,SNR=8.9
Q18K Katmai Hardscr 78.77 13 P P 13 50 34.2 -0.3
baz=204
ISA Isabella, Lake 78.77 47 IAmb IAmb 13 50 37.7
comp=Z,26nm,1.4s
N02D Trinity Center 78.88 41 IAmb IAmb 13 50 38.6
comp=Z,28nm,1.4s
M13K Dall Lake 78.95 8 P P 13 50 34.9 -0.4
baz=196
P17K Kvichak River 78.97 12 P P 13 50 35.2 -0.2
baz=203,SNR=11
BNX BinXian 79.00 326 ⇓P P 13 50 36.0 +0.1
BNX pmax pmax
comp=Z,37nm,0.9s
O16K Kokwok River B 79.03 11 P P 13 50 35.1 -0.6
baz=201
O03E Paynes Creek 79.06 41 IAmb IAmb 13 50 38.8
comp=Z,32nm,1.4s
WHN Wuhan 79.20 307 ⇓P P 13 50 38.0 +0.7
WHN pmax pmax
comp=Z,48nm,0.8s
N15K Kwethluk River 79.22 10 IAmb IAmb 13 50 38.6
comp=Z,53nm,1.4s
N15K Kwethluk River 79.22 10 P P 13 50 36.4 -0.3
baz=199
Q19K Cape Douglas, 79.32 14 P P 13 50 37.3 0.0
baz=206
Q20K Shuyak Island 79.32 14 P P 13 50 37.7 +0.4
baz=207
O17K Koliganek Bris 79.38 12 P P 13 50 37.5 0.0
baz=202
MDPB Devils Postpil 79.39 45 IAmb IAmb 13 50 41.0
comp=Z,29nm,1.4s
P18K Big Mountain, 79.40 13 P P 13 50 37.1 -0.7
baz=204,SNR=10
M03C McCloud 79.42 41 IAmb IAmb 13 50 40.8
comp=Z,56nm,1.4s
M14K Bethel 79.48 9 P P 13 50 37.8 -0.2
baz=198
BKNI Bangkinang 79.54 274 P P 13 50 40.0 +0.5
WAKR Walker 79.61 44 IAmb IAmb 13 50 42.5
comp=Z,40nm,1.5s
M15K Kasigluk River 79.62 10 P P 13 50 38.5 -0.3
baz=199
PDSI Padang 79.71 272 P P 13 50 40.2 -0.3
comp=Z,34nm,0.7s
N16K Nishlik Lake 79.73 11 P P 13 50 39.2 -0.3
baz=201,SNR=5.8
O18K Koktuh Hills 79.83 12 P P 13 50 40.2 +0.2
baz=204,SNR=13
PPI Padang Panjang 79.91 273 P P 13 50 43.5 +2.1
comp=Z,29nm,0.8s
L14K Kuka Creek 79.94 8 P P 13 50 40.8 +0.3
baz=197
N17K Nushagak Hills 80.06 11 P P 13 50 41.0 -0.1
baz=202
P19K Oil Pt 80.07 13 P P 13 50 41.4 +0.2
baz=206
LHV Little Huntoon 80.10 45 IAmb IAmb 13 50 44.8
comp=Z,29nm,1.2s
M16K Timber Creek 80.21 10 IAmb IAmb 13 50 44.5
comp=Z,50nm,1.2s
M16K Timber Creek 80.21 10 P P 13 50 41.8 -0.1
baz=200,SNR=6.6
GRAC Grapevine Rang 80.22 46 IAmb IAmb 13 50 45.5
comp=Z,13nm,0.7s
K13K Kusilvak Mount 80.25 7 P P 13 50 42.3 +0.2
baz=195
PAHR Pah Rah Range 80.29 43 IAmb IAmb 13 50 45.5
comp=Z,24nm,1.3s
O19K Port Alsworth 80.32 13 P P 13 50 42.0 -0.4
baz=205,SNR=16
NVAR Mina Array Bea 80.33 45 P P 13 50 43.4 +0.1
NVAR Mina Array Bea 80.33 45 P P 13 50 44.6 +1.2
comp=Z,4.2nm,0.6s,baz=226,slow=7.9,SNR=38
NVAR pP pwP 13 52 50.9 -1.8
comp=Z,0.9nm,0.8s,baz=244,slow=7.0,SNR=3.2
comp=Z,4.2nm,0.6s
L15K Ungalak Mounta 80.43 9 P P 13 50 43.3 +0.3
baz=198,SNR=5.5
HOM Homer 80.43 14 P P 13 50 43.8 +0.8
baz=207
N18K Kilae Creek 80.45 12 P P 13 50 43.0 -0.2
baz=203,SNR=5.1
O20K Slope Mountain 80.59 14 P P 13 50 43.8 -0.1
baz=206
BRSE Bradley Lake S 80.72 15 P P 13 50 44.9 +0.3
baz=206
L16K Owhat River 80.77 10 IAmb IAmb 13 50 47.0
comp=Z,36nm,1.1s
L16K Owhat River 80.77 10 P P 13 50 45.5 +0.7
baz=200,SNR=9.1
M17K Holitna River 80.83 11 P P 13 50 46.0 +0.9
baz=202,SNR=9.1
IPM Ipoh 80.84 278 P P 13 50 45.9 -0.4
IPM Ipoh 80.84 278 P P 13 50 47.4 +1.1
N19K Bonanza Creek 80.85 12 IAmb IAmb 13 50 46.0
comp=Z,26nm,1.2s
N19K Bonanza Creek 80.85 12 P P 13 50 45.6 +0.2
baz=205,SNR=6.2
TPH Tonopah 80.87 45 IAmb IAmb 13 50 48.6
comp=Z,20nm,1.1s
TPNV Topopah Spring 80.97 47 IAmb IAmb 13 50 49.2
comp=Z,30nm,1.4s
K05A Summer Lake 80.99 40 IAmb IAmb 13 50 49.4
comp=Z,20nm,0.9s
K15K Wolf Creek Mou 81.02 9 P P 13 50 46.9 +0.8
baz=198,SNR=12
WIFE Three Sisters- 81.19 38 IAmb IAmb 13 50 50.1
comp=Z,19nm,1.2s
M18K Stony River 81.21 11 P P 13 50 48.4 +1.3
baz=203,SNR=6.1
H04A Detroit Lake 81.33 38 IAmb IAmb 13 50 50.0
comp=Z,44nm,1.5s
L17K Donlin 81.37 10 P P 13 50 48.8 +1.0
baz=201,SNR=8.8
GAMB Gambell 81.42 4 P P 13 50 48.6 +0.6
baz=188
KULM Kulim 81.46 278 P P 13 50 49.2 -0.2
KULM IAmb IAmb 13 50 50.7
comp=Z,18nm,0.8s
KULM Kulim 81.46 278 P P 13 50 49.8 +0.4
O22K Cooper Landing 81.62 15 P P 13 50 49.8 +0.7
baz=209
I05D Terrebonne, OR 81.63 38 IAmb IAmb 13 50 52.1
comp=Z,20nm,1.2s
S11A Rachel 81.66 46 IAmb IAmb 13 50 52.6
comp=Z,40nm,1.4s
SPCR Spurr Chakacha 81.68 13 P P 13 50 49.5 -0.1
baz=207
SPU Mount Spurr 81.70 13 IAmb IAmb 13 50 49.9
comp=Z,21nm,1.2s
L18K Granite Mounta 81.72 11 IAmb IAmb 13 50 51.9
comp=Z,19nm,0.7s
L18K Granite Mounta 81.72 11 P P 13 50 50.3 +0.6
baz=202,SNR=8.9
P23K Montague Islan 81.78 16 P P 13 50 50.7 +0.7
baz=211
M19K Big River Lodg 81.87 12 P P 13 50 50.3 -0.1
baz=205
HEH HeiHe 81.89 329 *eP* P 13 50 50.3 -0.4
HEH pmax pmax
comp=Z,12nm,1.0s
K17K Iditarod 81.91 10 P P 13 50 51.1 +0.6
baz=201
SMAI San Martin Ant 81.94 160 P P 13 50 51.9 +1.1
PRN Pahroc Range 82.03 47 IAmb IAmb 13 50 54.9
comp=Z,46nm,1.4s
L19K White Mountain 82.03 12 P P 13 50 51.0 -0.2
baz=204,SNR=15
STLK Strandline Lak 82.03 13 IAmb IAmb 13 50 51.5
comp=Z,15nm,0.7s
J16K Anvik River 82.09 9 IAmb IAmb 13 50 53.7
comp=Z,22nm,0.7s
J16K Anvik River 82.09 9 P P 13 50 51.3 -0.2
baz=199
M20K Styx River 82.10 13 P P 13 50 51.9 +0.2
baz=206
RC01 Rabbit Creek A 82.15 14 IAmb IAmb 13 50 52.9
comp=Z,44nm,1.2s
RC01 Rabbit Creek A 82.15 14 P P 13 50 51.8 0.0
baz=209
HNS HongShan 82.20 313 ⇓P P 13 50 53.3 +0.7
HNS pmax pmax
comp=Z,7.0nm,0.9s
WVOR Wild Horse Val 82.23 41 IAmb IAmb 13 50 55.4
comp=Z,19nm,1.1s
SUA Susitna One 82.24 14 IAmb IAmb 13 50 53.3
comp=Z,23nm,0.8s
SUA Susitna One 82.24 14 P P 13 50 52.5 +0.1
baz=208,SNR=5.1
PWL Port Wells 82.28 15 P P 13 50 52.7 +0.1
baz=210
J17K VABM Dome 82.43 9 P P 13 50 53.1 0.0
baz=200
LYN LuoYang 82.46 310 P P 13 50 54.5 +0.5
LYN pmax pmax
comp=Z,33nm,0.8s
L20K Farewell, AK 82.49 12 P P 13 50 53.9 +0.3
baz=205,SNR=7.5
BJT Baijiatuau 82.51 316 P P 13 50 54.4 +0.3
BJI Beijing 82.51 316 P P 13 50 54.3 +0.2
BJI SKS SKSac 14 00 17.0 -0.9
BJI pmax pmax
comp=Z,9.0nm,1.3s
BJI pmax pmax
comp=Z,120nm,4.4s
SKT Skwentna 82.53 13 P P 13 50 53.7 0.0
baz=207
KAIM Kayak Island 82.53 17 P P 13 50 53.5 -0.2
baz=214
I07A Izee 82.58 39 IAmb IAmb 13 50 57.2
comp=Z,22nm,1.4s
GLI Glacier Island 82.61 16 P P 13 50 54.0 -0.1
baz=212
M22K Willow 82.64 14 P P 13 50 53.8 -0.4
baz=209,SNR=5.6
GNW Green Mountain 82.65 35 IAmb IAmb 13 50 56.9
comp=Z,19nm,1.3s
I17K Unalakleet 82.65 9 P P 13 50 54.3 0.0
baz=199
EYAK Cordova Ski Ar 82.69 16 P P 13 50 54.3 -0.2

	baz=213								
PMR	**Palmer**	82.73	14	P		**P**		13 50 55.0	+0.3
PMR	**Palmer**	82.73	14	P		**P**		13 50 54.7	+0.1
	baz=210,SNR=6.2								
ANM	**Nome**	82.73	6	P		**P**		13 50 54.5	-0.1
	baz=194								
KNK	**Knik Glacier**	82.73	15	P		**P**		13 50 54.6	-0.1
	baz=210								
TUC	**Tucson**	82.78	53	P		**P**		13 50 57.4	+1.6
TUC	**Tucson**	82.78	53	P		**P**		13 50 57.4	+1.6
TUC				pmax		pmax			
	comp=Z,15nm,1.3s								
J08A	**Circle Bar Ran**	82.82	40	IAmb		IAmb		13 50 58.2	
	comp=Z,44nm,1.4s								
ENH	**Enshi**	82.84	305	P		**P**		13 50 56.2	+0.1
J18K	**Innoko River**	82.88	10	P		**P**		13 50 55.0	-0.4
	baz=202								
CRAG	**Craig**	82.93	25	P		**P**		13 50 55.4	-0.4
	baz=225								
GHO	**Glory Hole Cre**	82.94	14	IAmb		IAmb		13 50 57.0	
	comp=Z,27nm,0.7s								
SML	**Sawmill**	83.11	15	P		**P**		13 50 57.0	+0.4
	baz=210								
GSI	**Gunungsitoli**	83.13	274	P		**P**		13 50 58.6	+0.7
H16K	**Elim**	83.17	8	P		**P**		13 50 57.1	+0.3
	baz=197								
DIV	**Divide**	83.17	16	IAmb		IAmb		13 50 58.1	
	comp=Z,42nm,1.3s								
CUT	**Chulitna**	83.18	13	P		**P**		13 50 56.6	-0.3
	baz=208,SNR=8.8								
SEY	**Seymchan**	83.19	348	*ce*P		**P**		13 50 57.4	+0.5
SEY				pmax		pmax			
	comp=Z,44nm,1.3s								
PPLA	**Purkeypile**	83.21	12	P		**P**		13 50 57.3	+0.1
	baz=207								
X16A	**Lo Mia Camp, P**	83.22	51	IAmb		IAmb		13 51 01.1	
	comp=Z,15nm,1.0s								
SIT	**Sitka**	83.24	23	P		**P**		13 50 57.3	+0.1
	baz=222								
M23K	**Glacier View**	83.24	15	P		**P**		13 50 57.2	0.0
	baz=211								
K20K	**Telida**	83.25	11	IAmb		IAmb		13 50 58.7	
	comp=Z,17nm,0.8s								
K20K	**Telida**	83.25	11	P		**P**		13 50 57.3	0.0
	baz=205								
G15K	**Niukluk**	83.29	7	P		**P**		13 50 57.6	+0.2
	baz=195								
BMRM	**Bremner River**	83.35	17	IAmb		IAmb		13 51 01.6	
	comp=Z,15nm,0.8s								
BMRM	**Bremner River**	83.35	17	P		**P**		13 50 58.1	+0.2
	baz=214								
SCM	**Sheep Creek Mo**	83.37	15	IAmb		IAmb		13 50 59.5	
	comp=Z,26nm,0.7s								
SCM	**Sheep Creek Mo**	83.37	15	P		**P**		13 50 57.9	-0.1
	baz=211,SNR=5.6								
U33K	**Whale Pass**	83.39	24	IAmb		IAmb		13 51 00.4	
	comp=Z,11nm,0.7s								
U33K	**Whale Pass**	83.39	24	P		**P**		13 50 57.8	-0.2
	baz=224,SNR=5.5								
KNB	**Kanab**	83.41	48	IAmb		IAmb		13 51 01.8	
	comp=Z,19nm,1.3s								
KLU	**Klutina**	83.44	16	P		**P**		13 50 59.3	+0.9
	baz=213								
V35K	**Ketchikan**	83.44	25	IAmb		IAmb		13 51 00.7	
	comp=Z,14nm,1.0s								
V35K	**Ketchikan**	83.44	25	P		**P**		13 50 58.6	+0.3
	baz=226,SNR=5.6								
MESA	**MESA**	83.45	18	P		**P**		13 50 59.3	+0.7
	baz=216								
TNA	**Tin City**	83.47	5	P		**P**		13 50 58.7	+0.4
	baz=192								
319A	**Douglas**	83.54	54	IAmb		IAmb		13 51 02.9	
	comp=Z,14nm,0.9s								
J19K	**Poorman**	83.56	11	P		**P**		13 50 59.7	+1.0
	baz=203								
G08A	**Pilot Rock**	83.57	38	IAmb		IAmb		13 51 01.8	
	comp=Z,33nm,1.4s								
MAW	**Mawson**	83.57	200	P		**P**		13 50 59.4	+0.4
	comp=Z,8.2nm,0.7s,baz=133,slow=5.8,SNR=44								
	comp=Z,8.2nm,0.7s								
S31K	**Pelican**	83.58	22	P		**P**		13 50 59.7	+0.8
	baz=222								
CRQE	**Cirque**	83.59	17	P		**P**		13 50 59.9	+0.7
	baz=215								
KCSI	**Kotacane, Aceh**	83.63	276	P		**P**		13 51 00.6	+0.3
SURA	**Surathani**	83.66	282	P		**P**		13 51 01.8	+1.4
E07A	**Sunnyside**	83.74	37	IAmb		IAmb		13 51 02.5	
	comp=Z,34nm,1.3s								
H17K	**Granite Mounta**	83.76	8	P		**P**		13 51 00.8	+1.1
	baz=199								
PNL	**Peninsula**	83.83	19	P		**P**		13 51 00.6	+0.4
	baz=219								
HAWA	**Hanford**	83.84	37	IAmb		IAmb		13 51 03.0	
	comp=Z,34nm,1.3s								
G16K	**Koyuk River**	83.88	7	P		**P**		13 51 01.2	+0.9
	baz=197								
N25K	**Chitina, Valde**	83.88	16	P		**P**		13 51 01.2	+0.6
	baz=214,SNR=8.0								
M24K	**Tolsona, Glenn**	83.89	15	P		**P**		13 51 01.2	+0.6
	baz=212								
PINM	**Pinnacle**	83.90	19	P		**P**		13 51 00.9	+0.3
	baz=218								
WRAK	**Wrangell Islan**	83.91	24	IAmb		IAmb		13 51 02.9	
	comp=Z,9.8nm,0.8s								
WRAK	**Wrangell Islan**	83.91	24	P		**P**		13 51 01.3	+0.7
	baz=225								
WAT6	**Susitna Watana**	83.92	14	P		**P**		13 51 00.2	-0.6
	baz=211,SNR=8.0								
F15K	**North Star Dit**	83.92	6	P		**P**		13 51 00.8	+0.3
	baz=195								
WAT1	**Susitna Watana**	83.94	14	P		**P**		13 51 01.2	+0.4
	baz=210								
SLVN	**Son La**	83.96	295	P		**P**		13 51 02.5	+0.7
J20K	**Nowinta River**	83.99	11	IAmb		IAmb		13 51 02.3	
	comp=Z,35nm,1.4s								
J20K	**Nowinta River**	83.99	11	P		**P**		13 51 01.0	+0.1
	baz=205,SNR=6.5								
GCSA	**Galena City Sc**	84.04	10	P		**P**		13 51 00.8	-0.3
	baz=202								
KTH	**Kantishna Hill**	84.06	13	IAmb		IAmb		13 51 01.4	
	comp=Z,12nm,0.8s								
CHUM	**Lake Minchumin**	84.07	12	P		**P**		13 51 00.9	-0.4
	baz=206,SNR=6.2								
TRF	**Thorofare Moun**	84.10	13	IAmb		IAmb		13 51 03.2	
	comp=Z,22nm,0.7s								
TRF	**Thorofare Moun**	84.10	13	P		**P**		13 51 00.9	-0.8
	baz=208,SNR=12								
MCARA	**McCarthy VSAT**	84.12	17	P		**P**		13 51 01.0	-0.6
	baz=215								
E08A	**Dider Farm, El**	84.16	37	IAmb		IAmb		13 51 04.5	
	comp=Z,33nm,1.3s								
H18K	**Honhosa River**	84.19	9	P		**P**		13 51 00.8	-1.0
	baz=201								
G17K	**Kiwalik Mounta**	84.20	8	P		**P**		13 51 01.8	-0.1
	baz=199								
ZEA	**Zeya**	84.22	332	*e*P		**P**		13 51 02.6	+0.4
ZEA				pmax		pmax			
	comp=N,10.0nm,1.0s								
ZEA				pmax		pmax			
	comp=Z,10.0nm,1.3s								
CTG	**Chitna Glacier**	84.26	18	P		**P**		13 51 01.9	-0.6
	baz=217								
P29M	**Windy Craggy**	84.33	20	P		**P**		13 51 01.9	-0.8
	baz=220								
HARP	**HAARP**	84.40	16	P		**P**		13 51 02.0	-1.0
	baz=213								
R32K	**Eaglecrest**	84.43	22	P		**P**		13 51 03.1	0.0
	baz=223								
DHY	**Denali Highway**	84.43	14	P		**P**		13 51 03.4	+0.1
	baz=211								
O28M	**Mount Upton**	84.45	18	P		**P**		13 51 03.9	+0.2
	baz=218								
I20K	**Naaghedeneel**	84.49	11	P		**P**		13 51 03.9	+0.6
	baz=204								
MFID	**Camas Ranch**	84.50	41	IAmb		IAmb		13 51 06.4	
	comp=Z,16nm,1.1s								
BPAW	**Bear Paw Mtn.**	84.53	12	P		**P**		13 51 03.5	-0.1
	baz=208								
D08A	**Wollman Farm,**	84.55	37	IAmb		IAmb		13 51 06.4	
	comp=Z,10nm,0.8s								
O29M	**Mount Kennedy**	84.58	19	P		**P**		13 51 03.7	-0.4
	baz=219								
MCK	**McKinley**	84.64	13	IAmb		IAmb		13 51 05.0	
	comp=Z,11nm,0.7s								
MCK	**McKinley**	84.64	13	P		**P**		13 51 04.3	+0.2
	baz=210								
PLBC	**Pleasant Camp**	84.66	21	P		**P**		13 51 04.6	+0.4
	baz=221								
E09A	**Wood Farm, Sta**	84.71	38	IAmb		IAmb		13 51 06.8	
	comp=Z,13nm,1.1s								
PAX	**Paxson**	84.80	15	IAmb		IAmb		13 51 05.7	
	comp=Z,15nm,1.2s								
PAX	**Paxson**	84.80	15	P		**P**		13 51 05.1	+0.1
	baz=213								
H19K	**Roundabout Mou**	84.83	10	P		**P**		13 51 05.1	+0.2
	baz=203								
G18K	**Tagagawik**	84.84	9	P		**P**		13 51 04.9	-0.1
	baz=200								
P30M	**Million Dollar**	84.96	20	P		**P**		13 51 05.7	-0.1
	baz=221								
M26K	**Nabesna, AK**	84.97	16	IAmb		IAmb		13 51 07.1	
	comp=Z,23nm,1.2s								
M26K	**Nabesna, AK**	84.97	16	P		**P**		13 51 06.1	+0.3
	baz=215,SNR=5.1								
YUK8	**Steele Glacier**	84.98	18	P		**P**		13 51 05.7	-0.5
	baz=218								
SKAG	**Skagway**	85.01	21	P		**P**		13 51 06.2	+0.2
	baz=222								
F17K	**Baldwin Pennin**	85.02	7	P		**P**		13 51 06.2	+0.4
	baz=198								
B08A	**Colville Reser**	85.03	36	IAmb		IAmb		13 51 08.0	
	comp=Z,21nm,1.4s								
H20K	**Anotleneega Mo**	85.06	10	P		**P**		13 51 06.1	-0.1
	baz=204								
T35M	**Bob Quinn**	85.14	25	P		**P**		13 51 06.7	+0.1
	baz=227								
YUK6	**Outpost Mounta**	85.14	19	P		**P**		13 51 06.4	-0.5
	baz=220								
M27K	**Edge Creek, AK**	85.23	17	P		**P**		13 51 06.4	-0.8
	baz=216								
I21K	**Tanana**	85.30	11	IAmb		IAmb		13 51 09.2	
	comp=Z,10nm,0.9s								
I21K	**Tanana**	85.30	11	P		**P**		13 51 07.7	+0.5
	baz=207								
HYT	**Haines Junctio**	85.32	19	P		**P**		13 51 07.4	-0.2
	baz=220								
C09A	**Chrisman Ranch**	85.33	37	IAmb		IAmb		13 51 09.8	
	comp=Z,16nm,1.1s								
NEA2	**Nenana**	85.36	13	P		**P**		13 51 07.3	-0.3
	baz=210								
YUK4	**Talbot Arm**	85.37	19	P		**P**		13 51 08.2	+0.3
	baz=219								
F18K	**Selawik**	85.37	8	P		**P**		13 51 07.6	+0.1
	baz=200								
MLY	**Manley**	85.41	12	P		**P**		13 51 07.7	-0.1
	baz=208								
K24K	**Donnelly Dome**	85.43	15	IAmb		IAmb		13 51 08.8	
	comp=Z,26nm,1.1s								
K24K	**Donnelly Dome**	85.43	15	P		**P**		13 51 07.8	-0.1
	baz=213								
S34M	**Telegraph Cree**	85.43	24	IAmb		IAmb		13 51 10.5	
	comp=Z,35nm,1.2s								
S34M	**Telegraph Cree**	85.43	24	P		**P**		13 51 07.7	-0.3
	baz=226,SNR=13								
HLID	**Hailey**	85.47	42	IAmb		IAmb		13 51 11.5	
	comp=Z,14nm,1.2s								
E17K	**Hotham Inlet**	85.56	7	P		**P**		13 51 08.3	-0.1
	baz=197								
H21K	**Melozitna Rive**	85.58	11	P		**P**		13 51 08.4	-0.2
	baz=206								
TMUT	**Trail Mountain**	85.58	47	IAmb		IAmb		13 51 12.6	
	comp=Z,15nm,1.3s								
RIDG	**Independent Ri**	85.60	15	P		**P**		13 51 08.1	-0.7
	baz=214								
P32M	**Atlin**	85.67	22	P		**P**		13 51 08.7	-0.5
	baz=224								
HDA	**Harding Lake**	85.67	14	IAmb		IAmb		13 51 10.1	
	comp=Z,14nm,0.6s								
HDA	**Harding Lake**	85.67	14	P		**P**		13 51 09.2	+0.2
	baz=212,SNR=15								
CCB	**Clear Creek Bu**	85.69	13	IAmb		IAmb		13 51 10.3	
	comp=Z,9.9nm,0.7s								
IMAR	**Indian Mountai**	85.70	10	P		**P**		13 51 08.4	-0.7
DOT	**Dot Lake**	85.72	15	IAmb		IAmb		13 51 11.0	
	comp=Z,21nm,1.4s								
O30N	**Mendenhall**	85.74	20	P		**P**		13 51 09.4	-0.1
	baz=222								
Q32M	**Nakina River**	85.74	23	P		**P**		13 51 09.4	-0.4
	baz=225								
I23K	**Minto, Yukon-K**	85.79	12	P		**P**		13 51 09.2	-0.3
	baz=209								
L27K	**Beaver Creek,**	85.82	16	P		**P**		13 51 09.5	-0.3
	baz=216								
F19K	**Shaleruckik Mo**	85.85	9	P		**P**		13 51 09.8	0.0
	baz=201								
COLA	**College**	85.87	13	P		**P**		13 51 10.0	+0.1
COLA	**College**	85.87	13	S		**S**		14 00 53.6	+0.6
COLA	**College**	85.87	13	*i* P		**P**		13 51 07.6	-2.3
COLA				pmax		pmax			
	comp=Z,34nm,1.5s								
COLA	**College**	85.87	13	P		**P**		13 51 10.5	+0.6
	baz=211								
N30M	**Aishikik Lake**	85.94	19	P		**P**		13 51 10.7	+0.2
	baz=221								
SRU	**San Rafael Swe**	85.97	47	IAmb		IAmb		13 51 13.8	
	comp=Z,16nm,1.5s								
HHC	**Hu-ho-hao-te**	85.99	315	*e*P		**P**		13 51 11.5	+0.3
HHC				pmax		pmax			
	comp=Z,36nm,0.7s								
IL31		86.00	14	IAmb		IAmb		13 51 11.0	
	comp=Z,27nm,1.4s								
ILAR	**Eielson Array**	86.00	14	P		**P**		13 51 09.4	-1.2
ILAR	**Eielson Array**	86.00	14	P		**P**		13 51 09.1	-1.5
	comp=Z,3.1nm,0.5s,baz=216,slow=5.7,SNR=59								
ILAR				pP		**pP**		13 53 19.9	+0.2
	comp=Z,0.5nm,1.0s,baz=209,slow=4.9,SNR=2.4								
	comp=Z,3.1nm,0.5s								
SCRK	**Sand Creek**	86.01	15	P		**P**		13 51 10.5	-0.3
SCRK				IAmb		IAmb		13 51 12.0	
	comp=Z,22nm,1.4s								
SCRK	**Sand Creek**	86.01	15	P		**P**		13 51 11.6	+0.8
	baz=214,SNR=5.8								
D17K	**Noatak River**	86.01	6	P		**P**		13 51 11.6	+1.1
	baz=196								
BILL	**Bilibino**	86.03	355	*ce*P		**P**		13 51 11.1	+0.5
BILL				pmax		pmax			
	comp=Z,66nm,2.5s								
E18K	**Tukpahlearik C**	86.03	7	P		**P**		13 51 11.1	+0.5
	baz=199								
H22K	**Isfiltna Cre**	86.05	11	P		**P**		13 51 10.9	0.0
	baz=207								
WHY	**Whitehorse**	86.05	20	P		**P**		13 51 10.8	-0.3
WHY				IAmb		IAmb		13 51 12.8	
	comp=Z,13nm,0.8s								
WHY	**Whitehorse**	86.05	20	P		**P**		13 51 11.3	+0.3
	baz=223								
POKR	**Poker Plat Res**	86.17	13	P		**P**		13 51 10.9	-0.5
	baz=211								
J25K	**Salcha River,**	86.21	14	IAmb		IAmb		13 51 12.6	
	comp=Z,6.9nm,0.7s								
J25K	**Salcha River,**	86.21	14	P		**P**		13 51 11.2	-0.5
	baz=213,SNR=8.9								
DLBC	**Dease Lake**	86.22	24	P		**P**		13 51 11.6	-0.2
	baz=227								
G21K	**Allakaket**	86.23	10	IAmb		IAmb		13 51 12.7	
	comp=Z,7.7nm,0.7s								
G21K	**Allakaket**	86.23	10	P		**P**		13 51 12.0	+0.4
	baz=205								
M29M	**Somme Creek**	86.28	18	P		**P**		13 51 12.0	-0.1
	baz=219								
KMI	**Kunming**	86.33	298	P		**P**		13 51 14.3	+0.9
KMI				pmax		pmax			
	comp=Z,19nm,0.9s								
H23K	**Yukon River**	86.35	12	P		**P**		13 51 12.2	0.0
	baz=209								
C16K	**Lisburne Hills**	86.35	5	P		**P**		13 51 12.7	+0.6
	baz=194								
F20K	**Avaraart Lake**	86.36	9	P		**P**		13 51 12.4	+0.2
	baz=203								
N31M	**Braeburn, Yuko**	86.37	20	IAmb		IAmb		13 51 14.3	
	comp=Z,17nm,1.1s								
N31M	**Braeburn, Yuko**	86.37	20	P		**P**		13 51 12.2	-0.2
	baz=222								
RDOG	**Red Dog Mine**	86.37	6	P		**P**		13 51 12.7	+0.4
	baz=196								
P33M	**Teslin, Yukon**	86.43	22	P		**P**		13 51 13.0	+0.1
	baz=224								
BSUT	**Blindstream Ca**	86.45	46	IAmb		IAmb		13 51 16.3	
	comp=Z,16nm,1.3s								
E19K	**Redstone River**	86.51	9	IAmb		IAmb		13 51 14.1	
	comp=Z,6.5nm,0.7s								
E19K	**Redstone River**	86.51	9	P		**P**		13 51 13.1	+0.2
	baz=202								
R33M	**Jennings River**	86.52	23	IAmb		IAmb		13 51 15.7	
	comp=Z,18nm,1.2s								
R33M	**Jennings River**	86.52	23	P		**P**		13 51 13.3	-0.1
	baz=226,SNR=8.2								
K27K	**Chicken**	86.54	16	P		**P**		13 51 13.1	0.0
	baz=216								
J26L	**Joseph Creek**	86.55	15	IAmb		IAmb		13 51 15.0	
	comp=Z,16nm,0.7s								
J26L	**Joseph Creek**	86.55	15	P		**P**		13 51 12.4	-0.9
	baz=215,SNR=22								
H24K	**Noodor Dome**	86.70	13	P		**P**		13 51 13.7	-0.2
	baz=211								
PV18	**Skein Mesa, Pa**	86.73	48	IAmb		IAmb		13 51 20.5	
	comp=Z,17nm,1.4s								
F21K	**Alatna River**	86.88	10	P		**P**		13 51 14.9	+0.3
	baz=205								
M30M	**Minto, Yukon**	86.88	19	IAmb		IAmb		13 51 16.3	
	comp=Z,33nm,1.5s								
M30M	**Minto, Yukon**	86.88	19	P		**P**		13 51 15.0	+0.2
	baz=221,SNR=5.2								
L29M	**L29M**	86.89	18	IAmb		IAmb		13 51 16.8	
	comp=Z,25nm,1.3s								
L29M	**L29M**	86.89	18	P		**P**		13 51 15.0	+0.1
	baz=220,SNR=6.1								
PRP	**Porcupine Dome**	86.94	14	P		**P**		13 51 15.6	+0.4
	baz=213								
PV22	**Blue Mesa, Par**	86.94	48	IAmb		IAmb		13 51 17.7	
	comp=Z,13nm,1.3s								
G22K	**Bettles**	86.95	11	P		**P**		13 51 15.3	+0.3
	baz=207								
N32M	**Quiet Lake**	87.02	21	P		**P**		13 51 15.8	+0.3
	baz=224								
G23K	**Bananza Creek**	87.03	11	P		**P**		13 51 16.0	+0.6
	baz=209								
C18K	**Utukok River**	87.13	7	P		**P**		13 51 15.9	0.0
	baz=198								
ANMO	**Albuquerque**	87.16	52	P		**P**		13 51 17.3	+0.3
ANMO	**Albuquerque**	87.16	52	P		**P**		13 51 17.3	+0.3
ANMO				pmax		pmax			
	comp=Z,9.0nm,1.2s								
TX31	**Lajitas Ar. Si**	87.18	58	IAmb		IAmb		13 51 20.7	
	comp=Z,16nm,1.1s								
TXAR	**Lajitas Array**	87.18	58	P		**P**		13 51 18.8	+1.7
	comp=Z,7.2nm,1.0s,baz=229,slow=4.9,SNR=40								
TXAR				pP		**pP**		13 53 26.5	-0.4
	comp=Z,0.4nm,0.8s,baz=250,slow=3.5,SNR=2.5								
	comp=Z,7.2nm,1.0s								
DAWY	**Dawson**	87.28	17	P		**P**		13 51 16.3	-0.3
	baz=218								
I26K	**Coal Creek Min**	87.31	15	P		**P**		13 51 16.3	-0.5
	baz=215								
CM31	**Chiang Mai Arr**	87.33	290	IAmb		IAmb		13 51 20.7	
	comp=Z,11nm,0.9s								
CMAR	**Chiang Mai Arr**	87.33	290	P		**P**		13 51 18.5	+0.6
	comp=Z,7.5nm,0.9s,baz=109,slow=2.8,SNR=41								
CMAR				PP		**PP**		13 54 53.8	-0.4
	comp=Z,2.1nm,0.9s,baz=116,slow=7.6,SNR=7.9								
	comp=Z,7.5nm,0.9s								
M31M	**Drury Creek, Y**	87.35	20	P		**P**		13 51 16.3	-0.7
	baz=223								
MSO	**Missoula**	87.36	39	IAmb		IAmb		13 51 19.0	
	comp=Z,14nm,1.3s								
EGAK	**Eagle**	87.38	16	IAmb		IAmb		13 51 18.3	
	comp=Z,8.5nm,0.6s								
EGAK	**Eagle**	87.38	16	P		**P**		13 51 16.6	-0.5
	baz=217								
E20K	**Nigu River**	87.41	9	P		**P**		13 51 16.8	-0.4
	baz=203								
CHTO	**Chiang Mai**	87.45	291	P		**P**		13 51 18.9	+0.4
COLD	**Coldfoot**	87.46	11	IAmb		IAmb		13 51 19.0	
	comp=Z,13nm,0.7s								
COLD	**Coldfoot**	87.46	11	P		**P**		13 51 17.3	-0.1
	baz=208								
DLMT	**Dillon**	87.47	41	IAmb		IAmb		13 51 20.7	
	comp=Z,27nm,1.4s								
H25L	**Birch Creek**	87.50	13	P		**P**		13 51 17.2	-0.4
	baz=212								
G24K	**Hadweenzic Riv**	87.53	12	P		**P**		13 51 17.4	-0.4
	baz=211								
K29M	**Barlow Dome**	87.63	17	P		**P**		13 51 19.1	+0.7
	baz=220								
TPAW	**Teton Pass**	87.65	43	IAmb		IAmb		13 51 21.8	
	comp=Z,16nm,1.2s								
PZH	**PanZhiHua**	87.66	299	P		**P**		13 51 19.8	+0.3
B18K	**Kokolik River**	87.75	6	P		**P**		13 51 19.6	+0.9
	baz=197								
C19K	**Lookout Ridge**	87.75	7	P		**P**		13 51 19.8	+1.0
	baz=200								
D20K	**Etivluk River**	87.77	8	P		**P**		13 51 20.0	+1.2
	baz=202								
WTLY	**Watson Lake, Y**	87.82	23	IAmb		IAmb		13 51 21.4	
	comp=Z,12nm,1.1s								
WTLY	**Watson Lake, Y**	87.82	23	P		**P**		13 51 20.2	+1.0
	baz=228								
G25K	**Bearman Lake**	87.87	13	P		**P**		13 51 20.2	+1.0
	baz=212								
J29N	**Klondike Camp**	87.91	17	P		**P**		13 51 20.1	+0.5
	baz=220								
E21K	**Killik River**	87.91	9	P		**P**		13 51 20.5	+1.0
	baz=205								
MAYO	**Mayo, Yukon**	87.92	18	P		**P**		13 51 19.5	-0.1
	baz=222,SNR=6.3								
I27K	**Kandik River**	87.93	15	P		**P**		13 51 19.6	-0.1
	baz=216								
E22K	**Anaktuvuk Pass**	87.98	10	IAmb		IAmb		13 51 21.1	
	comp=Z,18nm,1.2s								
E22K	**Anaktuvuk Pass**	87.98	10	P		**P**		13 51 20.1	+0.3
	baz=207								
S22A	**4UR Ranch, Cre**	88.02	49	IAmb		IAmb		13 51 24.0	
	comp=Z,22nm,1.4s								
YHB	**Horse Butte**	88.07	42	IAmb		IAmb		13 51 24.1	
	comp=Z,19nm,1.1s								
YHL	**Hebgen Lake**	88.12	42	IAmb		IAmb		13 51 25.1	
	comp=Z,20nm,1.1s								
F24K	**Squaw Lake**

YAK eSSS SSS 14 11 14.1
YAK pmax pmax
comp=Z,21nm,1.4s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK pmax pmax
comp=Z,89nm,3.8s
YAK pmax pmax
comp=N,82nm,3.0s
YAK pmax pmax
comp=E,89nm,3.3s
YAK smax smax
comp=E,113nm,4.3s
YAK smax smax
comp=N,108nm,3.7s
TOLK Toolik Lake Re 88.82 11 P **P 13 51 24.5 +0.8**
baz=209
HAYD Hayden 88.85 47 IAmb IAmb 13 51 27.3
comp=Z,20nm,1.3s
B21K Ikpikpuk River 88.89 9 P **P 13 51 24.4 +0.4**
baz=204
G27K Doyon Strip 88.90 14 P **P 13 51 25.1 +1.0**
baz=216
B20K Meade River 88.90 8 P **P 13 51 25.0 +1.0**
baz=202
D23K Nanushuk River 88.91 10 P **P 13 51 24.7 +0.6**
baz=208
YNE Yellowstone No 88.94 42 IAmb IAmb 13 51 27.9
comp=Z,12nm,1.1s
TGTN Hyland Airport 88.95 22 P **P 13 51 25.4 +0.9**
baz=228,SNR=6.3
SDCO Great Sand Dun 88.98 50 IAmb IAmb 13 51 27.8
comp=Z,9.5nm,1.3s
I30M Mount Dempster 89.00 17 IAmb IAmb 13 51 25.9
comp=Z,8.8nm,0.8s
I30M Mount Dempster 89.00 17 P **P 13 51 25.6 +0.8**
baz=221
F26K Sheenjek River 89.07 13 IAmb IAmb 13 51 26.9
comp=Z,8.6nm,1.1s
F26K Sheenjek River 89.07 13 P **P 13 51 25.6 +0.7**
baz=214
E25K Arctic Village 89.13 12 P **P 13 51 26.2 +1.0**
baz=213
H29M Whitestone 89.24 16 IAmb IAmb 13 51 27.0
comp=Z,11nm,1.0s
H29M Whitestone 89.24 16 P **P 13 51 26.5 +0.9**
baz=219
D24K Happy Valley 89.40 11 P **P 13 51 26.3 0.0**
baz=210
RLMT Red Lodge 89.46 42 IAmb IAmb 13 51 30.6
comp=Z,8.1nm,1.1s
LZH Lanzhou 89.50 308 *e*P **P 13 51 28.8 +1.0**
LZH sP sP 13 54 40.3 +2.4
LZH pmax pmax
comp=Z,42nm,1.0s
LZDM Lanzhou Array 89.57 308 P **P 13 51 28.4 +0.1**
comp=Z,6.0nm,0.7s,baz=116,slow=3.4,SNR=6.8
comp=Z,6.0nm,0.7s
C23K Itkillik River 89.70 10 P **P 13 51 28.7 +1.0**
baz=208
B22K Teshekpuk Lake 89.72 9 P **P 13 51 28.1 +0.4**
baz=205
EPYK Eagle Plains 89.78 16 P **P 13 51 28.8 +0.6**
baz=221
G29M Pine Creek 89.86 15 P **P 13 51 29.0 +0.4**
baz=220
C24K Franklin Bluff 89.92 10 P **P 13 51 29.5 +0.8**
baz=210
F28M Old Crow 89.96 14 P **P 13 51 30.1 +1.1**
baz=218
D25K Kavik River 89.99 11 P **P 13 51 29.8 +0.6**
baz=212
H31M Peel River 90.01 17 P **P 13 51 30.2 +0.9**
baz=223
E27K Coleen River 90.02 13 P **P 13 51 30.7 +1.4**
baz=216
A22K Sinclair Lake 90.11 8 P **P 13 51 30.7 +1.2**
baz=204
833A Chaparral WMA, 90.32 60 IAmb IAmb 13 51 33.8
comp=Z,15nm,1.1s
G30M tAoh Zrail Nji 90.37 16 P **P 13 51 31.7 +0.7**
baz=221
TROLL Troll, Antarti 90.55 181 ⇑P **P 13 51 31.3 -0.7**
comp=Z,743nm,0.4s
C27K Jago River 90.76 12 P **P 13 51 33.6 +1.0**
baz=214
C26K Camden Bay 90.77 11 P **P 13 51 33.7 +1.0**
baz=213
E28M Babbage River 90.82 14 IAmb IAmb 13 51 34.4
comp=Z,6.6nm,0.7s
E28M Babbage River 90.82 14 P **P 13 51 33.6 +0.6**
baz=218
G31M Satah River 90.85 16 P **P 13 51 33.7 +0.7**
baz=223
SNAA Sanae 90.88 179 ⇑P **P 13 51 33.0 -0.4**
comp=Z,93nm,0.5s
SNAA Sanae 90.88 179 IAmb IAmb 13 51 34.9
comp=Z,4.5nm,0.6s
SNAA Sanae 90.88 179 P **P 13 51 33.3 -0.2**
comp=Z,3.9nm,0.5s,baz=209,slow=8.8,SNR=38
comp=Z,3.9nm,0.5s
SNAA Sanae 90.88 179 *ce*P **P 13 51 33.1 -0.4**
SNAA pmax pmax
comp=Z,4.0nm,0.6s
F30M Barrier River 90.96 16 P **P 13 51 34.8 +1.2**
baz=222
D27M Malcolm River 91.01 13 P **P 13 51 34.7 +0.8**
baz=217
E29M Blow River 91.03 14 P **P 13 51 35.1 +1.2**
baz=220
VNA3 Neumayer Olymp 91.09 177 ⇑P **P 13 51 33.8 -0.5**
comp=Z,21nm,0.6s
F31M Tsiigehtchic 91.37 16 P **P 13 51 36.4 +0.9**
baz=224
VNA2 Neumayer--Watz 91.51 178 ⇑P **P 13 51 36.1 -0.1**
comp=Z,24nm,0.7s,baz=178,slow=4.4
D28M Stokes Point 91.57 14 P **P 13 51 37.2 +0.9**
baz=219
VNA1 Neumayer--Stat 91.74 177 ⇑P **P 13 51 36.2 -1.1**
comp=Z,9.3nm,0.8s
ULN Ulaanbaatar 91.95 320 P **P 13 51 38.3 -0.5**
ULN IAmb IAmb 13 51 40.2
comp=Z,4.6nm,0.9s
ULN Ulaanbaatar 91.95 320 P **P 13 51 38.3 -0.5**
ULN pmax pmax
comp=Z,5.0nm,0.9s
INK Inuvik 92.05 16 IAmb IAmb 13 51 39.4
comp=Z,8.5nm,1.1s
INK Inuvik 92.05 16 P **P 13 51 40.3 +1.8**
baz=224
SONM Songino Array 92.34 320 P **P 13 51 39.1 -1.5**
comp=Z,1.9nm,0.8s,baz=102,slow=4.6,SNR=6.9
comp=Z,1.9nm,0.8s
GTA Gaotai 93.67 310 *e*P **P 13 51 47.0 +0.1**
GTA pmax pmax
comp=Z,10.0nm,0.8s
C36M Paulatuk 95.31 17 P **P 13 51 55.0 +1.7**
baz=233
A36M Sachs Harbour 96.63 15 P **P 13 52 00.3 +1.0**
baz=232
ZALV Zalesovo Beam 107.07 322 PKiKP **PKiKP 13 56 50.2 -1.3**
comp=Z,0.7nm,0.4s,baz=116,slow=3.4,SNR=4.6
MKAR Makanchi Array 107.84 314 PKiKP **PKiKP 13 56 51.8 -1.4**
comp=Z,0.9nm,0.5s,baz=231,slow=0.3,SNR=10
MKAR PKKPbc **PKKPbc 14 08 08.6 -0.5**
comp=Z,0.2nm,0.4s,baz=281,slow=2.7,SNR=5.6
KURK Kurchatov 110.60 318 *i* PKiKP **PKiKP 13 56 56.9 -1.3**
KURBB Kurchatov Arra 110.65 318 PKiKP **PKiKP 13 56 56.9 -1.4**
comp=Z,1.1nm,0.5s,baz=96,slow=2.0,SNR=10
KSH Kashi 111.67 306 PKP **PKiKP 13 57 00.8 0.0**
BVAR Borovoye Array 115.66 321 PKP **PKPdf 13 57 06.8 -1.1**
comp=Z,2.1nm,0.4s,baz=45,slow=2.3,SNR=16
BORK Borovoye 115.70 321 *c i* PKiKP **PKPdf 13 57 07.9 0.0**
BORK pmax pmax
comp=Z,6.0nm,1.7s
ARTI Arti 121.88 326 PKP **PKPdf 13 57 18.4 -1.3**
comp=Z,2.6nm,0.4s,baz=142,slow=3.5,SNR=5.5
ARTI Arti 121.88 326 *i* PKiKP **PKPdf 13 57 19.6 -0.1**
ARTI 13 59 03.3
ARTI 14 03 34.6
AKTO Aktyubinsk 123.66 319 PKP **PKPdf 13 57 22.9 -0.4**
comp=Z,5.0nm,0.7s,baz=79,slow=2.0,SNR=9.2
KIRV Kirov 125.55 331 *ce*PKiKP **PKPdf 13 57 26.7 +0.1**
ARCES ARCESS Array B 125.78 349 PKP **PKPdf 13 57 26.3 -0.6**
comp=Z,5.6nm,0.8s,baz=20,slow=1.4,SNR=20
KLMR Klimovskoe 128.51 337 *e*PKiKP **PKPdf 13 57 29.2 -3.0**
KLMR pmax pmax
comp=Z,24nm,1.7s
FINES FINESS Array B 132.51 343 PKhKP PKPpre 13 57 27.9
comp=Z,2.5nm,0.9s,baz=90,slow=3.8,SNR=4.2
FINES PKP **PKPdf 13 57 39.7 -0.1**
comp=Z,2.8nm,0.7s,baz=62,slow=3.3,SNR=7.5
FINES PP **PP 14 00 11.7 -0.8**
comp=Z,2.3nm,0.4s,baz=51,slow=3.8,SNR=18
OBN Obninsk 133.34 332 ⇑ *e*PKiKP **PKPdf 13 57 42.0 +0.5**
OBN *e* 13 59 59.2
OBN *e* 14 00 22.7
OBN SP SP 14 09 33.0 -3.9
OBN pmax pmax
comp=Z,8.0nm,0.5s
KBZ Khabaz 135.53 315 SKPbc **SKPbc 14 00 20.9 -0.1**
comp=Z,0.7nm,0.7s,baz=102,slow=2.0,SNR=3.6
KIV Kislovodsk 135.59 316 *e*PKiKP **PKPdf 13 57 46.4 +0.1**
KIV pmax pmax
comp=Z,5.0nm,1.0s
NOA NORSAR Array B 135.92 352 PKP **PKPdf 13 57 47.0 +0.7**
comp=Z,0.4nm,0.4s,baz=14,slow=3.9,SNR=3.4
NOA SKPbc **SKPbc 14 00 21.9 +0.1**
comp=Z,1.6nm,0.9s,baz=35,slow=4.4,SNR=3.3
HFS Hagfors 136.43 350 PKhKP PKPpre 13 57 34.6
comp=Z,0.9nm,0.3s,baz=64,slow=3.4,SNR=6.2
HFS PKP **PKPdf 13 57 48.1 +0.9**
comp=Z,2.6nm,0.7s,baz=48,slow=2.1,SNR=5.7
MNK Minsk 137.41 336 *i* PKiKP **PKiKP 13 57 50.6 -0.6**
MNK *i* 14 00 08.7
MNK *i* 14 00 44.7
MNK *i* PPP PPP 14 03 49.4
MNK *i* 14 04 02.2
MNK *i* SS SS 14 18 10.9 +7.7
MNK *i* SSS SSS 14 23 23.8
MNK pmax pmax
comp=E,19nm,0.6s
MNK pmax pmax
comp=N,37nm,0.8s
MNK pmax pmax
comp=Z,12nm,0.7s
AKASG Malin Array Be 139.60 331 PKhKP PKPpre 13 57 44.8
comp=Z,1.0nm,0.3s,baz=42,slow=3.9,SNR=6.6
AKASG PKP **PKiKP 13 57 54.7 -1.1**
comp=Z,1.1nm,0.4s,baz=42,slow=2.5,SNR=8.7
AK09 Malin Array Si 139.63 331 PKP **PKPdf 13 57 52.9 -0.4**
AK02 Malin Array Si 139.64 331 PKP **PKPdf 13 57 53.4 +0.1**
AK11 Malin Array Si 139.64 331 PKP **PKPdf 13 57 53.2 -0.1**
AK10 Malin Array Si 139.66 331 PKP **PKPdf 13 57 53.3 -0.1**
LUBAR Lubar, Ukraine 140.82 332 PKP **PKPdf 13 57 55.5 0.0**
EKA Eskdalemuir Ar 142.31 3 PKhKP PKPpre 13 57 53.7
comp=Z,1.6nm,0.5s,baz=332,slow=2.8,SNR=7.7
CIDE Kastamonu/Cide 142.91 318 ⇑P **PKPdf 13 57 56.9 -2.5**
KWP Kalwaria Pacla 143.20 335 *e*PKP PKPab 13 57 57.7 -0.3
ILTH Belurgan, Co L 143.37 6 PKPdf PKPab 13 57 57.4 -1.0
TLCR 143.48 325 ⇓P PKPab 13 57 58.8 -0.4
TLCR 143.48 325 ⇓PKiKP PKPab 13 57 58.8 -0.3
BRTR Keskin Array B 143.49 314 PKP PKPab 13 57 59.1 -0.5
comp=Z,21nm,1.0s,baz=142,slow=4.2,SNR=56
BRTR SKPbc **SKPbc 14 00 43.1 +0.3**
comp=Z,1.1nm,0.8s,baz=90,slow=1.4,SNR=3.6
BR104 Keskin Array S 143.50 314 PKP PKPab 13 57 58.3 -1.3
BR106 Keskin Array S 143.50 314 PKP PKPab 13 57 58.3 -1.3
BR105 Keskin Array S 143.51 314 PKP PKPab 13 57 58.3 -1.4
KIRS Kirsehir-Merke 143.56 313 ⇓P PKPab 13 57 59.8 -0.1
IGLA Glengowla, Co 143.57 9 PKPdf PKPab 13 57 58.3 -0.9
SCTR Scanteiesti 143.61 326 ⇓P PKPbc 13 57 59.8 +0.2
BURAR Bucovina Array 143.64 331 ⇑P **PKPdf 13 58 00.6 -0.1**
BURAR Bucovina Array 143.64 331 ⇑PKiKP **PKPdf 13 58 00.6 -0.1**
GHRR 143.66 327 ⇑P **PKPdf 13 58 01.1 +0.5**
GHRR 143.66 327 PKP PKPbc 13 57 59.1 -0.7
BIZ Bicaz 143.71 329 ⇑P PKPbc 13 57 56.6 -3.4
JURR Jurilovca 143.71 324 ⇑P PKPbc 13 57 59.4 -0.5
TESR Tescani 143.74 328 ⇓P PKPbc 13 57 59.4 -0.6
TESR Tescani 143.74 328 PKP PKPbc 13 57 59.4 -0.6
SCHL Schela 143.81 326 ⇓P PKPbc 13 57 59.6 -0.6
OJC Ojcow 143.81 338 *e*PKP PKPbc 13 57 59.8 -0.3
OJC Ojcow 143.81 338 PKP PKPbc 13 57 59.5 -0.6
RAKU Rahkiv 143.82 332 PKP PKPbc 13 57 59.3 -0.9
CFR Carcaliu 143.85 326 ⇓P PKPbc 13 58 00.1 -0.3
CFR Carcaliu 143.85 326 ⇓PKiKP PKPbc 13 58 00.1 -0.3
TPGR Topolog 143.91 325 ⇓P PKPbc 13 58 00.4 -0.2
KOLS Kolonicke sedl 143.93 335 *e*PKiKP PKPbc 13 58 00.6 +0.1
ONER Baraj Valea Uz 143.99 328 ⇑P PKPab 13 58 01.1 0.0
ANTO Ankara 144.00 315 ⇓P PKPbc 13 58 00.8 -0.4
ANTO Ankara 144.00 315 PKP PKPbc 13 58 00.0 -1.1
BRIU Brid 144.08 334 PKP PKPbc 13 58 00.8 -0.2
MUKU Mukachevo 144.13 334 PKP PKPbc 13 58 00.7 -0.4
DSB Dublin 144.14 6 PKPdf **PKPdf 13 58 01.2 0.0**
VRI Vrincioaia 144.14 328 PKP PKPbc 13 58 00.5 -0.8
TIRR Tirgusor 144.16 324 ⇓P PKPbc 13 58 00.8 -0.6
TIRR Tirgusor 144.16 324 ⇓PKiKP PKPbc 13 58 00.8 -0.5
PLOR5 Plostina Array 144.19 328 PKP PKPbc 13 58 01.0 -0.5
PLOR Plostina 144.19 328 ⇑P PKPbc 13 58 01.5 0.0
PLOR Plostina 144.19 328 ⇑PKiKP PKPbc 13 58 01.5 0.0
HOLU Holmets 144.20 334 PKP PKPbc 13 58 00.9 -0.4
RETH Rethem/Aller, 144.22 350 *e*PKPbc PKPbc 13 58 01.0 -0.1
baz=19,slow=2.8
FLTG Flechtingen 144.27 348 *e*PKPbc PKPbc 13 58 01.0 -0.4
baz=19,slow=2.8
HARR Harsova 144.28 325 ⇓P PKPbc 13 58 01.6 -0.1
TLBR Topalu 144.31 325 ⇑P **PKPdf 13 58 02.1 +0.3**
BISRR Bisoca 144.36 327 ⇑P PKPdf 13 57 51.1 -11
MANR Mangalia 144.46 323 ⇓P **PKPdf 13 58 01.6 -0.4**
NEHR Nehoiu 144.66 327 ⇑P **PKPab 13 58 03.8 +0.1**
OSTC Ostas 144.68 342 *e*PKP PKPbc 13 58 03.2 +0.4
OSTC Ostas 144.68 342 *e*PKiKP PKPbc 13 58 03.2 +0.4
MMAI Mount Meron Ar 144.69 303 PKP PKPbc 13 58 03.6 +0.1
comp=Z,37nm,0.8s,baz=64,slow=3.8,SNR=46
CHVC Chvalec 144.70 342 *e*PKP **PKPab 13 58 03.8 +0.1**
CHVC Chvalec 144.70 342 *e*PKiKP **PKPab 13 58 03.8 +0.1**
OKC Ostrava-Krasne 144.71 340 *e*PKP PKPbc 13 58 03.0 +0.1
OKC Ostrava-Krasne 144.71 340 *e*PKiKP PKPbc 13 58 03.0 +0.1
ISR Istrita 144.74 327 ⇓P **PKPdf 13 58 02.6 0.0**
ISR Istrita 144.74 327 ⇓PKiKP **PKPdf 13 58 02.6 0.0**
DOPR Dopca 144.74 329 ⇑P **PKPab 13 58 03.8 -0.2**
UPC Upice 144.79 342 *e*PKP PKPbc 13 58 03.5 +0.4
UPC Upice 144.79 342 *e*PKiKP PKPbc 13 58 03.5 +0.4
MLR Muntele Rosu 144.79 328 PKP **PKPdf 13 58 02.9 +0.1**
comp=Z,6.6nm,0.4s,baz=345,slow=11,SNR=12
MLR Muntele Rosu 144.79 328 ⇑P **PKPab 13 58 04.8 +0.5**
LANS Liptovska Anna 144.83 338 *e*PKiKP PKPbc 13 58 03.4 +0.1
DPC Dobruska-Polom 144.84 342 *e*PKP PKPbc 13 58 03.7 +0.4
DPC Dobruska-Polom 144.84 342 *e*PKiKP PKPbc 13 58 03.7 +0.4
CLL Collm 144.85 346 ⇑ *i*PKiKP PKPbc 13 58 03.2 0.0
CLL pmax pmax
comp=Z,60nm,0.6s
CLL Collm 144.85 346 *e*PKPbc PKPbc 13 58 03.1 -0.1
baz=19,slow=2.8
CLL Collm 144.85 346 ⇑ *i*PKPbc PKPbc 13 58 03.2 0.0
comp=Z,60nm,0.6s
CLL *i* x x 13 58 05.0
CLL *e*pPKPdf pPKPdf 14 00 25.0 +2.2
IBBN Ibbenburen 144.88 352 *e*PKPbc PKPbc 13 58 03.3 0.0
baz=19,slow=2.8
CLZ Clausthal 144.90 349 *e*PKPbc PKPbc 13 58 03.6 +0.1
baz=19,slow=2.8
IWEX Carrickbyrne, 144.95 7 PKPdf PKPbc 13 58 03.5 0.0
MORC Moravsky Berou 144.96 340 *e*PKP PKPbc 13 58 04.2 +0.5
MORC Moravsky Berou 144.96 340 ⇓P PKPbc 13 58 03.7 0.0
KECS Kecovo 145.00 336 *e*PKiKP **PKPab 13 58 05.0 -0.1**
BRG Berggiesshubel 145.02 345 *e*PKPbc **PKPbc 13 58 03.9 +0.1**
baz=19,slow=2.8
BRG Berggiesshubel 145.02 345 *e*PKP **PKPbc 13 58 03.8 +0.1**
BRG Amp 13 58 05.2
comp=Z,42nm,0.9s
CJR Cluj-Napoca 145.06 331 ⇑P **PKPbc 13 58 04.3 +0.2**
CJR Cluj-Napoca 145.06 331 ⇑PKiKP **PKPbc 13 58 04.3 +0.2**
PVCC Panska Ves 145.17 344 *e*PKP **PKPbc 13 58 04.6 +0.4**
PVCC Panska Ves 145.17 344 *e*PKP2 **PKPbc 13 58 04.6 +0.4**
GTTG Gottingen 145.26 349 *e*PKPbc **PKPbc 13 58 04.6 +0.2**
baz=19,slow=2.8
RICC Richard 145.28 344 *e*PKP **PKPbc 13 58 04.9 +0.4**
VOIR 145.28 328 ⇓P **PKPbc 13 58 04.7 -0.2**
VOIR 145.28 328 ⇓PKiKP **PKPbc 13 58 04.7 -0.2**
MARR Marisel-Cluj 145.30 332 ⇑P **PKPbc 13 58 04.5 -0.4**
SILT Sile 145.40 319 ⇑P **PKPbc 13 58 04.7 -0.5**
DRGR 145.40 332 ⇑P **PKPbc 13 58 05.0 -0.1**
DRGR 145.40 332 ⇑PKiKP **PKPbc 13 58 05.0 -0.1**
TNR Turnu Rosu 145.51 329 ⇑P **PKPab 13 58 07.2 +0.2**
TNR Turnu Rosu 145.51 329 ⇑PKP2 **PKPab 13 58 07.2 +0.2**
ARR Arges 145.54 329 ⇓P **PKPbc 13 58 05.0 -0.6**
PRA Prague 145.63 343 *e*PKP **PKPbc 13 58 05.6 +0.1**
PRA Prague 145.63 343 *e*PKiKP **PKPbc 13 58 05.6 +0.1**
VRAC Vranov 145.67 341 PKPbc **PKPdf 13 58 04.6 +0.6**
comp=Z,9.4nm,0.8s,baz=348,slow=2.4,SNR=10
VRAC Vranov 145.67 341 *e*PKP **PKPbc 13 58 05.4 -0.3**
VRAC Vranov 145.67 341 ⇓P **PKPbc 13 58 05.5 -0.2**
PRU Pruhonice 145.67 343 *e*PKP **PKPbc 13 58 05.8 +0.1**
PRU Pruhonice 145.67 343 *e*PKiKP **PKPbc 13 58 05.8 +0.1**
PSZ Piszkesteto 145.68 336 ⇓P **PKPbc 13 58 06.0 +0.1**
PSZ Piszkesteto 145.68 336 ⇓PKP2 **PKPbc 13 58 06.0 +0.1**
JAVC Velka Javorina 145.71 339 *e*PKP **PKPbc 13 58 06.7 +0.8**
MOX Moxa 145.79 347 *e*PKPbc **PKPbc 13 58 05.9 -0.1**
baz=19,slow=2.8
TANN Tannenbergstha 145.81 346 *e*PKPbc **PKPbc 13 58 06.1 0.0**
baz=19,slow=2.8
PLN Plauen 145.81 346 *e*PKPbc **PKPbc 13 58 06.1 0.0**
baz=19,slow=2.8
LOT Lotru 145.91 330 ⇑P **PKPbc 13 58 07.0 +0.4**
KRUC Moravsky 145.95 341 *e*PKP **PKPbc 13 58 06.3 -0.2**
TREC Trest 146.02 342 *e*PKP **PKPbc 13 58 06.6 -0.1**
TREC Trest 146.02 342 *e*PKiKP **PKPbc 13 58 06.6 -0.1**
MODS Modra-Piesok 146.26 339 *e*PKP2 **PKiKP 13 58 08.6 -1.0**
ZVC Zvikov 146.26 343 *e*PKP **PKPbc 13 58 07.5 +0.1**
SIRR Siria 146.27 332 ⇑P **PKPbc 13 58 07.2 -0.3**
MANZ Manzenberg 146.29 346 *e*PKPbc **PKPbc 13 58 07.5 0.0**
baz=19,slow=2.8
PHSR Pinarhisar 146.42 321 ⇑P **PKPab 13 58 11.3 +0.5**
GZR Gura Zlata 146.42 330 ⇑P **PKPbc 13 58 07.5 -0.5**
SURR Surduc 146.45 331 ⇓P **PKPbc 13 58 07.5 -0.4**
ROTZ Rotzenmuhle 146.47 346 *e*PKPbc **PKPbc 13 58 08.1 +0.2**
baz=19,slow=2.8
ELND Elena 146.55 324 ⇓P **PKPbc 13 58 07.5 -0.8**
KHC Kasperske Hory 146.71 344 *e*PKP **PKPbc 13 58 08.7 +0.1**
KHC Kasperske Hory 146.71 344 *e*PKP2 **PKPbc 13 58 08.7 +0.1**
MEM Membach 146.76 353 *d*PKP **PKPbc 13 58 08.2 -0.4**
BTNL Ternell 146.77 353 *d*PKP **PKPbc 13 58 08.2 -0.6**
BZS Buzias 146.79 332 ⇑P **PKPbc 13 58 08.2 -0.7**
BZS Buzias 146.79 332 ⇑PKiKP **PKPbc 13 58 08.2 -0.7**
CKRC Cesky Krumlov 146.79 343 *e*PKP **PKPbc 13 58 09.0 +0.2**
CKRC Cesky Krumlov 146.79 343 *e*PKP2 **PKPbc 13 58 09.0 +0.2**
TNS Taunus Mts 146.80 350 *e*PKPbc **PKPbc 13 58 08.8 -0.1**
baz=19,slow=2.8
BAND Balkesir-Ban 146.81 319 ⇓P **PKPbc 13 58 08.2 -0.9**
BSTI Sart Tilman 146.84 353 *d*PKP **PKPbc 13 58 09.1 +0.3**
WET Wettzell 146.88 344 *e*PKPbc **PKPbc 13 58 09.1 0.0**
baz=19,slow=2.8
PLVB Pleven 146.93 326 ⇑P **PKPbc 13 58 08.1 -1.3**
GEC2 GERESS Array S 146.94 343 *e*PKPbc **PKPbc 13 58 09.1 -0.2**
baz=19,slow=2.8
GERES GERESS Array B 146.94 343 PKPbc **PKPbc 13 58 09.1 -0.2**
comp=Z,12nm,0.8s,baz=20,slow=4.3,SNR=22
HERR Herculane 146.97 330 ⇑P **PKPbc 13 58 08.9 -0.5**
BHOU Houvegnez 147.01 353 *d*PKP **PKPbc 13 58 10.2 +0.9**
BCLA Clavier 147.03 354 *d*PKP **PKPbc 13 58 08.9 -0.4**
CONA Conrad Observa 147.11 340 *i* PKP **PKPbc 13 58 10.0 +0.2**
comp=Z,24nm,1.0s,SNR=11
RONA Rosalia, Austr 147.17 339 *e*PKP **PKPbc 13 58 10.0 +0.1**
comp=Z,16nm,0.7s,SNR=5.7
BMRD Maredsous 147.20 354 *d*PKP **PKPbc 13 58 09.6 -0.2**
RCHB Rochefort 147.30 354 *d*PKP **PKPbc 13 58 09.8 -0.2**
MDVR Moldovita 147.38 331 ⇓P **PKPbc 13 58 10.6 +0.1**
DOU Dourbes 147.42 354 *d*PKP **PKPbc 13 58 10.3 -0.1**
WLF Walferdange 147.68 352 *d*PKP **PKPbc 13 58 11.7 +0.7**
WLF Walferdange 147.68 352 *e*PKPbc **PKPbc 13 58 11.7 +0.7**
baz=19,slow=2.8
MOA Molln 147.68 342 *i* PKP **PKPbc 13 58 10.8 -0.4**
comp=Z,10nm,1.0s
ARSA Arzberg 147.82 340 *i* PKP **PKPbc 13 58 11.1 -0.4**
comp=Z,8.9nm,1.1s
BIOA Bad Ischl, Aus 148.00 342 *i* PKP **PKPbc 13 58 12.1 +0.1**
comp=Z,3.4nm,0.4s
RJOB Jochberg 148.20 343 *e*PKPbc **PKPbc 13 58 12.1 -0.4**
baz=19,slow=2.8
EZN Ezine 148.23 319 ⇑P **PKPbc 13 58 11.3 -1.5**
BOVS Bovan 148.24 329 ⇓P **PKPbc 13 58 12.4 -0.2**
SOKA Soboth 148.48 340 *i* PKP **PKPbc 13 58 12.6 -0.7**
comp=Z,12nm,1.0s
LESA Schwarzleotal 148.52 343 *i* PKP **PKPbc 13 58 12.7 -0.6**
comp=Z,3.7nm,0.4s
KBA Koelnbreinsper 148.65 342 *i* PKP **PKPbc 13 58 12.5 -1.3**
comp=Z,6.8nm,0.5s
BFO Black Forest 148.65 349 *e*PKPbc **PKPbc 13 58 13.4 -0.2**
baz=19,slow=2.8
OBKA Obir 148.79 340 *i* PKP **PKPbc 13 58 12.7 -1.3**
comp=Z,7.3nm,1.0s
WATA Walderalm 148.89 345 *i* PKP **PKPbc 13 58 13.8 -0.5**
comp=Z,18nm,0.9s
UBR Ueberruh 148.91 347 *e*PKPbc **PKPbc 13 58 14.1 -0.2**
baz=19,slow=2.8
WTTA Wattenberg 148.94 344 *i* PKP **PKPbc 13 58 14.3 -0.2**
comp=Z,30nm,0.9s,SNR=9.5
RETA Reutte 148.95 346 *i* PKP **PKPbc 13 58 14.1 -0.2**
comp=Z,4.7nm,0.5s
MYKA Terra Mystica 148.96 342 *i* PKP **PKPbc 13 58 13.5 -1.0**
comp=Z,6.2nm,0.4s,SNR=6.5
MOTA Moosalm 149.00 345 *e*PKP **PKPbc 13 58 14.1 -0.5**
comp=Z,26nm,1.0s,SNR=6.4
SQTA Sankt Quirin 149.09 345 *e*PKP **PKPbc 13 58 14.3 -0.5**
comp=Z,23nm,0.9s,SNR=6.6
ABTA Abfaltersbach 149.18 343 *i* PKP **PKPbc 13 58 14.0 -0.9**
comp=Z,26nm,0.8s,SNR=9.9
DAVA Damuels 149.34 347 *i* PKP **PKPbc 13 58 15.3 -0.1**
comp=Z,21nm,0.8s
BLY Banja Luka 149.36 336 ⇑P **PKPbc 13 58 14.8 -0.5**
FETA Feichten 149.39 345 *i* PKP **PKPbc 13 58 15.5 -0.1**
comp=Z,19nm,0.8s,SNR=7.6
PDG Podgorica 150.32 330 ⇑P **PKPbc 13 58 17.0 -0.6**
IDI Anoyia 151.72 313 PKPbc **PKPbc 13 58 20.6 -0.5**
comp=Z,9.8nm,0.4s,baz=304,slow=10.0,SNR=19
PVIS Viseu 156.04 15 *e*PKPab **PKPab 13 58 51.3 +0.1**
PSBE So Bento 156.92 17 *e*PKPab **PKPab 13 58 56.3 +1.2**
PCBR Castelo Branco 156.97 15 *e*PKPab **PKPab 13 58 54.5 -0.7**
PSARD Sardoal 157.02 16 *e*PKPab **PKPab 13 58 55.5 0.0**
PMRV Marvão 157.38 15 *e*PKPab **PKPab 13 58 57.5 +0.4**
PARRA Arraiolos 157.50 19 *e*PKPab **PKPab 13 58 58.7 +1.1**
PMTG Montargil 157.50 17 *e*PKPab **PKPab 13 58 58.4 +0.8**
ESDC Sonseca Array 157.79 8 PKPab **PKPab 13 58 58.1 -0.7**
comp=Z,1.3nm,0.7s,baz=349,slow=3.9,SNR=8.0
PESTR Estremoz 157.86 16 *e*PKPab **PKPab 13 58 59.4 +0.2**
PBAR Barrancos 158.65 15 *e*PKPab **PKPab 13 59 02.7 +0.1**
PCVE Castro Verde 158.89 18 *e*PKPab **PKPab 13 59 03.8 +0.2**
KEST Kesra 160.15 337 PKPab **PKPab 13 59 09.0 -0.4**
comp=Z,4.6nm,0.8s,baz=315,slow=4.3,SNR=6.0
DBIC Dimbokro 168.12 156 PKPab **PKPab 13 59 44.9 +0.1**
comp=Z,2.3nm,0.6s,baz=232,slow=5.3,SNR=4.9
TORD Torodi Ar. Bea 175.22 201 PKPab **PKPab 14 00 16.1 -0.2**
comp=Z,0.6nm,0.6s,baz=167,slow=2.9,SNR=4.1

IDC 30 13:46:32.1±9.0, 15°39S×174°53W, h0km, mb3.7/3, mbtmp3.7/3, MS3.6/1, Error ellipse: s-maj=399.6km s-min=41.0km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**23.95**	**196**	LR	LR	13 59 05.0	
	comp=Z,150nm,18.8s,baz=303,slow=31						
WRA	**Warramunga Arr**	**48.79**	**257**	P	P	13 55 19.1	-0.2
	0.6nm,0.8s,baz=90,slow=8.2,SNR=1.6						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**49.08**	**252**	P	P	13 55 21.6	0.0
	1.7nm,0.5s,baz=89,slow=7.6,SNR=14						
	1.7nm,0.5s						
ILAR	**Eielson Array**	**82.64**	**12**	P	P	13 58 57.0	0.0
	0.1nm,0.4s,baz=212,slow=6.2,SNR=1.6						
	0.1nm,0.4s						

IDC 30 13:46:58.8±1.8, 3.°53S×142.°32E, h0km, mb3.8/2, mbtmp4.0/3, ML4.3/1, MS3.6/1, Error ellipse: s-maj=32.1km s-min=16.9km az=44.0
NEIC 30 13:47:03.7±0.6, 3.°7S±0.°1×142.°30E±0.°08, h43km±13km, mb4.1/8, Error ellipse: s-maj=16.4km s-min=7.7km az=211.0

ISC 30 13:47:03.0±0.9, 3.°72S±0.°08×142.°25E±0.°10, h35km, n20, σ1.°879/17, mb3.9/3, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.95**	**308**	Pg	Pn	**13 47 34.4**	**+0.7**
	12nm,0.3s,baz=135,slow=10.0,SNR=13						
JAY				Lg	Lg	13 47 58.6	
	14nm,0.3s,baz=71,slow=15,SNR=6.5						
MANU	**Manus Island**	**5.37**	**72**	Pn	Pn	**13 48 20.0**	**-0.7**
PMG	**Port Moresby**	**7.46**	**139**	Pn	Pn	**13 48 49.9**	**+0.5**
COEN	**Coen**	**10.21**	**175**	Pn	Pn	**13 49 28.6**	**+1.4**
WB0	**Warramunga Arr**	**17.70**	**205**		Pn	**13 51 07.9**	**+1.1**

WB0					IAmb	IAmb	13 51 15.9		
	comp=Z,20nm,1.3s								
KNRA	**Kununurra**	**17.81**	**227**		**Pn**	**Pn**	**13 51 07.8**	**-0.5**	
KNRA					IAmb	IAmb	13 51 18.0		
	comp=Z,21nm,1.2s								
WR8	**Warramunga Arr**	**17.82**	**204**		**Pn**	**Pn**	**13 51 08.9**	**+0.5**	
WR8					IAmb	IAmb	13 51 15.7		
	comp=Z,11nm,0.8s								
WRA	**Warramunga Arr**	**17.88**	**205**		**Pn**	**Pn**	**13 51 07.2**	**-1.8**	
WRA	**Warramunga Arr**	**17.88**	**205**	P		**P**	**13 51 11.1**	**+1.6**	
	comp=Z,1.0nm,0.3s,baz=27,slow=10,SNR=7.1								
WRA				S		**Sn**	**13 54 22.6**	**-4.9**	
	comp=Z,0.7nm,0.9s,baz=287,slow=29,SNR=2.1								
	comp=Z,5.2nm,0.7s								
ASAR	**Alice Springs**	**21.41**	**201**	P		**P**	**13 51 50.6**	**+2.6**	
	comp=Z,3.3nm,0.7s,baz=31,slow=10,SNR=10.0								
	comp=Z,3.3nm,0.7s								
FITZ	**Fitzroy Crossi**	**21.65**	**227**	P		**P**	**13 51 51.1**	**+0.6**	
DZM	**Mont Dzumac**	**29.72**	**130**	LR		LR	14 03 10.1		
	comp=Z,115nm,18.2s,baz=358,slow=33								
H11S3	**WAKE ISLAND Hy**	**32.66**	**47**	T		T	14 27 20.4		
	baz=229,slow=75								
H11S2	**WAKE ISLAND Hy**	**32.67**	**47**	T		T	14 27 20.8		
	baz=229,slow=75								
H11S1	**WAKE ISLAND Hy**	**32.68**	**47**	T		T	14 27 19.6		
	baz=229,slow=75								
CHTO	**Chiang Mai**	**48.15**	**299**	P		**P**	**13 55 38.8**	**-1.3**	
CHTO					IAmb	IAmb	13 55 48.2		
	comp=Z,2.7nm,1.3s								
ILAR	**Eielson Array**	**85.30**	**24**	P		**P**	**13 59 36.4**	**+0.4**	
	comp=Z,0.4nm,0.7s,baz=252,slow=4.9,SNR=5.1								
	comp=Z,0.4nm,0.7s								
D23K	**Nanushuk River**	**85.39**	**19**	P		**P**	**13 59 36.5**	**+0.1**	
YAH	**Yahtse**	**86.33**	**29**	P		**P**	**13 59 40.7**	**-0.8**	
BCAR	**Beaver Creek A**	**86.97**	**26**	P		**P**	**13 59 43.5**	**-0.9**	

*NEIC **30** 13:51:49.4±1.1,30.°49S×0.°04×177.°3W±0.°2,h10km±2km, mb4.4/6, Error ellipse: s-maj=26.0km s-min=5.2km az=76.0*
*IDC **30** 13:51:57.4±6.8,30.°93S×177.°47W,h72km±53km,mb3.6/4, mbtmp4.0/6,ML3.3/2, Error ellipse: s-maj=47.0km s-min=27.4km az=58.0*
ISC 30 13:51:51.5±1.4,**30.°65S**±0.°07×**177.°3W**±0.°2,**h33**km,**n19,** σ1**s55**/21,**mb4.3/7,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.50**	**338**	Pn	**Pn**	**13 52 14.3**	**-1.7**
RAO				Sn	**Sn**	**13 52 32.3**	**-2.1**
RAO	**Raoul Island**	**1.50**	**338**	LR	LR	13 53 05.0	
	comp=Z,376nm,21.0s,baz=28,slow=39						
URZ	**Urewera**	**8.89**	**210**	P	**Pn**	**13 53 57.4**	**-0.3**
	0.4nm,0.3s,baz=88,slow=10,SNR=1.8						
URZ				S	**Sn**	**13 55 34.5**	**-2.2**
	7.9nm,0.5s,baz=17,slow=20,SNR=6.0						
	10nm,1.0s						
RTZ	**Ruatahuna**	**9.25**	**209**	Pn	**Pn**	**13 54 04.5**	**+1.9**
BKZ	**Black Stump Fm**	**9.92**	**209**	Pn	**Pn**	**13 54 10.2**	**-1.6**
DZM	**Mont Dzumac**	**16.89**	**297**	P	**P**	**13 55 50.9**	**+3.7**
	0.1nm,0.3s,baz=139,slow=21,SNR=3.3						
	13nm,1.4s						
LBZ	**Lake Benmore**	**16.91**	**212**	Pn	**Pn**	**13 55 43.0**	**-2.6**
LBZ				IAmb	IAmb	13 55 43.8	
	comp=Z,49nm,1.4s						
EIDS	**Eidsvold**	**28.37**	**273**	P	**P**	**13 57 43.3**	**+0.5**
EIDS				IAmb	IAmb	13 58 25.8	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**35.03**	**257**	P	**P**	**13 58 41.1**	**-0.1**
STKA	**Stephens Creek**	**35.03**	**257**	P	**P**	**13 58 41.6**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=101,slow=15,SNR=4.8						
	comp=Z,2.7nm,0.7s						
ASAR	**Alice Springs**	**43.72**	**267**	P	**P**	**13 59 53.4**	**-0.4**
ASAR	**Alice Springs**	**43.72**	**267**	P	**P**	**13 59 54.3**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=103,slow=7.2,SNR=8.4						
ASAR				PcP	**PcP**	**14 01 41.8**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=104,slow=2.8,SNR=2.7						
	comp=Z,0.7nm,0.9s						
WR8	**Warramunga Arr**	**44.58**	**272**	P	**P**	**14 00 01.2**	**+0.5**
WR8				IAmb	IAmb	14 00 03.2	
	comp=Z,5.6nm,1.0s						
WRA	**Warramunga Arr**	**44.73**	**272**	P	**P**	**14 00 02.8**	**+0.9**
WRA	**Warramunga Arr**	**44.73**	**272**	P	**P**	**14 00 01.7**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=112,slow=8.3,SNR=18						
	comp=Z,3.0nm,0.7s						
WB0	**Warramunga Arr**	**44.75**	**272**	P	**P**	**14 00 02.9**	**+0.8**
WB0				IAmb	IAmb	14 00 04.4	
	comp=Z,4.1nm,0.8s						
QSPA	**South Pole Qui**	**59.47**	**180**	P	**P**	**14 01 50.8**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=29,slow=5.7,SNR=5.6						
	comp=Z,0.7nm,0.7s						
FINES	**FINESS Array B**	**145.59**	**340**	PKPbc	**PKPbc**	**14 11 26.2**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=52,slow=2.5,SNR=9.5						
AKASG	**Malin Array Be**	**151.87**	**323**	PKPbc	**PKiKP**	**14 11 43.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=38,slow=1.6,SNR=2.0						

*NEIC **30** 13:59:47.7±0.8,5.°12S±0.°10×150.°8E±0.°2,h69km±10km, mb4.1/13, Error ellipse: s-maj=21.8km s-min=14.4km az=89.0*
*IDC **30** 13:59:48.6±6.5,5.°22S×150.°71E,h81km±49km,mb3.6/6, mbtmp4.0/7, ML2.2/1, MS3.2/4, Error ellipse: s-maj=51.1km s-min=27.6km az=82.0*
ISC 30 13:59:43.6±1.1,**5.°15S**±0.°08×**150.°9E**±0.°2,**h35**km,**n26,** σ2**s14**/25,**mb4.1**/12,**MS3.2**/3,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**4.65**	**311**		**Pn**	**14 00 53.6**	**+2.2**
PMG	**Port Moresby**	**5.59**	**221**		**Pn**	**14 01 07.4**	**+3.0**
PMG	**Port Moresby**	**5.59**	**221**	P	**Pn**	**14 01 07.9**	**+3.5**
	4.7nm,0.3s,baz=47,slow=7.6,SNR=15						
PMG				S	**Sn**	**14 02 08.9**	**+1.5**
	7.8nm,0.4s,baz=189,slow=19,SNR=1.1						
PMG				LR	LR	14 02 47.7	
	comp=Z,91nm,18.1s,baz=338,slow=33						
	34nm,0.6s						
CTAO	**Charters Tower**	**15.51**	**196**	P	**P**	**14 03 25.1**	**+1.3**
WB0	**Warramunga Arr**	**21.63**	**226**	P	**P**	**14 04 31.0**	**0.0**
WB0				IAmb	IAmb	14 04 51.1	
	comp=Z,9.1nm,1.1s						
WR8	**Warramunga Arr**	**21.68**	**226**	P	**P**	**14 04 31.7**	**+0.3**
WR8				IAmb	IAmb	14 04 37.7	
	comp=Z,8.7nm,1.1s						
WRAB	**Tennant Creek**	**21.77**	**226**	P	**P**	**14 04 32.6**	**+0.1**
WRAB				IAmb	IAmb	14 04 55.0	
	comp=Z,7.2nm,1.1s						
WRA	**Warramunga Arr**	**21.78**	**226**	P	**P**	**14 04 31.9**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=48,slow=10,SNR=18						
WRA				S	**S**	**14 08 24.0**	**-7.8**
	comp=Z,0.5nm,1.1s,baz=51,slow=14,SNR=2.4						
	comp=Z,1.2nm,0.5s						
DZM	**Mont Dzumac**	**22.60**	**140**	LR	LR	14 11 38.7	
	comp=Z,86nm,18.9s,baz=225,slow=31						
KNRA	**Kununurra**	**24.08**	**243**	P	**P**	**14 04 56.1**	**0.0**
KNRA				IAmb	IAmb	14 04 58.4	
	comp=Z,7.4nm,0.9s						
INKA	**Innaminka**	**24.44**	**202**	P	**P**	**14 04 58.8**	**-0.4**
INKA				IAmb	IAmb	14 05 01.5	
	comp=Z,3.8nm,0.8s						
AS31	**Alice Springs**	**24.61**	**220**	P	**P**	**14 05 00.9**	**+0.1**
ASAR	**Alice Springs**	**24.61**	**220**	P	**P**	**14 05 00.2**	**-0.7**
ASAR	**Alice Springs**	**24.61**	**220**	P	**P**	**14 05 01.2**	**+0.3**
	comp=Z,5.4nm,0.7s,baz=55,slow=8.6,SNR=85						
	comp=Z,5.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**27.79**	**240**	P	**P**	**14 05 29.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**27.79**	**240**	P	**P**	**14 05 28.4**	**-1.1**
	comp=Z,3.1nm,0.7s,baz=57,slow=7.8,SNR=9.0						
	comp=Z,3.1nm,0.7s						
FORT	**Forrest**	**33.31**	**217**	P	**P**	**14 06 17.8**	**-0.5**
PSA00	**Pilbara Seismi**	**34.19**	**239**	P	**P**	**14 06 25.5**	**-0.4**
MORW	**Morawa**	**40.62**	**230**	P	**P**	**14 07 20.3**	**-0.1**
MORW				IAmb	IAmb	14 07 23.4	
	comp=Z,6.8nm,1.1s						
MJAR	**Matsushiro Arr**	**43.13**	**345**	LR	LR	14 24 23.8	
	comp=Z,28nm,19.0s,baz=189,slow=34						
CMAR	**Chiang Mai Arr**	**56.28**	**296**	P	**P**	**14 09 21.7**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=106,slow=4.9,SNR=6.3						
	comp=Z,0.3nm,0.4s						
SONM	**Songino Array**	**65.60**	**329**	P	**P**	**14 10 23.2**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=148,slow=8.5,SNR=3.6						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**79.32**	**319**	LR	LR	14 46 21.0	
	comp=Z,15nm,20.4s,baz=116,slow=35						
YKU2	**Yakutat**	**84.18**	**29**	P	**P**	**14 12 11.6**	**+0.6**
QSPA	**South Pole Qui**	**84.81**	**180**	P	**P**	**14 12 12.8**	**-1.6**
QSPA				IAmb	IAmb	14 12 27.4	
	comp=Z,5.5nm,1.5s						
QSPA	**South Pole Qui**	**84.81**	**180**	P	**P**	**14 12 13.1**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=298,slow=1.2,SNR=8.3						
	comp=Z,1.7nm,0.8s						

*IDC **30** 14:06:48.0±0.7,9.°89S×116.°08E,h0km,mb4.0/11, mbtmp4.1/14, ML4.2/3, MS3.4/1, Error ellipse: s-maj=25.8km s-min=14.9km az=64.0*
*DJA **30** 14:06:51.1±1.4,10.°5S×11.°6E±.°,h19km±12km, M4.6/25, mB5.2/7, mb4.7/13, MLv4.6/25, Mw(mB)4.5/7*
*NEIC **30** 14:06:53.2±1.6,10.°20S±0.°08×116.°02E±0.°04,h35km±7km, mb4.3/12, Error ellipse: s-maj=13.0km s-min=2.9km az=202.0*
ISC 30 14:06:52.5±0.5,**10.°23S**±0.°06×**116.°08E**±0.°05,**h35**km,**n74,** σ2**s06**/76,**mb4.0**/11,**South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWSI	**Taliwang, Sumb**	**1.68**	**28**	P	**Pn**	**14 07 21.3**	**+1.8**
DNP	**Denpasar**	**1.76**	**331**	P	**Pn**	**14 07 23.0**	**+2.4**
PLAI	**Plampang**	**2.18**	**50**	P	**Pn**	**14 07 28.3**	**+1.9**
PLAI	**Plampang**	**2.18**	**50**	P	**Pn**	**14 07 28.2**	**+1.9**
SRBI	**Singaraja**	**2.29**	**338**	P	**Pn**	**14 07 30.7**	**+2.8**
JAGI	**Jajag, Banyuwa**	**2.58**	**312**		**Pn**	**14 07 32.4**	**+0.6**
JAGI	**Jajag, Banyuwa**	**2.58**	**312**	P	**Pn**	**14 07 32.7**	**+0.9**
JAGI	**Jajag, Banyuwa**	**2.58**	**312**	S	**Sn**	**14 08 01.7**	**-0.3**
JAGI	**Jajag, Banyuwa**	**2.58**	**312**	P	**Pn**	**14 07 32.5**	**+0.6**
ABJI	**Asem Bagus**	**3.02**	**323**	P	**Pn**	**14 07 41.1**	**+3.2**
WBSI	**Waikabubak, Su**	**3.32**	**80**	P	**Pn**	**14 07 42.7**	**+0.7**
WBSI				S	**Sn**	**14 08 43.1**	**+3.1**
BLJI	**Banyuglugur**	**3.48**	**315**	P	**Pn**	**14 07 45.5**	**+1.3**
KMMI	**Kalianget**	**3.78**	**326**	P	**Pn**	**14 07 51.6**	**+3.2**
WSI	**Waingapu**	**4.20**	**83**	P	**Pn**	**14 07 54.5**	**+0.4**
BASI	**Baing, Sumba**	**4.43**	**90**	P	**Pn**	**14 07 57.6**	**+0.3**
BASI				S	**Sn**	**14 08 50.0**	**+2.3**
PCJI	**Pacitan**	**5.24**	**292**	P	**Pn**	**14 08 08.3**	**-0.1**
	0.5nm69nm,1.0s						
NGJI	**Ngawi**	**5.37**	**302**	P	**Pn**	**14 08 12.7**	**+2.4**
	0.4nm42nm,0.5s						
WOJI	**Wonogiri, Jawa**	**5.62**	**295**	P	**Pn**	**14 08 14.8**	**+1.2**
	0.5nm44nm,0.8s						
EDFI	**Ende, Flores**	**5.73**	**76**	P	**Pn**	**14 08 15.8**	**+0.5**
	0.2nm779nm48nm,0.6s						
UGM	**Wanagama**	**5.95**	**292**	Pn	**Pn**	**14 08 17.9**	**-0.2**
UGM	**Wanagama**	**5.95**	**292**	P	**Pn**	**14 08 19.2**	**+1.0**
UGM	**Wanagama**	**5.95**	**292**	P	**Pn**	**14 08 18.4**	**+0.2**
	0.7nm83nm,0.9s						
BSSI	**Bau Bau, Buton**	**5.96**	**47**	P	**Pn**	**14 08 21.2**	**+2.8**
MMRI	**Maumere**	**6.28**	**76**		**Pn**	**14 08 24.5**	**+1.8**
MMRI	**Maumere**	**6.28**	**76**	P	**Pn**	**14 08 23.6**	**+0.8**
	0.4nm77nm,0.6s						
BKSI	**Bulukumba**	**6.31**	**40**	P	**Pn**	**14 08 25.9**	**+2.7**
	0.2nm42nm,0.6s						
KAPI	**Kappang**	**6.33**	**35**	Pn	**Pn**	**14 08 25.8**	**+2.3**
KAPI	**Kappang**	**6.33**	**35**	Pn	Pn	14 08 19.2	-4.2
	5.5nm,0.3s,baz=148,slow=18,SNR=6.2						
KAPI				Sn	**Sn**	**14 09 31.9**	**-2.7**
	5.2nm,0.3s,baz=62,slow=22,SNR=6.7						
	14nm,0.3s						
KAPI	**Kappang**	**6.33**	**35**	P	**Pn**	**14 08 27.1**	**+3.6**
BNSI	**Bone**	**7.04**	**35**	P	**Pn**	**14 08 35.6**	**+2.5**
BATI	**Baumata**	**7.47**	**91**	Pn	**Pn**	**14 08 38.8**	**-0.3**
	4.1nm,0.3s,baz=304,slow=1.5,SNR=7.1						
BATI				Sn	**Sn**	**14 10 01.6**	**-1.1**
	17nm,0.3s,baz=210,slow=21,SNR=9.9						
	18nm,0.3s						
BATI	**Baumata**	**7.47**	**91**	P	**Pn**	**14 08 39.2**	**+0.1**
	52nm,1.2s						
KPJI	**Karang Pucung**	**7.62**	**292**	P	**Pn**	**14 08 43.4**	**+2.2**
	0.1nm31nm,0.5s						
SOEI	**Soe**	**8.08**	**87**	Pn	**Pn**	**14 08 48.5**	**+0.9**
SOEI	**Soe**	**8.08**	**87**	P	**Pn**	**14 08 49.1**	**+1.5**
BBJI	**Bungbulang**	**8.77**	**288**	P	**Pn**	**14 08 56.8**	**-0.2**
CNJI	**Cibinong**	**9.30**	**287**	P	**Pn**	**14 09 05.0**	**+0.7**
CGJI	**Cibinong**	**10.88**	**288**	P	**Pn**	**14 09 26.1**	**+0.2**
MBWA	**Marble Bar**	**11.42**	**163**		**Pn**	**14 09 32.0**	**-1.3**
PSA00	**Pilbara Seismi**	**11.85**	**163**	Pn	**Pn**	**14 09 37.8**	**-1.3**
PSA00	**Pilbara Seismi**	**11.85**	**163**	P	**Pn**	**14 09 37.7**	**-1.3**
FITZ	**Fitzroy Crossi**	**12.13**	**131**	Pn	**Pn**	**14 09 43.5**	**+0.6**
	1.0nm,0.3s,baz=329,slow=9.3,SNR=30						
FITZ				Sn	Sn	14 11 44.4	-13
	0.8nm,0.3s,baz=317,slow=6.4,SNR=3.8						
	3.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**12.13**	**131**	P	**Pn**	**14 09 43.3**	**+0.3**
GIRL	**Giralia**	**12.47**	**188**	Pn	**Pn**	**14 09 47.4**	**-0.5**
KNRA	**Kununurra**	**13.50**	**115**	Pn	**Pn**	**14 10 02.1**	**+0.4**
MNAI	**Manna**	**14.26**	**293**	Pn	**Pn**	**14 10 10.0**	**-2.0**
MNAI	**Manna**	**14.26**	**293**	P	**Pn**	**14 10 10.1**	**-2.0**
FAKI	**Fak Fak**	**17.62**	**67**	Pn	**Pn**	**14 10 54.1**	**-1.4**
FAKI				IAmb	IAmb	14 11 09.2	
	comp=Z,38nm,1.2s						
MORW	**Morawa**	**18.74**	**180**	P	**Pn**	**14 11 09.1**	**0.0**
MORW				IAmb	IAmb	14 11 28.0	
	comp=Z,14nm,1.3s						
WB0	**Warramunga Arr**	**20.06**	**120**	Pn	Pn	14 11 26.0	+1.1
WRA	**Warramunga Arr**	**20.09**	**121**	P	**P**	**14 11 21.2**	**-2.0**
	comp=Z,1.3nm,0.5s,baz=296,slow=12,SNR=12						
WRA				S	**S**	**14 14 58.0**	**-9.2**
	comp=Z,0.7nm,0.5s,baz=266,slow=24,SNR=5.6						
WRA				LR	LR	14 19 12.4	
	comp=Z,92nm,18.2s,baz=358,slow=37						
WR8	**Warramunga Arr**	**20.23**	**121**	Pn	Pn	14 11 28.1	+1.2
WR0	**Warramunga Arr**	**20.27**	**121**	Pn	Pn	14 11 28.4	+1.1
WR0				IAmb	IAmb	14 11 31.7	
	comp=Z,6.9nm,0.9s						
ASAR	**Alice Springs**	**21.63**	**130**	P	**P**	**14 11 40.8**	**+0.9**
ASAR	**Alice Springs**	**21.63**	**130**	P	**P**	**14 11 43.0**	**+3.0**
	comp=Z,3.6nm,0.5s,baz=304,slow=8.8,SNR=107						
ASAR				S	**S**	**14 15 37.2**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=289,slow=22,SNR=5.8						
	comp=Z,3.6nm,0.5s						
AS31	**Alice Springs**	**21.63**	**130**	P	**P**	**14 11 40.1**	**+0.1**
STKA	**Stephens Creek**	**31.96**	**136**	P	**P**	**14 13 17.3**	**+2.0**
STKA				IAmb	IAmb	14 13 25.9	
	comp=Z,21nm,1.1s						
STKA	**Stephens Creek**	**31.96**	**136**	P	**P**	**14 13 17.3**	**+2.0**
	comp=Z,2.2nm,0.5s,baz=322,slow=10.0,SNR=7.4						
	comp=Z,2.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**33.14**	**329**	P	**P**	**14 13 24.1**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=147,slow=7.4,SNR=4.9						
	comp=Z,0.5nm,0.5s						
MJAR	**Matsushiro Arr**	**50.97**	**23**	P	**P**	**14 15 48.8**	**-2.0**
	comp=Z,1.2nm,0.7s,baz=223,slow=8.3,SNR=5.2						
	comp=Z,1.2nm,0.7s						
SONM	**Songino Array**	**58.44**	**352**	P	**P**	**14 16 44.2**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=169,slow=9.3,SNR=4.8						
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**64.28**	**335**	P	**P**	**14 17 23.1**	**-1.3**
MKAR	**Makanchi Array**	**64.28**	**335**	P	**P**	**14 17 23.6**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=144,slow=6.7,SNR=8.4						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**68.83**	**335**	P	**P**	**14 17 51.0**	**-2.2**
	comp=Z,0.6nm,0.4s,baz=149,slow=5.4,SNR=5.9						
	comp=Z,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**69.20**	**341**	P	**P**	**14 17 52.9**	**-2.6**
	comp=Z,0.7nm,0.3s,baz=129,slow=4.0,SNR=5.2						
	comp=Z,0.7nm,0.3s						
BVAR	**Borovoye Array**	**74.05**	**333**	P	**P**	**14 18 24.4**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=152,slow=9.8,SNR=7.0						
	comp=Z,2.2nm,0.7s						
ABKAR	**Akbulak array**	**76.93**	**326**	P	**P**	**14 18 40.7**	**-0.6**
JOHN	**Johnston Islan**	**78.27**	**70**	P	**P**	**14 18 49.7**	**+0.3**
QSPA	**South Pole Qui**	**79.78**	**180**	P	**P**	**14 19 59.4**	**+2.4**
QSPA				IAmb	IAmb	14 19 03.7	
	comp=Z,1.7nm,0.9s						
QSPA	**South Pole Qui**	**79.78**	**180**	P	**P**	**14 19 00.3**	**+3.3**
	comp=Z,1.0nm,0.7s,baz=355,slow=0.5,SNR=9.9						
	comp=Z,1.0nm,0.7s						
SHEM	**Shemya Is, Ala**	**79.81**	**32**	P	**P**	**14 18 57.5**	**+0.4**
SMY	**Shemya**	**79.81**	**32**	P	**P**	**14 18 57.4**	**+0.3**
SNAA	**Sanae**	**89.04**	**196**	P	**P**	**14 19 46.2**	**+2.5**
SNAA				IAmb	IAmb	14 20 04.9	
	comp=Z,4.0nm,1.3s						
SNAA	**Sanae**	**89.04**	**196**	P	**P**	**14 19 46.5**	**+2.8**
	comp=Z,1.1nm,0.7s,baz=143,slow=2.1,SNR=10						
	comp=Z,1.1nm,0.7s						

*FUNV **30** 14:10:12.2,10.°61N×62.°32W,h100km,MW3.8*
*TRN **30** 14:10:12.8,10.°68N×62.°48W,h49km,MD3.3,Paria peninsula.*
ISC 30 14:10:12.0±1.8,**10.°66N**±0.°07×**62.°48W**±0.°07,**h70**km±35km,

n18,σ1**s19**/33,**Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DMDM	**Guralp CMG5TDE**	**0.91**	**87**	*eP*	**Pn**	**14 10 30.2**	**+0.8**
DMDM				*eS*	**Sn**	**14 10 41.4**	**-0.9**
TRN	**Trinidad (W)**	**1.05**	**90**	*eP*	**Pn**	**14 10 31.7**	**+0.5**
TRN				*eS*	**Sn**	**14 10 44.4**	**-1.1**
TPP	**Pointe-a-Pierr**	**1.06**	**108**	*eP*	**Pn**	**14 10 32.4**	**+1.1**
GRFF	**Grenada Fort F**	**1.56**	**27**	*eP*	**Pn**	**14 10 38.2**	**+0.4**
GRFF				*eS*	**Sn**	**14 10 56.5**	**-0.9**
GRGR	**Grenville**	**1.67**	**29**	*eP*	**Pn**	**14 10 39.6**	**+0.2**
GRGR				*eS*	**Sn**	**14 10 59.0**	**-1.0**
GRW	**Mount Saint Ca**	**1.69**	**28**	*eP*	**Pn**	**14 10 39.9**	**+0.2**
GRW				*eS*	**Sn**	**14 11 00.4**	**-0.3**
GRHS	**Sauteurs**	**1.76**	**28**	*eP*	**Pn**	**14 10 41.0**	**+0.5**
GRHS				*eS*	**Sn**	**14 11 01.0**	**-1.1**
GRSS	**Sisters**	**1.84**	**27**	*eP*	**Pn**	**14 10 41.9**	**+0.4**
GRSS				*eS*	**Sn**	**14 11 02.6**	**-1.4**
GCMP	**Grenada, Carri**	**2.09**	**29**	*eP*	**Pn**	**14 10 44.9**	**0.0**
GCMP				*eS*	**Sn**	**14 11 09.2**	**-0.8**
PCRV	**Puerto La Cruz**	**2.18**	**258**	*eP*	**Pn**	**14 10 47.0**	**+0.8**
PCRV				*eS*	**Sn**	**14 11 12.8**	**+0.5**
PCRV	**Puerto La Cruz**	**2.18**	**258**	*eP*	**Pn**	**14 10 47.5**	**+1.4**
PCRV				*eS*	**Sn**	**14 11 12.9**	**+0.7**
SVB	**Belmont**	**2.86**	**25**	*eP*	**Pn**	**14 10 56.8**	**+1.4**
SVB				*eS*	**Sn**	**14 11 28.2**	**-0.5**
SLBI	**Saint Lucia, B**	**3.65**	**24**	*eP*	**Pn**	**14 11 07.9**	**+1.7**
SLBI				*eS*	**Sn**	**14 11 48.1**	**0.0**
TACV	**Tcata**	**4.51**	**264**	*eP*	**Pn**	**14 11 19.4**	**+1.5**
TACV				*eS*	**Sn**	**14 12 07.4**	**-1.7**
CACV	**CAICARA DEL OR**	**5.05**	**233**	*eP*	Pn	14 11 19.6	-5.7
CACV				*eS*	Sn	14 12 10.7	-12
BENV	**Beln**	**5.09**	**263**	*eP*	**Pn**	**14 11 27.1**	**+1.2**
BENV				*eS*	**Sn**	**14 12 21.8**	**-1.6**
BAUV	**El Baul**	**5.74**	**253**	*eP*	**Pn**	**14 11 35.2**	**+0.4**
BAUV				*eS*	**Sn**	**14 12 36.7**	**-2.7**
BAUV	**El Baul**	**5.74**	**253**	*eP*	**Pn**	**14 11 35.4**	**+0.6**
BAUV				*eS*	**Sn**	**14 12 37.0**	**-2.4**

STR 30 15:10:58.3±0.3,**46.°N**±2.°×±.°,**h0**km,**MLv2.0**/16,**LOCSAT earthModelID auvergne_taup-2.11 preliminary,France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COLF	**Collangettes**	**0.26**	**267**	Pg	Pg	15 11 02.5	-0.8
COLF				Sg	Sg	15 11 06.9	+0.3
SSB	**Saint Sauveur**	**0.42**	**127**	Pg	Pg	15 11 04.7	-1.7
SSB				Sg	Sg	15 11 10.9	-0.9
PLDF	**La Plantade**	**0.54**	**325**	Pg	Pg	15 11 07.8	-0.8
PLDF				Sg	Sg	15 11 15.5	0.0
LBL	**Lubilhac**	**0.65**	**243**	Pg	Pg	15 11 10.1	-0.7
LBL				Sg	Sg	15 11 20.6	+1.4
AGO	**Saint Agoulin**	**0.83**	**309**	Pg	Pg	15 11 14.0	-0.3
AGO				Pg	Pn	15 11 25.2	+7.9
FRNF	**Fournols**	**1.07**	**263**	Pg	Pg	15 11 17.8	-0.9
FRNF				Sg	Sg	15 11 32.4	-0.1
VERF	**Verneugheol**	**1.13**	**282**	Pg	Pg	15 11 20.2	+0.2
VERF				Sg	Sg	15 11 35.0	+0.5
OGSM	**Saint Maurice**	**1.15**	**86**	Pg	Pg	15 11 19.2	-0.7
OGSM				Sg	Sg	15 11 35.4	+0.2
GRN	**Grenoble**	**1.22**	**103**	Pg	Pg	15 11 21.3	-0.4
GRN				Sg	Sg	15 11 38.0	+0.5
LEUC	**Leucamp**	**1.32**	**235**	Pn	Pg

	comp=N,479nm,0.5s							
LMEL	**Las Melosas**	**2.83**	**57**	*eP*		**Pn**	**15 18 25.5**	**+2.3**
LMEL				*eS*		**Sb**	**15 19 01.3**	**-2.1**
LMEL				IAML			15 19 09.7	
	comp=Z,440nm,0.7s							
MT13	**San Alfonso**	**2.84**	**54**			**Pn**	**15 18 24.4**	**+1.1**
MT13	**San Alfonso**	**2.84**	**54**	IAML			15 19 09.3	
	comp=E,640nm,0.3s							
MT13	**San Alfonso**	**2.84**	**54**	*eP*		**Pn**	**15 18 25.1**	**+1.9**
MT13				*eS*		**Sb**	**15 19 01.5**	**-2.0**
MT13				IAML			15 19 11.1	
	comp=Z,341nm,0.7s							
MT03	**Universidad Ad**	**2.86**	**48**			**Pn**	**15 18 24.5**	**+1.0**
MT03	**Universidad Ad**	**2.86**	**48**	IAML			15 19 12.1	
	comp=E,596nm,0.9s							
MT03	**Universidad Ad**	**2.86**	**48**	*eP*		**Pn**	**15 18 25.1**	**+1.6**
MT03				*eS*		**Sb**	**15 19 01.6**	**-2.4**
MT03				IAML			15 19 11.5	
	comp=Z,357nm,0.5s							
MT16	**CCHEN**	**2.90**	**47**			**Pn**	**15 18 24.6**	**+0.6**
CANA	**Caviahue**	**2.92**	**147**	*eP*		**Pb**	**15 18 28.2**	**-1.7**
CANA				*eS*		**Sb**	**15 19 07.7**	**+1.8**
ROC1	**El Roble**	**2.98**	**35**	*eP*		**Pn**	**15 18 26.2**	**+0.9**
ROC1				*eS*		**Sb**	**15 19 09.2**	**+1.6**
EDS3	**Malargue**	**3.00**	**97**	*eP*		**Pb**	**15 18 30.9**	**-0.3**
MT10	**Hacienda Santa**	**3.00**	**45**	IAML			15 19 15.7	
	comp=E,1μm,0.5s							
PEL	**Peldehue**	**3.01**	**41**			**Pn**	**15 18 27.0**	**+1.4**
PEL	**Peldehue**	**3.01**	**41**	*eP*		**Pn**	**15 18 27.6**	**+2.0**
PEL				*eS*		**Sb**	**15 19 08.4**	**0.0**
PEL				IAML			15 19 20.1	
	comp=Z,262nm,0.5s							
MT04	**Ro Olivares**	**3.15**	**51**	*eP*		**Pn**	**15 18 29.4**	**+1.8**
MT04	**Ro Olivares**	**3.15**	**51**	*eP*		**Pn**	**15 18 29.6**	**+1.9**
MT04				*eS*		**Sb**	**15 19 09.3**	**-3.3**
MT04				IAML			15 19 18.7	
	comp=Z,154nm,1.4s							
MT08	**Bocatoma Ro**	**3.20**	**53**			**Pn**	**15 18 28.5**	**+0.1**
MT08	**Bocatoma Ro**	**3.20**	**53**	IAML			15 19 19.5	
	comp=N,235nm,0.5s							
MT08	**Bocatoma Ro**	**3.20**	**53**	*eP*		**Pn**	**15 18 30.1**	**+1.8**
MT08				*eS*		**Sb**	**15 19 11.8**	**-2.1**
MT08				IAML			15 19 28.1	
	comp=Z,95nm,0.4s							
VA03	**San Esteban**	**3.38**	**39**			**Pn**	**15 18 31.7**	**+1.0**
VA03	**San Esteban**	**3.38**	**39**	*eP*		**Pn**	**15 18 32.1**	**+1.5**
VA03				*eS*		**Sb**	**15 19 19.7**	**+0.7**
VA03				IAML			15 19 31.0	
	comp=Z,280nm,0.7s							
RFA	**San Rafael**	**3.82**	**81**	*eP*		**Pn**	**15 18 40.1**	**+3.4**
RFA				*eS*		**Sb**	**15 19 31.6**	**-0.1**
RFA				IAML			15 19 45.0	
	comp=Z,107nm,0.7s							
GO06	**Curarrehue**	**4.33**	**164**	*eP*		**Pn**	**15 18 45.9**	**+2.2**
GO06				IAML			15 20 00.1	
	comp=Z,37nm,1.0s							
CO02	**Combarbal**	**4.56**	**23**			**Pn**	**15 18 47.3**	**+0.5**
CO02	**Combarbal**	**4.56**	**23**	*eP*		**Pn**	**15 18 47.8**	**+0.9**
CO02				IAML			15 20 10.8	
	comp=Z,69nm,0.5s							
CO06	**Fray Jorge**	**4.90**	**14**			**Pn**	**15 18 51.2**	**-0.2**
CO03	**El Pedregal**	**5.00**	**24**			**Pn**	**15 18 53.4**	**+0.5**
CO03	**El Pedregal**	**5.00**	**24**	*eP*		**Pn**	**15 18 54.1**	**+1.2**
CO03				IAML			15 20 23.6	
	comp=Z,42nm,0.8s							
GO04	**Tololo Observa**	**5.58**	**21**			**Pn**	**15 19 01.5**	**+0.5**
PLCA	**Paso Flores**	**5.64**	**160**	Pn		**Pn**	**15 19 01.7**	**0.0**
AC02	**Maricunga**	**9.21**	**22**	Pn		**Pn**	**15 19 50.8**	**-0.3**
TA01	**Diego Aracena**	**15.03**	**10**	Pn		**Pn**	**15 21 10.4**	**+0.2**
TA01				IAmb	IAmb		15 21 26.9	
	comp=Z,9.5nm,0.9s							
PB18	**Visviri**	**18.06**	**11**			**Pn**	**15 21 49.5**	**+0.1**
PB18				IAmb	IAmb		15 22 30.6	
	comp=Z,15nm,1.3s							
BAUV	**El Baul**	**44.39**	**7**	P		**P**	**15 25 49.3**	**+0.6**
BAUV				IAmb	IAmb		15 26 10.4	
	comp=Z,18nm,1.4s							

IDC 30 15:25:52.1±1.2, 20.67N×120.97E, h0km, mb3.7/4, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=71.0km s-min=20.8km az=70.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**17.78**	**18**	P	Pn	15 30 00.9	-0.2
	0.1nm,0.3s,baz=205,slow=12,SNR=6.9						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**42.44**	**161**	P	P	15 33 48.7	-0.1
	0.8nm,0.4s,baz=342,slow=9.1,SNR=16						
	0.8nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**43.00**	**83**	T	T	16 20 27.9	
	baz=278						
H11N2	**WAKE ISLAND Hy**	**43.01**	**83**	T	T	16 20 31.6	
	baz=278						
H11N3	**WAKE ISLAND Hy**	**43.02**	**83**	T	T	16 20 35.1	
	baz=278						
H11S3	**WAKE ISLAND Hy**	**43.02**	**85**	T	T	16 20 33.1	
	baz=281,slow=75,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**43.03**	**85**	T	T	16 20 34.7	
	baz=281,slow=75,SNR=3.6						
H11S2	**WAKE ISLAND Hy**	**43.04**	**85**	T	T	16 20 35.6	
	baz=281,slow=75,SNR=4.1						
ZALV	**Zalesovo Beam**	**43.11**	**329**	P	P	15 33 54.0	0.0
	1.6nm,0.6s,baz=121,slow=8.3,SNR=7.3						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**45.84**	**163**	P	P	15 34 16.1	-0.1
	0.2nm,0.3s,baz=345,slow=6.6,SNR=7.8						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**50.29**	**323**	P	P	15 34 49.9	-0.4
	0.4nm,0.5s,baz=93,slow=7.2,SNR=2.8						
	0.4nm,0.5s						

*DJA **30** 15:37:31.5±1.2, 5°S±7°×15°2E±1°2, h18km±4km, M4.7/12, mb4.4/12, mB5.5/4, MLv4.7/1, Mw(mB)4.9/4*
*NEIC **30** 15:37:31.6±2.0, 5.11S±0.08×151.54E±0.08, h10km±1km, mb4.5/17, Error ellipse: s-maj=16.3km s-min=10.2km az=131.0*
*IDC **30** 15:37:38.4±5.3, 5.13S×151.28E, h52km±43km, mb3.8/9, mbtmp4.1/11, ML2.3/2, MS3.1/5, Error ellipse: s-maj=41.2km s-min=20.1km az=89.0*
ISC 30 15:37:32.1±0.6, 5.13S±0.07×151.55E±0.09, h10km, n59, σ1s55/55, mb4.5/24, MS3.0/4, 2C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.12**	**33**	Pn	**Pb**	**15 37 52.4**	**-1.1**
MANU	**Manus Island**	**5.18**	**306**		**Pn**	**15 38 48.3**	**-1.5**
PMG	**Port Moresby**	**6.08**	**225**		**Pn**	**15 39 01.2**	**-0.9**
PMG	**Port Moresby**	**6.08**	**225**	P	**Pn**	**15 39 03.4**	**+1.2**
	3.2nm,0.3s,baz=42,slow=5.4,SNR=18						
PMG				S	**Sn**	**15 40 10.0**	**-1.9**
	16nm,0.8s,baz=348,slow=16,SNR=1.2						
	70nm,0.9s						
PMG	**Port Moresby**	**6.08**	**225**	P	**Pn**	**15 39 03.4**	**+1.2**
PMG	**Port Moresby**	**6.08**	**225**	P	**Pn**	**15 39 03.5**	**+1.3**
JAY	**Jayapura**	**11.13**	**283**	P	**Pn**	**15 40 13.1**	**+1.6**
	0.1nm,0.3s,baz=285,slow=5.9,SNR=5.9						
	22nm,1.2s						
JAY	**Jayapura**	**11.13**	**283**	P	**Pn**	**15 40 14.4**	**+2.9**
	12nm,1.2s						
GENI	**Genyem**	**11.63**	**282**	P	Pn	15 40 25.3	+7.0
SMPI	**Sarmi**	**13.19**	**283**	P	**Pn**	**15 40 40.4**	**+0.8**
	17nm,1.6s						
MTSU	**Mount Surprise**	**14.73**	**208**	P	**Pn**	**15 41 02.8**	**+2.1**
BAKI	**Biak**	**15.91**	**284**	P	**Pn**	**15 41 16.9**	**+0.7**
	45nm,1.3s						
RKPI	**Ransiki, Papua**	**17.71**	**281**	P	**P**	**15 41 41.0**	**+1.1**
	5μm22nm,1.2s						
QIS	**Mount Isa**	**19.23**	**216**	P	**P**	**15 41 56.7**	**0.0**
GUMO	**Guam**	**19.75**	**340**	LR	LR	15 47 54.5	
	comp=Z,21nm,21.6s,baz=195,slow=31						
EIDS	**Eidsvold**	**20.13**	**181**	P	**P**	**15 42 05.4**	**-1.0**
EIDS	**Eidsvold**	**20.13**	**181**	P	Pn	15 42 10.8	+2.6
SWI	**Sorong**	**20.70**	**281**	P	**P**	**15 42 12.3**	**-0.4**
	31nm,1.3s						
WB0	**Warramunga Arr**	**22.15**	**227**	P	**P**	**15 42 27.0**	**-1.3**
WB0				IAmb	IAmb	15 42 43.1	
	comp=Z,30nm,1.4s						
DZM	**Mont Dzumac**	**22.17**	**141**	LR	LR	15 50 18.2	
	comp=Z,62nm,19.4s,baz=4.0,slow=34						
WR8	**Warramunga Arr**	**22.19**	**227**		**P**	**15 42 26.9**	**-1.9**
WRAB	**Tennant Creek**	**22.29**	**227**	P	**P**	**15 42 28.9**	**-0.9**
WRA	**Warramunga Arr**	**22.30**	**227**	P	**P**	**15 42 27.9**	**-2.0**
	comp=Z,3.0nm,0.9s,baz=53,slow=9.8,SNR=16						
WRA				LR	LR	15 51 23.9	
	comp=Z,30nm,18.2s,baz=83,slow=37						
	comp=Z,3.0nm,0.9s						
QLP	**Quilpie**	**22.45**	**197**	P	**P**	**15 42 33.8**	**+2.4**
PINNC	**Pines Island,**	**23.20**	**140**	P	**P**	**15 42 39.3**	**+0.1**
KNRA	**Kununurra**	**24.71**	**243**	P	**P**	**15 42 51.5**	**-2.2**
KNRA				IAmb	IAmb	15 43 30.6	
	comp=Z,15nm,1.3s						
INKA	**Innaminka**	**24.73**	**203**		**P**	**15 42 52.9**	**-0.8**
INKA				IAmb	IAmb	15 42 56.7	
	comp=Z,11nm,1.0s						
TNTI	**Ternate**	**24.86**	**283**		**P**	**15 42 52.7**	**-2.4**
TNTI				IAmb	IAmb	15 42 57.6	
	comp=Z,25nm,1.2s						
TNTI	**Ternate**	**24.86**	**283**	P	**P**	**15 42 58.2**	**+3.1**
TNTI	**Ternate**	**24.86**	**283**	P	**P**	**15 42 53.9**	**-1.2**
	comp=Z,18nm,1.2s						
AS31	**Alice Springs**	**25.07**	**221**		**P**	**15 42 55.2**	**-1.8**
ASAR	**Alice Springs**	**25.08**	**221**	P	**P**	**15 42 55.4**	**-1.6**
ASAR	**Alice Springs**	**25.08**	**221**	P	**P**	**15 42 56.5**	**-0.5**
	comp=Z,11nm,0.9s,baz=60,slow=8.1,SNR=68						
	comp=Z,11nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.41**	**241**		**P**	**15 43 24.9**	**-2.1**
FITZ	**Fitzroy Crossi**	**28.41**	**241**	P	**P**	**15 43 25.7**	**-1.4**
TOLI2	**Tolitoli**	**31.35**	**281**	P	**P**	**15 43 51.2**	**-2.1**
TOLI2				IAmb	IAmb	15 44 27.8	
	comp=Z,5.4nm,0.9s						
FORT	**Forrest**	**33.75**	**218**	P	**P**	**15 44 13.5**	**-0.6**
FORT				IAmb	IAmb	15 44 57.2	
	comp=Z,14nm,1.2s						
MBWA	**Marble Bar**	**34.73**	**240**	P	**P**	**15 44 20.4**	**-2.3**
MJAR	**Matsushiro Arr**	**43.30**	**344**	LR	LR	16 04 31.8	
	comp=Z,16nm,18.1s,baz=200,slow=37						
JTM	**Tenmabayashi**	**46.70**	**349**	P	**P**	**15 46 01.1**	**0.0**
KSRS	**Korea Array**	**47.75**	**334**	P	**P**	**15 46 10.0**	**+0.6**
	comp=Z,2.3nm,1.1s,baz=148,slow=9.0,SNR=11						
	comp=Z,2.3nm,1.1s						
NJ2	**Nanjing**	**48.33**	**322**	*eP*	**P**	**15 46 16.3**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HNS	**HongShan**	**54.47**	**324**	⇑P	**P**	**15 47 00.3**	**+0.3**
HNS				pmax	pmax		
	comp=Z,6.0nm,1.5s						
BNX	**BinXian**	**55.03**	**340**	⇑P	**P**	**15 47 04.0**	**+0.1**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.1s						
XAN	**Xi'an**	**56.01**	**317**	P	**P**	**15 47 11.5**	**+0.3**
XAN				pmax	pmax		
	comp=Z,13nm,1.3s						
KMI	**Kunming**	**56.15**	**305**	P	**P**	**15 47 14.3**	**+1.7**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**56.90**	**296**	P	**P**	**15 47 16.4**	**-1.4**
CMAR	**Chiang Mai Arr**	**56.90**	**296**	P	**P**	**15 47 17.4**	**-0.4**
	comp=Z,1.9nm,1.1s,baz=118,slow=5.6,SNR=11						
	comp=Z,1.9nm,1.1s						
CHTO	**Chiang Mai**	**57.01**	**296**		**P**	**15 47 18.4**	**-0.2**
CHTO				IAmb	IAmb	15 47 19.4	
	comp=Z,4.3nm,1.2s						
PZH	**PanZhiHua**	**57.55**	**306**	P	**P**	**15 47 24.0**	**+1.6**
HHC	**Hu-ho-hao-te**	**58.60**	**325**	*eP*	**P**	**15 47 30.8**	**+1.3**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LZH	**Lanzhou**	**60.61**	**317**	*eP*	**P**	**15 47 46.0**	**+2.5**
LZH				sP	sP	15 47 54.8	+6.5
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
MKAR	**Makanchi Array**	**79.76**	**319**	P	**P**	**15 49 40.5**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=117,slow=5.0,SNR=4.0						
	comp=Z,0.6nm,0.9s						
ZALV	**Zalesovo Beam**	**80.74**	**327**	P	**P**	**15 49 44.1**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=87,slow=5.9,SNR=4.1						
	comp=Z,0.3nm,0.4s						
KURK	**Kurchatov**	**83.27**	**322**	P	**P**	**15 49 58.7**	**-0.2**
KURK				IAmb	IAmb	15 50 01.0	
	comp=Z,4.6nm,1.1s						
KURBB	**Kurchatov Arra**	**83.29**	**322**	P	**P**	**15 49 58.0**	**-1.1**
	comp=Z,0.7nm,0.2s,baz=100,slow=3.8,SNR=5.2						
	comp=Z,0.7nm,0.2s						
QSPA	**South Pole Qui**	**84.83**	**180**	P	**P**	**15 50 07.7**	**+0.8**
QSPA				IAmb	IAmb	15 50 10.9	
	comp=Z,2.7nm,0.9s						
QSPA	**South Pole Qui**	**84.83**	**180**	P	**P**	**15 50 09.1**	**+2.3**
	comp=Z,2.9nm,1.0s,baz=310,slow=2.0,SNR=8.8						
	comp=Z,2.9nm,1.0s						
NVAR	**Mina Array Bea**	**93.27**	**52**	P	**P**	**15 50 47.6**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=224,slow=5.8,SNR=5.1						
NVAR				LR	LR	16 27 54.4	
	comp=Z,31nm,18.4s,baz=262,slow=32						
	comp=Z,0.6nm,0.7s						

*SOME **30** 15:57:41.4, 40.45N×82.65E, h5km*
*NNC **30** 15:57:43.2±2.4, 41.09N×83.23E, h7km±13km, mb3.7, mpv3.4, Error ellipse: s-maj=20.0km s-min=13.9km az=6.0*
ISC 30 15:57:47.2±3.0, 41.3N±0.2×83.17E±0.09, h10km, n20, σ2s34/29, 4C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.31**	**305**	Pg	**Pb**	**15 58 43.7**	**-2.5**
	6.8nm,0.2s						
SHLS				Lg	Lg	15 59 28.6	
	62nm,0.4s						
SHLS	**Shalkode**	**3.31**	**305**	*eP*	**Pb**	**15 58 43.7**	**-2.5**
	6.8nm,0.2s						
SHLS				*eS*	**Sb**	**15 59 28.6**	**+2.0**
	62nm,0.4s						
PDGK	**Podgornoye**	**3.39**	**308**	⇑Pn	**Pn**	**15 58 39.4**	**-1.0**
	2.0nm,0.5s						
PDGK				⇑Pg	**Pg**	**15 58 50.7**	**-1.5**
	8.7nm,0.5s						
PDGK				⇑Lg	Lg	15 59 37.8	
	41nm,0.7s						
UZB	**Uzynbulak**	**3.59**	**302**	Pg	**Pb**	**15 58 51.6**	**+0.8**
	1.4nm,0.2s						
UZB				Lg	Lg	15 59 42.7	
	10nm,0.5s						
UZB	**Uzynbulak**	**3.59**	**302**	*eP*	**Pb**	**15 58 51.6**	**+0.8**
	1.4nm,0.2s						
UZB				*eS*	**Sg**	**15 59 42.0**	**-0.4**
	10nm,0.5s						
SATY	**Saty**	**3.95**	**298**	Pg	**Pb**	**15 58 58.2**	**+1.3**
	3.7nm,0.3s						
SATY				Lg	Lg	15 59 53.6	
	15nm,0.3s						
KPKS	**Kokpek**	**3.96**	**304**	Pg	**Pb**	**15 58 58.7**	**+1.6**
	0.4nm,0.2s						
KPKS				Lg	Lg	15 59 54.0	
	16nm,0.5s						
KURS	**Kuram**	**4.29**	**302**	Pg	**Pb**	**15 59 03.7**	**+0.9**
	4.7nm,0.7s						
KURS				Lg	Lg	16 00 03.0	
	6.0nm,1.1s						
KOTS	**Kotyrbulak**	**4.89**	**295**	Pg	**Pb**	**15 59 14.9**	**+1.9**
	3.1nm,0.4s						
KOTS				Lg	Lg	16 00 22.9	
	18nm,0.6s						
KOTS	**Kotyrbulak**	**4.89**	**295**	*eP*	**Pb**	**15 59 14.9**	**+1.9**
	3.1nm,0.4s						
KOTS				*eS*	**Sg**	**16 00 22.9**	**-1.2**
	18nm,0.6s						
MDOK	**Medeo**	**4.91**	**294**	Pg	**Pb**	**15 59 15.3**	**+2.0**
	3.3nm,0.3s						
MDOK				Lg	Lg	16 00 23.0	
	9.4nm,0.5s						
TNSS	**Tian-Shan**	**4.94**	**293**	Pg	**Pb**	**15 59 14.8**	**+0.8**
	3.0nm,0.2s						
TNSS				Lg	Lg	16 00 22.2	
	3.7nm,0.7s						
TNSS	**Tian-Shan**	**4.94**	**293**	*eP*	**Pb**	**15 59 14.8**	**+0.8**
	3.0nm,0.2s						
TNSS				*eS*	**Sg**	**16 00 22.2**	**-3.5**
	3.7nm,0.7s						
CHKK	**Chushkaly**	**5.22**	**301**	Pg	**Pb**	**15 59 21.7**	**+3.1**
	5.3nm,0.1s						
CHKK				Lg	Lg	16 00 33.9	
	3.5nm,0.2s						
CHKK	**Chushkaly**	**5.22**	**301**	*eP*	**Pb**	**15 59 21.7**	**+3.1**
	5.3nm,0.1s						
CHKK				*eS*	**Sg**	**16 00 33.9**	**-1.0**
	3.5nm,0.2s						
MTBS	**Maitube**	**5.33**	**292**	Pg	**Pb**	**15 59 20.2**	**-0.2**
	1.0nm,0.1s						
MTBS				Lg	Lg	16 00 30.8	
	3.2nm,0.1s						
MTBS	**Maitube**	**5.33**	**292**	*eP*	**Pb**	**15 59 20.2**	**-0.2**
	1.0nm,0.1s						
MTBS				*eS*	**Sb**	**16 00 30.8**	**+6.4**
	3.2nm,0.1s						
MK31	**Makanchi Array**	**5.52**	**354**	⇑Pn	**Pn**	**15 59 08.4**	**-1.1**
	0.1nm,0.2s,baz=157,slow=13,SNR=20						
MK31				⇓Pg	**Pb**	**15 59 25.3**	**+1.6**
	1.4nm,0.6s,baz=169,slow=15,SNR=5.4						
MK31				Lg	Lg	16 00 43.8	
	5.3nm,0.6s,baz=169,slow=29,SNR=5.0						
KST	**Kastek**	**5.63**	**290**	Pg	**Pb**	**15 59 27.5**	**+2.0**
	0.6nm,0.1s						
KST				Lg	Lg	16 00 43.6	
	6.7nm,0.5s						
KST	**Kastek**	**5.63**	**290**	*eP*	**Pb**	**15 59 27.5**	**+2.0**
	0.6nm,0.1s						
KST				*eS*	**Sg**	**16 00 43.6**	**-4.3**
	6.7nm,0.5s						

*SLM **30** 16:18:14.3±0.5, 36.554N±0.008×89.65W±0.01, h8km±1km, Error ellipse: s-maj=1.3km s-min=1.1km az=99.0*
NEIC 30 16:18:14.7±0.6, 36.562N±0.008×89.64W±0.01, h8km±1km, mb_Lg2.3/21, ML2.5/30, Md2.6/39(SLM), Error ellipse: s-maj=1.4km s-min=1.2km az=125.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARMO	**Marston**	**0.04**	**213**		Pg	16 18 16.1	-0.2
MARMO					Sg	16 18 17.6	+0.2
CATM	**Catron**	**0.05**	**357**		Pg	16 18 16.5	+0.1
CATM					Sg	16 18 18.3	+0.6
NMMO	**New Madrid**	**0.08**	**71**		Pg	16 18 16.8	+0.1
NMMO					Sg	16 18 18.9	+0.7
WALK	**Watson Lake**	**0.08**	**105**		Pg	16 18 16.8	0.0
WALK					Sg	16 18 18.8	+0.4
PENMO	**Penman**	**0.11**	**174**		Pg	16 18 17.0	-0.3
PENMO					Sg	16 18 19.1	+0.1
PGVM	**Portageville**	**0.12**	**214**		Pg	16 18 17.2	-0.3
PGVM					Sg	16 18 19.4	+0.1
PARMO	**Parma**	**0.13**	**319**		Pg	16 18 16.5	-1.1
PARMO				IAML		16 18 20.5	
	comp=N,1μm,0.5s						
KEWM	**Kewanee**	**0.14**	**17**		Pg	16 18 17.9	+0.1
KEWM					Sg	16 18 20.6	+0.8
SJMO	**Saint John's B**	**0.15**	**64**		Pg	16 18 18.0	+0.1
POBM	**Portage Bay**	**0.15**	**186**		Pg	16 18 17.7	-0.3
POBM					Sg	16 18 20.3	+0.2
PVMO	**Portageville**	**0.15**	**197**		Pg	16 18 17.1	-0.8
COKM	**Charter Oak**	**0.16**	**336**		Pg	16 18 18.2	+0.1
COKM					Sg	16 18 21.2	+0.8
PPLM	**Point Pleasant**	**0.17**	**163**		Pg	16 18 17.9	-0.2
TOPM	**Tallapoosa**	**0.20**	**260**		Pg	16 18 18.6	-0.2
TOPM					Sg	16 18 21.9	+0.4
HENM	**Henderson Moun**	**0.21**	**42**		Pg	16 18 18.9	0.0
HENM					Sg	16 18 22.6	+0.8
MATM	**Matthews**	**0.21**	**8**		Sg	16 18 22.9	+0.9
MLDM	**Malden**	**0.23**	**286**		Sg	16 18 22.9	+0.4
WADM	**Wardell**	**0.23**	**212**		Pg	16 18 19.1	-0.2
WADM					Sg	16 18 22.7	+0.3
WYBT	**Wynnburg**	**0.24**	**151**		Pg	16 18 19.4	-0.1
WYBT					Sg	16 18 23.6	+0.7
DWDM	**Dogwood**	**0.26**	**27**		Pg	16 18 20.1	+0.1
DWDM					Sg	16 18 24.3	+0.8
EPRM	**East Prairie**	**0.28**	**56**		Pg	16 18 20.2	0.0
EPRM					Sg	16 18 24.6	+0.7
FLPT	**Flippin**	**0.30**	**120**		Pg	16 18 20.5	-0.2
FLPT					Sg	16 18 25.3	+0.6
BRNM	**Bernie**	**0.33**	**300**		Pg	16 18 21.0	-0.1
HICK	**Hickman**	**0.34**	**93**		Pg	16 18 20.6	-0.7
HICK				IAML		16 18 26.5	
	comp=N,659nm,0.4s						
BETM	**Bethany**	**0.34**	**279**		Pg	16 18 21.2	-0.2
BETM					Sg	16 18 26.0	+0.1
GUAMO	**Guam**	**0.36**	**334**		Pg	16 18 21.7	-0.1
GUAMO					Sg	16 18 27.1	+0.5
BRGM	**Braggadocio**	**0.40**	**206**		Pg	16 18 22.1	-0.4
BRGM					Sg	16 18 27.8	+0.2
MIST	**Miston**	**0.41**	**164**		Pg	16 18 22.3	-0.3
MIST					Sg	16 18 28.4	+0.5
GLAT	**Glass**	**0.41**	**135**		Pg	16 18 22.2	-0.5
GLAT					Sg	16 18 27.8	-0.3
LNXT	**Lenox**	**0.48**	**165**		Pg	16 18 23.4	-0.5
LNXT				IAML		16 18 31.1	
	comp=E,318nm,0.3s						
LNXT				IAML		16 18 31.6	
	comp=N,284nm,0.3s						
LNXT	**Lenox**	**0.48**	**165**		Sg	16 18 30.8	+0.7
PEBM	**Pemiscott Bayo**	**0.48**	**202**		Sg	16 18 30.8	+0.4
PEBM	**Pemiscott Bayo**	**0.48**	**202**	Pg	Pg	16 18 24.0	0.0
PEBM				IAML		16 18 31.1	
	comp=E,542nm,0.8s						
PEBM				IAML		16 18 33.6	
	comp=N,338nm,0.6s						
CHNM	**Channel**	**0.57**	**204**		Sg	16 18 33.2	+0.1
GNAR	**Gosnell**	**0.67**	**207**		Pg	16 18 27.1	-0.4
GNAR					Sg	16 18 35.7	-0.6
GNAR				IAML		16 18 40.7	
	comp=E,297nm,0.5s						
PBMO	**Poplar Bluff**	**0.67**	**289**		Pg	16 18 26.6	-0.9
PBMO					Sg	16 18 34.3	-2.0
PBMO				IAML		16 18 36.1	
	comp=N,259nm,0.3s						
HALT	**Halls**	**0.69**	**159**		Pg	16 18 27.3	-0.8
HALT				IAML		16 18 43.3	
	comp=E,162nm,0.5s						
CGM3	**Cape Girardeau**	**0.73**	**359**		Pg	16 18 27.2	-1.6
CGM3					Sg	16 18 37.0	-1.4
CGM3				IAML

*SLM **30** 16:29:05.3±0.6,36°.552N×0°.009×89°.65W±0°.02,h7km±2km, Error ellipse: s-maj=2.2km s-min=1.2km az=101.0*

NEIC 30 16:29:05.7±0.9,**36°.56N**±0°.01×**89°.66W**±0°.02,**h9**km±1km, **mb_Lg2.6**/47,**ML2.8**/30,**Md2.7**/40(SLM),**Error ellipse: s-maj=2.4km s-min=1.5km az=107.0,New Madrid region, Missouri**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARMO	**Marston**	**0.03**	**196**		Pg	16 29 07.1	-0.4
MARMO					Sg	16 29 08.6	-0.1
CATM	**Catron**	**0.06**	**10**		Pg	16 29 07.5	-0.2
CATM					Sg	16 29 09.4	+0.2
NMMO	**New Madrid**	**0.09**	**71**		Pg	16 29 07.8	-0.4
WALK	**Watson Lake**	**0.10**	**101**		Pg	16 29 07.8	-0.4
WALK					Sg	16 29 09.8	-0.1
PENMO	**Penman**	**0.11**	**167**		Pg	16 29 08.0	-0.4
PENMO					Sg	16 29 10.1	-0.2
PGVM	**Portageville**	**0.11**	**210**		Pg	16 29 08.1	-0.3
PGVM					Sg	16 29 10.4	0.0
PARMO	**Parma**	**0.13**	**325**		Pg	16 29 07.8	-0.9
PARMO				IAML		16 29 11.5	
	comp=N,2μm,0.5s						
PVMO	**Portageville**	**0.15**	**193**		Pg	16 29 08.5	-0.5
KEWM	**Kewanee**	**0.15**	**21**		Pg	16 29 08.9	-0.1
KEWM					Sg	16 29 11.7	+0.4
POBM	**Portage Bay**	**0.15**	**181**		Pg	16 29 08.6	-0.4
POBM					Sg	16 29 11.3	0.0
COKM	**Charter Oak**	**0.16**	**340**		Pg	16 29 09.3	+0.1
COKM					Sg	16 29 12.3	+0.6
SJMO	**Saint John's B**	**0.16**	**64**		Pg	16 29 09.0	-0.3
PPLM	**Point Pleasant**	**0.17**	**158**		Pg	16 29 08.9	-0.4
TOPM	**Tallapoosa**	**0.19**	**260**		Pg	16 29 09.6	-0.1
TOPM					Sg	16 29 12.9	+0.6
HENM	**Henderson Moun**	**0.22**	**44**		Pg	16 29 09.9	-0.3
HENM					Sg	16 29 13.5	+0.3
MATM	**Matthews**	**0.22**	**11**		Sg	16 29 13.9	+0.5
MLDM	**Malden**	**0.22**	**288**		Pg	16 29 10.2	-0.1
MLDM					Sg	16 29 13.8	+0.6
WADM	**Wardell**	**0.22**	**210**		Pg	16 29 10.0	-0.2
WADM					Sg	16 29 13.7	+0.4
WYBT	**Wynnburg**	**0.25**	**148**		Pg	16 29 10.4	-0.3
WYBT					Sg	16 29 14.5	+0.4
DWDM	**Dogwood**	**0.27**	**29**		Pg	16 29 11.0	-0.2
DWDM					Sg	16 29 15.3	+0.4
EPRM	**East Prairie**	**0.29**	**57**		Pg	16 29 11.2	-0.4
FLPT	**Flippin**	**0.31**	**118**		Pg	16 29 11.5	-0.4
BRNM	**Bernie**	**0.32**	**301**		Pg	16 29 12.1	0.0
HICK	**Hickman**	**0.35**	**93**		Pg	16 29 11.8	-0.8
HICK				IAML		16 29 17.8	
	comp=N,1μm,0.3s						
HICK				IAML		16 29 22.1	
	comp=E,977nm,0.3s						
HICK	**Hickman**	**0.35**	**93**		Sg	16 29 17.3	+0.1
GUAMO	**Guam**	**0.36**	**336**		Pg	16 29 12.7	-0.2
BRGM	**Braggadocio**	**0.39**	**205**		Pg	16 29 13.0	-0.3
BRGM					Sg	16 29 18.7	+0.2
MIST	**Miston**	**0.41**	**162**		Pg	16 29 13.3	-0.4
GLAT	**Glass**	**0.42**	**134**		Pg	16 29 13.2	-0.7
GLAT	**Glass**	**0.42**	**134**		Sg	16 29 19.5	+0.2
PEBM	**Pemiscott Bayo**	**0.47**	**200**	Pg	Pg	16 29 14.9	0.0
PEBM					Sg	16 29 20.5	-0.7
PEBM				IAML		16 29 26.4	
	comp=N,550nm,0.5s						
LNXT	**Lenox**	**0.48**	**163**		Pg	16 29 14.5	-0.5
LNXT					Sg	16 29 20.9	-0.4
LNXT				IAML		16 29 22.0	
	comp=E,671nm,0.3s						
LNXT				IAML		16 29 22.6	
	comp=N,582nm,0.5s						
CHNM	**Channel**	**0.56**	**203**		Sg	16 29 24.2	+0.3
PBMO	**Poplar Bluff**	**0.66**	**290**		Pg	16 29 17.8	-0.7
PBMO					Sg	16 29 26.6	-0.5
PBMO				IAML		16 29 27.1	
	comp=N,466nm,0.3s						
GNAR	**Gosnell**	**0.66**	**206**		Pg	16 29 18.0	-0.4
GNAR					Sg	16 29 27.1	0.0
GNAR				IAML		16 29 32.2	
	comp=N,557nm,0.4s						
GNAR				IAML		16 29 32.8	
	comp=E,516nm,0.7s						
HALT	**Halls**	**0.70**	**158**		Pg	16 29 18.4	-0.8
CGM3	**Cape Girardeau**	**0.74**	**0**		Pg	16 29 18.8	-1.2
CGM3					Sg	16 29 28.0	-1.6
CGM3				IAML		16 29 29.2	
	comp=E,362nm,0.2s						
T45A	**Paducah**	**0.94**	**60**	Pg	Pg	16 29 22.7	-1.0
T45A					Sg	16 29 34.6	-1.3
T45A				IAML		16 29 37.0	
	comp=E,226nm,0.5s						
T45A				IAML		16 29 38.6	
	comp=E,290nm,0.5s						
LPAR	**Lepanto**	**1.09**	**209**		Pg	16 29 25.6	-1.0
S44A	**Carbondale**	**1.18**	**16**		Pb	16 29 26.8	-1.4
S44A				IAML		16 29 42.7	
	comp=E,246nm,0.4s						
S44A				IAML		16 29 43.8	
	comp=E,250nm,0.3s						
SIUC	**Southern Illin**	**1.21**	**17**		Pb	16 29 27.0	-1.7
SIUC				IAML		16 29 45.4	
	comp=E,234nm,0.4s						
SIUC				IAML		16 29 47.6	
	comp=N,240nm,0.2s						
HBAR	**Harrisburg**	**1.29**	**219**	Pg	Pn	16 29 28.6	-1.2
HBAR					Sg	16 29 48.1	+1.0
LCAR	**Lake Charles**	**1.30**	**248**		Pn	16 29 28.4	-1.6
WVT	**Waverly**	**1.54**	**106**		Pn	16 29 32.6	-0.6
FVM	**French Village**	**1.55**	**337**		Pn	16 29 32.6	-0.8
CCM	**Cathedral Cave**	**1.96**	**320**	Pn	Pn	16 29 39.3	+0.3
PLAL	**Pickwick Lake**	**2.03**	**140**		Pn	16 29 39.8	-0.3
PWLA	**Pickwick Lake**	**2.04**	**140**		Pn	16 29 40.7	+0.5
OXF	**Oxford**	**2.05**	**174**	Pn	Pn	16 29 40.1	-0.3
T47A	**Sharon Grove**	**2.10**	**77**		Pn	16 29 40.4	-0.6
T47A				IAmb_Lg		16 30 17.1	
	comp=Z,17nm,0.7s						
FCAR	**Ozark Folk Cen**	**2.10**	**252**		Pn	16 29 41.3	+0.3
USIN	**University of**	**2.12**	**48**	IAmb_Lg		16 30 15.0	
	comp=Z,26nm,0.7s						
MGMO	**Mountain Grove**	**2.18**	**287**		Pn	16 29 42.4	+0.3
MGMO				IAmb_Lg		16 30 13.1	
	comp=Z,27nm,0.8s						
Q44A	**Meyer Farm, Va**	**2.40**	**12**	Pn	Pn	16 29 45.1	+0.1
Q44A				IAmb_Lg		16 30 23.3	
	comp=Z,28nm,0.8s						
V48A	**Smith Brothers**	**2.44**	**109**	Pn	Pn	16 29 45.9	+0.2
WHAR	**Wooly Hollow**	**2.48**	**240**		Pn	16 29 46.4	+0.1
WHAR				IAmb_Lg		16 30 28.3	
	comp=Z,21nm,1.0s						
Y45A	**Yeager Farm, C**	**2.69**	**178**	IAmb_Lg		16 30 31.9	
	comp=Z,17nm,0.8s						
R40A	**Maddies Statio**	**2.70**	**311**		Pn	16 29 49.4	+0.1
P43A	**Skaggs, Pawnee**	**3.08**	**2**	IAmb_Lg		16 30 47.0	
	comp=Z,15nm,0.8s						
HHAR	**Hobbs**	**3.46**	**267**	IAmb_Lg		16 31 02.8	
	comp=Z,12nm,0.8s						
P40A	**Paris**	**3.52**	**328**	IAmb_Lg		16 31 04.1	
	comp=Z,10.0nm,1.0s						
BLO	**Bloomington**	**3.60**	**43**	IAmb_Lg		16 31 09.5	
	comp=Z,14nm,0.8s						
Y49A	**Blount Mountai**	**3.79**	**134**	IAmb_Lg		16 31 04.5	
	comp=Z,9.3nm,0.8s						
T50A	**Nancy**	**3.90**	**82**	IAmb_Lg		16 31 14.1	
	comp=Z,9.3nm,0.7s						
LRAL	**Lakeview Retre**	**4.14**	**147**	IAmb_Lg		16 31 20.3	
	comp=Z,12nm,0.8s						
P38A	**Dawn**	**4.33**	**316**	IAmb_Lg		16 31 20.6	
	comp=Z,12nm,0.7s						
P48A	**Milroy**	**4.42**	**48**	IAmb_Lg		16 31 35.3	
	comp=Z,14nm,1.1s						
TKL	**Tuckaleechee C**	**4.85**	**99**	IAmb_Lg		16 31 42.2	
	comp=Z,11nm,0.8s						
W52A	**Murphy**	**4.88**	**106**	IAmb_Lg		16 31 49.7	
	comp=Z,9.3nm,0.7s						
S51A	**Beattyville**	**4.97**	**76**	IAmb_Lg		16 31 56.8	
	comp=Z,14nm,1.0s						
TUL3	**Leonard**	**5.00**	**264**	IAmb_Lg		16 31 43.6	
	comp=Z,12nm,0.9s						
N38A	**Joes South For**	**5.07**	**328**	IAmb_Lg		16 31 55.2	
	comp=Z,10nm,0.8s						
O48B	**Farmland**	**5.11**	**42**	IAmb_Lg		16 31 56.1	
	comp=Z,9.6nm,1.0s						
BG3	**Lake Jocassee**	**5.69**	**104**	IAmb_Lg		16 32 05.3	
	comp=Z,7.4nm,0.8s						
P51A	**Williamsport**	**5.97**	**59**	IAmb_Lg		16 32 14.7	
	comp=Z,14nm,0.8s						
KSU1	**Kansas State U**	**6.06**	**297**	IAmb_Lg		16 32 18.0	
	comp=Z,13nm,0.7s						

*IDC **30** 16:54:34.3±1.7,4°.22S×151°.02E,h0km,mb3.8/7, mbtmp3.9/8,ML2.4/1,Error ellipse: s-maj=51.0km s-min=20.0km az=100.0*

*NEIC **30** 16:54:36.7±0.9,4°.20S±0°.07×150°.86E±0°.06,h10km±1km, mb4.2/8,Error ellipse: s-maj=13.5km s-min=9.2km az=321.0*

ISC 30 16:54:40.1±0.7,**4°.2S**±0°.1×**150°.90E**±0°.08,**h35**km,**n21**, σ1§**65**/22,**mb4.0**/10,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.26**	**90**	Pn	**Pn**	**16 55 01.0**	**-0.4**
RABL				Sn	**Sn**	**16 55 18.3**	**+1.2**
MANU	**Manus Island**	**4.13**	**301**	Pg	Pn	16 55 57.8	+17
PMG	**Port Moresby**	**6.37**	**215**	Pn	**Pn**	**16 56 09.9**	**-1.7**
PMG	**Port Moresby**	**6.37**	**215**	Pn	**Pn**	**16 56 10.3**	**-1.2**
	4.6nm,0.3s,baz=38,slow=11,SNR=18						
PMG				Sn	**Sn**	**16 57 26.5**	**+3.4**
	1.2nm,0.3s,baz=69,slow=8.6,SNR=1.3						
	53nm,0.8s						
CTAO	**Charters Tower**	**16.43**	**196**	P	**P**	**16 58 29.5**	**-1.1**
WB0	**Warramunga Arr**	**22.32**	**225**	P	**P**	**16 59 33.3**	**-1.7**
WB0				IAmb	IAmb	16 59 53.5	
	comp=Z,8.1nm,1.1s						
WR8	**Warramunga Arr**	**22.38**	**224**		**P**	**16 59 34.2**	**-1.3**
WR8				IAmb	IAmb	16 59 41.4	
	comp=Z,5.8nm,1.0s						
WRA	**Warramunga Arr**	**22.48**	**225**	P	**P**	**16 59 34.6**	**-2.0**
	comp=Z,1.6nm,0.5s,baz=50,slow=10,SNR=18						
	comp=Z,1.6nm,0.5s						
INKA	**Innaminka**	**25.33**	**201**	P	**P**	**17 00 01.4**	**-2.4**
INKA				IAmb	IAmb	17 00 04.3	
	comp=Z,4.4nm,0.9s						
AS31	**Alice Springs**	**25.37**	**219**		**P**	**17 00 03.7**	**-0.6**
ASAR	**Alice Springs**	**25.37**	**219**	P	**P**	**17 00 03.0**	**-1.3**
ASAR	**Alice Springs**	**25.37**	**219**	P	**P**	**17 00 03.6**	**-0.6**
	comp=Z,4.0nm,0.6s,baz=45,slow=8.9,SNR=85						
	comp=Z,4.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**28.31**	**239**	P	**P**	**17 00 31.9**	**+1.2**
FORT	**Forrest**	**34.09**	**217**	P	**P**	**17 01 21.2**	**-0.4**
MORW	**Morawa**	**41.27**	**229**	P	**P**	**17 02 22.4**	**+0.1**
KSRS	**Korea Array**	**46.63**	**335**	P	**P**	**17 03 03.4**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=147,slow=6.9,SNR=1.3						
	comp=Z,0.1nm,0.3s						
USRK	**Ussuriysk Ar.**	**51.09**	**343**	P	**P**	**17 03 37.0**	**-2.2**
	comp=Z,1.1nm,0.6s,baz=141,slow=5.5,SNR=3.3						
	comp=Z,1.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**55.91**	**295**	P	**P**	**17 04 17.2**	**+2.2**
	comp=Z,0.2nm,0.2s,baz=105,slow=6.8,SNR=6.4						
	comp=Z,0.2nm,0.2s						
ZALV	**Zalesovo Beam**	**79.61**	**327**	P	**P**	**17 06 45.2**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=108,slow=9.5,SNR=1.2						
	comp=Z,0.2nm,0.3s						
QSPA	**South Pole Qui**	**85.76**	**180**	P	**P**	**17 07 15.9**	**+0.3**
QSPA				IAmb	IAmb	17 07 53.0	
	comp=Z,7.3nm,1.5s						
QSPA	**South Pole Qui**	**85.76**	**180**	P	**P**	**17 07 15.9**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=63,slow=2.3,SNR=8.8						
	comp=Z,1.9nm,0.8s						

*SLM **30** 16:57:37.8±0.7,36°.553N×0°.007×89°.65W±0°.01,h8km±2km, Error ellipse: s-maj=1.3km s-min=0.9km az=49.0*

NEIC 30 16:57:38.4±0.9,**36°.550N**±0°.007×**89°.65W**±0°.01,**h5**km±1km, **mb_Lg2.7**/63,**ML2.9**/30,**Md2.7**/52(SLM),**Error ellipse: s-maj=2.5km s-min=1.6km az=65.0,New Madrid region, Missouri**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARMO	**Marston**	**0.03**	**217**		Pg	16 57 39.5	+0.2
MARMO					Sg	16 57 41.0	+1.0
CATM	**Catron**	**0.06**	**2**		Pg	16 57 40.0	+0.1
CATM					Sg	16 57 41.8	+0.9
NMMO	**New Madrid**	**0.09**	**64**		Pg	16 57 40.3	0.0
NMMO					Sg	16 57 42.4	+0.9
WALK	**Watson Lake**	**0.09**	**97**		Pg	16 57 40.2	0.0
WALK					Sg	16 57 42.2	+0.7
PENMO	**Penman**	**0.10**	**170**		Pg	16 57 40.4	0.0
PENMO					Sg	16 57 42.6	+0.7
PGVM	**Portageville**	**0.11**	**215**		Pg	16 57 40.6	0.0
PGVM					Sg	16 57 42.9	+0.7
PARMO	**Parma**	**0.14**	**324**		Pg	16 57 40.6	-0.6
PARMO				IAML		16 57 44.3	
	comp=N,4μm,0.3s						
POBM	**Portage Bay**	**0.14**	**184**		Pg	16 57 41.1	-0.1
POBM					Sg	16 57 43.7	+0.7
PVMO	**Portageville**	**0.14**	**196**		Pg	16 57 40.9	-0.3
KEWM	**Kewanee**	**0.15**	**17**		Pg	16 57 41.4	-0.1
KEWM					Sg	16 57 44.2	+0.6
PPLM	**Point Pleasant**	**0.16**	**160**		Pg	16 57 41.4	-0.1
SJMO	**Saint John's B**	**0.16**	**61**		Pg	16 57 41.5	-0.1
COKM	**Charter Oak**	**0.17**	**339**		Pg	16 57 41.8	0.0
COKM					Sg	16 57 44.7	+0.7
TOPM	**Tallapoosa**	**0.19**	**263**		Pg	16 57 42.1	-0.1
TOPM					Sg	16 57 45.4	+0.7
WADM	**Wardell**	**0.22**	**213**		Pg	16 57 42.5	-0.1
WADM					Sg	16 57 46.1	+0.7
HENM	**Henderson Moun**	**0.22**	**41**		Pg	16 57 42.4	-0.2
HENM					Sg	16 57 46.0	+0.5
MATM	**Matthews**	**0.23**	**9**		Sg	16 57 46.4	+0.5
MLDM	**Malden**	**0.23**	**289**		Pg	16 57 42.7	-0.1
MLDM					Sg	16 57 46.3	+0.5
WYBT	**Wynnburg**	**0.24**	**148**		Pg	16 57 42.9	-0.1
WYBT					Sg	16 57 47.0	+1.0
DWDM	**Dogwood**	**0.28**	**27**		Pg	16 57 43.5	-0.2
DWDM					Sg	16 57 47.8	+0.4
EPRM	**East Prairie**	**0.29**	**54**		Pg	16 57 43.7	-0.3
FLPT	**Flippin**	**0.30**	**118**		Pg	16 57 44.0	-0.2
BRNM	**Bernie**	**0.33**	**302**		Pg	16 57 44.5	-0.2
BETM	**Bethany**	**0.34**	**281**		Pg	16 57 44.6	-0.3
HICK	**Hickman**	**0.34**	**91**		Pg	16 57 44.4	-0.6
HICK				IAML		16 57 50.0	
	comp=N,2μm,0.5s						
HICK				IAML		16 57 54.6	
	comp=E,1μm,0.3s						
GUAMO	**Guam**	**0.37**	**336**		Pg	16 57 45.1	-0.4
CHRM	**Charleston**	**0.38**	**37**		Pg	16 57 45.3	-0.4
BRGM	**Braggadocio**	**0.38**	**206**		Pg	16 57 45.5	-0.2
BRGM					Sg	16 57 51.2	+0.5
MIST	**Miston**	**0.40**	**162**		Pg	16 57 45.8	-0.3
GLAT	**Glass**	**0.41**	**134**		Sg	16 57 52.0	+0.6
GLAT	**Glass**	**0.41**	**134**		Pg	16 57 45.8	-0.4
GLAT				IAML		16 57 52.2	
	comp=E,2μm,0.2s						
GLAT				IAML		16 57 52.2	
	comp=N,2μm,0.3s						
LNXT	**Lenox**	**0.47**	**164**		Pg	16 57 47.0	-0.3
LNXT				IAML		16 57 54.4	
	comp=E,973nm,0.3s						
PEBM	**Pemiscott Bayo**	**0.47**	**201**		Pg	16 57 47.1	-0.2
PEBM				IAML		16 57 58.9	
	comp=N,942nm,0.5s						
GNAR	**Gosnell**	**0.66**	**207**		Pg	16 57 50.5	-0.4
GNAR				IAML		16 58 01.7	
	comp=N,848nm,0.5s						
GNAR				IAML		16 58 03.7	
	comp=E,730nm,0.4s						
PBMO	**Poplar Bluff**	**0.67**	**290**		Pg	16 57 50.3	-0.8
PBMO				IAML		16 57 59.6	
	comp=N,695nm,0.3s						
HALT	**Halls**	**0.69**	**158**		Pg	16 57 50.8	-0.7
HALT				IAML		16 58 04.7	
	comp=E,490nm,0.6s						
CGM3	**Cape Girardeau**	**0.75**	**360**		Pg	16 57 51.3	-1.4
CGM3					Sg	16 58 00.5	-1.9
CGM3				IAML		16 58 18.4	
	comp=E,409nm,0.2s						
T45A	**Paducah**	**0.93**	**60**	Pg	Pg	16 57 54.9	-1.4
T45A					Sg	16 58 06.9	-1.5
T45A				IAML		16 58 09.6	
	comp=E,362nm,0.5s						
T45A				IAML		16 58 11.2	
	comp=E,371nm,0.5s						
LPAR	**Lepanto**	**1.08**	**209**		Pg	16 57 58.1	-1.0
S44A	**Carbondale**	**1.19**	**15**		Pg	16 57 59.1	-1.9
S44A				IAML		16 58 15.2	
	comp=E,306nm,0.4s						
S44A				IAML		16 58 16.3	
	comp=E,319nm,0.3s						
SIUC	**Southern Illin**	**1.21**	**16**		Pg	16 57 59.5	-2.1
SIUC				IAML		16 58 15.8	
	comp=N,274nm,0.4s						
SIUC				IAML		16 58 17.8	
	comp=E,268nm,0.4s						
HBAR	**Harrisburg**	**1.28**	**220**		Pn	16 58 01.1	-1.8
HBAR					Sg	16 58 19.4	-0.3
LCAR	**Lake Charles**	**1.31**	**249**		Pn	16 58 01.2	-2.0
EBZ	**Ebenezer Churc**	**1.43**	**170**		Pn	16 58 04.0	-0.9
WVT	**Waverly**	**1.53**	**105**		Pn	16 58 04.8	-1.5
FVM	**French Village**	**1.56**	**337**		Pn	16 58 05.1	-1.6
CCM	**Cathedral Cave**	**1.97**	**320**	IAmb_Lg		16 58 39.2	
	comp=Z,28nm,0.8s						
PLAL	**Pickwick Lake**	**2.02**	**140**		Pn	16 58 12.0	-1.1
PWLA	**Pickwick Lake**	**2.03**	**140**		Pn	16 58 12.0	-1.2
OXF	**Oxford**	**2.04**	**174**		Pn	16 58 12.2	-1.2
T47A	**Sharon Grove**	**2.09**	**77**		Pn	16 58 12.2	-1.8
T47A				IAmb_Lg		16 58 47.5	
	comp=Z,26nm,0.8s						
FCAR	**Ozark Folk Cen**	**2.11**	**253**		Pn	16 58 13.1	-1.1
MGMO	**Mountain Grove**	**2.19**	**287**		Pn	16 58 14.0	-1.4
MGMO				IAmb_Lg		16 58 48.9	
	comp=Z,26nm,0.9s						
Q44A	**Meyer Farm, Va**	**2.40**	**12**	Pn	Pn	16 58 17.2	-1.2
V48A	**Smith Brothers**	**2.43**	**109**		Pn	16 58 17.2	-1.5
WHAR	**Wooly Hollow**	**2.48**	**240**		Pn	16 58 18.2	-1.2
WHAR				IAmb_Lg		16 59 00.8	
	comp=Z,31nm,0.9s						
OLIL	**Olney**	**2.50**	**29**	IAmb_Lg		16 59 01.5	
	comp=Z,22nm,0.8s						
R40A	**Maddies Statio**	**2.71**	**311**		Pn	16 58 21.1	-1.5
R40A				IAmb_Lg		16 59 06.6	
	comp=Z,18nm,1.0s						
P43A	**Skaggs, Pawnee**	**3.09**	**2**	IAmb_Lg		16 59 14.1	
	comp=Z,20nm,0.8s						
Z47A	**Carrollton**	**3.59**	**158**	IAmb_Lg		16 59 35.8	
	comp=Z,22nm,0.9s						
BLO	**Bloomington**	**3.60**	**42**	IAmb_Lg		16 59 35.6	
	comp=Z,25nm,0.7s						
P46A	**Rosedale**	**3.62**	**31**	IAmb_Lg		16 59 32.5	
	comp=Z,28nm,0.9s						
W50A	**Signal Mountai**	**3.77**	**110**	IAmb_Lg		16 59 48.5	
	comp=Z,14nm,0.7s						
Y49A	**Blount Mountai**	**3.77**	**134**	IAmb_Lg		16 59 40.6	
	comp=Z,15nm,0.8s						
LRAL	**Lakeview Retre**	**4.13**	**147**	IAmb_Lg		16 59 51.9	
	comp=Z,17nm,0.8s						
N41A	**Harden Midland**	**4.26**	**348**	IAmb_Lg		16 59 50.8	
	comp=Z,16nm,0.8s						
CPCT	**Cooper Cave**	**4.30**	**103**	IAmb_Lg		16 59 54.3	
	comp=Z,15nm,1.0s						
P38A	**Dawn**	**4.34**	**316**	IAmb_Lg		16 59 55.6	
	comp=Z,12nm,0.7s						
X51A	**Calhoun**	**4.38**	**115**	IAmb_Lg		16 59 54.0	
	comp=Z,19nm,0.9s						
P48A	**Milroy**	**4.42**	**48**	IAmb_Lg		16 59 57.3	
	comp=Z,14nm,0.9s						
TKL	**Tuckaleechee C**	**4.84**	**99**	IAmb_Lg		17 00 14.7	
	comp=Z,13nm,0.7s						
TZTN	**Tazewell**	**4.91**	**88**	IAmb_Lg		17 00 15.3	
	comp=Z,18nm,0.9s						
S51A	**Beattyville**	**4.96**	**76**	IAmb_Lg		17 00 16.3	
	comp=Z,12nm,0.8s						
TUL3	**Leonard**	**5.00**	**264**	IAmb_Lg		17 00 21.5	
	comp=Z,13nm,0.8s						
O48B	**Farmland**	**5.12**	**42**	IAmb_Lg		17 00 21.9	
	comp=Z,9.2nm,0.8s						
Y52A	**Lilburn**	**5.30**	**119**	IAmb_Lg		17 00 23.5	
	comp=Z,8.8nm,0.8s						
250A	**Grady**	**5.35**	**147**	IAmb_Lg		17 00 24.4	
	comp=Z,13nm,0.7s						
T35A	**Sooner Cattle**	**5.52**	**276**	IAmb_Lg		17 00 38.2	
	comp=Z,14nm,0.7s						
152A	**Waverly Hall**	**5.61**	**132**	IAmb_Lg		17 00 33.6	
	comp=Z,7.9nm,0.8s						
BG3	**Lake Jocassee**	**5.68**	**104**	IAmb_Lg		17 00 48.5	
	comp=Z,8.2nm,0.7s						
OK052	**Battle Ridge R**	**5.80**	**267**	IAmb_Lg		17 00 51.0	
	comp=Z,9.1nm,0.7s						
P51A	**Williamsport**	**5.97**	**59**	IAmb_Lg		17 00 46.4	
	comp=Z,14nm,0.8s						
JFWS	**Jewell Farm**	**6.37**	**356**	IAmb_Lg		17 01 05.4	
	comp=Z,10nm,0.8s						

*NNC **30** 17:03:46.6±2.1,40°.41N×66°.60E,h0km,mb3.8,mpv3.3, Error ellipse: s-maj=24.6km s-min=14.0km az=178.0*

*ISU **30** 17:03:52,40°.39N×66°.65E,h28km*

ISC 30 17:03:46.3±1.3,**40°.38N**±0°.03×**66°.65E**±0°.03,**h4**km±11km, **n18**,σ2§**57**/26,**1C-4D,Southeastern Uzbekistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUT	**Nurota**	**0.76**	**283**	P	**Pn**	**17 04 03.2**	**-0.6**
NUT				S	**Sn**	**17 04 14.1**	**-1.6**
SAM	**Samarkand**	**0.76**	**162**	P	**Pg**	**17 03 59.6**	**-1.3**
SAM				S	**Sg**	**17 04 10.7**	**0.0**
DZI	**Dzhizak**	**0.94**	**106**	P	**Pg**	**17 04 03.4**	**-0.9**
DZI				S	**Sg**	**17 04 16.6**	**+0.1**
KTAB	**Kitab**	**1.26**	**172**	P	**Pg**	**17 04 13.9**	**+3.4**
KTAB				S	**Sn**	**17 04 30.2**	**+2.1**
BXML	**Bakhmal**	**1.27**	**123**	P	Pn	17 04 04.8	-6.2
BXML				S	**Sb**	**17 04 19.0**	**-8.6**
PKMR	**Pachkamar**	**1.85**	**186**	P	**Pg**	**17 04 22.4**	**+0.7**
PKMR				S	**Sb**	**17 04 44.4**	**+0.3**
TMD	**Tamdy-Bulak**	**2.04**	**313**	P	**Pg**	**17 04 25.8**	**+0.4**
TMD				S	**Sb**	**17 04 49.7**	**0.0**
NZBK	**Nazarbek**	**2.05**	**65**	S	**Sg**	**17

SHHT				S	Sb	17 13 11.8 +2.1	PNG				eS	Sb	17 13 33.8 -2.0	JMM				IAmb	IAmb	17 18 18.4	
	comp=Z,17nm,1.3s																		
STYT	**Tauyuan**	**0.30**	**24**	*i* P	Pg	17 13 05.3 +0.4	**LAY**	**Lan-yu**	**1.20**	**135**	P	Pn	17 13 20.6 +0.1	**TNTI**	**Ternate**	**22.94**	**162**	P	**P**	**17 17 58.9 -3.0**
STYT				S	Sb	17 13 10.7 +0.7	LAY				eS	Sn	17 13 37.9 +1.5	TNTI				IAmb	IAmb	17 18 22.5	
SNJT	**Kaohsiung City**	**0.30**	**244**	*i* P	Pb	17 13 06.4 +1.0	**SHUL**	**Shoufeng**	**1.24**	**44**	*i* P	Pg	17 13 22.6 +0.2		comp=Z,13nm,1.0s					
SNJT				S	Sb	17 13 13.2 +3.2	SHUL				eS	Sg	17 13 39.4 +0.8	**GTA**	**Gaotai**	**24.17**	**318**	*eP*	**P**	**17 18 15.3 +1.4**
CHN3	**Shinhua**	**0.31**	**308**	*i* P	Pg	17 13 05.9 +0.9	**LYUB**	**Lan-yu**	**1.25**	**135**	*eP*	Pn	17 13 19.9 -1.2	GTA				pP	sP	17 18 20.5 -1.1
CHN3				S	Sb	17 13 12.3 +2.2	LYUB				eS	Sg	17 13 37.5 -1.4	GTA				pmax	pmax		
STYH	**Taoyuan**	**0.31**	**26**	*i* P	Pg	17 13 05.7 +0.6	**TCU**	**Taichung**	**1.25**	**2**	P	Pn	17 13 21.1 -0.1		comp=Z,3.0nm,0.8s					
STYH				S	Sb	17 13 11.2 +0.9	TCU				eS	Sb	17 13 38.5 +1.0	**GUMO**	**Guam**	**24.78**	**108**	P	**P**	**17 18 17.0 -2.5**
SNST	**Tainan City**	**0.35**	**340**	*i* P	Pg	17 13 06.1 +0.3	**TEYL**	**Yanliau Villag**	**1.32**	**42**	*eP*	Pg	17 13 24.1 +0.2		comp=Z,30nm,0.7s,baz=310,slow=17,SNR=2.7					
SNST				*i* S	Sg	17 13 11.7 +0.9	TEYL				eS	Sg	17 13 42.8 +1.6	GUMO				LR	LR	17 26 56.7	
WTP	**Ta-pu**	**0.36**	**358**	*i* P	Pg	17 13 06.2 +0.3	**ETM**	**Tongmen**	**1.33**	**36**	P	Pb	17 13 23.4 +0.4		comp=Z,47nm,19.4s,baz=259,slow=34					
WTP				*i* S	Sg	17 13 12.3 +1.2	ETM				eS	Sg	17 13 42.0 +0.4	**SHL**	**Shillong**	**26.33**	**282**	P	**P**	**17 18 31.7 -2.0**
TAI1	**Yung-k'ang**	**0.40**	**292**	*eP*	Pg	17 13 07.0 +0.4	**LXIB**	**Xiulin Townshi**	**1.34**	**32**	P	Pn	17 13 23.4 +1.0	SHL				IAmb	IAmb	17 18 46.9	
TWK	**Hsinying**	**0.40**	**341**	*i* P	Pg	17 13 06.8 +0.2	LXIB				S	Sg	17 13 41.9 +0.1		comp=Z,4.7nm,0.7s					
TWK				*i* S	Sg	17 13 13.6 +1.3	**WHF**	**Hehuan Shan**	**1.38**	**25**	*i* P	Pn	17 13 24.4 +1.1	**LSA**	**Lhasa**	**27.24**	**291**	P	**P**	**17 18 43.4 +1.2**
TPUB	**Ta-pu**	**0.41**	**0**		Pg	17 13 06.9 0.0	WHF				eS	Sg	17 13 44.7 +1.5	LSA				IAmb	IAmb	17 18 47.5	
TPUB	**Ta-pu**	**0.41**	**0**	P	Pg	17 13 06.7 -0.2	**WHP**	**Taichung City**	**1.41**	**12**	*eP*	Pn	17 13 23.8 +0.4		comp=Z,3.9nm,0.6s					
TPUB	**Ta-pu**	**0.41**	**0**	*i* P	Pg	17 13 07.0 0.0	WHP				eS	Sb	17 13 43.7 +1.6	**LSA**	**Lhasa**	**27.24**	**291**	P	**P**	**17 18 39.5 -2.7**
TPUB				*eS*	Sg	17 13 13.4 +0.8	**TDCB**	**Techi**	**1.44**	**20**	P	Pn	17 13 24.3 +0.4	**SONM**	**Songino Array**	**27.37**	**339**	P	**P**	**17 18 44.7 +1.9**
TWG	**Pinlang**	**0.41**	**99**		Pb	17 13 07.3 0.0	TDCB				eS	Sg	17 13 45.0 -0.1	**SONM**	**Songino Array**	**27.37**	**339**	P	**P**	**17 18 44.0 +1.2**
TWG	**Pinlang**	**0.41**	**99**	P	Pb	17 13 08.1 +0.8	**TWT**	**Tachien**	**1.45**	**20**	*i* P	Pn	17 13 25.2 +1.2		comp=Z,0.6nm,0.8s,baz=158,slow=12,SNR=6.1					
TWG				S	Sb	17 13 15.0 +1.7	TWT				eS	Sb	17 13 44.6 +1.3	SONM				LR	LR	17 29 25.5	
ECL	**Taimali**	**0.42**	**134**	*i* P	Pb	17 13 07.8 +0.5	**WDJ**	**Dajia District**	**1.45**	**0**	*eP*	Pn	17 13 24.4 +0.5		comp=Z,55nm,19.0s,baz=145,slow=36					
ECL				S	Sb	17 13 14.1 +0.7	WDJ				eS	Sn	17 13 44.4 +1.9		comp=Z,0.6nm,0.8s					
WSSB	**Gushan**	**0.42**	**234**	*i* P	Pb	17 13 08.2 +0.8	**TWQ1**	**Liyutan**	**1.46**	**5**	*eP*	Pn	17 13 24.6 +0.6	**EVN**	**Everest**	**30.89**	**287**	P	**P**	**17 19 14.2 -0.7**
WSSB				S	Sb	17 13 16.7 +3.3	TWQ1				S	Sb	17 13 44.8 +1.4	EVN				IAmb	IAmb	17 19 35.2	
TWGBT	**Beinan**	**0.42**	**100**	P	Pb	17 13 08.1 +0.6	**FUSS**	**Fushou**	**1.47**	**23**	*eP*	Pn	17 13 24.8 +0.5		comp=Z,5.2nm,1.3s					
TWGBT	**Beinan**	**0.42**	**100**	*i* P	Pb	17 13 08.0 +0.6	FUSS				eS	Sg	17 13 46.3 +0.4	**JAY**	**Jayapura**	**31.95**	**140**	LR	LR	17 30 27.6	
TWGBT				S	Sb	17 13 15.1 +1.6	**TWD**	**Chiawan**	**1.48**	**37**	P	Pn	17 13 25.4 +1.1		comp=Z,48nm,18.6s,baz=8.0,slow=33					
KAU	**Kaohsiung**	**0.43**	**223**	*eP*	Pb	17 13 08.8 +1.2	TWD				eS	Sb	17 13 45.5 +1.5	**BATI**	**Baumata**	**33.02**	**175**	P	**P**	**17 19 29.3 -3.7**
KAU				*eS*	Sb	17 13 09.0 +3.7	**NSY**	**Sanyi**	**1.52**	**5**	*eP*	Pn	17 13 45.6 +0.6		comp=Z,12nm,0.6s,baz=333,slow=2.3,SNR=1.8					
LONT	**Longtian**	**0.46**	**88**	*i* P	Pb	17 13 09.0 +0.9	NSY				eS	Sn	17 13 46.5 +2.1	**MKAR**	**Makanchi Array**	**38.92**	**317**	P	**P**	**17 20 22.6 -0.7**
LONT				S	Sb	17 13 16.3 +1.6	**ETLH**	**Xiulin Townshi**	**1.53**	**31**	*eP*	Pb	17 13 27.1 +0.7	**MKAR**	**Makanchi Array**	**38.92**	**317**	P	**P**	**17 20 23.1 -0.2**
ELDTW	**Lidau**	**0.47**	**50**	*i* P	Pb	17 13 08.8 +0.6	ETLH				eS	Sb	17 13 47.2 +1.8		comp=Z,0.8nm,0.7s,baz=114,slow=9.9,SNR=8.5					
ELDTW				S	Sb	17 13 15.7 +0.8	**NACB**	**Ninganchiao**	**1.56**	**35**		Pn	17 13 26.0 +0.7		comp=Z,0.8nm,0.7s					
SCLT	**Jiali**	**0.49**	**306**	*eP*	Pg	17 13 08.3 0.0	**NACB**	**Ninganchiao**	**1.56**	**35**	P	Pb	17 13 26.8 0.0	**YAK**	**Yakutsk**	**39.61**	**7**	P	**P**	**17 20 29.9 +1.2**
SCLT				S	Sb	17 13 17.0 +1.5	**NACB**	**Ninganchiao**	**1.56**	**35**	S	Sg	17 13 48.4 -0.3	YAK				IAmb	IAmb	17 20 33.7	
TTN	**Taitung**	**0.50**	**106**	*i* P	Pn	17 13 10.3 -0.4	**NACB**	**Ninganchiao**	**1.56**	**35**	*eP*	Pn	17 13 26.6 +1.3		comp=Z,4.5nm,0.9s					
TTN				S	Sb	17 13 19.1 +3.5	NACB				eS	Sb	17 13 47.3 +1.1	**FITZ**	**Fitzroy Crossi**	**41.03**	**173**	P	**P**	**17 20 38.5 -2.4**
SCZT	**Fangliau**	**0.51**	**181**	*i* P	Pb	17 13 09.2 +0.2	**ETL**	**Fush Village**	**1.56**	**36**	*eP*	Pb	17 13 27.3 +0.5		comp=Z,2.1nm,0.8s,baz=357,slow=10,SNR=6.7					
EAST	**Anshuo**	**0.54**	**158**	*i* P	Pb	17 13 10.1 +0.6	ETL				eS	Sg	17 13 48.4 -0.5		comp=Z,2.1nm,0.8s					
EAST				*eS*	Sn	17 13 18.6 -1.5	**NMLH**	**Miaoli**	**1.65**	**5**	*eP*	Pn	17 13 28.2 +1.6	**ZAA0**	**Zalesovo Array**	**41.06**	**328**	P	**P**	**17 20 40.5 -0.3**
WCKO	**Fanlu**	**0.55**	**358**	*i* P	Pg	17 13 09.3 -0.1	NMLH				S	Sb	17 13 50.0 +1.2	ZAA0				IAmb	IAmb	17 20 48.1	
WCKO				S	Sg	17 13 17.6 +0.9	**NNSB**	**Datong**	**1.68**	**24**	*eP*	Pn	17 13 28.6 +1.4		comp=Z,5.5nm,1.5s					
TSCK	**Chigu Township**	**0.56**	**297**	*i* P	Pg	17 13 09.2 -0.4	NNSB				eS	Sb	17 13 51.2 +1.3	**ZALV**	**Zalesovo Beam**	**41.06**	**328**	P	**P**	**17 20 38.9 -1.9**
TSCK				S	Sb	17 13 19.4 +1.9	**NNS**	**Nan Shan**	**1.69**	**24**	*eP*	Pn	17 13 28.8 +1.5	**ZALV**	**Zalesovo Beam**	**41.06**	**328**	P	**P**	**17 20 42.1 +1.3**
ICHU	**Yijhu**	**0.57**	**326**	P	Pg	17 13 10.1 +0.3	NNS				eS	Sn	17 13 50.2 +1.6		comp=Z,1.0nm,0.7s,baz=116,slow=8.2,SNR=5.4					
ICHU				S	Sb	17 13 19.9 +2.1	**EAHA**	**Aohua**	**1.76**	**35**	*eP*	Pn	17 13 29.0 +0.9		comp=Z,1.0nm,0.7s					
ECU	**Chishang**	**0.58**	**69**	*eP*	Pb	17 13 11.3 +1.1	EAHA				eS	Sb	17 13 52.2 +0.2	**PETK**	**Petropavlovsk-**	**41.22**	**33**	LR	LR	17 38 50.7	
WLCH	**Liuqiu**	**0.58**	**203**	P	Pn	17 13 12.9 +1.1	**NSTT**	**Nanjuang**	**1.77**	**11**	P	Pn	17 13 28.7 +0.5		comp=Z,47nm,18.8s,baz=200,slow=38					
WLCH				S	Sn	17 13 24.3 +3.3	NSTT				S	Sb	17 13 53.1 +0.9	**PALK**	**Pallekele**	**41.39**	**254**	LR	LR	17 38 55.7	
TAW	**Tawu**	**0.58**	**155**	*i* P	Pb	17 13 10.8 +0.7	**LIOB**	**Emei**	**1.79**	**11**	*i* P	Pn	17 13 29.3 +0.8		comp=Z,47nm,18.0s,baz=66,slow=38					
TAW				S	Sn	17 13 19.3 -1.7	LIOB				S	Sb	17 13 54.4 +1.6	**KURBB**	**Kurchatov Arra**	**42.78**	**321**	P	**P**	**17 20 55.9 +1.0**
EHD	**Haiduan**	**0.59**	**64**	*i* P	Pb	17 13 10.6 +0.3	**NFF**	**Wufeng Townshi**	**1.79**	**14**	*eP*	Pn	17 13 29.6 +0.9		comp=Z,2.0nm,0.5s,baz=119,slow=7.7,SNR=4.1					
EHD				S	Sb	17 13 19.5 +1.1	NFF				eS	Sn	17 13 53.3 +2.3		comp=Z,2.0nm,0.5s					
TWP	**Hsiaoliuchiu**	**0.59**	**204**	*i* P	Pn	17 13 12.8 +0.8	**LATG**	**Datong**	**1.83**	**27**	P	Pn	17 13 30.8 +1.6	**AAK**	**Ala-Archa**	**42.90**	**309**	LR	LR	17 38 30.7	
TWP				S	Sn	17 13 24.6 +3.4	LATG				eS	Sb	17 13 55.1 +0.8		comp=Z,52nm,20.6s,baz=110,slow=36					
CHN8	**Yiju**	**0.59**	**320**	*eP*	Pg	17 13 10.3 +0.1	**ENA**	**Nanau**	**1.84**	**33**	*eP*	Pn	17 13 30.6 +1.4	**H11N1**	**WAKE ISLAND Hy**	**43.09**	**85**	T	T	18 06 15.8	
CHN8				*eS*	Sb	17 13 20.1 +1.6	ENA				eS	Sb	17 13 54.6 +0.3		baz=283,slow=74,SNR=7.3					
TAWH	**Dawu Township**	**0.60**	**156**	P	Pb	17 13 10.9 +0.5	**EWUT**	**Wuta**	**1.87**	**34**	*eP*	Pn	17 13 30.3 +0.6	**H11N2**	**WAKE ISLAND Hy**	**43.09**	**85**	T	T	18 06 22.5	
TAWH				S	Sb	17 13 19.6 +1.0	**NSK**	**Sanguang**	**1.90**	**20**	*eP*	Pb	17 13 32.5 -0.2		baz=283,slow=74,SNR=7.4					
EDH	**Donghe**	**0.63**	**82**	*i* P	Pn	17 13 12.2 -0.3	NSK				eS	Sn	17 13 56.3 +2.6	**H11N3**	**WAKE ISLAND Hy**	**43.10**	**85**	T	T	18 06 17.3	
EDH				S	Sn	17 13 22.1 -0.1	**YHNB**	**Yeheng**	**1.90**	**21**		Pn	17 13 30.3 +0.2		baz=283,slow=74,SNR=7.9					
CHY	**Chiayi**	**0.63**	**343**	*eP*	Pg	17 13 11.4 +0.4	**YHNB**	**Yeheng**	**1.90**	**21**	P	Pn	17 13 31.0 +0.9	**H11S3**	**WAKE ISLAND Hy**	**43.18**	**87**	T	T	18 06 41.1	
CHY				S	Sg	17 13 20.9 +1.4	YHNB				eS	Sn	17 13 55.3 +1.6		baz=284,SNR=10					
ALS	**Alishan**	**0.64**	**15**	*i* P	Pg	17 13 11.2 0.0	**SBCB**	**Hsinchu**	**1.92**	**10**	*eP*	Pb	17 13 36.8 -0.2	**H11S1**	**WAKE ISLAND Hy**	**43.19**	**87**	T	T	18 06 45.7	
ALS				S	Sb	17 13 21.2 +1.2	SBCB				eS	Sb	17 13 58.4 +1.7		baz=284					
CHN2	**Minshiung**	**0.66**	**348**	*eP*	Pg	17 13 11.8 +0.4	**ENTT**	**Nioudou**	**1.94**	**26**	*eP*	Pb	17 13 33.0 -0.4	**H11S2**	**WAKE ISLAND Hy**	**43.20**	**87**	T	T	18 06 27.6	
CHN2				S	Sb	17 13 21.9 +1.6	ENTT				S	Sb	17 13 59.1 +1.8		baz=284					
FULB	**Fuli**	**0.69**	**63**	*i* P	Pn	17 13 13.2 -0.1	**KSHI**	**Guanxi Townshi**	**1.94**	**15**	P	Pn	17 13 31.4 +0.7	**WB0**	**Warramunga Arr**	**44.48**	**161**		**P**	**17 21 06.0 -2.9**
FULB				S	Sn	17 13 23.6 0.0	KSHI				eS	Sn	17 13 55.5 +0.8	**WRAB**	**Tennant Creek**	**44.62**	**161**	P	**P**	**17 21 07.5 -2.5**
SLIU	**Shizi**	**0.69**	**167**	*eP*	Pb	17 13 12.6 +0.6	**EOS4**	**EOS4**	**1.98**	**51**	P	Pn	17 13 32.6 +1.8	**WRA**	**Warramunga Arr**	**44.62**	**161**	P	**P**	**17 21 07.5 -2.5**
SLIU				S	Sn	17 13 24.6 +1.0	EOS4				eS	Sb	17 13 57.9 -0.1	**WRA**	**Warramunga Arr**	**44.62**	**161**	P	**P**	**17 21 08.2 -1.9**
CHN5	**Tsauling**	**0.71**	**4**	P	Pg	17 13 12.2 -0.2	**NDS**	**Dongshan**	**2.00**	**30**	*eP*	Pb	17 13 34.6 +0.2		comp=Z,6.4nm,0.6s,baz=343,slow=8.1,SNR=46					
CHN5				S	Sb	17 13 23.6 +1.8	NDS				S	Sb	17 14 01.0 +2.0	WRA				PcP	**PcP**	**17 22 52.3 -0.5**	
CHKT	**Chengkung**	**0.71**	**73**	*i* P	Pn	17 13 13.6 -0.1	**ESAO**	**Su ao**	**2.02**	**33**	*eP*	Pn	17 13 33.8 +2.2		comp=Z,0.6nm,0.7s,baz=351,slow=3.7,SNR=2.7					
CHKT				S	Sn	17 13 25.4 +1.2	**NWLT**	**Wulai**	**2.04**	**23**	P	Pb	17 13 34.7 -0.4	**WR8**	**Warramunga Arr**	**44.69**	**161**		**P**	**17 21 07.6 -2.9**
WSL	**Shuilin Townsh**	**0.73**	**330**	*eP*	Pg	17 13 12.7 -0.1	**TWC**	**Suao**	**2.05**	**33**	*eP*	Pn	17 13 34.1 +2.0	**AS31**	**Alice Springs**	**48.04**	**164**		**P**	**17 21 35.8 -1.2**
WSL				S	Sg	17 13 23.9 +1.4	TWC				eS	Sb	17 14 02.7 +2.5	**ASAR**	**Alice Springs**	**48.04**	**164**	P	**P**	**17 21 35.9 -1.1**
CHKH	**Chenggong**	**0.77**	**67**	*eP*	Pn	17 13 14.3 -0.2	**TWE**	**Neicheng**	**2.06**	**27**	P	Pb	17 13 34.9 -0.4	**ASAR**	**Alice Springs**	**48.04**	**164**	P	**P**	**17 21 35.6 -1.3**
TWF1	**Yuli**	**0.77**	**53**	*i* P	Pb	17 13 14.0 +0.6	TWE				eS	Sb	17 14 02.2 +1.6		comp=Z,2.1nm,0.5s,baz=341,slow=8.2,SNR=69					
TWF1				*i* S	Sb	17 13 25.0 +1.5	**FUSB**	**Fushanzhiwuyua**	**2.06**	**25**	P	Pn	17 13 33.9 +1.6	ASAR				PcP	**PcP**	**17 23 03.8 -1.0**	
EYUL	**Yuli**	**0.78**	**54**	*i* P	Pb	17 13 14.3 +0.7	FUSB				S	Sb	17 14 01.2 +0.4		comp=Z,0.9nm,0.7s,baz=341,slow=3.5,SNR=4.4					
EYUL				*i* S	Sb	17 13 25.6 +1.7	**EOS3**	**EOS3**	**2.08**	**48**	*eP*	Pn	17 13 34.1 +1.7		comp=Z,2.1nm,0.5s					
YULB	**Yu-li**	**0.79**	**51**		Pg	17 13 13.9 -0.1	EOS3				eS	Sb	17 14 01.4 +0.2	**BVAR**	**Borovoye Array**	**48.36**	**322**	P	**P**	**17 21 41.1 +2.0**
YULB	**Yu-li**	**0.79**	**51**	P	Pb	17 13 14.1 +0.3	**EOS2**	**EOS2**	**2.12**	**44**	*eP*	Pb	17 13 35.6 -0.6		comp=Z,2.0nm,0.8s,baz=81,slow=8.9,SNR=2.1					
YULB	**Yu-li**	**0.79**	**51**	*i* P	Pb	17 13 14.2 +0.4	**NCUH**	**Zhongli**	**2.13**	**14**	*eP*	Pn	17 13 35.3 +2.0		comp=Z,0.6nm,0.6s					
YULB				*i* S	Sb	17 13 25.3 +1.0	**TATO**	**Taipei**	**2.22**	**21**		Pn	17 13 35.4 +1.0	**INKA**	**Innaminka**	**53.95**	**158**	P	**P**	**17 22 20.4 -0.9**
WGK	**Gukeng**	**0.80**	**356**	*eP*	Pg	17 13 14.1 +0.1	**NHDH**	**Xindian Distri**	**2.22**	**22**	*eP*	Pb	17 13 38.5 +0.4	INKA				IAmb	IAmb	17 22 22.1	
WGK				S	Sb	17 13 26.6 +2.3	**TAP**	**Taipei**	**2.29**	**20**	*eP*	Pb	17 13 39.8 +0.6		comp=Z,2.0nm,0.6s					
WDLH	**Douliu**	**0.80**	**354**	*eP*	Pg	17 13 14.2 +0.1	**NHY**	**Taipei**	**2.31**	**22**	*eP*	Pb	17 13 38.7 -0.9	**ABKAR**	**Akbulak array**	**53.98**	**315**	P	**P**	**17 22 20.8 -0.6**
WDLH				S	Sb	17 13 26.0 +1.6	**TWS1**	**Kuangyinshan**	**2.32**	**18**	*eP*	Pb	17 13 39.0 -0.7	**STKA**	**Stephens Creek**	**58.04**	**159**	P	**P**	**17 22 48.9 -1.6**
LDUT	**Ludao**	**0.81**	**105**	P	Pn	17 13 14.8 -0.1	**TIPB**	**Shuangxi**	**2.35**	**28**	*eP*	Pn	17 13 38.4 +2.2		comp=Z,2.1nm,0.6s,baz=337,slow=6.4,SNR=6.4					
LDUT				*eS*	Sn	17 13 27.1 +0.6	TIPB				eS	Sb	17 14 08.1 -0.8		comp=Z,2.1nm,0.6s					
WTK	**Tuku**	**0.82**	**345**	*eP*	Pg	17 13 14.3 -0.2	**NTST**	**Danshui**	**2.39**	**18**	*eP*	Pn	17 13 39.5 +2.8	**GNI**	**Garni**	**65.12**	**305**	LR	LR	17 56 37.6	
WTK				*i* S	Sg	17 13 26.8 +1.3	**ZUZH**	**Zhuzihu**	**2.41**	**20**	*eP*	Pn	17 13 37.9 +0.7		comp=Z,18nm,18.1s,baz=44,slow=40					
WDL	**Douliou City**	**0.83**	**354**	*i* P	Pg	17 13 15.0 +0.4	ZUZH				eS	Sb	17 14 10.2 -0.7	**ARCES**	**ARCESS Array B**	**70.55**	**338**	P	**P**	**17 24 14.2 +2.1**
WDL				*i* S	Sb	17 13 27.9 +2.7	**NWF**	**Wu-fen Shan**	**2.42**	**26**	*eP*	Pn	17 13 40.0 +2.8		comp=Z,2.9nm,0.8s,baz=67,slow=5.1,SNR=3.7					
WHYT	**Xinyi Township**	**0.83**	**14**	*i* P	Pg	17 13 14.5 -0.1	**WFSB**	**Wu-fen Shan**	**2.42**	**26**	*eP*	Pn	17 13 39.9 +2.8		comp=Z,2.9nm,0.8s					
WHYT				S	Sb	17 13 26.9 +1.6	**ANP**	**Anpu**	**2.43**	**19**	*eP*	Pb	17 13 40.7 -1.0	**ILAR**	**Eielson Array**	**70.59**	**27**	P	**P**	**17 24 12.3 -0.1**
WSF	**Szhu**	**0.83**	**333**	P	Pg	17 13 14.0 -0.7	**TWB1**	**Santiao Chiao**	**2.43**	**30**	*eP*	Pn	17 13 38.1 +1.1		comp=Z,0.3nm,0.6s,baz=311,slow=8.2,SNR=2.2					
WSF				*i* S	Sg	17 13 26.4 +0.6	**KNM**	**Kinmen**	**2.52**	**308**	*eP*	Pn	17 13 40.1 +1.5		comp=Z,0.3nm,0.6s					
ECBN	**Changbin**	**0.87**	**61**	*eP*	Pn	17 13 16.3 +0.4	**PTMZ**	**Houxiangcun**	**2.55**	**328**	*eP*	Pn	17 13 37.6 -1.4	**BRTR**	**Keskin Array B**	**73.53**	**307**	P	**P**	**17 24 31.3 +0.6**
HEN	**Hengchun**	**0.89**	**173**	P	Pn	17 13 17.0 +1.0	**KNMB**	**Chin-men Tao**	**2.58**	**308**		Pn	17 13 38.0 -1.4		comp=Z,0.2nm,0.4s,baz=69,slow=9.7,SNR=1.7					
HEN				*i* S	Sn	17 13 30.6 +2.1	**KNMB**	**Chin-men Tao**	**2.58**	**308**	*eP*	Pn	17 13 38.2 -1.2		comp=Z,0.2nm,0.4s					
EHY	**Hungye**	**0.89**	**46**	*i* P	Pb	17 13 15.8 +0.4	**ZPLA**	**Ao Xicun**	**2.84**	**292**	*eP*	Pn	17 13 41.5 -1.4							
EHY				*i* S	Sn	17 13 28.7 +0.1	**DSXP**	**Dongshan**	**3.06**	**286**	*eP*	Pn	17 13 44.2 -1.7							
SMST	**Manzhou Townsh**	**0.89**	**167**	*eP*	Pn	17 13 16.7 +0.7	**AXDP**	**Jialang**	**3.15**	**310**	*eP*	Pn	17 13 45.4 -1.8							
SMST				*eS*	Sn	17 13 29.9 +1.4	**HKPS**	**Hong Kong Po S**	**6.03**	**265**		Pn	17 14 26.4 -0.4							
EHYH	**Wanrong**	**0.89**	**47**	*i* P	Pb	17 13 15.9 +0.5	**JOW**	**Kunigami**	**7.98**	**59**	Pn	Pn	17 14 52.0 -1.6							
EHYH				S	Sb	17 13 28.6 +1.5	**TGY**	**Tagaytay City**	**8.74**	**178**	LR	LR	17 19 13.1							
WJS	**Zhushan**	**0.93**	**6**	P	Pg	17 13 16.6 0.0		comp=Z,148nm,20.8s,baz=106,slow=44												
WJS				S	Sb	17 13 30.2 +2.0	**QIZ**	**Qiongzhong**	**10.78**	**251**	Pn	Pn	17 15 31.6 -0.4							
SSLB	**Suanglung**	**0.94**	**18**		Pg	17 13 16.0 -0.8	**QIZ**	**Qiongzhong**	**10.78**	**251**	P	Pn	17 15 32.5 +0.4							
SSLB	**Suanglung**	**0.94**	**18**	P	Pg	17 13 16.2 -0.6	QIZ				S	Sn	17 17 33.5 +1.1							
SSLB	**Suanglung**	**0.94**	**18**	S	Sn	17 13 30.9 +0.9	QIZ				pmax	pmax								
SSLB	**Suanglung**	**0.94**	**18**	*i* P	Pg	17 13 16.3 -0.6		comp=Z,10.0nm,1.9s												
SSLB				*eS*	Sg	17 13 29.4 +0.2	QIZ				LR	LR								
HGSD	**Ruisui**	**0.95**	**50**	*i* P	Pn	17 13 17.6 +0.7		comp=N,420nm,12.9s												
HGSD				*eS*	Sn	17 13 32.7 +2.7	QIZ				LR	LR								
TWK1	**Hengchun**	**0.95**	**170**	*eP*	Pn	17 13 18.7 +1.7		comp=E,590nm,13.1s												
TWK1				S	Sn	17 13 34.0 +3.8	QIZ				LR	LR								
TWKBT	**Hengchun**	**0.96**	**170**	*eP*	Pn	17 13 17.6 +0.6		comp=Z,640nm,13.5s												
TWKBT				S	Sn	17 13 34.1 +3.8	**JNU**	**Nakatsue**	**13.62**	**39**	LR	LR	17 22 28.9							
WDGT	**Dungji**	**0.96**	**293**	*i* P	Pb	17 13 15.2 -1.5		comp=Z,97nm,18.2s,baz=220,slow=42												
WDGT				*eS*	Sb	17 13 27.8 -1.3	**KSRS**	**Korea Array**	**15.82**	**22**	Pn	Pn	17 16 41.9 +1.6							
WNT	**Mingjian**	**0.99**	**3**	*i* P	Pb	17 13 17.1 +0.1		0.1nm,0.3s,baz=196,slow=12,SNR=6.7												
WNT				S	Sg	17 13 31.7 +1.2		0.5nm,0.5s												
TSEB	**Hengchuen, Pin**	**1.02**	**166**	*eP*	Pn	17 13 18.5 +0.6	**DAV**	**Davao City (W)**	**16.43**	**162**	LR	LR	17 23 16.0							
TSEB				*i* S	Sn	17 13 33.8 +2.1		comp=Z,127nm,20.7s,baz=344,slow=38												
SMLT	**Sun Moon Lake**	**1.02**	**14**	*i* P	Pb	17 13 18.1 +0.4	**JGF**	**Kuroka**	**19.29**	**45**	P	**P**	**17 17 22.0 -0.5**							
SMLT				*i* S	Sn	17 13 33.4 +1.4	JGF				IAmb	IAmb	17 17 54.6							
WTCT	**Ta-ch'eng**	**1.02**	**342**	*eP*	Pb	17 13 17.2 -0.5		comp=Z,11nm,1.4s												
WTCT				*i* S	Sb	17 13 30.6 -0.1	**LZDM**	**Lanzhou Array**	**19.64**	**315**	P	**Pn**	**17 17 30.2 +2.2**							
TYC	**Yuchr**	**1.03**	**12**	P	Pb	17 13 18.4 +0.5		comp=Z,2.1nm,0.4s,baz=124,slow=21,SNR=1.6												
TYC				*i* S	Sn	17 13 33.4 +1.3	**JHJ**	**Hachijo jima 2**	**19.72**	**55**	LR	LR	17 25 43.7							
EGFH	**Guangfu**	**1.07**	**43**	*eP*	Pb	17 13 18.9 +0.4		comp=Z,39nm,18.0s,baz=90,slow=39												
EGFH				*i* S	Sn	17 13 33.9 +0.8	**BTO**	**Baotou**	**19.80**	**336**	*eP*	**Pn**	**17 17 32.0 +2.3**							
WARBT	**Fenglin Townsh**	**1.08**	**40**	*i* P	Pb	17 13 19.0 +0.3	BTO				S	**Sn**	**17 21 18.5 +6.6**							
WARBT				S	Sg	17 13 33.8 +0.2	BTO				pmax	pmax								
VCHM	**Qimei**	**1.15**	**286**	*eP*	Pn	17 13 17.8 -1.9		comp=Z,14nm,0.6s												
VCHM				*i* S	Sb	17 13 33.3 -1.1	BTO				pmax	pmax								
PHUB	**P'eng-hu**	**1.15**	**303**	*eP*	Pn	17 13 17.7 -2.0		comp=Z,220nm,4.6s												
PHUB				*i* S	Sb	17 13 32.4 -2.1	BTO				LR	LR								
TEGC	**Jichi Village

M₀5.15100×10¹⁶ NP1:φ=69.00000°,δ30.00000°, λ134.00000°. NP2:φ=201.00000°,δ69.00000°,λ68.00000°. Principal axes: T 5.5340, Plg60.0000°, Azm80.0000°; N -0.7670, Plg20.0000°, Azm209.0000°; P -4.7680, Plg21.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function

ISC 30 17:56:07.9±0.3, 43°44'N±0'.03×136°39'E±0'.03, h317km±2km, h317km:pP-P,n1286,σ1§47/1153,mb4.9/432,49C-51D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TEY	**Ternei**	**1.60**	**5**	**⇑*e*P**	**Pn**		**17 56 55.0**	**+1.6**
TEY				*e*			17 57 30.9	
TEY				pmax	pmax			
	comp=N,390nm,0.7s							
TEY				pmax	pmax			
	comp=E,110nm,0.7s							
TEY				pmax	pmax			
	comp=Z,850nm,0.7s							
TEY				pmax	pmax			
	comp=E,800nm,4.8s							
TEY				pmax	pmax			
	comp=N,800nm,4.3s							
TEY				pmax	pmax			
	comp=Z,300nm,2.3s							
TEY	**Ternei**	**1.60**	**5**	**⇑*i*P**	**Pn**		**17 56 54.9**	**+1.6**
TEY				AMB	AMB		17 56 55.7	
	comp=Z,640nm,0.8s							
TEY				*e*S	**S**		**17 57 31.0**	**+1.4**
TEY				A	A		17 57 32.8	
	comp=Z,240nm,1.1s							
TEY				A	A		17 57 32.8	
	comp=Z,580nm,1.1s							
JOSM	**Okushiri--Mats**	**2.65**	**120**	P	**Pn**		**17 57 02.2**	**+0.6**
JOSM				*e*S	**S**		**17 57 45.7**	**+1.2**
JHST	**Hiyamasetana**	**2.75**	**110**	P	**Pn**		**17 57 03.5**	**+0.9**
JHST				*e*S	**S**		**17 57 46.6**	**+0.4**
JHST	**Hiyamasetana**	**2.75**	**110**	A	A		17 57 03.5	
	comp=N,7.0nm,3.1s,comp=E,5.0nm,3.8s							
JSH	**Shimam**	**2.79**	**105**	A	A		17 57 03.9	
	comp=N,6.0nm,2.2s,comp=E,2.0nm,1.6s							
JSK	**Shakotan**	**2.98**	**90**	P	**Pn**		**17 57 05.4**	**+0.8**
JSK				*e*S	**S**		**17 57 50.3**	**+0.3**
JSK	**Shakotan**	**2.98**	**90**	A	A		17 57 05.4	
	comp=N,7.0nm,3.4s,comp=E,6.0nm,1.8s							
JYM2	**Yakumo 2**	**3.21**	**113**	A	A		17 57 07.5	
	comp=N,4.0nm,3.0s,comp=E,3.0nm,3.4s							
USRK	**Ussuriysk Ar.**	**3.27**	**285**	P	**Pn**		**17 57 08.8**	**+1.3**
	comp=E,1μm,0.7s,baz=98,slow=11,SNR=1644							
JOMM	**Oshimamatsumae**	**3.29**	**124**	P	**Pn**		**17 57 08.3**	**+0.7**
JOMM				*e*S	**S**		**17 57 55.5**	**-0.1**
VLA	**Vladivostok**	**3.31**	**266**	*d* iP	**Pn**		**17 57 09.4**	**+1.6**
JSR	**Shiriuchi**	**3.54**	**121**	A	A		17 57 10.4	
	comp=N,3.0nm,1.4s,comp=E,3.0nm,2.6s							
JISS	**Ishikarishitsu**	**3.67**	**91**	A	A		17 57 12.2	
	comp=N,2.0nm,1.5s,comp=E,12nm,1.9s							
JEW	**Eniwo**	**3.75**	**97**	P	**Pn**		**17 57 13.3**	**+0.9**
JEW				*e*S	**S**		**17 58 04.3**	**+0.2**
JSI2	**Shiura 2**	**3.82**	**127**	A	A		17 57 13.2	
	comp=N,7.0nm,1.6s,comp=E,5.0nm,1.7s							
JHR	**Hokuryu**	**3.89**	**84**	P	**Pn**		**17 57 15.0**	**+1.2**
JRBN	**Rebuntou**	**3.89**	**58**	P	**Pn**		**17 57 14.8**	**+1.1**
JRBN				*e*S	**S**		**17 58 05.8**	**-0.9**
JIW	**Iwasaki**	**3.92**	**135**	A	A		17 57 14.2	
	comp=N,6.0nm,1.6s,comp=E,6.0nm,2.6s							
MSHR	**Mys Shultsa**	**3.93**	**259**	*ce*P	**Pn**		**17 57 16.1**	**+1.8**
MSHR				pmax	pmax			
	comp=Z,641nm,0.7s							
JOT	**Ohata**	**4.01**	**119**	P	**Pn**		**17 57 15.1**	**-0.1**
JOG3	**Oga3**	**4.05**	**149**	A	A		17 57 18.6	
	comp=N,5.0nm,4.1s,comp=E,3.0nm,1.4s							
JSS	**Shosan**	**4.06**	**74**	P	**Pn**		**17 57 17.1**	**+1.5**
JSS				*e*S	**S**		**17 58 10.9**	**+0.9**
JSS	**Shosan**	**4.06**	**74**	A	A		17 57 17.1	
	comp=N,5.0nm,2.3s,comp=E,6.0nm,2.0s							
JIAM	**Iburiatsuma**	**4.13**	**99**	A	A		17 57 16.6	
	comp=N,7.0nm,1.2s,comp=E,6.0nm,1.6s							
JAHD	**Aomorihigashid**	**4.26**	**119**	A	A		17 57 17.6	
	comp=N,7.0nm,1.4s,comp=E,7.0nm,1.5s							
JWK2	**Keihoku**	**4.37**	**63**	P	**Pn**		**17 57 21.1**	**+2.2**
JWK2				*e*S	**S**		**17 58 17.4**	**+1.3**
JTM	**Tenmabayashi**	**4.37**	**126**		**Pn**		**17 57 18.7**	**-0.4**
JTM	**Tenmabayashi**	**4.37**	**126**	P	**Pn**		**17 57 18.7**	**-0.4**
ASAJ	**Asahikawa**	**4.54**	**79**	P	**Pn**		**17 57 21.7**	**+0.7**
	comp=E,255nm,0.4s,baz=269,slow=11,SNR=635							
ASAJ				S	**S**		**17 58 18.1**	**-1.6**
	comp=E,134nm,0.9s,baz=288,slow=20,SNR=7.1							
JKA	**Kamikawa-asahi**	**4.55**	**79**		**Pn**		**17 57 21.4**	**+0.5**
JKK2	**Kamakawa 2**	**4.63**	**82**	P	**Pn**		**17 57 22.7**	**+0.8**
JKK2				*e*S	**S**		**17 58 20.6**	**-1.0**
JSE	**Soyaes**	**4.71**	**69**	A	A		17 57 23.6	
	comp=N,9.0nm,4.1s,comp=E,6.0nm,3.4s							
JNBK	**Urakawa-nobuka**	**4.82**	**102**	A	A		17 57 23.8	
	comp=N,5.0nm,0.7s,comp=E,8.0nm,0.7s							
MDJ	**Mudanjiang**	**5.04**	**286**	Pn	**Pn**		**17 57 27.9**	**+1.4**
MDJ	**Mudanjiang**	**5.04**	**286**	P	**Pn**		**17 57 28.5**	**+1.9**
MDJ				S	**S**		**17 58 32.0**	**+2.2**
MDJ				smax	smax			
	comp=E,140nm,1.2s							
MDJ				smax	smax			
	comp=E,170nm,1.6s							
MDJ	**Mudanjiang**	**5.04**	**286**	P	**Pn**		**17 57 28.4**	**+1.9**
KHBR	**Khabarovsk**	**5.12**	**350**	⇓*i*P	**Pn**		**17 57 29.1**	**+1.8**
KHBR				AMB	AMB		17 57 29.9	
	comp=E,630nm,0.9s							
KHBR				*e*S	**S**		**17 58 31.0**	**-0.3**
KHBR				A	A		17 58 33.5	
	comp=E,120nm,1.2s							
KHBR				A	A		17 58 33.5	
	comp=E,120nm,1.2s							
JCH	**Churui**	**5.18**	**97**	P	**Pn**		**17 57 26.4**	**-1.7**
JCH				*e*S	**S**		**17 58 26.5**	**-6.2**
JEM	**Erimo**	**5.18**	**104**	P	**Pn**		**17 57 28.0**	**-0.2**
ERM	**Erimo**	**5.18**	**104**		**Pn**		**17 57 27.6**	**-0.5**
ERM	**Erimo**	**5.18**	**104**	P	**Pn**		**17 57 28.0**	**-0.2**
ERM	**Erimo**	**5.18**	**104**	P	**Pn**		**17 57 27.6**	**-0.5**
JTHR	**Tokachihiroo**	**5.21**	**100**	A	A		17 57 28.1	
	comp=N,3.0nm,2.4s,comp=E,7.0nm,1.2s							
JAR	**Ashorobuto**	**5.38**	**89**	A	A		17 57 30.4	
	comp=N,9.0nm,2.1s,comp=E,4.0nm,2.5s							
JTKR	**Abashiri--Toko**	**5.48**	**82**	P	**Pn**		**17 57 31.7**	**+0.2**
JTKR				*e*S	**S**		**17 58 35.9**	**-3.0**
JSD	**Sado**	**5.58**	**165**	P	**Pn**		**17 57 33.3**	**+0.5**
YSS	**Yuzhno-Sakhali**	**5.71**	**50**		**Pn**		**17 57 34.7**	**+0.6**
YSS	**Yuzhno-Sakhali**	**5.71**	**50**	P	**Pn**		**17 57 35.8**	**+1.7**
YSS	**Yuzhno-Sakhali**	**5.71**	**50**	*e*P	**Pn**		**17 57 35.4**	**+1.3**
YSS				*e*S	**S**		**17 58 43.4**	**-0.3**
YSS				pmax	pmax			
	comp=Z,80nm,1.2s							
YSS				pmax	pmax			
	comp=Z,200nm,3.9s							
YSS				smax	smax			
	comp=N,120nm,1.0s							
YSS				smax	smax			
	comp=E,120nm,1.2s							
YSS	**Yuzhno-Sakhali**	**5.71**	**50**	*e*P	**Pn**		**17 57 35.5**	**+1.3**
YSS				AMB	AMB		17 57 36.4	
	comp=E,80nm,1.1s							
YSS				*e*S	**S**		**17 58 42.8**	**-0.9**
YSS				A	A		17 58 44.5	
	comp=E,130nm,1.2s							
JMK	**Ichinoseki**	**5.78**	**139**	P	**Pn**		**17 57 33.0**	**-2.1**
JMK				*e*S	**S**		**17 58 40.2**	**-5.2**
JAK	**Akkeshi**	**6.09**	**91**	A	A		17 57 38.3	
	comp=N,6.0nm,2.6s,comp=E,4.0nm,4.8s							
AKK	**Akkeshi**	**6.19**	**91**	*e*P	**Pn**		**17 57 38.0**	**-1.9**
AKK				AMB	AMB		17 57 39.8	
	comp=E,490nm,0.3s							
JNSB	**Nemuroshibetsu**	**6.26**	**84**	A	A		17 57 40.5	
	comp=N,17nm,4.1s,comp=E,11nm,2.8s							
RUSJ	**Misakicho**	**6.45**	**81**	*e*P	**Pn**		**17 57 42.7**	**-0.2**
JMM	**Marumori**	**6.49**	**148**		**Pn**		**17 57 41.5**	**-2.1**
JMM	**Marumori**	**6.49**	**148**	P	**Pn**		**17 57 41.9**	**-1.7**
JMM	**Marumori**	**6.49**	**148**	S	**S**		**17 58 56.6**	**-4.4**
GLVR	**Golovnino**	**6.64**	**84**	*e*P	**Pn**		**17 57 44.8**	**-0.3**
GLVR				*i* S	**S**		**17 59 00.2**	**-3.6**
GLVR				pmax	pmax			
	comp=Z,528nm,0.2s							
GLVR				pmax	pmax			
	comp=E,92nm,0.1s							
NMR	**Nemuro--Hokkai**	**6.80**	**87**	⇓*i*P	**Pn**		**17 57 44.8**	**-2.3**
NMR				*i* S	**S**		**17 58 58.9**	**-8.6**
NMR	**Nemuro--Hokkai**	**6.80**	**87**	*e*P	**Pn**		**17 57 45.0**	**-2.1**
NEM2	**Nemuro 2**	**6.81**	**87**	*e*P	**Pn**		**17 57 44.8**	**-2.4**
NEM2				*e*S	**S**		**17 58 59.1**	**-8.6**
BNX	**BinXian**	**6.82**	**293**	⇓P	**Pn**		**17 57 48.5**	**+1.2**
BNX				S	**S**		**17 59 08.8**	**+1.1**
BNX				ScS	**ScS**		**18 10 33.0**	**-2.6**
UGL	**Uglegorsk**	**6.88**	**33**	*e*P	**Pn**		**17 57 49.2**	**+1.3**
UGL				S	**S**		**17 59 04.2**	**-4.7**
UGL				pmax	pmax			
	comp=Z,214nm,0.9s							
UGL				smax	smax			
	comp=N,1μm,8.7s							
UGL				smax	smax			
	comp=E,800nm,3.4s							
YUK	**Yuzh-Kuril'sk**	**6.89**	**82**	*d* iP	**Pn**		**17 57 47.9**	**-0.2**
YUK				*i* S	**S**		**17 59 05.4**	**-3.9**
YUK				pmax	pmax			
	comp=Z,369nm,0.3s							
YUK				pmax	pmax			
	comp=N,46nm,0.2s							
YUK				pmax	pmax			
	comp=Z,645nm,1.1s							
MJB9	**Matsu-Tunnel**	**7.02**	**168**		**Pn**		**17 57 50.4**	**+0.4**
MAJO	**Matsushiro**	**7.03**	**168**		**Pn**		**17 57 49.2**	**-0.8**
MAJO	**Matsushiro**	**7.03**	**168**	P	**Pn**		**17 57 50.5**	**+0.5**
MAJO	**Matsushiro**	**7.03**	**168**	P	**Pn**		**17 57 49.2**	**-0.8**
MJAR	**Matsushiro Arr**	**7.03**	**168**		**Pn**		**17 57 49.4**	**-0.6**
MJAR	**Matsushiro Arr**	**7.03**	**168**	P	**Pn**		**17 57 50.2**	**+0.1**
	comp=Z,404nm,0.6s,baz=347,slow=11,SNR=449							
MJAR				S	**S**		**17 59 13.3**	**+0.6**
	comp=Z,7.9nm,0.4s,baz=360,slow=22,SNR=0.8							
MJAR				ScP	**ScP**		**18 07 03.1**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=248,slow=1.3,SNR=5.1							
GRNR	**Gornyy**	**7.33**	**0**	⇓*i*P	**Pn**		**17 57 54.6**	**+1.2**
GRNR				*e*S	**S**		**17 59 18.5**	**-0.5**
GRNR				pmax	pmax			
	comp=E,10.0nm,0.9s							
GRNR				pmax	pmax			
	comp=N,100nm,1.0s							
GRNR				pmax	pmax			
	comp=Z,100nm,1.1s							
GRNR				smax	smax			
	comp=N,10.0nm,1.2s							
GRNR				MLR	MLR			
	comp=N,120nm,13.0s							
GRNR				MLR	MLR			
	comp=Z,140nm,10.0s							
GRNR	**Gornyy**	**7.33**	**0**	⇓*i*P	**Pn**		**17 57 54.4**	**+1.0**
GRNR				AMB	AMB		17 57 55.4	
	comp=Z,80nm,1.2s							
GRNR				*e*S	**S**		**17 59 18.6**	**-0.5**
JOI	**OKI**	**7.54**	**200**	P	**Pn**		**17 57 58.0**	**+1.9**
JRY	**Ryogami san**	**7.66**	**165**	*e*P	**Pn**		**17 57 55.6**	**-2.1**
JGF	**Kuroka**	**7.86**	**174**		**Pn**		**17 57 59.6**	**-0.5**
JGF	**Kuroka**	**7.86**	**174**	P	**Pn**		**17 58 00.3**	**+0.2**
CN2	**Changchun**	**7.95**	**276**	P	**Pn**		**17 58 02.0**	**+1.0**
CN2				S	**S**		**17 59 31.8**	**-1.0**
CN2				pmax	pmax			
	comp=Z,90nm,0.7s							
CN2				pmax	pmax			
	comp=Z,100nm,3.0s							
INU	**Inuyama**	**8.09**	**176**		**Pn**		**17 58 02.1**	**-0.7**
INU	**Inuyama**	**8.09**	**176**	P	**Pn**		**17 58 03.0**	**+0.2**
KUR	**Kuril'sk**	**8.42**	**74**	*e*P	**Pn**		**17 58 07.7**	**+1.1**
KUR				*e*S	**S**		**17 59 44.8**	**+1.6**
KUR	**Kuril'sk**	**8.42**	**74**	*e*P	**Pn**		**17 58 07.4**	**+0.8**
JOD2	**Odawara 2**	**8.43**	**165**	P	**Pn**		**17 58 04.1**	**-2.8**
JOD2				*e*S	**S**		**17 59 35.9**	**-7.8**
TYV	**Tymovskoe**	**8.56**	**28**	*e*P	**Pn**		**17 58 10.3**	**+2.0**
TYV				*e*S	**S**		**17 59 46.2**	**-0.1**
TYV				pmax	pmax			
	comp=Z,92nm,0.9s							
TYV				pmax	pmax			
	comp=Z,300nm,3.9s							
TYV				smax	smax			
	comp=N,32nm,1.5s							
TYV				smax	smax			
	comp=E,34nm,1.5s							
TYV				smax	smax			
	comp=N,500nm,4.4s							
TYV				smax	smax			
	comp=E,300nm,4.4s							
KS19	**Wonju Array Si**	**8.79**	**230**		**Pn**		**17 58 11.9**	**+0.6**
KSRS	**Korea Array**	**8.79**	**230**	P	**Pn**		**17 58 12.6**	**+1.3**
	comp=E,29nm,0.7s,baz=45,slow=12,SNR=176							
KSRS				S	**S**		**17 59 50.7**	**-1.1**
	comp=E,1.2nm,0.5s,baz=53,slow=20,SNR=0.9							
KSRS				ScP	**ScP**		**18 07 04.6**	**+0.2**
	comp=E,1.9nm,0.8s,baz=78,slow=2.2,SNR=12							
JHS	**Saijyo**	**8.80**	**198**	P	**Pn**		**17 58 12.8**	**+1.4**
KSAR	**Wonju Array Be**	**8.82**	**230**		**Pn**		**17 58 12.6**	**+1.0**
KSAR	**Wonju Array Be**	**8.82**	**230**	P	**Pn**		**17 58 12.6**	**+1.0**
JSG	**Sagara**	**8.86**	**170**		**Pn**		**17 58 11.8**	**-0.3**
JSG	**Sagara**	**8.86**	**170**	P	**Pn**		**17 58 11.9**	**-0.3**
JIE	**Ise**	**9.04**	**178**	P	**Pn**		**17 58 14.0**	**-0.3**
HEH	**HeiHe**	**9.18**	**321**	*e*P	**Pn**		**17 58 16.3**	**+0.6**
HEH				pmax	pmax			
	comp=E,640nm,0.8s							
BSO1	**Boso 1**	**9.47**	**156**	*e*P	**Pn**		**17 58 14.3**	**-4.7**
BSO1				*e*S	**S**		**17 59 57.7**	**-8.5**
INCN	**Inchon**	**9.52**	**235**		**Pn**		**17 58 20.1**	**0.0**
INCN	**Inchon**	**9.52**	**235**	P	**P**		**17 58 22.5**	**-1.0**
INCN				S	**S**		**18 00 15.4**	**+7.3**
INCN	**Inchon**	**9.52**	**235**	P	**P**		**17 58 22.4**	**-1.0**
INCN	**Inchon**	**9.52**	**235**	P	**Pn**		**17 58 20.1**	**0.0**
INCN	**Inchon**	**9.52**	**235**	*e*P	**P**		**17 58 22.3**	**-1.2**
INCN				AMB	AMB		17 58 22.9	
	comp=E,40nm,0.7s							
SNY	**Shenyang**	**9.58**	**265**	⇓P	**P**		**17 58 24.0**	**0.0**
SNY				S	**S**		**18 00 11.0**	**+1.7**
SNY				pmax	pmax			
	comp=E,11nm,0.5s							
SNY				pmax	pmax			
	comp=E,110nm,5.0s							
SNY				LR	LR			
	comp=E,220nm,6.4s							
SNY				LR	LR			
	comp=E,310nm,6.9s							
SNY				LR	LR			
	comp=E,140nm,7.3s							
JTNC	**Tanabenakahech**	**9.62**	**184**	*e*P	**Pn**		**17 58 21.3**	**-0.2**
TTO1	**TONANKAI O.B.S**	**9.81**	**178**	*e*P	**Pn**		**17 58 23.9**	**+0.5**
TJN	**Taejon**	**9.88**	**228**	P	**Pn**		**17 58 25.6**	**+1.0**
TJN	**Taejon**	**9.88**	**228**	P	**P**		**17 58 26.6**	**-0.9**
TJN	**Taejon**	**9.88**	**228**	P	**Pn**		**17 58 25.6**	**+1.0**
JMN	**Monobe**	**9.89**	**192**	P	**Pn**		**17 58 25.4**	**+0.6**
JMN	**Monobe**	**9.89**	**192**	P	**Pn**		**17 58 26.1**	**+1.4**
EKMR	**Ekimchan**	**9.91**	**348**	⇓*i*P	Pn		17 58 17.0	-7.6
EKMR				AMB	AMB		17 58 19.3	
	comp=E,100nm,0.7s							
NKL	**Nikolayevsk**	**10.13**	**15**	*e*P	**Pn**		**17 58 26.6**	**-0.6**
NKL				*e*S	**S**		**18 00 19.3**	**-1.9**
NKL				pmax	pmax			
	comp=N,164nm,0.7s							
NKL				pmax	pmax			
	comp=E,147nm,0.7s							
NKL				pmax	pmax			
	comp=Z,395nm,0.7s							
NKL				smax	smax			
	comp=E,287nm,2.2s							
NKL				smax	smax			
	comp=N,330nm,2.1s							
NKL	**Nikolayevsk**	**10.13**	**15**	*e*P	**Pn**		**17 58 27.9**	**+0.7**
NKL				AMB	AMB		17 58 28.7	
	comp=N,130nm,0.8s							
JTU	**Tsushima**	**10.43**	**214**	P	**P**		**17 58 32.9**	**-0.7**
JTU	**Tsushima**	**10.43**	**214**	*e*P	**P**		**17 58 32.8**	**-0.8**
JHJ	**Hachijo jima 2**	**10.64**	**164**	P	**Pn**		**17 58 30.0**	**-3.8**
	comp=N,338nm,0.3s,baz=252,slow=20,SNR=45							
JHJ				S	S		18 00 21.3	-12
	comp=N,214nm,0.3s,baz=59,slow=19,SNR=8.9							
JHJ2	**Mitsune**	**10.65**	**164**	P	**Pn**		**17 58 30.4**	**-3.5**
JHJ2	**Mitsune**	**10.65**	**164**	P	**Pn**		**17 58 31.3**	**-2.6**
JHJ2	**Mitsune**	**10.65**	**164**	*e*P	**Pn**		**17 58 30.7**	**-3.2**
JHJ2				*e*S	S		18 00 21.4	-12
JTO	**Tosashimizu**	**10.93**	**196**	P	**P**		**17 58 38.3**	**-0.9**
JTO				*e*S	**S**		**18 00 36.6**	**-3.3**
JNU	**Nakatsue**	**11.17**	**205**	P	**P**		**17 58 41.1**	**-0.7**
JNU	**Nakatsue**	**11.17**	**205**	P	**P**		**17 58 41.7**	**-0.2**
	comp=N,123nm,0.8s,baz=26,slow=11,SNR=92							
JNU				S	**S**		**18 00 45.6**	**+0.3**
	comp=N,18nm,0.9s,baz=338,slow=5.4,SNR=2.4							
JNU				ScP	**ScP**		**18 07 07.9**	**+0.3**
	comp=N,6.8nm,1.2s,baz=34,slow=7.3,SNR=3.7							
JNU	**Nakatsue**	**11.17**	**205**	P	**P**		**17 58 41.5**	**-0.4**
ZEA	**Zeya**	**11.94**	**333**	*e*P	**P**		**17 58 50.3**	**+0.2**
ZEA				*e*S	**S**		**18 00 57.5**	**-4.5**
ZEA				pmax	pmax			
	comp=E,160nm,0.6s							
ZEA				pmax	pmax			
	comp=N,260nm,0.8s							
ZEA				pmax	pmax			
	comp=Z,820nm,0.9s							
ZEA				smax	smax			
	comp=N,200nm,2.4s							
ZEA				smax	smax			
	comp=E,500nm,3.2s							
ZEA	**Zeya**	**11.94**	**333**	⇓*i*P	**P**		**17 58 50.1**	**0.0**
DL2	**Dalian**	**12.01**	**253**	⇓*i*P	**P**		**17 58 52.5**	**+1.5**
DL2				sP			18 00 03.8	
DL2				pmax	pmax			
	comp=E,180nm,0.9s							
DL2				pmax	pmax			
	comp=E,290nm,3.6s							
HIA	**Hailar**	**12.88**	**303**	P	**P**		**17 59 00.7**	**0.0**
HIA	**Hailar**	**12.88**	**303**	P	**P**		**17 59 01.4**	**+0.8**
HIA	**Hailar**	**12.88**	**303**	P	**P**		**17 59 00.7**	**0.0**
XLT	**XiLinHaoTe**	**14.71**	**279**	*e*P	**Pn**		**17 59 22.0**	**-0.3**
XLT				S	**S**		**18 02 00.8**	**-0.3**
XLT				pmax	pmax			
	comp=E,49nm,0.8s							
SKR	**Severo-Kuril's**	**15.24**	**55**	*e*P	**P**		**17 59 19.7**	**-6.8**
SKR				pmax	pmax			
	comp=Z,100nm,2.2s							
SKR				pmax	pmax			
	comp=Z,288nm,0.9s							
SKR				MLR	MLR			
	comp=Z,200nm,13.0s							
BJI	**Beijing**	**15.46**	**264**	P	**P**		**17 59 30.0**	**+0.9**
BJI				S	**S**		**18 02 12.8**	**-3.2**
BJI				pmax	pmax			
	comp=Z,86nm,0.8s							
BJI				pmax	pmax			
	comp=Z,170nm,5.0s							
BJT	**Baijiatuau**	**15.48**	**264**	P	**P**		**17 59 29.5**	**+0.3**
BJT	**Baijiatuau**	**15.48**	**264**	P	**P**		**17 59 29.9**	**+0.7**
BJT	**Baijiatuau**	**15.48**	**264**	P	**P**		**17 59 29.5**	**+0.3**
PEA0B	**Petropavlovsk-**	**17.11**	**48**	P	**P**		**17 59 45.4**	**-1.4**
PEA0B	**Petropavlovsk-**	**17.11**	**48**	*ce*P	**P**		**17 59 45.5**	**-1.3**
PETK	**Petropavlovsk-**	**17.11**	**48**	P	**P**		**17 59 45.6**	**-1.2**
PETK	**Petropavlovsk-**	**17.11**	**48**	P	**P**		**17 59 46.0**	**-0.8**
	comp=Z,47nm,0.8s,baz=227,slow=6.1,SNR=32							
PETK				S	**S**		**18 02 49.3**	**+0.9**
	comp=Z,9.0nm,1.1s,baz=243,slow=28,SNR=2.3							
CIT	**Chita**	**17.54**	**307**	*e*P	**P**		**17 59 50.6**	**-0.9**
CIT				*e*S	**S**		**18 02 54.8**	**-2.2**
CIT				pmax	pmax			
	comp=Z,269nm,1.1s							
HNS	**HongShan**	**17.56**	**257**	⇑P	**P**		**17 59 51.5**	**-0.3**
HNS				pmax	pmax			
	comp=Z,32nm,0.9s							
PET	**Petropavlovsk**	**17.59**	**49**	*e*P	**P**		**17 59 51.7**	**-0.3**
PET				*e*S	**S**		**18 02 56.7**	**-1.2**
PET				pmax	pmax			
	comp=Z,54nm,0.8s							
PET				MLR	MLR			
	comp=Z,200nm,14.0s							
NJ2	**Nanjing**	**17.89**	**236**	*e*P	**P**		**17 59 56.5**	**+1.1**
NJ2				pmax	pmax			
	comp=Z,25nm,0.5s							
MA2	**Magadan**	**18.40**	**24**	P	**P**		**18 00 00.4**	**-0.1**
MA2	**Magadan**	**18.40**	**24**	P	**P**		**18 00 00.0**	**-0.5**
	comp=Z,54nm,0.7s,baz=207,slow=12,SNR=25							
MA2				S	**S**		**18 03 14.6**	**+1.0**
	comp=Z,7.7nm,0.9s,baz=232,slow=19,SNR=1.1							
MA2	**Magadan**	**18.40**	**24**	P	**P**		**18 00 00.5**	**0.0**
HHC	**Hu-ho-hao-te**	**18.57**	**271**	*e*P	**P**		**18 00 02.5**	**-0.2**
HHC				S	**S**		**18 03 14.8**	**-2.8**
HHC				pmax	pmax			
	comp=Z,45nm,0.9s							
YAK	**Yakutsk**	**19.04**	**350**	P	**P**		**18 00 04.9**	**-2.4**
YAK	**Yakutsk**	**19.04**	**350**	P	**P**		**18 00 05.1**	**-2.1**
	comp=Z,65nm,0.7s,baz=153,slow=4.1,SNR=36							
YAK				S	**S**		**18 03 22.6**	**-3.3**
	comp=Z,98nm,1.0s,baz=240,slow=20,SNR=13							
YAK				ScP	**ScP**		**18 07 21.1**	**-0.2**
	comp=Z,22nm,0.7s,baz=156,slow=1.5,SNR=9.0							
YAK	**Yakutsk**	**19.04**	**350**	*d* iP	**P**		**18 00 04.5**	**-2.8**
YAK				*e*S	**S**		**18 03 22.5**	**-3.3**
YAK				pmax	pmax			
	comp=Z,138nm,1.3s							
YAK				pmax	pmax			
	comp=N,75nm,1.3s							
YAK				pmax	pmax			
	comp=E,15nm,1.0s							
YAK				smax	smax			
	comp=N,738nm,1.9s							
YAK				smax	smax			
	comp=E,739nm,2.4s							
YAK	**Yakutsk**	**19.04**	**350**	*e*P	**P**		**18 00 05.0**	**-2.3**
TIY	**Taiyuan**	**19.05**	**261**	P	**P**		**18 00 08.0**	**+0.2**
TIY				pmax	pmax			
	comp=E,33nm,0.5s							
BTO	**Baotou**	**19.77**	**271**	*e*P	**P**		**18 00 15.0**	**-0.4**
BTO				sP	**sP**		**18 01 40.0**	**-4.0**
BTO				S	**S**		**18 03 33.5**	**-6.2**
BTO				pmax	pmax			
	comp=E,88nm,0.8s						

KNGR pmax pmax
comp=Z,38nm,0.8s
GTA Gaotai 27.57 274 P **P** **18 01 26.5 -0.2**
GTA pP pP 18 02 30.5 +3.9
GTA PcP **PcP** **18 04 36.5 +1.3**
GTA S **S** **18 05 42.5 -1.7**
GTA ScP **ScP** **18 07 44.8 -0.1**
GTA ScS **ScS** **18 11 36.5 -1.0**
GTA pmax pmax
comp=Z,10.0nm,0.7s
TIXI Tiksi 28.53 355 P **P** **18 01 33.0 -1.4**
TIXI IAmb IAmb 18 01 34.1
comp=Z,44nm,0.7s
TIXI Tiksi 28.53 355 *ce*P **P** **18 01 33.4 -1.0**
TIXI pmax pmax
comp=Z,44nm,0.7s
CD2 Chengdu 28.66 255 P **P** **18 01 35.0 -1.3**
CD2 pmax pmax
comp=Z,20nm,0.7s
BILL Bilibino 29.26 23 P **P** **18 01 40.0 -1.0**
BILL Bilibino 29.26 23 *ce*P **P** **18 01 42.2 +1.2**
BILL pmax pmax
comp=Z,13nm,1.0s
BILL Bilibino 29.26 23 *e*P **P** **18 01 42.2 +1.2**
GYA Guiyang 29.46 245 ⇑P **P** **18 01 43.5 +0.1**
GYA pmax pmax
comp=Z,10.0nm,0.6s
AMKA Amchitka 29.75 59 P **P** **18 01 45.7 +0.3**
KIWB Kanaga Island 31.93 58 P **P** **18 02 04.6 +0.1**
KIWB IAmb IAmb 18 02 05.3
comp=Z,49nm,0.9s
ADK Adak 32.22 58 P **P** **18 02 06.5 -0.5**
ADK Adak 32.22 58 P **P** **18 02 06.8 -0.2**
ADK Adak 32.22 58 P **P** **18 02 06.5 -0.5**
ADK pmax pmax
comp=Z,110nm,0.9s
ADK Adak 32.22 58 P **P** **18 02 06.8 -0.2**
GOMU GeErMu 32.48 271 P **P** **18 02 08.8 -1.1**
GOMU PcP **PcP** **18 04 48.8 +0.4**
GOMU pmax pmax
comp=Z,30nm,0.9s
PZH PanZhiHua 32.75 250 P **P** **18 02 12.5 +0.5**
WMQ Urumqi 34.84 288 *e*P **P** **18 02 30.0 +0.3**
SLVN Son La 34.85 241 P **P** **18 02 31.2 +1.2**
ZALV Zalesovo Beam 34.89 306 P **P** **18 02 29.5 -0.3**
ZALV Zalesovo Beam 34.89 306 P **P** **18 02 29.1 -0.7**
comp=Z,95nm,0.5s,baz=88,slow=8.3,SNR=487
ZALV PcP **PcP** **18 04 54.5 0.0**
comp=Z,9.2nm,0.4s,baz=95,slow=2.9,SNR=8.1
ZALV S **S** **18 07 37.4 +0.5**
comp=Z,0.6nm,0.4s,baz=86,slow=22,SNR=2.1
ZALV ScP **ScP** **18 08 08.5 -0.6**
comp=Z,21nm,0.5s,baz=91,slow=3.6,SNR=57
ZALV PKiKP **PKiKP** **18 12 13.8 -1.7**
comp=Z,1.2nm,0.6s,baz=89,slow=1.1,SNR=5.3
comp=Z,95nm,0.5s
GAMB Gambell 35.56 37 P **P** **18 02 35.2 -0.2**
baz=260
SPIA Saint Paul Isl 35.77 48 P **P** **18 02 37.2 -0.1**
baz=271
ZSN Zaisan 35.83 295 *e*P **P** **18 02 37.9 -0.1**
ZSN Zaisan 35.83 295 *e*P **P** **18 02 37.8 -0.1**
TNCH TengChong 35.91 252 *e*P **P** **18 02 39.5 +0.4**
TNCH pP pP 18 03 41.0 +0.2
TNCH pmax pmax
comp=Z,9.0nm,0.5s
P08K Saint George I 36.17 49 P **P** **18 02 40.3 -0.3**
baz=272
NIKH Nikolski High 36.88 55 P **P** **18 02 45.7 -0.9**
baz=278
TNA Tin City 37.45 34 P **P** **18 02 50.7 -0.5**
baz=262
MK31 Makanchi Array 37.70 294 *i* P **P** **18 02 52.7 -0.8**
MKAR Makanchi Array 37.70 294 P **P** **18 02 53.2 -0.4**
MKAR Makanchi Array 37.70 294 P **P** **18 02 53.1 -0.5**
comp=Z,12nm,0.5s,baz=81,slow=10,SNR=177
MKAR PcP **PcP** **18 05 02.6 -0.6**
comp=Z,1.5nm,0.5s,baz=65,slow=3.9,SNR=1.9
MKAR ScP **S** **18 08 18.3 -1.1**
comp=Z,9.3nm,0.7s,baz=71,slow=4.9,SNR=22
MKAR PKiKP **PKiKP** **18 12 16.7 -1.4**
comp=Z,0.3nm,0.5s,baz=101,slow=1.5,SNR=4.3
comp=Z,12nm,0.5s
M11K Mekoryuk 37.86 43 P **P** **18 02 54.5 -0.2**
baz=270
MAKZ Makanchi 37.90 295 P **P** **18 02 54.9 -0.4**
MAKZ sP **sP** **18 04 31.9 -2.3**
F14K Arctic Creek 38.10 35 P **P** **18 02 55.7 -0.8**
baz=263
UNV Unalaska Valle 38.16 54 P **P** **18 02 56.6 -0.6**
baz=278
LSA Lhasa 38.37 264 P **P** **18 03 00.2 +0.3**
ANM Nome 38.41 36 P **P** **18 02 58.8 -0.4**
baz=266
K13K Kusilvak Mount 38.62 40 P **P** **18 03 01.3 +0.4**
baz=269,SNR=5.1
F15K North Star Dit 38.82 34 P **P** **18 03 03.5 +0.9**
baz=265
C16K Lisburne Hills 38.87 30 P **P** **18 03 03.3 +0.4**
C16K Lisburne Hills 38.87 30 P **P** **18 03 03.5 +0.6**
baz=261,SNR=6.3
G15K Niukluk 39.02 36 P **P** **18 03 04.7 +0.5**
baz=266
KURK Kurchatov 39.12 302 P **P** **18 03 04.6 -0.6**
KURK IAmb IAmb 18 03 06.2
comp=Z,67nm,0.8s
KURK Kurchatov 39.12 302 P **P** **18 03 04.6 -0.6**
KURK Kurchatov 39.12 302 P **P** **18 03 05.2 0.0**
KURK 18 05 07.5
KURK S **S** **18 08 40.6 +0.2**
KURBB Kurchatov Arra 39.20 301 P **P** **18 03 05.2 -0.6**
comp=Z,34nm,0.5s,baz=78,slow=8.9,SNR=321
KURBB PP **PP** **18 04 43.6 +0.4**
comp=Z,13nm,1.0s,baz=77,slow=10,SNR=5.0
KURBB PcP **PcP** **18 05 07.5 -0.3**
comp=Z,5.8nm,0.8s,baz=82,slow=3.6,SNR=3.6
KURBB ScP **ScP** **18 08 24.6 -0.8**
comp=Z,3.6nm,0.6s,baz=84,slow=3.9,SNR=12
KURBB S **S** **18 08 40.6 -0.9**
comp=Z,1.2nm,0.8s,baz=80,slow=16,SNR=4.5
KURBB PKiKP **PKiKP** **18 12 17.8 -1.4**
comp=Z,0.3nm,0.9s,baz=100,slow=24,SNR=1.7
comp=Z,34nm,0.5s
M13K Dall Lake 39.27 43 IAmb IAmb 18 03 09.1
comp=Z,157nm,1.5s
M13K Dall Lake 39.27 43 P **P** **18 03 07.7 +1.4**
baz=272,SNR=5.3
L14K Kuka Creek 39.56 41 P **P** **18 03 10.0 +1.3**
baz=272
D17K Noatak River 39.64 31 P **P** **18 03 10.2 +1.0**
baz=264,SNR=8.2
C17K DeLong Mountai 39.70 30 P **P** **18 03 10.5 +0.8**
baz=263,SNR=5.3
G16K Koyuk River 39.75 35 P **P** **18 03 10.7 +0.6**
baz=267
H16K Elim 39.77 36 P **P** **18 03 10.9 +0.6**
baz=268
CHTO Chiang Mai 39.88 244 P **P** **18 03 11.4 -0.4**
CHTO Chiang Mai 39.88 244 P **P** **18 03 12.3 +0.5**
CHTO Chiang Mai 39.88 244 P **P** **18 03 11.4 -0.4**
CHTO pmax pmax
comp=Z,10.0nm,0.7s
CHTO Chiang Mai 39.88 244 P **P** **18 03 11.8 0.0**
CHTO PcP **PcP** **18 05 10.5 -0.1**
M14K Bethel 39.94 42 IAmb IAmb 18 03 15.2
comp=Z,57nm,1.1s
M14K **PcP** **18 05 11.3 +1.3**
M14K Bethel 39.94 42 P **P** **18 03 12.3 +0.5**
baz=273,SNR=8.6
E17K Hotham Inlet 40.07 32 P **P** **18 03 13.3 +0.6**
baz=266,SNR=6.6
K15K Wolf Creek Mou 40.08 40 P **P** **18 03 13.6 +0.7**
baz=272,SNR=6.4
L15K Ungalak Mounta 40.13 41 P **P** **18 03 13.4 +0.1**
baz=272
N14K Kuskokwak Cree 40.13 44 IAmb IAmb 18 03 16.9
comp=Z,54nm,0.8s
N14K Kuskokwak Cree 40.13 44 P **P** **18 03 13.7 +0.3**
baz=274,SNR=7.9
CM31 Chiang Mai Arr 40.13 244 P **P** **18 03 13.8 -0.1**
CM31 Chiang Mai Arr 40.13 244 P **P** **18 03 14.9 +1.0**
CMAR Chiang Mai Arr 40.13 244 P **P** **18 03 13.8 -0.1**
CMAR Chiang Mai Arr 40.13 244 P **P** **18 03 13.9 0.0**
comp=Z,2.2nm,0.5s,baz=41,slow=7.9,SNR=28
CMAR pP **pP** **18 04 17.6 +1.5**
comp=Z,2.2nm,1.0s,baz=39,slow=10.0,SNR=2.9
CMAR PcP **PcP** **18 05 12.0 +0.6**
comp=Z,2.9nm,0.5s,baz=44,slow=2.8,SNR=14
CMAR ScP **ScP** **18 08 29.5 0.0**
comp=Z,5.7nm,0.7s,baz=45,slow=3.5,SNR=28
comp=Z,2.2nm,0.5s
CMAR Chiang Mai Arr 40.13 244 *i* P **P** **18 03 14.5 +0.6**
CMAR pmax pmax
comp=Z,3.0nm,0.4s
SHL Shillong 40.25 259 P **P** **18 03 15.1 +0.1**
SNR=5.8
F17K Baldwin Pennin 40.25 33 P **P** **18 03 14.8 +0.6**
baz=267
B18K Kokolik River 40.30 29 P **P** **18 03 15.2 +0.6**
baz=263
O14K Tigyukauivet M 40.40 45 P **P** **18 03 15.8 +0.2**
baz=276
S12K Black Hills 40.43 50 IAmb IAmb 18 03 18.8
comp=Z,46nm,0.7s
S12K Black Hills 40.43 50 P **P** **18 03 16.1 +0.3**
baz=279
I17K Unalakleet 40.43 37 P **P** **18 03 16.3 +0.6**
baz=271
C18K Utukok River 40.44 30 P **P** **18 03 16.4 +0.5**
baz=264
G17K Kiwalik Mounta 40.46 35 P **P** **18 03 16.5 +0.6**
baz=269
J16K Anvik River 40.48 38 P **P** **18 03 16.9 +0.8**
baz=271
E18K Tukpahlearik C 40.57 32 P **P** **18 03 17.9 +1.1**
baz=266,SNR=10
M15K Kasigluk River 40.57 42 P **P** **18 03 17.8 +0.9**
baz=274,SNR=11
A19K Wainwright 40.66 28 P **P** **18 03 18.4 +0.9**
baz=263
SHLS Shalkode 40.73 290 *ij* P **P** **18 03 15.9 -2.7**
SHLS Shalkode 40.73 290 *d* P **P** **18 03 15.9 -2.7**
SGSI Sangihe 40.74 197 P **P** **18 03 18.1 -0.7**
comp=Z,106nm,0.6s
H17K Granite Mounta 40.77 36 P **P** **18 03 19.4 +1.0**
baz=270,SNR=6.2
TDK Taldyqorghan 40.81 293 *e*P **P** **18 03 19.3 +0.1**
comp=Z,56nm,0.5s
TDK Taldyqorghan 40.81 293 *e*P **P** **18 03 19.2 +0.1**
TDK pmax pmax
comp=Z,56nm,0.5s
F18K Selawik 40.90 33 P **P** **18 03 20.5 +1.0**
baz=268,SNR=9.9
N15K Kwethluk River 40.91 43 P **P** **18 03 20.9 +1.2**
baz=275,SNR=12
UZB Uzunbulak 41.03 290 *e*P **P** **18 03 20.7 -0.4**
UZB Uzunbulak 41.03 290 *e*P **P** **18 03 20.7 -0.4**
C19K Lookout Ridge 41.06 29 P **P** **18 03 21.8 +1.0**
baz=266
L16K Owhat River 41.08 41 P **P** **18 03 21.9 +0.9**
baz=274,SNR=6.3
O15K Ungalikthiuk R 41.15 45 IAmb IAmb 18 03 24.1
comp=Z,57nm,0.9s
O15K Ungalikthiuk R 41.15 45 P **P** **18 03 22.7 +1.1**
baz=277,SNR=9.6
J17K VABM Dome 41.17 38 P **P** **18 03 23.1 +1.4**
baz=273,SNR=6.0
G18K Tagagawik 41.29 34 P **P** **18 03 23.2 +0.5**
baz=270,SNR=15
SDPT Sand Point 41.38 50 P **P** **18 03 23.7 +0.2**
baz=281
M16K Timber Creek 41.38 42 P **P** **18 03 24.8 +1.3**
baz=275,SNR=11
H18K Honhosa River 41.42 35 P **P** **18 03 24.4 +0.6**
baz=271,SNR=5.5
SATY Saty 41.48 290 *e*P **P** **18 03 24.4 -0.3**
SATY Saty 41.48 290 *e*P **P** **18 03 24.4 -0.3**
N16K Nishlik Lake 41.53 43 P **P** **18 03 25.8 +1.1**
baz=276
K17K Iditarod 41.56 39 P **P** **18 03 25.9 +1.1**
baz=274,SNR=6.1
D19K Kuna River 41.56 30 P **P** **18 03 25.6 +0.8**
baz=268,SNR=10
L17K Donlin 41.60 40 P **P** **18 03 26.7 +1.5**
baz=275,SNR=14
F19K Shaleruckik Mo 41.65 33 P **P** **18 03 26.2 +0.7**
baz=270,SNR=15
S14K Fog Glacier 41.72 49 P **P** **18 03 27.3 +0.9**
baz=280
E19K Redstone River 41.87 32 P **P** **18 03 28.1 +0.8**
baz=270,SNR=16
B20K Meade River 41.98 28 IAmb IAmb 18 03 30.1
comp=Z,58nm,0.7s
B20K Meade River 41.98 28 P **P** **18 03 29.1 +1.0**
baz=267
CHNA Chernabura Isl 41.98 51 P **P** **18 03 28.4 +0.1**
baz=282
O16K Kokwok River B 41.98 44 P **P** **18 03 29.4 +1.2**
baz=278
GCSA Galena City Sc 42.07 36 P **P** **18 03 29.8 +0.9**
baz=273
M17K Holitna River 42.08 41 IAmb IAmb 18 03 32.9
comp=Z,68nm,0.9s
M17K Holitna River 42.08 41 P **P** **18 03 30.8 +1.8**
baz=276
P16K Nushagak River 42.11 45 P **P** **18 03 30.7 +1.4**
baz=278,SNR=14
D20K Etivluk River 42.12 30 P **P** **18 03 30.4 +1.1**
baz=269,SNR=11
H19K Roundabout Mou 42.21 35 IAmb IAmb 18 03 32.0
comp=Z,62nm,0.8s
H19K Roundabout Mou 42.21 35 P **P** **18 03 31.2 +1.2**
baz=272,SNR=27
J18K Innoko River 42.22 38 P **P** **18 03 30.9 +0.6**
baz=275
E20K Nigu River 42.27 31 P **P** **18 03 31.7 +1.1**
baz=270,SNR=14
N17K Nushagak Hills 42.30 42 P **P** **18 03 32.2 +1.3**
baz=277
CHGN Chignik 42.34 49 P **P** **18 03 32.2 +1.0**
baz=281
L18K Granite Mounta 42.35 40 P **P** **18 03 32.5 +1.3**
baz=276,SNR=8.8
MDOK Medeo 42.37 291 *e*P **P** **18 03 31.8 -0.1**
MDOK Medeo 42.37 291 *e*P **P** **18 03 31.8 -0.1**
AAA Alma-Ata 42.45 291 *e*P **P** **18 03 32.3 -0.1**
AAA Alma-Ata 42.45 291 *e*P **P** **18 03 32.3 -0.1**
O17K Koliganek Bris 42.45 43 P **P** **18 03 33.5 +1.4**
baz=278,SNR=34
F20K Avaraart Lake 42.46 33 P **P** **18 03 32.7 +0.8**
baz=272,SNR=8.6
TNSS Tian-Shan 42.49 291 *e*P **P** **18 03 32.8 -0.4**
TNSS Tian-Shan 42.49 291 *e*P **P** **18 03 32.7 -0.4**
R16K Pilot Point 42.56 47 P **P** **18 03 34.1 +1.2**
baz=280
J19K Poorman 42.67 37 P **P** **18 03 34.6 +0.9**
baz=275,SNR=12
A22K Sinclair Lake 42.76 27 P **P** **18 03 35.4 +1.1**
baz=268
C21K Knifeblade Rid 42.78 29 P **P** **18 03 36.2 +1.6**
baz=270,SNR=6.6
M18K Stony River 42.84 41 P **P** **18 03 36.7 +1.5**
baz=277,SNR=12
B21K Ikpikpuk River 42.85 29 P **P** **18 03 36.2 +1.2**
baz=270
Q16K King Salmon 42.85 45 P **P** **18 03 36.6 +1.4**
baz=280,SNR=11
H20K Anotleneega Mo 42.87 35 P **P** **18 03 36.4 +1.0**
baz=274,SNR=23
P17K Kvichak River 42.87 44 P **P** **18 03 37.3 +2.0**
baz=279,SNR=28
N18K Kilae Creek 42.92 42 P **P** **18 03 37.8 +2.0**
baz=278,SNR=25
BRZS Berezniki 42.99 302 *e*P **P** **18 03 36.2 -0.3**
BRZS Berezniki 42.99 302 *e*P **P** **18 03 36.2 -0.3**
I20K Naaghedeneel 43.09 36 P **P** **18 03 38.2 +1.2**
baz=275,SNR=5.1
R17L Mt. Peulik Vol 43.19 46 P **P** **18 03 39.3 +1.3**
baz=281,SNR=8.4
PLK4 Peulik 4 43.19 46 IAmb IAmb 18 03 41.5
comp=Z,62nm,0.9s
L19K White Mountain 43.21 40 P **P** **18 03 39.6 +1.5**
baz=278,SNR=6.1
TNTI Ternate 43.24 193 P **P** **18 03 38.8 0.0**
TNTI Ternate 43.24 193 P **P** **18 03 39.4 +0.6**
TNTI Ternate 43.24 193 P **P** **18 03 40.5 +1.7**
B22K Teshekpuk Lake 43.26 28 P **P** **18 03 39.4 +1.1**
baz=270
ULHL Ulahol 43.27 290 P **P** **18 03 40.0 +0.8**
SNR=20
J20K Nowinta River 43.29 37 P **P** **18 03 39.9 +1.2**
baz=276,SNR=21
IMAR Indian Mountai 43.30 34 P **P** **18 03 39.1 +0.4**
Q17K Contact Creek 43.32 45 P **P** **18 03 39.9 +0.8**
baz=281
F21K Alatna River 43.32 32 P **P** **18 03 39.9 +1.0**
baz=273,SNR=18
G21K Allakaket 43.36 33 IAmb IAmb 18 03 41.3
comp=Z,48nm,0.7s
G21K Allakaket 43.36 33 P **P** **18 03 40.3 +1.1**
baz=274,SNR=31
BOOM Boomskoye usch 43.38 290 IAmb IAmb 18 03 41.4
comp=Z,52nm,0.9s
O18K Koktuh Hills 43.38 43 P **P** **18 03 41.1 +1.6**
baz=280,SNR=20
K20K Telida 43.42 38 P **P** **18 03 40.8 +1.1**
baz=277,SNR=14
P18K Big Mountain, 43.45 44 IAmb IAmb 18 03 43.6
comp=Z,65nm,0.8s
P18K Big Mountain, 43.45 44 P **P** **18 03 41.5 +1.5**
baz=280,SNR=26
TKM2 Tokmak 2 43.45 291 P **P** **18 03 41.1 +0.6**
SNR=174
M19K Big River Lodg 43.46 40 P **P** **18 03 41.6 +1.5**
baz=278,SNR=5.6
BVAR Borovoye Array 43.53 307 P **P** **18 03 41.0 +0.2**
comp=Z,84nm,0.4s,baz=69,slow=8.5,SNR=587
BVAR PcP **PcP** **18 05 22.7 +0.6**
comp=Z,7.0nm,0.6s,baz=82,slow=4.6,SNR=2.9
BVAR ScP **ScP** **18 08 42.0 -0.6**
comp=Z,12nm,0.8s,baz=81,slow=4.2,SNR=11
BVAR S **S** **18 09 44.2 -0.8**
comp=Z,3.7nm,0.8s,baz=86,slow=16,SNR=4.4
comp=Z,84nm,0.4s
D22K Ayikyak River 43.55 30 P **P** **18 03 41.7 +1.0**
baz=272
BORK Borovoye 43.57 307 *ce*P **P** **18 03 41.1 +0.1**
BORK pmax pmax
comp=Z,39nm,0.5s
N19K Bonanza Creek 43.58 42 P **P** **18 03 42.8 +1.7**
baz=279,SNR=12
L20K Farewell, AK 43.62 39 P **P** **18 03 42.9 +1.5**
baz=278,SNR=7.1
Q18K Katmai Hardscr 43.70 45 P **P** **18 03 42.9 +0.8**
baz=281,SNR=44
H21K Melozitna Rive 43.72 35 P **P** **18 03 42.8 +0.8**
baz=276
O19K Port Alsworth 43.76 42 P **P** **18 03 43.5 +1.1**
baz=280
F22K John River 43.81 32 P **P** **18 03 43.9 +1.1**
baz=274
SGDS Sogindy 43.90 292 *e*P **P** **18 03 43.8 -0.1**
E22K Anaktuvuk Pass 43.91 31 IAmb IAmb 18 03 45.6
comp=Z,54nm,0.7s
E22K Anaktuvuk Pass 43.91 31 P **P** **18 03 44.7 +1.1**
baz=274,SNR=29
KBK Karagaybulak 43.99 291 P **P** **18 03 45.3 +0.5**
SNR=141
CHMS Chumysh 43.99 292 P **P** **18 03 44.5 -0.1**
SNR=17
M20K Styx River 44.05 40 IAmb IAmb 18 03 47.9
comp=Z,46nm,0.8s
M20K Styx River 44.05 40 P **P** **18 03 46.8 +2.0**
baz=279
USP Ospenovka 44.06 292 P **P** **18 03 45.3 +0.2**
SNR=30
I21K Tanana 44.11 35 P **P** **18 03 46.4 +1.3**
baz=277,SNR=9.8
G22K Bettles 44.12 33 P **P** **18 03 45.9 +0.7**
baz=275
CHUM Lake Minchumin 44.13 37 P **P** **18 03 46.9 +1.6**
baz=278,SNR=9.3
R18K Karluk 44.21 46 P **P** **18 03 47.4 +1.4**
baz=283
C23K Itkillik River 44.23 28 IAmb IAmb 18 03 48.2
comp=Z,45nm,0.7s
C23K Itkillik River 44.23 28 P **P** **18 03 47.0 +1.0**
baz=273,SNR=9.4
D23K Nanushuk River 44.26 30 P **P** **18 03 47.6 +1.3**
baz=274
H22K Ishtalitna Cre 44.28 34 P **P** **18 03 47.8 +1.3**
baz=277,SNR=24
AAK Ala-Archa 44.31 291 P **P** **18 03 47.4 +0.2**
SNR=37
AAK Ala-Archa 44.31 291 P **P** **18 03 47.0 -0.3**
AAK Ala-Archa 44.31 291 P **P** **18 03 47.2 0.0**
comp=Z,44nm,0.3s,baz=120,slow=7.7,SNR=88
AAK ScP **ScP** **18 08 45.1 -1.1**
comp=Z,6.4nm,0.8s,baz=126,slow=2.8,SNR=6.5
AAK S **S** **18 09 56.8 0.0**
comp=Z,1.3nm,0.5s,baz=30,slow=20,SNR=1.6
comp=Z,44nm,0.3s
AAK Ala-Archa 44.31 291 P **P** **18 03 47.5 +0.2**
AAK Ala-Archa 44.31 291 *i* P **P** **18 03 47.4 +0.2**
SNR=38
AAK *i* P P 18 03 47.7 +0.4
SNR=34
AAK Ala-Archa 44.31 291 P **P** **18 03 47.3 +0.2**
AAK pP **pP** **18 04 51.1 -0.6**
PPLA Purkeypile 44.33 38 P **P** **18 03 48.8 +1.7**
baz=279,SNR=10
Q19K Cape Douglas, 44.34 44 P **P** **18 03 47.6 +0.6**
baz=282,SNR=6.8
SWI Sorong 44.34 187 P **P** **18 03 47.5 0.0**
comp=Z,37nm,0.8s
P19K Oil Pt 44.40 43 IAmb IAmb 18 03 50.5
comp=Z,47nm,0.8s
P19K Oil Pt 44.40 43 P **P** **18 03 48.8 +1.2**
baz=281
BAKI Biak 44.43 180 P **P** **18 03 49.2 +1.0**
comp=Z,37nm,0.7s
UCH Uchtor 44.46 291 P **P** **18 03 49.1 +0.4**
SNR=12
RED Redoubt Volcan 44.48 42 IAmb IAmb 18 03 50.5
comp=Z,47nm,0.8s
KSH Kashi 44.57 287 P **P** **18 03 53.0 +3.7**
KSH pmax pmax
comp=Z,42nm,0.8s
COLD Coldfoot 44.60 32 P **P** **18 03 50.0 +1.0**
baz=276,SNR=15
N20K Mount Spurr 44.61 41 P **P** **18 03 50.9 +1.7**
baz=281
SPCR Spurr Chakacha 44.61 41 P **P** **18 03 50.9 +1.7**
baz=281
O20K Slope Mountain 44.62 42 P **P** **18 03 50.5 +1.3**
baz=281,SNR=6.2
MLY Manley 44.65 35 P **P** **18 03 50.7 +1.2**
baz=278,SNR=6.1
BPAW Bear Paw Mtn. 44.68 37 P **P** **18 03 51.1 +1.5**
baz=279,SNR=9.6
SPU Mount Spurr 44.68 41 IAmb IAmb 18 03 52.5
comp=Z,64nm,1.0s
TOLK Toolik Lake Re 44.69 30 P **P** **18 03 50.6 +0.9**
baz=275,SNR=6.0
G23K Bananza Creek 44.73 33 IAmb IAmb 18 03 51.9
comp=Z,43nm,0.8s
G23K Bananza Creek 44.73 33 P **P** **18 03 50.9 +0.9**
baz=277,SNR=34
E23K Chandalar 44.73 31 IAmb IAmb 18 03 52.3
comp=Z,42nm,0.7s
E23K Chandalar 44.73 31 P **P** **18 03 51.3 +1.2**
baz=276,SNR=26
SKT Skwentna 44.78 40 P **P** **18 03 51.1 +0.7**
baz=280,SNR=7.3
EKS2 Erkin-Say 44.78 292 P **P** **18 03 51.0 +0.1**
SNR=28
KTH Kantishna Hill 44.79 37 IAmb IAmb 18 03 53.3
comp=Z,93nm,0.9s
OHAK Old Harbor 44.90 47 IAmb IAmb 18 03 53.0
comp=Z,68nm,0.9s
OHAK Old Harbor 44.90 47 P **P** **18 03 52.1 +0.7**
OHAK Old Harbor 44.90 47 P **P** **18 03 51.8 +0.4**
baz=284,SNR=11
C24K Franklin Bluff 44.91 28 P **P** **18 03 52.4 +1.1**
baz=275,SNR=18
D24K Happy Valley 44.91 29 IAmb IAmb 18 03 53.5
comp=Z,75nm,0.6s
D24K Happy Valley 44.91 29 P **P** **18 03 52.5 +1.1**
baz=276,SNR=25
H23K Yukon River 45.03 34 P **P** **18 03 54.0 +1.6**
baz=278
Q20K Shuyak Island 45.04 44 P **P** **18 03 52.9 +0.3**
baz=283,SNR=5.1
SYI Shuyak Island 45.05 44 IAmb IAmb 18 03 54.1
comp=Z,74nm,0.8s
TRF Thorofare Moun 45.09 37 P **P** **18 03 54.3 +1.3**
baz=280,SNR=13
KDAK Kodiak Island 45.14 46 P **P** **18 03 53.6 +0.3**
KDAK IAmb IAmb 18 03 54.7
comp=Z,74nm,0.9s
KDAK Kodiak Island 45.14 46 P **P** **18 03 53.6 +0.3**

KDAK pmax pmax
comp=Z,74nm,1.0s
KDAK Kodiak Island 45.14 46 P P 18 03 53.7 +0.5
baz=284
E24K Your Creek 45.15 31 IAmb IAmb 18 03 55.6
comp=Z,111nm,1.6s
E24K Your Creek 45.15 31 P P 18 03 54.6 +1.2
baz=277,SNR=20
HOM Homer 45.19 43 P P 18 03 54.2 +0.5
baz=283
I23K Minto, Yukon-K 45.21 35 P P 18 03 55.4 +1.6
baz=279,SNR=21
SUA Susitna One 45.25 40 IAmb IAmb 18 03 55.5
comp=Z,44nm,0.6s
SUA Susitna One 45.25 40 P P 18 03 55.1 +0.8
baz=282,SNR=21
SMPI Sarmi 45.27 177 P P 18 03 55.8 +1.0
comp=Z,58nm,0.9s
CUT Chulitna 45.29 39 IAmb IAmb 18 03 56.2
comp=Z,62nm,0.7s
CUT Chulitna 45.29 39 P P 18 03 55.4 +1.0
baz=281,SNR=6.4
CNPM China Poot 45.42 43 IAmb IAmb 18 03 57.0
comp=Z,50nm,0.5s
NEA2 Nenana 45.42 36 IAmb IAmb 18 03 58.6
comp=Z,67nm,0.7s
NEA2 Nenana 45.42 36 P P 18 03 56.9 +1.5
baz=280,SNR=42
F24K Squaw Lake 45.45 32 IAmb IAmb 18 03 58.0
comp=Z,46nm,0.6s
F24K Squaw Lake 45.45 32 P P 18 03 56.9 +1.3
baz=278,SNR=52
M22K Willow 45.48 40 P P 18 03 56.7 +0.8
baz=282
BRLK Bradley Lake 45.54 43 IAmb IAmb 18 03 59.0
comp=Z,65nm,0.6s
BRSE Bradley Lake S 45.62 43 P P 18 03 58.5 +1.5
baz=283,SNR=16
MCK McKinley 45.63 37 IAmb IAmb 18 03 59.7
comp=Z,90nm,1.1s
MCK McKinley 45.63 37 P P 18 03 58.3 +1.2
baz=281,SNR=32
SLKM Skilak Lake 45.70 41 IAmb IAmb 18 03 59.0
comp=Z,97nm,1.1s
H24K Noodor Dome 45.71 34 P P 18 03 59.4 +1.7
baz=280
G24K Hadweenzic Riv 45.73 33 P P 18 03 59.3 +1.5
baz=279,SNR=13
D25K Kavik River 45.76 29 IAmb IAmb 18 04 00.0
comp=Z,43nm,0.6s
D25K Kavik River 45.76 29 P P 18 03 59.0 +1.0
baz=278
RC01 Rabbit Creek A 45.80 41 IAmb IAmb 18 04 00.2
comp=Z,59nm,0.8s
RC01 Rabbit Creek A 45.80 41 P P 18 03 59.4 +1.0
baz=283,SNR=10
WRH Wood River Hil 45.86 36 IAmb IAmb 18 04 01.1
comp=Z,67nm,1.1s
COLA College 45.89 35 P P 18 04 00.5 +1.6
COLA College 45.89 35 P P 18 04 00.6 +1.6
COLA College 45.89 35 P P 18 04 00.5 +1.6
COLA pmax pmax
comp=Z,127nm,0.9s
COLA College 45.89 35 P P 18 04 00.5 +1.6
baz=281
COLA College 45.89 35 P P 18 04 00.6 +1.6
JAY Jayapura 45.91 174 P P 18 04 00.4 +0.6
comp=Z,22nm,0.7s,baz=317,slow=10,SNR=21
comp=Z,22nm,0.7s
JAY Jayapura 45.91 174 P P 18 03 59.7 -0.1
comp=Z,27nm,0.9s
O22K Cooper Landing 45.95 41 P P 18 04 00.4 +0.9
baz=283
PMR Palmer 45.98 40 IAmb IAmb 18 04 01.4
comp=Z,106nm,1.4s
PMR Palmer 45.98 40 P P 18 04 01.0 +1.3
PMR Palmer 45.98 40 P P 18 04 00.4 +0.7
baz=283,SNR=11
WAT1 Susitna Watana 45.98 38 P P 18 04 00.4 +0.6
baz=282
POKR Poker Plat Res 46.02 35 IAmb IAmb 18 04 03.1
comp=Z,84nm,0.9s
POKR Poker Plat Res 46.02 35 P P 18 04 01.5 +1.4
baz=281,SNR=19
SBUM Sibu 46.13 215 P P 18 04 02.9 +1.5
SBUM Sibu 46.13 215 P P 18 04 03.3 +1.8
SEW Seward 46.16 42 IAmb IAmb 18 04 03.0
comp=Z,101nm,0.9s
SEW Seward 46.16 42 P P 18 04 01.9 +0.7
baz=284,SNR=16
C26K Camden Bay 46.19 28 P P 18 04 02.8 +1.6
baz=278
E25K Arctic Village 46.23 31 P P 18 04 03.2 +1.5
baz=279,SNR=18
SANI Sanana 46.24 194 P P 18 04 02.0 -0.3
SANI Sanana 46.24 194 P P 18 04 02.0 -0.3
comp=Z,509nmcomp=Z,44nm,0.6s
G25K Bearman Lake 46.26 32 P P 18 04 03.5 +1.7
baz=280,SNR=12
F25K Christian Rive 46.29 31 P P 18 04 03.9 +1.7
baz=280,SNR=21
SML Sawmill 46.30 39 P P 18 04 03.4 +1.1
baz=283,SNR=25
IL31 46.31 35 IAmb IAmb 18 04 04.0
comp=Z,44nm,0.7s
ILAR Eielson Array 46.31 35 P P 18 04 02.7 +0.4
ILAR Eielson Array 46.31 35 P P 18 04 03.0 +0.7
comp=Z,33nm,0.7s,baz=279,slow=7.0,SNR=153
ILAR PcP PcP 18 05 30.8 -0.8
comp=Z,1.7nm,0.9s,baz=298,slow=3.6,SNR=2.3
ILAR ScP ScP 18 08 54.3 +0.5
comp=Z,0.8nm,0.7s,baz=284,slow=3.6,SNR=3.6
comp=Z,33nm,0.7s
KNK Knik Glacier 46.33 40 IAmb IAmb 18 04 04.7
comp=Z,66nm,0.6s
KNK Knik Glacier 46.33 40 P P 18 04 03.7 +1.1
baz=283,SNR=25
MANU Manus Island 46.34 165 P P 18 04 03.5 +0.4
MANU IAmb IAmb 18 04 04.7
comp=Z,43nm,0.7s
DZA Taraz 46.34 293 *eP* **P 18 04 02.9 -0.1**
DZA Taraz 46.34 293 *eP* **P 18 04 02.8 -0.1**
HDA Harding Lake 46.36 36 P **P 18 04 03.4 +0.7**
baz=282,SNR=68
WAT6 Susitna Watana 46.40 38 P P 18 04 04.0 +0.8
baz=283,SNR=16
DHY Denali Highway 46.45 38 P P 18 04 04.5 +0.9
baz=283,SNR=72
H25L Birch Creek 46.46 33 P P 18 04 05.4 +2.0
baz=281,SNR=25
PWL Port Wells 46.52 41 IAmb IAmb 18 04 05.8
comp=Z,49nm,0.7s
PWL Port Wells 46.52 41 P P 18 04 05.5 +1.5
baz=284,SNR=18
M23K Glacier View 46.59 39 P P 18 04 05.7 +1.3
baz=284,SNR=15
C27K Jago River 46.65 28 IAmb IAmb 18 04 07.5
comp=Z,78nm,0.8s
C27K Jago River 46.65 28 P P 18 04 06.7 +1.9
baz=280,SNR=29
BMAR Burnt Mountain 46.72 31 P P 18 04 06.7 +1.2
PRP Porcupine Dome 46.73 34 IAmb IAmb 18 04 08.3
comp=Z,84nm,0.7s
PRP Porcupine Dome 46.73 34 P P 18 04 07.2 +1.5
baz=282,SNR=40
SCM Sheep Creek Mo 46.76 39 IAmb IAmb 18 04 08.2
comp=Z,69nm,0.7s
SCM Sheep Creek Mo 46.76 39 P P 18 04 07.4 +1.5
baz=284,SNR=21
KKAR Karatay Array 46.80 294 P P 18 04 05.8 -0.6
KKAR Karatay Array 46.80 294 P P 18 04 05.8 -0.6
F26K Sheenjek River 46.84 31 IAmb IAmb 18 04 09.3
comp=Z,45nm,0.8s
F26K Sheenjek River 46.84 31 P P 18 04 08.4 +2.1
baz=281,SNR=31
J25K Salcha River, 46.98 35 P P 18 04 07.2 -0.3
baz=283,SNR=19
K24K Donnelly Dome 46.99 36 P P 18 04 08.5 +0.9
baz=283,SNR=24
MSAI Masohi 47.05 190 P P 18 04 10.4 +1.8
GLI Glacier Island 47.10 40 P P 18 04 09.2 +0.8
GLI IAmb IAmb 18 04 10.5
comp=Z,86nm,0.8s
GLI Glacier Island 47.10 40 P P 18 04 09.6 +1.2
baz=285,SNR=11
G26K Porcupine Rive 47.12 32 IAmb IAmb 18 04 11.5
comp=Z,73nm,0.8s
G26K Porcupine Rive 47.12 32 P P 18 04 10.5 +2.0
baz=282,SNR=51
P23K Montague Islan 47.19 42 P P 18 04 11.3 +2.2
baz=285,SNR=5.3
M24K Tolsona, Glenn 47.22 39 IAmb IAmb 18 04 11.9
comp=Z,68nm,0.7s
M24K Tolsona, Glenn 47.22 39 P P 18 04 11.2 +1.8
baz=284,SNR=9.7
BRLS Boroldav 47.28 294 *i/P* **P 18 04 11.5 +1.4**
BRLS Boroldav 47.28 294 *d/P* **P 18 04 11.5 +1.4**
PAX Paxson 47.32 37 P P 18 04 11.1 +0.9
baz=284,SNR=10
RIDG Independent Ri 47.41 36 IAmb IAmb 18 04 12.3
comp=Z,38nm,0.6s
RIDG Independent Ri 47.41 36 P P 18 04 11.4 +0.6
baz=284,SNR=29
FID Port Fidalgo 47.43 41 P P 18 04 11.8 +0.9
KLU Klutina 47.49 39 IAmb IAmb 18 04 14.1
comp=Z,60nm,0.8s
KLU Klutina 47.49 39 P P 18 04 12.8 +1.2
baz=285,SNR=27
HIN Hinchinbrook I 47.51 41 IAmb IAmb 18 04 14.0
comp=Z,109nm,0.9s
IUG luzhnay 47.52 293 *eP* **P 18 04 12.0 -0.1**
IUG luzhnay 47.52 293 *eP* **P 18 04 12.0 -0.1**
HARP HAARP 47.61 38 P P 18 04 14.1 +1.8
baz=285,SNR=26
DIV Divide 47.66 40 IAmb IAmb 18 04 15.3
comp=Z,108nm,1.1s
D27M Malcolm River 47.67 29 P P 18 04 14.2 +1.4
baz=282,SNR=14
E27K Coleen River 47.68 30 P P 18 04 14.3 +1.5
baz=283,SNR=15
SCRK Sand Creek 47.72 36 IAmb IAmb 18 04 14.8
comp=Z,85nm,0.8s
SCRK Sand Creek 47.72 36 P P 18 04 13.7 +0.4
baz=284,SNR=91
CHM Chimkent 47.74 293 *eP* **P 18 04 13.6 0.0**
CHM Chimkent 47.74 293 *eP* **P 18 04 13.6 0.0**
I26K Coal Creek Min 47.74 34 P P 18 04 14.2 +1.0
baz=284,SNR=16
J26L Joseph Creek 47.77 35 P P 18 04 13.4 -0.2
baz=284
DOT Dot Lake 47.77 36 IAmb IAmb 18 04 15.1
comp=Z,47nm,0.8s
KSM Kuching 47.81 216 P P 18 04 15.5 +1.1
KSM Kuching 47.81 216 P P 18 04 15.8 +1.4
EYAK Cordova Ski Ar 47.83 41 IAmb IAmb 18 04 16.8
comp=Z,138nm,1.2s
EYAK Cordova Ski Ar 47.83 41 P P 18 04 15.7 +1.7
baz=286,SNR=8.2
G27K Doyon Strip 47.97 32 P P 18 04 17.1 +2.0
baz=284,SNR=28
N25K Chitina, Valde 48.08 39 IAmb IAmb 18 04 19.0
comp=Z,227nm,1.9s
N25K Chitina, Valde 48.08 39 P P 18 04 17.9 +2.0
baz=286,SNR=11
MENT Mentasta 48.11 37 IAmb IAmb 18 04 18.9
comp=Z,92nm,1.4s
MENT Mentasta 48.11 37 P P 18 04 17.7 +1.6
H27K Steamboat Moun 48.16 33 P P 18 04 18.6 +2.1
baz=284,SNR=22
BMRM Bremner River 48.25 40 IAmb IAmb 18 04 19.9
comp=Z,73nm,1.3s
BMRM Bremner River 48.25 40 P P 18 04 18.8 +1.6
baz=287,SNR=5.6
I27K Kandik River 48.29 33 P P 18 04 19.2 +1.7
baz=285,SNR=24
E28M Babbage River 48.32 29 P P 18 04 19.4 +1.7
baz=284,SNR=30
RAGM Ragged Mountai 48.39 41 IAmb IAmb 18 04 54.0
comp=Z,129nm,1.1s
D28M Stokes Point 48.42 28 P P 18 04 19.9 +1.6
baz=284
F28M Old Crow 48.45 31 P P 18 04 20.6 +2.0
baz=285,SNR=16
K27K Chicken 48.52 36 P P 18 04 20.7 +1.5
baz=286
M26K Nabesna, AK 48.58 38 IAmb IAmb 18 04 22.9
comp=Z,62nm,1.0s
M26K Nabesna, AK 48.58 38 P P 18 04 21.7 +2.0
baz=287,SNR=23
KAIM Kayak Island 48.65 41 P P 18 04 21.9 +1.7
baz=288
EGAK Eagle 48.70 34 IAmb IAmb 18 04 23.2
comp=Z,101nm,1.3s
VRDI Verde Repeater 48.71 39 IAmb IAmb 18 04 23.8
comp=Z,90nm,1.3s
GAR Garm 48.73 289 IAmb IAmb 18 04 25.8
comp=Z,35nm,0.5s
MCARA McCarthy VSAT 48.86 39 IAmb IAmb 18 04 25.1
comp=Z,112nm,1.5s
MCARA McCarthy VSAT 48.86 39 P P 18 04 24.0 +2.2
baz=288,SNR=9.4
L27K Beaver Creek, 48.90 37 P P 18 04 24.2 +2.1
baz=286,SNR=39
BCAR Beaver Creek A 48.92 37 P P 18 04 23.9 +1.7
E29M Blow River 48.96 29 P P 18 04 24.3 +1.9
baz=286,SNR=19
CRQM Cirque 49.00 40 IAmb IAmb 18 04 26.0
comp=Z,103nm,1.2s
I28M Miner Creek 49.01 33 IAmb IAmb 18 04 25.9
comp=Z,133nm,1.6s
I28M Miner Creek 49.01 33 P P 18 04 25.0 +2.1
baz=286,SNR=38
CRQE Cirque 49.02 40 P P 18 04 24.8 +1.7
baz=288,SNR=6.7
M27K Edge Creek, AK 49.09 38 P P 18 04 25.4 +1.8
baz=288,SNR=17
BGLC Bering Glacier 49.13 41 P P 18 04 25.5 +1.8
baz=288
TGL Tana Glacier 49.14 40 IAmb IAmb 18 04 26.7
comp=Z,64nm,0.9s
ARTI Arti 49.19 314 P P 18 04 24.5 +0.2
ARTI Arti 49.19 314 P P 18 04 24.8 +0.5
comp=Z,154nm,0.5s,baz=82,slow=5.6,SNR=246
ARTI ScP ScP 18 09 04.6 -1.6
comp=Z,5.1nm,0.6s,baz=90,slow=3.0,SNR=3.9
ARTI S S 18 11 04.7 0.0
comp=Z,8.9nm,1.0s,baz=90,slow=20,SNR=16
comp=Z,154nm,0.5s
ARTI Arti 49.19 314 *d/P* **P 18 04 24.6 +0.3**
ARTI *PP **pP** 18 05 29.6 -0.6
ARTI 18 05 45.4
ARTI 18 06 19.1
ARTI S S 18 11 05.7 +1.0
ARTI *SS **sS** 18 13 02.3 +2.1
ARTI 18 13 38.2
ARTI SS SS 18 14 33.3 -6.6
ARTI pmax pmax
comp=Z,203nm,0.9s
NIL Nilore 49.28 281 P P 18 04 25.4 +0.1
NIL IAmb IAmb 18 04 26.7
comp=Z,51nm,0.9s
NIL Nilore 49.28 281 P P 18 04 25.9 +0.6
NIL Nilore 49.28 281 P P 18 04 25.4 +0.1
NIL pmax pmax
comp=Z,51nm,1.0s
G29M Pine Creek 49.33 31 P P 18 04 27.2 +1.9
baz=287,SNR=10.0
H29M Whitestone 49.40 32 P P 18 04 27.6 +1.8
baz=287,SNR=18
RABL Rabaul 49.50 159 P P 18 04 27.3 +0.1
BARN Barnard Glacie 49.59 39 IAmb IAmb 18 04 30.3
comp=Z,70nm,0.6s
DAWY Dawson 49.64 35 P P 18 04 29.5 +1.9
baz=288,SNR=5.0
GRNC Granite Creek 49.65 40 IAmb IAmb 18 04 30.9
comp=Z,134nm,1.6s
I29M Ogilvie Camp, 49.68 33 P P 18 04 29.5 +1.6
baz=288,SNR=19
CHGR Chuyangaron 49.69 289 P P 18 04 28.2 -0.3
CHGR pmax pmax
comp=Z,180nm,1.1s
MESA MESA 49.74 40 IAmb IAmb 18 04 31.1
comp=Z,61nm,0.7s
MESA MESA 49.74 40 P P 18 04 30.4 +1.8
baz=289
CTG Chitna Glacier 49.77 39 P P 18 04 30.8 +2.0
baz=289,SNR=22
YAH Yahtse 49.78 40 IAmb IAmb 18 04 31.8
comp=Z,70nm,1.1s
SIMJ Simiganj 49.79 289 P P 18 04 28.3 -0.9
SIMJ IAmb IAmb 18 04 29.9
comp=Z,43nm,0.8s
SIMJ Simiganj 49.79 289 P P 18 04 28.8 -0.5
F30M Barrier River 49.95 30 IAmb IAmb 18 04 32.7
comp=Z,117nm,1.2s
F30M Barrier River 49.95 30 P P 18 04 31.9 +2.1
baz=288,SNR=18
G30M tAoh Zraii Nji 49.98 31 IAmb IAmb 18 04 32.5
comp=Z,67nm,1.1s
G30M tAoh Zraii Nji 49.98 31 P P 18 04 31.5 +1.3
baz=288,SNR=28
EPYK Eagle Plains 49.99 32 IAmb IAmb 18 04 32.2
comp=Z,55nm,0.6s
EPYK Eagle Plains 49.99 32 P P 18 04 31.7 +1.5
baz=288,SNR=40
J29N Klondike Camp 50.00 34 P P 18 04 31.9 +1.5
baz=289
O28M Mount Upton 50.36 39 P P 18 04 35.1 +1.7
baz=290,SNR=9.8
YUK8 Steele Glacier 50.38 39 P P 18 04 35.1 +1.6
baz=290
L29M L29M 50.48 36 IAmb IAmb 18 04 38.6
comp=Z,48nm,1.0s
L29M L29M 50.48 36 P P 18 04 36.5 +2.6
baz=290,SNR=25
K29M Barlow Dome 50.49 35 IAmb IAmb 18 04 37.0
comp=Z,68nm,1.1s
K29M Barlow Dome 50.49 35 P P 18 04 36.1 +2.0
baz=290,SNR=42
I30M Mount Dempster 50.49 33 IAmb IAmb 18 04 36.8
comp=Z,55nm,0.9s
I30M Mount Dempster 50.49 33 P P 18 04 35.9 +1.8
baz=290,SNR=58
KAPI Kappang 50.52 202 P P 18 04 34.5 -0.2
KAPI Kappang 50.52 202 P P 18 04 35.9 +1.2
KAPI Kappang 50.52 202 P P 18 04 35.7 +1.0
KAPI Kappang 50.52 202 P P 18 04 34.5 -0.2
KAPI pmax pmax
comp=Z,31nm,0.9s
INK Inuvik 50.53 29 IAmb IAmb 18 04 35.9
comp=Z,28nm,0.6s
INK Inuvik 50.53 29 P P 18 04 35.2 +1.0
baz=289,SNR=21
M29M Somme Creek 50.57 37 IAmb IAmb 18 04 38.1
comp=Z,44nm,0.9s
M29M Somme Creek 50.57 37 P P 18 04 37.1 +2.5
baz=290,SNR=34
G31M Satah River 50.73 31 IAmb IAmb 18 04 36.9
comp=Z,44nm,0.5s
G31M Satah River 50.73 31 P P 18 04 36.4 +0.8
baz=290,SNR=27
J30M Hart River 50.73 34 P P 18 04 37.6 +1.8
baz=290,SNR=22
F31M Tsiigehtchic 50.75 30 P P 18 04 36.7 +1.0
baz=290,SNR=7.2
YUK4 Talbot Arm 50.87 38 P P 18 04 38.9 +1.9
baz=291,SNR=13
ABKAR Akbulak array 50.99 305 P P 18 04 38.0 +0.1
H31M Peel River 51.09 32 IAmb IAmb 18 04 40.6
comp=Z,56nm,0.7s
H31M Peel River 51.09 32 P P 18 04 39.5 +1.2
baz=291,SNR=25
PNL Peninsula 51.13 40 P P 18 04 40.4 +1.7
baz=292
YUK6 Outpost Mounta 51.14 39 P P 18 04 41.4 +2.3
baz=291,SNR=6.8
M30M Minto, Yukon 51.24 36 P P 18 04 42.0 +2.5
baz=291,SNR=15
O29M Mount Kennedy 51.28 39 P P 18 04 42.5 +2.6
baz=292
N30M Aishikik Lake 51.52 38 P P 18 04 44.1 +2.4
baz=292,SNR=7.0
HYT Haines Junctio 51.57 39 IAmb IAmb 18 04 45.7
comp=Z,82nm,0.8s
HYT Haines Junctio 51.57 39 P P 18 04 44.8 +2.7
baz=292,SNR=34
AKTO Aktyubinsk 51.64 307 P P 18 04 42.6 0.0
comp=Z,60nm,0.7s,baz=68,slow=12,SNR=133
AKTO PP **PP 18 06 43.7 +0.2**
comp=Z,7.2nm,0.7s,baz=61,slow=9.2,SNR=2.1
AKTO ScP **ScP 18 09 15.7 -1.1**
comp=Z,10nm,0.7s,baz=66,slow=4.5,SNR=9.4
AKTO S **S 18 11 38.5 0.0**
comp=Z,2.7nm,0.9s,baz=156,slow=19,SNR=7.8
comp=Z,60nm,0.7s
KBL Kabul 51.81 284 P P 18 04 43.1 -1.3
KBL IAmb IAmb 18 04 44.4
comp=Z,30nm,0.7s
KBL Kabul 51.81 284 P P 18 04 43.1 -1.3
KBL pmax pmax
comp=Z,30nm,0.7s
A36M Sachs Harbour 51.82 23 P P 18 04 45.4 +1.8
baz=294,SNR=19
P29M Windy Craggy 51.92 40 P P 18 04 47.4 +2.8
baz=293,SNR=23
P30M Million Dollar 52.09 39 P P 18 04 48.2 +2.4
baz=293,SNR=20
N31M Braeburn, Yuko 52.10 37 IAmb IAmb 18 04 49.2
comp=Z,60nm,0.8s
N31M Braeburn, Yuko 52.10 37 P P 18 04 48.4 +2.6
baz=293,SNR=20
O30N Mendenhall 52.24 38 P P 18 04 49.1 +2.2
baz=293,SNR=10
M31M Drury Creek, Y 52.42 36 P P 18 04 49.9 +1.7
baz=293,SNR=11
PLBC Pleasant Camp 52.63 40 P P 18 04 51.9 +2.2
baz=294,SNR=9.8
WHY Whitehorse 52.83 38 IAmb IAmb 18 04 54.4
comp=Z,68nm,1.1s
WHY Whitehorse 52.83 38 P P 18 04 53.3 +2.0
baz=294,SNR=10
KIRV Kirov 52.86 319 *i* **P P 18 04 51.7 +0.4**
SKAG Skagway 53.11 40 IAmb IAmb 18 04 56.5
comp=Z,43nm,1.0s
SKAG Skagway 53.11 40 P P 18 04 55.7 +2.5
SKAG Skagway 53.11 40 P P 18 04 55.4 +2.2
baz=295,SNR=11
C36M Paulatuk 53.29 26 P P 18 04 55.6 +1.3
baz=296,SNR=15
S31K Pelican 53.31 42 IAmb IAmb 18 04 57.9
comp=Z,65nm,0.9s
S31K Pelican 53.31 42 P P 18 04 56.7 +2.1
baz=295
MMRI Maumere 53.40 198 P P 18 04 54.3 -1.5
MMRI IAmb IAmb 18 04 56.1
comp=Z,30nm,0.6s
N32M Quiet Lake 53.42 37 P P 18 04 57.2 +1.7
baz=295
SPA0 Spitsbergen Ar 53.47 347 *eP* **P 18 04 55.8 +0.3**
SPITS Spitsbergen Ar 53.47 347 P P 18 04 55.0 -0.5
comp=Z,7.8nm,0.7s,baz=69,slow=7.9,SNR=8.2
comp=Z,7.8nm,0.7s
MMPY Sheldon Lake, 53.58 35 IAmb IAmb 18 04 59.8
comp=Z,56nm,0.9s
MMPY Sheldon Lake, 53.58 35 P P 18 04 59.0 +2.4
baz=295,SNR=40
BESE Bessie Mountai 53.71 41 IAmb IAmb 18 05 00.8
comp=Z,53nm,1.0s
P32M Atlin 53.80 39 P P 18 05 00.4 +2.2
baz=296,SNR=9.0
ALE Alert 53.94 3 P P 18 04 59.8 +0.9
P33M Teslin, Yukon 53.94 38 IAmb IAmb 18 05 02.5
comp=Z,67nm,0.8s
P33M Teslin, Yukon 53.94 38 P P 18 05 01.6 +2.3
baz=296,SNR=40
R32K Eaglecrest 54.00 41 IAmb IAmb 18 05 03.0
comp=Z,60nm,1.1s
R32K Eaglecrest 54.00 41 P P 18 05 02.1 +2.5
baz=296,SNR=14
SOEI Soe 54.08 195 IAmb IAmb 18 05 05.5
comp=Z,96nm,1.4s
SOEI Soe 54.08 195 P P 18 05 00.2 -0.6
SOEI Soe 54.08 195 P P 18 05 00.6 -0.2
comp=Z,42nm,0.6s
SIT Sitka 54.15 42 P P 18 05 02.6 +2.0
SIT Sitka 54.15 42 P P 18 05 03.1 +2.5
baz=296,SNR=11
NOR Nord 54.40 355 *i* **P P 18 05 02.2 +0.1**
NOR IAmb IAmb 18 05 02.9
comp=Z,9.8nm,0.8s
BATI Baumata 54.63 195 P P 18 05 05.0 +0.4
Q32M Nakina River 54.75 39 P P 18 05 07.6 +2.4
baz=297,SNR=14
TWSI Taliwang, Sumb 54.88 204 P P 18 05 04.9 -1.4
comp=Z,84nm,0.9s
HYB Hyderabad 54.97 261 *eP* **P 18 05 07.3 +0.2**
R33M Jennings River 55.15 39 P P 18 05 10.5 +2.6
baz=298,SNR=19
VADS Vadso 55.19 337 *eP* **P 18 05 07.7 -0.2**
APA Apatity 55.26 333 *i/P* **P 18 05 06.5 -1.9**
APA *i* 18 06 04.6
APA *i* *PP **PcP 18 06 09.5 +4.7**

APA MLR MLR
comp=Z,940nm,5.0s
TGTN Hyland Airport 55.33 35 P **P** **18 05 11.0 +1.9**
baz=298,SNR=24
U33K Whale Pass 55.66 43 P **P** **18 05 14.1 +2.7**
baz=298,SNR=32
S34M Telegraph Cree 55.77 40 P **P** **18 05 14.7 +2.6**
baz=298,SNR=14
WTLY Watson Lake, Y 55.78 37 IAmb IAmb 18 05 15.1
comp=Z,56nm,0.8s
WTLY Watson Lake, Y 55.78 37 P **P** **18 05 14.4 +2.1**
baz=299,SNR=14
MDSI Maura Dua 55.86 220 P **P** **18 05 13.4 +0.1**
comp=Z,25nm,1.1s
WRAK Wrangell Islan 55.90 42 IAmb IAmb 18 05 16.5
comp=Z,60nm,1.3s
WRAK Wrangell Islan 55.90 42 P **P** **18 05 15.1 +2.0**
baz=298
CRAG Craig 55.97 43 IAmb IAmb 18 05 17.0
comp=Z,58nm,0.8s
CRAG Craig 55.97 43 P **P** **18 05 16.0 +2.5**
CRAG Craig 55.97 43 P **P** **18 05 16.0 +2.5**
baz=299,SNR=16
DLBC Dease Lake 56.03 39 P **P** **18 05 16.5 +2.4**
baz=299,SNR=26
KLMR Klimovskoe 56.31 324 *e*P **P** **18 05 13.4 -2.5**
KLMR *e*PP **pP** **18 06 22.7 -1.2**
KLMR pmax pmax
comp=Z,70nm,1.4s
WRGLY Wrigley 56.45 32 IAmb IAmb 18 05 19.4
comp=Z,84nm,1.6s
WRGLY Wrigley 56.45 32 P **P** **18 05 18.4 +1.6**
baz=301,SNR=6.1
HAMF Hammerfest 56.48 338 *e*P **P** **18 05 16.3 -0.7**
BELG Belogornoye 56.56 313 *i* P **P** **18 05 17.9 +0.1**
BELG pmax pmax
comp=Z,21nm,0.9s
ARA0 ARCESS Array S 56.63 337 *e*P **P** **18 05 17.8 -0.3**
ARCES ARCESS Array B 56.63 337 P **P** **18 05 18.1 +0.1**
comp=Z,6.8nm,0.5s,baz=59,slow=6.6,SNR=64
ARCES ScP **ScP** **18 09 37.2 -1.2**
comp=Z,5.2nm,0.9s,baz=54,slow=4.6,SNR=3.8
comp=Z,6.8nm,0.5s
T35M Bob Quinn 56.64 41 IAmb IAmb 18 05 22.4
comp=Z,62nm,1.1s
T35M Bob Quinn 56.64 41 P **P** **18 05 21.2 +2.9**
baz=300,SNR=27
HRA Herat 56.65 288 IAmb IAmb 18 05 20.4
comp=Z,39nm,0.8s
HRA pP 18 06 30.4 +3.2
V35K Ketchikan 56.79 43 P **P** **18 05 21.2 +1.9**
baz=300,SNR=12
HNR Honiara 56.82 152 P **P** **18 05 21.4 +1.4**
comp=Z,39nm,0.7s,baz=22,slow=5.4,SNR=5.0
comp=Z,39nm,0.7s
U35K Hyder 57.27 42 P **P** **18 05 24.9 +2.3**
baz=300
LIRD Liard River Hi 57.31 37 P **P** **18 05 24.6 +1.7**
baz=301,SNR=9.7
DIB Dawson Inlet, 57.41 46 IAmb IAmb 18 05 26.2
comp=Z,40nm,0.9s
COEN Coen 57.45 172 IAmb IAmb 18 05 25.8
comp=Z,32nm,0.8s
COEN Coen 57.45 172 P **P** **18 05 24.9 +0.5**
KTK1 Kautokeino 57.59 337 *e*P **P** **18 05 24.6 -0.1**
MSF Maaselka 57.62 332 P **P** **18 05 23.1 -1.8**
MSF pmax pmax
comp=Z,33nm,0.8s
MOBC Moresby Island 57.70 45 IAmb IAmb 18 05 28.3
comp=Z,48nm,0.9s
KOTAN Kotaneelee Air 57.82 36 P **P** **18 05 28.0 +1.6**
baz=302
TOAD Toad River Com 57.99 37 P **P** **18 05 29.5 +1.9**
baz=302,SNR=67
JETT Jettan, Norway 58.04 338 *e*P **P** **18 05 28.5 +0.7**
TRO Tromso 58.39 339 *e*P **P** **18 05 30.0 -0.1**
HG4B Hotspring 58.54 46 IAmb IAmb 18 05 33.8
comp=Z,38nm,0.8s
DAG Danmarks Havn 59.03 353 *i* P **P** **18 05 34.8 +0.3**
DAG IAmb IAmb 18 05 35.1
comp=Z,5.3nm,0.8s
NEEM North Greenlan 59.30 2 *i* P **P** **18 05 37.6 +0.9**
NEEM IAmb IAmb 18 05 38.2
comp=Z,19nm,0.6s
MOS Moscow 59.85 320 *e*P **P** **18 05 39.3 -1.0**
MOS *e*PP **pP** **18 06 48.9 -0.4**
MOS *e*S **S** **18 13 24.7 -1.3**
MOS *e* 18 14 54.2
MOS pmax pmax
comp=Z,79nm,1.0s
MOS pmax pmax
comp=N,40nm,1.0s
BBB Bella Bella 60.20 45 P **P** **18 05 43.2 +0.4**
BBB IAmb IAmb 18 05 45.2
comp=Z,40nm,0.8s
YKA Yellowknife Ar 60.22 30 P **P** **18 05 43.3 +0.5**
comp=Z,13nm,0.8s,baz=306,slow=8.2,SNR=16
comp=Z,13nm,0.8s
YKA Yellowknife Ar 60.22 30 *i* P **P** **18 05 43.2 +0.5**
YKA pmax pmax
comp=Z,9.0nm,0.7s
VRH Novokhopyorsk 60.31 314 *e*P **P** **18 05 42.9 -0.6**
VRH pmax pmax
comp=Z,30nm,0.7s
PALK Pallekele 60.43 250 P **P** **18 05 47.5 +2.7**
PALK P **P** **18 05 47.6 +2.7**
STEI Steigen 60.53 338 *e*P **P** **18 05 44.5 -0.2**
OBN Obninsk 60.70 320 P **P** **18 05 45.6 -0.4**
OBN Obninsk 60.70 320 *d* P **P** **18 05 46.0 0.0**
OBN *e*PP **pP** **18 06 56.2 +1.0**
OBN *e*SP **sP** **18 07 32.0 +2.2**
OBN PPP PPP 18 09 39.0
OBN *i* S **S** **18 13 32.0 -4.7**
OBN pmax pmax
comp=Z,58nm,0.7s
OBN MLR MLR
comp=Z,48nm,15.0s
POHA Pohakuloa 60.90 90 P **P** **18 05 49.4 +1.2**
FAUS Fauske 60.90 338 *e*P **P** **18 05 46.9 -0.4**
LPSR Galich'ya Gora 60.97 316 *e*P **P** **18 05 47.6 -0.3**
LPSR pmax pmax
comp=Z,60nm,0.8s
MLH Mauna Loa 61.17 90 P **P** **18 05 50.9 +0.8**
AIN Ainahou 61.20 90 P **P** **18 05 51.3 +1.1**
VORR Voronezh 61.36 315 *e*P **P** **18 05 49.5 -1.0**
VORR pmax pmax
comp=Z,30nm,0.6s
FINES FINESS Array B 61.36 329 P **P** **18 05 50.1 -0.2**
FINES FINESS Array B 61.36 329 P **P** **18 05 50.2 -0.1**
comp=Z,52nm,0.7s,baz=53,slow=6.4,SNR=189
FINES ScP **ScP** **18 09 57.9 -1.6**
comp=Z,2.2nm,0.7s,baz=67,slow=6.7,SNR=3.4
FINES S **S** **18 13 44.7 -0.1**
comp=Z,2.0nm,0.8s,baz=52,slow=23,SNR=1.9
comp=Z,52nm,0.7s
DBG Daneborg 61.49 353 *i* P **P** **18 05 51.3 +0.3**
DBG IAmb IAmb 18 05 54.3
comp=Z,2.1nm,0.7s
VSR Storozhevoye 61.64 315 *e*P **P** **18 05 52.2 -0.2**
VSR pmax pmax
comp=Z,30nm,0.7s
MTSU Mount Surprise 61.70 171 P **P** **18 05 53.6 +0.5**
VORD Divnogorie 61.72 315 *e*P **P** **18 05 52.6 -0.3**
VORD pmax pmax
comp=Z,20nm,0.8s
RAUS Rausandaksla 61.92 337 *e*P **P** **18 05 53.6 -0.5**
VAGH Vaagaholmen 61.93 338 *e*P **P** **18 05 54.0 0.0**
MOR8 Moi Rana 62.00 337 *e*P **P** **18 05 53.4 -1.1**
KONS Konsvik 62.13 338 *e*P **P** **18 05 55.1 -0.3**
STOK Stokkvaagen 62.28 338 *e*P **P** **18 05 55.5 -0.9**
AKT Akhty 62.30 302 *d* iP **P** **18 05 57.1 0.0**
AKT *e* 18 06 35.0
AKT *e*PP **pP** **18 07 05.3 -1.3**
AKT *e*SP **sP** **18 07 39.7 -1.4**
AKT *e* 18 08 15.9
AKT *e*S **S** **18 13 57.2 -0.2**
AKT pmax pmax
comp=Z,44nm,0.6s
LEIR Leirfjorden 62.42 337 *e*P **P** **18 05 57.5 +0.2**
NGCH Negor - Chabah 62.64 280 P **P** **18 06 00.6 +1.2**
SEKA Sheki 62.78 302 P **P** **18 05 58.8 -1.4**
WB0 Warramunga Arr 62.92 182 IAmb IAmb 18 06 01.7
comp=Z,28nm,1.1s
GOF Gofitskoye 63.05 307 *d* iP **P** **18 06 02.6 +0.8**
WRAB Tennant Creek 63.09 182 P **P** **18 06 01.9 -0.3**
WRAB Tennant Creek 63.09 182 P **P** **18 06 01.3 -0.9**
WRAB pmax pmax
comp=Z,12nm,0.7s
WRA Warramunga Arr 63.09 182 P **P** **18 06 01.1 -1.2**
WRA Warramunga Arr 63.09 182 P **P** **18 06 01.9 -0.4**
comp=Z,7.7nm,0.4s,baz=2.6,slow=6.6,SNR=160
WRA PcP **PcP** **18 06 37.2 +0.5**
comp=Z,12nm,0.5s,baz=2.2,slow=4.3,SNR=25
WRA S **S** **18 14 05.4 -2.0**
comp=Z,0.4nm,0.7s,baz=4.6,slow=12,SNR=4.7
WRA PKP2bc 18 35 02.9
comp=Z,1.5nm,0.9s,baz=188,slow=2.7,SNR=8.7
comp=Z,7.7nm,0.4s
WRA Warramunga Arr 63.09 182 *i* P **P** **18 06 01.9 -0.4**
WRA pmax pmax
comp=Z,9.0nm,0.4s
MNGR Mingechevir, A 63.10 302 P **P** **18 06 01.3 -0.9**
WR8 Warramunga Arr 63.10 182 IAmb IAmb 18 06 38.1
comp=Z,21nm,0.5s
TV1H Townsville Har 63.12 169 P **P** **18 06 02.9 +0.5**
LKRN Lenkeran, Azer 63.23 299 P **P** **18 06 02.3 -0.7**
GANJ Ganja 63.65 302 P **P** **18 06 04.9 -0.9**
QIS Mount Isa 63.75 177 P **P** **18 06 06.5 0.0**
UPNV Upernavik 63.75 4 *i* P **P** **18 06 06.1 +0.3**
UPNV IAmb IAmb 18 06 06.6
comp=Z,15nm,0.5s
CTAO Charters Tower 63.86 170 P **P** **18 06 07.4 +0.2**
CTAO IAmb IAmb 18 06 08.5
comp=Z,16nm,0.7s
CTAO Charters Tower 63.86 170 P **P** **18 06 07.5 +0.2**
CTAO Charters Tower 63.86 170 P **P** **18 06 07.4 +0.2**
CTAO pmax pmax
comp=Z,16nm,0.7s
KIV Kislovodsk 63.90 307 P **P** **18 06 08.1 +0.6**
KIV Kislovodsk 63.90 307 P **P** **18 06 08.5 +1.0**
KIV Kislovodsk 63.90 307 *i* P **P** **18 06 08.5 +1.0**
SNR=40
KIV Kislovodsk 63.90 307 *e*P **P** **18 06 08.0 +0.5**
KIV *e* 18 08 31.4
KIV *e*S **S** **18 14 18.1 +1.0**
KIV pmax pmax
comp=Z,150nm,1.0s
KIV pmax pmax
comp=Z,19nm,4.3s
KIV Kislovodsk 63.90 307 P **P** **18 06 08.2 +0.8**
KIV PcP **PcP** **18 06 39.7 -0.4**
KBZ Khabaz 63.91 306 P **P** **18 06 08.1 +0.7**
comp=Z,27nm,0.8s,baz=58,slow=5.6,SNR=82
KBZ S **S** **18 14 17.6 +0.7**
comp=Z,2.5nm,1.1s,baz=51,slow=18,SNR=2.9
comp=Z,27nm,0.8s
ILON Igloolik, Nuna 64.03 14 IAmb IAmb 18 06 08.5
comp=Z,31nm,0.7s
SHA1 Shidzhatmaz 64.05 306 *e*P **P** **18 06 09.3 +0.7**
ERBR Yeremizino-Bor 64.13 309 *e*P **P** **18 06 08.8 0.0**
ERBR pmax pmax
comp=Z,108nm,0.7s
CLRS Cowichan Lake 64.22 46 IAmb IAmb 18 06 11.5
comp=Z,27nm,1.1s
SUMG Summit 64.23 358 IAmb IAmb 18 06 13.9
comp=Z,18nm,0.6s
SUMG Summit 64.23 358 *i* P **P** **18 06 10.7 +1.2**
SUMG IAmb IAmb 18 06 13.8
comp=Z,17nm,0.6s
LLLB Lillooet 64.30 44 IAmb IAmb 18 06 12.0
comp=Z,26nm,1.0s
TRLG Trialeti 64.48 304 P **P** **18 06 12.0 +0.6**
LABN Labinsk 64.63 308 *e*P **P** **18 06 12.3 +0.3**
LABN pmax pmax
comp=Z,90nm,0.7s
PGC Sidney 64.68 46 IAmb IAmb 18 06 14.3
comp=Z,22nm,0.7s
GNI Garni 64.92 302 P **P** **18 06 15.3 +1.2**
GNI IAmb IAmb 18 06 17.9
comp=Z,22nm,1.1s
GNI Garni 64.92 302 P **P** **18 06 15.3 +1.2**
GNI Garni 64.92 302 P **P** **18 06 15.3 +1.2**
GNI pmax pmax
comp=Z,22nm,1.1s
BLKN Baker Lake 64.98 22 IAmb IAmb 18 06 14.8
comp=Z,41nm,1.3s
B04A Port Angeles 65.02 47 IAmb IAmb 18 06 16.9
comp=Z,30nm,1.0s
NAX Nakhchivan 65.03 301 P **P** **18 06 13.8 -1.0**
SANVU Saraoutou 65.04 147 P **P** **18 06 15.1 +0.2**
MNK Minsk 65.06 322 *i* P **P** **18 06 15.5 +0.9**
MNK *i* *PP **pP** **18 07 28.3 +3.4**
MNK *i* 18 08 42.8
MNK *i* PPP PPP 18 10 22.3
MNK *i* S **S** **18 14 34.2 +3.6**
MNK *i* SS **SS** **18 18 53.5 +5.1**
MNK pmax pmax
comp=E,13nm,0.6s
MNK pmax pmax
comp=N,25nm,0.8s
MNK pmax pmax
comp=Z,82nm,0.8s
NLWA Neilton Lookou 65.23 48 IAmb IAmb 18 06 18.7
comp=Z,38nm,1.0s
WSAR Wadi Sarin 65.74 280 P **P** **18 06 20.4 +0.9**
BANOM Banah 65.75 283 P **P** **18 06 20.0 +0.5**
BANOM Banah 65.75 283 *i* P **P** **18 06 20.0 +0.5**
SNR=24
SHME Shamm 65.78 284 P **P** **18 06 19.9 +0.3**
SNR=6.8
SHME Shamm 65.78 284 *i* P **P** **18 06 20.0 +0.3**
SNR=24
SOC Sochi 65.85 308 *e*P **P** **18 06 16.9 -2.9**
SOC *e* 18 08 47.8
SOC *e*PPP PPP 18 10 33.3
SOC *e*S **S** **18 14 36.6 -3.9**
SOC *e*SS **SS** **18 19 05.9 +4.8**
SOC pmax pmax
comp=Z,23nm,0.7s
JLN Jalan Bani Buh 65.86 278 P **P** **18 06 21.2 +1.0**
BATM Batumi 65.89 305 ⇓P **P** **18 06 20.8 +0.6**
BATM Batumi 65.89 305 P **P** **18 06 20.7 +0.6**
BIDO Bidbid 65.93 280 P **P** **18 06 22.3 +1.6**
MBWA Marble Bar 66.08 197 P **P** **18 06 20.8 -0.6**
MBWA IAmb IAmb 18 06 22.2
comp=Z,17nm,0.7s
MDH Madha 66.13 283 P **P** **18 06 21.2 -0.7**
MDH Madha 66.13 283 P **P** **18 06 21.4 -0.5**
MASF Masafi 66.19 283 P **P** **18 06 22.6 +0.4**
SMDO Samad 66.27 280 P **P** **18 06 24.5 +1.5**
ANN Anapa 66.40 310 *e*P **P** **18 06 23.0 -0.2**
ANN pmax pmax
comp=Z,31nm,0.6s
UOSS Minazif 66.42 283 P **P** **18 06 23.6 -0.1**
UOSS IAmb IAmb 18 06 24.7
comp=Z,22nm,0.6s
UOSS Minazif 66.42 283 P **P** **18 06 24.0 +0.3**
UOSS Minazif 66.42 283 *i* P **P** **18 06 24.3 +0.6**
SNR=8.2
PSA00 Pilbara Seismi 66.45 197 P **P** **18 06 23.0 -0.8**
PSA00 Pilbara Seismi 66.45 197 IAmb IAmb 18 06 24.7
comp=Z,23nm,0.9s
HOQ Hoqain 66.47 281 P **P** **18 06 24.8 +0.7**
HATD Hatta, Dubai 66.54 283 P **P** **18 06 25.2 +0.7**
SNR=5.5
HATD Hatta, Dubai 66.54 283 *i* P **P** **18 06 25.3 +0.8**
SNR=14
NC405 NORSAR Array S 66.56 334 IAmb IAmb 18 06 25.1
comp=Z,35nm,0.8s
NC303 NORSAR Array S 66.59 334 IAmb IAmb 18 06 25.2
comp=Z,41nm,1.1s
HFS Hagfors 66.66 333 P **P** **18 06 24.7 0.0**
comp=Z,14nm,0.5s,baz=42,slow=5.5,SNR=74
comp=Z,14nm,0.5s
JMDO Jabal Madar 66.66 279 P **P** **18 06 26.1 +0.8**
DOMB Dombas 66.66 336 *e*P **P** **18 06 24.2 -0.4**
ASHO Ashiyiah 66.68 282 P **P** **18 06 26.0 +0.6**
SNR=5.1
ASHO Ashiyiah 66.68 282 *i* P **P** **18 06 26.0 +0.6**
SNR=10
SOHO SOHO 66.69 282 P **P** **18 06 25.8 +0.4**
SOHO SOHO 66.69 282 *i* P **P** **18 06 26.1 +0.7**
SNR=7.1
MOL Molde 66.69 337 *e*P **P** **18 06 24.0 -0.8**
NC204 NORSAR Array S 66.74 335 IAmb IAmb 18 06 26.3
comp=Z,39nm,0.9s
NB201 NORSAR Array S 66.75 334 IAmb IAmb 18 06 26.6
comp=Z,31nm,0.9s
NAZ Nazwa, Dubai 66.78 283 P **P** **18 06 26.6 +0.6**
NAZ Nazwa, Dubai 66.78 283 P **P** **18 06 26.5 +0.5**
NB2 NORSAR Subarra 66.78 334 P **P** **18 06 25.2 -0.2**
comp=Z,16nm,0.6s,baz=38,slow=6.5
NB2 NORSAR Subarra 66.78 334 P **P** **18 06 25.2 -0.2**
comp=Z,16nm,0.6s,baz=38,slow=6.5
NOA NORSAR Array B 66.78 334 P **P** **18 06 25.4 0.0**
comp=Z,17nm,0.7s,baz=39,slow=6.2,SNR=71
comp=Z,17nm,0.7s
ASAR Alice Springs 66.81 182 P **P** **18 06 26.1 +0.1**
ASAR Alice Springs 66.81 182 P **P** **18 06 26.4 +0.3**
comp=Z,24nm,0.7s,baz=2.2,slow=6.3,SNR=136
ASAR PcP **PcP** **18 06 51.7 -0.4**
comp=Z,5.1nm,0.6s,baz=7.5,slow=5.4,SNR=4.1
ASAR PKPPKP **P'P'df** **18 34 50.6 +5.1**
comp=Z,0.9nm,0.8s,baz=177,slow=3.5,SNR=4.5
ASAR PKP2bc 18 34 54.7
comp=Z,1.3nm,0.9s,baz=185,slow=3.4,SNR=9.2
comp=Z,24nm,0.7s
AKASG Malin Array Be 66.92 319 P **P** **18 06 26.1 -0.3**
AKASG Malin Array Be 66.92 319 P **P** **18 06 26.3 -0.1**
comp=Z,30nm,0.6s,baz=48,slow=6.7,SNR=131
AKASG pP **pP** **18 07 37.2 +0.2**
comp=Z,9.2nm,1.1s,baz=50,slow=7.6,SNR=1.9
AKASG PP **PP** **18 08 50.4 -7.5**
comp=Z,2.2nm,0.6s,baz=46,slow=9.4,SNR=4.7
AKASG S **S** **18 14 52.7 -0.3**
comp=Z,1.7nm,0.7s,baz=51,slow=12,SNR=6.3
comp=Z,30nm,0.6s
AKASG Malin Array Be 66.92 319 *i* P **P** **18 06 26.3 -0.1**
AKASG pmax pmax
comp=Z,31nm,0.6s
AKBB Malin Array Si 66.92 319 *i* P **P** **18 06 26.1 -0.3**
AKBB pmax pmax
comp=Z,33nm,0.7s
NBO00 NORSAR Array S 66.92 335 IAmb IAmb 18 06 27.6
comp=Z,19nm,0.7s
KIEV Kiev 66.93 319 P **P** **18 06 26.2 -0.3**
KIEV IAmb IAmb 18 06 27.2
comp=Z,30nm,0.7s
KIEV Kiev 66.93 319 P **P** **18 06 26.6 +0.1**
KIEV Kiev 66.93 319 P **P** **18 06 26.2 -0.3**
KIEV pmax pmax
comp=Z,30nm,0.7s
KIEV Kiev 66.93 319 P **P** **18 06 26.0 -0.5**
FAQ Al Faqa, Dubai 66.98 283 P **P** **18 06 27.4 +0.2**
FAQ Al Faqa, Dubai 66.98 283 P **P** **18 06 27.5 +0.3**
B08A Colville Reser 67.00 45 IAmb IAmb 18 06 29.2
comp=Z,32nm,1.4s
ARQ Aragi 67.19 281 P **P** **18 06 29.5 +0.9**
SNR=5.2
ASUD Al Ashush, Dub 67.24 283 P **P** **18 06 29.6 +0.7**
ASUD Al Ashush, Dub 67.24 283 *i* P **P** **18 06 29.8 +1.0**
SNR=8.5
COR Corvallis 67.28 50 P **P** **18 06 31.1 +2.3**
COR Corvallis 67.28 50 P **P** **18 06 31.1 +2.3**
COR pmax pmax
comp=Z,73nm,1.1s
ALNE Al Ain 67.29 282 P **P** **18 06 29.7 +0.5**
SNR=7.3
ALNE Al Ain 67.29 282 *i* P **P** **18 06 29.8 +0.6**
SNR=18
AJN Ajban 67.52 283 P **P** **18 06 30.9 +0.3**
AJN Ajban 67.52 283 P **P** **18 06 31.1 +0.5**
MHTO MHTO 67.63 278 P **P** **18 06 32.3 +1.0**
SNR=9.1
MXC Moxie City 67.65 47 IAmb IAmb 18 06 33.5
comp=Z,27nm,1.2s
I03D Drain, OR 67.82 50 IAmb IAmb 18 06 35.0
comp=Z,37nm,0.8s
H04A Detroit Lake 67.84 49 IAmb IAmb 18 06 34.4
comp=Z,52nm,1.3s
E07A Sunnyside 67.89 46 IAmb IAmb 18 06 34.9
comp=Z,30nm,1.1s
G05A Wamic 67.96 48 IAmb IAmb 18 06 40.8
comp=Z,20nm,0.9s
SKAR Skarslia 67.96 335 *e*P **P** **18 06 32.8 0.0**
SIM Simferopol' 68.13 312 *e*P **P** **18 06 33.0 -1.1**
SIM *e* 18 06 58.0
SIM *e* 18 09 09.0
SIM pmax pmax
comp=Z,59nm,0.7s
HAWA Hanford 68.17 46 IAmb IAmb 18 06 36.0
comp=Z,16nm,0.8s
HYA Hoyanger 68.20 336 *e*P **P** **18 06 34.3 +0.1**
F07A Phinny Hill Vi 68.28 47 IAmb IAmb 18 06 37.5
comp=Z,40nm,1.2s
STRU Stroemstad 68.33 333 *i* P **P** **18 06 35.1 +0.2**
G06A Carlson Farm, 68.33 48 IAmb IAmb 18 06 37.9
comp=Z,37nm,1.4s
E08A Dider Farm, El 68.35 46 IAmb IAmb 18 06 37.6
comp=Z,21nm,0.9s
KONO Kongsberg 68.37 334 *e*P **P** **18 06 33.5 -1.7**
I05D Terrebonne, OR 68.52 49 IAmb IAmb 18 06 38.8
comp=Z,28nm,1.0s
UMZA Um Al Zommool 68.56 281 P **P** **18 06 37.0 0.0**
DQM DQM 68.61 278 P **P** **18 06 37.3 -0.1**
YPT Yellepit 68.69 46 IAmb IAmb 18 06 39.9
comp=Z,24nm,1.0s
JRN Qarnain Island 68.79 285 P **P** **18 06 38.1 -0.3**
MZWR Madinat Zayed 68.81 283 P **P** **18 06 38.5 -0.1**
BORU Boraas 68.86 331 *i* P **P** **18 06 38.3 0.0**
TJOU Tjoern 68.95 332 *i* P **P** **18 06 38.8 0.0**
ASK Askoy 69.04 336 *e*P **P** **18 06 39.6 +0.3**
SORM Soroca 69.05 317 ⇑P **P** **18 06 39.8 +0.1**
SORM Soroca 69.05 317 P **P** **18 06 39.7 +0.1**
ODD1 Odda 69.08 336 *e*P **P** **18 06 40.4 +0.8**
BER Bergen 69.08 336 *e*P **P** **18 06 39.4 -0.2**
LNOR Lincton Mounta 69.17 46 IAmb IAmb 18 06 43.1
comp=Z,44nm,1.8s
J05D Fort Rock, OR 69.26 50 IAmb IAmb 18 06 43.9
comp=Z,30nm,0.8s
PURM Purcari 69.35 315 ⇓P **P** **18 06 42.1 +0.6**
KHMM Horse Mountain 69.40 53 IAmb IAmb 18 06 45.0
comp=Z,54nm,1.4s
BLS5 Blasjo 69.53 335 *e*P **P** **18 06 42.7 +0.4**
SHMA Al-Shehemyia 69.54 287 P **P** **18 06 42.4 -0.6**
MZR Muzera 69.57 283 P **P** **18 06 43.2 +0.1**
MZR Muzera 69.57 283 *i* P **P** **18 06 43.3 +0.1**
SNR=7.9
MILM Milestii Mici 69.63 316 ⇓*e*P **P** **18 06 42.0 -1.2**
comp=Z,90nm,0.7s
MILM Milestii Mici 69.63 316 *de*P **P** **18 06 42.0 -1.2**
MILM pmax pmax
comp=Z,90nm,0.7s
KBD Kabd 69.71 291 P **P** **18 06 43.8 -0.2**
SAKB Bahrain 69.76 287 P **P** **18 06 44.0 -0.3**
SFJD Kangerlussuaq 69.77 3 *i* P **P** **18 06 44.5 +0.9**
SFJD IAmb IAmb 18 06 46.2
comp=Z,5.2nm,0.7s
HOMB Homborsund 69.80 334 *e*P **P** **18 06 42.7 -1.2**
HOMB Homborsund 69.80 334 *i* P **P** **18 06 44.7 +0.7**
K05A Summer Lake 69.82 50 IAmb IAmb 18 06 47.4
comp=Z,37nm,1.0s
KMRM Mail Ridge 69.83 53 IAmb IAmb 18 06 47.4
comp=Z,41nm,1.1s
N02D Trinity Center 69.93 52 IAmb IAmb 18 06 47.5
comp=Z,18nm,0.8s
BJUU Bjuv 69.96 330 *i* P **P** **18 06 45.7 +0.7**
BEL Belsk 70.00 323 *e*P **P** **18 06 46.4 +1.0**
QLP Quilpie 70.05 173 P **P** **18 06 47.0 +1.2**
M03C McCloud 70.07 52 IAmb IAmb 18 06 48.4
comp=Z,30nm,0.9s
TRNA Turayna 70.08 285 P **P** **18 06 45.6 -0.6**
SNART Snartemo 70.16 334 *i* P **P** **18 06 47.2 +1.0**
VASR Vaslui 70.34 316 ⇓P **P** **18 06 48.2 +0.8**
FFC Flin Flon 70.34 32 P **P** **18 06 47.5 +0.3**
FFC Flin Flon 70.34 32 P **P** **18 06 47.6 +0.3**
FFC pmax pmax
comp=Z,55nm,1.0s
FFC Flin Flon 70.34 32 P **P** **18 06 47.8 +0.5**
FFC PcP **PcP** **18 07 07.4 +0.6**
FFC x x 18 07 59.9
SMRA Abu-Samra 70.34 286 P **P** **18 06 47.4 -0.4**
O02D Mt. Diablo Mer 70.40 53 IAmb IAmb 18 06 50.8
comp=Z,52nm,1.2s
DY2G Dye2 70.40 1 *i* P **P** **18 06 48.6 +0.8**
DY2G IAmb IAmb 18 06 48.9
comp=Z,23nm,0.6s
BIR Birlad 70.68 316 ⇑P **P** **18 06 50.2 +0.6**
BIR Birlad 70.68 316 P **P** **18 06 50.1 +0.6**
J08A Circle Bar Ran 70.73 48 IAmb IAmb 18 06 52.6
comp=Z,20nm,1.0s
VLDR Vladesti 70.73 315 ⇓P **P** **18 06 50.5 +0.7**
HATC Hat Creek Radi 70.75 52 IAmb IAmb 18 06 52.0
comp=Z,27nm,0.8s

DZM Mont Dzumac 70.80 151 P **P** **18 06 52.0 +1.5**
DZM Mont Dzumac 70.80 151 P **P** **18 06 52.4 +1.9**
TLCR 70.80 314 ⇑P **P** **18 06 50.7 +0.5**
TLCR 70.80 314 P **P** **18 06 50.7 +0.5**
VARL Varlezi 70.81 315 ⇑P **P** **18 06 51.3 +0.9**
ILGA Ilgaz 70.89 309 IAmb IAmb 18 06 53.5
comp=Z,18nm,0.8s
O03E Paynes Creek 70.89 52 IAmb IAmb 18 06 52.8
comp=Z,53nm,1.2s
GHRR 70.93 316 ⇑P **P** **18 06 51.2 +0.2**
BUR08 Bucovina Ar. S 70.93 318 IAmb IAmb 18 06 52.7
comp=Z,20nm,0.8s
INKA Innaminka 70.94 176 IAmb IAmb 18 06 53.6
comp=Z,27nm,1.0s
BURAR Bucovina Array 70.94 318 P **P** **18 06 51.5 +0.3**
BURAR IAmb IAmb 18 06 53.1
comp=Z,27nm,0.7s
BURAR Bucovina Array 70.94 318 P **P** **18 06 51.5 +0.3**
BURAR pmax pmax
comp=Z,27nm,0.7s
YATNC Mamie plateau, 70.95 150 P **P** **18 06 53.2 +1.9**
TESR Tescani 71.00 317 ⇑P **P** **18 06 52.2 +0.7**
BNN Bunyan 71.10 306 IAmb IAmb 18 06 54.1
comp=Z,21nm,0.9s
CFR Carcaliu 71.16 315 ⇑P **P** **18 06 52.9 +0.5**
CFR Carcaliu 71.16 315 P **P** **18 06 52.8 +0.5**
PANC Panciu 71.19 316 ⇓P **P** **18 06 54.1 +1.5**
TPGR Topolog 71.23 314 ⇑P **P** **18 06 53.5 +0.7**
ONER Baraj Valea Uz 71.25 317 ⇓P **P** **18 06 54.1 +1.1**
OUENC Ouen Island, N 71.26 150 P **P** **18 06 55.3 +2.1**
GDXM Geysers 71.29 54 IAmb IAmb 18 06 56.1
comp=Z,24nm,1.0s
ODBI Odobesti 71.31 316 ⇓P **P** **18 06 54.5 +1.3**
GAZ Gaziantep 71.37 304 IAmb IAmb 18 06 56.0
comp=Z,18nm,0.9s
VRI Vrincioaia 71.41 316 ⇑P **P** **18 06 54.4 +0.5**
VRI Vrincioaia 71.41 316 P **P** **18 06 54.4 +0.5**
KOLS Kolonicke sedl 71.41 321 *e*P **P** **18 06 54.8 +0.9**
KOLS pmax pmax
comp=Z,19nm,0.6s
PLOR Plostina 71.45 316 ⇑P **P** **18 06 55.4 +1.2**
PLOR Plostina 71.45 316 P **P** **18 06 55.4 +1.2**
TIRR Tirgusor 71.50 314 ⇑P **P** **18 06 54.3 -0.1**
TIRR Tirgusor 71.50 314 P **P** **18 06 54.3 -0.1**
ORV Oroville 71.55 53 IAmb IAmb 18 06 56.4
comp=Z,35nm,1.4s
HARR Harsova 71.60 315 ⇓P **P** **18 06 55.4 +0.4**
HARR Harsova 71.60 315 P **P** **18 06 55.4 +0.4**
OJC Ojcow 71.60 323 *e*P **P** **18 06 55.8 +0.9**
TURR Turia 71.63 317 ⇑P **P** **18 06 56.7 +1.4**
TLBR Topalu 71.64 314 ⇑P **P** **18 06 55.2 0.0**
MFTR Murfatlar 71.69 314 ⇑P **P** **18 06 56.3 +0.7**
OZUR 71.72 317 ⇓P **P** **18 06 57.3 +1.5**
BMR Baia Mare 71.73 319 ⇓P **P** **18 06 57.1 +1.3**
BMR Baia Mare 71.73 319 P **P** **18 06 57.1 +1.3**
ARCR ARCALIA 71.73 318 ⇓P **P** **18 06 57.3 +1.5**
BR131 Keskin Array S 71.81 308 P **P** **18 06 57.2 +0.6**
SNR=6.6
BR131 Keskin Array S 71.81 308 *i* P **P** **18 06 56.7 +0.1**
BRTR Keskin Array B 71.81 308 P **P** **18 06 56.2 -0.4**
BRTR Keskin Array B 71.81 308 P **P** **18 06 56.8 +0.2**
comp=Z,6.2nm,0.7s,baz=68,slow=2.8,SNR=39
BRTR PP PP 18 09 29.5 -11
comp=Z,1.5nm,0.7s,baz=69,slow=7.9,SNR=4.0
comp=Z,6.2nm,0.7s
MSVF Nonsavu 71.86 138 P **P** **18 06 59.3 +2.4**
MSVF Nonsavu 71.86 138 P **P** **18 06 58.8 +1.9**
MSVF Nonsavu 71.86 138 *i* P **P** **18 06 59.3 +2.4**
MSVF pmax pmax
comp=Z,88nm,1.0s
MSVF Nonsavu 71.86 138 P **P** **18 06 59.7 +2.8**
DMTO DMTO 71.91 277 P **P** **18 06 57.9 +0.6**
DOK Doka 71.92 279 P **P** **18 06 57.7 +0.4**
NEHR Nehoiu 71.93 316 ⇓P **P** **18 06 58.5 +1.4**
NIE Niedzica 71.96 322 *e*P **P** **18 06 58.5 +1.3**
BEKR Beckworth 72.00 52 IAmb IAmb 18 06 59.6
comp=Z,28nm,0.9s
ISR Istrita 72.02 316 ⇓P **P** **18 06 59.0 +1.4**
ISR Istrita 72.02 316 P **P** **18 06 58.9 +1.4**
KIRS Kirsehir-Merke 72.04 307 ⇓P **P** **18 06 58.8 +0.9**
ICOR Ion Corvin 72.06 314 ⇑P **P** **18 06 59.1 +1.4**
MLR Muntele Rosu 72.06 316 ⇑P **P** **18 06 58.1 +0.2**
MLR Muntele Rosu 72.06 316 P **P** **18 06 58.1 +0.2**
MFID Camas Ranch 72.11 47 IAmb IAmb 18 07 00.6
comp=Z,31nm,0.9s
ANTO Ankara 72.20 308 P **P** **18 06 59.0 +0.2**
ANTO IAmb IAmb 18 07 00.4
comp=Z,16nm,0.7s
ANTO Ankara 72.20 308 P **P** **18 06 59.0 +0.2**
ANTO pmax pmax
comp=Z,16nm,0.7s
MESR Meseseni 72.36 319 ⇑P **P** **18 07 00.5 +1.0**
LANS Liptovska Anna 72.53 322 *e*P **P** **18 07 02.5 +2.0**
LANS pmax pmax
comp=Z,9.0nm,0.8s
VOIR 72.55 317 ⇑P **P** **18 07 02.0 +1.2**
VOIR 72.55 317 P **P** **18 07 01.9 +1.2**
OKC Ostrava-Krasne 72.61 323 *e*P **P** **18 07 02.3 +1.4**
OKC Ostrava-Krasne 72.61 323 *e*P **P** **18 07 02.3 +1.4**
MARR Marisel-Cluj 72.62 318 ⇑P **P** **18 07 02.4 +1.2**
WHFO Wadi Hawf 72.63 278 P **P** **18 07 01.3 -0.2**
PAHR Pah Rah Range 72.67 52 IAmb IAmb 18 07 03.7
comp=Z,41nm,1.0s
MDUB Mudurnu 72.70 310 IAmb IAmb 18 07 04.1
comp=Z,20nm,0.8s
BOZ Bozeman (W) 72.75 43 IAmb IAmb 18 07 04.2
comp=Z,26nm,0.8s
ARR Arges 72.81 317 ⇑P **P** **18 07 03.5 +1.3**
OSTC Ostas 72.89 325 *e*P **P** **18 07 03.9 +1.3**
OSTC *ex* x 18 07 07.5
OSTC Ostas 72.89 325 *e*P **P** **18 07 03.9 +1.3**
MORC Moravsky Berou 72.91 324 IAmb IAmb 18 07 04.7
comp=Z,25nm,0.8s
MORC Moravsky Berou 72.91 324 *e*P **P** **18 07 03.8 +1.1**
MORC Moravsky Berou 72.91 324 ⇓P **P** **18 07 03.9 +1.1**
MORC Moravsky Berou 72.91 324 P **P** **18 07 03.8 +1.1**
CHVC Chvalec 72.94 325 *e*P **P** **18 07 04.2 +1.4**
CHVC Chvalec 72.94 325 *e*P **P** **18 07 04.2 +1.4**
DPC Dobruska-Polom 73.01 325 *e*P **P** **18 07 04.6 +1.3**
DPC *ex* x 18 07 09.7
DPC Dobruska-Polom 73.01 325 *e*P **P** **18 07 04.6 +1.3**
UPC Upice 73.02 325 *e*P **P** **18 07 04.6 +1.3**
UPC Upice 73.02 325 *e*P **P** **18 07 04.6 +1.3**
RAZG Razgrad 73.11 314 ⇑P **P** **18 07 04.1 +0.1**
LOT Lotru 73.18 317 ⇑P **P** **18 07 05.2 +0.8**
CMB Columbia Colle 73.21 53 IAmb IAmb 18 07 06.7
comp=Z,31nm,1.2s
PSZ Piszkesteto 73.24 321 P **P** **18 07 05.4 +0.7**
PSZ Piszkesteto 73.24 321 ⇑P **P** **18 07 06.4 +1.7**
PSZ Piszkesteto 73.24 321 P **P** **18 07 05.4 +0.7**
PSZ pmax pmax
comp=Z,16nm,0.9s
DEV Deva 73.29 318 ⇑P **P** **18 07 06.6 +1.6**
DEV Deva 73.29 318 P **P** **18 07 06.5 +1.6**
ABTO Aybut 73.34 278 P **P** **18 07 05.8 +0.1**
WAKR Walker 73.45 53 IAmb IAmb 18 07 08.6
comp=Z,17nm,0.9s
YHL Hebgen Lake 73.51 43 IAmb IAmb 18 07 09.0
comp=Z,29nm,0.9s
FLTG Flechtingen 73.53 328 *e*P **P** **18 07 06.5 +0.4**
comp=Z,26nm,0.8s,baz=38,slow=6.0
JAVC Velka Javorina 73.54 323 *e*P **P** **18 07 08.6 +2.2**
BRG Berggiesshubel 73.59 326 *e*P **P** **18 07 07.3 +0.7**
comp=Z,9.9nm,0.8s,baz=38,slow=6.0
BRG Berggiesshubel 73.59 326 *i* P **P** **18 07 07.3 +0.7**
BRG Amp 18 07 08.3
comp=Z,9.9nm,0.8s
BRG Berggiesshubel 73.59 326 P **P** **18 07 11.3 +4.7**
BRG Amp 18 07 12.0
comp=Z,6.0nm,0.7s
PVCC Panska Ves 73.60 326 *e*P **P** **18 07 08.0 +1.4**
PVCC *ex* x 18 07 11.3
PVCC Panska Ves 73.60 326 *e*P **P** **18 07 08.0 +1.4**
SIRR Siria 73.62 319 ⇑P **P** **18 07 08.1 +1.2**
CTYL Yalikoy Yolu 73.62 312 ⇑P **P** **18 07 06.8 -0.1**
CLL Collm 73.64 327 IAmb IAmb 18 07 08.1
comp=Z,18nm,0.7s
CLL Collm 73.64 327 ⇓*i*P **P** **18 07 07.3 +0.5**
CLL pmax pmax
comp=Z,20nm,0.7s
CLL Collm 73.64 327 *e*P **P** **18 07 07.3 +0.5**
comp=Z,19nm,0.7s,baz=38,slow=6.0
CLL Collm 73.64 327 ⇓*i*P **P** **18 07 07.3 +0.5**
comp=Z,20nm,0.7s
CLL *i* x x 18 07 10.9
comp=Z,17nm,0.6s
CLL *e*Sx Sx 18 16 13.0
VRAC Vranov 73.67 324 *e*P **P** **18 07 08.2 +1.1**
VRAC Vranov 73.67 324 ⇑P **P** **18 07 08.2 +1.1**
VRAC Vranov 73.67 324 P **P** **18 07 08.1 +1.0**
GZR Gura Zlata 73.71 318 ⇓P **P** **18 07 08.3 +0.8**
GZR Gura Zlata 73.71 318 P **P** **18 07 08.2 +0.8**
YMR Madison River 73.75 43 IAmb IAmb 18 07 10.4
comp=Z,20nm,0.9s
SURR Surduc 73.76 318 ⇑P **P** **18 07 08.7 +1.1**
BBGB Big Mountain B 73.81 55 IAmb IAmb 18 07 10.6
comp=Z,27nm,0.9s
ELND Elena 73.89 314 ⇓P **P** **18 07 09.1 +0.7**
VLAD Vladila 73.89 316 ⇓P **P** **18 07 08.4 0.0**
RYN Ryan 73.89 52 IAmb IAmb 18 07 11.0
comp=Z,23nm,0.9s
LEGD La Grand CA 73.90 54 IAmb IAmb 18 07 10.8
comp=Z,67nm,1.5s
SMOL Smolenice 73.91 323 *e*P **P** **18 07 10.2 +1.7**
SMOL pmax pmax
comp=Z,7.0nm,1.0s
KRUC Moravsky 73.95 324 *e*P **P** **18 07 09.7 +1.0**
PRA Prague 74.01 325 *e*P **P** **18 07 11.1 +2.1**
PRA Prague 74.01 325 *e*P **P** **18 07 11.1 +2.1**
PRU Pruhonice 74.03 325 *e*P **P** **18 07 10.2 +1.1**
PRU *ex* x 18 07 14.8
PRU Pruhonice 74.03 325 *e*P **P** **18 07 10.2 +1.1**
SRO Srobarova 74.04 322 *e*P **P** **18 07 11.0 +1.8**
MODS Modra-Piesok 74.08 323 *e*P **P** **18 07 11.2 +1.7**
MODS pmax pmax
comp=Z,24nm,1.0s
BZS Buzias 74.11 319 ⇓P **P** **18 07 10.3 +0.7**
BZS Buzias 74.11 319 P **P** **18 07 10.3 +0.7**
YPP Pitchstone Pla 74.11 44 IAmb IAmb 18 07 13.6
comp=Z,70nm,1.9s
H17A Grant Village 74.14 43 IAmb IAmb 18 07 14.1
comp=Z,40nm,0.9s
NVAR Mina Array Bea 74.15 52 P **P** **18 07 11.3 +0.9**
NVAR Mina Array Bea 74.15 52 P **P** **18 07 11.5 +1.2**
comp=Z,26nm,0.7s,baz=309,slow=5.7,SNR=140
comp=Z,26nm,0.7s
PLVB Pleven 74.22 315 ⇓P **P** **18 07 10.6 +0.3**
NV11 Mina Array Sit 74.24 52 IAmb IAmb 18 07 12.9
comp=Z,20nm,0.8s
RLMT Red Lodge 74.26 42 IAmb IAmb 18 07 13.3
comp=Z,70nm,1.6s
PUNG Punghina 74.43 317 ⇑P **P** **18 07 12.5 +1.0**
BAND Balkesir-Ban 74.50 311 ⇓P **P** **18 07 12.7 +0.7**
PKD Bear Valley Ra 74.53 55 IAmb IAmb 18 07 14.2
comp=Z,21nm,0.9s
MORW Morawa 74.53 198 IAmb IAmb 18 07 13.4
comp=Z,18nm,0.8s
MORW Morawa 74.53 198 P **P** **18 07 12.7 +0.6**
LAO LASA Array 74.56 39 IAmb IAmb 18 07 14.4
comp=Z,26nm,0.9s
ZVC Zvikov 74.59 325 *e*P **P** **18 07 13.7 +1.3**
ZVC *ex* x 18 07 18.3
MDVR Moldovita 74.67 318 ⇓P **P** **18 07 13.3 +0.4**
ARMA Armidale 74.81 166 IAmb IAmb 18 07 16.6
comp=Z,36nm,0.9s
ARMA Armidale 74.81 166 P **P** **18 07 15.7 +1.9**
RAYN Ar Rayn 74.84 288 P **P** **18 07 13.9 -0.4**
RAYN Ar Rayn 74.84 288 P **P** **18 07 14.5 +0.3**
RAYN Ar Rayn 74.84 288 *i* P **P** **18 07 14.3 0.0**
SNR=18
RAYN Ar Rayn 74.84 288 P **P** **18 07 13.9 -0.4**
RAYN pmax pmax
comp=Z,9.0nm,0.8s
RAYN Ar Rayn 74.84 288 P **P** **18 07 14.0 -0.3**
TPH Tonopah 75.02 52 IAmb IAmb 18 07 17.4
comp=Z,34nm,0.9s
RONA Rosalia, Austr 75.02 323 *i* P **P** **18 07 16.4 +1.5**
comp=Z,12nm,0.6s,SNR=7.2
CKRC Cesky Krumlov 75.02 325 *e*P **P** **18 07 15.8 +1.0**
CKRC Cesky Krumlov 75.02 325 *e*P **P** **18 07 15.8 +1.0**
MANZ Manzenberg 75.02 326 *e*P **P** **18 07 15.6 +0.8**
comp=Z,1.4nm,0.9s,baz=38,slow=6.0
CONA Conrad Observa 75.04 323 *i* P **P** **18 07 16.5 +1.5**
comp=Z,10nm,0.7s,SNR=12
DSP Deep Springs 75.07 53 IAmb IAmb 18 07 18.0
comp=Z,31nm,1.1s
KHC Kasperske Hory 75.09 325 *e*P **P** **18 07 16.6 +1.4**
KHC *ex* x 18 07 21.2
KHC Kasperske Hory 75.09 325 *i* P **P** **18 07 15.8 +0.6**
KHC pmax pmax
comp=Z,12nm,0.7s
CMSA Cobar Meteorol 75.10 172 P **P** **18 07 16.6 +1.3**
STKA Stephens Creek 75.10 175 P **P** **18 07 16.2 +0.9**
comp=Z,22nm,0.7s,baz=343,slow=7.7,SNR=58
comp=Z,32nm,0.7s
STKA Stephens Creek 75.10 175 P **P** **18 07 16.6 +1.3**
STKA Stephens Creek 75.10 175 *i* P **P** **18 07 16.5 +1.3**
CSS Mathiatis 75.19 304 IAmb IAmb 18 07 17.1
comp=Z,17nm,0.7s
MMAI Mount Meron Ar 75.23 301 P **P** **18 07 17.1 +0.7**
comp=Z,3.1nm,0.4s,baz=48,slow=3.3,SNR=22
comp=Z,3.1nm,0.4s
GEC2 GERESS Array S 75.26 325 *e*P **P** **18 07 16.9 +0.6**
comp=Z,5.4nm,0.8s,baz=38,slow=6.0
GERES GERESS Array B 75.26 325 P **P** **18 07 16.9 +0.6**
comp=Z,4.3nm,0.7s,baz=42,slow=6.3,SNR=20
comp=Z,4.3nm,0.7s
RDO Rodhopi 75.33 313 IAmb IAmb 18 07 18.4
comp=Z,15nm,0.8s
WET Wettzell 75.37 326 *e*P **P** **18 07 17.9 +1.1**
comp=Z,6.7nm,0.7s,baz=38,slow=6.0
BOVS Bovan 75.51 317 ⇑P **P** **18 07 18.1 +0.4**
GRA1 Grafenberg Arr 75.61 327 IAmb IAmb 18 07 20.3
comp=Z,23nm,0.8s
GRF Grafenberg Arr 75.61 327 *e*P **P** **18 07 19.5 +1.3**
comp=Z,22nm,0.8s,baz=38,slow=6.0
GRFO Grafenberg 75.61 327 P **P** **18 07 19.6 +1.5**
GRFO IAmb IAmb 18 07 20.3
comp=Z,22nm,0.8s
GRFO Grafenberg 75.61 327 P **P** **18 07 19.6 +1.5**
GRFO pmax pmax
comp=Z,22nm,0.8s
CWC Cottonwood Cre 75.64 53 IAmb IAmb 18 07 20.6
comp=Z,36nm,1.8s
ARSA Arzberg 75.70 323 *e*P **P** **18 07 19.9 +1.1**
comp=Z,7.8nm,1.0s
EKA Eskdalemuir Ar 75.78 338 P **P** **18 07 19.1 +0.1**
comp=Z,1.6nm,0.5s,baz=28,slow=5.3,SNR=7.3
EKA PP **PP** **18 10 13.4 +0.4**
comp=Z,2.4nm,0.8s,baz=33,slow=8.0,SNR=4.1
comp=Z,1.6nm,0.5s
MOA Molln 75.79 324 *e*P **P** **18 07 20.8 +1.6**
comp=Z,4.3nm,0.9s
BW06 Boulder Array 75.82 44 IAmb IAmb 18 07 21.5
comp=Z,35nm,0.9s
PD31 Pinedale Array 75.82 44 IAmb IAmb 18 07 21.5
comp=Z,35nm,0.9s
PDAR Pinedale Array 75.82 44 P **P** **18 07 20.1 +0.3**
PDAR Pinedale Array 75.82 44 P **P** **18 07 20.4 +0.6**
comp=Z,24nm,0.8s,baz=316,slow=4.6,SNR=196
PDAR PP **PP** **18 10 14.5 +0.5**
comp=Z,0.2nm,0.3s,baz=329,slow=6.7,SNR=4.0
comp=Z,24nm,0.8s
EZN Ezine 75.84 312 ⇓P **P** **18 07 19.8 +0.2**
EZN Ezine 75.84 312 P **P** **18 07 19.7 +0.2**
SPR3 Spring Creek 3 76.00 49 IAmb IAmb 18 07 23.9
comp=Z,27nm,1.2s
TCUT Toone Canyon 76.06 46 IAmb IAmb 18 07 23.4
comp=Z,30nm,0.8s
S11A Rachel 76.15 51 IAmb IAmb 18 07 24.0
comp=Z,33nm,0.9s
ULM Lac du Bonnet 76.17 32 P **P** **18 07 21.3 +0.1**
comp=Z,36nm,0.5s,baz=326,slow=7.1,SNR=36
comp=Z,36nm,0.5s
BIOA Bad Ischl, Aus 76.18 324 *e*P **P** **18 07 22.4 +1.0**
comp=Z,9.0nm,0.9s
BIOA *i* pP **pP** **18 08 35.6 +1.6**
comp=Z,3.5nm,1.0s
MPMC Manual Prospec 76.25 53 IAmb IAmb 18 07 24.2
comp=Z,20nm,1.0s
GHAJ Ghor Haditha 76.28 300 IAmb IAmb 18 07 23.8
comp=Z,41nm,1.1s
TPNV Topopah Spring 76.35 52 IAmb IAmb 18 07 24.9
comp=Z,29nm,0.9s
SOKA Soboth 76.36 323 *i* P **P** **18 07 23.2 +0.8**
comp=Z,15nm,0.9s,SNR=7.6
SOKA *e*pP **pP** **18 08 36.6 +1.4**
comp=Z,11nm,1.2s
CLC China Lake 76.36 54 IAmb IAmb 18 07 24.6
comp=Z,26nm,0.9s
RJOB Jochberg 76.50 325 *e*P **P** **18 07 24.3 +1.0**
comp=Z,16nm,0.7s,baz=38,slow=6.0
HTT Hallett 76.53 178 P **P** **18 07 24.6 +1.2**
LRMC Laurel Mtn Rad 76.54 54 IAmb IAmb 18 07 25.5
comp=Z,29nm,1.3s
WSHM Spangler Hills 76.57 54 IAmb IAmb 18 07 25.7
comp=Z,23nm,0.9s
GWY Greenwater Val 76.64 53 IAmb IAmb 18 07 26.4
comp=Z,23nm,0.8s
OBKA Obir 76.70 323 *e*P **P** **18 07 25.1 +0.7**
comp=Z,6.1nm,0.8s,SNR=5.1
KBA Koelnbreinsper 76.78 324 *e*P **P** **18 07 26.1 +1.1**
comp=Z,12nm,0.8s
LESA Schwarzleotal 76.80 325 *e*P **P** **18 07 25.8 +0.9**
comp=Z,11nm,1.1s
LESA *i* pP **pP** **18 08 39.3 +1.6**
comp=Z,9.5nm,1.3s
MYKA Terra Mystica 77.00 323 *e*P **P** **18 07 26.3 +0.3**
comp=Z,4.4nm,0.6s
MYKA *i* pP **pP** **18 08 40.6 +1.7**
comp=Z,8.3nm,1.0s
SHOC Shoshone, Teco 77.07 53 IAmb IAmb 18 07 28.6
comp=Z,23nm,0.9s
GSC Goldstone, Bar 77.18 53 IAmb IAmb 18 07 29.2
comp=Z,28nm,1.0s
MWC Mount Wilson 77.19 55 IAmb IAmb 18 07 29.0
comp=Z,20nm,0.8s
WATA Walderalm 77.33 325 *e*P **P** **18 07 28.6 +0.7**
comp=Z,3.2nm,0.5s
WATA *e*pP **pP** **18 08 41.9 +1.1**
comp=Z,6.0nm,0.5s
WTTA Wattenberg 77.36 325 *e*P **P** **18 07 28.9 +0.8**
comp=Z,5.4nm,0.6s
WTTA *i* pP **pP** **18 08 42.5 +1.5**
comp=Z,7.2nm,1.1s
ABTA Abfaltersbach 77.39 324 *e*P **P** **18 07 28.8 +0.5**
comp=Z,1.9nm,0.7s
ABTA *e*pP **pP** **18 08 42.6 +1.4**
comp=Z,2.1nm,0.8s
BFSC Mount Baldy Ra 77.42 55 IAmb IAmb 18 07 30.2
comp=Z,18nm,1.0s
K22A Casper 77.42 42 IAmb IAmb 18 07 30.1
comp=Z,32nm,1.7s
EPLO Experimental L 77.44 31 P **P** **18 07 28.1 -0.3**
RSSD Black Hills 77.50 40 P **P** **18 07 29.4 +0.4**
RSSD IAmb IAmb 18 07 30.7
comp=Z,31nm,1.0s
RSSD Black Hills 77.50 40 P **P** **18 07 29.5 +0.4**
RSSD pmax pmax
comp=Z,31nm,1.0s
RSSD Black Hills 77.50 40 P **P** **18 07 29.8 +0.7**
RSSD pP **pP** **18 08 41.0 +0.1**
MOTA Moosalm 77.52 325 *i* P **P** **18 07 29.6 +0.7**
comp=Z,7.8nm,0.8s,SNR=8.1
MOTA *i* pP **pP** **18 08 44.1 +2.1**
comp=Z,11nm,1.2s
RETA Reutte 77.54 326 *e*P **P** **18 07 30.0 +1.0**
comp=Z,7.2nm,0.9s
RETA *i* pP **pP** **18 08 43.2 +1.2**
comp=Z,4.6nm,0.8s
BMRD Maredsous 77.56 331 *d*P **P** **18 07 29.9 +1.0**
comp=Z,11nm,1.0s
SQTA Sankt Quirin 77.57 325 *e*P **P** **18 07 29.1 -0.1**
comp=Z,2.6nm,0.6s
SQTA *e*pP **pP** **18 08 42.8 +0.6**
comp=Z,5.9nm,1.1s
P17A Butcher Ranch, 77.60 47 IAmb IAmb 18 07 31.9
comp=Z,25nm,1.0s
PDG Podgorica 77.61 318 IAmb IAmb 18 07 30.6
comp=Z,24nm,0.8s
PDG Podgorica 77.61 318 ⇓P **P** **18 07 29.9 +0.6**
AGMN Agassiz Nation 77.75 33 IAmb IAmb 18 07 30.8
comp=Z,24nm,0.9s
MTPC Mountain Pass 77.78 53 IAmb IAmb 18 07 32.8
comp=Z,24nm,0.9s
BFO Black Forest 77.84 327 P **P** **18 07 30.0 -0.6**
FETA Feichten 77.93 325 *e*P **P** **18 07 32.0 +0.8**
comp=Z,4.2nm,0.9s
ELS Elsinore Mount 77.97 55 IAmb IAmb 18 07 33.1
comp=Z,46nm,1.7s
SRU San Rafael Swe 77.98 47 IAmb IAmb 18 07 33.7
comp=Z,16nm,0.8s
V12A Nelson 78.01 52 IAmb IAmb 18 07 34.3
comp=Z,26nm,1.3s
DAVA Damuels 78.06 326 *i* P **P** **18 07 32.7 +0.7**
comp=Z,11nm,0.9s,SNR=5.7
O20A White River Ci 78.43 45 IAmb IAmb 18 07 35.9
comp=Z,27nm,1.3s
FUORN Ofenpass-Fuorn 78.44 325 IAmb IAmb 18 07 40.5
comp=Z,16nm,0.7s
DANC Danby, Needles 78.48 53 IAmb IAmb 18 07 36.7
comp=Z,27nm,0.8s
PFO Pinyon Flats O 78.56 54 P **P** **18 07 35.2 +0.3**
PFO IAmb IAmb 18 07 36.6
comp=Z,22nm,1.0s
PFO Pinyon Flats O 78.56 54 P **P** **18 07 35.2 +0.3**
PFO pmax pmax
comp=Z,22nm,1.0s
PMD Palm Desert 78.59 54 IAmb IAmb 18 07 36.5
comp=Z,29nm,1.1s
BORC Borrego Spring 78.83 55 IAmb IAmb 18 07 37.9
comp=Z,19nm,1.0s
IRM Iron Mountain 78.95 53 IAmb IAmb 18 07 39.1
comp=Z,17nm,0.9s
W13A Hualapai Mount 79.01 52 IAmb IAmb 18 07 39.5
comp=Z,16nm,0.9s
BAR Barrett 79.09 55 IAmb IAmb 18 07 39.2
comp=Z,20nm,0.8s
BC3 Big Chuckawall 79.13 54 IAmb IAmb 18 07 39.9
comp=Z,27nm,1.3s
CAN Canberra 79.22 170 IAmb IAmb 18 07 40.6
comp=Z,35nm,1.1s
CAN Canberra 79.22 170 P **P** **18 07 39.6 +1.6**
PV22 Blue Mesa, Par 79.32 46 IAmb IAmb 18 07 40.9
comp=Z,27nm,0.7s
CBX Cerro Bola 79.36 56 P **P** **18 07 39.6 +0.4**
CBX IAmb IAmb 18 07 40.8
comp=Z,30nm,0.9s
PV11 David Mesa, Pa 79.45 47 IAmb IAmb 18 07 41.9
comp=Z,14nm,0.7s
PV18 Skein Mesa, Pa 79.47 47 IAmb IAmb 18 07 41.4
comp=Z,28nm,1.0s
F33A 5 Mile Ranch, 79.56 34 IAmb IAmb 18 07 40.4
comp=Z,19nm,0.6s
BLYC Blythe 79.61 53 IAmb IAmb 18 07 42.6
comp=Z,26nm,0.8s
PV15 Paradox Valley 79.63 46 IAmb IAmb 18 07 42.6
comp=Z,21nm,0.9s
SENIN Lac Senin/Sane 79.85 327 IAmb IAmb 18 07 58.2
comp=Z,49nm,1.9s
GLA Glamis 79.92 54 IAmb IAmb 18 07 44.3
comp=Z,32nm,0.9s
ESJX Sierra Juarez 80.00 55 IAmb IAmb 18 07 44.6
comp=Z,22nm,0.9s
ISCO Idaho Springs 80.01 44 IAmb IAmb 18 07 44.9
comp=Z,55nm,1.9s
FDMO Fiordimonte 80.06 322 IAmb IAmb 18 07 46.0
comp=Z,14nm,0.9s
SCHQ Schefferville 80.12 13 P **P** **18 07 42.5 -0.2**
comp=Z,106nm,0.7s,baz=346,slow=8.3,SNR=8.4
SCHQ PKKPbc **PKKPbc** **18 26 21.7 -1.0**
comp=Z,55nm,0.8s,baz=170,slow=6.1,SNR=3.6
comp=Z,106nm,0.7s
WUAZ Wupatki 80.13 50 IAmb IAmb 18 07 46.5
comp=Z,27nm,1.1s
NRCA Norcia 80.20 321 IAmb IAmb 18 07 45.6
comp=Z,18nm,0.7s
MATE Matera 80.21 318 ⇑P **P** **18 07 43.4 +0.1**
CAMP Campotosto 80.30 321 IAmb IAmb 18 07 52.1
comp=Z,11nm,0.8s
Y14A Wickenburg 80.35 52 IAmb IAmb 18 07 46.5
comp=Z,19nm,0.9s
MVCO Mesa Verde 80.46 47 IAmb IAmb 18 07 47.1
comp=Z,18nm,0.7s
INTR Introdacqua 80.49 320 IAmb IAmb 18 07 49.6
comp=Z,17nm,1.1s
113A Mohawk Valley, 80.75 53 IAmb IAmb 18 07 48.2
comp=Z,18nm,0.8s
X16A Lo Mia Camp, P 80.89 51 IAmb IAmb 18 07 50.0
comp=Z,18nm,1.0s
BRAT Ballarat 80.90 174 P **P** **18 07 48.9 +2.1**
ECSD EROS Data Cent 81.13 36 IAmb IAmb 18 07 49.3
comp=Z,26nm,0.8s
SPMN Marine on St. 81.47 33 IAmb IAmb 18 07 50.8
comp=Z,25nm,1.0s
X18A Snowflake 81.65 50 IAmb IAmb 18 07 53.7
comp=Z,61nm,1.8s

214A	**Organ Pipe Nat**	**81.89**	**53**	IAmb	IAmb	18 07 54.5		
	comp=Z,17nm,0.9s							
CEL	**Celeste**	**82.44**	**317**	IAmb	IAmb	18 07 56.9		
	comp=Z,18nm,0.8s							
T25A	**Trinidad**	**82.65**	**45**	IAmb	IAmb	18 07 57.9		
	comp=Z,15nm,0.7s							
TUC	**Tucson**	**82.81**	**52**	P	**P**	**18 07 58.1**	**+0.9**	
TUC	**Tucson**	**82.81**	**52**	P	**P**	**18 07 58.1**	**+0.9**	
TUC				pmax	pmax			
	comp=Z,8.0nm,0.9s							
ANMO	**Albuquerque**	**83.25**	**47**	P	**P**	**18 08 00.7**	**+1.1**	
ANMO				IAmb	IAmb	18 08 02.1		
	comp=Z,46nm,1.9s							
ANMO	**Albuquerque**	**83.25**	**47**	P	**P**	**18 08 00.7**	**+1.1**	
ANMO				pmax	pmax			
	comp=Z,46nm,1.9s							
ANMO	**Albuquerque**	**83.25**	**47**	P	**P**	**18 08 00.9**	**+1.4**	
ANMO				sP	**sP**	**18 09 46.4**	**+0.8**	
Y22D	**IRIS PASSCAL I**	**83.65**	**48**	P	**P**	**18 08 02.7**	**+1.1**	
	baz=319							
RTBA	**Rita Blanca**	**84.04**	**44**	IAmb	IAmb	18 08 04.8		
	comp=Z,22nm,1.1s							
121A	**Cookes Peak, D**	**84.34**	**50**	IAmb	IAmb	18 08 07.5		
	comp=Z,22nm,0.9s							
319A	**Douglas**	**84.36**	**52**	IAmb	IAmb	18 08 07.1		
	comp=Z,23nm,1.1s							
JFWS	**Jewell Farm**	**84.41**	**32**	IAmb	IAmb	18 08 05.6		
	comp=Z,24nm,0.7s							
KSU1	**Kansas State U**	**84.88**	**39**	IAmb	IAmb	18 08 08.9		
	comp=Z,27nm,0.9s							
LDAQ	**Lac Daran**	**85.78**	**18**	IAmb	IAmb	18 08 12.7		
	comp=Z,20nm,0.8s							
AMTX	**Amarillo**	**85.79**	**44**	IAmb	IAmb	18 08 13.7		
	comp=Z,30nm,1.1s							
BUKO	**Buck Lake**	**85.95**	**24**	IAmb	IAmb	18 08 14.7		
	comp=Z,17nm,1.1s							
N41A	**Harden Midland**	**86.03**	**34**	IAmb	IAmb	18 08 14.1		
	comp=Z,41nm,1.3s							
MNTX	**Cornudas Mount**	**86.30**	**49**	IAmb	IAmb	18 08 16.8		
	comp=Z,25nm,1.7s							
LMQ	**La Malbaie**	**86.38**	**18**	IAmb	IAmb	18 08 15.1		
	comp=Z,18nm,0.6s							
DKNS	**Dickens**	**87.14**	**45**	IAmb	IAmb	18 08 21.6		
	comp=Z,11nm,0.8s							
WMOK	**Wichita Mounta**	**87.36**	**43**	IAmb	IAmb	18 08 21.1		
	comp=Z,11nm,0.9s							
PECS	**Pecos**	**87.37**	**48**	IAmb	IAmb	18 08 21.6		
	comp=Z,16nm,0.9s							
APMT	**Aspermont**	**87.81**	**44**	IAmb	IAmb	18 08 23.7		
	comp=Z,10nm,0.9s							
MNHN	**Monahans**	**87.99**	**47**	IAmb	IAmb	18 08 24.5		
	comp=Z,14nm,1.2s							
CCM	**Cathedral Cave**	**88.10**	**36**	P	**P**	**18 08 23.3**	**+0.4**	
CCM	**Cathedral Cave**	**88.10**	**36**	P	**P**	**18 08 23.3**	**+0.4**	
CCM				pmax	pmax			
	comp=Z,28nm,0.8s							
CCM	**Cathedral Cave**	**88.10**	**36**	P	**P**	**18 08 23.2**	**+0.4**	
Q44A	**Meyer Farm, Va**	**88.31**	**34**	IAmb	IAmb	18 08 25.4		
	comp=Z,21nm,0.9s							
SGCY	**Sterling City**	**88.41**	**46**	IAmb	IAmb	18 08 26.0		
	comp=Z,26nm,0.9s							
MGMO	**Mountain Grove**	**88.42**	**37**	IAmb	IAmb	18 08 25.6		
	comp=Z,20nm,0.8s							
FVM	**French Village**	**88.51**	**35**	IAmb	IAmb	18 08 26.3		
	comp=Z,28nm,1.2s							
J57A	**Williamstown**	**88.80**	**23**	IAmb	IAmb	18 08 27.1		
	comp=Z,22nm,0.9s							
TXAR	**Lajitas Array**	**89.06**	**49**	P	**P**	**18 08 28.0**	**+0.3**	
TXAR	**Lajitas Array**	**89.06**	**49**	P	**P**	**18 08 28.2**	**+0.6**	
	comp=Z,8.8nm,0.7s,baz=314,slow=4.6,SNR=65							
TXAR				PP	**PP**	**18 12 01.1**	**-0.8**	
	comp=Z,4.0nm,1.3s,baz=332,slow=7.5,SNR=3.9							
TXAR				PKKP	**PKKPdf**	**18 25 53.8**	**-1.9**	
	comp=Z,0.4nm,0.3s,baz=195,slow=4.9,SNR=5.0							
	comp=Z,8.8nm,0.7s							
PLPT	**Palo Pinto**	**89.13**	**43**	IAmb	IAmb	18 08 29.4		
	comp=Z,20nm,1.1s							
J59A	**Piesco**	**89.17**	**22**	IAmb	IAmb	18 08 28.9		
	comp=Z,17nm,0.9s							
OZNA	**Ozona**	**89.19**	**46**	IAmb	IAmb	18 08 29.4		
	comp=Z,15nm,0.8s							
PAOC	**Oil Creek Stat**	**89.41**	**26**	IAmb	IAmb	18 08 30.4		
	comp=Z,21nm,0.8s							
SAND	**Sanderson**	**89.42**	**48**	IAmb	IAmb	18 08 30.7		
	comp=Z,9.4nm,0.8s							
ACCN	**Adirondack Com**	**89.47**	**21**	IAmb	IAmb	18 08 30.5		
	comp=Z,14nm,0.9s							
L56A	**Greenwood**	**89.51**	**25**	IAmb	IAmb	18 08 30.1		
	comp=Z,19nm,0.8s							
I63A	**Otisfield**	**89.62**	**19**	IAmb	IAmb	18 08 31.9		
	comp=Z,25nm,0.9s							
HPIG		**89.77**	**52**	IAmb	IAmb	18 08 32.6		
	comp=Z,12nm,0.7s							
LCAR	**Lake Charles**	**89.81**	**37**	IAmb	IAmb	18 08 32.6		
	comp=Z,13nm,0.8s							
ESDC	**Sonseca Array**	**89.84**	**330**	P	**P**	**18 08 31.0**	**-0.1**	
	comp=Z,0.9nm,0.6s,baz=20,slow=4.7,SNR=5.5							
ESDC				PP	**PP**	**18 12 07.9**	**+0.4**	
	comp=Z,2.5nm,0.9s,baz=25,slow=8.1,SNR=9.1							
MIAR	**Mount Ida**	**90.00**	**39**	IAmb	IAmb	18 08 33.6		
	comp=Z,15nm,0.8s							
BRDY	**Brady**	**90.01**	**45**	IAmb	IAmb	18 08 32.9		
	comp=Z,14nm,0.7s							
X40A	**Basin Creek Fa**	**90.39**	**39**	IAmb	IAmb	18 08 34.5		
	comp=Z,10nm,0.9s							
R50A	**Paris**	**90.67**	**31**	IAmb	IAmb	18 08 36.6		
	comp=Z,20nm,1.0s							
T47A	**Sharon Grove**	**90.72**	**33**	IAmb	IAmb	18 08 36.8		
	comp=Z,21nm,0.9s							
SSPA	**Standing Stone**	**90.78**	**25**	P	**P**	**18 08 35.6**	**+0.3**	
SSPA				IAmb	IAmb	18 08 36.9		
	comp=Z,23nm,0.9s							
N58A	**Sunbury**	**90.95**	**24**	IAmb	IAmb	18 08 37.4		
	comp=Z,16nm,0.9s							
WVT	**Waverly**	**91.17**	**34**	P	**P**	**18 08 37.7**	**+0.5**	
WVT				IAmb	IAmb	18 08 38.4		
	comp=Z,9.4nm,0.6s							
WVT	**Waverly**	**91.17**	**34**	P	**P**	**18 08 37.7**	**+0.5**	
WVT				pmax	pmax			
	comp=Z,9.0nm,0.6s							
Q54A	**Coxs Mills**	**91.31**	**28**	IAmb	IAmb	18 08 39.1		
	comp=Z,12nm,0.7s							
S51A	**Beattyville**	**91.52**	**31**	IAmb	IAmb	18 08 40.0		
	comp=Z,10.0nm,0.9s							
T50A	**Nancy**	**91.59**	**32**	IAmb	IAmb	18 08 40.1		
	comp=Z,11nm,0.8s							
U49A	**Red Boiling Sp**	**91.66**	**33**	IAmb	IAmb	18 08 41.1		
	comp=Z,15nm,0.9s							
V48A	**Smith Brothers**	**91.92**	**34**	IAmb	IAmb	18 08 42.1		
	comp=Z,12nm,0.9s							
SWET	**Sewanee**	**92.73**	**33**	IAmb	IAmb	18 08 45.5		
	comp=Z,12nm,0.7s							
W50A	**Signal Mountai**	**92.99**	**33**	IAmb	IAmb	18 08 47.2		
	comp=Z,11nm,0.7s							
CPCT	**Cooper Cave**	**93.09**	**32**	IAmb	IAmb	18 08 47.4		
	comp=Z,14nm,0.8s							
FPAL	**Fort Paine**	**93.45**	**34**	IAmb	IAmb	18 09 06.6		
	comp=Z,9.8nm,1.1s							
Y49A	**Blount Mountai**	**93.72**	**35**	IAmb	IAmb	18 08 55.9		
	comp=Z,16nm,1.0s							
TORD	**Torodi Ar. Bea**	**110.13**	**312**	PKiKP	**PKiKP**	**18 14 01.8**	**-0.6**	
	comp=Z,0.6nm,0.4s,baz=16,slow=1.8,SNR=9.2							
TORD				PP	**PP**	**18 14 38.9**	**-2.0**	
	comp=Z,10nm,1.1s,baz=31,slow=5.7,SNR=17							
TORD				PKKPbc	**PKKPbc**	**18 25 02.4**	**-0.3**	
	comp=Z,1.7nm,0.6s,baz=216,slow=2.6,SNR=11							
DBIC	**Dimbokro**	**119.03**	**315**	PKP	**PKPdf**	**18 14 18.9**	**-0.6**	
	comp=Z,4.0nm,0.5s,baz=61,slow=2.0,SNR=8.6							
DBIC				PP	**PP**	**18 15 37.5**	**-5.7**	
	comp=Z,4.0nm,0.9s,baz=57,slow=9.4,SNR=3.1							
VNDA	**Vanda**	**121.71**	**174**		**PKPdf**	**18 14 22.4**	**-0.3**	
VNDA	**Vanda**	**121.71**	**174**	PKP	**PKPdf**	**18 14 22.7**	**0.0**	
	comp=Z,7.1nm,0.6s,baz=323,slow=5.5,SNR=51							
SDV	**Santo Domingo**	**122.42**	**32**		**PKPdf**	**18 14 26.2**	**-0.1**	
SBA	**Scott Base**	**122.44**	**173**		**PKiKP**	**18 14 24.2**	**-0.1**	
SBA	**Scott Base**	**122.44**	**173**	PKiKP	**PKiKP**	**18 14 24.2**	**-0.1**	
GRTLG	**Ghanzi**	**122.47**	**271**		**PKiKP**	**18 14 26.1**	**0.0**	
BAUV	**El Baul**	**123.33**	**29**		**PKPdf**	**18 14 27.0**	**-0.7**	
MAW	**Mawson**	**123.62**	**206**	PKP	**PKiKP**	**18 14 27.1**	**+0.3**	
	comp=Z,7.8nm,0.7s,baz=86,slow=2.0,SNR=30							
MAW				PKKPbc	**PKKPbc**	**18 24 15.7**	**-0.8**	
	comp=Z,1.1nm,0.7s,baz=252,slow=6.4,SNR=2.5							
BOSA	**Boshof**	**123.87**	**261**	PKP	**PKPdf**	**18 14 28.4**	**0.0**	
	comp=Z,3.3nm,0.9s,baz=42,slow=1.6,SNR=3.9							
BOSA				PKKPbc	**PKKPab**	**18 24 15.3**	**+0.1**	
	comp=Z,5.8nm,0.8s,baz=242,slow=5.0,SNR=12							
MDP	**Montagnes des**	**131.00**	**12**	SKPab	**SKPbc**	**18 17 36.6**	**+0.2**	
	comp=Z,18nm,1.1s,baz=358,slow=4.4,SNR=6.5							
BOAV	**Boa Vista**	**131.90**	**23**	*e*P	**PKiKP**	**18 14 45.1**	**-0.1**	
SYO	**Syowa Base**	**132.08**	**209**	⇑*e*Pdiff	**Pdif**	**18 11 43.6**	**+4.8**	
ATAH	**Atahualpa**	**132.70**	**50**	PKP	**PKiKP**	**18 14 47.5**	**+0.2**	
	comp=Z,7.6nm,0.7s,baz=0.0,slow=0.0,SNR=5.9							
QSPA	**South Pole Qui**	**133.18**	**180**	PKP	**PKiKP**	**18 14 46.1**	**-0.1**	
	comp=Z,13nm,0.6s,baz=310,slow=1.7,SNR=43							
QSPA				PP	**PP**	**18 17 18.2**	**+1.7**	
	comp=Z,2.5nm,0.8s,baz=326,slow=1.0,SNR=3.9							
QSPA				SKPab	**SKPab**	**18 17 43.8**	**-0.9**	
	comp=Z,23nm,0.8s,baz=321,slow=1.9,SNR=28							
ITTB	**Itaituba**	**139.64**	**19**	*e*P	**PKiKP**	**18 15 01.2**	**+0.3**	
TROLL	**Troll, Antarti**	**143.91**	**202**	⇑P	PKPbc	18 15 03.2	0.0	
	comp=Z,5μm,0.8s							
TROLL				⇑SKPbc	**SKPbc**	**18 18 12.4**	**0.0**	
	comp=Z,324nm,0.6s							
BELA	**Belgrano 2**	**145.26**	**183**		**PKPdf**	**18 15 05.9**	**-0.6**	
SNAA	**Sanae**	**145.53**	**201**	⇑P	**PKPdf**	**18 15 07.0**	**-0.1**	
	comp=Z,557nm,0.5s							
SNAA				⇑SKPbc	**SKPbc**	**18 18 15.6**	**-0.5**	
	comp=Z,59nm,1.1s							
SNAA	**Sanae**	**145.53**	**201**		**PKPdf**	**18 15 06.2**	**-0.9**	
SNAA	**Sanae**	**145.53**	**201**	PKPbc	**PKPdf**	**18 15 06.4**	**-0.8**	
	comp=Z,26nm,0.5s,baz=102,slow=5.2,SNR=91							
SNAA				PKKPab		18 22 30.1		
	comp=Z,0.9nm,0.9s,baz=225,slow=6.0,SNR=3.1							
SNAA				SKKPab	SKKPab	18 26 11.3	-1.2	
	comp=Z,2.4nm,1.1s,baz=305,slow=8.4,SNR=3.8							
LPAZ	**La Paz**	**145.84**	**45**		**PKPdf**	**18 15 10.1**	**+0.1**	
LPAZ	**La Paz**	**145.84**	**45**	PKPbc	**PKPdf**	**18 15 10.4**	**+0.4**	
	comp=Z,38nm,0.7s,baz=356,slow=7.0,SNR=81							
LPAZ	**La Paz**	**145.84**	**45**	*e*P	**PKPbc**	**18 15 11.3**	**+0.2**	
CLDB	**Colider**	**145.87**	**22**	*e*P	**PKPbc**	**18 15 10.7**	**+0.1**	
VILB	**Vilhena**	**146.42**	**30**		**PKPdf**	**18 15 10.5**	**+0.2**	
VILB	**Vilhena**	**146.42**	**30**	*e*P	**PKPab**	**18 15 13.7**	**0.0**	
VNA2	**Neumayer--Watz**	**147.17**	**201**	⇑P	**PKPdf**	**18 15 09.8**	**0.0**	
	comp=Z,50nm,0.5s,baz=343,slow=2.3							
VNA2				⇑SKPbc	**SKPbc**	**18 18 19.1**	**-0.5**	
	comp=Z,5.7nm,0.5s,baz=140,slow=2.3							
VNA3	**Neumayer Olymp**	**147.54**	**200**	⇓P	**PKPdf**	**18 15 10.2**	**-0.3**	
	comp=Z,45nm,0.8s							
VNA3				⇑SKPbc	**SKPbc**	**18 18 20.3**	**-0.1**	
	comp=Z,3.9nm,0.6s							
VNA1	**Neumayer--Stat**	**147.56**	**201**	⇑P	**PKPdf**	**18 15 10.6**	**+0.2**	
	comp=Z,75nm,1.0s							
SNDB	**Serra Nova Dou**	**147.95**	**14**	*e*P	**PKPbc**	**18 15 16.2**	**-0.1**	
SIV	**San Ignacio**	**148.86**	**34**	PKP	**PKPdf**	**18 15 14.4**	**+0.1**	
	comp=Z,44nm,0.8s,baz=334,slow=0.2,SNR=18							
SIV				PKPbc	**PKPbc**	**18 15 18.8**	**+0.2**	
	comp=Z,44nm,0.8s,baz=314,slow=1.3,SNR=68							
SIV				PP	**PP**	**18 18 51.2**	**0.0**	
	comp=Z,1.5nm,0.7s,baz=334,slow=6.1,SNR=3.0							
SDBA	**SAO DESIDERIO**	**149.06**	**2**	*e*P	**PKPbc**	**18 15 17.6**	**-1.5**	
PTLB	**Pontes e Lacer**	**149.11**	**30**		**PKPdf**	**18 15 12.5**	**+0.6**	
PTLB	**Pontes e Lacer**	**149.11**	**30**	*e*P	**PKPdf**	**18 15 15.8**	**+1.2**	
PB10	**IPOC Station P**	**150.21**	**57**		**PKiKP**	**18 15 22.0**	**-0.3**	
SALV	**Santo Antonio**	**150.68**	**24**	*e*P	**PKPdf**	**18 15 18.7**	**+1.6**	
CMC01	**Camacan, BA**	**151.80**	**352**	*e*P	**PKPdf**	**18 15 18.5**	**-0.3**	
BDFB	**Brasilia**	**152.04**	**9**		**PKPbc**	**18 15 26.1**	**-0.1**	
BDFB	**Brasilia**	**152.04**	**9**	PKP	**PKPdf**	**18 15 19.4**	**+0.1**	
	comp=Z,4.6nm,0.7s,baz=72,slow=3.2,SNR=6.0							
BDFB				PKPbc	**PKiKP**	**18 15 26.4**	**0.0**	
	comp=Z,20nm,0.8s,baz=353,slow=3.1,SNR=20							
AC01	**Pan de Azucar**	**152.09**	**61**		**PKiKP**	**18 15 26.3**	**+0.2**	
SMAI	**San Martin Ant**	**152.31**	**161**		**PKiKP**	**18 15 25.3**	**+0.1**	
AC02	**Maricunga**	**153.51**	**60**		**PKiKP**	**18 15 30.9**	**+1.3**	
LCO	**Las Campanas**	**153.97**	**65**		**PKiKP**	**18 15 30.9**	**+0.6**	
LCO	**Las Campanas**	**153.97**	**65**	PKIKP	**PKiKP**	**18 15 30.9**	**+0.6**	
PMSA	**Palmer Station**	**155.72**	**159**		**PKPab**	**18 15 51.4**	**+0.3**	
VAO	**Valinhos**	**159.43**	**9**	*e*P	**PKPdf**	**18 15 31.9**	**+3.0**	
CPUP	**Villa Florida**	**159.60**	**38**	PKP	**PKPdf**	**18 15 28.3**	**-0.5**	
	comp=Z,0.4nm,0.3s,baz=284,slow=2.4,SNR=4.2							
CPUP				PKPab	**PKPab**	**18 16 09.3**	**+0.3**	
	comp=Z,1.5nm,0.7s,baz=24,slow=1.7,SNR=7.4							
CPUP				PP	**PP**	**18 19 51.4**	**+0.3**	
	comp=Z,0.1nm,0.3s,baz=338,slow=5.4,SNR=3.0							
PLCA	**Paso Flores**	**159.85**	**92**		**PKPab**	**18 16 11.1**	**+1.1**	
PLCA	**Paso Flores**	**159.85**	**92**	PKP	**PKPdf**	**18 15 28.6**	**-0.2**	
	comp=Z,3.7nm,0.9s,baz=276,slow=10,SNR=4.1							
PLCA				PKPab	**PKPab**	**18 16 10.7**	**+0.7**	
	comp=Z,12nm,0.9s,baz=276,slow=4.7,SNR=12							

*IDC **30** 17:59:51.6±1.7,4°.67S×151°.01E,h0km,mb3.8/6, mbtmp3.9/7,ML2.1/1,MS2.8/2,Error ellipse: s-maj=50.1km s-min=23.2km az=96.0*
*NEIC **30** 17:59:53.3±1.6,4°.80S±0°.09×151°.21E±0°.06,h10km±2km, mb4.1/8,Error ellipse: s-maj=17.2km s-min=8.2km az=154.0*
ISC 30 17:59:56.1±0.8,**4°.76S**±0°.08×**151°.15E**±0°.08,**h35**km,**n20,** σ1s**02**/20,**mb4.0**/9,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.16**	**61**	Pn	**Pn**	**18 00 15.5**	**-0.3**
RABL				Sn	**Sn**	**18 00 32.2**	**+1.7**
MANU	**Manus Island**	**4.64**	**305**		**Pn**	**18 01 03.6**	**-0.1**
PMG	**Port Moresby**	**6.08**	**220**		**Pn**	**18 01 24.6**	**+1.1**
PMG	**Port Moresby**	**6.08**	**220**	Pn	**Pn**	**18 01 24.5**	**+1.0**
	2.8nm,0.3s,baz=32,slow=9.6,SNR=11						
PMG				Sn	Sn	18 02 40.8	+8.8
	1.5nm,0.3s,baz=17,slow=20,SNR=0.9						
PMG				LR	LR	18 03 44.3	
	comp=Z,64nm,20.9s,baz=82,slow=38						
	50nm,0.8s						
GUMO	**Guam**	**19.26**	**341**	LR	LR	18 11 23.3	
	comp=Z,41nm,18.4s,baz=216,slow=36						
EIDS	**Eidsvold**	**20.49**	**180**	P	**P**	**18 04 28.6**	**-2.6**
EIDS				IAmb	IAmb	18 05 00.7	
	comp=Z,13nm,1.2s						
WB0	**Warramunga Arr**	**22.11**	**226**		**P**	**18 04 48.7**	**+0.1**
WR8	**Warramunga Arr**	**22.16**	**226**		**P**	**18 04 48.8**	**-0.4**
WR8				IAmb	IAmb	18 04 53.8	
	comp=Z,5.8nm,0.8s						
WRAB	**Tennant Creek**	**22.25**	**226**	P	**P**	**18 04 50.2**	**+0.1**
WRAB				IAmb	IAmb	18 04 55.0	
	comp=Z,4.4nm,0.8s						
WRA	**Warramunga Arr**	**22.26**	**226**	P	**P**	**18 04 49.3**	**-1.0**
WRA	**Warramunga Arr**	**22.26**	**226**	P	**P**	**18 04 49.7**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=50,slow=10,SNR=17						
	comp=Z,3.2nm,0.8s						
INKA	**Innaminka**	**24.91**	**202**		**P**	**18 05 15.1**	**-0.8**
AS31	**Alice Springs**	**25.09**	**220**		**P**	**18 05 17.2**	**-0.6**
ASAR	**Alice Springs**	**25.10**	**220**		**P**	**18 05 17.1**	**-0.6**
ASAR	**Alice Springs**	**25.10**	**220**	P	**P**	**18 05 18.1**	**+0.3**
	comp=Z,7.1nm,0.9s,baz=47,slow=9.3,SNR=62						
	comp=Z,7.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.24**	**240**		**P**	**18 05 46.7**	**+0.6**
FITZ				IAmb	IAmb	18 05 56.5	
	comp=Z,3.3nm,1.0s						
KSRS	**Korea Array**	**47.24**	**335**	P	**P**	**18 08 26.8**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=154,slow=8.7,SNR=5.1						
	comp=Z,0.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**56.37**	**296**	P	**P**	**18 09 33.7**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=108,slow=8.2,SNR=1.1						
	comp=Z,0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**80.21**	**327**	P	**P**	**18 12 02.6**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=114,slow=7.1,SNR=3.7						
	comp=Z,0.4nm,0.5s						
QSPA	**South Pole Qui**	**85.20**	**180**	P	**P**	**18 12 29.8**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=16,slow=12,SNR=13						
	comp=Z,1.9nm,0.7s						

*MDD **30** 18:27:03.6±0.2,36°.98N×5°.26W,h0km,mb_Lg3.7/41, Error ellipse: s-maj=1.6km s-min=1.3km az=3.0*
*IGIL **30** 18:27:03.0,36°.98N×5°.26W,h0km,ML4.0*
*SFS **30** 18:27:03.6,36°.92N×5°.26W,h6km,mb4.0/4,ML3.8/20, ML3.8/21,MLv3.7/21*
*INMG **30** 18:27:04.5±1.6,36°.94N×5°.26W,h21km±2km,ML3.6,Error ellipse: s-maj=2.1km s-min=2.0km az=173.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
ISC 30 18:27:03.8±1.0,**36°.95N**±0°.02×**5°.25W**±0°.01,**h19**km±8km, **n100,** σ1s**67**/227,**4C-2D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
E1302	**La Puebla de C**	**0.19**	**1**	⇓Pg	**Pb**	**18 27 08.2**	**+0.4**
E1302				Sg	**Sb**	**18 27 12.5**	**+2.1**
E1302				*i* lVmb_Lg		18 27 15.3	
ESPR	**Espera**	**0.49**	**261**	Pg	**Pg**	**18 27 14.3**	**+0.5**
ESPR	**Espera**	**0.49**	**261**	⇑Pg	**Pg**	**18 27 14.2**	**+0.5**
ESPR				Sg	**Sg**	**18 27 20.4**	**-0.1**
ESPR				*i* lVmb_Lg		18 27 28.8	
EJIF	**Jimena Fronter**	**0.53**	**200**	Pg	**Pb**	**18 27 13.1**	**-1.2**
EJIF				Sg	**Sb**	**18 27 22.9**	**+1.4**
EMAL	**Malaga-Limoner**	**0.68**	**105**	Pg	**Pb**	**18 27 15.2**	**-1.8**
CNIL	**Conil**	**0.87**	**229**	Pg	**Pb**	**18 27 20.4**	**+0.2**
SFS	**San Fernando**	**0.91**	**238**	Pg	**Pg**	**18 27 21.6**	**+0.2**
EGOR	**Sierra Gorda,**	**0.93**	**80**	Pg	**Pb**	**18 27 20.9**	**-0.4**
EGOR	**Sierra Gorda,**	**0.93**	**80**	⇓Pg	**Pb**	**18 27 21.2**	**-0.1**
EGOR				Sg	**Sg**	**18 27 35.1**	**+1.0**
EGOR				*i* lVmb_Lg		18 27 40.5	
CEU	**Ceuta**	**1.05**	**185**	Pg	**Pb**	**18 27 22.8**	**-0.5**
ECEU	**Ceuta**	**1.05**	**186**	Pg	**Pb**	**18 27 23.2**	**-0.1**
ECEU	**Ceuta**	**1.05**	**186**	Pg	**Pb**	**18 27 23.5**	**+0.1**
ECEU				Sg	**Sb**	**18 27 37.3**	**+0.5**
ECAB	**El Cabril**	**1.14**	**353**	Pn	**Pn**	**18 27 24.1**	**-0.7**
ECAB				Sn	**Sb**	**18 27 39.6**	**+0.4**
ECAB	**El Cabril**	**1.14**	**353**	Pg	**Pn**	**18 27 24.0**	**-0.7**
ECAB				Sg	**Sb**	**18 27 39.7**	**+0.5**
ECAB				*i* lVmb_Lg		18 27 42.9	
ARNO	**Arenosillo**	**1.20**	**278**	Pn	**Pn**	**18 27 25.3**	**-0.2**
ARNO				Sn	**Sg**	**18 27 43.5**	**+0.8**
ELGU	**Los Guajares,**	**1.30**	**93**	Pn	**Pn**	**18 27 26.4**	**-0.6**
ELGU	**Los Guajares,**	**1.30**	**93**	Pg	**Pn**	**18 27 26.5**	**-0.6**
ELGU				Sg	**Sb**	**18 27 45.9**	**+1.9**
EADA	**Adamuz**	**1.33**	**23**	Pn	**Pn**	**18 27 27.1**	**-0.3**
EADA				Sn	**Sn**	**18 27 45.9**	**+1.3**
EADA	**Adamuz**	**1.33**	**23**	Pg	**Pn**	**18 27 27.1**	**-0.3**
EADA				Sg	**Sn**	**18 27 45.3**	**+0.7**
EADA				*i* lVmb_Lg		18 27 47.8	
EMIN	**Mina Concepcio**	**1.40**	**306**	Pn	**Pn**	**18 27 27.7**	**-0.6**
EMIN				Sn	**Sb**	**18 27 47.8**	**+1.1**
EMIN	**Mina Concepcio**	**1.40**	**306**	Pg	**Pn**	**18 27 27.7**	**-0.6**
EMIN				Sg	**Sn**	**18 27 47.0**	**+0.7**
EMIN				*i* lVmb_Lg		18 27 48.9	
EQTA	**Presa de Quent**	**1.47**	**79**	Pn	**Pn**	**18 27 30.0**	**+0.6**
EQUE	**Quentar**	**1.47**	**79**	Pg	**Pn**	**18 27 30.3**	**+0.9**
EQUE				Sg	**Sb**	**18 27 50.8**	**+1.9**
EQUE				*i* lVmb_Lg		18 27 56.7	
E0803	**Jimena (Jaen)**	**1.67**	**57**	Pg	**Pn**	**18 27 32.4**	**+0.3**
E0803				Sg	**Sb**	**18 27 56.8**	**+2.2**
E0802	**Ubeda,Jaen**	**1.84**	**54**	Pg	**Pb**	**18 27 36.7**	**-0.1**
E0802				Sg	**Sb**	**18 27 59.9**	**+0.3**
EGRO	**El Granado**	**1.88**	**289**	Pn	**Pn**	**18 27 34.2**	**-0.7**
EGRO	**El Granado**	**1.88**	**289**	Pn	**Pn**	**18 27 34.2**	**-0.7**
EGRO				Pg	**Pb**	**18 27 37.3**	**-0.2**
EGRO				Sg	**Sb**	**18 28 01.7**	**+1.2**
PBAR	**Barrancos**	**1.88**	**311**	*e*Pn	**Pn**	**18 27 34.1**	**-0.8**
PBAR				*e*Sn	**Sn**	**18 27 57.0**	**-1.1**
PBAR				*e*Sg	**Sg**	**18 28 03.5**	**-0.8**
PBAR				*i* IAML		18 28 05.7	
PBAR				*i* IAML		18 28 07.1	
PBAR

PMRV				*e*Sn		**Sn**	**18 28 25.6**	**-0.1**
PMRV				*e*Sg		**Sb**	**18 28 37.6**	**+4.8**
PMRV				*i* IAML			18 28 45.0	
PMRV				*i* IAML			18 28 46.0	
PMRV				*i* IAML			18 28 51.3	
PMTG	**Montargil**	**3.16**	**313**	*e*Pn		**Pn**	**18 27 52.0**	**-0.5**
PMTG				*e*Sn		**Sn**	**18 28 29.6**	**-0.2**
PMTG				*e*Sg		**Sb**	**18 28 42.4**	**+4.8**
PMTG				*i* IAML			18 28 48.3	
PMTG				*i* IAML			18 28 48.4	
PMTG				*i* IAML			18 28 55.6	
EPLA	**Plasencia**	**3.18**	**348**	Pn		**Pn**	**18 27 52.3**	**-0.5**
EPLA				Sn		**Sn**	**18 28 30.7**	**+0.5**
EPLA				Sg		**Sb**	**18 28 43.0**	**+4.9**
EPLA				*i* IVmb_Lg			18 28 48.8	
RTC	**Rabat Centre**	**3.23**	**204**	Sn		**Sn**	**18 28 28.4**	**-3.1**
EMUR	**La Murta**	**3.31**	**73**	Pn		**Pn**	**18 27 54.5**	**-0.2**
EMUR	**La Murta**	**3.31**	**73**	Pn		**Pn**	**18 27 54.9**	**+0.2**
EMUR				Sn		**Sn**	**18 28 33.7**	**+0.1**
EMUR				Sg		**Sg**	**18 28 48.8**	**-1.5**
PCBR	**Castelo Branco**	**3.38**	**329**	*e*Pn		**Pn**	**18 27 55.1**	**-0.3**
PCBR				*e*Sn		**Sn**	**18 28 34.4**	**-0.6**
PCBR				*e*Sg		**Sg**	**18 28 50.0**	**-2.2**
PCBR				*i* IAML			18 28 57.7	
PCBR				*i* IAML			18 28 59.6	
PCBR				*i* IAML			18 28 59.8	
ETOB	**Tobarra**	**3.39**	**59**	Pn		**Pn**	**18 27 54.8**	**-0.9**
ETOB				Sn		**Sn**	**18 28 36.6**	**+1.2**
ETOB	**Tobarra**	**3.39**	**59**	Pn		**Pn**	**18 27 55.2**	**-0.5**
ETOB				Sn		**Sn**	**18 28 35.0**	**-0.4**
ETOB				Sg		**Sg**	**18 28 49.9**	**-2.7**
ETOB				*i* IVmb_Lg			18 28 58.3	
CART	**Cartagena**	**3.45**	**78**	Pn		**Pn**	**18 27 55.5**	**-0.9**
CART				Sn		**Sn**	**18 28 38.0**	**+1.2**
PSARD	**Sardoal**	**3.50**	**320**	*e*Pn		**Pn**	**18 27 56.8**	**-0.5**
PSARD				*e*Sn		**Sn**	**18 28 38.4**	**+0.2**
PSARD				*e*Sg		**Sb**	**18 28 52.5**	**+5.2**
PSARD				*i* IAML			18 29 02.5	
PSARD				*i* IAML			18 29 03.5	
PSARD				*i* IAML			18 29 03.9	
PARRA	**Arraiolos**	**3.53**	**303**	*e*Pn		Pn	18 27 48.4	-9.2
PARRA				*e*Sn		Sn	18 28 23.5	-15
PARRA				*e*Sg		Sb	18 28 34.6	-14
PARRA				*i* IAML			18 28 38.1	
PARRA				*i* IAML			18 28 38.5	
PARRA				*i* IAML			18 28 41.9	
LIS	**Lisbon**	**3.56**	**301**	*e*Sn		**Sn**	**18 28 39.9**	**+0.3**
LIS				*e*Sg		**Sg**	**18 28 56.7**	**-1.4**
LIS				*i* IAML			18 28 59.7	
LIS				*i* IAML			18 29 05.5	
UCM	**Universidad Co**	**3.71**	**24**	Pn		**Pn**	**18 28 00.6**	**+0.6**
UCM				Sn		**Sn**	**18 28 44.6**	**+1.4**
PMAFR	**Mafra**	**3.77**	**303**	*e*Pn		**Pn**	**18 28 00.6**	**-0.2**
PMAFR				*e*Sn		**Sn**	**18 28 45.1**	**+0.5**
PMAFR				*e*Sg		**Sb**	**18 28 59.7**	**+4.8**
PMAFR				*i* IAML			18 29 10.4	
PMAFR				*i* IAML			18 29 12.5	
PMAFR				*i* IAML			18 29 17.0	
GUD	**Guadarrama**	**3.79**	**13**	Pn		**Pn**	**18 28 01.7**	**+0.4**
GUD				Sn		**Sn**	**18 28 45.2**	**-0.2**
GUD				Sg		**Sg**	**18 29 02.7**	**-2.8**
GUD				*i* IVmb_Lg			18 29 08.9	
PSBE	**So Bento**	**3.79**	**314**	*e*Sn		**Sn**	**18 28 45.2**	**-0.1**
PSBE				*e*Sg		**Sg**	**18 29 04.4**	**-1.1**
PSBE				*i* IAML			18 29 10.9	
PSBE				*i* IAML			18 29 15.9	
PSBE				*i* IAML			18 29 18.0	
MTE	**Manteigas**	**3.89**	**333**	*e*Pn		**Pn**	**18 28 03.0**	**+0.4**
MTE				*e*Sn		**Sn**	**18 28 46.9**	**-0.9**
MTE				*e*Sg		**Sg**	**18 29 08.6**	**0.0**
MTE				*i* IAML			18 29 08.7	
MTE				*i* IAML			18 29 12.4	
MTE				*i* IAML			18 29 19.5	
EVIV	**Cofrentes, Val**	**4.00**	**53**	Pn		**Pn**	**18 28 03.8**	**-0.2**
EVIV				Sn		**Sn**	**18 28 51.4**	**+1.0**
EVIV				Sg		**Sg**	**18 29 09.0**	**-3.2**
EVIV				*i* IVmb_Lg			18 29 22.4	
PCAS	**Casmilo, Conde**	**4.01**	**322**	*e*Pn		**Pn**	**18 28 04.3**	**+0.1**
PCAS				*e*Sn		**Sn**	**18 28 48.6**	**-2.2**
PCAS				*e*Sg		**Sg**	**18 29 12.1**	**-0.6**
PCAS				*i* IAML			18 29 17.5	
PCAS				*i* IAML			18 29 18.1	
PCAS				*i* IAML			18 29 20.0	
AVE	**Averroes**	**4.05**	**207**	Pn		**Pn**	**18 28 03.6**	**-1.1**
AVE				Sn		**Sn**	**18 28 50.3**	**-1.2**
COI	**Coimbra**	**4.09**	**324**	*e*Sn		**Sn**	**18 28 50.5**	**-2.2**
COI				*e*Sg		**Sg**	**18 29 14.0**	**-1.2**
COI				*i* IAML			18 29 21.1	
COI				*i* IAML			18 29 21.4	
COI				*i* IAML			18 29 22.1	
EJUZ	**Juzbado, Salam**	**4.16**	**353**	Pn		**Pn**	**18 28 05.8**	**-0.5**
EJUZ				Sn		**Sn**	**18 28 51.9**	**-2.6**
EJUZ				Sg		**Sg**	**18 29 15.5**	**-1.9**
ECHE	**Chera**	**4.28**	**51**	Pn		**Pn**	**18 28 07.5**	**-0.5**
ECHE				Sn		**Sn**	**18 28 57.2**	**-0.1**
ECHE	**Chera**	**4.28**	**51**	Pn		**Pn**	**18 28 07.6**	**-0.3**
ECHE				Sn		**Sn**	**18 28 57.5**	**+0.1**
ECHE				Sg		**Sg**	**18 29 18.5**	**-2.7**
ECHE				*i* IVmb_Lg			18 29 33.6	
PVIS	**Viseu**	**4.29**	**332**	*e*Pn		**Pn**	**18 28 08.9**	**+0.7**
PVIS				*e*Sn		**Sn**	**18 28 56.5**	**-1.3**
PVIS				*e*Sg		**Sg**	**18 29 19.7**	**-2.6**
MVO	**Moncorvo**	**4.43**	**342**	*e*Pn		**Pn**	**18 28 09.7**	**-0.4**
MVO				*e*Sn		**Sn**	**18 29 00.5**	**-0.7**
MVO				*e*Sg		**Sg**	**18 29 23.1**	**-3.0**
MVO				*i* IAML			18 29 29.8	
MVO				*i* IAML			18 29 32.9	
MVO				*i* IAML			18 29 36.2	
ETOR	**Torete**	**4.60**	**32**	Pn		**Pn**	**18 28 12.3**	**-0.1**
ETOR				Sn		**Sn**	**18 29 05.2**	**-0.1**
ETOR				Sg		**Sg**	**18 29 29.1**	**-2.3**
ETOR				*i* IVmb_Lg			18 29 35.7	
PVRL	**Vila Real**	**4.73**	**337**	*e*Pn		**Pn**	**18 28 13.8**	**-0.4**
PVRL				*e*Sn		**Sn**	**18 29 07.3**	**-1.2**
PVRL				*i* IAML			18 29 37.9	
PVRL				*i* IAML			18 29 37.9	
PVRL				*i* IAML			18 29 39.5	
POLO	**Lamas de Olo**	**4.84**	**337**	*e*Pn		**Pn**	**18 28 15.3**	**-0.4**
POLO				*e*Sn		**Sn**	**18 29 08.9**	**-2.4**
POLO				*i* IAML			18 29 39.2	
POLO				*i* IAML			18 29 49.0	
POLO				*i* IAML			18 29 50.2	
PTO	**Porto**	**4.93**	**329**	*e*Pn		**Pn**	**18 28 15.6**	**-1.3**
PTO				*e*Sn		**Sn**	**18 29 09.9**	**-3.5**
PTO				*e*Sg		**Sg**	**18 29 39.3**	**-2.8**
PBRG	**Braganca**	**4.99**	**347**	*e*Pn		**Pn**	**18 28 17.3**	**-0.4**
PBRG				*e*Sn		**Sn**	**18 29 12.0**	**-2.9**
PBRG				*e*Sg		**Sg**	**18 29 40.5**	**-3.4**
PBRG				*i* IAML			18 29 43.5	
PBRG				*i* IAML			18 29 45.1	
PBRG				*i* IAML			18 29 46.9	
ECAL	**Calabor**	**5.12**	**347**	Pn		**Pn**	**18 28 19.1**	**-0.4**
ECAL				Sn		**Sn**	**18 29 16.4**	**-1.7**
ECAL	**Calabor**	**5.12**	**347**	Pn		**Pn**	**18 28 19.2**	**-0.3**
ECAL				Sn		**Sn**	**18 29 16.7**	**-1.4**
ECAL				Sg		**Sg**	**18 29 44.9**	**-3.2**
PCAB	**Cabril**	**5.22**	**337**	*e*Pn		**Pn**	**18 28 20.4**	**-0.5**
PCAB				*e*Sn		**Sn**	**18 29 17.8**	**-2.7**
PCAB				*e*Sg		**Sg**	**18 29 48.8**	**-2.6**
PCAB				*i* IAML			18 29 52.1	
PCAB				*i* IAML			18 30 01.1	
ELOB	**Lobios**	**5.37**	**337**	Pn		**Pn**	**18 28 22.4**	**-0.6**
ELOB				Sn		**Sn**	**18 29 20.7**	**-3.7**
ELOB				Sg		**Sg**	**18 29 53.5**	**-2.8**
ELOB				*i* IVmb_Lg			18 30 02.0	
PGAV	**Gavieira, Arco**	**5.53**	**336**	*e*Pn		**Pn**	**18 28 24.7**	**-0.5**
PGAV				*e*Sn		**Sn**	**18 29 24.3**	**-4.0**
PGAV				*e*Sg		**Sg**	**18 29 57.6**	**-3.6**
PGAV				*i* IAML			18 30 06.8	
PGAV				*i* IAML			18 30 06.9	
PGAV				*i* IAML			18 30 10.0	
EIBI	**Ibiza**	**5.61**	**66**	Pn		**Pn**	**18 28 25.2**	**-0.9**
EIBI				Sn		**Sn**	**18 29 29.0**	**-1.0**
EIBI	**Ibiza**	**5.61**	**66**	Pn		**Pn**	**18 28 25.6**	**-0.6**
EIBI				Sn		**Sn**	**18 29 29.7**	**-0.3**
TIO	**Tiouine**	**6.23**	**196**	Pn		**Pn**	**18 28 33.1**	**-1.8**
TIO				Sn		**Sn**	**18 29 40.3**	**-5.4**
EAGO	**Agolada(Pontev**	**6.24**	**340**	Pn		**Pn**	**18 28 34.7**	**-0.2**
EAGO				Sn		**Sn**	**18 29 42.9**	**-2.8**
EAGO				*i* IVmb_Lg			18 30 25.4	
EARI	**Arriondas**	**6.35**	**0**	Pn		**Pn**	**18 28 37.2**	**+0.9**
EARI				Sn		**Sn**	**18 29 46.3**	**-2.1**
EARI				*i* IVmb_Lg			18 30 37.8	
ELAN	**Lanestosa**	**6.43**	**12**	Pn		**Pn**	**18 28 37.1**	**-0.3**
ELAN				Sn		**Sn**	**18 29 47.3**	**-3.0**
EPON	**Pontenova**	**6.54**	**348**	Pn		**Pn**	**18 28 39.1**	**+0.2**
EPON				Sn		**Sn**	**18 29 49.5**	**-3.5**
EPON				*i* IVmb_Lg			18 31 44.7	
EALK	**Alkurruntz**	**6.89**	**23**	Pn		**Pn**	**18 28 44.3**	**+0.5**
EALK				Sn		**Sn**	**18 29 57.0**	**-4.7**
EALK				*i* IVmb_Lg			18 30 52.5	
ETOS	**Mallorca**	**6.93**	**64**	Pn		**Pn**	**18 28 44.5**	**+0.1**

*DJA **30** 18:40:34.0±1.2,5˚S±8˚×14˚7E±1˚0, h84km±6km, M4.8/25, mb5.0/25, mB5.3/12, MLv5.1/3, Mw(mB)4.7/12*
*NEIC **30** 18:40:41.5±1.6, 5.47S±0.04×146.30E±0.07, h70km±9km, mb4.6/25, Error ellipse: s-maj=10.4km s-min=4.6km az=115.0*
*IDC **30** 18:40:42.0±2.2, 5.43S×146.37E, h76km±19km, mb3.7/11, mbtmp4.1/14, MS3.7/32, Error ellipse: s-maj=26.3km s-min=11.0km az=66.0*

ISC 30 18:40:44.1±0.5, 5.56S±0.05×146.30E±0.06, h100km, n116, σ1s70/81, mb4.5/31, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.65**	**17**				Pn	18 41 33.1	-5.6
PMG	**Port Moresby**	**3.91**	**167**				**Pn**	**18 41 40.8**	**-1.4**
PMG	**Port Moresby**	**3.91**	**167**	P			**Pn**	**18 41 41.1**	**-1.1**
	48nm,0.4s,baz=348,slow=14,SNR=38								
PMG				S			**Sn**	**18 42 28.6**	**+1.5**
	127nm,0.6s,baz=307,slow=20,SNR=6.9								
PMG				LR			LR	18 43 43.1	
	comp=Z,2μm,19.1s,baz=3.5,slow=45								
PMG	**Port Moresby**	**3.91**	**167**	P			**Pn**	**18 41 41.3**	**-0.9**
PMG	**Port Moresby**	**3.91**	**167**	P			**Pn**	**18 41 41.4**	**-0.8**
RABL	**Rabaul**	**6.00**	**77**				**Pn**	**18 42 07.6**	**-2.9**
JAY	**Jayapura**	**6.35**	**298**	P			**Pn**	**18 42 11.6**	**-3.6**
	3.3nm,0.3s,baz=117,slow=9.7,SNR=15								
JAY				S			**Sn**	**18 43 27.2**	**+0.8**
	13nm,0.6s,baz=138,slow=12,SNR=1.3								
JAY				LR			LR	18 45 11.5	
	comp=Z,684nm,19.7s,baz=14,slow=42								
JAY	**Jayapura**	**6.35**	**298**	P			**Pn**	**18 42 15.7**	**+0.5**
	0.2nm49nm,0.8s								
GENI	**Genyem**	**6.79**	**296**	P			**Pn**	**18 42 21.8**	**+0.6**
GENI	**Genyem**	**6.79**	**296**	P			**Pn**	**18 42 21.6**	**+0.4**
	1.0nm3μm137nm,0.9s								
SMPI	**Sarmi**	**8.36**	**295**	P			**Pn**	**18 42 40.7**	**-1.9**
	685nm31nm,0.9s								
SMPI				S			Sn	18 44 23.7	+8.3
	685nm31nm,0.9s								
COEN	**Coen**	**8.89**	**200**				**Pn**	**18 42 48.2**	**-1.7**
COEN					Sn		**Sn**	**18 44 26.1**	**-2.2**
COEN	**Coen**	**8.89**	**200**	P			**Pn**	**18 42 49.4**	**-0.4**
MTSU	**Mount Surprise**	**12.64**	**189**	P			**P**	**18 43 43.2**	**-4.6**
HNR	**Honiara**	**14.06**	**107**	LR			LR	18 48 47.0	
	comp=Z,222nm,21.6s,baz=242,slow=35								
FAKI	**Fak Fak**	**14.26**	**280**	Pn			**Pn**	**18 43 59.6**	**-1.9**
CTAO	**Charters Tower**	**14.44**	**180**				**Pn**	**18 44 03.8**	**0.0**
ALEG	**Aligegeo Malai**	**14.63**	**103**	P			P	18 44 13.5	+3.6
SWI	**Sorong**	**15.72**	**287**	P			**P**	**18 44 19.7**	**-2.3**
	1μm214nm,0.8s								
QIS	**Mount Isa**	**16.26**	**203**	P			**P**	**18 44 27.5**	**-0.5**
WB0	**Warramunga Arr**	**18.27**	**218**				**P**	**18 44 47.9**	**-2.2**
WB0					IAmb		IAmb	18 45 12.9	
	comp=Z,39nm,1.4s								
WR8	**Warramunga Arr**	**18.34**	**218**				**Pn**	**18 44 50.2**	**-1.9**
WR8					IAmb		IAmb	18 45 09.2	
	comp=Z,29nm,1.1s								
WRAB	**Tennant Creek**	**18.42**	**218**	P			**Pn**	**18 44 50.9**	**-2.1**
WRAB					IAmb		IAmb	18 45 13.7	
	comp=Z,46nm,1.4s								
WRAB	**Tennant Creek**	**18.42**	**218**	P			**Pn**	**18 44 52.2**	**-0.8**
WRA	**Warramunga Arr**	**18.43**	**218**				**P**	**18 44 49.9**	**-2.0**
WRA	**Warramunga Arr**	**18.43**	**218**	P			**Pn**	**18 44 51.5**	**-1.6**
	comp=Z,5.3nm,0.6s,baz=41,slow=11,SNR=40								
WRA				LR			LR	18 52 41.2	
	comp=Z,393nm,18.4s,baz=28,slow=39								
GUMO	**Guam**	**19.08**	**356**	LR			LR	18 52 17.2	
	comp=Z,142nm,18.3s,baz=176,slow=37								
TNTI	**Ternate**	**19.93**	**288**	P			**Pn**	**18 45 06.6**	**-4.1**
TNTI	**Ternate**	**19.93**	**288**	P			**Pn**	**18 45 10.5**	**-0.3**
TNTI	**Ternate**	**19.93**	**288**	P			**Pn**	**18 45 09.4**	**-1.4**
	comp=Z,14nm,0.8s								
KNRA	**Kununurra**	**19.93**	**238**				**P**	**18 45 07.3**	**-1.0**
KNRA					IAmb		IAmb	18 45 31.5	
	comp=Z,22nm,0.8s								
SANI	**Sanana**	**20.56**	**279**	P			Pn	18 45 19.5	+1.3
SANI	**Sanana**	**20.56**	**279**	P			Pn	18 45 14.1	-4.1
	comp=Z,32nm,0.8s								
QLP	**Quilpie**	**21.00**	**185**	P			**P**	**18 45 23.0**	**+3.4**
AS31	**Alice Springs**	**21.60**	**212**				**P**	**18 45 25.9**	**-0.2**
ASAR	**Alice Springs**	**21.60**	**212**				**P**	**18 45 25.6**	**-0.5**
ASAR	**Alice Springs**	**21.60**	**212**	P			**P**	**18 45 25.9**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=36,slow=10,SNR=20								
ASAR				LR			LR	18 54 34.4	
	comp=Z,533nm,19.5s,baz=28,slow=38								
	comp=Z,1.8nm,0.6s								
SOEI	**Soe**	**22.22**	**258**				**P**	**18 45 31.5**	**-1.5**
SOEI	**Soe**	**22.22**	**258**	P			**P**	**18 45 35.8**	**+2.9**
SOEI	**Soe**	**22.22**	**258**	P			**P**	**18 45 34.0**	**+1.1**
	comp=Z,55nm,0.9s								
INKA	**Innaminka**	**22.68**	**193**				**P**	**18 45 37.9**	**+0.6**
INKA					IAmb		IAmb	18 46 05.2	
	comp=Z,19nm,1.4s								
BATI	**Baumata**	**22.89**	**257**	LR			LR	18 57 08.4	
	comp=Z,369nm,18.3s,baz=93,slow=43								
BATI	**Baumata**	**22.89**	**257**	P			**P**	**18 45 41.3**	**+1.7**
	comp=Z,1μmcomp=Z,163nm,0.9s								
KMSI	**Cibinong**	**23.11**	**285**	P			**P**	**18 45 42.7**	**+1.0**
	comp=Z,1μmcomp=Z,136nm,1.0s								
FITZ	**Fitzroy Crossi**	**23.71**	**237**				**P**	**18 45 46.1**	**-1.0**
FITZ	**Fitzroy Crossi**	**23.71**	**237**	LR			LR	18 55 52.9	
	comp=Z,632nm,18.2s,baz=66,slow=38								
LUWI	**Luwuk**	**23.91**	**280**				**P**	**18 45 46.9**	**-2.1**
LUWI	**Luwuk**	**23.91**	**280**	P			**P**	**18 45 50.6**	**+1.6**
LUWI	**Luwuk**	**23.91**	**280**	P			**P**	**18 45 49.7**	**+0.7**
	comp=Z,102nm,0.8s								
MMRI	**Maumere**	**24.07**	**261**				**P**	**18 45 48.9**	**-1.5**
EDFI	**Ende, Flores**	**24.62**	**261**	P			**P**	**18 45 54.6**	**-0.9**
	comp=Z,37nm,0.8s								
APSI	**Ampana**	**25.03**	**280**	P			**P**	**18 46 00.5**	**+1.3**
	comp=Z,989nmcomp=Z,85nm,0.8s								
MRSI	**Marisa**	**25.05**	**283**	P			**P**	**18 46 00.2**	**+0.8**
	comp=Z,50nm,0.9s								
DZM	**Mont Dzumac**	**25.48**	**132**				**P**	**18 46 04.0**	**+0.7**
DZM					IAmb		IAmb	18 46 37.2	
	comp=Z,16nm,1.0s								
DZM	**Mont Dzumac**	**25.48**	**132**	LR			LR	18 55 49.3	
	comp=Z,250nm,18.4s,baz=320,slow=36								
DZM	**Mont Dzumac**	**25.48**	**132**	P			P	18 46 08.4	+5.2
BASI	**Baing, Sumba**	**25.89**	**258**	P			**P**	**18 46 10.0**	**+3.1**
WSI	**Waingapu**	**26.09**	**259**	P			**P**	**18 46 10.9**	**+2.2**
TOLI2	**Tolitoli**	**26.33**	**284**				**P**	**18 46 09.7**	**-1.2**
TOLI2					IAmb		IAmb	18 46 15.0	
	comp=Z,15nm,0.7s								
TOLI2	**Tolitoli**	**26.33**	**284**	P			**P**	**18 46 14.3**	**+3.3**
STKA	**Stephens Creek**	**26.55**	**189**				**P**	**18 46 14.3**	**+1.6**
STKA	**Stephens Creek**	**26.55**	**189**	P			**P**	**18 46 13.9**	**+1.3**
	comp=Z,5.5nm,0.7s,baz=20,slow=12,SNR=11								
STKA				LR			LR	18 57 20.6	
	comp=Z,195nm,21.1s,baz=14,slow=37								
	comp=Z,5.5nm,0.7s								
STKA	**Stephens Creek**	**26.55**	**189**	P			**P**	**18 46 15.8**	**+3.1**
WBSI	**Waikabubak, Su**	**26.97**	**260**	P			**P**	**18 46 17.8**	**+1.0**
MBWA	**Marble Bar**	**30.06**	**236**	P			**P**	**18 46 44.2**	**+0.1**
MBWA					IAmb		IAmb	18 46 55.9	
	comp=Z,29nm,1.3s								
PSA00	**Pilbara Seismi**	**30.16**	**236**	P			**P**	**18 46 44.6**	**-0.3**
PSA00	**Pilbara Seismi**	**30.16**	**236**	P			**P**	**18 46 46.4**	**+1.4**
PSA00					IAmb		IAmb	18 46 46.7	
	comp=Z,11nm,0.9s								
FORT	**Forrest**	**30.39**	**212**	P			**P**	**18 46 48.9**	**+2.1**
FORT					IAmb		IAmb	18 47 08.4	
	comp=Z,9.2nm,0.9s								
H11S3	**WAKE ISLAND Hy**	**31.23**	**40**	T			T	19 20 09.1	
	baz=221,slow=74,SNR=104								
H11S2	**WAKE ISLAND Hy**	**31.24**	**40**	T			T	19 20 07.4	
	baz=221,slow=74,SNR=40								
H11S1	**WAKE ISLAND Hy**	**31.25**	**40**	T			T	19 20 10.7	
	baz=221,slow=74,SNR=47								
H11N1	**WAKE ISLAND Hy**	**32.27**	**38**	T			T	19 21 25.0	
	baz=221,slow=76,SNR=24								
H11N3	**WAKE ISLAND Hy**	**32.29**	**38**	T			T	19 21 25.8	
	baz=221,slow=76,SNR=52								
H11N2	**WAKE ISLAND Hy**	**32.29**	**38**	T			T	19 21 26.0	
	baz=221,slow=76,SNR=42								
FUNA	**Funafuti**	**32.77**	**97**	P			**P**	**18 47 07.1**	**-0.9**
MEEK	**Meekatharra**	**33.71**	**229**	P			**P**	**18 47 18.3**	**+2.2**
SBUM	**Sibu**	**34.96**	**282**				**P**	**18 47 27.5**	**+0.6**
SBUM					IAmb		IAmb	18 47 47.4	
	comp=Z,14nm,1.1s								
SBUM	**Sibu**	**34.96**	**282**	P			P	18 47 30.1	+3.2
KSM	**Kuching**	**36.62**	**280**	P			**P**	**18 47 40.8**	**-0.4**
KSM					IAmb		IAmb	18 48 01.8	
	comp=Z,15nm,1.0s								
NWAO	**Narrogin (SRO)**	**38.39**	**221**	LR			LR	19 04 51.9	
	comp=Z,363nm,18.6s,baz=85,slow=38								
LEM	**Lembang**	**38.47**	**266**	LR			LR	19 07 02.0	
	comp=Z,69nm,20.9s,baz=87,slow=41								
YHNB	**Yeheng**	**38.62**	**322**	P			**P**	**18 47 58.0**	**0.0**
JHJ	**Hachijo jima 2**	**38.96**	**351**	LR			LR	19 01 54.9	
	comp=Z,79nm,21.3s,baz=132,slow=33								
JNU	**Nakatsue**	**41.16**	**340**	LR			LR	19 02 48.4	
	comp=Z,77nm,21.1s,baz=162,slow=32								
MJAR	**Matsushiro Arr**	**42.56**	**350**	P			**P**	**18 48 29.9**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=165,slow=5.0,SNR=1.4								
	comp=Z,0.6nm,0.6s								
RPZ	**Rata Peaks**	**43.80**	**154**	LR			LR	19 06 06.3	
	comp=Z,115nm,20.1s,baz=326,slow=35								
NJ2	**Nanjing**	**45.63**	**327**	*e*P			**P**	**18 48 55.8**	**+1.1**
NJ2					pmax		pmax		
	comp=Z,15nm,0.5s								
KSRS	**Korea Array**	**46.10**	**340**	P			**P**	**18 48 57.4**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=157,slow=9.1,SNR=12								
	comp=Z,2.0nm,0.8s								
PPI	**Padang Panjang**	**46.10**	**275**	P			**P**	**18 48 58.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**52.43**	**298**	P			**P**	**18 49 47.5**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=113,slow=7.6,SNR=10								
CMAR					LR		LR	19 10 15.0	
	comp=Z,14nm,21.4s,baz=260,slow=34								
	comp=Z,0.8nm,0.3s								
BNX	**BinXian**	**53.79**	**344**	⇑P			P	18 49 58.0	+1.7
BNX					pmax		pmax		
	comp=Z,6.0nm,1.2s								
HHC	**Hu-ho-hao-te**	**56.10**	**329**	*e*P			P	18 50 17.0	+3.8
HHC					pmax		pmax		
	comp=Z,10.0nm,0.6s								
LZH	**Lanzhou**	**57.43**	**320**	*e*P			P	18 50 24.8	+2.0
LZH					pP		pP	18 50 37.0	-10
LZH					pmax		pmax		
	comp=Z,15nm,1.1s								
PETK	**Petropavlovsk-**	**59.24**	**8**	LR			LR	19 11 55.9	
	comp=Z,74nm,21.8s,baz=183,slow=32								
PPT	**Papeete**	**63.69**	**107**	LR			LR	19 14 47.5	
	comp=Z,28nm,20.4s,baz=153,slow=32								
MA2	**Magadan**	**65.03**	**3**	LR			LR	19 19 21.5	
	comp=Z,32nm,19.3s,baz=164,slow=36								
EVN	**Everest**	**66.28**	**304**	P			**P**	**18 51 23.7**	**+0.8**
EVN					IAmb		IAmb	18 51 25.4	
	comp=Z,3.2nm,0.6s								
PALK	**Pallekele**	**66.68**	**280**	LR			LR	19 24 07.1	
	comp=Z,64nm,18.4s,baz=106,slow=39								
SEY	**Seymchan**	**68.46**	**3**	LR			LR	19 19 03.2	
	comp=Z,30nm,21.1s,baz=268,slow=34								
WMQ	**Urumqi**	**72.01**	**319**	*e*P			**P**	**18 51 59.0**	**+1.7**
WMQ							LR		
	comp=Z,160nm,18.3s								
VNDA	**Vanda**	**72.39**	**176**	P			**P**	**18 51 59.6**	**+0.7**
VNDA	**Vanda**	**72.39**	**176**	LR			LR	19 23 15.6	
	comp

comp=Z,0.5nm,0.8s
H11S3 WAKE ISLAND Hy 43.45 84 T T 19 35 20.5
baz=276,slow=75,SNR=12
H11N1 WAKE ISLAND Hy 43.45 82 T T 19 35 41.9
baz=277,slow=75,SNR=20
H11S1 WAKE ISLAND Hy 43.46 84 T T 19 35 35.3
baz=276,slow=75,SNR=6.4
H11N2 WAKE ISLAND Hy 43.46 82 T T 19 35 42.7
baz=277,slow=75,SNR=16
H11S2 WAKE ISLAND Hy 43.46 84 T T 19 35 41.4
baz=276,slow=75,SNR=6.6
H11N3 WAKE ISLAND Hy 43.47 82 T T 19 35 43.5
baz=277,slow=75,SNR=12
ZALV Zalesovo Beam 43.84 330 P **P** **18 49 54.4 -0.5**
ZALV Zalesovo Beam 43.84 330 P **P** **18 49 54.9 -0.1**
comp=Z,1.7nm,0.6s,baz=122,slow=8.3,SNR=8.4
comp=Z,1.7nm,0.6s
ASAR Alice Springs 44.95 163 P P 18 49 51.1 -13
comp=Z,0.4nm,0.7s,baz=341,slow=8.1,SNR=5.0
comp=Z,0.4nm,0.7s
KURK Kurchatov 45.32 323 P **P** **18 50 06.8 0.0**
KURK IAmb IAmb 18 50 08.1
comp=Z,2.9nm,0.9s
KURBB Kurchatov Arra 45.33 323 P **P** **18 50 06.2 -0.7**
comp=Z,2.7nm,0.7s,baz=121,slow=8.0,SNR=25
comp=Z,2.7nm,0.7s
GAR Garm 47.28 305 P **P** **18 50 23.1 +0.5**
KKAR Karatay Array 47.92 311 P **P** **18 50 27.8 +0.3**
BVAR Borovoye Array 50.92 323 P **P** **18 50 49.7 -0.5**
comp=Z,0.3nm,0.4s,baz=108,slow=8.3,SNR=3.3
comp=Z,0.3nm,0.4s
AB31 Akbulak array 56.31 317 P **P** **18 51 29.1 -0.5**
AB31 IAmb IAmb 18 51 30.4
comp=Z,2.7nm,1.1s
ABKAR Akbulak array 56.31 317 P **P** **18 51 29.6 -0.1**
ARCES ARCESS Array B 73.55 339 P P 18 53 15.5 -6.1
comp=Z,8.9nm,1.1s,baz=79,slow=10,SNR=4.1
comp=Z,8.9nm,1.1s

*TAP **30** 18:42:54.6,22.°91N×120.°60E,h16km,ML4.3,B*
*IDC **30** 18:42:58.8±1.3,22.°22N×121.°94E,h0km,mb4.0/5,*
mbtmp4.0/5,Error ellipse: s-maj=52.9km s-min=23.8km
az=82.0

ISC 30 18:42:55.3±0.8,22.°86N±0.°02×120.°57E±0.°02,h25km±4km,
n149,σ1.°03/240,mb4.2/4,4C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCST	**Cishan**	**0.07**	**293**	⇑*i*P	**Pb**	**18 42 58.5**	**-1.2**
SCST				*i*S	**Sb**	**18 43 02.1**	**-0.6**
SSD	**Sandimen**	**0.13**	**151**	*i*P	**Pb**	**18 42 59.3**	**-0.8**
SSD				*i*S	**Sb**	**18 43 02.5**	**-0.8**
TWM1	**Shoushan**	**0.14**	**256**	⇑*i*P	**Pb**	**18 43 00.2**	**-0.1**
TWM1				S	**Sb**	**18 43 05.1**	**+1.5**
SGLT	**Jiouru**	**0.15**	**208**	*i*P	**Pn**	**18 43 00.8**	**-1.2**
SGLT				S	**Sb**	**18 43 05.8**	**+2.1**
SNJT	**Kaohsiung City**	**0.24**	**244**	*i*P	**Pn**	**18 43 02.9**	**-0.4**
SNJT				S	**Sb**	**18 43 09.5**	**+4.0**
MASBT	**Mashibuluo**	**0.25**	**166**	⇑*i*P	Pb	18 43 01.4	-0.2
MASBT				S	**Sb**	**18 43 05.9**	**0.0**
SHHT	**Tainan City**	**0.26**	**309**	P	**Pn**	**18 43 02.5**	**-1.1**
CHN3	**Shinhua**	**0.29**	**320**	P	**Pb**	**18 43 02.5**	**+0.4**
CHN3				*e*S	**Sn**	**18 43 09.1**	**-0.4**
WSSB	**Gushan**	**0.35**	**233**	*i*P	**Pn**	**18 43 04.7**	**-0.2**
WSSB				S	**Sn**	**18 43 13.0**	**+1.8**
TAI1	**Yung-k'ang**	**0.36**	**300**	P	**Pn**	**18 43 03.8**	**-1.2**
SNST	**Tainan City**	**0.37**	**350**	*i*P	**Pb**	**18 43 02.7**	**-0.6**
SNST				*i*S	**Sb**	**18 43 08.5**	**-0.3**
STYH	**Taoyuan**	**0.37**	**32**	*i*P	**Pb**	**18 43 02.3**	**-1.0**
STYH				S	**Sb**	**18 43 07.7**	**-1.1**
WTP	**Ta-pu**	**0.39**	**7**	⇑*i*P	**Pb**	**18 43 02.8**	**-0.9**
WTP				*i*S	**Sb**	**18 43 08.9**	**-0.6**
ECL	**Taimali**	**0.44**	**126**	P	**Pb**	**18 43 04.3**	**-0.3**
ECL				S	**Sb**	**18 43 10.4**	**-0.4**
TPUB	**Ta-pu**	**0.45**	**8**	*i*P	**Pb**	**18 43 03.5**	**-1.2**
TPUB				S	**Sb**	**18 43 10.3**	**-0.7**
SCLT	**Jiali**	**0.47**	**313**	P	**Pb**	**18 43 05.1**	**+0.1**
SCLT				S	**Sn**	**18 43 13.7**	**-0.2**
TWG	**Pinlang**	**0.47**	**94**	*i*P	**Pb**	**18 43 04.6**	**-0.4**
TWG				S	**Sb**	**18 43 11.5**	**0.0**
TWGBT	**Beinan**	**0.48**	**95**	P	**Pb**	**18 43 04.7**	**-0.4**
TWGBT	**Beinan**	**0.48**	**95**	*i*P	**Pb**	**18 43 04.6**	**-0.4**
TWGBT				S	**Sb**	**18 43 11.4**	**+0.6**
SCZT	**Fangliau**	**0.49**	**174**	*e*P	**Pn**	**18 43 05.6**	**-1.1**
LONT	**Longtian**	**0.52**	**85**	P	**Pb**	**18 43 05.4**	**-0.5**
LONT				*e*S	**Sb**	**18 43 13.1**	**0.0**
TSCK	**Chigu Township**	**0.53**	**303**	P	**Pb**	**18 43 05.8**	**-0.2**
TSCK				S	**Sn**	**18 43 15.9**	**+0.5**
ELDTW	**Lidau**	**0.53**	**51**	*i*P	**Pb**	**18 43 05.3**	**-0.8**
ELDTW				S	**Sb**	**18 43 12.3**	**-1.2**
WLCH	**Liuqiu**	**0.53**	**199**	P	Pn	18 43 09.3	+2.0
WLCH				*e*S	**Sn**	**18 43 19.8**	**+4.2**
EAST	**Anshuo**	**0.54**	**151**	*i*P	**Pn**	**18 43 06.6**	**-0.9**
EAST				S	**Sn**	**18 43 15.3**	**-0.5**
TWP	**Hsiaoliuchiu**	**0.54**	**200**	P	Pn	18 43 09.3	+1.8
TWP				*i*S	**Sn**	**18 43 20.6**	**+4.8**
TTN	**Taitung**	**0.55**	**101**	*i*P	**Pn**	**18 43 06.7**	**-0.8**
TTN				S	**Sn**	**18 43 15.7**	**-0.2**
ICHU	**Yijhu**	**0.57**	**332**	P	**Pb**	**18 43 06.8**	**+0.2**
ICHU				S	**Sn**	**18 43 16.2**	**-0.2**
WCKO	**Fanlu**	**0.58**	**4**	*e*P	**Pb**	**18 43 05.8**	**-1.1**
WCKO				S	**Sb**	**18 43 14.4**	**-0.4**
TAW	**Tawu**	**0.58**	**148**	P	**Pn**	**18 43 07.2**	**-0.8**
TAW				S	**Sn**	**18 43 16.2**	**-0.6**
CHN8	**Yiju**	**0.59**	**326**	*e*P	**Pb**	**18 43 07.0**	**+0.1**
CHN8				S	**Sn**	**18 43 16.9**	**0.0**
TAWH	**Dawu Township**	**0.59**	**150**	*i*P	**Pn**	**18 43 07.4**	**-0.8**
TAWH				S	**Sn**	**18 43 15.9**	**-1.2**
ECS	**Chishang**	**0.65**	**68**	P	**Pb**	**18 43 07.8**	**-0.3**
ECS				S	**Sb**	**18 43 17.2**	**+0.5**
CHY	**Chiayi**	**0.65**	**348**	P	**Pb**	**18 43 08.2**	**+0.2**
CHY				S	**Sb**	**18 43 17.9**	**+1.2**
EHD	**Haiduan**	**0.66**	**64**	*i*P	**Pb**	**18 43 07.1**	**-1.1**
EHD				S	**Sb**	**18 43 15.9**	**-1.1**
SLIU	**Shizi**	**0.67**	**161**	*e*P	Pn	18 43 09.0	-0.3
CHN2	**Minshiung**	**0.68**	**353**	*i*P	**Pb**	**18 43 08.6**	**+0.1**
CHN2				S	**Sb**	**18 43 18.1**	**+0.6**
ALS	**Alishan**	**0.69**	**19**	*e*P	**Pb**	**18 43 07.8**	**-1.1**
ALS				*e*S	**Sb**	**18 43 17.9**	**-0.1**
EDH	**Donghe**	**0.69**	**80**	P	**Sb**	**18 43 08.7**	**-0.1**
EDH				S	**Sn**	**18 43 19.1**	**-0.3**
YUS	**Yu-Shan**	**0.72**	**29**	*i*P	**Pb**	**18 43 08.6**	**-1.0**
YUS				S	**Sb**	**18 43 18.7**	**-0.6**
WSL	**Shuilin Townsh**	**0.73**	**335**	*e*P	**Pb**	**18 43 09.3**	**-0.1**
WSL				*i*S	**Sn**	**18 43 20.6**	**+0.1**
CHN5	**Tsauling**	**0.74**	**8**	P	**Pb**	**18 43 09.1**	**-0.6**
CHN5				*e*S	**Sb**	**18 43 19.9**	**+0.4**
FULB	**Fuli**	**0.75**	**63**	*i*P	**Pb**	**18 43 09.8**	**0.0**
FULB				S	**Sb**	**18 43 20.7**	**+1.1**
CHKT	**Chengkung**	**0.78**	**72**	*e*P	**Pb**	**18 43 10.1**	**0.0**
CHKT				S	**Sn**	**18 43 21.6**	**+0.1**
WGK	**Gukeng**	**0.82**	**360**	P	**Pb**	**18 43 10.9**	**-0.1**
WGK				*e*S	**Sn**	**18 43 23.2**	**+0.4**
WDLH	**Douliu**	**0.83**	**358**	*e*P	**Pb**	**18 43 10.9**	**-0.2**
WDLH				*e*S	**Sn**	**18 43 23.3**	**+0.4**
CHKH	**Chenggong**	**0.83**	**66**	*e*P	**Sb**	**18 43 11.0**	**-0.1**
CHKH				S	**Sb**	**18 43 22.6**	**+0.6**
TWF1	**Yuli**	**0.83**	**54**	*i*P	**Pb**	**18 43 10.5**	**-0.7**
TWF1				S	**Sb**	**18 43 21.3**	**-0.7**
WSF	**Szhu**	**0.84**	**338**	P	**Pb**	**18 43 10.7**	**-0.5**
WSF				S	**Sn**	**18 43 23.1**	**0.0**
WTK	**Tuku**	**0.84**	**349**	*e*P	**Pb**	**18 43 11.0**	**-0.3**
WTK				S	**Sn**	**18 43 23.4**	**+0.2**
EYUL	**Yuli**	**0.85**	**55**	P	**Pb**	**18 43 10.8**	**-0.6**
EYUL				S	**Sb**	**18 43 21.9**	**-0.5**
LDUT	**Ludao**	**0.85**	**102**	P	**Pb**	**18 43 11.3**	**-0.1**
LDUT				S	**Sn**	**18 43 23.9**	**+0.4**
WDL	**Douliou City**	**0.85**	**358**	P	**Pb**	**18 43 11.6**	**+0.1**
WDL				*i*S	**Sn**	**18 43 24.6**	**+1.0**
YULB	**Yu-li**	**0.86**	**52**	P	**Pb**	**18 43 10.9**	**-0.7**
YULB	**Yu-li**	**0.86**	**52**	*i*P	**Pb**	**18 43 10.7**	**-0.9**
YULB				S	**Sb**	**18 43 21.7**	**-1.0**
HEN	**Hengchun**	**0.86**	**169**	P	Pn	18 43 13.2	+1.3
HEN				S	Sn	18 43 26.8	+3.1
SMST	**Manzhou Townsh**	**0.87**	**163**	P	Pn	18 43 13.0	+1.0
SMST				*e*S	Sn	18 43 27.2	+3.3
WHYT	**Xinyi Township**	**0.88**	**18**	*i*P	**Pb**	**18 43 11.2**	**-0.8**
WHYT				*e*S	**Sb**	**18 43 23.5**	**+0.3**
WDGT	**Dungji**	**0.93**	**296**	*i*P	**Pb**	**18 43 11.8**	**-0.9**
WDGT				*i*S	**Sn**	**18 43 24.6**	**-0.7**
ECBN	**Changbin**	**0.94**	**61**	*e*P	**Pb**	**18 43 12.7**	**-0.1**
ECBN				*e*S	**Sn**	**18 43 26.7**	**+1.2**
TWK1	**Hengchun**	**0.94**	**166**	*e*P	Pn	18 43 14.2	+1.3
TWK1				S	Sn	18 43 29.0	+3.4
TWKBT	**Hengchun**	**0.94**	**166**	P	Pn	18 43 14.1	+1.1
TWKBT				S	Sn	18 43 28.9	+3.2
EHY	**Hungye**	**0.95**	**47**	*i*P	**Pb**	**18 43 12.4**	**-0.8**
EHY				*e*S	**Sb**	**18 43 24.7**	**-0.6**
EHYH	**Wanrong**	**0.96**	**48**	*i*P	**Pb**	**18 43 12.6**	**-0.6**
EHYH				*e*S	**Sb**	**18 43 24.7**	**-0.8**
WJS	**Zhushan**	**0.97**	**9**	*e*P	**Pn**	**18 43 13.0**	**-0.4**
WJS				*e*S	**Sb**	**18 43 26.5**	**+0.6**
SSLB	**Suanglung**	**0.99**	**21**	P	**Pn**	**18 43 13.8**	**+0.1**
SSLB	**Suanglung**	**0.99**	**21**	S	**Sn**	**18 43 27.9**	**+0.9**
SSLB	**Suanglung**	**0.99**	**21**	*e*P	**Pn**	**18 43 12.7**	**-1.0**
SSLB				*e*S	**Sb**	**18 43 26.9**	**+0.4**
TSEB	**Hengchuen, Pin**	**1.00**	**162**	*e*P	Pn	18 43 16.1	+2.2
TSEB				S	Sn	18 43 30.1	+3.0
HGSD	**Ruisui**	**1.01**	**51**	P	**Pn**	**18 43 14.1**	**+0.2**
HGSD				S	**Sb**	**18 43 27.8**	**+0.8**
WNT	**Mingjian**	**1.02**	**6**	*e*P	**Pn**	**18 43 13.7**	**-0.4**
WNT				*i*S	**Sn**	**18 43 28.2**	**+0.5**
WTCT	**Ta-ch'eng**	**1.04**	**345**	*e*P	**Pn**	**18 43 13.3**	**-1.0**
WTCT				S	**Sb**	**18 43 28.0**	**+0.2**
SMLT	**Sun Moon Lake**	**1.07**	**17**	*i*P	**Pn**	**18 43 15.0**	**+0.2**
SMLT				*i*S	**Sn**	**18 43 30.1**	**+1.1**
TYC	**Yuchr**	**1.08**	**14**	P	**Pn**	**18 43 15.1**	**+0.3**
TYC				*i*S	**Sn**	**18 43 30.1**	**+1.1**
VCHM	**Qimei**	**1.10**	**289**	P	**Pn**	**18 43 14.2**	**-1.0**
VCHM				S	**Sn**	**18 43 29.7**	**0.0**
PHUB	**P'eng-hu**	**1.12**	**306**	P	**Pn**	**18 43 14.1**	**-1.4**
PHUB				S	**Sb**	**18 43 29.0**	**-1.3**
EGFH	**Guangfu**	**1.13**	**44**	P	**Pn**	**18 43 15.3**	**-0.4**
EGFH				*e*S	**Sn**	**18 43 30.0**	**-0.4**
WARBT	**Fenglin Townsh**	**1.14**	**41**	P	**Pn**	**18 43 15.4**	**-0.4**
WARBT				S	**Sn**	**18 43 30.3**	**-0.4**
PNG	**Penghu**	**1.17**	**307**	P	**Pn**	**18 43 14.9**	**-1.2**
PNG				S	**Sn**	**18 43 30.2**	**-1.0**
WCH1	**Changhua City**	**1.21**	**359**	*e*P	**Pn**	**18 43 16.8**	**+0.1**
WCH1				S	**Sb**	**18 43 33.4**	**+0.7**
WCHH	**Zhanghua**	**1.22**	**360**	P	**Pn**	**18 43 16.6**	**-0.1**
WCHH				S	**Sb**	**18 43 34.0**	**+1.1**
OWD	**Renai**	**1.23**	**27**	P	**Pn**	**18 43 17.2**	**+0.2**
OWD				*i*S	**Sn**	**18 43 32.9**	**-0.1**
TEGC	**Jichi Village**	**1.23**	**46**	*e*P	**Pb**	**18 43 18.2**	**+0.3**
TEGC				*e*S	**Sb**	**18 43 36.8**	**+3.3**
WCS	**Beigang Elemen**	**1.24**	**15**	P	**Pn**	**18 43 17.1**	**+0.1**
WCS				*e*S	**Sb**	**18 43 34.7**	**+1.2**
WUSB	**Renai**	**1.24**	**24**	*i*P	**Pn**	**18 43 17.2**	**0.0**
WUSB				S	**Sn**	**18 43 34.0**	**+0.8**
ESL	**Shilin**	**1.24**	**40**	P	**Pn**	**18 43 17.5**	**+0.3**
ESL				*e*S	**Sn**	**18 43 33.5**	**+0.4**
LYUB	**Lan-yu**	**1.27**	**132**	*e*P	**Pn**	**18 43 16.3**	**-1.2**
LYUB				*e*S	**Sn**	**18 43 32.9**	**-0.8**
TCU	**Taichung**	**1.29**	**4**	P	**Pn**	**18 43 17.9**	**+0.1**
TCU				S	**Sb**	**18 43 35.3**	**+0.2**
SHUL	**Shoufeng**	**1.30**	**45**	P	**Pb**	**18 43 19.2**	**+0.1**
TEYL	**Yanliau Villag**	**1.38**	**43**	P	**Pb**	**18 43 20.8**	**+0.3**
TEYL				S	**Sb**	**18 43 39.8**	**+2.1**
ETM	**Tongmen**	**1.39**	**37**	P	**Pn**	**18 43 19.9**	**+0.7**
ETM				S	**Sb**	**18 43 38.7**	**+0.6**
LXIB	**Xiulin Townshi**	**1.40**	**34**	*i*P	**Pn**	**18 43 19.9**	**+0.5**
LXIB				S	**Sn**	**18 43 38.1**	**+1.0**
WHF	**Hehuan Shan**	**1.43**	**26**	P	**Pn**	**18 43 20.8**	**+0.7**
WHF				S	**Sb**	**18 43 41.3**	**+1.7**
WHP	**Taichung City**	**1.46**	**14**	*i*P	**Pn**	**18 43 20.6**	**+0.4**
WHP				*e*S	**Sb**	**18 43 40.5**	**+0.6**
HWA	**Hwalien**	**1.47**	**40**	*e*P	**Pb**	**18 43 21.6**	**-0.3**
HWA				*e*S	**Sb**	**18 43 41.2**	**+1.0**
WDJ	**Dajia District**	**1.48**	**3**	P	**Pn**	**18 43 21.0**	**+0.5**
WDJ				*e*S	**Sb**	**18 43 41.1**	**+0.5**
TDCB	**Techi**	**1.49**	**21**	P	**Pn**	**18 43 21.0**	**+0.3**
TDCB				*e*S	**Sn**	**18 43 40.9**	**+1.4**
TWQ1	**Liyutan**	**1.50**	**7**	*e*P	**Pn**	**18 43 21.1**	**+0.4**
TWQ1				S	**Sb**	**18 43 41.0**	**0.0**
TWT	**Tachien**	**1.50**	**22**	*i*P	**Pn**	**18 43 21.7**	**+0.9**
TWT				S	**Sb**	**18 43 41.2**	**0.0**
FUSS	**Fushou**	**1.52**	**24**	*e*P	**Pb**	**18 43 22.6**	**-0.4**
TWD	**Chiawan**	**1.54**	**38**	P	**Pn**	**18 43 21.9**	**+0.6**
TWD				*e*S	**Sb**	**18 43 42.5**	**+0.2**
NSY	**Sanyi**	**1.56**	**7**	P	**Pn**	**18 43 22.2**	**+0.6**
NSY				*e*S	**Sb**	**18 43 43.4**	**+0.5**
ETLH	**Xiulin Townshi**	**1.58**	**32**	P	**Pb**	**18 43 23.2**	**-0.8**
ETLH				S	**Sb**	**18 43 43.6**	**0.0**
NACB	**Ninganchiao**	**1.61**	**36**	P	**Pn**	**18 43 23.0**	**-0.9**
NACB	**Ninganchiao**	**1.61**	**36**	S	**Sb**	**18 43 45.4**	**+1.0**
NACB	**Ninganchiao**	**1.61**	**36**	P	**Pn**	**18 43 23.1**	**+0.8**
NACB				*e*S	**Sb**	**18 43 45.0**	**+0.5**
ETL	**Fush Village**	**1.62**	**37**	*e*P	**Pb**	**18 43 23.8**	**-0.7**
NMLH	**Miaoli**	**1.69**	**7**	*e*P	**Pn**	**18 43 24.2**	**+1.0**
NMLH				*e*S	**Sb**	**18 43 46.3**	**-0.1**
NNSB	**Datong**	**1.73**	**25**	*e*P	**Pn**	**18 43 24.9**	**+0.9**
NNSB				*e*S	**Sb**	**18 43 47.8**	**-0.2**
NNS	**Nan Shan**	**1.74**	**25**	*e*P	**Pn**	**18 43 25.1**	**+1.0**
NNS				S	**Sb**	**18 43 48.4**	**+0.2**
NSTT	**Nanjuang**	**1.81**	**13**	*e*P	**Pn**	**18 43 25.4**	**+0.4**
NSTT				*e*S	**Sn**	**18 43 48.7**	**+1.6**
EAHA	**Aohua**	**1.82**	**36**	P	**Pn**	**18 43 26.0**	**+0.9**
EAHA				*e*S	**Sn**	**18 43 49.4**	**+2.1**
LIOB	**Emei**	**1.83**	**13**	*e*P	**Pn**	**18 43 25.5**	**+0.3**
NFF	**Wufeng Townshi**	**1.84**	**16**	*e*P	**Pn**	**18 43 26.0**	**+0.6**
NFF				*e*S	**Sb**	**18 43 50.4**	**-0.5**
LATG	**Datong**	**1.89**	**28**	P	**Pn**	**18 43 27.3**	**+1.2**
LATG				*e*S	**Sb**	**18 43 52.0**	**-0.4**
ENA	**Nanau**	**1.90**	**34**	P	**Pn**	**18 43 27.5**	**+1.4**
ENA				*e*S	**Sn**	**18 43 51.3**	**+1.9**
EWUT	**Wuta**	**1.93**	**35**	*e*P	**Pn**	**18 43 28.2**	**+1.5**
EWUT				*e*S	**Sn**	**18 43 52.4**	**+2.2**
NSK	**Sanguang**	**1.95**	**22**	P	**Pb**	**18 43 29.0**	**-1.2**
NSK				S	**Sn**	**18 43 53.0**	**+2.3**
YHNB	**Yeheng**	**1.95**	**22**	P	**Pb**	**18 43 29.2**	**-1.0**
YHNB	**Yeheng**	**1.95**	**22**	*e*P	**Pn**	**18 43 28.7**	**+1.7**
YHNB				*e*S	**Sb**	**18 43 54.2**	**0.0**
SBCB	**Hsinchu**	**1.96**	**11**	*e*P	**Pb**	**18 43 29.8**	**-0.6**
KSHI	**Guanxi Townshi**	**1.99**	**16**	*e*P	**Pn**	**18 43 28.2**	**+0.7**
ENTT	**Nioudou**	**2.00**	**27**	*e*P	**Pb**	**18 43 30.0**	**-1.0**
ENTT				*e*S	**Sb**	**18 43 55.1**	**-0.3**
EOS4	**EOS4**	**2.04**	**52**	*e*P	**Pn**	**18 43 28.8**	**+1.0**
EOS4				*e*S	**Sn**	**18 43 54.6**	**+2.3**
NDS	**Dongshan**	**2.06**	**31**	*e*P	**Pb**	**18 43 30.5**	**-1.2**
ESAO	**Su ao**	**2.07**	**34**	P	**Pn**	**18 43 30.3**	**+1.7**
NWLT	**Wulai**	**2.10**	**24**	*e*P	**Pb**	**18 43 31.4**	**-1.3**
TWC	**Suao**	**2.10**	**34**	*e*P	**Pn**	**18 43 30.4**	**+1.4**
FUSB	**Fushanzhiwuyua**	**2.11**	**26**	P	**Pn**	**18 43 31.1**	**+1.9**
TWE	**Neicheng**	**2.11**	**28**	*e*P	**Pn**	**18 43 30.9**	**+1.9**
EOS3	**EOS3**	**2.15**	**48**	*e*P	**Pn**	**18 43 30.6**	**+1.2**
EOS2	**EOS2**	**2.18**	**44**	*e*P	**Pn**	**18 43 31.8**	**+1.9**
TATO	**Taipei**	**2.27**	**22**	P	**Pb**	**18 43 34.3**	**-1.3**
TWS1	**Kuangyinshan**	**2.37**	**19**	*e*P	**Pn**	**18 43 33.3**	**+0.7**
TIPB	**Shuangxi**	**2.40**	**28**	*e*P	**Pn**	**18 43 35.0**	**+1.9**
ZUZH	**Zhuzihu**	**2.46**	**21**	*e*P	**Pn**	**18 43 33.8**	**-0.2**
WFSB	**Wu-fen Shan**	**2.47**	**27**	*e*P	**Pn**	**18 43 36.2**	**+2.2**
KNM	**Kinmen**	**2.50**	**309**	*e*P	**Pn**	**18 43 36.0**	**+1.6**
SXI1	**Grass Mountain**	**2.53**	**28**	*e*P	**Pb**	**18 43 38.5**	**-1.6**
PTMZ	**Houxiangcun**	**2.54**	**329**	*e*P	**Pn**	**18 43 34.8**	**-0.3**
KNMB	**Chin-men Tao**	**2.56**	**309**	*e*P	**Pn**	**18 43 34.7**	**-0.6**
ZPLA	**Ao Xicun**	**2.80**	**293**	*e*P	**Pn**	**18 43 38.0**	**-0.6**
DSXP	**Dongshan**	**3.01**	**287**	*e*P	**Pn**	**18 43 40.6**	**-0.8**
AXDP	**Jialang**	**3.13**	**311**	*e*P	**Pn**	**18 43 42.6**	**-0.5**
MJAR	**Matsshiro Arr**	**20.47**	**44**	P	Pn	18 47 34.0	+0.5
	2.8nm,0.8s,baz=226,slow=10,SNR=10.0						
	2.8nm,0.8s						
ZALV	**Zalesovo Beam**	**41.06**	**328**	P	P	18 50 53.7	+17
	0.8nm,0.4s,baz=121,slow=8.2,SNR=3.7						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**44.61**	**161**	P	**P**	**18 51 04.7**	**-1.1**
	3.0nm,0.6s,baz=344,slow=8.1,SNR=14						
	3.0nm,0.6s						
ASAR	**Alice Springs**	**48.03**	**163**	P	**P**	**18 51 32.5**	**-0.1**
	1.1nm,0.5s,baz=341,slow=8.5,SNR=27						
	1.1nm,0.5s						
STKA	**Stephens Creek**	**58.03**	**159**	P	**P**	**18 52 46.4**	**+0.2**
	1.1nm,0.5s,baz=345,slow=12,SNR=4.2						
	1.1nm,0.5s						

IDC 30 19:18:48.6±2.0,39.°59N×111.°39E,h0km,mb3.4/4,
mbtmp3.5/5,ML3.2/1,MS3.2/1,Error ellipse:
s-maj=55.7km s-min=21.5km az=68.0,Northeastern
China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.00**	**338**	P	Pn	19 21 01.8	+1.9
	0.3nm,0.3s,baz=154,slow=13,SNR=8.2						
SONM				Sn	Sn	19 22 38.9	-3.1
	0.3nm,0.3s,baz=151,slow=27,SNR=1.5						
SONM				Lg	Lg	19 23 31.8	
	0.2nm,0.3s,baz=151,slow=30,SNR=1.9						
	3.2nm,0.7s						
MKAR	**Makanchi Array**	**22.32**	**298**	P	P	19 23 46.5	-1.3
	1.1nm,0.9s,baz=106,slow=9.1,SNR=6.5						
	1.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**23.66**	**211**	P	P	19 24 01.2	-0.6
	1.3nm,0.7s,baz=32,slow=9.6,SNR=4.6						
	1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**25.48**	**307**	P	P	19 24 19.1	+0.9
	0.8nm,1.1s,baz=84,slow=7.6,SNR=4.0						
	0.8nm,1.1s						
TIXI	**Tiksi**	**33.33**	**10**	LR	LR	19 39 50.2	
	comp=Z,36nm,19.8s,baz=184,slow=38						
ASAR	**Alice Springs**	**66.35**	**157**	P	P	19 29 39.4	+0.3
	0.3nm,0.8s,baz=348,slow=8.2,SNR=1.8						
	0.3nm,0.8s						

*BER **30** 19:29:59.0±1.1,66.°37N×14.°59E,h0km,ML1.1,Explosion*
*UPP **30** 19:30:01.1±0.7,66.°35N×15.°35E,h0km,ML2.5,Presumed*
earthquake

ISC 30 19:29:56.8±0.9,66.°37N±0.°04×14.°78E±0.°03,h0km,n14,
σ0.°87/18,Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOR8	**Moi Rana**	**0.24**	**215**	*e*P	**Pg**	**19 30 00.5**	**-0.8**
MOR8				IAML		19 30 06.1	
	comp=Z,120nm,0.4s						
RAUS	**Rausandaksla**	**0.31**	**284**	*e*P	**Pg**	**19 30 02.8**	**+0.1**
RAUS				*e*S	**Sg**	**19 30 06.2**	**-0.4**
RAUS				IAML		19 30 09.4	
	comp=Z,26nm,1.1s						
KONS	**Konsvik**	**0.68**	**282**	*e*P	**Pg**	**19 30 09.7**	**-0.2**
KONS				IAML		19 30 24.6	
	comp=Z,5.5nm,0.3s						
VAGH	**Vaagaholmen**	**0.71**	**302**	*e*P	**Pg**	**19 30 09.8**	**-0.5**
STOK	**Stokkvaagen**	**0.71**	**268**	*e*P	**Pg**	**19 30 10.6**	**+0.1**
LEIR	**Leirfjorden**	**0.72**	**250**	*e*P	**Pb**	**19 30 11.5**	**-0.7**
LEIR				IAML		19 30 24.8	
	comp=Z,8.1nm,0.4s						
STEI	**Steigen**	**1.58**	**6**	*e*P	**Pb**	**19 30 26.0**	**-0.9**
STEI				*e*S	**Sg**	**19 30 47.3**	**-0.2**
SALU	**Saltoluokta**	**1.79**	**54**	P	**Pg**	**19 30 30.4**	**-0.6**
SALU				S	**Sg**	**19 30 54.5**	**+0.3**
NIKU	**Nikkaluokta**	**2.25**	**46**	P	**Pb**	**19 30 38.0**	**-0.2**
NIKU				S	**Sg**	**19 31 08.3**	**-0.5**
RATU	**Laukkuluspa**	**2.38**	**50**	P	**Pb**	**19 30 39.7**	**-0.9**
DUNU	**Dundret**	**2.42**	**69**	S	**Sg**	**19 31 13.5**	**-1.0**
SVAU	**Svanoeiden**	**2.75**	**131**	P	**Pn**	**19 30 43.8**	**+1.8**
NOD	**Norderasen**	**2.94**	**179**	P	**Pb**	**19 30 49.1**	**-0.8**
ERTU	**Ertsjaerv**	**2.98**	**83**	P	**Pn**	**19 30 46.9**	**+1.6**

*IDC **30** 20:29:45.6±5.2,33.°16N×68.°99E,h0km,mb3.7/2,*
mbtmp3.5/5,ML3.0/3,Error ellipse: s-maj=151.8km
s-min=30.8km az=136.0
*NNC **30** 20:30:27.1±3.6,36.°17N

6.0nm,1.0s,baz=99,slow=6.7,SNR=2.6
6.0nm,1.0s

SPITS Spitsbergen Ar 58.97 346 LR LR 21 31 13.7
comp=Z,34nm,18.0s,baz=334,slow=40

WRA Warramunga Arr 59.92 143 P **P** **21 02 00.9 -0.4**
0.7nm,0.9s,baz=319,slow=9.5,SNR=6.2
0.7nm,0.9s

ASAR Alice Springs 62.82 146 P **P** **21 02 20.0 -0.8**
0.3nm,0.6s,baz=322,slow=6.2,SNR=5.0
0.3nm,0.6s

KDAK Kodiak Island 72.78 32 LR LR 21 39 30.4
comp=Z,57nm,20.8s,baz=227,slow=39

DLBC Dease Lake 81.64 24 LR LR 21 42 32.1
comp=Z,554nm,19.4s,baz=352,slow=37

URZ Urewera 98.94 129 LR LR 21 54 06.5
comp=Z,69nm,18.1s,baz=304,slow=38

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*NEIC **30** 20:56:56.5±2.0,50˚4S±0˚.1×6˚.9W±0˚.1,h10km±1km, mb4.8/27,Error ellipse: s-maj=23.0km s-min=3.7km az=138.0*

*IDC **30** 20:56:56.6±0.6,50˚.22S×6˚.92W,h0km,mb4.2/12, mbtmp4.2/12,MS4.0/34,Error ellipse: s-maj=23.9km s-min=15.9km az=81.0*

*GCMT **30** 20:57:00.5±0.3,50˚.55S±0˚.05×6˚.52W±0˚.05,h19km±1km, MW4.9/83,Moment Tensor Solution. s13,c13; s83,c101; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.35±.20; Mθθ0.75±.13; Mϕϕ1.60±.14; Mrθ-1.86±.37; Mθϕ-0.81±.09; Mϕr-0.39±.34; Best double couple: M₀2.77200×10¹⁶ NP1:ϕs118.00000°,δ61.00000°,λ-118.00000°. Principal axes: T 2.2220, Plg12.0000°, Azm228.0000°; N 1.0990, Plg24.0000°, Azm132.0000°; P -3.3220, Plg63.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 20:56:56.9±0.4,**50˚31S**±0˚.08×**7˚.0W**±0˚.1,**h10km**,**n82,** σ1**59**/51,**mb4.6**/19,**MS4.0**/35,**4C,Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**20.42**	**181**	⇑P		Pn	21 01 37.8	+1.9
	comp=Z,40nm,1.2s						
VNA2	**Neumayer--Watz**	**20.69**	**180**	P		Pn	21 01 38.8	-0.3
	comp=Z,2.7nm,0.6s						
VNA3	**Neumayer Olymp**	**21.04**	**182**	⇑P		**P**	**21 01 42.1**	**+1.6**
	comp=Z,13nm,0.8s						
SNAA	**Sanae**	**21.52**	**176**	⇑P		**P**	**21 01 47.3**	**+1.6**
	comp=Z,277nm,0.9s						
SNAA	**Sanae**	**21.52**	**176**	P		**P**	**21 01 43.0**	**-2.8**
SNAA	**Sanae**	**21.52**	**176**	P		**P**	**21 01 47.2**	**+1.5**
	comp=Z,7.1nm,0.9s,baz=346,slow=10,SNR=28						
SNAA				LR		LR	21 08 03.3	
	comp=Z,255nm,20.8s,baz=309,slow=31						
	comp=Z,7.1nm,0.9s						
TROLL	**Troll, Antarti**	**22.20**	**172**	⇑P		**P**	**21 01 56.5**	**+3.4**
	comp=Z,655nm,0.8s						
ESPZ	**Base Esperanza**	**29.43**	**225**	P		**P**	**21 02 57.8**	**-2.4**
BELA	**Belgrano 2**	**29.52**	**191**	P		**P**	**21 02 59.4**	**-1.5**
BELA					IAmb	IAmb	21 03 09.8	
	comp=Z,42nm,1.9s						
PMSA	**Palmer Station**	**32.55**	**222**	P		**P**	**21 03 26.6**	**-1.0**
PMSA	**Palmer Station**	**32.55**	**222**	LR		LR	21 15 19.9	
	comp=Z,128nm,18.0s,baz=80,slow=34						
BOSA	**Boshof**	**32.63**	**61**	LR		LR	21 14 17.0	
	comp=Z,587nm,18.8s,baz=208,slow=32						
SMAI	**San Martin Ant**	**33.76**	**216**	P		**P**	**21 03 37.5**	**-0.7**
LBTB	**Lobatse**	**35.65**	**57**	LR		LR	21 16 06.4	
	comp=Z,313nm,19.1s,baz=216,slow=32						
KGCAE	**Kacgae**	**35.67**	**51**	P		**P**	**21 03 55.0**	**-0.3**
KGCAE					IAmb	IAmb	21 03 58.3	
	comp=Z,17nm,0.8s						
TSUM	**Tsumeb**	**36.70**	**41**	LR		LR	21 16 01.2	
	comp=Z,481nm,20.7s,baz=195,slow=31						
MAW	**Mawson**	**37.52**	**144**	P		**P**	**21 04 11.7**	**+1.3**
	comp=Z,3.8nm,0.8s,baz=260,slow=8.9,SNR=9.7						
MAW				LR		LR	21 16 31.8	
	comp=Z,129nm,21.3s,baz=273,slow=31						
	comp=Z,3.8nm,0.8s						
H04S2	**CROZET ISLANDS**	**38.26**	**108**	T		T	21 45 28.6	
	baz=243,slow=75,SNR=7.8						
H04S3	**CROZET ISLANDS**	**38.28**	**108**	T		T	21 45 15.3	
	baz=243,slow=75,SNR=8.4						
H04S1	**CROZET ISLANDS**	**38.28**	**108**	T		T	21 45 22.8	
	baz=243,slow=75,SNR=6.3						
XAUDM	**Khaudum**	**38.94**	**46**	P		**P**	**21 04 22.1**	**-1.0**
XAUDM					IAmb	IAmb	21 04 33.8	
	comp=Z,57nm,1.9s						
QSPA	**South Pole Qui**	**39.95**	**180**	P		**P**	**21 04 27.6**	**-3.5**
QSPA					IAmb	IAmb	21 04 42.1	
	comp=Z,32nm,1.2s						
QSPA	**South Pole Qui**	**39.95**	**180**	P		**P**	**21 04 34.2**	**+3.1**
	comp=Z,8.2nm,1.1s,baz=196,slow=2.0,SNR=13						
QSPA				LR		LR	21 19 47.1	
	comp=Z,196nm,19.4s,baz=211,slow=34						
	comp=Z,8.2nm,1.1s						
MATP	**Matopo**	**40.92**	**56**	LR		LR	21 19 23.8	
	comp=Z,327nm,19.4s,baz=215,slow=33						
PLCA	**Paso Flores**	**44.26**	**257**	P		**P**	**21 05 09.1**	**+2.6**
	comp=Z,3.6nm,0.9s,baz=162,slow=3.2,SNR=4.3						
PLCA				LR		LR	21 21 02.6	
	comp=Z,149nm,20.8s,baz=130,slow=33						
	comp=Z,3.6nm,0.9s						
LSZ	**Lusaka**	**45.05**	**52**	P		**P**	**21 05 11.5**	**-1.5**
LSZ					IAmb	IAmb	21 05 47.2	
	comp=Z,31nm,1.9s						
LSZ	**Lusaka**	**45.05**	**52**	LR		LR	21 21 16.8	
	comp=Z,362nm,21.9s,baz=210,slow=32						
CPUP	**Villa Florida**	**45.08**	**283**	P		**P**	**21 05 13.1**	**+0.1**
CPUP	**Villa Florida**	**45.08**	**283**	P		**P**	**21 05 13.9**	**+1.0**
	comp=Z,1.2nm,1.0s,baz=198,slow=9.6,SNR=4.0						
CPUP				LR		LR	21 20 45.7	
	comp=Z,26nm,21.3s,baz=22,slow=32						
	comp=Z,1.2nm,1.0s						
BI02	**San Fabin de**	**47.13**	**261**	P		**P**	**21 05 28.4**	**-0.8**
BDFB	**Brasilia**	**47.78**	**301**	LR		LR	21 22 03.4	
	comp=Z,130nm,18.5s,baz=122,slow=32						
BO02	**Sierra Bellavi**	**47.98**	**263**	P		**P**	**21 05 37.1**	**+1.2**
MT09	**Talagante**	**48.76**	**264**	P		**P**	**21 05 43.1**	**+1.2**
RCBR	**Riachuelo**	**50.50**	**322**	LR		LR	21 22 44.5	
	comp=Z,58nm,20.4s,baz=76,slow=31						
SBA	**Scott Base**	**52.05**	**178**	P		**P**	**21 06 05.3**	**-0.7**
SBA					IAmb	IAmb	21 06 15.9	
	comp=Z,16nm,1.2s						
VNDA	**Vanda**	**52.26**	**177**	P		**P**	**21 06 06.5**	**-1.1**
VNDA					IAmb	IAmb	21 06 16.8	
	comp=Z,15nm,1.1s						
VNDA	**Vanda**	**52.26**	**177**	P		**P**	**21 06 09.1**	**+1.6**
	comp=Z,2.2nm,0.9s,baz=207,slow=6.6,SNR=12						
VNDA				LR		LR	21 27 11.6	
	comp=Z,187nm,19.8s,baz=182,slow=35						
	comp=Z,2.2nm,0.9s						
PTLB	**Pontes e Lacer**	**54.34**	**291**	P		**P**	**21 06 23.6**	**0.0**
PTLB					IAmb	IAmb	21 06 32.1	
	comp=Z,17nm,1.6s						
SIV	**San Ignacio**	**55.09**	**288**	LR		LR	21 26 47.4	
	comp=Z,162nm,21.3s,baz=116,slow=32						
DBIC	**Dimbokro**	**56.78**	**3**	P		**P**	**21 06 39.9**	**-1.1**
DBIC	**Dimbokro**	**56.78**	**3**	P		**P**	**21 06 41.2**	**+0.2**
	comp=Z,6.3nm,1.0s,baz=168,slow=7.5,SNR=4.1						
DBIC				LR		LR	21 26 22.4	
	comp=Z,100nm,18.1s,baz=188,slow=31						
	comp=Z,6.3nm,1.0s						
VILB	**Vilhena**	**56.93**	**291**	P		**P**	**21 06 43.4**	**+1.1**
PB08	**IPOC Station P**	**57.01**	**278**	P		**P**	**21 06 43.5**	**+0.3**
PB08					IAmb	IAmb	21 06 52.4	
	comp=Z,9.6nm,1.2s						
GO01	**Chusmiza**	**57.39**	**278**	P		**P**	**21 06 45.6**	**-0.4**
PB16	**IPOC Station P**	**58.57**	**279**	P		**P**	**21 06 55.5**	**+1.1**
MBAR	**Mbarara**	**59.02**	**46**	LR		LR	21 29 40.7	
	comp=Z,245nm,20.5s,baz=212,slow=33						
LPAZ	**La Paz**	**59.23**	**282**	P		**P**	**21 06 57.7**	**-1.4**
LPAZ					IAmb	IAmb	21 07 06.1	
	comp=Z,9.2nm,1.4s						
LPAZ	**La Paz**	**59.23**	**282**	P		**P**	**21 07 01.1**	**+2.0**
	comp=Z,1.3nm,0.8s,baz=141,slow=2.4,SNR=5.1						
LPAZ				LR		LR	21 30 39.5	
	comp=Z,78nm,21.8s,baz=110,slow=34						
	comp=Z,1.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**63.65**	**10**	P		**P**	**21 07 28.7**	**+0.6**
TORD	**Torodi Ar. Bea**	**63.65**	**10**	P		**P**	**21 07 28.9**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=206,slow=6.0,SNR=9.5						
	comp=Z,0.6nm,0.5s						
MDP	**Montagnes des**	**67.72**	**310**	LR		LR	21 33 23.2	
	comp=Z,94nm,20.2s,baz=160,slow=32						
NNA	**Nana**	**67.98**	**278**	LR		LR	21 38 21.2	
	comp=Z,67nm,18.3s,baz=180,slow=36						
FURI	**Furi**	**71.07**	**48**	LR		LR	21 38 01.2	
	comp=Z,286nm,19.1s,baz=203,slow=35						
ATAH	**Atahualpa**	**72.66**	**280**	LR		LR	21 39 28.5	
	comp=Z,48nm,21.9s,baz=142,slow=35						
ATD	**Arta Tunnel**	**75.37**	**51**	LR		LR	21 41 46.8	
	comp=Z,5.5nm,18.1s,baz=172,slow=36						
PCRV	**Puerto La Cruz**	**78.25**	**302**	LR		LR	21 40 19.7	
	comp=Z,152nm,19.8s,slow=33						
BAUV	**El Baul**	**79.13**	**298**	P		**P**	**21 09 00.6**	**-1.1**
ROSC	**El Rosal**	**79.49**	**291**	LR		LR	21 43 22.6	
	comp=Z,114nm,18.1s,baz=105,slow=35						
MDT	**Midelt**	**82.79**	**2**	LR		LR	21 42 13.7	
	comp=Z,171nm,18.3s,baz=211,slow=33						
SJG	**San Juan**	**85.64**	**305**	LR		LR	21 45 18.9	
	comp=Z,53nm,19.8s,baz=98,slow=34						
KEST	**Kesra**	**86.89**	**13**	P		**P**	**21 09 42.8**	**+1.3**
	comp=Z,4.2nm,0.9s,baz=194,slow=8.3,SNR=4.8						
KEST				LR		LR	21 44 10.9	
	comp=Z,50nm,20.5s,baz=352,slow=33						
	comp=Z,4.2nm,0.9s						
RAYN	**Ar Rayn**	**86.94**	**47**	P		**P**	**21 09 40.0**	**-2.0**
EIL	**Elat**	**87.89**	**36**	LR		LR	21 47 31.0	
	comp=Z,174nm,18.4s,baz=180,slow=35						
VAE	**Valguarnera**	**89.44**	**17**	LR		LR	21 48 54.9	
	comp=Z,56nm,19.9s,baz=133,slow=35						
ESDC	**Sonseca Array**	**89.64**	**2**	P		**P**	**21 09 53.2**	**-1.2**
ESDC					IAmb	IAmb	21 11 55.3	
	comp=Z,10.0nm,1.9s						
ESDC	**Sonseca Array**	**89.64**	**2**	P		**P**	**21 09 56.1**	**+1.7**
	comp=Z,1.1nm,0.9s,baz=185,slow=4.1,SNR=8.6						
	comp=Z,1.1nm,0.9s						
ASF	**Jabal al Asfar**	**90.86**	**36**	LR		LR	21 49 29.9	
	comp=Z,60nm,19.7s,baz=225,slow=35						
MMAI	**Mount Meron Ar**	**91.06**	**35**	LR		LR	21 48 37.6	
	comp=Z,161nm,20.7s,baz=184,slow=34						
STKA	**Stephens Creek**	**93.58**	**154**	LR		LR	21 50 52.3	
	comp=Z,36nm,18.0s,baz=203,slow=35						
PALK	**Pallekele**	**94.10**	**84**	LR		LR	21 42 42.9	
	comp=Z,82nm,21.8s,baz=218,slow=29						
BRTR	**Keskin Array B**	**96.52**	**30**	P		**P**	**21 10 28.4**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=242,slow=3.1,SNR=1.9						
	comp=Z,0.4nm,0.7s						
ASAR	**Alice Springs**	**98.64**	**144**	LR		LR	21 47 43.6	
	comp=Z,37nm,21.1s,baz=140,slow=31						
PPT2	**Papeete2**	**104.77**	**217**	eLR		LR	21 45 30.4	
	comp=Z,100nm,24.5s						
BVAR	**Borovoye Array**	**121.82**	**44**	PKP		**PKiKP**	**21 15 51.1**	**+0.8**
	comp=Z,1.3nm,1.0s,baz=204,slow=2.5,SNR=3.9						
MKAR	**Makanchi Array**	**123.53**	**56**	PKP		**PKiKP**	**21 15 53.7**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=258,slow=5.7,SNR=5.1						
PDAR	**Pinedale Array**	**128.43**	**293**	PKP		**PKiKP**	**21 16 03.7**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=127,slow=3.9,SNR=8.1						
KSRS	**Korea Array**	**145.62**	**94**	PKPbc		**PKPab**	**21 16 35.5**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=223,slow=3.9,SNR=15						
MJAR	**Matsushiro Arr**	**151.54**	**106**	PKPbc		**PKiKP**	**21 16 51.3**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=226,slow=4.3,SNR=9.4						
H27K	**Steamboat Moun**	**152.08**	**322**			**PKPdf**	**21 16 43.0**	**-1.4**
G26K	**Porcupine Rive**	**152.78**	**324**			**PKPdf**	**21 16 41.9**	**-3.5**
M27K	**Edge Creek, AK**	**152.83**	**314**			**PKPbc**	**21 16 52.3**	**-0.7**
ILAR	**Eielson Array**	**154.60**	**320**	PKPbc		**PKiKP**	**21 16 57.0**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=39,slow=1.3,SNR=5.5						
ILAR				PKPab		**PKPab**	**21 17 12.1**	**+0.7**
	comp=Z,2.3nm,1.1s,baz=64,slow=3.9,SNR=8.3						

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*NEIC **30** 21:07:27.2±2.2,44˚.56S±0˚.04×167˚.80E±0˚.04,h10km±1km, mb4.3/12,Error ellipse: s-maj=8.4km s-min=2.8km az=152.0*

*WEL **30** 21:07:27.1±0.7,45˚S±4˚×16˚8E±˚,h5km,M4.7/48,ML4.7/8, ML4.7/48,Error ellipse: s-maj=6.9km s-min=4.1km az=133.4,confirmed*

*WEL **30** 21:07:27.7,44˚.55S×167˚.78E,h16km,ML4.7,Mw4.1, Moment Tensor Solution. s5 Moment tensor: Scale 10¹⁵ Nm; Mrr1.85; Mθθ-0.32; Mϕϕ-1.53; Mrθ0.52; Mθϕ-0.93; Mϕr-0.52; Fault plane solution: M₀2.09000×10¹⁵ NP1: ϕs189.00000°,δ51.00000°,λ64.00000°. NP2:ϕs47.00000°, δ45.00000°,λ119.00000°. Principal axes: T -2.0502, Plg70.0000°, Azm36.0000°; N -0.0710, Plg20.0000°, Azm205.0000°; P 2.1212, Plg3.0000°, Azm297.0000°; Stations used: WKZ WHZ LBZ ODZ RPZ REVERSE FAULTING*

*NOU **30** 21:07:27.6,44˚.53S×167˚.83E,h11km,MLv4.8/21,South Island, New Zealand*

*IDC **30** 21:07:32.0±2.3,44˚.39S×167˚.93E,h49km±23km,mb3.8/10, mbtmp4.1/11,ML4.6/2,MS3.1/1,Error ellipse: s-maj=19.3km s-min=16.3km az=71.0*

ISC 30 21:07:27.1±1.1,**44˚.52S**±0˚.03×**167˚.78E**±0˚.04,**h12**km±6km, **n226,** σ1**32**/224,**mb4.2**/15,**1D,South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.19**	**145**	P	**Pg**	**21 07 31.6**	**+0.4**
MSZ				S	**Sg**	**21 07 34.2**	**+0.1**
GLNY	**Glenorchy**	**0.56**	**128**	P	**Pg**	**21 07 37.8**	**-0.4**
QTPS	**Queenstown Pol**	**0.81**	**129**	P	**Pg**	**21 07 42.2**	**-0.6**
NSBS	**Neils Beach**	**0.82**	**51**	P	**Pb**	**21 07 43.6**	**+0.2**
JCZ	**Jackson Bay**	**0.85**	**59**	P	**Pg**	**21 07 43.7**	**+0.1**
JCZ	**Jackson Bay**	**0.85**	**59**	S	**Sb**	**21 07 55.1**	**-0.2**
JCZ	**Jackson Bay**	**0.85**	**59**	P	**Pg**	**21 07 43.3**	**-0.3**
MLZ	**Mavora Lakes**	**0.88**	**164**	Pg	**Pg**	**21 07 43.2**	**-1.0**
MLZ	**Mavora Lakes**	**0.88**	**164**	P	**Pg**	**21 07 43.4**	**-0.8**
TAFS	**Te Anau Fire S**	**0.90**	**183**	P	**Pg**	**21 07 44.2**	**-0.2**
WKZ	**Wanaka**	**0.94**	**110**	Pg	**Pg**	**21 07 44.3**	**-0.9**
WKZ				Sg	**Sg**	**21 07 56.6**	**-0.8**
WKZ	**Wanaka**	**0.94**	**110**	P	**Pg**	**21 07 44.9**	**-0.3**
WKZ				S	**Sb**	**21 07 57.3**	**-0.5**
WNPS	**Wanaka Nationa**	**0.99**	**101**	P	**Pb**	**21 07 46.1**	**-0.1**
DCZ	**Deep Cove**	**1.04**	**205**	Pg	**Pb**	**21 07 46.2**	**-0.9**
DCZ	**Deep Cove**	**1.04**	**205**	P	**Pb**	**21 07 46.3**	**-0.9**
DCZ				S	**Sg**	**21 07 60.0**	**-0.9**
MECS	**Makarora Emerg**	**1.08**	**75**	P	**Pb**	**21 07 47.5**	**-0.4**
HDWS	**Haast DOC Work**	**1.11**	**55**	P	**Pb**	**21 07 48.3**	**0.0**
MOSS	**Mossburn Schoo**	**1.19**	**164**	P	**Pb**	**21 07 49.1**	**-0.6**
EAZ	**Earnscleugh**	**1.30**	**124**	P	**Pn**	**21 07 50.9**	**-0.2**
WHZ	**Wether Hill Ro**	**1.38**	**175**		**Pn**	**21 07 51.1**	**-1.1**
WHZ	**Wether Hill Ro**	**1.38**	**175**	P	**Pn**	**21 07 51.6**	**-0.6**
RRKS	**Rarakau**	**1.64**	**187**	P	**Pn**	**21 07 56.5**	**+0.7**
LBZ	**Lake Benmore**	**1.73**	**86**	Pn	**Pn**	**21 07 57.1**	**+0.1**
LBZ	**Lake Benmore**	**1.73**	**86**	P	**Pn**	**21 07 57.9**	**+0.8**
FOZ	**Fox Glacier**	**1.77**	**57**	Pn	**Pn**	**21 07 56.5**	**-1.0**
FOZ	**Fox Glacier**	**1.77**	**57**	P	**Pn**	**21 07 56.7**	**-0.9**
PYZ	**Puysegur Point**	**1.82**	**205**		**Pn**	**21 07 57.0**	**-1.3**
PYZ	**Puysegur Point**	**1.82**	**205**	P	**Pn**	**21 07 58.8**	**+0.5**
PYZ	**Puysegur Point**	**1.82**	**205**	P	**Pn**	**21 07 58.6**	**+0.3**
TUZ	**Tuapeka**	**1.94**	**138**	P	**Pn**	**21 08 00.8**	**+0.9**
ODZ	**Otahua Downs**	**2.11**	**105**	Pn	**Pn**	**21 08 01.5**	**-0.7**
ODZ	**Otahua Downs**	**2.11**	**105**	P	**Pn**	**21 08 02.5**	**+0.3**
ODZ	**Otahua Downs**	**2.11**	**105**	S	**Sn**	**21 08 28.1**	**-0.3**
ODZ	**Otahua Downs**	**2.11**	**105**	P	**Pn**	**21 08 02.6**	**+0.3**
SYZ	**Scrubby Hill**	**2.23**	**155**	P	**Pn**	**21 08 04.5**	**+0.6**
SYZ	**Scrubby Hill**	**2.23**	**155**	P	**Pn**	**21 08 04.7**	**+0.8**
TMZ	**Timaru**	**2.32**	**88**	P	**Pn**	**21 08 05.6**	**+0.5**
APZ	**The Paps**	**2.32**	**176**	P	**Pn**	**21 08 06.0**	**+0.8**
HHSZ	**Highcliff Hill**	**2.42**	**125**	P	**Pn**	**21 08 07.8**	**+1.3**
RPZ	**Rata Peaks**	**2.49**	**72**	Pn	**Pn**	**21 08 06.6**	**-1.0**
RPZ	**Rata Peaks**	**2.49**	**72**	P	**Pn**	**21 08 07.8**	**+0.3**
	330nm,0.3s,baz=242,slow=4.0,SNR=694						
RPZ				S	**Sn**	**21 08 36.5**	**-1.4**
	485nm,0.4s,baz=145,slow=24,SNR=8.2						
RPZ	**Rata Peaks**	**2.49**	**72**	P	**Pn**	**21 08 08.2**	**+0.7**
RPZ	**Rata Peaks**	**2.49**	**72**	P	**Pn**	**21 08 08.0**	**+0.4**
ARCZ	**Arundel**	**2.51**	**78**	P	**Pn**	**21 08 08.3**	**+0.5**
WVZ	**Waitaha Valley**	**2.58**	**57**	P	**Pn**	**21 08 07.5**	**-1.3**
MHCZ	**Mount Hutt**	**2.91**	**71**	P	**Pn**	**21 08 12.9**	**-0.3**
WACZ	**Wakanui South**	**2.98**	**80**	P	**Pn**	**21 08 14.3**	**+0.2**
INZ	**Inchbonnie**	**3.21**	**57**	Pn	**Pn**	**21 08 16.7**	**-0.7**
INZ	**Inchbonnie**	**3.21**	**57**	P	**Pn**	**21 08 17.0**	**-0.4**
RACZ	**Rakaia**	**3.24**	**77**	P	**Pn**	**21 08 17.8**	**0.0**
OXZ	**Oxford**	**3.30**	**70**	Pn	**Pn**	**21 08 17.2**	**-1.4**
OXZ	**Oxford**	**3.30**	**70**	P	**Pn**	**21 08 17.7**	**-0.9**
MQZ	**McQueen's Vall**	**3.60**	**79**	Pn	**Pn**	**21 08 22.3**	**-0.5**
MQZ	**McQueen's Vall**	**3.60**	**79**	P	**Pn**	**21 08 22.0**	**-0.7**
LTZ	**Lake Taylor**	**3.69**	**64**	Pn	**Pn**	**21 08 23.2**	**-0.9**
LTZ	**Lake Taylor**	**3.69**	**64**	P	**Pn**	**21 08 23.4**	**-0.7**
AKCZ	**Akaroa Harbour**	**3.75**	**82**	P	**Pn**	**21 08 24.5**	**-0.3**
AMCZ	**Amberley**	**3.77**	**71**	Pn	**Pn**	**21 08 24.3**	**-0.8**
AMCZ	**Amberley**	**3.77**	**71**	P	**Pn**	**21 08 24.7**	**-0.4**
OKCZ	**Okains Bay**	**3.88**	**80**	P	**Pn**	**21 08 27.0**	**+0.3**
DSZ	**Denniston Nort**	**4.05**	**48**	Pn	**Pn**	**21 08 27.6**	**-1.4**
DSZ	**Denniston Nort**	**4.05**	**48**	P	**Pn**	**21 08 28.1**	**-0.8**
GVZ	**Greta Valley S**	**4.11**	**70**	Pn	**Pn**	**21 08 28.6**	**-1.2**
GVZ	**Greta Valley S**	**4.11**	**70**	P	**Pn**	**21 08 29.0**	**-0.8**
THZ	**Tophouse**	**4.66**	**55**	Pn	**Pn**	**21 08 36.3**	**-1.0**
THZ	**Tophouse**	**4.66**	**55**	P	**Pn**	**21 08 36.7**	**-0.6**
KHZ	**Kahutara**	**4.69**	**65**	Pn	**Pn**	**21 08 37.2**	**-0.5**
KHZ	**Kahutara**	**4.69**	**65**	P	**Pn**	**21 08 37.6**	**-0.1**
KHZ	**Kahutara**	**4.69**	**65**	P	**Pn**	**21 08 37.2**	**-0.5**
MRNZ	**Matariki Terra**	**4.80**	**51**	Pn	**Pn**	**21 08 38.5**	**-0.8**
MRNZ	**Matariki Terra**	**4.80**	**51**	P	**Pn**	**21 08 39.2**	**-0.1**
QRZ	**Quartz Range**	**5.09**	**45**	Pn	**Pn**	**21 08 42.6**	**-0.6**
QRZ	**Quartz Range**	**5.09**	**45**	P	**Pn**	**21 08 42.4**	**-0.8**
QRZ	**Quartz Range**	**5.09**	**45**	P	**Pn**	**21 08 42.5**	**-0.8**
TKNZ	**Takaka Hill**	**5.17**	**49**	Pn	**Pn**	**21 08 43.3**	**-1.0**
TKNZ	**Takaka Hill**	**5.17**	**49**	P	**Pn**	**21 08 43.8**	**-0.5**
BSWZ	**Blackbirch Sta**	**5.27**	**60**	Pn	**Pn**	**21 08 45.3**	**-0.4**
BSWZ	**Blackbirch Sta**	**5.27**	**60**	P	**Pn**	**21 08 48.6**	**+2.9**
NNZ	**Nelson**	**5.28**	**53**	Pn	**Pn**	**21 08 45.2**	**-0.6**
NNZ	**Nelson**	**5.28**	**53**	P	**Pn**	**21 08 45.8**	**+0.1**
CMWZ	**Cape Campbell**	**5.46**	**62**	Pn	**Pn**	**21 08 48.3**	**-0.1**
CMWZ	**Cape Campbell**	**5.46**	**62**	P	Pn	21 08 53.5	+5.2
TUWZ	**Tuamarina**	**5.48**	**58**	Pn	**Pn**	**21 08 49.2**	**+0.7**
TUWZ	**Tuamarina**	**5.48**	**58**	P	**Pn**	**21 08 50.1**	**+1.6**
TCW	**Tory Channel**	**5.81**	**58**	Pn	**Pn**	**21 08 53.2**	**+0.1**
TCW	**Tory Channel**	**5.81**	**58**	P	**Pn**	**21 08 54.9**	**+1.8**
DUWZ	**D'Urville Isla**	**5.86**	**53**	P	**Pn**	**21 08 53.8**	**0.0**
SNZO	**South Karori**	**6.01**	**60**	Pn	**Pn**	**21 08 55.5**	**-0.3**
SNZO	**South Karori**	**6.01**	**60**	P	**Pn**	**21 08 57.2**	**+1.3**
BHW	**Baring Head**	**6.06**	**62**	Pn	**Pn**	**21 08 55.2**	**-1.4**
BHW	**Baring Head**	**6.06**	**62**	P	**Pn**	**21 08 55.3**	**-1.2**
PLWZ	**Palliser**	**6.22**	**64**	Pn	**Pn**	**21 08 58.5**	**-0.5**
MSWZ	**Moikau Station**	**6.30**	**63**	Pn	**Pn**	**21 08 58.3**	**-1.6**
MSWZ	**Moikau Station**	**6.30**	**63**	P	**Pn**	**21 08 58.6**	**-1.2**
CAW	**Cannon Point**	**6.35**	**60**	P	**Pn**	**21 08 59.3**	**-1.3**
KIW	**Kapiti Island**	**6.40**	**58**	P	**Pn**	**21 09 00.1**	**-1.1**
PAWZ	**Paruwai Farm**	**6.43**	**63**	P	**Pn**	**21 09 00.6**	**-1.1**
OGWZ	**Otaki Gorge**	**6.58**	**58**	P	**Pn**	**21 09 04.7**	**+1.0**
MTW	**Mount Morrison**	**6.60**	**62**	P	**Pn**	**21 09 03.2**	**-0.8**
HOWZ	**Holdsworth Sta**	**6.75**	**60**	P	**Pn**	**21 09 05.3**	**-0.7**
NMEZ	**Namu Road**	**6.83**	**44**	P	**Pn**	**21 09 09.5**	**+2.4**
MRZ	**Mangatainoka R**	**6.93**	**59**	Pn	**Pn**	**21 09 07.1**	**-1.4**
MRZ	**Mangatainoka R**	**6.93**	**59**	P	**Pn**	**21 09 07.6**	**-0.8**
NBEZ	**Newall Road No**	**6.94**	**43**	P	**Pn**	**21 09 08.0**	**-0.6**
KHEZ	**Kahui Hut**	**6.99**	**44**	P	**Pn**	**21 09 08.7**	**-0.7**
KHEZ	**Kahui Hut**	**6.99**	**44**	P	**Pn**	**21 09 09.0**	**-0.4**
PREZ	**Palmer Road**	**7.03**	**45**	P	**Pn**	**21 09 10.4**	**+0.5**
NEZ	**North Egmont**	**7.05**	**44**	P	**Pn**	**21 09 10.0**	**-0.2**
PKE	**Pukeiti**	**7.05**	**43**	P	**Pn**	**21 09 09.7**	**-0.5**
LREZ	**Lake Rotokare**	**7.06**	**47**	P	**Pn**	**21 09 11.9**	**+1.

QSPA	**South Pole Qui**	**45.60**	**180**	P	**P**	**21**	**15**	**49.2 +2.3**
QSPA	**South Pole Qui**	**45.60**	**180**	P	**P**	**21**	**15**	**49.9 +2.9**
	comp=Z,8.4nm,0.9s,baz=12,slow=1.6,SNR=22							
	comp=Z,8.4nm,0.9s							
MAW	**Mawson**	**54.91**	**207**	P	**P**	**21**	**16**	**57.7 +0.6**
	comp=Z,2.0nm,1.0s,baz=135,slow=7.9,SNR=3.7							
	comp=Z,2.0nm,1.0s							
TROLL	**Troll, Antarti**	**63.31**	**185**	⇓P	**P**	**21**	**17**	**55.6 +0.2**
	comp=Z,63nm,0.4s							
SNAA	**Sanae**	**63.92**	**183**	P	**P**	**21**	**17**	**59.2 -0.3**
SNAA	**Sanae**	**63.92**	**183**	P	**P**	**21**	**17**	**59.3 -0.1**
SNAA				IAmb	IAmb	21	17	59.4
	comp=Z,3.3nm,1.2s							
SNAA	**Sanae**	**63.92**	**183**	P	**P**	**21**	**17**	**59.3 -0.1**
	comp=Z,0.8nm,0.6s,baz=189,slow=15,SNR=5.8							
	comp=Z,0.8nm,0.6s							
GO07	**Milladeo Hill,**	**76.97**	**139**	P	**P**	**21**	**19**	**20.7 +1.2**
MJAR	**Matsushiro Arr**	**85.02**	**336**	P	**P**	**21**	**20**	**01.6 -0.6**
	comp=Z,1.1nm,0.7s,baz=169,slow=6.4,SNR=4.5							
	comp=Z,1.1nm,0.7s							
H08S2	**Diego Garcia H**	**88.45**	**261**	T	T	22	57	48.9
	baz=135,slow=76,SNR=406							
H08S1	**Diego Garcia H**	**88.46**	**261**	T	T	22	57	47.7
	baz=135,slow=76,SNR=324							
H08S3	**Diego Garcia H**	**88.47**	**261**	T	T	22	57	49.1
	baz=135,slow=76,SNR=454							
CM31	**Chiang Mai Arr**	**88.55**	**298**	P	**P**	**21**	**20**	**19.8 0.0**
CMAR	**Chiang Mai Arr**	**88.55**	**298**	P	**P**	**21**	**20**	**20.5 +0.7**
CMAR	**Chiang Mai Arr**	**88.55**	**298**	P	**P**	**21**	**20**	**20.2 +0.4**
	comp=Z,0.8nm,0.3s,baz=157,slow=3.1,SNR=9.8							
	comp=Z,0.8nm,0.3s							
KSRS	**Korea Array**	**89.20**	**329**	P	**P**	**21**	**20**	**23.6 +1.2**
	comp=Z,0.5nm,0.4s,baz=142,slow=6.2,SNR=4.9							
	comp=Z,0.5nm,0.4s							
KSAR	**Wonju Array Be**	**89.21**	**329**	P	**P**	**21**	**20**	**23.1 +0.6**
PZH	**PanZhiHua**	**92.85**	**305**	P	**P**	**21**	**20**	**42.3 +2.5**
HHC	**Hu-ho-hao-te**	**98.83**	**320**	*e*P	Pdif	21	21	09.3 +2.6
HHC				pmax	pmax			
	comp=Z,9.0nm,0.7s							
L29M	**L29M**	**115.57**	**24**	PKPdf	**PKPdf**	**21**	**26**	**08.4 +0.5**
MKAR	**Makanchi Array**	**117.97**	**309**	PKP	**PKPdf**	**21**	**26**	**11.4 -1.7**
	comp=Z,0.4nm,0.6s,baz=139,slow=1.2,SNR=5.4							
C27K	**Jago River**	**119.25**	**17**	PKPdf	**PKiKP**	**21**	**26**	**15.6 +0.8**
ZALV	**Zalesovo Beam**	**120.78**	**317**	PKP	**PKPdf**	**21**	**26**	**15.7 -2.5**
	comp=Z,0.3nm,0.4s,baz=122,slow=7.0,SNR=1.7							
KURBB	**Kurchatov Arra**	**122.19**	**311**	PKP	**PKPdf**	**21**	**26**	**19.8 -1.2**
	comp=Z,0.7nm,0.2s,baz=126,slow=1.7,SNR=5.6							
KKAR	**Karatay Array**	**122.82**	**300**	PKPdf	**PKPdf**	**21**	**26**	**21.6 -1.0**
ABKAR	**Akbulak array**	**132.18**	**303**	PKPdf	**PKPdf**	**21**	**26**	**40.3 +0.2**
SPITS	**Spitsbergen Ar**	**144.42**	**350**	PKP	**PKPab**	**21**	**27**	**00.4 +0.3**
	comp=Z,15nm,0.8s,baz=66,slow=4.9,SNR=9.5							
BRTR	**Keskin Array B**	**146.00**	**278**	PKPdf	**PKPdf**	**21**	**27**	**05.5 -0.2**
BRTR	**Keskin Array B**	**146.00**	**278**	PKPbc	**PKPdf**	**21**	**27**	**05.7 -0.1**
	comp=Z,2.4nm,0.7s,baz=143,slow=5.6,SNR=17							
TORD	**Torodi Ar. Bea**	**146.54**	**205**	PKPdf	**PKPdf**	**21**	**27**	**05.5 -1.7**
TORD	**Torodi Ar. Bea**	**146.54**	**205**	PKPbc	**PKPdf**	**21**	**27**	**07.6 +0.3**
	comp=Z,4.6nm,0.7s,baz=129,slow=1.9,SNR=36							
ARCES	**ARCESS Array B**	**148.55**	**336**	PKPbc	**PKPbc**	**21**	**27**	**12.4 -0.2**
ARCES	**ARCESS Array B**	**148.55**	**336**	PKPbc	**PKPbc**	**21**	**27**	**11.7 -0.9**
	comp=Z,7.9nm,0.9s,baz=77,slow=2.1,SNR=16							
AKASG	**Malin Array Be**	**151.67**	**297**	PKPbc	**PKPbc**	**21**	**27**	**19.6 -1.0**
	comp=Z,2.5nm,0.4s,baz=76,slow=2.6,SNR=16							
FINES	**FINESS Array B**	**151.95**	**321**	PKPbc	**PKPbc**	**21**	**27**	**20.4 -0.6**
	comp=Z,3.3nm,0.5s,baz=81,slow=3.9,SNR=33							

DJA 30 21:07:34.4±0.9, 4°N±6° × 12°8E±°, h62km±19km, M3.9/6, mB4.8/1, mb3.8/2, MLv3.9/6, Mw(mB)4.0/1, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.40**	**259**	P	Pn	21 08 11.4	0.0
SGSI				S	Sn	21 08 40.3	+0.6
SANI	**Sanana**	**6.45**	**197**	P	Pn	21 09 06.4	-0.3

*IDC **30** 21:12:12.8±6.2, 17°.53S × 175°.82W, h0km, mb4.5/2, mbtmp4.5/2, Error ellipse: s-maj=303.6km s-min=45.2km az=145.0*
*NEIC **30** 21:13:28.6±0.5, 18°.09S±0°.09 × 178°.3W±0°.2, h631km±11km, mb4.0/21, Error ellipse: s-maj=25.9km s-min=10.9km az=70.0*

ISC 30 21:13:24.7±1.2, 18°.0S±0°.2 × 178°.2W±0°.2, h590km, n28, σ0s76/27, mb4.0/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.57**	**274**	P	P	21 14 52.7	+6.1
EIDS	**Eidsvold**	**29.40**	**250**	P	**P**	**21**	**18**	**42.5 +0.7**
EIDS				IAmb	IAmb	21	19	07.7
	comp=Z,4.7nm,1.1s							
ARMA	**Armidale**	**30.04**	**240**	P	**P**	**21**	**18**	**47.8 +0.4**
CTAO	**Charters Tower**	**33.61**	**261**	P	**P**	**21**	**19**	**17.9 +0.2**
CTAO				IAmb	IAmb	21	19	39.4
	comp=Z,4.8nm,1.0s							
CAN	**Canberra**	**33.77**	**233**		**P**	**21**	**19**	**19.6 +0.6**
COEN	**Coen**	**37.29**	**271**	P	**P**	**21**	**19**	**49.5 +1.4**
STKA	**Stephens Creek**	**38.73**	**241**	P	**P**	**21**	**19**	**59.8 +0.2**
BBOO	**Buckleboo**	**43.51**	**241**	P	**P**	**21**	**20**	**37.5 +0.2**
WR0	**Warramunga Arr**	**44.60**	**260**	P	**P**	**21**	**20**	**45.8 -0.1**
WR0				IAmb	IAmb	21	20	48.4
	comp=Z,3.7nm,1.1s							
WR8	**Warramunga Arr**	**44.64**	**260**	P	**P**	**21**	**20**	**45.8 -0.4**
WR8				IAmb	IAmb	21	20	47.0
	comp=Z,4.2nm,1.1s							
WB0	**Warramunga Arr**	**44.76**	**260**	P	**P**	**21**	**20**	**46.8 -0.3**
WB0				IAmb	IAmb	21	20	47.4
	comp=Z,3.4nm,0.6s							
WB2	**Warramunga Arr**	**44.78**	**260**	P	**P**	**21**	**20**	**47.1 -0.2**
WB2				IAmb	IAmb	21	20	47.8
	comp=Z,2.6nm,0.6s							
WRAB	**Tennant Creek**	**44.78**	**260**	P	**P**	**21**	**20**	**47.1 -0.2**
WRAB				IAmb	IAmb	21	21	10.4
	comp=Z,2.2nm,0.5s							
WRA	**Warramunga Arr**	**44.79**	**260**	P	**P**	**21**	**20**	**47.1 -0.2**
WRA	**Warramunga Arr**	**44.79**	**260**	P	**P**	**21**	**20**	**47.0 -0.4**
	comp=Z,2.4nm,0.6s,baz=95,slow=7.0,SNR=64							
	comp=Z,2.4nm,0.6s							
AS31	**Alice Springs**	**44.93**	**254**	P	**P**	**21**	**20**	**48.6 +0.1**
ASAR	**Alice Springs**	**44.93**	**254**	P	**P**	**21**	**20**	**48.1 -0.3**
ASAR	**Alice Springs**	**44.93**	**254**	P	**P**	**21**	**20**	**48.4 -0.1**
	comp=Z,14nm,1.1s,baz=90,slow=7.8,SNR=66							
	comp=Z,14nm,1.1s							
FORT	**Forrest**	**50.12**	**245**	P	**P**	**21**	**21**	**25.5 -1.5**
FORT				IAmb	IAmb	21	21	32.2
	comp=Z,8.1nm,1.0s							
KNRA	**Kununurra**	**50.66**	**264**	P	**P**	**21**	**21**	**31.1 0.0**
KNRA				IAmb	IAmb	21	21	32.8
	comp=Z,9.7nm,1.0s							
FITZ	**Fitzroy Crossi**	**53.19**	**261**	P	**P**	**21**	**21**	**48.7 -0.4**
PSA00	**Pilbara Seismi**	**58.05**	**255**	P	**P**	**21**	**22**	**22.4 -0.4**
MBWA	**Marble Bar**	**58.22**	**256**	P	**P**	**21**	**22**	**23.2 -0.7**
MBWA				IAmb	IAmb	21	22	34.5
	comp=Z,11nm,1.1s							
VNDA	**Vanda**	**60.34**	**185**	P	**P**	**21**	**22**	**37.7 +0.6**
J18K	**Innoko River**	**82.95**	**10**	P	**P**	**21**	**24**	**49.2 +1.1**
J18K				IAmb	IAmb	21	24	49.5
	comp=Z,2.9nm,0.9s							
BRTR	**Keskin Array B**	**145.00**	**315**	PKPbc	**PKPdf**	**21**	**31**	**54.5 -1.4**
BRTR	**Keskin Array B**	**145.00**	**315**	PKPbc	**PKPdf**	**21**	**31**	**54.2 -1.7**
	comp=Z,0.7nm,0.7s,baz=129,slow=2.0,SNR=4.6							
GERES	**GERESS Array B**	**147.77**	**345**	PKPbc	**PKPdf**	**21**	**31**	**59.8 -0.5**
	comp=Z,0.2nm,0.3s,baz=45,slow=1.5,SNR=4.2							

*NEIC **30** 21:31:33.7±2.3, 15°.75N±0°.06 × 95°.00W±0°.03, h22km±8km, mb4.3/39, Md4.4/112(MEX), Error ellipse: s-maj=8.8km s-min=3.6km az=191.0*
*MEX **30** 21:31:34.5±1.0, 15°.63N × 95°.06W, h19km±39km, MD4.4*

ISC 30 21:31:28.6±1.4, 15°.54N±0°.04 × 95°.07W±0°.02, h2km±9km, n153, σ2s72/230, mb4.3/4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.03**	**283**		**Pn**	**21**	**31**	**50.4 +0.4**
HUIG					**Sg**	**21**	**32**	**02.5 +0.8**
HUIG	**Huatulco**	**1.03**	**283**	*i* P	**Pn**	**21**	**31**	**50.4 +0.4**
HUIG				*e*S	**Sg**	**21**	**32**	**02.5 +0.8**
NILT	**Santiago Nilte**	**1.11**	**23**		**Pg**	**21**	**31**	**49.4 -0.4**
NILT					**Sg**	**21**	**32**	**00.8 -3.5**
NILT	**Santiago Nilte**	**1.11**	**23**	*e*P	**Pg**	**21**	**31**	**49.4 -0.4**
NILT				*i* S	**Sg**	**21**	**32**	**00.8 -3.5**
CMIG	**Matias Romero**	**1.55**	**7**		**Pn**	**21**	**31**	**56.4 -0.8**
CMIG				*e*P	**Sn**	**21**	**32**	**13.3 -4.7**
CMIG	**Matias Romero**	**1.55**	**7**	*e*P	**Pn**	**21**	**31**	**56.4 -0.8**
CMIG				*e*S	**Sn**	**21**	**32**	**13.3 -4.7**
PCIG		**1.79**	**84**		**Pn**	**21**	**32**	**01.1 +0.6**
PCIG					**Sn**	**21**	**32**	**22.2 -1.6**
PCIG		**1.79**	**84**	*e*P	**Pn**	**21**	**32**	**01.1 +0.6**
PCIG				*e*S	**Sn**	**21**	**32**	**22.2 -1.6**
UXUV	**UXUV**	**1.98**	**26**		**Pn**	**21**	**32**	**03.1 0.0**
UXUV					**Sn**	**21**	**32**	**24.8 -3.7**
UXUV	**UXUV**	**1.98**	**26**	*e*P	**Pn**	**21**	**32**	**03.1 0.0**
UXUV				*e*S	**Sn**	**21**	**32**	**24.8 -3.7**
PEIG	**Puerto Escondi**	**2.05**	**283**		**Pn**	**21**	**32**	**04.7 +0.5**
PEIG					**Sn**	**21**	**32**	**26.6 -3.8**
PEIG	**Puerto Escondi**	**2.05**	**283**	*i* P	**Pn**	**21**	**32**	**04.7 +0.5**
PEIG				*e*S	**Sn**	**21**	**32**	**26.6 -3.8**
OXLC	**Oaxaca**	**2.18**	**314**		**Pn**	**21**	**32**	**06.1 0.0**
OXLC					**Sn**	**21**	**32**	**30.2 -3.6**
OXLC	**Oaxaca**	**2.18**	**314**	*e*P	**Pn**	**21**	**32**	**06.1 0.0**
OXLC				*e*S	**Sn**	**21**	**32**	**30.2 -3.6**
OXBJ	**Oaxaca**	**2.20**	**314**		**Pb**	**21**	**32**	**10.2 +0.9**
OXBJ					**Sn**	**21**	**32**	**32.5 -1.7**
OXBJ	**Oaxaca**	**2.20**	**314**	*e*P	**Pb**	**21**	**32**	**10.2 +0.9**
OXBJ				*e*S	**Sn**	**21**	**32**	**32.5 -1.7**
OXIG	**Oaxaca**	**2.21**	**314**		**Pn**	**21**	**32**	**07.3 +0.9**
OXIG					**Sn**	**21**	**32**	**32.9 -1.6**
VHO	**Vista Hermosa**	**2.21**	**314**	*e*P	**Pn**	**21**	**32**	**07.3 +0.9**
VHO				*e*S	**Sn**	**21**	**32**	**32.9 -1.6**
TGIG		**2.24**	**56**		**Pn**	**21**	**32**	**07.6 +0.8**
TGIG					**Sn**	**21**	**32**	**32.4 -2.7**
TGIG		**2.24**	**56**	*e*P	**Pn**	**21**	**32**	**07.6 +0.8**
TGIG				*e*S	**Sn**	**21**	**32**	**32.4 -2.7**
TGBT	**Tuxtla Gutierr**	**2.27**	**57**		**Pn**	**21**	**32**	**09.1 +2.1**
TGBT					**Sn**	**21**	**32**	**34.7 -0.9**
TGBT	**Tuxtla Gutierr**	**2.27**	**57**	*e*P	**Pn**	**21**	**32**	**09.1 +2.1**
TGBT				*e*S	**Sn**	**21**	**32**	**34.7 -0.9**
NEUV	**Arroyo Zacate**	**2.27**	**342**		**Pn**	**21**	**32**	**07.2 0.0**
NEUV					**Sn**	**21**	**32**	**36.1 +0.4**
NEUV	**Arroyo Zacate**	**2.27**	**342**	*e*P	**Pn**	**21**	**32**	**07.2 0.0**
NEUV				*e*S	**Sn**	**21**	**32**	**36.1 +0.4**
TUIG	**Tuzandepetl**	**2.56**	**14**	*e*P	**Pn**	**21**	**32**	**10.9 -0.1**
TUIG				*e*S	**Sn**	**21**	**32**	**38.1 -4.7**
PATR	**El Naranjo**	**2.77**	**98**		**Pn**	**21**	**32**	**15.7 +1.5**
PATR					**Sn**	**21**	**32**	**48.2 -0.2**
PATR	**El Naranjo**	**2.77**	**98**	*e*P	**Pn**	**21**	**32**	**15.7 +1.5**
PATR				*e*S	**Sn**	**21**	**32**	**48.2 -0.2**
THIG		**2.78**	**103**		**Pn**	**21**	**32**	**15.9 +1.8**
THIG					**Sn**	**21**	**32**	**45.5 -2.7**
THIG		**2.78**	**103**	*e*P	**Pn**	**21**	**32**	**15.9 +1.8**
THIG				*e*S	**Sn**	**21**	**32**	**45.5 -2.7**
PAVE	**Pavencul**	**2.81**	**97**		**Pn**	**21**	**32**	**16.8 +2.0**
PAVE					**Sn**	**21**	**32**	**47.9 -1.5**
PAVE	**Pavencul**	**2.81**	**97**	*e*P	**Pn**	**21**	**32**	**16.8 +2.0**
PAVE				*e*S	**Sn**	**21**	**32**	**47.9 -1.5**
CHUJ	**Union Juarez**	**2.89**	**98**	*e*P	**Pn**	**21**	**32**	**17.4 +1.5**
CHUJ				*e*S	**Sn**	**21**	**32**	**47.7 -3.7**
CCIG	**Comitan**	**2.92**	**75**	Pn	**Pn**	**21**	**32**	**17.2 +1.0**
CCIG	**Comitan**	**2.92**	**75**	*e*P	**Pn**	**21**	**32**	**17.4 +1.2**
CCIG				*e*S	**Sn**	**21**	**32**	**50.4 -1.6**
TXIG	**Tlaxiaco**	**3.10**	**304**		**Pn**	**21**	**32**	**20.9 +2.1**
TXIG					**Sn**	**21**	**32**	**55.0 -1.7**
TXIG	**Tlaxiaco**	**3.10**	**304**	*e*P	**Pn**	**21**	**32**	**20.9 +2.1**
TXIG				*e*S	**Sn**	**21**	**32**	**55.0 -1.7**
TOIG	**Toxpalan**	**3.18**	**323**		**Pn**	**21**	**32**	**22.8 +3.1**
TOIG					**Sn**	**21**	**32**	**58.2 -0.2**
TOIG	**Toxpalan**	**3.18**	**323**	*e*P	**Pn**	**21**	**32**	**22.8 +3.1**
TOIG				*e*S	**Sn**	**21**	**32**	**58.2 -0.2**
RTAL	**Retalhuleu**	**3.41**	**107**	Pn	**Pn**	**21**	**32**	**26.0 +3.2**
RTAL	**Retalhuleu**	**3.41**	**107**	*e*P	**Pn**	**21**	**32**	**26.1 +1.2**
RTAL				*e*S	**Sn**	**21**	**32**	**59.5 -4.4**
HUEH	**Huehuetenango**	**3.45**	**93**	Pn	**Pn**	**21**	**32**	**25.6 +2.0**
HUEH	**Huehuetenango**	**3.45**	**93**	*e*P	**Pn**	**21**	**32**	**26.2 +2.7**
HUEH				*e*S	**Sn**	**21**	**33**	**05.8 +0.7**
HLIG	**Huajuapan de L**	**3.47**	**311**		**Pn**	**21**	**32**	**26.6 +2.7**
HLIG					**Sn**	**21**	**33**	**03.5 -2.3**
HLIG	**Huajuapan de L**	**3.47**	**311**	*e*P	**Pn**	**21**	**32**	**26.6 +2.7**
HLIG				*e*S	**Sn**	**21**	**33**	**03.5 -2.3**
TPIG	**Tehuac#an**	**3.61**	**323**		**Pn**	**21**	**32**	**26.7 +1.0**
TPIG					**Sn**	**21**	**33**	**07.1 -1.9**
TPIG	**Tehuac#an**	**3.61**	**323**	*e*P	**Pn**	**21**	**32**	**26.7 +1.0**
TPIG				*e*S	**Sn**	**21**	**33**	**07.1 -1.9**
FTIG	**Fresnillo de T**	**3.76**	**309**		**Pn**	**21**	**32**	**30.7 +2.9**
FTIG					**Sn**	**21**	**33**	**10.2 -2.6**
FTIG	**Fresnillo de T**	**3.76**	**309**	*e*P	**Pn**	**21**	**32**	**30.7 +2.9**
FTIG				*e*S	**Sn**	**21**	**33**	**10.2 -2.6**
TLIG	**Tlapa**	**3.91**	**301**	Pn	**Pn**	**21**	**32**	**32.9 +3.1**
TLIG	**Tlapa**	**3.91**	**301**	*e*P	**Pn**	**21**	**32**	**32.5 +2.6**
TLIG				*e*S	**Sn**	**21**	**33**	**11.3 -5.2**
CRIG	**Cruz Grande**	**4.08**	**288**		**Pn**	**21**	**32**	**33.6 +1.5**
CRIG					**Sn**	**21**	**33**	**14.8 -5.7**
CRIG	**Cruz Grande**	**4.08**	**288**	*e*P	**Pn**	**21**	**32**	**33.6 +1.5**
CRIG				*e*S	**Sn**	**21**	**33**	**14.8 -5.7**
POHV	**Veracruz**	**4.10**	**329**		**Pn**	**21**	**32**	**33.8 +1.0**
POHV	**Veracruz**	**4.10**	**329**	*e*P	**Pn**	**21**	**32**	**33.8 +1.0**
JAUV	**Jalcomulco**	**4.15**	**337**		**Pn**	**21**	**32**	**31.8 -1.3**
JAUV					**Sn**	**21**	**33**	**18.7 -3.6**
JAUV	**Jalcomulco**	**4.15**	**337**	*e*P	**Pn**	**21**	**32**	**31.8 -1.3**
JAUV				*e*S	**Sn**	**21**	**33**	**18.7 -3.6**
LVIG	**Laguna Verde**	**4.36**	**343**	*e*P	**Pn**	**21**	**32**	**33.7 -2.1**
LVIG				*e*S	**Sn**	**21**	**33**	**24.4 -2.8**
DAIG	**Los Arroyos**	**4.64**	**289**		**Pn**	**21**	**32**	**38.8 -1.0**
DAIG					**Sn**	**21**	**33**	**27.3 -7.0**
DAIG	**Los Arroyos**	**4.64**	**289**	*e*P	**Pn**	**21**	**32**	**38.8 -1.0**
DAIG				*e*S	**Sn**	**21**	**33**	**27.3 -7.0**
PPCL	**Tochimilco**	**4.77**	**315**	*e*P	**Pn**	**21**	**32**	**45.0 +3.2**
PPCL				*e*S	**Sn**	**21**	**33**	**36.3 -1.5**
PPPT	**Popocatepetl**	**4.82**	**316**	*e*P	**Pn**	**21**	**32**	**46.5 +3.9**
PPPT				*e*S	**Sn**	**21**	**33**	**32.5 -6.8**
PPSX	**Xalitzintla**	**4.82**	**317**	*e*P	Pn	21	32	47.4 +4.9
PPSX				*e*S	**Sn**	**21**	**33**	**36.3 -2.8**
PBXN	**Popocatepetl**	**4.86**	**316**	*e*P	**Pn**	**21**	**32**	**46.9 +3.6**
PBXN				*e*S	**Sn**	**21**	**33**	**36.1 -4.3**
PBPN	**Popocatepetl**	**4.87**	**316**	*e*P	**Pn**	**21**	**32**	**46.2 +2.9**
PBPN				*e*S	**Sn**	**21**	**33**	**36.3 -4.3**
MEIG	**Mezcala**	**4.96**	**299**		**Pn**	**21**	**32**	**46.5 +2.2**
MEIG					**Sn**	**21**	**33**	**37.8 -4.6**
MEIG	**Mezcala**	**4.96**	**299**	*e*P	**Pn**	**21**	**32**	**46.5 +2.2**
MEIG				*e*S	**Sn**	**21**	**33**	**37.8 -4.6**
AMVM	**AMECAMECA**	**5.04**	**316**		**Sn**	**21**	**33**	**42.3 -2.1**
AMVM	**AMECAMECA**	**5.04**	**316**	*e*S	**Sn**	**21**	**33**	**42.3 -2.1**
YAIG	**Yautepec**	**5.05**	**311**		**Pn**	**21**	**32**	**47.0 +1.4**
YAIG					**Sn**	**21**	**33**	**40.7 -4.0**
YAIG	**Yautepec**	**5.05**	**311**	*e*P	**Pn**	**21**	**32**	**47.0 +1.4**
YAIG				*e*S	**Sn**	**21**	**33**	**40.7 -4.0**
PETF	**Flores**	**5.18**	**74**	Pn	**Pn**	**21**	**32**	**48.3 +1.2**
PETF	**Flores**	**5.18**	**74**	*e*P	**Pn**	**21**	**32**	**49.4 +2.2**
PETF				*e*S	**Sn**	**21**	**33**	**45.2 -2.4**
CXUV	**Coxquihui**	**5.20**	**333**		**Pn**	**21**	**32**	**47.5 0.0**
CXUV					**Sn**	**21**	**33**	**48.4 +0.4**
CXUV	**Coxquihui**	**5.20**	**333**	*e*P	**Pn**	**21**	**32**	**47.5 0.0**
CXUV				*e*S	**Sn**	**21**	**33**	**48.4 +0.4**
CAIG	**El Cayaco**	**5.21**	**287**		**Pn**	**21**	**32**	**49.8 +2.1**
CAIG					**Sn**	**21**	**33**	**40.5 -7.8**
CAIG	**El Cayaco**	**5.21**	**287**	*e*P	**Pn**	**21**	**32**	**49.8 +2.1**
CAIG				*e*S	**Sn**	**21**	**33**	**40.5 -7.8**
MPVM	**San Francisco**	**5.24**	**315**		**Sn**	**21**	**33**	**49.3 0.0**
MPVM	**San Francisco**	**5.24**	**315**	*e*S	**Sn**	**21**	**33**	**49.3 0.0**
THVM	**De Xico**	**5.29**	**316**		**Sn**	**21**	**33**	**54.9 +4.3**
THVM	**De Xico**	**5.29**	**316**	*e*S	**Sn**	**21**	**33**	**54.9 +4.3**
TXVM	**Universitario**	**5.34**	**317**		**Sn**	**21**	**33**	**53.0 +1.2**
TXVM	**Universitario**	**5.34**	**317**	*e*S	**Sn**	**21**	**33**	**53.0 +1.2**
TLVM	**San Miguel Top**	**5.34**	**314**		**Sn**	**21**	**33**	**49.8 -2.3**
TLVM	**San Miguel Top**	**5.34**	**314**	*e*S	**Sn**	**21**	**33**	**49.8 -2.3**
XCVM	**Xochimilco**	**5.35**	**314**		**Sn**	**21**	**33**	**48.8 -3.2**
XCVM	**Xochimilco**	**5.35**	**314**	*e*S	**Sn**	**21**	**33**	**48.8 -3.2**
MAVM	**Malinalco, Edo**	**5.42**	**309**		**Pn**	**21**	**32**	**53.3 +2.5**
MAVM					**Sn**	**21**	**33**	**50.0 -3.9**
MAVM	**Malinalco, Edo**	**5.42**	**309**	*e*P	**Pn**	**21**	**32**	**53.3 +2.5**
MAVM				*e*S	**Sn**	**21**	**33**	**50.0 -3.9**
COVM	**Coyoacan**	**5.44**	**315**		**Sn**	**21**	**33**	**58.6 +4.2**
COVM	**Coyoacan**	**5.44**	**315**	*e*S	**Sn**	**21**	**33**	**58.6 +4.2**
UNM	**Universidad Na**	**5.44**	**314**	*e*S	**Sn**	**21**	**33**	**54.2 -0.2**
PBVM	**Pinon**	**5.45**	**316**	*e*P	Pn	21	32	42.8 -8.1
VTVM	**Tizayuca**	**5.49**	**321**		**Pn**	**21**	**32**	**54.0 +2.2**
VTVM					**Sn**	**21**	**33**	**56.7 +1.0**
VTVM	**Tizayuca**	**5.49**	**321**	*e*P	**Pn**	**21**	**32**	**54.0 +2.2**
VTVM				*e*S	**Sn**	**21**	**33**	**56.7 +1.0**
AOVM	**Tlapan**	**5.50**	**313**		**Pn**	**21**	**32**	**55.9 +3.9**
AOVM					**Sn**	**21**	**33**	**53.2 -2.9**
AOVM	**Tlapan**	**5.50**	**313**	*e*P	**Pn**	**21**	**32**	**55.9 +3.9**
AOVM				*e*S	**Sn**	**21**	**33**	**53.2 -2.9**
MHVM	**Bosque de Chap**	**5.51**	**315**		**Sn**	**21**	**33**	**59.3 +3.1**
MHVM	**Bosque de Chap**	**5.51**	**315**	*e*S	**Sn**	**21**	**33**	**59.3 +3.1**
CJVM	**Cuajimalpa**	**5.54**	**314**		**Sn**	**21**	**33**	**55.8 -0.9**
CJVM	**Cuajimalpa**	**5.54**	**314**	*e*S	**Sn**	**21**	**33**	**55.8 -0.9**
INVM	**La Marquesa**	**5.56**	**313**		**Pn**	**21**	**32**	**52.0 -0.7**
INVM					**Sn**	**21**	**33**	**53.2 -4.2**
INVM	**La Marquesa**	**5.56**	**313**	*e*P	**Pn**	**21**	**32**	**52.0 -0.7**
INVM				*e*S	**Sn**	**21**	**33**	**53.2 -4.2**
PTVM	**Pico Tres Padr**	**5.58**	**317**		**Sn**	**21**	**33**	**54.9 -2.9**
PTVM	**Pico Tres Padr**	**5.58**	**317**	*e*S	**Sn**	**21**	**33**	**54.9 -2.9**
MTO3	**Montecristo**	**5.63**	**101**	Pn	**Pn**	**21**	**32**	**55.2 +1.6**
AZVM	**Cuida Lopez Ma**	**5.69**	**316**		**Sn**	**21**	**33**	**58.6 -1.9**
AZVM	**Cuida Lopez Ma**	**5.69**	**316**	*e*S	**Sn**	**21**	**33**	**58.6 -1.9**
ZUVM	**ZUMPANGO**	**5.72**	**319**		**Sn**	**21**	**34**	**09.5 +8.1**
ZUVM	**ZUMPANGO**	**5.72**	**319**	*e*S	**Sn**	**21**	**34**	**09.5 +8.1**
ARIG	**Puente Sto Nin**	**5.74**	**299**		**Pn**	**21**	**32**	**57.9 +3.0**
ARIG					**Sn**	**21**	**33**	**56.5 -5.0**
ARIG	**Puente Sto Nin**	**5.74**	**299**	*e*P	**Pn**	**21**	**32**	**57.9 +3.0**
ARIG				*e*S	**Sn**	**21**	**33**	**56.5 -5.0**
TOVM	**TOLUCA**	**5.76**	**311**		**Pn**	**21**	**32**	**59.1 +3.6**
TOVM					**Sn**	**21**	**33**	**57.7 -4.8**
TOVM	**TOLUCA**	**5.76**	**311**	*e*P	**Pn**	**21**	**32**	**59.1 +3.6**
TOVM				*e*S	**Sn**	**21**	**33**	**57.7 -4.8**
ACIG	**Acambay**	**6.37**	**315**		**Sn**	**21**	**34**	**16.3 -0.8**
ACIG	**Acambay**	**6.37**	**315**	*e*S	**Sn**	**21**	**34**	**16.3 -0.8**
CTUV	**Llano Grande**	**

POST Sg Sg 21 47 29.6 -1.6
APMT Aspermont 0.70 54 Pg Pb 21 47 26.8 +0.4
APMT Sg Sb 21 47 37.0 +0.5
DKNS Dickens 0.76 352 Pg Pg 21 47 26.6 +0.5
DKNS Sg Sg 21 47 36.6 +0.6
ABTX Abilene, Hawle 1.01 106 Pg Pb 21 47 32.6 +0.9
ABTX Sg Sb 21 47 46.4 +0.9
SGCY Sterling City 1.03 196 Pg Pg 21 47 31.2 -0.1
SGCY Sg Sg 21 47 44.6 0.0
ODSA Odessa 1.68 242 Pn 21 47 41.7 -0.2
MSTX Muleshoe 1.96 303 Pn Pn 21 47 46.3 +0.5
OZNA Ozona 2.00 188 Pn Pn 21 47 47.6 +1.2
OZNA IAmb_Lg 21 48 17.7
comp=Z,1µm,1.2s
PLPT Palo Pinto 2.09 92 Pn Pb 21 47 49.8 -0.3
AMTX Amarillo 2.10 340 Pn Pb 21 47 49.3 -1.0
WTFS Witchita Falls 2.13 66 Pn Pb 21 47 50.2 -0.5
BRDY Brady 2.22 136 Pn Pb 21 47 51.5 -0.8
BRDY IAmb_Lg 21 48 28.4
comp=Z,864nm,0.9s
SMWD Samnorwood 2.24 12 Pn Pb 21 47 51.5 -1.2
MNHN Monahans 2.29 227 Pn Pn 21 47 50.7 +0.4
MNHN IAmb_Lg 21 48 28.4
comp=Z,477nm,0.8s
HTMS Hat Mesa 2.43 260 Pn Pn 21 47 53.2 +0.8
WMOK Wichita Mounta 2.48 42 Pn Pn 21 47 54.8 +2.0
WMOK Wichita Mounta 2.48 42 Pn 21 47 54.9 +2.1
JCT Junction City 2.57 160 Pn Pn 21 47 56.0 +1.9
CPRX Cap Rock 2.59 274 Pn Pn 21 47 55.3 +0.8
CLN7 Carlsbad 7 2.59 260 Pn Pn 21 47 55.5 +1.1
CLNB Carlsbad 2.68 257 Pn Pn 21 47 56.0 +0.3
FW06 Azle 2.72 88 Pn Pn 21 47 58.0 +1.8
FW13 Cleburne 2.89 100 Pn Pn 21 48 00.7 +2.2
WHTX Lake Whitney, 2.97 107 Pn Pn 21 48 01.4 +1.8
WHTX IAmb_Lg 21 48 56.8
comp=Z,814nm,1.0s
X34A Smith Ranch, M 2.99 55 Pn Pn 21 48 02.8 +2.9
X34A IAmb_Lg 21 48 55.4
comp=Z,614nm,0.7s
Z35A Perchaven, San 3.00 81 Pn Pn 21 48 01.6 +1.5
Z35A IAmb_Lg 21 48 56.4
comp=Z,638nm,0.9s
PECS Pecos 3.02 240 Pn Pn 21 48 01.4 +1.0
SAND Sanderson 3.16 201 Pn Pn 21 48 02.9 +0.7
SAND IAmb_Lg 21 49 01.4
comp=Z,710nm,1.2s
LOOK Love County 3.21 69 Pn Pn 21 48 04.8 +1.9
LOOK IAmb_Lg 21 49 04.3
comp=Z,453nm,0.9s
CSTR Hydro, Custer 3.24 32 Pn Pn 21 48 05.0 +1.7
435B Jarrell 3.46 127 Pn Pn 21 48 08.7 +2.3
DRIO Del Rio 3.48 177 Pn Pn 21 48 08.5 +1.9
DRIO IAmb_Lg 21 49 08.5
comp=Z,484nm,1.0s
ALPN Alpine 3.50 225 Pn Pn 21 48 07.6 +0.5
HNDO Hondo 3.61 159 Pn Pn 21 48 10.2 +1.7
HNDO IAmb_Lg 21 49 11.6
comp=Z,400nm,0.9s
FNO Franklin 3.66 49 Pn Pn 21 48 10.2 +1.1
RTBA Rita Blanca 3.87 336 Pn Pn 21 48 13.6 +1.5
OK038 West end E0370 3.94 25 Pn Pn 21 48 15.1 +2.1
TREL Terrell 3.97 91 Pn Pn 21 48 14.6 +1.3
OK029 Liberty Lake 3.99 43 Pn Pn 21 48 15.0 +1.4
NOKA Waynoka 4.02 22 Pn Pn 21 48 15.7 +1.7
NOKA IAmb_Lg 21 49 29.8
comp=Z,475nm,0.8s
MNTX Cornudas Mount 4.07 254 IAmb_Lg 21 49 21.5
comp=Z,574nm,0.9s
VHRN Van Horn 4.15 240 Pn Pn 21 48 16.8 +0.9
VHRN IAmb_Lg 21 49 26.0
comp=Z,293nm,0.9s
CROK Carrier 4.27 32 Pn Pn 21 48 19.3 +1.8
CROK IAmb_Lg 21 49 27.7
comp=Z,404nm,0.8s
237A Washetta, Mont 4.31 101 Pn Pn 21 48 19.6 +1.6
TX31 Lajitas Ar. Si 4.33 215 Pn Pn 21 48 19.4 +1.0
TXAR Lajitas Array 4.33 215 Pn Pn 21 48 19.6 +1.2
comp=Z,2.8nm,0.3s,baz=48,slow=12,SNR=51
TXAR Pg Pb 21 48 31.0 +2.6
comp=Z,27nm,0.3s,baz=34,slow=17,SNR=145
TXAR Lg Lg 21 49 26.9
comp=Z,25nm,0.3s,baz=36,slow=24,SNR=16
comp=Z,2.9nm,0.3s
MLDN Muldoon 4.46 133 Pn Pn 21 48 21.4 +1.4
EF04 Eagle Ford 04 4.50 144 Pn Pn 21 48 23.1 +2.5
OK052 Battle Ridge R 4.51 46 Pn Pn 21 48 21.7 +0.9
OK052 IAmb_Lg 21 49 45.4
comp=Z,338nm,1.0s
DEOK Depew 4.60 49 Pn Pn 21 48 22.8 +0.8
DEOK IAmb_Lg 21 49 44.0
comp=Z,283nm,0.7s
KAN14 Manchester OK 4.66 29 Pn Pn 21 48 24.0 +1.2
KAN14 IAmb_Lg 21 49 42.1
comp=Z,290nm,0.9s
QUOK Quay 4.69 45 Pn Pn 21 48 24.0 +0.8
QUOK IAmb_Lg 21 49 47.1
comp=Z,269nm,0.9s
OK048 Pawnee Station 4.72 41 IAmb_Lg 21 49 44.7
comp=Z,322nm,0.7s
833A Chaparral WMA, 4.73 165 Pn Pn 21 48 25.1 +1.3
833A IAmb_Lg 21 49 56.2
comp=Z,342nm,0.8s
BLOK Blackwell 4.84 36 IAmb_Lg 21 49 53.1
comp=Z,336nm,0.7s
OK051 E0350 and S346 4.85 41 Pn Pn 21 48 26.9 +1.5
OK051 IAmb_Lg 21 49 45.4
comp=Z,424nm,1.1s
KAN08 Anthony NE Sta 4.89 27 IAmb_Lg 21 49 49.1
comp=Z,248nm,0.7s
Z38A Mt. Pleasant 4.89 84 Pn Pn 21 48 27.5 +1.5
KAN01 Argonia South 4.91 30 IAmb_Lg 21 49 55.9
comp=Z,255nm,0.9s
EPT El Paso 4.97 258 IAmb_Lg 21 49 55.8
comp=Z,380nm,1.1s
HNVL Huntsville, TX 5.02 114 Pn Pn 21 48 29.6 +1.9
HNVL IAmb_Lg 21 49 53.4
comp=Z,230nm,0.8s
BNM Barren Site 5.03 286 Pn Pn 21 48 28.4 +0.3
CRNM Carthage 5.07 283 Pn Pn 21 48 28.9 +0.2
TUL3 Leonard 5.10 53 Pn Pn 21 48 29.1 +0.2
TUL3 IAmb_Lg 21 50 02.1
comp=Z,245nm,0.8s
ANMO Albuquerque 5.13 295 Pn Pn 21 48 29.4 -0.1
ANMO Albuquerque 5.13 295 Pn Pn 21 48 30.1 +0.7
comp=Z,0.7nm,0.3s,baz=202,slow=16,SNR=11
ANMO Pg Pb 21 48 44.3 +2.3
comp=Z,1.3nm,0.3s,baz=214,slow=12,SNR=17
ANMO Sn Sn 21 49 30.3 +1.0
comp=Z,8.3nm,0.3s,baz=186,slow=13,SNR=3.5
ANMO Lg Lg 21 49 47.5
comp=Z,43nm,0.3s,baz=290,slow=15,SNR=25
comp=Z,3.8nm,0.6s
T25A Trinidad 5.16 326 Pn Pn 21 48 30.8 +0.9
HKT Hockley 5.17 124 Pn Pn 21 48 32.5 +2.8
HKT IAmb_Lg 21 50 10.4
comp=Z,350nm,1.1s
Y22A Socorro 5.26 283 Pn Pn 21 48 32.0 +0.7
Y22A IAmb_Lg 21 50 12.7
comp=Z,406nm,0.9s
NATX Nacogdoches 5.32 101 Pn Pn 21 48 33.9 +2.1
T35A Sooner Cattle 5.32 40 Pn Pn 21 48 33.1 +1.1
SBM South Baldy 5.44 283 Pn Pn 21 48 33.9 -0.1
R32A Long Quarter, 5.76 17 Pn Pn 21 48 38.3 +0.3
RLO Rose Lookout 5.76 54 Pn Pn 21 48 38.1 +0.1
RLO IAmb_Lg 21 50 23.6
comp=Z,275nm,0.8s
121A Cookes Peak, D 5.90 268 Pn Pn 21 48 40.2 +0.1
121A IAmb_Lg 21 50 21.9
comp=Z,284nm,1.1s
CBKS Cedar Bluff 5.95 8 Pn Pn 21 48 40.7 0.0
CBKS IAmb_Lg 21 50 34.5
comp=Z,234nm,0.8s
SDCO Great Sand Dun 6.17 323 Pn Pn 21 48 45.2 +1.4
MIAR Mount Ida 6.23 73 Pn Pn 21 48 45.6 +1.2
MIAR IAmb_Lg 21 50 47.3
comp=Z,204nm,0.8s
KSCO Kaye Shedlock[3] 6.27 347 Pn Pn 21 48 45.5 +0.5
KSCO IAmb_Lg 21 50 44.6
comp=Z,306nm,0.9s
U38A Gravette 6.35 55 Pn Pn 21 48 45.9 -0.1
U38A IAmb_Lg 21 50 36.8
comp=Z,219nm,0.9s
WLAR White Oak Lake 6.48 81 Pn Pn 21 48 48.8 +1.0
WLAR IAmb_Lg 21 50 48.8
comp=Z,194nm,0.8s
HHAR Hobbs 6.58 57 Pn Pn 21 48 50.7 +1.5
HHAR IAmb_Lg 21 50 45.5
comp=Z,213nm,0.7s
Z41A Richland Creek 6.72 85 IAmb_Lg 21 50 51.0
comp=Z,138nm,0.8s
X40A Basin Creek Fa 6.82 74 Pn Pn 21 48 51.9 -0.6
KSU1 Kansas State U 7.05 28 Pn Pn 21 48 55.7 +0.1
KSU1 IAmb_Lg 21 51 06.8
comp=Z,273nm,0.9s
UALR University of 7.27 73 Pn Pn 21 48 58.9 +0.1
UALR IAmb_Lg 21 51 21.8
comp=Z,159nm,1.1s
319A Douglas 7.36 260 Pn Pn 21 49 00.6 +0.6
319A IAmb_Lg 21 51 13.0
comp=Z,162nm,1.1s
WHAR Wooly Hollow 7.44 69 Pn Pn 21 49 02.2 +1.1
CCAR Cane Creek 7.61 80 IAmb_Lg 21 51 27.0
comp=Z,131nm,0.8s
W18A Petrified Fore 7.74 289 Pn Pn 21 49 05.8 +0.4
W18A IAmb_Lg 21 51 31.2
comp=Z,116nm,1.0s
FCAR Ozark Folk Cen 7.76 65 Pn Pn 21 49 05.5 +0.1
FCAR IAmb_Lg 21 51 26.1
comp=Z,158nm,0.9s
ISCO Idaho Springs 7.90 332 Pn Pn 21 49 08.4 +0.9
ISCO IAmb_Lg 21 51 27.2
comp=Z,130nm,0.9s
143A Socs Landing, 7.91 89 IAmb_Lg 21 51 43.7
comp=Z,127nm,0.9s
OGNE Ogallala 8.08 353 Pn Pn 21 49 09.8 -0.1
MGMO Mountain Grove 8.17 56 Pn Pn 21 49 10.5 -0.6
MGMO IAmb_Lg 21 51 40.5
comp=Z,160nm,0.8s
PV03 Paradox Valley 8.45 311 IAmb_Lg 21 51 56.7
comp=Z,112nm,1.3s
PV12 Saucer Basin, 8.46 312 IAmb_Lg 21 51 58.1
comp=Z,230nm,1.2s
LCAR Lake Charles 8.56 66 Pn Pn 21 49 15.5 -0.8
PV19 Morning Glory 8.57 311 IAmb_Lg 21 51 57.3
comp=Z,122nm,0.9s
PV20 West Nyswonger 8.58 311 IAmb_Lg 21 51 56.9
comp=Z,224nm,1.3s
PV10 Paradox Valley 8.64 311 IAmb_Lg 21 51 58.0
comp=Z,253nm,1.2s
R40A Maddies Statio 8.77 50 Pn Pn 21 49 18.6 -0.7
R40A IAmb_Lg 21 51 53.9
comp=Z,166nm,0.8s
P38A Dawn 8.90 39 Pn Pn 21 49 20.4 -0.6
P38A IAmb_Lg 21 52 03.7
comp=Z,176nm,0.8s
CCM Cathedral Cave 9.32 54 Pn Pn 21 49 25.6 -1.3
CCM IAmb_Lg 21 52 14.3
comp=Z,180nm,1.0s
HMU Henry Mountain 9.54 305 IAmb_Lg 21 52 34.5
comp=Z,162nm,1.2s
OXF Oxford 9.62 77 Pn Pn 21 49 30.4 -0.5
P40A Paris 9.67 44 Pn Pn 21 49 31.7 +0.1
FVM French Village 9.86 56 Pn Pn 21 49 33.0 -1.2
CGM3 Cape Girardeau 10.12 61 Pn Pn 21 49 37.4 -0.3
HICK Hickman 10.18 66 Pn Pn 21 49 38.5 -0.1
S44A Carbondale 10.57 60 Pn Pn 21 49 43.0 -0.9
SIUC Southern Illin 10.60 60 Pn Pn 21 49 43.1 -1.2
Z47A Carrollton 10.68 85 Pn Pn 21 49 46.5 +1.0
N41A Harden Midland 11.13 43 Pn Pn 21 49 50.8 -0.8
Q44A Meyer Farm, Va 11.26 55 Pn Pn 21 49 52.0 -1.4
ECSD EROS Data Cent 11.29 16 Pn Pn 21 49 53.0 -0.8
P43A Skaggs, Pawnee 11.30 50 Pn Pn 21 49 52.4 -1.6
RSSD Black Hills 11.48 348 Pn Pn 21 49 56.6 0.0
X48A Hartselle 11.56 79 Pn Pn 21 49 56.1 -1.3
LRAL Lakeview Retre 11.59 86 Pn Pn 21 49 57.5 -0.4
USIN University of 11.83 61 Pn Pn 21 49 60.0 -1.2
T47A Sharon Grove 11.95 66 Pn Pn 21 50 01.3 -1.4
PDAR Pinedale Array 12.03 327 Pn Pn 21 50 04.7 +0.7
PDAR Pinedale Array 12.03 327 Pn Pn 21 50 06.0 +2.0
comp=Z,0.1nm,0.3s,baz=135,slow=14,SNR=11
PDAR Pg 21 50 50.1
comp=Z,0.6nm,0.3s,baz=121,slow=16,SNR=8.6
PDAR Lg Lg 21 53 24.0
comp=Z,0.6nm,0.3s,baz=119,slow=18,SNR=3.2
comp=Z,1.3nm,0.8s
Y49A Blount Mountai 12.06 82 Pn Pn 21 50 03.3 -1.1
SWET Sewanee 12.54 75 Pn Pn 21 50 10.0 -0.9
P46A Rosedale 12.84 55 Pn Pn 21 50 13.6 -1.4
U49A Red Boiling Sp 12.87 70 Pn Pn 21 50 13.3 -2.0
W50A Signal Mountai 13.04 76 Pn Pn 21 50 16.1 -1.7
BLO Bloomington 13.12 58 Pn Pn 21 50 17.9 -0.9
CPCT Cooper Cave 13.71 75 Pn Pn 21 50 25.7 -1.2
T50A Nancy 13.71 68 Pn Pn 21 50 27.0 +0.1
R49A Shelbyville 13.79 63 Pn Pn 21 50 26.9 -1.1
ELK Elko 13.95 308 Pn Pn 21 50 31.9 +1.5
comp=Z,0.1nm,0.3s,baz=126,slow=8.7,SNR=3.7
ELK Lg Lg 21 54 26.7
baz=114,slow=20
comp=Z,0.4nm,0.3s
P48A Milroy 14.02 58 Pn Pn 21 50 29.2 -1.9
YNE Yellowstone No 14.03 332 Pn Pn 21 50 31.1 -0.4
MPMC Manual Prospec 14.12 287 P 21 50 38.0 -2.6
GMN Gold Mountain 14.17 293 Pn Pn 21 50 31.9 -1.5
YHH Holmes Hill 14.20 330 Pn Pn 21 50 32.5 -1.3
TKL Tuckaleechee C 14.34 74 Pn Pn 21 50 33.6 -1.9
TKL Tuckaleechee C 14.34 74 Pn Pn 21 50 32.1 -3.4
comp=Z,0.8nm,0.3s,baz=211,slow=13,SNR=12
comp=Z,3.9nm,0.5s
R50A Paris 14.43 64 Pn Pn 21 50 34.7 -1.9
GOGA Godfrey 14.53 83 Pn Pn 21 50 36.8 -1.3
G40A Rib Lake 14.81 31 Pn Pn 21 50 38.4 -3.5
S51A Beattyville 14.82 67 Pn Pn 21 50 41.6 -0.4
V53A Saluda 15.12 75 Pn Pn 21 50 42.7 -3.4
BOZ Bozeman (W) 15.18 330 Pn Pn 21 50 48.3 +1.4
NVAR Mina Array Bea 15.25 296 P P 21 50 53.1 0.0
NVAR Mina Array Bea 15.25 296 Pn P 21 50 52.7 -0.5
comp=Z,1.2nm,0.9s,baz=122,slow=11,SNR=5.6
NVAR Lg Lg 21 55 08.4
baz=104,slow=22,SNR=1.1
HODGE Hodges 15.51 80 Pn Pn 21 50 49.1 -2.2
HODGE IAmb IAmb 21 50 58.3
comp=Z,26nm,1.4s
PAULI Pauline 15.88 78 Pn Pn 21 50 55.6 -0.5
Q52A Bidwell 16.17 63 Pn Pn 21 50 58.5 -1.2
KMSC Kings Mountain 16.29 77 P P 21 51 05.2 +0.8
KMSC IAmb IAmb 21 51 06.8
comp=Z,20nm,0.9s
JSC Jenkinsville 16.34 80 P P 21 51 06.8 +1.9
P52A Corning 16.46 61 Pn Pn 21 51 01.9 -1.7
BPMT Black Pine Rid 16.62 328 P P 21 51 07.1 -1.3
CMIG Matias Romero 16.63 160 Pn P 21 51 07.6 -0.7
comp=Z,0.2nm,0.3s,baz=350,slow=9.2,SNR=5.7
comp=Z,3.6nm,0.9s
N51A Ashland 16.74 56 Pn Pn 21 51 06.7 -0.3
BIRD Birdtown, Kers 17.00 79 P 21 51 12.0 -0.2
BIRD IAmb IAmb 21 51 14.4
comp=Z,12nm,0.7s
BLA Blacksburg 17.22 70 Pn Pn 21 51 12.8 -0.3
BLA IAmb IAmb 21 51 13.9
comp=Z,15nm,0.8s
Q54A Coxs Mills 17.25 64 Pn Pn 21 51 13.1 -0.4
W57A Gilead 17.39 77 Pn Pn 21 51 15.1 -0.1
R55A Marlinton 17.64 66 Pn Pn 21 51 18.3 -0.1
O54A Avella 17.92 60 Pn Pn 21 51 21.7 0.0
O54A IAmb IAmb 21 51 31.2
comp=Z,11nm,0.6s
T57A Hurt 18.11 71 Pn 21 51 23.6 -0.6
T57A IAmb IAmb 21 51 28.2
comp=Z,27nm,1.5s
PAOC Oil Creek Stat 18.85 57 P P 21 51 30.8 -1.9
PAOC IAmb IAmb 21 51 52.8
comp=Z,11nm,0.8s
SSPA Standing Stone 19.87 61 P P 21 51 43.9 +0.1
L56A Greenwood 20.55 57 P P 21 51 52.5 +1.2
M57A Sunshine Farm, 20.61 59 P P 21 51 51.5 -0.5
M57A IAmb IAmb 21 52 03.9
comp=Z,20nm,1.4s
BUKO Buck Lake 20.70 47 P P 21 51 52.1 -0.8
BUKO IAmb IAmb 21 52 15.3
comp=Z,10.0nm,1.0s
N58A Sunbury 20.78 61 P P 21 51 54.8 +1.1
N58A IAmb IAmb 21 52 11.8
comp=Z,10nm,0.9s
DELO Deloro Mine 21.40 50 P P 21 52 00.5 +0.1
BINY Binghamton 21.68 58 P P 21 52 03.3 -0.1
BINY IAmb IAmb 21 52 07.9
comp=Z,13nm,1.1s
J57A Williamstown 22.06 54 P P 21 52 08.3 +0.8
J57A IAmb IAmb 21 52 11.7
comp=Z,9.5nm,0.8s
L59A Walton 22.35 58 P P 21 52 12.1 +1.4
L59A IAmb IAmb 21 52 47.5
comp=Z,14nm,1.1s
J59A Piesco 23.11 55 P P 21 52 18.9 +0.3
J59A IAmb IAmb 21 52 53.0
comp=Z,7.0nm,1.0s
KSCT Kent School, K 23.36 60 P P 21 52 22.1 +0.9
NCB Newcomb 23.46 54 P P 21 52 23.2 +1.0

IDC 30 22:02:30.7±3.1, 5°.84N×126°.50E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=271.3km s-min=28.9km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.53**	**323**	Sn	Sn	22 03 20.2	+0.2
	17nm,0.3s,baz=250,slow=22,SNR=1.2						
WRA	**Warramunga Arr**	**26.75**	**163**	P	P	22 08 12.6	+0.3
	0.5nm,0.7s,baz=343,slow=9.4,SNR=5.2						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**30.20**	**166**	P	P	22 08 42.7	-0.4
	0.2nm,0.7s,baz=344,slow=8.6,SNR=1.9						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**55.71**	**325**	P	P	22 12 09.0	-0.1
	0.1nm,0.3s,baz=121,slow=7.0,SNR=4.1						
	0.1nm,0.3s						

*NNC **30** 22:03:14.3±0.5, 42°.96N×77°.79E, h3km±3km, mb2.2, mpv2.8, Error ellipse: s-maj=6.2km s-min=1.9km az=3.0*
*SOME **30** 22:03:14.4, 42°.93N×77°.77E, h15km*
*KRNET **30** 22:03:14.5±0.1, 42°.92N×77°.69E, h11km, mb2.5*

ISC 30 22:03:14.1±1.0, 42°.92N±0°.03×77°.78E±0°.02, h13km±10km, n29, σ0°.46/53, 9C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.48**	**73**	P	Pg	**22 03 24.0**	**+0.4**
	11nm,0.1s						
SATY				S	Sg	**22 03 30.9**	**+0.9**
	105nm,0.1s						
KOTS	**Kotyrbulak**	**0.58**	**303**	P	Pb	**22 03 26.3**	**0.0**
	2.3nm,0.1s						
KOTS				S	Sb	**22 03 34.9**	**+0.4**
	12nm,0.1s						
KOTS	**Kotyrbulak**	**0.58**	**303**	*e*P	Pb	**22 03 26.3**	**0.0**
	2.3nm,0.1s						
KOTS				*e*S	Sb	**22 03 34.9**	**+0.4**
	12nm,0.1s						
MDOK	**Medeo**	**0.59**	**295**	Pg	Pg	**22 03 25.6**	**-0.1**
	0.8nm,0.1s						
MDOK				Lg	Lg	22 03 33.6	
	4.3nm,0.2s						
TNSS	**Tian-Shan**	**0.62**	**281**	P	Pg	**22 03 26.4**	**0.0**
	0.6nm,0.1s						
TNSS				S	Sg	**22 03 35.0**	**+0.4**
	3.2nm,0.2s						
TNSS	**Tian-Shan**	**0.62**	**281**	*e*P	Pg	**22 03 26.4**	**0.0**
	0.6nm,0.1s						
TNSS				*e*S	Sg	**22 03 35.0**	**+0.4**
	3.2nm,0.2s						
PRZ	**Przheval'sk**	**0.63**	**133**	⇓*i*P	Pb	**22 03 27.5**	**+0.4**
PRZ				⇓*i*S	Sb	**22 03 36.8**	**+0.8**
KPKS	**Kokpek**	**0.86**	**50**	P	Pg	**22 03 30.3**	**-0.4**
	0.3nm,0.1s						
KPKS				S	Sg	**22 03 41.7**	**-0.2**
	11nm,0.3s						
KDJ	**Kajisay**	**0.91**	**209**	⇓*i*P	Pg	**22 03 31.4**	**-0.2**
KDJ				⇓*i*S	Sg	**22 03 43.3**	**-0.1**
UZB	**Uzynbulak**	**0.94**	**76**	P	Pg	**22 03 31.6**	**-0.7**
	6.4nm,0.1s						
UZB				S	Sg	**22 03 44.0**	**-0.5**
	18nm,0.1s						
UZB	**Uzynbulak**	**0.94**	**76**	*e*P	Pg	**22 03 31.6**	**-0.7**
	6.4nm,0.1s						
UZB				*e*S	Sg	**22 03 44.0**	**-0.5**
	18nm,0.1s						
CHKK	**Chushkaly**	**1.10**	**329**	P	Pb	**22 03 34.8**	**-0.2**
	2.9nm,0.1s						
CHKK				S	Sb	**22 03 49.3**	**+0.1**
	29nm,0.1s						
CHKK	**Chushkaly**	**1.10**	**329**	*e*P	Pb	**22 03 34.8**	**-0.2**
	2.9nm,0.1s						
CHKK				*e*S	Sb	**22 03 49.3**	**+0.1**
	29nm,0.1s						
KTBS	**Karatobe**	**1.13**	**315**	P	Pb	**22 03 35.1**	**-0.4**
	2.3nm,0.1s						
KTBS				S	Sb	**22 03 50.0**	**-0.1**
	7.4nm,0.2s						
SHLS	**Shalkode**	**1.26**	**79**	P	Pg	22 03 43.7	+5.4
	1.5nm,0.1s						
SHLS				S	Sn	22 04 04.7	+10
	6.6nm,0.3s						
SHLS	**Shalkode**	**1.26**	**79**	*e*P	Pg	22 03 43.7	+5.4
	1.5nm,0.1s						
SHLS				*e*S	Sn	22 04 04.7	+10
	6.6nm,0.3s						
ARXS	**Arharly**	**1.29**	**2**	P	Pn	**22 03 38.1**	**+0.1**
	4.4nm,0.1s						
ARXS				S	Sb	**22 03 55.0**	**+0.1**
	21nm,0.2s						
ARXS	**Arharly**	**1.29**	**2**	*e*P	Pn	**22 03 38.1**	**+0.1**
ARXS				*e*S	Sb	**22 03 55.0**	**+0.1**
PDGK	**Podgornoye**	**1.32**	**71**	⇑P	Pb	**22 03 39.3**	**+0.5**
	1.1nm,0.5s						
PDGK				⇓S	Sb	**22 03 55.3**	**-0.4**
	3.2nm,0.5s						
ULHL	**Ulahol**	**1.32**	**240**	⇑*i*P	Pn	**22 03 38.5**	**0.0**
ULHL				⇑*i*S	Sb	**22 03 56.0**	**+0.2**
KST	**Kastek**	**1.34**	**276**	P	Pb	**22 03 39.6**	**+0.5**
	1.1nm,0.1s						
KST				S	Sg	**22 03 57.7**	**+0.5**
	3.4nm,0.2s						
KST	**Kastek**	**1.34**	**276**	*e*P	Pb	**22 03 39.6**	**+0.5**
	1.1nm,0.1s						
KST				*e*S	Sg	**22 03 57.7**	**+0.5**
	3.4nm,0.2s						
BOOM	**Boomskoye usch**	**1.42**	**253**	⇓*i*P	Pn	**22 03 40.0**	**+0.2**
BOOM				⇓*i*S	Sn	**22 03 58.6**	**+0.1**
TKM2	**Tokmak 2**	**1.60**	**271**	⇑*i*P	Pb	**22 03 43.4**	**-0.3**
TKM2				⇑*i*S	Sb	**22 04 04.3**	**+0.3**
KRBS	**Karabastau**	**1.72**	**298**	P	Pb	**22 03 45.2**	**-0.5**
	1.4nm,0.2s						
KRBS				S	Sb	**22 04 07.2**	**0.0**
	4.4nm,0.3s						
KNOS	**Konyrlen**	**1.76**	**35**	P	Pb	**22 03 46.3**	**0.0**
	3.1nm,0.1s						
KNOS				S	Sb	**22 04 09.3**	**+0.8**
	8.5nm,0.3s						
KBK	**Karagaybulak**	**2.10**	**264**	⇑*i*P	Pb	**22 03 52.0**	**-0.2**
KBK				⇑*i*S	Sb	**22 04 19.1**	**+0.9**
USP	**Ospenovka**	**2.43**	**279**	⇓*i*P	Pb	**22 03 56.4**	**-1.2**
USP				⇓*i*S	Sb	**22 04 26.9**	**-0.6**
JNKS	**Jany-Kuch**	**2.44**	**221**	⇑*i*P	Pb	**22 03 57.0**	**-1.1**
JNKS				⇑*i*S	Sb	**22 04 28.1**	**-0.1**

HEL 30 22:04:43.9±0.5, 67°.15N×20°.71E, h0km, ML1.3, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERTU	**Ertsjaerv**	**0.84**	**135**	PG	Pg	22 04 58.9	-1.0
LANU	**Lannavaara**	**1.02**	**28**	PG	Sg	22 05 02.2	-1.3
LANU				SB	Sg	22 05 17.0	+0.3
KALU	**Kalix**	**1.68**	**140**	PG	Pn	22 05 14.3	-0.1
KALU				SN	Sg	22 05 37.8	+0.1
HEF	**Hetta**	**1.69**	**40**	PN	Pn	22 05 14.1	-0.5
HEF				MSG		22 05 34.2	
	comp=Z,1.2nm,0.2s						
HEF				SN	Sn	22 05 35.1	-1.8
TOF	**Tornio**	**1.80**	**125**	PG	Pn	22 05 16.0	-0.1
TOF				MSG		22 05 37.5	
	comp=Z,1.4nm,0.2s						
KIF	**Kilpisjarvi**	**1.86**	**1**	PG	Pn	22 05 17.6	+0.7
	baz=183						
KIF				MSG		22 05 40.4	
	comp=Z,2.3nm,0.2s						
KIF				SG	Sb	22 05 42.4	0.0
KTK1	**Kautokeino**	**2.09**	**26**	SG	Sb	22 05 49.2	0.0
RNF	**Rovaniemi**	**2.16**	**102**	PG	Pn	22 05 21.8	+0.7
	baz=289						
RNF				SG	Sb	22 05 51.4	+0.3

RANF	**Ranua**	**2.68**	**112**	PG	Pb	22 05 30.9	-1.8
	baz=296							
RANF				SG	Sb	22 06 05.7	-0.4
ARA0	**ARCESS Array S**	**2.98**	**34**	SG	Sb	22 06 13.0	-1.7
KEV	**Kevo**	**3.50**	**39**	SN	Sn	22 06 20.6	-0.8

UPP 30 22:05:25.9±0.1, 67°20'N×20°71E, h0km, ML1.7, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.09**	**216**	P	Pg	22 05 28.0	+0.3
DUNU				S	Sg	22 05 29.3	+0.5
RATU	**Laukkuluspa**	**0.76**	**326**	P	Pg	22 05 39.9	-0.6
RATU				S	Sg	22 05 50.5	+0.1
KUA	**Kurravaara**	**0.78**	**350**	P	Pg	22 05 40.6	-0.1
KUA				S	Sg	22 05 51.4	+0.6
ERTU	**Ertsjaerv**	**0.87**	**137**	P	Pg	22 05 42.2	-0.4
SALU	**Saltoluokta**	**0.88**	**283**	P	Pg	22 05 42.4	-0.2
NIKU	**Nikkaluokta**	**0.93**	**317**	P	Pg	22 05 43.8	0.0
HARU	**Harads**	**1.04**	**174**	P	Pg	22 05 45.4	-0.5
KALU	**Kalix**	**1.71**	**140**	P	Pn	22 05 57.3	+0.5
SJUU	**Sjulsmark**	**1.73**	**168**	P	Pn	22 05 57.3	+0.1

IDC 30 22:05:33.0±2.0, 6°85S×128°59E, h0km, mb3.8/1, mbtmp3.3/3, ML3.4/2, MS3.5/1, Error ellipse: s-maj=124.5km s-min=31.9km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.16**	**157**	Pn	Pn	22 08 54.1	-0.9
	0.2nm,0.3s,baz=336,slow=12,SNR=4.8						
WRA				Sn	Sn	22 11 22.6	-10
	0.2nm,0.3s,baz=331,slow=20,SNR=5.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**17.49**	**164**	P	P	22 09 39.1	-0.6
	0.1nm,0.3s,baz=347,slow=11,SNR=2.4						
ASAR				S	Sn	22 12 41.1	-13
	0.1nm,0.3s,baz=214,slow=39,SNR=1.1						
	0.2nm,0.3s						
JNU	**Nakatsue**	**39.80**	**3**	LR	LR	22 29 55.3	
	comp=Z,60nm,20.4s,baz=164,slow=37						
MKAR	**Makanchi Array**	**67.34**	**327**	P	P	22 16 29.9	0.0
	0.3nm,0.4s,baz=119,slow=7.8,SNR=9.0						
	0.3nm,0.4s						

*OSPL **30** 22:19:43.2±0.8, 18°42N×70°42W, h5km±7km, ML1.7*
*SDD **30** 22:19:45.1±1.2, 18°41N×70°51W, h21km±6km, MD3.1, ML1.4, MW2.5*

ISC 30 22:19:44.1±0.9, 18°32N±0°06×70°48W±0°03, h10km, n11, σ1°69/20, 10C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BANI	**BANI**	**0.14**	**58**	↑*e* P*g*	**Pg**	**22 19 48.9**	**+1.5**
BANI				↑*e* S*g*	**Sg**	**22 19 52.9**	**+3.2**
BANI				IAML		22 19 53.7	
	comp=N,372nm,0.2s						
ABDR	**Alto Bandera**	**0.51**	**344**	↑e Sg	**Sg**	**22 19 59.4**	**-1.6**
ABDR				IAML		22 20 19.7	
	comp=N,0.3nm,0.8s						
PODR	**Polo**	**0.78**	**259**	↑*e* P*g*	**Pg**	**22 19 58.8**	**-0.3**
PODR				↑*e* S*g*	**Sg**	**22 20 09.4**	**+0.1**
PODR				IAML		22 20 13.1	
	comp=N,17nm,0.1s						
PODR	**Polo**	**0.78**	**259**	*i* P	**Pg**	**22 19 58.9**	**-0.3**
PODR				*e* S	**Sb**	**22 20 10.7**	**+0.2**
LODU1	**El Espartillar**	**0.94**	**272**	*i* P	**Pg**	**22 20 01.4**	**-0.9**
LODU1				IAML		22 20 17.6	
	comp=Z,25nm,0.2s						
LONE3	**El Aguacate, B**	**0.97**	**287**	*i* P	**Pg**	**22 20 01.0**	**-1.8**
LONE3				*e* S	**Sg**	**22 20 14.4**	**-1.1**
LONE3				IAML		22 20 17.6	
	comp=Z,13nm,0.2s						
LOVI	**El Cajuil, Ovi**	**0.99**	**239**	*i* P	**Pg**	**22 20 02.8**	**-0.4**
LOVI				*e* S	**Sg**	**22 20 16.6**	**+0.6**
LOVI				IAML		22 20 17.7	
	comp=Z,18nm,0.8s						
HATOM	**Hato Mayor del**	**1.14**	**66**	↑*e* P*g*	**Pb**	**22 20 04.1**	**-1.9**
HATOM				↓*e* S*g*	**Sb**	**22 20 19.0**	**-1.9**
HATOM				IAML		22 20 20.0	
	comp=N,15nm,0.2s						
LOBH	**Bahia de las A**	**1.19**	**248**	*i* P	**Pb**	**22 20 06.1**	**-0.7**
LOBH				*e* S	**Sb**	**22 20 22.7**	**+0.5**
LOBH				IAML		22 20 32.4	
	comp=Z,14nm,2.6s						
REDR	**Restauracion**	**1.21**	**314**	↑*e* P*g*	**Pn**	**22 20 09.2**	**+2.2**
REDR				↑*e* S*g*	**Sn**	**22 20 27.3**	**+3.7**
REDR				IAML		22 20 29.7	
	comp=N,49nm,0.2s						
MIDR	**Miches**	**1.51**	**64**	↑*e* P*g*	**Pn**	**22 20 10.4**	**-0.8**
MIDR				↑*e* S*g*	**Sn**	**22 20 30.5**	**-0.4**
MIDR				IAML		22 20 31.9	
	comp=N,7.3nm,1.7s						

DJA 30 22:29:10.9±0.5, 4°S±4°×12°8E±°, h10km, M3.3/5, MLv3.3/5, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.23**	**245**	P	Pg	22 29 15.3	-0.3
MSAI	**Masohi**	**0.58**	**65**	P	Pb	22 29 31.2	-0.1
MSAI				S	Sb	22 29 31.2	-0.3
NLAI	**Namlea**	**1.34**	**285**	P	Pb	22 29 36.4	+0.2
SANI	**Sanana**	**2.85**	**302**	P	Pn	22 29 57.5	+1.0
SWI	**Sorong**	**3.94**	**47**	P	Pb	22 30 16.5	-4.0
SOEI	**Soe**	**7.37**	**214**	P	Pn	22 31 08.0	+9.2
BATI	**Baumata**	**8.08**	**215**	P	Pn	22 31 12.5	+4.0
BATI				S		22 31 11.8	
MTKI	**Muara Teweh, K**	**13.75**	**281**	P	Pn	22 32 30.1	+4.1
MASI	**Maura Aman, Be**	**26.12**	**270**	P	P	22 34 45.2	-0.2

*SDD **30** 22:36:45.1±0.3, 17°34N×71°55W, h15km, MD3.3, ML3.2*

RSPR 30 22:37:09.2, 19°23N×67°41W, h10km±31km, MD2.8/5, 8C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDE	**Isla Desecheo**	**0.84**	**184**	↑*e* P	Pg	22 37 53.4	-2.0
IDE	**Isla Desecheo**	**0.84**	**184**	*e* S	Sg	22 38 05.2	-1.1
AOPR	**Arecibo Observ**	**1.07**	**145**	↑*e* P	Pg	22 37 56.8	-3.1
AOPR	**Arecibo Observ**	**1.07**	**145**	*e* S	Sg	22 38 11.7	-2.1
LSP	**Las Mesas**	**1.09**	**164**	↓*e* P	Pg	22 37 56.5	-3.6
LSP	**Las Mesas**	**1.09**	**164**	*e* S	Sg	22 38 11.8	-2.5
CRPR	**Cabo Rojo, PR**	**1.25**	**167**	↑*e* P	Pn	22 37 59.9	-2.8
CRPR	**Cabo Rojo, PR**	**1.25**	**167**	*e* S	Sb	22 38 15.8	-3.1
CRPR	**Cabo Rojo, PR**	**1.25**	**167**	IAML		22 38 19.0	
	comp=N,27nm,2.5s						
MLPR	**Magueyes Islan**	**1.30**	**165**	↑*e* P	Pn	22 38 00.6	-2.8
MLPR	**Magueyes Islan**	**1.30**	**165**	*e* S	Sb	22 38 16.6	-3.8
CELP	**Cerrillos**	**1.39**	**145**	↑*e* P	Pn	22 38 01.9	-2.8
CELP	**Cerrillos**	**1.39**	**145**	*e* S	Sb	22 38 18.4	-4.6
CELP	**Cerrillos**	**1.39**	**145**	↑*e* P*g*	Pg	22 38 06.7	+0.8
CELP				IAML		22 38 47.8	
	comp=N,6.1nm,1.5s						
OBIP	**Obispado Ponce**	**1.40**	**147**	↓*e* P	Pn	22 38 02.4	-2.5
OBIP	**Obispado Ponce**	**1.40**	**147**	*e* S	Sn	22 38 18.6	-4.7
MIDR	**Miches**	**1.57**	**261**	IAML		22 38 11.2	
	comp=N,143nm,0.2s						
MIDR				↑*e* S*g*	Pg	22 38 10.9	+1.5
SMDR	**Samana, DR**	**1.69**	**272**	IAML		22 38 13.8	
	comp=N,171nm,0.2s						
SMDR				↑*e* S*g*	Pg	22 38 13.3	+1.7

*BUT **30** 23:01:00.6±0.8, 44°69N±0°03×111°89W±0°02, h10km±7km, Error ellipse: s-maj=4.8km s-min=1.2km az=197.0*

NEIC 30 23:01:01.9±0.8, 44°69N±0°02×111°88W±0°02, h13km±7km, ML2.9/48, MLv3.4/12(BUT), Error ellipse: s-maj=3.3km s-min=1.9km az=195.0, Hebgen Lake region, Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPMT	**Tepee Creek**	**0.16**	**74**		Pg	23 01 05.9	0.0
CMI	**Centennial Mou**	**0.25**	**131**		Pg	23 01 06.9	-0.3
QLMT	**Earthquake Lak**	**0.35**	**66**		Pg	23 01 08.9	-0.2
QLMT				Sg	Sg	23 01 14.2	+0.2
MOMT	**Monida**	**0.38**	**256**		Pg	23 01 09.6	0.0
YPDC	**Denny Creek**	**0.46**	**87**		Pg	23 01 11.0	-0.1
YHB	**Horse Butte**	**0.49**	**82**		Pg	23 01 11.6	-0.1
YHB				Sg	Sg	23 01 18.1	-0.2
YHB				IAML		23 01 19.0	
	comp=N,1μm,0.4s						
YHL	**Hebgen Lake**	**0.52**	**72**		Pg	23 01 12.1	-0.2
YHL				Sg	Sg	23 01 19.4	+0.1
BGMT	**Barton Gulch**	**0.56**	**348**		Pg	23 01 12.8	-0.1
GCR	**Grayling Creek**	**0.56**	**79**		Pg	23 01 13.2	+0.2
YPWB	**West Boundary**	**0.56**	**98**		Pg	23 01 13.3	+0.3
YMC	**Maple Creek**	**0.63**	**83**		Pg	23 01 14.3	+0.1
YMR	**Madison River**	**0.65**	**91**		Pg	23 01 14.8	+0.1
YMR				Sg	Sg	23 01 23.8	+0.4
YMR				IAML		23 01 24.4	
	comp=E,903nm,0.7s						
MCMT	**McKenzie Canyo**	**0.70**	**282**		Pg	23 01 15.4	-0.2
MCID	**Moose Creek**	**0.70**	**135**		Pg	23 01 15.7	0.0
YPM	**Purple Mountai**	**0.72**	**92**		Pb	23 01 16.4	-0.2
YHH	**Holmes Hill**	**0.74**	**82**		Pg	23 01 16.4	+0.1
YHH				Sg	Sg	23 01 26.2	+0.1
YNM	**Yellowstone No**	**0.84**	**87**		Pg	23 01 18.3	+0.1
YNM				Sg	Sb	23 01 29.7	-0.2
YNM				IAML		23 01 29.9	
	comp=E,455nm,0.3s						
YNM				IAML		23 01 30.2	
	comp=N,458nm,0.3s						
DLMT	**Dillon**	**0.84**	**323**		Pg	23 01 18.0	-0.3
DLMT				Sg	Sg	23 01 29.6	+0.2
DLMT				IAML		23 01 30.4	
	comp=N,555nm,0.6s						
DLMT				IAML		23 01 30.5	
	comp=N,619nm,0.7s						
YNR	**Norris Junctio**	**0.86**	**88**		Pg	23 01 18.7	+0.1
YNR				IAML		23 01 31.1	
	comp=E,449nm,0.3s						
YPP	**Pitchstone Pla**	**0.88**	**118**		Pg	23 01 18.9	0.0
YPP				IAML		23 01 31.1	
	comp=N,297nm,0.3s						
YPP				IAML		23 01 32.5	
	comp=E,275nm,0.4s						
BOZ	**Bozeman (W)**	**0.93**	**11**		Pg	23 01 19.4	-0.5
BOZ				IAML		23 01 36.9	
	comp=E,310nm,0.2s						
BOZ				IAML		23 01 38.2	
	comp=E,294nm,0.3s						
H17A	**Grant Village**	**0.98**	**107**		Pb	23 01 21.0	+0.1
LKWY	**Lake**	**1.06**	**96**		Pb	23 01 22.1	-0.3
LRM	**Limekiln Ridge**	**1.20**	**341**		Pn	23 01 24.5	-0.3
YMP	**Mirror Lake Pl**	**1.23**	**87**		Pn	23 01 25.1	-0.1
YNE	**Yellowstone No**	**1.37**	**76**		Pb	23 01 27.6	-0.1
YNE				IAML		23 01 49.5	
	comp=N,292nm,0.3s						
YNE				IAML		23 01 51.1	
	comp=E,164nm,0.4s						
TPAW	**Teton Pass**	**1.37**	**150**		Pn	23 01 26.4	-0.7
TPAW				IAML		23 01 55.6	
	comp=E,155nm,0.5s						
LOHW	**Long Hollow**	**1.41**	**139**		Pn	23 01 27.0	-0.6
LOHW				IAML		23 01 47.7	
	comp=E,128nm,0.3s						
SNOW	**Snow King Moun**	**1.47**	**146**		Pb	23 01 29.0	-0.3
SNOW				IAML		23 01 54.1	
	comp=E,174nm,0.8s						
SNOW				IAML		23 01 55.3	
	comp=E,133nm,0.8s						
RLMT	**Red Lodge**	**1.91**	**76**		Pb	23 01 36.8	0.0
RLMT				IAML		23 02 05.4	
	comp=E,150nm,0.5s						
HRY	**Holter Researc**	**2.02**	**1**		Pn	23 01 37.1	+1.2
HLID	**Hailey**	**2.14**	**239**		Pn	23 01 38.8	+1.2
HLID				IAML		23 02 11.9	
	comp=E,86nm,0.9s						
HLID				IAML		23 02 14.0	
	comp=E,72nm,0.4s						
OVMT	**Ovando**	**2.50**	**342**		Pn	23 01 43.7	+1.2
BW06	**Boulder Array**	**2.55**	**138**		Pb	23 01 46.6	-1.2
PD31	**Pinedale Array**	**2.55**	**138**		Pn	23 01 45.0	+1.7
PDAR	**Pinedale Array**	**2.55**	**138**		Pb	23 01 45.9	-1.9
MSO	**Missoula**	**2.58**	**327**		Pn	23 01 44.4	+0.8
PLID	**Pearl Lake**	**2.96**	**279**		Pn	23 01 50.2	+1.4
PLID				IAML		23 02 37.1	
	comp=E,56nm,0.6s						
PLID				IAML		23 02 38.5	
	comp=E,33nm,0.6s						
HWUT	**Hardware Ranch**	**3.09**	**176**		Pn	23 01 53.0	+2.4
BMO	**Blue Mountains**	**3.87**	**274**		Pn	23 02 02.6	+1.3
BMO				IAML		23 03 06.5	
	comp=E,11nm,0.4s						
BMO				IAML		23 03 13.1	
	comp=E,14nm,1.7s						
CTU	**Camp Tracy**	**3.99**	**179**		Pn	23 02 04.9	+1.8
JLU	**Jordanelle**	**4.09**	**175**		Pn	23 02 03.4	-1.1
BSUT	**Blindstream Ca**	**4.23**	**168**		Pn	23 02 07.8	+1.3

*IDC **30** 23:13:08.1±2.3, 26°62S×178°71W, h274km±16km, mb3.1/4, mbtmp3.7/4, Error ellipse: s-maj=42.3km s-min=23.4km az=43.0*

ISC 30 23:13:10.4±1.7, 26°9S±0°2×178°7W±0°3, h300km, n9, σ1°85/9, mb3.2/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.43**	**163**	P	**Pn**	**23 14 00.1**	**-0.5**
	199nm,0.2s,baz=41,slow=22,SNR=6.4						
RAO				S	**S**	**23 14 39.5**	**-1.3**
	195nm,0.3s,baz=77,slow=23,SNR=2.5						
URZ	**Urewera**	**11.83**	**196**	P	**Pn**	**23 15 49.0**	**-1.7**
	3.3nm,0.3s,baz=290,slow=3.7,SNR=8.0						
URZ				S	S	23 17 53.5	-8.9
	4.1nm,0.4s,baz=251,slow=22,SNR=9.2						
DZM	**Mont Dzumac**	**14.33**	**287**	P	Pn	23 16 28.3	+7.2
	3.9nm,0.8s,baz=319,slow=23,SNR=3.5						
ASAR	**Alice Springs**	**42.75**	**264**	P	**P**	**23 20 39.5**	**+0.3**
	0.6nm,0.5s,baz=102,slow=7.1,SNR=14						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**43.42**	**269**	P	**P**	**23 20 44.5**	**0.0**
	0.6nm,0.4s,baz=108,slow=7.0,SNR=6.5						
	0.6nm,0.4s						
VNDA	**Vanda**	**51.48**	**185**	P	**P**	**23 21 48.0**	**+2.8**
	0.4nm,0.4s,baz=273,slow=9.6,SNR=7.9						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**63.17**	**180**	P	**P**	**23 23 08.3**	**+1.6**
	0.4nm,0.6s,baz=185,slow=4.3,SNR=1.5						
	0.4nm,0.6s						
AKASG	**Malin Array Be**	**148.12**	**326**	PKPbc	**PKiKP**	**23 32 19.8**	**-2.2**
	0.1nm,0.2s,baz=48,slow=4.0,SNR=4.4						
MMAI	**Mount Meron Ar**	**149.90**	**290**	PKPbc	**PKiKP**	**23 32 25.8**	**-0.6**
	0.8nm,0.4s,baz=100,slow=4.8,SNR=7.2						

*IDC **30** 23:15:27.5±0.9, 16°56N×99°12W, h0km, mb4.3/10, mbtmp4.2/13, ML3.6/3, MS3.7/43, Error ellipse: s-maj=24.5km s-min=14.4km az=41.0*
*MEX **30** 23:15:28.4±1.3, 16°26N×99°43W, h16km±8km, MD4.9*
*GCMT **30** 23:15:31.7±0.8, 16°45N±0°04×99°14W±0°06, h18km±1km, MW4.7/78, Moment Tensor Solution. s13,c14; s78,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.37±.13; $M_{\theta\theta}$-1.11±.09; $M_{\phi\phi}$-0.26±.07; $M_{r\theta}$0.88±.18; $M_{\theta\phi}$0.31±.05; $M_{\phi r}$-0.26±.23; Best double couple: $M_0$1.58200×10^{16} NP1:ϕ_s289.00000°, δ27.00000°, λ91.00000°. NP2: ϕ_s107.00000°, δ63.00000°, λ89.00000°. Principal axes: T 1.6610, Plg72.0000°, Azm16.0000°; N -0.1610, Plg1.0000°, Azm108.0000°; P -1.5020, Plg18.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **30** 23:15:34.6±1.5, 16°73N±0°06×99°13W±0°04, h35km±1km, mb4.6/481, Mwr4.5/10, Md4.9/53(MEX) Error ellipse: s-maj=10.3km s-min=5.3km az=194.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.24; $M_{\theta\theta}$-4.47; $M_{\phi\phi}$3.23; $M_{r\theta}$-1.90; $M_{\theta\phi}$3.44; $M_{\phi r}$3.23; Fault plane solution: $M_0$6.47000×10^{15} NP1:ϕ_s332.13000°, δ83.97000°, λ142.27000°. NP2:ϕ_s66.78000°, δ52.52000°, λ7.60000°. Principal axes: T 5.9307, Plg30.0000°, Azm283.0000°; N 0.9737, Plg52.0000°, Azm144.0000°; P -6.9044, Plg21.0000°, Azm25.0000°;*
*NEIC **30** 23:15:35.1, 16°79N×99°06W, h35km*
ISC 30 23:15:27.7±1.4, 16°41N±0°04×99°31W±0°03, h6km±8km, n781, σ1°841/758, mb4.7/182, MS3.7/40, 2C-1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIG	**Cruz Grande**	**0.37**	**28**		**Pb**	**23 15 36.8**	**+0.1**
CRIG					**Sb**	**23 15 44.1**	**+1.3**
CRIG	**Cruz Grande**	**0.37**	**28**	↓*e* P	**Pb**	**23 15 36.8**	**+0.1**
	baz=215,slow=22						
CRIG				*e* S	**Sb**	**23 15 44.1**	**+1.3**
DAIG	**Los Arroyos**	**0.69**	**332**		**Sg**	**23 15 50.7**	**+0.7**
DAIG	**Los Arroyos**	**0.69**	**332**	↑*i* P	**Pg**	**23 15 40.5**	**-0.4**
	baz=161,slow=14						
DAIG				*i* S	**Sg**	**23 15 50.7**	**+0.7**
VNTA	**La Mica**	**0.70**	**316**		Pn	23 15 49.6	+5.5
VNTA	**La Mica**	**0.70**	**316**	*e* P	**Pg**	**23 15 40.2**	**-1.0**
VNTA				*i* S	Pn	23 15 49.6	+5.5
CAIG	**El Cayaco**	**1.12**	**305**		**Sb**	**23 15 59.1**	**-5.1**
CAIG	**El Cayaco**	**1.12**	**305**	↑*i* P	Pb	23 15 46.0	-3.4
	baz=142,slow=16						
CAIG				*i* S	**Sb**	**23 15 59.1**	**-5.1**
ATYC	**Atoyac**	**1.34**	**307**	*e* P	Pn	23 15 49.7	-3.3
TLIG	**Tlapa**	**1.35**	**32**		**Pn**	**23 15 52.1**	**-1.1**
TLIG	**Tlapa**	**1.35**	**32**	*e* P	**Pn**	**23 15 52.0**	**-1.2**
TLIG				*e* S	**Sg**	**23 16 13.3**	**+2.1**
MEIG	**Mezcala**	**1.54**	**349**		**Pn**	**23 15 54.3**	**-1.5**
MEIG	**Mezcala**	**1.54**	**349**	*e* P	**Pn**	**23 15 54.3**	**-1.5**
HMTT	**Tlapaneco**	**1.56**	**27**		**Pn**	**23 15 54.0**	**-2.1**
HMTT	**Tlapaneco**	**1.56**	**27**	*e* P	**Pn**	**23 15 54.0**	**-2.1**
TXIG	**Tlaxiaco**	**1.70**	**60**		**Pn**	**23 15 56.5**	**-1.7**
TXIG					**Sb**	**23 16 18.7**	**-2.7**
TXIG	**Tlaxiaco**	**1.70**	**60**	*e* P	**Pn**	**23 15 56.5**	**-1.7**
TXIG				*e* S	**Sb**	**23 16 18.7**	**-2.7**
FTIG	**Fresnillo de T**	**1.87**	**37**		**Pn**	**23 15 59.3**	**-1.1**
FTIG					**Sg**	**23 16 27.3**	**-0.5**
FTIG	**Fresnillo de T**	**1.87**	**37**	*e* P	**Pn**	**23 15 59.3**	**-1.1**
FTIG				*e* S	**Sg**	**23 16 27.3**	**-0.5**
ARIG	**Puente Sto Nin**	**2.11**	**332**		**Pn**	**23 16 01.9**	**-1.7**
ARIG	**Puente Sto Nin**	**2.11**	**332**	*e* P	**Pn**	**23 16 01.9**	**-1.7**
PEIG	**Puerto Escondi**	**2.12**	**101**		**Pn**	**23 16 00.7**	**-3.0**
PEIG					**Sn**	**23 16 25.3**	**-5.1**
PEIG	**Puerto Escondi**	**2.12**	**101**	*e* P	**Pn**	**23 16 00.7**	**-3.0**
PEIG				*i* S	**Sn**	**23 16 25.3**	**-5.1**
OXIG	**Oaxaca**	**2.56**	**75**		**Pn**	**23 16 08.6**	**-1.3**
OXIG					**Sn**	**23 16 39.7**	**-1.8**
VHO	**Vista Hermosa**	**2.56**	**75**	*e* P	**Pn**	**23 16 08.6**	**-1.3**
VHO				*e* S	**Sn**	**23 16 39.7**	**-1.8**
OXBJ	**Oaxaca**	**2.56**	**75**		**Pn**	**23 16 08.3**	**-1.7**
OXBJ	**Oaxaca**	**2.56**	**75**	*i* P	**Pn**	**23 16 08.3**	**-1.7**
OXLC	**Oaxaca**	**2.58**	**75**		**Pn**	**23 16 07.8**	**-2.5**
OXLC	**Oaxaca**	**2.58**	**75**	*e* P	**Pn**	**23 16 07.8**	**-2.5**
UNM	**Universidad Na**	**2.91**	**2**		**Pn**	**23 16 13.9**	**-0.9**
UNM	**Universidad Na**	**2.91**	**2**	*e* P	**Pb**	**23 16 19.0**	**-1.2**
UNM				*e* S	**Sb**	**23 16 53.9**	**-2.2**
TACY	**Mexico City**	**2.98**	**2**	*e* P	**Pg**	**23 16 25.1**	**+0.3**
HUIG	**Huatulco**	**3.14**	**101**		**Pn**	**23 16 15.9**	**-1.9**
HUIG					**Sn**	**23 16 50.0**	**-5.7**
HUIG	**Huatulco**	**3.14**	**101**	*e* P	**Pn**	**23 16 15.9**	**-1.9**
HUIG				*e* S	**Sn**	**23 16 50.0**	**-5.7**
MOIG	**Morelia**	**3.71**	**332**		**Pn**	**23 16 27.1**	**+1.3**
URUA	**Uruapan**	**3.99**	**319**		**Pn**	**23 16 31.7**	**+2.1**
URUA	**Uruapan**	**3.99**	**319**	*e* P	**Pn**	**23 16 31.7**	**+2.1**
MMIG	**Aquila**	**4.28**	**296**		Pn	23 16 30.7	-2.7
MMIG					**Sn**	**23 17 20.6**	**-3.2**
MMIG	**Aquila**	**4.28**	**296**	*e* P	Pn	23 16 30.7	-2.7
MMIG				*e* S	**Sn**	**23 17 20.6**	**-3.2**
CMIG	**Matias Romero**	**4.29**	**80**	Pn	**Pn**	**23 16 32.2**	**-1.4**
	4.9nm,0.3s,baz=266,slow=10,SNR=36						
CMIG				Sn	**Sn**	**23 17 18.7**	**-5.4**
	11nm,0.3s,baz=272,slow=11,SNR=6.0						
CMIG				Lg	Lg	23 17 38.5	
	11nm,0.3s,baz=224,slow=21,SNR=4.6						
CMIG				LR	LR	23 18 16.2	
	comp=Z,1μm,21.3s,baz=274,slow=41						
	12nm,0.4s						
LVIG	**Laguna Verde**	**4.29**	**39**	*e* P	**Pn**	**23 16 30.1**	**-3.5**
LVIG				*e* S	**Sb**	**23 17 31.4**	**-4.4**
JRQG	**Juriquilla Cam**	**4.41**	**346**	Pn	**Pn**	**23 16 36.0**	**+0.6**
UXUV	**UXUV**	**5.03**	**79**		**Pn**	**23 16 42.4**	**-1.3**
UXUV					**Sn**	**23 17 44.0**	**+1.9**
UXUV	**UXUV**	**5.03**	**79**	*e* P	**Pn**	**23 16 42.4**	**-1.3**
UXUV				*e* S	**Sn**	**23 17 44.0**	**+1.9**
RPIG	**Rio Verde**	**5.49**	**353**		**Pn**	**23 16 54.0**	**+3.9**
RPIG	**Rio Verde**	**5.49**	**353**	*e* P	**Pn**	**23 16 54.0**	**+3.9**
GTIG	**Gomez Farias**	**6.63**	**1**		Pn	23 17 11.4	+5.7
GTIG					**Sn**	**23 18 24.0**	**+2.3**
GTIG	**Gomez Farias**	**6.63**	**1**	*e* P	Pn	23 17 11.4	+5.7
GTIG				*e* S	**Sn**	**23 18 24.0**	**+2.3**
CCIG	**Comitan**	**6.89**	**90**		**Pn**	**23 17 10.6**	**+1.2**
CCIG	**Comitan**	**6.89**	**90**	*e* P	**Pn**	**23 17 11.2**	**+1.7**
CCIG				*e* S	**Sn**	**23 18 30.4**	**+2.0**
PATR	**El Naranjo**	**6.93**	**100**		**Pn**	**23 17 08.6**	**-1.5**
PATR					**Sn**	**23 18 30.0**	**+0.4**
PATR	**El Naranjo**	**6.93**	**100**	*e* P	**Pn**	**23 17 08.6**	**-1.5**
PATR				*e* S	**Sn**	**23 18 30.0**	**+0.4**
PAVE	**Pavencul**	**6.97**	**99**		**Pn**	**23 17 09.2**	**-1.5**
PAVE					**Sn**	**23 18 29.1**	**-1.4**
PAVE	**Pavencul**	**6.97**	**99**	*e* P	**Pn**	**23 17 09.2**	**-1.5**
PAVE				*e* S	**Sn**	**23 18 29.1**	**-1.4**
ZAIG	**Zacatecas**	**7.03**	**335**	Pn	**Pn**	**23 17

FW06 Azle 16.57 5 Pn **Pn** 23 19 19.5 -1.3
FW06 IAmb IAmb 23 19 31.3
comp=Z,37nm,0.9s
SOR Soroa 16.61 65 Pn **Pn** 23 19 20.2 -1.2
EPT El Paso 16.64 338 Pn **Pn** 23 19 20.3 -1.4
SN07 Snyder 07 16.67 355 Pn **Pn** 23 19 21.2 -0.9
POST Post 16.70 354 **Pn** 23 19 22.0 -0.5
POST IAmb IAmb 23 19 26.1
comp=Z,81nm,0.9s
APMT Aspermont 16.86 358 Pn **Pn** 23 19 24.3 -0.2
Z35A Perchaven, San 16.95 6 Pn **Pn** 23 19 23.0 -2.6
Z35A IAmb IAmb 23 19 34.5
comp=Z,51nm,1.1s
Z38A Mt. Pleasant 17.23 12 **Pn** 23 19 27.6 -1.4
Z38A IAmb IAmb 23 19 31.4
comp=Z,43nm,0.8s
DKNS Dickens 17.25 355 **Pn** 23 19 29.2 -0.2
WTFS Witchita Falls 17.30 2 **Pn** 23 19 29.8 -0.2
346A Big Creek Wild 17.40 29 Pn **Pn** 23 19 27.9 -3.3
319A Douglas 17.45 330 **Pn** 23 19 33.4 +1.5
LOOK Love County 17.61 6 **Pn** 23 19 32.7 -1.1
VBMS Vicksburg 17.65 25 P **Pn** 23 19 33.2 -1.1
143A Socs Landing, 17.73 22 **Pn** 23 19 35.1 -0.2
143A IAmb IAmb 23 19 41.7
comp=Z,98nm,1.1s
MSTX Muleshoe 17.76 351 Pn **Pn** 23 19 34.3 -1.5
Z41A Richland Creek 17.78 18 P **Pn** 23 19 35.2 -0.6
Z41A IAmb IAmb 23 19 36.4
comp=Z,74nm,1.2s
121A Cookes Peak, D 17.80 336 **Pn** 23 19 36.7 +0.4
BRU2 Volcan 17.89 113 Pn **Pn** 23 19 37.3 -0.2
WLAR White Oak Lake 18.09 17 **Pn** 23 19 38.0 -1.7
WLAR IAmb IAmb 23 19 42.9
comp=Z,50nm,1.2s
X34A Smith Ranch, M 18.17 4 P **Pn** 23 19 39.8 -0.9
WMOK Wichita Mounta 18.26 1 **Pn** 23 19 39.3 -2.5
DUN6 Lazy B Ranch 18.36 333 P **Pn** 23 19 43.6 +0.5
DUN6 IAmb IAmb 23 19 55.1
comp=Z,52nm,1.0s
BRAL Brewton 18.46 35 **Pn** 23 19 42.0 -2.3
AMTX Amarillo 18.52 354 **P** 23 19 43.1 -1.9
AMTX IAmb IAmb 23 19 47.6
comp=Z,38nm,0.9s
SMWD Samnorwood 18.64 358 **P** 23 19 45.8 -0.4
SMWD IAmb IAmb 23 19 47.8
comp=Z,38nm,1.0s
CRNM Carthage 18.70 340 P **P** 23 19 47.6 +0.5
CCAR Cane Creek 18.71 20 P **P** 23 19 44.7 -2.2
CCAR IAmb IAmb 23 19 57.2
comp=Z,24nm,0.7s
Y22A Socorro 18.77 340 **P** 23 19 47.9 +0.1
MIAR Mount Ida 18.78 15 **P** 23 19 45.7 -2.0
FNO Franklin 18.85 5 P **Pn** 23 19 49.1 +0.1
FNO IAmb IAmb 23 19 57.2
comp=Z,38nm,0.9s
BNM Barren Site 18.85 341 P **P** 23 19 49.6 +0.8
SBM South Baldy 18.87 339 P **P** 23 19 47.3 -1.9
Y22D IRIS PASSCAL I 18.88 340 P **Pn** 23 19 49.9 +0.4
X40A Basin Creek Fa 18.92 17 P **P** 23 19 45.5 -3.7
TUC Tucson 18.95 329 **P** 23 19 50.9 +1.2
LENM Lemitar 18.98 340 P **P** 23 19 50.9 +0.8
OKCSW OKLAHOMA CITY 18.99 5 P **P** 23 19 49.3 -0.8
CSTR Hydro, Custer 19.17 2 **P** 23 19 50.5 -1.5
PAYG Puerto Ayora 19.17 151 P **Pn** 23 19 57.9 +4.9
PAYG IAmb IAmb 23 20 16.7
comp=Z,47nm,1.1s
UALR University of 19.33 18 **P** 23 19 51.0 -2.7
OK029 Liberty Lake 19.38 5 P **P** 23 19 52.9 -1.5
Y45A Yeager Farm, C 19.48 25 **P** 23 19 52.6 -2.8
Y45A IAmb IAmb 23 20 03.1
comp=Z,51nm,1.0s
250A Grady 19.51 35 P **P** 23 19 53.1 -2.7
DEOK Depew 19.52 7 **P** 23 19 54.5 -1.3
DEOK IAmb IAmb 23 20 01.8
comp=Z,46nm,1.0s
ANMO Albuquerque 19.54 342 **P** 23 19 56.3 0.0
ANMO Albuquerque 19.54 342 P **P** 23 19 55.7 -0.6
ANMO IAmb IAmb 23 20 05.2
comp=Z,9.5nm,0.9s
ANMO Albuquerque 19.54 342 P **P** 23 19 56.4 +0.1
ANMO IAmb IAmb 23 20 05.3
comp=Z,9.3nm,0.9s
ANMO Albuquerque 19.54 342 P **P** 23 19 56.9 +0.6
comp=Z,0.3nm,0.3s,baz=242,slow=11,SNR=14
ANMO Lg Lg 23 25 53.4
comp=Z,0.1nm,0.3s,baz=108,slow=15,SNR=3.8
ANMO LR LR 23 27 06.7
comp=Z,395nm,19.4s,baz=248,slow=36
comp=Z,6.3nm,0.9s
Z47A Carrollton 19.56 29 P **P** 23 19 53.2 -3.0
Z47A IAmb IAmb 23 20 03.0
comp=Z,26nm,0.8s
ELIS Ellis County 19.58 360 P **P** 23 19 54.1 -2.4
OK052 Battle Ridge R 19.64 6 P **P** 23 19 55.3 -1.8
OK052 IAmb IAmb 23 20 03.5
comp=Z,68nm,1.1s
TUL3 Leonard 19.68 9 **P** 23 19 55.9 -1.6
TUL3 IAmb IAmb 23 20 04.6
comp=Z,56nm,1.2s
214A Organ Pipe Nat 19.75 324 **P** 23 19 59.7 +1.3
QUOK Quay 19.82 6 P **P** 23 19 57.9 -1.2
QUOK IAmb IAmb 23 20 04.5
comp=Z,26nm,0.9s
WHAR Wooly Hollow 19.82 17 P **P** 23 19 58.0 -1.2
PIX Pinacate 19.83 322 P **P** 23 20 01.1 +1.8
352A Blakely 19.91 39 P **P** 23 19 58.8 -1.3
352A IAmb IAmb 23 20 02.4
comp=Z,22nm,0.8s
LRAL Lakeview Retre 19.95 32 **P** 23 19 58.7 -1.8
OK038 West end E0370 20.00 1 P **P** 23 20 00.3 -0.8
OK038 IAmb IAmb 23 20 03.7
comp=Z,59nm,1.1s
OK048 Pawnee Station 20.04 6 **P** 23 20 00.7 -0.8
OK048 IAmb IAmb 23 20 11.4
comp=Z,41nm,0.9s
RLO Rose Lookout 20.05 10 **P** 23 19 59.9 -1.7
RLO IAmb IAmb 23 20 07.7
comp=Z,41nm,1.2s
CROK Carrier 20.05 3 P **P** 23 19 60.0 -1.7
CROK IAmb IAmb 23 20 09.0
comp=Z,31nm,0.9s
OXF Oxford 20.10 24 **P** 23 20 00.1 -2.0
OXF IAmb IAmb 23 20 07.9
comp=Z,31nm,0.9s
OK051 E0350 and S346 20.14 6 P **P** 23 19 59.7 -2.9
OK051 IAmb IAmb 23 20 13.5
comp=Z,37nm,1.0s
NOKA Waynoka 20.15 1 P **P** 23 20 01.4 -1.3
RTBA Rita Blanca 20.18 352 **P** 23 20 02.4 -0.8
RTBA IAmb IAmb 23 20 07.2
comp=Z,24nm,1.0s
BLOK Blackwell 20.36 5 P **P** 23 20 03.2 -1.7
BLOK IAmb IAmb 23 20 11.4
comp=Z,38nm,1.0s
HHAR Hobbs 20.36 13 **P** 23 20 03.3 -1.8
HHAR IAmb IAmb 23 20 12.2
comp=Z,27nm,1.1s
X18A Snowflake 20.42 334 P **P** 23 20 07.0 +1.2
X18A IAmb IAmb 23 20 12.3
comp=Z,34nm,1.1s
U38A Gravette 20.43 11 **P** 23 20 03.6 -2.1
U38A IAmb IAmb 23 20 12.2
comp=Z,36nm,1.0s
FCAR Ozark Folk Cen 20.43 17 P **P** 23 20 04.6 -1.2
T35A Sooner Cattle 20.58 6 **P** 23 20 05.8 -1.5
T35A IAmb IAmb 23 20 15.9
comp=Z,29nm,0.9s
TIGA Tifton 20.71 41 P **P** 23 20 08.3 -0.5
TIGA IAmb IAmb 23 20 16.3
comp=Z,35nm,0.9s
SPIG San Pedro Mart 20.72 318 eP **P** 23 20 07.8 -1.6
KAN08 Anthony NE Sta 20.77 3 P **P** 23 20 07.7 -1.8
W18A Petrified Fore 20.84 335 P **P** 23 20 11.9 +1.5
LCAR Lake Charles 20.89 19 **P** 23 20 09.1 -1.6
113A Mohawk Valley, 20.89 324 **P** 23 20 11.5 +0.7
113A IAmb IAmb 23 20 13.6
comp=Z,20nm,1.0s
152A Waverly Hall 20.90 37 P **P** 23 20 09.3 -1.6
Y49A Blount Mountai 20.90 31 P **P** 23 20 10.1 -0.7
Y49A IAmb IAmb 23 20 15.7
comp=Z,23nm,0.9s
X16A Lo Mia Camp, P 20.98 331 **P** 23 20 13.4 +1.4
X16A IAmb IAmb 23 20 18.3
comp=Z,42nm,0.9s

PLAL Pickwick Lake 21.06 26 **P** 23 20 10.5 -2.0
X48A Hartselle 21.07 29 **P** 23 20 11.5 -1.2
X48A IAmb IAmb 23 20 14.9
comp=Z,30nm,1.0s
T25A Trinidad 21.14 349 P **P** 23 20 14.9 +1.2
T25A IAmb IAmb 23 20 19.5
comp=Z,40nm,1.0s
Y14A Wickenburg 21.37 327 **P** 23 20 17.0 +1.0
MGMO Mountain Grove 21.59 15 **P** 23 20 16.7 -1.5
ESJX Sierra Juarez 21.66 319 P **P** 23 20 20.5 +1.2
ESJX IAmb IAmb 23 20 33.5
comp=Z,23nm,1.1s
GLAT Glass 21.70 22 P **P** 23 20 18.2 -1.2
GLA Glamis 21.71 323 P **P** 23 20 20.8 +1.2
PBMO Poplar Bluff 21.77 20 P **P** 23 20 17.9 -2.3
PBMO IAmb IAmb 23 20 29.1
comp=Z,28nm,0.8s
154A Montrose 21.81 39 P **P** 23 20 18.0 -2.6
FPAL Fort Paine 21.84 32 **P** 23 20 19.1 -2.0
FPAL IAmb IAmb 23 20 24.4
comp=Z,31nm,1.0s
WUAZ Wupatki 21.87 333 **P** 23 20 22.5 +1.0
UTMT University of 21.92 23 P **P** 23 20 19.8 -2.0
R32A Long Quarter, 21.94 1 P **P** 23 20 20.7 -1.3
R32A IAmb IAmb 23 20 30.2
comp=Z,40nm,1.2s
SDCO Great Sand Dun 21.95 347 P **P** 23 20 21.7 -0.8
HICK Hickman 21.96 22 P **P** 23 20 19.2 -3.0
CCX Cicese 22.03 317 P **P** 23 20 23.2 +0.1
CCX IAmb IAmb 23 20 25.6
comp=Z,26nm,0.8s
CHIV Chivirico 22.04 77 P **P** 23 20 21.8 -1.4
CHIV IAmb IAmb 23 20 23.8
comp=Z,22nm,1.1s
YUH Yuha Desert 22.08 320 P **P** 23 20 24.0 +0.4
WVT Waverly 22.14 25 **P** 23 20 20.8 -3.4
WVT IAmb IAmb 23 20 26.6
comp=Z,39nm,0.9s
Y52A Lilburn 22.15 35 P **P** 23 20 22.9 -1.5
Y52A IAmb IAmb 23 20 28.4
comp=Z,23nm,1.0s
GOGA Godfrey 22.16 37 **P** 23 20 22.0 -2.4
SWET Sewanee 22.23 30 P **P** 23 20 23.5 -1.6
SWET IAmb IAmb 23 20 31.4
comp=Z,52nm,1.2s
V48A Smith Brothers 22.24 28 P **P** 23 20 23.3 -2.0
V48A IAmb IAmb 23 20 27.8
comp=Z,29nm,0.9s
X51A Calhoun 22.25 33 P **P** 23 20 24.6 -0.8
X51A IAmb IAmb 23 20 27.2
comp=Z,20nm,0.9s
MVCO Mesa Verde 22.26 340 **P** 23 20 25.7 -0.1
MVCO IAmb IAmb 23 20 31.9
comp=Z,36nm,1.1s
CBX Cerro Bola 22.32 318 P **P** 23 20 27.1 +0.8
CBX IAmb IAmb 23 20 46.4
comp=Z,30nm,1.2s
CBKS Cedar Bluff 22.32 359 P **P** 23 20 25.2 -1.0
CBKS IAmb IAmb 23 20 33.0
comp=Z,41nm,1.1s
CGM3 Cape Girardeau 22.49 20 P **P** 23 20 26.2 -1.7
CGM3 IAmb IAmb 23 20 29.2
comp=Z,18nm,0.9s
BC3 Big Chuckawall 22.50 323 **P** 23 20 29.2 +0.9
BC3 IAmb IAmb 23 20 37.2
comp=Z,22nm,1.1s
W50A Signal Mountai 22.52 31 **P** 23 20 26.5 -1.8
W50A IAmb IAmb 23 20 31.0
comp=Z,26nm,1.0s
SALN Salton City 22.55 321 P **P** 23 20 29.7 +1.0
BAR Barrett 22.57 319 **P** 23 20 29.4 +0.5
R40A Maddies Statio 22.66 15 **P** 23 20 28.0 -1.7
R40A IAmb IAmb 23 20 34.4
comp=Z,22nm,0.9s
IRM Iron Mountain 22.69 324 **P** 23 20 30.7 +0.5
IRM IAmb IAmb 23 20 32.7
comp=Z,28nm,1.0s
CCM Cathedral Cave 22.70 17 **P** 23 20 27.9 -2.3
CCM IAmb IAmb 23 20 35.3
comp=Z,26nm,1.1s
257A Skidaway Islan 22.71 44 P **P** 23 20 29.1 -1.2
W13A Hualapai Mount 22.73 328 **P** 23 20 31.2 +0.5
W13A IAmb IAmb 23 20 40.1
comp=Z,20nm,1.1s
KSU1 Kansas State U 22.73 5 **P** 23 20 28.5 -2.0
KSU1 IAmb IAmb 23 20 32.1
comp=Z,29nm,0.9s
CLTN Cedars of Lebe 22.75 28 **P** 23 20 28.9 -1.8
CLTN IAmb IAmb 23 20 33.3
comp=Z,24nm,1.0s
BORC Borrego Spring 22.81 321 P **P** 23 20 32.1 +0.8
NEE2 Needles Airpor 22.86 326 P **P** 23 20 32.7 +0.8
NEE2 IAmb IAmb 23 20 35.2
comp=Z,18nm,1.0s
FVM French Village 22.88 18 **P** 23 20 29.8 -2.3
FVM IAmb IAmb 23 20 36.6
comp=Z,30nm,1.1s
DPP Dos Picos Cty 22.95 319 P **P** 23 20 35.0 +2.1
CPE Camp Elliot 22.98 319 P **P** 23 20 35.3 +2.2
CPE IAmb IAmb 23 20 47.9
comp=Z,17nm,1.1s
S44A Carbondale 22.98 21 P **P** 23 20 30.9 -2.2
SIUC Southern Illin 23.02 21 P **P** 23 20 31.8 -1.7
PMD Palm Desert 23.05 321 **P** 23 20 34.9 +1.0
BELC Belle Mtn. Jos 23.07 322 **P** 23 20 35.0 +0.8
BELC IAmb IAmb 23 20 43.1
comp=Z,24nm,1.2s
PFO Pinyon Flats O 23.07 321 P **P** 23 20 35.4 +1.2
PFO Pinyon Flats O 23.07 321 LR LR 23 29 00.8
comp=Z,246nm,18.6s,baz=68,slow=35
CPCT Cooper Cave 23.11 32 **P** 23 20 32.7 -1.8
PV01 Paradox Valley 23.13 341 P **P** 23 20 35.0 +0.1
DNR Dunn Ranch,Anz 23.14 321 P **P** 23 20 36.5 +1.5
DNR IAmb IAmb 23 20 38.5
comp=Z,23nm,0.9s
W52A Murphy 23.14 34 P **P** 23 20 34.1 -0.7
W52A IAmb IAmb 23 20 36.1
comp=Z,33nm,1.0s
T47A Sharon Grove 23.18 25 P **P** 23 20 33.7 -1.4
DANC Danby, Needles 23.18 325 P **P** 23 20 36.4 +1.2
PV13 Radium Mtn., P 23.23 341 P **P** 23 20 36.3 +0.4
PV13 IAmb IAmb 23 20 42.5
comp=Z,21nm,0.9s
PV02 Paradox Valley 23.25 341 P **P** 23 20 36.1 0.0
PV02 IAmb IAmb 23 20 38.8
comp=Z,26nm,1.0s
PV15 Paradox Valley 23.29 342 P **P** 23 20 36.5 -0.1
PV15 IAmb IAmb 23 20 44.4
comp=Z,16nm,1.0s
PV03 Paradox Valley 23.32 341 P **P** 23 20 37.2 +0.3
PV18 Skein Mesa, Pa 23.34 341 P **P** 23 20 37.3 +0.3
PV18 IAmb IAmb 23 20 45.4
comp=Z,25nm,0.9s
U49A Red Boiling Sp 23.35 28 P **P** 23 20 35.3 -1.7
PV12 Saucer Basin, 23.37 341 P **P** 23 20 37.1 -0.2
PV11 David Mesa, Pa 23.37 341 P **P** 23 20 37.0 -0.3
PV11 IAmb IAmb 23 20 48.6
comp=Z,12nm,0.8s
PV17 East Wray Mesa 23.38 341 P **P** 23 20 36.2 -1.3
PV17 IAmb IAmb 23 20 47.5
comp=Z,39nm,1.1s
PV19 Morning Glory 23.42 341 P **P** 23 20 37.9 +0.1
PV19 IAmb IAmb 23 20 52.9
comp=Z,27nm,1.0s
PV07 Paradox Valley 23.43 341 P **P** 23 20 38.5 +0.5
PV07 IAmb IAmb 23 20 44.7
comp=Z,19nm,1.2s
PV20 West Nyswonger 23.44 341 **P** 23 20 37.8 -0.3
PV20 IAmb IAmb 23 20 45.8
comp=Z,19nm,0.9s
HODGE Hodges 23.45 38 P **P** 23 20 36.2 -1.6
PV14 Lion Creek, Pa 23.49 341 P **P** 23 20 39.5 +0.9
PV10 Paradox Valley 23.50 341 P **P** 23 20 37.2 -1.4
PV10 IAmb IAmb 23 20 46.6
comp=Z,30nm,0.9s
SLM Saint Louis 23.53 18 P **P** 23 20 37.7 -1.0
PV23 Carpenter Ridg 23.56 341 P **P** 23 20 39.4 +0.1
PV22 Blue Mesa, Par 23.56 341 **P** 23 20 39.0 -0.3
BG3 Lake Jocassee 23.61 35 P **P** 23 20 38.8 -0.7
BG3 IAmb IAmb 23 20 41.1
comp=Z,31nm,0.9s
PV21 Cone Mtn., Par 23.64 341 P **P** 23 20 39.8 -0.3
TKL Tuckaleechee C 23.66 33 P **P** 23 20 38.7 -1.3
TKL IAmb IAmb 23 20 42.2
comp=Z,21nm,0.9s
TKL Tuckaleechee C 23.66 33 LR LR 23 33 23.7
comp=Z,99nm,18.0s,baz=252,slow=46
P38A Dawn 23.68 11 **P** 23 20 38.4 -1.7
ELS Elsinore Mount 23.69 320 P **P** 23 20 41.4 +1.0
HMU Henry Mountain 23.70 337 P **P** 23 20 41.4 +0.8
HMU IAmb IAmb 23 20 42.2
comp=Z,35nm,1.1s
V12A Nelson 23.71 327 **P** 23 20 40.9 +0.3
V12A IAmb IAmb 23 20 48.2
comp=Z,20nm,1.1s
KNB Kanab 23.76 332 **P** 23 20 42.2 +1.0
KNB IAmb IAmb 23 20 49.5
comp=Z,33nm,1.1s
USIN University of 23.80 23 **P** 23 20 40.1 -1.2
P40A Paris 23.89 14 **P** 23 20 39.9 -2.4
P40A IAmb IAmb 23 20 49.6
comp=Z,19nm,1.0s
MTPC Mountain Pass 23.90 326 P **P** 23 20 43.4 +0.9
ISCO Idaho Springs 23.95 348 **P** 23 20 42.3 -0.8
ISCO IAmb IAmb 23 20 51.3
comp=Z,12nm,0.8s
LCMT Little Creek M 23.95 332 P **P** 23 20 43.2 +0.3
CSU Charleston Sou 23.97 43 P **P** 23 20 42.2 -0.8
NHSC New Hope 23.98 43 **P** 23 20 41.9 -1.2
JSC Jenkinsville 24.07 39 P **P** 23 20 43.2 -0.7
PAULI Pauline 24.12 37 P **P** 23 20 42.8 -1.6
PAULI IAmb IAmb 23 20 46.0
comp=Z,16nm,1.1s
Q44A Meyer Farm, Va 24.16 20 **P** 23 20 42.4 -2.3
V53A Saluda 24.18 34 **P** 23 20 43.9 -1.1
V53A IAmb IAmb 23 20 46.9
comp=Z,23nm,0.9s
T50A Nancy 24.20 29 **P** 23 20 43.6 -1.5
T50A IAmb IAmb 23 20 46.7
comp=Z,25nm,0.9s
BFSC Mount Baldy Ra 24.23 321 P **P** 23 20 46.8 +1.3
OLIL Olney 24.32 22 P **P** 23 20 44.7 -1.5
OLIL IAmb IAmb 23 20 46.5
comp=Z,30nm,1.0s
SZCU Shurtz Canyon 24.36 333 P **P** 23 20 47.5 +0.6
CCUT Cedar City 24.44 332 **P** 23 20 48.5 +0.9
TZTN Tazewell 24.45 32 P **P** 23 20 45.9 -1.6
TZTN IAmb IAmb 23 20 52.5
comp=Z,37nm,1.1s
MWC Mount Wilson 24.46 320 P **P** 23 20 49.6 +1.8
GSC Goldstone, Bar 24.46 324 P **P** 23 20 49.0 +1.3
GSC IAmb IAmb 23 21 03.1
comp=Z,17nm,1.1s
SHPR Sheep Range 24.47 328 **P** 23 20 48.7 +1.0
OGNE Ogallala 24.56 355 P **P** 23 20 48.6 +0.1
WCI Wyandotte Cave 24.57 25 **P** 23 20 47.6 -0.9
N35A Tabor 24.57 7 **P** 23 20 47.9 -0.6
SHOC Shoshone, Teco 24.60 325 P **P** 23 20 50.7 +1.9
SHOC IAmb IAmb 23 21 08.0
comp=Z,14nm,0.9s
KMSC Kings Mountain 24.63 37 P **P** 23 20 48.1 -1.0
KMSC IAmb IAmb 23 20 57.1
comp=Z,17nm,1.2s
SRU San Rafael Swe 24.66 339 P **P** 23 20 49.8 +0.4
P43A Skaggs, Pawnee 24.67 18 P **P** 23 20 47.9 -1.5
Q16A Castle Valley 24.72 337 P **P** 23 20 50.5 +0.4
Q16A IAmb IAmb 23 20 52.9
comp=Z,25nm,1.0s
BIRD Birdtown, Kers 24.80 39 P **P** 23 20 49.7 -1.0
BIRD IAmb IAmb 23 20 55.6
comp=Z,17nm,1.0s
Y58A Scranton 24.82 42 P **P** 23 20 47.6 -3.1
Y58A IAmb IAmb 23 20 56.6
comp=Z,28nm,0.9s
N38A Joes South For 24.86 11 **P** 23 20 50.4 -0.7
O20A White River Ci 24.89 344 P **P** 23 20 52.2 +0.7
CCCA Chr Cany lake 24.94 323 P **P** 23 20 53.9 +2.0
HAYD Hayden 25.00 346 P **P** 23 20 52.8 +0.2
HAYD IAmb IAmb 23 20 56.0
comp=Z,21nm,1.1s
TPO Tropico Hills 25.00 321 P **P** 23 20 54.2 +1.7
TPO IAmb IAmb 23 21 03.8
comp=Z,16nm,1.0s
GWY Greenwater Val 25.03 325 **P** 23 20 53.6 +0.8
GWY IAmb IAmb 23 20 56.1
comp=Z,23nm,1.0s
P17A Butcher Ranch, 25.05 339 P **P** 23 20 53.6 +0.5
P17A IAmb IAmb 23 20 55.8
comp=Z,20nm,1.1s
TMUT Trail Mountain 25.06 338 **P** 23 20 54.0 +0.7
TMUT IAmb IAmb 23 21 01.1
comp=Z,13nm,0.9s
WSHM Spangler Hills 25.07 323 P **P** 23 20 54.9 +1.9
WSHM IAmb IAmb 23 20 56.7
comp=Z,21nm,1.0s
LRMC Laurel Mtn Rad 25.09 323 P **P** 23 20 55.3 +1.9
LRMC IAmb IAmb 23 20 57.1
comp=Z,28nm,1.1s
R49A Shelbyville 25.10 27 P **P** 23 20 51.8 -1.5
R49A IAmb IAmb 23 20 53.4
comp=Z,22nm,0.9s
PRN Pahroc Range 25.12 329 P **P** 23 20 54.4 +0.8
PRN IAmb IAmb 23 20 58.1
comp=Z,32nm,1.1s
V55A Taylorsville 25.20 36 P **P** 23 20 53.8 -0.4
V55A IAmb IAmb 23 20 55.5
comp=Z,27nm,1.0s
CLC China Lake 25.28 323 P **P** 23 20 55.9 +0.9
CLC IAmb IAmb 23 20 58.6
comp=Z,19nm,1.0s
BLO Bloomington 25.29 24 P **P** 23 20 54.2 -0.7
S51A Beattyville 25.29 30 P **P** 23 20 53.9 -1.1
N41A Harden Midland 25.30 15 P **P** 23 20 53.6 -1.4
N41A IAmb IAmb 23 21 01.2
comp=Z,20nm,1.0s
FURC Furnace Creek, 25.34 325 P **P** 23 20 57.4 +2.0
FURC IAmb IAmb 23 21 00.0
comp=Z,14nm,0.5s
U54A Nelsons Funny 25.34 34 **P** 23 20 55.0 -0.6
TPNV Topopah Spring 25.37 327 P **P** 23 20 56.8 +0.9
MPMC Manual Prospec 25.39 324 P **P** 23 20 57.7 +1.5
MPMC IAmb IAmb 23 20 59.9
comp=Z,20nm,1.0s
P46A Rosedale 25.42 22 P **P** 23 20 55.1 -1.1
W57A Gilead 25.43 39 **P** 23 20 55.4 -0.9
W57A IAmb IAmb 23 20 57.5
comp=Z,25nm,1.0s
WCT Wildcat Mounta 25.45 326 P **P** 23 20 58.0 +1.4
WCT IAmb IAmb 23 21 00.9
comp=Z,22nm,1.0s
R50A Paris 25.46 28 P **P** 23 20 55.5 -1.0
R50A IAmb IAmb 23 20 57.5
comp=Z,13nm,0.8s
L34A Svendsen Farm, 25.60 5 P **P** 23 20 56.8 -0.9
S11A Rachel 25.65 329 P **P** 23 20 59.9 +1.4
ISA Isabella, Lake 25.68 322 P **P** 23 21 00.2 +1.5
ISA IAmb IAmb 23 21 03.0
comp=Z,20nm,0.9s
MPU Maple Canyon 25.85 338 P **P** 23 21 00.6 +0.3
SCIA State Center 25.95 10 P **P** 23 20 59.5 -1.4
P48A Milroy 25.97 25 **P** 23 20 59.3 -1.8
P48A IAmb IAmb 23 21 01.6
comp=Z,13nm,0.8s
CWC Cottonwood Cre 26.00 324 **P** 23 21 04.0 +2.4
GRAC Grapevine Rang 26.00 326 P **P** 23 21 03.2 +1.7
GRAC IAmb IAmb 23 21 15.0
comp=Z,21nm,0.8s
BSUT Blindstream Ca 26.01 340 **P** 23 21 02.3 +0.3
U56A King 26.02 37 P **P** 23 20 59.8 -1.9
SPR3 Spring Creek 3 26.07 333 **P** 23 21 02.9 +0.4
R11B Troy Canyon, C 26.12 330 P **P** 23 21 03.1 +0.3
R11B IAmb IAmb 23 21 07.3
comp=Z,15nm,1.0s
SFIN Lafayette 26.14 22 **P** 23 21 01.4 -1.2
GMN Gold Mountain 26.17 326 P **P** 23 21 04.2 +0.9
GMN IAmb IAmb 23 21 08.0
comp=Z,13nm,1.0s
VES Vestal, Richgr 26.17 321 P **P** 23 21 05.2 +2.2
K30B Basset 26.18 359 **P** 23 21 02.3 -0.7
JLU Jordanelle 26.31 339 P **P** 23 21 05.7 +1.2
V58A Windy Hill, Pi 26.39 39 **P** 23 21 04.1 -0.9
V58A IAmb IAmb 23 21 07.0
comp=Z,23nm,1.0s
CTU Camp Tracy 26.49 338 P **P** 23 21 06.8 +0.7
L40A Anamosa 26.50 14 P **P** 23 21 04.4 -1.5
L40A IAmb IAmb 23 21 10.3
comp=Z,19nm,1.0s
Q51A Peebles 26.52 29 P **P** 23 21 05.5 -0.6

S54A Dingess, Beckl 26.57 33 P P 23 21 05.6 -1.0
S54A IAmb IAmb 23 21 12.8
comp=Z,30nm,1.1s
DSP Deep Springs 26.60 325 P P 23 21 09.0 +2.1
BLA Blacksburg 26.61 35 P P 23 21 06.1 -1.0
BLA IAmb IAmb 23 21 18.8
comp=Z,22nm,1.1s
M44A Midewin, Midew 26.73 19 P P 23 21 06.6 -1.3
TPH Tonopah 26.73 327 P P 23 21 09.2 +0.9
TPH IAmb IAmb 23 21 13.5
comp=Z,11nm,0.9s
TCUT Toone Canyon 26.75 339 P P 23 21 09.4 +0.9
TCUT IAmb IAmb 23 21 15.5
comp=Z,32nm,1.1s
O48B Farmland 26.76 25 P 23 21 06.6 -1.7
SDDR Presa de Saban 26.81 80 P 23 21 07.9 -1.1
SDDR IAmb IAmb 23 21 19.7
comp=Z,15nm,0.9s
L42A Oliver, Polo 26.82 16 P P 23 21 07.8 -1.0
K22A Casper 26.87 348 P 23 21 09.1 -0.4
K22A IAmb IAmb 23 21 15.8
comp=Z,21nm,0.9s
Q52A Bidwell 26.97 30 P P 23 21 09.2 -1.0
P51A Williamsport 27.01 28 P P 23 21 10.0 -0.6
O49A Covington 27.04 26 P P 23 21 09.8 -1.0
N47A Urbana 27.09 23 P 23 21 09.5 -1.7
PKD Bear Valley Ra 27.12 320 P P 23 21 13.3 +1.6
PKD IAmb IAmb 23 21 22.2
comp=Z,15nm,1.0s
T57A Hurt 27.12 37 P 23 21 12.5 +0.9
T57A IAmb IAmb 23 21 15.7
comp=Z,28nm,1.2s
HQIL Hanson Quary C 27.16 19 P P 23 21 11.5 -0.3
HWUT Hardware Ranch 27.24 340 P 23 21 13.1 +0.2
HWUT IAmb IAmb 23 21 19.6
comp=Z,21nm,1.1s
ECSD EROS Data Cent 27.33 4 P 23 21 12.4 -1.0
ECSD IAmb IAmb 23 21 20.1
comp=Z,12nm,1.0s
MDPB Devils Postpil 27.40 324 P P 23 21 14.6 +0.2
NV11 Mina Array Sit 27.48 327 P P 23 21 16.2 +1.3
L44A Lake County Fo 27.48 19 P P 23 21 12.5 -2.3
LHV Little Huntoon 27.53 326 P P 23 21 17.0 +1.8
LHV IAmb IAmb 23 21 33.5
comp=Z,17nm,1.0s
NVAR Mina Array Bea 27.56 326 P P 23 21 16.9 +1.2
NVAR Mina Array Bea 27.56 326 P P 23 21 17.7 +2.0
comp=Z,12nm,0.9s,baz=150,slow=9.2,SNR=22
NVAR LR LR 23 33 12.4
comp=Z,264nm,20.1s,baz=119,slow=39
comp=Z,12nm,0.9s
P52A Corning 27.57 30 P P 23 21 13.7 -1.9
P52A IAmb IAmb 23 21 19.7
comp=Z,24nm,1.0s
ACSO Alum Creek Sta 27.66 28 P 23 21 15.3 -1.0
ACSO IAmb IAmb 23 21 16.5
comp=Z,27nm,1.1s
BW06 Boulder Array 27.70 344 P P 23 21 17.1 +0.1
PD31 Pinedale Array 27.70 344 P P 23 21 17.1 +0.1
PDAR Pinedale Array 27.70 344 P P 23 21 16.5 -0.4
PDAR Pinedale Array 27.70 344 P P 23 21 17.5 +0.6
comp=Z,11nm,1.0s,baz=147,slow=8.7,SNR=58
PDAR LR LR 23 33 44.5
comp=Z,149nm,19.3s,baz=160,slow=40
comp=Z,11nm,1.0s
Q54A Coxs Mills 27.70 32 P 23 21 15.3 -1.5
Q54A IAmb IAmb 23 21 17.7
comp=Z,25nm,1.1s
N49A Columbus Grove 27.71 25 P P 23 21 15.0 -1.8
N49A IAmb IAmb 23 21 21.6
comp=Z,24nm,1.1s
LEGD La Grand CA 27.73 322 P P 23 21 18.6 +1.6
LEGD IAmb IAmb 23 21 26.7
comp=Z,10nm,0.9s
RUSC La Rusia 27.73 109 P P 23 21 18.8 +0.9
RUSC IAmb IAmb 23 21 30.6
comp=Z,17nm,1.1s
RYN Ryan 27.82 326 P P 23 21 19.1 +1.1
RYN IAmb IAmb 23 21 29.4
comp=Z,10nm,1.0s
S57A Dark Hollow, R 27.83 36 P P 23 21 15.9 -2.0
S57A IAmb IAmb 23 21 29.0
comp=Z,13nm,1.0s
K43A Burlington 27.84 17 P P 23 21 17.1 -0.9
K43A IAmb IAmb 23 21 19.1
comp=Z,26nm,1.0s
L46A Eue Claire 27.86 21 P P 23 21 16.9 -1.2
ELK Elko 27.90 334 P P 23 21 17.8 -1.0
ELK Elko 27.90 334 LR LR 23 33 50.7
comp=Z,172nm,19.4s,baz=160,slow=40
RSSD Black Hills 27.91 353 P 23 21 18.9 0.0
RSSD IAmb IAmb 23 21 26.1
comp=Z,18nm,1.1s
I37A Lemond, Waseca 27.97 9 P 23 21 17.5 -1.6
I37A IAmb IAmb 23 21 18.5
comp=Z,25nm,1.1s
O52A Adamsville 28.09 29 P P 23 21 19.2 -1.0
WAKR Walker 28.22 325 P 23 21 22.6 +0.9
SNOW Snow King Moun 28.67 342 P P 23 21 26.2 +0.5
SNOW IAmb IAmb 23 21 33.9
comp=Z,23nm,1.0s
MHC Mount Hamilton 28.70 321 P P 23 21 28.1 +2.2
MCWV Mont Chateau 28.71 32 P P 23 21 24.4 -1.4
TPAW Teton Pass 28.75 342 P 23 21 26.9 +0.5
LOHW Long Hollow 28.77 343 P 23 21 27.0 +0.5
LOHW IAmb IAmb 23 21 33.2
comp=Z,15nm,0.9s
I42A Draeger Farm, 28.78 16 P P 23 21 25.0 -1.3
I42A IAmb IAmb 23 21 31.2
comp=Z,26nm,1.2s
WELL Weller Preserv 28.90 324 P P 23 21 28.1 +0.6
SDV Santo Domingo 28.94 101 LR LR 23 34 37.0
comp=Z,128nm,18.4s,baz=25,slow=40
PAHR Pah Rah Range 29.07 327 P P 23 21 29.6 +0.5
N53A Lisbon 29.10 30 P P 23 21 28.1 -1.1
N53A IAmb IAmb 23 21 29.2
comp=Z,17nm,1.0s
SPMN Marine on St. 29.25 9 P 23 21 28.8 -1.6
SPMN IAmb IAmb 23 21 30.2
comp=Z,13nm,0.9s
YPP Pitchstone Pla 29.43 343 P P 23 21 32.7 +0.3
M52A Chesterland 29.44 28 P P 23 21 30.0 -2.2
F33A 5 Mile Ranch, 29.45 4 P P 23 21 30.9 -1.3
J47A Sunmer 29.46 22 P P 23 21 31.0 -1.4
YMP Mirror Lake PI 29.69 344 P P 23 21 35.4 +0.6
BEKR Beckworth 29.70 326 P 23 21 35.3 +0.6
YNR Norris Junctio 29.80 344 P P 23 21 35.0 -0.7
RLMT Red Lodge 29.83 346 P 23 21 35.7 -0.2
RLMT IAmb IAmb 23 21 43.1
comp=Z,21nm,1.1s
YMR Madison River 29.84 343 P P 23 21 36.4 +0.3
YMR IAmb IAmb 23 21 43.3
comp=Z,17nm,1.1s
YNE Yellowstone No 29.90 345 P P 23 21 36.4 -0.2
K50A Casco 29.90 25 P P 23 21 34.7 -1.6
K50A IAmb IAmb 23 21 36.6
comp=Z,22nm,1.1s
YHH Holmes Hill 29.92 343 P 23 21 36.8 0.0
HLID Hailey 29.96 338 P 23 21 36.4 -0.6
YHL Hebgen Lake 30.07 343 P 23 21 38.5 +0.4
E28A Huff 30.10 358 P P 23 21 38.0 0.0
ORV Oroville 30.10 324 P P 23 21 39.7 +1.6
PAOC Oil Creek Stat 30.20 30 P P 23 21 37.6 -1.4
PAOC IAmb IAmb 23 21 42.6
comp=Z,21nm,1.2s
MFID Camas Ranch 30.37 336 P 23 21 40.5 -0.1
MFID IAmb IAmb 23 21 47.7
comp=Z,9.1nm,1.1s
SSPA Standing Stone 30.45 33 P P 23 21 40.6 -0.6
SSPA IAmb IAmb 23 21 42.3
comp=Z,17nm,1.1s
MCMT McKenzie Canyo 30.54 341 P P 23 21 43.1 +0.8
HOPS Hopland Field 30.63 322 P P 23 21 46.5 +3.7
LAO LASA Array 30.73 351 P 23 21 43.2 -0.5
LAO IAmb IAmb 23 21 50.4
comp=Z,13nm,1.1s
WVOR Wild Horse Val 30.77 331 P P 23 21 44.7 +0.5
BOZ Bozeman (W) 30.88 343 P P 23 21 45.4 +0.3
BOZ IAmb IAmb 23 21 52.8
comp=Z,10.0nm,0.9s
DLMT Dillon 30.95 342 P P 23 21 46.4 +0.7
ATAH Atahualpa 31.23 137 LR LR 23 31 53.8
comp=Z,94nm,18.1s,baz=325,slow=32
LRM Limekiln Ridge 31.32 342 P P 23 21 49.5 +0.4

MDND Maddock 31.35 360 P P 23 21 49.3 +0.2
BAUV El Baul 31.36 100 P P 23 21 49.8 +0.3
BAUV IAmb IAmb 23 21 51.2
comp=Z,14nm,0.9s
J08A Circle Bar Ran 31.43 333 P 23 21 49.4 -0.5
J08A IAmb IAmb 23 21 52.1
comp=Z,17nm,1.1s
SJG San Juan 31.69 82 LR LR 23 34 25.3
comp=Z,103nm,20.7s,baz=265,slow=36
PDPR Patillas Dam, 31.82 82 P P 23 21 52.2 -1.3
PDPR IAmb IAmb 23 21 53.7
comp=Z,12nm,0.9s
KHBM Hayfork Bally 31.82 324 P P 23 21 55.0 +1.5
PLID Pearl Lake 31.85 337 P 23 21 53.8 0.0
AGMN Agassiz Nation 31.93 4 P 23 21 52.5 -1.6
HRY Holter Researc 31.96 344 P P 23 21 55.4 +0.8
MMNY Mt. Morris Dam 31.98 31 P P 23 21 53.9 -0.8
MMNY IAmb IAmb 23 22 00.7
comp=Z,18nm,1.1s
K05A Summer Lake 32.07 329 P P 23 21 57.2 +1.5
K05A IAmb IAmb 23 22 09.2
comp=Z,10nm,1.2s
M02C Callahan 32.12 326 P P 23 21 57.1 +1.2
BMO Blue Mountains 32.15 336 P P 23 21 55.9 -0.4
BPMT Black Pine Rid 32.17 342 P P 23 21 57.0 +0.4
DGMT Dagmar 32.23 354 P 23 21 56.7 0.0
LYMT Lyon Mountain 32.32 343 P P 23 21 57.7 -0.2
OVMT Ovando 32.61 343 P P 23 21 59.6 -0.7
MSO Missoula 32.68 341 P 23 22 00.7 -0.1
MSO IAmb IAmb 23 22 07.9
comp=Z,8.7nm,0.9s
PINE Pine Mountain 32.89 331 P P 23 22 03.2 +0.3
J04A Umpqua Nationa 33.05 329 P P 23 22 04.4 +0.2
L59A Walton 33.06 34 P P 23 22 04.0 -0.2
G08A Pilot Rock 33.19 334 P 23 22 04.7 -0.7
G08A IAmb IAmb 23 22 06.7
comp=Z,7.3nm,0.9s
BUKO Buck Lake 33.42 26 P P 23 22 06.2 -1.0
BUKO IAmb IAmb 23 22 14.2
comp=Z,14nm,1.0s
J57A Williamstown 33.43 32 P P 23 22 07.4 +0.1
DELO Deloro Mine 33.47 29 P P 23 22 06.4 -1.3
EPLO Experimental L 33.49 7 P P 23 22 06.3 -1.5
I05D Terrebonne, OR 33.49 331 P P 23 22 09.2 +1.2
I05D IAmb IAmb 23 22 11.0
comp=Z,4.7nm,0.7s
WIFE Three Sisters- 33.51 330 P P 23 22 08.9 +0.7
KSCT Kent School, K 33.61 36 P P 23 22 08.2 -0.7
E09A Wood Farm, Sta 33.86 336 P P 23 22 10.2 -0.9
E09A IAmb IAmb 23 22 11.4
comp=Z,6.3nm,1.1s
ULM Lac du Bonnet 33.87 4 P P 23 22 10.2 -0.9
comp=Z,20nm,0.9s,baz=182,slow=8.4,SNR=13
ULM LR LR 23 38 16.0
comp=Z,90nm,19.4s,baz=184,slow=41
comp=Z,20nm,0.9s
H04A Detroit Lake 34.15 330 P P 23 22 13.7 +0.1
M63A Gales Ferry 34.23 38 P P 23 22 13.6 -0.7
PCRV Puerto La Cruz 34.27 96 LR LR 23 37 07.9
comp=Z,105nm,19.2s,slow=38
HOOD Mount Hood Mea 34.38 332 P P 23 22 16.8 +1.0
E07A Sunnyside 34.58 335 P P 23 22 17.7 +0.4
NEW Newport 34.97 339 P P 23 22 20.8 +0.1
NEW Newport 34.97 339 LR LR 23 36 25.1
comp=Z,214nm,20.9s,baz=170,slow=36
C09A Chrisman Ranch 34.99 338 P P 23 22 21.1 +0.3
C09A IAmb IAmb 23 22 23.1
comp=Z,11nm,0.9s
BBSR BB Station 35.11 57 P P 23 22 21.5 -0.5
LTY Liberty 35.47 335 P P 23 22 25.7 +0.6
LTY IAmb IAmb 23 22 26.4
comp=Z,11nm,1.2s
LON Longmire 35.55 333 P P 23 22 26.5 +0.8
LON IAmb IAmb 23 22 28.6
comp=Z,4.8nm,0.8s
FRNY Flat Rock 35.66 32 P P 23 22 25.7 -0.9
B08A Colville Reser 35.84 337 P P 23 22 28.4 +0.2
B08A IAmb IAmb 23 22 29.7
comp=Z,7.1nm,1.0s
E03A Lebam 36.18 331 P P 23 22 31.8 +0.8
I62A Tamworth 36.21 35 P P 23 22 31.6 +0.3
I62A IAmb IAmb 23 22 33.6
comp=Z,12nm,0.9s
GNW Green Mountain 36.62 333 P P 23 22 35.2 +0.4
GNW IAmb IAmb 23 22 35.9
comp=Z,6.1nm,0.9s
GDSD La Dsirade Is 36.66 85 P P 23 22 35.7 +0.1
GDSD IAmb IAmb 23 22 40.2
comp=Z,13nm,0.9s
B04A Port Angeles 37.30 333 P P 23 22 41.8 +1.2
B04A IAmb IAmb 23 22 55.3
comp=Z,16nm,1.2s
G62A West of Eustis 37.52 34 P P 23 22 42.3 -0.1
FFC Flin Flon 38.30 358 P P 23 22 48.5 -0.4
FFC IAmb IAmb 23 22 55.0
comp=Z,15nm,1.0s
LLLB Lillooet 38.64 337 P P 23 22 51.9 -0.1
LLLB IAmb IAmb 23 22 53.5
comp=Z,15nm,1.0s
D62A Allapoint, All 39.51 33 P P 23 22 58.5 -0.6
D62A IAmb IAmb 23 23 01.4
comp=Z,13nm,1.0s
BBB Bella Bella 42.35 334 LR LR 23 40 38.8
comp=Z,171nm,19.4s,baz=139,slow=36
LPAZ La Paz 44.74 135 P P 23 23 44.2 +1.3
LPAZ La Paz 44.74 135 P P 23 23 43.9 +1.0
comp=Z,1.2nm,0.8s,baz=338,slow=8.5,SNR=4.9
LPAZ LR LR 23 40 02.1
comp=Z,87nm,21.9s,baz=302,slow=33
comp=Z,1.2nm,0.8s
DIB Dawson Inlet, 44.96 332 P 23 23 43.9 +0.3
DIB IAmb IAmb 23 23 45.5
comp=Z,8.5nm,1.0s
PB16 IPOC Station P 45.31 138 P 23 23 48.9 +1.6
PB16 IAmb IAmb 23 23 55.4
comp=Z,6.7nm,0.9s
SCHQ Schefferville 45.78 26 P P 23 23 48.4 -1.6
SCHQ Schefferville 45.78 26 LR LR 23 44 43.7
comp=Z,682nm,18.4s,baz=234,slow=38
V35K Ketchikan 46.05 335 P P 23 23 53.6 +1.5
baz=134
TOAD Toad River Com 46.48 342 P P 23 23 57.1 +1.5
baz=144
T35M Bob Quinn 46.72 337 P P 23 23 59.1 +1.7
baz=137
CRAG Craig 46.77 334 P P 23 23 59.9 +2.1
baz=132
U33K Whale Pass 47.22 335 P P 23 24 03.1 +1.8
baz=133
YKA Yellowknife Ar 47.27 350 P P 23 23 59.5 -2.1
comp=Z,6.0nm,0.8s,baz=166,slow=6.8,SNR=6.8
YKA LR LR 23 43 33.3
comp=Z,167nm,19.5s,baz=134,slow=36
comp=Z,6.0nm,0.8s
PB01 IPOC Station P 47.34 141 P P 23 24 03.4 +0.6
PB01 IAmb IAmb 23 24 04.6
comp=Z,5.2nm,0.7s
DLBC Dease Lake 47.72 339 LR LR 23 46 50.5
comp=Z,2µm,18.2s,baz=116,slow=40
DLBC Dease Lake 47.72 339 P P 23 24 06.8 +1.6
baz=138
BLKN Baker Lake 47.92 2 P P 23 24 05.9 -0.7
VILB Vilhena 48.43 125 P P 23 24 12.8 +1.5
VILB IAmb IAmb 23 24 17.4
comp=Z,8.3nm,0.9s
WTLY Watson Lake, Y 48.59 341 P P 23 24 12.2 +0.3
WTLY Watson Lake, Y 48.59 341 P P 23 24 13.6 +1.7
baz=140
SIT Sitka 48.75 335 P P 23 24 13.9 +0.8
baz=131
R33M Jennings River 48.76 339 P 23 24 14.3 +1.0
R33M IAmb IAmb 23 24 23.8
comp=Z,8.1nm,0.9s
R33M Jennings River 48.76 339 P P 23 24 14.1 +0.8
baz=136
TGTN Hyland Airport 49.55 342 P P 23 24 20.6 +1.3
baz=142
SIV San Ignacio 49.59 129 LR LR 23 42 46.7
comp=Z,50nm,20.8s,baz=300,slow=33
WRGLY Wrigley 49.69 346 P P 23 24 19.9 -0.3
WRGLY Wrigley 49.69 346 P P 23 24 21.2 +1.0
baz=149
S31K Pelican 49.72 335 P P 23 24 21.8 +1.3
baz=130
P32M Atlin 49.87 338 P P 23 24 23.0 +1.3
baz=134
P33M Teslin, Yukon 50.00 339 P P 23 24 24.3 +1.5
baz=136
SKAG Skagway 50.37 337 P P 23 24 27.5 +2.1
baz=132
PTLB Pontes e Lacer 50.74 127 P 23 24 32.7 +3.9
PLBC Pleasant Camp 50.76 337 P P 23 24 30.2 +1.8
baz=131
N32M Quiet Lake 50.77 340 P P 23 24 30.3 +1.8
baz=136
WHY Whitehorse 51.04 338 P P 23 24 32.1 +1.5
baz=134
MMPY Sheldon Lake, 51.28 342 P P 23 24 33.2 +0.8
MMPY IAmb IAmb 23 24 35.3
comp=Z,9.8nm,1.0s
MMPY Sheldon Lake, 51.28 342 P P 23 24 33.9 +1.5
baz=139
P29M Windy Craggy 51.40 336 P P 23 24 35.3 +2.0
baz=130
P30M Million Dollar 51.43 337 P P 23 24 34.9 +1.4
baz=131
O30N Mendenhall 51.55 338 P P 23 24 35.8 +1.5
baz=132
FRB Frobisher Bay 51.81 17 LR LR 23 47 03.6
comp=Z,89nm,18.3s,baz=244,slow=37
N31M Braeburn, Yuko 51.93 339 P P 23 24 38.8 +1.7
baz=133
M31M Drury Creek, Y 51.96 340 P P 23 24 38.6 +1.2
baz=135
PNL Peninsula 52.08 336 P P 23 24 39.7 +1.3
baz=128
HYT Haines Junctio 52.10 337 P P 23 24 39.9 +1.3
baz=131
O29M Mount Kennedy 52.16 336 P P 23 24 40.3 +1.3
baz=129
N30M Aishikik Lake 52.37 338 P P 23 24 42.2 +1.7
baz=132
YUK6 Outpost Mounta 52.49 337 P P 23 24 43.2 +1.6
baz=130
PINM Pinnacle 52.68 336 P P 23 24 44.1 +1.3
baz=127
YUK4 Talbot Arm 52.86 337 P P 23 24 45.7 +1.4
baz=130
M30M Minto, Yukon 53.02 339 P P 23 24 46.5 +1.2
baz=133
O28M Mount Upton 53.08 336 P P 23 24 47.5 +1.4
baz=128
YUK8 Steele Glacier 53.23 337 P P 23 24 48.3 +1.1
baz=129
H03N2 Juan Fernandez 53.25 159 T T 00 22 21.9
baz=338,slow=77
H03N1 Juan Fernandez 53.26 159 T T 00 22 26.4
baz=338,slow=77
H03N3 Juan Fernandez 53.27 159 T T 00 22 20.8
baz=338,slow=77
MESA MESA 53.41 335 P P 23 24 49.7 +1.3
baz=126
M29M Somme Creek 53.51 339 P P 23 24 50.4 +1.4
M29M IAmb IAmb 23 25 02.7
comp=Z,7.7nm,1.1s
M29M Somme Creek 53.51 339 P P 23 24 50.3 +1.4
baz=131
L29M L29M 53.84 339 P 23 24 51.5 +0.2
L29M IAmb IAmb 23 25 01.2
comp=Z,7.2nm,0.8s
L29M L29M 53.84 339 P P 23 24 53.0 +1.7
baz=131
BGLC Bering Glacier 53.92 335 P P 23 24 53.3 +1.4
baz=124
K29M Barlow Dome 54.13 340 P P 23 24 54.4 +0.8
baz=132
J30M Hart River 54.27 341 P P 23 24 55.4 +0.9
baz=134
MCARA McCarthy VSAT 54.55 336 P P 23 24 57.8 +1.3
baz=125
H31M Peel River 54.57 343 P P 23 24 57.4 +0.9
baz=137
M27K Edge Creek, AK 54.69 337 P P 23 24 58.6 +1.0
baz=127
I30M Mount Dempster 54.74 342 P 23 24 57.7 -0.2
I30M IAmb IAmb 23 25 06.1
comp=Z,4.9nm,0.9s
I30M Mount Dempster 54.74 342 P P 23 24 59.1 +1.2
baz=134,SNR=5.5
J29N Klondike Camp 54.77 341 P P 23 24 59.2 +1.1
baz=132
DAWY Dawson 54.90 340 P P 23 24 59.9 +0.9
baz=130
BMRM Bremner River 54.94 335 P P 23 25 00.8 +1.4
baz=123
L27K Beaver Creek, 55.10 338 P P 23 25 01.7 +1.2
baz=127
M26K Nabesna, AK 55.13 337 P P 23 25 02.3 +1.6
baz=126
EYAK Cordova Ski Ar 55.19 334 P P 23 25 02.6 +1.5
baz=122
N25K Chitina, Valde 55.29 336 P P 23 25 02.9 +1.0
baz=124
G31M Satah River 55.38 344 P 23 25 02.3 -0.1
G31M Satah River 55.38 344 P P 23 25 02.9 +0.6
baz=138,SNR=8.4
I29M Ogilvie Camp, 55.42 341 P P 23 25 02.2 -0.5
I29M IAmb IAmb 23 25 03.2
comp=Z,7.7nm,1.1s
I29M Ogilvie Camp, 55.42 341 P P 23 25 03.4 +0.7
baz=132
P23K Montague Islan 55.61 333 P P 23 25 05.0 +1.0
baz=120
F31M Tsiigehtchic 55.64 345 P P 23 25 03.0 -1.2
F31M IAmb IAmb 23 25 10.0
comp=Z,10.0nm,0.9s
F31M Tsiigehtchic 55.64 345 P P 23 25 04.3 +0.1
baz=138
EPYK Eagle Plains 55.65 343 P P 23 25 04.7 +0.3
baz=135
KLU Klutina 55.76 335 P P 23 25 06.4 +1.1
baz=122
K27K Chicken 55.78 339 P P 23 25 06.5 +1.1
baz=128
EGAK Eagle 55.94 340 P P 23 25 06.0 -0.4
EGAK IAmb IAmb 23 25 13.9
comp=Z,4.9nm,0.8s
EGAK Eagle 55.94 340 P P 23 25 07.8 +1.3
baz=129
G30M tAoh Zraii Nji 55.95 343 P P 23 25 07.6 +1.1
baz=136
HARP HAARP 55.96 336 P P 23 25 07.7 +1.0
baz=123
I28M Miner Creek 55.98 341 P P 23 25 07.6 +0.7
baz=131
H29M Whitestone 56.02 342 P 23 25 07.0 -0.1
H29M Whitestone 56.02 342 P P 23 25 07.7 +0.7
baz=133,SNR=5.5
M24K Tolsona, Glenn 56.20 336 P P 23 25 09.6 +1.2
baz=122
INK Inuvik 56.24 345 P 23 25 08.2 -0.3
INK Inuvik 56.24 345 LR LR 23 53 13.3
comp=Z,92nm,20.4s,baz=202,slow=40
INK Inuvik 56.24 345 P P 23 25 08.8 +0.3
baz=139,SNR=11
DOT Dot Lake 56.26 338 P P 23 25 09.0 +0.2
DOT IAmb IAmb 23 25 19.7
comp=Z,7.2nm,1.2s
F30M Barrier River 56.29 344 P 23 25 08.5 -0.4
F30M Barrier River 56.29 344 P P 23 25 09.4 +0.5
baz=136
AQDB Aquidauana 56.36 129 P P 23 25 12.1 +2.0
AQDB IAmb IAmb 23 25 16.6
comp=Z,5.2nm,0.9s
PAX Paxson 56.40 337 P P 23 25 10.3 +0.5
PAX IAmb IAmb 23 25 11.3
comp=Z,5.3nm,0.9s
PAX Paxson 56.40 337 P P 23 25 10.7 +0.8
baz=123
G29M Pine Creek 56.40 343 P P 23 25 09.5 -0.2
G29M IAmb IAmb 23 25 10.9
comp=Z,6.3nm,0.9s
G29M Pine Creek 56.40 343 P P 23 25 10.1 +0.4
baz=134
SCRK Sand Creek 56.43 338 P P 23 25 10.2 +0.1
SCRK IAmb IAmb 23 25 12.2
comp=Z,5.3nm,1.0s
SCRK Sand Creek 56.43 338 P P 23 25 11.2 +1.1
baz=126
PWL Port Wells 56.44 334 P P 23 25 11.4 +1.3
baz=119
SCM Sheep Creek Mo 56.51 335 P P 23 25 11.6 +0.9
baz=121

SEW	Seward	56.56	333	P		P	23 25 12.0 +1.1
	baz=118						
J26L	Joseph Creek	56.59	339			P	23 25 11.2 +0.1
J26L	Joseph Creek	56.59	339	P		P	23 25 12.0 +0.8
	baz=126,SNR=9.5						
RIDG	Independent Ri	56.60	338	P		P	23 25 11.9 +0.7
RIDG				IAmb		IAmb	23 25 22.2
	comp=Z,10.0nm,1.0s						
RIDG	Independent Ri	56.60	338	P		P	23 25 12.2 +1.0
	baz=124						
I27K	Kandik River	56.62	340	P		P	23 25 12.3 +1.0
	baz=129						
O22K	Cooper Landing	56.85	333	P		P	23 25 14.3 +1.3
	baz=118						
SML	Sawmill	56.91	335	P		P	23 25 14.4 +0.9
	baz=120						
I26K	Coal Creek Min	56.94	340	P		P	23 25 14.4 +0.9
	baz=127						
BRSE	Bradley Lake S	56.97	332	P		P	23 25 15.0 +1.2
	baz=116						
K24K	Donnelly Dome	56.98	337	P		P	23 25 14.5 +0.6
	baz=124						
H27K	Steamboat Moun	56.99	341	P		P	23 25 14.6 +0.6
	baz=129						
KDAK	Kodiak Island	57.01	329	LR		LR	23 47 42.1
	comp=Z,111nm,18.2s,baz=98,slow=34						
WAT6	Susitna Watana	57.07	336	P		P	23 25 15.8 +1.1
	baz=121						
DHY	Denali Highway	57.18	336	P		P	23 25 16.1 +0.6
	baz=121						
Q20K	Shuyak Island	57.25	330	P		P	23 25 16.5 +0.7
	baz=114						
J25K	Salcha River,	57.29	338	IAmb		IAmb	23 25 27.0
	comp=Z,5.1nm,1.0s						
J25K	Salcha River,	57.29	338	P		P	23 25 16.7 +0.6
	baz=124						
HOM	Homer	57.34	331	P		P	23 25 17.1 +0.7
	baz=115						
G27K	Doyon Strip	57.40	342	IAmb		IAmb	23 25 17.9
	comp=Z,3.9nm,0.8s						
G27K	Doyon Strip	57.40	342	P		P	23 25 17.2 +0.3
	baz=130						
E29M	Blow River	57.41	344	P		P	23 25 17.1 +0.3
	baz=134,SNR=5.6						
F28M	Old Crow	57.41	343	P		P	23 25 17.9 +1.0
	baz=132,SNR=5.2						
WAT1	Susitna Watana	57.52	336	P		P	23 25 18.6 +0.9
	baz=120						
CAPN	Captain Cook N	57.61	333	P		P	23 25 19.3 +1.0
	baz=116						
A36M	Sachs Harbour	57.63	351	P		P	23 25 18.6 +0.3
	baz=150						
HDA	Harding Lake	57.74	338	IAmb		IAmb	23 25 19.7
	comp=Z,9.2nm,1.2s						
HDA	Harding Lake	57.74	338	P		P	23 25 20.0 +0.8
	baz=123						
SUA	Susitna One	57.75	334	P		P	23 25 20.3 +0.8
	baz=117,SNR=5.3						
PRP	Porcupine Dome	57.86	339	P		P	23 25 21.1 +0.9
	baz=125						
IL31		57.92	338	P		P	23 25 20.4 0.0
ILAR	Eielson Array	57.92	338	P		P	23 25 20.7 +0.2
ILAR	Eielson Array	57.92	338	P		P	23 25 20.6 +0.1
	comp=Z,4.5nm,1.0s,baz=145,slow=5.2,SNR=27						
	comp=Z,4.5nm,1.0s						
RND	Reindeer	57.93	336	P		P	23 25 21.0 +0.4
RND				IAmb		IAmb	23 25 22.3
	comp=Z,7.7nm,1.0s						
O20K	Slope Mountain	57.97	332	P		P	23 25 22.0 +1.0
	baz=114						
Q19K	Cape Douglas,	57.98	330	P		P	23 25 22.3 +1.3
	baz=113						
E28M	Babbage River	57.99	344	P		P	23 25 21.6 +0.7
	baz=133,SNR=7.3						
CUT	Chulitna	58.00	335	P		P	23 25 20.9 -0.1
CUT	Chulitna	58.00	335	P		P	23 25 22.1 +1.1
	baz=118						
P19K	Oil Pt	58.07	331	P		P	23 25 22.5 +0.8
	baz=114						
MCK	McKinley	58.12	336	P		P	23 25 22.8 +0.8
	baz=120						
G26K	Porcupine Rive	58.15	341	IAmb		IAmb	23 25 30.0
	comp=Z,7.0nm,1.0s						
G26K	Porcupine Rive	58.15	341	P		P	23 25 23.0 +1.0
	baz=127						
SPCR	Spurr Chakacha	58.27	333	P		P	23 25 23.8 +0.7
	baz=115						
E27K	Coleen River	58.28	343	P		P	23 25 23.6 +0.6
	baz=130,SNR=5.9						
D28M	Stokes Point	58.28	345	P		P	23 25 23.4 +0.5
	baz=134						
POKR	Poker Plat Res	58.30	338	P		P	23 25 23.7 +0.5
	baz=122						
SKT	Skwentna	58.32	334	P		P	23 25 23.9 +0.5
	baz=116						
RES	Resolute Bay	58.34	1	LR		LR	23 51 46.7
	comp=Z,66nm,19.0s,baz=36,slow=38						
H25L	Birch Creek	58.39	340	P		P	23 25 24.8 +1.1
	baz=125						
TRF	Thorofare Moun	58.51	336	P		P	23 25 25.4 +0.6
	baz=119,SNR=6.5						
Q18K	Katmai Hardscr	58.53	330	P		P	23 25 25.5 +0.5
	baz=111						
NEA2	Nenana	58.62	337	P		P	23 25 26.5 +1.1
	baz=120						
BMAR	Burnt Mountain	58.69	341	P		P	23 25 26.8 +0.9
F26K	Sheenjek River	58.72	342	IAmb		IAmb	23 25 28.4
	comp=Z,5.8nm,0.9s						
F26K	Sheenjek River	58.72	342	P		P	23 25 27.0 +1.0
	baz=127						
G25K	Bearman Lake	58.77	340	P		P	23 25 27.4 +1.0
	baz=125						
D27M	Malcolm River	58.81	344	P		P	23 25 27.3 +0.7
	baz=131						
Q17K	Contact Creek	58.82	329	P		P	23 25 27.9 +0.9
	baz=110						
R17L	Mt. Peulik Vol	58.84	328	P		P	23 25 27.7 +0.7
	baz=109						
H24K	Noodor Dome	58.85	339	P		P	23 25 27.7 +0.7
	baz=122,SNR=8.3						
CPUP	Villa Florida	58.91	135	P		P	23 25 29.1 +1.3
	comp=Z,0.6nm,0.9s,baz=168,slow=17,SNR=3.1						
CPUP				LR		LR	23 50 34.1
	comp=Z,8.4nm,18.9s,baz=208,slow=36						
	comp=Z,0.6nm,0.9s						
P18K	Big Mountain,	58.91	330	P		P	23 25 28.1 +0.6
	baz=111						
M20K	Styx River	58.96	333	P		P	23 25 28.4 +0.6
	baz=115						
I23K	Minto, Yukon-K	59.01	338	P		P	23 25 29.2 +1.2
	baz=120,SNR=6.7						
PPLA	Purkeypile	59.01	335	P		P	23 25 29.2 +0.9
	baz=116						
O18K	Koktuh Hills	59.07	331	P		P	23 25 29.4 +0.8
	baz=112						
BPAW	Bear Paw Mtn.	59.10	336	P		P	23 25 29.1 +0.3
	baz=118						
N19K	Bonanza Creek	59.11	332	P		P	23 25 29.7 +0.7
N19K	Bonanza Creek	59.11	332	P		P	23 25 29.3 +0.4
	baz=113						
F25K	Christian Rive	59.11	341	P		P	23 25 29.8 +1.0
	baz=126						
G24K	Hadweenzic Riv	59.19	340	P		P	23 25 29.4 +0.1
G24K	Hadweenzic Riv	59.19	340	P		P	23 25 30.2 +0.9
	baz=123,SNR=6.5						
E25K	Arctic Village	59.40	342	P		P	23 25 31.8 +1.0
	baz=126						
P17K	Kvichak River	59.42	330	P		P	23 25 31.3 +0.4
	baz=110						
H23K	Yukon River	59.43	338	P		P	23 25 31.6 +0.6
	baz=121						
MLY	Manley	59.46	337	P		P	23 25 31.9 +0.6
	baz=119						
CHGN	Chignik	59.48	326	P		P	23 25 32.5 +1.0
	baz=107						
M19K	Big River Lodg	59.51	333	P		P	23 25 32.4 +0.8
	baz=114						
CHUM	Lake Minchumin	59.51	336	P		P	23 25 32.3 +0.7
	baz=117						
SFJD	Kangerlussuaq	59.52	20	LR		LR	23 51 59.6
	comp=Z,70nm,20.6s,baz=225,slow=37						
L20K	Farewell, AK	59.53	334	P		P	23 25 32.1 +0.4
	baz=114						
N18K	Kilae Creek	59.70	332	P		P	23 25 33.4 +0.5
	baz=112						
CHNA	Chernabura Isl	59.72	324	P		P	23 25 33.6 +0.5
	baz=105						
F24K	Squaw Lake	59.78	341	P		P	23 25 33.7 +0.3
	baz=123						
C27K	Jago River	59.80	344	P		P	23 25 33.5 +0.1
	baz=129						
BDFB	Brasilia	59.80	120	P		P	23 25 34.6 +0.2
	comp=Z,2.9nm,0.7s,baz=271,slow=3.1,SNR=5.4						
	comp=Z,2.9nm,0.7s						
L19K	White Mountain	59.82	333	P		P	23 25 34.1 +0.3
	baz=113						
PPT	Papeete	59.93	238	LR		LR	23 45 06.2
	comp=Z,61nm,21.9s,baz=59,slow=30						
O17K	Koliganek Bris	59.93	330	P		P	23 25 34.9 +0.4
	baz=110						
M18K	Stony River	59.98	332	P		P	23 25 35.0 +0.2
	baz=112						
K20K	Telida	59.98	335	IAmb		IAmb	23 25 35.7
	comp=Z,7.0nm,1.0s						
K20K	Telida	59.98	335	P		P	23 25 35.0 +0.1
	baz=115						
I21K	Tanana	59.99	337	P		P	23 25 35.1 +0.2
	baz=118						
G23K	Bananza Creek	60.05	339	IAmb		IAmb	23 25 37.0
	comp=Z,5.7nm,0.9s						
G23K	Bananza Creek	60.05	339	P		P	23 25 35.6 +0.3
	baz=121						
S14K	Fog Glacier	60.09	326	P		P	23 25 36.5 +0.8
	baz=106						
H22K	Ishtalitna Cre	60.11	338	P		P	23 25 36.1 +0.4
	baz=119						
N17K	Nushagak Hills	60.24	331	P		P	23 25 37.3 +0.7
	baz=110						
E24K	Your Creek	60.28	341	P		P	23 25 37.1 +0.3
	baz=123						
C26K	Camden Bay	60.30	343	P		P	23 25 37.2 +0.3
	baz=128						
SDPT	Sand Point	60.34	325	P		P	23 25 38.0 +0.6
	baz=104						
O16K	Kokwok River B	60.35	330	P		P	23 25 37.7 +0.3
	baz=109						
D25K	Kavik River	60.35	343	P		P	23 25 37.7 +0.4
	baz=126						
J20K	Nowinta River	60.37	336	IAmb		IAmb	23 25 38.1
	comp=Z,8.2nm,1.0s						
J20K	Nowinta River	60.37	336	P		P	23 25 37.6 +0.2
	baz=115						
COLD	Coldfoot	60.38	340	P		P	23 25 38.2 +0.7
	baz=121						
H21K	Melozitna Rive	60.52	337	P		P	23 25 39.0 +0.5
	baz=117						
E23K	Chandalar	60.62	341	P		P	23 25 39.9 +0.7
	baz=122						
L18K	Granite Mounta	60.63	333	P		P	23 25 40.5 +1.2
	baz=112						
M17K	Holitna River	60.66	332	P		P	23 25 40.4 +0.9
	baz=110						
G22K	Bettles	60.66	339	P		P	23 25 40.2 +0.8
	baz=119						
J19K	Poorman	60.88	335			P	23 25 40.1 -0.9
J19K	Poorman	60.88	335	P		P	23 25 41.0 0.0
	baz=114,SNR=6.2						
TOLK	Toolik Lake Re	60.92	341	P		P	23 25 42.0 +0.7
	baz=122						
N16K	Nishlik Lake	60.96	331	P		P	23 25 42.1 +0.6
	baz=109						
D24K	Happy Valley	60.97	342	P		P	23 25 41.8 +0.3
	baz=123						
O15K	Ungalikthiuk R	61.06	329	P		P	23 25 42.9 +0.7
	baz=107						
J18K	Innoko River	61.12	334	P		P	23 25 42.8 +0.3
	baz=112						
G21K	Allakaket	61.17	338	P		P	23 25 43.4 +0.5
	baz=117						
H20K	Anoneeega Mo	61.22	337	P		P	23 25 43.8 +0.5
	baz=115						
M16K	Timber Creek	61.23	331	P		P	23 25 44.3 +0.9
	baz=109						
C24K	Franklin Bluff	61.25	342	P		P	23 25 43.9 +0.6
	baz=123						
S12K	Black Hills	61.30	325	P		P	23 25 45.2 +1.2
	baz=103						
L17K	Donlin	61.30	333	P		P	23 25 44.4 +0.6
	baz=110						
E22K	Anaktuvuk Pass	61.37	340	P		P	23 25 44.3 +0.1
	baz=119						
D23K	Nanushuk River	61.44	341	P		P	23 25 45.2 +0.6
	baz=121						
N15K	Kwethluk River	61.49	330	P		P	23 25 46.0 +0.8
	baz=107						
F21K	Alatna River	61.49	339	P		P	23 25 45.6 +0.6
	baz=117,SNR=6.4						
K17K	Iditarod	61.51	333	P		P	23 25 46.1 +0.9
	baz=110						
L16K	Owhat River	61.69	332	P		P	23 25 47.5 +1.1
	baz=108						
O14K	Tigyukauivet M	61.79	329	P		P	23 25 47.6 +0.5
	baz=106						
H19K	Roundabout Mou	61.83	337	P		P	23 25 48.0 +0.7
	baz=114						
C23K	Itkillik River	61.88	342	P		P	23 25 48.3 +0.8
	baz=122						
M15K	Kasigluk River	61.93	331	P		P	23 25 49.2 +1.2
	baz=107						
D22K	Ayikyak River	62.02	341	P		P	23 25 49.2 +0.6
D22K	Ayikyak River	62.02	341	P		P	23 25 49.5 +0.9
	baz=119						
J17K	VABM Dome	62.08	334	P		P	23 25 49.2 +0.2
	baz=110						
N14K	Kuskokwak Cree	62.18	330	P		P	23 25 50.8 +1.0
	baz=106						
F20K	Avaraart Lake	62.20	338	P		P	23 25 50.4 +0.7
	baz=115						
H18K	Honhosa River	62.42	336	P		P	23 25 52.1 +0.8
	baz=111						
M14K	Bethel	62.54	331	P		P	23 25 52.9 +0.8
	baz=106						
L15K	Ungalak Mounta	62.59	332	P		P	23 25 53.2 +0.7
	baz=107						
J16K	Anvik River	62.69	334	P		P	23 25 54.1 +1.0
	baz=108						
K15K	Wolf Creek Mou	62.79	332	P		P	23 25 54.4 +0.6
	baz=107						
G18K	Tagagawik	62.81	337	P		P	23 25 54.6 +0.7
	baz=112						
PLCA	Paso Flores	62.81	156	LR		LR	23 48 24.9
	comp=Z,33nm,19.7s,baz=320,slow=32						
C21K	Knifeblade Rid	62.82	341	P		P	23 25 54.8 +0.9
	baz=117						
F19K	Shalerockik Mo	62.84	338	P		P	23 25 54.6 +0.6
	baz=113						
E20K	Nigu River	62.88	339	P		P	23 25 54.9 +0.5
	baz=115						
E19K	Redstone River	62.90	338	P		P	23 25 55.2 +0.7
	baz=114						
H17K	Granite Mounta	62.96	335	P		P	23 25 55.4 +0.5
	baz=110						
B21K	Ikpikpuk River	62.98	341	P		P	23 25 55.5 +0.6
	baz=117						
L14K	Kuka Creek	63.04	331	P		P	23 25 56.6 +1.1
	baz=105						
M13K	Dall Lake	63.11	330	P		P	23 25 57.5 +1.6
	baz=104						
D20K	Etivluk River	63.21	340	P		P	23 25 57.2 +0.7
	baz=115						
J14K	Nanvaranak Lak	63.82	332	P		P	23 26 02.0 +1.4
	baz=105						
F17K	Baldwin Pennin	63.99	337	P		P	23 26 02.9 +1.3
	baz=109						
G16K	Koyuk River	64.08	335	P		P	23 26 03.1 +0.8
	baz=108						
E18K	Tukpahlearik C	64.09	338	P		P	23 26 03.4 +1.1
	baz=110						
C19K	Lookout Ridge	64.36	340	P		P	23 26 04.8 +0.6
	baz=112						
E17K	Hotham Inlet	64.42	337	P		P	23 26 05.3 +0.8
	baz=109						
ANM	Nome	65.08	334	P		P	23 26 10.0 +1.2
	baz=104						
F15K	North Star Dit	65.09	336	P		P	23 26 09.3 +0.5
	baz=106						
A19K	Wainwright	65.25	341	P		P	23 26 10.8 +0.9
	baz=111						
NEEM	North Greenlan	65.56	10	*i* P		P	23 26 11.8 -0.4
NEEM					IAmb	IAmb	23 26 13.2
	comp=Z,22nm,1.2s						
F14K	Arctic Creek	65.70	335	P		P	23 26 14.2 +1.4
	baz=104						
SUMG	Summit	65.89	17			P	23 26 14.0 -0.5
SUMG					IAmb	IAmb	23 26 16.2
	comp=Z,8.3nm,1.0s						
SUMG	Summit	65.89	17	*i* P		P	23 26 13.9 -0.6
SUMG					IAmb	IAmb	23 26 16.5
	comp=Z,9.7nm,1.1s						
SPIA	Saint Paul Isl	66.04	326	P		P	23 26 16.1 +1.0
	baz=96						
C16K	Lisburne Hills	66.06	338	P		P	23 26 16.5 +1.3
	baz=106						
TNA	Tin City	66.37	335	P		P	23 26 17.9 +0.8
	baz=102						
GAMB	Gambell	67.64	333	P		P	23 26 26.3 +1.1
	baz=98						
AY03	Cochrane	67.76	161	P		P	23 26 30.8 +4.7
AY03					IAmb	IAmb	23 26 38.0
	comp=Z,6.6nm,0.9s						
GSTR	Great Sitkin T	69.10	320	P		P	23 26 36.2 +1.5
KIWB	Kanaga Island	69.78	320	P		P	23 26 38.0 -0.9
BORG	Borgarnes	70.17	26	LR		LR	23 58 47.7
	comp=Z,32nm,18.5s,baz=275,slow=37						
DBG	Daneborg	71.36	16	*i* P		P	23 26 48.0 -0.1
DBG					IAmb	IAmb	23 26 50.5
	comp=Z,4.7nm,1.0s						
DAG	Danmarks Havn	72.00	14	*i* P		P	23 26 49.7 -2.2
DAG					IAmb	IAmb	23 26 51.7
	comp=Z,6.8nm,1.0s						
NOR	Nord	72.80	9	*i* P		P	23 26 56.6 0.0
NOR					IAmb	IAmb	23 26 57.6
	comp=Z,3.6nm,0.8s						
SPITS	Spitsbergen Ar	79.11	11	LR		LR	00 04 10.9
	comp=Z,57nm,19.1s,baz=302,slow=37						
ESDC	Sonseca Array	83.72	51	P		P	23 27 57.1 -0.8
	comp=Z,1.2nm,1.0s,baz=296,slow=5.9,SNR=6.1						
ESDC				LR		LR	00 02 48.5
	comp=Z,36nm,20.2s,baz=260,slow=34						
	comp=Z,1.2nm,1.0s						
MDT	Midelt	85.12	57	LR		LR	00 03 26.5
	comp=Z,29nm,18.1s,baz=294,slow=34						
NOA	NORSAR Array B	85.33	27	LR		LR	00 05 16.0
	comp=Z,19nm,21.9s,baz=290,slow=35						
MA2	Magadan	85.69	331	LR		LR	00 07 54.3
	comp=Z,30nm,18.2s,baz=82,slow=37						
ARCES	ARCESS Array B	85.98	17	LR		LR	00 07 28.2
	comp=Z,47nm,20.2s,baz=7.5,slow=36						
TIXI	Tiksi	86.36	346	LR		LR	00 10 05.7
	comp=Z,60nm,20.1s,baz=12,slow=38						
HFS	Hagfors	86.83	27	LR		LR	00 08 59.6
	comp=Z,28nm,18.4s,baz=280,slow=37						
FINES	FINESS Array B	91.20	23	LR		LR	00 12 12.4
	comp=Z,26nm,18.1s,baz=256,slow=37						
GERES	GERESS Array B	92.13	37	P		P	23 28 36.8 -1.5
	comp=Z,0.2nm,0.6s,baz=5.4,slow=6.2,SNR=3.4						
	comp=Z,0.2nm,0.6s						
DBIC	Dimbokro	92.39	82	LR		LR	00 10 38.9
	comp=Z,25nm,18.4s,baz=283,slow=36						
YAK	Yakutsk	92.83	339	LR		LR	00 14 39.2
	comp=Z,62nm,18.2s,baz=40,slow=38						
VRAC	Vranov	93.56	36	LR		LR	00 13 45.9
	comp=Z,17nm,18.5s,baz=324,slow=38						
VAE	Valguarnera	97.88	47	LR		LR	00 10 32.0
	comp=Z,49nm,18.6s,baz=308,slow=34						
AKASG	Malin Array Be	99.42	30	LR		LR	00 14 57.0
	comp=Z,23nm,21.0s,baz=241,slow=36						
WRA	Warramunga Arr	129.08	257	PKP		PKPdf	23 34 37.6 0.0
	comp=Z,1.0nm,0.7s,baz=79,slow=1.6,SNR=5.5						
ASAR	Alice Springs	129.72	253	PKP		PKPdf	23 34 39.0 +0.3
	comp=Z,0.2nm,0.4s,baz=98,slow=1.8,SNR=4.1						
CMAR	Chiang Mai Arr	140.97	332	PKP		PKPdf	23 35 00.6 +0.8
	comp=Z,1.4nm,0.3s,baz=25,slow=2.4,SNR=4.0						

NIED ***30*** *23:34:10.5,38.59N,142.17E,h37km,MW3.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=0.13; Mθθ=0.46; Mϕϕ=0.59; Mrθ=0.40; Mrϕ=1.38; Mθϕ=1.54; Fault plane solution: M₀=2.09000×10¹⁴ NP1:ϕ=85.00000°, δ=45.00000°, λ=1.00000°. NP2:ϕ=354.00000°, δ=89.00000°, λ=135.00000°.*

JMA ***30*** *23:34:10.5±0.1,38.6N±0.2×142.2E±0.6,h37km±1km, MV3.5/40,E OFF MIYAGI PREF*

IDC ***30*** *23:34:13.4±2.6,39.26N×141.14E,h0km,mb3.6/3, mbtmp3.5/4,ML2.7/1, Error ellipse: s-maj=57.8km s-min=28.9km az=84.0*

ISC 30 23:34:10.6±2.2, 38.62N±0.05×142.2E±0.2, h39km±6km, n15,σ1s72/24, mb3.5/3, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JKMT	Kesennumamotoy	0.59	290	*i* P		Pn	23 34 22.3	-0.2
JKMT					S	Sn	23 34 30.2	-0.7
OFUJ	Ofunato	0.61	319	*i* P		Pn	23 34 22.9	0.0
OFUJ					S	Sn	23 34 31.3	-0.3
JIKH	Ishinomakikobu	0.64	242	↓*i* P		Pn	23 34 22.5	-0.7
JIKH					↓S	Sn	23 34 31.0	-1.2
JIO	Ouri	0.67	256	↓*i* P		Pn	23 34 23.1	-0.5
JIO					↓S	Sn	23 34 32.0	-1.0
JMK	Ichinoseki	0.82	294	*i* P		Pn	23 34 25.8	+0.1
JMK					S	Sn	23 34 36.6	0.0
JOM	Ohasama	1.10	321	P		Pn	23 34 30.1	+0.5
JOM					S	Sn	23 34 44.2	+0.7
JOU	Okura	1.22	259	*i* P		Pn	23 34 31.3	+0.2
JOU					S	Sn	23 34 46.4	+0.1
JMM	Marumori	1.32	236	P		Pn	23 34 31.6	-1.0
JMM					*e*S	Sn	23 34 47.9	-1.1
JRG	Rokugo	1.44	303	P		Pn	23 34 35.1	+1.0
JYK	Kaneyama	1.46	283	P		Pn	23 34 35.2	+0.8
JYK					*e*S	Sn	23 34 53.6	+1.4
JFK	Kawauchi	1.62	220	↓*i* P		Pn	23 34 35.8	-0.8
MJAR	Matsushiro Arr	3.77	238	Pn		Pn	23 35 09.0	+2.8
	0.6nm,0.3s,baz=37,slow=12,SNR=21							
MJAR					Sn	Sn	23 35 55.8	+6.4
	0.1nm,0.3s,baz=37,slow=13,SNR=4.4							
	6.8nm,0.5s							
MKAR	Makanchi Array	43.81	301	P		P	23 42 12.1	-0.5
	0.3nm,0.6s,baz=91,slow=7.5,SNR=2.6							
	0.3nm,0.6s							
KURBB	Kurchatov Arra	45.52	307	P		P	23 42 26.4	+0.3
	1.3nm,0.5s,baz=77,slow=7.8,SNR=11							
	1.3nm,0.5s							
WRA	Warramunga Arr	58.71	189	P		P	23 44 16.6	+12
	0.3nm,0.7s,baz=6.9,slow=7.5,SNR=1.5							
	0.3nm,0.7s							

ISC Computed Locations for September 2019

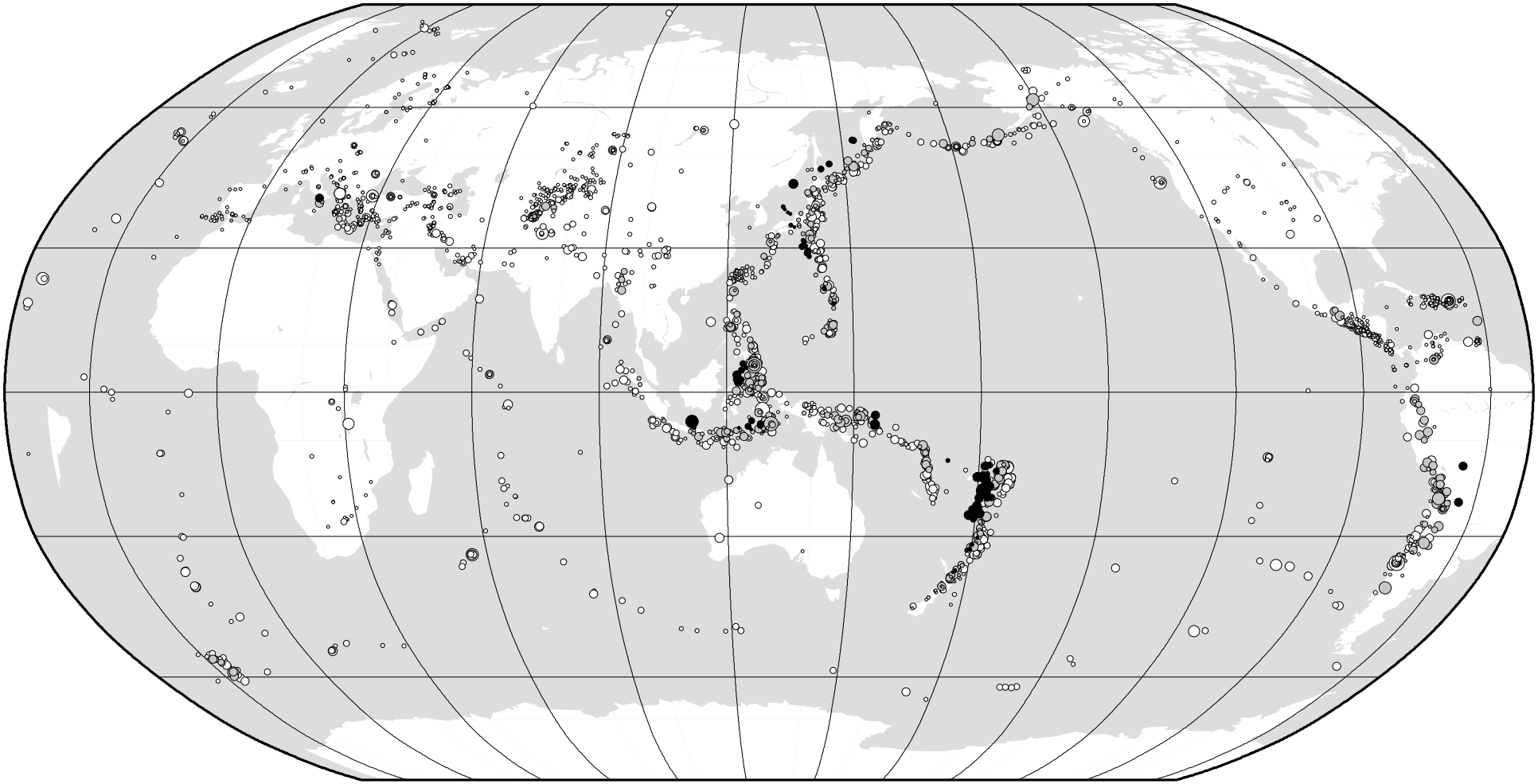

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3056 Events